Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

IDC 01 00:01:59.5±2.0, 5°94S×142°65E, h0km, mb3.5/3, mbtmp3.4/5, ML3.3/2, Error ellipse: s-maj=83.4km s-min=16.3km az=107.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.09**	**209**	Pn	Pn	00 05 45.4	-2.0
	0.1nm,0.3s,baz=28,slow=11,SNR=1.1						
WRA				Sn	Sn	00 08 37.9	-8.8
	baz=25,slow=23,SNR=1.3 0.2nm,0.4s						
ASAR	**Alice Springs**	**19.53**	**205**	P	Pn	00 06 29.5	-0.5
	0.2nm,0.3s,baz=31,slow=11,SNR=8.7						
ASAR				S	S	00 10 10.5	+0.1
	1.0nm,1.1s,baz=19,slow=28,SNR=1.4 1.1nm,0.6s						
MKAR	**Makanchi Array**	**74.73**	**322**	P	P	00 13 41.6	+0.2
	0.1nm,0.6s,baz=106,slow=4.8,SNR=1.7 0.1nm,0.6s						
BVAR	**Borovoye Array**	**84.20**	**325**	P	P	00 14 33.6	+0.8
	0.9nm,0.7s,baz=108,slow=4.7,SNR=6.5 0.9nm,0.7s						
ILAR	**Eielson Array**	**87.15**	**24**	P	P	00 14 46.1	-1.2
	0.2nm,0.6s,baz=249,slow=4.7,SNR=1.5 0.2nm,0.6s						

*NEIC **01** 00:05:12.7±0.8, 45°.14N×106°.99W±0°.05, h0km±1km, ML2.8/32, Error ellipse: s-maj=8.6km s-min=4.8km az=144.0*
*IDC **01** 00:05:13.4±1.3, 44°.97N×106°.85W, h0km, mbtmp3.4/2, ML3.1/2, Error ellipse: s-maj=57.1km s-min=9.0km az=136.0*

ISC 01 00:05:12.3±1.1, 45°.08N±0°.05×106°.90W±0°.05, h0km, n18, σ1§18/17, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**1.68**	**16**		**Pb**	**00 05 43.2**	**-0.9**
LAO				IAML		00 06 09.0	
	108nm,0.5s						
RLMT	**Red Lodge**	**1.68**	**272**	Pg	**Pb**	**00 05 43.5**	**-0.6**
RLMT				IAML		00 06 13.0	
	86nm,0.7s						
RLMT				IAML		00 06 18.3	
	85nm,0.9s						
RSSD	**Black Hills**	**2.26**	**114**		**Pb**	**00 05 53.7**	**-0.4**
YMP	**Mirror Lake PI**	**2.34**	**263**		**Pn**	**00 05 53.3**	**+1.0**
K22A	**Casper**	**2.44**	**173**		**Pb**	**00 05 56.3**	**-0.9**
K22A				IAML		00 06 35.8	
	comp=N,42nm,0.7s						
K22A				IAML		00 06 37.8	
	comp=E,45nm,0.7s						
LKWY	**Lake**	**2.54**	**260**		**Pn**	**00 05 56.0**	**+1.0**
LKWY				IAML		00 06 37.0	
	comp=E,55nm,0.7s						
FLWY	**Flagg Ranch**	**2.89**	**251**		**Pn**	**00 06 00.3**	**+0.5**
FLWY				IAML		00 07 05.4	
	comp=E,35nm,1.3s						
PDAR	**Pinedale Array**	**3.01**	**221**		**Pn**	**00 06 02.7**	**+1.3**
PDAR	**Pinedale Array**	**3.01**	**221**	Pn	**Pb**	**00 06 05.4**	**-1.4**
	comp=E,2.0nm,0.3s,baz=49,slow=17,SNR=50						
PDAR				Lg	Lg	00 06 44.4	
	comp=E,4.3nm,0.3s,baz=45,slow=30,SNR=27 comp=E,3.2nm,0.5s						
YHL	**Hebgen Lake**	**3.05**	**267**		**Pn**	**00 06 02.6**	**+0.6**
YHL				IAML		00 06 58.1	
	comp=N,29nm,0.8s						
YHL				IAML		00 07 14.9	
	comp=E,30nm,0.8s						
MOOW	**Moose Ponds**	**3.06**	**246**		**Pn**	**00 06 03.7**	**+1.6**
IMW	**Indian Meadow**	**3.12**	**249**		**Pn**	**00 06 04.6**	**+1.6**
IMW				IAML		00 07 01.7	
	comp=E,19nm,0.6s						
IMW				IAML		00 07 08.4	
	comp=E,29nm,0.6s						
FXWY	**Fox Creek**	**3.29**	**245**		**Pn**	**00 06 06.1**	**+0.8**
BOZ	**Bozeman (W)**	**3.37**	**280**		**Pn**	**00 06 06.8**	**+0.5**
BOZ				IAML		00 07 16.7	
	comp=E,13nm,1.9s						
EGMT	**Eagleton**	**3.54**	**327**		**Pn**	**00 06 09.6**	**+0.9**
DGMT	**Dagmar**	**3.87**	**28**		**Pn**	**00 06 14.8**	**+1.8**
I10CA	**LAC DU BONNET**	**8.95**	**51**	I	I	00 59 10.0	
	baz=236,slow=326,SNR=3.8						
ULM	**Lac du Bonnet**	**9.06**	**51**	Pn	**Pn**	**00 07 23.1**	**-1.1**
	comp=E,0.4nm,0.3s,baz=236,slow=11,SNR=5.3						
ULM				Lg	Lg	00 09 56.2	
	comp=E,0.2nm,0.3s,baz=166,slow=11,SNR=4.2 comp=E,1.7nm,0.4s						

IDC 01 00:05:51.7±2.0, 4°.53S×142°.97E, h0km, mb3.6/4, mbtmp3.6/5, ML3.3/1, Error ellipse: s-maj=77.0km s-min=28.6km az=101.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.47**	**208**	P	Pn	00 09 57.1	+0.1
	0.1nm,0.3s,baz=31,slow=14,SNR=2.3 0.8nm,0.8s						
ASAR	**Alice Springs**	**20.94**	**204**	P	P	00 10 36.4	+0.1
	1.6nm,0.7s,baz=36,slow=10.0,SNR=8.6 1.6nm,0.7s						
MKAR	**Makanchi Array**	**73.83**	**321**	P	P	00 17 28.3	-0.1
	0.7nm,0.6s,baz=124,slow=7.4,SNR=16 0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**77.67**	**324**	P	P	00 17 50.2	0.0
	0.2nm,0.3s,baz=119,slow=7.6,SNR=1.6 0.2nm,0.3s						
ILAR	**Eielson Array**	**85.75**	**24**	P	P	00 18 32.7	+0.1
	0.2nm,0.8s,baz=232,slow=4.4,SNR=1.7 0.2nm,0.8s						

IDC 01 00:06:57.9±4.0, 5°.96S×141°.68E, h0km, mb3.8/2, mbtmp3.6/4, ML3.5/2, MS3.8/3, Error ellipse: s-maj=140.4km s-min=28.2km az=99.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.62**	**206**	Pn	Pn	00 10 37.5	-2.1
	0.2nm,0.3s,baz=27,slow=14,SNR=1.6						
WRA				Lg	Lg	00 15 18.2	
	0.2nm,0.3s,baz=24,slow=22,SNR=1.4 0.4nm,0.4s						
ASAR	**Alice Springs**	**19.13**	**202**	P	P	00 11 22.3	-0.5
	0.2nm,0.3s,baz=35,slow=10,SNR=7.4						
ASAR				LR	LR	00 19 28.1	
	comp=Z,216nm,19.2s,baz=47,slow=39 0.9nm,0.6s						
MA2	**Magadan**	**65.72**	**5**	LR	LR	00 48 38.4	
	comp=Z,40nm,18.0s,baz=90,slow=38						
MKAR	**Makanchi Array**	**74.15**	**322**	P	P	00 18 36.2	-0.1
	0.6nm,0.9s,baz=116,slow=6.6,SNR=4.0 0.6nm,0.9s						
BVAR	**Borovoye Array**	**83.65**	**325**	P	P	00 19 29.1	+0.7
	1.3nm,1.0s,baz=99,slow=7.4,SNR=3.7 1.3nm,1.0s						
OPO	**Ambohidratompo**	**92.36**	**251**	LR	LR	00 55 26.4	
	comp=Z,75nm,21.1s,baz=294,slow=32						

DJA 01 00:08:03.7±0.9, 5°N±7°×12°5E±°, h65km±27km, M4.9/7, mb4.9/7, mB5.5/5, MLv4.9/7, Mw(mB)5.0/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.73**	**167**	P	Pn	00 08 30.2	-1.4
SGSI				S	Sn	00 08 53.8	+1.0
KMSI	**Cibinong**	**4.91**	**194**	P	Pn	00 09 15.1	+0.1
GTOI	**Gorontalo**	**5.17**	**204**	P	Pn	00 09 18.9	+0.4
	171nm,0.5s,4μm1.0nm						
LBMI	**Labuha**	**6.43**	**158**	P	Pn	00 09 35.1	-0.7
	21nm,0.8s,0.1nm						
LUWI	**Luwuk**	**6.80**	**200**	P	Pn	00 09 41.1	+0.2
	233nm,0.7s,3μm1.0nm						
LUWI				S	Sn	00 10 57.3	+0.4
	233nm,0.7s,3μm1.0nm						
SANI	**Sanana**	**7.43**	**173**	P	Pn	00 09 48.5	-1.0
	14nm,0.7s,0.1nm						

*IDC **01** 00:08:40.0±1.2, 6°.25S×143°.86E, h0km, mb3.8/4, mbtmp3.9/6, ML1.8/1, MS3.2/3, Error ellipse: s-maj=45.6km s-min=30.1km az=76.0*

ISC 01 00:08:43.6±1.0, 6°.8S±0°.2×143°.6E±0°.2, h35km, n10, σ0§51/6, mb3.8/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.38**	**126**	Pn	**Pn**	**00 09 47.7**	**-0.1**
	3.2nm,0.3s,baz=264,slow=22,SNR=2.1						
PMG				Sn	Sn	00 10 50.6	+13
	1.5nm,0.3s,baz=100,slow=23,SNR=1.4 8.1nm,0.3s						
CTA	**Charters Tower**	**13.45**	**169**	LR	LR	00 17 48.6	
	comp=Z,148nm,18.3s,baz=58,slow=39						
WRA	**Warramunga Arr**	**15.84**	**214**	Pn	**P**	**00 12 27.6**	**0.0**
	0.5nm,0.3s,baz=28,slow=13,SNR=12						
WRA				Lg	Lg	00 17 21.0	
	0.2nm,0.3s,baz=32,slow=26,SNR=4.9						
ASAR	**Alice Springs**	**19.17**	**208**	P	Pn	00 13 13.1	+7.7
	8.0nm,0.9s,baz=31,slow=11,SNR=19						
ASAR				Lg	Lg	00 19 04.9	
	0.1nm,0.3s,baz=312,slow=37,SNR=2.2						
DAV	**Davao City (W)**	**22.64**	**307**	LR	LR	00 24 12.4	
	comp=Z,40nm,18.1s,baz=120,slow=41						
KSRS	**Korea Array**	**46.40**	**343**	LR	LR	00 34 18.4	
	comp=Z,18nm,20.2s,baz=135,slow=34						
MKAR	**Makanchi Array**	**75.98**	**322**	P	**P**	**00 20 27.0**	**-0.2**
	0.4nm,0.6s,baz=110,slow=5.3,SNR=4.8 0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**79.86**	**324**	P	**P**	**00 20 48.1**	**-0.5**
	0.3nm,0.6s,baz=111,slow=4.5,SNR=1.8 0.3nm,0.6s						
BVAR	**Borovoye Array**	**85.44**	**325**	P	**P**	**00 21 18.3**	**+0.7**
	0.9nm,0.5s,baz=96,slow=6.9,SNR=5.6 0.9nm,0.5s						
ILAR	**Eielson Array**	**87.57**	**24**	P	**P**	**00 21 27.9**	**+0.1**
	0.7nm,0.9s,baz=244,slow=3.8,SNR=4.9 0.7nm,0.9s						

*ISN **01** 00:15:58.1±1.3, 34°.36N×45°.32E, h14km±9km, ML3.5*
*TEH **01** 00:15:59.3, 34°.37N×45°.51E, h11km±20km, ML3.5*
*IDC **01** 00:16:12.8±17.0, 34°.38N×48°.11E, h0km, mb3.7/5, mbtmp3.7/5, MS3.4/1, Error ellipse: s-maj=343.2km s-min=50.6km az=75.0*

ISC 01 00:15:58.2±1.5, 34°.31N±0°.04×45°.38E±0°.04, h1km±11km, n24, σ1§19/29, mb3.5/5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.26**	**42**	Pg	**Pg**	**00 16 03.5**	**+0.4**
IDHR	**Dehrash**	**0.92**	**65**	Pg	**Pg**	**00 16 14.8**	**-1.0**
ILBA	**Ilam Banvizeh**	**0.97**	**135**	Pg	**Pg**	**00 16 17.2**	**+0.4**
ILBA				Sg	**Sb**	**00 16 31.7**	**+0.4**
IGHG	**Ghaleghazi**	**0.98**	**89**	Pg	**Pg**	**00 16 16.6**	**-0.5**
IBDR	**Badra**	**1.28**	**159**	*e*Pg	**Pn**	**00 16 22.0**	**-1.2**
IBDR				*e*Sg	**Sn**	**00 16 42.0**	**+0.9**
IBDR				AML	AML	00 16 47.3	
	comp=E,1μm,0.6s						
IBDR				AML	AML	00 16 48.2	
	comp=N,2μm,0.2s						
BHD	**Baghdad**	**1.33**	**219**	*e*Pn	**Pn**	**00 16 24.0**	**+0.1**
BHD				*e*Sn	**Sn**	**00 16 43.0**	**+0.8**
KCHF	**Cheshme Sefid,**	**1.38**	**91**	Pg	**Pn**	**00 16 24.3**	**-0.4**
KCHF				Sg	**Sg**	**00 16 42.2**	**-0.3**
IKRK	**Kirkuk**	**1.38**	**322**	*e*Pn	**Pn**	**00 16 24.0**	**-0.6**
IKRK				*e*Sn	**Sg**	**00 16 43.0**	**+0.4**
IKRK				AML	AML	00 16 49.2	
	comp=N,677nm,0.4s						
IKRK				AML	AML	00 17 02.2	
	comp=E,477nm,0.5s						
ILIN	**Lien**	**1.44**	**65**	Pg	**Pn**	**00 16 25.3**	**-0.3**
SDS1	**Sardasht. Az.**	**1.83**	**3**	Pg	**Pb**	**00 16 32.7**	**0.0**
IBZA	**Bozab**	**2.06**	**85**	Pn	**Pn**	**00 16 34.7**	**+0.6**
IKFM	**Kafar-mosalman**	**2.20**	**110**	Pn	**Pn**	**00 16 36.7**	**+0.9**
IDOB	**Doab**	**2.38**	**102**	Pn	**Pn**	**00 16 39.1**	**+0.6**
RAFI	**Al-Rafai**	**2.66**	**166**	*e*Pn	**Pn**	**00 16 43.0**	**+0.9**
RAFI				*e*Sn	**Sn**	**00 17 16.0**	**+1.1**
IHSH	**Hashtrud**	**3.35**	**27**	Pn	**Pn**	**00 16 53.1**	**+1.1**
IAZR	**Azarshahr**	**3.39**	**8**	Pn	**Pn**	**00 16 53.7**	**+1.2**
ISHB	**Shabestar**	**3.97**	**3**	Pn	**Pn**	**00 17 00.7**	**+0.3**
IKLH	**Kolahrood**	**5.25**	**99**	Pn	**Pn**	**00 17 19.5**	**+1.4**
BVAR	**Borovoye Array**	**25.80**	**36**	P	**P**	**00 21 34.2**	**+3.6**
	comp=E,1.6nm,0.6s,baz=224,slow=8.1,SNR=7.1 comp=E,1.6nm,0.6s						
KURBB	**Kurchatov Arra**	**29.07**	**46**	P	**P**	**00 21 59.8**	**-0.2**
	comp=E,0.7nm,0.9s,baz=254,slow=9.5,SNR=5.1 comp=E,0.7nm,0.9s						
MKAR	**Makanchi Array**	**30.41**	**55**	P	**P**	**00 22 10.9**	**-1.0**
	comp=E,0.3nm,0.7s,baz=252,slow=8.5,SNR=2.3 comp=E,0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**33.85**	**42**	P	**P**	**00 22 41.3**	**-0.7**
	comp=E,0.4nm,0.7s,baz=251,slow=9.0,SNR=1.6 comp=E,0.4nm,0.7s						
SONM	**Songino Array**	**46.77**	**54**	LR	LR	00 43 53.2	
	comp=E,40nm,19.7s,baz=16,slow=37						
CMAR	**Chiang Mai Arr**	**49.97**	**94**	P	**P**	**00 24 51.4**	**-2.7**
	comp=E,1.2nm,0.3s,baz=300,slow=8.5,SNR=7.7 comp=E,1.2nm,0.3s						

IDC 01 00:17:28.7±7.6, 5°.81S×141°.67E, h0km, mb3.2/1, mbtmp3.4/3, ML3.6/2, MS3.3/1, Error ellipse: s-maj=271.3km s-min=37.3km az=94.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.75**	**206**	Pn	Pn	00 21 10.9	-1.2
	0.2nm,0.3s,baz=27,slow=14,SNR=5.1 0.4nm,0.4s						
KNRA	**Kununurra**	**16.01**	**231**	P	P	00 21 20.4	+1.3
ASAR	**Alice Springs**	**19.26**	**202**	P	P	00 21 55.4	+0.4
	0.4nm,0.3s,baz=32,slow=10,SNR=6.0 1.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.85**	**231**	P	Pn	00 22 07.0	+4.0
JNU	**Nakatsue**	**40.05**	**346**	LR	LR	00 38 23.5	
	comp=Z,50nm,21.9s,baz=164,slow=31						
MKAR	**Makanchi Array**	**74.03**	**322**	P	P	00 29 06.6	+0.1
	0.1nm,0.6s,baz=133,slow=6.1,SNR=1.9 0.1nm,0.6s						

*IDC **01** 00:19:09.4±1.6, 7°.67S×130°.62E, h0km, mb3.9/4, mbtmp3.9/6, ML4.0/2, MS3.7/2, Error ellipse: s-maj=107.0km s-min=28.6km az=72.0*
*DJA **01** 00:19:12.8±0.4, 7°.S±2°×13°.2E±°, h91km±9km, M4.6/7, mB5.7/3, mb4.5/7, MLv4.5/7, Mw(mB)5.3/3*

ISC 01 00:19:12.8±0.8, 7°.12S±0°.05×132°.11E±0°.08, h35km, n22, σ3§03/23, mb3.9/4, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.17**	**223**	P	**Pn**	**00 19 33.7**	**+1.0**
SAUI	**Saumlaki**	**1.17**	**223**	P	**Pn**	**00 19 33.3**	**+0.6**
SAUI				S	**Sn**	**00 19 50.8**	**+3.4**
BNDI	**Bandanaira**	**3.39**	**320**	P	**Pn**	**00 20 02.2**	**-1.0**
BNDI				S	**Sn**	**00 20 39.8**	**-2.4**
FAKI	**Fak Fak**	**4.18**	**2**	P	**Pn**	**00 20 14.0**	**-0.1**
FAKI	**Fak Fak**	**4.18**	**2**	P	**Pn**	**00 20 14.4**	**+0.3**
FAKI				S	**Sn**	**00 21 01.1**	**-0.7**
DRS	**Darwin Rock St**	**5.41**	**193**	P	**Pn**	**00 20 32.0**	**+1.0**
MTN	**Manton Dam**	**5.76**	**190**	P	**Pn**	**00 20 36.9**	**+1.0**
SWI	**Sorong**	**6.28**	**352**	P	**Pn**	**00 20 41.6**	**-1.4**
	25nm,0.6s,0.2nm						
NLAI	**Namlea**	**6.31**	**307**	P	**Pn**	**00 20 47.0**	**+3.7**
SANI	**Sanana**	**7.91**	**309**	P	Pn	00 20 59.1	-6.3
SANI	**Sanana**	**7.91**	**309**	P	**Pn**	**00 21 05.1**	**-0.3**
	23nm,0.6s,0.1nm						
SOEI	**Soe**	**8.18**	**251**	P	**Pn**	**00 21 08.5**	**-0.8**
	44nm,0.9s						
MMPI	**Merauke**	**8.31**	**100**	P	**Pn**	**00 21 14.2**	**+3.4**
	3μm,0.5s,75μm						
WRA	**Warramunga Arr**	**12.93**	**171**	Pn	**Pn**	**00 22 10.9**	**-3.2**
	0.8nm,0.3s,baz=348,slow=13,SNR=17						
WRA				Sn	Sn	00 24 25.7	-11
	0.4nm,0.3s,baz=325,slow=27,SNR=2.7 1.8nm,0.6s						
QIS	**Mount Isa**	**15.20**	**152**	P	**Pn**	**00 22 45.3**	**+0.3**
ASAR	**Alice Springs**	**16.54**	**174**	Pn	**Pn**	**00 22 59.6**	**-2.6**
	0.6nm,0.3s,baz=354,slow=14,SNR=12						
ASAR				Sn	**Sn**	**00 25 54.2**	**-11**
	0.3nm,0.3s,baz=358,slow=27,SNR=4.0 1.0nm,0.4s						
ASAJ	**Asahikawa**	**51.88**	**10**	LR	LR	00 49 30.3	
	comp=Z,44nm,20.6s,baz=138,slow=35						
SONM	**Songino Array**	**59.24**	**340**	P	**P**	**00 29 13.0**	**+2.2**
	0.7nm,0.7s,baz=152,slow=6.5,SNR=3.7 0.7nm,0.7s						
MKAR	**Makanchi Array**	**69.49**	**326**	P	**P**	**00 30 18.0**	**+0.2**
	1.3nm,0.5s,baz=124,slow=7.1,SNR=13 1.3nm,0.5s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**72.63**	**333**	P	**P**	**00 30 37.2**	**+0.6**
	0.4nm,0.3s,baz=131,slow=4.4,SNR=4.3 0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**73.72**	**328**	P	**P**	**00 30 43.1**	**0.0**
	0.7nm,0.5s,baz=128,slow=4.7,SNR=11 0.7nm,0.5s						
MBAR	**Mbarara**	**101.21**	**268**	LR	LR	01 14 58.5	
	comp=Z,55nm,19.9s,baz=280,slow=34						

*IDC **01** 00:22:09.1±0.8, 6°.11S×142°.67E, h0km, mb4.2/13, mbtmp4.3/16, ML4.0/2, MS3.9/2, Error ellipse: s-maj=30.7km s-min=16.7km az=87.0*
*NEIC **01** 00:22:11.4±1.2, 6°.1S±0°.1×142°.54E±0°.10, h10km±1km, mb4.7/22, Error ellipse: s-maj=19.7km s-min=14.7km az=208.0*

ISC 01 00:22:11.1±0.5, 6°.27S±0°.06×142°.50E±0°.07, h10km, n57, σ1§72/55, mb4.5/25, 1D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.57**	**124**	Pn	**Pn**	**00 23 34.9**	**+0.9**
PMG	**Port Moresby**	**5.57**	**124**	Pn	**Pn**	**00 23 34.7**	**+0.7**
	50nm,0.6s,baz=326,slow=9.3,SNR=11						
PMG				Sn	**Sn**	**00 24 37.0**	**-1.2**
	11nm,0.3s,baz=241,slow=21,SNR=11						
FAKI	**Fak Fak**	**10.74**	**288**	Pn	**Pn**	**00 24 44.1**	**-1.0**
SAUI	**Saumlaki**	**11.24**	**261**	Pn	**Pn**	**00 24 52.5**	**+0.6**
MTN	**Manton Dam**	**12.97**	**239**	Pn	**Pn**	**00 25 15.7**	**+0.2**
CTA	**Charters Tower**	**14.21**	**165**	Lg	Lg	00 29 45.8	
	0.2nm,0.3s,baz=58,slow=21,SNR=1.4						
WB0	**Warramunga Arr**	**15.56**	**210**	Pn	**Pn**	**00 25 54.4**	**+3.7**
WB0				IAmb	IAmb	00 26 14.2	
	comp=Z,49nm,0.8s						
WRA	**Warramunga Arr**	**15.73**	**209**	Pn	**Pn**	**00 25 56.6**	**+3.6**
WRA	**Warramunga Arr**	**15.73**	**209**	Pn	**Pn**	**00 25 53.2**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=26,slow=13,SNR=3.7						
WRA				Sn	**Sn**	**00 28 41.4**	**-6.2**
	comp=Z,0.4nm,0.3s,baz=20,slow=22,SNR=5.6						
WRA				Lg	Lg	00 30 34.7	
	comp=Z,0.3nm,0.3s,baz=25,slow=36,SNR=2.3 comp=Z,7.6nm,0.8s						
KNRA	**Kununurra**	**16.39**	**234**		**Pn**	**00 26 04.4**	**+2.9**
KNRA				IAmb	IAmb	00 26 13.7	
	comp=Z,54nm,0.9s						
SOEI	**Soe**	**18.38**	**258**	P	**Pn**	**00 26 27.5**	**+1.2**
AS31	**Alice Springs**	**19.17**	**205**	P	**P**	**00 26 36.2**	**+1.2**
ASAR	**Alice Springs**	**19.17**	**205**	P	**P**	**00 26 36.9**	**+1.9**
ASAR	**Alice Springs**	**19.17**	**205**	P	**Pn**	**00 26 37.8**	**+1.9**
	comp=Z,0.7nm,0.3s,baz=31,slow=11,SNR=4.3						
ASAR				S	**Sn**	**00 30 05.6**	**-5.3**
	comp=Z,2.9nm,0.6s,baz=22,slow=28,SNR=3.2						
ASAR				Lg	Lg	00 32 22.6	
	comp=Z,0.1nm,0.3s,baz=14,slow=28,SNR=4.2						
ASAR				LR	LR	00 34 51.8	
	comp=Z,311nm,19.8s,baz=24,slow=39 comp=Z,17nm,1.0s						
FITZ	**Fitzroy Crossi**	**20.22**	**233**	P	**P**	**00 26 47.4**	**+1.0**
MMRI	**Maumere**	**20.23**	**262**	P	**P**	**00 26 47.2**	**+0.7**
MMRI				IAmb	IAmb	00 27 04.2	
	comp=Z,21nm,0.8s						
KAPI	**Kappang**	**22.67**	**272**	P	**P**	**00 27 13.1**	**+0.2**
KAPI				IAmb	IAmb	00 27 20.9	
	comp=Z,25nm,1.0s						
TOLI2	**Tolitoli**	**22.89**	**288**	P	**P**	**00 27 14.3**	**-0.8**
STKA	**Stephens Creek**	**25.49**	**182**	P	**P**	**00 27 40.1**	**+0.5**
	comp=Z,3.1nm,0.7s,baz=338,slow=9.9,SNR=4.2 comp=Z,3.1nm,0.7s						
NWAO	**Narrogin (SRO)**	**35.43**	**218**	LR	LR	00 44 54.2	
	comp=Z,183nm,18.2s,baz=305,slow=38						
NJ2	**Nanjing**	**44.27**	**331**	*e*P	**P**	**00 30 21.2**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
RPSI	**Rantau Prapat**	**44.41**	**280**	P	**P**	**00 30 21.9**	**-0.6**
RPSI				IAmb	IAmb	00 30 26.7	
	comp=Z,6.2nm,1.0s						
PHRA	**Phrae**	**48.40**	**301**	P	**P**	**00 30 53.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**49.48**	**301**	P	**P**	**00 31 01.9**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=113,slow=6.9,SNR=4.3 comp=Z,0.4nm,0.3s						
USRK	**Ussuriysk Ar.**	**51.12**	**350**	P	**P**	**00 31 12.9**	**-1.1**
USRK	**Ussuriysk Ar.**	**51.12**	**350**	P	**P**	**00 31 12.5**	**-1.5**
	comp=Z,4.4nm,1.0s,baz=161,slow=9.2,SNR=4.5 comp=Z,4.4nm,1.0s						
PZH	**PanZhiHua**	**51.20**	**311**	P	**P**	**00 31 16.4**	**+1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.5s						
MDJ	**Mudanjiang**	**51.97**	**348**	P	**P**	**00 31 21.6**	**+1.3**
MDJ				pmax	pmax		
	comp=Z,25nm,1.9s						
MDJ				pmax	pmax		
	comp=Z,300nm,4.4s						
BJI	**Beijing**	**52.08**	**334**	P	P	00 31 28.1	+6.8
BJI				pmax	pmax		
	comp=Z,4.0nm,1.8s						
HHC	**Hu-ho-hao-te**	**54.82**	**332**	*e*P	**P**	**00 31 43.3**	**+1.8**
HHC				sP	sP	00 31 49.4	+3.3
HHC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,63nm,4.1s						
KLR	**Kul'dur**	**56.06**	**352**	P	**P**	**00 31 49.0**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=150,slow=6.6,SNR=5.8 comp=Z,1.6nm,0.8s						
PETK	**Petropavlovsk-**	**60.54**	**10**	P	**P**	**00 32 20.1**	**-1.4**
	comp=Z,7.4nm,0.9s,baz=181,slow=8.6,SNR=2.7 comp=Z,7.4nm,0.9s						
LSA	**Lhasa**	**60.87**	**309**	P	**P**	**00 32 24.1**	**-0.7**
LSA				IAmb	IAmb	00 32 52.9	
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**62.55**	**333**	P	**P**	**00 32 34.5**	**-0.8**
	comp=Z,1.2nm,1.0s,baz=157,slow=7.1,SNR=5.5 comp=Z,1.2nm,1.0s						
WMQ	**Urumqi**	**70.13**	**321**	*e*P	**P**	**00 33 24.8**	**+0.9**
MK31	**Makanchi Array**	**74.90**	**322**	P	**P**	**00 33 51.8**	**-0.4**
MKAR	**Makanchi Array**	**74.90**	**322**	P	**P**	**00 33 51.8**	**-0.5**
MKAR	**Makanchi Array**	**74.90**	**322**	P	**P**	**00 33 52.4**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=119,slow=5.9,SNR=11 comp=Z,2.1nm,0.9s						
KSH	**Kashi**	**76.26**	**313**	P	**P**	**00 34 02.8**	**+2.5**
KSH		

*VIE **01** 00:28:26.7±0.6,50˚.14N×18˚.47E, h0km, mb2.4/5, ml2.6/5, Error ellipse: s-maj=5.1km s-min=4.9km az=172.0, Suspected Mining induced.*
*IPEC **01** 00:28:28.3±0.2,50˚.03N×18˚.54E, h1km, ML2.4/4, Error ellipse: s-maj=2.0km s-min=1.0km az=164.0*
*PRU **01** 00:28:29.5,50˚.06N×18˚.45E, h0km*
ISC 01 00:28:27.4±0.8,50°04N±0˚.03×18°55E±0˚.02, h0km, n32, σ0°96/58, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.23**	**280**	*e*Pg	**Pg**	**00 28 33.7**	**+1.8**
RAC				*e*SG	**Sg**	**00 28 37.4**	**+2.5**
OKC	**Ostrava-Krasne**	**0.33**	**232**	*e*PG	**Pg**	**00 28 35.0**	**+1.2**
OKC				*e*SG	**Sg**	**00 28 39.5**	**+1.4**
	comp=Z,98nm,0.4s						
MORC	**Moravsky Berou**	**0.70**	**248**	*e*Pg	**Pg**	**00 28 41.6**	**+0.7**
	baz=68						
MORC				*e*Sg	**Sg**	**00 28 50.0**	**0.0**
	92nm,0.4s,baz=68						
MORC	**Moravsky Berou**	**0.70**	**248**	*e*PG	**Pb**	**00 28 41.7**	**-0.9**
MORC				*e*SG	**Sg**	**00 28 50.1**	**0.0**
OJC	**Ojcow**	**0.82**	**77**	*e*Pg	**Pb**	**00 28 44.4**	**-0.2**
OJC				*e*Sg	**Sb**	**00 28 56.7**	**+0.4**
MAUC	**Maruska**	**0.83**	**215**	*e*PG	**Pb**	**00 28 44.5**	**-0.2**
MAUC				*e*SG	**Sb**	**00 28 55.4**	**-0.9**
KRLC	**Kraliky**	**1.14**	**272**	*e*PG	**Pg**	**00 28 48.9**	**-0.4**
KRLC				*e*SG	**Sg**	**00 29 03.3**	**-0.8**
NIE	**Niedzica**	**1.29**	**118**	*e*Pn	**Pg**	**00 28 49.9**	**-2.3**
NIE				*e*Pg	**Pn**	**00 28 53.6**	**+0.7**
NIE				*e*Sg	**Sn**	**00 29 13.1**	**+2.3**
JAVC	**Velka Javorina**	**1.32**	**206**	*e*Pg	**Pn**	**00 28 53.3**	**+0.2**
	baz=26						
JAVC	**Velka Javorina**	**1.32**	**206**	*e*PG	**Pn**	**00 28 53.3**	**+0.2**
DPC	**Dobruska-Polom**	**1.47**	**283**	*e*PG	**Pg**	**00 28 55.2**	**-0.3**
DPC				*e*SG	**Sb**	**00 29 14.5**	**-0.3**
	comp=Z,39nm,0.6s						
VRAC	**Vranov**	**1.47**	**241**	*e*Pg	**Pn**	**00 28 55.0**	**-0.2**
	baz=60						
VRAC				*e*Sg	**Sg**	**00 29 13.9**	**-0.7**
	42nm,0.4s,baz=60						
VRAC	**Vranov**	**1.47**	**241**	*e*PG	**Pn**	**00 28 55.0**	**-0.2**
VRAC				*e*SG	**Sg**	**00 29 14.0**	**-0.7**
VYHS	**Vyhne**	**1.56**	**173**	*e*PG	**Pn**	**00 28 56.6**	**+0.1**
VYHS				*e*SG	**Sg**	**00 29 18.0**	**+0.4**
OSTC	**Ostas**	**1.58**	**290**	*e*PG	**Pn**	**00 28 56.6**	**-0.2**
OSTC				*e*SG	**Sg**	**00 29 18.2**	**-0.1**
KSP	**Ksiaz**	**1.65**	**300**	*e*Pg	**Pn**	**00 28 57.4**	**-0.3**
KSP				*e*Sg	**Sg**	**00 29 19.8**	**-0.7**
UPC	**Upice**	**1.69**	**287**	*e*PG	**Pb**	**00 28 59.3**	**-0.2**
UPC				*e*SG	**Sg**	**00 29 21.8**	**0.0**
KRUC	**Moravsky**	**1.71**	**236**	*e*Pn	**Pn**	**00 28 58.9**	**+0.4**
	baz=54						
KRUC				*e*Sg	**Sn**	**00 29 21.5**	**+0.4**
	16nm,0.2s,baz=54						
KRUC	**Moravsky**	**1.71**	**236**	*e*PN	**Pn**	**00 28 58.9**	**+0.4**
KRUC				*e*SG	**Sn**	**00 29 21.5**	**+0.4**
STHS	**Stebnicka Huta**	**1.86**	**109**	*e*PG	**Pg**	**00 29 02.9**	**-0.1**
STHS				*e*SG	**Sg**	**00 29 28.4**	**+1.4**
MODS	**Modra-Piesok**	**1.87**	**207**	*e*PG	**Pn**	**00 29 01.2**	**+0.5**
MODS				*e*SG	**Sb**	**00 29 26.3**	**0.0**
KECS	**Kecovo**	**2.01**	**140**	*e*PN	**Pn**	**00 29 02.8**	**+0.2**
KECS				*e*SN	**Sn**	**00 29 27.7**	**-0.8**
TREC	**Trest**	**2.13**	**251**	*e*SG	**Sb**	**00 29 33.7**	**-0.1**
GOPC	**GO Pecny, Ondr**	**2.43**	**268**	*e*PG	**Pb**	**00 29 11.2**	**-0.9**
GOPC				*e*SG	**Sb**	**00 29 43.0**	**+0.4**
	comp=Z,12nm,0.5s						
PRU	**Pruhonice**	**2.59**	**270**	*e*SG	**Sb**	**00 29 47.7**	**+0.7**
CONA	**Conrad Observa**	**2.76**	**221**	Pn	**Pn**	**00 29 12.8**	**-0.2**
	0.7nm,0.4s						
CONA				Sn	**Sn**	**00 29 46.3**	**-0.8**
	2.1nm,0.4s						
BRG	**Berggiesshubel**	**3.06**	**288**	Pg	**Pb**	**00 29 23.9**	**+1.1**
BRG				Sg	**Sg**	**00 30 03.9**	**-1.8**
BRG				Amp		00 30 10.4	
	comp=Z,7.3nm,0.4s						
KHC	**Kasperske Hory**	**3.36**	**256**	*e*PG	**Pb**	**00 29 29.6**	**+1.7**
KHC				*e*SG	**Sg**	**00 30 13.5**	**-1.9**
	comp=Z,11nm,0.5s						
CLL	**Collm**	**3.75**	**292**	*e*Sg	**Sg**	**00 30 26.0**	**-1.8**
	comp=Z,9.0nm,0.6s						
BIOA	**Bad Ischl, Aus**	**4.01**	**236**	*e*Pn	**Pn**	**00 29 29.0**	**-1.1**
	comp=Z,1.4nm,0.4s						
BIOA				*e*Sn	**Sn**	**00 30 18.1**	**+0.3**
	comp=Z,1.7nm,0.4s						
KBA	**Koelnbreinsper**	**4.56**	**231**	*e*Sn	**Sn**	**00 30 31.5**	**0.0**
	comp=Z,1.3nm,0.5s						
LESA	**Schwarzleotal**	**4.69**	**238**	Sn	**Sn**	**00 30 33.9**	**-0.7**
	comp=Z,1.1nm,0.3s						

*TEH **01** 00:36:32.0,34˚.58N×45˚.55E, h10km±47km, ML2.3*
*ISN **01** 00:36:32.4±0.7,34˚.56N×45˚.56E, h14km±21km, ML2.5*
ISC 01 00:36:32.1±1.0,34°57N±0˚.04×45°55E±0˚.04, h8km±8km, n10, σ0°51/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.08**	**152**	Pg	**Pg**	**00 36 33.7**	**-0.5**
KGS1				Sg	**Sg**	**00 36 36.5**	**+0.8**
IDHR	**Dehrash**	**0.71**	**79**	Pg	**Pg**	**00 36 45.0**	**-0.7**
IGHG	**Ghaleghazi**	**0.88**	**106**	Pg	**Pg**	**00 36 49.2**	**+0.1**
ILBA	**Ilam Banvizeh**	**1.09**	**150**	Pg	**Pn**	**00 36 53.6**	**-0.2**
ILIN	**Lien**	**1.22**	**73**	Pg	**Pb**	**00 36 55.3**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.27**	**103**	Pg	**Pg**	**00 36 57.0**	**+0.4**
IKRK	**Kirkuk**	**1.29**	**310**	*e*Pg	**Pg**	**00 36 57.0**	**+0.2**
IKRK				*e*Sg	**Sg**	**00 37 14.0**	**+0.4**
IKRK				AML	AML	00 37 24.6	
	comp=N,108nm,0.6s						
IKRK				AML	AML	00 37 25.5	
	comp=E,67nm,0.4s						
IBDR	**Badra**	**1.49**	**168**	*e*Pn	**Pb**	**00 37 00.0**	**-0.1**
IBDR				*e*Sn	**Sg**	**00 37 21.0**	**+0.9**
SDS1	**Sardasht. Az.**	**1.57**	**358**	Pg	**Pg**	**00 37 02.3**	**-0.1**
BHD	**Baghdad**	**1.62**	**217**	*e*Pn	**Pb**	**00 37 02.0**	**-0.2**
BHD				*e*Sn	**Sg**	**00 37 24.0**	**-0.2**

*IDC **01** 00:53:06.4±2.5,55˚.61N×150˚.44W, h0km, mb3.8/5, mbtmp3.7/10, ML3.6/5, Error ellipse: s-maj=48.2km s-min=26.2km az=171.0*
*NEIC **01** 00:53:13.1±1.4,56˚.33N±0˚.02×150˚.28W±0˚.10, h10km±1km, mb4.0/2, ML3.8/52, ML3.6(AEIC), Error ellipse: s-maj=9.2km s-min=4.6km az=97.0*
*AEIC **01** 00:53:17.3±1.6,56˚.37N±0˚.08×150˚.21W±0˚.10, h5km±6km, Error ellipse: s-maj=11.6km s-min=8.0km az=174.0*
ISC 01 00:53:12.2±1.0,56°39N±0˚.09×150°16W±0˚.05, h10km, n182, σ1°57/185, mb4.1/6, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**1.92**	**297**		**Pn**	**00 53 45.0**	**+0.1**
OHAK					**Sn**	**00 54 06.2**	**-2.7**
OHAK				IAML		00 54 06.6	
	comp=N,417nm,0.3s						
OHAK	**Old Harbor**	**1.92**	**297**	P	**Pn**	**00 53 44.9**	**0.0**
	baz=117						
OHAK				S	**Sn**	**00 54 06.4**	**-2.6**
	baz=117						
KDAK	**Kodiak Island**	**1.93**	**318**	IAML		00 54 09.3	
	comp=N,284nm,0.5s						
KDAK	**Kodiak Island**	**1.93**	**318**	Pn	**Pn**	**00 53 45.8**	**+0.9**
	comp=N,4.2nm,0.3s,baz=144,slow=6.5,SNR=158						
KDAK				Sn	**Sn**	**00 54 07.9**	**-1.4**
	comp=N,42nm,0.3s,baz=311,slow=19,SNR=18						
	comp=N,12nm,0.3s						
Q20K	**Shuyak Island**	**2.54**	**332**	P	**Pn**	**00 53 54.5**	**+1.1**
	baz=153						
Q20K				S	**Sn**	**00 54 24.2**	**-0.1**
	baz=153						
SYI	**Shuyak Island**	**2.54**	**333**		**Pn**	**00 53 54.4**	**+1.0**
SYI				IAML		00 54 25.0	
	comp=E,153nm,0.6s						
Q19K	**Cape Douglas,**	**3.17**	**325**		**Pn**	**00 54 03.6**	**+1.5**
Q19K					**Sn**	**00 54 39.6**	**-0.2**
Q19K				IAML		00 54 45.0	
	comp=N,404nm,0.8s						
Q19K	**Cape Douglas,**	**3.17**	**325**	P	**Pn**	**00 54 03.2**	**+1.1**
	baz=144						
Q19K				S	**Sn**	**00 54 40.0**	**+0.2**
	baz=144						
CNPM	**China Poot**	**3.20**	**350**		**Pn**	**00 54 03.4**	**+0.9**
CNPM					**Sn**	**00 54 39.9**	**-0.8**
CNPM				IAML		00 54 42.6	
	comp=E,206nm,0.6s						
CNPM				IAML		00 54 43.2	
	comp=N,158nm,0.4s						
KAKN	**Katmai Knife C**	**3.28**	**308**		**Pn**	**00 54 05.0**	**+1.4**
ACHA	**Angle Creek He**	**3.35**	**305**		**Pn**	**00 54 05.8**	**+1.2**
BRSE	**Bradley Lake S**	**3.38**	**355**		**Pn**	**00 54 05.5**	**+0.5**
BRSE					**Sn**	**00 54 44.0**	**-1.1**
BRSE	**Bradley Lake S**	**3.38**	**355**	P	**Pn**	**00 54 05.5**	**+0.5**
	baz=176						
BRSE				S	**Sn**	**00 54 44.0**	**-1.1**
	baz=176						
BRLK	**Bradley Lake**	**3.41**	**354**		**Pn**	**00 54 06.0**	**+0.6**
BRLK				IAML		00 54 47.0	
	comp=E,131nm,0.5s						
BRLK				IAML		00 54 50.5	
	comp=N,105nm,0.8s						
ANCK	**Angle Creek**	**3.42**	**304**		**Pn**	**00 54 06.8**	**+1.3**
KAHC	**Katmai Hardscr**	**3.46**	**313**		**Pn**	**00 54 07.8**	**+1.6**
KAHC	**Katmai Hardscr**	**3.46**	**313**	P	**Pn**	**00 54 07.8**	**+1.6**
	baz=130						
AUL	**Augustine Lava**	**3.48**	**331**		**Pn**	**00 54 08.2**	**+1.9**
PLK3	**Peulik 3**	**3.59**	**294**		**Pn**	**00 54 08.9**	**+1.1**
CNTC	**Contact Creek**	**3.63**	**304**		**Pn**	**00 54 09.8**	**+1.3**
Q17K	**Contact Creek**	**3.63**	**304**	P	**Pn**	**00 54 09.8**	**+1.3**
	baz=120						
P19K	**Oil Pt**	**3.66**	**335**		**Pn**	**00 54 10.6**	**+1.7**
P19K				IAML		00 54 57.1	
	comp=N,166nm,0.5s						
P19K				IAML		00 54 57.9	
	comp=E,214nm,0.4s						
P19K	**Oil Pt**	**3.66**	**335**	P	**Pn**	**00 54 10.5**	**+1.7**
	baz=154						
Q23K	**Middleton Isla**	**3.67**	**32**		**Pn**	**00 54 09.9**	**+1.0**
Q23K				IAML		00 54 58.4	
	comp=N,217nm,1.2s						
Q23K				IAML		00 55 27.8	
	comp=E,224nm,1.4s						
MID	**Middleton Isla**	**3.67**	**32**		**Pn**	**00 54 10.0**	**+1.2**
MID				IAML		00 54 56.1	
	comp=E,219nm,1.4s						
MID				IAML		00 56 35.4	
	comp=N,225nm,1.4s						
PLK1	**Peulik 1**	**3.79**	**295**		**Pn**	**00 54 11.6**	**+0.9**
P23K	**Montague Islan**	**3.90**	**21**		**Pn**	**00 54 13.6**	**+1.4**
P23K	**Montague Islan**	**3.90**	**21**	P	**Pn**	**00 54 13.6**	**+1.4**
	baz=204						
O20K	**Slope Mountain**	**3.93**	**342**		**Pn**	**00 54 13.8**	**+1.2**
O20K	**Slope Mountain**	**3.93**	**342**	P	**Pn**	**00 54 13.8**	**+1.2**
	baz=161						
P18K	**Big Mountain,**	**4.05**	**320**		**Pn**	**00 54 14.7**	**+0.5**
P18K	**Big Mountain,**	**4.05**	**320**	P	**Pn**	**00 54 14.5**	**+0.3**
	baz=197						
O22K	**Cooper Landing**	**4.11**	**3**	Pn	**Pn**	**00 54 16.3**	**+1.3**
SLKM	**Skilak Lake**	**4.13**	**360**		**Pn**	**00 54 16.0**	**+0.6**
RSO	**Redoubt South**	**4.31**	**343**		**Pn**	**00 54 18.4**	**+0.5**
RDT	**Redoubt**	**4.36**	**345**		**Pn**	**00 54 18.6**	**+0.1**
O18K	**Koktuh Hills**	**4.39**	**324**	Pn	**Pn**	**00 54 19.8**	**+1.0**
O18K				IAML		00 55 22.3	
	comp=N,45nm,0.9s						
O19K	**Port Alsworth**	**4.41**	**332**	Pn	**Pn**	**00 54 19.7**	**+0.7**
O19K				IAML		00 55 13.6	
	comp=N,187nm,0.4s						
DFR	**Drift River**	**4.42**	**344**		**Pn**	**00 54 19.6**	**+0.3**
CAPN	**Captain Cook N**	**4.43**	**354**	Pn	**Pn**	**00 54 21.1**	**+1.9**
HIN	**Hinchinbrook I**	**4.46**	**24**		**Pn**	**00 54 21.5**	**+1.7**
HIN				IAML		00 55 14.6	
	comp=E,141nm,1.5s						
HIN				IAML		00 55 15.7	
	comp=N,113nm,1.4s						
ANPB	**Aniakchak Plen**	**4.51**	**279**		**Pn**	**00 54 21.1**	**+0.5**
CHGN	**Chignik**	**4.60**	**272**	Pn	**Pn**	**00 54 21.0**	**-0.6**
CHGN				IAML		00 55 13.8	
	comp=N,173nm,0.1s						
CHGN				IAML		00 55 14.5	
	comp=E,161nm,0.1s						
KAIM	**Kayak Island**	**4.67**	**38**		**Pn**	**00 54 24.6**	**+1.9**
RC01	**Rabbit Creek A**	**4.72**	**2**	Pn	**Pn**	**00 54 23.9**	**+0.5**
RC01				IAML		00 55 19.8	
	comp=N,86nm,0.4s						
RC01				IAML		00 55 21.3	
	comp=E,90nm,0.8s						
EYAK	**Cordova Ski Ar**	**4.77**	**27**		**Pn**	**00 54 25.7**	**+1.7**
EYAK	**Cordova Ski Ar**	**4.77**	**27**	P	**Pn**	**00 54 26.1**	**+2.1**
	baz=211						
SPCR	**Spurr Chakacha**	**4.95**	**348**		**Pn**	**00 54 26.7**	**+0.2**
P16K	**Nushagak River**	**4.97**	**306**		**Pn**	**00 54 27.5**	**+0.8**
P16K	**Nushagak River**	**4.97**	**306**	P	**Pn**	**00 54 27.5**	**+0.8**
	baz=120						
N19K	**Bonanza Creek**	**4.98**	**335**		**Pn**	**00 54 27.7**	**+0.6**
SUCK	**Suckling Hills**	**5.00**	**40**		**Pn**	**00 54 29.6**	**+2.3**
SUCK				IAML		00 55 30.4	
	comp=E,114nm,1.5s						
SPCP	**Crater Peak Br**	**5.00**	**349**		**Pn**	**00 54 28.2**	**+0.8**
O17K	**Koliganek Bris**	**5.01**	**316**		**Pn**	**00 54 28.6**	**+1.3**
HMT	**Hamilton**	**5.03**	**36**		**Pn**	**00 54 29.8**	**+2.2**
NICHA	**Nichawak Mount**	**5.05**	**38**		**Pn**	**00 54 30.1**	**+2.1**
SUA	**Susitna One**	**5.10**	**357**		**Pn**	**00 54 29.0**	**+0.3**
SUA				IAML		00 55 29.7	
	comp=N,53nm,0.8s						
KNK	**Knik Glacier**	**5.12**	**9**		**Pn**	**00 54 29.8**	**+1.0**
KNK				IAML		00 55 37.8	
	comp=N,36nm,0.6s						
KNK				IAML		00 55 39.0	
	comp=E,43nm,1.3s						
VNFG	**Fog Glacier, M**	**5.23**	**273**		**Pn**	**00 54 31.0**	**+0.5**
N18K	**Kilae Creek**	**5.25**	**327**		**Pn**	**00 54 31.1**	**+0.5**
O16K	**Kokwok River B**	**5.31**	**311**		**Pn**	**00 54 32.6**	**+1.2**
SNH	**Sunshine Point**	**5.42**	**42**		**Pn**	**00 54 34.9**	**+2.0**
BMRM	**Bremner River**	**5.43**	**30**		**Pn**	**00 54 35.1**	**+2.0**
BMRM	**Bremner River**	**5.43**	**30**	P	**Pn**	**00 54 35.5**	**+2.3**
	baz=215						
GHO	**Glory Hole Cre**	**5.44**	**6**		**Pn**	**00 54 34.7**	**+1.4**
KHIT	**Khitrov Hills**	**5.45**	**39**		**Pn**	**00 54 35.3**	**+1.9**
SML	**Sawmill**	**5.52**	**9**		**Pn**	**00 54 35.8**	**+1.5**
SML	**Sawmill**	**5.52**	**9**	P	**Pn**	**00 54 35.9**	**+1.5**
	baz=191						
N17K	**Nushagak Hills**	**5.55**	**321**		**Pn**	**00 54 35.8**	**+1.0**
CHNA	**Chernabura Isl**	**5.57**	**258**	P	**Pn**	**00 54 34.1**	**-0.9**
	baz=70						
KLU	**Klutina**	**5.57**	**21**		**Pn**	**00 54 37.0**	**+2.0**
KLU	**Klutina**	**5.57**	**21**	P	**Pn**	**00 54 37.1**	**+2.0**
	baz=205						
CNBA	**Chernabura Isl**	**5.57**	**258**		**Pn**	**00 54 34.0**	**-1.0**
SCM	**Sheep Creek Mo**	**5.66**	**14**		**Pn**	**00 54 38.1**	**+1.8**
SKT	**Skwentna**	**5.66**	**353**		**Pn**	**00 54 37.2**	**+1.0**
CRQM	**Cirque**	**5.71**	**37**		**Pn**	**00 54 39.2**	**+2.0**
M20K	**Styx River**	**5.72**	**346**		**Pn**	**00 54 37.9**	**+0.7**
MESA	**MESA**	**5.76**	**45**		**Pn**	**00 54 39.6**	**+1.8**
O15K	**Ungalikthiuk R**	**5.88**	**302**		**Pn**	**00 54 40.1**	**+0.9**
ISLE	**Juniper Island**	**5.89**	**41**		**Pn**	**00 54 41.5**	**+2.1**
M18K	**Stony River**	**5.90**	**333**		**Pn**	**00 54 39.9**	**+0.4**
M18K	**Stony River**	**5.90**	**333**	P	**Pn**	**00 54 39.9**	**+0.4**
	baz=149						
SDPT	**Sand Point**	**5.90**	**264**		**Pn**	**00 54 39.5**	**-0.1**
SDPT	**Sand Point**	**5.90**	**264**	P	**Pn**	**00 54 39.5**	**-0.1**
	baz=76						
M19K	**Big River Lodg**	**5.95**	**340**	Pn	**Pn**	**00 54 41.1**	**+0.9**
N25K	**Chitina, Valde**	**5.97**	**26**		**Pn**	**00 54 42.8**	**+2.2**
VRDI	**Verde Repeater**	**5.97**	**33**		**Pn**	**00 54 42.9**	**+2.2**
GLB	**Gilahina Butte**	**6.04**	**30**		**Pn**	**00 54 43.6**	**+2.1**
M24K	**Tolsona, Glenn**	**6.09**	**18**		**Pn**	**00 54 44.6**	**+2.4**
N16K	**Nishlik Lake**	**6.10**	**316**		**Pn**	**00 54 43.8**	**+1.5**
SAMH	**Samovar Hills**	**6.21**	**49**		**Pn**	**00 54 46.4**	**+2.5**
MCARA	**McCarthy VSAT**	**6.22**	**33**		**Pn**	**00 54 46.7**	**+2.7**
MCARA	**McCarthy VSAT**	**6.22**	**33**	P	**Pn**	**00 54 46.3**	**+2.3**
	baz=220						
TABL	**Table Mountain**	**6.24**	**46**		**Pn**	**00 54 46.8**	**+2.4**
PTPK	**Patty Peak**	**6.26**	**37**		**Pn**	**00 54 46.9**	**+2.3**
M17K	**Holitna River**	**6.29**	**326**		**Pn**	**00 54 46.1**	**+1.2**
L19K	**White Mountain**	**6.29**	**339**		**Pn**	**00 54 45.3**	**+0.4**
WAT6	**Susitna Watana**	**6.33**	**10**		**Pn**	**00 54 47.1**	**+1.5**
WAT6	**Susitna Watana**	**6.33**	**10**	P	**Pn**	**00 54 47.6**	**+2.0**
	baz=193						
WACK	**Wrangell Chich**	**6.36**	**26**		**Pn**	**00 54 48.4**	**+2.3**
L20K	**Farewell, AK**	**6.40**	**344**		**Pn**	**00 54 46.6**	**+0.2**
PCA	**Pinnacle**	**6.41**	**50**		**Pn**	**00 54 48.9**	**+2.2**
PINM	**Pinnacle**	**6.42**	**50**	P	**Pn**	**00 54 49.1**	**+2.5**
	baz=239						
BARN	**Barnard Glacie**	**6.44**	**40**		**Pn**	**00 54 49.5**	**+2.4**
N15K	**Kwethluk River**	**6.47**	**310**		**Pn**	**00 54 49.1**	**+1.7**
CTG	**Chitna Glacier**	**6.49**	**41**	P	**Pn**	**00 54 49.8**	**+1.9**
	baz=229						
CTGM	**Chitina Glacie**	**6.50**	**41**		**Pn**	**00 54 50.2**	**+2.3**
M16K	**Timber Creek**	**6.53**	**319**		**Pn**	**00 54 49.5**	**+1.4**
LOGN	**Logan Glacier**	**6.53**	**43**		**Pn**	**00 54 50.4**	**+2.1**
HARP	**HAARP**	**6.55**	**21**		**Pn**	**00 54 50.3**	**+1.9**
HARP	**HAARP**	**6.55**	**21**	P	**Pn**	**00 54 50.3**	**+1.9**
	baz=206						
PS1A	**Pavlof South-1**	**6.59**	**266**		**Pn**	**00 54 48.8**	**-0.2**
O14K	**Tigyukauivet M**	**6.59**	**300**	Pn	**Pn**	**00 54 50.3**	**+1.2**
PS4A	**Pavlof South-4**	**6.67**	**266**		**Pn**	**00 54 49.8**	**-0.3**
PN7A	**Pavlof North-7**	**6.73**	**267**		**Pn**	**00 54 51.0**	**0.0**
L18K	**Granite Mounta**	**6.74**	**333**		**Pn**	**00 54 51.9**	**+0.9**
DHY	**Denali Highway**	**6.86**	**11**		**Pn**	**00 54 54.7**	**+1.9**
DHY	**Denali Highway**	**6.86**	**11**	P	**Pn**	**00 54 53.8**	**+1.0**
	baz=194						
TRF	**Thorofare Moun**	**7.09**	**360**	Pn	**Pn**	**00 54 59.1**	**+3.2**
L17K	**Donlin**	**7.11**	**327**		**Pn**	**00 54 57.4**	**+1.3**
CAST	**Castle Rocks**	**7.12**	**353**	Pn	**Pn**	**00 54 57.8**	**+1.5**
L16K	**Owhat River**	**7.18**	**322**	Pn	**Pn**	**00 54 58.1**	**+1.1**
KTH	**Kantishna Hill**	**7.20**	**357**	Pn	**Pn**	**00 54 58.8**	**+1.4**
O29M	**Mount Kennedy**	**7.25**	**52**		**Pn**	**00 55 00.8**	**+2.7**
P29M	**Windy Craggy**	**7.35**	**59**		**Pn**	**00 55 01.4**	**+1.9**
YUK7	**Dusty Glacier**	**7.54**	**52**		**Pn**	**00 55 05.0**	**+2.8**
K17K	**Iditarod**	**7.57**	**330**		**Pn**	**00 55 03.5**	**+1.0**
S31K	**Pelican**	**7.73**	**72**		**Pn**	**00 55 04.6**	**0.0**
BPAW	**Bear Paw Mtn.**	**7.75**	**357**	Pn	**Pn**	**00 55 05.8**	**+0.9**
ISNN	**Isanotski Nort**	**7.87**	**264**		**Pn**	**00 55 06.3**	**-0.3**
BCAR	**Beaver Creek A**	**7.92**	**29**	Pn	**Pn**	**00 55 09.6**	**+2.4**
HYT	**Haines Junctio**	**7.96**	**51**	Pn	**Pn**	**00 55 10.1**	**+2.2**
SSLS	**Shishaldin Sou**	**8.03**	**264**		**Pn**	**00 55 08.8**	**0.0**
J20K	**Nowitna River**	**8.06**	**347**	Pn	**Pn**	**00 55 09.9**	**+0.8**
J19K	**Poorman**	**8.10**	**343**	Pn	**Pn**	**00 55 10.2**	**+0.5**
WRH	**Wood River Hil**	**8.18**	**6**		**Pn**	**00 55 12.5**	**+1.8**
SIT	**Sitka**	**8.19**	**79**	Pn	**Pn**	**00 55 10.3**	**-0.6**
SCRK	**Sand Creek**	**8.21**	**19**	Pn	**Pn**	**00 55 13.6**	**+2.3**
K15K	**Wolf Creek Mou**	**8.29**	**320**	Pn	**Pn**	**00 55 13.2**	**+0.8**
CCB	**Clear Creek Bu**	**8.37**	**7**		**Pn**	**00 55 15.6**	**+2.3**
N30M	**Aishikik Lake**	**8.45**	**48**	Pn	**Pn**	**00 55 16.6**	**+2.0**
SKAG	**Skagway**	**8.47**	**63**	Pn	**Pn**	**00 55 16.8**	**+2.1**
M29M	**Somme Creek**	**8.50**	**40**	Pn	**Pn**	**00 55 18.1**	**+2.8**
O30N	**Mendenhall**	**8.56**	**53**	Pn	**Pn**	**00 55 18.0**	**+2.0**
IL31		**8.56**	**9**		**Pn**	**00 55 18.1**	**+2.1**
ILAR	**Eielson Array**	**8.56**	**9**	Pn	**Pn**	**00 55 17.7**	**+1.6**
ILAR	**Eielson Array**	**8.56**	**9**	Pn	**Pn**	**00 55 17.9**	**+1.8**
	comp=E,0.5nm,0.3s,baz=190,slow=13,SNR=23						
ILAR				Sn	**Sn**	**00 56 48.4**	**-4.2**
	comp=E,0.7nm,0.3s,baz=192,slow=21,SNR=17						
	comp=E,0.8nm,0.3s						
J25K	**Salcha River,**	**8.58**	**14**	Pn	**Pn**	**00 55 18.1**	**+1.7**
MDM	**Murphy Dome**	**8.65**	**5**	Pn	**Pn**	**00 55 18.7**	**+1.4**
J16K	**Anvik River**	**8.68**	**327**	Pn	**Pn**	**00 55 18.4**	**+0.7**
L29M	**L29M**	**9.06**	**37**		**Pn**	**00 55 25.5**	**+2.6**
P32M	**Atlin**	**9.30**	**63**	Pn	**Pn**	**00 55 28.0**	**+1.8**
H21K	**Melozitna Rive**	**9.39**	**353**		**Pn**	**00 55 28.0**	**+0.6**
U33K	**Whale Pass**	**9.49**	**85**	Pn	**Pn**	**00 55 28.1**	**-0.6**
H18K	**Honhosa River**	**9.66**	**339**	Pn	**Pn**	**00 55 31.6**	**+0.6**
IMAR	**Indian Mountai**	**9.78**	**351**	Pn	**Pn**	**00 55 33.5**	**+0.8**
M31M	**Drury Creek, Y**	**9.93**	**48**	Pn	**Pn**	**00 55 37.1**	**+2.3**
G21K	**Allakaket**	**10.29**	**352**	Pn	**Pn**	**00 55 40.8**	**+1.1**
G23K	**Bananza Creek**	**10.36**	**0**	Pn	**Pn**	**00 55 41.4**	**+0.7**
R33M	**Jennings River**	**10.64**	**66**	Pn	**Pn**	**00 55 46.7**	**+2.1**
COLD	**Coldfoot**	**10.88**	**360**	Pn	**Pn**	**00 55 48.7**	**+1.0**
DLBC	**Dease Lake**	**11.04**	**71**	Pn	**Pn**	**00 55 50.8**	**+0.7**
DLBC	**Dease Lake**	**11.04**	**71**	Pn	**Pn**	**00 55 52.5**	**+2

*NEIC **01** 01:23:35.0±0.6, 2.74N±0.02×128.6E±0.2, h173km±9km, mb4.3/31, Error ellipse: s-maj=28.8km s-min=2.4km az=91.0*

ISC 01 01:23:32.5±0.7, 2.8N±0.1×128.6E±0.2, h150km, n41, σ1.10/42, mb4.2/26, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNRA	**Kununurra**	**18.38**	**179**	P	**P**	**01 27 33.5**	**-2.6**
FITZ	**Fitzroy Crossi**	**20.99**	**188**	P	**P**	**01 28 04.3**	**+0.2**
COEN	**Coen**	**22.10**	**139**	P	**P**	**01 28 18.2**	**+2.3**
COEN				IAmb	IAmb	01 28 42.5	
	comp=Z,11nm,1.2s						
WB0	**Warramunga Arr**	**23.17**	**166**	P	**P**	**01 28 24.7**	**-1.3**
WB0				IAmb	IAmb	01 28 36.7	
	comp=Z,8.5nm,0.8s						
WRA	**Warramunga Arr**	**23.33**	**166**	P	**P**	**01 28 26.6**	**-0.8**
WRA	**Warramunga Arr**	**23.33**	**166**	P	**P**	**01 28 26.1**	**-1.4**
	comp=Z,3.1nm,0.5s,baz=346,slow=10,SNR=21						
	comp=Z,3.1nm,0.5s						
WB2	**Warramunga Arr**	**23.33**	**166**	P	**P**	**01 28 26.5**	**-1.0**
WB2				IAmb	IAmb	01 28 37.5	
	comp=Z,11nm,1.1s						
WR0	**Warramunga Arr**	**23.39**	**166**	P	**P**	**01 28 26.3**	**-1.7**
WR0				IAmb	IAmb	01 28 39.0	
	comp=Z,8.5nm,0.9s						
ASAR	**Alice Springs**	**26.84**	**169**	P	**P**	**01 28 58.7**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=356,slow=8.1,SNR=12						
ASAR				PcP	**PcP**	**01 32 19.9**	**+1.8**
	comp=Z,0.8nm,0.5s,baz=346,slow=2.4,SNR=6.0						
	comp=Z,1.2nm,0.6s						
BBOO	**Buckleboo**	**36.15**	**169**	P	**P**	**01 30 19.4**	**-1.1**
STKA	**Stephens Creek**	**36.67**	**161**	P	**P**	**01 30 23.6**	**-1.3**
	comp=Z,2.5nm,0.5s,baz=332,slow=9.0,SNR=6.3						
	comp=Z,2.5nm,0.5s						
SONM	**Songino Array**	**48.74**	**340**	P	**P**	**01 32 00.3**	**-1.9**
	comp=Z,0.6nm,0.8s,baz=149,slow=9.4,SNR=4.6						
	comp=Z,0.6nm,0.8s						
MK31	**Makanchi Array**	**59.34**	**325**	P	**P**	**01 33 18.8**	**0.0**
MKAR	**Makanchi Array**	**59.34**	**325**	P	**P**	**01 33 18.6**	**-0.2**
MKAR	**Makanchi Array**	**59.34**	**325**	P	**P**	**01 33 18.8**	**0.0**
	comp=Z,1.1nm,0.5s,baz=112,slow=8.4,SNR=24						
	comp=Z,1.1nm,0.5s						
MAKZ	**Makanchi**	**59.52**	**325**	P	**P**	**01 33 20.1**	**0.0**
KURBB	**Kurchatov Arra**	**63.48**	**327**	P	**P**	**01 33 45.9**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=123,slow=6.1,SNR=24						
	comp=Z,1.7nm,0.6s						
KURK	**Kurchatov**	**63.48**	**327**	P	**P**	**01 33 46.5**	**0.0**
KURK				IAmb	IAmb	01 33 47.0	
	comp=Z,2.9nm,0.7s						
BVAR	**Borovoye Array**	**69.07**	**327**	P	**P**	**01 34 21.5**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=102,slow=6.6,SNR=4.8						
	comp=Z,0.7nm,0.6s						
GEYT	**Alibeck**	**72.88**	**309**	P	**P**	**01 34 47.1**	**+1.7**
	comp=Z,0.8nm,0.6s,baz=106,slow=4.7,SNR=2.6						
	comp=Z,0.8nm,0.6s						
L14K	**Kuka Creek**	**77.45**	**27**	P	**P**	**01 35 10.9**	**-0.1**
K15K	**Wolf Creek Mou**	**78.25**	**27**	P	**P**	**01 35 15.4**	**-0.1**
J16K	**Anvik River**	**78.94**	**26**	P	**P**	**01 35 19.4**	**+0.1**
F17K	**Baldwin Pennin**	**79.58**	**23**	P	**P**	**01 35 22.7**	**+0.1**
F17K				IAmb	IAmb	01 35 45.4	
	comp=Z,11nm,1.5s						
E18K	**Tukpahlearik C**	**80.11**	**22**	P	**P**	**01 35 25.6**	**+0.2**
E18K				IAmb	IAmb	01 35 26.7	
	comp=Z,5.9nm,0.9s						
J18K	**Innoko River**	**80.69**	**26**	P	**P**	**01 35 28.0**	**-0.7**
J18K				IAmb	IAmb	01 35 55.4	
	comp=Z,8.8nm,1.4s						
C19K	**Lookout Ridge**	**80.95**	**20**	P	**P**	**01 35 30.6**	**+0.6**
C19K				IAmb	IAmb	01 35 30.8	
	comp=Z,4.1nm,0.9s						
G19K	**Purcell Mounta**	**81.13**	**23**	P	**P**	**01 35 31.0**	**+0.1**
H19K	**Roundabout Mou**	**81.25**	**24**	P	**P**	**01 35 31.7**	**+0.2**
H19K				IAmb	IAmb	01 35 32.2	
	comp=Z,3.6nm,0.8s						
D19K	**Kuna River**	**81.31**	**21**	P	**P**	**01 35 32.1**	**+0.2**
E19K	**Redstone River**	**81.38**	**22**	P	**P**	**01 35 32.2**	**0.0**
E19K				IAmb	IAmb	01 35 33.2	
	comp=Z,7.3nm,1.1s						
J20K	**Nowinta River**	**81.94**	**26**	P	**P**	**01 35 35.4**	**+0.2**
J20K				IAmb	IAmb	01 35 47.4	
	comp=Z,6.2nm,1.2s						
G21K	**Allakaket**	**82.62**	**23**	P	**P**	**01 35 39.3**	**+0.6**
G21K				IAmb	IAmb	01 36 06.2	
	comp=Z,7.3nm,1.4s						
CAST	**Castle Rocks**	**82.72**	**26**	P	**P**	**01 35 39.2**	**-0.1**
E22K	**Anaktuvuk Pass**	**83.53**	**22**	P	**P**	**01 35 44.1**	**+0.7**
E22K				IAmb	IAmb	01 35 55.5	
	comp=Z,3.6nm,0.9s						
G23K	**Bananza Creek**	**84.02**	**23**	P	**P**	**01 35 46.6**	**+0.6**
G23K				IAmb	IAmb	01 35 57.9	
	comp=Z,4.8nm,0.9s						
C23K	**Itkillik River**	**84.20**	**20**	P	**P**	**01 35 47.2**	**+0.5**
C23K				IAmb	IAmb	01 35 59.9	
	comp=Z,7.4nm,1.3s						
D24K	**Happy Valley**	**84.74**	**21**	P	**P**	**01 35 51.2**	**+1.7**
D24K				IAmb	IAmb	01 36 02.1	
	comp=Z,2.7nm,0.8s						
ILAR	**Eielson Array**	**85.14**	**25**	P	**P**	**01 35 49.9**	**-1.6**
	comp=Z,0.5nm,0.8s,baz=238,slow=5.2,SNR=3.0						
	comp=Z,0.5nm,0.8s						
BCAR	**Beaver Creek A**	**87.35**	**27**	P	**P**	**01 36 00.7**	**-1.7**
QSPA	**South Pole Qui**	**92.74**	**180**	P	**P**	**01 36 29.0**	**+1.5**

*IDC **01** 01:27:18.5±0.9, 51.58N×167.77W, h0km, mb3.9/13, mbtmp3.9/13, MS3.0/1, Error ellipse: s-maj=33.1km s-min=15.8km az=7.0*

*AEIC **01** 01:27:21.8±2.4, 51.74N±0.08×167.69W±0.08, h15km±5km, Error ellipse: s-maj=11.7km s-min=6.6km az=172.0*

*NEIC **01** 01:27:23.6±1.4, 51.89N±0.04×167.82W±0.09, h27km±6km, mb4.1/49, ML3.7/6, ML3.4(AEIC), Error ellipse: s-maj=8.4km s-min=4.9km az=59.0*

ISC 01 01:27:22.7±3.9, 51.81N±0.08×167.74W±0.05, h23km±28km, n105, σ0.97/109, mb4.0/29, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**1.35**	**330**		**Pn**	**01 27 45.2**	**-0.9**
NIKH					**Sn**	**01 28 03.0**	**-0.3**
CLCO	**Concord Point,**	**1.56**	**310**		**Pn**	**01 27 48.0**	**-1.0**
CLCO					**Sn**	**01 28 08.6**	**+0.1**
OKTU	**Okmok Mt. Tuli**	**1.59**	**354**		**Pn**	**01 27 48.7**	**-0.7**
OKFG	**Magazine Ridge**	**1.61**	**356**		**Pn**	**01 27 49.0**	**-0.6**
OKFG					**Sn**	**01 28 09.9**	**+0.2**
OKER	**Okmok East Rim**	**1.66**	**354**		**Pn**	**01 27 49.9**	**-0.5**
CLES	**Cleveland East**	**1.67**	**308**		**Pn**	**01 27 49.6**	**-0.8**
CLES	**Cleveland East**	**1.67**	**308**	IAML		01 28 18.2	
	comp=N,1μm,1.4s						
MGOD	**Makushin Gods**	**2.06**	**15**		**Pn**	**01 27 55.2**	**-0.7**
MGOD					**Sn**	**01 28 20.2**	**-0.6**
MAPS	**Pakushin South**	**2.06**	**13**		**Pn**	**01 27 55.0**	**-0.8**
UNV	**Unalaska Valle**	**2.17**	**20**		**Pn**	**01 27 56.1**	**-1.2**
MNAT	**Makushin Natee**	**2.18**	**17**		**Pn**	**01 27 56.7**	**-0.8**
MSW	**Makushin Switc**	**2.19**	**15**		**Pn**	**01 27 57.0**	**-0.6**
MSW					**Sn**	**01 28 25.1**	**+1.1**
ZRO	**Akutan Zero**	**2.52**	**24**		**Pn**	**01 28 01.5**	**-0.7**
AKRB	**Akutan Reef Bi**	**2.54**	**23**		**Pn**	**01 28 02.2**	**-0.2**
AKRB					**Sn**	**01 28 32.9**	**+0.3**
AKGG	**Akutan Green G**	**2.62**	**23**		**Pn**	**01 28 03.2**	**-0.3**
AKUT	**Akutan**	**2.62**	**26**		**Pn**	**01 28 02.6**	**-0.9**
AKUT					**Sn**	**01 28 34.1**	**-0.4**
AKUT	**Akutan**	**2.62**	**26**	IAML		01 28 38.8	
	comp=E,191nm,0.7s						
WECS	**Westdahl Cape**	**3.26**	**32**		**Pn**	**01 28 12.2**	**-0.2**
ISLZ	**Isanotski Laza**	**3.79**	**38**		**Pn**	**01 28 19.2**	**-0.5**
KOFP	**Korovin Flat P**	**3.95**	**279**		**Pn**	**01 28 21.6**	**-0.3**
ATKA	**Atka Island**	**4.01**	**278**		**Pn**	**01 28 21.7**	**-0.9**
ATKA	**Atka Island**	**4.01**	**278**	IAML		01 29 14.1	
	comp=N,106nm,2.8s						
ATKA				IAML		01 30 04.9	
	comp=E,145nm,2.9s						
HAG	**Hague Volcano**	**4.95**	**42**		**Pn**	**01 28 35.9**	**+0.4**
PS1A	**Pavlof South-1**	**5.08**	**42**		**Pn**	**01 28 37.9**	**+0.5**
GSMY	**Great Sitkin M**	**5.15**	**276**		**Pn**	**01 28 38.1**	**-0.2**
ADK	**Adak**	**5.54**	**274**		**Pn**	**01 28 43.2**	**-0.5**
SDPT	**Sand Point**	**5.59**	**48**	Pn	**Pn**	**01 28 43.9**	**-0.4**
CNBA	**Chernabura Isl**	**5.74**	**55**		**Pn**	**01 28 44.9**	**-1.5**
P18K	**Big Mountain,**	**10.37**	**38**	Pn	**Pn**	**01 29 50.7**	**+0.9**
KDAK	**Kodiak Island**	**10.59**	**50**	Pn	**Pn**	**01 29 49.7**	**-3.1**
	comp=E,1.5nm,0.3s,baz=259,slow=8.4,SNR=7.0						
KDAK				Sn	Sn	01 31 37.7	-13
	comp=E,0.2nm,0.3s,baz=260,slow=1.5,SNR=2.7						
KDAK				LR	LR	01 34 49.7	
	comp=E,73nm,18.6s,baz=295,slow=42						
Q19K	**Cape Douglas,**	**10.72**	**43**	Pn	**Pn**	**01 29 54.4**	**-0.2**
M17K	**Holitna River**	**11.15**	**26**	Pn	**Pn**	**01 30 01.5**	**+1.0**
M20K	**Styx River**	**12.84**	**33**	Pn	**Pn**	**01 30 25.3**	**+1.7**
K20K	**Telida**	**13.66**	**27**	Pn	**Pn**	**01 30 36.0**	**+1.2**
F19K	**Shaleruckik Mo**	**15.87**	**15**	Pn	**Pn**	**01 31 05.2**	**+1.0**
G21K	**Allakaket**	**16.39**	**20**	Pn	**Pn**	**01 31 10.8**	**-0.1**
E19K	**Redstone River**	**16.53**	**14**		**P**	**01 31 14.0**	**-1.1**
IL31		**16.88**	**32**	Pn	**Pn**	**01 31 17.0**	**0.0**
ILAR	**Eielson Array**	**16.88**	**32**	P	**Pn**	**01 31 14.0**	**-3.1**
	comp=E,0.4nm,0.7s,baz=226,slow=12,SNR=2.8						
RIDG	**Independent Ri**	**16.96**	**36**	Pn	**Pn**	**01 31 16.5**	**-1.7**
RIDG				IAmb	IAmb	01 31 54.1	
	comp=Z,12nm,1.3s						
BARN	**Barnard Glacie**	**17.03**	**47**	Pn	**Pn**	**01 31 19.2**	**+0.1**
BARN				IAmb	IAmb	01 31 37.1	
	comp=Z,11nm,1.0s						
L26K	**Log Cabin Wild**	**17.15**	**40**	Pn	**Pn**	**01 31 20.0**	**-0.6**
D19K	**Kuna River**	**17.37**	**12**		**Pn**	**01 31 23.7**	**+0.5**
COLD	**Coldfoot**	**17.72**	**23**		**P**	**01 31 28.2**	**-0.1**
COLD				IAmb	IAmb	01 31 33.0	
	comp=Z,11nm,1.4s						
BCAR	**Beaver Creek A**	**17.80**	**41**	Pn	**Pn**	**01 31 26.2**	**-2.4**
E22K	**Anaktuvuk Pass**	**18.11**	**19**	P	**P**	**01 31 33.5**	**+0.9**
D22K	**Ayikyak River**	**18.57**	**17**		**Pn**	**01 31 38.7**	**+0.7**
EGAK	**Eagle**	**18.88**	**36**	P	**Pn**	**01 31 41.7**	**+0.1**
BMAR	**Burnt Mountain**	**19.35**	**27**	Pn	**Pn**	**01 31 47.3**	**-0.1**
D24K	**Happy Valley**	**19.57**	**20**	Pn	**Pn**	**01 31 49.8**	**-0.2**
D24K				IAmb	IAmb	01 31 52.4	
	comp=Z,4.7nm,0.8s						
C23K	**Itkillik River**	**19.78**	**18**		**P**	**01 31 50.9**	**+0.2**
C23K				IAmb	IAmb	01 31 52.0	
	comp=Z,8.9nm,0.6s						
K29M	**Barlow Dome**	**19.87**	**41**	Pn	**Pn**	**01 31 53.7**	**+0.1**
H29M	**Whitestone**	**20.61**	**34**	P	**P**	**01 31 59.6**	**-0.4**
H29M				IAmb	IAmb	01 32 02.6	
	comp=Z,7.5nm,0.7s						
F28M	**Old Crow**	**20.87**	**30**	P	**P**	**01 32 00.8**	**-2.0**
I30M	**Mount Dempster**	**20.88**	**38**	P	**P**	**01 32 02.7**	**-0.3**
I30M				IAmb	IAmb	01 32 05.0	
	comp=Z,9.2nm,1.3s						
PETK	**Petropavlovsk-**	**20.98**	**287**	P	**P**	**01 32 02.7**	**-1.4**
	comp=Z,5.4nm,0.6s,baz=86,slow=13,SNR=11						
	comp=Z,5.4nm,0.6s						
P33M	**Teslin, Yukon**	**21.03**	**53**	P	**P**	**01 32 06.1**	**+1.5**
P33M				IAmb	IAmb	01 32 14.4	
	comp=Z,4.0nm,0.7s						
FARO	**Faro, Yukon**	**21.16**	**47**	P	**P**	**01 32 07.5**	**+1.6**
EPYK	**Eagle Plains**	**21.27**	**35**	P	**P**	**01 32 07.7**	**+0.6**
EPYK				IAmb	IAmb	01 32 20.0	
	comp=Z,8.9nm,0.8s						
G30M	**tAoh Zraii Nji**	**21.74**	**34**	P	**P**	**01 32 11.8**	**-0.3**
G30M				IAmb	IAmb	01 32 23.7	
	comp=Z,6.9nm,0.9s						
H31M	**Peel River**	**21.89**	**37**	P	**P**	**01 32 13.4**	**-0.3**
H31M				IAmb	IAmb	01 32 27.9	
	comp=Z,4.5nm,0.9s						
E29M	**Blow River**	**21.93**	**30**	P	**P**	**01 32 13.6**	**-0.4**
E29M				IAmb	IAmb	01 32 18.3	
	comp=Z,4.5nm,0.7s						
MMPY	**Sheldon Lake,**	**22.19**	**47**	P	**P**	**01 32 19.8**	**+2.8**
MMPY				IAmb	IAmb	01 32 22.0	
	comp=Z,13nm,1.0s						
G31M	**Satah River**	**22.39**	**35**	P	**P**	**01 32 18.3**	**-0.7**
INK	**Inuvik**	**23.28**	**32**	P	**P**	**01 32 28.0**	**-0.2**
INK				IAmb	IAmb	01 32 30.6	
	comp=Z,4.3nm,0.8s						
A36M	**Sachs Harbour**	**27.45**	**27**	P	**P**	**01 33 07.2**	**+0.9**
A36M				IAmb	IAmb	01 33 25.3	
	comp=Z,4.9nm,0.8s						
YKA	**Yellowknife Ar**	**29.86**	**48**	P	**P**	**01 33 28.5**	**+0.6**
YKA	**Yellowknife Ar**	**29.86**	**48**	P	**P**	**01 33 28.9**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=272,slow=7.5,SNR=18						
	comp=Z,0.9nm,0.8s						
I07A	**Izee**	**32.70**	**84**	P	**P**	**01 33 54.8**	**+1.5**
LYMT	**Lyon Mountain**	**35.67**	**75**	P	**P**	**01 34 19.8**	**+0.6**
KVN	**Kaiserville**	**36.40**	**91**	P	**P**	**01 34 26.4**	**+1.1**
KVN				IAmb	IAmb	01 34 27.0	
	comp=Z,2.0nm,0.8s						
NVAR	**Mina Array Bea**	**36.65**	**92**	P	**P**	**01 34 28.0**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=300,slow=8.5,SNR=12						
	comp=Z,1.8nm,0.8s						
EGMT	**Eagleton**	**36.68**	**72**	P	**P**	**01 34 28.0**	**+0.4**
ELK	**Elko**	**37.17**	**86**	P	**P**	**01 34 32.8**	**+0.8**
ELK				IAmb	IAmb	01 34 33.7	
	comp=Z,1.9nm,0.9s						
R11B	**Troy Canyon, C**	**38.38**	**89**	P	**P**	**01 34 42.5**	**+0.3**
R11B				IAmb	IAmb	01 34 43.5	
	comp=Z,1.6nm,0.7s						
PRN	**Pahroc Range**	**39.30**	**90**	P	**P**	**01 34 50.8**	**+1.0**
PRN				IAmb	IAmb	01 34 51.5	
	comp=Z,5.6nm,0.9s						
PDAR	**Pinedale Array**	**39.52**	**80**	P	**P**	**01 34 52.1**	**+0.4**
PDAR	**Pinedale Array**	**39.52**	**80**	P	**P**	**01 34 51.2**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=300,slow=6.4,SNR=9.3						
	comp=Z,1.1nm,0.8s						
CCUT	**Cedar City**	**40.26**	**89**	P	**P**	**01 34 57.6**	**-0.2**
U15A	**North Rim**	**41.63**	**89**	P	**P**	**01 35 09.8**	**+0.6**
U15A				IAmb	IAmb	01 35 22.4	
	comp=Z,3.1nm,0.9s						
BLYC	**Blythe**	**41.99**	**94**	P	**P**	**01 35 12.4**	**+0.6**
BLYC				IAmb	IAmb	01 35 13.1	
	comp=Z,4.3nm,0.7s						
MVCO	**Mesa Verde**	**43.49**	**86**	P	**P**	**01 35 25.2**	**+0.9**
MVCO				IAmb	IAmb	01 36 07.3	
	comp=Z,2.0nm,0.9s						
ULM	**Lac du Bonnet**	**43.52**	**62**	P	**P**	**01 35 23.1**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=303,slow=7.1,SNR=5.4						
	comp=Z,1.7nm,0.7s						
ECSD	**EROS Data Cent**	**46.72**	**70**	P	**P**	**01 35 48.4**	**-1.2**
ECSD				IAmb	IAmb	01 35 49.2	
	comp=Z,2.9nm,1.1s						
TXAR	**Lajitas Array**	**51.75**	**90**	P	**P**	**01 36 27.9**	**-0.4**
TXAR	**Lajitas Array**	**51.75**	**90**	P	**P**	**01 36 27.5**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=293,slow=6.4,SNR=8.2						
	comp=Z,0.9nm,0.7s						
P40A	**Paris**	**52.01**	**72**	P	**P**	**01 36 28.9**	**-1.0**
E46A	**Sault Ste Mari**	**52.07**	**61**	P	**P**	**01 36 29.7**	**-0.7**
SONM	**Songino Array**	**52.45**	**302**	P	**P**	**01 36 34.9**	**+1.6**
	comp=Z,0.4nm,0.4s,baz=79,slow=7.5,SNR=3.0						
	comp=Z,0.4nm,0.4s						
UTMT	**University of**	**56.00**	**73**	P	**P**	**01 37 00.0**	**+0.8**
WBO	**Williamsburg**	**57.76**	**57**	P	**P**	**01 37 11.4**	**-0.1**
LONY	**Lake Ozonia**	**58.38**	**57**	P	**P**	**01 37 15.2**	**-0.7**
NCB	**Newcomb**	**59.01**	**57**	P	**P**	**01 37 20.1**	**-0.2**
SSPA	**Standing Stone**	**59.35**	**62**	P	**P**	**01 37 22.0**	**-0.7**
KURK	**Kurchatov**	**63.46**	**319**	P	**P**	**01 37 50.2**	**0.0**
KURBB	**Kurchatov Arra**	**63.56**	**319**	P	**P**	**01 37 51.6**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=36,slow=8.0,SNR=2.3						
	comp=Z,1.2nm,0.3s						
BVAR	**Borovoye Array**	**64.74**	**325**	P	**P**	**01 37 59.9**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=46,slow=7.8,SNR=6.6						
	comp=Z,0.7nm,0.5s						
MKAR	**Makanchi Array**	**64.92**	**315**	P	**P**	**01 38 00.1**	**+0.1**
MKAR	**Makanchi Array**	**64.92**	**315**	P	**P**	**01 38 00.5**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=37,slow=5.6,SNR=2.2						
	comp=Z,0.2nm,0.6s						
FINES	**FINESS Array B**	**66.56**	**353**	P	**P**	**01 38 10.0**	**-0.2**
FINES	**FINESS Array B**	**66.56**	**353**	P	**P**	**01 38 10.5**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=14,slow=11,SNR=7.1						
	comp=Z,1.7nm,0.8s						
ABKAR	**Akbulak array**	**71.44**	**329**	P	**P**	**01 38 41.6**	**+0.8**
ABKAR	**Akbulak array**	**71.44**	**329**	P	**P**	**01 38 41.2**	**+0.5**
ABKAR				IAmb	IAmb	01 38 44.2	
	comp=Z,0.9nm,0.7s						
WRA	**Warramunga Arr**	**87.45**	**233**	P	**P**	**01 40 06.2**	**-1.9**
	comp=Z,0.4nm,0.8s,baz=32,slow=5.8,SNR=2.3						
	comp=Z,0.4nm,0.8s						
ASAR	**Alice Springs**	**90.81**	**231**	P	**P**	**01 40 22.9**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=34,slow=4.5,SNR=2.6						
	comp=Z,0.4nm,0.6s						

*BJI **01** 01:35:45.6±0.0, 0.57N×98.78E, h88km, mb5.2/74, mB5.3/36, Ms4.5/32, Ms7 4.2/36*

*BGR **01** 01:35:45.9, 0.36N×97.51E, h33km, mb5.4, Ms4.2*

*IDC **01** 01:35:48.9±0.4, 1.01N×98.87E, h74km±2km, mb5.0/35, mbtmp5.2/38, MS4.0/55, Error ellipse: s-maj=11.2km s-min=7.9km az=66.0*

*MOS **01** 01:35:48.2±1.0, 1.06N×98.76E, h79km, mb5.7/103, Error ellipse: s-maj=7.2km s-min=3.4km az=115.2*

*NEIC **01** 01:35:48.6, 0.91N×98.56E, h80km, Moment Tensor Solution. Duration: 1s9 Moment tensor: Scale 10^16 Nm; Mrr-1.08; Mθθ-4.60; Mϕϕ5.68; Mrθ0.10; Mrϕ2.45; Mθϕ-4.04; Fault plane solution: Mo6.71000×10^16 NP1: ϕs148.88000°, δ86.08000°, λ150.03000°. NP2: ϕs241.14000°, δ60.10000°, λ4.52000°. Principal axes: T 7.9505, Plg24.0000°, Azm101.0000°; N -2.4839, Plg60.0000°, Azm322.0000°; P -5.4666, Plg18.0000°, Azm199.0000°;*

*NEIC **01** 01:35:48.6, 1.01N×98.76E, h80km*

*NEIC **01** 01:35:49.7±1.9, 1.01N±0.06×98.75E±0.06, h71km±4km, mb5.4/189, Mww5.2/16, Error ellipse: s-maj=10.0km s-min=7.5km az=220.0*

*DJA **01** 01:35:49.0±0.1, 1.1N±2.2×97.9E±1.1, h86km±2km, M5.3/94, mB5.7/54, mb5.5/94, MLv5.8/24, Mw(mB)5.3/54, MwMwp4.9/11, Mwp5.2/11*

*GCMT **01** 01:35:50.7±0.2, 0.99N±0.01×98.74E±0.01, h75km±1km, MW5.2/112, Moment Tensor Solution. s78, c113; s112, c190; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.20±.15; Mθθ-3.81±.14; Mϕϕ5.01±.15; Mrθ0.48±.09; Mθϕ2.12±.13; Mϕr-5.23±.10; Best double couple: Mo6.88100×10^16 NP1:ϕs337.00000°, δ85.00000°, λ-131.00000°. NP2:ϕs242.00000°, δ41.00000°, λ-7.00000°. Principal axes: T 8.2050, Plg28.0000°, Azm99.0000°; N -2.6480, Plg41.0000°, Azm341.0000°; P -5.5570, Plg36.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 01:35:48.8±0.2, 0.94N±0.03×98.80E±0.03, h76km±1km, h76km:pP-P, n1564, σ1.19/1628, mb5.4/292, 48C-60D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBSI	**Pulau Batu**	**1.11**	**208**	P	**Pn**	**01 36 09.8**	**+0.8**
GSI	**Gunungsitoli**	**1.28**	**287**		**Pn**	**01 36 10.9**	**-0.2**
GSI	**Gunungsitoli**	**1.28**	**287**	P	**Pn**	**01 36 10.9**	**-0.2**
GSI	**Gunungsitoli**	**1.28**	**287**	P	**Pn**	**01 36 10.8**	**-0.3**
RPSI	**Rantau Prapat**	**1.75**	**4**		**Pn**	**01 36 18.1**	**+0.8**
PSI	**Prapat**	**1.86**	**4**	P	**Pn**	**01 36 18.2**	**-0.6**
PSI	**Prapat**	**1.86**	**4**	P	**Pn**	**01 36 18.1**	**-0.7**
SISI	**Saibi**	**2.27**	**173**	P	**Pn**	**01 36 25.2**	**+1.0**
BKNI	**Bangkinang**	**2.32**	**105**		**Pn**	**01 36 27.3**	**+2.5**
BKNI	**Bangkinang**	**2.32**	**105**	P	**Pn**	**01 36 27.4**	**+2.5**
BKNI	**Bangkinang**	**2.32**	**105**	P	**Pn**	**01 36 27.4**	**+2.5**
PDSI	**Padang**	**2.48**	**138**	P	**Pn**	**01 36 29.5**	**+2.5**
KCSI	**Kotacane, Aceh**	**2.77**	**338**	P	**Pn**	**01 36 29.9**	**-1.1**
SNSI	**Sinabang, Aceh**	**2.87**	**301**	P	**Pn**	**01 36 31.8**	**-0.6**
PPSI	**Pulau Pagai**	**3.87**	**162**	P	**Pn**	**01 36 45.4**	**-0.5**
KRJI	**Kerinci**	**4.01**	**139**	P	**Pn**	**01 36 51.1**	**+3.1**
MLSI	**Meulaboh, Aceh**	**4.08**	**324**	P	**Pn**	**01 36 48.4**	**-0.4**
IPM	**Ipoh**	**4.16**	**32**		**Pn**	**01 36 52.4**	**+2.5**
IPM	**Ipoh**	**4.16**	**32**	P	**Pn**	**01 36 53.1**	**+3.2**
LHMI	**Lhok Sumawe**	**4.65**	**337**	Pn	**Pn**	**01 36 55.8**	**-0.8**
LHMI	**Lhok Sumawe**	**4.65**	**337**	P	**Pn**	**01 36 55.7**	**-0.8**
LHMI	**Lhok Sumawe**	**4.65**	**337**	P	**Pn**	**01 36 55.3**	**-1.2**
KULM	**Kulim**	**4.70**	**23**	Pn	**Pn**	**01 36 58.5**	**+1.3**
MYKOM	**Kota Tinggi**	**5.12**	**80**		**Pn**	**01 37 05.3**	**+2.4**
JMBI	**JAMBI**	**5.47**	**118**	P	**Pn**	**01 37 10.5**	**+2.7**
	612nm,1.0s,7μm4.6nm						
TPRI	**Tanjung Pinang**	**5.72**	**90**	P	**Pn**	**01 37 11.0**	**-0.2**
	645nm,0.5s,15μm5.2nm						
DSRI	**Dabo**	**5.95**	**104**	P	**Pn**	**01 37 16.1**	**+1.8**
	635nm,0.6s,7μm3μm2.4nm						
MNAI	**Manna**	**6.70**	**142**	Pn	**Pn**	**01 37 25.7**	**+1.1**
MNAI	**Manna**	**6.70**	**142**	P	**Pn**	**01 37 26.3**	**+1.7**
MNAI	**Manna**	**6.70**	**142**	P	**Pn**	**01 37 25.5**	**+0.9**
	745nm,0.5s,23μm9.7nm						
PMBI	**Palembang**	**7.10**	**123**	P	**Pn**	**01 37 31.8**	**+1.8**
	881nm,0.9s,20μm4.3nm						
SRIT	**Nakonsritamara**	**7.65**	**6**	Pn	**Pn**	**01 37 35.9**	**-1.7**
**SR

comp=Z,190nm,2.2s
PALK Pallekele 19.11 290 P **Pn** **01 40 07.3 0.0**
comp=Z,21nm,0.7s,baz=220,slow=8.9,SNR=11
PALK S S 01 43 24.6 -14
comp=Z,14nm,0.5s,baz=303,slow=22,SNR=8.4
PALK LR LR 01 46 37.1
comp=Z,659nm,21.7s,baz=219,slow=34
PALK Pallekele 19.11 290 P **Pn** **01 40 07.8 +0.4**
CRAI Chiangrai 19.24 4 **P** **01 40 07.3 +0.2**
TWSI Taliwang, Sumb 20.42 118 P **P** **01 40 17.1 -2.9**
comp=Z,219nm,0.9s,comp=Z,2µm
SLVN Son La 20.88 13 P **P** **01 40 25.4 +0.5**
QIZ Qiongzhong 20.99 30 P **P** **01 40 26.3 +0.2**
QIZ S **S** **01 44 15.8 0.0**
QIZ sS **sS** **01 44 41.4 -0.1**
QIZ pmax pmax
comp=Z,21nm,1.3s
QIZ pmax pmax
comp=Z,210nm,3.3s
QIZ LR LR
comp=Z,380nm,16.8s
QIZ LR LR
comp=Z,320nm,18.5s
QIZ Qiongzhong 20.99 30 P **P** **01 40 26.3 +0.2**
QIZ Qiongzhong 20.99 30 P **P** **01 40 27.7 +1.6**
MND Mandalay 21.11 353 P **P** **01 40 27.0 -0.4**
PLAI Plampang 21.25 118 P **P** **01 40 28.5 -0.4**
PLAI Plampang 21.25 118 P **P** **01 40 25.8 -3.1**
comp=Z,154nm,0.7s,comp=Z,2µmcomp=Z,1µm
TTSI Tana Toraja 21.38 101 P **P** **01 40 31.8 +1.5**
comp=Z,200nm,1.1s,comp=Z,2µm
KAPI Kappang 21.75 106 *i* P **P** **01 40 36.3 +2.1**
KAPI pmax pmax
comp=Z,314nm,0.9s
TOLI2 Tolitoli 21.98 89 P **P** **01 40 37.8 +1.1**
TOLI2 Tolitoli 21.98 89 P **P** **01 40 37.9 +1.1**
MDRS Chennai 21.98 304 *eP* **P** **01 40 38.9 +2.2**
SAIH SAIHA 22.16 346 *eP* **P** **01 40 39.1 +0.4**
VIS Vishakhapatnam 22.57 319 *eP* **P** **01 40 42.7 -0.3**
SALM Salem 23.05 298 *eP* **P** **01 40 50.7 +2.7**
KOD Kodaikanal 23.13 294 *eP* **P** **01 40 49.8 +0.7**
KOD IAmb IAmb 01 40 52.2
comp=Z,61nm,0.6s
VJD Vijayawada 23.65 312 *eP* **P** **01 40 54.7 +1.2**
VJD IAmb IAmb 01 40 56.4
comp=Z,217nm,1.4s
TNCH TengChong 23.95 359 P **P** **01 40 55.5 -0.8**
TNCH pP pP 01 41 12.1 -1.5
TNCH S **S** **01 45 04.0 -3.8**
TNCH pmax pmax
comp=Z,130nm,0.6s
TNCH pmax pmax
comp=Z,360nm,3.2s
TNCH LR LR
comp=Z,500nm,9.1s
TNCH LR LR
comp=Z,400nm,11.7s
TNCH LR LR
comp=Z,360nm,12.4s
LUWI Luwuk 24.05 95 P **P** **01 40 56.4 -0.7**
LUWI Luwuk 24.05 95 P **P** **01 40 57.8 +0.7**
LUWI Luwuk 24.05 95 P **P** **01 40 55.5 -1.6**
comp=Z,655nm,1.0s,comp=Z,6µm
GTOI Gorontalo 24.21 91 P **P** **01 40 57.7 -0.9**
comp=Z,157nm,0.9s,comp=Z,1µm
IMP Imphal 24.21 349 *eP* **P** **01 40 57.7 -0.8**
IMP eS **S** **01 45 12.0 +0.1**
BASI Baing, Sumba 24.34 118 P **P** **01 40 57.4 -2.3**
comp=Z,472nm,0.9s,comp=Z,3µm
KMI Kunming 24.34 9 ⇑P **P** **01 41 00.8 +0.9**
KMI pP pP 01 41 16.8 -0.7
KMI S **S** **01 45 10.6 -3.6**
KMI pmax pmax
comp=Z,22nm,0.9s
KMI LR LR
comp=Z,250nm,10.9s
KMI LR LR
comp=Z,320nm,13.0s
KMI LR LR
comp=Z,300nm,13.6s
BBSI Bau Bau 24.58 105 P **P** **01 40 58.4 -3.5**
comp=Z,487nm,0.9s,comp=Z,3µm
EDFI Ende, Flores 24.75 113 P **P** **01 40 59.0 -4.7**
comp=Z,118nm,0.8s,comp=Z,910nm
KOHI KOHIMA 25.05 350 *eP* **P** **01 41 05.4 -0.9**
KMSI Cibinong 25.18 91 P **P** **01 41 08.9 +1.5**
comp=Z,824nm,0.8s,comp=Z,8µm
MMRI Maumere 25.22 113 P **P** **01 41 07.5 -0.2**
MMRI Maumere 25.22 113 P **P** **01 41 08.7 +0.9**
MMRI Maumere 25.22 113 P **P** **01 41 06.9 -0.9**
comp=Z,460nm,0.9s,comp=Z,4µm
JHSG JHARSUGUGA 25.36 326 *eP* **P** **01 41 08.3 -0.6**
JHSG IAmb IAmb 01 41 30.9
comp=Z,241nm,1.2s
SHL Shillong 25.38 345 *eP* **P** **01 41 09.0 -0.3**
TGY Tagaytay City 25.50 58 LR LR 01 50 45.6
comp=Z,271nm,21.6s,baz=250,slow=35
MOKO MOKOCHONG 25.57 351 *eP* **P** **01 41 11.0 0.0**
PZH PanZhiHua 25.58 6 P **P** **01 41 12.4 +1.4**
PZH pP **pP** **01 41 31.2 +2.5**
PZH S **S** **01 45 30.3 -3.3**
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,170nm,4.9s
PZH LR LR
comp=Z,270nm,16.1s
PZH LR LR
comp=Z,400nm,17.1s
PZH LR LR
comp=Z,310nm,13.1s
HYB Hyderabad 25.79 311 *eP* **P** **01 41 13.4 +0.5**
HYB IVmB_BB 01 41 41.3
comp=Z,344nm,1.6s
HYB Hyderabad 25.79 311 *eP* **P** **01 41 13.0 +0.1**
BOK Bokaro 25.95 332 *eP* **P** **01 41 15.6 +1.3**
GUWA GUWAHATI 26.03 345 *eP* **P** **01 41 14.6 -0.3**
GYA Guiyang 26.48 16 ⇑ *iP* **P** **01 41 19.2 0.0**
GYA S **S** **01 45 47.6 -0.3**
GYA pmax pmax
comp=Z,15nm,0.7s
GYA pmax pmax
comp=Z,200nm,5.2s
GYA LR LR
comp=Z,430nm,12.9s
ITAN ITANAGAR 26.51 350 *eP* **P** **01 41 19.6 +0.3**
MNGI Mangalore 26.58 298 *eP* **P** **01 41 21.6 +1.5**
MNGI IAmb IAmb 01 41 23.1
comp=Z,63nm,1.2s
ZIRO ZIRO 26.86 350 *eP* **P** **01 41 22.4 -0.2**
SANI Sanana 27.34 96 P **P** **01 41 26.3 -0.6**
SANI Sanana 27.34 96 P **P** **01 41 24.0 -2.9**
comp=Z,47nm,1.6s
DAV Davao City (W) 27.39 76 LR LR 01 54 06.6
comp=Z,106nm,20.7s,baz=176,slow=40
SOEI Soe 27.49 113 P **P** **01 41 27.0 -1.4**
SOEI Soe 27.49 113 P **P** **01 41 24.0 -4.4**
comp=Z,255nm,0.8s,comp=Z,2µm
GIRL Giralia 27.85 148 P **P** **01 41 32.6 +1.3**
baz=28,SNR=3.5
GTK Tadong 28.00 340 *eP* **P** **01 41 33.6 +0.8**
NLAI Namlea 28.59 98 P **P** **01 41 38.8 +0.8**
comp=Z,144nm,0.7s,comp=Z,4µm
LBMI Labuha 28.74 93 P **P** **01 41 40.9 +1.5**
comp=Z,125nm,0.6s,comp=Z,2µm
AKL Akola 28.96 314 *eP* **P** **01 41 39.2 -2.1**
ALBI Allahabad 29.26 327 *eP* **P** **01 41 44.7 +0.8**
LSA Lhasa 29.52 346 P **P** **01 41 46.8 +0.2**
LSA IAmb IAmb 01 41 48.5
comp=Z,92nm,1.2s
LSA Lhasa 29.52 346 P **P** **01 41 46.8 +0.2**
LSA pmax pmax
comp=Z,92nm,1.2s
LSA Lhasa 29.52 346 *i* P **P** **01 41 47.6 +0.9**
SNR=17
LSA Lhasa 29.52 346 P **P** **01 41 47.2 +0.6**
MBWA Marble Bar 30.02 138 P **P** **01 41 50.5 -0.1**
MBWA Marble Bar 30.02 138 P **P** **01 41 51.0 +0.4**
MBWA Marble Bar 30.02 138 P **P** **01 41 51.7 +1.1**
MBWA Marble Bar 30.02 138 P **P** **01 41 50.9 +0.4**
MBWA pP **pP** **01 42 08.6 +0.1**
CD2 Chengdu 30.18 8 P **P** **01 41 53.5 +1.5**
CD2 pmax pmax
comp=Z,20nm,0.6s
PSA00 Pilbara Seismi 30.38 139 P **P** **01 41 53.9 +0.1**
PSA00 IAmb IAmb 01 41 55.2
comp=Z,61nm,1.2s
PSA00 Pilbara Seismi 30.38 139 P **P** **01 41 53.9 +0.1**
PSA00 IAmb IAmb 01 41 55.2
comp=Z,27nm,1.1s
PSA00 Pilbara Seismi 30.38 139 P **P** **01 41 54.1 +0.3**
ENH Enshi 30.89 18 P **P** **01 41 57.1 -1.1**
ENH IAmb IAmb 01 42 07.5
comp=Z,43nm,0.7s
ENH Enshi 30.89 18 P **P** **01 41 57.7 -0.5**
ENH Enshi 30.89 18 P **P** **01 41 58.0 -0.3**
YULB Yu-li 31.22 43 P **P** **01 42 01.6 +0.4**
YULB IAmb IAmb 01 42 05.6
comp=Z,141nm,1.9s
JHNI Jhansi 31.26 323 *eP* **P** **01 42 01.1 -0.4**
SSLB Suanglung 31.26 42 P **P** **01 42 01.6 +0.1**
SSLB Suanglung 31.26 42 P **P** **01 42 01.7 +0.1**
FITZ Fitzroy Crossi 32.48 127 P **P** **01 42 10.5 -1.8**
baz=32,SNR=15
SWI Sorong 32.51 93 P **P** **01 42 08.1 -4.5**
comp=Z,48nm,0.7s
WHN Wuhan 32.94 25 ⇑P **P** **01 42 17.6 +1.5**
WHN pmax pmax
comp=Z,120nm,1.2s
MEEK Meekatharra 33.41 147 P **P** **01 42 21.9 +1.5**
baz=34,SNR=14
MEEK Meekatharra 33.41 147 P **P** **01 42 21.7 +1.3**
FAKI Fak Fak 33.66 97 P **P** **01 42 21.6 -1.0**
FAKI IAmb IAmb 01 42 41.1
comp=Z,54nm,0.8s
FAKI Fak Fak 33.66 97 P **P** **01 42 22.2 -0.5**
FAKI Fak Fak 33.66 97 P **P** **01 42 19.9 -2.8**
comp=Z,77nm,1.1s,comp=Z,806nm
KNRA Kununurra 33.89 120 P **P** **01 42 22.8 -1.9**
baz=34
KNRA Kununurra 33.89 120 P **P** **01 42 22.8 -1.9**
KNRA IAmb IAmb 01 42 35.9
comp=Z,33nm,0.8s
KNRA Kununurra 33.89 120 P **P** **01 42 22.4 -2.3**
MORW Morawa 34.09 152 P **P** **01 42 28.4 +2.1**
baz=34,SNR=9.0
MORW Morawa 34.09 152 P **P** **01 42 27.8 +1.5**
MORW IAmb IAmb 01 42 29.8
comp=Z,67nm,1.1s
MORW Morawa 34.09 152 P **P** **01 42 27.6 +1.4**
XAN Xi'an 34.27 15 ⇓P **P** **01 42 26.2 -1.5**
XAN PP **PP** **01 43 50.6 +3.8**
XAN S **S** **01 47 51.5 +2.1**
XAN pmax pmax
comp=Z,34nm,0.8s
XAN pmax pmax
comp=Z,200nm,3.8s
XAN LR LR
comp=Z,740nm,20.2s
XAN LR LR
comp=Z,600nm,12.9s
XAN Xi'an 34.27 15 P **P** **01 42 26.4 -1.3**
XAN pP **pP** **01 42 44.1 -1.8**
XAN PcP **PcP** **01 45 03.0 +0.3**
AJM Ajmer 34.42 320 *eP* **P** **01 42 28.8 -0.4**
AJM *i* x x 01 42 50.9
KUDL Kundal 34.47 324 *eP* **P** **01 42 28.2 -1.3**
DRS Darwin Rock St 34.52 114 P **P** **01 42 28.5 -1.6**
MTN Manton Dam 34.87 114 P **P** **01 42 31.3 -1.8**
baz=35,SNR=14
MTN Manton Dam 34.87 114 P **P** **01 42 31.0 -2.1**
MTN IAmb IAmb 01 42 38.4
comp=Z,37nm,0.7s
MTN Manton Dam 34.87 114 P **P** **01 42 31.4 -1.8**
GOMU GeErMu 35.28 354 P **P** **01 42 37.1 +0.3**
GOMU pmax pmax
comp=Z,11nm,1.4s
LZH Lanzhou 35.29 7 *eP* **P** **01 42 36.8 +0.2**
LZH pP pP 01 42 56.5 +1.8
LZH PcP **PcP** **01 45 07.4 +1.6**
LZH ScP **ScP** **01 48 45.5 +0.5**
LZH pmax pmax
comp=Z,22nm,1.0s
LZH LR LR
comp=Z,210nm,17.5s
LZH LR LR
comp=Z,630nm,19.9s
LZH LR LR
comp=Z,350nm,20.6s
BLDU Ballidu 35.71 153 P **P** **01 42 41.8 +1.7**
baz=36,SNR=9.1
BLDU Ballidu 35.71 153 P **P** **01 42 41.9 +1.7**
LYN LuoYang 35.80 19 ⇓P **P** **01 42 41.9 +1.1**
LYN pmax pmax
comp=Z,210nm,0.8s
LYN LR LR
comp=Z,430nm,8.6s
LYN LR LR
comp=Z,520nm,12.6s
LYN LR LR
comp=Z,430nm,16.5s
KDU Kakadu 36.05 113 P **P** **01 42 41.5 -1.7**
baz=36,SNR=30
KDU Kakadu 36.05 113 P **P** **01 42 41.5 -1.7**
NJ2 Nanjing 36.28 29 *eP* **P** **01 42 45.8 +0.9**
NJ2 pP **pP** **01 43 01.0 -2.2**
NJ2 pmax pmax
comp=Z,31nm,0.8s
SMLA Simla 36.35 328 *eP* **P** **01 42 45.4 -0.2**
MUN Mundaring 36.65 155 P **P** **01 42 51.0 +2.8**
baz=37,SNR=18
MUN Mundaring 36.65 155 P **P** **01 42 48.4 +0.2**
BHK Bhakra 36.98 327 *eP* **P** **01 42 51.1 +0.1**
KLBR Kellerberrin 37.01 153 P **P** **01 42 53.4 +2.1**
baz=37,SNR=35
KLBR Kellerberrin 37.01 153 P **P** **01 42 53.3 +2.1**
DHRM DHARAMSHALA 37.69 328 *eP* **P** **01 42 57.0 -0.2**
NWAO Narrogin (SRO) 37.91 154 P **P** **01 43 00.5 +1.7**
baz=38,SNR=15
NWAO P **P** **01 43 00.5 +1.7**
baz=38,SNR=15
NWAO Narrogin (SRO) 37.91 154 P **P** **01 42 59.9 +1.1**
NWAO Narrogin (SRO) 37.91 154 P **P** **01 43 00.4 +1.7**
NWAO Narrogin (SRO) 37.91 154 P **P** **01 42 59.1 +0.3**
NWAO Narrogin (SRO) 37.91 154 P **P** **01 42 59.9 +1.1**
NWAO pmax pmax
comp=Z,86nm,1.0s
NWAO Narrogin (SRO) 37.91 154 LR LR 01 57 17.4
comp=Z,142nm,21.9s,baz=45,slow=34
NWAO Narrogin (SRO) 37.91 154 P **P** **01 43 00.9 +2.1**
NWAO Narrogin (SRO) 37.91 154 P **P** **01 43 01.1 +2.4**
THN Thein Dam 38.14 328 *eP* **P** **01 43 00.5 -0.3**
THN *ex* x 01 43 11.0
JOW Kunigami 38.27 45 LR LR 01 58 03.1
comp=Z,171nm,20.4s,baz=222,slow=35
GTA Gaotai 38.30 1 ⇓P **P** **01 43 02.1 -0.1**
GTA pP pP 01 43 21.1 +0.7
GTA PcP **PcP** **01 45 15.9 +1.1**
GTA ScP **ScP** **01 48 56.5 +0.4**
GTA ScS **ScS** **01 53 03.3 -2.9**
GTA pmax pmax
comp=Z,28nm,1.0s
GTA LR LR
comp=Z,100nm,13.9s
GTA LR LR
comp=Z,240nm,18.3s
GTA LR LR
comp=Z,190nm,16.7s
H01W3 Cape Leeuwin H 38.42 160 T T 02 24 51.6
baz=333,slow=76,SNR=3.4
H01W2 Cape Leeuwin H 38.43 160 T T 02 24 50.8
baz=333,slow=76,SNR=2.8
H01W1 Cape Leeuwin H 38.43 160 T T 02 24 51.0
baz=333,slow=76,SNR=3.0
WRKA Warakurna 38.50 134 P **P** **01 43 03.2 -0.7**
baz=39,SNR=67
WRKA Warakurna 38.50 134 P **P** **01 43 03.3 -0.7**
TIY Taiyuan 38.69 17 P **P** **01 43 06.5 +1.1**
TIY S **S** **01 48 58.1 +1.2**
TIY pmax pmax
comp=Z,24nm,0.7s
TIY LR LR
comp=Z,140nm,11.0s
TIY LR LR
comp=Z,290nm,4.9s
TIY LR LR
comp=Z,260nm,15.1s
KMBL Kambalda 38.88 148 P **P** **01 43 08.8 +1.8**
baz=39,SNR=21
KMBL Kambalda 38.88 148 P **P** **01 43 08.4 +1.4**
HNS HongShan 39.14 20 ⇓P **P** **01 43 09.9 +0.9**
HNS pP **pP** **01 43 29.4 +2.1**
HNS PcP **PcP** **01 45 17.6 +0.3**
HNS ScP **ScP** **01 48 58.9 -0.3**
HNS *eS* **S** **01 49 02.5 -0.9**
HNS pmax pmax
comp=Z,81nm,0.7s
HNS LR LR
comp=Z,320nm,16.7s
HNS LR LR
comp=Z,320nm,18.1s
RKGY Rocky Gully 39.25 156 P **P** **01 43 12.1 +2.1**
baz=40,SNR=6.2
RKGY Rocky Gully 39.25 156 P **P** **01 43 11.3 +1.3**
SMPI Sarmi 40.01 94 P **P** **01 43 15.2 -1.4**
comp=Z,59nm,1.5s
NIL Nilore 40.41 326 P **P** **01 43 19.5 -0.2**
NIL Nilore 40.41 326 P **P** **01 43 19.5 -0.2**
NIL pmax pmax
comp=Z,112nm,0.8s
NIL Nilore 40.41 326 P **P** **01 43 19.3 -0.4**
NIL Nilore 40.41 326 P **P** **01 43 19.4 -0.4**
NIL PcP **PcP** **01 45 21.1 -0.4**
WB0 Warramunga Arr 40.51 122 P **P** **01 43 19.3 -1.4**
WB0 IAmb IAmb 01 43 20.2
comp=Z,59nm,0.8s
WRA Warramunga Arr 40.54 123 P **P** **01 43 19.2 -1.7**
WRA Warramunga Arr 40.54 123 P **P** **01 43 19.6 -1.4**
comp=Z,58nm,0.9s,baz=300,slow=9.2,SNR=199
WRA PcP **PcP** **01 45 22.4 +0.2**
comp=Z,4.2nm,0.6s,baz=305,slow=2.4,SNR=3.6
WRA ScP **ScP** **01 49 04.5 -0.6**
comp=Z,2.8nm,0.8s,baz=313,slow=3.5,SNR=6.8
WRA S **S** **01 49 18.0 -6.9**
comp=Z,8.0nm,0.9s,baz=294,slow=17,SNR=8.3
WRA LR LR 02 03 20.4
comp=Z,351nm,18.1s,baz=282,slow=41
comp=Z,58nm,0.9s
WRAB Tennant Creek 40.55 123 P **P** **01 43 20.2 -0.8**
WRAB IAmb IAmb 01 43 20.8
comp=Z,72nm,0.8s
WRAB Tennant Creek 40.55 123 *i* P **P** **01 43 18.8 -2.2**
WRAB pmax pmax
comp=Z,87nm,0.9s
WB2 Warramunga Arr 40.55 123 P **P** **01 43 19.6 -1.4**
baz=40
WB2 Warramunga Arr 40.55 123 P **P** **01 43 20.2 -0.8**
WB2 IAmb IAmb 01 43 29.3
comp=Z,69nm,0.8s
WR0 Warramunga Arr 40.72 123 P **P** **01 43 21.5 -0.9**
BTO Baotou 40.78 13 *eP* **P** **01 43 26.3 +3.6**
BTO pP **pP** **01 43 44.7 +3.6**
BTO sP **sP** **01 43 53.8 +3.9**
BTO PP **PnPn** **01 45 05.2 +2.4**
BTO S **S** **01 49 33.4 +5.4**
BTO sS **sS** **01 50 05.6 +6.1**
BTO SS **SS** **01 52 33.0 +1.2**
BTO pmax pmax
comp=Z,25nm,1.4s
BTO pmax pmax
comp=Z,300nm,8.6s
BTO LR LR
comp=Z,450nm,19.9s
BTO LR LR
comp=Z,490nm,21.3s
BTO LR LR
comp=Z,550nm,24.6s
HHC Hu-ho-hao-te 41.38 15 ⇓ *iP* **P** **01 43 29.6 +2.0**
HHC sP sP 01 44 01.7 +6.8
HHC S **S** **01 49 38.9 +1.9**
HHC pmax pmax
comp=Z,30nm,0.7s
HHC pmax pmax
comp=Z,78nm,5.3s
HHC LR LR
comp=Z,340nm,17.7s
HHC LR LR
comp=Z,220nm,15.3s
HHC LR LR
comp=Z,270nm,17.4s
ASPA Alice Springs 41.96 128 P **P** **01 43 31.6 -1.0**
baz=42
ASAR Alice Springs 41.97 128 P **P** **01 43 31.7 -0.9**
ASAR Alice Springs 41.97 128 P **P** **01 43 31.7 -0.9**
ASAR Alice Springs 41.97 128 P **P** **01 43 31.4 -1.2**
comp=Z,32nm,0.9s,baz=304,slow=7.7,SNR=228
ASAR PcP **PcP** **01 45 27.6 +0.8**
comp=Z,7.3nm,0.7s,baz=303,slow=2.7,SNR=8.2
ASAR ScP **ScP** **01 49 10.6 -0.1**
comp=Z,2.6nm,0.8s,baz=307,slow=3.8,SNR=5.3
ASAR S **S** **01 49 38.9 -7.1**
comp=Z,9.9nm,0.9s,baz=296,slow=14,SNR=10
ASAR ScS **ScS** **01 53 26.1 -2.2**
comp=Z,0.8nm,0.7s,baz=303,slow=6.2,SNR=7.2
ASAR LR LR 02 02 35.7
comp=Z,81nm,20.7s,baz=304,slow=38
comp=Z,32nm,0.9s
AS31 Alice Springs 41.97 128 P **P** **01 43 31.8 -0.8**
BJT Baijiatuau 41.99 20 P **P** **01 43 32.7 +0.2**
BJT IAmb IAmb 01 43 34.9
comp=Z,60nm,0.6s
BJT Baijiatuau 41.99 20 P **P** **01 43 34.2 +1.7**
BJT Baijiatuau 41.99 20 P **P** **01 43 32.7 +0.2**
BJT pmax pmax
comp=Z,60nm,0.6s
BJT Baijiatuau 41.99 20 P **P** **01 43 34.4 +1.9**
AS01 Alice Springs 42.00 128 P **P** **01 43 31.8 -1.1**
BJI Beijing 42.01 20 P **P** **01 43 34.0 +1.4**
BJI pmax pmax
comp=Z,43nm,0.7s
FORT Forrest 42.05 141 P **P** **01 43 34.3 +1.2**
baz=42,SNR=60
FORT Forrest 42.05 141 P **P** **01 43 34.4 +1.3**
FORT Forrest 42.05 141 P **P** **01 43 34.2 +1.0**
TABU Tabubil 42.81 99 P **P** **01 43 41.1 +1.4**
DL2 Dalian 43.18 26 P **P** **01 43 41.8 -0.3**
DL2 pmax pmax
comp=Z,220nm,0.8s
KBL Kabul 43.47 323 P **P** **01 43 44.8 0.0**
KBL Kabul 43.47 323 P **P** **01 43 44.8 0.0**
KBL pmax pmax
comp=Z,13nm,0.7s
KBL Kabul 43.47 323 P **P** **01 43 44.3 -0.5**
SNR=9.4
KSH Kashi 43.69 334 P **P** **01 43 44.8 -1.6**
KSH S **S** **01 50 15.2 +4.2**
KSH pmax pmax
comp=Z,20nm,0.7s
KSH LR LR
comp=Z,310nm,20.6s
NGCH Negor - Chabah 43.70 307 P **P** **01 43 47.8 +1.3**
JLN Jalan Bani Buh 43.74 302 P **P** **01 43 47.9 +0.9**
SNR=5.5
WUS Wushi 43.82 339 P **P** **01 43 47.9 +0.4**
WUS sP **sP** **01 44 13.1 -1.7**
WMQ Urumqi 43.83 348 ⇓ *iP* **P** **01 43 47.9 +0.5**
WMQ PP **PcP** **01 45 34.1 +1.4**
WMQ pmax pmax
comp=Z,48nm,1.3s
WMQ pmax pmax
comp=Z,250nm,3.8s
JNU Nakatsue 43.96 40 P **P** **01 43 48.9 +0.3**
JNU Nakatsue 43.96 40 LR LR 02 02 19.8
comp=Z,138nm,20.9s,baz=194,slow=36
WBK Wadi Bani Khal 44.30 302 P **P** **01 43 52.4 +1.0**
MHTO MHTO 44.54 299 P **P** **01 43 53.0 -0.4**
SNR=5.2
DQM DQM 44.55 298 P **P** **01 43 54.1 +0.7**
WSAR Wadi Sarin 44.84 303 LR LR 02 00 18.3
comp=Z,121nm,21.7s,baz=126,slow=33
JMDO Jabal Madar 44.94 301 P **P** **01 43 57.1 +0.5**
KSAR Wonju Array Be 45.15 33 P **P** **01 43 58.4 +0.5**
KSAR Wonju Array Be 45.15 33 P **P** **01 43 58.4 +0.5**
KSRS Korea Array 45.17 33 P **P** **01 43 57.8 -0.3**
comp=Z,36nm,0.7s,baz=223,slow=8.7,SNR=68
KSRS pP **pP** **01 44 15.5 -1.4**
comp=Z,22nm,0.8s,baz=220,slow=9.0,SNR=7.9
KSRS PcP **PcP** **01 45 37.4 +0.1**
comp=Z,2.9nm,0.6s,baz=210,slow=3.4,SNR=2.1
KSRS LR LR 02 02 59.0
comp=Z,145nm,21.4s,baz=215,slow=36
comp=Z,36nm,0.7s
KS19 Wonju Array Si 45.18 33 P **P** **01 43 57.6 -0.5**
KS19 IAmb IAmb 01 43 58.9
comp=Z,66nm,0.8s

PRZ Przheval'sk 45.24 339 P **P** **01 43 59.1 +0.4**
PRZ IAmb IAmb 01 44 01.6
comp=Z,67nm,1.1s
PRZ Przheval'sk 45.24 339 P **P** **01 43 59.2 +0.4**
PRZ pmax pmax
comp=Z,67nm,1.1s
SMDO Samad 45.26 302 P **P** **01 43 59.5 +0.4**
NRN Naryn 45.27 336 P **P** **01 43 59.5 +0.3**
NRN IAmb IAmb 01 44 00.8
comp=Z,69nm,1.0s
NRN Naryn 45.27 336 P **P** **01 43 59.5 +0.3**
NRN pmax pmax
comp=Z,69nm,1.0s
QIS Mount Isa 45.29 120 P **P** **01 43 58.6 -0.7**
baz=45,SNR=13
QIS Mount Isa 45.29 120 P **P** **01 43 58.6 -0.7**
BIDO Bidbid 45.37 303 P **P** **01 44 01.6 +1.6**
SNR=5.2
SHLS Shalkode 45.46 340 *eP* **P** **01 43 59.7 -0.7**
SHLS Shalkode 45.46 340 *eP* **P** **01 43 59.7 -0.7**
baz=340
XLT XiLinHaoTe 45.46 18 *eP* **P** **01 44 01.6 +1.2**
XLT S **S** **01 50 38.6 +2.1**
XLT pmax pmax
comp=Z,57nm,0.7s
XLT pmax pmax
comp=Z,140nm,3.5s
OOD Oodnadatta 45.50 132 P **P** **01 44 00.1 -0.7**
DRK Karamyk 45.59 331 P **P** **01 44 02.2 +0.5**
UZB Uzynbulak 45.60 340 *eP* **P** **01 44 01.8 +0.2**
UZB Uzynbulak 45.60 340 *eP* **P** **01 44 01.9 +0.2**
baz=340
PDGK Podgornoye 45.60 340 P **P** **01 44 01.1 -0.5**
SHAO Shalim 45.67 294 P **P** **01 44 03.9 +1.5**
SHAO Shalim 45.67 294 P **P** **01 44 03.9 +1.5**
MULG Mulgathing 45.72 136 P **P** **01 44 02.3 -0.3**
SATY Saty 45.74 339 *eP* **P** **01 44 03.0 +0.4**
SATY pmax pmax
comp=Z,35nm,0.9s
SATY Saty 45.74 339 *eP* **P** **01 44 03.0 +0.4**
comp=Z,35nm,0.9s,baz=339
ZHN Zhinishke 45.82 339 *eP* **P** **01 44 03.4 +0.1**
ZHN Zhinishke 45.82 339 *eP* **P** **01 44 03.5 +0.1**
baz=339
ULHL Ulahol 45.85 337 P **P** **01 44 04.3 +0.6**
SNR=39
BSY Bisya 45.86 301 P **P** **01 44 04.7 +0.9**
SNR=5.6
GAR Garm 45.98 329 P **P** **01 44 03.6 -1.0**
GAR IAmb IAmb 01 44 07.0
comp=Z,75nm,1.1s
KPKS Kokpek 46.00 340 *eP* **P** **01 44 04.9 +0.2**
KPKS Kokpek 46.00 340 *eP* **P** **01 44 04.9 +0.2**
baz=340
HOQ Hoqain 46.08 302 P **P** **01 44 06.6 +1.0**
DMTO DMTO 46.20 294 P **P** **01 44 07.4 +0.8**
TNSS Tian-Shan 46.26 338 *eP* **P** **01 44 07.0 0.0**
TNSS Tian-Shan 46.26 338 *eP* **P** **01 44 07.0 0.0**
baz=338
MDOK Medeo 46.33 338 *eP* **P** **01 44 07.4 +0.1**
MDOK Medeo 46.33 338 *eP* **P** **01 44 07.5 +0.1**
baz=338
CHGR Chuyangaron 46.33 328 P **P** **01 44 06.3 -1.0**
CHGR Chuyangaron 46.33 328 P **P** **01 44 06.4 -1.0**
CHGR pmax pmax
comp=Z,150nm,1.1s
COEN Coen 46.37 110 P **P** **01 44 06.6 -1.3**
baz=46,SNR=7.8
COEN Coen 46.37 110 P **P** **01 44 06.7 -1.3**
COEN Coen 46.37 110 P **P** **01 44 06.7 -1.2**
SIMJ Simiganj 46.41 328 P **P** **01 44 07.3 -0.8**
SIMJ Simiganj 46.41 328 P **P** **01 44 07.3 -0.8**
SIMJ pP **pP** **01 44 25.6 -1.2**
AAA Alma-Ata 46.41 338 *eP* **P** **01 44 08.2 +0.3**
AAA pmax pmax
comp=Z,30nm,0.6s
AAA Alma-Ata 46.41 338 *eP* **P** **01 44 08.3 +0.3**
comp=Z,30nm,0.6s,baz=338
SNY Shenyang 46.43 26 ⇓P **P** **01 44 07.8 -0.1**
SNY pmax pmax
comp=Z,110nm,0.9s
ARSB Arslanbob 46.48 333 P **P** **01 44 08.7 +0.2**
ARSB Arslanbob 46.48 333 P **P** **01 44 08.7 +0.2**
ARSB pmax pmax
comp=Z,21nm,0.9s
BTK Batken 46.52 330 P **P** **01 44 08.7 -0.1**
BTK IAmb IAmb 01 44 10.9
comp=Z,49nm,1.1s
BTK Batken 46.52 330 P **P** **01 44 08.7 -0.1**
BTK pmax pmax
comp=Z,49nm,1.2s
UCH Uchtor 46.55 335 P **P** **01 44 10.2 +0.8**
SNR=71
JASK Jask - Hormozg 46.56 306 P **P** **01 44 10.9 +1.6**
ARQ Araqi 46.66 302 P **P** **01 44 11.2 +1.1**
TKM2 Tokmak 2 46.68 337 P **P** **01 44 10.6 +0.4**
SNR=64
TKM2 Tokmak 2 46.68 337 P **P** **01 44 09.8 -0.4**
KBK Karagaybulak 46.72 336 P **P** **01 44 11.8 +1.4**
SNR=55
RBK Rabkut 46.82 293 P **P** **01 44 13.0 +1.6**
SNR=7.7
AAK Ala-Archa 46.89 335 P **P** **01 44 12.6 +0.9**
SNR=20
AAK Ala-Archa 46.89 335 P **P** **01 44 11.7 -0.1**
AAK IAmb IAmb 01 44 18.4
comp=Z,38nm,1.1s
AAK Ala-Archa 46.89 335 *ceP* **P** **01 44 12.7 +0.9**
AAK pmax pmax
comp=Z,91nm,2.5s
AAK Ala-Archa 46.89 335 *i* P **P** **01 44 12.6 +0.9**
SNR=36
AAK Ala-Archa 46.89 335 LR LR 02 05 14.5
comp=Z,238nm,21.9s,baz=156,slow=38
AAK Ala-Archa 46.89 335 P **P** **01 44 13.0 +1.3**
AAK Ala-Archa 46.89 335 P **P** **01 44 12.6 +0.9**
AAK PcP **PcP** **01 45 45.1 +1.6**
AAK ScP **ScP** **01 49 30.7 +0.1**
CHKK Chushkaly 46.94 338 *eP* **P** **01 44 11.7 -0.2**
CHKK Chushkaly 46.94 338 *eP* **P** **01 44 11.8 -0.2**
baz=338
SOHO SOHO 46.95 303 P **P** **01 44 12.8 +0.5**
SOHO SOHO 46.95 303 P **P** **01 44 12.8 +0.5**
FRU1 Bishkek 46.98 336 P **P** **01 44 12.4 +0.1**
FRU1 IAmb IAmb 01 44 14.5
comp=Z,49nm,1.1s
FRU1 Bishkek 46.98 336 P **P** **01 44 12.4 +0.1**
FRU1 pmax pmax
comp=Z,49nm,1.1s
CHMS Chumysh 47.09 336 P **P** **01 44 13.7 +0.6**
SNR=23
SONM Songino Array 47.18 7 P **P** **01 44 14.6 +0.8**
SONM IAmb IAmb 01 44 16.0
comp=Z,57nm,0.9s
SONM Songino Array 47.18 7 P **P** **01 44 14.8 +0.9**
comp=Z,55nm,0.8s,baz=189,slow=8.8,SNR=316
SONM pP **pP** **01 44 32.3 -0.4**
comp=Z,9.7nm,0.6s,baz=192,slow=8.7,SNR=2.4
SONM PcP **PcP** **01 45 44.9 +0.6**
comp=Z,50nm,0.8s,baz=199,slow=4.0,SNR=24
SONM PP **PP** **01 46 05.5 0.0**
comp=Z,4.9nm,0.5s,baz=179,slow=6.5,SNR=1.4
SONM ScP **ScP** **01 49 30.7 -0.9**
comp=Z,8.8nm,1.0s,baz=196,slow=4.5,SNR=12
SONM S **S** **01 51 01.5 +0.5**
comp=Z,0.3nm,0.4s,baz=16,slow=42,SNR=1.1
SONM ScS **ScS** **01 53 57.3 -3.5**
comp=Z,0.2nm,0.3s,baz=165,slow=1.4,SNR=1.5
SONM LR LR 02 06 28.4
comp=Z,153nm,18.8s,baz=198,slow=39
comp=Z,55nm,0.8s
DOK Doka 47.20 295 P **P** **01 44 15.0 +0.7**
SNR=8.6
EKS2 Erkin-Say 47.21 335 P **P** **01 44 15.8 +1.6**
SNR=20
KUU Kurty 47.22 338 *eP* **P** **01 44 14.1 +0.1**
KUU pmax pmax
comp=Z,64nm,0.9s
KUU Kurty 47.22 338 *eP* **P** **01 44 14.2 +0.1**
comp=Z,64nm,0.9s,baz=338
ULN Ulaanbaatar 47.29 8 P **P** **01 44 15.4 +0.6**
ULN IAmb IAmb 01 44 16.9
comp=Z,56nm,0.9s
ULN Ulaanbaatar 47.29 8 *ceP* **P** **01 44 15.7 +1.0**
ULN pmax pmax
comp=Z,55nm,0.8s
ULN Ulaanbaatar 47.29 8 P **P** **01 44 16.0 +1.2**
ULN Ulaanbaatar 47.29 8 P **P** **01 44 15.8 +1.0**
ULN PcP **PcP** **01 45 45.1 +0.4**
ULN ScP **ScP** **01 49 31.4 -0.8**
WHFO Wadi Hawf 47.33 294 P **P** **01 44 15.8 +0.4**
SNR=5.9
USP Ospenovka 47.41 336 P **P** **01 44 16.2 +0.6**
SNR=127
TDK Taldyqorghan 47.44 340 *eP* **P** **01 44 15.8 0.0**
TDK pmax pmax
comp=Z,26nm,0.6s
TDK Taldyqorghan 47.44 340 *eP* **P** **01 44 15.8 0.0**
comp=Z,26nm,0.6s,baz=340
UOSS Minazif 47.55 304 P **P** **01 44 16.5 -0.5**
UOSS Minazif 47.55 304 P **P** **01 44 16.5 -0.5**
HATD Hatta, Dubai 47.56 303 *i* P **P** **01 44 18.0 +0.9**
SNR=5.9
HATD Hatta, Dubai 47.56 303 P **P** **01 44 18.3 +1.2**
ASHO Ashiyiah 47.57 303 P **P** **01 44 17.7 +0.6**
ASHO Ashiyiah 47.57 303 P **P** **01 44 17.5 +0.4**
ALNE Al Ain 47.58 302 *i* P **P** **01 44 17.9 +0.7**
SNR=9.2
ALNE Al Ain 47.58 302 P **P** **01 44 18.0 +0.7**
SNR=8.1
UMZA Um Al Zommool 47.59 300 P **P** **01 44 17.9 +0.6**
MDH Madha 47.61 304 P **P** **01 44 16.9 -0.5**
MDH Madha 47.61 304 P **P** **01 44 16.9 -0.5**
ABTO Aybut 47.62 293 P **P** **01 44 18.4 +0.7**
SNR=10
HRA Herat 47.67 318 P **P** **01 44 17.8 -0.2**
ZSN Zaisan 47.89 347 *eP* **P** **01 44 19.7 +0.5**
ZSN pmax pmax
comp=Z,30nm,0.8s
ZSN Zaisan 47.89 347 *eP* **P** **01 44 19.8 +0.5**
comp=Z,30nm,0.8s,baz=347
MK31 Makanchi Array 47.90 345 P **P** **01 44 20.0 +0.6**
MK31 IAmb IAmb 01 44 20.6
comp=Z,50nm,0.7s
MK31 Makanchi Array 47.90 345 *i* P **P** **01 44 19.1 -0.2**
MKAR Makanchi Array 47.90 345 P **P** **01 44 20.0 +0.7**
MKAR Makanchi Array 47.90 345 P **P** **01 44 20.0 +0.7**
MKAR Makanchi Array 47.90 345 P **P** **01 44 19.5 +0.1**
comp=Z,70nm,0.7s,baz=154,slow=7.4,SNR=432
MKAR S **S** **01 51 11.8 +0.8**
comp=Z,0.5nm,0.9s,baz=123,slow=4.5,SNR=2.1
MKAR ScS **ScS** **01 54 04.5 -1.0**
comp=Z,0.1nm,0.5s,baz=97,slow=6.1,SNR=1.2
comp=Z,70nm,0.7s
FAQ Al Faqa, Dubai 47.98 303 P **P** **01 44 21.0 +0.7**
FAQ Al Faqa, Dubai 47.98 303 P **P** **01 44 21.4 +1.1**
MAKZ Makanchi 47.99 344 P **P** **01 44 19.9 -0.2**
MAKZ IAmb IAmb 01 44 21.2
comp=Z,52nm,0.8s
MAKZ Makanchi 47.99 344 P **P** **01 44 20.1 +0.1**
MAKZ Makanchi 47.99 344 P **P** **01 44 20.1 +0.1**
MAKZ pP **pP** **01 44 38.7 -0.2**
MAKZ PcP **PcP** **01 45 47.5 +0.4**
NAZ Nazwa, Dubai 48.02 303 P **P** **01 44 21.0 +0.5**
ASUD Al Ashush, Dub 48.16 303 *i* P **P** **01 44 23.0 +1.4**
SNR=11
ASUD Al Ashush, Dub 48.16 303 P **P** **01 44 23.0 +1.4**
UMQ Umm Al-Quwin 48.23 304 P **P** **01 44 22.1 -0.1**
DZA Taraz 48.47 333 *eP* **P** **01 44 23.7 -0.1**
DZA Taraz 48.47 333 *eP* **P** **01 44 23.7 -0.1**
baz=333
IUG Iuzhnay 48.50 331 *eP* **P** **01 44 24.1 0.0**
IUG pmax pmax
comp=Z,48nm,0.8s
IUG Iuzhnay 48.50 331 *eP* **P** **01 44 24.1 0.0**
comp=Z,48nm,0.8s,baz=332
BBOO Buckleboo 48.59 137 P **P** **01 44 24.6 -0.2**
baz=49,SNR=37
BBOO Buckleboo 48.59 137 P **P** **01 44 24.4 -0.4**
BBOO IAmb IAmb 01 44 30.6
comp=Z,36nm,0.6s
BBOO Buckleboo 48.59 137 P **P** **01 44 24.5 -0.4**
MTSU Mount Surprise 48.61 115 P **P** **01 44 25.4 +0.1**
baz=48,SNR=16
MTSU Mount Surprise 48.61 115 P **P** **01 44 25.0 -0.2**
MANU Manus Island 48.65 94 P **P** **01 44 25.8 +0.2**
MANU IAmb IAmb 01 44 33.0
comp=Z,35nm,0.8s
MANU Manus Island 48.65 94 P **P** **01 44 26.1 +0.5**
LCRK Leigh Creek 48.78 133 P **P** **01 44 26.0 -0.4**
CN2 Changchun 48.83 26 ⇑P **P** **01 44 26.5 0.0**
CN2 *es*P sP 01 44 56.2 +2.1
CN2 *e*S **S** **01 51 24.0 -0.2**
CN2 pmax pmax
comp=Z,200nm,0.7s
CN2 pmax pmax
comp=Z,400nm,4.0s
CHM Chimkent 48.84 331 *eP* **P** **01 44 26.4 -0.2**
CHM Chimkent 48.84 331 *eP* **P** **01 44 26.4 -0.2**
baz=331
KK31 Karatay Array 49.01 333 P **P** **01 44 27.8 -0.2**
KK31 IAmb IAmb 01 44 29.3
comp=Z,45nm,1.3s
KK31 Karatay Array 49.01 333 P **P** **01 44 27.8 -0.2**
KK31 pmax pmax
comp=Z,45nm,1.3s
KKAR Karatay Array 49.01 333 P **P** **01 44 27.7 -0.2**
KKAR Karatay Array 49.01 333 P **P** **01 44 27.9 -0.1**
KKAR IAmb IAmb 01 44 29.2
comp=Z,45nm,1.3s
KKAR Karatay Array 49.01 333 P **P** **01 44 27.9 -0.1**
KKAR pmax pmax
comp=Z,45nm,1.3s
BTLS Baital 49.07 337 *d i*P **P** **01 44 28.1 -0.2**
BTLS Baital 49.07 337 ⇓ *i*P **P** **01 44 28.2 -0.1**
baz=337
PMG Port Moresby 49.24 103 P **P** **01 44 30.7 +0.6**
PMG IAmb IAmb 01 44 36.9
comp=Z,31nm,0.8s
PMG Port Moresby 49.24 103 P **P** **01 44 30.3 +0.2**
PMG Port Moresby 49.24 103 P **P** **01 44 30.2 +0.2**
PMG Port Moresby 49.24 103 P **P** **01 44 30.7 +0.6**
PMG pmax pmax
comp=Z,31nm,0.8s
BRLS Borolday 49.27 332 *eP* **P** **01 44 28.8 -1.1**
BRLS Borolday 49.27 332 *eP* **P** **01 44 28.8 -1.1**
baz=332
INKA Innaminka 49.33 129 P **P** **01 44 30.6 0.0**
ZAK Zakamensk 49.41 4 *eP* **P** **01 44 31.2 +0.3**
ZAK pmax pmax
comp=Z,17nm,1.0s
DGZ Jazzator, Alta 49.55 350 *i* P **P** **01 44 32.8 +0.7**
DGZ pmax pmax
comp=Z,74nm,0.7s
GHWR Ruwais 50.00 301 P **P** **01 44 36.6 +0.8**
PTPS Port Pirie 50.13 136 P **P** **01 44 37.5 +1.0**
MOY Mondy 50.58 2 *eP* **P** **01 44 40.6 +0.8**
MOY pmax pmax
comp=Z,43nm,2.6s
MJAR Matsushiro Arr 50.82 41 P **P** **01 44 40.6 -1.2**
comp=Z,6.7nm,0.8s,baz=237,slow=5.8,SNR=10
MJAR pP **pP** **01 44 59.2 -1.6**
comp=Z,4.2nm,0.7s,baz=213,slow=6.1,SNR=3.3
MJAR PcP **PcP** **01 45 58.1 +0.4**
comp=Z,4.9nm,0.9s,baz=235,slow=2.2,SNR=4.0
MJAR ScP **ScP** **01 49 46.3 -1.0**
comp=Z,0.8nm,0.3s,baz=156,slow=4.0,SNR=4.1
MJAR LR LR 02 08 03.2
comp=Z,75nm,18.5s,baz=231,slow=38
comp=Z,6.7nm,0.8s
HTT Hallett 50.91 136 P **P** **01 44 42.7 +0.1**
baz=51,SNR=11
HTT Hallett 50.91 136 P **P** **01 44 42.7 +0.1**
CTA Charters Tower 50.95 117 LR LR 02 08 51.7
comp=Z,120nm,19.5s,baz=270,slow=39
CTAO Charters Tower 50.95 117 P **P** **01 44 43.0 0.0**
CTAO Charters Tower 50.95 117 P **P** **01 44 43.1 0.0**
CTAO Charters Tower 50.95 117 P **P** **01 44 43.0 0.0**
CTAO pmax pmax
comp=Z,84nm,1.0s
CTAO Charters Tower 50.95 117 P **P** **01 44 42.8 -0.3**
CTAO ScP **ScP** **01 49 48.1 -0.1**
SLWR Sila 51.05 301 P **P** **01 44 44.3 +0.6**
TV1H Townsville Har 51.19 116 P **P** **01 44 46.9 +2.2**
BNX BinXian 51.22 25 ⇓P **P** **01 44 44.8 +0.3**
BNX pmax pmax
comp=Z,210nm,0.8s
IRK Irkutsk 51.33 4 *eP* **P** **01 44 46.4 +1.1**
IRK pmax pmax
comp=Z,76nm,1.7s
MDJ Mudanjiang 51.33 28 P **P** **01 44 45.1 -0.3**
MDJ pmax pmax
comp=Z,53nm,1.0s
MDJ pmax pmax
comp=Z,260nm,3.9s
MDJ Mudanjiang 51.33 28 P **P** **01 44 46.5 +1.0**
MDJ IAmb IAmb 01 44 48.1
comp=Z,45nm,0.9s
MDJ Mudanjiang 51.33 28 P **P** **01 44 45.9 +0.5**
MDJ Mudanjiang 51.33 28 P **P** **01 44 46.3 +0.9**
MDJ pP **pP** **01 45 04.3 -0.2**
HIA Hailar 51.39 17 P **P** **01 44 46.3 +0.4**
HIA IAmb IAmb 01 44 47.5
comp=Z,44nm,0.8s
HIA Hailar 51.39 17 P **P** **01 44 46.3 +0.4**
HIA Hailar 51.39 17 P **P** **01 44 46.3 +0.4**
HIA pmax pmax
comp=Z,44nm,0.8s
HIA Hailar 51.39 17 P **P** **01 44 46.2 +0.4**
HIA pP **pP** **01 45 04.4 -0.6**
HIA PcP **PcP** **01 45 59.7 +0.2**
QLP Quilpie 51.60 126 P **P** **01 44 48.0 +0.2**
baz=52,SNR=9.9
QLP Quilpie 51.60 126 P **P** **01 44 47.9 +0.2**
SEM Semipalatinsk 51.76 345 *eP* **P** **01 44 49.2 +0.4**
SEM pmax pmax
comp=Z,34nm,0.6s
SEM Semipalatinsk 51.76 345 *eP* **P** **01 44 49.2 +0.4**
comp=Z,34nm,0.6s,baz=345
AUAYR Ayr State High 51.83 116 P **P** **01 44 51.1 +1.5**
STKA Stephens Creek 52.00 133 P **P** **01 44 50.0 -0.6**
baz=52,SNR=4.1
STKA Stephens Creek 52.00 133 P **P** **01 44 50.6 -0.1**
STKA Stephens Creek 52.00 133 P **P** **01 44 50.2 -0.4**
STKA Stephens Creek 52.00 133 P **P** **01 44 50.6 -0.1**
STKA pmax pmax
comp=Z,6.0nm,0.8s
STKA Stephens Creek 52.00 133 P **P** **01 44 50.5 -0.1**
comp=Z,25nm,0.6s,baz=307,slow=7.7,SNR=47
STKA S **S** **01 52 05.8 -2.8**
comp=Z,7.0nm,1.2s,baz=118,slow=20,SNR=5.3
STKA LR LR 02 11 45.0
comp=Z,88nm,18.3s,baz=304,slow=42
comp=Z,25nm,0.6s
SMRA Abu-Samra 52.02 301 P **P** **01 44 51.2 +0.3**
KAVG Kavieng 52.11 94 P **P** **01 44 51.9 +0.2**
USA0B Ussuriysk Arra 52.18 30 P **P** **01 44 52.1 +0.4**
USA0B Ussuriysk Arra 52.18 30 *i* P **P** **01 44 51.3 -0.5**
USRK Ussuriysk Ar. 52.18 30 P **P** **01 44 51.6 -0.1**
USRK Ussuriysk Ar. 52.18 30 P **P** **01 44 51.9 +0.1**
comp=Z,92nm,0.8s,baz=231,slow=5.4,SNR=137
USRK pP **pP** **01 45 10.5 -0.4**
comp=Z,40nm,0.8s,baz=227,slow=5.1,SNR=6.8
USRK LR LR 02 08 30.1
comp=Z,129nm,19.0s,baz=216,slow=38
comp=Z,92nm,0.8s
OTUK Ortayu 52.38 338 P **P** **01 44 52.9 -0.3**
CIT Chita 52.39 11 *eP* **P** **01 44 54.2 +1.0**
CIT *e* 01 45 16.4
CIT *e* 01 45 21.6
CIT *e* 01 46 00.2
CIT pmax pmax
comp=Z,66nm,1.5s
KURBB Kurchatov Arra 52.41 344 P **P** **01 44 53.5 +0.2**
comp=Z,47nm,0.8s,baz=163,slow=6.9,SNR=285
KURBB pP **pP** **01 45 12.4 0.0**
comp=Z,30nm,0.8s,baz=166,slow=7.5,SNR=8.1
KURBB PcP **PcP** **01 46 03.5 +0.3**
comp=Z,9.6nm,0.8s,baz=160,slow=3.1,SNR=4.2
KURBB ScP **ScP** **01 49 52.3 -1.5**
comp=Z,0.5nm,0.7s,baz=64,slow=4.4,SNR=3.4
KURBB S **S** **01 52 13.7 0.0**
comp=Z,1.0nm,0.9s,baz=168,slow=15,SNR=7.6
comp=Z,47nm,0.8s
GEYT Alibeck 52.45 319 P **P** **01 44 53.9 0.0**
GEYT IAmb IAmb 01 44 54.9
comp=Z,28nm,0.9s
GEYT Alibeck 52.45 319 P **P** **01 44 53.6 -0.3**
comp=Z,16nm,0.7s,baz=141,slow=9.6,SNR=54
GEYT pP **pP** **01 45 12.7 -0.4**
comp=Z,25nm,0.9s,baz=142,slow=7.5,SNR=5.1
GEYT S **S** **01 52 15.0 +0.4**
comp=Z,0.6nm,0.5s,baz=251,slow=39,SNR=2.0
comp=Z,16nm,0.7s
GYA0 ALIBECK ARRAY 52.45 319 P **P** **01 44 53.7 -0.2**
GYA0 pmax pmax
comp=Z,22nm,0.8s
GYA0B ALIBECK ARRAY 52.45 319 P **P** **01 44 53.9 0.0**
GYA0B IAmb IAmb 01 44 54.9
comp=Z,22nm,0.8s
KURK Kurchatov 52.47 344 P **P** **01 44 54.0 +0.2**
KURK Kurchatov 52.47 344 *ceP* **P** **01 44 53.9 +0.2**
KURK pmax pmax
comp=Z,141nm,1.3s
KURK Kurchatov 52.47 344 P **P** **01 44 54.0 +0.2**
KURK Kurchatov 52.47 344 P **P** **01 44 54.1 +0.4**
KURK pP **pP** **01 45 13.6 +0.7**
KURK PcP **PcP** **01 46 04.2 +0.8**
SAKB Bahrain 52.69 302 P **P** **01 44 56.3 +0.5**
BRZS Berezniki 53.71 339 *d i*P **P** **01 45 02.9 0.0**
BRZS Berezniki 53.71 339 ⇓ *i*P **P** **01 45 03.0 0.0**
baz=339
ZAA0 Zalesovo Array 54.08 350 P **P** **01 45 05.7 +0.1**
ZALV Zalesovo Beam 54.08 350 P **P** **01 45 05.6 +0.1**
ZALV Zalesovo Beam 54.08 350 *i* P **P** **01 45 05.4 -0.2**
ZALV pmax pmax
comp=Z,85nm,0.7s
ZALV Zalesovo Beam 54.08 350 P **P** **01 45 05.3 -0.2**
comp=Z,84nm,0.7s,baz=173,slow=6.2,SNR=384
ZALV pP **pP** **01 45 24.5 -0.2**
comp=Z,30nm,0.5s,baz=166,slow=7.2,SNR=4.9
ZALV ScP **ScP** **01 50 00.7 -0.4**
comp=Z,1.5nm,0.8s,baz=219,slow=1.9,SNR=3.9
ZALV S **S** **01 52 36.2 +0.1**
comp=Z,8.3nm,1.0s,baz=165,slow=12,SNR=13
ZALV ScS **ScS** **01 54 43.2 -4.4**
comp=Z,1.7nm,0.8s,baz=270,slow=4.4,SNR=5.5
ZALV LR LR 02 12 06.2
comp=Z,67nm,19.1s,baz=178,slow=40
comp=Z,84nm,0.7s
ABPO Ambohimpanom 54.36 246 P **P** **01 45 09.1 +0.7**
ABPO Ambohimpanom 54.36 246 P **P** **01 45 09.1 +0.7**
ABPO pmax pmax
comp=Z,29nm,1.3s
HEH HeiHe 54.84 22 *eP* **P** **01 45 11.2 +0.1**
HEH pmax pmax
comp=Z,50nm,1.0s
HEH pmax pmax
comp=Z,340nm,3.9s
CMSA Cobar Meteorol 54.90 130 P **P** **01 45 12.2 +0.3**
baz=55,SNR=32
CMSA Cobar Meteorol 54.90 130 P **P** **01 45 11.9 0.0**
VOI Vohitsoka 55.56 243 P **P** **01 45 17.9 +0.9**
VOI Vohitsoka 55.56 243 P **P** **01 45 17.7 +0.8**
RK1H Rockhampton Ha 55.73 119 P **P** **01 45 19.8 +1.8**
KLR Kul'dur 55.79 26 *ceP* **P** **01 45 18.4 +0.5**
KLR pmax pmax
comp=Z,150nm,0.8s
KLR Kul'dur 55.79 26 LR LR 02 11 45.8
comp=Z,166nm,18.2s,baz=216,slow=39
RAYN Ar Rayn 56.29 298 P **P** **01 45 22.0 -0.1**
RAYN IAmb IAmb 01 45 23.0
comp=Z,30nm,1.0s
RAYN Ar Rayn 56.29 298 P **P** **01 45 22.0 -0.1**
RAYN pmax pmax
comp=Z,30nm,1.0s
RAYN Ar Rayn 56.29 298 *i* P **P** **01 45 21.9 -0.3**
SNR=35
RAYN Ar Rayn 56.29 298 P **P** **01 45 21.8 -0.3**
RAYN Ar Rayn 56.29 298 P **P** **01 45 21.8 -0.3**
RAYN pP **pP** **01 45 40.5 -0.9**
EIDS Eidsvold 56.87 121 P **P** **01 45 26.1 0.0**
baz=57,SNR=13
EIDS Eidsvold 56.87 121 P **P** **01 45 26.4 +0.3**
EIDS Eidsvold 56.87 121 P **P** **01 45 25.9 -0.2**
BVA0 Borovoye Array 57.03 340 *i* P **P** **01 45 25.3 -1.4**
BVAR Borovoye Array 57.03 340 P **P** **01 45 26.1 -0.6**
comp=Z,56nm,0.7s,baz=141,slow=8.8,SNR=279
BVAR pP **pP** **01 45 46.0 -0.1**
comp=Z,28nm,0.6s,baz=142,slow=7.8,SNR=7.3
BVAR ScP **ScP** **01 50 13.1 -0.9**
comp=Z,1.1nm,0.8s,baz=150,slow=6.1,SNR=2.6
BVAR S **S** **01 53 14.6 -1.0**
comp=Z,1.9nm,1.0s,baz=128,slow=8.3,SNR=3.8
BVAR LR LR 02 11 55.0

comp=Z,160nm,21.9s,baz=157,slow=38
BVAR PKPPKP **P'P'df** **02 15 13.2 -3.4**
comp=Z,0.3nm,0.5s,baz=2.9,slow=2.9,SNR=3.8
BVAR PKP2bc 02 15 29.3
comp=Z,0.8nm,0.7s,baz=336,slow=3.2,SNR=3.5
comp=Z,56nm,0.7s
BRVK Borovoye 57.10 340 P **P** **01 45 26.6 -0.6**
BRVK Borovoye 57.10 340*ce*P **P** **01 45 26.5 -0.6**
BRVK pmax pmax
comp=Z,57nm,1.0s
BRVK Borovoye 57.10 340 P **P** **01 45 26.7 -0.5**
BRVK Borovoye 57.10 340 ⇓P **P** **01 45 26.6 -0.6**
BRVK pP **pP** **01 45 46.4 -0.1**
AUDCS Dubbo College 57.45 130 P **P** **01 45 30.3 +0.2**
ZEA Zeya 57.63 20 *e*P **P** **01 45 31.6 +0.7**
ZEA *e* 01 45 50.0
ZEA pmax pmax
comp=E,20nm,0.5s
ZEA pmax pmax
comp=N,20nm,0.4s
ZEA pmax pmax
comp=Z,50nm,0.6s
TOO Toolangi 57.65 137 P **P** **01 45 32.9 +1.5**
baz=58,SNR=4.9
TOO Toolangi 57.65 137 P **P** **01 45 33.3 +1.9**
TOO IAmb IAmb 01 45 34.0
comp=Z,20nm,0.9s
TOO Toolangi 57.65 137 P **P** **01 45 33.1 +1.7**
TOO Toolangi 57.65 137 P **P** **01 45 33.3 +1.9**
TOO pmax pmax
comp=Z,20nm,0.9s
ASAJ Asahikawa 57.92 36 P **P** **01 45 33.3 +0.2**
BOD Bodaibo 57.99 10 *e*P **P** **01 45 33.9 +0.6**
BOD pmax pmax
comp=Z,53nm,1.1s
YNG Young 58.17 132 P **P** **01 45 35.6 +0.5**
baz=58,SNR=8.8
YNG Young 58.17 132 P **P** **01 45 35.5 +0.4**
AB31 Akbulak array 58.51 331 *i* P **P** **01 45 36.0 -1.1**
ABKAR Akbulak array 58.51 331 P **P** **01 45 36.5 -0.7**
ABKAR Akbulak array 58.51 331 P **P** **01 45 36.4 -0.7**
ABKAR IAmb IAmb 01 45 37.7
comp=Z,69nm,0.9s
GRNR Gornyy 58.97 27⇑*i*P **P** **01 45 40.7 +0.3**
GRNR *e*S **S** **01 53 42.7 +1.7**
GRNR pmax pmax
comp=N,10.0nm,0.9s
GRNR pmax pmax
comp=E,8.0nm,0.9s
GRNR pmax pmax
comp=Z,40nm,0.9s
GRNR smax smax
comp=N,1.0nm,0.9s
GRNR MLR MLR
comp=E,290nm,15.0s
GRNR MLR MLR
comp=Z,280nm,16.0s
CAN Canberra 59.06 133 P **P** **01 45 42.2 +0.8**
CAN IAmb IAmb 01 45 53.1
comp=Z,26nm,0.7s
CAN Canberra 59.06 133 P **P** **01 45 42.1 +0.8**
CAN Canberra 59.06 133 P **P** **01 45 42.2 +0.8**
CAN pmax pmax
comp=Z,26nm,0.7s
ARMA Armidale 59.09 127 P **P** **01 45 43.1 +1.5**
baz=59,SNR=9.3
ARMA Armidale 59.09 127 P **P** **01 45 43.0 +1.3**
ARMA IAmb IAmb 01 46 02.1
comp=Z,27nm,0.8s
ARMA Armidale 59.09 127 P **P** **01 45 43.0 +1.3**
LKRN Lenkeran, Azer 59.16 316 P **P** **01 45 41.7 -0.1**
YSS Yuzh-Sakhalins 59.67 33 P **P** **01 45 45.4 +0.1**
YSS Yuzh-Sakhalins 59.67 33 P **P** **01 45 45.5 +0.3**
YSS Yuzh-Sakhalins 59.67 33*ce*P **P** **01 45 45.3 +0.1**
YSS *e*S **S** **01 53 50.0 0.0**
YSS *e* 02 46 31.0
YSS pmax pmax
comp=Z,100nm,1.0s
YSS Yuzh-Sakhalins 59.67 33 P **P** **01 45 45.5 +0.3**
AKTO Aktyubinsk 60.22 331 *i* P **P** **01 45 47.3 -1.6**
AKTO pmax pmax
comp=Z,31nm,1.0s
AKTO Aktyubinsk 60.22 331 LR LR 02 14 35.8
comp=Z,100nm,20.6s,baz=56,slow=39
KIBK Kibwezi 60.83 267 P **P** **01 45 53.8 0.0**
KIBK IAmb IAmb 01 45 56.4
comp=Z,21nm,1.1s
KIBK Kibwezi 60.83 267 P **P** **01 45 55.0 +1.2**
MNGR Mingechevir, A 61.25 317 P **P** **01 45 56.1 0.0**
SEKA Sheki 61.37 318 P **P** **01 45 56.5 -0.5**
KMBO Kilima Mbogo 61.58 268 P **P** **01 45 59.1 0.0**
KMBO Kilima Mbogo 61.58 268 P **P** **01 45 59.1 0.0**
KMBO pmax pmax
comp=Z,13nm,1.1s
KMBO Kilima Mbogo 61.58 268 *i* P **P** **01 46 00.6 +1.4**
SNR=12
KMBO Kilima Mbogo 61.58 268 P **P** **01 46 00.9 +1.7**
KMBO Kilima Mbogo 61.58 268 P **P** **01 46 00.5 +1.4**
KMBO pP **pP** **01 46 19.3 +0.6**
NAX Nakhchivan 61.67 315 P **P** **01 45 58.5 -0.6**
GANJ Ganja 61.71 317 P **P** **01 45 58.7 -0.6**
HNR Honiara 61.74 101 LR LR 02 14 47.1
comp=Z,1μm,21.5s,baz=224,slow=38
ZKTA Zakatala 61.95 318 P **P** **01 46 00.9 +0.1**
TYV Tymovskoe 62.00 30 *e*P **P** **01 46 02.0 +1.1**
TYV pmax pmax
comp=Z,12nm,1.0s
TYV pmax pmax
comp=Z,100nm,3.1s
H04N2 CROZET ISLANDS 62.47 215 T T 02 52 57.6
baz=54,slow=75,SNR=1200
H04N1 CROZET ISLANDS 62.48 215 T T 02 52 58.2
baz=54,slow=75,SNR=1079
H04N3 CROZET ISLANDS 62.48 215 T T 02 52 56.9
baz=54,slow=75,SNR=1046
GNI Garni 62.60 316 P **P** **01 46 05.2 -0.2**
GNI IAmb IAmb 01 46 14.5
comp=Z,32nm,0.8s
GNI Garni 62.60 316*ce*P **P** **01 46 05.8 +0.4**
GNI pmax pmax
comp=Z,51nm,1.3s
GNI Garni 62.60 316 P **P** **01 46 05.7 +0.3**
GNI Garni 62.60 316 P **P** **01 46 05.6 +0.3**
GNI Garni 62.60 316 P **P** **01 46 05.4 0.0**
H04S1 CROZET ISLANDS 62.79 214 T T 02 53 21.9
baz=53,slow=75,SNR=60
H04S3 CROZET ISLANDS 62.80 214 T T 02 53 19.6
baz=53,slow=75,SNR=100
H04S2 CROZET ISLANDS 62.81 214 T T 02 53 20.1
baz=53,slow=75,SNR=58
LODK Lodwar 63.43 273 P **P** **01 46 11.8 +0.5**
LODK Lodwar 63.43 273 P **P** **01 46 13.2 +1.9**
SNR=11
SVE Sverdlovsk 63.53 338*c i*P **P** **01 46 10.8 -0.2**
SVE pmax pmax
comp=Z,117nm,0.9s
GUDG Gudauri 63.74 318 P **P** **01 46 09.6 -3.4**
GURO Guroymak-BITLI 63.91 313 P **P** **01 46 14.1 0.0**
KARS Kars 63.95 316 P **P** **01 46 14.5 +0.2**
KARS Kars 63.95 316 P **P** **01 46 14.5 +0.2**
KARS pmax pmax
comp=Z,100nm,0.9s
ARU Arti 64.06 336 P **P** **01 46 13.5 -0.9**
ARU IAmb IAmb 01 46 14.8
comp=Z,61nm,1.0s
ARU Arti 64.06 336*c i*P **P** **01 46 13.5 -0.9**
ARU *PP **pP** **01 46 32.9 -1.2**
ARU 01 46 49.0
ARU S **S** **01 54 44.1 -0.9**
ARU pmax pmax
comp=Z,75nm,1.1s
ARU Arti 64.06 336 LR LR 02 16 12.0
comp=Z,119nm,21.5s,baz=138,slow=38
ARU Arti 64.06 336 P **P** **01 46 13.7 -0.8**
ARU pP **pP** **01 46 33.5 -0.6**
NCK Nalchik 64.76 319 *i* P **P** **01 46 19.2 -0.2**
NCK pmax pmax
comp=Z,37nm,1.0s
YAK Yakutsk 65.24 15 P **P** **01 46 21.5 -0.5**
YAK Yakutsk 65.24 15 *e*P **P** **01 46 21.2 -0.8**
YAK *e* 01 46 48.8
YAK *e* 01 48 43.8
YAK *e*PPP PPP 01 50 20.3
YAK *e*S **S** **01 54 57.0 -2.3**
YAK *e**SS **sS** **01 55 30.7 -2.8**
YAK *e* 01 56 06.1
YAK *e*SSS SSS 02 02 05.2
YAK pmax pmax
comp=Z,192nm,1.5s
YAK pmax pmax
comp=N,38nm,1.3s
YAK pmax pmax
comp=E,29nm,1.5s
YAK pmax pmax
comp=Z,303nm,8.0s
YAK pmax pmax
comp=N,156nm,4.8s
YAK pmax pmax
comp=E,209nm,6.5s
YAK smax smax
comp=E,263nm,7.5s
YAK smax smax
comp=N,262nm,8.8s
YAK Yakutsk 65.24 15 P **P** **01 46 21.7 -0.3**
comp=N,105nm,0.8s,baz=214,slow=2.1,SNR=23
YAK pP **pP** **01 46 40.3 -1.5**
comp=N,49nm,0.5s,baz=234,slow=1.2,SNR=3.9
YAK S **S** **01 54 56.5 -2.8**
comp=N,19nm,0.3s,baz=349,slow=3.2,SNR=1.8
YAK ScS **SKSac** **01 56 06.2 -3.8**
comp=N,14nm,0.6s,baz=45,slow=2.1,SNR=5.8
YAK LR LR 02 15 47.9
comp=N,126nm,19.9s,baz=173,slow=37
comp=N,105nm,0.8s
KBZ Khabaz 65.32 319*ce*P **P** **01 46 22.1 -0.8**
KBZ pmax pmax
comp=Z,36nm,0.9s
KBZ Khabaz 65.32 319 P **P** **01 46 22.8 -0.1**
comp=Z,24nm,0.8s,baz=121,slow=4.9,SNR=32
KBZ pP **pP** **01 46 42.2 -0.5**
comp=Z,11nm,0.8s,baz=98,slow=7.0,SNR=4.0
KBZ sP **sP** **01 46 50.8 -0.3**
comp=Z,33nm,0.9s,baz=127,slow=4.8,SNR=7.9
comp=Z,24nm,0.8s
KIV Kislovodsk 65.56 319 P **P** **01 46 24.5 -0.1**
KIV IAmb IAmb 01 46 25.5
comp=Z,50nm,1.0s
KIV Kislovodsk 65.56 319 *e*P **P** **01 46 24.5 -0.1**
KIV *e*S **S** **01 55 02.9 -1.2**
KIV *e*SS **SS** **01 59 20.0 +0.7**
KIV pmax pmax
comp=Z,42nm,1.0s
KIV MLR MLR
comp=Z,46nm,17.0s
KIV Kislovodsk 65.56 319 *i* P **P** **01 46 24.6 -0.1**
SNR=9.1
KIV Kislovodsk 65.56 319 P **P** **01 46 24.3 -0.3**
KIV Kislovodsk 65.56 319 P **P** **01 46 24.2 -0.4**
KIV pP **pP** **01 46 43.4 -0.9**
BELG Belogornoye 66.61 329⇓*i*P **P** **01 46 29.8 -1.2**
BELG pmax pmax
comp=Z,17nm,1.0s
BELG Belogornoye 66.61 329 LR LR 02 20 09.3
comp=Z,161nm,21.0s,baz=152,slow=40
BALJ Balqa 66.94 305 P **P** **01 46 34.0 +0.5**
BALJ IAmb IAmb 01 46 35.4
comp=Z,76nm,1.7s
EIL Elat 66.95 302 LR LR 02 16 09.6
comp=Z,180nm,19.5s,baz=68,slow=36
GAZ Gaziantep 67.06 310 P **P** **01 46 34.4 0.0**
LABN Labinsk 67.12 319 *e*P **P** **01 46 34.2 -0.3**
LABN pmax pmax
comp=Z,24nm,1.2s
MMAI Mount Meron Ar 67.36 306 P **P** **01 46 36.9 +0.6**
comp=Z,21nm,1.0s,baz=94,slow=9.3,SNR=27
MMAI LR LR 02 18 54.9
comp=Z,69nm,18.8s,baz=82,slow=38
comp=Z,21nm,1.0s
SOC Sochi 67.39 318 *e*P **P** **01 46 33.6 -2.6**
SOC *e* 01 49 03.8
SOC *e*S **S** **01 55 22.6 -3.5**
SOC MLR MLR
comp=Z,102nm,20.0s
KOUNC Koumac, New Ca 67.47 113 P **P** **01 46 37.5 +0.3**
KOUNC IAmb IAmb 01 46 39.0
comp=Z,98nm,1.4s
KOUNC Koumac, New Ca 67.47 113 P **P** **01 46 38.2 +1.1**
ERBR Yeremizino-Bor 67.70 320 *e*P **P** **01 46 37.1 -1.0**
ERBR *e**PP **pP** **01 46 56.4 -1.5**
ERBR *e*S **S** **01 55 29.6 -0.2**
ERBR pmax pmax
comp=Z,53nm,0.9s
MBAR Mbarara 68.08 269 P **P** **01 46 41.1 -0.2**
MBAR Mbarara 68.08 269 P **P** **01 46 41.1 -0.2**
MBAR pmax pmax
comp=Z,25nm,1.2s
MBAR Mbarara 68.08 269 LR LR 02 13 08.4
comp=Z,80nm,19.1s,baz=39,slow=33
MBAR Mbarara 68.08 269 P **P** **01 46 42.8 +1.5**
MBAR Mbarara 68.08 269 P **P** **01 46 42.4 +1.1**
MBAR pP **pP** **01 47 01.8 +0.6**
BNN Bunyan 68.58 312 P **P** **01 46 43.6 -0.3**
KIRV Kirov 69.22 335*ce*P **P** **01 46 47.0 -0.3**
KIRV Kirov 69.22 335 LR LR 02 20 04.6
comp=Z,83nm,20.7s,baz=144,slow=38
VRH Novokhopyorsk 69.24 326 *e*P **P** **01 46 45.1 -2.4**
VRH *e* 01 47 03.1
VRH *e**PP **PcP** **01 47 12.5 +1.7**
VRH pmax pmax
comp=Z,80nm,0.9s
ANN Anapa 69.36 318 *e*P **P** **01 46 45.8 -2.6**
ANN *e**PP **PcP** **01 47 10.3 -1.2**
ANN *e*S **S** **01 55 46.2 -3.3**
ANN pmax pmax
comp=Z,147nm,1.1s
CSS Mathiatis 69.50 307 P **P** **01 46 49.7 +0.1**
CSS IAmb IAmb 01 46 50.7
comp=Z,61nm,1.2s
NOUC Port Laguerre 69.59 114 P **P** **01 46 50.6 +0.3**
NOUC pP **pP** **01 47 09.5 -0.7**
DZM Mont Dzumac 69.71 114 P **P** **01 46 51.5 +0.3**
DZM Mont Dzumac 69.71 114 P **P** **01 46 52.0 +0.8**
DZM Mont Dzumac 69.71 114 *e*P **P** **01 46 50.9 -0.3**
comp=Z,70nm,1.4s
DZM *e*pP **pP** **01 47 08.2 -3.0**
comp=Z,69nm,1.1s
DZM Mont Dzumac 69.71 114 *e*LR LR 02 08 11.5
comp=Z,548nm,37.1s
DZM Mont Dzumac 69.71 114 LR LR 02 18 36.3
comp=Z,76nm,20.9s,baz=284,slow=37
DZM Mont Dzumac 69.71 114 P **P** **01 46 51.8 +0.6**
DZM pP **pP** **01 47 10.5 -0.6**
ONTNC Ouen Toro 69.76 114 P **P** **01 46 51.5 +0.1**
ONTNC Ouen Toro 69.76 114 P **P** **01 46 52.0 +0.6**
YATNC Mamie plateau, 70.12 114 P **P** **01 46 55.1 +1.5**
comp=Z,49nm,1.1s
OUENC Ouen Island, N 70.13 114 P **P** **01 46 53.5 -0.1**
OUENC Ouen Island, N 70.13 114 P **P** **01 46 54.9 +1.3**
LIFNC LIFOU 70.24 112 P **P** **01 46 53.7 -0.6**
LIFNC LIFOU 70.24 112 P **P** **01 46 55.9 +1.6**
comp=Z,105nm,1.1s
BR131 Keskin Array S 70.47 312 P **P** **01 46 54.8 -0.7**
BR131 IAmb IAmb 01 46 55.7
comp=Z,31nm,0.8s
BR131 Keskin Array S 70.47 312⇑*i*P **P** **01 46 54.9 -0.7**
BRTR Keskin Array B 70.47 312 P **P** **01 46 54.3 -1.3**
BRTR Keskin Array B 70.47 312 P **P** **01 46 55.0 -0.6**
comp=Z,22nm,0.9s,baz=131,slow=6.9,SNR=67
comp=Z,22nm,0.9s
VORD Divnogorie 70.53 325 *e*P **P** **01 46 52.7 -2.7**
VORD *e* 01 47 12.1
VORD *e**PP **sP** **01 47 20.7 -3.1**
VORD pmax pmax
comp=Z,20nm,0.8s
VSR Storozhevoye 70.70 325 *e*P **P** **01 46 53.7 -2.8**
VSR *e* 01 47 12.4
VSR *e**PP **sP** **01 47 21.4 -3.5**
VSR pmax pmax
comp=Z,40nm,0.9s
VORR Voronezh 70.86 325 *e*P **P** **01 46 55.1 -2.4**
VORR *e* 01 47 13.0
VORR *e**PP **sP** **01 47 22.7 -3.1**
VORR pmax pmax
comp=Z,50nm,0.9s
MA2 Magadan 70.88 25 P **P** **01 46 58.0 +0.6**
MA2 IAmb IAmb 01 46 58.6
comp=Z,40nm,0.7s
MA2 Magadan 70.88 25 P **P** **01 46 58.0 +0.6**
MA2 Magadan 70.88 25⇑*e*P **P** **01 46 57.9 +0.4**
MA2 pmax pmax
comp=Z,40nm,0.7s
MA2 Magadan 70.88 25 P **P** **01 46 57.8 +0.3**
comp=Z,34nm,0.6s,baz=231,slow=5.8,SNR=39
MA2 pP **pP** **01 47 16.4 -1.1**
comp=Z,17nm,0.8s,baz=209,slow=9.9,SNR=3.2
MA2 LR LR 02 19 45.6
comp=Z,118nm,19.3s,baz=228,slow=37
comp=Z,34nm,0.6s
MA2 Magadan 70.88 25 P **P** **01 46 57.7 +0.3**
MA2 pP **pP** **01 47 16.5 -1.1**
PETK Petropavlovsk- 71.08 33 P **P** **01 46 58.9 +0.2**
comp=Z,12nm,0.8s,baz=198,slow=4.5,SNR=7.5
PETK PP **PP** **01 49 34.8 -2.4**
comp=Z,12nm,1.1s,baz=160,slow=4.7,SNR=3.8
PETK LR LR 02 20 54.0
comp=Z,69nm,19.2s,baz=159,slow=38
comp=Z,12nm,0.8s
ANTO Ankara 71.14 312 P **P** **01 46 59.1 -0.4**
ANTO pP **PcP** **01 47 18.7 -0.6**
BR231 Keskin MP Arra 71.15 312 P **P** **01 46 59.5 -0.2**
BR231 IAmb IAmb 01 47 00.1
comp=Z,38nm,0.8s
LPSR Galich'ya Gora 71.40 326 *e*P **P** **01 46 58.4 -2.3**
LPSR *e* 01 47 17.1
LPSR *e**PP **sP** **01 47 25.8 -3.3**
LPSR pmax pmax
comp=Z,70nm,1.0s
LSZ Lusaka 71.57 254 P **P** **01 47 02.8 +0.1**
LSZ Lusaka 71.57 254 P **P** **01 47 02.8 +0.1**
LSZ pmax pmax
comp=Z,24nm,1.3s
LSZ Lusaka 71.57 254 LR LR 02 16 15.8
comp=Z,148nm,18.1s,baz=100,slow=34
LSZ Lusaka 71.57 254 P **P** **01 47 03.7 +1.1**
LSZ Lusaka 71.57 254 P **P** **01 47 03.7 +1.1**
LSZ pP **pP** **01 47 22.9 +0.2**
MDUB Mudurnu 72.47 312 P **P** **01 47 07.6 +0.1**
ELL Elmali 72.61 308 P **P** **01 47 08.0 -0.5**
ELL Elmali 72.61 308 P **P** **01 47 08.0 -0.5**
ELL pmax pmax
comp=Z,237nm,1.2s
MAW Mawson 72.83 194 LR LR 02 11 48.1
comp=Z,214nm,19.7s,baz=348,slow=30
TIXI Tiksi 73.17 10 P **P** **01 47 10.8 -0.1**
TIXI IAmb IAmb 01 47 11.4
comp=Z,37nm,0.8s
TIXI Tiksi 73.17 10*ce*P **P** **01 47 10.0 -0.9**
TIXI pmax pmax
comp=Z,52nm,1.0s
TIXI Tiksi 73.17 10 P **P** **01 47 10.1 -0.9**
comp=Z,14nm,0.3s,baz=197,slow=1.5,SNR=59
TIXI LR LR 02 21 22.1
comp=Z,106nm,19.4s,baz=206,slow=37
comp=Z,14nm,0.3s
MOS Moscow 73.38 329 *e*P **P** **01 47 10.3 -2.1**
MOS *e**PP **PcP** **01 47 29.7 +1.4**
MOS *e**SP **pP** **01 47 36.6 +4.1**
MOS *e*S **S** **01 56 30.7 -4.7**
MOS *e**SS **pS** **01 57 01.9 +2.0**
MOS pmax pmax
comp=Z,100nm,0.9s
MOS pmax pmax
comp=Z,116nm,0.8s
SEY Seymchan 73.38 23*ce*P **P** **01 47 12.5 +0.2**
SEY pmax pmax
comp=Z,32nm,0.7s
SEY Seymchan 73.38 23 P **P** **01 47 12.6 +0.2**
comp=Z,30nm,0.7s,baz=240,slow=6.3,SNR=44
SEY S **S** **01 56 33.6 -1.6**
comp=Z,0.9nm,0.3s,baz=176,slow=23,SNR=4.4
SEY LR LR 02 24 49.9
comp=Z,79nm,19.2s,baz=328,slow=40
comp=Z,30nm,0.7s
OBN Obninsk 73.69 328 P **P** **01 47 13.9 -0.3**
OBN IAmb IAmb 01 47 34.3
comp=Z,54nm,0.8s
OBN Obninsk 73.69 328*d i*P **P** **01 47 13.5 -0.7**
OBN *i* 01 47 33.1
OBN *e* 01 49 59.2
OBN pmax pmax
comp=Z,116nm,1.7s
OBN MLR MLR
comp=Z,127nm,20.0s
OBN Obninsk 73.69 328 LR LR 02 24 52.3
comp=Z,63nm,19.0s,baz=18,slow=40
KARP Karpathos 74.56 307 P **P** **01 47 20.0 +0.2**
KLMR Klimovskoe 74.68 334 *e*P **P** **01 47 16.5 -3.4**
KLMR pmax pmax
comp=Z,55nm,1.4s
LBTB Lobatse 75.21 244 P **P** **01 47 24.6 +0.7**
LBTB Lobatse 75.21 244 P **P** **01 47 24.6 +0.7**
LBTB pmax pmax
comp=Z,14nm,1.0s
LBTB Lobatse 75.21 244 LR LR 02 14 47.9
comp=Z,115nm,19.5s,baz=88,slow=31
MILM Milestii Mici 75.74 318 *e*P **P** **01 47 25.0 -1.3**
comp=Z,70nm,0.6s
MILM *e*pP **pP** **01 47 45.0 -1.5**
MILM Milestii Mici 75.74 318⇑P **P** **01 47 25.9 -0.4**
MILM Milestii Mici 75.74 318 P **P** **01 47 25.9 -0.4**
ICOR Ion Corvin 75.78 315⇓P **P** **01 47 26.7 +0.1**
CFR Carcaliu 75.78 316⇑P **P** **01 47 26.2 -0.4**
CFR Carcaliu 75.78 316 P **P** **01 47 26.1 -0.4**
BOSA Boshof 76.04 240 P **P** **01 47 29.3 +0.7**
BOSA Boshof 76.04 240 P **P** **01 47 29.9 +1.3**
comp=Z,6.0nm,0.6s,baz=86,slow=3.9,SNR=25
BOSA LR LR 02 13 45.2
comp=Z,124nm,20.4s,baz=128,slow=30
comp=Z,6.0nm,0.6s
SORM Soroca 76.34 319⇓P **P** **01 47 29.0 -0.7**
SORM Soroca 76.34 319 P **P** **01 47 29.0 -0.7**
AKASG Malin Array Be 76.44 322 P **P** **01 47 29.5 -0.7**
AKASG Malin Array Be 76.44 322 P **P** **01 47 29.6 -0.7**
comp=Z,9.6nm,0.8s,baz=86,slow=4.7,SNR=48
AKASG pP **pP** **01 47 48.8 -1.6**
comp=Z,12nm,0.7s,baz=90,slow=4.8,SNR=9.9
comp=Z,9.6nm,0.8s
AKBB Malin Array Si 76.44 322 P **P** **01 47 29.8 -0.4**
AKBB IAmb IAmb 01 47 30.2
comp=Z,31nm,0.9s
AKBB Malin Array Si 76.44 322*ce*P **P** **01 47 28.1 -2.1**
AKBB pmax pmax
comp=Z,36nm,1.0s
KIEV Kiev 76.45 322⇓P **P** **01 47 29.3 -0.9**
KIEV Kiev 76.45 322 P **P** **01 47 29.5 -0.8**
KIEV Kiev 76.45 322 P **P** **01 47 29.5 -0.8**
KIEV pmax pmax
comp=Z,28nm,1.0s
KIEV Kiev 76.45 322 *i* P **P** **01 47 29.3 -0.9**
SNR=9.3
LOZB Loznitsa 76.47 314⇓P **P** **01 47 30.6 +0.1**
GHRR 76.48 317⇓P **P** **01 47 31.6 +1.1**
RAZG Razgrad 76.57 315⇑P **P** **01 47 31.2 0.0**
ODBI Odobesti 76.65 317⇓P **P** **01 47 32.6 +1.1**
BISRR Bisoca 76.84 317⇓P **P** **01 47 33.5 +0.8**
ISR Istrita 76.87 316⇓P **P** **01 47 33.8 +0.9**
ISR Istrita 76.87 316 P **P** **01 47 33.7 +0.9**
VRI Vrincioaia 76.90 317⇓P **P** **01 47 33.2 +0.2**
VRI Vrincioaia 76.90 317 P **P** **01 47 33.2 +0.2**
ELND Elena 76.90 314⇑P **P** **01 47 32.7 -0.3**
PLOR Plostina 76.95 317⇑P **P** **01 47 34.0 +0.8**
PLOR Plostina 76.95 317 P **P** **01 47 34.6 +1.3**
TESR Tescani 77.09 318⇓P **P** **01 47 33.9 -0.1**
NEHR Nehoiu 77.10 316⇑P **P** **01 47 34.9 +0.8**
COVR Voineasa-Covas 77.25 317⇑P **P** **01 47 34.2 -0.7**
MLR Muntele Rosu 77.36 316⇓P **P** **01 47 36.1 +0.4**
MLR Muntele Rosu 77.36 316 P **P** **01 47 35.7 0.0**
MLR IAmb IAmb 01 47 37.0
comp=Z,65nm,1.0s
MLR Muntele Rosu 77.36 316 P **P** **01 47 36.1 +0.4**
ZIMR 77.41 315⇓P **P** **01 47 35.9 +0.1**
ZIMR 77.41 315 P **P** **01 47 35.8 +0.1**
TURR Turia 77.42 317⇑P **P** **01 47 36.0 +0.1**
PRAR RASCA 77.56 318⇑P **P** **01 47 36.7 +0.1**
DOPR Dopca 77.84 317⇓P **P** **01 47 38.1 -0.1**
HUMR Humele 77.84 315⇓P **P** **01 47 38.1 -0.1**
PLVB Pleven 77.89 314⇑P **P** **01 47 38.7 +0.2**
RPZ Rata Peaks 77.89 135 P **P** **01 47 38.9 +0.4**
RPZ IAmb IAmb 01 47 43.2
comp=Z,25nm,0.7s
RPZ Rata Peaks 77.89 135 LR LR 02 22 54.1
comp=Z,47nm,20.6s,baz=268,slow=36
VOIR 77.97 316⇑P **P** **01 47 38.3 -0.7**

VOIR 77.97 316 P **P** 01 47 38.2 -0.7
MNK Minsk 78.24 326 *i* P **P** 01 47 39.9 -0.3
MNK *i* *P **sP** 01 48 05.7 -3.1
MNK *i* 01 50 37.9
MNK *i* PPP PPP 01 52 22.0
MNK *i* S **S** 01 57 27.5 -1.5
MNK *i* *SS sS 01 58 12.3 +8.7
MNK *i* SS **SS** 02 02 32.9 +0.2
MNK *i* SSS SSS 02 05 58.1
MNK pmax pmax
comp=N,14nm,1.1s
MNK pmax pmax
comp=Z,61nm,0.9s
MNK pmax pmax
comp=E,17nm,0.9s
MNK MLR MLR
comp=Z,62nm,19.0s
MNK MLR MLR
comp=N,190nm,22.0s
MNK MLR MLR
comp=E,90nm,17.0s
ARR Arges 78.24 316 ⇑P **P** 01 47 40.3 -0.2
BURAR Bucovina Array 78.28 318 ⇑*P **P** 01 47 41.2 +0.5
BURAR Bucovina Array 78.28 318 P **P** 01 47 40.8 +0.1
BURAR IAmb IAmb 01 47 42.8
comp=Z,45nm,0.9s
BURAR Bucovina Array 78.28 318 P **P** 01 47 41.2 +0.5
BUR08 Bucovina Ar. S 78.30 319 P **P** 01 47 41.2 +0.4
BUR08 IAmb IAmb 01 47 42.6
comp=Z,47nm,0.9s
PUL Pulkovo 78.49 331 *ce*P **P** 01 47 42.4 +1.0
PUL pmax pmax
comp=Z,48nm,0.6s
KSV Kosov 78.52 319 P **P** 01 47 41.6 -0.3
VALR Valaam 78.74 333 ⇑*P **P** 01 47 43.1 +0.4
VALR pmax pmax
comp=Z,55nm,0.8s
ARCR ARCALIA 78.75 318 ⇑P **P** 01 47 43.7 +0.5
GUR Goura 78.75 308 P **P** 01 47 41.4 -2.1
AGG Agios Georgios 78.91 309 P **P** 01 47 42.8 -1.5
AGG Agios Georgios 78.91 309 P **P** 01 47 42.8 -1.5
AGG pmax pmax
comp=Z,12nm,0.9s
BAIL Bailesti 78.91 315 ⇓P **P** 01 47 44.9 +0.8
LIT Litokhoron 78.94 311 P **P** 01 47 43.6 -0.8
LIT Litokhoron 78.94 311 P **P** 01 47 43.6 -0.8
VAY Valandovo 79.05 312 *i* P **P** 01 47 44.2 -0.7
IDID Didziasalis 79.08 326 *e*P P 01 47 37.8 -7.0
CJR Cluj-Napoca 79.19 317 ⇑P **P** 01 47 46.3 +0.6
CJR Cluj-Napoca 79.19 317 P **P** 01 47 46.8 +1.1
DRO Drossia 79.25 308 P **P** 01 47 45.6 -0.5
IIGN Ignalina 79.38 326 *e*P **P** 01 47 43.9 -2.5
STIP Stip 79.39 312 *i* P **P** 01 47 44.9 -1.9
KHZ Kahutara 79.40 133 P **P** 01 47 47.2 +0.4
KHZ IAmb IAmb 01 47 47.7
comp=Z,55nm,1.2s
BMR Baia Mare 79.43 318 ⇓P **P** 01 47 47.4 +0.6
BMR Baia Mare 79.43 318 P **P** 01 47 47.9 +1.0
RLS Riolos of Patr 79.45 308 P **P** 01 47 46.5 -0.7
LVV L'vov 79.48 321 *e*P **P** 01 47 46.6 -0.5
LVV pmax pmax
comp=Z,70nm,1.4s
ISAL Salakas 79.49 327 *e*P **P** 01 47 47.6 +0.6
MARR Marisel-Cluj 79.51 317 ⇓P **P** 01 47 48.1 +0.6
DEV Deva 79.53 316 ⇑P **P** 01 47 48.1 +0.6
DEV Deva 79.53 316 P **P** 01 47 48.5 +1.1
GZR Gura Zlata 79.53 316 ⇓P **P** 01 47 47.7 +0.2
GZR Gura Zlata 79.53 316 P **P** 01 47 47.7 +0.2
LVZ Lovozero 79.63 340 P **P** 01 47 47.3 -0.3
HERR Herculane 79.70 315 ⇑P **P** 01 47 48.5 +0.1
MESR Meseseni 79.71 318 ⇑P **P** 01 47 49.1 +0.7
DRGR 79.81 317 ⇓P **P** 01 47 49.4 +0.3
DRGR 79.81 317 P **P** 01 47 49.3 +0.3
TRSU Trosnyk 79.86 319 P **P** 01 47 50.3 +1.1
FNA Florina 79.87 311 P **P** 01 47 48.5 -1.0
FNA Florina 79.87 311 P **P** 01 47 48.5 -1.0
FNA pmax pmax
comp=Z,8.0nm,1.1s
VSU Vasula 79.89 329 *ce*P **P** 01 47 49.4 +0.4
VSU pmax pmax
comp=Z,49nm,1.7s
SKO Skopje 79.98 312 *i* P **P** 01 47 48.7 -1.3
BOVS Bovan 80.02 314 ⇑P **P** 01 47 49.4 -0.7
SURR Surduc 80.04 316 ⇑P **P** 01 47 50.4 +0.2
NYDR Nydri-Lefkada 80.13 309 P **P** 01 47 49.9 -0.9
LKD2 Lefkada island 80.17 309 P **P** 01 47 50.6 -0.5
TSLK Tsoukalades, L 80.18 309 P **P** 01 47 51.0 -0.1
MDVR Moldovita 80.18 315 ⇓P **P** 01 47 51.2 +0.1
KEF5 Kardakata, Kep 80.26 309 P **P** 01 47 50.6 -1.0
KBN Korca 80.30 311 P **P** 01 47 50.9 -0.9
KBN Korca 80.30 311 P **P** 01 47 50.9 -0.9
KBN pmax pmax
comp=Z,21nm,1.0s
KWP Kalwaria Pacla 80.30 320 *e*P **P** 01 47 51.7 +0.1
KWP Kalwaria Pacla 80.30 320 P **P** 01 47 52.0 +0.5
KWP IAmb IAmb 01 47 53.3
comp=Z,41nm,1.1s
KWP Kalwaria Pacla 80.30 320 P **P** 01 47 52.0 +0.5
KWP pmax pmax
comp=Z,41nm,1.1s
OHR Ohrid 80.35 311 *i* P **P** 01 47 51.5 -0.5
SUR Sutherland 80.36 237 P **P** 01 47 54.6 +2.1
SUR Sutherland 80.36 237 LR LR 02 16 32.1
comp=Z,105nm,21.1s,baz=105,slow=30
SUR Sutherland 80.36 237 P **P** 01 47 54.8 +2.3
BZS Buzias 80.37 316 ⇑P **P** 01 47 51.8 -0.2
BZS Buzias 80.37 316 P **P** 01 47 51.8 -0.2
LSK Leskovik 80.38 310 P **P** 01 47 51.1 -1.2
SIRR Siria 80.44 317 ⇓P **P** 01 47 52.6 +0.2
KOLS Kolonicke sedl 80.46 319 *e*P **P** 01 47 53.5 +1.1
KOLS pmax pmax
comp=Z,45nm,0.9s
KOLS Kolonicke sedl 80.46 319 *e*P **P** 01 47 53.5 +1.1
PABE Paberze 80.67 326 P **P** 01 47 53.4 +0.1
PABE Paberze 80.67 326 *e*P **P** 01 47 53.4 +0.1
VSVD Vaisvydziai 80.79 327 *e*P **P** 01 47 54.5 +0.5
SUW Suwalki 80.81 325 *e*P **P** 01 47 53.6 -0.6
SUW Suwalki 80.81 325 P **P** 01 47 53.5 -0.6
SUW Suwalki 80.81 325 P **P** 01 47 53.5 -0.6
SUW pmax pmax
comp=Z,179nm,1.0s
SUW Suwalki 80.81 325 *e*P **P** 01 47 53.9 -0.2
BILL Bilibino 80.84 21 P **P** 01 47 54.3 +0.3
BILL Bilibino 80.84 21 *i* P **P** 01 47 54.1 +0.1
BILL pmax pmax
comp=Z,4.0nm,0.4s
FIA1 FINESS Array S 80.97 332 P **P** 01 47 54.6 -0.2
FINES FINESS Array B 80.97 332 P **P** 01 47 54.4 -0.4
FINES FINESS Array B 80.97 332 P **P** 01 47 55.0 +0.2
comp=Z,18nm,0.5s,baz=105,slow=5.9,SNR=170
FINES pP **pP** 01 48 14.9 -0.3
comp=Z,21nm,0.8s,baz=101,slow=8.0,SNR=6.2
FINES PKKPbc **PKKPbc** 02 06 32.7 -2.1
comp=Z,1.1nm,0.7s,baz=302,slow=3.1,SNR=4.4
FINES LR LR 02 28 06.4
comp=Z,151nm,20.5s,baz=112,slow=39
comp=Z,18nm,0.5s
CRVS Cervenica-Dubn 80.98 319 *e*P **P** 01 47 55.6 +0.4
BKZ Black Stump Fm 81.05 130 P **P** 01 47 55.4 -0.5
BKZ IAmb IAmb 01 48 15.4
comp=Z,31nm,0.8s
BKZ Black Stump Fm 81.05 130 P **P** 01 47 55.9 0.0
STHS Stebnicka Huta 81.20 320 *e*P **P** 01 47 56.5 +0.1
STHS pmax pmax
comp=Z,18nm,0.8s
STHS Stebnicka Huta 81.20 320 *e*P **P** 01 47 56.5 +0.1
RTZ Ruatahuna 81.35 129 P **P** 01 47 57.1 -0.4
RTZ IAmb IAmb 01 47 58.3
comp=Z,67nm,1.1s
URZ Urewera 81.40 129 LR LR 02 25 27.9
comp=Z,40nm,19.8s,baz=303,slow=37
MTSE Matsula 81.43 329 *e*P **P** 01 47 57.5 +0.2
MEF Metsahovi 81.47 331 *e*P **P** 01 47 57.5 0.0
KECS Kecovo 81.56 319 *e*P **P** 01 47 58.8 +0.6
KECS pmax pmax
comp=Z,22nm,0.8s
KECS Kecovo 81.56 319 *e*P **P** 01 47 58.8 +0.6
DGTI Dogotuki 81.56 107 P **P** 01 48 00.2 +1.3
FRGS Fruska Gora 81.57 315 ⇓*i*P **P** 01 47 57.7 -0.7
DRME Dracevica, Mon 81.67 312 ⇓*i*P **P** 01 47 58.0 -1.0
TEKS Tekeris 81.70 315 ⇓*i*P **P** 01 47 58.4 -0.7
BBLS Lazi&#263i 81.70 314 ⇓*i*P **P** 01 47 58.8 -0.4
NIE Niedzica 81.81 320 *e*P **P** 01 47 59.9 +0.4

NIE Niedzica 81.81 320 P **P** 01 48 00.0 +0.4
PSZ Piszkesteto 81.87 318 P **P** 01 48 00.7 +0.7
PSZ IAmb IAmb 01 48 01.1
comp=Z,24nm,0.8s
PSZ Piszkesteto 81.87 318 P **P** 01 48 00.7 +0.7
PSZ pmax pmax
comp=Z,25nm,0.8s
PBUR Paburge 81.90 326 *e*P **P** 01 47 59.9 +0.1
TSUM Tsumeb 82.01 251 P **P** 01 48 01.8 +0.4
TSUM Tsumeb 82.01 251 LR LR 02 19 58.8
comp=Z,99nm,21.8s,baz=74,slow=32
VADS Vadso 82.22 341 *e*P **P** 01 48 01.5 +0.2
VADS IAmb IAmb 01 48 02.9
comp=Z,89nm,1.3s
OJC Ojcow 82.24 320 *e*P **P** 01 48 01.7 -0.2
OJC Ojcow 82.24 320 P **P** 01 48 01.6 -0.2
OJC Ojcow 82.24 320 P **P** 01 48 01.6 -0.2
OJC pmax pmax
comp=Z,25nm,1.0s
TREB Trebinje 82.34 313 *e*P **P** 01 48 01.8 -0.7
VYHS Vyhne 82.65 319 *e*P **P** 01 48 04.2 +0.2
VYHS pmax pmax
comp=Z,15nm,1.0s
VYHS Vyhne 82.65 319 *e*P **P** 01 48 04.2 +0.2
RAF Rauma 82.91 331 *e*P **P** 01 48 04.9 -0.1
OKC Ostrava-Krasne 83.25 320 *e*P **P** 01 48 07.5 +0.5
ARA0 ARCESS Array S 83.32 340 *e*P **P** 01 48 07.1 +0.1
ARA0 IAmb IAmb 01 48 08.0
comp=Z,42nm,1.0s
ARCES ARCESS Array B 83.32 340 P **P** 01 48 07.6 +0.6
ARCES IAmb IAmb 01 48 08.3
comp=Z,32nm,0.9s
ARCES ARCESS Array B 83.32 340 P **P** 01 48 07.6 +0.6
ARCES pmax pmax
comp=Z,32nm,0.9s
ARCES ARCESS Array B 83.32 340 P **P** 01 48 06.8 -0.2
comp=Z,11nm,0.5s,baz=103,slow=4.4,SNR=131
ARCES LR LR 02 29 33.7
comp=Z,100nm,21.5s,baz=113,slow=39
comp=Z,11nm,0.5s
BLY Banja Luka 83.38 315 ⇓*i*P **P** 01 48 07.8 0.0
MATE Matera 83.39 311 ⇓P **P** 01 48 07.9 0.0
JAVC Velka Javorina 83.45 319 *e*P **P** 01 48 09.0 +0.8
A051A Mrakovica 83.60 315 ⇓*i*P **P** 01 48 08.8 -0.2
MORC Moravsky Berou 83.64 320 ⇑P **P** 01 48 08.5 -0.6
MORC Moravsky Berou 83.64 320 P **P** 01 48 09.0 -0.1
MORC Moravsky Berou 83.64 320 *e*P **P** 01 48 09.1 0.0
MORC Moravsky Berou 83.64 320 P **P** 01 48 09.0 -0.1
MORC pmax pmax
comp=Z,22nm,1.0s
MODS Modra-Piesok 83.66 318 *e*P **P** 01 48 09.4 +0.2
MODS pmax pmax
comp=Z,85nm,1.4s
MODS Modra-Piesok 83.66 318 *e*P **P** 01 48 09.4 +0.2
ZST Bratislava 83.76 318 *e*P **P** 01 48 09.9 +0.2
ZST pmax pmax
comp=Z,81nm,1.1s
ZST Bratislava 83.76 318 *e*P **P** 01 48 09.9 +0.2
A050A Klekovaca 83.82 314 *e*P **P** 01 48 09.7 -0.5
KTK1 Kautokeino 83.98 339 *e*P **P** 01 48 10.2 -0.2
KTK1 IAmb IAmb 01 48 11.1
comp=Z,30nm,0.6s
KRLC Kraliky 84.15 320 *e*P **P** 01 48 12.3 +0.6
KOGS Kog 84.18 316 *i* P **P** 01 48 12.0 +0.1
GKP Gorka Klasztor 84.20 323 *e*P **P** 01 48 11.5 -0.3
VRAC Vranov 84.20 319 LR LR 02 31 32.2
comp=Z,31nm,19.8s,baz=84,slow=40
HAMF Hammerfest 84.21 341 *e*P **P** 01 48 11.7 +0.3
HAMF IAmb IAmb 01 48 13.1
comp=Z,32nm,0.8s
RONA Rosalia, Austr 84.26 318 *e*P **P** 01 48 12.5 +0.2
comp=Z,11nm,1.0s
KRUC Moravsky 84.31 319 *e*P **P** 01 48 12.2 -0.3
DPC Dobruska-Polom 84.47 320 *e*P **P** 01 48 14.3 +1.0
DPC *ep*P **pP** 01 48 34.1 +0.2
KSP Ksiaz 84.54 321 *e*P **P** 01 48 13.9 +0.4
KSP Ksiaz 84.54 321 P **P** 01 48 14.0 +0.4
OSTC Ostas 84.56 321 *e*P **P** 01 48 14.2 +0.5
CONA Conrad Observa 84.57 318 *i* P **P** 01 48 14.0 +0.1
comp=Z,7.7nm,0.9s
CHVC Chvalec 84.67 321 *e*P **P** 01 48 15.0 +0.7
CRES Cresnjev 84.69 316 ⇓*i*P **P** 01 48 14.1 -0.3
UPC Upice 84.69 320 *e*P **P** 01 48 14.8 +0.5
ARSA Arzberg 84.74 317 *e*P **P** 01 48 15.4 +0.7
comp=Z,33nm,1.3s,SNR=8.3
BOJS Bojanci 84.81 315 ⇓*i*P **P** 01 48 14.9 -0.1
TREC Trest 84.92 319 *e*P **P** 01 48 15.5 -0.1
VAE Valguarnera 84.97 307 LR LR 02 33 28.9
comp=Z,64nm,18.1s,baz=314,slow=41
SOKA Soboth 85.04 317 *i* P **P** 01 48 16.9 +0.6
comp=Z,36nm,1.0s,SNR=14
JETT Jettan, Norway 85.07 340 *e*P **P** 01 48 15.7 -0.2
GBRS Gornja Briga 85.12 315 *i* P **P** 01 48 16.6 -0.1
VNDA Vanda 85.25 169 P **P** 01 48 18.1 +1.5
comp=Z,9.6nm,0.9s,baz=310,slow=6.0,SNR=14
comp=Z,9.6nm,0.9s
BLEU Blekinge 85.32 326 *i* P **P** 01 48 16.1 -1.2
LJU Ljubljana 85.35 316 *i* P **P** 01 48 18.1 +0.3
OBKA Obir 85.36 316 *e*P **P** 01 48 18.6 +0.7
comp=Z,11nm,0.8s
OBKA Obir 85.36 316 ⇓*i*P **P** 01 48 17.2 -0.7
CEY Cerknica 85.40 316 ⇓*i*P **P** 01 48 17.4 -0.6
GOPC GO Pecny, Ondr 85.42 320 *e*P **P** 01 48 18.4 +0.3
PRU Pruhonice 85.59 320 *e*P **P** 01 48 19.2 +0.4
TRO Tromso 85.60 340 *e*P **P** 01 48 18.2 -0.3
MOA Molln 85.63 318 *e*P **P** 01 48 18.9 -0.2
comp=Z,8.3nm,0.8s
PRA Prague 85.66 320 *e*P **P** 01 48 19.8 +0.6
CKRC Cesky Krumlov 85.66 319 *e*P **P** 01 48 19.6 +0.3
CKRC *ex* x 01 48 39.7
SKDS Skadanscina 85.68 315 ⇓*i*P **P** 01 48 18.5 -0.9
BSD Bornholm Skovb 85.73 325 *i* P **P** 01 48 19.0 -0.4
BSD IAmb IAmb 01 48 21.9
comp=Z,63nm,1.1s
GORS Gorjuse 85.73 316 *i* P **P** 01 48 19.3 -0.5
RICC Richard 85.91 320 *e*P **P** 01 48 21.3 +0.9
MYKA Terra Mystica 85.99 316 *e*P **P** 01 48 21.3 +0.3
comp=Z,5.9nm,0.6s
BRG Berggiesshubel 86.03 321 *i* P **P** 01 48 21.7 +0.7
BRG Amp 01 48 22.6
comp=Z,16nm,1.0s
BRG Berggiesshubel 86.03 321 P P 01 48 27.6 +6.6
BRG Amp 01 48 28.9
comp=Z,6.3nm,0.9s
BRG Berggiesshubel 86.03 321 *i* P **P** 01 48 21.7 +0.7
BRG 01 48 49.5
BRG pmax pmax
comp=Z,16nm,1.0s
BRG pmax pmax
comp=Z,6.0nm,0.9s
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG Berggiesshubel 86.03 321 *e*P **P** 01 48 21.6 +0.6
comp=Z,16nm,1.0s,baz=93,slow=4.8
PRED Cave del Predi 86.03 316 P **P** 01 48 21.6 +0.3
PRED IAmb IAmb 01 48 22.2
comp=Z,30nm,0.8s
BIOA Bad Ischl, Aus 86.05 318 *e*P **P** 01 48 21.1 -0.1
comp=Z,8.8nm,0.7s
GEC2 GERESS Array S 86.07 319 P **P** 01 48 21.6 +0.3
GEC2 IAmb IAmb 01 48 22.8
comp=Z,40nm,1.3s
GEC2 GERESS Array S 86.07 319 *e*P **P** 01 48 21.8 +0.5
comp=Z,43nm,1.3s,baz=93,slow=4.8
GERES GERESS Array B 86.07 319 P **P** 01 48 21.7 +0.3
comp=Z,11nm,0.9s,baz=64,slow=6.1,SNR=16
GERES LR LR 02 32 20.0
comp=Z,52nm,18.4s,baz=100,slow=39
comp=Z,11nm,0.9s
KHC Kasperske Hory 86.16 319 P **P** 01 48 22.3 +0.6
KHC Kasperske Hory 86.16 319 *ce*P **P** 01 48 22.1 +0.3
KHC pmax pmax
comp=Z,16nm,0.8s
KHC Kasperske Hory 86.16 319 *e*P **P** 01 48 21.9 +0.1
NRCA Norcia 86.20 313 P **P** 01 48 21.3 -0.8
NRCA IAmb IAmb 01 48 23.2
comp=Z,22nm,1.0s
KBA Koelnbreinsper 86.22 317 P **P** 01 48 22.0 -0.3
comp=Z,7.6nm,1.0s
KBA Koelnbreinsper 86.22 317 P **P** 01 48 22.0 -0.3
RUE Ruedersdorf 86.22 322 *e*P **P** 01 48 22.2 +0.4
ELIB Princess Elisa 86.39 198 *d*PcP **PcP** 01 48 25.9 +1.0
ELIB *dx* x 01 48 30.1
ELIB *dx* x 01 48 45.0

DEL Delary 86.42 326 *i* P **P** 01 48 21.9 -0.9
LUNU Lund 86.60 326 *i* P **P** 01 48 23.2 -0.5
STAL STALIGIAL 86.62 316 P **P** 01 48 24.0 -0.1
STAL IAmb IAmb 01 48 25.0
comp=Z,50nm,1.2s
WET Wettzell 86.62 319 *e*P **P** 01 48 24.5 +0.5
comp=Z,20nm,0.9s,baz=93,slow=4.8
FAUS Fauske 86.64 337 *e*P **P** 01 48 23.5 -0.1
FAUS IAmb IAmb 01 48 24.2
comp=Z,34nm,0.8s
CLL Collm 86.64 321 *i* P **P** 01 48 23.4 -0.6
CLL *e**PP **pP** 01 48 44.0 -0.6
CLL pmax pmax
comp=Z,21nm,1.3s
CLL Collm 86.64 321 *i* P **P** 01 48 23.4 -0.6
comp=Z,21nm,1.3s
CLL *e*pP **pP** 01 48 44.0 -0.6
CLL *es*P **sP** 01 48 52.0 -0.8
CLL *eS* **S** 01 59 00.0 +5.1
LESA Schwarzleotal 86.69 317 *e*P **P** 01 48 23.7 -0.7
comp=Z,10nm,0.5s
STEI Steigen 86.71 338 *e*P **P** 01 48 23.9 -0.1
STEI IAmb IAmb 01 48 24.7
comp=Z,52nm,0.7s
HFS Hagfors 86.75 330 P **P** 01 48 24.6 +0.3
comp=Z,39nm,0.8s,baz=130,slow=4.4,SNR=119
HFS pP **pP** 01 48 44.4 -0.5
comp=Z,14nm,0.7s,baz=132,slow=6.2,SNR=4.6
HFS LR LR 02 32 53.2
comp=Z,82nm,18.1s,baz=99,slow=40
comp=Z,39nm,0.8s
ABTA Abfaltersbach 86.77 317 *e*P **P** 01 48 24.4 -0.5
comp=Z,9.0nm,0.9s
CIMO Cimolais 86.81 316 P **P** 01 48 25.4 +0.4
CIMO IAmb IAmb 01 48 26.0
comp=Z,38nm,0.8s
MOR8 Moi Rana 86.86 336 *e*P **P** 01 48 24.4 -0.4
BJUU Bjuv 86.86 326 *i* P **P** 01 48 24.9 0.0
FABU Falkenberg 87.08 327 *i* P **P** 01 48 24.3 -1.6
ROTZ Rotzenmuhle 87.08 320 *e*P **P** 01 48 27.1 +0.9
comp=Z,3.9nm,0.9s,baz=93,slow=4.8
MANZ Manzenberg 87.16 320 *e*P **P** 01 48 27.6 +1.1
comp=Z,7.0nm,1.0s,baz=93,slow=4.8
CTI Castel Tesino 87.35 316 P **P** 01 48 28.1 +0.4
CTI IAmb IAmb 01 48 29.1
comp=Z,28nm,0.8s
CTI Castel Tesino 87.35 316 P **P** 01 48 28.1 +0.4
CTI pmax pmax
comp=Z,28nm,0.8s
LOF Lofoten 87.36 338 *e*P **P** 01 48 27.9 +0.8
WTTA Wattenberg 87.39 317 *i* P **P** 01 48 27.8 -0.2
comp=Z,18nm,0.7s,SNR=6.2
WATA Walderalm 87.43 317 *i* P **P** 01 48 27.7 -0.5
comp=Z,8.2nm,0.5s
STOK Stokkvaagen 87.45 336 *e*P **P** 01 48 27.8 +0.2
MOX Moxa 87.49 320 *e*P **P** 01 48 28.8 +0.6
comp=Z,13nm,1.1s,baz=93,slow=4.8
MOX *eL* L 02 22 23.4
comp=Z,130nm,20.0s
SPB2 Spitsbergen Ar 87.53 348 P **P** 01 48 27.8 0.0
ONAU Onsala 87.53 327 *i* P **P** 01 48 27.6 -0.5
SPA0 Spitsbergen Ar 87.53 348 *e*P **P** 01 48 27.4 -0.5
SPITS Spitsbergen Ar 87.53 348 P **P** 01 48 27.2 -0.6
comp=Z,42nm,0.8s,baz=106,slow=7.9,SNR=28
SPITS LR LR 02 33 36.8
comp=Z,149nm,21.7s,baz=80,slow=40
comp=Z,42nm,0.8s
SQTA Sankt Quirin 87.68 317 *e*P **P** 01 48 29.2 -0.1
comp=Z,12nm,0.5s
GRF Grafenberg Arr 87.72 320 *e*L L 02 24 17.5
comp=Z,78nm,20.9s
MOTA Moosalm 87.75 317 *e*P **P** 01 48 29.4 -0.2
comp=Z,27nm,1.1s,SNR=5.4
NC405 NORSAR Array S 87.77 331 P **P** 01 48 29.8 +0.5
NC405 IAmb IAmb 01 48 30.3
comp=Z,19nm,0.8s
NSS Namsos 87.79 334 *e*P **P** 01 48 29.3 +0.1
NSS IAmb IAmb 01 48 29.8
comp=Z,21nm,0.8s
NC602 NORSAR Array S 87.84 331 P **P** 01 48 29.5 -0.1
NC602 IAmb IAmb 01 48 30.4
comp=Z,21nm,0.8s
NC602 NORSAR Array S 87.84 331 IAmb IAmb 01 48 30.1
comp=Z,22nm,0.8s
NC602 *e*P **P** 01 48 30.2 +0.6
NORES NORESS Array B 87.84 331 P **P** 01 48 29.6 0.0
NORES pmax pmax
comp=Z,4.0nm,0.8s
NC303 NORSAR Array S 87.94 331 P **P** 01 48 30.2 +0.1
NC303 IAmb IAmb 01 51 38.1
comp=Z,59nm,1.5s
STRU Stroemstad 87.97 329 *i* P **P** 01 48 29.9 -0.3
RETA Reutte 87.99 317 *i* P **P** 01 48 30.9 +0.2
comp=Z,13nm,0.6s
FETA Feichten 88.00 317 *e*P **P** 01 48 30.8 -0.1
comp=Z,11nm,1.0s
NB2 NORSAR Subarra 88.01 331 P **P** 01 48 27.6 -2.8
NB2 pmax pmax
comp=Z,2.0nm,0.8s
NB2 NORSAR Subarra 88.01 331 P **P** 01 48 30.0 -0.4
comp=Z,20nm,0.9s,baz=94,slow=4.8
NB2 NORSAR Subarra 88.01 331 P **P** 01 48 30.0 -0.4
baz=94,slow=4.8
NOA NORSAR Array B 88.01 331 P **P** 01 48 30.5 0.0
comp=Z,9.9nm,0.8s,baz=94,slow=4.9,SNR=27
NOA pP **pP** 01 48 50.4 -0.8
comp=Z,6.2nm,0.9s,baz=95,slow=5.0,SNR=6.6
NOA LR LR 02 32 22.3
comp=Z,58nm,20.7s,baz=100,slow=39
comp=Z,9.9nm,0.8s
SALO Salr 88.13 315 P **P** 01 48 31.8 +0.5
NC204 NORSAR Array S 88.24 331 P **P** 01 48 32.4 +0.9
NC204 IAmb IAmb 01 49 08.2
comp=Z,27nm,1.1s
CLZ Clausthal 88.30 322 *e*P **P** 01 48 33.0 +1.0
comp=Z,50nm,1.0s,baz=93,slow=4.8
FUORN Ofenpass-Fuorn 88.32 316 P **P** 01 48 33.2 +0.7
FUORN IAmb IAmb 01 48 34.1
comp=Z,36nm,1.4s
BSEG Bad Segeberg 88.35 324 *e*P **P** 01 48 33.3 +1.2
comp=Z,43nm,1.0s,baz=93,slow=4.8
UBR Ueberruh 88.43 317 *e*P **P** 01 48 32.9 +0.2
baz=93,slow=4.8
NRDL Niedersach Rie 88.47 322 *e*P **P** 01 48 33.9 +1.3
comp=Z,62nm,1.0s,baz=93,slow=4.8
KBS Kingsbay 88.48 349 *e*P **P** 01 48 31.7 -0.6
KBS Kingsbay 88.48 349 *i* P P 01 48 26.4 -5.9
TBLU Trondheim 88.51 333 *e*P **P** 01 48 33.0 +0.3
GTTG Gottingen 88.55 321 *e*P **P** 01 48 34.0 +0.9
comp=Z,60nm,1.0s,baz=93,slow=4.8
DAVA Damuels 88.58 317 *e*P **P** 01 48 34.1 +0.5
comp=Z,46nm,1.2s
RETH Rethem/Aller, 88.92 323 *e*P **P** 01 48 35.7 +0.9
comp=Z,36nm,1.0s,baz=93,slow=4.8
GAMB Gambell 88.94 26 P **P** 01 48 35.5 +0.9
baz=270
TUE Stuetta 88.95 316 P **P** 01 48 35.9 +0.5
KEST Kesra 89.02 306 P **P** 01 48 36.4 +0.6
KEST IAmb IAmb 01 48 38.2
comp=Z,36nm,0.9s
KEST Kesra 89.02 306 P **P** 01 48 37.1 +1.3
comp=Z,28nm,0.8s,baz=273,slow=2.5,SNR=20
KEST LR LR 02 35 58.9
comp=Z,67nm,18.2s,baz=282,slow=41
comp=Z,28nm,0.8s
SKAR Skarslia 89.44 331 *e*P **P** 01 48 38.1 +1.0
TNS Taunus Mts 89.52 320 *e*P **P** 01 48 38.8 +1.1
comp=Z,46nm,0.9s,baz=93,slow=4.8
KASTN Kahler Asten 89.52 321 *e*P **P** 01 48 38.7 +1.0
comp=Z,34nm,0.9s,baz=93,slow=4.8
BFO Black Forest 89.62 318 P **P** 01 48 38.5 +0.2
BFO IAmb IAmb 01 48 39.3
comp=Z,12nm,0.8s
BFO Black Forest 89.62 318 P **P** 01 48 38.5 +0.2
BFO pmax pmax
comp=Z,12nm,0.8s
BFO Black Forest 89.62 318 *e*P **P** 01 48 38.5 +0.2
comp=Z,12nm,0.8s,baz=93,slow=4.8
NVL N'lazarevskaya 89.87 199 *e*P **P** 01 48 40.5 +1.6
NVL pmax pmax
comp=Z,36nm,1.0s
CDF Champ du Feu 90.32 318 *e*P **P** 01 48 41.2 -0.4
CDF pmax pmax
comp=Z,10.0nm,0.8s
SBF Sospel 90.35 314 *e*P **P** 01 48 41.6 -0.2
SBF pmax pmax

comp=Z,29nm,0.8s
SENIN Lac Senin/Sane 90.37 316 P **P** **01 48 42.7 +0.6**
AHRW Bad Neuenahr-A 90.39 320 *e*P **P** **01 48 43.0 +1.2**
comp=Z,27nm,1.0s,baz=93,slow=4.8
ECH Echery 90.41 318 P **P** **01 48 42.4 +0.5**
ECH IAmb IAmb 01 48 43.7
comp=Z,17nm,0.9s
ECH Echery 90.41 318 P **P** **01 48 42.4 +0.5**
ECH pmax pmax
comp=Z,17nm,0.9s
TNA Tin City 90.52 25 P **P** **01 48 41.5 -0.5**
baz=273
HINF Hinteralfeld 90.63 318 *e*P **P** **01 48 42.5 -0.5**
HINF pmax pmax
comp=Z,19nm,1.2s
NIKH Nikolski High 90.68 37 P **P** **01 48 43.1 +0.1**
baz=272
LPG La Plagne 90.78 315 *e*P **P** **01 48 44.0 -0.1**
LPG pmax pmax
comp=Z,28nm,0.8s
LPL La Plagne 90.79 315 *e*P **P** **01 48 44.0 -0.1**
LPL pmax pmax
comp=Z,25nm,0.6s
MBDF Montbardon 90.80 315 *e*P **P** **01 48 43.2 -0.8**
MBDF pmax pmax
comp=Z,52nm,1.6s
QSPA South Pole Qui 90.88 180 P **P** **01 48 46.0 +2.1**
QSPA IAmb IAmb 01 48 46.5
comp=Z,10.0nm,0.7s
QSPA South Pole Qui 90.88 180 P **P** **01 48 45.9 +2.1**
comp=Z,7.2nm,0.6s,baz=278,slow=1.0,SNR=65
QSPA PKKP **PKKPdf** **02 06 08.3 +0.4**
comp=Z,1.3nm,0.8s,baz=152,slow=1.8,SNR=7.9
comp=Z,7.2nm,0.6s
BTNL Ternell 90.99 320 *d*PcP **PcP** **01 48 45.3 -0.2**
comp=Z,12nm,1.1s
WLF Walferdange 91.01 320 *d*PcP **PcP** **01 48 45.8 +0.1**
comp=Z,15nm,1.0s
WLF Walferdange 91.01 320 *e*P **PcP** **01 48 45.8 +0.1**
comp=Z,23nm,0.9s,baz=93,slow=4.8
MEM Membach 91.06 320 *d*PcP **PcP** **01 48 45.6 -0.3**
comp=Z,13nm,1.1s
SUE Sulen 91.15 331 *e*P **P** **01 48 45.4 +0.4**
F14K Arctic Creek 91.19 25 P **P** **01 48 45.3 +0.2**
baz=275
CABF La Chapelle 91.20 316 *e*P **P** **01 48 45.9 +0.2**
CABF pmax pmax
comp=Z,18nm,0.6s
C16K Lisburne Hills 91.31 22 P **P** **01 48 45.6 -0.1**
baz=276
BSTI Sart Tilman 91.34 320 *d*PcP **PcP** **01 48 47.4 +0.3**
ORIF Oris-en-Rattie 91.42 315 *e*P **P** **01 48 47.0 +0.2**
ORIF pmax pmax
comp=Z,38nm,1.2s
BCLA Clavier 91.52 320 *d*PcP **PcP** **01 48 47.9 0.0**
comp=Z,10nm,1.2s
RCHB Rochefort 91.58 320 *d*PcP **PcP** **01 48 47.8 -0.3**
BGES Gesves 91.66 320 *d*P **P** **01 48 48.0 +0.4**
comp=Z,8.3nm,0.9s
M11K Mekoryuk 91.67 30 P **P** **01 48 48.1 +0.6**
baz=275
ANM Nome 91.67 25 P **P** **01 48 47.4 0.0**
baz=276
F15K North Star Dit 91.86 24 P **P** **01 48 48.4 +0.2**
F15K North Star Dit 91.86 24 P **P** **01 48 48.4 +0.2**
baz=276
BMRD Maredsous 91.87 320 *d*PcP **PcP** **01 48 49.6 +0.2**
comp=Z,6.9nm,1.1s
DOU Dourbes 92.00 320 *d*PcP **PcP** **01 48 49.9 -0.1**
comp=Z,4.9nm,0.9s
UNV Unalaska Valle 92.03 36 P **P** **01 48 49.4 +0.2**
baz=274
C17K DeLong Mountai 92.09 21 P **P** **01 48 49.5 +0.2**
baz=278
G15K Niukluk 92.19 25 P **P** **01 48 50.1 +0.3**
baz=277
D17K Noatak River 92.23 22 P **P** **01 48 50.3 +0.4**
baz=278,SNR=9.6
BAIF Baives 92.25 320 *e*P **P** **01 48 51.7 +1.3**
BAIF pmax pmax
comp=Z,19nm,1.0s
VIVF Saint-Julien-l 92.28 315 *e*P **P** **01 48 50.7 0.0**
VIVF pmax pmax
comp=Z,39nm,1.4s
B18K Kokolik River 92.45 20 P **P** **01 48 51.7 +0.8**
baz=279
A19K Wainwright 92.56 20 P **P** **01 48 52.2 +0.9**
baz=280
TAM Tamanrasset 92.67 293 P **P** **01 48 54.3 +1.2**
TAM pmax pmax
comp=Z,8.0nm,1.0s
LOR Lormes 92.68 317 *e*P **P** **01 48 52.4 -0.1**
LOR pmax pmax
comp=Z,46nm,1.0s
J14K Nanvaranak Lak 92.68 27 P **P** **01 48 52.3 +0.2**
baz=277
NOR Nord 92.71 352 *i* P **P** **01 48 49.8 -2.1**
NOR IAmb IAmb 01 48 52.4
comp=Z,11nm,0.9s
SMF Signal de Mont 92.74 317 *e*P **P** **01 48 52.6 -0.2**
SMF pmax pmax
comp=Z,26nm,0.9s
C18K Utukok River 92.78 21 P **P** **01 48 52.7 +0.2**
C18K IAmb IAmb 01 48 53.7
comp=Z,11nm,0.8s
C18K Utukok River 92.78 21 P **P** **01 48 52.6 0.0**
baz=280
G16K Koyuk River 92.84 24 P **P** **01 48 53.3 +0.5**
G16K IAmb IAmb 01 48 54.5
comp=Z,17nm,0.9s
G16K Koyuk River 92.84 24 P **P** **01 48 52.9 +0.1**
baz=278
H16K Elim 93.00 25 P **P** **01 48 53.7 +0.2**
baz=279,SNR=12
AVF Avril sur Loir 93.06 317 *e*P **P** **01 48 54.1 -0.1**
AVF pmax pmax
comp=Z,41nm,1.2s
F17K Baldwin Pennin 93.13 23 P **P** **01 48 54.7 +0.7**
F17K IAmb IAmb 01 48 55.7
comp=Z,12nm,0.8s
F17K Baldwin Pennin 93.13 23 P **P** **01 48 54.5 +0.5**
baz=280
E18K Tukpahlearik C 93.21 22 P **P** **01 48 54.5 +0.1**
E18K IAmb IAmb 01 48 55.8
comp=Z,9.9nm,1.0s
E18K Tukpahlearik C 93.21 22 P **P** **01 48 55.1 +0.6**
baz=280
C19K Lookout Ridge 93.27 21 P **P** **01 48 55.5 +0.7**
baz=281
L14K Kuka Creek 93.28 29 P **P** **01 48 55.6 +0.7**
baz=278
BGF Bois d'Agland 93.43 317 *e*P **P** **01 48 56.2 +0.2**
BGF pmax pmax
comp=Z,105nm,1.7s
G17K Kiwalik Mounta 93.53 24 P **P** **01 48 56.4 +0.5**
baz=280
K15K Wolf Creek Mou 93.68 27 P **P** **01 48 57.2 +0.5**
baz=279
M14K Bethel 93.71 29 P **P** **01 48 57.6 +0.8**
baz=279
F18K Selawik 93.73 23 P **P** **01 48 57.7 +0.8**
baz=281
I17K Unalakleet 93.79 26 P **P** **01 48 58.2 +1.1**
I17K IAmb IAmb 01 49 17.9
comp=Z,17nm,1.1s
I17K Unalakleet 93.79 26 P **P** **01 48 58.3 +1.1**
baz=280
L15K Ungalak Mounta 93.79 28 P **P** **01 48 58.0 +0.7**
baz=279
D19K Kuna River 93.92 21 P **P** **01 48 58.0 +0.3**
baz=283
J16K Anvik River 93.94 26 P **P** **01 48 58.9 +1.1**
J16K Anvik River 93.94 26 P **P** **01 48 58.7 +0.8**
baz=280
H17K Granite Mounta 93.94 25 P **P** **01 48 58.6 +0.7**
H17K IAmb IAmb 01 48 59.2
comp=Z,16nm,0.7s
H17K Granite Mounta 93.94 25 P **P** **01 48 58.4 +0.5**
baz=281
N14K Kuskokwak Cree 93.97 30 P **P** **01 48 58.8 +0.8**
baz=279
G18K Tagagawik 94.27 24 P **P** **01 48 59.5 +0.2**
G18K Tagagawik 94.27 24 P **P** **01 48 59.7 +0.4**
baz=282
O14K Tigyukauivet M 94.28 30 P **P** **01 49 00.1 +0.5**
baz=279
M15K Kasigluk River 94.34 29 P **P** **01 49 00.5 +0.7**
baz=280
D20K Etivluk River 94.41 21 P **P** **01 49 00.7 +0.7**
baz=284
F19K Shaleruckik Mo 94.41 23 P **P** **01 48 59.9 0.0**
baz=283
RJF Les Rejaudoux 94.47 315 *e*P **P** **01 49 00.4 -0.4**
RJF pmax pmax
comp=Z,45nm,1.5s
E19K Redstone River 94.48 22 P **P** **01 49 00.6 +0.3**
baz=283
H18K Honhosa River 94.54 24 P **P** **01 49 00.9 +0.2**
H18K IAmb IAmb 01 49 02.0
comp=Z,16nm,0.7s
H18K Honhosa River 94.54 24 P **P** **01 49 00.8 +0.2**
baz=282
SNAA Sanae 94.54 198 LR LR 02 23 53.8
comp=Z,140nm,19.8s,baz=356,slow=30
E20K Nigu River 94.67 21 P **P** **01 49 01.6 +0.4**
baz=284
N15K Kwethluk River 94.72 29 P **P** **01 49 02.5 +0.9**
N15K IAmb IAmb 01 49 03.1
comp=Z,22nm,0.9s
N15K Kwethluk River 94.72 29 P **P** **01 49 02.5 +0.9**
baz=280
L16K Owhat River 94.73 28 P **P** **01 49 02.4 +0.9**
baz=281
G19K Purcell Mounta 94.84 23 P **P** **01 49 02.4 +0.4**
G19K Purcell Mounta 94.84 23 P **P** **01 49 02.3 +0.4**
baz=283
O15K Ungalikthiuk R 95.03 30 P **P** **01 49 03.6 +0.7**
baz=280
K17K Iditarod 95.07 27 P **P** **01 49 04.2 +1.0**
K17K Iditarod 95.07 27 P **P** **01 49 03.9 +0.8**
baz=282
M16K Timber Creek 95.11 29 P **P** **01 49 03.5 +0.2**
baz=281
F20K Avaraart Lake 95.15 22 P **P** **01 49 03.9 +0.6**
F20K Avaraart Lake 95.15 22 P **P** **01 49 03.6 +0.3**
baz=285
L17K Donlin 95.20 27 P **P** **01 49 04.5 +0.8**
baz=282
H19K Roundabout Mou 95.24 24 P **P** **01 49 04.4 +0.7**
baz=284
GCSA Galena City Sc 95.25 25 P **P** **01 49 04.3 +0.5**
baz=283
N16K Nishlik Lake 95.31 29 P **P** **01 49 05.1 +0.9**
baz=281
SDPT Sand Point 95.33 34 P **P** **01 49 04.9 +0.5**
baz=279
E21K Killik River 95.42 21 P **P** **01 49 05.3 +0.7**
E21K Killik River 95.42 21 P **P** **01 49 04.7 +0.1**
baz=286
MFF Saint Martin d 95.48 317 *e*P **P** **01 49 05.0 -0.3**
MFF pmax pmax
comp=Z,120nm,2.0s
J18K Innoko River 95.61 26 P **P** **01 49 06.2 +0.6**
J18K IAmb IAmb 01 49 06.7
comp=Z,14nm,0.7s
J18K Innoko River 95.61 26 P **P** **01 49 05.7 +0.1**
baz=284
S14K Fog Glacier 95.69 33 P **P** **01 49 07.0 +0.8**
baz=280
D22K Ayikyak River 95.74 20 P **P** **01 49 06.2 +0.2**
D22K IAmb IAmb 01 49 07.3
comp=Z,11nm,0.8s
D22K Ayikyak River 95.74 20 P **P** **01 49 06.4 +0.4**
baz=288
M17K Holitna River 95.75 28 P **P** **01 49 06.7 +0.5**
baz=283
O16K Kokwok River B 95.82 30 P **P** **01 49 06.8 +0.3**
baz=282
H20K Anotleneega Mo 95.88 24 P **P** **01 49 07.1 +0.3**
baz=285
L18K Granite Mounta 95.91 27 P **P** **01 49 07.7 +0.8**
L18K IAmb IAmb 01 49 09.0
comp=Z,27nm,1.4s
L18K Granite Mounta 95.91 27 P **P** **01 49 07.6 +0.6**
baz=283
F21K Alatna River 95.94 22 P **P** **01 49 07.6 +0.6**
F21K IAmb IAmb 01 49 08.4
comp=Z,13nm,0.8s
F21K Alatna River 95.94 22 P **P** **01 49 07.3 +0.3**
baz=287
J19K Poorman 95.96 25 P **P** **01 49 08.0 +0.9**
J19K Poorman 95.96 25 P **P** **01 49 07.7 +0.6**
baz=284
EKA Eskdalemuir Ar 96.03 326 P **P** **01 49 07.7 +0.1**
comp=Z,5.1nm,0.8s,baz=88,slow=5.2,SNR=6.3
comp=Z,5.1nm,0.8s
TTA Tatalina 96.05 26 P **P** **01 49 08.3 +0.6**
baz=284
N17K Nushagak Hills 96.06 29 P **P** **01 49 08.5 +0.9**
N17K Nushagak Hills 96.06 29 P **P** **01 49 08.4 +0.7**
baz=283
C23K Itkillik River 96.12 19 P **P** **01 49 08.7 +0.9**
C23K IAmb IAmb 01 49 09.3
comp=Z,13nm,0.8s
C23K Itkillik River 96.12 19 P **P** **01 49 08.0 +0.3**
baz=290,SNR=8.4
G21K Allakaket 96.14 23 P **P** **01 49 08.0 +0.1**
baz=287
IMAR Indian Mountai 96.19 23 P **P** **01 49 08.7 +0.5**
ETSF Etsaut 96.23 313 *e*P **P** **01 49 11.6 +2.7**
ETSF pmax pmax
comp=Z,8.0nm,1.0s
I20K Naaghedeneel 96.23 24 P **P** **01 49 09.2 +0.9**
baz=286
E22K Anaktuvuk Pass 96.27 21 P **P** **01 49 08.4 -0.2**
baz=288
O17K Koliganek Bris 96.27 30 P **P** **01 49 08.5 -0.1**
baz=283
D23K Nanushuk River 96.40 20 P **P** **01 49 09.7 +0.7**
baz=290
M18K Stony River 96.48 28 P **P** **01 49 09.7 +0.2**
baz=284
R16K Pilot Point 96.50 32 P **P** **01 49 09.9 +0.3**
baz=282
J20K Nowinta River 96.54 25 P **P** **01 49 10.8 +1.1**
J20K Nowinta River 96.54 25 P **P** **01 49 10.1 +0.4**
baz=286
N18K Kilae Creek 96.65 29 P **P** **01 49 10.5 +0.2**
baz=284
H21K Melozitna Rive 96.66 23 P **P** **01 49 11.3 +1.0**
H21K IAmb IAmb 01 49 11.8
comp=Z,13nm,0.8s
H21K Melozitna Rive 96.66 23 P **P** **01 49 10.8 +0.5**
baz=287
TORD Torodi Ar. Bea 96.71 283 P **P** **01 49 11.8 +0.2**
TORD Torodi Ar. Bea 96.71 283 P **P** **01 49 11.8 +0.2**
comp=Z,1.1nm,0.8s,baz=76,slow=6.5,SNR=9.0
TORD PP **PP** **01 53 10.3 +3.0**
comp=Z,1.0nm,0.9s,baz=62,slow=8.8,SNR=4.5
TORD LR LR 02 28 57.9
comp=Z,127nm,22.0s,baz=142,slow=33
comp=Z,1.1nm,0.8s
P17K Kwchak River 96.73 30 P **P** **01 49 11.5 +0.8**
baz=283
L19K White Mountain 96.76 27 P **P** **01 49 11.3 +0.5**
baz=285
C24K Franklin Bluff 96.79 19 P **P** **01 49 10.7 -0.1**
baz=292
K20K Telida 96.79 26 P **P** **01 49 11.9 +0.9**
K20K Telida 96.79 26 P **P** **01 49 11.5 +0.6**
baz=286
D24K Happy Valley 96.95 19 P **P** **01 49 11.9 +0.4**
baz=291
M19K Big River Lodg 97.04 27 P Pdif 01 49 13.0 +0.8
baz=285
E23K Chandalar 97.08 21 P Pdif 01 49 12.7 +0.4
baz=290
L20K Farewell, AK 97.12 27 P Pdif 01 49 13.1 +0.5
baz=286
I21K Tanana 97.14 24 P Pdif 01 49 12.8 +0.3
baz=288
H22K Ishtalitna Cre 97.15 23 P Pdif 01 49 13.0 +0.4
baz=289
COLD Coldfoot 97.15 21 P Pdif 01 49 12.8 +0.3
baz=290
O18K Koktuh Hills 97.18 29 P Pdif 01 49 13.6 +0.8
baz=284
N19K Bonanza Creek 97.28 28 P Pdif 01 49 14.3 +0.9
N19K IAmb IAmb 01 49 15.7
comp=Z,16nm,0.9s
N19K Bonanza Creek 97.28 28 P Pdif 01 49 14.0 +0.6
baz=285
CHUM Lake Minchumin 97.39 25 P Pdif 01 49 14.1 +0.5
baz=288
G23K Bananza Creek 97.39 22 P Pdif 01 49 14.3 +0.6
G23K Bananza Creek 97.39 22 P Pdif 01 49 13.9 +0.2
baz=290
O19K Port Alsworth 97.53 29 P Pdif 01 49 14.7 +0.4
baz=285
M20K Styx River 97.62 27 P Pdif 01 49 15.2 +0.3
baz=286
CAST Castle Rocks 97.63 25 P Pdif 01 49 15.2 +0.5
CAST IAmb IAmb 01 49 17.4
comp=Z,8.3nm,0.7s
CAST Castle Rocks 97.63 25 P Pdif 01 49 15.4 +0.7
baz=288,SNR=8.2
MLY Manley 97.68 24 P Pdif 01 49 15.1 +0.1
baz=289
D25K Kavik River 97.70 19 P Pdif 01 49 15.6 +0.6
D25K IAmb IAmb 01 49 15.9
comp=Z,10nm,0.9s
D25K Kavik River 97.70 19 P Pdif 01 49 15.2 +0.2
baz=294
PPLA Purkeypile 97.74 26 P **P** **01 49 15.4 0.0**
baz=288
BPAW Bear Paw Mtn. 97.88 25 P Pdif 01 49 16.2 +0.3
BPAW Bear Paw Mtn. 97.88 25 P **P** **01 49 15.8 -0.1**
baz=289,SNR=13
F24K Squaw Lake 97.89 21 P Pdif 01 49 16.4 +0.6
F24K Squaw Lake 97.89 21 P Pdif 01 49 16.1 +0.3
baz=292
C26K Camden Bay 97.92 18 P Pdif 01 49 16.4 +0.6
baz=295
I23K Minto, Yukon-K 98.19 23 P Pdif 01 49 17.8 +0.6
baz=290
SKT Skwentna 98.31 27 P **P** **01 49 17.6 -0.2**
baz=288
G24K Hadweenzic Riv 98.34 22 P Pdif 01 49 18.2 +0.4
baz=292
O20K Slope Mountain 98.37 29 P Pdif 01 49 18.4 +0.2
baz=287
TRF Thorofare Moun 98.39 25 P Pdif 01 49 18.9 +0.5
TRF Thorofare Moun 98.39 25 P Pdif 01 49 18.8 +0.4
baz=289
E25K Arctic Village 98.46 20 P Pdif 01 49 18.5 +0.1
baz=294
H24K Noodor Dome 98.52 22 P Pdif 01 49 19.1 +0.4
baz=292
F25K Christian Rive 98.65 20 P Pdif 01 49 19.5 +0.2
baz=294
SUA Susitna One 98.83 27 P Pdif 01 49 20.4 +0.2
baz=289
OHAK Old Harbor 98.84 32 P **P** **01 49 20.0 -0.2**
baz=286
MCK McKinley 98.86 25 P **P** **01 49 20.0 -0.2**
baz=291
Q20K Shuyak Island 98.91 30 P Pdif 01 49 20.6 +0.1
baz=287
POKR Poker Plat Res 98.96 23 P Pdif 01 49 21.2 +0.6
baz=292
M22K Willow 99.02 27 P **Pdif** **01 49 21.3 +0.4**
baz=289
EUNU Eureka 99.04 1 P **Pdif** **01 49 21.1 +0.3**
KDAK Kodiak Island 99.05 31 P **Pdif** **01 49 21.6 +0.5**
baz=286
F26K Sheenjek River 99.12 20 P **Pdif** **01 49 22.0 +0.6**
baz=296
ESDC Sonseca Array 99.22 310 P **Pdif** **01 49 21.6 -0.8**
comp=Z,0.4nm,0.5s,baz=60,slow=3.7,SNR=5.5
ESDC LR LR 02 39 14.0
comp=Z,42nm,18.1s,baz=168,slow=38
comp=Z,0.4nm,0.5s
ILAR Eielson Array 99.31 23 P **Pdif** **01 49 21.1 -1.1**
comp=Z,1.1nm,0.6s,baz=298,slow=4.4,SNR=21
ILAR PP **PP** **01 53 23.1 -2.6**
comp=Z,1.3nm,0.8s,baz=283,slow=7.0,SNR=5.9
ILAR PKKPbc **PKKPbc** **02 05 46.8 -1.9**
comp=Z,1.3nm,0.7s,baz=138,slow=1.7,SNR=13
ILAR LR LR 02 38 30.4
comp=Z,58nm,19.8s,baz=312,slow=38
comp=Z,1.1nm,0.6s
WAT1 Susitna Watana 99.34 25 P **Pdif** **01 49 23.3 +0.8**
baz=291
RC01 Rabbit Creek A 99.42 27 P **Pdif** **01 49 23.3 +0.6**
baz=290
HDA Harding Lake 99.42 24 P **Pdif** **01 49 23.6 +0.9**
baz=293
PMR Palmer 99.52 27 P **Pdif** **01 49 23.7 +0.6**
baz=290
PRP Porcupine Dome 99.54 22 P **Pdif** **01 49 23.9 +0.5**
baz=294
G26K Porcupine Rive 99.58 21 P **Pdif** **01 49 23.9 +0.6**
baz=296
DHY Denali Highway 99.75 25 P **Pdif** **01 49 24.7 +0.3**
baz=292
WAT6 Susitna Watana 99.78 26 P **Pdif** **01 49 24.7 +0.2**
baz=292
SML Sawmill 99.80 26 P **Pdif** **01 49 25.2 +0.7**
baz=291
NEEM North Greenlan 99.98 354 *i* P **Pdif** **01 49 23.6 -1.7**
D28M Stokes Point 100.10 18 P **Pdif** **01 49 26.1 +0.5**
baz=301
K24K Donnelly Dome 100.13 24 P **Pdif** **01 49 26.6 +0.7**
baz=294
I26K Coal Creek Min 100.53 22 P **Pdif** **01 49 28.3 +0.7**
baz=296
F28M Old Crow 100.61 19 P **Pdif** **01 49 28.3 +0.4**
baz=300
M24K Tolsona, Glenn 100.64 26 P **Pdif** **01 49 28.8 +0.5**
baz=293
H27K Steamboat Moun 100.71 21 P **Pdif** **01 49 29.0 +0.6**
baz=298
J26L Joseph Creek 100.73 23 P **Pdif** **01 49 28.5 -0.1**
baz=296
SCRK Sand Creek 100.78 24 P **Pdif** **01 49 28.7 -0.2**
baz=295
E29M Blow River 100.85 18 P **Pdif** **01 49 29.1 +0.2**
baz=302
HARP HAARP 100.96 25 P **Pdif** **01 49 29.8 +0.2**
baz=294
KLU Klutina 100.99 26 P **Pdif** **01 49 30.4 +0.6**
baz=293
EYAK Cordova Ski Ar 101.43 27 P **Pdif** **01 49 32.2 +0.5**
baz=293
L26K Log Cabin Wild 101.45 24 P **Pdif** **01 49 32.2 +0.4**
baz=296
K27K Chicken 101.52 23 P **Pdif** **01 49 33.0 +1.0**
baz=297
I28M Miner Creek 101.66 21 P **Pdif** **01 49 33.3 +0.6**
baz=299
H29M Whitestone 101.83 20 P **Pdif** **01 49 33.6 +0.2**
baz=301
F30M Barrier River 101.94 19 P **Pdif** **01 49 33.7 -0.2**
baz=304
A36M Sachs Harbour 102.02 13 P **Pdif** **01 49 33.8 -0.2**
baz=315
G30M tAoh Zraii Nji 102.15 19 P **Pdif** **01 49 35.0 +0.2**
baz=303
INK Inuvik 102.25 18 P **Pdif** **01 49 35.0 -0.1**
baz=306
KAIM Kayak Island 102.29 27 P **Pdif** **01 49 35.1 -0.4**
baz=294
MCARA McCarthy VSAT 102.30 26 P **Pdif** **01 49 35.9 +0.3**
baz=296
EPYK Eagle Plains 102.32 20 P **Pdif** **01 49 35.5 -0.1**
baz=303
M27K Edge Creek, AK 102.36 25 P **Pdif** **01 49 36.1 +0.1**
baz=297
DAWY Dawson 102.54 23 P **Pdif** **01 49 36.6 0.0**
baz=300
F31M Tsiigehtchic 102.69 18 P **Pdif** **01 49 36.9 -0.2**
baz=306
BGLC Bering Glacier 102.73 27 P **Pdif** **01 49 36.6 -0.9**
baz=295
BVCY Beaver Creek 102.75 24 P **Pdif** **01 49 37.8 +0.2**
baz=298
G31M Satah River 102.82 19 P **Pdif** **01 49 37.4 -0.3**
baz=305
I30M Mount Dempster 103.06 21 P **Pdif** **01 49 38.8 -0.2**
baz=303
K29M Barlow Dome 103.37 22 P **Pdif** **01 49 40.5 +0.1**
baz=301
J30M Hart River 103.42 21 P **Pdif** **01 49 40.7 0.0**
baz=303
H31M Peel River 103.44 20 P **Pdif** **01 49 40.3 -0.3**
baz=305
L29M L29M 103.51 23 P **Pdif** **01 49 41.2 +0.2**
baz=301
M29M Somme Creek 103.72 24 P **Pdif** **01 49 42.0 0.0**
baz=300
YUK8 Steele Glacier 103.75 25 P **Pdif** **01 49 42.8 +0.5**
baz=299

C36M	Paulatuk	104.17	14	P		Pdif	01 49 43.5	-0.1
	baz=316							
M30M	Minto, Yukon	104.31	23	P		Pdif	01 49 45.9	+1.3
	baz=302							
YUK6	Outpost Mounta	104.51	25	P		Pdif	01 49 45.9	+0.2
	baz=300							
FARO	Faro, Yukon	105.84	23	P		PKiKP	01 54 04.9	+1.3
	baz=305							
PLBC	Pleasant Camp	106.12	26	P		PKiKP	01 54 05.2	+1.1
	baz=301							
S31K	Pelican	106.96	27	P		PKiKP	01 54 06.5	+0.8
	baz=301							
P33M	Teslin, Yukon	107.21	24	P		PKiKP	01 54 06.7	+0.5
	baz=305							
SIT	Sitka	107.85	28	P		PKiKP	01 54 08.1	+0.8
	baz=302							
Q32M	Nakina River	108.16	25	P		PKiKP	01 54 09.3	+1.1
	baz=305							
R33M	Jennings River	108.45	24	P		PKiKP	01 54 09.5	+0.9
	baz=306							
U33K	Whale Pass	109.39	28	P		PKiKP	01 54 11.3	+1.1
	baz=304							
DLBC	Dease Lake	109.42	25	P		PKiKP	01 54 12.1	+1.7
	baz=307							
T35M	Bob Quinn	110.19	26	P		PKiKP	01 54 12.4	+0.6
	baz=306							
TBI	Tubuai	110.29	114	eLR		LR	02 27 05.1	
	comp=Z,1µm,35.0s							
PPT2	Papeete2	110.87	108	eLR		LR	02 27 05.8	
	comp=Z,417nm,36.0s							
PPT2				eLR		LR	02 27 09.5	
	comp=Z,286nm,35.5s							
TOAD	Toad River Com	111.09	23	P		PKiKP	01 54 14.5	+1.1
	baz=312							
YKA	Yellowknife Ar	111.91	16	Pdiff		Pdif	01 50 18.3	0.0
	comp=Z,0.1nm,0.4s,baz=351,slow=24,SNR=3.5							
YKA				PKiKP		PKiKP	01 54 14.2	-0.6
	comp=Z,0.9nm,0.7s,baz=314,slow=2.1,SNR=11							
YKA				PP		PP	01 54 57.3	-1.1
	comp=Z,1.5nm,0.9s,baz=327,slow=7.4,SNR=7.3							
YKA				PKKPbc		PKKPbc	02 05 08.3	-1.7
	comp=Z,0.7nm,0.8s,baz=142,slow=3.3,SNR=12							
EDM	Edmonton	119.74	22	PKPdf		PKiKP	01 54 30.4	+0.1
EDM	Edmonton	119.74	22	PKIKP		PKiKP	01 54 30.4	+0.1
LTY	Liberty	120.92	30			PKiKP	01 54 33.0	+0.1
NEW	Newport	121.93	28	PKPdf		PKiKP	01 54 35.3	+0.5
NEW	Newport	121.93	28	PKIKP		PKiKP	01 54 35.3	+0.5
NEW	Newport	121.93	28	P		PKiKP	01 54 34.9	+0.1
	baz=316							
FFC	Flin Flon	121.94	14	PKPdf		PKiKP	01 54 34.6	+0.1
FFC	Flin Flon	121.94	14	PKIKP		PKiKP	01 54 34.7	+0.1
HAWA	Hanford	122.08	30	PKPdf		PKiKP	01 54 35.6	+0.6
E08A	Dider Farm, El	122.25	30	PKPdf		PKiKP	01 54 36.3	+1.0
SCHQ	Schefferville	123.17	350	PKP		PKPdf	01 54 36.8	+0.1
	comp=Z,5.6nm,0.7s,baz=36,slow=3.3,SNR=8.9							
SCHQ				PKKPbc		PKKPab	02 04 28.1	-0.2
	comp=Z,1.6nm,0.9s,baz=220,slow=3.8,SNR=4.3							
F10A	Beach Ranch, E	123.53	29	PKPdf		PKiKP	01 54 38.2	+0.2
J08A	Circle Bar Ran	124.69	32	PKPdf		PKiKP	01 54 41.3	+0.8
PLID	Pearl Lake	124.76	29	PKPdf		PKiKP	01 54 40.9	+0.2
BPMT	Black Pine Rid	124.97	27			PKiKP	01 54 41.5	+0.4
LYMT	Lyon Mountain	125.07	26			PKiKP	01 54 41.8	+0.5
WVOR	Wild Horse Val	125.23	33	PKIKP		PKiKP	01 54 42.2	+0.6
EGMT	Eagleton	125.28	23	PKPdf		PKiKP	01 54 41.7	+0.2
EGMT	Eagleton	125.28	23	P		PKPdf	01 54 41.3	+0.2
	baz=324							
AFDM	Forest Hills D	126.09	38	PKPdf		PKiKP	01 54 44.1	+0.8
BOZ	Bozeman (W)	126.42	26			PKiKP	01 54 44.5	+0.6
BOZ	Bozeman (W)	126.42	26	PKIKP		PKiKP	01 54 44.5	+0.6
BOZ	Bozeman (W)	126.42	26	P		PKPdf	01 54 43.7	+0.2
	baz=321,SNR=8.5							
HLID	Hailey	126.65	30	PKPdf		PKiKP	01 54 44.9	+0.4
HLID	Hailey	126.65	30	P		PKiKP	01 54 44.5	+0.1
	baz=317,SNR=6.1							
DGMT	Dagmar	126.90	19	P		PKPdf	01 54 44.2	+0.1
	baz=331,SNR=7.3							
DGMT	Dagmar	126.90	19	P		PKiKP	01 54 44.8	+0.2
	baz=331,SNR=7.3							
YHL	Hebgen Lake	127.20	27			PKiKP	01 54 45.9	+0.3
ULM	Lac du Bonnet	127.48	12	PKPdf		PKPdf	01 54 45.0	-0.1
ULM	Lac du Bonnet	127.48	12	PKIKP		PKPdf	01 54 45.0	-0.1
ULM	Lac du Bonnet	127.48	12	PKP		PKPdf	01 54 45.0	-0.1
	comp=Z,1.8nm,0.7s,baz=350,slow=2.6,SNR=53							
LAO	LASA Array	127.73	22	PKPdf		PKiKP	01 54 47.0	+0.6
LAO	LASA Array	127.73	22	P		PKiKP	01 54 46.3	-0.1
	baz=328,SNR=17							
LAO	LASA Array	127.73	22	P		PKiKP	01 54 46.8	+0.5
	baz=328							
KVN	Kaiserville	127.76	36	PKPdf		PKiKP	01 54 47.3	+0.5
KVN	Kaiserville	127.76	36	PKIKP		PKiKP	01 54 47.3	+0.5
RYN	Ryan	127.78	37			PKiKP	01 54 47.1	+0.2
RLMT	Red Lodge	127.82	25	PKPdf		PKiKP	01 54 47.8	+0.9
RLMT	Red Lodge	127.82	25	P		PKiKP	01 54 46.7	-0.1
	baz=324							
H17A	Grant Village	127.83	26	P		PKiKP	01 54 48.5	+1.6
	baz=322,SNR=6.1							
NVAR	Mina Array Bea	128.04	37	PKP		PKiKP	01 54 48.0	+0.5
	comp=Z,5.3nm,0.8s,baz=282,slow=2.2,SNR=33							
NVAR				pPKP		pPKPdf	01 55 08.6	+0.1
	comp=Z,4.9nm,0.9s,baz=289,slow=1.7,SNR=6.4							
NV11	Mina Array Sit	128.13	37	PKPdf		PKiKP	01 54 47.5	-0.1
FXWY	Fox Creek	128.21	27			PKiKP	01 54 48.3	+0.6
ELK	Elko	128.24	33	PKPdf		PKiKP	01 54 48.5	+0.7
ELK	Elko	128.24	33	PKIKP		PKiKP	01 54 48.5	+0.7
MOOW	Moose Ponds	128.26	27	PKPdf		PKiKP	01 54 48.1	+0.4
TPAW	Teton Pass	128.36	27			PKiKP	01 54 47.9	-0.1
LOHW	Long Hollow	128.43	27			PKiKP	01 54 48.5	+0.4
REDW	Red Top Meadow	128.51	27			PKiKP	01 54 48.6	+0.4
HVU	Hansel Valley	128.78	30			PKiKP	01 54 49.5	+0.7
HVU	Hansel Valley	128.78	30	PKIKP		PKiKP	01 54 49.5	+0.7
MDND	Maddock	128.83	16	PKPdf		PKiKP	01 54 48.7	+0.2
MDND	Maddock	128.83	16	P		PKiKP	01 54 48.4	-0.1
	baz=336							
MDND	Maddock	128.83	16	P		PKPdf	01 54 48.1	+0.3
	baz=336,SNR=6.8							
SMMC	Simmler	128.90	41	P		PKiKP	01 54 49.0	0.0
	baz=307							
VES	Vestal, Richgr	129.18	40	P		PKPdf	01 54 49.1	+0.3
	baz=308							
LCH	Last Change Ra	129.21	38			PKiKP	01 54 50.0	+0.3
PKM	Mcpherson Peak	129.27	42	P		PKPdf	01 54 49.4	+0.1
	baz=306							
BGU	Big Grassy Mou	129.28	31			PKiKP	01 54 50.2	+0.4
AGMN	Agassiz Nation	129.33	13			PKPdf	01 54 48.6	-0.1
AGMN	Agassiz Nation	129.33	13	P		PKPdf	01 54 48.8	+0.1
	baz=341							
AGMN	Agassiz Nation	129.33	13	P		PKPdf	01 54 48.2	-0.6
	baz=341							
CWC	Cottonwood Cre	129.44	39	P		PKPdf	01 54 49.9	+0.4
	baz=309							
HWUT	Hardware Ranch	129.51	29	PKPdf		PKPdf	01 54 49.5	0.0
GRAC	Grapevine Rang	129.53	38	P		PKiKP	01 54 50.5	+0.3
	baz=310							
BW06	Boulder Array	129.56	27	P		PKiKP	01 54 50.2	-0.2
	baz=322							
PDAR	Pinedale Array	129.56	27	PKPdf		PKiKP	01 54 50.2	-0.2
PDAR	Pinedale Array	129.56	27	PKhKP		PKPpre	01 54 40.9	
	comp=Z,0.5nm,0.7s,baz=111,slow=3.3,SNR=2.9							
PDAR				PKP		PKPdf	01 54 50.0	+0.4
	comp=Z,3.5nm,0.8s,baz=202,slow=1.1,SNR=21							
PDAR				SKPbc		SKPab	01 58 03.4	-1.0
	comp=Z,1.2nm,0.9s,baz=343,slow=1.5,SNR=4.9							
SBC	Santa Barbara	129.60	42	P		PKiKP	01 54 50.8	+0.5
	baz=306							
ISA	Isabella, Lake	129.68	40	P		PKiKP	01 54 50.9	+0.2
	baz=308							
R11B	Troy Canyon, C	129.70	35	PKPdf		PKiKP	01 54 51.1	+0.4
R11B	Troy Canyon, C	129.70	35	P		PKiKP	01 54 50.7	0.0
	baz=313							
B35A	Bob, Littlefor	129.71	11	P		PKPdf	01 54 48.9	-0.5
	baz=344							
ARVC	Arvin	129.78	41	P		PKiKP	01 54 51.3	+0.5
	baz=308							
DUG	Dugway, Tooele	129.93	32	PKPdf		PKiKP	01 54 52.1	+1.0
DUG	Dugway, Tooele	129.93	32	PKIKP		PKiKP	01 54 52.1	+1.0
DUG	Dugway, Tooele	129.93	32	P		PKiKP	01 54 51.5	+0.4
	baz=317							
MPMC	Manual Prospec	130.06	39	P		PKiKP	01 54 51.6	+0.1
	baz=310							
SNCC	San Nicolas Is	130.43	43	P		PKPdf	01 54 51.7	+0.4
	baz=306							
EDW2	Edwards Air Fo	130.47	40	P		PKiKP	01 54 52.2	0.0
	baz=308							
NLU	North Lily Min	130.49	31	PKPdf		PKiKP	01 54 52.2	-0.1
EYMN	Ely	130.50	9	PKPdf		PKiKP	01 54 51.6	-0.2
EYMN	Ely	130.50	9	P		PKiKP	01 54 51.7	-0.1
	baz=346,SNR=13							
EYMN	Ely	130.50	9	P		PKPdf	01 54 50.7	-0.2
	baz=346							
BSUT	Blindstream Ca	130.72	30	PKPdf		PKiKP	01 54 53.5	+0.5
RSSD	Black Hills	130.72	22	PKPdf		PKPdf	01 54 52.0	+0.3
RSSD	Black Hills	130.72	22	PKIKP		PKPdf	01 54 52.1	+0.3
RSSD	Black Hills	130.72	22	P		PKPdf	01 54 52.2	+0.5
	baz=329							
RSSD	Black Hills	130.72	22	P		PKPdf	01 54 51.6	-0.1
	baz=329							
GSC	Goldstone, Bar	130.96	39	P		PKiKP	01 54 53.2	0.0
	baz=310							
K22A	Casper	130.98	25			PKiKP	01 54 53.0	-0.2
K22A	Casper	130.98	25	P		PKiKP	01 54 52.8	-0.3
	baz=326							
K22A	Casper	130.98	25	P		PKPdf	01 54 52.2	-0.1
	baz=326							
VLDQ	Val d'Or	131.04	357	PKPdf		PKPdf	01 54 51.7	-0.2
SHPR	Sheep Range	131.19	37			PKiKP	01 54 53.8	0.0
TUQ	Turquoise Moun	131.43	38	P		PKiKP	01 54 54.3	0.0
	baz=311							
RWWY	Rawlins	131.47	26			PKPdf	01 54 53.5	+0.1
MVU	Marysvale	131.47	33			PKiKP	01 54 55.1	+0.7
MSU	Marysvale	131.49	33	PKPdf		PKiKP	01 54 54.1	-0.3
MSU	Marysvale	131.49	33	PKIKP		PKiKP	01 54 54.1	-0.3
F33A	5 Mile Ranch,	131.55	14	PKPdf		PKPdf	01 54 53.2	+0.2
F33A	5 Mile Ranch,	131.55	14	P		PKPdf	01 54 53.3	+0.2
	baz=340,SNR=9.3							
P18A	Preston Nutter	131.66	30			PKPdf	01 54 54.1	+0.3
Q16A	Castle Valley	131.72	31	PKPdf		PKiKP	01 54 54.5	-0.3
D41A	Chassel	131.77	7	P		PKPdf	01 54 53.5	+0.2
	baz=350							
MURC	Murrieta	131.78	41	P		PKiKP	01 54 55.1	+0.3
	baz=308							
E38A	The Farm, Brul	131.79	10	P		PKPdf	01 54 53.2	-0.2
	baz=346							
V12A	Nelson	131.90	37	PKPdf		PKiKP	01 54 55.8	+0.7
SRU	San Rafael Swe	131.91	31	PKPdf		PKiKP	01 54 55.0	-0.2
SRU	San Rafael Swe	131.91	31	PKIKP		PKiKP	01 54 55.0	-0.2
GMRC	Granite Mounta	132.02	39	P		PKiKP	01 54 55.3	-0.1
	baz=311							
SUSD	Miller	132.13	17	P		PKiKP	01 54 55.0	-0.2
	baz=336							
F36A	Milaca	132.14	12	P		PKPdf	01 54 53.8	-0.3
	baz=343							
PKCU	Pink Cliffs	132.18	34			PKiKP	01 54 56.7	+0.7
O20A	White River Ci	132.25	28	PKPdf		PKiKP	01 54 56.0	+0.1
O20A	White River Ci	132.25	28	P		PKiKP	01 54 55.5	-0.3
	baz=322							
BELC	Belle Mtn. Jos	132.30	40	P		PKiKP	01 54 55.8	-0.2
	baz=310							
PHWY	Pilot Hill	132.54	25			PKPdf	01 54 56.0	+0.6
N23A	Red Feather La	132.67	26	PKPdf		PKPdf	01 54 56.0	+0.4
N23A	Red Feather La	132.67	26	P		PKiKP	01 54 56.3	-0.5
	baz=326							
TRQ	Mont Tremblant	132.68	354	PKPdf		PKiKP	01 54 55.9	-0.5
MONP2	Monument Peak	132.72	41	P		PKiKP	01 54 56.9	-0.2
	baz=308							
IRM	Iron Mountain	132.75	39	P		PKiKP	01 54 57.0	+0.2
	baz=311							
PKME	Peaks-Kenny Pk	132.80	349	P		PKiKP	01 54 56.9	+0.4
	baz=16							
E46A	Sault Ste Mari	132.82	3	PKPdf		PKPdf	01 54 55.7	+0.4
E46A	Sault Ste Mari	132.82	3	P		PKPdf	01 54 55.5	+0.1
	baz=356,SNR=13							
BC3	Big Chuckawall	132.87	40	P		PKiKP	01 54 56.9	-0.3
	baz=310							
SPMN	Marine on St.	132.90	11	P		PKiKP	01 54 56.8	0.0
	baz=344							
IKP	In-Ko-Pah, Jac	133.08	41	P		PKiKP	01 54 57.3	-0.3
	baz=309							
SWSC	Sam W. Stewart	133.10	41	P		PKiKP	01 54 57.7	+0.2
	baz=309							
PDMCI	Parker Dam,Lak	133.28	38	P		PKiKP	01 54 57.9	+0.1
	baz=312							
G40A	Rib Lake	133.31	9	PKPdf		PKPdf	01 54 56.7	+0.3
G40A	Rib Lake	133.31	9	P		PKPdf	01 54 56.0	-0.4
	baz=348							
K30B	Basset	133.53	19	PKPdf		PKiKP	01 54 57.6	-0.5
K30B	Basset	133.53	19	P		PKPdf	01 54 56.9	0.0
	baz=334							
ISCO	Idaho Springs	133.72	26	PKIKP		PKPdf	01 54 57.8	+0.1
ISCO	Idaho Springs	133.72	26	P		PKPdf	01 54 58.2	+0.5
	baz=325							
I37B	Wauseca	133.94	12	P		PKiKP	01 54 58.3	-0.6
	baz=343,SNR=6.6							
WBO	Williamsburg	133.96	354			PKiKP	01 54 58.3	-0.5
BMNY	Brushton-Moira	134.03	353	P		PKPdf	01 54 57.7	0.0
	baz=9.3							
WUAZ	Wupatki	134.09	35	P		PKiKP	01 54 59.3	-0.3
	baz=316							
OGNE	Ogallala	134.21	22	P		PKPdf	01 54 58.5	+0.2
	baz=330							
LBNH	Lebon	134.27	351	P		PKPdf	01 54 58.2	+0.1
	baz=13							
GLMI	Grayling	134.34	3	P		PKPdf	01 54 58.6	+0.3
	baz=355							
MVCO	Mesa Verde	134.39	31	P		PKPdf	01 54 59.4	+0.5
	baz=320							
Q24A	Divide	134.60	26	P		PKPdf	01 54 59.5	+0.1
	baz=325							
X16A	Lo Mia Camp, P	134.83	36			PKiKP	01 55 00.8	-0.5
BGNE	Belgrade	135.13	18	P		PKPdf	01 55 00.1	+0.2
	baz=336							
W18A	Petrified Fore	135.30	34			PKiKP	01 55 01.7	-0.4
W18A	Petrified Fore	135.30	34	P		PKPdf	01 55 01.3	+0.6
	baz=317							
K38A	Parkersburg	135.38	12			PKiKP	01 55 01.5	-0.3
SDCO	Great Sand Dun	135.44	28	P		PKPdf	01 55 01.5	+0.6
	baz=324							
JFWS	Jewell Farm	135.59	10	P		PKPdf	01 55 01.4	+0.7
	baz=347							
214A	Organ Pipe Nat	135.66	40	P		PKiKP	01 55 02.2	-0.5
	baz=312							
HRV	Adam Dziewonsk	135.89	350	P		PKiKP	01 55 02.4	-0.5
	baz=14							
ALF01	Guarapari-ES	135.90	241	eP		PKiKP	01 55 04.1	+0.6
SCIA	State Center	135.99	13	P		PKPdf	01 55 02.1	+0.6
	baz=343							
L61B	Northampton	136.13	351	P		PKPdf	01 55 01.9	+0.2
	baz=12							
K57A	Scipio Center	136.33	355			PKPdf	01 55 03.0	+0.9
T25A	Trinidad	136.43	27	P		PKPdf	01 55 03.0	+0.3
	baz=325							
L42A	Oliver, Polo	136.58	9	PKPdf		PKPdf	01 55 02.6	+0.1
TUC	Tucson	136.69	38	P		PKPdf	01 55 03.8	+0.6
	baz=314							
DUB01	Friburgo-RJ	136.77	238	eP		PKiKP	01 55 06.2	+0.9
BINY	Binghamton	136.81	354			PKPdf	01 55 03.6	+0.6
BINY	Binghamton	136.81	354	P		PKPdf	01 55 03.4	+0.5
	baz=7.7							
AAM	Ann Arbor	136.90	3	P		PKPdf	01 55 03.7	+0.6
	baz=356							
L56A	Greenwood	137.00	356	PKPdf		PKPdf	01 55 04.2	+0.8
N38A	Jose South For	137.04	13	PKPdf		PKiKP	01 55 05.0	-0.2
ERPA	Erie	137.13	359	P		PKPdf	01 55 03.6	0.0
	baz=1.8							
ANMO	Albuquerque	137.19	31	P		PKPdf	01 55 04.0	-0.1
	baz=321							
L48A	N Adams	137.22	4	P		PKPdf	01 55 03.9	+0.2
	baz=355,SNR=7.2							
L48A				P		PKPdf	01 55 03.9	+0.2
	baz=355,SNR=7.2							
KSPA	Keystone Colle	137.42	354			PKPdf	01 55 03.9	-0.2
KSU1	Kansas State U	137.72	18	P		PKPdf	01 55 04.4	-0.3
	baz=337							
PAOC	Oil Creek Stat	137.72	358	P		PKPdf	01 55 04.7	0.0
	baz=2.3							
M55A	Ridgway	137.74	357	PKPdf		PKPdf	01 55 05.2	+0.4
M55A	Ridgway	137.74	357	P		PKPdf	01 55 04.9	+0.2
	baz=3.7							
M55A				P		PKPdf	01 55 04.9	+0.2
	baz=3.7							
M53A	Wi Miller and	137.82	359	P		PKPdf	01 55 04.9	+0.1
	baz=0.8							
HDIL	Hopedale	138.05	9	P		PKPdf	01 55 05.5	+0.2
	baz=348							
P38A	Dawn	138.08	14	P		PKPdf	01 55 05.1	-0.2
	baz=342							
N58A	Sunbury	138.22	355			PKPdf	01 55 06.2	+0.6
N58A	Sunbury	138.22	355	P		PKPdf	01 55 05.8	+0.2
	baz=6.8							
N58A				P		PKPdf	01 55 05.8	+0.2
	baz=6.8							
N49A	Columbus Grove	138.25	3			PKPdf	01 55 05.8	+0.1
121A	Cookes Peak, D	138.30	35	P		PKPdf	01 55 06.3	+0.1
	baz=318							
N53A	Lisbon	138.45	360			PKPdf	01 55 06.5	+0.4
N53A	Lisbon	138.45	360	P		PKPdf	01 55 06.4	+0.4
	baz=0.6							
N53A				P		PKPdf	01 55 06.4	+0.4
	baz=0.6							
PANJ	Princeton	138.46	353	P		PKPdf	01 55 06.6	+0.6
	baz=9.8							
SSPA	Standing Stone	138.51	356			PKPdf	01 55 06.9	+0.7
SSPA	Standing Stone	138.51	356	P		PKPdf	01 55 06.1	0.0
	baz=5.0							
SFIN	Lafayette	138.53	7	P		PKPdf	01 55 05.9	-0.3
	baz=351							
O48B	Farmland	138.84	5	P		PKPdf	01 55 06.2	-0.6
	baz=354							
O48B	Farmland	138.84	5	P		PKPdf	01 55 06.5	-0.3
	baz=354							
ACSO	Alum Creek Sta	139.00	2	P		PKPdf	01 55 06.7	-0.4
	baz=357							
ACSO	Alum Creek Sta	139.00	2	P		PKPdf	01 55 07.2	+0.1
	baz=357							
O53A	New Philadelph	139.01	0			PKPdf	01 55 07.0	-0.2
O53A	New Philadelph	139.01	0	P		PKPdf	01 55 06.9	-0.2
	baz=0.0							
MVL	Millersville	139.02	354			PKPdf	01 55 07.7	+0.6
O54A	Avella	139.07	359			PKPdf	01 55 07.7	+0.5
O52A	Adamsville	139.14	1			PKPdf	01 55 07.7	+0.4
O52A	Adamsville	139.14	1	P		PKPdf	01 55 07.2	-0.2
	baz=359							
O52A				P		PKPdf	01 55 07.2	-0.2
	baz=359							
PLCA	Paso Flores	139.23	192	PKhKP		PKPpre	01 55 00.9	
	comp=Z,4.0nm,0.9s,baz=254,slow=4.0,SNR=5.0							
AMTX	Amarillo	139.53	26	P		PKPdf	01 55 08.0	-0.3
	baz=328							
MCWV	Mont Chateau	139.58	358	P		PKPdf	01 55 07.9	-0.2
	baz=2.1							
P49A	Miami Univ. Ec	139.60	4	P		PKPdf	01 55 07.8	-0.3
	baz=355							
P52A	Corning	139.62	1	P		PKPdf	01 55 07.8	-0.5
	baz=359							
R40A	Maddies Statio	139.65	13	P		PKPdf	01 55 08.3	0.0
	baz=343,SNR=6.5							
P57A	Homestead Farm	139.67	356	PKPdf		PKPdf	01 55 09.2	+0.9
T35A	Sooner Cattle	139.75	19			PKPdf	01 55 09.3	+0.8
MSTX	Muleshoe	139.79	28	P		PKPdf	01 55 09.0	+0.1
	baz=326							
CCM	Cathedral Cave	140.11	12	P		PKPdf	01 55 09.1	0.0
	baz=344							
MNTX	Cornudas Mount	140.26	33	P		PKPdf	01 55 09.6	0.0
	baz=320							
Q54A	Coxs Mills	140.27	360	P		PKPdf	01 55 09.6	+0.2
	baz=0.6							
Q54A				P		PKPdf	01 55 09.6	+0.2
	baz=0.6							
WCI	Wyandotte Cave	140.75	6	P		PKPdf	01 55 10.0	-0.3
	baz=352							
U38A	Gravette	140.84	17	P		PKPdf	01 55 10.8	+0.2
	baz=339							
S44A	Carbondale	140.85	10	P		PKPdf	01 55 10.8	+0.3
	baz=347							
WMOK	Wichita Mounta	140.88	23	P		PKPdf	01 55 03.1	-7.5
	baz=332,SNR=9.3							
TUL3	Leonard	140.90	19			PKPpre	01 55 03.8	
TUL3						PKPdf	01 55 11.0	+0.3
TUL3	Leonard	140.90	19	P		PKPdf	01 55 10.5	-0.1
	baz=337							
TUL3	Leonard	140.90	19	P		PKPdf	01 55 03.3	-7.4
	baz=337							
W35A	Tecumseh	141.22	21			PKPpre	01 55 05.5	
U40A	Yellville	141.34	15	P		PKPdf	01 55 04.4	-7.0
	baz=341,SNR=7.1							
U40A				P		PKPdf	01 55 04.4	-7.0
	baz=341,SNR=7.1							
S51A	Beattyville	141.55	3	P		PKPdf	01 55 06.5	-5.3
	baz=356,SNR=8.5							
S51A				P		PKPdf	01 55 06.5	-5.3
	baz=356,SNR=8.5							
RODS	Rosario do Sul	141.72	218	eP		PKiKP	01 55 14.4	-0.8
ITAB	Concordia	141.77	224	eP		PKiKP	01 55 14.4	-0.9
T47A	Sharon Grove	141.87	8	P		PKPdf	01 55 07.9	-4.5
	baz=350							
BLA	Blacksburg	142.04	359	P		PKPdf	01 55 12.8	+0.1
	baz=1.3							
T50A	Nancy	142.08	5	P		PKPdf	01 55 07.1	-5.7
	baz=354							
T50A				P		PKPdf	01 55 07.1	-5.7
	baz=354							
ABTX	Abilene, Hawle	142.34	26	P		PKPdf	01 55 13.6	+0.2
	baz=329							
ABTX	Abilene, Hawle	142.34	26	P

X58A	Rowland	144.65	357			PKPbc	01 55 16.2	+0.1
X58A	Rowland baz=3.3,SNR=5.6	144.65	357	P		PKPbc	01 55 16.4	+0.3
X58A	baz=3.3,SNR=5.6			P		PKPbc	01 55 16.4	+0.3
TRCB	Terra Rica	144.75	230		PKPdf	**PKPdf**	**01 55 17.6**	**-0.3**
435B	Jarrell	144.81	25			**PKPab**	**01 55 16.7**	**0.0**
435B	Jarrell baz=331	144.81	25	P		**PKPab**	**01 55 16.4**	**-0.4**
MCR1	Marechal Candi	144.82	226	*eP*		**PKPdf**	**01 55 18.0**	**+0.1**
JSC	Jenkinsville	144.97	0			**PKPab**	**01 55 17.0**	**-0.2**
JSC	Jenkinsville	144.97	0	PKIKP		**PKPbc**	**01 55 17.0**	**-0.2**
JSC	Jenkinsville baz=360,SNR=11	144.97	0	P		**PKPab**	**01 55 17.0**	**-0.2**
HODGE	Hodges	145.00	2			**PKPab**	**01 55 17.2**	**-0.2**
HODGE	Hodges baz=358,SNR=18	145.00	2	P		**PKPab**	**01 55 17.1**	**-0.2**
Y49A	Blount Mountai	145.04	8			**PKPbc**	**01 55 17.3**	**-0.2**
Y49A	Blount Mountai baz=351,SNR=86	145.04	8	P		**PKPbc**	**01 55 17.0**	**-0.5**
NATX	Nacogdoches	145.07	20			**PKPdf**	**01 55 17.9**	**-0.1**
NATX	Nacogdoches baz=336	145.07	20	P		**PKPbc**	**01 55 17.3**	**-0.3**
NATX	Nacogdoches baz=336,SNR=9.7	145.07	20	P		**PKPdf**	**01 55 18.0**	**-0.1**
Y60A	Bolivia	145.13	356			**PKPdf**	**01 55 18.2**	**+0.1**
Y60A	Bolivia baz=5.3,SNR=19	145.13	356	P		**PKPdf**	**01 55 18.2**	**+0.1**
Y60A	baz=5.3,SNR=19			P		**PKPdf**	**01 55 18.2**	**+0.1**
143A	Socs Landing, baz=342,SNR=12	145.18	15	P		**PKPdf**	**01 55 18.6**	**+0.3**
Y57A	Sumter	145.22	359			**PKPab**	**01 55 18.2**	**0.0**
Y57A	Sumter baz=1.5,SNR=21	145.22	359	P		**PKPab**	**01 55 18.1**	**0.0**
Y57A	baz=1.5,SNR=21			P		**PKPab**	**01 55 18.1**	**0.0**
Y52A	Lilburn	145.28	4			**PKPdf**	**01 55 18.6**	**+0.2**
Y52A	Lilburn baz=355,SNR=80	145.28	4	P		**PKPdf**	**01 55 18.5**	**0.0**
Y52A	baz=355,SNR=80			P		**PKPdf**	**01 55 18.5**	**0.0**
Y58A	Scranton	145.31	358			**PKPdf**	**01 55 18.9**	**+0.4**
Y58A	Scranton baz=2.7,SNR=27	145.31	358	P		**PKPdf**	**01 55 18.5**	**+0.1**
Y58A	baz=2.7,SNR=27			P		**PKPdf**	**01 55 18.5**	**+0.1**
Z47A	Carrollton	145.44	10			**PKPdf**	**01 55 18.5**	**-0.1**
Z47A	Carrollton baz=348,SNR=27	145.44	10	P		**PKPdf**	**01 55 18.6**	**-0.1**
SMTB	Santa Maria do	145.63	256	*eP*		**PKPab**	**01 55 21.8**	**+1.5**
Z51A	Franklin	145.72	6			**PKPbc**	**01 55 19.6**	**-0.1**
Z51A	Franklin baz=353,SNR=30	145.72	6	P		**PKPbc**	**01 55 19.7**	**0.0**
GOGA	Godfrey	145.77	3			**PKPbc**	**01 55 19.9**	**+0.2**
GOGA	Godfrey	145.77	3	PKP2		**PKPbc**	**01 55 20.0**	**+0.2**
GOGA	Godfrey baz=356	145.77	3	P		**PKPbc**	**01 55 19.6**	**-0.2**
GOGA	Godfrey baz=356,SNR=74	145.77	3	P		**PKPbc**	**01 55 19.8**	**0.0**
LRAL	Lakeview Retre baz=350	145.77	9	P		**PKPdf**	**01 55 19.3**	**0.0**
LRAL	Lakeview Retre baz=350,SNR=61	145.77	9	P		**PKPdf**	**01 55 19.2**	**0.0**
146A	Union baz=346,SNR=43	145.79	12	P		**PKPab**	**01 55 20.5**	**+0.2**
CPUP	Villa Florida comp=Z,58nm,0.9s,baz=116,slow=2.1,SNR=134	145.87	220	PKPbc		**PKPab**	**01 55 21.2**	**+0.4**
CPUP	comp=Z,32nm,0.9s,baz=130,slow=3.5,SNR=5.3			pPKPbc	pPKPab		01 55 42.0	+0.1
CPUP	Villa Florida	145.87	220	*eP*		**PKPab**	**01 55 21.6**	**+0.8**
VBMS	Vicksburg baz=343,SNR=8.9	145.87	14	P		**PKPab**	**01 55 20.4**	**-0.1**
VBMS	Vicksburg baz=343,SNR=8.9	145.87	14	P		**PKPbc**	**01 55 20.0**	**0.0**
EF01	Eagle Ford 01	145.88	27	PKPdf		**PKPbc**	**01 55 20.1**	**-0.1**
HAW	Hawthorne Fire baz=359,SNR=32	145.88	1	P		**PKPbc**	**01 55 19.8**	**-0.3**
833A	Chaparral WMA, baz=326	146.07	30	P		**PKPab**	**01 55 21.6**	**+0.1**
833A	Chaparral WMA, baz=326,SNR=14	146.07	30	P		**PKPbc**	**01 55 20.9**	**+0.1**
NHSC	New Hope baz=1.9,SNR=9.4	146.13	358	P		**PKPbc**	**01 55 20.9**	**+0.1**
NHSC	New Hope baz=1.9,SNR=9.4	146.13	358	P		**PKPdf**	**01 55 20.0**	**+0.1**
HKT	Hockley	146.26	23	PKP2		**PKPbc**	**01 55 21.6**	**+0.3**
735A	Kenedy baz=329,SNR=13	146.38	27	P		**PKPab**	**01 55 22.6**	**0.0**
152A	Waverly Hall baz=354,SNR=39	146.41	5	P		**PKPdf**	**01 55 20.7**	**+0.3**
AMBA	Amambai (Brazi	146.44	227	*eP*		**PKPab**	**01 55 23.0**	**-0.1**
PEL	Peldehue	146.47	196	PKP2		**PKPbc**	**01 55 22.4**	**+0.4**
441A	DeRidder baz=338,SNR=5.3	146.49	19	P		**PKPab**	**01 55 23.1**	**+0.1**
154A	Montrose baz=357,SNR=9.0	146.58	3	P		**PKPbc**	**01 55 22.3**	**+0.1**
346A	Big Creek Wild baz=345,SNR=20	146.91	13	P		**PKPbc**	**01 55 23.7**	**+0.5**
250A	Grady baz=351,SNR=27	146.91	8	P		**PKPdf**	**01 55 21.9**	**+0.7**
255A	Hazlehurst baz=358,SNR=12	147.29	2	P		**PKPbc**	**01 55 23.3**	**-0.9**
352A	Blakely baz=353,SNR=16	147.57	6	P		**PKPdf**	**01 55 23.4**	**+1.1**
BRAL	Brewton baz=349,SNR=9.3	147.59	9	P		**PKPbc**	**01 55 25.6**	**+0.6**
BRAL	Brewton baz=349,SNR=9.3	147.59	9	P		**PKPbc**	**01 55 24.1**	**-0.9**
TIGA	Tifton baz=356,SNR=6.5	147.72	4	P		**PKPbc**	**01 55 25.6**	**+0.2**
TIGA	Tifton baz=356,SNR=6.5	147.72	4	P		**PKPdf**	**01 55 23.4**	**+0.8**
TICA	Tres Isletas	147.72	217	*eP*		**PKPbc**	**01 55 24.9**	**-0.7**
AQDB	Aquidauana	148.41	230	*eP*		**PKPdf**	**01 55 25.8**	**+1.8**
456A	Hilliard baz=358,SNR=6.1	148.50	1	P		**PKiKP**	**01 55 28.4**	**-0.6**
MURT	Porto Murtinho	149.13	227	*eP*		**PKPdf**	**01 55 26.6**	**+1.5**
BDQN	Bodoquena, MS	149.22	229	*eP*		**PKPdf**	**01 55 26.2**	**+0.9**
656A	Willston baz=357,SNR=9.8	149.84	2	P		**PKPbc**	**01 55 31.2**	**+0.3**
SALV	Santo Antonio	150.78	238	*eP*		**PKPdf**	**01 55 30.0**	**+2.1**
MCPB	Macapa, AP	150.85	271	*eP*		**PKPdf**	**01 55 30.2**	**+2.1**
DWPF	Disney Wildern baz=360	151.12	0	P		**PKPbc**	**01 55 34.0**	**0.0**
DWPF	Disney Wildern baz=360	151.12	0	P		**PKPbc**	**01 55 33.3**	**-0.7**
BBRB	Robore, Bolivi	152.83	229	*eP*		**PKPdf**	**01 55 32.9**	**+2.0**
CLDB	Colider	152.90	248	*eP*		**PKPdf**	**01 55 33.4**	**+2.2**
PDRB	Porto dos Gac	153.50	245	*eP*		**PKPdf**	**01 55 34.4**	**+2.4**
NPGB	Novo Progresso	153.53	256	*eP*		**PKPdf**	**01 55 34.4**	**+2.3**
PTLB	Pontes e Lacer	153.88	235	*eP*		**PKPdf**	**01 55 34.2**	**+1.7**
BBSD	Serra de San D	154.09	230	*eP*		**PKPdf**	**01 55 35.0**	**+2.3**
ITTB	Itaituba	154.34	262	*eP*		**PKPdf**	**01 55 35.0**	**+1.8**
LVC	Limon Verde	155.36	208	*eP*		**PKPdf**	**01 55 36.9**	**+2.1**
VILB	Vilhena	156.01	239	*eP*		**PKPdf**	**01 55 37.6**	**+2.1**
SAML	Samuel	160.38	245	PKPab		**PKPab**	**01 56 22.1**	**+0.2**
SAML	Samuel	160.38	245	PKP2		**PKPab**	**01 56 22.1**	**+0.2**
ETMB	Extrema	162.68	239			**PKPdf**	**01 55 42.7**	**-0.5**
ETMB				PKPab		**PKPab**	**01 56 32.2**	**+0.3**
TEFE	Tefe	163.25	261	*eP*		**PKPdf**	**01 55 45.6**	**+1.8**
BAUV	El Baul	163.62	307			**PKPab**	**01 56 35.2**	**-0.9**
MATN	Matagalpa	165.45	19			**PKPdf**	**01 55 45.3**	**-0.5**
SDV	Santo Domingo	165.65	313	PKPab		**PKPab**	**01 56 44.2**	**-0.9**
SDV	Santo Domingo	165.65	313	*eP*		**PKPdf**	**01 55 48.5**	**+2.4**
BOAB	BOACO BROADBAND	166.98	18			**PKPdf**	**01 55 45.3**	**-0.7**
ACON	Acoyapa	166.59	17			**PKPdf**	**01 55 46.1**	**-0.5**
ACON						**PKPab**	**01 56 48.2**	**-0.5**
ESPN	Las Esperanzas	166.60	13			**PKPab**	**01 56 48.4**	**-0.4**
PEZE	Perez Zeledon,	169.46	13			**PKPab**	**01 57 00.5**	**-1.1**
ROSC	El Rosal comp=Z,12nm,0.7s,baz=153,slow=6.0,SNR=5.4	171.05	310	PKP		**PKPdf**	**01 55 50.1**	**+0.2**

*STR **01** 01:44:14.9±0.5,45˚N±3˚×˚±˚, h2km, MLv2.0/6, Error ellipse: s-maj=0.0km s-min=0.0km az=70.1, preliminary*

LDG 01 01:44:15.1±0.1, 45.42N×6.33E, h2km, Md1.4/2, Ml1.6/2, Error ellipse: s-maj=1.3km s-min=1.1km az=86.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPL	**La Plagne**	**0.30**	**72**	*eP*g	Pg	01 44 21.0	+0.2
LPL	5.8nm,0.3s			*eS*g	Sg	01 44 25.1	+0.4
LPG	**La Plagne**	**0.30**	**76**	*eP*g	Pg	01 44 21.2	+0.2
LPG	5.1nm,0.3s			*eS*g	Sg	01 44 25.4	+0.4
OGMO	**Fort Saint-Gob**	**0.33**	**131**	Pg	Pg	01 44 21.8	+0.4
OGMO				Sg	Sg	01 44 26.8	+1.1
LSD	**Lago del Serru**	**0.57**	**86**	Pg	Pg	01 44 26.0	+0.1
LSD	**Lago del Serru**	**0.57**	**86**	Sg	Sg	01 44 33.0	-0.3
ORIF	**Oris-en-Rattie**	**0.60**	**213**	*eP*g	Pg	01 44 26.2	-0.3
ORIF	2.7nm,0.2s			*eS*g	Sg	01 44 33.5	-0.8
ORIF	**Oris-en-Rattie**	**0.60**	**213**	Pg	Pg	01 44 26.4	-0.1
RRL	**Rocca Remolon**	**0.60**	**147**	Pg	Pg	01 44 24.7	-1.9
MBDF	**Montbardon**	**0.76**	**156**	*eP*g	Pg	01 44 29.8	+0.1
MBDF	0.9nm,0.4s			*eS*g	Sg	01 44 39.6	0.0
OG35	**Corcelles**	**0.82**	**320**	Pg	Pg	01 44 30.6	-0.2
CABF	**La Chapelle**	**1.20**	**352**	*eP*g	Pg	01 44 37.6	-0.5
CABF	**La Chapelle**	**1.20**	**352**	*eP*	Pn	01 44 39.1	+0.1
CABF	0.8nm,0.2s			*eS*g	Sg	01 44 52.7	-1.0
VIVF	**Saint-Julien-l**	**1.30**	**245**	*eS*g	Sg	01 44 56.9	-0.1
	1.7nm,0.4s						

*STR **01** 01:44:28.5±0.5,45˚N±3˚×˚±˚, h3km, MLv1.9/7, Error ellipse: s-maj=0.0km s-min=0.0km az=98.1, preliminary*

LDG 01 01:44:28.5±0.1, 45.42N×6.33E, h2km, Md1.4/2, Ml1.5/2, Error ellipse: s-maj=1.6km s-min=1.3km az=116.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPL	**La Plagne**	**0.30**	**71**	*eP*g	Pg	01 44 34.5	+0.3
LPL	2.4nm,0.2s			*eS*g	Sg	01 44 38.6	+0.5
LPG	**La Plagne**	**0.30**	**75**	*eP*g	Pg	01 44 34.8	+0.4
LPG	2.0nm,0.2s			*eS*g	Sg	01 44 39.0	+0.6
OGMO	**Fort Saint-Gob**	**0.33**	**131**	Pg	Pg	01 44 35.4	+0.6
OGMO				Sg	Sg	01 44 40.0	+0.9
RSL	**Roselend**	**0.34**	**38**	Pg	Pg	01 44 34.9	-0.1
RSL				Sg	Sg	01 44 39.0	-0.4
OGSM	**Saint Maurice**	**0.48**	**293**	Sg	Sg	01 44 45.0	+0.9
LSD	**Lago del Serru**	**0.56**	**86**	Sg	Sg	01 44 46.8	+0.1
LSD	**Lago del Serru**	**0.56**	**86**	Pg	Pg	01 44 39.8	+0.5
ORIF	**Oris-en-Rattie**	**0.60**	**213**	*eP*g	Pg	01 44 39.7	-0.2
ORIF	3.2nm,0.2s			*eS*g	Sg	01 44 47.0	-0.7
ORIF	**Oris-en-Rattie**	**0.60**	**213**	Pg	Pg	01 44 40.3	+0.4
RRL	**Rocca Remolon**	**0.60**	**147**	Pg	Pb	01 44 40.9	-0.9
RRL	**Rocca Remolon**	**0.60**	**147**	Sg	Sg	01 44 48.6	+1.0
CABF	**La Chapelle**	**1.20**	**352**	*eP*g	Pg	01 44 51.1	-0.4
CABF	**La Chapelle**	**1.20**	**352**	*eS*g	Sg	01 45 06.2	-0.9
CABF	**La Chapelle**	**1.20**	**352**	*eP*	Sg	01 45 05.7	-1.4
VIVF	**Saint-Julien-l**	**1.30**	**245**	*eS*g	Sg	01 45 10.5	+0.1
	1.2nm,0.3s						

*STR **01** 01:44:41.7±0.7,45˚N±4˚×˚±˚, h3km, MLv1.9/5, Error ellipse: s-maj=0.0km s-min=0.0km az=101.1, preliminary*

LDG 01 01:44:41.2±0.1, 45.40N×6.34E, h2km, Md1.5/2, Ml1.6/1, Error ellipse: s-maj=3.5km s-min=2.4km az=134.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPL	**La Plagne**	**0.30**	**66**	*eP*g	Pg	01 44 46.0	-1.0
LPL	6.8nm,0.3s			*eS*g	Sg	01 44 50.7	-0.2
LPG	**La Plagne**	**0.30**	**71**	*eP*g	Pg	01 44 47.5	+0.4
LPG	1.8nm,0.2s			*eS*g	Sg	01 44 50.9	-0.2
OGMO	**Fort Saint-Gob**	**0.31**	**128**	Pg	Pb	01 44 48.4	-1.0
OGMO				Sg	Sg	01 44 52.2	+1.2
RSL	**Roselend**	**0.35**	**34**	Pg	Pg	01 44 47.8	-0.1
RSL				Sg	Sg	01 44 52.1	-0.5
LSD	**Lago del Serru**	**0.56**	**83**	Pg	Pb	01 44 52.9	-1.0
ORIF	**Oris-en-Rattie**	**0.58**	**215**	*eP*g	Pg	01 44 52.1	-0.2
ORIF	4.7nm,0.2s			*eS*g	Sg	01 44 58.8	-1.1
ORIF	**Oris-en-Rattie**	**0.58**	**215**	Pg	Pb	01 44 53.4	-0.7
OG35	**Corcelles**	**0.84**	**320**	Pg	Pg	01 44 57.4	0.0
CABF	**La Chapelle**	**1.23**	**352**	*eP*g	Pg	01 45 04.4	-0.3
VIVF	**Saint-Julien-l**	**1.30**	**246**	*eS*g	Sg	01 45 22.4	-0.6
	1.2nm,0.3s						

*IDC **01** 01:49:44.1±12.0,37˚.04N×72˚.29E, h186km±128km, mb2.9/1, mbtmp3.5/5, Error ellipse: s-maj=117.4km s-min=67.6km az=141.0*
*SOME **01** 01:49:46.0,38˚.62N×72˚.42E, h5km*
*NNC **01** 01:49:55.9±7.8,38˚.04N×72˚.20E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=60.3km s-min=48.5km az=173.0*

ISC 01 01:49:49.1±1.8,37˚.6N±0˚.1×71˚.9E±0˚.1, h200km, n13, σ2s04/20, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**4.77**	**343**	*eP*	**Pn**	**01 51 02.2**	**+1.7**
IUG	108nm,0.1s			*eS*	**Sn**	**01 51 57.0**	**0.0**
MRKS	**Merke**	**5.26**	**11**	*eP*	**Pn**	**01 51 06.4**	**-0.4**
MRKS	15nm,0.2s			*eS*	**Sn**	**01 52 04.4**	**-3.8**
KK31	**Karatay Array**	**5.61**	**350**	⇑P	**Pn**	**01 51 14.1**	**+2.9**
KK31	1.7nm,0.2s,baz=155,slow=11,SNR=79 9.8nm,0.6s,baz=162,slow=16,SNR=14			⇓S	**Sn**	**01 52 17.4**	**+1.2**
BRLS	**Borolday**	**5.65**	**345**	*eP*	**Pn**	**01 51 12.2**	**+0.4**
BRLS	5.1nm,0.5s 12nm,0.4s			*eS*	**Sn**	**01 52 14.1**	**-3.1**
CHMS	**Chumysh**	**5.84**	**21**	P	Pn	01 51 20.0	+5.8
CHMS	0.3nm,0.4s 17nm,0.8s			S	**Sn**	**01 52 21.2**	**-0.4**
TKM2	**Tokmak 2**	**6.04**	**27**	⇑P	**Pn**	**01 51 17.6**	**+0.6**
TKM2	1.1nm,0.3s 6.4nm,1.1s			⇑S	**Sn**	**01 52 23.4**	**-3.3**
KST	**Kastek**	**6.29**	**29**	*eP*	**Pn**	**01 51 22.8**	**+2.7**
KST	2.2nm,0.6s 14nm,1.3s			*eS*	**Sn**	**01 52 33.0**	**+0.8**
DGS	**Degeres**	**6.39**	**27**	*eP*	**Pn**	**01 51 23.6**	**+2.2**
DGS	1.4nm,0.4s 5.0nm,0.4s			*eS*	**Sn**	**01 52 33.8**	**-0.7**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=214,slow=11,SNR=1.9	**12.01**	**37**	P	**Pn**	**01 52 32.8**	**-1.2**
KURBB	**Kurchatov Arra** 0.6nm,0.6s,baz=204,slow=9.7,SNR=2.3	**13.88**	**18**	P	**Pn**	**01 52 57.1**	**-0.2**
BVAR	**Borovoye Array** 0.9nm,0.7s,baz=161,slow=9.2,SNR=3.3	**15.47**	**357**	P	**Pn**	**01 53 19.2**	**+2.4**
ZALV	**Zalesovo Beam** 2.2nm,0.3s,baz=209,slow=10,SNR=15	**18.64**	**24**	P	**P**	**01 53 51.5**	**-0.1**
TORD	**Torodi Ar. Bea** 0.4nm,0.9s,baz=47,slow=6.2,SNR=5.0 0.4nm,0.9s	**66.43**	**269**	P	**P**	**02 00 15.7**	**-1.5**

IDC 01 01:57:36.7±3.2, 6.87S×148.46E, h0km, mb3.4/2, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=102.3km s-min=24.9km az=106.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 6.2nm,0.4s,baz=179,slow=9.4,SNR=2.0	**2.83**	**207**	Pn	Pn	01 58 24.3	+1.2
PMG	5.6nm,0.3s,baz=13,slow=18,SNR=4.2			Sn	Sn	01 58 59.5	+1.6
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=52,slow=11,SNR=6.9 0.4nm,0.4s	**18.88**	**225**	P	P	02 01 57.7	-1.2
ASAR	**Alice Springs** 0.9nm,0.6s,baz=51,slow=9.3,SNR=10 0.9nm,0.6s	**21.78**	**218**	P	P	02 02 30.1	-0.2
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=96,slow=4.3,SNR=8.0 0.2nm,0.4s	**79.09**	**320**	P	P	02 09 42.9	-0.2
TORD	**Torodi Ar. Bea** 0.2nm,0.4s,baz=60,slow=4.0,SNR=2.9	**146.70**	**283**	PKPbc	PKPbc	02 17 21.5	-0.1

IDC 01 02:06:22.0±2.1, 4.30S×152.74E, h0km, mb3.9/3, mbtmp3.9/4, ML2.0/1, MS3.1/1, Error ellipse: s-maj=81.5km s-min=34.9km az=137.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 1.3nm,0.3s,baz=243,slow=7.4,SNR=1.7	**7.51**	**227**	Pn	Pn	02 08 14.9	+2.0
PMG	1.1nm,0.3s,baz=270,slow=21,SNR=1.5 3.8nm,0.3s			Sn	Sn	02 09 41.9	+3.1
WRA	**Warramunga Arr** 7.2nm,0.9s,baz=52,slow=10.0,SNR=18 7.2nm,0.9s	**23.73**	**228**	P	P	02 11 36.6	+0.5
ASAR	**Alice Springs** 0.5nm,0.6s,baz=51,slow=9.3,SNR=2.4 0.5nm,0.6s	**26.48**	**222**	P	P	02 12 01.4	+0.2
JOW	**Kunigami** comp=Z,26nm,18.6s,baz=331,slow=36	**38.96**	**324**	LR	LR	02 29 53.7	
QSPA	**South Pole Qui** 1.1nm,1.0s,baz=65,slow=23,SNR=1.9 1.1nm,1.0s	**85.66**	**180**	P	P	02 19 01.2	-1.3
TORD	**Torodi Ar. Bea** 0.2nm,0.4s,baz=81,slow=3.4,SNR=2.1	**150.09**	**289**	PKPbc	PKPbc	02 26 15.2	-0.6

*NEIC **01** 02:21:31.4±3.0, 36˚.57N±0˚.02×120˚.60W±0˚.02, h19km±3km, Error ellipse: s-maj=3.0km s-min=2.7km az=86.0*

NCEDC 01 02:21:31.1±1.7, 36˚.55N±0˚.01×120˚.58W±0˚.01, h15km±2km, ML3.0/24, ML3.0/80(NEIC), Error ellipse: s-maj=2.1km s-min=1.0km az=221.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDRM	**Domengine Ranc**	**0.28**	**142**		Pb	02 21 38.0	+0.2
PWMM	**Westland Maint**	**0.32**	**112**		Pb	02 21 39.1	+0.6
PJUM	**Juniper Ridge**	**0.33**	**182**		Pb	02 21 38.5	-0.1
BBGB	**Big Mountain B**	**0.37**	**274**		Pb	02 21 39.1	-0.2
BBGB					Sb	02 21 45.8	+0.8
BBGB	**Big Mountain B** comp=E,4μm,0.8s	**0.37**	**274**	IAML		02 21 46.3	
BBGB	comp=N,3μm,0.6s			IAML		02 21 51.4	
LRV	**Little Rabbit**	**0.37**	**250**		Pb	02 21 39.3	-0.2
PMPB	**Monarch Peak**	**0.38**	**208**		Pb	02 21 39.5	0.0
PMPB	**Monarch Peak** comp=N,2μm,0.9s	**0.38**	**208**	IAML		02 21 47.5	
PMPB	comp=E,2μm,1.0s			IAML		02 21 48.0	
BBNM	**San Benito**	**0.40**	**264**		Pb	02 21 39.9	+0.1
PPTM	**Peach Tree Val**	**0.46**	**194**		Pb	02 21 40.8	0.0
BPIM	**Pinnacles**	**0.48**	**262**		Pg	02 21 40.7	+0.1
LRC	**Lone Oak Road**	**0.48**	**231**		Pg	02 21 40.9	+0.3
PSMM	**Smith Mountain**	**0.48**	**181**		Pb	02 21 41.6	+0.3
PSMM					Sn	02 21 50.8	-0.9
BVL	**Bear Valley**	**0.49**	**273**		Pb	02 21 41.3	-0.1
BSGM	**Shirttail Gulc**	**0.56**	**256**		Pg	02 21 42.0	-0.1
PHPM	**Hope Ranch**	**0.57**	**182**		Pb	02 21 42.8	0.0
PSAM	**San Ardo**	**0.58**	**205**		Pb	02 21 42.8	-0.1
BJOM	**Mount Johnson**	**0.59**	**277**		Pg	02 21 42.8	0.0
PKD	**Bear Valley Ra**	**0.61**	**177**		Pg	02 21 43.2	+0.2
PKEM	**Kettleman Hill**	**0.62**	**142**		Pb	02 21 44.6	-0.8
PSTM	**Stockdale Moun**	**0.63**	**174**		Pb	02 21 43.6	-0.1
PVCM	**Vineyard Canyo**	**0.63**	**177**		Pb	02 21 43.8	0.0
BJCM	**Johnson Can.**	**0.65**	**270**		Pg	02 21 43.6	-0.3
CTM	**Castle Mountai**	**0.65**	**162**		Pb	02 21 44.7	+0.5
BSLM	**Silva Ranch**	**0.66**	**290**		Pb	02 21 44.5	+0.3
PCCM	**Crazy Canyon**	**0.66**	**226**		Pb	02 21 44.4	+0.1
SCZ	**Santa Cruz**	**0.66**	**274**		Pg	02 21 43.8	-0.2
SCZ					Sb	02 21 53.5	+0.2
PHFM	**Heflinger Ranc**	**0.69**	**168**		Pb	02 21 45.1	+0.4
PHFM					Sn	02 21 56.3	-0.4
PPO	**Portuguese Can**	**0.69**	**182**		Pb	02 21 44.9	+0.1
BSMM	**Soledad Missio**	**0.70**	**256**		Pg	02 21 44.8	0.0
PACP	**Pacheco Peak**	**0.72**	**309**		Pg	02 21 44.5	-0.8
SAO	**San Andreas Ge**	**0.73**	**287**		Pg	02 21 45.3	+0.1
SLD	**San Luis Dam**	**0.73**	**316**		Pg	02 21 45.1	-0.2
PHAM	**Harlan Ranch**	**0.73**	**168**		Pb	02 21 45.8	+0.2
PSRM	**Scobie Ranch**	**0.74**	**161**		Pb	02 21 45.9	+0.3
PWKM	**Work Ranch**	**0.74**	**175**		Pb	02 21 45.9	+0.2
SCKWR	**San Luis Creek**	**0.74**	**328**		Pb	02 21 46.1	+0.4
GHC	**Gold Hill**	**0.74**	**166**		Pg	02 21 45.6	0.0
HULI	**Fort Hunter Li**	**0.75**	**225**		Pb	02 21 45.8	0.0
HPCM	**Pacheco Lake**	**0.75**	**312**		Pg	02 21 45.6	-0.1
FRP	**Fremont Peak**	**0.76**	**286**		Pg	02 21 45.7	-0.2
BSRM	**Salinas Radio**	**0.76**	**279**		Pg	02 21 45.7	-0.2
HSFM	**Saint Francis**	**0.78**	**290**		Pb	02 21 46.9	+0.6
HFEM	**San Felipe**	**0.78**	**303**		Pb	02 21 46.5	+0.1
MHDM	**Hidden Dam**	**0.79**	**44**		Pg	02 21 45.5	-0.9
HAST	**Hastings Reser**	**0.80**	**258**		Pg	02 21 46.4	-0.2
PSNM	**Stone Corral**	**0.80**	**163**		Pg	02 21 46.4	-0.2
PKLM	**Kerr Lake**	**0.80**	**166**		Pb	02 21 46.8	+0.1
PANM	**San Antonio Re**	**0.82**	**199**		Pg	02 21 46.1	-0.8
PMRM	**Maxey Ranch**	**0.82**	**160**		Pg	02 21 46.8	-0.2
PHSB	**Hesperia Broad**	**0.82**	**208**		Pb	02 21 47.4	+0.3
FRI	**Friant**	**0.83**	**58**		Pb	02 21 46.0	-1.1
HBTM	**San Juan Bauti**	**0.83**	**291**		Pg	02 21 47.4	+0.2
MYLM	**Yosemite Lake**	**0.84**	**9**		Pg	02 21 46.4	-0.9
BPCNC	**Pine Canyon**	**0.84**	**272**		Pg	02 21 47.4	0.0
CDC	**Canada Road**	**0.86**	**303**		Pg	02 21 47.9	+0.1
ANZ	**Anzar Road**	**0.88**	**292**		Pg	02 21 48.2	+0.2
TCHL	**Shandon**	**0.88

BHPR	**Bishop**	**1.84**	**65**			Pb	02 22 03.9	-0.7
BCW	**Bitter Crk WRg**	**1.87**	**149**			Pn	02 22 01.9	-0.7
BCW					IAML		02 22 38.5	
	comp=E,113nm,0.5s							
BCW					IAML		02 22 40.5	
	comp=N,98nm,0.6s							
ORC	**Owens River**	**1.88**	**54**			Pb	02 22 04.7	-0.5
CASR	**Casa Diablo Mo**	**1.92**	**57**			Pb	02 22 05.4	-0.4
ISA	**Isabella, Lake**	**1.93**	**117**			Pn	02 22 03.5	+0.1
ISA	**Isabella, Lake**	**1.93**	**117**		IAML		02 22 29.3	
	comp=N,179nm,0.4s							
ISA					IAML		02 22 30.6	
	comp=E,186nm,0.5s							
MFBM	**Five Bridges**	**1.93**	**62**			Pb	02 22 05.7	-0.3
TIN	**Tinemaha, Big**	**1.95**	**74**			Pb	02 22 06.1	-0.3
MGNR	**McGee Canyon**	**1.96**	**50**			Pb	02 22 06.8	+0.1
MCDM	**Chidago Canyon**	**1.98**	**59**			Pb	02 22 06.5	-0.3
BENR	**Benton**	**1.98**	**54**			Pb	02 22 07.2	+0.2
MRCM	**Red Rock Canyo**	**2.00**	**55**			Pb	02 22 07.2	-0.1
CWC	**Cottonwood Cre**	**2.02**	**92**			Pb	02 22 06.2	-1.3
TEJ	**El Tejon**	**2.03**	**130**			Pn	02 22 04.3	-0.4
MLNR	**Milner Canyon**	**2.07**	**59**			Pb	02 22 08.0	-0.5
WAKR	**Walker**	**2.15**	**25**			Pb	02 22 09.1	-0.7
CGO	**Cerro Gordo**	**2.24**	**89**			Pb	02 22 10.4	-1.0
DSP	**Deep Springs**	**2.25**	**68**			Pn	02 22 09.4	+1.8
DSP					IAML		02 22 40.0	
	comp=E,66nm,0.9s							
DSP					IAML		02 22 41.0	
	comp=N,90nm,0.7s							
LHV	**Little Huntoon**	**2.37**	**44**			Pn	02 22 10.1	+0.8
LHV					IAML		02 22 49.5	
	comp=E,96nm,0.6s							
AFDM	**Forest Hills D**	**2.41**	**353**	Pn		Pn	02 22 10.2	+0.3
AFDM					IAML		02 22 47.8	
	comp=E,51nm,0.5s							
AFDM					IAML		02 22 53.7	
	comp=N,43nm,0.7s							
EMB	**Emerald Bay**	**2.45**	**9**			Pn	02 22 10.9	+0.2
LCH	**Last Change Ra**	**2.45**	**73**			Pn	02 22 10.8	+0.1
LCH					IAML		02 22 55.6	
	comp=N,82nm,0.5s							
CCAC	**Calif City Air**	**2.51**	**123**			Pn	02 22 11.3	0.0
CCAC					IAML		02 22 47.3	
	comp=N,69nm,0.6s							
CCAC					IAML		02 23 03.6	
	comp=E,65nm,1.0s							
NVAR	**Mina Array Bea**	**2.61**	**43**			Pn	02 22 13.8	+0.9
GRAC	**Grapevine Rang**	**2.62**	**79**			Pn	02 22 14.2	+1.4
GRAC					IAML		02 22 56.3	
	comp=N,77nm,0.5s							
GRAC					IAML		02 22 59.0	
	comp=E,88nm,0.8s							
RYN	**Ryan**	**2.64**	**38**			Pn	02 22 13.3	0.0
RYN					IAML		02 22 54.3	
	comp=N,66nm,0.4s							
RYN					IAML		02 22 55.7	
	comp=E,78nm,0.6s							
PNTR	**Pine Nut**	**2.65**	**17**	Pn		Pn	02 22 13.3	-0.1
YERR	**Yerington**	**2.65**	**23**			Pn	02 22 13.9	+0.5
YERR					IAML		02 22 59.3	
	comp=N,91nm,0.7s							
NV11	**Mina Array Sit**	**2.69**	**45**			Pn	02 22 15.0	+1.1
GMN	**Gold Mountain**	**2.77**	**73**	Pn		Pn	02 22 15.6	+0.5
GMN					IAML		02 23 08.3	
	comp=N,40nm,0.7s							
QSM	**Queen of Sheba**	**3.06**	**100**	Pn		Pn	02 22 18.2	-0.7
TPH	**Tonopah**	**3.08**	**59**	Pn		Pn	02 22 19.6	+0.3
ORV	**Oroville**	**3.08**	**347**	Pn		Pn	02 22 18.9	-0.3
ORV					IAML		02 23 14.4	
	comp=E,27nm,0.8s							
KVN	**Kaiserville**	**3.17**	**38**			Pn	02 22 21.5	+0.9
GWY	**Greenwater Val**	**3.18**	**95**	Pn		Pn	02 22 21.7	+1.0
GWY					IAML		02 23 12.5	
	comp=E,29nm,2.0s							
GWY					IAML		02 23 13.3	
	comp=N,22nm,0.6s							
WCT	**Wildcat Mounta**	**3.19**	**85**	Pn		Pn	02 22 21.3	+0.6
PAHR	**Pah Rah Range**	**3.29**	**16**	Pn		Pn	02 22 23.9	+1.8
PAHR					IAML		02 23 18.1	
	comp=N,33nm,1.1s							
PAHR					IAML		02 23 18.7	
	comp=E,28nm,1.3s							
GSC	**Goldstone, Bar**	**3.31**	**111**			Pn	02 22 22.2	-0.2
GSC					IAML		02 23 34.4	
	comp=N,19nm,1.1s							
GSC					IAML		02 23 35.0	
	comp=E,22nm,0.8s							
Q09A	**Carvers**	**3.53**	**49**	Pn		Pn	02 22 24.9	-0.6
S11A	**Rachel**	**4.02**	**73**	Pn		Pn	02 22 32.6	+0.4
R11B	**Troy Canyon, C**	**4.36**	**64**	Pn		Pn	02 22 37.0	0.0
SHPR	**Sheep Range**	**4.37**	**89**			Pn	02 22 38.2	+1.2
PRN	**Pahroc Range**	**4.51**	**77**	Pn		Pn	02 22 38.9	-0.1
PRN					IAML		02 23 57.2	
	comp=E,14nm,1.2s							
PRN					IAML		02 24 13.9	
	comp=N,14nm,0.7s							
BMN	**Battle Mountai**	**4.68**	**33**	Pn		Pn	02 22 41.2	-0.2
BMN					IAML		02 24 25.4	
	comp=N,7.9nm,4.9s							

*ISK **01** 02:40:53.6,38˙40N×39˙10E,h5km,ML3.3/29*
*AFAD **01** 02:40:54.6±0.0,38˙43N×39˙11E,h7km±3km,MW3.6*
*IDC **01** 02:40:55.8±1.4,38˙53N×39˙05E,h0km,mb3.6/3,*
mbtmp3.4/5,ML3.2/2,Error ellipse: s-maj=26.0km
s-min=16.0km az=173.0

ISC 01 02:40:54.8±1.1,38˙43N±0˙02×39˙11E±0˙02,h1km±9km,
n54,σ1s02/77,mb3.6/3,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PTK	**Pertek**	**0.52**	**25**	Pg		**Pg**	**02 41 04.7**	**0.0**
PTK				Sg		**Sb**	**02 41 14.0**	**-0.8**
MAYA	**Malatya/Merkez**	**0.55**	**260**	P		**Pg**	**02 41 05.6**	**+0.3**
MAYA				S		**Sb**	**02 41 13.7**	**-1.9**
MAYA				*i* AML		AML	02 41 15.0	
	comp=Z,6μm,0.3s							
MAYA				*i* AML		AML	02 41 15.0	
	comp=N,1μm,0.3s							
MAYA				*i* AML		AML	02 41 15.0	
	comp=E,4μm,0.2s							
NARI	**Adyaman-Kaht**	**0.61**	**207**	P		**Pb**	**02 41 07.2**	**-1.0**
NARI				S		**Sg**	**02 41 14.9**	**+0.6**
NARI				*i* AML		AML	02 41 18.0	
	comp=E,608nm,0.7s							
NARI				*i* AML		AML	02 41 21.0	
	comp=N,774nm,0.6s							
NARI				*i* AML		AML	02 41 22.0	
	comp=Z,556nm,0.7s							
KOVA	**Elazig, Kovanc**	**0.62**	**63**	P		**Pg**	**02 41 06.3**	**-0.3**
KOVA				S		**Sb**	**02 41 16.8**	**-0.9**
KOVA				*i* AML		AML	02 41 21.0	
	comp=E,1μm,0.4s							
KOVA				*i* AML		AML	02 41 26.0	
	comp=Z,679nm,0.7s							
KOVA				*i* AML		AML	02 41 26.0	
	comp=N,613nm,0.6s							
TNCL	**Tunceli-Merkez**	**0.77**	**26**	P		**Pg**	**02 41 08.7**	**-0.8**
TNCL				S		**Sg**	**02 41 20.0**	**+0.5**
TNCL				*i* AML		AML	02 41 25.0	
	comp=Z,420nm,0.3s							
TNCL				*i* AML		AML	02 41 27.0	
	comp=E,692nm,0.3s							
TNCL				*i* AML		AML	02 41 31.0	
	comp=N,575nm,0.7s							
HANM	**anlurfa/Hi**	**0.86**	**192**	P		**Pb**	**02 41 12.0**	**-0.6**
HANM				S		**Sb**	**02 41 24.6**	**0.0**
HANM				*i* AML		AML	02 41 26.0	
	comp=N,2μm,0.4s							
HANM				*i* AML		AML	02 41 26.0	
	comp=E,1μm,0.2s							
HANM				*i* AML		AML	02 41 27.0	
	comp=Z,924nm,0.2s							
ARPR	**Arapgir-MALATY**	**0.90**	**318**	Pg		**Pg**	**02 41 12.2**	**+0.1**
ARPR				Sg		**Sn**	**02 41 26.4**	**-2.1**
AZEY	**Adyaman-Merk**	**0.92**	**228**	P		**Pb**	**02 41 13.2**	**-0.3**
AZEY				S		**Sn**	**02 41 27.1**	**-1.6**
AZEY				*i* AML		AML	02 41 29.0	
	comp=N,472nm,0.4s							
AZEY				*i* AML		AML	02 41 30.0	
	comp=Z,355nm,0.4s							
AZEY				*i* AML		AML	02 41 30.0	
	comp=E,576nm,0.5s							
DYBB	**Diyarbakir**	**0.94**	**120**	Pg		**Pg**	**02 41 12.9**	**+0.1**
DYBB				Sg		**Sb**	**02 41 26.8**	**0.0**
DIYA	**Diyarbakir**	**0.94**	**122**	P		**Pb**	**02 41 13.4**	**-0.5**
DIYA				S		**Sb**	**02 41 26.3**	**-0.6**
DIYA				*i* AML		AML	02 41 29.0	
	comp=Z,1μm,0.3s							
DIYA				*i* AML		AML	02 41 29.0	
	comp=N,2μm,0.2s							
DIYA				*i* AML		AML	02 41 29.0	
	comp=E,997nm,0.4s							
AKCD	**Akcadag**	**0.94**	**262**	P		**Pg**	**02 41 12.6**	**-0.3**
AKCD				S		**Sb**	**02 41 26.0**	**-1.0**
AKCD				*i* AML		AML	02 41 28.0	
	comp=Z,1μm,0.2s							
AKCD				*i* AML		AML	02 41 28.0	
	comp=E,2μm,0.4s							
AKCD				*i* AML		AML	02 41 29.0	
	comp=N,3μm,0.2s							
KEMA	**Kemaliye**	**0.97**	**330**	P		**Pg**	**02 41 12.9**	**-0.6**
KEMA				S		**Sb**	**02 41 26.9**	**-0.9**
KEMA				*i* AML		AML	02 41 27.0	
	comp=N,883nm,0.6s							
KEMA				*i* AML		AML	02 41 32.0	
	comp=Z,380nm,0.7s							
KEMA				*i* AML		AML	02 41 35.0	
	comp=E,683nm,0.6s							
HANI	**Diyarbakir_Han**	**1.01**	**90**	P		**Pg**	**02 41 13.8**	**-0.4**
HANI				S		**Sb**	**02 41 29.4**	**+0.4**
HANI				*i* AML		AML	02 41 32.0	
	comp=N,519nm,0.4s							
HANI				*i* AML		AML	02 41 32.0	
	comp=E,595nm,0.3s							
HANI				*i* AML		AML	02 41 36.0	
	comp=Z,394nm,0.4s							
ILIC	**ilic-Erzincan**	**1.11**	**338**	Pn		**Pg**	**02 41 15.6**	**-0.5**
ATAB	**Bozova**	**1.15**	**214**	P		**Pn**	**02 41 17.3**	**-0.8**
ATAB				S		**Sb**	**02 41 32.5**	**-0.4**
ATAB				*i* AML		AML	02 41 36.0	
	comp=N,547nm,0.2s							
ATAB				*i* AML		AML	02 41 36.0	
	comp=E,2μm,0.5s							
ATAB				*i* AML		AML	02 41 39.0	
	comp=Z,751nm,0.5s							
ERZN	**Erzincan**	**1.25**	**22**	Pn		**Pn**	**02 41 19.6**	**0.0**
SANL	**SANLIURFA_Merk**	**1.25**	**184**	P		**Pg**	**02 41 18.5**	**-0.4**
SANL				S		**Sn**	**02 41 35.8**	**-1.1**
SANL				*i* AML		AML	02 41 37.0	
	comp=Z,934nm,0.4s							
SANL				*i* AML		AML	02 41 37.0	
	comp=N,907nm,0.3s							
SANL				*i* AML		AML	02 41 37.0	
	comp=E,1μm,0.5s							
DARE	**Darende-Malaty**	**1.29**	**277**	Pn		**Pg**	**02 41 18.3**	**-1.2**
AKCA	**Adyaman/G¶l**	**1.29**	**241**	P		**Pb**	**02 41 19.8**	**-0.1**
AKCA				S		**Sn**	**02 41 39.1**	**+1.3**
AKCA				*i* AML		AML	02 41 44.0	
	comp=N,2μm,0.6s							
AKCA				*i* AML		AML	02 41 44.0	
	comp=E,662nm,0.5s							
AKCA				*i* AML		AML	02 41 45.0	
	comp=Z,463nm,0.6s							
BNGB	**Bingl**	**1.35**	**65**	Pn		**Pn**	**02 41 20.2**	**-0.7**
EUZM	**Uzumlu**	**1.36**	**19**	P		**Pn**	**02 41 19.4**	**-1.6**
EUZM				S		**Sn**	**02 41 39.1**	**-0.7**
EUZM				*i* AML		AML	02 41 43.0	
	comp=Z,116nm,1.0s							
EUZM				*i* AML		AML	02 41 43.0	
	comp=N,162nm,0.9s							
EUZM				*i* AML		AML	02 41 43.0	
	comp=E,201nm,0.5s							
MAZI	**Mazidag**	**1.43**	**132**	Pn		**Pn**	**02 41 20.7**	**-1.3**
CUGUR	**Gurin_SVAS**	**1.47**	**282**	P		**Pn**	**02 41 22.0**	**-0.6**
CUGUR				S		**Sg**	**02 41 43.3**	**+1.2**
CUGUR				*i* AML		AML	02 41 49.0	
	comp=E,507nm,0.3s							
CUGUR				*i* AML		AML	02 41 50.0	
	comp=Z,302nm,0.4s							
CUGUR				*i* AML		AML	02 41 52.0	
	comp=N,626nm,0.4s							
ELBS	**KAHRAMANMARAS**	**1.56**	**267**	P		**Pg**	**02 41 24.2**	**-0.5**
ELBS				S		**Sg**	**02 41 45.9**	**+1.0**
ELBS				*i* AML		AML	02 41 51.0	
	comp=E,762nm,0.5s							
ELBS				*i* AML		AML	02 41 53.0	
	comp=N,1μm,0.5s							
ELBS				*i* AML		AML	02 41 55.0	
	comp=Z,644nm,0.5s							
SLHN	**Bingol, Solhan**	**1.59**	**70**	P		**Pb**	**02 41 24.6**	**-0.4**
SLHN				S		**Sg**	**02 41 47.8**	**+1.9**
SLHN				*i* AML		AML	02 41 51.0	
	comp=N,263nm,0.5s							
SLHN				*i* AML		AML	02 41 55.0	
	comp=E,235nm,0.5s							
SLHN				*i* AML		AML	02 42 01.0	
	comp=Z,143nm,0.7s							
SVAN	**Silvan-Diyarba**	**1.67**	**99**	Pn		**Pn**	**02 41 24.8**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.67**	**99**	P		**Pn**	**02 41 23.9**	**-1.2**
SVAN				S		**Sg**	**02 41 48.1**	**-0.2**
SVAN				*i* AML		AML	02 41 52.0	
	comp=N,259nm,0.4s							
SVAN				*i* AML		AML	02 41 52.0	
	comp=E,192nm,0.5s							
SVAN				*i* AML		AML	02 41 53.0	
	comp=Z,151nm,0.4s							
MARD	**Mardin**	**1.72**	**130**	P		**Pn**	**02 41 25.5**	**-0.5**
MARD				S		**Sn**	**02 41 47.3**	**-1.4**
MARD				*i* AML		AML	02 41 51.0	
	comp=N,1μm,0.4s							
MARD				*i* AML		AML	02 41 51.0	
	comp=E,728nm,0.5s							
MARD				*i* AML		AML	02 41 53.0	
	comp=Z,827nm,0.4s							
KARO	**Karliova-Bingo**	**1.75**	**59**	Pn		**Pb**	**02 41 26.9**	**-0.9**
NZIP	**Nizip/Gaziante**	**1.79**	**220**	P		**Pn**	**02 41 26.4**	**-0.4**
NZIP				S		**Sg**	**02 41 51.9**	**-0.4**
NZIP				*i* AML		AML	02 41 53.0	
	comp=E,489nm,0.5s							
NZIP				*i* AML		AML	02 41 56.0	
	comp=N,350nm,0.3s							
NZIP				*i* AML		AML	02 41 57.0	
	comp=Z,302nm,0.3s							
KHMN	**Narli-Kahraman**	**1.86**	**237**	Pn		**Pn**	**02 41 27.7**	**-0.1**
GAZ	**Gaziantep**	**1.96**	**231**	Pn		**Pn**	**02 41 29.5**	**+0.3**
KMRS	**Kahramanmaras**	**1.97**	**243**	Pn		**Pn**	**02 41 28.9**	**-0.5**
VRTB	**Varto-Mus**	**1.97**	**67**	Pn		**Pb**	**02 41 30.5**	**-1.1**
BAYT	**Aydıntepe-Bayb**	**2.12**	**22**	Pn		**Pn**	**02 41 32.1**	**+0.6**
SVSK	**Karacayir**	**2.22**	**313**	Pn		**Pn**	**02 41 33.4**	**+0.7**
GURO	**Guroymak-BITLI**	**2.30**	**86**	Pn		**Pn**	**02 41 33.8**	**-0.1**
RSDY	**Resadiye-TOKAT**	**2.41**	**326**	Pn		**Pn**	**02 41 36.3**	**+1.0**
ESPY	**Espiye-Giresun**	**2.51**	**353**	Pn		**Pb**	**02 41 38.2**	**-2.4**
BNN	**Bunyan**	**2.59**	**280**	Pn		**Pn**	**02 41 38.9**	**+0.9**
KTUT	**Trabzon**	**2.61**	**11**	Pn		**Pn**	**02 41 38.6**	**+0.6**
KOPR	**Koprukoy-ERZUR**	**2.64**	**53**	Pn		**Pn**	**02 41 39.6**	**+0.9**
TOKT	**Tokat**	**2.75**	**314**	Pn		**Pn**	**02 41 41.2**	**+1.2**
MLAZ	**Malazgirt-MUS**	**2.78**	**74**	Pn		**Pn**	**02 41 41.2**	**+0.6**
AKDM	**Akdamar-Van**	**3.04**	**91**	Pn		**Pn**	**02 41 44.5**	**+0.3**
AGRB	**Hanur-Agry**	**3.23**	**68**	Pn		**Pn**	**02 41 48.4**	**+1.5**
SENK	**Senkaya-Erzuru**	**3.29**	**49**	Pn		**Pn**	**02 41 49.3**	**+1.7**
VANB	**Van**	**3.36**	**86**	Pn		**Pn**	**02 41 50.1**	**+1.6**
BCA	**Borcka**	**3.58**	**32**	Pn		**Pn**	**02 41 52.7**	**+1.2**
BRTR	**Keskin Array B**	**4.45**	**289**	Pn		**Pn**	**02 42 05.2**	**+1.7**
	0.6nm,0.3s,baz=106,slow=11,SNR=20							
BRTR					Lg	Lg	02 43 14.7	
	baz=2.8,slow=10.0 3.5nm,0.9s							
MMAI	**Mount Meron Ar**	**6.18**	**210**	Pn		**Pn**	**02 42 30.1**	**+2.8**
	1.2nm,0.3s,baz=34,slow=11,SNR=7.8							
MMAI					Lg	Lg	02 44 13.1	
	1.1nm,0.3s,baz=15,slow=30,SNR=1.4 0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**30.27**	**53**	P		**P**	**02 47 08.1**	**+0.9**
	0.6nm,0.7s,baz=265,slow=8.9,SNR=5.5 0.6nm,0.7s							
MKAR	**Makanchi Array**	**32.52**	**61**	P		**P**	**02 47 28.1**	**+1.1**
	0.3nm,0.6s,baz=272,slow=8.5,SNR=2.9 0.3nm,0.6s							
ESDC	**Sonseca Array**	**33.24**	**286**	P		**P**	**02 47 34.4**	**+0.9**
	1.3nm,1.1s,baz=68,slow=8.4,SNR=2.1 1.3nm,1.1s							

*IDC **01** 02:42:50.6±5.7,22˙92S×179˙51W,h506km±61km,mb3.2/6,*
mbtmp4.1/7,Error ellipse: s-maj=34.1km s-min=23.1km
az=30.0

ISC 01 02:42:52.7±1.0,23˙1S±0˙1×179˙7W±0˙1,h526km,n12,
σ2s69/14,mb3.7/7,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.33**	**189**	P		**P**	**02 46 04.7**	**-1.2**
	9.2nm,0.5s,baz=22,slow=3.3,SNR=7.4							
URZ				S		**S**	**02 48 40.8**	**-4.1**
	5.9nm,0.7s,baz=3.3,slow=18,SNR=1.2							
RPZ	**Rata Peaks**	**21.91**	**198**	P		**P**	**02 47 11.5**	**+4.4**
	5.5nm,0.5s,baz=32,slow=15,SNR=1.8							
STKA	**Stephens Creek**	**35.24**	**247**	P		**P**	**02 49 05.2**	**+2.1**
	4.1nm,0.6s,baz=86,slow=8.5,SNR=8.6 4.1nm,0.6s							
ASAR	**Alice Springs**	**42.41**	**260**	P		**P**	**02 50 02.5**	**+1.3**
	2.9nm,0.8s,baz=95,slow=7.9,SNR=31							
ASAR				S		**S**	**02 55 44.2**	**-0.6**
	0.5nm,0.7s,baz=100,slow=15,SNR=4.9 2.9nm,0.8s							
WRA	**Warramunga Arr**	**42.71**	**265**	P		**P**	**02 50 03.8**	**+0.1**
	1.6nm,0.6s,baz=90,slow=5.8,SNR=42							
WRA				S		**S**	**02 55 44.6**	**-4.5**
	0.5nm,0.7s,baz=99,slow=14,SNR=2.6 1.6nm,0.6s							
QSPA	**South Pole Qui**	**66.96**	**180**	P		**P**	**02 52 53.7**	**+1.0**
	1.1nm,0.6s,baz=6.2,slow=1.7,SNR=12 1.1nm,0.6s							
NVAR	**Mina Array Bea**	**84.02**	**44**	P		**P**	**02 54 26.4**	**-1.6**
	0.7nm,0.9s,baz=230,slow=5.6,SNR=3.8 0.7nm,0.9s							
PDAR	**Pinedale Array**	**91.96**	**44**	P		**P**	**02 55 05.0**	**-0.4**
	0.2nm,0.5s,baz=186,slow=1.8,SNR=1.9 0.2nm,0.5s							
HFS	**Hagfors**	**141.83**	**349**	PKhKP		PKPpre	03 01 17.6	
	0.7nm,0.3s,baz=66,slow=5.4,SNR=7.5							
AKASG	**Malin Array Be**	**144.44**	**328**	PKP		**PKPdf**	**03 01 25.9**	**-2.8**
	0.7nm,0.4s,baz=44,slow=3.9,SNR=9.3							
BRTR	**Keskin Array B**	**147.29**	**308**	PKPbc		**PKPdf**	**03 01 36.1**	**+2.0**
	0.5nm,0.6s,baz=116,slow=5.6,SNR=1.4							
MMAI	**Mount Meron Ar**	**147.59**	**296**	PKPbc		**PKPbc**	**03 01 38.2**	**-0.1**
	1.9nm,0.7s,baz=72,slow=5.5,SNR=4.5							

*TAP **01** 02:44:16.3,23˙90N×122˙65E,h27km,ML2.8,D*
*JMA **01** 02:44:17.6±0.2,24˙N±2˙×122˙6E±0˙6,h26km±4km,*
MV2.3/12,NW OFF ISHIGAKIJIMA IS

ISC 01 02:44:16.6±1.1,23˙93N±0˙04×122˙61E±0˙02,h26km±11km,
n56,σ0s52/90,Taiwan region

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.32**	**305**	P		**Pb**	**02 44 24.4**	**+0.6**
	baz=306							
EOS4				S		**Sn**	**02 44 30.3**	**-0.7**
	baz=306							
EOS3	**EOS3**	**0.44**	**323**	P		**Pb**	**02 44 26.2**	**+0.4**
	baz=322							
EOS3				S		**Sn**	**02 44 33.2**	**-0.9**
	baz=322							
EOS2	**EOS2**	**0.59**	**325**	*e*P		**Pn**	**02 44 29.0**	**-0.2**
	baz=323							
EOS2				*e*S		**Sn**	**02 44 38.3**	**+0.3**
	baz=323							
JYNG	**Yonagunijimaku**	**0.60**	**31**	*e*P		**Pb**	**02 44 27.9**	**-0.7**
JYNG				S		**Sb**	**02 44 35.4**	**-1.3**
YOJ	**Yonaguni jima**	**0.64**	**35**	*i* P		**Pb**	**02 44 28.9**	**-0.4**
	baz=29							
YOJ				*e*S		**Sb**	**02 44 36.8**	**-1.1**
	baz=29							
YOJ	**Yonaguni jima**	**0.64**	**35**	P		**Pb**	**02 44 28.9**	**-0.4**
YOJ				S		**Sb**	**02 44 36.5**	**-1.3**
ENA	**Nanau**	**0.93**	**302**	*i* P		**Pb**	**02 44 34.2**	**+0.1**
	baz=302							
ENA				S		**Sn**	**02 44 47.1**	**+0.6**
	baz=302							
TWD	**Chiawan**	**0.94**	**279**	*e*P		**Pn**	**02 44 34.4**	**+0.3**
	baz=280							
ESAO	**Su ao**	**0.94**	**313**	P		**Pb**	**02 44 34.3**	**0.0**
	baz=312							
ESAO				S		**Sn**	**02 44 47.0**	**+0.2**
	baz=312							
NACB	**Ninganchiao**	**0.95**	**285**	*i* P		**Pn**	**02 44 33.8**	**-0.5**
	baz=285							
NACB				*e*S		**Sb**	**02 44 46.5**	**-0.3**
	baz=285							
TWC	**Suao**	**0.96**	**314**	*i* P		**Pn**	**02 44 34.3**	**-0.1**
	baz=314							
TWC				S		**Sn**	**02 44 47.4**	**+0.1**
	baz=314							
SHUL	**Shoufeng**	**0.97**	**262**	*e*P		**Pn**	**02 44 34.4**	**-0.1**
	baz=263							
SHUL				S		**Sn**	**02 44 48.0**	**+0.7**
	baz=263							
ETM	**Tongmen**	**1.02**	**272**	P		**Pn**	**02 44 34.6**	**-0.6**
	baz=273							
ETM				*e*S		**Sb**	**02 44 47.7**	**-0.9**
	baz=273							
ETLH	**Xiulin Townshi**	**1.06**	**285**	*i* P		**Pn**	**02 44 35.6**	**-0.3**
	baz=286							
ETLH				S		**Sn**	**02 44 50.1**	**+0.2**
	baz=286							
NDS	**Dongshan**	**1.07**	**311**	*e*P		**Pb**	**02 44 36.2**	**-0.3**
	baz=310							
ESL	**Shilin**	**1.08**	**264**	*e*S		**Sn**	**02 44 50.1**	**0.0**
	baz=265							
LXIB	**Xiulin Townshi**	**1.09**	**275**	*i* P		**Pn**	**02 44 36.0**	**-0.4**
	baz=276							
LXIB				S		**Sn**	**02 44 50.5**	**-0.2**
	baz=276							
EGS		**1.10**	**326**	*e*P		**Pb**	**02 44 37.5**	**+0.5**
	baz=325							
IRIF	**Iriomote-Funau**	**1.10**	**69**	S		**Sb**	**02 44 51.4**	**+0.4**
HATJ	**Hateruma jima**	**1.10**	**83**	*e*P		**Pb**	**02 44 37.9**	**+0.9**
HATJ				*e*S		**Sb**	**02 44 51.4**	**+0.4**
EGFH	**Guangfu**	**1.11**	**257**	*e*S		**Sn**	**02 44 51.4**	**+0.4**
	baz=258							
WARBT	**Fenglin Townsh**	**1.14**	**259**	P		**Pn**	**02 44 36.1**	**-0.7**
	baz=261							
WARBT				S		**Sn**	**02 44 50.9**	**-0.7**
	baz=261							
LATG	**Datong**	**1.15**	**302**	P		**Pn**	**02 44 37.3**	**+0.2**
	baz=301							
TWE	**Neicheng**	**1.16**	**313**	*e*P		**Pb**	**02 44 38.0**	**0.0**
	baz=312			

YULB	**Yu-li**	**1.32 246**	P		**Pn**	**02 44 39.3**	**0.0**
	baz=247						
YULB			S		**Sn**	**02 44 56.1**	**+0.1**
	baz=247						
JKRS	**Kuro-shima**	**1.32 76**	*eP*		**Pb**	**02 44 41.3**	**+0.7**
TWF1	**Yuli**	**1.33 245**	*eP*		**Pn**	**02 44 39.9**	**+0.3**
	baz=246						
TWF1			S		**Sn**	**02 44 56.5**	**+0.1**
	baz=246						
CHKH	**Chenggong**	**1.33 237**	*eS*		**Sn**	**02 44 55.3**	**-1.1**
	baz=238						
YHNB	**Yeheng**	**1.34 303**	P		**Pn**	**02 44 40.2**	**+0.5**
	baz=303						
YHNB			*eS*		**Sn**	**02 44 56.6**	**-0.1**
	baz=303						
VWDT	**VWDT**	**1.35 263**	P		**Pn**	**02 44 39.9**	**+0.2**
	baz=264						
VWDT			S		**Sn**	**02 44 57.0**	**+0.1**
	baz=264						
NSK	**Sanguang**	**1.36 303**	P		**Pn**	**02 44 40.3**	**+0.4**
	baz=303						
NWF	**Wu-fen Shan**	**1.36 327**	P		**Pn**	**02 44 40.5**	**+0.5**
	baz=326						
WFSB	**Wu-fen Shan**	**1.36 327**	P		**Pn**	**02 44 40.5**	**+0.6**
	baz=326						
WUSB	**Renai**	**1.36 273**	P		**Pn**	**02 44 40.4**	**+0.3**
	baz=273						
WUSB			*eS*		**Sn**	**02 44 57.7**	**+0.4**
	baz=273						
JIJ	**Ishigaki jima**	**1.47 73**	*eP*		**Pb**	**02 44 43.3**	**0.0**
JIJ			S		**Sb**	**02 45 01.3**	**-0.1**
WCS	**Beigang Elemen**	**1.56 275**	*eP*		**Pb**	**02 44 45.2**	**+0.5**
	baz=275						
WHP	**Taichung City**	**1.56 283**	*eP*		**Pb**	**02 44 44.3**	**-0.5**
	baz=283						
WHP			*eS*		**Sb**	**02 45 03.8**	**-0.3**
	baz=283						
SMLT	**Sun Moon Lake**	**1.56 269**	*eP*		**Pn**	**02 44 43.6**	**+0.8**
	baz=269						
TYC	**Yuchr**	**1.60 269**	*eP*		**Pb**	**02 44 44.9**	**-0.6**
	baz=270						
NSTT	**Nanjuang**	**1.62 296**	*eP*		**Pb**	**02 44 45.1**	**-0.7**
	baz=296						
JISG	**Ishigakijimahi**	**1.69 67**	*eP*		**Pn**	**02 44 44.7**	**+0.3**
LONT	**Longtian**	**1.70 233**	*eS*		**Sn**	**02 45 05.7**	**+0.2**
	baz=234						
ALS	**Alishan**	**1.70 256**	*eP*		**Pn**	**02 44 45.0**	**+0.1**
	baz=257						
ALS			*eS*		**Sn**	**02 45 06.2**	**+0.2**
	baz=257						

NNC ***01*** *02:49:25.2±0.6, 44.00N×76.98E, h7km±3km, mb2.8, mpv2.5, Error ellipse: s-maj=5.4km s-min=2.9km az=1.0*
SOME ***01*** *02:49:25.5, 44.02N×77.00E, h10km*
ISC 01 02:49:25.1±1.0, **44.01N**±0.04×**77.00E**±0.02, **h14**km±7km, **n19**, σ0.43/37, **Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHKK	**Chushkaly**	**0.15**	**182**	*eP*	**Pb**	**02 49 29.3**	**-0.5**
	41nm,0.1s						
CHKK				*eS*	**Sg**	**02 49 32.0**	**+0.3**
	95nm,0.1s						
CHKK	**Chushkaly**	**0.15**	**182**	P	**Pb**	**02 49 29.3**	**-0.5**
	41nm,0.1s						
CHKK				S	**Sg**	**02 49 32.0**	**+0.3**
	24nm,0.2s						
KTBS	**Karatobe**	**0.37**	**218**	*eP*	**Pb**	**02 49 33.2**	**-0.3**
	4.0nm,0.1s						
KTBS				*eS*	**Sb**	**02 49 38.5**	**-0.7**
	11nm,0.2s						
KTBS	**Karatobe**	**0.37**	**218**	P	**Pb**	**02 49 33.2**	**-0.3**
	4.0nm,0.1s						
KTBS				S	**Sb**	**02 49 38.7**	**-0.5**
	6.3nm,0.1s						
KUU	**Kurty**	**0.49**	**257**	*eP*	**Pg**	**02 49 35.1**	**+0.3**
	4.9nm,0.1s						
KUU				*eS*	**Sb**	**02 49 41.9**	**-0.6**
	10nm,0.1s						
ARXS	**Arharly**	**0.63**	**71**	*eP*	**Pg**	**02 49 37.4**	**-0.2**
	1.5nm,0.1s						
ARXS				*eS*	**Sg**	**02 49 45.4**	**-0.5**
	11nm,0.2s						
KOTS	**Kotyrbulak**	**0.78**	**174**	*eP*	**Pg**	**02 49 40.1**	**-0.1**
	3.5nm,0.1s						
KOTS				*eS*	**Sb**	**02 49 50.6**	**-0.4**
	12nm,0.2s						
MDOK	**Medeo**	**0.85**	**177**	*eP*	**Pb**	**02 49 41.5**	**-0.2**
	1.3nm,0.2s						
MDOK				*eS*	**Sb**	**02 49 53.0**	**+0.1**
	2.1nm,0.2s						
MDOK	**Medeo**	**0.85**	**177**	Pg	**Pb**	**02 49 41.5**	**-0.2**
	1.3nm,0.2s						
MDOK				Lg	Lg	02 49 53.0	
	2.1nm,0.2s						
KURS	**Kuram**	**1.00**	**121**	*eP*	**Pg**	**02 49 43.7**	**-0.7**
	1.5nm,0.1s						
KURS				*eS*	**Sg**	**02 49 56.8**	**-0.7**
	3.2nm,0.2s						
KRBS	**Karabastau**	**1.00**	**252**	*eP*	**Pg**	**02 49 44.2**	**-0.4**
	0.7nm,0.2s						
KRBS				*eS*	**Sb**	**02 49 57.7**	**+0.3**
	1.2nm,0.3s						
KRBS	**Karabastau**	**1.00**	**252**	P	**Pg**	**02 49 44.2**	**-0.4**
	0.7nm,0.2s						
KRBS				S	**Sb**	**02 49 57.7**	**+0.3**
	1.2nm,0.3s						
DGS	**Degeres**	**1.17**	**230**	*eP*	**Pb**	**02 49 46.8**	**-0.4**
	1.3nm,0.2s						
DGS				*eS*	**Sb**	**02 50 02.0**	**-0.3**
	3.1nm,0.1s						
KST	**Kastek**	**1.22**	**218**	*eP*	**Pb**	**02 49 48.3**	**+0.2**
	1.6nm,0.5s						
KST				*eS*	**Sn**	**02 50 04.7**	**+0.4**
	2.2nm,0.3s						
KST	**Kastek**	**1.22**	**218**	P	**Pb**	**02 49 48.3**	**+0.2**
	1.6nm,0.5s						
KST				S	**Sn**	**02 50 04.7**	**+0.4**
	2.2nm,0.3s						
SATY	**Saty**	**1.40**	**132**	*eP*	**Pn**	**02 49 50.8**	**+0.5**
	1.9nm,0.2s						
SATY				*eS*	**Sb**	**02 50 09.2**	**+0.4**
	4.7nm,0.2s						
SATY	**Saty**	**1.40**	**132**	P	**Pn**	**02 49 50.8**	**+0.5**
	1.9nm,0.2s						
SATY				S	**Sb**	**02 50 09.2**	**+0.4**
	4.7nm,0.2s						
KNOS	**Konyrlen**	**1.61**	**77**	P	**Pb**	**02 49 54.3**	**-0.4**
	0.5nm,0.3s						
KNOS				S	**Sb**	**02 50 15.2**	**+0.3**
	1.6nm,0.4s						
PDGK	**Podgornoye**	**1.93**	**110**	P	**Pb**	**02 50 00.1**	**-0.1**
	0.4nm,0.3s						
PDGK				S	**Sb**	**02 50 24.9**	**+0.7**
	0.6nm,0.3s						

IDC ***01*** *02:54:04.5±1.3, 6.04S×143.02E, h0km, mb4.0/3, mbtmp4.0/5, ML1.4/1, Error ellipse: s-maj=44.1km s-min=30.8km az=75.0*
ISC 01 02:54:09.3±1.0, **6.35S**±0.1×**142.9E**±0.2, **h35**km, **n6**, σ1.73/6, **mb3.9**/3, **New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.22**	**127**	Pn	**Pn**	**02 55 25.2**	**+0.2**
	0.8nm,0.3s,baz=280,slow=3.7,SNR=1.8						
	6.9nm,0.6s						
WRA	**Warramunga Arr**	**15.97**	**211**	Pn	**Pn**	**02 57 49.5**	**-2.0**
	0.1nm,0.3s,baz=31,slow=14,SNR=2.1						
WRA				Sn	Sn	03 00 35.7	-12
	0.1nm,0.3s,baz=32,slow=24,SNR=1.6						
WRA				Lg	Lg	03 02 32.8	
	0.1nm,0.3s,baz=308,slow=12,SNR=2.2						
ASAR	**Alice Springs**	**19.38**	**206**	P	**P**	**02 58 34.2**	**+1.9**
	4.9nm,0.8s,baz=33,slow=9.5,SNR=47						
ASAR				Lg	Lg	03 04 17.8	
	0.1nm,0.3s,baz=220,slow=40,SNR=1.3						
MKAR	**Makanchi Array**	**75.16**	**322**	P	**P**	**03 05 48.5**	**+0.3**
	0.5nm,0.8s,baz=109,slow=6.6,SNR=5.5						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	**84.61**	**325**	P	**P**	**03 06 39.7**	**+0.5**
	2.5nm,0.8s,baz=116,slow=6.8,SNR=11						
	2.5nm,0.8s						
ILAR	**Eielson Array**	**87.32**	**24**	P	**P**	**03 06 51.4**	**-0.9**
	0.6nm,0.8s,baz=247,slow=5.1,SNR=6.6						
	0.6nm,0.8s						

UPP ***01*** *03:00:45.8±0.1, 67.17N×20.68E, h0km, ML2.7, Confirmed Induced event*
HEL ***01*** *03:00:47.0±0.7, 67.19N×20.71E, h0km, ML0.8, Suspected explosion*
ISC 01 03:00:45.6±1.0, **67.19N**±0.03×**20.64E**±0.04, **h0**km, **n16**, σ0.66/21, **Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.07**	**201**	P	**Pg**	**03 00 47.3**	**+0.3**
DUNU				S	**Sg**	**03 00 48.7**	**+0.8**
MASU	**Masugnsbyn**	**0.59**	**63**	P	**Pg**	**03 00 56.9**	**0.0**
MASU				S	**Sg**	**03 01 04.9**	**+0.3**
RATU	**Laukkuluspa**	**0.75**	**328**	P	**Pg**	**03 01 00.4**	**+0.4**
PAJU	**Pajala**	**0.98**	**99**	S	**Sg**	**03 01 16.9**	**-0.2**
PAJU	**Pajala**	**0.98**	**99**	PG	**Pg**	**03 01 04.5**	**+0.1**
PAJU				SB	**Sg**	**03 01 17.1**	**0.0**
LANU	**Lannavaara**	**1.01**	**31**	PG	**Pg**	**03 01 04.3**	**-0.6**
LANU				SB	**Sb**	**03 01 19.4**	**-0.3**
KLF	**Kolari**	**1.30**	**87**	MSG		03 01 25.4	
	comp=Z,0.2nm,0.2s						
KLF				SN	**Sb**	**03 01 28.2**	**+0.3**
HEF	**Hetta**	**1.68**	**42**	MSG		03 01 36.5	
	comp=Z,0.6nm,0.2s						
HEF				SN	**Sg**	**03 01 40.4**	**+1.0**
SJUU	**Sjulsmark**	**1.73**	**167**	P	**Pn**	**03 01 17.1**	**+0.2**
KIF	**Kilpisjarvi**	**1.82**	**2**	PG	**Pg**	**03 01 20.1**	**-0.4**
	baz=179						
KIF				MSG		03 01 42.5	
	comp=Z,1.0nm,0.2s						
KIF				SG	**Sg**	**03 01 44.8**	**+0.7**
KTK1	**Kautokeino**	**2.07**	**27**	SG	**Sb**	**03 01 50.5**	**+0.2**
RNF	**Rovaniemi**	**2.20**	**103**	SG	**Sb**	**03 01 54.4**	**+0.5**
SGF	**Sodankyl**	**2.30**	**81**	SG	**Sb**	**03 01 57.8**	**+1.0**
KMNF	**Kaamanen**	**3.08**	**47**	SG	**Sb**	**03 02 20.3**	**+0.9**
MSF	**Maaselka**	**3.60**	**107**	SG	**Sb**	**03 02 34.7**	**+0.6**
HEMU	**Hemsoen**	**4.67**	**195**	PB	**Pb**	**03 02 06.7**	**-1.4**

IDC 01 03:07:37.3±6.6, **6.10S**×**141.80E**, **h0**km, **mb3.6**/1, **mbtmp3.8**/3, **ML3.4/2**, **Error ellipse: s-maj=233.5km s-min=34.9km az=95.0**, **New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.55**	**207**	Pn	Pn	03 11 16.5	-1.6
	0.1nm,0.3s,baz=29,slow=13,SNR=1.4						
WRA				Lg	Lg	03 16 00.3	
	0.1nm,0.3s,baz=38,slow=25,SNR=2.0						
	1.5nm,0.8s						
ASAR	**Alice Springs**	**19.04**	**203**	P	Pn	03 12 01.6	-0.3
	0.3nm,0.3s,baz=31,slow=11,SNR=34						
ASAR				Lg	Lg	03 17 49.1	
	0.1nm,0.3s,baz=16,slow=31,SNR=2.1						
	4.9nm,0.8s						
MKAR	**Makanchi Array**	**74.34**	**322**	P	P	03 19 17.0	+0.1
	0.4nm,0.7s,baz=98,slow=7.2,SNR=5.0						
	0.4nm,0.7s						

JMA 01 03:13:17.9±0.2, **38.1N**±0.9×**14.4E**±˚, **h45**km, **MV3.6**/27, **FAR E OFF NORTH HONSHU, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**2.13**	**277**	P	Pn	03 13 52.1	+1.1
JIKH				S	Sn	03 14 17.2	+0.9
OFUJ	**Ofunato**	**2.19**	**298**	P	Pn	03 13 53.0	+1.2
OFUJ				*eS*	Sn	03 14 18.7	+1.1
JKMT	**Kesennumamotoy**	**2.23**	**290**	P	Pn	03 13 53.4	+1.1
JKMT				*eS*	Sn	03 14 19.8	+1.2
JIO	**Ouri**	**2.24**	**280**	S	Sn	03 14 20.2	+1.2
JMK	**Ichinoseki**	**2.46**	**291**	P	Pn	03 13 56.9	+1.4
JMK				*eS*	Sn	03 14 26.4	+2.0
JOM	**Ohasama**	**2.63**	**302**	P	Pn	03 13 59.4	+1.5
JOM				*eS*	Sn	03 14 30.1	+1.6
JOTO	**OTAMA OYAMA**	**3.07**	**261**	S	Sn	03 14 42.0	+2.5
JYK	**Kaneyama**	**3.09**	**287**	P	Pn	03 14 06.6	+2.4
JYK				*eS*	Sn	03 14 43.2	+3.3
JCH	**Churui**	**4.56**	**353**	*eP*	Pn	03 14 23.4	-0.9
JCH				*eS*	Sn	03 15 13.5	-2.5
JRY	**Ryogami san**	**4.69**	**245**	P	Pn	03 14 27.7	+1.6
JRY				S	Sn	03 15 18.5	-0.7
NEM2	**Nemuro 2**	**5.40**	**12**	*eP*	Pn	03 14 32.8	-3.1
NEM2				*eS*	Sn	03 15 29.8	-6.9
JTKR	**Abashiri--Toko**	**5.88**	**358**	*eP*	Pn	03 14 42.0	-0.3
JTKR				*eS*	Sn	03 15 44.0	-4.3

IDC ***01*** *03:15:37.9±1.2, 30.70S×178.17W, h0km, mb4.0/3, mbtmp3.9/4, ML3.0/1, Error ellipse: s-maj=43.8km s-min=24.7km az=107.0*
ISC 01 03:15:43.7±1.1, **30.7S**±0.1×**178.2W**±0.3, **h46**km, **n15**, σ1.58/11, **mb4.0/3**, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.45**	**11**	Pn	**Pn**	**03 16 07.4**	**-0.2**
	185nm,0.3s,baz=62,slow=21,SNR=3.7						
RAO				Sn	**Sn**	**03 16 23.3**	**-2.1**
	516nm,0.3s,baz=174,slow=20,SNR=11						
URZ	**Urewera**	**8.47**	**206**	Pn	**Pn**	**03 17 42.8**	**-1.0**
	0.2nm,0.3s,baz=312,slow=17,SNR=1.2						
URZ				Sn	**Sn**	**03 19 15.8**	**-2.3**
	0.4nm,0.3s,baz=74,slow=22,SNR=0.8						
	5.5nm,0.8s						
ASAR	**Alice Springs**	**42.88**	**267**	P	**P**	**03 23 38.7**	**+0.8**
	1.0nm,0.7s,baz=109,slow=7.8,SNR=1.4						
	1.0nm,0.7s						
WRA	**Warramunga Arr**	**43.90**	**273**	P	**P**	**03 23 47.3**	**+1.2**
	1.2nm,0.4s,baz=110,slow=7.2,SNR=5.6						
	1.2nm,0.4s						
QSPA	**South Pole Qui**	**59.43**	**180**	P	**P**	**03 25 42.8**	**+1.3**
	2.0nm,1.1s,baz=295,slow=0.2,SNR=1.7						
	2.0nm,1.1s						
H03S2	**Juan Fernandez**	**80.48**	**124**	T	T	04 56 56.1	
	baz=238,slow=74,SNR=5.0						
H03S1	**Juan Fernandez**	**80.49**	**124**	T	T	04 57 01.0	
	baz=238,slow=74,SNR=5.0						
H03S3	**Juan Fernandez**	**80.50**	**124**	T	T	04 56 51.5	
	baz=238,slow=74,SNR=5.4						
H03N3	**Juan Fernandez**	**80.68**	**123**	T	T	04 57 09.5	
	baz=241,slow=72,SNR=8.9						
H03N2	**Juan Fernandez**	**80.68**	**123**	T	T	04 57 11.1	
	baz=241,slow=72,SNR=7.2						
H03N1	**Juan Fernandez**	**80.69**	**123**	T	T	04 57 12.2	
	baz=241,slow=72,SNR=16						
FINES	**FINESS Array B**	**145.34**	**340**	PKPbc	**PKPbc**	**03 35 14.1**	**-1.5**
	2.6nm,0.6s,baz=45,slow=4.2,SNR=8.2						
MMAI	**Mount Meron Ar**	**151.39**	**284**	PKPbc	**PKiKP**	**03 35 34.7**	**+1.5**
	1.5nm,0.6s,baz=84,slow=4.3,SNR=5.0						
AKASG	**Malin Array Be**	**151.40**	**322**	PKPbc	**PKPbc**	**03 35 32.6**	**+0.6**
	0.8nm,0.5s,baz=56,slow=1.9,SNR=5.5						
BRTR	**Keskin Array B**	**152.55**	**298**	PKPbc	**PKPbc**	**03 35 36.1**	**+0.9**
	0.6nm,0.5s,baz=140,slow=5.5,SNR=6.4						

BJI ***01*** *03:17:03.8±0.0, 0.76N×98.86E, h86km, mb5.1/68, mB5.2/42, Ms4.7/43, Ms7 4.3/48*
IDC ***01*** *03:17:05.7±0.4, 1.00N×98.85E, h72km±2km, mb4.9/42, mbtmp5.2/45, MS4.1/57, Error ellipse: s-maj=10.5km s-min=7.0km az=55.0*
MOS ***01*** *03:17:05.6±1.0, 1.00N×98.83E, h87km, mb5.3/61, Error ellipse: s-maj=7.1km s-min=3.4km az=114.2*
DJA ***01*** *03:17:05.8±0.1, 1˚N±1˚×9˚9E±˚, h90km±1km, M5.4/103, mB5.8/70, mb5.7/103, MLv6.0/24, Mw(mB)5.4/70, MwMwp5.1/15, Mwp5.3/15*
NEIC ***01*** *03:17:06.5, 0.90N×98.74E, h70km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 1017Nm; Mrr=0.23; Mθθ=0.61; Mϕϕ0.84; Mrθ0.24; Mrϕ0.59; Mθr-0.56; Fault plane solution: M0 1.13000×1017 NP1: ϕs338.05000°, δ82.99000°, λ-144.93000°. NP2: ϕs243. 15000°, δ55.23000°, λ-8.55000°. Principal axes: T 1.2028, Plg18.0000°, Azm106.0000°; N -0.1445, Plg54.0000°, Azm348.0000°; P -1.0583, Plg29.0000°, Azm206.0000°;*
NEIC ***01*** *03:17:06.5, 1.00N×98.74E, h70km*
NEIC ***01*** *03:17:06.4±1.7, 1.00N±0.06×98.74E±0.06, h67km±4km, mb5.5/210, Mww5.3/22, Error ellipse: s-maj=9.4km s-min=7.2km az=215.0*

GCMT ***01*** *03:17:08.4±0.1, 0.97N±0.01×98.69E±0.01, h74km±1km, MW5.3/117, Moment Tensor Solution. s104, c175; s117, c208; Duration: 1s1 Moment tensor: Scale 1017 Nm; Mrr-0.01±.02; Mθθ-0.69±.02; Mϕϕ0.70±.02; Mrθ0.23±.01; Mθϕ0.38±.02; Mϕr-0.73±.01; Best double couple: M0 1.08900×1017 NP1:ϕs151.00000°, δ88.00000°, λ137.00000°. NP2:ϕs242.00000°, δ47.00000°, λ2.00000°. Principal axes: T 1.1790, Plg30.0000°, Azm98.0000°; N -0.1780, Plg47.0000°, Azm329.0000°; P -1.0000, Plg28.0000°, Azm205.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***01*** *03:17:11.6, 0.87N×97.08E, h75km, mb5.3, Ms4.2*
ISC 01 03:17:05.9±0.2, **0.98N**±0.03×**98.79E**±0.03, **h76**km±1km, **h77**km:**pP-P, n1296**, σ1.24/1346, **mb5.4**/297, **46C-55D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBSI	**Pulau Batu**	**1.15**	**206**	P	**Pn**	**03 17 27.4**	**+0.8**
PBSI				S	**Sn**	**03 17 43.5**	**+1.4**
GSI	**Gunungsitoli**	**1.26**	**285**	Pn	**Pn**	**03 17 27.5**	**-0.5**
GSI				Sn	**Sn**	**03 17 43.0**	**-1.6**
GSI	**Gunungsitoli**	**1.26**	**285**	P	**Pn**	**03 17 28.2**	**+0.2**
GSI	**Gunungsitoli**	**1.26**	**285**	P	**Pn**	**03 17 28.0**	**0.0**
RPSI	**Rantau Prapat**	**1.71**	**4**	Pn	**Pn**	**03 17 35.3**	**+1.3**
PSI	**Prapat**	**1.81**	**4**	P	**Pn**	**03 17 35.4**	**0.0**
PSI	**Prapat**	**1.81**	**4**	P	**Pn**	**03 17 35.3**	**-0.1**
SISI	**Saibi**	**2.31**	**173**	P	**Pn**	**03 17 42.8**	**+0.9**
BKNI	**Bangkinang**	**2.34**	**106**			**03 17 44.6**	**+2.3**
BKNI	**Bangkinang**	**2.34**	**106**	P	**Pn**	**03 17 45.0**	**+2.7**
BKNI	**Bangkinang**	**2.34**	**106**	P	**Pn**	**03 17 44.4**	**+2.1**
PDSI	**Padang**	**2.51**	**138**	P	**Pn**	**03 17 46.5**	**+1.8**
KCSI	**Kotacane, Aceh**	**2.72**	**338**	P	**Pn**	**03 17 47.7**	**+0.2**
SNSI	**Sinabang, Aceh**	**2.84**	**300**	P	**Pn**	**03 17 49.2**	**+0.1**
PPSI	**Pulau Pagai**	**3.91**	**162**	P	**Pn**	**03 18 03.3**	**-0.4**
PPSI				S	**Sn**	**03 18 48.8**	**+0.4**
MLSI	**Meulaboh, Aceh**	**4.04**	**324**	P	**Pn**	**03 18 05.5**	**0.0**
KRJI	**Kerinci**	**4.05**	**139**	P	**Pn**	**03 18 08.5**	**+2.8**
IPM	**Ipoh**	**4.13**	**33**		**Pn**	**03 18 09.8**	**+3.1**
IPM	**Ipoh**	**4.13**	**33**	P	**Pn**	**03 18 10.3**	**+3.6**
LHMI	**Lhok Sumawe**	**4.61**	**336**	Pn	**Pn**	**03 18 13.2**	**0.0**
LHMI	**Lhok Sumawe**	**4.61**	**336**	P	**Pn**	**03 18 13.9**	**+0.8**
LHMI	**Lhok Sumawe**	**4.61**	**336**	P	**Pn**	**03 18 12.6**	**-0.5**
KULM	**Kulim**	**4.67**	**23**	Pn	**Pn**	**03 18 15.2**	**+1.2**
MYKOM	**Kota Tinggi**	**5.12**	**81**		**Pn**	**03 18 22.1**	**+2.0**
JMBI	**JAMBI**	**5.50**	**118**	P	**Pn**	**03 18 27.9**	**+2.5**
	950nm,0.8s,8μm55μm5.5nm						
TPRI	**Tanjung Pinang**	**5.74**	**91**	P	**Pn**	**03 18 30.6**	**+2.0**
	2μm,0.7s,18μm8.2nm						
DSRI	**Dabo**	**5.97**	**104**	P	**Pn**	**03 18 32.8**	**+1.1**
	946nm,0.6s,9μm4μm4.7nm						
LHSI	**Lahat**	**6.72**	**135**	P	**Pn**	**03 18 44.2**	**+2.2**
	546nm,0.7s,13μm4.9nm						
MNAI	**Manna**	**6.74**	**142**		**Pn**	**03 18 43.4**	**+1.1**
MNAI	**Manna**	**6.74**	**142**	P	**Pn**	**03 18 43.4**	**+1.1**
MNAI	**Manna**	**6.74**	**142**	P	**Pn**	**03 18 42.4**	**+0.1**
	947nm,0.5s,21μm8.5nm						
PMBI	**Palembang**	**7.13**	**123**		**Pn**	**03 18 48.0**	**+0.4**
PMBI	**Palembang**	**7.13**	**123**	P	Pn	03 18 52.6	+5.0
SRIT	**Nakonsritamara**	**7.61**	**6**	Pn	**Pn**	**03 18 54.3**	**+0.1**
SRIT	**Nakonsritamara**	**7.61**	**6**	P	**Pn**	**03 18 55.2**	**+1.0**
LWLI	**Liwa**	**7.95**	**139**	P	**Pn**	**03 18 58.2**	**-0.7**
	1μm,0.6s,19μm6.4nm						
PPBI	**Pangkal Pinang**	**7.98**	**113**	P	**Pn**	**03 19 01.2**	**+2.0**
	340nm,1.5s,116μm5.2nm						
KASI	**Kota Agung**	**8.61**	**139**	P	**Pn**	**03 19 05.7**	**-2.2**
	549nm,0.6s,5μm						
SBJI	**Serang**	**10.17**	**134**	P	**Pn**	**03 19 27.5**	**-1.6**
	372nm,0.9s,14μm						
DBJI	**Dramaga**	**10.91**	**133**	P	**Pn**	**03 19 35.7**	**-3.6**
	312nm,0.6s,13μm						
SKJI	**Sukabumi**	**11.09**	**136**	P	**Pn**	**03 19 37.9**	**-3.8**
	445nm,0.5s,8μm1μm						
CNJI	**Cibinong**	**11.70**	**135**	P	Pn	03 19 44.7	-5.4
	159nm,0.7s,2μm						
LEM	**Lembang**	**11.73**	**131**	P	**Pn**	**03 19 50.3**	**-0.4**
	94nm,0.5s,baz=250,slow=6.3,SNR=18						
LEM				S	**Sn**	**03 22 00.1**	**+0.1**
	18nm,0.3s,baz=156,slow=24,SNR=1.0						
LEM				LR	LR	03 24 47.4	
	comp=Z,445nm,21.8s,baz=286,slow=39						
LEM	**Lembang**	**11.73**	**131**	P	**Pn**	**03 19 47.7**	**-3.0**
	269nm,0.8s,2μm						
JCJI	**Jatiwangi**	**12.02**	**128**	P	**Pn**	**03 19 52.2**	**-2.2**
	572nm,0.7s						
STKI	**Sintang**	**12.72**	**94**	P	**Pn**	**03 20 05.7**	**+1.8**
	3μm,0.9s,25μm						
CMJI	**Cimerak**	**12.98**	**132**	P	Pn	03 20 00.4	-7.0
KPJI	**Karang Pucung**	**13.06**	**129**	P	**Pn**	**03 20 05.7**	**-2.7**
	238nm,0.5s,2μm						
COCO	**West Island**	**13.23**	**188**		**Pn**	**03 20 11.2**	**+0.6**
COCO	**West Island**	**13.23**	**188**	P	**Pn**	**03 20 11.3**	**+0.6**
NAYO	**Nakonayok**	**13.49**	**11**	P	**Pn**	**03 20 15.7**	**+1.6**
SBUM	**Sibu**	**13.50**	**84**	Pn	**Pn**	**03 20 15.7**	**+1.4**
SMRI	**Semarang**	**14.10**	**125**	Pn	**Pn**	**03 20 23.0**	**+0.8**
SMRI	**Semarang**	**14.10**	**125**	P	**Pn**	**03 20 23.4**	**+1.3**
SMRI	**Semarang**	**14.10**	**125**	P	**Pn**	**03 20 22.1**	**0.0**
	240nm,1.0s,6μm						
YOGI	**Yogyakarta**	**14.42**	**127**	P	**Pn**	**03 20 22.9**	**-3.5**
	167nm,1.1s						
UGM	**Wanagama**	**14.66**	**127**	Pn	**Pn**	**03 20 26.6**	**-2.9**
UGM	**Wanagama**	**14.66**	**127**	P	Pn	03 20 23.9	-5.6
	319nm,1.2s,4μm						
NGJI	**Ngawi**	**15.12**	**123**	P	**Pn**	**03 20 34.9**	**-0.4**
	267nm,0.8s,4μm						
BWJI	**Bawean**	**15.42**	**116**	P	**Pn**	**03 20 39.4**	**+0.2**
	690nm,0.7s						
UBPT	**Khong Chiam**	**15.67**	**25**	Pn	**Pn**	**03 20 43.2**	**+0.9**
UBPT	**Khong Chiam**	**15.67**	**25**	P	**

PALK Pallekele 19.09 290 *i* P **Pn** **03 21 24.5 +0.2**
PALK pmax pmax
comp=Z,102nm,0.9s
PALK Pallekele 19.09 290 P **Pn** **03 21 24.9 +0.6**
comp=Z,59nm,0.8s,baz=209,slow=10,SNR=19
PALK S S 03 24 41.3 -14
comp=Z,21nm,0.3s,baz=127,slow=23,SNR=10
PALK LR LR 03 27 54.6
comp=Z,842nm,21.6s,baz=218,slow=34
PALK Pallekele 19.09 290 P **Pn** **03 21 24.9 +0.6**
CRAI Chiangrai 19.20 5 P **P** **03 21 24.1 +0.4**
TWSI Taliwang, Sumb 20.45 119 P **P** **03 21 34.8 -2.7**
comp=Z,220nm,0.8s,comp=Z,2µm
SLVN Son La 20.84 14 P **P** **03 21 42.0 +0.4**
QIZ Qiongzhong 20.96 30 P **P** **03 21 43.2 +0.3**
QIZ pP **pP** **03 22 00.0 +1.3**
QIZ sP **sP** **03 22 08.0 -0.4**
QIZ S **S** **03 25 32.8 +0.5**
QIZ sS **sS** **03 26 00.6 +2.5**
QIZ pmax pmax
comp=Z,36nm,1.2s
QIZ pmax pmax
comp=Z,250nm,3.9s
QIZ LR LR
comp=Z,420nm,16.8s
QIZ LR LR
comp=Z,500nm,21.9s
QIZ LR LR
comp=Z,1µm,31.1s
QIZ Qiongzhong 20.96 30 P **P** **03 21 43.3 +0.5**
MPSI Mapaga 21.12 92 P **P** **03 21 46.0 +1.4**
comp=Z,403nm,0.8s,comp=Z,5µm
PLAI Plampang 21.28 118 P **P** **03 21 41.5 -4.9**
comp=Z,275nm,0.9s,comp=Z,3µm
TTSI Tana Toraja 21.40 101 P **P** **03 21 48.3 +0.7**
comp=Z,264nm,1.1s,comp=Z,3µm
KAPI Kappang 21.77 106 P **P** **03 21 52.2 +0.6**
KAPI Kappang 21.77 106 *i* P **P** **03 21 52.5 +0.9**
KAPI pmax pmax
comp=Z,440nm,1.0s
TOLI2 Tolitoli 21.99 89 P **P** **03 21 55.5 +1.5**
TOLI2 Tolitoli 21.99 89 P **P** **03 21 55.0 +1.0**
SAIH SAIHA 22.11 346 *eP* **P** **03 21 55.7 +0.3**
BKSI Bulukumba 22.21 107 P **P** **03 21 53.5 -2.8**
comp=Z,319nm,1.0s,comp=Z,2µmcomp=Z,3µm
VIS Vishakhapatnam 22.54 318 *eP* **P** **03 22 00.1 +0.3**
MRSI Marisa 23.15 91 P **P** **03 22 05.5 -0.6**
comp=Z,1µm,0.9s,comp=Z,9µm
AZL Aizawl 23.39 346 *eP* **P** **03 22 08.7 +0.4**
RAGD RAYAGADA 23.57 321 *eP* **P** **03 22 10.5 +0.6**
VJD Vijayawada 23.62 312 *eP* **P** **03 22 12.4 +2.1**
TNCH TengChong 23.91 359 P **P** **03 22 13.7 +0.6**
TNCH S **S** **03 26 23.5 -0.7**
TNCH sS Sn 03 26 50.6 -2.9
TNCH pmax pmax
comp=Z,130nm,0.4s
TNCH pmax pmax
comp=Z,170nm,2.8s
TNCH LR LR
comp=Z,930nm,8.8s
TNCH LR LR
comp=Z,570nm,8.9s
TNCH LR LR
comp=Z,750nm,11.2s
LUWI Luwuk 24.06 95 P **P** **03 22 15.6 +1.2**
LUWI Luwuk 24.06 95 P **P** **03 22 13.9 -0.5**
comp=Z,997nm,1.0s,comp=Z,9µm
IMP Imphal 24.17 349 *eP* **P** **03 22 14.0 -1.2**
IMP IAmb IAmb 03 22 16.1
comp=Z,49nm,0.8s
IMP IAmb IAmb 03 22 22.2
comp=Z,161nm,1.2s
KMI Kunming 24.30 9 ⇓P **P** **03 22 18.2 +1.5**
KMI pP pP 03 22 33.8 -0.6
KMI sP sP 03 22 43.8 +0.3
KMI S **S** **03 26 28.3 -2.3**
KMI ScP **ScP** **03 29 27.7 +0.7**
KMI pmax pmax
comp=Z,29nm,0.9s
KMI LR LR
comp=Z,400nm,16.3s
KMI LR LR
comp=Z,380nm,14.7s
KMI LR LR
comp=Z,570nm,17.6s
BASI Baing, Sumba 24.37 118 P **P** **03 22 10.9 -6.2**
comp=Z,731nm,0.9s,comp=Z,6µmcomp=Z,2µm
BBSI Bau Bau 24.60 105 P **P** **03 22 19.1 -0.2**
comp=Z,639nm,1.0s,comp=Z,5µm
EDFI Ende, Flores 24.78 113 P **P** **03 22 14.3 -6.7**
comp=Z,190nm,0.8s,comp=Z,1µm
KOHI KOHIMA 25.01 350 *eP* **P** **03 22 22.8 -0.3**
KOHI IAmb IAmb 03 22 32.5
comp=Z,188nm,0.6s
KMSI Cibinong 25.19 91 P **P** **03 22 22.9 -1.7**
comp=Z,1µm,1.0s,comp=Z,11µm
MMRI Maumere 25.24 113 P **P** **03 22 26.4 +1.2**
MMRI Maumere 25.24 113 P **P** **03 22 22.9 -2.2**
comp=Z,615nm,0.7s,comp=Z,5µm
SHL Shillong 25.34 345 *eP* **P** **03 22 26.0 0.0**
TGY Tagaytay City 25.49 58 LR LR 03 32 24.9
comp=Z,365nm,21.9s,baz=250,slow=36
MOKO MOKOCHONG 25.53 351 *eP* **P** **03 22 27.8 +0.1**
MOKO IAmb IAmb 03 22 29.6
comp=Z,617nm,1.2s
PZH PanZhiHua 25.54 6 P **P** **03 22 29.9 +2.1**
PZH sP **sP** **03 22 54.7 +0.2**
PZH PP **PnPn** **03 23 11.3 +3.5**
PZH S **S** **03 26 51.9 +1.9**
PZH ScS **ScS** **03 33 18.2 -1.5**
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,200nm,6.2s
PZH LR LR
comp=Z,430nm,18.1s
PZH LR LR
comp=Z,590nm,17.2s
PZH LR LR
comp=Z,430nm,16.9s
HYB Hyderabad 25.75 311 ⇓*eP* **P** **03 22 30.4 +0.7**
HYB IVmB_BB 03 22 55.2
comp=Z,883nm,6.5s
KAAM Kaadhehdhoo 25.80 269 P **P** **03 22 32.8 +2.7**
BOK Bokaro 25.90 332 *eP* **P** **03 22 32.7 +1.7**
HKPS Hong Kong Po S 25.91 34 P **P** **03 22 31.8 +0.8**
GUWA GUWAHATI 25.98 345 *eP* **P** **03 22 33.8 +2.1**
GYA Guiyang 26.44 16 P **P** **03 22 35.6 -0.3**
GYA pP pP 03 22 53.9 +0.2
GYA S **S** **03 27 04.8 +0.5**
GYA pmax pmax
comp=Z,26nm,0.8s
GYA LR LR
comp=Z,710nm,21.1s
ITAN ITANAGAR 26.47 350 *eP* **P** **03 22 36.8 +0.7**
ITAN IAmb IAmb 03 22 38.2
comp=Z,1µm,1.2s
ZIRO ZIRO 26.82 350 *eP* **P** **03 22 39.6 +0.3**
SANI Sanana 27.36 96 P **P** **03 22 41.6 -2.6**
comp=Z,76nm,1.0s,comp=Z,892nm
DAV Davao City (W) 27.39 77 P **P** **03 22 45.8 +1.4**
comp=Z,224nm,0.4s,baz=36,slow=1.4,SNR=8.6
DAV LR LR 03 34 39.1
comp=Z,598nm,21.6s,baz=239,slow=38
DAV Davao City (W) 27.39 77 P **P** **03 22 46.6 +2.1**
SOEI Soe 27.52 113 P **P** **03 22 46.4 +0.7**
SOEI Soe 27.52 113 P **P** **03 22 40.0 -5.7**
comp=Z,449nm,0.7s,comp=Z,4µm
GIRL Giralia 27.89 148 P **P** **03 22 50.6 +1.8**
baz=28,SNR=6.5
GIRL Giralia 27.89 148 P **P** **03 22 51.2 +2.4**
GTK Tadong 27.96 340 *eP* **P** **03 22 50.3 +0.7**
GTK IAmb IAmb 03 22 51.5
comp=Z,40nm,0.8s
NLAI Namlea 28.61 99 P **P** **03 22 52.1 -3.2**
comp=Z,159nm,0.9s,comp=Z,4µm
LBMI Labuha 28.75 93 P **P** **03 22 55.1 -1.6**
comp=Z,182nm,0.9s,comp=Z,2µm
ALBI Allahabad 29.22 327 *eP* **P** **03 23 03.8 +3.2**
LSA Lhasa 29.48 346 P **P** **03 23 04.2 +0.9**
LSA Lhasa 29.48 346 P **P** **03 23 04.3 +0.9**
LSA pmax pmax
comp=Z,54nm,0.9s
LSA Lhasa 29.48 346 P **P** **03 23 04.7 +1.3**
MBWA Marble Bar 30.06 138 P **P** **03 23 08.1 +0.1**
MBWA P **P** **03 23 08.1 +0.1**
MBWA Marble Bar 30.06 138 P **P** **03 23 08.0 -0.1**
MBWA pP **pP** **03 23 25.2 -0.8**
CD2 Chengdu 30.14 9 P **P** **03 23 07.8 -0.9**
CD2 S **S** **03 27 59.5 -2.8**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 pmax pmax
comp=Z,110nm,4.9s
CD2 LR LR
comp=Z,320nm,10.8s
CD2 LR LR
comp=Z,730nm,7.8s
CD2 LR LR
comp=Z,580nm,22.1s
PSA00 Pilbara Seismi 30.42 139 P **P** **03 23 11.1 -0.2**
PSA00 Pilbara Seismi 30.42 139 P **P** **03 23 11.0 -0.3**
PSA00 IAmb IAmb 03 23 14.0
comp=Z,26nm,0.9s
PSA00 Pilbara Seismi 30.42 139 P **P** **03 23 11.5 +0.2**
TPUB Ta-pu 30.69 42 P **P** **03 23 14.8 +1.2**
TPUB IAmb IAmb 03 23 34.1
comp=Z,49nm,0.8s
ENH Enshi 30.86 18 P **P** **03 23 13.9 -1.1**
ENH IAmb IAmb 03 23 41.0
comp=Z,56nm,0.7s
YULB Yu-li 31.20 43 P **P** **03 23 19.2 +1.0**
YULB Yu-li 31.20 43 P **P** **03 23 18.8 +0.6**
SSLB Suanglung 31.24 42 P **P** **03 23 18.8 +0.3**
SSLB IAmb IAmb 03 23 39.2
comp=Z,78nm,1.0s
NACB Ninganchiao 31.93 42 P **P** **03 23 26.2 +1.7**
YHNB Yeheng 32.12 41 P **P** **03 23 26.9 +0.5**
YHNB IAmb IAmb 03 24 14.9
comp=Z,137nm,1.9s
FITZ Fitzroy Crossi 32.52 127 P **P** **03 23 27.4 -2.4**
baz=32,SNR=8.1
SWI Sorong 32.52 93 P **P** **03 23 25.1 -4.8**
comp=Z,83nm,0.7s,comp=Z,2µmcomp=Z,5µm
WHN Wuhan 32.91 25 ⇓P **P** **03 23 34.3 +1.3**
WHN S **S** **03 28 43.9 -1.4**
WHN pmax pmax
comp=Z,64nm,0.7s
WHN LR LR
comp=Z,2µm,21.5s
LGTI Lohaghat 33.38 330 *eP* **P** **03 23 38.1 +1.0**
MEEK Meekatharra 33.45 147 P **P** **03 23 39.2 +1.3**
baz=34,SNR=16
MEEK Meekatharra 33.45 147 P **P** **03 23 38.9 +1.0**
FAKI Fak Fak 33.67 97 P **P** **03 23 39.5 -0.5**
FAKI IAmb IAmb 03 23 40.4
comp=Z,73nm,0.9s
FAKI Fak Fak 33.67 97 P **P** **03 23 39.3 -0.6**
FAKI Fak Fak 33.67 97 P **P** **03 23 36.2 -3.7**
comp=Z,123nm,1.1s
KNRA Kunungurra 33.92 120 P **P** **03 23 44.1 +2.1**
KNRA Kunungurra 33.92 120 P **P** **03 23 43.5 +1.5**
MORW Morawa 34.13 152 P **P** **03 23 46.1 +2.4**
baz=34,SNR=18
MORW Morawa 34.13 152 P **P** **03 23 45.8 +2.1**
MORW IAmb IAmb 03 23 47.1
comp=Z,85nm,1.0s
MORW Morawa 34.13 152 P **P** **03 23 45.9 +2.1**
XAN Xi'an 34.23 15 ⇑P **P** **03 23 43.1 -1.4**
XAN S **S** **03 29 01.2 -4.7**
XAN pmax pmax
comp=Z,110nm,0.9s
XAN pmax pmax
comp=Z,240nm,4.4s
XAN LR LR
comp=Z,830nm,12.8s
XAN LR LR
comp=Z,620nm,4.8s
XAN LR LR
comp=Z,950nm,14.7s
XAN Xi'an 34.23 15 P **P** **03 23 43.3 -1.2**
XAN pP **pP** **03 24 01.2 -1.5**
XAN sP **sP** **03 24 09.4 -2.2**
DRS Darwin Rock St 34.54 114 P **P** **03 23 46.6 -0.8**
MTN Manton Dam 34.90 114 P **P** **03 23 48.9 -1.6**
baz=35,SNR=3.8
MTN Manton Dam 34.90 114 P **P** **03 23 52.1 +1.6**
GOMU GeErMu 35.24 354 P **P** **03 23 54.4 +0.8**
GOMU S **S** **03 29 17.2 -4.8**
GOMU pmax pmax
comp=Z,8.0nm,1.1s
LZH Lanzhou 35.25 7 *eP* **P** **03 23 53.0 -0.4**
LZH PcP **PcP** **03 26 23.8 +1.0**
LZH ScP **ScP** **03 30 01.9 0.0**
LZH ScS **ScS** **03 34 05.0 -1.3**
LZH pmax pmax
comp=Z,23nm,1.1s
LZH LR LR
comp=Z,470nm,15.2s
LZH LR LR
comp=Z,850nm,16.6s
LZH LR LR
comp=Z,530nm,18.0s
BLDU Baliduq 35.75 153 P **P** **03 23 59.3 +1.7**
baz=36,SNR=9.2
LYN LuoYang 35.76 20 ⇓P **P** **03 23 57.6 0.0**
LYN pP pP 03 24 15.6 -0.3
LYN sP sP 03 24 23.9 -0.9
LYN S **S** **03 29 29.0 -0.3**
LYN pmax pmax
comp=Z,140nm,0.8s
LYN pmax pmax
comp=Z,510nm,3.9s
LYN LR LR
comp=Z,570nm,15.1s
LYN LR LR
comp=Z,410nm,11.5s
LYN LR LR
comp=Z,820nm,18.6s
NJ2 Nanjing 36.25 30 *eP* **P** **03 24 02.9 +1.1**
NJ2 pP **pP** **03 24 18.3 -1.8**
NJ2 pmax pmax
comp=Z,62nm,0.8s
SMLA Simla 36.31 328 *i* P **P** **03 24 02.6 +0.3**
MUN Mundaring 36.70 155 P **P** **03 24 08.2 +2.5**
baz=37,SNR=30
MUN Mundaring 36.70 155 P **P** **03 24 08.0 +2.4**
MUN Mundaring 36.70 155 P **P** **03 24 08.4 +2.8**
KLBR Kellerberrin 37.05 153 P **P** **03 24 10.3 +1.6**
baz=37,SNR=9.6
KLBR Kellerberrin 37.05 153 P **P** **03 24 10.7 +2.0**
DHRM DHARAMSHALA 37.65 328 *eP* **P** **03 24 14.2 +0.2**
NWAO Narrogin (SRO) 37.95 154 P **P** **03 24 17.9 +1.6**
baz=38,SNR=18
NWAO P **P** **03 24 17.9 +1.6**
baz=38,SNR=18
NWAO Narrogin (SRO) 37.95 154 P **P** **03 24 18.5 +2.3**
NWAO Narrogin (SRO) 37.95 154 P **P** **03 24 18.9 +2.6**
NWAO Narrogin (SRO) 37.95 154 P **P** **03 24 18.5 +2.3**
NWAO pmax pmax
comp=Z,121nm,1.0s
NWAO Narrogin (SRO) 37.95 154 P **P** **03 24 18.8 +2.6**
NWAO Narrogin (SRO) 37.95 154 P **P** **03 24 18.5 +2.3**
JOW Kunigami 38.25 45 P **P** **03 24 20.0 +1.1**
JOW Kunigami 38.25 45 LR LR 03 39 31.4
comp=Z,166nm,21.8s,baz=250,slow=35
GTA Gaotai 38.26 1 P **P** **03 24 19.5 +0.6**
GTA pP pP 03 24 40.6 +3.3
GTA PcP **PcP** **03 26 32.7 +0.9**
GTA ScP **ScP** **03 30 13.8 +0.8**
GTA ScS **ScS** **03 34 20.6 -2.4**
GTA pmax pmax
comp=Z,13nm,1.0s
GTA LR LR
comp=Z,170nm,12.0s
GTA LR LR
comp=Z,320nm,17.1s
GTA LR LR
comp=Z,200nm,16.3s
H01W3 Cape Leeuwin H 38.46 160 T T 04 06 13.5
baz=333,slow=76,SNR=7.4
H01W2 Cape Leeuwin H 38.47 160 T T 04 06 18.7
baz=333,slow=76,SNR=7.7
H01W1 Cape Leeuwin H 38.48 160 T T 04 06 12.0
baz=333,slow=76,SNR=7.0
WRKA Warakurna 38.54 134 P **P** **03 24 20.6 -0.7**
baz=39,SNR=9.1
TIY Taiyuan 38.66 17 P **P** **03 24 24.6 +2.4**
TIY S **S** **03 30 09.6 -3.8**
TIY pmax pmax
comp=Z,22nm,0.8s
TIY LR LR
comp=Z,330nm,10.4s
TIY LR LR
comp=Z,480nm,11.4s
TIY LR LR
comp=Z,400nm,25.0s
KMBL Kambalda 38.92 148 P **P** **03 24 25.9 +1.4**
baz=39,SNR=28
KMBL Kambalda 38.92 148 P **P** **03 24 25.9 +1.4**
HNS HongShan 39.10 20 ⇓P **P** **03 24 25.4 -0.4**
HNS pP **pP** **03 24 44.3 0.0**
HNS sP **sP** **03 24 52.3 -0.8**
HNS PcP **PcP** **03 26 35.0 +0.7**
HNS ScP **ScP** **03 30 16.1 0.0**
HNS S **S** **03 30 18.8 -1.1**
HNS ScS **ScS** **03 34 28.2 +0.6**
HNS pmax pmax
comp=Z,94nm,0.7s
HNS LR LR
comp=Z,390nm,16.7s
HNS LR LR
comp=Z,340nm,15.1s
HNS LR LR
comp=Z,400nm,19.6s
RKGY Rocky Gully 39.29 156 P **P** **03 24 30.6 +3.1**
baz=40,SNR=19
NIL Nilore 40.37 326 P **P** **03 24 36.9 +0.4**
NIL Nilore 40.37 326 P **P** **03 24 36.9 +0.4**
NIL pmax pmax
comp=Z,92nm,0.7s
NIL Nilore 40.37 326 P **P** **03 24 36.5 0.0**
NIL P **P** **03 24 36.5 0.0**
NIL Nilore 40.37 326 P **P** **03 24 36.7 +0.2**
NIL pP **pP** **03 24 53.7 -1.3**
NIL sP **sP** **03 25 02.6 -1.1**
WB0 Warramunga Arr 40.54 122 P **P** **03 24 37.0 -1.1**
WRA Warramunga Arr 40.57 123 *i* P **P** **03 24 36.7 -1.6**
WRA pmax pmax
comp=Z,108nm,0.8s
WRA Warramunga Arr 40.57 123 P **P** **03 24 36.8 -1.6**
comp=Z,94nm,0.8s,baz=300,slow=9.2,SNR=70
WRA ScP **ScP** **03 30 21.9 -0.3**
comp=Z,4.9nm,0.8s,baz=309,slow=3.5,SNR=5.3
WRA S **S** **03 30 36.1 -6.3**
comp=Z,9.7nm,1.1s,baz=292,slow=16,SNR=4.7
comp=Z,94nm,0.8s
WRAB Tennant Creek 40.58 123 P **P** **03 24 37.6 -0.8**
WRAB Tennant Creek 40.58 123 *i* P **P** **03 24 36.9 -1.5**
WRAB pmax pmax
comp=Z,146nm,0.9s
WB2 Warramunga Arr 40.58 123 P **P** **03 24 36.8 -1.7**
baz=41
WB2 Warramunga Arr 40.58 123 P **P** **03 24 37.6 -0.8**
BTO Baotou 40.74 13 *eP* **P** **03 24 42.5 +3.0**
BTO pP **pP** **03 25 00.9 +2.9**
BTO sP **sP** **03 25 09.8 +2.9**
BTO PP **PnPn** **03 26 21.3 +1.8**
BTO S **S** **03 30 49.2 +4.6**
BTO sS **sS** **03 31 20.5 +4.3**
BTO SS **SS** **03 33 50.1 +1.9**
BTO pmax pmax
comp=Z,31nm,1.6s
BTO pmax pmax
comp=Z,170nm,6.7s
BTO LR LR
comp=Z,660nm,17.4s
BTO LR LR
comp=Z,930nm,15.2s
BTO LR LR
comp=Z,900nm,22.4s
WR0 Warramunga Arr 40.75 123 P **P** **03 24 38.9 -0.9**
HHC Hu-ho-hao-te 41.34 15 ⇑*i* P **P** **03 24 46.0 +1.6**
HHC S **S** **03 30 55.8 +2.3**
HHC sS sS 03 31 31.9 +6.7
HHC ScS **ScS** **03 34 39.2 -1.9**
HHC pmax pmax
comp=Z,16nm,1.0s
HHC pmax pmax
comp=Z,140nm,5.8s
HHC LR LR
comp=Z,520nm,18.2s
HHC LR LR
comp=Z,250nm,14.1s
HHC LR LR
comp=Z,560nm,17.7s
BJT Baijiatuau 41.95 20 P **P** **03 24 50.3 +1.0**
BJT IAmb IAmb 03 24 52.1
comp=Z,54nm,0.7s
BJT Baijiatuau 41.95 20 P **P** **03 24 50.3 +1.0**
BJT pmax pmax
comp=Z,54nm,0.7s
BJT Baijiatuau 41.95 20 P **P** **03 24 50.4 +1.0**
BJT pP **pP** **03 25 07.9 0.0**
BJI Beijing 41.98 20 P **P** **03 24 50.6 +1.1**
BJI pP **pP** **03 25 06.9 -1.2**
BJI sP **sP** **03 25 15.3 -1.6**
BJI ScP **ScP** **03 30 27.2 -0.1**
BJI S **S** **03 31 04.4 +1.8**
BJI pmax pmax
comp=Z,40nm,1.1s
BJI pmax pmax
comp=Z,130nm,3.6s
ASPA Alice Springs 42.00 128 P **P** **03 24 48.6 -1.4**
baz=42
ASAR Alice Springs 42.00 128 P **P** **03 24 48.9 -1.1**
ASAR Alice Springs 42.00 128 P **P** **03 24 48.9 -1.1**
ASAR Alice Springs 42.00 128 P **P** **03 24 48.7 -1.3**
comp=Z,51nm,0.8s,baz=304,slow=7.8,SNR=100
ASAR PcP **PcP** **03 26 44.1 0.0**
comp=Z,7.3nm,0.8s,baz=306,slow=2.1,SNR=3.3
ASAR ScP **ScP** **03 30 27.6 -0.2**
comp=Z,5.2nm,0.8s,baz=309,slow=4.3,SNR=5.3
ASAR S **S** **03 30 56.9 -6.7**
comp=Z,13nm,1.0s,baz=300,slow=14,SNR=9.8
ASAR ScS **ScS** **03 34 43.3 -2.3**
comp=Z,4.5nm,1.1s,baz=300,slow=6.4,SNR=7.4
comp=Z,51nm,0.8s
AS01 Alice Springs 42.04 128 P **P** **03 24 49.5 -0.8**
FORT Forrest 42.09 141 P **P** **03 24 51.5 +0.9**
baz=42,SNR=39
FORT Forrest 42.09 141 P **P** **03 24 51.7 +1.1**
FORT Forrest 42.09 141 P **P** **03 24 51.5 +0.9**
DL2 Dalian 43.15 26 P **P** **03 25 00.2 +1.2**
KBL Kabul 43.43 323 P **P** **03 25 02.0 +0.4**
KBL Kabul 43.43 323 P **P** **03 25 02.0 +0.4**
KBL pmax pmax
comp=Z,22nm,0.8s
KBL Kabul 43.43 323 P **P** **03 25 01.8 +0.1**
SNR=7.5
KSH Kashi 43.64 334 P **P** **03 25 02.6 -0.6**
KSH pP pP 03 25 21.9 0.0
KSH sP sP 03 25 28.8 -1.8
KSH S **S** **03 31 23.5 -3.9**
KSH pmax pmax
comp=Z,15nm,0.8s
KSH LR LR
comp=Z,310nm,17.9s
KSH LR LR
comp=Z,260nm,17.9s
KSH LR LR
comp=Z,320nm,19.2s
NGCH Negor - Chabah 43.66 307 P **P** **03 25 04.8 +1.5**
JLN Jalan Bani Buh 43.71 302 P **P** **03 25 04.7 +0.9**
SNR=6.3
JLN P **P** **03 25 04.7 +0.9**
SNR=6.3
WUS Wushi 43.78 339 P **P** **03 25 05.0 +0.8**
WUS pP **pP** **03 25 22.8 -0.1**
WUS sP **sP** **03 25 30.6 -1.1**
WMQ Urumqi 43.79 348 *eP* **P** **03 25 06.0 +1.8**
WMQ sP sP 03 25 31.0 -0.6
WMQ PcS **PcS** **03 30 41.0 -1.5**
WMQ pmax pmax
comp=Z,87nm,0.9s
WMQ pmax pmax
comp=Z,170nm,3.7s
WMQ LR LR
comp=Z,220nm,21.5s
JNU Nakatsue 43.94 40 P **P** **03 25 05.7 +0.2**
JNU IAmb IAmb 03 25 07.1
comp=Z,107nm,1.1s
JNU Nakatsue 43.94 40 P **P** **03 25 06.0 +0.5**
JNU Nakatsue 43.94 40 LR LR 03 42 53.0

comp=Z,182nm,21.2s,baz=197,slow=35
TJN Taejon 44.06 34 *ce* P **P** **03 25 07.1 +0.8**
WBK Wadi Bani Khal 44.27 302 P **P** **03 25 09.0 +0.7**
MHTO MHTO 44.51 299 P **P** **03 25 10.4 +0.1**
SNR=5.6
DQM DQM 44.52 298 P **P** **03 25 11.2 +0.9**
TARG Taragay, Kyrgy 44.76 338 P **P** **03 25 13.0 +0.6**
TARG IAmb IAmb 03 25 51.2
comp=Z,83nm,1.0s
TARG Taragay, Kyrgy 44.76 338 P **P** **03 25 13.0 +0.6**
TARG pmax pmax
comp=Z,83nm,1.0s
WSAR Wadi Sarin 44.80 303 LR LR 03 41 34.5
comp=Z,134nm,20.9s,baz=130,slow=33
JMDO Jabal Madar 44.91 301 P **P** **03 25 14.1 +0.7**
KSAR Wonju Array Be 45.12 33 P **P** **03 25 14.9 +0.1**
KSAR Wonju Array Be 45.12 33 P **P** **03 25 14.9 +0.1**
KSRS Korea Array 45.15 33 P **P** **03 25 15.0 0.0**
comp=Z,57nm,0.7s,baz=223,slow=8.5,SNR=116
KSRS pP **pP** **03 25 32.7 -1.1**
comp=Z,36nm,0.7s,baz=220,slow=8.9,SNR=8.2
KSRS PcP **PcP** **03 26 54.6 +0.3**
comp=Z,2.2nm,0.6s,baz=195,slow=3.0,SNR=0.9
KSRS ScP **ScP** **03 30 40.1 -0.2**
comp=Z,2.8nm,0.9s,baz=197,slow=3.9,SNR=5.2
KSRS LR LR 03 44 34.4
comp=Z,218nm,18.6s,baz=220,slow=37
comp=Z,57nm,0.7s
KS19 Wonju Array Si 45.15 33 P **P** **03 25 15.1 0.0**
PRZ Przheval'sk 45.20 339 P **P** **03 25 16.3 +0.7**
PRZ IAmb IAmb 03 25 44.9
comp=Z,80nm,0.9s
PRZ Przheval'sk 45.20 339 P **P** **03 25 16.3 +0.7**
PRZ pmax pmax
comp=Z,80nm,0.9s
SMDO Samad 45.22 302 P **P** **03 25 16.6 +0.6**
NRN Naryn 45.23 336 P **P** **03 25 16.7 +0.7**
NRN IAmb IAmb 03 25 48.2
comp=Z,67nm,0.8s
NRN Naryn 45.23 336 P **P** **03 25 16.7 +0.7**
NRN pmax pmax
comp=Z,67nm,0.8s
QIS Mount Isa 45.32 121 P **P** **03 25 14.6 -2.1**
baz=45,SNR=4.8
QIS Mount Isa 45.32 121 P **P** **03 25 17.0 +0.3**
BIDO Bidbid 45.34 303 P **P** **03 25 17.8 +1.1**
SHLS Shalkode 45.41 340 *eP* **P** **03 25 17.2 0.0**
SHLS pmax pmax
comp=Z,41nm,0.9s
SHLS Shalkode 45.41 340 *eP* **P** **03 25 17.3 0.0**
comp=Z,41nm,0.9s,baz=340
XLT XiLinHaoTe 45.43 18 *eP* **P** **03 25 18.0 +0.8**
XLT S **S** **03 31 55.3 +2.3**
XLT pmax pmax
comp=Z,71nm,0.9s
XLT pmax pmax
comp=Z,230nm,4.2s
OOD Oodnadatta 45.53 132 P **P** **03 25 17.7 -0.5**
DRK Karamyk 45.55 331 P **P** **03 25 19.4 +0.9**
PDGK Podgornoye 45.56 340 P **P** **03 25 18.9 +0.6**
UZB Uzynbulak 45.56 340 *eP* **P** **03 25 19.4 +1.0**
UZB pmax pmax
comp=Z,24nm,0.6s
UZB Uzynbulak 45.56 340 *eP* **P** **03 25 19.4 +1.0**
comp=Z,24nm,0.6s,baz=340
SHAO Shalim 45.64 294 P **P** **03 25 20.1 +0.8**
SATY Saty 45.70 339 *eP* **P** **03 25 20.6 +1.2**
SATY pmax pmax
comp=Z,39nm,0.7s
SATY Saty 45.70 339 *eP* **P** **03 25 20.6 +1.2**
comp=Z,39nm,0.7s,baz=339
MULG Mulgathing 45.76 136 P **P** **03 25 19.7 -0.3**
ZHN Zhinishke 45.78 339 *eP* **P** **03 25 21.1 +1.0**
ZHN pmax pmax
comp=Z,21nm,0.8s
ZHN Zhinishke 45.78 339 *eP* **P** **03 25 21.1 +1.0**
comp=Z,21nm,0.8s,baz=339
ULHL Ulahol 45.81 337 P **P** **03 25 21.2 +0.7**
SNR=31
BSY Bisya 45.83 301 P **P** **03 25 21.6 +0.9**
SNR=5.2
GAR Garm 45.93 329 P **P** **03 25 21.5 +0.1**
GAR IAmb IAmb 03 25 51.4
comp=Z,58nm,0.7s
KPKS Kokpek 45.95 340 *eP* **P** **03 25 22.4 +1.0**
KPKS Kokpek 45.95 340 *eP* **P** **03 25 22.4 +1.0**
baz=340
HOQ Hoqain 46.05 302 P **P** **03 25 22.1 -0.3**
DMTO DMTO 46.17 294 P **P** **03 25 24.1 +0.7**
TNSS Tian-Shan 46.21 338 *eP* **P** **03 25 24.6 +0.8**
TNSS Tian-Shan 46.21 338 *eP* **P** **03 25 24.7 +0.8**
baz=338
MDOK Medeo 46.28 338 *eP* **P** **03 25 25.2 +1.1**
MDOK Medeo 46.28 338 *eP* **P** **03 25 25.2 +1.1**
baz=338
CHGR Chuyangaron 46.29 328 P **P** **03 25 24.1 0.0**
CHGR IAmb IAmb 03 26 03.2
comp=Z,61nm,0.8s
CHGR Chuyangaron 46.29 328 P **P** **03 25 24.1 0.0**
CHGR pmax pmax
comp=Z,61nm,0.8s
AAA Alma-Ata 46.37 338 *eP* **P** **03 25 25.7 +1.1**
AAA pmax pmax
comp=Z,33nm,0.7s
AAA Alma-Ata 46.37 338 *eP* **P** **03 25 25.8 +1.1**
comp=Z,33nm,0.7s,baz=338
SIMJ Simiganj 46.37 328 P **P** **03 25 24.6 -0.3**
SIMJ IAmb IAmb 03 25 26.1
comp=Z,82nm,1.2s
SIMJ Simiganj 46.37 328 P **P** **03 25 24.4 -0.4**
SIMJ pP **pP** **03 25 43.2 -0.5**
SNY Shenyang 46.40 26 ⇓ P **P** **03 25 25.2 +0.4**
SNY pmax pmax
comp=Z,170nm,0.9s
COEN Coen 46.40 110 P **P** **03 25 24.8 -0.5**
baz=46,SNR=6.0
ARSB Arslanbob 46.44 333 P **P** **03 25 26.0 +0.6**
ARSB Arslanbob 46.44 333 P **P** **03 25 26.0 +0.6**
ARSB pmax pmax
comp=Z,30nm,1.1s
BTK Batken 46.48 330 P **P** **03 25 26.8 +1.2**
BTK IAmb IAmb 03 25 57.1
comp=Z,57nm,1.1s
BTK Batken 46.48 330 P **P** **03 25 26.8 +1.2**
BTK pmax pmax
comp=Z,57nm,1.1s
UCH Uchtor 46.50 335 P **P** **03 25 27.0 +0.8**
SNR=50
JASK Jask - Hormozg 46.53 306 P **P** **03 25 27.4 +1.3**
ARQ Araqi 46.63 302 P **P** **03 25 25.8 -1.2**
ARQ P **P** **03 25 26.0 -0.9**
TKM2 Tokmak 2 46.64 337 P **P** **03 25 28.1 +1.2**
SNR=53
TKM2 Tokmak 2 46.64 337 P **P** **03 25 27.6 +0.7**
KBK Karagaybulak 46.68 336 P **P** **03 25 28.9 +1.7**
SNR=30
RBK Rabkut 46.80 293 P **P** **03 25 29.2 +0.9**
SNR=6.6
RBK P **P** **03 25 29.2 +0.9**
SNR=6.6
AAK Ala-Archa 46.85 335 P **P** **03 25 29.5 +0.9**
AAK Ala-Archa 46.85 335 *ce* P **P** **03 25 30.2 +1.7**
AAK pmax pmax
comp=Z,39nm,1.7s
AAK Ala-Archa 46.85 335 LR LR 03 46 53.5
comp=Z,266nm,21.4s,baz=156,slow=38
AAK Ala-Archa 46.85 335 P **P** **03 25 29.3 +0.8**
AAK P **P** **03 25 29.3 +0.8**
AAK Ala-Archa 46.85 335 P **P** **03 25 29.4 +0.9**
CHKK Chushkaly 46.90 338 *eP* **P** **03 25 29.1 +0.4**
CHKK Chushkaly 46.90 338 *eP* **P** **03 25 29.2 +0.4**
baz=338
ARXS Arharly 46.91 339 *i* P **P** **03 25 29.3 +0.4**
SOHO SOHO 46.92 303 P **P** **03 25 29.5 +0.3**
CHMS Chumysh 47.04 336 P **P** **03 25 30.7 +0.8**
SNR=8.7
SONM Songino Array 47.14 7 P **P** **03 25 32.0 +1.3**
SONM IAmb IAmb 03 25 34.2
comp=Z,41nm,0.8s
SONM Songino Array 47.14 7 P **P** **03 25 32.0 +1.3**
comp=Z,40nm,0.7s,baz=189,slow=8.1,SNR=90
SONM PcP **PcP** **03 27 02.0 +0.7**
comp=Z,22nm,0.7s,baz=199,slow=4.0,SNR=10
SONM ScP **ScP** **03 30 48.2 -0.4**
comp=Z,16nm,1.0s,baz=192,slow=3.7,SNR=16
SONM S **S** **03 32 18.6 +1.1**
comp=Z,0.4nm,0.3s,baz=350,slow=25,SNR=0.9
SONM LR LR 03 47 44.1
comp=Z,346nm,19.6s,baz=192,slow=39
comp=Z,40nm,0.7s
EKS2 Erkin-Say 47.17 335 P **P** **03 25 32.5 +1.5**
SNR=31
DOK Doka 47.17 295 P **P** **03 25 31.8 +0.6**
DOK P **P** **03 25 31.8 +0.6**
KUU Kurty 47.17 338 *eP* **P** **03 25 31.3 +0.5**
KUU pmax pmax
comp=Z,42nm,1.1s
KUU Kurty 47.17 338 *eP* **P** **03 25 31.4 +0.5**
comp=Z,42nm,1.1s,baz=338
ULN Ulaanbaatar 47.25 8 P **P** **03 25 32.8 +1.2**
ULN IAmb IAmb 03 25 38.8
comp=Z,65nm,1.1s
ULN Ulaanbaatar 47.25 8 *ce* P **P** **03 25 32.7 +1.2**
ULN pmax pmax
comp=Z,44nm,0.8s
ULN Ulaanbaatar 47.25 8 P **P** **03 25 32.5 +1.0**
ULN Ulaanbaatar 47.25 8 P **P** **03 25 33.0 +1.4**
ULN ScP **ScP** **03 30 48.5 -0.6**
WHFO Wadi Hawf 47.30 294 P **P** **03 25 32.7 +0.4**
USP Ospenovka 47.37 336 P **P** **03 25 33.5 +1.0**
SNR=68
TDK Taldyqorghan 47.40 340 *eP* **P** **03 25 33.1 +0.5**
TDK pmax pmax
comp=Z,19nm,0.7s
TDK Taldyqorghan 47.40 340 *eP* **P** **03 25 33.1 +0.5**
comp=Z,20nm,0.7s,baz=340
RER Riviere de l'E 47.47 240 P **P** **03 25 34.8 +1.2**
UOSS Minazif 47.52 304 P **P** **03 25 34.6 +0.8**
UOSS Minazif 47.52 304 P **P** **03 25 34.5 +0.7**
HATD Hatta, Dubai 47.53 303 P **P** **03 25 34.6 +0.7**
ASHO Ashiyiah 47.53 303 P **P** **03 25 34.3 +0.3**
ALNE Al Ain 47.55 302 P **P** **03 25 34.8 +0.7**
SNR=7.0
ALNE P **P** **03 25 34.8 +0.7**
SNR=7.0
UMZA Um Al Zommool 47.56 300 P **P** **03 25 34.5 +0.3**
MDH Madha 47.58 304 P **P** **03 25 33.7 -0.6**
ABTO Aybut 47.59 293 P **P** **03 25 35.3 +0.7**
SNR=9.5
HRA Herat 47.64 318 P **P** **03 25 35.8 +0.9**
ZSN Zaisan 47.85 347 *eP* **P** **03 25 37.3 +1.3**
ZSN pmax pmax
comp=Z,33nm,0.7s
ZSN Zaisan 47.85 347 *eP* **P** **03 25 37.4 +1.3**
comp=Z,32nm,0.7s,baz=347
MK31 Makanchi Array 47.85 345 IAmb IAmb 03 26 17.4
comp=Z,42nm,0.8s
MK31 Makanchi Array 47.85 345 P **P** **03 25 36.6 +0.5**
MKAR Makanchi Array 47.85 345 P **P** **03 25 37.0 +0.9**
MKAR Makanchi Array 47.85 345 P **P** **03 25 37.0 +0.9**
MKAR Makanchi Array 47.85 345 P **P** **03 25 36.8 +0.7**
comp=Z,41nm,0.7s,baz=156,slow=9.1,SNR=382
MKAR pP **pP** **03 25 54.8 -0.3**
comp=Z,53nm,0.7s,baz=156,slow=9.1,SNR=7.6
MKAR ScP **ScP** **03 30 51.4 -0.1**
comp=Z,2.2nm,0.9s,baz=140,slow=7.0,SNR=2.3
MKAR S **S** **03 32 28.8 +1.3**
comp=Z,0.5nm,0.7s,baz=339,slow=23,SNR=2.4
MKAR ScS **ScS** **03 35 21.6 -0.6**
comp=Z,0.7nm,1.0s,baz=152,slow=6.4,SNR=1.8
MKAR LR LR 03 49 06.8
comp=Z,191nm,20.6s,baz=168,slow=40
comp=Z,41nm,0.7s
MAKZ Makanchi 47.95 344 P **P** **03 25 37.6 +0.7**
MAKZ IAmb IAmb 03 26 03.8
comp=Z,48nm,0.8s
MAKZ Makanchi 47.95 344 P **P** **03 25 37.6 +0.7**
MAKZ pmax pmax
comp=Z,48nm,0.8s
MAKZ Makanchi 47.95 344 P **P** **03 25 37.4 +0.5**
MAKZ pP **pP** **03 25 55.5 -0.3**
MAKZ sP **sP** **03 26 03.3 -1.2**
ASUD Al Ashush, Dub 48.12 303 P **P** **03 25 39.6 +1.1**
DZA Taraz 48.43 333 *eP* **P** **03 25 40.7 +0.1**
DZA Taraz 48.43 333 *eP* **P** **03 25 40.8 +0.1**
baz=333
IUG luzhnay 48.46 331 *eP* **P** **03 25 41.3 +0.4**
IUG pmax pmax
comp=Z,36nm,0.9s
IUG luzhnay 48.46 331 *eP* **P** **03 25 41.4 +0.4**
comp=Z,36nm,0.9s,baz=332
BBOO Buckleboo 48.63 137 P **P** **03 25 41.9 -0.4**
baz=49,SNR=25
BBOO Buckleboo 48.63 137 P **P** **03 25 42.0 -0.4**
BBOO IAmb IAmb 03 25 42.8
comp=Z,56nm,0.9s
BBOO Buckleboo 48.63 137 P **P** **03 25 41.9 -0.4**
MTSU Mount Surprise 48.63 115 P **P** **03 25 42.1 -0.5**
baz=49,SNR=7.8
MTSU Mount Surprise 48.63 115 P **P** **03 25 44.1 +1.5**
CHM Chimkent 48.79 331 *eP* **P** **03 25 44.0 +0.6**
CHM Chimkent 48.79 331 *eP* **P** **03 25 44.0 +0.6**
baz=331
CN2 Changchun 48.80 26 ⇑ P **P** **03 25 43.7 +0.3**
CN2 *es* P sP 03 26 13.5 +2.4
CN2 *eS* **S** **03 32 41.2 +0.4**
CN2 pmax pmax
comp=Z,500nm,4.0s
LCRK Leigh Creek 48.82 133 P **P** **03 25 43.2 -0.6**
KK31 Karatay Array 48.97 333 P **P** **03 25 46.8 +2.0**
KK31 Karatay Array 48.97 333 *i* P **P** **03 25 45.0 +0.3**
KKAR Karatay Array 48.97 333 P **P** **03 25 44.9 +0.1**
KKAR Karatay Array 48.97 333 P **P** **03 25 44.9 +0.1**
BTLS Baital 49.02 337 *eP* **P** **03 25 45.4 +0.4**
BTLS Baital 49.02 337 *eP* **P** **03 25 45.5 +0.4**
baz=337
JCJ Chichijima 49.05 54 P P 03 25 40.0 -5.7
comp=Z,120nm,0.7s,baz=292,slow=13,SNR=4.1
JCJ LR LR 03 44 10.4
comp=Z,136nm,21.8s,baz=219,slow=33
BRLS Boroldoy 49.23 332 *eP* **P** **03 25 45.9 -0.8**
BRLS Boroldoy 49.23 332 *eP* **P** **03 25 45.9 -0.8**
baz=332
PMG Port Moresby 49.26 103 P **P** **03 25 47.7 +0.3**
PMG IAmb IAmb 03 25 53.7
comp=Z,48nm,0.9s
PMG Port Moresby 49.26 103 *ce* P **P** **03 25 46.8 -0.6**
PMG pmax pmax
comp=Z,32nm,0.7s
PMG Port Moresby 49.26 103 P **P** **03 25 46.9 -0.4**
comp=Z,27nm,0.7s,baz=320,slow=7.5,SNR=9.1
comp=Z,27nm,0.7s
INKA Innaminka 49.37 129 P **P** **03 25 47.8 -0.2**
ZAK Zakamensk 49.37 4 *eP* **P** **03 25 48.3 +0.5**
ZAK pmax pmax
comp=Z,20nm,1.5s
DGZ Jazzator, Alta 49.50 350 *i* P **P** **03 25 49.8 +0.9**
DGZ pmax pmax
comp=Z,72nm,0.8s
JGF Kuroka 49.69 42 P **P** **03 25 50.3 -0.1**
JGF Kuroka 49.69 42 P **P** **03 25 50.1 -0.3**
MOY Mondy 50.54 2 *eP* **P** **03 25 57.5 +0.9**
MOY pmax pmax
comp=Z,21nm,1.3s
MJAR Matsushiro Arr 50.79 41 P **P** **03 25 57.6 -1.1**
comp=Z,17nm,1.0s,baz=234,slow=6.5,SNR=19
MJAR pP **pP** **03 26 16.8 -1.1**
comp=Z,7.5nm,0.8s,baz=231,slow=5.7,SNR=4.4
MJAR ScP **ScP** **03 31 04.2 -0.1**
comp=Z,5.7nm,1.0s,baz=236,slow=8.2,SNR=6.6
MJAR LR LR 03 47 16.0
comp=Z,140nm,21.9s,baz=229,slow=36
comp=Z,17nm,1.0s
HTT Hallett 50.95 136 P **P** **03 26 00.1 +0.1**
baz=51,SNR=14
HTT Hallett 50.95 136 P **P** **03 25 59.3 -0.7**
CTA Charters Tower 50.98 117 P **P** **03 26 00.5 +0.1**
CTA Charters Tower 50.98 117 P **P** **03 25 59.9 -0.4**
comp=Z,75nm,0.8s,baz=261,slow=6.6,SNR=8.7
comp=Z,75nm,0.8s
CTAO Charters Tower 50.98 117 P **P** **03 26 00.5 +0.1**
CTAO Charters Tower 50.98 117 P **P** **03 26 00.2 -0.2**
CTAO Charters Tower 50.98 117 P **P** **03 26 00.5 +0.1**
CTAO pmax pmax
comp=Z,97nm,0.9s
BNX BinXian 51.19 25 ⇑ P **P** **03 26 01.6 +0.2**
IRK Irkutsk 51.29 4 *eP* **P** **03 26 02.8 +0.7**
IRK pmax pmax
comp=Z,91nm,1.6s
MDJ Mudanjiang 51.30 28 P **P** **03 26 02.8 +0.5**
MDJ pmax pmax
comp=Z,79nm,1.2s
MDJ pmax pmax
comp=Z,710nm,3.9s
MDJ Mudanjiang 51.30 28 IAmb IAmb 03 26 05.4
comp=Z,72nm,1.0s
MDJ Mudanjiang 51.30 28 P **P** **03 26 03.0 +0.7**
MDJ pP **pP** **03 26 21.1 -0.4**
QLP Quilpie 51.64 126 P **P** **03 26 04.9 -0.3**
baz=52,SNR=73
QLP Quilpie 51.64 126 P **P** **03 26 05.1 0.0**
SEM Semipalatinsk 51.71 345 *eP* **P** **03 26 06.5 +1.0**
SEM pmax pmax
comp=Z,24nm,0.7s
SEM Semipalatinsk 51.71 345 *eP* **P** **03 26 06.6 +1.0**
comp=Z,24nm,0.7s,baz=345
STKA Stephens Creek 52.03 133 P **P** **03 26 07.7 -0.3**
baz=52,SNR=30
STKA Stephens Creek 52.03 133 P **P** **03 26 07.8 -0.2**
STKA Stephens Creek 52.03 133 P **P** **03 26 07.5 -0.5**
STKA Stephens Creek 52.03 133 *i* P **P** **03 26 06.3 -1.7**
STKA Stephens Creek 52.03 133 P **P** **03 26 07.7 -0.3**
comp=Z,36nm,0.7s,baz=306,slow=7.7,SNR=48
STKA S **S** **03 33 22.7 -3.5**
comp=Z,6.5nm,0.8s,baz=216,slow=22,SNR=5.1
STKA LR LR 03 52 53.9
comp=Z,144nm,18.2s,baz=331,slow=41
comp=Z,36nm,0.7s
USA0B Ussuriysk Arra 52.15 30 *i* P **P** **03 26 08.0 -0.6**
USRK Ussuriysk Ar. 52.15 30 P **P** **03 26 08.9 +0.3**
USRK Ussuriysk Ar. 52.15 30 P **P** **03 26 09.0 +0.3**
comp=Z,146nm,0.8s,baz=228,slow=5.3,SNR=239
USRK ScP **ScP** **03 31 10.2 +0.3**
comp=Z,4.3nm,0.8s,baz=215,slow=8.8,SNR=4.2
USRK LR LR 03 49 36.6
comp=Z,203nm,18.2s,baz=216,slow=37
comp=Z,146nm,0.8s
OTUK Ortayu 52.34 338 P **P** **03 26 10.4 +0.4**
CIT Chita 52.35 11 *eP* **P** **03 26 11.6 +1.5**
CIT *e* 03 26 33.2
CIT *e* 03 26 43.4
CIT *e* 03 27 13.6
CIT *e* 03 29 21.8
CIT *eS* **S** **03 33 34.6 +4.6**
CIT pmax pmax
comp=Z,153nm,2.2s
KURBB Kurchatov Arra 52.37 344 P **P** **03 26 09.5 -0.6**
KURBB Kurchatov Arra 52.37 344 P **P** **03 26 10.6 +0.5**
comp=Z,29nm,0.7s,baz=163,slow=7.1,SNR=229
KURBB pP **pP** **03 26 28.4 -1.0**
comp=Z,34nm,0.7s,baz=165,slow=7.2,SNR=9.0
KURBB ScP **ScP** **03 31 10.1 -0.6**
comp=Z,2.1nm,0.8s,baz=157,slow=4.0,SNR=3.4
KURBB S **S** **03 33 29.6 -0.5**
comp=Z,1.2nm,0.9s,baz=165,slow=15,SNR=7.9
KURBB LR LR 03 51 10.6
comp=Z,183nm,20.7s,baz=166,slow=39
comp=Z,29nm,0.7s
GEYT Alibeck 52.41 319 P **P** **03 26 11.1 +0.4**
GEYT IAmb IAmb 03 26 34.6
comp=Z,37nm,0.8s
GEYT Alibeck 52.41 319 P **P** **03 26 11.1 +0.4**
GEYT pmax pmax
comp=Z,37nm,0.9s
GEYT Alibeck 52.41 319 P **P** **03 26 10.7 -0.1**
comp=Z,9.2nm,0.7s,baz=138,slow=9.1,SNR=25
GEYT LR LR 03 50 05.9
comp=Z,160nm,21.8s,baz=145,slow=38
comp=Z,9.2nm,0.7s
GYA0 ALIBECK ARRAY 52.41 319 P **P** **03 26 10.9 +0.2**
GYA0B ALIBECK ARRAY 52.41 319 IAmb IAmb 03 26 40.7
comp=Z,36nm,0.8s
KURK Kurchatov 52.43 344 P **P** **03 26 11.2 +0.6**
KURK Kurchatov 52.43 344 *ce* P **P** **03 26 11.1 +0.6**
KURK pmax pmax
comp=Z,60nm,1.0s
KURK Kurchatov 52.43 344 P **P** **03 26 11.3 +0.7**
KURK P **P** **03 26 11.3 +0.7**
KURK Kurchatov 52.43 344 P **P** **03 26 11.1 +0.6**
KURK pP **pP** **03 26 29.9 +0.1**
KURK sP **sP** **03 26 37.7 -0.7**
JMM Marumori 53.24 41 P **P** **03 26 17.5 +0.7**
comp=Z,90nm,2.0s
BRZS Berezniki 53.66 339 *eP* **P** **03 26 20.0 +0.3**
BRZS Berezniki 53.66 339 *eP* **P** **03 26 20.0 +0.3**
baz=339
ZALV Zalesovo Beam 54.04 350 *i* P **P** **03 26 22.6 +0.3**
ZALV pmax pmax
comp=Z,74nm,0.6s
ZALV Zalesovo Beam 54.04 350 P **P** **03 26 22.6 +0.3**
comp=Z,72nm,0.6s,baz=174,slow=6.3,SNR=131
ZALV pP **pP** **03 26 40.8 -0.9**
comp=Z,75nm,0.7s,baz=174,slow=6.9,SNR=7.0
ZALV ScP **ScP** **03 31 18.1 +0.2**
comp=Z,0.4nm,0.4s,baz=180,slow=1.4,SNR=2.8
ZALV S **S** **03 33 52.9 +0.3**
comp=Z,5.0nm,0.9s,baz=161,slow=9.4,SNR=8.3
ZALV ScS **ScS** **03 36 00.2 -4.1**
comp=Z,1.0nm,0.4s,baz=189,slow=3.8,SNR=5.1
comp=Z,72nm,0.6s
ABPO Ambohimpanom 54.37 246 P **P** **03 26 26.0 +0.4**
ABPO Ambohimpanom 54.37 246 P **P** **03 26 26.0 +0.4**
ABPO pmax pmax
comp=Z,28nm,1.0s
ABPO Ambohimpanom 54.37 246 ⇓ *i* P **P** **03 26 27.1 +1.5**
ABPO IAmb IAmb 03 26 27.5
comp=Z,34nm,1.1s
ABPO Ambohimpanom 54.37 246 P **P** **03 26 27.1 +1.5**
ABPO sP **sP** **03 26 53.2 -0.3**
ABPO PcP **PcP** **03 27 30.0 +1.3**
ARPS Mount Arapiles 54.79 138 P **P** **03 26 29.3 +1.2**
HEH HeiHe 54.80 22 *eP* **P** **03 26 28.2 +0.3**
HEH pmax pmax
comp=Z,110nm,1.0s
HEH pmax pmax
comp=Z,350nm,4.8s
CMSA Cobar Meteorol 54.94 130 P **P** **03 26 29.2 -0.1**
baz=55,SNR=43
CMSA Cobar Meteorol 54.94 130 P **P** **03 26 29.4 +0.1**
VOI Vohitsoka 55.57 243 P **P** **03 26 35.5 +1.4**
VOI IAmb IAmb 03 26 36.5
comp=Z,37nm,1.0s
VOI Vohitsoka 55.57 243 ⇓ *i* P **P** **03 26 35.2 +1.0**
VOI Vohitsoka 55.57 243 P **P** **03 26 35.2 +1.0**
KLR Kul'dur 55.75 26 *ce* P **P** **03 26 35.5 +0.7**
KLR pmax pmax
comp=Z,269nm,0.8s
KLR Kul'dur 55.75 26 P **P** **03 26 35.3 +0.5**
comp=Z,253nm,0.8s,baz=239,slow=7.8,SNR=318
KLR LR LR 03 54 08.4
comp=Z,223nm,18.1s,baz=214,slow=40
comp=Z,253nm,0.8s
RAYN Ar Rayn 56.26 298 P **P** **03 26 39.1 +0.1**
RAYN Ar Rayn 56.26 298 P **P** **03 26 39.1 +0.1**
RAYN pmax pmax
comp=Z,29nm,1.1s
RAYN Ar Rayn 56.26 298 P **P** **03 26 39.0 +0.1**
RAYN Ar Rayn 56.26 298 P **P** **03 26 38.9 -0.1**
RAYN pP **pP** **03 26 57.7 -0.7**
ATD Arta Tunnel 56.49 283 IAmb IAmb 03 27 10.6
comp=Z,50nm,1.3s
EIDS Eidsvold 56.91 121 P **P** **03 26 43.2 -0.2**
baz=57,SNR=17
EIDS Eidsvold 56.91 121 P **P** **03 26 43.2 -0.2**
BVA0 Borovoye Array 56.99 340 *i* P **P** **03 26 43.0 -0.5**
BVAR Borovoye Array 56.99 340 P **P** **03 26 43.4 -0.2**
comp=Z,45nm,0.8s,baz=141,slow=8.9,SNR=109
BVAR pP **pP** **03 27 01.9 -1.1**
comp=Z,39nm,0.7s,baz=137,slow=8.3,SNR=9.8
BVAR S **S** **03 34 30.2 -1.9**
comp=Z,0.7nm,0.7s,baz=280,slow=36,SNR=3.1
BVAR LR LR 03 55 18.4
comp=Z,188nm,19.4s,baz=152,slow=40
comp=Z,45nm,0.8s
BRVK Borovoye 57.05 340 P **P** **03 26 43.9 -0.1**
BRVK IAmb IAmb 03 27 05.2
comp=Z,35nm,0.8s
BRVK Borovoye 57.05 340 *ce* P **P** **03 26 43.8 -0.1**
BRVK pmax pmax
comp=Z,35nm,1.0s
BRVK Borovoye 57.05 340 P **P** **03 26 43.9 -0.1**
BRVK Borovoye 57.05 340 P **P** **03 26 43.8 -0.2**
BRVK pP **pP** **03 27 02.6 -0.8**
BRVK sP **sP** **03 27 10.4 -1.6**
ZEA Zeya 57.60 20 *eP* **P** **03 26 48.9 +1.1**
ZEA *e* 03 27 07.0

ZEA *e* 03 34 39.6
ZEA pmax pmax
comp=E,30nm,0.5s
ZEA pmax pmax
comp=N,40nm,0.7s
ZEA pmax pmax
comp=Z,80nm,0.7s
TOO Toolangi 57.69 137 P **P** **03 26 50.0 +1.2**
baz=58,SNR=6.0
TOO Toolangi 57.69 137 lAmb lAmb 03 26 51.2
comp=Z,25nm,0.9s
ASAJ Asahikawa 57.89 36 P **P** **03 26 50.0 0.0**
comp=Z,16nm,0.7s,baz=208,slow=3.7,SNR=8.4
comp=Z,16nm,0.7s
BOD Bodaibo 57.95 10 *e*P **P** **03 26 51.3 +1.1**
BOD pmax pmax
comp=Z,91nm,1.4s
YNG Young 58.20 132 P **P** **03 26 52.3 -0.1**
baz=58,SNR=4.6
AB31 Akbulak array 58.47 331 *i* P **P** **03 26 53.6 -0.3**
ABKAR Akbulak array 58.47 331 P **P** **03 26 53.5 -0.5**
GRNR Gornyy 58.94 27⇑ *i*P **P** **03 26 58.0 +0.8**
GRNR *e*S **S** **03 35 01.0 +3.4**
GRNR pmax pmax
comp=E,20nm,0.8s
GRNR pmax pmax
comp=N,20nm,1.1s
GRNR pmax pmax
comp=Z,60nm,1.0s
GRNR smax smax
comp=N,7.0nm,0.6s
GRNR MLR MLR
comp=Z,280nm,16.0s
CAN Canberra 59.10 133 lAmb lAmb 03 27 00.1
comp=Z,37nm,0.8s
CAN Canberra 59.10 133 P **P** **03 26 59.6 +0.9**
CAN Canberra 59.10 133 P **P** **03 26 59.2 +0.5**
ARMA Armidale 59.12 127 P **P** **03 27 00.3 +1.3**
baz=59,SNR=6.4
ARMA Armidale 59.12 127 lAmb lAmb 03 27 10.8
comp=Z,41nm,0.7s
ARMA Armidale 59.12 127 P **P** **03 27 00.3 +1.3**
YSS Yuzh-Sakhalins 59.65 33 P **P** **03 27 03.1 +1.0**
YSS Yuzh-Sakhalins 59.65 33 *oe*P **P** **03 27 02.5 +0.4**
YSS *e**PP **pP** **03 27 23.8 +2.0**
YSS *e**SP **sP** **03 27 31.7 +1.4**
YSS *e*S **S** **03 35 06.4 -0.3**
YSS pmax pmax
comp=Z,100nm,1.0s
YSS pmax pmax
comp=Z,200nm,2.6s
AKTO Aktyubinsk 60.18 331 P **P** **03 27 04.0 -1.8**
AKTO Aktyubinsk 60.18 331 LR LR 03 56 17.9
comp=Z,121nm,20.5s,baz=36,slow=39
KIBK Kibwezi 60.82 267 P **P** **03 27 11.5 +0.6**
KIBK lAmb lAmb 03 27 32.4
comp=Z,29nm,1.1s
KIBK Kibwezi 60.82 267 P **P** **03 27 12.2 +1.3**
SNR=6.1
GLAD Gladstone 61.10 139 P **P** **03 27 13.2 +1.1**
MNGR Mingechevir, A 61.21 317 P **P** **03 27 13.2 +0.3**
MOO Moorlands 61.32 141 P **P** **03 27 14.1 +0.5**
baz=61,SNR=4.2
SEKA Sheki 61.33 318 P **P** **03 27 13.5 -0.3**
KMBO Kilima Mbogo 61.57 268 P **P** **03 27 17.1 +0.9**
KMBO lAmb lAmb 03 27 39.9
comp=Z,25nm,1.0s
KMBO Kilima Mbogo 61.57 268 P **P** **03 27 17.1 +0.9**
KMBO pmax pmax
comp=Z,25nm,1.0s
KMBO Kilima Mbogo 61.57 268⇓ *i*P **P** **03 27 17.5 +1.3**
KMBO lAmb lAmb 03 27 39.6
comp=Z,86nm,1.1s
KMBO Kilima Mbogo 61.57 268 P **P** **03 27 17.5 +1.3**
KMBO Kilima Mbogo 61.57 268 P **P** **03 27 17.5 +1.3**
KMBO pP **pP** **03 27 36.8 +1.0**
NAX Nakhchivan 61.63 315 P **P** **03 27 16.0 +0.1**
GANJ Ganja 61.67 317 P **P** **03 27 15.8 -0.3**
HNR Honiara 61.76 101 P **P** **03 27 16.5 -0.6**
comp=Z,2µm,0.6s,baz=230,slow=3.7,SNR=4.3
HNR LR LR 03 58 49.5
comp=Z,3µm,18.1s,baz=220,slow=41
ZKTA Zakatala 61.91 318 P **P** **03 27 17.9 +0.2**
TYV Tymovskoe 61.97 30 *e*P **P** **03 27 18.9 +1.1**
TYV pmax pmax
comp=Z,23nm,1.3s
TYV pmax pmax
comp=Z,200nm,4.0s
H04N2 CROZET ISLANDS 62.49 215 T T 04 34 15.7
baz=54,slow=75,SNR=1168
H04N1 CROZET ISLANDS 62.51 215 T T 04 34 15.6
baz=54,slow=75,SNR=1177
H04N3 CROZET ISLANDS 62.51 215 T T 04 34 14.9
baz=54,slow=75,SNR=1194
GNI Garni 62.56 316 P **P** **03 27 22.6 +0.3**
GNI lAmb lAmb 03 27 59.4
comp=Z,50nm,0.9s
GNI Garni 62.56 316 *ce*P **P** **03 27 23.2 +1.0**
GNI pmax pmax
comp=Z,43nm,1.7s
GNI Garni 62.56 316 LR LR 03 57 51.2
comp=Z,44nm,19.6s,baz=106,slow=39
GNI Garni 62.56 316 P **P** **03 27 22.4 +0.2**
H04S1 CROZET ISLANDS 62.82 214 T T 04 34 38.5
baz=53,slow=76,SNR=168
H04S3 CROZET ISLANDS 62.83 214 T T 04 34 38.5
baz=53,slow=76,SNR=169
H04S2 CROZET ISLANDS 62.84 214 T T 04 34 40.2
baz=53,slow=76,SNR=128
LODK Lodwar 63.42 273 P **P** **03 27 30.1 +1.8**
SNR=11
SVE Sverdlovsk 63.49 338 *ce*P **P** **03 27 28.0 +0.2**
SVE pmax pmax
comp=Z,126nm,0.9s
TRLG Trialeti 63.57 317 P **P** **03 27 29.1 +0.2**
GURO Guroymak-BITLI 63.88 313 lAmb lAmb 03 28 00.9
comp=Z,34nm,1.0s
ARU Arti 64.01 336 P **P** **03 27 31.1 -0.1**
ARU lAmb lAmb 03 27 52.1
comp=Z,51nm,1.0s
ARU Arti 64.01 336 *d i*P **P** **03 27 30.7 -0.6**
ARU *PP **pP** **03 27 48.9 -2.2**
ARU 03 28 03.6
ARU S **S** **03 36 02.8 +1.2**
ARU SS **SS** **03 40 10.5 -1.1**
ARU pmax pmax
comp=Z,45nm,1.1s
ARU Arti 64.01 336 LR LR 03 58 55.2
comp=Z,146nm,19.3s,slow=39
ARU Arti 64.01 336 P **P** **03 27 30.9 -0.4**
ARU pP **pP** **03 27 49.8 -1.3**
YAK Yakutsk 65.20 15 *e*P **P** **03 27 38.4 -0.5**
YAK *e* 03 28 05.2
YAK *e* 03 30 00.3
YAK *e*PPP PPP 03 31 34.0
YAK *e*S **S** **03 36 14.5 -1.4**
YAK *e**SS **sS** **03 36 49.7 -0.7**
YAK *e* 03 37 22.6
YAK *e*SS **SS** **03 40 23.0 -6.9**
YAK *e*SSS SSS 03 43 19.6
YAK pmax pmax
comp=Z,152nm,1.1s
YAK pmax pmax
comp=N,47nm,1.4s
YAK pmax pmax
comp=E,28nm,1.5s
YAK pmax pmax
comp=Z,371nm,7.6s
YAK pmax pmax
comp=N,176nm,4.8s
YAK pmax pmax
comp=E,204nm,6.3s
YAK smax smax
comp=E,230nm,5.6s
YAK smax smax
comp=N,181nm,4.6s
YAK Yakutsk 65.20 15 P **P** **03 27 38.1 -0.7**
comp=N,46nm,0.3s,baz=33,slow=1.4,SNR=22
YAK pP **pP** **03 27 57.7 -1.1**
comp=N,174nm,0.7s,baz=32,slow=0.5,SNR=8.3
YAK sP **sP** **03 28 05.7 -1.5**
comp=N,89nm,0.8s,baz=231,slow=20,SNR=3.7
YAK S **S** **03 36 13.6 -2.3**
comp=N,20nm,0.5s,baz=348,slow=1.3,SNR=1.6
comp=N,46nm,0.3s
YAK Yakutsk 65.20 15 P **P** **03 27 38.8 -0.1**

YAK pP **pP** **03 27 57.5 -1.3**
YAK sP **sP** **03 28 05.3 -1.9**
NEUR Neytrino 65.22 318 *i* P **P** **03 27 40.4 +0.7**
NEUR pmax pmax
comp=Z,23nm,1.3s
KBZ Khabaz 65.28 319 *ce*P **P** **03 27 40.3 +0.5**
KBZ pmax pmax
comp=Z,25nm,1.0s
KBZ Khabaz 65.28 319 P **P** **03 27 39.8 0.0**
comp=Z,15nm,0.8s,baz=122,slow=6.7,SNR=18
KBZ LR LR 04 00 11.6
comp=Z,68nm,19.8s,baz=121,slow=40
comp=Z,15nm,0.8s
KIV Kislovodsk 65.52 319 P **P** **03 27 41.6 +0.1**
KIV Kislovodsk 65.52 319 *e*P **P** **03 27 41.4 -0.1**
KIV *e* 03 30 07.3
KIV *e*S **S** **03 36 21.3 +0.6**
KIV *e*SS **SS** **03 40 37.7 +1.9**
KIV pmax pmax
comp=Z,34nm,1.1s
KIV MLR MLR
comp=Z,54nm,17.0s
KIV Kislovodsk 65.52 319 P **P** **03 27 41.0 -0.4**
KIV P **P** **03 27 41.0 -0.4**
BELG Belogornoye 66.57 329⇓ *i*P **P** **03 27 47.0 -0.9**
BELG pmax pmax
comp=Z,11nm,0.9s
BELG Belogornoye 66.57 329 LR LR 04 01 25.9
comp=Z,240nm,20.6s,baz=128,slow=40
ARPR Arapgir-MALATY 66.78 313 lAmb lAmb 03 28 19.8
comp=Z,36nm,0.9s
BALJ Balqa 66.90 305 P **P** **03 27 51.3 +0.9**
BALJ lAmb lAmb 03 28 33.6
comp=Z,19nm,0.9s
EIL Elat 66.92 302 LR LR 03 57 46.5
comp=Z,211nm,18.9s,baz=70,slow=36
GAZ Gaziantep 67.03 310 lAmb lAmb 03 28 15.8
comp=Z,72nm,0.9s
MMAI Mount Meron Ar 67.32 306 P **P** **03 27 54.3 +1.1**
comp=Z,10nm,0.9s,baz=105,slow=8.7,SNR=20
MMAI pP **pP** **03 28 13.3 +0.2**
comp=Z,9.5nm,0.7s,baz=84,slow=7.6,SNR=5.7
MMAI LR LR 04 00 12.7
comp=Z,129nm,19.0s,baz=76,slow=38
comp=Z,10nm,0.9s
SOC Sochi 67.35 318 *e*P **P** **03 27 51.1 -1.9**
SOC *e* 03 30 20.0
SOC *e*PPP PPP 03 32 04.1
SOC *e*S **S** **03 36 41.4 -1.4**
SOC *e*SS **SS** **03 41 03.3 -0.8**
KOUNC Koumac, New Ca 67.50 113 P **P** **03 27 55.1 +0.7**
MBAR Mbarara 68.07 269 P **P** **03 27 58.8 +0.5**
MBAR lAmb lAmb 03 28 23.2
comp=Z,53nm,1.2s
MBAR Mbarara 68.07 269 *i* P **P** **03 27 58.9 +0.5**
MBAR Mbarara 68.07 269⇓ *i*P **P** **03 27 59.9 +1.5**
MBAR lAmb lAmb 03 28 22.7
comp=Z,55nm,1.2s
MBAR Mbarara 68.07 269 LR LR 03 52 52.8
comp=Z,114nm,19.3s,baz=77,slow=32
MBAR Mbarara 68.07 269 P **P** **03 27 59.3 +1.0**
MBAR P **P** **03 27 59.3 +1.0**
MBAR Mbarara 68.07 269 P **P** **03 27 59.9 +1.5**
MBAR pP **pP** **03 28 19.4 +1.0**
H11N1 WAKE ISLAND Hy 69.08 69 P **P** **03 28 04.1 0.0**
baz=247,slow=8.7,SNR=3.9
H11N2 WAKE ISLAND Hy 69.09 69 P **P** **03 28 04.1 0.0**
baz=247,slow=8.7,SNR=4.8
H11N3 WAKE ISLAND Hy 69.10 69 P **P** **03 28 04.2 0.0**
baz=247,slow=8.7,SNR=8.7
KIRV Kirov 69.18 335 *ce*P **P** **03 28 04.3 +0.2**
KIRV Kirov 69.18 335 LR LR 04 00 25.3
comp=Z,104nm,21.6s,baz=135,slow=38
VRH Novokhopyorsk 69.20 326 *e*P **P** **03 28 03.2 -1.2**
VRH pmax pmax
comp=Z,39nm,0.7s
CSS Mathiatis 69.47 307 lAmb lAmb 03 28 31.3
comp=Z,68nm,1.3s
DZM Mont Dzumac 69.74 114 P **P** **03 28 09.1 +0.6**
DZM lAmb lAmb 03 28 10.2
comp=Z,64nm,1.3s
DZM Mont Dzumac 69.74 114 P **P** **03 28 09.3 +0.8**
DZM Mont Dzumac 69.74 114 *e*P **P** **03 28 07.7 -0.8**
comp=Z,96nm,1.2s
DZM Mont Dzumac 69.74 114 *e*LR LR 03 49 26.4
comp=Z,554nm,28.9s
DZM Mont Dzumac 69.74 114 P **P** **03 28 08.9 +0.5**
comp=Z,24nm,1.0s,baz=291,slow=5.9,SNR=18
DZM LR LR 03 58 29.4
comp=Z,97nm,21.9s,baz=245,slow=36
comp=Z,24nm,1.0s
DZM Mont Dzumac 69.74 114 P **P** **03 28 08.9 +0.5**
MOPA Mopani 69.75 245⇓ *i*P **P** **03 28 09.6 +1.2**
MOPA lAmb lAmb 03 28 10.3
comp=Z,230nm,2.0s
YATNC Mamie plateau, 70.15 114 P **P** **03 28 11.6 +0.7**
OUENC Ouen Island, N 70.16 114 lAmb lAmb 03 28 12.3
comp=Z,31nm,0.8s
HOED Hoedspruit, Li 70.33 244⇓ *i*P **P** **03 28 13.3 +1.3**
HOED lAmb lAmb 03 28 32.8
comp=Z,64nm,1.5s
KRI Karoi 70.39 252⇓ *i*P **P** **03 28 13.3 +0.7**
BR131 Keskin Array S 70.44 312 lAmb lAmb 03 28 34.4
comp=Z,37nm,0.7s
BR131 Keskin Array S 70.44 312 *i* P **P** **03 28 11.6 -0.9**
BRTR Keskin Array B 70.44 312 P **P** **03 28 11.6 -0.9**
comp=Z,16nm,0.9s,baz=129,slow=6.9,SNR=44
BRTR pP **pP** **03 28 32.6 0.0**
comp=Z,28nm,0.7s,baz=131,slow=6.2,SNR=14
BRTR LR LR 04 03 01.0
comp=Z,67nm,18.9s,baz=178,slow=39
comp=Z,16nm,0.9s
VORD Divnogorie 70.48 325 *e*P **P** **03 28 11.1 -1.2**
VORD pmax pmax
comp=Z,20nm,0.8s
PILG Pilgrimsrest, 70.62 243 *e*P **P** **03 28 14.3 +0.3**
PILG lAmb lAmb 03 28 15.2
comp=Z,21nm,1.0s
VSR Storozhevoye 70.66 325 *e*P **P** **03 28 10.9 -2.5**
VSR pmax pmax
comp=Z,30nm,1.1s
PINNC Pines Island, 70.74 114 P **P** **03 28 15.6 +1.2**
VORR Voronezh 70.82 325 *e*P **P** **03 28 12.4 -1.9**
VORR pmax pmax
comp=Z,50nm,0.4s
MA2 Magadan 70.85 25 P **P** **03 28 14.5 +0.2**
MA2 lAmb lAmb 03 28 34.5
comp=Z,45nm,0.8s
MA2 Magadan 70.85 25 P **P** **03 28 15.0 +0.7**
MA2 Magadan 70.85 25 *ce*P **P** **03 28 15.1 +0.7**
MA2 pmax pmax
comp=Z,108nm,1.7s
MA2 Magadan 70.85 25 P **P** **03 28 14.6 +0.3**
comp=Z,27nm,0.6s,baz=229,slow=5.1,SNR=24
MA2 pP **pP** **03 28 33.7 -0.9**
comp=Z,35nm,0.7s,baz=195,slow=8.4,SNR=6.6
MA2 LR LR 04 01 12.1
comp=Z,196nm,19.9s,baz=226,slow=37
comp=Z,27nm,0.6s
MA2 Magadan 70.85 25 P **P** **03 28 14.9 +0.5**
MA2 pP **pP** **03 28 34.0 -0.6**
MUSN Musina, Limpop 70.94 246⇓ *i*P **P** **03 28 17.0 +1.2**
comp=Z,25nm,1.1s
MUSN lAmb lAmb 03 28 17.3
comp=Z,25nm,1.1s
PETK Petropavlovsk- 71.05 33 P **P** **03 28 15.2 -0.5**
comp=Z,20nm,0.8s,baz=219,slow=6.4,SNR=11
PETK LR LR 04 01 23.9
comp=Z,59nm,18.5s,baz=191,slow=37
comp=Z,20nm,0.8s
ANTO Ankara 71.10 312 P **P** **03 28 15.9 -0.5**
ANTO lAmb lAmb 03 28 38.7
comp=Z,31nm,0.8s
ANTO Ankara 71.10 312 P **P** **03 28 15.9 -0.5**
ANTO pmax pmax
comp=Z,31nm,0.8s
BR231 Keskin MP Arra 71.11 312 lAmb lAmb 03 28 38.8
comp=Z,46nm,0.8s
LPSR Galich'ya Gora 71.36 326 *e*P **P** **03 28 16.0 -1.6**
LPSR pmax pmax
comp=Z,40nm,0.9s
PET Petropavlovsk 71.53 33 *e*P **P** **03 28 19.1 +0.5**
PET pmax pmax
comp=Z,73nm,0.7s
PET MLR MLR
comp=Z,100nm,17.0s

LSZ Lusaka 71.58 254 P **P** **03 28 19.3 -0.5**
LSZ Lusaka 71.58 254 P **P** **03 28 19.3 -0.5**
LSZ pmax pmax
comp=Z,48nm,1.6s
LSZ Lusaka 71.58 254 LR LR 03 54 59.6
comp=Z,256nm,21.8s,baz=94,slow=32
LSZ Lusaka 71.58 254 P **P** **03 28 20.7 +0.9**
LSZ P **P** **03 28 20.7 +0.9**
LSZ Lusaka 71.58 254 P **P** **03 28 20.6 +0.9**
LSZ pP **pP** **03 28 39.9 0.0**
ELL Elmali 72.58 308 P **P** **03 28 26.2 +0.8**
ELL Elmali 72.58 308 P **P** **03 28 26.2 +0.8**
ELL pmax pmax
comp=Z,110nm,0.7s
RUST Rust De Winter 72.63 243⇓ *i*P **P** **03 28 26.4 +0.5**
RUST lAmb lAmb 03 28 48.6
comp=Z,20nm,0.9s
MAW Mawson 72.86 194 LR LR 03 52 53.8
comp=Z,380nm,20.5s,baz=28,slow=30
LEPH Lephalale, Lim 73.06 245⇓ *i*P **P** **03 28 29.6 +1.2**
LEPH lAmb lAmb 03 28 30.4
comp=Z,78nm,1.5s
TIXI Tiksi 73.13 10 P **P** **03 28 27.4 -0.5**
TIXI lAmb lAmb 03 28 55.4
comp=Z,45nm,0.8s
TIXI Tiksi 73.13 10 *ce*P **P** **03 28 27.2 -0.6**
TIXI pmax pmax
comp=Z,62nm,1.2s
TIXI Tiksi 73.13 10 P **P** **03 28 27.3 -0.5**
comp=Z,22nm,0.5s,baz=196,slow=2.0,SNR=17
TIXI LR LR 04 03 49.7
comp=Z,177nm,18.4s,baz=214,slow=38
comp=Z,22nm,0.5s
MOS Moscow 73.34 329 *e*P **P** **03 28 27.5 -1.8**
MOS *e**PP **pP** **03 28 47.5 -2.0**
MOS *e**SP **sP** **03 28 58.2 +0.3**
MOS *e*S **S** **03 37 49.3 -2.7**
MOS *e* 03 38 19.3
MOS pmax pmax
comp=Z,85nm,1.0s
SEY Seymchan 73.35 23⇑ *e*P **P** **03 28 29.8 +0.6**
SEY pmax pmax
comp=Z,77nm,1.7s
SEY Seymchan 73.35 23 P **P** **03 28 29.8 +0.6**
comp=Z,21nm,0.6s,baz=242,slow=6.4,SNR=46
SEY LR LR 04 03 06.6
comp=Z,162nm,21.8s,baz=256,slow=38
comp=Z,21nm,0.6s
HRAO HartRAO 73.48 243⇓ *i*P **P** **03 28 32.1 +1.2**
OBN Obninsk 73.64 328 P **P** **03 28 31.2 +0.2**
OBN lAmb lAmb 03 28 58.7
comp=Z,45nm,0.8s
OBN Obninsk 73.64 328 *de*P **P** **03 28 30.9 -0.2**
OBN *i* 03 28 50.0
OBN *e* 03 31 15.4
OBN *e*S **SKiKP** **03 37 44.6 -9.4**
OBN *e*SS **SS** **03 42 42.1 +2.0**
OBN pmax pmax
comp=Z,62nm,1.3s
OBN MLR MLR
comp=Z,153nm,21.0s
OBN Obninsk 73.64 328 LR LR 04 03 59.0
comp=Z,146nm,21.7s,baz=136,slow=38
SNKL Senekal, Frees 73.81 240⇓ *i*P **P** **03 28 33.8 +0.9**
SNKL lAmb lAmb 03 28 34.8
comp=Z,32nm,1.0s
PRYS Parys 73.94 242⇓ *i*P **P** **03 28 34.4 +0.8**
PRYS lAmb lAmb 03 29 06.7
comp=Z,19nm,0.8s
KARP Karpathos 74.53 307 P **P** **03 28 37.1 +0.4**
KLMR Klimovskoe 74.64 334 *e*P **P** **03 28 35.6 -1.2**
KLMR *e**PP **pP** **03 28 56.0 -1.1**
KLMR pmax pmax
comp=Z,29nm,1.7s
LBTB Lobatse 75.22 244 P **P** **03 28 42.2 +1.1**
LBTB Lobatse 75.22 244 P **P** **03 28 42.2 +1.1**
LBTB pmax pmax
comp=Z,19nm,0.9s
LBTB Lobatse 75.22 244⇓ *i*P **P** **03 28 42.1 +1.1**
LBTB lAmb lAmb 03 28 42.4
comp=Z,23nm,0.9s
LBTB Lobatse 75.22 244 LR LR 03 55 43.2
comp=Z,144nm,19.8s,baz=78,slow=31
MILM Milestii Mici 75.70 318 *e*P **P** **03 28 42.0 -1.2**
comp=Z,90nm,1.1s
MILM *e*pP **pP** **03 29 03.0 -0.5**
MILM Milestii Mici 75.70 318 *e*P **P** **03 28 42.0 -1.2**
MILM *e* 03 29 03.0
MILM pmax pmax
comp=Z,90nm,1.1s
SWZ Schweizer 75.77 242 *e*P **P** **03 28 44.9 +0.7**
SWZ lAmb lAmb 03 28 45.6
comp=Z,51nm,1.3s
HARR Harsova 75.78 316⇑ P **P** **03 28 43.3 -0.3**
HARR Harsova 75.78 316 P **P** **03 28 43.3 -0.3**
GRHM Grahamstown, E 75.89 235 P **P** **03 28 45.5 +0.9**
GRHM lAmb lAmb 03 28 47.6
comp=Z,73nm,1.3s
GRHM Grahamstown, E 75.89 235⇓ *i*P **P** **03 28 46.0 +1.4**
GRHM lAmb lAmb 03 28 47.3
comp=Z,85nm,1.4s
BOSA Boshof 76.05 240⇓ *i*P **P** **03 28 46.5 +0.8**
BOSA lAmb lAmb 03 28 46.9
comp=Z,22nm,0.8s
BOSA Boshof 76.05 240 P **P** **03 28 46.6 +0.9**
comp=Z,14nm,0.7s,baz=82,slow=5.2,SNR=39
BOSA LR LR 03 56 41.6
comp=Z,140nm,21.2s,baz=120,slow=31
comp=Z,14nm,0.7s
HVD Gariep Dam 76.16 238⇓ *i*P **P** **03 28 47.8 +1.5**
HVD lAmb lAmb 03 28 48.6
comp=Z,24nm,1.0s
SORM Soroca 76.30 319⇑ P **P** **03 28 46.2 -0.4**
SORM Soroca 76.30 319 P **P** **03 28 46.1 -0.4**
AKASG Malin Array Be 76.40 322 P **P** **03 28 46.6 -0.5**
AKASG lAmb lAmb 03 30 51.2
comp=Z,66nm,1.2s
AKASG Malin Array Be 76.40 322 *ce*P **P** **03 28 46.2 -0.9**
AKASG pmax pmax
comp=Z,8.0nm,0.7s
AKASG Malin Array Be 76.40 322 P **P** **03 28 46.2 -0.9**
comp=Z,7.1nm,0.9s,baz=87,slow=4.7,SNR=33
AKASG pP **pP** **03 29 06.0 -1.4**
comp=Z,21nm,0.7s,baz=88,slow=4.8,SNR=14
AKASG LR LR 04 07 24.1
comp=Z,58nm,18.8s,baz=90,slow=40
comp=Z,7.1nm,0.9s
AKBB Malin Array Si 76.40 322 lAmb lAmb 03 29 09.3
comp=Z,32nm,0.7s
AKBB Malin Array Si 76.40 322 *ce*P **P** **03 28 46.7 -0.4**
AKBB pmax pmax
comp=Z,19nm,0.8s
KIEV Kiev 76.41 322⇑ P **P** **03 28 46.4 -0.7**
KIEV Kiev 76.41 322 P **P** **03 28 46.5 -0.6**
KIEV lAmb lAmb 03 29 09.4
comp=Z,29nm,0.7s
KIEV Kiev 76.41 322 P **P** **03 28 46.6 -0.6**
KIEV pmax pmax
comp=Z,29nm,0.7s
LOZB Loznitsa 76.44 314⇓ P **P** **03 28 47.5 0.0**
BISRR Bisoca 76.81 317⇓ P **P** **03 28 50.4 +0.8**
VRI Vrincioaia 76.86 317⇑ P **P** **03 28 50.7 +0.9**
VRI Vrincioaia 76.86 317 P **P** **03 28 50.7 +0.9**
ELND Elena 76.86 314⇑ P **P** **03 28 49.9 0.0**
PLOR Plostina 76.91 317⇑ P **P** **03 28 50.3 +0.2**
PLOR Plostina 76.91 317 P **P** **03 28 50.3 +0.2**
TESR Tescani 77.05 318⇑ P **P** **03 28 51.0 +0.1**
COVR Voineasa-Covas 77.22 317⇓ P **P** **03 28 52.1 +0.3**
GRAF Camdeboo Natio 77.28 237⇓ *i*P **P** **03 28 54.4 +1.8**
GRAF lAmb lAmb 03 28 55.0
comp=Z,43nm,1.1s
MLR Muntele Rosu 77.32 316⇑ P **P** **03 28 52.8 +0.3**
MLR Muntele Rosu 77.32 316 lAmb lAmb 03 29 16.0
comp=Z,49nm,0.8s
MLR Muntele Rosu 77.32 316 P **P** **03 28 52.8 +0.3**
MLR Muntele Rosu 77.32 316 LR LR 04 09 32.4
comp=Z,76nm,18.2s,baz=86,slow=41
PRAR RASCA 77.52 318⇑ P **P** **03 28 53.7 +0.2**
DOPR Dopca 77.80 317⇑ P **P** **03 28 55.5 +0.5**
HUMR Humele 77.80 315⇑ P **P** **03 28 55.0 -0.1**
BFON Badsfontein, M 77.88 237 *e*P **P** **03 28 57.5 +1.5**
BFON lAmb lAmb 03 28 58.5
comp=Z,140nm,1.6s
RPZ Rata Peaks 77.93 135 P **P** **03 28 56.7 +0.9**
RPZ lAmb lAmb 03 29 03.3

comp=Z,32nm,0.8s
RPZ Rata Peaks 77.93 135 P **P** **03 28 56.0 +0.2**
comp=Z,26nm,0.6s,baz=180,slow=0.9,SNR=6.6
comp=Z,26nm,0.6s
VOIR 77.93 316 ⇑P **P** **03 28 55.4 -0.5**
VOIR 77.93 316 P **P** **03 28 55.3 -0.5**
INZ Inchbonnie 77.98 134 IAmb IAmb 03 28 56.8
comp=Z,81nm,1.1s
ROOI Rooidraai Farm 78.10 237 ⇓*i*P **P** **03 28 59.1 +2.0**
ROOI IAmb IAmb 03 28 59.6
comp=Z,86nm,1.2s
MNK Minsk 78.20 326 *i* P **P** **03 28 55.3 -1.7**
MNK *i* *PP **pP** **03 29 16.5 -1.0**
MNK *i* 03 31 52.9
MNK *i* PPP PPP 03 33 41.1
MNK *i* S **S** **03 38 44.6 -1.0**
MNK *i* *SS **sS** **03 39 21.4 +1.0**
MNK *i* SS **SS** **03 43 49.4 +0.3**
MNK *i* SSS SSS 03 47 14.5
MNK pmax pmax
comp=N,12nm,0.8s
MNK pmax pmax
comp=E,14nm,0.9s
MNK pmax pmax
comp=Z,34nm,0.9s
MNK MLR MLR
comp=Z,113nm,19.0s
MNK MLR MLR
comp=N,123nm,17.0s
MNK MLR MLR
comp=E,36nm,16.0s
ARR Arges 78.20 316 ⇑P **P** **03 28 57.2 -0.2**
BURAR Bucovina Array 78.24 318 ⇓P **P** **03 28 58.6 +0.9**
BURAR Bucovina Array 78.24 318 P **P** **03 28 58.3 +0.7**
BURAR IAmb IAmb 03 29 21.8
comp=Z,39nm,0.8s
BURAR Bucovina Array 78.24 318 P **P** **03 28 58.5 +0.9**
BUR08 Bucovina Ar. S 78.26 319 IAmb IAmb 03 29 22.5
comp=Z,66nm,1.1s
BRAK Brakfontein 78.55 237 ⇓*i*P **P** **03 29 01.5 +1.9**
BRAK IAmb IAmb 03 29 01.8
comp=Z,34nm,0.8s
VALR Valaam 78.69 333 *i* P **P** **03 28 59.9 +0.3**
VALR pmax pmax
comp=Z,26nm,0.6s
ARCR ARCALIA 78.71 318 ⇑P **P** **03 29 01.1 +1.0**
GUR Goura 78.72 308 P **P** **03 28 59.5 -0.9**
THZ Tophouse 78.84 133 P **P** **03 29 01.6 +0.6**
THZ IAmb IAmb 03 29 07.2
comp=Z,51nm,0.8s
KLV Kalavryta, Ach 78.88 308 P **P** **03 28 59.6 -1.7**
LIT Litokhoron 78.90 311 P **P** **03 29 02.4 +1.1**
LIT Litokhoron 78.90 311 P **P** **03 29 02.4 +1.1**
VAY Valandovo 79.02 312 *i* P **P** **03 29 01.3 -0.6**
ANX Ano Chora 79.13 309 P **P** **03 29 02.0 -0.7**
CJR Cluj-Napoca 79.16 317 ⇑P **P** **03 29 03.7 +1.1**
CJR Cluj-Napoca 79.16 317 P **P** **03 29 03.6 +1.1**
GRAN Grantham 79.23 237 ⇓*i*P **P** **03 29 05.3 +2.0**
GRAN IAmb IAmb 03 29 05.6
comp=Z,24nm,0.8s
STIP Stip 79.36 312 *i* P **P** **03 29 02.0 -1.7**
BMR Baia Mare 79.39 318 ⇓P **P** **03 29 04.9 +1.0**
BMR Baia Mare 79.39 318 P **P** **03 29 04.8 +1.0**
KHZ Kahutara 79.43 133 P **P** **03 29 05.3 +1.2**
KHZ IAmb IAmb 03 29 22.9
comp=Z,132nm,1.7s
ISAL Salakas 79.45 327 *eP* **P** **03 29 03.9 +0.1**
LVV L'vov 79.45 321 *eP* **P** **03 29 04.2 +0.2**
MARR Marisel-Cluj 79.47 317 ⇓P **P** **03 29 05.0 +0.6**
UPI Upington 79.51 241 *eP* **P** **03 29 08.1 +1.2**
UPI IAmb IAmb 03 29 07.3
comp=Z,86nm,2.1s
LVZ Lovozero 79.59 340 P **P** **03 29 04.8 +0.3**
LVZ Lovozero 79.59 340 P **P** **03 29 04.8 +0.3**
LVZ pmax pmax
comp=Z,263nm,1.9s
HERR Herculane 79.67 315 ⇑P **P** **03 29 05.5 +0.2**
MESR Meseseni 79.67 318 ⇓P **P** **03 29 05.6 +0.3**
DRGR 79.77 317 ⇓P **P** **03 29 06.7 +0.8**
DRGR 79.77 317 P **P** **03 29 06.7 +0.8**
FRAZ Fraserburg 79.82 237 ⇓*i*P **P** **03 29 08.8 +2.3**
FRAZ IAmb IAmb 03 29 09.3
comp=Z,22nm,0.7s
MERW Merweville 79.82 237 ⇓*i*P **P** **03 29 08.4 +1.9**
MERW IAmb IAmb 03 29 08.8
comp=Z,42nm,0.8s
VSU Vasula 79.84 329 *ce*P **P** **03 29 06.5 +0.6**
VSU pmax pmax
comp=Z,25nm,1.0s
BOVS Bovan 79.98 314 ⇑P **P** **03 29 06.5 -0.5**
SURR Surduc 80.00 316 ⇓P **P** **03 29 07.4 +0.3**
NYDR Nydri-Lefkada 80.10 309 P **P** **03 29 06.3 -1.5**
EVGI Lefkada island 80.12 309 P **P** **03 29 07.1 -0.8**
LKD2 Lefkada island 80.14 309 P **P** **03 29 07.9 -0.1**
TSLK Tsoukalades, L 80.14 309 P **P** **03 29 07.2 -0.8**
MDVR Moldovita 80.15 315 ⇓P **P** **03 29 08.0 0.0**
KWP Kalwaria Pacla 80.25 320 *eP* **P** **03 29 08.5 +0.1**
KWP Kalwaria Pacla 80.25 320 P **P** **03 29 09.5 +1.1**
OHR Ohrid 80.31 311 *i* P **P** **03 29 08.3 -0.7**
KEF3 Kipouria, Keph 80.31 308 P **P** **03 29 07.9 -1.0**
BZS Buzias 80.34 316 ⇓P **P** **03 29 08.8 -0.1**
BZS Buzias 80.34 316 P **P** **03 29 08.8 -0.1**
SHEM Shemya Is, Ala 80.35 37 LR LR 04 08 14.3
comp=Z,69nm,18.1s,baz=292,slow=38
SUR Sutherland 80.38 237 P **P** **03 29 11.4 +1.7**
SUR IAmb IAmb 03 29 12.3
comp=Z,34nm,0.8s
SUR Sutherland 80.38 237 ⇓*i*P **P** **03 29 11.7 +2.0**
SUR IAmb IAmb 03 29 12.5
comp=Z,443nm,2.3s
SUR Sutherland 80.38 237 LR LR 03 58 45.6
comp=Z,121nm,19.5s,baz=98,slow=31
SUR Sutherland 80.38 237 P **P** **03 29 09.0 -0.6**
SIRR Siria 80.40 317 ⇓P **P** **03 29 09.8 +0.6**
KOLS Kolonicke sedl 80.42 319 *eP* **P** **03 29 10.5 +1.2**
KOLS pmax pmax
comp=Z,29nm,0.8s
KOLS Kolonicke sedl 80.42 319 *eP* **P** **03 29 10.5 +1.2**
BORR Bors 80.44 318 ⇑P **P** **03 29 09.4 0.0**
PABE Paberze 80.63 326 *eP* **P** **03 29 09.8 -0.4**
VSVD Vaisvydziai 80.75 327 *eP* **P** **03 29 10.6 -0.3**
SUW Suwalki 80.77 325 *eP* **P** **03 29 10.7 -0.4**
SUW *epP* **pP** **03 29 30.9 -0.7**
SUW Suwalki 80.77 325 *eP* **P** **03 29 11.1 0.0**
BILL Bilibino 80.81 21 P **P** **03 29 11.4 +0.5**
BILL Bilibino 80.81 21 *i* P **P** **03 29 11.1 +0.1**
BILL pmax pmax
comp=Z,4.0nm,0.5s
FINES FINESS Array B 80.93 332 P **P** **03 29 11.8 +0.1**
FINES FINESS Array B 80.93 332 P **P** **03 29 12.0 +0.3**
comp=Z,9.4nm,0.5s,baz=106,slow=6.0,SNR=96
FINES pP **pP** **03 29 31.9 -0.4**
comp=Z,18nm,0.6s,baz=97,slow=6.0,SNR=8.8
FINES sP **sP** **03 29 39.4 -1.2**
comp=Z,17nm,0.6s,baz=114,slow=8.5,SNR=5.4
FINES LR LR 04 10 20.3
comp=Z,189nm,19.7s,baz=108,slow=40
comp=Z,9.4nm,0.5s
CRVS Cervenica-Dubn 80.94 319 *eP* **P** **03 29 14.1 +2.0**
BKZ Black Stump Fm 81.09 130 IAmb IAmb 03 29 13.8
comp=Z,42nm,0.9s
BFZ Birch Farm 81.13 131 P **P** **03 29 13.8 +0.5**
STHS Stebnicka Huta 81.16 320 *eP* **P** **03 29 13.9 +0.6**
STHS pmax pmax
comp=Z,13nm,0.9s
STHS Stebnicka Huta 81.16 320 *eP* **P** **03 29 13.9 +0.6**
MEF Metsahovi 81.43 331 *eP* **P** **03 29 14.1 -0.2**
URZ Urewera 81.44 129 P **P** **03 29 14.3 -0.6**
URZ Urewera 81.44 129 P **P** **03 29 14.1 -0.8**
comp=Z,23nm,1.0s,baz=33,slow=6.3,SNR=3.1
comp=Z,23nm,1.0s
KECS Kecovo 81.52 319 *eP* P 03 29 20.9 +5.8
KECS Kecovo 81.52 319 *eP* P 03 29 20.9 +5.8
FRGS Fruska Gora 81.53 315 ⇑P **P** **03 29 14.7 -0.6**
NIE Niedzica 81.77 320 *eP* **P** **03 29 17.1 +0.6**
NIE Niedzica 81.77 320 P **P** **03 29 17.6 +1.1**
PSZ Piszkesteto 81.83 318 ⇓P **P** **03 29 16.7 -0.3**
PSZ Piszkesteto 81.83 318 IAmb IAmb 03 29 24.0
comp=Z,68nm,1.6s
PSZ Piszkesteto 81.83 318 P **P** **03 29 16.6 -0.3**
PBUR Paburge 81.86 326 *eP* **P** **03 29 16.7 0.0**
TSUM Tsumeb 82.02 251 P **P** **03 29 19.4 +0.9**
TSUM Tsumeb 82.02 251 *eP* **P** **03 29 20.0 +1.5**
TSUM IAmb IAmb 03 29 21.0
comp=Z,34nm,1.2s
TSUM Tsumeb 82.02 251 LR LR 04 02 58.0
comp=Z,71nm,18.5s,baz=73,slow=34
VADS Vadso 82.18 341 *eP* **P** **03 29 18.5 +0.3**
OJC Ojcow 82.20 320 *eP* **P** **03 29 18.0 -0.7**
OJC Ojcow 82.20 320 P **P** **03 29 19.3 +0.6**
MORH Mrgy, Hungar 82.47 316 ⇓P **P** **03 29 20.0 -0.2**
VYHS Vyhne 82.61 319 *eP* **P** **03 29 21.1 +0.2**
VYHS pmax pmax
comp=Z,15nm,1.2s
VYHS Vyhne 82.61 319 *eP* **P** **03 29 21.1 +0.2**
RAF Rauma 82.87 331 *eP* **P** **03 29 20.9 -1.0**
OKC Ostrava-Krasne 83.21 320 *eP* **P** **03 29 24.7 +0.8**
ARA0 ARCESS Array S 83.28 340 *eP* **P** **03 29 24.0 +0.1**
ARCES ARCESS Array B 83.28 340 P **P** **03 29 24.6 +0.7**
ARCES IAmb IAmb 03 29 46.1
comp=Z,103nm,1.5s
ARCES ARCESS Array B 83.28 340 P **P** **03 29 24.6 +0.7**
ARCES pmax pmax
comp=Z,103nm,1.5s
ARCES ARCESS Array B 83.28 340 P **P** **03 29 24.1 +0.2**
comp=Z,6.4nm,0.5s,baz=102,slow=4.5,SNR=68
ARCES pP **pP** **03 29 44.4 -0.2**
comp=Z,10nm,0.6s,baz=107,slow=3.2,SNR=5.7
ARCES LR LR 04 11 35.2
comp=Z,118nm,19.3s,baz=111,slow=39
comp=Z,6.4nm,0.5s
MAUC Maruska 83.37 319 *eP* **P** **03 29 25.3 +0.5**
MAUC *ex* x 03 29 45.3
JAVC Velka Javorina 83.42 319 *eP* **P** **03 29 26.1 +1.0**
MORC Moravsky Berou 83.60 320 ⇑P **P** **03 29 26.0 -0.1**
MORC Moravsky Berou 83.60 320 *eP* **P** **03 29 26.2 +0.2**
MORC Moravsky Berou 83.60 320 P **P** **03 29 25.9 -0.1**
MODS Modra-Piesok 83.62 318 *eP* **P** **03 29 26.7 +0.6**
MODS pmax pmax
comp=Z,38nm,1.1s
MODS Modra-Piesok 83.62 318 *eP* **P** **03 29 26.7 +0.6**
ZST Bratislava 83.72 318 *eP* **P** **03 29 27.1 +0.5**
ZST pmax pmax
comp=Z,53nm,1.0s
ZST Bratislava 83.72 318 *eP* **P** **03 29 27.1 +0.5**
KTK1 Kautokeino 83.93 339 *eP* **P** **03 29 27.2 0.0**
KTK1 IAmb IAmb 03 29 28.8
comp=Z,47nm,1.1s
KRLC Kraliky 84.11 320 *eP* **P** **03 29 29.5 +0.9**
KRLC *epP* **pP** **03 29 49.3 0.0**
KOGS Kog 84.14 316 *iP* **P** **03 29 29.1 +0.3**
HAMF Hammerfest 84.16 341 *eP* **P** **03 29 28.0 -0.3**
HAMF IAmb IAmb 03 29 31.6
comp=Z,193nm,1.6s
VRAC Vranov 84.16 319 *eP* **P** **03 29 28.9 0.0**
VRAC Vranov 84.16 319 LR LR 04 12 20.1
comp=Z,46nm,18.6s,baz=85,slow=39
RONA Rosalia, Austr 84.22 318 *eP* **P** **03 29 30.0 +0.8**
comp=Z,7.7nm,0.9s
KRUC Moravsky 84.27 319 *eP* **P** **03 29 29.4 0.0**
DPC Dobruska-Polom 84.43 320 *eP* **P** **03 29 31.3 +1.1**
KSP Ksiaz 84.50 321 *eP* **P** **03 29 31.4 +0.9**
KSP Ksiaz 84.50 321 P **P** **03 29 31.6 +1.1**
OSTC Ostas 84.52 321 *eP* **P** **03 29 30.9 +0.3**
CONA Conrad Observa 84.53 318 *eP* **P** **03 29 31.0 +0.2**
comp=Z,7.2nm,1.0s
GOLS Golise 84.54 316 *iP* **P** **03 29 31.3 +0.5**
CHVC Chvalec 84.63 321 *eP* **P** **03 29 32.1 +0.9**
CRES Cresnjev 84.65 316 *eP* **P** **03 29 31.0 -0.3**
ARSA Arzberg 84.70 317 *eP* **P** **03 29 32.5 +0.9**
comp=Z,25nm,1.3s,SNR=5.5
BOJS Bojanci 84.77 315 *iP* **P** **03 29 32.2 +0.2**
SOKA Soboth 85.00 317 *eP* **P** **03 29 33.8 +0.6**
comp=Z,28nm,1.0s,SNR=22
JETT Jettan, Norway 85.03 340 *eP* **P** **03 29 33.0 +0.1**
VNDS Vrh nad Dolski 85.19 316 *iP* **P** **03 29 34.5 +0.4**
BLEU Blekinge 85.28 326 *iP* **P** **03 29 32.6 -1.7**
VNDA Vanda 85.30 169 P **P** **03 29 34.4 +0.5**
comp=Z,7.0nm,1.1s,baz=4.9,slow=12,SNR=3.0
comp=Z,7.0nm,1.1s
OBKA Obir 85.32 316 *eP* **P** **03 29 35.6 +0.8**
comp=Z,13nm,1.1s
PRU Pruhonice 85.55 320 *eP* **P** **03 29 36.6 +0.8**
TRO Tromso 85.56 340 *eP* **P** **03 29 35.8 +0.5**
PVCC Panska Ves 85.57 320 *eP* **P** **03 29 37.0 +1.2**
MOA Molln 85.59 318 *eP* **P** **03 29 36.7 +0.6**
comp=Z,12nm,1.4s
PRA Prague 85.62 320 *eP* **P** **03 29 36.8 +0.7**
PRA *epP* **pP** **03 29 58.0 +1.2**
CKRC Cesky Krumlov 85.62 319 *eP* **P** **03 29 36.8 +0.6**
BSD Bornholm Skovb 85.69 325 *iP* **P** **03 29 35.1 -1.2**
BSD IAmb IAmb 03 29 39.2
comp=Z,54nm,1.1s
SABO M.te Sabotino 85.95 316 IAmb IAmb 03 30 02.5
comp=Z,16nm,0.8s
MYKA Terra Mystica 85.95 316 *eP* **P** **03 29 37.9 0.0**
comp=Z,9.4nm,0.9s
BRG Berggiesshubel 85.98 321 *iP* **P** **03 29 38.8 +0.8**
BRG Amp 03 29 39.7
comp=Z,7.5nm,0.9s
BRG Berggiesshubel 85.98 321 P P 03 29 44.4 +6.5
BRG Amp 03 29 46.0
comp=Z,8.3nm,0.9s
BRG Berggiesshubel 85.98 321 *iP* **P** **03 29 38.7 +0.8**
BRG 03 30 01.4
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG pmax pmax
comp=Z,8.0nm,0.9s
BRG pmax pmax
comp=Z,11nm,1.0s
PRED Cave del Predi 86.00 316 IAmb IAmb 03 29 45.5
comp=Z,26nm,0.8s
BIOA Bad Ischl, Aus 86.01 318 *eP* **P** **03 29 38.2 0.0**
comp=Z,6.1nm,0.8s
GEC2 GERESS Array S 86.03 319 IAmb IAmb 03 29 39.8
comp=Z,40nm,1.4s
GEC2 GERESS Array S 86.03 319 *eP* **P** **03 29 38.6 +0.3**
comp=Z,39nm,1.3s,baz=93,slow=4.9
GERES GERESS Array B 86.03 319 P **P** **03 29 38.7 +0.4**
comp=Z,8.2nm,0.9s,baz=74,slow=5.7,SNR=14
GERES LR LR 04 12 42.1
comp=Z,50nm,20.5s,baz=108,slow=39
comp=Z,8.2nm,0.9s
KHC Kasperske Hory 86.12 319 *ce*P **P** **03 29 39.1 +0.4**
KHC pmax pmax
comp=Z,21nm,1.3s
KHC Kasperske Hory 86.12 319 *eP* **P** **03 29 39.1 +0.4**
KHC *ex* x 03 29 56.5
KBA Koelnbreinsper 86.18 317 *eP* **P** **03 29 39.4 +0.2**
comp=Z,8.0nm,1.3s
KBA Koelnbreinsper 86.18 317 P **P** **03 29 39.0 -0.2**
RUE Ruedersdorf 86.18 322 *eP* **P** **03 29 39.3 +0.5**
RUE Ruedersdorf 86.18 322 *eP* **P** **03 29 39.7 +0.9**
comp=Z,47nm,0.9s,baz=93,slow=4.9
DEL Delary 86.37 326 *iP* **P** **03 29 39.1 -0.6**
ELIB Princess Elisa 86.43 198 *d*PcP **PcP** **03 29 42.2 0.0**
ELIB *dx* x 03 30 01.4
LUNU Lund 86.56 326 *iP* **P** **03 29 41.2 +0.7**
STAL STALIGIAL 86.58 316 IAmb IAmb 03 30 08.8
comp=Z,26nm,1.0s
WET Wettzell 86.58 319 *eP* **P** **03 29 40.6 -0.3**
comp=Z,20nm,1.1s,baz=93,slow=4.9
FAUS Fauske 86.59 337 *eP* **P** **03 29 40.7 +0.2**
FAUS IAmb IAmb 03 29 41.3
comp=Z,21nm,0.8s
CLL Collm 86.60 321 *iP* **P** **03 29 40.7 -0.2**
CLL *i* *PP **pP** **03 30 02.5 +0.9**
CLL pmax pmax
comp=Z,30nm,1.8s
CLL Collm 86.60 321 *iP* **P** **03 29 40.7 -0.2**
comp=Z,30nm,1.8s
CLL *ix* x 03 29 46.9
CLL *iP* **pP** **03 30 02.5 +0.9**
CLL *iS* **sP** **03 30 10.4 +0.5**
CLL *ePP* **PP** **03 32 58.0 -5.7**
CLL *eS* **S** **03 40 12.0 +0.4**
CLL *esS* **sS** **03 40 44.0 -3.0**
CLL *eSP* **SP** **03 41 12.0 +0.1**
CLL *ePPS* PPS 03 41 42.0
CLL Collm 86.60 321 *eP* **P** **03 29 41.3 +0.4**
comp=Z,15nm,1.3s,baz=93,slow=4.9
LESA Schwarzleotal 86.65 317 *eP* **P** **03 29 40.9 -0.4**
comp=Z,7.3nm,0.6s
STEI Steigen 86.67 338 *eP* **P** **03 29 41.5 +0.6**
STEI IAmb IAmb 03 29 42.0
comp=Z,31nm,0.7s
HFS Hagfors 86.71 330 P **P** **03 29 41.8 +0.5**
comp=Z,14nm,0.6s,baz=127,slow=3.9,SNR=62
HFS pP **pP** **03 30 01.9 -0.1**
HFS comp=Z,32nm,0.8s,baz=131,slow=4.1,SNR=7.0
HFS LR LR 04 13 60.0
comp=Z,108nm,18.4s,baz=92,slow=39
comp=Z,14nm,0.6s
ABTA Abfaltersbach 86.73 317 *eP* **P** **03 29 41.5 -0.3**
comp=Z,10nm,1.2s
CIMO Cimolais 86.77 316 IAmb IAmb 03 29 48.6
comp=Z,28nm,0.7s
MOR8 Moi Rana 86.82 336 *eP* **P** **03 29 41.2 -0.5**
MOR8 IAmb IAmb 03 29 43.0
comp=Z,25nm,1.2s
BJUU Bjuv 86.82 326 *iP* **P** **03 29 42.2 +0.4**
BORU Boraas 87.04 328 *iP* **P** **03 29 43.0 +0.1**
ROTZ Rotzenmuhle 87.05 320 *eP* **P** **03 29 43.3 +0.1**
comp=Z,3.7nm,1.1s,baz=93,slow=4.9
MANZ Manzenberg 87.12 320 *eP* **P** **03 29 44.6 +1.1**
comp=Z,6.1nm,1.1s,baz=93,slow=4.9
CTI Castel Tesino 87.31 316 IAmb IAmb 03 29 46.1
comp=Z,47nm,1.3s
WTTA Wattenberg 87.35 317 *eP* **P** **03 29 44.5 -0.3**
comp=Z,22nm,1.1s
NEUB Neuenburg 87.37 321 *eP* **P** **03 29 45.0 +0.4**
comp=Z,33nm,1.0s,baz=93,slow=4.9
KONS Konsvik 87.38 336 *eP* **P** **03 29 45.0 +0.7**
WATA Walderalm 87.39 317 *eP* **P** **03 29 44.7 -0.4**
comp=Z,14nm,1.2s
ATKA Atka Island 87.40 38 P **P** **03 29 44.7 0.0**
STOK Stokkvaagen 87.41 336 *eP* **P** **03 29 45.3 +0.9**
MOX Moxa 87.45 320 *eL* L 04 01 01.9
comp=Z,86nm,19.0s
ONAU Onsala 87.49 327 *iP* **P** **03 29 43.8 -1.2**
SPA0 Spitsbergen Ar 87.49 348 *eP* **P** **03 29 44.4 -0.3**
SPA0 IAmb IAmb 03 29 48.9
comp=Z,137nm,1.6s
SPITS Spitsbergen Ar 87.49 348 P **P** **03 29 45.0 +0.3**
SPITS pmax pmax
comp=Z,62nm,1.1s
SPITS Spitsbergen Ar 87.49 348 P **P** **03 29 44.5 -0.2**
comp=Z,18nm,0.8s,baz=99,slow=7.7,SNR=25
SPITS LR LR 04 15 38.8
comp=Z,131nm,20.2s,baz=79,slow=40
comp=Z,18nm,0.8s
SQTA Sankt Quirin 87.64 317 *eP* **P** **03 29 46.2 0.0**
comp=Z,6.2nm,0.5s
GRF Grafenberg Arr 87.68 320 *eL* L 04 04 20.4
comp=Z,113nm,21.4s
MOTA Moosalm 87.71 317 *eP* **P** **03 29 46.3 -0.3**
comp=Z,16nm,1.0s
NC405 NORSAR Array S 87.73 331 P **P** **03 29 47.3 +1.1**
FLTG Flechtingen 87.73 322 *eP* **P** **03 29 46.3 0.0**
comp=Z,17nm,1.1s,baz=93,slow=4.9
NSS Namsos 87.75 334 *eP* **P** **03 29 46.4 +0.3**
NSS IAmb IAmb 03 29 50.4
comp=Z,12nm,0.9s
NC602 NORSAR Array S 87.80 331 IAmb IAmb 03 30 08.6
comp=Z,38nm,1.1s
NC602 NORSAR Array S 87.80 331 *eP* **P** **03 29 46.9 +0.4**
NORES NORESS Array B 87.80 331 P **P** **03 29 50.6 +4.1**
NORES pmax pmax
comp=Z,51nm,1.5s
NC303 NORSAR Array S 87.90 331 P **P** **03 29 48.3 +1.3**
NC303 IAmb IAmb 03 30 13.7
comp=Z,49nm,1.4s
RETA Reutte 87.95 317 *eP* **P** **03 29 47.7 +0.1**
comp=Z,7.8nm,0.7s
FETA Feichten 87.97 317 *eP* **P** **03 29 47.7 -0.1**
comp=Z,11nm,1.2s
NB2 NORSAR Subarra 87.97 331 P **P** **03 29 46.4 -1.0**
NB2 NORSAR Subarra 87.97 331 P **P** **03 29 47.0 -0.4**
comp=Z,17nm,1.1s,baz=91,slow=5.1
NB2 NORSAR Subarra 87.97 331 P **P** **03 29 47.0 -0.4**
baz=91,slow=5.1
NOA NORSAR Array B 87.97 331 P **P** **03 29 47.0 -0.4**
comp=Z,5.2nm,0.8s,baz=94,slow=4.9,SNR=16
NOA pP **pP** **03 30 07.2 -1.0**
comp=Z,12nm,0.9s,baz=93,slow=4.9,SNR=8.8
NOA LR LR 04 13 50.0
comp=Z,67nm,19.5s,baz=100,slow=39
comp=Z,5.2nm,0.8s
ASSE Asse, Remlinge 88.07 322 *eP* **P** **03 29 48.4 +0.6**
comp=Z,24nm,1.0s,baz=93,slow=4.9
OSL Oslo 88.19 330 *eP* **P** **03 29 49.2 +0.9**
NC204 NORSAR Array S 88.20 331 P **P** **03 29 49.8 +1.4**
NC204 IAmb IAmb 03 30 16.3
comp=Z,48nm,1.4s
CLZ Clausthal 88.26 322 *eP* **P** **03 29 49.8 +0.9**
comp=Z,43nm,1.2s,baz=93,slow=4.9
FUORN Ofenpass-Fuorn 88.28 316 IAmb IAmb 03 29 56.9
comp=Z,52nm,1.6s
BSEG Bad Segeberg 88.31 324 *eP* **P** **03 29 50.3 +1.3**
comp=Z,38nm,1.1s,baz=93,slow=4.9
NRDL Niedersach Rie 88.43 322 *eP* **P** **03 29 50.9 +1.4**
comp=Z,40nm,1.0s,baz=93,slow=4.9
NRDL *epP* **pP** **03 30 11.2 +0.9**
KBS Kingsbay 88.44 349 *eP* **P** **03 29 50.3 +1.1**
TBLU Trondheim 88.47 333 *eP* **P** **03 29 50.1 +0.5**
GTTG Gottingen 88.51 321 *eP* **P** **03 29 50.9 +0.9**
comp=Z,39nm,1.0s,baz=93,slow=4.9
GTTG *epP* **pP** **03 30 11.4 +0.6**
DAVA Damuels 88.55 317 *eP* **P** **03 29 51.1 +0.6**
comp=Z,17nm,1.0s
KONO Kongsberg 88.75 329 IAmb IAmb 03 29 53.6
comp=Z,24nm,0.9s
GAMB Gambell 88.91 26 P **P** **03 29 52.2 +0.6**
baz=270
KEST Kesra 88.98 306 IAmb IAmb 03 29 55.3
comp=Z,34nm,1.1s
KEST Kesra 88.98 306 P **P** **03 29 54.2 +1.5**
comp=Z,22nm,0.9s,baz=320,slow=0.9,SNR=15
KEST LR LR 04 11 21.2
comp=Z,33nm,21.7s,baz=246,slow=37
comp=Z,22nm,0.9s
TNS Taunus Mts 89.47 320 *eP* **P** **03 29 55.7 +1.0**
comp=Z,27nm,0.9s,baz=93,slow=4.9
KASTN Kahler Asten 89.48 321 *eP* **P** **03 29 55.0 +0.3**
comp=Z,22nm,1.1s,baz=93,slow=4.9
BFO Black Forest 89.58 318 P **P** **03 29 56.0 +0.8**
BFO Black Forest 89.58 318 P **P** **03 29 55.8 +0.6**
SPIA Saint Paul Isl 89.71 33 P **P** **03 29 56.2 +0.7**
baz=271
NVL N'lazarevskaya 89.91 199 *eP* **P** **03 29 57.4 +1.2**
NVL pmax pmax
comp=Z,68nm,1.1s
P08K Saint George I 90.11 34 P **P** **03 29 58.3 +0.9**
baz=272
ECH Echery 90.37 318 IAmb IAmb 03 30 00.6
comp=Z,20nm,1.1s
ECH Echery 90.37 318 P **P** **03 29 59.6 +0.7**
TNA Tin City 90.48 25 P **P** **03 29 59.0 +0.1**
baz=273
NIKH Nikolski High 90.65 37 P **P** **03 30 00.5 +0.5**
baz=272
QSPA South Pole Qui 90.92 180 P **P** **03 30 03.0 +1.8**
QSPA South Pole Qui 90.92 180 P **P** **03 30 03.0 +1.8**
comp=Z,6.6nm,0.8s,baz=243,slow=0.6,SNR=13
QSPA PKKPbc **PKKPbc** **03 47 28.1 -1.0**
comp=Z,0.8nm,0.6s,baz=176,slow=2.6,SNR=5.2
comp=Z,6.6nm,0.8s
BTNL Ternell 90.95 320 *d*P **P** **03 30 01.8 +0.3**
comp=Z,10nm,1.1s
WLF Walferdange 90.97 320 *d*PcP **PcP** **03 30 03.4 +0.8**
MEM Membach 91.02 320 *d*PcP **PcP** **03 30 02.6 -0.2**
F14K Arctic Creek 91.15 25 P **P** **03 30 02.4 +0.3**
baz=275
C16K Lisburne Hills 91.28 22 P **P** **03 30 03.6 +1.0**
C16K IAmb IAmb 03 30 04.1
comp=Z,37nm,1.4s
C16K Lisburne Hills 91.28 22 P **P** **03 30 03.1 +0.5**
baz=276
BGES Gesves 91.62 320 *d*P **P** **03 30 05.1 +0.5**
ANM Nome 91.64 25 P **P** **03 30 05.3 +0.9**
baz=276
M11K Mekoryuk 91.64 30 P **P** **03 30 05.8 +1.4**
baz=275
F15K North Star Dit 91.82 24 P **P** **03 30 05.6 +0.4**
baz=276
BMRD Maredsous 91.83 320 *d*PcP **PcP** **03 30 07.2 +0.9**
DOU Dourbes 91.96 320 *d*P **P** **03 30 05.9 -0.2**
comp=Z,8.4nm,1.4s
UNV Unalaska Valle 92.00 36 P **P** **03 30 07.0 +0.8**
baz=274
C17K DeLong Mountai 92.05 21 P **P** **03 30 06.9 +0.6**
baz=278
G15K Niukluk 92.16 25 P **P** **03 30 07.5 +0.8**

baz=277
D17K **Noatak River** 92.19 22 P P 03 30 07.6 +0.8
baz=278
B18K **Kokolik River** 92.41 20 P P 03 30 08.8 +1.0
baz=279
A19K **Wainwright** 92.52 20 P P 03 30 09.6 +1.3
baz=280
J14K **Nanvaranak Lak** 92.65 27 P P 03 30 09.5 +0.5
baz=277
C18K **Utukok River** 92.75 21 P P 03 30 10.1 +0.6
C18K IAmb IAmb 03 30 38.3
comp=Z,15nm,1.1s
C18K **Utukok River** 92.75 21 P P 03 30 09.6 +0.1
baz=280
G16K **Koyuk River** 92.81 24 P P 03 30 10.4 +0.6
G16K IAmb IAmb 03 30 17.8
comp=Z,16nm,0.9s
G16K **Koyuk River** 92.81 24 P P 03 30 10.4 +0.6
baz=278
H16K **Elim** 92.97 25 P P 03 30 10.8 +0.3
baz=279
F17K **Baldwin Pennin** 93.09 23 P P 03 30 11.7 +0.7
baz=280
E18K **Tukpahlearik C** 93.18 22 P P 03 30 12.1 +0.7
E18K IAmb IAmb 03 30 32.3
comp=Z,16nm,1.2s
E18K **Tukpahlearik C** 93.18 22 P P 03 30 12.1 +0.7
baz=280
C19K **Lookout Ridge** 93.23 21 P P 03 30 12.7 +1.0
baz=281
L14K **Kuka Creek** 93.25 29 P P 03 30 13.1 +1.3
L14K IAmb IAmb 03 30 15.4
comp=Z,30nm,1.1s
L14K **Kuka Creek** 93.25 29 P P 03 30 12.6 +0.8
baz=278
G17K **Kiwalik Mounta** 93.50 24 P P 03 30 13.5 +0.6
baz=280
K15K **Wolf Creek Mou** 93.64 27 P P 03 30 14.4 +0.7
baz=279
M14K **Bethel** 93.68 29 P P 03 30 14.8 +1.0
baz=279
F18K **Selawik** 93.70 23 P P 03 30 14.3 +0.6
baz=281
A21K **Barrow** 93.73 18 P P 03 30 14.7 +0.9
baz=284
I17K **Unalakleet** 93.76 26 P P 03 30 15.0 +0.9
baz=280
L15K **Ungalak Mounta** 93.76 28 P P 03 30 15.0 +0.8
baz=279
D19K **Kuna River** 93.89 21 P P 03 30 15.4 +0.7
baz=283
J16K **Anvik River** 93.90 26 P P 03 30 16.1 +1.2
J16K **Anvik River** 93.90 26 P P 03 30 15.8 +1.0
baz=280
H17K **Granite Mounta** 93.90 25 P P 03 30 15.7 +0.9
H17K IAmb IAmb 03 30 35.8
comp=Z,13nm,0.8s
H17K **Granite Mounta** 93.90 25 P P 03 30 15.6 +0.8
baz=281
N14K **Kuskokwak Cree** 93.94 30 P P 03 30 15.6 +0.6
baz=279
G18K **Tagagawik** 94.23 24 P P 03 30 16.3 -0.1
baz=282
O14K **Tigyukauivet M** 94.25 30 P P 03 30 16.9 +0.4
baz=279
M15K **Kasigluk River** 94.30 29 P P 03 30 17.3 +0.6
baz=280
D20K **Etivluk River** 94.37 21 P P 03 30 17.5 +0.5
baz=284
F19K **Shaleruckik Mo** 94.38 23 P P 03 30 17.4 +0.4
F19K IAmb IAmb 03 30 37.9
comp=Z,16nm,1.0s
F19K **Shaleruckik Mo** 94.38 23 P P 03 30 17.1 +0.2
baz=283
E19K **Redstone River** 94.44 22 P P 03 30 17.7 +0.5
baz=283
H18K **Honhosa River** 94.51 24 P P 03 30 18.2 +0.7
H18K IAmb IAmb 03 30 46.3
comp=Z,30nm,1.2s
H18K **Honhosa River** 94.51 24 P P 03 30 18.0 +0.4
baz=282
E20K **Nigu River** 94.64 21 P P 03 30 18.8 +0.6
baz=284
N15K **Kwethluk River** 94.69 29 P P 03 30 19.8 +1.3
N15K IAmb IAmb 03 30 40.4
comp=Z,19nm,0.8s
N15K **Kwethluk River** 94.69 29 P P 03 30 19.3 +0.8
baz=280
L16K **Owhat River** 94.70 28 P P 03 30 19.2 +0.7
baz=281
G19K **Purcell Mounta** 94.80 23 P P 03 30 19.6 +0.7
G19K IAmb IAmb 03 30 40.1
comp=Z,16nm,0.8s
G19K **Purcell Mounta** 94.80 23 P P 03 30 19.5 +0.6
baz=283
O15K **Ungalikthiuk R** 95.00 30 P P 03 30 20.2 +0.2
baz=280
K17K **Iditarod** 95.04 27 P P 03 30 21.2 +1.2
K17K **Iditarod** 95.04 27 P P 03 30 20.9 +0.9
baz=282
M16K **Timber Creek** 95.08 29 P P 03 30 20.9 +0.6
baz=281
F20K **Avaraart Lake** 95.11 22 P P 03 30 21.1 +0.8
F20K IAmb IAmb 03 30 41.5
comp=Z,21nm,0.8s
F20K **Avaraart Lake** 95.11 22 P P 03 30 20.8 +0.6
baz=285
L17K **Donlin** 95.16 27 P P 03 30 21.5 +0.9
baz=282
H19K **Roundabout Mou** 95.20 24 P P 03 30 22.0 +1.3
H19K **Roundabout Mou** 95.20 24 P P 03 30 21.6 +0.9
baz=284
GCSA **Galena City Sc** 95.21 25 P P 03 30 21.7 +0.9
baz=284
N16K **Nishlik Lake** 95.28 29 P P 03 30 22.2 +1.0
baz=281
SDPT **Sand Point** 95.30 34 P P 03 30 22.3 +0.9
baz=280
E21K **Killik River** 95.38 21 P P 03 30 22.6 +1.1
E21K IAmb IAmb 03 30 42.6
comp=Z,21nm,0.8s
E21K **Killik River** 95.38 21 P P 03 30 21.9 +0.3
baz=286
J18K **Innoko River** 95.58 26 IAmb IAmb 03 30 23.9
comp=Z,12nm,0.8s
J18K **Innoko River** 95.58 26 P P 03 30 23.1 +0.5
baz=284
S14K **Fog Glacier** 95.66 33 P P 03 30 23.5 +0.4
baz=280
D22K **Ayikyak River** 95.70 20 IAmb IAmb 03 30 44.5
comp=Z,13nm,1.0s
D22K **Ayikyak River** 95.70 20 P P 03 30 23.6 +0.6
baz=288
M17K **Holitna River** 95.72 28 P P 03 30 24.1 +0.9
baz=283
O16K **Kokwok River B** 95.79 30 P P 03 30 23.9 +0.4
baz=282
H20K **Anotleneega Mo** 95.84 24 P P 03 30 24.4 +0.7
baz=285
L18K **Granite Mounta** 95.88 27 IAmb IAmb 03 30 26.4
comp=Z,19nm,1.2s
L18K **Granite Mounta** 95.88 27 P P 03 30 24.6 +0.7
baz=283
F21K **Alatna River** 95.91 22 IAmb IAmb 03 30 45.5
comp=Z,16nm,0.9s
F21K **Alatna River** 95.91 22 P P 03 30 24.3 +0.3
baz=287
J19K **Poorman** 95.92 25 IAmb IAmb 03 30 25.9
comp=Z,18nm,0.9s
J19K **Poorman** 95.92 25 P P 03 30 24.9 +0.8
baz=285
EKA **Eskdalemuir Ar** 95.99 326 P P 03 30 24.3 -0.2
comp=Z,3.8nm,0.8s,baz=83,slow=6.8,SNR=3.5
comp=Z,3.8nm,0.8s
TTA **Tatalina** 96.02 26 IAmb IAmb 03 30 53.6
comp=Z,11nm,1.1s
TTA **Tatalina** 96.02 26 P P 03 30 25.3 +0.6
baz=284
N17K **Nushagak Hills** 96.03 29 P P 03 30 25.6 +0.9
baz=283
C23K **Itkillik River** 96.09 19 P P 03 30 25.2 +0.5
baz=290
G21K **Allakaket** 96.10 23 P P 03 30 25.3 +0.5
baz=287
IMAR **Indian Mountai** 96.16 23 P P 03 30 25.6 +0.5
I20K **Naaghedeneel** 96.20 24 P P 03 30 26.3 +1.1
baz=286
E22K **Anaktuvuk Pass** 96.24 21 P P 03 30 26.0 +0.6
baz=288
O17K **Koliganek Bris** 96.24 30 P P 03 30 26.4 +0.8
baz=283
CHGN **Chignik** 96.28 33 P P 03 30 26.2 +0.4
baz=281
D23K **Nanushuk River** 96.36 20 P P 03 30 26.8 +0.8
baz=290
M18K **Stony River** 96.45 28 P P 03 30 27.3 +0.8
baz=284
J20K **Nowinta River** 96.50 25 IAmb IAmb 03 30 47.8
comp=Z,16nm,0.9s
J20K **Nowinta River** 96.50 25 P P 03 30 27.6 +0.9
baz=286
N18K **Kilae Creek** 96.62 29 P P 03 30 27.8 +0.5
baz=284
H21K **Melozitna Rive** 96.63 23 IAmb IAmb 03 30 48.4
comp=Z,17nm,0.9s
H21K **Melozitna Rive** 96.63 23 P P 03 30 28.0 +0.7
baz=287
TORD **Torodi Ar. Bea** 96.69 283 P P 03 30 28.4 -0.1
TORD **Torodi Ar. Bea** 96.69 283 P P 03 30 28.6 0.0
comp=Z,1.1nm,0.7s,baz=79,slow=6.2,SNR=7.8
TORD PP PP 03 34 25.8 +1.5
comp=Z,1.3nm,0.9s,baz=88,slow=10.0,SNR=3.8
TORD PKKPbc PKKPbc 03 47 10.7 -0.7
comp=Z,0.5nm,0.9s,baz=270,slow=0.9,SNR=2.5
TORD LR LR 04 14 19.9
comp=Z,103nm,18.2s,baz=126,slow=36
comp=Z,1.1nm,0.7s
P17K **Kvichak River** 96.70 30 P P 03 30 28.0 +0.3
baz=283
L19K **White Mountain** 96.72 27 IAmb IAmb 03 30 29.6
comp=Z,14nm,1.0s
L19K **White Mountain** 96.72 27 P P 03 30 28.4 +0.6
baz=285
C24K **Franklin Bluff** 96.75 19 P P 03 30 27.8 +0.1
baz=292
K20K **Telida** 96.76 26 IAmb IAmb 03 30 29.9
comp=Z,18nm,0.8s
K20K **Telida** 96.76 26 P P 03 30 28.8 +0.9
baz=286
D24K **Happy Valley** 96.92 19 P P 03 30 29.0 +0.5
baz=291
M19K **Big River Lodg** 97.01 27 P P 03 30 29.0 0.0
baz=285
E23K **Chandalar** 97.04 21 P Pdif 03 30 29.8 +0.5
baz=291
L20K **Farewell, AK** 97.08 27 P Pdif 03 30 30.2 +0.7
baz=286
I21K **Tanana** 97.10 24 IAmb IAmb 03 30 50.5
comp=Z,14nm,0.8s
I21K **Tanana** 97.10 24 P Pdif 03 30 30.3 +0.9
baz=288
H22K **Ishtalitna Cre** 97.11 23 P Pdif 03 30 30.2 +0.7
baz=289
COLD **Coldfoot** 97.12 21 P Pdif 03 30 30.1 +0.6
baz=290
O18K **Koktuh Hills** 97.15 29 P Pdif 03 30 30.5 +0.7
baz=284
Q17K **Contact Creek** 97.20 31 P Pdif 03 30 30.6 +0.5
baz=284
N19K **Bonanza Creek** 97.25 28 IAmb IAmb 03 30 32.5
comp=Z,23nm,1.0s
N19K **Bonanza Creek** 97.25 28 P Pdif 03 30 30.8 +0.4
baz=285
CHUM **Lake Minchumin** 97.36 25 P Pdif 03 30 31.0 +0.4
baz=288
G23K **Bananza Creek** 97.36 22 P Pdif 03 30 31.5 +0.9
G23K IAmb IAmb 03 30 51.6
comp=Z,15nm,1.2s
G23K **Bananza Creek** 97.36 22 P Pdif 03 30 31.3 +0.6
baz=290
O19K **Port Alsworth** 97.49 29 P Pdif 03 30 31.6 +0.3
baz=285
M20K **Styx River** 97.59 27 P Pdif 03 30 32.4 +0.6
baz=287
CAST **Castle Rocks** 97.60 25 IAmb IAmb 03 30 33.8
comp=Z,16nm,1.1s
CAST **Castle Rocks** 97.60 25 P Pdif 03 30 32.2 +0.5
baz=288
MLY **Manley** 97.65 24 P Pdif 03 30 32.3 +0.3
baz=289
D25K **Kavik River** 97.66 19 P Pdif 03 30 32.1 +0.1
baz=294
PPLA **Purkeypile** 97.71 26 P P 03 30 32.4 0.0
baz=288
BPAW **Bear Paw Mtn.** 97.85 25 IAmb IAmb 03 30 53.8
comp=Z,19nm,0.8s
BPAW **Bear Paw Mtn.** 97.85 25 P Pdif 03 30 33.1 +0.3
baz=289
F24K **Squaw Lake** 97.85 21 P Pdif 03 30 33.1 +0.3
baz=292
C26K **Camden Bay** 97.88 18 P Pdif 03 30 33.0 +0.2
baz=295
I23K **Minto, Yukon-K** 98.16 23 P Pdif 03 30 34.5 +0.4
baz=290
Q19K **Cape Douglas,** 98.16 30 P Pdif 03 30 34.9 +0.6
baz=286
P19K **Oil Pt** 98.17 29 P P 03 30 34.3 -0.1
baz=286
N20K **Mount Spurr** 98.21 28 P Pdif 03 30 35.2 +0.6
baz=287
SKT **Skwentna** 98.28 27 P Pdif 03 30 35.3 +0.5
baz=288
G24K **Hadweenzic Riv** 98.31 22 P Pdif 03 30 35.8 +1.0
baz=292
O20K **Slope Mountain** 98.34 29 P Pdif 03 30 35.8 +0.6
baz=287
TRF **Thorofare Moun** 98.35 25 IAmb IAmb 03 31 00.5
comp=Z,17nm,1.0s
TRF **Thorofare Moun** 98.35 25 P Pdif 03 30 35.7 +0.4
baz=289
E25K **Arctic Village** 98.42 20 P Pdif 03 30 36.1 +0.8
baz=294
NEA2 **Nenana** 98.47 24 P Pdif 03 30 36.3 +0.7
baz=291
H24K **Noodor Dome** 98.48 22 P Pdif 03 30 36.5 +0.8
baz=292
F25K **Christian Rive** 98.61 20 P Pdif 03 30 37.0 +0.7
baz=294
G25K **Bearman Lake** 98.79 21 P Pdif 03 30 37.4 +0.6
baz=294
SUA **Susitna One** 98.80 27 P Pdif 03 30 37.6 +0.3
baz=289
OHAK **Old Harbor** 98.81 32 P Pdif 03 30 37.5 +0.3
baz=286
MCK **McKinley** 98.83 25 P P 03 30 37.2 0.0
baz=291
KDAK **Kodiak Island** 99.02 31 LR LR 04 19 42.2
comp=Z,67nm,18.9s,baz=314,slow=38
ESDC **Sonseca Array** 99.18 310 P Pdif 03 30 39.5 +0.1
comp=Z,0.5nm,0.6s,baz=60,slow=4.2,SNR=5.7
ESDC LR LR 04 18 06.7
comp=Z,68nm,21.4s,baz=119,slow=37
comp=Z,0.5nm,0.6s
ILAR **Eielson Array** 99.28 23 P Pdif 03 30 38.5 -0.6
comp=Z,0.8nm,0.6s,baz=298,slow=4.4,SNR=9.5
ILAR PP PP 03 34 42.5 0.0
comp=Z,2.0nm,0.8s,baz=281,slow=5.4,SNR=7.4
ILAR PKKPbc PKKPbc 03 47 03.8 -2.1
comp=Z,1.1nm,0.8s,baz=146,slow=2.5,SNR=14
ILAR LR LR 04 21 09.3
comp=Z,82nm,18.2s,baz=274,slow=39
comp=Z,0.8nm,0.6s
RC01 **Rabbit Creek A** 99.38 27 P Pdif 03 30 39.8 +0.1
baz=290
PMR **Palmer** 99.49 27 P Pdif 03 30 40.7 +0.6
baz=290
PRP **Porcupine Dome** 99.51 22 P Pdif 03 30 40.4 +0.1
baz=294
G26K **Porcupine Rive** 99.54 21 P Pdif 03 30 40.9 +0.7
baz=296
DHY **Denali Highway** 99.72 25 P Pdif 03 30 41.9 +0.5
baz=292
WAT6 **Susitna Watana** 99.75 26 P Pdif 03 30 41.7 +0.2
baz=292
SML **Sawmill** 99.77 26 P Pdif 03 30 42.1 +0.6
baz=291
D28M **Stokes Point** 100.06 18 P Pdif 03 30 43.2 +0.7
baz=301
I26K **Coal Creek Min** 100.50 22 P Pdif 03 30 44.6 0.0
baz=296
RIDG **Independent Ri** 100.50 24 P Pdif 03 30 44.8 0.0
baz=294
PAX **Paxson** 100.56 25 P Pdif 03 30 45.3 +0.3
baz=294
F28M **Old Crow** 100.58 19 P Pdif 03 30 44.2 -0.7
baz=300
M24K **Tolsona, Glenn** 100.60 26 P Pdif 03 30 45.0 -0.2
baz=293
J26L **Joseph Creek** 100.69 23 P Pdif 03 30 45.8 +0.2
baz=296
SCRK **Sand Creek** 100.75 24 P Pdif 03 30 46.1 +0.2
baz=295
E29M **Blow River** 100.82 18 P Pdif 03 30 46.5 +0.5
baz=302
P23K **Montague Islan** 100.85 28 P Pdif 03 30 47.6 +1.3
baz=291
I27K **Kandik River** 100.93 22 P Pdif 03 30 47.4 +0.8
baz=298
L26K **Log Cabin Wild** 101.42 24 P Pdif 03 30 49.9 +1.2
baz=296
I28M **Miner Creek** 101.62 21 P Pdif 03 30 50.4 +0.7
baz=299
H29M **Whitestone** 101.79 20 P Pdif 03 30 51.3 +1.0
baz=301
F30M **Barrier River** 101.91 19 P Pdif 03 30 51.4 +0.5
baz=304
A36M **Sachs Harbour** 101.98 13 P Pdif 03 30 51.5 +0.5
baz=315
G30M **tAoh Zraii Nji** 102.11 19 P Pdif 03 30 51.4 -0.4
baz=303
INK **Inuvik** 102.21 18 P Pdif 03 30 52.1 0.0
baz=306
EPYK **Eagle Plains** 102.28 20 P Pdif 03 30 52.2 -0.4
baz=303
M27K **Edge Creek, AK** 102.32 25 P Pdif 03 30 53.4 +0.4
baz=297
DAWY **Dawson** 102.51 23 P Pdif 03 30 54.0 +0.4
baz=300
F31M **Tsiigehtchic** 102.65 18 P Pdif 03 30 53.8 -0.3
baz=306
BGLC **Bering Glacier** 102.70 27 P Pdif 03 30 55.4 +1.0
baz=295
J29N **Klondike Camp** 102.76 22 P Pdif 03 30 54.7 0.0
baz=301
YUK3 **Moose Creek** 103.19 25 P Pdif 03 30 57.5 +0.6
baz=298
L29M **L29M** 103.48 23 P Pdif 03 30 58.4 +0.5
baz=301
M29M **Somme Creek** 103.68 24 P Pdif 03 31 00.2 +1.3
baz=300
C36M **Paulatuk** 104.13 14 P Pdif 03 31 00.0 -0.6
baz=316
PNL **Peninsula** 104.65 26 P Pdif 03 31 02.4 -0.8
baz=299
P32M **Atlin** 107.16 25 P PKiKP 03 35 23.7 +0.5
baz=304
P33M **Teslin, Yukon** 107.18 24 P PKiKP 03 35 23.5 +0.2
baz=305
TBI **Tubuai** 110.31 114 eLR LR 04 08 12.3
comp=Z,939nm,36.0s
PPT2 **Papeete2** 110.90 108 eLR LR 04 08 36.2
comp=Z,416nm,42.0s
PPT2 eLR LR 04 08 36.4
comp=Z,223nm,18.2s
YKA **Yellowknife Ar** 111.87 16 Pdiff Pdif 03 31 35.1 -0.1
comp=Z,0.1nm,0.4s,baz=261,slow=28,SNR=1.4
YKA PKiKP PKiKP 03 35 31.2 -0.6
comp=Z,0.4nm,0.7s,baz=325,slow=2.3,SNR=5.3
YKA PP PP 03 36 13.8 -1.4
comp=Z,0.3nm,0.3s,baz=325,slow=7.2,SNR=8.6
YKA PKKPbc PKKPbc 03 46 25.4 -1.9
comp=Z,0.6nm,0.8s,baz=139,slow=2.9,SNR=8.9
EDM **Edmonton** 119.70 22 PKPdf PKiKP 03 35 47.4 0.0
EDM **Edmonton** 119.70 22 PKiKP PKiKP 03 35 47.4 0.0
NEW **Newport** 121.90 27 P PKPdf 03 35 51.5 -0.1
baz=316
FFC **Flin Flon** 121.90 14 PKPdf PKiKP 03 35 51.6 0.0
FFC **Flin Flon** 121.90 14 PKiKP PKiKP 03 35 51.6 0.0
SCHQ **Schefferville** 123.13 350 PKiKP 03 35 54.0 0.0
SCHQ **Schefferville** 123.13 350 PKP PKPdf 03 35 53.8 0.0
comp=Z,1.6nm,0.5s,baz=317,slow=1.0,SNR=8.5
F10A **Beach Ranch, E** 123.49 29 PKPdf PKiKP 03 35 55.5 +0.4
PLID **Pearl Lake** 124.73 29 PKPdf PKiKP 03 35 57.9 +0.1
EGMT **Eagleton** 125.24 23 PKPdf PKiKP 03 35 58.6 +0.1
EGMT **Eagleton** 125.24 23 P PKPdf 03 35 58.0 -0.1
baz=324
BOZ **Bozeman (W)** 126.39 26 P PKiKP 03 36 00.8 -0.2
baz=321
HLID **Hailey** 126.62 30 P PKiKP 03 36 01.8 +0.3
baz=317
DGMT **Dagmar** 126.86 19 P PKiKP 03 36 01.6 0.0
baz=331
ULM **Lac du Bonnet** 127.44 12 PKP PKPdf 03 36 02.2 +0.1
comp=Z,7.6nm,0.6s,baz=340,slow=3.1,SNR=24
LAO **LASA Array** 127.69 22 P PKiKP 03 36 03.3 -0.1
baz=328
LAO **LASA Array** 127.69 22 P PKPdf 03 36 03.0 +0.1
baz=328
RLMT **Red Lodge** 127.78 25 P PKiKP 03 36 04.1 +0.2
baz=324
H17A **Grant Village** 127.80 26 P PKiKP 03 36 04.3 +0.3
baz=322
NVAR **Mina Array Bea** 128.02 37 PKiKP 03 36 05.1 +0.6
NVAR **Mina Array Bea** 128.02 37 PKP PKiKP 03 36 05.3 +0.8
comp=Z,4.9nm,0.9s,baz=296,slow=1.9,SNR=21
MDND **Maddock** 128.79 16 P PKPdf 03 36 04.5 -0.3
baz=336
MDND **Maddock** 128.79 16 P PKiKP 03 36 05.4 -0.1
baz=336
PKM **Mcpherson Peak** 129.25 41 P PKPdf 03 36 06.6 +0.2
baz=306
AGMN **Agassiz Nation** 129.29 13 P PKPdf 03 36 06.0 +0.3
baz=341
AGMN **Agassiz Nation** 129.29 13 P PKPdf 03 36 05.8 0.0
baz=341
CWC **Cottonwood Cre** 129.42 39 P PKPdf 03 36 06.6 0.0
baz=309
GRAC **Grapevine Rang** 129.51 38 P PKPdf 03 36 06.7 +0.1
baz=310
BW06 **Boulder Array** 129.53 27 P PKPdf 03 36 06.3 -0.4
baz=322
PDAR **Pinedale Array** 129.53 27 PKPdf PKPdf 03 36 07.0 +0.3
PDAR **Pinedale Array** 129.53 27 PKhKP PKPpre 03 35 57.9
comp=Z,0.5nm,0.8s,baz=111,slow=3.7,SNR=3.4
PDAR PKP PKPdf 03 36 06.0 -0.8
comp=Z,1.8nm,0.6s,baz=70,slow=2.6,SNR=4.5
PDAR SKPbc SKPab 03 39 20.4 -0.9
comp=Z,1.4nm,0.8s,baz=256,slow=0.6,SNR=4.1
SBC **Santa Barbara** 129.58 42 P PKPdf 03 36 06.5 -0.2
baz=306
ISA **Isabella, Lake** 129.65 40 P PKiKP 03 36 08.0 +0.3
baz=308
B35A **Bob, Littlefor** 129.67 11 P PKPdf 03 36 06.1 -0.4
baz=344
R11B **Troy Canyon, C** 129.67 35 P PKPdf 03 36 07.3 +0.3
baz=313
ARVC **Arvin** 129.75 41 P PKPdf 03 36 07.4 +0.3
baz=308
DUG **Dugway, Tooele** 129.90 32 P PKiKP 03 36 08.0 -0.2
baz=317
MPMC **Manual Prospec** 130.03 39 P PKiKP 03 36 08.7 +0.1
baz=310
FURC **Furnace Creek,** 130.16 38 P PKiKP 03 36 08.9 +0.4
baz=310
EYMN **Ely** 130.46 9 P PKPdf 03 36 08.2 +0.2
baz=346
EYMN **Ely** 130.46 9 P PKPdf 03 36 08.3 +0.2
baz=346
RSSD **Black Hills** 130.69 22 PKPdf PKPdf 03 36 09.0 +0.1
RSSD **Black Hills** 130.69 22 PKiKP PKPdf 03 36 09.0 +0.1
RSSD **Black Hills** 130.69 22 P PKPdf 03 36 08.8 0.0
baz=329
RSSD **Black Hills** 130.69 22 P PKPdf 03 36 08.5 -0.3
baz=329
SHOC **Shoshone, Teco** 130.88 38 P PKPdf 03 36 09.2 0.0
baz=311
GSC **Goldstone, Bar** 130.94 39 P PKPdf 03 36 09.7 +0.3
baz=310
K22A **Casper** 130.95 25 P PKPdf 03 36 08.6 -0.7
baz=326
K22A **Casper** 130.95 25 P PKPdf 03 36 09.0 -0.3
baz=326
BFSC **Mount Baldy Ra** 131.06 41 P PKPdf 03 36 09.7 0.0
baz=308
F33A **5 Mile Ranch,** 131.51 14 P PKPdf 03 36 10.4 +0.3
baz=340
D41A **Chassel** 131.73 7 P PKiKP 03 36 11.1 -0.3
baz=350
E38A **The Farm, Brul** 131.75 10 P PKPdf 03 36 10.6 +0.2
baz=346
GMRC **Granite Mounta** 131.99 39 P PKPdf 03 36 11.7 +0.2
baz=311
SUSD **Miller** 132.09 17 P PKPdf 03 36 11.6 +0.4
baz=336
F36A **Milaca** 132.10 12 P PKPdf 03 36 11.0 -0.2

baz=343
O20A White River Ci 132.22 28 P PKPdf 03 36 12.0 +0.2
baz=322
PFO Pinyon Flats O 132.23 41 P PKiKP 03 36 13.5 +0.5
baz=309
TPFO Pinon Flats 132.23 41 P PKiKP 03 36 13.5 +0.5
baz=309
E43A Lone Tree Farm 132.57 5 P PKPdf 03 36 12.4 +0.4
baz=352
N23A Red Feather La 132.64 26 P PKPdf 03 36 12.9 +0.2
baz=326
E46A Sault Ste Mari 132.78 3 P PKPdf 03 36 12.2 -0.2
baz=356
SPMN Marine on St. 132.86 11 P PKiKP 03 36 13.3 -0.4
baz=344
IKP In-Ko-Pah, Jac 133.05 41 P PKiKP 03 36 14.7 0.0
baz=309
SWSC Sam W. Stewart 133.07 41 P PKiKP 03 36 15.1 +0.6
baz=309
PDMCI Parker Dam,Lak 133.25 38 P PKiKP 03 36 15.4 +0.6
baz=312
G40A Rib Lake 133.27 9 P PKPdf 03 36 13.5 +0.1
baz=348
K30B Basset 133.49 19 P PKPdf 03 36 14.3 +0.3
baz=334
ISCO Idaho Springs 133.68 26 P PKPdf 03 36 15.0 +0.3
baz=325
WUAZ Wupatki 134.06 35 P PKiKP 03 36 16.1 -0.6
baz=316
OGNE Ogallala 134.18 22 P PKPdf 03 36 15.8 +0.4
baz=330
GLMI Grayling 134.29 3 P PKiKP 03 36 16.3 -0.4
baz=355
MVCO Mesa Verde 134.36 31 P PKPdf 03 36 16.5 +0.5
baz=320
BGNE Belgrade 135.10 18 P PKPdf 03 36 16.5 -0.5
baz=336
W18A Petrified Fore 135.27 34 P PKPdf 03 36 17.9 +0.2
baz=318
K38A Parkersburg 135.34 12 P PKPdf 03 36 17.1 -0.2
baz=344
SDCO Great Sand Dun 135.41 28 P PKPdf 03 36 17.7 -0.3
baz=324
JFWS Jewell Farm 135.55 9 P PKPdf 03 36 18.0 +0.3
baz=347
T25A Trinidad 136.40 27 P PKPdf 03 36 20.4 +0.6
baz=325
TUC Tucson 136.66 38 P PKPdf 03 36 20.2 0.0
baz=314
BINY Binghamton 136.76 354 P PKPdf 03 36 20.5 +0.4
baz=7.7
ANMO Albuquerque 137.16 31 PKPdf PKPdf 03 36 21.3 +0.1
ANMO Albuquerque 137.16 31 PKIKP PKPdf 03 36 21.3 +0.1
ANMO Albuquerque 137.16 31 P PKPdf 03 36 21.0 -0.2
baz=321
Y22A Socorro 137.67 32 P PKPdf 03 36 22.0 -0.1
baz=320
KSU1 Kansas State U 137.68 18 P PKPdf 03 36 21.7 -0.1
baz=337
M53A WI Miller and 137.78 359 P PKPdf 03 36 21.8 -0.1
baz=0.9
HDIL Hopedale 138.01 9 P PKPdf 03 36 22.7 +0.4
baz=348
121A Cookes Peak, D 138.27 35 P PKPdf 03 36 23.5 +0.2
baz=318
O48B Farmland 138.80 5 P PKPdf 03 36 24.3 +0.5
baz=354
ACSO Alum Creek Sta 138.95 2 P PKPdf 03 36 24.0 0.0
baz=357
O53A New Philadelph 138.97 0 P PKPdf 03 36 23.7 -0.5
baz=0.1
O54A Avella 139.03 359 PKiKP 03 36 25.8 -0.7
PLCA Paso Flores 139.26 192 PKhKP PKPpre 03 36 15.9
comp=Z,1.6nm,0.9s,baz=16,slow=23,SNR=2.5
PLCA SKPbc **SKPbc 03 39 53.8 +0.3**
comp=Z,4.6nm,1.0s,baz=184,slow=1.5,SNR=4.1
PLCA Paso Flores 139.26 192 *eP* PKiKP 03 36 27.0 -0.1
P52A Corning 139.57 1 P PKPdf 03 36 24.6 -0.6
baz=359
MSTX Muleshoe 139.76 28 P PKPdf 03 36 26.1 +0.2
baz=326
MNTX Cornudas Mount 140.24 33 P PKPdf 03 36 27.5 +0.8
baz=320
WCI Wyandotte Cave 140.71 6 P PKPdf 03 36 27.2 -0.2
baz=352
RCLB Rio Claro- Sao 140.93 234 *eP* PKiKP 03 36 30.1 -0.8
TBOT Tacuaremb 141.23 216 *eP* PKiKP 03 36 30.7 -0.5
ALGR Alto Alegre (B 141.41 222 *eP* PKiKP 03 36 31.3 -0.5
PMNB Patos De Minas 141.68 241 *eP* PKPdf 03 36 29.5 -0.2
RODS Rosario do Sul 141.75 218 *eP* PKiKP 03 36 31.5 -0.8
FRTB Fartura 142.09 232 *eP* PKPdf 03 36 29.8 -0.5
SDBA SAO DESIDERIO 142.26 251 *eP* PKiKP 03 36 32.6 -1.2
ABTX Abilene, Hawle 142.31 26 P PKPdf 03 36 26.6 -3.8
baz=329
WVT Waverly 142.57 9 PKPpre 03 36 26.5
WVT Waverly 142.57 9 PKIKP PKPdf 03 36 26.5 -4.2
WVT Waverly 142.57 9 P PKPdf 03 36 26.4 -4.2
baz=349
TZTN Tazewell 142.60 3 P PKPdf 03 36 26.7 -4.1
baz=356
CRSM Crissiumal (Br 142.94 222 *eP* PKiKP 03 36 33.8 -1.0
TX31 Lajitas Ar. Si 142.99 34 P PKPdf 03 36 28.8 -3.0
baz=321
TXAR Lajitas Array 143.00 34 PKPdf 03 36 28.8 -3.0
TXAR Lajitas Array 143.00 34 PKIKP PKPdf 03 36 28.8 -3.0
TXAR Lajitas Array 143.00 34 PKhKP PKPpre 03 36 28.1
comp=Z,2.9nm,0.6s,baz=224,slow=0.4,SNR=12
TXAR SKPbc **SKPbc 03 40 03.3 -0.2**
comp=Z,22nm,1.1s,baz=247,slow=1.9,SNR=17
ITQB Itaqui 143.10 217 PKPdf PKPdf 03 36 32.4 +0.6
ITQB Itaqui 143.10 217 *eP* PKPdf 03 36 32.5 +0.7
V48A Smith Brothers 143.10 8 P PKPbc 03 36 28.2 -0.4
baz=351
PTGB Pitanga 143.25 228 *eP* PKPdf 03 36 32.5 +0.2
V52A Sevierville 143.30 3 P PKPbc 03 36 28.7 -0.5
baz=356
V55A Taylorsville 143.36 0 PKPdf 03 36 32.8 +0.6
IPMB Ipameri, GO 143.45 240 *eP* PKPdf 03 36 32.9 0.0
TKL Tuckaleechee C 143.47 4 P PKPab 03 36 28.8 +0.2
baz=356
Z38A Mt. Pleasant 143.55 20 P PKPbc 03 36 30.0 0.0
baz=337,SNR=7.0
OXF Oxford 143.87 12 P PKPab 03 36 30.4 +0.2
baz=346
W52A Murphy 144.03 4 P **PKPab 03 36 31.0 +0.2**
baz=356
W57A Gilead 144.04 358 PKPbc 03 36 31.5 +0.1
JCT Junction City 144.05 28 P PKPbc 03 36 31.4 -0.2
baz=327
KMSC Kings Mountain 144.07 0 P **PKPab 03 36 31.1 +0.2**
baz=360
BDFB Brasilia 144.16 244 PKPdf PKPdf 03 36 33.6 -0.5
BDFB Brasilia 144.16 244 PKP PKPdf 03 36 33.4 -0.8
comp=Z,22nm,0.6s,baz=129,slow=3.1,SNR=57
CASEE Lake Jocassee 144.18 2 P **PKPab 03 36 31.5 +0.1**
baz=357,SNR=9.4
Z41A Richland Creek 144.24 17 P **PKPab 03 36 31.8 +0.2**
baz=340,SNR=8.2
Z41A P **PKPab 03 36 31.8 +0.2**
baz=340,SNR=8.2
PCMB Pacaembu 144.33 233 *eP* PKPdf 03 36 34.0 -0.2
X48A Hartselle 144.33 8 P **PKPab 03 36 31.4 -0.5**
baz=350,SNR=26
PAULI Pauline 144.38 1 P **PKPab 03 36 31.9 -0.2**
baz=359
237A Washetta, Mont 144.40 22 P PKPbc 03 36 32.8 +0.2
baz=335,SNR=8.7
Y45A Yeager Farm, C 144.47 12 P PKPbc 03 36 33.0 +0.3
baz=346,SNR=6.2
ITRB Iturama 144.53 236 *eP* PKPdf 03 36 34.9 +0.3
BIRD Birdtown, Kers 144.56 359 P PKPbc 03 36 33.0 0.0
baz=1.4
TRCB Terra Rica 144.77 230 *eP* **PKPdf 03 36 35.1 +0.1**
435B Jarrell 144.78 25 P **PKPab 03 36 33.2 -0.5**
baz=331
435B Jarrell 144.78 25 P **PKPab 03 36 33.4 -0.3**
baz=331
MCR1 Marechal Candi 144.84 226 *eP* PKPbc 03 36 34.5 +0.2
HODGE Hodges 144.96 2 P PKPbc 03 36 34.4 +0.1
baz=358,SNR=14
Y49A Blount Mountai 145.00 8 P **PKPbc 03 36 34.2 -0.2**
baz=351,SNR=28
NATX Nacogdoches 145.03 20 P **PKPbc 03 36 34.5 -0.1**
baz=336
NATX Nacogdoches 145.03 20 P **PKPdf 03 36 35.1 -0.1**
baz=336,SNR=6.5
Y60A Bolivia 145.09 356 P **PKPdf 03 36 35.0 -0.2**
baz=5.3
Y60A P PKPdf 03 36 35.0 -0.2
baz=5.3
143A Socs Landing, 145.14 15 P PKPdf 03 36 35.2 -0.1
baz=342,SNR=9.9
Y57A Sumter 145.18 359 P PKPbc 03 36 34.9 0.0
baz=1.5,SNR=16
Y57A P PKPbc 03 36 34.9 0.0
baz=1.5,SNR=16
Y52A Lilburn 145.24 4 P PKPdf 03 36 35.5 +0.1
baz=355,SNR=35
Y52A P PKPdf 03 36 35.5 +0.1
baz=355,SNR=35
Y58A Scranton 145.27 358 P PKPdf 03 36 35.6 +0.1
baz=2.8,SNR=18
Y58A P PKPdf 03 36 35.6 +0.1
baz=2.8,SNR=18
Z47A Carrollton 145.40 10 P PKPbc 03 36 35.6 -0.1
baz=348,SNR=40
SMTB Santa Maria do 145.63 256 *eP* PKPab 03 36 38.7 +1.3
Z51A Franklin 145.68 6 P PKPbc 03 36 36.5 -0.1
baz=353,SNR=16
GOGA Godfrey 145.73 3 P PKPbc 03 36 36.7 0.0
baz=356
GOGA Godfrey 145.73 3 P PKPab 03 36 36.9 -0.2
baz=356,SNR=45
LRAL Lakeview Retre 145.73 9 P PKPdf 03 36 36.5 +0.1
baz=350
LRAL Lakeview Retre 145.73 9 P PKPdf 03 36 36.4 +0.1
baz=350,SNR=28
146A Union 145.75 12 P PKPab 03 36 37.6 +0.3
baz=346,SNR=35
VBMS Vicksburg 145.83 14 P PKPab 03 36 37.6 +0.1
baz=343
VBMS Vicksburg 145.83 14 P PKPab 03 36 37.7 +0.1
baz=343,SNR=6.0
HAW Hawthorne Fire 145.84 1 P PKPbc 03 36 37.1 0.0
baz=359,SNR=21
CPUP Villa Florida 145.89 220 PKPbc PKPab 03 36 38.4 +0.4
comp=Z,80nm,0.8s,baz=114,slow=1.9,SNR=183
CPUP Villa Florida 145.89 220 *eP* PKPab 03 36 38.7 +0.7
833A Chaparral WMA, 146.04 30 P PKPab 03 36 38.7 +0.2
baz=326
833A Chaparral WMA, 146.04 30 P PKPab 03 36 38.6 +0.1
baz=326,SNR=15
NHSC New Hope 146.08 358 P PKPbc 03 36 38.0 +0.2
baz=1.9
HKT Hockley 146.23 23 PKPbc 03 36 38.6 +0.3
HKT Hockley 146.23 23 PKP2 PKPbc 03 36 38.6 +0.3
HKT Hockley 146.23 23 P PKPbc 03 36 38.2 0.0
baz=333
735A Kenedy 146.34 27 P PKPab 03 36 39.6 0.0
baz=329,SNR=20
152A Waverly Hall 146.37 5 P PKPbc 03 36 39.0 +0.3
baz=354,SNR=17
AMBA Amambai (Brazi 146.46 227 *eP* PKPbc 03 36 39.7 +0.4
154A Montrose 146.54 3 P PKPab 03 36 39.8 -0.4
baz=357
RPRD Ribas do Rio P 146.86 232 *eP* PKPbc 03 36 40.6 +0.1
346A Big Creek Wild 146.87 13 P PKPbc 03 36 40.6 +0.5
baz=345,SNR=17
TMAB Tom-Au,PA,Br 146.87 267 *eP* PKPbc 03 36 40.4 -0.4
250A Grady 146.87 8 P PKPbc 03 36 39.9 -0.3
baz=351,SNR=10
VACA Villa Angela C 147.00 215 *eP* PKPbc 03 36 40.0 -0.6
VA06 Catapilco 147.23 196 PKPbc 03 36 41.6 +0.5
ARAG Araguaiana, MT 147.52 242 *eP* PKPbc 03 36 41.2 -1.2
352A Blakely 147.53 6 P PKPbc 03 36 42.3 +0.3
baz=353,SNR=11
BRAL Brewton 147.55 9 P PKPbc 03 36 42.4 +0.3
baz=349
ESFA Espinillo Form 147.59 221 *eP* PKPbc 03 36 41.8 -0.5
TIGA Tifton 147.68 4 P PKPbc 03 36 42.6 +0.2
baz=356
TICA Tres Isletas 147.75 217 *eP* PKPbc 03 36 41.6 -1.2
ANTJ Antonio Joao (147.77 228 *eP* PKPbc 03 36 42.3 -0.7
SNDB Serra Nova Dou 148.38 249 *eP* PKPdf 03 36 42.3 +1.0
AQDB Aquidauana 148.43 230 *eP* PKPdf 03 36 41.8 +0.7
ZAIG Zacatecas 148.53 40 PKPab 03 36 48.7 -0.1
MURT Porto Murtinho 149.15 227 *eP* PKPdf 03 36 43.1 +0.8
BDQN Bodoquena, MS 149.24 229 *eP* PKPdf 03 36 42.9 +0.4
GO04 Tololo Observa 149.33 198 PKPab PKPab 03 36 51.1 -0.7
656A Willston 149.80 2 P PKPbc 03 36 48.1 +0.2
baz=358,SNR=9.7
LCO Las Campanas 150.37 199 PKiKP 03 36 50.9 +0.4
LCO Las Campanas 150.37 199 PKIKP PKiKP 03 36 50.9 +0.4
SALV Santo Antonio 150.79 238 *eP* PKPdf 03 36 45.4 +0.4
MCPB Macapa, AP 150.84 271 *eP* PKPdf 03 36 46.7 +1.5
DWPF Disney Wildern 151.08 0 P PKiKP 03 36 51.3 -0.2
baz=360
BBRB Robore, Bolivi 152.85 229 *eP* PKPdf 03 36 49.2 +1.2
CLDB Colider 152.91 248 *eP* PKPdf 03 36 50.1 +1.8
MAUB Monte Alegre 153.05 268 *eP* P 03 36 50.7 -0.5
GO02 Mina Guanaco 153.47 204 PKiKP 03 36 57.1 +0.2
PDRB Porto dos Gac 153.51 246 *eP* PKPdf 03 36 51.5 +2.4
NPGB Novo Progresso 153.53 256 *eP* PKPdf 03 36 51.1 +1.9
PTLB Pontes e Lacer 153.90 235 *eP* PKPdf 03 36 50.9 +1.3
BBSD Serra de San D 154.11 230 *eP* PKPdf 03 36 52.0 +2.1
ITTB Itaituba 154.33 262 *eP* PKPdf 03 36 51.9 +1.5
LVC Limon Verde 155.40 208 *eP* PKPdf 03 36 52.3 +0.3
VILB Vilhena 156.03 239 *eP* PKPdf 03 36 54.9 +2.3
BOAV Boa Vista 159.05 279 *eP* PKPdf 03 36 58.7 +2.3
SAML Samuel 160.39 246 *eP* PKPdf 03 36 59.6 +1.7
ETMB Extrema 162.69 239 PKPab PKPab 03 37 49.0 0.0
ETMB Extrema 162.69 239 *eP* PKPdf 03 37 01.1 +0.9
TEFE Tefe 163.25 261 *eP* PKPdf 03 37 02.2 +1.4
SDV Santo Domingo 165.61 313 PKPab 03 38 02.0 0.0
SDV Santo Domingo 165.61 313 *eP* PKPdf 03 37 04.2 +1.0
ROSC El Rosal 171.01 310 PKP PKPdf 03 37 08.1 +1.1
comp=Z,5.2nm,0.6s,baz=328,slow=23,SNR=1.8

*IDC **01** 03:17:07.9±1.1,5°.78S×143°.02E,h0km,mb4.6/3, mbtmp4.5/6, ML2.5/2, MS3.8/6, Error ellipse: s-maj=37.7km s-min=20.9km az=77.0*

*NEIC **01** 03:17:10.1±1.9,6°.02S±0°.06×142°.83E±0°.10,h10km±1km, mb4.7/41, Error ellipse: s-maj=17.2km s-min=8.7km az=65.0*

*DJA **01** 03:17:14.1±0.4,6°.S±3°×14°.3E±°,h41km±7km,M5.2/19, mb4.9/19,mB5.7/9,MLv5.3/5,Mw(mB)5.2/9,MwMwp4.7/1, Mwp5.0/1*

ISC 01 03:17:13.4±0.6,6°.00S±0°.07×142°.79E±0°.07,h35km,n90, σ1°29/83,mb4.7/22,MS3.8/4,1C-1D,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.72**	**295**	P	**Pn**	**03 17 40.6**	**-0.3**
MMPI	**Merauke**	**3.43**	**224**	P	**Pn**	**03 18 05.2**	**+0.9**
GENI	**Genyem**	**4.27**	**322**	P	**Pn**	**03 18 16.9**	**+0.9**
GENI	**Genyem**	**4.27**	**322**	P	**Pn**	**03 18 16.9**	**+0.9**
PMG	**Port Moresby**	**5.50**	**128**	Pn	**Pn**	**03 18 31.3**	**-1.6**
PMG	**Port Moresby**	**5.50**	**128**	P	**Pn**	**03 18 31.5**	**-1.4**
PMG	**Port Moresby**	**5.50**	**128**	P	**Pn**	**03 18 31.4**	**-1.4**
PMG	**Port Moresby**	**5.50**	**128**	Pn	**Pn**	**03 18 30.4**	**-2.4**
	2.8nm,0.3s,baz=332,slow=7.5,SNR=8.1						
PMG				Sn	**Sn**	**03 19 35.6**	**+0.8**
	1.2nm,0.3s,baz=329,slow=2.3,SNR=3.5						
	20nm,0.6s						
SMPI	**Sarmi**	**5.69**	**314**	P	**Pn**	**03 18 36.6**	**+1.1**
	284nm,1.3s,7μm3μm1.3nm						
COEN	**Coen**	**7.92**	**177**	Pn	**Pn**	**03 19 05.4**	**-0.8**
FAKI	**Fak Fak**	**10.95**	**286**	Pn	**Pn**	**03 19 45.3**	**-2.3**
FAKI	**Fak Fak**	**10.95**	**286**	P	**Pn**	**03 19 46.1**	**-1.5**
FAKI	**Fak Fak**	**10.95**	**286**	P	**Pn**	**03 19 37.4**	**-10**
SAUI	**Saumlaki**	**11.58**	**260**	Pn	**Pn**	**03 19 55.7**	**-0.6**
SAUI	**Saumlaki**	**11.58**	**260**	P	Pn	03 19 50.3	-6.0
	337nm,0.8s,11μm						
KDU	**Kakadu**	**12.16**	**236**	P	**Pn**	**03 20 02.9**	**-1.3**
SWI	**Sorong**	**12.59**	**293**	P	**Pn**	**03 20 06.9**	**-3.2**
	67nm,1.3s,1μm						
MTN	**Manton Dam**	**13.36**	**239**	Pn	**Pn**	**03 20 18.0**	**-2.7**
MTN	**Manton Dam**	**13.36**	**239**	P	**Pn**	**03 20 18.9**	**-1.8**
DRS	**Darwin Rock St**	**13.36**	**241**	P	**Pn**	**03 20 20.8**	**+0.1**
CTA	**Charters Tower**	**14.41**	**167**	Pn	**Pn**	**03 20 35.1**	**+0.2**
	0.1nm,0.3s,baz=287,slow=6.1,SNR=1.7						
CTA				Lg	Lg	03 24 52.2	
	0.1nm,0.3s,baz=278,slow=11,SNR=2.0						
CTA				LR	LR	03 25 31.8	
	comp=Z,236nm,20.9s,baz=8.0,slow=35						
	1.8nm,0.7s						
WB0	**Warramunga Arr**	**15.94**	**210**	Pn	**Pn**	**03 20 53.4**	**-1.8**
WR0	**Warramunga Arr**	**16.03**	**209**	Pn	**Pn**	**03 20 53.4**	**-3.0**
WR0				IAmb	IAmb	03 21 02.5	
	comp=Z,26nm,0.7s						
WRAB	**Tennant Creek**	**16.10**	**210**	P	**Pn**	**03 20 57.1**	**-0.1**
WB2	**Warramunga Arr**	**16.11**	**210**	Pn	**Pn**	**03 20 54.1**	**-3.2**
WRA	**Warramunga Arr**	**16.12**	**210**	Pn	**Pn**	**03 20 54.4**	**-3.0**
WRA	**Warramunga Arr**	**16.12**	**210**	Pn	**Pn**	**03 20 55.6**	**-1.8**
	comp=Z,1.1nm,0.3s,baz=34,slow=12,SNR=32						
WRA				Lg	Lg	03 25 51.2	
	baz=300,slow=9.1						
LBMI	**Labuha**	**16.16**	**289**	P	**Pn**	**03 20 55.1**	**-2.9**
	comp=Z,43nm,0.9s						
KNRA	**Kununurra**	**16.79**	**234**	Pn	**Pn**	**03 21 03.7**	**-2.3**
KNRA				IAmb	IAmb	03 21 11.0	
	comp=Z,34nm,0.9s						
KNRA	**Kununurra**	**16.79**	**234**	P	**Pn**	**03 21 06.3**	**+0.3**
SANI	**Sanana**	**17.21**	**282**	P	Pn	03 21 01.0	-10
SOEI	**Soe**	**18.72**	**257**	P	**Pn**	**03 21 29.6**	**-0.4**
SOEI				IAmb	IAmb	03 21 33.6	
	comp=Z,68nm,1.0s						
SOEI	**Soe**	**18.72**	**257**	P	**Pn**	**03 21 30.8**	**+0.8**
SOEI	**Soe**	**18.72**	**257**	P	**Pn**	**03 21 30.1**	**+0.1**
	comp=Z,112nm,0.9s,comp=Z,900nm						
AS31	**Alice Springs**	**19.54**	**205**		**Pn**	**03 21 40.2**	**+0.6**
ASAR	**Alice Springs**	**19.54**	**205**		**P**	**03 21 38.0**	**-0.1**
ASAR	**Alice Springs**	**19.54**	**205**	P	**Pn**	**03 21 39.8**	**+0.2**
	comp=Z,42nm,0.6s,baz=34,slow=8.2,SNR=302						
ASAR				Lg	Lg	03 27 30.4	
	baz=13,slow=30						
ASAR				LR	LR	03 29 58.8	
	comp=Z,722nm,20.7s,baz=33,slow=39						
QLP	**Quilpie**	**20.52**	**176**	P	**P**	**03 21 49.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**20.61**	**233**	P	**P**	**03 21 49.9**	**0.0**
EIDS	**Eidsvold**	**20.84**	**158**	Pn	**P**	**03 21 52.8**	**+0.6**
EIDS	**Eidsvold**	**20.84**	**158**	P	**P**	**03 21 53.3**	**+1.1**
EDFI	**Ende, Flores**	**21.10**	**261**	P	**P**	**03 21 54.1**	**-1.2**
	comp=Z,173nm,0.9s,comp=Z,1μm						
INKA	**Innaminka**	**21.71**	**185**	P	**P**	**03 22 02.9**	**+1.3**
OOD	**Oodnadatta**	**22.71**	**196**	P	**P**	**03 22 12.7**	**+0.5**
WRKA	**Warakurna**	**23.48**	**215**	P	**P**	**03 22 21.4**	**+1.2**
STKA	**Stephens Creek**	**25.77**	**182**	P	**P**	**03 22 43.7**	**+2.6**
STKA	**Stephens Creek**	**25.77**	**182**	P	**P**	**03 22 42.5**	**+1.5**
	comp=Z,3.3nm,0.6s,baz=341,slow=9.9,SNR=6.1						
	comp=Z,3.3nm,0.6s						
FORT	**Forrest**	**28.27**	**208**	P	**P**	**03 23 04.7**	**+1.1**
FORT				IAmb	IAmb	03 23 14.1	
	comp=Z,14nm,0.9s						
BLDU	**Ballidu**	**34.64**	**222**	P	**P**	**03 24 00.0**	**+0.4**
LEM	**Lembang**	**34.96**	**267**	LR	LR	03 43 19.2	
	comp=Z,133nm,18.3s,baz=54,slow=45						
JNU	**Nakatsue**	**40.51**	**345**	P	**P**	**03 24 49.5**	**+0.2**
RPSI	**Rantau Prapat**	**44.65**	**280**	P	**P**	**03 25 23.4**	**+0.3**
URZ	**Urewera**	**44.71**	**141**	LR	LR	03 44 10.5	
	comp=Z,205nm,18.9s,baz=114,slow=36						
CMAR	**Chiang Mai Arr**	**49.59**	**300**	LR	LR	03 50 18.6	
	comp=Z,28nm,18.3s,baz=115,slow=40						
PALK	**Pallekele**	**63.33**	**281**	LR	LR	03 58 47.4	
	comp=Z,66nm,19.5s,baz=209,slow=39						
L16K	**Owhat River**	**80.69**	**24**	P	**P**	**03 29 23.0**	**+0.4**
L16K				IAmb	IAmb	03 29 27.0	
	comp=Z,12nm,1.4s						
N17K	**Nushagak Hills**	**81.05**	**26**	P	**P**	**03 29 25.3**	**+0.8**
K17K	**Iditarod**	**81.68**	**24**	P	**P**	**03 29 28.0**	**+0.2**
K17K				IAmb	IAmb	03 29 33.5	
	comp=Z,10nm,1.1s						
L18K	**Granite Mounta**	**82.09**	**24**	P	**P**	**03 29 30.4**	**+0.4**
L18K				IAmb	IAmb	03 29 36.0	
	comp=Z,10nm,1.3s						
N19K	**Bonanza Creek**	**82.36**	**26**	P	**P**	**03 29 32.5**	**+0.9**
C16K	**Lisburne Hills**	**82.39**	**17**	P	**P**	**03 29 31.6**	**+0.1**
C16K				IAmb	IAmb	03 29 34.5	
	comp=Z,8.3nm,1.5s						
F17K	**Baldwin Pennin**	**82.60**	**20**	P	**P**	**03 29 33.2**	**+0.6**
M19K	**Big River Lodg**	**82.89**	**25**	P	**P**	**03 29 35.2**	**+1.0**
M19K				IAmb	IAmb	03 29 42.0	
	comp=Z,5.1nm,1.1s						
G18K	**Tagagawik**	**83.19**	**21**	P	**P**	**03 29 36.1**	**+0.3**
G18K				IAmb	IAmb	03 29 40.0	
	comp=Z,3.9nm,1.0s						
E18K	**Tukpahlearik C**	**83.36**	**19**	P	**P**	**03 29 37.0**	**+0.5**
M20K	**Styx River**	**83.42**	**25**	P	**P**	**03 29 36.4**	**-0.7**
K20K	**Telida**	**83.69**	**24**	P	**P**	**03 29 38.7**	**+0.4**
K20K				IAmb	IAmb	03 29 38.9	
	comp=Z,4.6nm,1.2s						
H19K	**Roundabout Mou**	**83.80**	**21**	P	**P**	**03 29 39.4**	**+0.6**
C18K	**Utukok River**	**83.85**	**18**	P	**P**	**03 29 39.6**	**+0.5**
C18K				IAmb	IAmb	03 29 44.6	
	comp=Z,6.7nm,1.4s						
QSPA	**South Pole Qui**	**83.97**	**180**	P	**P**	**03 29 41.0**	**+1.0**
F19K	**Shaleruckik Mo**	**83.98**	**20**	P	**P**	**03 29 39.5**	**-0.2**
F19K				IAmb	IAmb	03 29 41.8	
	comp=Z,5.5nm,1.4s						
J20K	**Nowinta River**	**84.03**	**23**	P	**P**	**03 29 41.8**	**+1.8**
J20K				IAmb	IAmb	03 29 45.5	
	comp=Z,6.4nm,1.1s						
BVAR	**Borovoye Array**	**84.32**	**325**	P	**P**	**03 29 41.7**	**-0.1**
	comp=Z,13nm,0.7s,baz=126,slow=7.3,SNR=4.9						
	comp=Z,13nm,0.7s						
E19K	**Redstone River**	**84.48**	**20**	P	**P**	**03 29 42.5**	**+0.2**
E19K				IAmb	IAmb	03 29 47.9	
	comp=Z,7.0nm,1.1s						
CAST	**Castle Rocks**	**84.52**	**24**	P	**P**	**03 29 41.4**	**-1.1**
CAST				IAmb	IAmb	03 29 49.2	
	comp=Z,8.9nm,1.5s						
C19K	**Lookout Ridge**	**84.59**	**18**		**P**	**03 29 44.1**	**+1.2**
D19K	**Kuna River**	**84.72**	**19**		**P**	**03 29 43.5**	**0.0**
D19K				IAmb	IAmb	03 29 49.2	
	comp=Z,7.4nm,1.1s						
F20K	**Avaraart Lake**	**84.79**	**20**	P	**P**	**03 29 44.3**	**+0.5**
F20K				IAmb	IAmb	03 29 46.0	
	comp=Z,6.4nm,1.2s						
KTH	**Kantishna Hill**	**85.05**	**24**	P	**P**	**03 29 45.7**	**+0.4**
KTH				IAmb	IAmb	03 29 48.6	
	comp=Z,4.9nm,1.0s						
D22K	**Ayikyak River**	**86.66**	**19**		**P**	**03 29 54.1**	**+1.1**
IL31		**87.14**	**24**	P	**P**	**03 29 54.5**	**-0.9**
IL31				IAmb	IAmb	03 29 55.0	
	comp=Z,5.0nm,1.2s						
ILAR	**Eielson Array**	**87.14**	**24**	P	**P**	**03 29 53.9**	**-1.7**
	comp=Z,1.5nm,0.8s,baz=254,slow=3.9,SNR=19						
	comp=Z,1.5nm,0.8s						
C23K	**Itkillik River**	**87.73**	**19**	P	**P**	**03 29 58.0**	**-0.2**
F24K	**Squaw Lake**	**87.75**	**21**	P	**P**	**03 29 59.5**	**+1.0**
F24K				IAmb	IAmb	03 30 04.6	
	comp=Z,6.7nm,1.2s						
D24K	**Happy Valley**	**88.04**	**19**		**P**	**03 29 59.1**	**-0.6**
TORD	**Torodi Ar. Bea**	**141.03**	**283**	PKhKP	PKPpre	03 36 37.1	
	comp=Z,1.5nm,1.1s,baz=34,slow=2.0,SNR=2.1						
KIC	**Kosan Boka**	**147.72**	**272**	*e*PKP1	**PKiKP**	**03 36 57.2**	**-0.4**
	comp=Z,19nm,1.0s						
DBIC	**Dimbokro**	**147.84**	**273**	PKPbc	**PKPbc**	**03 36 56.5**	**+0.6**
	comp=Z,6.3nm,0.8s,baz=88,slow=3.6,SNR=7.1						
TIC	**Toumodi**	**148.00**	**273**	*e*PKP1	**PKiKP**	**03 36 58.0**	**-0.2**
	comp=Z,18nm,0.9s						
LIC	**Lamto**	**148.00**	**272**	*e*PKP1	**PKiKP**	**03 36 58.1**	**-0.1**
	comp=Z,29nm,0.8s						

*NEIC **01** 03:21:42.1±1.1,56°.4N±0°.1×148°.9W±0°.1,h21km±11km, ML3.0/6,ML2.8(AEIC),Error ellipse: s-maj=17.1km s-min=9.1km az=155.0*

AEIC 01 03:21:46.7±1.1,56°.49N±0°.09×149°.0W±0°.1,h12km±9km, Error ellipse: s-maj=13.4km s-min=10.8km az=149.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.34**	**305**		Pn	03 22 20.1	-4.9
KDAK				IAML		03 22 52.4	
	71nm,3.0s						
KDAK	**Kodiak Island**	**2.34**	**305**		Sn	03 22 46.3	-7.4
KDAK	**Kodiak Island**	**2.34**	**305**	IAML		03 22 38.4	
	69nm,3.5s						
KDAK	**Kodiak Island**	**2.34**	**305**	Pn	Sn	03 22 46.1	-7.6
OHAK	**Old Harbor**	**2.47**	**289**		Pn	03 22 20.5	-6.2
OHAK	**Old Harbor**	**2.47**	**289**		Sn	03 22 49.4	-7.3
OHAK	**Old Harbor**	**2.47**	**289**	IAML		03 22 40.1	
	comp=E,60nm,4.3s						
SYI	**Shuyak Island**	**2.80**	**321**		Pn	03 22

ACHA	**Angle Creek He**	**3.84**	**299**		Pn	03 22 41.8	-3.8
P19K	**Oil Pt**	**3.88**	**326**		Pn	03 22 41.8	-4.4
ANCK	**Angle Creek**	**3.91**	**299**		Pn	03 22 43.1	-3.5
O22K	**Cooper Landing**	**4.02**	**355**	Pn	Pn	03 22 42.5	-5.5
O20K	**Slope Mountain**	**4.08**	**334**		Pn	03 22 44.3	-4.5
SLKM	**Skilak Lake**	**4.08**	**351**		Pn	03 22 43.9	-4.9
CNTC	**Contact Creek**	**4.13**	**298**		Pn	03 22 45.8	-3.8
ILSW	**Iliamna Southw**	**4.13**	**330**		Pn	03 22 45.2	-4.4
KAIM	**Kayak Island**	**4.21**	**33**		Pn	03 22 44.8	-5.8
RED	**Redoubt Volcan**	**4.41**	**335**		Pn	03 22 48.1	-5.4
P18K	**Big Mountain,**	**4.41**	**314**		Pn	03 22 48.6	-4.9
RDSO	**Redoubt South**	**4.43**	**335**		Pn	03 22 48.7	-5.1
RSO	**Redoubt South**	**4.44**	**335**	Pn	Pn	03 22 49.5	-4.5
RDT	**Redoubt**	**4.46**	**338**		Pn	03 22 49.2	-5.1
RDWB	**Redoubt West**	**4.49**	**335**		Pn	03 22 49.7	-4.8
HMT	**Hamilton**	**4.59**	**31**	Pn	Pn	03 22 51.6	-4.3
RC01	**Rabbit Creek A**	**4.63**	**356**	Pn	Pn	03 22 51.4	-4.9
O18K	**Koktuh Hills**	**4.71**	**318**		Pn	03 22 52.6	-4.8
BERG	**Berg Lake**	**4.80**	**33**		Pn	03 22 53.2	-5.5
P17K	**Kvichak River**	**4.81**	**307**		Pn	03 22 54.2	-4.6
KNK	**Knik Glacier**	**4.94**	**3**		Pn	03 22 55.4	-5.3
SPCR	**Spurr Chakacha**	**5.01**	**342**		Pn	03 22 56.0	-5.6
SPCP	**Crater Peak Br**	**5.06**	**342**		Pn	03 22 58.1	-4.4
SUA	**Susitna One**	**5.07**	**350**	Pn	Pn	03 22 57.6	-4.9
WAX	**Waxell Ridge**	**5.11**	**37**	Pn	Pn	03 22 57.7	-5.4
N19K	**Bonanza Creek**	**5.19**	**329**		Pn	03 22 59.6	-4.7
STLK	**Strandline Lak**	**5.23**	**345**		Pn	03 23 00.5	-4.2
SPNN	**North Nagishla**	**5.25**	**340**		Pn	03 23 00.4	-4.7
CRQM	**Cirque**	**5.26**	**33**	Pn	Pn	03 22 59.3	-5.9
KLU	**Klutina**	**5.26**	**16**		Pn	03 23 00.2	-4.9
GHO	**Glory Hole Cre**	**5.30**	**0**	Pn	Pn	03 23 00.7	-5.0
SML	**Sawmill**	**5.34**	**3**		Pn	03 23 02.0	-4.3
ISLE	**Juniper Island**	**5.40**	**37**	Pn	Pn	03 23 02.2	-4.8
BAGL	**Bagley Icefiel**	**5.40**	**39**		Pn	03 23 01.3	-5.6
O17K	**Koliganek Bris**	**5.40**	**311**		Pn	03 23 02.2	-4.9
SCM	**Sheep Creek Mo**	**5.42**	**8**	Pn	Pn	03 23 02.8	-4.6
N18K	**Kilae Creek**	**5.53**	**322**		Pn	03 23 03.9	-4.9
N25K	**Chitina, Valde**	**5.61**	**22**	Pn	Pn	03 23 05.2	-4.8
KIAG	**Kiagna River**	**5.63**	**35**		Pn	03 23 04.4	-5.9

*NEIC **01** 03:22:06.0±2.0, 56°.3N±0°.1×148°.8W±0°.1, h22km±12km, ML3.2/8, ML3.1(AEIC), Error ellipse: s-maj=19.0km s-min=11.5km az=170.0*

AEIC 01 03:22:07.8±1.6, 56°.2N±0°.1×148°.8W±0°.1, h12km±8km, Error ellipse: s-maj=15.0km s-min=11.7km az=184.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.65**	**309**		Sn	03 23 14.1	-8.3
KDAK	**Kodiak Island**	**2.65**	**309**	IAML		03 23 26.6	
KDAK	68nm,2.5s			IAML		03 23 59.4	
OHAK	82nm,3.9s **Old Harbor**	**2.71**	**295**	Pn	Pn	03 22 46.9	-4.3
OHAK	comp=N,81nm,3.0s			IAML		03 23 25.7	
OHAK	comp=E,60nm,2.9s			IAML		03 24 21.6	
SYI	**Shuyak Island**	**3.15**	**323**		Sn	03 23 27.5	-7.1
SYI	**Shuyak Island**	**3.15**	**323**	Pn	Pn	03 22 52.1	-5.0
SYI	**Shuyak Island**	**3.15**	**323**	IAML		03 23 37.0	
SYI	comp=E,87nm,2.3s			IAML		03 23 54.1	
CNPM	comp=N,70nm,2.9s **China Poot**	**3.62**	**340**	Pn	Pn	03 22 59.6	-4.1
BRSE	**Bradley Lake S**	**3.74**	**344**		Pn	03 23 00.7	-4.7
BRLK	**Bradley Lake**	**3.79**	**343**		Pn	03 23 01.1	-4.9
Q19K	**Cape Douglas,**	**3.83**	**319**		Pn	03 23 03.0	-3.5
P23K	**Montague Islan**	**3.92**	**10**		Pn	03 23 02.3	-5.4
KAKN	**Katmai Knife C**	**4.04**	**305**		Pn	03 23 06.0	-3.5
P19K	**Oil Pt**	**4.04**	**328**		Pn	03 23 08.3	-3.8
O22K	**Cooper Landing**	**4.36**	**354**	Pn	Pn	03 23 11.3	-2.5
CNTC	**Contact Creek**	**4.41**	**302**		Pn	03 23 11.8	-2.8
HIN	**Hinchinbrook I**	**4.41**	**15**	Pn	Pn	03 23 09.9	-4.6
KAIM	**Kayak Island**	**4.43**	**30**		Pn	03 23 09.6	-5.1
ILSW	**Iliamna Southw**	**4.48**	**331**	Pn	Pn	03 23 11.6	-4.1
P18K	**Big Mountain,**	**4.74**	**316**		Pn	03 23 14.4	-4.7
RDSO	**Redoubt South**	**4.79**	**336**		Pn	03 23 14.5	-5.3
HMT	**Hamilton**	**4.81**	**28**	Pn	Pn	03 23 16.1	-4.0
RC01	**Rabbit Creek A**	**4.97**	**355**	Pn	Pn	03 23 18.6	-3.6
P17K	**Kvichak River**	**5.12**	**310**		Pn	03 23 20.9	-3.3
KNK	**Knik Glacier**	**5.27**	**2**	Pn	Pn	03 23 22.5	-3.8
WAX	**Waxell Ridge**	**5.31**	**33**	Pn	Pn	03 23 22.9	-4.1

*IDC **01** 03:26:18.5±2.3, 30°.24S×177°.62W, h0km, mb3.7/2, mbtmp3.8/3, ML3.8/1, Error ellipse: s-maj=57.0km s-min=21.1km az=95.0*

ISC 01 03:26:22.6±2.1, 30°.27S±0°.08×177°.6W±0°.3, h35km, n6, σ1§31/8, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.06**	**343**	Pn	**Pn**	**03 26 40.2**	**-0.7**
RAO	178nm,0.3s,baz=47,slow=23,SNR=12			Sn	**Sn**	**03 26 54.0**	**-0.3**
URZ	373nm,0.3s,baz=192,slow=22,SNR=8.0 **Urewera**	**9.10**	**207**	Pn	**Pn**	**03 28 29.6**	**-1.8**
URZ	0.9nm,0.3s,baz=105,slow=13,SNR=1.4			Sn	**Sn**	**03 30 13.4**	**+0.8**
ASAR	0.7nm,0.3s,baz=224,slow=12,SNR=1.3 12nm,1.0s **Alice Springs**	**43.49**	**267**	P	**P**	**03 34 23.6**	**+0.9**
WRA	0.5nm,0.6s,baz=109,slow=7.6,SNR=3.0 0.5nm,0.6s **Warramunga Arr**	**44.47**	**272**	P	**P**	**03 34 31.3**	**+0.7**
FINES	0.8nm,0.7s,baz=115,slow=6.7,SNR=7.6 0.8nm,0.7s **FINESS Array B**	**145.15**	**340**	PKPbc	**PKPdf**	**03 45 55.8**	**+0.2**
MMAI	1.3nm,0.6s,baz=62,slow=3.3,SNR=7.4 **Mount Meron Ar**	**151.86**	**284**	PKPbc	**PKiKP**	**03 46 16.0**	**+1.7**
	1.0nm,0.5s,baz=76,slow=7.6,SNR=2.5						

*SSNC **01** 03:31:03.8±1.5, 20°.64N×72°.32W, h20km±25km, MD3.3, ML2.7*
*OSPL **01** 03:31:05.3±1.0, 20°.29N×72°.50W, h3km±12km, ML2.6*
*SDD **01** 03:31:07.2±2.5, 20°.37N×72°.47W, h86km±31km, MD3.7, ML2.9, MW3.1*

ISC 01 03:31:05.3±1.6, 20°.32N±0°.07×72°.47W±0°.03, h90km±26km, n28, σ0§80/48, 1C, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUDR	**Luperon**	**1.48**	**106**	*e*Pg	**Pn**	**03 31 31.4**	**+0.5**
LUDR				*e*Sg	**Sn**	**03 31 49.6**	**-0.6**
LUDR	comp=N,296nm,0.3s			IAML		03 32 05.4	
MADR	**Mao Valverde**	**1.49**	**120⇑**	*e*Pg	**Pn**	**03 31 30.7**	**-0.2**
MADR				*e*Sg	**Sn**	**03 31 51.8**	**+1.6**
MADR	comp=N,134nm,0.3s			IAML		03 31 57.3	
SDDR	**Presa de Saban**	**1.73**	**140**	*e*Pg	**Pn**	**03 31 34.5**	**+0.4**
SDDR				*e*Sg	**Sn**	**03 31 56.2**	**+0.2**
SDDR	comp=N,128nm,0.3s			IAML		03 31 58.4	
SDDR	**Presa de Saban**	**1.73**	**140**	*e*P	**Pn**	**03 31 33.9**	**-0.3**
SDDR				*e*S	**Sn**	**03 31 55.1**	**-0.9**
SDDR	comp=N,125nm,0.3s			IAML		03 31 58.5	
SDDR	comp=N,133nm,0.3s			IAML		03 31 58.9	
SDDR	**Presa de Saban**	**1.73**	**140**	*i* P	**Pn**	**03 31 34.3**	**+0.2**
SDDR				*e*S	**Sn**	**03 31 55.6**	**-0.4**
SDDR	comp=Z,132nm,0.4s			IAML		03 31 58.8	
PAPH	**Port-au-Prince**	**1.79**	**175**	*e*Pg	**Pn**	**03 31 33.8**	**-1.1**
PAPH				*e*Sg	**Sn**	**03 31 57.7**	**+0.4**
PAPH	comp=N,108nm,0.2s			IAML		03 32 03.2	
PAPH	**Port-au-Prince**	**1.79**	**175**	*i* P	**Pn**	**03 31 33.9**	**-1.1**
PAPH				*e*S	**Sn**	**03 31 56.8**	**-0.5**
PAPH	comp=Z,21nm,0.3s			IAML		03 32 04.2	
SC01	**Santiago de Io**	**1.86**	**118**	*e*Pg	**Pn**	**03 31 36.4**	**+0.7**
SC01				*e*Sg	**Sn**	**03 31 59.3**	**+0.4**
SC01	comp=N,61nm,0.2s			IAML		03 32 07.7	
SC01	**Santiago de Io**	**1.86**	**118**	*i* P	**Pn**	**03 31 36.3**	**+0.6**
SC01				IAML		03 32 14.1	
	comp=Z,75nm,0.4s						
ABDR	**Alto Bandera**	**2.29**	**131**	*e*Pg	**Pn**	**03 31 42.7**	**+0.9**
ABDR				*e*Sg	**Sn**	**03 32 09.7**	**+0.1**
ABDR	comp=N,52nm,0.2s			IAML		03 32 14.6	
MOAC	**Moa**	**2.36**	**279**	*e*P	**Pn**	**03 31 41.4**	**-0.9**
MOAC				*e*S	**Sn**	**03 32 11.4**	**+0.7**
MOAC	comp=E,20nm,0.2s			IAML		03 32 19.4	
MOAC	comp=N,30nm,0.2s			IAML		03 32 19.7	
LOPE2	**Hotel El Peder**	**2.38**	**163**	*i* P	**Pn**	**03 31 43.5**	**+1.0**
LOPE2	comp=Z,34nm,3.6s			IAML		03 32 13.8	
PODR	**Polo**	**2.42**	**152**	*e*Pg	**Pn**	**03 31 44.1**	**+0.8**
PODR				*e*Sg	**Sn**	**03 32 11.9**	**-0.4**
PODR	comp=N,27nm,0.3s			IAML		03 32 27.4	
PODR	**Polo**	**2.42**	**152**	*i* P	**Pn**	**03 31 44.1**	**+0.8**
GTBY	**Guantanamo Bay**	**2.51**	**262**	*e*Pg	**Pn**	**03 31 45.4**	**+1.1**
GTBY				*e*Sg	**Sn**	**03 32 14.4**	**+0.1**
GTBY	comp=N,25nm,1.3s			IAML		03 32 46.8	
GTBY	**Guantanamo Bay**	**2.51**	**262**	*e*P	**Pn**	**03 31 44.6**	**+0.3**
GTBY				*e*S	**Sn**	**03 32 14.1**	**-0.3**
GTBY	comp=N,15nm,0.3s			IAML		03 32 21.5	
GTBY	comp=N,16nm,0.2s			IAML		03 32 21.9	
GTBY	**Guantanamo Bay**	**2.51**	**262**	*i* P	**Pn**	**03 31 44.6**	**+0.3**
GTBY				*e*S	**Sn**	**03 32 14.0**	**-0.3**
GTBY	comp=Z,20nm,1.6s			IAML		03 32 20.5	
LOBA2	**Hotel Casa Bon**	**2.58**	**150**	*e*Pg	**Pn**	**03 31 45.4**	**+0.2**
LOBA2				*e*Sg	**Sn**	**03 32 15.1**	**-0.6**
NADR	**Nagua**	**2.64**	**111**	*e*Pg	**Pn**	**03 31 46.5**	**+0.6**
NADR				*e*Sg	**Sn**	**03 32 15.6**	**-1.7**
NADR	comp=N,143nm,0.5s			IAML		03 32 37.2	
SABCS	**La Quijada**	**2.67**	**271**	*e*P	**Pn**	**03 31 45.8**	**-0.7**
SABCS	comp=E,22nm,0.7s			IAML		03 32 33.7	
SABCS	comp=N,26nm,0.7s			IAML		03 32 39.3	
BANI	**BANI**	**2.76**	**134**	*e*Pg	**Pn**	**03 31 49.0**	**+1.2**
RCC	**Rio Carpintero**	**3.05**	**264**	*e*P	**Pn**	**03 31 51.2**	**-0.3**
RCC				*e*S	**Sn**	**03 32 28.3**	**+1.2**
RCC				*e*Sg	**Sn**	**03 32 28.3**	**+1.2**
PINC	**Pinares de May**	**3.12**	**274**	*e*P	**Pn**	**03 31 51.3**	**-1.1**
MARVS	**Santiago de Cu**	**3.24**	**265**	*e*P	**Pn**	**03 31 54.6**	**+0.5**
HATOM	**Hato Mayor del**	**3.29**	**117**	*e*Pg	**Pn**	**03 31 54.7**	**0.0**
HATOM				*e*Sg	**Sn**	**03 32 33.0**	**+0.1**
HATOM	comp=N,19nm,0.2s			IAML		03 32 46.6	
MIDR	**Miches**	**3.48**	**112**	*e*Pg	**Pn**	**03 31 57.8**	**+0.4**
MIDR				*e*Sg	**Sn**	**03 32 35.8**	**-1.8**
MIDR	comp=N,16nm,0.3s			IAML		03 32 52.4	
CHIV	**Chivirico**	**3.72**	**265**	*e*P	**Pn**	**03 32 00.4**	**-0.2**
LMGC	**Las Mercedes**	**4.27**	**267**	*e*P	**Pn**	**03 32 07.5**	**-0.5**

*IDC **01** 03:46:55.4±0.8, 6°.12S×143°.32E, h0km, mb4.3/8, mbtmp4.3/10, ML2.0/1, MS3.7/9, Error ellipse: s-maj=40.7km s-min=18.5km az=78.0*
*NEIC **01** 03:46:57.9±1.7, 6°.39S±0°.08×142°.95E±0°.09, h10km±1km, mb4.7/32, Error ellipse: s-maj=15.3km s-min=12.8km az=82.0*
*DJA **01** 03:47:01.1±0.5, 6°.S±4°×14°.3E±°, h44km±8km, M4.8/10, mB4.9/3, mb4.5/10, MLv5.0/5, Mw(mB)4.2/3*

ISC 01 03:47:00.8±0.5, 6°.45S±0°.06×143°.04E±0°.07, h35km, n87, σ1§93/79, mb4.6/27, MS3.7/8, 1C, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**2.15**	**303**	P	**Pn**	**03 47 33.2**	**-1.0**
MMPI	**Merauke**	**3.31**	**233**	P	Pn	03 47 54.0	+3.9
GENI	**Genyem**	**4.78**	**323**	P	**Pn**	**03 48 10.6**	**+0.2**
PMG	**Port Moresby**	**5.03**	**126**	Pn	**Pn**	**03 48 13.3**	**-0.5**
PMG	**Port Moresby**	**5.03**	**126**	Pn	**Pn**	**03 48 12.6**	**-1.2**
PMG	3.7nm,0.3s,baz=317,slow=0.3,SNR=8.5			Sn	**Sn**	**03 49 08.6**	**-2.2**
MANU	2.4nm,0.3s,baz=67,slow=22,SNR=3.1 17nm,0.6s **Manus Island**	**6.15**	**45**		**Pn**	**03 48 29.6**	**+0.4**
SMPI	**Sarmi**	**6.18**	**316**	P	Pn	03 48 36.3	+6.6
COEN	**Coen**	**7.46**	**179**	Pn	**Pn**	**03 48 49.5**	**+2.2**
FAKI	**Fak Fak**	**11.31**	**288**	Pn	**Pn**	**03 49 38.5**	**-1.5**
KDU	**Kakadu**	**12.12**	**238**	P	**Pn**	**03 49 50.6**	**-0.5**
MTN	**Manton Dam**	**13.34**	**241**	Pn	**Pn**	**03 50 05.8**	**-2.0**
MTN	**Manton Dam**	**13.34**	**241**	P	**Pn**	**03 50 05.6**	**-2.2**
CTA	**Charters Tower**	**13.91**	**167**	Lg	Lg	03 54 25.0	
QIS	0.2nm,0.3s,baz=244,slow=22,SNR=2.0 **Mount Isa**	**14.41**	**193**	P	**P**	**03 50 27.7**	**-1.2**
WB0	**Warramunga Arr**	**15.68**	**212**	Pn	**Pn**	**03 50 38.9**	**-0.3**
WB0	comp=Z,31nm,0.8s			IAmb	IAmb	03 50 47.4	
WR0	**Warramunga Arr**	**15.76**	**211**	Pn	**Pn**	**03 50 38.6**	**-1.7**
WR0	comp=Z,30nm,0.8s			IAmb	IAmb	03 50 48.4	
WB2	**Warramunga Arr**	**15.85**	**211**	Pn	**Pn**	**03 50 37.9**	**-3.4**
WB2	comp=Z,27nm,0.7s			IAmb	IAmb	03 50 49.3	
WRA	**Warramunga Arr**	**15.85**	**211**		**Pn**	**03 50 39.9**	**-1.6**
WRA	**Warramunga Arr**	**15.85**	**211**	Pn	**Pn**	**03 50 39.8**	**-1.6**
WRA	comp=Z,1.2nm,0.3s,baz=27,slow=13,SNR=58			Sn	**Sn**	**03 53 34.8**	**-1.3**
WRA	comp=Z,0.2nm,0.3s,baz=355,slow=40,SNR=1.7			Lg	Lg	03 55 26.0	
KNRA	comp=Z,0.2nm,0.3s,baz=254,slow=36,SNR=1.8 **Kununurra**	**16.73**	**236**	Pn	**Pn**	**03 50 51.2**	**-1.4**
KNRA				IAmb	IAmb	03 50 53.8	
KNRA	comp=Z,43nm,0.7s **Kununurra**	**16.73**	**236**	P	**P**	**03 50 52.1**	**-2.5**
SOEI	**Soe**	**18.87**	**259**		**Pn**	**03 51 19.0**	**-0.1**
SOEI	comp=Z,37nm,0.8s			IAmb	IAmb	03 51 26.2	
SOEI	**Soe**	**18.87**	**259**	P	**P**	**03 51 16.4**	**-1.9**
AS01	comp=Z,58nm,0.7s **Alice Springs**	**19.22**	**206**	P	**Pn**	**03 51 25.9**	**+2.7**
AS31	comp=Z,57nm,0.8s **Alice Springs**	**19.24**	**206**	Pn	**Pn**	**03 51 23.6**	**+0.2**
ASAR	**Alice Springs**	**19.24**	**206**	P	**Pn**	**03 51 22.0**	**-1.5**
ASAR	**Alice Springs**	**19.24**	**206**	P	**Pn**	**03 51 25.8**	**+2.3**
ASAR	comp=Z,30nm,0.7s,baz=30,slow=10,SNR=102			Lg	Lg	03 57 16.2	
ASAR	comp=Z,0.1nm,0.3s,baz=36,slow=22,SNR=4.3 comp=Z,792nm,18.1s,baz=30,slow=38			LR	LR	03 59 20.4	
FITZ	**Fitzroy Crossi**	**20.54**	**234**		**P**	**03 51 35.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**20.54**	**234**	P	Pn	03 51 38.0	-0.8
EDFI	**Ende, Flores**	**21.28**	**262**	P	**P**	**03 51 44.4**	**-0.2**
OOD	comp=Z,14nm,1.1s **Oodnadatta**	**22.34**	**197**	P	**P**	**03 52 01.1**	**+5.3**
WRKA	**Warakurna**	**23.25**	**216**	P	**P**	**03 52 07.0**	**+1.7**
TOLI2	**Tolitoli**	**23.45**	**288**	P	**P**	**03 52 03.9**	**-3.4**
TOLI2	comp=Z,15nm,0.9s			IAmb	IAmb	03 52 12.1	
LCRK	**Leigh Creek**	**24.30**	**190**	P	**P**	**03 52 21.0**	**+5.9**
MULG	**Mulgathing**	**25.17**	**199**	P	**P**	**03 52 26.9**	**+4.0**
STKA	**Stephens Creek**	**25.33**	**183**	P	**P**	**03 52 27.7**	**+3.2**
STKA	comp=Z,3.1nm,0.6s,baz=348,slow=9.7,SNR=6.3 comp=Z,223nm,20.0s,baz=6.7,slow=37 comp=Z,3.1nm,0.6s			LR	LR	04 02 51.3	
LEM	**Lembang**	**35.18**	**267**	LR	LR	04 10 14.1	
NWAO	comp=Z,67nm,21.2s,baz=165,slow=39 **Narrogin (SRO)**	**35.63**	**219**	LR	LR	04 08 40.3	
NJ2	comp=Z,164nm,19.5s,baz=83,slow=36 **Nanjing**	**44.69**	**330**	*e*P	**P**	**03 55 12.0**	**+1.5**
NJ2				sP	**pP**	**03 55 17.3**	**-3.9**
NJ2	comp=Z,8.0nm,0.5s			pmax	pmax		
KSRS	**Korea Array**	**45.90**	**343**	P	**P**	**03 55 19.0**	**-1.0**
ASAJ	comp=Z,2.2nm,0.7s,baz=162,slow=8.9,SNR=8.5 comp=Z,2.2nm,0.7s **Asahikawa**	**50.33**	**360**	LR	LR	04 24 02.7	
XAN	comp=Z,28nm,18.0s,baz=209,slow=44 **Xi'an**	**51.61**	**324**	⇑P	**P**	**03 56 06.6**	**+2.6**
XAN	comp=Z,7.0nm,1.1s			pmax	pmax		
PZH	**PanZhiHua**	**51.72**	**311**	P	**P**	**03 56 06.6**	**+1.6**
PZH	comp=Z,10.0nm,0.5s			pmax	pmax		
PZH	comp=Z,110nm,4.1s			pmax	pmax		
MDJ	**Mudanjiang**	**52.25**	**348**	P	**P**	**03 56 07.5**	**-1.0**
MDJ	comp=Z,42nm,2.5s			pmax	pmax		
MDJ	comp=Z,740nm,4.3s			pmax	pmax		
BJI	**Beijing**	**52.48**	**334**	P	**P**	**03 56 08.4**	**-1.8**
BJI	comp=Z,5.0nm,2.3s			pmax	pmax		
BJI	comp=Z,150nm,3.8s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**55.23**	**331**	*e*P	**P**	**03 56 34.6**	**+4.0**
HHC				pP	pP	03 56 39.7	-1.9
HHC	comp=Z,8.0nm,0.5s			pmax	pmax		
HHC	comp=Z,87nm,3.7s			pmax	pmax		
GTA	**Gaotai**	**60.63**	**322**	*e*P	**P**	**03 57 10.0**	**+1.5**
GTA				pP	pP	03 57 16.1	-3.2
GTA	comp=Z,2.0nm,0.7s			pmax	pmax		
SHEM	**Shemya Is, Ala**	**64.59**	**20**	LR	LR	04 22 30.3	
YAK	comp=Z,57nm,19.6s,baz=282,slow=33 **Yakutsk**	**69.06**	**353**	LR	LR	04 29 05.0	
WMQ	comp=Z,45nm,18.0s,baz=234,slow=37 **Urumqi**	**70.61**	**321**	*e*P	**P**	**03 58 16.5**	**+3.7**
WMQ	comp=Z,14nm,0.9s			pmax	pmax		
MK31	**Makanchi Array**	**75.37**	**322**	P	**P**	**03 58 40.8**	**0.0**
MKAR	**Makanchi Array**	**75.37**	**322**	P	**P**	**03 58 40.6**	**-0.3**
MAKZ	comp=Z,2.1nm,0.7s,baz=114,slow=7.2,SNR=20 comp=Z,2.1nm,0.7s **Makanchi**	**75.57**	**322**		**P**	**03 58 42.3**	**+0.3**
ZALV	**Zalesovo Beam**	**77.33**	**329**	P	**P**	**03 58 51.0**	**-0.7**
ZALV	comp=Z,0.7nm,0.5s,baz=90,slow=5.9,SNR=3.5			LR	LR	04 32 40.0	
BOOM	comp=Z,29nm,21.5s,baz=40,slow=36 comp=Z,0.7nm,0.5s **Boomskoye usch**	**77.82**	**316**	P	**P**	**03 58 55.4**	**+0.4**
KURBB	**Kurchatov Arra**	**79.25**	**324**	P	**P**	**03 59 01.5**	**-1.0**
SIMJ	comp=Z,1.7nm,0.9s,baz=116,slow=4.8,SNR=9.4 comp=Z,1.7nm,0.9s **Simiganj**	**81.68**	**310**	P	**P**	**03 59 14.7**	**-1.3**
SIMJ				IAmb	IAmb	03 59 21.3	
QSPA	comp=Z,4.3nm,1.0s **South Pole Qui**	**83.52**	**180**	P	**P**	**03 59 26.7**	**+1.7**
QSPA				IAmb	IAmb	03 59 33.1	
QSPA	comp=Z,9.3nm,1.4s **South Pole Qui**	**83.52**	**180**	P	**P**	**03 59 26.4**	**+1.4**
	comp=Z,2.6nm,0.9s,baz=320,slow=5.6,SNR=4.6 comp=Z,2.6nm,0.9s						
E18K	**Tukpahlearik C**	**83.70**	**19**	P	**P**	**03 59 26.6**	**+0.9**
C18K	**Utukok River**	**84.21**	**18**	P	**P**	**03 59 29.7**	**+1.4**
C18K	comp=Z,9.7nm,1.4s			IAmb	IAmb	03 59 38.6	
J20K	**Nowinta River**	**84.35**	**23**	P	**P**	**03 59 31.6**	**+2.5**
E19K	**Redstone River**	**84.83**	**20**	P	**P**	**03 59 31.9**	**+0.5**
E19K	comp=Z,9.5nm,1.5s			IAmb	IAmb	03 59 56.2	
BVAR	**Borovoye Array**	**84.83**	**325**	P	**P**	**03 59 30.9**	**-0.8**
	comp=Z,5.4nm,0.7s,baz=112,slow=6.3,SNR=24 comp=Z,5.4nm,0.7s						
BRVK	**Borovoye**	**84.90**	**325**		**P**	**03 59 31.8**	**-0.2**
BRVK				IAmb	IAmb	03 59 34.5	
C19K	comp=Z,5.2nm,0.9s **Lookout Ridge**	**84.95**	**18**	P	**P**	**03 59 33.1**	**+1.1**
D19K	**Kuna River**	**85.08**	**18**	P	**P**	**03 59 33.5**	**+0.8**
D19K	comp=Z,8.8nm,1.4s			IAmb	IAmb	03 59 46.0	
IMAR	**Indian Mountai**	**85.33**	**22**	P	**P**	**03 59 33.4**	**-0.5**
D22K	**Ayikyak River**	**87.00**	**19**	P	**P**	**03 59 42.5**	**+0.3**
D22K	comp=Z,9.3nm,1.4s			IAmb	IAmb	04 00 05.8	
ILAR	**Eielson Array**	**87.46**	**24**	P	**P**	**03 59 42.3**	**-2.2**
ILAR	**Eielson Array**	**87.46**	**24**	P	**P**	**03 59 42.1**	**-2.3**
CRQM	comp=Z,1.0nm,0.8s,baz=263,slow=4.1,SNR=15 comp=Z,1.0nm,0.8s **Cirque**	**87.78**	**28**	P	**P**	**03 59 47.7**	**+1.4**
C23K	**Itkillik River**	**88.08**	**19**	P	**P**	**03 59 47.5**	**+0.3**
F24K	**Squaw Lake**	**88.08**	**21**	P	**P**	**03 59 48.9**	**+1.5**
F24K	comp=Z,2.9nm,0.9s			IAmb	IAmb	03 59 49.6	
D24K	**Happy Valley**	**88.38**	**19**	P	**P**	**03 59 49.5**	**+0.8**
BARN	**Barnard Glacie**	**88.56**	**28**	P	**P**	**03 59 50.5**	**+0.5**
M27K	**Edge Creek, AK**	**88.82**	**27**	P	**P**	**03 59 52.5**	**+1.4**
BCAR	**Beaver Creek A**	**89.06**	**26**	P	**P**	**03 59 53.1**	**+1.0**
BMAR	**Burnt Mountain**	**89.25**	**22**	P	**P**	**03 59 53.1**	**+0.2**
ABKAR	**Akbulak array**	**90.34**	**319**	P	**P**	**03 59 58.3**	**0.0**
ABKAR	**Akbulak array**	**90.34**	**319**	P	**P**	**03 59 57.5**	**-0.8**
ABKAR	comp=Z,3.8nm,1.5s			IAmb	IAmb	04 00 14.6	
L29M	**L29M**	**90.68**	**26**	P	**P**	**04 00 00.6**	**+0.9**
L29M	comp=Z,5.3nm,1.1s			IAmb	IAmb	04 00 07.1	
K29M	**Barlow Dome**	**91.11**	**26**	P	**P**	**04 00 01.9**	**+0.1**
INK	**Inuvik**	**93.52**	**22**	P	**P**	**04 00 13.0**	**+0.4**
INK	comp=Z,2.4nm,0.6s			IAmb	IAmb	04 00 18.6	
INK	**Inuvik**	**93.52**	**22**	LR	LR	04 35 26.9	
TORD	comp=Z,58nm,21.5s,baz=189,slow=31 **Torodi Ar. Bea**	**141.37**	**283**	PKhKP	PKPpre	04 06 24.1	
DBIC	comp=Z,0.2nm,0.3s,baz=85,slow=3.0,SNR=2.5 **Dimbokro**	**148.10**	**272**	PKPbc	**PKiKP**	**04 06 45.5**	**-0.3**
	comp=Z,3.7nm,0.9s,baz=309,slow=1.3,SNR=3.8						

TAP 01 04:01:13.1, 21°.34N×120°.11E, h88km, ML3.7, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNW	**Nanwan**	**0.85**	**44**	*e*P	Pn	04 01 31.5	+0.5
SNW	baz=50			*e*S	Sn	04 01 45.0	+0.5
TWK1	baz=50 **Hengchun**	**0.88**	**47**	S	Sn	04 01 45.5	+0.5
HEN	baz=48 **Hengchun**	**0.88**	**41**	*i* S	Sn	04 01 45.6

	baz=24						
TWG	**Pinlang**	**1.72**	**31**	*e*P	Pn	04 01 43.0	+1.4
	baz=31						
TWG				*e*S	Sn	04 02 04.6	+1.4
	baz=31						
TWGBT	**Beinan**	**1.72**	**31**	*e*P	Pn	04 01 43.0	+1.4
	baz=31						
TWGBT				*e*S	Sn	04 02 04.5	+1.3
	baz=31						
SGST	**Jiashian**	**1.79**	**14**	S	Sn	04 02 05.2	+0.4
	baz=5.0						
TSCK	**Chigu Township**	**1.80**	**359**	*i* P	Pn	04 01 42.8	+0.2
	baz=359						
TSCK				S	Sn	04 02 04.9	-0.1
	baz=359						
LONT	**Longtian**	**1.82**	**31**	*e*S	Sn	04 02 08.0	+2.4
	baz=40						
SCLT	**Jiali**	**1.83**	**2**	*e*S	Sn	04 02 06.7	+1.0
	baz=3.0						
CHN1	**Nanshi**	**1.87**	**12**	*e*P	Pn	04 01 44.5	+0.9
	baz=12						
CHN1				*e*S	Sn	04 02 07.5	+0.7
	baz=12						
SNST	**Tainan City**	**1.90**	**11**	*e*S	Sn	04 02 08.1	+0.7
	baz=11						
STYH	**Taoyuan**	**1.92**	**19**	*e*S	Sn	04 02 08.9	+1.0
	baz=10.0						
TWK	**Hsinying**	**1.95**	**10**	*e*P	Pn	04 01 45.5	+0.9
	baz=11						
TWK				S	Sn	04 02 08.9	+0.3
	baz=11						
WTP	**Ta-pu**	**1.95**	**14**	P	Pn	04 01 45.6	+1.0
	baz=14						
WTP				*e*S	Sn	04 02 09.6	+0.9
	baz=14						
WDGT	**Dungji**	**1.95**	**348**	*e*S	Sn	04 02 06.3	-2.3
	baz=348						
VCHM	**Qimei**	**1.96**	**341**	*e*P	Pn	04 01 43.3	-1.4
	baz=342						
TPUB	**Ta-pu**	**2.01**	**14**	*i* P	Pn	04 01 46.1	+0.8
	baz=14						
TPUB				S	Sn	04 02 10.4	+0.4
	baz=14						
ICHU	**Yijhu**	**2.02**	**4**	*e*S	Sn	04 02 09.8	-0.2
	baz=356						
CHN4	**Tsaushan**	**2.05**	**12**	*e*P	Pn	04 01 46.7	+0.8
	baz=13						
CHN4				*e*S	Sn	04 02 11.6	+0.7
	baz=13						
EHD	**Haiduan**	**2.06**	**29**	*e*S	Sn	04 02 13.0	+1.7
	baz=38						
CHKT	**Chengkung**	**2.10**	**33**	*e*S	Sn	04 02 14.6	+2.5
	baz=43						
WCKO	**Fanlu**	**2.14**	**12**	*e*S	Sn	04 02 13.6	+0.7
	baz=12						
FULB	**Fuli**	**2.15**	**30**	*e*S	Sn	04 02 16.7	+3.4
	baz=42						
WSL	**Shuilin Townsh**	**2.17**	**3**	S	Sn	04 02 14.9	+1.0
	baz=356						
PHUB	**P'eng-hu**	**2.22**	**347**	*e*S	Sn	04 02 12.7	-2.2
	baz=347						
ALS	**Alishan**	**2.25**	**16**	*e*P	Pn	04 01 50.2	+1.3
	baz=11						
ALS				S	Sn	04 02 16.5	+0.4
	baz=11						
TWF1	**Yuli**	**2.28**	**28**	*e*P	Pn	04 01 51.8	+2.8
	baz=29						
TWF1				*e*S	Sn	04 02 18.9	+2.5
	baz=29						
WSF	**Szhu**	**2.29**	**3**	*e*P	Pn	04 01 51.7	+2.7
	baz=11						
YULB	**Yu-li**	**2.32**	**28**	*e*P	Pn	04 01 52.0	+2.6
	baz=28						
YULB				*e*S	Sn	04 02 19.2	+1.9
	baz=28						
WTK	**Tuku**	**2.35**	**6**	*e*S	Sn	04 02 17.9	0.0
	baz=358						
WGK	**Gukeng**	**2.37**	**10**	*e*S	Sn	04 02 20.0	+1.5
	baz=10.0						
EHY	**Hungye**	**2.43**	**27**	*e*P	Pn	04 01 53.2	+2.3
	baz=19						
EHY				*e*S	Sn	04 02 23.0	+3.1
	baz=19						
WHYT	**Xinyi Township**	**2.44**	**16**	*e*P	Pn	04 01 52.5	+1.3
	baz=16						
WHYT				*e*S	Sn	04 02 21.4	+1.1
	baz=16						
SSLB	**Suanglung**	**2.56**	**18**	*e*P	Pn	04 01 54.0	+1.4
	baz=18						
SSLB				*e*S	Sn	04 02 24.3	+1.3
	baz=18						
WRL	**Guolierlin Hig**	**2.56**	**5**	*e*S	Sn	04 02 23.2	+0.2
	baz=2.0						
VWDT	**VWDT**	**2.58**	**21**	*e*P	Pn	04 01 55.2	+2.3
	baz=13						
SMLT	**Sun Moon Lake**	**2.63**	**16**	*e*P	Pn	04 01 55.8	+2.0
	baz=16						
SMLT				*e*S	Sn	04 02 27.0	+2.1
	baz=16						
TYC	**Yuchr**	**2.64**	**15**	*e*S	Sn	04 02 26.9	+1.9
	baz=15						
WARBT	**Fenglin Townsh**	**2.64**	**26**	*e*P	Pn	04 01 56.7	+2.9
	baz=36						
OWD	**Renai**	**2.78**	**20**	*e*P	Pn	04 01 58.1	+2.4
	baz=21						
WUSB	**Renai**	**2.80**	**19**	*e*P	Pn	04 01 58.1	+2.1
	baz=11						
WUSB				*e*S	Sn	04 02 29.8	+0.9
	baz=11						
WCS	**Beigang Elemen**	**2.80**	**15**	*e*S	Sn	04 02 30.1	+1.3
	baz=15						
TCU	**Taichung**	**2.84**	**10**	*e*S	Sn	04 02 31.7	+1.9
	baz=18						
CHGB	**Renai**	**2.88**	**20**	*e*P	Pn	04 01 59.7	+2.6
	baz=11						
LXIB	**Xiulin Townshi**	**2.92**	**24**	*e*P	Pn	04 02 00.3	+2.6
	baz=34						
LXIB				*e*S	Sn	04 02 34.4	+2.4
	baz=34						
WHF	**Hehuan Shan**	**2.99**	**21**	*e*P	Pn	04 02 01.6	+2.8
	baz=21						
WHP	**Taichung City**	**3.02**	**15**	*e*P	Pn	04 02 01.5	+2.5
	baz=21						
WHP				*e*S	Sn	04 02 37.5	+3.3
	baz=21						
TWQ1	**Liyutan**	**3.05**	**11**	*e*S	Sn	04 02 37.0	+2.1
	baz=12						
ETLH	**Xiulin Townshi**	**3.12**	**24**	*e*P	Pn	04 02 03.5	+3.2
	baz=33						
NNSB	**Datong**	**3.29**	**21**	*e*P	Pn	04 02 05.6	+3.0
	baz=12						
NSTT	**Nanjuang**	**3.37**	**14**	*e*S	Sn	04 02 44.8	+2.1
	baz=14						
DSXP	**Dongshan**	**3.42**	**314**	P	Pn	04 02 03.9	-0.3
	baz=314						
KNM	**Kinmen**	**3.43**	**333**	*e*S	Sn	04 02 42.4	-1.6
	baz=332						
LATG	**Datong**	**3.44**	**22**	*e*P	Pn	04 02 07.9	+3.3
	baz=22						
KNMB	**Chin-men Tao**	**3.49**	**333**	*e*P	Pn	04 02 04.2	-1.0
	baz=333						
KNMB				*e*S	Sn	04 02 42.9	-2.6
	baz=333						
VWUC	**VWUC**	**3.68**	**351**	*e*S	Sn	04 02 48.5	-1.6
	baz=351						
PTMZ	**Houxiangcun**	**3.79**	**346**	*e*S	Sn	04 02 50.6	-2.1
	baz=346						
AXDP	**Jialang**	**4.05**	**331**	*e*S	Sn	04 02 56.8	-2.3
	baz=331						
MATB	**Ma-tsu**	**4.79**	**358**	*e*P	Pn	04 02 24.0	+1.2
	baz=358						
MATB				*e*S	Sn	04 03 16.2	-0.9
	baz=358						
LYJJ	**Jianjiangzhen**	**5.20**	**357**	P	Pn	04 02 29.8	+1.5
	baz=357						
LYJJ				*e*S	Sn	04 03 25.8	-1.2
	baz=357						
XPSS	**Dashiqiu**	**5.56**	**1**	*e*S	Sn	04 03 34.6	-1.4
	baz=1.0						

*IDC **01** 04:10:15.4±0.9, 6°.23S×143°.37E, h0km, mb4.1/8, mbtmp4.0/10, ML2.1/1, MS3.3/5, Error ellipse: s-maj=34.6km s-min=20.7km az=68.0*
ISC 01 04:10:17.0±0.7, **6°.39S**±0°.09×**143°.12E**±0°.09, **h10**km, **n20,** σ2**§17**/20, **mb4.1**/8, **New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.00**	**127**	P	**Pn**	**04 11 32.9**	**+0.8**
PMG	**Port Moresby**	**5.00**	**127**	Pn	**Pn**	**04 11 31.1**	**-1.0**
	5.7nm,0.3s,baz=350,slow=7.1,SNR=6.2						
PMG				Sn	**Sn**	**04 12 28.1**	**-1.9**
	4.5nm,0.3s,baz=60,slow=18,SNR=3.0						
PMG				LR	LR	04 13 39.9	
	comp=Z,190nm,18.4s,baz=288,slow=42 13nm,0.3s						
KDU	**Kakadu**	**12.22**	**238**	P	**Pn**	**04 13 10.8**	**-0.4**
CTA	**Charters Tower**	**13.95**	**168**	Lg	Lg	04 17 45.4	
	0.1nm,0.3s,baz=238,slow=23,SNR=1.2						
CTA				LR	LR	04 18 42.9	
	comp=Z,84nm,21.0s,baz=346,slow=36						
WRA	**Warramunga Arr**	**15.94**	**212**	Pn	**Pn**	**04 13 60.0**	**-1.6**
	0.4nm,0.3s,baz=29,slow=13,SNR=12						
WRA				Sn	Sn	04 16 49.1	-9.4
	0.1nm,0.3s,baz=26,slow=27,SNR=1.9						
WRA				Lg	Lg	04 18 48.7	
	baz=137,slow=13						
KNRA	**Kununurra**	**16.83**	**236**	P	**Pn**	**04 14 13.2**	**+0.3**
TNTI	**Ternate**	**17.26**	**294**	P	**Pn**	**04 14 14.0**	**-4.3**
AS01	**Alice Springs**	**19.30**	**206**	P	**Pn**	**04 14 46.0**	**+2.6**
ASAR	**Alice Springs**	**19.33**	**206**	P	**P**	**04 14 43.5**	**+0.9**
	1.8nm,0.5s,baz=34,slow=9.3,SNR=17						
ASAR				S	**Sn**	**04 18 15.8**	**-4.7**
	1.1nm,0.9s,baz=22,slow=29,SNR=3.4						
ASAR				Lg	Lg	04 20 39.5	
	0.3nm,0.3s,baz=39,slow=32,SNR=4.4						
ASAR				LR	LR	04 21 55.2	
	comp=Z,110nm,19.3s,baz=298,slow=36						
OOD	**Oodnadatta**	**22.43**	**197**	P	**P**	**04 15 18.9**	**+2.9**
WRKA	**Warakurna**	**23.35**	**216**	P	**P**	**04 15 26.9**	**+1.1**
STKA	**Stephens Creek**	**25.39**	**183**	LR	LR	04 26 50.0	
	comp=Z,70nm,19.4s,baz=24,slow=39						
CMAR	**Chiang Mai Arr**	**50.07**	**300**	P	**P**	**04 19 14.9**	**+2.4**
	0.9nm,0.3s,baz=128,slow=5.9,SNR=1.2 0.9nm,0.3s						
SONM	**Songino Array**	**62.94**	**333**	P	**P**	**04 20 43.0**	**-0.8**
	0.4nm,0.5s,baz=141,slow=5.5,SNR=2.7 0.4nm,0.5s						
MKAR	**Makanchi Array**	**75.38**	**322**	P	**P**	**04 22 01.3**	**+0.4**
	2.0nm,0.8s,baz=111,slow=6.8,SNR=14 2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**77.32**	**329**	P	**P**	**04 22 11.2**	**-0.5**
	0.4nm,0.3s,baz=132,slow=12,SNR=2.2 0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**79.26**	**324**	P	**P**	**04 22 22.1**	**-0.4**
	2.3nm,1.1s,baz=119,slow=4.4,SNR=7.6 2.3nm,1.1s						
QSPA	**South Pole Qui**	**83.58**	**180**	P	**P**	**04 22 47.5**	**+2.1**
	1.8nm,1.0s,baz=277,slow=0.3,SNR=2.2 1.8nm,1.0s						
BVAR	**Borovoye Array**	**84.83**	**325**	P	**P**	**04 22 52.7**	**+0.9**
	3.0nm,0.7s,baz=114,slow=7.3,SNR=12 3.0nm,0.7s						
ILAR	**Eielson Array**	**87.38**	**24**	P	**P**	**04 23 02.8**	**-1.3**
	0.4nm,0.6s,baz=258,slow=4.5,SNR=3.3						
ILAR				LR	LR	05 01 57.2	
	comp=Z,37nm,18.3s,baz=223,slow=36 0.4nm,0.6s						

*IDC **01** 04:14:40.4±0.9, 39°.39S×78°.11E, h0km, mb4.2/8, mbtmp4.2/8, MS4.0/25, Error ellipse: s-maj=29.6km s-min=25.3km az=169.0*
*NEIC **01** 04:14:42.8±0.6, 38°.94S±0°.08×78°.11E±0°.05, h10km±1km, mb5.0/11, Error ellipse: s-maj=12.7km s-min=7.4km az=178.0*
*GCMT **01** 04:14:44.8±0.4, 39°.22S±0°.02×77°.88E±0°.03, h24km±2km, MW4.8/77, Moment Tensor Solution. s14,c16; s77,c94; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.16±.17; Mθθ=1.83±.14; Mϕϕ 1.99±.14; Mrθ=0.09±.18; Mθϕ=0.83±.12; Mϕr=0.82±.19; Best double couple: M₀2.21700×10¹⁶ NP1:ϕs=302.00000°, δ80.00000°, λ15.00000°. NP2: ϕs=302.00000°, δ76.00000°, λ169.00000°. Principal axes: T 2.4250, Plg18.0000°, Azm259.0000°; N -0.4130, Plg72.0000°, Azm69.0000°; P -2.0090, Plg3.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 01 04:14:42.8±0.7, **38°.98S**±0°.09×**78°.1E**±0°.1, **h10**km, **n52,** σ1**§13**/24, **mb4.6**/14, **MS4.0**/26, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AIS	**Amsterdam Isla**	**1.24**	**341**		**Pg**	**04 15 05.9**	**-0.7**
AIS				Sn	**Sn**	**04 15 22.0**	**-1.0**
H04N2	**CROZET ISLANDS**	**20.58**	**241**	T	T	04 40 35.9	
	baz=79,slow=75,SNR=148						
H04N1	**CROZET ISLANDS**	**20.59**	**241**	T	T	04 40 36.8	
	baz=79,slow=75,SNR=161						
H04N3	**CROZET ISLANDS**	**20.59**	**241**	T	T	04 40 35.5	
	baz=79,slow=75,SNR=179						
H01W2	**Cape Leeuwin H**	**28.99**	**93**	T	T	04 50 46.0	
	baz=251,slow=74,SNR=23						
H01W3	**Cape Leeuwin H**	**29.00**	**93**	T	T	04 50 40.8	
	baz=251,slow=74,SNR=67						
H01W1	**Cape Leeuwin H**	**29.00**	**93**	T	T	04 50 49.8	
	baz=251,slow=74,SNR=540						
LEM	**Lembang**	**41.64**	**47**	LR	LR	04 36 07.6	
	comp=Z,190nm,20.9s,baz=194,slow=31						
BOSA	**Boshof**	**44.55**	**267**	P	**P**	**04 22 54.4**	**-0.6**
BOSA	**Boshof**	**44.55**	**267**	P	**P**	**04 22 53.7**	**-1.3**
	4.4nm,0.9s,baz=109,slow=5.5,SNR=5.7						
BOSA				LR	LR	04 37 58.2	
	comp=Z,200nm,18.7s,baz=164,slow=31 4.4nm,0.9s						
LBTB	**Lobatse**	**46.04**	**271**	P	**P**	**04 23 05.8**	**-1.0**
LBTB				IAmb	IAmb	04 23 33.5	
	comp=Z,24nm,1.7s						
LBTB	**Lobatse**	**46.04**	**271**	LR	LR	04 39 30.7	
	comp=Z,267nm,18.2s,baz=138,slow=32						
PALK	**Pallekele**	**46.08**	**4**	LR	LR	04 38 21.0	
	comp=Z,154nm,19.7s,baz=290,slow=31						
SUR	**Sutherland**	**46.33**	**260**	LR	LR	04 38 05.9	
	comp=Z,177nm,19.6s,baz=137,slow=30						
BBOO	**Buckleboo**	**46.70**	**101**	P	**P**	**04 23 10.4**	**-1.4**
ASAR	**Alice Springs**	**49.35**	**89**		**P**	**04 23 31.6**	**-0.9**
ASAR	**Alice Springs**	**49.35**	**89**	P	**P**	**04 23 31.1**	**-1.3**
	comp=Z,3.3nm,0.8s,baz=230,slow=6.9,SNR=12						
ASAR				LR	LR	04 42 14.3	
	comp=Z,282nm,18.2s,baz=219,slow=34 comp=Z,3.3nm,0.8s						
LSZ	**Lusaka**	**49.55**	**284**	LR	LR	04 40 45.3	
	comp=Z,160nm,20.7s,baz=146,slow=32						
KNRA	**Kununurra**	**49.92**	**77**	P	**P**	**04 23 36.5**	**-0.3**
VNDA	**Vanda**	**50.96**	**164**	LR	LR	04 43 30.0	
	comp=Z,271nm,18.2s,baz=244,slow=34						
QSPA	**South Pole Qui**	**51.18**	**180**		**P**	**04 23 45.7**	**-0.2**
QSPA				IAmb	IAmb	04 25 40.4	
	comp=Z,24nm,1.9s						
QSPA	**South Pole Qui**	**51.18**	**180**	P	P	04 23 42.0	-3.9
	comp=Z,4.1nm,1.0s,baz=289,slow=3.7,SNR=5.8						
QSPA				LR	LR	04 43 23.6	
	comp=Z,220nm,20.3s,baz=302,slow=34 comp=Z,4.1nm,1.0s						
STKA	**Stephens Creek**	**51.33**	**103**	LR	LR	04 41 04.8	
	comp=Z,163nm,21.9s,baz=210,slow=31						
WRA	**Warramunga Arr**	**51.71**	**85**	P	**P**	**04 23 49.5**	**-0.8**
WRA	**Warramunga Arr**	**51.71**	**85**	P	**P**	**04 23 48.8**	**-1.5**
	comp=Z,7.5nm,0.8s,baz=237,slow=7.6,SNR=13 comp=Z,7.5nm,0.8s						
WB2	**Warramunga Arr**	**51.72**	**85**	P	**P**	**04 23 49.5**	**-0.9**
WB2				IAmb	IAmb	04 24 06.3	
	comp=Z,14nm,1.2s						
WB0	**Warramunga Arr**	**51.85**	**85**	P	**P**	**04 23 50.2**	**-1.2**
WB0				IAmb	IAmb	04 23 50.9	
	comp=Z,14nm,0.8s						
WR0	**Warramunga Arr**	**51.86**	**86**	P	**P**	**04 23 50.4**	**-1.0**
WR0				IAmb	IAmb	04 23 51.9	
	comp=Z,22nm,1.2s						
TSUM	**Tsumeb**	**55.41**	**273**	LR	LR	04 44 29.6	
	comp=Z,306nm,20.0s,baz=139,slow=32						
BELA	**Belgrano 2**	**56.72**	**193**	P	**P**	**04 24 26.5**	**+0.5**
BELA				IAmb	IAmb	04 25 05.0	
	comp=Z,38nm,1.8s						
MBAR	**Mbarara**	**57.67**	**300**	LR	LR	04 45 48.7	
	comp=Z,80nm,20.2s,baz=132,slow=32						
CMAR	**Chiang Mai Arr**	**60.38**	**23**	P	**P**	**04 24 53.7**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=208,slow=7.1,SNR=4.9						
CMAR				LR	LR	04 48 32.9	
	comp=Z,25nm,19.1s,baz=90,slow=34 comp=Z,0.8nm,0.3s						

CTA	**Charters Tower**	**60.91**	**93**	LR	LR	04 48 49.4	
	comp=Z,145nm,20.1s,baz=267,slow=34						
DAV	**Davao City (W)**	**63.51**	**55**	LR	LR	04 54 24.6	
	comp=Z,43nm,18.2s,baz=166,slow=37						
RPZ	**Rata Peaks**	**66.30**	**128**	LR	LR	04 49 41.1	
	comp=Z,107nm,18.2s,baz=246,slow=32						
PMG	**Port Moresby**	**67.90**	**84**	LR	LR	04 55 07.9	
	comp=Z,82nm,18.0s,baz=222,slow=36						
URZ	**Urewera**	**73.15**	**126**	LR	LR	04 52 04.2	
	comp=Z,66nm,18.2s,baz=302,slow=31						
DZM	**Mont Dzumac**	**75.25**	**107**	LR	LR	04 54 14.7	
	comp=Z,66nm,20.2s,baz=236,slow=32						
HNR	**Honiara**	**77.84**	**92**	LR	LR	04 57 48.1	
	comp=Z,1μm,21.6s,baz=16,slow=33						
GNI	**Garni**	**84.44**	**335**	LR	LR	05 00 21.7	
	comp=Z,37nm,18.1s,baz=144,slow=32						
MKAR	**Makanchi Array**	**85.47**	**3**	P	**P**	**04 27 20.1**	**-0.2**
MKAR	**Makanchi Array**	**85.47**	**3**	P	**P**	**04 27 20.7**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=179,slow=4.9,SNR=6.3 comp=Z,0.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**87.87**	**289**	LR	LR	05 06 07.0	
	comp=Z,88nm,18.3s,baz=226,slow=35						
BRTR	**Keskin Array B**	**88.25**	**327**	P	**P**	**04 27 35.0**	**+0.8**
DBIC	**Dimbokro**	**88.68**	**280**	P	**P**	**04 27 36.7**	**0.0**
DBIC				IAmb	IAmb	04 27 57.8	
	comp=Z,28nm,1.9s						
DBIC	**Dimbokro**	**88.68**	**280**	LR	LR	05 06 04.1	
	comp=Z,82nm,18.2s,baz=238,slow=35						
KURBB	**Kurchatov Arra**	**89.22**	**0**	P	**P**	**04 27 40.6**	**+2.3**
	comp=Z,1.0nm,1.0s,baz=194,slow=4.8,SNR=3.0 comp=Z,1.0nm,1.0s						
SONM	**Songino Array**	**90.04**	**19**	P	**P**	**04 27 43.9**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=194,slow=3.0,SNR=2.9 comp=Z,0.3nm,0.6s						
AKTO	**Aktyubinsk**	**90.77**	**347**	LR	LR	05 04 53.9	
	comp=Z,23nm,18.2s,baz=304,slow=33						
BVAR	**Borovoye Array**	**91.87**	**355**	LR	LR	05 07 06.5	
	comp=Z,33nm,20.2s,baz=230,slow=34						
ZALV	**Zalesovo Beam**	**92.74**	**4**	LR	LR	05 06 56.1	
	comp=Z,46nm,21.6s,baz=247,slow=34						
NVAR	**Mina Array Bea**	**167.19**	**87**	PKPab	**PKPab**	**04 35 54.0**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=251,slow=4.7,SNR=3.7						

*NEIC **01** 04:25:07.8±0.9, 56°.4N±0°.1×149°.3W±0°.1, h20km±10km, ML3.5/20, ML3.3(AEIC), Error ellipse: s-maj=19.1km s-min=10.6km az=166.0*
*AEIC **01** 04:25:10±1.2, 56°.4N±0°.1×149°.3W±0°.1, h8km±8km, Error ellipse: s-maj=18.1km s-min=10.8km az=167.0*
ISC 01 04:25:05.5±2.1, **56°.4N**±0°.1×**149°.37W**±0°.05, **h10**km, **n140,** σ0**§85**/136, **Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.24**	**310**		**Pn**	**04 25 43.4**	**+0.7**
KDAK	**Kodiak Island**	**2.24**	**310**	P	**Pn**	**04 25 43.4**	**+0.7**
	baz=127						
KDAK				S	**Sn**	**04 26 09.2**	**-1.2**
	baz=127						
OHAK	**Old Harbor**	**2.31**	**293**		**Pn**	**04 25 44.0**	**+0.4**
OHAK	**Old Harbor**	**2.31**	**293**	P	**Pn**	**04 25 44.0**	**+0.4**
OHAK	**Old Harbor**	**2.31**	**293**	P	**Pn**	**04 25 44.0**	**+0.4**
	baz=110						
OHAK				S	**Sn**	**04 26 10.2**	**-1.8**
	baz=110						
SYI	**Shuyak Island**	**2.76**	**325**		**Pn**	**04 25 50.5**	**+0.7**
SYI	**Shuyak Island**	**2.76**	**325**	IAML		04 26 23.7	
	comp=N,122nm,0.6s						
SYI				IAML		04 26 23.8	
	comp=E,220nm,0.6s						
Q20K	**Shuyak Island**	**2.76**	**325**	P	**Pn**	**04 25 50.5**	**+0.7**
	baz=142						
Q20K				S	**Sn**	**04 26 22.8**	**-0.3**
	baz=142						
CNPM	**China Poot**	**3.30**	**343**		**Pn**	**04 25 57.5**	**+0.2**
CNPM	**China Poot**	**3.30**	**343**	IAML		04 26 37.6	
	comp=E,82nm,0.4s						
CNPM				IAML		04 26 40.0	
	comp=N,88nm,1.8s						
Q19K	**Cape Douglas,**	**3.43**	**320**		**Pn**	**04 26 00.4**	**+1.4**
Q19K	**Cape Douglas,**	**3.43**	**320**	P	**Pn**	**04 26 00.4**	**+1.4**
	baz=136						
BRSE	**Bradley Lake S**	**3.44**	**348**		**Pn**	**04 25 59.1**	**-0.1**
BRSE	**Bradley Lake S**	**3.44**	**348**	P	**Pn**	**04 25 59.1**	**-0.1**
	baz=166						
MID	**Middleton Isla**	**3.45**	**27**	P	**Pn**	**04 25 59.0**	**-0.3**
BRLK	**Bradley Lake**	**3.48**	**347**		**Pn**	**04 25 59.6**	**-0.1**
BRLK	**Bradley Lake**	**3.48**	**347**	IAML		04 26 41.0	
	comp=E,73nm,0.1s						
KAKN	**Katmai Knife C**	**3.63**	**304**		**Pn**	**04 26 03.6**	**+1.8**
AUJK	**Augustine Jueg**	**3.67**	**326**		**Pn**	**04 26 04.3**	**+2.0**
AUCH	**Augustine Cone**	**3.69**	**326**		**Pn**	**04 26 04.5**	**+1.8**
ACHA	**Angle Creek He**	**3.71**	**302**		**Pn**	**04 26 04.7**	**+1.7**
SEW	**Seward**	**3.73**	**359**		**Pn**	**04 26 02.6**	**-0.4**
SEW	**Seward**	**3.73**	**359**	P	**Pn**	**04 26 02.6**	**-0.4**
	baz=179						
P23K	**Montague Islan**	**3.77**	**15**		**Pn**	**04 26 03.5**	**-0.1**
P23K	**Montague Islan**	**3.77**	**15**	P	**Pn**	**04 26 03.5**	**-0.1**
	baz=196						
ANCK	**Angle Creek**	**3.79**	**301**		**Pn**	**04 26 05.7**	**+1.7**
PLK3	**Peulik 3**	**3.99**	**292**		**Pn**	**04 26 08.3**	**+1.7**
CNTC	**Contact Creek**	**4.00**	**301**		**Pn**	**04 26 08.2**	**+1.3**
Q17K	**Contact Creek**	**4.00**	**301**	P	**Pn**	**04 26 08.2**	**+1.3**
	baz=115						
O20K	**Slope Mountain**	**4.08**	**336**		**Pn**	**04 26 08.1**	**0.0**
O20K	**Slope Mountain**	**4.08**	**336**	P	**Pn**	**04 26 08.1**	**0.0**
	baz=153						
O22K	**Cooper Landing**	**4.11**	**358**		**Pn**	**04 26 08.7**	**+0.4**
O22K	**Cooper Landing**	**4.11**	**358**	IAML		04 26 56.3	
	comp=E,122nm,1.0s						
O22K	**Cooper Landing**	**4.11**	**358**	P	**Pn**	**04 26 08.7**	**+0.4**
	baz=177						
ILSW	**Iliamna Southw**	**4.12**	**333**	Pn	**Pn**	**04 26 09.2**	**+0.6**
ILSW				IAML		04 26 57.7	
	comp=N,69nm,0.4s						
ILSW				IAML		04 27 00.9	
	comp=E,68nm,0.7s						
SLKM	**Skilak Lake**	**4.16**	**354**		**Pn**	**04 26 08.8**	**-0.2**
HIN	**Hinchinbrook I**	**4.29**	**19**		**Pn**	**04 26 10.9**	**0.0**
P18K	**Big Mountain,**	**4.34**	**316**		**Pn**	**04 26 12.1**	**+0.6**
P18K	**Big Mountain,**	**4.34**	**316**	IAML		04 27 26.5	
	comp=E,36nm,3.2s						
P18K				IAML		04 28 07.4	
	comp=N,34nm,3.9s						
P18K	**Big Mountain,**	**4.34**	**316**	P	**Pn**	**04 26 12.1**	**+0.6**
	baz=131						
RED

SPNN	North Nagishla	5.28	342		Pn	04 26 24.9	+0.3
WAX	Waxell Ridge	5.32	37		Pn	04 26 26.0	+0.9
P16K	Nushagak River	5.33	303		Pn	04 26 26.4	+1.4
P16K	Nushagak River baz=116	5.33	303	P	Pn	04 26 26.4	+1.4
GHO	Glory Hole Cre	5.41	2		Pn	04 26 26.6	+0.4
KLU	Klutina	5.42	18		Pn	04 26 27.0	+0.6
KLU	Klutina baz=200	5.42	18	P	Pn	04 26 27.0	+0.6
MESA	MESA	5.46	43		Pn	04 26 27.1	+0.1
MESA	MESA baz=228	5.46	43	P	Pn	04 26 27.1	+0.1
CRQM	Cirque	5.46	34		Pn	04 26 27.2	+0.2
SML	Sawmill	5.46	5		Pn	04 26 27.7	+0.7
SML	Sawmill baz=186	5.46	5	P	Pn	04 26 27.7	+0.7
CRQE	Cirque baz=219	5.47	34	P	Pn	04 26 27.2	+0.1
M23K	Glacier View	5.49	8		Pn	04 26 28.1	+0.8
M23K	Glacier View baz=189	5.49	8	P	Pn	04 26 28.1	+0.8
N18K	Kilae Creek	5.49	324		Pn	04 26 27.7	+0.3
N18K	Kilae Creek baz=139	5.49	324	P	Pn	04 26 27.7	+0.3
SCM	Sheep Creek Mo	5.56	10		Pn	04 26 29.5	+1.2
SCM	Sheep Creek Mo baz=191	5.56	10	P	Pn	04 26 29.5	+1.2
ISLE	Juniper Island	5.61	38		Pn	04 26 29.1	+0.1
BAGL	Bagley Icefiel	5.62	40		Pn	04 26 29.3	+0.3
O16K	Kokwok River B	5.64	308		Pn	04 26 30.9	+1.5
O16K	Kokwok River B baz=121	5.64	308	P	Pn	04 26 30.9	+1.5
SKT	Skwentna	5.72	350		Pn	04 26 30.7	+0.3
SKT	Skwentna baz=167	5.72	350	P	Pn	04 26 30.7	+0.3
SVW2	Sparrevohn	5.72	328	P	Pn	04 26 30.7	+0.2
VRDI	Verde Repeater	5.75	30		Pn	04 26 31.1	+0.1
N25K	Chitina, Valde	5.79	23		Pn	04 26 32.0	+0.6
N25K	Chitina, Valde baz=207	5.79	23	P	Pn	04 26 32.0	+0.6
GLB	Gilahina Butte	5.83	27		Pn	04 26 32.3	+0.3
KIAG	Kiagna River	5.84	36		Pn	04 26 32.4	+0.2
SAMH	Samovar Hills	5.88	47		Pn	04 26 33.6	+0.9
TABL	Table Mountain	5.93	43		Pn	04 26 33.9	+0.3
M24K	Tolsona, Glenn	5.97	15		Pn	04 26 34.1	+0.3
M24K	Tolsona, Glenn baz=197	5.97	15	P	Pn	04 26 34.1	+0.3
PTPK	Patty Peak	6.00	34		Pn	04 26 35.0	+0.5
PCA	Pinnacle	6.08	49		Pn	04 26 36.0	+0.5
PINM	Pinnacle baz=236	6.08	49	P	Pn	04 26 36.0	+0.5
BARN	Barnard Glacie	6.17	37		Pn	04 26 37.0	+0.2
CTG	Chitna Glacier baz=225	6.21	39	P	Pn	04 26 37.5	+0.2
CTGM	Chitina Glacie	6.21	39		Pn	04 26 37.5	+0.1
PNL	Peninsula	6.24	54	P	Pn	04 26 38.0	+0.5
WAT6	Susitna Watana	6.27	7		Pn	04 26 38.5	+0.4
WAT6	Susitna Watana baz=188	6.27	7	P	Pn	04 26 38.5	+0.4
SDPT	Sand Point	6.34	265	P	Pn	04 26 35.9	-3.0
WAT7	Susitna Watana	6.47	2		Pn	04 26 41.6	+0.7
WAT1	Susitna Watana	6.48	3		Pn	04 26 41.5	+0.6
WAT1	Susitna Watana baz=184	6.48	3	P	Pn	04 26 41.5	+0.6
DHY	Denali Highway	6.79	8		Pn	04 26 46.5	+1.3
DHY	Denali Highway baz=189	6.79	8	P	Pn	04 26 46.5	+1.3
O29M	Mount Kennedy	6.90	51		Pn	04 26 47.6	+0.8
O29M	Mount Kennedy baz=240	6.90	51	P	Pn	04 26 47.6	+0.8
P29M	Windy Craggy	6.98	57		Pn	04 26 48.2	+0.4
P29M	Windy Craggy baz=247	6.98	57	P	Pn	04 26 48.2	+0.4
RND	Reindeer	7.05	2		Pn	04 26 49.4	+0.7
YUK3	Moose Creek	7.09	37		Pn	04 26 50.6	+1.2
YUK3	Moose Creek baz=224	7.09	37	P	Pn	04 26 50.6	+1.2
TRF	Thorofare Moun	7.10	357		Pn	04 26 50.3	+0.7
TRF	Thorofare Moun baz=176	7.10	357	P	Pn	04 26 50.3	+0.7
YUK7	Dusty Glacier	7.21	50		Pn	04 26 52.2	+1.2
KTH	Kantishna Hill	7.23	354	Pn	Pn	04 26 51.6	+0.4
RIDG	Independent Ri	7.71	15		Pn	04 26 58.1	+0.3
SIT	Sitka	7.76	79	P	Pn	04 26 55.8	-2.6
BPAW	Bear Paw Mtn.	7.78	355		Pn	04 26 58.3	-0.3
BPAW	Bear Paw Mtn. baz=173	7.78	355	P	Pn	04 26 58.3	-0.3
SKAG	Skagway	8.08	62	P	Pn	04 27 04.2	+1.4
CCB	Clear Creek Bu	8.32	5		Pn	04 27 06.7	+0.6
IL31		8.50	7		Pn	04 27 09.1	+0.6
COLA	College	8.55	4	P	Pn	04 27 11.3	+2.2
J26L	Joseph Creek	8.63	17		Pn	04 27 10.9	+0.5

IDC 01 04:36:38.7±3.2, 5°92′S×130°86′E, h0km, mb3.5/2, mbtmp3.6/4, ML3.8/2, Error ellipse: s-maj=249.6km s-min=29.8km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.35	167	Pn	Pn	04 40 03.8	+0.5
	0.5nm,0.3s,baz=349,slow=11,SNR=23						
WRA				Sn	Sn	04 42 32.0	-11
	1.0nm,0.3s,baz=335,slow=22,SNR=10 0.4nm,0.2s						
ASAR	Alice Springs	17.89	171	P	Pn	04 40 48.8	-0.3
	0.4nm,0.3s,baz=342,slow=9.6,SNR=17						
ASAR				S	Sn	04 43 57.3	-12
	0.4nm,0.5s,baz=355,slow=29,SNR=4.5 1.4nm,0.6s						
MKAR	Makanchi Array	67.80	326	P	P	04 47 38.3	-0.3
	0.2nm,0.4s,baz=116,slow=6.6,SNR=4.4 0.2nm,0.4s						
KURBB	Kurchatov Arra	72.05	328	P	P	04 48 04.9	+0.4
	0.3nm,0.4s,baz=128,slow=5.2,SNR=2.6 0.3nm,0.4s						

*SJA **01** 04:47:17.2±0.6, 23°.02S×66°.35W, h260km±4km, ML3.7, MW3.7*

*GUC **01** 04:47:18.8±0.6, 23°.14S×66°.64W, h248km±10km, ML3.6*

ISC 01 04:47:18.2±2.2, 23°.06S±0°.05×66°.42W±0°.06, h248km±17km, n29, σ0§94/46, 7C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	Yavi	1.21	44	*i* P	Pn	04 47 55.1	+0.3
YJA				*e*S	S	04 48 23.4	-0.2
AF01	San Pedro de A	1.62	273	*e*P	Pn	04 47 58.4	+0.8
SLA	San Lorenzo	1.86	153	*i* P	Pn	04 47 59.5	+0.2
SLA				*e*S	S	04 48 31.5	-0.4
LVC	Limon Verde	2.34	280	*i* P	Pn	04 48 05.1	+1.0
LVC	Limon Verde	2.34	280	*e*P	Pn	04 48 04.8	+0.7
LVC				*e*S	S	04 48 39.4	-0.8
LVC				IAML		04 48 41.7	
	93nm,0.5s						
PB15	IPOC Station P	2.81	266	*i* P	Pn	04 48 09.7	+0.9
PB15				*e*S	S	04 48 48.4	-0.2
PB15	IPOC Station P	2.81	266⇑	*e*P	Pn	04 48 09.9	+1.2
PB15				*e*S	S	04 48 47.7	-0.9
PB09	IPOC Station P	2.90	295	*i* P	Pn	04 48 10.5	+0.9
PB09				*e*S	S	04 48 49.4	-0.8
PB09				IAML		04 48 51.8	
	comp=Z,53nm,0.2s						
PB09	IPOC Station P	2.90	295⇑	*e*P	Pn	04 48 11.1	+1.5
PB09				*e*S	S	04 48 50.6	+0.3
PB09				IAML		04 48 54.0	
	comp=N,81nm,0.2s						
PB06	IPOC Station P	2.93	276	*i* P	Pn	04 48 10.7	+0.8
PB06				*e*S	S	04 48 50.3	-0.4
PB06				IAML		04 48 56.1	
	comp=Z,74nm,0.1s						
PB06	IPOC Station P	2.93	276⇑	*e*P	Pn	04 48 10.8	+0.9
PB06				*e*S	S	04 48 50.2	-0.6
PB06				IAML		04 48 54.7	
	comp=E,134nm,0.2s						
FSA	Cafayete	3.07	173	*i* P	Pn	04 48 12.0	+0.6
FSA				*e*S	S	04 48 52.5	-1.1
PB07	IPOC Station P	3.47	292	*i* P	Pn	04 48 16.7	+0.7
PB07				IAML		04 49 03.5	
	comp=Z,119nm,0.2s						
PB07	IPOC Station P	3.47	292	*e*P	Pn	04 48 17.0	+1.0
PB01	IPOC Station P	3.48	305	*i* P	Pn	04 48 16.6	+0.6
PB01				*e*S	S	04 48 59.7	-2.0
PB01				IAML		04 49 03.2	
	comp=Z,127nm,0.2s						
PB01	IPOC Station P	3.48	305	*e*P	Pn	04 48 16.9	+0.9
PB04	IPOC Station P	3.52	281	*i* P	Pn	04 48 17.2	+0.8
PB04				IAML		04 49 04.5	
	comp=Z,124nm,0.3s						
PB04	IPOC Station P	3.52	281⇑	*e*P	Pn	04 48 17.3	+0.8
PB04				*e*S	S	04 49 01.1	-1.5
GO02	Mina Guanaco	3.58	233	*i* P	Pn	04 48 18.0	+0.8
GO02				*e*S	S	04 49 03.3	-0.7
GO02	Mina Guanaco	3.58	233⇑	*e*P	Pn	04 48 18.0	+0.8
GO02				*e*S	S	04 49 03.5	-0.5
PB02	IPOC Station P	3.66	298⇑	*i* P	Pn	04 48 18.4	+0.4
PB02				*i* S	S	04 49 03.1	-2.3
PB08	IPOC Station P	3.86	318	*e*P	Pn	04 48 22.4	+1.7
PB08				*e*S	S	04 49 11.2	+1.0
PB14	IPOC Station P	3.97	246	*e*P	Pn	04 48 22.6	+0.8
PB14				*e*S	S	04 49 11.5	-0.7
PATCX	Punta Patache	4.12	302⇓	*i* P	Pn	04 48 23.8	+0.4
GO01	Chusmiza	4.25	322	*i* P	Pn	04 48 26.0	+0.6
TA01	Diego Aracena	4.29	305	*i* P	Pn	04 48 25.1	-0.2
TA01				IAML		04 49 18.9	
	comp=Z,40nm,0.2s						
PB11	IPOC Station P	4.46	317	*i* P	Pn	04 48 27.4	-0.2
PB11				IAML		04 49 22.8	
	comp=Z,78nm,0.2s						
PB11	IPOC Station P	4.46	317⇑	*i* P	Pn	04 48 27.4	-0.2
AC02	Maricunga	4.49	213	*i* P	Pn	04 48 29.0	+0.8

IDC 01 04:48:55.2±1.9, 6°27′S×143°02′E, h0km, mb3.7/1, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=33.5km s-min=27.7km az=83.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.15	128	Pn	Pn	04 50 13.6	0.0
	4.7nm,0.3s,baz=355,slow=7.8,SNR=1.9						
PMG				Sn	Sn	04 51 13.7	-0.1
	1.1nm,0.3s,baz=257,slow=14,SNR=1.6						
WRA	Warramunga Arr	16.00	211	Pn	Pn	04 52 40.2	-1.7
	0.2nm,0.3s,baz=30,slow=14,SNR=7.2						
WRA				Lg	Lg	04 57 24.9	
	baz=34,slow=31 0.3nm,0.5s						
ASAR	Alice Springs	19.40	206	P	Pn	04 53 23.7	-0.4
	0.3nm,0.3s,baz=33,slow=10.0,SNR=24						
ASAR				Lg	Lg	04 59 11.4	
	baz=314,slow=38,SNR=1.9 2.0nm,0.7s						
MKAR	Makanchi Array	75.22	322	P	P	05 00 39.9	+0.1
	0.4nm,0.6s,baz=134,slow=4.2,SNR=1.7 0.4nm,0.6s						

*IDC **01** 04:49:51.6±0.9, 63°.28N×149°.56W, h0km, mb3.7/4, mbtmp3.6/7, ML3.5/3, MS4.0/1, Error ellipse: s-maj=17.6km s-min=9.4km az=117.0*

*NEIC **01** 04:49:52.4±1.8, 63°.00N±0°.01×149°.20W±0°.05, h1km§6km, Error ellipse: s-maj=3.0km s-min=1.9km az=87.0*

*AEIC **01** 04:49:52.3±1.6, 63°.01N±0°.01×149°.18W±0°.05, h2km§6km, ML3.5, ML3.7/220(NEIC), Error ellipse: s-maj=3.1km s-min=2.1km az=90.0*

ISC 01 04:49:52.6±1.0, 63°.01N±0°.02×149°.18W±0°.02, h9km±7km, n352, σ1§34/317, mb3.9/4, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAT7	Susitna Watana	0.23	138		Pg	04 49 57.3	0.0
WAT7					Sg	04 50 00.5	0.0
WAT1	Susitna Watana	0.34	121		Pg	04 49 59.1	-0.2
WAT1					Sg	04 50 03.9	+0.1
WAT1	Susitna Watana baz=302	0.34	121	P	Pg	04 49 59.0	-0.2
WAT1				S	Sg	04 50 03.9	+0.1
	baz=302						
RND	Reindeer	0.43	20		Pg	04 50 00.5	-0.5
RND					Sg	04 50 06.0	-0.7
RND	Reindeer	0.43	20	IAML		04 50 06.6	
	comp=N,1μm,0.7s						
RND				IAML		04 50 07.1	
	comp=E,2μm,0.8s						
TRF	Thorofare Moun	0.67	312		Pg	04 50 05.2	-0.3
TRF	Thorofare Moun	0.67	312	P	Pg	04 50 05.2	-0.3
	baz=131						
MCK	McKinley	0.74	9		Pg	04 50 06.2	-0.6
MCK					Sg	04 50 15.9	-0.5
MCK	McKinley baz=189	0.74	9	P	Pg	04 50 06.2	-0.6
MCK				S	Sg	04 50 16.2	-0.3
	baz=189						
CUT	Chulitna	0.78	220		Pg	04 50 07.5	-0.1
CUT	Chulitna	0.78	220	IAML		04 50 23.0	
	comp=E,3μm,0.4s						
CUT				IAML		04 50 27.4	
	comp=N,3μm,0.5s						
CUT	Chulitna baz=39	0.78	220	P	Pg	04 50 07.5	-0.1
WAT6	Susitna Watana	0.79	122		Pg	04 50 07.0	-0.8
WAT6					Sg	04 50 17.2	-0.8
WAT6	Susitna Watana baz=304	0.79	122	P	Pg	04 50 07.0	-0.8
WAT6				S	Sg	04 50 17.2	-0.8
	baz=304						
DHY	Denali Highway	0.83	84		Pg	04 50 07.4	-1.1
DHY					Sg	04 50 18.8	-0.5
DHY	Denali Highway baz=266	0.83	84	P	Pg	04 50 07.4	-1.1
DHY				S	Sg	04 50 18.8	-0.5
	baz=266						
KTH	Kantishna Hill	0.96	306		Pg	04 50 10.6	-0.4
KTH	Kantishna Hill	0.96	306	IAML		04 50 30.0	
	comp=N,2μm,0.8s						
BWN	Browne	1.18	354		Pg	04 50 14.5	-0.7
BWN	Browne	1.18	354	IAML		04 50 32.4	
	comp=E,2μm,0.9s						
BWN				IAML		04 50 39.6	
	comp=N,2μm,0.6s						
GHO	Glory Hole Cre	1.24	174		Pg	04 50 14.8	-1.6
SML	Sawmill	1.27	161	Pn	Pg	04 50 15.3	-1.5
SML	Sawmill baz=342	1.27	161	P	Pg	04 50 15.5	-1.3
M22K	Willow	1.33	200		Pg	04 50 16.7	-1.3
M22K	Willow	1.33	200		Sg	04 50 35.0	-0.3
M22K	Willow baz=19	1.33	200	P	Pg	04 50 16.7	-1.3
M22K				S	Sg	04 50 35.0	-0.3
	baz=19						
BPAW	Bear Paw Mtn.	1.36	325	Pn	Pg	04 50 17.5	-1.2
BPAW				IAML		04 50 37.4	
	comp=N,806nm,0.7s						
BPAW	Bear Paw Mtn. baz=143	1.36	325	P	Pg	04 50 17.5	-1.2
CAST	Castle Rocks	1.38	289	Pn	Pg	04 50 18.0	-1.1
CAST				IAML		04 50 38.7	
	comp=E,2μm,0.5s						
CAST				IAML		04 50 39.1	
	comp=N,1μm,0.5s						
CAST	Castle Rocks baz=106	1.38	289	P	Pg	04 50 17.9	-1.1
PPLA	Purkeypile	1.38	267		Pg	04 50 18.5	-0.5
PPLA	Purkeypile baz=84	1.38	267	P	Pg	04 50 18.5	-0.5
M23K	Glacier View	1.39	150		Pn	04 50 17.3	-0.8
M23K	Glacier View baz=332	1.39	150	P	Pn	04 50 17.3	-0.8
PMR	Palmer	1.42	179	Pn	Pn	04 50 18.1	-0.3
PMR	Palmer	1.42	179		Sg	04 50 36.9	-1.1
PMR	Palmer baz=359	1.42	179	P	Pn	04 50 18.2	-0.3
SCM	Sheep Creek Mo	1.46	143		Pn	04 50 18.3	-0.8
SCM				IAML		04 50 38.8	
	comp=E,2μm,0.5s						
SCM	Sheep Creek Mo baz=325	1.46	143	P	Pn	04 50 18.5	-0.6
SKT	Skwentna	1.50	228	Pn	Pn	04 50 19.6	+0.1
SKT				IAML		04 50 42.7	
	comp=E,1μm,0.5s						
SKT	Skwentna	1.50	228		Sb	04 50 40.3	+0.7
SKT	Skwentna baz=46	1.50	228	P	Pn	04 50 19.7	+0.1
SKT				S	Sb	04 50 40.3	+0.7
	baz=46						
WRH	Wood River Hil	1.55	18		Pn	04 50 20.4	+0.1
NEA2	Nenana	1.60	2		Pn	04 50 20.6	-0.4
NEA2	Nenana baz=182	1.60	2	P	Pn	04 50 20.5	-0.4
KNK	Knik Glacier	1.63	168		Pn	04 50 21.5	+0.1
KNK	Knik Glacier baz=348	1.63	168	P	Pn	04 50 21.5	+0.1
CHUM	Lake Minchumin	1.66	303		Pn	04 50 22.3	+0.5
CHUM	Lake Minchumin baz=120	1.66	303	P	Pn	04 50 22.3	+0.5
M24K	Tolsona, Glenn	1.66	122	Pn	Pn	04 50 22.4	+0.6
M24K	Tolsona, Glenn	1.66	122		Sb	04 50 45.4	+1.2
M24K	Tolsona, Glenn baz=304	1.66	122	P	Pn	04 50 22.4	+0.6
M24K				S	Sb	04 50 45.4	+1.2
	baz=304						
PAX	Paxson	1.70	90		Pn	04 50 22.4	0.0
PAX	Paxson baz=273	1.70	90	P	Pn	04 50 22.4	0.0
SUA	Susitna One	1.71	206	Pn	Pn	04 50 23.0	+0.4
SUA				IAML		04 50 48.1	
	comp=N,783nm,0.4s						
SUA				IAML		04 50 48.3	
	comp=E,890nm,0.6s						
SUA	Susitna One baz=25	1.71	206	P	Pn	04 50 23.0	+0.4
HDA	Harding Lake	1.73	34		Pn	04 50 23.0	+0.3
HDA	Harding Lake	1.73	34	IAML		04 50 49.3	
	comp=N,936nm,0.4s						
HDA				IAML		04 50 50.1	
	comp=E,772nm,0.5s						
HDA	Harding Lake baz=216	1.73	34	P	Pn	04 50 23.2	+0.5
K24K	Donnelly Dome	1.73	61		Pn	04 50 23.8	+1.0
K24K	Donnelly Dome baz=244	1.73	61	P	Pn	04 50 23.8	+1.0
CCB	Clear Creek Bu	1.76	20		Pn	04 50 23.0	-0.2
CCB	Clear Creek Bu	1.76	20		Sn	04 50 47.1	+1.6
FIS	Fire Island	1.93	195		Pn	04 50 26.1	+0.6
FIS				IAML		04 51 01.8	
	comp=N,994nm,0.8s						
RC01	Rabbit Creek A	1.94	188	Pn	Pn	04 50 26.5	+0.9
RC01	Rabbit Creek A baz=7.5	1.94	188	P	Pn	04 50 26.5	+0.9
HARP	HAARP	1.95	106		Pn	04 50 27.2	+1.4
HARP	HAARP baz=290	1.95	106	P	Pn	04 50 27.2	+1.4
STLK	Strandline Lak	1.96	221		Pn	04 50 26.4	+0.5
COLA	College	1.97	17		Pn	04 50 26.1	+0.2
COLA	College	1.97	17	IAML		04 50 56.9	
	comp=N,801nm,0.7s						
COLA				IAML		04 50 59.3	
	comp=N,608nm,0.6s						
MDM	Murphy Dome	2.01	12		Pn	04 50 26.5	-0.1
MDM				IAML		04 50 54.8	
	comp=E,465nm,1.0s						
IL31		2.04	29		Pn	04 50 27.1	0.0
ILAR	Eielson Array	2.04	29		Pn	04 50 27.1	+0.1
ILAR	Eielson Array	2.04	29	Pg	Pn	04 50 26.9	-0.2
	comp=E,7.6nm,0.3s,baz=216,slow=18,SNR=123						
ILAR				Lg	Lg	04 50 52.6	
	comp=E,56nm,0.3s,baz=218,slow=28,SNR=20						
ILAR				LR	LR	04 51 18.7	
	comp=E,122nm,20.5s,baz=53,slow=46						
RIDG	Independent Ri	2.09	67		Pn	04 50 28.6	+0.8
RIDG				IAML		04 51 01.5	
	comp=N,661nm,0.9s						
RIDG				IAML		04 51 01.6	
	comp=E,705nm,0.7s						
RIDG	Independent Ri baz=251	2.09	67	P	Pn	04 50 28.6	+0.8
MLY	Manley	2.15	342		Pn	04 50 28.7	+0.2
MLY	Manley baz=161	2.15	342	P	Pn	04 50 28.7	+0.2
KLU	Klutina	2.15	133		Pn	04 50 29.1	+0.5
KLU	Klutina	2.15	133	IAML		04 51 01.0	
	comp=E,604nm,0.7s						
KLU				IAML		04 51 01.0	
	comp=N,477nm,0.8s						
KLU	Klutina baz=316	2.15	133	P	Pn	04 50 29.5	+0.9
M20K	Styx River	2.15	240		Pn	04 50 29.1	+0.5
M20K	Styx River	2.15	240	IAML		04 50 59.9	
	comp=E,482nm,0.2s						
M20K				IAML		04 51 03.6	
	comp=N,506nm,0.4s						
I23K	Minto, Yukon-K	2.15	358		Pn	04 50 28.9	+0.3
I23K	Minto, Yukon-K baz=178	2.15	358	P	Pn	04 50 28.9	+0.3
SPCG	Spurr Capps Gl	2.17	219		Pn	04 50 29.7	+0.7
L20K	Farewell, AK	2.23	258		Pn	04 50 30.1	+0.5
SPCP	Crater Peak Br	2.23	220		Pn	04 50 30.8	+1.0
K20K	Telida	2.24	281		Pn	04 50 30.3	+0.5
K20K	Telida	2.24	281	IAML		04 51 03.3	
	comp=N,517nm,0.9s						
K20K				IAML		04 51 05.0	
	comp=E,663nm,0.9s						
POKR	Poker Plat Res	2.26	19		Pn	04 50 30.4	+0.4
POKR	Poker Plat Res	2.26	19	IAML		04 51 02.5	
	comp=E,347nm,0.9s						
POKR	Poker Plat Res baz=201	2.26	19	P	Pn	04 50 30.5	+0.5
SPCN	Chakachatna No	2.27	220		Pn	04 50 32.4	+2.1
N20K	Mount Spurr baz=37	2.30	219	P	Pn	04 50 31.7	+1.0
SPBG	Spurr Blockage	2.30	222		Pn	04 50 32.9	+2.2
SPCR	Spurr Chakacha	2.30	219		Pn	04 50 31.7	+1.0
SPNN	North Nagishla	2.33	227		Pn	04 50 32.1	+1.0
J25K	Salcha River,	2.34	45		Pn	04 50 31.3	+0.2
CAPN	Captain Cook N	2.43	203		Pn	04 50 33.4	+1.1
DIV	Divide	2.47	138		Pn	04 50 34.6	+1.6
WACK	Wrangell Chich	2.47	112		Pn	04 50 35.2	+2.0
MENT	Mentasta	2.50	89		Pn	04 50 33.8	+0.4
I21K	Tanana	2.51	332		Pn	04 50 33.9	+0.5
J20K	Nowinta River	2.51	300		Pn	04 50 34.0	+0.5
J20K	Nowinta River	2.51	300	IAML		04 51 06.3	
	comp=N,362nm,0.8s						
J20K				IAML		04 51 17.9	
	comp=E,296nm,0.6s						
SCRK	Sand Creek	2.53	65		Pn	04 50 34.1	+0.2
SCRK				IAML		04 51 13.7	
	comp=E,304nm,0.7s						
SCRK				IAML		04 51 13.8	
	comp=N,325nm,1.0s						
SCRK	Sand Creek baz=250	2.53	65	P	Pn	04 50 33.9	+0.1
O22K	Cooper Landing	2.54	186		Pn	04 50 35.0	+1.1
O22K	Cooper Landing baz=5.6	2.54	186	P	Pn	04 50 36.4	+2.5
SLKM	Skilak Lake	2.55	192		Pn	04 50 36.1	+2.0
N25K	Chitina, Valde	2.56	121		Pn	04 50 35.8	+1.5
N25K	Chitina, Valde	2.56	121	IAML		04 51 11.2	
	comp=E,297nm,0.5s						
N25K				IAML		04 51 11.2	
	comp=N,275nm,0.6s						
N25K	Chitina, Valde baz=305	2.56	121	P	Pn	04 50 36.0	+1.7
WASW	Wrangell South	2.57	113		Pn	04 50 36.1	+1.7
M19K	Big River Lodg	2.66	248		Pn	04 50 35.6	+0.1
M19K	Big River Lodg	2.66	248	IAML		04 51 16.6	
	comp=E,355nm,0.5s						
M19K				IAML		04 51 19.2	
	comp=N,380nm,0.4s						
L26K	Log Cabin Wild	2.66	87		Pn	04 50 37.5	+1.9
L19K	White Mountain	2.75	255		Pn	04 50 37.0	+0.2
L19K	White Mountain	2.75	255	IAML		04 51 23.2	
	comp=E,295nm,1.0s						
L19K				IAML		04 51 28.0	
	comp=N,308nm,0.9s						
RDT	Redoubt	2.88	214		Pn	04 50 39.9	+1.3
H24K	Noodor Dome	2.90	11	Pn	Pn	04 50 39.6	+0.7
H24K	Noodor Dome baz=192	2.90	11	P	Pn	04 50 39.5	+0.7
HIN	Hinchinbrook I	2.91	153		Pn	04 50 41.0	+2.0
SEW	Seward	2.91	183		Pn	04 50 41.8	+2.8
SEW	Seward baz=2.4	2.91	183	P	Pn	04 50 41.8	+2.8
J26L	Joseph

baz=328
GLB Gilahina Butte 2.96 120 Pn 04 50 42.0 +2.2
GLB Gilahina Butte 2.96 120 IAML 04 51 22.7
comp=E,176nm,0.7s
GLB IAML 04 51 25.9
comp=N,185nm,0.4s
BMRM Bremner River 2.97 131 Pn 04 50 41.6 +1.7
BMRM Bremner River 2.97 131 P Pn 04 50 41.8 +1.9
baz=316
PRP Porcupine Dome 2.99 31 Pn 04 50 41.0 +0.8
PRP Porcupine Dome 2.99 31 P Pn 04 50 40.8 +0.7
baz=214
NCT North Crescent 3.03 218 Pn 04 50 42.6 +1.9
J19K Poorman 3.05 292 Pn 04 50 41.5 +0.6
J19K Poorman 3.05 292 IAML 04 51 29.5
comp=E,174nm,0.8s
H22K Ishtalitna Cre 3.05 343 Pn 04 50 41.5 +0.6
RSO Redoubt South 3.06 215 Pn 04 50 42.9 +1.6
RDWB Redoubt West 3.07 216 Pn 04 50 42.9 +1.7
RDSO Redoubt South 3.07 215 Pn 04 50 42.9 +1.6
H21K Melozitna Rive 3.09 331 Pn 04 50 41.9 +0.4
RED Redoubt Volcan 3.11 215 Pn 04 50 42.9 +1.1
TTA Tatalina 3.12 272 Pn Pn 04 50 42.6 +0.7
TTA IAML 04 51 33.8
comp=N,219nm,0.8s
TTA IAML 04 51 35.0
comp=E,167nm,0.7s
TTA Tatalina 3.12 272 P Pn 04 50 42.2 +0.3
baz=86
P23K Montague Islan 3.14 163 Pn 04 50 43.3 +1.3
P23K Montague Islan 3.14 163 P Pn 04 50 43.3 +1.3
baz=345
GOAT Goat Mountain 3.22 137 Pn 04 50 45.4 +2.1
VRDI Verde Repeater 3.23 121 Pn 04 50 45.6 +2.1
MCARA McCarthy VSAT 3.31 117 Pn 04 50 46.9 +2.4
MCARA McCarthy VSAT 3.31 117 P Pn 04 50 46.9 +2.4
baz=302
N19K Bonanza Creek 3.33 231 Pn 04 50 45.2 +0.4
N19K Bonanza Creek 3.33 231 IAML 04 51 38.5
comp=N,122nm,1.0s
N19K IAML 04 51 41.8
comp=E,139nm,0.8s
K27K Chicken 3.35 69 Pn 04 50 45.3 +0.3
K27K Chicken 3.35 69 IAML 04 51 41.3
comp=N,130nm,0.5s
BRLK Bradley Lake 3.35 195 Pn 04 50 47.3 +2.3
L27K Beaver Creek, 3.35 86 Pn 04 50 46.0 +0.9
L27K Beaver Creek, 3.35 86 IAML 04 51 42.0
comp=N,130nm,1.2s
BRSE Bradley Lake S 3.36 194 Pn 04 50 47.4 +2.2
O20K Slope Mountain 3.36 211 Pn 04 50 48.4 +3.1
BCAR Beaver Creek A 3.37 86 Pn Pn 04 50 46.1 +0.8
M27K Edge Creek, AK 3.43 98 Pn 04 50 48.3 +2.1
M27K Edge Creek, AK 3.43 98 IAML 04 51 46.4
comp=N,137nm,0.9s
M27K IAML 04 51 47.3
comp=E,166nm,1.0s
J18K Innoko River 3.44 281 Pn 04 50 46.9 +0.7
J18K Innoko River 3.44 281 IAML 04 51 45.6
comp=N,157nm,0.8s
J18K IAML 04 51 48.4
comp=E,134nm,1.0s
M18K Stony River 3.46 247 Pn 04 50 47.4 +1.0
M18K Stony River 3.46 247 P Pn 04 50 47.5 +1.0
baz=61
I26K Coal Creek Min 3.51 46 Pn 04 50 47.8 +0.6
I26K Coal Creek Min 3.51 46 IAML 04 51 51.7
comp=N,242nm,0.9s
H20K Anotleneega Mo 3.52 318 Pn 04 50 48.0 +0.6
L18K Granite Mounta 3.56 261 Pn 04 50 48.0 +0.2
L18K Granite Mounta 3.56 261 IAML 04 51 51.0
comp=E,126nm,0.8s
L18K IAML 04 51 53.9
comp=N,143nm,0.9s
L18K Granite Mounta 3.56 261 P Pn 04 50 48.8 +0.9
baz=74
HMT Hamilton 3.56 137 Pn 04 50 49.2 +1.3
SVW2 Sparrevohn 3.57 240 Pn 04 50 48.3 +0.3
SVW2 IAML 04 51 45.5
comp=N,205nm,0.6s
ILSW Iliamna Southw 3.58 214 Pn 04 50 49.3 +1.1
IMAR Indian Mountai 3.58 329 Pn 04 50 49.3 +1.1
CNPM China Poot 3.63 197 Pn 04 50 51.4 +2.6
CNPM China Poot 3.63 197 IAML 04 51 43.0
comp=E,114nm,2.6s
CNPM IAML 04 52 09.7
comp=N,90nm,1.4s
CRQM Cirque 3.64 126 Pn 04 50 51.2 +2.0
CRQM Cirque 3.64 126 IAML 04 51 49.2
comp=N,201nm,0.8s
CRQM IAML 04 51 52.6
comp=E,204nm,0.9s
PTPK Patty Peak 3.65 117 Pn 04 50 51.7 +2.5
BERG Berg Lake 3.70 133 Pn 04 50 51.2 +1.4
O19K Port Alsworth 3.74 223 Pn 04 50 52.0 +1.7
O19K IAML 04 51 56.1
comp=E,178nm,0.5s
O19K IAML 04 52 01.8
comp=N,162nm,0.5s
G23K Bananza Creek 3.74 355 Pn 04 50 51.1 +0.7
G23K Bananza Creek 3.74 355 P Pn 04 50 51.2 +0.8
baz=174
G24K Hadweenzic Riv 3.78 10 Pn Pn 04 50 51.2 +0.3
G24K IAML 04 51 52.6
comp=E,83nm,1.3s
KHIT Khitrov Hills 3.82 130 Pn 04 50 53.9 +2.4
KIAG Kiagna River 3.84 120 Pn 04 50 53.3 +1.4
KAIM Kayak Island 3.84 141 Pn 04 50 53.0 +1.3
P19K Oil Pt 3.89 212 Pn 04 50 54.9 +2.5
P19K Oil Pt 3.89 212 IAML 04 51 58.5
comp=E,165nm,1.2s
P19K IAML 04 52 06.6
comp=N,148nm,0.8s
N18K Kilae Creek 3.94 237 Pn 04 50 53.0 -0.1
N18K Kilae Creek 3.94 237 IAML 04 52 00.3
comp=E,113nm,1.0s
N18K IAML 04 52 01.3
comp=N,100nm,1.0s
FYU Fort Yukon 3.96 24 Pn 04 50 54.0 +0.7
FYU IAML 04 52 04.7
comp=N,98nm,1.2s
FYU IAML 04 52 06.0
comp=E,130nm,1.2s
WAX Waxell Ridge 3.96 128 Pn 04 50 54.1 +0.8
EGAK Eagle 3.97 60 Pn 04 50 53.9 +0.4
EGAK Eagle 3.97 60 P Pn 04 50 54.2 +0.8
baz=247
G21K Allakaket 3.98 334 Pn 04 50 54.4 +0.7
G21K Allakaket 3.98 334 IAML 04 51 46.9
comp=N,116nm,0.8s
G25K Bearman Lake 4.00 18 Pn 04 50 54.6 +0.8
ISLE Juniper Island 4.04 124 Pn 04 50 55.9 +1.3
ISLE Juniper Island 4.04 124 IAML 04 52 10.0
comp=N,144nm,1.1s
ISLE IAML 04 52 43.2
comp=E,112nm,4.1s
BARN Barnard Glacie 4.04 115 Pn 04 50 57.1 +2.3
BARN Barnard Glacie 4.04 115 IAML 04 51 56.5
comp=N,76nm,0.8s
BARN IAML 04 52 10.8
comp=E,66nm,1.2s
H19K Roundabout Mou 4.05 312 Pn 04 50 55.3 +0.7
H19K Roundabout Mou 4.05 312 IAML 04 52 09.4
comp=N,80nm,1.2s
H19K IAML 04 52 11.8
comp=E,102nm,1.4s
YUK2 White River 4.07 104 Pn 04 50 57.6 +2.6
AUL Augustine Lava 4.18 211 Pn 04 51 00.5 +4.2
M17K Holitna River 4.19 251 Pn 04 50 56.4 0.0
K17K Iditarod 4.19 270 Pn 04 50 57.7 +1.2
K17K Iditarod 4.19 270 IAML 04 52 05.7
comp=N,137nm,1.3s
K17K Iditarod 4.19 270 P Pn 04 50 57.8 +1.2
baz=82
I27K Kandik River 4.20 48 Pn 04 50 57.2 +0.4
BAGL Bagley Icefiel 4.21 124 Pn 04 50 58.4 +1.6
CTG Chitna Glacier 4.23 115 P Pn 04 50 59.7 +2.5
baz=302
CTGM Chitina Glacie 4.23 115 Pn 04 50 59.7 +2.5
CTGM Chitina Glacie 4.23 115 IAML 04 52 06.3
comp=N,63nm,1.1s
YUK3 Moose Creek 4.24 103 Pn 04 50 59.8 +2.3
YUK3 Moose Creek 4.24 103 P Pn 04 50 59.8 +2.3
baz=291
COLD Coldfoot 4.26 355 Pn 04 50 58.5 +1.0
baz=174
O18K Koktuh Hills 4.28 225 Pn 04 50 60.0 +2.1
O18K Koktuh Hills 4.28 225 IAML 04 52 24.1
comp=E,57nm,1.8s
O18K Koktuh Hills 4.28 225 P Pn 04 50 60.0 +2.1
baz=40
L17K Donlin 4.31 262 Pn 04 50 58.4 +0.3
LOGN Logan Glacier 4.44 116 Pn 04 51 02.4 +2.2
LOGN Logan Glacier 4.44 116 IAML 04 52 12.3
comp=E,68nm,3.2s
LOGN IAML 04 52 12.5
comp=N,86nm,0.9s
MESA MESA 4.47 126 Pn Pn 04 51 01.3 +0.8
DAWY Dawson 4.51 72 Pn 04 51 01.7 +0.8
DAWY Dawson 4.51 72 P Pn 04 51 01.7 +0.8
baz=261
N17K Nushagak Hills 4.54 240 Pn 04 51 01.2 -0.1
N17K Nushagak Hills 4.54 240 IAML 04 52 23.3
comp=N,102nm,0.8s
F24K Squaw Lake 4.57 6 Pn 04 51 02.8 +1.1
F24K Squaw Lake 4.57 6 IAML 04 51 56.3
comp=N,55nm,0.9s
F24K IAML 04 51 57.0
comp=E,54nm,0.6s
F24K Squaw Lake 4.57 6 P Pn 04 51 02.8 +1.1
baz=187
H18K Honhosa River 4.57 302 Pn 04 51 02.7 +1.0
H18K Honhosa River 4.57 302 IAML 04 52 27.5
comp=N,51nm,1.1s
H18K Honhosa River 4.57 302 P Pn 04 51 02.7 +1.0
baz=114
G26K Porcupine Rive 4.58 28 Pn 04 51 02.2 +0.4
F21K Alatna River 4.61 339 Pn 04 51 03.4 +1.1
F21K Alatna River 4.61 339 IAML 04 51 59.9
comp=N,44nm,0.7s
TABL Table Mountain 4.61 120 Pn 04 51 03.5 +1.0
TABL Table Mountain 4.61 120 IAML 04 52 32.3
comp=E,91nm,3.4s
TABL IAML 04 52 50.6
comp=N,81nm,3.9s
H27K Steamboat Moun 4.62 42 Pn 04 51 02.4 0.0
Q19K Cape Douglas, 4.63 210 Pn 04 51 05.4 +2.8
Q19K Cape Douglas, 4.63 210 P Pn 04 51 05.0 +2.4
baz=26
G19K Purcell Mounta 4.64 316 Pn 04 51 03.3 +0.7
P18K Big Mountain, 4.66 222 Pn 04 51 05.0 +2.0
P18K Big Mountain, 4.66 222 IAML 04 52 34.1
comp=E,44nm,2.1s
SYI Shuyak Island 4.68 201 Pn 04 51 06.0 +2.7
SYI Shuyak Island 4.68 201 IAML 04 52 11.2
comp=N,74nm,2.6s
SYI IAML 04 53 18.4
comp=E,80nm,3.5s
Q20K Shuyak Island 4.68 201 P Pn 04 51 06.0 +2.7
baz=18
I28M Miner Creek 4.72 55 Pn Pn 04 51 04.6 +0.6
I28M IAML 04 52 29.2
comp=E,85nm,0.8s
I28M IAML 04 52 33.0
comp=N,84nm,1.1s
I28M Miner Creek 4.72 55 P Pn 04 51 04.4 +0.5
baz=243
F25K Christian Rive 4.84 16 Pn 04 51 06.1 +0.6
BMAR Burnt Mountain 4.85 22 Pn 04 51 06.3 +0.8
F20K Avaraart Lake 4.91 329 Pn Pn 04 51 06.4 0.0
F20K IAML 04 52 06.4
comp=E,40nm,0.9s
L16K Owhat River 4.97 259 Pn 04 51 07.2 +0.1
L16K Owhat River 4.97 259 IAML 04 52 41.5
comp=E,44nm,1.3s
L16K IAML 04 52 44.7
comp=N,51nm,0.9s
M29M Somme Creek 4.97 92 Pn 04 51 08.8 +1.5
M29M Somme Creek 4.97 92 IAML 04 52 36.3
comp=E,45nm,2.2s
M29M IAML 04 52 40.2
comp=N,48nm,0.8s
O17K Koliganek Bris 5.00 233 Pn 04 51 07.3 -0.2
M16K Timber Creek 5.02 251 Pn Pn 04 51 08.4 +0.5
M16K IAML 04 52 39.3
comp=N,56nm,0.9s
M16K IAML 04 52 53.1
comp=E,46nm,0.9s
G18K Tagagawik 5.02 309 Pn Pn 04 51 09.1 +1.2
G18K IAML 04 52 09.8
comp=N,64nm,0.9s
G18K Tagagawik 5.02 309 P Pn 04 51 09.2 +1.3
baz=121
L29M L29M 5.03 84 Pn 04 51 09.2 +1.1
E23K Chandalar 5.08 358 Pn 04 51 10.1 +1.3
H17K Granite Mounta 5.11 297 Pn 04 51 10.2 +1.1
H17K Granite Mounta 5.11 297 IAML 04 52 16.3
comp=E,37nm,1.2s
H17K IAML 04 52 41.7
comp=N,35nm,1.2s
F26K Sheenjek River 5.16 22 Pn 04 51 10.6 +0.8
F26K Sheenjek River 5.16 22 P Pn 04 51 10.6 +0.8
baz=206
J16K Anvik River 5.19 278 Pn 04 51 10.4 +0.2
J16K Anvik River 5.19 278 IAML 04 52 42.9
comp=N,50nm,1.5s
J16K IAML 04 52 43.2
comp=E,39nm,1.0s
YUK4 Talbot Arm 5.21 104 P Pn 04 51 13.1 +2.4
baz=292
N16K Nishlik Lake 5.21 245 Pn 04 51 10.8 +0.2
KAHC Katmai Hardscr 5.22 216 Pn 04 51 13.7 +3.0
KAHC Katmai Hardscr 5.22 216 P Pn 04 51 13.7 +3.0
baz=31
I17K Unalakleet 5.24 285 Pn 04 51 12.4 +1.4
I17K Unalakleet 5.24 285 IAML 04 52 47.3
comp=E,42nm,1.5s
I17K Unalakleet 5.24 285 P Pn 04 51 12.4 +1.4
baz=94
E22K Anaktuvuk Pass 5.27 349 Pn 04 51 13.2 +1.9
F19K Shaleruckik Mo 5.30 320 Pn Pn 04 51 12.7 +0.9
F19K Shaleruckik Mo 5.30 320 P Pn 04 51 12.8 +1.1
baz=132
K29M Barlow Dome 5.31 76 Pn 04 51 12.4 +0.5
K29M IAML 04 52 42.9
comp=N,62nm,1.6s
K29M IAML 04 52 43.1
comp=E,59nm,2.0s
E25K Arctic Village 5.35 15 Pn Pn 04 51 13.3 +0.8
E25K IAML 04 52 45.6
comp=N,27nm,1.2s
E25K IAML 04 52 50.0
comp=E,26nm,1.8s
E25K Arctic Village 5.35 15 P Pn 04 51 13.5 +1.0
baz=198
O16K Kokwok River B 5.49 235 Pn Pn 04 51 15.5 +1.1
KDAK Kodiak Island 5.50 199 Pn 04 51 15.0 +0.5
KDAK Kodiak Island 5.50 199 Pn Pn 04 51 15.4 +0.9
comp=E,1.3nm,0.3s,baz=66,slow=7.1,SNR=54
KDAK Sn Sn 04 52 18.4 +0.6
comp=E,1.6nm,0.3s,baz=141,slow=23,SNR=6.6
comp=E,4.8nm,0.3s
KAKN Katmai Knife C 5.54 214 Pn 04 51 17.8 +2.7
G17K Kiwalik Mounta 5.59 302 Pn 04 51 16.8 +1.1
E19K Redstone River 5.60 326 Pn 04 51 17.5 +1.6
H29M Whitestone 5.66 51 Pn 04 51 17.0 +0.3
H29M Whitestone 5.66 51 P Pn 04 51 17.2 +0.5
baz=240
ACHA Angle Creek He 5.68 215 Pn 04 51 19.7 +2.6
M30M Minto, Yukon 5.70 89 Pn 04 51 18.0 +0.6
ANCK Angle Creek 5.73 216 Pn 04 51 20.6 +2.9
O29M Mount Kennedy 5.73 113 Pn Pn 04 51 18.6 +0.7
K15K Wolf Creek Mou 5.74 268 Pn 04 51 18.5 +0.8
F18K Selawik 5.74 314 Pn 04 51 19.2 +1.4
F18K Selawik 5.74 314 P Pn 04 51 19.0 +1.3
baz=124
CNTC Contact Creek 5.78 218 Pn 04 51 21.1 +2.5
J30M Hart River 5.91 69 Pn 04 51 21.0 +0.7
N15K Kwethluk River 5.93 246 Pn 04 51 20.8 +0.3
HYT Haines Junctio 5.93 106 Pn 04 51 23.1 +2.5
HYT Haines Junctio 5.93 106 P Pn 04 51 23.1 +2.5
baz=297
H16K Elim 6.01 292 Pn 04 51 23.0 +1.5
H16K Elim 6.01 292 P Pn 04 51 23.0 +1.5
baz=100
E20K Nigu River 6.01 334 Pn 04 51 23.9 +2.3
I30M Mount Dempster 6.03 63 Pn 04 51 22.0 0.0
F28M Old Crow 6.05 36 Pn 04 51 22.4 +0.3
F28M Old Crow 6.05 36 P Pn 04 51 22.5 +0.4
baz=224
OHAK Old Harbor 6.15 201 Pn 04 51 23.6 +0.2
D24K Happy Valley 6.18 1 Pn 04 51 25.4 +1.7
F17K Baldwin Pennin 6.21 309 Pn 04 51 25.4 +1.2
G16K Koyuk River 6.23 298 Pn 04 51 25.1 +0.6
EPYK Eagle Plains 6.32 52 Pn Pn 04 51 25.7 -0.1
D25K Kavik River 6.45 9 Pn Pn 04 51 28.4 +0.9
D20K Etivluk River 6.49 335 Pn 04 51 29.8 +1.8
P30M Million Dollar 6.51 111 Pn 04 51 31.1 +2.6
E18K Tukpahlearik C 6.53 318 Pn Pn 04 51 30.0 +1.4
E18K Tukpahlearik C 6.53 318 P Pn 04 51 30.5 +1.9
baz=127
O30N Mendenhall 6.58 104 Pn 04 51 31.2 +1.8
D19K Kuna River 6.62 330 Pn 04 51 31.4 +1.5
G30M tAoh Zraii Nji 6.78 48 Pn 04 51 31.8 -0.4
G15K Niukluk 6.83 294 Pn 04 51 33.9 +1.2
C23K Itkillik River 6.89 356 Pn 04 51 35.6 +2.2
C23K Itkillik River 6.89 356 P Pn 04 51 35.7 +2.2
baz=174
E29M Blow River 7.12 36 Pn 04 51 36.8 0.0
F15K North Star Dit 7.23 299 Pn 04 51 39.3 +1.1
ANM Nome 7.34 289 Pn Pn 04 51 40.5 +0.9
C19K Lookout Ridge 7.43 330 Pn 04 51 41.6 +0.5
G31M Satah River 7.44 52 Pn Pn 04 51 40.2 -0.8
D17K Noatak River 7.47 315 Pn 04 51 42.9 +1.4
D17K Noatak River 7.47 315 P Pn 04 51 43.1 +1.7
baz=122
C18K Utukok River 7.50 324 Pn 04 51 42.9 +1.0
C18K Utukok River 7.50 324 P Pn 04 51 42.9 +1.0
baz=133
INK Inuvik 8.36 44 Pn Pn 04 51 53.6 0.0
comp=E,0.4nm,0.3s,baz=218,slow=17,SNR=10
INK Sn Sn 04 53 26.1 -1.8
comp=E,0.1nm,0.3s,baz=202,slow=14,SNR=1.8
INK Lg Lg 04 54 13.6
comp=E,0.2nm,0.3s,baz=96,slow=12,SNR=2.7
comp=E,1.2nm,0.4s
DLBC Dease Lake 10.42 107 Lg Lg 04 55 28.9
comp=E,0.1nm,0.3s,baz=218,slow=16,SNR=3.1
YKA Yellowknife Ar 15.73 76 Pn Pn 04 53 35.7 +1.6
comp=E,0.2nm,0.3s,baz=288,slow=10,SNR=10
comp=E,0.3nm,0.6s
PDAR Pinedale Array 30.59 113 P P 04 56 08.3 +1.7
comp=E,1.1nm,0.9s,baz=343,slow=4.6,SNR=5.9
comp=E,1.1nm,0.9s
TXAR Lajitas Array 44.53 117 P P 04 58 05.7 +1.4
comp=E,0.2nm,0.5s,baz=334,slow=6.0,SNR=2.0
comp=E,0.2nm,0.5s
FINES FINESS Array B 55.82 3 P P 04 59 27.7 -1.6
comp=E,1.0nm,0.6s,baz=12,slow=7.5,SNR=1.8
comp=E,1.0nm,0.6s
BVAR Borovoye Array 60.22 334 P P 04 59 56.9 -3.4
comp=E,0.6nm,0.5s,baz=0.0,slow=5.8,SNR=2.5
comp=E,0.6nm,0.5s
OBN Obninsk 62.13 356 LR LR 05 28 37.3
comp=E,119nm,22.0s,baz=188,slow=38
QSPA South Pole Qui 152.82 180 PKPbc PKPbc 05 09 47.9 -0.2
comp=E,1.2nm,0.8s,baz=63,slow=2.3,SNR=5.4

UCR ***01*** *04:53:57.6±1.0, 9.65N×84.82W, h25km±4km, MW3.9*
CATAC ***01*** *04:53:58.0±0.4, 9.70N×84.78W, h7km±2km, ML3.6*
ISC 01 04:53:57.4±1.2, 9.67N±0.04×84.77W±0.03, h5km±12km,
n33, σ0970/46, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBL1	Cabuya	0.33	256	eP		Pg		04 54 03.4	-0.4
CBL1				eS		Sg		04 54 08.8	+0.7
ARZA	Esparza	0.33	17	eP		Pb		04 54 06.3	+0.4
ARZA				eS		Sb		04 54 12.8	+1.2
SRA1	San Ramn	0.50	35	eP		Pb		04 54 08.2	-0.6
TCS1	Tacares	0.59	51	iP		Pb		04 54 10.2	-0.1
TCS1				iS		Sb		04 54 19.1	0.0
TCS1				IAML				04 54 22.3	
	comp=Z,31μm,1.0s								
ACOS	Acosta	0.61	78	eP		Pg		04 54 09.7	+0.6
SANTA	Santa Ana	0.63	66	eP		Pb		04 54 10.3	-0.7
SANTA				eS		Sb		04 54 20.1	-0.1
JTS	Las Juntas de	0.64	344	eP		Pg		04 54 09.8	0.0
JTS				eS		Sb		04 54 19.7	-0.8
BELE	Belen	0.65	62	eP		Pb		04 54 11.5	+0.2
LLNJ	Naranjito	0.69	106	eP		Pg		04 54 10.3	-0.3
ABE2	San Pablo	0.70	87	eP		Pg		04 54 11.2	+0.3
ABE2				eS		Sb		04 54 22.1	-0.4
SOCE	Pocosol	0.72	12	eP		Pb		04 54 12.1	-0.5
SOCE	Pocosol	0.72	12	iP		Pb		04 54 12.1	-0.5
SOCE				iS		Sb		04 54 21.8	-1.0
SOCE				IAML				04 54 23.6	
	comp=Z,4μm,1.0s								
DOMI	Santo Domingo	0.74	65	eP		Pb		04 54 12.2	-0.6
SJS3	Mercedes San J	0.75	69	eP		Pb		04 54 12.5	-0.6
SJS3				eS		Sb		04 54 24.3	+0.4
LCR2	La Lucha 2	0.76	85	eP		Pg		04 54 11.8	-0.2
LCR2				eS		Sb		04 54 23.5	-0.4
LCR2	La Lucha 2	0.76	85	iP		Pg		04 54 12.1	+0.2
LCR2				IAML				04 54 23.5	
	comp=Z,2μm,1.0s								
LCR2				iS		Sb		04 54 23.6	-0.3
ARE1	Arenal 1	0.79	4	eP		Pb		04 54 13.2	-0.5
CEDE	Laguna Cedeo	0.81	4	eP		Pb		04 54 13.8	-0.4
REPA	Paraso	0.90	80	eP		Pb		04 54 15.7	+0.1
ITAL	Pital	0.92	32	eP		Pb		04 54 15.3	-0.5
VICA	Volcano Irazu	0.96	71	eP		Pg		04 54 15.9	0.0
PCAYA	Pacayas	0.97	75	eP		Pg		04 54 16.1	0.0
BAGA	Bagaces	0.98	330	eP		Pg		04 54 17.5	-0.4
CVTV	Tajo	1.06	72	eP		Pg		04 54 17.8	+0.1
VERB	Verbena	1.09	75	eP		Pg		04 54 18.1	-0.3
CARI	Cariari	1.23	56	eP		Pn		04 54 21.8	+0.5
DRK0	Durika	1.56	105	eP		Pn		04 54 24.2	-1.8
BRU2	Volcan	2.23	113	iP		Pn		04 54 36.0	+0.8
BRU2				iS		Sn		04 55 04.6	+1.4
BRU2				IAML				04 55 19.9	
	comp=Z,370nm,1.0s								
BLUN	Bluefields	2.52	23	iP		Pn		04 54 38.1	-0.9
BLUN				iS		Sn		04 55 09.6	-0.6
BLUN				IAML				04 55 15.7	
	comp=Z,330nm,1.0s								
ESPN	Las Esperanzas	2.55	10	iP		Pn		04 54 40.2	+0.7
ESPN				iS		Sn		04 55 11.4	+0.4
ESPN				IAML				04 55 15.0	
	comp=Z,180nm,1.0s								
BOAB	BOACO BROADBAN	2.90	342	iP		Pn		04 54 43.5	-0.8
BOAB				IAML				04 55 36.8	
	comp=Z,64nm,1.0s								
MACN	El Madrono	3.35	326	iP		Pn		04 54 52.5	+2.0
MACN				IAML				04 54 53.4	
	comp=Z,31nm,1.0s								
LIMN	Finca el Limon	3.72	335	iP		Pn		04 54 55.5	-0.2
LIMN				IAML				04 56 08.2	
	comp=Z,39nm,1.0s								

NNC ***01*** *04:55:15.7±0.7, 44.34N×81.03E, h0km, mb3.8, mpv3.6,*
Error ellipse: s-maj=5.6km s-min=3.6km az=121.0
SOME ***01*** *04:55:17.0, 44.32N×80.95E, h10km*
ISC 01 04:55:16.2±1.3, 44.31N±0.03×81.00E±0.04, h6km±11km,
n54, σ1548/84, 14C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DJR	Jarkent	0.87	272	eP		Pb		04 55 33.7	-0.1
DJR	31nm,0.1s								
DJR				eS		Sb		04 55 46.1	+0.5
	111nm,0.2s								
DJR	Jarkent	0.87	272	P		Pb		04 55 33.7	-0.1
DJR	31nm,0.1s								
DJR				S		Sb		04 55 46.1	+0.5
	111nm,0.2s								
KTMS	Ketmen	0.98	209	eP		Pg		04 55 35.6	+0.6
KTMS	48nm,0.2s								
KTMS				eS		Sb		04 55 49.4	+0.5
	802nm,0.2s								
KTMS	Ketmen	0.98	209	P		Pg		04 55 35.6	+0.6
KTMS	48nm,0.2s								
KTMS				S		Sb		04 55 49.4	+0.5
	802nm,0.2s								
KNOS	Konyrlen	1.31	273	P		Pb		04 55 41.7	+0.5
KNOS	102nm,0.2s								
KNOS				S		Sn		04 55 59.9	+0.9
	188nm,0.3s								
PDGK	Podgornoye	1.47	229	P		Pn		04 55 43.5	+0.2
PDGK	52nm,0.3s								
PDGK				S		Sb		04 56 03.1	+0.1

127nm,0.3s
PDGK Podgornoye 1.47 229 ⇓P **Pn 04 55 43.5 +0.2**
17nm,0.2s
PDGK ⇑S **Sg 04 56 04.2 +0.8**
173nm,0.4s
KAPS Kapalarasan 1.52 310 *e*P **Pb 04 55 44.6 -0.3**
50nm,0.3s
KAPS *e*S **Sg 04 56 04.4 -0.7**
121nm,0.2s
KAPS Kapalarasan 1.52 310 P **Pb 04 55 44.6 -0.3**
50nm,0.3s
KAPS S **Sg 04 56 04.4 -0.7**
121nm,0.2s
SHLS Shalkode 1.60 225 *e*P **Pn 04 55 42.6 -2.6**
197nm,0.3s
SHLS *e*S **Sn 04 56 01.4 -4.8**
343nm,0.2s
SHLS Shalkode 1.60 225 P **Pn 04 55 42.6 -2.6**
197nm,0.3s
SHLS S **Sn 04 56 01.4 -4.8**
343nm,0.2s
BLB Baldybastay 1.83 264 P **Pb 04 55 50.4 +0.3**
35nm,0.2s
BLB S **Sg 04 56 14.9 0.0**
241nm,0.5s
UZB Uzynbulak 1.85 232 *e*P **Pn 04 55 49.2 +0.7**
64nm,0.4s
UZB *e*S **Sn 04 56 13.1 +0.8**
228nm,0.2s
UZB Uzynbulak 1.85 232 P **Pn 04 55 49.2 +0.7**
64nm,0.4s
UZB S **Sn 04 56 13.0 +0.8**
228nm,0.2s
KPKS Kokpek 1.88 244 *e*P **Pb 04 55 51.3 +0.4**
23nm,0.3s
KPKS *e*S **Sg 04 56 16.3 -0.2**
381nm,0.4s
KPKS Kokpek 1.88 244 P **Pb 04 55 51.3 +0.4**
23nm,0.3s
KPKS S **Sg 04 56 16.3 -0.2**
381nm,0.4s
TDK Taldyqorghan 1.98 291 *e*P **Pb 04 55 53.1 +0.5**
75nm,0.3s
TDK *e*S **Sg 04 56 19.1 -0.6**
336nm,0.3s
TDK Taldyqorghan 1.98 291 Pg **Pb 04 55 53.1 +0.5**
75nm,0.3s
TDK Lg Lg 04 56 19.1
336nm,0.3s
ZHN Zhinishke 2.18 239 *e*P **Pb 04 55 56.4 +0.3**
13nm,0.1s
ZHN *e*S **Sb 04 56 25.1 +1.6**
202nm,0.3s
ZHN Zhinishke 2.18 239 Pg **Pb 04 55 56.4 +0.3**
13nm,0.1s
ZHN Lg Lg 04 56 25.1
202nm,0.3s
KURS Kuram 2.21 249 *e*P **Pb 04 55 56.7 +0.2**
4.3nm,0.1s
KURS *e*S **Sb 04 56 25.6 +1.5**
33nm,0.5s
KURS Kuram 2.21 249 Pg **Pb 04 55 56.7 +0.2**
4.3nm,0.1s
KURS Lg Lg 04 56 25.6
33nm,0.5s
SATY Saty 2.26 237 *e*P **Pb 04 55 57.8 +0.3**
16nm,0.2s
SATY *e*S **Sb 04 56 27.2 +1.5**
634nm,0.3s
SATY Saty 2.26 237 Pg **Pb 04 55 57.8 +0.3**
16nm,0.2s
SATY Lg Lg 04 56 27.2
634nm,0.3s
ARXS Arharly 2.28 269 *e*P **Pb 04 55 58.4 +0.5**
17nm,0.4s
ARXS *e*S **Sg 04 56 28.2 -1.3**
101nm,0.3s
ARXS Arharly 2.28 269 Pg **Pb 04 55 58.3 +0.5**
17nm,0.4s
ARXS Lg Lg 04 56 28.2
101nm,0.3s
MAKZ Makanchi 2.59 15 ⇓Pn **Pn 04 55 57.7 -1.0**
0.7nm,0.3s
MAKZ ⇓Pg **Pb 04 56 02.9 -0.1**
5.1nm,0.3s
MAKZ ⇑Lg Lg 04 56 32.6
26nm,0.5s
MK31 Makanchi Array 2.64 20 ⇑Pn **Pn 04 55 58.1 -1.3**
1.2nm,0.3s,baz=198,slow=13,SNR=130
MK31 ⇑Pg **Pb 04 56 04.3 +0.3**
5.0nm,0.4s,baz=198,slow=15
MK31 ⇓Lg Lg 04 56 31.2
32nm,0.7s,baz=206,slow=28
CHKK Chushkaly 2.93 262 *e*P **Pb 04 56 09.2 +0.4**
2.4nm,0.2s
CHKK *e*S **Sb 04 56 46.8 +2.0**
79nm,0.3s
CHKK Chushkaly 2.93 262 Pg **Pb 04 56 09.2 +0.4**
2.4nm,0.2s
CHKK Lg Lg 04 56 46.8
79nm,0.3s
KOTS Kotyrbulak 3.02 250 *e*P **Pb 04 56 11.1 +0.7**
4.5nm,0.3s
KOTS *e*S **Sb 04 56 50.3 +2.8**
139nm,0.4s
KOTS Kotyrbulak 3.02 250 Pg **Pb 04 56 11.0 +0.7**
4.5nm,0.3s
KOTS Lg Lg 04 56 50.3
139nm,0.4s
MDOK Medeo 3.09 250 *e*P **Pb 04 56 12.4 +0.9**
4.1nm,0.4s
MDOK *e*S **Sb 04 56 52.3 +2.8**
33nm,0.3s
MDOK Medeo 3.09 250 Pg **Pb 04 56 12.4 +0.9**
4.1nm,0.4s
MDOK ⇑Pg **Pg 04 56 12.7 -2.6**
5.4nm,0.4s
MDOK Lg Lg 04 56 52.3
33nm,0.3s
MDOK ⇑Lg Lg 04 56 53.3
42nm,0.6s
KNDC Almaty 3.12 251 ⇑Pg **Pb 04 56 10.5 -1.6**
12nm,0.3s
KNDC ⇓Lg Lg 04 56 54.4
51nm,0.7s
KTBS Karatobe 3.17 261 *e*P **Pb 04 56 13.3 +0.4**
6.5nm,0.6s
KTBS *e*S **Sb 04 56 54.1 +2.2**
19nm,0.6s
KTBS Karatobe 3.17 261 Pg **Pb 04 56 13.3 +0.4**
6.5nm,0.6s
KTBS Lg Lg 04 56 54.1
19nm,0.6s
TNSS Tian-Shan 3.20 248 *e*P **Pb 04 56 14.4 +0.6**
9.5nm,0.3s
TNSS *e*S **Sb 04 56 55.7 +2.6**
12nm,0.3s
TNSS Tian-Shan 3.20 248 Pg **Pb 04 56 14.4 +0.6**
9.5nm,0.3s
TNSS Lg Lg 04 56 55.7
12nm,0.3s
KUU Kurty 3.38 265 *e*P **Pb 04 56 17.1 +0.5**
2.2nm,0.4s
KUU *e*S **Sb 04 57 00.2 +2.2**
29nm,0.5s
KUU Kurty 3.38 265 Pg **Pb 04 56 17.1 +0.5**
2.2nm,0.4s
KUU Lg Lg 04 57 00.2
29nm,0.5s
MTBS Maitube 3.52 252 *e*P **Pb 04 56 19.4 +0.6**
8.4nm,0.6s
MTBS *e*S **Sb 04 57 04.5 +2.6**
31nm,0.3s
MTBS Maitube 3.52 252 Pg **Pb 04 56 19.4 +0.6**
8.4nm,0.6s
MTBS Lg Lg 04 57 04.5
31nm,0.3s
KST Kastek 3.87 253 *e*P **Pb 04 56 25.2 +0.3**
8.4nm,0.3s
KST *e*S **Sb 04 57 14.4 +2.4**
15nm,0.2s
DGS Degeres 3.93 256 *e*P **Pb 04 56 27.2 +1.2**
4.0nm,0.3s
DGS *e*S **Sb 04 57 17.6 +3.7**
28nm,0.5s
DGS Degeres 3.93 256 Pg **Pb 04 56 27.2 +1.2**
4.0nm,0.3s
DGS Lg Lg 04 57 17.6
28nm,0.5s
ZSN Zaisan 4.14 39 *e*P **Pb 04 56 30.3 +0.9**
4.7nm,0.5s
ZSN *e*S **Sb 04 57 22.9 +3.2**
29nm,0.7s
ZSN Zaisan 4.14 39 Pg **Pb 04 56 30.3 +0.9**
4.7nm,0.5s
ZSN Lg Lg 04 57 22.9
29nm,0.7s
TKM2 Tokmak 2 4.16 252 ⇑Pg **Pg 04 56 35.9 -0.1**
2.7nm,0.4s
TKM2 ⇑Lg Lg 04 57 27.8
19nm,0.6s
CHMS Chumysh 4.72 256 ⇑Pg **Pb 04 56 41.4 +2.1**
1.6nm,0.4s
CHMS ⇓Lg Lg 04 57 43.3
7.3nm,0.7s
KURBB Kurchatov Arra 6.53 346 ⇑Lg Lg 04 58 39.6
21nm,0.6s
KURK Kurchatov 6.61 347 ⇑Lg Lg 04 58 39.5
15nm,0.7s
OTUK Ortayu 7.18 306 ⇓Lg Lg 04 59 00.3
9.8nm,0.6s
KK31 Karatay Array 7.70 265 ⇑Pg Pb 04 57 36.1 +6.1
0.2nm,0.3s,baz=79,slow=16,SNR=3.6
KK31 ⇑Lg Lg 04 59 16.2
2.1nm,0.7s,baz=73,slow=27,SNR=6.9

*IDC **01** 05:00:25.9±7.2, 16°.73S×174°.23W, h183km±64km, mb3.6/7, mbtmp4.1/8, Error ellipse: s-maj=30.7km s-min=20.6km az=131.0*
ISC 01 05:00:16.8±0.8, 16°.6S±0°.3×174°.1W±0°.2, h111km, n21, σ2s38/23, mb3.8/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**19.15**	**251**	P	**Pn**		**05 04 35.7**	**+2.0**
	7.7nm,0.8s,baz=78,slow=18,SNR=11							
STKA	**Stephens Creek**	**42.86**	**241**	P	**P**		**05 08 04.1**	**-0.1**
	2.0nm,0.7s,baz=90,slow=6.6,SNR=4.0							
	2.0nm,0.7s							
WRA	**Warramunga Arr**	**48.94**	**258**	P	**P**		**05 08 51.9**	**-0.2**
	0.7nm,0.6s,baz=94,slow=6.7,SNR=6.6							
WRA				PcP	**PcP**		**05 10 14.5**	**-0.3**
	0.6nm,0.7s,baz=119,slow=2.9,SNR=2.2							
	0.7nm,0.6s							
ASAR	**Alice Springs**	**49.12**	**253**	P	**P**		**05 08 53.1**	**-0.4**
	4.8nm,0.6s,baz=86,slow=8.5,SNR=40							
ASAR				PcP	**PcP**		**05 10 16.1**	**+0.6**
	0.6nm,0.6s,baz=98,slow=4.1,SNR=2.3							
	4.8nm,0.6s							
QSPA	**South Pole Qui**	**73.42**	**180**	P	**P**		**05 11 37.5**	**+0.8**
	3.3nm,0.7s,baz=6.3,slow=9.2,SNR=12							
	3.3nm,0.7s							
NVAR	**Mina Array Bea**	**75.68**	**42**	P	**P**		**05 11 52.4**	**+2.1**
	0.7nm,0.8s,baz=225,slow=8.8,SNR=4.5							
	0.7nm,0.8s							
PDAR	**Pinedale Array**	**83.62**	**42**	P	**P**		**05 12 34.3**	**+1.1**
	0.5nm,0.6s,baz=217,slow=3.0,SNR=6.6							
	0.5nm,0.6s							
ILAR	**Eielson Array**	**83.78**	**11**	P	**P**		**05 12 34.8**	**+1.6**
	0.9nm,0.6s,baz=219,slow=5.3,SNR=28							
	0.9nm,0.6s							
BVAR	**Borovoye Array**	**118.45**	**322**	PKP	**PKPdf**		**05 18 51.1**	**-0.1**
	1.0nm,0.6s,baz=66,slow=1.7,SNR=6.0							
BRTR	**Keskin Array B**	**146.68**	**319**	PKPbc	**PKPbc**		**05 19 46.2**	**+0.1**
	2.6nm,0.8s,baz=106,slow=2.1,SNR=7.3							
GERES	**GERESS Array B**	**147.25**	**350**	PKPbc	**PKPbc**		**05 19 47.7**	**+0.4**
	0.9nm,0.4s,baz=2.9,slow=2.0,SNR=2.7							
CONA	**Conrad Observa**	**147.74**	**347**	*e*PKP	**PKiKP**		**05 19 50.7**	**0.0**
	3.1nm,0.9s							
MOA	**Molln**	**148.12**	**349**	*e*PKP	**PKPdf**		**05 19 41.5**	**-4.8**
	8.2nm,1.4s							
MMAI	**Mount Meron Ar**	**148.81**	**307**	PKPbc	**PKiKP**		**05 19 52.5**	**-0.8**
	0.5nm,0.3s,baz=31,slow=5.9,SNR=1.3							
RETA	**Reutte**	**148.98**	**354**	*e*PKP	**PKPab**		**05 19 56.2**	**0.0**
	11nm,1.9s							
KBA	**Koelnbreinsper**	**149.03**	**350**	*e*PKP	**PKPdf**		**05 19 43.8**	**-4.2**
	2.7nm,0.8s							
WTTA	**Wattenberg**	**149.09**	**352**	*i* PKP	**PKPdf**		**05 19 46.2**	**-1.9**
	11nm,1.6s							
SQTA	**Sank Quirin**	**149.19**	**353**	*e*PKP	**PKPdf**		**05 19 41.1**	**-7.0**
	3.3nm,0.8s							
DAVA	**Damuels**	**149.26**	**355**	*e*PKP	**PKPdf**		**05 19 46.3**	**-2.0**
	15nm,1.6s							
FETA	**Feichten**	**149.44**	**354**	*e*PKP	**PKiKP**		**05 19 54.7**	**+0.5**
	15nm,2.0s							
ABTA	**Abfaltersbach**	**149.48**	**351**	*e*PKP	**PKiKP**		**05 19 53.9**	**-0.3**
	5.1nm,1.0s							

IDC 01 05:02:23.8±4.7, 6°.12S×142°.34E, h0km, mb3.6/1, mbtmp3.5/3, ML3.5/2, Error ellipse: s-maj=155.6km s-min=27.8km az=102.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.79**	**209**	Pn	Pn		05 06 05.5	-2.2
	0.2nm,0.3s,baz=30,slow=14,SNR=12							
WRA				Lg	Lg		05 10 48.9	
	baz=12,slow=26,SNR=2.1							
	0.4nm,0.4s							
ASAR	**Alice Springs**	**19.24**	**204**	P	P		05 06 49.7	-0.3
	0.2nm,0.3s,baz=31,slow=13,SNR=15							
ASAR				Lg	Lg		05 12 37.7	
	baz=20,slow=27							
	1.3nm,0.7s							
MKAR	**Makanchi Array**	**74.69**	**322**	P	P		05 14 05.8	+0.3
	0.3nm,0.6s,baz=112,slow=4.4,SNR=3.7							
	0.3nm,0.6s							

*TUL **01** 05:10:47.8±0.5, 35°.689N±0°.005×97°.31W±0°.01, h5km±2km, ML3.7, mb_Lg3.3/125(NEIC), ML3.6/36(NEIC), Error ellipse: s-maj=1.5km s-min=0.7km az=78.0*
*ANF **01** 05:10:48.0±0.2, 35°.70N×97°.31W, h7km, ML4.0/16, Error ellipse: s-maj=3.1km s-min=2.6km az=134.0*
*NEIC **01** 05:10:47.5±0.6, 35°.687N±0°.004×97°.31W±0°.01, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.9km az=252.0*
ISC 01 05:10:48.1±0.9, 35.70N±0°.02×97.31W±0.02, h8km±6km, n122, σ0s60/93, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.07**	**228**	Pg	**Pg**		**05 10 49.7**	**-0.5**
ADOK				Sg	**Sg**		**05 10 51.1**	**-0.5**
OK029	**Liberty Lake**	**0.16**	**308**	Pg	**Pg**		**05 10 51.5**	**+0.1**
OK029				Sg	**Sg**		**05 10 54.2**	**+0.5**
OK029				IAML			05 10 54.4	
	13μm,0.6s							
OKCSW	**OKLAHOMA CITY**	**0.31**	**200**	Pg	**Pg**		**05 10 54.1**	**-0.2**
OKCSW				Sg	**Sg**		**05 10 58.7**	**+0.2**
OKCSW				IAML			05 10 58.9	
	comp=E,8μm,0.6s							
OKCSW				IAML			05 10 59.0	
	comp=N,8μm,0.4s							
FNO	**Franklin**	**0.45**	**190**	Pg	**Pg**		**05 10 56.5**	**-0.3**
FNO				Sg	**Sg**		**05 11 02.9**	**+0.1**
OK033	**Mehan**	**0.46**	**41**	Pg	**Pg**		**05 10 57.2**	**+0.3**
OK033				Sg	**Sg**		**05 11 03.7**	**+0.8**
OK033				IAML			05 11 04.1	
	comp=N,5μm,0.2s							
OK033				IAML			05 11 04.1	
	comp=N,8μm,0.3s							
OK052	**Battle Ridge R**	**0.50**	**54**	Pg	**Pg**		**05 10 58.0**	**+0.2**
OK052				Sg	**Sg**		**05 11 05.2**	**+0.8**
OK052				IAML			05 11 05.6	
	comp=N,8μm,0.3s							
OK052				IAML			05 11 05.8	
	comp=N,7μm,0.4s							
W35A	**Tecumseh**	**0.65**	**147**		**Pg**		**05 11 00.1**	**-0.5**
W35A				IAML			05 11 11.9	
	comp=E,3μm,0.5s							
DEOK	**Depew**	**0.67**	**78**	Pg	**Pg**		**05 11 00.7**	**-0.4**
QUOK	**Quay**	**0.68**	**46**		**Pg**		**05 11 01.1**	**0.0**
QUOK				IAML			05 11 10.8	
	comp=E,4μm,0.4s							
QUOK				IAML			05 11 10.8	
	comp=N,4μm,0.3s							
OK048	**Pawnee Station**	**0.77**	**22**	Pg	**Pg**		**05 11 02.8**	**-0.2**
OK048				IAML			05 11 15.8	
	comp=N,2μm,0.1s							
OK048				IAML			05 11 16.7	
	comp=N,2μm,0.2s							
CROK	**Carrier**	**0.97**	**326**		**Pg**		**05 11 06.4**	**-0.5**
CROK				IAML			05 11 26.4	
	comp=N,3μm,0.3s							
CROK				IAML			05 11 26.6	
	comp=E,3μm,0.3s							
BLOK	**Blackwell**	**1.06**	**4**		**Pg**		**05 11 08.1**	**-0.4**
CSTR	**Hydro, Custer**	**1.13**	**268**	Pg	**Pg**		**05 11 09.1**	**-0.7**
GC02	**Grant County #**	**1.23**	**339**		**Pg**		**05 11 11.0**	**-0.8**
TUL3	**Leonard**	**1.25**	**80**		**Pg**		**05 11 10.4**	**-1.6**
TUL3	**Leonard**	**1.25**	**80**	P	**Pg**		**05 11 10.4**	**-1.6**
	baz=260,SNR=286							
TUL3				S	**Sg**		**05 11 27.4**	**-0.8**
	baz=260							
KAN13	**South Haven SW**	**1.32**	**354**		**Pn**		**05 11 12.7**	**-0.1**
OK032	**Salt Plains WL**	**1.32**	**327**		**Pn**		**05 11 12.4**	**-0.4**
KAN14	**Manchester OK**	**1.36**	**337**		**Pn**		**05 11 13.2**	**-0.2**
T35A	**Sooner Cattle**	**1.37**	**28**		**Pn**		**05 11 13.1**	**-0.4**
T35B	**Sooner Cattle**	**1.37**	**28**	P	**Pn**		**05 11 13.1**	**-0.4**
	baz=208,SNR=332							
T35B				S	**Sb**		**05 11 32.0**	**+0.3**
	baz=208							
KAN17	**Caldwell West**	**1.39**	**345**		**Pn**		**05 11 13.6**	**-0.2**
OK038	**West end E0370**	**1.40**	**304**		**Pn**		**05 11 13.5**	**-0.4**
KAN09	**Caldwell North**	**1.46**	**350**		**Pn**		**05 11 14.7**	**0.0**
KAN05	**Bluff City Nor**	**1.48**	**342**		**Pn**		**05 11 15.0**	**0.0**
KAN01	**Argonia South**	**1.50**	**346**		**Pn**		**05 11 15.2**	**-0.1**
OK035	**E0210 Rd and N**	**1.52**	**312**		**Pn**		**05 11 15.7**	**+0.1**
U32A	**Winter Ranch,**	**1.53**	**297**		**Pn**		**05 11 15.9**	**+0.1**
U32A	**Winter Ranch,**	**1.53**	**297**	P	**Pn**		**05 11 15.8**	**0.0**
	baz=116,SNR=41							
U32A				S	**Sg**		**05 11 37.0**	**-0.4**
	baz=116							
WMOK	**Wichita Mounta**	**1.54**	**232**		**Pn**		**05 11 15.8**	**-0.1**
WMOK	**Wichita Mounta**	**1.54**	**232**	P	**Pn**		**05 11 15.5**	**-0.4**
	baz=51							
WMOK				S	**Sn**		**05 11 35.9**	**-0.2**
	baz=51							
KAN10	**Anthony SW Sta**	**1.56**	**336**		**Pn**		**05 11 16.3**	**+0.2**
KAN06	**Argonia West S**	**1.61**	**344**		**Pn**		**05 11 17.3**	**+0.5**
KAN06				IAmb_Lg			05 11 41.6	
	comp=Z,235nm,0.9s							
KS21	**Milan North St**	**1.61**	**350**		**Pn**		**05 11 17.5**	**+0.7**
KAN08	**Anthony NE Sta**	**1.61**	**341**	IAmb_Lg			05 11 40.4	
	comp=Z,225nm,0.8s							
LOOK	**Love County**	**1.71**	**177**		**Pn**		**05 11 18.4**	**+0.3**
LOOK				IAmb_Lg			05 11 43.5	
	comp=Z,140nm,0.9s							
RLO	**Rose Lookout**	**1.91**	**75**		**Pn**		**05 11 21.4**	**+0.5**
X37A	**Clayton**	**1.93**	**124**		**Pn**		**05 11 21.7**	**+0.4**
X37A	**Clayton**	**1.93**	**124**	P	**Pn**		**05 11 21.7**	**+0.4**
	baz=305,SNR=62							
WTFS	**Witchita Falls**	**2.15**	**207**		**Pn**		**05 11 25.4**	**+1.2**
Z35A	**Perchaven, San**	**2.36**	**179**		**Pn**		**05 11 27.9**	**+0.7**
Z35A	**Perchaven, San**	**2.36**	**179**	P	**Pn**		**05 11 27.9**	**+0.7**
	baz=359,SNR=53							
Z35A				S	**Sb**		**05 11 58.8**	**-1.4**
	baz=359							
SMWD	**Samnorwood**	**2.47**	**257**	Pn	**Pn**		**05 11 29.4**	**+0.7**
SMWD				IAmb_Lg			05 12 08.5	
	comp=Z,101nm,0.8s							
U38A	**Gravette**	**2.48**	**72**		**Pn**		**05 11 29.6**	**+0.8**
U38A	**Gravette**	**2.48**	**72**	P	**Pn**		**05 11 29.6**	**+0.8**
	baz=253,SNR=46							
HHAR	**Hobbs**	**2.79**	**77**	P	**Pn**		**05 11 33.4**	**+0.3**
	baz=259							
R32A	**Long Quarter,**	**2.94**	**338**		**Pn**		**05 11 35.4**	**+0.2**
PLPT	**Palo Pinto**	**3.00**	**196**		**Pn**		**05 11 36.2**	**+0.3**
FW07	**Weatherford**	**3.02**	**188**		**Pn**		**05 11 37.1**	**+1.0**
Z38A	**Mt. Pleasant**	**3.10**	**141**		**Pn**		**05 11 37.3**	**+0.1**
Z38A				IAmb_Lg			05 12 34.5	
	comp=Z,74nm,0.7s							
Z38A	**Mt. Pleasant**	**3.10**	**141**	P	**Pn**		**05 11 37.6**	**+0.4**
	baz=322							
TREL	**Terrell**	**3.13**	**161**		**Pn**		**05 11 37.6**	**-0.1**
MIAR	**Mount Ida**	**3.27**	**110**		**Pn**		**05 11 40.0**	**+0.4**
MIAR				IAmb_Lg			05 12 38.8	
	comp=Z,68nm,0.7s							
MIAR	**Mount Ida**	**3.27**	**110**	P	**Pn**		**05 11 40.8**	**+1.2**
	baz=292,SNR=19							
APMT	**Aspermont**	**3.32**	**225**		**Pn**		**05 11 40.4**	**+0.1**
APMT				IAmb_Lg			05 12 41.4	
	comp=Z,62nm,0.9s							
KSU1	**Kansas State U**	**3.44**	**9**	Pn	**Pn**		**05 11 42.1**	**+0.2**
KSU1				IAmb_Lg			05 12 42.9	
	comp=Z,91nm,0.8s							
KSU1	**Kansas State U**	**3.44**	**9**	P	**Pn**		**05 11 42.4**	**+0.5**
	baz=190,SNR=6.9							
DKNS	**Dickens**	**3.61**	**237**	IAmb_Lg			05 12 45.4	
	comp=Z,72nm,0.8s							
ABTX	**Abilene, Hawle**	**3.63**	**213**	IAmb_Lg			05 12 43.7	
	comp=Z,103nm,1.1s							
CBKS	**Cedar Bluff**	**3.66**	**329**		**Pn**		**05 11 45.1**	**0.0**
CBKS				IAmb_Lg			05 12 50.2	
	comp=Z,128nm,0.9s							
U40A	**Yellville**	**3.67**	**78**	P	**Pn**		**05 11 45.4**	**+0.3**
	baz=261,SNR=30							
U40A				P	**Pn**		**05 11 45.4**	**+0.3**
	baz=261,SNR=30							
AMTX	**Amarillo**	**3.67**	**258**	IAmb_Lg			05 12 53.2	
	comp=Z,72nm,0.8s							
WHTX	**Lake Whitney,**	**3.70**	**182**		**Pn**		**05 11 45.5**	**0.0**
WHTX	**Lake Whitney,**	**3.70**	**182**	P	**Pn**		**05 11 45.6**	**0.0**
	baz=1.8							
WHTX				Sb	**Sb**		**05 12 41.1**	**+2.4**
	baz=1.8							
S39A	**Bolivar**	**3.77**	**57**		**Pn**		**05 11 47.0**	**+0.5**
S39A				IAmb_Lg			05 12 46.3	
	comp=Z,52nm,0.9s							
S39A	**Bolivar**	**3.77**	**57**	P	**Pn**		**05 11 47.0**	**+0.5**
	baz=239,SNR=11							
X40A	**Basin Creek Fa**	**3.86**	**107**		**Pn**		**05 11 48.0**	**+0.3**
X40A				IAmb_Lg			05 12 55.0	
	comp=Z,71nm,0.9s							
237A	**Washetta, Mont**	**3.89**	**161**		**Pn**		**05 11 48.0**	**-0.2**
237A	**Washetta, Mont**	**3.89**	**161**	S	**Sn**		**05 12 34.0**	**0.0**
	baz=342							
SN07	**Snyder 07**	**3.95**	**230**	IAmb_Lg			05 12 59.1	
	comp=Z,114nm,1.0s							
WLAR	**White Oak Lake**	**4.00**	**119**	Pn	**Pn**		**05 11 49.4**	**-0.2**
WLAR				IAmb_Lg			05 13 02.8	
	comp=Z,62nm,0.8s							
WHAR	**Wooly Hollow**	**4.11**	**94**	Pn	**Pn**		**05 11 51.8**	**+0.6**
WHAR				IAmb_Lg			05 13 05.0	
	comp=Z,86nm,0.9s							
UALR	**University of**	**4.17**	**101**	IAmb_Lg			05 13 03.3	
	comp=Z,53nm,0.8s							
FCAR	**Ozark Folk Cen**	**4.21**	**86**		**Pn**		**05 11 52.5**	**-0.2**
FCAR				IAmb_Lg			05 13 12.6	
	comp=Z,51nm,0.8s							
POST	**Post**	**4.35**	**234**	IAmb_Lg			05 13 07.6	
	comp=Z,81nm,0.8s							
RTBA	**Rita Blanca**	**4.46**	**281**	Pn	**Pn**		**05 11 56.5**	**+0.4**
BRDY	**Brady**	**4.62**	**198**	IAmb_Lg			05 13 19.7	
	comp=Z,53nm,1.0s							
R40A	**Maddies Statio**	**4.79**	**56**	Pn	**Pn**		**05 12 00.9**	**+0.5**
R40A				IAmb_Lg			05 13 30.0	
	comp=Z,42nm,0.7s							
R40A	**Maddies Statio**	**4.79**	**56**	P	**Pn**		**05 12 01.0**	**+0.5**
	baz=239,SNR=9.0							
MSTX	**Muleshoe**	**4.82**	**251**	S	**Sn**		**05 12 56.9**	**-0.1**
	baz=68							
CCAR	**Cane Creek**	**4.89**	**110**	IAmb_Lg			05 13 29.3	
	comp=Z,55nm,0.8s							
435B	**Jarrell**	**4.91**	**183**	IAmb_Lg			05 13 27.9	
	comp=Z,55nm,1.1s							
P38A	**Dawn**	**4.93**	**36**	Pn	**Pn**		**05 12 02.7**	**+0.3**
P38A				IAmb_Lg			05 13 27.1	
	comp=Z,71nm,0.7s							
P38A	**Dawn**	**4.93**	**36**	P	**Pn**		**05 12 02.8**	**+0.4**
	baz=218,SNR=14							
SGCY	**Sterling City**	**4.94**	**221**	IAmb_Lg			05 13 32.8	
	comp=Z,79nm,0.8s							
N33A	**J Bar K, Exete**	**5.03**	**359**	IAmb_Lg			05 13 39.2	
	comp=Z,86nm,1.0s							
KSCO	**Kaye Shedlock'**	**5.38**	**310**	IAmb_Lg			05 13 49.7	
	comp=Z,44nm,0.8s							
CCM	**Cathedral Cave**	**5.40**	**62**	IAmb_Lg			05 13 52.4	
	comp=Z,47nm,0.7s							
OZNA	**Ozona**	**5.74**	**215**	IAmb_Lg			05 13 56.8	
	comp=Z,35nm,0.8s							
T25A	**Trinidad**	**5.91**	**286**		**Pn**		**05 12 16.1**	**+0.1**
T25A				IAmb_Lg			05 14 03.6	
	comp=Z,48nm,1.0s							
FVM	**French Village**	**5.97**	**66**	Pn	**Pn**		**05 12 16.2**	**-0.5**
N38A	**Joes South For**	**6.01**	**31**	Pn	**Pn**		**05 12 16.8**	**-0.5**
N38A	**Joes South For**	**6.01**	**31**	P	**Pn**		**05 12 16.8**	**-0.5**
	baz=213,SNR=6.3							
MNHN	**Monahans**	**6.30**	**228**	IAmb_Lg			05 14 24.1	
	comp=Z,31nm,0.9s							

CGM3	Cape Girardeau comp=Z,37nm,0.9s	6.36	73	IAmb_Lg		05 14 14.1	
HNDO	Hondo comp=Z,42nm,0.7s	6.38	196	IAmb_Lg		05 14 10.4	
DRIO	Del Rio comp=Z,33nm,0.7s	6.86	205	IAmb_Lg		05 14 35.8	
SDCO	Great Sand Dun baz=105,SNR=20	6.89	290	P	Pn	05 12 30.4	+0.7
SCIA	State Center comp=Z,52nm,0.7s	6.97	26	IAmb_Lg		05 14 32.1	
PECS	Pecos comp=Z,32nm,1.1s	6.97	234	IAmb_Lg		05 14 32.4	
SAND	Sanderson comp=Z,29nm,0.8s	7.02	217	IAmb_Lg		05 14 50.3	
Q24A	Divide comp=Z,31nm,0.7s	7.05	300	IAmb_Lg		05 14 38.7	
K30B	Basset comp=Z,41nm,0.7s	7.19	346	IAmb_Lg		05 14 47.2	
BRIGG	Briggsdale comp=Z,34nm,0.8s	7.37	314	IAmb_Lg		05 14 54.6	
146A	Union comp=Z,31nm,1.2s	7.49	112	IAmb_Lg		05 15 01.2	
ALPN	Alpine comp=Z,33nm,1.1s	7.51	227	IAmb_Lg		05 15 06.7	
ANMO	Albuquerque comp=Z,6.0nm,0.8s	7.52	267	IAmb_Lg		05 15 04.1	
833A	Chaparral WMA, comp=Z,28nm,1.1s	7.56	194	IAmb_Lg		05 14 59.4	
ISCO	Idaho Springs baz=120,SNR=13	7.75	304	P	Pn	05 12 41.5	0.0
L40A	Anamosa comp=Z,36nm,0.8s	7.93	35	IAmb_Lg		05 14 59.4	
USIN	University of comp=Z,47nm,0.9s	8.05	71	IAmb_Lg		05 15 11.3	
Y22D	IRIS PASSCAL I comp=Z,47nm,0.8s	8.07	261	IAmb_Lg		05 15 22.9	
VHRN	Van Horn comp=Z,28nm,1.1s	8.09	235	IAmb_Lg		05 15 08.4	
PHWY	Pilot Hill comp=Z,20nm,0.9s	8.49	314	IAmb_Lg		05 15 33.6	
N23A	Red Feather La comp=Z,40nm,0.9s	8.54	310	IAmb_Lg		05 15 28.8	
SUSD	Miller comp=Z,22nm,0.8s	8.82	352	IAmb_Lg		05 15 40.9	
I37A	Lemond, Waseca comp=Z,26nm,1.0s	8.83	19	IAmb_Lg		05 15 51.4	
JFWS	Jewell Farm comp=Z,32nm,0.8s	9.04	35	IAmb_Lg		05 15 37.0	
I40A	Norwalk comp=Z,29nm,0.9s	9.66	30	IAmb_Lg		05 16 00.3	
RWWY	Rawlins comp=Z,19nm,0.9s	9.78	311	IAmb_Lg		05 16 16.3	
K43A	Burlington comp=Z,36nm,0.7s	9.87	42	IAmb_Lg		05 16 17.8	
K22A	Casper comp=Z,23nm,0.9s	9.96	317	IAmb_Lg		05 16 23.3	

*KRSC **01** 05:11:14.2±1.0,54.˚73N×160.˚62E,h126km±13km,Ml3.5*
*IDC **01** 05:11:15.0±3.8,55.˚45N×158.˚62E,h135km±27km,mb3.2/5,*
mbtmp3.6/6,Error ellipse: s-maj=100.9km s-min=25.6km az=121.0

ISC 01 05:11:16.6±0.8,54.˚72N±0.˚04×160.˚60E±0.˚06,h117km±7km, n43,σ1§09/67,mb3.6/5,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMD	Tumrok D	0.50	346	eP	Pn	05 11 33.2	-1.0
TUMD				eS	Sn	05 11 46.9	-0.6
TUMR	Tumrok	0.62	335	eP	Pn	05 11 34.8	-0.3
TUMR				eS	Sn	05 11 49.0	-0.2
KII	Karymskiy	0.96	225	eP	Pn	05 11 37.8	-0.3
KII				eS	Sn	05 11 55.4	+1.2
KMNR	Kamenistaya	1.06	349	eP	Pn	05 11 38.8	-0.2
KMNR				eS	Sn	05 11 56.9	+0.9
BZP	Bezymyannyi-Pe	1.19	358	eP	Pn	05 11 40.2	-0.4
BZMR	Bezymyannaya	1.22	357	eP	Pn	05 11 40.5	-0.3
BZMR				eS	Sn	05 12 00.1	+1.0
BZGR	Bezymyannyi-Gr	1.22	2	eP	Pn	05 11 40.4	-0.4
KIRR	Kirishev	1.24	353	eP	Pn	05 11 40.5	-0.5
KIRR				eS	Sn	05 11 59.9	+0.3
BZWR	Bezymyannyi-We	1.25	357	eP	Pn	05 11 40.8	-0.3
KPT	Kopyto	1.27	350	eP	Pn	05 11 40.5	-0.8
LGNR	Loginova	1.37	2	eP	Pn	05 11 42.7	+0.1
KOZ	Kozyrevsk	1.40	343	eP	Pn	05 11 41.9	-0.8
KOZ				eS	Sn	05 12 00.5	-2.0
KRSR	Krestovskiy	1.50	359	eP	Pn	05 11 43.3	-0.6
KRSR				eS	Sn	05 12 03.4	-1.2
ESO	Esso	1.62	319	eP	Pn	05 11 43.8	-1.4
SPN	Mys Shipunski	1.66	192	eP	Pn	05 11 44.7	-1.0
SPN				eS	Sn	05 12 06.5	-1.3
SRDR	Sredinnyy	1.68	343	eP	Pn	05 11 45.0	-1.0
NLC	Nalytchevo	1.72	206	eP	Pn	05 11 46.2	-0.3
NLC				eS	Sn	05 12 08.7	-0.4
SDLR	Sedlovina	1.77	216	eP	Pn	05 11 47.8	+0.7
KRX	Arik	1.79	221	eP	Pn	05 11 47.5	+0.1
KRER	Koryakskii	1.79	218	eP	Pn	05 11 47.7	+0.2
KRER				eS	Sn	05 12 13.2	+2.1
SMAR	Somma	1.81	217	eP	Pn	05 11 47.7	-0.1
SMAR				eS	Sn	05 12 12.8	+1.4
AVH	Avacha	1.83	218	eP	Pn	05 11 47.9	+0.1
AVH				eS	Sn	05 12 13.7	+2.1
KOK	Koryaka	1.84	220	eP	Pn	05 11 48.5	+0.5
UGLR	Uglovaya	1.84	215	eP	Pn	05 11 48.4	+0.3
UGLR				eS	Sn	05 12 12.2	+0.1
GNL	Ganaly	1.87	238	eP	Pn	05 11 47.8	-0.6
GNL				eS	Sn	05 12 12.8	+0.2
SRKR	Sorokina	1.96	9	eS	Sn	05 12 16.1	+1.5
DALK	Dalny	2.02	214	eP	Pn	05 11 49.9	-0.1
DALK				eS	Sn	05 12 16.1	+0.4
PET	Petropavlovsk	2.06	215	eP	Pn	05 11 50.9	+0.3
PET				eS	Sn	05 12 16.0	-0.6
PETK	Petropavlovsk- 34nm,1.1s,baz=61,slow=16,SNR=42	2.36	228	P	Pn	05 11 52.9	-1.5
PETK	7.5nm,0.6s,baz=68,slow=24,SNR=3.6			S	Sn	05 12 25.6	+2.2
KRMR	Karymshinskiy	2.40	219	eP	Pn	05 11 54.9	0.0
KRMR				eS	Sn	05 12 24.2	-0.1
RUS	Russkaya	2.61	209	eP	Pn	05 11 56.7	-1.0
RUS				eS	Sn	05 12 27.1	-2.1
GRL	Gorelyy	2.64	216	eP	Pn	05 11 58.4	+0.2
MTVR	Mutnovka	2.67	214	eP	Pn	05 11 58.0	-0.6
MTVR				eS	Sn	05 12 30.7	-0.1
APC	Apacha	2.72	230	eP	Pn	05 11 59.0	-0.1
ASAK	Asacha	2.84	216	eP	Pn	05 12 00.4	-0.4
ASAK				eS	Sn	05 12 33.3	-1.5
BKI	Bering	3.13	79	eP	Pn	05 12 04.7	+0.2
BKI				eS	Sn	05 12 39.8	-1.6
KDTR	Khodutka, Kamc	3.29	208	eP	Pn	05 12 06.0	-0.6
KDTR				eS	Sn	05 12 41.6	-3.5
ILAR	Eielson Array 0.5nm,0.8s,baz=252,slow=6.0,SNR=9.5 0.5nm,0.8s	27.47	47	P	P	05 16 50.9	-0.5
YKA	Yellowknife Ar 0.4nm,0.7s,baz=302,slow=8.4,SNR=5.1 0.4nm,0.7s	41.77	44	P	P	05 18 53.5	-0.3
NVAR	Mina Array Bea 0.7nm,0.7s,baz=298,slow=5.2,SNR=5.9 0.7nm,0.7s	54.92	71	P	P	05 20 37.5	+2.3
PDAR	Pinedale Array 0.4nm,0.6s,baz=324,slow=2.7,SNR=3.9 0.4nm,0.6s	56.48	62	P	P	05 20 47.4	+1.0
TXAR	Lajitas Array 0.8nm,0.6s,baz=297,slow=4.3,SNR=11 0.8nm,0.6s	69.73	68	P	P	05 22 14.8	+0.9
QSPA	South Pole Qui 0.7nm,0.7s,baz=62,slow=1.1,SNR=7.2	144.47	180	PKPbc	PKPab	05 30 34.1	-2.2

*IDC **01** 05:14:24.6±0.8,0.˚38S×120.˚29E,h0km,mb4.0/13,*
mbtmp4.0/13,MS3.5/13,Error ellipse: s-maj=36.9km s-min=15.5km az=65.0
*DJA **01** 05:14:26.7±0.3,0.˚5S±2.˚×12.˚0E±.˚,h10km,M4.7/12,mB5.5/4,*
mb4.6/7,MLv4.7/12,Mw(mB)5.0/4
*NEIC **01** 05:14:27.3±1.5,0.˚30S±0.˚05×119.˚93E±0.˚05,h10km±1km,*
mb4.4/24,Error ellipse: s-maj=9.8km s-min=6.8km az=133.0

ISC 01 05:14:26.6±0.4,0.˚35S±0.˚04×120.˚05E±0.˚05,h10km,n73, σ1§42/67,mb4.3/28,MS3.4/12,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	Mapaga	0.70	347	P	Pg	05 14 38.8	-1.5
MPSI				S	Sg	05 14 48.6	-0.9
TOLI2	Tolitoli	1.63	27	Pn	Pb	05 14 56.1	-0.7
TOLI2				Sn	Sg	05 15 18.2	-0.8
MRSI	Marisa	2.06	66	P	Pn	05 15 00.8	-0.5
TTSI	Tana Toraja	2.69	185	P	Pb	05 15 12.7	-2.1
LUWI	Luwuk	2.80	104	Pn	Pb	05 15 14.8	-2.1
LUWI	Luwuk	2.80	104	P	Pb	05 15 15.2	-1.6
GTOI	Gorontalo	3.12	72	P	Pn	05 15 16.3	+0.4
BKB	Balikpapan	3.28	254	Pn	Pn	05 15 16.8	-1.4
BKB	Balikpapan	3.28	254	P	Pn	05 15 16.3	-1.9
KMSI	Cibinong	4.03	77	P	Pn	05 15 31.7	+3.2
KAPI	Kapping	4.64	184	Pn	Pn	05 15 39.0	+2.2
BKSI	Bulukumba 134nm,0.7s,1μm0.5nm	4.94	179	P	Pn	05 15 43.6	+2.7
BBSI	Bau Bau 81nm,0.9s,1μm0.3nm	5.69	154	P	Pn	05 15 54.2	+3.0
SANI	Sanana 39nm,0.7s,8μm1.2nm	6.17	106	P	Pn	05 15 58.4	+0.5
KKM	Kota Kinabalu	7.42	329	Pn	Pn	05 16 14.2	-1.0
SBUM	Sibu	8.31	290	Pn	Pn	05 16 26.4	-1.0
EDFI	Ende, Flores 3.9nm,0.5s	8.50	169	P	Pn	05 16 30.3	+0.3
PLAI	Plampang	8.72	195	P	Pn	05 16 31.8	-1.1
DAV	Davao City (W) comp=Z,334nm,18.9s,baz=319,slow=42	9.21	37	LR	LR	05 20 45.3	
JAGI	Jajag, Banyuwa	9.98	216		Pn	05 16 50.8	+0.5
SOEI	Soe	10.24	156	Pn	Pn	05 16 55.3	+1.4
FAKI	Fak Fak	12.45	102	Pn	Pn	05 17 24.8	+0.6
KNRA	Kununurra	17.49	151	P	P	05 18 33.6	+1.6
KNRA	comp=Z,28nm,1.3s			IAmb	IAmb	05 18 56.1	
FITZ	Fitzroy Crossi	18.47	163	P	Pn	05 18 43.9	+1.0
PSA00	Pilbara Seismi	21.09	181	P	P	05 19 11.9	+0.5
PSA00	comp=Z,24nm,1.5s			IAmb	IAmb	05 19 33.5	
WB0	Warramunga Arr	23.87	145	P	P	05 19 40.4	-0.1
WB0	comp=Z,8.4nm,1.1s			IAmb	IAmb	05 19 51.0	
WRA	Warramunga Arr comp=Z,1.7nm,0.8s,baz=324,slow=10,SNR=8.3 comp=Z,1.7nm,0.8s	23.97	145	P	P	05 19 38.1	-3.4
WB2	Warramunga Arr	23.98	145	P	P	05 19 41.7	+0.2
WB2	comp=Z,6.4nm,0.8s			IAmb	IAmb	05 19 46.9	
WR0	Warramunga Arr	24.10	145	P	P	05 19 42.5	-0.2
WR0	comp=Z,10.0nm,1.1s			IAmb	IAmb	05 19 53.5	
ASAR	Alice Springs comp=Z,0.5nm,0.6s,baz=321,slow=7.9,SNR=7.7	26.79	151	P	P	05 20 07.1	-0.1
ASAR	comp=Z,135nm,19.6s,baz=340,slow=39 comp=Z,0.5nm,0.6s			LR	LR	05 31 52.3	
CMAR	Chiang Mai Arr comp=Z,1.0nm,0.6s,baz=140,slow=7.6,SNR=6.8	27.93	313	P	P	05 20 20.6	+3.2
CMAR	comp=Z,82nm,18.1s,baz=140,slow=42 comp=Z,1.0nm,0.6s			LR	LR	05 34 16.2	
PMG	Port Moresby	28.44	109	P	P	05 20 22.3	+0.4
MORW	Morawa	28.81	187	P	P	05 20 24.8	-0.3
MORW	comp=Z,11nm,1.2s			IAmb	IAmb	05 20 52.9	
PZH	PanZhiHua	32.01	328	P	P	05 20 57.2	+3.7
PZH	comp=Z,10.0nm,0.7s			pmax	pmax		
PZH	comp=Z,120nm,4.2s			pmax	pmax		
CTA	Charters Tower comp=Z,68nm,19.6s,baz=262,slow=40	32.28	129	LR	LR	05 35 32.8	
NWAO	Narrogin (SRO) comp=Z,64nm,20.0s,baz=70,slow=36	32.51	184	LR	LR	05 33 49.1	
JNU	Nakatsue comp=Z,30nm,18.4s,baz=0.0,slow=39	34.82	16	LR	LR	05 36 56.1	
STKA	Stephens Creek	37.39	149	P	P	05 21 40.2	+0.3
STKA	Stephens Creek comp=Z,1.6nm,0.7s,baz=330,slow=10,SNR=2.3	37.39	149	P	P	05 21 37.7	-2.1
STKA	comp=Z,58nm,21.3s,baz=12,slow=37 comp=Z,1.6nm,0.7s			LR	LR	05 37 29.0	
KSRS	Korea Array comp=Z,1.9nm,0.7s,baz=191,slow=5.7,SNR=2.9	38.32	10	P	P	05 21 47.6	0.0
KSRS	comp=Z,29nm,19.3s,baz=45,slow=39 comp=Z,1.9nm,0.7s			LR	LR	05 39 17.1	
PALK	Pallekele comp=Z,60nm,19.4s,baz=215,slow=38	39.97	282	LR	LR	05 39 38.7	
BJT	Baijiatuan	40.34	355	P	P	05 22 05.2	+0.7
BJT	comp=Z,6.5nm,0.8s			IAmb	IAmb	05 22 08.1	
MJAR	Matsushiro Arr comp=Z,8.3nm,1.1s,baz=190,slow=9.1,SNR=5.3 comp=Z,8.3nm,1.1s	40.40	23	P	P	05 22 03.9	-1.2
HHC	Hu-ho-hao-te	41.73	350	eP	P	05 22 17.4	+1.3
HHC				pP	sP	05 22 29.6	+9.2
HHC	comp=Z,9.0nm,0.6s			pmax	pmax		
HHC	comp=Z,160nm,4.9s			pmax	pmax		
GTA	Gaotai	43.70	337	eP	P	05 22 33.6	+1.5
GTA				pP	sP	05 22 37.3	+0.9
GTA	comp=Z,4.0nm,1.1s			pmax	pmax		
USA0B	Ussuriysk Arra	45.62	12	P	P	05 22 47.7	+0.5
USRK	Ussuriysk Ar. comp=Z,8.3nm,0.8s,baz=190,slow=7.3,SNR=13 comp=Z,8.3nm,0.8s	45.62	12	P	P	05 22 47.2	0.0
ASAJ	Asahikawa comp=Z,39nm,20.8s,baz=352,slow=35	48.63	22	LR	LR	05 42 57.0	
ULN	Ulaanbaatar comp=Z,3.2nm,0.7s	49.34	348	P	P	05 23 15.4	-0.9
ULN				IAmb	IAmb	05 23 21.5	
SONM	Songino Array	49.45	348	P	P	05 23 16.9	-0.2
SONM	Songino Array comp=Z,1.1nm,0.6s,baz=170,slow=7.7,SNR=7.4 comp=Z,1.1nm,0.6s	49.45	348	P	P	05 23 17.6	+0.6
KLR	Kul'dur comp=Z,2.5nm,0.7s,baz=196,slow=6.1,SNR=7.1 comp=Z,2.5nm,0.7s	50.41	10	P	P	05 23 23.4	-0.8
HEH	HeiHe	50.81	6	eP	P	05 23 27.4	+0.2
HEH	comp=Z,20nm,1.0s			pmax	pmax		
HEH	comp=Z,250nm,4.5s			pmax	pmax		
WMQ	Urumqi	52.61	331	eP	P	05 23 43.8	+2.9
MK31	Makanchi Array	57.41	330	P	P	05 24 15.3	-0.2
MKAR	Makanchi Array comp=Z,1.5nm,0.7s,baz=132,slow=8.3,SNR=9.6	57.41	330	P	P	05 24 15.8	+0.3
MKAR	comp=Z,59nm,19.6s,baz=338,slow=38 comp=Z,1.5nm,0.7s			LR	LR	05 50 40.2	
MAKZ	Makanchi	57.57	330	P	P	05 24 16.3	-0.3
BOOM	Boomskoye usch	58.20	323	P	P	05 24 20.4	-1.0
BOOM				IAmb	IAmb	05 24 37.2	
ZALV	Zalesovo Beam comp=Z,4.2nm,1.4s	61.45	337	P	P	05 24 42.5	-0.8
KURBB	Kurchatov Arra comp=Z,0.7nm,0.4s,baz=140,slow=4.6,SNR=4.1 comp=Z,0.7nm,0.4s	61.83	331	P	P	05 24 45.6	-0.2
KURK	Kurchatov comp=Z,1.3nm,0.8s,baz=139,slow=6.4,SNR=8.0 comp=Z,1.3nm,0.8s	61.84	332	P	P	05 24 45.1	-0.9
KURK				IAmb	IAmb	05 24 49.9	
KKAR	Akbulak array comp=Z,3.8nm,0.9s	71.22	323	P	P	05 25 45.9	-0.1
SDPT	Sand Point	84.30	34	P	P	05 26 56.6	-2.1
M14K	Bethel	84.44	29	P	P	05 26 59.0	-0.3
C16K	Lisburne Hills	84.65	21	P	P	05 26 59.9	-0.4
C18K	Utukok River comp=Z,3.8nm,1.2s	86.23	21	P	P	05 27 07.8	-0.4
C18K				IAmb	IAmb	05 27 13.6	
C19K	Lookout Ridge comp=Z,4.9nm,1.4s	86.88	21	P	P	05 27 11.7	+0.3
C19K				IAmb	IAmb	05 27 28.2	
D19K	Kuna River comp=Z,62nm,18.2s,baz=214,slow=34	87.32	21	P	P	05 27 13.7	+0.2
MBAR	Mbarara	89.31	269	LR	LR	06 05 46.1	
QSPA	South Pole Qui	89.58	180	P	P	05 27 23.9	-0.4

WEL 01 05:15:27.8±0.8,34.˚S±13.˚×17.˚9W±2.˚3,h200km,M3.9/19, mB4.5/15,ML4.6/24,MLv4.4/19,Mw(mB)3.7/15,Error ellipse: s-maj=0.0km s-min=0.0km az=118.4,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	4.41	7	P	Pn	05 16 11.8	-23
GLKZ				S	Sn	05 16 52.3	-35
MXZ	Matakaoa Point	4.67	212	P	Pn	05 16 36.8	-1.1
MXZ				S	Sn	05 17 32.9	-0.4
WMGZ	Waiomatatini S	4.84	210	P	Pn	05 16 40.5	+0.5
WMGZ				S	Sn	05 17 36.8	-0.4
PKGZ	Pakihiroa	5.04	212	P	Pn	05 16 44.7	+2.0
PKGZ				S	Sn	05 17 41.1	-0.8
HAZ	Te Kaha	5.07	215	P	Pn	05 16 41.6	-1.4
HAZ				S	Sn	05 17 42.0	-0.4
PUZ	Puketiti	5.12	210	P	Pn	05 16 46.3	+2.6
PUZ				S	Sn	05 17 43.6	0.0
RUGZ	Raukumara Rang	5.29	214	P	Pn	05 16 44.7	-1.3
RUGZ				S	Sn	05 17 48.9	+1.2
TWGZ	Tauwhareparae	5.32	211	P	Pn	05 16 46.6	+0.3
TWGZ				S	Sn	05 17 48.4	0.0
CNGZ	Carnagh Statio	5.49	208	P	Pn	05 16 48.5	+0.1
CNGZ				S	Sn	05 17 47.8	-4.4
TKGZ	Te Karaka	5.60	210	P	Pn	05 16 51.8	+2.0
TKGZ				S	Sn	05 17 54.2	-0.5
MWZ	Matawai	5.66	213	P	Pn	05 16 49.7	-0.9
MWZ				S	Sn	05 17 55.2	-0.8
URZ	Urewera	5.79	216	P	Pn	05 16 50.4	-1.9
RAGZ	Rawiri	5.84	213	P	Pn	05 16 55.0	+2.0
RAGZ				S	Sn	05 18 00.5	+0.2
RIGZ	Rimuhau	5.86	210	P	Pn	05 16 55.2	+2.0
RIGZ				S	Sn	05 18 01.6	+0.7
MUGZ	Murupara	6.13	217	P	Pn	05 16 57.1	+0.4
WHHZ	Waihua	6.40	211	P	Pn	05 17 01.3	+1.2
WHHZ				S	Sn	05 18 17.5	+4.2
ALRZ	Allen Road	6.41	219	P	Pn	05 17 00.5	+0.1
NMHZ	Naumai	6.60	213	P	Pn	05 17 03.6	+0.7
NMHZ				S	Sn	05 18 18.5	+0.3
TLZ	Tolley Road	6.69	224	P	Pn	05 17 04.4	+0.4
MCHZ	McNeill Hill	6.93	212	P	Pn	05 17 07.3	+0.2
MCHZ				S	Sn	05 18 29.1	+3.2
RITZ	Rihia Road	6.98	219	P	Pn	05 17 07.8	+0.2
KWHZ	Kaweka Forest	7.04	214	P	Pn	05 17 06.3	-2.2
KAHZ	Kahuranaki	7.15	210	P	Pn	05 17 09.7	-0.2
TMVZ	Te Maari	7.16	219	P	Pn	05 17 09.7	-0.4
NTVZ	North Tongarir	7.16	219	P	Pn	05 17 09.8	-0.3
ETVZ	East Tongariro	7.17	219	P	Pn	05 17 09.6	-0.6
OTVZ	Oturere	7.21	219	P	Pn	05 17 09.9	-1.0
NNVZ	North Ngauruho	7.22	219	P	Pn	05 17 11.1	+0.1
KRHZ	Kereru	7.24	213	P	Pn	05 17 10.0	-1.2
KRHZ				S	Sn	05 18 34.4	+1.2
SNVZ	South Ngauruho	7.24	219	P	Pn	05 17 10.9	-0.4
NGZ	Ngauruhoe	7.26	219	P	Pn	05 17 11.0	-0.4
BHHZ	Black Hill Sta	7.26	215	P	Pn	05 17 10.6	-0.8
BHHZ				S	Sn	05 18 35.5	+1.7
FWVZ	Far West T-bar	7.34	219	P	Pn	05 17 11.8	-0.8
PXZ	Pawanui	7.35	209	P	Pn	05 17 12.5	0.0
WNVZ	Wahianoa	7.37	218	P	Pn	05 17 12.0	-1.0
TRVZ	Turoa	7.38	219	P	Pn	05 17 11.9	-1.2
PNHZ	Pukenui	7.54	213	P	Pn	05 17 13.5	-1.5
PRHZ	Porangahau	7.65	209	P	Pn	05 17 15.9	-0.5
VRZ	Vera Road	7.68	223	P	Pn	05 17 17.9	+1.1
DVHZ	Dannevirke	7.87	211	P	Pn	05 17 17.9	-1.4
BFZ	Birch Farm	8.15	209	P	Pn	05 17 21.3	-1.7
BFZ				S	Sn	05 18 53.5	-1.3
NEZ	North Egmont	8.16	225	P	Pn	05 17 23.8	+0.6
PRWZ	Pori Road	8.16	211	P	Pn	05 17 22.5	-0.6
PRWZ				S	Sn	05 18 54.5	-0.5
PKE	Pukeiti	8.18	225	P	Pn	05 17 23.9	+0.6
MRZ	Mangatainoka R	8.42	212	P	Pn	05 17 23.8	-2.6
HOWZ	Holdsworth Sta	8.64	212	P	Pn	05 17 27.1	-2.2
TMWZ	Te Maipa	8.66	209	P	Pn	05 17 28.2	-1.3
OGWZ	Otaki Gorge	8.73	213	P	Pn	05 17 28.2	-2.3
MTW	Mount Morrison	8.86	211	P	Pn	05 17 30.1	-2.1
KIW	Kapiti Island	8.89	214	P	Pn	05 17 30.0	-2.5
CAW	Cannon Point	9.01	213	P	Pn	05 17 31.5	-2.6
PLWZ	Palliser	9.31	210	P	Pn	05 17 35.4	-2.6
DUWZ	D'Urville Isla	9.33	218	P	Pn	05 17 34.8	-3.4
BHW	Baring Head	9.34	212	P	Pn	05 17 35.6	-2.8
TCW	Tory Channel	9.46	215	P	Pn	05 17 37.0	-2.9
TUWZ	Tuamarina	9.79	215	P	Pn	05 17 40.6	-3.6
NNZ	Nelson	9.91	218	P	Pn	05 17 42.3	-3.5
BSWZ	Blackbirch Sta	10.04	215	P	Pn	05 17 44.7	-2.8
MRNZ	Matariki Terra	10.37	219	P	Pn	05 17 47.4	-4.2
THZ	Tophouse	10.55	217	P	Pn	05 17 51.0	-3.1
KHZ	Kahutara	10.74	213	P	Pn	05 17 53.3	-3.2
GVZ	Greta Valley S	11.41	213	P	Pn	05 18 02.2	-2.9
LTZ	Lake Taylor	11.62	216	P	Pn	05 18 04.2	-3.6
INZ	Inchbonnie	12.00	218	P	Pn	05 18 09.1	-3.4
OXZ	Oxford	12.15	215	P	Pn	05 18 12.0	-2.4
MHCZ	Mount Hutt	12.53	215	P	Pn	05 18 16.2	-3.0

DJA 01 05:26:47.3±0.3,0.˚5S±2.˚×12.˚0E±.˚,h10km,M4.0/8,MLv4.0/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	Mapaga	0.60	360	P	Pg	05 26 59.3	+0.3
MPSI				S	Sg	05 27 07.6	+0.6
MRSI	Marisa	2.17	70	P	Pn	05 27 22.7	-0.8
MRSI				S	Sb	05 27 52.4	-1.3
TTSI	Tana Toraja	2.76	182	P	Pn	05 27 32.6	+1.0
LUWI	Luwuk	2.97	105	P	Pn	05 27 34.1	-0.5
LUWI				S	Sn	05 28 09.9	-0.4
GTOI	Gorontalo	3.24	74	P	Pn	05 27 36.4	-1.8
GTOI				S	Sn	05 28 15.3	-1.6
BKSI	Bulukumba	5.02	177	P	Pn	05 28 00.3	-2.5

IDC 01 05:29:16.8±3.1,54.˚38N×86.˚79E,h0km,mbtmp2.8/2, ML2.3/2,Error ellipse: s-maj=24.6km s-min=16.0km az=59.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA baz=72,slow=346,SNR=4.8	1.23	250	I	I	05 37 34.7	
ZALV	Zalesovo Beam 0.6nm,0.3s,baz=72,slow=17,SNR=6.1	1.23	250	Pg	Pg	05 29 39.1	-1.3
ZALV	0.5nm,0.3s,baz=72,slow=28,SNR=4.1			Lg	Lg	05 29 56.2	
KURBB	Kurchatov Arra baz=54,slow=14,SNR=5.0	6.29	237	Pn	Pn	05 30 50.9	+0.2
KURBB	0.1nm,0.3s,baz=30,slow=26,SNR=1.4			Sn	Sn	05 32 02.9	-0.2
KURBB	0.1nm,0.3s,baz=52,slow=28,SNR=1.9 0.4nm,0.3s			Lg	Lg	05 32 37.4	
MKAR	Makanchi Array 0.1nm,0.3s,baz=24,slow=13,SNR=4.2	8.11	202	Pn	Pn	05 31 17.2	+1.4
MKAR	0.1nm,0.3s,baz=18,slow=29,SNR=3.3			Sn	Sn	05 32 48.9	+0.8
MKAR	baz=23,slow=27,SNR=1.9 0.1nm,0.3s			Lg	Lg	05 33 36.2	

**IDC 01 05:30:01.8±4.7,5.˚83S×143.˚41E,h0km,mb3.7/1, mbtmp3.3/3,ML3.2/2,Error

MPSI	**Mapaga**	**0.60**	**7**	P	Pb	05 30 40.3	-0.2
MPSI				S	Sb	05 30 50.0	+1.3
MRSI	**Marisa**	**2.23**	**71**	P	Pn	05 31 03.2	-1.6
TTSI	**Tana Toraja**	**2.77**	**180**	P	Pn	05 31 14.3	+2.2
TTSI				S	Sb	05 31 53.1	+1.9
LUWI	**Luwuk**	**3.04**	**105**	P	Pn	05 31 16.7	+0.8
BKB	**Balikpapan**	**3.10**	**251**	P	Pn	05 31 15.0	-1.7
GTOI	**Gorontalo**	**3.30**	**74**	P	Pn	05 31 18.2	-1.3
KMSI	**Cibinong**	**4.23**	**79**	P	Pn	05 31 31.8	-0.5
BKSI	**Bulukumba** 33nm,0.7s,0.1nm	**5.04**	**177**	P	Pn	05 31 44.4	+1.0
SANI	**Sanana**	**6.41**	**106**	P	Pn	05 32 00.4	-1.8

*IDC **01** 05:36:19.1±5.1,33°.85N×134°.03E, h0km, mb3.5/2, mbtmp3.5/4, ML3.1/2, Error ellipse: s-maj=98.3km s-min=30.1km az=161.0*
*JMA **01** 05:36:24.7±0.4,33°.N±3°×13°8E±°, h334km, MV3.6/23, FAR S OFF TOKAI DISTRICT*
ISC 01 05:36:27.1±1.9,33°.3N±0°.2×138°.6E±0°.1, h350km, n12, σ0s88/18, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**1.99**	**11**	*eP*	**Pn**	**05 37 18.0**	**-0.3**
JOD2				*eS*	**S**	**05 38 00.7**	**+1.3**
BSO3	**Boso 3**	**2.16**	**46**	*eS*	**S**	**05 38 01.4**	**+0.4**
BSO4	**Boso 4**	**2.20**	**40**	*eP*	**Pn**	**05 37 19.6**	**0.0**
BSO4				*eS*	**S**	**05 38 02.5**	**+0.6**
BSO1	**Boso 1**	**2.37**	**55**	*eP*	**Pn**	**05 37 19.9**	**-0.6**
BSO1				*eS*	**S**	**05 38 03.4**	**0.0**
JRY	**Ryogami san**	**2.72**	**5**	P	**Pn**	**05 37 24.4**	**+0.5**
JRY				*eS*	**S**	**05 38 10.6**	**+1.0**
JAG	**Ashikaga**	**3.19**	**12**	P	**Pn**	**05 37 27.9**	**-0.2**
JAG				*eS*	**S**	**05 38 15.8**	**-1.3**
MJAR	**Matsushiro Arr** 0.3nm,0.3s,baz=225,slow=5.0,SNR=12	**3.25**	**354**	Pn	**Pn**	**05 37 26.7**	**-2.0**
MJAR	0.1nm,0.3s,baz=244,slow=30,SNR=1.9 1.6nm,0.3s			Sn	**S**	**05 38 19.6**	**+1.3**
MAT	**Matsushiro**	**3.25**	**354**	P	**Pn**	**05 37 28.6**	**-0.1**
JHO	**Hitachi**	**3.66**	**25**	*eP*	**Pn**	**05 37 32.0**	**+0.2**
JHO				*eS*	**S**	**05 38 25.0**	**-0.5**
USRK	**Ussuriysk Ar.** 0.3nm,0.3s,baz=177,slow=10.0,SNR=7.6 2.5nm,0.9s	**12.05**	**336**	Pn	P	05 38 50.5	-19
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=85,slow=9.1,SNR=10 0.3nm,0.3s	**44.28**	**305**	P	**P**	**05 44 02.8**	**-0.4**
KURBB	**Kurchatov Arra** 0.3nm,0.4s,baz=78,slow=7.2,SNR=4.3 0.3nm,0.4s	**46.59**	**311**	P	**P**	**05 44 21.4**	**+0.4**

IDC 01 05:37:16.2±5.0,15°.12S×70°.37W, h137km±49km, mb3.6/4, mbtmp4.0/5, Error ellipse: s-maj=40.8km s-min=29.5km az=72.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde** 3.6nm,0.3s,baz=354,slow=8.2,SNR=13	**7.58**	**170**	P	Pn	05 39 04.3	0.0
LVC	14nm,0.4s,baz=332,slow=12,SNR=14			S	Sn	05 40 21.3	-7.7
PLCA	**Paso Flores** 0.8nm,0.5s,baz=359,slow=12,SNR=9.4 0.8nm,0.5s	**25.52**	**180**	P	P	05 42 32.1	0.0
ULM	**Lac du Bonnet** 1.6nm,0.5s,baz=151,slow=5.9,SNR=5.5 1.6nm,0.5s	**68.84**	**343**	P	P	05 48 05.6	-0.1
TORD	**Torodi Ar. Bea** 0.9nm,0.4s,baz=267,slow=5.2,SNR=24 0.9nm,0.4s	**76.64**	**72**	P	P	05 48 52.5	+0.1
YKA	**Yellowknife Ar** 0.3nm,0.5s,baz=132,slow=4.9,SNR=9.1 0.3nm,0.5s	**84.73**	**341**	P	P	05 49 34.6	+0.1

WEL 01 05:46:24.4±0.5,39°.S±2°.×17°.8E±°, h13km±3km, M3.5/19, ML3.9/19, MLv3.5/19, Error ellipse: s-maj=0.0km s-min=0.0km az=130.9, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNZ	**Kokohu**	**0.05**	**197**	P	Pg	05 46 26.0	-0.9
KNZ				S	Sg	05 46 28.4	-0.3
PRGZ	**Paritu Road**	**0.16**	**70**	P	Pg	05 46 28.4	+0.2
PRGZ				S	Sb	05 46 33.2	+0.7
MHGZ	**Mahia Peninsul**	**0.24**	**136**	P	Pb	05 46 30.6	-0.1
MHGZ				S	Sb	05 46 37.4	+2.4
RIGZ	**Rimuhau**	**0.28**	**12**	P	Pg	05 46 30.4	+0.2
RIGZ				S	Sb	05 46 36.2	+0.3
SNGZ	**Shannon Statio**	**0.34**	**305**	P	Pg	05 46 31.7	+0.5
SNGZ				S	Sb	05 46 38.1	+0.4
WHHZ	**Waihua**	**0.37**	**254**	P	Pb	05 46 32.4	-0.5
WHHZ				S	Sb	05 46 39.6	+1.0
RAHZ	**Arahi**	**0.48**	**277**	P	Pb	05 46 34.3	-0.4
RAHZ				S	Sb	05 46 42.4	+0.8
RAGZ	**Rawiri**	**0.53**	**336**	P	Pg	05 46 35.0	+0.2
RAGZ				S	Sb	05 46 43.8	+0.6
TKGZ	**Te Karaka**	**0.55**	**13**	P	Pb	05 46 35.9	-0.1
TKGZ				S	Sn	05 46 45.9	-1.1
ARHZ	**Aropaoanui**	**0.61**	**242**	P	Pb	05 46 37.2	+0.2
CNGZ	**Carnagh Statio**	**0.64**	**39**	P	Pn	05 46 38.4	-0.8
MWZ	**Matawai**	**0.66**	**349**	P	Pg	05 46 37.2	0.0
MWZ				S	Sb	05 46 47.2	+0.3
RTZ	**Ruatahuna**	**0.66**	**303**	P	Pg	05 46 37.4	0.0
RTZ				S	Sb	05 46 48.1	+1.0
MTHZ	**Maungataniwha**	**0.68**	**280**	P	Pg	05 46 37.6	0.0
MTHZ				S	Sb	05 46 48.4	+1.0
NMHZ	**Naumai**	**0.70**	**260**	P	Pb	05 46 38.6	0.0
NMHZ				S	Sn	05 46 50.3	-0.6
CKHZ	**Cape Kidnapper**	**0.83**	**215**	P	Pb	05 46 40.9	+0.1
TWGZ	**Tauwhareparae**	**0.83**	**16**	P	Pb	05 46 41.1	+0.3
URZ	**Urewera**	**0.85**	**327**	P	Pg	05 46 40.6	-0.3
MUGZ	**Murupara**	**0.88**	**305**	P	Pg	05 46 41.2	-0.2
MCHZ	**McNeill Hill**	**0.90**	**239**	P	Pn	05 46 42.4	-0.4
BKZ	**Black Stump Fm**	**0.95**	**258**	P	Pb	05 46 42.8	0.0
MRHZ	**Matea Rd**	**1.00**	**278**	P	Pb	05 46 43.5	-0.2
PUZ	**Puketiti**	**1.01**	**26**	P	Pb	05 46 42.9	-0.9
RUGZ	**Raukumara Rang**	**1.01**	**359**	P	Pb	05 46 43.2	-0.7
KAHZ	**Kahurakei**	**1.03**	**218**	P	Pb	05 46 43.6	-0.6
KWHZ	**Kaweka Forest**	**1.08**	**245**	P	Pb	05 46 44.6	-0.4
RRRZ	**Republican Roa**	**1.12**	**304**	P	Pg	05 46 46.2	+0.2
PRRZ	**Plateau Road**	**1.12**	**295**	P	Pn	05 46 45.8	-0.1
PKGZ	**Pakihiroa**	**1.13**	**16**	P	Pb	05 46 45.1	-0.7
ALRZ	**Allen Road**	**1.13**	**291**	P	Pg	05 46 46.2	-0.1
EDRZ	**Edgecumbe**	**1.15**	**319**	P	Pn	05 46 46.3	+0.1
TARZ	**Mount Tarawera**	**1.19**	**308**	P	Pg	05 46 48.1	+0.8
KRHZ	**Kereru**	**1.22**	**237**	P	Pn	05 46 46.2	-1.1
HAZ	**Te Kaha**	**1.22**	**3**	P	Pn	05 46 46.3	-0.9
THQ2	**Tauhara North**	**1.23**	**284**	P	Pg	05 46 49.1	+1.0
HRRZ	**Handcock Road**	**1.25**	**298**	P	Pb	05 46 48.0	+0.1
WHRZ	**Whale Island**	**1.25**	**333**	P	Pg	05 46 48.5	-0.1
MARZ	**Manawahe**	**1.27**	**321**	P	Pg	05 46 48.7	-0.2
HLRZ	**Highlands Stat**	**1.27**	**304**	P	Pg	05 46 49.6	+0.7
WPRZ	**Whakapapatarin**	**1.28**	**290**	P	Pg	05 46 49.0	0.0
WMGZ	**Waiomatatini S**	**1.29**	**26**	P	Pn	05 46 46.8	-1.4
HSRZ	**Hossack Road**	**1.31**	**300**	P	Pg	05 46 50.5	+0.8
OMRZ	**Omania**	**1.35**	**310**	P	Pg	05 46 52.1	+1.6
BHHZ	**Black Hill Sta**	**1.36**	**248**	P	Pn	05 46 48.5	-0.8
GRRZ	**Galatos Road**	**1.39**	**296**	P	Pg	05 46 52.2	+1.1
WHTZ	**Whakaora**	**1.39**	**282**	P	Pg	05 46 52.6	+1.5
RITZ	**Rihia Road**	**1.43**	**269**	P	Pg	05 46 51.8	-0.1
WPHZ	**Waipukurau**	**1.45**	**221**	P	Pn	05 46 48.9	-1.6
PNHZ	**Pukenui**	**1.48**	**231**	P	Pn	05 46 49.6	-1.3
MXZ	**Matakaoa Point**	**1.49**	**19**	P	Pn	05 46 49.9	-1.1
RATZ	**Rangitukua**	**1.50**	**274**	P	Pg	05 46 53.9	+0.6
WIZ	**White Island**	**1.50**	**345**	P	Pb	05 46 51.6	-0.5
PRHZ	**Porangahau**	**1.52**	**212**	P	Pn	05 46 49.2	-2.2
ETVZ	**East Tongariro**	**1.55**	**264**	P	Pn	05 46 52.4	+0.5
TMVZ	**Te Maari**	**1.55**	**264**	P	Pb	05 46 52.6	-0.6
KATZ	**Kakaramea**	**1.56**	**269**	P	Pg	05 46 53.8	-0.6
MOVZ	**Moawhango**	**1.57**	**254**	P	Pn	05 46 52.0	0.0
NTVZ	**North Tongarir**	**1.57**	**265**	P	Pn	05 46 52.1	-0.1
OTVZ	**Oturere**	**1.59**	**263**	P	Pn	05 46 52.3	-0.1
KRVZ	**Karewarewa**	**1.60**	**265**	P	Pn	05 46 53.2	+0.7
SNVZ	**South Ngauruho**	**1.61**	**262**	P	Pb	05 46 54.0	-0.2
TUVZ	**Tukino**	**1.61**	**259**	P	Pb	05 46 53.8	-0.4
NNVZ	**North Ngauruho**	**1.62**	**264**	P	Pb	05 46 53.7	-0.7
NGZ	**Ngauruhoe**	**1.64**	**262**	P	Pb	05 46 53.9	-0.7
WTVZ	**West Tongariro**	**1.64**	**265**	P	Pb	05 46 54.8	+0.1
WHVZ	**Whangaehu Hut**	**1.66**	**259**	P	Pb	05 46 54.7	-0.4
WNVZ	**Wahianoa**	**1.66**	**257**	P	Pn	05 46 53.1	-0.4
TGRZ	**Tauranga**	**1.68**	**318**	P	Pg	05 46 56.7	0.0
MAVZ	**Matarangi**	**1.68**	**259**	P	Pb	05 46 55.0	-0.4
FWVZ	**Far West T-bar**	**1.69**	**260**	P	Pb	05 46 55.2	-0.3
COVZ	**Chateau Observ**	**1.69**	**262**	P	Pb	05 46 55.0	-0.4
TRVZ	**Turoa**	**1.70**	**258**	P	Pn	05 46 53.8	-0.2
TSZ	**Takapari Road**	**1.72**	**231**	P	Pn	05 46 52.5	-1.7
DVHZ	**Dannevirke**	**1.77**	**221**	P	Pn	05 46 52.7	-2.1
MTVZ	**Mangateitei**	**1.77**	**256**	P	Pn	05 46 55.2	+0.3
TLZ	**Tolley Road**	**1.81**	**290**	P	Pg	05 46 58.7	-0.4
POWZ	**Post Office Ro**	**2.05**	**226**	P	Pn	05 46 57.3	-1.3
PRWZ	**Pori Road**	**2.06**	**220**	P	Pn	05 46 56.7	-2.1
WAZ	**Wanganui**	**2.24**	**249**	P	Pn	05 47 02.1	+0.9
HIZ	**Hauiti**	**2.27**	**281**	P	Pb	05 47 06.4	+1.2
VRZ	**Vera Road**	**2.29**	**265**	P	Pg	05 47 08.2	-0.1
MRZ	**Mangatainoka R**	**2.34**	**223**	P	Pn	05 47 00.5	-2.1
OGWZ	**Otaki Gorge**	**2.67**	**226**	P	Pn	05 47 04.8	-2.4
PREZ	**Palmer Road**	**2.77**	**261**	P	Pn	05 47 10.6	+2.0
NEZ	**North Egmont**	**2.81**	**263**	P	Pn	05 47 11.1	+1.9
PKE	**Pukeiti**	**2.89**	**265**	P	Pn	05 47 11.3	+1.0
CAW	**Cannon Point**	**2.93**	**223**	P	Pn	05 47 08.2	-2.5
CTZ	**Chatham Island**	**6.40**	**140**	P	Pn	05 47 57.0	-1.4
MLZ	**Mavora Lakes**	**9.55**	**225**	P	Pn	05 48 42.6	+1.0

*IDC **01** 05:49:19.8±1.6,2°.71N×125°.25E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=184.0km s-min=21.2km az=65.0*
*DJA **01** 05:49:36.8±0.3,2°.N±3°×12°.5E±°, h10km, M4.5/7, mb4.9/2, mB5.5/2, MLv4.3/7, Mw(mB)5.0/2*
ISC 01 05:49:34.7±1.0,2°.58N±0°.06×125°.30E±0°.09, h109km, n11, σ2s56/12, mb3.6/4, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.12**	**12**	P	**Pn**	**05 49 59.5**	**+2.3**
SGSI				S	**Sn**	**05 50 16.6**	**+2.5**
TNTI	**Ternate**	**2.74**	**131**	P	**Pn**	**05 50 19.6**	**+2.3**
GTOI	**Gorontalo**	**2.99**	**230**	P	**Pn**	**05 50 23.1**	**+2.5**
LBMI	**Labuha**	**3.89**	**145**	P	**Pn**	**05 50 34.2**	**+1.6**
LUWI	**Luwuk**	**4.40**	**215**	P	**Pn**	**05 50 42.0**	**+2.6**
SANI	**Sanana**	**4.65**	**171**	P	**Pn**	**05 50 44.9**	**+2.0**
NLAI	**Namlea** 50nm,0.8s,3μm0.5nm	**6.06**	**163**	P	**Pn**	**05 51 03.9**	**+2.0**
WRA	**Warramunga Arr** 1.0nm,0.7s,baz=337,slow=10,SNR=14 1.0nm,0.7s	**24.08**	**159**	P	**P**	**05 54 38.8**	**-1.4**
ASAR	**Alice Springs** 0.2nm,0.4s,baz=353,slow=16,SNR=2.0 0.2nm,0.4s	**27.41**	**163**	P	**P**	**05 55 08.4**	**-1.9**
MKAR	**Makanchi Array** 0.8nm,0.3s,baz=128,slow=7.7,SNR=28 0.8nm,0.3s	**57.69**	**326**	P	**P**	**05 59 11.5**	**-2.5**
KURBB	**Kurchatov Arra** 0.6nm,0.4s,baz=123,slow=7.0,SNR=11 0.6nm,0.4s	**61.94**	**328**	P	**P**	**05 59 40.2**	**-2.7**

DJA 01 05:54:46.6±0.5,0°.S±4°.×12°.0E±°, h11km±6km, M4.0/8, mb4.2/1, mB4.4/1, MLv4.0/8, Mw(mB)3.5/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.63**	**12**	P	Pg	05 54 58.8	0.0
MPSI				S	Sb	05 55 08.8	+0.4
MRSI	**Marisa**	**2.30**	**71**	P	Pn	05 55 24.5	+0.1
TTSI	**Tana Toraja**	**2.75**	**179**	P	Pn	05 55 31.0	+0.4
LUWI	**Luwuk**	**3.10**	**104**	P	Pn	05 55 36.0	+0.6
GTOI	**Gorontalo**	**3.37**	**74**	P	Pn	05 55 36.8	-2.4
BKSI	**Bulukumba**	**5.02**	**176**	P	Pn	05 56 02.5	+0.6

*KRSC **01** 06:00:48.6±2.2,48°.13N×154°.67E, h107km±39km, Ml4.7*
*MOS **01** 06:00:50.2±1.1,48°.18N×154°.47E, h77km, mb4.7/17, Error ellipse: s-maj=8.6km s-min=3.8km az=70.9*
*SKHL **01** 06:00:50.0±0.3,48°.00N×154°.80E, h81km±5km, mb5.2/11, ms4.5/3, msha6.0/6*
*IDC **01** 06:00:51.4±0.7,48°.33N×154°.12E, h64km±6km, mb4.0/24, mbtmp4.3/28, MS3.3/12, Error ellipse: s-maj=15.5km s-min=11.3km az=159.0*
*NEIC **01** 06:00:52.4±1.2,48°.2N±0°.1×154°.2E±0°.1, h70km±7km, mb4.6/60, Error ellipse: s-maj=19.1km s-min=4.6km az=147.0*
ISC 01 06:00:51.2±0.4,48°.17N±0°.05×154°.43E±0°.05, h70km, n269, σ1s52/286, mb4.5/83, 8C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.74**	**23**	*i*P	**Pn**	**06 01 34.2**	**+1.4**
SKR				*eS*	**Sn**	**06 02 03.5**	**-1.3**
SKR	comp=Z,277nm,0.4s			pmax	pmax		
SKR	comp=E,2μm,0.4s			smax	smax		
SKR	comp=N,2μm,0.5s			MLR	MLR		
SKR	comp=Z,4μm,13.0s			MLR	MLR		
SKR	comp=N,13μm,15.0s			MLR	MLR		
SKR	comp=E,5μm,15.0s			MLR	MLR		
SKR	**Severo-Kuril's**	**2.74**	**23**	*eP*	**Pn**	**06 01 33.6**	**+0.8**
SKR				*eS*	**Sn**	**06 02 03.7**	**-1.1**
SKR	**Severo-Kuril's**	**2.74**	**23**	*i* P	**Pn**	**06 01 32.8**	**0.0**
SKR	comp=E,280nm,0.4s			AMB	AMB	06 01 34.8	
SKR	comp=E,2μm,0.5s			*eS*	**Sn**	**06 02 04.1**	**-0.7**
SKR	comp=E,2μm,0.5s			A	A	06 02 14.4	
SKR	comp=E,2μm,0.5s			A	A	06 02 14.4	
SKR	comp=E,13μm,15.0s			AMS	AMS	06 02 36.9	
SKR	comp=E,5μm,15.0s			AMS	AMS	06 02 36.9	
PAU	**Pauzhetka**	**3.64**	**24**	PN	**Pn**	**06 01 45.7**	**+0.7**
PAU				S	**Sn**	**06 02 26.4**	**-0.3**
PAU	**Pauzhetka**	**3.64**	**24**	*eP*	**Pn**	**06 01 45.7**	**+0.7**
PAU				*eS*	**Sn**	**06 02 26.4**	**-0.3**
PAU	**Pauzhetka**	**3.64**	**24**	*eP*	**Pn**	**06 01 46.1**	**+1.1**
PAU	comp=E,100nm,0.9s			AMB	AMB	06 01 50.3	
PAU	comp=E,650nm,0.2s			*eS*	**Sn**	**06 02 27.2**	**+0.5**
PAU	comp=E,650nm,0.2s			A	A	06 02 29.8	
KDTR	**Khodutka, Kamc**	**4.33**	**32**	PN	**Pn**	**06 01 53.0**	**-1.5**
KDTR				S	**Sn**	**06 02 39.7**	**-3.9**
KDTR	**Khodutka, Kamc**	**4.33**	**32**	*eP*	**Pn**	**06 01 53.0**	**-1.5**
KDTR				*eS*	**Sn**	**06 02 39.7**	**-3.9**
ASAK	**Asacha**	**4.77**	**27**	PN	**Pn**	**06 02 00.4**	**-0.1**
ASAK				S	**Sn**	**06 02 54.1**	**-0.3**
ASAK	**Asacha**	**4.77**	**27**	*eP*	**Pn**	**06 02 00.4**	**-0.1**
ASAK				*eS*	**Sn**	**06 02 54.1**	**-0.3**
MTVR	**Mutnovka**	**4.94**	**28**	PN	**Pn**	**06 02 02.0**	**-0.9**
MTVR				S	**Sn**	**06 02 56.3**	**-2.4**
MTVR	**Mutnovka**	**4.94**	**28**	*eP*	**Pn**	**06 02 02.0**	**-0.9**
MTVR				*eS*	**Sn**	**06 02 56.3**	**-2.4**
GRL	**Gorelyy**	**4.96**	**27**	PN	**Pn**	**06 02 03.4**	**+0.2**
GRL				S	**Sn**	**06 02 58.9**	**-0.4**
GRL	**Gorelyy**	**4.96**	**27**	*eP*	**Pn**	**06 02 03.4**	**+0.2**
GRL				*eS*	**Sn**	**06 02 58.9**	**-0.4**
RUS	**Russkaya**	**5.00**	**30**	PN	**Pn**	**06 02 02.1**	**-1.5**
RUS				S	**Sn**	**06 02 55.7**	**-4.3**
RUS	**Russkaya**	**5.00**	**30**	*eP*	**Pn**	**06 02 02.1**	**-1.5**
RUS				*eS*	**Sn**	**06 02 55.7**	**-4.3**
RUS	**Russkaya**	**5.00**	**30**	*eP*	**Pn**	**06 02 02.1**	**-1.5**
APC	**Apacha**	**5.07**	**19**	PN	**Pn**	**06 02 06.2**	**+1.7**
APC	**Apacha**	**5.07**	**19**	*eP*	**Pn**	**06 02 06.2**	**+1.7**
KRMR	**Karymshinskiy**	**5.23**	**25**	PN	**Pn**	**06 02 07.8**	**+1.1**
KRMR				S	**Sn**	**06 03 06.4**	**+0.9**
KRMR	**Karymshinskiy**	**5.23**	**25**	*eP*	**Pn**	**06 02 07.8**	**+1.1**
KRMR				*eS*	**Sn**	**06 03 06.4**	**+0.9**
PEA0B	**Petropavlovsk-**	**5.36**	**22**	Pn	**Pn**	**06 02 09.6**	**+1.1**
PEA0B	**Petropavlovsk-**	**5.36**	**22**	*ce*PN	**Pn**	**06 02 09.6**	**+1.1**
PETK	**Petropavlovsk-**	**5.36**	**22**	Pn	**Pn**	**06 02 09.1**	**+0.5**
PETK	**Petropavlovsk-** comp=E,29nm,0.7s,baz=177,slow=12,SNR=30	**5.36**	**22**	P	**Pn**	**06 02 08.8**	**+0.2**
KUR	**Kuril'sk**	**5.39**	**239**	*e*PN	Pn	06 02 11.5	+2.6
KUR				*e*S	**Sn**	**06 03 11.6**	**+2.1**
KUR	comp=Z,148nm,0.4s			pmax	pmax		
KUR	comp=E,66nm,0.2s			pmax	pmax		
KUR	comp=N,141nm,0.6s			smax	smax		
KUR	comp=E,133nm,0.6s			smax	smax		
KUR	**Kuril'sk**	**5.39**	**239**	*e*P	Pn	06 02 11.7	+2.8
KUR				*e*S	**Sn**	**06 03 11.1**	**+1.6**
KUR	**Kuril'sk**	**5.39**	**239**	*e*P	Pn	06 02 11.2	+2.3
KUR	comp=E,150nm,0.4s			AMB	AMB	06 02 15.5	
KUR	comp=E,140nm,0.4s			*e*S	**Sn**	**06 03 11.0**	**+1.6**
KUR	comp=E,240nm,0.4s			A	A	06 03 16.8	
PET	**Petropavlovsk**	**5.55**	**27**	Pn	**Pn**	**06 02 12.3**	**+1.2**
PET				AMB	AMB	06 02 22.1	
PET	**Petropavlovsk**	**5.55**	**27**	*e*PN	**Pn**	**06 02 13.3**	**+2.2**
PET				*e*S	**Sn**	**06 03 11.3**	**-2.1**
PET	comp=N,188nm,0.7s			smax	smax		
PET	comp=E,163nm,0.7s			smax	smax		
PET	**Petropavlovsk**	**5.55**	**27**	*e*P	**Pn**	**06 02 11.6**	**+0.5**
PET				AMB	AMB	06 02 22.1	
PET	comp=E,40nm,0.5s			*e*S	**Sn**	**06 03 11.5**	**-1.9**
PET	comp=E,190nm,0.7s			A	A	06 03 18.2	
PET	comp=E,160nm,0.7s			A	A	06 03 18.2	
DALK	**Dalny**	**5.59**	**28**	PN	**Pn**	**06 02 10.4**	**-1.2**
DALK				S	**Sn**	**06 03 11.9**	**-2.4**
DALK	**Dalny**	**5.59**	**28**	*e*P	**Pn**	**06 02 10.4**	**-1.2**
DALK				*e*S	**Sn**	**06 03 11.9**	**-2.4**
UGLR	**Uglovaya**	**5.76**	**27**	PN	**Pn**	**06 02 14.3**	**+0.2**
UGLR	**Uglovaya**	**5.76**	**27**	*e*P	**Pn**	**06 02 14.3**	**+0.2**
KOK	**Koryaka**	**5.78**	**26**	PN	**Pn**	**06 02 15.5**	**+1.2**
KOK	**Koryaka**	**5.78**	**26**	*e*P	**Pn**	**06 02 15.5**	**+1.2**
KOK	**Koryaka**	**5.78**	**26**	*e*P	**Pn**	**06 02 15.5**	**+1.2**
AVH	**Avacha**	**5.79**	**27**	PN	**Pn**	**06 02 14.9**	**+0.5**
AVH				S	**Sn**	**06 03 20.0**	**+0.7**
AVH	**Avacha**	**5.79**	**27**	*e*P	**Pn**	**06 02 14.9**	**+0.5**
AVH				*e*S	**Sn**	**06 03 20.0**	**+0.7**
AVH	**Avacha**	**5.79**	**27**	*e*P	**Pn**	**06 02 14.9**	**+0.5**
SMAR	**Somma**	**5.80**	**27**	PN	**Pn**	**06 02 14.8**	**+0.1**
SMAR	**Somma**	**5.80**	**27**	*e*P	**Pn**	**06 02 14.8**	**+0.1**
KRER	**Koryakskii**	**5.82**	**26**	PN	**Pn**	**06 02 15.4**	**+0.4**
KRER				S	**Sn**	**06 03 19.6**	**-0.8**
KRER	**Koryakskii**	**5.82**	**26**	*e*P	**Pn**	**06 02 15.4**	**+0.4**
KRER				*e*S	**Sn**	**06 03 19.6**	**-0.8**
KRX	**Arik**	**5.84**	**26**	PN	**Pn**	**06 02 15.9**	**+0.7**
KRX				S	**Sn**	**06 03 18.0**	**-2.8**
KRX	**Arik**	**5.84**	**26**	*e*P	**Pn**	**06 02 15.9**	**+0.7**
KRX				*e*S	**Sn**	**06 03 18.0**	**-2.8**
SDLR	**Sedlovina**	**5.84**	**27**	PN	**Pn**	**06 02 15.8**	**+0.6**
SDLR				S	**Sn**	**06 03 18.6**	**-2.1**
SDLR	**Sedlovina**	**5.84**	**27**	*e*P	**Pn**	**06 02 15.8**	**+0.6**
SDLR				*e*S	**Sn**	**06 03 18.6**	**-2.1**
NLC	**Nalytchevo**	**5.90**	**30**	*e*S	**Sn**	**06 03 15.9**	**-6.0**
GNL	**Ganaly**	**5.96**	**21**	PN	**Pn**	**06 02 17.4**	**+0.7**
GNL	**Ganaly**	**5.96**	**21**	*e*P	**Pn**	**06 02 17.4**	**+0.7**
SPN	**Mys Shipunski**	**6.08**	**34**	PN	**Pn**	**06 02 16.8**	**-1.5**
SPN	**Mys Shipunski**	**6.08**	**34**	*e*P	**Pn**	**06 02 16.8**	**-1.5**
SPN				*e*S	**Sn**	**06 03 22.7**	**-3.6**
SHO	**Shikotan**	**6.82**	**234**	*e*PN	**Pn**	**06 02 26.8**	**-1.6**
SHO	comp=Z,37nm,0.3s			pmax	pmax		
SHO	comp=N,23nm,0.2s			pmax	pmax		
SHO	comp=E,35nm,0.2s			pmax	pmax		
SHO	**Shikotan**	**6.82**	**234**	*e*P	**Pn**	**06 02 26.9**	**-1.6**
SHO	**Shikotan**	**6.82**	**234**	*e*P	**Pn**	**06 02 26.8**	**-1.6**
SHO	comp=E,40nm,0.3s			AMB	AMB	06 02 27.6	
YUK	**Yuzh-Kuril'sk**	**7.25**	**238**	*e*PN	**Pn**	**06 02 35.3**	**+1.0**
YUK				*e*S	**Sn**	**06 03 55.5**	**+0.4**
YUK	comp=Z,277nm,0.2s			pmax	pmax		
YUK	comp=N,76nm,0.1s			pmax	pmax		
YUK	comp=E,53nm,0.1s			pmax	pmax		
YUK	**Yuzh-Kuril'sk**	**7.25**	**238**	*e*P	**Pn**	**06 02 34.8**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**7.25**	**238**	*e*P	**Pn**	**06 02 35.4**	**+1.1**
YUK	comp=E,80nm,0.2s			AMB	AMB	06 02 35.7	
YUK	comp=E,50nm,0.2s			AMB	AMB	06 02 35.7	
YUK	comp=E,280nm,0.2s			AMB	AMB	06 02 35.7	
YUK				*e*S	**Sn**	**06 03 55.3**	**+0.2**
YUK	comp=E,150nm,0.5s			A	A	06 04 01.7	
YUK	comp=E,350nm,0.5s			A	A	06 04 01.7	
RUSJ	**Misakicho**	**7.56**	**241**	*e*PN	**Pn**	**06 02 40.7**	**+2.1**
RUSJ				*e*S	**Sn**	**06 04 05.2**	**+2.4**
NMR	**Nemuro--Hokkai**	**7.75**	**235**	*e*PN	**Pn**	**06 02 39.0**	**-2.2**
NMR	**Nemuro--Hokkai**	**7.75**	**235**	*e*

UGL A A 06 04 28.5
comp=E,150nm,0.4s
KMNR Kamenistaya 8.39 23 PN **Pn 06 02 48.8 -1.2**
KMNR Kamenistaya 8.39 23 *e*P **Pn 06 02 48.8 -1.2**
BZP Bezymyannyi-Pe 8.61 24 *e*P **Pn 06 02 53.1 0.0**
BZMR Bezymyannaya 8.62 23 PN **Pn 06 02 54.2 +1.0**
BZMR Bezymyannaya 8.62 23 *e*P **Pn 06 02 54.2 +1.0**
BZWR Bezymyannyi-We 8.65 23 PN **Pn 06 02 53.7 +0.1**
BZWR Bezymyannyi-We 8.65 23 *e*P **Pn 06 02 53.7 +0.1**
OKH Okha 9.04 311 AMS AMS 06 06 15.8
comp=E,1μm,15.0s
OKH AMS AMS 06 06 15.8
comp=E,300nm,15.0s
JKA Kamikawa-asahi 9.16 248 Pn Pn 06 03 03.3 +2.9
JKA Kamikawa-asahi 9.16 248 *e*P Pn 06 03 03.3 +2.9
ASAJ Asahikawa 9.16 248 PN Pn 06 03 03.3 +2.9
ASAJ Asahikawa 9.16 248 P Pn 06 03 03.4 +3.0
comp=E,62nm,0.9s,baz=82,slow=14,SNR=25
ASAJ LR LR 06 06 16.8
comp=E,154nm,19.1s,baz=9.0,slow=36
ERM Erimo 10.07 236 Pn **Pn 06 03 11.7 -1.1**
ERM Erimo 10.07 236 *i* PN **Pn 06 03 11.9 -0.9**
MA2 Magadan 11.62 351 Pn **Pn 06 03 35.1 +1.1**
MA2 Magadan 11.62 351⇑*e*PN **Pn 06 03 34.5 +0.5**
MA2 pmax pmax
comp=Z,16nm,0.9s
MA2 Magadan 11.62 351 P **Pn 06 03 34.9 +0.9**
comp=Z,9.5nm,0.4s,baz=165,slow=5.6,SNR=11
MA2 LR LR 06 07 56.4
comp=Z,94nm,21.6s,baz=180,slow=37
MA2 Magadan 11.62 351 *e*P **Pn 06 03 34.5 +0.5**
JTM Tenmabayashi 12.05 237 **Pn 06 03 35.8 -4.1**
TEY Ternei 12.65 262 *e*P **Pn 06 03 47.9 -0.1**
TEY AMB AMB 06 03 51.1
comp=Z,10.0nm,0.8s
SHEM Shemya Is, Ala 13.32 63 LR LR 06 08 14.3
comp=Z,94nm,21.8s,baz=215,slow=33
EKMR Ekimchan 14.47 298 *e*P **Pn 06 04 11.6 -0.5**
EKMR AMB AMB 06 04 21.0
comp=Z,10.0nm,0.8s
SEY Seymchan 14.84 356*ce*P **P 06 04 18.1 -2.8**
SEY pmax pmax
comp=Z,1.0nm,0.4s
SEY Seymchan 14.84 356 P **Pn 06 04 16.7 -0.1**
comp=Z,1.1nm,0.4s,baz=159,slow=12,SNR=6.6
SEY Seymchan 14.84 356 *e*P **P 06 04 18.1 -2.8**
KLR Kul'dur 15.01 283 P **P 06 04 23.0 +0.1**
comp=Z,6.0nm,0.8s,baz=78,slow=13,SNR=5.6
KLR LR LR 06 09 57.2
comp=Z,92nm,19.8s,baz=82,slow=37
USA0B Ussuriysk Arra 16.02 264 **P 06 04 33.8 -0.5**
USA0B Ussuriysk Arra 16.02 264 *i* P **P 06 04 33.4 -0.8**
USRK Ussuriysk Ar. 16.02 264 **P 06 04 33.6 -0.6**
USRK Ussuriysk Ar. 16.02 264 P **P 06 04 33.6 -0.6**
USRK Ussuriysk Ar. 16.02 264 P **P 06 04 33.0 -1.3**
comp=Z,12nm,0.7s,baz=67,slow=12,SNR=16
USRK LR LR 06 09 58.6
comp=Z,89nm,19.8s,baz=33,slow=34
MJA0 Matsu Arr-Jizo 16.64 232 *e*P **P 06 04 39.7 -1.4**
MJAR Matsushiro Arr 16.66 232 P **P 06 04 38.1 -3.3**
comp=Z,1.7nm,0.5s,baz=28,slow=14,SNR=4.8
MDJ Mudanjiang 17.47 268 P **P 06 04 48.2 -2.0**
MDJ pmax pmax
comp=Z,12nm,1.6s
MDJ pmax pmax
comp=Z,350nm,3.9s
HEH HeiHe 17.74 287 *e*P **Pn 06 04 54.0 +0.8**
HEH pmax pmax
comp=Z,23nm,1.1s
HEH pmax pmax
comp=Z,220nm,4.2s
ZEA Zeya 17.94 298 *e*P **Pn 06 04 58.5 +2.9**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=Z,100nm,15.0s
ZEA Zeya 17.94 298 *e*P **Pn 06 04 58.5 +2.9**
ZEA AMB AMB 06 05 00.1
comp=Z,10.0nm,0.8s
ZEA AMS AMS 06 11 48.0
comp=Z,100nm,15.0s
BNX BinXian 18.57 273 ⇓P **Pn 06 05 02.9 -0.4**
BNX pmax pmax
comp=Z,13nm,2.4s
BNX pmax pmax
comp=Z,300nm,3.6s
YAK Yakutsk 19.65 324 *e*P **Pn 06 05 13.7 -2.2**
YAK *e*S **S 06 08 52.1 +0.5**
YAK pmax pmax
comp=Z,31nm,1.6s
YAK pmax pmax
comp=E,25nm,1.8s
YAK pmax pmax
comp=N,13nm,1.6s
YAK smax smax
comp=E,293nm,5.5s
YAK smax smax
comp=N,198nm,7.3s
YAK Yakutsk 19.65 324 P **Pn 06 05 13.7 -2.2**
comp=N,21nm,0.5s,baz=44,slow=4.2,SNR=5.9
YAK LR LR 06 12 24.4
comp=N,74nm,21.9s,baz=94,slow=36
KSRS Korea Array 22.09 251 *e*P **P 06 05 40.9 +0.5**
KSRS pmax pmax
comp=Z,11nm,0.6s
KSRS Korea Array 22.09 251 P **P 06 05 40.8 +0.4**
comp=Z,13nm,0.7s,baz=43,slow=10,SNR=25
KSRS LR LR 06 13 57.6
comp=Z,48nm,19.6s,baz=35,slow=36
comp=Z,13nm,0.7s
KSRS Korea Array 22.09 251 *e*P **P 06 05 40.9 +0.5**
KS19 Wonju Array Si 22.10 251 P **P 06 05 40.0 -0.5**
KS19 IAmb IAmb 06 05 45.0
comp=Z,52nm,1.4s
KSAR Wonju Array Be 22.12 251 P **P 06 05 40.9 +0.1**
KSAR Wonju Array Be 22.12 251 P **P 06 05 40.9 +0.1**
INCN Inchon 22.89 252 P **P 06 05 46.7 -2.2**
INCN Inchon 22.89 252 P **P 06 05 46.7 -2.2**
INCN pmax pmax
comp=Z,44nm,1.0s
TJN Taejon 23.11 249 P **P 06 05 51.3 +0.3**
TJN Taejon 23.11 249 P **P 06 05 51.3 +0.3**
TJN pmax pmax
comp=Z,479nm,1.5s
JNU Nakatsue 23.22 238 LR LR 06 14 26.7
comp=Z,52nm,19.9s,baz=353,slow=35
TIXI Tiksi 26.37 342 *i* P **P 06 06 21.4 +1.1**
TIXI Tiksi 26.37 342 *e*P **P 06 06 21.4 +1.1**
J14K Nanvaranak Lak 27.32 42 P **P 06 06 30.4 +1.5**
C16K Lisburne Hills 28.38 30 P **P 06 06 39.2 +0.9**
M16K Timber Creek 29.21 46 P **P 06 06 46.3 +0.5**
M16K IAmb IAmb 06 06 53.6
comp=Z,24nm,1.4s
F17K Baldwin Pennin 29.22 35 P **P 06 06 46.9 +1.1**
K17K Iditarod 29.70 43 P **P 06 06 51.8 +1.7**
K17K IAmb IAmb 06 06 52.3
comp=Z,10nm,1.1s
H11N2 WAKE ISLAND Hy 30.12 156 T T 06 39 19.3
baz=342,slow=76,SNR=211
H11N1 WAKE ISLAND Hy 30.13 156 T T 06 39 20.4
baz=342,slow=76,SNR=486
H11N3 WAKE ISLAND Hy 30.13 156 T T 06 39 20.5
baz=342,slow=76,SNR=186
HNS HongShan 30.76 264 ⇑P **P 06 06 59.5 -0.2**
HNS pmax pmax
comp=Z,8.0nm,0.9s
HHC Hu-ho-hao-te 31.10 273 *e*P **P 06 07 02.2 -0.6**
HHC pP pwP 06 07 20.0 -1.3
HHC *e*S **S 06 12 00.2 -3.1**
HHC SS **SnSn 06 13 43.2 -7.6**
HHC pmax pmax
comp=Z,6.0nm,0.7s
HHC pmax pmax
comp=Z,200nm,5.9s
HHC LR LR
comp=N,130nm,16.7s
H11S1 WAKE ISLAND Hy 31.23 157 T T 06 40 01.2
baz=344,slow=76,SNR=1468
H11S3 WAKE ISLAND Hy 31.24 157 T T 06 40 03.1
baz=344,slow=76,SNR=1588
H11S2 WAKE ISLAND Hy 31.25 157 T T 06 40 06.6
baz=344,slow=76,SNR=1368
NJ2 Nanjing 31.28 252 *e*P **P 06 07 06.0 +1.7**
NJ2 pmax pmax
comp=Z,11nm,0.5s

ULN Ulaanbaatar 31.30 287*ce*P **P 06 07 05.2 +0.7**
ULN pmax pmax
comp=Z,2.0nm,1.3s
ULN Ulaanbaatar 31.30 287 *e*P **P 06 07 05.2 +0.7**
SONM Songino Array 31.73 288 *e*P **P 06 07 10.0 +1.7**
SONM pmax pmax
comp=Z,1.0nm,0.5s
SONM Songino Array 31.73 288 P **P 06 07 05.8 -2.5**
comp=Z,0.9nm,0.8s,baz=64,slow=9.9,SNR=3.8
SONM LR LR 06 19 53.6
comp=Z,82nm,19.4s,baz=22,slow=36
comp=Z,0.9nm,0.8s
C23K Itkillik River 33.89 31 P **P 06 07 28.3 +1.6**
C23K IAmb IAmb 06 07 30.7
comp=Z,7.3nm,1.2s
KNK Knik Glacier 34.29 46 P **P 06 07 31.7 +1.4**
SML Sawmill 34.33 45 P **P 06 07 32.0 +1.3**
D24K Happy Valley 34.40 32 IAmb IAmb 06 07 33.8
comp=Z,5.3nm,0.6s
HDA Harding Lake 34.86 40 P **P 06 07 36.0 +0.9**
HDA IAmb IAmb 06 07 53.5
comp=Z,12nm,1.4s
ILAR Eielson Array 34.88 40 *e*P **P 06 07 36.2 +0.8**
ILAR pmax pmax
comp=Z,2.0nm,0.9s
ILAR Eielson Array 34.88 40 P **P 06 07 36.0 +0.7**
comp=Z,1.5nm,0.9s,baz=258,slow=7.3,SNR=13
comp=Z,1.5nm,0.9s
PRP Porcupine Dome 35.45 39 P **P 06 07 42.5 +2.1**
PRP IAmb IAmb 06 07 42.7
comp=Z,5.1nm,0.8s
J25K Salcha River, 35.54 40 P **P 06 07 41.5 +0.5**
K27K Chicken 37.01 41 IAmb IAmb 06 07 56.1
comp=Z,11nm,0.9s
L27K Beaver Creek, 37.23 42 IAmb IAmb 06 07 58.6
comp=Z,9.8nm,0.9s
I28M Miner Creek 37.78 38 IAmb IAmb 06 08 02.6
comp=Z,12nm,1.1s
LZH Lanzhou 38.75 271 *e*P **P 06 08 10.8 +2.1**
LZH pmax pmax
comp=Z,15nm,1.1s
L29M L29M 38.88 42 IAmb IAmb 06 08 12.8
comp=Z,9.4nm,0.8s
I30M Mount Dempster 39.29 38 IAmb IAmb 06 08 15.9
comp=Z,13nm,1.2s
A36M Sachs Harbour 42.18 27 P **P 06 08 37.4 +1.1**
A36M IAmb IAmb 06 08 42.3
comp=Z,7.1nm,0.8s
ZAA0 Zalesovo Array 42.52 305 P **P 06 08 39.3 0.0**
ZAA0 IAmb IAmb 06 08 50.4
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 42.52 305 PcP **PcP 06 10 29.7 -0.9**
comp=Z,0.9nm,0.5s,baz=31,slow=5.9,SNR=2.2
DGZ Jazzator, Alta 42.70 298 *i* P **P 06 08 39.9 -1.2**
DGZ pmax pmax
comp=Z,2.0nm,1.2s
WMQ Urumqi 45.25 291 *e*P **P 06 09 03.5 +2.0**
PZH PanZhiHua 46.10 262 P **P 06 09 10.2 +1.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,4.9s
MKAR Makanchi Array 47.09 297 P **P 06 09 14.7 -1.1**
comp=Z,2.0nm,0.8s,baz=66,slow=8.4,SNR=11
comp=Z,2.0nm,0.8s
MAKZ Makanchi 47.27 297 P **P 06 09 16.3 -0.9**
MAKZ Makanchi 47.27 297 P **P 06 09 16.3 -0.9**
MAKZ pmax pmax
comp=Z,4.0nm,1.3s
KURK Kurchatov 47.33 303 P **P 06 09 16.6 -0.9**
KURK Kurchatov 47.33 303*ce*P **P 06 09 14.6 -2.9**
KURK pmax pmax
comp=Z,3.0nm,0.6s
KURBB Kurchatov Arra 47.42 303 P **P 06 09 16.7 -1.6**
comp=Z,2.2nm,0.8s,baz=67,slow=8.3,SNR=9.3
KURBB LR LR 06 30 16.4
comp=Z,79nm,18.2s,baz=169,slow=37
comp=Z,2.2nm,0.8s
SLVN Son La 48.28 255 IAmb IAmb 06 09 27.2
comp=Z,4.0nm,0.9s
RES Resolute Bay 49.20 19 P **P 06 09 32.8 +1.2**
RES IAmb IAmb 06 09 33.1
comp=Z,2.4nm,0.6s
RES Resolute Bay 49.20 19 P **P 06 09 32.8 +1.2**
RES pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 49.25 38 *e*P **P 06 09 33.4 +1.3**
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 49.25 38 P **P 06 09 33.8 +1.6**
comp=Z,2.4nm,0.8s,baz=297,slow=7.5,SNR=15
comp=Z,2.4nm,0.8s
BVAR Borovoye Array 50.65 309 P **P 06 09 40.5 -2.4**
comp=Z,1.3nm,0.3s,baz=51,slow=7.5,SNR=9.9
BVAR PcP **PcP 06 10 59.5 +0.1**
comp=Z,1.4nm,0.5s,baz=50,slow=2.4,SNR=4.7
comp=Z,1.3nm,0.3s
BRVK Borovoye 50.69 309 P **P 06 09 42.4 -0.8**
BRVK Borovoye 50.69 309 P **P 06 09 42.4 -0.8**
BRVK pmax pmax
comp=Z,2.0nm,0.7s
PHRA Phrae 52.71 255 P **P 06 09 58.9 +0.2**
BOOM Boomskoye usch 53.22 295 P **P 06 10 01.8 -0.5**
BOOM Boomskoye usch 53.22 295 P **P 06 10 01.8 -0.5**
BOOM pmax pmax
comp=Z,4.0nm,1.4s
CHTO Chiang Mai 53.31 257 P **P 06 10 03.7 +0.6**
CHTO Chiang Mai 53.31 257 P **P 06 10 03.7 +0.6**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CM31 Chiang Mai Arr 53.57 256 P **P 06 10 04.3 -0.7**
CM31 IAmb IAmb 06 10 09.7
comp=Z,8.1nm,1.1s
CMAR Chiang Mai Arr 53.57 256 P **P 06 10 04.7 -0.3**
CMAR Chiang Mai Arr 53.57 256 P **P 06 10 04.7 -0.3**
CMAR Chiang Mai Arr 53.57 256 P **P 06 10 06.0 +1.0**
comp=Z,3.0nm,0.4s,baz=34,slow=7.1,SNR=21
comp=Z,3.0nm,0.4s
AAK Ala-Archa 54.01 296 *i* P **P 06 10 06.9 -1.2**
AAK pmax pmax
comp=Z,2.0nm,0.9s
EDM Edmonton 54.69 47 P **P 06 10 14.1 +1.4**
EDM Edmonton 54.69 47 P **P 06 10 14.1 +1.4**
EDM pmax pmax
comp=Z,9.0nm,0.9s
ARCES ARCESS Array B 56.80 341 *e*P **P 06 10 29.1 +1.5**
ARCES pmax pmax
comp=Z,4.0nm,1.0s
ARCES ARCESS Array B 56.80 341 P **P 06 10 25.9 -1.6**
comp=Z,3.9nm,0.9s,baz=24,slow=6.7,SNR=5.7
comp=Z,3.9nm,0.9s
PLID Pearl Lake 58.13 57 P **P 06 10 39.5 +2.0**
ABKAR Akbulak array 58.20 310 P **P 06 10 35.7 -1.9**
ABKAR IAmb IAmb 06 10 36.4
comp=Z,4.7nm,1.3s
BPMT Black Pine Rid 58.70 54 P **P 06 10 43.3 +1.8**
FFC Flin Flon 59.08 41 P **P 06 10 45.4 +1.8**
FFC IAmb IAmb 06 10 45.7
comp=Z,3.7nm,0.8s
FFC Flin Flon 59.08 41 P **P 06 10 45.4 +1.8**
FFC pmax pmax
comp=Z,4.0nm,0.8s
FCC Fort Churchill 59.58 34 P **P 06 10 48.4 +1.4**
FCC IAmb IAmb 06 10 48.8
comp=Z,4.2nm,0.8s
FCC Fort Churchill 59.58 34 P **P 06 10 48.4 +1.4**
FCC pmax pmax
comp=Z,4.0nm,0.8s
KVN Kaiserville 60.72 63 P **P 06 10 57.4 +2.0**
KVN IAmb IAmb 06 10 58.3
comp=Z,8.6nm,1.2s
KVN Kaiserville 60.72 63 P **P 06 10 57.4 +2.0**
KVN pmax pmax
comp=Z,9.0nm,1.2s
NVAR Mina Array Bea 60.99 64 P **P 06 10 59.5 +2.2**
comp=Z,2.3nm,0.8s,baz=292,slow=7.8,SNR=17
NVAR pP **pP 06 11 16.0 +0.6**
comp=Z,0.9nm,0.6s,baz=299,slow=7.2,SNR=3.1
comp=Z,2.3nm,0.8s
R11B Troy Canyon, C 62.67 62 P **P 06 11 10.1 +1.6**
FIA1 FINESS Array S 63.13 335 P **P 06 11 11.1 +0.2**
FINES FINESS Array B 63.13 335 P **P 06 11 10.9 -0.1**
FINES FINESS Array B 63.13 335 *e*P **P 06 11 10.3 -0.6**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 63.13 335 P **P 06 11 09.7 -1.2**
comp=Z,2.5nm,0.6s,baz=33,slow=8.2,SNR=14
comp=Z,2.5nm,0.6s
PDAR Pinedale Array 63.19 55 P **P 06 11 12.8 +0.8**
comp=Z,1.9nm,0.9s,baz=270,slow=1.2,SNR=11
PDAR pP **pP 06 11 30.1 -0.1**
comp=Z,1.3nm,0.8s,baz=306,slow=3.3,SNR=5.4
comp=Z,1.9nm,0.9s
ULM Lac du Bonnet 64.86 42 *e*P **P 06 11 24.7 +2.2**
ULM pmax pmax
comp=Z,1.0nm,0.7s
ULM Lac du Bonnet 64.86 42 P **P 06 11 23.1 +0.6**
comp=Z,1.3nm,0.7s,baz=325,slow=6.3,SNR=4.7
ULM pP **pP 06 11 41.0 +0.1**
comp=Z,1.7nm,0.8s,baz=309,slow=5.2,SNR=3.1
comp=Z,1.3nm,0.7s
NC204 NORSAR Array S 67.05 342 P **P 06 11 36.7 +0.3**
NB2 NORSAR Subarra 67.16 342 P **P 06 11 36.2 -0.9**
comp=Z,0.9nm,0.6s,baz=24,slow=6.5
NOA NORSAR Array B 67.16 342 P **P 06 11 35.7 -1.4**
comp=Z,1.0nm,0.7s,baz=25,slow=6.5,SNR=6.8
comp=Z,1.0nm,0.7s
HFS Hagfors 67.43 340 P **P 06 11 38.6 -0.1**
comp=Z,2.7nm,0.5s,baz=49,slow=4.5,SNR=14
comp=Z,2.7nm,0.5s
ECSD EROS Data Cent 69.26 47 P **P 06 11 51.5 +1.0**
ECSD IAmb IAmb 06 11 52.0
comp=Z,4.3nm,0.9s
WB0 Warramunga Arr 69.97 200 P **P 06 11 54.9 -0.1**
WR0 Warramunga Arr 70.12 200 P **P 06 11 56.9 +1.0**
WRA Warramunga Arr 70.15 200 P **P 06 11 57.0 +0.9**
comp=Z,5.2nm,0.7s,baz=15,slow=6.0,SNR=7.7
comp=Z,5.2nm,0.7s
AKASG Malin Array Be 70.85 327 *e*P **P 06 11 57.8 -2.3**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 70.85 327 P **P 06 11 58.3 -1.8**
comp=Z,1.1nm,0.6s,baz=33,slow=6.0,SNR=6.0
comp=Z,1.1nm,0.6s
KIEV Kiev 70.87 327 P **P 06 11 59.0 -1.2**
KIEV IAmb IAmb 06 12 18.6
comp=Z,9.0nm,1.4s
KIEV Kiev 70.87 327 P **P 06 11 59.0 -1.2**
KIEV pmax pmax
comp=Z,9.0nm,1.5s
SCHQ Scheffervill 71.65 24 P **P 06 12 05.3 +0.5**
comp=Z,1.1nm,0.5s,baz=334,slow=8.4,SNR=4.4
comp=Z,1.1nm,0.5s
GNI Garni 72.28 311 LR LR 06 47 38.5
comp=Z,46nm,18.2s,baz=12,slow=39
ASAR Alice Springs 73.84 200 P **P 06 12 19.1 +1.0**
comp=Z,1.7nm,0.7s,baz=16,slow=5.7,SNR=4.3
comp=Z,1.7nm,0.7s
BUR08 Bucovina Ar. S 74.87 327 P **P 06 12 24.0 -0.1**
BUR08 IAmb IAmb 06 12 25.5
comp=Z,16nm,1.5s
EKA Eskdalemuir Ar 75.16 347 P **P 06 12 25.6 +0.2**
comp=Z,3.9nm,0.5s,baz=20,slow=5.1,SNR=17
comp=Z,3.9nm,0.5s
CLL Collm 75.53 336 *i* P **P 06 12 26.9 -0.7**
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 75.53 336 *i* P **P 06 12 26.9 -0.7**
comp=Z,9.0nm,1.0s
KRLC Kraliky 75.56 333 *e*P **P 06 12 28.0 +0.1**
MORC Moravsky Berou 75.59 333 P **P 06 12 27.9 -0.2**
MORC IAmb IAmb 06 12 28.8
comp=Z,5.1nm,0.9s
MORC Moravsky Berou 75.59 333 P **P 06 12 27.9 -0.2**
MORC pmax pmax
comp=Z,5.0nm,0.9s
TXAR Lajitas Array 76.02 62 P **P 06 12 32.6 +1.6**
comp=Z,1.6nm,0.6s,baz=305,slow=4.6,SNR=20
TXAR pP **pP 06 12 49.6 -0.1**
comp=Z,1.3nm,0.7s,baz=298,slow=4.0,SNR=5.6
comp=Z,1.6nm,0.6s
KHC Kasperske Hory 77.34 335 P **P 06 12 38.6 +0.7**
KHC IAmb IAmb 06 12 39.0
comp=Z,4.3nm,0.7s
KHC Kasperske Hory 77.34 335*ce*P **P 06 12 38.7 +0.7**
KHC pmax pmax
comp=Z,13nm,1.3s
KHC Kasperske Hory 77.34 335 *e*P **P 06 12 38.0 0.0**
CKRC Cesky Krumlov 77.41 334 *e*P **P 06 12 38.3 0.0**
GRA1 Grafenberg Arr 77.48 337 P **P 06 12 39.6 +0.9**
GRF Grafenberg Arr 77.48 337 P **P 06 12 39.6 +0.9**
GRF pmax pmax
comp=Z,14nm,0.5s
GERES GERESS Array B 77.56 335 P **P 06 12 39.6 +0.4**
comp=Z,1.6nm,0.6s,baz=353,slow=4.9,SNR=2.7
GERES LR LR 06 51 34.2
comp=Z,56nm,19.3s,baz=330,slow=39
comp=Z,1.6nm,0.6s
CONA Conrad Observa 77.74 333 *e*P **P 06 12 39.1 -1.2**
comp=Z,8.3nm,1.6s
RONA Rosalia, Austr 77.81 333 *i* P **P 06 12 41.4 +0.7**
comp=Z,6.1nm,0.8s
BR131 Keskin Array S 77.96 317 P **P 06 12 42.0 +0.3**
BR131 IAmb IAmb 06 12 42.9
comp=Z,7.4nm,0.9s
BR131 Keskin Array S 77.96 317 P **P 06 12 42.0 +0.3**
BR131 pmax pmax
comp=Z,7.0nm,1.0s
BRTR Keskin Array B 77.96 317 P **P 06 12 42.0 +0.3**
BRTR Keskin Array B 77.96 317 *e*P **P 06 12 41.6 -0.1**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 77.96 317 P **P 06 12 42.4 +0.6**
comp=Z,4.0nm,0.9s,baz=78,slow=4.6,SNR=9.8
comp=Z,4.0nm,0.9s
MOA Molln 78.29 334 *e*P **P 06 12 43.6 +0.4**
comp=Z,9.1nm,1.6s
BMRD Maredsous 78.49 341 *d*P **P 06 12 44.3 +0.1**
BIOA Bad Ischl, Aus 78.62 334 *e*P **P 06 12 46.2 +1.1**
comp=Z,0.8nm,0.4s
SOKA Soboth 79.11 333 *i* P **P 06 12 48.1 +0.2**
comp=Z,6.9nm,1.2s
LESA Schwarzleotal 79.14 335 *i* P **P 06 12 48.6 +0.6**
comp=Z,3.7nm,0.6s
KBA Koelnbreinsper 79.26 334 *i* P **P 06 12 49.6 +0.9**
comp=Z,12nm,0.7s
MYKA Terra Mystica 79.58 334 *i* P **P 06 12 49.8 -0.6**
comp=Z,6.1nm,1.2s
WTTA Wattenberg 79.58 335 *i* P **P 06 12 51.0 +0.5**
comp=Z,9.3nm,0.7s
RETA Reutte 79.62 336 *i* P **P 06 12 50.6 0.0**
comp=Z,6.2nm,0.9s
MOTA Moosalm 79.65 336 *i* P **P 06 12 51.2 +0.4**
comp=Z,12nm,0.9s
SQTA Sankt Quirin 79.74 335 *i* P **P 06 12 51.3 0.0**
comp=Z,14nm,1.3s
DAVA Damuels 80.04 336 *i* P **P 06 12 50.7 -2.3**
comp=Z,20nm,1.7s
TUE Stuetta 80.93 336 P **P 06 12 58.5 +0.6**
TUE IAmb IAmb 06 13 02.4
comp=Z,7.4nm,0.9s
MMAI Mount Meron Ar 82.53 312 P **P 06 13 06.4 +0.1**
comp=Z,1.2nm,0.3s,baz=46,slow=6.0,SNR=7.3
comp=Z,1.2nm,0.3s
RAYN Ar Rayn 84.52 299 P **P 06 13 17.0 +0.4**
RAYN IAmb IAmb 06 13 17.4
comp=Z,6.0nm,0.7s
RAYN Ar Rayn 84.52 299 P **P 06 13 17.0 +0.4**
RAYN pmax pmax
comp=Z,6.0nm,0.7s
H03N2 Juan Fernandez 137.86 90 T T 08 53 34.1
baz=309,slow=77,SNR=75
H03N1 Juan Fernandez 137.87 90 T T 08 53 26.8
baz=309,slow=77,SNR=63
H03N3 Juan Fernandez 137.87 90 T T 08 53 36.8
baz=309,slow=77,SNR=78
QSPA South Pole Qui 137.91 180 PKP **PKiKP 06 20 08.0 -0.3**
comp=Z,1.3nm,0.9s,baz=216,slow=1.6,SNR=5.8
CPUP Villa Florida 146.98 60 PKPbc **PKiKP 06 20 25.9 -2.2**
comp=Z,1.2nm,0.6s,baz=14,slow=4.2,SNR=4.6
PLCA Paso Flores 147.43 94 PKPbc **PKPab 06 20 27.4 -1.3**
comp=Z,2.4nm,0.9s,baz=292,slow=1.0,SNR=5.8
ELIB Princess Elisa 147.46 206 *d*PKPdf **PKPbc 06 20 23.8 -2.0**

NEIC ***01*** *06:01:51.8±0.9,59°60N±0°04×153°45W±0°09, h122km±4km, Error ellipse: s-maj=6.9km s-min=5.5km az=115.0*

AEIC 01 06:01:52.7±0.7,59°61N±0°03×153°49W±0°09, h116km±1km, ML2.2, ML2.2/73(NEIC)**, Error ellipse: s-maj=7.0km s-min=4.4km az=111.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P19K	**Oil Pt**	**0.14**	**71**		Pn	06 02 08.3	-0.5
P19K					Sn	06 02 20.7	-0.1
AUL	**Augustine Lava**	**0.23**	**173**		Pn	06 02 08.6	-0.3
AUL					Sn	06 02 21.4	+0.3
AUCH	**Augustine Cone**	**0.25**	**174**		Pn	06 02 09.0	-0.1
AU22	**Augustine Moun**	**0.25**	**164**		Pn	06 02 08.5	-0.5
AUJK	**Augustine Jueg**	**0.26**	**171**		Pn	06 02 08.8	-0.3
ILSW	**Iliamna Southw**	**0.42**	**25**		Pn	06 02 09.2	-0.7
ILSW				IAML		06 02 22.8	
	comp=N,50nm,0.7s						
ILSW				IAML		06 02 22.9	
	comp=E,70nm,0.8s						
Q20K	**Slope Mountain**	**0.65**	**42**		Pn	06 02 10.8	-0.5
Q19K	**Cape Douglas,**	**0.69**	**187**		Pn	06 02 11.0	-0.6
Q19K					Sn	06 02 25.4	-0.4
Q19K				IAML		06 02 29.2	
	comp=N,87nm,1.1s						
Q19K				IAML		06 02 34.1	
	comp=E,130nm,0.9s						
O19K	**Port Alsworth**	**0.72**	**325**		Pn	06 02 11.2	-0.6
O19K				IAML		06 02 28.0	
	comp=N,86nm,0.4s						
RED	**Redoubt Volcan**	**0.89**	**24**		Pn	06 02 12.7	-0.7
O18K	**Koktuh Hills**	**0.91**	**287**		Pn	06 02 12.8	-0.7
P18K	**Big Mountain,**	**0.91**	**257**		Pn	06 02 12.6	-1.0
RDSO	**Redoubt South**	**0.93**	**23**		Pn	06 02 13.1	-0.8
RDSO					Sn	06 02 29.2	-0.7
RSO	**Redoubt South**	**0.94**	**23**	Pn	Pn	06 02 13.5	-0.5
HOM	**Homer**	**0.94**	**86**		Pn	06 02 13.6	-0.2
RDWB	**Redoubt West**	**0.94**	**20**		Pn	06 02 13.2	-0.8
DFR	**Drift River**	**1.07**	**22**		Pn	06 02 14.5	-0.7
DFR					Sn	06 02 31.5	-0.7
RDT	**Redoubt**	**1.11**	**29**		Pn	06 02 14.8	-0.8
RDT					Sn	06 02 32.1	-0.9
SYI	**Shuyak Island**	**1.15**	**150**		Pn	06 02 15.2	-0.7
SYI				IAML		06 02 33.2	
	comp=E,67nm,0.7s						
CNPM	**China Poot**	**1.15**	**93**		Pn	06 02 15.2	-0.8
CNPM				IAML		06 02 34.5	
	comp=E,68nm,0.7s						
N19K	**Bonanza Creek**	**1.31**	**338**		Pn	06 02 17.1	-0.6
BRLK	**Bradley Lake**	**1.33**	**82**		Pn	06 02 16.7	-1.3
BRLK				IAML		06 02 37.5	
	comp=N,42nm,0.7s						
BRLK				IAML		06 02 39.2	
	comp=E,33nm,0.4s						
BRSE	**Bradley Lake S**	**1.40**	**83**		Pn	06 02 17.9	-0.9
KAKN	**Katmai Knife C**	**1.54**	**212**		Pn	06 02 19.9	-0.6
KAKN					Sn	06 02 40.7	-0.9
P17K	**Kvichak River**	**1.56**	**256**		Pn	06 02 20.3	-0.2
N18K	**Kilae Creek**	**1.61**	**313**		Pn	06 02 20.5	-0.7
ACHA	**Angle Creek He**	**1.69**	**215**		Pn	06 02 21.7	-0.6
SPCR	**Spurr Chakacha**	**1.72**	**21**		Pn	06 02 22.1	-0.5
SPCR					Sn	06 02 46.0	+0.6
SPBG	**Spurr Blockage**	**1.75**	**18**		Pn	06 02 23.2	+0.2
ANCK	**Angle Creek**	**1.75**	**217**		Pn	06 02 22.5	-0.4
ANCK					Sn	06 02 45.6	-0.4
SPCP	**Crater Peak Br**	**1.79**	**21**		Pn	06 02 23.4	-0.2
SPNN	**North Nagishla**	**1.81**	**12**		Pn	06 02 23.2	-0.5
SVW2	**Sparrevohn**	**1.82**	**326**		Pn	06 02 22.9	-0.9
SVW2				IAML		06 03 36.5	
	comp=N,6.0nm,1.2s						
CNTC	**Contact Creek**	**1.83**	**224**		Pn	06 02 23.4	-0.6
O17K	**Koliganek Bris**	**1.83**	**277**		Pn	06 02 23.5	-0.4
SLKM	**Skilak Lake**	**1.87**	**60**		Pn	06 02 23.5	-0.9
SLKM					Sn	06 02 46.6	-2.0
KDAK	**Kodiak Island**	**1.89**	**165**		Pn	06 02 22.8	-1.8
STLK	**Strandline Lak**	**2.07**	**23**		Pn	06 02 26.7	-0.1
STLK					Sn	06 02 52.6	-0.4
N17K	**Nushagak Hills**	**2.07**	**298**		Pn	06 02 26.6	-0.2
O22K	**Cooper Landing**	**2.08**	**63**	Pn	Pn	06 02 26.2	-0.8
M18K	**Stony River**	**2.21**	**330**		Pn	06 02 27.9	-0.8
M20K	**Styx River**	**2.29**	**4**		Pn	06 02 29.2	-0.5
SUA	**Susitna One**	**2.31**	**35**		Pn	06 02 29.8	-0.1
SUA				IAML		06 04 06.8	
	comp=N,3.2nm,0.9s						
O16K	**Kokwok River B**	**2.34**	**272**		Pn	06 02 30.1	-0.1
O16K				IAML		06 04 11.5	
	comp=N,6.0nm,1.1s						
M19K	**Big River Lodg**	**2.35**	**350**		Pn	06 02 29.6	-0.8
P16K	**Nushagak River**	**2.38**	**258**		Pn	06 02 30.9	+0.2
RC01	**Rabbit Creek A**	**2.39**	**50**		Pn	06 02 30.0	-0.8
M17K	**Holitna River**	**2.66**	**314**	Pn	Pn	06 02 34.2	-0.1
M17K				IAML		06 03 07.9	
	comp=E,8.5nm,1.0s						
M17K				IAML		06 03 54.6	
	comp=N,5.0nm,1.1s						
L19K	**White Mountain**	**2.67**	**346**		Pn	06 02 34.0	-0.5
L19K				IAML		06 03 13.9	
	comp=E,2.3nm,1.0s						
L20K	**Farewell, AK**	**2.89**	**356**		Pn	06 02 36.8	-0.6
PMR	**Palmer**	**2.93**	**45**	Pn	Pn	06 02 37.4	-0.5
L18K	**Granite Mounta**	**3.05**	**331**	Pn	Pn	06 02 38.8	-0.7
KNK	**Knik Glacier**	**3.08**	**52**		Pn	06 02 39.4	-0.5
GHO	**Glory Hole Cre**	**3.12**	**44**		Pn	06 02 39.3	-1.2
GHO				IAML		06 03 15.7	
	comp=N,14nm,0.6s						
SML	**Sawmill**	**3.36**	**47**		Pn	06 02 42.0	-1.7
SML				IAML		06 03 16.5	
	comp=E,6.3nm,1.1s						
SML				IAML		06 03 25.0	
	comp=N,8.7nm,0.4s						
TTA	**Tatalina**	**3.55**	**341**	Pn	Pn	06 02 45.0	-1.2
TTA				IAML		06 05 15.1	
	comp=E,1.3nm,1.1s						
L16K	**Owhat River**	**3.62**	**308**	Pn	Pn	06 02 47.2	+0.1
L16K				IAML		06 04 50.6	
	comp=N,3.5nm,1.0s						
L16K				IAML		06 05 15.3	
	comp=E,2.8nm,1.1s						
SCM	**Sheep Creek Mo**	**3.76**	**51**		Pn	06 02 47.5	-1.4
SCM				IAML		06 03 34.2	
	comp=N,9.4nm,1.1s						
K20K	**Telida**	**3.77**	**356**	Pn	Pn	06 02 48.5	-0.5
K20K				IAML		06 05 01.8	
	comp=N,1.5nm,1.2s						
K20K				IAML		06 05 26.3	
	comp=E,1.7nm,1.2s						
CAST	**Castle Rocks**	**3.88**	**9**		Pn	06 02 50.6	0.0
K17K	**Iditarod**	**3.89**	**325**		Pn	06 02 50.2	-0.4
K17K				IAML		06 04 01.1	
	comp=E,4.7nm,1.2s						
K17K				IAML		06 04 51.8	
	comp=N,2.1nm,1.1s						
WAT7	**Susitna Watana**	**3.94**	**33**		Pn	06 02 50.0	-1.3
WAT1	**Susitna Watana**	**4.02**	**34**		Pn	06 02 51.0	-1.3
WAT6	**Susitna Watana**	**4.09**	**41**		Pn	06 02 51.6	-1.7
KTH	**Kantishna Hill**	**4.15**	**16**	Pn	Pn	06 02 53.4	-0.7
KTH				IAML		06 03 44.1	
	comp=N,3.4nm,1.0s						
KTH				IAML		06 03 49.3	
	comp=E,3.3nm,1.1s						
TRF	**Thorofare Moun**	**4.15**	**20**	Pn	Pn	06 02 53.4	-0.9
TRF				IAML		06 03 40.6	
	comp=E,3.4nm,0.5s						
TRF				IAML		06 03 41.6	
	comp=N,3.2nm,0.4s						
J19K	**Poorman**	**4.52**	**348**	Pn	Pn	06 02 58.0	-1.0
J19K				IAML		06 04 14.0	
	comp=E,1.0nm,1.1s						
DHY	**Denali Highway**	**4.56**	**38**	Pn	Pn	06 02 58.7	-1.0
DHY				IAML		06 03 52.6	
	comp=N,5.1nm,0.5s						
J20K	**Nowinta River**	**4.60**	**356**	Pn	Pn	06 02 59.5	-0.6
J20K				IAML		06 04 52.1	
	comp=N,1.2nm,0.9s						
J20K				IAML		06 05 39.4	
	comp=E,1.1nm,1.1s						
J16K	**Anvik River**	**5.02**	**320**	Pn	Pn	06 03 05.5	-0.3
J16K				IAML		06 04 33.2	
	comp=N,2.8nm,1.2s						
J16K				IAML		06 05 48.4	
	comp=E,1.7nm,1.1s						
I21K	**Tanana**	**5.64**	**6**	Pn	Pn	06 03 13.8	-0.3
I23K	**Minto, Yukon-K**	**5.88**	**17**	Pn	Pn	06 03 16.5	-0.8
H18K	**Honhosa River**	**6.01**	**340**	Pn	Pn	06 03 18.2	-0.9
BARN	**Barnard Glacie**	**6.05**	**71**	Pn	Pn	06 03 19.3	-0.6
H21K	**Melozitna Rive**	**6.08**	**3**	Pn	Pn	06 03 19.5	-0.5
CTGM	**Chitina Glacie**	**6.20**	**72**	Pn	Pn	06 03 21.2	-0.6
M27K	**Edge Creek, AK**	**6.29**	**59**	Pn	Pn	06 03 22.9	0.0
LOGN	**Logan Glacier**	**6.34**	**74**	Pn	Pn	06 03 23.0	-0.8
IMAR	**Indian Mountai**	**6.40**	**359**	Pn	Pn	06 03 24.1	-0.3
L27K	**Beaver Creek,**	**6.59**	**53**	Pn	Pn	06 03 26.9	-0.1

*IDC **01** 06:03:18.0±1.3,5.˝68S×142.˝58E, h0km, mb3.9/4, mbtmp3.8/6, ML3.6/2, Error ellipse: s-maj=62.5km s-min=26.8km az=96.0*

ISC 01 06:03:19.6±1.3,5.˝7S±0.˝2×142.˝6E±0.˝4, h10km, n6, σ1°22/6, mb4.0/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.23**	**209**	Pn	**Pn**	**06 07 06.6**	**-1.3**
	0.2nm,0.3s,baz=27,slow=13,SNR=10						
WRA				Sn	Sn	06 09 53.4	-15
	0.1nm,0.3s,baz=26,slow=23,SNR=5.6						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**19.69**	**204**	P	**P**	**06 07 50.2**	**+1.1**
	0.3nm,0.3s,baz=33,slow=9.7,SNR=32						
ASAR				S	S	06 11 16.4	-15
	0.4nm,0.7s,baz=18,slow=28,SNR=3.0						
	3.0nm,0.7s						
MKAR	**Makanchi Array**	**74.50**	**322**	P	**P**	**06 14 59.3**	**+0.8**
	0.7nm,0.7s,baz=114,slow=5.6,SNR=4.8						
	0.7nm,0.7s						
BVAR	**Borovoye Array**	**83.96**	**325**	P	**P**	**06 15 49.4**	**-0.6**
	1.2nm,0.8s,baz=107,slow=5.1,SNR=5.4						
	1.2nm,0.8s						
QSPA	**South Pole Qui**	**84.24**	**180**	P	**P**	**06 15 51.8**	**+0.4**
	1.1nm,0.7s,baz=76,slow=3.3,SNR=7.5						
	1.1nm,0.7s						
ILAR	**Eielson Array**	**86.99**	**24**	P	**P**	**06 16 04.3**	**-0.5**
	0.4nm,0.8s,baz=268,slow=4.2,SNR=4.6						
	0.4nm,0.8s						

*FCIAR **01** 06:10:33.0, 85.˝65N×18.˝80E, h10km, station ZFI2 has station magnitude of 3.60*

*IDC **01** 06:10:37.9±4.6, 84.˝93N×3.˝14E, h0km, mb3.4/4, mbtmp3.5/7, ML3.5/2, MS3.5/27, Error ellipse: s-maj=194.0km s-min=20.5km az=52.0*

ISC 01 06:10:33.3±0.8, 85.˝27N±0.˝07×16.˝46E±0.˝07, h10km, n38, σ2°00/18, mb3.6/4, MS3.4/25, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-**	**5.73**	**123**	*e*P	**Pn**	**06 11 59.6**	**+1.4**
ZFI2				*e*S	**Sn**	**06 13 01.7**	**-2.1**
	29nm,2.7s						
OMEGA	**Omega**	**5.76**	**123**	*e*P	**Pn**	**06 12 00.1**	**+1.6**
OMEGA				S	**Sn**	**06 13 01.4**	**-3.2**
KBS	**Kingsbay**	**6.41**	**188**	*e*P	**Pn**	**06 12 08.2**	**+0.7**
KBS				*e*S	**Sn**	**06 13 19.9**	**-0.6**
SPA0	**Spitsbergen Ar**	**7.13**	**180**	*e*P	**Pn**	**06 12 18.1**	**+0.6**
SPA0				S	**Sn**	**06 13 37.0**	**-1.4**
SPITS	**Spitsbergen Ar**	**7.13**	**180**	Pn	**Pn**	**06 12 20.3**	**+2.8**
	baz=8.5,slow=11						
	2.5nm,0.4s						
HOPEN	**Hopen**	**8.89**	**167**	*e*P	**Pn**	**06 12 42.7**	**+1.2**
HOPEN				*e*S	**Sn**	**06 14 18.5**	**-3.0**
NEEM	**North Greenlan**	**11.66**	**269**	*e*P	Pn	06 13 13.6	-6.1
SUMG	**Summit**	**15.28**	**249**	*i* P	**Pn**	**06 14 07.0**	**-2.0**
ARCES	**ARCESS Array B**	**15.90**	**168**	Pn	**P**	**06 14 20.6**	**+0.2**
	2.8nm,0.8s,baz=352,slow=12,SNR=1.4						
ARCES				LR	LR	06 19 45.2	
	comp=Z,69nm,21.4s,baz=327,slow=34						
RES	**Resolute Bay**	**17.70**	**305**	Pn	**Pn**	**06 14 36.6**	**-2.7**
	0.1nm,0.3s,baz=32,slow=7.7,SNR=2.9						
RES				LR	LR	06 21 28.8	
	comp=Z,180nm,19.0s,baz=355,slow=39						
	1.3nm,1.0s						
FINES	**FINESS Array B**	**24.03**	**169**	LR	LR	06 24 26.0	
	comp=Z,104nm,18.2s,baz=328,slow=34						
NOA	**NORSAR Array B**	**24.38**	**186**	LR	LR	06 24 50.0	
	comp=Z,24nm,18.3s,baz=0.0,slow=35						
INK	**Inuvik**	**26.05**	**335**	LR	LR	06 29 09.9	
	comp=Z,64nm,18.4s,baz=14,slow=43						
FRB	**Frobisher Bay**	**26.39**	**275**	LR	LR	06 25 13.2	
	comp=Z,100nm,18.4s,baz=356,slow=35						
KIRV	**Kirov**	**27.70**	**142**	LR	LR	06 30 13.1	
	comp=Z,88nm,18.3s,baz=357,slow=42						
ILAR	**Eielson Array**	**29.97**	**346**	LR	LR	06 30 03.1	
	comp=Z,69nm,18.1s,baz=5.0,slow=39						
YAK	**Yakutsk**	**30.30**	**59**	LR	LR	06 27 49.4	
	comp=Z,65nm,21.6s,baz=317,slow=33						
ARU	**Arti**	**30.36**	**133**	LR	LR	06 31 33.7	
	comp=Z,67nm,18.1s,baz=335,slow=40						
YKA	**Yellowknife Ar**	**30.99**	**317**	P	**P**	**06 16 50.1**	**0.0**
	0.1nm,0.4s,baz=9.2,slow=9.2,SNR=5.7						
	0.1nm,0.4s						
MA2	**Magadan**	**34.08**	**41**	LR	LR	06 29 44.8	
	comp=Z,36nm,21.5s,baz=84,slow=33						
ZALV	**Zalesovo Beam**	**34.72**	**105**	LR	LR	06 33 24.8	
	comp=Z,67nm,20.3s,baz=24,slow=38						
AKASG	**Malin Array Be**	**34.85**	**166**	LR	LR	06 31 06.5	
	comp=Z,67nm,19.9s,baz=34,slow=35						
AKTO	**Aktyubinsk**	**36.30**	**134**	LR	LR	06 36 30.5	
	comp=Z,70nm,18.2s,baz=172,slow=42						
KDAK	**Kodiak Island**	**37.08**	**350**	LR	LR	06 34 59.4	
	comp=Z,63nm,18.0s,baz=41,slow=39						
MKAR	**Makanchi Array**	**41.63**	**109**	LR	LR	06 39 05.4	
	comp=Z,71nm,19.3s,baz=24,slow=40						
ULM	**Lac du Bonnet**	**41.94**	**297**	LR	LR	06 35 14.5	
	comp=Z,74nm,19.9s,baz=92,slow=36						
KBZ	**Khabaz**	**42.24**	**151**	LR	LR	06 37 25.2	
	comp=Z,67nm,19.3s,baz=18,slow=38						
NEW	**Newport**	**45.32**	**317**	LR	LR	06 37 10.8	
	comp=Z,48nm,19.8s,baz=76,slow=36						
BRTR	**Keskin Array B**	**45.93**	**162**	LR	LR	06 39 13.3	
	comp=Z,40nm,19.9s,baz=4.0,slow=37						
PDAR	**Pindale Array**	**50.34**	**309**	P	**P**	**06 19 30.5**	**+0.5**
	0.6nm,0.8s,baz=32,slow=5.3,SNR=4.3						
PDAR				LR	LR	06 39 05.8	
	comp=Z,68nm,20.4s,baz=79,slow=34						
	0.6nm,0.8s						
YBH	**Yreka Blue Hor**	**52.13**	**322**	LR	LR	06 42 19.8	
	comp=Z,49nm,20.1s,baz=1.0,slow=37						
ELK	**Elko**	**52.70**	**315**	LR	LR	06 41 20.7	
	comp=Z,52nm,18.6s,baz=78,slow=35						
NVAR	**Mina Array Bea**	**55.19**	**317**	LR	LR	06 44 06.2	
	comp=Z,53nm,18.5s,baz=344,slow=37						
TKL	**Tuckaleechee C**	**55.51**	**283**	LR	LR	06 42 31.3	
	comp=Z,107nm,18.1s,baz=116,slow=35						
ANMO	**Albuquerque**	**57.91**	**306**	LR	LR	06 45 11.2	
	comp=Z,87nm,18.1s,baz=138,slow=36						
TXAR	**Lajitas Array**	**63.30**	**302**	P	**P**	**06 21 02.0**	**+0.1**
	0.3nm,0.8s,baz=37,slow=4.8,SNR=2.5						
	0.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**71.10**	**96**	LR	LR	06 55 40.1	
	comp=Z,47nm,20.1s,baz=15,slow=37						
TORD	**Torodi Ar. Bea**	**72.33**	**195**	P	**P**	**06 22 01.7**	**+2.9**
	0.5nm,0.8s,baz=353,slow=5.0,SNR=2.7						
	0.5nm,0.8s						

*IDC **01** 06:10:51.3±1.1, 5.˝96S×142.˝71E, h0km, mb4.0/4, mbtmp4.0/7, ML4.2/2, MS3.3/2, Error ellipse: s-maj=35.4km s-min=24.0km az=72.0*

*NEIC **01** 06:10:52.4±1.0, 6.˝0S±0.˝1×142.˝53E±0.˝09, h10km±2km, mb4.0/12, Error ellipse: s-maj=22.8km s-min=9.4km az=37.0*

ISC 01 06:10:54.9±0.8, 6.˝09S±0.˝09×142.˝52E±0.˝08, h28km, n26, σ1°30/26, mb4.1/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.66**	**126**		**Pn**	**06 12 17.1**	**-0.1**
PMG	**Port Moresby**	**5.66**	**126**	Pn	**Pn**	**06 12 16.8**	**-0.3**
	20nm,0.5s,baz=331,slow=8.6,SNR=8.3						
PMG				Sn	**Sn**	**06 13 20.0**	**-1.2**
	9.7nm,0.3s,baz=213,slow=21,SNR=12						
COEN	**Coen**	**7.84**	**175**	Pn	**Pn**	**06 12 48.0**	**+0.8**
FAKI	**Fak Fak**	**10.71**	**287**	Pn	**Pn**	**06 13 25.2**	**-1.3**
MTN	**Manton Dam**	**13.07**	**238**		**Pn**	**06 13 58.6**	**-0.3**
CTA	**Charters Tower**	**14.38**	**166**	Lg	Lg	06 18 33.0	
	0.2nm,0.3s,baz=270,slow=20,SNR=1.7						
WB0	**Warramunga Arr**	**15.72**	**209**	Pn	**Pn**	**06 14 34.0**	**-0.5**
WB0				IAmb	IAmb	06 14 54.5	
	comp=Z,11nm,1.1s						
WR0	**Warramunga Arr**	**15.81**	**209**	Pn	**Pn**	**06 14 36.0**	**+0.3**
WR0				IAmb	IAmb	06 14 48.8	
	comp=Z,8.2nm,0.6s						
WRAB	**Tennant Creek**	**15.88**	**209**	Pn	**Pn**	**06 14 36.4**	**-0.2**
WB2	**Warramunga Arr**	**15.89**	**209**		**Pn**	**06 14 36.9**	**+0.2**
WB2				IAmb	IAmb	06 14 50.1	
	comp=Z,9.8nm,0.9s						
WRA	**Warramunga Arr**	**15.90**	**209**	Pn	**Pn**	**06 14 37.5**	**+0.7**
WRA	**Warramunga Arr**	**15.90**	**209**	Pn	**Pn**	**06 14 37.2**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=29,slow=13,SNR=10						
WRA				Sn	Sn	06 17 22.8	-9.5
	comp=Z,0.4nm,0.3s,baz=30,slow=22,SNR=3.5						
WRA				Lg	Lg	06 19 21.0	
	comp=Z,0.4nm,0.3s,baz=38,slow=27,SNR=5.3						
	comp=Z,1.4nm,0.5s						
KNRA	**Kununurra**	**16.51**	**234**	Pn	**Pn**	**06 14 45.0**	**+0.4**
KNRA				IAmb	IAmb	06 14 56.5	
	comp=Z,26nm,1.0s						
SOEI	**Soe**	**18.43**	**257**	P	**P**	**06 15 08.7**	**+0.2**
AS31	**Alice Springs**	**19.34**	**204**	P	**P**	**06 15 19.2**	**+1.0**
AS31				IAmb	IAmb	06 15 30.5	
	comp=Z,5.3nm,0.8s						
ASAR	**Alice Springs**	**19.34**	**204**	P	**P**	**06 15 19.4**	**+1.2**
ASAR	**Alice Springs**	**19.34**	**204**	P	**Pn**	**06 15 21.3**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=30,slow=11,SNR=22						
ASAR				S	**S**	**06 18 51.9**	**-3.7**
	comp=Z,1.9nm,0.7s,baz=21,slow=28,SNR=6.0						
ASAR				Lg	Lg	06 21 07.4	
	comp=Z,0.1nm,0.3s,baz=21,slow=28,SNR=2.3						
ASAR				LR	LR	06 22 45.6	
	comp=Z,92nm,19.8s,baz=18,slow=37						
	comp=Z,7.5nm,0.8s						
KAPI	**Kappang**	**22.68**	**272**	P	**P**	**06 15 52.8**	**-1.6**
STKA	**Stephens Creek**	**25.67**	**182**	LR	LR	06 27 55.6	
	comp=Z,69nm,19.4s,baz=210,slow=40						
MK31	**Makanchi Array**	**74.77**	**322**	P	**P**	**06 22 32.0**	**-0.5**
MK31				IAmb	IAmb	06 22 41.9	
	comp=Z,1.8nm,0.9s						
MKAR	**Makanchi Array**	**74.77**	**322**	P	**P**	**06 22 31.5**	**-1.0**
MKAR	**Makanchi Array**	**74.77**	**322**	P	**P**	**06 22 34.6**	**+2.1**
	comp=Z,0.7nm,0.8s,baz=117,slow=5.0,SNR=2.2						
	comp=Z,0.7nm,0.8s						
QSPA	**South Pole Qui**	**83.88**	**180**	P	**P**	**06 23 22.9**	**+0.9**
QSPA	**South Pole Qui**	**83.88**	**180**	P	**P**	**06 23 23.4**	**+1.4**
	comp=Z,2.0nm,1.0s,baz=311,slow=2.3,SNR=5.4						
	comp=Z,2.0nm,1.0s						
BVAR	**Borovoye Array**	**84.24**	**325**	P	**P**	**06 23 25.1**	**+1.2**
	comp=Z,1.5nm,0.7s,baz=104,slow=6.3,SNR=6.3						
	comp=Z,1.5nm,0.7s						
ILAR	**Eielson Array**	**87.34**	**24**	P	**P**	**06 23 38.0**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=266,slow=4.3,SNR=7.1						
	comp=Z,0.4nm,0.6s						

*IDC **01** 06:10:58.9±22.0, 1.˝64S×120.˝47E, h0km, mb3.9/5, mbtmp3.9/5, MS3.0/3, Error ellipse: s-maj=472.0km s-min=76.6km az=159.0*

*NEIC **01** 06:11:11.0±0.9, 0.˝25S±0.˝05×119.˝90E±0.˝08, h10km±2km, mb4.2/9, Error ellipse: s-maj=15.8km s-min=4.7km az=120.0*

*DJA **01** 06:11:10.2±0.6, 0.˚S±5.˝5×12.˚0E±.˚, h18km±8km, M4.4/10, mb4.8/1, mB4.6/1, MLv4.3/10, Mw(mB)3.8/1*

ISC 01 06:11:09.7±0.6, 0.˚29S±0.˝05×119.˚81E±0.˚09, h10km, n31, σ1°41/29, mb4.2/12, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.63**	**8**	P	**Pg**	**06 11 21.0**	**-0.9**
MPSI				S	**Sg**	**06 11 30.0**	**-0.1**
TOLI2	**Tolitoli**	**1.69**	**35**		**Pn**	**06 11 39.1**	**-0.3**
MRSI	**Marisa**	**2.26**	**70**	P	**Pn**	**06 11 44.7**	**-2.5**
TTSI	**Tana Toraja**	**2.74**	**180**	P	**Pb**	**06 11 56.9**	**-1.9**
LUWI	**Luwuk**	**3.06**	**104**		**Pn**	**06 11 58.5**	**+0.4**
LUWI	**Luwuk**	**3.06**	**104**	P	**Pn**	**06 11 58.7**	**+0.6**
BKB	**Balikpapan**	**3.07**	**252**	P	**Pn**	**06 11 58.1**	**-0.2**
GTOI	**Gorontalo**	**3.33**	**74**	P	**Pn**	**06 11 58.2**	**-3.7**
KAPI	**Kapparng**	**4.70**	**181**		**Pn**	**06 12 22.3**	**+1.6**
BKSI	**Bulukumba**	**5.01**	**176**	P	**Pn**	**06 12 26.3**	**+1.3**
PLAI	**Plampang**	**8.72**	**193**	P	**Pn**	**06 13 13.3**	**-2.7**
DAV	**Davao City (W)**	**9.30**	**38**	LR	LR	06 18 19.2	
	comp=Z,77nm,18.2s,baz=182,slow=44						
FITZ	**Fitzroy Crossi**	**18.61**	**162**	P	**Pn**	**06 15 27.7**	**+0.1**
WB2	**Warramunga Arr**	**24.18**	**145**	P	**P**	**06 16 26.3**	**-0.1**
WB2				IAmb	IAmb	06 16 30.5	
	comp=Z,8.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**27.70**	**313**	LR	LR	06 30 58.7	
	comp=Z,25nm,19.4s,baz=45,slow=41						
NWAO	**Narrogin (SRO)**	**32.56**	**184**	P	**P**	**06 17 41.5**	**+0.3**
INCN	**Inchon**	**38.11**	**9**	P	**P**	**06 18 29.1**	**+0.1**
PALK	**Pallekele**	**39.72**	**282**	LR	LR	06 35 16.9	
	comp=Z,30nm,20.1s,baz=259,slow=36						
BJT	**Baijiatuau**	**40.25**	**356**	P	**P**	**06 18 46.6**	**-0.2**
BJT				IAmb	IAmb	06 18 51.3	
	comp=Z,5.0nm,0.9s						
USA0B	**Ussuriysk Arra**	**45.60**	**12**	P	**P**	**06 19 30.9**	**+0.7**
USA0B				IAmb	IAmb	06 19 53.9	
	comp=Z,2.2nm,0.9s						
USRK	**Ussuriysk Ar.**	**45.60**	**12**	P	**P**	**06 19 30.3**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=206,slow=6.6,SNR=7.0						
	comp=Z,2.9nm,0.7s						

KST S Sg 06 15 51.6 +1.1
3.4nm,0.3s
ULHL Ulahol 0.59 122 ⇑P Pb 06 15 45.6 -0.1
2.7nm,0.2s,SNR=7.8
ULHL ⇓S Sb 06 15 55.0 +0.3
3.6nm,0.3s
DGS Degeres 0.70 13 P Pg 06 15 45.9 +0.2
2.1nm,0.1s
DGS S Sg 06 15 55.9 +1.2
3.3nm,0.3s
AAK Ala-Archa 0.79 276 ⇓P Pb 06 15 48.4 -0.6
7.4nm,0.2s,SNR=18
AAK ⇓S Sb 06 15 59.5 -0.8
5.9nm,0.3s
KRBS Karabastau 1.14 4 P Pg 06 15 53.6 -0.5
0.6nm,0.4s
KRBS S Sg 06 16 09.2 +0.3
0.9nm,0.3s
MDOK Medeo 1.25 61 Pg Pg 06 15 55.3 -0.9
2.0nm,0.2s
MDOK Lg Lg 06 16 12.0
2.0nm,0.2s
EKS2 Erkin-Say 1.32 275 ⇑P Pn 06 15 58.5 +0.4
1.4nm,0.1s,SNR=9.4
KTBS Karatobe 1.41 35 P Pn 06 15 59.1 -0.2
2.3nm,0.2s
KTBS S Sn 06 16 18.6 0.0
1.6nm,0.3s
KUU Kurty 1.45 23 P Pn 06 15 59.5 -0.3
4.0nm,0.4s
KUU S Sb 06 16 19.2 +0.1
1.4nm,0.2s
MRKS Merke 1.73 277 P Pb 06 16 05.1 +0.1
2.4nm,0.3s
MRKS S Sg 06 16 28.8 +0.8
1.9nm,0.3s

*TEH **01** 06:15:39.4,34°.61N×46°.36E, h8km±13km, ML3.8*
*ISN **01** 06:15:39.1±1.2,34°.65N×46°.36E, h14km±7km, ML3.9*
*IDC **01** 06:15:40.2±6.4,34°.47N×46°.25E, h22km±35km, mb3.7/8, mbtmp3.9/11, ML3.7/3, Error ellipse: s-maj=40.6km s-min=22.3km az=15.0*

ISC 01 06:15:39.7±0.9, 34°62N±0°.03×46°34E±0°.03, h9km±6km, n58, σ1°73/64, mb3.9/7, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.09**	**25**	Pg	**Pg**	**06 15 41.9**	**-0.4**
IDHR				Sg	**Sg**	**06 15 44.2**	**+0.1**
IGHG	**Ghaleghazi**	**0.34**	**146**	Pg	**Pg**	**06 15 46.7**	**+0.2**
ILIN	**Lien**	**0.60**	**59**	Pg	**Pg**	**06 15 50.6**	**-0.7**
KGS1	**Ghasr-e-Shirin**	**0.63**	**260**	Pg	**Pg**	**06 15 52.0**	**+0.2**
KCHF	**Cheshme Sefid,**	**0.67**	**120**	Pg	**Pg**	**06 15 52.0**	**-0.8**
KCHF				Sg	**Sg**	**06 16 02.5**	**+1.0**
ILBA	**Ilam Banvizeh**	**0.99**	**186**	Pg	**Pg**	**06 15 58.2**	**-0.6**
IBZA	**Bozab**	**1.27**	**96**	Pg	**Pg**	**06 16 03.2**	**-0.8**
IBDR	**Badra**	**1.54**	**193**	*e*Pg	**Pn**	**06 16 07.0**	**-0.4**
IBDR				*e*Sg	**Sn**	**06 16 29.0**	**+1.5**
IBDR				AML	AML	06 16 34.4	
	comp=E,3μm,0.6s						
IBDR				AML	AML	06 16 34.8	
	comp=N,2μm,0.6s						
IKFM	**Kafar-mosalman**	**1.66**	**131**	Pg	**Pn**	**06 16 10.0**	**+1.0**
SDS1	**Sardasht. Az.**	**1.68**	**336**	Pg	**Pn**	**06 16 10.5**	**+1.0**
IDOB	**Doab**	**1.73**	**118**	Pg	**Pn**	**06 16 11.1**	**+0.9**
IKRK	**Kirkuk**	**1.82**	**296**	*e*Pn	**Pn**	**06 16 12.0**	**+0.8**
IKRK				*e*Sn	**Sn**	**06 16 36.0**	**+1.6**
HSAM	**Samen**	**1.91**	**102**	Pn	**Pn**	**06 16 14.1**	**+1.3**
BHD	**Baghdad**	**2.11**	**231**	*e*Pn	**Pn**	**06 16 16.0**	**+0.8**
BHD				*e*Sn	**Sn**	**06 16 43.0**	**+1.4**
BHD				AML	AML	06 16 53.8	
	comp=E,761nm,0.4s						
MAHB	**Mahabad**	**2.21**	**347**	Pn	**Pn**	**06 16 18.8**	**+2.1**
HAGD	**Aghdareh**	**2.32**	**84**	Pn	**Pn**	**06 16 19.0**	**+0.7**
IHSH	**Hashtrud**	**2.79**	**15**	Pn	**Pn**	**06 16 26.9**	**+2.0**
RAFI	**Al-Rafai**	**2.89**	**184**	*e*Pn	**Pn**	**06 16 27.0**	**+1.1**
RAFI				*e*Sn	**Sn**	**06 16 47.0**	**+2.2**
IRAZ	**Razeghan**	**3.05**	**74**	Pn	**Pn**	**06 16 30.6**	**+2.2**
IAZR	**Azarshahr**	**3.07**	**355**	Pn	**Pn**	**06 16 31.0**	**+2.3**
ISRB	**Sarab**	**3.38**	**18**	Pn	**Pn**	**06 16 35.0**	**+2.1**
ISHB	**Shabestar**	**3.71**	**351**	Pn	**Pn**	**06 16 38.6**	**+1.2**
IHRS	**Heris**	**3.74**	**9**	Pn	**Pn**	**06 16 40.3**	**+2.4**
IPIR	**Pirpir**	**4.26**	**116**	Pn	**Pn**	**06 16 46.3**	**+1.2**
GAS1	**Astara - Iran**	**4.27**	**27**	Pn	**Pn**	**06 16 47.5**	**+2.6**
QAMS	**Qamsar**	**4.28**	**100**	Pn	**Pn**	**06 16 47.0**	**+1.6**
JHBN	**Jahan bin**	**4.33**	**122**	Pn	**Pn**	**06 16 46.7**	**+0.7**
GRMI	**Germi**	**4.37**	**16**	Pn	**Pn**	**06 16 48.6**	**+2.2**
IVRN	**Varamin**	**4.45**	**84**	Pn	**Pn**	**06 16 49.6**	**+2.1**
IKLH	**Kolahrood**	**4.54**	**105**	Pn	**Pn**	**06 16 50.7**	**+1.8**
MZPU	**Pul - Mazandar**	**4.64**	**65**	Pn	**Pn**	**06 16 51.9**	**+1.8**
IDMV	**Damavand**	**4.76**	**77**	Pn	**Pn**	**06 16 53.6**	**+1.6**
KRSH	**Karshahi**	**4.84**	**96**	Pn	**Pn**	**06 16 54.6**	**+1.6**
ISFB	**Sefidab**	**4.88**	**91**	Pn	**Pn**	**06 16 54.8**	**+1.4**
MAKU	**Maku**	**4.91**	**345**	Pn	**Pn**	**06 16 56.6**	**+2.7**
IZEF	**Zefreh**	**5.28**	**107**	Pn	**Pn**	**06 17 00.4**	**+1.4**
IFIR	**Firoozkooh**	**5.36**	**77**	Pn	**Pn**	**06 17 02.1**	**+2.0**
GNI	**Garni**	**5.67**	**348**	Pg	**Pg**	**06 17 24.7**	**-3.6**
	comp=E,1.7nm,0.3s,baz=114,slow=2.7,SNR=6.6						
GNI				Lg	Lg	06 18 43.5	
	comp=E,0.7nm,0.3s,baz=173,slow=19,SNR=2.6						
KLNJ	**Kolanjah**	**5.70**	**128**	Pn	**Pn**	**06 17 05.5**	**+0.6**
IRAM	**Ramesheh**	**5.79**	**117**	Pn	**Pn**	**06 17 07.6**	**+1.6**
ANAR	**Anarak**	**6.31**	**101**	Pn	**Pn**	**06 17 14.9**	**+1.8**
ASF	**Jabal al Asfar**	**8.26**	**255**	Pn	**Pn**	**06 17 40.4**	**+0.6**
	comp=E,1.2nm,0.3s,baz=152,slow=4.3,SNR=5.7						
ASF				Lg	Lg	06 19 58.1	
	comp=E,0.8nm,0.3s,baz=330,slow=20,SNR=2.5						
BRTR	**Keskin Array B**	**11.34**	**300**	Pn	**Pn**	**06 18 25.9**	**+3.9**
	baz=112,slow=12,SNR=6.0						
	comp=E,1.9nm,0.9s						
NAZ	**Nazwa, Dubai**	**12.54**	**137**	Pn	**Pn**	**06 18 36.7**	**-1.7**
MDH	**Madha**	**12.67**	**134**	Pn	**Pn**	**06 18 37.9**	**-2.3**
UOSS	**Minazif**	**12.89**	**136**	Pn	**Pn**	**06 18 39.9**	**-3.3**
HATD	**Hatta, Dubai**	**12.94**	**136**	Pn	**Pn**	**06 18 42.1**	**-1.7**
ASHO	**Ashiyiah**	**13.01**	**137**	Pn	**Pn**	**06 18 42.4**	**-2.4**
ASHO				Sn	Sn	06 20 58.6	-11
WSAR	**Wadi Sarin**	**15.61**	**133**	Pn	**Pn**	**06 19 16.9**	**-3.2**
	comp=E,2.0nm,0.3s,baz=328,slow=10,SNR=24						
	comp=E,6.9nm,0.5s						
AKTO	**Aktyubinsk**	**17.96**	**25**	P	**Pn**	**06 19 49.8**	**+0.2**
	comp=E,0.3nm,0.3s,baz=182,slow=6.1,SNR=4.2						
	comp=E,1.0nm,0.4s						
AKASG	**Malin Array Be**	**20.34**	**327**	P	**P**	**06 20 14.8**	**-1.4**
	comp=E,0.3nm,0.4s,baz=138,slow=9.1,SNR=10.0						
	comp=E,0.3nm,0.4s						
BVAR	**Borovoye Array**	**25.09**	**35**	P	**P**	**06 21 06.1**	**+1.5**
	comp=E,0.6nm,0.4s,baz=231,slow=8.4,SNR=4.5						
	comp=E,0.6nm,0.4s						
MKAR	**Makanchi Array**	**29.59**	**55**	P	**P**	**06 21 44.5**	**-0.6**
	comp=E,0.3nm,0.5s,baz=247,slow=11,SNR=4.6						
	comp=E,0.3nm,0.5s						
FINES	**FINESS Array B**	**29.81**	**340**	P	**P**	**06 21 45.2**	**-1.5**
	comp=E,2.1nm,0.9s,baz=137,slow=13,SNR=4.6						
	comp=E,2.1nm,0.9s						
ZALV	**Zalesovo Beam**	**33.10**	**42**	P	**P**	**06 22 15.9**	**+0.2**
	comp=E,0.4nm,0.3s,baz=243,slow=6.9,SNR=2.5						
	comp=E,0.4nm,0.3s						
HFS	**Hagfors**	**33.16**	**330**	P	**P**	**06 22 15.4**	**-0.8**
	comp=E,1.2nm,0.4s,baz=129,slow=13,SNR=4.3						
	comp=E,1.2nm,0.4s						
EKA	**Eskdalemuir Ar**	**39.63**	**317**	P	**P**	**06 23 10.4**	**-1.2**
	comp=E,4.1nm,0.9s,baz=98,slow=10,SNR=2.7						
	comp=E,4.1nm,0.9s						
SPITS	**Spitsbergen Ar**	**45.52**	**352**	P	**P**	**06 23 58.5**	**-0.6**
	comp=E,5.2nm,0.8s,baz=149,slow=11,SNR=1.5						
	comp=E,5.2nm,0.8s						

IDC 01 06:27:01.8±2.8, 54°17N×87°07E, h0km, mbtmp3.0/3, ML2.5/3, Error ellipse: s-maj=25.5km s-min=14.5km az=72.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.34**	**262**	I	I	06 36 10.0	
	baz=78,slow=342,SNR=13						
ZALV	**Zalesovo Beam**	**1.34**	**262**	Pg	Pg	06 27 25.3	-2.2
	1.6nm,0.3s,baz=77,slow=17,SNR=14						
ZALV				Lg	Lg	06 27 43.8	
	1.2nm,0.3s,baz=77,slow=27,SNR=6.4						
KURBB	**Kurchatov Arra**	**6.32**	**239**	Pn	Pn	06 28 37.0	+1.0
	0.1nm,0.3s,baz=53,slow=13,SNR=11						
KURBB				Lg	Lg	06 30 23.3	
	baz=52,slow=30,SNR=2.4						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**7.98**	**204**	Pn	Pn	06 28 59.9	+1.0
	0.1nm,0.3s,baz=24,slow=14,SNR=2.9						
MKAR				Sn	Sn	06 30 27.8	-2.2
	0.1nm,0.3s,baz=27,slow=25,SNR=3.3						
MKAR				Lg	Lg	06 31 17.6	
	baz=23,slow=33,SNR=3.1						
	0.1nm,0.4s						
BVAR	**Borovoye Array**	**9.98**	**270**	Pn	Pn	06 29 26.6	+0.3
	baz=71,slow=15,SNR=3.2						
	0.5nm,0.4s						

*JMA **01** 06:31:17.5±0.3,33°.N×13°.8E, h418km, MV3.7/26, FAR S OFF TOKAI DISTRICT*
*IDC **01** 06:31:19.7±0.7,32°.41N×137°.87E, h384km±10km, mb3.4/15, mbtmp4.2/20, Error ellipse: s-maj=25.5km s-min=10.0km az=73.0*

ISC 01 06:31:19.2±0.7, 32°37N±0°.07×138°16E±0°.08, h400km, n47, σ1°61/53, mb3.6/15, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**1.56**	**61**	P	**Pn**	**06 32 13.8**	**+1.2**
	141nm,0.3s,baz=23,slow=22,SNR=6.3						
JHJ				S	**S**	**06 32 56.0**	**+0.2**
	162nm,0.3s,baz=73,slow=19,SNR=1.7						
JHJ2	**Mitsune**	**1.58**	**61**	*e*P	**Pn**	**06 32 13.7**	**+1.0**
TTO3	**TONANKAI O.B.S**	**1.62**	**337**	*e*P	**Pn**	**06 32 12.9**	**+0.3**
TTO2	**TONANKAI O.B.S**	**1.67**	**325**	P	**Pn**	**06 32 13.1**	**+0.3**
TTO1	**TONANKAI O.B.S**	**1.71**	**318**	*e*P	**Pn**	**06 32 13.0**	**0.0**
JIE	**Ise**	**2.36**	**329**	P	**Pn**	**06 32 16.8**	**-0.6**
JTNC	**Tanabenakahech**	**2.59**	**305**	P	**Pn**	**06 32 17.8**	**-1.3**
JWY	**Kouya**	**2.84**	**311**	P	**Pn**	**06 32 20.2**	**-0.8**
JOD2	**Odawara 2**	**2.99**	**15**	P	**Pn**	**06 32 21.2**	**-1.0**
JOD2				*e*S	**S**	**06 33 10.4**	**-2.9**
INU	**Inuyama**	**3.12**	**343**	P	**Pn**	**06 32 22.7**	**-0.6**
JYN	**Shimob**	**3.14**	**6**	P	**Pn**	**06 32 23.2**	**-0.3**
BSO1	**Boso 1**	**3.28**	**45**	P	**Pn**	**06 32 22.9**	**-1.0**
BSO1				*e*S	**S**	**06 33 13.5**	**-3.1**
JGF	**Kuroka**	**3.29**	**348**	P	**Pn**	**06 32 24.1**	**-0.7**
JAI	**Aioi**	**3.42**	**296**	P	**Pn**	**06 32 24.7**	**-1.2**
JYTA	**Yamagatataniai**	**3.43**	**340**	P	**Pn**	**06 32 25.2**	**-0.7**
JRY	**Ryogami san**	**3.69**	**9**	P	**Pn**	**06 32 27.5**	**-0.8**
JRY				*e*S	**S**	**06 33 21.4**	**-3.0**
JWT	**Wachi**	**3.71**	**322**	P	**Pn**	**06 32 27.5**	**-0.9**
JWT				*e*S	**S**	**06 33 21.1**	**-3.5**
JMN	**Monobe**	**3.84**	**292**	P	**Pn**	**06 32 28.9**	**-0.9**
JMN	**Monobe**	**3.84**	**292**	P	**Pn**	**06 32 28.9**	**-0.9**
MJAR	**Matsushiro Arr**	**4.17**	**1**	P	**Pn**	**06 32 30.8**	**-2.0**
	12nm,0.5s,baz=290,slow=10,SNR=22						
MJAR				S	**S**	**06 33 29.7**	**-2.8**
	3.6nm,0.5s,baz=91,slow=9.6,SNR=2.1						
MAJO	**Matsushiro**	**4.17**	**0**	P	**Pn**	**06 32 31.6**	**-1.1**
JSD	**Sado**	**5.66**	**1**	P	**Pn**	**06 32 46.5**	**-1.5**
JMM	**Marumori**	**5.89**	**21**	P	**Pn**	**06 32 49.4**	**-1.1**
CBIJ	**Chichi jima**	**6.31**	**145**	*e*S	**S**	**06 34 07.9**	**-5.7**
JTM	**Tenmabayashi**	**8.72**	**15**	P	**P**	**06 33 22.1**	**-0.3**
TJN	**Taejon**	**9.78**	**297**	P	**Pn**	**06 33 36.0**	**+1.5**
KSRS	**Korea Array**	**9.82**	**304**	P	**Pn**	**06 33 34.2**	**-0.7**
	1.4nm,0.6s,baz=119,slow=11,SNR=5.9						
ERM	**Erimo**	**10.42**	**21**	P	**Pn**	**06 33 43.0**	**+1.2**
JEM	**Erimo**	**10.42**	**21**	P	**Pn**	**06 33 43.0**	**+1.1**
ASAJ	**Asahikawa**	**12.23**	**15**	P	**Pn**	**06 34 03.1**	**+0.2**
	11nm,0.4s,baz=214,slow=16,SNR=7.6						
USRK	**Ussuriysk Ar.**	**12.77**	**340**	P	**P**	**06 34 07.0**	**-0.1**
	4.2nm,0.5s,baz=144,slow=10.0,SNR=12						
KLR	**Kul'dur**	**17.52**	**346**	P	**P**	**06 34 58.0**	**-0.3**
	3.5nm,0.5s,baz=170,slow=8.6,SNR=20						
SONM	**Songino Array**	**28.55**	**312**	P	**P**	**06 36 41.3**	**+1.2**
	0.5nm,0.4s,baz=114,slow=7.3,SNR=4.4						
	0.5nm,0.4s						
CMAR	**Chiang Mai Arr**	**37.82**	**258**	P	**P**	**06 37 57.4**	**-2.1**
	1.2nm,0.3s,baz=46,slow=7.7,SNR=5.0						
	1.2nm,0.3s						
ZALV	**Zalesovo Beam**	**43.25**	**316**	P	**P**	**06 38 42.5**	**-0.3**
	0.9nm,0.4s,baz=74,slow=8.3,SNR=4.7						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**44.49**	**306**	P	**P**	**06 38 53.3**	**+0.6**
	1.8nm,0.6s,baz=101,slow=8.7,SNR=21						
	1.8nm,0.6s						
KURBB	**Kurchatov Arra**	**46.91**	**311**	P	**P**	**06 39 11.6**	**+0.3**
	1.3nm,0.4s,baz=92,slow=8.8,SNR=18						
	1.3nm,0.4s						
BVAR	**Borovoye Array**	**51.83**	**315**	P	**P**	**06 39 48.7**	**+0.7**
	1.2nm,0.4s,baz=100,slow=8.6,SNR=11						
	1.2nm,0.4s						
WRA	**Warramunga Arr**	**52.14**	**185**	P	**P**	**06 39 52.2**	**+1.6**
	0.8nm,0.3s,baz=0.5,slow=7.7,SNR=24						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**55.87**	**185**	P	**P**	**06 40 19.4**	**+2.4**
	0.7nm,0.5s,baz=14,slow=10,SNR=18						
	0.7nm,0.5s						
ARU	**Arti**	**58.14**	**320**	P	**P**	**06 40 33.0**	**+0.6**
	5.6nm,0.2s,baz=7.3,slow=3.0,SNR=4.2						
	5.6nm,0.2s						
AKTO	**Aktyubinsk**	**59.85**	**313**	P	**P**	**06 40 44.5**	**+0.3**
	3.0nm,0.7s,baz=76,slow=12,SNR=7.8						
	3.0nm,0.7s						
ARCES	**ARCESS Array B**	**67.41**	**339**	P	**P**	**06 41 33.8**	**+1.1**
	2.4nm,0.7s,baz=64,slow=5.5,SNR=3.8						
	2.4nm,0.7s						
FINES	**FINESS Array B**	**71.68**	**332**	P	**P**	**06 41 59.5**	**+1.0**
	1.1nm,0.4s,baz=69,slow=5.3,SNR=21						
	1.1nm,0.4s						
AKASG	**Malin Array Be**	**76.32**	**322**	P	**P**	**06 42 26.0**	**+0.8**
	0.9nm,0.3s,baz=49,slow=5.7,SNR=9.2						
	0.9nm,0.3s						
NOA	**NORSAR Array B**	**77.42**	**337**	P	**P**	**06 42 32.2**	**+1.0**
	0.9nm,0.8s,baz=53,slow=6.9,SNR=2.1						
	0.9nm,0.8s						
BRTR	**Keskin Array B**	**79.89**	**311**	P	**P**	**06 42 46.6**	**+1.6**
	2.0nm,0.8s,baz=135,slow=3.2,SNR=5.7						
	2.0nm,0.8s						

*JMA **01** 06:44:18.7±0.3,45°.0N±0°.9×14°6E, h29km±3km, MV3.2/13, SOUTHERN SEA OF OKHOTSK*
*SKHL **01** 06:44:20.8±0.2,44°.80N×145°.40E, h75km±3km, mb4.3/3*

ISC 01 06:44:20.8±1.8, 44°78N±0°.06×145°61E±0°.05, h79km±25km, n12, σ1°54/20, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**0.76**	**166**	*i* P	**Pn**	**06 44 35.8**	**-1.2**
YUK				AMB	AMB	06 44 37.6	
	330nm,0.2s						
YUK				*i* S	**Sn**	**06 44 47.0**	**-2.1**
YUK				A	A	06 44 48.2	
	1μm,0.4s						
YUK				A	A	06 44 48.2	
	1μm,0.4s						
JRA	**Rausu**	**0.91**	**203**	*e*S	**Sn**	**06 44 52.9**	**+1.0**
JNSB	**Nemuroshibetsu**	**1.09**	**204**	*e*P	**Pn**	**06 44 41.8**	**+0.9**
JNSB				*e*S	**Sn**	**06 44 57.9**	**+2.1**
SHO	**Shikotan**	**1.26**	**136**	*e*P	**Pn**	**06 44 42.5**	**-0.5**
SHO				AMB	AMB	06 44 45.9	
	10.0nm,0.2s						
SHO				AMB	AMB	06 44 45.9	
	30nm,0.2s						
SHO				*i* S	**Sn**	**06 44 59.0**	**-0.6**
SHO				A	A	06 45 00.6	
	250nm,0.4s						
SHO				A	A	06 45 00.6	
	660nm,0.4s						
JNK	**Nakash**	**1.35**	**209**	*e*P	**Pn**	**06 44 45.4**	**+1.3**
NMR	**Nemuro--Hokkai**	**1.41**	**176**	*i* P	**Pn**	**06 44 44.2**	**-0.7**
NMR				*i* S	**Sn**	**06 45 02.0**	**-1.0**
NEM2	**Nemuro 2**	**1.42**	**176**	*e*P	**Pn**	**06 44 45.4**	**+0.5**
NEM2				*e*S	**Sn**	**06 45 05.0**	**+1.9**
JTKR	**Abashiri--Toko**	**1.46**	**237**	*e*P	**Pn**	**06 44 46.5**	**+0.9**
KUR	**Kuril'sk**	**1.67**	**73**	*e*P	**Pn**	**06 44 49.3**	**+1.1**
KUR				AMB	AMB	06 44 49.9	
	40nm,0.2s						
KUR				*e*S	**Sn**	**06 45 10.5**	**+1.6**
KUR				A	A	06 45 14.1	
	60nm,0.3s						
KUR				A	A	06 45 14.1	
	30nm,0.3s						
JMP	**Maruseppu**	**1.79**	**245**	*e*P	**Pn**	**06 44 51.2**	**+1.4**
AKK	**Akkeshi**	**1.84**	**198**	*e*P	**Pn**	**06 44 49.5**	**-1.1**
AKK				*e*S	**Sn**	**06 45 10.9**	**-2.3**
YSS	**Yuzh-Sakhalins**	**2.95**	**319**	*e*P	**Pn**	**06 45 05.0**	**-0.4**
YSS				AMB	AMB	06 45 05.4	
	30nm,0.3s						
YSS				*e*S	**Sn**	**06 45 37.4**	**-2.4**
YSS				A	A	06 45 40.0	
	20nm,0.3s						
YSS				A	A	06 45 40.0	
	10.0nm,0.3s						

IDC 01 06:48:13.7±5.5, 6°38S×133°51E, h0km, mb3.2/1, mbtmp3.3/3, ML3.6/2, Error ellipse: s-maj=311.7km s-min=34.2km az=77.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.50**	**177**	Pn	Pn	06 51 27.4	+0.7
	0.3nm,0.3s,baz=359,slow=13,SNR=19						
WRA				Sn	Sn	06 53 51.1	-6.6
	0.2nm,0.3s,baz=338,slow=22,SNR=1.9						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**17.19**	**179**	P	Pn	06 52 14.9	-0.6
	0.2nm,0.3s,baz=351,slow=9.7,SNR=12						
ASAR				S	Sn	06 55 19.9	-7.5
	0.4nm,0.6s,baz=358,slow=27,SNR=4.0						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**69.67**	**325**	P	P	06 59 25.3	0.0
	0.2nm,0.6s,baz=129,slow=7.3,SNR=1.8						
	0.2nm,0.6s						

IDC 01 06:49:11.3±2.6, 54°05N×86°59E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=21.5km s-min=13.4km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**265**	I	I	06 56 46.9	
	baz=86,slow=345,SNR=3.4						
ZALV	**Zalesovo Beam**	**1.05**	**265**	Pg	Pg	06 49 30.4	-1.0
	0.7nm,0.3s,baz=80,slow=16,SNR=6.1						
ZALV				Lg	Lg	06 49 46.1	
	1.5nm,0.3s,baz=83,slow=28,SNR=9.2						
ZALV				Rg	Rg	06 49 53.5	
	8.8nm,0.9s,baz=79,slow=30,SNR=21						
KURBB	**Kurchatov Arra**	**6.01**	**238**	Pn	Pn	06 50 42.0	+0.5
	0.1nm,0.3s,baz=55,slow=13,SNR=7.1						
KURBB				Lg	Lg	06 52 23.9	
	baz=55,slow=31,SNR=4.2						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**7.76**	**202**	Pn	Pn	06 51 06.8	+1.3
	0.1nm,0.3s,baz=24,slow=13,SNR=11						
MKAR				Lg	Lg	06 53 17.0	
	0.1nm,0.3s,baz=20,slow=29,SNR=3.6						
	0.2nm,0.3s						

IDC 01 07:05:52.9±6.6, 6°18S×141°98E, h0km, mb3.4/1, mbtmp3.3/3, ML3.0/2, Error ellipse: s-maj=232.6km s-min=36.7km az=95.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.57**	**208**	Pn	Pn	07 09 32.0	-2.0
	0.1nm,0.3s,baz=27,slow=14,SNR=2.2						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**19.05**	**203**	P	P	07 10 17.1	+0.2
	0.1nm,0.3s,baz=31,slow=10,SNR=14						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**74.51**	**322**	P	P	07 17 33.7	+0.3
	0.3nm,0.8s,baz=101,slow=7.5,SNR=2.3						
	0.3nm,0.8s						

IDC 01 07:11:44.2±2.1, 6°22S×143°75E, h0km, mb3.7/3, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=87.3km s-min=36.4km az=106.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.42**	**213**	Pn	Pn	07 15 31.3	-4.9
	0.2nm,0.3s,baz=32,slow=11,SNR=7.4						
ASAR	**Alice Springs**	**19.76**	**208**	P	P	07 16 15.9	-0.1
	0.2nm,0.3s,baz=37,slow=9.1,SNR=23						
	2.1nm,0.7s						
MKAR	**Makanchi Array**	**75.63**	**321**	P	P	07 23 31.3	0.0
	0.4nm,0.7s,baz=116,slow=7.5,SNR=3.6						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**85.06**	**324**	P	P	07 24 22.2	+0.3
	0.4nm,0.5s,baz=116,slow=3.4,SNR=2.2						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**86.97**	**24**	P	P	07 24 30.9	-0.2
	0.6nm,0.9s,baz=262,slow=4.4,SNR=2.8						
	0.6nm,0.9s						

*TEH **01** 07:13:40.9,34°.62N×46°.37E, h8km±37km, ML2.6*
*ISN **01** 07:13:41.5±1.1,34°.67N×46°.45E, h24km±19km, ML2.6*

ISC 01 07:13:40.9±1.1, 34°63N±0°.04×46°39E±0°.04, h10km±10km, n10, σ0°65/13, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.07**	**359**	Pg	**Pg**	**07 13 43.5**	**+0.1**
IGHG	**Ghaleghazi**	**0.34**	**154**	Pg	**Pg**	**07 13 48.2**	**+0.5**
ILIN	**Lien**	**0.55**	**59**	Pg	**Pb**	**07 13 52.2**	**-0.6**
KCHF	**Cheshme Sefid,**	**0.65**	**123**	Pg	**Pg**	**07 13 53.7**	**+0.2**
ILBA	**Ilam Banvizeh**	**1.02**	**189**	Pg	**Pb**	**07 14 00.1**	**-0.6**
IBZA	**Bozab**	**1.23**	**97**	Pg	**Pg**	**07 14 04.7**	**+0.3**
IBDR	**Badra**	**1.57**	**194**	*e*Pg	**Pg**	**07 14 11.0**	**+0.1**
IBDR				*e*Sg	**Sg**	**07 14 31.0**	**-0.3**
IBDR				AML	AML	07 14 31.7	
	comp=E,127nm,0.1s						
IBDR				AML	AML	07 14 34.3	
	comp=N,139nm,0.1s						
IKFM	**Kafar-mosalman**	**1.64**	**132**	Pg	**Pg**	**07 14 11.9**	**-0.5**
IKRK	**Kirkuk**	**1.85**	**295**	*e*Pn	**Pb**	**07 14 14.0**	**-0.8**
IKRK				*e*Sn	**Sb**	**07 14 38.0**	**+0.1**
BHD	**Baghdad**	**2.15**	**231**	*e*Pn	**Pn**

1.1nm,0.8s
ILAR Eielson Array 87.00 24 P **P** 07 39 37.0 -1.0
1.0nm,0.8s,baz=259,slow=4.4,SNR=9.8
1.0nm,0.8s

IDC 01 07:39:25.0±1.9,5°50.5S×141°37.3E,h0km,mb3.7/1, mbtmp3.8/3,ML3.7/2,MS3.2/1,Error ellipse: s-maj=320.8km s-min=33.4km az=114.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.05**	**206**	Pn	Pn	07 43 10.3	-2.1
	0.3nm,0.3s,baz=29,slow=14,SNR=10						
WRA				Sn	Sn	07 45 55.5	-16
	0.1nm,0.3s,baz=40,slow=24,SNR=3.9						
WRA				Lg	Lg	07 47 47.4	
	baz=32,slow=27						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**19.57**	**202**	P	Pn	07 43 55.6	-0.3
	0.2nm,0.3s,baz=26,slow=13,SNR=26						
ASAR				Lg	Lg	07 49 42.9	
	baz=21,slow=29,SNR=2.1						
ASAR				LR	LR	07 52 10.2	
	comp=Z,75nm,20.6s,baz=46,slow=39						
	3.0nm,0.6s						
ILAR	**Eielson Array**	**87.13**	**24**	P	P	07 52 12.6	-0.1
	0.5nm,0.8s,baz=270,slow=4.5,SNR=4.9						
	0.5nm,0.8s						

*RHSSO **01** 07:45:28.5±0.6,42°52N×20°.00E,h5km±2km,ML2.3/9*
*TIR **01** 07:45:29.5,42°.55N×20°.26E,h2km±5km,Md2.6,Ml2.5*
*PDG **01** 07:45:30.1±0.1,42°.55N×19°.84E,h5km±1km,MD2.5/2, ML2.4/11,Error ellipse: s-maj=0.2km s-min=0.5km az=0.0*
*BEO **01** 07:45:30.6±0.3,42°.55N×19°.87E,h0km,ML1.9/11*
ISC 01 07:45:29.7±0.8,42°56N±0°.02×19°.86E±0°.02,h8km±6km, n52,σ0°87/99,6C-9D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVY	**Plav**	**0.08**	**67**	*e*Pg	**Pg**	**07 45 31.9**	**+0.1**
PVY				*e*Sg	**Sg**	**07 45 33.5**	**+0.1**
PVY	**Plav**	**0.08**	**67**	⇓*i*Pg	**Pg**	**07 45 32.0**	**+0.1**
PVY				*i* Sg	**Sg**	**07 45 33.8**	**+0.4**
BCI	**Bajram Curri**	**0.25**	**142**	P	**Pg**	**07 45 34.4**	**-0.3**
	baz=218						
BCI				S	**Sg**	**07 45 38.5**	**+0.5**
	baz=218						
BCI				AMP			
	comp=N,6.6nm,0.1s,baz=218						
BEY	**Berane**	**0.31**	**5**	*e*Pg	**Pg**	**07 45 36.1**	**+0.2**
BEY				*e*Sg	**Sg**	**07 45 39.8**	**-0.2**
IVA	**Berane**	**0.31**	**5**	⇑*i*Pg	**Pg**	**07 45 35.9**	**0.0**
IVA				*i* Sg	**Sg**	**07 45 40.9**	**+0.9**
KOME	**Kolasin**	**0.38**	**319**	*e*Pg	**Pg**	**07 45 37.3**	**0.0**
KOME				*e*Sg	**Sg**	**07 45 42.9**	**+0.6**
KOME	**Kolasin**	**0.38**	**319**	⇑*i*Pg	**Pg**	**07 45 37.3**	**0.0**
KOME				*i* Sg	**Sg**	**07 45 43.2**	**+0.9**
PUK	**Puka**	**0.52**	**177**	P	**Pg**	**07 45 39.6**	**-0.2**
	baz=209						
PUK				S	**Sb**	**07 45 47.4**	**-1.5**
	baz=209						
PUK				AMP			
	comp=N,1.8nm,0.2s,baz=209						
DRME	**Dracevica, Mon**	**0.63**	**233**	*e*Pg	**Pg**	**07 45 41.1**	**-0.7**
DRME				*e*Sg	**Sg**	**07 45 50.1**	**+0.1**
DRME	**Dracevica, Mon**	**0.63**	**233**	*e*Pg	**Pg**	**07 45 41.0**	**-0.7**
DRME				*e*Sg	**Sg**	**07 45 50.0**	**+0.1**
DRME	**Dracevica, Mon**	**0.63**	**233**	⇓*i*Pg	**Pg**	**07 45 41.1**	**-0.7**
DRME				*i* Sg	**Sb**	**07 45 51.2**	**-0.7**
CEME	**Cevo**	**0.70**	**269**	⇑*i*Pg	**Pg**	**07 45 42.1**	**-1.0**
CEME				*i* Sg	**Sg**	**07 45 53.2**	**+1.0**
NKME	**Niksic**	**0.70**	**287**	*e*Pg	**Pg**	**07 45 42.6**	**-0.6**
NKME				*i* Sg	**Sb**	**07 45 54.0**	**-0.1**
SJES	**Sjenica**	**0.70**	**7**	*e*Pg	**Pg**	**07 45 43.1**	**-0.2**
SJES				*e*Sg	**Sg**	**07 45 53.1**	**+0.6**
SJES	**Sjenica**	**0.70**	**7**	⇓*i*Pg	**Pg**	**07 45 41.9**	**-1.4**
SJES				*e*Sg	**Sg**	**07 45 51.6**	**-0.9**
ULC	**Ulcinj**	**0.75**	**217**	*e*Pg	**Pg**	**07 45 43.7**	**-0.5**
ULC				*i* Sg	**Sb**	**07 45 55.6**	**0.0**
BUM	**Brajici-Budva**	**0.76**	**250**	⇑*i*Pg	**Pg**	**07 45 43.7**	**-0.7**
BUM				*i* Sg	**Sb**	**07 45 56.0**	**+0.1**
PLE	**Pljevlja**	**0.84**	**336**	*e*Pg	**Pg**	**07 45 46.1**	**+0.2**
PLE				*e*Sg	**Sg**	**07 45 57.6**	**+0.8**
PLE	**Pljevlja**	**0.84**	**336**	⇓*i*Pg	**Pg**	**07 45 45.5**	**-0.4**
PLE				*i* Sg	**Sn**	**07 45 59.3**	**-1.4**
UPM	**Unac-Piva**	**0.95**	**313**	⇑*i*Pg	**Pg**	**07 45 47.8**	**-0.2**
UPM				*e*Sg	**Sb**	**07 46 01.9**	**+0.5**
UPM	**Unac-Piva**	**0.95**	**313**	⇓*i*Pg	**Pg**	**07 45 47.6**	**-0.4**
UPM				*i* Sg	**Sn**	**07 46 03.1**	**-0.4**
HCY	**Herceg Novi**	**1.02**	**264**	⇑*i*Pg	**Pb**	**07 45 49.2**	**-0.4**
HCY				*e*Sg	**Sn**	**07 46 03.9**	**-1.0**
HCY	**Herceg Novi**	**1.02**	**264**	⇓*i*Pg	**Pb**	**07 45 48.5**	**-1.1**
HCY				*i* Sg	**Sn**	**07 46 05.0**	**+0.1**
BRY	**Bratogost**	**1.03**	**290**	*e*Pg	**Pb**	**07 45 48.5**	**-1.4**
BRY				*e*Sg	**Sn**	**07 46 04.5**	**-0.9**
BRY	**Bratogost**	**1.03**	**290**	⇓*i*Pg	**Pb**	**07 45 48.6**	**-1.4**
BRY				*i* Sg	**Sn**	**07 46 05.1**	**-0.3**
IVAS	**Ivanjica**	**1.03**	**12**	*e*Pg	**Pb**	**07 45 49.0**	**-1.0**
IVAS				*e*Sg	**Sg**	**07 46 02.7**	**-0.4**
RUDO	**Rudo**	**1.11**	**341**	*e*Pg	**Pb**	**07 45 49.6**	**-1.7**
RUDO				*e*Sg	**Sn**	**07 46 06.5**	**-0.8**
KLINJ	**Klinje**	**1.11**	**303**	*e*Pg	**Pb**	**07 45 51.3**	**-0.1**
KLINJ				*e*Sg	**Sn**	**07 46 08.2**	**+0.8**
TREB	**Trebinje**	**1.12**	**278**	*e*Pg	**Pb**	**07 45 50.6**	**-0.9**
TREB				*e*Sg	**Sn**	**07 46 07.4**	**-0.1**
TREB	**Trebinje**	**1.12**	**278**	*e*Pg	**Pb**	**07 45 50.5**	**-0.9**
TREB				*e*Sg	**Sn**	**07 46 08.1**	**+0.6**
SELS	**Selova**	**1.13**	**54**	*e*Pg	**Pn**	**07 45 51.5**	**-0.5**
SELS				*e*Sg	**Sb**	**07 46 06.1**	**-0.5**
TIR	**Tirane**	**1.22**	**180**	P	**Pg**	**07 45 54.7**	**+1.6**
	baz=194						
TIR				S	**Sn**	**07 46 13.0**	**+3.3**
	baz=194						
TIR				AMP			
	comp=N,0.1nm,0.1s,baz=194						
DBRK	**Dubrovnik**	**1.27**	**275**	*e*Pn	**Pb**	**07 45 53.7**	**-0.2**
DBRK				Sn	**Sg**	**07 46 12.8**	**+2.3**
BBLS	**Lazi&#263i**	**1.34**	**346**	*e*Pg	**Pn**	**07 45 54.4**	**-0.5**
BBLS				*e*Sg	**Sg**	**07 46 14.8**	**+1.9**
BBLS	**Lazi&#263i**	**1.34**	**346**	⇓*i*Pg	**Pn**	**07 45 54.0**	**-0.9**
BBLS				*e*Sg	**Sg**	**07 46 13.8**	**+0.9**
BARS	**Barje**	**1.46**	**79**	*e*Pg	**Pb**	**07 45 57.1**	**-0.2**
BARS				*e*Sg	**Sg**	**07 46 16.2**	**-0.6**
GRUS	**Gruza**	**1.46**	**25**	*e*Pg	**Pb**	**07 45 56.7**	**-0.6**
GRUS				*e*Sg	**Sg**	**07 46 18.1**	**+1.3**
NEVS	**Nevesinje**	**1.48**	**300**	*e*Pn	**Pb**	**07 45 57.7**	**0.0**
NEVS				*e*Sn	**Sg**	**07 46 18.9**	**+1.4**
DIVS	**Divibare**	**1.54**	**4**	*e*Pg	**Pg**	**07 45 59.2**	**0.0**
OHR	**Ohrid**	**1.61**	**154**	*i* Pn	**Pg**	**07 46 00.7**	**0.0**
STON	**Ston**	**1.62**	**282**	*e*Pn	**Pb**	**07 45 59.1**	**-0.8**
STON	**Ston**	**1.62**	**282**	*e*Pn	**Pn**	**07 45 59.0**	**+0.4**
STON				*e*Sn	**Sb**	**07 46 21.2**	**+0.7**
PRVS	**Prvonek**	**1.64**	**91**	*e*Pg	**Pb**	**07 45 59.4**	**-0.9**
PRVS				*e*Sg	**Sg**	**07 46 22.8**	**+0.4**
HAPS	**Han Pijesak,BI**	**1.66**	**337**	*e*Pg	**Pb**	**07 46 01.2**	**+0.5**
HAPS				*e*Sg	**Sg**	**07 46 25.0**	**+1.9**
HAPS	**Han Pijesak,BI**	**1.66**	**337**	*e*Pn	**Pn**	**07 45 59.4**	**+0.1**
HAPS				*e*Sn	**Sb**	**07 46 22.0**	**+0.2**
TRUS	**Trudelj**	**1.71**	**13**	*e*Pg	**Pb**	**07 46 00.7**	**-0.7**
STIP	**Stip**	**1.94**	**116**	*e*Pn	**Pb**	**07 46 04.8**	**-0.5**
TEKS	**Tekeris**	**2.00**	**353**	*e*Pn	**Pn**	**07 46 04.2**	**+0.3**
TEKS				*e*Sn	**Sn**	**07 46 29.4**	**+0.3**
FNA	**Florina**	**2.11**	**147**	P	**Pb**	**07 46 07.1**	**-1.2**
	baz=154						
FNA				S	**Sb**	**07 46 35.0**	**+0.3**
	baz=154						
FNA				AMP			
	comp=E,0.1nm,0.4s,baz=154						
ZAGS	**Zajecar**	**2.14**	**53**	*e*Pg	**Pb**	**07 46 09.5**	**+0.8**
ZAGS				*e*Sg	**Sg**	**07 46 39.5**	**+1.1**
RICI	**Ricice**	**2.21**	**296**	*e*Pn	**Pb**	**07 46 10.4**	**+0.5**
RICI				Sn	**Sg**	**07 46 40.2**	**-0.3**
A050A	**Klekovaca**	**3.09**	**310**	⇓*i*Pn	**Pn**	**07 46 19.2**	**+0.3**
A050A				*e*Sn	**Sn**	**07 46 57.3**	**+1.2**

*NOU **01** 08:03:20.4,14°.83S×167°.43E,h118km,MLv4.8/25, Vanuatu Islands*
*NEIC **01** 08:03:20.8±1.1,14°.9S±0°.1×167°.5E±0°.2,h119km±8km, mb4.5/23,Error ellipse: s-maj=21.3km s-min=17.1km az=93.0*
*IDC **01** 08:03:21.4±3.9,14°.84S×167°.43E,h133km±32km, mb3.9/11,mbtmp4.3/12,MS4.0/1,Error ellipse: s-maj=26.3km s-min=18.5km az=56.0*
ISC 01 08:03:21.0±0.7,14°.84S±0°.08×167°.5E±0°.1,h129km,n78, σ1§17/77,mb4.4/23,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**5.91**	**182**		**Pn**	**08 04 42.7**	**-3.5**
LIFNC	**LIFOU**	**5.91**	**182**	P	**Pn**	**08 04 44.9**	**-1.3**
KOUNC	**Koumac, New Ca**	**6.44**	**208**		**Pn**	**08 04 52.2**	**-1.2**
KOUNC	**Koumac, New Ca**	**6.44**	**208**	P	**Pn**	**08 04 52.9**	**-0.5**
	45nm,0.7s						
MARNC	**Mare, Loyalty**	**6.62**	**176**	Pn	**Pn**	**08 04 53.2**	**-2.7**
MARNC	**Mare, Loyalty**	**6.62**	**176**	P	**Pn**	**08 04 54.9**	**-0.9**
YATNC	**Mamie plateau,**	**7.20**	**184**	P	**Pn**	**08 05 01.9**	**-1.7**
	57nm,0.4s						
DZM	**Mont Dzumac**	**7.26**	**188**		**Pn**	**08 05 03.4**	**-1.1**
DZM	**Mont Dzumac**	**7.26**	**188**	P	**Pn**	**08 05 04.2**	**-0.3**
	60nm,0.6s						
DZM	**Mont Dzumac**	**7.26**	**188**	P	**Pn**	**08 05 04.1**	**-0.4**
	29nm,0.3s,baz=351,slow=13,SNR=93						
DZM				S	**Sn**	**08 06 27.7**	**+2.2**
	82nm,0.5s,baz=290,slow=23,SNR=9.6						
ONTNC	**Ouen Toro**	**7.49**	**187**		**Pn**	**08 05 06.6**	**-1.0**
ONTNC	**Ouen Toro**	**7.49**	**187**	P	**Pn**	**08 05 07.6**	**+0.1**
	0.4nm,0.8s						
OUENC	**Ouen Island, N**	**7.56**	**185**		**Pn**	**08 05 07.4**	**-1.1**
OUENC	**Ouen Island, N**	**7.56**	**185**	P	**Pn**	**08 05 08.7**	**+0.2**
	52nm,0.9s						
PINNC	**Pines Island,**	**7.73**	**180**		**Pn**	**08 05 09.7**	**-1.1**
HNR	**Honiara**	**9.12**	**305**	LR	LR	08 08 46.6	
	comp=Z,858nm,19.8s,baz=90,slow=36						
LHI	**Lord Howe Isla**	**18.30**	**203**	P	**Pn**	**08 07 26.2**	**-0.4**
EIDS	**Eidsvold**	**18.61**	**233**	P	**P**	**08 07 29.4**	**+1.0**
PMG	**Port Moresby**	**20.59**	**283**	P	**P**	**08 07 50.7**	**+0.8**
	5.4nm,0.2s,baz=102,slow=5.8,SNR=4.1						
	5.4nm,0.2s						
CTA	**Charters Tower**	**20.91**	**253**	P	**P**	**08 07 52.8**	**-0.6**
	5.4nm,0.8s,baz=79,slow=10,SNR=6.7						
	5.4nm,0.8s						
CTAO	**Charters Tower**	**20.91**	**253**	P	**P**	**08 07 53.8**	**+0.4**
CTAO				IAmb	IAmb	08 07 58.6	
	comp=Z,19nm,1.3s						
OUZ	**Omahuta**	**21.02**	**166**	P	**P**	**08 07 53.6**	**-0.8**
	comp=Z,40nm,1.6s						
ARMA	**Armidale**	**21.28**	**221**	P	**P**	**08 07 58.1**	**+0.7**
ARMA				IAmb	IAmb	08 08 10.4	
	comp=Z,18nm,1.2s						
MKAZ	**Moumakai**	**23.20**	**164**	P	**P**	**08 08 17.4**	**+1.0**
TOZ	**Tahuroa Road**	**23.88**	**164**	P	**P**	**08 08 22.9**	**+0.3**
TOZ	**Tahuroa Road**	**23.88**	**164**	P	**P**	**08 08 23.9**	**+1.3**
HIZ	**Hauiti**	**24.46**	**166**	P	**P**	**08 08 29.6**	**+1.8**
HIZ	**Hauiti**	**24.46**	**166**	P	**P**	**08 08 30.0**	**+2.2**
HAZ	**Te Kaha**	**24.58**	**160**	P	**P**	**08 08 30.8**	**+1.9**
URZ	**Urewera**	**24.83**	**162**	P	**P**	**08 08 33.6**	**+2.4**
	comp=Z,24nm,1.5s						
URZ	**Urewera**	**24.83**	**162**	P	**P**	**08 08 32.6**	**+1.4**
MWZ	**Matawai**	**25.02**	**161**	P	**P**	**08 08 34.6**	**+1.5**
TWGZ	**Tauwhareparae**	**25.03**	**160**	P	**P**	**08 08 33.1**	**0.0**
RTZ	**Ruatahuna**	**25.12**	**162**	P	**P**	**08 08 34.1**	**+0.1**
RTZ				IAmb	IAmb	08 08 38.5	
	comp=Z,34nm,1.2s						
WNVZ	**Wahianoa**	**25.41**	**165**	P	**P**	**08 08 39.1**	**+2.4**
RIGZ	**Rimuhau**	**25.44**	**161**	P	**P**	**08 08 37.3**	**+0.5**
BKZ	**Black Stump Fm**	**25.49**	**164**	P	**P**	**08 08 37.0**	**-0.4**
BKZ				IAmb	IAmb	08 08 40.2	
	comp=Z,34nm,1.5s						
BKZ	**Black Stump Fm**	**25.49**	**164**	P	**P**	**08 08 38.1**	**+0.8**
	comp=Z,18nm,0.5s						
BKZ	**Black Stump Fm**	**25.49**	**164**	P	**P**	**08 08 37.8**	**+0.5**
NMHZ	**Naumai**	**25.52**	**163**	P	**P**	**08 08 38.6**	**+1.0**
BHHZ	**Black Hill Sta**	**25.68**	**165**	P	**P**	**08 08 39.8**	**+0.7**
KWHZ	**Kaweka Forest**	**25.71**	**164**	P	**P**	**08 08 39.7**	**+0.4**
BFZ	**Birch Farm**	**26.85**	**165**	P	**P**	**08 08 49.3**	**-0.2**
	comp=Z,60nm,2.0s						
MRNZ	**Matariki Terra**	**26.85**	**171**	P	**P**	**08 08 49.8**	**+0.3**
KHZ	**Kahutara**	**27.97**	**170**	P	**P**	**08 09 00.1**	**+0.8**
STKA	**Stephens Creek**	**29.08**	**230**	P	**P**	**08 09 09.8**	**+0.4**
STKA	**Stephens Creek**	**29.08**	**230**	P	**P**	**08 09 10.2**	**+0.8**
	comp=Z,2.3nm,1.2s						
STKA	**Stephens Creek**	**29.08**	**230**	P	**P**	**08 09 09.9**	**+0.5**
	comp=Z,5.6nm,0.6s,baz=46,slow=8.4,SNR=24						
STKA				PcP	**PcP**	**08 12 14.3**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=185,slow=2.9,SNR=4.2						
	comp=Z,5.6nm,0.6s						
WB0	**Warramunga Arr**	**31.94**	**256**	P	**P**	**08 09 33.0**	**-1.7**
WB0				IAmb	IAmb	08 09 40.0	
	comp=Z,8.7nm,1.4s						
WRA	**Warramunga Arr**	**32.00**	**256**	P	**P**	**08 09 33.5**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=83,slow=7.8,SNR=4.9						
	comp=Z,0.5nm,0.5s						
AS01	**Alice Springs**	**32.78**	**249**	P	**P**	**08 09 42.2**	**0.0**
ASAR	**Alice Springs**	**32.83**	**249**	P	**P**	**08 09 42.4**	**-0.1**
ASAR	**Alice Springs**	**32.83**	**249**	P	**P**	**08 09 41.0**	**-1.5**
	comp=Z,1.4nm,0.6s,baz=75,slow=9.2,SNR=22						
ASAR				PcP	**PcP**	**08 12 24.3**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=91,slow=2.2,SNR=4.6						
	comp=Z,1.4nm,0.6s						
BBOO	**Buckleboo**	**33.67**	**232**	P	**P**	**08 09 49.4**	**-0.3**
BBOO	**Buckleboo**	**33.67**	**232**	P	**P**	**08 09 49.7**	**0.0**
	comp=Z,18nm,2.9s						
MULG	**Mulgathing**	**34.32**	**238**	P	**P**	**08 09 54.7**	**-0.6**
	comp=Z,17nm,3.0s						
WRKA	**Warakurna**	**38.09**	**248**	P	**P**	**08 10 27.5**	**0.0**
	comp=Z,7.1nm,2.5s						
FORT	**Forrest**	**39.42**	**239**	P	**P**	**08 10 37.6**	**-0.9**
FORT				IAmb	IAmb	08 11 03.5	
	comp=Z,18nm,1.1s						
FORT	**Forrest**	**39.42**	**239**	P	**P**	**08 10 38.8**	**+0.3**
	comp=Z,14nm,1.9s						
FITZ	**Fitzroy Crossi**	**40.20**	**259**	P	**P**	**08 10 44.5**	**-0.6**
VNDA	**Vanda**	**62.75**	**181**	P	**P**	**08 13 32.0**	**0.0**
VNDA				IAmb	IAmb	08 13 57.2	
	comp=Z,18nm,1.4s						
VNDA	**Vanda**	**62.75**	**181**	P	**P**	**08 13 31.9**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=360,slow=7.9,SNR=9.3						
	comp=Z,3.4nm,0.7s						
SBA	**Scott Base**	**63.02**	**180**	P	**P**	**08 13 34.2**	**+0.5**
CASY	**Casey**	**63.50**	**202**	P	**P**	**08 13 36.7**	**-0.4**
CASY				IAmb	IAmb	08 13 53.0	
	comp=Z,12nm,1.0s						
QSPA	**South Pole Qui**	**75.18**	**180**	P	**P**	**08 14 49.1**	**0.0**
QSPA				IAmb	IAmb	08 14 50.1	
	comp=Z,6.5nm,0.8s						
QSPA	**South Pole Qui**	**75.18**	**180**	P	**P**	**08 14 49.4**	**+0.2**
	comp=Z,6.9nm,0.8s,baz=328,slow=0.9,SNR=37						
	comp=Z,6.9nm,0.8s						
SONM	**Songino Array**	**82.71**	**324**	P	**P**	**08 15 31.8**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=142,slow=7.0,SNR=2.8						
	comp=Z,0.6nm,0.6s						
G19K	**Purcell Mounta**	**84.96**	**14**	P	**P**	**08 15 42.2**	**+0.9**
G19K				IAmb	IAmb	08 15 45.7	
	comp=Z,8.8nm,1.4s						
IMAR	**Indian Mountai**	**85.62**	**15**	P	**P**	**08 15 46.1**	**+1.5**
E19K	**Redstone River**	**86.02**	**13**	P	**P**	**08 15 47.9**	**+1.4**
C18K	**Utukok River**	**86.24**	**11**	P	**P**	**08 15 48.9**	**+1.3**
C18K				IAmb	IAmb	08 15 52.9	
	comp=Z,6.2nm,1.4s						
ILAR	**Eielson Array**	**86.57**	**18**	P	**P**	**08 15 48.7**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=241,slow=4.3,SNR=9.0						
	comp=Z,1.0nm,0.8s						
F21K	**Alatna River**	**86.67**	**14**	P	**P**	**08 15 51.4**	**+1.7**
MK31	**Makanchi Array**	**97.43**	**316**	P	Pdif	08 16 41.0	+0.8
MK31				IAmb	IAmb	08 16 52.0	
	comp=Z,1.2nm,1.1s						
MKAR	**Makanchi Array**	**97.43**	**316**	P	Pdif	08 16 40.3	+0.2
MKAR	**Makanchi Array**	**97.43**	**316**	P	Pdif	08 16 41.3	+1.2
	comp=Z,0.8nm,0.7s,baz=104,slow=5.1,SNR=7.3						
	comp=Z,0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**97.61**	**324**	P	**P**	**08 16 38.9**	**-1.7**
	comp=Z,0.8nm,0.5s,baz=106,slow=9.2,SNR=2.0						
	comp=Z,0.8nm,0.5s						
ARCES	**ARCESS Array B**	**120.42**	**345**	PKP	**PKPdf**	**08 21 55.5**	**-1.0**
	comp=Z,2.6nm,0.8s,baz=82,slow=2.7,SNR=5.5						

*IDC **01** 08:15:40.2±1.2,5°.95S×143°.11E,h0km,mb4.1/3, mbtmp3.9/5,ML1.3/1,Error ellipse: s-maj=40.8km s-min=26.4km az=61.0*
ISC 01 08:15:41.6±1.0,6°.1S±0°.1×142°.9E±0°.1,h10km,n6,σ1§81/7, mb3.9/3,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.36**	**128**	Pn	**Pn**	**08 17 00.5**	**-1.1**
	0.7nm,0.3s,baz=239,slow=5.9,SNR=1.8						
PMG				Sn	**Sn**	**08 18 05.0**	**+1.6**
	2.0nm,0.3s,baz=40,slow=17,SNR=2.0						
	3.9nm,0.4s						
WRA	**Warramunga Arr**	**16.10**	**210**	P	**Pn**	**08 19 26.2**	**-1.9**
	0.2nm,0.3s,baz=31,slow=13,SNR=10						
WRA				Lg	Lg	08 24 08.8	
	0.4nm,0.3s,baz=27,slow=23,SNR=5.0						
ASAR	**Alice Springs**	**19.51**	**205**	P	**P**	**08 20 11.1**	**+1.8**
	1.3nm,0.4s,baz=35,slow=10,SNR=36						
ASAR				Lg	Lg	08 25 51.7	
	0.4nm,0.3s,baz=20,slow=27,SNR=4.3						
MKAR	**Makanchi Array**	**75.00**	**322**	P	**P**	**08 27 24.2**	**+0.9**
	0.4nm,0.4s,baz=106,slow=7.0,SNR=7.7						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**84.46**	**325**	P	**P**	**08 28 15.0**	**+0.6**
	2.2nm,0.6s,baz=109,slow=6.4,SNR=12						
	2.2nm,0.6s						
ILAR	**Eielson Array**	**87.18**	**24**	P	**P**	**08 28 26.6**	**-1.1**
	0.5nm,0.7s,baz=257,slow=4.7,SNR=10						
	0.5nm,0.7s						

*IDC **01** 08:17:37.0±0.8,6°.28S×143°.33E,h0km,mb4.2/9, mbtmp4.2/11,ML1.7/1,MS3.5/7,Error ellipse: s-maj=36.0km s-min=18.3km az=68.0*
*NEIC **01** 08:17:40.6±2.7,6°.28S±0°.08×142°.89E±0°.08,h10km±1km, mb4.6/24,Error ellipse: s-maj=13.5km s-min=13.0km az=58.0*
*DJA **01** 08:17:46.5±0.6,6°.S±4°×14°.3E±°,h52km±6km,M4.9/18, mb4.7/18,mB4.9/6,MLv5.4/4,Mw(mB)4.2/6*
ISC 01 08:17:43.4±0.5,6°.38S±0°.06×142°.98E±0°.07,h35km,n84, σ1§69/76,mb4.5/25,MS3.5/5,1D,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPI	**Merauke**	**3.30**	**231**	P	Pn	08 18 36.8	+4.2
GENI	**Genyem**	**4.69**	**323**	P	**Pn**	**08 18 48.3**	**-3.4**
PMG	**Port Moresby**	**5.12**	**126**	Pn	**Pn**	**08 18 57.9**	**+0.3**
PMG	**Port Moresby**	**5.12**	**126**	P	Pn	08 19 03.2	+5.6
PMG	**Port Moresby**	**5.12**	**126**	Pn	Pn	08 18 53.2	-4.4
	2.1nm,0.3s,baz=315,slow=13,SNR=2.6						
PMG				Sn	**Sn**	**08 19 50.3**	**-5.2**
	3.7nm,0.3s,baz=58,slow=23,SNR=5.7						
PMG				LR	LR	08 21 05.7	
	comp=Z,397nm,20.2s,baz=288,slow=43						
	7.9nm,0.4s						
SMPI	**Sarmi**	**6.09**	**316**	P	**Pn**	**08 19 11.3**	**+0.3**
MANU	**Manus Island**	**6.14**	**46**	Pn	**Pn**	**08 19 11.1**	**-0.6**
COEN	**Coen**	**7.53**	**179**	Pn	**Pn**	**08 19 32.6**	**+1.8**
RABL	**Rabaul**	**9.40**	**77**	Pn	**Pn**	**08 19 57.0**	**+0.5**
FAKI	**Fak Fak**	**11.23**	**287**	Pn	**Pn**	**08 20 18.1**	**-3.5**
FAKI	**Fak Fak**	**11.23**	**287**	P	**Pn**	**08 20 21.0**	**-0.5**
FAKI	**Fak Fak**	**11.23**	**287**	P	**Pn**	**08 20 17.5**	**-4.0**
	40nm,0.8s						
SAUI	**Saumlaki**	**11.69**	**261**	Pn	**Pn**	**08 20 27.1**	**-0.8**
SAUI	**Saumlaki**	**11.69**	**261**	P	**Pn**	**08 20 25.8**	**-2.1**
	403nm,0.7s						
KDU	**Kakadu**	**12.10**	**238**	P	**Pn**	**08 20 32.2**	**-1.2**
SWI	**Sorong**	**12.91**	**295**	P	**Pn**	**08 20 41.1**	**-3.4**
	37nm,0.7s						
MTN	**Manton Dam**	**13.32**	**240**	Pn	**Pn**	**08 20 47.5**	**-2.6**
MTN	**Manton Dam**	**13.32**	**240**	P	**Pn**	**08 20 48.3**	**-1.8**
DRS	**Darwin Rock St**	**13.34**	**242**	P	**Pn**	**08 20 49.0**	**-1.4**
CTA	**Charters Tower**	**13.99**	**167**	LR	LR	08 25 45.7	
	comp=Z,89nm,21.4s,baz=354,slow=35						
WB0	**Warramunga Arr**	**15.70**	**211**	Pn	**Pn**	**08 21 21.2**	**-1.0**
WB0				IAmb	IAmb	08 21 34.2	
	comp=Z,22nm,0.9s						
WRA	**Warramunga Arr**	**15.88**	**211**		**Pn**	**08 21 23.4**	**-1.0**
WRA	**Warramunga Arr**	**15.88**	**211**	Pn	**Pn**	**08 21 21.4**	**-3.0**
	comp=Z,1.1nm,0.3s,baz=29,slow=13,SNR=12						
KNRA	**Kununurra**	**16.72**	**235**	Pn	**Pn**	**08

comp=Z,2.3nm,0.7s
MAKZ Makanchi 75.48 322 P P 08 29 23.9 -0.2
MAKZ IAmb IAmb 08 29 29.2
comp=Z,4.6nm,0.9s
ZALV Zalesovo Beam 77.24 329 P P 08 29 32.7 -1.2
comp=Z,1.4nm,0.6s,baz=99,slow=9.6,SNR=4.3
comp=Z,1.4nm,0.6s
KURK Kurchatov 79.15 324 P P 08 29 43.3 -1.2
KURK IAmb IAmb 08 29 52.0
comp=Z,5.3nm,1.0s
KURBB Kurchatov Arra 79.17 324 P P 08 29 44.3 -0.3
comp=Z,2.1nm,0.8s,baz=118,slow=4.7,SNR=12
comp=Z,2.1nm,0.8s
CHGR Chuyangaron 81.48 311 P P 08 29 57.0 -0.4
CHGR IAmb IAmb 08 30 02.4
comp=Z,11nm,0.9s
SIMJ Simiganj 81.59 310 P P 08 29 57.4 -0.7
SIMJ IAmb IAmb 08 30 03.1
comp=Z,5.3nm,0.9s
KK31 Karatay Array 81.71 315 P P 08 29 57.7 -0.8
KKAR Karatay Array 81.71 315 P P 08 29 57.0 -1.5
QSPA South Pole Qui 83.59 180 P P 08 30 07.6 -0.4
QSPA IAmb IAmb 08 30 48.3
comp=Z,12nm,1.4s
QSPA South Pole Qui 83.59 180 P P 08 30 07.5 -0.4
comp=Z,2.4nm,0.9s,baz=294,slow=0.9,SNR=7.0
comp=Z,2.4nm,0.9s
BVAR Borovoye Array 84.74 325 P P 08 30 13.9 0.0
comp=Z,4.9nm,0.7s,baz=110,slow=6.6,SNR=18
comp=Z,4.9nm,0.7s
ILAR Eielson Array 87.42 24 P P 08 30 24.6 -2.3
comp=Z,1.1nm,0.8s,baz=268,slow=4.1,SNR=5.4
comp=Z,1.1nm,0.8s
BCAR Beaver Creek A 89.03 26 P P 08 30 36.4 +1.9
BMAR Burnt Mountain 89.21 22 P P 08 30 34.8 -0.5
ABKAR Abkulak array 90.25 319 P P 08 30 39.0 -1.5
YBH Yreka Blue Hor 97.42 49 LR LR 09 07 14.7
comp=Z,43nm,20.0s,baz=240,slow=31
DBIC Dimbokro 148.04 272 PKPbc PKPbc 08 37 27.0 +0.6
comp=Z,3.5nm,1.0s,baz=47,slow=2.7,SNR=3.2

*IDC **01** 08:26:20.0±2.1,5.°42S×146.°61E,h114km±19km,mb3.9/8, mbtmp4.3/10,Error ellipse: s-maj=26.2km s-min=11.5km az=104.0*
*NEIC **01** 08:26:24.9±1.9,5.°49S±0.°07×146.°50E±0.°07,h150km±8km, mb4.4/19,Error ellipse: s-maj=11.0km s-min=9.3km az=159.0*
ISC 01 08:26:22.4±0.5,5.°53S±0.°06×146.°37E±0.°08,h123km,n80, σ1s57/83,mb4.4/18,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAE	**Lae**	**1.26**	**154**	P	**Pn**	**08 26 46.6**	**-0.8**
MANU	**Manus Island**	**3.60**	**16**	Pn	**Pn**	**08 27 19.6**	**+2.8**
MANU	**Manus Island**	**3.60**	**16**	P	**Pn**	**08 27 19.9**	**+3.1**
PMG	**Port Moresby**	**3.93**	**169**		**Pn**	**08 27 19.4**	**-1.8**
PMG	**Port Moresby**	**3.93**	**169**	P	**Pn**	**08 27 20.2**	**-1.0**
PMG	**Port Moresby**	**3.93**	**169**	P	**Pn**	**08 27 20.1**	**-1.1**
PMG	**Port Moresby**	**3.93**	**169**	P	**Pn**	**08 27 19.9**	**-1.3**
PMG	**Port Moresby**	**3.93**	**169**	P	**Pn**	**08 27 20.0**	**-1.1**
	59nm,0.3s,baz=8.7,slow=5.4,SNR=48						
PMG				S	**Sn**	**08 28 04.5**	**-2.2**
	150nm,0.3s,baz=337,slow=5.0,SNR=4.6						
KAVG	**Kavieng**	**5.31**	**57**	P	**Pn**	**08 27 41.8**	**+2.2**
RABL	**Rabaul**	**5.93**	**77**	Pn	**Pn**	**08 27 48.4**	**+0.4**
RABL	**Rabaul**	**5.93**	**77**	P	**Pn**	**08 27 50.3**	**+2.3**
COEN	**Coen**	**8.95**	**200**	P	**Pn**	**08 28 30.5**	**+1.7**
	baz=9.4,SNR=33						
COEN	**Coen**	**8.95**	**200**		**Pn**	**08 28 30.1**	**+1.3**
COEN	**Coen**	**8.95**	**200**	P	**Pn**	**08 28 30.5**	**+1.7**
TV1H	**Townsville Har**	**13.66**	**178**	P	**Pn**	**08 29 34.4**	**+3.3**
CTA	**Charters Tower**	**14.47**	**180**	P	**P**	**08 29 46.3**	**+1.5**
CTA	**Charters Tower**	**14.47**	**180**	P	**P**	**08 29 46.0**	**+1.2**
	18nm,0.6s,baz=359,slow=13,SNR=16						
CTAO	**Charters Tower**	**14.47**	**180**	P	**P**	**08 29 44.4**	**-0.4**
CTAO	**Charters Tower**	**14.47**	**180**	P	**P**	**08 29 46.5**	**+1.7**
KDU	**Kakadu**	**15.45**	**242**	P	**Pn**	**08 29 54.4**	**+0.5**
	baz=16,SNR=6.1						
KDU	**Kakadu**	**15.45**	**242**	P	**Pn**	**08 29 50.2**	**-3.6**
QIS	**Mount Isa**	**16.32**	**203**	P	**Pn**	**08 30 05.6**	**+1.0**
	baz=17,SNR=7.5						
QIS	**Mount Isa**	**16.32**	**203**	P	**P**	**08 30 07.2**	**+1.9**
WR0	**Warramunga Arr**	**18.39**	**218**	P	**P**	**08 30 29.1**	**+1.1**
WC3	**Warramunga Arr**	**18.49**	**218**	P	**P**	**08 30 30.2**	**+1.1**
	baz=19						
WRA	**Warramunga Arr**	**18.50**	**218**	P	**P**	**08 30 30.2**	**+1.0**
WRA	**Warramunga Arr**	**18.50**	**218**	P	**P**	**08 30 30.2**	**+1.0**
	32nm,0.7s,baz=42,slow=11,SNR=46						
WRA				S	**Sn**	**08 33 58.8**	**+0.4**
	0.6nm,0.5s,baz=41,slow=24,SNR=1.5						
KNRA	**Kununurra**	**20.01**	**238**	P	**Pn**	**08 30 49.6**	**+1.1**
	baz=20						
KNRA	**Kununurra**	**20.01**	**238**	P	**Pn**	**08 30 49.8**	**+1.2**
EIDS	**Eidsvold**	**20.24**	**168**	P	**P**	**08 30 49.5**	**+1.5**
	baz=21,SNR=6.7						
EIDS	**Eidsvold**	**20.24**	**168**	P	**P**	**08 30 48.4**	**+0.4**
EIDS				IAmb	IAmb	08 30 50.5	
	comp=Z,22nm,1.2s						
QLP	**Quilpie**	**21.04**	**185**	P	**P**	**08 30 57.9**	**+1.3**
	baz=22,SNR=5.9						
QLP	**Quilpie**	**21.04**	**185**	P	**P**	**08 30 58.5**	**+1.9**
AS01	**Alice Springs**	**21.64**	**212**	P	**P**	**08 31 04.0**	**+0.9**
	comp=Z,35nm,1.0s						
AS31	**Alice Springs**	**21.66**	**212**	P	**P**	**08 31 04.8**	**+1.5**
AS31				IAmb	IAmb	08 31 06.5	
	comp=Z,7.9nm,0.4s						
ASAR	**Alice Springs**	**21.66**	**212**	P	**P**	**08 31 04.5**	**+1.1**
	comp=Z,19nm,0.7s,baz=49,slow=8.0,SNR=34						
ASAR				S	**S**	**08 34 58.1**	**+2.2**
	comp=Z,2.4nm,0.9s,baz=32,slow=22,SNR=5.5						
	comp=Z,19nm,0.7s						
ASPA	**Alice Springs**	**21.66**	**212**	P	**P**	**08 31 04.7**	**+1.3**
	baz=22						
INKA	**Innaminka**	**22.73**	**193**	P	**P**	**08 31 15.0**	**+0.9**
FITZ	**Fitzroy Crossi**	**23.79**	**237**	P	**P**	**08 31 24.7**	**+0.6**
	baz=24,SNR=27						
FITZ	**Fitzroy Crossi**	**23.79**	**237**	P	**P**	**08 31 24.7**	**+0.6**
FITZ				IAmb	IAmb	08 31 27.1	
	comp=Z,8.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.79**	**237**	P	**P**	**08 31 21.8**	**-2.2**
OOD	**Oodnadatta**	**24.36**	**203**	P	**P**	**08 31 31.1**	**+2.0**
ARMA	**Armidale**	**25.25**	**169**	P	**P**	**08 31 38.3**	**+0.9**
	baz=26,SNR=4.4						
ARMA	**Armidale**	**25.25**	**169**	P	**P**	**08 31 37.4**	**+0.1**
ARMA				IAmb	IAmb	08 32 19.7	
	comp=Z,39nm,1.5s						
ARMA	**Armidale**	**25.25**	**169**	P	**P**	**08 31 39.5**	**+2.2**
DZM	**Mont Dzumac**	**25.45**	**132**	P	**P**	**08 31 37.4**	**-1.8**
DZM				IAmb	IAmb	08 31 39.2	
	comp=Z,17nm,1.3s						
CMSA	**Cobar Meteorol**	**25.88**	**181**	P	**P**	**08 31 46.2**	**+3.3**
LCRK	**Leigh Creek**	**25.95**	**196**	P	**P**	**08 31 44.5**	**+1.0**
WRKA	**Warakurna**	**26.01**	**220**	P	**P**	**08 31 44.7**	**+0.5**
	baz=26,SNR=6.9						
WRKA	**Warakurna**	**26.01**	**220**	P	**P**	**08 31 45.2**	**+1.0**
STKA	**Stephens Creek**	**26.59**	**189**	P	**P**	**08 31 49.9**	**+0.6**
	baz=27,SNR=3.9						
STKA	**Stephens Creek**	**26.59**	**189**	P	**P**	**08 31 50.4**	**+1.1**
STKA	**Stephens Creek**	**26.59**	**189**	P	**P**	**08 31 49.8**	**+0.6**
	comp=Z,9.4nm,1.0s,baz=348,slow=9.3,SNR=8.7						
	comp=Z,9.4nm,1.0s						
BBOO	**Buckleboo**	**28.80**	**198**	P	**P**	**08 32 08.6**	**-0.3**
FORT	**Forrest**	**30.45**	**212**	P	**P**	**08 32 24.6**	**+1.1**
	baz=31,SNR=6.6						
FORT	**Forrest**	**30.45**	**212**	P	**P**	**08 32 24.0**	**+0.4**
MEEK	**Meekatharra**	**33.78**	**229**	P	**P**	**08 32 53.6**	**+0.8**
	baz=34,SNR=5.9						
KMBL	**Kambalda**	**34.47**	**219**	P	**P**	**08 32 59.3**	**+0.7**
	baz=35,SNR=4.4						
KLBR	**Kellerberrin**	**37.29**	**222**	P	**P**	**08 33 23.0**	**+0.3**
	baz=38,SNR=5.8						
BLDU	**Balladu**	**37.42**	**225**	P	**P**	**08 33 24.5**	**+0.7**
	baz=38,SNR=12						
TKNZ	**Takaka Hill**	**42.61**	**150**	P	**P**	**08 34 07.2**	**+0.7**
TUWZ	**Tuamarina**	**43.40**	**150**	P	**P**	**08 34 12.4**	**-0.5**
MRZ	**Mangatainoka R**	**43.69**	**147**	P	**P**	**08 34 15.7**	**+0.4**
MRZ				IAmb	IAmb	08 34 41.5	
	comp=Z,34nm,1.5s						
CMAR	**Chiang Mai Arr**	**52.47**	**298**	P	**P**	**08 35 23.2**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=126,slow=4.7,SNR=4.4						
	comp=Z,0.8nm,0.4s						
SONM	**Songino Array**	**63.69**	**331**	P	**P**	**08 36 40.4**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=145,slow=5.3,SNR=2.5						
	comp=Z,0.6nm,0.8s						

VNDA Vanda 72.42 177 P P 08 37 35.3 +0.5
VNDA IAmb IAmb 08 37 50.7
comp=Z,15nm,1.5s
VNDA Vanda 72.42 177 P P 08 37 35.0 +0.2
comp=Z,2.4nm,0.6s,baz=342,slow=6.3,SNR=6.9
comp=Z,2.4nm,0.6s
MKAR Makanchi Array 76.73 321 P P 08 37 58.3 -2.0
MKAR Makanchi Array 76.73 321 P P 08 37 58.7 -1.7
comp=Z,0.2nm,0.6s,baz=95,slow=7.7,SNR=3.0
ZALV Zalesovo Beam 78.28 328 P P 08 38 06.0 -2.6
comp=Z,0.4nm,0.3s,baz=92,slow=4.9,SNR=2.2
comp=Z,0.4nm,0.3s
E19K Redstone River 82.87 19 P P 08 38 31.6 -1.4
E19K IAmb IAmb 08 38 32.3
comp=Z,5.0nm,1.3s
C19K Lookout Ridge 83.09 17 P P 08 38 32.7 -1.3
D19K Kuna River 83.17 18 P P 08 38 33.3 -1.2
QSPA South Pole Qui 84.44 180 P P 08 38 40.5 -0.7
QSPA IAmb IAmb 08 38 41.2
comp=Z,3.5nm,0.8s
QSPA South Pole Qui 84.44 180 P P 08 38 40.6 -0.5
comp=Z,2.8nm,0.7s,baz=290,slow=1.1,SNR=20
comp=Z,2.8nm,0.7s
IL31 85.30 23 P P 08 38 43.0 -2.2
IL31 IAmb IAmb 08 39 07.9
comp=Z,7.2nm,1.5s
ILAR Eielson Array 85.30 23 P P 08 38 42.1 -3.2
ILAR Eielson Array 85.30 23 P P 08 38 42.5 -2.8
comp=Z,0.8nm,0.7s,baz=256,slow=5.2,SNR=11
comp=Z,0.8nm,0.7s
C23K Itkillik River 86.17 18 P P 08 38 48.7 -0.7
C23K IAmb IAmb 08 39 18.4
comp=Z,6.4nm,1.4s
TORD Torodi Ar. Bea 144.36 285 PKP PKPab 08 45 41.4 -2.2
comp=Z,0.6nm,0.8s,baz=50,slow=3.7,SNR=3.7

*MEX **01** 08:33:30.3±1.1,14.°74N×92.°39W,h88km±7km,MD4.3*
*GCG **01** 08:33:32.9±0.6,14.°93N×92.°21W,h56km±17km,MD3.8*
ISC 01 08:33:29.8±1.3,14.°85N±0.°05×92.°38W±0.°03,h85km±7km, n35,σ1s96/64,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.13**	**62**	*i* P	**Pn**	**08 33 41.9**	**-0.1**
THIG				*e*S	**Sn**	**08 33 51.1**	**+0.1**
PATR	**El Naranjo**	**0.30**	**28**	*i* P	**Pn**	**08 33 42.4**	**-0.7**
PATR				*e*S	**Sn**	**08 33 52.4**	**-0.3**
CHUJ	**Union Juarez**	**0.36**	**47**	*i* P	**Pn**	**08 33 42.9**	**-0.5**
CHUJ				*i* S	**Sn**	**08 33 52.7**	**-0.7**
PAVE	**Pavencul**	**0.40**	**30**	*i* P	**Pn**	**08 33 43.3**	**-0.3**
PAVE				*i* S	**Sn**	**08 33 54.0**	**+0.3**
SMSP	**San Marcos**	**0.60**	**78**	*e*P	**Pn**	**08 33 44.8**	**-0.5**
SMSP				*i* S	**Sn**	**08 33 56.9**	**+0.3**
RTAL	**Retalhuleu**	**0.74**	**116**	*e*P	**Pn**	**08 33 45.6**	**-0.7**
RTAL				*e*S	**Sn**	**08 33 57.7**	**-0.9**
STG3	**Santiaguito 3,**	**0.80**	**100**	*e*P	**Pn**	**08 33 47.2**	**+0.1**
SULM	**Suchitepequez,**	**0.96**	**124**	*e*P	**Pn**	**08 33 49.4**	**+0.7**
SULM				*e*S	**Sn**	**08 34 01.6**	**-1.2**
HUEH	**Huehuetenango**	**0.97**	**61**	*e*P	**Pn**	**08 33 49.2**	**+0.1**
HUEH				*e*S	**Sn**	**08 34 04.5**	**+1.0**
PCIG		**1.17**	**317**	*i* P	**Pn**	**08 33 51.9**	**+0.7**
PCIG				*i* S	**Sn**	**08 34 09.0**	**+1.6**
CCIG	**Comitan**	**1.45**	**9**	*i* P	**Pn**	**08 33 56.2**	**+1.4**
CCIG				*e*S	**Sn**	**08 34 16.0**	**+2.3**
FUG	**Fuego 3**	**1.54**	**105**	*e*P	**Pn**	**08 33 56.9**	**+0.8**
PCG	**Pacaya**	**1.78**	**105**	*e*P	**Pn**	**08 34 01.5**	**+2.3**
PCG				*e*S	**Sn**	**08 34 22.1**	**+0.6**
NBG	**Las Nubes**	**1.99**	**97**	*e*P	**Pn**	**08 34 03.1**	**+1.1**
CARR	**Arriaga**	**2.03**	**314**	*e*P	**Pn**	**08 34 03.6**	**+1.4**
CARR				*e*S	**Sn**	**08 34 30.3**	**+3.4**
TGIG		**2.05**	**340**	*e*P	**Sn**	**08 34 02.4**	**-0.1**
TGIG				*i* S	**Sn**	**08 34 27.0**	**-0.5**
MRL	**Marmol**	**2.62**	**85**	*e*P	**Pn**	**08 34 11.2**	**+0.8**
NILT	**Santiago Nilte**	**2.75**	**309**	*e*P	**Pn**	**08 34 13.3**	**+1.5**
NILT				*e*S	**Sn**	**08 34 46.2**	**+2.1**
PETF	**Flores**	**3.18**	**49**	*e*P	**Pn**	**08 34 17.8**	**+0.1**
PETF				*e*S	**Sn**	**08 34 52.6**	**-2.0**
CMIG	**Matias Romero**	**3.28**	**313**	*i* P	**Pn**	**08 34 19.7**	**+0.7**
CMIG				*e*S	**Sn**	**08 34 59.3**	**+2.2**
HUIG	**Huatulco**	**3.71**	**285**	*e*P	**Pn**	**08 34 25.2**	**+0.3**
HUIG				*e*S	**Sn**	**08 35 03.9**	**-3.6**
SCIG	**Sabancuy**	**4.25**	**15**	*i* P	**Pn**	**08 34 32.7**	**+0.4**
SCIG				*e*S	**Sn**	**08 35 18.5**	**-2.3**
NEUV	**Arroyo Zacate**	**4.35**	**311**	*e*P	**Pn**	**08 34 33.9**	**+0.4**
NEUV				*e*S	**Sn**	**08 35 21.4**	**-1.6**
PMUV	**Sontecomapan**	**4.52**	**325**	*e*P	**Pn**	**08 34 34.2**	**-1.7**
PMUV				*e*S	**Sn**	**08 35 23.9**	**-3.4**
VHO	**Vista Hermosa**	**4.73**	**298**	*e*P	**Sn**	**08 34 39.0**	**0.0**
VHO				*e*S	**Sn**	**08 35 31.9**	**-0.8**
PEIG	**Puerto Escondi**	**4.73**	**285**	*e*P	**Pn**	**08 34 39.3**	**+0.5**
PEIG				*e*S	**Sn**	**08 35 29.8**	**-2.7**
TOIG	**Toxpalan**	**5.53**	**306**	*i* P	**Pn**	**08 34 52.5**	**+2.7**
TOIG				*e*S	**Sn**	**08 35 55.0**	**+2.8**
TXIG	**Tlaxiaco**	**5.70**	**296**	*e*P	**Pn**	**08 34 49.8**	**-2.5**
TXIG				*e*S	**Sn**	**08 35 56.0**	**-0.6**
TPIG	**Tehuac#an**	**5.95**	**307**	*e*S	**Sn**	**08 35 57.0**	**-5.4**
HLIG	**Huajuapan de L**	**5.99**	**300**	*e*P	**Pn**	**08 34 58.1**	**+2.0**
HLIG				*e*S	**Sn**	**08 36 04.9**	**+1.5**
JAUV	**Jalcomulco**	**6.17**	**317**	*e*P	**Pn**	**08 34 57.2**	**-1.2**
JAUV				*e*S	**Sn**	**08 36 03.8**	**-3.7**
FTIG	**Fresnillo de T**	**6.30**	**300**	*e*P	**Pn**	**08 35 03.6**	**+3.4**
FTIG				*e*S	**Sn**	**08 36 10.1**	**-0.8**
MGIG	**Malinaltepec**	**6.46**	**292**	*e*S	**Sn**	**08 36 09.8**	**-5.1**
CRIG	**Cruz Grande**	**6.76**	**287**	*e*P	**Pn**	**08 35 07.2**	**+0.7**
CRIG				*e*S	**Sn**	**08 36 24.7**	**+2.7**
PPM	**Popocatepetl**	**7.30**	**306**	*e*P	**Pn**	**08 35 17.9**	**+3.7**
PPM				*e*S	**Sn**	**08 36 34.4**	**-1.5**

*IDC **01** 08:41:26.3±38.0,37.°27N×72.°01E,h175km±235km, mb3.5/3,mbtmp3.8/6,ML2.8/3,MS3.1/1,Error ellipse: s-maj=335.7km s-min=77.9km az=174.0*
*NNC **01** 08:41:29.0±6.6,37.°99N×71.°62E,h188km±82km,mb2.4, mpv3.4,Error ellipse: s-maj=61.2km s-min=33.6km az=12.0*
ISC 01 08:41:30.2±2.0,38.°0N±0.°1×71.°61E±0.°10,h150km,n12, σ2s12/16,mb3.9/3,8C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.13**	**351**	⇑P	**Pn**	**08 42 46.4**	**+1.1**
	1.3nm,0.3s,baz=178,slow=14,SNR=20						
KK31				⇑S	**Sn**	**08 43 47.5**	**+3.6**
	8.5nm,0.5s,baz=175,slow=22,SNR=21						
CHMS	**Chumysh**	**5.50**	**25**	⇓P	**Pn**	**08 42 49.6**	**-0.7**
	2.5nm,0.5s						
CHMS				⇑S	**Sn**	**08 43 52.0**	**-0.9**
	4.5nm,0.8s						
TKM2	**Tokmak 2**	**5.75**	**31**	⇑P	**Pn**	**08 42 52.8**	**-0.9**
	3.3nm,0.6s						
TKM2				⇓S	**Sn**	**08 44 00.7**	**+1.8**
	2.6nm,1.1s						
KURBB	**Kurchatov Arra**	**13.52**	**19**	P	**P**	**08 44 40.0**	**+0.3**
	baz=203,slow=10,SNR=1.3						
	0.4nm,0.2s						
AB31	**Akbulak array**	**14.02**	**327**	⇑P	**Pn**	**08 44 40.4**	**-1.8**
	0.2nm,0.3s,baz=143,slow=11,SNR=21						
AB31				⇑S	**Sn**	**08 47 16.1**	**-1.3**
	2.3nm,0.7s,baz=154,slow=21,SNR=9.7						
BVAR	**Borovoye Array**	**15.02**	**357**	P	**P**	**08 44 58.0**	**+1.7**
	baz=157,slow=9.3,SNR=4.8						
	0.6nm,0.5s						
AKTO	**Aktyubinsk**	**15.73**	**326**	⇑P	**Pn**	**08 45 03.9**	**+0.4**
AKTO				⇑S	**Sn**	**08 47 53.0**	**-5.5**
	0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**18.32**	**25**	P	**P**	**08 45 32.8**	**+0.1**
	0.3nm,0.3s,baz=195,slow=10,SNR=2.9						
	0.6nm,0.4s						
MMAI	**Mount Meron Ar**	**29.76**	**271**	LR	LR	09 00 53.2	
	comp=Z,34nm,19.7s,baz=236,slow=39						
FINES	**FINESS Array B**	**36.50**	**325**	P	**P**	**08 48 21.0**	**+0.4**
	0.4nm,0.4s,baz=117,slow=8.0,SNR=4.7						
	0.4nm,0.4s						
ARCES	**ARCESS Array B**	**39.92**	**337**	P	**P**	**08 48 49.9**	**+0.8**
	5.2nm,1.1s,baz=100,slow=10,SNR=3.5						
	5.2nm,1.1s						
HFS	**Hagfors**	**42.17**	**321**	P	**P**	**08 49 07.5**	**-0.2**
	1.6nm,0.5s,baz=87,slow=9.1,SNR=5.9						
	1.6nm,0.5s						

*IDC **01** 08:46:28.5±0.8,6.°23S×142.°62E,h0km,mb4.2/8, mbtmp4.2/11,ML4.0/2,MS3.5/6,Error ellipse: s-maj=36.1km s-min=18.1km az=80.0*
*NEIC **01** 08:46:30.7±2.1,6.°29S±0.°08×142.°42E±0.°05,h10km±1km, mb4.7/18,Error ellipse: s-maj=15.1km s-min=6.5km az=207.0*
ISC 01 08:46:30.1±0.6,6.°43S±0.°06×142.°45E±0.°07,h10km,n42, σ1s39/41,mb4.6/15,MS3.3/4,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.53**	**123**		**Pn**	**08 47 52.0**	**-0.5**
PMG	**Port Moresby**	**5.53**	**123**	Pn	**Pn**	**08 47 52.3**	**-0.2**
	53nm,0.7s,baz=42,slow=4.0,SNR=17						
PMG				Sn	**Sn**	**08 48 53.7**	**-2.5**
	3.5nm,0.3s,baz=163,slow=19,SNR=1.4						
MANU	**Manus Island**	**6.56**	**49**		**Pn**	**08 48 06.7**	**+0.1**
RABL	**Rabaul**	**9.93**	**78**	Pn	**Pn**	**08 48 54.4**	**+1.5**
FAKI	**Fak Fak**	**10.74**	**288**	Pn	**Pn**	**08 49 03.2**	**-0.9**
MTN	**Manton Dam**	**12.84**	**239**		**Pn**	**08 49 33.0**	**+0.1**
CTA	**Charters Tower**	**14.08**	**165**	Lg	Lg	08 54 01.8	
	0.1nm,0.3s,baz=237,slow=18,SNR=2.2						
CTA				LR	LR	08 54 50.7	
	comp=Z,156nm,19.3s,baz=350,slow=35						
WB0	**Warramunga Arr**	**15.40**	**210**		**Pn**	**08 50 09.4**	**+1.8**
WB0				IAmb	IAmb	08 50 36.1	
	comp=Z,9.9nm,0.8s						
WRA	**Warramunga Arr**	**15.57**	**210**	Pn	**Pn**	**08 50 10.5**	**+0.6**
WRA	**Warramunga Arr**	**15.57**	**210**	Pn	**Pn**	**08 50 11.3**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=29,slow=14,SNR=15						
WRA				Sn	**Sn**	**08 52 58.5**	**-4.2**
	comp=Z,0.4nm,0.3s,baz=26,slow=22,SNR=6.0						
WRA				Lg	Lg	08 54 43.1	
	comp=Z,0.2nm,0.3s,baz=34,slow=27,SNR=2.4						
	comp=Z,2.1nm,0.6s						
KNRA	**Kununurra**	**16.26**	**234**		**Pn**	**08 50 19.4**	**+0.7**
KNRA				IAmb	IAmb	08 51 03.5	
	comp=Z,50nm,1.4s						
AS31	**Alice Springs**	**19.01**	**205**		**Pn**	**08 50 54.6**	**+1.7**
ASAR	**Alice Springs**	**19.01**	**205**		**Pn**	**08 50 54.5**	**+1.6**
ASAR	**Alice Springs**	**19.01**	**205**	P	**Pn**	**08 50 55.1**	**+2.3**
	comp=Z,0.9nm,0.3s,baz=31,slow=10.0,SNR=34						
ASAR				S	**Sn**	**08 54 23.6**	**-2.4**
	comp=Z,3.2nm,0.9s,baz=17,slow=28,SNR=5.5						
ASAR				Lg	Lg	08 56 23.4	
	baz=19,slow=30						
ASAR				LR	LR	08 59 07.5	
	comp=Z,307nm,20.1s,baz=12,slow=39						
	comp=Z,7.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.08**	**233**	P	**P**	**08 51 05.1**	**+1.2**
EIDS	**Eidsvold**	**20.57**	**157**	P	**P**	**08 51 11.1**	**+1.9**
EIDS				IAmb	IAmb	08 51 16.8	
	comp=Z,15nm,0.8s						
STKA	**Stephens Creek**	**25.33**	**182**	P	**P**	**08 51 58.0**	**+0.8**
STKA	**Stephens Creek**	**25.33**	**182**	P	**P**	**08 51 58.5**	**+1.3**
	comp=Z,3.1nm,0.7s,baz=325,slow=8.0,SNR=6.4						
STKA				LR	LR	09 02 33.4	
	comp=Z,118nm,19.6s,baz=12,slow=38						
	comp=Z,3.1nm,0.7s						
BBOO	**Buckleboo**	**26.92**	**192**	P	**P**	**08 52 13.2**	**+1.7**
BBOO				IAmb	IAmb	08 52 47.3	
	comp=Z,20nm,1.3s						
FORT	**Forrest**	**27.74**	**207**	P	**P**	**08 52 19.8**	**+0.9**
FORT				IAmb	IAmb	08 52 45.4	
	comp=Z,15nm,0.9s						
NWAO	**Narrogin (SRO)**	**35.28**	**218**	LR	LR	09 08 05.4	
	comp=Z,111nm,20.0s,baz=162,slow=36						
JOW	**Kunigami**	**35.80**	**338**	LR	LR	09 06 32.3	
	comp=Z,28nm,20.2s,baz=207,slow=34						
ASAJ	**Asahikawa**	**50.31**	**0**	LR	LR	09 16 01.5	
	comp=Z,29nm,22.0s,baz=336,slow=35						
USRK	**Ussuriysk Ar.**	**51.27**	**350**	P	**P**	**08 55 33.3**	**-0.8**
	comp=Z,3.2nm,0.9s,baz=178,slow=11,SNR=3.5						
	comp=Z,3.2nm,0.9s						
MKAR	**Makanchi Array**	**74.99**	**322**	P	**P**	**08 58 11.9**	**+0.1**
MKAR	**Makanchi Array**	**74.99**	**322**	P	**P**	**08 58 12.2**	**+0.5**
	comp=Z,1.5nm,0.9s,baz=110,slow=5.7,SNR=9.7						
	comp=Z,1.5nm,0.9s						
ZALV	**Zalesovo Beam**	**77.00**	**329**	P	**P**	**08 58 22.3**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=140,slow=5.6,SNR=1.8						
	comp=Z,0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**78.89**	**324**	P	**P**	**08 58 33.5**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=105,slow=5.3,SNR=3.2						
	comp=Z,1.0nm,0.9s						
M14K	**Bethel**	**79.69**	**24**	P	**P**	**08 58 37.1**	**-0.6**
L14K	**Kuka Creek**	**79.73**	**24**	P	**P**	**08 58 37.4**	**-0.5**
L14K				IAmb	IAmb	08 58 39.4	
	comp=Z,13nm,1.0s						
K15K	**Wolf Creek Mou**	**80.72**	**23**	P	**P**	**08 58 42.7**	**-0.5**
K15K				IAmb	IAmb	08 58 45.8	
	comp=Z,19nm,1.4s						
M16K	**Timber Creek**	**81.08**	**25**	P	**P**	**08 58 44.6**	**-0.6**
M16K				IAmb	IAmb	08 58 45.7	
	comp=Z,19nm,1.2s						
N17K	**Nushagak Hills**	**81.58**	**26**	P	**P**	**08 58 48.0**	**+0.1**
N18K

comp=Z,1.8nm,1.0s
QSPA South Pole Qui 83.76 180 P **P** **09 23 13.5 -0.6**
BVAR Borovoye Array 84.47 325 P **P** **09 23 18.5 +0.8**
comp=Z,6.8nm,0.9s,baz=110,slow=6.5,SNR=21
comp=Z,6.8nm,0.9s

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*IDC **01** 09:12:46.1±0.7,2.67S×140.51E,h0km,mb4.3/16, mbtmp4.3/17,ML4.8/1,MS3.9/14,Error ellipse: s-maj=34.0km s-min=14.7km az=85.0*
*DJA **01** 09:12:49.2±0.6,3.3S×14.1E±,h13km±3km,M4.9/26, mB5.3/9,mb5.0/26,MLv5.1/4,Mw(mB)4.7/9*
*NEIC **01** 09:12:52.3±1.8,2.7S±0.1×140.41E±0.06,h35km±2km, mb4.9/81,Error ellipse: s-maj=17.9km s-min=9.8km az=198.0*
ISC 01 09:12:52.1±0.3,2.76S±0.05×140.38E±0.06,h35km,n378, σ1s05/337,mb4.9/67,MS3.8/12,1C-2D,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.27**	**307**	P	**Pn**	**09 12 57.5**	**-2.1**
GENI	**Genyem**	**0.27**	**307**	P	**Pn**	**09 12 57.3**	**-2.3**
GENI				S	**Sn**	**09 13 02.3**	**-2.5**
SMPI	**Sarmi**	**1.83**	**294**	P	**Pn**	**09 13 20.2**	**-0.9**
MMPI	**Merauke**	**5.67**	**180**	P	**Pn**	**09 14 14.9**	**+1.0**
	436nm,0.6s,2.6nm						
MANU	**Manus Island**	**7.01**	**84**	Pn	**Pn**	**09 14 33.5**	**+1.1**
FAKI	**Fak Fak**	**8.12**	**269**		**Pn**	**09 14 49.7**	**+2.1**
FAKI	**Fak Fak**	**8.12**	**269**	P	**Pn**	**09 14 50.3**	**+2.7**
FAKI	**Fak Fak**	**8.12**	**269**	P	**Pn**	**09 14 49.8**	**+2.1**
	151nm,0.8s,1μm						
SWI	**Sorong**	**9.31**	**281**	P	**Pn**	**09 15 05.0**	**+1.1**
	54nm,1.0s,1μm						
PMG	**Port Moresby**	**9.44**	**135**	Pn	**Pn**	**09 15 07.0**	**+1.4**
PMG	**Port Moresby**	**9.44**	**135**	Pn	**Pn**	**09 15 08.0**	**+2.4**
	1.4nm,0.3s,baz=356,slow=7.1,SNR=6.0						
PMG				LR	LR	09 19 49.9	
	comp=Z,964nm,20.3s,baz=304,slow=45						
KDU	**Kakadu**	**12.60**	**218**	P	**Pn**	**09 15 49.4**	**+0.5**
LBMI	**Labuha**	**13.04**	**279**	P	**Pn**	**09 15 55.2**	**+0.1**
	140nm,0.9s,2μm						
NLAI	**Namlea**	**13.27**	**268**	P	**Pn**	**09 15 58.6**	**+0.4**
	48nm,1.0s						
DRS	**Darwin Rock St**	**13.44**	**224**	P	**Pn**	**09 16 02.2**	**+1.8**
MTN	**Manton Dam**	**13.57**	**222**	Pn	**Pn**	**09 16 01.7**	**-0.6**
MTN	**Manton Dam**	**13.57**	**222**	P	**Pn**	**09 16 04.0**	**+1.8**
SANI	**Sanana**	**14.40**	**272**	P	**P**	**09 16 17.9**	**-2.1**
SANI	**Sanana**	**14.40**	**272**	P	**Pn**	**09 16 15.1**	**+1.6**
	121nm,0.9s,1μm						
KMSI	**Cibinong**	**16.73**	**281**	P	**P**	**09 16 44.8**	**-1.0**
	197nm,0.9s						
KNRA	**Kununurra**	**17.20**	**221**		**P**	**09 16 49.8**	**-1.2**
KNRA	**Kununurra**	**17.20**	**221**	P	**P**	**09 16 51.3**	**+0.2**
SOEI	**Soe**	**17.45**	**246**	P	**Pn**	**09 16 52.5**	**-0.6**
SOEI				IAmb	IAmb	09 17 17.1	
	comp=Z,69nm,0.7s						
SOEI	**Soe**	**17.45**	**246**	P	**P**	**09 16 55.7**	**+1.7**
	comp=Z,103nm,0.8s						
LUWI	**Luwuk**	**17.68**	**275**	P	**P**	**09 16 57.7**	**+1.3**
	comp=Z,67nm,0.9s,comp=Z,5μm						
GTOI	**Gorontalo**	**17.69**	**281**	P	**P**	**09 16 59.0**	**+2.5**
	comp=Z,25nm,1.0s						
QIS	**Mount Isa**	**17.71**	**182**	P	**P**	**09 16 57.7**	**+1.0**
WB0	**Warramunga Arr**	**17.89**	**199**	P	**Pn**	**09 16 57.6**	**-0.7**
WR0	**Warramunga Arr**	**18.02**	**198**	P	**P**	**09 17 00.2**	**0.0**
WRAB	**Tennant Creek**	**18.06**	**199**	P	**P**	**09 17 00.8**	**+0.3**
WB2	**Warramunga Arr**	**18.07**	**199**	P	**P**	**09 17 01.4**	**+0.7**
WRA	**Warramunga Arr**	**18.07**	**199**		**Pn**	**09 16 59.6**	**-0.9**
WRA	**Warramunga Arr**	**18.07**	**199**	P	**P**	**09 17 01.0**	**+0.3**
	comp=Z,3.0nm,0.3s,baz=21,slow=12,SNR=27						
WRA				S	**Sn**	**09 20 15.5**	**-5.8**
	comp=Z,10nm,1.0s,baz=14,slow=21,SNR=3.4						
	comp=Z,24nm,0.7s						
CTA	**Charters Tower**	**18.16**	**162**	LR	LR	09 24 25.4	
	comp=Z,239nm,18.7s,baz=340,slow=38						
MRSI	**Marisa**	**18.71**	**280**	P	**Pn**	**09 17 08.8**	**+0.4**
	comp=Z,34nm,0.6s						
EDFI	**Ende, Flores**	**19.52**	**251**	P	**Pn**	**09 17 17.9**	**-0.3**
	comp=Z,23nm,0.8s,comp=Z,1μm						
TOLI2	**Tolitoli**	**19.97**	**281**		**P**	**09 17 21.4**	**-0.2**
TOLI2	**Tolitoli**	**19.97**	**281**	P	Pn	09 17 24.7	+1.3
TTSI	**Tana Toraja**	**20.54**	**269**	P	Pn	09 17 29.1	-1.0
	comp=Z,75nm,1.4s,comp=Z,801nm						
FITZ	**Fitzroy Crossi**	**21.01**	**222**	P	**P**	**09 17 32.6**	**-0.2**
BASI	**Baing, Sumba**	**21.01**	**248**	P	**P**	**09 17 35.1**	**+2.2**
	comp=Z,96nm,0.6s,comp=Z,3μm						
AS01	**Alice Springs**	**21.70**	**196**	P	**P**	**09 17 41.4**	**+1.2**
AS31	**Alice Springs**	**21.71**	**196**		**P**	**09 17 41.3**	**+1.0**
ASAR	**Alice Springs**	**21.71**	**196**		**P**	**09 17 40.4**	**+0.1**
ASAR	**Alice Springs**	**21.71**	**196**	P	**P**	**09 17 41.0**	**+0.7**
	comp=Z,14nm,0.6s,baz=31,slow=9.7,SNR=29						
ASAR				S	**S**	**09 21 39.0**	**+0.1**
	comp=Z,5.8nm,0.9s,baz=21,slow=23,SNR=4.2						
ASAR				LR	LR	09 26 54.1	
	comp=Z,380nm,20.4s,baz=26,slow=39						
	comp=Z,14nm,0.6s						
PLAI	**Plampang**	**23.27**	**254**	P	**P**	**09 17 56.1**	**-0.8**
	comp=Z,26nm,0.9s						
TWSI	**Taliwang, Sumb**	**24.11**	**255**	P	**P**	**09 18 03.5**	**-1.4**
	comp=Z,20nm,0.8s						
EIDS	**Eidsvold**	**24.73**	**156**	P	**P**	**09 18 11.1**	**+0.8**
EIDS				IAmb	IAmb	09 18 24.1	
	comp=Z,34nm,1.0s						
EIDS	**Eidsvold**	**24.73**	**156**	P	**P**	**09 18 11.9**	**+1.6**
WRKA	**Warakurna**	**25.03**	**207**	P	**P**	**09 18 14.7**	**+1.6**
OOD	**Oodnadatta**	**25.30**	**190**	P	**P**	**09 18 18.5**	**+3.1**
KKM	**Kota Kinabalu**	**25.67**	**290**	P	**P**	**09 18 20.0**	**+0.9**
KKM				IAmb	IAmb	09 18 21.8	
	comp=Z,29nm,0.8s						
MBWA	**Marble Bar**	**27.18**	**226**	P	**P**	**09 18 33.7**	**+1.1**
PSA00	**Pilbara Seismi**	**27.36**	**225**	P	**P**	**09 18 34.2**	**0.0**
LCRK	**Leigh Creek**	**27.62**	**184**	P	**P**	**09 18 38.2**	**+1.8**
MULG	**Mulgathing**	**28.02**	**192**	P	**P**	**09 18 42.6**	**+2.6**
STKA	**Stephens Creek**	**28.99**	**178**	P	**P**	**09 18 48.3**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=10,slow=8.7,SNR=6.8						
STKA				LR	LR	09 32 38.1	
	comp=Z,403nm,19.4s,baz=353,slow=41						
	comp=Z,3.2nm,0.7s						
BBOO	**Buckleboo**	**30.17**	**187**	P	**P**	**09 18 59.7**	**+0.6**
LIFNC	**LIFOU**	**31.71**	**126**	P	**P**	**09 19 13.2**	**+0.4**
LIFNC	**LIFOU**	**31.71**	**126**	P	**P**	**09 19 13.6**	**+0.8**
DZM	**Mont Dzumac**	**31.77**	**129**	LR	LR	09 32 28.8	
	comp=Z,158nm,18.0s,baz=294,slow=37						
DZM	**Mont Dzumac**	**31.77**	**129**	P	**P**	**09 19 13.1**	**-0.3**
LEM	**Lembang**	**32.89**	**262**	LR	LR	09 35 45.5	
	comp=Z,126nm,19.8s,baz=60,slow=42						
NWAO	**Narrogin (SRO)**	**37.03**	**213**	LR	LR	09 37 03.5	
	comp=Z,360nm,18.1s,baz=22,slow=39						
MJAR	**Matsushiro Arr**	**39.15**	**357**	P	**P**	**09 20 16.3**	**-0.2**
	comp=Z,2.0nm,0.8s,baz=204,slow=12,SNR=4.5						
	comp=Z,2.0nm,0.8s						
NJ2	**Nanjing**	**40.20**	**331**	*e*P	**P**	**09 20 27.3**	**+2.0**
NJ2				pP	**pP**	**09 20 36.4**	**+0.8**
NJ2				sP	**sP**	**09 20 40.9**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,420nm,4.7s						
KSRS	**Korea Array**	**41.65**	**345**	P	**P**	**09 20 36.2**	**-0.9**
	comp=Z,2.4nm,0.9s,baz=158,slow=10,SNR=2.9						
	comp=Z,2.4nm,0.9s						
RPSI	**Rantau Prapat**	**41.79**	**277**	P	**P**	**09 20 36.8**	**-2.0**
PHRA	**Phrae**	**44.81**	**300**	P	**P**	**09 21 02.0**	**-1.0**
CMAR	**Chiang Mai Arr**	**45.91**	**299**	P	**P**	**09 21 11.4**	**-0.3**
	comp=Z,2.9nm,0.7s,baz=121,slow=6.0,SNR=13						
CMAR				LR	LR	09 39 53.3	
	comp=Z,24nm,21.3s,baz=105,slow=35						
	comp=Z,2.9nm,0.7s						
HNS	**HongShan**	**46.52**	**332**	⇓P	**P**	**09 21 16.1**	**-0.1**
HNS				pmax	pmax		
	comp=Z,7.0nm,1.2s						
XAN	**Xi'an**	**47.09**	**324**	⇓P	**P**	**09 21 20.8**	**0.0**
XAN				pP	pP	09 21 27.7	-3.6
XAN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH	**PanZhiHua**	**47.32**	**310**	P	**P**	**09 21 25.8**	**+3.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
USRK	**Ussuriysk Ar.**	**47.35**	**352**	P	**P**	**09 21 21.6**	**-0.9**
	comp=Z,3.6nm,0.9s,baz=191,slow=7.8,SNR=5.8						
	comp=Z,3.6nm,0.9s						
NEZ	**North Egmont**	**47.54**	**144**	P	P	09 21 33.3	+9.0
TLZ	**Tolley Road**	**47.80**	**142**	P	P	09 21 33.1	+6.9
VRZ	**Vera Road**	**47.84**	**144**	P	P	09 21 33.2	+6.7
LREZ	**Lake Rotokare**	**47.84**	**144**	P	P	09 21 32.5	+6.0
MDJ	**Mudanjiang**	**48.14**	**350**	P	**P**	**09 21 31.5**	**+2.8**
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.9s						
MDJ				pmax	pmax		
	comp=Z,680nm,4.4s						
WAZ	**Wanganui**	**48.38**	**144**	P	P	09 21 34.4	+3.8
OTVZ	**Oturere**	**48.40**	**143**	P	**P**	**09 21 33.4**	**+2.4**
URZ	**Urewera**	**48.73**	**141**	LR	LR	09 42 33.1	
	comp=Z,100nm,18.4s,baz=304,slow=37						
URZ	**Urewera**	**48.73**	**141**	P	**P**	**09 21 34.1**	**+0.7**
BHHZ	**Black Hill Sta**	**48.84**	**143**	P	**P**	**09 21 35.0**	**+0.7**
HAZ	**Te Kaha**	**48.85**	**140**	P	**P**	**09 21 35.6**	**+1.4**
RTZ	**Ruatahuna**	**48.86**	**142**	P	**P**	**09 21 34.8**	**+0.3**
TUWZ	**Tuamarina**	**48.90**	**147**	P	**P**	**09 21 34.4**	**-0.2**
RUGZ	**Raukumara Rang**	**48.91**	**141**	P	**P**	**09 21 35.8**	**+0.9**
MTHZ	**Maungataniwha**	**48.92**	**142**	P	**P**	**09 21 35.5**	**+0.6**
RPZ	**Rata Peaks**	**49.02**	**151**	LR	LR	09 42 37.6	
	comp=Z,81nm,19.3s,baz=284,slow=36						
MWZ	**Matawai**	**49.03**	**141**	P	**P**	**09 21 36.7**	**+1.0**
RAGZ	**Rawiri**	**49.06**	**141**	P	**P**	**09 21 36.5**	**+0.5**
KRHZ	**Kereru**	**49.13**	**143**	P	**P**	**09 21 37.1**	**+0.6**
TSZ	**Takapari Road**	**49.15**	**144**	P	**P**	**09 21 37.0**	**+0.4**
SNGZ	**Shanon Statio**	**49.18**	**142**	P	**P**	**09 21 37.6**	**+0.7**
TWGZ	**Tauwhareparae**	**49.22**	**141**	P	**P**	**09 21 38.3**	**+1.1**
WMGZ	**Waiomatatini S**	**49.29**	**140**	P	**P**	**09 21 38.6**	**+0.9**
TKGZ	**Te Karaka**	**49.30**	**141**	P	**P**	**09 21 38.6**	**+0.8**
MRZ	**Mangatainoka R**	**49.31**	**145**	P	**P**	**09 21 37.5**	**-0.3**
PUZ	**Puketiti**	**49.34**	**140**	P	**P**	**09 21 38.7**	**+0.6**
RIGZ	**Rimuhau**	**49.40**	**141**	P	**P**	**09 21 39.4**	**+0.9**
KAHZ	**Kahuranaki**	**49.52**	**143**	P	**P**	**09 21 40.8**	**+1.2**
CNGZ	**Carnagh Statio**	**49.55**	**141**	P	**P**	**09 21 40.4**	**+0.8**
BNX	**BinXian**	**49.64**	**348**	⇑P	**P**	**09 21 38.8**	**-1.4**
BNX				pmax	pmax		
	comp=Z,12nm,1.2s						
BNX				pmax	pmax		
	comp=Z,580nm,4.0s						
BFZ	**Birch Farm**	**49.71**	**144**	P	**P**	**09 21 40.9**	**0.0**
HHC	**Hu-ho-hao-te**	**50.74**	**332**	*e*P	P	09 21 54.1	+5.3
HHC				pP	sP	09 22 04.2	+0.7
HHC				sP	pP	09 22 07.0	+7.6
HHC				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,180nm,4.5s						
BTO	**Baotou**	**51.30**	**330**	*e*P	**P**	**09 21 56.0**	**+3.0**
BTO				pP	**sP**	**09 22 08.5**	**+0.8**
BTO				sP	pP	09 22 13.8	+10
BTO				PP	**PP**	**09 23 55.6**	**+5.3**
BTO				pmax	pmax		
	comp=Z,16nm,1.1s						
BTO				pmax	pmax		
	comp=Z,500nm,4.1s						
LZH	**Lanzhou**	**51.53**	**322**	*e*P	**P**	**09 21 55.4**	**+0.5**
LZH				pP	pP	09 22 04.7	-0.8
LZH				pmax	pmax		
	comp=Z,15nm,1.1s						
KLR	**Kul'dur**	**52.32**	**353**	P	**P**	**09 21 59.5**	**-0.7**
	comp=Z,4.2nm,0.6s,baz=210,slow=1.3,SNR=13						
	comp=Z,4.2nm,0.6s						
GTA	**Gaotai**	**56.11**	**323**	*e*P	**P**	**09 22 28.2**	**-0.1**
GTA				pP	pP	09 22 32.9	-6.0
GTA				sP	sP	09 22 36.7	-6.4
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	**Songino Array**	**58.48**	**334**	P	**P**	**09 22 43.1**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=156,slow=7.7,SNR=3.8						
	comp=Z,0.5nm,0.5s						
RAR	**Rarotonga**	**60.96**	**113**	LR	LR	09 49 02.0	
	comp=Z,96nm,18.2s,baz=240,slow=36						
MA2	**Magadan**	**62.68**	**6**	P	**P**	**09 23 12.7**	**-0.4**
WMQ	**Urumqi**	**66.09**	**321**	*e*P	**P**	**09 23 38.8**	**+3.0**
WMQ				pmax	pmax		
	comp=Z,12nm,1.3s						
PPT	**Papeete**	**70.15**	**108**	LR	LR	09 52 09.2	
	comp=Z,41nm,19.0s,baz=256,slow=34						
MKAR	**Makanchi Array**	**70.85**	**322**	P	**P**	**09 24 05.4**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=91,slow=7.3,SNR=12						
	comp=Z,1.6nm,0.6s						
MAKZ	**Makanchi**	**71.05**	**322**	P	**P**	**09 24 06.0**	**-0.7**
MAKZ				IAmb	IAmb	09 24 15.3	
	comp=Z,7.1nm,0.8s						
MAKZ	**Makanchi**	**71.05**	**322**	P	**P**	**09 24 06.3**	**-0.3**
KSH	**Kashi**	**72.33**	**313**	P	P	09 24 24.4	+10
ZALV	**Zalesovo Beam**	**72.82**	**329**	P	**P**	**09 24 16.3**	**-0.8**
ZALV	**Zalesovo Beam**	**72.82**	**329**	P	**P**	**09 24 15.8**	**-1.3**
	comp=Z,0.9nm,0.4s,baz=122,slow=5.4,SNR=5.9						
	comp=Z,0.9nm,0.4s						
BOOM	**Boomskoye usch**	**73.34**	**316**	P	**P**	**09 24 20.7**	**0.0**
BOOM				IAmb	IAmb	09 24 30.4	
	comp=Z,5.6nm,0.6s						
KURBB	**Kurchatov Arra**	**74.73**	**324**	P	**P**	**09 24 27.6**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=114,slow=5.5,SNR=7.0						
	comp=Z,1.5nm,0.8s						
ARSB	**Arslanbob**	**75.07**	**314**	P	**P**	**09 24 29.7**	**-1.1**
SDPT	**Sand Point**	**75.32**	**30**	P	**P**	**09 24 30.4**	**-1.2**
	baz=242						
CHNA	**Chernabura Isl**	**75.54**	**31**	P	**P**	**09 24 31.4**	**-1.5**
	baz=243						
S14K	**Fog Glacier**	**76.21**	**30**	P	**P**	**09 24 35.1**	**-1.7**
	baz=243						
GAR	**Garm**	**76.38**	**311**	IAmb	IAmb	09 24 47.2	
	comp=Z,12nm,1.0s						
M13K	**Dall Lake**	**76.48**	**25**	P	**P**	**09 24 36.6**	**-1.6**
	baz=239						
CHGN	**Chignik**	**76.79**	**30**	P	**P**	**09 24 38.8**	**-1.1**
	baz=244						
O14K	**Tigyukauivet M**	**76.81**	**27**	P	**P**	**09 24 38.4**	**-1.6**
	baz=241						
N14K	**Kuskokwak Cree**	**76.95**	**26**	P	**P**	**09 24 40.2**	**-0.6**
	baz=240						
L14K	**Kuka Creek**	**77.24**	**24**	P	**P**	**09 24 41.7**	**-0.7**
	baz=239						
M14K	**Bethel**	**77.24**	**25**	P	**P**	**09 24 42.3**	**-0.1**
	baz=240						
SIMJ	**Simiganj**	**77.29**	**310**	P	**P**	**09 24 43.3**	**-0.1**
O15K	**Ungalikthiuk R**	**77.42**	**27**	P	**P**	**09 24 42.7**	**-0.8**
	baz=242						
J14K	**Nanvaranak Lak**	**77.63**	**23**	P	**P**	**09 24 44.0**	**-0.5**
	baz=238						
TNA	**Tin City**	**77.63**	**20**	P	**P**	**09 24 44.5**	**0.0**
	baz=233						
R16K	**Pilot Point**	**77.75**	**29**	P	**P**	**09 24 45.2**	**-0.2**
	baz=244						
M15K	**Kasigluk River**	**77.76**	**26**	P	**P**	**09 24 45.6**	**+0.3**
	baz=241						
N15K	**Kwethluk River**	**77.77**	**26**	P	**P**	**09 24 45.6**	**+0.1**
	baz=242						
L15K	**Ungalak Mounta**	**77.91**	**24**	P	**P**	**09 24 46.1**	**0.0**
	baz=240						
ANM	**Nome**	**77.94**	**21**	P	**P**	**09 24 46.3**	**0.0**
	baz=236						
F14K	**Arctic Creek**	**78.12**	**20**	P	**P**	**09 24 47.1**	**-0.2**
	baz=235						
K15K	**Wolf Creek Mou**	**78.20**	**24**	P	**P**	**09 24 47.4**	**-0.4**
	baz=240						
P16K	**Nushagak River**	**78.20**	**28**	P	**P**	**09 24 47.3**	**-0.4**
	baz=244						
O16K	**Kokwok River B**	**78.40**	**27**	P	**P**	**09 24 48.8**	**-0.1**
	baz=244						
N16K	**Nishlik Lake**	**78.49**	**26**	P	**P**	**09 24 49.2**	**-0.3**
	baz=243						
G15K	**Niukluk**	**78.65**	**21**	P	**P**	**09 24 49.8**	**-0.4**
	baz=237						
M16K	**Timber Creek**	**78.66**	**26**	P	**P**	**09 24 50.2**	**-0.2**
	baz=243						
Q16K	**King Salmon**	**78.67**	**28**	P	**P**	**09 24 50.2**	**-0.2**
	baz=245						
L16K	**Owhat River**	**78.76**	**25**	P	**P**	**09 24 50.4**	**-0.4**
	baz=242						
F15K	**North Star Dit**	**78.83**	**20**	P	**P**	**09 24 51.1**	**-0.1**
	baz=236						
Q17K	**Contact Creek**	**78.87**	**29**	P	**P**	**09 24 51.0**	**-0.7**
	baz=246						
O17K	**Koliganek Bris**	**78.93**	**27**	P	**P**	**09 24 51.6**	**-0.2**
	baz=244,SNR=6.6						
P17K	**Kvichak River**	**78.99**	**28**	P	**P**	**09 24 51.9**	**-0.3**
	baz=245						
J16K	**Anvik River**	**79.06**	**23**	P	**P**	**09 24 52.4**	**0.0**
	baz=241						
H16K	**Elim**	**79.12**	**22**	P	**P**	**09 24 52.9**	**+0.1**
	baz=239						
N17K	**Nushagak Hills**	**79.22**	**27**	P	**P**	**09 24 53.2**	**-0.2**
	baz=244						
I17K	**Unalakleet**	**79.32**	**23**	P	**P**	**09 24 53.9**	**0.0**
	baz=240						
L17K	**Donlin**	**79.45**	**25**	P	**P**	**09 24 54.4**	**-0.2**
	baz=243						
G16K	**Koyuk River**	**79.47**	**21**	P	**P**	**09 24 54.7**	**0.0**
	baz=239						
M17K	**Holitna River**	**79.49**	**26**	P	**P**	**09 24 55.2**	**+0.3**
	baz=244						
K17K	**Iditarod**	**79.72**	**24**	P	**P**	**09 24 56.1**	**+0.1**
	baz=243						
OHAK	**Old Harbor**	**79.75**	**30**	P	**P**	**09 24 56.7**	**+0.4**
	baz=248						
O18K	**Koktuh Hills**	**79.83**	**28**	P	**P**	**09 24 56.8**	**0.0**
	baz=246						
N18K	**Kilae Creek**	**79.86**	**27**	P	**P**	**09 24 56.6**	**-0.3**
	baz=245						
C16K	**Lisburne Hills**	**80.05**	**18**	P	**P**	**09 24 57.5**	**-0.3**
	baz=235						
H17K	**Granite Mounta**	**80.13**	**22**	IAmb	IAmb	09 24 59.3	
	comp=Z,15nm,0.9s						
H17K	**Granite Mounta**	**80.13**	**22**	P	**P**	**09 24 57.9**	**-0.3**
	baz=241						
G17K	**Kiwalik Mounta**	**80.14**	**21**	P	**P**	**09 24 58.1**	**-0.2**
	baz=240						
L18K	**Granite Mounta**	**80.17**	**25**	IAmb	IAmb	09 25 00.1	
	comp=Z,19nm,0.9s						
L18K	**Granite Mounta**	**80.17**	**25**	P	**P**	**09 24 58.5**	**0.0**
	baz=244						
Q19K	**Cape Douglas,**	**80.21**	**29**	P	**P**	**09 24 59.2**	**+0.3**
	baz=248						
M18K	**Stony River**	**80.23**	**26**	P	**P**	**09 24 58.9**	**0.0**
	baz=245						
KDAK	**Kodiak Island**	**80.30**	**30**	P	**P**	**09 24 59.4**	**+0.1**
	baz=249						
BVAR	**Borovoye Array**	**80.31**	**325**	P	**P**	**09 24 59.1**	**-0.4**
	comp=Z,2.7nm,0.6s,baz=114,slow=7.2,SNR=8.4						
	comp=Z,2.7nm,0.6s						
BRVK	**Borovoye**	**80.38**	**325**	P	**P**	**09 24 59.6**	**-0.2**
BRVK				IAmb	IAmb	09 25 11.1	
	comp=Z,11nm,1.1s						
F17K	**Baldwin Pennin**	**80.40**	**20**	P	**P**	**09 24 59.9**	**+0.3**
	baz=240						
D17K	**Noatak River**	**80.44**	**19**	P	**P**	**09 25 00.6**	**+0.7**
	baz=238						
N19K	**Bonanza Creek**	**80.55**	**27**	P	**P**	**09 25 00.8**	**0.0**
	baz=247						
Q20K	**Shuyak Island**	**80.69**	**29**	P	**P**	**09 25 00.9**	**-0.5**
	baz=249						
J18K	**Innoko River**	**80.70**	**24**		**P**	**09 24 59.5**	**-1.9**
J18K				IAmb	IAmb	09 25 01.9	
	comp=Z,10nm,1.0s						
J18K	**Innoko River**	**80.70**	**24**	P	**P**	**09 25 00.9**	**-0.5**
	baz=244						
TTA	**Tatalina**	**80.75**	**25**		**P**	**09 25 01.5**	**-0.2**
TTA				IAmb	IAmb	09 25 02.3	
	comp=Z,18nm,1.2s						
TTA	**Tatalina**	**80.75**	**25**	P	**P**	**09 25 01.5**	**-0.2**
	baz=245,SNR=6.4						
H18K	**Honhosa River**	**80.81**	**22**	P	**P**	**09 25 02.0**	**+0.1**
	baz=242						
C17K	**DeLong Mountai**	**80.83**	**18**	P	**P**	**09 25 02.4**	**+0.4**
	baz=237						
L19K	**White Mountain**	**80.93**	**25**	P	**P**	**09 25 02.6**	**0.0**
	baz=246,SNR=5.9						
M19K	**Big River Lodg**	**81.02**	**26**	IAmb	IAmb	09 25 04.7	
	comp=Z,13nm,1.0s						
M19K	**Big River Lodg**	**81.02**	**26**	P	**P**	**09 25 03.4**	**+0.3**
	baz=247						
F18K	**Selawik**	**81.03**	**20**	P	**P**	**09 25 02.9**	**-0.1**
	baz=241						
G18K	**Tagagawik**	**81.05**	**21**	P	**P**	**09 25 03.2**	**0.0**
	baz=242						
E18K	**Tukpahlearik C**	**81.11**	**20**	IAmb	IAmb	09 25 04.2	
	comp=Z,13nm,1.0s						
E18K	**Tukpahlearik C**	**81.11**	**20**	P	**P**	**09 25 03.5**	**0.0**
	baz=240						
GCSA	**Galena City Sc**	**81.19**	**23**	P	**P**	**09 25 03.4**	**-0.6**
	baz=244,SNR=7.0						
J19K	**Poorman**	**81.36**	**24**	IAmb	IAmb	09 25 05.7	
	comp=Z,15nm,1.0s						
J19K	**Poorman**	**81.36**	**24**	P	**P**	**09 25 04.5**	**-0.3**
	baz=245						
L20K	**Farewell, AK**	**81.47**	**25**	P	**P**	**09 25 05.0**	**-0.5**
	baz=247						
C18K	**Utukok River**	**81.54**	**18**	P	**P**	**09 25 05.5**	**-0.3**
	baz=239						
M20K	**Styx River**	**81.56**	**26**	P	**P**	**09 25 05.8**	**-0.3**
	baz=248						
H19K	**Roundabout Mou**	**81.70**	**22**	IAmb	IAmb	09 25 07.4	
	comp=Z,14nm,0.9s						
H19K	**Roundabout Mou**	**81.70**	**22**	P	**P**	**09 25 06.0**	**-0.6**
	baz=244						
B18K	**Kokolik River**	**81.72**	**18**	P	**P**	**09 25 06.5**	**-0.1**
	baz=239						
K20K	**Telida**	**81.73**	**25**	IAmb	IAmb	09 25 07.9	
	comp=Z,16nm,0.8s						
K20K	**Telida**	**81.73**	**25**	P	**P**	**09 25 06.7**	**-0.2**
	baz=247						
G19K	**Purcell Mounta**	**81.73**	**21**	IAmb	IAmb	09 25 07

	baz=252							
MLY	Manley	83.71	23	IAmb	IAmb	09 25 17.7		
	comp=Z,4.9nm,0.7s							
MLY	Manley	83.71	23	P	P	09 25 16.6	-0.6	
	baz=250							
H22K	Ishtalitna Cre	83.77	23	P	P	09 25 16.4	-1.0	
	baz=249							
WAT1	Susitna Watana	83.90	26	P	P	09 25 17.2	-1.0	
	baz=252							
M23K	Glacier View	83.95	27	P	P	09 25 17.6	-0.8	
	baz=253							
MCK	McKinley	84.02	25	P	P	09 25 17.3	-1.5	
	baz=251							
SCM	Sheep Creek Mo	84.14	27	P	P	09 25 18.4	-1.1	
	baz=253							
WAT6	Susitna Watana	84.17	26	P	P	09 25 18.8	-0.9	
	baz=253							
A21K	Barrow	84.21	17	P	P	09 25 18.9	-0.6	
	baz=243							
NEA2	Nenana	84.24	24	P	P	09 25 19.0	-0.8	
	baz=251							
I23K	Minto, Yukon-K	84.30	24	P	P	09 25 19.4	-0.7	
	baz=251							
D22K	Ayikyak River	84.42	20	P	P	09 25 20.0	-0.7	
	baz=247							
E22K	Anaktuvuk Pass	84.43	20	P	P	09 25 20.1	-0.7	
	baz=248,SNR=5.8							
DHY	Denali Highway	84.48	26	P	P	09 25 20.4	-0.9	
DHY	Denali Highway	84.48	26	P	P	09 25 20.4	-0.9	
	baz=253							
G23K	Bananza Creek	84.57	22	IAmb	IAmb	09 25 22.1		
	comp=Z,6.4nm,1.0s							
G23K	Bananza Creek	84.57	22	P	P	09 25 21.4	-0.1	
	baz=250							
COLD	Coldfoot	84.68	21	P	P	09 25 21.6	-0.4	
	baz=250,SNR=6.2							
KLU	Klutina	84.69	28	P	P	09 25 21.8	-0.4	
	baz=254							
M24K	Tolsona, Glenn	84.74	27	P	P	09 25 21.9	-0.5	
	baz=254							
COLA	College	84.82	24	P	P	09 25 22.0	-0.7	
	baz=252							
HDA	Harding Lake	85.06	25	P	P	09 25 22.4	-1.5	
	baz=253							
H24K	Noodor Dome	85.11	23	IAmb	IAmb	09 25 26.2		
	comp=Z,12nm,1.1s							
H24K	Noodor Dome	85.11	23	P	P	09 25 23.6	-0.7	
	baz=252							
D23K	Nanushuk River	85.12	20	P	P	09 25 24.2	0.0	
	baz=249,SNR=10.0							
BMRM	Bremner River	85.16	28	P	P	09 25 24.4	-0.2	
	baz=256							
E23K	Chandalar	85.17	21	P	P	09 25 24.4	-0.2	
	baz=250							
ILAR	Eielson Array	85.19	24	P	P	09 25 22.2	-2.4	
ILAR	Eielson Array	85.19	24	P	P	09 25 22.4	-2.2	
	comp=Z,6.3nm,0.8s,baz=255,slow=4.9,SNR=22							
	comp=Z,6.3nm,0.8s							
PAX	Paxson	85.29	26	P	P	09 25 24.6	-0.7	
	baz=255							
N25K	Chitina, Valde	85.33	28	P	P	09 25 24.5	-0.9	
	baz=256							
K24K	Donnelly Dome	85.38	25	P	P	09 25 25.0	-0.6	
	baz=254							
C23K	Itkillik River	85.45	19	P	P	09 25 25.4	-0.3	
	baz=249							
G24K	Hadweenzic Riv	85.53	22	IAmb	IAmb	09 25 27.5		
	comp=Z,14nm,1.1s							
G24K	Hadweenzic Riv	85.53	22	P	P	09 25 25.8	-0.5	
	baz=252,SNR=8.4							
GEYT	Alibeck	85.58	308	IAmb	IAmb	09 25 28.5		
	comp=Z,9.2nm,1.2s							
GEYT	Alibeck	85.58	308	P	P	09 25 28.2	+1.0	
	comp=Z,1.1nm,0.3s,baz=252,slow=7.2,SNR=6.8							
	comp=Z,1.1nm,0.3s							
F24K	Squaw Lake	85.62	21	IAmb	IAmb	09 25 27.9		
	comp=Z,6.9nm,0.8s							
F24K	Squaw Lake	85.62	21	P	P	09 25 26.2	-0.6	
	baz=252							
RIDG	Independent Ri	85.76	25	P	P	09 25 26.9	-0.7	
	baz=255							
J25K	Salcha River,	85.77	25	IAmb	IAmb	09 25 27.0		
	comp=Z,8.3nm,0.9s							
J25K	Salcha River,	85.77	25	P	P	09 25 26.7	-0.8	
	baz=255							
D24K	Happy Valley	85.81	20	P	P	09 25 27.4	-0.2	
	baz=251							
ABKAR	Akbulak array	85.83	320	P	P	09 25 27.2	-0.9	
PRP	Porcupine Dome	85.95	24	P	P	09 25 28.3	-0.2	
	baz=254							
MCARA	McCarthy VSAT	86.01	28	P	P	09 25 28.4	-0.3	
	baz=257							
C24K	Franklin Bluff	86.04	19	P	P	09 25 28.6	-0.1	
	baz=251							
G25K	Bearman Lake	86.07	22	P	P	09 25 28.7	-0.1	
	baz=254							
L26K	Log Cabin Wild	86.24	26	P	P	09 25 29.4	-0.5	
	baz=256							
F25K	Christian Rive	86.47	22	P	P	09 25 30.9	0.0	
	baz=254							
J26L	Joseph Creek	86.50	25	P	P	09 25 30.6	-0.6	
	baz=256							
E25K	Arctic Village	86.64	21	P	P	09 25 31.7	-0.1	
	baz=254							
D25K	Kavik River	86.70	20	IAmb	IAmb	09 25 32.5		
	comp=Z,11nm,0.8s							
D25K	Kavik River	86.70	20	P	P	09 25 31.7	-0.3	
	baz=253							
CTG	Chitna Glacier	86.72	29	P	P	09 25 32.2	-0.2	
	baz=259							
M27K	Edge Creek, AK	86.75	27	P	P	09 25 32.2	-0.3	
	baz=258							
BMAR	Burnt Mountain	86.82	22	P	P	09 25 32.6	-0.1	
I26K	Coal Creek Min	86.86	24	P	P	09 25 33.2	+0.4	
	baz=256							
L27K	Beaver Creek,	86.92	26	IAmb	IAmb	09 25 33.8		
	comp=Z,7.5nm,0.9s							
L27K	Beaver Creek,	86.92	26	P	P	09 25 33.0	-0.2	
	baz=258							
G26K	Porcupine Rive	87.00	22	P	P	09 25 33.6	+0.1	
	baz=256							
K27K	Chicken	87.02	26	IAmb	IAmb	09 25 37.2		
	comp=Z,9.0nm,1.2s							
K27K	Chicken	87.02	26	P	P	09 25 33.7	+0.1	
	baz=258							
F26K	Sheenjek River	87.05	22	P	P	09 25 33.8	0.0	
	baz=256							
PINM	Pinnacle	87.08	30	P	P	09 25 34.1	0.0	
	baz=259							
QSPA	South Pole Qui	87.19	180	P	P	09 25 34.3	-0.3	
QSPA				IAmb	IAmb	09 26 00.4		
	comp=Z,5.9nm,0.9s							
QSPA	South Pole Qui	87.19	180	P	P	09 25 34.5	-0.1	
	comp=Z,3.0nm,0.7s,baz=206,slow=0.9,SNR=15							
QSPA				LR	LR	10 06 19.1		
	comp=Z,160nm,18.0s,baz=244,slow=37							
	comp=Z,3.0nm,0.7s							
BVCY	Beaver Creek	87.23	27	P	P	09 25 34.4	-0.3	
	baz=259							
YUK3	Moose Creek	87.29	28	P	P	09 25 35.2	-0.1	
	baz=259							
C26K	Camden Bay	87.35	19	P	P	09 25 35.3	+0.2	
	baz=255							
PNL	Peninsula	87.42	30	P	P	09 25 35.4	-0.3	
	baz=260							
YUK8	Steele Glacier	87.53	28	P	P	09 25 35.8	-0.7	
	baz=260							
I27K	Kandik River	87.55	24	P	P	09 25 36.2	-0.1	
	baz=258							
EGAK	Eagle	87.57	25	P	P	09 25 35.0	-1.3	
EGAK				IAmb	IAmb	09 25 45.3		
	comp=Z,6.9nm,1.0s							
EGAK	Eagle	87.57	25	P	P	09 25 36.2	0.0	
	baz=258							
H27K	Steamboat Moun	87.72	23	P	P	09 25 37.2	+0.2	
	baz=258							
O29M	Mount Kennedy	87.94	29	P	P	09 25 38.1	-0.2	
	baz=261							
YUK4	Talbot Arm	88.07	28	P	P	09 25 39.1	+0.1	
	baz=261							
YUK6	Outpost Mounta	88.14	29	P	P	09 25 38.8	-0.6	
	baz=261							
DAWY	Dawson	88.19	26	P	P	09 25 39.3	0.0	
DAWY	Dawson	88.19	26	P	P	09 25 39.4	+0.1	
	baz=260							
I28M	Miner Creek	88.20	24	IAmb	IAmb	09 25 40.1		
	comp=Z,11nm,1.1s							
I28M	Miner Creek	88.20	24	P	P	09 25 39.3	-0.1	
	baz=260							
P29M	Windy Craggy	88.25	30	P	P	09 25 39.3	-0.3	
	baz=262							
M29M	Somme Creek	88.33	27	IAmb	IAmb	09 25 48.5		
	comp=Z,10nm,1.2s							
M29M	Somme Creek	88.33	27	P	P	09 25 39.9	-0.2	
	baz=261							
HYT	Haines Junctio	88.54	29	P	P	09 25 40.9	-0.2	
	baz=262							
L29M	L29M	88.59	27	P	P	09 25 41.1	-0.1	
	baz=261							
F28M	Old Crow	88.63	22	IAmb	IAmb	09 25 42.1		
	comp=Z,4.8nm,0.8s							
F28M	Old Crow	88.63	22	P	P	09 25 41.3	0.0	
	baz=260							
P30M	Million Dollar	88.71	30	P	P	09 25 41.8	-0.1	
	baz=262							
J29N	Klondike Camp	88.76	25	P	P	09 25 42.4	+0.4	
	baz=261							
S31K	Pelican	88.80	32	P	P	09 25 42.7	+0.4	
	baz=263							
K29M	Barlow Dome	88.97	26	P	P	09 25 43.6	+0.5	
	baz=262							
H29M	Whitestone	88.97	24	P	P	09 25 42.8	-0.1	
	baz=261							
M30M	Mile, Yukon	89.12	27	P	P	09 25 43.7	0.0	
	baz=262							
SIT	Sitka	89.18	33	P	P	09 25 43.8	-0.2	
	baz=264							
O30N	Mendenhall	89.22	29	P	P	09 25 43.7	-0.5	
	baz=263							
D28M	Stokes Point	89.34	21	P	P	09 25 44.2	-0.3	
	baz=260							
E29M	Blow River	89.49	22	P	P	09 25 45.0	-0.3	
	baz=261							
J30M	Hart River	89.58	25	P	P	09 25 45.8	-0.2	
	baz=263							
I30M	Mount Dempster	89.64	25	IAmb	IAmb	09 25 47.3		
	comp=Z,5.6nm,0.8s							
I30M	Mount Dempster	89.64	25	P	P	09 25 45.6	-0.6	
	baz=263							
EPYK	Eagle Plains	89.65	24	P	P	09 25 45.8	-0.4	
	baz=262							
WHY	Whitehorse	89.80	29	P	P	09 25 46.5	-0.5	
	baz=264							
G30M	tAoh Zraii Nji	89.93	23	IAmb	IAmb	09 25 47.7		
	comp=Z,11nm,1.1s							
G30M	tAoh Zraii Nji	89.93	23	P	P	09 25 46.6	-0.8	
	baz=263							
F30M	Barrier River	90.17	22	P	P	09 25 47.6	-0.9	
	baz=263							
M31M	Drury Creek, Y	90.19	28	P	P	09 25 48.3	-0.4	
	baz=264							
P32M	Atlin	90.28	30	P	P	09 25 48.4	-0.8	
	baz=265							
FARO	Faro, Yukon	90.67	28	P	P	09 25 50.5	-0.5	
	baz=265							
G31M	Satah River	90.69	23	P	P	09 25 50.6	-0.3	
	baz=265							
N32M	Quiet Lake	90.72	29	P	P	09 25 50.7	-0.5	
	baz=266							
F31M	Tsiigehtchic	90.94	23	IAmb	IAmb	09 25 53.0		
	comp=Z,9.0nm,1.3s							
F31M	Tsiigehtchic	90.94	23	P	P	09 25 51.5	-0.5	
	baz=265							
INK	Inuvik	91.09	22	P	P	09 25 51.5	-1.2	
INK				IAmb	IAmb	09 25 52.9		
	comp=Z,5.6nm,1.0s							
INK	Inuvik	91.09	22	P	P	09 25 52.6	-0.1	
	baz=265							
R33M	Jennings River	91.66	31	P	P	09 25 54.8	-0.9	
	baz=267							
DLBC	Dease Lake	92.11	32	P	P	09 25 57.6	-0.2	
	baz=268							
TGTN	Hyland Airport	93.05	29	P	P	09 26 01.5	-0.5	
	baz=270							
A36M	Sachs Harbour	93.96	18	P	P	09 26 05.2	-0.7	
	baz=273							
YKA	Yellowknife Ar	99.35	27	P	Pdif	09 26 29.1	-1.4	
	comp=Z,0.6nm,0.9s,baz=288,slow=4.4,SNR=6.1							
YKA				LR	LR	10 07 12.9		
	comp=Z,93nm,20.0s,baz=308,slow=33							
	comp=Z,0.6nm,0.9s							
MPMC	Manual Prospec	101.42	54	P	Pdif	09 26 39.0	-1.7	
	baz=275							
BFSC	Mount Baldy Ra	101.43	56	P	Pdif	09 26 39.0	-1.6	
	baz=274							
FURC	Furnace Creek,	101.89	53	P	Pdif	09 26 40.8	-1.6	
	baz=275							
MVCO	Mesa Verde	108.43	52	P	PKiKP	09 31 16.3	-1.4	
	baz=281							
WCI	Wyandotte Cave	124.69	44	P	PKiKP	09 31 47.8	-1.0	
	baz=298							
P49A	Miami Univ. Ec	125.14	42	P	PKPdf	09 31 48.4	-0.9	
	baz=300							
P52A	Corning	126.79	41	P	PKiKP	09 31 52.1	-0.9	
	baz=303							
O53A	New Philadelph	127.05	40	P	PKiKP	09 31 52.2	-1.3	
	baz=304							
TZTN	Tazewell	127.42	45	P	PKPdf	09 31 52.9	-0.9	
	baz=299							
LONY	Lake Ozonia	128.17	31	P	PKiKP	09 31 55.1	-0.5	
	baz=313							
SSPA	Standing Stone	128.89	37	P	PKiKP	09 31 56.3	-0.9	
	baz=308							
TORD	Torodi Ar. Bea	137.87	287	PKhKP	PKPpre	09 32 08.2		
	comp=Z,0.3nm,0.7s,baz=110,slow=2.1,SNR=1.9							
DBIC	Dimbokro	145.15	278	PKPbc	PKPbc	09 32 23.4	-3.2	
	comp=Z,10nm,0.8s,baz=78,slow=5.0,SNR=11							
CPUP	Villa Florida	146.39	150	PKPbc	PKPab	09 32 30.1	-0.9	
	comp=Z,4.3nm,0.9s,baz=235,slow=1.7,SNR=8.1							

*IDC **01** 09:21:10.6±3.4,56˚.28N×148˚.53W,h0km,mb3.4/1, mbtmp3.2/3,ML3.0/2,MS2.5/1,Error ellipse: s-maj=52.4km s-min=38.3km az=134.0*

*NEIC **01** 09:21:12.2±1.8,56˚.4N±0˚.1×148˚.53W±0˚.05,h23km±10km, ML3.5/60,ML3.3(AEIC),Error ellipse: s-maj=15.6km s-min=2.1km az=167.0*

*AEIC **01** 09:21:14.6±1.5,56˚.3N±0˚.1×148˚.50W±0˚.04,h10km±8km, Error ellipse: s-maj=15.3km s-min=1.8km az=168.0*

ISC 01 09:21:10.6±1.5,56˚.38N±0˚.09×148˚.49W±0˚.05,h10km, n126,σ1$09/124,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	Kodiak Island	2.64	304		Pn	09 21 52.8	-0.3
KDAK					Sn	09 22 21.6	-3.6
KDAK	Kodiak Island	2.64	304	P	Pn	09 21 52.8	-0.3
	baz=123						
KDAK				S	Sn	09 22 23.3	-1.9
	baz=123						
KDAK	Kodiak Island	2.64	304	LR	LR	09 22 59.7	
	comp=Z,92nm,21.4s,baz=81,slow=41						
OHAK	Old Harbor	2.77	290		Pn	09 21 53.9	-1.0
OHAK					Sn	09 22 24.8	-3.6
OHAK	Old Harbor	2.77	290	P	Pn	09 21 53.9	-1.0
	baz=108						
OHAK				S	Sn	09 22 26.1	-2.3
	baz=108						
SYI	Shuyak Island	3.07	318		Pn	09 21 59.3	+0.3
SYI					Sn	09 22 35.0	-0.7
Q20K	Shuyak Island	3.07	318	P	Pn	09 21 59.3	+0.3
	baz=136						
Q20K				S	Sn	09 22 36.3	+0.6
	baz=136						
MID	Middleton Isla	3.26	20		Pn	09 22 01.4	-0.2
Q23K	Middleton Isla	3.26	20		Pn	09 22 01.5	-0.2
CNPM	China Poot	3.48	336		Pn	09 22 04.8	+0.1
CNPM	China Poot	3.48	336	IAML		09 22 50.6	
	comp=N,56nm,1.3s						
BRSE	Bradley Lake S	3.57	341		Pn	09 22 05.9	-0.1
BRSE					Sn	09 22 46.3	-2.0
BRSE	Bradley Lake S	3.57	341	P	Pn	09 22 05.9	-0.1
	baz=160						
BRSE				S	Sn	09 22 47.4	-0.9
	baz=160						
BRLK	Bradley Lake	3.62	340		Pn	09 22 06.6	-0.1
P23K	Montague Islan	3.67	9		Pn	09 22 07.1	-0.2
P23K					Sn	09 22 47.1	-3.5
P23K	Montague Islan	3.67	9	P	Pn	09 22 07.3	0.0
	baz=189						
P23K				S	Sn	09 22 47.7	-2.9
	baz=189						
HOM	Homer	3.69	334		Pn	09 22 08.4	+0.9
HOM	Homer	3.69	334	P	Pn	09 22 08.4	+0.9
	baz=152						
Q19K	Cape Douglas,	3.77	315		Pn	09 22 09.7	+1.0
Q19K	Cape Douglas,	3.77	315	IAML		09 23 15.5	
	comp=N,128nm,1.5s						
Q19K	Cape Douglas,	3.77	315	P	Pn	09 22 09.7	+1.0
	baz=132						
SEW	Seward	3.77	353		Pn	09 22 08.1	-0.5
AUJK	Augustine Jueg	3.97	321		Pn	09 22 12.6	+1.1
AUCH	Augustine Cone	3.99	321		Pn	09 22 13.3	+1.5
KAKN	Katmai Knife C	4.04	301		Pn	09 22 13.3	+0.7
P19K	Oil Pt	4.14	324		Pn	09 22 14.5	+0.8
P19K	Oil Pt	4.14	324	IAML		09 23 12.6	
	comp=N,76nm,0.7s						
P19K				IAML		09 23 12.7	
	comp=E,74nm,0.8s						
P19K	Oil Pt	4.14	324	P	Pn	09 22 14.7	+0.9
	baz=141						
KAIM	Kayak Island	4.16	30		Pn	09 22 13.9	-0.1
KAIM	Kayak Island	4.16	30	IAML		09 23 07.7	
	comp=E,65nm,1.4s						
KAIM				IAML		09 23 22.3	
	comp=N,84nm,1.4s						
KAIM	Kayak Island	4.16	30	P	Pn	09 22 14.1	+0.1
	baz=212						
HIN	Hinchinbrook I	4.16	14		Pn	09 22 14.2	+0.1
HIN	Hinchinbrook I	4.16	14	IAML		09 23 08.8	
	comp=N,97nm,1.0s						
HIN				IAML		09 23 12.3	
	comp=E,89nm,1.4s						
O22K	Cooper Landing	4.16	352	Pn	Pn	09 22 15.0	+1.0
O20K	Slope Mountain	4.30	331		Pn	09 22 16.4	+0.4
O20K	Slope Mountain	4.30	331	P	Pn	09 22 16.4	+0.4
	baz=148						
ILSW	Iliamna Southw	4.37	328		Pn	09 22 17.3	+0.3
ILSW	Iliamna Southw	4.37	328	IAML		09 23 19.2	
	comp=N,31nm,1.2s						
ILSW				IAML		09 23 20.0	
	comp=E,38nm,0.7s						
CNTC	Contact Creek	4.43	298		Pn	09 22 18.4	+0.6
SUCK	Suckling Hills	4.46	32		Pn	09 22 18.2	0.0
SUCK	Suckling Hills	4.46	32	IAML		09 23 09.5	
	comp=E,37nm,1.0s						
SUCK				IAML		09 23 14.4	
	comp=N,59nm,1.2s						
NICHA	Nichawak Mount	4.54	30		Pn	09 22 19.4	+0.1
HMT	Hamilton	4.55	28	Pn	Pn	09 22 19.9	+0.5
CAPN	Captain Cook N	4.61	344	Pn	Pn	09 22 20.4	+0.2
RSO	Redoubt South	4.66	333		Pn	09 22 21.3	+0.2
P18K	Big Mountain,	4.69	313		Pn	09 22 21.1	-0.3
BERG	Berg Lake	4.74	30		Pn	09 22 22.1	0.0
BERG	Berg Lake	4.74	30	IAML		09 23 20.4	
	comp=E,54nm,0.9s						
RC01	Rabbit Creek A	4.76	353	Pn	Pn	09 22 22.9	+0.6
RC01				IAML		09 23 18.1	
	comp=N,37nm,0.5s						
RC01				IAML		09 23 28.1	
	comp=E,32nm,0.5s						
SNH	Sunshine Point	4.83	36	Pn	Pn	09 22 23.3	-0.1
SNH				IAML		09 23 18.7	
	comp=E,42nm,1.4s						
SNH				IAML		09 23 43.0	
	comp=N,54nm,1.5s						
O19K	Port Alsworth	4.91	324		Pn	09 22 24.6	+0.3
O19K				IAML		09 23 30.8	
	comp=N,48nm,0.4s						
KHIT	Khitrov Hills	4.92	32		Pn	09 22 24.3	-0.2
O18K	Koktuh Hills	4.98	317		Pn	09 22 25.0	-0.3
BMRM	Bremner River	5.02	22		Pn	09 22 24.9	-1.1
KNK	Knik Glacier	5.05	0	Pn	Pn	09 22 27.2	+1.0
KNK				IAML		09 23 28.4	
	comp=E,34nm,1.4s						
KNK				IAML		09 23 39.1	
	comp=N,18nm,1.1s						
CRQM	Cirque	5.20	30		Pn	09 22 28.6	0.0
CRQM	Cirque	5.20	30	IAML		09 23 28.8	
	comp=N,27nm,1.2s						
CRQM				IAML		09 23 29.9	
	comp=E,27nm,0.6s						
CRQE	Cirque	5.21	31	P	Pn	09 22 28.6	0.0
	baz=214						
CKL	Chakachamna La	5.23	339		Pn	09 22 29.1	+0.3
SUA	Susitna One	5.23	348		Pn	09 22 28.9	+0.1
PMR	Palmer	5.24	357	Pn	Pn	09 22 29.3	+0.5
PMR				IAML		09 23 29.8	
	comp=N,19nm,1.4s						
PMR				IAML		09 23 33.8	
	comp=E,16nm,1.1s						
TGL	Tana Glacier	5.29	32		Pn	09 22 29.7	0.0
TGL	Tana Glacier	5.29	32	IAML		09 23 33.0	
	comp=E,22nm,1.1s						
TGL				IAML		09 25 09.1	
	comp=N,14nm,1.3s						
KLU	Klutina	5.29	13		Pn	09 22 30.2	+0.5
KLU	Klutina	5.29	13	IAML		09 23 29.9	
	comp=N,42nm,0.7s						
KLU				IAML		09 23 30.2	
	comp=E,38nm,1.4s						
KLU	Klutina	5.29	13	P	Pn	09 22 30.5	+0.8
	baz=195						
BAGL	Bagley Icefiel	5.31	37		Pn	09 22 29.9	+0.1
ISLE	Juniper Island	5.32	35	Pn	Pn	09 22 28.6	-1.5
ISLE				IAML		09 23 31.0	
	comp=E,29nm,1.5s						
ISLE				IAML		09 23 39.3	
	comp=N,44nm,1.1s						
GHO	Glory Hole Cre	5.41	358		Pn	09 22 32.4	+1.1
STLK	Stranaline Lak	5.42	343		Pn	09 22 31.8	+0.5
N19K	Bonanza Creek	5.44	327		Pn	09 22 31.6	0.0
SML	Sawmill	5.44	1		Pn	09 22 32.5	+0.8
SML	Sawmill	5.44	1	P	Pn	09 22 32.5	+0.8
	baz=180						
SCM	Sheep Creek Mo	5.50	6	Pn	Pn	09 22 34.0	+1.5
VRDI	Verde Repeater	5.52	26	Pn	Pn	09 22 32.9	0.0
CHGN	Chignik	5.52	273	Pn	Pn	09 22 33.6	+0.9
KIAG	Kiagna River	5.56	33		Pn	09 22 33.2	-0.3
GRNC	Granite Creek	5.61	36		Pn	09 22 34.0	-0.1
TABL	Table Mountain	5.61	40		Pn	09 22 34.1	0.0
N25K	Chitina, Valde	5.61	19	Pn	Pn	09 22 35.0	+0.9
GLB	Gilahina Butte	5.62	24		Pn	09 22 34.6	+0.4
O17K	Koliganek Bris	5.69	310		Pn	09 22 35.5	+0.5
PCA	Pinnacle	5.72	46		Pn	09 22 35.8	+0.3
PINM	Pinnacle	5.72	46	P	Pn	09 22 36.0	+0.4
	baz=232						
PTPK	Patty Peak	5.75	31		Pn	09 22 36.1	+0.1
MCARA	McCarthy VSAT	5.76	27	Pn	Pn	09 22 37.5	+1.5
N18K	Kilae Creek	5.79	321		Pn	09 22 36.4	-0.1
SKT	Skwentna	5.83	346	Pn	Pn	09 22 38.1	+1.2
PNL	Peninsula	5.84	52		Pn	09 22 37.5	+0.3
PNL	Peninsula	5.84	52	P	Pn	09 22 37.5	+0.3
	baz=238						
M24K	Tolsona, Glenn	5.86	11	Pn	Pn	09 22 39.5	+2.0
CTG	Chitna Glacier	5.92	36	P	Pn	09 22 38.5	+0.2
	baz=221						
CTGM	Chitina Glacie	5.92	36		Pn	09 22 38.2	-0.1
LOGN	Logan Glacier	5.93	38		Pn	09 22 38.3	-0.1
SVW2	Sparrevohn	6.00	325	Pn	Pn	09 22 39.2	0.0
M20K	Styx River	6.01	339	Pn	Pn	09 22 38.9	-0.6
M19K	Big River Lodg	6.31	334	Pn	Pn	09 22 43.5	-0.1
M18K	Stony River	6.37	327		Pn	09 22 44.0	-0.3
M18K	Stony River	6.37	327	P	Pn	09 22 44.1	-0.3
	baz=141						
CHNA	Chernabura Isl	6.48	261	P	Pn	09 22 44.9	-1.0
	baz=73						
CNBA	Chernabura Isl	6.48	261		Pn	09 22 44.9	-1.0
O29M

BPAW	**Bear Paw Mtn.**	**7.84**	**352**	Pn		**Pn**	**09 23 04.8**	**+0.2**
M29M	**Somme Creek**	**7.94**	**36**			**Pn**	**09 23 07.1**	**+1.1**
K17K	**Iditarod**	**8.07**	**326**	Pn		**Pn**	**09 23 07.9**	**+0.3**
IL31		**8.45**	**5**			**Pn**	**09 23 13.6**	**+0.7**
ILAR	**Eielson Array**	**8.45**	**5**	Pn		**Pn**	**09 23 13.9**	**+1.0**
ILAR	**Eielson Array**	**8.45**	**5**	Pn		**Pn**	**09 23 13.1**	**+0.2**
	comp=N,0.2nm,0.3s,baz=187,slow=13,SNR=11							
ILAR				Sn		**Sn**	**09 24 44.7**	**-3.6**
	comp=N,0.2nm,0.3s,baz=183,slow=27,SNR=5.7							
	comp=N,0.3nm,0.3s							
YKA	**Yellowknife Ar**	**18.12**	**56**	P		**Pn**	**09 25 24.4**	**+2.4**
	comp=N,0.1nm,0.3s,baz=263,slow=10.0,SNR=5.2							
	comp=N,0.5nm,0.8s							
SONM	**Songino Array**	**58.91**	**311**	P		**P**	**09 31 11.2**	**+1.7**
	comp=N,0.3nm,0.7s,baz=42,slow=6.6,SNR=2.2							
	comp=N,0.3nm,0.7s							

*NNC **01** 09:34:26.6±4.0, 53.°70N×87.°99E, h0km, mb2.7, mpv2.4, Error ellipse: s-maj=42.3km s-min=19.2km az=39.0, Suspected Mining explosion.*

*IDC **01** 09:34:28.9±3.2, 53.°57N×87.°58E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=28.1km s-min=16.2km az=56.0*

ISC 01 09:34:20.5±6.1, 54.°1N±0.°3×88.°5E±0.°3, h0km, n9, σ0.°64/9, 5C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**2.17**	**267**	I		I	09 46 20.0	
	baz=103,slow=349,SNR=1.5							
ZAA0	**Zalesovo Array**	**2.17**	**267**	⇓Pn		**Pb**	**09 34 60.0**	**-0.6**
	0.2nm,0.4s							
ZAA0				⇓Sn		**Sn**	**09 35 25.6**	**+0.2**
	2.1nm,0.9s							
ZALV	**Zalesovo Beam**	**2.17**	**267**	Pg		**Pn**	**09 34 58.2**	**+0.4**
	0.7nm,0.3s,baz=106,slow=15,SNR=9.6							
ZALV				Lg		Lg	09 35 22.0	
	0.9nm,0.3s,baz=99,slow=18,SNR=8.6							
KURK	**Kurchatov**	**6.92**	**245**	⇑Pn		**Pn**	**09 36 04.1**	**+1.0**
	0.1nm,0.3s							
KURK				⇑Lg		Lg	09 37 52.4	
	3.7nm,1.0s							
KURBB	**Kurchatov Arra**	**7.02**	**244**	Pn		**Pn**	**09 36 04.2**	**-0.3**
	baz=60,slow=14,SNR=3.9							
KURBB				Lg		Lg	09 37 51.8	
	baz=62,slow=32,SNR=6.9							
	0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**7.02**	**244**	⇓Pn		**Pn**	**09 36 04.8**	**+0.3**
	0.1nm,0.3s							
KURBB				⇑Lg		Lg	09 37 54.3	
	8.4nm,0.9s							
MK31	**Makanchi Array**	**8.32**	**211**	⇓Pn		**Pn**	**09 36 22.4**	**+0.2**
	0.1nm,0.3s,baz=31,slow=15,SNR=3.8							
MK31				⇑Lg		Lg	09 38 31.9	
	1.4nm,0.8s,baz=32,slow=24,SNR=22							
MKAR	**Makanchi Array**	**8.32**	**211**	Pn		**Pn**	**09 36 21.9**	**-0.4**
	0.1nm,0.3s,baz=31,slow=15,SNR=5.1							
MKAR				Lg		Lg	09 38 28.2	
	0.1nm,0.3s,baz=41,slow=31,SNR=5.2							
	0.2nm,0.4s							
MAKZ	**Makanchi**	**8.40**	**212**	⇓Pn		**Pn**	**09 36 24.1**	**+0.7**
	0.3nm,0.4s							
MAKZ				⇑Lg		Lg	09 38 32.7	
	0.9nm,0.8s							

*NIED **01** 09:34:38.1, 37.°03N×141.°37E, h27km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.05; $M_{\theta\theta}$-0.17; $M_{\phi\phi}$1.22; $M_{r\theta}$0.16; $M_{\theta\phi}$0.21; $M_{\phi r}$0.51; Fault plane solution: $M_0$1.27000×10^{15} NP1: ϕ_s193.00000°, δ57.00000°, λ-85.00000°. NP2:ϕ_s3.00000°, δ33.00000°, λ-98.00000°.*

*IDC **01** 09:34:38.5±0.9, 37.°32N×141.°10E, h0km, mb3.9/11, mbtmp3.9/13, ML2.3/2, MS3.3/4 Error ellipse: s-maj=22.6km s-min=20.4km az=1.0*

*JMA **01** 09:34:38.1±0.1, 37.°01N±0.°2×141.°4E±0.°5, h27km, MV3.8/39, E OFF FUKUSHIMA PREF*

JMA Felt I J1 at E OFF FUKUSHIMA PREF .

*NEIC **01** 09:34:45.6±1.1, 37.°48N±0.°08×140.°7E±0.°1, h34km±9km, mb4.3/3, Error ellipse: s-maj=20.0km s-min=6.2km az=123.0*

ISC 01 09:34:40.2±1.4, 37.°14N±0.°04×141.°13E±0.°05, h13km±8km, n51, σ1.°69/49, mb4.0/14, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.27**	**262**	⇓*i*P		**Pb**	**09 34 47.4**	**+0.5**
ONAJ				⇓S		**Sn**	**09 34 54.2**	**-1.7**
JFK	**Kawauchi**	**0.31**	**318**	⇓*i*P		**Pn**	**09 34 48.3**	**-2.2**
JFK				⇓S		**Sn**	**09 34 55.6**	**-1.3**
JFFD	**Fukushimafurud**	**0.46**	**264**	⇓*i*P		**Pb**	**09 34 50.5**	**+0.3**
JFFD				⇓S		**Sn**	**09 34 59.3**	**-1.3**
JHO	**Hitachi**	**0.69**	**221**	⇓*i*P		**Pg**	**09 34 52.1**	**-1.5**
JHO				⇓S		**Sg**	**09 35 02.5**	**-0.3**
JOTO	**OTAMA OYAMA**	**0.76**	**304**	*i* P		**Pn**	**09 34 56.4**	**-0.3**
JOTO				S		**Sn**	**09 35 09.6**	**+1.5**
JMM	**Marumori**	**0.78**	**340**	Pn		**Pb**	**09 34 55.4**	**-0.2**
JMM	**Marumori**	**0.78**	**340**	⇓*i*P		**Pb**	**09 34 55.3**	**-0.2**
JMM				⇓*e*S		**Sn**	**09 35 08.0**	**-0.4**
JFY	**Yanaizu**	**1.17**	**284**	P		**Pg**	**09 35 02.8**	**+0.1**
JFY				S		**Sg**	**09 35 21.5**	**+3.6**
JOU	**Okura**	**1.28**	**343**	P		**Pb**	**09 35 03.5**	**-0.6**
JOU				*e*S		**Sg**	**09 35 22.8**	**+1.3**
JIO	**Ouri**	**1.32**	**7**	P		**Pn**	**09 35 02.5**	**-1.9**
JIO				S		**Sn**	**09 35 20.8**	**-1.2**
MJAR	**Matsushiro Arr**	**2.42**	**257**	Pn		**Pn**	**09 35 20.1**	**+0.6**
	0.9nm,0.3s,baz=88,slow=15,SNR=36							
MJAR				Sn		**Sb**	**09 35 54.9**	**+1.6**
	1.2nm,0.3s,baz=78,slow=15,SNR=6.6							
MJAR				LR		LR	09 36 36.5	
	comp=Z,350nm,19.0s,baz=93,slow=48							
	7.1nm,0.3s							
MAJO	**Matsushiro**	**2.42**	**257**	Pn		**Pn**	**09 35 20.6**	**+1.1**
MJB9	**Matsu-Tunnel**	**2.42**	**257**	Pn		**Pb**	**09 35 21.4**	**-2.2**
JSD	**Sado**	**2.45**	**292**	Pn		**Pn**	**09 35 16.8**	**-3.1**
JGF	**Kuroka**	**3.41**	**244**	Pn		**Pn**	**09 35 34.2**	**+1.1**
JTM	**Tenmabayashi**	**3.64**	**359**			**Pn**	**09 35 36.3**	**0.0**
INU	**Inuyama**	**3.77**	**243**	Pn		**Pn**	**09 35 39.0**	**+0.9**
ERM	**Erimo**	**5.12**	**17**	Pn		**Pn**	**09 35 56.1**	**-0.4**
JKA	**Kamikawa-asahi**	**7.06**	**9**	Pn		**Pn**	**09 36 18.8**	**-4.4**
ASAJ	**Asahikawa**	**7.06**	**9**	Pn		**Pn**	**09 36 25.8**	**+2.6**
	1.1nm,0.3s,baz=340,slow=33,SNR=5.7							
JNU	**Nakatsue**	**9.30**	**248**	Pn		**Pn**	**09 36 54.1**	**+0.1**
JNU	**Nakatsue**	**9.30**	**248**	LR		LR	09 40 50.7	
	comp=Z,107nm,18.9s,baz=61,slow=40							
USRK	**Ussuriysk Ar.**	**9.89**	**318**	Pn		**Pn**	**09 37 01.9**	**-0.2**
	baz=130,slow=13,SNR=2.9							
	6.1nm,1.1s							
KSRS	**Korea Array**	**10.53**	**276**	LR		LR	09 40 58.1	
	comp=Z,133nm,18.4s,baz=100,slow=36							
SONM	**Songino Array**	**27.54**	**304**	P		**P**	**09 40 25.9**	**-0.8**
	2.4nm,1.3s,baz=64,slow=7.4,SNR=3.7							
	2.4nm,1.3s							
H11N2	**WAKE ISLAND Hy**	**28.39**	**121**	T		T	10 09 57.7	
	baz=313,slow=75,SNR=293							
H11N1	**WAKE ISLAND Hy**	**28.40**	**121**	T		T	10 09 58.7	
	baz=313,slow=75,SNR=375							
H11N3	**WAKE ISLAND Hy**	**28.41**	**121**	T		T	10 09 59.1	
	baz=313,slow=75,SNR=292							
H11S1	**WAKE ISLAND Hy**	**29.11**	**123**	T		T	10 10 50.1	
	baz=315,slow=75,SNR=113							
H11S3	**WAKE ISLAND Hy**	**29.11**	**123**	T		T	10 10 47.7	
	baz=315,slow=75,SNR=99							
H11S2	**WAKE ISLAND Hy**	**29.12**	**123**	T		T	10 10 48.7	
	baz=315,slow=75,SNR=99							
ZALV	**Zalesovo Beam**	**41.68**	**312**	P		**P**	**09 42 28.1**	**-0.1**
	1.8nm,0.6s,baz=95,slow=8.9,SNR=4.1							
	1.8nm,0.6s							
MK31	**Makanchi Array**	**43.87**	**302**			**P**	**09 42 44.0**	**-2.3**
MK31				IAmb		IAmb	09 42 50.6	
	comp=Z,2.3nm,1.1s							
MKAR	**Makanchi Array**	**43.87**	**302**	P		**P**	**09 42 45.0**	**-1.3**
MKAR	**Makanchi Array**	**43.87**	**302**	P		**P**	**09 42 45.2**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=90,slow=9.7,SNR=7.7							
	comp=Z,0.7nm,0.8s							
KURBB	**Kurchatov Arra**	**45.76**	**308**	P		**P**	**09 42 59.7**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=83,slow=8.0,SNR=7.2							
	comp=Z,1.3nm,0.7s							
IL31		**49.53**	**32**	P		**P**	**09 43 32.0**	**+1.9**
IL31				IAmb		IAmb	09 43 33.8	
	comp=Z,5.0nm,1.0s							

ILAR	**Eielson Array**	**49.53**	**32**	P		**P**	**09 43 31.7**	**+1.5**
ILAR	**Eielson Array**	**49.53**	**32**	P		**P**	**09 43 28.6**	**-1.6**
	comp=Z,1.7nm,0.7s,baz=286,slow=7.3,SNR=7.7							
	comp=Z,1.7nm,0.7s							
AAK	**Ala-Archa**	**50.24**	**298**	LR		LR	10 05 24.5	
	comp=Z,60nm,18.4s,baz=75,slow=37							
BVAR	**Borovoye Array**	**50.34**	**312**	PcP		**PcP**		
	comp=Z,1.2nm,0.7s,baz=98,slow=4.5,SNR=4.7						**09 44 58.6**	**+3.5**
WRA	**Warramunga Arr**	**57.13**	**188**	P		**P**	**09 44 28.0**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=4.9,slow=7.6,SNR=2.6							
	comp=Z,1.1nm,0.7s							
ABKAR	**Akbulak array**	**57.70**	**310**	P		**P**	**09 44 28.7**	**-1.7**
ABKAR				IAmb		IAmb	09 44 40.8	
	comp=Z,5.2nm,1.4s							
YKA	**Yellowknife Ar**	**63.83**	**30**	P		**P**	**09 45 10.5**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=291,slow=7.2,SNR=3.6							
	comp=Z,0.4nm,0.8s							
STKA	**Stephens Creek**	**68.66**	**180**	P		**P**	**09 45 44.1**	**+1.1**
	comp=Z,1.7nm,0.4s,baz=344,slow=9.1,SNR=3.6							
	comp=Z,1.7nm,0.4s							
AKASG	**Malin Array Be**	**74.08**	**322**	P		**P**	**09 46 14.6**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=46,slow=5.6,SNR=5.9							
	comp=Z,1.2nm,0.7s							
NVAR	**Mina Array Bea**	**75.11**	**53**	P		**P**	**09 46 22.9**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=320,slow=2.7,SNR=3.1							
	comp=Z,0.5nm,0.8s							
TXAR	**Lajitas Array**	**90.24**	**52**	P		**P**	**09 47 42.8**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=318,slow=5.0,SNR=4.9							
	comp=Z,0.5nm,0.7s							
H03N2	**Juan Fernandez**	**147.26**	**96**	T		T	12 38 38.6	
	baz=291,slow=76,SNR=27							
H03N3	**Juan Fernandez**	**147.27**	**96**	T		T	12 38 40.4	
	baz=291,slow=76,SNR=33							
H03N1	**Juan Fernandez**	**147.28**	**96**	T		T	12 38 42.4	
	baz=291,slow=76,SNR=44							

*IDC **01** 09:40:01.4±2.1, 6.°97S×129.°13E, h0km, mb4.0/1, mbtmp4.1/3, ML4.1/2, Error ellipse: s-maj=146.2km s-min=30.6km az=67.0*

ISC 01 09:40:02.2±1.4, 7.°1S±0.°2×128.°98E±0.°06, h10km, n18, σ1.°67/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAUI	**Saumlaki**	**2.47**	**111**	P		**Pg**	**09 40 48.1**	**-1.4**
SOEI	**Soe**	**5.36**	**240**	P		**Pg**	**09 41 43.1**	**-1.9**
DRS	**Darwin Rock St**	**5.64**	**161**	P		Pb	09 41 34.6	-6.1
MTN	**Manton Dam**	**6.10**	**160**	P		Pn	09 41 39.8	+7.3
KDU	**Kakadu**	**6.54**	**149**	P		Pn	09 41 43.4	+4.8
KNRA	**Kununurra**	**8.54**	**181**	P		Pn	09 42 14.9	+8.9
FITZ	**Fitzroy Crossi**	**11.42**	**196**	P		Pn	09 42 56.4	+11
WRA	**Warramunga Arr**	**13.80**	**158**	Pn		**Pn**	**09 43 18.8**	**+0.8**
	1.0nm,0.3s,baz=341,slow=13,SNR=31							
WRA				Sn		Sn	09 45 38.2	-13
	1.0nm,0.3s,baz=340,slow=21,SNR=7.5							
	4.4nm,0.8s							
COEN	**Coen**	**15.53**	**117**	P		**Pn**	**09 43 40.9**	**-0.6**
QIS	**Mount Isa**	**16.89**	**144**	P		**P**	**09 44 00.2**	**-0.7**
ASAR	**Alice Springs**	**17.15**	**165**	P		**P**	**09 44 04.0**	**+0.1**
	0.6nm,0.3s,baz=346,slow=10,SNR=34							
ASAR				S		Sn	09 47 00.7	-12
	0.3nm,0.6s,baz=343,slow=24,SNR=2.3							
	2.6nm,0.6s							
AS01	**Alice Springs**	**17.16**	**164**	P		**P**	**09 44 04.6**	**+0.7**
WRKA	**Warakurna**	**17.86**	**182**	P		**P**	**09 44 15.5**	**+3.8**
OOD	**Oodnadatta**	**21.55**	**164**	P		**P**	**09 44 52.6**	**+0.7**
MULG	**Mulgathing**	**23.56**	**169**	P		**P**	**09 45 13.4**	**+0.4**
FORT	**Forrest**	**23.59**	**182**	P		**P**	**09 45 15.1**	**+1.9**
LCRK	**Leigh Creek**	**24.80**	**161**	P		**P**	**09 45 23.7**	**-0.8**
MKAR	**Makanchi Array**	**67.75**	**327**	P		**P**	**09 51 00.8**	**+0.7**
	0.6nm,0.4s,baz=124,slow=7.2,SNR=13							
	0.6nm,0.4s							

*IDC **01** 09:45:12.4±1.3, 6.°04S×142.°88E, h0km, mb4.0/3, mbtmp3.9/6, ML3.5/1, MS3.0/1, Error ellipse: s-maj=41.4km s-min=28.5km az=84.0*

ISC 01 09:45:16.8±1.0, 6.°4S±0.°1×142.°8E±0.°1, h35km, n7, σ2.°35/8, mb4.0/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.26**	**125**	Pn		**Pn**	**09 46 34.7**	**+1.8**
	9.1nm,0.5s,baz=279,slow=17,SNR=4.8							
PMG				Sn		**Sn**	**09 47 30.5**	**-1.9**
	0.6nm,0.3s,baz=162,slow=20,SNR=1.5							
CTA	**Charters Tower**	**14.03**	**167**	Lg		Lg	09 52 56.4	
	0.1nm,0.3s,baz=252,slow=17,SNR=2.7							
CTA				LR		LR	09 53 49.0	
	comp=Z,56nm,18.8s,baz=256,slow=36							
WRA	**Warramunga Arr**	**15.79**	**211**	Pn		**P**	**09 48 58.4**	**-1.8**
	0.2nm,0.3s,baz=36,slow=11,SNR=2.5							
WRA				Sn		**Sn**	**09 51 48.8**	**-2.0**
	0.2nm,0.3s,baz=29,slow=24,SNR=3.8							
WRA				Lg		Lg	09 53 41.6	
	0.1nm,0.3s,baz=33,slow=27,SNR=4.7							
	0.4nm,0.4s							
ASAR	**Alice Springs**	**19.20**	**206**	P		**Pn**	**09 49 42.2**	**+3.2**
	8.8nm,0.9s,baz=33,slow=10.0,SNR=27							
ASAR				Lg		Lg	09 55 24.0	
	0.1nm,0.3s,baz=19,slow=29,SNR=2.7							
MKAR	**Makanchi Array**	**75.17**	**322**	P		**P**	**09 56 55.9**	**+0.1**
	0.5nm,0.7s,baz=104,slow=6.1,SNR=3.8							
	0.5nm,0.7s							
BVAR	**Borovoye Array**	**84.64**	**325**	P		**P**	**09 57 47.3**	**+0.6**
	1.9nm,0.7s,baz=115,slow=7.0,SNR=8.7							
	1.9nm,0.7s							
ILAR	**Eielson Array**	**87.49**	**24**	P		**P**	**09 57 58.9**	**-1.7**
	0.9nm,0.9s,baz=256,slow=4.3,SNR=3.9							
	0.9nm,0.9s							

KRSC 01 09:51:47.2±2.1, 48.°46N×156.°44E, h9km±46km, Ml3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.23**	**355**	*e*P		Pn	09 52 24.8	+0.5
SKR				*e*S		Sn	09 52 53.3	+1.3
ASAK	**Asacha**	**4.03**	**13**	*e*P		Pn	09 52 53.6	+4.4
MTVR	**Mutnovka**	**4.18**	**15**	*e*P		Pn	09 52 54.5	+3.3
MTVR				*e*S		Sb	09 53 47.2	-4.2
RUS	**Russkaya**	**4.19**	**18**	*e*P		Pn	09 52 54.5	+3.3
RUS				*e*S		Sb	09 53 47.0	-4.7
GRL	**Gorelyy**	**4.22**	**14**	*e*P		Pn	09 52 55.6	+3.7
KOK	**Koryaka**	**5.03**	**15**	*e*P		Pn	09 53 07.3	+4.4
KRX	**Arik**	**5.10**	**15**	*e*P		Pn	09 53 09.2	+5.4

WEL 01 09:52:18.8±1.0, 36.°S±14.°×177.°9E±1.°7, h252km±10km, M3.6/12, mB4.2/2, ML3.8/24, MLv3.6/12, Mw(mB)3.3/2, Error ellipse: s-maj=0.0km s-min=0.0km az=124.7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**2.43**	**198**	P		Pn	09 53 06.1	+0.7
WMGZ				S		S	09 53 42.0	-0.4
HAZ	**Te Kaha**	**2.58**	**209**	P		Pn	09 53 06.3	-0.6
HAZ				S		S	09 53 44.9	-0.2
PKGZ	**Pakihiroa**	**2.60**	**203**	P		Pn	09 53 07.4	+0.2
PKGZ				S		S	09 53 44.3	-1.2
PUZ	**Puketiti**	**2.71**	**199**	P		Pn	09 53 08.7	+0.3
PUZ				S		S	09 53 46.7	-0.9
RUGZ	**Raukumara Rang**	**2.81**	**209**	P		Pn	09 53 09.2	-0.2
RUGZ				S		S	09 53 48.3	-1.3
TWGZ	**Tauwhareparae**	**2.89**	**202**	P		Pn	09 53 11.0	+0.8
TWGZ				S		S	09 53 52.7	+1.7
CNGZ	**Carnagh Statio**	**3.12**	**197**	P		Pn	09 53 14.1	+1.5
TKGZ	**Te Karaka**	**3.17**	**202**	P		Pn	09 53 13.8	+0.6
TKGZ				S		S	09 53 57.2	+0.8
MWZ	**Matawai**	**3.19**	**207**	P		Pn	09 53 13.8	+0.4
MWZ				S		S	09 53 56.6	-0.2
URZ	**Urewera**	**3.29**	**213**	P		Pn	09 53 14.4	-0.2
URZ				S		S	09 53 58.4	-0.4
RIGZ	**Rimuhau**	**3.44**	**201**	P		Pn	09 53 16.8	+0.5
RIGZ				S		S	09 54 03.5	+1.6
MUGZ	**Murupara**	**3.62**	**214**	P		Pn	09 53 17.5	-0.8
MUGZ				S		S	09 54 06.4	+0.9
RTZ	**Ruatahuna**	**3.65**	**211**	P		Pn	09 53 18.3	-0.3
TOZ	**Tahuroa Road**	**3.83**	**233**	P		Pn	09 53 22.4	+1.9
MTHZ	**Maungataniwha**	**3.91**	**210**	P		Pn	09 53 21.9	+0.4
MTHZ				S		S	09 54 12.2	+0.8
NMHZ	**Naumai**	**4.13**	**209**	P		Pn	09 53 25.0	+0.8
NMHZ				S		S	09 54 17.7	+1.4
ARHZ	**Aropaoanui**	**4.20**	**206**	P		Pn	09 53 25.5	+0.5
ARHZ				S		S	09 54 19.6	+1.9
MCHZ	**McNeill Hill**	**4.47**	**208**	P		Pn	09 53 28.6	+0.4
OTVZ	**Oturere**	**4.70**	**218**	P		Pn	09 53 31.1	0.0
KAHZ	**Kahuranaki**	**4.72**	**204**	P		Pn	09 53 31.4	+0.2
BHHZ	**Black Hill Sta**	**4.77**	**213**	P		Pn	09 53 31.7	-0.1
KRHZ	**Kereru**	**4.77**	**209**	P		Pn	09 53 31.4	-0.5
PNHZ	**Pukenui**	**5.07**	**209**	P		Pn	09 53 34.6	-0.8
PRHZ	**Porangahau**	**5.22**	**204**	P		Pn	09 53 37.4	+0.1
TSZ	**Takapari Road**	**5.29**	**210**	P		Pn	09 53 37.6	-0.5
BFZ	**Birch Farm**	**5.73**	**205**	P		Pn	09 53 43.6	+0.1
TIWZ	**Tintock**	**5.94**	**207**	P		Pn	09 53 46.3	+0.1
MRZ	**Mangatainoka R**	**5.95**	**209**	P		Pn	09 53 45.6	-0.7
HOWZ	**Holdsworth Sta**	**6.18**	**208**	P		Pn	09 53 47.4	-1.8
OGWZ	**Otaki Gorge**	**6.25**	**211**	P		Pn	09 53 48.8	-1.2
MTW	**Mount Morrison**	**6.41**	**207**	P		Pn	09 53 51.1	-0.9
CAW	**Cannon Point**	**6.54**	**210**	P		Pn	09 53 52.6	-1.0

*SKHL **01** 09:53:43.5±0.2, 43.°30N×145.°30E, h77km±3km, mb4.5/4*

*JMA **01** 09:53:43.1±0.1, 43.°3N±0.°4×145.°3E±0.°7, h77km±1km, MV3.1/40, NEMURO REGION*

ISC 01 09:53:43.5±1.5, 43.°31N±0.°05×145.°29E±0.°04, h73km±9km, n17, σ0.°43/33, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JKHN	**Kushirohamanak**	**0.24**	**203**	P		**Pn**	**09 53 54.9**	**+0.2**
JKHN				*e*S		**Sn**	**09 54 03.8**	**+1.0**
NMR	**Nemuro--Hokkai**	**0.32**	**79**	*i* P		**Pn**	**09 53 55.2**	**+0.1**
NMR				*i* S		**Sn**	**09 54 03.7**	**0.0**
NEM2	**Nemuro 2**	**0.33**	**80**	*e*P		**Pn**	**09 53 55.2**	**0.0**
NEM2				*e*S		**Sn**	**09 54 03.8**	**0.0**
AKK	**Akkeshi**	**0.44**	**229**	*i* P		**Pn**	**09 53 55.9**	**-0.1**
AKK				AMB		AMB	09 53 56.6	
	70nm,0.2s							
AKK				*i* S		**Sn**	**09 54 05.2**	**0.0**
AKK				A		A	09 54 05.7	
	250nm,0.2s							
AKK				A		A	09 54 05.7	
	650nm,0.2s							
JNK	**Nakash**	**0.50**	**304**	*e*P		**Pn**	**09 53 56.0**	**-0.7**
JNK				*e*S		**Sn**	**09 54 05.6**	**-0.7**
JNSB	**Nemuroshibetsu**	**0.51**	**336**	P		**Pn**	**09 53 56.4**	**-0.3**
JNSB				*e*S		**Sn**	**09 54 06.4**	**0.0**
JAK	**Akkeshi**	**0.54**	**235**	*e*P		**Pn**	**09 53 56.9**	**0.0**
JAK				*e*S		**Sn**	**09 54 07.2**	**+0.5**
JRA	**Rausu**	**0.64**	**349**	*e*P		**Pn**	**09 53 57.8**	**-0.2**
JRA				*e*S		**Sn**	**09 54 08.7**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**0.83**	**29**	*i* P		**Pn**	**09 54 00.0**	**-0.1**
YUK				AMB		AMB	09 54 01.0	
	250nm,0.2s							
YUK				*i* S		**Sn**	**09 54 12.5**	**0.0**
YUK				A		A	09 54 13.4	
	2µm,0.4s							
YUK				A		A	09 54 13.4	
	920nm,0.4s							
JAR	**Ashorobuto**	**1.11**	**270**	*e*P		**Pn**	**09 54 03.5**	**-0.1**
JOB	**Onbets**	**1.14**	**250**	*e*P		**Pn**	**09 54 04.0**	**+0.1**
JOB				*e*S		**Sn**	**09 54 19.2**	**0.0**
JTKR	**Abashiri--Toko**	**1.20**	**304**	*e*P		**Pn**	**09 54 04.5**	**-0.2**
JTKR				*e*S		**Sn**	**09 54 20.5**	**-0.1**
SHO	**Shikotan**	**1.25**	**63**	*i* P		**Pn**	**09 54 04.9**	**-0.4**
SHO				AMB		AMB	09 54 05.1	
	80nm,0.2s							
SHO				*i* S		**Sn**	**09 54 20.9**	**-0.7**
SHO				A		A	09 54 23.1	
	570nm,0.3s							
SHO				A		A	09 54 23.1	
	710nm,0.3s							
JMP	**Maruseppu**	**1.57**	**297**	*e*P		**Pn**	**09 54 09.4**	**-0.1**
JMP				*e*S		**Sn**	**09 54 29.1**	**0.0**
JCH	**Churui**	**1.58**	**245**	*e*P		**Pn**	**09 54 09.3**	**-0.2**
JCH				*e*S		**Sn**	**09 54 28.2**	**-1.0**
KUR	**Kuril'sk**	**2.67**	**43**	*e*P		**Pn**	**09 54 24.5**	**+0.3**
KUR				AMB		AMB	09 54 25.2	
	60nm,0.2s							
KUR				*i* S		**Sn**	**09 54 55.1**	**-0.3**
KUR				A		A	09 54 59.1	
	120nm,0.3s		

STKA	**Stephens Creek**	**25.63**	**190**	P	**P**	**10 00 55.3**	**-0.7**	
	comp=Z,1.8nm,0.3s,baz=7.2,slow=13,SNR=5.8							
	comp=Z,1.8nm,0.3s							
MULG	**Mulgathing**	**26.36**	**205**	P	**P**	**10 01 02.5**	**-0.2**	
BBOO	**Buckleboo**	**27.89**	**199**	P	**P**	**10 01 16.0**	**-0.3**	
BBOO	**Buckleboo**	**27.89**	**199**	P	**P**	**10 01 16.0**	**-0.3**	
CAN	**Canberra**	**28.74**	**176**	P	**P**	**10 01 24.8**	**+0.9**	
FORT	**Forrest**	**29.69**	**213**	P	**P**	**10 01 30.8**	**-1.4**	
FORT	**Forrest**	**29.69**	**213**	P	**P**	**10 01 32.3**	**+0.1**	
MBWA	**Marble Bar**	**29.71**	**238**	P	**P**	**10 01 32.6**	**0.0**	
MBWA				IAmb	IAmb	10 01 32.8		
	comp=Z,11nm,1.1s							
MBWA	**Marble Bar**	**29.71**	**238**	P	**P**	**10 01 32.5**	**0.0**	
PSA00	**Pilbara Seismi**	**29.79**	**237**	P	**P**	**10 01 33.5**	**+0.2**	
PSA00				IAmb	IAmb	10 01 33.6		
	comp=Z,6.5nm,0.8s							
MEEK	**Meekatharra**	**33.24**	**230**	P	**P**	**10 02 03.5**	**0.0**	
KMBL	**Kambalda**	**33.78**	**220**	P	**P**	**10 02 08.1**	**-0.1**	
KLBR	**Kellerberrin**	**36.65**	**223**	P	**P**	**10 02 32.1**	**-0.7**	
BLDU	**Ballidu**	**36.81**	**226**	P	**P**	**10 02 34.0**	**-0.2**	
MRZ	**Mangatainoka R**	**42.78**	**147**	P	**P**	**10 03 23.4**	**0.0**	
LBZ	**Lake Benmore**	**43.01**	**155**	P	**P**	**10 03 25.6**	**+0.4**	
CASY	**Casey**	**64.62**	**195**	P	**P**	**10 06 01.8**	**-0.3**	
VNDA	**Vanda**	**71.41**	**177**	P	**P**	**10 06 44.0**	**-0.6**	
VNDA				IAmb	IAmb	10 07 19.2		
	comp=Z,11nm,1.3s							
VNDA	**Vanda**	**71.41**	**177**	P	**P**	**10 06 43.9**	**-0.6**	
	comp=Z,2.8nm,0.7s,baz=327,slow=7.1,SNR=6.2							
	comp=Z,2.8nm,0.7s							
MKAR	**Makanchi Array**	**77.59**	**321**	P	**P**	**10 07 20.0**	**-0.8**	
MKAR	**Makanchi Array**	**77.59**	**321**	P	**P**	**10 07 19.9**	**-0.9**	
	comp=Z,0.2nm,0.3s,baz=97,slow=7.5,SNR=5.4							
	comp=Z,0.2nm,0.3s							
L14K	**Kuka Creek**	**78.25**	**22**	P	**P**	**10 07 24.2**	**+0.2**	
ZALV	**Zalesovo Beam**	**79.20**	**328**	P	**P**	**10 07 28.4**	**-1.0**	
	comp=Z,0.4nm,0.3s,baz=130,slow=2.3,SNR=2.0							
	comp=Z,0.4nm,0.3s							
KURBB	**Kurchatov Array**	**81.36**	**323**	P	**P**	**10 07 41.3**	**+0.2**	
	comp=Z,0.1nm,0.3s,baz=106,slow=4.3,SNR=1.9							
	comp=Z,0.1nm,0.3s							
QSPA	**South Pole Qui**	**83.44**	**180**	P	**P**	**10 07 51.3**	**-0.5**	
QSPA				IAmb	IAmb	10 07 51.9		
	comp=Z,4.2nm,0.7s							
QSPA	**South Pole Qui**	**83.44**	**180**	P	**P**	**10 07 51.4**	**-0.5**	
	comp=Z,4.2nm,0.5s,baz=326,slow=0.6,SNR=74							
	comp=Z,4.2nm,0.5s							
D19K	**Kuna River**	**84.08**	**18**	P	**P**	**10 07 54.4**	**-0.5**	
D19K				IAmb	IAmb	10 08 16.0		
	comp=Z,4.6nm,1.3s							
IMAR	**Indian Mountai**	**84.16**	**21**	P	**P**	**10 07 54.6**	**-0.6**	
MLY	**Manley**	**84.79**	**22**	P	**P**	**10 07 57.9**	**-0.6**	
RND	**Reindeer**	**84.80**	**24**	P	**P**	**10 07 57.1**	**-1.6**	
I23K	**Minto, Yukon-K**	**85.37**	**22**	P	**P**	**10 08 00.7**	**-0.6**	
I23K				IAmb	IAmb	10 08 01.4		
	comp=Z,4.3nm,1.2s							
CCB	**Clear Creek Bu**	**85.75**	**23**	P	**P**	**10 08 01.7**	**-1.5**	
CCB				IAmb	IAmb	10 08 41.5		
	comp=Z,4.0nm,1.4s							
D22K	**Ayikyak River**	**85.97**	**18**	P	**P**	**10 08 04.2**	**-0.1**	
D22K				IAmb	IAmb	10 08 47.5		
	comp=Z,5.8nm,1.4s							
ILAR	**Eielson Array**	**86.16**	**23**	P	**P**	**10 08 03.3**	**-1.9**	
	comp=Z,1.1nm,0.6s,baz=252,slow=5.0,SNR=16							
	comp=Z,1.1nm,0.6s							
J25K	**Salcha River,**	**86.70**	**24**	P	**P**	**10 08 07.0**	**-1.0**	
C23K	**Itkillik River**	**87.07**	**18**	P	**P**	**10 08 09.8**	**+0.2**	
C23K				IAmb	IAmb	10 08 44.8		
	comp=Z,7.4nm,1.4s							
PLCA	**Paso Flores**	**121.95**	**147**	PKP	**PKiKP**	**10 14 18.6**	**-0.2**	
	comp=Z,1.3nm,0.9s,baz=304,slow=3.6,SNR=3.2							
TORD	**Torodi Ar. Bea**	**144.74**	**283**	PKP	**PKPab**	**10 15 00.4**	**-0.3**	
	comp=Z,3.2nm,0.6s,baz=63,slow=3.8,SNR=18							

*IDC **01** 09:58:53.4±10.0, **51°00N×37°97E, h0**km**, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=125.4km s-min=33.3km az=123.0, Baltic States-Belarus-Northwestern Russia*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**5.55**	**270**	Pn	Pn	10 00 15.7	-1.5
	0.6nm,0.3s,baz=78,slow=14,SNR=6.3						
	0.5nm,0.5s						
I43RU	**DUBNA INFRASON**	**5.76**	**356**	I	I	10 35 30.0	
	baz=174,slow=324,SNR=2.4						
FINES	**FINESS Array B**	**12.36**	**332**	Pn	Pn	10 01 45.0	-5.5
	0.1nm,0.3s,baz=146,slow=13,SNR=1.0						
	0.5nm,0.6s						
I31KZ	**AKTYUBINSK INF**	**12.73**	**85**	I	I	11 18 05.0	
	0.1nm,1.7s,baz=281,slow=319,SNR=5.7						

*NEIC **01** 10:00:17.6±1.4, 36°67N±0°02×121°26W±0°03, h10km±10km, Error ellipse: s-maj=4.0km s-min=3.2km az=64.0*

*NCEDC **01** 10:00:17.9±1.1, 36°68N±0°02×121°28W±0°03, h5km±6km, ML3.4/37, ML3.2/66(NEIC), Error ellipse: s-maj=3.9km s-min=2.3km az=84.0*

*ANF **01** 10:00:19.6±0.4, 36°51N×121°09W, h0km, ML3.4/16, Error ellipse: s-maj=3.2km s-min=1.7km az=122.0*

ISC 01 10:00:17.8±0.8, 36°67N±0°02×121°29W±0°02, h14km**±5**km**, n147, σ0°84/154, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJOM	**Mount Johnson**	**0.04**	**203**		**Pg**	**10 00 20.9**	**+0.5**
BSLM	**Silva Ranch**	**0.12**	**337**		**Pg**	**10 00 21.2**	**+0.1**
BVL	**Bear Valley**	**0.12**	**138**		**Pg**	**10 00 20.8**	**-0.4**
BJCM	**Johnson Can.**	**0.14**	**214**		**Pg**	**10 00 21.0**	**-0.4**
SAO	**San Andreas Ge**	**0.16**	**308**	Pg	**Pg**	**10 00 21.2**	**-0.5**
SAO	**San Andreas Ge**	**0.16**	**308**		**Sg**	**10 00 24.1**	**-0.2**
FRP	**Fremont Peak**	**0.18**	**299**		**Pg**	**10 00 21.6**	**-0.4**
BSRM	**Salinas Radio**	**0.18**	**270**		**Pg**	**10 00 21.8**	**-0.3**
BSRM					**Sg**	**10 00 24.7**	**-0.3**
BPIM	**Pinnacles**	**0.20**	**150**		**Pg**	**10 00 22.1**	**-0.3**
HSFM	**Saint Francis**	**0.22**	**311**		**Pg**	**10 00 22.8**	**+0.1**
BBGB	**Big Mountain B**	**0.22**	**113**		**Pg**	**10 00 23.3**	**+0.6**
BBGB	**Big Mountain B**	**0.22**	**113**	IAML		10 00 28.4	
	comp=N,15μm,0.3s						
BBGB				IAML		10 00 28.9	
	comp=E,28μm,0.8s						
BBNM	**San Benito**	**0.23**	**132**		**Pg**	**10 00 23.3**	**+0.4**
BSGM	**Shirttail Gulc**	**0.26**	**173**		**Pg**	**10 00 22.9**	**-0.3**
BSGM					**Sg**	**10 00 26.7**	**-0.2**
HBTM	**San Juan Bauti**	**0.28**	**311**		**Pg**	**10 00 23.8**	**+0.2**
BPCNC	**Pine Canyon**	**0.28**	**251**		**Pg**	**10 00 24.0**	**+0.2**
BSMM	**Soledad Missio**	**0.30**	**201**		**Pg**	**10 00 24.2**	**+0.1**
OCR	**O'Connell Ranc**	**0.30**	**325**		**Pg**	**10 00 23.9**	**-0.2**
ANZ	**Anzar Road**	**0.32**	**312**		**Pg**	**10 00 24.4**	**0.0**
HTUM	**Tustin Road**	**0.32**	**300**		**Pg**	**10 00 24.4**	**0.0**
HFEM	**San Felipe**	**0.33**	**345**		**Pb**	**10 00 25.0**	**-0.4**
LRV	**Little Rabbit**	**0.33**	**138**		**Pb**	**10 00 24.9**	**-0.5**
PACP	**Pacheco Peak**	**0.34**	**1**		**Pb**	**10 00 25.3**	**-0.4**
HAST	**Hastings Reser**	**0.35**	**217**		**Pg**	**10 00 24.9**	**0.0**
HERM	**Elkhorn Road**	**0.36**	**291**		**Pg**	**10 00 25.4**	**+0.3**
CDC	**Canada Road**	**0.39**	**337**		**Pb**	**10 00 26.2**	**-0.3**
HPCM	**Pacheco Lake**	**0.39**	**2**		**Pb**	**10 00 26.2**	**-0.4**
HCBM	**Chamberlain**	**0.40**	**312**		**Pb**	**10 00 26.5**	**-0.1**
HCOM	**Corn Cob Canyo**	**0.40**	**303**		**Pg**	**10 00 26.0**	**+0.2**
SLD	**San Luis Dam**	**0.41**	**8**		**Pb**	**10 00 26.3**	**-0.6**
BPRM	**Ponciano Ridge**	**0.44**	**234**		**Pg**	**10 00 26.7**	**+0.1**
GHS	**Gilroy Hot Spr**	**0.45**	**344**		**Pb**	**10 00 27.1**	**-0.3**
HLPM	**Lions Peak**	**0.46**	**324**		**Pg**	**10 00 27.2**	**+0.2**
LRC	**Lone Oak Road**	**0.47**	**154**		**Pg**	**10 00 26.9**	**-0.1**
JELB	**Ellicott, Sant**	**0.50**	**301**		**Pg**	**10 00 27.9**	**+0.2**
HMOM	**Monterey**	**0.51**	**263**		**Pg**	**10 00 27.9**	**+0.1**
SCKWR	**San Luis Creek**	**0.55**	**19**		**Pb**	**10 00 29.4**	**+0.3**
CADM	**Anderson Res.**	**0.56**	**332**		**Pg**	**10 00 29.1**	**+0.3**
PCCM	**Crazy Canyon**	**0.59**	**170**		**Pb**	**10 00 29.5**	**-0.3**
PMPB	**Monarch Peak**	**0.60**	**139**		**Pb**	**10 00 29.7**	**-0.4**
JLAB	**Laurel Hill**	**0.60**	**324**		**Pg**	**10 00 29.8**	**+0.2**
HULI	**Fort Hunter Li**	**0.65**	**176**		**Pg**	**10 00 30.4**	**+0.1**
CCOB	**Coe Ranch Numb**	**0.67**	**333**		**Pb**	**10 00 31.6**	**+0.5**
CMPM	**Mikes Peak**	**0.69**	**358**		**Pb**	**10 00 31.9**	**+0.3**
ARN	**Arnold Ranch**	**0.71**	**344**		**Pb**	**10 00 32.0**	**+0.1**
PSAM	**San Ardo**	**0.72**	**153**		**Pg**	**10 00 31.7**	**-0.1**
PPTM	**Peach Tree Val**	**0.72**	**140**		**Pb**	**10 00 31.8**	**-0.4**
MHC	**Mount Hamilton**	**0.73**	**337**		**Pb**	**10 00 32.4**	**0.0**
JJOM	**Saint Joseph's**	**0.77**	**315**		**Pg**	**10 00 32.8**	**0.0**
CMMM	**Mount Mocho**	**0.80**	**348**		**Pb**	**10 00 33.8**	**+0.2**
PSMM	**Smith Mountain**	**0.82**	**136**		**Pb**	**10 00 33.9**	**0.0**
MTOS	**Mt Oso, Westle**	**0.84**	**358**		**Pb**	**10 00 34.7**	**+0.6**
CMLM	**Mount Lewis**	**0.86**	**341**		**Pb**	**10 00 34.9**	**+0.3**
PHSB	**Hesperia Broad**	**0.86**	**167**		**Pg**	**10 00 34.4**	**-0.1**
CALM	**Calaveras Res.**	**0.88**	**333**		**Pb**	**10 00 35.0**	**+0.1**
PHPM	**Hope Ranch**	**0.88**	**141**		**Pg**	**10 00 34.5**	**-0.4**
JSJM	**St Joseph**	**0.92**	**316**		**Pg**	**10 00 35.6**	**-0.1**
PANM	**San Antonio Re**	**0.94**	**161**		**Pg**	**10 00 35.7**	**-0.2**
PKD	**Bear Valley Ra**	**0.94**	**140**		**Pg**	**10 00 35.5**	**-0.5**
PVCM	**Vineyard Canyo**	**0.96**	**140**		**Pg**	**10 00 36.0**	**-0.4**
PPO	**Portuguese Can**	**0.97**	**145**		**Pb**	**10 00 36.5**	**+0.2**
PSTM	**Stockdale Moun**	**0.97**	**139**		**Pg**	**10 00 36.0**	**-0.5**
CSTL	**Corral Hollow**	**0.98**	**350**		**Pn**	**10 00 37.2**	**+0.1**
PHCM	**Hearst Castle**	**0.99**	**173**		**Pg**	**10 00 36.6**	**-0.2**
JFP	**Foothills Park**	**1.00**	**314**		**Pg**	**10 00 36.0**	**-1.0**
JPSM		**1.00**	**302**		**Pg**	**10 00 36.6**	**-0.4**
MYLM	**Yosemite Lake**	**1.00**	**44**		**Pb**	**10 00 36.7**	**-0.1**
JSFB	**Stanford Teles**	**1.02**	**316**		**Pg**	**10 00 36.6**	**-0.9**
WENL	**Wente Vineyard**	**1.02**	**339**		**Pg**	**10 00 37.3**	**-0.3**
CVLM	**Vallecito**	**1.05**	**336**		**Pg**	**10 00 37.9**	**-0.2**
JRSC	**Jasper Ridge**	**1.05**	**314**		**Pg**	**10 00 37.4**	**-0.8**
PWKM	**Work Ranch**	**1.06**	**143**		**Pb**	**10 00 37.9**	**0.0**
PHFM	**Heflinger Ranc**	**1.06**	**137**		**Pb**	**10 00 37.9**	**-0.1**
CTM	**Castle Mountai**	**1.06**	**133**		**Pn**	**10 00 38.8**	**+0.4**
BGH	**Bear Gulch**	**1.07**	**309**		**Pg**	**10 00 37.7**	**-0.8**
CBZL	**Buffer Zone**	**1.08**	**342**		**Pb**	**10 00 38.6**	**+0.4**
CNIC	**Niles Canyon**	**1.08**	**330**		**Pg**	**10 00 37.9**	**-0.7**
RAMR	**Ramage Ranch**	**1.08**	**162**		**Pg**	**10 00 38.0**	**-0.7**
PHAM	**Harlan Ranch**	**1.10**	**139**		**Pg**	**10 00 38.5**	**-0.5**
PSRM	**Scobie Ranch**	**1.15**	**134**		**Pb**	**10 00 39.4**	**-0.1**
PKLM	**Kerr Lake**	**1.18**	**139**		**Pb**	**10 00 39.7**	**-0.3**
MHDM	**Hidden Dam**	**1.21**	**68**		**Pb**	**10 00 39.5**	**-0.8**
TCAS	**Cass Winery, P**	**1.21**	**150**		**Pb**	**10 00 40.4**	**-0.1**
JCHM	**Cahill Ridge**	**1.21**	**315**		**Pn**	**10 00 39.5**	**-0.8**
TCHL	**Shandon**	**1.21**	**143**		**Pb**	**10 00 40.4**	**-0.1**
PMRM	**Maxey Ranch**	**1.23**	**136**		**Pb**	**10 00 40.4**	**-0.3**
SAC	**San Andreas**	**1.28**	**316**		**Pn**	**10 00 40.6**	**-0.7**
TRAM	**Private Proper**	**1.29**	**140**		**Pn**	**10 00 41.3**	**-0.1**
MBUM	**Mount Bullion**	**1.32**	**47**		**Pn**	**10 00 41.7**	**-0.2**
PTAM	**Tassajara Cree**	**1.36**	**159**		**Pn**	**10 00 42.8**	**+0.5**
MMIM	**Miami Mountain**	**1.45**	**58**		**Pb**	**10 00 44.2**	**-0.4**
CMB	**Columbia Colle**	**1.54**	**28**		**Pn**	**10 00 45.3**	**+0.4**
CMB				IAML		10 01 07.7	
	comp=E,211nm,0.5s						
VOG	**Valley Oaks Go**	**1.58**	**102**		**Pn**	**10 00 45.7**	**+0.4**
VOG	**Valley Oaks Go**	**1.58**	**102**	P	**Pn**	**10 00 45.4**	**+0.1**
	baz=284,SNR=12						
VOG				S	**Sb**	**10 01 06.4**	**-0.1**
	baz=284						
SMMC	**Simmler**	**1.71**	**142**	P	**Pn**	**10 00 47.7**	**+0.5**
	baz=323,SNR=41						
SMMC				S	**Sn**	**10 01 08.9**	**0.0**
	baz=323						
VES	**Vestal, Richgr**	**1.97**	**114**	P	**Pn**	**10 00 51.0**	**+0.3**
	baz=296,SNR=59						
VES				S	**Sn**	**10 01 15.9**	**+0.9**
	baz=296						
MDPB	**Devils Postpil**	**2.01**	**61**		**Pb**	**10 00 53.4**	**-0.9**
PKM	**Mcpherson Peak**	**2.14**	**145**	P	**Pn**	**10 00 53.9**	**+0.6**
	baz=327,SNR=24						
PKM				S	**Sn**	**10 01 20.7**	**+0.9**
	baz=327						
MLAC	**Mammoth, Mammo**	**2.19**	**63**	P	**Pb**	**10 00 57.3**	**+0.1**
	baz=245						
MLAC				Sb	**Sg**	**10 01 26.8**	**-1.3**
	baz=245						
GATR	**Gnd/Air Tx Cnt**	**2.21**	**163**		**Pn**	**10 00 55.2**	**+1.2**
AFDM	**Forest Hills D**	**2.29**	**6**	Pn	**Pn**	**10 00 55.6**	**+0.5**
BCW	**Bitter Crk WRg**	**2.30**	**138**		**Pn**	**10 00 56.5**	**+1.1**
BCW				IAML		10 01 44.0	
	comp=N,197nm,0.8s						
BCW				IAML		10 01 51.7	
	comp=E,210nm,1.3s						
WAKR	**Walker**	**2.35**	**38**		**Pb**	**10 00 58.1**	**-2.0**
WAKR				IAML		10 01 41.2	
	comp=N,227nm,0.7s						
TIN	**Tinemaha, Big**	**2.49**	**80**	P	**Pn**	**10 00 59.9**	**+1.9**
	baz=262						
TIN				Sb	**Sg**	**10 01 34.8**	**-2.9**
	baz=262						
EMB	**Emerald Bay**	**2.49**	**22**		**Pn**	**10 00 59.8**	**+1.7**
EMB				IAML		10 01 38.3	
	comp=E,166nm,0.5s						
ISA	**Isabella, Lake**	**2.49**	**113**	Pn	**Pn**	**10 00 59.1**	**+1.1**
ISA				IAML		10 01 37.1	
	comp=N,116nm,0.5s						
ISA				IAML		10 01 40.3	
	comp=E,103nm,0.7s						
ISA	**Isabella, Lake**	**2.49**	**113**	P	**Pn**	**10 00 59.1**	**+1.1**
	baz=295,SNR=72						
ISA				S	**Sn**	**10 01 28.9**	**+0.7**
	baz=295						
ARVC	**Arvin**	**2.52**	**127**	P	**Pn**	**10 00 58.9**	**+0.6**
	baz=309,SNR=17						
ARVC				S	**Sn**	**10 01 30.2**	**+1.3**
	baz=309						
CWC	**Cottonwood Cre**	**2.60**	**94**	P	**Pn**	**10 01 01.2**	**+1.7**
	baz=276						
CWC				Sb	**Sb**	**10 01 36.6**	**+0.6**
	baz=276						
LHV	**Little Huntoon**	**2.72**	**54**	Pn	**Pb**	**10 01 04.5**	**-1.8**
LHV				IAML		10 02 03.6	
	comp=E,168nm,0.9s						
DSP	**Deep Springs**	**2.75**	**74**	Pn	**Pn**	**10 01 03.9**	**+2.5**
DSP				IAML		10 01 56.8	
	comp=N,72nm,1.2s						
DSP				IAML		10 01 59.6	
	comp=E,108nm,0.9s						
PNTR	**Pine Nut**	**2.76**	**28**		**Pn**	**10 01 03.1**	**+1.2**
MPK	**Martis Peak**	**2.81**	**20**	Pn	**Pn**	**10 01 03.5**	**+1.0**
YERR	**Yerington**	**2.83**	**34**	IAML		10 01 51.1	
	comp=N,126nm,0.6s						
ORV	**Oroville**	**2.89**	**357**	Pn	**Pn**	**10 01 04.4**	**+1.1**
RYN	**Ryan**	**2.94**	**47**		**Pn**	**10 01 06.3**	**+2.1**
RYN				IAML		10 01 53.8	
	comp=N,72nm,0.4s						
RYN				IAML		10 02 00.8	
	comp=E,111nm,0.6s						
LCH	**Last Change Ra**	**2.98**	**78**		**Pn**	**10 01 06.6**	**+1.9**
LCH				IAML		10 01 59.6	
	comp=N,50nm,0.9s						
LCH				IAML		10 02 05.1	
	comp=E,79nm,1.3s						
SCZ2	**Santa Cruz Isl**	**2.99**	**153**	P	**Pn**	**10 01 05.2**	**+0.4**
	baz=334						
SCZ2				S	**Sn**	**10 01 41.2**	**+0.8**
	baz=334						
CCAC	**Calif City Air**	**3.06**	**119**		**Pn**	**10 01 07.8**	**+2.1**
CCAC				IAML		10 02 06.1	
	comp=N,133nm,1.1s						
CCAC				IAML		10 02 21.1	
	comp=E,95nm,1.0s						
MPMC	**Manual Prospec**	**3.13**	**100**	P	**Pn**	**10 01 08.0**	**+1.2**
	baz=283,SNR=30						
GRAC	**Grapevine Rang**	**3.17**	**83**	IAML		10 02 15.4	
	comp=N,96nm,0.7s						
GRAC	**Grapevine Rang**	**3.17**	**83**	P	**Pn**	**10 01 08.6**	**+1.3**
	baz=265,SNR=10						
EDW2	**Edwards Air Fo**	**3.22**	**123**	P	**Pn**	**10 01 08.9**	**+0.9**
	baz=305,SNR=7.4						
GMN	**Gold Mountain**	**3.29**	**78**	IAML		10 02 16.5	
	comp=N,39nm,0.9s						
PAHR	**Pah Rah Range**	**3.39**	**26**		**Pn**	**10 01 12.3**	**+2.0**
PAHR				IAML		10 02 12.4	
	comp=E,38nm,1.4s						
PAHR				IAML		10 02 21.9	
	comp=N,35nm,1.6s						
KVN	**Kaiserville**	**3.47**	**46**	IAML		10 02 12.5	
	comp=N,63nm,1.3s						
KVN				IAML		10 02 20.0	
	comp=E,71nm,1.2s						
PASC	**Pasadena Art C**	**3.56**	**134**		**Pn**	**10 01 13.4**	**+0.9**
LTCM	**Tuscan Springs**	**3.59**	**350**		**Pn**	**10 01 13.2**	**+0.1**
QSM	**Queen of Sheba**	**3.64**	**100**	IAML		10 02 28.8	
	comp=E,26nm,1.0s						
QSM				IAML		10 02 29.6	
	comp=N,39nm,1.0s						
SNCC	**San Nicolas Is**	**3.71**	**156**	P	**Pn**	**10 01 15.1**	**+0.5**
	baz=338						
SNCC				S	**Sn**	**10 01 58.1**	**0.0**
	baz=338						
WCT	**Wildcat Mounta**	**3.75**	**87**	IAML		10 02 27.4	
	comp=N,26nm,0.8s						
GWY	**Greenwater Val**	**3.76**	**96**		**Pn**	**10 01 17.8**	**+2.3**
GWY				IAML		10 02 25.6	
	comp=N,26nm,1.1s						
GWY				IAML		10 02 35.7	
	comp=E,30nm,0.9s						
BFSC	**Mount Baldy Ra**	**3.83**	**128**	P	**Pn**	**10 01 17.3**	**+0.9**
	baz=311,SNR=6.1						
BFSC				S	**Sn**	**10 02 02.2**	**+0.9**
	baz=311						
GSC	**Goldstone, Bar**	**3.88**	**109**	IAML		10 02 29.8	
	comp=E,39nm,1.1s						
GSC				IAML		10 02 35.8	
	comp=N,32nm,1.0s						
GSC	**Goldstone, Bar**	**3.88**	**109**	P	**Pn**	**10 01 17.9**	**+0.8**
	baz=292,SNR=11						
CIS	**Catalina Islan**	**4.02**	**143**	P	**Pn**	**10 01 18.6**	**-0.4**
	baz=325						
CIS				S	**Sn**	**10 02 04.2**	**-1.7**
	baz=325						
SCI2	**San Clemente I**	**4.32**	**148**	P	**Pn**	**10 01 23.4**	**+0.5**
	baz=330						
ELS	**Elsinore Mount**	**4.37**	**132**		**Pn**	**10 01 24.4**	**+0.6**
HEC	**Hector,Ludlow**	**4.43**	**113**	P	**Pn**	**10 01 25.0**	**+0.4**
	baz=296,SNR=7.4						
SHPR	**Sheep Range**	**4.94**	**90**	Pn	**Pn**	**10 01 34.6**	**+2.9**
GMRC	**Granite Mounta**	**4.95**	**111**	P	**Pn**	**10 01 31.8**	**0.0**
	baz=294,SNR=7.5						
PFO	**Pinyon Flats O**	**5.00**	**126**		**Pn**	**10 01 33.8**	**+1.4**
PFO	**Pinyon Flats O**	**5.00**	**126**	P	**Pn**	**10 01 33.0**	**+0.5**
	baz=309						
BELC	**Belle Mtn. Jos**	**5.08**	**120**	P	**Pn**	**10 01 33.8**	**+0.1**
	baz=303						
109C	**Camp Elliot, M**	**5.11**	**136**	P	**Pn**	**10 01 34.0**	**+0.2**
	baz=319						
MONP2	**Monument Peak**	**5.50**	**132**	P	**Pn**	**10 01 40.1**	**+0.7**
	baz=315						
BAR	**Barrett**	**5.50**	**135**	Pn	**Pn**	**10 01 40.3**	**+0.9**

*IDC **01** 10:00:37.8±1.3, 5°94S×142°72E, h0km, mb3.9/3, mbtmp3.9/6, ML3.8/2, Error ellipse: s-maj=36.7km s-min=27.7km az=78.0*

ISC 01 10:00:41.6±1.0, 6°45S±0°1×142°49E±0°10, h10km**, n8, σ2s95/10, mb3.8/5, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.49**	**123**	Pn	**Pn**	**10 02 03.6**	**0.0**
	7.1nm,0.3s,baz=359,slow=7.1,SNR=4.8						
PMG				Sn	**Sn**	**10 03 06.1**	**-0.7**
	4.7nm,0.3s,baz=205,slow=22,SNR=13						
WRA	**Warramunga Arr**	**15.59**	**210**	Pn	**Pn**	**10 04 24.2**	**+2.5**
	0.4nm,0.3s,baz=30,slow=13,SNR=5.7						
WRA				Sn	**Sn**	**10 07 08.9**	**-5.7**
	0.2nm,0.3s,baz=28,slow=22,SNR=2.2						
WRA				Lg	Lg	10 09 08.9	
	0.2nm,0.3s,baz=38,slow=27,SNR=4.4						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**19.02**	**205**	P	**Pn**	**10 05 08.3**	**+3.7**
	0.2nm,0.3s,baz=31,slow=9.9,SNR=16						
ASAR				S	**Sn**	**10 08 38.5**	**+0.7**
	0.7nm,0.6s,baz=20,slow=28,SNR=5.7						
ASAR				Lg	Lg	10 10 58.1	
	baz=20,slow=30						
	2.7nm,0.8s						
MKAR	**Makanchi Array**	**75.02**	**322**	P	**P**	**10 12 24.3**	**+0.8**
	0.7nm,0.8s,baz=107,slow=7.8,SNR=5.5						
KURBB	**Kurchatov Array**	**78.92**	**324**	P	**P**	**10 12 46.3**	**+1.0**
	0.2nm,0.3s,baz=79,slow=5.0,SNR=1.8						
QSPA	**South Pole Qui**	**83.54**	**180**	P	**P**	**10 13 09.9**	**+0.1**
	1.9nm,1.1s,baz=310,slow=7.9,SNR=2.5						
	1.9nm,1.1s						
BVAR	**Borovoye Array**	**84.50**	**325**	P	**P**	**10 13 12.3**	**-2.5**
	0.9nm,0.8s,baz=98,slow=8.9,SNR=3.3						
	0.9nm,0.8s						
ILAR	**Eielson Array**	**87.66**	**24**	P	P	10 13 24.6	-5.6
	0.4nm,0.7s,baz=261,slow=5.3,SNR=5.4						
	0.4nm,0.7s						

*IDC **01** 10:26:42.9±0.7, 6°75N×72°97W, h163km±9km, mb3.3/7, mbtmp4.0/10, Error ellipse: s-maj=25.9km s-min=7.8km az=132.0*

*NEIC **01** 10:26:43.7±1.1, 6°83N±0°04×72°97W±0°08, h157km±9km, mb4.4/19, Error ellipse: s-maj=12.1km s-min=3.8km az=70.0*

*RSNC **01** 10

YOTC				P	Pn	10 27 46.7	-0.6
YOTC				P	Pn	10 27 46.7	-0.6
YOTC				S	Sn	10 28 26.3	-11
YOTC				S	Sn	10 28 26.3	-11
PTAC	**Punta Ardita,**	**4.69**	**274**	P	Pn	10 27 51.6	-0.5
PTAC				P		10 27 52.0	
JAMC	**Jamundi, Valle**	**5.07**	**225**	P	Pn	10 27 56.5	-0.9
	43nm,0.6s,3µm						
JAMC				P		10 27 56.9	
	43nm,0.6s,3µm						
JAMC				P		10 27 58.0	
	43nm,0.6s,3µm						
MALC	**Bahia Malaga**	**5.08**	**237**	P	Pn	10 27 58.4	+1.2
MALC				P		10 27 59.1	
GARC	**Garzon, Huila**	**5.21**	**207**	P	Pn	10 27 58.3	-1.0
GARC				P		10 27 58.8	
GARC				P		10 27 59.0	
BAUV	**El Baul**	**5.42**	**67**	Pn	Pn	10 28 00.3	-1.4
POPC	**Popayan, Colom**	**5.57**	**220**	P	Pn	10 28 03.8	-0.2
	37nm,0.5s						
POPC				P	Pn	10 28 03.8	-0.2
	37nm,0.5s						
POPC				P		10 28 03.9	
	37nm,0.5s						
FLOC	**Florencia**	**5.82**	**206**	P	Pn	10 28 06.7	-0.4
	94nm,0.8s,1µm						
FLOC				P		10 28 07.2	
	94nm,0.8s,1µm						
FLOC				P		10 28 07.6	
	94nm,0.8s,1µm						
BBAC	**Balboa, Cauca**	**6.33**	**221**	P	Pn	10 28 14.0	-0.1
BBAC				P		10 28 14.1	
BBAC				P		10 28 15.2	
AUA1	**Aruba**	**6.39**	**28**	Pn	Pn	10 28 14.2	-0.4
TULM	**Tulcn-Chalpat**	**7.68**	**218**	Pn	Pn	10 28 33.9	+1.6
OTAV	**Otavalo**	**8.47**	**219**		Pn	10 28 44.1	+1.4
PCRV	**Puerto La Cruz**	**8.99**	**68**	P	Pn	10 28 47.9	-1.5
	6.2nm,0.3s,baz=287,slow=4.8,SNR=10						
BOSC	**San Juan Bosco**	**11.30**	**209**	Pn	Pn	10 29 21.3	+1.3
GTBY	**Guantanamo Bay**	**13.15**	**352**	Pn	Pn	10 29 45.2	+1.6
BOAV	**Boa Vista**	**13.29**	**109**	Pn	Pn	10 29 44.3	-1.2
ETMB	**Extrema**	**17.92**	**157**	P	Pn	10 30 40.5	-1.9
SAML	**Samuel**	**18.54**	**148**	P	Pn	10 30 47.1	-2.6
PAYG	**Puerto Ayora**	**18.71**	**247**	P	Pn	10 30 51.9	+0.2
TEIG	**Tepich**	**19.84**	**314**	P	P	10 31 02.7	+1.0
HODGE	**Hodges**	**28.54**	**344**	P	P	10 32 25.5	+1.7
HODGE				IAmb	IAmb	10 32 42.7	
	comp=Z,20nm,1.5s						
Y49A	**Blount Mountai**	**29.57**	**337**	P	P	10 32 34.6	+1.6
Y49A				IAmb	IAmb	10 32 35.4	
	comp=Z,4.9nm,0.6s						
WVT	**Waverly**	**32.12**	**337**	P	P	10 32 56.6	+1.2
WVT				IAmb	IAmb	10 32 59.6	
	comp=Z,14nm,1.5s						
FCAR	**Ozark Folk Cen**	**33.76**	**332**	P	P	10 33 10.2	+0.6
FCAR				IAmb	IAmb	10 33 11.7	
	comp=Z,4.7nm,1.0s						
CGM3	**Cape Girardeau**	**33.85**	**336**	P	P	10 33 11.5	+1.0
CGM3				IAmb	IAmb	10 33 12.0	
	comp=Z,4.8nm,0.5s						
CCM	**Cathedral Cave**	**35.16**	**335**	P	P	10 33 22.9	+1.2
CCM				IAmb	IAmb	10 33 23.3	
	comp=Z,8.6nm,0.7s						
TXAR	**Lajitas Array**	**36.46**	**312**	P	P	10 33 33.7	+0.6
	comp=Z,0.4nm,0.4s,baz=130,slow=8.7,SNR=10						
	comp=Z,0.4nm,0.4s						
K30B	**Basset**	**42.67**	**331**	P	P	10 34 24.6	+0.4
K30B				IAmb	IAmb	10 34 25.2	
	comp=Z,16nm,0.9s						
ULM	**Lac du Bonnet**	**47.27**	**340**	P	P	10 35 00.2	-0.1
ULM	**Lac du Bonnet**	**47.27**	**340**	P	P	10 35 00.2	-0.1
	comp=Z,3.2nm,0.5s,baz=143,slow=7.2,SNR=12						
	comp=Z,3.2nm,0.5s						
BSUT	**Blindstream Ca**	**47.49**	**321**	P	P	10 35 03.7	+1.1
BSUT				IAmb	IAmb	10 35 11.7	
	comp=Z,6.2nm,1.4s						
PDAR	**Pinedale Array**	**48.07**	**324**	P	P	10 35 07.3	+0.4
PDAR	**Pinedale Array**	**48.07**	**324**	P	P	10 35 07.6	+0.7
	comp=Z,0.4nm,0.5s,baz=127,slow=9.8,SNR=7.0						
	comp=Z,0.4nm,0.5s						
SCHQ	**Schefferville**	**48.11**	**5**	P	P	10 35 07.5	+0.8
SCHQ				IAmb	IAmb	10 35 08.0	
	comp=Z,7.7nm,1.1s						
SCHQ	**Schefferville**	**48.11**	**5**	P	P	10 35 07.3	+0.6
	comp=Z,1.5nm,0.5s,baz=186,slow=8.0,SNR=5.2						
	comp=Z,1.5nm,0.5s						
DGMT	**Dagmar**	**49.14**	**333**	P	P	10 35 15.5	+0.8
BGU	**Big Grassy Mou**	**49.14**	**320**	P	P	10 35 15.8	+0.7
REDW	**Red Top Meadow**	**49.19**	**324**	P	P	10 35 16.5	+1.1
NVAR	**Mina Array Bea**	**51.48**	**315**	P	P	10 35 32.7	-0.1
	comp=Z,0.2nm,0.5s,baz=115,slow=8.1,SNR=2.5						
	comp=Z,0.2nm,0.5s						
FCC	**Fort Churchill**	**54.25**	**347**	P	P	10 35 52.7	+0.3
FCC				IAmb	IAmb	10 35 54.1	
	comp=Z,6.1nm,1.4s						
YKA	**Yellowknife Ar**	**63.25**	**340**	P	P	10 36 54.7	+0.3
	comp=Z,1.3nm,0.6s,baz=129,slow=6.4,SNR=38						
	comp=Z,1.3nm,0.6s						
SUMG	**Summit**	**68.96**	**11**	*i* P	P	10 37 30.0	-1.2
A36M	**Sachs Harbour**	**72.42**	**345**	P	P	10 37 51.9	+0.3
A36M				IAmb	IAmb	10 37 52.6	
	comp=Z,4.5nm,0.8s						
ILAR	**Eielson Array**	**76.95**	**335**	P	P	10 38 17.7	-0.1
	comp=Z,0.2nm,0.6s,baz=105,slow=4.9,SNR=1.6						
	comp=Z,0.2nm,0.6s						
MORC	**Moravsky Berou**	**85.24**	**41**	*e*PG	P	10 38 56.8	-5.2
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc	**PKPbc**	**10 46 12.9**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=116,slow=3.6,SNR=12						
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc	**PKPbc**	**10 46 15.6**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=109,slow=2.7,SNR=15						

*IDC **01** 10:27:31.1±4.2,5.71S×129.85E,h380km±50km,mb2.9/1, mbtmp3.8/3,Error ellipse: s-maj=101.1km s-min=15.7km az=72.0*

ISC 01 10:27:28.1±1.1,**5.95S**±0.10×**128.8E**±0.1,**h350km,n11,** σ1**95**/13,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.55**	**49**	P	P	**Pn**	**10 28 40.7**	**-2.2**
SOEI	**Soe**	**5.89**	**230**	P	P	**Pn**	**10 28 55.4**	**-2.5**
DRS	**Darwin Rock St**	**6.75**	**163**	P	P	**Pn**	**10 29 06.1**	**-1.5**
MTN	**Manton Dam**	**7.21**	**162**	P	P	**Pn**	**10 29 10.9**	**-2.1**
KDU	**Kakadu**	**7.60**	**152**	P	P	**Pn**	**10 29 15.9**	**-1.6**
WRA	**Warramunga Arr**	**14.90**	**159**	P	P		**10 30 42.5**	**+0.8**
	1.1nm,0.4s,baz=340,slow=12,SNR=17							
WRA				S	S		**10 33 21.9**	**-0.5**
	0.4nm,0.6s,baz=351,slow=21,SNR=2.7							
COEN	**Coen**	**16.21**	**120**	P	P		**10 30 57.9**	**+1.9**
QIS	**Mount Isa**	**17.89**	**145**	P	P		**10 31 16.0**	**+1.9**
ASAR	**Alice Springs**	**18.28**	**165**	P	P		**10 31 19.3**	**+1.2**
	1.2nm,0.3s,baz=346,slow=11,SNR=50							
ASAR				S	S		**10 34 29.6**	**+0.7**
	1.6nm,0.9s,baz=345,slow=21,SNR=15							
WRKA	**Warakurna**	**18.98**	**181**	P	P		**10 31 26.9**	**+1.3**
MKAR	**Makanchi Array**	**66.72**	**327**	P	P		**10 37 44.9**	**+2.4**
	0.3nm,0.4s,baz=115,slow=6.6,SNR=4.4							
	0.3nm,0.4s							

*IDC **01** 10:27:42.6±2.6,40.97N×79.58E,h0km,mb3.9/5, mbtmp3.7/9,ML2.8/4,Error ellipse: s-maj=48.3km s-min=25.3km az=135.0*

*SOME **01** 10:27:46.9,41.47N×79.18E,h10km*

*NNC **01** 10:27:48.1±0.8,41.50N×79.15E,h1km±4km,mb4.3, mpv4.0,Error ellipse: s-maj=5.8km s-min=4.5km az=170.0*

*KRNET **01** 10:27:48.1±0.1,41.57N×79.09E,h12km,mb3.5*

ISC 01 10:27:48.3±1.5,**41.51N**±0.04×**79.17E**±0.03,**h2km**±9km, **n93,**σ1**38**/141,**mb3.9**/5,**36C-22D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.05**	**283**	⇑*i*P		**Pg**	**10 28 06.6**	**-1.8**
	baz=80							
TARG				⇑*i*S		**Sg**	**10 28 20.5**	**-1.5**
	baz=80							
PRZ	**Przheval'sk**	**1.13**	**330**	⇓*e*P		**Pg**	**10 28 08.3**	**-1.7**
	baz=31							
PRZ				⇓*i*S		**Sg**	**10 28 22.9**	**-1.8**
	baz=31							
KDJ	**Kajisay**	**1.61**	**293**	⇑*i*P		**Pn**	**10 28 16.7**	**-1.3**
	baz=92							
KDJ				⇑*i*S		**Sn**	**10 28 37.4**	**-2.0**
	baz=92							
UZB	**Uzynbulak**	**1.64**	**356**	*e*P		**Pn**	**10 28 17.6**	**-0.7**
	48nm,0.5s							
UZB				*e*S		**Sn**	**10 28 39.8**	**-0.3**
	193nm,0.4s							
UZB	**Uzynbulak**	**1.64**	**356**	P		**Pn**	**10 28 17.6**	**-0.7**
	48nm,0.5s							
UZB				S		**Sn**	**10 28 40.2**	**+0.2**
	193nm,0.4s							
SATY	**Saty**	**1.65**	**340**	*e*P		**Pn**	**10 28 18.3**	**-0.1**
	77nm,0.6s							
SATY				*e*S		**Sb**	**10 28 40.9**	**+0.1**
	326nm,0.4s							
SATY	**Saty**	**1.65**	**340**	P		**Pn**	**10 28 18.3**	**-0.1**
	77nm,0.6s							
SATY				S		**Sb**	**10 28 40.9**	**+0.1**
	326nm,0.4s							
SHLS	**Shalkode**	**1.66**	**7**	*e*P		**Pb**	**10 28 19.7**	**0.0**
	243nm,0.5s							
SHLS				*e*S		**Sg**	**10 28 43.3**	**+1.6**
	911nm,0.5s							
SHLS	**Shalkode**	**1.66**	**7**	P		**Pb**	**10 28 19.7**	**0.0**
	243nm,0.5s							
SHLS				S		**Sg**	**10 28 43.3**	**+1.6**
	911nm,0.5s							
ANVS	**Anan'yevo**	**1.69**	**319**	⇑*i*P		**Pn**	**10 28 18.4**	**-0.7**
	baz=19							
ANVS				⇑*i*S		**Sn**	**10 28 40.3**	**-1.2**
	baz=19							
ZHN	**Zhinishke**	**1.75**	**342**	*e*P		**Pn**	**10 28 20.1**	**+0.4**
	53nm,0.3s							
ZHN				*e*S		**Sb**	**10 28 44.0**	**+0.4**
	442nm,0.3s							
ZHN	**Zhinishke**	**1.75**	**342**	P		**Pn**	**10 28 20.1**	**+0.4**
	53nm,0.3s							
ZHN				S		**Sb**	**10 28 44.0**	**+0.4**
	442nm,0.3s							
PDGK	**Podgornoye**	**1.83**	**7**	P		**Pn**	**10 28 20.9**	**0.0**
	52nm,0.4s							
PDGK				S		**Sn**	**10 28 45.4**	**+0.6**
	224nm,0.5s							
PDGK	**Podgornoye**	**1.83**	**7**	⇓Pn		**Pn**	**10 28 21.0**	**0.0**
	67nm,0.4s							
PDGK				⇑Lg		Lg	10 28 49.3	
	408nm,0.6s							
KPKS	**Kokpek**	**1.99**	**350**	*e*P		**Pb**	**10 28 24.9**	**-0.4**
	77nm,0.4s							
KPKS				*e*S		**Sg**	**10 28 52.2**	**+0.1**
	2µm,0.4s							
KPKS	**Kokpek**	**1.99**	**350**	Pg		**Pb**	**10 28 24.9**	**-0.4**
	77nm,0.4s							
KPKS				Lg		Lg	10 28 52.3	
	2µm,0.4s							
KURS	**Kuram**	**2.11**	**340**	*e*P		**Pb**	**10 28 26.9**	**-0.4**
	68nm,0.4s							
KURS				*e*S		**Sg**	**10 28 55.8**	**-0.3**
	266nm,0.5s							
KURS	**Kuram**	**2.11**	**340**	Pg		**Pb**	**10 28 26.9**	**-0.4**
	68nm,0.4s							
KURS				Lg		Lg	10 28 56.4	
	266nm,0.5s							
KTMS	**Ketmen**	**2.12**	**24**	*e*P		**Pb**	**10 28 26.9**	**-0.7**
	39nm,0.8s							
KTMS				*e*S		**Sb**	**10 28 55.6**	**+1.2**
	113nm,0.6s							
KTMS	**Ketmen**	**2.12**	**24**	Pg		**Pb**	**10 28 26.9**	**-0.7**
	39nm,0.8s							
KTMS				Lg		Lg	10 28 55.6	
	113nm,0.6s							
TNSS	**Tian-Shan**	**2.25**	**313**	*e*P		**Pb**	**10 28 29.2**	**-0.6**
	108nm,0.5s							
TNSS				*e*S		**Sb**	**10 28 59.6**	**+1.3**
	103nm,0.6s							
TNSS	**Tian-Shan**	**2.25**	**313**	Pg		**Pb**	**10 28 29.3**	**-0.6**
	108nm,0.5s							
TNSS				Lg		Lg	10 29 00.3	
	103nm,0.6s							
MDOK	**Medeo**	**2.28**	**317**	*e*P		**Pb**	**10 28 29.5**	**-0.9**
	87nm,0.5s							
MDOK				*e*S		**Sb**	**10 29 00.3**	**+1.3**
	311nm,0.7s							
MDOK	**Medeo**	**2.28**	**317**	⇑Pg		**Pb**	**10 28 29.4**	**-0.9**
	92nm,0.7s							
MDOK				Pg		**Pb**	**10 28 29.5**	**-0.9**
	87nm,0.5s							
MDOK				⇑Lg		Lg	10 29 00.6	
	167nm,0.6s							
MDOK				Lg		Lg	10 29 00.9	
	311nm,0.7s							
KOTS	**Kotyrbulak**	**2.30**	**319**	*e*P		**Pb**	**10 28 30.7**	**+0.1**
	104nm,0.5s							
KOTS				*e*S		**Sg**	**10 29 02.2**	**-0.1**
	414nm,0.6s							
KOTS	**Kotyrbulak**	**2.30**	**319**	Pg		**Pb**	**10 28 30.7**	**+0.1**
	104nm,0.5s							
KOTS				Lg		Lg	10 29 02.2	
	414nm,0.6s							
ULHL	**Ulahol**	**2.31**	**290**	⇑*i*P		**Pn**	**10 28 28.3**	**+0.7**
	baz=88							
ULHL				⇑*i*S		**Sn**	**10 28 57.6**	**+1.0**
	baz=88							
KNDC	**Almaty**	**2.36**	**317**	⇑Pg		**Pb**	**10 28 30.9**	**-0.7**
	250nm,0.8s							
KNDC				⇑Lg		Lg	10 29 04.3	
	254nm,0.7s							
AAA	**Alma-Ata**	**2.38**	**316**	*e*P		**Pb**	**10 28 32.1**	**+0.1**
	140nm,0.4s							
AAA				*e*S		**Sg**	**10 29 04.8**	**-0.1**
	1µm,0.6s							
AAA	**Alma-Ata**	**2.38**	**316**	Pg		**Pb**	**10 28 32.1**	**+0.1**
	140nm,0.4s							
AAA				Lg		Lg	10 29 04.8	
	1µm,0.6s							
NRN	**Naryn**	**2.38**	**269**	⇑*e*P		**Pn**	**10 28 29.8**	**+1.1**
	baz=67							
NRN				⇑*i*S		**Sb**	**10 29 00.5**	**-1.6**
	baz=67							
IZV	**Izvestkoviy**	**2.44**	**310**	*e*P		**Pb**	**10 28 32.7**	**-0.3**
	25nm,0.2s							
IZV				*e*S		**Sg**	**10 29 05.6**	**-1.0**
	523nm,0.4s							
IZV	**Izvestkoviy**	**2.44**	**310**	Pg		**Pb**	**10 28 32.7**	**-0.3**
	25nm,0.2s							
IZV				Lg		Lg	10 29 05.6	
	523nm,0.4s							
KASK	**Kaskelen**	**2.54**	**313**	⇑Pg		**Pg**	**10 28 36.3**	**-0.6**
KASK				⇑Lg		Lg	10 29 09.0	
MTBS	**Maitube**	**2.60**	**309**	*e*P		**Pb**	**10 28 35.4**	**-0.3**
	60nm,0.8s							
MTBS				*e*S		**Sg**	**10 29 10.2**	**-1.6**
	178nm,0.5s							
MTBS	**Maitube**	**2.60**	**309**	Pg		**Pb**	**10 28 35.4**	**-0.3**
	60nm,0.8s							
MTBS				Lg		Lg	10 29 10.2	
	178nm,0.5s							
BOOM	**Boomskoye usch**	**2.60**	**293**	⇓*i*P		**Pn**	**10 28 32.3**	**+0.8**
	baz=92							
BOOM				⇓*i*S		**Sn**	**10 29 04.6**	**+0.8**
	baz=92							
BLB	**Baldybastay**	**2.64**	**349**	Pg		**Pb**	**10 28 35.9**	**-0.5**
	184nm,0.5s							
BLB				Lg		Lg	10 29 11.4	
	224nm,0.5s							
KST	**Kastek**	**2.83**	**304**	*e*P		**Pb**	**10 28 38.8**	**-0.9**
	12nm,0.5s							
KST				*e*S		**Sb**	**10 29 16.5**	**+1.7**
	174nm,0.7s							
KST	**Kastek**	**2.83**	**304**	Pg		**Pb**	**10 28 38.8**	**-0.9**
	12nm,0.5s							
KST				Lg		Lg	10 29 16.5	
	174nm,0.7s							
CHKK	**Chushkaly**	**2.84**	**326**	*e*P		**Pb**	**10 28 39.7**	**-0.1**
	65nm,0.4s							
CHKK				*e*S		**Sg**	**10 29 18.1**	**-1.5**
	1µm,0.6s							
CHKK	**Chushkaly**	**2.84**	**326**	Pg		**Pb**	**10 28 39.7**	**-0.1**
	65nm,0.4s							
CHKK				Lg		Lg	10 29 18.1	
	1µm,0.6s							
DJR	**Jarkent**	**2.86**	**9**	*e*P		**Pb**	**10 28 39.5**	**-0.6**
	80nm,0.5s							
DJR				*e*S		**Sb**	**10 29 17.3**	**+1.7**
	202nm,0.5s							
DJR	**Jarkent**	**2.86**	**9**	Pg		**Pb**	**10 28 39.5**	**-0.6**
	80nm,0.5s							
DJR				Lg		Lg	10 29 17.3	
	202nm,0.5s							
KTBS	**Karatobe**	**2.87**	**321**	*e*P		**Pb**	**10 28 40.0**	**-0.2**
	46nm,0.6s							
KTBS				*e*S		**Sb**	**10 29 18.2**	**+2.4**
	296nm,0.7s							
KTBS	**Karatobe**	**2.87**	**321**	Pg		**Pb**	**10 28 40.1**	**-0.2**
	46nm,0.6s							
KTBS				Lg		Lg	10 29 18.2	
	296nm,0.7s							
ARXS	**Arharly**	**2.88**	**340**	*e*P		**Pg**	**10 28 42.3**	**-1.2**
	44nm,0.6s							
ARXS				*e*S		**Sg**	**10 29 22.1**	**+1.3**
	448nm,0.4s							
ARXS	**Arharly**	**2.88**	**340**	Pg		**Pg**	**10 28 42.3**	**-1.2**
	44nm,0.6s							
ARXS				Lg		Lg	10 29 22.1	
	448nm,0.4s							
TKM2	**Tokmak 2**	**3.01**	**299**	⇓Pg		**Pb**	**10 28 41.4**	**-1.3**
	8.1nm,0.4s							
TKM2				⇓Lg		Lg	10 29 22.8	
	95nm,0.9s							
TKM2	**Tokmak 2**	**3.01**	**299**	⇑*i*P		**Pn**	**10 28 37.8**	**+0.6**
	baz=99							
TKM2				⇑*i*S		**Sn**	**10 29 14.4**	**+0.5**
	baz=99							
DGS	**Degeres**	**3.06**	**306**	*e*P		**Pb**	**10 28 42.6**	**-0.9**
	16nm,0.5s							
DGS				*e*S		**Sb**	**10 29 23.0**	**+1.8**
	147nm,0.8s							
DGS	**Degeres**	**3.06**	**306**	Pg		**Pb**	**10 28 42.6**	**-0.9**
	16nm,0.5s							
DGS				Lg		Lg	10 29 23.0	
	147nm,0.8s							
KSH	**Kashi**	**3.15**	**232**	P		**Pg**	**10 28 49.2**	**+0.6**
KSH				S		Sg	10 29 40.8	+11
KSH				LR		LR		
	comp=N,170nm,7.9s							
KSH				LR		LR		
	comp=E,270nm,7.9s							
KSH				LR		LR		
	comp=Z,160nm,5.4s							
KUU	**Kurty**	**3.17**	**320**	*e*P		**Pb**	**10 28 45.3**	**0.0**
	comp=Z,42nm,0.7s							
KUU				*e*S		**Sb**	**10 29 27.1**	**+2.8**
	comp=Z,205nm,0.7s							
KUU	**Kurty**	**3.17**	**320**	Pg		**Pb**	**10 28 45.3**	**0.0**
	comp=Z,42nm,0.7s							
KUU				Lg		Lg	10 29 27.1	
	comp=Z,205nm,0.7s							
KBK	**Karagaybulak**	**3.35**	**291**	⇑*i*P		**Pn**	**10 28 42.7**	**+0.9**
	baz=91							
KBK				⇑*i*S		**Sn**	**10 29 22.6**	**+0.4**
	baz=91							
KRBS	**Karabastau**	**3.38**	**311**	*e*P		**Pb**	**10 28 48.5**	**-0.5**
	comp=Z,14nm,0.6s							
KRBS				*e*S		**Sb**	**10 29 32.7**	**+2.1**
	comp=Z,64nm,0.7s							
KRBS	**Karabastau**	**3.38**	**311**	Pg		**Pb**	**10 28 48.5**	**-0.5**
	comp=Z,14nm,0.6s							
KRBS				Lg		Lg	10 29 32.7	
	comp=Z,64nm,0.7s							
TDK	**Taldyqorghan**	**3.54**	**351**	*e*P		**Pb**	**10 28 51.2**	**-0.3**
	comp=Z,94nm,0.4s							
TDK				*e*S		**Sb**	**10 29 37.3**	**+2.4**
	comp=Z,536nm,0.5s							
TDK	**Taldyqorghan**	**3.54**	**351**	Pg		**Pb**	**10 28 51.2**	**-0.3**
	comp=Z,94nm,0.4s							
TDK				Lg		Lg	10 29 37.3	
	comp=Z,536nm,0.5s							
UCH	**Uchtor**	**3.55**	**283**	⇑*i*P		**Pn**	**10 28 45.8**	**+0.9**
	baz=82							
UCH				⇑*i*S		**Sn**	**10 29 27.8**	**+0.1**
	baz=82							
CHMS	**Chumysh**	**3.60**	**296**	⇓Pg		**Pb**	**10 28 54.8**	**+2.0**
	comp=Z,5.7nm,0.5s							
CHMS				⇑Lg		Lg	10 29 38.0	
	comp=Z,59nm,1.2s							
CHMS	**Chumysh**	**3.60**	**296**	⇓*i*P		**Pn**	**10 28 46.1**	**+0.9**
	baz=95							
CHMS				⇓*i*S		**Sn**	**10 29 28.2**	**-0.1**
	baz=95							
FRU1	**Bishkek**	**3.62**	**293**	⇓*i*P		**Pn**	**10 28 46.4**	**+1.0**
	baz=92							
FRU1				⇓*i*S		**Sn**	**10 29 29.2**	**+0.5**
	baz=92							
ARLS	**Aral**	**3.65**	**277**	⇑*i*P		**Pn**	**10 28 47.0**	**+1.1**
	baz=76							
ARLS				⇑*i*S		**Sn**	**10 29 29.6**	**0.0**
	baz=76							
AAK	**Ala-Archa**	**3.66**	**289**	Pn		**Pn**	**10 28 49.7**	**+3.7**
	comp=Z,0.9nm,0.3s,baz=151,slow=12,SNR=5.5							
	comp=Z,4.3nm,0.7s							
AAK	**Ala-Archa**	**3.66**	**289**	⇓*i*P		**Pn**	**10 28 46.9**	**+0.8**
	baz=89							
AAK				⇓*i*S		**Sn**	**10 29 29.8**	**-0.1**
	baz=89							
KAPS	**Kapalarasan**	**3.78**	**2**	*e*P		**Pb**	**10 28 55.5**	**-0.2**
	comp=Z,24nm,0.4s							
KAPS				*e*S		**Sb**	**10 29 44.8**	**+2.8**
	comp=Z,61nm,0.4s							
KAPS	**Kapalarasan**	**3.78**	**2**	Pg		**Pb**	**10 28 55.5**	**-0.2**
	comp=Z,24nm,0.4s							
KAPS				Lg		Lg	10 29 45.5	
	comp=Z,61nm,0.4s							
USP	**Ospenovka**	**3.88**	**298**	⇓*i*P		**Pn**	**10 28 49.8**	**+0.8**
	baz=98							
USP				⇓*i*S		**Sn**	**10 29 35.0**	**-0.2**
	baz=98							
EKS2	**Erkin-Say**	**4.18**	**288**	⇑*e*P		**Pn**	**10 28 54.3**	**+1.1**
	baz=87							
EKS2				⇑*i*S		**Sn**	**10 29 42.4**	**-0.2**
	baz=87							
MRKS	**Merke**	**4.59**	**288**	*e*P		**Pb**	**10 29 12.0**	**+2.4**
	comp=Z,9.5nm,0.8s							
MRKS				*e*S		**Sg**	**10 30 13.0**	**-2.8**
	comp=Z,16nm,0.7s							
MRKS	**Merke**	**4.59**	**288**	Pg		**Pb**	**10 29 12.0**	**+2.4**
	comp=Z,9.5nm,0.8s							
MRKS				Lg		Lg	10 30 13.0	
	comp=Z,16nm,0.7s							
MNAS	**Manas**	**5.06**	**283**	⇑*e*P		**Pn**	**10 29 06.5**	**+1.1**
	baz=83							
MNAS				⇑*i*S		**Sn**	**10 30 03.6**	**-0.9**
	baz=83							
BTLS	**Baital**	**5.14**	**315**	*e*P		**Pb**	**10 29 22.0**	**+3.0**
	comp=Z,6.9nm,0.7s							
BTLS				*e*S		**Sg**	**10 30 30.3**	**-3.2**
	comp=Z,21nm,0.7s							
BTLS	**Baital**	**5.14**	**315**	Pg		**Pb**	**10 29 22.0**	**+3.0**
	comp=Z,6.9nm,0.7s							
BTLS				Lg		Lg	10 30 30.3	
	comp=Z,21nm,0.7s							
MAKZ	**

comp=Z,1.1nm,0.4s
SONM Songino Array 20.30 63 P **P 10 32 23.9 -1.6**
comp=Z,1.4nm,0.6s,baz=262,slow=11,SNR=11
FINES FINESS Array B 37.27 321 P **P 10 35 00.7 -0.5**
comp=Z,2.3nm,0.8s,baz=108,slow=10,SNR=4.6
comp=Z,2.3nm,0.8s
ARCES ARCESS Array B 39.23 333 P **P 10 35 17.6 -0.1**
comp=Z,4.2nm,0.8s,baz=97,slow=7.4,SNR=8.4
comp=Z,4.2nm,0.8s
NB2 NORSAR Subarra 44.44 320 P **P 10 35 59.0 -1.4**
comp=Z,3.3nm,1.1s,baz=85,slow=7.9
NOA NORSAR Array B 44.44 320 P **P 10 35 59.5 -0.9**
comp=Z,0.7nm,0.6s,baz=84,slow=7.9,SNR=4.9
comp=Z,0.7nm,0.6s
TORD Torodi Ar. Bea 72.07 272 P **P 10 39 11.2 -3.1**
comp=Z,0.6nm,0.6s,baz=43,slow=6.7,SNR=4.4
comp=Z,0.6nm,0.6s
YKA Yellowknife Ar 75.75 7 P **P 10 39 32.7 -2.3**
comp=Z,0.3nm,0.7s,baz=347,slow=5.5,SNR=5.5
comp=Z,0.3nm,0.7s

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*SJA **01** 10:35:22.9±0.6,24.°12S×66.°82W,h229km±6km, ML3.9, MW3.8*
*IDC **01** 10:35:24.3±1.7,24.°07S×66.°71W,h195km±14km, mb3.2/6, mbtmp3.7/9, Error ellipse: s-maj=28.7km s-min=18.9km az=4.0*
*NEIC **01** 10:35:25.0±1.3,24.°11S±0.°07×67.°1W±0.°2,h236km±16km, mb4.0/2, Error ellipse: s-maj=25.1km s-min=9.8km az=100.0*
*GUC **01** 10:35:25.0±0.5,24.°06S×67.°24W,h232km±7km, ML4.1*
ISC 01 10:35:24.8±0.7,24.°13S±0.°04×66.°88W±0.°05, h208km±7km, n67, σ0°97/86, mb3.4/6, 8C, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SLA	**San Lorenzo**	**1.39**	**116**	*eP*		**Pn**	**10 35 58.4**	**0.0**
AF01	**San Pedro de A**	**1.67**	**314**			**Pn**	**10 36 02.0**	**+0.9**
AF01	**San Pedro de A**	**1.67**	**314**	*eP*		**Pn**	**10 36 02.5**	**+1.3**
FSA	**Cafayete**	**2.14**	**158**	*eP*		**Pn**	**10 36 05.2**	**-0.4**
YJA	**Yavi**	**2.31**	**33**	*eP*		**Pn**	**10 36 07.8**	**+0.1**
LVC	**Limon Verde**	**2.40**	**309**	*eP*		**Pn**	**10 36 09.0**	**+0.5**
LVC				*eS*		**S**	**10 36 43.1**	**+0.9**
LVC	**Limon Verde**	**2.40**	**309**	*eP*		**Pn**	**10 36 09.1**	**+0.5**
	103nm,0.3s,baz=133,slow=7.4,SNR=151							
LVC				S		**S**	**10 36 42.2**	**+0.1**
	47nm,0.3s,baz=243,slow=24,SNR=21							
LVC	**Limon Verde**	**2.40**	**309**	*eP*		**Pn**	**10 36 09.0**	**+0.5**
LVC				*eS*		**S**	**10 36 42.5**	**+0.3**
LVC					IAML		10 36 43.9	
	468nm,0.4s							
PB15	**IPOC Station P**	**2.55**	**290**			**Pn**	**10 36 10.5**	**+0.5**
PB15	**IPOC Station P**	**2.55**	**290**	*eP*		**Pn**	**10 36 10.4**	**+0.5**
PB15				*eS*		**S**	**10 36 45.1**	**+0.4**
PB15					IAML		10 36 47.8	
	comp=Z,1μm,0.2s							
PB15	**IPOC Station P**	**2.55**	**290**	*eP*		**Pn**	**10 36 10.2**	**+0.2**
PB15				*eS*		**S**	**10 36 44.5**	**-0.2**
GO02	**Mina Guanaco**	**2.68**	**247**	Pn		**Pn**	**10 36 11.9**	**+0.5**
GO02	**Mina Guanaco**	**2.68**	**247**	*eP*		**Pn**	**10 36 12.0**	**+0.5**
GO02				*eS*		**S**	**10 36 48.4**	**+0.9**
GO02	**Mina Guanaco**	**2.68**	**247**	*eP*		**Pn**	**10 36 12.2**	**+0.7**
GO02				*eS*		**S**	**10 36 48.2**	**+0.8**
PB06	**IPOC Station P**	**2.85**	**299**			**Pn**	**10 36 13.7**	**+0.2**
PB06	**IPOC Station P**	**2.85**	**299**	*eP*		**Pn**	**10 36 13.6**	**+0.2**
PB06				*eS*		**S**	**10 36 50.4**	**-0.4**
PB06					IAML		10 36 54.2	
	comp=Z,156nm,0.1s							
PB06	**IPOC Station P**	**2.85**	**299**	⇑*eP*		**Pn**	**10 36 13.8**	**+0.5**
PB06				*eS*		**S**	**10 36 49.9**	**-0.9**
PB06					IAML		10 36 50.5	
	comp=N,383nm,0.3s							
AHML	**Horco Molle**	**2.99**	**153**	*eP*		**Pn**	**10 36 14.4**	**-0.4**
AHML				*eS*		**S**	**10 36 53.2**	**-0.4**
PB09	**IPOC Station P**	**3.18**	**316**			**Pn**	**10 36 17.9**	**+0.6**
PB09	**IPOC Station P**	**3.18**	**316**	*eP*		**Pn**	**10 36 17.8**	**+0.6**
PB09				*eS*		**S**	**10 36 58.2**	**+0.5**
PB09					IAML		10 36 59.2	
	comp=Z,147nm,0.5s							
PB09	**IPOC Station P**	**3.18**	**316**	⇑*eP*		**Pn**	**10 36 17.8**	**+0.6**
PB09				*eS*		**S**	**10 36 57.7**	**0.0**
PB09					IAML		10 37 00.4	
	comp=E,184nm,0.5s							
PB14	**IPOC Station P**	**3.25**	**260**	Pn		**Pn**	**10 36 18.2**	**0.0**
PB14	**IPOC Station P**	**3.25**	**260**	*eP*		**Pn**	**10 36 18.2**	**0.0**
PB14					IAML		10 37 03.0	
	comp=Z,129nm,0.3s							
PB14	**IPOC Station P**	**3.25**	**260**	⇑*eP*		**Pn**	**10 36 18.1**	**0.0**
PB14				*eS*		**S**	**10 36 59.0**	**-0.4**
AC02	**Maricunga**	**3.38**	**217**	Pn		**Pn**	**10 36 20.6**	**+0.8**
AC02	**Maricunga**	**3.38**	**217**	*eP*		**Pn**	**10 36 20.5**	**+0.6**
PB04	**IPOC Station P**	**3.50**	**300**			**Pn**	**10 36 20.9**	**0.0**
PB04	**IPOC Station P**	**3.50**	**300**	*eP*		**Pn**	**10 36 21.0**	**0.0**
PB04				*eS*		**S**	**10 37 03.8**	**-0.7**
PB04					IAML		10 37 06.2	
	comp=Z,196nm,0.4s							
PB04	**IPOC Station P**	**3.50**	**300**	⇑*eP*		**Pn**	**10 36 20.8**	**-0.2**
PB07	**IPOC Station P**	**3.66**	**310**			**Pn**	**10 36 22.4**	**-0.6**
PB07	**IPOC Station P**	**3.66**	**310**	*eP*		**Pn**	**10 36 22.8**	**-0.2**
PB07				*eS*		**S**	**10 37 06.5**	**-1.6**
PB07					IAML		10 37 07.7	
	comp=Z,116nm,0.1s							
PB07	**IPOC Station P**	**3.66**	**310**	⇑*iP*		**Pn**	**10 36 22.7**	**-0.2**
PB07				*eS*		**S**	**10 37 06.1**	**-2.0**
PB01	**IPOC Station P**	**3.90**	**321**			**Pn**	**10 36 25.3**	**-0.6**
PB01	**IPOC Station P**	**3.90**	**321**	*eP*		**Pn**	**10 36 25.1**	**-0.7**
AC01	**Pan de Azucar**	**3.93**	**238**	Pn		**Pn**	**10 36 25.2**	**-0.8**
AC01	**Pan de Azucar**	**3.93**	**238**	*eP*		**Pn**	**10 36 25.5**	**-0.6**
AC01				*eS*		**S**	**10 37 11.5**	**-2.2**
PB02	**IPOC Station P**	**3.94**	**314**			**Pn**	**10 36 25.7**	**-0.7**
PB02	**IPOC Station P**	**3.94**	**314**	⇑*iP*		**Pn**	**10 36 25.6**	**-0.7**
CYA	**Choya**	**4.41**	**168**	*eP*		**Pn**	**10 36 32.3**	**+0.3**
PATCX	**Punta Patache**	**4.47**	**317**			**Pn**	**10 36 32.2**	**-0.7**
PATCX	**Punta Patache**	**4.47**	**317**	⇑*iP*		**Pn**	**10 36 31.5**	**-1.4**
PATCX				*i* S		**S**	**10 37 23.5**	**-2.6**
PB08	**IPOC Station P**	**4.49**	**332**	Pn		**Pn**	**10 36 33.5**	**+0.1**
GO03	**Copiap**	**4.59**	**220**	Pn		**Pn**	**10 36 33.5**	**-0.8**
GO03	**Copiap**	**4.59**	**220**	*eP*		**Pn**	**10 36 33.5**	**-0.8**
GO03				*eS*		**S**	**10 37 26.4**	**-2.4**
TA01	**Diego Aracena**	**4.68**	**319**			**Pn**	**10 36 34.2**	**-1.3**
TA01	**Diego Aracena**	**4.68**	**319**	*eP*		**Pn**	**10 36 35.2**	**-0.2**
TA01					IAML		10 37 33.4	
	comp=Z,40nm,1.0s							
GO01	**Chusmiza**	**4.93**	**334**			**Pn**	**10 36 39.0**	**0.0**
PB11	**IPOC Station P**	**5.05**	**329**	Pn		**Pn**	**10 36 38.8**	**-1.5**
ACLC	**CERRO LA CRUZ**	**5.28**	**181**	*eP*		**Pn**	**10 36 42.5**	**-0.6**
AC04	**Llanos de Chal**	**5.54**	**222**	Pn		**Pn**	**10 36 44.6**	**-1.8**
AC05	**El Transito**	**5.59**	**212**	Pn		**Pn**	**10 36 46.3**	**-0.7**
LCO	**Las Campanas**	**5.95**	**214**	Pn		**Pn**	**10 36 50.2**	**-1.6**
PB16	**IPOC Station P**	**6.26**	**336**			**Pn**	**10 36 55.3**	**-1.0**
PB12	**IPOC Station P**	**6.36**	**329**	Pn		**Pn**	**10 36 54.6**	**-2.4**
CO03	**El Pedregal**	**7.50**	**206**	Pn		**Pn**	**10 37 11.7**	**+0.2**
LPAZ	**La Paz**	**7.89**	**351**	Pn		**Pn**	**10 37 16.6**	**-0.7**
SIV	**San Ignacio**	**9.76**	**35**	P		**Pn**	**10 37 38.5**	**-2.4**
	comp=Z,0.8nm,0.4s,baz=226,slow=3.6,SNR=5.6							
SAML	**Samuel**	**15.50**	**14**	P		**Pn**	**10 38 50.9**	**-2.0**
SAML				IAmb		IAmb	10 38 53.1	
	comp=Z,2.5nm,0.8s							
BDFB	**Brasilia**	**19.63**	**68**	P		**P**	**10 39 37.3**	**-0.6**
BDFB				IAmb		IAmb	10 39 38.1	
	comp=Z,7.2nm,0.8s							
BDFB	**Brasilia**	**19.63**	**68**	P		**P**	**10 39 37.1**	**-0.9**
	comp=Z,6.1nm,0.7s,baz=238,slow=10,SNR=8.7							
TXAR	**Lajitas Array**	**63.84**	**324**	P		**P**	**10 45 36.7**	**+1.4**
	comp=Z,0.1nm,0.4s,baz=170,slow=7.3,SNR=2.3							
	comp=Z,0.1nm,0.4s							
QSPA	**South Pole Qui**	**66.08**	**180**	P		**P**	**10 45 50.4**	**+1.1**
	comp=Z,1.6nm,1.1s,baz=294,slow=2.5,SNR=2.0							
	comp=Z,1.6nm,1.1s							
TORD	**Torodi Ar. Bea**	**76.51**	**69**	P		**P**	**10 46 51.5**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=254,slow=4.0,SNR=5.9							
	comp=Z,0.4nm,0.5s							
PDAR	**Pinedale Array**	**77.31**	**329**	P		**P**	**10 46 58.1**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=132,slow=6.3,SNR=2.4							
	comp=Z,0.2nm,0.5s							
ULM	**Lac du Bonnet**	**78.38**	**341**	P		**P**	**10 47 02.5**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=148,slow=3.9,SNR=3.0							
	comp=Z,0.7nm,0.4s							
YKA	**Yellowknife Ar**	**94.28**	**340**	P		**P**	**10 48 20.4**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=133,slow=4.0,SNR=4.5							
	comp=Z,0.2nm,0.6s							
MKAR	**Makanchi Array**	**146.55**	**40**	PKPbc		**PKPbc**	**10 54 42.1**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=327,slow=4.0,SNR=4.1							

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*JMA **01** 10:54:46.1±0.2,42.°0N±0.°9×142.°7E±0.°8,h50km±1km, MD3.9/39,MV3.7/39,S OFF URAKAWA*
JMA Felt I J1 at S OFF URAKAWA .
*IDC **01** 10:54:47.9±2.6,42.°08N×142.°60E,h62km±22km, mb3.2/6, mbtmp3.5/9,MS3.5/3, Error ellipse: s-maj=28.3km s-min=15.9km az=119.0*
ISC 01 10:54:46.1±0.9,41.°99N±0.°06×142.°63E±0.°04, h48km±8km, n32, σ0°78/28, mb3.5/6, 7D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JNBK	**Urakawa-nobuka**	**0.31**	**18**	⇓*eP*		**Pn**	**10 54 54.7**	**-0.4**
JNBK				⇓*eS*		**Sn**	**10 55 01.7**	**+0.2**
JNBK	**Urakawa-nobuka**	**0.31**	**18**	*eS*		A	10 54 54.7	
	comp=E,48nm,0.5s,comp=N,45nm,0.4s							
JEM	**Erimo**	**0.40**	**86**	*eP*		**Pn**	**10 54 56.0**	**0.0**
JEM				*eS*		**Sn**	**10 55 03.8**	**+0.7**
JSHD	**Hidakashinhida**	**0.44**	**344**	⇓*iP*		**Pn**	**10 54 56.4**	**-0.1**
JSHD	**Hidakashinhida**	**0.44**	**344**	*eS*		A	10 54 56.4	
	comp=E,12nm,0.5s,comp=N,10.0nm,3.5s							
JTHR	**Tokachihiroo**	**0.59**	**59**	⇓*iP*		**Pn**	**10 54 58.0**	**-0.2**
JTHR				⇓*eS*		**Sn**	**10 55 06.9**	**-0.1**
JBT2	**Biratori 2**	**0.81**	**346**	⇓*eP*		**Pn**	**10 55 00.8**	**-0.4**
JIAM	**Iburiatsuma**	**0.82**	**321**	*eP*		**Pn**	**10 55 02.1**	**+0.8**
JCH	**Churui**	**0.83**	**41**	⇓*eP*		**Pn**	**10 55 01.0**	**-0.4**
JFR	**Furan**	**1.18**	**359**	*eP*		**Pn**	**10 55 06.0**	**-0.1**
JKB	**Kayabe**	**1.19**	**266**	*eP*		**Pn**	**10 55 06.2**	**-0.1**
JKB				*eS*		**Sn**	**10 55 21.2**	**-0.2**
JEW	**Eniwo**	**1.22**	**315**	*eP*		**Pn**	**10 55 06.7**	**0.0**
JNB	**Noboribetsu**	**1.27**	**293**	*eP*		**Pn**	**10 55 06.8**	**-0.6**
JOB	**Onbets**	**1.28**	**44**	*eP*		**Pn**	**10 55 08.0**	**+0.5**
JOT	**Ohata**	**1.33**	**243**	*eP*		**Pn**	**10 55 08.2**	**0.0**
JOT				*eS*		**Sn**	**10 55 25.0**	**+0.4**
ASAJ	**Asahikawa**	**2.13**	**359**	P		**Pn**	**10 55 20.5**	**+1.4**
	comp=N,81nm,0.4s,baz=223,slow=9.8,SNR=160							
ASAJ				S		**Sn**	**10 55 44.7**	**+0.4**
	comp=N,96nm,0.6s,baz=194,slow=32,SNR=7.7							
MJAR	**Matsushiro Arr**	**6.43**	**214**	P		**Pn**	**10 56 20.2**	**+2.0**
	comp=N,1.8nm,0.4s,baz=30,slow=14,SNR=12							
MJAR				LR		LR	10 59 09.9	
	comp=N,132nm,18.8s,baz=221,slow=40							
USRK	**Ussuriysk Ar.**	**8.09**	**289**	P		**Pn**	**10 56 42.9**	**+2.0**
	comp=N,2.2nm,0.8s,baz=96,slow=15,SNR=4.5							
H11N2	**WAKE ISLAND Hy**	**30.25**	**130**	T		T	11 32 17.2	
	baz=324,slow=75,SNR=35							
H11N1	**WAKE ISLAND Hy**	**30.26**	**130**	T		T	11 32 18.9	
	baz=324,slow=75,SNR=37							
H11N3	**WAKE ISLAND Hy**	**30.26**	**130**	T		T	11 32 22.3	
	baz=324,slow=75,SNR=21							
H11S1	**WAKE ISLAND Hy**	**31.11**	**131**	T		T	11 33 32.3	
	baz=325,slow=76,SNR=34							
H11S3	**WAKE ISLAND Hy**	**31.11**	**132**	T		T	11 33 32.9	
	baz=325,slow=76,SNR=35							
H11S2	**WAKE ISLAND Hy**	**31.13**	**131**	T		T	11 33 32.6	
	baz=325,slow=76,SNR=43							
MKAR	**Makanchi Array**	**42.46**	**298**	P		**P**	**11 02 35.9**	**-0.3**
	comp=N,0.1nm,0.5s,baz=72,slow=10,SNR=3.0							
	comp=N,0.1nm,0.5s							
KDAK	**Kodiak Island**	**42.87**	**45**	LR		LR	11 21 31.6	
	comp=N,94nm,18.0s,baz=98,slow=38							
KURBB	**Kurchatov Arra**	**43.84**	**304**	P		**P**	**11 02 46.8**	**-0.4**
	comp=N,0.4nm,0.4s,baz=76,slow=9.4,SNR=4.4							
	comp=N,0.4nm,0.4s							
ILAR	**Eielson Array**	**44.86**	**35**	P		**P**	**11 02 54.1**	**-1.0**
	comp=N,0.6nm,0.9s,baz=255,slow=6.1,SNR=1.6							
	comp=N,0.6nm,0.9s							
PMG	**Port Moresby**	**51.31**	**174**	LR		LR	11 24 05.3	
	comp=N,68nm,20.4s,baz=240,slow=34							
NVAR	**Mina Array Bea**	**71.32**	**55**	P		**P**	**11 06 01.2**	**+0.3**
	comp=N,0.8nm,0.8s,baz=310,slow=5.8,SNR=4.4							
	comp=N,0.8nm,0.8s							
PDAR	**Pinedale Array**	**73.56**	**47**	P		**P**	**11 06 14.1**	**-0.2**
	comp=N,0.2nm,0.5s,baz=72,slow=0.7,SNR=3.9							
	comp=N,0.2nm,0.5s							
TXAR	**Lajitas Array**	**86.38**	**53**	P		**P**	**11 07 24.0**	**+0.5**
	comp=N,0.2nm,0.6s,baz=319,slow=3.6,SNR=3.7							
	comp=N,0.2nm,0.6s							

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*IDC **01** 10:57:23.6±2.7,56.°28N×148.°55W,h0km, mb3.7/3, mbtmp3.6/7, ML3.0/4, MS3.4/8, Error ellipse: s-maj=44.8km s-min=28.5km az=149.0*
*NEIC **01** 10:57:24.4±1.4,56.°33N±0.°10×148.°5W±0.°1,h22km±10km, ML3.8/60, ML3.5(AEIC), Error ellipse: s-maj=14.7km s-min=8.8km az=158.0*
*AEIC **01** 10:57:27.4±1.1,56.°30N±0.°10×148.°5W±0.°1,h12km±8km, Error ellipse: s-maj=14.2km s-min=10.1km az=164.0*
ISC 01 10:57:24.5±1.2,56.°43N±0.°09×148.°53W±0.°05, h10km, n169, σ1°06/155, mb3.9/3, MS3.3/6, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.59**	**303**			**Pn**	**10 58 05.7**	**-0.8**
KDAK						**Sn**	**10 58 34.4**	**-3.6**
KDAK	**Kodiak Island**	**2.59**	**303**	P		**Pn**	**10 58 05.7**	**-0.8**
	baz=122							
KDAK				S		**Sn**	**10 58 35.7**	**-2.3**
	baz=122							
KDAK	**Kodiak Island**	**2.59**	**303**	Pn		**Pn**	**10 58 05.9**	**-0.5**
	3.0nm,0.3s,baz=125,slow=7.9,SNR=76							
KDAK				Sn		**Sn**	**10 58 34.9**	**-3.1**
	4.1nm,0.3s,baz=87,slow=16,SNR=4.1							
KDAK				LR		LR	10 59 13.0	
	comp=Z,430nm,20.5s,baz=126,slow=41							
	21nm,0.6s							
OHAK	**Old Harbor**	**2.73**	**289**			**Pn**	**10 58 06.8**	**-1.5**
OHAK						**Sn**	**10 58 38.2**	**-3.2**
OHAK	**Old Harbor**	**2.73**	**289**	P		**Pn**	**10 58 06.8**	**-1.5**
	baz=108							
OHAK				S		**Sn**	**10 58 38.9**	**-2.5**
	baz=108							
SYI	**Shuyak Island**	**3.02**	**318**			**Pn**	**10 58 12.0**	**-0.3**
SYI						**Sn**	**10 58 47.1**	**-1.4**
Q20K	**Shuyak Island**	**3.02**	**318**	P		**Pn**	**10 58 12.0**	**-0.4**
	baz=136							
Q20K				S		**Sn**	**10 58 48.4**	**-0.1**
	baz=136							
MID	**Middleton Isla**	**3.23**	**20**			**Pn**	**10 58 14.4**	**-0.7**
MID	**Middleton Isla**	**3.23**	**20**	IAML			10 58 52.4	
	comp=E,242nm,1.1s							
MID				IAML			10 58 59.2	
	comp=N,267nm,1.4s							
Q23K	**Middleton Isla**	**3.23**	**20**			**Pn**	**10 58 14.5**	**-0.7**
Q23K	**Middleton Isla**	**3.23**	**20**	IAML			10 58 52.5	
	comp=E,244nm,1.0s							
Q23K				IAML			10 58 59.0	
	comp=N,286nm,1.4s							
CNPM	**China Poot**	**3.42**	**336**			**Pn**	**10 58 17.3**	**-0.6**
CNPM						**Sn**	**10 58 57.8**	**-0.7**
BRSE	**Bradley Lake S**	**3.52**	**341**			**Pn**	**10 58 18.3**	**-1.0**
BRSE						**Sn**	**10 59 00.3**	**-0.7**
BRSE	**Bradley Lake S**	**3.52**	**341**	P		**Pn**	**10 58 18.7**	**-0.6**
	baz=160							
BRSE				S		**Sn**	**10 59 00.9**	**-0.1**
	baz=160							
BRLK	**Bradley Lake**	**3.57**	**341**			**Pn**	**10 58 19.4**	**-0.6**
P23K	**Montague Islan**	**3.63**	**9**			**Pn**	**10 58 19.9**	**-0.8**
P23K						**Sn**	**10 59 00.2**	**-3.3**
P23K	**Montague Islan**	**3.63**	**9**	P		**Pn**	**10 58 19.9**	**-0.8**
	baz=189							
P23K				S		**Sn**	**10 59 00.2**	**-3.3**
	baz=189							
HOM	**Homer**	**3.64**	**334**			**Pn**	**10 58 20.5**	**-0.3**
HOM	**Homer**	**3.64**	**334**	P		**Pn**	**10 58 20.5**	**-0.3**
	baz=152							
Q19K	**Cape Douglas,**	**3.72**	**315**			**Pn**	**10 58 22.1**	**+0.2**
Q19K	**Cape Douglas,**	**3.72**	**315**	P		**Pn**	**10 58 22.1**	**+0.2**
	baz=132							
SEW	**Seward**	**3.72**	**353**			**Pn**	**10 58 20.8**	**-1.1**
AUJK	**Augustine Jueg**	**3.92**	**320**			**Pn**	**10 58 25.4**	**+0.7**
AUL	**Augustine Lava**	**3.95**	**321**			**Pn**	**10 58 25.9**	**+0.8**
KAKN	**Katmai Knife C**	**4.00**	**301**			**Pn**	**10 58 26.1**	**+0.2**
P19K	**Oil Pt**	**4.08**	**324**			**Pn**	**10 58 27.4**	**+0.4**
P19K	**Oil Pt**	**4.08**	**324**	IAML			10 59 25.6	
	comp=N,142nm,0.6s							
P19K				IAML			10 59 25.9	
	comp=E,147nm,0.6s							
P19K	**Oil Pt**	**4.08**	**324**	P		**Pn**	**10 58 27.4**	**+0.4**
	baz=141							
ACHA	**Angle Creek He**	**4.09**	**299**			**Pn**	**10 58 27.4**	**+0.3**
O22K	**Cooper Landing**	**4.11**	**352**			**Pn**	**10 58 27.1**	**-0.2**
HIN	**Hinchinbrook I**	**4.12**	**14**			**Pn**	**10 58 26.9**	**-0.6**
KAIM	**Kayak Island**	**4.13**	**30**			**Pn**	**10 58 26.8**	**-0.7**
KAIM	**Kayak Island**	**4.13**	**30**	IAML			10 59 17.6	
	comp=E,138nm,0.9s							
O20K	**Slope Mountain**	**4.25**	**331**			**Pn**	**10 58 29.3**	**-0.1**
O20K	**Slope Mountain**	**4.25**	**331**	P		**Pn**	**10 58 29.3**	**-0.1**
	baz=148							
ILSW	**Iliamna Southw**	**4.32**	**328**			**Pn**	**10 58 30.1**	**-0.2**
ILSW	**Iliamna Southw**	**4.32**	**328**	IAML			10 59 31.4	
	comp=N,60nm,0.8s							
ILSW				IAML			10 59 32.7	
	comp=E,68nm,0.7s							
CNTC	**Contact Creek**	**4.39**	**298**			**Pn**	**10 58 31.4**	**+0.1**
Q17K	**Contact Creek**	**4.39**	**298**	P		**Pn**	**10 58 31.4**	**+0.1**
	baz=113							
SUCK	**Suckling Hills**	**4.43**	**33**	IAML			10 59 28.7	
	comp=N,116nm,0.7s							
SUCK				IAML			10 59 33.1	
	comp=E,112nm,1.0s							
HMT	**Hamilton**	**4.52**	**28**			**Pn**	**10 58 32.5**	**-0.4**
RDSO	**Redoubt South**	**4.60**	**333**			**Pn**	**10 58 33.0**	**-1.2**
RSO	**Redoubt South**	**4.61**	**333**			**Pn**	**10 58 33.8**	**-0.6**
RDT	**Redoubt**	**4.63**	**336**			**Pn**	**10 58 33.3**	**-1.2**
P18K	**Big Mountain,**	**4.64**	**313**			**Pn**	**10 58 33.8**	**-0.9**
P18K	**Big Mountain,**	**4.64**	**313**	P		**Pn**	**10 58 34.2**	**-0.5**
	baz=128							
RDWB	**Redoubt West**	**4.66**	**333**			**Pn**	**10 58 33.8**	**-1.1**
DFR	**Drift River**	**4.71**	**334**			**Pn**	**10 58 34.8**	**-0.9**
BERG	**Berg Lake**	**4.72**	**31**	Pn		**Pn**	**10 58 35.0**	**-0.6**
RC01	**Rabbit Creek A**	**4.72**	**353**			**Pn**	**10 58 35.2**	**-0.4**
RC01	**Rabbit Creek A**	**4.72**	**353**	IAML			10 59 30.8	
	comp=N,77nm,0.5s							
RC01				IAML			10 59 32.4	
	comp=E,54nm,0.7s							
RC01	**Rabbit Creek A**	**4.72**	**353**	P		**Pn**	**10 58 35.4**	**-0.2**
	baz=171							
GRIN	**Grindle Hills**	**4.74**	**33**			**Pn**	**10 58 35.3**	**-0.7**
SNH	**Sunshine Point**	**4.81**	**36**	Pn		**Pn**	**10 58 36.4**	**-0.6**
SNH				IAML			10 59 31.8	
	comp=E,69nm,1.0s							
SNH				IAML			11 00 14.2	
	comp=N,58nm,1.2s							
O19K	**Port Alsworth**	**4.86**	**323**			**Pn**	**10 58 36.8**	**-0.7**
O19K	**Port Alsworth**	**4.86**	**323**	IAML			10 59 45.7	
	comp=N,101nm,0.5s							
O19K	**Port Alsworth**	**4.86**	**323**	P		**Pn**	**10 58 37.2**	**-0.3**
	baz=139							
O18K	**Koktuh Hills**	**4.93**	**317**	Pn		**Pn**	**10 58 38.1**	**-0.5**
O18K				IAML			10 59 49.5	
	comp=N,38nm,1.0s							
O18K	**Koktuh Hills**	**4.93**	**317**	P		**Pn**	**10 58 38.2**	**-0.5**
	baz=132							
BMRM	**Bremner River**	**4.99**	**23**			**Pn**	**10 58 38.9**	**-0.6**
BMRM	**Bremner River**	**4.99**	**23**	P		**Pn**	**10 58 38.9**	**-0.6**
	baz=205							
KNK	**Knik Glacier**	**5.00**	**0**			**Pn**	**10 58 39.3**	**-0.2**
KNK	**Knik Glacier**	**5.00**	**0**	IAML			10 59 41.6	
	comp=E,59nm,1.0s							
KNK				IAML			10 59 52.8	
	comp=N,44nm,0.9s							
KNK	**Knik Glacier**	**5.00**	**0**	P		**Pn**	**10 58 39.3**	**-0.2**
	baz=180							
MESA	**MESA**	**5.12**	**40**			**Pn**	**10 58 40.8**	**-0.5**
MESA	**MESA**	**5.12**	**40**	IAML			10 59 51.3	
	comp=E,63nm,1.5s							
MESA				IAML			10 59 56.3	
	comp=N,59nm,1.3s							
MESA	**MESA**	**5.12**	**40**	P		**Pn**	**10 58 40.8**	**-0.5**
	baz=224							
N20K	**Mount Spurr**	**5.15**	**340**	P		**Pn**	**10 58 41.4**	**-0.3**
	baz=157							
CKL	**Chakachamna La**	**5.17**	**339**			**Pn**	**10 58 41.6**	**-0.5**
CRQM	**Cirque**	**5.18**	**31**			**Pn**	**10 58 41.2**	**-0.9**
CRQM	**Cirque**	**5.18**	**31**	IAML			10 59 41.7	

YUK7	Dusty Glacier	6.82	49		Pn	10 59 04.5	-0.2
S31K	Pelican	6.86	72		Pn	10 59 00.7	-4.3
YUK6	Outpost Mounta	6.97	45	P	Pn	10 59 07.0	+0.3
	baz=233						
RND	Reindeer	7.00	359	Pn	Pn	10 59 07.9	+0.8
TRF	Thorofare Moun	7.10	354		Pn	10 59 09.0	+0.5
TRF	Thorofare Moun	7.10	354	P	Pn	10 59 09.0	+0.5
	baz=172						
P30M	Million Dollar	7.13	54		Pn	10 59 08.3	-0.6
P30M	Million Dollar	7.13	54	P	Pn	10 59 08.3	-0.6
	baz=242						
CAST	Castle Rocks	7.24	347	Pn	Pn	10 59 10.5	+0.3
KTH	Kantishna Hill	7.25	351	Pn	Pn	10 59 11.1	+0.7
BCAR	Beaver Creek A	7.47	24	Pn	Pn	10 59 12.7	-0.8
RIDG	Independent Ri	7.56	13		Pn	10 59 15.8	+1.1
BPAW	Bear Paw Mtn.	7.79	352	Pn	Pn	10 59 17.9	0.0
HDA	Harding Lake	8.05	5		Pn	10 59 21.4	+0.1
NEA2	Nenana	8.20	358	Pn	Pn	10 59 23.1	-0.3
IL31		8.41	5	Pn	Pn	10 59 25.1	-1.1
ILAR	Eielson Array	8.41	5	Pn	Pn	10 59 27.2	+0.9
ILAR	Eielson Array	8.41	5	Pn	Pn	10 59 26.1	-0.2
	comp=N,0.2nm,0.3s,baz=188,slow=13,SNR=9.9						
ILAR				Sn	Sn	11 00 57.6	-3.6
	comp=N,0.4nm,0.3s,baz=185,slow=22,SNR=5.0						
	comp=N,0.5nm,0.3s						
EGAK	Eagle	9.12	20	Pn	Pn	10 59 38.7	+2.7
INK	Inuvik	13.74	24	Pn	Pn	11 00 42.0	+2.9
	comp=N,0.1nm,0.3s,baz=203,slow=15,SNR=5.7						
INK				LR	LR	11 06 26.0	
	comp=N,120nm,18.1s,baz=198,slow=39						
	comp=N,2.9nm,1.0s						
YKA	Yellowknife Ar	18.11	56	P	Pn	11 01 37.0	+1.2
	comp=N,0.1nm,0.3s,baz=263,slow=11,SNR=17						
	comp=N,2.1nm,0.9s						
NEW	Newport	20.70	100	LR	LR	11 08 25.8	
	comp=N,102nm,18.1s,baz=92,slow=32						
YBH	Yreka Blue Hor	22.23	120	LR	LR	11 08 44.7	
	comp=N,110nm,18.2s,baz=355,slow=31						
PFO	Pinyon Flats O	31.68	122	LR	LR	11 14 58.2	
	comp=N,47nm,18.3s,baz=25,slow=33						
YAK	Yakutsk	39.58	313	LR	LR	11 23 09.2	
	comp=N,55nm,18.2s,baz=81,slow=39						
KLR	Kul'dur	46.14	297	LR	LR	11 25 10.3	
	comp=N,41nm,21.2s,baz=31,slow=36						
H11N2	WAKE ISLAND Hy	49.32	241	T	T	11 59 43.5	
	baz=31,slow=74,SNR=5.5						
H11N3	WAKE ISLAND Hy	49.32	241	T	T	11 59 44.1	
	baz=31,SNR=6.5						
H11N1	WAKE ISLAND Hy	49.34	241	T	T	11 59 32.6	
	baz=31,slow=74,SNR=5.4						
H11S1	WAKE ISLAND Hy	50.46	240	T	T	12 01 21.4	
	baz=29,slow=74,SNR=10						
H11S2	WAKE ISLAND Hy	50.47	240	T	T	12 01 28.2	
	baz=29,slow=74,SNR=6.1						
H11S3	WAKE ISLAND Hy	50.48	240	T	T	12 01 28.2	
	baz=29,SNR=5.7						
SONM	Songino Array	58.86	311	P	P	11 07 24.0	+0.9
	comp=N,0.7nm,0.9s,baz=57,slow=6.6,SNR=3.6						
	comp=N,0.7nm,0.9s						
ZALV	Zalesovo Beam	61.66	327	P	P	11 07 44.8	+2.7
	comp=N,0.3nm,0.3s,baz=19,slow=9.2,SNR=1.5						
ZALV				LR	LR	11 37 35.2	
	comp=N,25nm,18.9s,baz=19,slow=39						
	comp=N,0.3nm,0.3s						
BVAR	Borovoye Array	66.32	336	P	P	11 08 13.3	+0.6
	comp=N,0.4nm,0.4s,baz=64,slow=8.2,SNR=2.1						
	comp=N,0.4nm,0.4s						

*IDC **01** 11:09:49.7±3.0,55°.19N×151°.61W,h0km,mb3.4/3, mbtmp3.4/5, ML3.1/2, Error ellipse: s-maj=52.2km s-min=35.1km az=4.0*

*NEIC **01** 11:09:51.9±2.2,55°.6N±0°.1×151°.90W±0°.05,h5km±8km, ML3.4/38, ML3.4(AEIC), Error ellipse: s-maj=15.4km s-min=1.8km az=164.0*

*AEIC **01** 11:09:56.9±2.1,55°.6N±0°.1×151°.7W±0°.1,h12km±8km, Error ellipse: s-maj=16.6km s-min=10.8km az=157.0*

ISC 01 11:09:52.2±1.4,55°.6N±0°.1×151°.76W±0°.06,h10km,n141, σ1§09/134**,South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	1.82	333		Pn	11 10 23.0	-0.4
OHAK					Sn	11 10 44.8	-1.7
OHAK	Old Harbor	1.82	333	P	Pn	11 10 23.0	-0.4
OHAK	Old Harbor	1.82	333	P	Pn	11 10 23.0	-0.4
	baz=152						
OHAK				S	Sn	11 10 44.8	-1.7
	baz=152						
KDAK	Kodiak Island	2.21	349	Pn	Pn	11 10 29.1	+0.2
KDAK	Kodiak Island	2.21	349	S	Sn	11 10 54.4	-2.0
	baz=168						
KDAK	Kodiak Island	2.21	349	Pn	Pn	11 10 29.1	+0.2
	8.4nm,0.3s,baz=166,slow=6.5,SNR=171						
KDAK				Sn	Sn	11 10 54.3	-2.0
	11nm,0.3s,baz=319,slow=22,SNR=22						
	15nm,0.3s						
Q20K	Shuyak Island	3.02	354	P	Pn	11 10 40.6	+0.6
	baz=173						
Q20K				S	Sn	11 11 14.1	-2.0
	baz=173						
SYI	Shuyak Island	3.02	354		Pn	11 10 40.6	+0.6
SYI					Sn	11 11 14.1	-2.0
SYI	Shuyak Island	3.02	354	IAML		11 11 16.5	
	comp=E,104nm,0.7s						
SYI				IAML		11 11 17.0	
	comp=N,148nm,0.5s						
KCE	Katmai Mt Cerb	3.23	326		Pn	11 10 44.2	+1.3
KAKN	Katmai Knife C	3.23	327		Pn	11 10 43.5	+0.4
KAKN					Sn	11 11 20.6	-1.0
PLK3	Peulik 3	3.24	312		Pn	11 10 43.1	0.0
PLK3					Sn	11 11 20.2	-1.4
ACHA	Angle Creek He	3.25	324		Pn	11 10 43.5	+0.2
ANCK	Angle Creek	3.30	323		Pn	11 10 44.1	+0.2
ANCK					Sn	11 11 21.1	-2.1
KVTA	Katmai Vly 10	3.38	327		Pn	11 10 45.7	+0.8
PLK1	Peulik 1	3.45	311		Pn	11 10 46.2	+0.3
Q19K	Cape Douglas,	3.47	344		Pn	11 10 47.4	+1.2
Q19K	Cape Douglas,	3.47	344	IAML		11 11 39.1	
	comp=N,167nm,0.8s						
Q19K	Cape Douglas,	3.47	344	P	Pn	11 10 47.9	+1.6
	baz=162						
CNTC	Contact Creek	3.48	321		Pn	11 10 46.4	-0.1
CNTC					Sn	11 11 27.1	-0.6
Q17K	Contact Creek	3.48	321	P	Pn	11 10 46.6	+0.2
	baz=138						
Q17K				S	Sn	11 11 27.2	-0.6
	baz=138						
KAHC	Katmai Hardscr	3.51	331	P	Pn	11 10 47.8	+0.9
	baz=148						
R16K	Pilot Point	3.76	304		Pn	11 10 49.5	-0.6
R16K	Pilot Point	3.76	304	IAML		11 11 20.8	
	comp=N,82nm,1.5s						
R16K				IAML		11 12 09.7	
	comp=E,91nm,1.5s						
R16K	Pilot Point	3.76	304	P	Pn	11 10 49.7	-0.4
	baz=119						
CHGN	Chignik	3.80	283	Pn	Pn	11 10 48.8	-1.9
CHGN				IAML		11 11 36.0	
	comp=E,47nm,0.7s						
CHGN				IAML		11 11 36.4	
	comp=N,41nm,0.2s						
ANPB	Aniakchak Plen	3.83	291		Pn	11 10 50.4	-0.8
CNPM	China Poot	3.93	4		Pn	11 10 52.4	0.0
CNPM	China Poot	3.93	4	IAML		11 11 38.1	
	comp=N,46nm,0.4s						
CNPM				IAML		11 11 43.9	
	comp=E,62nm,1.1s						
HOM	Homer	4.05	1	Pn	Pn	11 10 56.5	+2.4
Q16K	King Salmon	4.06	321	P	Pn	11 10 54.4	+0.1
	baz=137						
P19K	Oil Pt	4.12	350		Pn	11 10 56.3	+1.2
P19K	Oil Pt	4.12	350	P	Pn	11 10 56.7	+1.5
	baz=168						
BRSE	Bradley Lake S	4.17	7		Pn	11 10 55.3	-0.5
BRSE	Bradley Lake S	4.17	7	P	Pn	11 10 55.6	-0.2
	baz=188						
BRLK	Bradley Lake	4.18	6		Pn	11 10 55.7	-0.3
BRLK	Bradley Lake	4.18	6	IAML		11 11 46.9	
	comp=N,30nm,1.3s						
BRLK				IAML		11 11 54.1	
	comp=E,28nm,1.2s						
VNHG	Veniaminof 1	4.21	281		Pn	11 10 55.8	-0.6
P18K	Big Mountain,	4.22	335	IAML		11 11 46.8	
	comp=E,31nm,1.2s						
P18K	Big Mountain,	4.22	335	P	Pn	11 10 57.0	+0.4
	baz=152						
P17K	Kvichak River	4.39	327		Pn	11 10 59.2	+0.5
P17K	Kvichak River	4.39	327	P	Pn	11 10 59.2	+0.5
	baz=143						
VNFG	Fog Glacier, M	4.43	282		Pn	11 10 58.6	-0.9
ILSW	Iliamna Southw	4.44	351		Pn	11 11 00.1	+0.5
ILSW	Iliamna Southw	4.44	351	IAML		11 11 52.3	
	comp=N,63nm,0.4s						
ILSW				IAML		11 11 54.6	
	comp=E,59nm,0.6s						
O20K	Slope Mountain	4.50	354		Pn	11 11 01.2	+0.9
O20K	Slope Mountain	4.50	354	P	Pn	11 11 01.2	+0.9
	baz=174						
CNBA	Chernabura Isl	4.55	263		Pn	11 10 58.1	-3.0
O18K	Koktuh Hills	4.63	338		Pn	11 11 02.7	+0.6
O18K				IAML		11 11 58.5	
	comp=E,25nm,0.5s						
O18K				IAML		11 12 00.6	
	comp=N,29nm,0.8s						
O18K	Koktuh Hills	4.63	338	P	Pn	11 11 02.4	+0.3
	baz=155						
O19K	Port Alsworth	4.79	344		Pn	11 11 05.0	+0.8
O19K	Port Alsworth	4.79	344	P	Pn	11 11 05.0	+0.8
	baz=162						
P16K	Nushagak River	4.80	318		Pn	11 11 04.4	-0.1
P16K	Nushagak River	4.80	318	P	Pn	11 11 04.5	+0.1
	baz=133						
RED	Redoubt Volcan	4.84	354		Pn	11 11 05.4	+0.3
RSO	Redoubt South	4.88	354		Pn	11 11 07.0	+1.2
RDWB	Redoubt West	4.92	354		Pn	11 11 07.2	+1.0
SDPT	Sand Point	4.97	270		Pn	11 11 04.7	-2.0
SDPT	Sand Point	4.97	270	IAML		11 12 03.8	
	comp=E,40nm,1.5s						
SDPT				IAML		11 12 12.0	
	comp=N,25nm,1.1s						
SDPT	Sand Point	4.97	270	P	Pn	11 11 04.9	-1.8
DFR	Drift River	5.01	355		Pn	11 11 07.1	-0.3
O17K	Koliganek Bris	5.05	328		Pn	11 11 08.0	+0.2
O17K	Koliganek Bris	5.05	328	P	Pn	11 11 08.2	+0.3
	baz=143						
O16K	Kokwok River B	5.24	322		Pn	11 11 10.2	-0.3
N19K	Bonanza Creek	5.40	346		Pn	11 11 13.4	+0.6
N19K	Bonanza Creek	5.40	346	IAML		11 12 24.9	
	comp=E,16nm,1.2s						
N19K				IAML		11 12 33.8	
	comp=N,13nm,1.2s						
N19K	Bonanza Creek	5.40	346	P	Pn	11 11 13.6	+0.8
	baz=163						
N18K	Kilae Creek	5.52	338		Pn	11 11 15.0	+0.6
N18K	Kilae Creek	5.52	338	P	Pn	11 11 15.0	+0.6
	baz=155						
RC01	Rabbit Creek A	5.59	10		Pn	11 11 17.1	+1.9
O15K	Ungalikthiuk R	5.63	313		Pn	11 11 15.2	-0.6
O15K	Ungalikthiuk R	5.63	313	P	Pn	11 11 15.4	-0.4
	baz=126						
PS1A	Pavlof South-1	5.68	272		Pn	11 11 14.8	-1.6
N17K	Nushagak Hills	5.70	332		Pn	11 11 17.2	+0.4
PS4A	Pavlof South-4	5.75	271		Pn	11 11 14.8	-2.7
HAG	Hague Volcano	5.78	271		Pn	11 11 16.2	-1.7
PN7A	Pavlof North-7	5.82	272		Pn	11 11 16.9	-1.6
KAIM	Kayak Island	5.83	39		Pn	11 11 18.8	+0.2
KAIM	Kayak Island	5.83	39	P	Pn	11 11 18.8	+0.2
	baz=225						
SVW2	Sparrevohn	5.85	341		Pn	11 11 19.2	+0.3
SVW2	Sparrevohn	5.85	341	P	Pn	11 11 19.2	+0.3
EYAK	Cordova Ski Ar	5.88	30	P	Pn	11 11 19.4	+0.2
N16K	Nishlik Lake	6.12	325		Pn	11 11 23.1	+0.5
N16K	Nishlik Lake	6.12	325	P	Pn	11 11 23.1	+0.5
	baz=140						
SUCK	Suckling Hills	6.17	40		Pn	11 11 23.5	+0.3
NICHA	Nichawak Mount	6.21	39		Pn	11 11 24.1	+0.3
M18K	Stony River	6.26	342		Pn	11 11 24.5	+0.1
O14K	Tigyukauivet M	6.29	309		Pn	11 11 24.6	-0.2
M20K	Styx River	6.32	354	Pn	Pn	11 11 26.7	+1.3
GHO	Glory Hole Cre	6.34	12	Pn	Pn	11 11 25.7	0.0
N15K	Kwethluk River	6.36	319		Pn	11 11 26.3	+0.4
N15K	Kwethluk River	6.36	319	P	Pn	11 11 26.6	+0.7
	baz=132						
SKT	Skwentna	6.38	1	Pn	Pn	11 11 27.9	+1.8
BERG	Berg Lake	6.42	39	Pn	Pn	11 11 26.9	+0.3
M17K	Holitna River	6.51	335	P	Pn	11 11 29.0	+1.0
	baz=150						
M16K	Timber Creek	6.61	328	P	Pn	11 11 30.1	+0.9
	baz=142						
KLU	Klutina	6.63	25	Pn	Pn	11 11 30.1	+0.5
SCM	Sheep Creek Mo	6.64	18	Pn	Pn	11 11 31.4	+1.6
FALS	False Pass	6.71	268	P	Pn	11 11 29.2	-1.5
N14K	Kuskokwak Cree	6.84	313		Pn	11 11 32.7	+0.3
N14K	Kuskokwak Cree	6.84	313	P	Pn	11 11 32.7	+0.3
	baz=125						
M15K	Kasigluk River	6.94	321		Pn	11 11 34.5	+0.7
M15K	Kasigluk River	6.94	321	P	Pn	11 11 34.5	+0.7
	baz=133						
N25K	Chitina, Valde	7.07	29	Pn	Pn	11 11 36.5	+0.8
VRDI	Verde Repeater	7.11	34	Pn	Pn	11 11 36.4	0.0
M24K	Tolsona, Glenn	7.12	22	Pn	Pn	11 11 38.3	+2.0
GLB	Gilahina Butte	7.16	32	Pn	Pn	11 11 37.1	+0.1
KIAG	Kiagna River	7.26	39		Pn	11 11 38.5	+0.1
L16K	Owhat River	7.31	330	P	Pn	11 11 39.7	+0.9
	baz=143						
L17K	Donlin	7.36	335		Pn	11 11 40.3	+0.9
L17K	Donlin	7.36	335	P	Pn	11 11 40.3	+0.9
	baz=150						
GRNC	Granite Creek	7.36	42	Pn	Pn	11 11 40.1	+0.3
MCARA	McCarthy VSAT	7.37	35	Pn	Pn	11 11 41.1	+1.5
PTPK	Patty Peak	7.41	37		Pn	11 11 40.9	+0.5
TABL	Table Mountain	7.42	45		Pn	11 11 40.8	+0.2
PCA	Pinnacle	7.60	49		Pn	11 11 43.4	+0.5
PINM	Pinnacle	7.60	49	P	Pn	11 11 43.3	+0.5
	baz=238						
BARN	Barnard Glacie	7.61	40	Pn	Pn	11 11 43.8	+0.6
TTA	Tatalina	7.65	345	P	Pn	11 11 44.2	+0.6
CTGM	Chitina Glacie	7.67	41	Pn	Pn	11 11 44.9	+1.0
LOGN	Logan Glacier	7.71	43		Pn	11 11 44.6	+0.1
PNL	Peninsula	7.77	53	P	Pn	11 11 46.0	+0.8
CAST	Castle Rocks	7.83	359	Pn	Pn	11 11 47.8	+1.9
K17K	Iditarod	7.87	337		Pn	11 11 47.3	+0.8
K17K	Iditarod	7.87	337	P	Pn	11 11 48.0	+1.5
	baz=152						
MENT	Mentasta	8.41	26	P	Pn	11 11 55.1	+1.2
RIDG	Independent Ri	8.86	20	Pn	Pn	11 12 01.7	+1.6
BCAR	Beaver Creek A	9.03	30	Pn	Pn	11 12 03.7	+1.3
SIT	Sitka	9.24	74	P	Pn	11 12 03.2	-2.1
IL31		9.49	13	Pn	Pn	11 12 11.4	+2.7
ILAR	Eielson Array	9.49	13	Pn	Pn	11 12 11.1	+2.4
ILAR	Eielson Array	9.49	13	Pn	Pn	11 12 09.9	+1.1
	comp=N,0.1nm,0.3s,baz=197,slow=14,SNR=2.4						
ILAR				Sn	Sn	11 13 51.3	-4.0
	comp=N,0.2nm,0.3s,baz=208,slow=15,SNR=6.7						
	comp=N,0.2nm,0.3s						
YKA	Yellowknife Ar	20.06	55	P	P	11 14 25.7	+0.5
	comp=N,0.7nm,0.6s,baz=265,slow=9.9,SNR=14						
	comp=N,0.7nm,0.6s						
SCHQ	Schefferville	45.51	54	P	P	11 18 11.7	+0.3
	comp=N,1.0nm,0.6s,baz=321,slow=13,SNR=3.6						
	comp=N,1.0nm,0.6s						
H11N2	WAKE ISLAND Hy	47.35	238	T	T	12 09 46.7	
	baz=31,slow=76,SNR=5.9						
H11N3	WAKE ISLAND Hy	47.35	238	T	T	12 09 48.4	
	baz=31,slow=76,SNR=5.7						
H11N1	WAKE ISLAND Hy	47.37	238	T	T	12 09 43.8	
	baz=31,slow=76,SNR=4.8						
H11S1	WAKE ISLAND Hy	48.49	237	T	T	12 11 13.8	
	baz=28,slow=76,SNR=17						
H11S2	WAKE ISLAND Hy	48.50	237	T	T	12 11 14.8	
	baz=28,slow=76,SNR=11						
H11S3	WAKE ISLAND Hy	48.51	237	T	T	12 11 19.4	
	baz=28,slow=76,SNR=12						
SONM	Songino Array	57.99	309	P	P	11 19 46.5	+1.8
	comp=N,0.1nm,0.3s,baz=58,slow=3.6,SNR=1.6						
	comp=N,0.1nm,0.3s						

*IDC **01** 11:17:31.7±0.8,5°.92S×143°.02E,h0km,mb4.2/11, mbtmp4.2/13,ML2.2/1,MS3.8/30, Error ellipse: s-maj=35.2km s-min=16.8km az=77.0*

*NEIC **01** 11:17:35.6±1.8,6°.17S±0°.05×142°.75E±0°.07,h10km±1km, mb4.5/20, Error ellipse: s-maj=13.4km s-min=5.6km az=300.0*

*DJA **01** 11:17:38.1±0.7,6°.S±.3°×14°.3E±°,h33km±9km,M4.8/19, mB5.0/6,mb4.7/19,MLv5.1/5,Mw(mB)4.4/6*

ISC 01 11:17:37.3±0.5,6°.13S±0°.07×142°.82E±0°.07,h35km,n77, σ1§08/54**,mb4.3**/17**,MS3.7**/28**,New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPI	Merauke	3.35	226	P	Pn	11 18 27.3	+0.1
GENI	Genyem	4.40	323	P	Pn	11 18 42.5	+0.9
PMG	Port Moresby	5.39	127	Pn	Pn	11 18 55.3	-0.1
	4.7nm,0.3s,baz=344,slow=8.2,SNR=16						
PMG				Sn	Sn	11 19 54.5	-1.8
	5.5nm,0.3s,baz=314,slow=19,SNR=7.0						
	60nm,0.6s						
SMPI	Sarmi	5.81	315	P	Pn	11 19 02.1	+1.1
	110nm,1.0s,2μm0.8nm						
COEN	Coen	7.79	177	Pn	Pn	11 19 29.4	+1.2
RABL	Rabaul	9.51	79	Pn	Pn	11 19 54.6	+2.8
FAKI	Fak Fak	11.01	286	Pn	Pn	11 20 11.9	-0.5
FAKI	Fak Fak	11.01	286	P	Pn	11 20 12.7	+0.3
	24nm,1.1s,725nm						
SAUI	Saumlaki	11.58	260	P	Pn	11 20 20.6	+0.4
	151nm,1.1s						
SWI	Sorong	12.66	294	P	Pn	11 20 33.6	-1.5
BNDI	Bandanaira	12.96	276	P	Pn	11 20 39.5	+0.4
	130nm,0.8s,6μm						
MTN	Manton Dam	13.31	239	Pn	Pn	11 20 42.4	-1.5
CTA	Charters Tower	14.27	167	Pn	P	11 21 02.6	-1.2
	0.2nm,0.3s,baz=357,slow=12,SNR=2.1						
CTA				Lg	Lg	11 25 12.8	
	0.1nm,0.3s,baz=54,slow=12,SNR=3.2						
CTA				LR	LR	11 26 22.1	
	comp=Z,414nm,20.2s,baz=352,slow=37						
WB0	Warramunga Arr	15.84	210	Pn	Pn	11 21 17.4	-0.4
WB0				IAmb	IAmb	11 21 58.4	
	comp=Z,20nm,1.0s						
WR0	Warramunga Arr	15.93	210		Pn	11 21 18.1	-0.9
WR0				IAmb	IAmb	11 21 37.4	
	comp=Z,22nm,0.8s						
WRAB	Tennant Creek	16.00	210		Pn	11 21 19.1	-0.7
WB2	Warramunga Arr	16.00	210	Pn	Pn	11 21 19.4	-0.6
WB2				IAmb	IAmb	11 21 31.6	
	comp=Z,19nm,0.8s						
WRA	Warramunga Arr	16.01	210	Pn	Pn	11 21 20.2	+0.1
WRA	Warramunga Arr	16.01	210	Pn	Pn	11 21 18.5	-1.5
	comp=Z,0.5nm,0.3s,baz=32,slow=13,SNR=18						
WRA				Lg	Lg	11 26 05.4	
	comp=Z,0.1nm,0.3s,baz=29,slow=28,SNR=4.8						
LBMI	Labuha	16.23	289	P	P	11 21 24.8	-0.8
	comp=Z,18nm,0.7s						
KNRA	Kununurra	16.73	234	Pn	Pn	11 21 28.9	-0.3
KNRA				IAmb	IAmb	11 21 43.3	
	comp=Z,60nm,0.8s						
SOEI	Soe	18.72	258	P	Pn	11 21 53.7	-0.2
SOEI	Soe	18.72	258	P	Pn	11 21 54.5	+0.7
	comp=Z,55nm,1.1s						
AS31	Alice Springs	19.43	205	P	P	11 22 01.1	+0.3
ASAR	Alice Springs	19.43	205	P	Pn	11 22 02.8	+0.5
ASAR	Alice Springs	19.43	205	P	Pn	11 22 03.8	+1.5
	comp=Z,26nm,0.8s,baz=31,slow=10,SNR=130						
ASAR				Lg	Lg	11 27 50.0	
	baz=23,slow=26						
ASAR				LR	LR	11 30 22.8	
	comp=Z,1μm,19.2s,baz=32,slow=39						
FITZ	Fitzroy Crossi	20.55	233	P	P	11 22 13.9	+0.8
EIDS	Eidsvold	20.70	158	P	Pn	11 22 16.7	-0.4
EIDS				IAmb	IAmb	11 22 29.9	
	comp=Z,18nm,1.1s						
GTOI	Gorontalo	20.88	288	P	Pn	11 22 20.1	+0.7
	comp=Z,15nm,0.8s,comp=Z,214nm						
EDFI	Ende, Flores	21.11	262	P	P	11 22 19.4	+0.1
	comp=Z,18nm,1.3s						
DAV	Davao City (W)	21.63	307	LR	LR	11 32 37.1	
	comp=Z,125nm,18.2s,baz=143,slow=42						
BKSI	Bulukumba	22.60	271	P	P	11 22 34.7	-0.4
	comp=Z,38nm,1.1s						
KAPI	Kappang	22.98	272	P	P	11 22 40.1	+1.0
KAPI				IAmb	IAmb	11 22 47.9	
	comp=Z,30nm,1.0s						
TOLI2	Tolitoli	23.15	287	P	P	11 22 42.9	+2.1
TOLI2				IAmb	IAmb	11 23 11.6	
	comp=Z,23nm,1.1s						
PLAI	Plampang	24.97	262	P	P	11 22 56.8	-1.1
KOUNC	Koumac, New Ca	25.28	127	P	P	11 23 02.0	+1.4
KOUNC				IAmb	IAmb	11 23 17.6	
	comp=Z,29nm,1.5s						
STKA	Stephens Creek	25.64	182	P	P	11 23 03.9	+0.2
STKA	Stephens Creek	25.64	182	P	P	11 23 05.2	+1.4
	comp=Z,3.7nm,0.8s,baz=346,slow=8.1,SNR=7.1						
STKA				LR	LR	11 33 35.4	
	comp=Z,429nm,18.9s,baz=357,slow=37						
	comp=Z,3.7nm,0.8s						
BBOO	Buckleboo	27.28	192	P	P	11 23 18.6	0.0
DZM	Mont Dzumac	27.79	127	LR	LR	11 34 20.9	
	comp=Z,291nm,20.9s,baz=281,slow=36						
FORT	Forrest	28.16	208	P	P	11 23 26.8	+0.2
JCJ	Chichijima	33.04	359	LR	LR	11 36 01.9	
	comp=Z,77nm,21.9s,baz=122,slow=34						
LEM	Lembang	34.98	267	LR	LR	11 40 38.2	
	comp=Z,132nm,21.2s,baz=77,slow=39						
JOW	Kunigami	35.67	337	LR	LR	11 36 03.9	
	comp=Z,103nm,20.4s,baz=96,slow=31						
NWAO	Narrogin (SRO)	35.74	218	LR	LR	11 40 07.7	
	comp=Z,560nm,20.6s,baz=310,slow=38						
JNU	Nakatsue	40.65	345	LR	LR	11 39 03.4	
	comp=Z,74nm,19.7s,baz=161,slow=32						
MJAR	Matsushiro Arr	42.67	355	LR	LR	11 41 32.0	
	comp=Z,110nm,18.6s,baz=144,slow=34						
URZ	Urewera	44.59	141	LR	LR	11 43 49.9	
	comp=Z,118nm,19.4s,baz=308,slow=35						
KSRS	Korea Array	45.53	343	P	P	11 25 53.2	-0.4
	comp=Z,

comp=Z,5.6nm,0.8s,baz=112,slow=6.8,SNR=24
comp=Z,5.6nm,0.8s
ILAR Eielson Array 87.26 24 P **P 11 30 17.6 -2.4**
comp=Z,1.6nm,0.7s,baz=258,slow=4.3,SNR=20
ILAR LR LR 12 05 22.9
comp=Z,42nm,19.5s,baz=100,slow=33
comp=Z,1.6nm,0.7s
INK Inuvik 93.31 22 LR LR 12 06 54.3
comp=Z,79nm,21.7s,baz=354,slow=32
YBH Yreka Blue Hor 97.38 49 LR LR 12 06 38.9
comp=Z,60nm,21.2s,baz=236,slow=30
TORD Torodi Ar. Bea 141.08 283 PKP **PKPdf 11 37 05.7 +0.6**
comp=Z,0.8nm,0.9s,baz=92,slow=2.6,SNR=2.6
DBIC Dimbokro 147.87 273 PKPbc **PKiKP 11 37 21.3 -0.5**
comp=Z,9.2nm,1.1s,baz=180,slow=1.0,SNR=3.8

IDC 01 11:37:57.9±5.9, 6°03'S×141°73'E, h0km, mb3.8/2, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=226.0km s-min=32.5km az=95.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.58**	**207**	Pn	Pn	11 41 37.2	-1.9
	0.1nm,0.3s,baz=35,slow=14,SNR=6.6						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**19.08**	**202**	P	Pn	11 42 23.2	+0.2
	0.3nm,0.3s,baz=31,slow=11,SNR=30						
	1.9nm,0.6s						
MKAR	**Makanchi Array**	**74.24**	**322**	P	P	11 49 36.1	-0.8
	0.3nm,0.7s,baz=134,slow=8.2,SNR=3.2						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**83.74**	**325**	P	P	11 50 29.6	+0.7
	1.2nm,0.7s,baz=114,slow=7.3,SNR=5.1						
	1.2nm,0.7s						

*IDC **01** 11:47:52.8±0.9, 5°90'S×143°12'E, h0km, mb3.9/6, mbtmp4.0/8, ML1.6/1, MS3.4/3, Error ellipse: s-maj=36.8km s-min=21.6km az=61.0*

ISC 01 11:47:58.0±0.8, 6°1'S±0°1'×143°0'E±0°1, h35km, n11, σ1§48/10, mb3.9/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.30**	**129**	Pn	**Pn**	**11 49 13.9**	**-0.8**
	1.3nm,0.3s,baz=22,slow=2.6,SNR=6.1						
PMG				Sn	**Sn**	**11 50 15.1**	**+0.6**
	0.6nm,0.3s,baz=292,slow=17,SNR=2.2						
	7.7nm,0.5s						
WRA	**Warramunga Arr**	**16.13**	**211**	Pn	**Pn**	**11 51 39.5**	**-2.7**
	0.2nm,0.3s,baz=31,slow=13,SNR=7.3						
WRA				Sn	Sn	11 54 30.4	-10
	0.1nm,0.3s,baz=30,slow=22,SNR=2.6						
WRA				Lg	Lg	11 56 25.4	
	baz=27,slow=35,SNR=2.0						
ASAR	**Alice Springs**	**19.54**	**206**	P	**P**	**11 52 24.9**	**+2.2**
	4.2nm,0.5s,baz=32,slow=10,SNR=49						
ASAR				LR	LR	12 00 44.2	
	comp=Z,109nm,18.8s,baz=4.5,slow=39						
STKA	**Stephens Creek**	**25.69**	**183**	LR	LR	12 04 19.6	
	comp=Z,86nm,18.8s,baz=200,slow=38						
LEM	**Lemang**	**35.14**	**267**	LR	LR	12 13 02.6	
	comp=Z,40nm,18.6s,baz=230,slow=43						
CMAR	**Chiang Mai Arr**	**49.80**	**300**	P	**P**	**11 56 47.6**	**-0.1**
	1.0nm,0.7s,baz=119,slow=5.9,SNR=5.4						
	1.0nm,0.7s						
MKAR	**Makanchi Array**	**75.05**	**322**	P	**P**	**11 59 36.3**	**+0.1**
	0.8nm,0.6s,baz=101,slow=6.3,SNR=9.0						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**78.93**	**324**	P	**P**	**11 59 57.6**	**-0.2**
	0.3nm,0.5s,baz=115,slow=4.3,SNR=4.0						
	0.3nm,0.5s						
QSPA	**South Pole Qui**	**83.88**	**180**	P	**P**	**12 00 25.1**	**+1.1**
	0.7nm,0.8s,baz=264,slow=2.8,SNR=6.4						
	0.7nm,0.8s						
BVAR	**Borovoye Array**	**84.50**	**325**	P	**P**	**12 00 27.9**	**+0.6**
	2.6nm,0.7s,baz=110,slow=6.5,SNR=14						
	2.6nm,0.7s						
ILAR	**Eielson Array**	**87.15**	**24**	P	**P**	**12 00 39.2**	**-0.9**
	0.6nm,0.6s,baz=264,slow=4.5,SNR=12						
	0.6nm,0.6s						

*IDC **01** 12:04:27.5±1.2, 6°04'S×142°59'E, h0km, mb3.7/3, mbtmp3.9/5, ML2.2/1, Error ellipse: s-maj=40.0km s-min=26.8km az=57.0*

ISC 01 12:04:31.4±1.0, 6°2'S±0°1'×142°5'E±0°1, h28km, n6, σ1§63/7, mb3.9/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.62**	**125**	Pn	**Pn**	**12 05 53.4**	**+0.3**
	4.6nm,0.3s,baz=314,slow=12,SNR=13						
PMG				Sn	**Sn**	**12 06 56.7**	**-0.1**
	2.7nm,0.3s,baz=198,slow=20,SNR=6.3						
	9.3nm,0.3s						
WRA	**Warramunga Arr**	**15.76**	**209**	Pn	**Pn**	**12 08 09.5**	**-2.1**
	0.6nm,0.3s,baz=29,slow=14,SNR=35						
ASAR	**Alice Springs**	**19.20**	**205**	P	**P**	**12 08 55.4**	**+2.1**
	5.6nm,0.6s,baz=32,slow=10.0,SNR=117						
MKAR	**Makanchi Array**	**74.85**	**322**	P	**P**	**12 16 09.7**	**+0.2**
	0.2nm,0.6s,baz=101,slow=7.5,SNR=2.4						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**84.33**	**325**	P	**P**	**12 17 01.4**	**+0.6**
	0.8nm,0.6s,baz=107,slow=5.1,SNR=4.6						
	0.8nm,0.6s						
ILAR	**Eielson Array**	**87.48**	**24**	P	**P**	**12 17 15.2**	**-1.0**
	0.5nm,0.7s,baz=263,slow=5.1,SNR=7.0						
	0.5nm,0.7s						

*IDC **01** 12:07:53.8±1.0, 6°12'S×142°58'E, h0km, mb3.8/7, mbtmp3.8/9, ML2.8/2, MS3.1/5, Error ellipse: s-maj=32.9km s-min=20.5km az=70.0*

*DJA **01** 12:08:02.4±0.4, 6°S±3°×14°2'E±°, h53km±7km, M4.7/13, mB5.1/1, mb4.4/13, MLv4.8/5, Mw(mB)4.5/1*

ISC 01 12:07:59.1±0.8, 6°33'S±0°08'×142°46'E±0°09, h35km, n18, σ1§11/19, mb3.7/7, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMPI	**Merauke**	**2.96**	**224**	P	**Pn**	**12 08 45.5**	**+1.8**
GENI	**Genyem**	**4.36**	**328**	P	**Pn**	**12 09 02.4**	**-0.5**
PMG	**Port Moresby**	**5.57**	**124**	Pn	**Pn**	**12 09 19.0**	**-0.5**
	4.2nm,0.3s,baz=295,slow=4.2,SNR=3.5						
PMG				Sn	**Sn**	**12 10 22.3**	**0.0**
	9.3nm,0.3s,baz=212,slow=21,SNR=11						
PMG				LR	LR	12 12 37.7	
	comp=Z,233nm,20.0s,baz=265,slow=51						
	13nm,0.4s						
SMPI	**Sarmi**	**5.71**	**319**	P	**Pn**	**12 09 21.2**	**-0.2**
	109nm,1.2s,0.4nm						
FAKI	**Fak Fak**	**10.73**	**288**	P	**Pn**	**12 10 30.8**	**+0.4**
	16nm,1.0s						
CTA	**Charters Tower**	**14.17**	**165**	LR	LR	12 16 33.3	
	comp=Z,81nm,20.4s,baz=4.5,slow=36						
WRA	**Warramunga Arr**	**15.67**	**209**	Pn	**Pn**	**12 11 35.8**	**-1.6**
	0.3nm,0.3s,baz=26,slow=14,SNR=2.1						
WRA				Sn	**Sn**	**12 14 29.3**	**-0.7**
	0.5nm,0.3s,baz=28,slow=23,SNR=1.8						
WRA				Lg	Lg	12 16 15.2	
	baz=28,slow=30						
SOEI	**Soe**	**18.33**	**258**	P	**Pn**	**12 12 11.7**	**+0.8**
	35nm,1.1s						
ASAR	**Alice Springs**	**19.11**	**205**	P	**Pn**	**12 12 21.4**	**+1.2**
	0.3nm,0.3s,baz=30,slow=12,SNR=6.1						
ASAR				S	**Sn**	**12 15 51.6**	**-1.7**
	1.1nm,0.7s,baz=27,slow=27,SNR=1.5						
ASAR				Lg	Lg	12 18 04.3	
	0.1nm,0.3s,baz=14,slow=31,SNR=1.7						
ASAR				LR	LR	12 20 39.4	
	comp=Z,162nm,21.1s,baz=350,slow=40						
	2.6nm,0.7s						
EDFI	**Ende, Flores**	**20.73**	**262**	P	**P**	**12 12 36.9**	**-0.1**
STKA	**Stephens Creek**	**25.43**	**182**	P	**P**	**12 13 25.6**	**+1.9**
	1.2nm,0.8s,baz=305,slow=12,SNR=1.5						
	1.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**49.48**	**301**	P	**P**	**12 16 47.0**	**+0.5**
	0.5nm,0.6s,baz=127,slow=5.6,SNR=1.9						
CMAR				LR	LR	12 42 01.6	
	comp=Z,7.3nm,18.2s,baz=5.0,slow=41						
	0.5nm,0.6s						
ASAJ	**Asahikawa**	**50.21**	**0**	LR	LR	12 45 09.8	
	comp=Z,22nm,18.1s,baz=354,slow=45						
MKAR	**Makanchi Array**	**74.92**	**322**	P	**P**	**12 19 35.7**	**-0.9**
	0.5nm,0.6s,baz=108,slow=7.8,SNR=5.0						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**76.93**	**329**	P	**P**	**12 19 48.5**	**+0.7**
	0.5nm,0.5s,baz=72,slow=4.7,SNR=2.5						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**78.82**	**324**	P	**P**	**12 19 57.7**	**-0.8**
	0.3nm,0.6s,baz=115,slow=4.6,SNR=4.6						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**84.40**	**325**	P	**P**	**12 20 26.9**	**-1.0**
	1.5nm,0.7s,baz=96,slow=4.3,SNR=5.9						
	1.5nm,0.7s						
ILAR	**Eielson Array**	**87.58**	**24**	P	**P**	**12 20 42.6**	**-0.8**
	1.0nm,0.8s,baz=249,slow=5.1,SNR=8.0						
	1.0nm,0.8s						

IDC 01 12:21:02.0±6.0, 6°07'S×142°08'E, h0km, mb4.1/2, mbtmp3.9/4, ML3.6/2, Error ellipse: s-maj=224.9km s-min=31.5km az=96.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.71**	**208**	Pn	Pn	12 24 43.2	-1.6
	0.2nm,0.3s,baz=29,slow=14,SNR=8.4						
WRA				Sn	Sn	12 27 29.9	-10
	0.3nm,0.3s,baz=33,slow=22,SNR=4.1						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**19.18**	**203**	P	Pn	12 25 28.0	-0.3
	0.3nm,0.3s,baz=32,slow=11,SNR=48						
ASAR				S	Sn	12 28 53.6	-10
	0.4nm,0.5s,baz=18,slow=27,SNR=4.7						
	2.9nm,0.7s						
MKAR	**Makanchi Array**	**74.49**	**322**	P	P	12 32 42.8	+0.4
	0.8nm,0.6s,baz=102,slow=7.2,SNR=9.8						
	0.8nm,0.6s						
BVAR	**Borovoye Array**	**83.98**	**325**	P	P	12 33 33.7	-0.4
	1.4nm,0.7s,baz=101,slow=6.2,SNR=6.1						
	1.4nm,0.7s						

IDC 01 12:30:12.2±2.0, 5°51'S×141°99E, h0km, mb3.5/1, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=255.7km s-min=34.1km az=114.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.16**	**207**	Pn	Pn	12 34 00.1	-0.8
	0.1nm,0.3s,baz=29,slow=14,SNR=4.5						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**19.66**	**203**	P	P	12 34 43.2	+0.3
	0.2nm,0.3s,baz=31,slow=11,SNR=12						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**87.03**	**24**	P	P	12 42 59.3	0.0
	0.3nm,0.8s,baz=254,slow=5.0,SNR=4.1						
	0.3nm,0.8s						

*IDC **01** 12:37:31.4±6.2, 13°70N×145°50E, h83km±55km, mb3.9/19, mbtmp4.2/19, MS3.3/15, Error ellipse: s-maj=22.5km s-min=16.0km az=90.0*

*NEIC **01** 12:37:33.1±1.3, 13°63N±0°07'×145°50E±0°09, h95km±8km, mb4.6/46, Error ellipse: s-maj=15.8km s-min=4.2km az=48.0*

ISC 01 12:37:32.8±0.5, 13°63N±0°07'×145°55E±0°09, h100km, n87, σ1§06/67, mb4.5/47, 1C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PATS	**Pohnpei**	**14.25**	**117**	Pn	**Pn**	**12 40 48.0**	**-2.0**
RABL	**Rabaul**	**18.88**	**159**	P	**P**	**12 41 46.2**	**+0.7**
RABL				IAmb	IAmb	12 41 48.2	
	comp=Z,34nm,1.1s						
DAV	**Davao City (W)**	**20.69**	**254**	LR	LR	12 51 19.7	
	comp=Z,18nm,19.0s,baz=126,slow=40						
JOW	**Kunigami**	**20.83**	**312**	P	**P**	**12 42 07.0**	**+0.5**
	comp=Z,23nm,0.6s,baz=136,slow=16,SNR=5.0						
JOW				LR	LR	12 47 50.5	
	comp=Z,43nm,21.5s,baz=288,slow=30						
	comp=Z,23nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**20.87**	**74**	T	T	13 04 34.5	
	baz=261						
H11S1	**WAKE ISLAND Hy**	**20.89**	**74**	T	T	13 04 34.6	
	baz=261,slow=74						
H11S2	**WAKE ISLAND Hy**	**20.89**	**74**	T	T	13 04 27.7	
	baz=261,slow=74						
FAKI	**Fak Fak**	**21.08**	**220**	P	**P**	**12 42 09.9**	**+0.6**
H11N1	**WAKE ISLAND Hy**	**21.31**	**71**	T	T	13 05 11.7	
	baz=257,slow=75,SNR=18						
H11N2	**WAKE ISLAND Hy**	**21.32**	**71**	T	T	13 05 18.0	
	baz=257,slow=75,SNR=6.2						
H11N3	**WAKE ISLAND Hy**	**21.33**	**71**	T	T	13 05 18.6	
	baz=257,slow=75,SNR=8.1						
PMG	**Port Moresby**	**22.94**	**176**	LR	LR	12 51 02.5	
	comp=Z,57nm,20.1s,baz=234,slow=35						
JNU	**Nakatsue**	**23.57**	**328**	LR	LR	12 50 03.9	
	comp=Z,19nm,19.1s,baz=110,slow=32						
MJAR	**Matsushiro Arr**	**23.75**	**345**	P	**P**	**12 42 35.5**	**-0.5**
	comp=Z,2.8nm,0.7s,baz=258,slow=7.3,SNR=6.4						
	comp=Z,2.8nm,0.7s						
MAJO	**Matsushiro**	**23.75**	**345**	P	**P**	**12 42 35.2**	**-0.8**
MJB9	**Matsu-Tunnel**	**23.76**	**345**	P	**P**	**12 42 36.3**	**+0.3**
YULB	**Yu-li**	**24.93**	**296**	P	**P**	**12 42 46.4**	**-0.5**
YULB				IAmb	IAmb	12 42 47.2	
	comp=Z,17nm,0.9s						
SSLB	**Suanglung**	**25.36**	**297**	P	**P**	**12 42 50.4**	**-0.3**
SSLB				IAmb	IAmb	12 42 53.3	
	comp=Z,23nm,1.0s						
LUWI	**Luwuk**	**26.87**	**239**	P	**P**	**12 43 03.7**	**-0.8**
HNR	**Honiara**	**27.00**	**147**	LR	LR	12 52 46.0	
	comp=Z,436nm,18.9s,baz=336,slow=34						
TOLI2	**Tolitoli**	**27.49**	**245**	P	**P**	**12 43 09.3**	**-0.7**
TOLI2				IAmb	IAmb	12 43 52.9	
	comp=Z,13nm,1.0s						
COEN	**Coen**	**27.51**	**185**	P	**P**	**12 43 10.5**	**+0.4**
COEN				IAmb	IAmb	12 43 10.8	
	comp=Z,22nm,1.4s						
KSRS	**Korea Array**	**28.46**	**330**	P	**P**	**12 43 18.7**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=140,slow=10,SNR=4.5						
KSRS				LR	LR	12 53 58.3	
	comp=Z,16nm,19.3s,baz=165,slow=35						
	comp=Z,1.7nm,0.8s						
NJ2	**Nanjing**	**30.55**	**311**	*e*P	**P**	**12 43 38.3**	**+1.4**
NJ2				pP	**pP**	**12 43 58.5**	**-0.6**
NJ2				sP	**sP**	**12 44 09.2**	**-1.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,250nm,3.6s						
SOEI	**Soe**	**31.40**	**223**	P	**P**	**12 43 44.8**	**+0.1**
USRK	**Ussuriysk Ar.**	**32.61**	**342**	P	**P**	**12 43 54.3**	**-0.5**
USRK	**Ussuriysk Ar.**	**32.61**	**342**	P	**P**	**12 43 55.0**	**+0.2**
	comp=Z,3.1nm,0.9s,baz=129,slow=8.6,SNR=3.3						
USRK				LR	LR	12 55 21.3	
	comp=Z,55nm,19.9s,baz=50,slow=33						
	comp=Z,3.1nm,0.9s						
WHN	**Wuhan**	**33.30**	**306**	P	**P**	**12 44 05.1**	**+4.1**
CTA	**Charters Tower**	**33.51**	**179**	LR	LR	12 56 57.4	
	comp=Z,38nm,20.3s,baz=115,slow=35						
MDJ	**Mudanjiang**	**33.76**	**339**	P	**P**	**12 44 06.5**	**+1.7**
MDJ				pmax	pmax		
	comp=Z,18nm,2.5s						
MDJ				pmax	pmax		
	comp=Z,950nm,4.8s						
SBUM	**Sibu**	**34.77**	**254**	P	**P**	**12 44 11.8**	**-2.1**
SBUM				IAmb	IAmb	12 44 15.5	
	comp=Z,6.1nm,0.9s						
WRA	**Warramunga Arr**	**35.13**	**199**	P	**P**	**12 44 17.4**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=23,slow=10,SNR=5.0						
	comp=Z,0.8nm,0.7s						
HNS	**HongShan**	**36.26**	**316**	⇑P	**P**	**12 44 26.2**	**-0.2**
HNS				pP	**pP**	**12 44 48.9**	**-0.3**
HNS				pmax	pmax		
	comp=Z,11nm,0.7s						
ENH	**Enshi**	**37.13**	**302**	P	**P**	**12 44 33.7**	**-0.2**
KLR	**Kul'dur**	**37.28**	**345**	LR	LR	12 59 24.3	
	comp=Z,51nm,18.6s,baz=76,slow=35						
ASAR	**Alice Springs**	**38.77**	**197**	P	**P**	**12 44 48.2**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=18,slow=11,SNR=9.2						
	comp=Z,0.6nm,0.7s						
HEH	**HeiHe**	**39.41**	**342**	*e*P	**P**	**12 44 51.8**	**-1.0**
HEH				pmax	pmax		
	comp=Z,9.0nm,1.2s						
HEH				pmax	pmax		
	comp=Z,580nm,4.3s						
HHC	**Hu-ho-hao-te**	**40.18**	**319**	*e*P	**P**	**12 44 59.2**	**-0.2**
HHC				pP	pP	12 45 24.6	+2.2
HHC				sP	sP	12 45 33.6	-0.2
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,6.1s						
DZM	**Mont Dzumac**	**40.97**	**150**	LR	LR	13 00 07.6	
	comp=Z,40nm,20.6s,baz=226,slow=33						
CD2	**Chengdu**	**42.04**	**301**	P	**P**	**12 45 14.2**	**-0.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MYKOM	**Kota Tinggi**	**42.88**	**258**	P	**P**	**12 45 21.0**	**-0.7**
PZH	**PanZhiHua**	**42.90**	**294**	P	**P**	**12 45 22.0**	**+0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
LZH	**Lanzhou**	**43.52**	**308**	*e*P	**P**	**12 45 26.8**	**0.0**
LZH				pP	pP	12 45 50.4	+0.5
LZH				pmax	pmax		
	comp=Z,11nm,1.0s						
CM31	**Chiang Mai Arr**	**44.96**	**283**	P	**P**	**12 45 38.3**	**0.0**
CMAR	**Chiang Mai Arr**	**44.96**	**283**	P	**P**	**12 45 38.2**	**-0.1**
CMAR	**Chiang Mai Arr**	**44.96**	**283**	P	**P**	**12 45 38.0**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=87,slow=6.1,SNR=21						
CMAR				PcP	**PcP**	**12 47 20.3**	**+2.2**
	comp=Z,3.4nm,0.7s,baz=93,slow=1.6,SNR=19						
	comp=Z,2.2nm,0.6s						
KULM	**Kulim**	**44.99**	**264**	P	**P**	**12 45 37.9**	**-0.7**
BBOO	**Buckleboo**	**47.06**	**191**	P	**P**	**12 45 54.3**	**-0.1**
BBOO				IAmb	IAmb	12 46 08.9	
	comp=Z,10nm,1.1s						
SONM	**Songino Array**	**47.09**	**324**	P	**P**	**12 45 54.4**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=138,slow=9.1,SNR=7.6						
	comp=Z,1.3nm,0.8s						
TIXI	**Tiksi**	**58.87**	**354**	LR	LR	13 13 58.2	
	comp=Z,28nm,20.3s,baz=21,slow=37						
MK31	**Makanchi Array**	**61.93**	**316**	P	**P**	**12 47 42.0**	**0.0**
MKAR	**Makanchi Array**	**61.93**	**316**	P	**P**	**12 47 42.0**	**0.0**
	comp=Z,2.8nm,0.6s,baz=90,slow=8.8,SNR=44						
	comp=Z,2.8nm,0.6s						
ZALV	**Zalesovo Beam**	**61.98**	**324**	P	**P**	**12 47 41.6**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=109,slow=4.8,SNR=4.8						
	comp=Z,0.8nm,0.5s						
MAKZ	**Makanchi**	**62.14**	**316**	P	**P**	**12 47 43.5**	**+0.1**
MAKZ				IAmb	IAmb	12 47 44.3	
	comp=Z,5.0nm,0.8s						
PALK	**Pallekele**	**63.94**	**272**	LR	LR	13 17 00.3	
	comp=Z,21nm,19.1s,baz=333,slow=37						
G19K	**Purcell Mounta**	**64.72**	**22**	IAmb	IAmb	12 48 06.3	
	comp=Z,8.9nm,1.3s						
K20K	**Telida**	**64.81**	**26**	IAmb	IAmb	12 48 03.6	
	comp=Z,5.2nm,0.8s						
KURK	**Kurchatov**	**64.98**	**320**	P	**P**	**12 48 01.4**	**-0.6**
KURK				IAmb	IAmb	12 48 02.3	
	comp=Z,4.7nm,0.7s						
KURBB	**Kurchatov Arra**	**65.03**	**320**	P	**P**	**12 48 01.8**	**-0.5**
	comp=Z,4.9nm,0.7s,baz=102,slow=6.7,SNR=54						
KURBB				LR	LR	13 17 31.4	
	comp=Z,62nm,19.4s,baz=167,slow=37						
	comp=Z,4.9nm,0.7s						
CAST	**Castle Rocks**	**65.67**	**26**	P	**P**	**12 48 07.4**	**+1.1**
CAST				IAmb	IAmb	12 48 08.7	
	comp=Z,7.6nm,0.9s						
KSH	**Kashi**	**65.75**	**307**	P	**P**	**12 48 09.7**	**+2.3**
MLY	**Manley**	**66.75**	**24**	P	**P**	**12 48 14.2**	**+1.1**
MLY				IAmb	IAmb	12 48 15.3	
	comp=Z,5.4nm,1.0s						
AAK	**Ala-Archa**	**66.99**	**311**	LR	LR	13 20 51.6	
	comp=Z,38nm,18.2s,baz=314,slow=39						
IL31		**68.25**	**25**	P	**P**	**12 48 21.9**	**-0.6**
IL31				IAmb	IAmb	12 48 22.8	
	comp=Z,3.6nm,0.6s						
ILAR	**Eielson Array**	**68.25**	**25**	P	**P**	**12 48 21.9**	**-0.7**
	comp=Z,2.6nm,0.5s,baz=250,slow=5.8,SNR=86						
	comp=Z,2.6nm,0.5s						
D24K	**Happy Valley**	**68.76**	**20**	IAmb	IAmb	12 48 28.3	
	comp=Z,8.2nm,0.7s						
KK31	**Karatay Array**	**69.93**	**311**	P	**P**	**12 48 32.8**	**-0.6**
KKAR	**Karatay Array**	**69.93**	**311**	P	**P**	**12 48 33.2**	**-0.2**
KKAR	**Karatay Array**	**69.93**	**311**	IAmb	IAmb	12 48 34.0	
	comp=Z,2.5nm,0.7s						
GAR	**Garm**	**70.14**	**307**	IAmb	IAmb	12 48 35.8	
	comp=Z,15nm,1.3s						
BVAR	**Borovoye Array**	**70.31**	**322**	P	**P**	**12 48 35.2**	**-0.3**
	comp=Z,3.9nm,0.5s,baz=102,slow=7.8,SNR=40						
BVAR				LR	LR	13 20 59.8	
	comp=Z,62nm,18.9s,baz=293,slow=37						
	comp=Z,3.9nm,0.5s						
BRVK	**Borovoye**	**70.38**	**322**	P	**P**	**12 48 35.3**	**-0.6**
SIMJ	**Simiganj**	**71.17**	**306**	P	**P**	**12 48 40.8**	**-0.4**
SIMJ				IAmb	IAmb	12 48 42.0	
	comp=Z,8.5nm,1.1s						
K29M	**Barlow Dome**	**72.10**	**27**	IAmb	IAmb	12 48 49.5	
	comp=Z,13nm,1.2s						
G31M	**Satah River**	**73.71**	**24**	IAmb	IAmb	12 48 58.1	
	comp=Z,5.7nm,0.8s						
ABKAR	**Akbulak array**	**76.96**	**318**	P	**P**	**12 49 13.9**	**-0.6**
ABKAR				IAmb	IAmb	12 49 50.0	
	comp=Z,2.4nm,0.3s						
GEYT	**Alibeck**	**79.77**	**307**	P	**P**	**12 49 30.4**	**+0.2**
	comp=Z,3.1nm,0.7s,baz=93,slow=5.1,SNR=5.8						
	comp=Z,3.1nm,0.7s						
YKA	**Yellowknife Ar**	**82.52**	**27**	P	**P**	**12 49 44.8**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=287,slow=5.5,SNR=22						
	comp=Z,1.3nm,0.8s						
NVAR	**Mina Array Bea**	**86.38**	**51**	P	**P**	**12 50 06.5**	**+2.0**
	comp=Z,1.4nm,0.5s,baz=270,slow=5.6,SNR=14						
	comp=Z,1.4nm,0.5s						
ARCES	**ARCESS Array B**	**87.25**	**342**	P	**P**	**12 50 07.5**	**-0.4**
	comp=Z,4.0nm,0.6s,baz=54,slow=6.2,SNR=12						
	comp=Z,4.0nm,0.6s						
HLID	**Hailey**	**87.84**	**46**	P	**P**	**12 50 12.1**	**+0.6**
ELK	**Elko**	**88.05**	**49**	P	**P**	**12 50 13.1**	**+0.5**
ELK				IAmb	IAmb	12 50 15.3	
	comp=Z,4.0nm,0.9s						
Q12A	**Willow Creek R**	**88.83**	**50**	P	**P**	**12 50 19.1**	**+2.9**
Q12A				IAmb	IAmb	12 50 19.2	
	comp=Z,3.9nm,0.8s						
FINES	**FINESS Array B**	**91.41**	**335**	P	**P**	**12 50 26.1**	**-1.3**
	comp=Z,1

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.23**	**227**	P	**Pn**	**12 59 20.7**	**+0.7**
GTOI	**Gorontalo**	**2.03**	**248**	P	**Pn**	**12 59 28.9**	**+1.5**
SGSI	**Sangihe**	**2.34**	**16**	P	**Pn**	**12 59 31.1**	**+0.3**
TNTI	**Ternate**	**2.56**	**104**	P	**Pn**	**12 59 33.5**	**+0.3**
MRSI	**Marisa**	**3.09**	**252**	P	**Pn**	**12 59 39.4**	**+0.1**
LUWI	**Luwuk**	**3.23**	**221**	P	**Pn**	**12 59 40.9**	**-0.1**
LBMI	**Labuha**	**3.32**	**128**	P	**Pn**	**12 59 42.5**	**+0.5**
LBMI				S	**Sn**	**13 00 23.8**	**-0.1**
SANI	**Sanana**	**3.62**	**162**	P	**Pn**	**12 59 45.8**	**+0.2**
SANI				S	**Sn**	**13 00 27.1**	**-3.4**
MPSI	**Mapaga**	**5.10**	**258**	P	Pn	12 59 53.3	-11
NLAI	**Namlea**	**5.13**	**154**	P	**Pn**	**13 00 05.2**	**+0.6**
	13nm,0.8s,3μm0.4nm						
WRA	**Warramunga Arr**	**23.16**	**157**	P	**P**	**13 03 39.8**	**+2.3**
	1.0nm,0.5s,baz=334,slow=11,SNR=12						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**26.43**	**161**	P	**P**	**13 04 09.7**	**+2.6**
	0.2nm,0.4s,baz=345,slow=7.7,SNR=4.7						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**58.43**	**327**	P	**P**	**13 08 22.2**	**-1.2**
	0.3nm,0.3s,baz=118,slow=7.9,SNR=8.5						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**62.71**	**329**	P	**P**	**13 08 50.6**	**-1.6**
	0.2nm,0.4s,baz=136,slow=6.6,SNR=4.9						
	0.2nm,0.4s						

IDC 01 13:10:28.8±2.1, 7.38S×127.06E, h0km, mb3.5/1, mbtmp3.9/3, ML4.1/2, Error ellipse: s-maj=218.5km s-min=31.7km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.35**	**151**	Pn	Pn	13 13 53.0	-0.4
	0.8nm,0.3s,baz=325,slow=13,SNR=42						
WRA				Sn	Sn	13 16 18.4	-15
	1.0nm,0.3s,baz=330,slow=23,SNR=9.9						
	1.0nm,0.3s						
ASAR	**Alice Springs**	**17.48**	**159**	P	Pn	13 14 34.5	+0.2
	0.6nm,0.3s,baz=338,slow=12,SNR=25						
ASAR				S	Sn	13 17 33.2	-16
	0.3nm,0.5s,baz=323,slow=16,SNR=3.8						
	2.6nm,0.4s						
MKAR	**Makanchi Array**	**66.98**	**328**	P	P	13 21 23.5	0.0
	0.2nm,0.4s,baz=125,slow=5.1,SNR=4.8						
	0.2nm,0.4s						

*BJI **01** 13:42:24.3±0.0, 24.21N×123.84E, h16km, mb5.0/81, mB5.4/58, ML4.9/5, Ms5.3/97, Ms7 5.2/91*

*IDC **01** 13:42:24.4±0.4, 24.40N×123.75E, h0km, mb5.2/41, mbtmp5.2/44, ML3.9/2, MS4.7/68, Error ellipse: s-maj=13.3km s-min=10.1km az=57.0*

*MOS **01** 13:42:24.8±0.9, 24.41N×123.81E, h13km, mb5.7/134, MS4.9/12, Error ellipse: s-maj=6.1km s-min=3.1km az=123.6*

*NEIC **01** 13:42:25.8±2.3, 24.27N±0.07×123.77E±0.07, h10km±3km, mb5.6/249, Mww5.2/19, Error ellipse: s-maj=10.1km s-min=8.3km az=160.0*

*NEIC **01** 13:42:26.4, 24.25N×123.80E, h14km, Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^16Nm; Mrr=2.14; Mθθ0.47; Mϕϕ 1.67; Mrθ-4.45; Mθϕ-4.91; Mϕr-0.29; Fault plane solution: M06.91000×10^16 NP1:ϕs99.88000°, δ76.98000°, λ-135.57000°. NP2:ϕs357.42000°, δ47.00000°, λ-17.95000°. Principal axes: T 6.9527, Plg19.0000°, Azm222.0000°; N -0.0855, Plg44.0000°, Azm113.0000°; P -6.8672, Plg40.0000°, Azm329.0000°;*

*JMA **01** 13:42:26.8±0.1, 24.3N±0.3×123.8E±0.2, h15km±1km, MD5.6/10, MW5.2/10, NEAR ISHIGAKIJIMA ISLAND*

JMA Felt V J1 at NEAR ISHIGAKIJIMA ISLAND.

*TAP **01** 13:42:26.2, 24.42N×123.92E, h68km, ML5.9, D*

*NEIC **01** 13:42:26.4, 24.25N×123.80E, h14km*

*NIED **01** 13:42:26.8, 24.25N×123.82E, h15km, MW5.2, Moment Tensor Solution. s3 Moment tensor: Scale 1016Nm; Mrr-3.47; Mθθ1.81; Mϕϕ 1.66; Mrθ-0.36; Mθϕ-6.47; Mϕr-1.20; Fault plane solution: M06.81000×10^16 NP1: ϕs355.00000°, δ71.00000°, λ-25.00000°. NP2:ϕs93.00000°, δ67.00000°, λ-159.00000°.*

*GCMT **01** 13:42:27.8±0.1, 24.24N±0.01×123.78E±0.01, h18km, MW5.2/132, Moment Tensor Solution. s79, c111; s132, c224; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr-3.70±.15; Mθθ2.39±.12; Mϕϕ 1.31±.12; Mrθ-4.39±.33; Mθϕ-6.35±.10; Mϕr-0.51±.27; Best double couple: M08.32500×10^16 NP1:ϕs97.00000°, δ72.00000°, λ-136.00000°. NP2:ϕs350.00000°, δ49.00000°, λ-25.00000°. Principal axes: T 8.9310, Plg14.0000°, Azm219.0000°; N -1.2120, Plg43.0000°, Azm116.0000°; P -7.7190, Plg43.0000°, Azm322.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **01** 13:42:29.2, 23.58N×123.23E, h33km, mb5.6, Ms5.1*

ISC 01 13:42:27.2±0.3, 24.27N±0.02×123.78E±0.01, h19km±1km, h18km: pP-P, n1545, σ1.957/1670, mb5.5/377, MS4.8/89, 92C-86D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.08**	**325**	*i* P	**Pb**	**13 42 30.3**	**-0.5**
IRIF				S	**Sb**	**13 42 32.3**	**-0.8**
IRIF	**Iriomote-Funau**	**0.08**	**325**	A	A	13 42 30.3	
	comp=E,7μm,1.0s,comp=N,2μm,2.1s						
JKRS	**Kuro-shima**	**0.21**	**98**	*i* P	**Pb**	**13 42 31.2**	**-0.8**
JKRS				S	**Sg**	**13 42 33.3**	**-2.6**
JKRS	**Kuro-shima**	**0.21**	**98**	A	A	13 42 31.2	
	comp=E,6μm,1.5s,comp=N,9μm,2.2s						
HATJ	**Hateruma jima**	**0.21**	**174**	*i* P	**Pg**	**13 42 31.1**	**-1.4**
HATJ				S	**Sg**	**13 42 34.6**	**-1.3**
HATJ	**Hateruma jima**	**0.21**	**174**	A	A	13 42 31.1	
	comp=E,9μm,1.1s,comp=N,6μm,3.9s						
JIJ	**Ishigaki jima**	**0.34**	**74**	*i* P	**Pg**	**13 42 33.2**	**-1.4**
JIJ				S	**Sg**	**13 42 38.0**	**-1.6**
JIJ	**Ishigaki jima**	**0.34**	**74**	A	A	13 42 33.2	
	comp=E,467nm,3.5s,comp=N,735nm,0.9s						
JISG	**Ishigakijimahi**	**0.58**	**57**	*i* P	**Pb**	**13 42 37.6**	**-1.1**
JISG				*i* S	**Sb**	**13 42 46.2**	**-0.3**
JISG	**Ishigakijimahi**	**0.58**	**57**	A	A	13 42 37.6	
	comp=E,1μm,0.6s,comp=N,1μm,0.5s						
YOJ	**Yonaguni jima**	**0.73**	**285**		**Pb**	**13 42 41.4**	**+0.1**
YOJ	**Yonaguni jima**	**0.73**	**285**	P	**Pn**	**13 42 41.9**	**-0.6**
YOJ	**Yonaguni jima**	**0.73**	**285**	P	**Pb**	**13 42 41.4**	**+0.1**
YOJ	**Yonaguni jima**	**0.73**	**285**	⇓P	**Pn**	**13 42 41.6**	**-0.9**
	baz=278						
YOJ				S	**Sn**	**13 42 52.2**	**-1.0**
	baz=278						
YOJ	**Yonaguni jima**	**0.73**	**285**	*i* P	**Pb**	**13 42 41.4**	**+0.1**
YOJ				S	**Sb**	**13 42 51.6**	**+0.7**
YOJ	**Yonaguni jima**	**0.73**	**285**	A	A	13 42 41.4	
	comp=E,589nm,1.5s,comp=N,428nm,1.6s						
JYNG	**Yonagunijimaku**	**0.78**	**284**	*i* P	**Pg**	**13 42 42.3**	**-0.3**
JYNG				S	**Sg**	**13 42 53.5**	**+0.5**
JYNG	**Yonagunijimaku**	**0.78**	**284**	A	A	13 42 42.3	
	comp=E,495nm,1.2s,comp=N,689nm,3.6s						
JTJ	**Tarama**	**0.92**	**66**	*i* P	**Pg**	**13 42 43.6**	**-1.5**
JTJ				S	**Sn**	**13 42 56.6**	**-1.3**
JTJ	**Tarama**	**0.92**	**66**	A	A	13 42 43.6	
	comp=E,423nm,1.5s,comp=N,639nm,2.0s						
EOS3	**EOS3**	**1.34**	**271**	P	**Pb**	**13 42 51.1**	**-0.5**
	baz=270						
EOS3				S	**Sg**	**13 43 10.3**	**-0.1**
	baz=270						
EOS4	**EOS4**	**1.34**	**264**	P	**Pg**	**13 42 52.2**	**-1.0**
	baz=263						
EOS4				S	**Sg**	**13 43 10.8**	**+0.2**
	baz=263						
JIRB	**Irabujima**	**1.39**	**66**	A	A	13 42 51.1	
	comp=E,319nm,1.9s,comp=N,240nm,2.9s						
EOS2	**EOS2**	**1.42**	**276**	P	**Pn**	**13 42 52.1**	**+0.1**
	baz=274						
EOS2				S	**Sg**	**13 43 12.2**	**-1.0**
	baz=274						
JMJ	**Miyako jima 2**	**1.48**	**68**	P	**Pg**	**13 42 54.0**	**-1.8**
JMJ	**Miyako jima 2**	**1.48**	**68**	*e*P	**Pb**	**13 42 53.5**	**-0.6**
	baz=72						
JMJ				*e*S	**Sg**	**13 43 13.0**	**-2.2**
	baz=72						
JMJ2	**Miyako jima3**	**1.48**	**71**	A	A	13 42 52.8	
	comp=E,423nm,2.2s,comp=N,329nm,2.1s						
JIKM	**Ikemajima**	**1.49**	**64**	A	A	13 42 52.8	
	comp=E,346nm,1.2s,comp=N,297nm,3.5s						
JOGS	**Gusukube**	**1.56**	**71**	A	A	13 42 53.9	
	comp=E,501nm,7.8s,comp=N,440nm,3.1s						
JOGS	**Gusukube**	**1.56**	**71**	P	**Pb**	**13 42 54.2**	**-1.3**
JOGS				S	**Sg**	**13 43 15.4**	**-2.3**
EGS		**1.78**	**289**	⇓*i*P	**Pn**	**13 42 56.9**	**-0.1**
	baz=277						
EGS				*e*S	**Sn**	**13 43 18.9**	**-0.2**
	baz=277						
TWB1	**Santiao Chiao**	**1.79**	**295**	⇓*i*P	**Pn**	**13 42 56.6**	**-0.5**
	baz=281						
TWB1				*e*S	**Sn**	**13 43 18.7**	**-0.6**
	baz=281						
ESAO	**Su ao**	**1.79**	**280**	P	**Pn**	**13 42 57.1**	**-0.1**
	baz=275						
ESAO				S	**Sn**	**13 43 18.6**	**-0.9**
	baz=275						
TWC	**Suao**	**1.79**	**281**	*i* P	**Pn**	**13 42 56.7**	**-0.5**
	baz=276						
TWC				*i* S	**Sn**	**13 43 18.8**	**-0.7**
	baz=276						
EWUT	**Wuta**	**1.83**	**276**	P	**Pn**	**13 42 57.7**	**-0.1**
	baz=277						
EWUT				S	**Sn**	**13 43 20.4**	**-0.1**
	baz=277						
EHP	**Heping Village**	**1.86**	**272**	P	**Pb**	**13 42 59.7**	**-1.0**
	baz=256						
EHP				S	**Sn**	**13 43 22.5**	**+1.3**
	baz=256						
EAHA	**Aohua**	**1.86**	**272**	P	**Pn**	**13 42 58.8**	**+0.7**
	baz=267						
EAHA				S	**Sn**	**13 43 22.0**	**+0.8**
	baz=267						
ENA	**Nanau**	**1.87**	**275**	*i* P	**Pn**	**13 42 58.1**	**-0.1**
	baz=278						
ENA				*i* S	**Sn**	**13 43 21.0**	**-0.3**
	baz=278						
NTC	**Toucheng**	**1.87**	**289**	P	**Pn**	**13 42 58.8**	**+0.6**
	baz=277						
NTC				S	**Sn**	**13 43 21.8**	**+0.5**
	baz=277						
TIPB	**Shuangxi**	**1.91**	**292**	⇓P	**Pn**	**13 42 58.9**	**0.0**
	baz=279						
TIPB				S	**Sn**	**13 43 23.0**	**+0.5**
	baz=279						
ILA	**Ilan**	**1.92**	**285**	*i* P	**Pn**	**13 42 59.4**	**+0.5**
	baz=280						
ILA				*i* S	**Sn**	**13 43 22.9**	**+0.4**
	baz=280						
NDS	**Dongshan**	**1.92**	**281**	P	**Pn**	**13 42 59.0**	**+0.1**
	baz=276						
NDS				S	**Sn**	**13 43 22.2**	**-0.4**
	baz=276						
SXI1	**Grass Mountain**	**1.92**	**296**	⇓P	**Pn**	**13 42 59.0**	**0.0**
	baz=290						
SXI1				*e*S	**Sn**	**13 43 23.6**	**+0.9**
	baz=290						
ETL	**Fush Village**	**1.97**	**267**	P	**Pn**	**13 43 00.7**	**+1.0**
	baz=251						
ETL				*e*S	**Sn**	**13 43 25.4**	**+1.4**
	baz=251						
TWE	**Neicheng**	**1.98**	**284**	⇓*i*P	**Pn**	**13 42 59.9**	**+0.1**
	baz=272						
TWE				*i* S	**Sn**	**13 43 23.9**	**-0.1**
	baz=272						
NWF	**Wu-fen Shan**	**1.99**	**294**	⇑*i*P	**Pn**	**13 43 00.1**	**+0.1**
	baz=278						
NWF				*e*S	**Sb**	**13 43 26.3**	**-1.0**
	baz=278						
WFSB	**Wu-fen Shan**	**1.99**	**294**	⇓P	**Pn**	**13 42 60.0**	**+0.1**
	baz=279						
WFSB				*e*S	**Sb**	**13 43 26.0**	**-1.3**
	baz=279						
NACB	**Ninganchiao**	**2.00**	**268**		**Pn**	**13 43 00.7**	**+0.6**
NACB	**Ninganchiao**	**2.00**	**268**	P	**Pn**	**13 43 01.1**	**+1.1**
NACB	**Ninganchiao**	**2.00**	**268**	⇓P	**Pn**	**13 43 00.9**	**+0.9**
	baz=263						
NACB				S	**Sn**	**13 43 26.0**	**+1.5**
	baz=263						
TWD	**Chiawan**	**2.00**	**265**	⇑*i*P	**Pn**	**13 43 00.6**	**+0.5**
	baz=249						
TWD				*e*S	**Sn**	**13 43 25.1**	**+0.4**
	baz=249						
HWA	**Hwalien**	**2.01**	**262**	*i* P	**Pn**	**13 43 01.3**	**+1.1**
	baz=248						
HWA				*e*S	**Sb**	**13 43 26.4**	**-1.5**
	baz=248						
TNOU	**National Taiwa**	**2.03**	**296**	P	**Pn**	**13 43 00.5**	**+0.1**
	baz=296						
TNOU				S	**Sn**	**13 43 25.8**	**+0.6**
	baz=296						
ENTT	**Nioudou**	**2.05**	**281**	⇓*i*P	**Pn**	**13 43 01.0**	**+0.3**
	baz=276						
ENTT				*i* S	**Sn**	**13 43 26.3**	**+0.4**
	baz=276						
FUSB	**Fushanzhiwuyua**	**2.06**	**284**	⇓P	**Pn**	**13 43 01.1**	**+0.2**
	baz=289						
FUSB				S	**Sn**	**13 43 25.8**	**-0.3**
	baz=289						
PCYT	**Pengchaiyu**	**2.06**	**311**	P	**Pn**	**13 43 00.9**	**0.0**
	baz=306						
PCYT				*e*S	**Sn**	**13 43 25.0**	**-1.1**
	baz=306						
LATG	**Datong**	**2.07**	**278**	⇓P	**Pn**	**13 43 01.4**	**+0.3**
	baz=283						
LATG				S	**Sn**	**13 43 27.5**	**+0.9**
	baz=283						
SHUL	**Shoufeng**	**2.08**	**257**	P	**Pn**	**13 43 01.8**	**+0.6**
	baz=254						
SHUL				S	**Sn**	**13 43 26.8**	**+0.2**
	baz=254						
NDT	**Datong Townshi**	**2.09**	**280**	⇓P	**Pn**	**13 43 02.1**	**+0.8**
	baz=275						
NDT				S	**Sn**	**13 43 27.8**	**+0.9**
	baz=275						
ETLH	**Xiulin Townshi**	**2.10**	**269**	P	**Pn**	**13 43 02.6**	**+1.1**
	baz=265						
ETLH				S	**Sb**	**13 43 29.0**	**-1.6**
	baz=265						
ETM	**Tongmen**	**2.11**	**262**	P	**Pn**	**13 43 01.7**	**+0.1**
	baz=251						
ETM				S	**Sn**	**13 43 27.8**	**+0.4**
	baz=251						
TWA	**Mucha**	**2.12**	**290**	P	**Pn**	**13 43 02.3**	**+0.6**
	baz=272						
TWA				S	**Sn**	**13 43 28.5**	**+0.8**
	baz=272						
NWLT	**Wulai**	**2.14**	**284**	⇓P	**Pn**	**13 43 02.5**	**+0.5**
	baz=286						
NWLT				S	**Sn**	**13 43 27.9**	**-0.1**
	baz=286						
NWRT	**Kuosheng**	**2.14**	**296**	P	**Pn**	**13 43 02.8**	**+0.8**
	baz=299						
NWRT				*e*S	**Sn**	**13 43 29.5**	**+1.4**
	baz=299						
NHY	**Taipei**	**2.15**	**291**	*e*P	**Pn**	**13 43 03.3**	**+1.2**
	baz=278						
NHY				S	**Sn**	**13 43 29.4**	**+1.1**
	baz=278						
LXIB	**Xiulin Townshi**	**2.18**	**264**	⇑P	**Pn**	**13 43 03.0**	**+0.3**
	baz=252						
LXIB				S	**Sb**	**13 43 31.3**	**-1.6**
	baz=252						
NNSB	**Datong**	**2.19**	**275**	⇓P	**Pn**	**13 43 03.8**	**+1.0**
	baz=270						
NNSB				*e*S	**Sn**	**13 43 30.6**	**+1.0**
	baz=270						
NNSH	**Datong**	**2.19**	**275**	P	**Pb**	**13 43 04.3**	**-2.1**
	baz=270						
NNSH				*e*S	**Sn**	**13 43 31.4**	**+1.9**
	baz=270						
YM01	**YM01**	**2.19**	**294**	⇓P	**Pn**	**13 43 03.1**	**+0.4**
	baz=279						
YM01				S	**Sn**	**13 43 31.0**	**+1.6**
	baz=279						
YM08	**YM08**	**2.19**	**295**	⇓P	**Pn**	**13 43 02.9**	**+0.2**
	baz=298						
YM08				*e*S	**Sn**	**13 43 30.6**	**+1.2**
	baz=298						
ESL	**Shilin**	**2.19**	**259**	*i* P	**Pn**	**13 43 02.2**	**-0.5**
	baz=255						
ESL				*i* S	**Sn**	**13 43 29.4**	**0.0**
	baz=255						
TATO	**Taipei**	**2.20**	**289**		**Pn**	**13 43 03.2**	**+0.4**
TATO	**Taipei**	**2.20**	**289**	P	**Pn**	**13 43 03.7**	**+0.9**
TATO	**Taipei**	**2.20**	**289**	⇓P	**Pn**	**13 43 03.1**	**+0.3**
	baz=284						
TATO				S	**Sn**	**13 43 29.3**	**-0.2**
	baz=284						
NNS	**Nan Shan**	**2.20**	**275**	⇑*i*P	**Pn**	**13 43 04.3**	**+1.3**
	baz=270						
NNS				S	**Sn**	**13 43 30.5**	**+0.7**
	baz=270						
TWY	**Chenhua**	**2.22**	**297**	*i* P	**Pn**	**13 43 04.0**	**+0.9**
	baz=300						
TWY				*e*S	**Sn**	**13 43 30.6**	**+0.6**
	baz=300						
YHNB	**Yeheng**	**2.23**	**281**		**Pn**	**13 43 03.8**	**+0.6**
YHNB	**Yeheng**	**2.23**	**281**	P	**Pn**	**13 43 04.3**	**+1.0**
YHNB	**Yeheng**	**2.23**	**281**	⇓P	**Pn**	**13 43 03.8**	**+0.6**
	baz=276						
YHNB				S	**Sn**	**13 43 31.5**	**+1.2**
	baz=276						
EGFH	**Guangfu**	**2.23**	**255**	⇑P	**Pn**	**13 43 03.0**	**-0.3**
	baz=241						
EGFH				S	**Sn**	**13 43 31.2**	**+0.8**
	baz=241						
NSM	**Shimen**	**2.24**	**297**	*e*P	**Pb**	**13 43 04.8**	**-2.2**
	baz=299						
NSM				*e*S	**Sn**	**13 43 31.5**	**+1.1**
	baz=299						
NSK	**Sanguang**	**2.25**	**281**	*i* P	**Pn**	**13 43 04.3**	**+0.8**
	baz=276						
NSK				*i* S	**Sn**	**13 43 30.9**	**+0.1**
	baz=276						
BACT	**New Taipei Cit**	**2.25**	**289**	*e*P	**Pn**	**13 43 04.0**	**+0.5**
	baz=272						
BACT				*e*S	**Sn**	**13 43 32.0**	**+1.3**
	baz=272						
ANP	**Anpu**	**2.25**	**294**	*i* P	**Pn**	**13 43 03.8**	**+0.2**
	baz=279						
ANP				*e*S	**Sn**	**13 43 32.1**	**+1.2**
	baz=279						
WARBT	**Fenglin Townsh**	**2.26**	**256**	⇑P	**Pn**	**13 43 03.0**	**-0.7**
	baz=244						
WARBT				S	**Sn**	**13 43 29.1**	**-1.9**
	baz=244						
HGSD	**Ruisui**	**2.29**	**251**	⇑P	**Pn**	**13 43 03.2**	**-0.9**
	baz=248						
HGSD				S	**Sn**	**13 43 30.2**	**-1.6**
	baz=248						
NTST	**Danshui**	**2.30**	**293**	P	**Pn**	**13 43 05.1**	**+0.9**
	baz=279						
NTST				S	**Sn**	**13 43 33.4**	**+1.4**
	baz=279						
WHF	**Hehuan Shan**	**2.30**	**267**	*i* P	**Pn**	**13 43 06.1**	**+1.5**
	baz=252						
WHF				S	**Sn**	**13 43 33.6**	**+0.9**
	baz=252						
TWS1	**Kuangyinshan**	**2.30**	**292**	⇓*i*P	**Pn**	**13 43 05.0**	**+0.7**
	baz=278						
TWS1				*i* S	**Sn**	**13 43 33.8**	**+1.7**
	baz=278						
FUSS	**Fushou**	**2.32**	**270**	P	**Pn**	**13 43 05.9**	**+1.3**
	baz=266						
FUSS				S	**Sn**	**13 43 34.7**	**+1.9**
	baz=266						
ECBN	**Changbin**	**2.33**	**247**	P	**Pn**	**13 43 04.0**	**-0.7**
	baz=234						
ECBN				S	**Sn**	**13 43 32.1**	**-0.8**
	baz=234						
EHYH	**Wanrong**	**2.36**	**251**	⇓P	**Pn**	**13 43 05.3**	**+0.3**
	baz=239						
EHYH				S	**Sn**	**13 43 34.3**	**+0.9**
	baz=239						
NTY	**Taoyuan**	**2.37**	**288**	P	**Pn**	**13 43 06.1**	**+0.9**
	baz=284						
NTY				S	**Sn**	**13 43 35.3**	**+1.5**
	baz=284						
EHY	**Hungye**	**2.38**	**252**	*i* P	**Pn**	**13 43 04.9**	**-0.3**
	baz=240						
EHY				S	**Sn**	**13 43 33.6**	**-0.3**
	baz=240						
TWT	**Tachien**	**2.38**	**270**	*i* P	**Pb**	**13 43 07.2**	**-2.3**
	baz=266						
TWT				*e*S	**Sn**	**13 43 35.3**	**+1.1**
	baz=266						
CHGB	**Renai**	**2.39**	**266**	⇓P	**Pn**	**13 43 06.8**	**+1.2**
	baz=252						
CHGB				*e*S	**Sn**	**13 43 35.6**	**+1.1**
	baz=252						
TDCB	**Techi**	**2.39**	**270**	⇓P	**Pn**	**13 43 06.9**	**+1.3**
	baz=266						
TDCB				*e*S	**Sn**	**13 43 34.6**	**+0.1**
	baz=266						
OWD	**Renai**	**2.40**	**263**	P	**Pn**	**13 43 06.6**	**+0.9**
	baz=260						
OWD				*e*S	**Sn**	**13 43 35.1**	**+0.5**
	baz=260						
EYUL	**Yuli**	**2.43**	**248**	P	**Pn**	**13 43 05.7**	**-0.3**
	baz=237						
EYUL				S	**Sn**	**13 43 34.7**	**-0.6**
	baz=237						
CHKH	**Chenggong**	**2.44**	**244**	⇑P	**Pn**	**13 43 04.7**	**-1.3**
	baz=242						
CHKH				S	**Sn**	**13 43 35.0**	**-0.3**
	baz=242						
YULB	**Yu-li**	**2.44**	**250**		**Pn**	**13 43 05.5**	**-0.6**
YULB	**Yu-li**	**2.44**	**250**	P	**Pn**	**13 43 06.0**	**-0.1**
YULB	**Yu-li**	**2.44**	**250**	⇑P	**Pn**	**13 43 05.2**	**-0.8**
	baz=238						
YULB				S	**Sn**	**13 43 35.3**	**0.0**
	baz=238						
WUSB	**Renai**	**2.45**	**264**	P	**Pn**	**13 43 07.3**	**+1.0**
	baz=261						
WUSB				S	**Sn**	**13 43 36.0**	**+0.2**
	baz=261						
TWF1	**Yuli**	**2.45**	**249**	*i* P	**Pn**	**13 43 05.6**	**-0.7**
	baz=238						
TWF1				*i* S	**Sn**	**13 43 36.0**	**+0.2**
	baz=238						
NFF	**Wufeng Townshi**	**2.45**	**279**	⇓P	**Pn**	**13 43 07.8**	**+1.4**
	baz=264						
NFF				S	**Sn**	**13 43 37.0**	**+1.1**
	baz=264						
NCUH	**Zhongli**	**2.46**	**287**	P	**Pn**	**13 43 07.2**	**+0.8**
	baz=282						
NCUH				S	**Sn**	**13 43 37.1**	**+1.1**
	baz=282						
VWDT	**VWDT**	**2.47**	**259**	⇑P	**Pn**	**13 43 06.9**	**+0.4**
	baz=255						
VWDT				S	**Sn**	**13 43 36.2**	**+0.1**
	baz=255						
NJD	**Zhudong**	**2.50**	**281**	P	**Pb**	**13 43 08.9**	**-2.6**
	baz=277						
NJD				S	**Sn**	**13 43 37.9**	**+1.0**
	baz=277						
CHKT	**Chengkung**	**2.50**	**243**	⇑*i*P	**Pn**	**13 43 05.4**	**-1.5**
	baz=240						
CHKT				*i* S	**Sn**	**13 43 34.6**	**-2.3**
	baz=240						
FULB	**Fuli**	**2.52**	**245**	⇑P	**Pn**	**13 43 06.1**	**-1.0**
	baz=235						
FULB				S	**Sn**	**13 43 37.7**	**+0.4**
	baz=235						
LIOB	**Emei**	**2.55**	**279**	P	**Pn**	**13 43 09.6**	**+1.9**
	baz=275						
LIOB				S	**Sn**	**13 43 40.2**	**+2.0**
	baz=275						
NSTT	**Nanjuang**	**2.56**	**279**	*i* P	**Pn**	**13 43 09.5**	**+1.7**
	baz=275						
NSTT				*i* S	**Sn**	**13 43 39.4**	**+1.0**
	baz=275						
HSN1	**Hsinchu**	**2.57**	**282**	P	**Pn**	**13 43 08.5**	**+0.7**
	baz=278						
HSN1				*e*S	**Sn**	**13 43 39.8**	**+1.2**
	baz=278						
WHP	**Taichung City**	**2.59**	**271**	⇑P	**Pb**	**13 43 10.5**	**-2.6**
	baz=258						
WHP				S	**Sn**	**13 43 41.5**	**+2.3**
	baz=258						
WPL	**Puli Township**	**2.59**	**265**	P	**Pn**	**13 43 10.1**	**+1.9**
	baz=254						
WPL				*e*S	**Sn**	**13 43 40.7**	**+1.4**
	baz=254						
NHW	**Xinwu Township**	**2.59**	**287**	P	**Pn**	**13 43 09.2**	**+0.9**
	baz=271						
NHW				S	**Sn**	**13 43 40.5

EHD S **Sn** 13 43 39.0 -0.7
baz=235
HSN Hsinchu 2.62 282 *i* P **Pn** 13 43 09.8 +1.3
baz=279
HSN S **Sn** 13 43 40.2 +0.4
baz=279
DPDB Guoxing 2.62 265 P **Pn** 13 43 10.7 +2.0
baz=255
DPDB S **Sn** 13 43 40.4 +0.5
baz=255
ECS Chishang 2.62 244 P **Pn** 13 43 08.3 -0.3
baz=234
ECS S **Sn** 13 43 39.6 -0.4
baz=234
SSLB Suanglung 2.63 260 **Pn** 13 43 09.2 +0.4
SSLB Suanglung 2.63 260 P **Pn** 13 43 10.1 +1.4
SSLB Suanglung 2.63 260 ⇑P **Pn** 13 43 09.2 +0.4
baz=257
SSLB S **Sn** 13 43 40.2 0.0
baz=257
WCS Beigang Elemen 2.63 266 P **Pn** 13 43 10.5 +1.8
baz=256
WCS *e*S **Sn** 13 43 41.1 +1.0
baz=256
LDUT Ludao 2.65 234 ⇑P **Pn** 13 43 07.1 -1.9
baz=239
LDUT S **Sn** 13 43 37.9 -2.7
baz=239
SMLT Sun Moon Lake 2.66 262 *i* P **Pn** 13 43 10.7 +1.5
baz=252
SMLT S **Sn** 13 43 40.8 -0.2
baz=252
NJN Zhunan 2.68 279 *e*P **Pb** 13 43 12.6 -2.1
baz=276
NJN *e*S **Sb** 13 43 45.9 -1.3
baz=276
TYC Yuchr 2.70 263 *i* P **Pn** 13 43 11.1 +1.4
baz=252
TYC *i* S **Sn** 13 43 43.2 +1.4
baz=252
WHYT Xinyi Township 2.74 259 ⇑P **Pn** 13 43 11.4 +1.1
baz=247
WHYT S **Sn** 13 43 43.6 +0.8
baz=247
NMLH Miaoli 2.74 276 P **Pb** 13 43 12.8 -2.9
baz=272
NMLH S **Sn** 13 43 44.9 +2.1
baz=272
TWQ1 Liyutan 2.75 272⇑ *i*P **Pb** 13 43 12.8 -3.0
baz=269
TWQ1 *e*S **Sn** 13 43 45.1 +2.1
baz=269
ELDTW Lidau 2.75 248⇑ *i*P **Pn** 13 43 09.6 -0.9
baz=245
ELDTW *i* S **Sn** 13 43 42.4 -0.9
baz=245
NSY Sanyi 2.76 274 *i* P **Pb** 13 43 13.2 -2.8
baz=270
NSY S **Sn** 13 43 44.9 +1.5
baz=270
LONT Longtian 2.78 241 P **Pn** 13 43 10.4 -0.4
baz=233
LONT *e*S **Sn** 13 43 43.6 -0.4
baz=233
WWF Wufeng 2.83 266 P **Pb** 13 43 14.8 -2.4
baz=257
WWF S **Sb** 13 43 48.8 -2.6
baz=257
ALS Alishan 2.83 255⇑ *i*P **Pn** 13 43 12.7 +1.0
baz=252
ALS S **Sn** 13 43 45.5 +0.1
baz=252
WJS Zhushan 2.83 262 P **Pb** 13 43 14.5 -2.6
baz=258
WJS S **Sn** 13 43 48.1 +3.1
baz=258
TCU Taichung 2.84 268 *i* P **Pb** 13 43 14.3 -3.0
baz=254
TCU *i* S **Sn** 13 43 47.4 +2.2
baz=254
TTN Taitung 2.85 239 *i* P **Pn** 13 43 11.1 -0.6
baz=236
TTN *i* S **Sn** 13 43 45.1 -0.4
baz=236
WNT Mingjian 2.86 263⇓ *i*P **Pb** 13 43 14.7 -3.0
baz=253
WNT *i* S **Sn** 13 43 48.9 +3.1
baz=253
WNT1 Nantou City 2.86 263 P **Pb** 13 43 14.9 -2.8
baz=254
WNT1 S **Sb** 13 43 50.8 -1.4
baz=254
WDJ Dajia District 2.87 272 P **Pb** 13 43 14.9 -2.9
baz=269
WDJ S **Sn** 13 43 46.8 +0.8
baz=269
TWGBT Beinan 2.87 240 P **Pn** 13 43 11.6 -0.4
TWGBT Beinan 2.87 240 ⇑P **Pn** 13 43 10.8 -1.2
baz=232
TWGBT S **Sn** 13 43 44.7 -1.4
baz=232
TWG Pinlang 2.87 240 **Pn** 13 43 10.9 -1.2
TWG Pinlang 2.87 240⇑ *i*P **Pn** 13 43 11.0 -1.0
baz=232
TWG *i* S **Sn** 13 43 44.7 -1.4
baz=232
WYL Yuanlin Townsh 2.94 265 P **Pn** 13 43 15.2 +2.2
baz=261
WYL S **Sb** 13 43 52.8 -1.9
baz=261
WCHH Zhanghua 2.95 267 P **Pb** 13 43 15.9 -3.3
baz=276
WCHH S **Sn** 13 43 51.0 +3.0
baz=276
STYH Taoyuan 2.96 249 ⇑P **Pn** 13 43 13.9 +0.6
baz=240
STYH S **Sn** 13 43 48.4 0.0
baz=240
STYT Tauyuan 2.98 249 *i* P **Pn** 13 43 14.2 +0.6
baz=240
STYT *i* S **Sn** 13 43 48.5 -0.4
baz=240
WGK Gukeng 3.00 260 *i* P **Pb** 13 43 16.7 -3.4
baz=256
WGK *i* S **Sn** 13 43 52.5 +3.2
baz=256
WDLH Douliu 3.02 260 P **Pb** 13 43 17.5 -2.9
baz=257
WDLH S **Sn** 13 43 53.2 +3.4
baz=257
LAY Lan-yu 3.02 223 *i* P **Pn** 13 43 11.9 -2.2
baz=230
LAY *e*S **Sn** 13 43 46.9 -3.0
baz=230
WCKO Fanlu 3.02 255 ⇑P **Pn** 13 43 16.2 +2.0
baz=245
WCKO S **Sn** 13 43 52.0 +2.2
baz=245
LYUB Lan-yu 3.03 222 P **Pn** 13 43 12.0 -2.2
baz=230
LYUB S **Sn** 13 43 49.0 -1.0
baz=230
TPUB Ta-pu 3.04 252 **Pn** 13 43 15.7 +1.3
TPUB Ta-pu 3.04 252 P **Pn** 13 43 16.8 +2.4
TPUB Ta-pu 3.04 252 ⇑P **Pn** 13 43 15.8 +1.3
baz=243
TPUB S **Sn** 13 43 51.1 +0.7
baz=243
CHN4 Tsaushan 3.06 253⇑ *i*P **Pn** 13 43 16.4 +1.8
baz=243
CHN4 *i* S **Sn** 13 43 53.5 +2.8
baz=243
WTP Ta-pu 3.08 251⇑ *i*P **Pn** 13 43 16.5 +1.6
baz=242
WTP *i* S **Sn** 13 43 53.4 +2.1
baz=242
ECL Taimali 3.08 238 P **Pn** 13 43 13.5 -1.5
baz=244
ECL S **Sn** 13 43 49.4 -1.9
baz=244
CHN2 Minshiung 3.11 257 P **Pb** 13 43 18.3 -3.7
baz=254
CHN2 S **Sb** 13 43 56.1 -3.5
baz=254
WRL Guolierlin Hig 3.13 264 P **Pn** 13 43 18.5 +2.9
baz=261
WRL S **Sn** 13 43 54.7 +2.1
baz=261

SLGT Liugui 3.14 247 P **Pn** 13 43 17.2 +1.4
baz=238
SLGT S **Sn** 13 43 53.4 +0.6
baz=238
RLNB Erlin 3.15 264 P **Pn** 13 43 18.0 +2.2
baz=261
RLNB S **Sn** 13 43 54.9 +1.9
baz=261
WTK Tuku 3.16 260 P **Pn** 13 43 18.9 +2.9
baz=257
WTK S **Sn** 13 43 54.9 +1.8
baz=257
SGST Jiashian 3.16 249⇑ *i*P **Pn** 13 43 16.4 +0.3
baz=240
SGST *i* S **Sn** 13 43 55.9 +2.6
baz=240
CHY Chiayi 3.17 257 P **Pb** 13 43 19.2 -3.7
baz=254
CHY S **Sn** 13 43 56.3 +2.9
baz=254
CHN1 Nanshi 3.17 251⇑ *i*P **Pn** 13 43 18.0 +1.9
baz=242
CHN1 *i* S **Sn** 13 43 57.4 +3.8
baz=242
TWK Hsinying 3.18 252⇑ *i*P **Pn** 13 43 18.0 +1.7
baz=250
TWK *i* S **Sn** 13 43 57.0 +3.3
baz=250
SNST Tainan City 3.19 252 ⇑P **Pn** 13 43 18.2 +1.9
baz=261
SNST S **Sn** 13 43 57.2 +3.4
baz=261
WTCT Ta-ch'eng 3.22 264 *i* P **Pn** 13 43 19.4 +2.5
baz=260
WTCT *i* S **Sn** 13 43 57.9 +3.1
baz=260
SSD Sandimen 3.26 243 *i* P **Pn** 13 43 17.5 0.0
baz=238
SSD *i* S **Sn** 13 43 56.4 +0.6
baz=238
TAW Tawu 3.26 235 *i* P **Pn** 13 43 16.5 -0.9
baz=240
TAW *i* S **Sn** 13 43 54.5 -1.3
baz=240
TSMG Majia 3.27 242 ⇑P **Pn** 13 43 17.6 0.0
baz=237
TSMG S **Sn** 13 43 56.6 +0.6
baz=237
TAWH Dawu Township 3.28 235 P **Pn** 13 43 17.0 -0.7
baz=240
TAWH S **Sn** 13 43 54.3 -1.9
baz=240
EAST Anshuo 3.29 236 *i* P **Pn** 13 43 16.6 -1.2
baz=240
EAST *i* S **Sn** 13 43 55.1 -1.2
baz=240
SCST Cishan 3.31 246 P **Pn** 13 43 20.6 +2.5
baz=238
SCST S **Sn** 13 43 59.3 +2.2
baz=238
WSF Szhu 3.32 260 *i* P **Pn** 13 43 20.3 +2.2
baz=257
WSF *i* S **Sn** 13 43 59.0 +2.0
baz=257
MASBT Mashibuluo 3.33 241 ⇑P **Pn** 13 43 17.8 -0.5
baz=235
MASBT S **Sn** 13 43 57.9 +0.5
baz=235
ICHU Yijhu 3.33 255 P **Pn** 13 43 20.8 +2.4
baz=252
ICHU S **Sn** 13 43 58.5 +1.0
baz=252
WSL Shuilin Townsh 3.34 258 P **Pn** 13 43 21.0 +2.5
baz=255
WSL S **Sn** 13 44 00.1 +2.5
baz=255
CHN3 Shinhua 3.35 250 *i* P **Pn** 13 43 21.4 +2.8
baz=258
CHN3 *i* S **Sb** 13 44 02.2 -4.2
baz=258
SHHT Tainan City 3.38 249 P **Pn** 13 43 22.2 +3.1
baz=257
SHHT S **Sn** 13 44 02.5 +3.8
baz=257
SGLT Jiouru 3.39 244 *i* P **Pn** 13 43 21.8 +2.6
baz=240
SGLT *i* S **Sn** 13 44 02.5 +3.7
baz=240
SSHA Shanhua 3.39 251 P **Pn** 13 43 21.7 +2.5
baz=261
SSHA S **Sn** 13 44 02.8 +3.8
baz=261
CHN8 Yiju 3.40 255 *i* P **Pn** 13 43 21.3 +2.1
baz=252
CHN8 *i* S **Sn** 13 44 02.2 +3.1
baz=252
TWM1 Shoushan 3.40 246⇑ *i*P **Pn** 13 43 22.0 +2.6
baz=238
TWM1 S **Sb** 13 44 04.2 -3.7
baz=238
JKE Kume jima 2 3.41 52 A A 13 43 20.6
comp=E,22nm,6.8s,comp=N,17nm,12.6s
JKE Kume jima 2 3.41 52 P **Pn** 13 43 18.9 -0.5
TSPT Pingtung City 3.41 243 *e*P **Pb** 13 43 22.9 -4.1
baz=239
TSPT *e*S **Sn** 13 44 01.3 +2.0
baz=239
SLIU Shizi 3.42 234 P **Pn** 13 43 18.8 -0.8
baz=232
SLIU S **Sn** 13 43 58.5 -1.2
baz=232
SCLT Jiali 3.46 252 *i* P **Pn** 13 43 22.6 +2.4
baz=261
SCLT *i* S **Sn** 13 44 03.8 +3.1
baz=261
SCZT Fangliau 3.46 238 *i* P **Pn** 13 43 21.0 +0.8
baz=236
SCZT S **Sn** 13 44 01.5 +0.7
baz=236
TAI1 Yung-k'ang 3.48 250 *e*P **Pn** 13 43 23.2 +2.8
baz=259
TAI1 *e*S **Sn** 13 44 05.1 +4.0
baz=259
SNJT Kaohsiung City 3.50 245 ⇑P **Pn** 13 43 23.5 +2.7
baz=243
SNJT S **Sb** 13 44 06.6 -4.3
baz=243
SMST Manzhou Townsh 3.51 231 P **Pn** 13 43 20.9 0.0
baz=229
SMST S **Sn** 13 44 02.2 +0.2
baz=229
TSEB Hengchuen, Pin 3.55 229 *i* P **Pn** 13 43 21.5 +0.1
baz=228
TSEB *i* S **Sn** 13 44 03.3 +0.5
baz=228
TSCK Chigu Township 3.57 252 P **Pn** 13 43 23.6 +2.0
baz=261
TSCK S **Sn** 13 44 04.7 +1.5
baz=261
TWKBT Hengchun 3.58 230 ⇑P **Pn** 13 43 21.1 -0.7
baz=221
TWKBT S **Sn** 13 44 03.9 +0.2
baz=221
TWK1 Hengchun 3.59 230 *i* P **Pn** 13 43 21.5 -0.4
baz=221
TWK1 S **Sn** 13 44 04.0 +0.3
baz=221
HEN Hengchun 3.59 232 *i* P **Pn** 13 43 22.0 0.0
baz=222
HEN *i* S **Sn** 13 44 04.6 +0.7
baz=222
KAU Kaohsiung 3.61 243 *i* P **Pn** 13 43 25.6 +3.4
baz=254
KAU *e*S **Sb** 13 44 09.1 -4.8
baz=254
SNW Nanwan 3.62 231 P **Pn** 13 43 23.4 +1.1
baz=230
SNW S **Sn** 13 44 06.1 +1.6
baz=230
WSSB Gushan 3.62 244 P **Pn** 13 43 24.9 +2.6
baz=255
WSSB S **Sn** 13 44 09.0 +4.5
baz=255
JAGN Aguni-jima 3.89 53 A A 13 43 27.5
comp=E,26nm,5.7s,comp=N,21nm,4.0s
JAGN Aguni-jima 3.89 53 P **Pn** 13 43 27.4 +1.4
WDGT Dungji 3.91 256 *i* P **Pn** 13 43 27.7 +1.4
baz=253

WDGT *i* S **Sn** 13 44 11.5 -0.1
baz=253
PHUB P'eng-hu 3.92 260 P **Pn** 13 43 27.9 +1.3
baz=257
PHUB S **Sn** 13 44 12.5 +0.4
baz=257
PNG Penghu 3.93 261 *i* P **Pn** 13 43 27.7 +1.1
baz=258
PNG *i* S **Sn** 13 44 10.2 -2.0
baz=258
MATB Ma-tsu 3.95 299 ⇓P **Pn** 13 43 27.4 +0.5
baz=283
MATB S **Sn** 13 44 13.1 +0.5
baz=283
MSUT Lienchiang 3.97 299 P **Pn** 13 43 27.5 +0.3
baz=285
MSUT S **Sn** 13 44 13.5 +0.2
baz=285
VWUC VWUC 4.01 281 P **Pn** 13 43 27.9 +0.3
baz=269
VWUC S **Sn** 13 44 12.5 -1.6
baz=269
JJT3 Tamagusuku3 4.08 62 A A 13 43 30.0
comp=E,80nm,2.6s,comp=N,59nm,3.8s
JJT3 Tamagusuku3 4.08 62 P **Pn** 13 43 31.8 +3.2
VCHM Qimei 4.12 256 P **Pn** 13 43 30.2 +0.9
baz=253
VCHM S **Sn** 13 44 16.8 -0.2
baz=253
XPSS Dashiqiu 4.19 310 P **Pn** 13 43 29.8 -0.3
baz=307
XPSS *e*S **Sn** 13 44 15.5 -3.0
baz=307
LYJJ Jianjiangzhen 4.29 303 ⇓P **Pn** 13 43 31.6 +0.1
baz=309
LYJJ *e*S **Sn** 13 44 21.1 0.0
baz=309
PTMZ Houxiangcun 4.31 281 P **Pn** 13 43 32.6 +0.8
baz=269
PTMZ S **Sn** 13 44 21.4 -0.2
baz=269
JNTH Nagotoyohara 4.44 59 A A 13 43 35.2
comp=E,18nm,5.1s,comp=N,14nm,4.3s
MHZQ Yeshan 4.67 294 P **Pn** 13 43 37.0 +0.2
baz=280
MHZQ *e*S **Sn** 13 44 29.6 -1.0
baz=280
JIH Iheya 4.67 53 A A 13 43 38.5
comp=E,18nm,3.9s,comp=N,16nm,5.0s
JIH Iheya 4.67 53 P **Pn** 13 43 37.4 +0.5
QZH Quanzhou 4.77 279⇓ *i*Pn **Pn** 13 43 38.4 +0.3
QZH Sn **Sn** 13 44 31.1 -1.9
QZH smax smax
comp=N,2μm,1.4s
QZH smax smax
comp=N,1μm,1.2s
QZH LR LR
comp=N,23μm,12.6s
QZH LR LR
comp=N,14μm,12.0s
QZH LR LR
comp=N,14μm,9.4s
JOW Kunigami 4.79 57 Pn **Pn** 13 43 39.5 +1.0
JOW Kunigami 4.79 57 P **Pn** 13 43 40.7 +2.2
JOW Kunigami 4.79 57 P **Pn** 13 43 40.6 +2.2
baz=58
JOW *e*S **Sb** 13 44 44.2 -3.8
baz=58
JOW Kunigami 4.79 57 A A 13 43 40.2
comp=E,15nm,6.5s,comp=N,13nm,6.4s
JOW Kunigami 4.79 57 P **Pn** 13 43 39.1 +0.6
JOW Kunigami 4.79 57 Pn **Pn** 13 43 39.0 +0.5
comp=N,16nm,0.3s,baz=123,slow=15,SNR=20
JOW Sn **Sn** 13 44 34.5 +0.9
comp=N,22nm,0.3s,baz=235,slow=16,SNR=2.2
comp=N,80nm,0.4s
KNM Kinmen 4.88 273 *i* P **Pn** 13 43 41.3 +1.6
baz=270
KNM *i* S **Sn** 13 44 37.2 +1.6
baz=270
KNMB Chin-men Tao 4.92 273 Pn **Pn** 13 43 40.3 0.0
KNMB Chin-men Tao 4.92 273 P **Pn** 13 43 40.4 +0.2
baz=271
KNMB *e*S **Sn** 13 44 33.6 -3.1
baz=271
JYRO Yoronjima 5.03 56 A A 13 43 43.5
comp=E,11nm,4.6s,comp=N,11nm,5.0s
JYRO Yoronjima 5.03 56 P **Pn** 13 43 41.7 0.0
JOKE Okinoerabujima 5.30 53 A A 13 43 47.3
comp=E,14nm,11.6s,comp=N,9.0nm,14.9s
AXDP Jialang 5.33 278 P **Pn** 13 43 45.5 -0.3
baz=275
AXDP S **Sn** 13 44 44.5 -2.2
baz=275
ZPLA Ao Xicun 5.52 268 P **Pn** 13 43 48.5 0.0
baz=265
ZPLA S **Sn** 13 44 50.2 -1.3
baz=265
JTK Tokunoshima 5.82 52 A A 13 43 54.6
comp=E,8.0nm,10.9s,comp=N,6.0nm,4.4s
JTK Tokunoshima 5.82 52 P **Pn** 13 43 51.6 -1.0
DSXP Dongshan 5.84 266 P **Pn** 13 43 53.0 +0.1
baz=263
DSXP S **Sn** 13 44 57.7 -1.7
baz=263
SXFK Yanhouchang 5.94 292 P **Pn** 13 43 54.5 +0.2
baz=280
SXFK S **Sn** 13 45 00.6 -1.3
baz=280
JAMN Amaminishikomi 6.25 50 A A 13 44 00.8
comp=E,5.0nm,14.7s,comp=N,4.0nm,13.1s
JAMN Amaminishikomi 6.25 50 P **Pn** 13 43 57.0 -1.6
JAM Amami Oshima 6.66 50 A A 13 44 06.3
comp=E,5.0nm,10.7s,comp=N,5.0nm,11.8s
JAM Amami Oshima 6.66 50 P **Pn** 13 44 01.4 -2.7
JZK Kikaishima 6.86 53 A A 13 44 09.2
comp=E,30nm,3.8s,comp=N,27nm,3.8s
JTAJ Takarajima 6.87 44 A A 13 44 09.3
comp=E,5.0nm,7.8s,comp=N,8.0nm,11.5s
JMZ Minamidaito 2 6.92 76 Pn **Pn** 13 44 10.7 +3.0
JMZ Minamidaito 2 6.92 76 P **Pn** 13 44 10.2 +2.4
JMZ Minamidaito 2 6.92 76 A A 13 44 09.8
comp=E,9.0nm,5.1s,comp=N,16nm,8.1s
SSE Sheshan 7.18 342 Pn **Pn** 13 44 10.8 -0.4
SSE Sn **Sn** 13 45 31.1 -1.2
SSE smax smax
comp=N,240nm,1.3s
SSE smax smax
comp=N,190nm,1.4s
SSE LR LR
comp=N,7μm,11.7s
SSE LR LR
comp=N,4μm,11.7s
JNN Nakanoshima 7.76 43 A A 13 44 21.8
comp=E,9.0nm,10.6s,comp=N,7.0nm,8.3s
NJ2 Nanjing 8.89 332 *e*P **Pn** 13 44 34.8 +0.1
NJ2 sP 13 44 41.4
NJ2 pmax pmax
comp=N,44nm,0.7s
NJ2 pmax pmax
comp=N,140nm,4.6s
NJ2 LR LR
comp=N,10μm,12.8s
NJ2 LR LR
comp=N,13μm,13.3s
NJ2 LR LR
comp=N,13μm,15.2s
JSJ Shimokoshiki 9.05 34 P **Pn** 13 44 40.9 +3.9
HKPS Hong Kong Po S 9.08 259 **Pn** 13 44 39.0 +1.6
HKPS Hong Kong Po S 9.08 259 P **Pn** 13 44 39.2 +1.8
GZH Guangzhou 9.64 265 P Pn 13 44 40.1 -4.9
GZH S **Sn** 13 46 24.0 -8.8
GZH pmax pmax
comp=N,39nm,0.9s
GZH LR LR
comp=N,4μm,9.8s
GZH LR LR
comp=N,4μm,7.3s
MCO Taipa Grande 9.64 259 P **Pn** 13 44 47.0 +1.9
WHN Wuhan 10.45 309 ⇑P **Pn** 13 44 56.9 +0.8
WHN sP 13 45 04.0
WHN S **Sn** 13 46 54.5 +1.8
WHN pmax pmax
comp=N,280nm,0.7s
WHN LR LR
comp=N,25μm,9.6s
WHN LR LR

WHN LR LR
comp=N,37µm,11.7s
TGY Tagaytay City 10.46 195 P **Pn** **13 44 59.0 +2.6**
TGY Tagaytay City 10.46 195 Pn **Pn** **13 44 59.0 +2.6**
comp=N,212nm,0.3s,baz=2.6,slow=7.5,SNR=7.5
TGY LR LR 13 49 19.7
comp=N,3µm,18.1s,baz=43,slow=39
CNSH ChangSha 10.49 294 ⇓P **Pn** **13 44 58.0 +1.3**
CNSH S **Sn** **13 46 55.9 +2.2**
CNSH LR LR
comp=N,8µm,8.6s
CNSH LR LR
comp=N,7µm,9.8s
CNSH LR LR
comp=N,7µm,12.9s
JNU Nakatsue 10.79 34 Pn Pn 13 45 06.1 +5.2
JNU Nakatsue 10.79 34 P **Pn** **13 45 04.2 +3.3**
JNU Nakatsue 10.79 34 Pn **Pn** **13 45 02.7 +1.9**
comp=N,0.6nm,0.3s,baz=202,slow=6.0,SNR=3.8
JNU LR LR 13 49 44.2
comp=N,4µm,18.6s,baz=194,slow=41
JTU Tsushima 11.33 24 P Pn 13 45 12.4 +4.3
TJN Taejon 12.46 14 P **Pn** **13 45 26.6 +3.1**
TJN Taejon 12.46 14 *ce*P **Pn** **13 45 26.3 +2.8**
INCN Inchon 13.40 10 P **Pn** **13 45 40.3 +3.9**
INCN Inchon 13.40 10 P **Pn** **13 45 37.0 +0.6**
INCN P **Pn** **13 45 37.0 +0.6**
KSAR Wonju Array Be 13.59 14 Pn **Pn** **13 45 42.4 +3.4**
KSAR Wonju Array Be 13.59 14 P **Pn** **13 45 42.4 +3.4**
KSRS Korea Array 13.61 14 Pn **Pn** **13 45 42.5 +3.2**
comp=N,0.6nm,0.3s,baz=196,slow=13,SNR=32
KSRS LR LR 13 51 30.4
comp=N,4µm,18.8s,baz=195,slow=40
KS19 Wonju Array Si 13.65 14 **Pn** **13 45 41.5 +1.6**
QIZ Qiongzhong 13.96 251 P **Pn** **13 45 46.6 +2.3**
QIZ pP **P** **13 45 50.6 -1.6**
QIZ S **Sn** **13 48 19.5 +0.6**
QIZ SS **S** **13 48 39.7 -0.7**
QIZ pmax pmax
comp=N,17nm,1.2s
QIZ LR LR
comp=N,7µm,19.3s
QIZ LR LR
comp=N,4µm,16.8s
QIZ LR LR
comp=N,4µm,16.0s
QIZ Qiongzhong 13.96 251 Pn **Pn** **13 45 43.2 -1.1**
QIZ Qiongzhong 13.96 251 P **Pn** **13 45 46.8 +2.5**
ENH Enshi 14.04 298 Pn **Pn** **13 45 45.3 0.0**
ENH Enshi 14.04 298 P **Pn** **13 45 47.6 +2.3**
LYN LuoYang 14.21 319 ⇑P **Pn** **13 45 48.2 +0.7**
LYN pP P 13 45 50.8 -4.0
LYN PP **PnPn** **13 45 57.5 +2.0**
LYN S S 13 48 35.2 -10
LYN pmax pmax
comp=N,150nm,1.8s
LYN pmax pmax
comp=N,2µm,6.5s
LYN LR LR
comp=N,10µm,13.6s
LYN LR LR
comp=N,8µm,12.9s
LYN LR LR
comp=N,14µm,14.6s
DL2 Dalian 14.71 353 P **P** **13 45 57.3 -3.0**
DL2 S **Sn** **13 48 44.7 +8.0**
DL2 pmax pmax
comp=N,140nm,1.3s
DL2 pmax pmax
comp=N,1µm,7.2s
DL2 LR LR
comp=N,10µm,13.6s
DL2 LR LR
comp=N,4µm,15.1s
DL2 LR LR
comp=N,9µm,12.7s
HNS HongShan 15.22 331 ⇓P **P** **13 46 03.7 -2.3**
HNS PP **sP** **13 46 17.3 +3.8**
HNS *e*S **Sn** **13 48 56.4 +7.2**
HNS SS **S** **13 49 09.0 +3.1**
HNS pmax pmax
comp=N,120nm,2.0s
HNS pmax pmax
comp=N,2µm,5.1s
HNS LR LR
comp=N,6µm,15.9s
HNS LR LR
comp=N,7µm,13.9s
HNS LR LR
comp=N,8µm,15.1s
GYA Guiyang 15.63 282 ⇓*i*P **Pn** **13 46 07.3 +0.6**
GYA pP pP 13 46 13.9 -2.1
GYA S **Sn** **13 49 00.0 +0.5**
GYA PcP **PcP** **13 51 07.2 -0.6**
GYA pmax pmax
comp=N,13nm,0.8s
GYA pmax pmax
comp=N,540nm,5.3s
GYA LR LR
comp=N,5µm,9.6s
GYA LR LR
comp=N,3µm,12.4s
GYA LR LR
comp=N,8µm,11.6s
INU Inuyama 15.92 43 P **P** **13 46 13.5 -0.3**
XAN Xi'an 16.21 310 ⇓P **Pn** **13 46 14.0 0.0**
XAN S **S** **13 49 21.8 -4.5**
XAN pmax pmax
comp=N,330nm,1.3s
XAN pmax pmax
comp=N,2µm,3.6s
XAN LR LR
comp=N,5µm,9.4s
XAN LR LR
comp=N,14µm,12.3s
XAN LR LR
comp=N,18µm,12.0s
JGF Kuroka 16.29 43 P **P** **13 46 16.5 -1.4**
TIY Taiyuan 16.54 327 ⇑P **P** **13 46 22.2 +1.4**
TIY S **Sn** **13 49 16.0 -5.5**
TIY sS **S** **13 49 35.6 +2.6**
TIY pmax pmax
comp=N,51nm,1.0s
TIY pmax pmax
comp=N,2µm,9.4s
TIY LR LR
comp=N,7µm,13.5s
TIY LR LR
comp=N,4µm,9.8s
TIY LR LR
comp=N,5µm,16.5s
JCJ Chichijima 16.83 76 LR LR 13 52 12.2
comp=N,1µm,19.7s,baz=246,slow=35
BJT Baijiatuau 16.96 340 P **P** **13 46 24.1 -1.2**
BJT Baijiatuau 16.96 340 P **P** **13 46 26.3 +1.0**
BJT Baijiatuau 16.96 340 P **P** **13 46 24.1 -1.2**
BJT pmax pmax
comp=Z,81nm,0.9s
BJI Beijing 16.98 340 P **P** **13 46 25.3 -0.2**
BJI S **S** **13 49 38.2 -3.6**
BJI pmax pmax
comp=Z,16nm,1.5s
BJI pmax pmax
comp=Z,1µm,8.4s
BJI LR LR
comp=Z,2µm,13.8s
BJI LR LR
comp=Z,2µm,14.2s
BJI LR LR
comp=Z,3µm,15.2s
DAV Davao City (W) 17.19 174 P **P** **13 46 30.4 +2.5**
comp=Z,200nm,0.4s,baz=343,slow=4.8,SNR=4.8
DAV Davao City (W) 17.19 174 ⇓*e*P **P** **13 46 29.0 +1.0**
MAJO Matsushiro 17.42 42 **P** **13 46 29.2 -1.3**
MAJO Matsushiro 17.42 42 P **P** **13 46 33.6 +3.1**
MAJO Matsushiro 17.42 42 *i* P **P** **13 46 29.9 -0.6**
MAJO pmax pmax
comp=Z,33nm,1.0s
MJAR Matsushiro Arr 17.42 42 P **P** **13 46 29.5 -1.0**
comp=Z,0.2nm,0.3s,baz=233,slow=9.5,SNR=14
comp=Z,13nm,0.9s
MJB9 Matsu-Tunnel 17.42 42 P **P** **13 46 30.3 -0.2**
SNY Shenyang 17.51 359 ⇓P **P** **13 46 31.9 +0.5**
SNY S **S** **13 49 50.1 -2.5**

SNY pmax pmax
comp=Z,52nm,1.1s
SNY pmax pmax
comp=Z,2µm,9.6s
SNY LR LR
comp=Z,8µm,13.3s
SNY LR LR
comp=Z,7µm,11.8s
SNY LR LR
comp=Z,11µm,13.3s
SLVN Son La 18.56 265 P **P** **13 46 39.8 -3.4**
CD2 Chengdu 18.93 295 ⇓P **Pn** **13 46 47.5 -0.3**
CD2 S **Sn** **13 50 12.2 -7.2**
CD2 pmax pmax
comp=Z,90nm,1.0s
CD2 pmax pmax
comp=Z,940nm,5.6s
CD2 LR LR
comp=Z,7µm,9.0s
CD2 LR LR
comp=Z,6µm,8.3s
CD2 LR LR
comp=Z,4µm,7.6s
KMI Kunming 19.14 277 ⇓P **Pn** **13 46 52.6 +2.0**
KMI pmax pmax
comp=Z,53nm,1.4s
KMI pmax pmax
comp=Z,1µm,5.2s
KMI LR LR
comp=Z,3µm,11.5s
KMI LR LR
comp=Z,3µm,12.2s
KMI LR LR
comp=Z,4µm,15.5s
UBPT Khong Chiam 19.40 246 **P** **13 46 52.5 +0.1**
UBPT Khong Chiam 19.40 246 P **Pn** **13 46 54.5 +1.0**
HHC Hu-ho-hao-te 19.44 331 ⇓P **Pn** **13 46 54.6 +0.6**
HHC pP sP 13 46 58.2 -2.1
HHC PP **PnPn** **13 47 12.5 +5.1**
HHC S **S** **13 50 36.0 +4.1**
HHC pmax pmax
comp=Z,49nm,1.0s
HHC pmax pmax
comp=Z,2µm,6.6s
HHC LR LR
comp=Z,5µm,12.8s
HHC LR LR
comp=Z,3µm,12.3s
HHC LR LR
comp=Z,6µm,12.4s
KKM Kota Kinabalu 19.52 203 P **Pn** **13 46 54.3 -0.8**
KKM Kota Kinabalu 19.52 203 P **Pn** **13 46 55.1 0.0**
CN2 Changchun 19.53 4 *e*P **Pn** **13 46 53.7 -1.2**
CN2 *es*P sP 13 47 00.5 -0.7
CN2 *eS* **S** **13 50 27.3 -6.1**
CN2 pmax pmax
comp=Z,80nm,1.0s
CN2 pmax pmax
comp=Z,1µm,4.0s
CN2 LR LR
comp=Z,5µm,11.0s
CN2 LR LR
comp=Z,6µm,11.0s
CN2 LR LR
comp=Z,4µm,12.0s
JMM Marumori 19.86 43 P **P** **13 46 54.5 -2.7**
BTO Baotou 19.96 328 *e*P **Pn** **13 47 01.0 +0.8**
BTO pP **sP** **13 47 04.8 -1.2**
BTO sP **pP** **13 47 08.1 +4.4**
BTO PP **PnPn** **13 47 20.5 +6.0**
BTO S **Sn** **13 50 45.5 +1.2**
BTO sS **sS** **13 50 50.3 +0.3**
BTO SS **SnSn** **13 51 10.7 +12**
BTO pmax pmax
comp=Z,160nm,1.3s
BTO pmax pmax
comp=Z,3µm,9.4s
BTO LR LR
comp=Z,12µm,14.4s
BTO LR LR
comp=Z,11µm,13.6s
BTO LR LR
comp=Z,14µm,15.7s
PZH PanZhiHua 20.03 281 P Pn 13 47 01.2 0.0
PZH sP sP 13 47 09.9 +3.0
PZH PP **PnPn** **13 47 24.4 +8.9**
PZH S **S** **13 50 40.0 -4.0**
PZH pmax pmax
comp=Z,90nm,1.1s
PZH pmax pmax
comp=Z,430nm,3.5s
PZH LR LR
comp=Z,4µm,12.7s
PZH LR LR
comp=Z,3µm,11.7s
PZH LR LR
comp=Z,4µm,13.5s
NONG Nongkai 20.20 256 P Pn 13 47 03.9 +0.9
XLT XiLinHaoTe 20.58 344 *e*P **P** **13 47 04.1 -1.0**
XLT pP pP 13 47 08.2 -2.1
XLT sP sP 13 47 12.6 -0.1
XLT PP **PnPn** **13 47 25.1 +2.2**
XLT S Sn 13 50 57.6 -1.3
XLT sS sS 13 51 01.4 -0.6
XLT SS **SnSn** **13 51 19.8 +5.9**
XLT pmax pmax
comp=Z,760nm,3.6s
XLT LR LR
comp=Z,560nm,13.3s
XLT LR LR
comp=Z,4µm,13.1s
XLT LR LR
comp=Z,8µm,13.9s
LZH Lanzhou 20.83 309 ⇓P Pn 13 47 09.0 -1.5
LZH sP sP 13 47 16.8 +1.5
LZH S **S** **13 50 58.5 -1.3**
LZH SS **SnSn** **13 51 32.9 +13**
LZH pmax pmax
comp=Z,210nm,1.6s
LZH LR LR
comp=Z,4µm,16.8s
LZH LR LR
comp=Z,7µm,15.5s
LZH LR LR
comp=Z,10µm,15.1s
MDJ Mudanjiang 20.84 12 P Pn 13 47 10.5 +0.1
MDJ pP sP 13 47 13.8 -1.7
MDJ sP pP 13 47 17.1 +3.9
MDJ pmax pmax
comp=Z,34nm,0.9s
MDJ pmax pmax
comp=Z,790nm,3.6s
MDJ LR LR
comp=Z,5µm,11.2s
MDJ LR LR
comp=Z,3µm,11.0s
MDJ LR LR
comp=Z,6µm,11.2s
MDJ Mudanjiang 20.84 12 P Pn 13 47 11.4 +1.0
USA0B Ussuriysk Arra 20.99 17 P **P** **13 47 07.1 -2.3**
USA0B Ussuriysk Arra 20.99 17 P **P** **13 47 07.1 -2.3**
USA0B pmax pmax
comp=Z,25nm,0.9s
USRK Ussuriysk Ar. 20.99 17 P **P** **13 47 06.8 -2.6**
USRK Ussuriysk Ar. 20.99 17 P **P** **13 47 07.8 -1.5**
comp=Z,2.5nm,0.5s,baz=200,slow=9.3,SNR=9.5
USRK LR LR 13 55 31.9
comp=Z,3µm,19.2s,baz=190,slow=38
BNX BinXian 21.62 7 P **P** **13 47 15.2 -1.0**
BNX pP **pP** **13 47 19.6 -2.0**
BNX sP **sP** **13 47 22.8 -1.0**
BNX PP **PnPn** **13 47 39.6 +2.5**
BNX S **S** **13 51 15.0 +0.1**
BNX sS **sS** **13 51 18.0 -4.5**
BNX pmax pmax
comp=Z,79nm,1.1s
BNX pmax pmax
comp=Z,780nm,4.6s
BNX LR LR
comp=Z,5µm,9.7s
BNX LR LR
comp=Z,4µm,10.1s
BNX LR LR
comp=Z,5µm,10.1s
PHRA Phrae 22.66 260 P **P** **13 47 25.1 -2.4**

TNCH TengChong 22.97 277 ⇓P **P** **13 47 32.4 +1.4**
TNCH pP sP 13 47 38.1 -0.3
TNCH sP pP 13 47 41.4 +5.2
TNCH PP **PnPn** **13 47 59.5 +3.7**
TNCH S **S** **13 51 35.2 -5.4**
TNCH sS pS 13 51 44.1 -2.7
TNCH pmax pmax
comp=Z,160nm,1.7s
TNCH pmax pmax
comp=Z,960nm,3.9s
TNCH LR LR
comp=Z,2µm,9.2s
TNCH LR LR
comp=Z,2µm,9.1s
TNCH LR LR
comp=Z,3µm,10.2s
TOLI2 Tolitoli 23.20 188 P **P** **13 47 30.0 -3.2**
TOLI2 IAmb IAmb 13 47 39.8
comp=Z,187nm,1.2s
TOLI2 Tolitoli 23.20 188 P **P** **13 47 34.1 +0.9**
NAYO Nakonayok 23.36 249 P **P** **13 47 37.5 +2.7**
GTOI Gorontalo 23.50 182 P **P** **13 47 33.4 -2.8**
comp=Z,68nm,1.1s,comp=Z,1µm
KMSI Cibinong 23.55 180 P **P** **13 47 38.2 +1.5**
comp=Z,360nm,1.2s,comp=Z,5µmcomp=Z,2µm
TNTI Ternate 23.61 171 P **P** **13 47 38.1 +0.8**
TNTI Ternate 23.61 171 P **P** **13 47 37.5 +0.2**
comp=Z,251nm,1.2s,comp=Z,5µmcomp=Z,2µm
CHTO Chiang Mai 23.71 262 P **P** **13 47 38.8 +0.5**
CHTO Chiang Mai 23.71 262 P **P** **13 47 39.6 +1.3**
CHTO Chiang Mai 23.71 262 P **P** **13 47 38.8 +0.5**
CHTO pmax pmax
comp=Z,135nm,1.5s
CHTO Chiang Mai 23.71 262 P **P** **13 47 40.0 +1.7**
MRSI Marisa 23.72 185 P **P** **13 47 39.7 +1.4**
comp=Z,227nm,1.6s,comp=Z,5µmcomp=Z,2µm
CMAR Chiang Mai Arr 23.83 261 *i* P **P** **13 47 40.5 +1.2**
CMAR pmax pmax
comp=Z,12nm,1.0s
CMAR Chiang Mai Arr 23.83 261 P **P** **13 47 40.5 +1.2**
comp=Z,11nm,1.0s,baz=58,slow=8.1,SNR=48
CMAR PcP **PcP** **13 51 23.1 +0.6**
comp=Z,2.2nm,0.9s,baz=320,slow=0.0,SNR=4.6
CMAR LR LR 13 56 25.8
comp=Z,2µm,20.5s,baz=65,slow=35
comp=Z,11nm,1.0s
MPSI Mapaga 24.09 190 P **P** **13 47 42.7 +1.0**
comp=Z,136nm,1.3s,comp=Z,2µmcomp=Z,2µm
SBUM Sibu 24.40 209 P **P** **13 47 40.3 -4.3**
LBMI Labuha 25.02 171 P **P** **13 47 50.8 +0.5**
comp=Z,494nm,1.2s,comp=Z,7µm
ASAJ Asahikawa 25.07 33 P **P** **13 47 47.0 -3.5**
ASAJ pmax pmax
comp=Z,64nm,1.2s
ASAJ Asahikawa 25.07 33 LR LR 13 58 03.5
comp=Z,2µm,21.8s,baz=288,slow=38
JKA Kamikawa-asahi 25.08 33 P **P** **13 47 47.0 -3.5**
HIA Hailar 25.15 354 P **P** **13 47 49.6 -1.6**
HIA pmax pmax
comp=Z,39nm,1.1s
LUWI Luwuk 25.18 182 P **P** **13 47 48.7 -3.0**
LUWI IAmb IAmb 13 47 56.6
comp=Z,248nm,1.2s
LUWI Luwuk 25.18 182 P **P** **13 47 53.3 +1.6**
LUWI Luwuk 25.18 182 P **P** **13 47 51.2 -0.5**
comp=Z,299nm,1.2s,comp=Z,4µm
GTA Gaotai 25.24 312 ⇓P **P** **13 47 51.0 -1.3**
GTA sP sP 13 48 05.0 +4.8
GTA S **S** **13 52 21.6 +4.5**
GTA pmax pmax
comp=Z,42nm,1.2s
GTA LR LR
comp=Z,3µm,12.3s
GTA LR LR
comp=Z,5µm,11.6s
GTA LR LR
comp=Z,4µm,12.4s
MND Mandalay 25.52 271 P **P** **13 47 57.4 +2.6**
KLR Kul'dur 25.69 12 *ce*P **P** **13 47 55.3 -0.7**
KLR pmax pmax
comp=Z,37nm,1.3s
KLR Kul'dur 25.69 12 LR LR 13 58 27.5
comp=Z,3µm,19.3s,baz=192,slow=38
SWI Sorong 26.02 163 P **P** **13 48 01.0 +1.7**
SWI pmax pmax
comp=Z,83nm,1.2s
SWI Sorong 26.02 163 P **P** **13 47 59.8 +0.5**
comp=Z,84nm,1.2s,comp=Z,1µm
HEH HeiHe 26.09 5 *e*P **P** **13 47 58.6 -1.1**
HEH pP **pP** **13 48 03.2 -2.2**
HEH S **S** **13 52 30.9 +0.9**
HEH pmax pmax
comp=Z,52nm,1.3s
HEH pmax pmax
comp=Z,470nm,5.8s
HEH LR LR
comp=Z,5µm,13.0s
HEH LR LR
comp=Z,4µm,11.2s
HEH LR LR
comp=Z,7µm,10.8s
BKB Balikpapan 26.24 196 P **P** **13 48 03.1 +1.8**
BKB Balikpapan 26.24 196 P **P** **13 47 59.4 -1.9**
comp=Z,103nm,1.2s,comp=Z,3µm
SANI Sanana 26.25 175 P **P** **13 48 02.8 +1.4**
SANI Sanana 26.25 175 P **P** **13 47 59.9 -1.5**
comp=Z,125nm,0.9s,comp=Z,2µmcomp=Z,2µm
MTKI Muara Teweh, K 26.50 200 P **P** **13 48 04.7 +1.0**
comp=Z,105nm,1.1s
ULN Ulaanbaatar 27.04 335 P **P** **13 48 05.4 -3.1**
ULN Ulaanbaatar 27.04 335 *ce*P **P** **13 48 06.4 -2.1**
ULN pmax pmax
comp=Z,62nm,2.5s
ULN Ulaanbaatar 27.04 335 P **P** **13 48 07.0 -1.5**
YSS Yuzh-Sakhalins 27.25 29 P **P** **13 48 14.2 +4.0**
YSS Yuzh-Sakhalins 27.25 29 *e*P **P** **13 48 12.8 +2.6**
YSS *e* 13 48 56.6
YSS *eS* **S** **13 52 49.0 +0.6**
YSS pmax pmax
comp=Z,40nm,0.8s
YSS MLR MLR
comp=Z,2µm,16.0s
SONM Songino Array 27.27 334 P **P** **13 48 09.1 -1.5**
SONM Songino Array 27.27 334 P **P** **13 48 09.4 -1.2**
comp=Z,11nm,0.6s,baz=150,slow=8.0,SNR=75
SONM PcP **PcP** **13 51 29.9 -0.1**
comp=Z,6.5nm,1.0s,baz=174,slow=4.0,SNR=4.5
SONM ScP **ScP** **13 55 09.5 -0.1**
comp=Z,2.9nm,1.0s,baz=152,slow=4.6,SNR=5.5
SONM LR LR 14 00 09.0
comp=Z,3µm,18.5s,baz=146,slow=39
comp=Z,11nm,0.6s
TTSI Tana Toraja 27.42 189 P **P** **13 48 14.5 +2.6**
comp=Z,90nm,1.4s,comp=Z,906nm
NLAI Namlea 27.53 173 P **P** **13 48 12.6 -0.3**
comp=Z,156nm,1.2s
GOMU GeErMu 27.60 302 P **P** **13 48 14.4 +0.5**
GOMU pP pP 13 48 19.3 -0.3
GOMU sP sP 13 48 21.1 -0.7
GOMU S **S** **13 52 58.8 +3.9**
GOMU pmax pmax
comp=Z,10.0nm,0.8s
SRIT Nakonsritamara 27.86 240 P **P** **13 48 18.7 +2.7**
FAKI Fak Fak 28.25 162 P **P** **13 48 16.5 -2.9**
FAKI IAmb IAmb 13 48 24.4
comp=Z,97nm,1.1s
FAKI Fak Fak 28.25 162 P **P** **13 48 17.4 -2.0**
comp=Z,93nm,1.1s,comp=Z,1µm
UGL Uglegorsk 28.63 26 *e*P **P** **13 48 22.8 +0.4**
UGL *eS* **S** **13 53 12.8 +2.8**
UGL MLR MLR
comp=N,2µm,11.0s
UGL MLR MLR
comp=E,4µm,15.0s
UGL MLR MLR
comp=Z,3µm,15.0s
CIT Chita 28.80 347 *e*P **P** **13 48 22.0 -2.0**
CIT *e* 13 49 24.3
CIT pmax pmax
comp=Z,145nm,2.0s
KULM Kulim 29.17 233 P **P** **13 48 25.8 -1.8**
IPM Ipoh 29.45 232 P **P** **13 48 29.2 -0.9**
IPM Ipoh 29.45 232 P **P** **13 48 32.5 +2.4**
LSA Lhasa 29.52 288 P **P** **13 48 30.2 -0.9**
LSA Lhasa 29.52 288 P **P** **13 48 30.2 -0.9**

LSA pmax pmax
comp=Z,29nm,0.7s
LSA Lhasa 29.52 288 P **P** **13 48 32.3 +1.2**
LSA Lhasa 29.52 288 P **P** **13 48 30.4 -0.7**
LSA P **P** **13 48 30.4 -0.7**
ZEA Zeya 29.55 4 *e*P **P** **13 48 29.3 -1.2**
ZEA *e* 13 49 40.4
ZEA *e* 13 51 31.1
ZEA *e*S **S** **13 53 17.1 -7.3**
ZEA pmax pmax
comp=N,20nm,1.3s
ZEA pmax pmax
comp=Z,40nm,1.0s
ZEA pmax pmax
comp=Z,200nm,2.3s
ZEA pmax pmax
comp=E,300nm,4.9s
ZEA pmax pmax
comp=Z,300nm,4.6s
ZEA smax smax
comp=N,300nm,5.5s
ZEA MLR MLR
comp=E,1µm,13.0s
ZEA MLR MLR
comp=N,3µm,14.0s
ZEA MLR MLR
comp=Z,3µm,12.0s
TPRI Tanjung Pinang 29.77 222 P P 13 48 40.8 +7.9
SMPI Sarmi 29.86 149 P P 13 48 40.7 +7.0
TYV Tymovskoe 30.29 24 *e*P P 13 48 52.3 +15
TYV pmax pmax
comp=Z,15nm,1.3s
TYV pmax pmax
comp=Z,100nm,4.3s
ZAK Zakamensk 30.54 334 *e*P **P** **13 48 37.4 -2.1**
ZAK pmax pmax
comp=Z,11nm,1.2s
PPBI Pangkal Pinang 31.37 216 P P 13 48 52.4 +5.3
IRK Irkutsk 31.65 337 *e*P **P** **13 48 47.8 -1.4**
IRK pmax pmax
comp=Z,60nm,2.2s
PSI Prapat 32.12 232 P **P** **13 48 57.1 +3.3**
PSI Prapat 32.12 232 P **P** **13 48 55.2 +1.4**
PSI pmax pmax
comp=Z,49nm,1.0s
BKNI Bangkinang 32.43 226 P **P** **13 48 58.2 +1.8**
BKNI Bangkinang 32.43 226 P P 13 49 01.7 +5.3
MOY Mondy 32.45 333 *e*P **P** **13 48 54.2 -2.2**
MOY pmax pmax
comp=Z,89nm,2.1s
KCSI Kotacane, Aceh 32.47 235 P P 13 49 02.1 +5.3
KMMI Kalianget 32.57 198 P **P** **13 48 58.3 +0.8**
comp=Z,93nm,1.1s
MMRI Maumere 32.74 183 P **P** **13 48 59.0 -0.1**
MMRI Maumere 32.74 183 P **P** **13 48 58.2 -0.8**
comp=Z,180nm,1.1s,comp=Z,2µm
EDFI Ende, Flores 32.88 184 P **P** **13 48 58.8 -1.6**
comp=Z,232nm,1.0s,comp=Z,3µm
SRBI Singaraja 33.23 196 P **P** **13 49 03.4 +0.1**
comp=Z,65nm,1.0s,comp=Z,836nm
PLAI Plampang 33.41 191 P **P** **13 49 07.3 +2.4**
PLAI Plampang 33.41 191 P **P** **13 49 03.7 -1.2**
comp=Z,114nm,0.9s,comp=Z,1µm
TWSI Taliwang, Sumb 33.49 192 P **P** **13 49 04.4 -1.2**
comp=Z,113nm,1.0s,comp=Z,1µm
NGJI Ngawi 33.66 202 P **P** **13 49 09.5 +2.4**
SMRI Semarang 33.74 204 P **P** **13 49 10.5 +2.7**
SMRI Semarang 33.74 204 P **P** **13 49 10.8 +3.0**
PDSI Padang 33.74 225 P **P** **13 49 11.3 +3.4**
DNP Denpasar 33.80 195 P **P** **13 49 09.5 +1.3**
DNP pmax pmax
comp=Z,545nm,1.4s
DNP Denpasar 33.80 195 P **P** **13 49 10.0 +1.8**
SOEI Soe 33.82 179 P **P** **13 49 09.1 +0.5**
SOEI Soe 33.82 179 P **P** **13 49 10.7 +2.1**
JAGI Jajag, Banyuwa 33.87 197 P **P** **13 49 07.8 -1.1**
JAGI IAmb IAmb 13 49 26.9
comp=Z,84nm,1.1s
JAGI Jajag, Banyuwa 33.87 197 P **P** **13 49 11.6 +2.7**
JAGI Jajag, Banyuwa 33.87 197 P **P** **13 49 08.4 -0.5**
comp=Z,75nm,1.1s,comp=Z,1µm
IGBI Denpasar 33.95 195 P **P** **13 49 12.5 +2.9**
KRJI Kerinci 34.01 223 P **P** **13 49 12.5 +2.2**
comp=Z,312nm,1.1s,comp=Z,14µm
GSI Gunungsitoli 34.12 232 P **P** **13 49 10.3 -0.8**
GSI IAmb IAmb 13 49 19.0
comp=Z,53nm,1.0s
GSI Gunungsitoli 34.12 232 P **P** **13 49 12.1 +1.0**
GSI Gunungsitoli 34.12 232 P **P** **13 49 10.4 -0.8**
comp=Z,45nm,0.9s
PWJI Pagerwojo 34.16 201 P **P** **13 49 11.1 -0.3**
comp=Z,132nm,1.0s,comp=Z,1µm
BOD Bodaibo 34.25 351 *e*P **P** **13 49 09.6 -2.2**
BOD pmax pmax
comp=Z,21nm,2.0s
SNSI Sinabang, Aceh 34.29 235 P **P** **13 49 13.2 +0.6**
comp=Z,68nm,0.9s,comp=Z,3µm
UGM Wanagama 34.50 204 P **P** **13 49 17.0 +2.6**
UGM Wanagama 34.50 204 P **P** **13 49 11.0 -3.4**
comp=Z,225nm,2.1s
PBSI Pulau Batu 34.58 229 P **P** **13 49 12.7 -2.4**
comp=Z,73nm,0.9s
KPJI Karang Pucung 34.59 207 P **P** **13 49 13.5 -1.6**
comp=Z,42nm,1.8s
LEM Lembang 34.70 209 P **P** **13 49 18.1 +1.8**
LEM pmax pmax
comp=Z,49nm,1.0s
LEM Lembang 34.70 209 LR LR 14 05 43.6
comp=Z,595nm,18.2s,baz=36,slow=40
MANU Manus Island 34.77 135 P **P** **13 49 19.0 +2.2**
DBJI Dramaga 34.85 211 P P 13 49 23.3 +5.9
LWLI Liwa 34.88 216 P P 13 49 22.5 +4.7
SISI Saibi 34.96 227 P **P** **13 49 18.1 -0.2**
comp=Z,107nm,1.0s,comp=Z,932nm
KASI Kota Agung 35.07 215 P **P** **13 49 21.6 +2.3**
BBJI Bungbulang 35.25 209 P **P** **13 49 23.0 +2.1**
WMQ Urumqi 35.33 312 P **P** **13 49 21.1 -0.3**
WMQ PP **PP** **13 50 44.7 +3.1**
WMQ pmax pmax
comp=Z,36nm,1.3s
WMQ pmax pmax
comp=Z,230nm,6.1s
WMQ LR LR
comp=Z,2µm,13.5s
WMQ LR LR
comp=Z,2µm,12.1s
WMQ LR LR
comp=Z,780nm,16.5s
PPSI Pulau Pagai 35.44 224 P **P** **13 49 21.5 -1.0**
comp=Z,157nm,1.0s,comp=Z,2µm
DRS Darwin Rock St 37.13 168 P **P** **13 49 39.9 +3.0**
MTN Manton Dam 37.58 168 IAmb IAmb 13 49 45.0
comp=Z,125nm,1.3s
MTN Manton Dam 37.58 168 P **P** **13 49 43.2 +2.5**
KDU Kakadu 37.70 166 P **P** **13 49 44.7 +3.0**
YAK Yakutsk 37.96 5 P **P** **13 49 41.3 -2.2**
YAK IAmb IAmb 13 49 42.0
comp=Z,56nm,0.8s
YAK Yakutsk 37.96 5 *e*P **P** **13 49 40.2 -3.2**
YAK *e* 13 51 54.9
YAK *e*S **S** **13 55 31.3 -3.0**
YAK *e* 13 59 50.3
YAK pmax pmax
comp=Z,79nm,1.3s
YAK pmax pmax
comp=N,22nm,1.4s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK smax smax
comp=N,218nm,5.3s
YAK smax smax
comp=E,106nm,6.3s
YAK MLR MLR
comp=Z,2µm,15.0s
YAK MLR MLR
comp=N,776nm,10.0s
YAK MLR MLR
comp=E,510nm,15.0s
YAK Yakutsk 37.96 5 LR LR 14 04 54.1
comp=E,1µm,21.2s,baz=180,slow=36
DGZ Jazzator, Alta 37.99 321*d*iP **P** **13 49 42.6 -1.5**
DGZ pmax pmax
comp=Z,5.0nm,0.6s
PEA0B Petropavlovsk- 38.49 33 P **P** **13 49 46.9 -1.2**
PEA0B Petropavlovsk- 38.49 33 P **P** **13 49 46.9 -1.2**
PEA0B pmax pmax
comp=Z,71nm,1.5s
PETK Petropavlovsk- 38.49 33 P **P** **13 49 46.9 -1.2**
PETK Petropavlovsk- 38.49 33 P **P** **13 49 47.1 -1.0**
comp=Z,7.9nm,0.8s,baz=258,slow=1.9,SNR=9.2
PETK LR LR 14 05 55.5
comp=Z,583nm,18.1s,baz=222,slow=37
comp=Z,7.9nm,0.8s
ZSN Zaisan 38.54 317 *e*P **P** **13 49 47.8 -0.8**
ZSN pmax pmax
comp=Z,17nm,1.0s
ZSN Zaisan 38.54 317 *e*P **P** **13 49 47.9 -0.8**
comp=Z,17nm,1.0s,baz=317
RABL Rabaul 39.54 132 P **P** **13 50 00.3 +3.0**
MK31 Makanchi Array 39.94 315 P **P** **13 49 59.2 -1.2**
MK31 Makanchi Array 39.94 315 *i* P **P** **13 49 59.1 -1.2**
MKAR Makanchi Array 39.94 315 P **P** **13 49 59.2 -1.2**
comp=Z,43nm,0.8s,baz=104,slow=10,SNR=324
MKAR PcP **PcP** **13 52 05.7 +0.2**
comp=Z,3.9nm,0.7s,baz=70,slow=3.8,SNR=2.4
MKAR ScP **ScP** **13 55 53.5 -0.3**
comp=Z,1.2nm,0.8s,baz=97,slow=3.5,SNR=3.9
MKAR LR LR 14 07 48.4
comp=Z,1µm,21.5s,baz=102,slow=38
comp=Z,43nm,0.8s
KNRA Kununurra 40.00 173 P **P** **13 50 00.8 -0.2**
KNRA Kununurra 40.00 173 P **P** **13 50 03.4 +2.4**
MA2 Magadan 40.03 21 LR LR 14 07 47.4
comp=Z,1µm,19.1s,baz=223,slow=38
H11N1 WAKE ISLAND Hy 40.12 88 T T 14 32 39.5
baz=284,slow=74,SNR=96
H11N2 WAKE ISLAND Hy 40.12 88 T T 14 32 40.6
baz=284,slow=74,SNR=125
H11N3 WAKE ISLAND Hy 40.13 88 T T 14 32 42.2
baz=284,slow=74,SNR=109
MAKZ Makanchi 40.15 315 P **P** **13 50 01.0 -1.0**
MAKZ Makanchi 40.15 315 P **P** **13 50 01.7 -0.4**
H11S3 WAKE ISLAND Hy 40.25 90 T T 14 32 49.9
baz=290
H11S1 WAKE ISLAND Hy 40.26 90 T T 14 32 50.2
baz=290
H11S2 WAKE ISLAND Hy 40.27 90 T T 14 32 49.3
baz=290
PMG Port Moresby 40.51 143 P **P** **13 50 06.0 +0.8**
PMG Port Moresby 40.51 143 P **P** **13 50 08.1 +2.8**
PMG Port Moresby 40.51 143 P **P** **13 50 08.6 +3.3**
PMG Port Moresby 40.51 143 *i* P **P** **13 50 05.6 +0.3**
PMG pmax pmax
comp=Z,67nm,1.1s
PMG Port Moresby 40.51 143 P **P** **13 50 06.1 +0.8**
comp=Z,50nm,0.9s,baz=3.2,slow=3.8,SNR=15
PMG LR LR 14 06 08.5
comp=Z,555nm,19.9s,baz=302,slow=35
comp=Z,50nm,0.9s
SHLS Shalkode 40.85 309 *e*P **P** **13 50 05.1 -2.9**
SHLS pmax pmax
comp=Z,24nm,0.9s
SHLS Shalkode 40.85 309 *e*P **P** **13 50 05.2 -2.9**
comp=Z,24nm,0.9s,baz=309
PDGK Podgornoye 40.87 309 P **P** **13 50 07.4 -0.8**
UZB Uzynbulak 41.16 308 *e*P **P** **13 50 09.8 -0.8**
UZB pmax pmax
comp=Z,23nm,1.1s
UZB Uzynbulak 41.16 308 *e*P **P** **13 50 09.9 -0.8**
comp=Z,23nm,1.1s,baz=308
KPKS Kokpek 41.48 309 *e*P **P** **13 50 12.6 -0.5**
KPKS Kokpek 41.48 309 *e*P **P** **13 50 12.7 -0.5**
baz=309
PRZ Przheval'sk 41.48 307 P **P** **13 50 14.3 +1.0**
PRZ pmax pmax
comp=Z,68nm,1.2s
ZALV Zalesovo Beam 41.48 326 P **P** **13 50 11.2 -1.7**
ZALV Zalesovo Beam 41.48 326 *i* P **P** **13 50 10.8 -2.1**
ZALV pmax pmax
comp=Z,16nm,0.8s
ZALV Zalesovo Beam 41.48 326 P **P** **13 50 10.9 -2.0**
comp=Z,16nm,0.8s,baz=112,slow=7.0,SNR=43
ZALV PcP **PcP** **13 52 09.3 -1.1**
comp=Z,1.9nm,0.4s,baz=110,slow=4.4,SNR=4.2
ZALV LR LR 14 08 32.4
comp=Z,2µm,21.0s,baz=126,slow=38
comp=Z,16nm,0.8s
SATY Saty 41.59 308*d* iP **P** **13 50 13.7 -0.4**
SATY pmax pmax
comp=Z,33nm,1.1s
SATY Saty 41.59 308‖ *i*P **P** **13 50 13.8 -0.4**
comp=Z,33nm,1.1s,baz=308
ZHN Zhinishke 41.59 308 *e*P **P** **13 50 13.6 -0.5**
ZHN pmax pmax
comp=Z,22nm,1.1s
ZHN Zhinishke 41.59 308 *e*P **P** **13 50 13.6 -0.5**
comp=Z,22nm,1.1s,baz=308
TARG Taragay, Kyrgy 41.77 306 P **P** **13 50 14.8 -1.2**
TARG Taragay, Kyrgy 41.77 306 P **P** **13 50 14.8 -1.2**
TARG pmax pmax
comp=Z,61nm,1.4s
TDK Taldyqorghan 42.02 311 *e*P **P** **13 50 17.2 -0.3**
TDK Taldyqorghan 42.02 311 *e*P **P** **13 50 17.2 -0.3**
baz=311
ANVS Anan'yevo 42.06 308 P **P** **13 50 18.2 +0.1**
ANVS pmax pmax
comp=Z,44nm,0.9s
FITZ Fitzroy Crossi 42.15 177 P **P** **13 50 18.1 -0.6**
FITZ Fitzroy Crossi 42.15 177 P **P** **13 50 21.4 +2.7**
COEN Coen 42.45 151 P **P** **13 50 22.3 +1.1**
SEM Semipalatinsk 42.48 319 *e*P **P** **13 50 20.8 -0.6**
SEM pmax pmax
comp=Z,27nm,0.8s
SEM Semipalatinsk 42.48 319 *e*P **P** **13 50 20.8 -0.6**
comp=Z,27nm,0.8s,baz=319
MDOK Medeo 42.58 308 *e*P **P** **13 50 21.9 -0.4**
MDOK Medeo 42.58 308 *e*P **P** **13 50 21.9 -0.4**
baz=308
TNSS Tian-Shan 42.63 308 *e*P **P** **13 50 23.0 0.0**
TNSS Tian-Shan 42.63 308 *e*P **P** **13 50 23.0 0.0**
baz=308
HYB Hyderabad 42.67 270‖ *e*P **P** **13 50 24.0 +0.8**
HYB IVmB_BB 13 50 24.6
comp=Z,425nm,2.8s
AAA Alma-Ata 42.69 308 *e*P **P** **13 50 22.6 -0.4**
AAA pmax pmax
comp=Z,33nm,1.0s
AAA Alma-Ata 42.69 308 *e*P **P** **13 50 22.6 -0.4**
comp=Z,33nm,1.0s,baz=308
CHKK Chushkaly 42.76 309 *e*P **P** **13 50 22.7 -0.8**
CHKK Chushkaly 42.76 309 *e*P **P** **13 50 22.7 -0.8**
baz=309
KSH Kashi 42.85 303 P **P** **13 50 27.2 +2.8**
KSH sP sP 13 50 40.5 +8.1
KSH PcP **PcP** **13 52 16.6 +1.2**
KSH S **S** **13 56 49.3 +1.1**
KSH SS **SS** **13 59 56.1 -3.4**
KSH pmax pmax
comp=Z,28nm,1.4s
KSH LR LR
comp=Z,1µm,11.4s
KSH LR LR
comp=Z,2µm,16.1s
KSH LR LR
comp=Z,3µm,16.2s
ULHL Ulahol 43.01 307 P **P** **13 50 26.0 +0.2**
SNR=47
SEY Seymchan 43.11 19*ce*P **P** **13 50 27.2 +1.2**
SEY pmax pmax
comp=Z,28nm,2.5s
SEY Seymchan 43.11 19 LR LR 14 09 07.3
comp=Z,1µm,20.5s,baz=210,slow=37
KUU Kurty 43.23 309 *e*P **P** **13 50 26.8 -0.5**
KUU pmax pmax
comp=Z,37nm,0.7s
KUU Kurty 43.23 309 *e*P **P** **13 50 26.8 -0.5**
comp=Z,37nm,0.7s,baz=309
BOOM Boomskoye usch 43.27 307 P **P** **13 50 27.7 -0.2**
BOOM pmax pmax
comp=Z,19nm,1.8s
KURK Kurchatov 43.56 319 P **P** **13 50 28.2 -1.7**
KURK IAmb IAmb 13 50 30.0
comp=Z,108nm,1.1s
KURK Kurchatov 43.56 319*ce*P **P** **13 50 28.8 -1.1**
KURK pmax pmax
comp=Z,118nm,1.3s
KURK Kurchatov 43.56 319 P **P** **13 50 28.2 -1.7**
KURBB Kurchatov Arra 43.59 319 P **P** **13 50 28.2 -1.8**
KURBB Kurchatov Arra 43.59 319 P **P** **13 50 29.0 -1.0**
comp=Z,48nm,1.0s,baz=110,slow=7.9,SNR=105
KURBB LR LR 14 08 59.2
comp=Z,497nm,19.1s,baz=131,slow=37
comp=Z,48nm,1.0s
TKM2 Tokmak 2 43.59 307 P **P** **13 50 30.5 0.0**
SNR=129
TKM2 Tokmak 2 43.59 307 P **P** **13 50 30.4 0.0**
KBK Karagaybulak 44.02 307 P **P** **13 50 34.2 +0.3**
SNR=30
CHMS Chumysh 44.21 307 P **P** **13 50 35.0 -0.2**
SNR=24
FRU1 Bishkek 44.27 307 P **P** **13 50 36.6 +0.8**
FRU1 pmax pmax
comp=Z,56nm,1.3s
UCH Uchtor 44.27 306 P **P** **13 50 37.1 +0.8**
SNR=122
AAK Ala-Archa 44.35 307 P **P** **13 50 35.7 -0.8**
SNR=25
AAK Ala-Archa 44.35 307 P **P** **13 50 34.5 -2.0**
AAK Ala-Archa 44.35 307*ce*P **P** **13 50 36.7 +0.2**
AAK pmax pmax
comp=Z,31nm,1.3s
AAK Ala-Archa 44.35 307 *i* P **P** **13 50 36.5 0.0**
SNR=30
AAK Ala-Archa 44.35 307 LR LR 14 12 39.8
comp=Z,1µm,18.0s,baz=99,slow=41
AAK Ala-Archa 44.35 307 P **P** **13 50 35.9 -0.7**
ARLS Aral 44.37 306 P **P** **13 50 37.3 +0.6**
ARLS pmax pmax
comp=Z,56nm,1.2s
SGDS Sogindy 44.37 308 *i* P **P** **13 50 35.9 -0.7**
SGDS pmax pmax
comp=Z,13nm,1.2s
USP Ospenovka 44.44 308 P **P** **13 50 36.7 -0.4**
SNR=26
PALK Pallekele 44.54 255 P **P** **13 50 38.9 +0.6**
PALK Pallekele 44.54 255 LR LR 14 09 38.6
comp=Z,502nm,21.3s,baz=161,slow=37
PALK Pallekele 44.54 255 P **P** **13 50 39.0 +0.8**
PALK P **P** **13 50 39.0 +0.8**
EKS2 Erkin-Say 44.87 307 P **P** **13 50 40.5 -0.2**
SNR=22
WB0 Warramunga Arr 44.97 166 IAmb IAmb 13 50 46.8
comp=Z,91nm,0.9s
BTLS Baital 45.05 310*d* iP **P** **13 50 41.0 -0.9**
BTLS pmax pmax
comp=Z,31nm,1.3s
BTLS Baital 45.05 310‖ *i*P **P** **13 50 41.1 -0.9**
comp=Z,32nm,1.3s,baz=310
WRAB Tennant Creek 45.12 166 P **P** **13 50 42.1 -0.6**
WRAB Tennant Creek 45.12 166 *i* P **P** **13 50 42.4 -0.3**
WRA Warramunga Arr 45.13 166 *i* P **P** **13 50 42.5 -0.2**
WRA pmax pmax
comp=Z,104nm,0.9s
WRA Warramunga Arr 45.13 166 P **P** **13 50 42.9 +0.1**
comp=Z,94nm,0.8s,baz=348,slow=8.3,SNR=62
comp=Z,94nm,0.8s
WB2 Warramunga Arr 45.13 166 P **P** **13 50 42.2 -0.5**
WR0 Warramunga Arr 45.19 166 P **P** **13 50 40.9 -2.3**
ARSB Arslanbob 45.30 305 P **P** **13 50 44.3 +0.1**
ARSB Arslanbob 45.30 305 P **P** **13 50 44.3 +0.1**
ARSB pmax pmax
comp=Z,8.0nm,1.1s
MBWA Marble Bar 45.33 185 P **P** **13 50 42.3 -1.9**
MBWA IAmb IAmb 13 50 48.6
comp=Z,44nm,0.9s
MBWA Marble Bar 45.33 185 P **P** **13 50 42.7 -1.5**
MBWA Marble Bar 45.33 185 P **P** **13 50 46.7 +2.5**
OHH Osh 45.38 304 P **P** **13 50 45.0 +0.3**
OHH pmax pmax
comp=Z,61nm,1.4s
PSA00 Pilbara Seismi 45.73 185 P **P** **13 50 46.5 -0.9**
PSA00 IAmb IAmb 13 50 52.0
comp=Z,82nm,0.9s
PSA00 Pilbara Seismi 45.73 185 IAmb IAmb 13 50 52.0
comp=Z,39nm,0.9s
PSA00 Pilbara Seismi 45.73 185 P **P** **13 50 50.0 +2.6**
ARK Arkit 46.11 305 P **P** **13 50 51.0 +0.5**
ARK pmax pmax
comp=Z,44nm,1.2s
MTSU Mount Surprise 46.66 153 P **P** **13 50 57.3 +2.5**
DZA Taraz 46.69 307 *e*P **P** **13 50 54.4 -0.5**
DZA Taraz 46.69 307 *e*P **P** **13 50 54.4 -0.5**
baz=307
TRKS Terek-Say 46.70 305 P **P** **13 50 55.1 -0.1**
TRKS pmax pmax
comp=Z,43nm,1.2s
OTUK Ortayu 46.82 314 P **P** **13 50 54.8 -1.1**
BRZS Berezniki 46.99 317*d* iP **P** **13 50 56.1 -1.0**
BRZS pmax pmax
comp=Z,19nm,0.9s
BRZS Berezniki 46.99 317‖ *i*P **P** **13 50 56.1 -1.0**
comp=Z,19nm,0.9s,baz=317
QIS Mount Isa 47.15 160 P **P** **13 51 01.1 +2.5**
SHEM Shemya Is, Ala 47.25 40 LR LR 14 10 06.2
comp=Z,244nm,21.8s,baz=175,slow=35
KK31 Karatay Array 47.31 307 P **P** **13 51 00.4 +0.6**
KK31 PcP **PcP** **13 52 31.2 +0.6**
KK31 Karatay Array 47.31 307 *i* P **P** **13 50 59.0 -0.7**
KKAR Karatay Array 47.31 307 P **P** **13 50 59.9 +0.2**
KKAR PcP **PcP** **13 52 30.5 -0.1**
KKAR Karatay Array 47.31 307 IAmb IAmb 13 51 00.7
comp=Z,27nm,1.4s
KKAR Karatay Array 47.31 307 P **P** **13 50 59.9 +0.2**
TIXI Tiksi 47.50 2 P **P** **13 50 58.5 -2.2**
TIXI IAmb IAmb 13 50 60.0
comp=Z,54nm,1.1s
TIXI PcP **PcP** **13 52 30.1 -0.6**
TIXI Tiksi 47.50 2*ce*P **P** **13 50 58.1 -2.6**
TIXI pmax pmax
comp=Z,64nm,1.3s
TIXI Tiksi 47.50 2 LR LR 14 11 48.6
comp=Z,750nm,20.8s,baz=200,slow=37
GIRL Giralia 47.55 192 P **P** **13 51 02.7 +1.1**
IUG Iuzhnay 47.58 306*d* iP **P** **13 51 01.5 -0.4**
IUG pmax pmax
comp=Z,16nm,1.0s
IUG Iuzhnay 47.58 306‖ *i*P **P** **13 51 01.6 -0.4**
comp=Z,16nm,1.0s,baz=306
BRLS Boroldav 47.80 307 *e*P **P** **13 51 03.4 -0.1**
BRLS Boroldav 47.80 307 *e*P **P** **13 51 03.4 -0.1**
baz=306
CHM Chimkent 47.91 306 *e*P **P** **13 51 04.0 -0.4**
CHM pmax pmax
comp=Z,19nm,1.2s
CHM Chimkent 47.91 306 *e*P **P** **13 51 04.1 -0.4**
comp=Z,19nm,1.2s,baz=306
CHGR Chuyangaron 48.09 301 P **P** **13 51 05.9 -0.1**
CHGR pmax pmax
comp=Z,50nm,1.3s
SIMJ Simiganj 48.21 301 P **P** **13 51 07.2 +0.3**
KBL Kabul 48.27 295 P **P** **13 51 06.3 -1.2**
KBL IAmb IAmb 13 51 12.9
comp=Z,71nm,1.1s
KBL Kabul 48.27 295 P **P** **13 51 06.3 -1.2**
KBL pmax pmax
comp=Z,71nm,1.1s
KBL Kabul 48.27 295 P **P** **13 51 08.0 +0.4**
SNR=40
KBL P **P** **13 51 08.0 +0.4**
SNR=40
AS31 Alice Springs 48.65 168 P **P** **13 51 09.5 -0.7**
ASAR Alice Springs 48.65 168 P **P** **13 51 08.9 -1.3**
ASAR Alice Springs 48.65 168 P **P** **13 51 10.7 +0.5**
comp=Z,45nm,0.9s,baz=353,slow=6.7,SNR=62
ASAR LR LR 14 12 03.4
comp=Z,268nm,21.5s,baz=358,slow=36
ASAR P4KPbc 14 28 48.6
comp=Z,0.4nm,0.9s,baz=3.8,slow=5.6,SNR=4.2
comp=Z,45nm,0.9s
AS01 Alice Springs 48.66 168 P **P** **13 51 11.3 +1.0**
HNR Honiara 48.67 129 LR LR 14 10 35.7
comp=Z,7µm,20.2s,baz=272,slow=35
TV1H Townsville Har 48.73 151 P **P** **13 51 13.2 +2.3**
BVA0 Borovoye Array 49.12 320 *i* P **P** **13 51 12.3 -1.2**
BVAR Borovoye Array 49.12 320 P **P** **13 51 12.6 -1.0**
comp=Z,9.2nm,0.6s,baz=111,slow=11,SNR=44
BVAR PcP **PcP** **13 52 36.5 -0.4**
comp=Z,7.2nm,0.8s,baz=108,slow=3.5,SNR=4.8
BVAR LR LR 14 12 06.9
comp=Z,362nm,19.3s,baz=88,slow=36
comp=Z,9.2nm,0.6s
BRVK Borovoye 49.19 320 P **P** **13 51 13.2 -0.8**
BRVK IAmb IAmb 13 51 14.3
comp=Z,38nm,1.1s
BRVK Borovoye 49.19 320*ce*P **P** **13 51 13.2 -0.8**
BRVK pmax pmax
comp=Z,49nm,1.3s

BRVK Borovoye 49.19 320 P **P** **13 51 12.2 -1.8**
BRVK P **P** **13 51 12.2 -1.8**
WRKA Warakurna 49.21 175 P **P** **13 51 15.2 +0.7**
CTA Charters Tower 49.22 152 P **P** **13 51 17.1 +2.4**
CTA Charters Tower 49.22 152 P **P** **13 51 16.4 +1.8**
comp=Z,15nm,0.9s,baz=340,slow=9.0,SNR=12
CTA LR LR 14 13 50.4
comp=Z,405nm,18.4s,baz=338,slow=38
comp=Z,15nm,0.9s
CTAO Charters Tower 49.22 152 P **P** **13 51 15.0 +0.4**
CTAO IAmb IAmb 13 51 25.1
comp=Z,54nm,1.3s
CTAO Charters Tower 49.22 152 P **P** **13 51 17.0 +2.4**
CTAO Charters Tower 49.22 152 P **P** **13 51 15.0 +0.4**
CTAO pmax pmax
comp=Z,54nm,1.3s
AUAYR Ayr State High 49.29 150 P **P** **13 51 18.1 +3.0**
BILL Bilibino 50.81 19 P **P** **13 51 27.8 +1.6**
BILL Bilibino 50.81 19 ‖ *e*P **P** **13 51 28.6 +2.5**
BILL pmax pmax
comp=Z,13nm,1.0s
MEEK Meekatharra 50.85 186 P **P** **13 51 29.7 +2.8**
OOD Oodnadatta 53.02 167 P **P** **13 51 45.8 +2.8**
MORW Morawa 53.55 188 P **P** **13 51 45.5 -1.4**
MORW IAmb IAmb 13 51 52.0
comp=Z,42nm,0.9s
MORW Morawa 53.55 188 P **P** **13 51 49.4 +2.5**
RK1H Rockhampton Ha 54.00 149 P **P** **13 51 51.8 +1.5**
INKA Innaminka 54.23 161 P **P** **13 51 54.4 +2.5**
QLP Quilpie 54.28 157 P **P** **13 51 54.8 +2.5**
FORT Forrest 54.89 175 P **P** **13 51 56.2 -0.4**
FORT Forrest 54.89 175 P **P** **13 51 58.8 +2.2**
BLDU Ballidu 54.99 187 P **P** **13 52 00.4 +3.0**
AB31 Akbulak array 55.08 314 *i* P **P** **13 51 56.8 -1.1**
ABKAR Akbulak array 55.08 314 P **P** **13 51 57.4 -0.5**
ABKAR Akbulak array 55.08 314 IAmb IAmb 13 51 58.5
comp=Z,60nm,0.8s
MULG Mulgathing 55.13 169 P **P** **13 52 01.3 +2.9**
KMBL Kambalda 55.35 182 P **P** **13 52 02.8 +2.8**
SVE Sverdlovsk 55.38 323 *e*P **P** **13 51 58.8 -1.2**
SVE pmax pmax
comp=Z,53nm,1.6s
SVE MLR MLR
comp=Z,2µm,18.0s
KLBR Kellerberrin 55.84 186 P **P** **13 52 06.7 +3.2**
EIDS Eidsvold 55.98 150 P **P** **13 52 03.7 -0.9**
EIDS Eidsvold 55.98 150 P **P** **13 52 07.9 +3.3**
LCRK Leigh Creek 56.14 165 P **P** **13 52 08.6 +3.0**
AKTO Aktyubinsk 56.37 316 P **P** **13 52 06.5 -0.7**
comp=Z,12nm,0.9s,baz=88,slow=6.7,SNR=24
AKTO LR LR 14 17 59.3
comp=Z,1µm,18.9s,baz=73,slow=38
comp=Z,12nm,0.9s
NGCH Negor - Chabah 56.39 285 P **P** **13 52 09.2 +1.5**
MUN Mundaring 56.40 188 P **P** **13 52 10.8 +3.4**
ARU Arti 56.47 323 P **P** **13 52 05.7 -2.1**
ARU Arti 56.47 323 *d* P **P** **13 52 06.6 -1.2**
ARU 13 53 03.8
ARU 13 54 10.3
ARU S **S** **13 59 58.7 +0.8**
ARU SS **SS** **14 03 43.1 -1.8**
ARU pmax pmax
comp=Z,45nm,1.4s
ARU MLR MLR
comp=Z,722nm,15.0s
ARU Arti 56.47 323 P **P** **13 52 06.6 -1.2**
comp=Z,8.5nm,0.5s,baz=92,slow=5.6,SNR=16
ARU LR LR 14 18 01.2
comp=Z,674nm,18.8s,baz=88,slow=38
comp=Z,8.5nm,0.5s
GEYT Alibeck 56.80 301 IAmb IAmb 13 52 12.7
comp=Z,59nm,1.0s
GEYT Alibeck 56.80 301 P **P** **13 52 11.0 +0.5**
comp=Z,28nm,0.8s,baz=90,slow=4.4,SNR=52
GEYT LR LR 14 20 15.1
comp=Z,1µm,21.3s,baz=115,slow=40
comp=Z,28nm,0.8s
GYA0B ALIBECK ARRAY 56.80 301 IAmb IAmb 13 52 15.7
comp=Z,51nm,1.0s
SPIA Saint Paul Isl 56.96 36 P **P** **13 52 10.7 -0.5**
baz=264
NWAO Narrogin (SRO) 57.22 187 P **P** **13 52 11.7 -1.6**
NWAO IAmb IAmb 13 52 19.8
comp=Z,77nm,1.1s
NWAO Narrogin (SRO) 57.22 187 P **P** **13 52 16.1 +2.8**
NWAO Narrogin (SRO) 57.22 187 P **P** **13 52 15.8 +2.5**
NWAO Narrogin (SRO) 57.22 187 P **P** **13 52 13.7 +0.4**
NWAO pmax pmax
comp=Z,91nm,1.1s
NWAO Narrogin (SRO) 57.22 187 LR LR 14 16 53.9
comp=Z,117nm,19.7s,baz=343,slow=36
GAMB Gambell 57.27 28 P **P** **13 52 12.5 -0.8**
baz=258
P08K Saint George I 57.29 37 P **P** **13 52 13.3 -0.3**
baz=265
NIKH Nikolski High 57.46 41 P **P** **13 52 15.0 +0.2**
baz=268
BBOO Buckleboo 57.96 168 IAmb IAmb 13 52 30.8
comp=Z,64nm,0.9s
BBOO Buckleboo 57.96 168 P **P** **13 52 21.1 +2.6**
AULRC Lightning Ridg 58.24 155 P **P** **13 52 23.5 +3.0**
STKA Stephens Creek 58.37 162 P **P** **13 52 22.2 +0.8**
STKA Stephens Creek 58.37 162 P **P** **13 52 21.9 +0.5**
comp=Z,26nm,0.8s,baz=344,slow=7.5,SNR=17
STKA LR LR 14 19 04.9
comp=Z,477nm,18.9s,baz=350,slow=38
comp=Z,26nm,0.8s
JLN Jalan Bani Buh 58.72 282 P **P** **13 52 25.2 +1.0**
SNR=11
JLN P **P** **13 52 25.2 +1.0**
SNR=11
UNV Unalaska Valle 58.89 40 P **P** **13 52 24.7 -0.1**
baz=269
RKGY Rocky Gully 58.91 187 P **P** **13 52 27.7 +2.6**
WBK Wadi Bani Khal 58.99 283 P **P** **13 52 27.3 +1.2**
SNR=8.8
WBK P **P** **13 52 27.3 +1.2**
SNR=8.8
WSAR Wadi Sarin 59.13 283 LR LR 14 20 05.5
comp=Z,378nm,18.9s,baz=100,slow=38
HTT Hallett 59.16 165 P **P** **13 52 30.2 +3.3**
HTT Hallett 59.16 165 P **P** **13 52 30.6 +3.7**
TNA Tin City 59.20 27 P **P** **13 52 26.2 -0.5**
baz=261
AUALB St Joseph's Co 59.21 186 P **P** **13 52 30.0 +2.9**
CMSA Cobar Meteorol 59.32 158 P **P** **13 52 29.6 +1.6**
M11K Mekoryuk 59.36 33 P **P** **13 52 28.0 +0.1**
baz=266
KOUNC Koumac, New Ca 59.49 135 IAmb IAmb 13 52 41.1
comp=Z,92nm,1.1s
KOUNC Koumac, New Ca 59.49 135 P **P** **13 52 31.0 +1.6**
BIDO Bidbid 59.50 284 P **P** **13 52 30.6 +1.0**
SNR=11
SMDO Samad 59.69 283 P **P** **13 52 32.1 +1.1**
SNR=13
SMDO P **P** **13 52 32.1 +1.1**
SNR=13
JMDO Jabal Madar 59.83 283 P **P** **13 52 32.6 +0.7**
SNR=6.2
JMDO P **P** **13 52 32.6 +0.7**
SNR=6.2
F14K Arctic Creek 59.84 27 P **P** **13 52 31.5 +0.3**
baz=262
ANM Nome 60.13 28 P **P** **13 52 33.9 +0.7**
ANM IAmb IAmb 13 52 46.3
comp=Z,43nm,1.2s
ANM Nome 60.13 28 P **P** **13 52 33.9 +0.7**
ANM pmax pmax
comp=Z,43nm,1.2s
ANM Nome 60.13 28 P **P** **13 52 33.3 +0.1**
baz=264,SNR=7.5
HOQ Hoqain 60.21 284 P **P** **13 52 35.8 +1.4**
SNR=17
HOQ P **P** **13 52 35.8 +1.4**
SNR=17
MHTO MHTO 60.33 281 P **P** **13 52 35.5 +0.2**
SNR=13
MHTO P **P** **13 52 35.5 +0.2**
SNR=13
BSY Bisya 60.53 283 P **P** **13 52 37.1 +0.4**
SNR=10.0
BSY P **P** **13 52 37.1 +0.4**
SNR=10.0
F15K North Star Dit 60.56 27 P **P** **13 52 36.2 0.0**
F15K IAmb IAmb 13 52 41.8
comp=Z,39nm,1.0s
F15K North Star Dit 60.56 27 P **P** **13 52 36.5 +0.3**
baz=264,SNR=11
ARMA Armidale 60.58 152 P **P** **13 52 40.1 +3.3**
SHME Shamm 60.60 287 P **P** **13 52 38.3 +1.2**
SNR=5.2
C16K Lisburne Hills 60.62 24 P **P** **13 52 35.8 -0.7**
C16K Lisburne Hills 60.62 24 P **P** **13 52 36.9 +0.5**
baz=262
MDH Madha 60.65 286 P **P** **13 52 37.6 +0.2**
MDH P **P** **13 52 37.6 +0.2**
FALS False Pass 60.69 39 P **P** **13 52 36.5 -0.7**
baz=271
G15K Niukluk 60.75 28 P **P** **13 52 37.3 -0.2**
baz=265
SOHO SOHO 60.75 285 *i* P **P** **13 52 38.6 +0.5**
SNR=18
SOHO SOHO 60.75 285 P **P** **13 52 38.9 +0.8**
SOHO P **P** **13 52 38.9 +0.8**
M13K Dall Lake 60.77 33 P **P** **13 52 38.5 +0.8**
baz=268
J14K Nanvaranak Lak 60.79 30 P **P** **13 52 37.5 -0.2**
J14K IAmb IAmb 13 52 40.2
comp=Z,82nm,1.4s
J14K Nanvaranak Lak 60.79 30 P **P** **13 52 37.8 +0.1**
baz=266
UOSS Minazif 60.83 286 P **P** **13 52 35.9 -2.8**
UOSS Minazif 60.83 286 P **P** **13 52 40.8 +2.1**
UOSS Minazif 60.83 286 P **P** **13 52 39.0 +0.3**
UOSS P **P** **13 52 39.0 +0.3**
HATD Hatta, Dubai 60.92 286 *i* P **P** **13 52 40.4 +1.1**
SNR=7.4
HATD Hatta, Dubai 60.92 286 P **P** **13 52 40.5 +1.2**
SNR=9.0
HATD P **P** **13 52 40.5 +1.2**
SNR=9.0
ARQ Araqi 60.97 284 P **P** **13 52 40.4 +0.7**
SNR=10
ARQ P **P** **13 52 40.4 +0.7**
SNR=10
AUDCS Dubbo College 60.99 156 P **P** **13 52 43.0 +3.6**
ASHO Ashiyiah 61.02 286 *i* P **P** **13 52 41.0 +0.9**
SNR=20
ASHO Ashiyiah 61.02 286 P **P** **13 52 40.8 +0.8**
SNR=11
DQM DQM 61.02 280 P **P** **13 52 40.0 0.0**
L14K Kuka Creek 61.13 32 P **P** **13 52 40.8 +0.7**
L14K Kuka Creek 61.13 32 P **P** **13 52 40.7 +0.6**
baz=268
UMQ Umm Al-Quwin 61.15 287 P **P** **13 52 40.4 -0.5**
UMQ P **P** **13 52 40.4 -0.5**
NAZ Nazwa, Dubai 61.29 286 *i* P **P** **13 52 42.7 +0.9**
SNR=5.5
NAZ Nazwa, Dubai 61.29 286 P **P** **13 52 42.4 +0.6**
SNR=6.4
NAZ P **P** **13 52 42.4 +0.6**
SNR=6.4
D17K Noatak River 61.39 25 P **P** **13 52 41.7 0.0**
baz=264,SNR=22
FAQ Al Faqa, Dubai 61.41 286 P **P** **13 52 43.5 +0.8**
FAQ Al Faqa, Dubai 61.41 286 P **P** **13 52 42.9 +0.2**
SNR=5.1
C17K DeLong Mountai 61.44 24 P **P** **13 52 42.3 +0.2**
baz=264
ALNE Al Ain 61.46 285 *i* P **P** **13 52 43.9 +1.0**
SNR=7.7
ALNE Al Ain 61.46 285 P **P** **13 52 43.8 +0.8**
SNR=14
ALNE P **P** **13 52 43.8 +0.8**
SNR=14
M14K Bethel 61.47 33 P **P** **13 52 42.5 +0.1**
M14K Bethel 61.47 33 P **P** **13 52 42.7 +0.4**
baz=269,SNR=6.5
G16K Koyuk River 61.49 27 P **P** **13 52 42.1 -0.3**
baz=266
H16K Elim 61.49 28 P **P** **13 52 41.7 -0.7**
baz=267,SNR=16
KIRV Kirov 61.51 325 *ce* P **P** **13 52 41.8 -0.9**
KIRV Kirov 61.51 325 P **P** **13 52 42.6 -0.1**
comp=Z,28nm,0.5s,baz=84,slow=4.5,SNR=25
KIRV LR LR 14 21 35.3
comp=Z,2µm,19.9s,baz=90,slow=38
comp=Z,28nm,0.5s
LIFNC LIFOU 61.59 133 P **P** **13 52 46.9 +3.2**
N14K Kuskokwak Cree 61.60 33 P **P** **13 52 43.4 +0.1**
baz=270
ASUD Al Ashush, Dub 61.68 286 *i* P **P** **13 52 45.6 +1.2**
SNR=6.4
ASUD Al Ashush, Dub 61.68 286 P **P** **13 52 45.3 +0.9**
ASUD P **P** **13 52 45.3 +0.9**
K15K Wolf Creek Mou 61.71 31 P **P** **13 52 44.3 +0.3**
K15K IAmb IAmb 13 52 46.7
comp=Z,108nm,1.4s
K15K Wolf Creek Mou 61.71 31 P **P** **13 52 44.3 +0.3**
baz=269
L15K Ungalak Mounta 61.72 31 P **P** **13 52 43.2 -0.8**
baz=269
O14K Tigyukauivet M 61.81 34 P **P** **13 52 44.8 +0.1**
baz=270
DZM Mont Dzumac 61.98 135 P **P** **13 52 44.5 -2.0**
DZM Mont Dzumac 61.98 135 P **P** **13 52 48.9 +2.5**
DZM Mont Dzumac 61.98 135 LR LR 14 14 44.7
comp=Z,567nm,21.8s,baz=308,slow=31
AJN Ajban 61.99 286 P **P** **13 52 47.2 +0.6**
AJN P **P** **13 52 47.2 +0.6**
F17K Baldwin Pennin 62.01 26 P **P** **13 52 45.9 0.0**
F17K IAmb IAmb 13 52 47.9
comp=Z,40nm,1.1s
F17K Baldwin Pennin 62.01 26 P **P** **13 52 46.1 +0.2**
baz=267
B18K Kokolik River 62.02 23 P **P** **13 52 46.2 +0.2**
baz=265
M15K Kasigluk River 62.09 33 P **P** **13 52 46.6 0.0**
baz=270
I17K Unalakleet 62.13 29 IAmb IAmb 13 52 48.9
comp=Z,78nm,1.2s
I17K Unalakleet 62.13 29 P **P** **13 52 46.7 -0.1**
baz=268,SNR=9.8
J16K Anvik River 62.16 30 IAmb IAmb 13 52 52.6
comp=Z,30nm,1.1s
J16K Anvik River 62.16 30 P **P** **13 52 47.1 +0.1**
baz=269
C18K Utukok River 62.18 24 P **P** **13 52 46.1 -1.0**
C18K Utukok River 62.18 24 P **P** **13 52 46.1 -1.0**
baz=266
G17K Kiwalik Mounta 62.20 27 P **P** **13 52 47.5 +0.3**
baz=268
YATNC Mamie plateau, 62.26 134 P **P** **13 52 51.4 +3.2**
E18K Tukpahlearik C 62.32 25 IAmb IAmb 13 52 53.1
comp=Z,22nm,0.8s
E18K Tukpahlearik C 62.32 25 P **P** **13 52 48.3 +0.3**
baz=267,SNR=15
UMZA Um Al Zommool 62.35 284 P **P** **13 52 49.0 0.0**
UMZA P **P** **13 52 49.0 0.0**
SDPT Sand Point 62.36 39 P **P** **13 52 47.6 -0.9**
baz=273
N15K Kwethluk River 62.40 33 P **P** **13 52 48.8 +0.2**
baz=271
OUENC Ouen Island, N 62.48 135 P **P** **13 52 52.7 +3.0**
H17K Granite Mounta 62.49 28 IAmb IAmb 13 52 55.0
comp=Z,58nm,1.1s
H17K Granite Mounta 62.49 28 P **P** **13 52 49.8 +0.5**
baz=269,SNR=16
O15K Ungalikthiuk R 62.55 34 P **P** **13 52 49.4 -0.3**
baz=272
F18K Selawik 62.65 26 P **P** **13 52 50.6 +0.4**
baz=268,SNR=36
L16K Owhat River 62.67 31 P **P** **13 52 48.4 -2.0**
L16K Owhat River 62.67 31 P **P** **13 52 50.4 0.0**
baz=271,SNR=11
YNG Young 62.77 157 P **P** **13 52 54.8 +3.4**
C19K Lookout Ridge 62.79 23 P **P** **13 52 50.4 -0.8**
baz=267
BELG Belogornoye 62.82 318 P **P** **13 52 50.6 -0.9**
comp=Z,56nm,0.9s,baz=331,slow=5.8,SNR=14
BELG LR LR 14 22 34.5
comp=Z,436nm,19.7s,baz=104,slow=38
comp=Z,56nm,0.9s
S14K Fog Glacier 62.83 38 P **P** **13 52 51.0 -0.7**
baz=274
CHNA Chernabura Isl 62.91 39 P **P** **13 52 51.3 -0.8**
baz=274
CNBA Chernabura Isl 62.91 39 P **P** **13 52 50.1 -2.0**
CNBA IAmb IAmb 13 52 56.1
comp=Z,56nm,1.2s
M16K Timber Creek 62.94 32 P **P** **13 52 51.8 -0.4**
M16K Timber Creek 62.94 32 P **P** **13 52 51.8 -0.4**
baz=272
G18K Tagagawik 63.04 27 P **P** **13 52 52.8 -0.1**
G18K IAmb IAmb 13 52 58.1
comp=Z,81nm,1.4s
G18K Tagagawik 63.04 27 P **P** **13 52 53.1 +0.2**
baz=269
N16K Nishlik Lake 63.05 33 P **P** **13 52 53.2 +0.2**
baz=272,SNR=19
ARPS Mount Arapiles 63.05 164 P **P** **13 52 55.0 +1.8**
SYDH Sydney Hard Ro 63.15 155 P **P** **13 52 57.1 +3.2**
H18K Honhosa River 63.16 28 IAmb IAmb 13 52 59.0
comp=Z,63nm,1.2s
H18K Honhosa River 63.16 28 P **P** **13 52 53.9 +0.2**
baz=270
MZWR Madinat Zayed 63.19 285 P **P** **13 52 54.5 0.0**
MZWR P **P** **13 52 54.5 0.0**
MZWR P **P** **13 52 54.5 0.0**
K17K Iditarod 63.21 30 P **P** **13 52 54.5 +0.5**
baz=271,SNR=18
L17K Donlin 63.22 31 P **P** **13 52 54.5 +0.4**
baz=272
D19K Kuna River 63.30 24 P **P** **13 52 54.3 -0.3**
D19K IAmb IAmb 13 52 59.4
comp=Z,49nm,0.8s
D19K Kuna River 63.30 24 P **P** **13 52 53.9 -0.7**
baz=268
SHAO Shalim 63.33 279 P **P** **13 52 56.1 +0.5**
F19K Shaleruckik Mo 63.40 26 P **P** **13 52 54.7 -0.6**
F19K IAmb IAmb 13 53 00.4
comp=Z,48nm,1.2s
F19K Shaleruckik Mo 63.40 26 P **P** **13 52 55.1 -0.1**
baz=270,SNR=18
O16K Kokwok River B 63.42 34 P **P** **13 52 55.2 -0.3**
O16K Kokwok River B 63.42 34 P **P** **13 52 55.4 0.0**
baz=273
CHGN Chignik 63.46 38 P **P** **13 52 55.5 -0.3**
baz=274
P16K Nushagak River 63.51 34 P **P** **13 52 55.6 -0.4**
baz=273
M17K Holitna River 63.66 32 P **P** **13 52 56.5 -0.5**
baz=273,SNR=20
G19K Purcell Mounta 63.68 26 P **P** **13 52 56.9 -0.2**
G19K IAmb IAmb 13 53 02.4
comp=Z,37nm,1.1s
G19K Purcell Mounta 63.68 26 P **P** **13 52 56.5 -0.5**
baz=271,SNR=21
JRN Qarnain Island 63.76 287 P **P** **13 52 58.3 0.0**
JRN P **P** **13 52 58.3 0.0**
GCSA Galena City Sc 63.79 28 P **P** **13 52 57.8 0.0**
baz=272,SNR=14
R16K Pilot Point 63.82 36 P **P** **13 52 57.5 -0.6**
baz=274
N17K Nushagak Hills 63.83 33 P **P** **13 52 57.8 -0.4**
baz=273,SNR=17
D20K Etivluk River 63.86 24 P **P** **13 52 57.9 -0.3**
baz=270,SNR=29
A21K Barrow 63.90 21 P **P** **13 52 58.1 -0.3**
baz=268,SNR=9.5
CAN Canberra 63.90 157 P **P** **13 52 59.7 +0.8**
J18K Innoko River 63.91 29 P **P** **13 52 58.1 -0.5**
J18K IAmb IAmb 13 53 00.2
comp=Z,69nm,1.2s
J18K Innoko River 63.91 29 P **P** **13 52 58.2 -0.4**
baz=272
O17K Koliganek Bris 63.92 34 P **P** **13 52 58.1 -0.6**
baz=274,SNR=6.2
LKRN Lenkeran, Azer 63.94 303 P **P** **13 52 59.9 +0.7**
H19K Roundabout Mou 63.95 27 P **P** **13 52 59.5 +0.6**
H19K Roundabout Mou 63.95 27 P **P** **13 52 58.7 -0.2**
baz=272
L18K Granite Mounta 63.97 31 P **P** **13 52 59.9 +0.8**
baz=273,SNR=17
GHWR Ruwais 64.01 286 P **P** **13 53 00.1 +0.2**
E20K Nigu River 64.01 24 P **P** **13 52 58.8 -0.5**
baz=270
CNB Canberra Magne 64.02 157 P **P** **13 53 02.2 +2.5**
DMTO DMTO 64.04 279 P **P** **13 53 00.7 +0.5**
DMTO P **P** **13 53 00.7 +0.5**
MAK Makhachkala 64.12 308 *e*P **P** **13 52 55.9 -4.4**
MAK *e* 13 55 20.8
MAK *e*S **S** **14 01 30.5 -5.9**
MAK pmax pmax
comp=Z,560nm,2.1s
F20K Avaraart Lake 64.21 25 P **P** **13 53 00.7 +0.1**
baz=271
Q16K King Salmon 64.22 35 P **P** **13 53 00.5 -0.2**
baz=275,SNR=8.3
TTA Tatalina 64.25 30 P **P** **13 53 00.8 -0.2**
TTA IAmb IAmb 13 53 06.4
comp=Z,100nm,1.4s
TTA Tatalina 64.25 30 P **P** **13 53 04.1 +3.1**
TTA Tatalina 64.25 30 P **P** **13 53 00.8 -0.2**
TTA pmax pmax
comp=Z,99nm,1.4s
TTA Tatalina 64.25 30 P **P** **13 53 01.1 +0.1**
baz=273,SNR=26
P17K Kvichak River 64.29 34 P **P** **13 53 01.5 +0.3**
baz=275
BRAT Ballarat 64.35 162 P **P** **13 53 05.3 +3.6**
J19K Poorman 64.37 29 P **P** **13 53 02.5 +0.8**
J19K Poorman 64.37 29 P **P** **13 53 02.1 +0.4**
baz=273
M18K Stony River 64.43 32 P **P** **13 53 02.5 +0.5**
baz=274,SNR=18
N18K Kilae Creek 64.45 33 P **P** **13 53 02.8 +0.5**
N18K IAmb IAmb 13 53 04.3
comp=Z,70nm,1.3s
N18K Kilae Creek 64.45 33 P **P** **13 53 02.6 +0.3**
baz=274
DOK Doka 64.49 280 P **P** **13 53 02.1 -1.0**
SNR=5.1
DOK P **P** **13 53 02.1 -1.0**
SNR=5.1
SVW2 Sparrevohn 64.57 32 IAmb IAmb 13 53 05.0
comp=Z,84nm,1.3s
H20K Anotleneega Mo 64.61 27 P **P** **13 53 03.7 +0.5**
baz=273
SEKA Sheki 64.66 306 P **P** **13 53 04.2 +0.2**
Q17K Contact Creek 64.66 35 P **P** **13 53 02.8 -1.0**
baz=276,SNR=6.5
RBK Rabkut 64.78 279 P **P** **13 53 05.2 0.0**
SNR=7.1
RBK P **P** **13 53 05.2 0.0**
SNR=7.1
TOO Toolangi 64.81 161 P **P** **13 53 08.1 +3.3**
I20K Naaghedeneel 64.82 28 P **P** **13 53 04.4 -0.1**
I20K Naaghedeneel 64.82 28 P **P** **13 53 05.1 +0.6**
baz=274
MNGR Mingechevir, A 64.82 305 P **P** **13 53 05.8 +0.8**
L19K White Mountain 64.83 31 P **P** **13 53 05.2 +0.4**
L19K White Mountain 64.83 31 P **P** **13 53 04.9 +0.1**
baz=274
O18K Koktuh Hills 64.86 33 P **P** **13 53 05.6 +0.7**
baz=275,SNR=11
P18K Big Mountain, 64.89 34 P **P** **13 53 05.1 -0.1**
baz=276,SNR=13
ZKTA Zakatala 65.00 306 P **P** **13 53 06.9 +0.7**
J20K Nowinta River 65.00 29 IAmb IAmb 13 53 08.0
comp=Z,71nm,1.1s
J20K Nowinta River 65.00 29 P **P** **13 53 06.3 +0.6**
baz=274,SNR=24
SLWR Sila 65.02 286 P **P** **13 53 06.6 0.0**
SLWR P **P** **13 53 06.6 0.0**
WHFO Wadi Hawf 65.04 279 P **P** **13 53 06.2 -0.6**
SNR=5.8
WHFO P **P** **13 53 06.2 -0.6**
SNR=5.8
M19K Big River Lodg 65.08 31 P **P** **13 53 04.8 -1.5**
M19K Big River Lodg 65.08 31 P **P** **13 53 07.0 +0.7**
baz=275
F21K Alatna River 65.08 25 P **P** **13 53 06.3 +0.1**
baz=273,SNR=13
K20K Telida 65.10 29 P **P** **13 53 07.3 +0.9**
baz=275,SNR=43
G21K Allakaket 65.11 26 P **P** **13 53 07.0 +0.5**
baz=274
N19K Bonanza Creek 65.13 32 P **P** **13 53 07.1 +0.3**
baz=276
SHMA Al-Shehemyia 65.15 288 P **P** **13 53 07.7 +0.3**
TRNA Turayna 65.25 287 P **P** **13 53 07.7 -0.3**
L20K Farewell, AK 65.26 30 P **P** **13 53 07.1 -0.4**
baz=275
O19K Port Alsworth 65.27 33 P **P** **13 53 07.9 +0.3**
baz=276,SNR=14
D22K Ayikyak River 65.28 23 P **P** **13 53 07.7 +0.2**
baz=273,SNR=29

GANJ Ganja 65.42 305 P P 13 53 09.0 +0.1
H21K Melozitna Rive 65.46 27 P P 13 53 09.5 +0.8
baz=275,SNR=56
SAKB Bahrain 65.49 289 P P 13 53 08.8 -0.7
SMRA Abu-Samra 65.58 287 P P 13 53 08.9 -1.3
ABTO Aybut 65.65 279 P P 13 53 10.4 -0.3
SNR=8.6
ABTO P P 13 53 10.4 -0.3
SNR=8.6
E22K Anaktuvuk Pass 65.65 24 IAmb IAmb 13 53 15.8
comp=Z,92nm,1.4s
E22K Anaktuvuk Pass 65.65 24 P P 13 53 10.1 +0.1
baz=274,SNR=31
M20K Styx River 65.67 31 P P 13 53 10.8 +0.6
baz=276
Q19K Cape Douglas, 65.76 34 P P 13 53 09.6 -1.2
baz=277
CHUM Lake Minchumin 65.83 29 P P 13 53 11.7 +0.6
baz=276,SNR=28
I21K Tanana 65.84 27 P P 13 53 12.3 +1.2
baz=276,SNR=28
P19K Oil Pt 65.88 34 P P 13 53 11.0 -0.5
baz=277
C23K Itkillik River 65.94 22 P P 13 53 11.4 -0.3
baz=275
CAST Castle Rocks 65.98 29 P P 13 53 12.5 +0.3
baz=276,SNR=46
PPLA Purkeypile 66.00 30 P P 13 53 12.7 +0.3
baz=276,SNR=15
D23K Nanushuk River 66.00 23 P P 13 53 12.3 +0.2
baz=275
H22K Ishtalitna Cre 66.02 27 P P 13 53 13.3 +0.9
baz=276
O20K Slope Mountain 66.13 33 P P 13 53 13.1 -0.1
baz=277
OHAK Old Harbor 66.17 36 P P 13 53 13.6 +0.2
baz=278
N20K Mount Spurr 66.19 32 P P 13 53 13.9 +0.3
baz=277,SNR=30
NAX Nakhchivan 66.35 304 P P 13 53 15.9 +0.9
COLD Coldfoot 66.35 25 P P 13 53 14.3 -0.1
baz=276,SNR=12
KLMR Klimovskoe 66.36 328 eP P 13 53 10.5 -4.0
KLMR pmax pmax
comp=Z,140nm,1.3s
KLMR MLR MLR
comp=Z,1µm,14.0s
MLY Manley 66.38 28 IAmb IAmb 13 53 16.7
comp=Z,76nm,1.1s
MLY Manley 66.38 28 P P 13 53 15.1 +0.4
baz=277,SNR=44
BPAW Bear Paw Mtn. 66.39 29 IAmb IAmb 13 53 19.6
comp=Z,59nm,1.0s
BPAW Bear Paw Mtn. 66.39 29 P P 13 53 14.4 -0.3
baz=277,SNR=26
GUDG Gudauri 66.41 307 P P 13 53 16.0 +0.5
SKT Skwentna 66.41 31 IAmb IAmb 13 53 15.7
comp=Z,65nm,1.1s
SKT Skwentna 66.41 31 P P 13 53 14.5 -0.4
baz=278,SNR=15
Q20K Shuyak Island 66.44 35 P P 13 53 14.8 -0.3
baz=278
KDAK Kodiak Island 66.46 36 P P 13 53 15.3 0.0
KDAK Kodiak Island 66.46 36 P P 13 53 14.4 -0.9
baz=278
KDAK Kodiak Island 66.46 36 P P 13 53 15.3 0.0
comp=Z,38nm,0.8s,baz=238,slow=1.3,SNR=13
KDAK LR LR 14 23 55.1
comp=Z,255nm,19.7s,baz=314,slow=38
comp=Z,38nm,0.8s
G23K Bananza Creek 66.48 26 IAmb IAmb 13 53 17.3
comp=Z,41nm,1.1s
G23K Bananza Creek 66.48 26 P P 13 53 14.7 -0.7
baz=277
E23K Chandalar 66.48 24 P P 13 53 14.3 -1.0
baz=276,SNR=27
KTH Kantishna Hill 66.49 29 IAmb IAmb 13 53 16.9
comp=Z,59nm,1.1s
VRH Novokhopyorsk 66.61 317 eP P 13 53 15.0 -1.3
VRH pmax pmax
comp=Z,106nm,1.2s
C24K Franklin Bluff 66.62 22 P P 13 53 14.7 -1.4
baz=277
D24K Happy Valley 66.64 23 P P 13 53 16.5 +0.3
D24K IAmb IAmb 13 53 33.9
comp=Z,27nm,0.8s
D24K Happy Valley 66.64 23 P P 13 53 15.3 -0.9
baz=277
HOM Homer 66.68 33 P P 13 53 15.8 -0.8
baz=278
GNI Garni 66.70 305 ceP P 13 53 17.8 +0.4
GNI pmax pmax
comp=Z,81nm,1.3s
GNI Garni 66.70 305 LR LR 14 26 29.4
comp=Z,470nm,18.4s,baz=90,slow=40
GNI Garni 66.70 305 P P 13 53 18.2 +0.8
GNI P P 13 53 18.2 +0.8
CAPN Captain Cook N 66.76 32 P P 13 53 16.4 -0.7
baz=278,SNR=5.3
TRF Thorofare Moun 66.78 29 IAmb IAmb 13 53 21.6
comp=Z,59nm,1.2s
TRF Thorofare Moun 66.78 29 P P 13 53 16.4 -1.1
baz=278,SNR=14
SUA Susitna One 66.85 31 P P 13 53 17.2 -0.6
baz=278,SNR=25
GOF Gofitskoye 66.89 310 ceP P 13 53 17.4 -0.9
CUT Chulitna 66.94 30 P P 13 53 18.0 -0.3
baz=278,SNR=13
I23K Minto, Yukon-K 66.95 27 P P 13 53 19.0 +0.7
baz=278,SNR=30
M22K Willow 67.11 31 P P 13 53 18.4 -0.9
baz=279,SNR=29
BRSE Bradley Lake S 67.11 33 P P 13 53 19.3 -0.1
baz=279,SNR=8.0
ONI Oni 67.12 308 IAmb IAmb 13 53 22.0
comp=Z,61nm,1.1s
NEA2 Nenana 67.15 28 P P 13 53 19.3 -0.2
baz=278,SNR=60
F24K Squaw Lake 67.20 25 P P 13 53 20.3 +0.4
baz=278
KBZ Khabaz 67.27 309 ceP P 13 53 20.9 +0.2
KBZ Khabaz 67.27 309 P P 13 53 20.6 -0.1
comp=Z,28nm,0.9s,baz=104,slow=3.9,SNR=32
KBZ LR LR 14 26 15.6
comp=Z,903nm,19.5s,baz=72,slow=39
comp=Z,28nm,0.9s
MCK McKinley 67.34 29 P P 13 53 20.4 -0.4
baz=279,SNR=32
KVAR Kislovodsk Arr 67.37 309 P P 13 53 21.4 0.0
comp=Z,21nm,0.9s,baz=90,slow=20,SNR=4.5
KVAR LR LR 14 27 40.3
comp=Z,502nm,18.4s,baz=326,slow=40
comp=Z,21nm,0.9s
KIV Kislovodsk 67.37 309 P P 13 53 19.4 -2.1
KIV Kislovodsk 67.37 309 eP P 13 53 21.1 -0.4
KIV pmax pmax
comp=Z,92nm,1.1s
KIV MLR MLR
comp=Z,606nm,17.0s
KIV Kislovodsk 67.37 309 i P P 13 53 21.9 +0.4
SNR=11
KIV Kislovodsk 67.37 309 P P 13 53 21.6 +0.2
KIV P P 13 53 21.6 +0.2
KIV P P 13 53 21.6 +0.2
RC01 Rabbit Creek A 67.39 32 IAmb IAmb 13 53 22.7
comp=Z,68nm,1.2s
RC01 Rabbit Creek A 67.39 32 P P 13 53 20.5 -0.7
baz=279,SNR=8.5
LVZ Lovozero 67.44 336 P P 13 53 20.2 -1.2
LVZ IAmb IAmb 13 53 37.2
comp=Z,55nm,1.2s
LVZ Lovozero 67.44 336 P P 13 53 20.2 -1.2
LVZ pmax pmax
comp=Z,55nm,1.2s
MDM Murphy Dome 67.45 27 P P 13 53 21.8 +0.2
H24K Noodor Dome 67.46 26 IAmb IAmb 13 53 23.8
comp=Z,60nm,1.1s
H24K Noodor Dome 67.46 26 P P 13 53 22.3 +0.8
baz=279,SNR=34
D25K Kavik River 67.48 23 P P 13 53 21.2 -0.5
D25K Kavik River 67.48 23 P P 13 53 21.5 -0.1
baz=279
G24K Hadweenzic Riv 67.48 26 P P 13 53 22.4 +0.7
G24K IAmb IAmb 13 53 23.8
comp=Z,47nm,1.1s
G24K Hadweenzic Riv 67.48 26 P P 13 53 22.1 +0.4
baz=279

O22K Cooper Landing 67.50 32 P P 13 53 20.8 -1.0
O22K Cooper Landing 67.50 32 P P 13 53 21.1 -0.7
baz=280
WRH Wood River Hil 67.59 28 IAmb IAmb 13 53 24.5
comp=Z,61nm,1.0s
PMR Palmer 67.60 31 P P 13 53 21.8 -0.6
PMR Palmer 67.60 31 P P 13 53 21.8 -0.6
PMR pmax pmax
comp=Z,101nm,1.2s
PMR Palmer 67.60 31 P P 13 53 21.7 -0.7
baz=280,SNR=13
COLA College 67.62 27 P P 13 53 22.6 +0.1
COLA College 67.62 27 P P 13 53 21.9 -0.6
baz=279
WAT1 Susitna Watana 67.66 30 P P 13 53 21.6 -1.3
baz=280
CCB Clear Creek Bu 67.68 28 IAmb IAmb 13 53 27.5
comp=Z,43nm,1.2s
SEW Seward 67.69 33 P P 13 53 22.4 -0.6
baz=280,SNR=11
POKR Poker Plat Res 67.76 27 P P 13 53 23.3 -0.1
POKR Poker Plat Res 67.76 27 P P 13 53 23.8 +0.4
baz=280,SNR=22
C26K Camden Bay 67.89 22 P P 13 53 23.7 -0.4
baz=280
SML Sawmill 67.93 31 P P 13 53 24.0 -0.7
baz=280,SNR=13
KNK Knik Glacier 67.94 31 P P 13 53 24.5 -0.2
KNK Knik Glacier 67.94 31 P P 13 53 23.9 -0.8
baz=280,SNR=19
E25K Arctic Village 67.97 24 IAmb IAmb 13 53 31.6
comp=Z,33nm,1.4s
E25K Arctic Village 67.97 24 P P 13 53 25.1 +0.3
baz=280,SNR=15
G25K Bearman Lake 68.01 25 P P 13 53 25.1 +0.1
baz=280,SNR=13
F25K Christian Rive 68.04 24 P P 13 53 25.9 +0.7
baz=280
IL31 68.05 28 IAmb IAmb 13 53 29.2
comp=Z,33nm,1.3s
ILAR Eielson Array 68.05 28 P P 13 53 24.2 -1.0
comp=Z,6.0nm,0.8s,baz=283,slow=5.7,SNR=52
ILAR LR LR 14 24 57.3
comp=Z,234nm,19.1s,baz=308,slow=38
comp=Z,6.0nm,0.8s
LPSR Galich'ya Gora 68.05 319 eP P 13 53 22.7 -2.7
LPSR pmax pmax
comp=Z,100nm,1.1s
VORR Voronezh 68.06 318 eP P 13 53 24.7 -0.8
VORR pmax pmax
comp=Z,100nm,0.5s
WAT6 Susitna Watana 68.07 30 P P 13 53 25.1 -0.5
baz=280,SNR=26
HDA Harding Lake 68.09 28 P P 13 53 24.1 -1.4
baz=280,SNR=30
DHY Denali Highway 68.14 29 IAmb IAmb 13 53 27.9
comp=Z,55nm,1.3s
DHY Denali Highway 68.14 29 P P 13 53 25.5 -0.5
baz=281,SNR=11
VORD Divnogorie 68.16 317 eP P 13 53 24.0 -2.1
VORD pmax pmax
comp=Z,20nm,0.9s
MOS Moscow 68.18 323 eP P 13 53 23.4 -2.8
MOS pmax pmax
comp=Z,143nm,1.3s
VSR Storozhevoye 68.18 318 eP P 13 53 23.8 -2.5
VSR pmax pmax
comp=Z,80nm,1.2s
M23K Glacier View 68.22 31 P P 13 53 25.9 -0.5
baz=281,SNR=15
FYU Fort Yukon 68.39 25 IAmb IAmb 13 53 29.6
comp=Z,93nm,1.4s
SCM Sheep Creek Mo 68.40 31 P P 13 53 27.4 -0.1
baz=281,SNR=25
PRP Porcupine Dome 68.47 27 P P 13 53 28.1 0.0
baz=281,SNR=23
ERBR Yeremizino-Bor 68.51 312 eP P 13 53 28.2 -0.3
ERBR eS S 14 02 31.0 +1.3
ERBR pmax pmax
comp=Z,132nm,1.2s
F26K Sheenjek River 68.58 24 P P 13 53 29.0 +0.5
baz=282
LABN Labinsk 68.59 310 eP P 13 53 30.3 +1.3
LABN eS S 14 02 33.6 +2.9
LABN pmax pmax
comp=Z,42nm,0.7s
K24K Donnelly Dome 68.71 28 P P 13 53 29.2 -0.2
baz=282,SNR=35
BCA Borcka 68.71 307 ||P P 13 53 29.8 0.0
J25K Salcha River, 68.72 28 P P 13 53 29.2 -0.3
baz=282
P23K Montague Islan 68.72 33 P P 13 53 29.4 -0.1
baz=282,SNR=5.4
G26K Porcupine Rive 68.87 25 P P 13 53 30.9 +0.6
baz=282,SNR=20
M24K Tolsona, Glenn 68.88 30 P P 13 53 30.3 -0.3
baz=282,SNR=17
OBN Obninsk 68.90 322 i/P P 13 53 29.8 -0.9
OBN i 13 53 54.7
OBN e 13 56 00.9
OBN pmax pmax
comp=Z,95nm,1.3s
OBN MLR MLR
comp=Z,733nm,18.0s
OBN Obninsk 68.90 322 P P 13 53 30.0 -0.6
comp=Z,20nm,0.3s,baz=95,slow=6.5,SNR=14
OBN LR LR 14 26 55.5
comp=Z,730nm,18.8s,baz=62,slow=39
comp=Z,20nm,0.3s
VADS Vadso 68.90 339 eP P 13 53 30.1 -0.3
VADS IAmb IAmb 13 53 30.4
comp=Z,26nm,0.8s
PAX Paxson 69.02 29 P P 13 53 31.4 -0.1
baz=282,SNR=23
GURO Guroymak-BITLI 69.12 304 IAmb IAmb 13 53 37.7
comp=Z,50nm,1.0s
KLU Klutina 69.12 31 P P 13 53 32.0 -0.2
baz=282,SNR=13
RIDG Independent Ri 69.12 28 P P 13 53 31.5 -0.5
baz=282,SNR=29
HARP HAARP 69.28 30 P P 13 53 33.5 +0.5
baz=283,SNR=6.8
Q23K Middleton Isla 69.37 33 P P 13 53 33.9 +0.4
baz=283
EYAK Cordova Ski Ar 69.41 32 P P 13 53 32.9 -0.8
baz=283
SCRK Sand Creek 69.44 28 IAmb IAmb 13 53 35.0
comp=Z,75nm,1.2s
SCRK Sand Creek 69.44 28 P P 13 53 33.3 -0.8
baz=283,SNR=32
I26K Coal Creek Min 69.49 27 P P 13 53 33.9 -0.2
baz=283
J26L Joseph Creek 69.50 27 P P 13 53 33.6 -0.8
baz=283
SOC Sochi 69.55 310 eP P 13 53 32.1 -2.9
SOC e 13 56 10.1
SOC ePPP PPP 13 57 46.9
SOC eS S 14 02 39.8 -2.3
SOC eSS SS 14 07 11.9 +2.5
SOC MLR MLR
comp=Z,660nm,17.0s
N25K Chitina, Valde 69.72 31 P P 13 53 35.8 0.0
baz=284,SNR=16
BMRM Bremner River 69.86 31 P P 13 53 35.7 -1.0
baz=284,SNR=15
SPA0 Spitsbergen Ar 69.90 348 eP P 13 53 36.3 -0.2
SPITS Spitsbergen Ar 69.90 348 P P 13 53 35.7 -0.9
comp=Z,16nm,0.8s,baz=84,slow=8.5,SNR=20
SPITS LR LR 14 27 54.7
comp=Z,942nm,18.5s,baz=9.5,slow=39
comp=Z,16nm,0.8s
H27K Steamboat Moun 69.92 25 P P 13 53 36.2 -0.7
baz=284,SNR=28
L26K Log Cabin Wild 69.95 29 IAmb IAmb 13 53 38.8
comp=Z,68nm,1.1s
L26K Log Cabin Wild 69.95 29 P P 13 53 37.2 +0.1
baz=284,SNR=28
I27K Kandik River 70.04 26 P P 13 53 38.2 +0.5
baz=285
D28M Stokes Point 70.13 22 P P 13 53 38.0 -0.1
baz=286
F28M Old Crow 70.19 24 IAmb IAmb 13 53 40.3
comp=Z,73nm,1.2s
F28M Old Crow 70.19 24 P P 13 53 38.7 +0.2
baz=285,SNR=36
KAIM Kayak Island 70.20 32 P P 13 53 38.0 -0.6
baz=284

K27K Chicken 70.25 28 P P 13 53 39.0 +0.1
baz=285
ARA0 ARCESS Array S 70.34 338 eP P 13 53 39.1 -0.2
ARCES ARCESS Array B 70.34 338 P P 13 53 38.8 -0.6
comp=Z,14nm,0.9s,baz=63,slow=3.0,SNR=9.0
ARCES LR LR 14 28 07.6
comp=Z,534nm,18.9s,baz=70,slow=39
comp=Z,14nm,0.9s
EGAK Eagle 70.44 27 IAmb IAmb 13 53 41.1
comp=Z,55nm,1.0s
EGAK Eagle 70.44 27 P P 13 53 39.7 -0.4
baz=285,SNR=24
MCARA McCarthy VSAT 70.50 31 P P 13 53 41.0 +0.5
MCARA McCarthy VSAT 70.50 31 P P 13 53 40.6 +0.1
baz=285,SNR=24
HSPB Hornsund (broa 70.52 347 eP P 13 53 40.4 +0.1
SGF Sodankyl 70.57 336 P P 13 53 40.8 0.0
SGF pmax pmax
comp=Z,41nm,1.3s
RAYN Ar Rayn 70.58 288 P P 13 53 40.2 -1.5
RAYN IAmb IAmb 13 53 43.1
comp=Z,111nm,1.5s
RAYN Ar Rayn 70.58 288 P P 13 53 42.2 +0.5
RAYN Ar Rayn 70.58 288 i P P 13 53 42.1 +0.3
SNR=31
RAYN Ar Rayn 70.58 288 P P 13 53 41.7 0.0
L27K Beaver Creek, 70.61 29 P P 13 53 41.6 +0.5
baz=285
HAMF Hammerfest 70.61 340 eP P 13 53 40.5 -0.5
CRQE Cirque 70.63 31 P P 13 53 40.6 -0.8
baz=285
E29M Blow River 70.69 23 P P 13 53 41.6 +0.1
baz=287
BGLC Bering Glacier 70.71 32 P P 13 53 41.4 -0.3
baz=285
I28M Miner Creek 70.76 26 IAmb IAmb 13 53 44.1
comp=Z,71nm,1.1s
I28M Miner Creek 70.76 26 P P 13 53 42.5 +0.4
baz=286,SNR=30
M27K Edge Creek, AK 70.77 30 IAmb IAmb 13 53 43.9
comp=Z,54nm,0.9s
M27K Edge Creek, AK 70.77 30 P P 13 53 42.6 +0.3
baz=286
ANN Anapa 70.83 311 eP P 13 53 40.5 -2.2
ANN e*PP pP 13 53 47.3 -1.5
ANN eS S 14 02 55.4 -1.5
ANN pmax pmax
comp=Z,220nm,0.9s
ANN MLR MLR
comp=N,2µm,23.0s
H29M Whitestone 71.15 25 IAmb IAmb 13 53 46.1
comp=Z,67nm,1.2s
H29M Whitestone 71.15 25 P P 13 53 44.6 +0.2
baz=287
BVCY Beaver Creek 71.21 29 P P 13 53 44.6 -0.2
baz=286,SNR=16
BARN Barnard Glacie 71.23 31 IAmb IAmb 13 53 46.8
comp=Z,57nm,0.9s
KTK1 Kautokeino 71.27 338 eP P 13 53 44.5 -0.5
KTK1 IAmb IAmb 13 53 44.9
comp=Z,46nm,1.1s
MESA MESA 71.33 32 P P 13 53 45.9 +0.1
baz=286
DAWY Dawson 71.38 27 IAmb IAmb 13 53 47.3
comp=Z,71nm,1.0s
DAWY Dawson 71.38 27 P P 13 53 45.3 -0.5
baz=287,SNR=40
CTG Chitna Glacier 71.40 31 P P 13 53 46.4 +0.2
baz=286,SNR=17
OUL Oulu 71.51 334 P P 13 53 45.5 -1.0
OUL pmax pmax
comp=Z,50nm,1.3s
YUK3 Moose Creek 71.58 30 P P 13 53 47.4 +0.1
baz=287,SNR=20
F30M Barrier River 71.69 23 P P 13 53 47.5 -0.1
baz=289
G30M tAoh Zraii Nji 71.73 24 P P 13 53 46.6 -1.3
baz=289
EPYK Eagle Plains 71.74 25 IAmb IAmb 13 53 49.0
comp=Z,81nm,1.1s
EPYK Eagle Plains 71.74 25 P P 13 53 46.6 -1.3
baz=289,SNR=26
J29N Klondike Camp 71.75 27 IAmb IAmb 13 53 50.2
comp=Z,99nm,1.0s
J29N Klondike Camp 71.75 27 P P 13 53 48.8 +0.7
baz=288,SNR=22
YUK8 Steele Glacier 72.04 30 P P 13 53 50.5 +0.3
baz=288
PINM Pinnacle 72.17 32 P P 13 53 50.9 +0.2
baz=288,SNR=14
L29M L29M 72.20 28 P P 13 53 51.6 +0.7
baz=288
K29M Barlow Dome 72.23 27 P P 13 53 51.5 +0.5
baz=289
I30M Mount Dempster 72.25 26 P P 13 53 51.3 +0.2
baz=289
INK Inuvik 72.25 22 IAmb IAmb 13 53 51.8
comp=Z,64nm,1.1s
INK Inuvik 72.25 22 P P 13 53 50.6 -0.3
INK pmax pmax
comp=Z,53nm,1.5s
INK Inuvik 72.25 22 P P 13 53 50.4 -0.5
baz=291,SNR=30
INK Inuvik 72.25 22 LR LR 14 29 05.3
comp=Z,458nm,18.9s,baz=356,slow=39
M29M Somme Creek 72.27 29 P P 13 53 51.0 -0.3
baz=288
G31M Satah River 72.47 24 IAmb IAmb 13 53 55.8
comp=Z,49nm,1.2s
G31M Satah River 72.47 24 P P 13 53 51.3 -0.9
baz=291,SNR=14
J30M Hart River 72.48 26 P P 13 53 52.7 +0.1
baz=290
F31M Tsiigehtchic 72.48 23 IAmb IAmb 13 53 53.0
comp=Z,80nm,1.1s
F31M Tsiigehtchic 72.48 23 P P 13 53 51.7 -0.6
baz=291,SNR=30
YUK4 Talbot Arm 72.53 30 P P 13 53 53.9 +0.9
baz=289,SNR=21
FIA1 FINESS Array S 72.56 330 P P 13 53 52.0 -0.8
FINES FINESS Array B 72.56 330 P P 13 53 52.0 -0.9
FINES FINESS Array B 72.56 330 P P 13 53 52.2 -0.7
comp=Z,25nm,0.8s,baz=47,slow=5.7,SNR=76
FINES LR LR 14 29 19.0
comp=Z,1µm,18.6s,baz=72,slow=39
comp=Z,25nm,0.8s
PNL Peninsula 72.71 32 P P 13 53 53.7 -0.2
baz=288
YUK6 Outpost Mounta 72.79 30 P P 13 53 53.9 -0.7
baz=289,SNR=12
O29M Mount Kennedy 72.90 31 P P 13 53 56.1 +0.9
baz=289
M30M Minto, Yukon 72.96 29 P P 13 53 56.5 +1.2
baz=290,SNR=31
MAYO Mayo, Yukon 73.00 27 P P 13 53 56.4 +0.9
baz=290,SNR=15
SIM Simferopol' 73.05 312 ||/P P 13 53 55.7 -0.4
VSU Vasula 73.21 327 ceP P 13 53 56.9 +0.1
VSU pmax pmax
comp=Z,234nm,2.5s
HYT Haines Junctio 73.23 30 IAmb IAmb 13 53 59.3
comp=Z,117nm,1.2s
HYT Haines Junctio 73.23 30 P P 13 53 56.9 -0.1
baz=290,SNR=16
A36M Sachs Harbour 73.33 18 P P 13 53 56.1 -1.2
baz=297,SNR=24
P29M Windy Craggy 73.52 32 P P 13 53 59.5 +0.8
baz=290
P30M Million Dollar 73.72 31 P P 13 54 00.7 +0.8
baz=290
MEF Metsahovi 73.75 329 eP P 13 53 59.4 -0.5
O30N Mendenhall 73.90 30 P P 13 54 01.6 +0.8
baz=291,SNR=19
MNK Minsk 73.90 323 i P P 13 53 57.9 -3.0
MNK i 13 54 13.1
MNK i 13 56 42.4
MNK i PPP PPP 13 58 27.3
MNK i S SKiKP 14 03 29.0 +0.1
MNK i SS SS 14 08 14.1 -1.4
MNK i SSS SSS 14 11 35.3
MNK pmax pmax
comp=N,16nm,0.9s
MNK pmax pmax
comp=Z,85nm,1.0s
MNK pmax pmax
comp=E,27nm,1.1s
MNK MLR MLR

comp=N,415nm,18.0s
MNK MLR MLR
comp=Z,565nm,17.0s
MNK MLR MLR
comp=E,235nm,15.0s
M31M Drury Creek, Y 74.14 28 P P 13 54 02.2 0.0
baz=292,SNR=13
PLBC Pleasant Camp 74.24 32 P P 13 54 03.3 +0.5
baz=291
AKASG Malin Array Be 74.38 319 *ce*P P 13 54 02.4 -1.4
AKASG pmax pmax
comp=Z,28nm,0.8s
AKASG Malin Array Be 74.38 319 P P 13 54 02.9 -0.9
comp=Z,13nm,0.6s,baz=58,slow=5.9,SNR=83
AKASG LR LR 14 29 00.4
comp=Z,285nm,19.9s,baz=76,slow=38
comp=Z,13nm,0.6s
AKBB Malin Array Si 74.38 319 IAmb IAmb 13 54 03.8
comp=Z,98nm,1.2s
AKBB Malin Array Si 74.38 319 *ce*P P 13 54 02.7 -1.1
KIEV Kiev 74.39 319 ⇑P P 13 54 03.1 -0.8
KIEV Kiev 74.39 319 P P 13 54 01.6 -2.3
KIEV IAmb IAmb 13 54 03.8
comp=Z,88nm,1.2s
KIEV Kiev 74.39 319 P P 13 54 03.0 -0.8
KIEV Kiev 74.39 319 *i* P P 13 54 02.7 -1.2
SNR=20
STEI Steigen 74.41 338 *e*P P 13 54 02.9 -0.7
ISAL Salakas 74.49 324 *e*P P 13 54 06.0 +1.6
WHY Whitehorse 74.49 30 P P 13 54 05.1 +0.7
baz=292,SNR=11
MTSE Matsula 74.56 328 *e*P P 13 54 04.7 +0.1
FARO Faro, Yukon 74.58 28 P P 13 54 05.3 +0.5
baz=293,SNR=30
FAUS Fauske 74.64 338 *e*P P 13 54 03.8 -1.2
FAUS IAmb IAmb 13 54 05.6
comp=Z,19nm,0.9s
RAF Rauma 74.67 330 *e*P P 13 54 04.9 -0.3
SKAG Skagway 74.73 31 P P 13 54 06.8 +1.2
baz=292,SNR=12
S31K Pelican 74.84 33 P P 13 54 06.8 +0.5
baz=291
C36M Paulatuk 74.93 20 P P 13 54 05.5 -1.0
baz=299,SNR=65
ASF Jabal al Asfar 75.01 299 LR LR 14 33 32.6
comp=Z,336nm,18.8s,baz=246,slow=41
BRTR Keskin Array B 75.02 307 P P 13 54 08.0 0.0
BRTR Keskin Array B 75.02 307 P P 13 54 08.0 0.0
comp=Z,30nm,0.9s,baz=103,slow=6.2,SNR=81
comp=Z,30nm,0.9s
N32M Quiet Lake 75.12 29 P P 13 54 08.5 +0.6
baz=293
P32M Atlin 75.44 31 P P 13 54 10.3 +0.5
baz=293
MOR8 Moi Rana 75.48 337 IAmb IAmb 13 54 08.0
comp=Z,18nm,0.9s
MOR8 *e*P P 13 54 08.3 -1.6
VSVD Vaisvydziai 75.50 325 *e*P P 13 54 10.3 +0.2
R32K Eaglecrest 75.57 32 P P 13 54 10.7 +0.1
baz=293
P33M Teslin, Yukon 75.61 30 P P 13 54 11.3 +0.5
P33M IAmb IAmb 13 54 12.9
comp=Z,98nm,1.4s
P33M Teslin, Yukon 75.61 30 P P 13 54 10.6 -0.2
baz=294,SNR=15
SIT Sitka 75.64 34 P P 13 54 10.9 0.0
baz=292
PABE Paberze 75.66 325 P P 13 54 09.8 -1.3
PABE Paberze 75.66 325 *e*P P 13 54 10.8 -0.3
SORM Soroca 75.78 317 ⇓P P 13 54 11.1 -0.8
SORM Soroca 75.78 317 P P 13 54 11.1 -0.8
KONS Konsvik 75.80 337 *e*P P 13 54 11.6 -0.1
S32K Killisnoo 75.85 33 P P 13 54 12.3 +0.2
baz=293
MILM Milestii Mici 75.91 315 ⇓*i* P P 13 54 11.0 -1.7
comp=Z,270nm,1.7s
MILM *e*L L 14 29 37.0
MILM LRM MLR 14 30 15.0
comp=Z,600nm,19.5s
MILM Milestii Mici 75.91 315 *d i* P P 13 54 11.0 -1.7
MILM pmax pmax
comp=Z,270nm,1.7s
MMAI Mount Meron Ar 75.92 300 P P 13 54 13.7 +0.6
comp=Z,25nm,0.8s,baz=51,slow=6.6,SNR=8.1
MMAI LR LR 14 33 27.0
comp=Z,362nm,21.2s,baz=46,slow=40
comp=Z,25nm,0.8s
STOK Stokkvaagen 75.92 337 *e*P P 13 54 11.5 -0.8
Q32M Nakina River 76.38 31 P P 13 54 16.0 +0.6
baz=294
TLCR 76.52 314 ⇑P P 13 54 16.2 0.0
TLCR 76.52 314 P P 13 54 16.1 0.0
PBUR Paburge 76.53 326 *e*P P 13 54 15.9 -0.1
SUW Suwalki 76.65 323 *e*P P 13 54 16.1 -0.7
SUW Suwalki 76.65 323 P P 13 54 16.6 -0.1
SUW pmax pmax
comp=Z,235nm,1.1s
SUW Suwalki 76.65 323 *e*P P 13 54 16.9 +0.1
VASR Vaslui 76.67 315 ⇑P P 13 54 16.9 -0.1
VLDR Vladesti 76.77 314 ⇑P P 13 54 17.7 +0.2
R33M Jennings River 76.80 30 P P 13 54 17.5 -0.2
baz=295
TPGR Topolog 76.90 313 ⇑P P 13 54 18.6 +0.2
T33K Petersburg 76.93 33 P P 13 54 18.9 +0.6
baz=294
CFR Carcaliu 76.97 314 ⇑P P 13 54 18.5 -0.2
CFR Carcaliu 76.97 314 P P 13 54 18.5 -0.2
TIRR Tirgusor 77.05 313 ⇑P P 13 54 19.1 -0.1
TIRR Tirgusor 77.05 313 P P 13 54 18.7 -0.5
TIRR pmax pmax
comp=Z,154nm,1.1s
TGTN Hyland Airport 77.06 28 P P 13 54 19.5 +0.5
baz=297,SNR=9.0
U33K Whale Pass 77.13 34 P P 13 54 20.1 +0.7
baz=294
ATD Arta Tunnel 77.17 277 LR LR 14 28 24.8
comp=Z,11nm,18.5s,baz=67,slow=36
NSS Namsos 77.18 336 *e*P P 13 54 17.9 -1.7
NSS IAmb IAmb 13 54 18.2
comp=Z,24nm,1.1s
HARR Harsova 77.28 313 ⇓P P 13 54 21.0 +0.4
HARR Harsova 77.28 313 P P 13 54 20.9 +0.4
S34M Telegraph Cree 77.36 32 IAmb IAmb 13 54 27.1
comp=Z,41nm,1.2s
S34M Telegraph Cree 77.36 32 P P 13 54 21.4 +0.7
baz=296
PANC Panciu 77.36 315 ⇑P P 13 54 21.8 +0.9
CRAG Craig 77.39 35 P P 13 54 20.6 -0.3
baz=294
WRAK Wrangell Islan 77.40 34 P P 13 54 21.2 +0.3
baz=295
EIL Elat 77.44 297 LR LR 14 33 59.0
comp=Z,261nm,19.7s,baz=68,slow=40
TESR Tescani 77.45 315 ⇑P P 13 54 21.2 -0.2
WTLY Watson Lake, Y 77.47 29 P P 13 54 21.8 +0.5
baz=297,SNR=8.0
PSN Preselentsi 77.53 312 *i* P P 13 54 22.0 +0.1
VRI Vrincioaia 77.64 315 ⇓P P 13 54 23.5 +1.0
VRI Vrincioaia 77.64 315 P P 13 54 23.5 +1.0
DLBC Dease Lake 77.66 31 IAmb IAmb 13 54 29.0
comp=Z,93nm,1.5s
DLBC Dease Lake 77.66 31 P P 13 54 23.3 +0.9
baz=296,SNR=8.6
DLBC Dease Lake 77.66 31 P P 13 54 23.1 +0.7
comp=Z,13nm,1.0s,baz=322,slow=5.4,SNR=9.4
DLBC LR LR 14 32 02.0
comp=Z,226nm,18.9s,baz=290,slow=38
comp=Z,13nm,1.0s
LVV L'vov 77.80 319 *e*P P 13 54 22.4 -0.9
LVV *e*S S 14 04 12.5 -2.5
LVV *e*PS PnS 14 04 51.6 -4.4
LVV pmax pmax
comp=Z,110nm,1.4s
BUR08 Bucovina Ar. S 77.93 317 IAmb IAmb 13 54 28.9
comp=Z,40nm,1.1s
BURAR Bucovina Array 77.94 317 ⇑P P 13 54 24.3 +0.1
BURAR Bucovina Array 77.94 317 IAmb IAmb 13 54 24.9
comp=Z,25nm,0.8s
BURAR Bucovina Array 77.94 317 P P 13 54 24.3 +0.1
ISP Isparta 77.97 306 *ce*P P 13 54 24.0 -0.6
ISP pmax pmax
comp=Z,120nm,1.3s
COVR Voineasa-Covas 77.98 315 ⇓P P 13 54 24.8 +0.3
TURR Turia 78.03 315 ⇑P P 13 54 25.6 +0.9
ISR Istrita 78.04 314 ⇑P P 13 54 25.7 +0.8
ISR Istrita 78.04 314 P P 13 54 25.6 +0.8

OZUR 78.16 315 ⇑P P 13 54 26.0 +0.6
RES Resolute Bay 78.19 10 IAmb IAmb 13 54 25.4
comp=Z,52nm,1.2s
RES Resolute Bay 78.19 10 P P 13 54 24.3 -0.7
RES pmax pmax
comp=Z,38nm,1.5s
RES Resolute Bay 78.19 10 LR LR 14 32 38.7
comp=Z,445nm,18.0s,baz=303,slow=39
T35M Bob Quinn 78.20 33 P P 13 54 25.7 +0.3
baz=296
WRGLY Wrigley 78.20 25 P P 13 54 25.5 +0.2
baz=301,SNR=14
V35K Ketchikan 78.23 34 P P 13 54 25.2 -0.4
baz=296
BOSR Bodos 78.25 315 P P 13 54 26.6 +0.7
MLR Muntele Rosu 78.29 315 ⇑P P 13 54 26.3 0.0
MLR Muntele Rosu 78.29 315 IAmb IAmb 13 54 27.2
comp=Z,45nm,0.8s
MLR Muntele Rosu 78.29 315 P P 13 54 26.3 0.0
MLR Muntele Rosu 78.29 315 P P 13 54 26.1 -0.2
comp=Z,38nm,0.8s,baz=22,slow=3.2,SNR=35
MLR LR LR 14 32 35.9
comp=Z,652nm,21.6s,baz=52,slow=38
comp=Z,38nm,0.8s
DOPR Dopca 78.46 315 ⇑P P 13 54 27.6 +0.5
TBLU Trondheim 78.48 335 IAmb IAmb 13 54 25.4
comp=Z,38nm,1.1s
TBLU *e*P P 13 54 25.8 -1.0
HFS Hagfors 78.64 331 P P 13 54 27.0 -0.7
comp=Z,33nm,0.8s,baz=106,slow=5.4,SNR=55
HFS LR LR 14 32 49.4
comp=Z,3µm,18.4s,baz=55,slow=38
comp=Z,33nm,0.8s
RAZG Razgrad 78.66 313 ⇑P P 13 54 28.5 +0.3
KWP Kalwaria Pacla 78.67 319 *e*P P 13 54 28.4 +0.3
KWP Kalwaria Pacla 78.67 319 P P 13 54 28.6 +0.5
KWP pmax pmax
comp=Z,206nm,1.3s
U35K Hyder 78.78 33 P P 13 54 28.2 -0.4
baz=297
BEL Belsk 78.86 322 *e*P P 13 54 28.7 -0.4
BEL Belsk 78.86 322 P P 13 54 29.7 +0.6
BEL pmax pmax
comp=Z,347nm,1.0s
VOIR 78.89 315 ⇑P P 13 54 29.3 -0.3
VOIR 78.89 315 P P 13 54 29.2 -0.3
BMR Baia Mare 78.98 317 ⇑P P 13 54 30.7 +0.8
BMR Baia Mare 78.98 317 P P 13 54 30.6 +0.8
JMB Yambol 79.06 312 *i* P P 13 54 21.6 -8.8
NC303 NORSAR Array S 79.09 333 IAmb IAmb 13 54 33.6
comp=Z,32nm,0.9s
ARR Arges 79.19 315 ⇑P P 13 54 31.5 +0.3
KOLS Kolonicke sedl 79.21 319 *e*P P 13 54 31.0 -0.1
KOLS pmax pmax
comp=Z,20nm,0.8s
KOLS Kolonicke sedl 79.21 319 *e*P P 13 54 31.0 -0.1
NB2 NORSAR Subarra 79.25 333 P P 13 54 29.9 -1.2
comp=Z,28nm,0.8s,baz=52,slow=5.9
NB2 NORSAR Subarra 79.25 333 P P 13 54 29.9 -1.2
baz=52,slow=5.9
NOA NORSAR Array B 79.25 333 P P 13 54 30.1 -1.0
comp=Z,25nm,0.8s,baz=56,slow=5.5,SNR=70
NOA LR LR 14 33 19.7
comp=Z,1µm,18.7s,baz=70,slow=39
comp=Z,25nm,0.8s
NC602 NORSAR Array S 79.27 332 *e*P P 13 54 29.5 -1.7
NORES NORESS Array B 79.27 332 P P 13 54 29.7 -1.5
HUMR Humele 79.29 314 ⇑P P 13 54 31.4 -0.2
NC204 NORSAR Array S 79.31 333 IAmb IAmb 13 54 31.1
comp=Z,28nm,0.7s
ELND Elena 79.33 312 ⇑P P 13 54 32.1 +0.2
BLEU Blekinge 79.49 327 *i* P P 13 54 30.2 -2.2
DOMB Dombas 79.59 334 *e*P P 13 54 32.2 -0.8
DOMB IAmb IAmb 13 54 32.4
comp=Z,39nm,0.8s
STHS Stebnicka Huta 79.62 320 *e*P P 13 54 32.7 -0.7
STHS pmax pmax
comp=Z,33nm,1.2s
STHS Stebnicka Huta 79.62 320 *e*P P 13 54 32.7 -0.7
MARR Marisel-Cluj 79.62 317 ⇑P P 13 54 34.0 +0.5
CRVS Cervenica-Dubn 79.71 319 *e*P P 13 54 34.1 +0.2
URZ Urewera 79.80 140 LR LR 14 25 45.1
comp=Z,390nm,20.8s,baz=112,slow=32
DRGR 79.83 317 ⇑P P 13 54 35.0 +0.3
DRGR 79.83 317 P P 13 54 34.9 +0.3
MOL Molde 79.90 335 *e*P P 13 54 33.7 -0.8
ALN Alexandroupoli 80.01 310 IAmb IAmb 13 54 36.2
comp=Z,61nm,1.2s
ALN Alexandroupoli 80.01 310 P P 13 54 32.2 -3.4
ALN pmax pmax
comp=Z,51nm,1.5s
OSL Oslo 80.03 332 *e*P P 13 54 34.9 -0.4
DEV Deva 80.09 316 P P 13 54 36.3 +0.4
DEV pmax pmax
comp=Z,103nm,1.2s
OJC Ojcow 80.12 321 *e*P P 13 54 35.5 -0.5
OJC Ojcow 80.12 321 P P 13 54 34.4 -1.6
OJC Ojcow 80.12 321 P P 13 54 34.4 -1.6
OJC pmax pmax
comp=Z,161nm,1.1s
GKP Gorka Klasztor 80.17 324 *e*P P 13 54 35.7 -0.5
GKP Gorka Klasztor 80.17 324 *e*P P 13 54 36.5 +0.3
NIE Niedzica 80.18 320 *e*P P 13 54 36.6 +0.2
NIE Niedzica 80.18 320 P P 13 54 37.0 +0.6
NIE pmax pmax
comp=Z,31nm,1.4s
EZN Ezine 80.24 309 P P 13 54 36.5 -0.3
BORU Boraas 80.30 329 *i* P P 13 54 35.3 -1.5
STRU Stroemstad 80.30 331 *i* P P 13 54 34.9 -1.9
AKN Aaknes 80.33 335 *e*P P 13 54 36.4 -0.5
ARG Arkhangelos 80.34 305 P P 13 54 37.6 +0.1
ARG pmax pmax
comp=Z,136nm,1.3s
RPZ Rata Peaks 80.35 147 LR LR 14 28 34.1
comp=Z,276nm,20.6s,baz=305,slow=34
DEL Delary 80.36 328 *i* P P 13 54 36.0 -1.1
SRE Strehaia 80.40 315 ⇓P P 13 54 38.2 +0.5
SRE Strehaia 80.40 315 P P 13 54 38.1 +0.5
KECS Kecovo 80.47 319 *e*P P 13 54 38.2 +0.2
KECS pmax pmax
comp=Z,23nm,0.7s
KECS Kecovo 80.47 319 *e*P P 13 54 38.2 +0.2
MPEP Malo Peshtene 80.59 313 *i* P P 13 54 38.8 +0.1
RZN Rozhen 80.59 311 *i* P P 13 54 38.2 -0.2
SURR Surduc 80.64 316 ⇑P P 13 54 39.7 +0.9
SKAR Skarslia 80.64 333 *e*P P 13 54 38.4 -0.3
SKAR IAmb IAmb 13 54 39.2
comp=Z,48nm,1.3s
VALD Valchedram 80.65 314 *i* P P 13 54 39.2 +0.2
KONO Kongsberg 80.66 332 *e*P P 13 54 37.8 -0.9
PUNG Punghina 80.74 314 ⇑P P 13 54 40.0 +0.6
HERR Herculane 80.82 315 ⇑P P 13 54 40.0 +0.1
BJUU Bjuv 80.96 328 *i* P P 13 54 39.2 -1.2
LUNU Lund 80.98 327 *i* P P 13 54 39.2 -1.3
BZS Buzias 81.02 316 ⇑P P 13 54 40.5 -0.4
BZS Buzias 81.02 316 P P 13 54 40.5 -0.4
PSZ Piszkesteto 81.08 319 ⇑P P 13 54 41.5 +0.1
PSZ Piszkesteto 81.08 319 IAmb IAmb 13 54 42.4
comp=Z,43nm,1.0s
PSZ Piszkesteto 81.08 319 P P 13 54 41.4 +0.1
RAC Raciborz 81.10 321 *e*P P 13 54 34.1 -7.2
RAC pmax pmax
comp=Z,202nm,2.0s
HYA Hoyanger 81.22 334 *e*P P 13 54 41.0 -0.7
VTS Vitosha 81.23 313 *i* P P 13 54 41.4 -0.9
OKC Ostrava-Krasne 81.24 321 P P 13 54 42.1 +0.1
OKC pmax pmax
comp=Z,57nm,1.1s
OKC Ostrava-Krasne 81.24 321 *e*P P 13 54 41.9 -0.1
MDVR Moldovita 81.31 315 ⇑P P 13 54 42.7 +0.1
MMB Musomishta 81.33 312 *i* P P 13 54 43.1 +0.4
FOO Floro 81.42 335 *e*P P 13 54 42.3 -0.4
VYHS Vyhne 81.45 319 *e*P P 13 54 43.5 +0.3
VYHS pmax pmax
comp=Z,76nm,1.0s
VYHS Vyhne 81.45 319 *e*P P 13 54 43.5 +0.3
SRS Serrai 81.62 311 P P 13 54 43.4 -0.8
SRS pmax pmax
comp=Z,59nm,1.2s
MORC Moravsky Berou 81.62 321 ⇑P P 13 54 44.5 +0.4
MORC Moravsky Berou 81.62 321 *e*P P 13 54 44.0 -0.1
MORC Moravsky Berou 81.62 321 P P 13 54 44.5 +0.4
KKB Krupnik 81.63 312 *i* P P 13 54 39.7 -4.6
MAUC Maruska 81.65 321 *e*P P 13 54 44.6 +0.4

ODD1 Odda 81.77 333 *e*P P 13 54 43.9 -0.8
KSP Ksiaz 81.83 322 *e*P P 13 54 44.7 -0.5
KSP Ksiaz 81.83 322 P P 13 54 44.0 -1.1
KSP pmax pmax
comp=Z,89nm,1.1s
SUE Sulen 81.85 335 *e*P P 13 54 44.7 -0.3
SOH Sokhos 81.91 311 P P 13 54 44.8 -1.0
SOH pmax pmax
comp=Z,14nm,1.1s
KRLC Kraliky 81.91 322 P P 13 54 44.8 -0.9
KRLC pmax pmax
comp=Z,57nm,1.1s
KRLC Kraliky 81.91 322 *e*P P 13 54 45.7 0.0
YKA Yellowknife Ar 81.96 24 *ce*P P 13 54 45.0 -0.6
YKA pmax pmax
comp=Z,46nm,1.0s
YKA Yellowknife Ar 81.96 24 P P 13 54 45.5 0.0
comp=Z,47nm,1.0s,baz=308,slow=5.2,SNR=336
YKA LR LR 14 33 09.2
comp=Z,217nm,20.7s,baz=296,slow=37
comp=Z,47nm,1.0s
JAVC Velka Javorina 81.97 320 *e*P P 13 54 46.8 +0.8
OSTC Ostas 82.00 322 *e*P P 13 54 46.3 +0.2
ASK Askoy 82.02 334 *e*P P 13 54 47.7 +1.8
BER Bergen 82.02 334 P P 13 54 45.6 -0.3
BER pmax pmax
comp=Z,35nm,0.9s
BER Bergen 82.02 334 *e*P P 13 54 45.6 -0.3
DPC Dobruska-Polom 82.04 322 P P 13 54 46.8 +0.5
DPC pmax pmax
comp=Z,55nm,1.3s
DPC Dobruska-Polom 82.04 322 *e*P P 13 54 46.5 +0.2
DPC AMS AMS 14 35 00.0
comp=Z,700nm,15.8s
PAIG Paliouri 82.06 310 P P 13 54 45.4 -1.1
PAIG pmax pmax
comp=Z,95nm,1.1s
KNT Kendrikon 82.07 312 P P 13 54 45.9 -0.7
KNT pmax pmax
comp=Z,39nm,1.2s
CHVC Chvalec 82.08 322 *e*P P 13 54 46.7 +0.2
BLS5 Blasjo 82.12 333 *e*P P 13 54 46.3 -0.3
UPC Upice 82.14 322 P P 13 54 46.6 -0.2
UPC pmax pmax
comp=Z,42nm,1.2s
UPC Upice 82.14 322 *e*P P 13 54 47.1 +0.3
UPC AMS AMS 14 35 00.0
comp=Z,700nm,16.1s
VAY Valandovo 82.23 312 *i* P P 13 54 46.8 -0.6
SMOL Smolenice 82.28 320 *e*P P 13 54 48.1 +0.6
SMOL pmax pmax
comp=Z,30nm,1.5s
FRGS Fruska Gora 82.36 316 ⇑P P 13 54 48.3 +0.2
FRGS Fruska Gora 82.36 316 ⇓*i* P P 13 54 47.2 -0.9
VRAC Vranov 82.39 321 ⇑P P 13 54 48.8 +0.7
VRAC Vranov 82.39 321 *e*P P 13 54 48.2 +0.1
VRAC Vranov 82.39 321 P P 13 54 48.8 +0.7
VRAC Vranov 82.39 321 P P 13 54 48.4 +0.3
comp=Z,45nm,0.8s,baz=68,slow=4.1,SNR=38
VRAC LR LR 14 32 04.4
comp=Z,348nm,20.4s,baz=56,slow=36
comp=Z,45nm,0.8s
RUE Ruedersdorf 82.39 325 *e*P P 13 54 48.9 +1.0
RUE Ruedersdorf 82.39 325 *e*P P 13 54 48.4 +0.5
comp=Z,65nm,1.0s,baz=58,slow=5.0
SNART Snartemo 82.42 332 *e*P P 13 54 47.9 -0.1
SNART Snartemo 82.42 332 *i* P P 13 54 46.6 -1.4
MODS Modra-Piesok 82.43 320 *e*P P 13 54 48.6 +0.2
MODS pmax pmax
comp=Z,194nm,1.7s
MODS Modra-Piesok 82.43 320 *e*P P 13 54 48.6 +0.2
GRG Griva 82.50 312 P P 13 54 47.9 -1.0
GRG pmax pmax
comp=Z,65nm,1.3s
MUD Monsted U'grnd 82.59 329 *i* P P 13 54 48.3 -0.7
MUD IAmb IAmb 13 54 49.6
comp=Z,41nm,1.0s
MORH Mrgy, Hungar 82.61 317 ⇑P P 13 54 49.5 +0.2
ZST Bratislava 82.62 320 *e*P P 13 54 49.2 -0.1
ZST pmax pmax
comp=Z,64nm,1.1s
ZST Bratislava 82.62 320 *e*P P 13 54 49.2 -0.1
KRUC Moravsky 82.62 321 *e*P P 13 54 49.2 -0.1
KRUC Moravsky 82.62 321 P P 13 54 49.5 +0.2
KRUC pmax pmax
comp=Z,35nm,1.8s
SUMG Summit 82.65 355 IAmb IAmb 13 54 54.4
comp=Z,55nm,1.3s
SKO Skopje 82.71 313 *i* P P 13 54 49.8 -0.2
KMY Karmoy 82.75 333 *e*P P 13 54 50.1 +0.4
TEKS Tekeris 82.81 316 ⇓*i* P P 13 54 49.3 -1.1
PVCC Panska Ves 82.94 323 P P 13 54 51.1 +0.2
PVCC pmax pmax
comp=Z,45nm,1.4s
PVCC Panska Ves 82.94 323 *e*P P 13 54 51.2 +0.3
BRG Berggiesshubel 83.11 323 *i* P P 13 54 51.8 0.0
BRG Amp 13 54 54.2
comp=Z,20nm,0.9s
BRG Berggiesshubel 83.11 323 *i* P P 13 54 51.7 0.0
BRG pmax pmax
comp=Z,20nm,0.9s
BRG pmax pmax
comp=Z,11nm,0.9s
BRG pmax pmax
comp=Z,9.0nm,1.0s
BRG Berggiesshubel 83.11 323 *e*P P 13 54 51.8 0.0
comp=Z,19nm,0.8s,baz=58,slow=5.0
SJES Sjenica 83.11 314 ⇓*i* P P 13 54 51.7 -0.4
GOPC GO Pecny, Ondr 83.12 322 P P 13 54 51.9 0.0
GOPC pmax pmax
comp=Z,72nm,1.2s
GOPC GO Pecny, Ondr 83.12 322 *e*P P 13 54 52.3 +0.4
IDI Anoyia 83.13 306 IAmb IAmb 13 55 12.7
comp=Z,29nm,0.9s
RICC Richard 83.19 323 *e*P P 13 54 52.5 +0.3
PRU Pruhonice 83.22 322 P P 13 54 52.6 +0.2
PRU pmax pmax
comp=Z,42nm,1.7s
PRU Pruhonice 83.22 322 *e*P P 13 54 52.4 0.0
PRU AMS AMS 14 35 20.0
comp=Z,700nm,16.4s
PRA Prague 83.24 322 AMS AMS 14 35 20.0
comp=Z,900nm,15.5s
FNA Florina 83.28 312 P P 13 54 51.5 -1.5
FNA pmax pmax
comp=Z,14nm,1.0s
RONA Rosalia, Austr 83.33 320 *e*P P 13 54 53.2 +0.2
comp=Z,17nm,0.9s,SNR=6.1
AGG Agios Georgios 83.39 310 IAmb IAmb 13 54 52.5
comp=Z,37nm,0.9s
HAPS Han Pijesak,Bl 83.39 315 ⇓*i* P P 13 54 52.9 -0.7
CLL Collm 83.40 324 IAmb IAmb 13 54 53.9
comp=Z,43nm,1.0s
CLL Collm 83.40 324 ⇓*i* P P 13 54 52.7 -0.6
CLL 13 54 56.3
comp=Z,42nm,1.0s
CLL pmax pmax
comp=Z,42nm,1.0s
CLL Collm 83.40 324 *e*P P 13 54 53.2 -0.1
comp=Z,37nm,0.9s,baz=58,slow=5.0
CLL *e*L L 14 40 03.2
comp=Z,678nm,18.1s
BSEG Bad Segeberg 83.41 327 P P 13 54 53.5 +0.2
BSEG pmax pmax
comp=Z,61nm,1.0s
BSEG Bad Segeberg 83.41 327 *e*P P 13 54 53.6 +0.4
comp=Z,51nm,0.9s,baz=58,slow=5.0
BSEG *e*L L 14 34 58.1
comp=Z,767nm,20.7s
CONA Conrad Observa 83.47 320 *e*P P 13 54 54.1 +0.3
comp=Z,84nm,1.4s,SNR=21
OHR Ohrid 83.52 312 *i* P P 13 54 53.3 -1.0
HSKC Hora Svate Kat 83.52 323 *e*P P 13 54 54.1 +0.1
PUK Puka 83.71 313 IAmb IAmb 13 54 59.1
comp=Z,63nm,1.2s
KBN Korca 83.75 312 P P 13 54 54.3 -1.1
KBN pmax pmax
comp=Z,85nm,1.2s
FLTG Flechtingen 83.80 325 *e*P P 13 54 55.1 -0.2
comp=Z,24nm,0.9s,baz=58,slow=5.0
CKRC Cesky Krumlov 83.94 321 *e*P P 13 54 56.5 +0.4
CKRC AMS AMS 14 36 10.0
comp=Z,700nm,18.8s
KOGS Kog 83.96 318 *i* P P 13 54 55.7 -0.6
KALN Kalnik 83.99 318 *i* P P 13 54 56.1 -0.4
ARSA Arzberg 84.01 319 *e*P P 13 54 56.6 +0.1

comp=Z,32nm,1.3s,SNR=9.2
DRME Dracevica, Mon 84.11 314 ǁ *i*P **P 13 54 55.9 -1.3**
TANN Tannenbergstha 84.15 323 *e*P **P 13 54 57.2 -0.1**
comp=Z,28nm,1.1s,baz=58,slow=5.0
KHC Kasperske Hory 84.19 322 *ce*P **P 13 54 57.5 +0.1**
KHC pmax pmax
comp=Z,127nm,1.3s
KHC Kasperske Hory 84.19 322 *e*P **P 13 54 57.6 +0.1**
BLY Banja Luka 84.20 317 ǁ *i*P **P 13 54 57.0 -0.5**
BRY Bratogost 84.21 315 *e*P **P 13 54 57.2 -0.6**
A051A Mrakovica 84.25 317 ǁ *i*P **P 13 54 57.0 -0.9**
NKC Novy Kostel 84.26 323 *e*P **P 13 54 58.2 +0.5**
GEC2 GERESS Array S 84.27 321 P **P 13 54 57.9 0.0**
GEC2 pmax pmax
comp=Z,76nm,1.1s
GEC2 GERESS Array S 84.27 321 *e*L L 14 36 32.1
comp=Z,607nm,19.5s
GERES GERESS Array B 84.27 321 P **P 13 54 57.9 0.0**
comp=Z,44nm,0.8s,baz=52,slow=6.9,SNR=46
GERES LR LR 14 33 11.1
comp=Z,304nm,19.8s,baz=70,slow=36
comp=Z,44nm,0.8s
PLN Plauen 84.28 323 *e*P **P 13 54 58.0 +0.1**
comp=Z,26nm,1.0s,baz=58,slow=5.0
PTJ Puntijarka 84.40 318 P **P 13 54 58.4 -0.2**
TREB Trebinje 84.42 314 *e*P **P 13 54 57.0 -1.7**
MGRS Mrkonjic Grad 84.42 316 *e*P **P 13 54 59.0 +0.3**
MOA Molln 84.45 320 *e*P **P 13 54 59.1 +0.3**
comp=Z,36nm,0.7s,SNR=11
MOX Moxa 84.49 324 P **P 13 54 58.7 -0.2**
MOX pmax pmax
comp=Z,31nm,1.4s
MOX Moxa 84.49 324 *e*P **P 13 54 58.8 -0.1**
comp=Z,36nm,1.2s,baz=58,slow=5.0
MOX eL L 14 38 32.5
comp=Z,729nm,18.3s
CLZ Clausthal 84.51 325 *e*P **P 13 54 59.6 +0.6**
comp=Z,156nm,1.4s,baz=58,slow=5.0
DBRK Dubrovnik 84.57 314 *i*P **P 13 54 58.3 -1.2**
MANZ Manzenberg 84.57 323 *e*P **P 13 54 59.5 +0.1**
comp=Z,5.5nm,0.9s,baz=58,slow=5.0
SOKA Soboth 84.58 319 *i*P **P 13 54 59.2 -0.4**
comp=Z,40nm,0.7s,SNR=12
WET Wettzell 84.58 322 P **P 13 54 59.7 +0.3**
WET pmax pmax
comp=Z,26nm,1.5s
WET Wettzell 84.58 322 *e*P **P 13 54 59.4 0.0**
comp=Z,50nm,1.5s,baz=58,slow=5.0
WET eL L 14 36 28.2
comp=Z,609nm,18.8s
ROTZ Rotzenmuhle 84.63 323 *e*P **P 13 54 59.7 +0.1**
comp=Z,11nm,1.0s,baz=58,slow=5.0
A050A Klekovaca 84.74 317 ǁ *i*P **P 13 54 59.8 -0.6**
CRES Cresnjev 84.75 318 ǁ *i*P **P 13 54 59.9 -0.4**
STON Ston 84.77 315 ǁ *i*P **P 13 54 58.6 -1.8**
LEGS Legarje 84.77 318 *i*P **P 13 55 00.0 -0.4**
RICI Ricice 84.83 316 *i*P **P 13 55 00.1 -0.7**
OZLJ Ozalj 84.84 318 *i*P **P 13 55 00.7 0.0**
GTTG Gottingen 84.89 325 *e*P **P 13 55 01.4 +0.5**
comp=Z,92nm,1.1s,baz=58,slow=5.0
BIOA Bad Ischl, Aus 84.89 320 *i*P **P 13 55 01.0 0.0**
comp=Z,39nm,1.3s,SNR=10.0
OBKA Obir 84.95 319 *e*P **P 13 55 00.7 -0.7**
comp=Z,37nm,0.8s
OBKA Obir 84.95 319 ǁ *i*P **P 13 55 00.5 -0.9**
BOJS Bojanci 85.03 318 *i*P **P 13 55 01.5 -0.2**
BOJS Bojanci 85.03 318 ǁ *i*P **P 13 55 00.5 -1.2**
KIJV Kijevo 85.05 316 *i*P **P 13 55 01.1 -0.7**
GRF Grafenberg Arr 85.22 323 P **P 13 55 02.8 +0.2**
GRF pmax pmax
comp=Z,61nm,1.4s
GRF Grafenberg Arr 85.22 323 *e*P **P 13 55 03.0 +0.4**
comp=Z,191nm,1.7s,baz=58,slow=5.0
GRF eL L 14 35 29.3
comp=Z,483nm,18.6s
UBBA Unterbreizbach 85.27 324 *e*P **P 13 55 02.8 +0.1**
comp=Z,100nm,1.5s,baz=58,slow=5.0
KBA Koelnbreinsper 85.38 320 *i*P **P 13 55 02.9 -0.8**
comp=Z,40nm,1.3s,SNR=7.6
KBA Koelnbreinsper 85.38 320 P **P 13 55 03.4 -0.3**
KBA pmax pmax
comp=Z,38nm,1.4s
CEY Cerknica 85.42 318 ǁ *i*P **P 13 55 02.9 -0.8**
MYKA Terra Mystica 85.43 320 *e*P **P 13 55 02.9 -0.9**
comp=Z,21nm,1.0s
LESA Schwarzleotal 85.59 321 *e*P **P 13 55 04.1 -0.5**
comp=Z,46nm,1.1s
VOJS Vojsko 85.59 319 *i*P **P 13 55 03.4 -1.3**
IBBN Ibbenburen 85.60 326 *e*P **P 13 55 04.9 +0.5**
comp=Z,112nm,0.9s,baz=58,slow=5.0
ZIRJ Zirje 85.70 316 *i*P **P 13 55 03.8 -1.3**
SKDS Skadanscina 85.76 318 ǁ *i*P **P 13 55 03.4 -2.0**
KASTN Kahler Asten 85.89 325 *e*P **P 13 55 06.2 +0.3**
comp=Z,57nm,1.1s,baz=58,slow=5.0
FUR Furstenfeldbru 86.00 322 P **P 13 55 07.3 +0.8**
FUR pmax pmax
comp=Z,153nm,1.0s
FUR Furstenfeldbru 86.00 322 *e*L L 14 37 31.2
comp=Z,596nm,21.1s
ABTA Abfaltersbach 86.04 320 *i*P **P 13 55 05.5 -1.3**
comp=Z,40nm,1.1s,SNR=10
ABPO Ambohimpanom 86.08 247 P **P 13 55 06.5 -1.0**
ABPO IAmb IAmb 13 55 09.0
comp=Z,28nm,0.8s
ABPO Ambohimpanom 86.08 247 P **P 13 55 06.5 -1.0**
ABPO pmax pmax
comp=Z,28nm,0.9s
STAL STALIGIAL 86.18 320 IAmb IAmb 13 55 07.1
comp=Z,49nm,1.0s
WATA Walderalm 86.27 321 *e*P **P 13 55 07.5 -0.6**
comp=Z,30nm,1.2s,SNR=6.0
WTTA Wattenberg 86.28 321 *e*P **P 13 55 07.7 -0.4**
comp=Z,53nm,1.2s,SNR=8.9
WTTA Wattenberg 86.28 321 P **P 13 55 07.9 -0.2**
WTTA pmax pmax
comp=Z,46nm,1.5s
CIMO Cimolais 86.31 320 P **P 13 55 05.8 -2.3**
CIMO IAmb IAmb 13 55 10.9
comp=Z,26nm,1.0s
BUG Bochum--Univer 86.34 326 P **P 13 55 08.4 +0.3**
BUG pmax pmax
comp=Z,108nm,1.1s
BUG Bochum--Univer 86.34 326 *e*P **P 13 55 08.4 +0.3**
comp=Z,113nm,1.1s,baz=58,slow=5.0
TNS Taunus Mts 86.42 324 P **P 13 55 08.4 -0.2**
TNS pmax pmax
comp=Z,53nm,1.1s
TNS Taunus Mts 86.42 324 *e*P **P 13 55 08.7 +0.1**
comp=Z,42nm,0.9s,baz=58,slow=5.0
TNS eL L 14 37 14.1
comp=Z,1μm,18.6s
MOTA Moosalm 86.54 321 *e*P **P 13 55 08.5 -0.9**
comp=Z,30nm,1.2s,SNR=7.0
SQTA Sankt Quirin 86.55 321 *e*P **P 13 55 08.9 -0.5**
comp=Z,50nm,1.5s,SNR=9.6
RETA Reutte 86.66 321 *i*P **P 13 55 09.4 -0.4**
comp=Z,12nm,1.3s
STU Stuttgart 86.83 323 P **P 13 55 10.8 +0.2**
STU pmax pmax
comp=Z,36nm,1.4s
STU Stuttgart 86.83 323 *e*P **P 13 55 10.5 -0.1**
baz=58,slow=5.0
UBR Ueberruh 86.92 322 *e*P **P 13 55 10.6 -0.6**
comp=Z,66nm,1.1s,baz=58,slow=5.0
FETA Feichten 86.93 321 *e*P **P 13 55 10.7 -0.6**
comp=Z,37nm,1.6s,SNR=5.5
AHRW Bad Neuenahr-A 86.96 325 *e*P **P 13 55 11.4 +0.2**
comp=Z,47nm,1.1s,baz=58,slow=5.0
RAR Rarotonga 86.99 115 LR LR 14 30 29.8
comp=Z,186nm,18.5s,baz=326,slow=33
KIBK Kibwezi 87.06 266 P **P 13 55 13.5 +1.1**
SNR=8.5
LODK Lodwar 87.17 272 P **P 13 55 14.1 +1.2**
SNR=7.2
BORG Borgarnes 87.24 346 LR LR 14 39 10.9
comp=Z,593nm,18.4s,baz=27,slow=39
DAVA Damuels 87.27 321 *e*P **P 13 55 12.4 -0.5**
comp=Z,48nm,1.0s,SNR=8.0
KMBO Kilima Mbogo 87.29 268 P **P 13 55 14.5 +0.8**
KMBO pmax pmax
comp=Z,15nm,1.6s
KMBO Kilima Mbogo 87.29 268 *i*P **P 13 55 14.9 +1.2**
SNR=6.7
KMBO Kilima Mbogo 87.29 268 P **P 13 55 14.5 +0.8**
FUORN Ofenpass-Fuorn 87.41 321 IAmb IAmb 13 55 17.9
comp=Z,71nm,1.4s

BTNL Ternell 87.43 326 *d*P **P 13 55 12.4 -1.1**
comp=Z,16nm,1.3s
MEM Membach 87.48 326 P **P 13 55 13.7 +0.1**
MEM pmax pmax
comp=Z,37nm,1.7s
MEM Membach 87.48 326 *d*P **P 13 55 11.4 -2.3**
MEM *d*PcP **PcP 13 55 13.5 -2.2**
comp=Z,22nm,1.1s
DAVOX Davos/Dischmat 87.55 321 P **P 13 55 14.1 -0.2**
comp=Z,29nm,0.9s,baz=62,slow=2.9,SNR=25
DAVOX LR LR 14 39 15.0
comp=Z,611nm,18.1s,baz=32,slow=39
comp=Z,29nm,0.9s
BFO Black Forest 87.55 323 P **P 13 55 13.3 -0.8**
BFO IAmb IAmb 13 55 14.7
comp=Z,55nm,1.3s
BFO Black Forest 87.55 323 P **P 13 55 13.3 -0.8**
BFO pmax pmax
comp=Z,55nm,1.3s
BFO Black Forest 87.55 323 *e*P **P 13 55 13.8 -0.4**
comp=Z,66nm,1.4s,baz=58,slow=5.0
BFO eL L 14 38 41.6
comp=Z,655nm,20.3s
BHOU Houvegnez 87.63 325 *d*P **P 13 55 14.0 -0.4**
comp=Z,22nm,1.1s
BSTI Sart Tilman 87.72 326 *d*PcP **P 13 55 14.7 -0.1**
comp=Z,7.6nm,1.0s
SLE Schleitheim 87.78 322 P **P 13 55 13.3 -1.9**
SLE pmax pmax
comp=Z,108nm,1.2s
BCLA Clavier 87.95 326 *d*PcP **P 13 55 15.9 0.0**
comp=Z,17nm,1.2s
WLF Walferdange 87.96 325 P **P 13 55 16.7 +0.7**
WLF pmax pmax
comp=Z,103nm,1.0s
WLF Walferdange 87.96 325 *d*PcP **P 13 55 16.2 +0.2**
comp=Z,59nm,1.0s
WLF Walferdange 87.96 325 *e*P **P 13 55 16.2 +0.2**
comp=Z,94nm,1.0s,baz=58,slow=5.0
TUE Stuetta 88.02 321 IAmb IAmb 13 55 18.2
comp=Z,41nm,0.9s
BGES Gesves 88.08 326 *d*PcP **P 13 55 16.6 +0.1**
comp=Z,14nm,1.3s
CDF Champ du Feu 88.08 323 *e*P **P 13 55 16.0 -0.7**
CDF pmax pmax
comp=Z,98nm,1.1s
RCHB Rochefort 88.15 326 *d*P **P 13 55 16.5 -0.4**
comp=Z,22nm,1.0s
ECH Echery 88.26 323 P **P 13 55 17.2 -0.3**
ECH pmax pmax
comp=Z,43nm,1.7s
BMRD Maredsous 88.30 326 *d*PcP **P 13 55 17.8 +0.2**
comp=Z,20nm,1.0s
B08A Colville Reser 88.32 37 IAmb IAmb 13 55 19.7
comp=Z,20nm,0.9s
GIVF Givet 88.39 326 *e*P **P 13 55 17.3 -0.7**
GIVF pmax pmax
comp=Z,66nm,1.4s
DOU Dourbes 88.51 326 *d*PcP **P 13 55 18.6 0.0**
comp=Z,17nm,0.9s
HINF Hinteralfeld 88.66 323 *e*P **P 13 55 18.1 -1.3**
HINF pmax pmax
comp=Z,19nm,0.9s
BAIF Baives 88.73 326 *e*P **P 13 55 19.0 -0.6**
BAIF pmax pmax
comp=Z,23nm,1.1s
EKA Eskdalemuir Ar 88.74 333 P **P 13 55 18.8 -0.8**
comp=Z,6.4nm,0.7s,baz=54,slow=4.2,SNR=12
comp=Z,6.4nm,0.7s
HAU Haudompre 88.83 323 *e*P **P 13 55 19.1 -1.1**
HAU pmax pmax
comp=Z,36nm,1.0s
E07A Sunnyside 89.08 38 IAmb IAmb 13 55 23.7
comp=Z,55nm,1.0s
D08A Wollman Farm, 89.31 37 IAmb IAmb 13 55 24.4
comp=Z,39nm,0.9s
HAWA Hanford 89.35 38 IAmb IAmb 13 55 24.9
comp=Z,31nm,0.9s
G06A Carlson Farm, 89.38 40 IAmb IAmb 13 55 25.2
comp=Z,31nm,1.0s
F07A Phinny Hill Vi 89.42 39 IAmb IAmb 13 55 25.3
comp=Z,42nm,0.9s
E08A Dider Farm, El 89.56 38 IAmb IAmb 13 55 25.8
comp=Z,27nm,0.9s
NEW Newport 89.57 36 IAmb IAmb 13 55 25.6
comp=Z,38nm,0.9s
NEW Newport 89.57 36 P **P 13 55 24.4 +0.7**
NEW pmax pmax
comp=Z,52nm,1.0s
NEW Newport 89.57 36 P **P 13 55 24.3 +0.7**
baz=307,SNR=28
VAE Valguarnera 89.61 311 LR LR 14 40 38.0
comp=Z,161nm,18.4s,baz=138,slow=39
CABF La Chapelle 89.79 322 *e*P **P 13 55 23.9 -0.9**
CABF pmax pmax
comp=Z,31nm,1.1s
LPG La Plagne 90.07 321 *e*P **P 13 55 25.9 -0.5**
LPG pmax pmax
comp=Z,92nm,0.9s
LPL La Plagne 90.07 321 *e*P **P 13 55 25.8 -0.5**
LPL pmax pmax
comp=Z,93nm,1.0s
YBH Yreka Blue Hor 90.08 43 LR LR 14 31 09.6
comp=Z,114nm,19.7s,baz=298,slow=32
BNI Bardonecchia 90.37 321 IAmb IAmb 13 55 28.3
comp=Z,46nm,1.1s
BNI Bardonecchia 90.37 321 P **P 13 55 27.6 0.0**
BNI pmax pmax
comp=Z,48nm,1.8s
MBDF Montbardon 90.50 321 *e*P **P 13 55 28.9 +0.7**
MBDF pmax pmax
comp=Z,15nm,1.0s
SBF Sospel 90.61 320 *e*P **P 13 55 27.5 -1.2**
SBF pmax pmax
comp=Z,43nm,0.9s
LOR Lormes 90.62 324 *e*P **P 13 55 28.4 -0.1**
LOR pmax pmax
comp=Z,36nm,1.4s
I07A Izee 90.71 40 P **P 13 55 29.8 +0.7**
ORIF Oris-en-Rattie 90.91 321 *e*P **P 13 55 29.8 -0.2**
ORIF pmax pmax
comp=Z,49nm,0.9s
SSF Saint Saulge 90.93 324 *e*P **P 13 55 30.0 0.0**
SSF pmax pmax
comp=Z,17nm,1.0s
SMF Signal de Mont 91.01 323 *e*P **P 13 55 29.5 -0.9**
SMF pmax pmax
comp=Z,70nm,1.0s
AVF Avril sur Loir 91.18 324 *e*P **P 13 55 30.3 -0.8**
AVF pmax pmax
comp=Z,44nm,1.2s
SSB Saint Sauveur 91.45 322 P **P 13 55 32.5 0.0**
SSB pmax pmax
comp=Z,70nm,1.5s
LMR La Mourre 91.47 320 *e*P **P 13 55 31.9 -0.6**
LMR pmax pmax
comp=Z,194nm,1.7s
BMO Blue Mountains 91.52 39 IAmb IAmb 13 55 34.8
comp=Z,30nm,1.0s
FCC Fort Churchill 91.53 19 IAmb IAmb 13 55 33.1
comp=Z,49nm,1.1s
VIVF Saint-Julien-l 91.63 322 *e*P **P 13 55 32.6 -0.7**
VIVF pmax pmax
comp=Z,83nm,1.0s
J08A Circle Bar Ran 91.73 40 IAmb IAmb 13 55 36.3
comp=Z,42nm,1.0s
FRB Frobisher Bay 91.75 5 P **P 13 55 32.4 -0.9**
FRB pmax pmax
comp=Z,60nm,1.1s
FRB Frobisher Bay 91.75 5 LR LR 14 40 14.4
comp=Z,406nm,19.2s,baz=357,slow=38
FFC Flin Flon 92.09 25 P **P 13 55 34.9 -0.3**
FFC IAmb IAmb 13 55 36.1
comp=Z,51nm,1.1s
FFC Flin Flon 92.09 25 P **P 13 55 34.9 -0.3**
FFC pmax pmax
comp=Z,51nm,1.1s
TCF Toulx Ste Croi 92.11 324 *e*P **P 13 55 36.9 +1.4**
TCF pmax pmax
comp=Z,58nm,1.6s
PLID Pearl Lake 92.12 38 P **P 13 55 35.4 -0.4**
MBAR Mbarara 93.02 271 *ce*P **P 13 55 41.6 +1.1**
MBAR pmax pmax
comp=Z,11nm,1.0s
MBAR Mbarara 93.02 271 LR LR 14 40 27.4
comp=Z,191nm,18.6s,baz=314,slow=38
CAF Calviac 93.05 323 *e*P **P 13 55 39.8 -0.1**

CAF pmax pmax
comp=Z,36nm,1.0s
RJF Les Rejaudoux 93.11 323 *e*P **P 13 55 40.2 +0.1**
RJF pmax pmax
comp=Z,57nm,1.1s
MFID Camas Ranch 93.24 39 IAmb IAmb 13 55 43.2
comp=Z,34nm,0.9s
EGMT Eagleton 93.51 33 IAmb IAmb 13 55 43.4
comp=Z,20nm,0.9s
EGMT Eagleton 93.51 33 P **P 13 55 42.1 +0.2**
baz=313
CMB Columbia Colle 93.63 45 P **P 13 55 43.4 +0.7**
CMB Columbia Colle 93.63 45 P **P 13 55 43.4 +0.7**
CMB pmax pmax
comp=Z,14nm,1.1s
HLID Hailey 93.95 38 IAmb IAmb 13 55 46.9
comp=Z,26nm,1.0s
HLID Hailey 93.95 38 P **P 13 55 45.4 +1.1**
baz=309,SNR=33
KEST Kesra 93.99 312 IAmb IAmb 13 55 45.8
comp=Z,36nm,1.2s
KEST Kesra 93.99 312 P **P 13 55 43.9 -0.5**
comp=Z,12nm,0.8s,baz=270,slow=2.6,SNR=6.9
comp=Z,12nm,0.8s
PPT Papeete 94.11 107 LR LR 14 28 18.5
comp=Z,230nm,21.9s,baz=296,slow=29
BOZ Bozeman (W) 94.17 35 P **P 13 55 45.1 0.0**
baz=311
BMN Battle Mountai 94.22 42 IAmb IAmb 13 55 47.9
comp=Z,21nm,1.2s
KVN Kaiserville 94.50 44 IAmb IAmb 13 55 48.7
comp=Z,28nm,1.4s
NVAR Mina Array Bea 94.74 44 P **P 13 55 48.9 +0.9**
comp=Z,5.7nm,0.8s,baz=298,slow=5.2,SNR=32
comp=Z,5.7nm,0.8s
H17A Grant Village 95.53 36 P **P 13 55 52.9 +1.3**
baz=312
TIN Tinemaha, Big 95.59 45 P **P 13 55 52.6 +0.8**
baz=306
RLMT Red Lodge 95.73 35 P **P 13 55 53.1 +0.7**
baz=313
VES Vestal, Richgr 95.73 47 P **P 13 55 52.2 -0.1**
baz=305
PKM Mcpherson Peak 95.79 48 P **P 13 55 53.2 +0.4**
baz=305
ETSF Etsaut 95.80 322 *e*P **P 13 55 53.2 +0.6**
ETSF pmax pmax
comp=Z,8.0nm,0.9s
DGMT Dagmar 95.83 30 IAmb IAmb 13 55 53.7
comp=Z,29nm,1.1s
DGMT Dagmar 95.83 30 P **P 13 55 52.4 -0.1**
baz=317
CWC Cottonwood Cre 96.05 46 P **P 13 55 54.1 +0.1**
baz=306
LAO LASA Array 96.16 32 IAmb IAmb 13 55 55.7
comp=Z,15nm,1.1s
LAO LASA Array 96.16 32 P **P 13 55 54.1 0.0**
baz=315
GRAC Grapevine Rang 96.18 45 P **P 13 55 54.5 +0.1**
baz=307
R11B Troy Canyon, C 96.49 43 P **P 13 55 55.9 -0.1**
baz=308,SNR=6.2
MPMC Manual Prospec 96.66 46 P **P 13 55 56.4 -0.3**
baz=306,SNR=5.3
FURC Furnace Creek, 96.82 45 P **P 13 55 57.4 +0.2**
baz=307
SNCC San Nicolas Is 96.92 49 P **P 13 55 58.5 +0.7**
baz=305
DUG Dugway, Tooele 97.02 40 P **P 13 55 57.3 -1.0**
DUG pmax pmax
comp=Z,6.0nm,2.4s
DUG Dugway, Tooele 97.02 40 P Pdif 13 55 58.9 +0.6
baz=310
EDW2 Edwards Air Fo 97.02 47 P Pdif 13 55 58.8 +0.5
baz=306
QSM Queen of Sheba 97.12 45 IAmb IAmb 13 56 00.4
comp=Z,14nm,1.2s
BW06 Boulder Array 97.17 37 P Pdif 13 55 59.0 -0.1
baz=313
PDAR Pinedale Array 97.17 37 P Pdif 13 55 58.9 -0.2
comp=Z,1.2nm,0.8s,baz=335,slow=1.4,SNR=9.9
comp=Z,1.2nm,0.8s
GSC Goldstone, Bar 97.56 46 P Pdif 13 56 01.3 +0.5
baz=307
BFSC Mount Baldy Ra 97.62 47 P Pdif 13 56 01.9 +0.8
baz=306
ULM Lac du Bonnet 97.92 24 P **P 13 56 00.9 -1.0**
comp=Z,3.7nm,0.8s,baz=347,slow=5.9,SNR=9.2
ULM LR LR 14 44 06.2
comp=Z,521nm,18.4s,baz=338,slow=38
comp=Z,3.7nm,0.8s
TUQ Turquoise Moun 98.05 45 P Pdif 13 56 02.6 -0.5
baz=307
HEC Hector,Ludlow 98.15 46 P Pdif 13 56 02.9 -0.5
baz=307
MURC Murrieta 98.31 48 P Pdif 13 56 04.0 -0.1
baz=306
GMRC Granite Mounta 98.62 46 P Pdif 13 56 05.7 +0.1
baz=308
PFO Pinyon Flats O 98.79 47 P Pdif 13 56 06.4 0.0
baz=307
TPFO Pinon Flats 98.80 47 P Pdif 13 56 05.9 -0.4
baz=307
BELC Belle Mtn. Jos 98.87 47 P Pdif 13 56 06.6 -0.1
baz=307
RSSD Black Hills 99.08 33 P **Pdif 13 56 07.5 -0.1**
RSSD pmax pmax
comp=Z,5.0nm,1.3s
RSSD Black Hills 99.08 33 P **Pdif 13 56 07.2 -0.4**
baz=317
IRM Iron Mountain 99.33 46 P **Pdif 13 56 08.9 +0.2**
baz=308
O20A White River Ci 99.68 38 P **Pdif 13 56 09.8 -0.5**
baz=313
PDMCI Parker Dam,Lak 99.90 45 P **Pdif 13 56 10.9 -0.2**
baz=308
N23A Red Feather La 100.41 36 P **Pdif 13 56 12.6 -1.0**
baz=315
SCHQ Scheffyville 100.70 6 P **Pdif 13 56 13.4 -0.8**
comp=Z,3.3nm,0.9s,baz=309,slow=5.6,SNR=4.1
WUAZ Wupatki 100.89 43 P **Pdif 13 56 14.9 -0.9**
baz=310
TXAR Lajitas Array 109.86 43 Pdiff **Pdif 13 56 56.2 +0.6**
comp=Z,0.2nm,0.8s,baz=298,slow=3.9,SNR=2.1
TXAR PKiKP **PKiKP 14 00 58.1 +0.2**
comp=Z,0.7nm,0.8s,baz=263,slow=1.3,SNR=6.8
TORD Torodi Ar. Bea 112.33 297 PKiKP **PKiKP 14 01 02.3 -0.5**
comp=Z,0.5nm,0.4s,baz=45,slow=2.0,SNR=5.9
WVT Waverly 112.91 27 P **PKiKP 14 01 03.0 -0.4**
baz=329
QSPA South Pole Qui 114.06 180 PKiKP **PKiKP 14 01 04.6 +0.1**
comp=Z,1.5nm,0.9s,baz=80,slow=1.0,SNR=5.1
QSPA PP **PP 14 02 01.5 +2.2**
comp=Z,5.5nm,0.9s,baz=332,slow=4.9,SNR=7.3
QSPA PKKPbc **PKKPbc 14 11 45.0 -3.4**
comp=Z,1.2nm,0.7s,baz=227,slow=0.6,SNR=8.9
LRAL Lakeview Retre 115.91 29 P **PKiKP 14 01 07.4 -1.8**
baz=329
ELIB Princess Elisa 116.10 200 *d*PKPdf **PKiKP 14 01 08.4 0.0**
DBIC Dimbokro 121.26 295 PP **PP 14 02 49.5 -0.7**
comp=Z,4.6nm,1.0s,baz=46,slow=4.6,SNR=3.1
SDV Santo Domingo 144.17 25 PKPdf PKPbc 14 02 01.2 +0.1
ROSC El Rosal 146.12 34 PKPbc **PKPbc 14 02 06.9 -0.6**
comp=Z,14nm,0.5s,baz=349,slow=8.6,SNR=12
OTAV Otavalo 147.47 45 PKP2 **PKPbc 14 02 11.2 -0.3**
SAML Samuel 163.38 25 PKiKP **PKPdf 14 02 29.7 +0.1**

NEIC ***01*** *13:43:36.2±1.4, 18°.77N±0°.08×64°.45W±0°.05, h35km±2km, ML3.4/26, Md3.6/8(RSPR), Error ellipse: s-maj=14.3km s-min=8.2km az=186.0*
TRN ***01*** *13:43:36.5, 18°.80N×64°.63W, h68km, MD0.0*
RSPR ***01*** *13:43:38.5, 18°.72N×64°.68W, h96km±9km, MD3.5/8*
ISC 01 13:43:34.1±2.1, 18°.8N±0°.2×64°.43W±0°.06, h87km±36km, n47, σ1s27/56, 12C-8D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMRT	**St. Maarten**	**1.48**	**119**		**Pn**	**13 44 00.8**	**+1.3**
HUMP	**Col San Antoni**	**1.49**	**245** ǁ	*e*P	**Pn**	**13 44 01.0**	**+1.4**
HUMP	**Col San Antoni**	**1.49**	**245**		**Pn**	**13 44 01.0**	**+1.4**
HUMP					**Sn**	**13 44 17.7**	**-1.2**
HUMP	**Col San Antoni**	**1.49**	**245**	IAML		13 44 20.4	
	comp=E,548nm,0.3s						
HUMP				IAML		13 44 21.1	
	comp=N,570nm,0.2s						
HUMP	**Col San Antoni**	**1.49**	**245** ǁ	*e*P	**Pn**	**13 44 01.0**	**+1.4**

HUMP			*e*S		**Sn**	**13 44 17.7**	**-1.2**
SABA	**Saba**	**1.62 136**	Pn		**Pn**	**13 44 01.5**	**+0.3**
SABA			IAML			13 44 26.6	
	comp=N,636nm,0.4s						
GCPR	**Guaynabo City**	**1.64 253**ĥ	*e*P		**Pn**	**13 44 02.6**	**+1.1**
GCPR	**Guaynabo City**	**1.64 253**	*e*S		**Sn**	**13 44 21.7**	**-0.6**
GCPR	**Guaynabo City**	**1.64 253**			**Pn**	**13 44 02.6**	**+1.1**
GCPR					**Sn**	**13 44 21.7**	**-0.6**
GCPR	**Guaynabo City**	**1.64 253**	IAML			13 44 24.3	
	comp=E,210nm,0.3s						
IGPR	**InterUniversit**	**1.79 243**ĥ	*e*P		**Pn**	**13 44 04.6**	**+1.1**
IGPR	**InterUniversit**	**1.79 243**	*e*S		**Sn**	**13 44 25.4**	**-0.4**
IGPR	**InterUniversit**	**1.79 243**			**Pn**	**13 44 04.6**	**+1.1**
IGPR					**Sn**	**13 44 25.4**	**-0.4**
IGPR	**InterUniversit**	**1.79 243**	IAML			13 44 30.0	
	comp=N,691nm,0.2s						
CELP	**Cerrillos**	**2.16 251**ĵ	*e*P		**Pn**	**13 44 10.1**	**+1.8**
CELP	**Cerrillos**	**2.16 251**			**Pn**	**13 44 10.1**	**+1.8**
CELP					**Sn**	**13 44 34.1**	**-0.4**
CELP	**Cerrillos**	**2.16 251**	IAML			13 44 37.3	
	comp=E,109nm,0.4s						
CELP			IAML			13 44 39.0	
	comp=N,115nm,0.4s						
CELP	**Cerrillos**	**2.16 251**ĥ	*e*P		**Pn**	**13 44 10.1**	**+1.8**
CELP			*e*S		**Sn**	**13 44 34.1**	**-0.4**
OBIP	**Obispado Ponce**	**2.19 251**ĥ	*e*P		**Pn**	**13 44 09.3**	**+0.5**
OBIP	**Obispado Ponce**	**2.19 251**			**Pn**	**13 44 09.3**	**+0.5**
OBIP					**Sn**	**13 44 34.1**	**-1.2**
OBIP	**Obispado Ponce**	**2.19 251**	IAML			13 44 37.4	
	comp=N,110nm,0.3s						
OBIP	**Obispado Ponce**	**2.19 251**ĥ	*e*P		**Pn**	**13 44 09.3**	**+0.5**
OBIP			*e*S		**Sn**	**13 44 34.1**	**-1.2**
UUPR	**Utuado, UPR, P**	**2.24 257**ĥ	*e*P		**Pn**	**13 44 10.8**	**+1.4**
UUPR	**Utuado, UPR, P**	**2.24 257**	*e*S		**Sn**	**13 44 35.9**	**-0.5**
UUPR	**Utuado, UPR, P**	**2.24 257**			**Pn**	**13 44 10.8**	**+1.4**
UUPR					**Sn**	**13 44 35.9**	**-0.5**
AOPR	**Arecibo Observ**	**2.25 259**ĥ	*e*P		**Pn**	**13 44 10.8**	**+1.3**
AOPR	**Arecibo Observ**	**2.25 259**			**Pn**	**13 44 10.8**	**+1.3**
AOPR					**Sn**	**13 44 35.6**	**-1.0**
AOPR	**Arecibo Observ**	**2.25 259**	IAML			13 44 42.3	
	comp=N,330nm,0.3s						
AOPR			IAML			13 44 44.7	
	comp=E,509nm,0.3s						
AOPR	**Arecibo Observ**	**2.25 259**ĥ	*e*P		**Pn**	**13 44 10.8**	**+1.3**
AOPR			*e*S		**Sn**	**13 44 35.6**	**-1.0**
GBPR	**Guanica, Bosqu**	**2.46 251**ĵ	*e*P		**Pn**	**13 44 13.6**	**+1.3**
GBPR	**Guanica, Bosqu**	**2.46 251**			**Pn**	**13 44 13.6**	**+1.3**
GBPR	**Guanica, Bosqu**	**2.46 251**ĵ	*e*P		**Pn**	**13 44 13.6**	**+1.3**
AGPR	**Aguadilla, PR**	**2.56 263**ĥ	*e*P		**Pn**	**13 44 13.4**	**-0.2**
AGPR					**Sn**	**13 44 42.6**	**-1.5**
AGPR	**Aguadilla, PR**	**2.56 263**			**Pn**	**13 44 13.4**	**-0.2**
AGPR					**Sn**	**13 44 42.6**	**-1.5**
AGPR	**Aguadilla, PR**	**2.56 263**	IAML			13 44 47.0	
	comp=E,200nm,0.4s						
AGPR			IAML			13 44 49.9	
	comp=N,188nm,0.4s						
AGPR	**Aguadilla, PR**	**2.56 263**ĥ	*e*P		**Pn**	**13 44 13.4**	**-0.2**
AGPR			*e*S		**Sn**	**13 44 42.6**	**-1.5**
LSP	**Las Mesas**	**2.59 257**ĥ	*e*P		**Pn**	**13 44 16.2**	**+2.0**
LSP	**Las Mesas**	**2.59 257**			**Pn**	**13 44 16.2**	**+2.0**
LSP					**Sn**	**13 44 45.1**	**+0.2**
LSP	**Las Mesas**	**2.59 257**ĥ	*e*P		**Pn**	**13 44 16.2**	**+2.0**
LSP			*e*S		**Sn**	**13 44 45.1**	**+0.2**
MLPR	**Magueyes Islan**	**2.61 252**ĵ	*e*P		Pn	13 44 14.2	-0.1
MLPR	**Magueyes Islan**	**2.61 252**	*e*S		**Sn**	**13 44 43.9**	**-1.4**
MLPR	**Magueyes Islan**	**2.61 252**			Pn	13 44 14.2	-0.1
MLPR					**Sn**	**13 44 43.9**	**-1.4**
PRSN	**Puerto Rico Se**	**2.64 258**	Pn		**Pn**	**13 44 16.5**	**+1.8**
PRSN			IAML			13 44 48.6	
	comp=E,252nm,0.3s						
PRSN			IAML			13 44 54.0	
	comp=N,252nm,0.3s						
CRPR	**Cabo Rojo, PR**	**2.66 253**ĵ	*e*P		**Pn**	**13 44 15.9**	**+0.9**
CRPR	**Cabo Rojo, PR**	**2.66 253**			**Pn**	**13 44 15.9**	**+0.9**
CRPR					**Sn**	**13 44 44.3**	**-2.2**
CRPR	**Cabo Rojo, PR**	**2.66 253**ĵ	*e*P		**Pn**	**13 44 15.9**	**+0.9**
CRPR			*e*S		**Sn**	**13 44 44.3**	**-2.2**
SDDR	**Presa de Saban**	**6.50 273**	Pn		**Pn**	**13 45 08.2**	**+1.0**

*NEIC **01** 13:50:11.6±1.9, 19°.5N±0°.1×67°.94W±0°.06, h30^{km}±15^{km}, ML3.3/24, Md3.4/10(RSPR), Error ellipse: s-maj=16.9km s-min=7.9km az=194.0*
*OSPL **01** 13:50:12.7±1.5, 19°.39N×67°.74W, h0^{km}±10^{km}, ML3.0*
*SDD **01** 13:50:12.2±2.8, 19°.48N×67°.78W, h27^{km}±252^{km}, MD3.5, ML3.2, MW3.5*
*RSPR **01** 13:50:13.2, 19°.48N×67°.81W, h63^{km}±13^{km}, MD3.4/10*
ISC 01 13:50:06.9±1.6, 19°.61N±0°.08×67°.75W±0°.03, h13^{km}±10km, n59, σ0°92/76, 9C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.29 152**ĥ		*e*P	**Pg**	**13 50 32.1**	**+0.4**
AGPR	**Aguadilla, PR**	**1.29 152**			**Sb**	**13 50 46.5**	**-1.0**
AGPR	**Aguadilla, PR**	**1.29 152**			**Pn**	**13 50 30.9**	**+0.3**
AGPR	**Aguadilla, PR**	**1.29 152**	IAML			13 50 49.5	
	comp=N,439nm,0.3s						
AGPR			IAML			13 50 50.5	
	comp=E,431nm,0.5s						
AGPR	**Aguadilla, PR**	**1.29 152**		*e*Pg	**Pn**	**13 50 31.0**	**+0.4**
AGPR				*e*Sg	**Sn**	**13 50 47.8**	**+0.1**
AGPR				IAML		13 50 48.9	
	comp=N,429nm,0.2s						
AGPR	**Aguadilla, PR**	**1.29 152**		*i* P	**Pb**	**13 50 31.6**	**+0.6**
AGPR				*e*S	**Sb**	**13 50 46.6**	**-0.9**
AGPR				IAML		13 50 49.6	
	comp=Z,364nm,0.3s						
MIDR	**Miches**	**1.38 243**		*e*Pg	**Pb**	**13 50 33.5**	**+0.9**
MIDR				*e*Sg	**Sb**	**13 50 50.2**	**+0.1**
MIDR				IAML		13 50 52.0	
	comp=N,181nm,0.4s						
SMDR	**Samana, DR**	**1.40 257**		*e*Pg	**Pg**	**13 50 35.0**	**+1.3**
SMDR				*e*Sg	**Sg**	**13 50 52.2**	**+0.3**
SMDR				IAML		13 50 55.9	
	comp=N,137nm,0.8s						
PRSN	**Puerto Rico Se**	**1.50 158**		*e*S	**Sb**	**13 50 53.7**	**+0.1**
PRSN	**Puerto Rico Se**	**1.50 158**			**Sb**	**13 50 53.7**	**+0.1**
PRSN	**Puerto Rico Se**	**1.50 158**			**Pn**	**13 50 33.9**	**+0.4**
PRSN	**Puerto Rico Se**	**1.50 158**	IAML			13 50 57.7	
	comp=E,908nm,0.3s						
PRSN			IAML			13 50 58.1	
	comp=N,1μm,0.3s						
PRSN	**Puerto Rico Se**	**1.50 158**		*e*Pg	**Pb**	**13 50 35.2**	**+0.6**
PRSN				*e*Sg	**Sb**	**13 50 53.4**	**-0.2**
PRSN				IAML		13 50 58.1	
	comp=N,1μm,0.2s						
LSP	**Las Mesas**	**1.56 156**ĥ		*e*P	**Pg**	**13 50 37.4**	**+0.5**
LSP	**Las Mesas**	**1.56 156**			**Pg**	**13 50 37.4**	**+0.5**
AOPR	**Arecibo Observ**	**1.57 143**ĥ		*e*P	**Pg**	**13 50 37.0**	**-0.1**
AOPR	**Arecibo Observ**	**1.57 143**		*e*S	**Sg**	**13 50 57.0**	**-0.5**
AOPR	**Arecibo Observ**	**1.57 143**			**Pg**	**13 50 37.0**	**-0.1**
AOPR					**Sg**	**13 50 57.0**	**-0.5**
AOPR	**Arecibo Observ**	**1.57 143**	IAML			13 51 05.5	
	comp=N,342nm,0.2s						
AOPR	**Arecibo Observ**	**1.57 143**		*e*Pg	**Pg**	**13 50 37.3**	**+0.2**
AOPR				*e*Sg	**Sg**	**13 50 57.0**	**-0.5**
AOPR				IAML		13 51 05.4	
	comp=N,323nm,0.2s						
UUPR	**Utuado, UPR, P**	**1.67 144**ĥ		*e*P	**Pg**	**13 50 39.1**	**+0.2**
UUPR	**Utuado, UPR, P**	**1.67 144**		*e*S	**Sb**	**13 50 58.4**	**0.0**
UUPR	**Utuado, UPR, P**	**1.67 144**			**Pg**	**13 50 39.1**	**+0.2**
UUPR					**Sb**	**13 50 58.4**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.71 159**ĥ		*e*P	**Pg**	**13 50 39.1**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.71 159**			**Pg**	**13 50 39.1**	**-0.6**
CRPR					**Sb**	**13 50 58.9**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.71 159**		*e*Pg	**Pb**	**13 50 38.8**	**+0.6**
CRPR				*e*Sg	**Sn**	**13 50 58.2**	**+0.1**
CRPR				IAML		13 51 00.6	
	comp=N,241nm,0.2s						
CRPR	**Cabo Rojo, PR**	**1.71 159**		*i* P	**Pg**	**13 50 39.5**	**-0.2**
CRPR				*e*S	**Sb**	**13 50 59.0**	**-0.6**
CRPR				IAML		13 51 00.3	
	comp=Z,422nm,0.5s						
SADR	**Isla Saona**	**1.72 215**		*e*Pg	**Pn**	**13 50 37.7**	**+1.2**
SADR				*e*Sg	**Sn**	**13 50 58.6**	**+0.3**
SADR				IAML		13 51 00.8	
	comp=N,308nm,0.6s						
HATOM	**Hato Mayor del**	**1.75 242**		*e*Pg	**Pb**	**13 50 39.8**	**+0.9**
HATOM				*e*Sg	**Sn**	**13 50 59.0**	**-0.1**
HATOM				IAML		13 51 06.2	
	comp=N,87nm,0.3s						
MLPR	**Magueyes Islan**	**1.77 158**ĥ		*e*P	**Pb**	**13 50 38.8**	**-0.3**
MLPR	**Magueyes Islan**	**1.77 158**		*e*S	**Sn**	**13 50 58.9**	**-0.5**
MLPR	**Magueyes Islan**	**1.77 158**			**Pb**	**13 50 38.8**	**-0.3**
MLPR					**Sn**	**13 50 58.9**	**-0.5**
MLPR	**Magueyes Islan**	**1.77 158**	IAML			13 51 02.4	
	comp=E,308nm,0.3s						
MLPR			IAML			13 51 02.5	
	comp=N,286nm,0.3s						
MLPR	**Magueyes Islan**	**1.77 158**		*e*Pg	**Pb**	**13 50 38.8**	**-0.3**
MLPR				*e*Sg	**Sn**	**13 50 59.8**	**+0.3**
MLPR				IAML		13 51 01.1	
	comp=N,266nm,0.6s						
GBPR	**Guanica, Bosqu**	**1.83 153**ĥ		*e*P	**Pb**	**13 50 41.0**	**+0.9**
GBPR	**Guanica, Bosqu**	**1.83 153**			**Pb**	**13 50 41.0**	**+0.9**
CELP	**Cerrillos**	**1.89 144**ĥ		*e*P	**Pb**	**13 50 42.2**	**+1.0**
CELP	**Cerrillos**	**1.89 144**		*e*S	**Sn**	**13 51 03.5**	**+1.0**
CELP	**Cerrillos**	**1.89 144**			**Pb**	**13 50 42.2**	**+1.0**
CELP					**Sn**	**13 51 03.5**	**+1.0**
CELP	**Cerrillos**	**1.89 144**	IAML			13 51 07.0	
	comp=N,368nm,0.3s						
CELP			IAML			13 51 07.2	
	comp=E,301nm,0.3s						
CELP	**Cerrillos**	**1.89 144**		*e*Pg	**Pb**	**13 50 41.6**	**+0.3**
CELP				*e*Sg	**Sb**	**13 51 05.0**	**+0.2**
OBIP	**Obispado Ponce**	**1.90 145**ĥ		*e*P	**Pb**	**13 50 41.4**	**0.0**
OBIP	**Obispado Ponce**	**1.90 145**		*e*S	**Sn**	**13 51 03.1**	**+0.3**
OBIP	**Obispado Ponce**	**1.90 145**			**Pb**	**13 50 41.4**	**0.0**
OBIP					**Sn**	**13 51 03.1**	**+0.3**
OBIP	**Obispado Ponce**	**1.90 145**	IAML			13 51 04.5	
	comp=N,192nm,0.5s						
OBIP			IAML			13 51 05.0	
	comp=E,204nm,0.5s						
NADR	**Nagua**	**2.01 263**		*e*Pg	**Pg**	**13 50 46.0**	**+0.6**
NADR				*e*Sg	**Sg**	**13 51 12.2**	**+0.7**
NADR				IAML		13 51 19.7	
	comp=N,572nm,0.4s						
GCPR	**Guaynabo City**	**2.04 129**	Pn		**Pb**	**13 50 45.6**	**+1.7**
DR08	**Loma La Naviza**	**2.24 254**	*e*Pg		**Pb**	**13 50 46.7**	**-0.6**
DR08			*e*Sg		**Sb**	**13 51 14.2**	**-0.9**
IGPR	**InterUniversit**	**2.26 136**			**Pb**	**13 50 47.3**	**-0.2**
IGPR			IAML			13 51 57.1	
	comp=N,229nm,0.2s						
HUMP	**Col San Antoni**	**2.32 129**	*e*S		**Sb**	**13 51 15.8**	**-1.3**
HUMP	**Col San Antoni**	**2.32 129**			**Sb**	**13 51 15.8**	**-1.3**
HUMP	**Col San Antoni**	**2.32 129**	Pn		**Pb**	**13 50 47.9**	**-0.6**
BANI	**BANI**	**2.75 244**	*e*Pg		**Pb**	**13 50 56.0**	**0.0**
BANI			*e*Sg		**Sb**	**13 51 28.5**	**-1.2**
BANI			IAML			13 51 40.9	
	comp=N,160nm,0.3s						
ABDR	**Alto Bandera**	**2.83 254**	*e*Pg		**Pb**	**13 50 57.4**	**-0.2**
ABDR			*e*Sg		**Sn**	**13 51 29.8**	**+3.3**
ABDR			IAML			13 51 42.1	
	comp=N,126nm,0.9s						
SDDR	**Presa de Saban**	**3.40 260**			**Pn**	**13 50 59.8**	**0.0**
SDDR			IAML			13 52 03.6	
	comp=N,80nm,0.9s						
SDDR			IAML			13 52 05.6	
	comp=N,66nm,0.8s						
SDDR	**Presa de Saban**	**3.40 260**	*e*Pg		**Pb**	**13 51 05.2**	**-1.9**
SDDR			*e*Sg		**Sb**	**13 51 46.2**	**-2.2**
SDDR			IAML			13 52 06.8	
	comp=N,52nm,0.7s						
SDDR	**Presa de Saban**	**3.40 260**	*i* P		**Pb**	**13 51 05.2**	**-1.9**
SDDR			IAML			13 52 03.2	
	comp=Z,28nm,1.9s						
PODR	**Polo**	**3.64 247**	*i* P		**Pb**	**13 51 08.3**	**-2.9**
HATO	**Hato, Curacao**	**7.48 189**	Pn		**Pn**	**13 51 54.9**	**-0.9**

*IDC **01** 13:54:33.1±0.8, 5°.67S×142°.69E, h0^{km}, mb3.9/9, mbtmp3.9/11, ML1.5/1, Error ellipse: s-maj=34.5km s-min=17.4km az=73.0*
ISC 01 13:54:38.3±0.7, 5°.8S±0°.1×142°.6E±0°.1, h35^{km}, n12, σ1^{s}09/13, mb3.8/9, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.81 129**		Pn	**Pn**	**13 56 02.2**	**0.0**
	0.8nm,0.3s,baz=217,slow=15,SNR=2.1						
PMG				Sn	**Sn**	**13 57 07.6**	**0.0**
	1.1nm,0.3s,baz=223,slow=16,SNR=2.2 2.9nm,0.4s						
WRA	**Warramunga Arr**	**16.19 209**		Pn	**Pn**	**13 58 20.7**	**-2.6**
	0.4nm,0.3s,baz=29,slow=13,SNR=11						
WRA				Sn	Sn	14 01 10.8	-11
	0.3nm,0.3s,baz=22,slow=23,SNR=5.8						
WRA				Lg	Lg	14 03 10.6	
	0.3nm,0.3s,baz=27,slow=29,SNR=4.8						
ASAR	**Alice Springs**	**19.64 204**		P	**P**	**13 59 05.2**	**+1.0**
	1.8nm,0.7s,baz=30,slow=11,SNR=19						
ASAR				S	S	14 02 35.2	-8.8
	1.7nm,0.7s,baz=15,slow=27,SNR=4.7						
STKA	**Stephens Creek**	**25.98 182**		P	**P**	**14 00 09.2**	**+1.3**
	1.5nm,0.8s,baz=31,slow=17,SNR=3.1 1.5nm,0.8s						
KSRS	**Korea Array**	**45.12 344**		P	**P**	**14 02 50.8**	**-0.6**
	1.1nm,0.7s,baz=166,slow=8.7,SNR=2.0 1.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**49.28 300**		P	**P**	**14 03 24.6**	**+0.5**
	0.5nm,0.5s,baz=133,slow=5.3,SNR=4.6 0.5nm,0.5s						
USRK	**Ussuriysk Ar.**	**50.65 350**		P	**P**	**14 03 33.6**	**-0.5**
	3.3nm,0.7s,baz=151,slow=8.3,SNR=5.9 3.3nm,0.7s						
SONM	**Songino Array**	**62.14 333**		P	**P**	**14 04 56.5**	**+0.4**
	0.2nm,0.4s,baz=145,slow=5.3,SNR=2.4 0.2nm,0.4s						
MKAR	**Makanchi Array**	**74.55 322**		P	**P**	**14 06 14.0**	**+0.3**
	0.6nm,0.7s,baz=107,slow=7.8,SNR=6.2 0.6nm,0.7s						
BVAR	**Borovoye Array**	**84.01 325**		P	**P**	**14 07 05.5**	**+0.4**
	1.4nm,0.8s,baz=104,slow=6.3,SNR=6.9 1.4nm,0.8s						
QSPA	**South Pole Qui**	**84.19 180**		P	**P**	**14 07 06.3**	**+0.4**
	1.5nm,0.5s,baz=250,slow=0.9,SNR=16 1.5nm,0.5s						
ILAR	**Eielson Array**	**87.04 24**		P	**P**	**14 07 18.9**	**-1.1**
	0.7nm,0.7s,baz=255,slow=4.8,SNR=13 0.7nm,0.7s						

*NEIC **01** 13:55:48.0±1.6, 56°.00N±0°.09×149°.8W±0°.1, h12^{km}±7^{km}, mb3.8/2, ML3.9/42, ML3.5(AEIC), Error ellipse: s-maj=13.9km s-min=8.9km az=166.0*
*IDC **01** 13:55:49.4±3.1, 55°.96N×150°.24W, h0^{km}, mb3.5/1, mbtmp3.4/5, ML3.1/4, MS2.3/1, Error ellipse: s-maj=38.8km s-min=31.3km az=173.0*
*AEIC **01** 13:55:52.9±1.7, 56°.04N±0°.10×149°.7W±0°.1, h12^{km}±8^{km}, Error ellipse: s-maj=14.1km s-min=8.3km az=167.0*
ISC 01 13:55:49.3±1.4, 56°.13N±0°.10×149°.83W±0°.05, h10^{km}, n165, σ0^{s}91/161, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.20 301**			**Pn**	**13 56 25.2**	**-0.5**
OHAK	**Old Harbor**	**2.20 301**			**Sn**	**13 56 50.7**	**-2.2**
OHAK	**Old Harbor**	**2.20 301**		P	**Pn**	**13 56 25.0**	**-0.8**
OHAK	**Old Harbor**	**2.20 301**		P	**Pn**	**13 56 25.3**	**-0.5**
	baz=122						
OHAK				S	**Sn**	**13 56 51.1**	**-1.8**
	baz=122						
KDAK	**Kodiak Island**	**2.24 319**			**Pn**	**13 56 26.4**	**+0.1**
KDAK				Sn	**Sn**	**13 56 52.4**	**-1.6**
KDAK	**Kodiak Island**	**2.24 319**		S	**Sn**	**13 56 53.2**	**-0.8**
	baz=139						
KDAK	**Kodiak Island**	**2.24 319**		Pn	**Pn**	**13 56 26.3**	**+0.1**
	17nm,0.3s,baz=158,slow=4.6,SNR=127						
KDAK				LR	LR	13 56 51.6	
	comp=Z,65nm,21.9s,baz=177,slow=28						
KDAK				Sn	**Sn**	**13 56 52.9**	**-1.1**
	19nm,0.3s,baz=342,slow=20,SNR=12 40nm,0.3s						
SYI	**Shuyak Island**	**2.84 332**		Pn	**Pn**	**13 56 35.0**	**+0.3**
SYI	**Shuyak Island**	**2.84 332**			**Sn**	**13 57 08.5**	**-0.4**
Q20K	**Shuyak Island**	**2.84 332**		P	**Pn**	**13 56 34.9**	**+0.2**
	baz=151						
Q20K				S	**Sn**	**13 57 09.8**	**+0.9**
	baz=151						
KAPH	**Katmai Pasha**	**3.48 317**			**Pn**	**13 56 44.6**	**+1.2**
Q19K	**Cape Douglas,**	**3.48 325**			**Pn**	**13 56 44.4**	**+1.0**
Q19K				IAML		13 57 30.9	
	comp=E,315nm,0.9s						
Q19K				IAML		13 57 31.9	
	comp=N,348nm,0.8s						
Q19K	**Cape Douglas,**	**3.48 325**		P	**Pn**	**13 56 44.4**	**+1.0**
	baz=143						
CNPM	**China Poot**	**3.48 348**		Pn	**Pn**	**13 56 43.4**	**-0.1**

CNPM	**China Poot**	**3.48 348**			**Sn**	**13 57 24.2**	**-0.5**
CNPM	**China Poot**	**3.48 348**	IAML			13 57 25.1	
	comp=E,93nm,0.8s						
CNPM			IAML			13 57 26.1	
	comp=N,75nm,0.4s						
KAKN	**Katmai Knife C**	**3.58 309**			**Pn**	**13 56 45.6**	**+0.8**
ACHA	**Angle Creek He**	**3.65 307**			**Pn**	**13 56 46.5**	**+0.8**
BRSE	**Bradley Lake S**	**3.65 353**			**Pn**	**13 56 45.2**	**-0.5**
BRSE					**Sn**	**13 57 28.2**	**-0.6**
BRSE	**Bradley Lake S**	**3.65 353**	P		**Pn**	**13 56 45.2**	**-0.5**
	baz=172						
BRSE			S		**Sn**	**13 57 28.2**	**-0.6**
	baz=172						
HOM	**Homer**	**3.66 345**			**Pn**	**13 56 46.0**	**+0.1**
HOM	**Homer**	**3.66 345**	IAML			13 57 33.0	
	comp=E,304nm,1.7s						
HOM			IAML			13 57 33.3	
	comp=N,277nm,1.5s						
HOM	**Homer**	**3.66 345**	P		**Pn**	**13 56 46.0**	**+0.1**
	baz=164						
BRLK	**Bradley Lake**	**3.68 352**			**Pn**	**13 56 45.7**	**-0.5**
BRLK			IAML			13 58 48.1	
	comp=E,71nm,3.2s						
ANCK	**Angle Creek**	**3.71 306**			**Pn**	**13 56 47.5**	**+0.8**
KAHC	**Katmai Hardscr**	**3.77 314**	P		**Pn**	**13 56 48.6**	**+1.1**
	baz=131						
AUL	**Augustine Lava**	**3.79 331**			**Pn**	**13 56 48.9**	**+1.3**
Q23K	**Middleton Isla**	**3.79 28**	Pn		**Pn**	**13 56 46.7**	**-0.9**
MID	**Middleton Isla**	**3.79 28**	Pn		**Pn**	**13 56 46.7**	**-1.0**
MID	**Middleton Isla**	**3.79 28**	P		**Pn**	**13 56 46.9**	**-0.8**
Q17K	**Contact Creek**	**3.92 305**	P		**Pn**	**13 56 50.3**	**+0.7**
	baz=122						
P19K	**Oil Pt**	**3.97 334**	Pn		**Pn**	**13 56 50.8**	**+0.7**
P19K			IAML			13 57 43.2	
	comp=E,180nm,0.5s						
P19K			IAML			13 57 43.2	
	comp=N,194nm,0.5s						
P19K	**Oil Pt**	**3.97 334**	P		**Pn**	**13 56 50.8**	**+0.7**
	baz=152						
SEW	**Seward**	**3.99 3**			**Pn**	**13 56 49.6**	**-0.7**
PLK1	**Peulik 1**	**4.07 297**			**Pn**	**13 56 51.9**	**+0.5**
O20K	**Slope Mountain**	**4.23 341**			**Pn**	**13 56 53.5**	**-0.2**
ILSW	**Iliamna Southw**	**4.24 337**			**Pn**	**13 56 54.1**	**+0.1**
ILSW	**Iliamna Southw**	**4.24 337**	IAML			13 57 45.2	
	comp=N,69nm,0.4s						
ILSW			IAML			13 57 47.1	
	comp=E,50nm,1.2s						
O22K	**Cooper Landing**	**4.36 1**			**Pn**	**13 56 59.4**	**+4.0**
O22K			IAML			13 57 57.0	
	comp=E,244nm,0.8s						
O22K			IAML			13 57 58.1	
	comp=N,171nm,0.8s						
P18K	**Big Mountain,**	**4.36 321**	Pn		**Pn**	**13 56 55.6**	**+0.1**
P18K	**Big Mountain,**	**4.36 321**	P		**Pn**	**13 56 55.6**	**+0.1**
	baz=137						
Q16K	**King Salmon**	**4.49 307**			**Pn**	**13 56 57.5**	**+0.4**
Q16K	**King Salmon**	**4.49 307**	P		**Pn**	**13 56 58.0**	**+0.8**
	baz=123						
RDSO	**Redoubt South**	**4.60 342**			**Pn**	**13 56 57.7**	**-1.2**
RSO	**Redoubt South**	**4.61 342**			**Pn**	**13 56 59.6**	**+0.6**
HIN	**Hinchinbrook I**	**4.62 21**	Pn		**Pn**	**13 56 59.2**	**+0.1**
HIN			IAML			13 57 50.4	
	comp=E,121nm,2.4s						
HIN			IAML			13 59 02.8	
	comp=N,131nm,3.6s						
RDT	**Redoubt**	**4.65 344**			**Pn**	**13 56 59.1**	**-0.4**
P17K	**Kvichak River**	**4.69 314**			**Pn**	**13 57 00.8**	**+0.8**
O18K	**Koktuh Hills**	**4.70 325**			**Pn**	**13 57 00.4**	**+0.2**
O18K			IAML			13 57 57.4	
	comp=N,50nm,0.8s						
O18K			IAML			13 58 02.2	
	comp=E,32nm,2.5s						
O18K	**Koktuh Hills**	**4.70 325**	P		**Pn**	**13 57 00.2**	**+0.1**
	baz=141						
O19K	**Port Alsworth**	**4.71 332**			**Pn**	**13 57 00.2**	**-0.1**
O19K			IAML			13 57 59.2	
	comp=N,140nm,0.5s						
O19K	**Port Alsworth**	**4.71 332**	P		**Pn**	**13 57 00.1**	**-0.1**
	baz=148						
KAIM	**Kayak Island**	**4.77 35**	Pn		**Pn**	**13 57 01.1**	**0.0**
KAIM	**Kayak Island**	**4.77 35**	P		**Pn**	**13 57 00.8**	**-0.3**
	baz=218						
CHGN	**Chignik**	**4.79 276**	Pn		**Pn**	**13 57 00.3**	**-1.1**
CHGN			IAML			13 57 58.8	
	comp=N,78nm,0.5s						
CHGN			IAML			13 58 02.6	
	comp=E,60nm,0.4s						
EYAK	**Cordova Ski Ar**	**4.92 24**			**Pn**	**13 57 03.1**	**0.0**
EYAK	**Cordova Ski Ar**	**4.92 24**	P		**Pn**	**13 57 03.4**

N15K	Kwehluk River	6.77	311	Pn		Pn	13 57 30.0	+1.4
N15K	Kwehluk River baz=123	6.77	311	P		Pn	13 57 29.9	+1.4
M16K	Timber Creek	6.84	320			Pn	13 57 30.1	+0.6
M16K	Timber Creek baz=133	6.84	320	P		Pn	13 57 30.1	+0.6
O14K	Tigyukauivet M	6.88	302			Pn	13 57 30.9	+0.8
O14K	Tigyukauivet M baz=113	6.88	302	P		Pn	13 57 30.9	+0.8
L18K	Granite Mounta	7.04	333	Pn		Pn	13 57 31.7	-0.6
DHY	Denali Highway	7.07	9	Pn		Pn	13 57 33.8	+0.9
M15K	Kasigluk River	7.30	313			Pn	13 57 36.9	+1.0
M15K	Kasigluk River baz=125	7.30	313	P		Pn	13 57 36.9	+1.0
RND	Reindeer	7.31	3	Pn		Pn	13 57 36.3	+0.2
N14K	Kuskokwak Cree	7.35	306			Pn	13 57 37.6	+1.1
N14K	Kuskokwak Cree baz=117	7.35	306	P		Pn	13 57 37.6	+1.1
CAST	Castle Rocks	7.40	352	Pn		Pn	13 57 37.4	+0.2
CAST	Castle Rocks baz=170	7.40	352	P		Pn	13 57 38.8	+1.6
YUK3	Moose Creek	7.44	37			Pn	13 57 38.9	+0.9
YUK3	Moose Creek baz=224	7.44	37	P		Pn	13 57 38.9	+0.9
M27K	Edge Creek, AK	7.45	30	Pn		Pn	13 57 37.7	-0.3
KTH	Kantishna Hill	7.46	356	Pn		Pn	13 57 38.2	+0.1
L16K	Owhat River	7.49	322	Pn		Pn	13 57 38.8	+0.4
L16K	Owhat River baz=135	7.49	322	P		Pn	13 57 38.7	+0.4
TTA	Tatalina	7.50	338	Pn		Pn	13 57 37.5	-1.2
TTA	Tatalina	7.50	338	P		Pn	13 57 38.6	-0.1
S31K	Pelican	7.64	71	Pn		Pn	13 57 38.3	-2.2
M14K	Bethel	7.86	311	Pn		Pn	13 57 45.7	+2.2
HYT	Haines Junctio	7.98	49	Pn		Pn	13 57 45.2	-0.1
BPAW	Bear Paw Mtn.	8.01	356	Pn		Pn	13 57 46.4	+0.8
SKAG	Skagway	8.43	61	P		Pn	13 57 52.5	+1.2
L14K	Kuka Creek	8.47	313			Pn	13 57 53.0	+1.2
M29M	Somme Creek	8.58	38			Pn	13 57 54.4	+0.9
IL31		8.79	8	Pn		Pn	13 57 58.3	+2.2
ILAR	Eielson Array comp=N,0.3nm,0.3s,baz=197,slow=13,SNR=10	8.79	8	Pn		Pn	13 57 57.1	+0.9
ILAR				Sn		Sn	13 59 32.6	-2.5
	comp=N,0.4nm,0.3s,baz=193,slow=20,SNR=6.8 comp=N,0.6nm,0.3s							
MLY	Manley	8.94	358	Pn		Pn	13 57 58.4	+0.1
J16K	Anvik River	8.99	327	Pn		Pn	13 57 58.7	-0.2
I21K	Tanana	9.14	354	Pn		Pn	13 58 01.2	+0.3
P32M	Atlin	9.28	61	Pn		Pn	13 58 01.4	-1.3
P33M	Teslin, Yukon	9.86	59	Pn		Pn	13 58 07.4	-3.6
H18K	Honhosa River	9.96	339	Pn		Pn	13 58 11.2	-1.0
M31M	Drury Creek, Y	9.97	46	Pn		Pn	13 58 11.7	-0.7
IMAR	Indian Mountai	10.06	351	Pn		Pn	13 58 12.9	-0.7
INK	Inuvik baz=206,slow=8.8,SNR=2.0 comp=N,0.9nm,0.7s	14.31	25	Pn		P	13 59 18.9	+0.1
C36M	Paulatuk	17.52	31	Pn		Pn	13 59 52.5	-0.8
C36M				IAmb	IAmb		14 00 04.8	
	comp=Z,3.9nm,0.8s							
YKA	Yellowknife Ar baz=269,slow=12,SNR=4.1 comp=Z,0.8nm,1.0s	18.88	56	P		Pn	14 00 13.0	+3.1
A36M	Sachs Harbour	18.94	24	P		P	14 00 08.4	-1.5
A36M				IAmb	IAmb		14 00 23.1	
	comp=Z,7.7nm,0.8s							
H11N2	WAKE ISLAND Hy baz=31,slow=76,SNR=6.4	48.54	239	T		T	14 56 49.8	
H11N3	WAKE ISLAND Hy baz=31,slow=76,SNR=6.4	48.55	239	T		T	14 56 49.7	
H11N1	WAKE ISLAND Hy baz=31,slow=76,SNR=6.2	48.56	239	T		T	14 56 51.1	
H11S1	WAKE ISLAND Hy baz=28,slow=76,SNR=8.9	49.69	239	T		T	14 58 49.2	
H11S2	WAKE ISLAND Hy baz=28,slow=76,SNR=7.4	49.70	239	T		T	14 59 00.8	
H11S3	WAKE ISLAND Hy baz=28,slow=76,SNR=7.1	49.70	239	T		T	14 58 56.6	
SONM	Songino Array comp=Z,0.3nm,0.6s,baz=50,slow=4.7,SNR=2.3 comp=Z,0.3nm,0.6s	58.50	310	P		P	14 05 46.4	+1.0

*NEIC **01** 14:03:00.7±2.3, 10.8S±0.1×164.2E±0.1, h44km±8km, mb4.4/22, Error ellipse: s-maj=18.7km s-min=12.3km az=57.0*
*IDC **01** 14:03:01.4±3.7, 10.81S×164.11E, h50km×31km, mb3.7/6, mbtmp4.1/8, ML4.5/3, Error ellipse: s-maj=27.3km s-min=21.3km az=64.0*

ISC 01 14:02:58.7±0.8, 10.83S±0.09×164.18E±0.10, h29km, n40, σ1°37/41, mb4.3/15, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	4.39	288		Pn	14 04 03.6	+0.2
HNR	Honiara 246nm,0.3s,baz=140,slow=4.6,SNR=10	4.39	288	P	Pn	14 04 04.0	+0.6
HNR				S	Sn	14 04 54.9	+1.3
	727nm,0.3s,baz=166,slow=20,SNR=2.3						
KOUNC	Koumac, New Ca	9.67	179		Pn	14 05 17.8	+2.0
LIFNC	LIFOU	10.32	164	Pn	Pn	14 05 25.7	+0.9
DZM	Mont Dzumac	11.39	169		Pn	14 05 41.0	+1.5
DZM	Mont Dzumac 0.9nm,0.3s,baz=315,slow=13,SNR=30 3.5nm,0.4s	11.39	169	P	Pn	14 05 41.4	+1.9
OUENC	Ouen Island, N	11.80	168	Pn	Pn	14 05 46.7	+1.6
PINNC	Pines Island,	12.13	165	Pn	Pn	14 05 50.6	+1.1
MANU	Manus Island	18.83	296	Pn	Pn	14 07 18.4	+1.3
MANU				IAmb	IAmb	14 07 19.3	
	comp=Z,15nm,0.8s						
EIDS	Eidsvold	19.05	219	P	P	14 07 16.6	-2.2
CTA	Charters Tower comp=Z,0.5nm,0.3s,baz=69,slow=11,SNR=15 comp=Z,11nm,0.7s	19.56	240	P	Pn	14 07 26.1	+0.3
CTAO	Charters Tower	19.56	240	P	Pn	14 07 26.2	+0.4
CTAO				IAmb	IAmb	14 07 27.6	
	comp=Z,13nm,0.8s						
COEN	Coen	20.75	259	P	P	14 07 35.7	-1.6
COEN				IAmb	IAmb	14 08 12.9	
	comp=Z,13nm,1.4s						
STKA	Stephens Creek	29.56	221	P	P	14 09 01.2	+0.2
STKA	Stephens Creek comp=Z,1.0nm,0.5s,baz=78,slow=14,SNR=3.6 comp=Z,1.0nm,0.5s	29.56	221	P	P	14 09 02.9	+1.8
WR0	Warramunga Arr	29.94	249	P	P	14 09 03.0	-1.5
WR0				IAmb	IAmb	14 09 42.9	
	comp=Z,12nm,1.5s						
WB0	Warramunga Arr	30.03	249	P	P	14 09 04.6	-0.8
WB0				IAmb	IAmb	14 09 05.1	
	comp=Z,4.8nm,0.6s						
WRAB	Tennant Creek	30.10	249	P	P	14 09 04.8	-1.2
WRAB				IAmb	IAmb	14 09 20.7	
	comp=Z,7.2nm,1.3s						
WB2	Warramunga Arr	30.11	249	P	P	14 09 04.7	-1.4
WB2				IAmb	IAmb	14 09 08.1	
	comp=Z,3.5nm,0.9s						
WRA	Warramunga Arr	30.12	249	P	P	14 09 04.3	-1.8
WRA	Warramunga Arr comp=Z,3.3nm,0.6s,baz=78,slow=9.0,SNR=18 comp=Z,3.3nm,0.6s	30.12	249	P	P	14 09 05.3	-0.8
AS31	Alice Springs	31.52	242	P	P	14 09 17.1	-1.4
ASAR	Alice Springs	31.52	242	P	P	14 09 17.0	-1.6
ASAR	Alice Springs comp=Z,1.3nm,0.5s,baz=63,slow=10,SNR=36 comp=Z,1.3nm,0.5s	31.52	242	P	P	14 09 17.3	-1.2
FITZ	Fitzroy Crossi	37.95	254	P	P	14 10 11.7	-2.4
VNDA	Vanda	66.69	181	P	P	14 13 44.9	-1.5
VNDA				IAmb	IAmb	14 14 26.3	
	comp=Z,16nm,1.4s						
SBA	Scott Base	67.03	179	P	P	14 13 47.3	-1.2
N15K	Kwehluk River	76.29	17	P	P	14 14 46.4	+1.9
SONM	Songino Array comp=Z,0.8nm,1.1s,baz=120,slow=8.5,SNR=3.3 comp=Z,0.8nm,1.1s	77.59	324	P	P	14 14 51.9	-0.3
L18K	Granite Mounta	78.92	18	P	P	14 14 59.7	+0.6
L18K				IAmb	IAmb	14 15 40.5	
	comp=Z,11nm,1.4s						
QSPA	South Pole Qui	79.17	180	P	P	14 15 01.5	+0.8
L19K	White Mountain	79.45	18	P	P	14 15 04.2	+2.2
L19K				IAmb	IAmb	14 15 17.0	
	comp=Z,6.7nm,1.2s						
G19K	Purcell Mounta	81.89	15	P	P	14 15 15.1	+0.1
G19K				IAmb	IAmb	14 15 45.5	
	comp=Z,3.6nm,1.3s						
BERG	Berg Lake	82.10	23	P	P	14 15 13.6	-2.6
BWN	Browne	82.58	19	P	P	14 15 17.8	-0.8
IMAR	Indian Mountai	82.64	16	P	P	14 15 19.3	+0.4
CTGM	Chitina Glacie	83.37	24	P	P	14 15 23.3	+0.3
CTGM				IAmb	IAmb	14 16 00.6	
	comp=Z,18nm,1.3s						
LOGN	Logan Glacier	83.42	24	P	P	14 15 23.1	-0.1
ILAR	Eielson Array comp=Z,0.4nm,0.8s,baz=247,slow=4.4,SNR=7.1 comp=Z,0.4nm,0.8s	83.81	19	P	P	14 15 25.2	+0.2
MKAR	Makanchi Array comp=Z,0.5nm,0.8s,baz=96,slow=7.4,SNR=4.5 comp=Z,0.5nm,0.8s	92.31	317	P	P	14 16 06.2	-0.1

*IDC **01** 14:06:44.2±0.9, 6.31S×143.21E, h0km, mb4.1/6, mbtmp4.1/8, ML1.7/1, Error ellipse: s-maj=37.4km s-min=21.6km az=58.0*

ISC 01 14:06:49.3±0.8, 6.5S±0.1×143.1E±0.1, h35km, n9, σ1°73/10, mb4.0/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	4.94	125	Pn	Pn	14 08 00.3	-0.8
	2.2nm,0.3s,baz=122,slow=1.4,SNR=7.7						
PMG				Sn	Sn	14 08 57.3	+0.3
	2.1nm,0.3s,baz=103,slow=23,SNR=8.0 9.1nm,0.4s						
WRA	Warramunga Arr 0.4nm,0.3s,baz=34,slow=13,SNR=11	15.80	212	Pn	Pn	14 10 26.3	-3.0
ASAR	Alice Springs 9.3nm,0.8s,baz=32,slow=10,SNR=83	19.18	206	P	P	14 11 11.8	+1.7
CMAR	Chiang Mai Arr 0.5nm,0.4s,baz=131,slow=6.9,SNR=5.2 0.5nm,0.4s	50.12	301	P	P	14 15 42.2	+0.8
MKAR	Makanchi Array 1.3nm,0.8s,baz=101,slow=6.3,SNR=10 1.3nm,0.8s	75.47	322	P	P	14 18 28.4	-1.4
KURBB	Kurchatov Arra 0.8nm,0.8s,baz=113,slow=4.5,SNR=5.1 0.8nm,0.2s	79.35	324	P	P	14 18 52.3	+0.8
QSPA	South Pole Qui 1.2nm,0.9s,baz=131,slow=0.2,SNR=6.5 1.2nm,0.9s	83.43	180	P	P	14 19 15.3	+2.3
BVAR	Borovoye Array 2.9nm,0.7s,baz=105,slow=6.5,SNR=14 2.9nm,0.7s	84.93	325	P	P	14 19 20.5	-0.2
ILAR	Eielson Array 0.4nm,0.7s,baz=248,slow=4.4,SNR=5.4 0.4nm,0.7s	87.52	24	P	P	14 19 32.7	-0.5

*IDC **01** 14:11:35.9±0.8, 24.28N×123.57E, h0km, mb4.0/11, mbtmp4.0/12, ML3.5/1, Error ellipse: s-maj=28.0km s-min=17.1km az=63.0*
*JMA **01** 14:11:38.2±0.1, 24.3N±0.2×123.8E±0.2, h15km, MD4.4/10, MV4.0/10, NEAR ISHIGAKIJIMA ISLAND*
JMA Felt III J1 at NEAR ISHIGAKIJIMA ISLAND.
*NEIC **01** 14:11:41.6±2.6, 24.30N±0.07×123.65E±0.03, h45km±8km, mb4.7/24, Error ellipse: s-maj=11.5km s-min=2.1km az=159.0*

ISC 01 14:11:37.6±0.8, 24.25N±0.04×123.69E±0.03, h16km±5km, n83, σ1°52/77, mb4.5/23, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	Iriomote-Funau	0.10	25	P	Pg	14 11 41.5	+0.6
IRIF				S	Sg	14 11 44.0	+0.9
IRIF	Iriomote-Funau comp=E,134nm,0.4s,comp=N,197nm,1.2s	0.10	25	A	A	14 11 41.5	
HATJ	Hateruma jima	0.22	150	P	Pg	14 11 42.7	+0.1
HATJ				S	Sg	14 11 45.8	-0.2
HATJ	Hateruma jima comp=E,153nm,0.8s,comp=N,151nm,0.7s	0.22	150	A	A	14 11 42.7	
JKRS	Kuro-shima	0.30	92	P	Pg	14 11 43.0	-0.9
JKRS				S	Sg	14 11 46.3	-1.8
JKRS	Kuro-shima comp=E,170nm,1.1s,comp=N,196nm,1.8s	0.30	92	A	A	14 11 43.0	
JIJ	Ishigaki jima	0.43	75	P	Pg	14 11 45.0	-1.3
JIJ				S	Sg	14 11 50.0	-2.2
JIJ	Ishigaki jima comp=E,14nm,2.2s,comp=N,24nm,1.2s	0.43	75	A	A	14 11 45.0	
YOJ	Yonaguni jima	0.65	289		Pn	14 11 52.7	+0.6
YOJ	Yonaguni jima	0.65	289	P	Pn	14 11 52.9	+0.8
YOJ	Yonaguni jima	0.65	289	P	Pn	14 11 52.7	+0.6
YOJ				eS	Sn	14 12 02.4	+0.3
YOJ	Yonaguni jima comp=E,17nm,1.3s,comp=N,13nm,1.2s	0.65	289	A	A	14 11 52.7	
JISG	Ishigakijimahi	0.66	59	P	Pg	14 11 49.2	-1.4
JISG				eS	Sg	14 11 57.5	-1.9
JISG	Ishigakijimahi comp=E,55nm,0.6s,comp=N,34nm,0.4s	0.66	59	A	A	14 11 49.2	
JYNG	Yonagunijimaku	0.70	287	P	Pn	14 11 53.4	+0.5
JYNG				eS	Sn	14 12 04.6	+1.2
JYNG	Yonagunijimaku comp=E,23nm,0.8s,comp=N,15nm,1.2s	0.70	287	A	A	14 11 53.4	
JTJ	Tarama	1.01	67	P	Pg	14 11 55.5	-1.6
JTJ				S	Sg	14 12 08.2	-2.0
JTJ	Tarama comp=E,26nm,1.2s,comp=N,29nm,0.9s	1.01	67	A	A	14 11 55.5	
JIRB	Irabujima comp=E,9.0nm,2.0s,comp=N,9.0nm,3.0s	1.47	67	A	A	14 12 03.0	
JMJ	Miyako jima 2	1.57	69	P	Pb	14 12 05.7	-0.5
JIKM	Ikemajima comp=E,18nm,0.8s,comp=N,12nm,1.5s	1.57	64	A	A	14 12 04.5	
JMJ2	Miyako jima3 comp=E,14nm,0.7s,comp=N,12nm,1.6s	1.57	72	A	A	14 12 04.5	
JOGS	Gusukube comp=E,16nm,0.8s,comp=N,13nm,2.2s	1.65	72	A	A	14 12 05.6	
NACB	Ninganchiao	1.91	268		Pb	14 12 11.2	-0.8
NACB	Ninganchiao	1.91	268	P	Pb	14 12 12.3	+0.3
TATO	Taipei	2.13	290		Pb	14 12 14.6	-1.1
TATO	Taipei	2.13	290	P	Pb	14 12 15.5	-0.2
YHNB	Yeheng	2.15	282		Pb	14 12 15.3	-0.8
YHNB	Yeheng	2.15	282	P	Pb	14 12 16.1	0.0
YULB	Yu-li	2.35	249		Pn	14 12 17.2	+1.7
YULB	Yu-li	2.35	249	P	Pn	14 12 17.2	+1.7
SSLB	Suanglung	2.54	260		Pn	14 12 20.8	+2.7
SSLB	Suanglung	2.54	260	P	Pb	14 12 21.3	-1.5
TWGBT	Beinan	2.78	240	P	Pn	14 12 23.0	+1.5
TWG	Pinlang	2.79	240		Pn	14 12 22.7	+1.2
TPUB	Ta-pu	2.95	252	Pn	Pb	14 12 27.8	-2.1
TPUB	Ta-pu	2.95	252	P	Pn	14 12 27.4	+3.5
JOW	Kunigami	4.88	57	Pn	Pn	14 12 52.9	+2.6
JOW	Kunigami	4.88	57	P	Pn	14 12 53.0	+2.7
JOW	Kunigami comp=N,3.6nm,0.3s,baz=244,slow=15,SNR=7.5	4.88	57	Pn	Pn	14 12 53.8	+3.4
JOW				Sn	Sn	14 13 50.1	+3.6
	comp=N,2.4nm,0.3s,baz=143,slow=20,SNR=1.4 comp=N,9.6nm,0.4s						
JMZ	Minamidaito 2	7.01	76	Pn	Pn	14 13 21.9	+2.3
KKM	Kota Kinabalu	19.47	203	P	P	14 16 01.3	-2.7
UGM	Wanagama	34.45	204	P	P	14 18 24.4	-0.3
MK31	Makanchi Array	39.90	315	P	P	14 19 10.7	0.0
MKAR	Makanchi Array	39.90	315	P	P	14 19 10.3	-0.4
MKAR	Makanchi Array comp=N,1.2nm,0.7s,baz=98,slow=8.6,SNR=16 comp=N,1.2nm,0.7s	39.90	315	P	P	14 19 10.9	+0.2
H11N1	WAKE ISLAND Hy baz=283,slow=75,SNR=3.7	40.20	88	T	T	15 01 53.7	
H11N2	WAKE ISLAND Hy baz=283,slow=75,SNR=6.5	40.20	88	T	T	15 01 54.5	
H11N3	WAKE ISLAND Hy baz=283,slow=75,SNR=5.3	40.22	88	T	T	15 01 57.7	
ZALV	Zalesovo Beam comp=N,0.6nm,0.5s,baz=107,slow=7.7,SNR=2.0 comp=N,0.6nm,0.5s	41.45	326	P	P	14 19 23.3	-0.1
FITZ	Fitzroy Crossi	42.13	177	P	P	14 19 30.5	+1.3
COEN	Coen	42.48	151	P	P	14 19 33.8	+1.6
COEN				IAmb	IAmb	14 19 34.5	
	comp=Z,8.0nm,1.1s						
KURBB	Kurchatov Arra comp=Z,0.8nm,0.4s,baz=109,slow=8.1,SNR=5.6 comp=Z,0.8nm,0.4s	43.54	319	P	P	14 19 40.6	+0.2
WRA	Warramunga Arr	45.13	166	P	P	14 19 55.2	+1.7
WRA	Warramunga Arr comp=Z,5.6nm,0.9s,baz=345,slow=8.8,SNR=6.1 comp=Z,5.6nm,0.9s	45.13	166	P	P	14 19 54.5	+1.1
WB2	Warramunga Arr	45.14	166	P	P	14 19 54.2	+0.7
WB2				IAmb	IAmb	14 19 59.8	
	comp=Z,11nm,0.9s						
WR0	Warramunga Arr	45.20	166	P	P	14 19 55.5	+1.6
WR0				IAmb	IAmb	14 20 00.2	
	comp=Z,10nm,0.9s						
AS31	Alice Springs	48.65	167	P	P	14 20 22.5	+1.5
ASAR	Alice Springs comp=Z,1.1nm,0.6s,baz=352,slow=6.7,SNR=6.7 comp=Z,1.1nm,0.6s	48.65	167	P	P	14 20 22.6	+1.6
HNR	Honiara	48.72	129	P	P	14 20 21.5	-0.1
BVAR	Borovoye Array comp=Z,0.6nm,0.5s,baz=91,slow=7.2,SNR=1.6 comp=Z,0.6nm,0.5s	49.08	320	P	P	14 20 24.3	+0.3
BRVK	Borovoye	49.15	320	P	P	14 20 21.8	-2.7
AMKA	Amchitka	50.11	42	P	P	14 20 30.1	-1.7
KIWB	Kanaga Island	52.37	42	P	P	14 20 47.6	-1.2
ADK	Adak	52.66	42	P	P	14 20 50.5	-0.4
ABKAR	Akbulak array	55.03	314	P	P	14 21 08.7	+0.3
BBOO	Buckleboo	57.95	168	P	P	14 21 28.6	-0.6
STKA	Stephens Creek comp=Z,3.0nm,0.9s,baz=319,slow=9.3,SNR=3.0 comp=Z,3.0nm,0.9s	58.38	162	P	P	14 21 33.2	+1.0
F15K	North Star Dit	60.62	27	P	P	14 21 46.3	-1.1
F15K				IAmb	IAmb	14 21 58.5	
	comp=Z,10nm,1.4s						
LIFNC	LIFOU	61.64	133	P	P	14 21 54.1	-0.7
N15K	Kwehluk River	62.46	33	P	P	14 22 01.0	+1.2
M17K	Holitna River	63.72	32	P	P	14 22 05.7	-2.5
M17K				IAmb	IAmb	14 22 21.9	
	comp=Z,11nm,1.2s						
H19K	Roundabout Mou	64.01	27	P	P	14 22 08.7	-1.3
H19K				IAmb	IAmb	14 22 33.9	
	comp=Z,7.7nm,1.3s						
J19K	Poorman	64.43	29	P	P	14 22 11.8	-1.0
J19K				IAmb	IAmb	14 22 18.9	
	comp=Z,6.8nm,1.3s						
O18K	Koktuh Hills	64.93	33	P	P	14 22 15.2	-0.9
O18K				IAmb	IAmb	14 22 29.9	
	comp=Z,12nm,1.2s						
P18K	Big Mountain,	64.96	34	P	P	14 22 14.9	-1.5
P18K				IAmb	IAmb	14 22 30.7	
	comp=Z,6.4nm,1.3s						
D22K	Ayikyak River	65.33	23	P	P	14 22 18.8	+0.1
D22K				IAmb	IAmb	14 22 20.1	
	comp=Z,6.6nm,1.2s						
H21K	Melozitna Rive	65.52	27	P	P	14 22 17.8	-2.1
H21K				IAmb	IAmb	14 22 26.2	
	comp=Z,7.8nm,1.4s						
RND	Reindeer	67.49	29	P	P	14 22 30.9	-1.7
RND				IAmb	IAmb	14 22 33.6	
	comp=Z,17nm,1.2s						
FINES	FINESS Array B comp=Z,0.9nm,0.8s,baz=48,slow=8.4,SNR=1.5 comp=Z,0.9nm,0.8s	72.54	330	P	P	14 23 04.0	+0.5
BRTR	Keskin Array B comp=Z,3.7nm,1.2s,baz=57,slow=4.8,SNR=4.1 comp=Z,3.7nm,1.2s	74.97	307	P	P	14 23 19.4	+1.0
NOA	NORSAR Array B comp=Z,1.0nm,0.8s,baz=54,slow=7.8,SNR=1.6 comp=Z,1.0nm,0.8s	79.22	333	P	P	14 23 41.8	0.0
YKA	Yellowknife Ar comp=Z,1.8nm,0.9s,baz=308,slow=5.3,SNR=22 comp=Z,1.8nm,0.9s	82.01	24	P	P	14 23 57.0	+0.4

JMA 01 14:19:20.8±0.2, 24.3N±0.3×123.8E±0.5, h17km±1km, MV1.1/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	Iriomote-Funau	0.09	336	eP	Pg	14 19 24.2	-0.1
IRIF				S	Sg	14 19 26.9	+0.3
HATJ	Hateruma jima	0.20	171	eP	Pg	14 19 25.6	-0.1
HATJ				S	Sg	14 19 29.0	0.0
JKRS	Kuro-shima	0.22	94	P	Pg	14 19 25.9	-0.1
JKRS				S	Sg	14 19 29.6	+0.1
JIJ	Ishigaki jima	0.36	72	eP	Pg	14 19 28.1	-0.3
JIJ				S	Sg	14 19 33.2	-0.2
JISG	Ishigakijimahi	0.59	56	P	Pb	14 19 32.7	0.0
JISG				eS	Sb	14 19 40.8	-0.1

TAP 01 14:19:22.2, 24.22N×121.82E, h15km, ML1.6, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EAHA	Aohua baz=325	0.13	325	P	Pb	14 19 26.4	0.0
EAHA				S	Sb	14 19 29.6	+0.5
	baz=325						
ETL	Fush Village baz=250	0.19	251	iP	Pb	14 19 27.4	0.0
ETL				S	Sb	14 19 31.2	+0.3
	baz=250						
NACB	Ninganchiao baz=256	0.21	257	iP	Pb	14 19 27.4	-0.3
NACB				iS	Sb	14 19 31.6	+0.2
	baz=256						
ENA	Nanau baz=342	0.22	341	P	Pb	14 19 27.8	-0.1
ENA				S	Sb	14 19 31.8	+0.1
	baz=342						
EWUT	Wuta baz=350	0.23	350	P	Pb	14 19 28.1	+0.1
EWUT				S	Sb	14 19 32.0	+0.1
	baz=350						
TWD	Chiawan baz=234	0.25	235	P	Pb	14 19 28.2	-0.2
TWD				S	Sb	14 19 32.7	+0.2
	baz=234						
ETLH	Xiulin Townshi baz=267	0.31	267	P	Pb	14 19 29.3	-0.2
ETLH				S	Sb	14 19 34.5	+0.1
	baz=267						
TWC	Suao baz=5.0	0.39	4	S	Sb	14 19 36.5	0.0
ETM	Tongmen baz=229	0.39	230	eP	Pb	14 19 30.7	-0.2
ETM				eS	Sb	14 19 36.9	+0.2
	baz=229						
LATG	Datong baz=319	0.41	319	iP	Pb	14 19 31.1	-0.1
LATG				iS	Sb	14 19 37.6	+0.3
	baz=319						
LXIB	Xiulin Townshi baz=241	0.42	242	P	Pb	14 19 31.3	-0.1
LXIB				S	Sb	14 19 38.8	+1.1
	baz=241						
NNSB	Datong baz=297	0.45	297	iP	Pb	14 19 31.8	-0.1
NNSB				iS	Sb	14 19 38.6	+0.2
	baz=297						
NNS	Nan Shan baz=298	0.46	298	iP	Pb	14 19 32.2	+0.1
NNS				iS	Sb	14 19 39.1	+0.3
	baz=298						
NDT	Datong Townshi baz=323	0.47	324	P	Pg	14 19 31.9	+0.3
NDT				S	Sb	14 19 40.0	+1.1
	baz=323						
ENTT	Nioudou baz=331	0.48	331	iP	Pb	14 19 32.3	0.0
ENTT				iS	Sb	14 19 39.8	+0.7
	baz=331						
WHF	Hehuan Shan baz=261	0.51	262	P	Pb	14 19 32.9	-0.2
WHF				S	Sb	14 19 40.5	-0.1
	baz=261						
FUSS	Fushou baz=272	0.53	273	P	Pb	14 19

JMA 01 14:26:42.5±0.1, 24°.3N±0°.3×123°.8E±0°.3, h13km±1km, MV1.5/9, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.12**	**316**	P	Pg	14 26 45.8	0.0
IRIF				S	Sg	14 26 48.4	+0.2
JKRS	**Kuro-shima**	**0.17**	**93**	P	Pg	14 26 46.6	+0.1
JKRS				S	Sg	14 26 49.8	+0.5
HATJ	**Hateruma jima**	**0.19**	**185**	P	Pg	14 26 46.7	-0.1
HATJ				S	Sg	14 26 50.0	+0.3
JIJ	**Ishigaki jima**	**0.32**	**68**	P	Pg	14 26 48.8	-0.2
JIJ				S	Sg	14 26 53.3	0.0
JISG	**Ishigakijimahi**	**0.56**	**52**	P	Pg	14 26 53.8	+0.2
JISG				S	Sg	14 27 01.4	+0.4
JYNG	**Yonagunijimaku**	**0.83**	**285**	S	Sg	14 27 09.4	-0.1
JTJ	**Tarama**	**0.89**	**64**	*e*S	Sb	14 27 12.0	+0.3

TAP 01 14:27:07.2, 24°.39N×122°.03E, h16km, ML1.6, B, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS2	**EOS2** baz=81	**0.18**	**81**	P	Pb	14 27 12.4	+0.2
EOS2				S	Sb	14 27 16.6	+1.1
EWUT	**Wuta** baz=283	**0.24**	**283**	*i* P	Pb	14 27 13.6	+0.4
EWUT				*i* S	Sb	14 27 17.6	+0.4
ESAO	**Su ao** baz=316	**0.25**	**317**	*e*P	Pg	14 27 12.3	-0.5
ESAO				S	Sb	14 27 17.7	+0.1
ENA	**Nanau** baz=277	**0.27**	**278**	*i* P	Pb	14 27 13.7	0.0
ENA				*i* S	Sb	14 27 18.1	0.0
EAHA	**Aohua** baz=257	**0.28**	**257**	*e*S	Sb	14 27 18.7	+0.4
TWC	**Suao** baz=323	**0.28**	**323**	P	Pb	14 27 14.2	+0.4
TWC				S	Sb	14 27 18.2	-0.1
EOS3	**EOS3** baz=111	**0.28**	**112**	*i* P	Pb	14 27 13.5	-0.3
EOS3				*i* S	Sb	14 27 18.6	+0.4
EOS4	**EOS4** baz=135	**0.37**	**136**	P	Pb	14 27 15.3	0.0
EOS4				*e*S	Sg	14 27 19.9	+0.1
NDS	**Dongshan** baz=310	**0.38**	**310**	S	Sb	14 27 21.6	+0.3
NACB	**Ninganchiao** baz=241	**0.45**	**242**	*e*P	Pb	14 27 16.9	0.0
NACB				S	Sb	14 27 24.2	+0.8
TWE	**Neicheng** baz=315	**0.47**	**315**	*e*S	Sg	14 27 23.1	+0.2
LATG	**Datong** baz=287	**0.48**	**288**	P	Pb	14 27 17.4	0.0
LATG				S	Sb	14 27 24.4	0.0
ENTT	**Nioudou** baz=300	**0.49**	**300**	P	Pb	14 27 17.6	0.0
ENTT				S	Sb	14 27 25.0	+0.4
NDT	**Datong Townshi** baz=294	**0.52**	**294**	P	Pb	14 27 18.0	0.0
NDT				S	Sb	14 27 25.7	+0.4
ETLH	**Xiulin Townshi** baz=250	**0.54**	**250**	*e*P	Pb	14 27 18.2	-0.1
ETLH				*e*S	Sb	14 27 26.5	+0.7
FUSB	**Fushanzhiwuyua** baz=312	**0.55**	**312**	*e*P	Pb	14 27 18.9	+0.4
FUSB				*e*S	Sb	14 27 26.7	+0.5
NNSB	**Datong** baz=273	**0.59**	**274**	P	Pb	14 27 19.6	+0.3
NNSB				S	Sb	14 27 27.7	+0.1
NNS	**Nan Shan** baz=274	**0.60**	**275**	S	Sb	14 27 27.9	+0.1
TIPB	**Shuangxi** baz=341	**0.61**	**342**	P	Pb	14 27 20.0	+0.4
TIPB				S	Sb	14 27 28.6	+0.7
NWLT	**Wulai** baz=308	**0.62**	**309**	P	Pb	14 27 19.7	0.0
NWLT				S	Sb	14 27 28.4	+0.2
YHNB	**Yeheng** baz=294	**0.66**	**295**	*e*P	Pb	14 27 21.0	+0.5
YHNB				*e*S	Sb	14 27 30.0	+0.6
LXIB	**Xiulin Townshi** baz=236	**0.68**	**237**	*e*P	Pb	14 27 21.0	+0.3
LXIB				*e*S	Sn	14 27 32.2	-0.3
NSK	**Sanguang** baz=294	**0.68**	**295**	*e*P	Pb	14 27 21.2	+0.5
NSK				S	Sb	14 27 30.2	+0.3
FUSS	**Fushou** baz=258	**0.73**	**259**	*e*P	Pb	14 27 22.2	+0.4
FUSS				*e*S	Sb	14 27 32.2	+0.5
WHF	**Hehuan Shan** baz=250	**0.74**	**251**	*e*P	Pb	14 27 22.5	+0.5

JMA 01 14:29:37.8±0.2, 24°.3N±0°.4×123°.8E±0°.6, h17km±2km, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.10**	**327**	P	Pb	14 29 41.4	0.0
IRIF				S	Sg	14 29 44.1	+0.2
HATJ	**Hateruma jima**	**0.19**	**177**	P	Pg	14 29 42.4	-0.1
HATJ				S	Sg	14 29 45.6	-0.1
JKRS	**Kuro-shima**	**0.20**	**93**	P	Pg	14 29 42.6	0.0
JIJ	**Ishigaki jima**	**0.34**	**70**	P	Pg	14 29 44.7	-0.3
JIJ				S	Sg	14 29 49.9	0.0
JISG	**Ishigakijimahi**	**0.58**	**54**	P	Pg	14 29 49.3	0.0

TAP 01 14:29:52.6, 24°.14N×121°.70E, h9km, ML1.2, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETL	**Fush Village** baz=284	**0.07**	**285**	*i* P	Pg	14 29 55.2	+0.6
ETL				*i* S	Sg	14 29 57.2	+1.0
NACB	**Ninganchiao** baz=289	**0.10**	**289**	*i* P	Pg	14 29 55.7	+0.7
NACB				*i* S	Sg	14 29 57.9	+1.1
TWD	**Chiawan** baz=235	**0.11**	**237**	*i* P	Pg	14 29 55.6	+0.4
TWD				*i* S	Sg	14 29 57.6	+0.7
EAHA	**Aohua** baz=11	**0.19**	**11**	*e*P	Pg	14 29 57.3	+0.8
EAHA				*e*S	Sg	14 30 00.9	+1.7
ETLH	**Xiulin Townshi** baz=288	**0.21**	**288**	P	Pg	14 29 57.7	+0.8
ETLH				S	Sg	14 30 01.3	+1.6
ETM	**Tongmen** baz=227	**0.26**	**227**	P	Pg	14 29 58.4	+0.7
ETM				*e*S	Sg	14 30 02.0	+0.9
LXIB	**Xiulin Townshi** baz=245	**0.29**	**245**	P	Pg	14 29 58.8	+0.5
LXIB				*e*S	Sg	14 30 03.1	+0.9
ENA	**Nanau** baz=9.0	**0.29**	**8**	P	Pg	14 29 59.1	+0.8
ENA				S	Sb	14 30 03.8	-1.2
EWUT	**Wuta** baz=13	**0.31**	**14**	P	Pg	14 29 59.4	+0.7
EWUT				S	Sb	14 30 04.7	-0.9
SHUL	**Shoufeng** baz=199	**0.37**	**199**	*e*P	Pb	14 30 01.2	-0.2
SHUL				*e*S	Sb	14 30 06.6	-0.7
WHF	**Hehuan Shan** baz=270	**0.40**	**271**	P	Pb	14 30 01.4	-0.7
WHF				S	Sb	14 30 07.2	-1.2
ESL	**Shilin** baz=215	**0.41**	**217**	P	Pb	14 30 01.3	-0.6
ESL				S	Sb	14 30 08.7	+0.4
NNSB	**Datong** baz=314	**0.41**	**315**	P	Pb	14 30 01.7	-0.4
NNSB				S	Sb	14 30 07.7	-0.7
LATG	**Datong** baz=338	**0.42**	**338**	P	Pb	14 30 02.8	+0.5
FUSS	**Fushou** baz=284	**0.43**	**284**	P	Pb	14 30 02.5	0.0
FUSS				S	Sb	14 30 08.7	-0.5
CHGB	**Renai** baz=260	**0.49**	**261**	P	Pb	14 30 03.7	+0.2
NDT	**Datong Townshi** baz=339	**0.49**	**340**	P	Pb	14 30 03.2	-0.2
NDT				S	Sb	14 30 11.4	+0.7
WARBT	**Fenglin Townsh** baz=214	**0.51**	**214**	P	Pb	14 30 03.2	-0.5
WARBT				S	Sb	14 30 12.0	+0.7
ENTT	**Nioudou** baz=347	**0.51**	**346**	P	Pb	14 30 03.9	+0.1
ENTT				S	Sb	14 30 11.6	+0.2
OWD	**Renai** baz=248	**0.51**	**249**	*e*S	Sb	14 30 11.6	+0.1
WUSB	**Renai** baz=254	**0.55**	**254**	P	Pb	14 30 04.8	+0.3
YHNB	**Yeheng** baz=330	**0.60**	**331**	*e*P	Pb	14 30 06.1	+0.7
FUSB	**Fushanzhiwuyua** baz=350	**0.62**	**351**	*e*P	Pb	14 30 05.8	+0.1
FUSB				*e*S	Sb	14 30 14.9	+0.3
VWDT	**VWDT** baz=232	**0.64**	**233**	*e*P	Pb	14 30 06.1	+0.2
VWDT				*e*S	Sb	14 30 15.6	+0.7
NWLT	**Wulai** baz=344	**0.66**	**344**	S	Sb	14 30 15.8	+0.2

JMA 01 14:37:41.6±0.1, 24°.3N±0°.3×123°.8E±0°.3, h15km±1km, MV1.6/10, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.12**	**316**	P	Pg	14 37 45.1	-0.1
IRIF				S	Sg	14 37 47.9	+0.4
JKRS	**Kuro-shima**	**0.17**	**93**	P	Pg	14 37 45.8	0.0
JKRS				S	Sg	14 37 49.0	+0.5
HATJ	**Hateruma jima**	**0.19**	**185**	P	Pg	14 37 45.9	-0.1
HATJ				S	Sg	14 37 49.1	+0.1
JIJ	**Ishigaki jima**	**0.31**	**68**	P	Pg	14 37 47.9	-0.2
JIJ				S	Sg	14 37 52.4	-0.2
JISG	**Ishigakijimahi**	**0.56**	**52**	P	Pg	14 37 52.8	+0.2
JISG				S	Sg	14 38 00.3	+0.2
YOJ	**Yonaguni jima**	**0.77**	**286**	*e*P	Pg	14 37 56.1	-0.5
YOJ				*e*S	Sg	14 38 06.6	-0.2
JYNG	**Yonagunijimaku**	**0.83**	**285**	*e*S	Sb	14 38 09.2	+0.6
JTJ	**Tarama**	**0.89**	**64**	*e*P	Pb	14 37 58.7	-0.1
JTJ				S	Sg	14 38 10.8	+0.2

IDC 01 14:38:01.5±1.5, 24°.06N×125°.95E, h0km, mb3.5/3, mbtmp3.5/4, ML3.1/1, Error ellipse: s-maj=45.3km s-min=26.9km az=76.0, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami** 3.6nm,0.3s,baz=228,slow=12,SNR=15	**3.47**	**37**	Pn	Pn	14 38 57.0	+0.1
JOW				Sn	Sn	14 39 35.1	-3.7
	5.9nm,0.3s,baz=134,slow=26,SNR=1.6 12nm,0.3s						
SONM	**Songino Array** 0.3nm,0.4s,baz=142,slow=11,SNR=3.2 0.3nm,0.4s	**28.36**	**332**	P	P	14 43 57.0	-0.5
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=96,slow=7.6,SNR=7.3 0.5nm,0.7s	**41.50**	**314**	P	P	14 45 50.7	+0.2
ASAR	**Alice Springs** 0.2nm,0.6s,baz=348,slow=6.4,SNR=6.9 0.2nm,0.6s	**48.06**	**170**	P	P	14 46 42.8	-0.2

IDC 01 14:45:19.3±5.0, 6°.18S×142°.24E, h0km, mb3.7/2, mbtmp3.7/4, ML3.6/2, Error ellipse: s-maj=186.4km s-min=32.4km az=97.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=30,slow=13,SNR=8.4	**15.68**	**209**	Pn	Pn	14 49 00.6	-1.2
WRA				Sn	Sn	14 51 49.9	-6.5
	0.2nm,0.3s,baz=20,slow=22,SNR=2.5 0.7nm,0.6s						
ASAR	**Alice Springs** 0.2nm,0.3s,baz=34,slow=10.0,SNR=43	**19.14**	**204**	P	Pn	14 49 44.9	-0.2
ASAR				S	Sn	14 53 11.7	-8.6
	0.2nm,0.6s,baz=22,slow=27,SNR=2.4 2.9nm,0.7s						
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=103,slow=5.2,SNR=4.3 0.3nm,0.6s	**74.67**	**322**	P	P	14 57 01.1	+0.3
BVAR	**Borovoye Array** 0.7nm,0.7s,baz=94,slow=4.5,SNR=3.9 0.7nm,0.7s	**84.16**	**325**	P	P	14 57 52.0	-0.4

JMA 01 14:55:40.8±0.1, 24°.3N±0°.4×123°.8E±0°.4, h13km±1km, MV1.7/8, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.12**	**316**	P	Pg	14 55 44.1	-0.1
IRIF				S	Sg	14 55 46.7	+0.3
JKRS	**Kuro-shima**	**0.17**	**93**	P	Pg	14 55 45.0	+0.2
JKRS				*e*S	Sg	14 55 48.1	+0.6
HATJ	**Hateruma jima**	**0.19**	**185**	P	Pg	14 55 44.9	-0.2
HATJ				*e*S	Sg	14 55 48.2	+0.2
JIJ	**Ishigaki jima**	**0.31**	**68**	P	Pg	14 55 46.9	-0.3
JIJ				S	Sg	14 55 51.8	+0.1
JISG	**Ishigakijimahi**	**0.56**	**53**	P	Pg	14 55 51.9	+0.2
JISG				S	Sg	14 55 59.3	+0.1
YOJ	**Yonaguni jima**	**0.77**	**286**	P	Pg	14 55 55.9	+0.1
YOJ				*e*S	Sg	14 56 05.9	-0.1

TAP 01 14:55:49.9, 24°.85N×121°.91E, h9km±1km, ML1.5, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS	baz=93	**0.02**	**90**	*e*P	Pg	14 55 52.1	+0.5
EGS				*i* S	Sg	14 55 53.5	+0.8
TIPB	**Shuangxi** baz=327	**0.15**	**328**	*i* P	Pg	14 55 54.3	+1.1
TIPB				*i* S	Sg	14 55 57.2	+1.6
TWB1	**Santiao Chiao** baz=25	**0.18**	**23**	*i* S	Sg	14 55 56.0	-0.2
SXI1	**Grass Mountain** baz=352	**0.25**	**352**	*i* P	Pb	14 55 56.0	-0.7
SXI1	baz=352			*i* S	Sb	14 55 59.9	-1.3
TWE	**Neicheng** baz=239	**0.26**	**241**	*i* P	Pb	14 55 56.2	-0.5
TWE	baz=239			*i* S	Sb	14 56 00.3	-0.9
FUSB	**Fushanzhiwuyua** baz=254	**0.31**	**254**	*i* P	Pb	14 55 57.4	-0.3
FUSB	baz=254			*i* S	Sb	14 56 01.9	-0.9
ENTT	**Nioudou** baz=236	**0.38**	**237**	*e*P	Pb	14 55 58.7	0.0
ENTT	baz=236			*e*S	Sb	14 56 03.9	-0.8
NWLT	**Wulai** baz=259	**0.38**	**260**	*e*P	Pb	14 55 58.8	-0.1
NWLT	baz=259			*e*S	Sb	14 56 04.0	-0.8
YM01	**YM01** baz=313	**0.43**	**314**	P	Pb	14 56 00.2	+0.5
NDT	**Datong Townshi** baz=236	**0.44**	**237**	P	Pb	14 55 59.8	0.0
NDT	baz=236			*e*S	Sb	14 56 05.4	-1.1
YM08	**YM08** baz=319	**0.45**	**319**	*i* P	Pb	14 56 00.2	+0.2
LATG	**Datong** baz=228	**0.47**	**229**	P	Pb	14 56 00.1	-0.3
LATG	baz=228			S	Sb	14 56 07.3	-0.2
YHNB	**Yeheng** baz=250	**0.52**	**250**	*i* P	Pb	14 56 01.1	-0.2
YHNB	baz=250			*i* S	Sg	14 56 07.5	+0.6
NSK	**Sanguang** baz=251	**0.53**	**252**	P	Pg	14 56 00.7	+0.4
NSK	baz=251			S	Sg	14 56 07.6	+0.3

TAP 01 14:57:42.6, 24°.20N×121°.81E, h7km, ML1.7, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EAHA	**Aohua** baz=333	**0.15**	**333**	P	Pg	14 57 45.5	-0.2
EAHA	baz=333			*e*S	Sg	14 57 48.3	+0.5
ETL	**Fush Village** baz=257	**0.18**	**258**	*e*P	Pg	14 57 46.2	0.0
ETL	baz=257			*e*S	Sg	14 57 49.0	+0.3
NACB	**Ninganchiao** baz=263	**0.20**	**263**	P	Pg	14 57 46.2	-0.4
NACB	baz=263			S	Sg	14 57 49.6	+0.3
TWD	**Chiawan** baz=238	**0.23**	**239**	*e*P	Pg	14 57 46.7	-0.5
TWD	baz=238			S	Sg	14 57 51.1	+0.8
ENA	**Nanau** baz=345	**0.24**	**344**	P	Pg	14 57 47.4	0.0
ENA	baz=345			S	Sg	14 57 51.2	+0.6
EWUT	**Wuta** baz=352	**0.25**	**353**	P	Pg	14 57 47.6	0.0
EWUT	baz=352			S	Sg	14 57 51.5	+0.5
ETLH	**Xiulin Townshi** baz=271	**0.30**	**272**	P	Pg	14 57 48.2	-0.4
ETLH	baz=271			S	Sg	14 57 52.8	+0.1
ETM	**Tongmen** baz=231	**0.37**	**232**	*e*S	Sg	14 57 56.0	+1.2
ESAO	**Su ao** baz=4.0	**0.38**	**4**	*e*S	Sg	14 57 55.9	+0.8
LXIB	**Xiulin Townshi** baz=244	**0.40**	**244**	*e*P	Pg	14 57 50.3	-0.3
LXIB	baz=244			*e*S	Sg	14 57 56.7	+0.8
TWC	**Suao** baz=5.0	**0.41**	**5**	*e*P	Pg	14 57 50.6	0.0
TWC	baz=5.0			*i* S	Sg	14 57 55.6	-0.5
LATG	**Datong** baz=322	**0.43**	**322**	*e*P	Pg	14 57 50.9	0.0
LATG	baz=322			*e*S	Sg	14 57 56.6	0.0
NDS	**Dongshan** baz=348	**0.44**	**349**	*e*P	Pg	14 57 51.5	+0.2
NDS	baz=348			*e*S	Sg	14 57 58.1	+1.0
NNSB	**Datong** baz=300	**0.45**	**301**	P	Pg	14 57 51.2	-0.3
NNSB	baz=300			S	Sg	14 57 58.4	+0.3
SHUL	**Shoufeng** baz=209	**0.47**	**209**	*e*P	Pg	14 57 52.1	+0.4
SHUL	baz=209			*e*S	Sb	14 58 00.5	+0.2
NNS	**Nan Shan** baz=301	**0.47**	**301**	P	Pg	14 57 51.5	-0.3
NNS	baz=301			*e*S	Sg	14 57 58.1	+0.2
NDT	**Datong Townshi** baz=325	**0.49**	**326**	*e*P	Pg	14 57 52.3	+0.2
NDT	baz=325			*e*S	Sg	14 57 59.5	+1.1
ENTT	**Nioudou** baz=333	**0.49**	**333**	*e*P	Pg	14 57 52.3	+0.1
ENTT	baz=333			*e*S	Sg	14 57 58.9	+0.2
WHF	**Hehuan Shan** baz=263	**0.50**	**264**	*e*P	Pg	14 57 52.2	-0.2
WHF	baz=263			*i* S	Sg	14 57 59.2	+0.2
ESL	**Shilin** baz=221	**0.52**	**222**	*e*P	Pg	14 57 52.5	-0.1
ESL	baz=221			*e*S	Sg	14 58 00.4	+1.0
FUSS	**Fushou** baz=275	**0.52**	**276**	P	Pg	14 57 52.6	-0.2
FUSS	baz=275			S	Sg	14 57 59.9	+0.3
TWE	**Neicheng** baz=347	**0.54**	**346**	*e*P	Pg	14 57 52.8	-0.2
TWE	baz=347			*e*S	Sg	14 58 01.1	+1.0
FUSB	**Fushanzhiwuyua** baz=339	**0.60**	**340**	P	Pg	14 57 54.3	+0.1
FUSB	baz=339			S	Sg	14 58 02.5	+0.5
CHGB	**Renai** baz=256	**0.60**	**257**	P	Pg	14 57 54.0	-0.3
CHGB	baz=256			S	Sg	14 58 02.7	+0.6
WARBT	**Fenglin Townsh** baz=219	**0.62**	**219**	P	Pg	14 57 54.4	-0.1
WARBT	baz=219			*e*S	Sb	14 58 03.9	-0.8
YHNB	**Yeheng** baz=319	**0.62**	**320**	P	Pg	14 57 54.4	-0.1
YHNB	baz=319			S	Sg	14 58 03.1	+0.4
NSK	**Sanguang** baz=319	**0.63**	**319**	*e*P	Pg	14 57 54.2	-0.6
NSK	baz=319			*e*S	Sg	14 58 03.9	+0.8
NWLT	**Wulai** baz=333	**0.64**	**334**	P	Pg	14 57 55.1	0.0
NWLT	baz=333			S	Sg	14 58 03.8	+0.4
WUSB	**Renai** baz=252	**0.67**	**252**	*e*P	Pg	14 57 55.0	-0.5
WUSB	baz=252			*e*S	Sg	14 58 05.0	+0.7
VWDT	**VWDT** baz=234	**0.76**	**234**	*e*P	Pg	14 57 57.4	+0.2
VWDT	baz=234			*e*S	Sb	14 58 08.2	-0.5
WHP	**Taichung City** baz=275	**0.80**	**276**	*e*S	Sb	14 58 09.4	-0.4

JMA 01 14:57:58.9±0.1, 24°.3N±0°.2×123°.8E±0°.4, h20km±1km, MV0.5/5, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.09**	**335**	P	Pg	14 58 02.6	-0.1

IRIF			S	Sg	14 58 05.2	-0.1
HATJ	**Hateruma jima**	**0.20 171**	P	Pb	14 58 03.8	+0.2
HATJ			S	Sg	14 58 07.2	-0.2
JKRS	**Kuro-shima**	**0.22 94**	P	Pg	14 58 04.2	-0.1
JKRS			S	Sg	14 58 07.9	0.0
JIJ	**Ishigaki jima**	**0.36 72**	P	Pg	14 58 06.2	-0.2
JIJ			S	Sg	14 58 11.1	-0.5

*IDC **01** 15:01:02.6±0.9, 6°.22S×143°.25E, h0km, mb3.9/6, mbtmp3.9/8, ML1.9/1, MS3.2/2, Error ellipse: s-maj=38.4km s-min=20.3km az=88.0*
ISC 01 15:01:07.5±0.8, 6°.4S±0°.1×143°.3E±0°.1, h35km, n11, σ1°.85/10, mb3.8/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.89**	**128**	Pn			**Pn**	**15 02 19.3**	**+0.6**
	2.9nm,0.3s,baz=293,slow=15,SNR=14								
PMG				Sn			**Sn**	**15 03 12.7**	**-1.4**
	4.8nm,0.3s,baz=254,slow=20,SNR=6.7								
	5.2nm,0.3s								
CTA	**Charters Tower**	**13.93**	**168**	LR			LR	15 09 07.8	
	comp=Z,70nm,19.4s,baz=116,slow=34								
WRA	**Warramunga Arr**	**16.02**	**212**	Pn			**Pn**	**15 04 46.9**	**-3.5**
	0.3nm,0.3s,baz=30,slow=13,SNR=13								
WRA				Lg			Lg	15 09 36.3	
	0.2nm,0.3s,baz=27,slow=29,SNR=3.4								
ASAR	**Alice Springs**	**19.39**	**207**	P			**P**	**15 05 32.6**	**+1.9**
	7.7nm,0.7s,baz=32,slow=10.0,SNR=115								
ASAR				Lg			Lg	15 11 23.0	
	baz=24,slow=30,SNR=2.9								
STKA	**Stephens Creek**	**25.41**	**183**	P			**P**	**15 06 34.1**	**+2.2**
	1.0nm,0.7s,baz=0.0,slow=14,SNR=1.5								
	1.0nm,0.7s								
NWAO	**Narrogin (SRO)**	**35.82**	**219**	LR			LR	15 24 32.7	
	comp=Z,54nm,20.8s,baz=248,slow=39								
PETK	**Petropavlovsk-**	**60.52**	**10**	P			**P**	**15 11 14.2**	**+0.2**
	5.3nm,0.9s,baz=193,slow=6.1,SNR=3.5								
	5.3nm,0.9s								
MKAR	**Makanchi Array**	**75.46**	**322**	P			**P**	**15 12 48.1**	**0.0**
	0.5nm,0.7s,baz=98,slow=6.7,SNR=6.9								
	0.5nm,0.7s								
QSPA	**South Pole Qui**	**83.58**	**180**	P			**P**	**15 13 32.4**	**+0.4**
	1.5nm,1.2s,baz=312,slow=14,SNR=6.5								
	1.5nm,1.2s								
BVAR	**Borovoye Array**	**84.91**	**325**	P			**P**	**15 13 38.9**	**0.0**
	1.1nm,0.8s,baz=98,slow=6.1,SNR=6.2								
	1.1nm,0.8s								
ILAR	**Eielson Array**	**87.31**	**24**	P			**P**	**15 13 49.5**	**-0.9**
	0.2nm,0.6s,baz=263,slow=4.5,SNR=1.8								
	0.2nm,0.6s								

JMA 01 15:04:25.9±0.1, 24°.2N±0°.3×123°.8E±0°.3, h15km±1km, MV0.9/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.12**	**318**	P			Pg	15 04 29.4	0.0
IRIF				S			Sg	15 04 32.0	+0.2
JKRS	**Kuro-shima**	**0.17**	**91**	P			Pg	15 04 30.0	0.0
JKRS				S			Sg	15 04 33.3	+0.4
HATJ	**Hateruma jima**	**0.18**	**184**	P			Pg	15 04 30.1	-0.1
HATJ				S			Sg	15 04 33.5	+0.3
JIJ	**Ishigaki jima**	**0.32**	**68**	P			Pg	15 04 32.5	0.0
JIJ				S			Sg	15 04 36.7	-0.3
JISG	**Ishigakijimahi**	**0.56**	**52**	P			Pg	15 04 37.0	0.0
JISG				eS			Sb	15 04 45.0	-0.3

JMA 01 15:05:05.5±0.1, 24°.2N±0°.4×123°.9E±0°.3, h21km±1km, MV1.6/9, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.15**	**198**	P			Pb	15 05 09.8	-1.6
HATJ				S			Sb	15 05 13.4	-2.2
JKRS	**Kuro-shima**	**0.15**	**74**	P			Pb	15 05 10.0	-1.4
JKRS				S			Sb	15 05 13.4	-2.1
IRIF	**Iriomote-Funau**	**0.18**	**320**	P			Pb	15 05 10.4	-0.9
JIJ	**Ishigaki jima**	**0.31**	**58**	eP			Pb	15 05 12.2	-0.2
JIJ				S			Sb	15 05 16.7	-0.3
JISG	**Ishigakijimahi**	**0.57**	**47**	eP			Pb	15 05 16.8	-0.1
JISG				eS			Sb	15 05 24.6	0.0
YOJ	**Yonaguni jima**	**0.81**	**289**	P			Pb	15 05 20.7	-0.3
YOJ				S			Sb	15 05 31.9	+0.4
JYNG	**Yonagunijimaku**	**0.87**	**287**	eS			Sb	15 05 33.0	0.0

TAP 01 15:05:11.2, 24°.69N×121°.72E, h9km, ML1.1, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWE	**Neicheng**	**0.05**	**305**	*i* P			Pg	15 05 13.4	+0.3
	baz=314								
TWE				eS			Sg	15 05 14.8	+0.3
	baz=314								
NDS	**Dongshan**	**0.06**	**179**	*i* P			Pg	15 05 13.5	+0.4
	baz=178								
NDS				eS			Sg	15 05 14.8	+0.3
	baz=178								
FUSB	**Fushanzhiwuyua**	**0.14**	**301**	P			Pg	15 05 14.9	+0.6
	baz=301								
FUSB				eS			Sg	15 05 17.1	+0.7
	baz=301								
ENTT	**Nioudou**	**0.14**	**250**	P			Pg	15 05 15.1	+0.7
	baz=248								
ENTT				S			Sg	15 05 16.9	+0.4
	baz=248								
TWC	**Suao**	**0.15**	**123**	eP			Pg	15 05 14.4	0.0
	baz=130								
TWC				eS			Sg	15 05 17.9	+1.3
	baz=130								
ESAO	**Su ao**	**0.16**	**134**	eP			Pg	15 05 14.7	0.0
	baz=142								
NDT	**Datong Townshi**	**0.20**	**245**	eP			Pg	15 05 16.0	+0.6
	baz=244								
NDT				eS			Sg	15 05 18.9	+0.6
	baz=244								
NWLT	**Wulai**	**0.21**	**294**	eP			Pg	15 05 16.2	+0.7
	baz=294								
LATG	**Datong**	**0.23**	**228**	eP			Pg	15 05 16.5	+0.5
	baz=227								
LATG				eS			Sg	15 05 20.1	+1.0
	baz=227								
EGS		**0.25**	**52**	S			Sg	15 05 20.7	+1.0
	baz=55								
EWUT	**Wuta**	**0.25**	**167**	P			Pg	15 05 16.6	+0.3
	baz=161								
ENA	**Nanau**	**0.26**	**175**	eS			Sg	15 05 20.4	+0.4
	baz=167								
TIPB	**Shuangxi**	**0.30**	**20**	S			Sg	15 05 21.2	0.0
	baz=12								
YHNB	**Yeheng**	**0.31**	**266**	P			Pg	15 05 17.9	+0.5
	baz=266								
YHNB				eS			Sg	15 05 21.7	+0.2
	baz=266								
NSK	**Sanguang**	**0.33**	**268**	eP			Pg	15 05 18.1	+0.4
	baz=267								
NSK				eS			Sg	15 05 21.9	-0.1
	baz=267								
NNS	**Nan Shan**	**0.40**	**231**	eS			Sg	15 05 25.0	+0.7
	baz=223								
NNSB	**Datong**	**0.40**	**229**	eS			Sg	15 05 24.3	0.0
	baz=222								

TAP 01 15:05:19.8, 24°.69N×121°.72E, h11km, ML1.1, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NDS	**Dongshan**	**0.05**	**183**	*i* P			Pg	15 05 22.5	+0.5
	baz=182								
NDS				S			Sg	15 05 23.8	+0.1
	baz=182								
TWE	**Neicheng**	**0.06**	**306**	P			Pg	15 05 22.5	+0.4
	baz=315								
TWE				S			Sg	15 05 23.9	+0.1
	baz=315								
FUSB	**Fushanzhiwuyua**	**0.14**	**302**	*i* P			Pb	15 05 23.9	-0.6
	baz=294								
FUSB				eS			Sg	15 05 26.2	+0.6
	baz=294								
TWC	**Suao**	**0.14**	**123**	*i* P			Pg	15 05 23.5	+0.4
	baz=128								
TWC				eS			Sg	15 05 27.0	+1.5
	baz=128								
ENTT	**Nioudou**	**0.15**	**252**	S			Sg	15 05 26.1	+0.4
	baz=250								
NDT	**Datong Townshi**	**0.20**	**246**	eS			Sg	15 05 27.9	+0.6
	baz=246								
ENA	**Nanau**	**0.26**	**176**	eS			Sg	15 05 29.3	+0.6
	baz=173								
YHNB	**Yeheng**	**0.31**	**267**	eS			Sg	15 05 30.7	+0.2
	baz=272								
NSK	**Sanguang**	**0.33**	**268**	S			Sg	15 05 31.1	+0.2
	baz=276								
NNS	**Nan Shan**	**0.40**	**232**	eS			Sb	15 05 34.1	-0.9
	baz=231								

JMA 01 15:05:28.5±0.2, 24°.2N±0°.3×123°.8E±0°.4, h17km±1km, MV0.7/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.14**	**321**	P			Pg	15 05 32.4	-0.1
IRIF				eS			Sb	15 05 35.5	+0.1
JKRS	**Kuro-shima**	**0.17**	**87**	eS			Sb	15 05 36.2	-0.1
HATJ	**Hateruma jima**	**0.17**	**186**	P			Pg	15 05 32.8	-0.1
HATJ				eS			Sg	15 05 36.0	+0.1
JIJ	**Ishigaki jima**	**0.32**	**65**	eP			Pg	15 05 35.2	-0.1
JIJ				eS			Sg	15 05 39.6	-0.4
JISG	**Ishigakijimahi**	**0.57**	**51**	eP			Pg	15 05 39.8	0.0

*TEH **01** 15:05:34.7, 32°.17N×47°.85E, h19km±16km, ML2.9*
*ISN **01** 15:05:35.0±1.4, 32°.19N×47°.94E, h21km±54km, ML2.9*
ISC 01 15:05:35.9±1.1, 32°.17N±0°.07×47°.92E±0°.05, h10km, n13, σ0°.67/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**1.04**	**143**	P			**Pg**	**15 05 55.2**	**-0.7**
IKFM	**Kafar-mosalman**	**1.35**	**357**	P			**Pn**	**15 06 00.2**	**-0.6**
RAFI	**Al-Rafai**	**1.60**	**254**	eP			**Pn**	**15 06 05.0**	**+0.8**
RAFI				eSg			**Sn**	**15 06 25.0**	**+0.1**
IDOB	**Doab**	**1.63**	**8**	P			**Pn**	**15 06 05.3**	**+0.5**
IBDR	**Badra**	**1.92**	**300**	ePn			**Pn**	**15 06 08.0**	**-0.7**
IBDR				eSn			**Sn**	**15 06 33.0**	**0.0**
ILBA	**Ilam Banvizeh**	**2.05**	**316**	Pn			**Pn**	**15 06 12.0**	**+1.5**
JHBN	**Jahan bin**	**2.33**	**88**	Pn			**Pn**	**15 06 15.2**	**+0.6**
ZNGN	**Zangian**	**2.49**	**90**	Pn			**Pn**	**15 06 17.2**	**+0.5**
IPIR	**Pirpir**	**2.56**	**78**	Pn			**Pn**	**15 06 18.2**	**+0.3**
IBRJ	**Brojen**	**2.85**	**94**	Pn			**Pn**	**15 06 22.0**	**+0.3**
BHD	**Baghdad**	**3.18**	**291**	ePn			**Pn**	**15 06 26.0**	**0.0**
BHD				eSn			**Sn**	**15 07 04.0**	**+0.1**
BHD				AML			AML	15 07 10.0	
	comp=E,26nm,0.7s								
IKLH	**Kolahrood**	**3.29**	**69**	Pn			**Pn**	**15 06 28.4**	**+0.7**
KLNJ	**Kolanjah**	**3.34**	**109**	Pn			**Pn**	**15 06 28.7**	**+0.2**

TAP 01 15:05:50.3, 24°.68N×121°.70E, h8km, ML1.0, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWE	**Neicheng**	**0.05**	**324**	*i* P			Pg	15 05 52.4	+0.3
	baz=339								
TWE				*i* S			Sg	15 05 53.8	+0.5
	baz=339								
NDS	**Dongshan**	**0.05**	**161**	*i* P			Pg	15 05 52.5	+0.4
	baz=161								
NDS				S			Sg	15 05 53.8	+0.4
	baz=161								
ENTT	**Nioudou**	**0.13**	**251**	eS			Sg	15 05 55.9	+0.8
	baz=249								
FUSB	**Fushanzhiwuyua**	**0.13**	**308**	*i* P			Pg	15 05 53.9	+0.7
	baz=298								
TWC	**Suao**	**0.15**	**118**	eP			Pg	15 05 53.5	-0.2
	baz=125								
TWC				eS			Sg	15 05 57.0	+1.1
	baz=125								
NDT	**Datong Townshi**	**0.19**	**245**	eS			Sg	15 05 57.5	+0.7
	baz=244								
LATG	**Datong**	**0.21**	**227**	eP			Pg	15 05 56.4	+1.7
	baz=233								
ENA	**Nanau**	**0.26**	**171**	eS			Sg	15 05 59.2	+0.3
	baz=164								
YHNB	**Yeheng**	**0.29**	**268**	*i* P			Pg	15 05 56.9	+0.7
	baz=267								
YHNB				eS			Sg	15 06 00.5	+0.4
	baz=267								
NNSB	**Datong**	**0.38**	**229**	eS			Sg	15 06 03.2	+0.2
	baz=221								

JMA 01 15:06:60.0±0.1, 24°.3N±0°.3×123°.8E±0°.2, h15km, MV3.0/10, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.10**	**323**	P			Pg	15 07 03.2	-0.1
IRIF				S			Sg	15 07 05.7	+0.3
JKRS	**Kuro-shima**	**0.20**	**95**	P			Pg	15 07 04.7	+0.2
JKRS				S			Sg	15 07 08.0	+0.4
HATJ	**Hateruma jima**	**0.20**	**178**	P			Pg	15 07 04.4	-0.2
HATJ				S			Sg	15 07 07.8	+0.1
JIJ	**Ishigaki jima**	**0.33**	**71**	P			Pg	15 07 06.7	-0.2
JIJ				S			Sg	15 07 11.4	-0.2
JISG	**Ishigakijimahi**	**0.57**	**55**	P			Pg	15 07 11.1	-0.2
JISG				S			Sb	15 07 19.5	-0.2
YOJ	**Yonaguni jima**	**0.74**	**286**	P			Pg	15 07 14.4	-0.1
YOJ				eS			Sg	15 07 23.8	-0.6
JYNG	**Yonagunijimaku**	**0.80**	**284**	P			Pg	15 07 15.2	-0.4
JYNG				eS			Sg	15 07 26.1	0.0
JTJ	**Tarama**	**0.91**	**65**	P			Pb	15 07 17.6	+0.1
JTJ				S			Sg	15 07 30.0	+0.4

TAP 01 15:07:25.7, 24°.22N×121°.83E, h19km, ML2.3, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.12**	**317**	eP			Pg	15 07 30.0	+0.3
	baz=319								
EHP				eS			Sg	15 07 33.1	+0.7
	baz=319								
EAHA	**Aohua**	**0.13**	**322**	eP			Pg	15 07 29.9	+0.1
	baz=323								
EAHA				eS			Sg	15 07 33.0	+0.4
	baz=323								
ETL	**Fush Village**	**0.20**	**251**	P			Pg	15 07 30.6	-0.1
	baz=252								
ENA	**Nanau**	**0.22**	**338**	*i* P			Pg	15 07 31.1	+0.1
	baz=341								
ENA				eS			Sg	15 07 35.1	+0.5
	baz=341								
NACB	**Ninganchiao**	**0.22**	**257**	*i* P			Pg	15 07 30.9	-0.2
	baz=258								
NACB				S			Sg	15 07 34.9	+0.3
	baz=258								
EWUT	**Wuta**	**0.23**	**348**	eP			Pg	15 07 31.2	+0.1
	baz=349								
EWUT				S			Sg	15 07 35.7	+0.9
	baz=349								
TWD	**Chiawan**	**0.26**	**236**	eP			Pg	15 07 31.6	0.0
	baz=241								
TWD				eS			Sg	15 07 36.2	+0.6
	baz=241								
ETLH	**Xiulin Townshi**	**0.32**	**267**	eP			Pg	15 07 32.7	+0.1
	baz=267								
ETLH				eS			Sb	15 07 38.0	+0.3
	baz=267								
HWA	**Hwalien**	**0.32**	**220**	eS			Sb	15 07 38.1	+0.5
	baz=219								
ESAO	**Su ao**	**0.35**	**2**	eS			Sb	15 07 38.8	+0.1
	baz=358								
TWC	**Suao**	**0.38**	**3**	eS			Sb	15 07 39.7	+0.1
	baz=8.0								
ETM	**Tongmen**	**0.40**	**230**	eP			Pg	15 07 34.1	+0.1
	baz=232								
LATG	**Datong**	**0.41**	**318**	*i* P			Pb	15 07 34.6	0.0
	baz=318								
LATG				eS			Sb	15 07 40.5	-0.1
	baz=318								
NDS	**Dongshan**	**0.42**	**346**	eP			Pb	15 07 34.9	+0.3
	baz=346								
NDS				S			Sb	15 07 41.4	+0.7
	baz=346								
LXIB	**Xiulin Townshi**	**0.43**	**242**	eP			Pg	15 07 34.4	-0.2
	baz=243								
NNSB	**Datong**	**0.46**	**297**	*i* P			Pb	15 07 35.3	+0.1
	baz=297								
NNSB				eS			Sb	15 07 42.0	+0.2
	baz=297								
NNS	**Nan Shan**	**0.47**	**297**	eP			Pb	15 07 35.5	+0.1
	baz=298								
NNS				eS			Sb	15 07 42.5	+0.4
	baz=298								
NDT	**Datong Townshi**	**0.47**	**323**	eP			Pg	15 07 35.4	0.0
	baz=322								
NDT				eS			Sb	15 07 42.9	+0.7
	baz=322								
ENTT	**Nioudou**	**0.48**	**330**	eP			Pb	15 07 35.9	+0.3
	baz=322								
ENTT				eS			Sb	15 07 43.1	+0.8
	baz=322								
TWE	**Neicheng**	**0.52**	**343**	eP			Pb	15 07 36.5	+0.4
	baz=339								
TWE				eS			Sb	15 07 44.4	+1.1
	baz=339								
WHF	**Hehuan Shan**	**0.52**	**261**	eP			Pg	15 07 36.4	0.0
	baz=262								
WHF				eS			Sb	15 07 43.8	0.0
	baz=262								
FUSS	**Fushou**	**0.54**	**273**	*i* P			Pb	15 07 36.9	+0.3
	baz=273								
FUSS				eS			Sb	15 07 44.3	+0.3
	baz=273								
ESL	**Shilin**	**0.55**	**222**	eP			Pb	15 07 36.6	0.0
	baz=223								
FUSB	**Fushanzhiwuyua**	**0.58**	**338**	eS			Sg	15 07 45.8	+0.7
	baz=330								
YHNB	**Yeheng**	**0.61**	**317**	eP			Pg	15 07 38.0	+0.2
	baz=317								
YHNB				eS			Sg	15 07 46.4	+0.4
	baz=317								
CHGB	**Renai**	**0.62**	**255**	*i* P			Pg	15 07 38.3	+0.2
	baz=255								
CHGB				eS			Sg	15 07 46.7	+0.2
	baz=255								
NSK	**Sanguang**	**0.62**	**316**	eS			Sg	15 07 47.1	+0.6
	baz=316								
NWLT	**Wulai**	**0.63**	**332**	eS			Sg	15 07 47.4	+0.8
	baz=331								
OWD	**Renai**	**0.65**	**246**	P			Pg	15 07 38.7	0.0
	baz=247								
WUSB	**Renai**	**0.69**	**251**	*i* P			Pg	15 07 39.4	0.0
	baz=251								
WUSB				eS			Sg	15 07 48.8	+0.2
	baz=251								
VWDT	**VWDT**	**0.78**	**233**	eP			Pb	15 07 40.0	-0.7
	baz=234								
VWDT				eS			Sb	15 07 49.8	-1.1
	baz=234								
SSLB	**Suanglung**	**0.91**	**242**	eP			Pb	15 07 42.6	-0.3
	baz=243								

TAP 01 15:17:27.8, 24°.89N×121°.98E, h17km, ML1.5, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EGS		**0.06**	**228**	eS			Sg	15 17 31.6	-1.6
	baz=218								
TWB1	**Santiao Chiao**	**0.12**	**3**	*i* P			Pb	15 17 31.8	+0.1
	baz=8.0								
TWB1				eS			Sg	15 17 34.0	-0.2
	baz=8.0								
TIPB	**Shuangxi**	**0.17**	**301**	*i* P			Pb	15 17 32.4	0.0
	baz=302								
TIPB				S			Sg	15 17 35.2	0.0
	baz=302								
SXI1	**Grass Mountain**	**0.23**	**335**	P			Pb	15 17 34.1	+0.5
	baz=337								
SXI1				eS			Sb	15 17 37.5	+0.1
	baz=337								
WFSB	**Wu-fen Shan**	**0.26**	**315**	eS			Sb	15 17 38.7	+0.5
	baz=315								
FUSB	**Fushanzhiwuyua**	**0.38**	**251**	eP			Pg	15 17 35.5	-0.3
	baz=250								
FUSB				eS			Sg	15 17 39.4	-1.7
	baz=250								
NWLT	**Wulai**	**0.45**	**256**	eP			Pg	15 17 36.8	-0.1
	baz=255								
NWLT				S			Sg	15 17 42.0	-1.2
	baz=255								
YHNB	**Yeheng**	**0.59**	**249**	*i* P			Pg	15 17 39.1	-0.5
	baz=248								
YHNB				eS			Sg	15 17 45.1	-2.5
	baz=248								

JMA 01 15:17:30.6±0.1, 24°.3N±0°.3×123°.8E±0°.3, h17km±1km, MV1.0/8, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.11**	**319**	P			Pg	15 17 34.3	0.0
IRIF				S			Sg	15 17 36.7	0.0
JKRS	**Kuro-shima**	**0.18**	**94**	P			Pg	15 17 35.0	-0.1
JKRS				S			Sg	15 17 38.3	+0.1
HATJ	**Hateruma jima**	**0.19**	**182**	P			Pg	15 17 35.2	-0.1
HATJ				S			Sg	15 17 38.5	0.0
JIJ	**Ishigaki jima**	**0.32**	**69**	P			Pg	15 17 37.3	-0.1
JIJ				S			Sg	15 17 41.8	-0.3
JISG	**Ishigakijimahi**	**0.57**	**53**	eP			Pg	15 17 41.3	-0.6
JISG				eS			Sb	15 17 49.8	-0.1
JTJ	**Tarama**	**0.90**	**64**	S			Sg	15 18 00.2	+0.1

JMA 01 15:23:31.1±0.1, 24°.2N±0°.3×123°.8E±0°.4, h18km±1km, MV0.7/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.10**	**336**	P			Pg	15 23 34.8	0.0
IRIF				S			Sg	15 23 37.4	0.0
HATJ	**Hateruma jima**	**0.19**	**172**	P			Pg	15 23 35.7	-0.2
HATJ				S			Sg	15 23 39.2	+0.1
JKRS	**Kuro-shima**	**0.21**	**91**	P			Pb	15 23 36.1	+0.1
JKRS				S			Sg	15 23 40.1	+0.3
JIJ	**Ishigaki jima**	**0.36**	**70**	P			Pg	15 23 38.4	-0.2
JIJ				S			Sg	15 23 43.6	-0.1
JISG	**Ishigakijimahi**	**0.60**	**55**	eP			Pb	15 23 42.8	-0.1
JISG				eS			Sg	15 23 51.1	+0.1

TAP 01 15:23:43.3, 24°.19N×121°.78E, h16km, ML0.9, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.12**	**345**	eP			Pb	15 23 47.4	+0.1
	baz=348								
EHP				eS			Sb	15 23 50.4	+0.5
	baz=348								
ETL	**Fush Village**	**0.14**	**256**	eS			Sb	15 23 50.3	-0.2
	baz=255								
NACB	**Ninganchiao**	**0.17**	**263**	*i* P			Pg	15 23 47.4	-0.2
	baz=263								
NACB				S			Sg	15 23 50.6	+0.1
	baz=263								
EWUT	**Wuta**	**0.25**	**1**	eS			Sg	15 23 52.9	+0.2
ETLH	**Xiulin Townshi**	**0.27**	**273**	eP			Pg	15 23 49.0	-0.2
	baz=272								
ETLH				eS			Sg	15 23 53.1	-0.2
	baz=272								
LATG	**Datong**	**0.41**	**326**	eP			Pg	15 23 51.5	-0.2
	baz=326								
NNSB	**Datong**	**0.43**	**303**	eP			Pg	15 23 51.6	-0.4
	baz=303								
NNSB				eS			Sg	15 23 57.7	-0.3
	baz=303								
FUSS

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.11**	**327**	P	**Pg**	**15 24 41.7**	**-0.1**
IRIF				S	**Sb**	**15 24 44.3**	**-0.3**
HATJ	**Hateruma jima**	**0.19**	**177**	*i* P	**Pg**	**15 24 42.8**	**-0.1**
HATJ				S	**Sg**	**15 24 46.1**	**+0.2**
JKRS	**Kuro-shima**	**0.20**	**92**	*i* P	**Pg**	**15 24 43.2**	**+0.1**
JKRS				S	**Sb**	**15 24 46.9**	**-0.2**
JIJ	**Ishigaki jima**	**0.34**	**69**	*i* P	**Pg**	**15 24 45.2**	**-0.2**
JIJ				S	**Sg**	**15 24 50.1**	**-0.2**
JISG	**Ishigakijimahi**	**0.58**	**54**	*i* P	**Pg**	**15 24 49.5**	**-0.4**
JISG				S	**Sb**	**15 24 58.0**	**-0.2**
YOJ	**Yonaguni jima**	**0.75**	**287**	P	**Pb**	**15 24 53.1**	**+0.1**
YOJ	**Yonaguni jima**	**0.75**	**287**	P	**Pg**	**15 24 52.9**	**0.0**
YOJ				S	**Sg**	**15 25 02.6**	**-0.2**
JYNG	**Yonagunijimaku**	**0.80**	**285**	*i* P	**Pb**	**15 24 53.6**	**-0.3**
JYNG				S	**Sb**	**15 25 04.2**	**-0.3**
JTJ	**Tarama**	**0.92**	**64**	P	**Pb**	**15 24 55.8**	**-0.1**
JTJ				S	**Sg**	**15 25 08.2**	**0.0**
JMJ	**Miyako jima 2**	**1.48**	**67**	P	**Pb**	**15 25 05.9**	**+0.4**
NACB	**Ninganchiao**	**2.01**	**268**	P	**Pn**	**15 25 12.1**	**+0.5**
YHNB	**Yeheng**	**2.24**	**281**	P	**Pn**	**15 25 15.8**	**+0.9**
YULB	**Yu-li**	**2.44**	**250**	P	**Pn**	**15 25 17.3**	**-0.3**
SSLB	**Suanglung**	**2.64**	**261**	P	**Pn**	**15 25 21.4**	**+1.1**
TWGBT	**Beinan**	**2.87**	**241**	P	**Pn**	**15 25 22.8**	**-0.6**

*IDC **01** 15:32:20.3±0.9, 24°.27N×123°.65E, h0km, mb3.7/6, mbtmp3.7/7, ML2.9/1, MS4.3/1, Error ellipse: s-maj=37.1km s-min=20.4km az=66.0*
*JMA **01** 15:32:22.8±0.1, 24°.2N±0°.2×123°.8E±0°.2, h16km, MD4.2/10, MV3.7/10, NEAR ISHIGAKIJIMA ISLAND*
JMA Felt III J1 at NEAR ISHIGAKIJIMA ISLAND.
ISC 01 15:32:22.8±0.8, 24°.23N±0°.05×123°.83E±0°.03, h17km±5km, n42, σ0.975/31, mb3.7/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.14**	**318**	*i* P	**Pg**	**15 32 26.6**	**-0.2**
IRIF				S	**Sb**	**15 32 29.6**	**-0.3**
IRIF	**Iriomote-Funau**	**0.14**	**318**	A	A	15 32 26.6	
	comp=E,21nm,0.6s,comp=N,34nm,1.2s						
JKRS	**Kuro-shima**	**0.16**	**88**	*i* P	**Pg**	**15 32 26.9**	**-0.2**
JKRS				S	**Sg**	**15 32 29.9**	**-0.1**
JKRS	**Kuro-shima**	**0.16**	**88**	A	A	15 32 26.9	
	comp=E,90nm,0.5s,comp=N,123nm,2.1s						
HATJ	**Hateruma jima**	**0.18**	**188**	*i* P	**Pg**	**15 32 27.2**	**-0.1**
HATJ				S	**Sg**	**15 32 30.4**	**+0.1**
HATJ	**Hateruma jima**	**0.18**	**188**	A	A	15 32 27.2	
	comp=E,65nm,0.7s,comp=N,70nm,0.4s						
JIJ	**Ishigaki jima**	**0.31**	**65**	*i* P	**Pg**	**15 32 29.0**	**-0.5**
JIJ				S	**Sg**	**15 32 33.5**	**-0.6**
JIJ	**Ishigaki jima**	**0.31**	**65**	A	A	15 32 29.0	
	comp=E,10.0nm,1.4s,comp=N,11nm,1.0s						
JISG	**Ishigakijimahi**	**0.56**	**51**	*i* P	**Pg**	**15 32 33.5**	**-0.5**
JISG				S	**Sb**	**15 32 41.4**	**-0.5**
JISG	**Ishigakijimahi**	**0.56**	**51**	A	A	15 32 33.5	
	comp=E,38nm,0.6s,comp=N,40nm,0.5s						
YOJ	**Yonaguni jima**	**0.78**	**287**	P	**Pb**	**15 32 38.6**	**+0.6**
YOJ	**Yonaguni jima**	**0.78**	**287**	*i* P	**Pg**	**15 32 37.9**	**-0.3**
YOJ				S	**Sg**	**15 32 48.8**	**+0.2**
YOJ	**Yonaguni jima**	**0.78**	**287**	A	A	15 32 37.9	
	comp=E,10.0nm,1.0s,comp=N,11nm,1.0s						
JYNG	**Yonagunijimaku**	**0.84**	**285**	*i* P	**Pg**	**15 32 38.8**	**-0.4**
JYNG				S	**Sg**	**15 32 49.7**	**-0.6**
JYNG	**Yonagunijimaku**	**0.84**	**285**	A	A	15 32 38.8	
	comp=E,13nm,1.3s,comp=N,15nm,1.0s						
JTJ	**Tarama**	**0.89**	**63**	*i* P	**Pg**	**15 32 39.5**	**-0.7**
JTJ				S	**Sb**	**15 32 51.8**	**+0.3**
JTJ	**Tarama**	**0.89**	**63**	A	A	15 32 39.5	
	comp=E,11nm,1.4s,comp=N,11nm,0.8s						
JIRB	**Irabujima**	**1.36**	**64**	A	A	15 32 46.9	
	comp=E,6.0nm,4.1s,comp=N,6.0nm,2.0s						
JMJ	**Miyako jima 2**	**1.45**	**66**	P	**Pb**	**15 32 49.5**	**+0.1**
JMJ2	**Miyako jima3**	**1.45**	**69**	A	A	15 32 48.4	
	comp=E,9.0nm,1.7s,comp=N,5.0nm,9.1s						
JIKM	**Ikemajima**	**1.46**	**62**	A	A	15 32 48.5	
	comp=E,8.0nm,3.6s,comp=N,7.0nm,4.7s						
JOGS	**Gusukube**	**1.53**	**70**	A	A	15 32 49.5	
	comp=E,9.0nm,0.8s,comp=N,11nm,0.7s						
NACB	**Ninganchiao**	**2.04**	**269**	P	**Pn**	**15 32 57.5**	**+1.0**
TATO	**Taipei**	**2.26**	**290**	P	**Pn**	**15 33 00.7**	**+1.3**
YHNB	**Yeheng**	**2.28**	**282**	P	**Pn**	**15 33 01.1**	**+1.3**
YULB	**Yu-li**	**2.47**	**251**	P	**Pn**	**15 33 02.1**	**-0.2**
SSLB	**Suanglung**	**2.67**	**261**	P	**Pn**	**15 33 06.0**	**+0.9**
TWGBT	**Beinan**	**2.89**	**241**	P	**Pn**	**15 33 07.8**	**-0.3**
JOW	**Kunigami**	**4.78**	**56**	Pn	**Pn**	**15 33 35.9**	**+1.9**
	comp=N,1.1nm,0.3s,baz=255,slow=18,SNR=2.1 comp=N,14nm,0.8s						
JHJ	**Hachijo jima 2**	**16.55**	**54**	LR	LR	15 41 07.6	
	comp=N,1μm,21.0s,baz=36,slow=32						
MKAR	**Makanchi Array**	**40.00**	**315**	P	**P**	**15 39 55.6**	**-1.1**
	comp=N,0.3nm,0.3s,baz=98,slow=8.8,SNR=14 comp=N,0.3nm,0.3s						
H11N1	**WAKE ISLAND Hy**	**40.07**	**88**	T	T	16 22 37.2	
	baz=284,slow=74,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**40.07**	**88**	T	T	16 22 42.5	
	baz=284,slow=74,SNR=3.8						
H11N3	**WAKE ISLAND Hy**	**40.09**	**88**	T	T	16 22 38.2	
	baz=284,slow=74,SNR=4.4						
H11S3	**WAKE ISLAND Hy**	**40.20**	**90**	T	T	16 22 49.9	
	baz=284,slow=74,SNR=4.0						
H11S1	**WAKE ISLAND Hy**	**40.21**	**90**	T	T	16 22 47.6	
	baz=284,slow=74,SNR=4.5						
H11S2	**WAKE ISLAND Hy**	**40.22**	**90**	T	T	16 22 51.9	
	baz=284						
KURBB	**Kurchatov Arra**	**43.65**	**319**	P	**P**	**15 40 25.3**	**-1.1**
	comp=N,0.2nm,0.4s,baz=115,slow=9.2,SNR=4.2 comp=N,0.2nm,0.4s						
WRA	**Warramunga Arr**	**45.08**	**166**	P	**P**	**15 40 38.5**	**+0.3**
	comp=N,2.0nm,0.8s,baz=347,slow=8.8,SNR=6.4 comp=N,2.0nm,0.8s						
ASAR	**Alice Springs**	**48.61**	**168**	P	**P**	**15 41 06.6**	**+0.9**
	comp=N,0.7nm,0.9s,baz=355,slow=6.9,SNR=11 comp=N,0.7nm,0.9s						
FINES	**FINESS Array B**	**72.62**	**330**	P	**P**	**15 43 48.6**	**-0.4**
	comp=N,0.5nm,0.5s,baz=72,slow=4.5,SNR=4.6 comp=N,0.5nm,0.5s						
YKA	**Yellowknife Ar**	**81.97**	**24**	P	**P**	**15 44 41.6**	**+0.1**
	comp=N,0.8nm,1.0s,baz=317,slow=5.1,SNR=6.2 comp=N,0.8nm,1.0s						

JMA 01 15:38:30.5±0.2, 24°.2N±0°.3×123°.8E±0°.4, h18km±1km, MV1.2/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.13**	**316**	*e*P	Pb	15 38 34.4	0.0
IRIF				*e*S	Sg	15 38 37.7	+0.5
JKRS	**Kuro-shima**	**0.16**	**91**	*e*P	Pg	15 38 34.8	-0.1
JKRS				*e*S	Sb	15 38 38.0	+0.2
HATJ	**Hateruma jima**	**0.18**	**187**	*e*P	Pg	15 38 35.0	-0.1
HATJ				*e*S	Sg	15 38 38.4	+0.1
JIJ	**Ishigaki jima**	**0.31**	**67**	*e*P	Pg	15 38 37.0	-0.2
JIJ				*e*S	Sg	15 38 41.5	-0.3
JISG	**Ishigakijimahi**	**0.56**	**52**	*e*P	Pg	15 38 41.7	0.0

TAP 01 15:39:22.5, 24°.21N×121°.78E, h11km, ML1.9, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.10**	**342**	*e*P	Pg	15 39 25.8	+0.5
	baz=346						
EAHA	**Aohua**	**0.12**	**344**	*e*P	Pg	15 39 25.6	0.0
	baz=344						
ETL	**Fush Village**	**0.15**	**249**	*e*P	Pg	15 39 26.1	+0.1
	baz=249						
ETL				S	Sg	15 39 28.6	+0.1
	baz=249						
NACB	**Ninganchiao**	**0.17**	**257**	*i* P	Pg	15 39 26.2	-0.1
	baz=251						
NACB				S	Sg	15 39 29.0	0.0
	baz=251						
ENA	**Nanau**	**0.22**	**352**	*i* P	Pg	15 39 27.2	+0.1
	baz=353						
ENA				S	Sg	15 39 30.8	+0.6
	baz=353						
EWUT	**Wuta**	**0.23**	**1**	*i* P	Pg	15 39 27.6	+0.2
	baz=1.0						
EWUT				S	Sg	15 39 31.3	+0.6
	baz=1.0						
ETM	**Tongmen**	**0.36**	**226**	*e*P	Pg	15 39 30.0	+0.3
	baz=232						
ESAO	**Su ao**	**0.37**	**10**	*e*S	Sg	15 39 35.3	+0.5
	baz=6.0						
LXIB	**Xiulin Townshi**	**0.38**	**240**	*e*P	Pg	15 39 30.1	-0.1
	baz=241						
LXIB				*e*S	Sg	15 39 35.8	+0.5
	baz=241						
LATG	**Datong**	**0.39**	**325**	*i* P	Pg	15 39 30.6	+0.3
	baz=325						
LATG				*e*S	Sg	15 39 36.6	+0.9
	baz=325						
NNSB	**Datong**	**0.42**	**301**	P	Pg	15 39 31.1	+0.3
	baz=302						
NNSB				*e*S	Sg	15 39 36.8	+0.4
	baz=302						
NNS	**Nan Shan**	**0.43**	**302**	*e*P	Pg	15 39 31.4	+0.3
	baz=303						
NNS				*e*S	Sg	15 39 37.2	+0.3
	baz=303						
NDT	**Datong Townshi**	**0.46**	**328**	*e*P	Pg	15 39 32.0	+0.5
	baz=328						
NDT				S	Sb	15 39 39.1	-0.2
	baz=328						
ENTT	**Nioudou**	**0.47**	**336**	P	Pg	15 39 32.1	+0.4
	baz=337						
ENTT				*e*S	Sb	15 39 38.8	-0.8
	baz=337						
SHUL	**Shoufeng**	**0.47**	**205**	*e*S	Sb	15 39 42.0	+2.4
	baz=194						
WHF	**Hehuan Shan**	**0.47**	**262**	*e*S	Sg	15 39 38.5	+0.3
	baz=263						
CHGB	**Renai**	**0.57**	**255**	*e*P	Pg	15 39 33.9	+0.2
	baz=247						
CHGB				*e*S	Sb	15 39 42.1	-0.7
	baz=247						
FUSB	**Fushanzhiwuyua**	**0.57**	**343**	*i* P	Pb	15 39 34.2	-0.4
	baz=343						
FUSB				*e*S	Sb	15 39 42.2	-0.6
	baz=343						
YHNB	**Yeheng**	**0.58**	**321**	P	Pb	15 39 34.5	-0.3
	baz=322						
YHNB				*e*S	Sg	15 39 42.3	+0.6
	baz=322						
NSK	**Sanguang**	**0.60**	**321**	P	Pb	15 39 34.6	-0.4
	baz=321						
NSK				*e*S	Sg	15 39 42.4	+0.3
	baz=321						
WARBT	**Fenglin Townsh**	**0.61**	**216**	P	Pg	15 39 34.5	+0.1
	baz=224						
NWLT	**Wulai**	**0.61**	**336**	*e*P	Pb	15 39 35.0	-0.3
	baz=336						
NWLT				*e*S	Sg	15 39 43.0	+0.4
	baz=336						
WUSB	**Renai**	**0.64**	**250**	*e*P	Pb	15 39 35.5	-0.3
	baz=244						
WHP	**Taichung City**	**0.76**	**275**	*e*S	Sb	15 39 48.7	+0.5
	baz=276						

*IDC **01** 15:41:54.2±2.2, 16°.42N×98°.62W, h0km, mb4.3/12, mbtmp4.3/16, ML3.8/4, MS3.8/16, Error ellipse: s-maj=41.6km s-min=16.6km az=13.0*
*NEIC **01** 15:41:54.8±1.8, 16°.35N±0°.05×98°.71W±0°.06, h12km±5km, mb4.6/275, Md5.0/58(MEX), Error ellipse: s-maj=8.2km s-min=7.0km az=97.0*
*MEX **01** 15:41:55.9±1.2, 16°.21N×98°.92W, h16km±13km, MD4.8*
ISC 01 15:41:53.3±1.2, 16°.24N±0°.04×98°.90W±0°.02, h8km±7km, n559, σ1.977/534, mb4.7/102, MS3.9/13, 1C-3D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIG	**Cruz Grande**	**0.54**	**336**		**Pg**	**15 42 04.7**	**+0.8**
CRIG					**Sg**	**15 42 11.8**	**+0.8**
CRIG	**Cruz Grande**	**0.54**	**336**	⇓ *e*P	**Pg**	**15 42 04.7**	**+0.8**
	baz=162,slow=14						
CRIG				*e*S	**Sg**	**15 42 11.8**	**+0.8**
PNIG	**Pinotepa**	**0.76**	**78**		**Pb**	**15 42 07.8**	**-0.9**
PNIG					**Sg**	**15 42 17.3**	**-0.4**
PNIG	**Pinotepa**	**0.76**	**78**	⇑ *i*P	**Pb**	**15 42 07.8**	**-0.9**
	baz=262,slow=14						
PNIG				*e*S	**Sg**	**15 42 17.3**	**-0.4**
MGIG	**Malinaltepec**	**1.02**	**14**		**Pb**	**15 42 12.3**	**-1.1**
MGIG	**Malinaltepec**	**1.02**	**14**	*e*P	**Pb**	**15 42 12.3**	**-1.1**
MGIG				*e*S	**Sb**	**15 42 25.5**	**-1.6**
DAIG	**Los Arroyos**	**1.06**	**317**		**Pb**	**15 42 12.8**	**-1.2**
DAIG	**Los Arroyos**	**1.06**	**317**	*e*P	**Pb**	**15 42 12.5**	**-1.5**
DAIG				*e*S	**Sb**	**15 42 25.3**	**-2.8**
TLIG	**Tlapa**	**1.35**	**13**	Pn	**Pn**	**15 42 17.2**	**-1.5**
TLIG				Sn	**Sn**	**15 42 34.6**	**-2.4**
TLIG	**Tlapa**	**1.35**	**13**	*e*P	**Pn**	**15 42 17.4**	**-1.3**
TLIG				*e*S	**Sn**	**15 42 35.5**	**-1.5**
YOIG	**Yosondua**	**1.44**	**64**		**Pn**	**15 42 18.3**	**-1.6**
YOIG	**Yosondua**	**1.44**	**64**	*e*P	**Pn**	**15 42 18.3**	**-1.6**
YOIG				*e*S	**Sn**	**15 42 36.4**	**-2.7**
TXIG	**Tlaxiaco**	**1.48**	**47**		**Pn**	**15 42 19.1**	**-1.5**
TXIG	**Tlaxiaco**	**1.48**	**47**	*e*P	**Pn**	**15 42 19.1**	**-1.5**
TXIG				*e*S	**Sn**	**15 42 39.2**	**-1.1**
CAIG	**El Cayaco**	**1.54**	**302**		**Pn**	**15 42 19.6**	**-1.5**
CAIG	**El Cayaco**	**1.54**	**302**	⇓ *e*P	**Pn**	**15 42 19.9**	**-1.3**
	baz=126,slow=16						
CAIG				*i* S	**Sn**	**15 42 37.1**	**-4.3**
CAIG				*e*S	**Sb**	**15 42 37.5**	**-4.4**
PEIG	**Puerto Escondi**	**1.70**	**98**	*e*P	**Pn**	**15 42 21.5**	**-1.9**
PEIG				*e*S	**Sn**	**15 42 44.9**	**-0.4**
FTIG	**Fresnillo de T**	**1.81**	**24**		**Pn**	**15 42 23.9**	**-1.2**
FTIG	**Fresnillo de T**	**1.81**	**24**	*e*P	**Pn**	**15 42 23.9**	**-1.2**
FTIG				*e*S	**Sn**	**15 42 43.8**	**-4.5**
MEIG	**Mezcala**	**1.81**	**338**		**Pn**	**15 42 24.6**	**-0.4**
MEIG	**Mezcala**	**1.81**	**338**	*e*P	**Pn**	**15 42 24.6**	**-0.4**
MEIG				*e*S	**Sn**	**15 42 46.5**	**-1.9**
HLIG	**Huajuapan de L**	**1.90**	**33**		**Pn**	**15 42 25.3**	**-1.0**
HLIG	**Huajuapan de L**	**1.90**	**33**	*e*P	**Pn**	**15 42 25.3**	**-1.0**
HLIG				*e*S	**Sn**	**15 42 49.7**	**-0.8**
PLIG	**Platanillo**	**2.22**	**345**		**Pn**	**15 42 30.7**	**+0.1**
PLIG	**Platanillo**	**2.22**	**345**	*e*P	**Pn**	**15 42 30.7**	**+0.1**
PLIG				*e*S	**Sn**	**15 42 57.0**	**-1.3**
OXIG	**Oaxaca**	**2.23**	**68**		**Pn**	**15 42 30.0**	**-0.9**
OXIG					**Sb**	**15 42 34.4**	**+2.0**
VHO	**Vista Hermosa**	**2.23**	**68**	*e*P	**Pn**	**15 42 30.0**	**-0.9**
VHO				*e*S	**Sn**	**15 42 59.6**	**+0.8**
OXBJ	**Oaxaca**	**2.24**	**68**	*i* P	**Pn**	**15 42 30.3**	**-0.7**
OXBJ				*e*S	**Sn**	**15 42 56.6**	**-2.3**
ARIG	**Puente Sto Nin**	**2.46**	**326**		**Pn**	**15 42 33.8**	**0.0**
ARIG	**Puente Sto Nin**	**2.46**	**326**	*e*P	**Pn**	**15 42 33.8**	**0.0**
ARIG				*e*S	**Sn**	**15 43 02.9**	**-1.2**
TOIG	**Toxpalan**	**2.55**	**43**		**Pn**	**15 42 34.0**	**-1.1**
TOIG	**Toxpalan**	**2.55**	**43**	*e*P	**Pn**	**15 42 34.0**	**-1.1**
TOIG				*e*S	**Sn**	**15 43 05.2**	**-1.2**
YAIG	**Yautepec**	**2.62**	**356**		**Pn**	**15 42 35.6**	**-0.5**
YAIG	**Yautepec**	**2.62**	**356**	*e*P	**Pn**	**15 42 35.6**	**-0.5**
YAIG				*e*S	**Sn**	**15 43 07.8**	**-0.3**
TPIG	**Tehuac#an**	**2.62**	**34**		**Pn**	**15 42 35.4**	**-0.8**
TPIG					**Sb**	**15 43 13.7**	**+0.6**
TPIG	**Tehuac#an**	**2.62**	**34**	*e*P	**Pn**	**15 42 35.4**	**-0.8**
TPIG				*e*S	**Sn**	**15 43 10.7**	**+2.5**
HUIG	**Huatulco**	**2.72**	**99**		**Pn**	**15 42 36.3**	**-1.1**
HUIG	**Huatulco**	**2.72**	**99**	*e*P	**Pn**	**15 42 36.3**	**-1.1**
HUIG				*e*S	**Sn**	**15 43 05.2**	**-5.4**
ZIIG	**Zihuatanejo**	**2.81**	**299**		**Pn**	**15 42 39.6**	**+1.0**
ZIIG	**Zihuatanejo**	**2.81**	**299**	*e*P	**Pn**	**15 42 39.6**	**+1.0**
ZIIG				*e*S	**Sn**	**15 43 09.0**	**-3.7**
PPIG	**Popocatepetl**	**2.83**	**5**		**Pn**	**15 42 38.7**	**-0.6**
PPM	**Popocatepetl**	**2.83**	**5**	*e*P	**Pn**	**15 42 38.7**	**-0.6**
PPM				*e*S	**Sn**	**15 43 12.5**	**-1.3**
AMVM	**AMECAMECA**	**2.88**	**2**		Sn	15 43 07.5	-7.4
AMVM	**AMECAMECA**	**2.88**	**2**	*i* P	**Pn**	**15 42 40.5**	**+0.7**
MPVM	**San Francisco**	**2.95**	**358**	*e*P	**Pn**	**15 42 44.2**	**+3.5**
MPVM				*e*S	**Sn**	**15 43 20.6**	**+4.1**
TLVM	**San Miguel Top**	**2.97**	**355**	*e*P	**Pn**	**15 42 41.8**	**+0.7**
TLVM				*e*S	**Sn**	**15 43 13.5**	**-3.6**
XCVM	**Xochimilco**	**3.01**	**356**	*e*P	**Pn**	**15 42 45.4**	**+3.8**
XCVM				*e*S	**Sn**	**15 43 15.2**	**-2.7**
AOVM	**Tlapan**	**3.04**	**352**	*e*P	**Pn**	**15 42 42.4**	**+0.2**
AOVM				*e*S	**Sn**	**15 43 20.2**	**+1.1**
THVM	**De Xico**	**3.06**	**359**	*e*P	**Pn**	**15 42 44.3**	**+2.1**
THVM				*e*S	**Sn**	**15 43 17.1**	**-2.1**
INVM	**La Marquesa**	**3.07**	**351**	*e*P	**Pn**	**15 42 46.4**	**+3.8**
INVM				*e*S	**Sn**	**15 43 14.2**	**-5.5**
UNM	**Universidad Na**	**3.09**	**355**		**Pn**	**15 42 43.4**	**+0.8**
UNM	**Universidad Na**	**3.09**	**355**	*e*P	**Pn**	**15 42 45.9**	**+3.2**
UNM				*e*S	**Sn**	**15 43 17.6**	**-2.4**
COVM	**Coyoacan**	**3.11**	**355**	*e*P	**Pn**	**15 42 43.3**	**+0.4**
COVM				*e*S	**Sn**	**15 43 15.2**	**-5.2**
COVM				*e*S	**Sb**	**15 43 22.4**	**-4.8**
TOVM	**TOLUCA**	**3.12**	**346**		**Pn**	**15 42 46.7**	**+3.5**
TOVM	**TOLUCA**	**3.12**	**346**	*e*P	**Pn**	**15 42 46.7**	**+3.5**
TOVM				*e*S	**Sn**	**15 43 15.5**	**-5.4**
CJVM	**Cuajimalpa**	**3.13**	**353**	*e*P	**Pn**	**15 42 42.9**	**-0.3**
CJVM				*e*S	**Sn**	**15 43 17.0**	**-4.0**
BJVM	**Benito Juarez**	**3.13**	**355**	*e*P	**Pn**	**15 42 41.6**	**-1.6**
BJVM				*e*S	**Sn**	**15 43 20.2**	**-0.8**
VRVM	**Mexico City**	**3.17**	**356**	*e*P	**Pn**	**15 42 41.2**	**-2.7**
VRVM				*e*S	**Sn**	**15 43 21.0**	**-1.0**
TXVM	**Universitario**	**3.18**	**360**	*e*P	**Pn**	**15 42 44.1**	**+0.2**
TXVM				*e*S	**Sn**	**15 43 22.9**	**+0.7**
PBVM	**Pinon**	**3.19**	**357**		**Pn**	**15 42 47.0**	**+3.1**
PBVM	**Pinon**	**3.19**	**357**	*e*P	**Pn**	**15 42 47.0**	**+3.1**
PBVM				*e*S	**Sn**	**15 43 21.6**	**-0.5**
CTVM	**Cuauhtemoc**	**3.20**	**355**	*e*P	**Pn**	**15 42 42.2**	**-2.0**
CTVM				*e*S	Sn	15 43 14.9	-7.8
NEUV	**Arroyo Zacate**	**3.31**	**63**	*e*P	**Pn**	**15 42 45.1**	**-0.4**
PTVM	**Pico Tres Padr**	**3.34**	**357**		**Pn**	**15 42 49.0**	**+2.8**
PTVM	**Pico Tres Padr**	**3.34**	**357**	*e*P	**Pn**	**15 42 49.0**	**+2.8**
PTVM				*e*S	**Sn**	**15 43 20.0**	**-6.3**
AZVM	**Cuida Lopez Ma**	**3.35**	**354**		**Pb**	**15 42 52.0**	**-1.2**
AZVM	**Cuida Lopez Ma**	**3.35**	**354**	*e*P	**Pn**	**15 42 48.6**	**+2.3**
AZVM				*e*S	**Sn**	**15 43 22.7**	**-3.7**
VTVM	**Tizayuca**	**3.52**	**2**		**Pb**	**15 42 57.4**	**+1.4**
VTVM	**Tizayuca**	**3.52**	**2**	*e*P	**Pn**	**15 42 49.0**	**+0.4**
VTVM				*e*S	**Sn**	**15 43 32.5**	**+2.0**
ZUVM	**ZUMPANGO**	**3.57**	**357**		**Pb**	**15 42 57.6**	**+0.6**
ZUVM	**ZUMPANGO**	**3.57**	**357**	*e*P	**Pb**	**15 42 57.6**	**+0.6**
ZUVM				*e*S	**Sn**	**15 43 27.8**	**-4.2**
JAUV	**Jalcomulco**	**3.70**	**32**	*e*P	**Pn**	**15 42 49.5**	**-1.4**
ACIG	**Acambay**	**3.84**	**346**		**Pb**	**15 43 03.0**	**+1.5**
ACIG	**Acambay**	**3.84**	**346**	*e*P	**Pn**	**15 42 52.8**	**-0.2**
ACIG				*e*P	**Pn**	**15 42 53.0**	**0.0**
ACIG				*e*P	**Pn**	**15 42 53.3**	**+0.4**
ACIG				*e*S	**Sn**	**15 43 39.0**	**+0.7**
CMIG	**Matias Romero**	**3.94**	**77**		**Pn**	**15 42 52.2**	**-2.0**
CMIG					Lg	15 43 56.4	
CMIG	**Matias Romero**	**3.94**	**77**	Pn	**Pn**	**15 42 52.6**	**-1.6**
	5.7nm,0.3s,baz=266,slow=13,SNR=41						
CMIG				Lg	Lg	15 43 50.8	
	33nm,0.3s,baz=15,slow=20,SNR=5.6 21nm,0.5s						
CMIG	**Matias Romero**	**3.94**	**77**	*e*P	**Pn**	**15 42 52.2**	**-2.0**
CMIG				*e*S	**Sn**	**15 43 40.4**	**-0.3**
DEIG	**Demacu**	**4.04**	**358**	*e*P	**Pn**	**15 42 53.7**	**-2.1**
DEIG				*e*S	**Sn**	**15 43 40.9**	**-2.6**
DHIG	**Demacu**	**4.04**	**358**		Pn	15 43 02.1	+6.3
MOIG	**Morelia**	**4.06**	**328**	Pn	**Pn**	**15 42 59.2**	**+3.2**
MOIG	**Morelia**	**4.06**	**328**	*e*P	**Pn**	**15 42 56.6**	**+0.6**
MOIG				*e*S	**Sn**	**15 43 44.5**	**+0.6**
NILT	**Santiago Nilte**	**4.12**	**85**	*e*P	**Pn**	**15 43 01.4**	**+4.8**
NILT				*e*S	**Sn**	**15 43 41.8**	**-3.3**
LVIG	**Laguna Verde**	**4.19**	**34**	*e*P	**Pn**	**15 42 58.3**	**+0.6**
LVIG				*e*S	**Sn**	**15 43 49.6**	**+2.7**
TUIG	**Tuzandepetl**	**4.64**	**67**	*e*P	Pn	15 42 59.5	-4.2
TUIG				*e*S	**Sn**	**15 44 02.7**	**+4.9**
JRQG	**Juriquilla Cam**	**4.68**	**342**		**Pn**	**15 43 06.8**	**+2.3**
JRQG	**Juriquilla Cam**	**4.68**	**342**	*e*P	**Pn**	**15 43 05.0**	**+0.4**
JRQG				*e*S	**Sn**	**15 43 53.4**	**-5.6**
MMIG	**Aquila**	**4.71**	**296**		**Pn**	**15 43 06.4**	**+1.6**
MMIG	**Aquila**	**4.71**	**296**	*e*P	**Pn**	**15 43 05.4**	**+0.6**
MMIG				*e*S	**Sn**	**15 43 57.9**	**-1.9**
CTUV	**Llano Grande**	**5.23**	**6**	*e*P	**Pn**	**15 43 15.1**	**+3.2**
JUBC	**Volcan de Coli**	**5.51**	**307**	*e*P	**Pn**	**15 43 20.1**	**+4.0**
JUBC				*e*S	**Sn**	**15 44 23.5**	**+3.6**
EZ5V		**5.52**	**306**	*e*P	**Pn**	**15 43 19.7**	**+3.6**
EZ5V				*e*S	**Sn**	**15 44 21.9**	**+1.9**
MNGA	**Volcan de Coli**	**5.53**	**306**	*e*P	**Pn**	**15 43

MNTX Cornudas Mount 16.48 340 P Pn 15 45 46.7 +1.6
baz=157,SNR=17
PLPT Palo Pinto 16.51 2 Pn Pn 15 45 44.1 -1.3
PLPT IAmb IAmb 15 45 50.2
comp=Z,66nm,0.9s
SRIG Santa Rosalia 16.57 314 P 15 45 49.0 +0.2
SRIG IAmb IAmb 15 45 51.6
comp=Z,40nm,0.6s
SN05 Snyder 5 16.67 354 Pn 15 45 48.7 +1.3
FW06 Azle 16.71 4 Pn 15 45 48.7 +0.8
FW03 Perrin-Whitt E 16.75 2 P Pn 15 45 49.8 +1.4
FW03 IAmb IAmb 15 45 53.0
comp=Z,32nm,0.8s
POST Post 16.92 352 P Pn 15 45 50.3 -0.3
POST IAmb IAmb 15 45 54.8
comp=Z,24nm,0.7s
EPT El Paso 16.94 337 P Pn 15 45 52.2 +1.2
APMT Aspermont 17.05 357 P Pn 15 45 51.7 -0.6
Z35A Perchaven, San 17.08 5 Pn 15 45 52.5 -0.1
Z35A IAmb IAmb 15 45 57.6
comp=Z,44nm,0.8s
Z38A Mt. Pleasant 17.31 11 P Pn 15 45 55.1 -0.4
Z38A IAmb IAmb 15 45 57.9
comp=Z,39nm,0.8s
DKNS Dickens 17.45 354 P Pn 15 45 56.8 -0.5
WTFS Witchita Falls 17.46 1 Pn 15 45 56.6 -0.7
143A Socs Landing, 17.74 21 P Pn 15 45 59.7 -1.1
143A IAmb IAmb 15 46 02.5
comp=Z,49nm,0.9s
319A Douglas 17.80 330 P Pn 15 46 01.0 -0.6
Z41A Richland Creek 17.82 17 P Pn 15 46 00.2 -1.6
Z41A IAmb IAmb 15 46 21.3
comp=Z,26nm,0.8s
MSTX Muleshoe 18.00 350 Pn 15 46 02.1 -2.0
MSTX IAmb IAmb 15 46 06.8
comp=Z,45nm,1.1s
MSTX Muleshoe 18.00 350 P Pn 15 46 04.8 +0.6
baz=167,SNR=9.4
121A Cookes Peak, D 18.11 335 P Pn 15 46 05.0 -0.7
121A Cookes Peak, D 18.11 335 P P 15 46 07.9 +1.9
baz=151,SNR=6.8
WLAR White Oak Lake 18.14 16 P Pn 15 46 02.7 -3.0
WLAR IAmb IAmb 15 46 16.3
comp=Z,34nm,0.9s
WMOK Wichita Mounta 18.42 0 P 15 46 06.5 -2.7
WMOK Wichita Mounta 18.42 0 P P 15 46 10.3 +1.1
baz=180
X37A Clayton 18.55 9 P P 15 46 09.5 -1.0
DUN6 Lazy B Ranch 18.69 332 P P 15 46 12.0 -0.3
AMTX Amarillo 18.73 353 P P 15 46 11.6 -1.1
AMTX IAmb IAmb 15 46 19.7
comp=Z,35nm,1.0s
AMTX Amarillo 18.73 353 P P 15 46 13.5 +0.8
baz=171
CCAR Cane Creek 18.74 19 P P 15 46 11.4 -1.2
CCAR IAmb IAmb 15 46 14.6
comp=Z,52nm,0.9s
SMWD Samnorwood 18.83 357 P P 15 46 12.6 -1.1
SMWD IAmb IAmb 15 46 24.7
comp=Z,30nm,0.9s
MIAR Mount Ida 18.85 14 P 15 46 12.0 -1.9
MIAR Mount Ida 18.85 14 P P 15 46 13.4 -0.4
baz=195,SNR=9.0
W35A Tecumseh 18.92 5 P 15 46 13.0 -1.7
W35A IAmb IAmb 15 46 22.9
comp=Z,21nm,0.8s
FNO Franklin 18.99 4 P 15 46 14.2 -1.2
FNO IAmb IAmb 15 46 24.4
comp=Z,22nm,0.7s
TUC Tucson 19.30 328 P P 15 46 18.1 -0.9
TUC Tucson 19.30 328 P P 15 46 20.7 +1.8
baz=143
CSTR Hydro, Custer 19.33 1 P 15 46 17.9 -1.2
UALR University of 19.37 16 P P 15 46 17.3 -2.3
Y45A Yeager Farm, C 19.47 24 P 15 46 17.8 -2.9
Y45A IAmb IAmb 15 46 28.5
comp=Z,40nm,0.9s
Z47A Carrollton 19.52 28 P P 15 46 18.7 -2.5
Z47A IAmb IAmb 15 46 28.0
comp=Z,26nm,0.9s
DEOK Depew 19.64 6 P 15 46 18.7 -3.9
DEOK IAmb IAmb 15 46 29.7
comp=Z,42nm,1.0s
OK052 Battle Ridge R 19.76 5 P 15 46 21.5 -2.4
OK052 IAmb IAmb 15 46 24.1
comp=Z,38nm,0.9s
TUL3 Leonard 19.79 7 P 15 46 22.2 -2.0
TUL3 IAmb IAmb 15 46 24.2
comp=Z,20nm,0.8s
TUL3 Leonard 19.79 7 P P 15 46 22.5 -1.6
baz=188
OK033 Mehan 19.80 5 P 15 46 22.0 -2.3
OK033 IAmb IAmb 15 46 24.5
comp=Z,39nm,0.8s
ANMO Albuquerque 19.82 341 P 15 46 25.3 +0.5
ANMO IAmb IAmb 15 46 33.5
comp=Z,9.9nm,0.8s
ANMO Albuquerque 19.82 341 P 15 46 24.9 +0.1
ANMO Albuquerque 19.82 341 P P 15 46 25.9 +1.1
baz=158
ANMO Albuquerque 19.82 341 P P 15 46 26.2 +1.4
comp=Z,0.2nm,0.3s,baz=242,slow=11,SNR=20
ANMO LR LR 15 54 37.0
comp=Z,646nm,18.2s,baz=244,slow=39
comp=Z,8.1nm,0.8s
WHAR Wooly Hollow 19.87 16 P 15 46 23.2 -1.9
WHAR IAmb IAmb 15 46 32.1
comp=Z,78nm,1.5s
LRAL Lakeview Retre 19.89 31 P 15 46 23.6 -1.6
LRAL Lakeview Retre 19.89 31 P P 15 46 23.6 -1.6
baz=215,SNR=6.2
QUOK Quay 19.95 5 P 15 46 24.5 -1.4
QUOK IAmb IAmb 15 46 32.6
comp=Z,22nm,0.9s
U32A Winter Ranch, 20.06 360 P P 15 46 25.7 -1.5
U32A IAmb IAmb 15 46 34.0
comp=Z,32nm,0.9s
OXF Oxford 20.09 23 P P 15 46 26.3 -1.2
OXF IAmb IAmb 15 46 33.8
comp=Z,46nm,1.2s
OXF Oxford 20.09 23 P P 15 46 26.3 -1.2
baz=207
214A Organ Pipe Nat 20.12 324 P 15 46 27.3 -0.6
214A Organ Pipe Nat 20.12 324 P P 15 46 29.7 +1.9
baz=137
RLO Rose Lookout 20.14 9 P 15 46 26.5 -1.5
RLO IAmb IAmb 15 46 30.4
comp=Z,16nm,0.9s
OK038 West end E0370 20.16 0 IAmb IAmb 15 46 35.5
comp=Z,36nm,0.7s
OK048 Pawnee Station 20.17 5 P 15 46 26.6 -1.8
CROK Carrier 20.20 2 P 15 46 27.1 -1.6
CROK IAmb IAmb 15 46 34.8
comp=Z,40nm,0.8s
OK035 E0210 Rd and N 20.39 0 P 15 46 28.8 -2.0
OK035 IAmb IAmb 15 46 35.9
comp=Z,31nm,0.9s
RTBA Rita Blanca 20.41 351 P P 15 46 30.4 -0.6
RTBA IAmb IAmb 15 46 33.7
comp=Z,30nm,1.0s
HHAR Hobbs 20.45 12 IAmb IAmb 15 46 36.5
comp=Z,16nm,0.8s
FCAR Ozark Folk Cen 20.48 16 P P 15 46 29.7 -2.0
FCAR IAmb IAmb 15 46 31.9
comp=Z,30nm,1.2s
BLOK Blackwell 20.50 4 P 15 46 30.0 -1.8
BLOK IAmb IAmb 15 46 37.5
comp=Z,44nm,1.1s
U38A Gravette 20.52 10 P P 15 46 29.9 -2.2
TIGA Tifton 20.58 40 P P 15 46 31.8 -1.0
baz=226
T35A Sooner Cattle 20.70 5 P P 15 46 31.4 -2.7
152A Waverly Hall 20.80 36 P P 15 46 33.0 -2.2
Y49A Blount Mountai 20.84 30 IAmb IAmb 15 46 40.0
comp=Z,18nm,0.8s
LCAR Lake Charles 20.92 18 P P 15 46 34.7 -1.8
LCAR IAmb IAmb 15 46 41.3
comp=Z,30nm,1.0s
KAN06 Argonia West S 20.95 2 P P 15 46 35.9 -0.9
KAN06 IAmb IAmb 15 46 42.8
comp=Z,32nm,0.9s
X48A Hartselle 21.03 28 P P 15 46 35.7 -2.0
X48A IAmb IAmb 15 46 41.4
comp=Z,23nm,0.8s
PLAL Pickwick Lake 21.03 25 P P 15 46 36.5 -1.2

Z51A Franklin 21.04 34 IAmb IAmb 15 46 38.0
comp=Z,24nm,0.9s
W18A Petrified Fore 21.16 335 P P 15 46 41.3 +2.1
baz=149
113A Mohawk Valley, 21.26 323 P P 15 46 41.6 +1.4
X16A Lo Mia Camp, P 21.32 330 IAmb IAmb 15 46 48.3
comp=Z,18nm,0.9s
T25A Trinidad 21.38 348 P P 15 46 42.4 +0.7
T25A IAmb IAmb 15 46 47.5
comp=Z,31nm,0.9s
T25A Trinidad 21.38 348 P P 15 46 42.7 +1.1
baz=165,SNR=26
MGMO Mountain Grove 21.64 14 IAmb IAmb 15 46 47.1
comp=Z,16nm,0.8s
Y14A Wickenburg 21.73 327 P P 15 46 46.7 +1.5
Y14A IAmb IAmb 15 46 49.1
comp=Z,19nm,1.1s
PBMO Poplar Bluff 21.80 19 P P 15 46 44.3 -1.5
S39A Bolivar 21.93 12 IAmb IAmb 15 46 50.8
comp=Z,26nm,0.9s
ESJX Sierra Juarez 22.05 318 P P 15 46 48.9 0.0
GOGA Godfrey 22.05 36 P P 15 46 46.2 -2.4
GOGA IAmb IAmb 15 46 49.0
comp=Z,27nm,0.8s
GOGA Godfrey 22.05 36 P P 15 46 47.3 -1.4
baz=222,SNR=9.8
Y52A Lilburn 22.06 35 IAmb IAmb 15 46 49.1
comp=Z,32nm,0.8s
R32A Long Quarter, 22.10 0 IAmb IAmb 15 46 52.5
comp=Z,33nm,0.9s
WVT Waverly 22.13 24 P P 15 46 46.7 -2.7
WVT Waverly 22.13 24 P P 15 46 48.3 -1.1
baz=209
SWET Sewanee 22.18 29 IAmb IAmb 15 46 55.0
comp=Z,20nm,1.0s
X51A Calhoun 22.18 32 IAmb IAmb 15 46 52.3
comp=Z,48nm,1.4s
WUAZ Wupatki 22.20 332 P P 15 46 50.6 +0.2
WUAZ IAmb IAmb 15 47 00.9
comp=Z,28nm,1.0s
WUAZ Wupatki 22.20 332 P P 15 46 51.9 +1.5
baz=146,SNR=18
SDCO Great Sand Dun 22.20 346 P P 15 46 51.5 +0.9
baz=162,SNR=20
V48A Smith Brothers 22.21 27 IAmb IAmb 15 46 52.5
comp=Z,16nm,0.8s
BLYC Blythe 22.41 324 IAmb IAmb 15 46 57.0
comp=Z,21nm,1.4s
W50A Signal Mountai 22.46 30 IAmb IAmb 15 46 54.8
comp=Z,23nm,0.8s
CBKS Cedar Bluff 22.50 358 P P 15 46 54.2 +0.7
baz=177
MVCO Mesa Verde 22.55 340 P P 15 46 54.2 0.0
MVCO IAmb IAmb 15 46 56.9
comp=Z,43nm,1.1s
MVCO Mesa Verde 22.55 340 P P 15 46 55.2 +1.0
baz=155,SNR=19
IKP In-Ko-Pah, Jac 22.59 319 P P 15 46 56.7 +2.2
baz=32
PDMCI Parker Dam,Lak 22.61 326 P P 15 46 56.9 +2.3
baz=138
CLTN Cedars of Leba 22.72 27 IAmb IAmb 15 46 58.1
comp=Z,22nm,0.9s
CCM Cathedral Cave 22.76 16 P P 15 46 53.9 -2.2
CCM IAmb IAmb 15 46 57.3
comp=Z,14nm,0.8s
CCM Cathedral Cave 22.76 16 P P 15 46 55.6 -0.5
baz=199
KSU1 Kansas State U 22.87 5 IAmb IAmb 15 46 59.7
comp=Z,24nm,0.9s
KSU1 Kansas State U 22.87 5 P P 15 46 57.8 +0.5
baz=185
BC3 Big Chuckawall 22.88 322 P P 15 47 00.6 +3.0
baz=135
FVM French Village 22.91 17 IAmb IAmb 15 46 59.0
comp=Z,18nm,0.8s
KSCO Kaye Shedlock' 22.92 353 P P 15 46 56.1 -1.9
KSCO Kaye Shedlock' 22.92 353 P P 15 46 58.9 +0.8
baz=170
MONP2 Monument Peak 22.94 319 P P 15 47 01.0 +2.6
baz=132
S44A Carbondale 23.01 20 IAmb IAmb 15 47 00.8
comp=Z,40nm,1.2s
IRM Iron Mountain 23.06 324 P P 15 47 02.5 +3.1
baz=136,SNR=9.1
W52A Murphy 23.07 33 IAmb IAmb 15 47 00.8
comp=Z,41nm,1.2s
W13A Hualapai Mount 23.08 327 P P 15 47 00.7 +0.8
Q24A Divide 23.30 348 P P 15 47 00.6 -1.5
Q24A Divide 23.30 348 P P 15 47 03.4 +1.4
baz=164
HODGE Hodges 23.34 37 IAmb IAmb 15 47 02.4
comp=Z,20nm,0.9s
U15A North Rim 23.37 332 IAmb IAmb 15 47 11.9
comp=Z,16nm,1.1s
TPFO Pinon Flats 23.44 321 P P 15 47 06.1 +2.7
baz=133
BELC Belle Mtn. Jos 23.45 322 P P 15 47 06.0 +2.6
baz=134
PFO Pinyon Flats O 23.45 321 P P 15 47 06.3 +2.8
baz=133
PFO Pinyon Flats O 23.45 321 P P 15 47 06.7 +3.2
comp=Z,2.6nm,0.8s,baz=128,slow=11,SNR=3.2
PFO LR LR 15 57 48.0
comp=Z,181nm,18.7s,baz=84,slow=41
comp=Z,2.6nm,0.8s
BG3 Lake Jocassee 23.52 34 IAmb IAmb 15 47 04.7
comp=Z,25nm,0.9s
TKL Tuckaleechee C 23.58 32 IAmb IAmb 15 47 05.5
comp=Z,19nm,1.1s
TKL Tuckaleechee C 23.58 32 P P 15 47 04.6 0.0
comp=Z,11nm,0.8s,baz=182,slow=8.4,SNR=5.8
comp=Z,11nm,0.8s
GMRC Granite Mounta 23.81 324 P P 15 47 09.4 +2.4
baz=136,SNR=6.7
V52A Sevierville 23.82 32 IAmb IAmb 15 47 08.2
comp=Z,27nm,0.9s
MURC Murrieta 23.90 320 P P 15 47 11.0 +3.2
baz=131
SMCO Snowmass 23.92 344 P P 15 47 08.9 +0.5
SMCO IAmb IAmb 15 47 11.4
comp=Z,18nm,1.1s
P40A Paris 23.96 13 P P 15 47 07.2 -1.0
V53A Saluda 24.09 34 IAmb IAmb 15 47 13.3
comp=Z,16nm,1.1s
Q44A Meyer Farm, Va 24.18 19 P P 15 47 08.5 -1.8
ISCO Idaho Springs 24.20 347 IAmb IAmb 15 47 13.3
comp=Z,11nm,0.8s
ISCO Idaho Springs 24.20 347 P P 15 47 11.3 +0.5
baz=164,SNR=11
PKCU Pink Cliffs 24.22 333 IAmb IAmb 15 47 15.5
comp=Z,12nm,1.1s
HEC Hector,Ludlow 24.23 323 P P 15 47 12.2 +1.4
baz=135
OLIL Olney 24.33 21 P P 15 47 10.2 -1.4
OLIL IAmb IAmb 15 47 13.7
comp=Z,24nm,0.9s
TZTN Tazewell 24.39 31 IAmb IAmb 15 47 16.1
comp=Z,29nm,1.1s
TZTN Tazewell 24.39 31 P P 15 47 11.9 -0.3
baz=218,SNR=5.1
TUQ Turquoise Moun 24.43 325 P P 15 47 14.6 +1.8
baz=137
N33A J Bar K, Exete 24.45 3 P P 15 47 12.3 -0.4
KMSC Kings Mountain 24.52 37 IAmb IAmb 15 47 20.4
comp=Z,13nm,0.9s
KMSC Kings Mountain 24.52 37 P P 15 47 12.1 -1.4
baz=224
WCI Wyandotte Cave 24.55 24 P P 15 47 12.9 -0.8
WCI Wyandotte Cave 24.55 24 P P 15 47 12.8 -0.9
baz=210
BFSC Mount Baldy Ra 24.61 320 P P 15 47 16.5 +2.1
baz=132
MTPU Mount Pierson 24.67 334 IAmb IAmb 15 47 25.0
comp=Z,26nm,1.4s
OGNE Ogallala 24.77 354 P P 15 47 15.9 +0.2
OGNE Ogallala 24.77 354 P P 15 47 17.0 +1.2
baz=172,SNR=11
GSC Goldstone, Bar 24.83 323 IAmb IAmb 15 47 21.3
comp=Z,19nm,1.4s
GSC Goldstone, Bar 24.83 323 P P 15 47 18.9 +2.5
baz=135,SNR=6.1
N38A Joes South For 24.96 10 P P 15 47 16.1 -1.2
Q16A Castle Valley 25.03 337 IAmb IAmb 15 47 23.1
comp=Z,22nm,1.0s
R49A Shelbyville 25.07 26 IAmb IAmb 15 47 18.8
comp=Z,14nm,0.9s

MVU Marysvale 25.08 335 P P 15 47 19.6 +0.9
BGNE Belgrade 25.09 1 P P 15 47 18.9 +0.3
baz=181
O20A White River Ci 25.16 343 P P 15 47 20.5 +1.2
baz=158,SNR=9.3
S51A Beattyville 25.24 29 P P 15 47 17.1 -2.8
EDW2 Edwards Air Fo 25.24 321 P P 15 47 22.5 +2.4
baz=132
N23A Red Feather La 25.32 347 IAmb IAmb 15 47 24.4
comp=Z,15nm,0.8s
N23A Red Feather La 25.32 347 P P 15 47 21.8 +1.0
baz=164,SNR=12
P18A Preston Nutter 25.32 339 P P 15 47 22.2 +1.2
QSM Queen of Sheba 25.34 324 IAmb IAmb 15 47 25.9
comp=Z,15nm,1.2s
P17A Butcher Ranch, 25.36 338 IAmb IAmb 15 47 25.9
comp=Z,18nm,1.1s
GWY Greenwater Val 25.39 325 IAmb IAmb 15 47 26.3
comp=Z,9.1nm,0.9s
R50A Paris 25.43 27 IAmb IAmb 15 47 22.2
comp=Z,16nm,0.9s
PRN Pahroc Range 25.47 329 IAmb IAmb 15 47 32.1
comp=Z,11nm,1.1s
LRMC Laurel Mtn Rad 25.47 322 P P 15 47 25.0 +2.9
baz=134
PHWY Pilot Hill 25.61 349 P P 15 47 23.1 -0.5
PHWY IAmb IAmb 15 47 26.9
comp=Z,13nm,0.9s
HDIL Hopedale 25.62 17 P P 15 47 22.6 -0.8
baz=201,SNR=8.8
SCZ2 Santa Cruz Isl 25.70 317 P P 15 47 26.6 +2.4
baz=128
MPMC Manual Prospec 25.76 324 P P 15 47 27.1 +2.2
baz=135
RDMU Red Mountain 25.95 341 IAmb IAmb 15 47 31.0
comp=Z,16nm,0.9s
SBC Santa Barbara 26.03 318 P P 15 47 30.2 +3.1
baz=128
SCIA State Center 26.04 10 P P 15 47 27.8 +0.6
baz=192
ISA Isabella, Lake 26.06 322 P P 15 47 30.2 +2.7
baz=132
SFIN Lafayette 26.15 21 IAmb IAmb 15 47 29.6
comp=Z,24nm,1.0s
SFIN Lafayette 26.15 21 P P 15 47 27.8 -0.3
baz=206
P49A Miami Univ. Ec 26.31 25 P P 15 47 28.5 -1.0
baz=212,SNR=13
BSUT Blindstream Ca 26.31 339 IAmb IAmb 15 47 35.5
comp=Z,16nm,0.9s
RWWY Rawlins 26.36 346 IAmb IAmb 15 47 37.1
comp=Z,20nm,0.9s
GRAC Grapevine Rang 26.37 325 P P 15 47 32.7 +2.5
baz=136
PKM Mcpherson Peak 26.38 319 P P 15 47 33.2 +2.7
baz=129
R11B Troy Canyon, C 26.47 330 P P 15 47 33.5 +2.2
baz=141,SNR=5.4
Q51A Peebles 26.48 28 P P 15 47 30.4 -0.7
BLA Blacksburg 26.53 35 P P 15 47 30.5 -1.1
baz=223
L40A Anamosa 26.57 13 IAmb IAmb 15 47 32.0
comp=Z,20nm,0.9s
O48B Farmland 26.75 24 P P 15 47 32.0 -1.6
O48B Farmland 26.75 24 P P 15 47 33.1 -0.4
baz=210,SNR=11
DUG Dugway, Tooele 26.76 336 P P 15 47 35.3 +1.4
baz=149
SMMC Simmler 26.77 319 P P 15 47 36.2 +2.4
baz=129
O49A Covington 27.02 25 P P 15 47 34.8 -1.2
T57A Hurt 27.02 36 IAmb IAmb 15 47 39.5
comp=Z,21nm,0.9s
K22A Casper 27.12 348 P P 15 47 38.0 +1.0
baz=163
ECSD EROS Data Cent 27.48 4 IAmb IAmb 15 47 41.9
comp=Z,12nm,0.9s
P52A Corning 27.52 29 P P 15 47 39.6 -0.9
baz=216
HWUT Hardware Ranch 27.54 339 P P 15 47 41.8 +0.9
SPUT South Promonto 27.59 338 IAmb IAmb 15 47 44.2
comp=Z,8.7nm,1.0s
JFWS Jewell Farm 27.60 14 P P 15 47 40.8 -0.3
baz=198
ACSO Alum Creek Sta 27.62 27 P P 15 47 40.5 -0.9
baz=214
Q54A Coxs Mills 27.64 31 IAmb IAmb 15 47 45.1
comp=Z,17nm,0.9s
NV11 Mina Array Sit 27.84 326 IAmb IAmb 15 47 47.7
comp=Z,12nm,1.2s
NVAR Mina Array Bea 27.92 326 P P 15 47 47.2 +2.9
comp=Z,4.4nm,0.9s,baz=150,slow=9.3,SNR=17
NVAR LR LR 16 00 20.7
comp=Z,137nm,19.9s,baz=98,slow=40
comp=Z,4.4nm,0.9s
BW06 Boulder Array 27.97 343 P P 15 47 45.6 +0.8
baz=157,SNR=15
PD31 Pinedale Array 27.97 343 IAmb IAmb 15 47 51.3
comp=Z,12nm,1.1s
PDAR Pinedale Array 27.97 343 P P 15 47 46.1 +1.3
comp=Z,6.8nm,0.9s,baz=141,slow=9.4,SNR=30
PDAR LR LR 15 59 39.4
comp=Z,202nm,20.4s,baz=162,slow=38
comp=Z,6.8nm,0.9s
HVU Hansel Valley 28.12 338 IAmb IAmb 15 47 49.1
comp=Z,7.5nm,1.0s
RSSD Black Hills 28.13 352 P P 15 47 46.8 +0.6
RSSD IAmb IAmb 15 47 49.5
comp=Z,13nm,1.4s
RSSD Black Hills 28.13 352 P P 15 47 47.0 +0.8
baz=169
ELK Elko 28.23 333 P P 15 47 48.8 +1.7
comp=Z,1.2nm,0.8s,baz=106,slow=8.3,SNR=5.3
ELK LR LR 16 00 17.7
comp=Z,359nm,20.5s,baz=154,slow=39
comp=Z,1.2nm,0.8s
SDV Santo Domingo 28.51 101 P P 15 47 48.8 -1.0
SNOW Snow King Moun 28.95 342 IAmb IAmb 15 48 01.8
comp=Z,16nm,1.1s
TPAW Teton Pass 29.04 342 IAmb IAmb 15 48 03.9
comp=Z,8.2nm,0.9s
LOHW Long Hollow 29.05 342 IAmb IAmb 15 47 57.0
comp=Z,7.1nm,0.8s
IMW Indian Meadow 29.41 342 P P 15 47 58.4 +0.8
RLMT Red Lodge 30.09 345 IAmb IAmb 15 48 10.2
comp=Z,8.7nm,1.2s
RLMT Red Lodge 30.09 345 P P 15 48 04.7 +1.1
baz=159
HLID Hailey 30.27 337 P P 15 48 06.5 +1.4
baz=149,SNR=7.2
SSPA Standing Stone 30.38 33 P P 15 48 05.4 -0.4
baz=223
ERPA Erie 30.48 28 P P 15 48 06.0 -0.8
baz=218
COWI Conover 30.87 13 IAmb IAmb 15 48 11.2
comp=Z,11nm,0.9s
GLMI Grayling 30.94 20 P P 15 48 09.8 -1.0
baz=207
LAO LASA Array 30.97 350 P P 15 48 12.1 +1.0
baz=166
BOZ Bozeman (W) 31.16 343 P P 15 48 14.9 +2.0
baz=155
MDND Maddock 31.53 359 P P 15 48 15.8 -0.1
MDND Maddock 31.53 359 P P 15 48 16.3 +0.4
baz=178,SNR=11
J08A Circle Bar Ran 31.76 332 IAmb IAmb 15 48 21.6
comp=Z,11nm,1.0s
AGMN Agassiz Nation 32.07 4 P P 15 48 20.6 -0.1
baz=185,SNR=16
PLID Pearl Lake 32.16 337 P P 15 48 22.4 +0.5
PLID IAmb IAmb 15 48 24.5
comp=Z,9.1nm,1.1s
B35A Bob, Littlefor 32.31 6 IAmb IAmb 15 48 23.2
comp=Z,8.2nm,1.3s
DGMT Dagmar 32.44 353 P P 15 48 24.5 +0.5
baz=170,SNR=7.3
BINY Binghamton 32.49 33 P P 15 48 24.3 -0.3
baz=224
YBH Yreka Blue Hor 32.64 326 LR LR 16 00 40.1
comp=Z,109nm,20.9s,baz=164,slow=34
SADO Sadowa 32.96 26 P P 15 48 27.4 -1.1
comp=Z,3.4nm,0.6s,baz=225,slow=10.0,SNR=3.8
comp=Z,3.4nm,0.6s
G08A Pilot Rock 33.51 334 IAmb IAmb 15 48 36.0
comp=Z,6.1nm,0.8s
ULM Lac du Bonnet 34.01 3 IAmb IAmb 15 48 37.9
comp=Z,8.9nm,0.8s
ULM Lac du Bonnet 34.01 3 P P 15 48 37.4 -0.2

comp=Z,5.6nm,0.7s,baz=193,slow=8.9,SNR=10.0
comp=Z,5.6nm,0.7s
NEW Newport 35.27 339 P **P** **15 48 49.7 +1.0**
baz=148
NEW Newport 35.27 339 LR LR 16 05 05.0
comp=Z,267nm,19.7s,baz=152,slow=40
C09A Chrisman Ranch 35.30 337 IAmb IAmb 15 48 51.7
comp=Z,8.9nm,0.8s
LBNH Lisbon 36.04 34 P **P** **15 48 54.7 -0.5**
baz=228
FFC Flin Flon 38.48 357 P **P** **15 49 15.4 -0.4**
FFC IAmb IAmb 15 49 17.2
comp=Z,17nm,0.9s
EDM Edmonton 38.61 346 IAmb IAmb 15 49 18.7
comp=Z,17nm,0.8s
FCC Fort Churchill 42.60 4 P **P** **15 49 48.7 -1.1**
RPN Rapa Nui 44.28 193 LR LR 16 04 43.0
comp=Z,59nm,19.3s,baz=95,slow=31
SCHQ Schefferville 45.76 25 P **P** **15 50 14.2 -1.1**
SCHQ Schefferville 45.76 25 P **P** **15 50 14.6 -0.7**
comp=Z,12nm,0.9s,baz=236,slow=7.4,SNR=16
comp=Z,12nm,0.9s
YKA Yellowknife Ar 47.51 350 P **P** **15 50 29.1 +0.3**
comp=Z,2.8nm,0.8s,baz=158,slow=7.0,SNR=32
YKA PP **PP** **15 52 22.8 +2.7**
comp=Z,0.9nm,0.9s,baz=153,slow=9.8,SNR=4.5
comp=Z,2.8nm,0.8s
R33M Jennings River 49.06 339 P **P** **15 50 43.0 +2.0**
baz=137
TGTN Hyland Airport 49.83 342 P **P** **15 50 49.1 +2.4**
baz=142
WRGLY Wrigley 49.95 346 P **P** **15 50 48.9 +1.4**
baz=148
SKAG Skagway 50.68 337 P **P** **15 50 55.2 +2.0**
baz=132
FRB Frobisher Bay 51.86 17 P **P** **15 51 01.9 0.0**
comp=Z,4.6nm,0.8s,baz=236,slow=9.3,SNR=10
comp=Z,4.6nm,0.8s
FARO Faro, Yukon 51.94 340 P **P** **15 51 03.1 +0.5**
baz=136
HYT Haines Junctio 52.41 337 P **P** **15 51 06.4 +0.2**
baz=131
H03N2 Juan Fernandez 52.95 159 T T 16 48 09.9
baz=337,slow=77,SNR=234
H03N1 Juan Fernandez 52.96 159 T T 16 48 11.1
baz=337,slow=77,SNR=305
H03N3 Juan Fernandez 52.97 159 T T 16 48 08.0
baz=337,slow=77,SNR=348
PINM Pinnacle 53.00 336 P **P** **15 51 12.0 +1.4**
baz=127
YUK4 Talbot Arm 53.17 337 P **P** **15 51 14.4 +2.5**
baz=130
M29M Somme Creek 53.81 338 P **P** **15 51 18.3 +1.7**
baz=130
CTG Chitna Glacier 53.96 336 P **P** **15 51 19.1 +1.5**
baz=126
YUK3 Moose Creek 54.11 337 P **P** **15 51 19.6 +0.7**
baz=128
L29M L29M 54.14 339 P **P** **15 51 19.4 +0.6**
baz=131
K29M Barlow Dome 54.43 340 P **P** **15 51 21.5 +0.5**
baz=132
J30M Hart River 54.55 341 P **P** **15 51 22.4 +0.5**
baz=134
I30M Mount Dempster 55.02 342 P **P** **15 51 26.0 +0.7**
baz=134
DAWY Dawson 55.19 340 P **P** **15 51 26.7 +0.2**
baz=130
G31M Satah River 55.66 344 IAmb IAmb 15 51 50.9
comp=Z,7.7nm,1.1s
G31M Satah River 55.66 344 P **P** **15 51 30.3 +0.7**
baz=137
K27K Chicken 56.09 339 IAmb IAmb 15 51 36.4
comp=Z,7.8nm,0.9s
K27K Chicken 56.09 339 P **P** **15 51 34.2 +1.3**
baz=127
EGAK Eagle 56.24 340 IAmb IAmb 15 51 37.3
comp=Z,4.3nm,1.0s
EGAK Eagle 56.24 340 P **P** **15 51 34.1 +0.2**
baz=129
I28M Miner Creek 56.27 341 P **P** **15 51 34.3 0.0**
baz=130
H29M Whitestone 56.31 342 IAmb IAmb 15 51 36.7
comp=Z,7.4nm,0.9s
H29M Whitestone 56.31 342 P **P** **15 51 34.9 +0.5**
baz=132
INK Inuvik 56.51 345 IAmb IAmb 15 51 37.6
comp=Z,7.2nm,1.0s
INK Inuvik 56.51 345 P **P** **15 51 36.2 +0.5**
baz=139,SNR=5.1
M24K Tolsona, Glenn 56.51 336 P **P** **15 51 37.2 +1.2**
baz=122
F30M Barrier River 56.56 344 P **P** **15 51 36.9 +0.7**
baz=136
PAX Paxson 56.71 337 P **P** **15 51 38.2 +0.8**
baz=123
SCRK Sand Creek 56.73 338 P **P** **15 51 38.1 +0.5**
baz=125
SCM Sheep Creek Mo 56.83 335 P **P** **15 51 39.8 +1.5**
baz=121
SEW Seward 56.89 332 P **P** **15 51 38.3 -0.2**
baz=117
J26L Joseph Creek 56.89 339 P **P** **15 51 40.2 +1.6**
J26L IAmb IAmb 15 51 42.5
comp=Z,7.6nm,0.9s
J26L Joseph Creek 56.89 339 P **P** **15 51 39.1 +0.4**
baz=126,SNR=7.4
RIDG Independent Ri 56.91 338 IAmb IAmb 15 51 43.3
comp=Z,9.4nm,1.1s
RIDG Independent Ri 56.91 338 P **P** **15 51 39.5 +0.7**
baz=124
I27K Kandik River 56.91 340 P **P** **15 51 39.5 +0.7**
baz=129
KNK Knik Glacier 57.09 334 P **P** **15 51 42.8 +2.8**
baz=119
SML Sawmill 57.23 335 P **P** **15 51 43.4 +2.3**
baz=120
I26K Coal Creek Min 57.23 340 P **P** **15 51 42.8 +1.9**
baz=127
K24K Donnelly Dome 57.29 337 P **P** **15 51 43.7 +2.3**
baz=123
BRSE Bradley Lake S 57.30 332 P **P** **15 51 44.0 +2.4**
baz=116
KDAK Kodiak Island 57.36 329 P **P** **15 51 43.9 +2.0**
baz=113
WAT6 Susitna Watana 57.38 336 P **P** **15 51 44.4 +2.2**
baz=121
J25K Salcha River, 57.59 338 P **P** **15 51 44.2 +0.6**
baz=124
Q20K Shuyak Island 57.60 330 P **P** **15 51 44.8 +1.2**
baz=114
E29M Blow River 57.68 344 IAmb IAmb 15 51 46.5
comp=Z,6.4nm,1.1s
E29M Blow River 57.68 344 P **P** **15 51 44.8 +0.7**
baz=134
F28M Old Crow 57.69 343 P **P** **15 51 44.7 +0.5**
baz=132,SNR=17
A36M Sachs Harbour 57.87 351 IAmb IAmb 15 51 47.0
comp=Z,7.1nm,1.0s
A36M Sachs Harbour 57.87 351 P **P** **15 51 45.2 0.0**
baz=150,SNR=6.3
HDA Harding Lake 58.05 338 P **P** **15 51 47.9 +1.2**
baz=122
SUA Susitna One 58.08 334 P **P** **15 51 48.0 +0.9**
baz=117
PRP Porcupine Dome 58.16 339 IAmb IAmb 15 51 50.3
comp=Z,11nm,1.1s
PRP Porcupine Dome 58.16 339 P **P** **15 51 48.4 +0.8**
baz=124,SNR=6.8
IL31 58.22 338 P **P** **15 51 48.5 +0.7**
IL31 IAmb IAmb 15 51 50.7
comp=Z,5.3nm,1.1s
ILAR Eielson Array 58.22 338 P **P** **15 51 49.5 +1.5**
comp=Z,2.6nm,0.9s,baz=138,slow=4.6,SNR=21
ILAR LR LR 16 16 50.7
comp=Z,157nm,18.1s,baz=108,slow=36
comp=Z,2.6nm,0.9s
CUT Chulitna 58.32 335 P **P** **15 51 49.6 +1.0**
baz=118
MCK McKinley 58.44 336 P **P** **15 51 50.2 +0.8**
baz=120
D28M Stokes Point 58.55 345 P **P** **15 51 50.9 +0.7**
baz=134
SKT Skwentna 58.65 334 P **P** **15 51 52.1 +1.1**
baz=116
TRF Thorofare Moun 58.83 336 P **P** **15 51 53.1 +0.7**
TRF Thorofare Moun 58.83 336 P **P** **15 51 53.1 +0.7**
baz=118

F26K Sheenjek River 59.00 342 P **P** **15 51 54.4 +1.0**
baz=127
H24K Noodor Dome 59.15 339 IAmb IAmb 15 52 02.2
comp=Z,8.8nm,1.2s
H24K Noodor Dome 59.15 339 P **P** **15 51 55.2 +0.7**
baz=122
P18K Big Mountain, 59.25 330 P **P** **15 51 56.2 +1.0**
baz=111
M20K Styx River 59.29 333 P **P** **15 51 56.4 +0.9**
baz=115
I23K Minto, Yukon-K 59.32 338 P **P** **15 51 56.4 +0.9**
baz=120
F25K Christian Rive 59.40 341 P **P** **15 51 57.5 +1.4**
baz=125
G24K Hadweenzic Riv 59.48 340 IAmb IAmb 15 51 59.3
comp=Z,6.0nm,0.9s
G24K Hadweenzic Riv 59.48 340 P **P** **15 51 57.8 +1.1**
baz=123
CAST Castle Rocks 59.53 335 P **P** **15 51 58.3 +1.2**
baz=117
E25K Arctic Village 59.69 342 P **P** **15 51 58.8 +0.7**
baz=126
MLY Manley 59.77 337 P **P** **15 51 59.4 +0.7**
MLY IAmb IAmb 15 52 01.1
comp=Z,8.8nm,1.0s
MLY Manley 59.77 337 P **P** **15 52 00.5 +1.8**
baz=119,SNR=5.1
M19K Big River Lodg 59.84 333 P **P** **15 52 01.1 +1.9**
baz=114
L20K Farewell, AK 59.86 334 P **P** **15 52 00.8 +1.5**
baz=114
N18K Kilae Creek 60.03 332 P **P** **15 52 01.5 +0.9**
baz=111
L19K White Mountain 60.15 333 P **P** **15 52 02.7 +1.3**
baz=113
PPT Papeete 60.18 238 LR LR 16 11 10.7
comp=Z,72nm,19.4s,baz=68,slow=29
O17K Koliganek Bris 60.27 330 P **P** **15 52 03.2 +1.0**
baz=110
I21K Tanana 60.30 337 P **P** **15 52 03.5 +1.2**
baz=118
K20K Telida 60.30 335 P **P** **15 52 03.1 +0.8**
baz=114
M18K Stony River 60.31 332 P **P** **15 52 03.4 +1.0**
baz=112
G23K Bananza Creek 60.35 339 P **P** **15 52 03.3 +0.6**
baz=120
H22K Ishtalitna Cre 60.42 338 P **P** **15 52 03.9 +0.8**
baz=119
D25K Kavik River 60.63 343 P **P** **15 52 04.7 +0.1**
D25K IAmb IAmb 15 52 07.8
comp=Z,5.0nm,1.0s
D25K Kavik River 60.63 343 P **P** **15 52 06.3 +1.7**
baz=125
COLD Coldfoot 60.67 340 P **P** **15 52 05.4 +0.6**
baz=120
J20K Nowinta River 60.68 336 P **P** **15 52 05.8 +0.9**
baz=115
O16K Kokwok River B 60.69 330 P **P** **15 52 06.1 +1.1**
baz=109
SDPT Sand Point 60.71 325 P **P** **15 52 06.8 +1.6**
baz=104
H21K Melozitna Rive 60.83 337 P **P** **15 52 06.6 +0.7**
baz=117
E23K Chandalar 60.92 341 P **P** **15 52 07.1 +0.5**
baz=121
TTA Tatalina 60.94 334 P **P** **15 52 07.5 +0.7**
baz=112
L18K Granite Mounta 60.96 333 P **P** **15 52 07.3 +0.4**
baz=111
J19K Poorman 61.20 335 IAmb IAmb 15 52 09.5
comp=Z,6.7nm,0.9s
J19K Poorman 61.20 335 P **P** **15 52 07.9 -0.6**
baz=113
D24K Happy Valley 61.26 342 P **P** **15 52 09.9 +1.1**
baz=123
O15K Ungalikthiuk R 61.41 329 P **P** **15 52 10.7 +0.7**
baz=107
J18K Innoko River 61.44 334 P **P** **15 52 11.7 +1.6**
baz=112
G21K Allakaket 61.47 338 P **P** **15 52 11.4 +1.2**
baz=117
H20K Anotleneega Mo 61.53 337 P **P** **15 52 10.8 +0.1**
baz=115
C24K Franklin Bluff 61.53 342 P **P** **15 52 11.3 +0.7**
baz=123
M16K Timber Creek 61.56 331 P **P** **15 52 10.4 -0.5**
baz=108
L17K Donlin 61.64 333 P **P** **15 52 12.1 +0.6**
baz=110
E22K Anaktuvuk Pass 61.66 340 P **P** **15 52 12.2 +0.6**
baz=119
D23K Nanushuk River 61.73 341 P **P** **15 52 12.8 +0.8**
baz=121
F21K Alatna River 61.79 339 P **P** **15 52 12.8 +0.4**
F21K IAmb IAmb 15 52 15.2
comp=Z,6.5nm,0.9s
F21K Alatna River 61.79 339 P **P** **15 52 13.3 +0.9**
baz=117
K17K Iditarod 61.84 333 P **P** **15 52 14.4 +1.6**
baz=110
H19K Roundabout Mou 62.14 337 P **P** **15 52 15.9 +1.2**
baz=113
C23K Itkillik River 62.16 342 P **P** **15 52 16.2 +1.4**
baz=121
M15K Kasigluk River 62.27 331 P **P** **15 52 17.4 +1.7**
baz=107
D22K Ayikyak River 62.31 341 P **P** **15 52 16.9 +1.0**
baz=119
F20K Avaraart Lake 62.50 338 P **P** **15 52 18.1 +1.0**
baz=115
G19K Purcell Mounta 62.62 337 P **P** **15 52 18.4 +0.4**
baz=113
H18K Honhosa River 62.74 336 P **P** **15 52 20.1 +1.3**
baz=111
J16K Anvik River 63.02 333 P **P** **15 52 22.0 +1.4**
baz=108
G18K Tagagawik 63.12 337 P **P** **15 52 22.2 +0.8**
baz=111
E20K Nigu River 63.17 339 P **P** **15 52 22.8 +1.1**
baz=115
E19K Redstone River 63.20 338 P **P** **15 52 22.8 +0.9**
baz=113
D20K Etivluk River 63.51 340 P **P** **15 52 24.2 +0.3**
baz=115
F18K Selawik 63.76 337 P **P** **15 52 26.5 +1.1**
baz=111
G17K Kiwalik Mounta 63.76 336 P **P** **15 52 26.6 +1.1**
baz=109
UNV Unalaska Valle 63.85 322 P **P** **15 52 28.2 +1.9**
baz=98
D19K Kuna River 63.92 339 P **P** **15 52 27.4 +0.8**
baz=113
EUNU Eureka 64.10 2 P **P** **15 52 27.9 +0.2**
EUNU IAmb IAmb 15 52 28.8
comp=Z,5.6nm,1.1s
J14K Nanvaranak Lak 64.15 332 P **P** **15 52 29.4 +1.3**
baz=105
F17K Baldwin Pennin 64.30 337 P **P** **15 52 29.9 +0.9**
baz=109
E18K Tukpahlearik C 64.39 338 P **P** **15 52 30.6 +0.9**
baz=110
G16K Koyuk River 64.40 335 P **P** **15 52 30.9 +1.2**
baz=107
C19K Lookout Ridge 64.65 340 P **P** **15 52 32.7 +1.3**
baz=112
G15K Niukluk 64.96 335 P **P** **15 52 34.1 +0.6**
baz=106
C18K Utukok River 65.03 339 P **P** **15 52 34.3 +0.4**
baz=110
D17K Noatak River 65.39 338 P **P** **15 52 36.8 +0.7**
baz=108
F15K North Star Dit 65.40 335 P **P** **15 52 37.1 +0.8**
baz=105
B18K Kokolik River 65.48 340 P **P** **15 52 37.6 +0.9**
baz=110
C17K DeLong Mountai 65.66 339 P **P** **15 52 38.4 +0.5**
baz=108
SUMG Summit 65.94 17 P **P** **15 52 39.0 -1.1**
SUMG IAmb IAmb 15 52 41.2
comp=Z,6.7nm,1.0s
P08K Saint George I 65.95 325 P **P** **15 52 39.9 0.0**
baz=97
F14K Arctic Creek 66.02 335 P **P** **15 52 41.1 +0.8**
baz=104
SPIA Saint Paul Isl 66.40 326 P **P** **15 52 42.6 -0.1**
baz=96
USHA Ushuaia 75.38 162 LR LR 16 21 17.9
comp=Z,844nm,21.0s,baz=17,slow=31
BILL Bilibino 76.88 337 P **P** **15 53 45.9 +0.1**
BILL IAmb IAmb 15 53 48.1
comp=Z,8.3nm,1.2s
EKA Eskdalemuir Ar 80.03 35 P **P** **15 54 03.5 +0.1**
comp=Z,1.9nm,0.6s,baz=284,slow=4.3,SNR=4.1
comp=Z,1.9nm,0.6s
ARCES ARCESS Array B 86.03 17 LR LR 16 36 50.4
comp=Z,44nm,18.3s,baz=274,slow=38
TIXI Tiksi 86.61 346 P **P** **15 54 37.0 0.0**
TIXI IAmb IAmb 15 54 38.5
comp=Z,6.2nm,1.2s
FINES FINESS Array B 91.19 23 LR LR 16 36 49.9
comp=Z,65nm,19.1s,baz=270,slow=36
YAK Yakutsk 93.13 339 LR LR 16 39 56.1
comp=Z,70nm,18.3s,baz=179,slow=37
ELIB Princess Elisa 115.08 163 dPKiKP **PKiKP** **16 00 35.4 +0.7**
CMAR Chiang Mai Arr 141.31 332 PKP **PKPdf** **16 01 26.7 +1.0**
comp=Z,0.6nm,0.7s,baz=325,slow=1.1,SNR=1.9

RSNC 01 15:48:14.4±0.0, 4°N±1′×7°6W±°, h165km±2km, mb4.2, mB4.5, ML2.9, MLv3.4, Mw(mB)3.7, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOTC	**Yotoco, Valle**	**0.53**	**247**	P	Pn	15 48 36.2	-1.5
YOTC				P	Pn	15 48 36.2	-1.5
YOTC				P		15 48 36.4	
YOTC				S	Sn	15 48 53.6	-2.0
ORTC	**Ortega, Tolima**	**0.67**	**114**	P	Pn	15 48 37.2	-1.2
ORTC				P	Pn	15 48 37.2	-1.2
ORTC				P	Pn	15 48 37.2	-1.2
ORTC				S	Sn	15 48 56.1	-0.7
PLMC	**San Jos del P**	**0.83**	**329**	P	Pn	15 48 38.1	-1.3
PLMC				P		15 48 38.2	
PLMC				P		15 48 38.3	
PLMC				S	Sn	15 48 58.2	-0.5
CMAN1	**Manizales, Cal**	**0.94**	**21**	P	Pn	15 48 40.1	-0.4
CMAN1				S	Sn	15 49 01.3	+0.7
NIZA	**Niza - Manizal**	**0.94**	**24**	P	Pn	15 48 40.1	-0.5
NIZA				S	Sn	15 49 00.3	-0.4
GUY2C	**Guyana, Caldas**	**1.14**	**26**	P	Pn	15 48 41.0	-1.3
GUY2C				P	Pn	15 48 41.0	-1.3
GUY2C				P		15 48 41.2	
GUY2C				S	Sn	15 49 02.7	-1.1
JAMC	**Jamundi, Valle**	**1.26**	**220**	P	Pn	15 48 41.4	-1.7
JAMC				S	Sn	15 49 03.9	-1.3
MALC	**Bahia Malaga**	**1.48**	**263**	P	Pn	15 48 45.0	+0.1
MALC				P		15 48 45.2	
MALC				P		15 48 45.3	
MALC				S	Sn	15 49 10.3	+1.9
BETC	**Betania**	**1.56**	**164**	P	Pn	15 48 44.8	-1.0
BETC				S	Sn	15 49 09.3	-0.7
ROSC	**El Rosal**	**1.67**	**67**	P	Pn	15 48 46.7	-0.5
ROSC				S	Sn	15 49 12.9	+0.4
CBOC	**Ciudad Bolivar**	**1.67**	**355**	P	Pn	15 48 45.4	-1.7
CBOC				P	Pn	15 48 45.4	-1.7
CBOC				P		15 48 46.8	
CBOC				S	Sn	15 49 10.3	-2.0
PIZC	**Pizarro, Choco**	**1.68**	**297**	P	Pn	15 48 46.3	-0.7
PIZC				S	Sn	15 49 11.7	-0.4
NORC	**Norcasia**	**1.68**	**36**	P	Pn	15 48 45.5	-1.6
NORC				P	Pn	15 48 45.5	-1.6
NORC				S	Sn	15 49 11.0	-1.4
CVER	**Cruz Verde, Cu**	**1.81**	**79**	P	Pn	15 48 47.8	-1.1
CVER				S	Sn	15 49 14.8	-0.6
POPC	**Popayan, Colom**	**1.83**	**206**	P	Pn	15 48 47.2	-1.7
POPC				S	Sn	15 49 12.7	-2.8
HELC	**Santa Helena**	**2.02**	**9**	P	Pn	15 48 49.2	-1.8
HELC				P	Pn	15 48 49.2	-1.8
HELC				P		15 48 49.5	
HELC				S	Sn	15 49 17.5	-1.9
VILC	**Villavicencio,**	**2.16**	**92**	P	Pn	15 48 51.6	-0.8
VILC				S	Sn	15 49 21.7	-0.1
SPBC	**San Pablo de B**	**2.30**	**51**	P	Pn	15 48 52.3	-1.7
SPBC				S	Sn	15 49 23.0	-1.6
SOLC	**Bahia Solano**	**2.54**	**323**	P	Pn	15 48 55.2	-1.6
SOLC				S	Sn	15 49 21.4	-8.3
BBAC	**Balboa, Cauca**	**2.56**	**213**	P	Pn	15 48 55.7	-1.6
BBAC				P		15 48 55.8	
BBAC				P		15 48 56.0	
BBAC				S	Sn	15 49 27.9	-2.5
GR1C	**Gorgona, Isla**	**2.59**	**243**	P	Pn	15 48 54.5	-2.8
GR1C				S	Sn	15 49 27.4	-3.2
FLOC	**Florencia**	**2.60**	**175**	P	Pn	15 48 55.2	-2.3
FLOC				S	Sn	15 49 30.3	-0.7
PTBC	**PUERTO BERRIO,**	**2.72**	**31**	P	Pn	15 48 56.5	-2.5
PTBC				S	Sn	15 49 29.8	-3.8
CRUC	**La Cruz**	**2.82**	**203**	P	Pn	15 48 59.7	-0.9
CRUC				S	Sn	15 49 34.7	-1.7
DBBC	**Dabeiba**	**2.83**	**353**	P	Pn	15 48 59.0	-1.4
DBBC				P		15 48 59.5	
DBBC				P		15 48 59.8	
DBBC				S	Sn	15 49 35.7	-0.4
RUSC	**La Rusia**	**3.24**	**58**	P	Pn	15 49 04.6	-1.3
RUSC				P		15 49 05.0	
RUSC				P		15 49 05.2	
RUSC				S	Sn	15 49 44.3	-1.5
GCUF	**Volcan Galeras**	**3.30**	**207**	P	Pn	15 49 05.0	-1.6
GCUF				S	Sn	15 49 43.6	-3.5
PTAC	**Punta Ardita,**	**3.52**	**327**	P	Pn	15 49 06.7	-2.2
PTAC				S	Sn	15 49 47.0	-4.4
UREC	**San Jos de Ur**	**3.55**	**5**	P	Pn	15 49 07.4	-2.0
UREC				P		15 49 08.0	
UREC				S	Sn	15 49 48.5	-3.8
BARC	**Barichara**	**3.58**	**48**	P	Pn	15 49 08.3	-1.6
BARC				S	Sn	15 49 50.1	-3.0
APAC	**Apartado, Choc**	**3.75**	**349**	P	Pn	15 49 11.8	-0.1
PAMC	**Pamplona, Colo**	**4.44**	**45**	P	Pn	15 49 19.3	-1.9
PAMC				P	Pn	15 49 19.3	-1.9
PAMC				S	Sn	15 50 08.5	-4.8
CAPC	**Capurgana**	**4.66**	**342**	P	Pn	15 49 22.4	-1.2
OCAC	**Ocana**	**4.75**	**32**	P	Pn	15 49 22.9	-2.1
SJCC	**San Jacinto, C**	**5.71**	**7**	P	Pn	15 49 35.6	-1.9
	22nm,0.9s,728nm						
SJCC				P		15 49 36.2	
	22nm,0.9s,728nm						
SJCC				S	Sn	15 50 37.6	-5.1
	22nm,0.9s,728nm						
BCIP	**Isla Barro Col**	**6.33**	**322**	P	Pn	15 49 45.2	-0.4
	33nm,1.7s						
BCIP				S	Sn	15 50 57.0	-0.3
	33nm,1.7s						
CRJC	**Cerrejon, Guaj**	**7.40**	**23**	P	Pn	15 49 56.5	-3.4
CRJC				P		15 49 57.2	
CRJC				P		15 49 57.3	
CRJC				S	Sn	15 51 13.8	-9.2

JMA 01 15:48:18.9±0.1, 24°2N±0.2×123°8E±0.2, h16km±1km, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.14**	**319**	P	Pg	15 48 22.8	+0.1
IRIF				S	Sg	15 48 25.1	-0.2
JKRS	**Kuro-shima**	**0.17**	**88**	P	Pg	15 48 23.1	0.0
JKRS				S	Sg	15 48 26.2	+0.2
JKRS	**Kuro-shima**	**0.17**	**88**	P	Sb	15 48 26.0	-0.9
HATJ	**Hateruma jima**	**0.17**	**186**	P	Pg	15 48 23.1	-0.1
HATJ				S	Sg	15 48 26.2	+0.1
HATJ	**Hateruma jima**	**0.17**	**186**	P	Sb	15 48 26.2	-0.9
JIJ	**Ishigaki jima**	**0.32**	**65**	eS	Sg	15 48 30.0	-0.2
JISG	**Ishigakijimahi**	**0.57**	**51**	eP	Pg	15 48 29.9	-0.3
JISG				eS	Sg	15 48 37.9	+0.2

JMA 01 15:48:21.6±0.1, 24°2N±0.2×123°8E±0.3, h19km±1km, MV0.6/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.13**	**318**	P	Pg	15 48 25.7	-0.1
IRIF				eS	Sg	15 48 28.8	+0.2
JKRS	**Kuro-shima**	**0.17**	**89**	S	Sg	15 48 29.2	-0.1
HATJ	**Hateruma jima**	**0.18**	**187**	eS	Sg	15 48 29.6	+0.1
JIJ	**Ishigaki jima**	**0.31**	**66**	P	Pg	15 48 28.2	-0.2
JIJ				eS	Sg	15 48 33.1	-0.1
JISG	**Ishigakijimahi**	**0.56**	**51**	eS	Sg	15 48 40.4	0.0

DJA 01 16:07:44.8±0.4, 9°S±6°×11°9E±°, h94km±10km, M3.8/12, mb3.9/3, mB4.9/1, MLv3.7/12, Mw(mB)4.2/1, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**1.21**	**302**	P		Pn	16 08 07.4	+0.2
PLAI				S		Sn	16 08 22.6	-1.5
BASI	**Baing, Sumba**	**1.89**	**113**	P		Pn	16 08 15.0	-0.7
TWSI	**Taliwang, Sumb**	**2.04**	**291**	P		Pn	16 08 18.8	+1.1
TWSI				S		Sn	16 08 43.5	+0.7
EDFI	**Ende, Flores**	**2.94**	**76**	P		Pn	16 08 30.8	+1.1
MMRI	**Maumere**	**3.49**	**76**	P		Pn	16 08 36.8	-0.2
IGBI	**Denpasar**	**3.68**	**280**	P		Pn	16 08 39.4	-0.1
SRBI	**Singaraja**	**3.82**	**291**	P		Pn	16 08 41.2	-0.2
BKSI	**Bulukumba**	**4.33**	**18**	P		Pn	16 08 49.3	+0.9
JAGI	**Jajag, Banyuwa**	**4.71**	**282**	P		Pn	16 08 53.1	-0.5
SOEI	**Soe**	**5.39**	**93**	P		Pn	16 09 02.6	-0.3
	6.7nm,0.9s,0.1nm							
TTSI	**Tana Toraja**	**6.47**	**9**	P		Pn	16 09 16.5	-1.0
KBKI	**Kotabaru**	**6.68**	**337**	P		Pn	16 09 17.7	-2.6

JMA 01 16:08:13.4±0.1, 24°2N±0°3×123°8E±0°4, h15km±1km, MV0.8/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.11**	**325**	*e*P		Pg	16 08 16.7	-0.1
IRIF				S		Sg	16 08 19.3	+0.4
HATJ	**Hateruma jima**	**0.19**	**178**	P		Pg	16 08 17.7	-0.1
HATJ				S		Sg	16 08 20.8	0.0
JKRS	**Kuro-shima**	**0.19**	**92**	P		Pg	16 08 17.8	-0.1
JKRS				*e*S		Sg	16 08 21.4	+0.5
JIJ	**Ishigaki jima**	**0.34**	**69**	P		Pg	16 08 20.4	+0.1
JIJ				S		Sg	16 08 24.6	-0.4
JISG	**Ishigakijimahi**	**0.58**	**54**	*e*P		Pg	16 08 24.7	-0.1
JISG				*e*S		Sg	16 08 32.5	0.0

TAP 01 16:08:26.2, 24°69N×121°72E, h9km, ML1.9, 2C-1D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NDS	**Dongshan**	**0.05**	**185**	P		Pg	16 08 28.4	+0.4
	baz=184							
NDS				S		Sg	16 08 29.9	+0.5
	baz=184							
TWE	**Neicheng**	**0.06**	**305**	⇓*i*P		Pg	16 08 28.4	+0.3
	baz=312							
TWE				*i* S		Sg	16 08 29.9	+0.4
	baz=312							
ILA	**Ilan**	**0.08**	**17**	*i* P		Pg	16 08 28.8	+0.4
	baz=24							
ILA				*e*S		Sg	16 08 30.9	+1.0
	baz=24							
TWC	**Suao**	**0.14**	**124**	⇑*i*P		Pg	16 08 29.5	+0.3
	baz=130							
TWC				*i* S		Sg	16 08 32.1	+0.7
	baz=130							
FUSB	**Fushanzhiwuyua**	**0.14**	**301**	⇑P		Pg	16 08 29.9	+0.5
	baz=301							
FUSB				S		Sg	16 08 32.1	+0.6
	baz=301							
ENTT	**Nioudou**	**0.15**	**252**	*i* P		Pg	16 08 30.0	+0.6
	baz=249							
ENTT				*i* S		Sg	16 08 32.1	+0.5
	baz=249							
ESAO	**Su ao**	**0.16**	**135**	P		Pg	16 08 29.7	+0.2
	baz=143							
ESAO				S		Sg	16 08 31.6	-0.2
	baz=143							
NDT	**Datong Townshi**	**0.21**	**246**	P		Pg	16 08 31.1	+0.7
	baz=245							
NDT				*e*S		Sg	16 08 34.1	+0.8
	baz=245							
NWLT	**Wulai**	**0.22**	**294**	P		Pg	16 08 31.2	+0.5
	baz=294							
NWLT				*e*S		Sg	16 08 33.8	+0.1
	baz=294							
EWUT	**Wuta**	**0.25**	**168**	P		Pg	16 08 31.5	+0.4
	baz=162							
EWUT				S		Sg	16 08 34.9	+0.4
	baz=162							
EGS		**0.25**	**51**	*e*P		Pg	16 08 31.7	+0.5
	baz=54							
EGS				*e*S		Sg	16 08 36.6	+2.1
	baz=54							
ENA	**Nanau**	**0.26**	**176**	*i* P		Pg	16 08 31.8	+0.5
	baz=168							
ENA				*i* S		Sg	16 08 35.4	+0.5
	baz=168							
TIPB	**Shuangxi**	**0.30**	**19**	P		Pg	16 08 32.4	+0.3
	baz=11							
TIPB				S		Sg	16 08 36.2	0.0
	baz=11							
YHNB	**Yeheng**	**0.32**	**267**	P		Pg	16 08 32.9	+0.4
	baz=267							
YHNB				S		Sg	16 08 36.7	0.0
	baz=267							
TWA	**Mucha**	**0.32**	**337**	*e*P		Pg	16 08 33.2	+0.7
	baz=339							
TWA				S		Sg	16 08 38.0	+1.3
	baz=339							
NSK	**Sanguang**	**0.33**	**268**	*i* P		Pg	16 08 33.1	+0.4
	baz=268							
NSK				*i* S		Sg	16 08 37.2	+0.1
	baz=268							
EAHA	**Aohua**	**0.36**	**177**	P		Pg	16 08 33.5	+0.3
	baz=176							
EAHA				S		Sg	16 08 38.2	+0.3
	baz=176							
TATO	**Taipei**	**0.36**	**324**	*e*P		Pb	16 08 34.2	-0.5
	baz=324							
TATO				*e*S		Sg	16 08 39.2	+1.2
	baz=324							
NNSB	**Datong**	**0.40**	**230**	*e*P		Pb	16 08 35.0	-0.5
	baz=222							
NNSB				*e*S		Sg	16 08 40.2	+0.8
	baz=222							
YM01	**YM01**	**0.48**	**343**	P		Pb	16 08 36.7	-0.1
	baz=344							
YM01				*e*S		Sg	16 08 42.8	+1.0
	baz=344							
TWS1	**Kuangyinshan**	**0.50**	**326**	*e*P		Pb	16 08 37.1	+0.1
	baz=327							
TWS1				*e*S		Sb	16 08 44.0	-0.5
	baz=327							
NACB	**Ninganchiao**	**0.52**	**193**	*e*P		Pg	16 08 36.9	+0.5
	baz=200							
NACB				*e*S		Sg	16 08 43.2	0.0
	baz=200							
ETLH	**Xiulin Townshi**	**0.53**	**205**	*e*P		Pg	16 08 36.7	+0.4
	baz=204							
ETLH				*e*S		Sg	16 08 43.2	-0.1
	baz=204							

JMA 01 16:11:01.7±0.1, 24°3N±0°3×123°8E±0°3, h17km±1km, MV1.8/8, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.10**	**331**	P		Pg	16 11 05.2	-0.1
IRIF				S		Sg	16 11 07.8	+0.2
HATJ	**Hateruma jima**	**0.19**	**174**	P		Pg	16 11 06.2	-0.2
HATJ				*e*S		Sg	16 11 09.6	0.0
JKRS	**Kuro-shima**	**0.21**	**93**	P		Pg	16 11 06.7	0.0
JKRS				*e*S		Sb	16 11 10.4	-0.2
JIJ	**Ishigaki jima**	**0.35**	**71**	P		Pg	16 11 08.7	-0.3
JIJ				S		Sg	16 11 13.6	-0.4
JISG	**Ishigakijimahi**	**0.59**	**55**	P		Pg	16 11 13.4	+0.1
JISG				S		Sg	16 11 21.2	0.0
JYNG	**Yonagunijimaku**	**0.79**	**285**	*e*P		Pb	16 11 16.5	-0.5

TAP 01 16:11:32.5, 24°69N×121°72E, h9km, ML1.8, 1C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NDS	**Dongshan**	**0.06**	**187**	P		Pg	16 11 34.8	+0.5
	baz=186							
NDS				S		Sg	16 11 36.2	+0.4
	baz=186							
TWE	**Neicheng**	**0.06**	**303**	*i* P		Pg	16 11 34.7	+0.3
	baz=310							
TWE				*i* S		Sg	16 11 36.2	+0.4
	baz=310							
ILA	**Ilan**	**0.08**	**16**	*e*P		Pg	16 11 35.0	+0.3
	baz=23							
ILA				S		Sg	16 11 37.1	+0.8
	baz=23							
TWC	**Suao**	**0.14**	**124**	⇑*i*P		Pg	16 11 35.9	+0.3
	baz=122							
TWC				S		Sg	16 11 38.9	+1.3
	baz=122							
FUSB	**Fushanzhiwuyua**	**0.14**	**300**	P		Pg	16 11 36.2	+0.5
	baz=300							
FUSB				S		Sg	16 11 38.4	+0.6
	baz=300							
ENTT	**Nioudou**	**0.15**	**252**	*i* P		Pg	16 11 36.4	+0.6
	baz=250							
ENTT				S		Sg	16 11 38.5	+0.4
	baz=250							
ESAO	**Su ao**	**0.16**	**135**	P		Pg	16 11 36.1	+0.3
	baz=143							
ESAO				S		Sg	16 11 38.1	0.0
	baz=143							
NDT	**Datong Townshi**	**0.21**	**246**	P		Pg	16 11 37.4	+0.7
	baz=245							
NDT				S		Sg	16 11 40.4	+0.7
	baz=245							
NWLT	**Wulai**	**0.22**	**294**	P		Pg	16 11 37.5	+0.6
	baz=294							
NWLT				S		Sg	16 11 40.7	+0.7
	baz=294							
LATG	**Datong**	**0.23**	**230**	P		Pg	16 11 37.9	+0.6
	baz=229							
LATG				*e*S		Sg	16 11 42.2	+1.7
	baz=229							
EWUT	**Wuta**	**0.25**	**168**	P		Pg	16 11 37.9	+0.5
	baz=162							
EWUT				S		Sg	16 11 41.1	+0.3
	baz=162							
ENA	**Nanau**	**0.26**	**176**	*i* P		Pg	16 11 38.2	+0.5
	baz=169							
ENA				*i* S		Sg	16 11 41.6	+0.4
	baz=169							
TIPB	**Shuangxi**	**0.30**	**18**	*e*P		Pg	16 11 39.0	+0.6
	baz=10.0							
TIPB				S		Sg	16 11 42.8	+0.3
	baz=10.0							
YHNB	**Yeheng**	**0.32**	**267**	P		Pg	16 11 39.2	+0.5
	baz=267							
YHNB				S		Sg	16 11 43.1	+0.1
	baz=267							
NSK	**Sanguang**	**0.33**	**268**	*i* P		Pg	16 11 39.5	+0.4
	baz=267							
NSK				*i* S		Sg	16 11 43.5	0.0
	baz=267							
EAHA	**Aohua**	**0.36**	**178**	P		Pg	16 11 39.8	+0.3
	baz=177							
EAHA				S		Sg	16 11 44.5	+0.3
	baz=177							
NNS	**Nan Shan**	**0.40**	**232**	*e*P		Pb	16 11 41.1	-0.7
	baz=224							
NNS				*e*S		Sg	16 11 46.1	+0.3
	baz=224							
NNSB	**Datong**	**0.40**	**230**	*e*P		Pg	16 11 40.5	+0.1
	baz=223							
NNSB				*e*S		Sg	16 11 46.1	+0.3
	baz=223							
YM01	**YM01**	**0.48**	**343**	*e*P		Pb	16 11 43.0	-0.1
	baz=344							
YM01				*e*S		Sb	16 11 49.6	-0.6
	baz=344							

JMA 01 16:12:50.3±0.2, 24°2N±0°4×123°8E±0°7, h18km±2km, MV1.8/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.10**	**334**	*e*P		Pg	16 12 53.9	0.0
IRIF				S		Sg	16 12 56.5	+0.1
HATJ	**Hateruma jima**	**0.19**	**173**	P		Pb	16 12 54.9	0.0
HATJ				S		Sg	16 12 58.2	-0.1
JKRS	**Kuro-shima**	**0.21**	**92**	*e*P		Pg	16 12 55.4	0.0
JKRS				S		Sg	16 12 59.2	+0.3
JIJ	**Ishigaki jima**	**0.35**	**70**	*e*P		Pg	16 12 57.4	-0.4
JIJ				S		Sg	16 13 02.3	-0.5
JISG	**Ishigakijimahi**	**0.59**	**55**	*e*P		Pb	16 13 02.1	0.0
JISG				S		Sb	16 13 10.4	+0.2

TAP 01 16:13:30.9, 24°68N×121°70E, h8km, ML0.6, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWE	**Neicheng**	**0.05**	**319**	*i* P		Pg	16 13 33.0	+0.3
	baz=333							
TWE				S		Sg	16 13 34.3	+0.5
	baz=333							
NDS	**Dongshan**	**0.05**	**166**	*e*P		Pg	16 13 33.0	+0.3
	baz=165							
NDS				*e*S		Sg	16 13 34.4	+0.5
	baz=165							
FUSB	**Fushanzhiwuyua**	**0.13**	**306**	*e*P		Pg	16 13 34.5	+0.6
	baz=297							
ENTT	**Nioudou**	**0.13**	**251**	S		Sg	16 13 36.6	+0.8
	baz=248							
EWUT	**Wuta**	**0.25**	**164**	*e*S		Sg	16 13 36.0	-3.2
	baz=158							

JMA 01 16:13:33.7±0.2, 24°2N±0°3×123°8E±0°5, h15km±1km, MV0.9/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.10**	**329**	P		Pg	16 13 37.0	-0.1
IRIF				S		Sb	16 13 39.6	-0.3
HATJ	**Hateruma jima**	**0.19**	**176**	P		Pg	16 13 38.0	-0.1
HATJ				S		Sg	16 13 41.3	+0.1
JKRS	**Kuro-shima**	**0.20**	**92**	P		Pg	16 13 38.4	0.0
JIJ	**Ishigaki jima**	**0.34**	**70**	P		Pg	16 13 40.6	-0.2
JIJ				S		Sg	16 13 45.5	-0.1
JISG	**Ishigakijimahi**	**0.58**	**54**	*e*P		Pg	16 13 45.3	0.0
JISG				*e*S		Sg	16 13 53.3	+0.3

TAP 01 16:13:34.0, 24°69N×121°72E, h10km, ML1.9, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NDS	**Dongshan**	**0.06**	**185**	*i* P		Pg	16 13 36.5	+0.5
	baz=184							
NDS				S		Sg	16 13 37.8	+0.3
	baz=184							
TWE	**Neicheng**	**0.06**	**303**	*e*P		Pg	16 13 36.5	+0.4
	baz=310							
TWE				*e*S		Sg	16 13 37.9	+0.3
	baz=310							
ILA	**Ilan**	**0.08**	**18**	*e*P		Pg	16 13 36.7	+0.4
	baz=24							
ILA				*e*S		Sg	16 13 38.7	+0.7
	baz=24							
FUSB	**Fushanzhiwuyua**	**0.14**	**300**	*e*P		Pg	16 13 37.9	+0.7
	baz=300							
FUSB				*e*S		Sg	16 13 40.2	+0.7
	baz=300							
TWC	**Suao**	**0.14**	**124**	*i* P		Pg	16 13 37.5	+0.4
	baz=131							
ENTT	**Nioudou**	**0.15**	**251**	S		Sg	16 13 40.1	+0.4
	baz=249							
ESAO	**Su ao**	**0.16**	**135**	*i* P		Pg	16 13 37.8	+0.3
	baz=143							
NDT	**Datong Townshi**	**0.21**	**246**	*e*P		Pg	16 13 39.1	+0.8
	baz=245							
NDT				*e*S		Sg	16 13 41.8	+0.5
	baz=245							
NWLT	**Wulai**	**0.22**	**294**	*e*P		Pg	16 13 39.2	+0.6
	baz=294							
LATG	**Datong**	**0.23**	**229**	*e*P		Pg	16 13 39.5	+0.6
	baz=229							
LATG				*e*S		Sg	16 13 42.9	+0.8
	baz=229							
EWUT	**Wuta**	**0.25**	**168**	*i* P		Pg	16 13 39.5	+0.5
	baz=162							
EWUT				*e*S		Sg	16 13 42.8	+0.4
	baz=162							
ENA	**Nanau**	**0.26**	**176**	*e*P		Pg	16 13 39.8	+0.6
	baz=169							
ENA				*e*S		Sg	16 13 43.2	+0.4
	baz=169							
TIPB	**Shuangxi**	**0.30**	**19**	*e*P		Pg	16 13 40.5	+0.5
	baz=10.0							
TIPB				*e*S		Sg	16 13 44.1	+0.1
	baz=10.0							
YHNB	**Yeheng**	**0.32**	**267**	*e*P		Pg	16 13 40.9	+0.6
	baz=266							
YHNB				*e*S		Sg	16 13 44.8	+0.3
	baz=266							
NSK	**Sanguang**	**0.33**	**268**	*e*P		Pg	16 13 41.1	+0.5
	baz=267							
NSK				*e*S		Sg	16 13 45.1	0.0
	baz=267							
YM01	**YM01**	**0.48**	**343**	*e*P		Pb	16 13 44.5	0.0
	baz=344							
NACB	**Ninganchiao**	**0.53**	**193**	*e*S		Sg	16 13 50.4	-0.8
	baz=200							
ETLH	**Xiulin Townshi**	**0.53**	**204**	*e*S		Sg	16 13 50.9	-0.3
	baz=204							
ETL	**Fush Village**	**0.54**	**190**	*e*S		Sg	16 13 51.2	-0.3
	baz=189							
LXIB	**Xiulin Townshi**	**0.72**	**203**	*e*S		Sb	16 13 58.5	-0.3
	baz=202							
CHGB	**Renai**	**0.80**	**219**	*e*S		Sg	16 13 59.8	-0.2
	baz=210							
WUSB	**Renai**	**0.89**	**219**	*e*P		Pg	16 13 51.0	-0.1
	baz=228							
WUSB				*e*S		Sg	16 14 02.5	-0.1
	baz=228							

TAP 01 16:13:59.8, 24°67N×121°71E, h12km±1km, ML0.9, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NDS	**Dongshan**	**0.04**	**168**	*i* P		Pg	16 14 02.8	+0.8
	baz=167							
NDS				S		Sg	16 14 04.1	+0.5
	baz=167							
TWE	**Neicheng**	**0.06**	**323**	*i* P		Pg	16 14 02.8	+0.6
	baz=334							
TWE				S		Sg	16 14 04.2	+0.2
	baz=334							
ENTT	**Nioudou**	**0.13**	**256**	*e*S		Sg	16 14 06.6	+1.1
	baz=254							
FUSB	**Fushanzhiwuyua**	**0.14**	**309**	*e*P		Pb	16 14 04.3	0.0
	baz=308							
FUSB				S		Sg	16 14 06.7	+1.0
	baz=308							
TWC	**Suao**	**0.14**	**116**	*i* P		Pb	16 14 03.8	-0.6
	baz=114							
TWC				*e*S		Sg	16 14 07.2	+1.6
	baz=114							
NSK	**Sanguang**	**0.32**	**271**	*e*S		Sg	16 14 11.4	+0.8
	baz=270							

JMA 01 16:14:24.7±0.1, 24°2N±0°3×123°8E±0°4, h17km±1km, MV0.9/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.14**	**320**	*e*P		Pg	16 14 28.6	0.0
IRIF				*e*S		Sg	16 14 31.3	+0.1
JKRS	**Kuro-shima**	**0.17**	**87**	*e*S		Sb	16 14 32.3	-0.3
HATJ	**Hateruma jima**	**0.17**	**186**	P		Pg	16 14 29.0	-0.1
HATJ				*e*S		Sg	16 14 32.1	+0.1
JIJ	**Ishigaki jima**	**0.32**	**65**	*e*P		Pg	16 14 31.3	-0.1
JIJ				*e*S		Sg	16 14 35.8	-0.2
JISG	**Ishigakijimahi**	**0.57**	**51**	P		Pg	16 14 36.0	0.0
JISG				*e*S		Sb	16 14 43.9	-0.1

*RSNC **01** 16:14:35.5±1.2, 1°S±5°×8°1W±1°0, h3km±7km, mb5.2, mB5.2, ML3.8, Mw(mB)4.5*
*IGQ **01** 16:14:35±0.5, 1°S±2°×8°1W±°, h7km*
*NEIC **01** 16:14:40.3±2.0, 0.°68S±0.°03×80.°63W±0.°06, h39km±6km, mb4.6/88, Error ellipse: s-maj=8.2km s-min=4.9km az=86.0*
*IDC **01** 16:14:41.6±1.6, 0.°53S×80.°55W, h48km±15km, mb3.9/18, mbtmp4.2/24, ML4.0/3, MS3.6/5, Error ellipse: s-maj=17.9km s-min=10.1km az=66.0*

ISC 01 16:14:38.4±0.8, 0.65S±0.02×80.56W±0.03, h28km±5km, n259, σ1%67/256, mb4.5/54, MS3.7/3, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABH2	**Ecuador-Univer**	**0.17**	**94**	P		Pb	16 14 43.0	-1.0
ABH2				S		Sb	16 14 50.0	+2.1
APO2	**Ecuador-Portov**	**0.43**	**165**	P		Pb	16 14 47.0	-0.6
APO2				S		Sn	16 14 56.0	+0.4
ELAR	**El Aromo**	**0.48**	**214**	P		Pb	16 14 45.0	-3.5
JAMA	**Jama**	**0.53**	**43**	P		Pb	16 14 47.0	-2.2
PECV	**Mancha de Ca P**	**0.53**	**104**	P		Pb	16 14 44.0	-5.3
FLF1	**Flavio Alfaro-**	**0.78**	**68**	P		Pn	16 14 53.9	+0.3
FLF1	**Flavio Alfaro-**	**0.78**	**68**	P		Pn	16 14 53.0	-0.6
ISPT	**Isla de la Pla**	**0.79**	**220**	P		Pb	16 14 51.0	-2.7
ISPT				S		Sb	16 15 03.0	-1.1
PPLP	**Puerto Lpez**	**0.92**	**193**	P		Pb	16 14 53.3	-2.4
PPLP	**Puerto Lpez**	**0.92**	**193**	P		Pb	16 14 52.0	-3.7
PPLP				S		Sb	16 15 07.0	-0.6
PPLP	**Puerto Lpez**	**0.92**	**193**	P		Pb	16 14 53.0	-2.7
MAG1	**Magdalena**	**0.98**	**54**	P		Pn	16 14 56.0	-0.3
AV18	**Acelerografo,**	**1.45**	**49**	P		Pb	16 15 04.0	-0.7
ASDO	**Santo Domingo**	**1.49**	**75**	P		Pn	16 15 03.0	-0.4
AGUAY	**Guayaquil**	**1.52**	**156**	P		Pn	16 15 02.0	-1.8
SALI	**Salinas**	**1.59**	**196**			Pn	16 15 03.9	-0.8
SALI					Sn	Sn	16 15 23.8	-0.5
SALI	**Salinas**	**1.59**	**196**	P		Pn	16 15 03.0	-1.7
ALIBE	**La Libertad**	**1.61**	**190**	P		Pb	16 15 07.0	-0.5
AV21	**Acelerografo,**	**1.65**	**38**	P		Pn	16 15 05.0	-0.6
APR2	**Miler**	**1.75**	**66**	P		Pn	16 15 07.0	0.0
AMA1	**Acelerografo,**	**1.78**	**28**	P		Pn	16 15 06.0	-1.4
ILLI	**Illinizas Sur**	**1.84**	**92**	P		Pb	16 15 09.0	-2.7
AES2	**Ecuador-Puerto**	**1.87**	**29**	P		Pn	16 15 07.0	-1.6
CHSH	**Refugio Sur-Vo**	**1.89**	**116**			Pb	16 15 11.0	-1.6
CHSH					Sn	Sb	16 15 33.7	-2.3
CHSH	**Refugio Sur-Vo**	**1.89**	**116**	P		Pb	16 15 11.0	-1.6
MILO	**Milagro-Astudi**	**1.91**	**148**	P		Pn	16 15 08.0	-1.1
MILO				S		Sb	16 15 34.0	-2.0
PAST	**Pastocalle**	**1.92**	**91**	P		Pn	16 15 10.0	+0.3
HPAL	**Hacienda Las P**	**1.96**	**77**	P		Pn	16 15 11.0	-0.1
PORT	**Chimborazo Vol**	**1.96**	**114**	P		Pn	16 15 11.0	+0.6
GGPT	**Toaza - Volcan**	**1.99**	**78**	P		Pn	16 15 11.0	+0.4
PAC1	**Pacto, Paraso**	**1.99**	**63**	P		Pn	16 15 09.9	-0.4
PAC1	**Pacto, Paraso**	**1.99**	**63**	P		Pn	16 15 10.0	-0.4
TAMH	**Tambohuasha Ch**	**1.99**	**116**	P		Pb	16 15 12.0	-2.3
JUA2	**San Juan 2**	**2.01**	**78**	P		Pn	16 15 11.0	+0.1
PINO	**Pino**	**2.02**	**76**	P		Pn	16 15 11.0	-0.1
TERV	**Terraza Guagua**	**2.02**	**76**	P		Pn	16 15 11.0	-0.1
GGPC	**Guagua Pichinc**	**2.02**	**77**	P		Pb	16 15 12.0	-2.9
APR1	**Acelerografo,**	**2.04**	**73**	P		Pb	16 15 12.0	-3.0
CAMI	**Rancho Maria**	**2.06**	**91**	P		Pb	16 15 13.0	-2.4
YANA	**Yana**	**2.06**	**75**	P		Pn	16 15 11.0	-0.7
RVRD	**Rio Verde**	**2.07**	**35**	P		Pn	16 15 11.0	-0.4
BNAS	**Cotopaxi Volca**	**2.08**	**91**	P		Pb	16 15 15.0	-0.9
NAS2	**Nasa**	**2.10**	**90**	P		Pb	16 15 14.0	-2.1
IGUA	**Igualata**	**2.10**	**113**	P		Pb	16 15 15.0	-1.2
BMOR	**Cotopaxi Volca**	**2.11**	**92**	P		Pb	16 15 14.0	-2.3
BREF	**Cotopaxi Volca**	**2.12**	**91**	P		Pb	16 15 15.0	-1.6
PITA	**Cotopaxi Volc**	**2.13**	**88**	P		Pb	16 15 14.0	-2.7
TOMA	**Boca Toma-Volc**	**2.13**	**86**	P		Pb	16 15 14.0	-2.7
BVC2	**Cotopaxi Volca**	**2.15**	**90**	P		Pb	16 15 15.0	-2.1
VC1	**Cotopaxi 1**	**2.16**	**90**	P		Pb	16 15 15.0	-2.2
PULU	**Pululahua**	**2.17**	**72**			Pb	16 15 14.2	-3.0

COHC	Cochancay	2.23	144	P		Pn	16 15 13.0	-0.5	
JUI6	Juive	2.23	110	P		Pb	16 15 17.0	-1.3	
BMAS	Trigal station	2.25	112	P		Pb	16 15 16.0	-2.6	
BRUN	Tungurahua Vol	2.27	110	P		Pb	16 15 18.0	-0.9	
OTAV	Otavalo	2.29	67			Pn	16 15 14.9	+0.1	
OTAV					Sn	Sb	16 15 43.7	-3.7	
OTAV						LR	16 15 45.1		
OTAV	Otavalo	2.29	67	P		Pn	16 15 15.0	+0.2	
OTAV	Otavalo	2.29	67	P		Pn	16 15 15.0	+0.2	
BULB	Ulba Tungurahu	2.29	110	P		Pb	16 15 17.0	-2.3	
ANTG	Antisana-Guama	2.31	86	P		Pn	16 15 16.0	+0.8	
PIAT	Ana Tenorio	2.33	99	P		Pb	16 15 18.0	-2.0	
PIAT	Ana Tenorio	2.33	99	P		Pb	16 15 17.0	-3.0	
ISPG	Isla Puna-Puer	2.34	170	P		Pb	16 15 20.0	+0.1	
ANTM	Antisana-La Mi	2.34	87	P		Pb	16 15 18.0	-2.3	
CUSE	Cuicocha Este	2.36	66	P		Pn	16 15 16.5	+0.7	
CUSE	Cuicocha Este	2.36	66	P		Pn	16 15 16.0	+0.2	
CUIC	Cuicocha-Domo	2.40	67	P		Pn	16 15 16.0	-0.2	
ANTS	Antisana-Sarah	2.40	86	P		Pb	16 15 19.0	-2.3	
CUSW	Cuicocha Oeste	2.40	67	P		Pb	16 15 23.0	+1.8	
ANTI	Antisana	2.41	85	P		Pb	16 15 19.0	-2.5	
COTA	Cotacachi	2.43	66	P		Pb	16 15 18.0	-3.8	
IMBA	Imbabura, San	2.54	69			Pb	16 15 21.1	-2.4	
IMBA	Imbabura, San	2.54	69	P		Pb	16 15 21.0	-2.6	
URCU	Urcuqui	2.55	65	P		Pn	16 15 19.0	+0.7	
SNLR	San Lorenzo-Es	2.58	42	P		Pn	16 15 19.0	+0.6	
SANGA	Volcan Sangay	2.60	122	P		Pb	16 15 23.0	-1.6	
LITE1	Lita	2.63	57	P		Pn	16 15 19.0	-0.2	
CAYR	Refugio Cayamb	2.64	76	P		Pb	16 15 23.0	-2.4	
ANGU	Angureal	2.65	75	P		Pb	16 15 22.0	-3.5	
AIB2	Ibarra (Univer	2.65	68	P		Pb	16 15 22.0	-3.4	
CAYA	Cayambe	2.67	74	P		Pb	16 15 23.0	-2.9	
PUIO	Puyo, Santa Ro	2.67	108	P		Pb	16 15 24.0	-1.7	
YAHU	Yahuarcocha	2.69	68	P		Pb	16 15 23.0	-3.1	
LNGL	El Angel-Carch	2.91	62	P		Pn	16 15 25.0	+1.7	
CHMA	Chilma	2.92	59	P		Pn	16 15 23.0	-0.3	
ARNL	Arenillas	2.92	170			Pn	16 15 22.0	-1.1	
ARNL	Arenillas	2.92	170	P		Pn	16 15 21.0	-2.1	
ECEN	Cerro Negro	2.98	61	P		Pn	16 15 26.0	+1.7	
CHL1	Volcan Chiles	2.98	61	P		Pn	16 15 26.0	+1.6	
LAV4	Lava4-Reventad	2.99	79	P		Pb	16 15 28.0	-3.1	
TUMC	Tumaco	3.07	37	P		Pn	16 15 24.0	-1.1	
TULM	Tulcn-Chalpat	3.09	64			Pb	16 15 29.6	-3.4	
TULM	Tulcn-Chalpat	3.09	64	P		Pb	16 15 29.0	-4.0	
CMBC	Cumbal	3.16	60	P		Pb	16 15 29.7	-4.5	
CMBC	Cumbal	3.16	60	P		Pb	16 15 30.0	-4.2	
BONI	La Bonita	3.23	70	P		Pb	16 15 31.5	-3.7	
BONI	La Bonita	3.23	70	P		Pb	16 15 31.0	-4.2	
BOSC	San Juan Bosco	3.23	140			Pb	16 15 31.5	-3.8	
BOSC	San Juan Bosco	3.23	140	P		Pb	16 15 33.0	-2.3	
CASC	Dorado de Casc	3.32	76	P		Pb	16 15 32.0	-4.7	
TAIS	Taisha	3.51	119	P		Pb	16 15 36.0	-4.0	
MCRA	Macar, Loja	3.75	171	Pn		Pn	16 15 35.1	+0.7	
MCRA	Macar, Loja	3.75	171	P		Pn	16 15 35.7	+1.2	
MCRA	Macar, Loja	3.75	171	P		Pn	16 15 35.0	+0.5	
CRUC	La Cruz	4.23	59	P		Pn	16 15 44.9	+3.5	
BBAC	Balboa, Cauca	4.25	51	P		Pn	16 15 42.2	+0.7	
BBAC	Balboa, Cauca	4.25	51	P		Pn	16 15 41.0	-0.5	
ZUMB	Zumba	4.42	161	P		Pn	16 15 47.0	+3.2	
POPC	Popayan, Colom 168nm,0.8s,1µm	5.01	51	P		Pn	16 15 52.9	+0.8	
FLOC	Florencia	5.39	66	P		Pn	16 15 59.0	+2.0	
JAMC	Jamundi, Valle 99nm,0.6s,1µm	5.46	45	P		Pn	16 15 58.5	+0.3	
MALC	Bahia Malaga	5.64	35	P		Pn	16 16 02.0	+1.5	
PTLC	Puerto Leguiza 381nm,1.0s,3µm	5.83	82	P		Pn	16 16 06.5	+3.5	
PTLC	Puerto Leguiza	5.83	82	P		Pn	16 16 04.0	+1.0	
BETC	Betania	6.10	57	P		Pn	16 16 10.0	+3.2	
ATAH	Atahualpa 3.6nm,0.3s,baz=19,slow=12,SNR=12	6.80	161	P		Pn	16 16 21.5	+4.7	
ATAH					S	Sn	16 17 37.2	+3.7	
	40nm,0.7s,baz=14,slow=8.3,SNR=2.0 7.4nm,0.3s								
ORTC	Ortega, Tolima	6.98	50	P		Pn	16 16 24.7	+5.8	
ROSC	El Rosal	8.29	49	Pn		Pn	16 16 40.6	+3.5	
ROSC	El Rosal 7.1nm,0.5s,baz=187,slow=16,SNR=1.3	8.29	49	P		Pn	16 16 38.8	+1.7	
ROSC					S	Sn	16 18 11.7	+1.6	
	12nm,0.4s,baz=294,slow=20,SNR=1.2								
DBBC	Dabeiba	8.77	30	P		Pn	16 16 49.2	+5.7	
PAYG	Puerto Ayora	9.72	270	Pn		Pn	16 16 56.6	+0.1	
SRBA	San Rafael, Bu	10.20	344			Pn	16 17 03.2	0.0	
CZSB	Cruzeiro do Su	10.53	132	Pn		Pn	16 17 08.6	+1.0	
CZSB	Cruzeiro do Su 114nm,0.8s	10.53	132	P		Pn	16 17 10.6	+3.0	
RIMA	Rio Macho	10.86	342			Pn	16 17 13.3	+1.1	
LCR2	La Lucha 2	10.88	342			Pn	16 17 13.6	+1.1	
JTS	Las Juntas de	11.71	338	Pn		Pn	16 17 24.3	+0.5	
JTS	Las Juntas de 0.8nm,0.3s,baz=125,slow=18,SNR=4.3	11.71	338	P		Pn	16 17 24.8	+1.0	
JTS					LR	LR	16 20 56.8		
	comp=Z,250nm,18.3s,baz=114,slow=32 4.5nm,0.4s								
ARE1	Arenal 1	11.79	340	Pn		Pn	16 17 24.2	-0.6	
NNA	Nana	11.86	162	Pn		Pn	16 17 25.7	-0.1	
NNA	Nana 15nm,0.4s,baz=317,slow=11,SNR=5.7	11.86	162	P		Pn	16 17 28.6	+2.8	
NNA					S	Sn	16 19 36.8	-0.4	
	16nm,0.4s,baz=65,slow=19,SNR=4.5								
NNA					LR	LR	16 23 03.3		
	comp=Z,162nm,19.4s,baz=12,slow=42								
ACON	Acoyapa	13.34	340	Pn		Pn	16 17 46.5	+0.5	
SDV	Santo Domingo	13.70	46	Pn		Pn	16 17 53.0	+1.9	
SDV	Santo Domingo 3.0nm,0.9s,baz=204,slow=20,SNR=2.7	13.70	46	P		Pn	16 17 51.5	+0.4	
MATN	Matagalpa	14.50	339	Pn		Pn	16 18 01.0	-1.0	
BAUV	El Baul	15.70	52			P	16 18 21.1	-0.5	
TGUH	Tegucigalpa,Un	16.05	336	Pn		Pn	16 18 23.9	+1.5	
TGUH					IAmb	IAmb	16 18 28.8		
	comp=Z,24nm,0.5s								
ETMB	Extrema	16.93	123	Pn		Pn	16 18 33.1	-0.5	
MTO3	Montecristo	17.30	330	P		Pn	16 18 39.1	+0.8	
PCRV	Puerto La Cruz comp=Z,0.4nm,0.3s,baz=281,slow=5.2,SNR=4.0 comp=Z,14nm,1.0s	19.15	55	P		Pn	16 18 60.0	-0.9	
SAML	Samuel	19.17	116	P		P	16 18 59.6	-0.4	
SAML	Samuel	19.17	116	P		Pn	16 19 01.7	+0.7	
MACA	Manacapuru-AM	20.02	97	P		Pn	16 19 10.2	-1.0	
MACA					IAmb	IAmb	16 19 18.6		
	comp=Z,35nm,0.8s								
BOAV	Boa Vista	20.26	81	P		Pn	16 19 13.3	-0.7	
PB12	IPOC Station P	20.49	151	P		P	16 19 14.1	-0.3	
PB12					IAmb	IAmb	16 19 28.1		
	comp=Z,42nm,1.3s								
PB16	IPOC Station P	20.66	149	P		P	16 19 17.2	+0.4	
SDDR	Presa de Saban	21.53	25	P		P	16 19 26.9	+1.3	
PB11	IPOC Station P	21.79	151	P		P	16 19 27.1	-1.4	
PB11					IAmb	IAmb	16 19 47.4		
	comp=Z,16nm,0.8s								
GO01	Chusmiza	21.94	150	P		P	16 19 28.7	-1.7	
GO01					IAmb	IAmb	16 19 48.3		
	comp=Z,37nm,1.1s								
TEIG	Tepich	22.08	340	P		P	16 19 31.8	+0.4	
TEIG					IAmb	IAmb	16 19 39.8		
	comp=Z,29nm,1.1s								
PB08	IPOC Station P	22.36	151	P		P	16 19 33.4	-1.5	
PATCX	Punta Patache	22.48	154	P		P	16 19 34.6	-1.2	
PATCX					IAmb	IAmb	16 20 09.9		
	comp=Z,31nm,1.2s								
CMIG	Matias Romero	22.58	322	P		P	16 19 36.4	-0.4	
	comp=Z,8.1nm,1.0s,baz=111,slow=6.0,SNR=4.6								
CMIG					LR	LR	16 25 49.0		
	comp=Z,141nm,18.9s,baz=182,slow=30 comp=Z,8.1nm,1.0s								
CRPR	Cabo Rojo, PR	22.78	35	P		P	16 19 40.3	+1.4	
CRPR					IAmb	IAmb	16 20 01.6		
	comp=Z,25nm,1.1s								
MLPR	Magueyes Islan	22.79	35	P		P	16 19 40.4	+1.4	
MLPR					IAmb	IAmb	16 19 43.9		
	comp=Z,34nm,1.4s								
PB01	IPOC Station P	22.98	153	P		P	16 19 40.9	-0.2	
PB07	IPOC Station P	23.39	154	P		P	16 19 45.7	+0.4	
CAMR	Camarioca	23.58	358	P		P	16 19 46.2	-0.7	
CAMR					IAmb	IAmb	16 19 55.9		
	comp=Z,39nm,1.0s								
VILB	Vilhena	23.59	122	P		P	16 19 45.6	-1.6	
VILB					IAmb	IAmb	16 20 16.6		
	comp=Z,23nm,0.9s								
GCPR	Guaynabo City	23.62	36	P		P	16 19 47.4	+0.1	
HUMP	Col San Antoni	23.63	37	P		P	16 19 48.3	+0.9	
HUMP					IAmb	IAmb	16 19 50.5		
	comp=Z,31nm,1.1s								
PB06	IPOC Station P	24.39	155	P		P	16 19 53.3	-1.5	
PB06					IAmb	IAmb	16 20 28.2		
	comp=Z,35nm,1.4s								
SIV	San Ignacio	24.54	129	P		P	16 19 57.9	+1.9	
	comp=Z,2.3nm,0.8s,baz=292,slow=12,SNR=6.7 comp=Z,2.3nm,0.8s								
LVC	Limon Verde	24.60	153	P		P	16 19 54.1	-2.8	
LVC					IAmb	IAmb	16 20 30.5		
	comp=Z,22nm,1.1s								
LVC	Limon Verde	24.60	153	P		P	16 20 00.6	+3.8	
	comp=Z,3.3nm,0.5s,baz=299,slow=19,SNR=2.5 comp=Z,3.3nm,0.5s								
PTLB	Pontes e Lacer	25.76	126	P		P	16 20 06.5	-0.5	
MDP	Montagnes des	28.47	78	LR		LR	16 32 04.7		
	comp=Z,232nm,21.8s,baz=310,slow=37								
AQDB	Aquidauana	31.29	131	P		P	16 20 55.6	-0.7	
CO03	El Pedregal	31.45	164	P		P	16 20 58.0	+0.3	
VA03	San Esteban	33.31	165	P		P	16 21 13.3	-0.7	
HNDO	Hondo	34.93	331	P		P	16 21 28.9	+0.9	
HNDO					IAmb	IAmb	16 21 29.6		
	comp=Z,6.1nm,0.7s								
BO02	Sierra Bellavi	35.18	166	P		P	16 21 29.4	-0.7	
FPAL	Fort Paine	35.32	353	P		P	16 21 31.2	-0.1	
FPAL					IAmb	IAmb	16 21 31.8		
	comp=Z,9.3nm,0.8s								
Y45A	Yeager Farm, C	35.35	347	P		P	16 21 31.7	+0.1	
BDFB	Brasilia	35.41	117	P		P	16 21 32.1	-0.3	
BDFB					IAmb	IAmb	16 21 34.4		
	comp=Z,6.0nm,1.0s								
BDFB	Brasilia	35.41	117	P		P	16 21 33.4	+0.9	
	comp=Z,3.9nm,0.7s,baz=248,slow=6.9,SNR=4.0 comp=Z,3.9nm,0.7s								
DRIO	Del Rio	35.51	329	P		P	16 21 33.5	+0.4	
DRIO					IAmb	IAmb	16 21 35.2		
	comp=Z,6.0nm,0.7s								
BG3	Lake Jocassee	35.53	357	P		P	16 21 33.1	+0.1	
BG3					IAmb	IAmb	16 21 34.3		
	comp=Z,10.0nm,0.9s								
W50A	Signal Mountai	35.94	353	P		P	16 21 36.1	-0.5	
W50A					IAmb	IAmb	16 21 54.6		
	comp=Z,10nm,1.2s								
JCT	Junction City	35.97	331	P		P	16 21 37.5	+0.5	
SWET	Sewanee	36.03	353	P		P	16 21 36.4	-1.0	
SWET					IAmb	IAmb	16 21 37.7		
	comp=Z,7.7nm,0.8s								
CPCT	Cooper Cave	36.10	355	P		P	16 21 38.1	+0.2	
BRDY	Brady	36.26	333	P		P	16 21 39.4	0.0	
BRDY					IAmb	IAmb	16 21 41.7		
	comp=Z,9.7nm,1.4s								
CLTN	Cedars of Leba	36.95	352	P		P	16 21 44.3	-0.8	
CLTN					IAmb	IAmb	16 21 45.5		
	comp=Z,7.3nm,0.9s								
OZNA	Ozona	36.98	330	P		P	16 21 45.6	0.0	
TXAR	Lajitas Array	37.10	325	P		P	16 21 45.7	-1.0	
TXAR	Lajitas Array	37.10	325	P		P	16 21 46.4	-0.3	
	comp=Z,0.8nm,0.9s,baz=151,slow=11,SNR=4.3								
TXAR					PcP	PcP	16 24 07.7	+0.8	
	comp=Z,1.6nm,0.9s,baz=147,slow=7.1,SNR=8.0 comp=Z,0.8nm,0.9s								
WVT	Waverly	37.21	350	P		P	16 21 45.6	-1.8	
PLPT	Palo Pinto	37.26	335	P		P	16 21 46.7	-1.2	
ABTX	Abilene, Hawle	37.68	333	P		P	16 21 51.5	-0.1	
SGCY	Sterling City	37.79	331	P		P	16 21 52.8	+0.3	
LCAR	Lake Charles	37.84	346	P		P	16 21 51.7	-1.0	
LCAR					IAmb	IAmb	16 21 53.0		
	comp=Z,6.7nm,0.7s								
ALPN	Alpine	37.87	327	P		P	16 21 53.3	0.0	
ALPN					IAmb	IAmb	16 21 55.3		
	comp=Z,7.7nm,1.0s								
ITAB	Concordia	38.00	136	P		P	16 21 54.4	+0.2	
MNHN	Monahans	38.15	328	P		P	16 21 56.0	+0.5	
MNHN					IAmb	IAmb	16 21 57.5		
	comp=Z,8.2nm,0.7s								
SN05	Snyder 5	38.47	332	P		P	16 21 59.0	+0.9	
APMT	Aspermont	38.49	333	P		P	16 21 59.4	+1.1	
APMT					IAmb	IAmb	16 22 00.3		
	comp=Z,8.9nm,0.7s								
CGM3	Cape Girardeau	38.69	348	P		P	16 22 02.2	+2.4	
VHRN	Van Horn	38.94	326	P		P	16 22 01.8	-0.4	
WMOK	Wichita Mounta	39.12	336	P		P	16 22 03.4	-0.2	
SMWD	Samnorwood	40.04	335	P		P	16 22 11.2	-0.1	
MSTX	Muleshoe	40.26	331	P		P	16 22 12.6	-0.6	
MSTX					IAmb	IAmb	16 22 14.8		
	comp=Z,9.2nm,0.7s								
AMTX	Amarillo	40.49	333	P		P	16 22 14.5	-0.6	
AMTX					IAmb	IAmb	16 22 16.8		
	comp=Z,10nm,0.9s								
ELIS	Ellis County	40.53	336	P		P	16 22 15.9	+0.6	
PLCA	Ellis County	40.92	168	P		P	16 22 20.3	+1.8	
	comp=Z,2.8nm,0.9s,baz=346,slow=11,SNR=9.2								
PLCA					PcP	PcP	16 24 17.4	-1.3	
	comp=Z,1.4nm,0.9s,baz=11,slow=5.2,SNR=2.4 comp=Z,2.8nm,0.9s								
121A	Cookes Peak, D	41.83	325	P		P	16 22 26.8	+0.6	
RTBA	Rita Blanca	42.26	333	P		P	16 22 29.0	-0.6	
ANMO	Albuquerque	42.90	328	P		P	16 22 35.9	+1.0	
ANMO					IAmb	IAmb	16 22 37.3		
	comp=Z,8.5nm,0.9s								
ANMO	Albuquerque	42.90	328	P		P	16 22 36.2	+1.3	
	comp=Z,7.9nm,0.8s,baz=148,slow=3.8,SNR=19 comp=Z,7.9nm,0.8s								
T25A	Trinidad	43.61	332	P		P	16 22 41.3	+0.7	
BCX	Boston College	43.62	10	P		P	16 22 40.9	+0.6	
SDCO	Great Sand Dun	44.61	332	IAmb	IAmb	IAmb	16 22 51.1		
	comp=Z,7.2nm,0.8s								
X16A	Lo Mia Camp, P	45.32	323	P		P	16 22 54.9	+0.6	
WUAZ	Wupatki	46.04	325	IAmb	IAmb	IAmb	16 23 02.6		
	comp=Z,8.2nm,0.9s								
SMCO	Snowmass	46.45	332	P		P	16 23 03.7	+0.3	
SRU	San Rafael Swe	48.17	329	IAmb	IAmb	IAmb	16 23 19.0		
	comp=Z,5.0nm,1.0s								
RDMU	Red Mountain	48.78	331	IAmb	IAmb	IAmb	16 23 23.0		
	comp=Z,6.6nm,0.8s								
RSSD	Black Hills	49.25	338	P		P	16 23 25.5	+0.7	
RSSD					IAmb	IAmb	16 23 26.9		
	comp=Z,5.6nm,0.9s								
BSUT	Blindstream Ca	49.35	330	IAmb	IAmb	IAmb	16 23 28.4		
	comp=Z,5.4nm,1.0s								
E28A	Huff	50.24	342	P		P	16 23 32.5	+0.4	
PDAR	Pinedale Array	50.47	332	P		P	16 23 33.9	-0.2	
	comp=Z,0.3nm,0.5s,baz=157,slow=8.0,SNR=4.5								
PDAR					PcP	PcP	16 24 51.7	-0.5	
	comp=Z,0.3nm,0.7s,baz=151,slow=6.4,SNR=3.5 comp=Z,0.3nm,0.5s								
HWUT	Hardware Ranch	50.55	330	IAmb	IAmb	IAmb	16 23 36.2		
	comp=Z,5.3nm,1.0s								
ELK	Elko	51.87	327	P		P	16 23 45.3	+0.6	
	comp=Z,1.5nm,0.8s,baz=140,slow=6.1,SNR=6.5								
ELK					PcP	PcP	16 24 57.1	-0.3	
	comp=Z,0.4nm,0.5s,baz=124,slow=7.3,SNR=3.9 comp=Z,1.5nm,0.8s								
NVAR	Mina Array Bea	52.11	322	P		P	16 23 47.9	+1.3	
	comp=Z,2.8nm,0.9s,baz=133,slow=9.1,SNR=11 comp=Z,2.8nm,0.9s								
ULM	Lac du Bonnet	52.37	348	P		P	16 23 47.1	-0.8	
	comp=Z,2.4nm,0.6s,baz=166,slow=9.9,SNR=5.0								
ULM					PcP	PcP	16 24 58.1	-0.5	
	comp=Z,2.2nm,0.6s,baz=157,slow=5.2,SNR=3.5 comp=Z,2.4nm,0.6s								
BOZ	Bozeman (W)	53.60	333	IAmb	IAmb	IAmb	16 23 59.8		
	comp=Z,5.7nm,1.1s								
YKA	Yellowknife Ar	67.99	344	P		P	16 25 34.2	-0.5	
	comp=Z,0.8nm,0.8s,baz=135,slow=6.6,SNR=14 comp=Z,0.8nm,0.8s								
DBIC	Dimbokro	75.88	83	P		P	16 26 23.6	+0.6	
	comp=Z,4.8nm,0.9s,baz=258,slow=6.9,SNR=5.6 comp=Z,4.8nm,0.9s								
K29M	Barlow Dome	76.61	338	P		P	16 26 27.2	+0.8	
I30M	Mount Dempster	76.90	339	IAmb	IAmb	IAmb	16 26 30.2		
	comp=Z,6.2nm,1.1s								
INK	Inuvik	77.67	342	P		P	16 26 31.9	-0.1	
INK					IAmb	IAmb	16 26 32.9		
	comp=Z,10nm,1.5s								
A36M	Sachs Harbour	77.85	347	P		P	16 26 32.5	-0.5	
A36M					IAmb	IAmb	16 26 43.0		
	comp=Z,7.6nm,1.2s								
ESDC	Sonseca Array	80.11	50	P		P	16 26 47.3	+1.1	
	comp=Z,1.6nm,1.0s,baz=250,slow=8.2,SNR=2.9 comp=Z,1.6nm,1.0s								
ILAR	Eielson Array	80.68	337	P		P	16 26 48.1	-0.5	
	comp=Z,1.1nm,1.0s,baz=128,slow=3.5,SNR=8.7 comp=Z,1.1nm,1.0s								
KDAK	Kodiak Island	81.03	329	P		P	16 26 51.4	+0.9	
	comp=Z,16nm,1.0s,baz=139,slow=9.3,SNR=3.2 comp=Z,16nm,1.0s								
SKT	Skwentna	81.72	333	P		P	16 26 54.4	+0.2	
D25K	Kavik River	82.24	341	IAmb	IAmb		16 26 58.5		
	comp=Z,3.4nm,0.8s								
TORD	Torodi Ar. Bea	82.61	77	P		P	16 26 59.9	+0.1	
	comp=Z,1.1nm,0.7s,baz=302,slow=6.7,SNR=5.8 comp=Z,1.1nm,0.7s								
F21K	Alatna River	84.03	338	P		P	16 27 06.2	+0.1	
F21K					IAmb	IAmb	16 27 08.0		
	comp=Z,3.2nm,0.8s								
QSPA	South Pole Qui	89.41	180	P		P	16 27 34.0	+1.5	
	comp=Z,1.9nm,0.7s,baz=126,slow=2.1,SNR=12 comp=Z,1.9nm,0.7s								
NOA	NORSAR Array B	91.43	29	LR		LR	17 05 49.4		
	comp=Z,39nm,19.4s,baz=225,slow=34								
BVAR	Borovoye Array	122.48	20	PKP		PKPdf	16 33 31.2	0.0	
	comp=Z,0.2nm,0.4s,baz=298,slow=3.1,SNR=2.8								
ZALV	Zalesovo Beam	125.52	11	PKP		PKPdf	16 33 36.8	-0.2	
	comp=Z,1.1nm,0.6s,baz=270,slow=4.3,SNR=5.6								
GEYT	Alibeck	126.92	41	PKP		PKPdf	16 33 40.2	0.0	
	comp=Z,0.8nm,0.6s,baz=248,slow=7.8,SNR=5.0								
KURBB	Kurchatov Arra	127.13	17	PKP		PKPdf	16 33 40.6	+0.5	
	comp=Z,1.6nm,0.7s,baz=330,slow=2.3,SNR=17								
MKAR	Makanchi Array	131.66	16	PKP		PKPdf	16 33 48.8	-0.2	
	comp=Z,0.2nm,0.8s,baz=29,slow=2.8,SNR=5.0								
SONM	Songino Array	132.61	354	PKP		PKPdf	16 33 51.2	+0.3	
	comp=Z,0.3nm,0.3s,baz=324,slow=2.6,SNR=2.2								
KSRS	Korea Array	134.93	328	PKP		PKPdf	16 33 55.8	+0.5	
	comp=Z,2.6nm,1.0s,baz=344,slow=3.9,SNR=4.2								
ASAR	Alice Springs	138.71	232	PKhKP		PKPpre	16 33 53.1		
	comp=Z,0.2nm,0.9s,baz=127,slow=2.5,SNR=3.1								
ASAR				PKP		PKPdf	16 34 01.5	-1.3	
	comp=Z,0.4nm,0.7s,baz=120,slow=1.9,SNR=7.7								
WRA	Warramunga Arr	140.15	237	PKhKP		PKPpre	16 33 57.6		
	comp=Z,0.7nm,1.0s,baz=95,slow=2.2,SNR=1.8								
WRA				PKP		PKPdf	16 34 04.9	-0.6	
	comp=Z,0.7nm,0.7s,baz=100,slow=5.6,SNR=5.2								
CMAR	Chiang Mai Arr	162.29	2	PKP		PKPdf	16 34 38.9	+0.4	
	comp=Z,0.5nm,0.7s,baz=320,slow=2.4,SNR=2.6								
CMAR				PKPab		PKPab	16 35 25.1	-0.2	
	comp=Z,1.3nm,0.9s,baz=337,slow=5.1,SNR=8.3								

JMA 01 16:16:07.6±0.3, 24.3N±0.6×123.8E±0.6, h16km±2km, MV1.4/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	Iriomote-Funau	0.11	325	eP	Pg	16 16 11.1	-0.1
IRIF				eS	Sb	16 16 13.7	-0.1
HATJ	Hateruma jima	0.19	178	P	Pg	16 16 12.1	-0.1
HATJ				eS	Sg	16 16 14.8	-0.5
JKRS	Kuro-shima	0.19	92	P	Pg	16 16 12.4	+0.1
JKRS				eS	Sb	16 16 16.1	-0.1
JIJ	Ishigaki jima	0.34	70	eP	Pg	16 16 14.3	-0.4
JIJ				eS	Sg	16 16 19.0	-0.4
JISG	Ishigakijimahi	0.58	54	eS	Sb	16 16 27.3	0.0

TAP 01 16:16:11.9, 24.51N×121.93E, h12km, ML1.9, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESAO	Su ao	0.11	309	eP	Pg	16 16 14.9	+0.1
	baz=309						
ESAO				eS	Sg	16 16 16.7	-0.3
	baz=309						
TWC	Suao	0.13	322	i P	Pg	16 16 15.3	+0.1
	baz=325						
TWC				S	Sg	16 16 17.2	-0.2
	ba

BRBB				S		**Sn**	**16 19 58.0**	**+0.8**
BRBB	**Barentsburg B**	**2.90**	**24**	*e*P		**Pn**	**16 19 22.9**	**+0.5**
BRBB				*e*S		**Sn**	**16 19 55.7**	**-1.5**
BRBB	**Barentsburg B**	**2.90**	**24**	Pn		**Pn**	**16 19 22.9**	**+0.5**
SPA0	**Spitsbergen Ar** baz=218,slow=16	**3.22**	**30**	Pn		**Pn**	**16 19 28.4**	**+1.6**
SPA0				Sn		**Sn**	**16 20 06.3**	**+1.2**
	baz=220,slow=16							
SPA0	**Spitsbergen Ar** baz=218,slow=16	**3.22**	**30**	Pn		**Pn**	**16 19 28.4**	**+1.6**
SPA0				Sn		**Sn**	**16 20 06.3**	**+1.2**
	baz=220,slow=16							
SPA0	**Spitsbergen Ar**	**3.22**	**30**	*e*P		**Pn**	**16 19 27.8**	**+1.0**
SPA0				*e*S		**Sn**	**16 20 04.7**	**-0.4**
SPITS	**Spitsbergen Ar**	**3.22**	**30**	P		**Pn**	**16 19 28.1**	**+1.4**
SPITS				S		**Sn**	**16 20 05.0**	**-0.1**
KBS	**Kingsbay**	**3.52**	**11**	P		**Pn**	**16 19 30.8**	**-0.2**
KBS	**Kingsbay**	**3.52**	**11**	*e*P		**Pn**	**16 19 30.6**	**-0.4**
KBS				*e*S		**Sn**	**16 20 10.0**	**-2.5**
KBS				IAML			16 20 10.3	
	comp=Z,3.1nm,0.9s							
KBS	**Kingsbay**	**3.52**	**11**	Pn		**Pn**	**16 19 31.4**	**+0.5**
KBS	**Kingsbay**	**3.52**	**11**	*e*P		**Pn**	**16 19 30.2**	**-0.7**
KBS				*e*S		**Sn**	**16 20 09.0**	**-3.5**
HOPEN	**Hopen**	**4.10**	**68**	*e*P		**Pn**	**16 19 40.6**	**+1.8**
HOPEN				*e*S		**Sn**	**16 20 25.1**	**-1.6**
HOPEN				IAML			16 20 27.0	
	comp=Z,5.4nm,0.2s							
HOPEN	**Hopen**	**4.10**	**68**	Pn		**Pn**	**16 19 40.6**	**+1.8**
HOPEN				Sn		**Sn**	**16 20 27.3**	**+0.6**
HOPEN	**Hopen**	**4.10**	**68**	*e*P		**Pn**	**16 19 40.2**	**+1.4**
HOPEN				*e*S		**Sn**	**16 20 25.1**	**-1.6**
ARA0	**ARCESS Array S**	**7.82**	**131**	*e*P		**Pn**	**16 20 30.6**	**+0.7**
ARA0				Pn		**Pn**	**16 20 32.0**	**+2.1**
	baz=326,slow=14							
ARA0				Sn		**Sn**	**16 21 53.0**	**-5.4**
	baz=329,slow=22							
STEI	**Steigen**	**7.88**	**161**	*e*P		**Pn**	**16 20 30.7**	**-0.1**
KEV	**Kevo**	**7.93**	**127**	*e*P		**Pn**	**16 20 31.7**	**+0.3**
VADS	**Vadso**	**8.13**	**121**	*e*P		**Pn**	**16 20 34.4**	**+0.3**
ZFI2	**Zemlya Franca-**	**9.38**	**38**	*e*P		**Pn**	**16 20 52.5**	**+1.3**
ZFI2				S		**Sn**	**16 22 31.6**	**-5.0**
OMEGA	**Omega**	**9.39**	**39**	*e*P		**Pn**	**16 20 52.4**	**+1.1**
OMEGA				*e*S		**Sn**	**16 22 31.1**	**-5.6**
APA0	**Apatity Array** baz=344,slow=18	**10.94**	**124**	Pn		**Pn**	**16 21 16.0**	**+3.4**
APA0	**Apatity Array** baz=344,slow=18	**10.94**	**124**	Pn		**Pn**	**16 21 16.0**	**+3.4**

TAP 01 16:27:44.6,24°.65N×121°.70E,h12km,ML1.4,A,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NDS	**Dongshan** baz=142	**0.02**	**145**	*i* P		Pg	16 27 47.5	+0.7
NDS				S		Sg	16 27 48.8	+0.5
	baz=142							
TWE	**Neicheng** baz=345	**0.07**	**335**	*i* P		Pg	16 27 47.5	+0.3
TWE				*e*S		Sg	16 27 48.9	-0.3
	baz=345							
ENTT	**Nioudou** baz=262	**0.12**	**264**	*e*P		Pb	16 27 49.1	+0.2
ENTT				S		Sg	16 27 51.0	+0.9
	baz=262							
TWC	**Suao** baz=107	**0.14**	**108**	P		Pg	16 27 48.6	+0.5
FUSB	**Fushanzhiwuyua** baz=315	**0.15**	**316**	*i* P		Pb	16 27 48.9	-0.4
ESAO	**Su ao** baz=120	**0.15**	**121**	*e*P		Pb	16 27 48.8	-0.5
NDT	**Datong Townshi** baz=253	**0.18**	**254**	*e*S		Sg	16 27 52.9	+1.4
LATG	**Datong** baz=233	**0.20**	**234**	*e*P		Pb	16 27 50.5	+0.2
NWLT	**Wulai** baz=304	**0.22**	**304**	*e*P		Pb	16 27 50.2	-0.3
ENA	**Nanau** baz=168	**0.23**	**171**	*e*P		Pb	16 27 50.9	+0.2
ENA				S		Sg	16 27 54.4	+1.6
	baz=168							
YHNB	**Yeheng** baz=273	**0.30**	**273**	P		Pb	16 27 51.9	0.0
YHNB				S		Sg	16 27 55.7	+0.9
	baz=273							
NSK	**Sanguang** baz=273	**0.31**	**274**	*e*P		Pb	16 27 52.1	-0.1
NSK				*e*S		Sg	16 27 56.1	+0.7
	baz=273							
TIPB	**Shuangxi** baz=19	**0.34**	**20**	*e*S		Sg	16 27 55.3	-0.8
NNSB	**Datong** baz=232	**0.37**	**232**	*e*S		Sb	16 27 58.0	-0.8

JMA 01 16:28:23.5±0.2,24°.2N±0°.5×123°.8E±0°.5,h16km±1km, MV1.3/9,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.14**	**323**	P		Pg	16 28 27.4	0.0
IRIF				*e*S		Sg	16 28 30.0	0.0
HATJ	**Hateruma jima**	**0.17**	**185**	P		Pg	16 28 27.6	-0.1
HATJ				*e*S		Sg	16 28 30.8	+0.3
JKRS	**Kuro-shima**	**0.17**	**85**	P		Pg	16 28 27.8	0.0
JKRS				*e*S		Sb	16 28 31.2	-0.3
JIJ	**Ishigaki jima**	**0.33**	**64**	P		Pg	16 28 30.0	-0.3
JIJ				*e*S		Sg	16 28 34.7	-0.3
JISG	**Ishigakijimahi**	**0.57**	**51**	*e*P		Pg	16 28 34.7	-0.2
JISG				*e*S		Sb	16 28 43.1	0.0
JYNG	**Yonagunijimaku**	**0.83**	**286**	*e*S		Sn	16 28 53.1	+0.6
JTJ	**Tarama**	**0.90**	**62**	*e*S		Sn	16 28 53.9	-0.4

*IDC **01** 16:28:22.3±3.3,55°.61N×149°.69W,h0km,mb3.4/1, mbtmp3.3/4,ML3.1/3,Error ellipse: s-maj=46.5km s-min=36.2km az=153.0*

*NEIC **01** 16:28:25.3±2.3,55°.85N±0°.09×149°.9W±0°.1,h8km±8km, ML3.3/34,ML3.1(AEIC),Error ellipse: s-maj=13.1km s-min=9.4km az=168.0*

*AEIC **01** 16:28:31.4±2.1,55°.94N±0°.09×149°.8W±0°.1,h12km±8km, Error ellipse: s-maj=13.2km s-min=9.4km az=170.0*

ISC 01 16:28:25.7±1.3,55°.96N±0°.10×149°.90W±0°.05,h10km, n134,σ1§52/132,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OHAK	**Old Harbor**	**2.26**	**305**			**Pn**	**16 29 03.8**	**+0.7**
OHAK				Sn		**Sn**	**16 29 28.2**	**-2.8**
OHAK	**Old Harbor** baz=123	**2.26**	**305**	P		**Pn**	**16 29 04.0**	**+1.0**
OHAK				S		**Sn**	**16 29 28.4**	**-2.6**
	baz=123							
KDAK	**Kodiak Island**	**2.34**	**322**			**Pn**	**16 29 05.4**	**+1.1**
KDAK	**Kodiak Island**	**2.34**	**322**			**Sn**	**16 29 31.8**	**-1.3**
KDAK	**Kodiak Island** baz=140	**2.34**	**322**	S		**Sn**	**16 29 31.8**	**-1.3**
KDAK	**Kodiak Island** 10nm,0.3s,baz=136,slow=5.9,SNR=102	**2.34**	**322**	Pn		**Pn**	**16 29 05.4**	**+1.1**
KDAK				Sn		**Sn**	**16 29 31.6**	**-1.5**
	6.6nm,0.3s,baz=126,slow=16,SNR=17 32nm,0.2s							
SYI	**Shuyak Island**	**2.98**	**334**			**Pn**	**16 29 14.3**	**+1.3**
SYI						**Sn**	**16 29 48.1**	**-0.6**
SYI	**Shuyak Island** comp=E,65nm,0.3s	**2.98**	**334**	IAML			16 29 50.4	
Q20K	**Shuyak Island** baz=152	**2.98**	**334**	P		**Pn**	**16 29 14.3**	**+1.3**
Q20K				S		**Sn**	**16 29 48.1**	**-0.6**
	baz=152							
KAPH	**Katmai Pasha**	**3.58**	**319**			**Pn**	**16 29 23.4**	**+2.2**
KAPH						**Sn**	**16 30 02.5**	**-1.1**
Q19K	**Cape Douglas,** comp=N,147nm,0.9s	**3.60**	**327**	IAML			16 30 09.0	
Q19K	**Cape Douglas,**	**3.60**	**327**			**Pn**	**16 29 23.6**	**+2.1**
Q19K						**Sn**	**16 30 04.4**	**+0.4**
Q19K	**Cape Douglas,** baz=144	**3.60**	**327**	P		**Pn**	**16 29 23.6**	**+2.1**
Q19K				S		**Sn**	**16 30 04.4**	**+0.4**
	baz=144							
CNPM	**China Poot**	**3.65**	**349**			**Pn**	**16 29 22.9**	**+0.7**
CNPM						**Sn**	**16 30 04.2**	**-1.0**
CNPM	**China Poot**	**3.65**	**349**	IAML			16 30 06.2	
	comp=N,30nm,1.0s							
CNPM				IAML			16 30 08.5	
	comp=E,30nm,1.0s							
KAKN	**Katmai Knife C**	**3.66**	**312**			**Pn**	**16 29 24.4**	**+1.9**
KAKN						**Sn**	**16 30 05.6**	**0.0**
ACHA	**Angle Creek He**	**3.72**	**310**			**Pn**	**16 29 25.0**	**+1.8**
ANCK	**Angle Creek**	**3.79**	**309**			**Pn**	**16 29 26.1**	**+2.0**
BRSE	**Bradley Lake S**	**3.82**	**354**			**Pn**	**16 29 25.2**	**+0.7**
BRSE	**Bradley Lake S** baz=172	**3.82**	**354**	P		**Pn**	**16 29 25.2**	**+0.7**
BRLK	**Bradley Lake**	**3.85**	**353**			**Pn**	**16 29 25.4**	**+0.4**
BRLK	**Bradley Lake** comp=E,26nm,0.8s	**3.85**	**353**	IAML			16 30 11.2	
AUJK	**Augustine Jueg**	**3.88**	**332**			**Pn**	**16 29 27.5**	**+2.1**
Q23K	**Middleton Isla**	**3.97**	**27**	Pn		**Pn**	**16 29 27.8**	**+1.3**
MID	**Middleton Isla**	**3.97**	**27**	Pn		**Pn**	**16 29 27.4**	**+0.8**
CNTC	**Contact Creek**	**4.00**	**308**			**Pn**	**16 29 29.0**	**+2.0**
Q17K	**Contact Creek** baz=123	**4.00**	**308**	P		**Pn**	**16 29 29.0**	**+1.9**
P19K	**Oil Pt**	**4.11**	**336**			**Pn**	**16 29 30.2**	**+1.7**
P19K				IAML			16 30 20.2	
	comp=N,83nm,0.5s							
P19K	**Oil Pt** baz=153	**4.11**	**336**	P		**Pn**	**16 29 30.5**	**+2.0**
PLK1	**Peulik 1**	**4.12**	**299**			**Pn**	**16 29 30.8**	**+2.2**
SEW	**Seward**	**4.16**	**3**			**Pn**	**16 29 29.6**	**+0.4**
SEW	**Seward** baz=183	**4.16**	**3**	P		**Pn**	**16 29 29.6**	**+0.4**
P23K	**Montague Islan**	**4.26**	**17**			**Pn**	**16 29 31.6**	**+1.1**
P23K	**Montague Islan** baz=199	**4.26**	**17**	P		**Pn**	**16 29 31.7**	**+1.1**
O20K	**Slope Mountain**	**4.38**	**342**			**Pn**	**16 29 33.5**	**+1.2**
O20K	**Slope Mountain** baz=159	**4.38**	**342**	P		**Pn**	**16 29 33.5**	**+1.2**
ILSW	**Iliamna Southw**	**4.39**	**338**			**Pn**	**16 29 33.5**	**+1.0**
ILSW	**Iliamna Southw** comp=N,19nm,0.8s	**4.39**	**338**	IAML			16 30 25.7	
ILSW				IAML			16 30 41.0	
	comp=E,20nm,1.2s							
P18K	**Big Mountain,**	**4.47**	**322**			**Pn**	**16 29 34.7**	**+1.1**
P18K	**Big Mountain,** baz=138	**4.47**	**322**	P		**Pn**	**16 29 34.7**	**+1.1**
SLKM	**Skilak Lake**	**4.56**	**358**			**Pn**	**16 29 35.3**	**+0.5**
RED	**Redoubt Volcan**	**4.72**	**342**			**Pn**	**16 29 37.4**	**+0.4**
RDSO	**Redoubt South**	**4.75**	**343**			**Pn**	**16 29 37.5**	**0.0**
RSO	**Redoubt South**	**4.76**	**343**	Pn		**Pn**	**16 29 38.8**	**+1.1**
CHGN	**Chignik**	**4.77**	**278**	Pn		**Pn**	**16 29 38.2**	**+0.6**
CHGN				IAML			16 30 32.6	
	comp=N,34nm,0.1s							
CHGN				IAML			16 30 34.1	
	comp=E,34nm,0.1s							
P17K	**Kvichak River**	**4.78**	**315**			**Pn**	**16 29 40.0**	**+2.2**
P17K	**Kvichak River** baz=130	**4.78**	**315**	P		**Pn**	**16 29 40.0**	**+2.2**
HIN	**Hinchinbrook I**	**4.80**	**21**			**Pn**	**16 29 39.4**	**+1.4**
HIN	**Hinchinbrook I** comp=N,44nm,1.2s	**4.80**	**21**	IAML			16 30 21.2	
HIN				IAML			16 31 47.7	
	comp=E,31nm,1.1s							
O18K	**Koktuh Hills**	**4.82**	**326**			**Pn**	**16 29 39.6**	**+1.3**
O18K	**Koktuh Hills** comp=E,15nm,0.4s	**4.82**	**326**	IAML			16 30 34.0	
O18K				IAML			16 30 35.6	
	comp=N,23nm,0.8s							
O18K	**Koktuh Hills** baz=142	**4.82**	**326**	P		**Pn**	**16 29 39.6**	**+1.3**
O19K	**Port Alsworth**	**4.85**	**333**			**Pn**	**16 29 39.8**	**+1.1**
O19K	**Port Alsworth** baz=149	**4.85**	**333**	P		**Pn**	**16 29 39.8**	**+1.1**
KAIM	**Kayak Island**	**4.93**	**34**			**Pn**	**16 29 39.8**	**0.0**
KAIM				IAML			16 30 30.6	
	comp=E,41nm,1.2s							
KAIM				IAML			16 31 51.7	
	comp=N,28nm,1.1s							
KAIM	**Kayak Island** baz=218	**4.93**	**34**	P		**Pn**	**16 29 41.7**	**+1.8**
RC01	**Rabbit Creek A**	**5.14**	**1**	Pn		**Pn**	**16 29 43.1**	**+0.3**
RC01				IAML			16 30 41.4	
	comp=N,12nm,0.9s							
RC01				IAML			16 30 41.5	
	comp=E,16nm,0.8s							
VNHG	**Veniaminof 1**	**5.19**	**277**			**Pn**	**16 29 45.3**	**+1.9**
HMT	**Hamilton**	**5.31**	**32**	Pn		**Pn**	**16 29 45.0**	**0.0**
NICHA	**Nichawak Mount**	**5.32**	**34**			**Pn**	**16 29 47.2**	**+2.1**
N20K	**Mount Spurr** baz=166	**5.39**	**348**	P		**Pn**	**16 29 47.4**	**+1.2**
SPCR	**Spurr Chakacha**	**5.39**	**348**			**Pn**	**16 29 47.4**	**+1.2**
N19K	**Bonanza Creek**	**5.43**	**336**			**Pn**	**16 29 47.3**	**+0.5**
N19K	**Bonanza Creek** baz=152	**5.43**	**336**	P		**Pn**	**16 29 47.5**	**+0.8**
KNK	**Knik Glacier**	**5.52**	**7**	Pn		**Pn**	**16 29 48.9**	**+1.0**
BERG	**Berg Lake**	**5.52**	**34**	Pn		**Pn**	**16 29 49.8**	**+1.8**
CNBA	**Chernabura Isl**	**5.64**	**262**	Pn		**Pn**	**16 29 48.1**	**-1.4**
N18K	**Kilae Creek**	**5.69**	**329**	Pn		**Pn**	**16 29 49.0**	**-1.2**
O16K	**Kokwok River B**	**5.70**	**313**	Pn		**Pn**	**16 29 50.9**	**+0.6**
WAX	**Waxell Ridge**	**5.84**	**37**	Pn		**Pn**	**16 29 54.0**	**+1.6**
GHO	**Glory Hole Cre**	**5.85**	**5**	Pn		**Pn**	**16 29 53.5**	**+1.1**
SML	**Sawmill**	**5.92**	**7**	Pn		**Pn**	**16 29 53.9**	**+0.5**
KLU	**Klutina**	**5.92**	**19**	Pn		**Pn**	**16 29 54.6**	**+1.2**
SVW2	**Sparrevohn**	**5.95**	**332**	Pn		**Pn**	**16 29 55.5**	**+1.7**
N17K	**Nushagak Hills**	**5.98**	**323**	Pn		**Pn**	**16 29 54.5**	**+0.4**
CRQM	**Cirque**	**5.98**	**34**	Pn		**Pn**	**16 29 55.7**	**+1.4**
SDPT	**Sand Point**	**6.02**	**269**	Pn		**Pn**	**16 29 54.8**	**+0.1**
SCM	**Sheep Creek Mo**	**6.04**	**12**			**Pn**	**16 29 56.5**	**+1.5**
TGL	**Tana Glacier**	**6.08**	**35**	Pn		**Pn**	**16 29 56.4**	**+0.8**
SKT	**Skwentna**	**6.10**	**353**	Pn		**Pn**	**16 29 56.3**	**+0.5**
ISLE	**Juniper Island**	**6.13**	**37**	Pn		**Pn**	**16 29 57.4**	**+1.1**
M20K	**Styx River**	**6.17**	**346**	Pn		**Pn**	**16 29 57.3**	**+0.5**
VRDI	**Verde Repeater**	**6.26**	**30**	Pn		**Pn**	**16 29 58.7**	**+0.4**
N25K	**Chitina, Valde**	**6.29**	**24**	Pn		**Pn**	**16 30 00.1**	**+1.5**
GLB	**Gilahina Butte**	**6.34**	**27**	Pn		**Pn**	**16 29 59.5**	**+0.3**
M19K	**Big River Lodg**	**6.40**	**341**	Pn		**Pn**	**16 30 00.1**	**+0.2**
GRNC	**Granite Creek**	**6.42**	**39**	Pn		**Pn**	**16 30 01.0**	**+0.5**
M24K	**Tolsona, Glenn**	**6.46**	**16**	Pn		**Pn**	**16 30 02.1**	**+1.3**
MCARA	**McCarthy VSAT**	**6.51**	**31**	Pn		**Pn**	**16 30 02.4**	**+0.9**
BARN	**Barnard Glacie**	**6.69**	**37**	Pn		**Pn**	**16 30 04.7**	**+0.6**
M17K	**Holitna River**	**6.72**	**327**	Pn		**Pn**	**16 30 06.0**	**+1.6**
CTGM	**Chitina Glacie**	**6.73**	**38**	Pn		**Pn**	**16 30 05.1**	**+0.5**
L19K	**White Mountain**	**6.74**	**340**	Pn		**Pn**	**16 30 04.8**	**+0.2**
LOGN	**Logan Glacier**	**6.75**	**40**	Pn		**Pn**	**16 30 05.5**	**+0.6**
BCPM	**Bancas Point**	**6.77**	**50**	Pn		**Pn**	**16 30 04.9**	**-0.1**
N15K	**Kwethluk River**	**6.85**	**312**	Pn		**Pn**	**16 30 08.4**	**+2.2**
O14K	**Tigyukauivet M**	**6.94**	**303**	Pn		**Pn**	**16 30 10.6**	**+3.3**
M16K	**Timber Creek**	**6.94**	**321**	Pn		**Pn**	**16 30 09.2**	**+1.8**
L18K	**Granite Mounta**	**7.18**	**334**	Pn		**Pn**	**16 30 11.5**	**+0.9**
DHY	**Denali Highway**	**7.25**	**9**	Pn		**Pn**	**16 30 11.5**	**-0.3**
CAST	**Castle Rocks**	**7.56**	**353**	Pn		**Pn**	**16 30 18.1**	**+2.2**
L16K	**Owhat River**	**7.60**	**323**	Pn		**Pn**	**16 30 17.5**	**+1.1**
M27K	**Edge Creek, AK**	**7.62**	**29**	Pn		**Pn**	**16 30 19.9**	**+3.0**
KTH	**Kantishna Hill**	**7.63**	**357**	Pn		**Pn**	**16 30 18.8**	**+1.9**
S31K	**Pelican**	**7.74**	**69**	Pn		**Pn**	**16 30 18.5**	**+0.2**
K17K	**Iditarod**	**8.01**	**331**	Pn		**Pn**	**16 30 22.1**	**0.0**
RIDG	**Independent Ri**	**8.21**	**16**	Pn		**Pn**	**16 30 26.2**	**+1.5**
M13K	**Dall Lake**	**8.38**	**308**	Pn		**Pn**	**16 30 27.0**	**-0.1**
WRH	**Wood River Hil**	**8.59**	**5**	Pn		**Pn**	**16 30 31.5**	**+1.6**
HDA	**Harding Lake**	**8.60**	**9**	Pn		**Pn**	**16 30 33.9**	**+3.8**
CCB	**Clear Creek Bu**	**8.78**	**6**	Pn		**Pn**	**16 30 35.5**	**+3.0**
IL31		**8.96**	**8**	Pn		**Pn**	**16 30 37.5**	**+2.5**
ILAR	**Eielson Array**	**8.96**	**8**	Pn		**Pn**	**16 30 37.2**	**+2.1**
ILAR	**Eielson Array** comp=E,0.2nm,0.3s,baz=188,slow=13,SNR=11	**8.96**	**8**	Pn		**Pn**	**16 30 35.4**	**+0.3**
ILAR				Sn		**Sn**	**16 32 13.1**	**-2.9**
	comp=E,0.1nm,0.3s,baz=195,slow=27,SNR=1.0 comp=E,0.6nm,0.4s							
J25K	**Salcha River,**	**8.96**	**13**	Pn		**Pn**	**16 30 37.4**	**+2.2**
MLY	**Manley**	**9.11**	**358**	Pn		**Pn**	**16 30 39.6**	**+2.5**
J16K	**Anvik River**	**9.12**	**328**	Pn		**Pn**	**16 30 38.6**	**+1.4**
J26L	**Joseph Creek**	**9.12**	**18**	Pn		**Pn**	**16 30 39.5**	**+2.1**
I21K	**Tanana**	**9.31**	**355**	Pn		**Pn**	**16 30 41.1**	**+1.4**
DAWY	**Dawson**	**9.67**	**29**	Pn		**Pn**	**16 30 47.5**	**+2.7**
PRP	**Porcupine Dome**	**9.82**	**11**	Pn		**Pn**	**16 30 48.7**	**+1.7**
H24K	**Noodor Dome**	**9.96**	**5**	Pn		**Pn**	**16 30 51.5**	**+2.7**
G23K	**Bananza Creek**	**10.79**	**360**	Pn		**Pn**	**16 31 02.0**	**+1.9**
G24K	**Hadweenzic Riv**	**10.84**	**5**	Pn		**Pn**	**16 31 03.6**	**+2.9**
GRNB	**Grenville Isla**	**11.67**	**92**	Pn		**Pn**	**16 31 13.0**	**+0.9**
BMAR	**Burnt Mountain**	**11.78**	**10**	Pn		**Pn**	**16 31 14.8**	**+1.2**
YKA	**Yellowknife Ar** baz=264,slow=12,SNR=1.9 comp=E,0.1nm,0.4s	**19.01**	**55**	P		**P**	**16 32 45.9**	**-1.4**
H11N2	**WAKE ISLAND Hy** baz=29	**48.42**	**240**	T		T	17 30 29.5	
H11N3	**WAKE ISLAND Hy** baz=29	**48.42**	**240**	T		T	17 30 18.3	
H11N1	**WAKE ISLAND Hy** baz=29	**48.44**	**240**	T		T	17 30 21.0	
H11S1	**WAKE ISLAND Hy** baz=29	**49.56**	**239**	T		T	17 32 13.2	
H11S2	**WAKE ISLAND Hy** baz=29	**49.57**	**239**	T		T	17 32 19.2	
H11S3	**WAKE ISLAND Hy** baz=29	**49.58**	**239**	T		T	17 32 11.1	
SONM	**Songino Array** comp=E,0.2nm,0.5s,baz=56,slow=5.4,SNR=1.6 comp=E,0.2nm,0.5s	**58.58**	**310**	P		**P**	**16 38 22.3**	**-0.1**

*IDC **01** 16:32:05.5±2.0,29°.98N×87°.94E,h0km,mb3.3/5, mbtmp3.3/7,ML3.3/2,MS3.2/1,Error ellipse: s-maj=42.6km s-min=36.7km az=74.0*

ISC 01 16:32:10.4±1.2,30°.0N±0°.2×88°.1E±0°.2,h37km,n8,σ1§16/7, mb3.2/5,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=316,slow=10,SNR=1.2 0.2nm,0.6s	**15.16**	**137**	Pn		**Pn**	**16 35 41.2**	**-0.6**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=159,slow=12,SNR=5.2 0.5nm,0.6s	**17.38**	**347**	P		**Pn**	**16 36 09.8**	**-0.2**
KURBB	**Kurchatov Arra** 0.3nm,0.5s,baz=149,slow=12,SNR=3.2 0.3nm,0.5s	**21.83**	**344**	P		**P**	**16 36 58.0**	**-1.3**
SONM	**Songino Array** 0.1nm,0.4s,baz=231,slow=9.1,SNR=1.9 0.1nm,0.4s	**22.73**	**33**	P		**P**	**16 37 10.3**	**+1.1**
GEYT	**Alibeck** comp=Z,56nm,19.8s,baz=1.5,slow=40	**25.99**	**296**	LR		LR	16 49 29.3	
BVAR	**Borovoye Array** 0.4nm,0.6s,baz=142,slow=7.3,SNR=2.4 0.4nm,0.6s	**26.41**	**336**	P		**P**	**16 37 44.0**	**+0.7**
NOA	**NORSAR Array B** 0.6nm,0.7s,baz=85,slow=6.9,SNR=2.6 0.6nm,0.7s	**57.97**	**326**	P		**P**	**16 41 58.0**	**-0.9**
TORD	**Torodi Ar. Bea** 0.3nm,0.7s,baz=66,slow=3.9,SNR=2.0 0.3nm,0.7s	**80.45**	**280**	P		**P**	**16 44 19.8**	**+1.0**

DJA 01 16:35:11.1±0.9,7°S±11°×12°7E±°,h256km±17km,M3.6/6, mb3.4/2,MLv3.7/6,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BNDI	**Bandanaira**	**3.71**	**47**	P		Pn	16 36 12.2	+0.4
SOEI	**Soe**	**3.93**	**227**	P		Pn	16 36 14.2	-0.3
BBSI	**Bau Bau**	**4.84**	**289**	P		Pn	16 36 24.9	-0.3
EDFI	**Ende, Flores** 4.3nm,0.8s,0.0nm	**5.69**	**253**	P		Pn	16 36 35.6	-0.1
FAKI	**Fak Fak**	**6.52**	**51**	P		Pn	16 36 45.7	-0.2

TAP 01 16:36:53.6,24°.86N×122°.50E,h32km±1km,ML2.3,D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWB1	**Santiao Chiao** baz=288	**0.49**	**288**	*i* P		Pb	16 37 03.5	-0.4
EOS2	**EOS2** baz=217	**0.50**	**209**	P		Pb	16 37 03.9	-0.2
EOS2				*e*S		Sb	16 37 10.7	-0.5
	baz=217							
EOS3	**EOS3** baz=203	**0.59**	**196**	*i* P		Pb	16 37 05.5	0.0
EOS3				*e*S		Sb	16 37 13.7	+0.1
	baz=203							
YOJ	**Yonaguni jima** baz=123	**0.61**	**130**	*e*P		Pb	16 37 05.8	-0.1
YOJ				*e*S		Sb	16 37 13.7	-0.7
	baz=123							
SXI1	**Grass Mountain** baz=293	**0.61**	**293**	P		Pn	16 37 06.2	0.0
TIPB	**Shuangxi** baz=281	**0.62**	**281**	*e*P		Pb	16 37 06.0	-0.1
TIPB				*e*S		Sb	16 37 14.2	-0.5
	baz=281							
TWC	**Suao** baz=247	**0.64**	**247**	P		Pb	16 37 05.6	-0.8
EOS4	**EOS4** baz=187	**0.75**	**193**	*e*P		Pb	16 37 08.0	0.0
EOS4				*e*S		Sb	16 37 18.0	+0.1
	baz=187							
EWUT	**Wuta** baz=245	**0.77**	**238**	*e*P		Pn	16 37 08.0	-0.3
EWUT				*e*S		Sn	16 37 17.9	-0.8
	baz=245							
ENA	**Nanau** baz=245	**0.81**	**238**	*i* P		Pn	16 37 08.6	-0.3
ENA				*e*S		Sn	16 37 17.9	-1.8
	baz=245							
FUSB	**Fushanzhiwuyua** baz=271	**0.83**	**264**	P		Pb	16 37 09.8	0.0
YM01	**YM01** baz=289	**0.89**	**289**	P		Pb	16 37 10.5	-0.1
YM01				*e*S		Sb	16 37 22.2	-0.1
	baz=289							
NWLT	**Wulai** baz=265	**0.91**	**265**	*e*S		Sn	16 37 22.0	-0.2
NDT	**Datong Townshi** baz=254	**0.93**	**254**	*e*P		Pb	16 37 11.5	+0.2
NDT				*e*S		Sb	16 37 23.3	0.0
	baz=254							
LATG	**Datong** baz=250	**0.94**	**250**	*e*P

0.2nm,0.7s,baz=44,slow=2.3,SNR=2.0
0.4nm,0.6s

TORD	**Torodi Ar. Bea**	**147.21**	**284**	PKPbc	PKPbc	17 04 12.4	-0.7
	0.2nm,0.4s,baz=77,slow=4.5,SNR=2.6						

JMA 01 16:45:15.5±0.1, 24°.3N±0°.3×123°.8E±0°.3, h16km±1km, MV0.9/8, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.10**	**328**	P	Pg	16 45 18.8	0.0
IRIF				*eS*	Sg	16 45 21.1	+0.1
HATJ	**Hateruma jima**	**0.20**	**175**	P	Pg	16 45 20.0	-0.2
HATJ				*eS*	Sg	16 45 23.3	0.0
JKRS	**Kuro-shima**	**0.20**	**94**	P	Pg	16 45 20.3	0.0
JKRS				*eS*	Sg	16 45 23.9	+0.4
JIJ	**Ishigaki jima**	**0.34**	**71**	P	Pg	16 45 22.4	-0.2
JIJ				*eS*	Sg	16 45 27.1	-0.4
JISG	**Ishigakijimahi**	**0.58**	**55**	*eS*	Sb	16 45 35.1	-0.2
YOJ	**Yonaguni jima**	**0.74**	**287**	P	Pg	16 45 29.7	-0.2
JTJ	**Tarama**	**0.92**	**65**	*eS*	Sg	16 45 45.8	+0.4

TAP 01 16:45:16.3, 24°.48N×121°.81E, h11km, ML1.5, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EWUT	**Wuta**	**0.05**	**223**	*eP*	Pg	16 45 18.6	+0.2
	baz=222						
EWUT				S	Sg	16 45 20.1	+0.2
	baz=222						
ENA	**Nanau**	**0.08**	**232**	*eP*	Pg	16 45 19.0	+0.2
	baz=227						
ENA				S	Sg	16 45 20.6	0.0
	baz=227						
ESAO	**Su ao**	**0.10**	**16**	*eP*	Pg	16 45 19.2	+0.2
	baz=17						
ESAO				*eS*	Sg	16 45 21.0	0.0
	baz=17						
TWC	**Suao**	**0.13**	**14**	*i* P	Pg	16 45 19.9	+0.4
	baz=18						
TWC				S	Sg	16 45 22.1	+0.3
	baz=18						
NDS	**Dongshan**	**0.18**	**330**	*eS*	Sg	16 45 23.8	+0.9
	baz=330						
LATG	**Datong**	**0.27**	**282**	P	Pg	16 45 22.4	+0.5
	baz=282						
LATG				S	Sg	16 45 26.1	+0.6
	baz=282						
ENTT	**Nioudou**	**0.28**	**306**	*i* P	Pb	16 45 22.7	-0.6
	baz=306						
NDT	**Datong Townshi**	**0.30**	**294**	*eP*	Pb	16 45 23.2	-0.6
	baz=294						
NNS	**Nan Shan**	**0.40**	**265**	*eS*	Sg	16 45 30.1	+0.4
	baz=264						

*IDC **01** 16:49:21.0±4.7, 16°.28N×98°.86W, h0km, mb3.6/4, mbtmp3.5/6, ML3.4/2, MS2.9/1, Error ellipse: s-maj=90.6km s-min=21.9km az=7.0*
*MEX **01** 16:49:23.8±1.0, 16°.24N×98°.84W, h5km±11km, MD4.4*
ISC 01 16:49:22.8±1.1, 16°.27N±0°.04×98°.84W±0°.02, h19km±3km, n50, σ1°59/86, mb3.5/4, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRIG	**Cruz Grande**	**0.54**	**329**	*eP*	Pg	**16 49 33.4**	**-0.4**
CRIG				*eS*	Sb	**16 49 40.4**	**-0.6**
PNIG	**Pinotepa**	**0.69**	**80**	*i* P	Pg	**16 49 36.5**	**0.0**
PNIG				*i* S	Sg	**16 49 46.0**	**+0.1**
MGIG	**Malinaltepec**	**0.98**	**12**	*eP*	Pb	**16 49 41.0**	**-0.3**
MGIG				*eS*	Sg	**16 49 54.4**	**-0.6**
DAIG	**Los Arroyos**	**1.08**	**314**	*eP*	Pb	**16 49 41.4**	**-1.5**
DAIG				*eS*	Sb	**16 49 54.4**	**-2.2**
VNTA	**La Mica**	**1.14**	**305**	*eP*	Pb	**16 49 43.2**	**-0.6**
VNTA				*eS*	Sg	**16 49 59.1**	**-0.8**
ACP2	**Acapulco**	**1.17**	**301**	*eP*	Pg	**16 49 44.1**	**-1.4**
ACP2				*i S*	Sg	**16 50 00.5**	**-0.5**
TLIG	**Tlapa**	**1.31**	**11**	*eP*	Pn	**16 49 45.8**	**-0.4**
TLIG				*eS*	Sn	**16 50 03.0**	**-0.3**
YOIG	**Yosondua**	**1.37**	**65**	*eP*	Pn	**16 49 46.6**	**-0.5**
YOIG				*eS*	Sb	**16 50 06.1**	**+0.9**
TXIG	**Tlaxiaco**	**1.42**	**46**	*eP*	Pn	**16 49 47.5**	**-0.3**
TXIG				*eS*	Sb	**16 50 10.5**	**-0.1**
HMTT	**Tlapaneco**	**1.54**	**10**	*eP*	Pn	**16 49 49.3**	**+0.1**
HMTT				*eS*	Sb	**16 50 09.9**	**-0.2**
CAIG	**El Cayaco**	**1.57**	**300**	*eP*	Pn	**16 49 48.5**	**-1.2**
CAIG				*eS*	Sn	**16 50 08.5**	**-1.0**
PEIG	**Puerto Escondi**	**1.65**	**99**	*eP*	Pn	**16 49 50.1**	**-0.7**
PEIG				*eS*	Sb	**16 50 13.3**	**+0.4**
FTIG	**Fresnillo de T**	**1.77**	**22**	*eP*	Pn	**16 49 52.5**	**+0.1**
FTIG				*eS*	Sn	**16 50 14.5**	**0.0**
ATYC	**Atoyac**	**1.79**	**302**	*eP*	Pb	**16 49 54.5**	**-0.5**
ATYC				*eS*	Sb	**16 50 17.6**	**+0.5**
MEIG	**Mezcala**	**1.81**	**336**	*eP*	Pn	**16 49 53.1**	**0.0**
MEIG				*eS*	Sn	**16 50 14.2**	**-1.3**
HLIG	**Huajuapan de L**	**1.84**	**32**	*eP*	Pn	**16 49 53.6**	**0.0**
HLIG				*eS*	Sn	**16 50 15.5**	**-1.0**
PLIG	**Platanillo**	**2.21**	**343**	*eP*	Pn	**16 49 59.2**	**+0.8**
PLIG				*eS*	Sb	**16 50 29.5**	**+0.4**
ARIG	**Puente Sto Nin**	**2.47**	**324**	*eP*	Pn	**16 50 03.2**	**+1.2**
ARIG				*eS*	Sb	**16 50 34.1**	**-2.5**
TOIG	**Toxpalan**	**2.49**	**43**	*eP*	Pn	**16 50 02.8**	**+0.4**
TOIG				*eS*	Sb	**16 50 35.6**	**-1.6**
TPIG	**Tehuac#an**	**2.56**	**33**	*eP*	Pn	**16 50 03.8**	**+0.4**
TPIG				*eS*	Sn	**16 50 36.2**	**+2.0**
YAIG	**Yautepec**	**2.59**	**355**	*eP*	Pn	**16 50 05.0**	**+1.2**
YAIG				*eS*	Sn	**16 50 34.8**	**-0.1**
HUIG	**Huatulco**	**2.67**	**100**	*eP*	Pn	**16 50 06.3**	**+1.5**
HUIG				*eS*	Sn	**16 50 32.9**	**-3.8**
PPM	**Popocatepetl**	**2.79**	**4**	*eP*	Pn	**16 50 08.2**	**+1.3**
PPM				*eS*	Sn	**16 50 41.5**	**+1.2**
ZIIG	**Zihuatanejo**	**2.84**	**298**	*eP*	Pn	**16 50 08.2**	**+1.0**
ZIIG				*eS*	Sn	**16 50 40.9**	**0.0**
AMVM	**AMECAMECA**	**2.85**	**1**	*eP*	Pn	**16 50 09.1**	**+1.5**
AMVM				*eS*	Sn	**16 50 39.6**	**-1.9**
TEJU	**Tejupilco**	**2.91**	**335**	*eP*	Pg	**16 50 16.4**	**-2.3**
TEJU				*eS*	Sb	**16 50 50.4**	**+1.0**
MPVM	**San Francisco**	**2.92**	**357**	*eP*	Pn	**16 50 09.8**	**+1.3**
MPVM				*eS*	Sn	**16 50 40.7**	**+0.5**
TLVM	**San Miguel Top**	**2.94**	**354**	*eP*	Pn	**16 50 10.1**	**+1.2**
TLVM				*eS*	Sn	**16 50 46.2**	**+2.4**
XCVM	**Xochimilco**	**2.98**	**355**	*eP*	Pb	**16 50 12.6**	**-2.8**
AOVM	**Tlapan**	**3.02**	**351**	*eP*	Pn	**16 50 12.5**	**+2.5**
AOVM				*eS*	Sn	**16 50 46.3**	**+0.4**
THVM	**De Xico**	**3.03**	**358**	*eP*	Pb	**16 50 13.7**	**-2.6**
THVM				*eS*	Sn	**16 50 46.9**	**+1.0**
INVM	**La Marquesa**	**3.05**	**350**	*eP*	Pb	**16 50 14.8**	**-1.9**
INVM				*eS*	Sn	**16 50 46.1**	**-0.4**
TOVM	**TOLUCA**	**3.10**	**345**	*eP*	Pn	**16 50 12.0**	**+1.0**
TOVM				*eS*	Sn	**16 50 48.6**	**+0.9**
BJVM	**Benito Juarez**	**3.11**	**354**	*eS*	Sn	**16 50 49.9**	**+2.1**
CJVM	**Cuajimalpa**	**3.11**	**352**	*eS*	Sn	**16 50 45.1**	**-2.6**
PBVM	**Pinon**	**3.17**	**356**	*eP*	Pb	**16 50 15.4**	**-3.0**
PBVM				*eS*	Sn	**16 50 46.9**	**-1.9**
PTVM	**Pico Tres Padr**	**3.32**	**356**	*eP*	Pb	**16 50 17.4**	**-3.8**
PTVM				*eS*	Sn	**16 50 56.2**	**+3.2**
AZVM	**Cuida Lopez Ma**	**3.33**	**353**	*eP*	Pn	**16 50 16.0**	**+1.9**
AZVM				*eS*	Sn	**16 50 51.3**	**-1.9**
VTVM	**Tizayuca**	**3.48**	**1**	*eP*	Pb	**16 50 21.6**	**-2.4**
VTVM				*eS*	Sn	**16 50 59.4**	**+2.3**
ZUVM	**ZUMPANGO**	**3.55**	**356**	*eP*	Pn	**16 50 13.9**	**-3.2**
ZUVM				*eS*	Sn	**16 50 59.9**	**+1.2**
ACIG	**Acambay**	**3.82**	**345**	*eP*	Pn	**16 50 21.6**	**+0.8**
ACIG				*eS*	Sn	**16 51 08.7**	**+3.4**
CMIG	**Matias Romero**	**3.88**	**77**	Pn	Pn	**16 50 21.3**	**-0.1**
	2.5nm,0.3s,baz=266,slow=13,SNR=15						
CMIG				Sn	Sn	**16 51 05.3**	**-1.1**
	6.9nm,0.3s,baz=281,slow=11,SNR=7.0						
CMIG				Lg	Lg	16 51 25.7	
	10nm,0.3s,baz=255,slow=17,SNR=4.6						
CMIG				LR	LR	16 51 54.5	
	comp=Z,154nm,21.4s,baz=186,slow=39						
	6.5nm,0.4s						
TXAR	**Lajitas Array**	**13.74**	**342**	Pn	**Pn**	**16 52 38.4**	**+1.6**
	baz=157,slow=15,SNR=1.6						
	0.2nm,0.7s						
NVAR	**Mina Array Bea**	**27.93**	**326**	P	**P**	**16 55 12.4**	**+0.3**
	0.2nm,0.3s,baz=144,slow=10.0,SNR=1.9						
	0.2nm,0.3s						
PDAR	**Pinedale Array**	**27.96**	**343**	P	**P**	**16 55 13.5**	**+1.2**
	1.0nm,0.9s,baz=155,slow=11,SNR=7.0						
	1.0nm,0.9s						
YKA	**Yellowknife Ar**	**47.49**	**350**	P	**P**	**16 57 56.8**	**+0.6**
	0.4nm,0.8s,baz=156,slow=7.1,SNR=7.2						
	0.4nm,0.8s						
H03N2	**Juan Fernandez**	**52.96**	**159**	T	T	17 55 41.8	
	baz=337,slow=77,SNR=28						
H03N1	**Juan Fernandez**	**52.97**	**159**	T	T	17 55 45.3	
	baz=337,slow=77,SNR=68						
H03N3	**Juan Fernandez**	**52.97**	**159**	T	T	17 55 46.2	
	baz=337,slow=77,SNR=52						
ILAR	**Eielson Array**	**58.22**	**338**	P	**P**	**16 59 17.7**	**+2.2**
	0.9nm,1.1s,baz=161,slow=5.8,SNR=5.0						
	0.9nm,1.1s						

IDC 01 17:02:04.2±1.5, 5°.84S×142°.62E, h0km, mb3.5/2, mbtmp3.4/5, ML3.3/2, Error ellipse: s-maj=39.7km s-min=25.4km az=74.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.72**	**128**	Pn	Pn	17 03 29.8	-0.8
	2.0nm,0.4s,baz=284,slow=17,SNR=1.7						
PMG				Sn	Sn	17 04 40.0	+3.0
	0.3nm,0.3s,baz=333,slow=22,SNR=1.4						
WRA	**Warramunga Arr**	**16.16**	**209**	Pn	Pn	17 05 51.1	-1.8
	0.1nm,0.3s,baz=29,slow=12,SNR=5.6						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**19.61**	**204**	P	P	17 06 34.6	+0.3
	0.1nm,0.3s,baz=31,slow=11,SNR=17						
	0.6nm,0.6s						
MJAR	**Mashiro Arr**	**42.37**	**355**	P	P	17 09 59.0	-1.3
	2.0nm,0.9s,baz=172,slow=9.0,SNR=2.1						
	2.0nm,0.9s						
MKAR	**Makanchi Array**	**74.64**	**322**	P	P	17 13 46.8	+1.2
	0.1nm,0.3s,baz=134,slow=6.2,SNR=1.5						
	0.1nm,0.3s						

*DJA **01** 17:04:42.2±0.3, 9°.S±4°×12°.3E±°, h146km±4km, M3.5/10, mb3.9/4, MLv3.3/10*
*IDC **01** 17:04:46.8±6.2, 8°.67S×123°.18E, h195km±59km, mb3.1/1, mbtmp3.3/3, Error ellipse: s-maj=210.6km s-min=17.1km az=57.0*
ISC 01 17:04:41.6±0.9, 8°.89S±0°.07×122°.81E±0°.06, h150km, n12, σ2°.29/18, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**0.62**	**294**	P	**Pn**	**17 05 04.4**	**+0.8**
MMRI				S	**Sn**	**17 05 20.5**	**+0.2**
EDFI	**Ende, Flores**	**1.11**	**277**	P	**Pn**	**17 05 08.2**	**+0.7**
EDFI				S	**Sn**	**17 05 27.0**	**-0.2**
SOEI	**Soe**	**1.68**	**121**	P	**Pn**	**17 05 15.6**	**+2.4**
SOEI				S	**Sn**	**17 05 40.0**	**+2.6**
BASI	**Baing, Sumba**	**2.57**	**239**	P	**Pn**	**17 05 24.8**	**+1.3**
BASI				S	**Sn**	**17 05 54.9**	**-1.0**
BBSI	**Bau Bau**	**3.39**	**356**	P	**Pn**	**17 05 33.8**	**-0.2**
BKSI	**Bulukumba**	**4.43**	**323**	P	**Pn**	**17 05 47.5**	**-0.1**
PLAI	**Plampang**	**4.97**	**270**	P	**Pn**	**17 05 55.1**	**+0.4**
TWSI	**Taliwang, Sumb**	**5.86**	**271**	P	**Pn**	**17 06 06.7**	**+0.3**
	8.8nm,1.2s,0.1nm						
SRBI	**Singaraja**	**7.55**	**276**	P	**Pn**	**17 06 30.3**	**+1.2**
	9.1nm,1.1s,0.1nm						
WRA	**Warramunga Arr**	**15.65**	**136**	P	**P**	**17 08 15.8**	**+0.6**
	0.3nm,0.3s,baz=324,slow=13,SNR=10						
WRA				S	**Sn**	**17 11 01.2**	**-7.4**
	0.9nm,0.9s,baz=321,slow=24,SNR=1.5						
ASAR	**Alice Springs**	**18.13**	**145**	P	**Pn**	**17 08 46.0**	**+2.0**
	0.3nm,0.5s,baz=318,slow=11,SNR=13						
ASAR				S	**S**	**17 12 01.3**	**-1.1**
	0.2nm,0.5s,baz=316,slow=20,SNR=1.8						
MKAR	**Makanchi Array**	**66.14**	**331**	P	**P**	**17 15 12.7**	**-0.1**
	0.7nm,1.0s,baz=139,slow=5.8,SNR=4.1						
	0.7nm,1.0s						

IDC 01 17:20:24.0±3.0, 29°.12N×101°.95E, h0km, mb3.5/3, mbtmp3.3/5, ML3.5/2, Error ellipse: s-maj=79.4km s-min=33.4km az=93.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**10.97**	**195**	Pn	Pn	17 23 02.3	+0.1
	0.2nm,0.3s,baz=6.2,slow=18,SNR=5.2						
	0.4nm,0.7s						
SONM	**Songino Array**	**19.00**	**9**	P	P	17 24 47.0	-0.3
	baz=197,slow=12,SNR=2.9						
	0.5nm,1.0s						
MKAR	**Makanchi Array**	**23.37**	**324**	P	P	17 25 35.9	+1.7
	0.7nm,0.8s,baz=133,slow=10.0,SNR=7.4						
	0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**27.77**	**338**	P	P	17 26 14.9	+0.6
	0.2nm,0.3s,baz=139,slow=7.3,SNR=1.9						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**27.79**	**327**	P	P	17 26 12.6	-1.9
	0.6nm,0.7s,baz=134,slow=10,SNR=4.8						
	0.6nm,0.7s						

IDC 01 17:20:27.9±2.1, 5°.56S×142°.56E, h0km, mb3.6/1, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=54.4km s-min=35.4km az=112.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.95**	**130**	Pn	Pn	17 21 57.1	-0.2
	3.4nm,0.3s,baz=338,slow=19,SNR=2.0						
PMG				Sn	Sn	17 23 00.7	-5.6
	0.9nm,0.3s,baz=216,slow=19,SNR=2.1						
WRA	**Warramunga Arr**	**16.39**	**208**	Pn	Pn	17 24 20.9	+1.4
	0.1nm,0.3s,baz=27,slow=14,SNR=2.3						
WRA				Lg	Lg	17 29 05.5	
	baz=29,slow=26						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**19.84**	**204**	P	P	17 25 00.1	-0.5
	0.2nm,0.3s,baz=31,slow=10,SNR=6.8						
	1.8nm,0.7s						
ILAR	**Eielson Array**	**86.84**	**24**	P	P	17 33 14.2	+0.1
	0.4nm,0.9s,baz=231,slow=4.7,SNR=2.5						
	0.4nm,0.9s						

IDC 01 17:26:55.0±3.7, 22°.78N×12°.04W, h0km, mb3.8/2, mbtmp3.7/4, ML3.8/2, Error ellipse: s-maj=121.4km s-min=34.2km az=78.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**16.18**	**124**	Pn	Pn	17 30 43.0	-0.9
	0.3nm,0.3s,baz=314,slow=12,SNR=9.0						
TORD				Sn	Sn	17 33 38.4	-5.8
	0.1nm,0.3s,baz=311,slow=22,SNR=1.8						
	0.5nm,0.5s						
DBIC	**Dimbokro**	**17.44**	**156**	P	Pn	17 31 00.4	+0.5
	0.5nm,0.3s,baz=331,slow=21,SNR=2.6						
DBIC				Sn	Sn	17 34 08.9	-5.9
	0.2nm,0.3s,baz=34,slow=16,SNR=1.7						
	2.7nm,0.8s						
HFS	**Hagfors**	**41.46**	**19**	P	P	17 34 42.8	-0.6
	1.2nm,0.6s,baz=227,slow=10.0,SNR=4.6						
	1.2nm,0.6s						
MKAR	**Makanchi Array**	**76.59**	**45**	P	P	17 38 48.2	+0.6
	0.3nm,0.5s,baz=286,slow=6.2,SNR=6.9						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**148.73**	**98**	PKPbc	PKPbc	17 46 44.2	-0.9
	1.2nm,1.1s,baz=304,slow=2.1,SNR=5.2						

*IDC **01** 17:27:14.4±0.4, 30°.21N×87°.66E, h0km, mb4.6/32, mbtmp4.5/35, ML3.7/3, MS4.0/33, Error ellipse: s-maj=14.8km s-min=10.0km az=36.0*
*MOS **01** 17:27:14.8±0.9, 30°.23N×87°.61E, h11km, mb5.0/42, MS4.2/11, Error ellipse: s-maj=7.0km s-min=3.1km az=119.8*
*BJI **01** 17:27:15.6±0.0, 30°.27N×87°.71E, h7km, mb4.6/65, mB5.2/43, Ms4.7/59, Ms7 4.5/55*
*BGR **01** 17:27:16.5, 29°.01N×87°.40E, h33km, mb4.5, Ms4.4*
*NEIC **01** 17:27:17.2±1.4, 30°.36N±0°.07×87°.63E±0°.09, h11km±4km, mb4.9/149, Error ellipse: s-maj=11.9km s-min=9.3km az=59.0*
*NDI **01** 17:27:18.9, 30°.24N×87°.66E, h10km, mb4.9, ML4.5, mb4.9(NEIC)*
*GCMT **01** 17:27:20.2±0.2, 30°.18N±0°.02×87°.70E±0°.01, h17km, MW5.0/91, Moment Tensor Solution. s45,c47; s91,c146; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.32±.13; $M_{\theta\theta}$-0.60±.09; $M_{\phi\phi}$2.93±.09; $M_{r\theta}$2.59±.33; $M_{r\phi}$0.23±.06; $M_{\theta\phi}$0.68±.20; Best double couple: M_o3.67600×10^{16} NP1:ϕ_s218.00000°, δ65.00000°, λ-54.00000°. NP2: ϕ_s338.00000°, δ43.00000°, λ-142.00000°. Principal axes: T 3.1380, Plg13.0000°, Azm282.0000°; N 1.0840, Plg33.0000°, Azm21.0000°; P -4.2140, Plg54.0000°, Azm174.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 01 17:27:16.2±0.5, 30°.22N±0°.03×87°.51E±0°.03, h9km±2km, h9km:pP-P, n515, σ1°70/515, mb4.8/181, MS4.1/52, 38C-18D, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTK	**Tadong**	**3.04**	**161**	*eP*	**Pb**	**17 28 09.7**	**-1.0**
LSA	**Lhasa**	**3.20**	**98**		**Pn**	**17 28 09.7**	**+2.6**
LSA	**Lhasa**	**3.20**	**98**	P	**Pn**	**17 28 09.7**	**+2.6**
GUWA	**GUWAHATI**	**5.45**	**136**	*eP*	**Pn**	**17 28 40.2**	**+2.6**
TEZP	**TEZPUR**	**5.88**	**126**	*eP*	**Pn**	**17 28 44.7**	**+1.2**
SHL	**Shillong**	**6.03**	**139**	*eP*	**Pn**	**17 28 47.1**	**+1.3**
ITAN	**ITANAGAR**	**6.25**	**118**	*eP*	**Pn**	**17 28 51.0**	**+2.3**
LGTI	**Lohaghat**	**6.36**	**265**	*eP*	Pn	17 28 57.2	+7.1
LGTI				*eP*	Pn	17 28 57.6	+7.5
PTH	**Pithoragarh**	**6.37**	**266**	*eP*	Pn	17 28 55.5	+5.0
BOK	**Bokaro**	**6.56**	**193**	*eP*	**Pn**	**17 28 57.0**	**+4.1**
JOSI	**Joshimath**	**6.88**	**275**	*eP*	Pn	17 29 02.4	+4.9
JOSI				IAML		17 30 23.1	
	comp=N,456nm,0.8s						
ALBI	**Allahabad**	**7.03**	**227**	*eP*	**Pn**	**17 29 02.9**	**+3.6**
ALBI				*eS*	**Sn**	**17 30 21.7**	**+2.3**
KOHI	**KOHIMA**	**7.35**	**126**	*eP*	**Pn**	**17 29 03.8**	**-0.2**
IMP	**Imphal**	**7.83**	**132**	*eP*	**Pn**	**17 29 12.1**	**+1.6**
KLP	**Kalpa**	**8.07**	**282**	*eP*	**Pn**	**17 29 17.0**	**+3.1**
KLP				*eS*	**Sn**	**17 30 47.6**	**+2.2**
DDI	**Dehra Dun**	**8.18**	**273**	*eP*	Pn	17 29 21.2	+6.0
BRDH	**Bariadhala**	**8.37**	**153**	Pn	**Pn**	**17 29 17.8**	**0.0**
	comp=N,67nm,0.3s,baz=270,slow=11,SNR=2.4						
GOMU	**GeErMu**	**8.54**	**44**	P	**Pn**	**17 29 23.5**	**+3.0**
GOMU				pP	pPn	17 29 29.1	+5.2
GOMU				sP	sPn	17 29 31.8	+5.9
GOMU				S	**Sn**	**17 31 05.2**	**+8.0**
GOMU				pmax	pmax		
	comp=N,14nm,1.0s						
GOMU				LR	LR		
	comp=N,2μm,5.9s						
GOMU				LR	LR		
	comp=N,2μm,5.8s						
GOMU				LR	LR		
	comp=N,2μm,5.9s						
SMLA	**Simla**	**8.96**	**278**	*eP*	**Pn**	**17 29 29.7**	**+4.0**
SMLA				*eS*	**Sn**	**17 31 05.2**	**-1.5**
JHSG	**JHARSUGUGA**	**9.06**	**203**	*eP*	**Pn**	**17 29 30.8**	**+3.5**
NDI	**New Delhi**	**9.10**	**263**	*eP*	**Pn**	**17 29 31.8**	**+3.9**
NDI				*eP*	**Pn**	**17 29 31.9**	**+4.1**
SAIH	**SAIHA**	**9.13**	**146**	*eP*	**Pn**	**17 29 28.3**	**+0.1**
JHNI	**Jhansi**	**9.24**	**241**	*eP*	**Pn**	**17 29 32.0**	**+2.3**
BLSP	**Bilaspur**	**9.39**	**212**	*eP*	**Pn**	**17 29 34.1**	**+2.4**
BHK	**Bhakra**	**9.62**	**280**	*eP*	**Pn**	**17 29 37.5**	**+2.6**
BHK				*eP*	**Pn**	**17 29 37.6**	**+2.7**
BHK				*ex*	x	17 31 25.6	
DHRM	**DHARAMSHALA**	**9.81**	**285**	*eP*	**Pn**	**17 29 40.5**	**+2.8**
DHRM				*eS*	**Sn**	**17 31 25.5**	**-2.6**
KUDL	**Kundal**	**9.85**	**261**	*eP*	**Pn**	**17 29 39.2**	**+1.2**
KUDL				*eP*	**Pn**	**17 29 39.8**	**+1.8**
THN	**Thein Dam**	**10.33**	**285**	*eP*	**Pn**	**17 29 46.1**	**+1.6**
THN				*ex*	x	17 31 39.8	
TNCH	**TengChong**	**11.04**	**115**	P	**Pn**	**17 29 54.4**	**-0.2**
TNCH				pP		17 29 56.6	
TNCH				S	**Sn**	**17 31 59.0**	**+0.7**
TNCH				SS	**SnSn**	**17 32 13.0**	**+2.8**
TNCH				pmax	pmax		
	comp=N,41nm,1.2s						
TNCH				pmax	pmax		
	comp=N,260nm,4.5s						
TNCH				LR	LR		
	comp=N,3μm,11.0s						
TNCH				LR	LR		
	comp=N,2μm,9.9s						
TNCH				LR	LR		
	comp=N,3μm,11.5s						
MND	**Mandalay**	**11.24**	**135**	Pn	**Pn**	**17 29 54.8**	**-2.2**
MND	**Mandalay**	**11.24**	**135**	P	**Pn**	**17 29 57.5**	**+0.4**
NRDN	**NARMADA NAGAR**	**11.89**	**234**	*ex*	Sn	17 32 32.4	+13
AJM	**Ajmer**	**11.93**	**255**	*eP*	**Pn**	**17 30 09.3**	**+2.7**
AJM				*eP*	**Pn**	**17 30 10.3**	**+3.7**
VIS	**Vishakhapatnam**	**13.01**	**198**	*eP*	**Pn**	**17 30 21.9**	**+0.5**
PZH	**PanZhiHua**	**13.06**	**103**	P	**Pn**	**17 30 21.2**	**-1.0**
PZH				PP	**P**	**17 30 34.0**	**+1.4**
PZH				S	**Sn**	**17 32 47.0**	**-0.8**
PZH				pmax	pmax		
	comp=N,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=N,190nm,7.0s						
PZH				LR	LR		
	comp=N,1μm,12.2s						
PZH				LR	LR		
	comp=N,1μm,12.1s						
PZH				LR	LR		
	comp=N,1μm,10.7s						
KSH	**Kashi**	**13.25**	**318**	P	**Pn**	**17 30 27.4**	**+2.8**
KSH				pP	P	17 30 31.4	-3.2
KSH				PP	**PnPn**	**17 30 35.3**	**+2.8**
KSH				S	**Sn**	**17 32 50.7**	**-1.4**
KSH				pmax	pmax		
	comp=N,80nm,0.8s						
KSH				LR	LR		
	comp=N,2μm,15.7s						
KSH				LR	LR		
	comp=N,3μm,14.3s						
KSH				LR	LR		
	comp=N,2μm,11.4s						
AKL	**Akola**	**13.39**	**227**	*eP*	**Pn**	**17 30 26.9**	**+0.4**
AKL				*eP*	**Pn**	**17 30 27.4**

SHLS Shalkode 14.43 336 *e*P **Pn 17 30 39.5 -1.2**
comp=Z,22nm,1.5s
SHLS Shalkode 14.43 336 *e*P **Pn 17 30 39.5 -1.2**
comp=Z,22nm,1.5s,baz=336
NRN Naryn 14.56 323 Pn 17 30 46.0 +3.2
NRN Naryn 14.56 323 P **Pn 17 30 46.0 +3.2**
PDGK Podgornoye 14.57 336 P **Pn 17 30 43.4 +0.7**
UZB Uzynbulak 14.58 335 *e*P **Pn 17 30 43.9 +1.1**
UZB pmax pmax
comp=Z,13nm,1.3s
UZB Uzynbulak 14.58 335 *e*P **Pn 17 30 43.9 +1.1**
comp=Z,13nm,1.3s,baz=334
SATY Saty 14.74 333 *e*P **Pn 17 30 45.4 +0.4**
SATY *e*S **Sn 17 33 29.5 +1.0**
SATY pmax pmax
comp=Z,17nm,1.1s
SATY Saty 14.74 333 *e*P **Pn 17 30 45.5 +0.4**
comp=Z,17nm,1.1s,baz=332
SATY *e*S **Sn 17 33 29.6 +1.0**
baz=332
ZHN Zhinishke 14.82 333 *e*P **Pn 17 30 46.9 +0.8**
ZHN pmax pmax
comp=Z,18nm,1.1s
ZHN Zhinishke 14.82 333 *e*P **Pn 17 30 47.0 +0.8**
comp=Z,18nm,1.1s,baz=333
LZH Lanzhou 14.88 63 *e*P **Pn 17 30 46.7 -0.2**
LZH sP P 17 30 54.3 +1.6
LZH SS **S 17 33 51.1 +0.9**
LZH pmax pmax
comp=Z,40nm,1.7s
LZH pmax pmax
comp=Z,320nm,4.1s
LZH LR LR
comp=Z,2µm,14.5s
LZH LR LR
comp=Z,1µm,8.3s
LZH LR LR
comp=Z,1µm,15.1s
JASL Jaisalmer 14.96 261 *e*P **Pn 17 30 48.8 +0.9**
JASL *e*P **P 17 30 49.1 -4.4**
JASL *i* x x 17 31 01.4
JASL *i* x x 17 31 01.7
ULHL Ulahol 15.04 326 P **P 17 30 54.3 -0.3**
SNR=7.2
HYB Hyderabad 15.14 215 *e*P **Pn 17 30 49.2 -1.2**
HYB *e* 17 33 27.0
HYB IVMs_BB IVMs_BB 17 37 50.6
comp=Z,2µm,6.5s
CRAI Chiangrai 15.29 128 Pn **Pn 17 30 48.9 -3.5**
TNSS Tian-Shan 15.33 329 *e*P **Pn 17 30 54.8 +1.6**
TNSS Tian-Shan 15.33 329 *e*P **Pn 17 30 54.8 +1.6**
baz=329
CHTO Chiang Mai 15.38 135 Pn **Pn 17 30 49.3 -4.3**
CHTO IAmb IAmb 17 31 02.3
comp=Z,99nm,1.9s
CHTO Chiang Mai 15.38 135 P **Pn 17 30 54.5 +0.8**
CHTO Chiang Mai 15.38 135 P **Pn 17 30 54.4 +0.8**
CHTO pmax pmax
comp=Z,26nm,0.9s
MDOK Medeo 15.39 330 *e*P **Pn 17 30 55.1 +1.4**
MDOK Medeo 15.39 330 *e*P **Pn 17 30 55.1 +1.4**
baz=330
CM31 Chiang Mai Arr 15.66 136 Pn 17 30 55.8 -1.4
CMAR Chiang Mai Arr 15.66 136 Pn **Pn 17 30 54.1 -3.1**
CMAR Chiang Mai Arr 15.66 136 *i* P **Pn 17 30 58.0 +0.9**
CMAR pmax pmax
comp=Z,15nm,1.1s
CMAR Chiang Mai Arr 15.66 136 Pn **Pn 17 30 55.7 -1.5**
comp=Z,0.3nm,0.3s,baz=316,slow=13,SNR=34
CMAR LR LR 17 36 48.0
comp=Z,481nm,21.9s,baz=320,slow=37
comp=Z,7.8nm,0.9s
ARLS Aral 15.75 321 P **P 17 31 04.2 +1.8**
OHH Osh 15.79 315 P **Pn 17 30 59.4 +0.5**
OHH pmax pmax
comp=Z,30nm,0.9s
DRK Karamyk 15.85 310 Pn 17 30 57.6 -2.2
TKM2 Tokmak 2 15.86 326 P **P 17 31 02.1 -1.6**
SNR=25
TKM2 Tokmak 2 15.86 326 P **P 17 31 03.3 -0.4**
UCH Uchtor 15.90 322 P **Pn 17 31 02.4 +1.7**
SNR=38
CHKK Chushkaly 15.98 331 *e*P **Pn 17 31 02.5 +1.3**
CHKK Chushkaly 15.98 331 *e*P **Pn 17 31 02.5 +1.3**
baz=331
KBK Karagaybulak 15.99 324 P **P 17 31 04.3 -0.8**
SNR=23
ARSB Arslanbob 16.16 317 Pn **Pn 17 31 02.9 -0.8**
ARSB Arslanbob 16.16 317 P **Pn 17 31 02.9 -0.8**
ARSB pmax pmax
comp=Z,8.0nm,1.1s
KBL Kabul 16.18 290 Pn 17 31 01.7 -2.4
KBL IAmb IAmb 17 31 13.3
comp=Z,55nm,0.8s
KBL Kabul 16.18 290 P **Pn 17 31 01.7 -2.4**
KBL pmax pmax
comp=Z,55nm,0.8s
AAK Ala-Archa 16.20 323 P **P 17 31 11.3 +3.9**
SNR=7.3
AAK Ala-Archa 16.20 323 Pn 17 31 02.1 -2.1
AAK Ala-Archa 16.20 323 *i* P **Pn 17 31 04.7 +0.4**
AAK Ala-Archa 16.20 323 Pn **Pn 17 31 05.8 +1.5**
comp=Z,0.1nm,0.3s,baz=164,slow=14,SNR=2.1
comp=Z,2.5nm,0.8s
KUU Kurty 16.28 330 *e*P **P 17 31 06.8 -1.3**
KUU pmax pmax
comp=Z,26nm,0.8s
KUU Kurty 16.28 330 *e*P **P 17 31 06.8 -1.3**
comp=Z,26nm,0.8s,baz=330
CHMS Chumysh 16.34 325 P **P 17 31 09.3 +0.6**
SNR=6.9
PHRA Phrae 16.43 132 Pn 17 31 04.3 -2.7
PHRA IAmb IAmb 17 31 15.2
comp=Z,74nm,0.9s
EKS2 Erkin-Say 16.60 322 P **P 17 31 14.2 +2.5**
SNR=48
GAR Garm 16.63 306 P **Pn 17 31 06.1 -3.5**
GAR IAmb IAmb 17 31 12.6
comp=Z,119nm,0.9s
USP Ospenovka 16.66 325 P **P 17 31 12.4 +0.1**
SNR=15
SGDS Sogindy 16.73 326 *e*P **P 17 31 12.5 -0.7**
BTK Batken 16.79 310 Pn 17 31 09.8 -1.9
BTK Batken 16.79 310 P **Pn 17 31 09.8 -1.9**
BTK pmax pmax
comp=Z,113nm,0.6s
POO Poona 17.02 230 *e*P **P 17 31 19.8 +3.4**
MK31 Makanchi Array 17.04 348 Pn **Pn 17 31 10.9 -3.8**
MK31 Makanchi Array 17.04 348 *ce*P **Pn 17 31 13.9 -0.8**
MKAR Makanchi Array 17.04 348 Pn **Pn 17 31 10.9 -3.8**
MKAR Makanchi Array 17.04 348 P **Pn 17 31 14.3 -0.4**
comp=Z,0.3nm,0.3s,baz=161,slow=12,SNR=26
MKAR PcP **PcP 17 35 59.5 -0.6**
comp=Z,0.6nm,0.7s,baz=182,slow=3.5,SNR=1.2
MKAR LR LR 17 38 18.2
comp=Z,151nm,21.5s,baz=170,slow=39
comp=Z,5.4nm,0.7s
MAKZ Makanchi 17.12 347 Pn 17 31 12.1 -3.5
MAKZ Makanchi 17.12 347 P **Pn 17 31 12.1 -3.5**
MAKZ pmax pmax
comp=Z,15nm,0.9s
SLVN Son La 17.20 117 Pn 17 31 15.9 -0.9
GYA Guiyang 17.27 98⇑ *i*P **Pn 17 31 16.9 -0.9**
GYA PP **PnPn 17 31 35.0 +7.3**
GYA S **Sn 17 34 26.7 -3.5**
GYA pmax pmax
comp=Z,33nm,1.7s
GYA LR LR
comp=Z,480nm,8.2s
GYA LR LR
comp=Z,390nm,9.0s
GYA LR LR
comp=Z,580nm,8.4s
CHGR Chuyangaron 17.30 304 P **Pn 17 31 14.2 -3.9**
CHGR IAmb IAmb 17 31 25.5
comp=Z,130nm,1.0s
CHGR Chuyangaron 17.30 304 P **Pn 17 31 14.2 -3.9**
CHGR pmax pmax
comp=Z,130nm,1.0s
ZSN Zaisan 17.33 354 *e*P **Pn 17 31 18.6 +0.3**
ZSN *e*S **Sn 17 34 31.7 +0.5**
ZSN Zaisan 17.33 354 *e*P **Pn 17 31 18.6 +0.3**
baz=354
ZSN *e*S **Sn 17 34 31.7 +0.5**
baz=354
TRKS Terek-Say 17.39 315 P **Pn 17 31 17.0 -2.2**
TRKS pmax pmax
comp=Z,48nm,0.6s
SIMJ Simiganj 17.41 304 Pn 17 31 14.8 -4.7
DGPR DIGLIPUR 17.68 162 *ex* **Pn 17 31 22.1 -0.7**
KAD Karad 17.70 226 *e*P **P 17 31 27.6 +3.7**
KAD *e*P **P 17 31 27.6 +3.7**
KAD *i* x x 17 31 31.6
KAD IAmb IAmb 17 31 33.2
comp=Z,187nm,1.3s
DZA Taraz 18.10 319 *e*P **P 17 31 29.8 +1.6**
DZA Taraz 18.10 319 *e*P **P 17 31 29.9 +1.6**
baz=318
BTLS Baital 18.20 328 *e*P **P 17 31 30.5 +1.2**
BTLS Baital 18.20 328 *e*P **P 17 31 30.5 +1.2**
baz=328
IUG luzhnay 18.42 315 *e*P **Pn 17 31 32.9 +1.0**
IUG pmax pmax
comp=Z,29nm,0.7s
IUG luzhnay 18.42 315 *e*P **Pn 17 31 33.0 +1.0**
comp=Z,29nm,0.7s,baz=315
XAN Xi'an 18.52 73⇑ P **P 17 31 30.6 -2.4**
XAN pP Pn 17 31 34.2 +1.0
XAN S **Sn 17 34 54.6 -5.8**
XAN sS S 17 35 03.2 -1.3
XAN pmax pmax
comp=Z,40nm,0.8s
XAN pmax pmax
comp=Z,3µm,3.9s
XAN LR LR
comp=Z,980nm,12.7s
XAN LR LR
comp=Z,2µm,10.6s
XAN LR LR
comp=Z,3µm,10.6s
NONG Nongkai 18.68 127 P **Pn 17 31 35.2 +0.1**
comp=Z,69nm,1.1s
KK31 Karatay Array 18.70 318 P 17 31 34.2 -0.7
KK31 Karatay Array 18.70 318 P **P 17 31 34.2 -0.7**
KK31 pmax pmax
comp=Z,11nm,0.9s
KKAR Karatay Array 18.70 318 Pn 17 31 35.1 0.0
KKAR Karatay Array 18.70 318 P 17 31 35.0 +0.1
KKAR Karatay Array 18.70 318 P **Pn 17 31 35.2 0.0**
KKAR pmax pmax
comp=Z,11nm,0.9s
CHM Chimkent 18.78 315 *e*P **Pn 17 31 38.2 +2.0**
CHM Chimkent 18.78 315 *e*P **Pn 17 31 38.2 +2.0**
baz=315
ENH Enshi 18.99 84 P 17 31 37.6 -0.6
ENH Enshi 18.99 84 P **Pn 17 31 40.5 +1.7**
BRLS Borolday 19.05 317 *e*P **Pn 17 31 40.1 +0.6**
BRLS Borolday 19.05 317 *e*P **Pn 17 31 40.1 +0.6**
baz=316
SRDT SRDT 19.07 143 P **Pn 17 31 40.6 +0.7**
PBA Port Blair 19.10 164 *e*P **Pn 17 31 41.5 +1.4**
DGZ Jazzator, Alta 19.46 360 *i* P **P 17 31 42.6 -0.7**
DGZ pmax pmax
comp=Z,11nm,0.6s
NAYO Nakonayok 20.31 138 P Pn 17 31 54.0 -0.6
SALM Salem 20.40 207 *e*P Pn 17 31 58.2 +2.6
SEM Semipalatinsk 20.90 347 *e*P **P 17 31 59.4 +0.5**
SEM pmax pmax
comp=Z,22nm,1.0s
SEM Semipalatinsk 20.90 347 *e*P **P 17 31 59.5 +0.5**
comp=Z,22nm,1.0s,baz=347
BTO Baotou 21.02 54 *e*P **P 17 32 00.2 0.0**
BTO pP **pP 17 32 04.1 -0.2**
BTO sP **sP 17 32 07.3 +1.1**
BTO PP **PnPn 17 32 22.2 +3.2**
BTO S **S 17 35 54.5 +0.1**
BTO sS Sn 17 35 59.2 -1.3
BTO SS **SnSn 17 36 18.9 +3.6**
BTO pmax pmax
comp=Z,47nm,1.3s
BTO pmax pmax
comp=Z,750nm,4.2s
BTO LR LR
comp=Z,3µm,20.5s
BTO LR LR
comp=Z,2µm,20.4s
BTO LR LR
comp=Z,1µm,19.0s
KURBB Kurchatov Arra 21.47 344 P **P 17 32 03.7 -1.2**
KURBB Kurchatov Arra 21.47 344 P **P 17 32 04.4 -0.5**
comp=Z,34nm,1.1s,baz=154,slow=11,SNR=39
KURBB PcP **PcP 17 36 07.5 -0.1**
comp=Z,2.0nm,0.7s,baz=183,slow=2.0,SNR=7.2
KURBB ScP **ScP 17 39 44.5 -0.4**
comp=Z,0.2nm,0.4s,baz=159,slow=2.8,SNR=1.1
KURBB LR LR 17 41 45.1
comp=Z,629nm,18.6s,baz=148,slow=40
comp=Z,34nm,1.1s
LYN LuoYang 21.50 72 *e*P **P 17 32 04.7 -0.6**
LYN pP pP 17 32 08.7 -0.7
LYN sP sP 17 32 12.2 +0.9
LYN S **S 17 36 03.5 -0.3**
LYN pmax pmax
comp=Z,31nm,0.5s
LYN pmax pmax
comp=Z,560nm,6.8s
LYN LR LR
comp=Z,1µm,14.6s
LYN LR LR
comp=Z,1µm,11.8s
LYN LR LR
comp=Z,2µm,9.0s
KURK Kurchatov 21.54 344 P **P 17 32 04.3 -1.2**
KURK IAmb IAmb 17 32 14.2
comp=Z,52nm,1.1s
KURK Kurchatov 21.54 344 *ce*P **P 17 32 05.2 -0.4**
KURK pmax pmax
comp=Z,74nm,1.7s
HRA Herat 21.74 288 P **P 17 32 07.2 -1.0**
HRA IAmb IAmb 17 32 16.3
comp=Z,82nm,1.9s
TIY Taiyuan 21.94 63⇑ P **P 17 32 14.4 +4.2**
TIY S **S 17 36 08.0 -4.6**
TIY pmax pmax
comp=Z,70nm,0.8s
TIY LR LR
comp=Z,1µm,11.0s
TIY LR LR
comp=Z,520nm,9.8s
TIY LR LR
comp=Z,440nm,12.8s
KOD Kodaikanal 21.98 207 *e*P **P 17 32 14.0 +3.1**
KOD IAmb IAmb 17 32 19.6
comp=Z,48nm,1.2s
HHC Hu-ho-hao-te 22.20 55 *e*P **P 17 32 12.2 -0.7**
HHC sP sP 17 32 21.9 +3.0
HHC PP **PnPn 17 32 34.5 -0.7**
HHC S **S 17 36 14.4 -3.1**
HHC sS pS 17 36 22.2 -1.2
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,220nm,4.9s
HHC LR LR
comp=Z,1µm,10.4s
HHC LR LR
comp=Z,610nm,9.8s
HHC LR LR
comp=Z,1µm,10.5s
UBPT Khong Chiam 22.21 128 P **P 17 32 12.4 -0.6**
UBPT IAmb IAmb 17 32 20.4
comp=Z,28nm,0.8s
UBPT Khong Chiam 22.21 128 P **P 17 32 12.6 -0.4**
CNSH ChangSha 22.27 89⇓ P **P 17 32 12.1 -1.6**
CNSH S **S 17 36 16.1 -2.8**
CNSH pmax pmax
comp=Z,17nm,0.9s
CNSH LR LR
comp=Z,670nm,13.7s
CNSH LR LR
comp=Z,2µm,10.1s
CNSH LR LR
comp=Z,2µm,10.8s
BRZS Berezniki 22.69 335 *e*P **P 17 32 19.3 +1.3**
BRZS pmax pmax
comp=Z,23nm,1.3s
BRZS Berezniki 22.69 335 *e*P **P 17 32 19.3 +1.3**
comp=Z,23nm,1.3s,baz=334
SONM Songino Array 22.80 34 P **P 17 32 19.5 +0.1**
SONM IAmb IAmb 17 32 24.4
comp=Z,39nm,1.2s
SONM Songino Array 22.80 34 P **P 17 32 19.5 +0.1**
SONM pmax pmax
comp=Z,39nm,1.2s
SONM Songino Array 22.80 34 P **P 17 32 18.6 -0.7**
comp=Z,18nm,1.0s,baz=224,slow=11,SNR=33
SONM PcP **PcP 17 36 10.4 -0.2**
comp=Z,1.8nm,0.6s,baz=209,slow=2.9,SNR=16
SONM ScP **ScP 17 39 48.1 -0.5**
comp=Z,0.2nm,0.5s,baz=180,slow=2.9,SNR=2.1
SONM LR LR 17 41 27.7
comp=Z,274nm,21.4s,baz=222,slow=38
comp=Z,18nm,1.0s
QIZ Qiongzhong 23.11 114 P **P 17 32 23.9 +1.3**
QIZ sP **pP 17 32 27.4 +0.7**
QIZ S **S 17 36 33.8 -0.3**
QIZ pmax pmax
comp=Z,18nm,1.5s
QIZ pmax pmax
comp=Z,450nm,4.1s
QIZ LR LR
comp=Z,750nm,18.5s
QIZ LR LR
comp=Z,570nm,19.3s
QIZ LR LR
comp=Z,410nm,16.8s
QIZ Qiongzhong 23.11 114 P **P 17 32 22.7 +0.1**
QIZ IAmb IAmb 17 32 28.8
comp=Z,60nm,1.5s
WHN Wuhan 23.14 82⇑ P **P 17 32 23.5 +0.7**
WHN sP **sP 17 32 28.1 -0.7**
WHN S **S 17 36 37.2 +2.7**
WHN pmax pmax
comp=Z,140nm,1.2s
WHN LR LR
comp=Z,4µm,10.1s
WHN LR LR
comp=Z,3µm,8.6s
WHN LR LR
comp=Z,5µm,15.5s
ULN Ulaanbaatar 23.15 35 P **P 17 32 21.8 -1.2**
ULN Ulaanbaatar 23.15 35 *ce*P **P 17 32 21.8 -1.2**
ULN pmax pmax
comp=Z,17nm,1.0s
ZAK Zakamensk 23.37 26 *e*P **P 17 32 24.7 -0.4**
ZAK pmax pmax
comp=Z,22nm,1.0s
MOY Mondy 23.65 21 *e*P **P 17 32 27.6 -0.3**
MOY pmax pmax
comp=Z,36nm,2.3s
HNS HongShan 23.66 65⇓ P **P 17 32 28.8 +0.9**
HNS *e*S **S 17 36 39.8 -2.9**
HNS pmax pmax
comp=Z,16nm,0.8s
HNS LR LR
comp=Z,2µm,15.1s
HNS LR LR
comp=Z,470nm,12.3s
HNS LR LR
comp=Z,890nm,16.7s
PALK Pallekele 23.70 197 P **P 17 32 32.3 +3.7**
PALK Pallekele 23.70 197 LR LR 17 42 15.2
comp=Z,184nm,18.3s,baz=129,slow=38
ZAA0 Zalesovo Array 23.80 356 P **P 17 32 28.8 -0.3**
ZAA0 IAmb IAmb 17 32 32.7
comp=Z,32nm,1.1s
ZALV Zalesovo Beam 23.80 356 P **P 17 32 28.8 -0.3**
ZALV Zalesovo Beam 23.80 356 P **P 17 32 29.4 +0.3**
comp=Z,12nm,0.7s,baz=179,slow=9.8,SNR=32
ZALV PcP **PcP 17 36 11.2 -1.1**
comp=Z,0.6nm,0.4s,baz=213,slow=2.2,SNR=3.2
ZALV ScP **ScP 17 39 51.4 +0.5**
comp=Z,0.4nm,0.4s,baz=142,slow=7.3,SNR=1.9
ZALV LR LR 17 43 23.7
comp=Z,345nm,19.1s,baz=156,slow=41
comp=Z,12nm,0.7s
SURA Surathani 23.81 149 P **P 17 32 30.5 +1.0**
SRIT Nakonsritamara 24.30 150 P **P 17 32 34.7 +0.5**
SRIT Nakonsritamara 24.30 150 P **P 17 32 36.3 +2.1**
BJT Baijiatuau 25.31 59 P **P 17 32 43.7 +0.6**
GEYT Alibeck 25.46 295 P **P 17 32 45.0 +0.4**
GEYT IAmb IAmb 17 33 18.0
comp=Z,16nm,0.8s
GEYT Alibeck 25.46 295 P **P 17 32 46.3 +1.7**
comp=Z,8.4nm,0.8s,baz=118,slow=8.6,SNR=13
GEYT PcP **PcP 17 36 17.1 +0.7**
comp=Z,3.2nm,0.8s,baz=157,slow=4.8,SNR=3.3
comp=Z,8.4nm,0.8s
GYA0 ALIBECK ARRAY 25.46 295 P **P 17 32 43.7 -0.9**
GYA0 pmax pmax
comp=Z,18nm,0.9s
GYA0B ALIBECK ARRAY 25.46 295 P **P 17 32 43.7 -0.9**
GYA0B IAmb IAmb 17 33 18.4
comp=Z,18nm,0.9s
BVA0 Borovoye Array 26.01 336 *i* P **P 17 32 49.8 +0.5**
BVAR Borovoye Array 26.01 336 P **P 17 32 50.2 +0.9**
comp=Z,8.8nm,0.6s,baz=152,slow=12,SNR=31
BVAR PcP **PcP 17 36 17.4 +0.1**
comp=Z,5.3nm,0.5s,baz=180,slow=0.9,SNR=22
BVAR LR LR 17 44 16.8
comp=Z,569nm,18.4s,baz=143,slow=39
comp=Z,8.8nm,0.6s
BRVK Borovoye 26.07 336 P **P 17 32 49.4 -0.5**
BRVK IAmb IAmb 17 32 57.2
comp=Z,34nm,1.6s
BRVK Borovoye 26.07 336 *ce*P **P 17 32 49.6 -0.3**
BRVK pmax pmax
comp=Z,16nm,1.3s
XLT XiLinHaoTe 26.42 51 *e*P **P 17 32 53.6 +0.3**
XLT pmax pmax
comp=Z,6.0nm,1.2s
XLT pmax pmax
comp=Z,280nm,5.4s
XLT LR LR
comp=Z,96nm,18.8s
XLT LR LR
comp=Z,580nm,21.0s
XLT LR LR
comp=Z,420nm,13.6s
NJ2 Nanjing 26.85 78 *e*P **P 17 32 56.1 -1.0**
NJ2 pP **pP 17 33 00.1 -1.3**
NJ2 sP **sP 17 33 01.4 -1.8**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,350nm,3.9s
KULM Kulim 27.72 151 P **P 17 33 03.4 -1.6**
KULM IAmb IAmb 17 33 07.1
comp=Z,17nm,0.9s
AB31 Akbulak array 28.23 320 *i* P **P 17 33 10.5 +1.1**
ABKAR Akbulak array 28.23 320 P **P 17 33 10.2 +0.8**
ABKAR Akbulak array 28.23 320 IAmb IAmb 17 33 13.9
comp=Z,9.4nm,0.8s
SNSI Sinabang, Aceh 28.89 162 P **P 17 33 13.9 -1.6**
comp=Z,54nm,1.1s
SSE Sheshan 28.92 80 P **P 17 33 15.0 -0.7**
SSE S **S 17 38 06.0 -0.4**
SSE pmax pmax
comp=Z,12nm,0.8s
SSE pmax pmax
comp=Z,220nm,6.0s
SSE LR LR
comp=Z,260nm,15.0s
SSE LR LR
comp=Z,430nm,14.9s
AKTO Aktyubinsk 29.91 321 P **P 17 33 24.9 +0.6**
GSI Gunungsitoli 30.30 160 P **P 17 33 28.9 +0.9**
GSI IAmb IAmb 17 33 30.5
comp=Z,20nm,0.9s
GSI Gunungsitoli 30.30 160 P **P 17 33 30.4 +2.4**
GSI Gunungsitoli 30.30 160 P **P 17 33 29.1 +1.1**
comp=Z,27nm,1.2s
HIA Hailar 30.91 43 P **P 17 33 32.9 -0.3**
HIA IAmb IAmb 17 33 34.4
comp=Z,12nm,0.7s
HIA Hailar 30.91 43 P **P 17 33 34.1 +1.0**
HIA Hailar 30.91 43 P **P 17 33 32.9 -0.3**
HIA pmax pmax
comp=Z,13nm,0.7s
PBSI Pulau Batu 31.80 159 P **P 17 33 40.9 -0.3**
comp=Z,21nm,1.7s
MYKOM Kota Tinggi 32.24 148 IAmb IAmb 17 33 46.5
comp=Z,14nm,0.9s
CN2 Changchun 32.89 55 *e*P **P 17 33 51.0 +0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
BOD Bodaibo 33.11 26 *e*P **P 17 33 52.4 +0.1**

BOD pmax pmax
comp=Z,21nm,1.1s
ARU Arti 33.16 331 P P 17 33 52.6 -0.2
ARU Arti 33.16 331 *d* iP **P 17 33 53.7 +0.9**
ARU 17 34 58.7
ARU S **S 17 39 16.2 +4.0**
ARU SS **SnSn 17 41 14.2 +3.1**
ARU pmax pmax
comp=Z,40nm,1.4s
ARU Arti 33.16 331 LR LR 17 48 38.1
comp=Z,351nm,19.3s,baz=125,slow=39
SISI Saibi 33.25 159 P **P 17 33 54.4 +0.5**
comp=Z,38nm,1.3s
PDSI Padang 33.33 156 P P 17 33 49.7 -4.9
comp=Z,12nm,0.9s
TJN Taejon 33.70 69*ce*P **P 17 33 57.6 -0.1**
KSRS Korea Array 34.13 67 P **P 17 33 59.0 -2.5**
KSRS Korea Array 34.13 67 P **P 17 33 59.0 -2.5**
comp=Z,3.1nm,0.7s,baz=263,slow=8.6,SNR=8.6
KSRS LR LR 17 47 56.8
comp=Z,213nm,20.1s,baz=260,slow=37
comp=Z,3.1nm,0.7s
MAK Makhachkala 34.23 303*c* iP **P 17 33 57.6 -4.7**
MAK *e* 17 35 11.2
MAK *e*S **S 17 39 22.3 -6.8**
MAK *e*SS **SnSn 17 41 35.4 -2.1**
MAK pmax pmax
comp=Z,375nm,1.2s
MAK MLR MLR
comp=Z,804nm,13.0s
DSRI Dabo 34.58 149 P **P 17 34 05.4 -0.1**
comp=Z,19nm,1.1s
BNX BinXian 34.66 52 ⇓P **P 17 34 06.3 +0.3**
BNX pmax pmax
comp=Z,11nm,1.3s
BNX pmax pmax
comp=Z,730nm,4.9s
TGY Tagaytay City 34.70 110 LR LR 17 48 07.0
comp=Z,211nm,20.2s,baz=305,slow=36
HEH HeiHe 35.88 45 *e*P **P 17 34 16.1 -0.3**
HEH pmax pmax
comp=Z,10.0nm,0.8s
HEH pmax pmax
comp=Z,520nm,4.3s
MDJ Mudanjiang 35.97 55 P **P 17 34 16.2 -1.0**
MDJ pmax pmax
comp=Z,24nm,1.7s
MDJ pmax pmax
comp=Z,800nm,4.6s
PPBI Pangkal Pinang 36.78 148 P **P 17 34 23.7 -0.7**
ZEA Zeya 37.04 39 *e*P **P 17 34 26.5 +0.3**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=Z,300nm,11.0s
ONI Oni 37.16 302 P **P 17 34 28.7 +1.2**
ONI IAmb IAmb 17 34 34.8
comp=Z,32nm,1.1s
ONI Oni 37.16 302 P **P 17 34 28.7 +1.2**
ONI pmax pmax
comp=Z,32nm,1.1s
USRK Ussuriysk Ar. 37.62 56 P **P 17 34 30.1 -1.1**
comp=Z,6.2nm,0.7s,baz=255,slow=7.6,SNR=12
USRK LR LR 17 51 11.4
comp=Z,255nm,21.5s,baz=265,slow=38
comp=Z,6.2nm,0.7s
KBZ Khabaz 37.66 304 P **P 17 34 32.4 +0.8**
comp=Z,4.1nm,1.0s,baz=163,slow=12,SNR=3.3
comp=Z,4.1nm,1.0s
STKI Sintang 37.67 138 P **P 17 34 31.9 -0.1**
comp=Z,5.3nm,0.4s
KIV Kislovodsk 37.84 304 *e*P **P 17 34 33.6 +0.3**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,192nm,16.0s
RAYN Ar Rayn 37.90 270 P **P 17 34 34.6 +0.6**
RAYN Ar Rayn 37.90 270 P **P 17 34 34.6 +0.6**
RAYN pmax pmax
comp=Z,10.0nm,1.1s
KLR Kul'dur 38.31 48*ce*P **P 17 34 37.1 0.0**
KLR pmax pmax
comp=Z,10.0nm,1.0s
KLR Kul'dur 38.31 48 LR LR 17 50 40.7
comp=Z,186nm,19.0s,baz=267,slow=37
KIRV Kirov 38.43 329*ce*P **P 17 34 37.6 -0.3**
VRH Novokhopyorsk 39.74 315 *e*P **P 17 34 49.4 +0.4**
VRH pmax pmax
comp=Z,20nm,0.7s
SOC Sochi 39.95 303 *e*P **P 17 34 49.3 -1.6**
SOC *i* 17 36 21.0
SOC *e*PPP PPP 17 36 45.5
SOC *e*S **S 17 40 55.4 -0.8**
SOC *e*SS **SS 17 43 53.3 +0.6**
SOC MLR MLR
comp=Z,195nm,16.0s
MTKI Muara Teweh, K 40.51 135 P **P 17 34 54.7 -1.0**
VORD Divnogorie 41.18 314 *e*P **P 17 35 01.4 +0.5**
VORD pmax pmax
comp=Z,20nm,1.0s
VSR Storozhevoye 41.31 315 *e*P **P 17 35 02.4 +0.4**
VSR pmax pmax
comp=Z,20nm,1.2s
ANN Anapa 41.66 305 *e*P **P 17 35 00.4 -4.5**
ANN pmax pmax
comp=Z,188nm,1.0s
LPSR Galich'ya Gora 41.75 317 *e*P **P 17 35 05.8 +0.3**
LPSR pmax pmax
comp=Z,30nm,0.8s
YAK Yakutsk 41.92 28 P **P 17 35 06.0 -0.8**
YAK Yakutsk 41.92 28 *e*P **P 17 35 06.5 -0.3**
YAK *e**PP **pP 17 35 10.6 -0.6**
YAK *e* 17 37 01.8
YAK *e*S **S 17 41 25.8 +0.8**
YAK *e*SS **SS 17 44 30.0 -1.3**
YAK pmax pmax
comp=Z,12nm,1.0s
YAK pmax pmax
comp=N,3.0nm,1.2s
YAK pmax pmax
comp=E,6.0nm,1.4s
YAK smax smax
comp=N,369nm,4.3s
YAK smax smax
comp=E,351nm,5.4s
YAK MLR MLR
comp=Z,237nm,22.0s
YAK MLR MLR
comp=N,147nm,23.0s
YAK MLR MLR
comp=E,124nm,32.0s
YAK Yakutsk 41.92 28 LR LR 17 53 36.9
comp=E,234nm,19.1s,baz=226,slow=38
MJAR Matsushiro Arr 42.41 68 P **P 17 35 09.5 -1.7**
comp=E,6.5nm,0.9s,baz=282,slow=11,SNR=9.1
MJAR LR LR 17 55 59.5
comp=E,87nm,18.0s,baz=280,slow=41
comp=E,6.5nm,0.9s
DAV Davao City (W) 42.47 115 LR LR 17 54 50.4
comp=E,141nm,18.2s,baz=300,slow=39
KPJI Karang Pucung 42.62 148 P **P 17 35 09.7 -3.3**
comp=E,21nm,0.6s
MOS Moscow 43.25 321 *e*P **P 17 35 17.4 -0.3**
MOS pmax pmax
comp=Z,32nm,1.2s
OBN Obninsk 43.68 320 ⇓*i*P **P 17 35 20.6 -0.6**
OBN *e* 17 37 06.5
OBN pmax pmax
comp=Z,41nm,1.6s
OBN MLR MLR
comp=Z,184nm,18.0s
KLMR Klimovskoe 43.93 328 *e*P **P 17 35 22.6 -0.5**
KLMR *e* 17 37 09.2
KLMR pmax pmax
comp=Z,56nm,1.3s
KLMR MLR MLR
comp=Z,581nm,14.0s
BALJ Balqa 44.08 286 IAmb IAmb 17 35 30.5
comp=Z,14nm,1.0s
MMAI Mount Meron Ar 44.09 288 P **P 17 35 24.2 -0.7**
comp=Z,0.5nm,0.3s,baz=30,slow=12,SNR=2.4
MMAI PcP **PcP 17 37 11.0 +0.8**
comp=Z,2.4nm,0.6s,baz=66,slow=5.0,SNR=5.3
comp=Z,0.5nm,0.3s
BRTR Keskin Array B 44.57 297 P **P 17 35 29.1 +0.3**
comp=Z,3.5nm,0.7s,baz=106,slow=7.4,SNR=18

BRTR PcP **PcP 17 37 11.9 +0.1**
comp=Z,0.2nm,0.4s,baz=131,slow=3.7,SNR=2.4
comp=Z,3.5nm,0.7s
ASAJ Asahikawa 45.23 56 LR LR 17 57 03.1
comp=Z,191nm,18.2s,baz=9.0,slow=40
TTSI Tana Toraja 45.24 131 P **P 17 35 31.5 -2.6**
comp=Z,26nm,0.8s
TIXI Tiksi 47.10 17 P **P 17 35 46.6 -1.4**
TIXI IAmb IAmb 17 35 50.7
comp=Z,12nm,0.9s
TIXI Tiksi 47.10 17*ce*P **P 17 35 47.4 -0.6**
TIXI pmax pmax
comp=Z,26nm,1.7s
TIXI Tiksi 47.10 17 LR LR 17 58 27.8
comp=Z,111nm,19.2s,baz=261,slow=40
AKASG Malin Array Be 47.48 313 P **P 17 35 51.1 -0.2**
comp=Z,1.0nm,0.4s,baz=81,slow=6.8,SNR=22
AKASG PcP **PcP 17 37 21.0 -0.5**
comp=Z,0.7nm,0.6s,baz=79,slow=3.2,SNR=1.3
AKASG PP **PP 17 37 43.1 +0.6**
comp=Z,0.9nm,0.6s,baz=83,slow=9.3,SNR=4.6
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 47.48 313 IAmb IAmb 17 35 56.5
comp=Z,14nm,0.9s
AKBB Malin Array Si 47.48 313*ce*P **P 17 35 51.3 -0.1**
AKBB pmax pmax
comp=Z,43nm,2.2s
KIEV Kiev 47.49 313 ⇑P **P 17 35 51.4 0.0**
KIEV Kiev 47.49 313 P **P 17 35 51.2 -0.3**
KIEV IAmb IAmb 17 35 56.5
comp=Z,13nm,0.9s
KIEV Kiev 47.49 313 P **P 17 35 51.4 0.0**
JCJ Chichijima 47.70 80 LR LR 17 56 47.3
comp=Z,124nm,21.1s,baz=344,slow=37
KIS Kishinev 47.71 308 P **P 17 35 53.6 +0.4**
TLCR 47.77 305 ⇓P **P 17 35 55.3 +1.6**
TLCR 47.77 305 P **P 17 35 55.3 +1.6**
SORM Soroca 48.01 309 ⇑P **P 17 35 55.5 0.0**
SORM Soroca 48.01 309 P **P 17 35 55.5 0.0**
TPGR Topolog 48.07 305 ⇑P **P 17 35 56.8 +0.8**
TIRR Tirgusor 48.10 304 ⇑P **P 17 35 58.2 +1.9**
TIRR Tirgusor 48.10 304 P **P 17 35 58.1 +1.9**
CFR Carcaliu 48.25 305 ⇓P **P 17 35 57.7 +0.3**
CFR Carcaliu 48.25 305 P **P 17 35 57.7 +0.3**
VLDR Vladesti 48.26 306 ⇓P **P 17 35 59.0 +1.6**
HARR Harsova 48.43 305 ⇑P **P 17 36 00.4 +1.6**
HARR Harsova 48.43 305 P **P 17 36 00.4 +1.6**
MNK Minsk 48.55 318 *i* P **P 17 35 58.3 -1.3**
comp=E,3.0nm,0.7s
MNK *i* P **P 17 35 58.3 -1.3**
comp=N,17nm,0.8s
MNK *i* P **P 17 35 58.3 -1.3**
comp=Z,13nm,0.8s,baz=95
MNK *i* PP **PP 17 37 51.2 -0.9**
MNK *i* PPP PPP 17 38 40.1
MNK *i* S **S 17 43 00.6 -0.4**
MNK *i* SS **SS 17 46 32.3 +1.7**
MNK *i* SSS SSS 17 47 43.5
MNK *i* LQ LQ 17 52 57.7
MNK *i* LR LR 17 56 30.9
MNK *i* LRM MLR 17 59 16.3
comp=Z,119nm,15.1s
MNK *i* LRM MLR 17 59 33.3
comp=E,71nm,14.9s
MNK *i* LRM MLR 17 59 56.1
comp=N,260nm,16.4s
MNK Minsk 48.55 318 *i* P **P 17 35 58.2 -1.3**
MNK *i* 17 37 23.8
MNK *i* 17 37 51.2
MNK *i* PPP PPP 17 38 40.1
MNK *i* S **S 17 43 00.5 -0.4**
MNK *i* 17 45 51.0
MNK *i* SS **SS 17 46 32.2 +1.7**
MNK *i* SSS SSS 17 47 43.4
MNK pmax pmax
comp=Z,13nm,0.9s
MNK pmax pmax
comp=E,3.0nm,0.6s
MNK pmax pmax
comp=N,17nm,0.8s
MNK MLR MLR
comp=Z,119nm,15.0s
MNK MLR MLR
comp=E,71nm,15.0s
MNK MLR MLR
comp=N,260nm,16.0s
VRI Vrincioaia 49.20 306 ⇑P **P 17 36 06.5 +1.7**
VRI Vrincioaia 49.22 306 P **P 17 36 06.4 +1.7**
NACGM Narooch 49.22 318 *e*P **P 17 36 05.6 +1.0**
comp=Z,26nm,0.8s,baz=94
TESR Tescani 49.22 307 ⇑P **P 17 36 05.5 +0.7**
BISRR Bisoca 49.23 306 ⇓P **P 17 36 06.2 +1.1**
PLOR Plostina 49.25 306 ⇑P **P 17 36 06.9 +1.7**
PLOR Plostina 49.25 306 P **P 17 36 06.9 +1.7**
HORU Horodok 49.27 311 P **P 17 36 05.5 +0.3**
COVR Voineasa-Covas 49.56 306 ⇑P **P 17 36 08.7 +1.2**
VSU Vasula 49.60 323*ce*P **P 17 36 07.9 +0.4**
VSU pmax pmax
comp=Z,49nm,1.3s
MLR Muntele Rosu 49.77 306 ⇑P **P 17 36 11.1 +1.8**
MLR Muntele Rosu 49.77 306 P **P 17 36 09.9 +0.6**
MLR Muntele Rosu 49.77 306 P **P 17 36 11.1 +1.8**
OZUR 49.84 307 ⇑P **P 17 36 09.7 0.0**
BURAR Bucovina Array 50.13 309 ⇓P **P 17 36 12.8 +0.8**
BURAR Bucovina Array 50.13 309 P **P 17 36 12.7 +0.8**
BUR08 Bucovina Ar. S 50.14 309 IAmb IAmb 17 36 31.1
comp=Z,15nm,1.4s
EZN Ezine 50.16 298 P **P 17 36 13.2 +1.2**
KSV Kosov 50.20 310 P **P 17 36 13.0 +0.7**
ALN Alexandroupoli 50.21 300 IAmb IAmb 17 36 17.9
comp=Z,11nm,0.9s
FIA1 FINESS Array S 50.35 327 P **P 17 36 13.7 +0.4**
FINES FINESS Array B 50.36 327 P **P 17 36 12.9 -0.3**
FINES FINESS Array B 50.36 327 P **P 17 36 13.6 +0.3**
comp=Z,9.0nm,0.6s,baz=99,slow=8.1,SNR=40
FINES PcP **PcP 17 37 31.8 +0.1**
comp=Z,1.9nm,0.7s,baz=127,slow=5.0,SNR=1.8
comp=Z,9.0nm,0.6s
VOIR 50.41 306 ⇓P **P 17 36 14.9 +0.9**
VOIR 50.41 306 P **P 17 36 14.8 +0.9**
RDO Rodhopi 50.55 300 IAmb IAmb 17 36 19.4
comp=Z,19nm,1.2s
ARCR ARCALIA 50.75 308 ⇓P **P 17 36 18.3 +1.8**
LVV L'vov 50.81 312 *e*P **P 17 36 17.7 +0.8**
LVV *e*S **S 17 43 30.3 -2.5**
LVV pmax pmax
comp=Z,60nm,1.2s
LVV MLR MLR
comp=N,100nm,14.0s
LVV MLR MLR
comp=E,300nm,14.0s
LVV MLR MLR
comp=Z,200nm,13.0s
PABE Paberze 50.86 319 P **P 17 36 17.6 +0.4**
PABE Paberze 50.86 319 *e*P **P 17 36 17.5 +0.4**
VSVD Vaisvydziai 50.90 320 *e*P **P 17 36 11.1 +0.7**
MEF Metsahovi 51.00 325 *e*P **P 17 36 18.8 +0.7**
MA2 Magadan 51.00 36 P **P 17 36 17.4 -0.7**
MA2 IAmb IAmb 17 36 21.3
comp=Z,13nm,0.8s
MA2 Magadan 51.00 36 P **P 17 36 17.3 -0.9**
MA2 Magadan 51.00 36*ce*P **P 17 36 17.5 -0.7**
MA2 pmax pmax
comp=Z,31nm,1.7s
MA2 Magadan 51.00 36 LR LR 17 59 43.9
comp=Z,205nm,18.2s,baz=262,slow=38
MTSE Matsula 51.15 323 *e*P **P 17 36 19.7 +0.5**
VADS Vadso 51.19 338 *e*P **P 17 36 20.0 +0.7**
SUW Suwalki 51.28 317 *e*P **P 17 36 20.8 +0.5**
BMR Baia Mare 51.29 309 P **P 17 36 25.1 +4.6**
CJR Cluj-Napoca 51.30 308 ⇑P **P 17 36 21.6 +0.9**
CJR Cluj-Napoca 51.30 308 P **P 17 36 21.5 +0.9**
TRSU Trosnyk 51.62 309 P **P 17 36 24.9 +1.9**
MARR Marisel-Cluj 51.63 308 ⇑P **P 17 36 24.5 +1.2**
KWP Kalwaria Pacla 51.68 311 P **P 17 36 24.7 +1.3**
KEV Kevo 51.85 337 P **P 17 36 24.1 -0.2**
DEV Deva 51.86 307 ⇓P **P 17 36 26.6 +1.8**
DEV Deva 51.86 307 P **P 17 36 26.6 +1.8**
DRGR 51.90 308 P P 17 36 30.2 +5.0
GZR Gura Zlata 52.00 306 ⇓P **P 17 36 27.2 +1.3**
SEY Seymchan 52.16 32*ce*P **P 17 36 27.0 +0.2**
SEY pmax pmax
comp=Z,12nm,1.0s
ARA0 ARCESS Array S 52.29 337 *e*P **P 17 36 28.2 +0.5**

ARCES ARCESS Array B 52.29 337 P **P 17 36 28.1 +0.4**
comp=Z,2.9nm,0.4s,baz=115,slow=8.4,SNR=41
ARCES PcP **PcP 17 37 38.2 -0.6**
comp=Z,5.4nm,0.9s,baz=38,slow=2.2,SNR=2.0
ARCES LR LR 17 58 23.7
comp=Z,110nm,18.2s,baz=128,slow=36
comp=Z,2.9nm,0.4s
RAF Rauma 52.38 326 *e*P **P 17 36 28.8 +0.4**
SURR Surduc 52.41 307 ⇑P **P 17 36 30.3 +1.4**
SIRR Siria 52.68 307 ⇑P **P 17 36 32.3 +1.4**
BZS Buzias 52.78 306 ⇑P **P 17 36 32.4 +0.7**
BZS Buzias 52.78 306 P **P 17 36 32.3 +0.7**
MDVR Moldovita 52.83 305 ⇑P **P 17 36 32.2 +0.1**
KTK1 Kautokeino 52.95 336 *e*P **P 17 36 32.8 +0.2**
KTK1 IAmb IAmb 17 36 33.5
comp=Z,36nm,1.2s
HAMF Hammerfest 53.17 338 *e*P **P 17 36 34.9 +0.8**
HAMF IAmb IAmb 17 36 35.6
comp=Z,45nm,0.6s
SOEI Soe 53.18 133 P P 17 36 29.0 -6.0
SOEI Soe 53.18 133 P **P 17 36 36.9 +1.9**
SOEI Soe 53.18 133 P P 17 36 29.2 -5.8
comp=Z,19nm,1.0s
OJC Ojcow 53.51 312 P **P 17 36 36.4 -0.6**
OJC Ojcow 53.51 312 P **P 17 36 36.4 -0.6**
OJC pmax pmax
comp=Z,9.0nm,1.0s
PSZ Piszkesteto 53.68 309 ⇑P **P 17 36 39.1 +0.7**
PSZ Piszkesteto 53.68 309 P **P 17 36 39.1 +0.7**
JETT Jettan, Norway 54.05 336 *e*P **P 17 36 40.5 -0.1**
FRGS Fruska Gora 54.11 306 ⇓P **P 17 36 42.5 +1.1**
VYHS Vyhne 54.32 310 *e*P **P 17 36 46.1 +3.2**
VYHS pmax pmax
comp=Z,9.0nm,1.2s
VYHS Vyhne 54.32 310 *e*P **P 17 36 46.1 +3.2**
OKC Ostrava-Krasne 54.61 312 P **P 17 36 49.2 +4.2**
MORH Mrgy, Hungar 54.76 308 ⇓P **P 17 36 46.6 +0.5**
PETK Petropavlovsk- 54.80 44 P **P 17 36 44.8 -1.6**
comp=Z,2.8nm,0.8s,baz=270,slow=6.8,SNR=2.0
comp=Z,2.8nm,0.8s
MORC Moravsky Berou 55.01 312 ⇑P **P 17 36 48.8 +0.8**
MORC Moravsky Berou 55.01 312 IAmb IAmb 17 36 52.2
comp=Z,11nm,1.1s
MORC Moravsky Berou 55.01 312 *e*P **P 17 36 50.9 +3.0**
MORC Moravsky Berou 55.01 312 P **P 17 36 48.7 +0.8**
JAVC Velka Javorina 55.04 311 *e*P **P 17 36 51.0 +2.8**
MODS Modra-Piesok 55.36 310 *e*P **P 17 36 51.9 +1.4**
MODS pmax pmax
comp=Z,24nm,1.4s
MODS Modra-Piesok 55.36 310 *e*P **P 17 36 51.9 +1.4**
KRLC Kraliky 55.46 312 *e*P **P 17 36 52.4 +1.2**
FAUS Fauske 55.67 334 *e*P **P 17 36 51.8 -0.5**
FAUS IAmb IAmb 17 36 53.0
comp=Z,14nm,0.8s
VRAC Vranov 55.68 312 *e*P **P 17 36 53.6 +0.8**
DPC Dobruska-Polom 55.72 313 P **P 17 36 54.3 +1.3**
DPC Dobruska-Polom 55.72 313 *e*P **P 17 36 54.4 +1.4**
STEI Steigen 55.72 334 *e*P **P 17 36 53.5 +0.8**
OSTC Ostas 55.76 313 *e*P **P 17 36 54.3 +1.0**
KRUC Moravsky 55.84 311 *e*P **P 17 36 54.6 +0.7**
MOR8 Moi Rana 55.95 332 *e*P **P 17 36 53.4 -1.0**
MOR8 IAmb IAmb 17 36 54.9
comp=Z,42nm,1.2s
LODK Lodwar 55.95 252 P **P 17 36 56.9 +1.7**
RONA Rosalia, Austr 56.12 310 *e*P **P 17 36 54.8 -1.2**
comp=Z,9.6nm,1.1s
HFS Hagfors 56.34 325 P **P 17 36 57.3 +0.1**
comp=Z,12nm,0.7s,baz=93,slow=7.7,SNR=31
comp=Z,12nm,0.7s
CONA Conrad Observa 56.37 310 *i* P **P 17 36 58.4 +0.6**
comp=Z,12nm,1.5s
LOF Lofoten 56.37 334 *e*P **P 17 36 56.6 -0.8**
LOF IAmb IAmb 17 36 59.0
comp=Z,35nm,1.2s
KONS Konsvik 56.49 332 *e*P **P 17 36 58.6 +0.4**
KONS IAmb IAmb 17 37 01.4
comp=Z,63nm,1.2s
STOK Stokkvaagen 56.53 332 *e*P **P 17 36 58.8 +0.4**
ARSA Arzberg 56.71 309 *i* pP **P 17 37 01.1 +1.0**
comp=Z,9.9nm,1.2s
GOPC GO Pecny, Ondr 56.76 312 *e*P **P 17 37 04.3 +3.9**
SPITS Spitsbergen Ar 56.79 347 P **P 17 37 00.5 +0.2**
comp=Z,10nm,0.9s,baz=114,slow=12,SNR=2.9
SPITS LR LR 18 06 37.9
comp=Z,245nm,18.9s,baz=107,slow=42
comp=Z,10nm,0.9s
PRU Pruhonice 56.90 313 *e*P **P 17 37 02.5 +1.1**
NSS Namsos 56.98 330 *e*P **P 17 37 01.5 -0.2**
NSS IAmb IAmb 17 37 02.0
comp=Z,8.2nm,0.8s
KMBO Kilima Mbogo 57.08 246 P **P 17 37 04.6 +1.2**
KMBO IAmb IAmb 17 37 06.1
comp=Z,8.0nm,0.9s
KMBO Kilima Mbogo 57.08 246 P **P 17 37 04.6 +1.2**
KMBO pmax pmax
comp=Z,8.0nm,0.9s
SOKA Soboth 57.14 309 *e*pP pP 17 37 05.6 -2.3
comp=Z,9.3nm,0.9s
BRG Berggiesshubel 57.14 314 *e*P **P 17 37 03.9 +0.8**
BRG Amp 17 37 07.4
comp=Z,7.3nm,0.9s
BRG Amp 18 03 53.0
comp=Z,0.3nm,17.9s
BRG Berggiesshubel 57.14 314 *e*P **P 17 37 03.9 +0.8**
BRG pmax pmax
comp=Z,7.0nm,0.9s
BRG MLR MLR
comp=Z,313nm,17.9s
BRG Berggiesshubel 57.14 314 *e*P **P 17 37 04.1 +1.0**
comp=Z,5.3nm,0.9s,baz=80,slow=6.9
CKRC Cesky Krumlov 57.24 311 AMS AMS 18 03 10.0
comp=Z,400nm,20.1s
NC405 NORSAR Array S 57.26 326 IAmb IAmb 17 37 04.8
comp=Z,14nm,0.8s
NC602 NORSAR Array S 57.37 326 *e*P **P 17 37 04.6 +0.1**
NORES NORESS Array B 57.37 326 P **P 17 37 04.5 -0.1**
NC303 NORSAR Array S 57.42 326 IAmb IAmb 17 37 07.8
comp=Z,22nm,1.1s
NB201 NORSAR Array S 57.47 326 P **P 17 37 05.0 -0.3**
NB2 NORSAR Subarra 57.51 326 P **P 17 37 03.0 -2.6**
NB2 NORSAR Subarra 57.51 326 P **P 17 37 05.0 -0.6**
comp=Z,18nm,1.1s,baz=86,slow=6.9
NB2 NORSAR Subarra 57.51 326 P **P 17 37 05.0 -0.6**
baz=86,slow=6.9
NOA NORSAR Array B 57.51 326 P **P 17 37 05.2 -0.4**
comp=Z,8.2nm,0.9s,baz=86,slow=6.9,SNR=26
comp=Z,8.2nm,0.9s
GEC2 GERESS Array S 57.63 311 IAmb IAmb 17 37 10.9
comp=Z,15nm,1.1s
GEC2 GERESS Array S 57.63 311 *e*P **P 17 37 07.7 +0.9**
comp=Z,6.6nm,0.9s,baz=80,slow=6.9
GERES GERESS Array B 57.63 311 P **P 17 37 06.6 -0.2**
comp=Z,4.3nm,0.8s,baz=60,slow=7.9,SNR=6.6
comp=Z,4.3nm,0.8s
CLL Collm 57.66 314 *i* P **P 17 37 07.1 +0.3**
CLL pmax pmax
comp=Z,10.0nm,1.4s
CLL MLR MLR
comp=Z,300nm,19.0s
CLL Collm 57.66 314 *e*P **P 17 37 07.4 +0.7**
comp=Z,2.8nm,0.8s,baz=80,slow=6.9
KHC Kasperske Hory 57.66 312 *e*P **P 17 37 07.4 +0.5**
NC204 NORSAR Array S 57.70 326 IAmb IAmb 17 37 11.4
comp=Z,19nm,1.0s
BIOA Bad Ischl, Aus 57.88 310 *e*pP pP 17 37 11.6 -1.4
comp=Z,4.2nm,0.9s
WET Wettzell 58.11 312 *e*P **P 17 37 10.4 +0.4**
comp=Z,3.5nm,1.0s,baz=80,slow=6.9
TANN Tannenbergstha 58.15 313 *e*P **P 17 37 11.0 +0.7**
comp=Z,4.2nm,0.9s,baz=80,slow=6.9
BILL Bilibino 58.17 26 P **P 17 37 10.2 +0.1**
BILL IAmb IAmb 17 37 11.3
comp=Z,9.9nm,0.8s
BILL Bilibino 58.17 26⇑ *e*P **P 17 37 10.3 +0.2**
BILL pmax pmax
comp=Z,11nm,1.0s
ROTZ Rotzenmuhle 58.43 313 *e*P **P 17 37 13.1 +0.9**
comp=Z,0.9nm,0.8s,baz=80,slow=6.9
DOMB Dombas 58.44 327 *e*P **P 17 37 12.2 +0.1**
FLTG Flechtingen 58.57 316 *e*P **P 17 37 12.7 -0.4**
comp=Z,6.9nm,0.9s,baz=80,slow=6.9
MOX Moxa 58.64 314 *e*P **P 17 37 14.4 +0.8**
comp=Z,4.8nm,0.9s,baz=80,slow=6.9
MOX *e*L L 18 03 23.9
comp=Z,232nm,20.6s
BSEG Bad Segeberg 58.85 318 *e*P **P 17 37 16.3 +1.3**

comp=Z,8.4nm,0.8s,baz=80,slow=6.9
SKAR Skarslia 58.96 326 *e*P **P 17 37 15.8 +0.1**
SKAR IAmb IAmb 17 37 19.1
comp=Z,24nm,1.2s
GRF Grafenberg Arr 59.07 313 *e*L L 18 03 39.0
comp=Z,367nm,20.6s
CLZ Clausthal 59.19 315 *e*P **P 17 37 18.3 +0.8**
comp=Z,8.2nm,0.8s,baz=80,slow=6.9
NRDL Niedersach Rie 59.23 316 *e*P **P 17 37 18.9 +1.3**
comp=Z,15nm,0.9s,baz=80,slow=6.9
WTTA Wattenberg 59.30 310 *e*pP **P 17 37 19.5 +1.0**
comp=Z,10.0nm,1.4s
WATA Walderalm 59.33 310 *e*pP **P 17 37 20.2 +1.5**
comp=Z,13nm,1.3s
AKN Aaknes 59.39 327 *e*P **P 17 37 18.8 +0.1**
SQTA Sankt Quirin 59.60 310 *i* P **P 17 37 19.5 -1.0**
comp=Z,12nm,1.3s
MOTA Moosalm 59.64 310 *i* P **P 17 37 20.9 +0.1**
comp=Z,12nm,1.1s
MBWA Marble Bar 59.75 145 P **P 17 37 21.4 -0.2**
MBWA Marble Bar 59.75 145 P **P 17 37 21.3 -0.2**
RETA Reutte 59.83 310 *e*P **P 17 37 20.0 -2.1**
comp=Z,11nm,1.4s
GENI Genyem 59.87 113 P **P 17 37 24.1 +1.5**
GENI Genyem 59.87 113 P P 17 37 15.8 -6.8
ODD1 Odda 59.89 325 *e*P **P 17 37 22.4 +0.2**
FETA Feichten 59.96 310 *e*P **P 17 37 23.0 0.0**
comp=Z,4.8nm,0.9s
PSA00 Pilbara Seismi 60.15 145 P **P 17 37 24.0 -0.3**
TNS Taunus Mts 60.71 314 *e*P **P 17 37 28.5 +0.6**
comp=Z,5.9nm,0.8s,baz=80,slow=6.9
ABPO Ambohimpanom 62.45 224 P **P 17 37 40.9 +0.7**
ABPO Ambohimpanom 62.45 224 P **P 17 37 40.9 +0.7**
ABPO pmax pmax
comp=Z,29nm,1.4s
KEST Kesra 64.18 298 P **P 17 37 53.0 +1.5**
comp=Z,6.1nm,0.9s,baz=21,slow=3.7,SNR=3.2
comp=Z,6.1nm,0.9s
EKA Eskdalemuir Ar 66.10 321 P **P 17 38 03.0 -0.5**
EKA Eskdalemuir Ar 66.10 321 P **P 17 38 03.0 -0.5**
comp=Z,8.6nm,0.9s,baz=67,slow=6.4,SNR=5.7
comp=Z,8.6nm,0.9s
WB0 Warramunga Arr 67.12 132 P **P 17 38 09.3 -1.1**
WB0 IAmb IAmb 17 38 10.7
comp=Z,8.3nm,0.7s
WRA Warramunga Arr 67.21 132 P **P 17 38 10.3 -0.7**
comp=Z,6.9nm,0.7s,baz=323,slow=6.3,SNR=38
comp=Z,6.9nm,0.7s
WRAB Tennant Creek 67.21 132 P **P 17 38 09.9 -1.0**
WRAB IAmb IAmb 17 38 11.4
comp=Z,9.3nm,0.7s
WRAB Tennant Creek 67.21 132 P **P 17 38 10.0 -1.0**
WRAB pmax pmax
comp=Z,9.0nm,0.7s
WB2 Warramunga Arr 67.22 132 P **P 17 38 10.2 -0.9**
WB2 IAmb IAmb 17 38 11.4
comp=Z,9.1nm,0.7s
WR0 Warramunga Arr 67.35 132 IAmb IAmb 17 38 11.8
comp=Z,5.7nm,0.7s
WRKA Warakurna 67.43 140 P **P 17 38 11.6 -0.8**
C16K Lisburne Hills 68.30 23 IAmb IAmb 17 38 19.2
comp=Z,7.8nm,0.9s
NWAO Narrogin (SRO) 68.82 153 LR LR 18 13 39.5
comp=Z,44nm,18.2s,baz=239,slow=40
C18K Utukok River 69.46 21 IAmb IAmb 17 38 28.6
comp=Z,11nm,1.1s
PMG Port Moresby 69.50 115 P **P 17 38 24.9 -0.6**
comp=Z,8.3nm,0.7s,baz=329,slow=4.9,SNR=3.6
comp=Z,8.3nm,0.7s
ASAR Alice Springs 69.66 135 P **P 17 38 25.9 -0.5**
comp=Z,6.9nm,0.8s,baz=320,slow=6.4,SNR=89
ASAR PKP2bc 18 06 32.4
comp=Z,1.3nm,0.9s,baz=138,slow=3.9,SNR=7.7
comp=Z,6.9nm,0.8s
AS01 Alice Springs 69.69 135 P **P 17 38 26.3 -0.2**
comp=Z,12nm,0.8s
C19K Lookout Ridge 69.72 21 IAmb IAmb 17 38 37.5
comp=Z,8.2nm,1.1s
D19K Kuna River 70.50 21 IAmb IAmb 17 38 31.6
comp=Z,30nm,1.9s
F17K Baldwin Pennin 70.58 23 IAmb IAmb 17 38 36.2
comp=Z,12nm,0.9s
G16K Koyuk River 70.73 25 IAmb IAmb 17 38 33.7
comp=Z,8.2nm,1.0s
SUMG Summit 71.08 345 P **P 17 38 34.5 -0.3**
SUMG Summit 71.08 345 P **P 17 38 34.5 -0.3**
SUMG pmax pmax
comp=Z,27nm,1.4s
QIS Mount Isa 71.12 129 P **P 17 38 34.7 -0.6**
H17K Granite Mounta 71.85 24 IAmb IAmb 17 38 40.2
comp=Z,8.2nm,0.8s
C23K Itkillik River 71.87 18 IAmb IAmb 17 38 41.4
comp=Z,11nm,1.0s
D22K Ayikyak River 71.90 19 IAmb IAmb 17 38 59.2
comp=Z,8.3nm,1.1s
F20K Avaraart Lake 72.08 22 IAmb IAmb 17 41 06.3
comp=Z,19nm,1.9s
G19K Purcell Mounta 72.16 23 IAmb IAmb 17 38 58.3
comp=Z,26nm,1.9s
ESDC Sonseca Array 72.47 306 P **P 17 38 43.2 -0.2**
comp=Z,2.3nm,0.8s,baz=44,slow=5.7,SNR=7.1
ESDC LR LR 18 16 23.4
comp=Z,152nm,18.2s,baz=250,slow=41
comp=Z,2.3nm,0.8s
F21K Alatna River 72.68 21 IAmb IAmb 17 38 47.7
comp=Z,22nm,1.6s
LSZ Lusaka 72.84 240 P **P 17 38 45.8 0.0**
LSZ Lusaka 72.84 240 P **P 17 38 45.8 0.0**
LSZ pmax pmax
comp=Z,35nm,1.8s
OOD Oodnadatta 73.79 137 P **P 17 38 50.0 -1.1**
H21K Melozitna River 73.86 22 IAmb IAmb 17 39 10.6
comp=Z,11nm,1.3s
G23K Bananza Creek 74.06 20 IAmb IAmb 17 39 24.4
comp=Z,14nm,1.6s
J20K Nowinta River 74.33 24 IAmb IAmb 17 39 02.4
comp=Z,7.4nm,0.8s
E25K Arctic Village 74.38 18 IAmb IAmb 17 40 43.1
comp=Z,25nm,1.9s
TTA Tatalina 74.41 25 P **P 17 38 53.8 -0.6**
TTA IAmb IAmb 17 38 53.9
comp=Z,25nm,1.7s
TTA Tatalina 74.41 25 P **P 17 38 56.8 +2.4**
TTA Tatalina 74.41 25 P **P 17 38 53.8 -0.6**
TTA pmax pmax
comp=Z,25nm,1.7s
K20K Telida 74.86 24 IAmb IAmb 17 39 01.4
comp=Z,7.1nm,0.7s
MLY Manley 74.93 22 P **P 17 38 57.2 -0.1**
CTA Charters Tower 75.45 124 P **P 17 39 00.1 -0.8**
comp=Z,6.4nm,0.8s,baz=321,slow=5.5,SNR=5.2
CTA LR LR 18 14 01.8
comp=Z,43nm,21.0s,baz=264,slow=37
comp=Z,6.4nm,0.8s
NEA2 Nenana 75.75 22 IAmb IAmb 17 39 04.7
comp=Z,7.4nm,0.9s
E29M Blow River 76.11 16 IAmb IAmb 17 39 07.4
comp=Z,7.2nm,0.8s
PRP Porcupine Dome 76.22 20 IAmb IAmb 17 39 07.1
comp=Z,25nm,1.7s
F28M Old Crow 76.23 17 IAmb IAmb 17 41 15.6
comp=Z,22nm,2.0s
ILAR Eielson Array 76.32 21 P **P 17 39 04.5 -0.7**
comp=Z,2.4nm,0.7s,baz=307,slow=4.6,SNR=26
ILAR PP **PP 17 41 55.1 -0.9**
comp=Z,1.0nm,0.9s,baz=308,slow=6.4,SNR=6.1
comp=Z,2.4nm,0.7s
SKT Skwentna 76.64 25 IAmb IAmb 17 39 09.7
comp=Z,20nm,1.2s
I26K Coal Creek Min 77.06 19 IAmb IAmb 17 39 12.8
comp=Z,14nm,1.3s
INK Inuvik 77.17 14 LR LR 18 18 02.4
comp=Z,104nm,18.9s,baz=14,slow=40
J26L Joseph Creek 77.53 20 IAmb IAmb 17 39 13.8
comp=Z,6.8nm,0.7s
SCRK Sand Creek 77.78 21 P **P 17 39 13.2 -0.4**
F31M Tsiigehtchic 77.83 15 IAmb IAmb 17 40 24.2
comp=Z,7.5nm,0.7s
SFJD Kangerlussuaq 78.05 344 LR LR 18 20 43.9
comp=Z,129nm,18.6s,baz=122,slow=41
C36M Paulatuk 78.08 11 IAmb IAmb 17 39 17.1
comp=Z,19nm,1.3s
QLP Quilpie 78.32 130 P **P 17 39 17.2 +0.3**
I30M Mount Dempster 78.98 17 IAmb IAmb 17 39 22.2
comp=Z,7.9nm,0.8s
J29N Klondike Camp 79.09 18 IAmb IAmb 17 39 22.7
comp=Z,7.7nm,0.8s

HNR Honiara 79.85 107 LR LR 18 13 05.4
comp=Z,816nm,20.9s,baz=328,slow=34
TOA0 Torodi Ar. Sit 79.94 279 P **P 17 39 25.7 -0.4**
TOA0 IAmb IAmb 17 39 27.0
comp=Z,8.3nm,0.7s
TORD Torodi Ar. Bea 79.94 279 IAmb IAmb 17 39 30.1
comp=Z,12nm,1.2s
TORD Torodi Ar. Bea 79.94 279 P **P 17 39 26.4 +0.3**
comp=Z,5.9nm,0.5s,baz=55,slow=5.4,SNR=44
TORD LR LR 18 19 42.0
comp=Z,189nm,19.6s,baz=124,slow=39
comp=Z,5.9nm,0.5s
STKA Stephens Creek 80.28 136 P **P 17 39 25.5 -2.0**
comp=Z,2.8nm,0.8s,baz=318,slow=8.8,SNR=4.8
STKA LR LR 18 19 28.3
comp=Z,81nm,18.2s,baz=249,slow=39
comp=Z,2.8nm,0.8s
M29M Somme Creek 80.59 20 IAmb IAmb 17 39 30.9
comp=Z,20nm,1.6s
LBTB Lobatse 80.84 234 P **P 17 39 31.4 +0.6**
LBTB IAmb IAmb 17 39 32.7
comp=Z,8.9nm,0.9s
LBTB Lobatse 80.84 234 P **P 17 39 31.4 +0.6**
LBTB pmax pmax
comp=Z,9.0nm,1.0s
LBTB Lobatse 80.84 234 LR LR 18 10 48.9
comp=Z,54nm,20.8s,baz=122,slow=32
TSUM Tsumeb 83.28 243 LR LR 18 17 13.9
comp=Z,89nm,19.1s,baz=211,slow=36
BOSA Boshof 83.35 232 P **P 17 39 43.6 -0.4**
BOSA IAmb IAmb 17 39 45.8
comp=Z,7.7nm,0.8s
BOSA Boshof 83.35 232 P **P 17 39 43.7 -0.3**
comp=Z,9.1nm,0.9s,baz=83,slow=6.0,SNR=10
BOSA LR LR 18 14 39.2
comp=Z,86nm,19.0s,baz=186,slow=34
comp=Z,9.1nm,0.9s
YKA Yellowknife Ar 85.92 10 P **P 17 39 55.5 -0.8**
comp=Z,1.4nm,0.8s,baz=336,slow=4.8,SNR=19
comp=Z,1.4nm,0.8s
SUR Sutherland 88.69 231 LR LR 18 15 51.2
comp=Z,77nm,20.5s,baz=166,slow=33
DBIC Dimbokro 88.72 277 P **P 17 40 10.4 -0.3**
DBIC Dimbokro 88.72 277 P **P 17 40 10.8 +0.1**
comp=Z,7.5nm,0.6s,baz=32,slow=3.7,SNR=9.9
comp=Z,7.5nm,0.6s
FCC Fort Churchill 91.35 1 IAmb IAmb 17 40 25.1
comp=Z,8.3nm,1.2s
DZM Mont Dzumac 91.89 114 *e*LR LR 18 10 01.0
comp=Z,100nm,25.9s
ELIB Princess Elisa 110.99 197 *d*PKiKP **PKiKP 17 45 48.0 -1.2**
ELIB *d*PP **PP 17 46 28.2 +0.2**
TXAR Lajitas Array 119.83 11 PKP **PKPdf 17 46 05.9 -1.6**
comp=Z,0.6nm,0.5s,baz=20,slow=1.1,SNR=6.0
QSPA South Pole Qui 120.01 180 PKP **PKPdf 17 46 05.0 -1.5**
comp=Z,1.1nm,0.8s,baz=300,slow=1.4,SNR=2.2
PPT2 Papeete2 126.80 90 *e*LR LR 18 25 57.6
comp=Z,76nm,23.8s
PPT2 *e*LR LR 18 26 02.1
comp=Z,104nm,32.2s
CPUP Villa Florida 148.87 268 PKPbc **PKPbc 17 47 04.2 -0.5**
comp=Z,18nm,0.6s,baz=77,slow=2.8,SNR=22

*IDC **01** 17:33:26.9±2.1,1°.05S×128°.01E, h0km, mb3.4/2, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=130.1km s-min=29.1km az=67.0*
*DJA **01** 17:34:11.1±0.5,4°.5±3°×12°.9E±°, h102km±6km, M3.5/9, MLv3.5/9*
ISC 01 17:34:08.6±1.0, 3°.76S±0°.06×128°.72E±0°.05, h100km, n10, σ2°92/16, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.40**	**123**	P	**Pn**	**17 34 37.3**	**+3.6**
BNDI				S	**Sn**	**17 34 57.1**	**+4.4**
NLAI	**Namlea**	**1.70**	**288**	P	**Pn**	**17 34 40.7**	**+3.4**
NLAI				S	**Sn**	**17 35 02.9**	**+3.7**
SANI	**Sanana**	**3.21**	**302**	P	**Pn**	**17 34 58.2**	**+0.9**
SANI				S	**Sn**	**17 35 33.3**	**-1.5**
LBMI	**Labuha**	**3.33**	**339**	P	**Pn**	**17 35 01.7**	**+2.8**
LBMI				S	**Sn**	**17 35 37.7**	**0.0**
FAKI	**Fak Fak**	**3.62**	**77**	P	**Pn**	**17 35 04.5**	**+1.8**
FAKI				S	**Sn**	**17 35 41.6**	**-3.0**
SWI	**Sorong**	**3.84**	**41**	P	**Pn**	**17 35 07.0**	**+1.3**
SWI				S	**Sn**	**17 35 48.8**	**-1.0**
SOEI	**Soe**	**7.42**	**216**	P	**Pn**	**17 35 49.9**	**-4.4**
FITZ	**Fitzroy Crossi**	**14.56**	**192**	P	**Pn**	**17 37 28.8**	**-1.1**
WRA	**Warramunga Arr**	**16.99**	**162**	P	**Pn**	**17 37 58.8**	**-1.4**
	0.2nm,0.3s,baz=342,slow=12,SNR=9.0						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**20.41**	**166**	P	**P**	**17 38 35.8**	**-2.1**
	1.0nm,0.4s,baz=344,slow=12,SNR=3.9						
	1.0nm,0.4s						

*IDC **01** 17:37:47.4±1.2,5°.94S×142°.40E, h0km, mb3.7/3, mbtmp3.7/6, ML3.5/2, Error ellipse: s-maj=35.1km s-min=27.0km az=92.0*
ISC 01 17:37:51.4±0.9, 6°.33S±0°.09×142°.35E±0°.09, h35km, n7, σ2°64/10, mb3.8/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.66**	**123**	Pn	**Pn**	**17 39 14.6**	**+1.5**
	4.2nm,0.4s,baz=297,slow=9.0,SNR=2.4						
PMG				Sn	**Sn**	**17 40 15.3**	**-1.7**
	2.7nm,0.3s,baz=250,slow=22,SNR=12						
WRA	**Warramunga Arr**	**15.61**	**209**	Pn	**P**	**17 41 32.0**	**-0.8**
	0.2nm,0.3s,baz=25,slow=13,SNR=4.1						
WRA				Sn	**Sn**	**17 44 19.5**	**-1.4**
	0.1nm,0.3s,baz=40,slow=22,SNR=1.7						
WRA				Lg	Lg	17 46 06.2	
	baz=31,slow=26,SNR=2.8						
	0.5nm,0.5s						
HNR	**Honiara**	**17.70**	**101**	Pn	**Pn**	**17 41 55.0**	**-0.4**
	23nm,0.3s,baz=5.3,slow=17,SNR=1.8						
ASAR	**Alice Springs**	**19.06**	**204**	P	**Pn**	**17 42 16.9**	**+5.1**
	0.2nm,0.3s,baz=32,slow=9.7,SNR=24						
ASAR				S	**Sn**	**17 45 40.8**	**-3.7**
	0.1nm,0.6s,baz=23,slow=26,SNR=2.0						
ASAR				Lg	Lg	17 47 57.9	
	baz=35,slow=34,SNR=1.3						
	2.4nm,0.7s						
PETK	**Petropavlovsk-**	**60.62**	**11**	P	**P**	**17 47 58.4**	**-0.2**
	1.9nm,0.8s,baz=211,slow=11,SNR=1.4						
	1.9nm,0.8s						
MKAR	**Makanchi Array**	**74.85**	**322**	P	**P**	**17 49 27.8**	**-0.6**
	0.3nm,0.8s,baz=108,slow=4.7,SNR=1.9						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**87.62**	**24**	P	**P**	**17 50 35.1**	**-0.7**
	0.4nm,0.8s,baz=262,slow=4.3,SNR=4.3						
	0.4nm,0.8s						

*DJA **01** 17:45:02.9±0.2,11°.5S×2°.7×11°.6E±°, h9km, M4.5/9, MLv4.5/9*
*NEIC **01** 17:45:03.2±2.3, 11°.65S±0°.07×116°.29E±0°.08, h10km±1km, mb4.4/16, Error ellipse: s-maj=14.0km s-min=10.9km az=226.0*
*IDC **01** 17:45:09.9±3.6, 11°.25S×116°.42E, h52km±34km, mb3.8/14, mbtmp4.1/16, ML3.9/2, Error ellipse: s-maj=28.1km s-min=14.2km az=61.0*
ISC 01 17:45:05.8±0.4, 11°.51S±0°.05×116°.30E±0°.05, h35km, n90, σ2°80/106, mb4.3/19, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWSI	**Taliwang, Sumb**	**2.81**	**12**	P	**Pn**	**17 45 48.0**	**-0.2**
TWSI				S	**Sn**	**17 46 16.9**	**-4.0**
IGBI	**Denpasar**	**2.90**	**337**	P	**Pn**	**17 45 48.9**	**-0.6**
IGBI				S	**Sn**	**17 46 19.2**	**-4.0**
DNP	**Denpasar**	**3.01**	**339**	P	**Pn**	**17 45 51.0**	**0.0**
DNP				S	**Sn**	**17 46 24.1**	**-1.7**
PLAI	**Plampang**	**3.03**	**29**	P	**Pn**	**17 45 51.6**	**+0.3**
PLAI	**Plampang**	**3.03**	**29**	P	**Pn**	**17 45 51.4**	**+0.1**
PLAI				S	**Sn**	**17 46 22.1**	**-4.3**
WBSI	**Waikabubak, Su**	**3.56**	**59**	Pn	**Pn**	**17 45 57.5**	**-1.1**
SRBI	**Singaraja**	**3.56**	**342**	P	**Pn**	**17 45 59.5**	**+0.9**
SRBI				S	**Sn**	**17 46 36.4**	**-3.1**
JAGI	**Jajag, Banyuwa**	**3.69**	**325**		**Pn**	**17 45 59.3**	**-1.1**
JAGI	**Jajag, Banyuwa**	**3.69**	**325**	P	**Pn**	**17 45 59.5**	**-0.8**
JAGI	**Jajag, Banyuwa**	**3.69**	**325**	P	**Pn**	**17 45 59.2**	**-1.1**
JAGI				S	**Sn**	**17 46 38.7**	**-3.8**
ABJI	**Asem Bagus**	**4.21**	**331**	P	**Pn**	**17 46 07.3**	**-0.2**
ABJI				S	**Sn**	**17 46 52.5**	**-3.0**

BASI Baing, Sumba 4.39 73 P **Pn 17 46 10.7 +0.7**
BLJI Banyuglugur 4.59 324 P **Pn 17 46 12.5 -0.2**
BLJI S **Sn 17 47 02.5 -2.4**
KMMI Kalianget 4.99 332 Pn **Pn 17 46 17.2 -1.0**
PWJI Pagerwojo 5.62 308 Pn **Pn 17 46 25.5 -1.5**
PWJI S **Sn 17 47 24.6 -5.8**
GRJI Gresik 5.92 320 Pn **Pn 17 46 27.6 -3.4**
GRJI S **Sn 17 47 31.2 -6.5**
EDFI Ende, Flores 5.97 63 Pn **Pn 17 46 31.2 -0.6**
NGJI Ngawi 6.30 310 Pn **Pn 17 46 35.3 -1.0**
MMRI Maumere 6.50 65 Pn **Pn 17 46 39.4 +0.4**
MMRI **Sn 17 47 49.9 -2.2**
MMRI Maumere 6.50 65 P **Pn 17 46 40.1 +1.1**
MMRI Maumere 6.50 65 Pn **Pn 17 46 38.8 -0.2**
BWJI Bawean 6.67 327 Pn **Pn 17 46 39.9 -1.5**
UGM Wanagama 6.72 302 **Pn 17 46 43.3 +1.2**
UGM **Sn 17 47 48.8 -8.8**
UGM Wanagama 6.72 302 P **Pn 17 46 42.3 +0.2**
UGM Wanagama 6.72 302 Pn **Pn 17 46 42.4 +0.3**
YOGI Yogyakarta 6.96 301 Pn **Pn 17 46 43.2 -2.2**
SMRI Semarang 7.29 307 Pn **Pn 17 46 47.0 -2.8**
KAPI Kappang 7.30 28 Pn **Pn 17 46 52.1 +2.1**
SOEI Soe 8.02 78 **Pn 17 47 01.3 +1.3**
SOEI Soe 8.02 78 Pn **Pn 17 47 01.0 +1.0**
KPJI Karang Pucung 8.37 299 Pn **Pn 17 47 04.0 -0.7**
CMJI Cimerak 8.58 295 Pn **Pn 17 47 07.8 +0.2**
BBSI Bau Bau 8.61 47 Pn **Pn 17 47 07.5 -0.5**
BBJI Bungbulang 9.43 294 P **Pn 17 47 19.3 0.0**
LEM Lembang 9.75 298 P **Pn 17 47 27.5 +3.7**
2.7nm,0.3s,baz=131,slow=20,SNR=2.7
LEM S **Sn 17 49 04.8 -7.5**
4.8nm,0.3s,baz=97,slow=19,SNR=0.9
8.3nm,0.5s
CNJI Cibinong 9.96 294 Pn **Pn 17 47 26.4 -0.1**
MBWA Marble Bar 10.15 162 **Pn 17 47 27.0 -2.0**
MBWA Marble Bar 10.15 162 P **Pn 17 47 27.3 -1.7**
XMIS Christmas Isla 10.51 275 Pn **Pn 17 47 31.7 -2.3**
XMIS Christmas Isla 10.51 275 P **Pn 17 47 33.5 -0.5**
PSA00 Pilbara Seismi 10.57 162 **Pn 17 47 33.0 -1.8**
PSA00 Pilbara Seismi 10.57 162 Pn **Pn 17 47 30.7 -4.1**
PSA00 Pilbara Seismi 10.57 162 P **Pn 17 47 32.8 -2.0**
MTKI Muara Teweh, K 10.59 352 Pn **Pn 17 47 31.9 -3.2**
FITZ Fitzroy Crossi 11.15 127 Pn **Pn 17 47 41.8 -1.1**
FITZ Fitzroy Crossi 11.15 127 P **Pn 17 47 42.9 +0.1**
GIRL Giralia 11.25 190 Pn **Pn 17 47 43.2 -0.9**
GIRL Giralia 11.25 190 P **Pn 17 47 43.0 -1.1**
LUWI Luwuk 12.22 32 Pn **Pn 17 47 55.0 -2.4**
KNRA Kununurra 12.80 110 Pn **Pn 17 48 05.2 -0.1**
KNRA Kununurra 12.80 110 P **Pn 17 48 05.3 -0.1**
KASI Kota Agung 13.10 296 Pn **Pn 17 48 07.7 -1.7**
KSM Kuching 14.20 335 P **Pn 17 48 20.2 -4.4**
MTN Manton Dam 14.56 97 Pn **Pn 17 48 27.6 -1.8**
MNAI Manna 15.00 297 Pn **Pn 17 48 33.3 -2.0**
KDU Kakadu 15.86 96 P **Pn 17 48 42.4 -4.1**
FAKI Fak Fak 17.96 63 Pn **Pn 17 49 12.0 -0.9**
WRA Warramunga Arr 19.27 118 P **P 17 49 26.7 -0.9**
WRA Warramunga Arr 19.27 118 P **Pn 17 49 30.1 +1.4**
0.3nm,0.3s,baz=289,slow=13,SNR=12
WRA S Sn 17 52 52.0 -12
1.4nm,0.5s,baz=290,slow=23,SNR=12
1.7nm,0.6s
WB2 Warramunga Arr 19.28 118 Pn **Pn 17 49 30.0 +1.2**
ASAR Alice Springs 20.65 128 P Pn 17 49 46.2 +1.1
4.4nm,0.6s,baz=300,slow=10,SNR=54
ASAR S **S 17 53 21.7 -10**
0.4nm,0.8s,baz=298,slow=22,SNR=1.2
4.4nm,0.6s
NWAO Narrogin (SRO) 21.34 178 P **P 17 49 55.8 +5.9**
6.6nm,0.6s,baz=348,slow=10,SNR=8.5
NWAO S **S 17 53 34.7 -10**
8.3nm,0.7s,baz=273,slow=12,SNR=2.2
6.6nm,0.6s
FORT Forrest 22.06 152 P **P 17 49 55.6 -2.1**
FORT IAmb IAmb 17 50 12.0
comp=Z,22nm,0.9s
STKA Stephens Creek 30.90 135 P **P 17 51 22.9 +3.8**
comp=Z,2.2nm,0.8s,baz=274,slow=9.1,SNR=4.1
comp=Z,2.2nm,0.8s
CMAR Chiang Mai Arr 34.35 330 P **P 17 51 51.5 +2.0**
comp=Z,0.5nm,0.8s,baz=166,slow=7.0,SNR=4.7
CMAR PcP **PcP 17 54 28.0 +2.9**
comp=Z,0.2nm,0.4s,baz=150,slow=4.5,SNR=1.9
comp=Z,0.5nm,0.8s
TOO Toolangi 36.85 140 P **P 17 52 09.8 -1.0**
USRK Ussuriysk Ar. 57.24 13 P **P 17 54 49.9 +0.2**
comp=Z,2.5nm,0.8s,baz=172,slow=4.0,SNR=4.1
comp=Z,2.5nm,0.8s
SONM Songino Array 59.73 352 P **P 17 55 08.7 +1.7**
SONM IAmb IAmb 17 55 31.2
comp=Z,2.3nm,1.3s
SONM Songino Array 59.73 352 P **P 17 55 07.0 0.0**
comp=Z,0.6nm,0.8s,baz=161,slow=6.6,SNR=4.4
SONM PcP **PcP 17 55 56.6 +2.9**
comp=Z,0.5nm,0.6s,baz=172,slow=5.4,SNR=1.8
comp=Z,0.6nm,0.8s
MK31 Makanchi Array 65.53 335 P **P 17 55 47.1 +1.5**
MK31 IAmb IAmb 17 55 48.7
comp=Z,3.0nm,1.1s
MKAR Makanchi Array 65.53 335 P **P 17 55 46.9 +1.3**
MKAR Makanchi Array 65.53 335 P **P 17 55 47.4 +1.7**
comp=Z,2.2nm,0.6s,baz=147,slow=7.8,SNR=22
comp=Z,2.2nm,0.6s
MAKZ Makanchi 65.67 335 P **P 17 55 48.4 +1.8**
ARSB Arslanbob 66.00 326 P **P 17 55 51.0 +2.0**
ARSB IAmb IAmb 17 56 05.8
comp=Z,1.8nm,0.8s
GAR Garm 66.02 322 P **P 17 55 50.5 +1.4**
KURBB Kurchatov Arra 70.08 335 P **P 17 56 15.0 +0.9**
comp=Z,1.2nm,0.7s,baz=148,slow=4.6,SNR=10
comp=Z,1.2nm,0.7s
KURK Kurchatov 70.11 336 P **P 17 56 16.1 +1.7**
KURK IAmb IAmb 17 56 17.1
comp=Z,2.6nm,0.8s
ZALV Zalesovo Beam 70.47 341 P **P 17 56 17.3 +0.8**
ZALV Zalesovo Beam 70.47 341 P **P 17 56 16.6 +0.1**
comp=Z,2.6nm,0.7s,baz=142,slow=4.9,SNR=9.9
comp=Z,2.6nm,0.7s
BVAR Borovoye Array 75.29 333 P **P 17 56 46.9 +1.8**
comp=Z,0.7nm,0.8s,baz=134,slow=8.4,SNR=4.3
comp=Z,0.7nm,0.8s
ABKAR Akbulak array 78.11 326 P **P 17 57 02.1 +0.9**
ABKAR Akbulak array 78.11 326 P **P 17 57 01.7 +0.6**
ABKAR IAmb IAmb 17 57 18.3
comp=Z,4.0nm,1.2s
QSPA South Pole Qui 78.51 180 P **P 17 57 06.9 +3.6**
comp=Z,3.7nm,1.0s,baz=256,slow=4.2,SNR=6.0
comp=Z,3.7nm,1.0s
SEY Seymchan 79.27 16 P **P 17 57 07.2 0.0**
comp=Z,0.6nm,0.6s,baz=162,slow=20,SNR=2.4
comp=Z,0.6nm,0.6s
TIXI Tiksi 83.39 4 P **P 17 57 29.6 +0.7**
TIXI IAmb IAmb 17 57 30.7
comp=Z,5.3nm,1.4s
BOSA Boshof 85.49 242 P **P 17 57 43.2 +2.5**
comp=Z,2.8nm,0.8s,baz=11,slow=3.5,SNR=4.2
comp=Z,2.8nm,0.8s
BRTR Keskin Array B 91.70 310 P **P 17 58 09.8 -0.2**
comp=Z,1.0nm,0.9s,baz=39,slow=9.4,SNR=3.2
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 117.55 24 PKP **PKiKP 18 03 49.5 +1.9**
comp=Z,0.2nm,0.6s,baz=306,slow=1.5,SNR=2.5
FVM French Village 144.41 38 PKPdf **PKPdf 18 04 38.9 +0.2**
F64A Sherman 145.53 6 PKPdf **PKPab 18 04 41.7 +1.0**

JMA 01 17:47:00.6±0.2, 24°.3N±0°.3×123°.8E±0°.4, h16km±1km, MV1.5/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.10**	**330**	*i* P	Pg	17 47 04.0	-0.1
IRIF				*e*S	Sg	17 47 06.6	+0.3
HATJ	**Hateruma jima**	**0.20**	**174**	*i* P	Pg	17 47 05.2	-0.1
HATJ				*e*S	Sg	17 47 08.4	-0.1
JKRS	**Kuro-shima**	**0.21**	**94**	P	Pg	17 47 05.5	0.0
JKRS				*e*S	Sg	17 47 09.0	+0.3
JIJ	**Ishigaki jima**	**0.35**	**71**	P	Pg	17 47 07.6	-0.3
JIJ				*e*S	Sg	17 47 12.5	-0.3
JISG	**Ishigakijimahi**	**0.58**	**55**	*e*P	Pg	17 47 12.2	0.0
JISG				*e*S	Sg	17 47 20.1	+0.1

TAP 01 17:47:32.5, 23°.96N×121°.58E, h8km, ML2.4, 1C-7D, C,

Taiwan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HWA	**Hwalien** baz=65	**0.02**	**54**	*i* P		Pg	17 47 34.6	+0.6
HWA	baz=65			*i* S		Sg	17 47 36.2	+1.2
ETM	**Tongmen** baz=272	**0.08**	**272**	P		Pg	17 47 35.0	+0.3
ETM	baz=272			S		Sg	17 47 36.5	+0.4
TWD	**Chiawan** baz=9.0	**0.12**	**5**	*i* P		Pg	17 47 35.5	+0.4
TWD	baz=9.0			*i* S		Sg	17 47 37.6	+0.6
LXIB	**Xiulin Townshi** baz=284	**0.17**	**290**	⇓P		Pg	17 47 36.4	+0.4
LXIB	baz=284			S		Sg	17 47 39.4	+0.9
SHUL	**Shoufeng** baz=195	**0.18**	**186**	P		Pg	17 47 37.0	+0.8
SHUL	baz=195			S		Sg	17 47 40.0	+1.4
ETL	**Fush Village** baz=10.0	**0.20**	**10**	P		Pg	17 47 36.9	+0.3
ETL	baz=10.0			S		Sg	17 47 39.8	+0.5
ESL	**Shilin** baz=228	**0.20**	**223**	⇓*i*P		Pg	17 47 36.7	+0.1
ESL	baz=228			*i* S		Sg	17 47 39.6	+0.2
NACB	**Ninganchiao**	**0.21**	**3**	P		Pg	17 47 37.0	+0.2
NACB	**Ninganchiao** baz=8.0	**0.21**	**3**	⇓P		Pg	17 47 37.1	+0.3
NACB	baz=8.0			S		Sg	17 47 40.0	+0.4
ETLH	**Xiulin Townshi** baz=338	**0.26**	**339**	⇓P		Pg	17 47 38.2	+0.5
ETLH	baz=338			S		Sg	17 47 41.7	+0.4
WARBT	**Fenglin Townsh** baz=227	**0.30**	**217**	⇓P		Pg	17 47 38.5	0.0
WARBT	baz=227			*e*S		Sg	17 47 43.8	+1.2
EGFH	**Guangfu** baz=217	**0.33**	**206**	P		Pg	17 47 39.3	+0.3
EGFH	baz=217			S		Sg	17 47 44.5	+1.2
WHF	**Hehuan Shan** baz=302	**0.34**	**302**	*i* P		Pg	17 47 39.8	+0.3
WHF	baz=302			*i* S		Sg	17 47 44.9	+0.9
OWD	**Renai** baz=270	**0.37**	**269**	P		Pg	17 47 40.4	+0.5
OWD	baz=270			S		Sg	17 47 45.9	+1.0
CHGB	**Renai** baz=285	**0.39**	**285**	P		Pg	17 47 40.9	+0.7
CHGB	baz=285			S		Sb	17 47 46.9	-1.1
EAHA	**Aohua** baz=30	**0.39**	**21**	P		Pg	17 47 40.3	+0.1
EAHA	baz=30			S		Sg	17 47 46.2	+0.8
FUSS	**Fushou** baz=321	**0.42**	**312**	P		Pg	17 47 41.6	+0.8
FUSS	baz=321			S		Sb	17 47 48.2	-0.8
WUSB	**Renai** baz=284	**0.43**	**274**	⇓P		Pg	17 47 41.6	+0.7
WUSB	baz=284			S		Sb	17 47 48.2	-0.9
VWDT	**VWDT** baz=245	**0.46**	**243**	⇑P		Pg	17 47 42.1	+0.7
VWDT	baz=245			S		Sb	17 47 48.7	-1.0
TWT	**Tachien** baz=306	**0.47**	**308**	*i* P		Pb	17 47 42.8	-0.4
TWT	baz=306			S		Sb	17 47 50.0	-0.5
TDCB	**Techi** baz=306	**0.48**	**307**	P		Pb	17 47 42.8	-0.7
TDCB	baz=306			S		Sb	17 47 50.2	-0.6
ENA	**Nanau** baz=16	**0.48**	**17**	*i* P		Pg	17 47 42.2	+0.2
ENA	baz=16			*i* S		Sg	17 47 48.9	+0.6
HGSD	**Ruisui** baz=206	**0.49**	**197**	P		Pb	17 47 44.3	+0.8
NNSB	**Datong** baz=329	**0.50**	**338**	P		Pg	17 47 42.8	+0.6
NNSB	baz=329			S		Sg	17 47 49.3	+0.5
NNSH	**Datong** baz=337	**0.50**	**338**	P		Pb	17 47 43.0	-0.7
NNSH	baz=337			S		Sg	17 47 49.4	+0.7
EWUT	**Wuta** baz=19	**0.51**	**20**	P		Pg	17 47 42.7	+0.3
EWUT	baz=19			S		Sg	17 47 50.0	+0.8
NNS	**Nan Shan** baz=329	**0.51**	**338**	⇓*i*P		Pg	17 47 43.1	+0.6
NNS	baz=329			*i* S		Sg	17 47 50.2	+0.9
EHY	**Hungye** baz=219	**0.51**	**208**	*i* P		Pg	17 47 42.4	-0.1
EHY	baz=219			S		Sb	17 47 51.7	+0.2
LATG	**Datong** baz=343	**0.57**	**355**	P		Pg	17 47 43.8	+0.2
LATG	baz=343			S		Sb	17 47 54.4	+1.1
WPL	**Puli Township** baz=276	**0.58**	**275**	P		Pb	17 47 44.6	-0.3
WPL	baz=276			S		Sg	17 47 52.0	+0.8
SSLB	**Suanglung**	**0.60**	**253**	P		Pb	17 47 44.8	-0.6
SSLB	**Suanglung** baz=254	**0.60**	**253**	P		Pg	17 47 44.7	+0.6
SSLB	baz=254			S		Sg	17 47 52.5	+0.4
DPDB	**Guoxing** baz=277	**0.60**	**277**	P		Pb	17 47 45.3	-0.1
DPDB	baz=277			S		Sb	17 47 54.3	+0.1
WCS	**Beigang Elemen** baz=279	**0.62**	**279**	P		Pb	17 47 45.5	-0.2
WCS	baz=279			S		Sb	17 47 54.7	+0.1
YULB	**Yu-li**	**0.63**	**205**	P		Pg	17 47 44.9	+0.3
YULB	**Yu-li** baz=217	**0.63**	**205**	P		Pg	17 47 44.7	+0.1
YULB	baz=217			S		Sb	17 47 54.5	-0.2
SMLT	**Sun Moon Lake** baz=264	**0.63**	**263**	*i* P		Pb	17 47 45.5	-0.4
SMLT	baz=264			*i* S		Sb	17 47 54.3	-0.7
NDT	**Datong Townshi** baz=344	**0.64**	**354**	P		Pb	17 47 45.6	-0.4
NDT	baz=344			S		Sb	17 47 55.4	+0.3
ESAO	**Su ao** baz=9.0	**0.65**	**21**	*e*P		Pb	17 47 46.0	-0.2
ESAO	baz=9.0			S		Sg	17 47 54.5	+0.7
EYUL	**Yuli** baz=215	**0.66**	**202**	P		Pg	17 47 45.4	+0.2
EYUL	baz=215			*e*S		Sg	17 47 53.4	-0.4
WHP	**Taichung City** baz=289	**0.66**	**298**	P		Pb	17 47 46.5	+0.1
WHP	baz=289			S		Sb	17 47 57.0	+1.1
TWF1	**Yuli** baz=214	**0.66**	**203**	*i* P		Pg	17 47 45.6	+0.3
TWF1	baz=214			S		Sb	17 47 55.9	+0.2
TYC	**Yuchr** baz=266	**0.67**	**265**	*i* P		Pg	17 47 45.9	+0.5
TYC	baz=266			S		Sg	17 47 54.8	+0.7
ENTT	**Nioudou** baz=358	**0.67**	**359**	*i* P		Pb	17 47 46.1	-0.5
ENTT	baz=358			S		Sb	17 47 55.6	-0.5
NDS	**Dongshan** baz=9.0	**0.68**	**10**	P		Pg	17 47 46.1	+0.4
NDS	baz=9.0			S		Sg	17 47 54.9	+0.4
TWC	**Suao** baz=9.0	**0.69**	**21**	*i* P		Pb	17 47 46.5	-0.2
TWC	baz=9.0			*i* S		Sb	17 47 55.9	-0.5
WHYT	**Xinyi Township** baz=250	**0.72**	**248**	P		Pb	17 47 47.2	-0.1
WHYT	baz=250			*e*S		Sb	17 47 57.1	-0.3
YHNB	**Yeheng**	**0.73**	**345**	P		Pb	17 47 47.5	-0.1
YHNB	**Yeheng** baz=344	**0.73**	**345**	P		Pb	17 47 47.3	-0.2
YHNB	baz=344			S		Sb	17 47 57.1	-0.7
NSK	**Sanguang** baz=344	**0.74**	**344**	*i* P		Pb	17 47 47.6	-0.1
NSK	baz=344			S		Sb	17 47 57.4	-0.6
TWE	**Neicheng** baz=6.0	**0.76**	**6**	*i* P		Pg	17 47 47.4	+0.3
TWE	baz=6.0			S		Sb	17 47 58.5	0.0
CHKH	**Chenggong** baz=185	**0.79**	**193**	*e*P		Pb	17 47 48.6	+0.1
CHKH	baz=185			S		Sn	17 48 02.2	+0.3
NFF	**Wufeng Townshi** baz=327	**0.79**	**328**	P		Pb	17 47 48.8	+0.2
NFF	baz=327			S		Sb	17 47 59.4	-0.1
FUSB	**Fushanzhiwuyua** baz=359	**0.79**	**0**	P		Pb	17 47 48.3	-0.3
FUSB	baz=359			S		Sb	17 47 59.4	-0.3
WJS	**Zhushan** baz=261	**0.80**	**260**	P		Pb	17 47 48.7	0.0
WJS	baz=261			S		Sn	17 48 01.2	-1.0
FULB	**Fuli** baz=218	**0.81**	**199**	P		Pb	17 47 48.7	-0.2
FULB	baz=218			*e*S		Sn	17 48 01.3	-1.2
NWLT	**Wulai** baz=353	**0.81**	**355**	P		Pb	17 47 48.8	-0.1
NWLT	baz=353			S		Sb	17 48 00.4	+0.3
TWQ1	**Liyutan** baz=297	**0.83**	**298**	*i* P		Pn	17 47 51.0	+0.3
TWQ1	baz=297			*e*S		Sn	17 48 03.1	-0.1
ALS	**Alishan** baz=240	**0.84**	**238**	*i* P		Pb	17 47 49.5	-0.1
ALS	baz=240			*i* S		Sb	17 48 00.9	-0.3
NSTT	**Nanjuang** baz=321	**0.85**	**321**	*i* P		Pb	17 47 49.8	+0.2
NSTT	baz=321			*i* S		Sb	17 48 01.8	+0.6
LIOB	**Emei** baz=322	**0.85**	**323**	P		Pb	17 47 49.8	+0.1
LIOB	baz=322			S		Sn	17 48 02.7	-1.0
EHD	**Haiduan** baz=217	**0.88**	**203**	P		Pg	17 47 49.2	-0.3
EHD	baz=217			*e*S		Sb	17 48 02.1	+0.1
CHKT	**Chengkung** baz=197	**0.88**	**193**	*e*P		Pn	17 47 51.0	-0.3
CHKT	baz=197			S		Sn	17 48 04.5	+0.2
ELDTW	**Lidau** baz=208	**0.93**	**214**	*i* P		Pg	17 47 50.0	-0.4
ELDTW	baz=208			*i* S		Sb	17 48 03.6	+0.1
TIPB	**Shuangxi** baz=2.0	**1.03**	**12**	P		Pb	17 47 52.7	0.0
TIPB	baz=2.0			S		Sg	17 48 05.9	+0.2
WCKO	**Fanlu** baz=238	**1.04**	**240**	P		Pn	17 47 54.0	+0.6
WCKO	baz=238			S		Sn	17 48 08.6	+0.4
STYH	**Taoyuan** baz=227	**1.08**	**223**	P		Pn	17 47 53.8	-0.2
STYH	baz=227			S		Sn	17 48 08.8	-0.5
CHN4	**Tsaushan** baz=231	**1.09**	**236**	*i* P		Pn	17 47 54.5	+0.3
CHN4	baz=231			S		Sn	17 48 11.1	+1.5
TPUB	**Ta-pu**	**1.10**	**233**	P		Pn	17 47 54.6	+0.4
TPUB	**Ta-pu** baz=236	**1.10**	**233**	P		Pn	17 47 54.3	+0.1
TPUB	baz=236			S		Sn	17 48 09.7	+0.1
WTP	**Ta-pu** baz=238	**1.14**	**231**	*i* P		Pn	17 47 55.6	+0.8
WTP	baz=238			S		Sn	17 48 12.2	+1.4
SXI1	**Grass Mountain** baz=352	**1.16**	**13**	P		Pn	17 47 55.5	+0.3
SXI1	baz=352			S		Sn	17 48 13.0	+1.8
YM01	**YM01** baz=357	**1.18**	**359**	P		Pn	17 47 55.8	+0.4
YM01	baz=357			*e*S		Sn	17 48 12.3	+0.7
ANP	**Anpu** baz=356	**1.22**	**357**	*e*P		Pn	17 47 57.1	+1.1
ANP	baz=356			*e*S		Sn	17 48 12.8	+0.1
TWK	**Hsinying** baz=228	**1.22**	**236**	*i* P		Pn	17 47 56.8	+0.8
TWK	baz=228			*i* S		Sn	17 48 14.6	+1.8
TWG	**Pinlang** baz=214	**1.23**	**203**	*e*P		Pb	17 47 54.3	-1.8
TWG	baz=214			*e*S		Sn	17 48 12.8	-0.1
TWGBT	**Beinan** baz=214	**1.23**	**202**	*e*P		Pb	17 47 53.9	-2.2
TWGBT	baz=214			*e*S		Sg	17 48 12.3	+0.2
CHN1	**Nanshi** baz=236	**1.24**	**232**	P		Pg	17 47 57.9	+1.5
CHN1	baz=236			S		Sn	17 48 15.0	+1.8
SNST	**Tainan City** baz=238	**1.24**	**234**	P		Pg	17 47 57.3	+0.9
SNST	baz=238			S		Sn	17 48 15.5	+2.3
SGST	**Jiashian** baz=231	**1.27**	**227**	*e*P		Pg	17 47 57.3	+0.4
SGST	baz=231			S		Sn	17 48 16.1	+2.2
SLGT	**Liugui** baz=226	**1.29**	**222**	P		Pg	17 47 57.8	+0.4
SLGT	baz=226			S		Sn	17 48 16.9	+2.4
SCST	**Cishan** baz=229	**1.47**	**223**	P		Pg	17 48 01.2	+0.5
SCST	baz=229			S		Sg	17 48 22.4	+2.7
SSD	**Sandimen** baz=222	**1.49**	**216**	*i* P		Pg	17 48 01.4	+0.2
SSD	baz=222			*i* S		Sg	17 48 22.9	+2.3
TSMG	**Majia** baz=221	**1.52**	**215**	P		Pb	17 48 01.3	+0.3
TSMG	baz=221			S		Sg	17 48 23.1	+1.7
MASBT	**Mashibuluo** baz=221	**1.60**	**213**	*e*P		Pb	17 48 02.0	-0.4
MASBT	baz=221			*e*S		Sg	17 48 27.0	+2.8
EAST	**Anshuo** baz=215	**1.71**	**203**	*e*P		Pn	17 48 02.9	+0.2
EAST	baz=215			*e*S		Sn	17 48 24.3	-0.5
PHUB	**P'eng-hu** baz=259	**1.90**	**257**	*e*P		Pb	17 48 06.4	-1.0
PHUB	baz=259			S		Sb	17 48 32.2	+1.0

JMA 01 17:47:43.7±0.2, 24°.3N±0°.4×123°.8E±0°.5, h15km±1km, MV1.0/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.11**	**322**	P		Pg	17 47 47.1	0.0
JKRS	**Kuro-shima**	**0.19**	**94**	P		Pg	17 47 48.2	0.0
JKRS				*e*S		Sg	17 47 51.6	+0.4
HATJ	**Hateruma jima**	**0.19**	**179**	*e*P		Pg	17 47 48.1	-0.1
HATJ				*e*S		Sg	17 47 51.5	+0.2
JIJ	**Ishigaki jima**	**0.33**	**70**	*e*P		Pg	17 47 50.3	-0.3
JIJ				*e*S		Sg	17 47 55.3	0.0
JISG	**Ishigakijimahi**	**0.57**	**54**	*e*P		Pg	17 47 55.1	+0.1
JISG				*e*S		Sb	17 48 03.2	-0.1

JMA 01 17:51:35.8±0.1, 24°.2N±0°.3×123°.8E±0°.4, h15km±1km, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.11**	**323**	P		Pg	17 51 39.1	-0.1
IRIF				*e*S		Sg	17 51 41.9	+0.4
JKRS	**Kuro-shima**	**0.19**	**92**	*e*P		Pg	17 51 40.1	-0.1
JKRS				*e*S		Sg	17 51 43.4	+0.3
HATJ	**Hateruma jima**	**0.19**	**180**	P		Pg	17 51 40.1	-0.1
HATJ				S		Sg	17 51 43.4	+0.2
JIJ	**Ishigaki jima**	**0.33**	**69**	S		Sg	17 51 47.0	-0.3
JISG	**Ishigakijimahi**	**0.57**	**53**	P		Pg	17 51 47.2	+0.1

JMA 01 17:51:50.1±0.1, 24°.2N±0°.3×123°.8E±0°.2, h13km±1km, MV1.6/10, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.13**	**313**	P		Pg	17 51 53.6	0.0
IRIF				*e*S		Sg	17 51 56.1	+0.1
JKRS	**Kuro-shima**	**0.16**	**92**	P		Pg	17 51 54.1	+0.1
JKRS				*e*S		Sg	17 51 57.2	+0.6
HATJ	**Hateruma jima**	**0.19**	**189**	*i* P		Pg	17 51 54.2	-0.2
HATJ				*e*S		Sg	17 51 57.6	+0.3
JIJ	**Ishigaki jima**	**0.30**	**67**	P		Pg	17 51 56.2	-0.2
JIJ				*e*S		Sg	17 52 00.6	0.0
JISG	**Ishigakijimahi**	**0.55**	**52**	P		Pg	17 52 01.0	+0.1
JISG				*e*S		Sg	17 52 08.7	+0.4
YOJ	**Yonaguni jima**	**0.78**	**286**	*e*P		Pg	17 52 05.2	-0.1
YOJ				*e*S		Sb	17 52 16.2	0.0
YOJ	**Yonaguni jima**	**0.78**	**286**	P		Pg	17 52 05.5	+0.1
JYNG	**Yonagunijimaku**	**0.84**	**284**	*e*P		Pg	17 52 06.2	-0.2
JYNG				*e*S		Sb	17 52 18.0	+0.3
JTJ	**Tarama**	**0.88**	**63**	*e*S		Sb	17 52 19.2	+0.2

TAP 01 17:52:07.0, 23°.85N×121°.72E, h50km, ML1.7, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SHUL	**Shoufeng** baz=242	**0.15**	**247**	P		Pn	17 52 15.2	+0.1
SHUL	baz=242			*i* S		Sn	17 52 21.6	+0.9
ETM	**Tongmen** baz=290	**0.24**	**300**	P		Pn	17 52 15.7	+0.1
ETM	baz=290			*e*S		Sn	17 52 22.0	+0.3
TWD	**Chiawan** baz=339	**0.26**	**334**	*e*P		Pn	17 52 15.6	-0.2
TWD	baz=339			*i* S		Sn	17 52 22.3	+0.4
ESL	**Shilin** baz=261	**0.26**	**262**	*i* P		Pn	17 52 15.8	-0.1
ESL	baz=261			*i* S		Sn	17 52 21.9	-0.1
ETL	**Fush Village** baz=348	**0.32**	**344**	*e*S		Sn	17 52 23.1	+0.1
LXIB	**Xiulin Townshi** baz=302	**0.33**	**302**	P		Pn	17 52 16.6	0.0
LXIB	baz=302			*i* S		Sn	17 52 23.4	0.0
WARBT	**Fenglin Townsh** baz=246	**0.33**	**247**	*i* P		Pn	17 52 16.1	-0.4
NACB	**Ninganchiao** baz=343	**0.34**	**341**	P		Pn	17 52 16.4	-0.2
NACB	baz=343			*e*S		Sn	17 52 23.5	+0.2
ETLH	**Xiulin Townshi** baz=320	**0.42**	**329**	*i* P		Pn	17 52 17.5	+0.1
ETLH	baz=320			*i* S		Sn	17 52 25.1	+0.3
OWD	**Renai** baz=282	**0.51**	**282**	P		Pn	17 52 19.2	+0.7
OWD	baz=282			S		Sn	17 52 27.6	+0.9
WHF	**Hehuan Shan** baz=306	**0.51**	**306**	*e*P		Pn	17 52 19.0	+0.2
WHF	baz=306			*e*S		Sn	17 52 28.0	+0.7
VWDT	**VWDT** baz=260	**0.54**	**260**	*e*P		Pn	17 52 19.9	+1.2
CHGB	**Renai** baz=296	**0.54**	**293**	P		Pn	17 52 19.7	+0.7
WUSB	**Renai** baz=284	**0.57**	**285**	P		Pn	17 52 19.9	+0.7
WUSB	baz=284			*e*S		Sn	17 52 29.2	+1.3
FUSS	**Fushou** baz=318	**0.59**	**313**	P		Pn	17 52 20.3	+0.6
FUSS	baz=318			S		Sn	17 52 29.9	+1.3
YULB	**Yu-li** baz=229	**0.60**	**220**	P		Pn	17 52 19.0	-0.5
SSLB	**Suanglung** baz=265	**0.70**	**265**	*e*P		Pn	17 52 22.1	+1.3
WHYT	**Xinyi Township** baz=259	**0.81**	**259**	*e*P		Pn	17 52 23.9	+1.7

*UPP **01** 18:16:31.0±0.1, 67°.04N×20°.97E, h0km, ML2.1, Suspected explosion*
*BER **01** 18:16:33.1±1.7, 66°.86N×21°.17E, h0km, ML1.8, Suspected explosion*
*IDC **01** 18:16:33.9±0.8, 67°.03N×21°.55E, h0km, mbtmp3.3/5, ML1.9/4, Error ellipse: s-maj=14.4km s-min=6.8km az=109.0*

ISC 01 18:16:31.4±0.8, 67°.05N±0°.03×20°.97E±0°.03, h0km, n22, σ1°.21/29, Sweden

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.17**	**296**	P		**Pg**	**18 16 34.5**	**-0.3**
DUNU				S		**Sg**	**18 16 37.5**	**+0.5**
MASU	**Masugnsbyn**	**0.57**	**44**	P		**Pg**	**18 16 41.9**	**-0.5**
MASU				S		**Sg**	**18 16 50.0**	**+0.2**
PAJU	**Pajala**	**0.84**	**91**	P		**Pg**	**18 16 46.6**	**-0.9**
KUA	**Kurravaara**	**0.94**	**345**	P		**Pg**	**18 16 48.5**	**-1.0**
RATU	**Laukkuluspa**	**0.95**	**326**	P		**Pg**	**18 16 48.4**	**-1.1**
SALU	**Saltoluokta**	**1.02**	**290**	P		**Pg**	**18 16 50.0**	**-0.9**
KOVU	**Salmi**	**1.22**	**346**	P		**Pg**	**18 16 54.1**	**-0.7**
KALU	**Kalix**	**1.53**	**140**	P		**Pb**	**18 16 59.2**	**-1.4**
SJUU	**Sjulsmark**	**1.57**	**170**	P		**Pb**	**18 16 59.9**	**-1.3**
HEF	**Hetta**	**1.71**	**36**	*e*P		**Pb**	**18 17 02.4**	**-1.3**
HEF				*e*S		**Sg**	**18 17 26.2**	**-0.1**
KTK1	**Kautokeino**	**2.15**	**22**	*e*P		**Pb**	**18 17 10.3**	**-0.9**
KTK1				*e*S		**Sb**	**18 17 38.0**	**-0.4**
KTK1	comp=Z,7.1nm,0.4s			IAML			18 17 47.2	
FAUS	**Fauske**	**2.24**	**281**	*e*P		**Pb**	**18 17 11.1**	**-1.6**
FAUS	comp=Z,18nm,0.6s			IAML			18 17 50.5	
JETT	**Jettan, Norway**	**2.53**	**356**	*e*P		**Pb**	**18 17 16.2**	**-1.5**
JETT				*e*S		**Sb**	**18 17 47.8**	**-1.5**
JETT	comp=Z,13nm,0.5s			IAML			18 17 58.4	
ARA0	**ARCESS Array S**	**3.02**	**32**	*e*P		**Pn**	**18 17 21.6**	**+1.3**
ARA0				*e*S		**Sn**	**18 17 59.0**	**+1.8**
ARA0	comp=Z,5.3nm,0.2s			IAML			18 18 06.9	
ARCES	**ARCESS Array B**	**3.02**	**32**	Pn		**Pn**	**18 17 21.1**	**+0.8**
ARCES	comp=Z,0.2nm,0.3s,baz=211,slow=14,SNR=33			Lg	Lg		18 18 05.8	
	comp=Z,0.5nm,0.3s,baz=211,slow=28,SNR=8.4							

comp=Z,1.0nm,0.2s
LOF Lofoten 3.05 294 *e*P **Pn** **18 17 21.5 +0.7**
LOF IAML 18 18 24.1
comp=Z,5.6nm,0.5s
KONS Konsvik 3.16 264 *e*P **Pn** **18 17 24.3 +2.0**
KEV Kevo 3.52 37 *e*P **Pn** **18 17 28.6 +1.3**
FINES FINESS Array B 6.05 156 Pn **Pn** **18 18 03.5 +1.5**
comp=Z,0.1nm,0.3s,baz=348,slow=12,SNR=11
FINES Sn **Sn** **18 19 11.1 -0.7**
comp=Z,0.2nm,0.3s,baz=345,slow=25,SNR=5.6
FINES Lg Lg 18 19 42.7
comp=Z,0.2nm,0.3s,baz=339,slow=27,SNR=2.0
comp=Z,0.3nm,0.4s
NOA NORSAR Array B 7.39 220 Pn Pn 18 18 24.7 +4.3
baz=60,slow=20,SNR=6.5
NOA Sn **Sn** **18 19 46.4 +1.5**
baz=227,slow=12,SNR=4.0
comp=Z,0.2nm,0.5s
HFS Hagfors 7.65 208 Pn **Pn** **18 18 23.8 -0.2**
comp=Z,0.1nm,0.3s,baz=38,slow=14,SNR=5.1
HFS Lg Lg 18 20 35.8
comp=Z,0.1nm,0.3s,baz=10,slow=25,SNR=2.0
comp=Z,2.7nm,0.9s
SPITS Spitsbergen Ar 11.27 355 Pn **Pn** **18 19 15.0 +1.6**
comp=Z,13nm,1.1s,baz=162,slow=34,SNR=1.9

SKHL ***01*** *18:19:33.9±0.2, 42.˚40N×143.˚60E, h73km±2km, mb4.8/6*
MOS ***01*** *18:19:33.3±1.1, 42.˚43N×143.˚63E, h61km, mb4.6/7, Error ellipse: s-maj=10.9km s-min=6.3km az=67.1*
JMA ***01*** *18:19:34.7±0.1, 42.˚5N±0.˚4×143.˚5E±0.˚7, h59km±1km, MD3.9/40, MV3.9/40, SE OFF TOKACHI*
JMA Felt I J1 at SE OFF TOKACHI .
NIED ***01*** *18:19:34.7, 42.˚46N×143.˚52E, h59km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.24; $M_{\theta\theta}$-0.21; $M_{\phi\phi}$1.45; $M_{r\theta}$3.08; $M_{\theta\phi}$-0.56; $M_{\phi r}$-4.92; Fault plane solution: $M_0$5.98000×10^{14} NP1: ϕ_s328.00000°, δ83.00000°, λ-95.00000°. NP2: ϕ_s184.00000°, δ8.00000°, λ-55.00000°.*
IDC ***01*** *18:19:34.9±2.0, 42.˚48N×143.˚66E, h65km±17km, mb3.4/13, mbtmp3.8/18, MS3.1/1 Error ellipse: s-maj=18.0km s-min=12.8km az=108.0*
NEIC ***01*** *18:19:35.1±1.2, 42.˚45N±0.˚08×143.˚6E±0.˚1, h64km±10km, mb4.2/45, Error ellipse: s-maj=16.4km s-min=9.7km az=119.0*

ISC 01 18:19:34.1±0.7, 42˚42N±0˚04×143˚64E±0˚04, h60km±6km, n143, $_{n0}$9$_{s0}$94/149, mb4.1/46, 1C-10D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCH	**Churui**	**0.28**	**312**	⇓P	**Pn**	**18 19 44.0**	**-0.1**
JCH				⇓*e*S	**Sn**	**18 19 50.4**	**-0.9**
JCH	**Churui**	**0.28**	**312**	A	A	18 19 44.0	
comp=E,14nm,1.2s,comp=N,12nm,0.8s							
JTHR	**Tokachihiroo**	**0.29**	**243**	*i* P	**Pn**	**18 19 44.3**	**+0.2**
JTHR				S	**Sn**	**18 19 51.1**	**-0.2**
JTHR	**Tokachihiroo**	**0.29**	**243**	A	A	18 19 44.3	
comp=E,15nm,0.2s,comp=N,35nm,0.3s							
JOB	**Onbets**	**0.50**	**16**	⇓P	**Pn**	**18 19 46.9**	**+0.8**
JOB				⇓*e*S	**Sn**	**18 19 55.9**	**+1.2**
JOB	**Onbets**	**0.50**	**16**	A	A	18 19 46.9	
comp=E,15nm,0.5s,comp=N,23nm,0.8s							
JEM	**Erimo**	**0.55**	**222**	*e*P	**Pn**	**18 19 46.9**	**+0.3**
ERM	**Erimo**	**0.55**	**222**	Pn	**Pn**	**18 19 47.3**	**+0.7**
ERM	**Erimo**	**0.55**	**222**	PN	**Pn**	**18 19 47.3**	**+0.7**
JNBK	**Urakawa-nobuka**	**0.68**	**258**	*e*P	**Pn**	**18 19 47.9**	**-0.2**
JNBK				*e*S	**Sn**	**18 19 57.6**	**-0.6**
JSHD	**Hidakashinhida**	**0.87**	**269**	*e*P	**Pn**	**18 19 50.7**	**+0.2**
JAR	**Ashorobuto**	**0.88**	**6**	⇓*e*P	**Pn**	**18 19 50.8**	**+0.2**
JAR	**Ashorobuto**	**0.88**	**6**	A	A	18 19 50.8	
comp=E,12nm,0.3s,comp=N,19nm,0.4s							
JAK	**Akkeshi**	**0.96**	**53**	⇓*e*P	**Pn**	**18 19 52.1**	**+0.5**
JAK				⇓*e*S	**Sn**	**18 20 05.5**	**+0.9**
JAK	**Akkeshi**	**0.96**	**53**	A	A	18 19 52.1	
comp=E,8.0nm,1.8s,comp=N,10.0nm,0.7s							
JBT2	**Biratori 2**	**1.01**	**291**	*e*P	**Pn**	**18 19 51.4**	**-0.9**
AKK	**Akkeshi**	**1.06**	**56**	*i* P	**Pn**	**18 19 53.4**	**+0.4**
AKK				AMB	AMB	18 19 53.8	
comp=N,80nm,0.2s							
AKK				*e*S	**Sn**	**18 20 06.9**	**0.0**
AKK				A	A	18 20 08.1	
comp=N,780nm,0.3s							
AKK				A	A	18 20 08.1	
comp=N,360nm,0.3s							
JFR	**Furan**	**1.07**	**314**	*e*P	**Pn**	**18 19 52.3**	**-0.8**
JIAM	**Iburiatsuma**	**1.29**	**279**	*e*P	**Pn**	**18 19 58.0**	**+2.1**
JKHN	**Kushirohamanak**	**1.30**	**59**	*e*P	**Pn**	**18 19 56.6**	**+0.6**
JKHN				*e*S	**Sn**	**18 20 13.3**	**+0.8**
JNK	**Nakash**	**1.40**	**34**	⇓*e*P	**Pn**	**18 19 57.6**	**+0.1**
JNK				⇓*e*S	**Sn**	**18 20 14.7**	**-0.3**
JAB	**Ashibetsu**	**1.50**	**316**	*e*P	**Pn**	**18 19 59.3**	**+0.5**
JTKR	**Abashiri--Toko**	**1.56**	**7**	*e*P	**Pn**	**18 20 00.3**	**+0.7**
JTKR				*e*S	**Sn**	**18 20 19.4**	**+0.7**
JKK2	**Kamakawa 2**	**1.59**	**336**	*e*P	**Pn**	**18 20 00.4**	**+0.4**
JMP	**Maruseppu**	**1.59**	**353**	*e*P	**Pn**	**18 20 00.5**	**+0.4**
JMP				*e*S	**Sn**	**18 20 19.7**	**0.0**
JMP	**Maruseppu**	**1.59**	**353**	A	A	18 20 00.5	
comp=E,2.0nm,5.1s,comp=N,3.0nm,0.6s							
NMR	**Nemuro--Hokkai**	**1.80**	**58**	*e*PN	**Pn**	**18 20 02.5**	**-0.3**
NMR				*i* S	**Sn**	**18 20 23.4**	**-1.2**
NMR	**Nemuro--Hokkai**	**1.80**	**58**	*e*P	**Pn**	**18 20 02.7**	**-0.1**
NMR				*i* S	**Sn**	**18 20 23.4**	**-1.2**
JKA	**Kamikawa-asahi**	**1.85**	**336**	Pn	**Pn**	**18 20 04.4**	**+0.8**
JKA	**Kamikawa-asahi**	**1.85**	**336**	*e*P	**Pn**	**18 20 04.4**	**+0.8**
ASAJ	**Asahikawa**	**1.86**	**336**	P	**Pn**	**18 20 04.4**	**+0.8**
comp=N,19nm,0.3s,baz=188,slow=10,SNR=100							
ASAJ				S	**Sn**	**18 20 26.2**	**+0.2**
comp=N,74nm,0.4s,baz=240,slow=30,SNR=7.5							
RUSJ	**Misakicho**	**2.05**	**34**	*e*PN	**Pn**	**18 20 07.6**	**+1.4**
RUSJ				*e*S	**Sn**	**18 20 33.6**	**+3.0**
YUK	**Yuzh-Kuril'sk**	**2.28**	**44**	*d i* PN	**Pn**	**18 20 10.6**	**+1.2**
YUK				*i* S	**Sn**	**18 20 37.0**	**+0.6**
YUK				pmax	pmax		
comp=Z,717nm,0.3s							
YUK				pmax	pmax		
comp=E,321nm,0.2s							
YUK				pmax	pmax		
comp=N,179nm,0.3s							
YUK				smax	smax		
comp=N,3μm,0.5s							
YUK				smax	smax		
comp=E,2μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**2.28**	**44**	*i* P	**Pn**	**18 20 10.3**	**+0.9**
YUK				AMB	AMB	18 20 12.9	
comp=E,620nm,0.4s							
YUK				*e*S	**Sn**	**18 20 36.7**	**+0.3**
YUK				A	A	18 20 42.8	
comp=E,2μm,0.5s							
YUK				A	A	18 20 42.8	
comp=E,2μm,0.5s							
JTM	**Tenmabayashi**	**2.53**	**231**	Pn	**Pn**	**18 20 12.8**	**0.0**
SHO	**Shikotan**	**2.74**	**57**	*e*PN	**Pn**	**18 20 15.9**	**+0.2**
SHO				*i* S	**Sn**	**18 20 47.0**	**-0.6**
SHO				pmax	pmax		
comp=N,59nm,0.2s							
SHO				pmax	pmax		
comp=Z,111nm,0.2s							
SHO				smax	smax		
comp=N,316nm,0.3s							
SHO				smax	smax		
comp=E,825nm,0.5s							
SHO	**Shikotan**	**2.74**	**57**	*e*P	**Pn**	**18 20 15.9**	**+0.2**
SHO				AMB	AMB	18 20 18.2	
comp=E,110nm,0.2s							
SHO				*i* S	**Sn**	**18 20 47.0**	**-0.6**
SHO				A	A	18 20 50.9	
comp=E,320nm,0.5s							
SHO				A	A	18 20 50.9	
comp=E,830nm,0.5s							
KUR	**Kuril'sk**	**4.15**	**46**	*e*PN	**Pn**	**18 20 38.5**	**+3.6**
KUR				S	**Sn**	**18 21 25.2**	**+3.1**
KUR				pmax	pmax		
comp=Z,100nm,0.4s							
KUR				smax	smax		
comp=E,177nm,0.8s							
KUR				smax	smax		
comp=N,158nm,0.5s							
KUR	**Kuril'sk**	**4.15**	**46**	*e*P	**Pn**	**18 20 37.1**	**+2.2**
KUR				AMB	AMB	18 20 40.9	
comp=N,100nm,0.4s							
KUR				*e*S	**Sn**	**18 21 23.2**	**+1.1**
KUR				A	A	18 21 34.6	
comp=N,160nm,0.6s							
KUR				A	A	18 21 34.6	
comp=N,180nm,0.6s							
YSS	**Yuzh-Sakhalins**	**4.57**	**352**	*e*PN	**Pn**	**18 20 42.5**	**+1.8**
YSS				*e*S	**Sn**	**18 21 33.8**	**+1.3**
YSS				pmax	pmax		
comp=Z,10.0nm,1.1s							
YSS				smax	smax		
comp=N,30nm,0.9s							
YSS	**Yuzh-Sakhalins**	**4.57**	**352**	*i* P	**Pn**	**18 20 42.5**	**+1.8**
YSS				AMB	AMB	18 20 43.3	
comp=N,30nm,0.3s							
YSS				*e*S	**Sn**	**18 21 32.9**	**+0.4**
YSS				A	A	18 21 35.8	
comp=N,20nm,0.4s							
YSS				A	A	18 21 35.8	
comp=N,30nm,0.4s							
JMM	**Marumori**	**5.05**	**207**	Pn	**Pn**	**18 20 46.5**	**-0.8**
MJB9	**Matsu-Tunnel**	**7.22**	**217**	Pn	**Pn**	**18 21 18.6**	**+1.5**
MAJO	**Matsushiro**	**7.22**	**217**	Pn	**Pn**	**18 21 17.7**	**+0.6**
MAJO	**Matsushiro**	**7.22**	**217**	PN	**Pn**	**18 21 17.7**	**+0.6**
MJAR	**Matsushiro Arr**	**7.22**	**217**	PN	**Pn**	**18 21 18.0**	**+0.9**
MJAR	**Matsushiro Arr**	**7.22**	**217**	P	**Pn**	**18 21 18.0**	**+0.9**
comp=N,1.8nm,0.4s,baz=27,slow=14,SNR=6.9							
JGF	**Kuroka**	**8.39**	**218**	Pn	**Pn**	**18 21 35.0**	**+1.9**
USRK	**Ussuriysk Ar.**	**8.68**	**286**	P	**Pn**	**18 21 38.6**	**+1.7**
comp=N,1.6nm,0.6s,baz=92,slow=15,SNR=1.8							
INU	**Inuyama**	**8.75**	**218**	Pn	**Pn**	**18 21 38.6**	**+0.6**
KSRS	**Korea Array**	**13.04**	**253**	P	**Pn**	**18 22 37.7**	**+1.2**
comp=N,2.2nm,0.9s,baz=62,slow=14,SNR=2.1							
JNU	**Nakatsue**	**13.70**	**232**	LR	LR	18 28 00.6	
comp=N,67nm,18.1s,baz=21,slow=37							
PETK	**Petropavlovsk-**	**14.24**	**37**	P	**Pn**	**18 22 50.9**	**-1.6**
comp=N,4.7nm,0.9s,baz=231,slow=19,SNR=10							
MA2	**Magadan**	**17.73**	**12**	P	**Pn**	**18 23 34.6**	**-2.0**
comp=N,1.4nm,0.3s,baz=197,slow=12,SNR=3.6							
SEY	**Seymchan**	**21.18**	**11**	P	**P**	**18 24 11.8**	**-2.3**
comp=N,2.1nm,0.5s,baz=201,slow=17,SNR=5.4							
comp=N,2.1nm,0.5s							
HHC	**Hu-ho-hao-te**	**23.96**	**277**	⇑P	**P**	**18 24 44.5**	**+1.6**
HHC				pP	pP	18 25 01.2	+3.7
HHC				pmax	pmax		
comp=Z,6.0nm,0.5s							
HHC				pmax	pmax		
comp=Z,200nm,5.5s							
SONM	**Songino Array**	**26.65**	**295**	P	**P**	**18 25 06.8**	**-0.4**
comp=Z,0.3nm,0.4s,baz=118,slow=5.6,SNR=2.6							
comp=Z,0.3nm,0.4s							
ENH	**Enshi**	**29.87**	**257**	P	**P**	**18 25 36.1**	**+0.1**
ENH				IAmb	IAmb	18 25 54.7	
comp=Z,6.0nm,1.3s							
H11N2	**WAKE ISLAND Hy**	**29.96**	**132**	T	T	18 57 07.0	
baz=325,slow=75,SNR=148							
H11N1	**WAKE ISLAND Hy**	**29.97**	**132**	T	T	18 57 11.3	
baz=325,slow=75,SNR=128							
H11N3	**WAKE ISLAND Hy**	**29.98**	**132**	T	T	18 57 06.4	
baz=325,slow=75,SNR=100							
H11S1	**WAKE ISLAND Hy**	**30.85**	**134**	T	T	18 58 10.7	
baz=326,slow=76,SNR=145							
H11S3	**WAKE ISLAND Hy**	**30.85**	**134**	T	T	18 58 21.6	
baz=326,slow=76,SNR=134							
H11S2	**WAKE ISLAND Hy**	**30.86**	**134**	T	T	18 58 16.8	
baz=326,slow=76,SNR=150							
LZH	**Lanzhou**	**31.25**	**272**	*e*P	**P**	**18 25 49.4**	**+1.2**
LZH				sP	pP	18 26 06.0	+2.9
LZH				pmax	pmax		
comp=Z,18nm,1.0s							
G16K	**Koyuk River**	**37.57**	**34**	P	**P**	**18 26 43.1**	**+0.8**
PZH	**PanZhiHua**	**37.61**	**259**	P	**P**	**18 26 43.5**	**+0.2**
PZH				pmax	pmax		
comp=Z,10.0nm,0.7s							
PZH				pmax	pmax		
comp=Z,100nm,6.2s							
L16K	**Owhat River**	**38.40**	**40**	P	**P**	**18 26 49.9**	**+0.6**
C18K	**Utukok River**	**38.71**	**29**	P	**P**	**18 26 51.0**	**-0.9**
C18K				IAmb	IAmb	18 26 52.1	
comp=Z,7.1nm,1.4s							
G18K	**Tagagawik**	**39.17**	**33**	P	**P**	**18 26 56.6**	**+0.9**
G18K				IAmb	IAmb	18 27 40.2	
comp=Z,3.0nm,1.2s							
H18K	**Honhosa River**	**39.19**	**35**	P	**P**	**18 26 56.6**	**+0.7**
L18K	**Granite Mounta**	**39.74**	**39**	P	**P**	**18 27 01.6**	**+1.2**
ZALV	**Zalesovo Beam**	**39.76**	**308**	P	**P**	**18 27 01.0**	**+0.2**
comp=Z,0.6nm,0.5s,baz=47,slow=3.0,SNR=1.8							
comp=Z,0.6nm,0.5s							
G19K	**Purcell Mounta**	**39.83**	**33**	P	**P**	**18 27 01.5**	**+0.2**
G19K				IAmb	IAmb	18 27 04.6	
comp=Z,6.1nm,1.5s							
J19K	**Poorman**	**40.28**	**36**	P	**P**	**18 27 05.3**	**+0.3**
J20K	**Nowinta River**	**40.94**	**36**	P	**P**	**18 27 10.7**	**+0.4**
J20K				IAmb	IAmb	18 27 12.6	
comp=Z,4.2nm,0.9s							
IMAR	**Indian Mountai**	**41.18**	**34**	P	**P**	**18 27 12.7**	**+0.3**
G21K	**Allakaket**	**41.30**	**33**	P	**P**	**18 27 13.7**	**+0.3**
G21K				IAmb	IAmb	18 27 46.2	
comp=Z,5.2nm,1.4s							
F21K	**Alatna River**	**41.36**	**32**	P	**P**	**18 27 13.6**	**-0.3**
H21K	**Melozitna Rive**	**41.55**	**34**	P	**P**	**18 27 15.2**	**-0.2**
D22K	**Ayikyak River**	**41.80**	**29**	P	**P**	**18 27 17.2**	**-0.3**
CAST	**Castle Rocks**	**41.85**	**37**	P	**P**	**18 27 18.2**	**+0.3**
CAST				IAmb	IAmb	18 27 18.5	
comp=Z,3.4nm,1.3s							
KDAK	**Kodiak Island**	**42.02**	**46**	P	**P**	**18 27 19.7**	**+0.4**
KDAK	**Kodiak Island**	**42.02**	**46**	P	**P**	**18 27 19.7**	**+0.4**
KDAK				pmax	pmax		
comp=Z,60nm,1.5s							
E22K	**Anaktuvuk Pass**	**42.06**	**30**	P	**P**	**18 27 19.8**	**+0.2**
E22K				IAmb	IAmb	18 27 32.4	
comp=Z,8.8nm,1.5s							
G23K	**Bananza Creek**	**42.70**	**32**	P	**P**	**18 27 24.8**	**0.0**
MK31	**Makanchi Array**	**42.92**	**298**	P	**P**	**18 27 26.5**	**-0.3**
MK31	**Makanchi Array**	**42.92**	**298**	P	**P**	**18 27 26.5**	**-0.3**
MK31				pmax	pmax		
comp=Z,1.0nm,0.9s							
MKAR	**Makanchi Array**	**42.92**	**298**	P	**P**	**18 27 26.4**	**-0.4**
MKAR	**Makanchi Array**	**42.92**	**298**	P	**P**	**18 27 26.7**	**-0.2**
comp=Z,0.8nm,0.6s,baz=82,slow=10,SNR=14							
comp=Z,0.8nm,0.6s							
MAKZ	**Makanchi**	**43.12**	**298**	P	**P**	**18 27 28.3**	**-0.2**
MAKZ	**Makanchi**	**43.12**	**298**	P	**P**	**18 27 28.3**	**-0.2**
MAKZ				pmax	pmax		
comp=Z,2.0nm,1.3s							
D24K	**Happy Valley**	**43.21**	**29**	P	**P**	**18 27 28.1**	**-0.7**
D24K				IAmb	IAmb	18 27 54.3	
comp=Z,4.4nm,1.2s							
RND	**Reindeer**	**43.30**	**37**	P	**P**	**18 27 29.1**	**-0.7**
RND				IAmb	IAmb	18 27 36.7	
comp=Z,7.5nm,1.5s							
RND	**Reindeer**	**43.30**	**37**	P	**P**	**18 27 29.1**	**-0.7**
RND				pmax	pmax		
comp=Z,7.0nm,1.5s							
MDM	**Murphy Dome**	**43.48**	**35**	P	**P**	**18 27 31.8**	**+0.7**
MDM				IAmb	IAmb	18 27 32.7	
comp=Z,3.5nm,1.0s							
F24K	**Squaw Lake**	**43.53**	**31**	P	**P**	**18 27 31.9**	**+0.4**
F24K				IAmb	IAmb	18 28 07.0	
comp=Z,4.1nm,1.3s							
H24K	**Noodor Dome**	**43.58**	**34**	P	**P**	**18 27 31.9**	**0.0**
SML	**Sawmill**	**43.69**	**40**	P	**P**	**18 27 33.4**	**+0.6**
SML	**Sawmill**	**43.69**	**40**	P	**P**	**18 27 33.4**	**+0.6**
SML				pmax	pmax		
comp=Z,16nm,1.2s							
G24K	**Hadweenzic Riv**	**43.71**	**32**	P	**P**	**18 27 33.6**	**+0.7**
G24K				IAmb	IAmb	18 27 56.0	
comp=Z,4.2nm,1.4s							
IL31		**44.06**	**35**	P	**P**	**18 27 35.7**	**+0.1**
IL31				IAmb	IAmb	18 27 38.0	
comp=Z,4.6nm,1.2s							
ILAR	**Eielson Array**	**44.06**	**35**	P	**P**	**18 27 35.4**	**-0.4**
ILAR	**Eielson Array**	**44.06**	**35**	P	**P**	**18 27 36.1**	**+0.4**
comp=Z,1.1nm,0.8s,baz=258,slow=5.7,SNR=22							
comp=Z,1.1nm,0.8s							
KURK	**Kurchatov**	**44.14**	**304**	P	**P**	**18 27 36.0**	**-0.6**
KURK	**Kurchatov**	**44.14**	**304**	P	**P**	**18 27 37.1**	**+0.6**
KURK	**Kurchatov**	**44.14**	**304**	*e*P	**P**	**18 27 37.1**	**+0.6**
SCM	**Sheep Creek Mo**	**44.16**	**39**	P	**P**	**18 27 36.2**	**-0.4**
SCM	**Sheep Creek Mo**	**44.16**	**39**	P	**P**	**18 27 36.3**	**-0.4**
SCM				pmax	pmax		
comp=Z,34nm,1.5s							
KURBB	**Kurchatov Arra**	**44.22**	**304**	P	**P**	**18 27 37.0**	**-0.1**
comp=Z,1.9nm,0.7s,baz=76,slow=9.0,SNR=22							
comp=Z,1.9nm,0.7s							
PRP	**Porcupine Dome**	**44.58**	**34**	P	**P**	**18 27 40.4**	**+0.4**
PRP				IAmb	IAmb	18 27 41.6	
comp=Z,3.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**44.68**	**252**	P	**P**	**18 27 42.0**	**+0.8**
comp=Z,0.4nm,0.4s,baz=61,slow=7.3,SNR=3.0							
comp=Z,0.4nm,0.4s							
BMAR	**Burnt Mountain**	**44.81**	**31**		**P**	**18 27 43.0**	**+1.2**
SCRK	**Sand Creek**	**45.40**	**36**	P	**P**	**18 27 46.7**	**+0.2**
SCRK				IAmb	IAmb	18 27 47.2	
comp=Z,1.8nm,0.6s							
J26L	**Joseph Creek**	**45.52**	**35**	P	**P**	**18 27 47.0**	**-0.3**
J26L				IAmb	IAmb	18 27 57.7	
comp=Z,7.2nm,1.5s							
EGAK	**Eagle**	**46.50**	**35**	P	**P**	**18 27 55.7**	**+0.7**
EGAK				IAmb	IAmb	18 28 37.6	
comp=Z,5.3nm,1.4s							
L27K	**Beaver Creek,**	**46.50**	**37**	P	**P**	**18 27 55.2**	**+0.1**
L27K				IAmb	IAmb	18 28 05.2	
comp=Z,5.8nm,1.2s							
BCAR	**Beaver Creek A**	**46.52**	**37**	P	**P**	**18 27 56.6**	**+1.3**
E28M	**Babbage River**	**46.59**	**29**	P	**P**	**18 27 55.9**	**+0.2**
M27K	**Edge Creek, AK**	**46.61**	**38**	P	**P**	**18 27 57.4**	**+1.3**
M27K				IAmb	IAmb	18 28 01.6	
comp=Z,7.6nm,1.4s							
ISLE	**Juniper Island**	**46.75**	**41**	P	**P**	**18 27 58.1**	**+1.0**
I28M	**Miner Creek**	**46.90**	**34**	P	**P**	**18 27 59.2**	**+1.0**
BVAR	**Borovoye Array**	**48.35**	**309**	P	**P**	**18 28 09.2**	**-0.4**
comp=Z,0.4nm,0.4s,baz=56,slow=7.3,SNR=6.3							
comp=Z,0.4nm,0.4s							
I30M	**Mount Dempster**	**48.41**	**34**	P	**P**	**18 28 10.7**	**+0.7**
I30M				IAmb	IAmb	18 28 11.9	
comp=Z,3.6nm,0.8s							
INK	**Inuvik**	**48.83**	**29**	P	**P**	**18 28 13.1**	**+0.2**
INK				IAmb	IAmb	18 28 48.0	
comp=Z,2.3nm,1.1s							
INK	**Inuvik**	**48.83**	**29**	P	**P**	**18 28 13.1**	**+0.2**
INK				pmax	pmax		
comp=Z,2.0nm,1.1s							
HYT	**Haines Junctio**	**49.00**	**40**	P	**P**	**18 28 16.0**	**+1.4**
ARSB	**Arslanbob**	**51.18**	**294**	P	**P**	**18 28 31.4**	**+0.1**
ARSB	**Arslanbob**	**51.18**	**294**	P	**P**	**18 28 31.5**	**+0.1**
ARSB				pmax	pmax		
comp=Z,1.0nm,0.6s							
CHGR	**Chuyangaron**	**55.03**	**293**	P	**P**	**18 28 58.7**	**-0.9**
CHGR	**Chuyangaron**	**55.03**	**293**	P	**P**	**18 28 58.7**	**-0.9**
CHGR				pmax	pmax		
comp=Z,5.0nm,0.6s							
ABKAR	**Akbulak array**	**55.88**	**308**	P	**P**	**18 29 04.8**	**-0.6**
RES	**Resolute Bay**	**56.95**	**16**	P	**P**	**18 29 11.7**	**-1.0**
RES				IAmb	IAmb	18 29 14.3	
comp=Z,4.6nm,1.2s							
RES	**Resolute Bay**	**56.95**	**16**	P	**P**	**18 29 11.7**	**-1.0**
RES				pmax	pmax		
comp=Z,5.0nm,1.2s							
YKA	**Yellowknife Ar**	**58.31**	**32**	P	**P**	**18 29 22.4**	**0.0**
comp=Z,0.5nm,0.8s,baz=305,slow=6.6,SNR=7.7							
comp=Z,0.5nm,0.8s							
WRA	**Warramunga Arr**	**62.65**	**190**	P	**P**	**18 29 52.2**	**-0.2**
comp=Z,0.6nm,0.5s,baz=6.2,slow=6.8,SNR=9.3							
comp=Z,0.6nm,0.5s							
FINES	**FINESS Array B**	**64.86**	**332**	P	**P**	**18 30 05.8**	**-0.7**
comp=Z,0.9nm,0.7s,baz=48,slow=8.3,SNR=4.1							
comp=Z,0.9nm,0.7s							
ASAR	**Alice Springs**	**66.37**	**190**	P	**P**	**18 30 17.8**	**+1.1**
comp=Z,0.5nm,0.8s,baz=10,slow=8.1,SNR=5.0							
comp=Z,0.5nm,0.8s							
TXAR	**Lajitas Array**	**85.51**	**54**	P	**P**	**18 32 06.1**	**+0.2**
comp=Z,0.4nm,0.7s,baz=319,slow=3.6,SNR=4.3							
comp=Z,0.4nm,0.7s							
H03N2	**Juan Fernandez**	**145.54**	**89**	T	T	21 21 56.1	
baz=296							
H03N3	**Juan Fernandez**	**145.56**	**89**	T	T	21 22 06.5	
baz=296							
H03N1	**Juan Fernandez**	**145.56**	**89**	T	T	21 22 00.1	
baz=296							

TAP 01 18:27:02.8, 24.˚15N×121.˚65E, h49km, ML2.0, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETL	**Fush Village**	**0.03**	**283**	P	Pn	18 27 10.2	-0.2
baz=282							
ETL				S	Sn	18 27 15.6	-0.2
baz=282							
NACB	**Ninganchiao**	**0.06**	**292**	P	Pn	18 27 10.9	+0.5
baz=292							
NACB				S	Sn	18 27 15.7	-0.1
baz=292							
TWD	**Chiawan**	**0.09**	**215**	P	Pn	18 27 10.3	-0.1
baz=210							
TWD				S	Sn	18 27 15.9	+0.1
baz=210							
ETLH	**Xiulin Townshi**	**0.16**	**289**	*i* P	Pn	18 27 10.9	-0.1
baz=289							
ETLH				*i* S	Sn	18 27 16.4	-0.3
baz=289							
ETM	**Tongmen**	**0.24**	**218**	*i* P	Pn	18 27 10.7	-0.7
baz=217							
ETM				*i* S	Sn	18 27 16.9	-0.4
baz=217							
LXIB	**Xiulin Townshi**	**0.25**	**239**	P	Pn	18 27 11.2	-0.5
baz=238							
LXIB				S	Sn	18 27 17.0	-0.9
baz=238							
EWUT	**Wuta**	**0.31**	**22**	P	Pn	18 27 11.8	-0.2
baz=21							
EWUT				S	Sn	18 27 19.7	+1.2
baz=21							
WHF	**Hehuan Shan**	**0.35**	**269**	*i* P	Pn	18 27 12.6	-0.2
baz=268							
WHF				*i* S	Sn	18 27 19.9	0.0
baz=268							
NNSB	**Datong**	**0.37**	**318**	*i* P	Pn	18 27 12.3	-0.4
baz=318			

YHNB			*i* S		Sn	18 27 23.2	-0.6	
	baz=334							
NSK	**Sanguang**	**0.58 333**	*i* P		Pn	18 27 14.7	-0.4	
	baz=333							
NSK			*i* S		Sn	18 27 23.2	-0.8	
	baz=333							
FUSB	**Fushanzhiwuyua**	**0.61 355**	P		Pn	18 27 15.1	-0.3	
	baz=354							
FUSB			S		Sn	18 27 24.4	-0.1	
	baz=354							
VWDT	**VWDT**	**0.61 230**	P		Pn	18 27 15.2	-0.2	
	baz=229							
VWDT			S		Sn	18 27 24.2	-0.2	
	baz=229							
NWLT	**Wulai**	**0.64 348**	P		Pn	18 27 15.6	-0.2	
	baz=347							
NWLT			S		Sn	18 27 24.6	-0.5	
	baz=347							
WHP	**Taichung City**	**0.66 281**	P		Pn	18 27 17.1	+1.1	
	baz=280							
WHP			S		Sn	18 27 26.5	+0.9	
	baz=280							
NFF	**Wufeng Townshi**	**0.68 315**	P		Pn	18 27 15.9	-0.4	
	baz=314							
NFF			S		Sn	18 27 25.9	-0.2	
	baz=314							
WCS	**Beigang Elemen**	**0.68 262**	*i* P		Pn	18 27 16.7	+0.4	
	baz=261							
WCS			*i* S		Sn	18 27 27.5	+1.5	
	baz=261							
SSLB	**Suanglung**	**0.73 240**	*e*P		Pn	18 27 17.6	+0.6	
	baz=240							
SSLB			*e*S		Sn	18 27 28.9	+1.6	
	baz=240							
LIOB	**Emei**	**0.76 310**	P		Pn	18 27 17.3	0.0	
	baz=310							
LIOB			S		Sn	18 27 28.7	+0.8	
	baz=310							
NSTT	**Nanjuang**	**0.76 309**	P		Pn	18 27 19.1	+1.8	
	baz=309							
NSTT			S		Sn	18 27 28.2	+0.4	
	baz=309							
YULB	**Yu-li**	**0.82 203**	P		Pn	18 27 16.6	-1.6	
	baz=203							
TIPB	**Shuangxi**	**0.83 11**	*e*P		Pn	18 27 18.1	-0.2	
	baz=11							
TIPB			*e*S		Sn	18 27 29.6	0.0	
	baz=11							
WHYT	**Xinyi Township**	**0.86 238**	P		Pn	18 27 19.4	+0.7	
	baz=238							
WHYT			S		Sn	18 27 31.9	+1.6	
	baz=238							
ALS	**Alishan**	**1.00 231**	P		Pn	18 27 20.9	+0.1	
	baz=230							
ALS			S		Sn	18 27 35.5	+1.5	
	baz=230							
WCKO	**Fanlu**	**1.19 234**	*e*P		Pn	18 27 23.8	+0.7	
	baz=233							
WCKO			*e*S		Sn	18 27 40.2	+1.9	
	baz=233							
TPUB	**Ta-pu**	**1.26 228**	*e*P		Pn	18 27 24.2	+0.1	
	baz=227							
TPUB			*e*S		Sn	18 27 42.1	+2.1	
	baz=227							
TWK	**Hsinying**	**1.38 231**	*e*P		Pn	18 27 26.1	+0.3	
	baz=230							
TWK			*e*S		Sn	18 27 44.4	+1.5	
	baz=230							

JMA 01 18:27:32.8±0.2, 24°2N±0°3×123°8E±0°4, h17km±1km, MV0.7/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.12**	**321**	P	Pb	18 27 36.6	0.0
IRIF				S	Sg	18 27 38.9	-0.1
JKRS	**Kuro-shima**	**0.18**	**92**	P	Pg	18 27 37.4	0.0
JKRS				S	Sg	18 27 40.7	+0.2
HATJ	**Hateruma jima**	**0.19**	**181**	P	Pg	18 27 37.3	-0.1
HATJ				S	Sg	18 27 40.6	0.0
JIJ	**Ishigaki jima**	**0.33**	**68**	*e*P	Pg	18 27 39.5	-0.3
JIJ				S	Sg	18 27 44.2	-0.3
JISG	**Ishigakijimahi**	**0.57**	**53**	S	Sb	18 27 52.3	+0.2

*IDC **01** 18:30:51.6±2.8, 32°47S×179°05W, h0km, mb3.7/2, mbtmp3.7/3, ML3.5/1, MS3.7/2, Error ellipse: s-maj=67.1km s-min=44.4km az=119.0*

*WEL **01** 18:30:56.1±0.9, 33°S±8°×17°9W±2°1, h33km, M4.3/5, mB4.5/3, ML4.7/8, MLv4.4/5, Mw(mB)3.7/3, Error ellipse: s-maj=0.0km s-min=0.0km az=109.3*

ISC 01 18:30:57.2±1.2, 32°6S±0°1×179°2W±0°3, h35km, n20, σ1§57/23, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.47**	**18**	P	**Pn**	**18 31 50.5**	**+1.7**
GLKZ				S	**Sn**	**18 32 26.0**	**-2.7**
HAZ	**Te Kaha**	**5.74**	**205**	P	**Pn**	**18 32 20.0**	**+0.1**
HAZ				S	**Sn**	**18 33 26.2**	**+1.7**
RUGZ	**Raukumara Rang**	**5.96**	**205**	P	**Pn**	**18 32 24.2**	**+1.1**
RUGZ				S	**Sn**	**18 33 30.7**	**+0.5**
TWGZ	**Tauwhareparae**	**6.05**	**202**	P	**Pn**	**18 32 26.3**	**+2.0**
TWGZ				S	**Sn**	**18 33 30.6**	**-1.8**
MWZ	**Matawai**	**6.35**	**204**	P	**Pn**	**18 32 29.5**	**+1.2**
MWZ				S	**Sn**	**18 33 39.0**	**-0.6**
URZ	**Urewera**	**6.43**	**207**	Pn	**Pn**	**18 32 29.1**	**-0.3**
	1.0nm,0.3s,baz=356,slow=5.9,SNR=11						
URZ				Sn	**Sn**	**18 33 40.3**	**-1.3**
	1.5nm,0.3s,baz=61,slow=15,SNR=1.9 3.1nm,0.3s						
URZ	**Urewera**	**6.43**	**207**	P	**Pn**	**18 32 30.2**	**+0.7**
URZ				S	**Sn**	**18 33 40.0**	**-1.5**
QUZ	**Omahuta**	**6.57**	**244**	P	Pn	18 32 38.7	+7.3
RIGZ	**Rimuhau**	**6.61**	**201**	P	**Pn**	**18 32 32.6**	**+0.7**
RIGZ				S	**Sn**	**18 33 44.4**	**-1.5**
PRGZ	**Paritu Road**	**6.77**	**200**	S	**Sn**	**18 33 47.1**	**-2.9**
MTHZ	**Maungataniwha**	**7.05**	**206**	P	**Pn**	**18 32 39.9**	**+1.9**
MTHZ				S	**Sn**	**18 33 55.0**	**-1.9**
OTVZ	**Oturere**	**7.80**	**211**	P	**Pn**	**18 32 49.3**	**+1.0**
DZM	**Mont Dzumac**	**16.51**	**306**	LR	LR	18 38 56.7	
	comp=Z,50nm,19.7s,baz=106,slow=29						
ASAR	**Alice Springs**	**42.06**	**270**	P	**P**	**18 38 46.5**	**+0.7**
	0.7nm,0.7s,baz=105,slow=7.2,SNR=9.7 0.7nm,0.7s						
WRA	**Warramunga Arr**	**43.24**	**275**	P	**P**	**18 38 54.9**	**-0.5**
	0.4nm,0.3s,baz=115,slow=7.7,SNR=4.7 0.4nm,0.3s						
SNAA	**Sanae**	**76.01**	**179**	LR	LR	19 13 59.7	
	comp=Z,294nm,20.2s,baz=6.5,slow=34						
H03N3	**Juan Fernandez**	**80.29**	**123**	T	T	20 11 50.2	
	baz=240						
H03N2	**Juan Fernandez**	**80.30**	**123**	T	T	20 11 58.8	
	baz=240						
H03N1	**Juan Fernandez**	**80.31**	**123**	T	T	20 11 47.0	
	baz=240						
FINES	**FINESS Array B**	**146.82**	**338**	PKPbc	**PKPbc**	**18 50 34.0**	**-0.9**
	0.6nm,0.4s,baz=22,slow=1.5,SNR=10						

*PGC **01** 18:35:34.5±2.3, 50°56N×130°39W, h10km, MLSn3.9/37, Mw4.6, 210km west of Pt. Hardy, Bc Vancouver Island, Canada Region*

*IDC **01** 18:35:34.7±1.0, 50°66N×130°25W, h0km, mb3.9/6, mbtmp4.0/17, ML3.7/10, MS3.7/32, Error ellipse: s-maj=15.2km s-min=8.8km az=67.0*

*NEIC **01** 18:35:34.5, 50°55N×130°39W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.20; $M_{\theta\theta}$-3.94; $M_{\phi\phi}$1.30; $M_{r\theta}$-3.45; $M_{r\phi}$2.77; $M_{\theta\phi}$7.46; Fault plane solution: $M_0$9.40000×10^{15} NP1:ϕ_s329.00000°, δ80.00000°, λ113.00000°. NP2:ϕ_s81.00000°, δ25.00000°, λ24.00000°. Principal axes: T 9.6283, Plg50.0000°, Azm265.0000°; N -0.4183, Plg23.0000°, Azm145.0000°; P -9.2099, Plg31.0000°, Azm40.0000°;*

*NEIC **01** 18:35:38.0±1.9, 50°88N±0°08×129°9W±0°2, h10km±2km, mb4.2/148, Mwr4.6(OTT) Error ellipse: s-maj=18.7km s-min=9.7km az=238.0*

ISC 01 18:35:36.3±0.5, 50°71N±0°04×130°12W±0°04, h10km, n520, σ1§54/415, mb4.3/22, MS3.6/22, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.27**	**92**		**Pn**	**18 35 58.6**	**-1.5**
HOLB	**Holberg**	**1.27**	**92**	Pn	**Pn**	**18 35 58.7**	**-1.4**
HOLB				Sn	**Sb**	**18 36 15.8**	**-0.8**
PACB	**Port Alice, BC**	**1.70**	**98**	Pn	**Pn**	**18 36 04.3**	**-1.6**
PACB				Sn	**Sn**	**18 36 25.0**	**-2.7**
PHC	**Port Hardy**	**1.71**	**89**	Pn	**Pn**	**18 36 05.1**	**-1.0**
PHC				Sn	**Sn**	**18 36 26.6**	**-1.3**
MAYB	**Maynard**	**1.91**	**98**	Pn	**Pn**	**18 36 07.5**	**-1.4**
BBB	**Bella Bella**	**1.94**	**40**		**Pn**	**18 36 08.3**	**-1.0**
BBB	**Bella Bella**	**1.94**	**40**	Pn	**Pn**	**18 36 08.5**	**-0.8**
	36nm,0.3s,baz=255,slow=8.2,SNR=252						
BBB				Sn	**Sn**	**18 36 32.9**	**-0.7**
	163nm,0.3s,baz=285,slow=23,SNR=8.6						
BBB				LR	LR	18 36 35.8	
	comp=Z,207nm,19.9s,baz=50,slow=30 94nm,0.3s						
BBB	**Bella Bella**	**1.94**	**40**	Pn	**Pn**	**18 36 08.8**	**-0.4**
BBB				Sn	**Sn**	**18 36 33.2**	**-0.4**
EDB	**Eliza Dome**	**2.10**	**112**	Pn	**Pn**	**18 36 08.8**	**-2.7**
BAIB	**Barry Inlet**	**2.13**	**332**	Pn	**Pn**	**18 36 08.5**	**-3.4**
BNB	**Barry Inlet**	**2.13**	**332**	Pn	**Pn**	**18 36 08.4**	**-3.5**
WOSB	**Woss**	**2.33**	**102**	Pn	**Pn**	**18 36 13.8**	**-1.1**
WOSB	**Woss**	**2.33**	**102**	Sn	**Sn**	**18 36 41.4**	**-2.2**
HG1B	**Mitchell Dam**	**2.55**	**331**	Pn	**Pn**	**18 36 15.2**	**-2.5**
HG1B	**Mitchell Dam**	**2.55**	**331**	Sn	**Sn**	**18 36 45.7**	**-3.1**
BUTB	**Butedale**	**2.57**	**23**	Pn	**Pn**	**18 36 17.7**	**-0.3**
BUTB	**Butedale**	**2.57**	**23**	Sn	**Sn**	**18 36 49.9**	**+0.5**
NCSB	**Newcastle Ridg**	**2.61**	**95**	Pn	**Pn**	**18 36 17.7**	**-1.0**
NCSB	**Newcastle Ridg**	**2.61**	**95**	Sn	**Sn**	**18 36 48.6**	**-1.9**
ETB	**Estevan Point**	**2.67**	**119**	Pn	**Pn**	**18 36 16.8**	**-2.5**
GRIB	**Gribbell Islan**	**2.70**	**13**	Pn	**Pn**	**18 36 18.7**	**-1.1**
GRIB	**Gribbell Islan**	**2.70**	**13**	Sn	**Sn**	**18 36 51.1**	**-1.3**
DIB	**Dawson Inlet,**	**2.89**	**331**	Pn	**Pn**	**18 36 19.0**	**-3.4**
H02S1	**DAWSON INLET T**	**2.89**	**331**	Pn	**Pn**	**18 36 19.4**	**-3.0**
H02S1				Sn	**Sn**	**18 36 53.4**	**-3.8**
HWKB	**Hawksbury Isla**	**2.95**	**11**	Pn	**Pn**	**18 36 22.4**	**-0.9**
HWKB	**Hawksbury Isla**	**2.95**	**11**	Sn	**Sn**	**18 36 57.0**	**-1.8**
SPLB	**Strathcona Par**	**2.98**	**104**	Pn	**Pn**	**18 36 22.5**	**-1.1**
CBB	**Campbell River**	**3.12**	**101**	Pn	**Pn**	**18 36 24.9**	**-0.6**
CBB	**Campbell River**	**3.12**	**101**	Pn	**Pn**	**18 36 24.9**	**-0.6**
CBB	**Campbell River**	**3.12**	**101**	Sn	**Sn**	**18 37 00.5**	**-2.3**
GRNB	**Grenville Isla**	**3.14**	**2**		**Pn**	**18 36 24.4**	**-1.4**
GRNB	**Grenville Isla**	**3.14**	**2**	Pn	**Pn**	**18 36 24.6**	**-1.3**
GRNB	**Grenville Isla**	**3.14**	**2**	Sn	**Sn**	**18 37 01.2**	**-2.2**
MBLB	**Minette Bay Lo**	**3.45**	**15**	Pn	**Pn**	**18 36 29.6**	**-0.5**
MBLB	**Minette Bay Lo**	**3.45**	**15**	Sn	**Sn**	**18 37 11.4**	**+0.4**
B012	**Ucluelet**	**3.46**	**119**	Pn	**Pn**	**18 36 28.6**	**-1.6**
OZB	**Mount Ozzard**	**3.47**	**119**		**Pn**	**18 36 29.5**	**-0.9**
OZB	**Mount Ozzard**	**3.47**	**119**	Pn	**Pn**	**18 36 28.2**	**-2.2**
KITB	**Kitimat**	**3.49**	**14**	Pn	**Pn**	**18 36 30.2**	**-0.4**
KITB	**Kitimat**	**3.49**	**14**	Sn	**Sn**	**18 37 12.2**	**+0.2**
RUBB	**Prince Rupert**	**3.62**	**359**		**Pn**	**18 36 31.9**	**-0.5**
RUBB	**Prince Rupert**	**3.62**	**359**	Pn	**Pn**	**18 36 31.6**	**-0.8**
RUBB	**Prince Rupert**	**3.62**	**359**	Sn	**Sn**	**18 37 13.8**	**-1.3**
NDB	**Naden**	**3.68**	**333**	Pn	**Pn**	**18 36 31.2**	**-2.0**
BFSB	**Bamfield**	**3.74**	**118**	Pn	**Pn**	**18 36 32.9**	**-1.1**
B927	**Port Alberni**	**3.74**	**112**	Pn	**Pn**	**18 36 32.7**	**-1.3**
B928	**Bamfield**	**3.74**	**118**	Pn	**Pn**	**18 36 32.4**	**-1.6**
SHB	**Sechelt**	**4.17**	**103**	Pn	**Pn**	**18 36 39.5**	**-0.6**
NLLB	**Nanaimo Lost L**	**4.23**	**108**	Pn	**Pn**	**18 36 40.1**	**-0.7**
PFB	**Port Renfrew**	**4.27**	**118**	Pn	**Pn**	**18 36 39.7**	**-1.7**
PTRF	**Port Renfrew**	**4.30**	**118**	Pn	**Pn**	**18 36 40.1**	**-1.6**
B926	**Mesachie Lake**	**4.32**	**114**	Pn	**Pn**	**18 36 41.3**	**-0.7**
CLRS	**Cowichan Lake**	**4.32**	**114**	Pn	**Pn**	**18 36 41.2**	**-0.8**
CLRS	**Cowichan Lake**	**4.32**	**114**	Pn	**Pn**	**18 36 41.3**	**-0.7**
OCP	**Olym-Cheeka Pk**	**4.32**	**122**	Pn	**Pn**	**18 36 40.8**	**-1.2**
WPB	**Watts Point**	**4.56**	**101**	Pn	**Pn**	**18 36 45.4**	**+0.1**
C03A	**Quillayute Air**	**4.56**	**125**	Pn	**Pn**	**18 36 44.9**	**-0.4**
BIB	**Bowen Island**	**4.58**	**104**	Pn	**Pn**	**18 36 44.7**	**-0.8**
GOBB	**Galiano Island**	**4.63**	**110**	Pn	**Pn**	**18 36 45.9**	**-0.4**
SYMB	**Survey Mountai**	**4.64**	**115**	Pn	**Pn**	**18 36 45.7**	**-0.8**
V35K	**Ketchikan**	**4.71**	**350**		**Pn**	**18 36 46.1**	**-1.3**
V35K	**Ketchikan**	**4.71**	**350**	P	**Pn**	**18 36 45.9**	**-1.5**
	baz=171						
V35K	**Ketchikan**	**4.71**	**350**	Pn	**Pn**	**18 36 46.2**	**-1.2**
OBC	**Olympics--Boni**	**4.77**	**122**	Pn	**Pn**	**18 36 48.1**	**-0.2**
B010	**North Saanich**	**4.79**	**113**	Pn	**Pn**	**18 36 47.2**	**-1.3**
PGC	**Sidney**	**4.79**	**113**		**Pn**	**18 36 47.5**	**-1.0**
PGC	**Sidney**	**4.79**	**113**	Pn	**Pn**	**18 36 47.4**	**-1.2**
B009	**North Saanich**	**4.80**	**113**	Pn	**Pn**	**18 36 47.9**	**-0.6**
B011	**North Saanich**	**4.80**	**113**	Pn	**Pn**	**18 36 48.1**	**-0.5**
SNB	**Saturna Island**	**4.90**	**111**	Pn	**Pn**	**18 36 50.2**	**+0.1**
STW	**Striped Peak**	**4.93**	**119**	Pn	**Pn**	**18 36 49.3**	**-1.1**
VGZ	**Gonzales**	**4.98**	**115**	Pn	**Pn**	**18 36 50.4**	**-0.7**
B04A	**Port Angeles**	**5.07**	**119**	Pn	**Pn**	**18 36 52.4**	**0.0**
HNBB	**Haney**	**5.07**	**103**	Pn	**Pn**	**18 36 52.2**	**-0.2**
CRAG	**Craig**	**5.10**	**340**	Pn	**Pn**	**18 36 50.9**	**-1.8**
CRAG	**Craig**	**5.10**	**340**	P	**Pn**	**18 36 50.7**	**-1.9**
	baz=160						
OSD	**Olympics--Snow**	**5.10**	**122**	Pn	**Pn**	**18 36 52.4**	**-0.6**
MCW	**Mount Constitu**	**5.15**	**110**	Pn	**Pn**	**18 36 53.5**	**+0.1**
FSJB	**Fort St James**	**5.17**	**41**	Pn	**Pn**	**18 36 54.6**	**+0.9**
FSJB	**Fort St James**	**5.17**	**41**	Sn	**Sn**	**18 37 54.3**	**+1.0**
U35K	**Hyder**	**5.21**	**1**	P	**Pn**	**18 36 52.6**	**-1.6**
	baz=182						
LLLB	**Lillooet**	**5.24**	**88**	Pn	**Pn**	**18 36 55.1**	**+0.4**
NLWA	**Neilton Lookou**	**5.28**	**127**		**Pn**	**18 36 54.7**	**-0.6**
WISH	**Wishkah**	**5.52**	**128**	Pn	**Pn**	**18 36 58.1**	**-0.4**
WISH	**Wishkah**	**5.52**	**128**	Pn	**Pn**	**18 36 58.3**	**-0.2**
MBW	**Mount Baker**	**5.67**	**107**	Pn	**Pn**	**18 37 01.8**	**+1.2**
U33K	**Whale Pass**	**5.70**	**343**	Pn	**Pn**	**18 36 59.7**	**-1.3**
U33K	**Whale Pass**	**5.70**	**343**	P	**Pn**	**18 36 59.1**	**-1.9**
	baz=162						
U33K	**Whale Pass**	**5.70**	**343**	Pn	**Pn**	**18 36 59.5**	**-1.5**
U33K	**Whale Pass**	**5.70**	**343**	Sn	**Sn**	**18 38 04.7**	**-1.7**
GNW	**Green Mountain**	**5.73**	**121**	Pn	**Pn**	**18 37 01.5**	**+0.2**
GNW	**Green Mountain**	**5.73**	**121**	Pn	**Pn**	**18 37 01.1**	**-0.3**
HOPB	**Hope**	**5.76**	**100**	Pn	**Pn**	**18 37 01.7**	**-0.1**
WRAK	**Wrangell Islan**	**5.87**	**348**	P	**Pn**	**18 37 02.8**	**-0.5**
	baz=168						
JCW	**Jim Creek**	**5.90**	**112**	Pn	**Pn**	**18 37 04.0**	**+0.1**
RADR	**Rader Ridge**	**6.00**	**133**	Pn	**Pn**	**18 37 05.2**	**+0.1**
E03A	**Lebam**	**6.02**	**131**	Pn	**Pn**	**18 37 05.5**	**+0.1**
RPW	**Rockport**	**6.04**	**109**	Pn	**Pn**	**18 37 06.3**	**+0.6**
T35M	**Bob Quinn**	**6.28**	**359**	Pn	**Pn**	**18 37 07.3**	**-1.6**
T35M	**Bob Quinn**	**6.28**	**359**	P	**Pn**	**18 37 08.6**	**-0.4**
	baz=181						
C05A	**Tolt Reservoir**	**6.29**	**115**	Pn	**Pn**	**18 37 09.7**	**+0.5**
GPW	**Glacier Peak**	**6.41**	**110**	Pn	**Pn**	**18 37 11.6**	**+0.6**
D05A	**Enumclaw**	**6.41**	**120**		**Pn**	**18 37 11.8**	**+1.1**
FMW	**Mount Fremont**	**6.74**	**121**	Pn	**Pn**	**18 37 16.1**	**+0.7**
LON	**Longmire**	**6.78**	**123**		**Pn**	**18 37 16.2**	**+0.4**
LON	**Longmire**	**6.78**	**123**	Pn	**Pn**	**18 37 16.0**	**+0.2**
PNT	**Penticton**	**6.91**	**98**	Pn	**Pn**	**18 37 18.4**	**+0.7**
F04A	**Amboy**	**7.01**	**130**		**Pn**	**18 37 20.3**	**+1.3**
SIT	**Sitka**	**7.06**	**336**	P	**Pn**	**18 37 19.9**	**+0.3**
	baz=154						
LTY	**Liberty**	**7.11**	**115**		**Pn**	**18 37 21.1**	**+0.6**
LTY	**Liberty**	**7.11**	**115**	Pn	**Pn**	**18 37 21.1**	**+0.6**
BMTB	**Bullhead Mount**	**7.16**	**39**	Pn	**Pn**	**18 37 23.5**	**+2.4**
BMTB	**Bullhead Mount**	**7.16**	**39**	Sn	**Sn**	**18 38 43.9**	**+1.3**
S34M	**Telegraph Cree**	**7.24**	**356**	Pn	**Pn**	**18 37 22.5**	**+0.5**
S34M	**Telegraph Cree**	**7.24**	**356**	P	**Pn**	**18 37 22.7**	**+0.6**
	baz=176						
B08A	**Colville Reser**	**7.40**	**104**	Pn	**Pn**	**18 37 25.1**	**+0.7**
B08A	**Colville Reser**	**7.40**	**104**	Pn	**Pn**	**18 37 24.7**	**+0.3**
NBC4	**NorthernBC 4**	**7.55**	**45**	Pn	**Pn**	**18 37 28.3**	**+1.9**
NBC4	**NorthernBC 4**	**7.55**	**45**	Sn	**Sn**	**18 38 52.8**	**+0.8**
MXC	**Moxie City**	**7.71**	**119**		**Pn**	**18 37 29.5**	**+0.9**
DLBC	**Dease Lake**	**7.74**	**0**	P	**Pn**	**18 37 29.7**	**+0.7**
	baz=182						
DLBC	**Dease Lake**	**7.74**	**0**	Pn	**Pn**	**18 37 30.6**	**+1.5**
	0.9nm,0.3s,baz=187,slow=13,SNR=14						
DLBC				Sn	**Sn**	**18 38 56.7**	**0.0**
	0.2nm,0.3s,baz=156,slow=12,SNR=1.3						
DLBC				Lg	Lg	18 39 43.6	
	0.1nm,0.3s,baz=156,slow=26,SNR=1.2						
DLBC				LR	LR	18 40 23.8	
	comp=Z,537nm,19.5s,baz=283,slow=37 6.9nm,0.6s						
DLBC	**Dease Lake**	**7.74**	**0**	Pn	**Pn**	**18 37 30.2**	**+1.2**
HOOD	**Mount Hood Mea**	**7.83**	**130**		**Pn**	**18 37 31.2**	**+0.8**
BDMTA	**Bald Mountain**	**7.94**	**55**	Pn	**Pn**	**18 37 34.5**	**+2.7**
E07A	**Sunnyside**	**7.97**	**117**	Pn	**Pn**	**18 37 31.7**	**-0.4**
G05A	**Wamic**	**8.05**	**129**		**Pn**	**18 37 35.4**	**+2.1**
H04A	**Detroit Lake**	**8.06**	**135**	Pn	**Pn**	**18 37 34.8**	**+1.4**
S31K	**Pelican**	**8.09**	**336**	P	**Pn**	**18 37 34.7**	**+0.9**
	baz=153						
NBC5	**NorthernBC 5**	**8.10**	**30**	Pn	**Pn**	**18 37 36.2**	**+2.3**
NBC5	**NorthernBC 5**	**8.10**	**30**	Sn	**Sn**	**18 39 07.7**	**+2.1**
BUCK	**Buck Mountain**	**8.11**	**141**	Pn	**Pn**	**18 37 36.1**	**+1.9**
D08A	**Wollman Farm,**	**8.23**	**112**	Pn	**Pn**	**18 37 34.8**	**-1.0**
HAWA	**Hanford**	**8.24**	**118**	Pn	**Pn**	**18 37 36.0**	**0.0**
C09A	**Chrisman Ranch**	**8.28**	**106**	Pn	**Pn**	**18 37 36.6**	**+0.2**
F07A	**Phinny Hill Vi**	**8.33**	**121**	Pn	**Pn**	**18 37 38.3**	**+1.2**
Q32M	**Nakina River**	**8.36**	**352**	Pn	**Pn**	**18 37 37.6**	**0.0**
Q32M	**Nakina River**	**8.36**	**352**	P	**Pn**	**18 37 37.2**	**-0.4**
	baz=172						
Q32M	**Nakina River**	**8.36**	**352**		**Pn**	**18 37 37.7**	**+0.1**
G06A	**Carlson Farm,**	**8.39**	**127**	Pn	**Pn**	**18 37 38.9**	**+0.9**
E08A	**Dider Farm, El**	**8.46**	**116**	Pn	**Pn**	**18 37 38.5**	**-0.3**
I05D	**Terrebonne, OR**	**8.71**	**134**	Pn	**Pn**	**18 37 44.8**	**+2.4**
R33M	**Jennings River**	**8.72**	**357**	P	**Pn**	**18 37 42.6**	**+0.2**
	baz=178						
NEW	**Newport**	**8.81**	**101**	Pn	**Pn**	**18 37 43.6**	**-0.1**
NEW	**Newport**	**8.81**	**101**	P	**Pn**	**18 37 43.3**	**-0.4**
	baz=290,SNR=12						
NEW	**Newport**	**8.81**	**101**	Pn	**Pn**	**18 37 44.1**	**+0.4**
	11nm,0.4s,baz=296,slow=13,SNR=29						
NEW				Lg	Lg	18 40 13.7	
	0.2nm,0.3s,baz=285,slow=8.8,SNR=1.9						
NEW				LR	LR	18 41 07.6	
	comp=Z,724nm,19.5s,baz=278,slow=38						
DBO	**Dodson Butte**	**8.93**	**146**	Pn	**Pn**	**18 37 47.6**	**+2.2**
P32M	**Atlin**	**9.13**	**348**	P	**Pn**	**18 37 48.2**	**+0.1**
	baz=167						
NBC6	**NorthernBC 6**	**9.38**	**29**	Sn	**Sn**	**18 39 37.7**	**+0.9**
PLBC	**Pleasant Camp**	**9.46**	**340**	P	**Pn**	**18 37 53.7**	**+1.2**
	baz=156						
P33M	**Teslin, Yukon**	**9.64**	**352**	P	**Pn**	**18 37 55.8**	**+0.7**
	baz=171						
I07A	**Izee**	**9.78**	**129**	Pn	**Pn**	**18 37 58.5**	**+1.4**
K05A	**Summer Lake**	**10.19**	**138**	Pn	**Pn**	**18 38 05.3**	**+2.6**
WHY	**Whitehorse**	**10.32**	**347**	P	**Pn**	**18 38 04.0**	**-0.4**
	baz=164						
YBH	**Yreka Blue Hor**	**10.34**	**147**	Pn	**Pn**	**18 38 07.8**	**+3.1**
YBH	**Yreka Blue Hor**	**10.34**	**147**	Pn	**Pn**	**18 38 06.7**	**+2.0**
	0.1nm,0.3s,baz=337,slow=12,SNR=5.0						
YBH				LR	LR	18 41 20.1	
	comp=Z,151nm,21.9s,baz=336,slow=33 5.5nm,1.0s						
BMO	**Blue Mountains**	**10.42**	**119**	Pn	**Pn**	**18 38 06.2**	**+0.4**
O30N	**Mendenhall**	**10.62**	**344**	P	**Pn**	**18 38 09.0**	**+0.5**
	baz=160						
J08A	**Circle Bar Ran**	**10.82**	**128**		**Pn**	**18 38 12.3**	**+1.0**
HYT	**Haines Junctio**	**10.95**	**341**	P	**Pn**	**18 38 14.3**	**+1.3**
	baz=156						
PINM	**Pinnacle**	**11.01**	**333**	P	**Pn**	**18 38 16.3**	**+2.5**
	baz=145						
PLID	**Pearl Lake**	**11.02**	**115**	Pn	**Pn**	**18 38 13.8**	**-0.2**
YUK6	**Outpost Mounta**	**11.24**	**339**	P	**Pn**	**18 38 19.0**	**+1.9**
	baz=153						
N30M	**Aishikik Lake**	**11.45**	**343**	P	**Pn**	**18 38 22.0**	**+2.3**
	baz=158						
YUK4	**Talbot Arm**	**11.66**	**339**	P	Pn	18 38 26.4	+3.5
	baz=154						
FARO	**Faro, Yukon**	**11.68**	**353**	P	**Pn**	**18 38 25.1**	**+2.1**
	baz=171						
M31M	**Drury Creek, Y**	**11.76**	**350**	P	**Pn**	**18 38 26.6**	**+2.7**
	baz=168						
YUK8	**Steele Glacier**	**11.88**	**337**	P	**Pn**	**18 38 28.5**	**+2.7**
	baz=150						
MMPY	**Sheldon Lake,**	**11.95**	**357**	Pn	**Pn**	**18 38 28.5**	**+1.9**
MMPY	**Sheldon Lake,**	**11.95**	**357**	P	**Pn**	**18 38 28.8**	**+2.2**
	baz=177						
CRQE	**Cirque**	**12.41**	**329**	P	Pn	18 38 36.7	+3.7
	baz=140						
M30M	**Minto, Yukon**	**12.44**	**346**	P	**Pn**	**18 38 36

DHY **Denali Highway** 15.49 330 IAmb IAmb 18 39 29.1
comp=Z,29nm,1.4s
DHY **Denali Highway** 15.49 330 P **P** 18 39 16.9 -2.4
baz=136
J26L **Joseph Creek** 15.53 338 IAmb IAmb 18 39 30.2
comp=Z,12nm,1.0s
J26L **Joseph Creek** 15.53 338 P **P** 18 39 17.3 -2.3
baz=147
K24K **Donnelly Dome** 15.55 333 P **P** 18 39 17.6 -2.2
baz=141
I28M **Miner Creek** 15.63 345 IAmb IAmb 18 39 36.9
comp=Z,14nm,1.2s
I28M **Miner Creek** 15.63 345 P **P** 18 39 18.0 -2.7
baz=157
SUA **Susitna One** 15.68 321 IAmb IAmb 18 39 30.0
comp=Z,18nm,1.0s
SUA **Susitna One** 15.68 321 P **P** 18 39 19.9 -1.4
baz=125
WAT1 **Susitna Watana** 15.71 328 P **P** 18 39 19.8 -1.8
baz=133
HWUT **Hardware Ranch** 15.72 118 IAmb IAmb 18 39 26.0
comp=Z,22nm,1.3s
DUG **Dugway, Tooele** 16.02 124 IAmb IAmb 18 39 31.1
comp=Z,16nm,1.1s
DUG **Dugway, Tooele** 16.02 124 P **P** 18 39 23.2 -2.0
baz=316,SNR=9.7
CHIR **Chirikof Islan** 16.04 298 P **P** 18 39 24.8 -0.5
baz=99
EPYK **Eagle Plains** 16.06 350 IAmb IAmb 18 39 39.6
comp=Z,23nm,1.4s
EPYK **Eagle Plains** 16.06 350 P **Pn** 18 39 22.3 +0.3
baz=165
I27K **Kandik River** 16.07 343 P **P** 18 39 23.7 -1.9
baz=154
J25K **Saicha River,** 16.08 336 P **P** 18 39 24.1 -1.5
baz=144
R11B **Troy Canyon, C** 16.09 135 P **P** 18 39 24.1 -2.0
baz=324
H29M **Whitestone** 16.11 348 IAmb IAmb 18 39 29.8
comp=Z,23nm,1.2s
H29M **Whitestone** 16.11 348 P **P** 18 39 23.2 -2.8
baz=162
I26K **Coal Creek Min** 16.12 340 IAmb IAmb 18 39 36.3
comp=Z,16nm,0.9s
I26K **Coal Creek Min** 16.12 340 P **P** 18 39 24.2 -1.9
baz=150
N20K **Mount Spurr** 16.14 319 P **P** 18 39 26.2 -0.1
baz=122
BW06 **Boulder Array** 16.14 112 P **Pn** 18 39 23.4 -0.1
baz=306,SNR=23
PD31 **Pinedale Array** 16.14 112 IAmb IAmb 18 39 27.5
comp=Z,29nm,1.2s
PDAR **Pinedale Array** 16.14 112 Pn **P** 18 39 26.2 -0.5
comp=Z,0.3nm,0.3s,baz=309,slow=9.2,SNR=61
PDAR LR LR 18 45 44.5
comp=Z,188nm,19.4s,baz=326,slow=38
comp=Z,6.1nm,0.6s
LCH **Last Change Ra** 16.16 142 IAmb IAmb 18 39 30.2
comp=Z,16nm,1.0s
LAO **LASA Array** 16.26 95 P **Pn** 18 39 24.6 -0.1
baz=292,SNR=12
SKT **Skwentna** 16.28 322 P **P** 18 39 27.7 -0.2
baz=125
G31M **Satah River** 16.39 354 P **P** 18 39 27.6 -1.4
baz=171
MCK **McKinley** 16.46 330 P **P** 18 39 30.8 +1.0
baz=134
O19K **Port Alsworth** 16.59 314 P **P** 18 39 31.3 0.0
baz=115
G30M **tAoh Zraii Nji** 16.61 352 P **P** 18 39 31.6 +0.2
baz=167
IL31 16.61 334 IAmb IAmb 18 39 40.4
comp=Z,28nm,1.5s
ILAR **Eielson Array** 16.61 334 Pn **P** 18 39 31.1 -0.3
comp=Z,0.1nm,0.3s,baz=145,slow=11,SNR=38
ILAR LR LR 18 45 14.5
comp=Z,173nm,18.8s,baz=150,slow=35
comp=Z,2.3nm,1.1s
H27K **Steamboat Moun** 16.62 344 P **P** 18 39 30.7 -0.9
baz=155
CWC **Cottonwood Cre** 16.69 144 P **P** 18 39 32.8 +0.1
baz=332
Q17K **Contact Creek** 16.69 307 P **P** 18 39 33.1 +0.6
baz=107
P18K **Big Mountain,** 16.71 311 P **P** 18 39 32.9 +0.2
baz=111
TRF **Thorofare Moun** 16.72 327 P **P** 18 39 32.1 -0.7
baz=131
PRP **Porcupine Dome** 16.85 338 P **P** 18 39 34.5 +0.3
baz=145,SNR=6.7
M20K **Styx River** 16.86 320 P **P** 18 39 34.6 +0.2
M20K IAmb IAmb 18 39 57.1
comp=Z,23nm,1.4s
M20K **Styx River** 16.86 320 P **P** 18 39 34.6 +0.2
baz=122
O18K **Koktuh Hills** 16.87 312 P **P** 18 39 35.0 +0.6
baz=113
F31M **Tsiigehtchic** 16.88 355 P **Pn** 18 39 32.2 -0.1
baz=173
BSUT **Blindstream Ca** 16.89 120 IAmb IAmb 18 39 42.9
comp=Z,14nm,1.0s
N19K **Bonanza Creek** 16.93 316 P **P** 18 39 35.6 +0.5
baz=117
DGMT **Dagmar** 16.93 88 P **Pn** 18 39 32.8 -0.4
baz=287,SNR=8.7
BWN **Browne** 16.93 330 IAmb IAmb 18 39 43.6
comp=Z,32nm,1.2s
WCT **Wildcat Mounta** 16.95 140 IAmb IAmb 18 39 39.0
comp=Z,25nm,1.4s
KTH **Kantishna Hill** 17.00 327 IAmb IAmb 18 39 53.0
comp=Z,45nm,1.5s
PPLA **Purkeypile** 17.06 324 P **P** 18 39 36.1 -0.4
baz=126
F30M **Barrier River** 17.18 353 P **Pn** 18 39 35.7 -0.5
baz=168
ISA **Isabella, Lake** 17.24 146 IAmb IAmb 18 39 45.1
comp=Z,15nm,1.1s
ISA **Isabella, Lake** 17.24 146 P **P** 18 39 40.5 +1.8
baz=334
MPMC **Manual Prospec** 17.25 143 P **P** 18 39 40.1 +1.2
baz=331,SNR=5.8
CAST **Castle Rocks** 17.33 326 P **P** 18 39 40.6 +1.1
baz=128
M19K **Big River Lodg** 17.39 319 P **P** 18 39 42.0 +1.9
baz=120
R16K **Pilot Point** 17.40 304 P **P** 18 39 41.8 +1.6
baz=102
FFC **Flin Flon** 17.46 66 **Pn** 18 39 39.4 -0.3
FFC IAmb IAmb 18 39 44.2
comp=Z,16nm,0.7s
L20K **Farewell, AK** 17.48 321 P **P** 18 39 41.3 +0.2
baz=122
N18K **Kilae Creek** 17.50 315 P **P** 18 39 41.9 +0.6
baz=114
H25L **Birch Creek** 17.53 339 P **P** 18 39 41.0 -0.5
baz=146
QSM **Queen of Sheba** 17.57 142 IAmb IAmb 18 39 45.7
comp=Z,20nm,1.3s
I23K **Minto, Yukon-K** 17.59 333 P **P** 18 39 42.4 +0.2
baz=137
F28M **Old Crow** 17.63 348 P **P** 18 39 42.1 -0.7
baz=160,SNR=5.8
G26K **Porcupine Rive** 17.68 342 P **P** 18 39 43.7 +0.5
baz=151
CHUM **Lake Minchumin** 17.69 327 P **P** 18 39 43.6 +0.1
baz=129
H24K **Noodor Dome** 17.70 336 IAmb IAmb 18 39 53.1
comp=Z,24nm,1.2s
H24K **Noodor Dome** 17.70 336 P **P** 18 39 44.0 +0.5
baz=141,SNR=8.9
L19K **White Mountain** 17.72 320 P **P** 18 39 45.4 +1.7
baz=120
INK **Inuvik** 17.73 356 P **P** 18 39 43.8 0.0
baz=174
INK **Inuvik** 17.73 356 P **P** 18 39 43.7 -0.1
baz=164,slow=9.5,SNR=5.3
INK LR LR 18 47 12.8
comp=Z,124nm,19.0s,baz=352,slow=39
comp=Z,2.4nm,1.0s
O17K **Koliganek Bris** 17.74 311 P **P** 18 39 45.2 +1.3
baz=110
MLY **Manley** 17.92 331 P **P** 18 39 47.4 +1.4
MLY **Manley** 17.92 331 P **P** 18 39 47.2 +1.2
baz=134
P16K **Nushagak River** 17.96 308 P **P** 18 39 47.8 +1.5
baz=106
G25K **Bearman Lake** 18.01 339 P **P** 18 39 47.3 +0.5
baz=146
K20K **Telida** 18.02 324 P **P** 18 39 48.6 +1.5
baz=124
K22A **Casper** 18.03 107 IAmb IAmb 18 39 56.4
comp=Z,21nm,0.9s
K22A **Casper** 18.03 107 P **P** 18 39 46.7 -0.8
baz=304,SNR=8.8
N17K **Nushagak Hills** 18.04 313 P **P** 18 39 48.9 +1.7
baz=112
EDW2 **Edwards Air Fo** 18.11 146 P **P** 18 39 50.6 +2.3
baz=334
E29M **Blow River** 18.14 351 P **P** 18 39 48.4 +0.1
baz=165
GSC **Goldstone, Bar** 18.18 143 P **P** 18 39 51.1 +2.1
baz=331,SNR=5.6
CHNA **Chernabura Isl** 18.23 295 P **P** 18 39 52.4 +3.1
baz=92
G24K **Hadweenzic Riv** 18.27 338 P **P** 18 39 50.3 +0.5
baz=144
S14K **Fog Glacier** 18.29 299 P **P** 18 39 52.6 +2.5
baz=96
SCZ2 **Santa Cruz Isl** 18.38 151 P **P** 18 39 53.6 +2.4
baz=338
F26K **Sheenjek River** 18.40 343 P **Pn** 18 39 51.8 +0.6
baz=152
I21K **Tanana** 18.41 330 IAmb IAmb 18 40 00.6
comp=Z,28nm,1.4s
I21K **Tanana** 18.41 330 P **Pn** 18 39 52.4 +1.1
baz=132
M17K **Holitna River** 18.48 316 P **Pn** 18 39 53.1 +0.9
M17K IAmb IAmb 18 40 01.4
comp=Z,21nm,1.1s
M17K **Holitna River** 18.48 316 P **Pn** 18 39 55.9 +3.7
baz=114
L18K **Granite Mounta** 18.50 319 P **Pn** 18 39 54.1 +1.7
L18K **Granite Mounta** 18.50 319 P **Pn** 18 39 55.7 +3.3
baz=117
J20K **Nowinta River** 18.52 326 IAmb IAmb 18 40 01.8
comp=Z,29nm,1.4s
J20K **Nowinta River** 18.52 326 P **Pn** 18 39 55.4 +2.8
baz=126
E28M **Babbage River** 18.52 349 P **Pn** 18 39 53.1 +0.4
baz=162,SNR=9.2
TTA **Tatalina** 18.55 321 P **Pn** 18 39 54.8 +1.6
baz=120
O20A **White River Ci** 18.57 116 IAmb IAmb 18 40 01.8
comp=Z,15nm,0.8s
O20A **White River Ci** 18.57 116 P **Pn** 18 39 53.8 +0.1
baz=311,SNR=7.1
F25K **Christian Rive** 18.60 341 P **Pn** 18 39 54.9 +1.2
baz=148
H22K **Ishtalitna Cre** 18.71 332 P **Pn** 18 39 56.6 +1.6
baz=135
N16K **Nishlik Lake** 18.76 312 P **Pn** 18 39 56.8 +1.1
baz=109
HEC **Hector Ludlow** 18.77 142 P **Pn** 18 39 58.1 +2.1
baz=331,SNR=9.7
RSSD **Black Hills** 18.78 100 **Pn** 18 39 56.5 +0.3
RSSD IAmb IAmb 18 39 59.0
comp=Z,27nm,1.5s
RSSD **Black Hills** 18.78 100 P **Pn** 18 39 56.0 -0.2
baz=299
BFSC **Mount Baldy Ra** 18.81 146 P **Pn** 18 39 58.9 +2.3
baz=334
O15K **Ungalikthiuk R** 18.91 308 P **Pn** 18 39 58.6 +1.2
baz=104
G23K **Bananza Creek** 18.93 335 IAmb IAmb 18 40 07.2
comp=Z,12nm,1.1s
G23K **Bananza Creek** 18.93 335 P **Pn** 18 39 58.8 +1.2
baz=139
J19K **Poorman** 18.95 324 IAmb IAmb 18 40 05.7
comp=Z,20nm,1.2s
J19K **Poorman** 18.95 324 P **Pn** 18 39 58.3 +0.4
baz=123,SNR=8.0
H21K **Melozitna Rive** 18.99 331 P **Pn** 18 39 59.5 +1.1
baz=132
M16K **Timber Creek** 19.02 314 P **Pn** 18 40 00.8 +1.9
baz=111
F24K **Squaw Lake** 19.03 339 P **Pn** 18 39 59.7 +0.8
baz=144,SNR=5.3
E25K **Arctic Village** 19.04 342 IAmb IAmb 18 40 19.5
comp=Z,15nm,1.4s
E25K **Arctic Village** 19.04 342 P **Pn** 18 40 00.0 +1.0
baz=149
GMRC **Granite Mounta** 19.08 141 P **Pn** 18 40 00.7 +1.0
baz=330
J18K **Innoko River** 19.09 322 IAmb IAmb 18 40 09.2
comp=Z,15nm,1.1s
J18K **Innoko River** 19.09 322 P **Pn** 18 40 00.3 +0.7
baz=120
SNCC **San Nicolas Is** 19.11 152 P **Pn** 18 40 01.7 +1.7
baz=338
D28M **Stokes Point** 19.13 351 P **Pn** 18 40 00.1 +0.2
baz=164
L17K **Donlin** 19.14 317 P **Pn** 18 40 01.5 +1.2
baz=114
COLD **Coldfoot** 19.36 336 P **Pn** 18 40 03.1 +0.2
baz=140
K17K **Iditarod** 19.39 319 P **Pn** 18 40 03.5 +0.4
baz=116
N23A **Red Feather La** 19.42 111 IAmb IAmb 18 40 28.8
comp=Z,13nm,0.9s
N23A **Red Feather La** 19.42 111 P **Pn** 18 40 02.7 -1.4
baz=308
ELS **Elsinore Mount** 19.43 147 IAmb IAmb 18 40 09.7
comp=Z,14nm,1.1s
PHWY **Pilot Hill** 19.46 109 IAmb IAmb 18 40 11.6
comp=Z,20nm,0.9s
L16K **Owhat River** 19.50 316 P **Pn** 18 40 05.1 +0.6
baz=112
H20K **Anotleneega Mo** 19.55 329 P **Pn** 18 40 05.1 -0.1
baz=128
BELC **Belle Mtn. Jos** 19.63 143 P **Pn** 18 40 07.6 +1.1
baz=332
O14K **Tigyukauivet M** 19.65 308 P **Pn** 18 40 06.9 +0.6
baz=103
SCI2 **San Clemente I** 19.66 150 P **Pn** 18 40 07.8 +1.2
baz=337
M15K **Kasigluk River** 19.73 312 P **Pn** 18 40 07.8 +0.6
baz=107
G21K **Allakaket** 19.77 332 IAmb IAmb 18 40 21.7
comp=Z,17nm,1.4s
G21K **Allakaket** 19.77 332 P **Pn** 18 40 08.1 +0.3
baz=132
PFO **Pinyon Flats O** 19.81 144 P **Pn** 18 40 07.9 -0.6
PFO **Pinyon Flats O** 19.81 144 P **Pn** 18 40 08.6 +0.1
baz=333
PFO **Pinyon Flats O** 19.81 144 P **Pn** 18 40 07.2 -1.3
comp=Z,0.2nm,0.3s,baz=301,slow=5.9,SNR=4.0
comp=Z,3.9nm,0.8s
TPFO **Pinon Flats** 19.81 144 P **Pn** 18 40 09.2 +0.6
baz=333
E23K **Chandalar** 19.86 338 P **Pn** 18 40 07.3 -1.6
baz=142
SMCO **Snowmass** 19.94 116 P **Pn** 18 40 08.7 -1.7
SMCO IAmb IAmb 18 40 19.5
comp=Z,17nm,1.3s
MDND **Maddock** 20.04 86 P **P** 18 40 08.1 -1.3
baz=289,SNR=19
H19K **Roundabout Mou** 20.10 327 P Pn 18 40 10.8 -0.8
H19K IAmb IAmb 18 40 34.1
comp=Z,14nm,1.2s
PDMCI **Parker Dam,Lak** 20.12 139 P Pn 18 40 12.7 +0.7
baz=329,SNR=8.1
BC3 **Big Chuckawall** 20.15 142 P Pn 18 40 12.3 -0.3
baz=332
D25K **Kavik River** 20.23 343 P Pn 18 40 11.1 -2.0
baz=150
F21K **Alatna River** 20.25 333 IAmb IAmb 18 40 25.3
comp=Z,21nm,1.5s
F21K **Alatna River** 20.25 333 P Pn 18 40 12.3 -1.0
baz=134
ISCO **Idaho Springs** 20.32 113 P Pn 18 40 13.0 -1.7
ISCO **Idaho Springs** 20.32 113 P Pn 18 40 13.0 -1.7
baz=310
M14K **Bethel** 20.34 312 P Pn 18 40 14.4 -0.1
baz=106
WUAZ **Wupatki** 20.35 131 P Pn 18 40 14.1 -0.9
WUAZ IAmb IAmb 18 40 15.9
comp=Z,20nm,1.2s
WUAZ **Wupatki** 20.35 131 P Pn 18 40 14.8 -0.2
baz=324,SNR=6.6
L15K **Ungalak Mounta** 20.39 315 P Pn 18 40 15.2 +0.2
baz=109
BLYC **Blythe** 20.44 140 Pn 18 40 15.7 -0.1
BLYC IAmb IAmb 18 40 19.7
comp=Z,12nm,0.9s
E22K **Anaktuvuk Pass** 20.45 337 P Pn 18 40 14.7 -1.1
baz=138
MONP2 **Monument Peak** 20.46 145 P Pn 18 40 16.1 -0.3
baz=334,SNR=9.1
C26K **Camden Bay** 20.50 345 P Pn 18 40 15.0 -1.2
baz=153
MVCO **Mesa Verde** 20.50 123 P Pn 18 40 15.0 -1.8
MVCO IAmb IAmb 18 40 19.4
comp=Z,16nm,0.9s
MVCO **Mesa Verde** 20.50 123 P Pn 18 40 15.7 -1.1
baz=318,SNR=11
D24K **Happy Valley** 20.56 341 IAmb IAmb 18 40 22.8
comp=Z,11nm,1.1s
D24K **Happy Valley** 20.56 341 P Pn 18 40 15.9 -1.1
baz=145
BAR **Barrett** 20.57 146 IAmb IAmb 18 40 20.8
comp=Z,17nm,1.1s
H18K **Honhosa River** 20.57 325 P Pn 18 40 16.4 -0.8
H18K **Honhosa River** 20.57 325 P Pn 18 40 15.6 -1.5
baz=122
J16K **Anvik River** 20.58 319 P Pn 18 40 16.9 -0.4
J16K IAmb IAmb 18 40 24.1
comp=Z,12nm,0.9s
J16K **Anvik River** 20.58 319 P Pn 18 40 16.6 -0.7
baz=114
K15K **Wolf Creek Mou** 20.61 316 P Pn 18 40 17.4 -0.3
K15K IAmb IAmb 18 40 24.4
comp=Z,16nm,0.9s
K15K **Wolf Creek Mou** 20.61 316 P Pn 18 40 16.9 -0.8
baz=110
G19K **Purcell Mounta** 20.67 328 P Pn 18 40 17.1 -1.2
baz=126
F20K **Avaraart Lake** 20.79 331 P Pn 18 40 17.7 -2.0
F20K **Avaraart Lake** 20.79 331 P Pn 18 40 18.4 -1.2
baz=130,SNR=10
IKP **In-Ko-Pah, Jac** 20.80 145 P Pn 18 40 19.9 -0.2
baz=334,SNR=10
D23K **Nanushuk River** 20.82 339 P Pn 18 40 18.6 -1.4
baz=142
L14K **Kuka Creek** 20.84 313 P Pn 18 40 19.7 -0.6
baz=106
I17K **Unalakleet** 20.87 321 P Pn 18 40 19.8 -0.7
baz=116
Y14A **Wickenburg** 20.92 137 IAmb IAmb 18 40 21.8
comp=Z,16nm,1.0s
M13K **Dall Lake** 20.93 310 P Pn 18 40 19.4 -1.9
baz=103
C24K **Franklin Bluff** 21.00 342 P **P** 18 40 19.7 +0.2
baz=146
H17K **Granite Mounta** 21.03 324 IAmb IAmb 18 40 27.8
comp=Z,20nm,1.2s
H17K **Granite Mounta** 21.03 324 P **P** 18 40 21.7 +1.8
baz=119
G18K **Tagagawik** 21.07 327 P **P** 18 40 21.5 +1.2
baz=123
Q24A **Divide** 21.14 114 P **P** 18 40 22.0 +0.4
baz=311
X16A **Lo Mia Camp, P** 21.22 133 IAmb IAmb 18 40 28.0
comp=Z,11nm,0.9s
D22K **Ayikyak River** 21.22 337 P **P** 18 40 23.6 +1.7
baz=138
F19K **Shaleruckik Mo** 21.30 330 IAmb IAmb 18 40 34.1
comp=Z,15nm,1.3s
F19K **Shaleruckik Mo** 21.30 330 P **P** 18 40 24.4 +1.7
baz=126
ESJX **Sierra Juarez** 21.44 145 IAmb IAmb 18 40 27.5
comp=Z,15nm,1.0s
A36M **Sachs Harbour** 21.46 4 P **P** 18 40 24.7 +0.3
A36M IAmb IAmb 18 40 31.7
comp=Z,16nm,1.1s
A36M **Sachs Harbour** 21.46 4 P **P** 18 40 25.3 +0.9
baz=189
W18A **Petrified Fore** 21.47 129 P **P** 18 40 26.6 +1.5
baz=322
C23K **Itkillik River** 21.49 341 IAmb IAmb 18 40 27.7
comp=Z,23nm,1.4s
C23K **Itkillik River** 21.49 341 P **P** 18 40 26.4 +1.7
baz=143
E19K **Redstone River** 21.50 331 P **P** 18 40 26.6 +1.6
baz=128
G17K **Kiwalik Mounta** 21.58 325 P **P** 18 40 28.1 +2.3
baz=119
J14K **Nanvaranak Lak** 21.65 317 P **P** 18 40 28.4 +1.9
baz=109
ULM **Lac du Bonnet** 21.69 78 P **P** 18 40 26.2 -0.8
ULM IAmb IAmb 18 40 33.1
comp=Z,14nm,0.9s
ULM **Lac du Bonnet** 21.69 78 P **P** 18 40 26.5 -0.5
comp=Z,13nm,0.6s,baz=287,slow=11,SNR=26
ULM LR LR 18 48 15.8
comp=Z,130nm,20.1s,baz=288,slow=35
comp=Z,13nm,0.6s
E20K **Nigu River** 21.71 334 P **P** 18 40 28.5 +1.3
baz=132
OGNE **Ogallala** 21.75 106 P **P** 18 40 27.9 0.0
baz=306
SDCO **Great Sand Dun** 21.77 117 P **P** 18 40 28.9 +0.6
SDCO **Great Sand Dun** 21.77 117 P **P** 18 40 29.0 +0.7
baz=314,SNR=10.0
F18K **Selawik** 21.79 328 P **P** 18 40 29.4 +1.4
baz=123
H16K **Elim** 21.79 322 P **P** 18 40 29.8 +1.7
baz=115
SUSD **Miller** 21.83 95 P **P** 18 40 28.1 -0.5
baz=297
FCC **Fort Churchill** 22.07 55 P **P** 18 40 32.0 +0.9
FCC IAmb IAmb 18 40 47.7
comp=Z,7.7nm,0.9s
D20K **Etivluk River** 22.13 334 P **P** 18 40 33.0 +1.3
baz=132
G16K **Koyuk River** 22.16 324 P **P** 18 40 33.4 +1.5
baz=117
F17K **Baldwin Pennin** 22.25 327 P **P** 18 40 35.0 +2.0
baz=120
AGMN **Agassiz Nation** 22.26 83 P **P** 18 40 32.7 -0.6
baz=289,SNR=19
M11K **Mekoryuk** 22.31 310 P **P** 18 40 35.2 +1.6
baz=100
D19K **Kuna River** 22.41 333 P **P** 18 40 35.4 +0.7
baz=129
E18K **Tukpahlearik C** 22.55 329 P **P** 18 40 37.7 +1.6
baz=123
KSCO **Kaye Shedlock'** 22.59 111 P **P** 18 40 37.0 0.0
baz=310
214A **Organ Pipe Nat** 22.70 139 P **P** 18 40 40.1 +2.0
baz=330,SNR=7.6
SFX **San Felipe** 22.71 144 IAmb IAmb 18 40 40.1
comp=Z,7.0nm,0.9s
T25A **Trinidad** 22.81 117 P **P** 18 40 39.2 -0.2
baz=314
ANM **Nome** 23.02 320 P **P** 18 40 42.2 +1.1
baz=111
F15K **North Star Dit** 23.16 323 P **P** 18 40 44.0 +1.5
baz=114
C19K **Lookout Ridge** 23.21 333 P **P** 18 40 43.6 +0.6
baz=128
TUC **Tucson** 23.28 135 P **P** 18 40 44.8 +0.6
TUC **Tucson** 23.28 135 P **P** 18 40 45.3 +1.2
baz=327
ANMO **Albuquerque** 23.29 124 P **P** 18 40 44.3 -0.1
ANMO IAmb IAmb 18 40 46.5
comp=Z,8.7nm,1.1s
ANMO **Albuquerque** 23.29 124 P **P** 18 40 44.7 +0.4
baz=319
ANMO **Albuquerque** 23.29 124 LR LR 18 49 20.7
comp=Z,175nm,21.9s,baz=47,slow=35
C18K **Utukok River** 23.41 332 P **P** 18 40 46.4 +1.3
C18K IAmb IAmb 18 40 56.6
comp=Z,12nm,1.3s
C18K **Utukok River** 23.41 332 P **P** 18 40 45.5 +0.3
baz=125
D17K **Noatak River** 23.50 329 P **P** 18 40 46.4 +0.4
baz=120
Y22F **Passcal Instru** 23.72 126 P **P** 18 40 49.2 +0.6
baz=321
P08K **Saint George I** 23.84 300 P **P** 18 40 52.5 +3.2
baz=88
NIKH **Nikolski High** 23.84 291 P **P** 18 40 52.3 +2.9
baz=80
BGNE **Belgrade** 23.89 100 P **P** 18 40 50.1 +0.1
baz=303
SPIA **Saint Paul Isl** 24.20 301 P **P** 18 40 54.6 +1.9
baz=89
TNA **Tin City** 24.37 322 P **P** 18 40 55.1 +0.9
baz=110
CBKS **Cedar Bluff** 24.45 107 P **P** 18 40 55.6 +0.3
baz=309
121A **Cookes Peak, D** 24.51 129 IAmb IAmb 18 40 59.4
comp=Z,8.9nm,0.8s
121A **Cookes Peak, D** 24.51 129 P **P** 18 40 58.3 +2.4

	baz=324,SNR=7.1							
F36A	**Milaca**	**24.66**	**87**	IAmb	IAmb	18 41 09.5		
	comp=Z,12nm,1.2s							
EYMN	**Ely**	**25.13**	**81**	P	**P**	**18 41 01.5**	**+0.3**	
	baz=291,SNR=13							
GAMB	**Gambell**	**25.47**	**317**	P	**P**	**18 41 06.1**	**+2.0**	
	baz=102							
AMTX	**Amarillo**	**25.97**	**117**	P	**P**	**18 41 09.8**	**+0.8**	
	baz=316							
MSTX	**Muleshoe**	**26.02**	**120**	IAmb	IAmb	18 41 13.9		
	comp=Z,6.4nm,0.9s							
MSTX	**Muleshoe**	**26.02**	**120**	P	**P**	**18 41 11.2**	**+1.6**	
	baz=318							
KSU1	**Kansas State U**	**26.19**	**103**	P	**P**	**18 41 11.7**	**+0.8**	
	baz=307							
MNTX	**Cornudas Mount**	**26.39**	**127**	P	**P**	**18 41 14.5**	**+1.7**	
	baz=323,SNR=11							
T35A	**Sooner Cattle**	**27.62**	**107**	P	**P**	**18 41 24.6**	**+0.7**	
WMOK	**Wichita Mounta**	**27.74**	**113**	P	**P**	**18 41 25.8**	**+0.8**	
	baz=314,SNR=12							
RES	**Resolute Bay**	**28.10**	**19**	LR	LR	18 52 27.5		
	comp=Z,161nm,19.3s,baz=293,slow=36							
JFWS	**Jewell Farm**	**28.10**	**90**	P	**P**	**18 41 27.7**	**-0.3**	
	baz=300							
TUL3	**Leonard**	**28.72**	**108**	P	**P**	**18 41 34.1**	**+0.5**	
	baz=312							
TX31	**Lajitas Ar. Si**	**29.16**	**127**	IAmb	IAmb	18 41 40.1		
	comp=Z,7.7nm,1.1s							
TXAR	**Lajitas Array**	**29.16**	**127**	P	**P**	**18 41 38.8**	**+1.1**	
	comp=Z,3.8nm,1.0s,baz=332,slow=7.3,SNR=15							
TXAR				LR	LR	18 54 05.6		
	comp=Z,90nm,20.5s,baz=341,slow=38							
	comp=Z,3.8nm,1.0s							
SAND	**Sanderson**	**29.46**	**124**	IAmb	IAmb	18 41 42.3		
	comp=Z,5.6nm,0.9s							
HDIL	**Hopedale**	**29.95**	**94**	P	**P**	**18 41 43.5**	**-0.9**	
	baz=303							
CCM	**Cathedral Cave**	**30.17**	**100**	P	**P**	**18 41 47.2**	**+0.8**	
	baz=307							
WHTX	**Lake Whitney,**	**30.49**	**115**	P	**P**	**18 41 50.4**	**+1.1**	
	baz=317							
MIAR	**Mount Ida**	**30.98**	**107**	P	**P**	**18 41 54.3**	**+0.7**	
	baz=312							
SFIN	**Lafayette**	**31.44**	**92**	P	**P**	**18 41 57.4**	**-0.2**	
	baz=304							
LCAR	**Lake Charles**	**31.46**	**103**	IAmb	IAmb	18 41 58.6		
	comp=Z,6.1nm,1.1s							
833A	**Chaparral WMA,**	**32.21**	**122**	P	**P**	**18 42 05.6**	**+1.2**	
	baz=322							
O48B	**Farmland**	**32.74**	**91**	P	**P**	**18 42 08.4**	**-0.7**	
	baz=304							
WCI	**Wyandotte Cave**	**33.19**	**95**	P	**P**	**18 42 12.1**	**-0.8**	
	baz=306							
P49A	**Miami Univ. Ec**	**33.43**	**92**	P	**P**	**18 42 14.4**	**-0.7**	
	baz=305							
OXF	**Oxford**	**33.56**	**103**	P	**P**	**18 42 15.1**	**-1.1**	
	baz=311							
SHEM	**Shemya Is, Ala**	**33.88**	**296**	LR	LR	18 54 57.8		
	comp=Z,121nm,18.6s,baz=282,slow=34							
SADO	**Sadowa**	**34.22**	**80**	LR	LR	18 58 07.2		
	comp=Z,113nm,18.3s,baz=263,slow=39							
TULEG	**Thule**	**34.72**	**21**	P	**P**	**18 42 24.1**	**-1.8**	
TKL	**Tuckaleechee C**	**36.35**	**96**	LR	LR	18 58 14.2		
	comp=Z,199nm,18.8s,baz=325,slow=37							
SCHQ	**Schefferville**	**37.35**	**58**	LR	LR	18 58 36.0		
	comp=Z,322nm,18.1s,baz=78,slow=37							
TIGA	**Tifton**	**39.24**	**101**	P	**P**	**18 43 04.9**	**+0.1**	
	baz=313							
L61B	**Northampton**	**39.44**	**79**	P	**P**	**18 43 05.0**	**-1.4**	
	baz=302							
PAL	**Palisades**	**39.46**	**82**	P	**P**	**18 43 05.4**	**-1.0**	
	baz=304							
PKME	**Peaks-Kenny Pk**	**40.06**	**73**	P	**P**	**18 43 10.0**	**-1.5**	
	baz=300							
HRV	**Adam Dziewonsk**	**40.11**	**78**	P	**P**	**18 43 10.7**	**-1.1**	
	baz=303							
SFJD	**Kangerlussuaq**	**40.95**	**36**	LR	LR	19 00 02.4		
	comp=Z,158nm,20.4s,baz=254,slow=36							
CMIG	**Matias Romero**	**43.77**	**127**	LR	LR	19 03 23.9		
	comp=Z,111nm,18.6s,baz=358,slow=38							
SPITS	**Spitsbergen Ar**	**49.76**	**9**	LR	LR	19 06 59.8		
	comp=Z,58nm,18.5s,baz=272,slow=38							
ASAJ	**Asahikawa**	**56.14**	**300**	LR	LR	19 09 13.3		
	comp=Z,31nm,18.9s,baz=318,slow=36							
H11N2	**WAKE ISLAND Hy**	**57.92**	**262**	T	T	19 47 56.0		
	baz=42,slow=76,SNR=1745							
H11N3	**WAKE ISLAND Hy**	**57.92**	**262**	T	T	19 47 55.6		
	baz=42,slow=76,SNR=2421							
H11N1	**WAKE ISLAND Hy**	**57.94**	**262**	T	T	19 47 58.2		
	baz=42,slow=76,SNR=1841							
ARCES	**ARCESS Array B**	**58.74**	**10**	LR	LR	19 12 23.6		
	comp=Z,44nm,18.7s,baz=322,slow=38							
H11S1	**WAKE ISLAND Hy**	**58.95**	**261**	T	T	19 49 10.3		
	baz=41,slow=75,SNR=39							
H11S2	**WAKE ISLAND Hy**	**58.96**	**261**	T	T	19 49 18.4		
	baz=41,slow=75,SNR=42							
H11S3	**WAKE ISLAND Hy**	**58.97**	**261**	T	T	19 49 22.8		
	baz=41,slow=75,SNR=36							
NOA	**NORSAR Array B**	**64.36**	**20**	LR	LR	19 14 28.9		
	comp=Z,53nm,18.9s,baz=270,slow=36							
FINES	**FINESS Array B**	**66.58**	**12**	LR	LR	19 14 44.5		
	comp=Z,98nm,21.1s,baz=312,slow=35							
PCRV	**Puerto La Cruz**	**66.72**	**103**	LR	LR	19 18 33.9		
	comp=Z,320nm,18.5s,slow=39							
KSRS	**Korea Array**	**68.74**	**303**	LR	LR	19 15 04.4		
	comp=Z,33nm,19.0s,baz=50,slow=34							
SONM	**Songino Array**	**70.48**	**323**	LR	LR	19 18 07.3		
	comp=Z,65nm,19.2s,baz=76,slow=36							
ZALV	**Zalesovo Beam**	**71.67**	**339**	P	**P**	**18 46 57.2**	**-0.6**	
	comp=Z,0.5nm,0.6s,baz=37,slow=7.4,SNR=1.5							
	comp=Z,0.5nm,0.6s							
KURBB	**Kurchatov Arra**	**76.13**	**342**	P	**P**	**18 47 23.9**	**0.0**	
	comp=Z,0.3nm,0.2s,baz=20,slow=3.0,SNR=4.5							
	comp=Z,0.3nm,0.2s							
RAR	**Rarotonga**	**76.24**	**208**	LR	LR	19 13 29.8		
	comp=Z,352nm,18.9s,baz=291,slow=30							
AKASG	**Malin Array Be**	**77.44**	**13**	P	**P**	**18 47 32.3**	**+0.9**	
	comp=Z,0.2nm,0.2s,baz=342,slow=5.5,SNR=1.8							
	comp=Z,0.2nm,0.2s							
MKAR	**Makanchi Array**	**78.93**	**338**	P	**P**	**18 47 38.1**	**-1.6**	
	comp=Z,0.3nm,0.7s,baz=22,slow=5.3,SNR=3.2							
	comp=Z,0.3nm,0.7s							
BRTR	**Keskin Array B**	**88.82**	**12**	LR	LR	19 30 32.4		
	comp=Z,53nm,18.3s,baz=2.0,slow=37							
GNI	**Garni**	**89.40**	**4**	LR	LR	19 33 23.1		
	comp=Z,15nm,20.8s,baz=305,slow=39							
CMAR	**Chiang Mai Arr**	**98.77**	**313**	LR	LR	19 37 28.3		
	comp=Z,19nm,18.1s,baz=55,slow=38							

*ATH **01** 18:38:13.7, 38°.08N × 26°.00E, h12km ± 2km, ML2.7/8, Error ellipse: s-maj=2.3km s-min=1.1km az=69.0*
*AFAD **01** 18:38:13.3 ± 0.0, 38°.05N × 25°.96E, h6km, ML2.6*
*THE **01** 18:38:14.0, 38°.11N × 26°.07E, h18km ± 1km, ML2.5/4, Error ellipse: s-maj=1.8km s-min=0.9km az=62.0*

ISC 01 18:38:13.5 ± 0.9, 38°.09N ± 0°.02 × 26°.01E ± 0°.02, h16km ± 7km, n38, σ0.59/61, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.30**	**7**	P	**Pg**	**18 38 19.8**	**-0.2**
CHOS				S	**Sg**	**18 38 24.8**	**+0.3**
CHOS	**Chios island**	**0.30**	**7**	P	**Pg**	**18 38 19.8**	**-0.2**
CHOS				S	**Sg**	**18 38 25.1**	**+0.6**
CHOS				AML	AML	18 38 26.5	
	comp=E,3339μm,0.2s						
CHOS				AML	AML	18 38 27.2	
	comp=N,2570μm,0.2s						
ZEYE	**Izmir, Urla-Ze**	**0.42**	**68**	P	**Pg**	**18 38 21.9**	**-0.1**
ZEYE				S	**Sg**	**18 38 28.2**	**+0.5**
ZEYE				*i* AML	AML	18 38 29.0	
	comp=N,459nm,0.2s						
ZEYE				*i* AML	AML	18 38 33.0	
	comp=N,374nm,0.2s						
EAG2	**Marmaro, Chios**	**0.47**	**10**	P	**Pg**	**18 38 22.7**	**-0.1**
EAG2				S	**Sg**	**18 38 29.7**	**+0.6**
EAG2				AML	AML	18 38 31.3	
	comp=N,16044μm,0.4s						
EAG2				AML	AML	18 38 31.8	
	comp=E,10232μm,0.4s						
URLA	**Izmir**	**0.54**	**59**	P	**Pg**	**18 38 24.1**	**0.0**
URLA				S	**Sb**	**18 38 32.6**	**+0.6**
URLA				*i* AML	AML	18 38 36.0	
	comp=E,436nm,0.6s						
URLA				*i* AML	AML	18 38 37.0	
	comp=E,299nm,0.6s						
PSRA	**Psara**	**0.57**	**323**	P	**Pg**	**18 38 24.5**	**-0.4**
PSRA				S	**Sg**	**18 38 33.0**	**+0.4**
PSRA				AML	AML	18 38 33.9	
	comp=N,3734μm,0.2s						
PSRA				AML	AML	18 38 37.4	
	comp=E,2903μm,0.2s						
KARB	**zmir-Karabur**	**0.66**	**29**	P	**Pg**	**18 38 26.3**	**-0.1**
KARB				S	**Sg**	**18 38 35.6**	**+0.4**
KARB				*i* AML	AML	18 38 38.0	
	comp=E,271nm,0.3s						
KARB				*i* AML	AML	18 38 39.0	
	comp=E,295nm,0.2s						
DGB	**zmir**	**0.69**	**92**	P	**Pg**	**18 38 26.1**	**-0.9**
DGB				S	**Sg**	**18 38 35.0**	**-1.1**
SMG	**Samos**	**0.76**	**120**	P	**Pg**	**18 38 27.8**	**-0.4**
SMG				S	**Sg**	**18 38 38.5**	**+0.3**
	comp=E,402nm,0.4s						
SMG	**Samos**	**0.76**	**120**	P	**Pg**	**18 38 27.8**	**-0.4**
SMG				S	**Sb**	**18 38 38.8**	**+0.5**
SMG				AML	AML	18 38 40.5	
	comp=N,861μm,0.4s						
SMG				AML	AML	18 38 41.4	
	comp=E,742μm,0.4s						
GCAM	**G?zelcaml?**	**1.04**	**111**	P	**Pb**	**18 38 33.0**	**-0.1**
APE	**Apeiranthos**	**1.08**	**201**	P	**Pb**	**18 38 32.9**	**-0.9**
APE				S	**Sn**	**18 38 49.0**	**+0.4**
	comp=E,182nm,0.3s						
APE	**Apeiranthos**	**1.08**	**201**	P	**Pb**	**18 38 32.6**	**-1.2**
APE				S	**Sn**	**18 38 49.1**	**+0.4**
APE				AML	AML	18 38 50.9	
	comp=N,388μm,0.2s						
APE				AML	AML	18 38 51.6	
	comp=E,336μm,0.4s						
EAG3	**Mitilini, Lesv**	**1.09**	**24**	P	**Pb**	**18 38 34.0**	**+0.1**
EAG3				AML	AML	18 38 52.1	
	comp=N,1054μm,0.3s						
EAG3				AML	AML	18 38 52.2	
	comp=E,1455μm,0.4s						
SIGR	**SIGRI**	**1.13**	**354**	P	**Pb**	**18 38 34.2**	**-0.4**
SIGR				S	**Sb**	**18 38 48.7**	**-0.4**
	comp=E,238nm,0.4s						
SIGR	**SIGRI**	**1.13**	**354**	P	**Pb**	**18 38 34.1**	**-0.4**
SIGR				S	**Sg**	**18 38 50.3**	**+0.2**
SIGR				AML	AML	18 38 54.5	
	comp=N,597μm,0.5s						
SIGR				AML	AML	18 38 56.5	
	comp=E,346μm,0.4s						
IZMD	**zmir-Dikili-**	**1.15**	**38**	P	**Pb**	**18 38 34.4**	**-0.6**
IZMD				S	**Sb**	**18 38 50.7**	**+0.9**
DDIM	**Aydin, Didim**	**1.16**	**122**	P	**Pg**	**18 38 36.2**	**+0.3**
DDIM				*i* AML	AML	18 39 03.0	
	comp=E,99nm,0.7s						
DDIM				*i* AML	AML	18 39 08.0	
	comp=E,106nm,0.6s						
PRK	**Paraskevi**	**1.18**	**10**	P	**Pn**	**18 38 34.8**	**-0.4**
PRK				S	**Sb**	**18 38 49.0**	**-1.4**
	comp=E,232nm,0.4s						
PRK	**Paraskevi**	**1.18**	**10**	P	**Pn**	**18 38 34.9**	**-0.3**
PRK				S	**Sb**	**18 38 51.3**	**+0.9**
PRK				AML	AML	18 38 54.6	
	comp=N,455μm,0.4s						
PRK				AML	AML	18 38 56.3	
	comp=E,471μm,0.5s						
ZEDA	**zmir-Bergama**	**1.22**	**43**	P	**Pn**	**18 38 35.7**	**-0.1**
ZEDA				S	**Sb**	**18 38 52.2**	**+0.7**
AYVA	**Ayvalik**	**1.33**	**23**	P	**Pn**	**18 38 36.5**	**-0.8**
AYVA				S	**Sb**	**18 38 55.5**	**+0.4**
SKY	**Skiros Island**	**1.39**	**305**	P	**Pn**	**18 38 38.6**	**+0.4**
SKY				S	**Sn**	**18 38 56.6**	**+0.4**
KOCA	**Canakkale, Ayv**	**1.42**	**4**	P	**Pn**	**18 38 38.3**	**-0.3**
KOCA				S	**Sn**	**18 38 56.4**	**-0.5**
BDRM	**Kayabasi**	**1.53**	**131**	P	**Pb**	**18 38 42.2**	**+0.8**
IZMR	**zmir-demi**	**1.54**	**87**	P	**Pn**	**18 38 39.1**	**-1.1**
IZMR				S	**Sn**	**18 39 00.1**	**+0.3**
KYMI	**Kymi, Euboea I**	**1.60**	**291**	P	**Pn**	**18 38 41.1**	**+0.1**
DION	**Dionisos Attik**	**1.64**	**270**	P	**Pn**	**18 38 42.3**	**+0.7**
BUHA	**Balikesir, Bur**	**1.64**	**30**	P	**Pn**	**18 38 41.3**	**-0.3**
BUHA				S	**Sn**	**18 39 03.1**	**+0.7**
PTL	**Penteli**	**1.69**	**269**	P	**Pn**	**18 38 43.1**	**+0.8**
BAYC	**CANAKKALE_Bayr**	**1.71**	**14**	P	**Pn**	**18 38 42.0**	**-0.6**
BOZC	**Bozcaada**	**1.75**	**1**	P	**Pn**	**18 38 42.3**	**-0.9**
STEP	**BALIKESIR_Sava**	**1.86**	**46**	P	**Pn**	**18 38 44.4**	**-0.3**
STEP				*i* AML	AML	18 39 16.0	
	comp=E,89nm,0.8s						
STEP				*i* AML	AML	18 39 16.0	
	comp=E,94nm,0.6s						
ESEN	**Aydn-Nazilli**	**1.87**	**98**	P	**Pb**	**18 38 46.7**	**-0.5**
KIRA	**zmir-Kiraz**	**1.89**	**86**	P	**Pn**	**18 38 45.3**	**+0.2**
LIA	**Limnos Island**	**1.92**	**341**	P	**Pn**	**18 38 45.2**	**-0.2**
MANT	**Manisa**	**2.05**	**78**	P	**Pb**	**18 38 50.7**	**+0.4**
VIL2	**Platees**	**2.16**	**274**	P	**Pn**	**18 38 48.4**	**-0.4**

IDC 01 18:47:11.9 ± 6.1, 6°.07S × 142°.19E, h0km, mb3.7/2, mbtmp3.7/4, ML3.4/2, MS3.3/1, Error ellipse: s-maj=229.0km s-min=32.7km az=96.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.76**	**208**	Pn	Pn	18 50 53.4	-2.0
	0.1nm,0.3s,baz=29,slow=14,SNR=3.3						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**19.22**	**204**	P	Pn	18 51 38.4	-0.2
	0.3nm,0.3s,baz=32,slow=10,SNR=48						
	3.8nm,0.7s						
KLR	**Kul'dur**	**55.82**	**352**	LR	LR	19 18 43.0	
	comp=Z,25nm,19.5s,baz=183,slow=34						
MKAR	**Makanchi Array**	**74.55**	**322**	P	P	18 58 53.3	+0.6
	0.3nm,0.7s,baz=106,slow=7.1,SNR=4.4						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**84.04**	**325**	P	P	18 59 43.8	-0.6
	0.7nm,0.8s,baz=113,slow=3.7,SNR=4.1						
	0.7nm,0.8s						

PGC 01 18:47:14.8 ± 1.8, 50°.57N × 130°.40W, h10km, MLSn3.2/22, Mw3.8/22, 211km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.45**	**86**	Pn	Pn	18 47 39.0	-2.0
HOLB				Sn	Sn	18 47 56.0	-4.1
PACB	**Port Alice, BC**	**1.86**	**93**	Pn	Pn	18 47 44.6	-2.0
PACB	**Port Alice, BC**	**1.86**	**93**	Sn	Sn	18 48 05.8	-4.4
PHC	**Port Hardy**	**1.90**	**85**	Pn	Pn	18 47 45.5	-1.7
PHC	**Port Hardy**	**1.90**	**85**	Sn	Sn	18 48 06.9	-4.1
MAYB	**Maynard**	**2.07**	**93**	Pn	Pn	18 47 47.9	-1.8
BBB	**Bella Bella**	**2.16**	**41**	Pn	Pn	18 47 49.3	-1.6
BBB	**Bella Bella**	**2.16**	**41**	Sn	Sn	18 48 13.8	-3.9
BAIB	**Barry Inlet**	**2.18**	**338**	Pn	Pn	18 47 49.4	-1.8
BAIB	**Barry Inlet**	**2.18**	**338**	Sn	Sn	18 48 15.0	-3.3
BNB	**Barry Inlet**	**2.18**	**338**	Pn	Pn	18 47 49.4	-1.8
EDB	**Eliza Dome**	**2.22**	**107**	Pn	Pn	18 47 49.6	-2.0
WOSB	**Woss**	**2.49**	**98**	Pn	Pn	18 47 54.1	-1.3
WOSB	**Woss**	**2.49**	**98**	Sn	Sn	18 48 21.5	-4.3
HG1B	**Mitchell Dam**	**2.60**	**336**	Pn	Pn	18 47 55.6	-1.2
HG1B	**Mitchell Dam**	**2.60**	**336**	Sn	Sn	18 48 24.0	-4.5
ETB	**Estevan Point**	**2.76**	**114**	Pn	Pn	18 47 57.0	-2.1
BUTB	**Butedale**	**2.77**	**25**	Pn	Pn	18 47 58.1	-1.3
BUTB	**Butedale**	**2.77**	**25**	Sn	Sn	18 48 29.6	-3.3
NCSB	**Newcastle Ridg**	**2.78**	**92**	Pn	Pn	18 47 57.8	-1.6
NCSB	**Newcastle Ridg**	**2.78**	**92**	Sn	Sn	18 48 29.7	-3.4
GRIB	**Gribbell Islan**	**2.88**	**15**	Pn	Pn	18 47 59.2	-1.5
GRIB	**Gribbell Islan**	**2.88**	**15**	Sn	Sn	18 48 31.8	-3.7
SPLB	**Strathcona Par**	**3.12**	**101**	Pn	Pn	18 48 02.4	-1.6
HWKB	**Hawksbury Isla**	**3.13**	**14**	Pn	Pn	18 48 02.8	-1.5
HWKB				Sn	Sn	18 48 38.2	-3.5
CBB	**Campbell River**	**3.27**	**97**	Pn	Pn	18 48 05.2	-1.0
GRNB	**Grenville Isla**	**3.30**	**5**	Pn	Pn	18 48 05.1	-1.3
GRNB				Sn	Sn	18 48 41.3	-4.4
B012	**Ucluelet**	**3.55**	**116**	Pn	Pn	18 48 08.4	-1.5
KITB	**Kitimat**	**3.68**	**16**	Pn	Pn	18 48 10.7	-1.0
KITB				Sn	Sn	18 48 52.0	-3.0
SHB	**Sechelt**	**4.31**	**100**	Pn	Pn	18 48 19.6	-0.9
PFB	**Port Renfrew**	**4.36**	**115**	Pn	Pn	18 48 20.4	-0.7
PTRF	**Port Renfrew**	**4.39**	**115**	Pn	Pn	18 48 20.9	-0.6
OCP	**Olym-Cheeka Pk**	**4.40**	**119**	Pn	Pn	18 48 21.1	-0.5
UBRB	**Upper Baezaeko**	**4.56**	**57**	Pn	Pn	18 48 24.6	+0.6
GOBB	**Galiano Island**	**4.75**	**107**	Pn	Pn	18 48 25.7	-0.7
V35K	**Ketchikan**	**4.83**	**352**	Pn	Pn	18 48 26.6	-0.8
HNBB	**Haney**	**5.22**	**101**	Pn	Pn	18 48 31.5	-1.3
FSJB	**Fort St James**	**5.39**	**41**	Pn	Pn	18 48 35.3	0.0
LLLB	**Lillooet**	**5.43**	**86**	Pn	Pn	18 48 35.7	-0.1
MBW	**Mount Baker**	**5.80**	**105**	Pn	Pn	18 48 42.4	+1.4
JCW	**Jim Creek**	**6.02**	**110**	Pn	Pn	18 48 45.2	+1.3
RPW	**Rockport**	**6.16**	**107**	Pn	Pn	18 48 46.7	+0.8
GPW	**Glacier Peak**	**6.53**	**108**	Pn	Pn	18 48 52.3	+1.2

*NEIC **01** 18:52:26.4 ± 0.8, 45°.76N ± 0°.03 × 106°.74W ± 0°.07, h0km ± 1km, ML2.7/40, Error ellipse: s-maj=8.8km s-min=4.5km az=246.0*
*IDC **01** 18:52:28.4 ± 1.8, 45°.87N × 106°.75W, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=60.7km s-min=9.9km az=133.0*

ISC 01 18:52:27.4 ± 0.9, 45°.80N ± 0°.04 × 106°.75W ± 0°.05, h0km, n41, σ1.83/41, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**0.96**	**22**		**Pg**	**18 52 45.7**	**-0.1**
LAO				IAML		18 53 02.7	
	249nm,0.4s						
LAO				IAML		18 53 16.1	
	160nm,0.5s						
RLMT	**Red Lodge**	**1.90**	**250**	Pn	**Pb**	**18 53 02.5**	**-0.4**
RLMT				IAML		18 53 33.0	
	65nm,0.4s						
RLMT				IAML		18 53 35.3	
	74nm,0.3s						
GCMT	**Greycliff**	**2.04**	**271**	Pn	**Pn**	**18 53 03.4**	**+0.3**
RSSD	**Black Hills**	**2.56**	**130**		**Pn**	**18 53 10.3**	**0.0**
RSSD				IAML		18 53 51.0	
	38nm,0.5s						
RSSD				IAML		18 53 52.4	
	30nm,0.6s						
YMP	**Mirror Lake Pl**	**2.63**	**247**		**Pn**	**18 53 11.4**	**+0.1**
LKWY	**Lake**	**2.86**	**246**	Pn	**Pn**	**18 53 15.1**	**+0.6**
LKWY				IAML		18 54 02.1	
	25nm,1.5s						
LKWY				IAML		18 54 40.9	
	18nm,2.5s						
YNR	**Norris Junctio**	**2.98**	**250**	Pn	**Pn**	**18 53 16.1**	**0.0**
YNR				IAML		18 54 04.8	
	comp=E,17nm,0.4s						
YNR				IAML		18 54 10.0	
	comp=N,23nm,0.5s						
EGMT	**Eagleton**	**3.03**	**318**		**Pb**	**18 53 20.4**	**-1.8**
H17A	**Grant Village**	**3.05**	**244**	Pn	**Pb**	**18 53 22.8**	**+0.1**
YHH	**Holmes Hill**	**3.06**	**252**		**Pb**	**18 53 22.7**	**-0.3**
K22A	**Casper**	**3.15**	**177**	Pn	**Pn**	**18 53 17.2**	**-1.2**
K22A				IAML		18 54 17.7	
	comp=E,24nm,0.4s						
YFT	**Old Faithful**	**3.19**	**246**	Pn	**Pn**	**18 53 18.0**	**-1.0**
DGMT	**Dagmar**	**3.19**	**32**	Pn	**Pb**	**18 53 23.6**	**-1.3**
YHL	**Hebgen Lake**	**3.27**	**255**		**Pn**	**18 53 20.3**	**+0.2**
YHL				IAML		18 54 22.7	
	comp=N,23nm,0.6s						
FLWY	**Flagg Ranch**	**3.29**	**240**	Pn	**Pn**	**18 53 20.2**	**-0.2**
FLWY				IAML		18 54 51.2	
	comp=N,21nm,4.5s						
FLWY				IAML		18 55 03.6	
	comp=N,22nm,2.3s						
BOZ	**Bozeman (W)**	**3.42**	**268**		**Pn**	**18 53 22.4**	**+0.3**
BOZ				IAML		18 54 22.4	
	comp=N,13nm,1.1s						
BOZ				IAML		18 54 25.0	
	comp=N,11nm,0.5s						
MOOW	**Moose Ponds**	**3.51**	**236**	Pn	**Pn**	**18 53 23.4**	**+0.1**
LOHW	**Long Hollow**	**3.51**	**233**		**Pn**	**18 53 22.1**	**-1.3**
LOHW				IAML		18 55 34.1	
	comp=N,12nm,4.7s						
IMW	**Indian Meadow**	**3.53**	**239**		**Pn**	**18 53 26.4**	**+2.6**
IMW				IAML		18 54 29.2	
	comp=N,21nm,0.5s						
IMW				IAML		18 54 31.7	
	comp=N,12nm,0.9s						
BW06	**Boulder Array**	**3.64**	**215**	Pn	**Pn**	**18 53 21.6**	**-3.6**
BW06				IAML		18 54 28.9	
	comp=N,10.0nm,0.5s						
PD31	**Pinedale Array**	**3.64**	**215**	Pn	**Pn**	**18 53 21.7**	**-3.5**
PDAR	**Pinedale Array**	**3.64**	**215**		**Pn**	**18 53 30.0**	**-2.7**
PDAR	**Pinedale Array**	**3.64**	**215**	Pn	**Pb**	**18 53 29.6**	**-3.1**
	comp=N,0.5nm,0.3s,baz=37,slow=12,SNR=18						
PDAR				Pg	**Pg**	**18 53 37.4**	**+0.2**
	comp=N,1.8nm,0.3s,baz=39,slow=19,SNR=22						
PDAR				Lg	Lg	18 54 23.5	
	comp=N,1.7nm,0.3s,baz=37,slow=32,SNR=8.0						
	comp=N,0.4nm,0.3s						
FXWY	**Fox Creek**	**3.73**	**236**	Pn	**Pn**	**18 53 23.8**	**-2.7**
LRM	**Limekiln Ridge**	**3.98**	**272**	Pn	**Pn**	**18 53 31.8**	**+1.9**
OVMT	**Ovando**	**4.50**	**289**	Pn	**Pn**	**18 53 38.7**	**+1.8**
BPMT	**Black Pine Rid**	**4.70**	**280**	Pn	**Pn**	**18 53 40.5**	**+0.8**
N23A	**Red Feather La**	**4.94**	**173**	Pn	**Pn**	**18 53 41.7**	**-1.4**
BSUT	**Blindstream Ca**	**6.02**	**211**	Pn	**Pn**	**18 53 59.3**	**+1.3**
ISCO	**Idaho Springs**	**6.06**	**172**	Pn	**Pn**	**18 54 00.8**	**+2.3**
P18A	**Preston Nutter**	**6.68**	**204**	Pn	**Pn**	**18 54 10.8**	**+3.8**
SRU	**San Rafael Swe**	**7.24**	**204**	Pn	**Pn**	**18 54 17.7**	**

TXIG	**Tlaxiaco**	**1.40**	**48**	*eP*		**Pg**		**19 02 46.5**	**+0.2**
TXIG				*eS*		**Sn**		**19 03 05.0**	**-0.3**
HMTT	**Tlapaneco**	**1.50**	**11**	*eP*		**Pg**		**19 02 48.4**	**+0.1**
HMTT				*i* S		**Sg**		**19 03 09.0**	**+1.1**
CAIG	**El Cayaco**	**1.54**	**299**	*eP*		**Pn**		**19 02 47.6**	**-0.1**
CAIG				*i* S		**Sn**		**19 03 07.8**	**-0.5**
PEIG	**Puerto Escondi**	**1.67**	**101**	*eP*		**Pn**		**19 02 48.9**	**-0.7**
PEIG				*eS*		**Sn**		**19 03 09.2**	**-2.4**
FTIG	**Fresnillo de T**	**1.73**	**23**	*eP*		**Pb**		**19 02 51.6**	**-0.3**
FTIG				*eS*		**Sb**		**19 03 14.3**	**+0.2**
ATYC	**Atoyac**	**1.75**	**301**	*eS*		**Sb**		**19 03 14.5**	**-0.2**
MEIG	**Mezcala**	**1.76**	**336**	*eP*		**Pn**		**19 02 51.3**	**+0.4**
MEIG				*eS*		**Sn**		**19 03 12.9**	**-1.0**
HLIG	**Huajuapan de L**	**1.81**	**34**	*eP*		**Pn**		**19 02 52.3**	**+0.6**
HLIG				*eS*		**Sn**		**19 03 15.2**	**-0.2**
PLIG	**Platanillo**	**2.16**	**343**	*eP*		**Pb**		**19 02 58.0**	**-1.2**
PLIG				*eS*		**Sn**		**19 03 24.6**	**+0.9**
ARIG	**Puente Sto Nin**	**2.42**	**324**	*eP*		**Pb**		**19 03 02.5**	**-1.1**
ARIG				*eS*		**Sn**		**19 03 27.8**	**-2.2**
TOIG	**Toxpalan**	**2.46**	**44**	*eP*		**Pn**		**19 03 02.3**	**+1.7**
TOIG				*eS*		**Sn**		**19 03 32.8**	**+1.5**
TPIG	**Tehuac#an**	**2.53**	**34**	*eP*		**Pn**		**19 03 01.9**	**+0.2**
TPIG				*eS*		**Sn**		**19 03 33.9**	**+0.8**
YAIG	**Yautepec**	**2.54**	**355**	*eP*		**Pn**		**19 03 03.6**	**+1.9**
YAIG				*eS*		**Sn**		**19 03 33.2**	**0.0**
HUIG	**Huatulco**	**2.70**	**101**	*eP*		**Pn**		**19 03 05.4**	**+1.7**
HUIG				*eS*		**Sn**		**19 03 32.5**	**-4.4**
PPM	**Popocatepetl**	**2.75**	**5**	*eP*		**Pn**		**19 03 06.9**	**+2.0**
PPM				*eS*		**Sb**		**19 03 42.0**	**-1.8**
AMVM	**AMECAMECA**	**2.80**	**1**	*eP*		**Pn**		**19 03 03.2**	**-2.2**
AMVM				*eS*		**Sb**		**19 03 45.0**	**-0.2**
ZIIG	**Zihuatanejo**	**2.81**	**298**	*eP*		**Pb**		**19 03 08.4**	**-1.8**
ZIIG				*eS*		**Sn**		**19 03 37.8**	**-1.8**
MPVM	**San Francisco**	**2.88**	**357**	*eP*		**Pn**		**19 03 06.7**	**+0.3**
MPVM				*eS*		**Sn**		**19 03 43.5**	**+1.9**
TLVM	**San Miguel Top**	**2.89**	**354**	*eP*		**Pn**		**19 03 07.6**	**+0.8**
TLVM				*eS*		**Sn**		**19 03 41.5**	**-0.7**
XCVM	**Xochimilco**	**2.93**	**355**	*eS*		**Sn**		**19 03 40.6**	**-2.5**
AOVM	**Tlapan**	**2.97**	**351**	*eP*		**Pb**		**19 03 12.1**	**-1.2**
AOVM				*eS*		**Sb**		**19 03 49.5**	**-0.8**
THVM	**De Xico**	**2.98**	**358**	*eP*		**Pn**		**19 03 10.6**	**+2.7**
THVM				*eS*		**Sn**		**19 03 42.2**	**-2.1**
INVM	**La Marquesa**	**3.00**	**350**	*eP*		**Pb**		**19 03 13.7**	**-0.2**
INVM				*eS*		**Sn**		**19 03 45.4**	**+0.5**
COVM	**Coyoacan**	**3.03**	**355**	*eS*		**Sn**		**19 03 46.1**	**+0.6**
TOVM	**TOLUCA**	**3.06**	**345**	*eP*		**Pb**		**19 03 12.3**	**-2.4**
TOVM				*eS*		**Sn**		**19 03 46.0**	**-0.2**
CJVM	**Cuajimalpa**	**3.06**	**352**	*eS*		**Sn**		**19 03 43.2**	**-2.9**
BJVM	**Benito Juarez**	**3.06**	**354**	*eS*		**Sn**		**19 03 42.9**	**-3.3**
PBVM	**Pinon**	**3.12**	**356**	*eS*		**Sn**		**19 03 42.8**	**-4.4**
PBVM				*eS*		**Sb**		**19 03 45.7**	**-8.3**
PTVM	**Pico Tres Padr**	**3.27**	**356**	*eP*		**Pb**		**19 03 16.8**	**-1.5**
PTVM				*eS*		**Sb**		**19 03 57.3**	**-1.4**
AZVM	**Cuida Lopez Ma**	**3.28**	**353**	*eP*		**Pn**		**19 03 10.3**	**-1.7**
AZVM				*eS*		**Sn**		**19 03 53.5**	**+1.9**
VTVM	**Tizayuca**	**3.44**	**1**	*eS*		**Sn**		**19 03 53.0**	**-2.6**
ZUVM	**ZUMPANGO**	**3.50**	**357**	*eS*		**Sn**		**19 03 57.3**	**+0.2**
ACIG	**Acambay**	**3.77**	**345**	*eP*		**Pn**		**19 03 16.1**	**-2.6**
ACIG				*eS*		**Sb**		**19 04 12.6**	**-0.5**
CMIG	**Matias Romero**	**3.88**	**78**	Pn		**Pn**		**19 03 20.5**	**+0.4**
	1.4nm,0.3s,baz=264,slow=17,SNR=27								
CMIG				Sn		**Sn**		**19 04 03.7**	**-2.5**
	2.4nm,0.3s,baz=344,slow=19,SNR=4.5								
CMIG				Lg		Lg		19 04 25.8	
	16nm,0.3s,baz=186,slow=10,SNR=13 4.3nm,0.4s								
MOIG	**Morelia**	**4.01**	**327**	*eP*		**Pb**		**19 03 28.2**	**-2.8**
MOIG				*eS*		**Sn**		**19 04 11.9**	**+2.2**
TKL	**Tuckaleechee C**	**23.50**	**32**	LR		LR		19 18 28.0	
	comp=Z,112nm,18.9s,baz=157,slow=40								
PDAR	**Pinedale Array**	**27.91**	**343**	P		**P**		**19 08 13.7**	**+2.6**
	1.1nm,0.9s,baz=157,slow=9.4,SNR=6.0 1.1nm,0.9s								
SCHQ	**Schefferville**	**45.67**	**25**	P		**P**		**19 10 41.9**	**+0.5**
	3.9nm,1.0s,baz=221,slow=9.3,SNR=4.4 3.9nm,1.0s								
YKA	**Yellowknife Ar**	**47.44**	**350**	P		**P**		**19 10 56.4**	**+1.3**
	0.4nm,0.8s,baz=165,slow=7.4,SNR=5.7 0.4nm,0.8s								
H03N2	**Juan Fernandez**	**53.01**	**159**	T		T		20 08 42.2	
	baz=337,slow=77,SNR=34								
H03N1	**Juan Fernandez**	**53.01**	**159**	T		T		20 08 34.5	
	baz=337,slow=77,SNR=62								
H03N3	**Juan Fernandez**	**53.02**	**159**	T		T		20 08 45.2	
	baz=337,slow=77,SNR=72								

NEIC ***01*** *19:06:16.2±1.2, 15°.06S±0°.09×173°.08W±0°.08, h10km±1km, mb4.4/10, Error ellipse: s-maj=18.0km s-min=7.1km az=141.0*

IDC ***01*** *19:06:22.8±1.5, 13°.78S×174°.70W, h0km, mb4.0/7, mbtmp3.9/8, ML3.4/1, MS3.8/17, Error ellipse: s-maj=97.7km s-min=19.5km az=144.0*

ISC 01 19:06:17.4±0.7, 15°.21S±0°.08×173°.11W±0°.10, h10km, n41, σ1s90/23, mb4.1/11, MS3.8/17, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.82**	**45**			**Pn**	**Pn**	**19 06 46.1**	**-2.7**
NIUE	**Niue**	**4.90**	**142**	Pn		Pn	**Pn**	**19 07 31.5**	**+0.3**
NIUE				Sn		Sn	**Sn**	**19 08 26.1**	**-1.9**
PINNC	**Pines Island,**	**19.81**	**245**	P		P	**P**	**19 10 48.6**	**+0.4**
PINNC				IAmb		IAmb		19 11 18.8	
	comp=Z,45nm,1.4s								
DZM	**Mont Dzumac**	**20.54**	**248**	P		P	**P**	**19 10 54.1**	**-2.2**
DZM				IAmb		IAmb		19 11 07.0	
	comp=Z,4.4nm,0.8s								
DZM	**Mont Dzumac**	**20.54**	**248**	P		P	**P**	**19 10 55.8**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=66,slow=19,SNR=2.5 comp=Z,3.1nm,0.8s								
HNR	**Honiara**	**26.93**	**279**	LR		LR		19 20 56.6	
	comp=Z,2μm,18.9s,baz=106,slow=35								
WHZ	**Wether Hill Ro**	**34.48**	**204**	P		P	**P**	**19 13 05.0**	**-0.5**
H11S2	**WAKE ISLAND Hy**	**38.94**	**329**	T		T	T	19 53 56.1	
	baz=146,slow=74,SNR=18								
H11S3	**WAKE ISLAND Hy**	**38.96**	**329**	T		T	T	19 54 10.9	
	baz=146,SNR=18								
H11S1	**WAKE ISLAND Hy**	**38.96**	**329**	T		T	T	19 54 12.8	
	baz=146,slow=74,SNR=19								
CTA	**Charters Tower**	**38.96**	**257**	LR		LR	LR	19 26 52.3	
	comp=Z,151nm,21.9s,baz=88,slow=32								
PMG	**Port Moresby**	**39.20**	**274**	LR		LR	LR	19 27 19.1	
	comp=Z,97nm,21.3s,baz=86,slow=33								
STKA	**Stephens Creek**	**44.38**	**240**	P		P	**P**	**19 14 28.0**	**-0.3**
STKA	**Stephens Creek**	**44.38**	**240**	P		P	**P**	**19 14 29.0**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=82,slow=11,SNR=5.6 comp=Z,2.6nm,0.7s								
BBOO	**Buckleboo**	**49.16**	**240**	P		P	**P**	**19 15 03.9**	**-1.8**
BBOO				IAmb		IAmb	IAmb	19 15 10.4	
	comp=Z,7.1nm,1.0s								
WB0	**Warramunga Arr**	**50.12**	**257**	P		P	**P**	**19 15 11.4**	**-1.9**
WB0				IAmb		IAmb	IAmb	19 15 17.8	
	comp=Z,11nm,1.4s								
WB2	**Warramunga Arr**	**50.15**	**257**	P		P	**P**	**19 15 11.3**	**-2.2**
WB2				IAmb		IAmb	IAmb	19 15 53.3	
	comp=Z,8.7nm,1.3s								
WRA	**Warramunga Arr**	**50.16**	**257**	P		P	**P**	**19 15 12.1**	**-1.5**
WRA	**Warramunga Arr**	**50.16**	**257**	P		P	**P**	**19 15 12.4**	**-1.2**
	comp=Z,1.0nm,0.5s,baz=91,slow=6.9,SNR=20								
WRA				PcP		PcP	**PcP**	**19 16 34.9**	**+1.9**
	comp=Z,0.5nm,0.8s,baz=90,slow=3.8,SNR=1.8 comp=Z,1.0nm,0.5s								
AS31	**Alice Springs**	**50.44**	**252**	P		P	**P**	**19 15 14.2**	**-1.5**
AS31				IAmb		IAmb	IAmb	19 15 25.6	
	comp=Z,1.3nm,0.7s								
ASAR	**Alice Springs**	**50.44**	**252**	P		P	**P**	**19 15 13.7**	**-2.0**
ASAR	**Alice Springs**	**50.44**	**252**	P		P	**P**	**19 15 15.0**	**-0.7**
	comp=Z,3.2nm,0.6s,baz=88,slow=8.5,SNR=34								
ASAR				PcP		PcP	**PcP**	**19 16 37.2**	**+3.2**
	comp=Z,0.5nm,0.7s,baz=91,slow=6.7,SNR=0.8								
ASAR				LR		LR	LR	19 34 57.2	
	comp=Z,94nm,19.4s,baz=133,slow=35 comp=Z,3.2nm,0.6s								
FORT	**Forrest**	**55.76**	**243**	P		P	**P**	**19 15 52.4**	**-2.3**
DAV	**Davao City (W)**	**64.66**	**286**	LR		LR	LR	19 43 53.6	
	comp=Z,39nm,18.2s,baz=21,slow=36								
MJAR	**Matsushiro Arr**	**68.97**	**320**	LR		LR	LR	19 40 20.5	
	comp=Z,70nm,20.6s,baz=127,slow=30								
JOW	**Kunigami**	**70.60**	**306**	LR		LR	LR	19 41 57.0	
	comp=Z,50nm,20.6s,baz=62,slow=31								
TGY	**Tagaytay City**	**71.43**	**291**	LR		LR	LR	19 44 31.5	
	comp=Z,51nm,21.1s,baz=78,slow=33								
JNU	**Nakatsue**	**71.87**	**313**	LR		LR	LR	19 41 51.6	
	comp=Z,56nm,20.2s,baz=61,slow=30								
PFO	**Pinyon Flats O**	**72.58**	**47**	LR		LR		19 41 13.7	
	comp=Z,80nm,20.9s,baz=184,slow=29								
LPIG	**La Paz**	**72.69**	**58**	LR		LR		19 40 18.1	
	comp=Z,72nm,19.7s,baz=39,slow=28								
KSRS	**Korea Array**	**76.22**	**315**	LR		LR		19 47 51.8	
	comp=Z,19nm,19.3s,baz=35,slow=34								
USRK	**Ussuriysk Ar.**	**77.40**	**323**	LR		LR		19 46 37.0	
	comp=Z,50nm,20.5s,baz=94,slow=32								
TXAR	**Lajitas Array**	**80.27**	**56**	P		P		19 18 40.4	+12
	comp=Z,1.0nm,1.1s,baz=224,slow=5.0,SNR=3.4 comp=Z,1.0nm,1.1s								
ANMO	**Albuquerque**	**80.46**	**50**	LR		LR		19 46 48.1	
	comp=Z,81nm,19.6s,baz=242,slow=30								
PDAR	**Pinedale Array**	**81.93**	**42**	P		P		19 18 44.1	+6.4
	comp=Z,0.5nm,0.7s,baz=239,slow=2.8,SNR=2.0 comp=Z,0.5nm,0.7s								
ILAR	**Eielson Array**	**82.20**	**11**	P		**P**		**19 18 39.9**	**+1.6**
	comp=Z,0.7nm,0.8s,baz=214,slow=6.2,SNR=10 comp=Z,0.7nm,0.8s								
YKA	**Yellowknife Ar**	**89.81**	**23**	P		**P**		**19 19 18.9**	**+3.0**
	comp=Z,0.5nm,0.8s,baz=238,slow=4.4,SNR=7.3 comp=Z,0.5nm,0.8s								
JTS	**Las Juntas de**	**90.90**	**80**	LR		LR		19 50 48.9	
	comp=Z,104nm,19.1s,baz=67,slow=29								
CMAR	**Chiang Mai Arr**	**92.82**	**288**	LR		LR		19 55 11.1	
	comp=Z,13nm,21.4s,baz=125,slow=32								
ULM	**Lac du Bonnet**	**93.60**	**39**	LR		LR		19 54 48.3	
	comp=Z,84nm,20.1s,baz=108,slow=31								
BRTR	**Keskin Array B**	**146.18**	**321**	PKP		**PKPab**		**19 26 00.6**	**+1.4**
	comp=Z,3.1nm,0.9s,baz=87,slow=2.4,SNR=11								

NNC 01 19:14:15.3±2.6, 38°.59N×70°.76E, h0km, mb3.8, mpv3.4, 5C-1D, Error ellipse: s-maj=19.7km s-min=15.2km az=12.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.52**	**358**	⇑P		Pn		19 15 24.3	-0.7
	1.3nm,0.3s,baz=178,slow=12,SNR=77								
KK31				⇑S		Sn		19 16 19.8	+1.5
	5.6nm,0.8s,baz=186,slow=24,SNR=3.6								
UCH	**Uchtor**	**4.63**	**37**	P		Pn		19 15 28.1	+1.2
	SNR=7.7								
EKS2	**Erkin-Say**	**4.67**	**28**	P		Pn		19 15 28.2	+1.0
	SNR=6.1								
AAK	**Ala-Archa**	**4.94**	**34**	P		Pn		19 15 32.3	+1.3
	SNR=8.5								
KBK	**Karagaybulak**	**5.16**	**37**	P		Pn		19 15 36.6	+2.5
	SNR=11								
CHMS	**Chumysh**	**5.34**	**33**	P		Pn		19 15 37.6	+1.2
	SNR=5.4								
CHMS	**Chumysh**	**5.34**	**33**	⇑P		Pn		19 15 36.7	+0.3
	2.3nm,0.3s								
CHMS				⇑S		Sn		19 16 39.1	+0.4
	8.4nm,0.8s								
USP	**Ospenovka**	**5.46**	**30**	P		Pn		19 15 38.5	+0.5
	SNR=12								
TKM2	**Tokmak 2**	**5.67**	**39**	P		Pn		19 15 42.3	+1.2
	SNR=12								
TKM2	**Tokmak 2**	**5.67**	**39**	⇑P		Pn		19 15 41.8	+0.7
	1.6nm,0.3s								
TKM2				⇓S		Sn		19 16 48.5	+1.4
	3.6nm,0.7s								

JMA 01 19:34:31.9±0.2, 24°.3N±0°.3×123°.8E±0°.5, h16km±1km, MV1.4/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.10**	**330**	P		Pg		19 34 35.2	-0.1
IRIF				*eS*		Sg		19 34 37.7	+0.2
HATJ	**Hateruma jima**	**0.19**	**174**	P		Pg		19 34 36.4	-0.1
HATJ				*eS*		Sg		19 34 39.3	-0.3
JKRS	**Kuro-shima**	**0.20**	**93**	P		Pg		19 34 36.7	0.0
JKRS				*eS*		Sb		19 34 40.5	-0.4
JIJ	**Ishigaki jima**	**0.35**	**71**	P		Pg		19 34 38.9	-0.2
JIJ				*eS*		Sg		19 34 43.6	-0.3
JISG	**Ishigakijimahi**	**0.59**	**55**	*eP*		Pg		19 34 43.4	-0.1
JISG				*eS*		Sb		19 34 51.8	0.0

TAP 01 19:35:12.9, 24°.96N×122°.39E, h125km±1km, ML2.5, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TIPB	**Shuangxi**	**0.52**	**271**	P		Pn		19 35 31.7	+0.2
	baz=261								
EOS2	**EOS2**	**0.56**	**195**	*eP*		Pn		19 35 32.8	+1.2
	baz=204								
EOS3	**EOS3**	**0.67**	**186**	*eP*		Pn		19 35 33.0	+0.7
	baz=192								
TWE	**Neicheng**	**0.70**	**250**	*eP*		Pn		19 35 32.4	-0.3
	baz=249								
EWUT	**Wuta**	**0.76**	**228**	*eP*		Pn		19 35 33.0	-0.2
	baz=222								
EWUT				*eS*		Sn		19 35 48.5	+0.1
	baz=222								
FUSB	**Fushanzhiwuyua**	**0.76**	**255**	*i* P		Pn		19 35 32.8	-0.4
	baz=261								
FUSB				*i* S		Sn		19 35 49.8	+1.2
	baz=261								
ENA	**Nanau**	**0.80**	**228**	*eP*		Pn		19 35 31.0	-2.5
	baz=222								
ENTT	**Nioudou**	**0.82**	**247**	P		Pn		19 35 34.2	+0.6
	baz=250								
ENTT				S		Sn		19 35 50.7	+1.3
	baz=250								
NWLT	**Wulai**	**0.83**	**258**	S		Sn		19 35 49.7	+0.2
	baz=262								
NDT	**Datong Townshi**	**0.88**	**246**	*i* P		Pn		19 35 34.8	+0.6
	baz=247								
NDT				*i* S		Sn		19 35 51.1	+0.8
	baz=247								
LATG	**Datong**	**0.89**	**242**	*i* P		Pn		19 35 35.3	+0.8
	baz=241								
LATG				*i* S		Sn		19 35 51.3	+0.5
	baz=241								
YHNB	**Yeheng**	**0.97**	**253**	*i* P		Pn		19 35 35.6	+0.5
	baz=256								
YHNB				*i* S		Sn		19 35 51.4	-0.4
	baz=256								
NSK	**Sanguang**	**0.98**	**253**	*i* P		Pn		19 35 35.7	+0.5
	baz=257								
NSK				*i* S		Sn		19 35 51.8	-0.3
	baz=257								
NNSB	**Datong**	**1.06**	**240**	P		Pn		19 35 36.3	+0.3
	baz=233								
NNSB				S		Sn		19 35 54.0	+0.5
	baz=233								
NNS	**Nan Shan**	**1.06**	**241**	P		Pn		19 35 36.6	+0.6
	baz=247								
NNS				S		Sn		19 35 54.3	+0.8
	baz=247								
NACB	**Ninganchiao**	**1.07**	**223**	S		Sn		19 35 53.3	-0.2
	baz=217								
ETLH	**Xiulin Townshi**	**1.12**	**228**	P		Pn		19 35 37.0	+0.4
	baz=227								
ETLH				S		Sn		19 35 54.0	-0.5
	baz=227								
NFF	**Wufeng Townshi**	**1.20**	**255**	P		Pn		19 35 37.6	+0.2
	baz=254								
NFF				S		Sn		19 35 55.4	-0.6
	baz=254								
FUSS	**Fushou**	**1.26**	**236**	P		Pn		19 35 39.0	+0.8
	baz=230								
FUSS				S		Sn		19 35 57.4	-0.1
	baz=230								
ETM	**Tongmen**	**1.29**	**220**	S		Sn		19 35 56.6	-0.9
	baz=227								
LIOB	**Emei**	**1.29**	**256**	S		Sn		19 35 57.4	-0.2
	baz=249								
LXIB	**Xiulin Townshi**	**1.29**	**224**	*eP*		Pn		19 35 38.6	+0.1
	baz=215								
LXIB				*eS*		Sn		19 35 57.6	-0.3
	baz=215								
NSTT	**Nanjuang**	**1.31**	**256**	*eS*		Sn		19 35 57.0	-0.9
	baz=248								
WHF	**Hehuan Shan**	**1.31**	**232**	S		Sn		19 35 58.1	-0.6
	baz=229								
TWT	**Tachien**	**1.31**	**238**	*eS*		Sn		19 35 58.9	+0.6
	baz=232								
CHGB	**Renai**	**1.43**	**231**	*eP*		Pn		19 35 40.9	+0.9
	baz=231								
CHGB				*eS*		Sn		19 36 00.6	0.0
WHP	**Taichung City**	**1.48**	**243**	*eP*		Pn		19 35 41.6	+1.2
	baz=249								
WHP				*eS*		Sn		19 36 01.3	-0.2
	baz=249								
WUSB	**Renai**	**1.51**	**231**	*eP*		Pn		19 35 41.5	+0.6
	baz=234								
WUSB				*eS*		Sn		19 36 02.3	+0.2
	baz=234								
WCS	**Beigang Elemen**	**1.62**	**237**	*eP*		Pn		19 35 42.3	+0.3
	baz=243								
WCS				*eS*		Sn		19 36 04.3	+0.1
	baz=243								
VWDT	**VWDT**	**1.66**	**224**	S		Sn		19 36 05.2	+0.3
	baz=219								
SSLB	**Suanglung**	**1.76**	**229**	*eP*		Pn		19 35 44.2	+0.6
	baz=231								
SSLB				*eS*		Sn		19 36 07.8	+0.7
	baz=231								
YULB	**Yu-li**	**1.85**	**213**	*eS*		Sn		19 36 07.2	-2.0
	baz=218								
WHYT	**Xinyi Township**	**1.89**	**228**	*eP*		Pn		19 35 45.3	+0.1
	baz=236								
WHYT				*eS*		Sn		19 36 11.7	+1.8
	baz=236								

TAP 01 19:40:13.3, 24°.15N×121°.73E, h14km, ML1.6, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.10**	**274**	*i* P		Pg		19 40 17.0	+0.7
	baz=273								
ETL				*i* S		Sg		19 40 19.6	+1.1
	baz=273								
NACB	**Ninganchiao**	**0.12**	**280**	*i* P		Pb		19 40 17.2	-0.2
	baz=279								
NACB				*i* S		Sb		19 40 20.1	-0.1
	baz=279								
TWD	**Chiawan**	**0.14**	**240**	*i* P		Pb		19 40 17.4	-0.3
	baz=238								
TWD				*i* S		Sb		19 40 20.4	-0.3
	baz=238								
EAHA	**Aohua**	**0.18**	**3**	*i* P		Pb		19 40 18.1	-0.3
	baz=2.0								
EAHA				*i* S		Sb		19 40 21.6	-0.2
	baz=2.0								
ETLH	**Xiulin Townshi**	**0.23**	**284**	*i* P		Pb		19 40 19.0	-0.3
	baz=283								
ETLH				*i* S		Sb		19 40 23.1	-0.3
	baz=283								
ENA	**Nanau**	**0.28**	**2**	*i* P		Pb		19 40 19.8	-0.2
	baz=3.0								
ENA				*i* S		Sb		19 40 24.6	0.0
	baz=3.0								
ETM	**Tongmen**	**0.28**	**229**	*i* P		Pg		19 40 19.7	+0.4
	baz=229								
ETM				*i* S		Sb		19 40 24.3	-0.6
	baz=229								
EWUT	**Wuta**	**0.29**	**9**	*i* P		Pb		19 40 20.1	-0.3
	baz=8.0								
EWUT				*i* S		Sb		19 40 24.6	-0.6
	baz=8.0								
LXIB	**Xiulin Townshi**	**0.32**	**246**	*i* P		Pg		19 40 20.2	+0.3
	baz=245								
LXIB				*i* S		Sb		19 40 25.5	-0.4
	baz=245								
NNSB	**Datong**	**0.42**	**311**	*i* P		Pb		19 40 22.4	-0.2
	baz=310								
NNSB				*i* S		Sb		19 40 28.9	+0.1
	baz=310								
LATG	**Datong**	**0.42**	**334**	*i* P		Pb		19 40 22.7	0.0
	baz=334								
LATG				*i* S		Sb		19 40 29.1	+0.1
	baz=334								
WHF	**Hehuan Shan**	**0.42**	**269**	*i* P		Pb		19 40 22.4	-0.4
	baz=268								
WHF				*i* S		Sb		19 40 29.1	-0.2
	baz=268								
ESL	**Shilin**	**0.43**	**219**	*i* P		Pg		19 40 22.2	+0.3
	baz=217								
ESL				*i* S		Sb		19 40 30.0	+0.9
	baz=217								
NNS	**Nan Shan**	**0.43**	**311**	*i* P		Pb		19 40 22.6	-0.2
	baz=311								
NNS				*i* S		Sb		19 40 29.3	0.0
	baz=311								
FUSS	**Fushou**	**0.45**	**282**	*i* P		Pb		19 40 23.3	+0.1
	baz=282								
FUSS				*i* S		Sb		19 40 30.5	+0.5
	baz=282								
NDS	**Dongshan**	**0.48**	**358**	P		Pb		19 40 23.6	+0.1
	baz=358								
NDS				S		Sb		19 40 30.8	+0.3
	baz=358								
NDT	**Datong Townshi**	**0.49**	**336**	*i* P		Pb		19 40 23.8	0.0
	baz=336								
NDT				*i* S		Sb		19 40 31.4	+0.6
	baz=336								
ENTT	**Nioudou**	**0.51**	**343**	*i* P		Pb		19 40 24.1	0.0
	baz=343								
ENTT				*i* S		Sb		19 40 31.9	+0.5
	baz=343								
CHGB	**Renai**	**0.52**	**260**	*i* P		Pb		19 40 24.5	+0.2
	baz=259								
CHGB				*i* S		Sb

*NEIC **01** 19:42:48.5±1.7, 18°.3S±0°.1×175°.4W±0°.1, h220km±8km, mb4.6/66, Error ellipse: s-maj=17.0km s-min=15.2km az=154.0*
*NOU **01** 19:42:51.6, 18°.32S×175°.17W, h244km, mb4.5/12, Tonga Islands*
*IDC **01** 19:42:54.0±2.1, 18°.48S×175°.59W, h270km±20km, mb3.8/12, mbtmp4.4/14, Error ellipse: s-maj=17.3km s-min=10.2km az=147.0*
ISC 01 19:42:50.1±0.4, 18°.45S±0°.08×175°.47W±0°.06, h238km, n121, σ1§44/112, mb4.5/46, 1C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**3.19**	**273**	P	Pn	19 43 48.7	+4.8
DGTI	**Dogotuki**	**5.05**	**294**	P	**Pn**	**19 44 10.6**	**+4.4**
NIUE	**Niue**	**5.29**	**98**		**Pn**	**19 44 07.4**	**-1.6**
NIUE	**Niue**	**5.29**	**98**	P	**Pn**	**19 44 07.6**	**-1.5**
	972nm,0.8s						
AFI	**Afiamalu**	**5.74**	**39**	Pn	**Pn**	**19 44 10.9**	**-3.9**
MSVF	**Nonsavu**	**6.21**	**276**	Pn	**Pn**	**19 44 23.3**	**+2.6**
MSVF	**Nonsavu**	**6.21**	**276**	P	Pn	19 44 25.7	+5.0
RAR	**Rarotonga**	**15.02**	**103**	P	**Pn**	**19 46 15.8**	**+4.7**
	3.5nm,0.4s,baz=301,slow=12,SNR=2.8						
MARNC	**Mare, Loyalty**	**15.80**	**256**	P	**P**	**19 46 18.7**	**-0.8**
MARNC	**Mare, Loyalty**	**15.80**	**256**	P	**Pn**	**19 46 24.5**	**+4.0**
LIFNC	**LIFOU**	**16.46**	**259**		**P**	**19 46 26.5**	**-0.2**
PINNC	**Pines Island,**	**16.53**	**253**	P	**P**	**19 46 27.0**	**-0.5**
PINNC				IAmb	IAmb	19 46 43.1	
	comp=Z,33nm,1.0s						
OUENC	**Ouen Island, N**	**17.04**	**254**	P	**P**	**19 46 33.9**	**+0.8**
OUENC				IAmb	IAmb	19 46 39.0	
	comp=Z,24nm,1.0s						
OUENC	**Ouen Island, N**	**17.04**	**254**	P	**Pn**	**19 46 37.9**	**+2.8**
DZM	**Mont Dzumac**	**17.35**	**255**	P	**Pn**	**19 46 38.4**	**-0.4**
DZM				IAmb	IAmb	19 46 41.0	
	comp=Z,29nm,0.8s						
DZM	**Mont Dzumac**	**17.35**	**255**	P	**Pn**	**19 46 41.0**	**+2.2**
DZM	**Mont Dzumac**	**17.35**	**255**	*e*P	**Pn**	**19 46 38.4**	**-0.4**
	comp=Z,69nm,0.9s						
DZM	**Mont Dzumac**	**17.35**	**255**	P	**Pn**	**19 46 38.7**	**-0.1**
	comp=Z,27nm,0.8s,baz=86,slow=19,SNR=26						
ONTNC	**Ouen Toro**	**17.38**	**254**	P	**Pn**	**19 46 38.9**	**-0.1**
ONTNC	**Ouen Toro**	**17.38**	**254**	P	**Pn**	**19 46 40.7**	**+1.7**
	comp=Z,0.1nm,0.7s						
KOUNC	**Koumac, New Ca**	**19.20**	**260**	P	**P**	**19 46 56.9**	**+0.4**
KOUNC	**Koumac, New Ca**	**19.20**	**260**	P	**Pn**	**19 47 00.6**	**+0.1**
HAZ	**Te Kaha**	**20.12**	**196**	P	**P**	**19 47 07.7**	**+1.6**
PKGZ	**Pakihiroa**	**20.18**	**195**	P	Pn	19 47 09.6	-2.3
PUZ	**Puketiti**	**20.31**	**194**	P	Pn	19 47 10.8	-2.6
RUGZ	**Raukumara Rang**	**20.35**	**196**	P	**P**	**19 47 08.6**	**-0.1**
MWZ	**Matawai**	**20.74**	**196**	P	**P**	**19 47 13.7**	**+1.0**
TOZ	**Tahuroa Road**	**20.78**	**201**	P	**P**	**19 47 14.7**	**+1.6**
TOZ				IAmb	IAmb	19 47 15.8	
	comp=Z,20nm,1.1s						
TOZ	**Tahuroa Road**	**20.78**	**201**	P	**P**	**19 47 15.5**	**+2.4**
URZ	**Urewera**	**20.78**	**197**	P	**P**	**19 47 13.2**	**+0.1**
	comp=Z,15nm,0.3s,baz=28,slow=3.2,SNR=29						
URZ				S	**S**	**19 50 46.6**	**-3.6**
	comp=Z,5.3nm,0.7s,baz=5.6,slow=17,SNR=1.3						
	comp=Z,15nm,0.3s						
URZ	**Urewera**	**20.78**	**197**	P	**P**	**19 47 13.0**	**-0.1**
RAGZ	**Rawiri**	**20.92**	**196**	P	**P**	**19 47 13.9**	**-0.7**
RTZ	**Ruatahuna**	**21.14**	**197**	P	**P**	**19 47 17.3**	**+0.4**
RTZ				IAmb	IAmb	19 47 55.3	
	comp=Z,41nm,1.4s						
RTZ	**Ruatahuna**	**21.14**	**197**	P	P	19 47 08.5	-8.4
KNZ	**Kokohu**	**21.35**	**195**	P	**P**	**19 47 21.0**	**+2.1**
MTHZ	**Maungataniwha**	**21.41**	**197**	P	**P**	**19 47 21.0**	**+1.5**
BKZ	**Black Stump Fm**	**21.79**	**197**	P	**P**	**19 47 23.7**	**+0.5**
BKZ				IAmb	IAmb	19 48 00.9	
	comp=Z,23nm,1.5s						
TMVZ	**Te Maari**	**21.98**	**199**	P	**P**	**19 47 25.8**	**+0.9**
ETVZ	**East Tongariro**	**21.99**	**199**	P	**P**	**19 47 25.8**	**+0.7**
OTVZ	**Oturere**	**22.03**	**199**	P	**P**	**19 47 25.5**	**0.0**
BHHZ	**Black Hill Sta**	**22.22**	**198**	P	**P**	**19 47 25.8**	**-1.2**
BFZ	**Birch Farm**	**23.28**	**196**	P	**P**	**19 47 37.1**	**+0.5**
MRZ	**Mangatainoka R**	**23.44**	**197**	P	**P**	**19 47 38.1**	**0.0**
MRZ				IAmb	IAmb	19 48 04.4	
	comp=Z,36nm,1.4s						
TCW	**Tory Channel**	**24.33**	**199**	P	**P**	**19 47 46.3**	**+0.1**
BHW	**Baring Head**	**24.33**	**198**	P	**P**	**19 47 45.3**	**-0.9**
BHW				IAmb	IAmb	19 48 02.1	
	comp=Z,19nm,1.3s						
PPT2	**Papeete2**	**24.63**	**92**	*es*S	sS	19 53 11.9	-2.5
	comp=Z,72nm,23.5s						
TUWZ	**Tuamarina**	**24.64**	**199**	P	**P**	**19 47 49.4**	**+0.5**
LTZ	**Lake Taylor**	**26.39**	**201**	P	**P**	**19 48 03.4**	**-1.3**
INZ	**Inchbonnie**	**26.63**	**202**	P	**P**	**19 48 06.5**	**-0.3**
OXZ	**Oxford**	**26.95**	**200**	P	**P**	**19 48 09.4**	**-0.3**
EIDS	**Eidsvold**	**31.73**	**251**	P	**P**	**19 48 52.4**	**+0.4**
EIDS				IAmb	IAmb	19 48 53.7	
	comp=Z,9.5nm,0.9s						
ARMA	**Armidale**	**32.12**	**242**	P	**P**	**19 48 57.4**	**+1.9**
ARMA				IAmb	IAmb	19 48 58.9	
	comp=Z,10nm,0.5s						
CTAO	**Charters Tower**	**36.12**	**261**	P	**P**	**19 49 29.9**	**0.0**
PMG	**Port Moresby**	**37.30**	**279**	P	**P**	**19 49 38.0**	**-1.8**
PMG				IAmb	IAmb	19 49 42.5	
	comp=Z,14nm,0.8s						
TOO	**Toolangi**	**39.03**	**233**	P	**P**	**19 49 53.6**	**-0.4**
TOO				IAmb	IAmb	19 50 13.6	
	comp=Z,21nm,1.4s						
COEN	**Coen**	**39.90**	**270**	P	**P**	**19 50 00.3**	**-1.1**
COEN				IAmb	IAmb	19 50 04.3	
	comp=Z,8.3nm,0.8s						
STKA	**Stephens Creek**	**40.84**	**242**	P	**P**	**19 50 09.2**	**+0.3**
STKA	**Stephens Creek**	**40.84**	**242**	P	**P**	**19 50 08.0**	**-0.9**
	comp=Z,5.4nm,0.5s,baz=88,slow=10,SNR=26						
	comp=Z,5.4nm,0.5s						
BBOO	**Buckleboo**	**45.61**	**242**	P	**P**	**19 50 46.9**	**-0.1**
BBOO				IAmb	IAmb	19 50 49.4	
	comp=Z,19nm,1.4s						
WR0	**Warramunga Arr**	**47.09**	**260**	P	**P**	**19 50 58.0**	**-0.7**
WB0	**Warramunga Arr**	**47.26**	**260**	P	**P**	**19 50 58.8**	**-1.1**
WB2	**Warramunga Arr**	**47.27**	**260**	P	**P**	**19 50 59.2**	**-0.9**
WRAB	**Tennant Creek**	**47.28**	**260**	P	**P**	**19 50 59.1**	**-0.9**
WRA	**Warramunga Arr**	**47.28**	**260**	P	**P**	**19 50 59.1**	**-1.0**
WRA	**Warramunga Arr**	**47.28**	**260**	P	**P**	**19 50 59.1**	**-1.0**
	comp=Z,5.6nm,0.7s,baz=97,slow=7.3,SNR=73						
WRA				PcP	**PcP**	**19 52 27.3**	**0.0**
	comp=Z,0.6nm,0.5s,baz=92,slow=3.4,SNR=1.5						
WRA				S	**S**	**19 57 32.0**	**-3.3**
	comp=Z,0.9nm,0.7s,baz=94,slow=12,SNR=3.9						
	comp=Z,5.6nm,0.7s						
AS31	**Alice Springs**	**47.34**	**255**	P	**P**	**19 50 59.7**	**-0.8**
AS31				IAmb	IAmb	19 51 01.7	
	comp=Z,17nm,0.6s						
ASAR	**Alice Springs**	**47.34**	**255**	P	**P**	**19 51 00.1**	**-0.4**
ASAR	**Alice Springs**	**47.34**	**255**	P	**P**	**19 51 00.6**	**0.0**
	comp=Z,49nm,0.6s,baz=89,slow=8.4,SNR=631						
ASAR				S	**S**	**19 57 33.3**	**-2.8**
	comp=Z,1.6nm,0.7s,baz=92,slow=14,SNR=16						
MTN	**Manton Dam**	**51.58**	**268**	P	**P**	**19 51 32.0**	**-0.6**
MTN				IAmb	IAmb	19 51 33.2	
	comp=Z,24nm,0.8s						
FORT	**Forrest**	**52.31**	**245**	P	**P**	**19 51 36.8**	**-1.0**
FORT				IAmb	IAmb	19 51 37.9	
	comp=Z,14nm,0.8s						
KNRA	**Kununurra**	**53.22**	**264**	P	**P**	**19 51 44.0**	**-0.5**
FAKI	**Fak Fak**	**53.42**	**280**	P	**P**	**19 51 45.8**	**-0.3**
FAKI				IAmb	IAmb	19 51 53.5	
	comp=Z,20nm,1.2s						
FITZ	**Fitzroy Crossi**	**55.70**	**260**	P	**P**	**19 52 02.5**	**+0.2**
SOEI	**Soe**	**58.87**	**270**	P	**P**	**19 52 24.5**	**-0.2**
TNTI	**Ternate**	**59.31**	**282**	P	**P**	**19 52 26.8**	**-0.7**
PSA00	**Pilbara Seismi**	**60.48**	**255**	P	**P**	**19 52 33.5**	**-1.9**
PSA00	**Pilbara Seismi**	**60.48**	**255**	P	**P**	**19 52 33.9**	**-1.6**
PSA00				IAmb	IAmb	19 52 36.0	
	comp=Z,18nm,1.2s						
MBWA	**Marble Bar**	**60.65**	**256**	P	**P**	**19 52 35.7**	**-0.9**
MBWA				IAmb	IAmb	19 53 13.9	
	comp=Z,20nm,1.5s						
MMRI	**Maumere**	**61.10**	**270**	P	**P**	**19 52 38.9**	**-0.8**
MORW	**Morawa**	**62.83**	**246**	P	**P**	**19 52 50.4**	**-0.5**
JAGI	**Jajag, Banyuwa**	**68.82**	**268**	P	**P**	**19 53 28.1**	**-1.2**
MJAR	**Matsushiro Arr**	**70.03**	**322**	P	**P**	**19 53 36.5**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=164,slow=4.9,SNR=4.0						
	comp=Z,2.2nm,0.7s						
QSPA	**South Pole Qui**	**71.61**	**180**	P	**P**	**19 53 46.9**	**+1.4**
QSPA				IAmb	IAmb	19 53 48.0	
	comp=Z,11nm,0.8s						
QSPA	**South Pole Qui**	**71.61**	**180**	P	**P**	**19 53 47.0**	**+1.5**
	comp=Z,9.9nm,0.8s,baz=46,slow=2.7,SNR=24						
	comp=Z,9.9nm,0.8s						
UGM	**Wanagama**	**72.42**	**267**	P	**P**	**19 53 51.4**	**+0.3**
SBUM	**Sibu**	**74.05**	**278**	P	**P**	**19 54 00.7**	**+0.1**
SBUM				IAmb	IAmb	19 54 02.6	
	comp=Z,6.6nm,0.9s						
TPUB	**Ta-pu**	**74.92**	**301**	P	**P**	**19 54 05.0**	**-0.3**
KSRS	**Korea Array**	**76.98**	**317**	P	**P**	**19 54 18.0**	**+1.4**
	comp=Z,3.2nm,1.0s,baz=118,slow=4.7,SNR=4.3						
	comp=Z,3.2nm,1.0s						
NVAR	**Mina Array Bea**	**77.90**	**42**	P	**P**	**19 54 22.5**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=227,slow=9.3,SNR=11						
	comp=Z,2.1nm,0.7s						
MDJ	**Mudanjiang**	**80.25**	**324**	P	**P**	**19 54 34.8**	**+0.5**
MDJ				pmax	pmax		
	comp=Z,23nm,2.2s						
MDJ				pmax	pmax		
	comp=Z,260nm,4.1s						
NJ2	**Nanjing**	**80.45**	**308**	*e*P	**P**	**19 54 34.9**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BMO	**Blue Mountains**	**82.23**	**38**	P	**P**	**19 54 43.0**	**-1.9**
BMO				IAmb	IAmb	19 54 46.1	
	comp=Z,12nm,1.5s						
HMU	**Henry Mountain**	**82.65**	**46**	IAmb	IAmb	19 54 55.9	
	comp=Z,12nm,0.7s						
HLID	**Hailey**	**83.22**	**40**	P	**P**	**19 54 50.4**	**+0.4**
SRU	**San Rafael Swe**	**83.39**	**45**	IAmb	IAmb	19 54 53.1	
	comp=Z,4.6nm,0.7s						
TX31	**Lajitas Ar. Si**	**83.94**	**57**	IAmb	IAmb	19 54 57.9	
	comp=Z,9.0nm,1.2s						
TXAR	**Lajitas Array**	**83.94**	**57**	P	**P**	**19 54 55.8**	**+1.9**
	comp=Z,4.5nm,1.0s,baz=216,slow=4.5,SNR=19						
	comp=Z,4.5nm,1.0s						
ANMO	**Albuquerque**	**84.26**	**50**	P	**P**	**19 54 54.6**	**-0.9**
ALPN	**Alpine**	**84.40**	**56**	IAmb	IAmb	19 54 60.0	
	comp=Z,16nm,1.4s						
WRH	**Wood River Hil**	**85.31**	**12**	P	**P**	**19 54 58.1**	**-1.6**
WRH				IAmb	IAmb	19 55 01.0	
	comp=Z,5.8nm,0.8s						
SAND	**Sanderson**	**85.42**	**57**	IAmb	IAmb	19 55 03.7	
	comp=Z,8.1nm,0.9s						
MNHN	**Monahans**	**85.49**	**55**	P	**P**	**19 55 01.2**	**-0.4**
MNHN				IAmb	IAmb	19 55 04.0	
	comp=Z,8.5nm,0.7s						
ILAR	**Eielson Array**	**85.81**	**12**	P	**P**	**19 55 02.1**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=225,slow=6.6,SNR=20						
	comp=Z,1.0nm,0.7s						
PDAR	**Pinedale Array**	**85.84**	**42**	P	**P**	**19 55 03.8**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=212,slow=6.4,SNR=2.0						
	comp=Z,0.2nm,0.4s						
DRIO	**Del Rio**	**86.40**	**58**	IAmb	IAmb	19 55 08.5	
	comp=Z,11nm,0.8s						
ENH	**Enshi**	**86.90**	**303**	P	**P**	**19 55 09.9**	**+1.5**
ENH				IAmb	IAmb	19 55 12.2	
	comp=Z,17nm,1.3s						
ELIB	**Princess Elisa**	**88.93**	**186**	*d*P	**P**	**19 55 17.6**	**+0.3**
HHC	**Hu-ho-hao-te**	**89.66**	**314**	*e*P	**P**	**19 55 21.3**	**+0.1**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,160nm,6.0s						
KMI	**Kunming**	**90.57**	**296**	⇑P	**P**	**19 55 25.1**	**-0.9**
KMI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
F31M	**Tsiigehtchic**	**90.96**	**15**	IAmb	IAmb	19 55 28.2	
	comp=Z,14nm,1.4s						
CMAR	**Chiang Mai Arr**	**91.70**	**289**	P	**P**	**19 55 32.5**	**+1.5**
CMAR	**Chiang Mai Arr**	**91.70**	**289**	P	**P**	**19 55 32.6**	**+1.6**
	comp=Z,2.3nm,0.9s,baz=114,slow=3.3,SNR=17						
	comp=Z,2.3nm,0.9s						
CHTO	**Chiang Mai**	**91.81**	**289**	P	**P**	**19 55 33.1**	**+1.5**
CHTO				IAmb	IAmb	19 55 34.4	
	comp=Z,6.8nm,1.2s						
PZH	**PanZhiHua**	**91.88**	**297**	P	**P**	**19 55 34.1**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,140nm,5.7s						
YKA	**Yellowknife Ar**	**93.67**	**24**	P	**P**	**19 55 39.5**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=241,slow=4.2,SNR=11						
	comp=Z,0.7nm,0.8s						
MKAR	**Makanchi Array**	**111.52**	**314**	PKiKP	**PKiKP**	**20 00 56.0**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=126,slow=2.0,SNR=2.5						
BVAR	**Borovoye Array**	**119.03**	**321**	PKP	**PKPdf**	**20 01 09.5**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=136,slow=2.3,SNR=7.2						
BRTR	**Keskin Array B**	**147.12**	**316**	PKPbc	**PKPdf**	**20 02 04.1**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=67,slow=2.1,SNR=2.3						
MMAI	**Mount Meron Ar**	**148.77**	**304**	PKPbc	**PKiKP**	**20 02 11.5**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=57,slow=5.3,SNR=2.1						
GERES	**GERESS Array B**	**148.78**	**348**	PKPbc	**PKPbc**	**20 02 07.6**	**-1.8**
	comp=Z,1.1nm,0.7s,baz=38,slow=5.0,SNR=3.0						
TORD	**Torodi Ar. Bea**	**174.06**	**152**	PKPab	**PKPab**	**20 04 03.5**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=213,slow=2.0,SNR=2.9						

IDC 01 19:50:13.2±7.1, 19°.85S×179°.98W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=281.3km s-min=71.2km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.85**	**262**	P	P	19 58 13.1	-0.4
	0.3nm,0.3s,baz=96,slow=7.6,SNR=14						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**42.87**	**256**	P	P	19 58 13.4	-0.2
	0.7nm,0.5s,baz=89,slow=8.1,SNR=8.0						
	0.7nm,0.5s						
BRTR	**Keskin Array B**	**145.03**	**312**	PKPbc	PKPbc	20 09 52.1	-0.2
	0.5nm,0.8s,baz=82,slow=3.1,SNR=2.2						

*NEIC **01** 19:51:13.8±2.0, 29°.64S±0°.06×177°.2W±0°.1, h10km±2km, mb4.4/19, Error ellipse: s-maj=16.5km s-min=8.6km az=112.0*
*IDC **01** 19:51:18.0±3.7, 29°.53S×177°.23W, h40km±27km, mb4.1/4, mbtmp4.3/6, ML3.8/2, MS3.8/7, Error ellipse: s-maj=33.2km s-min=25.0km az=74.0*
ISC 01 19:51:15.8±0.9, 29°.75S±0°.07×177°.2W±0°.1, h31km, n55, σ1§62/51, mb4.6/9, MS3.8/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.82**	**307**		**Pb**	**19 51 30.4**	**-1.2**
RAO	**Raoul Island**	**0.82**	**307**	Pn	**Pb**	**19 51 30.7**	**-0.9**
	434nm,0.3s,baz=335,slow=17,SNR=9.8						
RAO				LR	LR	19 51 39.1	
	comp=Z,293nm,21.1s,baz=159,slow=32						
RAO				Sn	**Sn**	**19 51 41.9**	**-0.4**
	2μm,0.3s,baz=58,slow=21,SNR=11						
URZ	**Urewera**	**9.72**	**208**	Pn	**Pn**	**19 53 31.8**	**-1.7**
	0.5nm,0.3s,baz=45,slow=12,SNR=1.8						
URZ				Sn	**Sn**	**19 55 19.9**	**-1.8**
	1.0nm,0.3s,baz=102,slow=13,SNR=1.9						
RTZ	**Ruatahuna**	**10.08**	**207**	Pn	**Pn**	**19 53 36.6**	**-1.9**
MRZ	**Mangatainoka R**	**12.39**	**207**	Pn	**Pn**	**19 54 10.3**	**+0.3**
BHW	**Baring Head**	**13.31**	**207**	Pn	**Pn**	**19 54 20.9**	**-1.6**
TCW	**Tory Channel**	**13.38**	**209**	Pn	**Pn**	**19 54 21.8**	**-1.7**
TUWZ	**Tuamarina**	**13.71**	**209**	Pn	**Pn**	**19 54 27.2**	**-0.7**
NNZ	**Nelson**	**13.78**	**211**	Pn	**Pn**	**19 54 26.2**	**-2.8**
CTZ	**Chatham Island**	**13.97**	**178**	Pn	**Pn**	**19 54 28.6**	**-2.8**
THZ	**Tophouse**	**14.43**	**211**	Pn	**Pn**	**19 54 37.4**	**-0.5**
KHZ	**Kahutara**	**14.69**	**208**	Pn	**Pn**	**19 54 39.9**	**-1.4**
GVZ	**Greta Valley S**	**15.36**	**208**	Pn	**Pn**	**19 54 48.7**	**-1.6**
LTZ	**Lake Taylor**	**15.53**	**210**	Pn	**Pn**	**19 54 52.6**	**+0.1**
LTZ				IAmb	IAmb	19 54 58.4	
	comp=Z,26nm,1.3s						
INZ	**Inchbonnie**	**15.86**	**212**	Pn	**P**	**19 54 58.3**	**-1.8**
INZ				IAmb	IAmb	19 55 33.0	
	comp=Z,38nm,1.2s						
DZM	**Mont Dzumac**	**16.60**	**294**	*e*P	**P**	**19 55 12.2**	**+3.6**
	comp=Z,35nm,1.4s						
DZM				*e*LR	LR	19 58 36.7	
	comp=Z,341nm,23.2s						
DZM	**Mont Dzumac**	**16.60**	**294**	Pn	**P**	**19 55 07.1**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=127,slow=20,SNR=2.8						
DZM				LR	LR	20 00 38.9	
	comp=Z,304nm,18.1s,baz=129,slow=34						
	comp=Z,4.4nm,1.0s						
RPZ	**Rata Peaks**	**16.81**	**211**		**Pn**	**19 55 06.9**	**-1.9**
RPZ				IAmb	IAmb	19 55 17.6	
	comp=Z,22nm,1.1s						
RPZ	**Rata Peaks**	**16.81**	**211**	Pn	**P**	**19 55 10.1**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=249,slow=4.4,SNR=5.6						
	comp=Z,4.8nm,0.6s						
ODZ	**Otahua Downs**	**18.05**	**209**		**P**	**19 55 25.2**	**+0.9**
ODZ				IAmb	IAmb	19 55 27.8	
	comp=Z,16nm,1.0s						
WHZ	**Wether Hill Ro**	**19.90**	**212**	P	**Pn**	**19 55 44.9**	**-1.5**
WHZ				IAmb	IAmb	19 56 21.8	
	comp=Z,13nm,1.1s						
EIDS	**Eidsvold**	**28.44**	**271**	P	**P**	**19 57 08.5**	**+0.6**
EIDS				IAmb	IAmb	19 57 13.8	
	comp=Z,7.1nm,1.0s						
CTA	**Charters Tower**	**34.42**	**278**	LR	LR	20 10 24.2	
	comp=Z,132nm,19.6s,baz=102,slow=33						
CTAO	**Charters Tower**	**34.42**	**278**	P	**P**	**19 58 02.2**	**+1.7**
STKA	**Stephens Creek**	**35.34**	**256**	P	**P**	**19 58 11.0**	**+2.6**
STKA	**Stephens Creek**	**35.34**	**256**	P	**P**	**19 58 10.0**	**+1.7**
	comp=Z,6.2nm,0.8s,baz=94,slow=12,SNR=14						
	comp=Z,6.2nm,0.8s						
PMG	**Port Moresby**	**38.99**	**294**	LR	LR	20 11 51.5	
	comp=Z,53nm,20.0s,baz=168,slow=32						
BBOO	**Buckleboo**	**39.85**	**253**	P	**P**	**19 58 47.5**	**+0.9**
BBOO				IAmb	IAmb	19 59 27.1	
	comp=Z,20nm,1.5s						
AS31	**Alice Springs**	**43.87**	**266**	P	**P**	**19 59 20.2**	**+0.6**
ASAR	**Alice Springs**	**43.87**	**266**	P	**P**	**19 59 18.6**	**-1.0**
ASAR	**Alice Springs**	**43.87**	**266**	P	**P**	**19 59 19.1**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=98,slow=7.1,SNR=16						
	comp=Z,2.2nm,0.7s						
WB2	**Warramunga Arr**	**44.79**	**271**	P	**P**	**19 59 27.1**	**+0.1**
WB2				IAmb	IAmb	19 59 42.6	
	comp=Z,9.0nm,0.9s						
WRAB	**Tennant Creek**	**44.80**	**271**	P	**P**	**19 59 27.4**	**+0.4**
WRAB				IAmb	IAmb	19 59 42.5	
	comp=Z,14nm,1.2s						
WRA	**Warramunga Arr**	**44.80**	**271**	P	**P**	**19 59 26.8**	**-0.2**
WRA	**Warramunga Arr**	**44.80**	**271**	P	**P**	**19 59 26.6**	**-0.4**
	comp=Z,6.0nm,0.8s,baz=111,slow=7.2,SNR=21						
	comp=Z,6.0nm,0.8s						
WB0	**Warramunga Arr**	**44.82**	**271**	P	**P**	**19 59 27.1**	**-0.1**
WB0				IAmb	IAmb	19 59 28.3	
	comp=Z,6.1nm,0.8s						
KNRA	**Kununurra**	**51.38**	**273**	P	**P**	**20 00 17.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**53.09**	**269**	P	**P**	**20 00 30.1**	**-0.5**
CASY	**Casey**	**56.05**	**208**	P	**P**	**20 00 52.9**	**+1.5**
QSPA	**South Pole Qui**	**60.36**	**180**	P	**P**	**20 01 24.6**	**+2.9**
QSPA				IAmb	IAmb	20 02 06.1	
	comp=Z,4.5nm,0.9s						
QSPA	**South Pole Qui**	**60.36**	**180**	P	**P**	**20 01 24.9**	**+3.3**
	comp=Z,3.3nm,1.0s,baz=41,slow=2.0,SNR=12						
	comp=Z,3.3nm,1.0s						
PMSA	**Palmer Station**	**72.56**	**156**	LR	LR	20 29 44.6	
	comp=Z,193nm,18.4s,baz=104,slow=32						
ASAJ	**Asahikawa**	**82.20**	**332**	LR	LR	20 34 23.1	
	comp=Z,46nm,22.0s,baz=147,slow=32						
TXAR	**Lajitas Array**	**91.43**	**57**	LR	LR	20 43 18.9	
	comp=Z,30nm,18.1s,baz=64,slow=34						
ILAR	**Eielson Array**	**97.13**	**13**	LR	LR	20 40 48.7	
	comp=Z,44nm,20.5s,baz=170,slow=31						
KURBB	**Kurchatov Arra**	**121.16**	**314**	PKP	**PKiKP**	**20 10 04.9**	**-0.3**
	comp=Z,1.3nm,0.2s,baz=105,slow=2.3,SNR=4.3						
BVAR	**Borovoye Array**	**126.44**	**316**	PKP	**PKiKP**	**20 10 15.4**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=66,slow=3.5,SNR=6.4						
FINES	**FINESS Array B**	**144.78**	**341**	PKP	**PKPdf**	**20 10 47.7**	**-1.1**
	comp=Z,3.0nm,0.7s,baz=29,slow=3.2,SNR=11						
KBZ	**Khabaz**	**145.34**	**305**	PKPbc	**PKiKP**	**20 10 51.1**	**-3.2**
	comp=Z,2.4nm,0.8s,baz=130,slow=3.3,SNR=5.2						
NB2	**NORSAR Subarra**	**148.21**	**352**	PKP	**PKiKP**	**20 10 58.2**	**-1.5**
	comp=Z,1.1nm,0.8s,baz=15,slow=3.0						
NOA	**NORSAR Array B**	**148.21**	**352**	PKPbc	**PKiKP**	**20 10 57.4**	**-2.4**
	comp=Z,1.8nm,0.8s,baz=14,slow=4.4,SNR=5.5						
HFS	**Hagfors**	**148.75**	**350**	PKPbc	**PKPbc**	**20 10 57.8**	**-1.6**
	comp=Z,4.2nm,1.0s,baz=157,slow=4.5,SNR=3.8						
AKASG	**Malin Array Be**	**151.21**	**324**	PKPbc	**PKiKP**	**20 11 06.1**	**0.0**
	com

comp=Z,53nm,1.1s
AMTX Amarillo 4.36 225 IAmb_Lg 20 29 23.3
comp=Z,53nm,0.8s
MGMO Mountain Grove 4.60 100 IAmb_Lg 20 29 32.3
comp=Z,29nm,0.8s
K30B Basset 4.79 345 IAmb_Lg 20 29 32.6
comp=Z,28nm,0.8s
P40A Paris 4.84 70 IAmb_Lg 20 29 41.0
comp=Z,25nm,0.8s
DKNS Dickens 5.00 210 IAmb_Lg 20 29 40.8
comp=Z,41nm,0.9s
APMT Aspermont 5.04 201 IAmb_Lg 20 29 52.7
comp=Z,21nm,0.9s
FCAR Ozark Folk Cen 5.14 113 IAmb_Lg 20 29 51.7
comp=Z,28nm,0.7s
T25A Trinidad 5.21 262 IAmb_Lg 20 29 49.4
comp=Z,28nm,0.8s
CCM Cathedral Cave 5.30 88 IAmb_Lg 20 29 51.2
comp=Z,25nm,0.8s
Z38A Mt. Pleasant 5.36 152 IAmb_Lg 20 29 54.8
comp=Z,41nm,0.7s
X40A Basin Creek Fa 5.46 129 IAmb_Lg 20 29 57.1
comp=Z,38nm,0.9s
SN07 Snyder 07 5.50 207 IAmb_Lg 20 30 06.0
comp=Z,32nm,0.9s
Q24A Divide 5.72 281 IAmb_Lg 20 30 10.5
comp=Z,31nm,0.7s
POST Post 5.75 211 IAmb_Lg 20 30 09.5
comp=Z,21nm,0.7s
LCAR Lake Charles 5.79 108 **Pn** **20 28 24.8 0.0**
WLAR White Oak Lake 5.87 136 Pn **Pn** **20 28 25.3 -0.6**
SDCO Great Sand Dun 5.98 269 Pn **Pn** **20 28 26.5 -1.2**
SDCO IAmb_Lg 20 30 07.5
comp=Z,16nm,0.9s
SLM Saint Louis 6.09 82 IAmb_Lg 20 30 30.5
comp=Z,19nm,0.8s
PBMO Poplar Bluff 6.12 100 IAmb_Lg 20 30 18.1
comp=Z,34nm,0.8s
ISCO Idaho Springs 6.22 289 IAmb_Lg 20 30 18.0
comp=Z,20nm,0.8s
Z41A Richland Creek 6.36 137 IAmb_Lg 20 30 26.8
comp=Z,29nm,0.9s
SUSD Miller 6.43 354 IAmb_Lg 20 30 33.0
comp=Z,20nm,0.7s
L40A Anamosa 6.53 50 IAmb_Lg 20 30 32.6
comp=Z,32nm,0.9s
CGM3 Cape Girardeau 6.62 94 IAmb_Lg 20 30 38.2
comp=Z,20nm,0.8s
PHWY Pilot Hill 6.63 302 IAmb_Lg 20 30 47.6
comp=Z,27nm,1.1s
SGCY Sterling City 6.65 204 IAmb_Lg 20 30 42.9
comp=Z,32nm,0.9s
P43A Skaggs, Pawnee 6.77 74 IAmb_Lg 20 30 42.1
comp=Z,32nm,0.9s
N23A Red Feather La 6.80 297 IAmb_Lg 20 30 41.0
comp=Z,30nm,0.8s
I37A Lemond, Waseca 6.88 29 IAmb_Lg 20 30 50.9
comp=Z,23nm,0.8s
SIUC Southern Illin 6.92 90 IAmb_Lg 20 30 47.8
comp=Z,28nm,0.9s
L42A Oliver, Polo 7.48 56 IAmb_Lg 20 30 58.9
comp=Z,23nm,0.8s
ANMO Albuquerque 7.52 248 IAmb_Lg 20 31 09.4
comp=Z,4.3nm,0.7s
ANMO Albuquerque 7.52 248 Pg **Pb** **20 29 13.6 +4.0**
comp=Z,0.6nm,0.3s,baz=153,slow=17,SNR=11
ANMO Lg Lg 20 30 52.3
comp=Z,1.0nm,0.3s,baz=64,slow=15,SNR=4.9
RSSD Black Hills 7.60 325 IAmb_Lg 20 31 13.5
comp=Z,12nm,0.7s
JFWS Jewell Farm 7.62 48 IAmb_Lg 20 31 07.5
comp=Z,20nm,0.7s
O44A Mansfield 7.67 71 IAmb_Lg 20 31 14.7
comp=Z,20nm,0.8s
JCT Junction City 7.71 192 IAmb_Lg 20 31 23.9
comp=Z,24nm,0.9s
OLIL Olney 7.77 82 IAmb_Lg 20 31 28.5
comp=Z,24nm,1.1s
MNHN Monahans 7.78 212 IAmb_Lg 20 31 13.2
comp=Z,17nm,0.9s
I40A Norwalk 8.05 41 IAmb_Lg 20 31 18.1
comp=Z,13nm,0.9s
HNDO Hondo 8.57 188 IAmb_Lg 20 31 37.0
comp=Z,13nm,0.8s
SAND Sanderson 8.79 204 IAmb_Lg 20 31 40.8
comp=Z,11nm,0.9s
DRIO Del Rio 8.89 195 IAmb_Lg 20 31 49.7
comp=Z,12nm,0.7s
VHRN Van Horn 9.29 221 IAmb_Lg 20 32 08.0
comp=Z,15nm,1.1s
Z47A Carrollton 9.39 118 IAmb_Lg 20 32 08.4
comp=Z,18nm,0.9s
MDND Maddock 9.86 354 IAmb_Lg 20 32 18.6
comp=Z,14nm,1.1s
TXAR Lajitas Array 9.91 210 Pn **Pn** **20 29 21.8 +0.3**
comp=Z,0.1nm,0.3s,baz=37,slow=10,SNR=2.5
TXAR Pg 20 30 01.7
comp=Z,0.2nm,0.3s,baz=35,slow=14,SNR=4.6
TXAR Sn **Sn** **20 31 10.4 -2.1**
comp=Z,0.2nm,0.3s,baz=34,slow=23,SNR=3.9
TXAR Lg Lg 20 32 08.0
comp=Z,0.3nm,0.3s,baz=22,slow=28,SNR=7.8
comp=Z,0.1nm,0.3s
PDAR Pinedale Array 10.02 302 Pn **Pn** **20 29 24.9 +1.8**
comp=Z,0.1nm,0.3s,baz=129,slow=15,SNR=2.8
PDAR Pg 20 29 58.2
comp=Z,0.1nm,0.3s,baz=134,slow=13,SNR=2.3
PDAR Lg Lg 20 32 08.0
comp=Z,0.2nm,0.3s,baz=118,slow=23,SNR=2.0
comp=Z,0.2nm,0.4s
TKL Tuckaleechee C 11.61 98 Lg Lg 20 33 02.7
comp=Z,0.7nm,0.3s,baz=189,slow=24,SNR=6.4
ULM Lac du Bonnet 12.28 6 Pn **Pn** **20 29 51.4 -2.4**
comp=Z,0.7nm,0.5s,baz=133,slow=8.3,SNR=1.7
ULM Sn **Sn** **20 32 04.0 -6.4**
comp=Z,0.2nm,0.3s,baz=162,slow=15,SNR=2.5
ULM Lg Lg 20 33 15.8
comp=Z,0.1nm,0.3s,baz=305,slow=17,SNR=1.4

*IDC **01** 20:29:34.0±1.2, 6.30S×143.62E, h0km, mb4.0/3, mbtmp4.0/5, ML1.7/1, MS4.1/3, Error ellipse: s-maj=41.1km s-min=26.3km az=65.0*

ISC 01 20:29:39.1±1.1, 6.5S±0.1×143.4E±0.1, h35km, n9, σ2.8s05/7, mb4.0/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.69**	**128**	Pn		**Pn**	**Pn**	**20 30 47.4**	**0.0**
	2.5nm,0.3s,baz=328,slow=10.0,SNR=7.8								
PMG				Sn		**Sn**	**Sn**	**20 31 40.4**	**-0.1**
	0.8nm,0.3s,baz=72,slow=24,SNR=1.3								
	9.4nm,0.5s								
WRA	**Warramunga Arr**	**16.03**	**213**	Pn		**Pn**	**Pn**	**20 33 19.1**	**-2.9**
	0.3nm,0.3s,baz=24,slow=13,SNR=16								
WRA				Lg		Lg	Lg	20 38 05.5	
	0.1nm,0.3s,baz=34,slow=30,SNR=4.8								
HNR	**Honiara**	**16.61**	**101**	LR		LR	LR	20 40 05.3	
	comp=Z,966nm,18.4s,baz=181,slow=38								
ASAR	**Alice Springs**	**19.38**	**207**	P		**P**	**P**	**20 34 04.7**	**+2.6**
	11nm,0.9s,baz=35,slow=10,SNR=78								
ASAR				Lg		Lg	Lg	20 39 52.9	
	0.1nm,0.3s,baz=15,slow=29,SNR=2.6								
JHJ	**Hachijo jima 2**	**39.55**	**355**	LR		LR	LR	20 51 07.5	
	comp=Z,481nm,20.3s,baz=75,slow=33								
MKAR	**Makanchi Array**	**75.65**	**322**	P		**P**	**P**	**20 41 21.4**	**+0.6**
	1.1nm,0.9s,baz=103,slow=6.5,SNR=6.8								
	1.1nm,0.9s								
ZALV	**Zalesovo Beam**	**77.57**	**329**	LR		LR	LR	21 16 22.6	
	comp=Z,29nm,19.7s,baz=344,slow=36								
QSPA	**South Pole Qui**	**83.48**	**180**	P		**P**	**P**	**20 42 03.7**	**+0.6**
	1.1nm,0.8s,baz=16,slow=14,SNR=2.8								
	1.1nm,0.8s								
ILAR	**Eielson Array**	**87.34**	**24**	P		**P**	**P**	**20 42 21.1**	**-1.0**
	1.0nm,1.0s,baz=249,slow=4.7,SNR=4.3								
	1.0nm,1.0s								

IDC 01 20:31:34.9±2.4, 49.91N×114.48W, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=44.8km s-min=11.6km az=124.0, British Columbia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEW	**Newport**	**2.39**	**228**	Pn		Pn	Pn	20 32 16.0	+0.7
	0.5nm,0.3s,baz=50,slow=16,SNR=17								
NEW				Lg		Lg	Lg	20 32 49.7	
	2.3nm,0.3s,baz=109,slow=22,SNR=12								
	2.2nm,0.2s								
I56US	**NEWPORT INFRAS**	**2.39**	**228**	I		I		20 50 20.3	
	0.1nm,1.1s,baz=40,slow=319,SNR=4.8								
I10CA	**LAC DU BONNET**	**11.87**	**82**	I		I		21 45 20.0	
	baz=275,slow=324,SNR=2.9								
YKA	**Yellowknife Ar**	**12.62**	**360**	Pn		Pn	Pn	20 34 32.4	-3.0
	baz=188,slow=13,SNR=3.1								
	0.1nm,0.3s								

*IDC **01** 20:39:48.0±1.2, 6.07S×142.74E, h0km, mb3.7/4, mbtmp3.8/6, ML2.0/1, MS3.0/3, Error ellipse: s-maj=44.0km s-min=30.1km az=70.0*

ISC 01 20:39:52.0±0.9, 6.2S±0.1×142.69E±0.08, h28km, n15, σ1.38/15, mb3.8/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**1.74**	**303**	P		**P**	**Pn**	**20 40 20.7**	**+0.3**
PMG	**Port Moresby**	**5.44**	**126**	P		**P**	**Pn**	**20 41 12.5**	**+1.2**
PMG	**Port Moresby**	**5.44**	**126**	Pn		**P**	**Pn**	**20 41 11.6**	**+0.4**
	3.2nm,0.3s,baz=315,slow=7.1,SNR=6.1								
PMG				Sn		**Sn**	**Sn**	**20 42 11.3**	**-1.7**
	1.1nm,0.3s,baz=312,slow=13,SNR=1.7								
PMG				LR		LR	LR	20 43 15.5	
	comp=Z,62nm,18.2s,baz=248,slow=38								
	5.6nm,0.3s								
KDU	**Kakadu**	**11.96**	**237**	P		**P**	**Pn**	**20 42 38.8**	**-1.9**
CTA	**Charters Tower**	**14.22**	**166**	Lg		Lg		20 47 17.5	
	0.2nm,0.3s,baz=116,slow=22,SNR=1.8								
CTA				LR		LR		20 49 17.3	
	comp=Z,52nm,18.0s,baz=256,slow=40								
WRA	**Warramunga Arr**	**15.88**	**210**	Pn		**P**	**Pn**	**20 43 31.0**	**-2.7**
	0.3nm,0.3s,baz=29,slow=13,SNR=2.7								
WRA				Sn		Sn		20 46 19.4	-10
	0.1nm,0.3s,baz=27,slow=22,SNR=3.5								
WRA				Lg		Lg		20 48 13.5	
	0.2nm,0.3s,baz=27,slow=30,SNR=5.5								
KNRA	**Kununurra**	**16.59**	**234**	P		**P**	**Pn**	**20 43 42.8**	**+0.1**
	12nm,1.2s								
AS01	**Alice Springs**	**19.28**	**205**	P		**P**	**Pn**	**20 44 16.8**	**+0.9**
ASAR	**Alice Springs**	**19.30**	**205**	P		**P**	**P**	**20 44 16.1**	**+1.2**
	6.2nm,1.0s,baz=31,slow=11,SNR=14								
ASAR				S		S		20 47 40.4	-12
	1.2nm,0.8s,baz=18,slow=28,SNR=2.8								
ASAR				Lg		Lg		20 50 05.2	
	0.1nm,0.3s,baz=22,slow=28,SNR=5.1								
ASAR				LR		LR		20 52 28.1	
	comp=Z,132nm,21.4s,baz=1.0,slow=39								
OOD	**Oodnadatta**	**22.47**	**196**	P		**P**		**20 44 51.0**	**+1.9**
WRKA	**Warakurna**	**23.25**	**215**	P		**P**		**20 44 57.1**	**-0.2**
MKAR	**Makanchi Array**	**74.98**	**322**	P		**P**		**20 51 31.4**	**+0.6**
	0.8nm,1.0s,baz=127,slow=4.3,SNR=4.5								
	0.8nm,1.0s								
KURBB	**Kurchatov Arra**	**78.87**	**324**	P		**P**		**20 51 53.1**	**+0.6**
	0.1nm,0.4s,baz=110,slow=5.0,SNR=1.6								
	0.1nm,0.4s								
BVAR	**Borovoye Array**	**84.44**	**325**	P		**P**		**20 52 21.4**	**-0.6**
	0.9nm,0.7s,baz=98,slow=4.5,SNR=4.5								
	0.9nm,0.7s								
ILAR	**Eielson Array**	**87.39**	**24**	P		**P**		**20 52 35.5**	**-0.8**
	0.5nm,0.8s,baz=256,slow=4.1,SNR=5.2								
	0.5nm,0.8s								

IDC 01 20:46:55.1±1.6, 6.35S×143.45E, h0km, mb3.9/2, mbtmp3.9/5, ML3.7/2, Error ellipse: s-maj=48.1km s-min=29.8km az=76.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.77**	**130**	Pn		Pn	Pn	20 48 07.9	-0.4
	6.5nm,0.5s,baz=311,slow=8.7,SNR=3.8								
PMG				Sn		Sn		20 48 57.4	-6.9
	baz=300,slow=14								
WRA	**Warramunga Arr**	**16.16**	**212**	Pn		Pn	Pn	20 50 41.6	-2.2
	0.3nm,0.3s,baz=32,slow=13,SNR=9.0								
WRA				Lg		Lg		20 55 16.2	
	0.1nm,0.3s,baz=26,slow=23,SNR=1.8								
	1.3nm,0.7s								
ASAR	**Alice Springs**	**19.52**	**207**	P		Pn		20 51 25.3	-0.1
	0.2nm,0.3s,baz=36,slow=9.4,SNR=8.1								
	5.6nm,0.9s								
MKAR	**Makanchi Array**	**75.55**	**322**	P		P		20 58 41.8	+0.1
	1.1nm,1.0s,baz=107,slow=6.0,SNR=6.7								
	1.1nm,1.0s								
BVAR	**Borovoye Array**	**84.99**	**325**	P		P		20 59 32.3	-0.1
	0.8nm,0.7s,baz=114,slow=6.5,SNR=3.6								
	0.8nm,0.7s								

TAP 01 21:00:21.6, 24.15N×121.73E, h13km, ML1.6, 1D, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.10**	**273**	*i*	P		Pg	21 00 25.2	+0.6
	baz=273								
ETL				*i*	S		Sg	21 00 27.9	+1.1
	baz=273								
NACB	**Ninganchiao**	**0.13**	**279**	*i*	P		Pb	21 00 25.5	-0.3
	baz=279								
NACB				*i*	S		Sb	21 00 28.3	-0.3
	baz=279								
TWD	**Chiawan**	**0.14**	**240**	*i*	P		Pb	21 00 25.7	-0.4
	baz=238								
TWD				*i*	S		Sb	21 00 28.7	-0.4
	baz=238								
EAHA	**Aohua**	**0.18**	**2**	P			Pb	21 00 26.4	-0.3
	baz=2.0								
EAHA				S			Sb	21 00 29.9	-0.2
	baz=2.0								
ETLH	**Xiulin Townshi**	**0.23**	**283**	P			Pb	21 00 27.4	-0.3
	baz=283								
ETLH				S			Sb	21 00 31.6	-0.2
	baz=283								
ENA	**Nanau**	**0.27**	**2**	P			Pb	21 00 27.9	-0.4
	baz=3.0								
ENA				S			Sb	21 00 32.5	-0.4
	baz=3.0								
ETM	**Tongmen**	**0.29**	**230**	*i*	P		Pg	21 00 28.0	+0.5
	baz=229								
ETM					S		Sb	21 00 32.6	-0.6
	baz=229								
EWUT	**Wuta**	**0.29**	**8**	P			Pb	21 00 28.4	-0.2
	baz=8.0								
EWUT				S			Sb	21 00 33.4	-0.1
	baz=8.0								
LXIB	**Xiulin Townshi**	**0.32**	**246**	*i*	P		Pg	21 00 28.6	+0.4
	baz=245								
LXIB				*i*	S		Sb	21 00 34.1	-0.2
	baz=245								
SHUL	**Shoufeng**	**0.40**	**203**	P			Pb	21 00 30.3	-0.1
	baz=203								
SHUL				*e*	S		Sb	21 00 37.6	+1.3
	baz=203								
NNSB	**Datong**	**0.42**	**311**	*i*	P		Pb	21 00 30.8	-0.1
	baz=310								
NNSB				*i*	S		Sb	21 00 37.4	+0.1
	baz=310								
LATG	**Datong**	**0.42**	**334**	*i*	P		Pb	21 00 30.9	-0.1
	baz=333								
LATG				*i*	S		Sb	21 00 37.3	0.0
	baz=333								
WHF	**Hehuan Shan**	**0.43**	**269**	*i*	P		Pb	21 00 31.0	-0.2
	baz=268								
WHF				S			Sb	21 00 37.3	-0.3
	baz=268								
ESL	**Shilin**	**0.43**	**219**	P			Pg	21 00 30.5	+0.3
	baz=218								
ESL				S			Sb	21 00 38.5	+1.0
	baz=218								
NNS	**Nan Shan**	**0.43**	**311**	P			Pb	21 00 31.0	-0.1
	baz=311								
NNS				S			Sb	21 00 37.7	+0.1
	baz=311								
FUSS	**Fushou**	**0.46**	**282**	P			Pb	21 00 31.6	0.0
	baz=281								
FUSS				S			Sb	21 00 38.8	+0.4
	baz=281								
NDT	**Datong Townshi**	**0.49**	**336**	P			Pb	21 00 32.3	+0.3
	baz=335								
NDT				S			Sb	21 00 40.0	+0.8
	baz=335								
ENTT	**Nioudou**	**0.51**	**343**	P			Pb	21 00 32.5	+0.2
	baz=343								
ENTT				S			Sb	21 00 40.0	+0.4
	baz=343								
CHGB	**Renai**	**0.52**	**260**	P			Pb	21 00 32.6	0.0
	baz=259								
CHGB				S			Sb	21 00 40.5	+0.3
	baz=259								
TWT	**Tachien**	**0.52**	**281**	*e*	S		Sb	21 00 41.2	+1.1
	baz=280								
WARBT	**Fenglin Townsh**	**0.54**	**216**	P			Pg	21 00 32.3	+0.1
	baz=216								
WARBT				S			Sb	21 00 41.1	+0.7
	baz=216								
WUSB	**Renai**	**0.58**	**254**	P			Pb	21 00 33.9	+0.2
	baz=254								
WUSB				S			Sb	21 00 42.3	+0.3
	baz=254								
YHNB	**Yeheng**	**0.61**	**328**	P			Pg	21 00 33.8	+0.2
	baz=327								
YHNB				S			Sb	21 00 43.1	+0.5
	baz=327								
FUSB	**Fushanzhiwuyua**	**0.62**	**348**	P			Pb	21 00 34.8	+0.6
	baz=347								
FUSB				*i*	S		Sb	21 00 43.6	+0.7
	baz=347								
NSK	**Sanguang**	**0.62**	**327**	P			Pb	21 00 34.8	+0.5
	baz=327								
NSK				S			Sb	21 00 43.2	+0.2
	baz=327								
VWDT	**VWDT**	**0.67**	**234**	*e*	P		Pb	21 00 35.5	+0.4
	baz=233								
VWDT				S			Sb	21 00 45.2	+1.0
	baz=233								

JMA 01 21:00:28.1±0.1, 24.3N±0.3×123.8E±0.3, h12km±1km, MV1.5/10, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.12**	**316**	P			Pg	21 00 31.2	0.0
IRIF				*e*	S		Sg	21 00 34.1	+0.6
JKRS	**Kuro-shima**	**0.17**	**93**	*i*	P		Pg	21 00 32.1	+0.2
JKRS				*e*	S		Sg	21 00 34.9	+0.3
HATJ	**Hateruma jima**	**0.19**	**185**	P			Pg	21 00 32.1	-0.1
HATJ				*e*	S		Sg	21 00 35.6	+0.4
JIJ	**Ishigaki jima**	**0.31**	**68**	P			Pg	21 00 34.2	-0.2
JIJ				*e*	S		Sg	21 00 38.9	+0.1
JISG	**Ishigakijimahi**	**0.56**	**53**	P			Pg	21 00 39.2	+0.2
JISG				*e*	S		Sg	21 00 47.0	+0.6
YOJ	**Yonaguni jima**	**0.77**	**286**	*e*	P		Pg	21 00 42.9	-0.1
JYNG	**Yonagunijimaku**	**0.83**	**284**	*e*	P		Pg	21 00 44.0	0.0
JYNG				*e*	S		Sb	21 00 55.6	+0.2
JTJ	**Tarama**	**0.89**	**64**	*e*	P		Pg	21 00 45.1	-0.2

*ASIES **01** 21:07:12.2, 24.84N×122.49E, h22km, ML3.6, Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10^21Nm; Mrr-0.05; Mθθ0.13; Mφφ-0.08; Mrθ0.20; Mθφ1.17; Mφr-0.51; Fault plane solution: M0 1.29877×10^21 NP1:φ3.86000°, δ81.91000°, λ-157.53000°. NP2:φ270.53000°, δ67.77000°, λ-8.75000°. Principal axes: T Plg9.6680°, Azm135.3810°; N Plg66.1910°, Azm22.6680°; P Plg21.5360°, Azm229.2360°;*

*JMA **01** 21:07:12.9±0.2, 24.8N±0.8×122.5E±0.4, h10km±4km, MV3.0/7, NW OFF ISHIGAKIJIMA IS*

*TAP **01** 21:07:12.2, 24.84N×122.49E, h22km, ML3.6, D*

ISC 01 21:07:12.2±1.1, 24.88N±0.04×122.52E±0.03, h20km±5km, n96, σ0.974/157, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.50**	**285**	*i*	P		**Pb**	**21 07 22.3**	**-0.1**
	baz=282								
TWB1				*i*	S		**Sg**	**21 07 28.6**	**-0.7**
	baz=282								
EOS2	**EOS2**	**0.53**	**210**	*i*	P		**Pb**	**21 07 21.9**	**-0.8**
	baz=213								
EOS2				*i*	S		**Sb**	**21 07 29.8**	**-0.1**
	baz=213								
EGS		**0.54**	**267**	*i*	P		**Pb**	**21 07 22.4**	**-0.5**
	baz=263								
EGS				*i*	S		**Sb**	**21 07 30.3**	**+0.1**
	baz=263								
JYNG	**Yonagunijimaku**	**0.57**	**138**	*i*	P		**Pg**	**21 07 23.6**	**-0.2**
JYNG					S		**Sb**	**21 07 30.7**	**-0.6**
YOJ	**Yonaguni jima**	**0.61**	**133**	P			**Pg**	**21 07 24.4**	**0.0**
YOJ	**Yonaguni jima**	**0.61**	**133**	P			**Pg**	**21 07 24.4**	**0.0**
	baz=121								
YOJ					S		**Sg**	**21 07 32.4**	**-0.2**
	baz=121								
YOJ	**Yonaguni jima**	**0.61**	**133**	P			**Pg**	**21 07 24.3**	**-0.1**
YOJ					S		**Sb**	**21 07 32.2**	**-0.1**
EOS3	**EOS3**	**0.62**	**198**	*i*	P		**Pb**	**21 07 23.7**	**-0.5**
	baz=202								
EOS3				*i*	S		**Sb**	**21 07 33.0**	**+0.6**
	baz=202								
SXI1	**Grass Mountain**	**0.62**	**290**	P			**Pn**	**21 07 25.2**	**-0.9**
	baz=294								
SXI1					S		**Sg**	**21 07 33.9**	**+0.7**
	baz=294								
TIPB	**Shuangxi**	**0.64**	**279**	P			**Pg**	**21 07 24.7**	**-0.2**
	baz=282								
TIPB					S		**Sb**	**21 07 33.3**	**+0.1**
	baz=282								
TWC	**Suao**	**0.67**	**247**	P			**Pb**	**21 07 24.3**	**-0.9**
	baz=248								
TWC					S		**Sb**	**21 07 33.7**	**-0.3**
	baz=248								
ESAO	**Su ao**	**0.69**	**244**	P			**Pb**	**21 07 25.0**	**-0.5**
	baz=246								
ESAO					S		**Sb**	**21 07 34.4**	**-0.1**
	baz=246								
NWF	**Wu-fen Shan**	**0.70**	**286**	P			**Pg**	**21 07 26.2**	**+0.1**
	baz=289								
NWF					S		**Sg**	**21 07 35.8**	**+0.3**
	baz=289								
WFSB	**Wu-fen Shan**	**0.70**	**286**	P			**Pn**	**21 07 26.3**	**-0.7**
	baz=289								
WFSB					S		**Sg**	**21 07 35.8**	**+0.3**
	baz=289								
ILA	**Ilan**	**0.71**	**261**	*e*	P		**Pb**	**21 07 26.1**	**+0.1**
	baz=264								
ILA					S		**Sb**	**21 07 35.6**	**+0.3**
	baz=264								
TNOU	**National Taiwa**	**0.73**	**292**	P			**Pg**	**21 07 26.6**	**-0.1**
	baz=295								
TNOU					S		**Sg**	**21 07 36.1**	**-0.3**
	baz=295								
NDS	**Dongshan**	**0.77**	**252**	P			**Pb**	**21 07 26.0**	**-1.0**
	baz=254								
NDS					S		**Sb**	**21 07 36.5**	**-0.6**
	baz=254								
EOS4	**EOS4**	**0.78**	**194**	*i*	P		**Pb**	**21 07 26.5**	**-0.4**
	baz=182								
EOS4					S		**Sb**	**21 07 36.6**	**-0.2**
	baz=182								
TWE	**Neicheng**	**0.79**	**259**	*i*	P		**Pb**	**21 07 26.5**	**-0.8**
	baz=261								
TWE				*i*	S		**Sb**	**21 07 36.7**	**-1.0**
	baz=261								
EWUT	**Wuta**	**0.80**	**238**	P			**Pb**	**21 07 26.8**	**-0.7**
	baz=250								
EWUT					S		**Sb**	**21 07 37.0**	**-0.9**
	baz=250								
ENA	**Nanau**	**0.84**	**238**	*i*	P		**Pb**	**21 07 27.1**	**-1.1**
	baz=250								
ENA				*e*	S		**Sb**	**21 07 37.1**	**-1.9**
	baz=250								
NWRT	**Kuosheng**	**0.85**	**293**	*e*	P		**Pg**	**21 07 28.5**	**-0.3**
	baz=295								
NWRT					S		**Sg**	**21 07 39.6**	**-0.5**
	baz=295								
PCYT	**Pengchaiyu**	**0.85**	**332**	*e*	P		**Pn**	**21 07 28.9**	**-0.2**
	baz=334								
FUSB	**Fushanzhiwuyua**	**0.86**	**262**	P			**Pb**	**21 07 28.0**	**-0.5**
	baz=276								
FUSB				*e*	S		**Sb**	**21 07 39.0**	**-0.6**
	baz=276								
NHY	**Taipei**	**0.88**	**281**	P			**Pn**	**21 07 29.6**	**+0.1**
	baz=283								
NHY					S		**Sg**	**21 07 40.8**	**-0.3**
	baz=283								
EAHA	**Aohua**	**0.90**	**233**	P			**Pb**	**21 07 28.3**	**-0.8**
	baz=245								
EAHA					S		**Sb**	**21 07 39.4**	**-1.3**
	baz=245								
ENTT	**Nioudou**	**0.90**	**255**	P			**Pb**	**21 07 28.9**	**-0.3**
	baz=257								

ENTT				S		Sb	21 07 40.3 -0.5
	baz=257						
YM08	**YM08**	**0.90**	**290**	P		Pb	21 07 29.1 -0.1
	baz=293						
YM08				*e*S		Sb	21 07 41.0 +0.2
	baz=293						
YM01	**YM01**	**0.90**	**287**	P		Pg	21 07 29.5 -0.4
	baz=290						
YM01				S		Sg	21 07 41.2 -0.7
	baz=290						
NHDH	**Xindian Distri**	**0.91**	**276**	P		Pn	21 07 29.6 -0.3
	baz=278						
NHDH				S		Sb	21 07 40.8 -0.2
	baz=278						
TWY	**Chenhua**	**0.93**	**296**	*e*P		Pg	21 07 29.9 -0.4
	baz=298						
TWY				S		Sg	21 07 42.3 -0.3
	baz=298						
NWLT	**Wulai**	**0.93**	**264**	P		Pb	21 07 29.8 +0.1
	baz=266						
NWLT				S		Sb	21 07 41.0 -0.7
	baz=266						
TAP	**Taipei**	**0.94**	**280**	*e*P		Pg	21 07 31.1 +0.6
	baz=282						
TAP				S		Sb	21 07 42.1 +0.3
	baz=282						
TATO	**Taipei**	**0.94**	**276**	P		Pg	21 07 31.0 +0.4
TATO	**Taipei**	**0.94**	**276**	P		Pn	21 07 30.0 -0.4
	baz=278						
TATO				S		Sb	21 07 41.5 -0.5
	baz=278						
NDT	**Datong Townshi**	**0.96**	**254**	P		Pb	21 07 30.0 -0.2
	baz=255						
NDT				S		Sb	21 07 41.9 -0.5
	baz=255						
ANP	**Anpu**	**0.96**	**289**	*e*P		Pn	21 07 30.4 -0.3
	baz=291						
LATG	**Datong**	**0.97**	**250**	P		Pb	21 07 29.8 -0.6
	baz=251						
LATG				S		Sb	21 07 42.4 -0.4
	baz=251						
NTST	**Danshui**	**1.01**	**287**	*e*P		Pg	21 07 31.4 -0.6
	baz=289						
NTST				S		Sg	21 07 45.2 -0.2
	baz=289						
TWS1	**Kuangyinshan**	**1.03**	**283**	*e*P		Pg	21 07 32.2 0.0
	baz=285						
TWS1				S		Sb	21 07 44.8 +0.4
	baz=285						
YHNB	**Yeheng**	**1.06**	**259**	P		Pb	21 07 31.9 -0.1
YHNB	**Yeheng**	**1.06**	**259**	P		Pb	21 07 31.7 -0.3
	baz=261						
YHNB				S		Sb	21 07 44.7 -0.8
	baz=261						
NSK	**Sanguang**	**1.08**	**259**	P		Pn	21 07 31.6 -0.7
	baz=261						
NSK				*e*S		Sb	21 07 44.4 -1.5
	baz=261						
ETL	**Fush Village**	**1.09**	**229**	P		Pn	21 07 31.2 -1.2
	baz=238						
ETL				*e*S		Sb	21 07 45.2 -1.0
	baz=238						
NACB	**Ninganchiao**	**1.10**	**230**	P		Pn	21 07 31.6 -0.9
NACB	**Ninganchiao**	**1.10**	**230**	P		Pn	21 07 31.3 -1.2
	baz=240						
NACB				S		Sb	21 07 45.4 -1.0
	baz=240						
NNSB	**Datong**	**1.13**	**247**	P		Pn	21 07 32.4 -0.6
	baz=248						
NNSB				S		Sb	21 07 46.6 -0.9
	baz=248						
NNSH	**Datong**	**1.13**	**247**	P		Pn	21 07 32.8 -0.3
	baz=240						
NNSH				S		Sb	21 07 46.7 -0.8
	baz=240						
NNS	**Nan Shan**	**1.13**	**248**	P		Pn	21 07 32.6 -0.5
	baz=241						
NNS				S		Sb	21 07 46.3 -1.3
	baz=241						
ETLH	**Xiulin Townshi**	**1.16**	**235**	P		Pn	21 07 32.8 -0.6
	baz=244						
ETLH				*e*S		Sb	21 07 47.2 -1.1
	baz=244						
TWD	**Chiawan**	**1.16**	**227**	P		Pn	21 07 32.9 -0.5
	baz=234						
TWD				S		Sb	21 07 48.1 0.0
	baz=234						
IRIF	**Iriomote-Funau**	**1.23**	**116**	P		Pg	21 07 36.4 +0.4
IRIF				S		Sg	21 07 51.4 -0.6
NFF	**Wufeng Townshi**	**1.30**	**259**	P		Pn	21 07 35.4 0.0
	baz=261						
NFF				S		Sn	21 07 52.2 0.0
	baz=261						
ETM	**Tongmen**	**1.30**	**226**	P		Pn	21 07 35.3 -0.1
	baz=212						
ETM				*e*S		Sb	21 07 53.2 +0.7
	baz=212						
FUSS	**Fushou**	**1.32**	**242**	P		Pb	21 07 36.4 -0.2
	baz=243						
FUSS				*e*S		Sn	21 07 52.7 -0.3
	baz=243						
LXIB	**Xiulin Townshi**	**1.32**	**230**	P		Pn	21 07 35.4 -0.3
	baz=232						
LXIB				*e*S		Sn	21 07 53.5 +0.6
	baz=232						
WHF	**Hehuan Shan**	**1.36**	**238**	P		Pn	21 07 36.8 +0.3
	baz=247						
WHF				S		Sn	21 07 53.5 -0.6
	baz=247						
TWT	**Tachien**	**1.37**	**243**	P		Pn	21 07 37.0 +0.5
	baz=255						
TWT				*e*S		Sn	21 07 54.7 +0.5
	baz=255						
TDCB	**Techi**	**1.39**	**244**	P		Pb	21 07 37.5 -0.1
	baz=256						
TDCB				S		Sn	21 07 54.7 +0.2
	baz=256						
NSTT	**Nanjuang**	**1.40**	**260**	*e*P		Pb	21 07 37.3 -0.4
	baz=262						
NSTT				S		Sn	21 07 54.6 -0.1
	baz=262						
ESL	**Shilin**	**1.45**	**223**	*e*P		Pn	21 07 37.8 +0.4
	baz=224						
CHGB	**Renai**	**1.47**	**237**	*e*P		Pn	21 07 38.5 +0.6
	baz=238						
CHGB				*e*S		Sn	21 07 56.0 -0.7
	baz=238						
OWD	**Renai**	**1.53**	**233**	*e*P		Pn	21 07 39.4 +0.8
	baz=219						
WHP	**Taichung City**	**1.55**	**248**	*e*P		Pb	21 07 40.8 +0.4
	baz=259						
WHP				S		Sn	21 07 59.3 +0.8
	baz=259						
WUSB	**Renai**	**1.55**	**236**	*e*P		Pn	21 07 39.7 +0.8
	baz=221						
WUSB				*e*S		Sn	21 07 59.2 +0.6
	baz=221						
NMLH	**Miaoli**	**1.61**	**258**	*e*P		Pb	21 07 41.9 +0.6
	baz=272						
WPL	**Puli Township**	**1.67**	**239**	*e*P		Pb	21 07 42.5 +0.2
	baz=226						
WPL				*e*S		Sb	21 08 03.6 +0.7
	baz=226						
TWQ1	**Liyutan**	**1.68**	**252**	*e*P		Pb	21 07 42.6 +0.2
	baz=271						
TWQ1				*e*S		Sb	21 08 03.6 +0.4
	baz=271						
DPDB	**Guoxing**	**1.68**	**240**	*e*P		Pb	21 07 42.1 -0.4
	baz=228						
HGSD	**Ruisui**	**1.71**	**216**	*e*P		Pn	21 07 40.3 -0.5
	baz=203						
EHY	**Hungye**	**1.75**	**219**	*e*P		Pn	21 07 41.2 -0.3
	baz=219						
SSLB	**Suanglung**	**1.79**	**233**	P		Pb	21 07 43.6 -0.9
SSLB	**Suanglung**	**1.79**	**233**	*e*P		Pn	21 07 43.3 +1.1
	baz=219						
YULB	**Yu-li**	**1.85**	**217**	P		Pn	21 07 42.1 -0.8
YULB	**Yu-li**	**1.85**	**217**	*e*P		Pn	21 07 41.2 -1.7
	baz=218						
WWF	**Wufeng**	**1.86**	**244**	*e*P		Pb	21 07 44.8 -0.7
	baz=246						
EYUL	**Yuli**	**1.88**	**216**	*e*P		Pn	21 07 43.0 -0.3
	baz=204						
TWF1	**Yuli**	**1.89**	**217**	*e*P		Pn	21 07 42.8 -0.6
	baz=205						
WHYT	**Xinyi Township**	**1.92**	**233**	*e*P		Pn	21 07 45.3 +1.4
	baz=220						
WJS	**Zhushan**	**1.94**	**238**	*e*P		Pb	21 07 46.4 -0.6
	baz=224						
WJS				*e*S		Sb	21 08 12.2 +1.3
	baz=224						
WNT	**Mingjian**	**1.95**	**240**	*e*P		Pb	21 07 46.6 -0.5
	baz=241						
FULB	**Fuli**	**2.01**	**214**	*e*P		Pn	21 07 45.7 +0.6
	baz=199						
ALS	**Alishan**	**2.08**	**229**	*e*P		Pn	21 07 47.2 +1.0
	baz=215						
EHD	**Haiduan**	**2.10**	**215**	*e*P		Pn	21 07 46.1 -0.2
	baz=216						
ELDTW	**Lidau**	**2.17**	**220**	*e*P		Pn	21 07 47.4 0.0
	baz=206						
WTK	**Tuku**	**2.28**	**239**	*e*P		Pn	21 07 50.4 +1.7
	baz=240						
CHN4	**Tsaushan**	**2.33**	**230**	*e*P		Pn	21 07 51.4 +2.0
	baz=216						
STYH	**Taoyuan**	**2.33**	**224**	*e*P		Pn	21 07 50.5 +1.1
	baz=211						
TPUB	**Ta-pu**	**2.33**	**228**	P		Pn	21 07 51.3 +1.7
TPUB	**Ta-pu**	**2.33**	**228**	P		Pn	21 07 50.9 +1.4
	baz=216						
TPUB				*e*S		Sn	21 08 18.9 +1.1
	baz=216						
STYT	**Tauyuan**	**2.35**	**224**	*e*P		Pn	21 07 50.9 +1.1
	baz=211						
WTP	**Ta-pu**	**2.38**	**227**	*e*P		Pn	21 07 52.0 +1.7
	baz=214						
TWGBT	**Beinan**	**2.44**	**213**	P		Pn	21 07 51.1 +0.1
TWK	**Hsinying**	**2.46**	**230**	*e*P		Pn	21 07 53.1 +1.9
	baz=216						
SLGT	**Liugui**	**2.54**	**223**	*e*P		Pn	21 07 54.0 +1.6
	baz=224						
MASBT	**Mashibuluo**	**2.84**	**218**	*e*P		Pn	21 07 58.1 +1.6
	baz=219						

*IDC **01** 21:10:36.9±1.2,6°.99S×143°.52E,h0km,mb3.6/4, mbtmp3.8/7,ML3.9/1,MS3.3/3,Error ellipse: s-maj=30.7km s-min=20.0km az=82.0*

ISC 01 21:10:42.0±1.0,7°.14S±0°.10×143°.40E±0°.08,h35km,n17, σ1ᵖ76/18,mb3.6/4,Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.35**	**121**	P	**Pn**	**21 11 44.5**	**-1.1**
PMG	**Port Moresby**	**4.35**	**121**	P	**Pn**	**21 11 44.6**	**-1.1**
PMG	**Port Moresby**	**4.35**	**121**	Pn	**Pn**	**21 11 44.2**	**-1.5**
	8.6nm,0.4s,baz=317,slow=13,SNR=6.5						
PMG				Sn	**Sn**	**21 12 35.4**	**+0.3**
	3.8nm,0.3s,baz=282,slow=19,SNR=3.4						
KDU	**Kakadu**	**12.09**	**242**	P	**Pn**	**21 13 29.5**	**-2.4**
CTA	**Charters Tower**	**13.17**	**168**	LR	LR	21 19 21.6	
	comp=Z,82nm,19.3s,baz=274,slow=40						
QIS	**Mount Isa**	**13.84**	**195**	P	**P**	**21 14 04.9**	**+1.3**
WRA	**Warramunga Arr**	**15.47**	**214**	Pn	**Pn**	**21 14 17.4**	**-0.3**
	0.5nm,0.3s,baz=29,slow=13,SNR=24						
WRA				Sn	**Sn**	**21 17 07.2**	**-0.9**
	0.2nm,0.3s,baz=34,slow=20,SNR=2.1						
WRA				Lg	Lg	21 18 54.2	
	0.1nm,0.3s,baz=31,slow=24,SNR=1.5						
	2.0nm,0.7s						
KNRA	**Kununurra**	**16.66**	**238**	P	**Pn**	**21 14 30.5**	**-2.4**
AS01	**Alice Springs**	**18.77**	**208**	P	**Pn**	**21 15 01.8**	**+2.8**
ASAR	**Alice Springs**	**18.79**	**208**	P	**Pn**	**21 15 01.7**	**+2.5**
	18nm,0.7s,baz=36,slow=9.6,SNR=200						
ASAR				S	**S**	**21 18 31.1**	**+0.5**
	0.4nm,0.7s,baz=19,slow=27,SNR=2.2						
ASAR				Lg	Lg	21 20 42.9	
	baz=19,slow=29,SNR=2.2						
OOD	**Oodnadatta**	**21.80**	**199**	P	**P**	**21 15 34.4**	**+3.3**
WRKA	**Warakurna**	**22.92**	**217**	P	**P**	**21 15 43.1**	**0.0**
STKA	**Stephens Creek**	**24.67**	**184**	P	**P**	**21 15 59.5**	**-0.1**
	0.8nm,0.4s,baz=339,slow=11,SNR=3.3						
STKA				LR	LR	21 27 13.3	
	comp=Z,68nm,18.7s,baz=149,slow=40						
	0.8nm,0.4s						
JCJ	**Chichijima**	**34.05**	**358**	LR	LR	21 28 47.8	
	comp=Z,67nm,20.2s,baz=134,slow=32						
SONM	**Songino Array**	**63.72**	**333**	P	**P**	**21 21 11.8**	**+1.5**
	0.2nm,0.5s,baz=131,slow=4.4,SNR=1.9						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**76.13**	**322**	P	**P**	**21 22 25.7**	**-0.7**
	0.4nm,0.6s,baz=102,slow=6.2,SNR=7.5						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**80.02**	**324**	P	**P**	**21 22 47.9**	**+0.1**
	0.2nm,0.5s,baz=106,slow=6.8,SNR=1.6						
	0.2nm,0.5s						

*IDC **01** 21:27:28.8±5.7,36°.54N×71°.14E,h193km±46km,mb3.2/6, mbtmp3.6/11,MS3.9/2,Error ellipse: s-maj=48.4km s-min=26.9km az=179.0*
*NNC **01** 21:27:36.5±7.9,37°.25N×71°.30E,h0km,mb3.3,mpv2.9, Error ellipse: s-maj=61.7km s-min=50.5km az=169.0*

ISC 01 21:27:30.4±1.5,36.7N±0°.1×71.1E±0°.1,h200km,n16, σ1ᵖ75/18,mb3.5/6,2C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.43**	**356**	⇑P	**Pn**	**21 29 05.3**	**+2.1**
	0.2nm,0.3s,baz=170,slow=12,SNR=7.5						
KK31				⇑S	**Sn**	**21 30 14.8**	**-1.9**
	3.9nm,0.6s,baz=178,slow=23,SNR=15						
AAK	**Ala-Archa**	**6.49**	**22**	P	**Pn**	**21 29 04.9**	**+0.9**
	1.2nm,0.3s,baz=164,slow=3.5,SNR=10						
AAK				S	**Sn**	**21 30 19.0**	**+0.8**
	4.3nm,0.6s,baz=335,slow=23,SNR=21						
CHMS	**Chumysh**	**6.89**	**23**	⇓P	**Pn**	**21 29 13.2**	**+4.0**
	0.7nm,0.3s						
CHMS				⇓S	**Sn**	**21 30 25.4**	**-2.3**
	3.0nm,0.6s						
TKM2	**Tokmak 2**	**7.11**	**27**	⇓P	**Pn**	**21 29 12.4**	**+0.3**
	0.4nm,0.4s						
TKM2				⇓S	**Sn**	**21 30 29.9**	**-3.2**
	2.1nm,0.7s						
MKAR	**Makanchi Array**	**13.08**	**36**	P	**Pn**	**21 30 29.4**	**+0.7**
	0.7nm,0.6s,baz=224,slow=10,SNR=10.0						
KURBB	**Kurchatov Arra**	**14.92**	**19**	P	**Pn**	**21 30 50.3**	**-1.1**
	0.2nm,0.5s,baz=207,slow=10,SNR=4.8						
BVAR	**Borovoye Array**	**16.35**	**358**	P	**Pn**	**21 31 09.4**	**+0.7**
	0.5nm,0.5s,baz=164,slow=12,SNR=2.5						
ZALV	**Zalesovo Beam**	**19.70**	**25**	P	**P**	**21 31 43.9**	**-0.4**
	0.7nm,0.3s,baz=214,slow=11,SNR=6.1						
BELG	**Belogornoye**	**22.82**	**321**	P	**P**	**21 32 16.4**	**+0.6**
	3.7nm,0.7s,baz=147,slow=4.0,SNR=4.6						
	3.7nm,0.7s						
SONM	**Songino Array**	**28.14**	**56**	P	**P**	**21 33 04.1**	**+0.2**
	0.2nm,0.5s,baz=255,slow=10,SNR=2.1						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**37.39**	**326**	P	**P**	**21 34 23.7**	**+0.1**
	2.5nm,1.0s,baz=116,slow=13,SNR=4.5						
	2.5nm,1.0s						
HFS	**Hagfors**	**42.99**	**322**	P	**P**	**21 35 09.6**	**+0.1**
	1.7nm,0.8s,baz=101,slow=7.7,SNR=6.0						
	1.7nm,0.8s						
NOA	**NORSAR Array B**	**44.30**	**323**	P	**P**	**21 35 19.5**	**-0.6**
	0.3nm,0.4s,baz=39,slow=10,SNR=2.0						
	0.3nm,0.4s						
TGY	**Tagaytay City**	**49.65**	**103**	LR	LR	21 58 47.6	
	comp=Z,151nm,20.5s,baz=210,slow=38						
JMIC	**Jan Mayen**	**52.46**	**336**	LR	LR	21 57 03.3	
	comp=Z,129nm,20.9s,baz=277,slow=34						
TORD	**Torodi Ar. Bea**	**65.83**	**269**	P	**P**	**21 37 53.1**	**-1.5**
	0.4nm,0.6s,baz=41,slow=6.9,SNR=2.4						
	0.4nm,0.6s						

KRSC 01 21:29:40.4±1.3,48°.45N×156°.50E,h6km±23km,Ml3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.25**	**354**	*e*P	Pn	21 30 19.1	+1.1
SKR				*e*S	Sn	21 30 47.5	+1.4
KDTR	**Khodutka, Kamc**	**3.51**	**16**	*e*P	Pn	21 30 37.8	+2.4
KDTR				*e*S	Sb	21 31 22.5	-3.2
ASAK	**Asacha**	**4.04**	**12**	*e*P	Pn	21 30 46.6	+3.8
MTVR	**Mutnovka**	**4.18**	**14**	*e*P	Pn	21 30 47.9	+3.2
MTVR				*e*S	Sn	21 31 39.2	+5.3
RUS	**Russkaya**	**4.19**	**17**	*e*P	Pn	21 30 48.1	+3.4
RUS				*e*S	Sn	21 31 39.3	+5.3
GRL	**Gorelyy**	**4.23**	**13**	*e*P	Pn	21 30 49.5	+4.2
GRL				*e*S	Sn	21 31 40.5	+5.4
KRMR	**Karymshinskiy**	**4.51**	**13**	*e*P	Pn	21 30 53.8	+4.7
AVH	**Avacha**	**5.02**	**16**	*e*P	Pn	21 31 00.9	+4.6
KOK	**Koryaka**	**5.03**	**15**	*e*P	Pn	21 31 01.4	+5.0
SMAR	**Somma**	**5.03**	**16**	*e*P	Pn	21 31 01.0	+4.5
KRER	**Koryakskii**	**5.06**	**15**	*e*P	Pn	21 31 01.1	+4.2
KRX	**Arik**	**5.10**	**15**	*e*P	Pn	21 31 01.6	+4.3

JMA 01 21:30:24.8±0.1,24°.2N±0°.4×123°.8E±0°.3,h16km±1km, MV1.2/9,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.13**	**315**	P	Pg	21 30 28.5	-0.1
IRIF				*e*S	Sb	21 30 31.7	0.0
JKRS	**Kuro-shima**	**0.16**	**90**	*i* P	Pg	21 30 28.9	0.0
JKRS				*e*S	Sb	21 30 32.3	-0.1
HATJ	**Hateruma jima**	**0.18**	**188**	*i* P	Pg	21 30 29.1	-0.2
HATJ				*e*S	Sg	21 30 32.5	+0.2
JIJ	**Ishigaki jima**	**0.31**	**66**	*i* P	Pg	21 30 31.0	-0.3
JIJ				*e*S	Sg	21 30 35.6	-0.1
JISG	**Ishigakijimahi**	**0.56**	**51**	P	Pg	21 30 35.7	-0.1
JISG				*e*S	Sb	21 30 43.6	-0.2
JYNG	**Yonagunijimaku**	**0.84**	**285**	*e*P	Pb	21 30 40.8	-0.1
JTJ	**Tarama**	**0.89**	**63**	*e*P	Pg	21 30 42.2	+0.2
JTJ				*e*S	Sg	21 30 54.1	+0.4

TAP 01 21:30:57.8,24°.48N×121°.84E,h21km,ML1.8,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EWUT	**Wuta**	**0.07**	**236**	*i* P	Pb	21 31 02.2	+0.4
	baz=235						
EWUT				*i* S	Sb	21 31 05.2	+0.9
	baz=235						
ESAO	**Su ao**	**0.09**	**2**	P	Pb	21 31 02.4	+0.4
	baz=2.0						
ESAO				S	Sb	21 31 05.4	+0.6
	baz=2.0						
ENA	**Nanau**	**0.11**	**239**	P	Pb	21 31 02.5	-1.7
	baz=235						
ENA				S	Sb	21 31 05.6	-3.1
	baz=235						
TWC	**Suao**	**0.13**	**4**	P	Pb	21 31 02.6	-1.4
	baz=8.0						
TWC				S	Sb	21 31 05.9	-2.4
	baz=8.0						
NDS	**Dongshan**	**0.19**	**323**	P	Pb	21 31 03.6	0.0
	baz=323						
NDS				S	Sb	21 31 07.6	-0.2
	baz=323						
TWE	**Neicheng**	**0.28**	**326**	P	Pb	21 31 04.9	+0.5
	baz=328						
TWE				*i* S	Sb	21 31 09.8	+0.9
	baz=328						
LATG	**Datong**	**0.29**	**280**	*e*P	Pb	21 31 05.1	+0.6
	baz=280						
LATG				S	Sb	21 31 10.2	+1.1
	baz=280						
ENTT	**Nioudou**	**0.29**	**302**	P	Pb	21 31 05.3	+0.8
	baz=302						
ENTT				S	Sb	21 31 10.1	+0.9
	baz=302						
NDT	**Datong Townshi**	**0.32**	**292**	P	Pb	21 31 05.7	+0.9
	baz=291						
NDT				*e*S	Sb	21 31 11.2	+1.5
	baz=291						
FUSB	**Fushanzhiwuyua**	**0.36**	**320**	P	Pb	21 31 06.1	+0.6
	baz=320						
FUSB				S	Sb	21 31 11.8	+1.1
	baz=320						
EOS2	**EOS2**	**0.36**	**100**	P	Pb	21 31 05.9	+0.5
	baz=100						
EOS2				S	Sn	21 31 12.3	-1.8
	baz=100						
ETL	**Fush Village**	**0.38**	**212**	*e*P	Pn	21 31 07.2	-0.8
	baz=211						
NACB	**Ninganchiao**	**0.38**	**216**	P	Pb	21 31 06.3	+0.5
	baz=215						
NACB				S	Sb	21 31 12.2	+1.0
	baz=215						
NNSB	**Datong**	**0.42**	**263**	P	Pb	21 31 07.1	+0.5
	baz=262						
NNSB				S	Sb	21 31 14.0	+1.5
	baz=262						
NWLT	**Wulai**	**0.42**	**314**	P	Pb	21 31 07.1	+0.5
	baz=313						
NWLT				S	Sb	21 31 13.5	+1.0
	baz=313						
NNS	**Nan Shan**	**0.43**	**264**	P	Pb	21 31 07.2	+0.5
	baz=263						
NNS				S	Sb	21 31 13.6	+0.9
	baz=263						
YHNB	**Yeheng**	**0.46**	**294**	P	Pb	21 31 08.0	+0.7
	baz=293						
YHNB				S	Sb	21 31 14.6	+0.9
	baz=293						
EOS3	**EOS3**	**0.48**	**114**	S	Sb	21 31 15.3	+1.3
	baz=114						
NSK	**Sanguang**	**0.48**	**294**	P	Pb	21 31 08.1	+0.5
	baz=293						
NSK				S	Sb	21 31 15.0	+0.8
	baz=293						
TIPB	**Shuangxi**	**0.49**	**358**	P	Pb	21 31 08.4	+0.7
	baz=358						
TIPB				*e*S	Sb	21 31 14.8	+0.4
	baz=358						
FUSS	**Fushou**	**0.59**	**247**	*e*P	Pb	21 31 09.8	0.0
	baz=246						
FUSS				*e*S	Sn	21 31 19.1	-1.2
	baz=246						
LXIB	**Xiulin Townshi**	**0.60**	**220**	*e*P	Pb	21 31 10.3	+0.4
	baz=220						
LXIB				*e*S	Sn	21 31 20.3	-0.1
	baz=220						
YM01	**YM01**	**0.70**	**340**	*e*P	Pn	21 31 12.3	-0.2
	baz=339						
YM01				*e*S	Sn	21 31 22.2	-0.6
	baz=339						
CHGB	**Renai**	**0.74**	**235**	*e*P	Pn	21 31 13.4	+0.2
	baz=235						

TAP 01 21:31:15.1,24°.49N×121°.83E,h19km,ML1.2,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EWUT	**Wuta**	**0.07**	**226**	P	Pg	21 31 18.9	+0.2
	baz=225						
EWUT				S	Sg	21 31 22.0	+0.9
	baz=225						
ENA	**Nanau**	**0.11**	**232**	P	Pg	21 31 19.4	+0.4
	baz=228						
ENA				S	Sg	21 31 22.4	+0.7
	baz=228						
TWC	**Suao**	**0.12**	**7**	P	Pg	21 31 19.5	+0.4
	baz=11						
TWC				S	Sg	21 31 22.7	+0.9
	baz=11						
NDS	**Dongshan**	**0.18**	**322**	*e*P	Pg	21 31 20.3	+0.4
	baz=322						
EAHA	**Aohua**	**0.18**	**208**	*e*P	Pg	21 31 19.9	-0.1
	baz=207						

JMA 01 21:31:18.4±0.2,24°.3N±0°.3×123°.8E±0°.4,h16km±1km, MV1.0/7,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.11**	**318**	P	Pg	21 31 21.8	0.0
IRIF				*e*S	Sg	21 31 24.1	+0.1
JKRS	**Kuro-shima**	**0.18**	**95**	P	Pg	21 31 22.8	0.0
JKRS				*e*S	Sg	21 31 26.1	+0.4
HATJ	**Hateruma jima**	**0.20**	**181**	P	Pg	21 31 22.8	-0.1
HATJ				*e*S	Sg	21 31 26.2	+0.2
JIJ	**Ishigaki jima**	**0.32**	**70**	P	Pg	21 31 24.9	-0.3
JIJ				*e*S	Sg	21 31 29.4	-0.3
JISG	**Ishigakijimahi**	**0.56**	**54**	*e*P	Pg	21 31 29.5	-0.1
JISG				*e*S	Sb	21 31 37.6	-0.2
JTJ	**Tarama**	**0.90**	**64**	*e*S	Sg	21 31 48.2	+0.5

*STR **01** 21:52:20.1±0.9,45°N±6°×1°1E±°,h6km,MLv3.5/36,Error ellipse: s-maj=0.0km s

*ROM **01** 21:52:24.1±0.1, 44°.529N±0°.005×10°.251E±0°.009, h28km, ML2.8/102, Error ellipse: s-maj=0.7km s-min=0.4km az=103.0*
*LDG **01** 21:52:24.0±0.1, 44°.52N×10°.25E, h28km, Ml2.8/17, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*PRU **01** 21:52:30.7, 44.97N×10.01E, h20km*
ISC 01 21:52:24.0±0.8, 44°.53N±0°.02×10°.26E±0°.02, h28km±4km, n181, σ1§86/226, 3C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
NEVI	**Neviano degli**	**0.07**	**37**	⇑*i*P		**Pb**	**21 52 28.8**	**-0.2**
NEVI				S		**Sb**	**21 52 33.2**	**+0.9**
NEVI				AML		AML		
	comp=E,7355μm,0.4s							
NEVI				AML		AML		
	comp=N,6005μm,1.4s							
NEVI				AML		AML		
	comp=N,6085μm,0.5s							
NEVI	**Neviano degli**	**0.07**	**37**	P		**Pb**	**21 52 28.7**	**-0.2**
NEVI				S		**Sb**	**21 52 33.5**	**+1.2**
GRAM	**Graiana**	**0.14**	**254**	⇑*i*P		**Pb**	**21 52 29.2**	**-0.3**
GRAM				S		**Sb**	**21 52 33.5**	**+0.3**
GRAM				AML		AML		
	comp=E,15200μm,1.6s							
GRAM				AML		AML		
	comp=N,20200μm,0.3s							
GRAM				AML		AML		
	comp=E,6770μm,0.2s							
GRAM				AML		AML		
	comp=N,9652μm,0.3s							
GRAM				AML		AML		
	comp=E,14812μm,0.2s							
GRAM				AML		AML		
	comp=N,20228μm,0.3s							
GRAM	**Graiana**	**0.14**	**254**	P		**Pb**	**21 52 29.2**	**-0.3**
GRAM				S		**Sb**	**21 52 33.5**	**+0.3**
PRMA	**PARMA**	**0.24**	**9**	P		**Pb**	**21 52 30.1**	**-0.3**
PRMA				S		**Sb**	**21 52 36.5**	**+1.7**
PRMA				AML		AML		
	comp=N,4515μm,0.9s							
PRMA				AML		AML		
	comp=E,5920μm,0.7s							
PRMA				AML		AML		
	comp=E,5920μm,1.3s							
PRMA				AML		AML		
	comp=N,4515μm,1.1s							
PRMA				AML		AML		
	comp=N,4335μm,0.3s							
PRMA				AML		AML		
	comp=E,5255μm,0.3s							
PRMA	**PARMA**	**0.24**	**9**	P		**Pb**	**21 52 30.1**	**-0.3**
PRMA				S		**Sb**	**21 52 35.9**	**+1.1**
GSCL	**Gusciola**	**0.29**	**127**	P		**Pb**	**21 52 31.2**	**0.0**
GSCL				AML		AML		
	comp=E,746μm,0.9s							
GSCL				AML		AML		
	comp=N,810μm,1.3s							
GSCL				AML		AML		
	comp=E,1334μm,0.8s							
GSCL				AML		AML		
	comp=N,1665μm,0.7s							
GSCL				AML		AML		
	comp=N,1665μm,1.3s							
GSCL				AML		AML		
	comp=E,1327μm,0.4s							
GSCL				AML		AML		
	comp=N,1508μm,0.5s							
GSCL	**Gusciola**	**0.29**	**127**	P		**Pb**	**21 52 31.2**	**0.0**
GSCL				S		**Sb**	**21 52 36.6**	**+0.4**
FIVI	**Fivizzano**	**0.31**	**198**	P		**Pb**	**21 52 31.1**	**-0.2**
FIVI				S		**Sb**	**21 52 36.5**	**+0.1**
FIVI				AML		AML		
	comp=E,1365μm,0.4s							
FIVI				AML		AML		
	comp=N,1670μm,1.0s							
FIVI				AML		AML		
	comp=N,1494μm,0.1s							
FIVI				AML		AML		
	comp=E,1364μm,0.4s							
FIVI	**Fivizzano**	**0.31**	**198**	P		**Pb**	**21 52 31.2**	**-0.2**
SARO	**Sassorosso**	**0.36**	**164**	P		**Pb**	**21 52 31.9**	**-0.3**
SARO				S		**Sb**	**21 52 38.2**	**+0.5**
SARO				AML		AML		
	comp=E,1475μm,0.5s							
SARO				AML		AML		
	comp=N,2895μm,0.6s							
SARO				AML		AML		
	comp=E,1480μm,0.5s							
SARO				AML		AML		
	comp=N,2890μm,0.6s							
SARO				AML		AML		
	comp=E,1475μm,1.5s							
SARO				AML		AML		
	comp=N,2892μm,0.6s							
SARO				AML		AML		
	comp=E,1476μm,0.5s							
SARO	**Sassorosso**	**0.36**	**164**	P		**Pb**	**21 52 31.9**	**-0.3**
SARO				S		**Sb**	**21 52 38.5**	**+0.7**
EQUI	**Equi**	**0.37**	**192**	P		**Pb**	**21 52 32.0**	**-0.3**
EQUI				S		**Sb**	**21 52 38.9**	**+0.9**
EQUI				AML		AML		
	comp=N,579μm,0.9s							
EQUI				AML		AML		
	comp=E,658μm,0.8s							
EQUI				AML		AML		
	comp=N,578μm,0.9s							
EQUI				AML		AML		
	comp=E,458μm,0.4s							
EQUI				AML		AML		
	comp=N,443μm,0.3s							
EQUI	**Equi**	**0.37**	**192**	P		**Pb**	**21 52 31.9**	**-0.5**
EQUI				S		**Sb**	**21 52 38.9**	**+0.9**
VLC	**Villacollemand**	**0.38**	**166**	P		**Pb**	**21 52 32.2**	**-0.3**
VLC				AML		AML		
	comp=E,704μm,1.0s							
VLC				AML		AML		
	comp=N,916μm,0.7s							
VLC				AML		AML		
	comp=E,704μm,1.0s							
VLC				AML		AML		
	comp=N,916μm,0.7s							
VLC				AML		AML		
	comp=N,916μm,0.7s							
VLC				AML		AML		
	comp=E,468μm,0.5s							
VLC	**Villacollemand**	**0.38**	**166**	P		**Pb**	**21 52 32.6**	**+0.1**
MODE	**Modena**	**0.50**	**78**	P		**Pn**	**21 52 35.3**	**0.0**
BDI	**Bagni Di Lucca**	**0.53**	**153**	P		**Pb**	**21 52 34.8**	**0.0**
BDI				AML		AML		
	comp=E,825μm,0.4s							
BDI				AML		AML		
	comp=N,607μm,0.5s							
BDI				AML		AML		
	comp=E,710μm,0.4s							
BDI				AML		AML		
	comp=N,592μm,0.9s							
BDI				AML		AML		
	comp=E,825μm,0.4s							
BDI				AML		AML		
	comp=E,709μm,0.4s							
BDI				AML		AML		
	comp=N,607μm,0.5s							
BDI				AML		AML		
	comp=N,573μm,0.5s							
CARD	**Cardoso**	**0.53**	**162**	P		**Pb**	**21 52 34.8**	**0.0**
CARD				AML		AML		
	comp=E,650μm,0.6s							
CARD				AML		AML		
	comp=N,639μm,0.3s							
CARD				AML		AML		
	comp=E,650μm,0.6s							
CARD				AML		AML		
	comp=N,639μm,0.3s							
CARD				AML		AML		
	comp=E,533μm,0.2s							
CARD	**Cardoso**	**0.53**	**162**	P		**Pb**	**21 52 34.8**	**0.0**
CARD				S		**Sb**	**21 52 42.5**	**+0.4**
ZCCA	**Zocca**	**0.54**	**109**	P		**Pn**	**21 52 36.7**	**+0.8**
ZCCA	**Zocca**	**0.54**	**109**	P		**Pn**	**21 52 36.9**	**+1.0**
PLMA	**Palmaria, Port**	**0.56**	**212**	P		**Pb**	**21 52 35.3**	**0.0**
PLMA				AML		AML		
	comp=E,542μm,0.3s							
PLMA				AML		AML		
	comp=N,635μm,0.2s							
PLMA				AML		AML		
	comp=E,542μm,0.3s							
PLMA	**Palmaria, Port**	**0.56**	**212**	P		**Pb**	**21 52 35.3**	**0.0**
MSSA	**Maissana**	**0.57**	**248**	P		**Pb**	**21 52 35.7**	**+0.1**
MSSA				S		**Sb**	**21 52 44.5**	**+1.0**
MSSA				AML		AML		
	comp=N,526μm,1.2s							
MSSA				AML		AML		
	comp=E,672μm,0.8s							
MSSA				AML		AML		
	comp=N,526μm,1.2s							
MSSA				AML		AML		
	comp=N,327μm,2.0s							
MSSA				AML		AML		
	comp=N,417μm,0.4s							
MSSA				AML		AML		
	comp=E,443μm,0.2s							
MSSA	**Maissana**	**0.57**	**248**	P		**Pb**	**21 52 35.6**	**+0.1**
NDIM	**Novi di Modena**	**0.58**	**52**	AML		AML		
	comp=E,1030μm,0.2s							
NDIM				AML		AML		
	comp=N,1085μm,1.4s							
NDIM				AML		AML		
	comp=N,1087μm,1.4s							
NDIM				AML		AML		
	comp=N,1263μm,0.2s							
NDIM				AML		AML		
	comp=E,1119μm,0.3s							
NDIM				AML		AML		
	comp=N,1087μm,0.6s							
NDIM				AML		AML		
	comp=E,1027μm,0.1s							
NDIM				AML		AML		
	comp=N,959μm,0.1s							
NDIM				AML		AML		
	comp=N,1261μm,0.2s							
POPM	**Popiglio**	**0.60**	**144**	P		**Pb**	**21 52 36.0**	**0.0**
POPM				AML		AML		
	comp=E,868μm,0.4s							
POPM				AML		AML		
	comp=N,811μm,0.9s							
POPM				AML		AML		
	comp=E,868μm,0.4s							
POPM				AML		AML		
	comp=N,800μm,0.2s							
POPM	**Popiglio**	**0.60**	**144**	P		**Pb**	**21 52 36.0**	**0.0**
BOB	**Bobbio (Coli)**	**0.63**	**292**	P		**Pb**	**21 52 37.0**	**+0.5**
BOB	**Bobbio (Coli)**	**0.63**	**292**	P		**Pb**	**21 52 37.3**	**+0.8**
CAVE	**Cavezzo**	**0.63**	**57**	P		**Pb**	**21 52 36.8**	**+0.4**
CAVE				AML		AML		
	comp=E,1990μm,1.0s							
CAVE				AML		AML		
	comp=N,1455μm,0.2s							
CAVE				AML		AML		
	comp=E,1961μm,0.3s							
CAVE				AML		AML		
	comp=N,1453μm,0.2s							
MAIM	**Mastiano**	**0.64**	**165**	P		**Pb**	**21 52 37.2**	**+0.6**
MAIM				AML		AML		
	comp=E,380μm,1.3s							
MAIM				AML		AML		
	comp=N,386μm,0.8s							
MAIM				AML		AML		
	comp=E,380μm,0.7s							
MAIM				AML		AML		
	comp=N,386μm,1.2s							
MAIM				AML		AML		
	comp=E,331μm,0.3s							
MAIM				AML		AML		
	comp=N,328μm,0.5s							
MAIM	**Mastiano**	**0.64**	**165**	P		**Pn**	**21 52 38.5**	**+1.3**
GORR	**Gorreto**	**0.70**	**277**	P		**Pb**	**21 52 37.9**	**+0.3**
GORR				AML		AML		
	comp=E,580μm,0.3s							
GORR				AML		AML		
	comp=N,704μm,0.8s							
GORR				AML		AML		
	comp=N,628μm,0.3s							
GORR				AML		AML		
	comp=E,580μm,0.3s							
GORR	**Gorreto**	**0.70**	**277**	Pg		**Pb**	**21 52 37.9**	**+0.3**
GORR	**Gorreto**	**0.70**	**277**	Sn		**Sn**	**21 52 53.9**	**+6.0**
GORR	**Gorreto**	**0.70**	**277**	P		**Pb**	**21 52 37.9**	**+0.3**
SBPO	**S.Benedetto Po**	**0.70**	**42**	P		**Pn**	**21 52 38.4**	**+0.4**
FNVD	**Fontana Vidola**	**0.72**	**120**	P		**Pn**	**21 52 39.0**	**+0.7**
MTCR	**Monte La Croce**	**0.73**	**133**	P		**Pb**	**21 52 38.6**	**+0.3**
MTCR				AML		AML		
	comp=E,498μm,0.4s							
MTCR				AML		AML		
	comp=N,487μm,0.4s							
MTCR				AML		AML		
	comp=N,487μm,1.6s							
MTCR				AML		AML		
	comp=E,498μm,0.4s							
MTCR				AML		AML		
	comp=N,487μm,0.4s							
MTCR	**Monte La Croce**	**0.73**	**133**	P		**Pb**	**21 52 38.5**	**+0.3**
PII	**Pisa**	**0.83**	**167**	P		**Pn**	**21 52 40.0**	**+0.2**
PII				AML		AML		
	comp=E,819μm,1.4s							
PII				AML		AML		
	comp=N,610μm,0.5s							
PII				AML		AML		
	comp=E,819μm,0.6s							
PII				AML		AML		
	comp=N,580μm,0.2s							
PII				AML		AML		
	comp=E,738μm,0.5s							
PII	**Pisa**	**0.83**	**167**	P		**Pn**	**21 52 40.0**	**+0.2**
GAZZ	**Gazzo Veronese**	**0.83**	**45**	*e*Pg		**Pb**	**21 52 40.3**	**+0.4**
MOCL	**Monte Cuccoli**	**0.84**	**128**	P		**Pb**	**21 52 40.6**	**+0.6**
MOCL				AML		AML		
	comp=N,389μm,1.4s							
MOCL				AML		AML		
	comp=E,326μm,0.8s							
MOCL				AML		AML		
	comp=N,384μm,0.6s							
MOCL				AML		AML		
	comp=E,326μm,0.8s							
SERM	**Sermide**	**0.88**	**57**	P		**Pb**	**21 52 41.3**	**+0.7**
SERM				AML		AML		
	comp=E,725μm,1.1s							
SERM				AML		AML		
	comp=N,652μm,1.2s							
SERM				AML		AML		
	comp=N,940μm,1.1s							
SERM				AML		AML		
	comp=E,725μm,0.9s							
SERM				AML		AML		
	comp=N,940μm,0.9s							
SERM				AML		AML		
	comp=E,1245μm,0.6s							
SERM				AML		AML		
	comp=N,815μm,0.2s							
SERM				AML		AML		
	comp=N,589μm,0.2s							
SERM				AML		AML		
	comp=E,929μm,0.4s							
SERM				AML		AML		
	comp=E,668μm,0.4s							
SERM	**Sermide**	**0.88**	**57**	P		**Pb**	**21 52 41.3**	**+0.7**
SERM				S		**Sn**	**21 52 55.1**	**+2.8**
SEI	**Scarperia**	**0.92**	**121**	P		**Pb**	**21 52 42.2**	**+0.9**
LEOD	**Capriano del C**	**0.93**	**354**	P		**Pb**	**21 52 42.6**	**+1.1**
RNCA	**Ronca, Sant'Ol**	**0.94**	**267**	P		**Pb**	**21 52 42.4**	**+0.7**
RNCA				AML		AML		
	comp=E,441μm,0.7s							
RNCA				AML		AML		
	comp=N,643μm,0.6s							
RNCA				AML		AML		
	comp=N,643μm,1.4s							
RNCA				AML		AML		
	comp=E,441μm,1.3s							
RNCA				AML		AML		
	comp=N,643μm,0.6s							
RNCA				AML		AML		
	comp=E,435μm,0.4s							
RNCA	**Ronca, Sant'Ol**	**0.94**	**267**	Pg		**Pb**	**21 52 42.3**	**+0.6**
RNCA	**Ronca, Sant'Ol**	**0.94**	**267**	Sg		**Sb**	**21 52 58.4**	**+4.6**
OPPE	**Oppeano**	**1.01**	**39**	P		**Pb**	**21 52 43.1**	**+0.2**
SALO	**Salr**	**1.10**	**10**	P		**Pb**	**21 52 44.5**	**0.0**
SALO				AML		AML		
	comp=E,1114μm,0.4s							
SALO				AML		AML		
	comp=N,2455μm,0.7s							
SALO				AML		AML		
	comp=E,1164μm,0.6s							
SALO				AML		AML		
	comp=N,2315μm,0.7s							
SALO				AML		AML		
	comp=N,2315μm,1.3s							
SALO				AML		AML		
	comp=E,1164μm,1.4s							
SALO				AML		AML		
	comp=N,2455μm,1.3s							
SALO				AML		AML		
	comp=N,2345μm,0.5s							
SALO				AML		AML		
	comp=N,2211μm,0.5s							
SALO				AML		AML		
	comp=E,1115μm,0.4s							
TREG	**Tregnago**	**1.18**	**32**	P		**Pn**	**21 52 45.4**	**+0.8**
BALD	**Monte Baldo**	**1.22**	**19**	*e*Pg		**Pn**	**21 52 45.8**	**+0.4**
PCP	**Piancastagn**	**1.23**	**271**	P		**Pb**	**21 52 46.9**	**+0.3**
PCP				AML		AML		
	comp=E,224μm,0.3s							
PCP				AML		AML		
	comp=N,288μm,0.4s							
PCP				AML		AML		
	comp=E,224μm,1.7s							
PCP				AML		AML		
	comp=E,224μm,0.3s							
PCP				AML		AML		
	comp=N,289μm,0.4s							
PCP	**Piancastagn**	**1.23**	**271**	Pn		**Pb**	**21 52 46.7**	**+0.2**
OSSC	**Osservatorio P**	**1.23**	**144**	P		**Pb**	**21 52 46.8**	**+0.1**
OSSC				AML		AML		
	comp=E,241μm,1.6s							
OSSC				AML		AML		
	comp=N,253μm,1.5s							
OSSC				AML		AML		
	comp=N,253μm,0.5s							
OSSC				AML		AML		
	comp=E,241μm,0.4s							
OSSC				AML		AML		
	comp=E,268μm,0.5s							
OSSC				AML		AML		
	comp=N,243μm,0.7s							
ZONE	**Zone**	**1.24**	**355**	P		**Pn**	**21 52 46.0**	**+0.5**
ZONE				AML		AML		
	comp=N,898μm,0.2s							
ZONE				AML		AML		
	comp=E,620μm,0.5s							
ZONE				AML		AML		
	comp=N,215μm,0.3s							
ZONE				AML		AML		
	comp=N,898μm,0.2s							
ZONE				AML		AML		
	comp=E,189μm,0.2s							
ZONE				AML		AML		
	comp=E,616μm,0.2s							
MBAL	**Monte Baldo -**	**1.24**	**20**	P		**Pn**	**21 52 46.1**	**+0.5**
MBAL				AML		AML		
	comp=N,1545μm,0.5s							
MBAL				AML		AML		
	comp=E,1420μm,0.3s							
MBAL				AML		AML		
	comp=E,1420μm,1.7s							
MBAL				AML		AML		
	comp=N,1404μm,0.1s							
MBAL				AML		AML		
	comp=E,1002μm,0.1s							
CSNT	**Castellina Chi**	**1.29**	**145**	P		**Pb**	**21 52 47.9**	**+0.2**
CSNT				AML		AML		
	comp=N,165μm,1.4s							
CSNT				AML		AML		
	comp=N,165μm,0.6s							
CSNT				AML		AML		
	comp=E,155μm,1.2s							
CSNT				AML		AML		
	comp=E,154μm,0.4s							
CSNT				AML		AML		
	comp=N,159μm,0.4s							
MARN	**Marana (Italy)**	**1.30**	**31**	*e*Pg		**Pn**	**21 52 47.1**	**+0.8**
TEOL	**Teolo**	**1.30**	**50⇑**	*e*Pg		**Pb**	**21 52 47.8**	**0.0**
TEOL	**Teolo**	**1.30**	**50**	P		**Pn**	**21 52 46.6**	**+0.3**
TEOL				AML		AML		
	comp=E,1885μm,1.1s							
TEOL				AML		AML		
	comp=N,2080μm,0.7s							
TEOL				AML		AML		
	comp=N,2080μm,1.3s							
TEOL				AML		AML		
	comp=E,1871μm,0.4s							
TEOL				AML		AML		
	comp=N,1879μm,0.3s							
MDI	**Monti di Nese**	**1.31**	**343**	P		**Pn**	**21 52 47.4**	**+0.9**
MDI				AML		AML		
	comp=E,516μm,0.3s							
MDI				AML		AML		
	comp=N,472μm,0.3s							
MDI				AML		AML		
	comp=E,483μm,0.3s							
MDI				AML		AML		
	comp=N,508μm,0.3s							
MDI				AML		AML		
	comp=E,461μm,0.2s							
MDI				AML		AML		
	comp=E,446μm,0.2s							
MDI				AML		AML		
	comp=N,472μm,0.3s							
MDI				AML		AML		
	comp=N,508μm,0.3s							
GAVI	**Passo Gaver BS**	**1.40**	**6**	*e*Pg		**Pn**	**21 52 48.4**	**+0.6**
GAVI				*e*Sg		**Sb**	**21 53 09.1**	**+2.1**
ROTM	**Rocchetta Tana**	**1.40**	**284**	AML		AML		
	comp=E,1385μm,1.6s							
ROTM				AML		AML		
	comp=E,1385μm,0.4s							
ROTM				AML		AML		
	comp=N,914μm,1.4s							
ROTM				AML		AML		
	comp=N,885μm,0.4s							
ROTM				AML		AML		
	comp=E,1198μm,0.4s							
ROTM	**Rocchetta Tana**	**1.40**	**284**	Pg		**Pb**	**21 52 51.8**	**+2.4**
RONC	**Roncone**	**1.47**	**10**	P		**Pn**	**21 52 49.1**	**+0.3**
RONC				AML		AML		
	comp=E,1174μm,1.6s							
RONC				AML		AML		
	comp=N,940μm,1.3s							
RONC				AML		AML		
	comp=E,920μm,1.5s							
RONC				AML		AML		
	comp=N,1245μm,0.7s							
RONC				AML		AML		
	comp=E,1174μm,1.6s							
RONC				AML		AML		
	comp=N,940μm,1.3s							
RONC				AML		AML		
	comp=E,921μm,1.5s							
RONC				AML		AML		
	comp=N,1245μm,1.3s							
RONC				AML		AML		
	comp=N,940μm,0.7s							
RONC				AML		AML		
	comp=E,905μm,0.2s							
RONC				AML		AML		
	comp=N,1202μm,0.2s							
RONC				AML		AML		
	comp=N,869μm,0.2s							
CANO	**Canova, Maglio**	**1.49**	**258**	P		**Pn**	**21 52 49.8**	**+0.9**
CANO				AML		AML		
	comp=E,488μm,0.9s							
CANO				AML		AML		
	comp=N,450μm,1.0s							
CANO				AML		AML		
	comp=E,488μm,1.1s							
CANO				AML		AML		
	comp=N,445μm,0.3s							
CANO	**Canova, Maglio**	**1.49**	**258**	Pn		**Pn**	**21 52 49.8**	**+0.9**
DOSS	**Dosso del Somm**	**1.50**	**26**	P		**Pn**	**21 52 49.2**	**0.0**
DOSS				AML		AML		
	comp=E,887μm,1.2s							
DOSS				AML		AML		
	comp=E,778μm,0.8s							
DOSS				AML		AML		
	comp=N,884μm,1.2s							
DOSS				AML		AML		
	comp=E,887μm,0.8s							
DOSS				AML		AML		
	comp=N,884μm,0.8s							
DOSS				AML		AML		

	comp=N,814µm,0.8s							
DOSS					AML	AML		
	comp=E,837µm,0.2s							
DOSS					AML	AML		
	comp=N,860µm,0.2s							
DOSS					AML	AML		
	comp=N,766µm,0.3s							
DOSS					AML	AML		
	comp=E,760µm,0.3s							
LUSI	**Trento, Gardas**	**1.51**	**18**	P	**Pn**	**21 52 49.4 +0.1**		
LUSI				AML	AML			
	comp=N,1645µm,0.6s							
LUSI				AML	AML			
	comp=E,866µm,0.5s							
LUSI				AML	AML			
	comp=E,828µm,0.3s							
LUSI				AML	AML			
	comp=N,1531µm,0.2s							
MABI	**Malga Bissina**	**1.54**	**7**	P	**Pn**	**21 52 50.0 +0.3**		
MABI				AML	AML			
	comp=E,290µm,0.4s							
MABI				AML	AML			
	comp=N,228µm,0.3s							
MABI				AML	AML			
	comp=E,290µm,1.6s							
MABI				AML	AML			
	comp=E,290µm,0.4s							
MABI				AML	AML			
	comp=N,227µm,0.3s							
GAGG	**Gaggia**	**1.63**	**17**	P	**Pn**	**21 52 51.3 +0.3**		
GAGG				AML	AML			
	comp=E,315µm,1.2s							
GAGG				AML	AML			
	comp=E,342µm,0.8s							
GAGG				AML	AML			
	comp=N,294µm,1.2s							
GAGG				AML	AML			
	comp=N,294µm,0.8s							
GAGG				AML	AML			
	comp=E,315µm,0.8s							
GAGG				AML	AML			
	comp=N,331µm,0.9s							
GAGG				AML	AML			
	comp=E,342µm,1.2s							
GAGG				AML	AML			
	comp=N,302µm,0.3s							
GAGG				AML	AML			
	comp=E,316µm,0.3s							
RORO	**Rocca Rossa**	**1.63**	**256**	Pn	**Pn**	**21 52 51.5 +0.7**		
CPGN	**Carpegna, Ital**	**1.65**	**115**	AML	AML			
	comp=N,452µm,1.6s							
CPGN				AML	AML			
	comp=E,303µm,1.6s							
CPGN				AML	AML			
	comp=E,303µm,0.4s							
CPGN				AML	AML			
	comp=N,452µm,0.4s							
PANI	**Panarotta**	**1.70**	**26**	P	**Pn**	**21 52 52.1 +0.1**		
PANI				AML	AML			
	comp=N,315µm,0.7s							
PANI				AML	AML			
	comp=E,282µm,0.4s							
PANI				AML	AML			
	comp=N,315µm,1.3s							
PANI				AML	AML			
	comp=N,254µm,0.2s							
PANI				AML	AML			
	comp=E,282µm,0.4s							
GBOS	**Grotte di Boss**	**1.76**	**261**	Pn	**Pn**	**21 52 53.9 +1.3**		
CASP	**Castiglione de**	**1.79**	**166**	P	**Pn**	**21 52 54.3 +1.2**		
CTI	**Castel Tesino**	**1.81**	**32**	P	**Pn**	**21 52 53.5 +0.1**		
CTI				AML	AML			
	comp=E,672µm,0.2s							
CTI				AML	AML			
	comp=N,870µm,1.6s							
CTI				AML	AML			
	comp=N,870µm,0.4s							
CTI				AML	AML			
	comp=N,827µm,0.2s							
CTI				AML	AML			
	comp=E,673µm,0.1s							
IMI	**Imperia**	**1.81**	**251**	P	**Pn**	**21 52 54.2 +0.9**		
IMI				AML	AML			
	comp=E,110µm,0.5s							
IMI				AML	AML			
	comp=N,114µm,0.5s							
OZOL	**Ozolo**	**1.96**	**16**	P	**Pn**	**21 52 56.3 +0.9**		
OZOL				AML	AML			
	comp=E,701µm,1.4s							
OZOL				AML	AML			
	comp=N,522µm,0.9s							
OZOL				AML	AML			
	comp=N,438µm,0.9s							
OZOL				AML	AML			
	comp=E,701µm,0.6s							
OZOL				AML	AML			
	comp=E,542µm,0.4s							
OZOL				AML	AML			
	comp=N,522µm,1.1s							
OZOL				AML	AML			
	comp=N,438µm,1.1s							
OZOL				AML	AML			
	comp=E,542µm,0.4s							
OZOL				AML	AML			
	comp=N,390µm,0.3s							
OZOL				AML	AML			
	comp=N,356µm,0.4s							
ZIAN	**Ziano**	**1.97**	**27**	P	**Pn**	**21 52 56.3 +0.7**		
ZIAN				AML	AML			
	comp=E,338µm,0.3s							
ZIAN				AML	AML			
	comp=N,257µm,0.2s							
ZIAN				AML	AML			
	comp=E,290µm,1.4s							
ZIAN				AML	AML			
	comp=N,354µm,0.3s							
ZIAN				AML	AML			
	comp=E,290µm,0.6s							
ZIAN				AML	AML			
	comp=N,353µm,0.3s							
ZIAN				AML	AML			
	comp=E,338µm,0.3s							
ZIAN				AML	AML			
	comp=E,262µm,0.2s							
ZIAN				AML	AML			
	comp=N,257µm,0.2s							
SAOF	**Saorge**	**2.02**	**255**	P	**Pn**	**21 52 57.4 +1.2**		
SAOF				AML	AML			
	comp=N,122µm,0.8s							
SAOF				AML	AML			
	comp=N,122µm,1.2s							
SAOF				AML	AML			
	comp=E,138µm,0.4s							
SAOF	**Saorge**	**2.02**	**255**	Pn	**Pn**	**21 52 57.4 +1.2**		
TRAV	**Traversella**	**2.04**	**300**	P	**Pn**	**21 52 56.3 -0.2**		
TRAV				AML	AML			
	comp=N,151µm,0.3s							
TRAV				AML	AML			
	comp=E,178µm,1.2s							
TRAV				AML	AML			
	comp=N,151µm,0.3s							
TRAV				AML	AML			
	comp=E,152µm,0.5s							
TRAV	**Traversella**	**2.04**	**300**	Pn	**Pn**	**21 52 56.2 -0.3**		
TUE	**Stuetta**	**2.05**	**342**	P	**Pn**	**21 52 58.1 +1.3**		
TUE				AML	AML			
	comp=E,94µm,1.3s							
TUE				AML	AML			
	comp=N,104µm,1.0s							
TUE				AML	AML			
	comp=E,116µm,1.3s							
TUE				AML	AML			
	comp=N,110µm,1.4s							
TUE				AML	AML			
	comp=N,110µm,0.6s							
TUE				AML	AML			
	comp=N,104µm,1.0s							
TUE				AML	AML			
	comp=E,94µm,0.7s							
TUE				AML	AML			
	comp=E,116µm,0.7s							
STV	**Sant Anna di V**	**2.12**	**263**	Pn	**Pn**	**21 52 59.1 +1.4**		
SBF	**Sospel**	**2.14**	**253**	*e*P	**Pn**	**21 52 59.0 +1.1**		
SBF				*e*Sn	**Sn**	**21 53 20.2 -3.3**		
	comp=E,9.7nm,0.2s							
PGF	**Pioggiola**	**2.18**	**205**	*e*P	**Pn**	**21 52 59.8 +1.3**		
PGF				*e*Sn	**Sn**	**21 53 22.5 -2.2**		
	comp=E,5.4nm,0.3s							
PGF	**Pioggiola**	**2.18**	**205**	Pn	**Pn**	**21 52 58.9 +0.4**		
CIRO	**Champorcher**	**2.19**	**300**	AML	AML			
	comp=N,81µm,1.2s							
CIRO				AML	AML			
	comp=E,71µm,1.6s							
CIRO				AML	AML			
	comp=N,81µm,0.8s							
CIRO				AML	AML			
	comp=E,71µm,0.4s							
CIRO				AML	AML			
	comp=N,81µm,0.8s							
CIRO	**Champorcher**	**2.19**	**300**	Pn	**Pn**	**21 52 57.8 -1.0**		
ESCA	**l'Escarene**	**2.19**	**252**	Pn	**Pn**	**21 53 00.4 +1.8**		
SPIF	**crte de Spivo**	**2.22**	**259**	Pn	**Pn**	**21 53 00.8 +1.7**		
SPIF				Pg	**Pb**	**21 53 07.8 +4.3**		
DAVOX	**Davos/Dischmat**	**2.27**	**353**	P	**Pn**	**21 53 01.8 +2.0**		
DAVOX				AML	AML			
	comp=E,79µm,0.4s							
DAVOX				AML	AML			
	comp=N,91µm,0.5s							
DAVOX				AML	AML			
	comp=E,79µm,1.6s							
DAVOX				AML	AML			
	comp=N,91µm,1.5s							
DAVOX				AML	AML			
	comp=E,79µm,0.4s							
DAVOX				AML	AML			
	comp=N,91µm,0.5s							
MVIF	**Mont Vial**	**2.32**	**255**	Pn	**Pn**	**21 53 02.7 +2.2**		
ISO	**Isola**	**2.33**	**263**	Pn	**Pn**	**21 53 02.4 +1.9**		
LSD	**Lago del Serru**	**2.41**	**294**	Pn	**Pn**	**21 53 00.9 -0.8**		
SURF	**Saint Ours**	**2.47**	**270**	Pn	**Pn**	**21 53 04.5 +2.0**		
MBDF	**Montbardon**	**2.50**	**276**	*e*P	**Pn**	**21 53 04.6 +1.7**		
MBDF				*e*Sn	**Sn**	**21 53 29.4 -3.1**		
	comp=N,10nm,0.3s							
RRL	**Rocca Remolon**	**2.50**	**280**	Pn	**Pn**	**21 53 05.5 +2.5**		
FETA	**Feichten**	**2.51**	**7**	*e*Pn	**Pb**	**21 53 07.7 -0.9**		
	comp=N,0.2nm,0.1s							
FETA				*e*Sn	**Sb**	**21 53 41.0 +2.0**		
	comp=N,2.2nm,0.2s							
JAUF	**Jausiers**	**2.52**	**269**	Pn	**Pn**	**21 53 05.1 +1.9**		
CALF	**Calern**	**2.53**	**253**	Pn	**Pn**	**21 53 04.6 +1.3**		
ENAUX	**Enaux**	**2.54**	**262**	Pn	**Pn**	**21 53 06.1 +2.7**		
DIX	**Grande Dixence**	**2.54**	**309**	Pn	**Pn**	**21 53 04.8 +1.2**		
CREF	**Crivoux**	**2.60**	**272**	Pn	**Pn**	**21 53 07.1 +2.7**		
SALSA	**La sagne**	**2.65**	**257**	Pn	**Pn**	**21 53 07.6 +2.6**		
OGAG	**Argentiere**	**2.66**	**270**	Pn	**Pn**	**21 53 08.2 +3.1**		
LPG	**La Plagne**	**2.67**	**292**	*e*P	**Pn**	**21 53 05.6 +0.2**		
LPL	**La Plagne**	**2.69**	**293**	*e*P	**Pb**	**21 53 09.5 -2.0**		
ABTA	**Abfaltersbach**	**2.72**	**35**	*e*Pn	**Pn**	**21 53 08.8 +2.9**		
	comp=N,0.1nm,0.1s							
ABTA				*e*Sn	**Sb**	**21 53 43.4 -1.6**		
	comp=N,2.0nm,0.2s							
DAVA	**Damuels**	**2.77**	**355**	*e*Pn	**Pn**	**21 53 09.5 +2.9**		
	comp=N,0.8nm,0.1s							
DAVA				*e*Sn	**Sn**	**21 53 42.5 +3.3**		
	comp=N,3.6nm,0.2s							
SQTA	**Sankt Quirin**	**2.77**	**13**	*e*Pn	**Pn**	**21 53 09.4 +2.8**		
	comp=N,2.6nm,0.1s							
SQTA				*e*Sn	**Sn**	**21 53 41.3 +2.1**		
	comp=N,10nm,0.3s							
SMRN	**Sveta Marina**	**2.82**	**78**	*e*Pn	**Pn**	**21 53 06.6 -0.5**		
RSL	**Roselend**	**2.82**	**295**	Pn	**Pn**	**21 53 06.2 -1.1**		
MOTA	**Moosalm**	**2.88**	**12**	*e*Pn	**Pn**	**21 53 10.7 +2.6**		
	comp=N,0.6nm,0.1s							
MOTA				*e*Sn	**Sn**	**21 53 45.6 +3.8**		
	comp=N,16nm,0.6s							
WTTA	**Wattenberg**	**2.90**	**19**	*e*Pn	**Pn**	**21 53 11.8 +3.3**		
	comp=N,1.2nm,0.1s							
WTTA				*e*Sn	**Sb**	**21 53 47.3 -2.8**		
	comp=N,7.1nm,0.3s							
WTTA	**Wattenberg**	**2.90**	**19**	AML	AML			
	comp=N,100µm,1.0s							
WTTA				AML	AML			
	comp=E,122µm,0.6s							
WTTA				AML	AML			
	comp=N,100µm,1.0s							
OGSI	**Sixt**	**2.91**	**303**	Pn	**Pn**	**21 53 11.3 +2.8**		
AIGLE	**Aigle**	**2.95**	**309**	Pn	**Pn**	**21 53 11.4 +2.3**		
WATA	**Walderalm**	**2.95**	**18**	*e*Pn	**Pn**	**21 53 11.4 +2.2**		
	comp=N,0.7nm,0.1s							
WATA				*e*Sn	**Sn**	**21 53 46.9 +3.2**		
	comp=N,3.7nm,0.2s							
LMR	**La Mourre**	**2.96**	**247**	*e*P	**Pn**	**21 53 10.1 +1.0**		
LMR				*e*Sn	**Sn**	**21 53 41.9 -1.8**		
	comp=N,7.5nm,0.3s							
RETA	**Reutte**	**2.98**	**7**	*e*Pn	**Pn**	**21 53 12.4 +2.9**		
	comp=N,1.2nm,0.2s							
RETA				*e*Sn	**Sn**	**21 53 42.5 -1.8**		
	comp=N,3.7nm,0.2s							
BLAF	**les Blancs**	**3.08**	**261**	Pn	**Pn**	**21 53 14.2 +3.3**		
ORIF	**Oris-en-Rattie**	**3.15**	**279**	*e*P	**Pn**	**21 53 14.9 +3.1**		
ORIF	**Oris-en-Rattie**	**3.15**	**279**	Pn	**Pn**	**21 53 14.9 +3.1**		
MYKA	**Terra Mystica**	**3.17**	**47**	*e*Pn	**Pn**	**21 53 13.9 +1.8**		
	comp=N,0.4nm,0.1s							
MYKA				*e*Sn	**Sn**	**21 53 44.9 -4.1**		
	comp=N,1.8nm,0.2s							
TORNY	**Torny/Romont**	**3.22**	**315**	Pn	**Pn**	**21 53 14.8 +2.0**		
RABC	**Rab**	**3.23**	**85**	*e*Pn	**Pn**	**21 53 13.3 +0.5**		
NVLJ	**Novalja**	**3.30**	**88**	*e*Pn	**Pn**	**21 53 14.1 +0.4**		
NVLJ				Sn	**Sn**	**21 53 50.5 -1.4**		
BALST	**Balsthal**	**3.33**	**328**	Pn	**Pn**	**21 53 15.0 +0.8**		
KBA	**Koelnbreinsper**	**3.34**	**39**	*i* Pn	**Pb**	**21 53 21.2 -1.4**		
	comp=N,0.3nm,0.1s							
KBA				*e*Sn	**Sb**	**21 54 01.2 -1.6**		
	comp=N,2.7nm,0.3s							
LESA	**Schwarzleotal**	**3.35**	**29**	*i* Pn	**Pn**	**21 53 17.0 +2.4**		
	comp=N,0.6nm,0.1s							
LESA				*i* Sn	**Sb**	**21 54 02.2 -0.8**		
	comp=N,6.5nm,0.3s							
SULZ	**Cheisacher**	**3.35**	**334**	Pn	**Pn**	**21 53 15.0 +0.5**		
OGSM	**Saint Maurice**	**3.41**	**290**	Pn	**Pn**	**21 53 16.7 +1.4**		
SMRF	**Simiane la Rot**	**3.41**	**262**	*e*P	**Pn**	**21 53 17.1 +1.7**		
VIRC	**Vir**	**3.44**	**92**	*e*Pn	**Pn**	**21 53 16.8 +1.1**		
GIMEL	**St. Georges /**	**3.45**	**307**	Pn	**Pn**	**21 53 17.5 +1.6**		
SLE	**Schleitheim**	**3.46**	**340**	Pn	**Pn**	**21 53 15.9 -0.1**		
DUGI	**Dugi Otok**	**3.49**	**97**	*e*Pn	**Pn**	**21 53 17.1 +0.8**		
BOURR	**Bourrignon**	**3.56**	**325**	Pn	**Pn**	**21 53 18.0 +0.6**		
CABF	**La Chapelle**	**3.59**	**307**	*e*P	**Pn**	**21 53 19.6 +1.7**		
CABF				*e*Sn	**Sn**	**21 53 55.8 -3.7**		
	comp=N,6.7nm,0.5s							
GUT	**Gutenstein**	**3.63**	**348**	Pn	**Pn**	**21 53 18.3 -0.1**		
ENDD	**Endenburg**	**3.64**	**332**	Pn	**Pn**	**21 53 19.3 +0.9**		
OG35	**Corcelles**	**3.64**	**296**	Pn	**Pn**	**21 53 19.6 +1.1**		
KIZ	**Kirchzarten**	**3.79**	**335**	Pn	**Pn**	**21 53 20.2 -0.4**		
OZLJ	**Ozalj**	**3.84**	**72**	*e*Pn	**Pn**	**21 53 22.4 +1.2**		
UDBI	**Udbina**	**3.94**	**88**	*e*Pn	**Pn**	**21 53 21.9 -0.6**		
MOF	**Molkenrain**	**3.97**	**328**	Pn	**Pn**	**21 53 23.8 +0.8**		
MORI	**Morici**	**3.97**	**98**	*e*Pn	**Pn**	**21 53 24.2 +1.2**		
SOKA	**Soboth**	**3.98**	**56**	*e*Pn	**Pn**	**21 53 21.8 -1.4**		
	comp=N,1.3nm,0.6s							
SOKA				*e*Sn	**Sn**	**21 54 08.9 0.0**		
	comp=N,1.0nm,0.3s							
VIVF	**Saint-Julien-l**	**4.00**	**277**	*e*P	**Pn**	**21 53 25.2 +1.8**		
VIVF				*e*Sn	**Sn**	**21 54 05.0 -4.3**		
	comp=N,1.2nm,0.3s							
HINF	**Hinteralfeld**	**4.05**	**325**	*e*P	**Pn**	**21 53 24.8 +0.7**		
HINF				*e*Sn	**Sn**	**21 54 08.0 -2.6**		
	comp=N,4.6nm,0.2s							
OPP	**Oppenau**	**4.22**	**341**	Pn	**Pn**	**21 53 26.5 +0.1**		
ECH	**Echery**	**4.27**	**331**	Pn	**Pn**	**21 53 26.9 -0.1**		
MOA	**Molln**	**4.33**	**39**	*i* Pn	**Pn**	**21 53 29.5 +1.5**		
	comp=N,0.2nm,0.1s							
MOA				*i* Sn	**Sn**	**21 54 22.1 +4.6**		
	comp=N,0.8nm,0.2s							
CDF	**Champ du Feu**	**4.40**	**333**	*e*P	**Pn**	**21 53 29.2 +0.3**		
CDF				*e*Sn	**Sn**	**21 54 16.0 -3.2**		
	comp=N,3.0nm,0.3s							
LOBO	**Lobor**	**4.41**	**66**	*e*Pn	**Pn**	**21 53 30.5 +1.5**		
HAU	**Haudompre**	**4.41**	**323**	*e*P	**Pn**	**21 53 29.9 +0.9**		
HAU				*e*Sn	**Sn**	**21 54 17.5 -2.0**		
	comp=N,7.0nm,0.3s							
KIJV	**Kijevo**	**4.44**	**95**	*e*Pn	**Pn**	**21 53 28.5 -1.0**		
ARSA	**Arzberg**	**4.57**	**52**	*i* Pn	**Pn**	**21 53 32.1 +0.9**		
	comp=N,0.5nm,0.2s							
ARSA				*e*Sn	**Sn**	**21 54 19.8 -3.7**		
	comp=N,1.8nm,0.7s							
LASF	**Ste Croix**	**4.62**	**267**	*e*P	**Pn**	**21 53 33.4 +1.5**		
KALN	**Kalnik**	**4.65**	**68**	*e*Pn	**Pn**	**21 53 32.5 +0.1**		
SMF	**Signal de Mont**	**4.98**	**297**	*e*P	**Pn**	**21 53 37.9 +1.1**		
SMF				*e*Sn	**Sn**	**21 54 28.5 -4.9**		
	comp=N,1.8nm,0.3s							
PAGF	**Fort de Pagny**	**5.10**	**324**	*e*Pn	**Pn**	**21 53 36.4 -2.1**		
PAGF				*e*Sn	**Sn**	**21 54 30.7 -5.7**		
	comp=N,5.6nm,0.6s							
KHC	**Kasperske Hory**	**5.13**	**25**	*e*PN	**Pn**	**21 53 43.0 +4.0**		
KHC				*e*SN	**Sn**	**21 54 34.6 -2.7**		
KHC				*ex*	x	21 55 12.0		
SFTF	**Sexfontaines**	**5.15**	**317**	*e*P	**Pn**	**21 53 39.8 +0.5**		
CONA	**Conrad Observa**	**5.16**	**47**	*e*Pn	**Pn**	**21 53 40.7 +1.3**		
	comp=N,0.1nm,0.1s							
CONA				*e*Sn	**Sn**	**21 54 35.0 -3.0**		
	comp=N,1.4nm,0.4s							
LOR	**Lormes**	**5.24**	**304**	*e*P	**Pn**	**21 53 41.3 +0.8**		
LOR				*e*Sn	**Sn**	**21 54 35.8 -4.1**		
	comp=N,2.8nm,0.3s							
RONA	**Rosalia, Austr**	**5.26**	**51**	*i* Pn	**Pn**	**21 53 41.0 +0.3**		
	comp=N,0.2nm,0.1s							
AVF	**Avril sur Loir**	**5.34**	**297**	*e*P	**Pn**	**21 53 42.9 +1.1**		
AVF				*e*Sn	**Sn**	**21 54 37.4 -5.0**		
	comp=N,0.8nm,0.3s							
MEZF	**Maizieres J'vi**	**5.36**	**320**	*e*P	**Pn**	**21 53 43.4 +1.4**		
SSF	**Saint Saulge**	**5.36**	**301**	*e*P	**Pn**	**21 53 42.2 +0.1**		
SSF				*e*Sn	**Sn**	**21 54 38.3 -4.5**		
	comp=N,0.8nm,0.3s							
BGF	**Bois d'Agland**	**5.59**	**294**	*e*P	**Pn**	**21 53 45.9 +0.7**		
BGF				*e*Sn	**Sn**	**21 54 43.3 -5.2**		
	comp=N,7.3nm,0.5s							
TCF	**Toulx Ste Croi**	**5.93**	**290**	*e*P	**Pn**	**21 53 52.5 +2.5**		
TCF				*e*Sn	**Sn**	**21 54 53.6 -3.4**		
	comp=N,0.8nm,0.3s							

KRSC 01 21:57:20.9±1.9, 53°.42N×169°.06E, h20km±47km, MI3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.54**	**316**	*e*S	Sb	21 58 34.1	-2.5
TUMR	**Tumrok**	**5.53**	**293**	*e*P	Pn	21 58 46.6	+4.4
KII	**Karymskiy**	**5.74**	**280**	*e*P	Pn	21 58 49.1	+4.1
SMAR	**Somma**	**6.14**	**273**	*e*P	Pn	21 58 56.1	+5.4
KRER	**Koryakskii**	**6.17**	**273**	*e*P	Pn	21 58 55.8	+4.7
KRX	**Arik**	**6.23**	**274**	*e*P	Pn	21 58 56.3	+4.6
KOK	**Koryaka**	**6.24**	**273**	*e*P	Pn	21 58 56.7	+4.8
RUS	**Russkaya**	**6.45**	**265**	*e*P	Pn	21 58 59.7	+5.0
MTVR	**Mutnovka**	**6.64**	**266**	*e*P	Pn	21 59 02.4	+5.0
ASAK	**Asacha**	**6.83**	**266**	*e*P	Pn	21 59 05.6	+5.6
KDTR	**Khodutka, Kamc**	**6.88**	**261**	*e*P	Pn	21 59 05.2	+4.6
KDTR				*e*S	Sn	22 00 23.7	+5.5

*JMA **01** 22:03:09.5±0.2, 24°.8N±1°.0×122°.5E±0°.4, h12km±3km, MV2.3/8, NW OFF ISHIGAKIJIMA IS*
*TAP **01** 22:03:09.4, 24°.79N×122°.41E, h10km, ML2.8, C*
ISC 01 22:03:09.0±1.0, 24°.79N±0°.02×122°.46E±0°.02, h10km±8km, n75, σ0°.46/145, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.42**	**210**	P	**Pb**	**22 03 18.2**	**-0.2**
	baz=203						
EOS2				S	**Sb**	**22 03 25.2**	**+0.4**
	baz=203						
TWB1	**Santiao Chiao**	**0.48**	**297**	P	**Pg**	**22 03 18.7**	**+0.3**
	baz=299						
TWB1				*e*S	**Sg**	**22 03 24.8**	**+0.1**
	baz=299						
EGS		**0.48**	**277**	P	**Pg**	**22 03 18.8**	**+0.4**
	baz=276						
EGS				S	**Sg**	**22 03 25.6**	**+0.8**
	baz=276						
EOS3	**EOS3**	**0.51**	**195**	*e*P	**Pb**	**22 03 19.9**	**-0.1**
	baz=189						
EOS3				S	**Sb**	**22 03 28.4**	**+1.0**
	baz=189						
JYNG	**Yonaguni jima**	**0.55**	**127**	P	**Pg**	**22 03 19.8**	**0.0**
JYNG				S	**Sg**	**22 03 26.9**	**-0.2**
TWC	**Suao**	**0.58**	**253**	P	**Pg**	**22 03 20.2**	**-0.1**
	baz=249						
TWC				S	**Sb**	**22 03 29.4**	**-0.2**
	baz=249						
YOJ	**Yonaguni jima**	**0.60**	**123**	*e*P	**Pg**	**22 03 20.5**	**-0.1**
	baz=120						
YOJ				*e*S	**Sg**	**22 03 28.4**	**0.0**
	baz=120						
YOJ	**Yonaguni jima**	**0.60**	**123**	P	**Pg**	**22 03 20.5**	**-0.1**
YOJ				S	**Sg**	**22 03 28.0**	**-0.5**
ESAO	**Su ao**	**0.60**	**250**	*e*P	**Pb**	**22 03 21.3**	**-0.2**
	baz=247						
ESAO				*e*S	**Sb**	**22 03 29.0**	**-1.0**
	baz=247						
TIPB	**Shuangxi**	**0.60**	**288**	*e*P	**Pb**	**22 03 21.4**	**-0.3**
	baz=288						
TIPB				*e*S	**Sb**	**22 03 29.8**	**-0.5**
	baz=288						
SXI1	**Grass Mountain**	**0.61**	**300**	P	**Pg**	**22 03 21.5**	**+0.6**
	baz=301						
SXI1				*e*S	**Sg**	**22 03 29.8**	**+0.8**
	baz=301						
ILA	**Ilan**	**0.65**	**268**	*e*P	**Pg**	**22 03 21.5**	**0.0**
	baz=267						
ILA				*e*S	**Sb**	**22 03 31.1**	**-0.3**
	baz=267						
EOS4	**EOS4**	**0.68**	**191**	*e*P	**Pb**	**22 03 23.4**	**+0.8**
	baz=187						
EOS4				*e*S	**Sb**	**22 03 32.8**	**+0.9**
	baz=187						
NWF	**Wu-fen Shan**	**0.68**	**295**	*e*P	**Pb**	**22 03 23.3**	**+0.4**
	baz=296						
NWF				*e*S	**Sb**	**22 03 32.1**	**-0.3**
	baz=296						
WFSB	**Wu-fen Shan**	**0.68**	**295**	*e*P	**Pb**	**22 03 23.0**	**+0.1**
	baz=295						
WFSB				*e*S	**Sb**	**22 03 32.2**	**-0.1**
	baz=295						
NDS	**Dongshan**	**0.69**	**257**	*e*P	**Pg**	**22 03 22.4**	**0.0**
	baz=255						
NDS				*e*S	**Sb**	**22 03 32.7**	**-0.1**
	baz=255						
EWUT	**Wuta**	**0.71**	**241**	*e*P	**Pb**	**22 03 23.1**	**-0.3**
	baz=238						
EWUT				*e*S	**Sg**	**22 03 32.1**	**+0.2**
	baz=238						
TNOU	**National Taiwa**	**0.72**	**300**	*e*P	**Pg**	**22 03 22.7**	**-0.2**
	baz=301						
TNOU				*e*S	**Sg**	**22 03 32.3**	**-0.1**
	baz=301						
TWE	**Neicheng**	**0.72**	**265**	P	**Pg**	**22 03 22.8**	**-0.1**
	baz=263						
TWE				*e*S	**Sb**	**22 03 33.2**	**-0.5**
	baz=263						
ENA	**Nanau**	**0.74**	**242**	P	**Pg**	**22 03 23.5**	**+0.1**
	baz=238						
ENA				*e*S	**Sb**	**22 03 33.6**	**-0.6**
	baz=238						
FUSB	**Fushanzhiwuyua**	**0.79**	**268**	*e*P	**Pg**	**22 03 24.2**	**-0.1**
	baz=267						
FUSB				*e*S	**Sb**	**22 03 35.0**	**-0.7**
	baz=267						
EAHA	**Aohua**	**0.80**	**235**	*e*P	**Pg**	**22 03 24.5**	**+0.1**
	baz=232						
EAHA				*e*S	**Sb**	**22 03 35.3**	**-0.4**
	baz=232						
ENTT	**Nioudou**	**0.82**	**260**	*e*P	**Pb**	**22 03 25.8**	**+0.4**
	baz=258						
ENTT				*e*S	**Sb**	**22 03 36.2**	**-0.3**
	baz=258						
NWLT	**Wulai**	**0.87**	**270**	*e*P	**Pb**	**22 03 26.1**	**-0.1**
	baz=268						
NWLT				*e*S	**Sg**	**22 03 36.8**	**-0.3**
	baz=268						
NDT	**Datong

baz=303
ANP **Anpu** **0.94 295** *eP* **Pb** **22 03 27.7 +0.3**
baz=295
ANP *eS* **Sb** **22 03 40.3 +0.3**
baz=295
ETL **Fush Village** **0.98 231** *eP* **Pg** **22 03 27.9 0.0**
baz=228
ETL *eS* **Sb** **22 03 41.1 -0.1**
baz=228
NTST **Danshui** **0.99 293** *eS* **Sg** **22 03 41.2 +0.2**
baz=293
YHNB **Yeheng** **0.99 264** *eP* **Pg** **22 03 27.9 -0.2**
baz=262
YHNB *eS* **Sb** **22 03 41.4 -0.1**
baz=262
NACB **Ninganchiao** **1.00 232** *eP* **Pg** **22 03 27.8 -0.4**
baz=230
NACB *eS* **Sb** **22 03 41.5 0.0**
baz=230
NSK **Sanguang** **1.01 264** *eP* **Pg** **22 03 28.2 -0.2**
baz=262
NSK *eS* **Sg** **22 03 41.0 -0.5**
baz=262
NNSB **Datong** **1.04 250** *eP* **Pg** **22 03 28.7 -0.4**
baz=248
NNSB *eS* **Sb** **22 03 42.7 -0.3**
baz=248
NNS **Nan Shan** **1.05 251** *eP* **Pg** **22 03 29.1 -0.1**
baz=249
NNS *eS* **Sb** **22 03 43.0 -0.1**
baz=249
TWD **Chiawan** **1.05 228** *eP* **Pg** **22 03 28.9 -0.4**
baz=225
TWD *eS* **Sb** **22 03 43.3 +0.1**
baz=225
ETLH **Xiulin Townshi** **1.06 237** *eP* **Pg** **22 03 29.1 -0.3**
baz=235
ETLH *eS* **Sn** **22 03 44.1 -0.7**
baz=235
ETM **Tongmen** **1.20 227** *eP* **Pb** **22 03 31.6 -0.2**
baz=225
ETM *eS* **Sn** **22 03 48.6 +0.5**
baz=225
LXIB **Xiulin Townshi** **1.22 232** *eP* **Pb** **22 03 32.1 -0.2**
baz=229
LXIB *eS* **Sn** **22 03 48.8 -0.1**
baz=229
FUSS **Fushou** **1.23 244** *eP* **Pg** **22 03 32.9 +0.2**
baz=242
FUSS *eS* **Sg** **22 03 48.4 -0.3**
baz=242
NFF **Wufeng Townshi** **1.23 263** *eP* **Pn** **22 03 31.8 -0.4**
baz=262
NFF *eS* **Sn** **22 03 48.9 0.0**
baz=262
IRIF **Iriomote-Funau** **1.24 111** *eP* **Pn** **22 03 32.3 0.0**
IRIF *eS* **Sb** **22 03 47.9 -0.6**
WHF **Hehuan Shan** **1.26 240** *eP* **Pg** **22 03 33.3 0.0**
baz=238
WHF *eS* **Sg** **22 03 49.6 -0.2**
baz=238
TWT **Tachien** **1.28 246** *eP* **Pg** **22 03 33.5 -0.1**
baz=244
TWT *eS* **Sn** **22 03 50.6 +0.1**
baz=244
SHUL **Shoufeng** **1.29 220** *eP* **Pg** **22 03 33.8 +0.1**
baz=217
SHUL *eS* **Sg** **22 03 50.8 +0.3**
baz=217
TDCB **Techi** **1.30 246** *eP* **Pb** **22 03 33.5 -0.1**
baz=244
TDCB *eS* **Sn** **22 03 50.9 +0.1**
baz=244
LIOB **Emei** **1.32 264** *eP* **Pn** **22 03 32.7 -0.7**
baz=263
LIOB *eS* **Sn** **22 03 51.0 -0.2**
baz=263
NSTT **Nanjuang** **1.33 264** *eP* **Pn** **22 03 33.9 +0.2**
baz=262
NSTT *eS* **Sb** **22 03 50.6 -0.6**
baz=262
ESL **Shilin** **1.35 224** *eP* **Pb** **22 03 34.1 -0.2**
baz=222
ESL *eS* **Sg** **22 03 52.0 -0.3**
baz=222
CHGB **Renai** **1.38 239** *eP* **Pb** **22 03 34.7 -0.2**
baz=237
CHGB *eS* **Sn** **22 03 52.6 -0.2**
baz=237
OWD **Renai** **1.43 235** *eP* **Pn** **22 03 35.5 +0.3**
baz=233
OWD *eS* **Sb** **22 03 54.1 -0.1**
baz=233
WARBT **Fenglin Townsh** **1.45 223** *eP* **Pn** **22 03 34.5 -0.8**
baz=221
WARBT *eS* **Sg** **22 03 55.2 -0.3**
baz=221
WUSB **Renai** **1.46 237** *eP* **Pn** **22 03 35.8 +0.3**
baz=235
WUSB *eS* **Sb** **22 03 55.0 +0.1**
baz=235
WHP **Taichung City** **1.47 250** *eP* **Pb** **22 03 36.3 -0.2**
baz=248
WHP *eS* **Sb** **22 03 54.8 -0.4**
baz=248
VWDT **VWDT** **1.58 230** *eP* **Pn** **22 03 37.4 +0.3**
baz=228
VWDT *eS* **Sb** **22 03 57.9 -0.4**
baz=228
WCS **Beigang Elemen** **1.59 243** *eP* **Pb** **22 03 38.1 -0.3**
baz=241
WCS *eS* **Sb** **22 03 58.7 +0.2**
baz=241
JIJ **Ishigaki jima** **1.59 105** *eS* **Sn** **22 03 57.5 -0.2**
TWQ1 **Liyutan** **1.60 254** *eP* **Pb** **22 03 38.3 -0.3**
baz=253
TWQ1 *eS* **Sb** **22 03 58.2 -0.6**
baz=253
HGSD **Ruisui** **1.60 216** *eP* **Pn** **22 03 36.7 -0.6**
baz=214
HGSD *eS* **Sb** **22 03 58.7 -0.1**
baz=214
EHY **Hungye** **1.64 219** *eP* **Pn** **22 03 38.6 +0.7**
baz=217
EHY *eS* **Sb** **22 04 00.1 -0.1**
baz=217
SMLT **Sun Moon Lake** **1.68 238** *eP* **Pb** **22 03 40.0 -0.1**
baz=236
SSLB **Suanglung** **1.70 234** *eP* **Pb** **22 03 39.6 -0.7**
baz=233
SSLB *eS* **Sb** **22 04 01.7 0.0**
baz=233
TYC **Yuchr** **1.71 239** *eP* **Pn** **22 03 39.5 +0.7**
baz=237
TYC *eS* **Sb** **22 04 00.9 -0.9**
baz=237
YULB **Yu-li** **1.75 218** *eP* **Pb** **22 03 40.3 -0.8**
baz=216
YULB *eS* **Sb** **22 04 02.1 -1.0**
baz=216
TWF1 **Yuli** **1.78 217** *eP* **Pn** **22 03 40.4 +0.6**
baz=215
TWF1 *eS* **Sn** **22 04 02.6 +0.2**
baz=215
WHYT **Xinyi Township** **1.82 234** *eP* **Pn** **22 03 40.4 0.0**
baz=232
WHYT *eS* **Sn** **22 04 04.0 +0.4**
baz=232
FULB **Fuli** **1.91 214** *eP* **Pn** **22 03 42.4 +0.9**
baz=212
ALS **Alishan** **1.97 230** *eP* **Pn** **22 03 43.2 +0.5**
baz=228
ALS *eS* **Sn** **22 04 07.7 0.0**
baz=228
EHD **Haiduan** **1.99 215** *eS* **Sn** **22 04 07.4 -0.3**
baz=213
WCKO **Fanlu** **2.16 232** *eP* **Pn** **22 03 46.3 +1.2**
baz=230
WCKO *eS* **Sn** **22 04 12.7 +0.7**
baz=230
CHN4 **Tsaushan** **2.23 230** *eP* **Pn** **22 03 47.0 +1.1**
baz=229
CHN4 *eS* **Sn** **22 04 14.2 +0.8**
baz=229
STYH **Taoyuan** **2.23 224** *eP* **Pn** **22 03 47.4 +1.5**
baz=222
STYH *eS* **Sn** **22 04 14.0 +0.6**
baz=222
WTP **Ta-pu** **2.28 228** *eP* **Pn** **22 03 47.4 +0.7**
baz=226
WTP *eS* **Sn** **22 04 15.4 +0.5**
baz=226

*IDC **01** 22:11:39.1±9.4, 18°.52S×172°.75W, h0km, mb4.0/3, mbtmp4.0/4, ML3.9/1, Error ellipse: s-maj=185.7km s-min=165.4km az=178.0*
*NEIC **01** 22:11:41.0±1.2, 18°.8S±0°.2×172°.7W±0°.1, h10km±1km, mb4.1/11, Error ellipse: s-maj=35.7km s-min=18.8km az=354.0*
ISC 01 22:11:43.2±1.5, **18°.8S**±0°.2×**172°.9W**±0°.2, **h21**km, **n19**, σ**0s54**/**18**, **mb4.1**/**8**, **Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.83**	**96**	Pn		Pn	22 12 23.0	-4.2
PINNC	**Pines Island,**	**18.77**	**255**	P		**P**	**22 16 01.4**	**+0.3**
PINNC				IAmb		IAmb	22 16 02.5	
	comp=Z,11nm,0.5s							
OUENC	**Ouen Island, N**	**19.30**	**256**	P		**P**	**22 16 07.0**	**0.0**
OUENC				IAmb		IAmb	22 16 07.2	
	comp=Z,4.6nm,0.8s							
DZM	**Mont Dzumac**	**19.63**	**257**	P		**P**	**22 16 11.1**	**+0.4**
DZM	**Mont Dzumac**	**19.63**	**257**	P		**Pn**	**22 16 11.9**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=77,slow=18,SNR=6.6							
	comp=Z,3.7nm,0.7s							
BFZ	**Birch Farm**	**23.73**	**201**	P		**P**	**22 16 54.1**	**+0.2**
LTZ	**Lake Taylor**	**27.02**	**205**	P		**P**	**22 17 23.4**	**-0.4**
LTZ				IAmb		IAmb	22 17 35.5	
	comp=Z,8.3nm,1.0s							
ARMA	**Armidale**	**34.13**	**243**	P		**P**	**22 18 25.6**	**-1.3**
STKA	**Stephens Creek**	**42.85**	**243**	P		**P**	**22 19 40.5**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=78,slow=9.5,SNR=2.8							
	comp=Z,1.0nm,0.4s							
BBOO	**Buckleboo**	**47.60**	**242**	P		**P**	**22 20 18.1**	**+0.2**
BBOO				IAmb		IAmb	22 20 18.9	
	comp=Z,1.5nm,0.8s							
WB0	**Warramunga Arr**	**49.59**	**260**	P		**P**	**22 20 32.9**	**-0.5**
WB0				IAmb		IAmb	22 20 37.5	
	comp=Z,3.5nm,1.1s							
ASAR	**Alice Springs**	**49.60**	**255**	P		**P**	**22 20 33.8**	**+0.5**
ASAR	**Alice Springs**	**49.60**	**255**	P		**P**	**22 20 34.3**	**+0.9**
	comp=Z,2.2nm,0.6s,baz=89,slow=8.1,SNR=26							
	comp=Z,2.2nm,0.6s							
WB2	**Warramunga Arr**	**49.61**	**259**	P		**P**	**22 20 33.4**	**0.0**
WB2				IAmb		IAmb	22 20 48.1	
	comp=Z,0.2nm,0.5s							
WRAB	**Tennant Creek**	**49.61**	**260**	P		**P**	**22 20 33.5**	**0.0**
WRAB				IAmb		IAmb	22 20 36.0	
	comp=Z,1.8nm,0.9s							
WRA	**Warramunga Arr**	**49.62**	**259**	P		**P**	**22 20 33.0**	**-0.5**
WRA	**Warramunga Arr**	**49.62**	**259**	P		**P**	**22 20 34.0**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=97,slow=7.3,SNR=12							
	comp=Z,0.5nm,0.3s							
I23K	**Minto, Yukon-K**	**85.59**	**10**	P		**P**	**22 24 19.6**	**+0.1**
MDM	**Murphy Dome**	**85.60**	**10**	P		**P**	**22 24 19.4**	**-0.2**

*IDC **01** 22:17:00.3±1.1, 4°.68N×92°.27E, h0km, mb3.8/10, mbtmp3.8/12, ML4.3/2, MS3.5/18, Error ellipse: s-maj=38.6km s-min=17.3km az=52.0*
*NEIC **01** 22:17:01.9±1.6, 4°.7N±0°.1×92°.37E±0°.09, h10km±2km, mb4.1/21, Error ellipse: s-maj=18.2km s-min=13.9km az=206.0*
*DJA **01** 22:17:02.9±1.0, 4°.N±4°.×9°.2E±°, h39km±23km, M4.8/18, mB5.3/5, mb4.7/18, MLv5.0/7, Mw(mB)4.7/5*
ISC 01 22:17:04.3±0.6, **4°.66N**±0°.07×**92°.33E**±0°.06, **h35**km, **n88**, σ**1s91**/**71**, **mb4.1**/16, **MS3.5**/16, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**4.08**	**95**	P		**Pn**	**22 18 04.3**	**+0.1**
MLSI				S		**Sn**	**22 18 47.4**	**-3.4**
SNSI	**Sinabang, Aceh**	**4.57**	**119**	P		**Pn**	**22 18 10.0**	**-1.0**
SNSI				S		**Sn**	**22 18 57.4**	**-5.6**
LHMI	**Lhok Sumawe**	**4.63**	**83**	Pn		**Pn**	**22 18 11.5**	**-0.3**
LHMI	**Lhok Sumawe**	**4.63**	**83**	P		**Pn**	**22 18 13.3**	**+1.4**
KCSI	**Kotacane, Aceh**	**5.54**	**102**	P		**Pn**	**22 18 25.9**	**+1.5**
	47nm,0.5s,2µm1.1nm							
KCSI				S		**Sn**	**22 19 24.1**	**-2.9**
	47nm,0.5s,2µm1.1nm							
GSI	**Gunungsitoli**	**6.21**	**122**	Pn		**Pn**	**22 18 33.0**	**-0.6**
GSI	**Gunungsitoli**	**6.21**	**122**	P		**Pn**	**22 18 33.3**	**-0.2**
GSI	**Gunungsitoli**	**6.21**	**122**	P		**Pn**	**22 18 32.9**	**-0.6**
PSI	**Prapat**	**6.83**	**105**	P		**Pn**	**22 18 44.8**	**+2.6**
RPSI	**Rantau Prapat**	**6.86**	**106**	Pn		**Pn**	**22 18 42.7**	**+0.1**
PBA	**Port Blair**	**6.96**	**3**	*eP*		**Pn**	**22 18 43.7**	**-0.2**
PBA				*i* x		x	22 18 56.0	
PBA				*eS*		**Sn**	**22 19 54.8**	**-7.0**
PBSI	**Pulau Batu**	**7.57**	**128**	P		**Pn**	**22 18 51.8**	**-0.4**
	265nm,0.7s,4µm1.2nm							
SRIT	**Nakonsritamara**	**8.21**	**61**	Pn		**Pn**	**22 19 02.1**	**+1.0**
SRIT	**Nakonsritamara**	**8.21**	**61**	P		**Pn**	**22 19 03.0**	**+2.0**
KULM	**Kulim**	**8.31**	**85**	Pn		**Pn**	**22 19 02.5**	**+0.1**
DGPR	**DIGLIPUR**	**8.48**	**4**	*ex*		**Pn**	**22 19 04.9**	**+0.1**
SURA	**Surathani**	**8.52**	**58**	P		**Pn**	**22 19 06.9**	**+1.7**
IPM	**Ipoh**	**8.67**	**91**			**Pn**	**22 19 08.4**	**+1.0**
SISI	**Saibi**	**9.00**	**131**	P		**Pn**	**22 19 11.0**	**-0.8**
	21nm,0.5s							
PDSI	**Padang**	**9.83**	**124**	P		**Pn**	**22 19 19.1**	**-4.2**
	15nm,0.4s							
PPSI	**Pulau Pagai**	**10.64**	**134**	P		**Pn**	**22 19 32.9**	**-1.5**
	34nm,0.8s							
SRDT	**SRDT**	**11.72**	**34**	P		**Pn**	**22 19 51.8**	**+2.6**
MYKOM	**Kota Tinggi**	**11.85**	**104**	Pn		**Pn**	**22 19 50.4**	**-0.5**
PALK	**Pallekele**	**11.85**	**283**			**Pn**	**22 19 51.2**	**+0.2**
PALK	**Pallekele**	**11.85**	**283**	Pn		**Pn**	**22 19 48.9**	**-2.1**
	2.0nm,0.3s,baz=209,slow=13,SNR=18							
PALK				Sn		Sn	22 21 48.9	-13
	20nm,0.3s,baz=137,slow=22,SNR=16							
PALK				LR		LR	22 23 35.5	
	comp=Z,82nm,19.6s,baz=201,slow=34							
	4.7nm,0.3s							
DSRI	**Dabo**	**13.26**	**112**	P		**Pn**	**22 20 09.4**	**-0.8**
	8.0nm,0.9s							
MNAI	**Manna**	**13.89**	**130**	Pn		**Pn**	**22 20 17.7**	**-1.2**
MNAI	**Manna**	**13.89**	**130**	P		**Pn**	**22 20 17.3**	**-1.5**
	81nm,1.1s							
CMAR	**Chiang Mai Arr**	**15.16**	**25**	Pn		**Pn**	**22 20 34.4**	**-1.5**
	0.4nm,0.3s,baz=219,slow=14,SNR=12							
CMAR				LR		LR	22 26 32.3	
	comp=Z,107nm,20.2s,baz=205,slow=38							
	0.8nm,0.4s							
CHTO	**Chiang Mai**	**15.48**	**24**	P		**P**	**22 20 45.5**	**+1.3**
CHTO				IAmb		IAmb	22 20 46.5	
	comp=Z,10nm,1.1s							
CHTO	**Chiang Mai**	**15.48**	**24**	P		**P**	**22 20 44.5**	**+0.3**
VIS	**Vishakhapatnam**	**15.69**	**327**	*eP*		**Pn**	**22 20 40.8**	**-2.0**
VIS				*i* x		x	22 20 51.7	
KOD	**Kodaikanal**	**15.74**	**291**	*eP*		**Pn**	**22 20 43.4**	**-0.4**
KOD				IAmb		IAmb	22 20 53.0	
	comp=Z,4.2nm,0.5s							
KOD				*ex*		x	22 23 19.8	
PHRA	**Phrae**	**15.77**	**29**			**Pn**	**22 20 44.2**	**+0.3**
VJD	**Vijayawada**	**16.44**	**317**	*eP*		**Pn**	**22 20 52.1**	**-0.3**
VJD				IAmb		IAmb	22 20 53.5	
	comp=Z,24nm,0.7s							
VJD				*ex*		x	22 23 35.9	
UBPT	**Khong Chiam**	**16.68**	**50**	Pn		**Pn**	**22 20 54.5**	**-1.0**
UBPT				IAmb		IAmb	22 21 01.9	
	comp=Z,39nm,1.5s							
UBPT	**Khong Chiam**	**16.68**	**50**	P		**P**	**22 21 00.2**	**+2.6**
CRAI	**Chiangrai**	**17.34**	**26**	Pn		**Pn**	**22 21 02.5**	**-1.2**
CRAI				IAmb		IAmb	22 21 08.1	
	comp=Z,20nm,1.4s							
LEM	**Lembang**	**19.05**	**127**	LR		LR	22 29 19.5	
	comp=Z,135nm,19.3s,baz=168,slow=39							
SBUM	**Sibu**	**19.97**	**96**	P		**P**	**22 21 32.7**	**-1.1**
SBUM				IAmb		IAmb	22 21 47.4	
	comp=Z,8.7nm,1.3s							
BOK	**Bokaro**	**20.01**	**343**	*eP*		**P**	**22 21 33.1**	**-1.0**
SLVN	**Son La**	**20.02**	**33**	P		**P**	**22 21 34.9**	**+0.5**
SLVN				IAmb		IAmb	22 21 40.2	
	comp=Z,8.9nm,1.2s							
SHL	**Shillong**	**20.79**	**359**	*eP*		**P**	**22 21 41.1**	**-1.7**
QIZ	**Qiongzhong**	**22.27**	**49**	P		**P**	**22 21 58.6**	**0.0**
QIZ				S		**S**	**22 26 06.7**	**+5.0**
QIZ				LR		LR		
	comp=N,380nm,10.9s							
QIZ				LR		LR		
	comp=E,100nm,11.8s							
QIZ				LR		LR		
	comp=Z,130nm,16.0s							
PZH	**PanZhiHua**	**23.51**	**22**	P		**P**	**22 22 14.0**	**+2.6**
PZH				pmax		pmax		
	comp=Z,10.0nm,1.1s							
PZH				pmax		pmax		
	comp=Z,130nm,5.7s							
DAV	**Davao City (W)**	**33.16**	**84**	LR		LR	22 40 47.6	
	comp=Z,59nm,19.1s,baz=290,slow=43							
KSH	**Kashi**	**37.72**	**339**	P		P	22 24 21.8	+4.9
KSH				pmax		pmax		
	comp=Z,2.0nm,1.6s							
DRK	**Karamyk**	**39.33**	**335**	P		**P**	**22 24 29.3**	**-1.2**
DRK				IAmb		IAmb	22 24 43.7	
	comp=Z,3.7nm,0.8s							
CHGR	**Chuyangaron**	**39.86**	**331**	P		**P**	**22 24 35.3**	**+0.6**
CHGR				IAmb		IAmb	22 25 03.9	
	comp=Z,3.6nm,1.0s							
HHC	**Hu-ho-hao-te**	**39.96**	**23**	*eP*		**P**	**22 24 39.1**	**+3.6**
HHC				pmax		pmax		
	comp=Z,4.0nm,0.7s							
HHC				pmax		pmax		
	comp=Z,230nm,5.0s							
BTK	**Batken**	**40.23**	**334**	P		**P**	**22 24 38.3**	**+0.6**
ARSB	**Arslanbob**	**40.41**	**337**	P		**P**	**22 24 38.7**	**-0.6**
AAK	**Ala-Archa**	**41.01**	**340**	LR		LR	22 42 21.8	
	comp=Z,78nm,20.7s,baz=136,slow=37							
MK31	**Makanchi Array**	**42.86**	**350**	P		**P**	**22 24 59.5**	**+0.4**
MKAR	**Makanchi Array**	**42.86**	**350**	P		**P**	**22 24 59.8**	**+0.7**
MKAR	**Makanchi Array**	**42.86**	**350**	P		**P**	**22 25 00.1**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=169,slow=9.3,SNR=16							
MKAR				LR		LR	22 45 23.3	
	comp=Z,61nm,21.1s,baz=318,slow=40							
	comp=Z,0.3nm,0.4s							
KKAR	**Karatay Array**	**42.89**	**336**	P		**P**	**22 25 00.4**	**+0.9**
NWAO	**Narrogin (SRO)**	**44.22**	**149**	LR		LR	22 41 48.7	
	comp=Z,89nm,19.9s,baz=224,slow=34							
H01W3	**Cape Leeuwin H**	**44.37**	**154**	T		T	23 12 16.1	
	baz=328							
H01W2	**Cape Leeuwin H**	**44.38**	**154**	T		T	23 12 17.5	
	baz=328							
H01W1	**Cape Leeuwin H**	**44.39**	**154**	T		T	23 12 16.4	
	baz=328							
SONM	**Songino Array**	**44.68**	**13**	P		**P**	**22 25 14.0**	**+0.1**
SONM	**Songino Array**	**44.68**	**13**	P		**P**	**22 25 14.3**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=198,slow=7.0,SNR=4.3							
SONM				LR		LR	22 44 39.9	
	comp=Z,60nm,20.1s,baz=305,slow=37							
	comp=Z,0.6nm,0.7s							
GEYT	**Alibeck**	**45.48**	**321**	P		**P**	**22 25 20.8**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=139,slow=6.8,SNR=1.8							
	comp=Z,0.6nm,0.4s							
JNU	**Nakatsue**	**45.73**	**47**	LR		LR	22 48 29.8	
	comp=Z,48nm,18.2s,baz=312,slow=41							
KSRS	**Korea Array**	**46.06**	**40**	LR		LR	22 45 50.6	
	comp=Z,30nm,18.7s,baz=40,slow=38							
KURBB	**Kurchatov Arra**	**47.25**	**348**	P		**P**	**22 25 35.1**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=168,slow=7.4,SNR=4.4							
KURBB				LR		LR	22 48 08.1	
	comp=Z,79nm,19.2s,baz=170,slow=40							
	comp=Z,0.6nm,0.6s							
WRA	**Warramunga Arr**	**47.98**	**122**	P		**P**	**22 25 41.4**	**+1.3**
	comp=Z,2.6nm,1.0s,baz=299,slow=9.2,SNR=5.3							
	comp=Z,2.6nm,1.0s							
ASAR	**Alice Springs**	**49.35**	**127**	P		**P**	**22 25 52.1**	**+1.5**
	comp=Z,2.0nm,1.1s,baz=310,slow=7.2,SNR=8.4							
	comp=Z,2.0nm,1.1s							
ZAA0	**Zalesovo Array**	**49.52**	**354**	P		**P**	**22 25 52.6**	**+1.3**
ZALV	**Zalesovo Beam**	**49.52**	**354**	P		**P**	**22 25 52.2**	**+0.8**
ZALV	**Zalesovo Beam**	**49.52**	**354**	P		**P**	**22 25 52.6**	**+1.2**
	comp=Z,0.8nm,0.4s,baz=190,slow=9.0,SNR=5.0							
	comp=Z,0.8nm,0.4s							
OPO	**Ambohidratompo**	**50.11**	**241**	LR		LR	22 43 42.0	
	comp=Z,48nm,19.2s,baz=334,slow=32							
BVAR	**Borovoye Array**	**51.48**	**343**	P		**P**	**22 26 08.0**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=241,slow=37,SNR=2.9							
BVAR				LR		LR	22 48 41.3	
	comp=Z,84nm,19.5s,baz=232,slow=37							
	comp=Z,0.4nm,0.6s							
ABKAR	**Akbulak array**	**52.23**	**334**	P		**P**	**22 26 12.1**	**+0.2**
ABKAR				IAmb		IAmb	22 26 17.6	
	comp=Z,4.9nm,1.4s							
MJAR	**Matsushiro Arr**	**52.65**	**47**	LR		LR	22 49 58.8	
	comp=Z,31nm,21.0s,baz=232,slow=38							
KLR	**Kul'dur**	**55.55**	**30**	LR		LR	22 51 41.6	
	comp=Z,50nm,18.9s,baz=252,slow=38							
ARU	**Arti**	**58.17**	**339**	LR		LR	22 53 59.6	
	comp=Z,88nm,18.4s,baz=275,slow=38							
CTA	**Charters Tower**	**58.39**	**117**	LR		LR	22 56 26.1	
	comp=Z,72nm,18.0s,baz=264,slow=40							
STKA	**Stephens Creek**	**59.27**	**131**	P		**P**	**22 27 04.7**	**+2.0**
	comp=Z,0.8nm,0.4s,baz=333,slow=11,SNR=2.9							
	comp=Z,0.8nm,0.4s							
MBAR	**Mbarara**	**61.75**	**267**	LR		LR	22 51 51.1	
	comp=Z,56nm,18.7s,baz=196,slow=34							
H04N2	**CROZET ISLANDS**	**62.06**	**211**	T		T	23 36 11.1	
	baz=49,slow=75,SNR=14							
H04N1	**CROZET ISLANDS**	**62.07**	**211**	T		T	23 36 02.0	
	baz=49,slow=75,SNR=12							
H04N3	**CROZET ISLANDS**	**62.08**	**211**	T		T	23 35 55.9	
	baz=49,slow=75,SNR=26							
H04S1	**CROZET ISLANDS**	**62.47**	**210**	T		T	23 36 52.8	
	baz=47							
H04S3	**CROZET ISLANDS**	**62.48**	**210**	T		T	23 36 34.2	
	baz=47							
H04S2	**CROZET ISLANDS**	**62.49**	**210**	T		T	23 36 48.3	
	baz=47							
BRTR	**Keskin Array B**	**63.20**	**312**	P		**P**	**22 27 30.1**	**+0.7**
	comp=Z,1.2nm,1.1s,baz=127,slow=5.4,SNR=2.9							
	comp=Z,1.2nm,1.1s							

*IDC **01** 22:31:25.0±0.8, 30°.11N×87°.50E, h0km, mb3.8/13, mbtmp3.8/16, ML3.6/3, MS3.6/4, Error ellipse: s-maj=28.8km s-min=16.2km az=57.0*
ISC 01 22:31:26.8±0.8, **30°.2N**±0°.1×**87°.6E**±0°.1, **h10**km, **n27**, σ**1s18**/**29**, **mb3.9**/15, **MS4.1**/4, **1C-2D**, **Xizang**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSH	**Kashi**	**13.32**	**318**	P		**Pn**	**22 34 38.7**	**+2.6**
KSH				*s*P		P	22 34 46.4	+0.6
KSH				S		**Sn**	**22 37 01.4**	**-2.9**
KSH				pmax		pmax		
	comp=Z,9.0nm,0.9s							
DJR	**Jarkent**	**15.43**	**339**	*eP*		P	22 35 22.5	+13
	comp=Z,1.6nm,0.6s							
CMAR	**Chiang Mai Arr**	**15.58**	**136**	Pn		**Pn**	**22 35 07.4**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=328,slow=12,SNR=12							
CMAR				LR		LR	22 41 27.8	
	comp=Z,26nm,20.4s,baz=305,slow=39							
	comp=Z,1.9nm,0.9s							
AAK	**Ala-Archa**	**16.28**	**323**	Pn		**Pn**	**22 35 14.8**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=178,slow=21,SNR=1.5							
AAK				Sn		Sn	22 37 53.7	-23
	comp=Z,0.1nm,0.3s,baz=60,slow=20,SNR=2.4							
	comp=Z,0.2nm,0.4s							
MK31	**Makanchi Array**	**17.11**	**348**	Pg		**P**	**22 35 28.2**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=156,slow=12,SNR=12							
MK31				⇓Lg		Lg	22 36 55.8	
	comp=Z,2.2nm,0.6s,baz=162,slow=28,SNR=8.0							
MKAR	**Makanchi Array**	**17.11**	**348**	P		**Pn**	**22 35 25.7**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=154,slow=11,SNR=10							
	comp=Z,0.9nm,0.8s							
MAKZ	**Makanchi**	**17.18**	**347**	⇓Pg		**Pn**	**22 35 27.2**	**+0.3**
	comp=Z,0.1nm,0.5s							
MAKZ				⇓Lg		Lg	22 36 58.8	
	comp=Z,3.6nm,1.1s							
KURBB	**Kurchatov Arra**	**21.54**	**344**	P		**P**	**22 36 15.2**	**-0.8**
	comp=Z,2.4nm,1.0s,baz=157,slow=10,SNR=8.2							
	comp=Z,2.4nm,1.0s							
SONM	**Songino Array**	**22.82**	**34**	P		**P**	**22 36 30.1**	**+0.1**
	comp=Z,1.9nm,1.1s,baz=221,slow=9.4,SNR=8.8							
	comp=Z,1.9nm,1.1s							
ZALV	**Zalesovo Beam**	**23.85**	**356**	P		**P**	**22 36 40.2**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=184,slow=9.8,SNR=9.0							
	comp=Z,1.9nm,0.7s							
BVAR	**Borovoye Array**	**26.07**	**336**	P		**P**	**22 37 02.3**	**+1.9**
	comp=Z,0.9nm,0.7s,baz=138,slow=12,SNR=2.8							
	comp=Z,0.9nm,0.7s							
BRTR	**Keskin Array B**	**44.64**	**297**	P		**P**	**22 39 39.4**	**-0.4**
	comp=Z,1.3nm,1.1s,baz=91,slow

MNK				*i* P		**P**	**22 40 10.2**	**-0.3**
	comp=N,13nm,1.1s							
MNK				*i* P		**P**	**22 40 10.2**	**-0.3**
	comp=Z,8.0nm,0.8s,baz=95							
MNK				*i* PP		**PP**	**22 42 03.3**	**0.0**
MNK				*i* PPP		PPP	22 42 52.5	
MNK				*i* S		**S**	**22 47 13.1**	**+0.8**
MNK				*i* SS		**SS**	**22 50 44.9**	**+2.8**
MNK				*i* SSS		SSS	22 51 56.8	
MNK				*i* LQ		LQ	22 57 48.5	
MNK				*i* LR		LR	23 00 12.2	
MNK				*i* LRM		MLR	23 02 12.1	
	comp=Z,89nm,16.2s							
MNK				*i* LRM		MLR	23 02 25.0	
	comp=N,192nm,19.6s							
MNK				*i* LRM		MLR	23 02 50.1	
	comp=E,78nm,16.2s							
NACGM	**Naroch**	**49.29**	**318**	*e*P		**P**	**22 40 15.1**	**-0.5**
	comp=Z,6.0nm,1.1s,baz=94							
FINES	**FINESS Array B**	**50.43**	**327**	P		**P**	**22 40 23.4**	**-0.8**
	comp=Z,2.1nm,0.8s,baz=85,slow=4.0,SNR=5.9							
	comp=Z,2.1nm,0.8s							
ARCES	**ARCESS Array B**	**52.36**	**337**	P		**P**	**22 40 38.2**	**-0.4**
	comp=Z,3.2nm,0.9s,baz=102,slow=8.4,SNR=1.6							
	comp=Z,3.2nm,0.9s							
HFS	**Hagfors**	**56.41**	**325**	P		**P**	**22 41 08.2**	**0.0**
	comp=Z,3.5nm,0.8s,baz=123,slow=5.5,SNR=5.0							
	comp=Z,3.5nm,0.8s							
NOA	**NORSAR Array B**	**57.58**	**326**	P		**P**	**22 41 15.8**	**-0.7**
	comp=Z,1.6nm,0.9s,baz=84,slow=7.1,SNR=3.8							
	comp=Z,1.6nm,0.9s							
WRA	**Warramunga Arr**	**67.14**	**132**	P		**P**	**22 42 20.6**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=323,slow=6.2,SNR=7.2							
	comp=Z,0.8nm,0.7s							
ASAR	**Alice Springs**	**69.59**	**135**	P		**P**	**22 42 36.4**	**0.0**
	comp=Z,0.9nm,0.9s,baz=324,slow=6.8,SNR=6.5							
	comp=Z,0.9nm,0.9s							
BORG	**Borgarnes**	**70.65**	**335**	LR		LR	23 13 19.5	
	comp=Z,105nm,18.2s,baz=266,slow=36							
TORD	**Torodi Ar. Bea**	**80.00**	**279**	P		**P**	**22 43 36.8**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=52,slow=5.3,SNR=5.6							
	comp=Z,0.7nm,0.6s							
FRB	**Frobisher Bay**	**84.52**	**350**	LR		LR	23 26 44.3	
	comp=Z,91nm,19.0s,baz=212,slow=39							
YKA	**Yellowknife Ar**	**85.36**	**10**	P		**P**	**22 44 07.6**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=339,slow=4.9,SNR=4.0							
	comp=Z,0.1nm,0.3s							
SIV	**San Ignacio**	**148.01**	**289**	PKPbc		**PKPbc**	**22 51 12.2**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=88,slow=4.0,SNR=7.6							
CPUP	**Villa Florida**	**148.92**	**268**	PKPbc		**PKPbc**	**22 51 13.6**	**-1.7**
	comp=Z,1.6nm,0.5s,baz=85,slow=2.6,SNR=4.4							

DJA 01 22:41:13.7±1.3,**8°S**±4°×**11°7E**±°,**h11**km±12km,**M3.8**/10,
mb3.8/1,**MLv3.9**/10,**Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**1.02**	**199**	P	Pg	22 41 33.2	-0.1
TWSI				S	Sg	22 41 46.7	+0.1
PLAI	**Plampang**	**1.19**	**152**	P	Pb	22 41 36.0	-0.2
PLAI				S	Sb	22 41 51.5	-0.1
SRBI	**Singaraja**	**2.01**	**261**	P	Pn	22 41 47.2	-0.4
JAGI	**Jajag, Banyuwa**	**3.12**	**257**	P	Pn	22 42 03.2	+0.4
KMMI	**Kalianget**	**3.31**	**282**	P	Pn	22 42 06.1	+0.7
BLJI	**Banyuglugur**	**3.59**	**270**	P	Pn	22 42 10.7	+1.3
EDFI	**Ende, Flores**	**4.53**	**103**	P	Pn	22 42 22.4	0.0
GRJI	**Gresik**	**4.78**	**280**	P	Pn	22 42 25.6	-0.1
PWJI	**Pagerwojo**	**5.37**	**267**	P	Pn	22 42 34.6	+0.8

*TIF **01** 22:41:45.9,41°.84N×46°.35E,h34km*
*NORS **01** 22:41:45.9,41°.86N×46°.34E,h6km,MPVA3.9*
*MOS **01** 22:41:45.0,41°.85N×46°.40E,h23km,MPVA3.9*
*AZER **01** 22:41:46.4,41°.73N×46°.27E,h22km,ml3.0*
*DRS **01** 22:41:47.8,41°.86N×46°.31E,h17km*
*NSSP **01** 22:42:44.6,41°.80N×46°.23E,h10km,Ms3.2*
ISC 01 22:41:48.0±0.7,**41°.87N**±0°.01×**46°.35E**±0°.01,**h23**km±4km,
n136,σ1°25°/256,**7C-4D**,**Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGD	**Lagodekhi**	**0.09**	**246**	PG	**Pb**	**22 41 51.9**	**-0.4**
LGD				S	**Sb**	**22 41 56.0**	**+0.8**
LGD	**Lagodekhi**	**0.09**	**246**	P	**Pb**	**22 41 52.0**	**-0.4**
LGD				S	**Sb**	**22 41 56.0**	**+0.8**
ZKTA	**Zakatala**	**0.31**	**138**	PG	**Pb**	**22 41 54.2**	**-0.9**
ZKTA	**Zakatala**	**0.31**	**138**	P	**Pb**	**22 41 54.2**	**-0.9**
ZKTA				S	**Sb**	**22 42 00.0**	**+0.2**
KMKR	**Kumukh**	**0.62**	**65**	*e*PG	**Pb**	**22 41 58.8**	**-1.6**
KMKR				*e*S	**Sb**	**22 42 07.5**	**-1.2**
KMKR	**Kumukh**	**0.62**	**65**	*e*Pg	**Pb**	**22 41 58.8**	**-1.6**
	418nm,0.1s						
KMKR				*e*Sg	**Sb**	**22 42 07.5**	**-1.2**
	90nm,0.3s						
VSHL	**Vashlovani**	**0.64**	**176**	P	**Pb**	**22 42 00.6**	**0.0**
VSHL				S	**Sn**	**22 42 11.8**	**+0.6**
GNBR	**Gunib**	**0.69**	**41**	⇓*i*PG	**Pb**	**22 42 00.1**	**-1.4**
GNBR				*e*S	**Sb**	**22 42 10.1**	**-0.6**
GNBR	**Gunib**	**0.69**	**41**	*e*Pg	**Pb**	**22 42 00.1**	**-1.4**
	126nm,0.2s						
GNBR				*e*Sg	**Sb**	**22 42 09.8**	**-0.9**
	97nm,0.5s						
XNZR	**Khunzakh**	**0.72**	**22**	*e*Pg	**Pb**	**22 42 01.0**	**-1.1**
	187nm,0.3s						
XNZR				*e*Sg	**Sb**	**22 42 10.8**	**-0.8**
	50nm,0.4s						
HNZR	**Khunzah**	**0.74**	**22**	⇓*i*PG	**Pb**	**22 42 01.1**	**-1.3**
HNZR				*e*S	**Sb**	**22 42 11.2**	**-1.0**
ARKR	**Arakani**	**0.88**	**33**	*e*PG	**Pb**	**22 42 03.2**	**-1.4**
ARKR				*e*S	**Sb**	**22 42 15.1**	**-0.9**
ARKR	**Arakani**	**0.88**	**33**	*e*Pg	**Pb**	**22 42 03.3**	**-1.3**
	104nm,0.2s						
ARKR				*e*Sg	**Sb**	**22 42 15.1**	**-0.9**
	277nm,0.4s						
UNCR	**Uncukul**	**0.91**	**21**	⇑*i*PG	**Pb**	**22 42 03.9**	**-1.2**
UNCR				*i* S	**Sb**	**22 42 15.2**	**-1.6**
UNCR				pmax	pmax		
	comp=Z,74nm,0.4s						
UNCR				smax	smax		
	comp=N,277nm,0.4s						
UNCR	**Uncukul**	**0.91**	**21**	*e*Pg	**Pb**	**22 42 03.7**	**-1.5**
	comp=N,74nm,0.4s						
UNCR				*e*Sg	**Sb**	**22 42 15.9**	**-0.9**
	comp=N,181nm,0.5s						
SEKA	**Sheki**	**0.92**	**136**	PG	**Pb**	**22 42 03.3**	**-2.0**
SEKA	**Sheki**	**0.92**	**136**	Pg	**Pb**	**22 42 03.3**	**-2.0**
SEKA				Sg	**Sb**	**22 42 16.5**	**-0.6**
URKR	**Urkarakh**	**1.00**	**72**	⇑*i*PG	**Pb**	**22 42 06.1**	**-0.7**
URKR				*i* S	**Sb**	**22 42 18.9**	**-0.8**
URKR				pmax	pmax		
	comp=Z,41nm,0.3s						
URKR				smax	smax		
	comp=N,185nm,0.6s						
URKR	**Urkarakh**	**1.00**	**72**	*e*Pg	**Pb**	**22 42 05.8**	**-1.1**
	comp=N,41nm,0.3s						
URKR				*e*Sg	**Sb**	**22 42 19.1**	**-0.6**
	comp=N,177nm,0.3s						
QZX	**Qazax, Azerbai**	**1.09**	**222**	P	**Pn**	**22 42 06.5**	**-1.5**
QZX				S	**Sb**	**22 42 21.9**	**-0.2**
AKT	**Akhty**	**1.11**	**110**	*e*PG	**Pn**	**22 42 06.1**	**-2.1**
AKT				*i* S	**Sb**	**22 42 21.2**	**-1.4**
AKT				pmax	pmax		
	comp=Z,49nm,0.3s						
AKT				smax	smax		
	comp=N,156nm,0.4s						
AKT	**Akhty**	**1.11**	**110**	*e*Pg	**Pn**	**22 42 06.2**	**-2.1**
	comp=N,48nm,0.3s						
AKT				*e*Sg	**Sb**	**22 42 20.9**	**-1.7**
	comp=N,248nm,0.4s						
BUJR	**Buynaksk**	**1.11**	**30**	*e*PG	**Pn**	**22 42 07.5**	**-0.7**
BUJR				*i* S	**Sn**	**22 42 22.8**	**0.0**
BUJR				pmax	pmax		
	comp=Z,91nm,0.3s						
BUJR				smax	smax		
	comp=E,318nm,0.4s						
BUJR	**Buynaksk**	**1.11**	**30**	*e*Pg	**Pn**	**22 42 07.5**	**-0.7**
	comp=E,90nm,0.3s						
BUJR				*e*Sg	**Sn**	**22 42 22.6**	**-0.2**
	comp=E,133nm,0.4s						
SGKR	**Sergokala**	**1.14**	**58**	*e*PG	**Pb**	**22 42 08.4**	**-0.7**
SGKR				*i* S	**Sn**	**22 42 24.0**	**+0.4**
SGKR				pmax	pmax		
	comp=Z,56nm,0.3s						
SGKR				smax	smax		
	comp=N,194nm,0.4s						
SGKR	**Sergokala**	**1.14**	**58**	*e*Pg	**Pb**	**22 42 08.4**	**-0.7**
	comp=N,56nm,0.3s						
SGKR				*e*Sg	**Sn**	**22 42 23.8**	**+0.2**
	comp=N,111nm,0.7s						
CHRG	**Chargali**	**1.15**	**294**	P	**Pn**	**22 42 07.2**	**-1.6**
CHRG				S	**Sb**	**22 42 22.9**	**-1.1**
SEAG	**Tbilisi Sea**	**1.16**	**265**	PG	**Pn**	**22 42 07.9**	**-1.0**
SEAG				S	**Sn**	**22 42 24.5**	**+0.5**
SEAG	**Tbilisi Sea**	**1.16**	**265**	P	**Pn**	**22 42 07.9**	**-1.0**
SEAG				S	**Sn**	**22 42 24.6**	**+0.5**
SHTL	**Shatili**	**1.18**	**312**	PG	**Pn**	**22 42 07.7**	**-1.6**
SHTL				S	**Sb**	**22 42 23.6**	**-1.2**
SHTL	**Shatili**	**1.18**	**312**	P	**Pn**	**22 42 07.8**	**-1.6**
SHTL				S	**Sb**	**22 42 23.6**	**-1.2**
DBC	**Dubki**	**1.20**	**17**	⇑*i*PG	**Pn**	**22 42 08.9**	**-0.7**
DBC				*e*S	**Sb**	**22 42 26.8**	**+1.4**
DBC	**Dubki**	**1.20**	**17**	*e*Pg	**Pn**	**22 42 08.8**	**-0.7**
	comp=N,41nm,0.7s						
DBC				*e*Sg	**Sb**	**22 42 25.0**	**-0.3**
	comp=N,500nm,0.5s						
DLMR	**Dylym**	**1.22**	**10**	*e*PG	**Pn**	**22 42 09.4**	**-0.3**
DLMR				*i* S	**Sb**	**22 42 26.4**	**+0.7**
DLMR				pmax	pmax		
	comp=Z,81nm,0.3s						
DLMR				smax	smax		
	comp=N,358nm,0.5s						
DLMR	**Dylym**	**1.22**	**10**	*e*Pg	**Pn**	**22 42 09.4**	**-0.3**
	comp=N,81nm,0.3s						
DLMR				*e*Sg	**Sb**	**22 42 26.1**	**+0.4**
	comp=N,2.0nm,0.4s						
GANJ	**Ganja**	**1.22**	**181**	PG	**Pn**	**22 42 08.0**	**-1.7**
GANJ	**Ganja**	**1.22**	**181**	P	**Pn**	**22 42 08.1**	**-1.7**
GANJ				S	**Sn**	**22 42 24.5**	**-1.1**
MNGR	**Mingechevir, A**	**1.23**	**153**	PG	**Pn**	**22 42 09.4**	**-0.4**
MNGR	**Mingechevir, A**	**1.23**	**153**	P	**Pn**	**22 42 09.4**	**-0.4**
MNGR				S	**Sb**	**22 42 27.4**	**+1.4**
GDB	**GEDABAY**	**1.23**	**201**	P	**Pn**	**22 42 08.2**	**-1.9**
GDB				S	**Sn**	**22 42 24.9**	**-1.1**
KSMR	**Kasumkent**	**1.36**	**101**	*e*PG	**Pn**	**22 42 11.5**	**-0.2**
KSMR				*i* S	**Sb**	**22 42 30.0**	**+0.2**
KSMR				pmax	pmax		
	comp=Z,51nm,0.4s						
KSMR				smax	smax		
	comp=N,2.0nm,0.4s						
KSMR	**Kasumkent**	**1.36**	**101**	*e*Pg	**Pn**	**22 42 11.5**	**-0.2**
	comp=N,50nm,0.4s						
KSMR				*e*Sg	**Sb**	**22 42 29.6**	**-0.3**
	comp=N,194nm,0.4s						
MAK	**Makhachkala**	**1.39**	**38**	*e*PG	**Pb**	**22 42 12.6**	**-0.7**
MAK				*e*S	**Sb**	**22 42 30.6**	**0.0**
MAK	**Makhachkala**	**1.39**	**38**	*e*Pg	**Pb**	**22 42 12.6**	**-0.7**
MAK				*e*Sg	**Sb**	**22 42 30.6**	**0.0**
QBL	**Gabala**	**1.45**	**129**	Pn	**Pn**	**22 42 12.8**	**-0.2**
QBL				Sn	**Sb**	**22 42 32.9**	**+0.4**
QSAR	**Qusar**	**1.48**	**103**	Pn	**Pb**	**22 42 13.8**	**-1.1**
QSAR				Sn	**Sb**	**22 42 37.9**	**+4.6**
DRN	**Derbent**	**1.49**	**83**	*e*PG	**Pb**	**22 42 15.0**	**0.0**
DRN				*e*S	**Sb**	**22 42 34.9**	**+1.5**
DRN	**Derbent**	**1.49**	**83**	*e*Pg	**Pn**	**22 42 13.1**	**-0.3**
	comp=N,57nm,0.7s						
DRN				*e*Sg	**Sb**	**22 42 33.0**	**-0.4**
	comp=N,194nm,0.4s						
GUDG	**Gudauri**	**1.51**	**294**	*e*PG	**Pn**	**22 42 13.7**	**-0.2**
GUDG				*e*S	**Sb**	**22 42 34.0**	**-0.3**
GUDG	**Gudauri**	**1.51**	**294**	P	**Pn**	**22 42 13.4**	**-0.5**
GUDG				S	**Sb**	**22 42 33.8**	**-0.5**
GUDG	**Gudauri**	**1.51**	**294**	*e*Pg	**Pn**	**22 42 13.7**	**-0.2**
GUDG				*e*Sg	**Sb**	**22 42 34.6**	**+0.3**
XNQ	**Khinaliq**	**1.52**	**117**	Pn	**Pn**	**22 42 14.2**	**+0.2**
XNQ				Sn	**Sb**	**22 42 37.8**	**+3.3**
MTEO	**Meteo**	**1.57**	**302**	PG	**Pn**	**22 42 14.2**	**-0.7**
MTEO				S	**Sb**	**22 42 36.2**	**0.0**
MTEO	**Meteo**	**1.57**	**302**	P	**Pn**	**22 42 14.2**	**-0.7**
MTEO				S	**Sb**	**22 42 36.2**	**0.0**
KMGR	**Komgaron**	**1.61**	**318**	*e*PN	**Pb**	**22 42 17.5**	**+0.3**
KMGR				*e*S	**Sb**	**22 42 40.5**	**+3.3**
KMGR	**Komgaron**	**1.61**	**318**	*e*Pg	**Pb**	**22 42 17.0**	**-0.2**
KMGR				*e*Sg	**Sb**	**22 42 38.6**	**+1.4**
QUBA	**Quba, Azerbaij**	**1.69**	**107**	Pn	**Pb**	**22 42 17.5**	**-1.0**
QUBA				Sn	**Sb**	**22 42 42.0**	**+2.7**
STEZ	**Stepenevan**	**1.70**	**240**	⇓*i*P	**Pn**	**22 42 15.7**	**-0.8**
STEZ				⇓S	**Sb**	**22 42 39.3**	**-0.4**
DMNI	**Dmanisi**	**1.70**	**252**	PN	**Pn**	**22 42 15.4**	**-1.1**
DMNI	**Dmanisi**	**1.70**	**252**	P	**Pn**	**22 42 15.4**	**-1.1**
DMNI				S	**Sn**	**22 42 38.0**	**+0.4**
VLKR	**Vladikavkaz**	**1.71**	**314**	*e*PN	**Pb**	**22 42 18.4**	**-0.3**
VLKR				*e*S	**Sb**	**22 42 42.0**	**+2.2**
VLKR	**Vladikavkaz**	**1.71**	**314**	*e*Pg	**Pb**	**22 42 17.9**	**-0.9**
VLKR				*e*Sg	**Sb**	**22 42 41.9**	**+2.1**
TRLG	**Trialeti**	**1.71**	**260**	PN	**Pn**	**22 42 15.7**	**-0.9**
TRLG	**Trialeti**	**1.71**	**260**	P	**Pn**	**22 42 15.8**	**-0.9**
TRLG				S	**Sb**	**22 42 39.1**	**-1.0**
BRDA	**Brd**	**1.72**	**158**	Pn	**Pn**	**22 42 17.2**	**+0.6**
BRDA				Sn	**Sb**	**22 42 41.8**	**+1.6**
IML	**Ismayilli**	**1.75**	**127**	Pn	**Pn**	**22 42 17.7**	**+0.6**
IML				Sn	**Sb**	**22 42 41.7**	**+0.7**
LACR	**Lac**	**1.79**	**303**	*e*PN	**Pb**	**22 42 18.9**	**-1.4**
LACR				*e*S	**Sb**	**22 42 42.9**	**+0.5**
LACR	**Lac**	**1.79**	**303**	*e*Pg	**Pn**	**22 42 18.2**	**+0.5**
LACR				*e*Sg	**Sb**	**22 42 43.8**	**+1.4**
AGDM	**Agdam**	**1.85**	**162**	Pn	**Pn**	**22 42 18.4**	**0.0**
AGDM				Sn	**Sb**	**22 42 43.5**	**-0.5**
ZRD	**Zardab**	**1.88**	**147**	Pn	**Pn**	**22 42 19.2**	**+0.4**
ZRD				Sn	**Sb**	**22 42 46.0**	**+1.2**
BRNG	**Burnasheti**	**1.90**	**263**	PN	**Pn**	**22 42 19.5**	**+0.3**
BRNG	**Burnasheti**	**1.90**	**263**	P	**Pn**	**22 42 19.5**	**+0.3**
BRNG				S	**Sb**	**22 42 44.5**	**-1.0**
KAPZ	**Kaputan**	**1.98**	**219**	⇑*i*P	**Pn**	**22 42 21.2**	**+0.8**
KAPZ				⇑*i*S	**Sb**	**22 42 47.7**	**-0.2**
PQL	**Pirkuli**	**2.01**	**122**	Pn	**Pb**	**22 42 22.0**	**-1.9**
PQL				Sn	**Sb**	**22 42 50.3**	**+1.8**
ARNR	**Ardon**	**2.01**	**311**	*e*PN	**Pn**	**22 42 20.1**	**-0.5**
ARNR	**Ardon**	**2.01**	**311**	*e*Pg	**Pn**	**22 42 20.1**	**-0.5**
ARNR				*e*Sg	**Sb**	**22 42 49.3**	**+0.8**
ALIG	**Mtskhetisjvari**	**2.02**	**278**	PN	**Pn**	**22 42 20.8**	**0.0**
ALIG	**Mtskhetisjvari**	**2.02**	**278**	P	**Pn**	**22 42 20.9**	**0.0**
ALIG				S	**Sb**	**22 42 47.5**	**-1.4**
KDMR	**Kurdemir**	**2.04**	**136**	Pn	**Pn**	**22 42 21.5**	**+0.6**
KDMR				Sn	**Sb**	**22 42 48.4**	**-0.8**
SIZA	**Siyzn**	**2.08**	**112**	Pg	**Pb**	**22 42 24.2**	**-0.9**
SIZA				Sg	**Sb**	**22 42 55.7**	**+5.3**
KORR	**Kora**	**2.08**	**307**	*e*PN	**Pn**	**22 42 21.8**	**+0.2**
KORR				*e*S	**Sb**	**22 42 50.1**	**-0.4**
KORR	**Kora**	**2.08**	**307**	*e*Pg	**Pn**	**22 42 21.8**	**+0.2**
KORR				*e*Sg	**Sb**	**22 42 50.1**	**-0.4**
GNI	**Garni**	**2.10**	**216**	⇑*i*P	**Pn**	**22 42 23.5**	**+1.5**
GNI				⇑*i*S	**Sb**	**22 42 51.9**	**+0.6**
GNI	**Garni**	**2.10**	**216**	*i* PN	**Pn**	**22 42 22.8**	**+0.8**
GNI				pmax	pmax		
	comp=Z,54nm,0.4s						
GNI	**Garni**	**2.10**	**216**	*e*Pg	**Pn**	**22 42 23.1**	**+1.1**
GNI				*e*Sg	**Sb**	**22 42 50.4**	**-0.9**
BGD	**Bogdanovka**	**2.15**	**255**	PN	**Pn**	**22 42 23.6**	**+1.0**
BGD				S	**Sb**	**22 42 52.0**	**-0.6**
BGD	**Bogdanovka**	**2.15**	**255**	P	**Pn**	**22 42 23.6**	**+1.0**
BGD				S	**Sb**	**22 42 52.0**	**-0.6**
AKH	**Akhalkalaki**	**2.19**	**259**	PN	**Pn**	**22 42 24.1**	**+0.9**
AKH				S	**Sb**	**22 42 52.1**	**-1.6**
AKH	**Akhalkalaki**	**2.19**	**259**	P	**Pn**	**22 42 24.1**	**+0.9**
AKH				S	**Sb**	**22 42 52.1**	**-1.6**
ATGJ	**Altiaghaj**	**2.20**	**116**	Pg	**Pb**	**22 42 26.0**	**-1.1**
ATGJ				Sn	**Sb**	**22 42 52.6**	**-1.3**
TRKR	**Terskaya**	**2.20**	**328**	*e*PN	**Pn**	**22 42 22.4**	**-0.8**
TRKR				*e*S	**Sb**	**22 42 53.8**	**-0.1**
TRKR	**Terskaya**	**2.20**	**328**	*e*Pg	**Pn**	**22 42 22.4**	**-0.8**
TRKR				*e*Sg	**Sb**	**22 42 53.8**	**-0.1**
NRKZ	**NAREK**	**2.26**	**215**	*e*P	**Pb**	**22 42 26.1**	**-2.1**
NRKZ				*e*S	**Sb**	**22 42 56.5**	**+0.7**
ONI	**Oni**	**2.27**	**289**	PN	**Pn**	**22 42 25.4**	**+1.3**
ONI	**Oni**	**2.27**	**289**	P	**Pn**	**22 42 25.4**	**+1.3**
DIGR	**Digorskoe uzhe**	**2.29**	**298**	*e*PN	**Pb**	**22 42 26.5**	**-2.3**
DIGR				*e*S	**Sb**	**22 42 56.5**	**-0.3**
DIGR	**Digorskoe uzhe**	**2.29**	**298**	*e*Pn	**Pn**	**22 42 25.7**	**+1.1**
DIGR				*e*Sn	**Sb**	**22 42 54.4**	**-2.4**
ARUZ	**Aruch**	**2.33**	**228**	*e*P	**Pb**	**22 42 27.1**	**-2.3**
ARUZ				*e*S	**Sb**	**22 42 57.9**	**+0.2**
LSNR	**Lesken**	**2.33**	**308**	*e*PN	**Pb**	**22 42 29.0**	**-0.4**
LSNR				*e*S	**Sb**	**22 42 56.6**	**-1.2**
LSNR	**Lesken**	**2.33**	**308**	*e*Pn	**Pb**	**22 42 29.0**	**-0.4**
LSNR				*e*Sn	**Sb**	**22 42 56.6**	**-1.2**
BLQ	**Beylaqan**	**2.34**	**156**	Pn	**Pn**	**22 42 24.9**	**-0.1**
BLQ				Sg	**Sb**	**22 42 57.5**	**-0.3**
GBS	**Qobustan**	**2.37**	**123**	Pn	**Pb**	**22 42 27.6**	**-2.5**
GBS				Sn	**Sb**	**22 42 56.6**	**-2.3**
METS	**Metsamor**	**2.43**	**226**	*e*P	**Pb**	**22 42 28.8**	**-2.2**
METS				*e*S	**Sb**	**22 43 01.1**	**+0.6**
HYR	**Heyderabad**	**2.43**	**208**	Sg	**Sb**	**22 43 00.4**	**-0.2**
QRD	**Qoradiz**	**2.52**	**163**	Pn	**Pn**	**22 42 27.0**	**-0.5**
QRD				Sg	**Sb**	**22 43 03.0**	**-0.1**
TKB	**Tkibuli**	**2.54**	**282**	PN	**Pb**	**22 42 30.7**	**-2.2**
TKB				S	**Sb**	**22 43 02.9**	**-0.8**
TKB	**Tkibuli**	**2.54**	**282**	P	**Pb**	**22 42 30.7**	**-2.2**
TKB				S	**Sb**	**22 43 02.9**	**-0.8**
SBZ	**Shahbuz**	**2.54**	**194**	Pn	**Pn**	**22 42 28.3**	**+0.3**
SBZ				Sg	**Sb**	**22 43 04.5**	**+0.6**
SAAT	**Saatly**	**2.55**	**141**	Sn	**Sn**	**22 42 58.0**	**-0.3**
NCK	**Nalchik**	**2.60**	**310**	*i* PN	**Pn**	**22 42 30.4**	**+1.7**
NCK				pmax	pmax		
	comp=Z,13nm,0.3s						
VNNZ	**Vanand**	**2.60**	**228**	*e*P	**Pb**	**22 42 31.9**	**-2.1**
VNNZ				*e*S	**Sb**	**22 43 06.7**	**+1.1**
ABS	**Abastumani**	**2.64**	**269**	PN	**Pn**	**22 42 29.8**	**+0.4**
ABS				S	**Sb**	**22 43 08.3**	**+1.5**
ABS	**Abastumani**	**2.64**	**269**	P	**Pn**	**22 42 29.8**	**+0.4**
ABS				S	**Sb**	**22 43 08.3**	**+1.5**
NAX	**Nakhchivan**	**2.77**	**194**	PN	**Pb**	**22 42 35.6**	**-1.3**
NAX	**Nakhchivan**	**2.77**	**194**	Pg	**Pb**	**22 42 35.5**	**-1.4**
NAX				Sg	**Sb**	**22 43 12.8**	**+2.4**
ORD	**Ordubad**	**2.95**	**185**	Pn	**Pn**	**22 42 32.7**	**-0.9**
ORD				Sg	**Sb**	**22 43 17.4**	**+1.8**
GLBA	**Clilabad**	**3.05**	**149**	Pn	**Pn**	**22 42 34.6**	**-0.3**
GLBA				Sg	**Sb**	**22 43 19.9**	**+1.5**
KBZ	**Khabaz**	**3.15**	**307**	*i* PN	**Pn**	**22 42 37.9**	**+1.8**
KBZ	**Khabaz**	**3.15**	**307**	*e*Pn	**Pn**	**22 42 38.0**	**+1.8**
KBZ				*e*Sn	**Sn**	**22 43 15.5**	**+2.5**
PYA1	**Pyatigorsk**	**3.24**	**314**	*e*PN	**Pn**	**22 42 37.2**	**-0.3**
PYA1				*e*S	**Sn**	**22 43 16.6**	**+1.2**
PYA1	**Pyatigorsk**	**3.24**	**314**	*e*Pn	**Pn**	**22 42 37.1**	**-0.3**
PYA1				*e*Sn	**Sn**	**22 43 16.6**	**+1.2**
YRD	**Yardimli**	**3.29**	**153**	Pn	**Pn**	**22 42 37.5**	**-0.8**
YRD				Sn	**Sn**	**22 43 16.8**	**+0.1**
SHA1	**Shidzhatmaz**	**3.29**	**306**	*i* PN	**Pn**	**22 42 39.3**	**+0.9**
SHA1	**Shidzhatmaz**	**3.29**	**306**	*e*Pn	**Pn**	**22 42 39.4**	**+1.0**
SHA1				*e*Sn	**Sn**	**22 43 17.9**	**+0.9**
BEYR	**Belyy Ugol+**	**3.36**	**311**	*e*PN	**Pn**	**22 42 38.4**	**-0.8**
BEYR				*e*S	**Sn**	**22 43 18.2**	**-0.2**
BEYR	**Belyy Ugol+**	**3.36**	**311**	*e*Pn	**Pn**	**22 42 38.4**	**-0.8**
BEYR				*e*Sn	**Sn**	**22 43 18.2**	**-0.2**
KIV0	**Kislovodsk Arr**	**3.40**	**309**	*e*Pn	**Pn**	**22 42 39.6**	**-0.1**
KIV0				*e*Sn	**Sn**	**22 43 21.8**	**+2.5**
KIV	**Kislovodsk**	**3.40**	**309**	*i* PN	**Pn**	**22 42 40.6**	**+0.8**
KIV				pmax	pmax		
	comp=Z,1.0nm,0.2s						
KIV	**Kislovodsk**	**3.40**	**309**	*e*Pn	**Pn**	**22 42 39.9**	**+0.1**
KIV				*e*Sn	**Sn**	**22 43 17.9**	**-1.6**
LRK	**Lerik**	**3.57**	**154**	Pn	**Pn**	**22 42 41.4**	**-0.7**
LRK				Sn	**Sn**	**22 43 24.6**	**+1.0**
ASTR	**Astara**	**3.80**	**150**	Pn	**Pn**	**22 42 44.5**	**-0.6**
ASTR				Sn	**Sn**	**22 43 30.6**	**+1.5**
ALER	**Alexandrovskoy**	**3.83**	**320**	*e*PN	**Pn**	**22 42 46.3**	**+0.8**
ALER				*e*S	**Sn**	**22 43 30.0**	**+0.2**
ALER	**Alexandrovskoy**	**3.83**	**320**	*e*Pn	**Pn**	**22 42 46.3

VLDR	**Vladesti**	**1.12**	**79**	⇑P	**Pn**	**22 58 04.7**	**+0.4**
VLDR				⇑S	**Sn**	**22 58 24.0**	**+0.1**
AMRR	**Amara**	**1.18**	**150**	⇓P	**Pn**	**22 58 05.3**	**+0.5**
AMRR				⇓S	**Sn**	**22 58 25.0**	**+0.1**
GIUM	**Giurgiulesti**	**1.20**	**97**	⇑P	**Pn**	**22 58 05.6**	**+0.6**
GIUM				⇓S	**Sn**	**22 58 25.7**	**+0.5**
INCR	**INCERC-Sediu C**	**1.22**	**192**	⇑S	**Sn**	**22 58 25.4**	**-0.1**
CFR	**Carcaliu**	**1.23**	**111**	⇑P	**Pn**	**22 58 05.4**	**+0.1**
CFR				⇑S	**Sn**	**22 58 26.3**	**+0.5**
CIOR	**Ciorogarla**	**1.27**	**201**	⇑S	**Sn**	**22 58 26.8**	**+0.5**
BUC1	**Bucharest**	**1.33**	**195**	⇑P	**Pn**	**22 58 06.4**	**+0.1**
BUC1				⇓S	**Sn**	**22 58 27.3**	**-0.2**
BIZ	**Bicaz**	**1.33**	**348**	⇑P	**Pn**	**22 58 07.0**	**+0.7**
STFAR	**Stefanesti-Arg**	**1.34**	**235**	⇓P	**Pn**	**22 58 06.5**	**+0.1**
STFAR				⇑S	**Sn**	**22 58 28.5**	**+0.9**
VASR	**Vaslui**	**1.34**	**41**	⇑P	**Pn**	**22 58 06.5**	**+0.1**
VASR				⇑S	**Sn**	**22 58 27.0**	**-0.8**
HARR	**Harsova**	**1.38**	**133**	⇓P	**Pn**	**22 58 07.0**	**+0.3**
SGRR	**Singureni**	**1.46**	**195**	⇓P	**Pn**	**22 58 07.8**	**+0.2**
SGRR				⇑S	**Sn**	**22 58 30.2**	**+0.3**
LEOM	**Leova**	**1.47**	**55**	⇑P	**Pn**	**22 58 08.2**	**+0.5**
LEOM				⇓S	**Sn**	**22 58 30.5**	**+0.4**
HUMR	**Humele**	**1.55**	**225**	⇓P	**Pn**	**22 58 08.5**	**-0.1**
HUMR				⇓S	**Sn**	**22 58 31.1**	**-0.4**
TPGR	**Topolog**	**1.56**	**119**	⇑P	**Pn**	**22 58 08.7**	**0.0**
TPGR				⇑S	**Sn**	**22 58 30.4**	**-1.4**
TLCR		**1.69**	**105**	⇑P	**Pn**	**22 58 10.1**	**+0.1**
TLCR				⇑S	**Sn**	**22 58 34.0**	**0.0**
CVDA	**Cernavoda**	**1.69**	**140**	⇑P	**Pn**	**22 58 10.5**	**+0.4**
CVDA				⇑S	**Sn**	**22 58 33.9**	**-0.4**
TIRR	**Tirgusor**	**1.79**	**130**	⇓P	**Pn**	**22 58 11.4**	**+0.2**
TIRR				⇓S	**Sn**	**22 58 35.3**	**-0.9**
LOT	**Lotru**	**1.93**	**265**	⇓S	**Sn**	**22 58 40.1**	**+0.7**
MFTR	**Murfatlar**	**1.99**	**136**	⇓P	**Pn**	**22 58 13.7**	**+0.3**
MFTR				⇑S	**Sn**	**22 58 39.9**	**-0.5**
MILM	**Milestii Mici**	**2.05**	**50**	⇓P	**Pn**	**22 58 15.1**	**+1.1**
MILM				⇓S	**Sn**	**22 58 40.1**	**-1.4**
RAZG	**Razgrad**	**2.07**	**180**	⇑P	**Pn**	**22 58 14.5**	**+0.1**
RAZG				⇑S	**Sn**	**22 58 42.0**	**0.0**
KIS	**Kishinev**	**2.10**	**49**	⇓S	**Sn**	**22 58 41.7**	**-0.9**
EFOR	**EFORIE**	**2.17**	**135**	⇑S	**Sn**	**22 58 43.9**	**-0.1**
BURAR	**Bucovina Array**	**2.17**	**336**	⇓P	**Pn**	**22 58 16.8**	**+1.2**
BURAR				⇑S	**Sn**	**22 58 45.3**	**+1.0**
VLAD	**Vladila**	**2.22**	**223**	⇑S	**Sn**	**22 58 44.7**	**-0.4**
PSN	**Preselentsi**	**2.31**	**149**	P	**Pn**	**22 58 17.8**	**+0.5**
SZH	**Strazhitsa**	**2.40**	**189**	P	**Pn**	**22 58 18.1**	**-0.3**
SZH				S	**Sn**	**22 58 46.8**	**-2.3**
NEF	**NEVSHA**	**2.43**	**167**	P	**Pn**	**22 58 19.0**	**+0.2**
PURM	**Purcari**	**2.51**	**68**	⇑S	**Sn**	**22 58 50.6**	**-0.7**
PRD	**Provadia**	**2.56**	**165**	P	**Pn**	**22 58 20.6**	**+0.3**
PLVB	**Pleven**	**2.62**	**212**	⇑P	**Pn**	**22 58 20.9**	**-0.2**
AVR	**AVREN**	**2.65**	**161**	P	**Pn**	**22 58 22.0**	**+0.6**
SORM	**Soroca**	**2.80**	**26**	⇓P	**Pn**	**22 58 22.9**	**-0.3**
MPEP	**Malo Peshtene**	**3.02**	**222**	P	**Pn**	**22 58 26.0**	**-0.1**

*IDC **01** 23:10:11.3±0.9, 0.°67N×123.°46E, h0km, mb3.9/9, mbtmp3.9/9, Error ellipse: s-maj=59.3km s-min=18.6km az=64.0*

*NEIC **01** 23:10:31.5±1.8, 0.°46N±0.°08×123.°63E±0.°04, h185km±10km, mb4.2/13, Error ellipse: s-maj=12.0km s-min=4.6km az=192.0*

*DJA **01** 23:10:32.3±0.4, 0.°N±4.°×12.°4E±.°, h181km±5km, M4.5/13, mb4.6/6, mB5.2/2, MLv4.4/13, Mw(mB)4.5/2*

ISC 01 23:10:31.2±0.7, 0.°45N±0.°05×123.°64E±0.°04, h190km±6km, n40, σ1°33/48, mb4.1/16, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KMSI	**Cibinong**	**0.36**	**70**	P		**Pn**	**23 10 55.6**	**-1.1**
GTOI	**Gorontalo**	**0.66**	**286**	P		**Pn**	**23 10 59.8**	**+1.9**
GTOI				S		**Sn**	**23 11 20.3**	**+1.9**
MRSI	**Marisa**	**1.70**	**271**	P		**Pn**	**23 11 06.3**	**+0.4**
MRSI				S		**Sn**	**23 11 32.2**	**-0.7**
LUWI	**Luwuk**	**1.72**	**210**	Pn		**Pn**	**23 11 06.4**	**+0.3**
LUWI				Sn		**Sn**	**23 11 31.6**	**-1.7**
LUWI	**Luwuk**	**1.72**	**210**	P		**Pn**	**23 11 05.7**	**-0.4**
LUWI				S		**Sn**	**23 11 31.2**	**-2.1**
TOLI2	**Tolitoli**	**2.94**	**283**	Pn		**Pn**	**23 11 20.4**	**+0.8**
TOLI2				Sn		**Sn**	**23 11 55.6**	**-1.7**
SANI	**Sanana**	**3.42**	**137**	P		**Pn**	**23 11 24.4**	**-1.0**
SGSI	**Sangihe**	**3.73**	**30**	P		**Pn**	**23 11 32.1**	**+2.9**
TNTI	**Ternate**	**3.74**	**85**	Pn		**Pn**	**23 11 30.7**	**+1.3**
TNTI				Sn		**Sn**	**23 12 14.6**	**-0.4**
TNTI	**Ternate**	**3.74**	**85**	P		**Pn**	**23 11 30.5**	**+1.1**
MPSI	**Mapaga**	**3.75**	**268**	P		**Pn**	**23 11 29.1**	**-0.4**
LBMI	**Labuha**	**4.01**	**106**	P		**Pn**	**23 11 33.7**	**+1.0**
LBMI				S		**Sn**	**23 12 19.6**	**-1.4**
NLAI	**Namlea**	**5.04**	**137**	P		**Pn**	**23 11 47.1**	**+1.2**
	141nm,0.4s,8µm1.7nm							
TTSI	**Tana Toraja**	**5.16**	**228**	P		**Pn**	**23 11 48.5**	**+1.0**
	173nm,0.8s,2µm0.6nm							
KAPI	**Kappang**	**6.67**	**216**	Pn		**Pn**	**23 12 08.3**	**+1.2**
KAPI				Sn		**Sn**	**23 13 22.7**	**-0.4**
JAGI	**Jajag, Banyuwa**	**12.96**	**227**	P		**P**	**23 13 33.6**	**+1.4**
MTN	**Manton Dam**	**15.15**	**151**			**Pn**	**23 13 56.4**	**+0.6**
MTN				IAmb		IAmb	23 14 17.9	
	comp=Z,21nm,1.2s							
UGM	**Wanagama**	**15.49**	**237**			**P**	**23 14 00.2**	**-0.1**
KNRA	**Kununurra**	**16.80**	**163**	P		**Pn**	**23 14 15.7**	**+0.1**
KNRA				IAmb		IAmb	23 14 16.5	
	comp=Z,11nm,0.6s							
FITZ	**Fitzroy Crossi**	**18.54**	**174**	P		**P**	**23 14 34.0**	**+0.4**
WB0	**Warramunga Arr**	**22.69**	**153**	P		**P**	**23 15 17.1**	**+0.4**
WB0				IAmb		IAmb	23 15 46.4	
	comp=Z,10nm,1.3s							
WRAB	**Tennant Creek**	**22.81**	**153**	P		**P**	**23 15 18.7**	**+0.9**
WRAB				IAmb		IAmb	23 15 33.5	
	comp=Z,5.6nm,1.1s							
WRA	**Warramunga Arr**	**22.82**	**153**	P		**P**	**23 15 17.7**	**-0.1**
WRA	**Warramunga Arr**	**22.82**	**153**	P		**P**	**23 15 18.2**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=337,slow=11,SNR=26							
	comp=Z,1.7nm,0.5s							
WB2	**Warramunga Arr**	**22.82**	**153**	P		**P**	**23 15 18.1**	**+0.2**
WB2				IAmb		IAmb	23 15 51.2	
	comp=Z,9.2nm,1.3s							
ASAR	**Alice Springs**	**25.96**	**158**	P		**P**	**23 15 49.6**	**+3.3**
	comp=Z,0.2nm,0.3s,baz=344,slow=13,SNR=1.9							
	comp=Z,0.2nm,0.3s							
CMAR	**Chiang Mai Arr**	**30.14**	**308**	P		**P**	**23 16 22.6**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=124,slow=7.1,SNR=2.6							
	comp=Z,0.6nm,0.4s							
JSG	**Sagara**	**36.66**	**20**	P		**P**	**23 17 17.1**	**-2.5**
HHC	**Hu-ho-hao-te**	**41.68**	**346**	*e*P		**P**	**23 17 58.4**	**-2.8**
HHC				pmax	pmax			
	comp=Z,5.0nm,0.5s							
HHC				pmax	pmax			
	comp=Z,120nm,5.6s							
USRK	**Ussuriysk Ar.**	**44.19**	**9**	P		**P**	**23 18 21.3**	**+0.1**
	comp=Z,3.0nm,0.8s,baz=182,slow=6.7,SNR=5.5							
	comp=Z,3.0nm,0.8s							
SONM	**Songino Array**	**49.52**	**345**	P		**P**	**23 19 02.5**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=157,slow=8.5,SNR=5.5							
	comp=Z,0.8nm,0.7s							
WMQ	**Urumqi**	**53.75**	**328**	*e*P		**P**	**23 19 36.7**	**+2.8**
WMQ				pmax	pmax			
	comp=Z,10.0nm,0.9s							
MK31	**Makanchi Array**	**58.57**	**328**	P		**P**	**23 20 07.9**	**-0.1**
MK31				IAmb		IAmb	23 20 08.9	
	comp=Z,2.0nm,0.6s							
MKAR	**Makanchi Array**	**58.57**	**328**	P		**P**	**23 20 07.5**	**-0.4**
MKAR	**Makanchi Array**	**58.57**	**328**	P		**P**	**23 20 08.2**	**+0.2**
	comp=Z,3.0nm,0.5s,baz=122,slow=8.7,SNR=69							
	comp=Z,3.0nm,0.5s							
MAKZ	**Makanchi**	**58.75**	**328**	P		**P**	**23 20 08.8**	**-0.4**
MAKZ				IAmb		IAmb	23 20 10.2	
	comp=Z,2.5nm,0.5s							
ZALV	**Zalesovo Beam**	**62.17**	**335**	P		**P**	**23 20 31.2**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=130,slow=6.0,SNR=4.3							
	comp=Z,0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**62.90**	**330**	P		**P**	**23 20 36.7**	**-0.3**
	comp=Z,3.0nm,0.7s,baz=132,slow=6.5,SNR=39							
	comp=Z,3.0nm,0.7s							
KURK	**Kurchatov**	**62.91**	**330**			**P**	**23 20 37.1**	**0.0**
BVAR	**Borovoye Array**	**68.43**	**329**	P		**P**	**23 21 12.4**	**0.0**
	comp=Z,1.0nm,0.7s,baz=134,slow=8.5,SNR=5.3							
	comp=Z,1.0nm,0.7s							

IDC 01 23:20:13.1±3.9, 5.°80S×151.°16E, h0km, mb3.3/2, mbtmp3.4/2, Error ellipse: s-maj=152.4km s-min=51.9km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**21.57**	**228**	P		P	23 25 05.0	+0.4
	0.7nm,0.6s,baz=53,slow=11,SNR=5.0							
	0.7nm,0.6s							
ASAR	**Alice Springs**	**24.32**	**221**	P		P	23 25 32.4	-0.4
	0.8nm,0.8s,baz=58,slow=8.7,SNR=7.9							
	0.8nm,0.8s							
TORD	**Torodi Ar. Bea**	**149.03**	**286**	PKPbc		PKPbc	23 40 04.0	-0.4
	0.2nm,0.4s,baz=56,slow=3.8,SNR=4.3							

*IDC **01** 23:36:17.1±2.0, 6.°08S×143.°16E, h0km, mb3.8/4, mbtmp3.7/6, ML3.6/2, Error ellipse: s-maj=78.5km s-min=30.6km az=105.0*

ISC 01 23:36:22.1±1.7, 6.°2S±0.°2×143.°2E±0.°5, h35km, n6, σ1°25/8, mb3.7/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**16.13**	**212**	Pn		**Pn**	**23 40 05.9**	**-0.4**
	0.2nm,0.3s,baz=30,slow=14,SNR=1.7							
WRA				Sn		**Sn**	**23 43 02.7**	**-1.5**
	0.1nm,0.3s,baz=26,slow=23,SNR=1.6							
	0.4nm,0.5s							
ASAR	**Alice Springs**	**19.51**	**206**	P		**P**	**23 40 47.4**	**+0.8**
	0.2nm,0.3s,baz=31,slow=10,SNR=8.0							
ASAR				S		**S**	**23 44 26.3**	**+1.1**
	0.2nm,0.3s,baz=36,slow=25,SNR=1.5							
	1.3nm,0.6s							
MKAR	**Makanchi Array**	**75.32**	**322**	P		**P**	**23 48 01.9**	**0.0**
	0.3nm,0.6s,baz=101,slow=6.3,SNR=4.5							
	0.3nm,0.6s							
ZALV	**Zalesovo Beam**	**77.24**	**329**	P		**P**	**23 48 10.9**	**-1.7**
	0.3nm,0.4s,baz=117,slow=6.6,SNR=2.0							
	0.3nm,0.4s							
BVAR	**Borovoye Array**	**84.77**	**325**	P		**P**	**23 48 53.4**	**+0.7**
	2.1nm,0.7s,baz=116,slow=6.8,SNR=7.9							
	2.1nm,0.7s							
ILAR	**Eielson Array**	**87.19**	**24**	P		**P**	**23 49 04.0**	**-0.4**
	0.4nm,0.7s,baz=245,slow=5.9,SNR=4.2							
	0.4nm,0.7s							

JMA 01 23:45:36.3±0.2, 24.°2N±0.°6×123.°8E±0.°8, h18km±2km, MV0.7/5, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IRIF	**Iriomote-Funau**	**0.12**	**320**	*e*S		Sg	23 45 42.8	+0.1
JKRS	**Kuro-shima**	**0.18**	**91**	S		Sg	23 45 44.2	+0.3
HATJ	**Hateruma jima**	**0.18**	**183**	*e*P		Pg	23 45 40.8	-0.1
HATJ				*e*S		Sb	23 45 44.0	0.0
JIJ	**Ishigaki jima**	**0.32**	**68**	*e*P		Pg	23 45 43.0	-0.2
JIJ				S		Sg	23 45 47.5	-0.3

TAP 01 23:45:56.8, 24.°36N×121.°66E, h7km±1km, ML1.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EAHA	**Aohua**	**0.08**	**109**	*i* P		Pg	23 45 59.7	+1.0
EAHA	baz=109							
				i S		Sg	23 46 01.0	+0.9
	baz=109							
ENA	**Nanau**	**0.10**	**46**	*i* P		Pg	23 46 00.3	+1.1
ENA	baz=49							
				i S		Sg	23 46 01.7	+0.9
	baz=49							
EWUT	**Wuta**	**0.14**	**51**	*i* P		Pg	23 46 00.8	+1.0
EWUT	baz=50							
				S		Sg	23 46 02.8	+1.0
	baz=50							
NACB	**Ninganchiao**	**0.19**	**198**	*i* P		Pg	23 46 01.6	+1.0
NACB	baz=197							
				i S		Sg	23 46 04.8	+1.6
	baz=197							
ETL	**Fush Village**	**0.20**	**189**	P		Pg	23 46 02.2	+1.4
ETL	baz=189							
				S		Sg	23 46 05.4	+1.9
	baz=189							
LATG	**Datong**	**0.22**	**326**	P		Pg	23 46 02.4	+1.2
LATG	baz=326							
				S		Sg	23 46 05.6	+1.5
	baz=326							
ETLH	**Xiulin Townshi**	**0.22**	**227**	P		Pg	23 46 02.4	+1.2
ETLH	baz=227							
				*e*S		Sg	23 46 05.3	+1.2
	baz=227							
NNSB	**Datong**	**0.26**	**286**	P		Pb	23 46 03.4	-0.6
NNSB	baz=286							
				*e*S		Sg	23 46 06.6	+1.1
	baz=286							
NDT	**Datong Townshi**	**0.28**	**332**	P		Pb	23 46 03.9	-0.4
NDT	baz=331							
				S		Sb	23 46 08.2	-1.0
	baz=331							
TWD	**Chiawan**	**0.28**	**192**	P		Pb	23 46 03.4	-0.8
	baz=190							
ENTT	**Nioudou**	**0.30**	**344**	P		Pb	23 46 04.1	-0.5
	baz=344							
TWC	**Suao**	**0.31**	**34**	P		Pb	23 46 04.0	-0.7
	baz=36							
FUSS	**Fushou**	**0.39**	**254**	*e*P		Pb	23 46 05.8	-0.5
FUSS	baz=254							
				*e*S		Sb	23 46 11.8	-0.9
	baz=254							
LXIB	**Xiulin Townshi**	**0.40**	**214**	P		Pb	23 46 05.7	-0.7
LXIB	baz=213							
				*e*S		Sb	23 46 12.1	-0.7
	baz=213							
WHF	**Hehuan Shan**	**0.41**	**240**	*e*S		Sb	23 46 12.9	-0.6
	baz=239							
NWLT	**Wulai**	**0.44**	**341**	P		Pb	23 46 07.4	+0.3
NWLT	baz=341							
				S		Sb	23 46 13.4	-0.6
	baz=341							

RSNC 01 23:48:27.0±0.0, 7.°N±1.°×7.°3W±.°, h139km±3km, mb3.8, ML2.9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BARC	**Barichara**	**0.24**	**190**	P		Pn	23 48 45.3	-1.1
BARC				S		Sn	23 49 00.4	-0.6
PAMC	**Pamplona, Colo**	**0.67**	**41**	P		Pn	23 48 48.2	-0.5
PAMC				S		Sn	23 49 04.8	-0.3
RUSC	**La Rusia**	**0.93**	**177**	P		Pn	23 48 49.4	-1.3
RUSC				S		Sn	23 49 08.3	-0.4
PTBC	**PUERTO BERRIO,**	**1.34**	**258**	P		Pn	23 48 52.0	-2.0
PTBC				S		Sn	23 49 13.3	-1.3
TAMC	**Tame, Arauca**	**1.40**	**106**	P		Pn	23 48 53.7	-1.0
TAMC				S		Sn	23 49 15.6	-0.2
OCAC	**Ocana**	**1.41**	**353**	P		Pn	23 48 53.4	-1.6
OCAC				S		Sn	23 49 14.9	-1.4
SPBC	**San Pablo de B**	**1.49**	**218**	P		Pn	23 48 54.2	-1.6
SPBC				S		Sn	23 49 16.4	-1.3
NORC	**Norcasia**	**2.13**	**234**	P		Pn	23 49 01.2	-1.9
NORC				S		Sn	23 49 29.7	-1.1
ROSC	**El Rosal**	**2.30**	**211**	P		Pn	23 49 05.4	-0.1
ROSC				S		Sn	23 49 35.7	+0.6
HELC	**Santa Helena**	**2.46**	**255**	P		Pn	23 49 07.2	-0.2
HELC				S		Sn	23 49 37.5	-0.9
CVER	**Cruz Verde, Cu**	**2.48**	**202**	P		Pn	23 49 06.8	-1.0
CVER				S		Sn	23 49 38.7	-0.4
UREC	**San Jos de Ur**	**2.54**	**291**	P		Pn	23 49 05.6	-2.6
UREC				S		Sn	23 49 35.9	-4.0
GUY2C	**Guyana, Caldas**	**2.73**	**234**	P		Pn	23 49 10.0	-0.9
GUY2C				S		Sn	23 49 45.4	+0.7
VILC	**Villavicencio,**	**2.76**	**192**	P		Pn	23 49 09.0	-2.0
VILC				S		Sn	23 49 43.1	-1.8
PTGC	**Puerto Gaitan,**	**2.80**	**159**	P		Pn	23 49 08.7	-2.7
PTGC				S		Sn	23 49 42.3	-3.4
LL6C	**La Loma 6 Bece**	**2.89**	**357**	P		Pn	23 49 09.9	-2.7
LL6C				S		Sn	23 49 45.2	-2.6
CBOC	**Ciudad Bolivar**	**3.01**	**252**	P		Pn	23 49 13.7	-0.6
CBOC				S		Sn	23 49 49.4	-1.3
DBBC	**Dabeiba**	**3.05**	**274**	P		Pn	23 49 13.0	-1.7
DBBC				S		Sn	23 49 48.7	-2.9
ARGC	**Ariguani, Magd**	**3.20**	**340**	P		Pn	23 49 15.0	-1.6
ARGC				S		Sn	23 49 54.3	-0.6
SDV	**Santo Domingo**	**3.22**	**50**	P		Pn	23 49 14.6	-2.3
SDV				S		Sn	23 49 51.7	-3.8
APAC	**Apartado, Choc**	**3.57**	**288**	P		Pn	23 49 19.1	-2.3
APAC				S		Sn	23 50 01.6	-1.9
ORTC	**Ortega, Tolima**	**3.58**	**216**	P		Pn	23 49 20.0	-1.5
ORTC				S		Sn	23 50 03.1	-0.7
SJCC	**San Jacinto, C**	**3.66**	**327**	P		Pn	23 49 19.7	-2.8
SJCC				S		Sn	23 50 03.2	-2.4
PLMC	**San Jos del P**	**3.67**	**239**	P		Pn	23 49 20.6	-2.1
PLMC				S		Sn	23 50 04.0	-1.8
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	P		Pn	23 49 26.0	-3.4
CRJC				S		Sn	23 50 12.7	-5.1
MALC	**Bahia Malaga**	**5.03**	**236**	P		Pn	23 49 39.6	-1.0
MALC				S		Sn	23 50 33.6	-4.4
FLOC	**Florencia**	**5.78**	**206**	P		Pn	23 49 48.4	-2.4
FLOC				S		Sn	23 50 50.3	-5.9

*JMA **01** 23:50:43.5±1.3, 45.°N±5.°×14.°9E±.°, h30km, MV4.0/11, SE OFF ETOROFU*

*MOS **01** 23:50:43.6±1.3, 44.°72N×149.°33E, h62km, mb4.0/1, Error ellipse: s-maj=17.0km s-min=14.0km az=2.8*

*SKHL **01** 23:50:44.7±0.3, 44.°80N×149.°30E, h64km±5km, mb4.6/3*

*IDC **01** 23:50:49.6±4.0, 44.°64N×149.°22E, h100km±34km, mb3.4/11, mbtmp3.7/13, Error ellipse: s-maj=30.1km s-min=20.8km az=164.0*

ISC 01 23:50:46.6±1.5, 44.°65N±0.°07×149.°1E±0.°1, h67km±12km, n38, σ2°05/43, mb3.7/11, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUR	**Kuril'sk**	**1.06**	**304**	⇓*i* PN		**Pn**	**23 51 03.4**	**-2.3**
KUR				S		**Sn**	**23 51 18.2**	**-1.7**
KUR				pmax	pmax			
	comp=Z,493nm,0.4s							
KUR				pmax	pmax			
	comp=N,401nm,0.3s							
KUR				pmax	pmax			
	comp=E,303nm,0.3s							
KUR				smax	smax			
	comp=N,553nm,0.4s							
KUR				smax	smax			
	comp=E,514nm,0.3s							
KUR	**Kuril'sk**	**1.06**	**304**	*i* P		**Pn**	**23 51 03.4**	**-2.3**
KUR				AMB	AMB		23 51 05.2	
	comp=E,490nm,0.4s							
KUR				*e*S		**Sn**	**23 51 17.6**	**-2.3**
KUR				A	A		23 51 22.7	
	comp=E,550nm,0.3s							
KUR				A	A		23 51 22.7	
	comp=E,510nm,0.3s							
SHO	**Shikotan**	**1.82**	**245**	*e*PN		**Pn**	**23 51 15.3**	**-0.4**
SHO				*i* S		**Sn**	**23 51 37.4**	**-0.4**
SHO				pmax	pmax			
	comp=Z,52nm,0.3s							
SHO				pmax	pmax			
	comp=E,46nm,0.2s							
SHO				smax	smax			
	comp=N,116nm,0.3s							
SHO				smax	smax			
	comp=E,190nm,0.4s							
SHO	**Shikotan**	**1.82**	**245**	*e*P		**Pn**	**23 51 15.3**	**-0.4**
SHO				AMB	AMB		23 51 17.5	
	comp=E,50nm,0.3s							
SHO				*i* S		**Sn**	**23 51 38.0**	**+0.2**
SHO				A	A		23 51 40.6	
	comp=E,140nm,0.3s							
SHO				A	A		23 51 40.6	
	comp=E,190nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**2.41**	**256**	PN		**Pn**	**23 51 26.9**	**+3.1**
YUK				S		**Sn**	**23 51 57.9**	**+5.7**
YUK				pmax	pmax			
	comp=Z,128nm,0.2s							
YUK				smax	smax			
	comp=N,149nm,0.3s							
YUK				smax	smax			
	comp=E,495nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**2.41**	**256**	*e*P		**Pn**	**23 51 23.3**	**-0.5**
YUK				AMB	AMB		23 51 27.4	
	comp=E,130nm,0.2s							
YUK				*e*S		**Sn**	**23 51 52.3**	**+0.1**
YUK				A	A		23 52 02.5	
	comp=E,150nm,0.3s							
YUK				A	A		23 52 02.5	
	comp=E,500nm,0.3s							
NEM2	**Nemuro 2**	**2.75**	**243**	*e*P		**Pn**	**23 51 26.6**	**-1.8**
NEM2				*e*S		**Sn**	**23 51 57.6**	**-2.9**
NMR	**Nemuro--Hokkai**	**2.76**	**244**	*e*PN		**Pn**	**23 51 27.8**	**-0.7**
NMR				S		**Sn**	**23 52 00.3**	**-0.3**
NMR	**Nemuro--Hokkai**	**2.76**	**244**	*e*P		**Pn**	**23 51 28.3**	**-0.2**
NMR				*e*S		**Sn**	**23 52 00.5**	**-0.1**
JRA	**Rausu**	**2.95**	**257**	*e*P		**Pn**	**23 51 30.4**	**-0.7**
JNK	**Nakash**	**3.34**	**253**	*e*P		**Pn**	**23 51 35.6**	**-0.8**
AKK	**Akkeshi**	**3.50**	**244**	*e*P		**Pn**	**23 51 39.1**	**+0.6**
AKK				*e*S		**Sn**	**23 52 19.7**	**+1.0**
JAK	**Akkeshi**	**3.60**	**244**	*e*S		**Sn**	**23 52 18.4**	**-2.8**
JTKR	**Abashiri--Toko**	**3.80**	**262**	*e*P		**Pn**	**23 51 43.4**	**+0.8**
JAR	**Ashorobuto**	**4.09**	**253**	*e*P		**Pn**	**23 51 46.8**	**+0.1**
JAR				*e*S		**Sn**	**23 52 34.4**	**+1.2**
JCH	**Churui**	**4.64**	**246**	*e*P		**Pn**	**23 51 53.2**	**-1.0**
JANG	**Nango**	**7.05**	**235**	*e*S		**Sn**	**23 53 39.2**	**-6.7**
PETK	**Petropavlovsk-**	**10.17**	**31**	P	

AFAD ***01*** *23:59:49.5±0.0,35.17N×26.20E,h7km±3km,ML2.5*

ISC 01 23:59:39.6±1.4,**34.30N**±0.04×**26.23E**±0.04,**h32**km±11km, **n136**,σ1ᵗ82/154,**mb3.7**/9,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.82**	**359**	Pg	**Pn**	**23 59 56.4**	**+1.4**
ZKR				Sg	**Sn**	**00 00 09.6**	**+3.6**
ZKR	**Zakros**	**0.82**	**359**	P	**Pn**	**23 59 56.4**	**+1.4**
ZKR				S	**Sn**	**00 00 07.3**	**+1.3**
	2μm,0.4s						
ZKR	**Zakros**	**0.82**	**359**	P	**Pn**	**23 59 56.1**	**+1.1**
ZKR				AML	AML	00 00 10.7	
	comp=E,5893μm,0.4s						
ZKR				AML	AML	00 00 13.5	
	comp=N,1604μm,0.6s						
KSTL	**Kastelli Herak**	**1.38**	**317**	P	**Pn**	**00 00 00.8**	**-1.9**
KSTL				S	**Sn**	**00 00 12.7**	**-7.2**
	comp=N,262nm,0.5s						
KSTL	**Kastelli Herak**	**1.38**	**317**	P	**Pn**	**00 00 00.3**	**-2.4**
KSTL				AML	AML	00 00 25.4	
	comp=E,1095μm,0.5s						
KSTL				AML	AML	00 00 28.9	
	comp=N,2007μm,0.5s						
TMBK	**Timbaki Herakl**	**1.43**	**303**	P	**Pn**	**00 00 03.8**	**+0.5**
TMBK	**Timbaki Herakl**	**1.43**	**303**	P	**Pn**	**00 00 03.9**	**+0.5**
KARP	**Karpathos**	**1.47**	**31**	Pn	**Pb**	**00 00 06.7**	**+0.4**
KARP				Sn	**Sb**	**00 00 26.0**	**+1.4**
KARP	**Karpathos**	**1.47**	**31**	P	**Pb**	**00 00 08.0**	**+1.7**
KARP				S	**Sb**	**00 00 25.6**	**+1.0**
	comp=N,348nm,0.6s						
KARP	**Karpathos**	**1.47**	**31**	P	**Pb**	**00 00 07.9**	**+1.7**
KARP				AML	AML	00 00 48.2	
	comp=E,864μm,0.8s						
KARP				AML	AML	00 00 49.5	
	comp=N,883μm,0.7s						
IDI	**Anoyia**	**1.48**	**312**	Pn	**Pn**	**00 00 04.7**	**+0.6**
IDI				Sn	**Sn**	**00 00 21.3**	**-1.1**
IDI	**Anoyia**	**1.48**	**312**	P	**Pn**	**00 00 04.6**	**+0.5**
IDI	**Anoyia**	**1.48**	**312**	P	**Pn**	**00 00 04.1**	**0.0**
IDI				AML	AML	00 00 37.5	
	comp=N,527μm,0.4s						
IDI				AML	AML	00 00 41.0	
	comp=E,529μm,0.6s						
PRNS	**Prines Rethymn**	**1.77**	**307**	P	**Pn**	**00 00 09.5**	**+1.4**
GVD	**Gavdhos**	**1.85**	**288**	Pn	**Pn**	**00 00 09.0**	**-0.1**
GVD				Sn	**Sn**	**00 00 29.9**	**-1.5**
GVD	**Gavdhos**	**1.85**	**288**	P	**Pn**	**00 00 09.1**	**-0.1**
GVD	**Gavdhos**	**1.85**	**288**	P	**Pn**	**00 00 09.3**	**+0.2**
GVD				AML	AML	00 00 47.2	
	comp=E,1289μm,0.5s						
GVD				AML	AML	00 00 51.0	
	comp=N,987μm,0.5s						
THR6	**Thira Island,**	**2.16**	**342**	P	**Pn**	**00 00 13.7**	**+0.2**
CHAN	**Chania**	**2.17**	**305**	P	**Pn**	**00 00 14.0**	**+0.5**
THR9	**Santorini-Faro**	**2.18**	**341**	P	**Pn**	**00 00 13.9**	**+0.3**
IMMV	**Iera Moni Meta**	**2.18**	**303**	Pn	**Pn**	**00 00 13.7**	**0.0**
IMMV	**Iera Moni Meta**	**2.18**	**303**	P	**Pn**	**00 00 14.2**	**+0.5**
IMMV	**Iera Moni Meta**	**2.18**	**303**	P	**Pn**	**00 00 13.7**	**0.0**
THR8	**Santorini-Mono**	**2.19**	**344**	P	**Pn**	**00 00 14.3**	**+0.4**
SNT5	**Nea Kammeni, S**	**2.21**	**342**	P	**Pn**	**00 00 13.8**	**-0.3**
THR3	**Thira Island,**	**2.21**	**342**	P	**Pn**	**00 00 14.3**	**+0.2**
THR5	**Thira Island,**	**2.23**	**342**	P	**Pn**	**00 00 14.0**	**-0.4**
RODP	**Rodopos**	**2.39**	**303**	Pn	**Pn**	**00 00 16.9**	**+0.3**
ARG	**Arkhangelos**	**2.47**	**39**	Pn	**Pb**	**00 00 20.6**	**-2.7**
ARG	**Arkhangelos**	**2.47**	**39**	P	**Pb**	**00 00 22.1**	**-1.2**
YAZI	**Mula-Datça-**	**2.58**	**22**	Pn	**Pn**	**00 00 37.1**	**+1.8**
DAT	**Datca**	**2.67**	**24**	Pn	**Pn**	**00 00 22.9**	**+0.4**
DAT	**Datca**	**2.67**	**24**	P	**Pn**	**00 00 21.6**	**+1.1**
DAT				S	**Sn**	**00 00 48.5**	**-3.3**
APE	**Apeiranthos**	**2.82**	**349**	Pn	**Pn**	**00 00 22.9**	**+0.3**
APE	**Apeiranthos**	**2.82**	**349**	P	**Pn**	**00 00 22.7**	**+0.1**
APE				AML	AML	00 00 57.6	
	comp=N,85μm,0.3s						
APE				AML	AML	00 00 58.4	
	comp=E,98μm,0.5s						
ANKY	**Antikythira Is**	**2.87**	**304**	P	**Pn**	**00 00 23.5**	**+0.4**
BODT	**Bodrum**	**2.90**	**17**	Pn	**Pn**	**00 00 25.9**	**+2.3**
SLUM	**Salum**	**2.92**	**197**	P	**Pn**	**00 00 25.0**	**+1.0**
	baz=198						
BDRM	**Kayabasi**	**2.94**	**19**	P	**Pn**	**00 00 25.7**	**+1.6**
BDRM				S	**Sn**	**00 00 53.2**	**-5.1**
TURN	**Turunc**	**2.97**	**33**	P	**Pb**	**00 00 28.9**	**-3.0**
TURN				S	**Sn**	**00 00 57.0**	**-2.1**
DALY	**Dalyan (Mula)**	**3.20**	**38**	Pn	**Pn**	**00 00 30.8**	**+3.1**
MLSB	**Milas**	**3.25**	**22**	Pn	**Pn**	**00 00 31.1**	**+2.7**
IZZE	**Mula-Seydike**	**3.25**	**48**	P	**Pn**	**00 00 31.5**	**+3.1**
IZZE				S	**Sn**	**00 01 01.9**	**-4.1**
FETY	**Fethiye**	**3.30**	**44**	Pn	**Pb**	**00 00 33.1**	**-4.4**
MULA	**Mugla, Merkez-**	**3.41**	**29**	P	**Pb**	**00 00 37.0**	**-2.4**
DNZT	**Denizli-Tavas-**	**3.75**	**37**	P	**Pn**	**00 00 38.6**	**+3.3**
DNZT				S	**Sn**	**00 01 15.1**	**-3.2**
DNZT				*i* AML	AML	00 01 25.0	
	comp=E,13nm,0.4s						
DNZT				*i* AML	AML	00 01 32.0	
	comp=E,14nm,0.4s						
CAEL	**Denizli, Camel**	**3.78**	**41**	P	**Pn**	**00 00 39.6**	**+3.8**
DGB	**zmir**	**3.79**	**8**	P	**Pn**	**00 00 36.5**	**+0.8**
DB3	**El Dabaa**	**3.79**	**148**	P	**Pn**	**00 00 38.0**	**+2.1**
	baz=149						
TAVA	**DENIZLI_Tavas**	**3.84**	**34**	P	**Pn**	**00 00 39.7**	**+3.0**
TAVA				S	**Sn**	**00 01 16.5**	**-4.2**
ESEN	**Aydn-Nazilli**	**3.89**	**26**	P	**Pn**	**00 00 39.2**	**+2.0**
ESEN				S	Sn	00 01 11.3	-11
ZEYE	**Izmir, Urla-Ze**	**3.94**	**3**	P	**Pn**	**00 00 38.6**	**+0.7**
ZEYE				*i* AML	AML	00 01 25.0	
	comp=E,13nm,0.7s						
DNIZ	**Denizli-Tavas-**	**4.03**	**34**	P	**Pn**	**00 00 43.3**	**+4.1**
URLA	**Izmir**	**4.07**	**4**	P	**Pn**	**00 00 39.3**	**-0.3**
URLA				*i* AML	AML	00 01 51.0	
	comp=E,14nm,1.1s						
URLA				*i* AML	AML	00 02 12.0	
	comp=E,15nm,0.9s						
IZMR	**zmir-demi**	**4.08**	**20**	P	**Pn**	**00 00 41.8**	**+2.0**
CHOS	**Chios island**	**4.08**	**358**	Pn	**Pn**	**00 00 41.4**	**+1.5**
BLCB	**Balcova**	**4.13**	**9**	Pn	**Pn**	**00 00 41.6**	**+1.1**
KIRA	**zmir-Kiraz**	**4.27**	**24**	P	**Pn**	**00 00 44.5**	**+1.9**
SWA2		**5.08**	**188**	P	**Pn**	**00 00 54.4**	**+0.8**
	baz=188						
SWA2				S	**Sn**	**00 01 49.5**	**-1.6**
	baz=188						
AGG	**Agios Georgios**	**5.66**	**328**	Pn	**Pn**	**00 01 01.4**	**-0.2**
HNAT	**Natroun**	**5.96**	**140**	P	**Pn**	**00 01 07.6**	**+1.9**
	baz=140						
RYAN	**Fayoum**	**6.24**	**145**	P	**Pn**	**00 01 11.5**	**+2.0**
	baz=145						
KOT	**Kottamia**	**6.45**	**131**	P	**Pn**	**00 01 13.8**	**+1.4**
	baz=131						
KOT				S	**Sn**	**00 02 21.7**	**-3.2**
	baz=131						
NBNS	**Bani Suef**	**7.12**	**141**	P	**Pn**	**00 01 24.0**	**+2.3**
	baz=141						
HFRF	**Wahat Farafira**	**7.35**	**165**	P	**Pn**	**00 01 26.2**	**+1.4**
	baz=165						
OFRI	**`Ofer**	**7.51**	**100**	P	**Pn**	**00 01 27.0**	**0.0**
OFRI				S	Sn	00 02 36.8	-14
OFRI	**`Ofer**	**7.51**	**100**	S	**Sn**	**00 02 49.8**	**-1.2**
OFRI	**`Ofer**	**7.51**	**100**	P	**Pn**	**00 01 27.6**	**+0.6**
SLTI	**Sal'it**	**7.66**	**103**	P	**Pn**	**00 01 29.1**	**+0.1**
SLTI	**Sal'it**	**7.66**	**103**	P	**Pn**	**00 01 29.8**	**+0.7**
SLTI	**Sal'it**	**7.66**	**103**	S	**Sn**	**00 02 54.7**	**-0.1**
KZIT	**Kziot**	**7.68**	**114**	S	**Sn**	**00 02 54.1**	**-1.0**
KZIT	**Kziot**	**7.68**	**114**	P	**Pn**	**00 01 29.2**	**0.0**
TAMRE	**El Minia**	**7.72**	**147**	P	**Pn**	**00 01 31.8**	**+1.8**
	baz=147						
MMC7	**Mount Meron ar**	**7.75**	**97**	P	**Pn**	**00 01 31.0**	**+0.7**
MMA0B	**Mount Meron ar**	**7.76**	**97**	S	**Sn**	**00 02 57.9**	**+0.7**
MMA0B	**Mount Meron ar**	**7.76**	**97**	P	**Pn**	**00 01 31.3**	**+0.9**
MMAI	**Mount Meron Ar**	**7.76**	**97**	Pn	**Pn**	**00 01 31.7**	**+1.3**
	comp=E,1.6nm,0.3s,baz=269,slow=12,SNR=11						
MMAI				Sn	**Sn**	**00 02 58.3**	**+1.1**
	comp=E,2.3nm,0.3s,baz=253,slow=24,SNR=6.6						
	comp=E,0.7nm,0.2s						
MMB1	**Mount Meron ar**	**7.76**	**97**	P	**Pn**	**00 01 31.4**	**+0.9**
AMAZ	**Amatzia**	**7.81**	**108**	S	**Sn**	**00 02 57.7**	**-0.7**
AMAZ	**Amatzia**	**7.81**	**108**	P	**Pn**	**00 01 31.4**	**+0.3**
MMLI	**Mount Malkishu**	**7.91**	**101**	P	**Pn**	**00 01 32.9**	**+0.4**
MMLI	**Mount Malkishu**	**7.91**	**101**	S	**Sn**	**00 03 00.8**	**-0.2**
GEM	**Giv'at Ha'Em**	**7.93**	**95**	P	**Pn**	**00 01 33.3**	**+0.5**
GEM	**Giv'at Ha'Em**	**7.93**	**95**	S	**Sn**	**00 03 02.4**	**+1.0**
GEM	**Giv'at Ha'Em**	**7.93**	**95**	P	**Pn**	**00 01 33.4**	**+0.7**
NATI	**Neve Ativ**	**7.99**	**95**	S	**Sn**	**00 03 03.5**	**+0.9**
NATI	**Neve Ativ**	**7.99**	**95**	P	**Pn**	**00 01 34.6**	**+1.2**
YTIR	**Yattir**	**8.03**	**109**	P	**Pn**	**00 01 35.8**	**+1.6**
YTIR	**Yattir**	**8.03**	**109**	S	**Sn**	**00 03 03.3**	**-0.7**
YTIR	**Yattir**	**8.03**	**109**	P	**Pn**	**00 01 34.4**	**+0.2**
HMDT	**Nahal Hemdat**	**8.05**	**102**	S	**Sn**	**00 03 04.0**	**-0.2**
HMDT	**Nahal Hemdat**	**8.05**	**102**	P	**Pn**	**00 01 34.8**	**+0.5**
QRNJ	**Al-Qirein**	**8.06**	**101**	P	**Pn**	**00 01 35.5**	**+1.0**
KSHT	**Keshet**	**8.10**	**97**	P	**Pn**	**00 01 36.1**	**+1.0**
KSHT	**Keshet**	**8.10**	**97**	S	**Sn**	**00 03 06.2**	**+0.6**
DSI	**Dead Sea**	**8.16**	**107**	S	**Sn**	**00 03 06.6**	**-0.4**
DSI	**Dead Sea**	**8.16**	**107**	P	**Pn**	**00 01 36.4**	**+0.6**
GRB	**Gharib**	**8.22**	**135**	P	**Pn**	**00 01 38.0**	**+1.3**
	baz=135						
MSBI	**Mazada**	**8.24**	**109**	S	**Sn**	**00 03 08.0**	**-0.9**
MSBI	**Mazada**	**8.24**	**109**	P	**Pn**	**00 01 37.3**	**+0.4**
KRMI	**Paran Flat**	**8.32**	**118**	P	**Pn**	**00 01 38.4**	**+0.3**
KRMI	**Paran Flat**	**8.32**	**118**	S	**Sn**	**00 03 08.9**	**-2.0**
KRMI	**Paran Flat**	**8.32**	**118**	P	**Pn**	**00 01 37.9**	**-0.2**
PRNI	**Paran**	**8.40**	**116**	P	**Pn**	**00 01 40.4**	**+1.1**
PRNI	**Paran**	**8.40**	**116**	S	**Sn**	**00 03 12.2**	**-0.9**
PRNI	**Paran**	**8.40**	**116**	P	**Pn**	**00 01 39.1**	**-0.1**
GHAJ	**Ghor Haditha**	**8.41**	**108**	P	**Pn**	**00 01 41.6**	**+2.3**
GHAJ	**Ghor Haditha**	**8.41**	**108**	P	**Pn**	**00 01 39.7**	**+0.4**
GHAJ	**Ghor Haditha**	**8.41**	**108**	S	**Sn**	**00 03 12.5**	**-0.6**
ZFRI	**Zfri**	**8.44**	**114**	P	**Pn**	**00 01 39.9**	**+0.2**
ZFRI	**Zfri**	**8.44**	**114**	S	**Sn**	**00 03 12.2**	**-1.6**
KARJ	**KARJ**	**8.55**	**109**	P	**Pn**	**00 01 37.6**	**-3.6**
HRFI	**Mount Harif**	**8.59**	**117**	P	**Pn**	**00 01 42.0**	**+0.2**
HRFI	**Mount Harif**	**8.59**	**117**	S	**Sn**	**00 03 16.0**	**-1.7**
HRFI	**Mount Harif**	**8.59**	**117**	P	**Pn**	**00 01 41.9**	**0.0**
MBRI	**Mt Berech**	**8.63**	**119**	P	**Pn**	**00 01 43.1**	**+0.7**
MBRI	**Mt Berech**	**8.63**	**119**	P	**Pn**	**00 01 42.2**	**-0.2**
MBRI	**Mt Berech**	**8.63**	**119**	S	**Sn**	**00 03 16.5**	**-2.2**
EIL	**Elat**	**8.73**	**120**	Pn	**Pn**	**00 01 46.1**	**+2.5**
	comp=E,1.0nm,0.3s,baz=297,slow=2.6,SNR=20						
EIL				Sn	**Sn**	**00 03 19.5**	**-1.5**
	comp=E,1.3nm,0.3s,baz=336,slow=5.5,SNR=5.2						
	comp=E,2.1nm,0.3s						
EIL	**Elat**	**8.73**	**120**	P	**Pn**	**00 01 43.3**	**-0.4**
EIL	**Elat**	**8.73**	**120**	S	**Sn**	**00 03 19.2**	**-1.7**
ASF	**Jabal al Asfar**	**9.19**	**100**	Pn	**Pn**	**00 01 51.5**	**+1.5**
	comp=E,0.2nm,0.3s,baz=152,slow=16,SNR=2.7						
ASF				Sn	**Sn**	**00 03 27.7**	**-4.7**
	comp=E,0.2nm,0.3s,baz=332,slow=16,SNR=1.9						
	comp=E,0.6nm,0.3s						
GTR	**Jabal at Tayr**	**9.53**	**156**	P	**Pn**	**00 01 56.4**	**+1.8**
	baz=155						
VAE	**Valguarnera**	**10.10**	**292**	Pn	**Pn**	**00 02 01.5**	**-1.0**
	comp=E,1.4nm,0.3s,baz=355,slow=16,SNR=6.9						
VAE				Sn	Sn	00 03 42.2	-12
	comp=E,0.4nm,0.3s,baz=277,slow=22,SNR=2.3						
	comp=E,11nm,0.8s						
AKASG	**Malin Array Be**	**16.54**	**7**	Pn	**P**	**00 03 30.8**	**-0.5**
	comp=E,0.7nm,0.3s,baz=194,slow=11,SNR=4.4						
GERES	**GERESS Array B**	**17.26**	**331**	Pn	**Pn**	**00 03 37.3**	**-0.9**
	comp=E,0.7nm,0.8s,baz=134,slow=14,SNR=2.2						
ESDC	**Sonseca Array**	**24.64**	**291**	P	**P**	**00 04 58.1**	**+0.8**
	comp=E,0.7nm,0.9s,baz=72,slow=9.7,SNR=2.2						
	comp=E,0.7nm,0.9s						
FINES	**FINESS Array B**	**27.16**	**360**	P	**P**	**00 05 19.4**	**-0.5**
	comp=E,1.2nm,0.6s,baz=180,slow=9.0,SNR=6.5						
	comp=E,1.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**30.64**	**233**	P	**P**	**00 05 53.0**	**+1.9**
	comp=E,0.3nm,0.4s,baz=37,slow=8.8,SNR=5.9						
	comp=E,0.3nm,0.4s						
ARCES	**ARCESS Array B**	**35.29**	**360**	P	**P**	**00 06 29.8**	**-1.5**
	comp=E,1.2nm,0.6s,baz=184,slow=8.1,SNR=8.5						
	comp=E,1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**40.99**	**50**	P	**P**	**00 07 20.8**	**+1.4**
	comp=E,0.9nm,0.2s,baz=276,slow=8.9,SNR=4.1						
	comp=E,0.9nm,0.2s						
MKAR	**Makanchi Array**	**43.52**	**56**	P	**P**	**00 07 42.5**	**+2.3**
	comp=E,0.6nm,0.5s,baz=276,slow=6.8,SNR=10						
	comp=E,0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**44.97**	**46**	P	**P**	**00 07 52.0**	**+0.4**
	comp=E,0.6nm,0.4s,baz=270,slow=8.1,SNR=3.8						
	comp=E,0.6nm,0.4s						
SCHQ	**Schefferville**	**64.41**	**320**	P	**P**	**00 10 11.8**	**-0.7**
	comp=E,0.5nm,0.3s,baz=78,slow=8.0,SNR=1.8						
	comp=E,0.5nm,0.3s						
YKA	**Yellowknife Ar**	**78.53**	**343**	P	**P**	**00 11 39.6**	**+2.2**
	comp=E,0.1nm,0.4s,baz=30,slow=5.4,SNR=2.1						
	comp=E,0.1nm,0.4s						

SNET 02 00:04:19.1±1.2,**13.48N**×**88.45W**,**h4**km±3km,**ML2.5**,**El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECA	**Tecapa**	**0.06**	**284**	*i* P	Pg	00 04 21.7	+1.2
TECA				*e*S	Sg	00 04 22.8	+1.3
PACA	**Pacayal**	**0.12**	**96**	*e*P	Pg	00 04 23.0	+1.4
PACA				*e*S	Sg	00 04 25.1	+1.8
PACA				IAML		00 04 27.0	
	comp=Z,2μm,0.2s						
LCY	**Lacayo**	**0.16**	**111**	*e*P	Pg	00 04 23.8	+1.5
RANC	**El Ranchito**	**0.16**	**107**	*e*P	Pg	00 04 23.8	+1.5
RANC				*e*S	Sg	00 04 26.1	+1.6
BLLM	**Bellamira**	**0.21**	**101**	*i* P	Pg	00 04 24.8	+1.6
BLLM				*e*S	Sg	00 04 27.8	+1.9
SCLA	**Alcaldia de Sa**	**0.35**	**309**	*e*P	Pb	00 04 27.3	-0.7
COEG	**Centro de Oper**	**0.44**	**288**	IAML		00 04 42.2	
	comp=Z,200nm,0.3s						
PAVA	**Las Pavas**	**0.53**	**296**	*e*P	Pn	00 04 41.7	+8.1
SJTE	**Alcalda de S**	**0.56**	**284**	*e*P	Pn	00 04 39.9	+5.9
SJTE				*e*S	Sn	00 04 49.6	+5.8
LOMA	**Loma Larga**	**0.72**	**283**	*e*P	Pn	00 04 38.6	+2.3
LOMA				*e*S	Sn	00 04 47.5	-0.4
LOMA				IAML		00 04 50.7	
	comp=Z,259nm,0.1s						
LALI	**Alcalda de L**	**0.85**	**271**	*e*P	Pg	00 04 35.6	+0.2
LALI	**Alcalda de L**	**0.85**	**271**	*e*P	Pg	00 04 35.7	+0.3
LALI				*e*S	Sg	00 04 43.3	-3.1
JAYA	**Jayaque - finc**	**0.99**	**280**	*e*P	Pg	00 04 36.9	-1.2
JAYA				IAML		00 04 46.9	
	comp=Z,197nm,0.2s						
JAYA	**Jayaque - finc**	**0.99**	**280**	*e*P	Pg	00 04 36.6	-1.5
JAYA				*e*S	Sg	00 04 44.6	-6.3
JAYA				IAML		00 04 47.0	
	comp=Z,193nm,0.3s						
SNJE	**San Jose**	**1.19**	**289**	*e*P	Pg	00 04 40.8	-1.2
SNJE				*e*S	Sg	00 04 50.7	-6.7
NUBE	**Las Nubes**	**1.36**	**288**	*e*P	Pn	00 04 39.8	-5.2
NUBE				*e*S	Sg	00 04 49.5	-13

IDC ***02*** *00:06:05.0±6.4,11.48N×94.05E,h214km±59km,mb3.3/8, mbtmp3.8/9,MS3.8/1,Error ellipse: s-maj=62.6km s-min=15.6km az=49.0*

ISC 02 00:06:03.3±1.3,**11.4N**±0.2×**94.0E**±0.2,**h200**km,**n10, σ0ᵗ53/9,mb3.5/8,Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.50**	**34**	P	**Pn**	**00 08 03.1**	**0.0**
	0.5nm,0.4s,baz=227,slow=14,SNR=5.7						
MKAR	**Makanchi Array**	**36.62**	**347**	P	**P**	**00 12 50.1**	**-0.3**
	0.1nm,0.3s,baz=166,slow=8.3,SNR=1.6						
	0.1nm,0.3s						
GEYT	**Alibeck**	**41.50**	**316**	P	**P**	**00 13 31.6**	**+0.6**
	1.6nm,0.4s,baz=144,slow=8.2,SNR=13						
	1.6nm,0.4s						
ZALV	**Zalesovo Beam**	**43.05**	**352**	P	**P**	**00 13 43.6**	**+0.5**
	0.5nm,0.4s,baz=180,slow=8.8,SNR=2.8						
	0.5nm,0.4s						
BVAR	**Borovoye Array**	**45.61**	**340**	P	**P**	**00 14 03.1**	**-0.4**
	0.2nm,0.4s,baz=132,slow=6.4,SNR=4.1						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**50.51**	**128**	P	**P**	**00 14 41.5**	**-0.1**
	0.6nm,0.5s,baz=307,slow=8.7,SNR=13						
	0.6nm,0.5s						
EIL	**Elat**	**57.57**	**298**	LR	LR	00 44 33.5	
	comp=Z,81nm,18.1s,baz=247,slow=40						
FINES	**FINESS Array B**	**69.52**	**332**	P	**P**	**00 16 49.6**	**-0.5**
	4.3nm,1.2s,baz=101,slow=7.2,SNR=4.2						
	4.3nm,1.2s						
ARCES	**ARCESS Array B**	**71.90**	**340**	P	**P**	**00 17 04.9**	**+0.6**
	5.3nm,1.1s,baz=97,slow=7.5,SNR=1.7						
	5.3nm,1.1s						
HFS	**Hagfors**	**75.33**	**329**	P	**P**	**00 17 24.0**	**-0.5**
	0.4nm,0.4s,baz=101,slow=7.5,SNR=1.0						
	0.4nm,0.4s						

IDC ***02*** *00:07:02.5±1.0,24.18N×124.75E,h0km,mb3.7/10, mbtmp3.7/10,Error ellipse: s-maj=63.7km s-min=19.7km az=65.0*

JMA ***02*** *00:07:06.7±0.2,24.2N×125.2E±0.9,h41km±4km, MV3.2/10,NEAR MIYAKOJIMA ISLAND*

ISC 02 00:07:06.6±0.9,**24.32N**±0.07×**125.21E**±0.08,**h29**km,**n24, σ1ᵗ25/29,mb3.6/10,Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	**Miyako jima3**	**0.43**	**15**	*i* P	**Pb**	**00 07 16.1**	**+0.2**
JMJ2				S	**Sn**	**00 07 23.3**	**-0.4**
JOGS	**Gusukube**	**0.47**	**23**	*i* P	**Pb**	**00 07 16.8**	**+0.3**
JOGS				S	**Sn**	**00 07 24.4**	**-0.3**
JIRB	**Irabujima**	**0.50**	**356**	*i* P	**Pb**	**00 07 17.1**	**0.0**
JIRB				S	**Sn**	**00 07 24.7**	**-0.8**
JTJ	**Tarama**	**0.56**	**304**	*i* P	**Pn**	**00 07 18.2**	**-0.4**
JIKM	**Ikemajima**	**0.60**	**3**	*i* P	**Pb**	**00 07 18.6**	**0.0**
JIKM				S	**Sn**	**00 07 27.4**	**-0.5**
JISG	**Ishigakijimahi**	**0.86**	**288**	*i* P	**Pn**	**00 07 22.4**	**-0.3**
JIJ	**Ishigaki jima**	**0.97**	**273**	P	**Pn**	**00 07 24.5**	**+0.2**
JKRS	**Kuro-shima**	**1.10**	**266**	P	**Pb**	**00 07 27.2**	**+0.2**
HATJ	**Hateruma jima**	**1.31**	**259**	P	**Pn**	**00 07 29.9**	**+1.0**
NACB	**Ninganchiao**	**3.30**	**268**	P	**Pn**	**00 07 57.0**	**+0.6**
YHNB	**Yeheng**	**3.51**	**276**	P	**Pn**	**00 08 03.6**	**+4.3**
YULB	**Yu-li**	**3.70**	**256**	P	**Pn**	**00 08 01.0**	**-0.8**
SSLB	**Suanglung**	**3.93**	**263**	P	**Pn**	**00 08 05.6**	**+0.6**
TWGBT	**Beinan**	**4.07**	**249**	P	**Pn**	**00 08 05.7**	**-1.3**
SONM	**Songino Array**	**27.81**	**332**	P	**P**	**00 12 53.1**	**-0.3**
	0.2nm,0.4s,baz=143,slow=8.1,SNR=2.6						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**40.83**	**314**	P	**P**	**00 14 45.2**	**-0.4**
	0.9nm,0.3s,baz=100,slow=9.7,SNR=33						
MKAR				PcP	**PcP**	**00 16 46.0**	**-0.2**
	0.2nm,0.7s,baz=126,slow=3.9,SNR=2.5						
	0.9nm,0.3s						
ZALV	**Zalesovo Beam**	**42.17**	**325**	P	**P**	**00 14 54.9**	**-1.7**
	0.7nm,0.4s,baz=110,slow=8.8,SNR=5.1						
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**44.40**	**319**	P	**P**	**00 15 13.6**	**-0.9**
	1.2nm,0.3s,baz=103,slow=8.0,SNR=3.4						
	1.2nm,0.3s						
WRA	**Warramunga Arr**	**44.89**	**168**	P	**P**	**00 15 18.2**	**-0.5**
	0.5nm,0.5s,baz=348,slow=8.7,SNR=5.9						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**48.45**	**169**	P	**P**	**00 15 46.6**	**0.0**
	0.2nm,0.4s,baz=353,slow=6.5,SNR=1.8						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**49.91**	**320**	P	**P**	**00 15 56.2**	**-1.3**
	0.2nm,0.4s,baz=97,slow=9.6,SNR=2.0						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**73.16**	**330**	P	**P**	**00 18 34.1**	**-0.2**
	0.9nm,0.6s,baz=36,slow=5.2,SNR=9.7						
	0.9nm,0.6s						
NOA	**NORSAR Array B**	**79.79**	**333**	P	**P**	**00 19 10.8**	**-1.1**
	0.5nm,0.8s,baz=54,slow=7.8,SNR=2.0						
	0.5nm,0.8s						
YKA	**Yellowknife Ar**	**81.38**	**24**	P	**P**	**00 19 23.4**	**+3.0**
	0.2nm,0.8s,baz=318,slow=3.6,SNR=3.0						
	0.2nm,0.8s						

IDC ***02*** *00:15:48.9±1.3,6.02S×142.98E,h0km,mb3.9/3, mbtmp4.1/5,ML1.8/1,Error ellipse: s-maj=43.8km s-min=31.1km az=78.0*

ISC 02 00:15:47.8±1.0,**6.6S**±0.1×**143.28E**±0.09,**h10**km,**n6, σ2ᵗ91/8,mb4.0/3,New Guinea**

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

baz=187
PECS Pecos 8.65 30 Pn **Pn** **00 25 23.9 +1.9**
214A Organ Pipe Nat 8.71 337 Pn **Pn** **00 25 24.9 +2.1**
214A Organ Pipe Nat 8.71 337 P **Pn** **00 25 24.4 +1.6**
baz=156
SFX San Felipe 8.84 325 Pn **Pn** **00 25 27.7 +3.3**
MNHN Monahans 9.16 35 Pn **Pn** **00 25 31.2 +2.1**
DRIO Del Rio 9.20 52 Pn **Pn** **00 25 29.0 -0.5**
CLNB Carlsbad 9.41 27 Pn **Pn** **00 25 33.3 +0.9**
CLN7 Carlsbad 7 9.57 27 Pn **Pn** **00 25 35.7 +1.1**
833A Chaparral WMA, 9.59 61 **Pn** **00 25 34.2 -0.6**
833A Chaparral WMA, 9.59 61 P **Pn** **00 25 34.4 -0.4**
baz=244,SNR=14
113A Mohawk Valley, 9.79 335 **Pn** **00 25 40.5 +2.9**
HNDO Hondo 10.24 55 **Pn** **00 25 45.4 +1.6**
JCT Junction City 10.39 49 Pn **Pn** **00 25 47.0 +1.2**
JCT Junction City 10.39 49 P **Pn** **00 25 47.6 +1.8**
baz=233
Y14A Wickenburg 10.60 341 **Pn** **00 25 51.0 +2.3**
X18A Snowflake 10.60 355 **Pn** **00 25 50.9 +2.0**
X16A Lo Mia Camp, P 10.69 349 **Pn** **00 25 50.7 +0.7**
IKP In-Ko-Pah, Jac 10.76 325 P **Pn** **00 25 53.0 +2.0**
baz=142
BLYC Blythe 10.96 335 Pn **Pn** **00 25 56.4 +2.9**
MONP2 Monument Peak 11.12 325 P **Pn** **00 25 56.8 +0.8**
baz=142
W18A Petrified Fore 11.17 356 **Pn** **00 25 59.2 +2.6**
W18A Petrified Fore 11.17 356 P **Pn** **00 25 57.7 +1.1**
baz=176
ANMO Albuquerque 11.18 10 Pn **Pn** **00 26 00.2 +3.4**
ANMO Albuquerque 11.18 10 **Pn** **00 25 56.0 -0.7**
ANMO Albuquerque 11.18 10 P **Pn** **00 25 58.7 +1.9**
baz=192
ANMO Albuquerque 11.18 10 Pn **Pn** **00 25 59.5 +2.7**
0.1nm,0.3s,baz=184,slow=13,SNR=6.4
ANMO Lg Lg 00 29 09.2
0.1nm,0.3s,baz=142,slow=20,SNR=1.8
2.4nm,0.9s
POST Post 11.18 34 **Pn** **00 25 59.3 +2.6**
BC3 Big Chuckawall 11.27 331 P **Pn** **00 26 00.2 +2.3**
baz=148
PDMCI Parker Dam,Lak 11.31 337 P **Pn** **00 26 00.1 +1.8**
baz=155
MSTX Muleshoe 11.35 27 **Pn** **00 25 58.4 -0.6**
MSTX Muleshoe 11.35 27 P **Pn** **00 26 00.3 +1.4**
baz=209
SN05 Snyder 5 11.36 37 **Pn** **00 25 58.4 -0.7**
BRDY Brady 11.43 48 **Pn** **00 25 59.6 -0.4**
SN07 Snyder 07 11.52 36 **Pn** **00 26 01.5 +0.2**
IRM Iron Mountain 11.56 333 P **Pn** **00 26 03.8 +1.9**
baz=151
PMD Palm Desert 11.69 328 Pn **Pn** **00 26 05.1 +1.5**
PFO Pinyon Flats O 11.71 327 P **Pn** **00 26 05.1 +1.2**
baz=144
PFO Pinyon Flats O 11.71 327 LR LR 00 30 11.7
comp=Z,233nm,18.4s,baz=151,slow=36
WUAZ Wupatki 11.75 350 **Pn** **00 26 05.3 +0.8**
WUAZ Wupatki 11.75 350 P **Pn** **00 26 06.9 +2.4**
baz=169
ABTX Abilene, Hawle 11.89 41 **Pn** **00 26 06.6 +0.3**
W13A Hualapai Mount 11.95 340 **Pn** **00 26 08.1 +0.8**
DKNS Dickens 11.95 34 **Pn** **00 26 08.5 +1.3**
435B Jarrell 12.14 53 Pn **Pn** **00 26 12.1 +2.3**
GMRC Granite Mounta 12.32 333 P **Pn** **00 26 14.9 +2.6**
baz=150,SNR=5.7
AMTX Amarillo 12.59 28 Pn **Pn** **00 26 16.3 +0.3**
U15A North Rim 12.80 348 **Pn** **00 26 20.9 +1.9**
V12A Nelson 12.84 338 Pn **Pn** **00 26 18.9 -0.4**
FW13 Cleburne 13.13 48 Pn **Pn** **00 26 23.4 +0.1**
FW03 Perrin-Whitt E 13.14 44 Pn **Pn** **00 26 25.1 +1.6**
MVCO Mesa Verde 13.24 1 **Pn** **00 26 26.4 +1.5**
MVCO Mesa Verde 13.24 1 P **Pn** **00 26 27.1 +2.1**
baz=182
GSC Goldstone, Bar 13.25 331 Pn **Pn** **00 26 27.6 +2.7**
GSC Goldstone, Bar 13.25 331 P **Pn** **00 26 27.4 +2.4**
baz=147
WTFS Witchita Falls 13.39 41 **Pn** **00 26 28.6 +1.8**
SMWD Samnorwood 13.43 32 **Pn** **00 26 29.4 +1.9**
KNB Kanab 13.47 346 **Pn** **00 26 30.1 +2.0**
EDW2 Edwards Air Fo 13.48 326 P **Pn** **00 26 30.1 +2.0**
baz=142
SHOC Shoshone, Teco 13.53 334 P **Pn** **00 26 32.2 +3.5**
baz=150
RTBA Rita Blanca 13.55 22 Pn **Pn** **00 26 30.8 +1.7**
LCMT Little Creek M 13.57 345 **Pn** **00 26 30.0 +0.7**
SHPR Sheep Range 13.65 338 **Pn** **00 26 32.8 +2.3**
T25A Trinidad 13.72 15 Pn **Pn** **00 26 33.9 +2.5**
T25A Trinidad 13.72 15 P **Pn** **00 26 33.8 +2.3**
baz=197
SCZ2 Santa Cruz Isl 13.74 319 P **Pn** **00 26 32.8 +1.2**
baz=135
PKCU Pink Cliffs 13.79 349 **Pn** **00 26 33.5 +1.0**
LRMC Laurel Mtn Rad 13.80 328 P **Pn** **00 26 34.2 +1.6**
baz=144
QSM Queen of Sheba 13.84 332 Pn **Pn** **00 26 31.6 -1.3**
WMOK Wichita Mounta 13.91 37 Pn **Pn** **00 26 34.2 +0.3**
WMOK Wichita Mounta 13.91 37 P **Pn** **00 26 34.2 +0.3**
baz=222
HMU Henry Mountain 14.05 354 **Pn** **00 26 32.8 -3.4**
SDCO Great Sand Dun 14.07 11 **Pn** **00 26 37.2 +0.8**
SDCO Great Sand Dun 14.07 11 P **Pn** **00 26 37.9 +1.5**
baz=193
CCUT Cedar City 14.11 345 **Pn** **00 26 38.2 +1.4**
MPMC Manual Prospec 14.19 330 P **Pn** **00 26 39.1 +1.3**
baz=146
ISA Isabella, Lake 14.34 327 **Pn** **00 26 40.2 +0.4**
ISA Isabella, Lake 14.34 327 P **Pn** **00 26 41.6 +1.7**
baz=142
MTPU Mount Pierson 14.35 349 Pn **Pn** **00 26 39.5 -0.7**
PRN Pahroc Range 14.44 340 **Pn** **00 26 43.1 +1.9**
WCT Wildcat Mounta 14.45 334 **Pn** **00 26 40.2 -1.1**
CMIG Matias Romero 14.78 115 Pn **P** **00 26 50.3 -1.6**
0.2nm,0.3s,baz=315,slow=7.1,SNR=2.1
CMIG LR LR 00 32 35.9
comp=Z,960nm,19.8s,baz=286,slow=37
1.6nm,0.5s
NATX Nacogdoches 14.80 55 Pn **Pn** **00 26 45.9 -0.2**
MVU Marysvale 14.80 350 Pn **Pn** **00 26 45.5 -0.8**
MSU Marysvale 14.80 350 Pn **Pn** **00 26 45.9 -0.4**
S11A Rachel 14.88 338 **Pn** **00 26 46.7 -0.5**
TCRU Three Creeks R 14.95 349 Pn **Pn** **00 26 49.1 +0.9**
TCRU IAmb IAmb 00 27 04.1
comp=Z,18nm,1.4s
U32A Winter Ranch, 15.06 32 Pn **Pn** **00 26 48.5 -1.1**
U32A IAmb IAmb 00 26 57.6
comp=Z,11nm,0.8s
Q16A Castle Valley 15.07 353 **Pn** **00 26 50.1 +0.2**
GMN Gold Mountain 15.14 334 **Pn** **00 26 50.8 -0.1**
GMN IAmb IAmb 00 26 56.7
comp=Z,18nm,1.3s
PSUT Pine Spring 15.16 345 P **P** **00 26 55.0 -1.2**
SRU San Rafael Swe 15.20 355 Pn **Pn** **00 26 48.6 -2.9**
LCH Last Change Ra 15.24 332 **Pn** **00 26 51.4 -0.7**
OK038 West end E0370 15.26 33 **Pn** **00 26 49.7 -2.6**
OK038 IAmb IAmb 00 26 58.3
comp=Z,9.8nm,0.8s
SMCO Snowmass 15.29 6 Pn **Pn** **00 26 47.8 -5.2**
SMCO P **P** **00 26 57.2 -0.7**
SMCO IAmb IAmb 00 27 01.9
comp=Z,15nm,1.1s
W35A Tecumseh 15.30 40 Pn **Pn** **00 26 51.4 -1.4**
W35A IAmb IAmb 00 27 05.8
comp=Z,13nm,0.8s
Q24A Divide 15.32 11 **Pn** **00 26 52.9 -0.5**
OK029 Liberty Lake 15.42 37 Pn **Pn** **00 26 53.3 -1.1**
OK029 IAmb IAmb 00 27 06.4
comp=Z,19nm,1.0s
R11B Troy Canyon, C 15.47 340 **Pn** **00 26 55.7 +0.6**
R11B Troy Canyon, C 15.47 340 P **Pn** **00 26 56.5 +1.4**
baz=157,SNR=6.3
DSP Deep Springs 15.49 332 Pn **Pn** **00 26 56.1 +0.8**
P17A Butcher Ranch, 15.58 355 **Pn** **00 26 56.0 -0.5**
P18A Preston Nutter 15.69 356 **Pn** **00 26 57.8 -0.4**
P18A IAmb IAmb 00 27 06.0
comp=Z,27nm,1.3s
TPH Tonopah 15.79 335 **Pn** **00 26 59.4 0.0**
X37A Clayton 15.86 45 Pn **Pn** **00 26 60.0 -0.1**
Q12A Willow Creek R 15.89 343 **Pn** **00 27 01.0 +0.5**
OK033 Mehan 15.89 38 **Pn** **00 27 01.4 +1.0**
OK033 IAmb IAmb 00 27 12.1
comp=Z,36nm,1.0s
OK052 Battle Ridge R 15.93 38 **Pn** **00 27 00.1 -0.8**
OK052 IAmb IAmb 00 27 12.6
comp=Z,35nm,1.0s

KSCO Kaye Shedlock' 15.95 18 Pn **Pn** **00 27 00.4 -0.9**
KSCO IAmb IAmb 00 27 14.6
comp=Z,20nm,1.1s
DEOK Depew 16.00 39 Pn **Pn** **00 27 02.2 +0.4**
DEOK IAmb IAmb 00 27 12.7
comp=Z,32nm,0.9s
KAN14 Manchester OK 16.03 33 **Pn** **00 27 01.7 -0.5**
KAN14 IAmb IAmb 00 27 07.7
comp=Z,18nm,0.9s
ISCO Idaho Springs 16.06 9 **Pn** **00 27 03.0 0.0**
ISCO IAmb IAmb 00 27 18.2
comp=Z,28nm,1.3s
ISCO Idaho Springs 16.06 9 P **P** **00 27 05.4 -1.0**
baz=191,SNR=10
O20A White River Ci 16.17 2 **Pn** **00 27 04.7 +0.5**
O20A IAmb IAmb 00 27 17.2
comp=Z,43nm,1.5s
O20A White River Ci 16.17 2 P **Pn** **00 27 06.2 +2.0**
baz=182
KAN05 Bluff City Nor 16.19 33 Pn **Pn** **00 27 03.7 -0.6**
KAN17 Caldwell West 16.19 34 **Pn** **00 27 02.7 -1.6**
NLU North Lily Min 16.20 351 **Pn** **00 27 03.7 -0.9**
MPU Maple Canyon 16.20 352 Pn **Pn** **00 27 04.7 +0.1**
MDPB Devils Postpil 16.21 330 Pn **Pn** **00 27 04.9 +0.2**
MDPB IAmb IAmb 00 27 20.4
comp=Z,34nm,0.8s
KAN13 South Haven SW 16.32 34 Pn **Pn** **00 27 05.8 -0.1**
KAN09 Caldwell North 16.34 34 **Pn** **00 27 05.0 -1.3**
TUL3 Leonard 16.46 41 Pn **Pn** **00 27 07.2 -0.5**
TUL3 Leonard 16.46 41 P **P** **00 27 09.7 -0.7**
baz=227
NV11 Mina Array Sit 16.47 334 **Pn** **00 27 06.2 -1.8**
NVAR Mina Array Bea 16.53 333 **Pn** **00 27 03.7 -1.6**
NVAR Mina Array Bea 16.53 333 Pn **P** **00 27 13.8 +2.4**
comp=Z,0.2nm,0.3s,baz=157,slow=12,SNR=3.6
NVAR LR LR 00 33 32.6
comp=Z,241nm,19.7s,baz=161,slow=38
DUG Dugway, Tooele 16.55 349 **Pn** **00 27 08.1 -0.9**
DUG Dugway, Tooele 16.55 349 P **Pn** **00 27 10.5 +1.5**
baz=168
RDMU Red Mountain 16.60 358 **Pn** **00 27 08.5 -1.3**
RDMU IAmb IAmb 00 27 15.9
comp=Z,20nm,1.2s
BSUT Blindstream Ca 16.63 355 **Pn** **00 27 08.2 -2.1**
CBKS Cedar Bluff 16.75 26 P **P** **00 27 13.3 -0.5**
baz=210
T35A Sooner Cattle 16.76 37 **Pn** **00 27 10.4 -1.1**
RYN Ryan 16.79 333 Pn **Pn** **00 27 12.0 -0.1**
CTU Camp Tracy 16.89 352 P **Pn** **00 27 13.9 +0.6**
CTU IAmb IAmb 00 27 16.9
comp=Z,24nm,1.4s
KVN Kaiserville 16.98 335 **Pn** **00 27 14.2 -0.3**
KVN IAmb IAmb 00 27 25.4
comp=Z,26nm,1.5s
MIAR Mount Ida 17.02 48 **Pn** **00 27 14.1 -0.8**
MIAR Mount Ida 17.02 48 P **P** **00 27 16.3 -0.5**
baz=235
BRIGG Briggsdale 17.04 12 Pn **Pn** **00 27 15.4 +0.1**
BRIGG IAmb IAmb 00 27 21.7
comp=Z,40nm,1.4s
WAKR Walker 17.08 331 **Pn** **00 27 13.8 -2.0**
WAKR IAmb IAmb 00 27 29.0
comp=Z,36nm,1.5s
N23A Red Feather La 17.10 8 **Pn** **00 27 16.0 -0.1**
N23A Red Feather La 17.10 8 P **P** **00 27 18.2 +0.4**
baz=189
TCUT Toone Canyon 17.27 354 **Pn** **00 27 16.7 -1.5**
TCUT IAmb IAmb 00 27 22.6
comp=Z,21nm,1.2s
BGU Big Grassy Mou 17.30 349 **Pn** **00 27 16.8 -1.7**
X40A Basin Creek Fa 17.50 49 **Pn** **00 27 19.1 -1.8**
PHWY Pilot Hill 17.56 9 Pn **Pn** **00 27 20.7 -1.1**
SPUT South Promonto 17.58 351 Pn **Pn** **00 27 21.3 -0.7**
ELK Elko 17.59 344 **P** **00 27 25.1 +1.8**
ELK Elko 17.59 344 Pn **P** **00 27 24.8 +1.5**
baz=177,slow=9.0,SNR=10
ELK LR LR 00 33 29.9
comp=Z,187nm,19.8s,baz=174,slow=35
comp=Z,4.2nm,1.0s
U38A Gravette 17.66 42 **Pn** **00 27 23.2 +0.4**
143A Socs Landing, 17.69 57 **Pn** **00 27 22.3 -0.8**
143A IAmb IAmb 00 27 25.0
comp=Z,24nm,1.1s
RWWY Rawlins 17.77 4 **Pn** **00 27 24.1 -0.3**
RWWY IAmb IAmb 00 27 29.6
comp=Z,20nm,1.1s
HWUT Hardware Ranch 17.77 353 P **Pn** **00 27 24.6 +0.3**
HWUT IAmb IAmb 00 27 28.1
comp=Z,22nm,1.2s
BMN Battle Mountai 17.89 339 **Pn** **00 27 26.4 +0.7**
PAHR Pah Rah Range 18.06 333 **Pn** **00 27 27.9 0.0**
HVU Hansel Valley 18.09 351 P **Pn** **00 27 27.6 -0.7**
K22A Casper 18.77 5 P **P** **00 27 36.0 -0.2**
K22A Casper 18.77 5 P **Pn** **00 27 38.5 +1.9**
baz=187,SNR=12
BW06 Boulder Array 18.80 358 P **Pn** **00 27 38.3 +1.3**
baz=178,SNR=16
PD31 Pinedale Array 18.80 358 P **P** **00 27 36.5 0.0**
PD31 IAmb IAmb 00 27 39.3
comp=Z,15nm,1.1s
PDAR Pinedale Array 18.80 358 P **P** **00 27 36.5 0.0**
PDAR Pinedale Array 18.80 358 P **Pn** **00 27 37.6 +0.7**
comp=Z,0.2nm,0.3s,baz=171,slow=12,SNR=46
PDAR LR LR 00 34 52.4
comp=Z,260nm,18.4s,baz=190,slow=37
comp=Z,8.6nm,0.9s
AHID Auburn Hatcher 18.88 355 P **P** **00 27 37.5 +0.2**
S39A Bolivar 19.12 41 P **P** **00 27 38.4 -1.4**
PETF Flores 19.14 108 P **Pn** **00 27 40.3 -0.7**
PETF IAmb IAmb 00 27 53.5
comp=Z,21nm,1.2s
MGMO Mountain Grove 19.42 43 P **P** **00 27 42.6 -0.5**
MGMO IAmb IAmb 00 27 51.0
comp=Z,18nm,1.2s
REDW Red Top Meadow 19.45 356 P **P** **00 27 44.1 +0.4**
TEIG Tepich 19.45 97 LR LR 00 34 59.4
comp=Z,2µm,19.6s,baz=98,slow=36
LCAR Lake Charles 19.52 48 P **Pn** **00 27 46.0 +0.6**
TPAW Teton Pass 19.58 356 P **P** **00 27 45.1 -0.1**
TPAW IAmb IAmb 00 27 56.1
comp=Z,16nm,1.1s
LOHW Long Hollow 19.68 356 P **P** **00 27 47.2 +1.0**
FXWY Fox Creek 19.74 355 P **P** **00 27 46.6 -0.2**
MOOW Moose Ponds 19.83 356 P **P** **00 27 48.5 +0.7**
MOOW IAmb IAmb 00 27 59.4
comp=Z,15nm,1.2s
OXF Oxford 19.97 54 P **P** **00 27 49.5 +0.3**
baz=243
IMW Indian Meadow 19.99 356 P **P** **00 27 49.4 -0.2**
IMW IAmb IAmb 00 27 59.6
comp=Z,25nm,1.4s
HLID Hailey 20.10 348 P **P** **00 27 51.2 +0.5**
HLID IAmb IAmb 00 28 01.0
comp=Z,10nm,1.1s
HLID Hailey 20.10 348 P Pn 00 27 52.7 +0.1
baz=165,SNR=6.0
R40A Maddies Statio 20.14 41 P **P** **00 27 51.5 +0.6**
R40A IAmb IAmb 00 28 00.1
comp=Z,9.2nm,0.8s
WVOR Wild Horse Val 20.15 339 P **P** **00 27 51.4 +0.2**
WVOR IAmb IAmb 00 28 03.7
comp=Z,16nm,1.1s
FLWY Flagg Ranch 20.16 356 P Pn 00 27 52.9 -0.3
N35A Tabor 20.21 30 P **P** **00 27 51.9 +0.2**
N35A IAmb IAmb 00 28 06.5
comp=Z,21nm,0.7s
K30B Basset 20.21 20 P **P** **00 27 52.8 +1.0**
K30B IAmb IAmb 00 27 57.8
comp=Z,16nm,1.0s
Z47A Carrollton 20.46 59 P **P** **00 27 54.3 -0.2**
Z47A IAmb IAmb 00 28 05.0
comp=Z,21nm,1.0s
H17A Grant Village 20.46 357 P **P** **00 27 55.5 +0.8**
H17A IAmb IAmb 00 28 02.6
comp=Z,23nm,1.4s
H17A Grant Village 20.46 357 P Pn 00 27 57.5 +0.6
baz=176,SNR=8.4
RSSD Black Hills 20.53 10 P Pn 00 27 57.6 0.0
RSSD Black Hills 20.53 10 P Pn 00 27 57.8 +0.2
baz=193
YFT Old Faithful 20.53 356 P **P** **00 27 56.7 +1.2**
YFT IAmb IAmb 00 28 05.7
comp=Z,31nm,1.4s
CCM Cathedral Cave 20.62 43 P Pn 00 27 57.9 -0.5
baz=232

LKWY Lake 20.62 357 P **P** **00 27 57.9 +1.5**
LKWY IAmb IAmb 00 28 07.1
comp=Z,27nm,1.1s
BRAL Brewton 20.64 65 P **P** **00 27 57.6 +1.1**
baz=255
YMP Mirror Lake Pl 20.79 357 P **P** **00 27 59.7 +1.4**
YNR Norris Junctio 20.79 356 P **P** **00 27 59.8 +1.6**
YNR IAmb IAmb 00 28 15.6
comp=Z,33nm,1.4s
YHH Holmes Hill 20.87 356 P Pn 00 28 01.6 -0.1
J08A Circle Bar Ran 20.93 340 P **P** **00 27 59.9 +0.3**
J08A IAmb IAmb 00 28 12.7
comp=Z,26nm,1.4s
P40A Paris 21.09 39 P **P** **00 28 01.6 +0.4**
P40A IAmb IAmb 00 28 08.9
comp=Z,13nm,0.9s
MCMT McKenzie Canyo 21.10 352 P **P** **00 28 03.7 +2.1**
RLMT Red Lodge 21.14 359 P **P** **00 28 02.4 +0.3**
RLMT IAmb IAmb 00 28 18.2
comp=Z,26nm,1.4s
RLMT Red Lodge 21.14 359 P **P** **00 28 03.4 +1.4**
baz=179
YBH Yreka Blue Hor 21.16 330 LR LR 00 36 42.4
comp=Z,240nm,19.5s,baz=161,slow=38
PLAL Pickwick Lake 21.17 54 P **P** **00 28 00.3 -1.8**
PLAL IAmb IAmb 00 28 08.7
comp=Z,23nm,1.4s
LRAL Lakeview Retre 21.24 60 **P** **00 28 01.1 -1.8**
LRAL IAmb IAmb 00 28 17.9
comp=Z,32nm,1.5s
LRAL Lakeview Retre 21.24 60 P **P** **00 28 03.9 +1.0**
baz=250
BOZ Bozeman (W) 21.73 355 P **P** **00 28 10.4 +2.2**
baz=173,SNR=5.7
J05D Fort Rock, OR 21.82 335 P **P** **00 28 08.1 -1.2**
WVT Waverly 21.86 51 P **P** **00 28 05.8 -3.8**
WVT IAmb IAmb 00 28 19.4
comp=Z,7.0nm,0.8s
WVT Waverly 21.86 51 **P** **00 28 06.6 -3.0**
WVT Waverly 21.86 51 P **P** **00 28 10.7 +1.1**
baz=242
PLID Pearl Lake 21.89 346 P **P** **00 28 08.0 -2.0**
PLID IAmb IAmb 00 28 19.5
comp=Z,11nm,1.2s
ECSD EROS Data Cent 22.18 24 P **P** **00 28 13.3 +0.3**
ECSD IAmb IAmb 00 28 24.2
comp=Z,14nm,1.3s
Q44A Meyer Farm, Va 22.52 44 P **P** **00 28 15.4 -1.2**
BPMT Black Pine Rid 22.76 352 P **P** **00 28 19.8 +0.5**
Z51A Franklin 22.78 60 P **P** **00 28 19.2 -0.2**
Z51A IAmb IAmb 00 28 23.7
comp=Z,16nm,1.0s
T47A Sharon Grove 22.78 50 P **P** **00 28 20.0 +0.6**
LAO LASA Array 22.81 5 P **P** **00 28 20.1 +0.5**
LAO LASA Array 22.81 5 P **P** **00 28 21.4 +1.7**
baz=186
FPAL Fort Paine 22.85 57 P **P** **00 28 20.3 +0.1**
SWET Sewanee 22.86 55 P **P** **00 28 19.5 -0.8**
SWET IAmb IAmb 00 28 34.5
comp=Z,12nm,0.9s
USIN University of 22.89 47 P **P** **00 28 21.3 +0.8**
CLTN Cedars of Leba 22.93 53 P **P** **00 28 19.9 -1.0**
CLTN IAmb IAmb 00 28 24.7
comp=Z,8.5nm,0.6s
152A Waverly Hall 22.96 62 P **P** **00 28 21.2 0.0**
L40A Anamosa 23.30 35 P **P** **00 28 22.2 -2.4**
OVMT Ovando 23.32 353 P **P** **00 28 24.4 -0.6**
W50A Signal Mountai 23.32 56 P **P** **00 28 24.2 -0.9**
TIGA Tifton 23.59 66 P **P** **00 28 27.7 +0.1**
baz=258
Y52A Lilburn 23.83 60 P **P** **00 28 29.1 -1.0**
Y52A IAmb IAmb 00 28 33.1
comp=Z,13nm,0.8s
WCI Wyandotte Cave 23.95 48 P **P** **00 28 30.8 -0.4**
WCI IAmb IAmb 00 28 42.6
comp=Z,14nm,0.9s
WCI Wyandotte Cave 23.95 48 P **P** **00 28 32.1 +0.9**
baz=240
CPCT Cooper Cave 24.02 56 P **P** **00 28 32.2 +0.4**
EGMT Eagleton 24.05 359 P **P** **00 28 32.4 +0.3**
EGMT Eagleton 24.05 359 P **P** **00 28 33.4 +1.3**
baz=178
F33A 5 Mile Ranch, 24.12 22 P **P** **00 28 32.5 -0.1**
F33A IAmb IAmb 00 28 41.6
comp=Z,6.4nm,1.1s
GOGA Godfrey 24.17 61 P **P** **00 28 33.3 0.0**
GOGA Godfrey 24.17 61 P **P** **00 28 34.4 +1.2**
baz=253
154A Montrose 24.25 63 P **P** **00 28 33.7 -0.3**
V51A Loudon 24.28 55 P **P** **00 28 33.7 -0.5**
W52A Murphy 24.34 57 P **P** **00 28 35.0 +0.1**
T50A Nancy 24.41 52 P **P** **00 28 35.0 -0.4**
SFIN Lafayette 24.59 43 P **P** **00 28 38.3 +1.3**
baz=234
TKL Tuckaleechee C 24.66 56 LR LR 00 39 08.7
comp=Z,481nm,19.6s,baz=255,slow=38
R49A Shelbyville 24.75 49 P **P** **00 28 39.2 +0.8**
DGMT Dagmar 24.77 7 P **P** **00 28 40.0 +1.4**
baz=190
V52A Sevierville 24.86 56 P **P** **00 28 39.3 -0.2**
I40A Norwalk 24.93 33 P **P** **00 28 38.8 -1.2**
MDND Maddock 24.99 15 P **P** **00 28 40.3 -0.2**
MDND Maddock 24.99 15 P **P** **00 28 41.8 +1.3**
baz=200
DWPF Disney Wildern 25.00 75 P **P** **00 28 40.9 +0.1**
baz=266
NEW Newport 25.15 347 P **P** **00 28 41.4 -0.6**
NEW IAmb IAmb 00 28 58.9
comp=Z,8.1nm,1.1s
NEW Newport 25.15 347 P **P** **00 28 43.2 +1.2**
baz=162
NEW Newport 25.15 347 LR LR 00 39 16.5
comp=Z,253nm,19.3s,baz=166,slow=38
TZTN Tazewell 25.16 54 P **P** **00 28 42.5 +0.3**
TZTN Tazewell 25.16 54 P **P** **00 28 43.3 +1.1**
baz=247
F36A Milaca 25.16 26 P **P** **00 28 41.9 -0.2**
F36A IAmb IAmb 00 28 55.4
comp=Z,10nm,1.1s
R50A Paris 25.34 50 P **P** **00 28 44.9 +1.1**
R50A IAmb IAmb 00 28 55.9
comp=Z,8.1nm,0.8s
S51A Beattyville 25.57 52 P **P** **00 28 46.8 +0.9**
P49A Miami Univ. Ec 25.67 47 P **P** **00 28 48.0 +1.3**
baz=240
O48B Farmland 25.75 45 P **P** **00 28 48.6 +1.1**
baz=238
G40A Rib Lake 26.14 31 P **P** **00 28 50.4 -0.6**
G40A IAmb IAmb 00 29 02.6
comp=Z,8.7nm,0.9s
KMSC Kings Mountain 26.37 59 P **P** **00 28 54.4 +1.2**
baz=252
AGMN Agassiz Nation 26.42 20 P **P** **00 28 54.3 +0.8**
AGMN IAmb IAmb 00 29 02.2
comp=Z,8.7nm,1.2s
AGMN Agassiz Nation 26.42 20 P **P** **00 28 55.1 +1.6**
baz=208
JTS Las Juntas de 26.54 117 LR LR 00 38 43.3
comp=Z,230nm,19.4s,baz=14,slow=35
NHSC New Hope 26.77 64 P **P** **00 28 57.1 +0.4**
baz=257
R53A Hurricane 27.04 52 P **P** **00 28 56.6 -2.5**
ACSO Alum Creek Sta 27.18 47 P **P** **00 29 01.9 +1.6**
baz=241
COWI Conover 27.26 31 P **P** **00 28 59.4 -1.7**
P52A Corning 27.48 49 P **P** **00 29 04.3 +1.3**
baz=243
EYMN Ely 27.67 26 P **P** **00 29 05.1 +0.4**
EYMN IAmb IAmb 00 29 15.0
comp=Z,9.3nm,0.9s
EYMN Ely 27.67 26 P **P** **00 29 05.5 +0.8**
baz=216,SNR=5.5
BLA Blacksburg 27.74 55 P **P** **00 29 05.9 +0.4**
baz=249
ULM Lac du Bonnet 28.16 18 P **P** **00 29 09.5 +0.4**
ULM IAmb IAmb 00 29 10.9
comp=Z,9.8nm,1.5s
ULM Lac du Bonnet 28.16 18 P **P** **00 29 10.3 +1.2**
comp=Z,2.1nm,0.9s,baz=195,slow=7.0,SNR=3.9
ULM LR LR 00 40 11.0
comp=Z,306nm,18.5s,baz=163,slow=36
comp=Z,2.1nm,0.9s
D41A Chassel 28.24 30 P **P** **00 29 11.2 +1.4**
SSPA Standing Stone 30.85 50 P **P** **00 29 34.2 +1.2**
baz=247

FFC	**Flin Flon**	**31.19**	**8**	P		**P**	**00 29 34.2**	**-1.6**
FFC				IAmb		IAmb	00 29 45.0	
	comp=Z,8.3nm,1.4s							
M57A	**Sunshine Farm,**	**31.65**	**49**	P		**P**	**00 29 38.4**	**-1.7**
BBB	**Bella Bella**	**31.81**	**337**	LR		LR	00 41 53.7	
	comp=Z,200nm,20.5s,baz=172,slow=35							
SADO	**Sadowa**	**31.90**	**42**	LR		LR	00 43 18.7	
	comp=Z,312nm,18.7s,baz=266,slow=38							
BINY	**Binghamton**	**32.78**	**48**	P		**P**	**00 29 50.9**	**+0.9**
	baz=246							
PAL	**Palisades**	**33.80**	**51**	P		**P**	**00 29 59.6**	**+0.8**
	baz=250							
CRAG	**Craig**	**36.22**	**337**	P		**P**	**00 30 20.5**	**+0.9**
	baz=141							
FCC	**Fort Churchill**	**36.36**	**13**	P		**P**	**00 30 21.3**	**+0.6**
DLBC	**Dease Lake**	**37.63**	**342**	P		**P**	**00 30 32.8**	**+1.2**
	baz=147							
DLBC	**Dease Lake**	**37.63**	**342**	LR		LR	00 48 07.9	
	comp=Z,212nm,19.4s,baz=114,slow=40							
ROSC	**El Rosal**	**38.31**	**114**	LR		LR	00 46 57.3	
	comp=Z,300nm,19.7s,baz=78,slow=37							
YKA	**Yellowknife Ar**	**38.74**	**356**	P		**P**	**00 30 41.6**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=169,slow=7.7,SNR=9.6							
YKA				LR		LR	00 49 00.1	
	comp=Z,205nm,18.7s,baz=146,slow=40							
	comp=Z,0.7nm,0.9s							
SDV	**Santo Domingo**	**39.48**	**106**	LR		LR	00 48 10.3	
	comp=Z,224nm,18.1s,baz=36,slow=38							
L29M	**L29M**	**43.76**	**341**	P		**P**	**00 31 23.2**	**+1.1**
	baz=140							
SCHQ	**Schefferville**	**43.78**	**34**	P		**P**	**00 31 25.2**	**+2.8**
	comp=Z,1.5nm,0.6s,baz=247,slow=13,SNR=2.4							
SCHQ				LR		LR	00 50 42.8	
	comp=Z,336nm,18.4s,baz=240,slow=38							
	comp=Z,1.5nm,0.6s							
K29M	**Barlow Dome**	**44.15**	**342**	P		**P**	**00 31 26.4**	**+1.0**
	baz=141							
M27K	**Edge Creek, AK**	**44.38**	**339**	P		**P**	**00 31 28.2**	**+1.0**
	baz=135							
K27K	**Chicken**	**45.63**	**340**	P		**P**	**00 31 37.5**	**+0.5**
	baz=136							
G31M	**Satah River**	**45.85**	**346**	P		**P**	**00 31 39.1**	**+0.5**
	baz=147							
EPYK	**Eagle Plains**	**45.95**	**345**	P		**P**	**00 31 41.7**	**+2.2**
	baz=144							
SCRK	**Sand Creek**	**46.19**	**339**	P		**P**	**00 31 43.3**	**+1.8**
	baz=133							
H29M	**Whitestone**	**46.23**	**344**	P		P	00 31 47.6	+5.8
	baz=142							
RIDG	**Independent Ri**	**46.31**	**339**	P		**P**	**00 31 46.6**	**+4.1**
	baz=132							
SML	**Sawmill**	**46.33**	**335**	P		**P**	**00 31 45.5**	**+2.9**
	baz=127							
G30M	**tAoh Zraii Nji**	**46.33**	**346**	P		**P**	**00 31 43.9**	**+1.4**
	baz=145							
J26L	**Joseph Creek**	**46.42**	**340**	P		**P**	**00 31 47.1**	**+3.8**
	baz=134							
WAT6	**Susitna Watana**	**46.57**	**336**	P		**P**	**00 31 47.8**	**+3.1**
	baz=128							
K24K	**Donnelly Dome**	**46.66**	**339**	P		**P**	**00 31 47.6**	**+2.4**
	baz=131							
DHY	**Denali Highway**	**46.75**	**337**	P		**P**	**00 31 46.2**	**+0.2**
	baz=129							
INK	**Inuvik**	**46.87**	**348**	LR		LR	00 52 38.9	
	comp=Z,179nm,18.6s,baz=180,slow=38							
J25K	**Salcha River,**	**47.07**	**340**	P		**P**	**00 31 48.7**	**+0.3**
	baz=132							
CZSB	**Cruzeiro do Su**	**47.31**	**127**	P		**P**	**00 31 49.1**	**-1.7**
ILAR	**Eielson Array**	**47.66**	**339**	P		**P**	**00 31 54.1**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=140,slow=7.6,SNR=5.9							
ILAR				LR		LR	00 52 40.9	
	comp=Z,120nm,20.1s,baz=130,slow=37							
	comp=Z,0.5nm,0.8s							
SKT	**Skwentna**	**47.67**	**334**	P		**P**	**00 31 54.5**	**+1.4**
	baz=123							
F28M	**Old Crow**	**47.70**	**345**	P		**P**	**00 31 54.5**	**+1.4**
	baz=140							
MCK	**McKinley**	**47.71**	**337**	P		**P**	**00 31 54.8**	**+1.5**
	baz=127							
PRP	**Porcupine Dome**	**47.73**	**340**	P		**P**	**00 31 55.9**	**+2.3**
	baz=133							
FRB	**Frobisher Bay**	**47.82**	**23**	LR		LR	00 51 49.2	
	comp=Z,202nm,20.6s,baz=202,slow=36							
E29M	**Blow River**	**47.85**	**346**	P		**P**	**00 31 57.2**	**+2.9**
	baz=143							
TRF	**Thorofare Moun**	**48.03**	**336**	P		**P**	**00 31 57.5**	**+1.6**
	baz=126							
CHGN	**Chignik**	**48.24**	**325**	P		**P**	**00 31 57.5**	**0.0**
	baz=111							
M20K	**Styx River**	**48.26**	**334**	P		**P**	**00 31 58.9**	**+1.3**
	baz=121							
R16K	**Pilot Point**	**48.29**	**327**	P		**P**	**00 31 57.5**	**-0.4**
	baz=113							
PPLA	**Purkeypile**	**48.43**	**335**	P		**P**	**00 32 00.9**	**+1.9**
	baz=123							
H24K	**Noodor Dome**	**48.67**	**340**	P		**P**	**00 32 04.0**	**+3.3**
	baz=130							
CAST	**Castle Rocks**	**48.67**	**336**	P		**P**	**00 32 03.4**	**+2.6**
	baz=124							
D28M	**Stokes Point**	**48.78**	**346**	P		**P**	**00 32 05.0**	**+3.5**
	baz=143							
F26K	**Sheenjek River**	**48.85**	**343**	P		**P**	**00 32 04.0**	**+1.9**
	baz=136							
L20K	**Farewell, AK**	**48.87**	**334**	P		**P**	**00 32 04.9**	**+2.6**
	baz=121							
A36M	**Sachs Harbour**	**48.97**	**353**	P		**P**	**00 32 03.6**	**+0.7**
A36M				IAmb		IAmb	00 32 13.5	
	comp=Z,3.4nm,0.8s							
A36M	**Sachs Harbour**	**48.97**	**353**	P		**P**	**00 32 06.1**	**+3.3**
	baz=160							
O17K	**Koliganek Bris**	**48.97**	**330**	P		**P**	**00 32 07.0**	**+4.0**
	baz=115							
SDPT	**Sand Point**	**49.02**	**324**	P		**P**	**00 32 02.3**	**-1.1**
L19K	**White Mountain**	**49.11**	**334**	P		**P**	**00 32 06.7**	**+2.5**
	baz=120							
G24K	**Hadweenzic Riv**	**49.11**	**341**	P		**P**	**00 32 07.4**	**+3.3**
	baz=131							
M18K	**Stony River**	**49.18**	**332**	P		**P**	**00 32 06.5**	**+1.8**
	baz=118							
F25K	**Christian Rive**	**49.19**	**342**	P		**P**	**00 32 08.0**	**+3.3**
	baz=134							
N17K	**Nushagak Hills**	**49.34**	**331**	P		**P**	**00 32 09.3**	**+3.4**
	baz=116							
O16K	**Kokwok River B**	**49.35**	**330**	P		**P**	**00 32 08.8**	**+2.8**
	baz=114							
K20K	**Telida**	**49.40**	**335**	P		**P**	**00 32 08.6**	**+2.3**
	baz=121							
I21K	**Tanana**	**49.63**	**338**	P		**P**	**00 32 10.4**	**+2.4**
	baz=125							
M17K	**Holitna River**	**49.83**	**332**	P		**P**	**00 32 12.7**	**+3.1**
	baz=116							
J20K	**Nowinta River**	**49.85**	**336**	P		**P**	**00 32 12.1**	**+2.3**
	baz=122							
L18K	**Granite Mounta**	**49.88**	**333**	P		**P**	**00 32 13.2**	**+3.2**
	baz=118							
G23K	**Bananza Creek**	**49.90**	**340**	P		**P**	**00 32 13.1**	**+3.0**
	baz=128							
TTA	**Tatalina**	**49.95**	**334**	P		**P**	**00 32 12.8**	**+2.2**
	baz=119							
O15K	**Ungalikthiuk R**	**50.01**	**329**	P		**P**	**00 32 13.4**	**+2.4**
	baz=112							
H21K	**Melozitna Rive**	**50.19**	**338**	P		**P**	**00 32 11.1**	**-1.2**
	baz=124							
J19K	**Poorman**	**50.32**	**335**	P		**P**	**00 32 12.6**	**-0.7**
	baz=120							
J18K	**Innoko River**	**50.48**	**334**	P		**P**	**00 32 14.4**	**-0.1**
	baz=119							
L17K	**Donlin**	**50.52**	**332**	P		**P**	**00 32 16.8**	**+1.9**
	baz=116							
E23K	**Chandalar**	**50.62**	**342**	P		**P**	**00 32 15.9**	**+0.2**
	baz=130							
C26K	**Camden Bay**	**50.64**	**345**	P		**P**	**00 32 19.3**	**+3.7**
	baz=136							
RPN	**Rapa Nui**	**50.76**	**181**	LR		LR	00 48 36.0	
	comp=Z,114nm,20.1s,baz=35,slow=30							
K17K	**Iditarod**	**50.78**	**333**	P		**P**	**00 32 16.6**	**-0.1**
	baz=116							
H20K	**Anotleneega Mo**	**50.82**	**337**	P		**P**	**00 32 17.9**	**+0.8**
	baz=122							
L16K	**Owhat River**	**50.84**	**332**	P		**P**	**00 32 18.3**	**+1.0**
	baz=114							
RES	**Resolute Bay**	**51.33**	**5**	P		**P**	**00 32 20.0**	**-0.7**
RES				IAmb		IAmb	00 32 39.5	
	comp=Z,3.8nm,1.2s							
BOAV	**Boa Vista**	**51.38**	**107**	P		**P**	**00 32 20.3**	**-1.7**
BOAV				IAmb		IAmb	00 32 25.0	
	comp=Z,4.3nm,0.8s							
D23K	**Nanushuk River**	**51.50**	**342**	P		**P**	**00 32 23.4**	**+1.2**
	baz=129							
D22K	**Ayikyak River**	**52.02**	**341**	P		**P**	**00 32 28.3**	**+2.3**
	baz=127							
F19K	**Shaleruckik Mo**	**52.52**	**338**	P		**P**	**00 32 32.4**	**+2.7**
	baz=120							
E19K	**Redstone River**	**52.65**	**339**	P		**P**	**00 32 31.5**	**+0.8**
	baz=121							
G17K	**Kiwalik Mounta**	**52.93**	**336**	P		**P**	**00 32 32.1**	**-0.7**
	baz=116							
H16K	**Elim**	**53.18**	**334**	P		**P**	**00 32 34.8**	**+0.2**
	baz=114							
ETMB	**Extrema**	**53.51**	**124**	P		**P**	**00 32 36.1**	**-1.6**
ETMB				IAmb		IAmb	00 32 47.5	
	comp=Z,5.5nm,1.0s							
G16K	**Koyuk River**	**53.53**	**335**	P		**P**	**00 32 37.7**	**+0.5**
	baz=114							
G15K	**Niukluk**	**54.03**	**334**	P		**P**	**00 32 44.2**	**+3.4**
	baz=112							
F15K	**North Star Dit**	**54.53**	**335**	P		**P**	**00 32 46.7**	**+2.2**
	baz=112							
SAML	**Samuel**	**55.32**	**121**	P		**P**	**00 32 50.0**	**-0.9**
SAML				IAmb		IAmb	00 33 02.7	
	comp=Z,4.6nm,1.4s							
PPT	**Papeete**	**57.25**	**228**	LR		LR	00 51 51.5	
	comp=Z,70nm,18.3s,baz=2.0,slow=30							
PPT2	**Papeete2**	**57.27**	**228**	*e*LR		LR	00 49 42.6	
	comp=Z,232nm,27.0s							
PPT2				*e*LR		LR	00 49 47.9	
	comp=Z,140nm,40.2s							
DY2G	**Dye2**	**57.43**	**25**	*i* P		P	00 33 11.1	+5.5
DY2G				IAmb		IAmb	00 33 14.0	
	comp=Z,6.5nm,1.1s							
DY2G				IAML			00 33 14.0	
	comp=Z,6.5nm,1.1s							
NEEM	**North Greenlan**	**59.99**	**12**	*i* P		P	00 33 28.6	+5.3
NEEM				IAmb		IAmb	00 33 31.3	
	comp=Z,5.9nm,0.9s							
ICESG	**Greenland Ices**	**60.47**	**23**	*i* P		**P**	**00 33 27.5**	**+0.7**
ICESG				IAmb		IAmb	00 33 34.1	
	comp=Z,7.9nm,0.8s							
SIV	**San Ignacio**	**61.28**	**126**	LR		LR	01 00 15.5	
	comp=Z,295nm,18.2s,baz=42,slow=36							
TBI	**Tubuai**	**61.32**	**223**	*e*LR		LR	00 51 25.4	
	comp=Z,940nm,29.5s							
SUMG	**Summit**	**61.52**	**19**	*i* P		**P**	**00 33 37.9**	**+4.1**
SUMG				IAmb		IAmb	00 33 41.1	
	comp=Z,3.4nm,0.7s							
SOEG	**Soedalen**	**63.38**	**24**	*i* P		P	00 33 50.9	+5.0
SOEG				IAmb		IAmb	00 33 53.7	
	comp=Z,6.4nm,0.9s							
H03N2	**Juan Fernandez**	**63.79**	**152**	T		T	01 43 55.2	
	baz=332,slow=74							
H03N1	**Juan Fernandez**	**63.80**	**152**	T		T	01 43 58.4	
	baz=332,slow=74							
H03N3	**Juan Fernandez**	**63.81**	**152**	T		T	01 43 15.9	
	baz=332							
RAR	**Rarotonga**	**66.82**	**232**	LR		LR	00 54 39.9	
	comp=Z,88nm,21.1s,baz=42,slow=28							
CPUP	**Villa Florida**	**70.58**	**132**	P		**P**	**00 34 34.8**	**+2.6**
	comp=Z,0.7nm,0.4s,baz=270,slow=3.0,SNR=2.9							
	comp=Z,0.7nm,0.4s							
BDFB	**Brasilia**	**71.28**	**117**	LR		LR	01 06 34.6	
	comp=Z,205nm,18.3s,baz=323,slow=36							
SPITS	**Spitsbergen Ar**	**73.40**	**10**	LR		LR	01 07 10.4	
	comp=Z,122nm,20.1s,baz=260,slow=36							
PLCA	**Paldores**	**73.55**	**151**	P		**P**	**00 34 52.3**	**+2.4**
	comp=Z,2.9nm,0.8s,baz=339,slow=9.2,SNR=7.3							
	comp=Z,2.9nm,0.8s							
TIXI	**Tiksi**	**76.82**	**344**	LR		LR	01 14 34.1	
	comp=Z,64nm,18.5s,baz=86,slow=40							
ARCES	**ARCESS Array B**	**81.23**	**15**	LR		LR	01 13 53.3	
	comp=Z,74nm,18.4s,baz=314,slow=37							
HFS	**Hagfors**	**84.11**	**25**	LR		LR	01 15 50.3	
	comp=Z,68nm,18.3s,baz=289,slow=37							
ESDC	**Sonseca Array**	**85.72**	**48**	LR		LR	01 12 30.2	
	comp=Z,143nm,19.5s,baz=286,slow=34							
MDT	**Midelt**	**88.43**	**55**	LR		LR	01 12 24.9	
	comp=Z,99nm,21.0s,baz=346,slow=33							
GERES	**GERESS Array B**	**91.31**	**34**	LR		LR	01 15 30.8	
	comp=Z,73nm,19.8s,baz=302,slow=34							
VRAC	**Vranov**	**92.45**	**32**	LR		LR	01 17 55.4	
	comp=Z,134nm,18.1s,baz=294,slow=35							
ARU	**Arti**	**99.26**	**7**	LR			01 28 02.7	
	comp=Z,69nm,18.0s,baz=308,slow=39							
WRA	**Warramunga Arr**	**121.63**	**261**	PKP		**PKiKP**	**00 42 11.8**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=64,slow=2.5,SNR=2.0							

IDC ***02*** *00:45:03.0±4.4, 7.88S×114.24E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=251.7km s-min=31.1km az=47.0.*

DJA ***02*** *00:45:04.0±1.6, 10.3S±6.6×11.3E±.1, h17km±16km, M3.9/12, mb4.2/3, MLv3.7/12*

ISC 02 00:45:00.8±1.3, 9.6S±0.1×112.62E±0.04, h10km, n18, c2814/19, mb3.7/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PWJI	**Pagerwojo**	**1.74**	**332**	P	**Pb**	**00 45 33.2**	**+0.4**
PWJI				S	**Sn**	**00 45 52.4**	**-0.8**
JAGI	**Jajag, Banyuwa**	**1.86**	**54**	P	**Pb**	**00 45 35.1**	**+0.2**
BLJI	**Banyuglugur**	**2.05**	**28**	P	**Pb**	**00 45 38.7**	**+0.6**
BLJI				S	**Sn**	**00 46 00.5**	**-0.5**
ABJI	**Asem Bagus**	**2.38**	**42**	P	**Pb**	**00 45 43.8**	**+0.1**
ABJI				S	**Sb**	**00 46 12.1**	**-0.9**
NGJI	**Ngawi**	**2.47**	**332**	P	**Pb**	**00 45 45.9**	**+0.6**
IGBI	**Denpasar**	**2.60**	**74**	P	**Pn**	**00 45 44.8**	**+1.9**
UGM	**Wanagama**	**2.65**	**308**	P	**Pn**	**00 45 46.4**	**+2.8**
UGM				S	**Sn**	**00 46 16.1**	**+0.3**
SRBI	**Singaraja**	**2.95**	**60**	P	**Pn**	**00 45 50.9**	**+3.1**
KPJI	**Karang Pucung**	**4.28**	**301**	P	**Pn**	**00 46 08.4**	**+2.5**
TWSI	**Taliwang, Sumb**	**4.29**	**79**	P	**Pn**	**00 46 09.5**	**+3.4**
CMJI	**Cimerak**	**4.49**	**293**	P	**Pn**	**00 46 11.2**	**+2.3**
PLAI	**Plampang**	**5.14**	**82**	P	**Pn**	**00 46 21.0**	**+3.1**
	18nm,0.8s,0.1nm						
WRA	**Warramunga Arr**	**23.36**	**119**	P	**P**	**00 50 08.1**	**-1.7**
	0.3nm,0.5s,baz=299,slow=12,SNR=3.3						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**62.30**	**337**	P	**P**	**00 55 21.0**	**-2.2**
	0.4nm,0.4s,baz=150,slow=7.4,SNR=11						
	0.4nm,0.4s						
H04N2	**CROZET ISLANDS**	**63.07**	**223**	T	T	02 07 16.6	
	baz=74,slow=75,SNR=55						
H04N1	**CROZET ISLANDS**	**63.08**	**223**	T	T	02 07 12.6	
	baz=74,slow=75,SNR=63						
H04N3	**CROZET ISLANDS**	**63.08**	**223**	T	T	02 07 15.5	
	baz=74,slow=75,SNR=89						
ZALV	**Zalesovo Beam**	**67.51**	**343**	P	**P**	**00 55 53.9**	**-3.0**
	0.3nm,0.5s,baz=155,slow=5.5,SNR=2.0						
	0.3nm,0.5s						

IDC ***02*** *00:54:10.6±3.4, 55.40N×149.97W, h0km, mb3.5/4, mbtmp3.4/6, ML3.1/2, MS2.9/1, Error ellipse: s-maj=73.1km s-min=36.1km az=157.0*

NEIC ***02*** *00:54:13.4±1.6, 55.94N±0.10×150.13W±0.09, h5km±8km, mb3.8/2, ML3.8/48, ML3.5(AEIC), Error ellipse: s-maj=14.6km s-min=6.4km az=163.0*

AEIC ***02*** *00:54:18.3±1.6, 55.96N±0.07×150.1W±0.1, h8km±7km, Error ellipse: s-maj=13.3km s-min=4.8km az=137.0*

ISC 02 00:54:15.7±1.1, 56.06N±0.08×150.19W±0.05, h10km, n201, c095/193, mb3.6/4, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.07**	**306**		**Pn**	**00 54 49.5**	**-0.9**
OHAK	**Old Harbor**	**2.07**	**306**		**Sn**	**00 55 13.9**	**-2.4**
OHAK	**Old Harbor**	**2.07**	**306**	P	**Pn**	**00 54 49.5**	**-0.9**
OHAK	**Old Harbor**	**2.07**	**306**	P	**Pn**	**00 54 49.4**	**-1.1**
	baz=125						
OHAK				S	**Sn**	**00 55 13.9**	**-2.4**
	baz=125						
KDAK	**Kodiak Island**	**2.17**	**324**		**Pn**	**00 54 51.7**	**-0.1**
KDAK	**Kodiak Island**	**2.17**	**324**		**Sn**	**00 55 17.5**	**-1.2**
KDAK	**Kodiak Island**	**2.17**	**324**	IAML		00 55 19.3	
	82nm,0.5s						
KDAK				IAML		00 55 20.0	
	116nm,0.6s						
KDAK	**Kodiak Island**	**2.17**	**324**	S	**Sn**	**00 55 17.5**	**-1.2**
	baz=143						
KDAK	**Kodiak Island**	**2.17**	**324**	LR	LR	00 56 01.9	
	comp=Z,213nm,20.4s,baz=178,slow=40						
SII	**Sitkinak Islan**	**2.28**	**284**		**Pn**	**00 54 52.0**	**-1.4**
SII					**Sn**	**00 55 19.3**	**-2.3**
SII	**Sitkinak Islan**	**2.28**	**284**	IAML		00 55 27.0	
	comp=N,297nm,0.8s						
SII				IAML		00 55 27.0	
	comp=E,469nm,0.6s						
SII	**Sitkinak Islan**	**2.28**	**284**	P	**Pn**	**00 54 52.0**	**-1.4**
	baz=104						
SII				S	**Sn**	**00 55 19.3**	**-2.3**
	baz=104						
SYI	**Shuyak Island**	**2.82**	**336**	Pn	**Pn**	**00 55 00.7**	**-0.1**
SYI	**Shuyak Island**	**2.82**	**336**		**Sn**	**00 55 33.5**	**-1.4**
Q20K	**Shuyak Island**	**2.83**	**336**	P	**Pn**	**00 55 00.3**	**-0.5**
	baz=154						
Q20K				S	**Sn**	**00 55 33.5**	**-1.4**
	baz=154						
Q19K	**Cape Douglas,**	**3.43**	**329**	Pn	**Pn**	**00 55 10.0**	**+0.8**
Q19K	**Cape Douglas,**	**3.43**	**329**	P	**Pn**	**00 55 09.6**	**+0.5**
	baz=146						
KAKN	**Katmai Knife C**	**3.48**	**312**		**Pn**	**00 55 10.2**	**+0.4**
KCE	**Katmai Mt Cerb**	**3.49**	**311**		**Pn**	**00 55 11.0**	**+1.0**
CNPM	**China Poot**	**3.52**	**351**		**Sn**	**00 55 50.0**	**-2.1**
CNPM	**China Poot**	**3.52**	**351**	Pn	**Pn**	**00 55 10.0**	**-0.4**
CNPM	**China Poot**	**3.52**	**351**	IAML		00 55 52.6	
	comp=E,125nm,0.5s						
CNPM				IAML		00 55 52.9	
	comp=N,92nm,0.6s						
ACHA	**Angle Creek He**	**3.54**	**310**		**Pn**	**00 55 10.6**	**-0.1**
ANCK	**Angle Creek**	**3.60**	**309**		**Pn**	**00 55 11.9**	**+0.3**
KAHC	**Katmai Hardscr**	**3.68**	**317**		**Pn**	**00 55 13.2**	**+0.5**
KAHC	**Katmai Hardscr**	**3.68**	**317**	P	**Pn**	**00 55 13.2**	**+0.5**
	baz=134						
HOM	**Homer**	**3.69**	**348**	Pn	**Pn**	**00 55 11.9**	**-0.9**
BRSE	**Bradley Lake S**	**3.71**	**356**		**Pn**	**00 55 11.8**	**-1.2**
BRSE					**Sn**	**00 55 54.3**	**-2.4**
BRSE	**Bradley Lake S**	**3.71**	**356**	P	**Pn**	**00 55 11.8**	**-1.2**
	baz=175						
BRSE				S	**Sn**	**00 55 54.3**	**-2.4**
	baz=175						
PLK3	**Peulik 3**	**3.71**	**299**		**Pn**	**00 55 13.0**	**0.0**
BRLK	**Bradley Lake**	**3.74**	**355**	Pn	**Pn**	**00 55 12.4**	**-1.0**
BRLK	**Bradley Lake**	**3.74**	**355**		**Sn**	**00 55 54.8**	**-2.6**
BRLK	**Bradley Lake**	**3.74**	**355**	IAML		00 55 58.0	
	comp=E,65nm,0.8s						
BRLK				IAML		00 55 59.2	
	comp=N,72nm,0.6s						
CNTC	**Contact Creek**	**3.81**	**308**		**Pn**	**00 55 14.6**	**+0.1**
Q17K	**Contact Creek**	**3.81**	**308**	P	**Pn**	**00 55 14.6**	**+0.1**
	baz=124						
P19K	**Oil Pt**	**3.96**	**337**		**Pn**	**00 55 17.5**	**+1.2**
P19K				IAML		00 56 05.2	
	comp=E,208nm,0.6s						
P19K	**Oil Pt**	**3.96**	**337**	P	**Pn**	**00 55 16.5**	**+0.1**
	baz=155						
Q23K	**Middleton Isla**	**3.96**	**30**	Pn	**Pn**	**00 55 15.8**	**-0.6**
Q23K				IAML		00 56 21.7	
	comp=E,212nm,1.3s						
Q23K				IAML		00 56 39.3	
	comp=N,173nm,1.5s						
Q23K	**Middleton Isla**	**3.96**	**30**	P	**Pn**	**00 55 15.4**	**-0.9**
	baz=212						
MID	**Middleton Isla**	**3.96**	**30**	Pn	**Pn**	**00 55 15.6**	**-0.8**
MID				IAML		00 56 21.6	
	comp=E,209nm,1.3s						
MID				IAML		00 57 35.7	
	comp=N,194nm,1.5s						
MID	**Middleton Isla**	**3.96**	**30**	P	**Pn**	**00 55 15.5**	**-0.8**
SEW	**Seward**	**4.08**	**5**		**Pn**	**00 55 16.3**	**-1.7**
SEW	**Seward**	**4.08**	**5**	P	**Pn**	**00 55 16.3**	**-1.7**
	baz=185						
P23K	**Montague Islan**	**4.22**	**19**		**Pn**	**00 55 18.8**	**-1.2**
P23K	**Montague Islan**	**4.22**	**19**	P	**Pn**	**00 55 18.8**	**-1.2**
	baz=201						
O20K	**Slope Mountain**	**4.24**	**343**		**Pn**	**00 55 19.8**	**-0.5**
O20K	**Slope Mountain**	**4.24**	**343**	P	**Pn**	**00 55 19.8**	**-0.5**
	baz=161						
ILSW	**Iliamna Southw**	**4.24**	**339**		**Pn**	**00 55 18.8**	**-1.5**
ILSW				IAML		00 56 10.8	
	comp=N,62nm,0.4s						
ILSW				IAML		00 56 13.3	
	comp=E,55nm,0.6s						
P18K	**Big Mountain,**	**4.30**	**323**	Pn	**Pn**	**00 55 20.6**	**-0.5**
P18K	**Big Mountain,**	**4.30**	**323**	P	**Pn**	**00 55 20.3**	**-0.9**
	baz=140						
O22K	**Cooper Landing**	**4.45**	**3**		**Pn**	**00 55 23.3**	**+0.2**
O22K	**Cooper Landing**	**4.45**	**3**	P	**Pn**	**00 55 22.0**	**-1.1**
	baz=183						
SLKM	**Skilak Lake**	**4.46**	**360**		**Pn**	**00 55 22.2**	**-1.2**
CHGN	**Chignik**	**4.60**	**276**		**Pn**	**00 55 24.1**	**-1.1**
CHGN				IAML		00 56 19.4	
	comp=N,50nm,0.9s						
CHGN				IAML		00 56 19.8	
	comp=E,44nm,0.7s						
CHGN	**Chignik**	**4.60**	**276**	P	Pn	00 55 23.3	-1.9
	baz=91						
RDSO	**Redoubt South**	**4.61**	**344**		**Pn**	**00 55 24.0**	**-1.5**
RSO	**Redoubt South**	**4.62**	**344**		**Pn**	**00 55 25.4**	**-0.3**
O18K	**Koktuh Hills**	**4.65**	**327**		**Pn**	**00 55 25.6**	**-0.3**
O18K				IAML		00 56 36.8	
	comp=N,45nm,1.1s						
O18K	**Koktuh Hills**	**4.65**	**327**	P	**Pn**	**00 55 25.5**	**-0.5**
	baz=143						
RDWB	**Redoubt West**	**4.66**	**344**		**Pn**	**00 55 24.8**	**-1.4**
O19K	**Port Alsworth**	**4.69**	**334**		**Pn**	**00 55 26.3**	**-0.1**
O19K	**Port Alsworth**	**4.69**	**334**	P	**Pn**	**00 55 26.3**	**-0.1**
	baz=151						
HIN	**Hinchinbrook I**	**4.77**	**23**	Pn	**Pn**	**00 55 27.7**	**+0.1**
HIN				IAML		00 56 28.3	
	comp=N,68nm,0.9s						

N18K Kilae Creek 5.52 329 P Pn 00 55 37.3 -0.5
baz=145
BERG Berg Lake 5.54 36 Pn 00 55 37.5 -0.5
PMR Palmer 5.58 5 Pn Pn 00 55 39.7 +1.0
SNH Sunshine Point 5.68 40 Pn Pn 00 55 39.1 -0.9
KHIT Khitrov Hills 5.72 37 Pn 00 55 39.8 -0.9
BMRM Bremner River 5.73 28 Pn 00 55 40.2 -0.6
BMRM Bremner River 5.73 28 P Pn 00 55 40.2 -0.6
baz=212
GHO Glory Hole Cre 5.77 6 Pn 00 55 41.3 -0.1
SVW2 Sparrevohn 5.79 333 Pn Pn 00 55 41.2 -0.3
SVW2 Sparrevohn 5.79 333 P Pn 00 55 40.8 -0.7
N17K Nushagak Hills 5.80 323 Pn 00 55 41.7 0.0
N17K Nushagak Hills 5.80 323 P Pn 00 55 41.7 0.0
baz=138
SML Sawmill 5.85 9 Pn 00 55 42.8 +0.4
SML Sawmill 5.85 9 P Pn 00 55 42.1 -0.3
baz=190
SDPT Sand Point 5.86 267 Pn Pn 00 55 39.1 -3.3
SDPT Sand Point 5.86 267 P Pn 00 55 41.7 -0.8
WAX Waxell Ridge 5.86 38 Pn 00 55 40.8 -1.9
KLU Klutina 5.88 20 Pn 00 55 43.2 +0.2
KLU Klutina 5.88 20 P Pn 00 55 42.4 -0.5
baz=203
BARK Barkley Ridge 5.96 40 Pn 00 55 43.0 -0.9
SCM Sheep Creek Mo 5.98 13 Pn 00 55 45.2 +1.0
SCM Sheep Creek Mo 5.98 13 P Pn 00 55 44.2 0.0
baz=195
SKT Skwentna 5.98 354 Pn 00 55 43.5 -0.7
SKT Skwentna 5.98 354 P Pn 00 55 43.5 -0.7
baz=173
CRQM Cirque 5.99 35 Pn 00 55 43.8 -0.7
CRQE Cirque 6.00 35 P Pn 00 55 43.8 -0.8
baz=221
MESA MESA 6.01 43 Pn Pn 00 55 43.9 -0.9
MESA MESA 6.01 43 P Pn 00 55 43.8 -0.9
baz=229
M20K Styx River 6.04 347 Pn 00 55 44.1 -0.9
M20K Styx River 6.04 347 P Pn 00 55 44.1 -0.9
baz=164
O15K Ungalikthiuk R 6.05 305 Pn 00 55 45.0 0.0
O15K Ungalikthiuk R 6.05 305 P Pn 00 55 45.1 0.0
baz=118
TGL Tana Glacier 6.09 36 Pn 00 55 45.0 -0.8
ISLE Juniper Island 6.15 39 Pn 00 55 46.3 -0.3
BAGL Bagley Icefiel 6.16 41 Pn 00 55 46.0 -0.6
M18K Stony River 6.19 334 P Pn 00 55 46.2 -0.8
baz=150
M19K Big River Lodg 6.25 341 Pn 00 55 47.4 -0.5
M19K Big River Lodg 6.25 341 P Pn 00 55 47.4 -0.5
baz=158
VRDI Verde Repeater 6.26 31 Pn 00 55 48.3 0.0
N25K Chitina, Valde 6.28 25 Pn 00 55 48.2 -0.1
N25K Chitina, Valde 6.28 25 P Pn 00 55 48.0 -0.2
baz=209
N16K Nishlik Lake 6.33 318 Pn 00 55 49.4 +0.5
N16K Nishlik Lake 6.33 318 P Pn 00 55 49.4 +0.5
baz=131
GLB Gilahina Butte 6.34 29 Pn 00 55 49.0 -0.1
CUT Chulitna 6.37 360 Pn Pn 00 55 50.0 +0.5
KIAG Kiagna River 6.38 37 Pn 00 55 48.7 -1.0
M24K Tolsona, Glenn 6.41 17 Pn 00 55 51.8 +1.7
M24K Tolsona, Glenn 6.41 17 P Pn 00 55 51.3 +1.2
baz=200
SAMH Samovar Hills 6.45 47 Pn 00 55 50.9 +0.3
GRNC Granite Creek 6.45 40 Pn 00 55 50.1 -0.7
TABL Table Mountain 6.49 44 Pn 00 55 50.9 -0.4
MCARA McCarthy VSAT 6.51 32 Pn 00 55 50.9 -0.6
MCARA McCarthy VSAT 6.51 32 P Pn 00 55 50.9 -0.6
baz=217
PTPK Patty Peak 6.54 35 Pn 00 55 51.5 -0.5
M17K Holitna River 6.55 328 Pn 00 55 51.9 -0.1
M17K Holitna River 6.55 328 P Pn 00 55 51.9 -0.1
baz=142
L19K White Mountain 6.59 341 Pn 00 55 51.5 -1.1
L19K White Mountain 6.59 341 P Pn 00 55 51.5 -1.1
baz=157
PCA Pinnacle 6.64 48 Pn 00 55 52.6 -0.7
PINM Pinnacle 6.64 48 P Pn 00 55 52.6 -0.7
baz=236
WAT6 Susitna Watana 6.66 10 Pn 00 55 53.6 -0.1
WAT6 Susitna Watana 6.66 10 P Pn 00 55 53.6 -0.1
baz=192
N15K Kwethluk River 6.67 312 Pn 00 55 54.3 +0.7
N15K Kwethluk River 6.67 312 P Pn 00 55 54.3 +0.7
baz=124
WACK Wrangell Chich 6.67 25 Pn 00 55 53.6 -0.3
BARN Barnard Glacie 6.71 38 Pn 00 55 53.0 -1.3
O14K Tigyukauivet M 6.75 303 Pn 00 55 54.7 0.0
O14K Tigyukauivet M 6.75 303 P Pn 00 55 54.7 0.0
baz=114
CTG Chitna Glacier 6.76 40 P Pn 00 55 54.4 -0.6
baz=226
CTGM Chitina Glacie 6.76 40 Pn Pn 00 55 53.2 -1.7
M16K Timber Creek 6.77 321 Pn 00 55 55.4 +0.4
M16K Timber Creek 6.77 321 P Pn 00 55 55.4 +0.4
baz=134
LOGN Logan Glacier 6.79 41 Pn 00 55 53.5 -1.9
PNL Peninsula 6.80 53 P Pn 00 55 55.3 -0.1
BCPM Bancas Point 6.83 51 Pn Pn 00 55 48.9 -7.0
L18K Granite Mounta 7.02 334 Pn 00 55 57.7 -0.8
L18K Granite Mounta 7.02 334 P Pn 00 55 57.7 -0.8
baz=149
DHY Denali Highway 7.18 10 Pn 00 56 03.1 +2.3
M15K Kasigluk River 7.21 314 Pn 00 56 01.2 +0.2
M15K Kasigluk River 7.21 314 P Pn 00 56 01.2 +0.2
baz=126
N14K Kuskokwak Cree 7.23 307 Pn 00 56 01.4 +0.1
N14K Kuskokwak Cree 7.23 307 P Pn 00 56 01.4 +0.1
baz=118
L17K Donlin 7.38 329 Pn 00 56 03.4 0.0
L17K Donlin 7.38 329 P Pn 00 56 03.4 0.0
baz=142
L16K Owhat River 7.43 324 Pn 00 56 03.7 -0.3
L16K Owhat River 7.43 324 P Pn 00 56 04.2 +0.2
baz=136
O29M Mount Kennedy 7.47 50 Pn 00 56 03.4 -1.2
O29M Mount Kennedy 7.47 50 P Pn 00 56 03.4 -1.2
baz=240
TTA Tatalina 7.50 339 P Pn 00 56 04.1 -1.0
P29M Windy Craggy 7.55 57 Pn 00 56 04.5 -1.2
P29M Windy Craggy 7.55 57 P Pn 00 56 04.5 -1.2
baz=246
MENT Mentasta 7.64 23 Pn 00 56 07.4 +0.4
M14K Bethel 7.76 312 P Pn 00 56 09.2 +0.6
baz=123
JIS Juneau Island 8.87 69 P Pn 00 56 25.0 +1.2
ILAR Eielson Array 8.89 9 Pn Pn 00 56 25.8 +1.7
comp=E,0.2nm,0.3s,baz=194,slow=13,SNR=10
ILAR Sn Sn 00 58 03.1 -1.1
comp=E,0.3nm,0.3s,baz=198,slow=20,SNR=2.0
comp=E,0.4nm,0.3s
F31M Tsiigehtchic 13.76 27 Pn P 00 57 39.3 +0.3
C36M Paulatuk 17.70 31 P P 00 58 24.8 +2.1
C36M IAmb IAmb 00 58 25.9
comp=Z,4.4nm,0.9s
YKA Yellowknife Ar 19.09 56 P P 00 58 37.5 -0.6
comp=Z,0.1nm,0.3s,baz=263,slow=11,SNR=8.0
comp=Z,0.7nm,0.8s
A36M Sachs Harbour 19.09 24 Pn 00 58 40.4 +1.6
A36M IAmb IAmb 00 58 48.2
comp=Z,8.2nm,0.8s
H11N2 WAKE ISLAND Hy 48.33 239 T T 01 55 29.8
baz=30,slow=76
H11N3 WAKE ISLAND Hy 48.34 239 T T 01 55 27.8
baz=30,slow=76
H11N1 WAKE ISLAND Hy 48.35 239 T T 01 55 33.9
baz=30,slow=76
H11S1 WAKE ISLAND Hy 49.47 239 T T 01 57 11.3
baz=29,slow=76
H11S2 WAKE ISLAND Hy 49.48 239 T T 01 57 07.9
baz=29,slow=76
H11S3 WAKE ISLAND Hy 49.49 239 T T 01 57 05.2
baz=29,slow=76
SONM Songino Array 58.39 310 P P 01 04 12.3 +1.2
comp=Z,0.3nm,0.5s,baz=46,slow=6.2,SNR=3.9
comp=Z,0.3nm,0.5s
ZALV Zalesovo Beam 61.47 327 P P 01 04 31.8 -0.1
comp=Z,0.5nm,0.5s,baz=18,slow=5.2,SNR=3.5
comp=Z,0.5nm,0.5s
KURBB Kurchatov Arra 66.27 328 P P 01 05 04.1 +0.5
comp=Z,0.1nm,0.4s,baz=35,slow=7.0,SNR=2.0
comp=Z,0.1nm,0.4s
MKAR Makanchi Array 68.48 324 P P 01 05 17.6 0.0
comp=Z,0.2nm,0.5s,baz=18,slow=7.2,SNR=5.8
comp=Z,0.2nm,0.5s

BJI ***02*** *00:57:09.4±0.0, 6.°30S×143.°23E, h20km, mb4.8/59, mB5.2/22, Ms4.8/3, Ms7 4.6/4*
IDC ***02*** *00:57:09.8±0.6, 6.°16S×143.°02E, h0km, mb4.7/14, mbtmp4.8/16, ML2.6/1, MS4.0/17, Error ellipse: s-maj=28.4km s-min=13.9km az=79.0*
MOS ***02*** *00:57:09.7±0.9, 6.°205×142.°88E, h11±km, mb5.0/38, Error ellipse: s-maj=10.1km s-min=5.8km az=118.1*
NEIC ***02*** *00:57:11.9±1.6, 6.°22S±0.°06×142.°73E±0.°04, h10km±1km, mb5.1/183, Error ellipse: s-maj=11.9km s-min=3.2km az=143.0*
GCMT ***02*** *00:57:12.9±0.3, 6.°24S±0.°02×142.°90E±0.°03, h19km±1km, MW5.0/78, Moment Tensor Solution. s30,c33; s78,c100; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 3.07±.20; Mθθ -2.56±.14; Mφφ -0.51±.13; Mrθ -0.17±.25; Mθφ 1.50±.08; Mφr 0.76±.30; Best double couple: M0 3.31100×10^16 NP1: φs 307.00000°, δ51.00000°, λ105.00000°. NP2: φs 107.00000°, δ42.00000°, λ73.00000°. Principal axes: T 3.2280, Plg78.0000°, Azm277.0000°; N 0.1580, Plg11.0000°, Azm120.0000°; P -3.3940, Plg5.0000°, Azm29.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***02*** *00:57:13.4±0.4, 6.°5S×143.°4E±.°, h57km±6km, M4.9/25, mB5.3/17, mb5.0/25, MLv5.4/4, Mw(mB)4.7/17, MwMwp5.4/2, Mwp5.6/2*

ISC 02 00:57:11.2±0.3, 6.°33S×142.°81E±0.°05, h10km, n581, σ1°23/540, mb5.0/155, MS4.0/16, 18C-2D, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
MMPI	**Merauke**	**3.21**	**228**	P	**Pg**	**00 58 13.7**	**+1.0**
GENI	**Genyem**	**4.55**	**325**	P	**Pn**	**00 58 22.9**	**+2.7**
GENI	**Genyem**	**4.55**	**325**	P	**Pn**	**00 58 21.6**	**+1.4**
PMG	**Port Moresby**	**5.28**	**126**	P	**Pn**	**00 58 31.2**	**+1.0**
PMG	**Port Moresby**	**5.28**	**126**	*i* P	**Pn**	**00 58 30.6**	**+0.4**
PMG	**Port Moresby**	**5.28**	**126**	Pn	**Pn**	**00 58 30.8**	**+0.6**
	14nm,0.3s,baz=311,slow=9.3,SNR=56						
PMG				Sn	**Sn**	**00 59 28.5**	**-2.7**
	12nm,0.3s,baz=48,slow=23,SNR=6.5						
PMG				LR	LR	01 01 11.0	
	comp=Z,965nm,18.4s,baz=280,slow=46						
	73nm,0.5s						
SMPI	**Sarmi**	**5.94**	**316**	P	**Pn**	**00 58 38.8**	**-0.5**
	149nm,0.9s,23μm1.5nm						
MANU	**Manus Island**	**6.23**	**47**	Pn	**Pn**	**00 58 43.6**	**+0.4**
COEN	**Coen**	**7.58**	**177**	P	**Pn**	**00 59 04.7**	**+2.8**
	baz=7.7,SNR=7.9						
COEN	**Coen**	**7.58**	**177**	Pn	**Pn**	**00 59 04.8**	**+2.9**
COEN	**Coen**	**7.58**	**177**	P	**Pn**	**00 59 06.3**	**+4.4**
RABL	**Rabaul**	**9.55**	**78**	Pn	**Pn**	**00 59 31.2**	**+2.2**
FAKI	**Fak Fak**	**11.06**	**287**	Pn	**Pn**	**00 59 47.5**	**-2.1**
FAKI	**Fak Fak**	**11.06**	**287**	P	**Pn**	**00 59 51.9**	**+2.3**
FAKI	**Fak Fak**	**11.06**	**287**	P	**Pn**	**00 59 47.4**	**-2.2**
	57nm,0.8s						
SAUI	**Saumlaki**	**11.54**	**261**	Pn	**Pn**	**00 59 55.3**	**-0.8**
SAUI	**Saumlaki**	**11.54**	**261**	P	Pn	00 59 44.6	-12
MTSU	**Mount Surprise**	**11.82**	**173**	P	**Pn**	**01 00 04.0**	**+3.9**
	baz=12,SNR=7.8						
KDU	**Kakadu**	**11.99**	**237**	P	**Pn**	**01 00 03.0**	**+0.7**
	baz=12,SNR=10.0						
SWI	**Sorong**	**12.74**	**295**	P	**Pn**	**01 00 15.8**	**+3.2**
SWI				pmax	pmax		
	comp=Z,57nm,1.0s						
SWI	**Sorong**	**12.74**	**295**	P	**Pn**	**01 00 11.6**	**-1.0**
	comp=Z,43nm,0.9s,comp=Z,1μm						
MTN	**Manton Dam**	**13.20**	**240**	P	**Pn**	**01 00 19.2**	**+0.3**
	baz=13,SNR=6.6						
MTN	**Manton Dam**	**13.20**	**240**	Pn	**Pn**	**01 00 19.0**	**+0.1**
DRS	**Darwin Rock St**	**13.22**	**242**	P	**Pn**	**01 00 20.5**	**+1.4**
CTA	**Charters Tower**	**14.08**	**167**	Pn	**P**	**01 00 35.7**	**-3.0**
	comp=Z,0.3nm,0.3s,baz=349,slow=13,SNR=1.6						
CTA				LR	LR	01 05 31.4	
	comp=Z,104nm,18.9s,baz=357,slow=35						
CTAO	**Charters Tower**	**14.08**	**167**	Pn	**Pn**	**01 00 32.8**	**+2.0**
CTAO	**Charters Tower**	**14.08**	**167**	P	**Pn**	**01 00 32.8**	**+2.0**
QIS	**Mount Isa**	**14.48**	**192**	P	**Pn**	**01 00 37.9**	**+1.5**
	baz=15,SNR=12						
QIS	**Mount Isa**	**14.48**	**192**	P	**Pn**	**01 00 37.9**	**+1.5**
WB0	**Warramunga Arr**	**15.66**	**211**	Pn	**Pn**	**01 00 52.4**	**+0.2**
WR0	**Warramunga Arr**	**15.75**	**210**	Pn	**Pn**	**01 00 53.5**	**+0.2**
WR0				IAmb	IAmb	01 01 09.7	
	comp=Z,53nm,0.5s						
WRAB	**Tennant Creek**	**15.82**	**211**		**Pn**	**01 00 55.3**	**+1.1**
WRAB	**Tennant Creek**	**15.82**	**211**	P	**Pn**	**01 00 55.3**	**+1.1**
WRAB				pmax	pmax		
	comp=Z,41nm,0.8s						
WB2	**Warramunga Arr**	**15.83**	**210**	P	**Pn**	**01 00 55.8**	**+1.5**
	baz=16						
WB2	**Warramunga Arr**	**15.83**	**210**	Pn	**Pn**	**01 00 55.5**	**+1.1**
WRA	**Warramunga Arr**	**15.84**	**211**	Pn	**Pn**	**01 00 54.8**	**+0.4**
WRA	**Warramunga Arr**	**15.84**	**211**	P	**Pn**	**01 00 54.8**	**+0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**15.84**	**211**	Pn	**Pn**	**01 00 53.7**	**-0.7**
	comp=Z,2.2nm,0.3s,baz=31,slow=14,SNR=24						
WRA				Sn	**Sn**	**01 03 44.1**	**-6.0**
	comp=Z,3.3nm,0.3s,baz=29,slow=23,SNR=4.9						
NLAI	**Namlea**	**15.95**	**280**	P	**Pn**	**01 00 52.5**	**-3.4**
	comp=Z,20nm,0.9s						
LBMI	**Labuha**	**16.29**	**290**	P	**Pn**	**01 00 56.3**	**-4.0**
KNRA	**Kununurra**	**16.61**	**235**	P	**Pn**	**01 01 04.3**	**-0.1**
	baz=17						
KNRA	**Kununurra**	**16.61**	**235**	Pn	**Pn**	**01 01 04.2**	**-0.1**
KNRA				IAmb	IAmb	01 01 17.7	
	comp=Z,114nm,0.8s						
KNRA	**Kununurra**	**16.61**	**235**	P	**Pn**	**01 01 04.2**	**-0.1**
SOEI	**Soe**	**18.67**	**258**	P	**Pn**	**01 01 32.3**	**+2.2**
SOEI	**Soe**	**18.67**	**258**	P	**P**	**01 01 26.7**	**-3.1**
	comp=Z,142nm,0.8s,comp=Z,2μm						
AS01	**Alice Springs**	**19.22**	**205**	P	**Pn**	**01 01 39.6**	**+3.0**
AS31	**Alice Springs**	**19.24**	**206**		**Pn**	**01 01 38.3**	**+1.4**
ASAR	**Alice Springs**	**19.25**	**206**	P	**Pn**	**01 01 38.0**	**+1.1**
ASAR	**Alice Springs**	**19.25**	**206**	P	**Pn**	**01 01 39.6**	**+2.8**
	comp=Z,87nm,0.7s,baz=31,slow=10.0,SNR=301						
ASAR				S	**Sn**	**01 05 06.2**	**-6.6**
	comp=Z,11nm,0.8s,baz=16,slow=28,SNR=4.7						
ASPA	**Alice Springs**	**19.25**	**206**	P	**Pn**	**01 01 40.8**	**+3.9**
	baz=19						
KMSI	**Cibinong**	**20.01**	**289**	P	P	01 01 36.8	-7.5
	comp=Z,104nm,0.6s,comp=Z,3μm						
QLP	**Quilpie**	**20.18**	**176**	P	Pn	01 01 49.4	+1.5
	baz=20,SNR=5.4						
QLP	**Quilpie**	**20.18**	**176**	P	Pn	01 01 50.4	+2.4
FITZ	**Fitzroy Crossi**	**20.43**	**234**	P	Pn	01 01 51.0	0.0
	baz=20,SNR=20						
FITZ	**Fitzroy Crossi**	**20.43**	**234**		**P**	**01 01 49.2**	**+0.4**
FITZ	**Fitzroy Crossi**	**20.43**	**234**	P	Pn	01 01 51.5	+0.6
EIDS	**Eidsvold**	**20.52**	**158**	P	Pn	01 01 52.0	+0.1
	baz=21,SNR=13						
EIDS	**Eidsvold**	**20.52**	**158**	P	Pn	01 01 52.1	+0.2
MMRI	**Maumere**	**20.52**	**262**	P	**P**	**01 01 51.0**	**+1.1**
MMRI				IAmb	IAmb	01 02 05.7	
	comp=Z,68nm,1.1s						
LUWI	**Luwuk**	**20.67**	**284**	P	**P**	**01 01 51.2**	**-0.2**
LUWI				IAmb	IAmb	01 02 04.0	
	comp=Z,84nm,0.9s						
LUWI	**Luwuk**	**20.67**	**284**	P	**P**	**01 01 49.6**	**-1.9**
	comp=Z,101nm,0.8s						
GTOI	**Gorontalo**	**20.94**	**289**	P	Pn	01 01 57.1	+0.1
	comp=Z,89nm,0.7s,comp=Z,948nm						
EDFI	**Ende, Flores**	**21.07**	**262**	P	**P**	**01 01 55.9**	**-0.1**
	comp=Z,33nm,0.6s						
MRSI	**Marisa**	**21.90**	**287**	P	**P**	**01 02 04.1**	**-0.7**
	comp=Z,68nm,1.1s						
BASI	**Baing, Sumba**	**22.33**	**259**	P	**P**	**01 02 08.7**	**-0.7**
	comp=Z,113nm,0.9s						
OOD	**Oodnadatta**	**22.39**	**197**	P	**P**	**01 02 12.8**	**+2.9**
KAPI	**Kappang**	**22.98**	**272**	P	**P**	**01 02 15.4**	**-0.9**
KAPI				IAmb	IAmb	01 02 26.2	
	comp=Z,66nm,1.1s						
KAPI	**Kappang**	**22.98**	**272**	P	**P**	**01 02 15.4**	**-0.9**
KAPI				pmax	pmax		
	comp=Z,65nm,1.2s						
TOLI2	**Tolitoli**	**23.20**	**288**	P	**P**	**01 02 17.9**	**-0.7**
TOLI2				IAmb	IAmb	01 02 24.9	
	comp=Z,55nm,1.0s						
TOLI2	**Tolitoli**	**23.20**	**288**	P	**P**	**01 02 18.6**	**+0.1**
WRKA	**Warakurna**	**23.22**	**215**	P	**P**	**01 02 20.4**	**+1.7**
	baz=23,SNR=38						
WRKA	**Warakurna**	**23.22**	**215**	P	**P**	**01 02 20.4**	**+1.7**
LCRK	**Leigh Creek**	**24.37**	**190**	P	**P**	**01 02 31.1**	**+1.4**
PLAI	**Plampang**	**24.94**	**263**	P	**P**	**01 02 34.9**	**0.0**
KOUNC	**Koumac, New Ca**	**25.17**	**126**	P	**P**	**01 02 37.4**	**+0.4**
KOUNC				IAmb	IAmb	01 02 40.1	
	comp=Z,36nm,1.2s						
MULG	**Mulgathing**	**25.21**	**198**	P	**P**	**01 02 38.7**	**+1.5**
CMSA	**Cobar Meteorol**	**25.22**	**174**	P	**P**	**01 02 39.3**	**+2.0**
	baz=25,SNR=8.9						
ARMA	**Armidale**	**25.35**	**162**	P	**P**	**01 02 40.2**	**+1.6**
STKA	**Stephens Creek**	**25.44**	**182**	P	**P**	**01 02 40.6**	**+1.4**
	baz=26,SNR=8.4						
STKA	**Stephens Creek**	**25.44**	**182**	P	**P**	**01 02 39.9**	**+0.6**
STKA	**Stephens Creek**	**25.44**	**182**	P	**P**	**01 02 40.7**	**+1.4**
STKA	**Stephens Creek**	**25.44**	**182**	*i* P	**P**	**01 02 39.7**	**+0.4**
STKA	**Stephens Creek**	**25.44**	**182**	P	**P**	**01 02 39.8**	**+0.6**
	comp=Z,11nm,0.7s,baz=354,slow=9.6,SNR=24						
STKA				LR	LR	01 14 39.4	
	comp=Z,251nm,19.5s,baz=355,slow=41						
	comp=Z,11nm,0.7s						
MBWA	**Marble Bar**	**26.77**	**234**	P	**P**	**01 02 51.5**	**0.0**
PSA00	**Pilbara Seismi**	**26.88**	**233**	P	**P**	**01 02 52.0**	**-0.5**
PSA00	**Pilbara Seismi**	**26.88**	**233**	P	**P**	**01 02 52.4**	**-0.1**
PSA00				IAmb	IAmb	01 03 10.4	
	comp=Z,5.4nm,0.8s						
WHYH	**Whyalla**	**27.01**	**190**	P	**P**	**01 02 55.2**	**+1.7**
BBOO	**Buckleboo**	**27.08**	**193**	P	**P**	**01 02 55.1**	**+1.0**
	baz=27,SNR=12						
BBOO	**Buckleboo**	**27.08**	**193**	P	**P**	**01 02 54.8**	**+0.7**
BBOO	**Buckleboo**	**27.08**	**193**	P	**P**	**01 02 55.0**	**+0.8**
HTT	**Hallett**	**27.20**	**187**	P	**P**	**01 02 56.5**	**+1.3**
	baz=27,SNR=6.8						
HTT	**Hallett**	**27.20**	**187**	P	**P**	**01 02 56.6**	**+1.3**
DZM	**Mont Dzumac**	**27.67**	**127**	P	**P**	**01 03 00.9**	**+1.2**
DZM	**Mont Dzumac**	**27.67**	**127**	*e*P	**P**	**01 02 59.2**	**-0.5**
	comp=Z,39nm,1.4s						
DZM				*e*LR	LR	01 10 12.1	
	comp=Z,515nm,25.1s						
DZM	**Mont Dzumac**	**27.67**	**127**	LR	LR	01 13 48.1	
	comp=Z,315nm,21.5s,baz=234,slow=36						
LIFNC	**LIFOU**	**27.69**	**124**	P	**P**	**01 02 59.0**	**-0.8**
LIFNC				IAmb	IAmb	01 03 16.9	
	comp=Z,21nm,0.8s						
FORT	**Forrest**	**27.98**	**208**	P	**P**	**01 03 03.4**	**+1.2**
	baz=28,SNR=7.1						
FORT	**Forrest**	**27.98**	**208**	P	**P**	**01 03 02.8**	**+0.5**
FORT				IAmb	IAmb	01 03 29.4	
	comp=Z,17nm,0.6s						
JAGI	**Jajag, Banyuwa**	**28.50**	**264**	P	**P**	**01 03 05.0**	**-2.0**
JAGI				IAmb	IAmb	01 03 07.0	
	comp=Z,48nm,1.3s						
KKM	**Kota Kinabalu**	**29.25**	**294**	P	**P**	**01 03 12.7**	**-1.2**
KKM				IAmb	IAmb	01 03 41.9	
	comp=Z,26nm,1.2s						
MEEK	**Meekatharra**	**30.64**	**226**	P	**P**	**01 03 27.3**	**+1.3**
	baz=31,SNR=3.4						
SBUM	**Sibu**	**31.76**	**285**	P	**P**	**01 03 35.7**	**-0.2**
UGM	**Wanagama**	**32.07**	**265**	P	**P**	**01 03 37.6**	**-1.1**
UGM	**Wanagama**	**32.07**	**265**	P	**P**	**01 03 39.4**	**+0.7**
BBJI	**Bungbulang**	**34.92**	**266**	P	**P**	**01 04 02.9**	**-0.7**
NWAO	**Narrogin (SRO)**	**35.58**	**219**	LR	LR	01 17 46.7	
	comp=Z,286nm,21.3s,baz=65,slow=34						
JNU	**Nakatsue**	**40.84**	**345**	P	**P**	**01 04 52.3**	**-1.0**
MJAR	**Matsushiro Arr**	**42.87**	**355**	P	**P**	**01 05 07.5**	**-2.2**
	comp=Z,4.7nm,0.8s,baz=177,slow=8.4,SNR=4.7						
MJAR				PcP	**PcP**	**01 07 00.6**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=212,slow=2.2,SNR=1.7						
	comp=Z,4.7nm,0.8s						
RAO	**Raoul Island**	**43.47**	**126**	LR	LR	01 22 08.5	
	comp=Z,196nm,19.8s,baz=344,slow=34						
URZ	**Urewera**	**44.44**	**141**	LR	LR	01 23 51.1	
	comp=Z,304nm,18.1s,baz=118,slow=36						
NJ2	**Nanjing**	**44.48**	**331**	*e*P	**P**	**01 05 24.5**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TUWZ	**Tuamarina**	**44.60**	**146**	P	**P**	**01 05 25.2**	**+1.5**
BKZ	**Black Stump Fm**	**44.61**	**142**	P	**P**	**01 05 25.1**	**+1.2**
BKZ				IAmb	IAmb	01 05 26.4	
	comp=Z,26nm,1.2s						
TCW	**Tory Channel**	**44.64**	**146**	P	**P**	**01 05 25.1**	**+1.1**
RPSI	**Rantau Prapat**	**44.73**	**280**	P	**P**	**01 05 23.9**	**-1.2**
RPSI				IAmb	IAmb	01 05 30.9	
	comp=Z,31nm,1.2s						
RPZ	**Rata Peaks**	**44.73**	**151**	LR	LR	01 22 54.1	
	comp=Z,309nm,19.1s,baz=308,slow=34						
PSI	**Prapat**	**44.75**	**280**	P	**P**	**01 05 24.0**	**-1.5**
PSI				pmax	pmax		
	comp=Z,31nm,1.2s						
MRZ	**Mangatainoka R**	**45.01**	**144**	P	**P**	**01 05 28.2**	**+1.2**
MRZ				IAmb	IAmb	01 05 33.0	
	comp=Z,33nm,1.1s						
BFZ	**Birch Farm**	**45.41**	**144**	P	**P**	**01 05 31.8**	**+1.6**
KSRS	**Korea Array**	**45.73**	**343**	P	**P**	**01 05 32.4**	**-0.2**
	comp=Z,8.9nm,1.0s,baz=163,slow=9.3,SNR=18						
KSRS				PcP	**PcP**	**01 07 11.5**	**+1.0**
	comp=Z,2.3nm,0.7s,baz=160,slow=3.9,SNR=4.7						
	comp=Z,8.9nm,1.0s						
JTM	**Tenmabayashi**	**46.91**	**358**	P	**P**	**01 05 40.8**	**-1.1**
GYA	**Guiyang**	**47.86**	**315**	‖ *i*P	**P**	**01 05 51.0**	**+1.3**
GYA				pmax	pmax		
	comp=Z,15nm,1.0s						
PHRA	**Phrae**	**48.70**	**301**	P	**P**	**01 05 56.2**	**0.0**
CRAI	**Chiangrai**	**49.37**	**303**	P	**P**	**01 06 01.4**	**+0.1**
CRAI				IAmb	IAmb	01 06 07.5	
	comp=Z,20nm,1.4s						
LYN	**LuoYang**	**49.75**	**327**	⇑P	**P**	**01 06 03.9**	**0.0**
LYN				sP	sP	01 06 09.9	+1.2
LYN				pmax	pmax		
	comp=Z,30nm,0.7s						
LYN				pmax	pmax		
	comp=Z,460nm,6.3s						
CMAR	**Chiang Mai Arr**	**49.78**	**301**	P	**P**	**01 06 04.3**	**-0.2**
CMAR	**Chiang Mai Arr**	**49.78**	**301**	P	**P**	**01 06 05.3**	**+0.9**
	comp=Z,3.7nm,0.8s,baz=126,slow=6.0,SNR=19						
	comp=Z,3.7nm,0.8s						
CHTO	**Chiang Mai**	**49.93**	**301**	P	**P**	**01 06 05.2**	**-0.4**
CHTO	**Chiang Mai**	**49.93**	**301**	P	**P**	**01 06 05.2**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KMI	**Kunming**	**49.97**	**310**	⇑P	**P**	**01 06 07.8**	**+1.7**
KMI				pmax	pmax		
	comp=Z,19nm,1.0s						
HNS	**HongShan**	**50.80**	**331**	⇑P	**P**	**01 06 11.6**	**-0.3**
HNS				pmax	pmax		
	comp=Z,9.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**51.24**	**350**	P	**P**	**01 06 13.7**	**-1.4**
USRK	**Ussuriysk Ar.**	**51.24**	**350**	P	**P**	**01 06 14.4**

BTO Baotou 55.59 330 *e*P P 01 06 50.9 +3.7
BTO pP **sP** 01 06 55.5 +3.5
BTO sP **pP** 01 06 58.1 +7.4
BTO PP **PP** 01 08 56.0 +4.5
BTO S **S** 01 14 41.0 +7.9
BTO pmax pmax
comp=Z,12nm,0.6s
BTO pmax pmax
comp=Z,390nm,4.9s
LZH Lanzhou 55.82 322 *e*P P 01 06 50.1 +1.0
LZH sP sP 01 06 56.7 +2.8
LZH pmax pmax
comp=Z,21nm,1.2s
KLR Kul'dur 56.17 351 *ce*P P 01 06 49.7 -1.4
KLR pmax pmax
comp=Z,19nm,2.5s
HEH HeiHe 57.92 348 *e*P P 01 07 02.8 -0.6
HEH pmax pmax
comp=Z,6.0nm,0.9s
GTA Gaotai 60.40 323 *e*P P 01 07 22.1 +1.0
GTA pP sP 01 07 26.1 +0.2
GTA pmax pmax
comp=Z,7.0nm,0.9s
PETK Petropavlovsk- 60.55 10 P P 01 07 20.9 -0.7
comp=Z,7.3nm,0.9s,baz=151,slow=6.4,SNR=6.7
PETK PcP **PcP** 01 08 05.7 -0.4
comp=Z,2.7nm,0.6s,baz=194,slow=4.1,SNR=4.2
comp=Z,7.3nm,0.9s
ZEA Zeya 61.27 350 *e*P P 01 07 26.0 -0.5
ZEA pmax pmax
comp=Z,10.0nm,1.1s
GOMU GeErMu 61.73 317 P P 01 07 31.7 +1.2
GOMU pP sP 01 07 36.3 +1.0
GOMU sP pP 01 07 37.3 +3.3
GOMU pmax pmax
comp=Z,3.0nm,0.4s
ULN Ulaanbaatar 62.48 334 P P 01 07 34.6 -0.4
ULN Ulaanbaatar 62.48 334 *ce*P P 01 07 34.3 -0.7
ULN pmax pmax
comp=Z,10.0nm,1.7s
SONM Songino Array 62.74 333 P P 01 07 36.1 -0.7
SONM Songino Array 62.74 333 P P 01 07 36.6 -0.1
comp=Z,1.9nm,0.6s,baz=154,slow=7.1,SNR=14
comp=Z,1.9nm,0.6s
SHEM Shemya Is, Ala 64.56 20 LR LR 01 28 53.4
comp=Z,101nm,21.1s,baz=157,slow=30
MA2 Magadan 66.00 4 P P 01 07 55.7 -1.9
MA2 lAmb lAmb 01 07 57.2
comp=Z,11nm,1.1s
MA2 Magadan 66.00 4 *ce*P P 01 07 56.2 -1.5
MA2 pmax pmax
comp=Z,12nm,1.3s
ZAK Zakamensk 66.01 334 *e*P P 01 07 57.0 -1.0
ZAK pmax pmax
comp=Z,9.0nm,1.0s
PPT Papeete 66.80 106 LR LR 01 36 02.4
comp=Z,43nm,18.2s,baz=230,slow=35
PPT2 Papeete2 66.80 106 *e*LR LR 01 28 11.7
comp=Z,113nm,27.8s
MOY Mondy 67.94 333 *e*P P 01 08 10.1 -0.2
MOY pmax pmax
comp=Z,25nm,2.9s
YAK Yakutsk 68.92 353 *i* P P 01 08 15.8 -0.2
YAK pmax pmax
comp=Z,4.0nm,0.8s
YAK Yakutsk 68.92 353 LR LR 01 36 39.4
comp=Z,50nm,20.1s,baz=42,slow=34
SEY Seymchan 69.46 5 *ce*P P 01 08 18.3 -1.1
SEY pmax pmax
comp=Z,3.0nm,0.7s
WMQ Urumqi 70.37 321 *e*P P 01 08 27.0 +1.5
VNDA Vanda 71.86 176 P P 01 08 35.7 +1.8
comp=Z,1.9nm,0.7s,baz=341,slow=8.8,SNR=6.0
VNDA LR LR 01 39 25.6
comp=Z,123nm,18.4s,baz=286,slow=35
comp=Z,1.9nm,0.7s
DGZ Jazzator, Alta 73.54 326 *i* P P 01 08 44.1 -0.4
DGZ pmax pmax
comp=Z,7.0nm,0.9s
ZSN Zaisan 73.89 323 *e*P P 01 08 46.5 +0.1
ZSN Zaisan 73.89 323 *e*P P 01 08 46.5 +0.1
baz=323
MK31 Makanchi Array 75.14 322 P P 01 08 53.8 0.0
MK31 Makanchi Array 75.14 322 *ce*P P 01 08 54.2 +0.4
MKAR Makanchi Array 75.14 322 P P 01 08 53.8 0.0
MKAR Makanchi Array 75.14 322 *ce*P P 01 08 54.0 +0.3
MKAR pmax pmax
comp=Z,5.0nm,0.6s
MKAR Makanchi Array 75.14 322 P P 01 08 54.1 +0.3
comp=Z,9.8nm,0.9s,baz=106,slow=7.3,SNR=66
comp=Z,9.8nm,0.9s
MAKZ Makanchi 75.34 322 P P 01 08 54.7 -0.2
MAKZ lAmb lAmb 01 08 55.7
comp=Z,9.1nm,0.6s
MAKZ Makanchi 75.34 322 P P 01 08 54.7 -0.2
MAKZ pmax pmax
comp=Z,9.0nm,0.6s
SHLS Shalkode 75.43 317 *e*P P 01 08 54.2 -1.4
SHLS Shalkode 75.43 317 *e*P P 01 08 54.3 -1.4
baz=318
UZB Uzynbulak 75.72 317 *e*P P 01 08 57.5 +0.2
UZB Uzynbulak 75.72 317 *e*P P 01 08 57.5 +0.2
baz=317
PRZ Przheval'sk 75.89 317 P P 01 08 59.1 +0.8
PRZ lAmb lAmb 01 09 01.0
comp=Z,14nm,1.0s
PRZ Przheval'sk 75.89 317 P P 01 08 59.1 +0.8
PRZ pmax pmax
comp=Z,14nm,1.0s
TARG Taragay, Kyrgy 76.01 316 P P 01 08 58.7 -0.7
TARG Taragay, Kyrgy 76.01 316 P P 01 08 58.7 -0.7
TARG pmax pmax
comp=Z,5.0nm,0.8s
BILL Bilibino 76.03 9 *i* P P 01 08 56.5 -1.9
BILL pmax pmax
comp=Z,4.0nm,1.0s
SATY Saty 76.10 317 *e*P P 01 08 59.9 +0.4
SATY pmax pmax
comp=Z,7.0nm,1.3s
SATY Saty 76.10 317 *e*P P 01 08 59.9 +0.4
comp=Z,6.7nm,1.3s,baz=317
KSH Kashi 76.53 313 P P 01 09 03.8 +1.8
KSH pP sP 01 09 09.8 +2.9
KSH PcP **PcP** 01 09 16.6 +3.0
KSH pmax pmax
comp=Z,7.0nm,1.1s
TDK Taldyqorghan 76.85 319 *e*P P 01 09 03.8 +0.2
TDK pmax pmax
comp=Z,8.0nm,0.8s
TDK Taldyqorghan 76.85 319 *e*P P 01 09 03.8 +0.2
comp=Z,8.2nm,0.8s,baz=319
MDOK Medeo 77.06 317 *e*P P 01 09 05.3 +0.4
MDOK Medeo 77.06 317 *e*P P 01 09 05.4 +0.4
baz=317
TNSS Tian-Shan 77.09 317 *e*P P 01 09 05.5 +0.1
TNSS Tian-Shan 77.09 317 *e*P P 01 09 05.5 +0.1
baz=317
ZAA0 Zalesovo Array 77.11 329 P P 01 09 03.2 -1.5
ZALV Zalesovo Beam 77.11 329 P P 01 09 03.0 -1.8
ZALV Zalesovo Beam 77.11 329 *i* P P 01 09 03.7 -1.1
ZALV pmax pmax
comp=Z,4.0nm,0.6s
ZALV Zalesovo Beam 77.11 329 P P 01 09 03.8 -0.9
comp=Z,3.7nm,0.6s,baz=114,slow=5.4,SNR=21
ZALV LR LR 01 43 19.1
comp=Z,53nm,19.8s,baz=16,slow=36
comp=Z,3.7nm,0.6s
NRN Naryn 77.17 315 P P 01 09 04.3 -1.5
NRN Naryn 77.17 315 P P 01 09 04.3 -1.5
NRN pmax pmax
comp=Z,4.0nm,1.0s
BOOM Boomskoye usch 77.58 316 P P 01 09 07.2 -0.6
BOOM Boomskoye usch 77.58 316 P P 01 09 07.3 -0.6
BOOM pmax pmax
comp=Z,6.0nm,0.7s
KUU Kurty 77.81 317 *e*P P 01 09 09.1 +0.1
KUU pmax pmax
comp=Z,13nm,1.2s
KUU Kurty 77.81 317 *e*P P 01 09 09.1 +0.1
comp=Z,13nm,1.2s,baz=317
TKM2 Tokmak 2 77.97 316 *i* P P 01 09 09.5 -0.6
TKM2 pmax pmax
comp=Z,3.0nm,0.6s
S14K Fog Glacier 78.13 29 P P 01 09 10.4 -0.1
baz=239

AAK Ala-Archa 78.64 316 P P 01 09 13.2 -0.5
AAK Ala-Archa 78.64 316 *ce*P P 01 09 13.0 -0.8
AAK pmax pmax
comp=Z,8.0nm,1.7s
CHGN Chignik 78.68 29 P P 01 09 12.6 -0.8
baz=240
M13K Dall Lake 78.70 24 P P 01 09 13.9 +0.5
baz=235
SGDS Sogindy 78.82 316 *e*P P 01 09 14.6 0.0
SGDS Sogindy 78.82 316 *e*P P 01 09 14.6 0.0
baz=316
O14K Tigyukauivet M 78.92 26 P P 01 09 15.4 +0.6
baz=237
KURK Kurchatov 79.02 324 P P 01 09 15.2 -0.2
KURK lAmb lAmb 01 09 16.4
comp=Z,19nm,1.2s
KURK Kurchatov 79.02 324 *ce*P P 01 09 15.2 -0.2
KURK pmax pmax
comp=Z,15nm,1.0s
KURBB Kurchatov Arra 79.03 324 P P 01 09 14.4 -1.1
KURBB Kurchatov Arra 79.03 324 P P 01 09 15.3 -0.1
comp=Z,7.4nm,0.9s,baz=115,slow=4.8,SNR=50
comp=Z,7.4nm,0.9s
ARSB Arslanbob 79.28 314 P P 01 09 17.1 -0.2
ARSB Arslanbob 79.28 314 P P 01 09 17.1 -0.2
ARSB pmax pmax
comp=Z,8.0nm,1.5s
M14K Bethel 79.46 24 P P 01 09 18.0 +0.4
baz=236
L14K Kuka Creek 79.50 24 P P 01 09 17.7 -0.1
L14K lAmb lAmb 01 09 19.4
comp=Z,30nm,1.1s
L14K Kuka Creek 79.50 24 P P 01 09 17.6 -0.2
baz=236
O15K Ungalikthiuk R 79.51 26 P P 01 09 17.3 -0.7
baz=238
DRK Karamyk 79.58 312 P P 01 09 19.7 +0.5
R16K Pilot Point 79.71 28 P P 01 09 18.5 -0.5
baz=241
BTLS Baital 79.75 318 *e*P P 01 09 19.6 +0.1
BTLS Baital 79.75 318 *e*P P 01 09 19.7 +0.1
baz=318
N15K Kwethluk River 79.92 25 P P 01 09 20.2 0.0
baz=238
M15K Kasigluk River 79.95 25 P P 01 09 20.6 +0.3
baz=237
L15K Ungalak Mounta 80.17 24 P P 01 09 21.1 -0.4
baz=236
TNA Tin City 80.20 19 P P 01 09 20.5 -1.0
baz=230
P16K Nushagak River 80.25 27 P P 01 09 21.6 -0.3
baz=240
KBL Kabul 80.36 306 P P 01 09 22.5 -0.9
KBL Kabul 80.36 306 P P 01 09 22.5 -0.9
KBL pmax pmax
comp=Z,6.0nm,0.7s
ANM Nome 80.42 20 P P 01 09 23.1 +0.4
ANM lAmb lAmb 01 09 29.1
comp=Z,21nm,1.4s
ANM Nome 80.42 20 P P 01 09 23.2 +0.4
ANM pmax pmax
comp=Z,21nm,1.4s
ANM Nome 80.42 20 P P 01 09 22.0 -0.7
baz=232
BTK Batken 80.47 312 P P 01 09 22.8 -0.9
BTK Batken 80.47 312 P P 01 09 22.8 -0.9
BTK pmax pmax
comp=Z,4.0nm,0.9s
O16K Kokwok River B 80.48 26 P P 01 09 22.9 -0.3
baz=240
K15K Wolf Creek Mou 80.49 23 P P 01 09 23.3 +0.1
K15K lAmb lAmb 01 09 24.5
comp=Z,21nm,0.9s
K15K Wolf Creek Mou 80.49 23 P P 01 09 23.0 -0.2
baz=236
GAR Garm 80.54 311 P P 01 09 24.2 0.0
GAR lAmb lAmb 01 09 36.8
comp=Z,10nm,0.7s
N16K Nishlik Lake 80.64 25 P P 01 09 23.9 -0.1
baz=239
F14K Arctic Creek 80.66 19 P P 01 09 23.7 -0.3
baz=232
Q16K King Salmon 80.68 27 P P 01 09 23.7 -0.5
baz=241
Q17K Contact Creek 80.84 28 P P 01 09 24.5 -0.7
baz=242
M16K Timber Creek 80.84 25 P P 01 09 25.2 +0.1
M16K lAmb lAmb 01 09 42.9
comp=Z,25nm,1.1s
M16K Timber Creek 80.84 25 P P 01 09 24.7 -0.4
baz=239
DZA Taraz 80.92 315 *e*P P 01 09 26.0 0.0
DZA pmax pmax
comp=Z,6.0nm,0.9s
DZA Taraz 80.92 315 *e*P P 01 09 26.1 0.0
comp=Z,5.6nm,0.9s,baz=315
L16K Owhat River 80.99 24 lAmb lAmb 01 09 27.2
comp=Z,12nm,0.9s
L16K Owhat River 80.99 24 P P 01 09 25.3 -0.5
baz=238
O17K Koliganek Bris 81.01 26 P P 01 09 25.9 -0.1
baz=241
G15K Niukluk 81.13 20 P P 01 09 26.1 -0.4
baz=234
CHGR Chuyangaron 81.32 311 P P 01 09 27.5 -0.8
CHGR Chuyangaron 81.32 311 P P 01 09 27.5 -0.8
CHGR pmax pmax
comp=Z,26nm,0.8s
N17K Nushagak Hills 81.34 26 P P 01 09 27.8 0.0
N17K lAmb lAmb 01 09 28.7
comp=Z,16nm,0.8s
N17K Nushagak Hills 81.34 26 P P 01 09 27.0 -0.8
baz=241
F15K North Star Dit 81.35 19 P P 01 09 27.1 -0.6
F15K North Star Dit 81.35 19 P P 01 09 27.7 0.0
baz=233
J16K Anvik River 81.39 22 P P 01 09 28.1 +0.1
J16K lAmb lAmb 01 09 29.6
comp=Z,15nm,0.9s
J16K Anvik River 81.39 22 P P 01 09 26.6 -1.3
baz=237
SIMJ Simiganj 81.44 311 P P 01 09 28.3 -0.7
SIMJ lAmb lAmb 01 09 30.3
comp=Z,21nm,1.3s
H16K Elim 81.55 21 P P 01 09 27.4 -1.3
baz=235
KK31 Karatay Array 81.56 315 P P 01 09 28.7 -0.7
KK31 Karatay Array 81.56 315 *i* P P 01 09 28.6 -0.7
KKAR Karatay Array 81.56 315 P P 01 09 28.9 -0.4
KKAR Karatay Array 81.56 315 P P 01 09 29.0 -0.4
KKAR pmax pmax
comp=Z,3.0nm,0.8s
OHAK Old Harbor 81.61 30 P P 01 09 28.8 -0.5
baz=244
M17K Holitna River 81.67 25 lAmb lAmb 01 09 39.9
comp=Z,20nm,0.9s
M17K Holitna River 81.67 25 P P 01 09 29.1 -0.4
baz=240
I17K Unalakleet 81.69 22 P P 01 09 29.6 +0.1
I17K lAmb lAmb 01 09 31.9
comp=Z,14nm,0.8s
I17K Unalakleet 81.69 22 P P 01 09 29.1 -0.4
baz=237
L17K Donlin 81.69 24 P P 01 09 29.7 +0.1
baz=239
O18K Koktuh Hills 81.89 27 P P 01 09 29.6 -1.1
baz=242
OTUK Ortayu 81.92 320 P P 01 09 31.3 +0.2
G16K Koyuk River 81.94 20 P P 01 09 30.4 -0.5
G16K lAmb lAmb 01 09 31.8
comp=Z,12nm,0.9s
G16K Koyuk River 81.94 20 P P 01 09 30.3 -0.5
baz=235
N18K Kilae Creek 81.98 26 P P 01 09 31.3 +0.2
N18K lAmb lAmb 01 09 32.5
comp=Z,15nm,1.0s
N18K Kilae Creek 81.98 26 P P 01 09 31.4 +0.2
baz=242
CHM Chimkent 81.98 314 *e*P P 01 09 31.9 +0.3
CHM pmax pmax
comp=Z,5.0nm,0.6s
CHM Chimkent 81.98 314 *e*P P 01 09 31.9 +0.3
comp=Z,4.7nm,0.6s,baz=314
K17K Iditarod 81.98 23 P P 01 09 31.3 +0.2
K17K lAmb lAmb 01 09 32.4
comp=Z,19nm,0.9s

K17K Iditarod 81.98 23 P P 01 09 30.9 -0.2
baz=239
BRLS Borolday 82.02 315 *e*P P 01 09 31.9 +0.1
BRLS Borolday 82.02 315 *e*P P 01 09 31.9 +0.1
baz=315
KDAK Kodiak Island 82.19 29 P P 01 09 31.8 -0.5
baz=245
BRZS Berezniki 82.28 322 *e*P P 01 09 32.9 0.0
BRZS pmax pmax
comp=Z,5.0nm,1.0s
BRZS Berezniki 82.28 322 *e*P P 01 09 33.0 0.0
comp=Z,5.2nm,1.0s,baz=322
L18K Granite Mounta 82.39 24 P P 01 09 33.5 +0.3
baz=241
M18K Stony River 82.39 25 P P 01 09 33.0 -0.3
baz=242
O19K Port Alsworth 82.44 27 P P 01 09 33.1 -0.5
baz=243
H17K Granite Mounta 82.55 21 P P 01 09 33.8 -0.2
H17K lAmb lAmb 01 09 35.1
comp=Z,13nm,0.7s
H17K Granite Mounta 82.55 21 P P 01 09 33.9 -0.2
baz=238
G17K Kiwalik Mounta 82.59 21 P P 01 09 33.9 -0.3
baz=237
N19K Bonanza Creek 82.65 26 P P 01 09 34.5 -0.3
N19K lAmb lAmb 01 09 35.5
comp=Z,14nm,0.9s
N19K Bonanza Creek 82.65 26 P P 01 09 34.1 -0.7
baz=243
P19K Oil Pt 82.69 27 P P 01 09 34.7 -0.2
baz=244
C16K Lisburne Hills 82.71 17 lAmb lAmb 01 09 36.6
comp=Z,14nm,1.2s
C16K Lisburne Hills 82.71 17 P P 01 09 34.7 0.0
baz=232
F17K Baldwin Pennin 82.91 20 P P 01 09 35.9 0.0
F17K lAmb lAmb 01 09 36.4
comp=Z,8.4nm,0.8s
F17K Baldwin Pennin 82.91 20 P P 01 09 35.3 -0.5
baz=236
J18K Innoko River 82.99 23 P P 01 09 36.0 -0.4
J18K lAmb lAmb 01 09 36.9
comp=Z,10nm,0.9s
J18K Innoko River 82.99 23 P P 01 09 36.6 +0.3
baz=241
TTA Tatalina 83.00 24 P P 01 09 36.7 +0.1
TTA Tatalina 83.00 24 P P 01 09 36.7 +0.1
TTA pmax pmax
comp=Z,11nm,1.4s
TTA Tatalina 83.00 24 P P 01 09 36.7 +0.1
baz=241
D17K Noatak River 83.04 18 P P 01 09 36.9 +0.4
baz=234
L19K White Mountain 83.12 25 P P 01 09 36.7 -0.4
L19K lAmb lAmb 01 09 54.9
comp=Z,12nm,0.9s
L19K White Mountain 83.12 25 P P 01 09 37.3 +0.2
baz=243
M19K Big River Lodg 83.19 25 P P 01 09 37.2 -0.2
M19K lAmb lAmb 01 09 41.1
comp=Z,20nm,1.2s
M19K Big River Lodg 83.19 25 P P 01 09 37.6 +0.1
baz=243
H18K Honhosa River 83.22 21 P P 01 09 37.4 -0.1
baz=239
RSO Redoubt South 83.26 27 P P 01 09 39.1 +1.1
C17K DeLong Mountai 83.47 17 P P 01 09 39.0 +0.2
baz=234
G18K Tagagawik 83.50 21 lAmb lAmb 01 09 39.0
comp=Z,8.0nm,0.7s
G18K Tagagawik 83.50 21 P P 01 09 38.5 -0.5
baz=239
F18K Selawik 83.53 20 P P 01 09 38.7 -0.4
baz=238
QSPA South Pole Qui 83.64 180 P P 01 09 40.6 +0.7
QSPA lAmb lAmb 01 09 45.3
comp=Z,12nm,0.8s
QSPA South Pole Qui 83.64 180 P P 01 09 40.5 +0.7
comp=Z,12nm,0.9s,baz=344,slow=2.8,SNR=58
QSPA LR LR 01 47 12.2
comp=Z,139nm,18.3s,baz=256,slow=36
comp=Z,12nm,0.9s
L20K Farewell, AK 83.67 25 P P 01 09 39.7 -0.2
baz=243
E18K Tukpahlearik C 83.67 19 lAmb lAmb 01 09 43.8
comp=Z,8.8nm,0.8s
E18K Tukpahlearik C 83.67 19 P P 01 09 39.8 0.0
baz=237
J19K Poorman 83.67 23 P P 01 09 40.0 +0.2
baz=242
M20K Styx River 83.71 25 lAmb lAmb 01 09 41.5
comp=Z,15nm,0.9s
M20K Styx River 83.71 25 P P 01 09 39.6 -0.6
baz=244
N20K Mount Spurr 83.82 26 P P 01 09 40.5 -0.3
baz=245
BRSE Bradley Lake S 83.88 28 P P 01 09 40.3 -0.7
baz=246
K20K Telida 83.98 24 P P 01 09 41.3 -0.2
K20K lAmb lAmb 01 09 42.6
comp=Z,14nm,0.9s
K20K Telida 83.98 24 P P 01 09 40.9 -0.6
baz=243
H19K Roundabout Mou 84.10 21 P P 01 09 41.9 -0.1
baz=241
C18K Utukok River 84.17 18 lAmb lAmb 01 09 43.0
comp=Z,12nm,1.3s
C18K Utukok River 84.17 18 P P 01 09 42.2 -0.2
baz=236
G19K Purcell Mounta 84.18 21 P P 01 09 41.8 -0.6
G19K lAmb lAmb 01 09 43.4
comp=Z,17nm,1.1s
G19K Purcell Mounta 84.18 21 P P 01 09 42.6 +0.2
baz=240
F19K Shaleruckik Mo 84.29 20 lAmb lAmb 01 09 45.1
comp=Z,7.4nm,0.9s
F19K Shaleruckik Mo 84.29 20 P P 01 09 42.8 -0.1
baz=239
J20K Nowinta River 84.33 23 P P 01 09 43.4 +0.2
J20K lAmb lAmb 01 09 44.4
comp=Z,14nm,0.9s
J20K Nowinta River 84.33 23 P P 01 09 43.2 0.0
baz=243
B18K Kokolik River 84.39 17 P P 01 09 43.4 0.0
baz=235
SKT Skwentna 84.44 26 P P 01 09 44.2 +0.3
baz=246
I20K Naaghedeneel 84.48 22 P P 01 09 43.7 -0.3
baz=243
PPLA Purkeypile 84.55 25 P P 01 09 43.8 -0.7
baz=245
SUA Susitna One 84.57 26 lAmb lAmb 01 09 45.1
comp=Z,9.1nm,0.9s
SUA Susitna One 84.57 26 P P 01 09 43.6 -1.0
baz=246
BVA0 Borovoye Array 84.61 325 *i* P P 01 09 44.6 -0.3
BVAR Borovoye Array 84.61 325 P P 01 09 45.0 +0.2
comp=Z,32nm,0.6s,baz=110,slow=6.3,SNR=177
comp=Z,32nm,0.6s
SEW Seward 84.62 28 P P 01 09 44.3 -0.4
baz=248
O22K Cooper Landing 84.64 27 P P 01 09 44.6 -0.2
baz=247
H20K Anotleneega Mo 84.66 22 P P 01 09 44.4 -0.5
baz=242
FIS Fire Island 84.67 27 P P 01 09 44.5 -0.4
BRVK Borovoye 84.68 325 P P 01 09 45.4 +0.2
BRVK Borovoye 84.68 325 *ce*P P 01 09 45.0 -0.2
BRVK pmax pmax
comp=Z,39nm,1.0s
E19K Redstone River 84.79 20 P P 01 09 45.0 -0.5
baz=240
CAST Castle Rocks 84.81 24 P P 01 09 44.6 -1.1
CAST lAmb lAmb 01 09 46.1
comp=Z,11nm,1.0s
CAST Castle Rocks 84.81 24 P P 01 09 45.1 -0.6
baz=245,SNR=8.9
RC01 Rabbit Creek A 84.87 27 P P 01 09 45.4 -0.6
baz=247
C19K Lookout Ridge 84.91 18 P P 01 09 45.3 -0.8
baz=238
CHUM Lake Minchumin 84.92 24 P P 01 09 45.8 -0.4
baz=245,SNR=20
M22K Willow 84.96 26 P P 01 09 45.5 -0.8
baz=247
D19K Kuna River 85.04 19 lAmb lAmb 01 09 47.5

comp=Z,11nm,0.8s
D19K **Kuna River** 85.04 19 P P 01 09 46.9 +0.1
baz=239
F20K **Avaraart Lake** 85.10 20 P P 01 09 46.9 -0.1
F20K IAmb IAmb 01 09 48.1
comp=Z,10nm,1.0s
F20K **Avaraart Lake** 85.10 20 P P 01 09 46.7 -0.3
baz=241
IMAR **Indian Mountai** 85.30 22 P P 01 09 47.1 -1.0
PMR **Palmer** 85.33 26 IAmb IAmb 01 09 48.0
comp=Z,15nm,1.0s
PMR **Palmer** 85.33 26 P P 01 09 46.9 -1.3
baz=248,SNR=5.8
KTH **Kantishna Hill** 85.35 24 IAmb IAmb 01 10 04.8
comp=Z,16nm,1.1s
GHO **Glory Hole Cre** 85.49 26 IAmb IAmb 01 09 52.2
comp=Z,16nm,1.0s
H21K **Melozitna Rive** 85.50 22 P P 01 09 48.3 -0.8
baz=244
E20K **Nigu River** 85.53 19 P P 01 09 48.8 -0.5
baz=241
BPAW **Bear Paw Mtn.** 85.54 24 P P 01 09 48.6 -0.7
baz=246
KNK **Knik Glacier** 85.56 27 P P 01 09 49.2 -0.3
baz=248,SNR=6.2
TRF **Thorofare Moun** 85.56 24 P P 01 09 48.2 -1.5
TRF **Thorofare Moun** 85.56 24 P P 01 09 48.5 -1.1
baz=247
I21K **Tanana** 85.61 23 IAmb IAmb 01 09 50.6
comp=Z,9.6nm,0.8s
I21K **Tanana** 85.61 23 P P 01 09 49.3 -0.3
baz=245,SNR=9.3
D20K **Etivluk River** 85.62 19 P P 01 09 49.1 -0.6
baz=240
G21K **Allakaket** 85.63 21 P P 01 09 49.2 -0.5
baz=243
SML **Sawmill** 85.77 26 P P 01 09 50.1 -0.4
baz=248,SNR=5.9
HRA **Herat** 85.81 305 P P 01 09 51.1 -0.5
F21K **Alatna River** 85.96 20 P P 01 09 50.6 -0.7
baz=243
MLY **Manley** 86.02 23 P P 01 09 50.8 -0.9
MLY IAmb IAmb 01 09 52.5
comp=Z,12nm,0.8s
MLY **Manley** 86.02 23 P P 01 09 51.2 -0.5
baz=246,SNR=10
M23K **Glacier View** 86.03 26 P P 01 09 51.2 -0.6
baz=249
WAT1 **Susitna Watana** 86.05 25 P P 01 09 50.7 -1.3
baz=248
H22K **Ishtalitna Cre** 86.14 22 P P 01 09 51.7 -0.6
baz=245
SCM **Sheep Creek Mo** 86.22 27 P P 01 09 51.8 -1.1
baz=249
MCK **McKinley** 86.23 24 P P 01 09 51.4 -1.3
MCK **McKinley** 86.23 24 P P 01 09 51.4 -1.3
MCK pmax pmax
comp=Z,19nm,1.0s
MCK **McKinley** 86.23 24 P P 01 09 51.5 -1.3
baz=248,SNR=8.8
WAT6 **Susitna Watana** 86.31 26 P P 01 09 51.9 -1.5
baz=249
E21K **Killik River** 86.35 19 P P 01 09 53.0 -0.3
E21K IAmb IAmb 01 09 54.8
comp=Z,11nm,0.8s
E21K **Killik River** 86.35 19 P P 01 09 52.6 -0.6
baz=243
NEA2 **Nenana** 86.51 24 IAmb IAmb 01 09 53.6
comp=Z,7.0nm,0.8s
NEA2 **Nenana** 86.51 24 P P 01 09 53.0 -1.1
baz=248
G22K **Bettles** 86.52 21 P P 01 09 53.9 -0.2
baz=245
I23K **Minto, Yukon-K** 86.61 23 P P 01 09 53.2 -1.3
I23K IAmb IAmb 01 10 12.0
comp=Z,9.1nm,1.1s
I23K **Minto, Yukon-K** 86.61 23 P P 01 09 54.3 -0.2
baz=247
DHY **Denali Highway** 86.64 25 P P 01 09 54.2 -0.7
baz=249,SNR=10
DIV **Divide** 86.68 27 P P 01 09 54.3 -0.8
KLU **Klutina** 86.73 27 IAmb IAmb 01 09 55.8
comp=Z,14nm,1.1s
KLU **Klutina** 86.73 27 P P 01 09 55.3 -0.1
baz=251
M24K **Tolsona, Glenn** 86.83 26 P P 01 09 55.4 -0.4
baz=250
A21K **Barrow** 86.93 16 P P 01 09 55.8 -0.1
baz=240
E22K **Anaktuvuk Pass** 86.93 20 IAmb IAmb 01 09 57.8
comp=Z,12nm,0.8s
E22K **Anaktuvuk Pass** 86.93 20 P P 01 09 55.9 -0.3
baz=245
D22K **Ayikyak River** 86.97 19 P P 01 09 56.3 0.0
D22K IAmb IAmb 01 09 57.1
comp=Z,8.2nm,0.7s
D22K **Ayikyak River** 86.97 19 P P 01 09 55.7 -0.6
baz=244
G23K **Bananza Creek** 86.97 22 IAmb IAmb 01 09 57.2
comp=Z,7.6nm,0.7s
G23K **Bananza Creek** 86.97 22 P P 01 09 56.3 -0.1
baz=247,SNR=11
MDM **Murphy Dome** 86.98 23 P P 01 09 55.5 -0.9
MDM IAmb IAmb 01 09 57.7
comp=Z,11nm,1.4s
COLA **College** 87.10 24 P P 01 09 56.1 -0.8
COLA **College** 87.10 24 P P 01 09 56.1 -0.8
COLA pmax pmax
comp=Z,13nm,0.5s
COLA **College** 87.10 24 P P 01 09 56.5 -0.4
baz=249
COLD **Coldfoot** 87.11 21 P P 01 09 56.8 -0.2
baz=246,SNR=6.3
BMRM **Bremner River** 87.17 28 P P 01 09 56.4 -1.1
baz=252
HDA **Harding Lake** 87.29 24 IAmb IAmb 01 10 00.2
comp=Z,11nm,0.9s
HDA **Harding Lake** 87.29 24 P P 01 09 57.6 -0.3
baz=250
POKR **Poker Plat Res** 87.35 23 P P 01 09 57.3 -0.9
baz=249
N25K **Chitina, Valde** 87.37 27 P P 01 09 57.4 -1.0
baz=252
HARP **HAARP** 87.37 26 P P 01 09 58.0 -0.3
baz=251
PAX **Paxson** 87.42 26 P P 01 09 57.9 -0.8
baz=251
H24K **Noodor Dome** 87.44 23 IAmb IAmb 01 09 59.2
comp=Z,8.5nm,0.9s
H24K **Noodor Dome** 87.44 23 P P 01 09 58.3 -0.3
baz=249
ILAR **Eielson Array** 87.44 24 P P 01 09 56.3 -2.4
comp=Z,12nm,0.8s,baz=258,slow=4.7,SNR=129
comp=Z,12nm,0.8s
K24K **Donnelly Dome** 87.57 25 P P 01 09 59.3 0.0
baz=251
E23K **Chandalar** 87.65 20 P P 01 10 00.0 +0.3
baz=247
D23K **Nanushuk River** 87.66 19 P P 01 09 59.9 +0.3
baz=246
GLB **Gilahina Butte** 87.68 27 IAmb IAmb 01 10 00.3
comp=Z,12nm,0.8s
SNH **Sunshine Point** 87.76 29 P P 01 09 59.9 -0.4
CRQM **Cirque** 87.78 28 P P 01 10 00.3 -0.3
CRQE **Cirque** 87.81 28 P P 01 09 59.7 -0.9
baz=253
G24K **Hadweenzic Riv** 87.91 22 P P 01 10 00.3 -0.6
G24K IAmb IAmb 01 10 01.8
comp=Z,15nm,1.1s
G24K **Hadweenzic Riv** 87.91 22 P P 01 10 00.6 -0.2
baz=249
TGL **Tana Glacier** 87.93 28 P P 01 10 00.7 -0.5
RIDG **Independent Ri** 87.94 25 P P 01 09 59.9 -1.2
RIDG **Independent Ri** 87.94 25 P P 01 10 00.2 -0.9
baz=252,SNR=8.7
J25K **Salcha River,** 88.00 24 P P 01 10 00.3 -1.1
baz=251
MCARA **McCarthy VSAT** 88.02 28 P P 01 10 01.7 +0.2
MCARA **McCarthy VSAT** 88.02 28 P P 01 10 01.0 -0.5
baz=253
C23K **Itkillik River** 88.04 19 P P 01 10 01.3 0.0
baz=246
F24K **Squaw Lake** 88.06 21 P P 01 10 01.3 -0.3
baz=249
ISLE **Juniper Island** 88.12 28 P P 01 10 01.1 -1.1
MENT **Mentasta** 88.17 26 IAmb IAmb 01 10 02.3
comp=Z,6.8nm,0.8s

PRP **Porcupine Dome** 88.24 23 P P 01 10 02.2 -0.4
baz=251
D24K **Happy Valley** 88.35 19 P P 01 10 02.7 -0.2
baz=248
L26K **Log Cabin Wild** 88.36 26 IAmb IAmb 01 10 03.2
comp=Z,6.4nm,0.8s
L26K **Log Cabin Wild** 88.36 26 P P 01 10 02.7 -0.4
baz=253
SCRK **Sand Creek** 88.38 25 P P 01 10 02.8 -0.4
baz=252,SNR=5.6
H25L **Birch Creek** 88.38 23 P P 01 10 03.1 0.0
baz=250
GRNC **Granite Creek** 88.43 28 P P 01 10 03.3 -0.4
G25K **Bearman Lake** 88.44 22 P P 01 10 03.0 -0.3
baz=250
BARN **Barnard Glacie** 88.56 28 P P 01 10 03.9 -0.4
C24K **Franklin Bluff** 88.60 19 P P 01 10 03.7 -0.3
baz=248
CTG **Chitna Glacier** 88.69 28 P P 01 10 04.6 -0.3
baz=255
CTGM **Chitina Glacie** 88.69 28 P P 01 10 04.9 0.0
FYU **Fort Yukon** 88.70 22 P P 01 10 04.1 -0.5
J26L **Joseph Creek** 88.71 25 IAmb IAmb 01 10 05.4
comp=Z,8.8nm,0.8s
J26L **Joseph Creek** 88.71 25 P P 01 10 04.4 -0.4
baz=253
M27K **Edge Creek, AK** 88.82 27 P P 01 10 04.7 -0.7
baz=254
F25K **Christian Rive** 88.89 21 P P 01 10 05.1 -0.4
baz=251,SNR=12
L27K **Beaver Creek,** 89.03 26 IAmb IAmb 01 10 07.1
comp=Z,12nm,1.1s
L27K **Beaver Creek,** 89.03 26 P P 01 10 05.7 -0.6
baz=254
E25K **Arctic Village** 89.09 21 P P 01 10 06.3 -0.1
E25K IAmb IAmb 01 10 07.3
comp=Z,9.2nm,0.9s
E25K **Arctic Village** 89.09 21 P P 01 10 06.2 -0.3
baz=251,SNR=9.4
I26K **Coal Creek Min** 89.12 24 P P 01 10 06.2 -0.4
baz=253
K27K **Chicken** 89.20 25 P P 01 10 07.1 +0.1
K27K **Chicken** 89.20 25 P P 01 10 06.7 -0.3
baz=254,SNR=12
D25K **Kavik River** 89.22 20 P P 01 10 06.6 -0.4
D25K IAmb IAmb 01 10 12.2
comp=Z,12nm,0.9s
D25K **Kavik River** 89.22 20 P P 01 10 07.0 0.0
baz=250
BVCY **Beaver Creek** 89.29 27 P P 01 10 07.7 +0.2
baz=255
YUK3 **Moose Creek** 89.31 28 P P 01 10 07.2 -0.6
baz=256,SNR=5.0
G26K **Porcupine Rive** 89.37 22 P P 01 10 08.4 +0.7
baz=252
F26K **Sheenjek River** 89.46 21 P P 01 10 08.8 +0.7
baz=252,SNR=17
YUK8 **Steele Glacier** 89.51 28 P P 01 10 08.7 -0.1
baz=256
UOSS **Minazif** 89.57 295 P P 01 10 07.9 -1.8
EGAK **Eagle** 89.78 25 P P 01 10 09.3 -0.4
EGAK IAmb IAmb 01 10 10.2
comp=Z,16nm,1.0s
EGAK **Eagle** 89.78 25 P P 01 10 09.7 0.0
baz=255,SNR=6.9
I27K **Kandik River** 89.82 24 P P 01 10 10.0 +0.1
baz=254
O29M **Mount Kennedy** 89.85 29 P P 01 10 10.0 -0.3
baz=257
C26K **Camden Bay** 89.90 19 P P 01 10 10.4 +0.2
baz=251
H27K **Steamboat Moun** 90.02 23 P P 01 10 10.7 -0.1
baz=254
YUK4 **Talbot Arm** 90.05 28 P P 01 10 11.2 -0.1
baz=257
YUK6 **Outpost Mounta** 90.09 29 P P 01 10 10.8 -0.8
baz=257
P29M **Windy Craggy** 90.11 30 P P 01 10 11.1 -0.3
baz=258
DAWY **Dawson** 90.35 25 IAmb IAmb 01 10 13.3
comp=Z,9.2nm,0.9s
DAWY **Dawson** 90.35 25 P P 01 10 12.1 -0.3
baz=256
M29M **Somme Creek** 90.38 27 P P 01 10 12.4 -0.3
M29M IAmb IAmb 01 10 13.1
comp=Z,6.3nm,0.7s
M29M **Somme Creek** 90.38 27 P P 01 10 12.4 -0.3
baz=257
I28M **Miner Creek** 90.45 24 IAmb IAmb 01 10 13.2
comp=Z,7.4nm,1.0s
I28M **Miner Creek** 90.45 24 P P 01 10 12.2 -0.8
baz=256
HYT **Haines Junctio** 90.48 29 P P 01 10 12.1 -1.1
baz=258
L29M **L29M** 90.68 27 P P 01 10 13.5 -0.5
L29M **L29M** 90.68 27 P P 01 10 13.8 -0.2
baz=258
N30M **Aishikik Lake** 90.81 28 P P 01 10 14.1 -0.5
baz=258
J29N **Klondike Camp** 90.93 25 P P 01 10 15.7 +0.5
J29N IAmb IAmb 01 10 16.5
comp=Z,6.3nm,0.8s
J29N **Klondike Camp** 90.93 25 P P 01 10 15.8 +0.6
baz=258
SVE **Sverdlovsk** 90.98 327 eP P 01 10 14.7 -0.7
SVE pmax pmax
comp=Z,10.0nm,1.1s
F28M **Old Crow** 91.01 22 P P 01 10 15.6 +0.2
baz=256
K29M **Barlow Dome** 91.10 26 P P 01 10 15.6 -0.4
baz=258
O30N **Mendenhall** 91.15 29 P P 01 10 14.0 -2.2
O30N IAmb IAmb 01 10 26.9
comp=Z,16nm,1.4s
O30N **Mendenhall** 91.15 29 P P 01 10 15.7 -0.5
baz=259
M30M **Minto, Yukon** 91.17 27 P P 01 10 15.4 -0.8
baz=259
H29M **Whitestone** 91.26 23 P P 01 10 17.5 +0.9
H29M IAmb IAmb 01 10 39.7
comp=Z,11nm,1.2s
AKTO **Aktyubinsk** 91.52 320 P P 01 10 15.0 -3.1
J30M **Hart River** 91.76 25 P P 01 10 18.7 -0.3
J30M IAmb IAmb 01 10 19.9
comp=Z,5.2nm,0.9s
J30M **Hart River** 91.76 25 P P 01 10 18.3 -0.8
baz=259
D28M **Stokes Point** 91.82 20 P P 01 10 18.8 -0.3
baz=257
DIB **Dawson Inlet,** 91.86 37 P P 01 10 19.9 +0.3
I30M **Mount Dempster** 91.86 25 IAmb IAmb 01 10 19.6
comp=Z,4.6nm,0.8s
I30M **Mount Dempster** 91.86 25 P P 01 10 19.1 -0.4
baz=259
E29M **Blow River** 91.91 21 P P 01 10 19.7 +0.2
EPYK **Eagle Plains** 91.95 23 IAmb IAmb 01 10 22.0
comp=Z,12nm,1.1s
EPYK **Eagle Plains** 91.95 23 P P 01 10 19.8 0.0
baz=259
ARU **Arti** 92.05 326 P P 01 10 18.6 -1.8
ARU IAmb IAmb 01 10 20.8
comp=Z,12nm,1.2s
ARU **Arti** 92.05 326 *c iP* P 01 10 18.6 -1.8
ARU 01 13 57.2
ARU S **SKSac** 01 20 50.6 -2.9
ARU SS **SS** 01 27 24.9 -6.7
ARU pmax pmax
comp=Z,12nm,1.2s
P32M **Atlin** 92.11 30 P P 01 10 20.6 -0.2
baz=261
M31M **Drury Creek, Y** 92.20 28 P P 01 10 20.9 -0.1
baz=261
G30M **tAoh Zraii Nji** 92.26 23 IAmb IAmb 01 10 22.6
comp=Z,7.1nm,1.1s
G30M **tAoh Zraii Nji** 92.26 23 P P 01 10 20.7 -0.5
baz=259
F30M **Barrier River** 92.54 22 P P 01 10 22.4 0.0
baz=260
FARO **Faro, Yukon** 92.69 28 P P 01 10 23.1 -0.2
baz=262
ELIB **Princess Elisa** 92.77 196 *d*P P 01 10 24.9 +1.2
G31M **Satah River** 93.00 23 IAmb IAmb 01 10 24.6
comp=Z,6.7nm,0.8s
G31M **Satah River** 93.00 23 P P 01 10 24.1 -0.4
baz=261
F31M **Tsiigehtchic** 93.29 23 P P 01 10 26.0 +0.1
baz=262

INK **Inuvik** 93.49 22 P P 01 10 27.1 +0.3
baz=262
INK **Inuvik** 93.49 22 LR LR 01 52 29.0
comp=Z,50nm,18.1s,baz=184,slow=36
T35M **Bob Quinn** 93.59 33 P P 01 10 27.7 +0.1
baz=264
MMPY **Sheldon Lake,** 93.70 28 P P 01 10 29.6 +1.6
MMPY **Sheldon Lake,** 93.70 28 P P 01 10 27.7 -0.3
baz=264
A36M **Sachs Harbour** 96.58 18 P P 01 10 39.3 -1.6
A36M IAmb IAmb 01 10 41.5
comp=Z,6.2nm,1.1s
A36M **Sachs Harbour** 96.58 18 P P 01 10 40.3 -0.6
baz=270
KIRV **Kirov** 97.13 328 LR LR 01 56 00.1
comp=Z,86nm,20.0s,baz=302,slow=36
YBH **Yreka Blue Hor** 97.52 49 LR LR 01 50 28.7
comp=Z,96nm,18.3s,baz=316,slow=33
BELG **Belogornoye** 98.14 322 *i* P P 01 10 47.1 -1.2
BELG pmax pmax
comp=Z,3.0nm,1.0s
YKA **Yellowknife Ar** 101.40 28 *i* P Pdif 01 11 02.5 -0.1
YKA **Yellowknife Ar** 101.40 28 P Pdif 01 11 01.6 -1.0
comp=Z,0.3nm,0.8s,baz=282,slow=4.8,SNR=6.7
OBN **Obninsk** 104.44 325 *i* P Pdif 01 11 14.3 -2.0
OBN *e* 01 15 33.4
OBN *e*PPP PPP 01 17 46.3
OBN pmax pmax
comp=Z,3.0nm,0.8s
OBN MLR MLR
comp=Z,103nm,17.0s
TXAR **Lajitas Array** 113.57 61 PKiKP **PKiKP** 01 15 49.9 -0.7
comp=Z,0.6nm,0.9s,baz=270,slow=0.9,SNR=4.2
TXAR PKKPab **PKKPab** 01 26 42.2 +0.9
comp=Z,0.7nm,0.8s,baz=124,slow=7.7,SNR=6.1
DRIO **Del Rio** 116.20 60 **PKiKP** 01 15 55.6 +0.1
KAN09 **Caldwell North** 117.25 51 **PKiKP** 01 15 58.3 +0.9
CONA **Conrad Observa** 118.88 322 *e*PKP **PKiKP** 01 16 00.4 +0.1
comp=Z,1.1nm,0.6s
GERES **GERESS Array B** 119.77 324 PKiKP **PKPdf** 01 16 02.0 0.0
GERES **GERESS Array B** 119.77 324 PKP **PKPdf** 01 16 02.0 0.0
comp=Z,0.7nm,0.7s,baz=29,slow=2.2,SNR=2.5
S39A **Bolivar** 120.41 50 **PKPdf** 01 16 02.6 -0.8
KBA **Koelnbreinsper** 120.78 322 *e*PKiKP **PKiKP** 01 16 04.8 +0.6
comp=Z,12nm,1.5s
MIAR **Mount Ida** 121.07 53 P **PKPdf** 01 16 03.2 -1.5
baz=285
ABTA **Abfaltersbach** 121.44 322 *e*PKP **PKPdf** 01 16 05.1 -0.1
comp=Z,1.1nm,0.5s
CCM **Cathedral Cave** 121.86 49 P **PKPdf** 01 16 04.8 -1.4
baz=289
L44A **Lake County Fo** 122.75 43 P **PKPdf** 01 16 06.7 -1.0
baz=294
DAVA **Damuels** 122.76 324 *e*PKiKP **PKiKP** 01 16 08.3 +0.3
comp=Z,3.3nm,0.7s
EKA **Eskdalemuir Ar** 124.10 337 PKP **PKPdf** 01 16 09.8 -0.1
comp=Z,1.9nm,0.6s,baz=21,slow=1.9,SNR=2.0
WVT **Waverly** 125.08 50 P **PKPdf** 01 16 11.7 -0.7
baz=290
O48B **Farmland** 125.44 44 P **PKPdf** 01 16 12.3 -0.7
baz=295
WCI **Wyandotte Cave** 125.45 47 P **PKPdf** 01 16 12.4 -0.7
baz=293
P49A **Miami Univ. Ec** 126.05 45 P **PKPdf** 01 16 13.8 -0.3
baz=295
SCHQ **Schefferville** 126.10 21 PKP **PKPdf** 01 16 13.8 0.0
comp=Z,1.5nm,0.7s,baz=309,slow=5.4,SNR=2.8
LRAL **Lakeview Retre** 126.75 53 P **PKPdf** 01 16 15.2 -0.5
baz=288
M53A **WI Miller and** 127.91 41 P **PKPdf** 01 16 17.2 -0.5
baz=300
ERPA **Erie** 128.01 40 P **PKPdf** 01 16 17.1 -0.7
baz=301
TZTN **Tazewell** 128.13 48 P **PKPdf** 01 16 17.4 -0.8
baz=294
O53A **New Philadelph** 128.14 43 P **PKPdf** 01 16 17.7 -0.4
baz=299
SSPA **Standing Stone** 130.13 40 P **PKPdf** 01 16 22.4 +0.5
baz=302
TORD **Torodi Ar. Bea** 141.12 283 PKhKP PKPpre 01 16 37.4
comp=Z,1.2nm,0.9s,baz=51,slow=5.0,SNR=6.4
CPUP **Villa Florida** 142.10 150 PKP **PKiKP** 01 16 46.4 -1.1
comp=Z,3.1nm,0.9s,baz=238,slow=3.0,SNR=4.8
ROSC **El Rosal** 143.02 90 PKPdf **PKPdf** 01 16 45.5 -1.5
ROSC **El Rosal** 143.02 90 PKiKP **PKPdf** 01 16 45.5 -1.5
ROSC **El Rosal** 143.02 90 PKP PKPbc 01 16 44.5 +0.7
comp=Z,12nm,0.7s,baz=294,slow=19,SNR=5.1
SDDR **Presa de Saban** 144.52 66 **PKPab** 01 16 45.9 -1.5
SDV **Santo Domingo** 146.76 83 **PKPdf** 01 16 53.1 0.0
AQDB **Aquidauana** 147.74 146 PKPab **PKPbc** 01 16 57.8 +0.6
KIC **Kosan Boka** 147.75 272⇑ *e*PKP2 **PKPbc** 01 16 58.0 +0.5
comp=Z,35nm,1.1s
DBIC **Dimbokro** 147.88 272 **PKPdf** 01 16 54.0 -0.8
DBIC **Dimbokro** 147.88 272 PKiKP **PKPdf** 01 16 54.0 -0.8
DBIC **Dimbokro** 147.88 272 PKPbc **PKPbc** 01 16 58.7 +0.9
comp=Z,9.7nm,0.6s,baz=89,slow=2.7,SNR=21
LIC **Lamto** 148.03 272⇑ *i*P **PKPbc** 01 16 58.9 +0.7
comp=Z,53nm,0.8s
TIC **Toumodi** 148.04 272⇑ *i*PKP2 **PKPbc** 01 16 57.4 -0.8
comp=Z,11nm,0.6s
BAUV **El Baul** 149.32 83 **PKPbc** 01 17 00.8 -0.6
IGPR **InterUniversit** 149.51 65 **PKPbc** 01 17 01.0 -0.8

BUL ***02*** *01:07:29.9±1.2,22°54S×25°01E,h10km±15km,MD4.0*
PRE ***02*** *01:07:30.9±1.0,22°03S×25°17E,h5km,ML2.5*
EAF ***02*** *01:07:31.1±2.1,22°51S×24°92E,h38km±27km,MD3.7*
ISC 02 01:07:31.7±2.0,22°96S±0°09×25°19E±0°08,h10km,n30,
s23°31/50,Botswana

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**2.08**	**170**	*i* P		Pb	**01 08 09.9**	**+0.3**
LBTB				*i* S		**Sg**	**01 08 38.5**	**-0.1**
LBTB	**Lobatse**	**2.08**	**170**	*i* P		**Pb**	**01 08 09.9**	**+0.3**
LBTB				*i* S		**Sg**	**01 08 38.5**	**-0.1**
LEPH	**Lephalale, Lim**	**2.56**	**111**	*e*P		**Pn**	**01 08 14.5**	**+1.2**
LEPH				*e*S		**Sn**	**01 08 45.7**	**+1.1**
LEPH				IAML			01 08 58.9	
comp=Z,65nm,0.5s								
KSR	**Koster**	**3.27**	**152**	*e*P		**Pn**	**01 08 25.0**	**+1.7**
KSR				*e*S		**Sn**	**01 09 04.2**	**+1.9**
KSR				IAML			01 09 30.0	
comp=Z,110nm,0.2s								
WDLM	**Western Deep L**	**4.00**	**150**	*e*P		**Pn**	**01 08 34.8**	**+1.5**
WDLM				*e*S		**Sn**	**01 09 20.9**	**+0.5**
WDLM				IAML			01 09 58.2	
comp=Z,27nm,0.2s								
SWZ	**Schweizer**	**4.21**	**178**	*e*P		**Pn**	**01 08 38.0**	**+1.9**
SWZ				*e*S		**Sn**	**01 09 26.1**	**+0.7**
SWZ				IAML			01 09 51.6	
comp=Z,14nm,0.7s								
BLWY	**Bulawayo**	**4.24**	**49**	*i* P		Pn	01 08 31.0	-5.5
BLWY				*i* S		Sn	01 09 15.9	-10
BLWY	**Bulawayo**	**4.24**	**49**	*i* P		Pn	01 08 31.0	-5.5
BLWY				*i* S		Sn	01 09 15.9	-10
MUSN	**Musina, Limpop**	**4.37**	**82**	*i* P		**Pn**	**01 08 36.9**	**-1.2**
MUSN				*i* S		**Sn**	**01 09 24.9**	**-4.2**
MUSN	**Musina, Limpop**	**4.37**	**82**	*e*P		**Pn**	**01 08 38.4**	**+0.3**
MUSN				*e*S		**Sn**	**01 09 27.9**	**-1.3**
MUSN				IAML			01 09 48.3	
comp=Z,20nm,0.3s								
MUSN	**Musina, Limpop**	**4.37**	**82**	*i* P		**Pn**	**01 08 36.9**	**-1.2**
MUSN				*i* S		**Sn**	**01 09 24.9**	**-4.2**
PRYS	**Parys**	**4.41**	**154**	*e*P		**Pn**	**01 08 40.4**	**+1.5**
PRYS				*e*S		**Sn**	**01 09 31.1**	**+0.6**
PRYS				IAML			01 09 57.1	
comp=Z,14nm,0.6s								
PILG	**Pilgrimsrest,**	**5.42**	**112**	*e*P		**Pn**	**01 08 54.3**	**+1.5**
PILG				*e*S		**Sn**	**01 09 53.6**	**-1.7**
PILG				IAML			01 10 30.3	
comp=Z,16nm,0.4s								
BOSA	**Boshof**	**5.63**	**179**	*i* P		**Pn**	**01 08 58.3**	**+2.6**
BOSA				*i* S		**Sn**	**01 10 01.0**	**+0.5**
BOSA	**Boshof**	**5.63**	**179**	*e*P		**Pn**	**01 08 57.2**	**+1.6**
BOSA				*e*S		**Sn**	**01 10 00.3**	**-0.1**
BOSA				IAML			01 10 41.2	
comp=Z,8.5nm,0.8s								
BOSA	**Boshof**	**5.63**	**179**	*i* P		**Pn**	**01 08 58.3**	**+2.6**
BOSA				*i* S		**Sn**	**01 10 01.0**	**+0.5**
MOPA	**Mopani**	**5.74**	**97**	*i* P		**Pn**	**01 08 59.8**	**+2.9**
MOPA	**Mopani**	**5.74**	**97**	*i* P		**Pn**	**01 08 59.8**	**+2.9**
SNKL	**Senekal, Frees**	**5.78**	**157**	*e*P		**Pn**	**01 08 59.7**	**+2.0**
SNKL				*e*S		**Sn**	**01 10 03.2**	**-1.1**
SNKL				IAML			01 10 56.0	

	comp=Z,22nm,0.6s							
UPI	**Upington**	**6.45**	**213**	*e*P		**Pn**	**01 09 07.9**	**+1.1**
UPI				*e*S		**Sn**	**01 10 18.3**	**-2.2**
UPI				IAML			01 11 02.8	
	comp=Z,6.5nm,0.7s							
KRI	**Karoi**	**7.38**	**35**	*i* P		Pn	01 09 09.0	-11
KRI				*i* S		Sn	01 10 23.9	-20
KRI	**Karoi**	**7.38**	**35**	*i* P		Pn	01 09 09.0	-11
KRI				*i* S		Sn	01 10 23.9	-20
KSTD	**Kokstad**	**8.47**	**155**	*e*P		**Pn**	**01 09 36.5**	**+1.9**
KSTD				*e*S		**Sn**	**01 11 07.0**	**-3.4**
KSTD				IAML			01 11 20.8	
	comp=Z,1.5nm,0.5s							
BFON	**Badsfontein, M**	**8.91**	**188**	*e*P		**Pn**	**01 09 42.4**	**+1.8**
BFON				*e*S		**Sn**	**01 11 17.1**	**-4.0**
BFON				IAML			01 11 30.8	
	comp=Z,2.2nm,0.5s							
BRAK	**Brakfontein**	**9.02**	**193**	*e*P		**Pn**	**01 09 43.5**	**+1.4**
BRAK				*e*S		**Sn**	**01 11 19.8**	**-4.0**
BRAK				IAML			01 11 44.3	
	comp=Z,2.2nm,0.3s							
GRAF	**Camdeboo Natio**	**9.30**	**184**	*e*P		**Pn**	**01 09 47.8**	**+1.8**
GRAF				*e*S		**Sn**	**01 11 27.3**	**-3.5**
GRAF				IAML			01 11 43.3	
	comp=Z,2.3nm,0.8s							
FRAZ	**Fraserburg**	**9.54**	**200**	*e*P		**Pn**	**01 09 50.4**	**+1.0**
FRAZ				*e*S		**Sn**	**01 11 32.5**	**-4.3**
FRAZ				IAML			01 11 47.5	
	comp=Z,1.4nm,0.4s							
ROOI	**Rooidraai Farm**	**9.61**	**188**	*e*P		**Pn**	**01 09 51.2**	**+1.0**
ROOI				*e*S		**Sn**	**01 11 34.3**	**-4.0**
ROOI				IAML			01 11 47.4	
	comp=Z,1.4nm,0.5s							
SOE	**Somerset East**	**9.72**	**178**	*e*P		**Pn**	**01 09 52.9**	**+1.2**
SOE				*e*S		**Sn**	**01 11 36.9**	**-4.1**
SOE				IAML			01 11 42.6	
	comp=Z,2.1nm,0.6s							
SUR	**Sutherland**	**10.15**	**201**	*e*P		**Pn**	**01 09 59.5**	**+1.8**
SUR				*e*S		**Sn**	**01 11 47.7**	**-4.1**
SUR				IAML			01 12 05.4	
	comp=Z,1.7nm,0.5s							

SDD ***02*** *01:09:45.9±2.3, 18°.72N×69°.39W, h101km±16km, MD3.1, ML2.7, MW3.6*
OSPL ***02*** *01:09:48.3±1.9, 18°.69N×69°.48W, h87km±13km, ML2.6*
ISC 02 01:09:47.3±1.7, 18°.72N±0°.06×69°.49W±0°.04, h78km±13km, n17, σ1§01/27, 8C-4D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HTM1	**Hato Mayor**	**0.23**	**80**	⇑*e*Pg	**Pn**	**01 09 58.3**	**-0.7**
SDD	**Santo Domingo**	**0.48**	**237**	*e*S	**Sn**	**01 10 11.4**	**+0.8**
MIDR	**Miches**	**0.49**	**58**	⇑*e*Pg	**Pn**	**01 09 59.8**	**-1.1**
MIDR				⇑*e*Sg	**Sn**	**01 10 10.9**	**+0.1**
MIDR				IAML		01 10 12.8	
	comp=N,156nm,0.1s						
MIDR				IAML		01 10 12.8	
	comp=N,156nm,0.1s						
MIDR				IAML		01 10 13.1	
	comp=E,230nm,0.1s						
SMDR	**Samana, DR**	**0.63**	**27**	*e*Pg	**Pn**	**01 10 00.8**	**-1.3**
SMDR				⇑*e*Sg	**Sn**	**01 10 15.1**	**+2.0**
SMDR				IAML		01 10 17.0	
	comp=N,255nm,0.3s						
SMDR				IAML		01 10 17.1	
	comp=N,255nm,0.3s						
SMDR				IAML		01 10 18.8	
	comp=E,183nm,0.7s						
NADR	**Nagua**	**0.72**	**331**	*e*Pg	**Pn**	**01 10 01.8**	**-1.2**
NADR				⇓*e*Sg	**Sn**	**01 10 15.2**	**+0.6**
NADR				IAML		01 10 17.3	
	comp=N,705nm,0.4s						
NADR				IAML		01 10 17.3	
	comp=N,705nm,0.4s						
NADR				IAML		01 10 17.8	
	comp=E,444nm,0.6s						
SADR	**Isla Saona**	**0.86**	**128**	*e*Pg	**Pn**	**01 10 04.1**	**-0.5**
SADR				IAML		01 10 21.9	
	comp=N,70nm,0.2s						
SADR				IAML		01 10 23.1	
	comp=N,93nm,0.5s						
SADR				IAML		01 10 23.6	
	comp=E,86nm,0.3s						
BANI	**BANI**	**0.89**	**248**	*e*Pg	**Pn**	**01 10 05.7**	**+0.6**
BANI				⇑*e*Sg	**Sn**	**01 10 19.7**	**+1.5**
BANI				IAML		01 10 24.2	
	comp=E,206nm,0.1s						
BANI				IAML		01 10 24.4	
	comp=N,302nm,0.2s						
BANI				IAML		01 10 24.4	
	comp=N,302nm,0.2s						
PCDR	**Punta Cana, DR**	**1.07**	**101**	⇓*e*Pg	**Pn**	**01 10 06.3**	**-0.8**
PCDR				IAML		01 10 24.2	
	comp=N,130nm,2.0s						
PCDR				IAML		01 10 24.2	
	comp=N,130nm,2.0s						
PCDR				IAML		01 10 27.0	
	comp=E,29nm,0.3s						
PCDR	**Punta Cana, DR**	**1.07**	**101**	*i* P	**Pn**	**01 10 06.4**	**-0.8**
PCDR				*e*S	**Sn**	**01 10 22.7**	**+0.8**
PCDR				IAML		01 10 26.1	
	comp=Z,104nm,1.2s						
SC01	**Santiago de lo**	**1.36**	**301**	*e*Pg	**Pn**	**01 10 10.3**	**-0.5**
SC01				⇑*e*Sg	**Sn**	**01 10 30.1**	**+1.6**
SC01				IAML		01 10 32.1	
	comp=N,98nm,0.2s						
SC01				IAML		01 10 32.1	
	comp=N,98nm,0.2s						
SC01				IAML		01 10 34.5	
	comp=E,77nm,0.2s						
SC01	**Santiago de lo**	**1.36**	**301**	*i* P	**Pn**	**01 10 10.4**	**-0.4**
SC01				*e*S	**Sn**	**01 10 29.4**	**+0.9**
LOBA2	**Hotel Casa Bon**	**1.65**	**247**	⇓*e*Pg	**Pn**	**01 10 13.6**	**-1.0**
LOBA2				⇑*e*Sg	**Sn**	**01 10 34.8**	**-0.4**
SDDR	**Presa de Saban**	**1.72**	**279**	⇓*e*Pg	**Pn**	**01 10 15.8**	**+0.3**
SDDR				IAML		01 10 41.3	
	comp=N,47nm,0.4s						
SDDR				IAML		01 10 41.4	
	comp=N,47nm,0.4s						
SDDR				IAML		01 10 45.3	
	comp=E,44nm,0.4s						
SDDR	**Presa de Saban**	**1.72**	**279**	*i* P	**Pn**	**01 10 15.8**	**+0.3**
SDDR				*e*S	**Sn**	**01 10 36.8**	**-0.1**
SDDR				IAML		01 10 43.0	
	comp=Z,22nm,0.2s						
PODR	**Polo**	**1.79**	**252**	⇑*e*Pg	**Pn**	**01 10 15.7**	**-0.8**
PODR				IAML		01 10 46.0	
	comp=N,32nm,2.2s						
PODR	**Polo**	**1.79**	**252**	*i* P	**Pn**	**01 10 15.9**	**-0.7**
PODR				*e*S	**Sn**	**01 10 37.0**	**-1.7**
CRPR	**Cabo Rojo, PR**	**2.37**	**107**	*i* P	**Pn**	**01 10 24.6**	**+0.5**
CRPR				IAML		01 10 55.9	
	comp=Z,27nm,1.4s						

IDC ***02*** *01:11:37.0±0.8, 3°.21S×130°.80E, h0km, mb4.1/12, mbtmp4.2/13, ML2.9/1, MS3.6/5, Error ellipse: s-maj=41.5km s-min=17.0km az=65.0*
DJA ***02*** *01:11:39.7±0.4, 3°.5±3°×13°.1E±°, h11km±3km, M4.3/10, mb4.6/7, mB5.5/2, MLv4.2/10, Mw(mB)5.0/2*
NEIC ***02*** *01:11:40.0±1.3, 3°.35S±0°.09×130°.81E±0°.08, h23km±6km, mb4.5/17, Error ellipse: s-maj=15.2km s-min=9.9km az=142.0*
ISC 02 01:11:38.3±0.5, 3°.24S±0°.06×130°.81E±0°.05, h10km, n59, σ1§30/56, mb4.3/18, MS3.6/4, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.47**	**78**		**Pb**	**01 12 06.1**	**+0.4**
FAKI				Sn	**Sn**	**01 12 24.1**	**0.0**
FAKI	**Fak Fak**	**1.47**	**78**	P	**Pg**	**01 12 06.5**	**0.0**
FAKI	**Fak Fak**	**1.47**	**78**	P	**Pb**	**01 12 06.1**	**+0.4**
BNDI	**Bandanaira**	**1.57**	**215**	P	**Pg**	**01 12 09.7**	**+1.3**
BNDI	**Bandanaira**	**1.57**	**215**	P	**Pg**	**01 12 09.1**	**+0.7**
SWI	**Sorong**	**2.40**	**11**	P	**Pn**	**01 12 17.4**	**-0.3**
NLAI	**Namlea**	**3.71**	**270**	P	**Pn**	**01 12 36.3**	**+0.6**
LBMI	**Labuha**	**4.20**	**308**	P	**Pn**	**01 12 41.8**	**-0.6**
SAUI	**Saumlaki**	**4.74**	**174**	P	**Pn**	**01 12 53.4**	**+3.5**
SANI	**Sanana**	**4.96**	**284**	P	**Pn**	**01 12 53.6**	**+0.7**
SANI	**Sanana**	**4.96**	**284**	P	**Pn**	**01 12 52.2**	**-0.7**
SMPI	**Sarmi**	**7.99**	**81**	P	**Pn**	**01 13 37.1**	**+2.6**
	40nm,1.0s,5μm						

LUWI	**Luwuk**	**8.33**	**285**	P		**Pn**	**01 13 38.6**	**-0.6**
	45nm,1.2s,2μm							
DRS	**Darwin Rock St**	**9.14**	**179**	P		**Pn**	**01 13 50.4**	**+0.1**
SOEI	**Soe**	**9.18**	**225**	P		**Pn**	**01 13 51.4**	**+0.4**
SOEI	**Soe**	**9.18**	**225**	P		Pn	01 13 56.2	+5.2
KDU	**Kakadu**	**9.53**	**170**	P		**Pn**	**01 13 54.9**	**-0.8**
MTN	**Manton Dam**	**9.55**	**178**	Pn		**Pn**	**01 13 56.0**	**0.0**
MTN	**Manton Dam**	**9.55**	**178**	P		**Pn**	**01 13 56.7**	**+0.7**
KNRA	**Kununurra**	**12.53**	**189**			**Pn**	**01 14 33.6**	**-3.2**
PLAI	**Plampang**	**14.10**	**246**	P		**Pn**	**01 15 00.8**	**+2.5**
	48nm,1.1s							
WRAB	**Tennant Creek**	**16.95**	**169**	Pn		**Pn**	**01 15 33.9**	**-1.9**
WRAB				IAmb		IAmb	01 15 47.1	
	comp=Z,22nm,0.9s							
WRA	**Warramunga Arr**	**16.96**	**169**	Pn		**Pn**	**01 15 32.5**	**-3.4**
	comp=Z,0.5nm,0.3s,baz=346,slow=12,SNR=24							
WRA				Sn		Sn	01 18 29.6	-15
	comp=Z,1.0nm,0.3s,baz=351,slow=24,SNR=6.3							
WR0	**Warramunga Arr**	**17.02**	**168**	Pn		**Pn**	**01 15 34.3**	**-2.3**
PMG	**Port Moresby**	**17.36**	**111**	P		**P**	**01 15 42.1**	**-0.1**
	comp=Z,1.5nm,0.3s,baz=278,slow=14,SNR=1.9							
PMG				LR		LR	01 24 04.6	
	comp=Z,237nm,20.5s,baz=316,slow=43							
	comp=Z,4.3nm,0.3s							
ASAR	**Alice Springs**	**20.53**	**172**	Pn		**P**	**01 16 17.1**	**+0.1**
ASAR	**Alice Springs**	**20.53**	**172**	P		**P**	**01 16 17.2**	**+0.2**
	comp=Z,24nm,0.5s,baz=352,slow=10,SNR=169							
ASAR				S		**S**	**01 20 02.9**	**-3.9**
	comp=Z,4.9nm,0.9s,baz=352,slow=18,SNR=12							
	comp=Z,24nm,0.5s							
STKA	**Stephens Creek**	**30.24**	**162**	P		**P**	**01 17 49.9**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=340,slow=10,SNR=5.3							
	comp=Z,2.2nm,0.6s							
JNU	**Nakatsue**	**36.16**	**0**	LR		LR	01 32 02.3	
	comp=Z,63nm,19.9s,baz=140,slow=34							
CMAR	**Chiang Mai Arr**	**38.08**	**306**	P		**P**	**01 18 58.2**	**+0.6**
	comp=Z,2.0nm,0.3s,baz=123,slow=6.7,SNR=7.5							
	comp=Z,2.0nm,0.3s							
CHTO	**Chiang Mai**	**38.26**	**306**	P		**P**	**01 18 58.5**	**-0.6**
KSRS	**Korea Array**	**40.57**	**356**	P		**P**	**01 19 18.9**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=173,slow=9.9,SNR=2.4							
	comp=Z,0.8nm,0.4s							
ASAJ	**Asahikawa**	**48.31**	**11**	LR		LR	01 40 25.5	
	comp=Z,95nm,20.4s,baz=121,slow=36							
SONM	**Songino Array**	**55.17**	**340**	P		**P**	**01 21 11.6**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=154,slow=7.7,SNR=5.5							
	comp=Z,0.6nm,0.5s							
PETK	**Petropavlovsk-**	**60.52**	**18**	LR		LR	01 44 27.5	
	comp=Z,33nm,20.5s,baz=171,slow=33							
MA2	**Magadan**	**64.57**	**11**	LR		LR	01 52 51.8	
	comp=Z,55nm,18.1s,baz=88,slow=38							
MK31	**Makanchi Array**	**65.57**	**326**	P		**P**	**01 22 22.4**	**0.0**
MK31						IAmb	IAmb	01 22 34.6
	comp=Z,3.7nm,1.2s							
MKAR	**Makanchi Array**	**65.57**	**326**	P		**P**	**01 22 22.2**	**-0.1**
MKAR	**Makanchi Array**	**65.57**	**326**	P		**P**	**01 22 22.4**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=126,slow=7.6,SNR=28							
	comp=Z,1.7nm,0.6s							
MAKZ	**Makanchi**	**65.75**	**325**	P		**P**	**01 22 23.6**	**+0.1**
MAKZ						IAmb	IAmb	01 22 31.4
	comp=Z,6.0nm,1.2s							
ZALV	**Zalesovo Beam**	**68.61**	**333**	P		**P**	**01 22 40.7**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=121,slow=5.6,SNR=5.9							
	comp=Z,0.8nm,0.6s							
ARSB	**Arslanbob**	**68.69**	**317**	P		**P**	**01 22 41.5**	**-0.9**
KURBB	**Kurchatov Arra**	**69.77**	**328**	P		**P**	**01 22 48.6**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=131,slow=5.1,SNR=28							
	comp=Z,1.6nm,0.7s							
KURK	**Kurchatov**	**69.77**	**328**			**P**	**01 22 48.3**	**-0.4**
BVAR	**Borovoye Array**	**75.35**	**327**	P		**P**	**01 23 21.9**	**0.0**
	comp=Z,1.8nm,0.7s,baz=114,slow=7.0,SNR=15							
	comp=Z,1.8nm,0.7s							
BRVK	**Borovoye**	**75.42**	**327**	P		**P**	**01 23 21.9**	**-0.4**
BRVK						IAmb	IAmb	01 23 38.2
	comp=Z,5.1nm,0.9s							
GEYT	**Alibeck**	**78.43**	**310**	P		**P**	**01 23 40.4**	**+0.7**
	comp=Z,2.1nm,0.7s,baz=123,slow=5.3,SNR=3.4							
	comp=Z,2.1nm,0.7s							
GYA0B	**ALIBECK ARRAY**	**78.43**	**310**	P		**P**	**01 23 39.3**	**-0.4**
GYA0B						IAmb	IAmb	01 23 48.1
	comp=Z,4.8nm,0.8s							
ABKAR	**Akbulak array**	**80.09**	**321**	P		**P**	**01 23 48.8**	**+0.4**
J16K	**Anvik River**	**83.41**	**25**	P		**P**	**01 24 05.0**	**-0.7**
C18K	**Utukok River**	**85.13**	**20**	P		**P**	**01 24 13.6**	**-0.8**
J19K	**Poorman**	**85.75**	**25**	P		**P**	**01 24 16.4**	**-1.1**
G19K	**Purcell Mounta**	**85.78**	**23**	P		**P**	**01 24 17.2**	**-0.4**
G19K						IAmb	IAmb	01 24 33.2
	comp=Z,6.0nm,1.4s							
D19K	**Kuna River**	**86.14**	**20**	P		**P**	**01 24 19.8**	**+0.4**
D19K						IAmb	IAmb	01 24 32.6
	comp=Z,6.1nm,1.2s							
J20K	**Nowinta River**	**86.42**	**25**	P		**P**	**01 24 21.7**	**+0.9**
J20K						IAmb	IAmb	01 24 39.8
	comp=Z,5.8nm,1.4s							
QSPA	**South Pole Qui**	**86.72**	**180**	P		**P**	**01 24 23.0**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=270,slow=2.0,SNR=1.6							
	comp=Z,0.7nm,0.4s							
RAYN	**Ar Rayn**	**86.98**	**294**			**P**	**01 24 22.4**	**-2.2**
ILAR	**Eielson Array**	**89.62**	**25**	P		**P**	**01 24 36.0**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=270,slow=4.7,SNR=4.8							
	comp=Z,0.3nm,0.7s							
TORD	**Torodi Ar. Bea**	**128.78**	**284**	PKP		**PKiKP**	**01 30 47.8**	**0.0**
	comp=Z,0.3nm,0.6s,baz=63,slow=2.8,SNR=2.6							

SOME ***02*** *01:24:07.6, 38°.65N×75°.18E, h10km*
NNC ***02*** *01:24:10.7±1.7, 38°.81N×75°.11E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=12.1km s-min=11.2km az=115.0*
ISC 02 01:24:06.3±3.7, 38°.7N±0°.2×75°.22E±0°.08, h10km, n24, σ1§91/33, 3C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**4.26**	**4**	⇑Pg	**Pg**	**01 25 26.3**	**-1.8**
TKM2	2.5nm,0.5s			⇑Lg	Lg	01 26 19.4	
	4.8nm,0.7s						
CHMS	**Chumysh**	**4.35**	**355**	⇑Pg	**Pb**	**01 25 25.7**	**+2.9**
CHMS	2.3nm,0.7s			⇓Lg	Lg	01 26 19.9	
	3.0nm,0.5s						
MRKS	**Merke**	**4.35**	**340**	*e*P	**Pg**	**01 25 27.8**	**-1.8**
MRKS	1.6nm,0.5s			*e*S	**Sg**	**01 26 26.4**	**+0.3**
	3.4nm,0.6s						
MRKS	**Merke**	**4.35**	**340**	Pg	**Pg**	**01 25 27.8**	**-1.8**
MRKS	1.6nm,0.5s			Lg	Lg	01 26 26.4	
	3.4nm,0.6s						
KST	**Kastek**	**4.41**	**7**	*e*P	**Pg**	**01 25 29.1**	**-1.8**
KST	1.5nm,0.3s			*e*S	**Sg**	**01 26 28.4**	**+0.4**
	18nm,0.9s						
KST	**Kastek**	**4.41**	**7**	Pg	**Pg**	**01 25 29.1**	**-1.8**
KST	1.5nm,0.3s			Lg	Lg	01 26 28.4	
	18nm,0.9s						
DGS	**Degeres**	**4.59**	**5**	*e*P	**Pg**	**01 25 32.4**	**-1.9**
DGS	5.1nm,0.6s			*e*S	**Sg**	**01 26 34.0**	**+0.2**
	5.6nm,0.7s						
DGS	**Degeres**	**4.59**	**5**	Pg	**Pg**	**01 25 32.4**	**-1.9**
DGS	5.1nm,0.6s			Lg	Lg	01 26 34.0	
	5.6nm,0.7s						
MDOK	**Medeo**	**4.71**	**17**	*e*P	**Pg**	**01 25 34.4**	**-2.0**
MDOK	4.6nm,0.5s			*e*S	**Sg**	**01 26 37.0**	**-0.4**
	7.7nm,0.6s						
MDOK	**Medeo**	**4.71**	**17**	Pg	**Pg**	**01 25 34.4**	**-2.0**
MDOK	4.6nm,0.5s			Lg	Lg	01 26 37.0	
	7.7nm,0.6s						
KOTS	**Kotyrbulak**	**4.79**	**17**	*e*P	**Pg**	**01 25 36.3**	**-1.7**
KOTS	2.5nm,0.3s			*e*S	**Sg**	**01 26 40.9**	**+0.9**
	18nm,0.7s						
KOTS	**Kotyrbulak**	**4.79**	**17**	Pg	**Pg**	**01 25 36.3**	**-1.7**
KOTS	2.5nm,0.3s			Lg	Lg	01 26 40.9	
	18nm,0.7s						
SATY	**Saty**	**5.01**	**28**	*e*P	**Pg**	**01 25 41.0**	**-1.3**
SATY	3.1nm,0.5s			*e*S	**Sg**	**01 26 48.2**	**+1.0**
	9.5nm,1.0s						
SATY	**Saty**	**5.01**	**28**	Pg	**Pg**	**01 25 41.0**	**-1.3**
	3.1nm,0.5s						
SATY				Lg	Lg	01 26 48.2	
	9.5nm,1.0s						
KRBS	**Karabastau**	**5.04**	**4**	*e*P	**Pg**	**01 25 40.2**	**-2.7**
	2.7nm,0.4s						
KRBS				*e*S	**Sg**	**01 26 47.3**	**-0.8**
	2.8nm,0.4s						
KRBS	**Karabastau**	**5.04**	**4**	Pg	**Pg**	**01 25 40.2**	**-2.7**
	2.7nm,0.4s						
KRBS				Lg	Lg	01 26 47.3	
	2.8nm,0.4s						
KTBS	**Karatobe**	**5.17**	**12**	*e*P	**Pg**	**01 25 42.7**	**-2.5**
	2.7nm,0.3s						
KTBS				*e*S	**Sg**	**01 26 51.2**	**-0.9**
	9.2nm,0.7s						
KTBS	**Karatobe**	**5.17**	**12**	Pg	**Pg**	**01 25 42.7**	**-2.5**
	2.7nm,0.3s						
KTBS				Lg	Lg	01 26 51.2	
	9.2nm,0.7s						
KUU	**Kurty**	**5.29**	**9**	*e*P	**Pg**	**01 25 46.8**	**-0.9**
	2.2nm,0.2s						
KUU				*e*S	**Sg**	**01 26 58.5**	**+2.2**
	7.4nm,0.5s						
KUU	**Kurty**	**5.29**	**9**	Pg	**Pg**	**01 25 44.5**	**-3.2**
	1.1nm,0.3s						
KUU				Lg	Lg	01 26 54.9	
	14nm,0.8s						
KURS	**Kuram**	**5.31**	**24**	*e*P	**Pg**	**01 25 46.4**	**-1.6**
	1.9nm,0.7s						
KURS				*e*S	**Sg**	**01 26 57.6**	**+0.8**
	2.4nm,0.7s						
KURS	**Kuram**	**5.31**	**24**	Pg	**Pg**	**01 25 46.4**	**-1.6**
	1.9nm,0.7s						
KURS				Lg	Lg	01 26 57.6	
	2.4nm,0.7s						
PDGK	**Podgornoye**	**5.67**	**33**	Pg	**Pg**	**01 25 52.4**	**-2.5**
	2.4nm,0.7s						
PDGK				Lg	Lg	01 27 07.7	
	2.2nm,0.7s						
KNOS	**Konyrlen**	**6.42**	**26**	Pg	Pg	01 26 04.9	-4.3
	1.2nm,0.6s						
KNOS				Lg	Lg	01 27 29.9	
	1.9nm,0.8s						

IDC 02 01:26:54.4±2.1, 5°.95S×143°.06E, h0km, mb3.7/3, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=86.2km s-min=30.3km az=106.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.29**	**211**	Pn	Pn	01 30 41.6	-3.1
	0.1nm,0.3s,baz=30,slow=13,SNR=5.7						
WRA				Sn	Sn	01 33 31.5	-15
	0.1nm,0.3s,baz=36,slow=26,SNR=4.6						
ASAR	**Alice Springs**	**19.69**	**206**	P	P	01 31 25.1	-0.3
	0.3nm,0.3s,baz=34,slow=10,SNR=24						
ASAR				Lg	Lg	01 37 21.2	
	baz=26,slow=32						
	2.2nm,0.7s						
MKAR	**Makanchi Array**	**75.00**	**322**	P	P	01 38 37.5	-0.3
	0.4nm,0.8s,baz=103,slow=6.4,SNR=2.7						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**84.44**	**325**	P	P	01 39 29.5	+0.7
	0.7nm,0.6s,baz=94,slow=6.2,SNR=4.2						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**87.00**	**24**	P	P	01 39 41.1	-0.2
	0.4nm,0.9s,baz=248,slow=3.8,SNR=2.6						
	0.4nm,0.9s						

JMA 02 01:30:56.9±0.1, 24°.3N±0°.3×123°.8E±0°.3, h15km±1km, MV1.8/8, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.11**	**319**	*e*P	Pg	01 31 00.2	-0.1
IRIF				*e*S	Sg	01 31 02.8	+0.3
JKRS	**Kuro-shima**	**0.18**	**94**	*e*P	Pg	01 31 01.2	0.0
JKRS				*e*S	Sg	01 31 04.6	+0.5
HATJ	**Hateruma jima**	**0.19**	**181**	*e*P	Pg	01 31 01.3	-0.1
HATJ				*e*S	Sg	01 31 04.4	+0.1
JIJ	**Ishigaki jima**	**0.32**	**70**	*e*P	Pg	01 31 03.5	-0.1
JIJ				S	Sg	01 31 07.9	-0.3
JISG	**Ishigakijimahi**	**0.57**	**54**	*e*S	Sb	01 31 16.2	-0.2
JYNG	**Yonagunijimaku**	**0.81**	**284**	*e*S	Sb	01 31 24.6	+1.0

TAP 02 01:31:31.6, 24°.24N×121°.71E, h13km, ML1.7, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EAHA	**Aohua**	**0.09**	**17**	*i* P	Pg	01 31 34.4	0.0
	baz=16						
EAHA				*i* S	Sg	01 31 36.5	0.0
	baz=16						
ETL	**Fush Village**	**0.12**	**224**	*i* P	Pg	01 31 34.7	-0.1
	baz=223						
ETL				*i* S	Sg	01 31 37.1	0.0
	baz=223						
NACB	**Ninganchiao**	**0.13**	**237**	*i* P	Pg	01 31 34.7	-0.2
	baz=237						
NACB				*i* S	Sg	01 31 37.1	-0.2
	baz=237						
TWD	**Chiawan**	**0.19**	**213**	*i* P	Pg	01 31 35.8	-0.1
	baz=211						
TWD				*i* S	Sg	01 31 39.1	+0.3
	baz=211						
ETLH	**Xiulin Townshi**	**0.21**	**261**	*i* P	Pg	01 31 36.0	-0.2
	baz=260						
ETLH				*i* S	Sg	01 31 39.2	-0.3
	baz=260						
EWUT	**Wuta**	**0.21**	**17**	*i* P	Pg	01 31 36.1	-0.1
	baz=16						
EWUT				*i* S	Sg	01 31 39.2	-0.2
	baz=16						
LATG	**Datong**	**0.34**	**330**	*i* P	Pg	01 31 38.6	+0.1
	baz=330						
LATG				*i* S	Sg	01 31 43.1	0.0
	baz=330						
ETM	**Tongmen**	**0.34**	**216**	*i* P	Pg	01 31 38.4	-0.1
	baz=215						
ETM				*i* S	Sg	01 31 43.2	+0.1
	baz=215						
LXIB	**Xiulin Townshi**	**0.35**	**231**	*i* P	Pg	01 31 38.5	-0.3
	baz=230						
LXIB				*i* S	Sg	01 31 43.3	-0.

	baz=224							
TWC	**Suao**	**0.10**	**4**	*i* P	Pb	01 35 08.4	-0.8	
	baz=9.0							
TWC				*i* S	Sb	01 35 11.7	-1.4	
	baz=9.0							
NDS	**Dongshan**	**0.17**	**319**	*e*P	Pb	01 35 09.3	+0.1	
	baz=318							
TWE	**Neicheng**	**0.27**	**324**	*e*P	Pb	01 35 10.1	+0.1	
	baz=325							
LATG	**Datong**	**0.29**	**276**	*i* P	Pb	01 35 10.6	+0.2	
	baz=276							
FUSB	**Fushanzhiwuyua**	**0.34**	**318**	*i* P	Pb	01 35 12.1	+1.0	
	baz=317							
FUSB				*i* S	Sb	01 35 17.6	+1.4	
	baz=317							
EOS2	**EOS2**	**0.37**	**103**	*i* P	Pb	01 35 11.8	+0.6	
	baz=103							
EOS2				*i* S	Sb	01 35 17.7	+1.2	
	baz=103							
NWLT	**Wulai**	**0.41**	**312**	*i* P	Pb	01 35 12.6	+0.4	
	baz=311							
NWLT				*i* S	Sb	01 35 19.1	+1.1	
	baz=311							
YHNB	**Yeheng**	**0.46**	**291**	*i* P	Pb	01 35 13.7	+0.8	
	baz=291							
YHNB				*i* S	Sb	01 35 20.3	+1.0	
	baz=291							
TIPB	**Shuangxi**	**0.47**	**358**	*i* P	Pb	01 35 14.1	+0.9	
	baz=358							
TIPB				*i* S	Sb	01 35 20.6	+1.0	
	baz=358							
NSK	**Sanguang**	**0.47**	**291**	*i* P	Pb	01 35 14.0	+0.7	
	baz=291							
NSK				*i* S	Sb	01 35 20.8	+1.0	
	baz=291							
LXIB	**Xiulin Townshi**	**0.62**	**219**	P	Pn	01 35 16.6	-0.7	
	baz=219							
LXIB				S	Sn	01 35 26.3	-0.2	
	baz=219							

JMA 02 01:35:40.1±0.2, 24°.3N±0°.4×123°.8E±0°.5, h14km±2km, MV0.4/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.12**	**319**	P	Pg	01 35 43.5	0.0
IRIF				*e*S	Sg	01 35 45.7	0.0
JKRS	**Kuro-shima**	**0.18**	**93**	P	Pg	01 35 44.3	0.0
JKRS				S	Sg	01 35 47.8	+0.7
HATJ	**Hateruma jima**	**0.19**	**183**	P	Pg	01 35 44.4	-0.1
HATJ				S	Sg	01 35 47.0	-0.4
JIJ	**Ishigaki jima**	**0.32**	**69**	P	Pg	01 35 46.7	0.0
JIJ				S	Sg	01 35 51.1	-0.1
JISG	**Ishigakijimahi**	**0.56**	**53**	P	Pg	01 35 51.5	+0.2

SJA 02 01:40:53.9±0.7, 31°.26S×68°.49W, h117km±3km, ML3.3, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJA	**San Juan**	**0.27**	**194**	*e*P	Pn	01 41 10.8	+0.3
SJA				*e*S	Sn	01 41 23.8	+0.9
DOCA	**Reserva Natura**	**0.60**	**301**	*e*P	Pn	01 41 13.2	+0.6
DOCA				IAML		01 41 28.5	
	comp=Z,2μm,0.5s						
ACCO	**Cerro Coronel**	**0.84**	**323**	*e*P	Pn	01 41 15.4	+0.9
ACCO				IAML		01 41 33.3	
	comp=Z,433nm,0.4s						
RTLS	**Leoncito**	**0.88**	**232**	*e*P	Pn	01 41 15.8	+1.0
RTLS				*e*S	Sn	01 41 31.1	+0.5
RTLS				IAML		01 41 33.9	
	comp=Z,1μm,0.7s						
AVFE	**Valle Fertil**	**1.07**	**56**	*e*P	Pn	01 41 17.3	+0.8
AVFE				*e*S	Sn	01 41 34.3	+0.8
AVFE				IAML		01 41 34.3	
	comp=Z,164nm,0.6s						
ACDV	**Cuesta del Vie**	**1.22**	**333**	*e*P	Pn	01 41 19.4	+1.2
ACDV				IAML		01 41 39.8	
	comp=Z,206nm,0.2s						
ASAL	**Salagasta**	**1.36**	**193**	*e*P	Pn	01 41 20.6	+1.0
ASAL				*e*S	Sn	01 41 41.0	+1.9
ASAL				IAML		01 41 41.1	
	comp=Z,186nm,0.7s						
AROD	**Rodeo**	**1.39**	**322**	*e*P	Pn	01 41 21.5	+1.3
AROD				*e*S	Sn	01 41 41.2	+1.2
ACHE	**Chepes**	**1.56**	**87**	*e*P	Pn	01 41 22.9	+0.9
ACHE				*e*S	Sn	01 41 45.1	+1.7
ARCO	**CERRO ARCO**	**1.62**	**193**	*e*P	Pn	01 41 23.8	+1.1
ARCO				*e*S	Sn	01 41 45.2	+0.6
ARCO				IAML		01 41 46.9	
	comp=Z,241nm,0.8s						
AAGR	**Agrelo**	**1.84**	**189**	*e*P	Pn	01 41 26.7	+1.4
AAGR				*e*S	Sn	01 41 49.7	+0.4
AAGR				IAML		01 41 51.8	
	comp=Z,258nm,0.2s						
CO01	**Juntas del Tor**	**1.89**	**312**	*e*P	Pn	01 41 28.3	+2.3
CO01				*e*S	Sn	01 41 52.6	+2.0
CO01				IAML		01 41 53.2	
	comp=Z,334nm,0.3s						
APLL	**PUNTA DE LOS L**	**1.89**	**63**	*e*P	Pn	01 41 27.1	+1.2
APLL				*e*S	Sn	01 41 51.5	+1.2
CO03	**El Pedregal**	**1.94**	**282**	*e*P	Pn	01 41 28.0	+1.4
CO03				IAML		01 41 55.1	
	comp=Z,139nm,0.4s						
CO02	**Combarbal**	**2.15**	**271**	*e*P	Pn	01 41 30.3	+1.1
CO02				*e*S	Sn	01 41 58.0	+1.6
CO02				IAML		01 41 59.8	
	comp=Z,196nm,0.3s						
ACLC	**CERRO LA CRUZ**	**2.26**	**36**	*e*P	Pn	01 41 31.6	+0.9
ACLC				IAML		01 42 00.6	
	comp=Z,91nm,0.6s						
GO04	**Tololo Observa**	**2.27**	**298**	*e*P	Pn	01 41 31.6	+0.7
VA03	**San Esteban**	**2.31**	**229**	*e*P	Pn	01 41 32.7	+1.6
VA03				IAML		01 42 05.3	
	comp=Z,140nm,0.5s						
PEL	**Peldehue**	**2.65**	**224**	*e*P	Pn	01 41 37.4	+1.9
ROC1	**El Roble**	**2.74**	**231**	*e*P	Pn	01 41 37.3	+0.4
ROC1				*e*S	Sn	01 42 10.9	+0.9
MT03	**Universidad Ad**	**2.81**	**217**	*e*P	Pn	01 41 39.5	+1.8
MT03				*e*S	Sn	01 42 14.7	+3.4
MT03				IAML		01 42 20.3	
	comp=Z,87nm,0.5s						
MT05	**Renca**	**2.85**	**221**	*e*P	Pn	01 41 40.0	+1.8
MT05				IAML		01 42 16.2	
	comp=Z,74nm,0.7s						
LCO	**Las Campanas**	**2.95**	**319**	*e*P	Pn	01 41 41.0	+1.2
LCO				*e*S	Sn	01 42 15.9	+0.8
LCO				IAML		01 42 17.0	
	comp=Z,132nm,0.3s						
MT02	**Curacav**	**3.00**	**228**	*e*P	Pn	01 41 40.4	+0.3
MT02				IAML		01 42 19.7	
	comp=Z,46nm,0.5s						
VA01	**Torpederas**	**3.21**	**236**	*e*P	Pn	01 41 42.2	-0.5
VA01				IAML		01 42 27.8	
	comp=Z,25nm,0.7s						
TINO	**Tinogasta**	**3.29**	**14**	*e*P	Pn	01 41 37.4	-6.7
TCA	**Tanti**	**3.33**	**92**	*e*P	Pn	01 41 45.4	+0.9
TCA				*e*S	Sn	01 42 23.8	+0.1
TCA				IAML		01 42 23.8	
	comp=Z,29nm,0.8s						
AC04	**Llanos de Chal**	**3.79**	**323**	*e*P	Pn	01 41 51.5	+0.9
AC04				IAML		01 42 47.2	
	comp=Z,25nm,0.8s						
BO01	**Tunca**	**3.81**	**214**	*e*P	Pn	01 41 51.0	+0.2
GO03	**Copiap**	**3.96**	**337**	*e*P	Pn	01 41 53.7	+0.8
BO02	**Sierra Bellavi**	**4.01**	**208**	*e*P	Pn	01 41 54.8	+1.2
AC02	**Maricunga**	**4.45**	**353**	*e*S	Sn	01 42 53.5	+2.5

WEL 02 01:44:09.7±0.5, 41°.3S±4°.×17°.4E±°., h28km±5km, M3.6/13, ML4.0/13, MLv3.6/13, Error ellipse: s-maj=0.0km s-min=0.0km az=173.4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCW	**Tory Channel**	**0.14**	**246**	P	Pn	01 44 16.9	+0.9
TCW				S	Sb	01 44 21.4	+2.8
WEL	**Wellington**	**0.28**	**118**	P	Pn	01 44 18.3	+0.4
WEL				S	Sn	01 44 24.2	+1.0
BHW	**Baring Head**	**0.41**	**128**	P	Pn	01 44 19.7	-0.1
BHW				S	Sn	01 44 27.1	+0.6
KIW	**Kapiti Island**	**0.46**	**51**	P	Pn	01 44 20.9	+0.4
KIW				S	Sn	01 44 28.5	+0.7
TUWZ	**Tuamarina**	**0.46**	**234**	P	Pn	01 44 20.0	-0.5
TUWZ				S	Sb	01 44 26.8	+0.7
CAW	**Cannon Point**	**0.48**	**84**	P	Pn	01 44 21.0	+0.4
CAW				S	Sn	01 44 29.0	+0.9
DUWZ	**D'Urville Isla**	**0.53**	**312**	P	Pn	01 44 21.7	+0.3
DUWZ				S	Sn	01 44 30.1	+0.7
CMWZ	**Cape Campbell**	**0.62**	**196**	P	Pn	01 44 23.3	+0.7
CMWZ				S	Sn	01 44 34.2	+2.6
OGWZ	**Otaki Gorge**	**0.65**	**59**	P	Pn	01 44 23.8	+0.7
MSWZ	**Moikau Station**	**0.66**	**113**	P	Pn	01 44 23.4	+0.2
MSWZ				S	Sn	01 44 32.9	+0.2
BSWZ	**Blackbirch Sta**	**0.70**	**217**	P	Pb	01 44 23.5	+0.1
PLWZ	**Palliser**	**0.74**	**124**	P	Pb	01 44 23.9	-0.1
PAWZ	**Paruwai Farm**	**0.78**	**107**	P	Pb	01 44 24.5	-0.1
MTW	**Mount Morrison**	**0.80**	**91**	P	Pb	01 44 25.1	0.0
NNZ	**Nelson**	**0.80**	**265**	P	Pb	01 44 24.9	-0.2
HOWZ	**Holdsworth Sta**	**0.85**	**73**	P	Pb	01 44 26.1	+0.1
TRWZ	**Traveller**	**0.97**	**105**	P	Pn	01 44 27.1	-0.4
MRZ	**Mangatainoka R**	**0.99**	**61**	P	Pb	01 44 28.2	-0.1
TMWZ	**Te Maipa**	**1.10**	**88**	P	Pn	01 44 28.9	-0.3
TKNZ	**Takaka Hill**	**1.12**	**276**	P	Pn	01 44 30.0	+0.4
OHWZ	**Ohakea**	**1.16**	**35**	P	Pb	01 44 32.3	+1.3
TIWZ	**Tintock**	**1.16**	**71**	P	Pn	01 44 29.9	-0.2
POWZ	**Post Office Ro**	**1.27**	**53**	P	Pn	01 44 31.7	+0.2
MRNZ	**Matariki Terra**	**1.29**	**259**	P	Pn	01 44 32.5	+0.7
THZ	**Tophouse**	**1.30**	**242**	P	Pn	01 44 32.0	-0.1
PRWZ	**Pori Road**	**1.31**	**63**	P	Pn	01 44 32.2	+0.1
CPWZ	**Castlepoint**	**1.35**	**80**	P	Pn	01 44 33.3	+0.5
KHZ	**Kahutara**	**1.43**	**208**	P	Pn	01 44 33.3	-0.4
BFZ	**Birch Farm**	**1.45**	**72**	P	Pn	01 44 33.4	-0.6
WNZ	**Wanganui**	**1.46**	**17**	P	Pn	01 44 36.9	+0.7
DVHZ	**Dannevirke**	**1.57**	**57**	P	Pn	01 44 35.5	-0.1
TSZ	**Takapari Road**	**1.59**	**47**	P	Pn	01 44 36.3	+0.2
ANWZ	**Angora Road**	**1.69**	**66**	P	Pn	01 44 36.9	-0.5
LREZ	**Lake Rotokare**	**1.69**	**359**	P	Pb	01 44 39.9	-0.2
NMEZ	**Namu Road**	**1.79**	**346**	P	Pb	01 44 41.1	-0.7
PREZ	**Palmer Road**	**1.82**	**353**	P	Pb	01 44 42.3	-0.2
PNHZ	**Pukenui**	**1.83**	**48**	P	Pn	01 44 39.0	-0.3
WPHZ	**Waipukurau**	**1.87**	**55**	P	Pn	01 44 40.7	+0.8
KHEZ	**Kahui Hut**	**1.89**	**350**	P	Pb	01 44 42.7	-0.8
PRHZ	**Porangahau**	**1.89**	**63**	P	Pn	01 44 39.4	-0.7
NEZ	**North Egmont**	**1.90**	**352**	P	Pb	01 44 43.4	-0.4
NBEZ	**Newall Road No**	**1.94**	**347**	P	Pb	01 44 43.1	-1.2
MTVZ	**Mangateitei**	**1.94**	**24**	P	Pb	01 44 44.8	+0.4
PKVZ	**Pokaka**	**1.99**	**21**	P	Pb	01 44 44.1	-1.1
PKE	**Pukeiti**	**1.99**	**350**	P	Pb	01 44 44.9	-0.3
MOVZ	**Moawhango**	**2.02**	**30**	P	Pn	01 44 42.9	+1.0
WNVZ	**Wahianoa**	**2.03**	**26**	P	Pn	01 44 43.7	+1.5
TRVZ	**Turoa**	**2.04**	**25**	P	Pb	01 44 44.5	-1.7
VRZ	**Vera Road**	**2.04**	**7**	P	Pb	01 44 45.1	-1.6
DSZ	**Denniston Nort**	**2.07**	**253**	P	Pn	01 44 43.0	+0.4
WHVZ	**Whangaehu Hut**	**2.07**	**26**	P	Pb	01 44 46.6	-0.1
MAVZ	**Matarangi**	**2.07**	**25**	P	Pb	01 44 46.6	-0.2
BHHZ	**Black Hill Sta**	**2.08**	**37**	P	Pn	01 44 43.2	+0.5
FWVZ	**Far West T-bar**	**2.08**	**25**	P	Pn	01 44 44.5	+1.5
GVZ	**Greta Valley S**	**2.09**	**210**	P	Pn	01 44 41.8	-1.0
TUVZ	**Tukino**	**2.10**	**27**	P	Pb	01 44 46.6	-0.6
KRHZ	**Kereru**	**2.11**	**45**	P	Pn	01 44 42.8	-0.4
COVZ	**Chateau Observ**	**2.13**	**24**	P	Pb	01 44 49.3	+1.7
PXZ	**Pawanui**	**2.16**	**59**	P	Pn	01 44 43.0	-0.8
NGZ	**Ngauruhoe**	**2.17**	**25**	P	Pn	01 44 46.0	+1.9
SNVZ	**South Ngauruho**	**2.17**	**25**	P	Pn	01 44 46.0	+1.9
OTVZ	**Oturere**	**2.20**	**26**	P	Pn	01 44 45.9	+1.4
NNVZ	**North Ngauruho**	**2.21**	**24**	P	Pn	01 44 46.2	+1.5
TWVZ	**Taurewa**	**2.22**	**20**	P	Pb	01 44 46.9	-2.2
WTVZ	**West Tongariro**	**2.22**	**24**	P	Pb	01 44 47.3	-1.9
ETVZ	**East Tongariro**	**2.24**	**26**	P	Pn	01 44 46.4	+1.4
KRVZ	**Karewarewa**	**2.25**	**24**	P	Pb	01 44 49.2	-0.6
KRVZ				P	Pb	01 44 49.2	-0.6
TMVZ	**Te Maari**	**2.26**	**26**	P	Pn	01 44 46.9	+1.7
NTVZ	**North Tongarir**	**2.26**	**25**	P	Pn	01 44 47.2	+1.8
LTZ	**Lake Taylor**	**2.29**	**224**	P	Pn	01 44 44.9	-0.8
KWHZ	**Kaweka Forest**	**2.30**	**42**	P	Pn	01 44 45.6	-0.2
KAHZ	**Kahuranaki**	**2.30**	**55**	P	Pn	01 44 45.3	-0.5
KATZ	**Kakaramea**	**2.38**	**24**	P	Pb	01 44 51.8	-0.1
AMCZ	**Amberley**	**2.42**	**213**	P	Pn	01 44 45.9	-1.4
RITZ	**Rihia Road**	**2.43**	**27**	P	Pb	01 44 54.0	+1.2
BKZ	**Black Stump Fm**	**2.53**	**39**	P	Pb	01 44 55.7	+1.2
WATZ	**Wairara**	**2.64**	**23**	P	Pb	01 44 58.7	+2.4
HIZ	**Hauiti**	**2.66**	**7**	P	Pb	01 44 55.4	-1.2
INZ	**Inchbonnie**	**2.73**	**234**	P	Pn	01 44 51.1	-0.5
OXZ	**Oxford**	**2.81**	**219**	P	Pn	01 44 52.1	-0.7
MQZ	**McQueen's Vall**	**2.87**	**207**	P	Pn	01 44 50.8	-2.7
AKCZ	**Waroa Harbour**	**2.94**	**202**	P	Pn	01 44 52.4	-2.2
TLZ	**Tolley Road**	**2.95**	**17**	P	Pn	01 44 57.0	+2.3
MTHZ	**Maungataniwha**	**2.95**	**39**	P	Pn	01 44 54.2	-0.5
MHCZ	**Mount Hutt**	**3.19**	**221**	P	Pn	01 44 57.4	-0.6
MUGZ	**Murupara**	**3.22**	**35**	P	Pb	01 45 03.7	-2.5
WVZ	**Waitaha Valley**	**3.36**	**234**	P	Pn	01 45 00.4	+0.2
RPZ	**Rata Peaks**	**3.58**	**223**	P	Pn	01 45 03.1	-0.3
ARCZ	**Arundel**	**3.69**	**220**	P	Pn	01 45 01.5	-3.3
MWZ	**Matawai**	**3.69**	**41**	P	Pn	01 45 03.6	-1.2
GCSZ	**Gaunt Creek Bo**	**3.74**	**233**	P	Pn	01 45 06.3	+0.8
TWGZ	**Tauwhareparae**	**4.04**	**44**	P	Pn	01 45 10.1	+0.4
RUGZ	**Raukumara Rang**	**4.05**	**39**	P	Pn	01 45 10.5	+0.6
MKAZ	**Moumakai**	**4.08**	**8**	P	Pn	01 45 12.3	+2.1
AWAZ	**Awhitu Peninsu**	**4.09**	**2**	P	Pn	01 45 12.6	+2.3
TMZ	**Timaru**	**4.10**	**217**	P	Pn	01 45 08.9	-1.6
FOZ	**Fox Glacier**	**4.17**	**234**	P	Pn	01 45 10.2	-1.2
WIAZ	**Waiheke Island**	**4.39**	**7**	P	Pn	01 45 17.1	+2.6
LBZ	**Lake Benmore**	**4.50**	**223**	P	Pn	01 45 14.6	-1.4
ODZ	**Otahua Downs**	**4.78**	**214**	P	Pn	01 45 17.6	-2.2
JCZ	**Jackson Bay**	**5.09**	**233**	P	Pn	01 45 22.8	-1.4
WKZ	**Wanaka**	**5.41**	**225**	P	Pn	01 45 27.3	-1.2

*TIR **02** 01:44:22.5, 39°.77N×20°.71E, h0km±1km, Md2.5, Ml1.6*
*ATH **02** 01:44:23.3, 39°.81N×20°.69E, h10km±1km, ML2.2/12, Manual Solution by N.Liadopoulou This location: 2020/05/19 10:33:58 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
ISC 02 01:44:23.3±1.0, 39°.80N±0°.02×20°.70E±0°.02, h10km±8km, n27, σ0°53/45, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.18**	**139**	P	**Pg**	**01 44 27.7**	**+0.5**
JAN				S	**Sg**	**01 44 29.9**	**+0.1**
LSK	**Leskovik**	**0.36**	**348**	P	**Pb**	**01 44 31.2**	**-0.7**
	baz=348						
LSK				S	**Sb**	**01 44 38.0**	**+0.3**
	baz=348						
IGT	**Igoumenitsa**	**0.39**	**227**	P	**Pg**	**01 44 30.3**	**-0.6**
	baz=232						
IGT				S	**Sb**	**01 44 37.3**	**-0.9**
	baz=232						
IGT				AMP			
	comp=N,0.5nm,0.3s,baz=232						
IGT	**Igoumenitsa**	**0.39**	**227**	P	**Pg**	**01 44 30.2**	**-0.6**
IGT				S	**Sg**	**01 44 36.7**	**+0.8**
PENT	**Pentalofos**	**0.52**	**40**	P	**Pg**	**01 44 32.9**	**-0.6**
PENT				S	**Sg**	**01 44 40.9**	**+0.5**
KPRO	**Kipourio**	**0.54**	**73**	P	**Pg**	**01 44 33.0**	**-0.8**
KPRO				S	**Sg**	**01 44 41.1**	**+0.3**
SRN	**Sarande**	**0.54**	**279**	P	**Pb**	**01 44 34.9**	**0.0**
	baz=282						
SRN				S	**Sb**	**01 44 43.4**	**+0.6**
	baz=282						
KASA	**Kassiopi**	**0.59**	**265**	P	**Pg**	**01 44 34.6**	**-0.1**
KASA				S	**Sb**	**01 44 43.4**	**-0.7**
NEST	**Nestorio**	**0.67**	**24**	P	**Pg**	**01 44 36.6**	**+0.2**
NEST				S	**Sg**	**01 44 45.1**	**-0.1**
KBN	**Korca**	**0.83**	**5**	P	**Pb**	**01 44 40.0**	**+0.1**
	baz=3.0						
KBN				S	**Sn**	**01 44 53.5**	**0.0**
	baz=3.0						
TSLK	**Tsoukalades, L**	**0.97**	**182**	P	**Pb**	**01 44 41.9**	**-0.3**
LKD2	**Lefkada island**	**1.01**	**182**	P	**Pb**	**01 44 43.0**	**+0.1**
	baz=183						
LKD2				S	**Sn**	**01 44 57.8**	**-0.1**
	baz=183						
LKD2	**Lefkada island**	**1.01**	**182**	P	**Pb**	**01 44 42.8**	**-0.1**
THL	**Klokotos Trika**	**1.04**	**102**	P	**Pn**	**01 44 43.8**	**-0.2**
THL				S	**Sb**	**01 44 57.0**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.08**	**180**	P	**Pb**	**01 44 44.0**	**-0.2**
NYDR				S	**Sb**	**01 44 59.0**	**+0.7**
FNA	**Florina**	**1.11**	**28**	P	**Pb**	**01 44 44.9**	**+0.2**
	baz=26						
FNA				S	**Sn**	**01 45 02.5**	**+2.0**
	baz=26						
FNA				AMP			
	comp=E,0.0nm,0.4s,baz=26						
FNA	**Florina**	**1.11**	**28**	P	**Pb**	**01 44 44.8**	**0.0**
FNA				S	**Sg**	**01 44 58.7**	**-0.6**
EVGI	**Lefkada island**	**1.18**	**182**	P	**Pb**	**01 44 45.6**	**-0.2**
TYRN	**Tyrnavos**	**1.19**	**94**	P	**Pg**	**01 44 45.3**	**-0.8**
TYRN				S	**Sb**	**01 45 01.5**	**+0.1**
EVR	**Evrytania**	**1.23**	**135**	P	**Pg**	**01 44 46.4**	**-0.6**
FSK	**Fiskardo**	**1.34**	**184**	P	**Pn**	**01 44 48.2**	**+0.1**
FSK				S	**Sn**	**01 45 06.2**	**+0.2**
PVO	**Paravola**	**1.34**	**151**	P	**Pb**	**01 44 48.5**	**-0.1**
PVO				S	**Sn**	**01 45 06.3**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.36**	**125**	P	**Pn**	**01 44 48.3**	**-0.1**
AGG	**Agios Georgios**	**1.48**	**121**	P	**Pn**	**01 44 50.2**	**+0.1**
ANX	**Ano Chora**	**1.53**	**141**	P	**Pn**	**01 44 51.2**	**+0.3**
EFP	**Efpalio**	**1.66**	**145**	P	**Pn**	**01 44 52.9**	**+0.3**
GRG	**Griva**	**1.74**	**48**	P	**Pn**	**01 44 53.5**	**-0.3**

*TRN **02** 01:54:53.0, 10°.74N×62°.45W, h56km, MD3.4, North of the Paria peninsula.*
*FUNV **02** 01:54:52.6, 10°.64N×62°.33W, h28km, MW3.8*
ISC 02 01:54:51.1±1.3, 10°.65N±0°.04×62°.41W±0°.04, h88km±11km, n20, σ1°40/35, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.65**	**86**	*e*P	**Pn**	**01 55 07.6**	**+0.7**
TCE				*e*S	**Sn**	**01 55 17.7**	**-1.0**
CRUV	**Carupano**	**0.81**	**272**	*e*P	**Pn**	**01 55 08.6**	**0.0**
CRUV				*e*S	**Sn**	**01 55 20.5**	**-1.1**
TRN	**Trinidad (W)**	**0.99**	**90**	*e*P	**Pn**	**01 55 11.0**	**+0.5**
TRN				*e*S	**Sn**	**01 55 24.1**	**-0.9**
TPP	**Pointe-a-Pierr**	**1.00**	**109**	*e*P	**Pn**	**01 55 11.7**	**+1.1**
TPP				*e*S	**Sn**	**01 55 26.1**	**+0.9**
TBH	**Brigand Hill**	**1.33**	**97**	*e*P	**Pn**	**01 55 16.9**	**+2.2**
TBH				*e*S	**Sn**	**01 55 33.2**	**+0.9**
GRFF	**Grenada Fort F**	**1.54**	**25**	*e*P	**Pn**	**01 55 17.5**	**+0.2**
GRFF				*e*S	**Sn**	**01 55 35.8**	**-1.3**
GRGR	**Grenville**	**1.65**	**27**	*e*P	**Pn**	**01 55 18.8**	**+0.1**
GRGR				*e*S	**Sn**	**01 55 37.9**	**-1.7**
GRW	**Mount Saint Ca**	**1.67**	**26**	*e*P	**Pn**	**01 55 19.4**	**+0.3**
GRHS	**Sauteurs**	**1.74**	**26**	*e*P	**Pn**	**01 55 20.1**	**+0.2**
GRHS				*e*S	**Sn**	**01 55 39.7**	**-1.9**
CUMV	**Cumana_UDO**	**1.77**	**263**	*e*P	**Pn**	**01 55 21.9**	**+1.7**
GRSS	**Sisters**	**1.82**	**25**	*e*S	**Sn**	**01 55 42.5**	**-1.0**
GCMP	**Grenada, Carri**	**2.06**	**28**	*e*P	**Pn**	**01 55 23.9**	**-0.1**
GCMP				*e*S	**Sn**	**01 55 47.9**	**-1.4**
PCRV	**Puerto La Cruz**	**2.24**	**258**	*e*P	**Pn**	**01 55 27.7**	**+1.2**
PCRV				*e*S	**Sn**	**01 55 53.9**	**+0.4**
SVOC	**Richmond Hill,**	**2.75**	**25**	*e*P	**Pn**	**01 55 35.0**	**+1.8**
SVOC				*e*S	**Sn**	**01 56 05.6**	**0.0**
SVB	**Belmont**	**2.84**	**23**	*e*P	**Pn**	**01 55 36.3**	**+1.8**
SVB				*e*S	**Sn**	**01 56 06.8**	**-1.1**
LUEV	**Luepa**	**4.87**	**169**	*e*P	**Pn**	**01 56 02.0**	**-0.1**
LUEV				*e*S	**Sn**	**01 56 53.4**	**-3.9**
CACV	**CAICARA DEL OR**	**5.10**	**233**	*e*P	Pn	01 56 00.6	-4.5
CACV				*e*S	Sn	01 56 52.0	-11
BENV	**Beln**	**5.15**	**263**	*e*P	**Pn**	**01 56 07.6**	**+1.7**
BENV				*e*S	**Sn**	**01 57 02.7**	**-1.4**
BAUV	**El Baul**	**5.80**	**254**	*e*P	**Pn**	**01 56 15.9**	**+1.2**
BAUV				*e*S	**Sn**	**01 57 18.3**	**-1.6**
BAUV	**El Baul**	**5.80**	**254**	*e*P	**Pn**	**01 56 16.0**	**+1.3**
BAUV				*e*S	**Sn**	**01 57 19.3**	**-0.6**

*NEIC **02** 01:58:46.1±1.0, 56°.2N±0°.1×150°.0W±0°.1, h20km±10km, ML3.6/46, ML3.4(AEIC), Error ellipse: s-maj=15.3km s-min=8.6km az=163.0*
*AEIC **02** 01:58:49.1±1.1, 56°.12N±0°.10×149°.9W±0°.1, h8km±8km, Error ellipse: s-maj=14.4km s-min=8.6km az=162.0*
*IDC **02** 01:58:50.4±3.3, 56°.18N×149°.13W, h0km, mb3.3/1, mbtmp3.2/3, ML3.0/2, MS3.5/3, Error ellipse: s-maj=53.7km s-min=41.4km az=123.0*
ISC 02 01:58:45.2±1.6, 56°.18N±0°.10×149°.99W±0°.05, h10km, n178, σ0°70/168, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.10**	**301**		**Pn**	**01 59 19.8**	**-0.5**
OHAK					**Sn**	**01 59 45.0**	**-1.4**
OHAK	**Old Harbor**	**2.10**	**301**	P	**Pn**	**01 59 19.8**	**-0.5**
	baz=119						
OHAK				S	**Sn**	**01 59 45.0**	**-1.4**
	baz=119			

RSO	Redoubt South	4.53	342			Pn	01 59 53.1	-0.9
HIN	Hinchinbrook I	4.61	22			Pn	01 59 54.7	-0.2
HIN	Hinchinbrook I	4.61	22	IAML			02 02 44.2	
	comp=N,110nm,2.1s							
O18K	Koktuh Hills	4.61	325			Pn	01 59 55.0	+0.1
O18K	Koktuh Hills	4.61	325	IAML			02 01 03.9	
	comp=N,42nm,2.9s							
O18K				IAML			02 01 09.2	
	comp=E,38nm,3.6s							
O18K	Koktuh Hills	4.61	325	P		Pn	01 59 55.0	+0.1
	baz=141							
O19K	Port Alsworth	4.63	332			Pn	01 59 55.5	+0.4
O19K	Port Alsworth	4.63	332	IAML			02 00 50.8	
	comp=N,48nm,0.4s							
O19K				IAML			02 00 56.9	
	comp=E,101nm,0.5s							
O19K	Port Alsworth	4.63	332	P		Pn	01 59 55.5	+0.4
	baz=148							
KAIM	Kayak Island	4.78	36			Pn	01 59 56.6	-0.6
KAIM	Kayak Island	4.78	36	P		Pn	01 59 56.6	-0.6
	baz=220							
RC01	Rabbit Creek A	4.92	1	Pn		Pn	01 59 58.4	-0.8
RC01				IAML			02 01 01.6	
	comp=N,26nm,1.0s							
RC01				IAML			02 01 01.9	
	comp=E,26nm,0.7s							
RAGM	Ragged Mountai	5.06	31			Pn	02 00 01.0	-0.2
RAGM	Ragged Mountai	5.06	31	IAML			02 01 21.8	
	comp=N,90nm,1.5s							
RAGM				IAML			02 02 49.8	
	comp=E,76nm,4.1s							
SUCK	Suckling Hills	5.10	38			Pn	02 00 01.3	-0.3
HMT	Hamilton	5.15	34			Pn	02 00 02.3	+0.1
NICHA	Nichawak Mount	5.16	36			Pn	02 00 02.4	-0.1
N20K	Mount Spurr	5.16	348	P		Pn	02 00 02.3	-0.2
	baz=166							
P16K	Nushagak River	5.16	307			Pn	02 00 03.1	+0.7
P16K	Nushagak River	5.16	307	P		Pn	02 00 03.1	+0.7
	baz=120							
SPCR	Spurr Chakacha	5.16	348			Pn	02 00 02.3	-0.2
GOAT	Goat Mountain	5.21	30			Pn	02 00 03.2	+0.1
N19K	Bonanza Creek	5.21	335			Pn	02 00 03.1	0.0
N19K	Bonanza Creek	5.21	335	IAML			02 01 41.8	
	comp=N,25nm,3.6s							
N19K				IAML			02 03 33.3	
	comp=E,26nm,4.2s							
N19K	Bonanza Creek	5.21	335	P		Pn	02 00 03.1	0.0
	baz=151							
O17K	Koliganek Bris	5.22	317			Pn	02 00 03.8	+0.6
O17K	Koliganek Bris	5.22	317	P		Pn	02 00 03.8	+0.6
	baz=131							
SPCP	Crater Peak Br	5.22	348			Pn	02 00 03.5	+0.1
KNK	Knik Glacier	5.31	8			Pn	02 00 04.3	-0.1
KNK	Knik Glacier	5.31	8	IAML			02 01 20.6	
	comp=N,22nm,1.5s							
KNK				IAML			02 01 22.8	
	comp=E,24nm,2.7s							
KNK	Knik Glacier	5.31	8	P		Pn	02 00 04.3	-0.1
	baz=189							
BGLC	Bering Glacier	5.31	39			Pn	02 00 04.2	-0.2
BGLC	Bering Glacier	5.31	39	P		Pn	02 00 04.2	-0.2
	baz=224							
SUA	Susitna One	5.31	356			Pn	02 00 04.1	-0.5
SUA	Susitna One	5.31	356	IAML			02 01 19.0	
	comp=N,32nm,3.5s							
SUA				IAML			02 01 32.3	
	comp=E,38nm,3.4s							
SUA	Susitna One	5.31	356	P		Pn	02 00 04.1	-0.5
	baz=175							
BERG	Berg Lake	5.37	36			Pn	02 00 04.9	-0.4
BERG	Berg Lake	5.37	36	IAML			02 03 13.4	
	comp=N,73nm,3.4s							
GRIN	Grindle Hills	5.41	38			Pn	02 00 05.8	-0.1
STLK	Strandline Lak	5.42	351			Pn	02 00 05.9	-0.1
N18K	Kilae Creek	5.47	328			Pn	02 00 06.8	+0.1
N18K	Kilae Creek	5.47	328	P		Pn	02 00 06.8	+0.1
	baz=143							
SNH	Sunshine Point	5.51	40			Pn	02 00 06.9	-0.4
O16K	Kokwok River B	5.51	312			Pn	02 00 07.8	+0.6
O16K	Kokwok River B	5.51	312	P		Pn	02 00 07.8	+0.6
	baz=125							
KHIT	Khitrov Hills	5.55	37			Pn	02 00 07.5	-0.4
BMRM	Bremner River	5.56	28			Pn	02 00 07.8	-0.2
BMRM	Bremner River	5.56	28	P		Pn	02 00 07.8	-0.2
	baz=212							
GHO	Glory Hole Cre	5.63	5			Pn	02 00 09.2	+0.2
WAX	Waxell Ridge	5.70	38			Pn	02 00 09.7	-0.2
KLU	Klutina	5.73	20			Pn	02 00 10.6	+0.3
KLU	Klutina	5.73	20	P		Pn	02 00 10.6	+0.3
	baz=203							
SVW2	Sparrevohn	5.73	332			Pn	02 00 10.1	-0.2
N17K	Nushagak Hills	5.77	322			Pn	02 00 10.9	+0.2
N17K	Nushagak Hills	5.77	322	P		Pn	02 00 11.0	+0.2
	baz=136							
BARK	Barkley Ridge	5.79	40			Pn	02 00 10.7	-0.5
CRQM	Cirque	5.83	35			Pn	02 00 11.2	-0.5
CRQE	Cirque	5.84	35	P		Pn	02 00 11.2	-0.6
	baz=220							
MESA	MESA	5.84	43			Pn	02 00 11.2	-0.8
MESA	MESA	5.84	43	P		Pn	02 00 11.2	-0.8
	baz=229							
SKT	Skwentna	5.87	353			Pn	02 00 11.9	-0.2
SKT	Skwentna	5.87	353	P		Pn	02 00 11.9	-0.2
	baz=171							
TGL	Tana Glacier	5.92	36			Pn	02 00 12.7	-0.4
M20K	Styx River	5.94	345			Pn	02 00 13.2	-0.1
M20K	Styx River	5.94	345	P		Pn	02 00 13.2	-0.1
	baz=162							
ISLE	Juniper Island	5.98	39			Pn	02 00 13.3	-0.5
BAGL	Bagley Icefiel	5.99	41			Pn	02 00 13.5	-0.3
O15K	Ungalikthiuk R	6.07	304			Pn	02 00 15.4	+0.6
O15K	Ungalikthiuk R	6.07	304	P		Pn	02 00 15.4	+0.6
	baz=116							
VRDI	Verde Repeater	6.10	31			Pn	02 00 15.3	-0.2
N25K	Chitina, Valde	6.11	25			Pn	02 00 15.8	+0.2
N25K	Chitina, Valde	6.11	25	P		Pn	02 00 15.8	+0.2
	baz=209							
M18K	Stony River	6.12	333			Pn	02 00 15.3	-0.3
M18K	Stony River	6.12	333	P		Pn	02 00 15.3	-0.3
	baz=149							
M19K	Big River Lodg	6.17	340			Pn	02 00 16.2	-0.1
M19K	Big River Lodg	6.17	340	P		Pn	02 00 16.2	-0.1
	baz=156							
GLB	Gilahina Butte	6.17	29			Pn	02 00 16.1	-0.2
KIAG	Kiagna River	6.21	37			Pn	02 00 16.7	-0.3
M24K	Tolsona, Glenn	6.26	17			Pn	02 00 18.7	+1.2
M24K	Tolsona, Glenn	6.26	17	P		Pn	02 00 18.7	+1.2
	baz=199							
SAMH	Samovar Hills	6.28	47			Pn	02 00 18.3	+0.5
GRNC	Granite Creek	6.28	40			Pn	02 00 17.7	-0.3
N16K	Nishlik Lake	6.31	317			Pn	02 00 19.1	+0.8
N16K	Nishlik Lake	6.31	317	P		Pn	02 00 19.1	+0.8
	baz=129							
TABL	Table Mountain	6.32	44			Pn	02 00 18.2	-0.3
MCARA	McCarthy VSAT	6.35	32			Pn	02 00 18.5	-0.2
MCARA	McCarthy VSAT	6.35	32	P		Pn	02 00 18.5	-0.2
	baz=217							
PTPK	Patty Peak	6.37	35			Pn	02 00 19.3	+0.2
PCA	Pinnacle	6.47	49			Pn	02 00 20.4	-0.1
PINM	Pinnacle	6.48	49	P		Pn	02 00 20.4	-0.1
	baz=236							
M17K	Holitna River	6.51	327			Pn	02 00 21.4	+0.6
M17K	Holitna River	6.51	327	P		Pn	02 00 21.4	+0.6
	baz=140							
L19K	White Mountain	6.51	339			Pn	02 00 20.5	-0.5
L19K	White Mountain	6.51	339	P		Pn	02 00 20.5	-0.5
	baz=155							
BARN	Barnard Glacie	6.54	38			Pn	02 00 21.4	-0.2
CTG	Chitna Glacier	6.59	40	P		Pn	02 00 22.0	-0.2
	baz=226							
CTGM	Chitina Glacie	6.59	40			Pn	02 00 22.0	-0.2
LOGN	Logan Glacier	6.62	42			Pn	02 00 21.9	-0.6
PNL	Peninsula	6.63	54			Pn	02 00 22.2	-0.4
PNL	Peninsula	6.63	54	P		Pn	02 00 22.2	-0.4
	baz=242							
BCPM	Bancas Point	6.67	51			Pn	02 00 23.0	-0.1
N15K	Kwethluk River	6.67	311			Pn	02 00 24.6	+1.5
N15K	Kwethluk River	6.67	311	P		Pn	02 00 24.6	+1.5
	baz=122							
WAT7	Susitna Watana	6.70	4			Pn	02 00 24.3	+0.7
M16K	Timber Creek	6.74	320			Pn	02 00 25.0	+0.9
M16K	Timber Creek	6.74	320	P		Pn	02 00 25.0	+0.9
	baz=132							
O14K	Tigyukauivet M	6.78	302			Pn	02 00 25.7	+1.1
O14K	Tigyukauivet M	6.78	302	P		Pn	02 00 25.7	+1.1
	baz=112							
L18K	Granite Mounta	6.96	333			Pn	02 00 27.2	+0.1
L18K	Granite Mounta	6.96	333	P		Pn	02 00 27.2	+0.1
	baz=147							
DHY	Denali Highway	7.04	10			Pn	02 00 29.6	+1.3
M15K	Kasigluk River	7.21	313			Pn	02 00 31.4	+0.9
M15K	Kasigluk River	7.21	313	P		Pn	02 00 31.4	+0.9
	baz=124							
N14K	Kuskokwak Cree	7.25	306			Pn	02 00 32.0	+1.0
N14K	Kuskokwak Cree	7.25	306	P		Pn	02 00 32.0	+1.0
	baz=116							
RND	Reindeer	7.27	4			Pn	02 00 31.7	+0.3
O29M	Mount Kennedy	7.30	51			Pn	02 00 32.0	+0.1
O29M	Mount Kennedy	7.30	51	P		Pn	02 00 32.0	+0.1
	baz=240							
P29M	Windy Craggy	7.38	57			Pn	02 00 32.0	-0.9
P29M	Windy Craggy	7.38	57	P		Pn	02 00 32.0	-0.9
	baz=247							
L16K	Owhat River	7.40	322			Pn	02 00 33.4	+0.3
L16K	Owhat River	7.40	322	P		Pn	02 00 33.4	+0.3
	baz=134							
YUK7	Dusty Glacier	7.60	50			Pn	02 00 36.0	-0.1
L14K	Kuka Creek	8.38	313			Pn	02 00 48.1	+1.7
M29M	Somme Creek	8.60	38	Pn		Pn	02 00 50.4	+0.7
IL31		8.75	9			Pn	02 00 53.6	+2.0
ILAR	Eielson Array	8.75	9	Pn		Pn	02 00 53.8	+2.1
	comp=N,0.2nm,0.3s,baz=192,slow=14,SNR=11							
ILAR				Sn		Sn	02 02 28.6	-1.6
	comp=N,0.3nm,0.3s,baz=189,slow=22,SNR=7.3							
	comp=N,0.4nm,0.3s							
YKA	Yellowknife Ar	18.92	56	P		Pn	02 03 07.5	+1.1
	baz=266,slow=11,SNR=6.3							
YKA				LR		LR	02 10 08.7	
	comp=N,139nm,18.1s,baz=347,slow=36							
	comp=N,0.6nm,0.9s							
FRB	Frobisher Bay	38.78	45	LR		LR	02 22 28.9	
	comp=N,83nm,19.2s,baz=176,slow=37							
H11S1	WAKE ISLAND Hy	49.63	239	T		T	03 01 46.0	
	baz=34,slow=74							
H11S2	WAKE ISLAND Hy	49.65	239	T		T	03 01 29.2	
	baz=34							
H11S3	WAKE ISLAND Hy	49.65	239	T		T	03 01 43.7	
	baz=34,slow=74							
MKAR	Makanchi Array	68.45	324	P		P	02 09 55.6	+8.7
	comp=N,0.3nm,0.7s,baz=36,slow=5.9,SNR=2.3							
	comp=N,0.3nm,0.7s							

UPA ***02*** *02:07:51.2±0.4, 7°.04N×83°.63W, h5km±18km, MW2.9*

CATAC 02 02:07:57.0±0.4, 9°.78N×83°.91W, h2km±3km, ML2.3, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	La Lucha 2	0.10	245	*i* P	Pg	02 07 59.0	0.0
LCR2				IAML		02 08 01.7	
	comp=Z,2μm,1.0s						
OCM	Ochomogo	0.12	337	*i* P	Pg	02 07 59.4	0.0
OCM				*i* S	Sg	02 08 01.1	+0.1
OCM				IAML		02 08 02.1	
	comp=Z,5μm,1.0s						
VTCV	VTCV, Calle Va	0.27	43	*i* P	Pg	02 08 02.5	+0.2
VTCV				IAML		02 08 07.3	
	comp=Z,1μm,1.0s						
CDM	Cerro de Muert	0.27	147	*i* P	Pg	02 08 02.6	+0.3
CDM				IAML		02 08 07.4	
	comp=Z,680nm,1.0s						
VTUN	Crater Central	0.28	32	*i* P	Pg	02 08 02.4	-0.1
VTUN				*i* S	Sg	02 08 06.3	+0.1
VTUN				IAML		02 08 09.3	
	comp=Z,480nm,1.0s						
PEZE	Perez Zeledon,	0.46	150	*i* P	Pg	02 08 05.7	-0.2
PEZE				IAML		02 08 13.0	
	comp=Z,290nm,1.0s						
RIFO	Rio Frio, Sara	0.53	359	*i* P	Pg	02 08 07.2	0.0
RIFO				*i* S	Sg	02 08 14.6	+0.5
RIFO				IAML		02 08 20.8	
	comp=Z,130nm,1.0s						
OCHAL	Ojochal	0.73	159	*i* P	Pg	02 08 11.6	+0.5
OCHAL				IAML		02 08 32.2	
	comp=Z,2.3nm,1.0s						
JACO	JACO, Garabito	0.74	261	*i* P	Pg	02 08 11.3	0.0
JACO				IAML		02 08 22.8	
	comp=Z,67nm,1.0s						
BRU2	Volcan	1.56	129	*e*P	Pn	02 08 25.2	-0.7
BRU2				*e*S	Sg	02 08 50.8	+3.6
ORTG	Ortega, Santa	1.63	291	*i* P	Pn	02 08 26.6	-0.2
ORTG				IAML		02 08 53.6	
	comp=Z,22nm,1.0s						
BCO2	Palmira	1.73	128	*e*P	Pn	02 08 26.4	-1.9
BCO2				*e*S	Sb	02 08 51.6	-0.3
CHGR2	Aguacate	1.94	116	*e*P	Pn	02 08 30.6	-0.4
CHGR2				*e*S	Sg	02 09 00.7	+1.4
DVD	David	1.97	133	*e*P	Pn	02 08 22.0	-9.5
DVD				*e*S	Sn	02 08 45.3	-11

IDC ***02*** *02:10:19.8±0.9, 56°.18N×149°.66W, h0km, mb3.9/12, mbtmp3.9/16, ML3.5/4, MS3.5/6, Error ellipse: s-maj=24.8km s-min=14.8km az=25.0*

NEIC ***02*** *02:10:21.5±1.7, 56°.09N±0°.08×149°.8W±0°.1, h18km±5km, mb4.2/9, ML3.9/40, ML3.7(AEIC), Error ellipse: s-maj=12.2km s-min=7.9km az=162.0*

AEIC ***02*** *02:10:25.3±1.6, 56°.14N±0°.08×149°.77W±0°.10, h8km±5km, Error ellipse: s-maj=11.9km s-min=7.6km az=165.0*

ISC 02 02:10:20.8±0.6, 56°.16N±0°.07×149°.81W±0°.05, h10km, n229, n0°93/219, mb4.3/17, MS3.4/3, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.19	300		Pn	02 10 56.9	-0.3
OHAK					Sn	02 11 22.5	-1.9
OHAK	Old Harbor	2.19	300	P	Pn	02 10 57.0	-0.3
OHAK	Old Harbor	2.19	300	P	Pn	02 10 56.9	-0.3
	baz=118						
OHAK				S	Sn	02 11 22.5	-1.9
	baz=118						
KDAK	Kodiak Island	2.22	318	IAML		02 11 24.5	
	410nm,0.3s						
KDAK	Kodiak Island	2.22	318	Pn	Pn	02 10 57.8	+0.1
	7.0nm,0.3s,baz=142,slow=8.1,SNR=216						
KDAK				Sn	Sn	02 11 23.5	-1.6
	71nm,0.3s,baz=36,slow=19,SNR=38						
KDAK				LR	LR	02 12 09.0	
	comp=Z,532nm,20.2s,baz=183,slow=48						
	21nm,0.4s						
SII	Sitkinak Islan	2.46	281		Pn	02 11 00.1	-0.9
SII					Sn	02 11 28.4	-2.7
SII	Sitkinak Islan	2.46	281	IAML		02 11 38.6	
	comp=E,388nm,0.7s						
SII				IAML		02 11 42.8	
	comp=N,296nm,0.6s						
SII	Sitkinak Islan	2.46	281	P	Pn	02 11 00.2	-0.9
	baz=98						
SII				S	Sn	02 11 28.4	-2.7
	baz=98						
SYI	Shuyak Island	2.82	331		Pn	02 11 06.3	+0.4
SYI					Sn	02 11 39.5	-0.4
Q20K	Shuyak Island	2.83	331	P	Pn	02 11 06.3	+0.4
	baz=149						
Q20K				S	Sn	02 11 39.5	-0.5
	baz=149						
CNPM	China Poot	3.46	348		Pn	02 11 14.7	0.0
CNPM					Sn	02 11 54.8	-0.9
CNPM	China Poot	3.46	348	IAML		02 11 56.1	
	comp=E,143nm,0.8s						
Q19K	Cape Douglas,	3.46	325		Pn	02 11 15.9	+1.2
Q19K	Cape Douglas,	3.46	325	P	Pn	02 11 15.9	+1.2
	baz=142						
KAKN	Katmai Knife C	3.57	309		Pn	02 11 16.9	+0.7
ACHA	Angle Creek He	3.64	307		Pn	02 11 18.1	+0.9
BRLK	Bradley Lake	3.66	351		Pn	02 11 17.1	-0.3
ANCK	Angle Creek	3.71	306		Pn	02 11 18.9	+0.8
KVTA	Katmai Vly 10	3.72	309		Pn	02 11 19.3	+1.2
KAHC	Katmai Hardscr	3.76	314		Pn	02 11 19.7	+0.9
KAHC	Katmai Hardscr	3.76	314	P	Pn	02 11 19.7	+0.9
	baz=129						
Q23K	Middleton Isla	3.76	28		Pn	02 11 18.2	-0.6
Q23K	Middleton Isla	3.76	28	IAML		02 12 18.5	
	comp=N,265nm,3.1s						
Q23K				IAML		02 12 51.5	
	comp=E,280nm,3.5s						
Q23K	Middleton Isla	3.76	28	P	Pn	02 11 18.2	-0.6
	baz=210						
MID	Middleton Isla	3.77	28	P	Pn	02 11 18.3	-0.5

PLK3	Peulik 3	3.85	296			Pn	02 11 20.9	+0.8
CNTC	Contact Creek	3.92	305			Pn	02 11 21.9	+0.9
Q17K	Contact Creek	3.92	305	P		Pn	02 11 21.9	+0.8
	baz=120							
P19K	Oil Pt	3.95	334			Pn	02 11 22.5	+1.2
P19K	Oil Pt	3.95	334	IAML			02 12 12.8	
	comp=N,294nm,0.5s							
P19K	Oil Pt	3.95	334	P		Pn	02 11 22.5	+1.2
	baz=151							
SEW	Seward	3.96	3	Pn		Pn	02 11 21.4	-0.1
P23K	Montague Islan	4.05	17			Pn	02 11 22.9	+0.1
P23K	Montague Islan	4.05	17	P		Pn	02 11 22.9	+0.1
	baz=199							
PLK1	Peulik 1	4.07	297			Pn	02 11 23.5	+0.5
ILSW	Iliamna Southw	4.22	337	Pn		Pn	02 11 25.2	0.0
ILSW				IAML			02 12 16.1	
	comp=N,69nm,0.6s							
ILSW				IAML			02 12 21.4	
	comp=E,84nm,0.8s							
P18K	Big Mountain,	4.35	320			Pn	02 11 27.1	+0.3
P18K	Big Mountain,	4.35	320	IAML			02 12 19.5	
	comp=N,62nm,0.4s							
P18K	Big Mountain,	4.35	320	P		Pn	02 11 27.1	+0.3
	baz=136							
RSO	Redoubt South	4.58	341	Pn		Pn	02 11 31.1	+0.8
O18K	Koktuh Hills	4.68	324			Pn	02 11 31.4	-0.1
O18K	Koktuh Hills	4.68	324	IAML			02 12 27.6	
	comp=N,83nm,0.9s							
O18K				IAML			02 12 28.7	
	comp=E,56nm,0.8s							
O18K	Koktuh Hills	4.68	324	P		Pn	02 11 31.4	-0.1
	baz=140							
O19K	Port Alsworth	4.70	331			Pn	02 11 32.2	+0.6
KAIM	Kayak Island	4.74	35			Pn	02 11 31.9	-0.3
KAIM	Kayak Island	4.74	35	P		Pn	02 11 31.9	-0.3
	baz=219							
CHGN	Chignik	4.80	275	Pn		Pn	02 11 33.0	-0.1
CHGN				IAML			02 12 33.9	
	comp=N,65nm,0.7s							
CHGN				IAML			02 12 36.4	
	comp=E,85nm,2.0s							
EYAK	Cordova Ski Ar	4.89	24			Pn	02 11 34.1	-0.2
EYAK	Cordova Ski Ar	4.89	24	P		Pn	02 11 34.6	+0.3
EYAK	Cordova Ski Ar	4.89	24	P		Pn	02 11 34.1	-0.2
	baz=207							
RAGM	Ragged Mountai	5.03	30			Pn	02 11 35.8	-0.4
SUCK	Suckling Hills	5.06	37			Pn	02 11 36.3	-0.3
SUCK	Suckling Hills	5.06	37	IAML			02 12 34.0	
	comp=N,158nm,2.7s							
SUCK				IAML			02 12 36.3	
	comp=E,109nm,3.8s							
HMT	Hamilton	5.11	33			Pn	02 11 37.3	0.0
HMT	Hamilton	5.11	33	IAML			02 12 40.2	
	comp=N,153nm,1.5s							
NICHA	Nichawak Mount	5.12	35			Pn	02 11 37.3	-0.2
P16K	Nushagak River	5.25	307			Pn	02 11 40.0	+0.8
P16K	Nushagak River	5.25	307	P		Pn	02 11 40.0	+0.8
	baz=120							
BGLC	Bering Glacier	5.26	38			Pn	02 11 39.4	0.0
BGLC	Bering Glacier	5.26	38	P		Pn	02 11 39.4	0.0
	baz=224							
N19K	Bonanza Creek	5.27	334			Pn	02 11 39.7	+0.1
N19K	Bonanza Creek	5.27	334	IAML			02 12 33.0	
	comp=N,33nm,3.1s							
N19K	Bonanza Creek	5.27	334	P		Pn	02 11 39.7	+0.1
	baz=150							
O17K	Koliganek Bris	5.30	316			Pn	02 11 40.4	+0.5
O17K	Koliganek Bris	5.30	316	P		Pn	02 11 40.4	+0.5
	baz=130							
BERG	Berg Lake	5.33	35			Pn	02 11 40.0	-0.4
BERG	Berg Lake	5.33	35	IAML			02 12 42.0	
	comp=N,105nm,0.4s							
BERG				IAML			02 12 55.1	
	comp=E,116nm,1.0s							
GRIN	Grindle Hills	5.37	37			Pn	02 11 40.6	-0.3
PMR	Palmer	5.46	3	P		Pn	02 11 42.5	+0.4
SNH	Sunshine Point	5.46	40	Pn		Pn	02 11 42.0	-0.2
KHIT	Khitrov Hills	5.51	36			Pn	02 11 42.2	-0.7
BMRM	Bremner River	5.54	27			Pn	02 11 43.0	-0.2
BMRM	Bremner River	5.54	27	P		Pn	02 11 43.0	-0.2
	baz=211							
N18K	Kilae Creek	5.54	327			Pn	02 11 43.2	0.0
N18K	Kilae Creek	5.54	327	P		Pn	02 11 43.2	0.0
	baz=142							
O16K	Kokwok River B	5.60	311			Pn	02 11 44.1	+0.1
O16K	Kokwok River B	5.60	311	P		Pn	02 11 44.1	+0.1
	baz=124							
WAX	Waxell Ridge	5.65	38			Pn	02 11 45.4	+0.6
SML	Sawmill	5.71	7	Pn		Pn	02 11 46.9	+1.2
CHNA	Chernabura Isl	5.72	261	P		Pn	02 11 44.4	-1.2
	baz=73							
CNBA	Chernabura Isl	5.72	260			Pn	02 11 44.4	-1.2
CRQM	Cirque	5.79	34			Pn	02 11 46.7	-0.1
SVW2	Sparrevohn	5.79	331			Pn	02 11 47.6	+0.9
SCM	Sheep Creek Mo	5.83	12	Pn		Pn	02 11 47.8	+0.5
TGL	Tana Glacier	5.88	36			Pn	02 11 47.4	-0.6
ISLE	Juniper Island	5.94	38			Pn	02 11 48.4	-0.4
BAGL	Bagley Icefiel	5.95	40			Pn	02 11 48.1	-0.7
VRDI	Verde Repeater	6.07	30			Pn	02 11 50.2	-0.4
SDPT	Sand Point	6.08	267			Pn	02 11 49.6	-1.0
SDPT	Sand Point	6.08	267	P		Pn	02 11 50.1	-0.5
SDPT	Sand Point	6.08	267	P		Pn	02 11 49.6	-1.0
	baz=78							
N25K	Chitina, Valde	6.09	24			Pn	02 11 51.3	+0.5
N25K	Chitina, Valde	6.09	24	P		Pn	02 11 51.3	+0.5
	baz=208							
GLB	Gilahina Butte	6.14	28			Pn	02 11 51.5	0.0
O15K	Ungalikthiuk R	6.16	303			Pn	02 11 52.1	+0.4
O15K	Ungalikthiuk R	6.16	303	P		Pn	02 11 52.1	+0.4
	baz=115							
KIAG	Kiagna River	6.16	36			Pn	02 11 51.8	-0.2
GRNC

baz=216
KTH Kantishna Hill 7.44 356 Pn Pn 02 12 10.3 +1.1
L26K Log Cabin Wild 7.62 23 Pn 02 12 13.6 +1.8
P30M Million Dollar 7.87 54 Pn 02 12 15.5 +0.2
P30M Million Dollar 7.87 54 P Pn 02 12 15.5 +0.2
baz=245
RIDG Independent Ri 8.00 16 Pn Pn 02 12 17.8 +0.9
L27K Beaver Creek, 8.01 27 Pn Pn 02 12 17.8 +0.7
ISLZ Isanotski Laza 8.04 265 Pn 02 12 16.6 -0.9
ISNN Isanotski Nort 8.04 266 Pn 02 12 17.1 -0.5
SSLS Shishaldin Sou 8.20 266 Pn 02 12 19.1 -0.6
HDA Harding Lake 8.39 9 Pn Pn 02 12 23.4 +1.1
SKAG Skagway 8.41 61 P Pn 02 12 22.0 -0.5
L14K Kuka Creek 8.46 313 Pn 02 12 24.2 +1.0
M29M Somme Creek 8.56 38 Pn Pn 02 12 24.9 +0.3
CCB Clear Creek Bu 8.57 6 Pn Pn 02 12 26.0 +1.3
J25K Salcha River, 8.76 13 Pn Pn 02 12 28.5 +1.1
IL31 8.76 8 Pn Pn 02 12 28.4 +1.1
ILAR Eielson Array 8.76 8 Pn Pn 02 12 28.4 +1.1
ILAR Eielson Array 8.76 8 Pn Pn 02 12 27.9 +0.6
comp=E,0.3nm,0.3s,baz=192,slow=13,SNR=18
ILAR Sn Sn 02 14 02.2 -3.7
comp=E,0.3nm,0.3s,baz=196,slow=21,SNR=6.3
IL03 Eielson Array 8.76 8 Pn Pn 02 12 28.2 +0.8
COLA College 8.79 5 P Pn 02 12 28.7 +0.9
MDM Murphy Dome 8.86 4 Pn Pn 02 12 30.0 +1.3
J26L Joseph Creek 8.92 18 Pn Pn 02 12 30.2 +0.6
I23K Minto, Yukon-K 9.02 1 Pn 02 12 31.7 +0.9
WHY Whitehorse 9.03 54 Pn 02 12 31.0 -0.2
I21K Tanana 9.11 354 Pn 02 12 33.0 +0.8
L29M L29M 9.13 35 Pn Pn 02 12 32.8 +0.3
P32M Atlin 9.23 62 Pn Pn 02 12 32.8 -1.1
DAWY Dawson 9.47 29 Pn 02 12 37.8 +0.7
H21K Melozitna Rive 9.64 353 Pn Pn 02 12 40.3 +1.0
H24K Noodor Dome 9.75 5 Pn Pn 02 12 42.7 +1.7
P33M Teslin, Yukon 9.84 59 Pn Pn 02 12 41.4 -0.8
K29M Barlow Dome 9.84 34 Pn 02 12 42.8 +0.5
UNV Unalaska Valle 9.87 263 P Pn 02 12 41.0 -1.5
IMAR Indian Mountai 10.04 351 Pn Pn 02 12 45.5 +0.7
G21K Allakaket 10.54 352 Pn 02 12 52.2 +0.6
R33M Jennings River 10.56 64 Pn Pn 02 12 51.1 -1.1
G23K Bananza Creek 10.59 360 Pn 02 12 52.5 +0.1
G24K Hadweenzic Riv 10.63 5 Pn Pn 02 12 54.2 +1.2
FYU Fort Yukon 10.66 10 Pn Pn 02 12 54.0 +0.6
J30M Hart River 10.73 33 Pn Pn 02 12 55.1 +0.6
DLBC Dease Lake 10.94 70 Pn Pn 02 12 56.1 -1.1
comp=E,0.7nm,0.3s,baz=249,slow=13,SNR=6.1
DLBC LR LR 02 16 23.9
comp=E,191nm,19.1s,baz=293,slow=34
comp=E,2.1nm,0.5s
F21K Alatna River 11.23 353 Pn 02 13 02.1 +0.9
ANM Nome 11.38 324 Pn Pn 02 13 04.5 +1.4
MMPY Sheldon Lake, 11.43 48 Pn Pn 02 13 03.7 -0.2
F24K Squaw Lake 11.43 4 Pn Pn 02 13 04.9 +0.9
BMAR Burnt Mountain 11.57 10 Pn Pn 02 13 07.8 +2.0
E19K Redstone River 11.85 346 Pn 02 13 10.5 +0.9
E25K Arctic Village 12.16 8 Pn Pn 02 13 14.6 +0.7
D22K Ayikyak River 12.83 355 Pn Pn 02 13 25.1 +2.1
G31M Satah River 13.04 28 Pn Pn 02 13 27.9 +2.2
BBB Bella Bella 13.30 98 LR LR 02 17 22.5
comp=E,151nm,19.9s,baz=285,slow=32
C23K Itkillik River 13.73 359 Pn Pn 02 13 36.8 +1.6
INK Inuvik 14.28 25 Pn Pn 02 13 43.2 +0.6
comp=E,0.1nm,0.3s,baz=202,slow=10,SNR=3.9
INK Sn Sn 02 16 16.6 -4.3
comp=E,0.1nm,0.3s,baz=239,slow=16,SNR=2.6
comp=E,1.7nm,0.9s
C36M Paulatuk 17.50 31 P 02 14 25.3 -0.3
YKAB2 New Yellowknif 18.85 56 Pn 02 14 41.1 +0.1
YKA Yellowknife Ar 18.85 56 P P 02 14 40.2 -0.4
YKA Yellowknife Ar 18.85 56 P Pn 02 14 41.2 0.0
comp=E,0.1nm,0.3s,baz=266,slow=9.9,SNR=12
comp=E,0.9nm,0.8s
A36M Sachs Harbour 18.91 24 Pn 02 14 42.5 +0.7
NEW Newport 21.36 98 P P 02 15 07.9 -0.2
comp=E,1.3nm,0.8s,baz=308,slow=10,SNR=2.5
NEW LR LR 02 22 00.7
comp=E,131nm,18.1s,baz=288,slow=33
comp=E,1.3nm,0.8s
YBH Yreka Blue Hor 22.72 118 LR LR 02 21 56.9
comp=E,101nm,20.0s,baz=358,slow=31
PDAR Pinedale Array 28.93 100 P P 02 16 18.6 -1.6
PDAR Pinedale Array 28.93 100 P P 02 16 20.1 0.0
comp=E,0.3nm,0.6s,baz=319,slow=3.8,SNR=4.2
comp=E,0.3nm,0.6s
TCUT Toone Canyon 29.05 105 P P 02 16 20.8 -0.4
FCC Fort Churchill 29.35 61 P P 02 16 25.1 +1.7
FCC IAmb IAmb 02 16 27.5
comp=Z,4.1nm,1.2s
TXAR Lajitas Array 42.06 110 P P 02 18 13.0 +0.4
comp=Z,0.4nm,0.8s,baz=333,slow=4.4,SNR=3.7
comp=Z,0.4nm,0.8s
H11N2 WAKE ISLAND Hy 48.57 239 T T 03 11 25.3
baz=30,slow=76,SNR=6.0
H11N3 WAKE ISLAND Hy 48.57 239 T T 03 11 25.5
baz=30,slow=76
H11N1 WAKE ISLAND Hy 48.58 239 T T 03 11 26.6
baz=30,slow=76,SNR=5.5
H11S1 WAKE ISLAND Hy 49.71 239 T T 03 12 51.2
baz=30,slow=76,SNR=7.3
H11S2 WAKE ISLAND Hy 49.72 239 T T 03 12 51.8
baz=30,slow=76,SNR=6.9
H11S3 WAKE ISLAND Hy 49.73 239 T T 03 12 52.3
baz=30,slow=76,SNR=7.3
KSRS Korea Array 55.82 288 LR LR 02 44 03.4
comp=Z,167nm,20.1s,baz=175,slow=36
ULN Ulaanbaatar 58.18 309 P P 02 20 13.8 -0.9
ULN IAmb IAmb 02 20 16.8
comp=Z,3.5nm,0.9s
SONM Songino Array 58.49 310 P P 02 20 17.9 +1.1
SONM Songino Array 58.49 310 P P 02 20 18.6 +1.7
comp=Z,2.8nm,0.7s,baz=43,slow=6.6,SNR=19
comp=Z,2.8nm,0.7s
ZALV Zalesovo Beam 61.50 327 P P 02 20 37.5 +0.3
ZALV Zalesovo Beam 61.50 327 P P 02 20 38.1 +0.9
comp=Z,2.1nm,0.7s,baz=29,slow=7.0,SNR=10
comp=Z,2.1nm,0.7s
NOA NORSAR Array B 62.19 10 P P 02 20 41.7 -0.1
comp=Z,0.4nm,0.6s,baz=348,slow=6.8,SNR=3.6
comp=Z,0.4nm,0.6s
FINES FINESS Array B 62.69 2 P P 02 20 45.6 +0.6
FINES FINESS Array B 62.69 2 P P 02 20 45.8 +0.7
comp=Z,1.2nm,0.6s,baz=4.6,slow=9.6,SNR=8.0
comp=Z,1.2nm,0.6s
HFS Hagfors 63.31 9 P P 02 20 49.5 +0.2
comp=Z,0.7nm,0.5s,baz=100,slow=4.5,SNR=6.1
comp=Z,0.7nm,0.5s
KURK Kurchatov 66.18 329 P P 02 21 08.7 +0.7
KURK IAmb IAmb 02 21 09.7
comp=Z,1.7nm,0.8s
BVAR Borovoye Array 66.27 335 P P 02 21 09.2 +0.6
comp=Z,2.3nm,0.7s,baz=36,slow=7.9,SNR=11
comp=Z,2.3nm,0.7s
KURBB Kurchatov Arra 66.29 329 P P 02 21 09.5 +0.7
comp=Z,1.5nm,0.7s,baz=30,slow=6.5,SNR=12
comp=Z,1.5nm,0.7s
MK31 Makanchi Array 68.52 324 P P 02 21 22.9 -0.2
MK31 IAmb IAmb 02 21 24.6
comp=Z,2.2nm,1.1s
MKAR Makanchi Array 68.52 324 P P 02 21 23.7 +0.7
comp=Z,0.9nm,0.4s,baz=20,slow=6.5,SNR=17
comp=Z,0.9nm,0.4s
ABKAR Akbulak array 72.06 340 P P 02 21 45.3 +0.6
ABKAR IAmb IAmb 02 21 46.4
comp=Z,2.6nm,0.8s
ABKAR Akbulak array 72.06 340 P P 02 21 45.2 +0.6
CMAR Chiang Mai Arr 86.08 298 P P 02 23 02.1 +0.3
comp=Z,1.1nm,0.3s,baz=18,slow=4.9,SNR=4.8
comp=Z,1.1nm,0.3s
QSPA South Pole Qui 145.95 180 PKPbc PKPdf 02 29 58.7 +0.4
comp=Z,3.5nm,0.6s,baz=49,slow=1.9,SNR=13
BOSA Boshof 152.24 9 PKPbc PKPbc 02 30 16.1 -0.3
comp=Z,3.2nm,1.0s,baz=4.9,slow=3.9,SNR=5.8

IDC 02 02:10:39.5±2.0, 5.79S×142.25E, h0km, mb3.7/3, mbtmp3.6/5, ML3.6/2, Error ellipse: s-maj=86.6km s-min=31.2km az=104.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	16.03	208	Pn	Pn	02 14 24.7	-1.9
	0.3nm,0.3s,baz=28,slow=13,SNR=6.7						
WRA				Sn	Sn	02 17 13.2	-12
	0.1nm,0.3s,baz=28,slow=20,SNR=2.5						
	0.5nm,0.5s						

ASAR Alice Springs 19.50 203 P Pn 02 15 09.2 -0.5
0.2nm,0.3s,baz=32,slow=8.9,SNR=10
1.8nm,1.0s
MKAR Makanchi Array 74.37 322 P P 02 22 19.5 +0.3
0.2nm,0.5s,baz=122,slow=5.6,SNR=2.3
0.2nm,0.5s
BVAR Borovoye Array 83.84 325 P P 02 23 11.0 0.0
0.7nm,0.6s,baz=95,slow=4.6,SNR=2.9
0.7nm,0.6s
ILAR Eielson Array 87.18 24 P P 02 23 27.2 -0.2
0.5nm,0.8s,baz=241,slow=5.0,SNR=2.2
0.5nm,0.8s

BJI ***02*** *02:20:08.6±0.0, 6.34S×130.47E, h143km, mb5.7/94, mB6.0/73*
MOS ***02*** *02:20:09.5±0.9, 6.15S×130.21E, h132km, mb5.9/61, Error ellipse: s-maj=8.3km s-min=4.3km az=113.8*
DJA ***02*** *02:20:12.3±0.2, 6˚S±1˚×13˚0E±˚, h147km±2km, M5.9/114, mb6.0/114, mB6.3/102, MLv6.8/12, Mw5.9/42, Mw(mB)6.1/102, MwMwp5.7/75, Mwp5.8/75*
NEIC ***02*** *02:20:12.5, 6.23S×130.40E, h150km, Moment Tensor Solution. Duration: 4s4 Moment tensor: Scale 10^17Nm; Mrr2.49; Mθθ-2.44; Mφφ-0.05; Mrθ0.78; Mθφ5.58; Mφr6.25; Fault plane solution: M0 8.73000×10^17 NP1: φs349.20000°, δ77.90000°, λ132.57000°. NP2: φs92.05000°, δ43.94000°, λ17.58000°. Principal axes: T 9.2037, Plg41.0000°, Azm299.0000°; N -0.9532, Plg41.0000°, Azm158.0000°; P -8.2505, Plg21.0000°, Azm48.0000°;*
NEIC ***02*** *02:20:12.5, 6.13S×130.30E, h150km*
NEIC ***02*** *02:20:12.3±1.9, 6.14S±0.05×130.28E±0.07, h135km±1km, mb5.9/159, Mwb5.8/33, Mww5.9/48, Error ellipse: s-maj=10.9km s-min=8.7km az=87.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr2.73; Mθθ-2.94; Mφφ0.21; Mrθ1.16; Mθφ3.81; Mφr5.51; Fault plane solution: M0 7.37000×10^17 NP1: φs92.10000°, δ42.70000°, λ23.70000°. NP2: φs344.22000°, δ74.18000°, λ130.19000°. Principal axes: T 8.1332, Plg45.0000°, Azm295.0000°; N -1.9021, Plg38.0000°, Azm151.0000°; P -6.2311, Plg19.0000°, Azm45.0000°;*
IPGP ***02*** *02:20:12.0, 6.18S×130.31E, h135km, Mw5.9, Fault plane solution: NP1: φs351.00000°, δ77.00000°, λ133.00000°. NP2: φs95.00000°, δ44.00000°, λ19.00000°.*
NEIC ***02*** *02:20:12.5, 6.13S×130.30E, h135km*
IDC ***02*** *02:20:13.5±1.5, 6.20S±0.28E, h154km±12km, mb5.4/27, mbtmp5.8/29, MS4.8/34, Error ellipse: s-maj=16.0km s-min=8.1km az=70.0*
GCMT ***02*** *02:20:14.3±0.1, 6.17S×130.35E, h152km, MW5.9/168, Moment Tensor Solution. s164,c365; s168,c527; Duration: 2s2 Moment tensor: Scale 10^18Nm; Mrr0.29±.01; Mθθ-0.30±.01; Mφφ0.01±.01; Mrθ0.04±.01; Mθφ0.62±.01; Mφr0.69±.01; Best double couple: M0 0.97700×10^18 NP1: φs348.00000°, δ78.00000°, λ132.00000°. NP2: φs91.00000°, δ44.00000°, λ18.00000°. Principal axes: T 1.0130, Plg41.0000°, Azm297.0000°; N -0.0720, Plg41.0000°, Azm157.0000°; P -0.9410, Plg21.0000°, Azm47.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 02 02:20:12.2±0.2, 6.18S±0.02×130.22E±0.03, h148km±1km, h149km: pP-P, n1480, σ1.9 51/1677, mb5.8/220, 85C-28D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	Bandanaira	1.68	349	P	Pn	02 20 45.5	+1.9
BNDI	Bandanaira	1.68	349	P	Pn	02 20 46.0	+2.4
BNDI				S	Sn	02 21 10.9	+3.2
SAUI	Saumlaki	2.09	149	Pn	Pn	02 20 47.8	-0.6
SAUI				Sn	Sn	02 21 14.5	-1.6
SAUI	Saumlaki	2.09	149	P	Pn	02 20 47.7	-0.6
SAUI	Saumlaki	2.09	149	P	Pn	02 20 47.8	-0.6
SAUI				S	Sn	02 21 15.1	-1.1
FAKI	Fak Fak	3.82	32	P	Pn	02 21 08.8	-1.4
FAKI				Sn	Sn	02 21 50.5	-4.7
FAKI	Fak Fak	3.82	32	P	Pn	02 21 09.2	-1.0
FAKI	Fak Fak	3.82	32	P	Pn	02 21 09.0	-1.2
FAKI				S	Sn	02 21 51.4	-3.7
NLAI	Namlea	4.26	313	P	Pn	02 21 19.5	+3.6
SWI	Sorong	5.38	11	P	Pn	02 21 29.0	-1.8
SWI				pmax	pmax		
	comp=Z,5μm,0.8s						
SWI	Sorong	5.38	11	P	Pn	02 21 29.9	-0.9
	comp=Z,5μm,0.8s,comp=Z,172μmcomp=Z,56μmcomp=Z,85nm						
SANI	Sanana	5.88	314	P	Pn	02 21 39.4	+2.0
SANI	Sanana	5.88	314	S	Sn	02 22 42.7	-1.3
SANI				P	Pn	02 21 33.3	-4.1
SANI	Sanana	5.88	314	P	Pn	02 21 39.3	+1.9
	comp=Z,2μm,1.3s,comp=Z,40μmcomp=Z,50μmcomp=Z,11nm						
LBMI	Labuha	6.13	334	P	Pn	02 21 42.2	+1.4
	comp=Z,7μm,1.0s,comp=Z,88μmcomp=Z,103nm						
DRS	Darwin Rock St	6.25	174	P	Pn	02 21 40.6	-1.7
MTN	Manton Dam	6.68	172	P	Pn	02 21 45.6	-2.5
	baz=6.6,SNR=1000						
MTN	Manton Dam	6.68	172	Pn	Pn	02 21 45.5	-2.5
MTN	Manton Dam	6.68	172	P	Pn	02 21 46.6	-1.5
KDU	Kakadu	6.84	161	P	Pn	02 21 47.3	-2.9
	baz=6.8,SNR=1000						
KDU	Kakadu	6.84	161	P	Pn	02 21 47.8	-2.4
SOEI	Soe	6.88	239	Pn	Pn	02 21 51.5	+0.6
SOEI	Soe	6.88	239	P	Pn	02 21 52.2	+1.4
SOEI	Soe	6.88	239	S	Sn	02 23 03.1	-5.0
SOEI				P	Pn	02 21 45.9	-4.9
SOEI	Soe	6.88	239	P	Pn	02 21 51.6	+0.8
	comp=Z,8μm,1.1s,comp=Z,81μmcomp=Z,83μmcomp=Z,85nm						
TNTI	Ternate	7.47	338	Pn	Pn	02 21 59.6	+1.1
TNTI	Ternate	7.47	338	P	Pn	02 22 00.0	+1.4
TNTI	Ternate	7.47	338	P	Pn	02 21 59.7	+1.1
	comp=Z,1μm,1.0s,comp=Z,14μmcomp=Z,7μmcomp=Z,4.5nm						
BBSI	Bau Bau	7.64	275	P	Pn	02 22 05.7	+4.8
MMRI	Maumere	8.28	252		Pn	02 22 11.7	+2.2
MMRI	Maumere	8.28	252	P	Pn	02 22 10.7	+1.2
	comp=Z,1μm,1.2s,comp=Z,21μmcomp=Z,42μm						
LUWI	Luwuk	9.01	304	Pn	Pn	02 22 22.7	+3.5
LUWI	Luwuk	9.01	304	P	Pn	02 22 21.5	+2.3
LUWI	Luwuk	9.01	304	P	Pn	02 22 17.1	-2.1
LUWI	Luwuk	9.01	304	P	Pn	02 22 22.1	+2.9
	comp=Z,4μm,1.8s,comp=Z,56μmcomp=Z,22μm						
KMSI	Cibinong	9.15	317	P	Pn	02 22 22.7	+1.6
	comp=Z,4μm,1.0s,comp=Z,39μmcomp=Z,16μm						
SMPI	Sarmi	9.44	64	P	Pn	02 22 23.6	-1.3
	comp=Z,3μm,1.3s,comp=Z,31μmcomp=Z,23μm						
KNRA	Kununurra	9.55	188	Pn	Pn	02 22 23.3	-3.0
KNRA	Kununurra	9.55	188	P	Pn	02 22 23.7	-2.6
BKSI	Bukukumba	10.08	274	P	Pn	02 22 35.7	+2.3
	comp=Z,995nm,1.1s,comp=Z,13μmcomp=Z,23μm						
MMPI	Merauke	10.34	103	P	Pn	02 22 34.8	-2.0
	comp=Z,6μm,0.7s,comp=Z,70μm						
BASI	Baing, Sumba	10.35	247	P	Pn	02 22 36.8	-0.2
	comp=Z,2μm,1.0s,comp=Z,31μmcomp=Z,20μm						
KAPI	Kappang	10.48	276	Pn	Pn	02 22 40.8	+2.1
KAPI	Kappang	10.48	276	P	Pn	02 22 40.8	+2.1
KAPI	Kappang	10.48	276	P	Pn	02 22 40.8	+2.1
GENI	Genyem	10.54	71	P	Pn	02 22 39.4	-0.1
GENI	Genyem	10.54	71	P	Pn	02 22 37.5	-2.0
	comp=Z,1μm,0.9s,comp=Z,41μmcomp=Z,18μm						
TTSI	Tana Toraja	10.82	286	P	Pn	02 22 47.6	+4.4
SGSI	Sangihe	10.86	334	P	Pn	02 22 43.8	+0.1
	comp=Z,2μm,1.2s,comp=Z,23μmcomp=Z,10μm						
TOLI2	Tolitoli	11.88	307		Pn	02 22 59.3	+2.2
TOLI2	Tolitoli	11.88	307	P	Pn	02 22 59.5	+2.4
PLAI	Plampang	12.61	257	P	Pn	02 23 06.3	-0.3
PLAI	Plampang	12.61	257	P	Pn	02 23 06.2	-0.3
	comp=Z,770nm,0.6s,comp=Z,11μmcomp=Z,18μm						
FITZ	Fitzroy Crossi	12.66	200	P	Pn	02 23 02.8	-4.4
	baz=13,SNR=1000						
FITZ	Fitzroy Crossi	12.66	200	Pn	Pn	02 23 02.7	-4.5
TWSI	Taliwang, Sumb	13.46	258	P	Pn	02 23 16.2	-1.3
DAV	Davao City (W)	13.95	341	Pn	Pn	02 23 20.3	-3.4
DAV					S	02 26 09.8	+1.3
DAV	Davao City (W)	13.95	341	P	P	02 23 31.1	+4.1
	comp=Z,1μm,0.7s,baz=263,slow=12,SNR=14						
DAV				S	S	02 26 08.9	+0.4
	comp=Z,236nm,0.4s,baz=166,slow=15,SNR=5.5						
DAV				LR	LR	02 29 27.1	
	comp=Z,5μm,20.3s,baz=107,slow=40						
DAV	Davao City (W)	13.95	341	P	P	02 23 26.0	-1.0

DAV Davao City (W) 13.95 341 eS S 02 26 08.0 -0.5
WB0 Warramunga Arr 14.10 164 Pn Pn 02 23 20.5 -5.1
BKB Balikpapan 14.16 290 Pn Pn 02 23 25.8 -0.6
BKB Balikpapan 14.16 290 P P 02 23 32.3 +3.0
SMKI Samarinda 14.17 293 P P 02 23 31.6 +2.1
I07AU WARRAMUNGA INF 14.25 164 S Sn 02 25 50.0 -15
baz=334,slow=23,SNR=1.7
WRAB Tennant Creek 14.25 164 Pn Pn 02 23 21.7 -5.8
WRAB Tennant Creek 14.25 164 P Pn 02 23 21.7 -5.8
WRA Warramunga Arr 14.26 164 P Pn 02 23 22.1 -5.5
comp=Z,44nm,0.3s,baz=340,slow=13,SNR=330
WRA S Sn 02 25 51.7 -14
comp=Z,2μm,1.0s,baz=354,slow=23,SNR=15
WRA LR LR 02 29 44.2
comp=Z,12μm,18.7s,baz=342,slow=40
WRA P3KPbc 02 58 55.1
comp=Z,0.7nm,0.5s,baz=167,slow=3.0,SNR=12
WB2 Warramunga Arr 14.26 164 P Pn 02 23 22.2 -5.3
baz=14
WB2 Warramunga Arr 14.26 164 Pn 02 23 22.7 -4.8
WR0 Warramunga Arr 14.33 163 Pn Pn 02 23 23.6 -4.9
COEN Coen 14.91 122 P Pn 02 23 31.4 -4.4
baz=15,SNR=184
COEN Coen 14.91 122 Pn Pn 02 23 32.9 -2.8
SRBI Singaraja 15.01 262 P Pn 02 23 37.5 +0.6
comp=Z,1μm,0.9s,comp=Z,10μmcomp=Z,18μm
IGBI Denpasar 15.17 259 P Pn 02 23 38.6 -0.4
comp=Z,559nm,0.6s,comp=Z,8μmcomp=Z,10μm
JAGI Jajag, Banyuwa 16.09 261 Pn Pn 02 23 48.8 -1.6
JAGI Jajag, Banyuwa 16.09 261 P Pn 02 23 49.2 -1.2
JAGI Jajag, Banyuwa 16.09 261 P Pn 02 23 48.2 -2.2
MTKI Muara Teweh, K 16.15 288 P P 02 23 53.2 +1.8
comp=Z,5μm,0.9s,comp=Z,66μmcomp=Z,30μm
KMMI Kalianget 16.16 266 P P 02 23 54.1 +2.5
comp=Z,3μm,1.0s,comp=Z,38μmcomp=Z,36μm
BLJI Banyuglugur 16.57 264 P Pn 02 23 56.7 +0.5
comp=Z,3μm,0.8s,comp=Z,22μmcomp=Z,27μm
QIS Mount Isa 16.95 148 P P 02 23 57.3 -2.9
baz=17,SNR=218
QIS Mount Isa 16.95 148 P P 02 23 57.4 -2.9
PMG Port Moresby 17.09 102 P Pn 02 24 03.1 +0.7
PMG Port Moresby 17.09 102 P P 02 24 02.0 +0.2
PMG Port Moresby 17.09 102 ceP Pn 02 24 02.7 +0.3
PMG pmax pmax
comp=Z,3μm,1.0s
PMG Port Moresby 17.09 102 P Pn 02 24 02.8 +0.3
comp=Z,2μm,0.9s,baz=296,slow=5.9,SNR=448
PMG S S 02 26 60.0 -13
comp=Z,271nm,1.0s,baz=245,slow=23,SNR=3.1
BWJI Bawean 17.46 270 P Pn 02 24 08.2 +1.3
comp=Z,4μm,1.4s,comp=Z,83μmcomp=Z,34μm
MANU Manus Island 17.59 77 P Pn 02 24 09.4 +0.9
MANU Manus Island 17.59 77 P Pn 02 24 08.9 +0.4
GRJI Gresik 17.64 267 P Pn 02 24 10.6 +1.6
comp=Z,5μm,1.0s,comp=Z,48μmcomp=Z,33μm
AS31 Alice Springs 17.75 169 P P 02 24 08.7 -0.3
ASAR Alice Springs 17.75 169 P P 02 24 09.1 +0.1
ASAR Alice Springs 17.75 169 P P 02 24 09.1 +0.1
ASAR Alice Springs 17.75 169 P P 02 24 08.6 -0.4
comp=Z,270nm,0.6s,baz=342,slow=9.7,SNR=479
ASAR S S 02 27 14.2 -12
comp=Z,487nm,1.0s,baz=352,slow=26,SNR=6.8
ASAR LR LR 02 32 21.6
comp=Z,5μm,18.1s,baz=346,slow=41
ASAR P3KPbc 02 58 43.1
comp=Z,0.4nm,0.5s,baz=159,slow=3.9,SNR=5.0
ASPA Alice Springs 17.75 169 P P 02 24 09.5 +0.6
baz=18
AS01 Alice Springs 17.75 169 P Pn 02 24 09.7 -0.6
MBWA Marble Bar 18.02 213 P 02 24 12.3 +0.4
MBWA Marble Bar 18.02 213 P P 02 24 12.7 +0.7
MBWA Marble Bar 18.02 213 P P 02 24 12.4 +0.4
MTSU Mount Surprise 18.18 132 P P 02 24 13.9 +0.1
baz=18,SNR=112
MTSU Mount Surprise 18.18 132 P Pn 02 24 14.7 -0.7
PSA00 Pilbara Seismi 18.30 212 Pn Pn 02 24 16.1 -0.7
PSA00 Pilbara Seismi 18.30 212 P Pn 02 24 16.1 -0.7
PSA00 Pilbara Seismi 18.30 212 P P 02 24 16.1 -0.7
PWJI Pagerwojo 18.36 263 P P 02 24 14.6 -1.1
KKM Kota Kinabalu 18.51 311 P Pn 02 24 20.4 +1.0
KKM Kota Kinabalu 18.51 311 P Pn 02 24 19.4 0.0
AUCSH Cairns State H 18.59 126 P P 02 24 18.6 +0.5
NGJI Ngawi 18.66 265 P Pn 02 24 20.6 -0.5
comp=Z,1μm,0.9s,comp=Z,17μmcomp=Z,48μm
WRKA Warakurna 18.84 185 P P 02 24 21.4 +0.5
baz=19,SNR=451
WRKA Warakurna 18.84 185 P P 02 24 21.4 +0.5
UWJI Ujung Watu 19.15 268 P P 02 24 25.5 +1.1
comp=Z,1μm,1.2s,comp=Z,14μmcomp=Z,22μm
UGM Wanagama 19.62 264 P P 02 24 29.7 +0.2
UGM Wanagama 19.62 264 P P 02 24 30.0 +0.6
UGM Wanagama 19.62 264 P P 02 24 30.7 +1.3
comp=Z,853nm,1.1s,comp=Z,9μmcomp=Z,18μm
SMRI Semarang 19.66 266 P P 02 24 31.2 +1.3
SMRI Semarang 19.66 266 P P 02 24 30.7 +0.9
SMRI Semarang 19.66 266 P P 02 24 30.8 +0.9
comp=Z,861nm,1.4s,comp=Z,19μmcomp=Z,27μm
STKI Sintang 19.70 288 P P 02 24 31.8 +1.5
comp=Z,2μm,1.2s,comp=Z,30μmcomp=Z,22μm
YOGI Yogyakarta 19.84 264 P P 02 24 31.5 -0.3
comp=Z,816nm,1.7s,comp=Z,10μmcomp=Z,9μm
SBUM Sibu 19.91 295 P Pn 02 24 34.7 -1.0
TV1H Townsville Har 20.72 130 P P 02 24 41.5 +0.3
CTA Charters Tower 20.83 133 P P 02 24 42.4 +0.1
CTA Charters Tower 20.83 133 P P 02 24 42.6 +0.3
comp=Z,126nm,0.9s,baz=308,slow=11,SNR=142
CTA S S 02 28 19.8 -6.8
comp=Z,45nm,0.7s,baz=44,slow=18,SNR=1.6
comp=Z,126nm,0.9s
CTAO Charters Tower 20.83 133 P P 02 24 43.0 +0.7
CTAO Charters Tower 20.83 133 P P 02 24 42.7 +0.3
CTAO Charters Tower 20.83 133 P P 02 24 43.0 +0.7
KAVG Kavieng 20.84 81 P P 02 24 42.7 +0.2
KPJI Karang Pucung 21.17 266 P P 02 24 45.0 -1.0
comp=Z,1μm,0.7s,comp=Z,12μm
AUAYR Ayr State High 21.38 130 P P 02 24 48.9 +0.7
CMJI Cimerak 21.66 265 P P 02 24 48.4 -2.9
JCJI Jatiwangi 21.81 268 P P 02 24 53.8 +0.9
comp=Z,3μm,1.9s,comp=Z,55μmcomp=Z,21μm
RABL Rabaul 21.95 86 P P 02 24 52.3 -2.0
RABL Rabaul 21.95 86 P P 02 24 52.8 -1.5
OOD Oodnadatta 22.12 167 P P 02 24 55.3 -0.5
BBJI Bungbulang 22.44 265 P P 02 24 58.1 -1.1
LEM Lembang 22.46 267 P P 02 24 58.4 -1.1
LEM pmax pmax
comp=Z,2μm,1.6s
LEM Lembang 22.46 267 LR LR 02 35 27.8
comp=Z,3μm,18.9s,baz=92,slow=41
LEM Lembang 22.46 267 P P 02 24 59.0 -0.5
comp=Z,2μm,1.6s,comp=Z,25μmcomp=Z,13μm
GIRL Giralia 22.49 222 P P 02 25 00.5 +1.1
baz=22,SNR=35
GIRL Giralia 22.49 222 P P 02 25 00.8 +1.4
GIRL Giralia 22.49 222 P P 02 25 00.3 +0.8
CNJI Cibinong 22.95 266 P P 02 25 02.7 -1.2
MEEK Meekatharra 23.16 207 P P 02 25 05.8 +0.1
baz=23,SNR=112
MEEK Meekatharra 23.16 207 P P 02 25 05.5 -0.2
CBJI Citeko 23.23 268 P P 02 25 05.8 -0.6
comp=Z,3μm,0.9s,comp=Z,32μmcomp=Z,14μm
DBJI Dramaga 23.32 268 P P 02 25 08.0 +0.6
comp=Z,2μm,1.4s,comp=Z,28μmcomp=Z,13μm
TNG Tangerang 23.43 269 P P 02 25 10.9 +2.6
comp=Z,2μm,1.0s,comp=Z,38μmcomp=Z,14μm
SKJI Sukabumi 23.52 267 P P 02 25 08.5 -0.6
comp=Z,3μm,1.5s,comp=Z,44μmcomp=Z,13μm
INKA Innaminka 23.66 156 P P 02 25 10.4 +0.2
SBJI Serang 23.95 269 P P 02 25 14.3 +1.3
comp=Z,1μm,1.7s,comp=Z,15μm
MULG Mulgathing 24.25 172 P P 02 25 15.7 +0.2
comp=Z,413nm,1.1s
QLP Quilpie 24.30 148 P P 02 25 16.0 0.0
baz=24,SNR=70
QLP Quilpie 24.30 148 P P 02 25 16.0 0.0
PPBI Pangkal Pinang 24.34 278 P P 02 25 17.3 +0.7
comp=Z,972nm,1.1s,comp=Z,17μm
FORT Forrest 24.56 184 P P 02 25 18.6 +0.3
baz=25,SNR=176
FORT Forrest 24.56 184 P P 02 25 18.1 -0.2
FORT Forrest 24.56 184 P P 02 25 18.3 0.0
XMI Christmas Isla 24.63 258 P P 02 25 19.4 +0.2
XMIS Christmas Isla 24.67 258 P P 02 25 19.1 -0.4
XMIS Christmas Isla 24.67 258 P P 02 25 19.6 0.0
LCRK Leigh Creek 25.29 164 P P 02 25 25.2 +0.2
PMBI Palembang 25.56 276 P P 02 25 28.9 +1.2

PMBI Palembang 25.56 276 P P 02 25 30.3 +2.6
PMBI Palembang 25.56 276 P P 02 25 31.1 +3.4
comp=Z,3µm,0.9s,comp=Z,31µm
KASI Kota Agung 25.59 270 P P 02 25 26.9 -1.0
comp=Z,557nm,0.8s,comp=Z,5µm
RK1H Rockhampton Ha 25.96 133 P P 02 25 31.0 -0.1
LWLI Liwa 26.06 271 P P 02 25 32.9 +0.6
comp=Z,596nm,1.2s,comp=Z,11µmcomp=Z,10µm
DSRI Dabo 26.20 282 P P 02 25 34.2 +0.8
comp=Z,321nm,1.9s,comp=Z,5µmcomp=Z,10µm
KMBL Kambalda 26.25 196 P P 02 25 33.8 +0.1
baz=26,SNR=86
KMBL Kambalda 26.25 196 P P 02 25 33.7 +0.1
MORW Morawa 26.42 209 P P 02 25 34.9 -0.3
baz=26,SNR=67
MORW Morawa 26.42 209 P P 02 25 35.3 +0.1
MORW Morawa 26.42 209 P P 02 25 35.1 -0.1
TPRI Tanjung Pinang 26.60 285 P P 02 25 39.0 +2.0
comp=Z,382nm,1.1s,comp=Z,9µmcomp=Z,11µm
LHSI Lahat 26.69 274 P P 02 25 39.0 +1.2
comp=Z,433nm,0.9s,comp=Z,9µm
GD1S Gladstone Soft 26.72 133 P P 02 25 38.2 +0.2
JMBI JAMBI 26.89 279 P P 02 25 41.1 +1.5
comp=Z,554nm,1.3s,comp=Z,11µm
BBOO Buckleboo 27.05 169 P P 02 25 40.2 -0.6
baz=27,SNR=122
BBOO Buckleboo 27.05 169 P P 02 25 40.6 -0.2
BBOO IAmb IAmb 02 26 26.5
comp=Z,282nm,0.8s
BBOO Buckleboo 27.05 169 P P 02 25 40.1 -0.7
MNAI Manna 27.20 272 P P 02 25 42.4 0.0
MNAI IAmb IAmb 02 25 45.5
comp=Z,548nm,1.1s
MNAI Manna 27.20 272 P P 02 25 42.8 +0.4
MNAI Manna 27.20 272 P P 02 25 42.0 -0.4
comp=Z,548nm,1.4s,comp=Z,8µmcomp=Z,13µm
BLDU Ballidu 27.42 206 P P 02 25 44.2 0.0
baz=28,SNR=68
BLDU Ballidu 27.42 206 P P 02 25 44.5 +0.3
MYKOM Kota Tinggi 27.49 286 P P 02 25 45.7 +0.8
MYKOM IAmb IAmb 02 25 49.2
comp=Z,254nm,0.6s
WHYH Whyalla 27.58 167 P P 02 25 45.4 -0.1
EIDS Eidsvold 27.62 136 P P 02 25 44.7 -1.2
baz=28,SNR=8.4
EIDS Eidsvold 27.62 136 IAmb IAmb 02 26 30.6
comp=Z,554nm,1.2s
EIDS Eidsvold 27.62 136 P P 02 25 45.2 -0.8
STKA Stephens Creek 27.69 159 P P 02 25 46.3 -0.3
baz=28,SNR=74
STKA Stephens Creek 27.69 159 P P 02 25 46.9 +0.4
STKA IAmb IAmb 02 26 30.7
comp=Z,283nm,1.7s
STKA Stephens Creek 27.69 159 P P 02 25 46.2 -0.3
STKA Stephens Creek 27.69 159 *i* P P 02 25 45.3 -1.2
STKA Stephens Creek 27.69 159 P P 02 25 46.2 -0.3
comp=Z,42nm,0.7s,baz=331,slow=9.1,SNR=87
STKA LR LR 02 37 57.5
comp=Z,6µm,19.6s,baz=329,slow=38
comp=Z,42nm,0.7s
KLBR Kellerberrin 27.84 203 P P 02 25 48.1 +0.2
baz=28,SNR=126
KLBR Kellerberrin 27.84 203 P P 02 25 48.3 +0.4
HTT Hallett 28.30 165 P P 02 25 51.9 0.0
baz=28,SNR=36
HTT Hallett 28.30 165 P P 02 25 52.1 +0.1
HTT Hallett 28.30 165 P P 02 25 51.8 -0.2
MUN Mundaring 28.81 205 P P 02 25 57.1 +0.7
baz=29,SNR=19
MUN Mundaring 28.81 205 P P 02 25 56.6 +0.1
MUN Mundaring 28.81 205 P P 02 25 56.6 +0.1
KRJI Kerinci 28.96 277 P P 02 25 59.5 +1.4
comp=Z,2µm,1.0s,comp=Z,27µmcomp=Z,9µm
MTKN Mount Kenneth 28.96 206 P P 02 25 57.3 -0.5
CMSA Cobar Meteorol 29.09 152 P P 02 25 58.8 -0.1
baz=29,SNR=111
CMSA Cobar Meteorol 29.09 152 P P 02 25 59.1 +0.1
NWAO Narrogin (SRO) 29.23 203 P P 02 26 00.6 +0.4
baz=29,SNR=26
NWAO P P 02 26 00.6 +0.4
baz=29,SNR=26
NWAO Narrogin (SRO) 29.23 203 P P 02 26 00.5 +0.4
NWAO IAmb IAmb 02 26 51.2
comp=Z,416nm,1.1s
NWAO Narrogin (SRO) 29.23 203 P P 02 26 00.5 +0.4
NWAO Narrogin (SRO) 29.23 203 P P 02 26 00.5 +0.4
NWAO pmax pmax
comp=Z,416nm,1.1s
NWAO Narrogin (SRO) 29.23 203 LR LR 02 38 00.3
comp=Z,4µm,19.9s,baz=2.5,slow=36
NWAO Narrogin (SRO) 29.23 203 P P 02 26 00.5 +0.4
HNR Honiara 29.63 98 P P 02 26 02.9 -1.0
HNR Honiara 29.63 98 P P 02 26 03.4 -0.5
HNR Honiara 29.63 98 P P 02 26 02.9 -1.0
HNR pmax pmax
comp=Z,680nm,0.9s
HNR Honiara 29.63 98 LR LR 02 40 49.3
comp=Z,30µm,18.0s,baz=270,slow=42
BKNI Bangkinang 29.83 281 P P 02 26 06.3 +0.6
BKNI Bangkinang 29.83 281 P P 02 26 01.8 -3.9
BKNI Bangkinang 29.83 281 P P 02 26 06.4 +0.7
comp=Z,621nm,1.1s,comp=Z,7µmcomp=Z,7µm
PDSI Padang 30.14 279 P P 02 26 07.0 -1.5
PPSI Pulau Pagai 30.30 275 P P 02 26 10.2 +0.4
comp=Z,371nm,1.1s,comp=Z,5µm
YULB Yu-li 30.66 344 P P 02 26 14.0 +1.2
TPUB Ta-pu 30.76 343 P P 02 26 12.8 -1.0
TPUB Ta-pu 30.76 343 P P 02 26 12.8 -1.0
RKGY Rocky Gully 30.82 202 P P 02 26 16.1 +1.9
baz=31,SNR=35
RKGY Rocky Gully 30.82 202 P P 02 26 16.1 +1.9
PATS Pohnpei 30.87 66 P P 02 26 15.9 +1.0
baz=31,SNR=9.6
PATS Pohnpei 30.87 66 P P 02 26 15.7 +0.8
PATS Pohnpei 30.87 66 P P 02 26 15.7 +0.8
IPM Ipoh 31.01 289 IAmb IAmb 02 26 22.2
comp=Z,170nm,0.8s
IPM Ipoh 31.01 289 P P 02 26 16.6 +0.5
SSLB Suanglung 31.13 343 P P 02 26 15.4 -1.5
SSLB Suanglung 31.13 343 P P 02 26 15.7 -1.3
ARMA Armidale 31.41 143 P P 02 26 20.2 +0.7
baz=31,SNR=17
ARMA Armidale 31.41 143 P P 02 26 20.6 +1.0
ARMA IAmb IAmb 02 27 28.5
comp=Z,227nm,1.4s
ARMA Armidale 31.41 143 P P 02 26 20.1 +0.5
SISI Saibi 31.42 278 P P 02 26 18.2 -1.5
KULM Kulim 31.64 290 P P 02 26 22.2 +0.6
JMZ Minamidaito 2 31.82 2 P P 02 26 24.8 +1.8
YHNB Yeheng 31.85 345 P P 02 26 23.9 +0.5
YHNB Yeheng 31.85 345 P P 02 26 24.4 +1.0
QIZ Qiongzhong 32.10 322 P P 02 26 26.4 +0.8
QIZ sP sP 02 27 11.1 -1.2
QIZ S S 02 31 25.5 -1.6
QIZ pmax pmax
comp=Z,250nm,1.3s
QIZ pmax pmax
comp=Z,2µm,3.7s
QIZ LR LR
comp=Z,1µm,14.3s
QIZ LR LR
comp=Z,2µm,15.1s
QIZ LR LR
comp=Z,2µm,12.7s
QIZ Qiongzhong 32.10 322 IAmb IAmb 02 26 28.2
comp=Z,533nm,1.4s
QIZ Qiongzhong 32.10 322 P P 02 26 26.7 +1.1
QIZ ScP ScP 02 32 42.1 +0.7
H01W1 Cape Leeuwin H 32.19 205 P P 02 26 28.0 +2.1
baz=40,slow=5.0,SNR=7.0
H01W3 Cape Leeuwin H 32.19 205 P P 02 26 28.4 +2.5
baz=40,slow=5.0,SNR=7.2
H01W2 Cape Leeuwin H 32.20 205 P P 02 26 28.7 +2.7
baz=40,slow=5.0,SNR=13
ARPS Mount Arapiles 32.25 162 P P 02 26 27.2 +0.5
baz=32,SNR=24
ARPS Mount Arapiles 32.25 162 P P 02 26 26.9 +0.2
HKPS Hong Kong Po S 32.37 331 P P 02 26 28.8 +0.9
PBSI Pulau Batu 32.45 280 P P 02 26 26.9 -1.8
PSI Prapat 32.49 285 P P 02 26 27.8 -1.5
KNMB Chin-men Tao 32.57 340 P P 02 26 30.0 +0.5
KNMB IAmb IAmb 02 26 31.5
comp=Z,319nm,1.2s
YNG Young 32.65 151 P P 02 26 31.1 +0.9
baz=33,SNR=76
YNG Young 32.65 151 P P 02 26 30.4 +0.2
JOW Kunigami 32.87 357 P P 02 26 33.8 +1.7
JOW IAmb IAmb 02 26 35.2
comp=Z,417nm,1.2s
JOW Kunigami 32.87 357 P P 02 26 34.2 +2.0
JOW Kunigami 32.87 357 LR LR 02 39 52.5
comp=Z,2µm,21.3s,baz=152,slow=36
QZH Quanzhou 32.94 340 ⇑*i* P P 02 26 32.3 -0.5
QZH sP sP 02 27 26.3 +6.6
QZH S S 02 31 37.6 -2.3
QZH ScS ScS 02 36 44.1 -0.6
QZH pmax pmax
comp=Z,170nm,1.5s
QZH pmax pmax
comp=Z,1µm,6.2s
QZH LR LR
comp=Z,2µm,22.4s
QZH LR LR
comp=Z,1µm,15.4s
QZH LR LR
comp=Z,3µm,20.4s
MGCD Mangrove Creek 33.17 147 P P 02 26 36.0 +1.3
baz=33,SNR=7.9
MGCD Mangrove Creek 33.17 147 P P 02 26 36.3 +1.5
GSI Gunungsitoli 33.42 282 P P 02 26 35.9 -1.2
GSI Gunungsitoli 33.42 282 P P 02 26 36.0 -1.2
GSI Gunungsitoli 33.42 282 P P 02 26 36.0 -1.2
GZH Guangzhou 33.44 331 ⇑*i* P P 02 26 40.5 +3.4
GZH sP sP 02 27 32.9 +8.9
GZH S S 02 31 51.6 +3.9
GZH pmax pmax
comp=Z,87nm,1.4s
GZH LR LR
comp=Z,740nm,7.6s
GZH LR LR
comp=Z,1µm,7.6s
BRAT Ballarat 33.63 160 P P 02 26 40.4 +1.7
CAN Canberra 33.77 152 IAmb IAmb 02 27 17.0
comp=Z,322nm,1.6s
CAN Canberra 33.77 152 P P 02 26 41.1 +1.1
CAN Canberra 33.77 152 P P 02 26 40.7 +0.7
CAN Canberra 33.77 152 P P 02 26 41.0 +1.0
CAN pP pP 02 27 11.0 0.0
KCSI Kotacane, Aceh 33.80 286 P P 02 26 39.0 -1.5
SRIT Nakonsritamara 33.87 295 IAmb IAmb 02 26 43.1
comp=Z,225nm,0.8s
SRIT Nakonsritamara 33.87 295 P P 02 26 41.7 +0.7
CNB Canberra Magne 33.94 151 P P 02 26 42.3 +0.9
baz=34,SNR=22
CNB Canberra Magne 33.94 151 P P 02 26 41.6 +0.2
SURA Surathani 34.08 296 P P 02 26 43.8 +0.9
TOO Toolangi 34.21 158 P P 02 26 45.1 +1.4
baz=34,SNR=38
TOO Toolangi 34.21 158 P P 02 26 44.9 +1.2
TOO Toolangi 34.21 158 P P 02 26 44.6 +0.9
GEXS Deakin Univers 34.34 160 P P 02 26 45.5 +0.7
SNSI Sinabang, Aceh 34.90 283 P P 02 26 49.1 -0.8
comp=Z,357nm,1.0s,comp=Z,6µmcomp=Z,7µm
JCJ Chichijima 35.05 19 P P 02 26 50.9 -0.1
JCJ IAmb IAmb 02 26 56.5
comp=Z,337nm,0.9s
JCJ Chichijima 35.05 19 P P 02 26 52.3 +1.3
LHMI Lhok Sumawe 35.09 288 P P 02 26 52.0 +0.5
LHMI Lhok Sumawe 35.09 288 P P 02 26 51.6 0.0
LHMI Lhok Sumawe 35.09 288 P P 02 26 51.2 -0.4
comp=Z,2µm,0.8s,comp=Z,17µmcomp=Z,8µm
NAYO Nakonayok 35.16 306 P P 02 26 53.1 +1.0
MILA Mila 35.26 153 P P 02 26 52.6 -0.2
baz=35,SNR=4.2
MILA Mila 35.26 153 P P 02 26 53.2 +0.4
MLSI Meulaboh, Aceh 35.32 286 P P 02 26 52.1 -1.4
NONG Nongkai 35.97 313 P P 02 26 59.8 +0.8
KOUNC Koumac, New Ca 35.99 117 P P 02 26 59.4 +0.2
KOUNC IAmb IAmb 02 27 00.2
comp=Z,105nm,0.8s
KOUNC Koumac, New Ca 35.99 117 P P 02 26 58.6 -0.5
GULI GuiLin 36.76 329 ⇑P P 02 27 05.6 0.0
GULI S S 02 32 35.4 -3.2
GULI pmax pmax
comp=Z,120nm,1.6s
GULI LR LR
comp=Z,1µm,17.4s
GULI LR LR
comp=Z,1µm,14.6s
GULI LR LR
comp=Z,2µm,16.8s
SLVN Son La 37.60 317 IAmb IAmb 02 27 16.1
comp=Z,384nm,1.2s
CNSH ChangSha 38.02 335 ⇑P P 02 27 17.3 +1.2
CNSH S S 02 33 00.6 +3.1
CNSH pmax pmax
comp=Z,82nm,1.2s
CNSH LR LR
comp=Z,2µm,16.1s
CNSH LR LR
comp=Z,3µm,14.7s
CNSH LR LR
comp=Z,3µm,16.4s
SSE Sheshan 38.06 347 P P 02 27 17.8 +1.4
SSE S S 02 33 01.2 +3.2
SSE pmax pmax
comp=Z,84nm,1.1s
SSE pmax pmax
comp=Z,550nm,4.1s
SSE LR LR
comp=Z,490nm,15.4s
SSE LR LR
comp=Z,1µm,15.7s
GLAD Gladstone 38.13 158 P P 02 27 17.3 +0.3
CORO Coronation Par 38.23 159 P P 02 27 18.7 +1.0
NOUC Port Laguerre 38.27 118 P P 02 27 17.9 -0.5
NOUC pP pP 02 27 48.5 -1.1
DZM Mont Dzumac 38.38 118 IAmb IAmb 02 27 20.6
comp=Z,558nm,1.8s
DZM Mont Dzumac 38.38 118 P P 02 27 19.3 -0.1
DZM Mont Dzumac 38.38 118 *e*P P 02 27 18.0 -1.4
comp=Z,314nm,1.2s
DZM *e*pP pP 02 27 48.8 -1.9
comp=Z,319nm,1.6s
DZM *e*SS SS 02 36 01.6 +2.9
comp=Z,5µm,36.8s
DZM *e*LR LR 02 38 01.5
comp=Z,5µm,28.9s
DZM Mont Dzumac 38.38 118 P P 02 27 19.2 -0.2
DZM pP pP 02 27 49.5 -1.1
PHRA Phrae 38.42 310 P P 02 27 21.4 +1.8
ONTNC Ouen Toro 38.47 118 P P 02 27 19.8 -0.2
LIFNC LIFOU 38.69 116 P P 02 27 21.5 -0.4
YATNC Mamie plateau, 38.77 118 P P 02 27 22.7 +0.1
OUENC Ouen Island, N 38.84 118 IAmb IAmb 02 27 24.8
comp=Z,353nm,1.6s
OUENC Ouen Island, N 38.84 118 P P 02 27 23.2 0.0
JNU Nakatsue 39.09 1 P P 02 27 25.3 +0.3
JNU IAmb IAmb 02 27 27.1
comp=Z,155nm,1.0s
JNU Nakatsue 39.09 1 P P 02 27 26.1 +1.0
MOO Moorlands 39.12 160 P P 02 27 26.8 +1.6
baz=39,SNR=17
MOO Moorlands 39.12 160 P P 02 27 26.7 +1.5
CRAI Chiangrai 39.37 313 IAmb IAmb 02 27 30.4
comp=Z,402nm,1.0s
CMAR Chiang Mai Arr 39.38 309 *i* P P 02 27 29.2 +1.5
CMAR pmax pmax
comp=Z,403nm,1.0s
CMAR Chiang Mai Arr 39.38 309 P P 02 27 29.5 +1.8
comp=Z,361nm,1.0s,baz=141,slow=7.6,SNR=829
CMAR PcP PcP 02 29 34.0 +0.9
comp=Z,36nm,0.8s,baz=160,slow=2.5,SNR=5.9
CMAR ScP ScP 02 33 08.1 +0.1
comp=Z,11nm,0.9s,baz=152,slow=3.6,SNR=6.8
CMAR LR LR 02 43 29.9
comp=Z,800nm,21.8s,baz=125,slow=35
comp=Z,361nm,1.0s
PINNC Pines Island, 39.43 118 IAmb IAmb 02 27 29.9
comp=Z,306nm,1.2s
PINNC Pines Island, 39.43 118 P P 02 27 28.4 +0.3
NJ2 Nanjing 39.53 345 ⇑P P 02 27 30.2 +1.5
NJ2 pP pP 02 28 02.2 +2.2
NJ2 sP sP 02 28 14.1 -2.2
NJ2 PP PnPn 02 29 08.8 +1.6
NJ2 ScP ScP 02 33 08.4 +0.1
NJ2 S S 02 33 20.4 +0.3
NJ2 ScS ScS 02 37 21.3 +0.3
NJ2 pmax pmax
comp=Z,180nm,1.0s
NJ2 pmax pmax
comp=Z,560nm,3.8s
WHN Wuhan 39.55 338 ⇑*i* P P 02 27 30.6 +1.7
WHN PP PP 02 29 06.9 +4.0
WHN ScP ScP 02 33 08.6 +0.2
WHN S S 02 33 20.6 +0.1
WHN ScS ScS 02 37 21.0 -0.2
WHN pmax pmax
comp=Z,1µm,1.3s
TAU Tasmania Unive 39.58 160 P P 02 27 30.8 +1.8
TAU IAmb IAmb 02 28 27.4
comp=Z,250nm,1.7s
TAU Tasmania Unive 39.58 160 P P 02 27 30.3 +1.3
TAU Tasmania Unive 39.58 160 P P 02 27 30.8 +1.8
TAU pmax pmax
comp=Z,250nm,1.7s
TAU Tasmania Unive 39.58 160 P P 02 27 30.6 +1.6
CHTO Chiang Mai 39.58 309 P P 02 27 30.4 +1.1
CHTO Chiang Mai 39.58 309 P P 02 27 30.3 +0.9
CHTO Chiang Mai 39.58 309 P P 02 27 30.4 +1.1
CHTO pmax pmax
comp=Z,872nm,1.0s
CHTO Chiang Mai 39.58 309 P P 02 27 30.7 +1.4
CHTO P P 02 27 30.7 +1.4
CHTO Chiang Mai 39.58 309 P P 02 27 30.8 +1.4
CHTO ScP ScP 02 33 09.7 +0.9
MARNC Mare, Loyalty 39.60 116 P P 02 27 29.4 -0.1
GYA Guiyang 39.67 326 ⇓*i* P P 02 27 31.7 +1.6
GYA pP pP 02 28 03.6 +2.4
GYA PP PP 02 29 05.9 +1.5
GYA PcP PcP 02 29 36.2 +2.1
GYA ScP ScP 02 33 10.0 +0.8
GYA S S 02 33 21.0 -1.7
GYA SS SS 02 36 22.5 -2.0
GYA ScS ScS 02 37 24.7 +2.3
GYA pmax pmax
comp=Z,160nm,1.0s
GYA pmax pmax
comp=Z,2µm,4.3s
JMN Monobe 39.84 5 IAmb IAmb 02 27 34.1
comp=Z,147nm,0.8s
JMN Monobe 39.84 5 P P 02 27 32.6 +1.3
JTU Tsushima 40.49 359 P P 02 27 38.5 +2.0
KMI Kunming 41.02 320 ⇑P P 02 27 43.2 +1.9
KMI pP pwP 02 28 16.7 -1.9
KMI sP sP 02 28 30.9 +2.0
KMI PP PP 02 29 19.2 +0.1
KMI ScP ScP 02 33 16.2 +1.6
KMI S S 02 33 43.6 +0.7
KMI SS SS 02 36 50.0 -1.3
KMI pmax pmax
comp=Z,240nm,1.2s
KMI pmax pmax
comp=Z,2µm,6.9s
KMI LR LR
comp=Z,510nm,16.0s
KMI LR LR
comp=Z,980nm,22.5s
KMI LR LR
comp=Z,1µm,15.6s
ENH Enshi 41.34 332 IAmb IAmb 02 27 45.8
comp=Z,551nm,1.7s
ENH Enshi 41.34 332 P P 02 27 44.1 +0.4
ENH pP pP 02 28 15.4 +0.4
ENH PcP PcP 02 29 39.6 +0.4
ENH ScP ScP 02 33 15.5 0.0
INU Inuyama 41.80 8 P P 02 27 47.7 +0.4
INU Inuyama 41.80 8 P P 02 27 48.9 +1.7
JGF Kuroka 42.10 9 P P 02 27 50.5 +0.8
TJN Taejon 42.42 357 P P 02 27 54.0 +1.8
TJN Taejon 42.42 357 *ce*P P 02 27 51.4 -0.8
PZH PanZhiHua 42.63 321 P P 02 27 54.9 +0.6
PZH pP pP 02 28 28.4 +2.6
PZH sP sP 02 28 43.8 +1.8
PZH PP PP 02 29 41.2 +4.9
PZH ScP ScP 02 33 21.1 +0.2
PZH S S 02 34 04.5 -1.9
PZH ScS ScS 02 37 40.6 +0.2
PZH pmax pmax
comp=Z,160nm,1.0s
PZH pmax pmax
comp=Z,2µm,6.3s
PZH LR LR
comp=Z,1µm,16.7s
PZH LR LR
comp=Z,1µm,18.5s
PZH LR LR
comp=Z,910nm,17.1s
MAJO Matsushiro 43.15 9 P P 02 27 58.2 0.0
MAJO Matsushiro 43.15 9 P P 02 27 58.3 0.0
MAJO Matsushiro 43.15 9 *i* P P 02 27 57.8 -0.4
MAJO pmax pmax
comp=Z,82nm,0.9s
MAJO Matsushiro 43.15 9 P P 02 27 58.1 0.0
MAJO pP pP 02 28 28.2 -2.2
MJAR Matsushiro Arr 43.15 9 P P 02 27 58.1 -0.1
comp=Z,60nm,0.8s,baz=188,slow=9.0,SNR=80
MJAR S S 02 34 08.8 -4.7
comp=Z,0.9nm,0.3s,baz=180,slow=7.7,SNR=2.0
MJAR LR LR 02 44 15.9
comp=Z,1µm,19.2s,baz=180,slow=33
comp=Z,60nm,0.8s
KSRS Korea Array 43.46 357 P P 02 28 01.8 +1.2
comp=Z,16nm,0.7s,baz=174,slow=12,SNR=73
KSRS PcP PcP 02 29 47.2 +1.1
comp=Z,21nm,0.9s,baz=191,slow=2.9,SNR=7.0
KSRS ScP ScP 02 33 23.4 -0.3
comp=Z,12nm,0.7s,baz=177,slow=4.3,SNR=15
comp=Z,16nm,0.7s
KS19 Wonju Array Si 43.51 357 P P 02 28 01.5 +0.5
KS19 IAmb IAmb 02 28 03.5
comp=Z,355nm,1.9s
INCN Inchon 43.56 356 P P 02 28 01.9 +0.4
INCN Inchon 43.56 356 P P 02 28 03.5 +2.0
INCN Inchon 43.56 356 P P 02 28 01.9 +0.4
INCN pmax pmax
comp=Z,133nm,1.2s
MND Mandalay 43.60 311 P P 02 28 02.6 +0.6
TNCH TengChong 43.74 316 ⇑P P 02 28 04.5 +1.2
TNCH pP pwP 02 28 39.8 -1.3
TNCH sP sP 02 28 58.0 +6.9
TNCH PP PP 02 29 50.8 +2.6
TNCH PcS PcS 02 33 39.8 -1.2
TNCH S S 02 34 23.8 +1.0
TNCH sS sS 02 35 25.8 +7.0
TNCH ScS SS 02 37 43.9 -0.7
TNCH pmax pmax
comp=Z,350nm,1.2s
TNCH pmax pmax
comp=Z,2µm,5.0s
TNCH LR LR
comp=Z,810nm,12.0s
TNCH LR LR
comp=Z,670nm,14.4s
TNCH LR LR
comp=Z,870nm,20.9s
LYN LuoYang 43.84 339 ⇑*i* P P 02 28 04.6 +0.9
LYN pP pwP 02 28 39.2 -2.0
LYN PP PP 02 29 49.5 +0.5
LYN ScP ScP 02 33 25.7 +0.2
LYN S S 02 34 21.9 -1.7
LYN ScS ScS 02 37 48.2 +0.9
LYN pmax pmax
comp=Z,270nm,1.7s
LYN pmax pmax
comp=Z,3µm,4.8s
HJU Haeju 44.19 355 P P 02 28 08.7 +2.2
HJU pP sP 02 28 52.4 -2.6
HJU S S 02 34 23.9 -4.6
HJU AmB
comp=Z,1µm,3.1s
CD2 Chengdu 44.73 327 ⇑P P 02 28 11.2 +0.3
CD2 sP sP 02 28 58.4 -0.4
CD2 PcP PcP 02 29 51.7 +1.0
CD2 S S 02 34 32.2 -4.5
CD2 SS ScS 02 37 52.5 -0.8
CD2 pmax pmax
comp=Z,210nm,0.9s
CD2 pmax pmax
comp=Z,2µm,4.0s
CD2 LR LR
comp=Z,760nm,14.2s
CD2 LR LR
comp=Z,1µm,14.5s

CD2 LR LR
comp=Z,1μm,14.5s
XAN Xi'an 44.79 335 ⇑P **P** **02 28 11.4 0.0**
XAN pP pP 02 28 44.3 +1.1
XAN S **S** **02 34 35.0 -2.4**
XAN ScS **ScS** **02 37 51.2 -2.3**
XAN pmax pmax
comp=Z,420nm,1.5s
XAN pmax pmax
comp=Z,540nm,4.6s
XAN LR LR
comp=Z,2μm,11.2s
XAN LR LR
comp=Z,1μm,15.7s
XAN LR LR
comp=Z,1μm,20.6s
XAN Xi'an 44.79 335 P **P** **02 28 11.3 0.0**
XAN pP **pP** **02 28 42.9 -0.3**
XAN sP **sP** **02 28 57.5 -1.7**
XAN ScP **ScP** **02 33 29.9 +0.5**
JMM Marumori 44.91 12 P **P** **02 28 12.8 +0.6**
JMM IAmb IAmb 02 29 00.9
comp=Z,127nm,0.8s
JMM Marumori 44.91 12 P **P** **02 28 13.3 +1.1**
PYAG Pyongyang 45.19 355 P **P** **02 28 15.8 +1.5**
PYAG S **S** **02 34 38.8 -4.1**
PYAG AmB
comp=Z,856nm,3.2s
DL2 Dalian 45.56 351 P **P** **02 28 18.7 +1.5**
DL2 pP **pP** **02 28 49.5 +0.1**
DL2 PP **PP** **02 30 07.3 +0.3**
DL2 S **S** **02 34 49.2 +1.0**
DL2 pmax pmax
comp=Z,95nm,1.0s
DL2 pmax pmax
comp=Z,930nm,5.2s
HNS HongShan 45.71 343 ⇑P **P** **02 28 19.0 +0.6**
HNS pP **pP** **02 28 51.5 +1.0**
HNS sP **sP** **02 29 07.0 +0.3**
HNS PcP **PcP** **02 29 55.6 +1.7**
HNS ScP **ScP** **02 33 33.5 +0.4**
HNS S **S** **02 34 47.1 -3.2**
HNS ScS **ScS** **02 37 59.3 +0.2**
HNS pmax pmax
comp=Z,290nm,1.2s
HNS LR LR
comp=Z,770nm,21.5s
HNS LR LR
comp=Z,1μm,19.1s
HNS LR LR
comp=Z,1μm,17.5s
HHU Hamhung 45.94 357 P **P** **02 28 21.0 +0.8**
HHU pP **sP** **02 29 07.1 -2.1**
HHU AmB
comp=Z,401nm,1.3s
SAIH SAIHA 46.25 309 ⇑*i*P **P** **02 28 23.8 +0.7**
SUJ Sinuiju 46.35 354 P **P** **02 28 24.2 +0.8**
SUJ S **S** **02 34 54.8 -4.7**
SUJ AmB
comp=Z,972nm,2.9s
TIY Taiyuan 46.71 341 ⇑P **P** **02 28 27.4 +1.0**
TIY sP **sP** **02 29 12.6 -2.0**
TIY S **S** **02 35 03.6 -1.2**
TIY ScS **ScS** **02 38 07.6 +1.7**
TIY pmax pmax
comp=Z,110nm,0.8s
TIY pmax pmax
comp=Z,1μm,4.6s
TIY LR LR
comp=Z,480nm,8.2s
TIY LR LR
comp=Z,850nm,13.5s
TIY LR LR
comp=Z,760nm,22.5s
IMP Imphal 46.87 313 ⇑*i*P **P** **02 28 27.8 0.0**
LKP Lekhapani 47.06 317 ⇑*i*P **P** **02 28 29.2 +0.1**
KOHI KOHIMA 47.28 314 ⇑*i*P **P** **02 28 31.1 +0.1**
MOKO MOKOCHONG 47.35 315 ⇑*i*P **P** **02 28 32.2 +0.6**
YSA Yasawairara 47.47 107 P **P** **02 28 32.9 +0.4**
BJT Baijiatuau 47.76 345 IAmb IAmb 02 28 36.7
comp=Z,344nm,1.2s
BJT Baijiatuau 47.76 345 P **P** **02 28 34.4 +0.1**
BJT Baijiatuau 47.76 345 P **P** **02 28 35.2 +0.9**
BJT pP **pP** **02 29 06.6 -0.1**
BJT sP **sP** **02 29 21.2 -1.5**
BJT PcP **PcP** **02 30 02.5 +1.4**
BJT ScP **ScP** **02 33 42.0 +0.4**
BJI Beijing 47.78 345 P **P** **02 28 35.2 +0.7**
BJI pP **pP** **02 29 06.6 -0.2**
BJI sP **sP** **02 29 21.5 -1.3**
BJI PcP **PcP** **02 30 02.7 +1.6**
BJI S **S** **02 35 19.5 -0.2**
BJI ScS **ScS** **02 38 11.4 -1.2**
BJI pmax pmax
comp=Z,110nm,1.0s
BJI pmax pmax
comp=Z,740nm,4.0s
JTM Tenmabayashi 47.79 11 P **P** **02 28 36.1 +1.6**
MSVF Nonsavu 48.05 108 P **P** **02 28 37.1 0.0**
MSVF Nonsavu 48.05 108 P **P** **02 28 38.2 +1.1**
MSVF Nonsavu 48.05 108 *i*P **P** **02 28 36.7 -0.4**
MSVF pmax pmax
comp=Z,59nm,1.0s
MSVF Nonsavu 48.05 108 P **P** **02 28 37.8 +0.7**
SNY Shenyang 48.16 353 ⇑P **P** **02 28 38.0 +0.6**
SNY S **S** **02 35 23.4 -1.6**
SNY pmax pmax
comp=Z,140nm,1.1s
SNY pmax pmax
comp=Z,440nm,2.7s
SNY LR LR
comp=Z,630nm,8.0s
SNY LR LR
comp=Z,470nm,7.6s
SNY LR LR
comp=Z,1μm,15.7s
AGT Agartala 48.35 310 ⇑*i*P **P** **02 28 41.0 +1.8**
MSHR Mys Shultsa 48.53 1*ce*P **P** **02 28 40.4 +0.2**
MSHR pmax pmax
comp=Z,127nm,1.3s
PSTR Posyet 48.60 1 *i*P **P** **02 28 41.5 +0.8**
FUNA Funafuti 48.61 96 P **P** **02 28 40.5 -0.8**
FUNA IAmb IAmb 02 28 42.7
comp=Z,330nm,1.0s
FUNA Funafuti 48.61 96 P **P** **02 28 41.8 +0.4**
LZH Lanzhou 48.79 331 ⇑*i*P **P** **02 28 44.0 +1.5**
LZH pP pP 02 29 15.1 +0.2
LZH sP sP 02 29 31.3 +0.4
LZH PP **PP** **02 30 33.4 -3.8**
LZH ScP **ScP** **02 33 47.1 +0.8**
LZH S **S** **02 35 32.2 -2.2**
LZH SS **SS** **02 39 06.9 -0.3**
LZH pmax pmax
comp=Z,410nm,1.5s
LZH pmax pmax
comp=Z,2μm,7.3s
LZH LR LR
comp=Z,2μm,19.9s
LZH LR LR
comp=Z,2μm,21.3s
LZH LR LR
comp=Z,2μm,17.5s
SHL Shillong 48.81 312 *e*P **P** **02 28 43.5 +0.6**
SHL IAmb IAmb 02 28 45.5
comp=Z,830nm,1.4s
VLA Vladivostok 49.09 2 *i*P **P** **02 28 45.6 +1.2**
GUWA GUWAHATI 49.31 312 ⇑*i*P **P** **02 28 46.8 +0.3**
DGTI Dogotuki 49.48 106 P **P** **02 28 48.5 +0.5**
HHC Hu-ho-hao-te 49.84 341 *e*P **P** **02 28 51.5 +1.2**
HHC S **S** **02 35 44.9 -3.9**
HHC ScS **ScS** **02 38 24.2 -2.6**
HHC SS **SS** **02 39 20.5 -3.1**
HHC pmax pmax
comp=Z,180nm,1.4s
HHC pmax pmax
comp=Z,2μm,5.4s
TAVE Taveuni 49.87 107 P **P** **02 28 51.5 +0.6**
CN2 Changchun 49.93 355 ⇑*i*P **P** **02 28 51.2 +0.3**
CN2 pP pP 02 29 23.6 -0.4
CN2 PcP **PcP** **02 30 10.1 +1.2**
CN2 ScP **ScP** **02 33 49.9 -0.9**
CN2 S **S** **02 35 49.5 -0.3**
CN2 pmax pmax
comp=Z,100nm,0.7s
CN2 pmax pmax
comp=Z,400nm,3.0s
BTO Baotou 50.12 340 *e*P **P** **02 28 54.3 +1.8**
BTO pP **pP** **02 29 26.6 +1.5**
BTO sP **sP** **02 29 40.1 -1.0**
BTO PP **PP** **02 30 54.1 +4.9**
BTO S **S** **02 35 55.1 +2.3**
BTO ScS **ScS** **02 38 30.0 +1.3**
BTO SS **SS** **02 39 31.2 +3.0**
BTO pmax pmax
comp=Z,130nm,1.0s
BTO pmax pmax
comp=Z,4μm,4.3s
BTO LR LR
comp=Z,1μm,12.1s
BTO LR LR
comp=Z,1μm,15.7s
BTO LR LR
comp=Z,1μm,12.6s
USA0B Ussuriysk Arra 50.17 2 *i*P **P** **02 28 52.6 0.0**
USRK Ussuriysk Ar. 50.17 2 P **P** **02 28 53.7 +1.1**
comp=Z,35nm,0.7s,baz=186,slow=7.5,SNR=79
USRK PKP2ab 03 00 23.8
comp=Z,2.9nm,0.9s,baz=352,slow=6.6,SNR=4.0
comp=Z,35nm,0.7s
DCZ Deep Cove 50.56 147 IAmb IAmb 02 29 33.4
comp=Z,304nm,1.8s
MDJ Mudanjiang 50.56 359 P **P** **02 28 56.6 +1.0**
MDJ sP sP 02 29 42.2 -2.9
MDJ S **S** **02 35 59.7 +1.2**
MDJ sS sS 02 36 52.2 -3.6
MDJ ScS **ScS** **02 38 33.0 +1.7**
MDJ pmax pmax
comp=Z,130nm,1.1s
MDJ pmax pmax
comp=Z,660nm,4.3s
MDJ Mudanjiang 50.56 359 IAmb IAmb 02 28 58.2
comp=Z,136nm,1.1s
MDJ Mudanjiang 50.56 359 P **P** **02 28 57.0 +1.4**
JCZ Jackson Bay 50.62 144 P **P** **02 28 56.5 +0.3**
LKBA Tubou, Lakemba 51.07 108 P **P** **02 29 00.0 +0.1**
PALK Pallekele 51.17 284 P **P** **02 29 00.6 -0.1**
PALK IAmb IAmb 02 29 06.1
comp=Z,195nm,1.0s
PALK Pallekele 51.17 284 *i*P **P** **02 28 59.4 -1.4**
PALK Pallekele 51.17 284 LR LR 02 51 36.4
comp=Z,924nm,19.9s,baz=214,slow=37
PALK Pallekele 51.17 284 P **P** **02 29 01.2 +0.4**
PALK Pallekele 51.17 284 P **P** **02 29 01.1 +0.4**
PALK ScP **ScP** **02 33 57.9 +1.0**
ASAJ Asahikawa 51.30 11 LR LR 02 49 27.0
comp=Z,741nm,20.9s,baz=137,slow=34
INZ Inchbonnie 51.44 142 P **P** **02 29 03.0 +0.8**
XLT XiLinHaoTe 51.46 347 *e*P **P** **02 29 03.3 +0.9**
XLT pP pP 02 29 36.7 +1.4
XLT sP sP 02 29 52.1 +0.8
XLT PcP **PcP** **02 30 15.6 +0.9**
XLT PP **PP** **02 31 04.7 +3.4**
XLT PcS **PcS** **02 34 09.7 -3.0**
XLT S **S** **02 36 08.8 -2.2**
XLT sS sS 02 37 06.2 -2.3
XLT ScS **ScS** **02 38 37.4 -0.3**
XLT pmax pmax
comp=Z,160nm,1.1s
XLT pmax pmax
comp=Z,1μm,4.1s
TKNZ Takaka Hill 51.52 139 P **P** **02 29 03.8 +0.9**
MRNZ Matariki Terra 51.57 140 P **P** **02 29 03.8 +0.5**
HIZ Hauiti 51.59 135 P **P** **02 29 04.2 +0.8**
HIZ IAmb IAmb 02 29 47.4
comp=Z,628nm,1.9s
MALK Mahakanadarawa 51.60 286 P **P** **02 29 02.0 -1.9**
MALK S **S** **02 36 12.1 -1.7**
LBZ Lake Benmore 51.62 144 P **P** **02 29 04.4 +0.8**
LBZ IAmb IAmb 02 29 44.8
comp=Z,149nm,1.1s
TOZ Tahuroa Road 51.70 134 P **P** **02 29 05.0 +0.7**
TOZ IAmb IAmb 02 29 48.2
comp=Z,408nm,1.6s
BNX BinXian 51.75 357 ⇓P **P** **02 29 05.0 +0.6**
BNX pP **pP** **02 29 37.6 0.0**
BNX sP **sP** **02 29 53.9 +0.2**
BNX PP **PP** **02 31 07.1 +3.4**
BNX S **S** **02 36 16.1 +1.4**
BNX pmax pmax
comp=Z,79nm,1.1s
BNX pmax pmax
comp=Z,1μm,7.0s
BNX LR LR
comp=Z,840nm,9.1s
BNX LR LR
comp=Z,1μm,9.0s
BNX LR LR
comp=Z,880nm,16.7s
RPZ Rata Peaks 51.75 143 P **P** **02 29 05.1 +0.5**
RPZ IAmb IAmb 02 29 47.8
comp=Z,176nm,1.1s
RPZ Rata Peaks 51.75 143 P **P** **02 29 05.5 +0.9**
RPZ Rata Peaks 51.75 143 LR LR 02 52 30.2
comp=Z,2μm,18.4s,baz=308,slow=38
LSA Lhasa 51.76 316 P **P** **02 29 07.2 +1.8**
LSA Lhasa 51.76 316 P **P** **02 29 07.2 +1.8**
LSA pmax pmax
comp=Z,1μm,1.7s
LSA Lhasa 51.76 316 P **P** **02 29 07.1 +1.8**
LSA Lhasa 51.76 316 P **P** **02 29 07.2 +1.8**
THZ Tophouse 51.85 140 P **P** **02 29 06.4 +1.0**
LTZ Lake Taylor 51.98 141 P **P** **02 29 07.0 +0.6**
VIS Vishakhapatnam 52.02 298 *e*P **P** **02 29 08.2 +1.3**
VIS IAmb IAmb 02 29 09.9
comp=Z,991nm,0.7s
GTK Tadong 52.23 312 ⇑*i*P **P** **02 29 09.6 +1.1**
BSWZ Blackbirch Sta 52.45 139 P **P** **02 29 09.4 -0.4**
BOK Bokaro 52.51 306 *e*P **P** **02 29 11.4 +0.9**
BOK IAmb IAmb 02 29 14.2
comp=Z,161nm,0.7s
RAGD RAYAGADA 52.52 300 ⇑*i*P **P** **02 29 11.9 +1.4**
GVZ Greta Valley S 52.56 141 P **P** **02 29 11.5 +1.0**
KHZ Kahutara 52.59 140 IAmb IAmb 02 29 55.8
comp=Z,89nm,0.8s
CMWZ Cape Campbell 52.69 139 P **P** **02 29 12.1 +0.6**
MQZ McQueen's Vall 52.72 142 P **P** **02 29 12.4 +0.7**
MQZ IAmb IAmb 02 29 53.2
comp=Z,190nm,1.4s
SNZO South Karori 52.80 138 P **P** **02 29 12.2 -0.1**
SNZO IAmb IAmb 02 29 45.3
comp=Z,241nm,1.2s
SNZO South Karori 52.80 138 P **P** **02 29 11.5 -0.8**
BHW Baring Head 52.95 139 IAmb IAmb 02 29 46.2
comp=Z,123nm,1.3s
BKZ Black Stump Fm 53.02 135 IAmb IAmb 02 30 03.0
comp=Z,119nm,1.1s
BKZ Black Stump Fm 53.02 135 P **P** **02 29 14.0 -0.1**
MRZ Mangatainoka R 53.07 137 IAmb IAmb 02 29 47.6
comp=Z,256nm,1.5s
URZ Urewera 53.07 134 P **P** **02 29 14.8 +0.4**
URZ Urewera 53.07 134 LR LR 02 51 49.6
comp=Z,1μm,20.9s,baz=27,slow=36
RTZ Ruatahuna 53.13 134 IAmb IAmb 02 30 19.6
comp=Z,96nm,0.8s
MDRS Chennai 53.19 291 *e*P **P** **02 29 16.6 +1.0**
MDRS IAmb IAmb 02 29 18.1
comp=Z,503nm,0.9s
PLWZ Palliser 53.28 139 P **P** **02 29 15.4 -0.5**
JHSG JHARSUGUGA 53.31 303 *e*P **P** **02 29 17.5 +1.1**
GTA Gaotai 53.36 331 ⇑P **P** **02 29 17.9 +1.3**
GTA pP pP 02 29 50.6 +1.1
GTA PcP **PcP** **02 30 22.5 +0.4**
GTA PP **PP** **02 31 18.7 +0.1**
GTA ScP **ScP** **02 34 06.3 +0.3**
GTA PcS **PcS** **02 34 20.8 -0.5**
GTA S **S** **02 36 35.0 -2.2**
GTA ScS **ScS** **02 38 51.4 0.0**
GTA pmax pmax
comp=Z,220nm,1.6s
GTA pmax pmax
comp=Z,2μm,8.4s
GTA LR LR
comp=Z,780nm,15.5s
GTA LR LR
comp=Z,510nm,15.9s
GTA LR LR
comp=Z,820nm,15.9s
MCQ Macquarie Isla 53.46 160 P **P** **02 29 18.8 +2.0**
baz=54,SNR=5.1
MCQ Macquarie Isla 53.46 160 P **P** **02 29 16.8 -0.1**
BFZ Birch Farm 53.53 137 P **P** **02 29 18.5 +0.8**
comp=Z,37nm,2.7s
GOMU GeErMu 53.65 324 P **P** **02 29 19.6 +0.5**
GOMU PP **PP** **02 31 19.6 -1.9**
GOMU S **S** **02 36 41.9 +0.2**
GOMU pmax pmax
comp=Z,74nm,1.9s
GOMU LR LR
comp=Z,560nm,17.8s
GOMU LR LR
comp=Z,480nm,16.6s
GOMU LR LR
comp=Z,870nm,17.1s
RAO Raoul Island 53.95 122 LR LR 02 51 01.2
comp=Z,1μm,21.3s,baz=314,slow=34
VJD Vijayawada 53.96 295 ⇑*i*P **P** **02 29 22.5 +1.4**
YSS Yuzh-Sakhalins 54.06 11 P **P** **02 29 22.5 +1.2**
YSS IAmb IAmb 02 31 19.0
comp=Z,205nm,1.7s
YSS Yuzh-Sakhalins 54.06 11 P **P** **02 29 23.2 +1.9**
YSS Yuzh-Sakhalins 54.06 11 *e*P **P** **02 29 21.2 -0.1**
YSS *e**PP **pP** **02 29 55.7 +0.9**
YSS *e**SP **sP** **02 30 08.0 -2.8**
YSS *e*S **S** **02 36 45.1 -0.9**
YSS pmax pmax
comp=Z,60nm,0.9s
YSS pmax pmax
comp=Z,500nm,5.9s
YSS smax smax
comp=N,1μm,7.8s
KOD Kodaikanal 55.00 287 ⇑*i*P **P** **02 29 29.3 +0.2**
TRD Trivandrum 55.07 285 *e*P **P** **02 29 29.2 0.0**
TRD IAmb IAmb 02 29 34.8
comp=Z,1μm,1.8s
KLR Kul'dur 55.19 1*ce*P **P** **02 29 28.4 -1.1**
KLR pmax pmax
comp=N,219nm,1.7s
KLR Kul'dur 55.19 1 S **S** **02 36 59.4 -1.7**
comp=Z,4.4nm,1.1s,baz=13,slow=14,SNR=6.2
KLR LR LR 02 55 59.5
comp=Z,300nm,18.3s,baz=174,slow=39
VAR Varanasi 55.52 306 *e*P **P** **02 29 33.0 +0.7**
VLK Valmikinagar 55.82 309 *e*P **P** **02 29 36.0 +1.7**
HIA Hailar 55.97 352 *i*P **P** **02 29 36.6 +1.6**
HIA pmax pmax
comp=Z,23nm,1.1s
UGL Uglegorsk 55.99 9 *e*P **P** **02 29 37.2 +2.1**
UGL *e* 02 30 25.1
UGL pmax pmax
comp=N,180nm,0.9s
HYB Hyderabad 56.15 296 ⇑*e*P **P** **02 29 36.9 0.0**
HYB IVmB_BB 02 29 37.6
comp=Z,7μm,1.6s
HYB *e* 02 29 42.5
HYB *e*pP **pP** **02 30 11.1 +0.9**
HYB Hyderabad 56.15 296 *e*P **P** **02 29 37.0 0.0**
HYB IAmb IAmb 02 29 38.7
comp=Z,2μm,1.8s
HEH HeiHe 56.26 358 *e*P **P** **02 29 36.8 -0.2**
HEH S **S** **02 37 12.8 -2.3**
HEH ScS **ScS** **02 39 07.4 -3.9**
HEH SS **SS** **02 40 59.4 -5.0**
HEH pmax pmax
comp=Z,200nm,1.2s
HEH pmax pmax
comp=Z,850nm,4.6s
ALBI Allahabad 56.50 306 ⇑*i*P **P** **02 29 39.5 +0.2**
GRNR Gornyy 56.97 5 ⇑*i*P **P** **02 29 43.6 +1.5**
GRNR pmax pmax
comp=N,20nm,0.9s
GRNR pmax pmax
comp=Z,30nm,0.8s
AIS Amsterdam Isla 57.10 229 P **P** **02 29 45.8 +2.5**
AIS IAmb IAmb 02 29 51.9
comp=Z,215nm,1.1s
H08S2 Diego Garcia H 57.29 265 P **P** **02 29 46.4 +1.7**
H08S3 Diego Garcia H 57.30 265 P **P** **02 29 46.5 +1.7**
H08S1 Diego Garcia H 57.30 265 P **P** **02 29 46.5 +1.7**
DGAR Diego Garcia 57.34 265 P **P** **02 29 47.0 +1.6**
DGAR Diego Garcia 57.34 265*ce*P **P** **02 29 45.7 +0.4**
DGAR pmax pmax
comp=Z,815nm,1.3s
DGAR Diego Garcia 57.34 265 P **P** **02 29 46.9 +1.6**
KAAM Kaadhehdhoo 57.49 275 P **P** **02 29 48.1 +1.6**
KAAM Kaadhehdhoo 57.49 275 P **P** **02 29 48.2 +1.8**
SNR=13
ULN Ulaanbaatar 57.56 342 P **P** **02 29 48.2 +1.7**
ULN Ulaanbaatar 57.56 342*ce*P **P** **02 29 47.7 +1.3**
ULN pmax pmax
comp=Z,327nm,1.0s
ULN Ulaanbaatar 57.56 342 P **P** **02 29 48.1 +1.7**
ULN Ulaanbaatar 57.56 342 P **P** **02 29 48.3 +1.9**
ULN pP **pP** **02 30 21.2 +1.3**
ULN PcP **PcP** **02 30 39.5 +1.4**
BRCI Bahraich 57.72 308 ⇑*i*P **P** **02 29 48.9 +1.2**
SONM Songino Array 57.74 341 IAmb IAmb 02 29 50.9
comp=Z,257nm,1.2s
SONM Songino Array 57.74 341 P **P** **02 29 49.3 +1.6**
comp=Z,72nm,0.5s,baz=160,slow=7.0,SNR=488
SONM S **S** **02 37 33.6 -1.4**
comp=Z,2.0nm,0.9s,baz=151,slow=6.4,SNR=1.8
SONM PKPPKP **P'P'df** **02 59 30.9 +1.2**
comp=Z,1.3nm,1.0s,baz=248,slow=1.6,SNR=7.3
SONM PKP2bc 02 59 40.7
comp=Z,3.0nm,0.8s,baz=297,slow=1.3,SNR=12
comp=Z,72nm,0.5s
TYV Tymovskoe 57.82 9 *e*P **P** **02 29 50.0 +2.0**
TYV *e*S **S** **02 37 37.6 +2.0**
TYV pmax pmax
comp=Z,300nm,3.6s
TYV pmax pmax
comp=Z,31nm,1.0s
TYV smax smax
comp=N,2μm,5.9s
TYV smax smax
comp=E,500nm,5.9s
TYV smax smax
comp=N,20nm,2.5s
TYV smax smax
comp=E,10.0nm,2.5s
MNGI Mangalore 58.22 289 *e*P **P** **02 29 52.1 +0.7**
AKL Akola 58.67 299 ⇑*i*P **P** **02 29 54.6 +0.1**
MNCY Minicoy 58.80 283 *e*P **P** **02 29 56.1 +0.6**
JHNI Jhansi 59.23 304 ⇑*i*P **P** **02 29 57.5 -0.8**
NIUE Niue 59.54 108 P **P** **02 30 01.4 +0.9**
NIUE Niue 59.54 108 P **P** **02 30 01.9 +1.4**
LGTI Lohaghat 59.64 309 ⇑*i*P **P** **02 30 01.5 +0.6**
CIT Chita 59.70 348 *e*P **P** **02 30 03.1 +2.1**
CIT *e* 02 30 37.4
CIT *e* 02 30 47.0
CIT *e* 02 32 21.0
CIT *e* 02 38 03.4
CIT *e* 02 38 19.8
CIT *e*S **ScS** **02 39 36.0 -0.7**
CIT pmax pmax
comp=Z,388nm,2.2s
ZEA Zeya 59.74 358 *e*P **P** **02 30 02.0 +0.8**
ZEA *e*S **S** **02 37 56.8 -3.6**
ZEA *e* 02 39 36.8
ZEA pmax pmax
comp=Z,400nm,1.5s
ZEA pmax pmax
comp=N,80nm,1.0s
ZEA pmax pmax
comp=Z,160nm,1.0s
ZEA smax smax
comp=E,1μm,5.3s
GOA Goa 59.85 292 ⇑*i*P **P** **02 30 03.1 +0.4**
GOA IAmb IAmb 02 30 04.9
comp=Z,344nm,0.7s
KAD Karad 60.06 294 ⇑*i*P **P** **02 30 04.0 -0.1**
POO Poona 60.74 295 *e*P **P** **02 30 08.0 -0.7**
DRV Dumont d'Urvil 60.77 176 P **P** **02 30 08.5 +0.5**
ZAK Zakamensk 60.97 341 *e*P **P** **02 30 10.7 +1.0**
ZAK *e* 02 39 43.8
ZAK pmax pmax
comp=Z,139nm,1.3s
CASY Casey 61.54 189 P **P** **02 30 14.4 +1.2**
NDI New Delhi 61.66 307 ⇑*i*P **P** **02 30 14.0 -0.8**
DDI Dehra Dun 61.73 309 *e*P **P** **02 30 15.6 +0.4**
DDI *i* x **S** **02 38 24.7 -1.9**
KUDL Kundal 62.01 306 ⇑*i*P **P** **02 30 16.5 -0.5**

IRK **Irkutsk** 62.26 342 *e*P **P** 02 30 19.8 +1.5
IRK *e*S **S** 02 38 30.4 -2.0
IRK pmax pmax
comp=Z,544nm,2.2s
SMLA Simla 62.77 310 *e*P **P** 02 30 23.4 +1.3
SMLA *e*S **S** 02 38 37.8 -1.7
SMLA *i* x **S** 02 38 39.7 +0.2
MOY Mondy 62.82 340 *e*P **P** 02 30 23.8 +1.7
MOY pmax pmax
comp=Z,678nm,2.2s
WMQ Urumqi 62.83 327⇑ *i*P **P** 02 30 24.0 +1.7
WMQ pP PcP 02 30 58.2 -1.1
WMQ PP **PP** 02 32 40.2 -2.3
WMQ S **S** 02 38 40.9 +0.9
WMQ ScS **SKSac** 02 39 58.6 -2.1
WMQ pmax pmax
comp=Z,410nm,1.3s
WMQ pmax pmax
comp=Z,2μm,3.8s
WMQ LR LR
comp=Z,1μm,18.3s
WMQ LR LR
comp=Z,970nm,19.9s
WMQ LR LR
comp=Z,690nm,23.8s
AJM Ajmer 62.84 304⇑ *i*P **P** 02 30 22.7 0.0
BHK Bhakra 63.47 310⇑ *i*P **P** 02 30 27.9 +1.1
PEA0B Petropavlovsk- 63.48 18 P **P** 02 30 27.6 +1.3
PEA0B Petropavlovsk- 63.48 18 *ce*P **P** 02 30 27.3 +1.0
PETK Petropavlovsk- 63.48 18 P **P** 02 30 27.2 +0.9
comp=Z,44nm,0.8s,baz=193,slow=4.5,SNR=44
PETK LR LR 02 55 17.3
comp=Z,224nm,21.3s,baz=201,slow=33
comp=Z,44nm,0.8s
PET Petropavlovsk 63.71 19 P **P** 02 30 28.2 +0.5
PET IAmb IAmb 02 31 25.5
comp=Z,106nm,1.1s
PET Petropavlovsk 63.71 19 P **P** 02 30 29.9 +2.1
PET Petropavlovsk 63.71 19 *e*P **P** 02 30 29.0 +1.2
PET *e**PP **pwP** 02 31 09.3 +4.4
PET *e*S **S** 02 38 51.2 +0.9
PET pmax pmax
comp=Z,126nm,1.2s
JOHN Johnston Islan 63.76 68 P **P** 02 30 30.2 +1.4
DHRM DHARAMSHALA 63.93 310 *e*P **P** 02 30 29.3 -0.7
DHRM *i* x **S** 02 38 49.1 -5.3
THN Thein Dam 64.46 310⇑ *i*P **P** 02 30 33.6 +0.5
BOD Bodaibo 65.13 351 *e*P **P** 02 30 37.8 +0.9
BOD pmax pmax
comp=Z,243nm,1.6s
BHUJ Bhuj 65.95 299 *e*P **P** 02 30 43.0 +0.1
PAF Port-aux-Franc 66.05 218 P **P** 02 30 44.9 +1.8
PAF IAmb IAmb 02 30 47.7
comp=Z,493nm,1.7s
PAF Port-aux-Franc 66.05 218 P **P** 02 30 44.9 +1.8
PAF pmax pmax
comp=Z,493nm,1.7s
ROCAM Rodrigues Isla 66.16 251 P **P** 02 30 46.2 +1.8
WUS Wushi 66.29 320 P **P** 02 30 46.8 +1.9
ZSN Zaisan 66.69 328 *e*P **P** 02 30 47.6 +0.4
ZSN *e*S **S** 02 39 28.4 +1.4
ZSN pmax pmax
comp=Z,136nm,0.9s
ZSN Zaisan 66.69 328 *e*P **P** 02 30 47.6 +0.4
comp=Z,136nm,0.9s,baz=328
ZSN *e*S **S** 02 39 28.5 +1.4
baz=328
DGZ Jazzator, Alta 66.89 331 *c i*P **P** 02 30 49.7 +1.1
DGZ pmax pmax
comp=Z,595nm,1.4s
SHLS Shalkode 67.20 322 *e*P **P** 02 30 49.4 -1.3
SHLS pmax pmax
comp=Z,115nm,0.8s
SHLS Shalkode 67.20 322 *e*P **P** 02 30 49.4 -1.3
comp=Z,115nm,0.8s,baz=322
PDGK Podgornoye 67.28 322 P **P** 02 30 52.1 +0.9
UZB Uzynbulak 67.47 322 *e*P **P** 02 30 52.6 +0.3
UZB *e*S **S** 02 39 37.5 +0.7
UZB pmax pmax
comp=Z,102nm,1.0s
UZB Uzynbulak 67.47 322 *e*P **P** 02 30 52.6 +0.3
comp=Z,102nm,1.0s,baz=322
UZB *e*S **S** 02 39 37.5 +0.7
baz=322
MA2 Magadan 67.56 11 P **P** 02 30 53.1 +0.8
MA2 Magadan 67.56 11 P **P** 02 30 54.2 +1.9
MA2 Magadan 67.56 11 *ce*P **P** 02 30 54.0 +1.7
MA2 pmax pmax
comp=Z,149nm,1.7s
MA2 Magadan 67.56 11 S **S** 02 39 36.5 -0.3
comp=Z,1.4nm,0.3s,baz=168,slow=23,SNR=1.3
MA2 Magadan 67.56 11 P **P** 02 30 53.9 +1.5
KSH Kashi 67.56 317 P **P** 02 30 54.8 +1.8
KSH PcP **PcP** 02 31 21.0 +1.9
KSH pP pP 02 31 30.0 +2.4
KSH S **S** 02 39 37.4 -0.6
KSH sS ScS 02 40 37.9 +0.3
KSH pmax pmax
comp=Z,180nm,1.7s
KSH LR LR
comp=Z,820nm,22.7s
KSH LR LR
comp=Z,660nm,16.2s
KSH LR LR
comp=Z,1μm,19.9s
MK31 Makanchi Array 67.66 327 *ce*P **P** 02 30 54.6 +1.3
MKAR Makanchi Array 67.66 327 *i* P **P** 02 30 54.7 +1.4
MKAR pmax pmax
comp=Z,334nm,0.4s
MKAR Makanchi Array 67.66 327 P **P** 02 30 55.2 +1.9
comp=Z,323nm,0.4s,baz=113,slow=8.9,SNR=5815
MKAR S **S** 02 39 37.9 -0.8
comp=Z,3.1nm,0.8s,baz=113,slow=9.6,SNR=3.7
MKAR PKP2bc 02 59 11.7
comp=Z,1.1nm,0.8s,baz=293,slow=3.4,SNR=7.4
comp=Z,323nm,0.4s
SATY Saty 67.80 322 *e*P **P** 02 30 54.8 +0.4
SATY *e*S **S** 02 39 41.6 +0.9
SATY pmax pmax
comp=Z,235nm,1.5s
SATY Saty 67.80 322 *e*P **P** 02 30 54.8 +0.4
comp=Z,235nm,1.5s,baz=322
SATY *e*S **S** 02 39 41.6 +0.9
baz=322
MAKZ Makanchi 67.84 326 P **P** 02 30 55.8 +1.3
MAKZ pP **pP** 02 31 30.0 +1.0
ZHN Zhinishke 67.84 322 *e*P **P** 02 30 54.8 +0.1
ZHN pmax pmax
comp=Z,182nm,1.3s
ZHN Zhinishke 67.84 322 *e*P **P** 02 30 54.8 +0.1
comp=Z,182nm,1.3s,baz=322
YAK Yakutsk 68.01 360 P **P** 02 30 56.0 +0.9
YAK Yakutsk 68.01 360 *c i*P **P** 02 30 55.7 +0.6
YAK *e* 02 31 15.9
YAK *e*PPP PPP 02 35 07.9
YAK *e*S **S** 02 39 42.1 0.0
YAK *e* 02 40 35.8
YAK *e*SS **SS** 02 44 08.9 +1.4
YAK pmax pmax
comp=Z,431nm,1.0s
YAK pmax pmax
comp=N,162nm,1.2s
YAK pmax pmax
comp=E,69nm,1.4s
YAK smax smax
comp=N,802nm,2.8s
YAK smax smax
comp=E,350nm,2.8s
YAK Yakutsk 68.01 360 S **S** 02 39 41.1 -1.0
comp=E,21nm,0.4s,baz=313,slow=23,SNR=17
YAK LR LR 03 01 21.3
comp=E,374nm,21.6s,baz=190,slow=36
YAK Yakutsk 68.01 360 P **P** 02 30 56.3 +1.2
YAK pP **pP** 02 31 29.6 -0.6
TNSS Tian-Shan 68.70 321 *e*P **P** 02 31 00.6 +0.3
TNSS Tian-Shan 68.70 321 *e*P **P** 02 31 00.7 +0.3
baz=321
MDOK Medeo 68.70 321 *e*P **P** 02 31 00.4 +0.4
MDOK *e*S **S** 02 39 52.0 +0.6
MDOK Medeo 68.70 321 *e*P **P** 02 31 00.5 +0.4
baz=321
MDOK *e*S **S** 02 39 52.1 +0.6
baz=321
ULHL Ulahol 68.74 320 P **P** 02 31 02.0 +1.6
SNR=68

AAA Alma-Ata 68.81 321 *e*P **P** 02 31 01.2 +0.6
AAA Alma-Ata 68.81 321 *e*P **P** 02 31 01.2 +0.6
baz=321
TDK Taldyqorghan 68.85 323 *e*P **P** 02 31 01.3 +0.5
TDK Taldyqorghan 68.85 323 *e*P **P** 02 31 01.3 +0.5
baz=323
CCD Concordia, Ant 68.99 182 P **P** 02 31 02.4 +0.8
CCD PcP **PcP** 02 31 25.8 +1.0
CHKK Chushkaly 69.10 322 *e*P **P** 02 31 02.3 0.0
CHKK Chushkaly 69.10 322 *e*P **P** 02 31 02.4 0.0
baz=322
RAR Rarotonga 69.17 110 P **P** 02 31 03.4 +0.2
RAR IAmb IAmb 02 31 49.1
comp=Z,154nm,1.4s
RAR Rarotonga 69.17 110 P **P** 02 31 04.1 +0.9
RAR Rarotonga 69.17 110 P **P** 02 31 03.4 +0.2
RAR pmax pmax
comp=Z,155nm,1.4s
RAR Rarotonga 69.17 110 LR LR 02 59 02.9
comp=Z,397nm,21.8s,baz=272,slow=34
SHEM Shemya Is, Ala 69.46 27 LR LR 02 59 21.0
comp=Z,516nm,19.7s,baz=298,slow=34
TKM2 Tokmak 2 69.49 320 P **P** 02 31 06.7 +1.6
SNR=412
TKM2 Tokmak 2 69.49 320 *i* P **P** 02 31 06.1 +1.1
TKM2 pmax pmax
comp=Z,241nm,0.7s
KUU Kurty 69.52 321 *e*P **P** 02 31 05.3 +0.4
KUU *e*S **S** 02 40 00.4 -0.3
KUU Kurty 69.52 321 *e*P **P** 02 31 05.3 +0.4
baz=321
KUU *e*S **S** 02 40 00.5 -0.3
baz=321
KBK Karagaybulak 69.78 320 P **P** 02 31 08.7 +1.9
SNR=157
UCH Uchtor 69.85 319 P **P** 02 31 09.6 +2.1
SNR=406
AAK Ala-Archa 70.06 320 P **P** 02 31 10.3 +1.9
SNR=350
AAK Ala-Archa 70.06 320 P **P** 02 31 10.7 +2.3
AAK Ala-Archa 70.06 320 *ce*P **P** 02 31 10.1 +1.7
AAK pmax pmax
comp=Z,652nm,1.7s
AAK Ala-Archa 70.06 320 *i* P **P** 02 31 10.3 +1.9
SNR=56
AAK Ala-Archa 70.06 320 P **P** 02 31 10.3 +1.9
comp=Z,105nm,0.5s,baz=121,slow=4.9,SNR=398
AAK S **S** 02 40 05.7 -1.7
comp=Z,2.5nm,1.0s,baz=165,slow=15,SNR=1.5
comp=Z,105nm,0.5s
AAK Ala-Archa 70.06 320 P **P** 02 31 10.3 +1.9
AAK Ala-Archa 70.06 320 P **P** 02 31 10.4 +1.9
CHMS Chumysh 70.07 320 P **P** 02 31 10.2 +1.9
SNR=5.1
KBU Kabul Universi 70.32 310 P **P** 02 31 07.8 -2.4
USP Ospenovka 70.36 320 P **P** 02 31 11.8 +1.7
SNR=286
SGDS Sogindy 70.37 320 *e*P **P** 02 31 10.1 -0.1
SGDS pmax pmax
comp=Z,133nm,1.1s
SGDS Sogindy 70.37 320 *e*P **P** 02 31 10.1 -0.1
comp=Z,133nm,1.1s,baz=320
KBL Kabul 70.40 310 P **P** 02 31 12.2 +1.5
KBL IAmb IAmb 02 31 13.4
comp=Z,328nm,1.1s
KBL Kabul 70.40 310 P **P** 02 31 12.3 +1.5
KBL pmax pmax
comp=Z,328nm,1.2s
KBL Kabul 70.40 310 P **P** 02 31 12.3 +1.5
SNR=172
EKS2 Erkin-Say 70.53 319 P **P** 02 31 13.5 +2.2
SNR=163
ZALV Zalesovo Beam 70.95 334 P **P** 02 31 13.6 +0.3
comp=Z,174nm,0.8s,baz=126,slow=5.1,SNR=362
ZALV S **S** 02 40 14.4 -2.4
comp=Z,1.3nm,0.4s,baz=157,slow=8.0,SNR=5.3
ZALV PKP2bc 02 59 06.3
comp=Z,1.1nm,0.7s,baz=308,slow=5.5,SNR=4.1
comp=Z,174nm,0.8s
SEY Seymchan 70.97 11 *ce*P **P** 02 31 14.5 +1.3
SEY pmax pmax
comp=Z,235nm,1.3s
SEY Seymchan 70.97 11 LR LR 03 02 58.3
comp=Z,259nm,19.7s,baz=204,slow=36
BTLS Baital 71.52 322 *e*P **P** 02 31 18.0 +1.0
BTLS pmax pmax
comp=Z,242nm,1.4s
KURBB Kurchatov Arra 71.93 328 P **P** 02 31 19.8 +0.5
KURBB Kurchatov Arra 71.93 328 P **P** 02 31 20.6 +1.3
comp=Z,122nm,0.5s,baz=126,slow=5.0,SNR=1452
KURBB PP **PP** 02 34 01.6 +0.5
comp=Z,25nm,1.2s,baz=127,slow=8.2,SNR=4.1
KURBB S **S** 02 40 24.4 -3.8
comp=Z,5.7nm,1.1s,baz=124,slow=7.9,SNR=9.6
KURBB PKP2bc 02 58 58.1
comp=Z,0.5nm,0.8s,baz=278,slow=3.3,SNR=5.8
comp=Z,122nm,0.5s
CHGR Chuyangaron 71.93 314 P **P** 02 31 20.8 +1.1
KURK Kurchatov 71.93 328 P **P** 02 31 20.6 +1.3
KURK Kurchatov 71.93 328 *ce*P **P** 02 31 20.2 +0.9
KURK pmax pmax
comp=Z,680nm,1.7s
KURK Kurchatov 71.93 328 P **P** 02 31 20.4 +1.1
KURK Kurchatov 71.93 328 P **P** 02 31 20.4 +1.1
KURK PcP **PcP** 02 31 37.2 0.0
KURK pP **pP** 02 31 54.4 +0.1
SIMJ Simiganj 72.04 314 P **P** 02 31 21.4 +1.0
DZA Taraz 72.24 319 *e*P **P** 02 31 21.8 +0.5
DZA Taraz 72.24 319 *e*P **P** 02 31 21.9 +0.5
baz=319
IUG Iuzhnay 72.77 318 *e*P **P** 02 31 24.9 +0.3
IUG *e*S **S** 02 40 39.7 +1.2
IUG Iuzhnay 72.77 318 *e*P **P** 02 31 24.9 +0.3
baz=318
IUG *e*S **S** 02 40 39.8 +1.2
baz=318
KK31 Karatay Array 72.87 319 IAmb IAmb 02 31 27.9
comp=Z,305nm,1.1s
KK31 Karatay Array 72.87 319 *i* P **P** 02 31 26.0 +0.9
KKAR Karatay Array 72.87 319 IAmb IAmb 02 31 27.9
comp=Z,303nm,1.1s
CHM Chimkent 73.13 318 *e*P **P** 02 31 27.3 +0.6
CHM Chimkent 73.13 318 *e*P **P** 02 31 27.3 +0.6
baz=318
VNDA Vanda 73.23 173 P **P** 02 31 27.1 +0.6
VNDA Vanda 73.23 173 P **P** 02 31 27.3 +0.7
comp=Z,50nm,0.7s,baz=320,slow=7.2,SNR=116
VNDA LR LR 03 01 30.0
comp=Z,1μm,21.9s,baz=342,slow=34
comp=Z,50nm,0.7s
BRLS Borolday 73.28 318 *e*P **P** 02 31 27.9 +0.4
BRLS *e*S **SKiKP** 02 40 44.4 +0.2
BRLS pmax pmax
comp=Z,235nm,1.3s
BRLS Borolday 73.28 318 *e*P **P** 02 31 27.9 +0.4
comp=Z,235nm,1.3s,baz=318
BRLS *e*S **SKiKP** 02 40 44.4 +0.2
baz=318
RER Riviere de l'E 73.33 250 P **P** 02 31 29.7 +1.3
SNR=5.7
NGCH Negor - Chabah 74.00 298 P **P** 02 31 34.5 +2.5
SNR=42
OTUK Ortayu 74.11 324 P **P** 02 31 33.0 +0.8
JLN Jalan Bani Buh 74.75 295 P **P** 02 31 37.9 +1.4
SNR=103
BRZS Berezniki 74.76 326 *e*P **P** 02 31 36.4 +0.5
BRZS *e*S **S** 02 41 00.1 -0.2
BRZS pmax pmax
comp=Z,177nm,1.3s
BRZS Berezniki 74.76 326 *e*P **P** 02 31 36.5 +0.5
comp=Z,177nm,1.3s,baz=326
BRZS *e*S **S** 02 41 00.2 -0.1
baz=326
ATKA Atka Island 74.84 32 IAmb IAmb 02 33 58.3
comp=Z,243nm,1.6s
ATKA Atka Island 74.84 32 P **P** 02 31 37.5 +1.2
WBK Wadi Bani Khal 75.25 295 P **P** 02 31 41.2 +1.9
SNR=28
HRA Herat 75.62 308 IAmb IAmb 02 31 44.3
comp=Z,678nm,1.8s
WSAR Wadi Sarin 75.70 296 LR LR 03 06 22.0
comp=Z,324nm,21.9s,baz=121,slow=36
MAW Mawson 75.79 201 P **P** 02 31 42.8 +1.4
baz=76,SNR=25
MAW Mawson 75.79 201 P **P** 02 31 42.8 +1.4
comp=Z,72nm,0.7s,baz=81,slow=5.4,SNR=33

MAW LR LR 03 03 07.2
comp=Z,998nm,18.8s,baz=68,slow=34
comp=Z,72nm,0.7s
MHTO MHTO 75.81 293 P **P** 02 31 43.2 +0.8
SNR=144
DQM DQM 75.98 292 P **P** 02 31 45.0 +1.5
SNR=6.2
JMDO Jabal Madar 75.98 295 P **P** 02 31 44.9 +1.4
SNR=80
SMDO Samad 76.18 295 P **P** 02 31 46.1 +1.4
SNR=58
SMDO P PcP 02 31 47.0 -9.2
SNR=24
BIDO Bidbid 76.22 296 P **P** 02 31 46.5 +1.7
SNR=129
BSY Bisya 76.88 295 P **P** 02 31 49.7 +1.2
SNR=46
HOQ Hoqain 76.96 296 P **P** 02 31 50.5 +1.5
SNR=12
JASK Jask - Hormozg 76.98 298 P **P** 02 31 51.9 +2.9
SNR=74
KHLU Kahalu`u 77.03 68 P **P** 02 31 49.4 -0.2
KHLU IAmb IAmb 02 32 38.1
comp=Z,410nm,1.4s
SHAO Shalim 77.38 290 *i* P **P** 02 31 52.4 +1.0
SNR=54
SHAO Shalim 77.38 290 P **P** 02 31 53.1 +1.7
SNR=8.0
MLH Mauna Loa 77.48 69 P **P** 02 31 52.5 +0.2
MLH IAmb IAmb 02 31 55.1
comp=Z,198nm,1.0s
BVA0 Borovoye Array 77.49 328 *i* P **P** 02 31 51.8 +0.5
BVAR Borovoye Array 77.49 328 P **P** 02 31 52.0 +0.7
comp=Z,82nm,0.5s,baz=124,slow=9.1,SNR=561
BVAR S **S** 02 41 27.8 -2.2
comp=Z,4.0nm,1.0s,baz=137,slow=16,SNR=5.3
comp=Z,82nm,0.5s
BRVK Borovoye 77.56 328 P **P** 02 31 52.5 +0.9
BRVK IAmb IAmb 02 31 54.0
comp=Z,394nm,1.3s
BRVK Borovoye 77.56 328 *ce*P **P** 02 31 52.3 +0.6
BRVK pmax pmax
comp=Z,444nm,1.7s
BRVK Borovoye 77.56 328 P **P** 02 31 52.7 +1.0
ARQ Araqi 77.61 295 P **P** 02 31 54.0 +1.3
SNR=69
ARQ P PcP 02 31 54.0 -8.3
SNR=60
TIXI Tiksi 77.68 360 P **P** 02 31 52.1 +0.2
TIXI IAmb IAmb 02 31 53.4
comp=Z,224nm,1.4s
TIXI Tiksi 77.68 360 *ce*P **P** 02 31 51.9 0.0
TIXI pmax pmax
comp=Z,196nm,1.6s
TIXI Tiksi 77.68 360 LR LR 03 10 24.4
comp=Z,291nm,18.2s,baz=196,slow=39
SOHO SOHO 77.78 296 *i* P **P** 02 31 54.3 +0.9
SNR=12
SOHO SOHO 77.78 296 P **P** 02 31 54.9 +1.4
DMTO DMTO 77.96 290 P **P** 02 31 56.0 +1.4
SNR=22
NIKH Nikolski High 78.05 33 P **P** 02 31 54.9 +0.5
baz=243
MDH Madha 78.24 297 *i* P **P** 02 31 55.9 -0.1
SNR=6.0
MDH Madha 78.24 297 P **P** 02 31 56.4 +0.4
SNR=22
UOSS Minazif 78.24 297 P **P** 02 31 56.9 +0.8
UOSS IAmb IAmb 02 31 58.4
comp=Z,467nm,1.6s
UOSS Minazif 78.24 297 *i* P **P** 02 31 56.5 +0.4
SNR=50
UOSS Minazif 78.24 297 P **P** 02 31 56.8 +0.8
BILL Bilibino 78.27 13 P **P** 02 31 56.1 +0.9
BILL Bilibino 78.27 13 *e*P **P** 02 31 56.2 +0.9
BILL pmax pmax
comp=Z,13nm,1.0s
HATD Hatta, Dubai 78.28 297 *i* P **P** 02 31 57.3 +1.1
SNR=79
HATD Hatta, Dubai 78.28 297 P **P** 02 31 57.9 +1.6
SNR=81
ASHO Ashiyiah 78.32 297 *i* P **P** 02 31 57.6 +1.1
SNR=119
ASHO Ashiyiah 78.32 297 P **P** 02 31 58.0 +1.4
SNR=68
BANOM Banah 78.37 298 *i* P **P** 02 31 58.0 +1.2
SNR=5.5
ALNE Al Ain 78.46 296 *i* P **P** 02 31 58.4 +1.1
SNR=55
ALNE Al Ain 78.46 296 P **P** 02 31 58.9 +1.6
SNR=58
SHME Shamm 78.54 298 *i* P **P** 02 31 59.1 +1.4
SNR=49
SHME Shamm 78.54 298 P **P** 02 31 59.3 +1.6
SNR=53
RBK Rabkut 78.62 289 P **P** 02 31 59.5 +1.2
SNR=39
TBI Tubuai 78.71 113 *e*P **pP** 02 32 38.4 +5.1
comp=Z,354nm,1.3s
TBI *e*S S 02 41 34.5 -10
comp=Z,2μm,35.8s
TBI *e*SS SS 02 46 26.3 -26
comp=Z,3μm,35.8s
TBI *e*LQ LQ 02 53 11.5
comp=Z,6μm,33.2s
TBI *e*LR LR 02 56 21.3
comp=Z,6μm,29.5s
TBI *e*LR LR 02 56 28.9
comp=Z,2μm,32.5s
NAZ Nazwa, Dubai 78.73 297 *i* P **P** 02 31 59.5 +0.8
SNR=65
NAZ Nazwa, Dubai 78.73 297 P **P** 02 32 00.0 +1.3
SNR=35
FAQ Al Faqa, Dubai 78.74 297 *i* P **P** 02 31 59.7 +0.9
SNR=101
FAQ Al Faqa, Dubai 78.74 297 P **P** 02 31 60.0 +1.2
SNR=50
PAE Paea 78.84 107 *e*P **pP** 02 32 34.0 -0.2
comp=Z,68nm,1.3s
UMQ Umm Al-Quwin 78.85 297 *i* P **P** 02 32 01.1 +1.7
SNR=14
UMQ Umm Al-Quwin 78.85 297 P **P** 02 32 01.0 +1.7
SNR=18
PPT2 Papeete2 78.85 107 *e*P **pP** 02 32 33.2 -1.2
comp=Z,152nm,1.2s
PPT2 *e*S S 02 41 34.7 -11
comp=Z,1μm,41.2s
PPT2 *e*SS SS 02 46 26.0 -28
comp=Z,644nm,25.5s
PPT2 *e*LQ LQ 02 53 17.8
comp=Z,2μm,28.2s
PPT2 *e*LR LR 02 56 23.0
comp=Z,1μm,26.0s
PPT2 *e*LR LR 02 56 39.2
comp=Z,1μm,43.5s
DOK Doka 78.88 290 P **P** 02 32 00.4 +0.7
SNR=37
ASUD Al Ashush, Dub 78.95 296 *i* P **P** 02 32 01.6 +1.7
SNR=47
ASUD Al Ashush, Dub 78.95 296 P **P** 02 32 01.6 +1.7
SNR=26
WHFO Wadi Hawf 79.09 290 P **P** 02 32 01.8 +0.9
SNR=34
TVO Taravao 79.15 107 *e*P pP 02 32 33.7 -2.3
comp=Z,76nm,1.3s
AJN Ajban 79.24 296 *i* P **P** 02 32 02.1 +0.6
SNR=9.0
AJN Ajban 79.24 296 P **P** 02 32 02.7 +1.2
SNR=23
SPIA Saint Paul Isl 79.35 29 P **P** 02 32 01.9 +0.6
baz=241
P08K Saint George I 79.40 29 P **P** 02 32 02.5 +0.9
baz=241
ABTO Aybut 79.44 289 P **P** 02 32 04.0 +1.2
SNR=110
UNV Unalaska Valle 79.70 33 P **P** 02 32 04.7 +1.4
baz=244
GEYT Alibeck 79.85 310 P **P** 02 32 06.0 +1.4
GEYT Alibeck 79.85 310 P **P** 02 32 06.0 +1.4
comp=Z,70nm,0.8s,baz=127,slow=3.9,SNR=119
GEYT LR LR 03 11 25.9
comp=Z,376nm,21.8s,baz=112,slow=38
comp=Z,70nm,0.8s
MZWR Madinat Zayed 80.08 295 P **P** 02 32 07.3 +1.3
MZR Muzera 80.29 295 P **P** 02 32 08.5 +1.2
MZR Muzera 80.29 295 P **P** 02 32 08.9 +1.7
GHWR Ruwais 81.02 295 P **P** 02 32 12.4 +1.4
JRN Qarnain Island 81.22 296 P **P** 02 32 13.2 +1.1

SNR=6.7
FOMA Nahampoana Res 81.31 246 P **P** 02 32 13.5 +0.9
FOMA IAmb IAmb 02 32 15.3
comp=Z,194nm,1.4s
FOMA Nahampoana Res 81.31 246 P **P** 02 32 14.5 +1.9
ABPO Ambohimpanom 81.40 252 P **P** 02 32 14.0 +0.5
ABPO Ambohimpanom 81.40 252 P **P** 02 32 14.0 +0.5
ABPO pmax pmax
comp=Z,84nm,1.3s
VOI Vohitsoka 81.64 249 IAmb IAmb 02 32 16.6
comp=Z,101nm,0.7s
VOI Vohitsoka 81.64 249 P **P** 02 32 15.4 +0.9
VOI Vohitsoka 81.64 249 P **P** 02 32 15.6 +1.0
SNR=9.7
FALS False Pass 81.77 32 P **P** 02 32 14.9 +0.6
baz=247
GAMB Gambell 82.08 22 P **P** 02 32 17.1 +1.4
baz=238
SLWR Sila 82.10 295 P **P** 02 32 18.2 +1.5
TRNA Turayna 82.65 296 P **P** 02 32 20.8 +1.2
SNR=14
M11K Mekoryuk 82.71 27 P **P** 02 32 20.3 +1.2
baz=244
SMRA Abu-Samra 83.00 296 P **P** 02 32 22.6 +1.2
SNR=18
SHMA Al-Shehemyia 83.07 297 P **P** 02 32 22.9 +1.2
SNR=6.8
SAKB Bahrain 83.47 297 P **P** 02 32 24.9 +1.1
SDPT Sand Point 83.52 33 P **P** 02 32 24.6 +1.3
baz=249,SNR=5.4
AKTO Aktyubinsk 83.56 322 P **P** 02 32 24.8 +1.1
comp=Z,62nm,0.5s,baz=96,slow=4.2,SNR=133
AKTO S **SKSac** 02 42 30.5 -1.8
comp=Z,2.6nm,0.8s,baz=287,slow=19,SNR=11
AKTO PKKPbc **PKKPbc** 02 50 41.0 -2.3
comp=Z,1.6nm,0.6s,baz=211,slow=2.5,SNR=6.2
comp=Z,62nm,0.5s
QSPA South Pole Qui 83.79 180 P **P** 02 32 24.7 -0.1
QSPA IAmb IAmb 02 32 25.7
comp=Z,83nm,0.8s
QSPA South Pole Qui 83.79 180 P **P** 02 32 24.8 0.0
comp=Z,88nm,0.7s,baz=307,slow=0.8,SNR=161
QSPA S **SKSac** 02 42 28.7 -4.9
comp=Z,6.3nm,1.0s,baz=296,slow=22,SNR=6.8
QSPA PKKPbc **PKKPbc** 02 50 40.8 -3.0
comp=Z,1.0nm,0.5s,baz=184,slow=8.9,SNR=1.9
QSPA LR LR 03 10 24.3
comp=Z,1µm,18.9s,baz=356,slow=36
comp=Z,88nm,0.7s
CHNA Chernabura Isl 83.82 33 P **P** 02 32 25.9 +1.1
baz=250
M13K Dall Lake 84.01 27 P **P** 02 32 27.7 +2.0
baz=246
SVE Sverdlovsk 84.18 329 *d iP* **P** 02 32 27.2 +0.5
SVE *eS* **SKSac** 02 42 35.8 -0.3
SVE pmax pmax
comp=Z,607nm,1.3s
S14K Fog Glacier 84.33 32 P **P** 02 32 28.4 +0.8
baz=250
TNA Tin City 84.38 22 P **P** 02 32 28.7 +1.2
baz=242,SNR=11
O14K Tigyukauivet M 84.53 29 P **P** 02 32 30.3 +1.9
baz=248
N14K Kuskokwak Cree 84.58 28 P **P** 02 32 30.5 +1.9
baz=248
L14K Kuka Creek 84.67 26 P **P** 02 32 31.0 +1.9
baz=247
M14K Bethel 84.77 27 P **P** 02 32 31.5 +2.0
baz=248
J14K Nanvaranak Lak 84.86 25 P **P** 02 32 32.2 +2.2
baz=246
ANM Nome 84.89 23 P **P** 02 32 31.9 +1.8
baz=244,SNR=8.5
F14K Arctic Creek 84.93 22 P **P** 02 32 32.4 +2.1
baz=243
CHGN Chignik 84.94 32 P **P** 02 32 31.0 +0.6
baz=251
ARU Arti 85.13 328 *c iP* **P** 02 32 31.5 +0.1
ARU *PP **pP** 02 33 05.4 -2.1
ARU S **SKSac** 02 42 42.5 +0.4
ARU *SS **sS** 02 43 47.4 -3.2
ARU SSS SSS 02 51 56.4
ARU pmax pmax
comp=Z,312nm,1.2s
ARU Arti 85.13 328 P **P** 02 32 31.6 +0.2
comp=Z,80nm,0.5s,baz=113,slow=2.1,SNR=128
ARU PKKPbc **PKKPbc** 02 50 38.5 -1.3
comp=Z,3.8nm,0.4s,baz=256,slow=2.8,SNR=9.2
comp=Z,80nm,0.5s
O15K Ungalikthiuk R 85.19 29 P **P** 02 32 33.3 +1.5
baz=250
M15K Kasigluk River 85.33 27 P **P** 02 32 34.1 +1.8
baz=249
L15K Ungalak Mounta 85.33 26 P **P** 02 32 34.1 +1.8
baz=248
N15K Kwethluk River 85.42 28 P **P** 02 32 34.9 +2.0
baz=249
K15K Wolf Creek Mou 85.55 26 IAmb IAmb 02 33 21.8
comp=Z,187nm,1.3s
K15K Wolf Creek Mou 85.55 26 P **P** 02 32 35.6 +2.2
baz=248
G15K Niukluk 85.59 23 P **P** 02 32 35.0 +1.4
baz=245
F15K North Star Dit 85.66 22 P **P** 02 32 35.7 +1.7
baz=245
P16K Nushagak River 86.04 29 P **P** 02 32 37.6 +1.7
baz=251,SNR=11
N16K Nishlik Lake 86.14 28 P **P** 02 32 38.6 +2.2
baz=250
H16K Elim 86.16 24 P **P** 02 32 37.7 +1.4
baz=247,SNR=14
O16K Kokwok River B 86.17 29 IAmb IAmb 02 33 23.5
comp=Z,120nm,1.1s
O16K Kokwok River B 86.17 29 P **P** 02 32 38.1 +1.6
baz=251
M16K Timber Creek 86.24 27 IAmb IAmb 02 33 24.9
comp=Z,257nm,1.3s
M16K Timber Creek 86.24 27 P **P** 02 32 38.7 +1.8
baz=250
L16K Owhat River 86.24 27 P **P** 02 32 38.6 +1.8
baz=250,SNR=18
J16K Anvik River 86.31 25 IAmb IAmb 02 33 25.5
comp=Z,119nm,1.1s
J16K Anvik River 86.31 25 P **P** 02 32 39.0 +1.8
baz=249
G16K Koyuk River 86.41 23 P **P** 02 32 38.9 +1.3
baz=247,SNR=14
I17K Unalakleet 86.49 24 P **P** 02 32 39.9 +1.9
baz=248,SNR=8.0
C16K Lisburne Hills 86.53 20 P **P** 02 32 39.3 +1.2
baz=244
O17K Koliganek Bris 86.71 29 P **P** 02 32 41.0 +1.9
baz=252,SNR=9.5
Q17K Contact Creek 86.85 31 P **P** 02 32 40.5 +0.5
baz=253,SNR=8.9
N17K Nushagak Hills 86.90 28 IAmb IAmb 02 33 27.7
comp=Z,129nm,1.3s
N17K Nushagak Hills 86.90 28 P **P** 02 32 42.3 +2.3
baz=252
L17K Donlin 86.91 26 P **P** 02 32 42.3 +2.2
baz=251,SNR=13
M17K Holitna River 87.06 27 IAmb IAmb 02 33 28.6
comp=Z,112nm,1.1s
M17K Holitna River 87.06 27 P **P** 02 32 43.0 +2.2
baz=252
D17K Noatak River 87.06 21 P **P** 02 32 42.3 +1.6
baz=246
K17K Iditarod 87.10 26 P **P** 02 32 43.0 +2.0
baz=251
G17K Kiwalik Mounta 87.11 23 P **P** 02 32 42.3 +1.4
baz=248,SNR=26
H17K Granite Mounta 87.19 24 P **P** 02 32 42.8 +1.4
baz=249
F17K Baldwin Pennin 87.23 22 P **P** 02 32 42.5 +1.1
baz=248,SNR=8.8
C17K DeLong Mountai 87.35 20 P **P** 02 32 43.3 +1.2
baz=246
P18K Big Mountain, 87.50 30 P **P** 02 32 43.8 +0.7
baz=254
N18K Kilae Creek 87.55 28 P **P** 02 32 45.2 +1.9
baz=253
RAYN Ar Rayn 87.61 294 P **P** 02 32 45.2 +0.8
RAYN Ar Rayn 87.61 294 *i P* **P** 02 32 45.2 +0.8
SNR=16
RAYN Ar Rayn 87.61 294 P **P** 02 32 45.8 +1.4
O18K Koktuh Hills 87.64 29 P **P** 02 32 45.7 +2.1
baz=254
L18K Granite Mounta 87.65 27 IAmb IAmb 02 33 31.8
comp=Z,110nm,1.1s
L18K Granite Mounta 87.65 27 P **P** 02 32 45.6 +2.0
baz=252
M18K Stony River 87.82 27 P **P** 02 32 46.5 +2.1
baz=253
E18K Tukpahlearik C 87.83 21 P **P** 02 32 45.7 +1.3
baz=248
H18K Honhosa River 87.88 24 P **P** 02 32 45.3 +0.6
baz=250,SNR=10
F18K Selawik 87.88 22 P **P** 02 32 45.2 +0.6
baz=249,SNR=5.6
OHAK Old Harbor 87.91 32 P **P** 02 32 46.3 +1.4
baz=255,SNR=9.1
HARA HARA 87.98 280 *eP* **P** 02 32 48.9 +2.3
HARA *eS* **S** 02 43 13.5 -4.8
G18K Tagagawik 88.02 23 P **P** 02 32 46.1 +0.8
baz=250,SNR=11
J18K Innoko River 88.02 25 IAmb IAmb 02 33 33.2
comp=Z,91nm,1.2s
J18K Innoko River 88.02 25 P **P** 02 32 45.8 +0.4
baz=252
C18K Utukok River 88.08 20 P **P** 02 32 46.4 +0.8
baz=248
B18K Kokolik River 88.16 19 P **P** 02 32 46.4 +0.5
baz=247
Q19K Cape Douglas, 88.16 30 P **P** 02 32 46.6 +0.4
baz=255
TTA Tatalina 88.16 26 P **P** 02 32 46.5 +0.3
baz=253,SNR=15
N19K Bonanza Creek 88.25 28 IAmb IAmb 02 33 34.5
comp=Z,157nm,1.4s
N19K Bonanza Creek 88.25 28 P **P** 02 32 47.2 +0.5
baz=254
GCSA Galena City Sc 88.35 24 P **P** 02 32 47.5 +0.6
baz=252,SNR=5.9
KDAK Kodiak Island 88.41 32 P **P** 02 32 48.4 +1.1
baz=256
L19K White Mountain 88.46 27 P **P** 02 32 48.6 +1.1
baz=254,SNR=15
P19K Oil Pt 88.55 30 P **P** 02 32 48.5 +0.5
baz=255
M19K Big River Lodg 88.59 27 P **P** 02 32 49.3 +1.2
baz=254
J19K Poorman 88.64 25 P **P** 02 32 49.0 +0.8
baz=253
ATD Arta Tunnel 88.65 282 LR LR 03 07 45.3
comp=Z,12nm,22.0s,baz=90,slow=32
ATD Arta Tunnel 88.65 282 *eP* P 02 32 39.5 -10
ATD *eS* S 02 42 56.5 -28
F19K Shaleruckik Mo 88.67 22 P **P** 02 32 49.0 +0.7
baz=251
G19K Purcell Mounta 88.70 23 P **P** 02 32 49.0 +0.5
baz=252
TAOE Nuku Hiva Isla 88.71 99 *eP* P 02 32 56.0 +6.2
comp=Z,556nm,25.7s
TAOE Nuku Hiva Isla 88.71 99 *eS* **SKSac** 02 43 13.4 +7.4
comp=Z,717nm,31.4s
TAOE Nuku Hiva Isla 88.71 99 *e*LR LR 03 01 20.5
comp=Z,1µm,30.2s
Q20K Shuyak Island 88.71 31 P **P** 02 32 49.0 +0.3
baz=256
H19K Roundabout Mou 88.76 24 P **P** 02 32 49.2 +0.4
baz=252
C19K Lookout Ridge 88.80 20 P **P** 02 32 49.6 +0.6
baz=248
MAK Makhachkala 88.85 313 *eP* **P** 02 32 46.7 -3.0
MAK *e*PP **pP** 02 33 23.4 -2.8
MAK *e* 02 36 19.6
MAK *e*PPP PPP 02 38 16.7
MAK *e* 02 43 00.9
MAK *e*SS SS 02 49 20.0 -0.8
MAK *e*SSS SSS 02 52 58.1
MAK pmax pmax
comp=Z,347nm,1.4s
O20K Slope Mountain 88.95 29 P **P** 02 32 50.6 +0.7
baz=256
L20K Farewell, AK 88.98 27 P **P** 02 32 50.9 +1.0
baz=255
E19K Redstone River 89.07 22 P **P** 02 32 50.6 +0.4
baz=252
D19K Kuna River 89.09 20 P **P** 02 32 50.4 +0.1
baz=251
K20K Telida 89.13 26 P **P** 02 32 51.2 +0.6
baz=254
M20K Styx River 89.17 27 P **P** 02 32 51.0 +0.1
baz=255
J20K Nowinta River 89.32 25 P **P** 02 32 51.7 +0.3
baz=254
ELIB Princess Elisa 89.33 197 *dP* **P** 02 32 52.7 +1.1
comp=Z,75nm,0.7s
ELIB *dp*P **pP** 02 33 27.9 +0.1
ELIB *ds*P **sP** 02 33 41.3 -1.6
HOM Homer 89.33 30 P **P** 02 32 52.4 +0.8
baz=257
I20K Naaghedeneel 89.35 24 P **P** 02 32 52.3 +0.8
baz=254
H20K Anoteneega Mo 89.38 24 P **P** 02 32 52.0 +0.3
baz=254,SNR=6.4
N20K Mount Spurr 89.42 28 P **P** 02 32 52.3 +0.2
baz=256
F20K Avaraart Lake 89.50 22 P **P** 02 32 52.7 +0.5
baz=253
D20K Etivluk River 89.68 20 P **P** 02 32 53.5 +0.4
baz=252,SNR=30
E20K Nigu River 89.69 21 P **P** 02 32 53.6 +0.4
baz=252,SNR=39
BRSE Bradley Lake S 89.80 30 P **P** 02 32 54.4 +0.6
baz=257
CAPN Captain Cook N 89.83 29 P **P** 02 32 53.9 0.0
baz=257
PPLA Purkeypile 89.84 27 P **P** 02 32 54.3 +0.2
baz=256
SKT Skwentna 89.92 28 P **P** 02 32 54.5 +0.1
baz=257
CAST Castle Rocks 90.01 26 P **P** 02 32 55.3 +0.6
baz=256,SNR=6.8
CHUM Lake Minchumin 90.02 26 P **P** 02 32 55.3 +0.6
baz=256,SNR=14
SUA Susitna One 90.17 28 P **P** 02 32 55.6 -0.1
baz=257,SNR=7.8
G21K Allakaket 90.20 23 P **P** 02 32 55.8 +0.3
baz=255
H21K Melozitna Rive 90.25 24 P **P** 02 32 55.9 +0.1
baz=256,SNR=9.0
BELG Belogornoye 90.34 323 *i* P **P** 02 32 55.9 -0.5
BELG pmax pmax
comp=Z,16nm,1.0s
BELG Belogornoye 90.34 323 P **P** 02 32 55.8 -0.5
comp=Z,111nm,1.0s,baz=121,slow=1.0,SNR=19
BELG S **SKSac** 02 43 11.7 -2.0
comp=Z,8.5nm,0.8s,baz=27,slow=23,SNR=5.7
comp=Z,111nm,1.0s
F21K Alatna River 90.39 22 P **P** 02 32 57.1 +0.6
baz=255
KIRV Kirov 90.45 329 *ceP* **P** 02 32 54.0 -2.8
KIRV Kirov 90.45 329 P **P** 02 32 55.9 -0.9
comp=Z,42nm,0.7s,baz=119,slow=2.3,SNR=24
comp=Z,42nm,0.7s
I21K Tanana 90.47 24 P **P** 02 32 57.4 +0.6
baz=256,SNR=7.3
A21K Barrow 90.48 18 P **P** 02 32 56.9 +0.2
baz=252,SNR=13
GNI Garni 90.49 310 *ceP* **P** 02 32 58.7 +1.0
GNI pmax pmax
comp=Z,74nm,1.3s
GNI Garni 90.49 310 P **P** 02 32 59.0 +1.3
GNI Garni 90.49 310 LR LR 03 20 07.0
comp=Z,150nm,20.4s,baz=104,slow=40
GNI Garni 90.49 310 P **P** 02 32 59.4 +1.7
SEW Seward 90.51 30 P **P** 02 32 57.0 0.0
baz=258
M22K Willow 90.53 28 P **P** 02 32 57.1 0.0
baz=258
E21K Killik River 90.53 21 P **P** 02 32 57.1 0.0
baz=254
RC01 Rabbit Creek A 90.57 29 P **P** 02 32 58.1 +0.8
baz=258
CUT Chulitna 90.59 27 P **P** 02 32 58.1 +0.7
baz=258
BPAW Bear Paw Mtn. 90.64 26 P **P** 02 32 58.0 +0.3
baz=257
TRF Thorofare Moun 90.81 26 P **P** 02 32 58.9 +0.3
baz=258,SNR=6.0
H22K Ishtalitna Cre 90.88 24 P **P** 02 32 59.2 +0.5
baz=257
MLY Manley 90.95 25 P **P** 02 32 59.2 +0.1
baz=257,SNR=14
PMR Palmer 90.96 28 P **P** 02 32 59.4 +0.3
baz=259
D22K Ayikyak River 91.10 21 P **P** 02 33 00.0 +0.3
baz=256
E22K Anaktuvuk Pass 91.23 21 P **P** 02 33 00.8 +0.5
baz=256
KNK Knik Glacier 91.24 28 P **P** 02 33 00.5 0.0
baz=259
SML Sawmill 91.37 28 P **P** 02 33 01.0 -0.1
baz=260,SNR=7.5
RND Reindeer 91.43 26 P **P** 02 33 01.2 -0.2
MCK McKinley 91.46 26 P **P** 02 33 01.0 -0.4
baz=259,SNR=8.9
WAT1 Susitna Watana 91.46 27 P **P** 02 33 00.9 -0.5
baz=259
P23K Montague Islan 91.50 30 P **P** 02 33 02.0 +0.4
baz=260
I23K Minto, Yukon-K 91.55 25 P **P** 02 33 02.0 +0.3
baz=259,SNR=26
NEA2 Nenana 91.56 25 P **P** 02 33 02.5 +0.6
baz=259
G23K Bananza Creek 91.59 23 IAmb IAmb 02 33 04.1
comp=Z,85nm,1.4s
G23K Bananza Creek 91.59 23 P **P** 02 33 02.6 +0.6
baz=258
COLD Coldfoot 91.63 23 P **P** 02 33 02.9 +0.7
baz=258,SNR=24
M23K Glacier View 91.65 28 P **P** 02 33 03.0 +0.6
baz=260
ONI Oni 91.76 312 P **P** 02 33 02.3 -1.1
NCK Nalchik 91.76 313 *eP* **P** 02 33 01.6 -1.7
NCK pmax pmax
comp=Z,26nm,1.1s
WAT6 Susitna Watana 91.78 27 P **P** 02 33 03.7 +0.6
baz=260,SNR=6.5
D23K Nanushuk River 91.83 21 P **P** 02 33 03.8 +0.8
baz=258
SCM Sheep Creek Mo 91.84 28 P **P** 02 33 04.2 +0.8
baz=260
KIBK Kibwezi 91.91 267 P **P** 02 33 02.9 -1.8
KIBK Kibwezi 91.91 267 P **P** 02 33 06.1 +1.4
SNR=8.1
KIBK Kibwezi 91.91 267 *eP* **P** 02 33 06.0 +1.3
Q23K Middleton Isla 91.94 31 P **P** 02 33 04.2 +0.5
baz=261
E23K Chandalar 92.02 22 P **P** 02 33 04.8 +0.7
baz=259,SNR=34
DHY Denali Highway 92.03 27 P **P** 02 33 04.2 0.0
baz=260,SNR=8.3
C23K Itkillik River 92.04 20 P **P** 02 33 04.7 +0.7
baz=258,SNR=35
COLA College 92.13 25 P **P** 02 33 04.8 +0.4
COLA College 92.13 25 P **P** 02 33 05.0 +0.6
baz=260
H24K Noodor Dome 92.28 24 P **P** 02 33 05.5 +0.2
baz=260
KBZ Khabaz 92.29 314 *ceP* **P** 02 33 06.3 +0.6
KBZ pmax pmax
comp=Z,11nm,1.0s
KBZ Khabaz 92.29 314 P **P** 02 33 05.6 -0.1
comp=Z,4.6nm,0.6s,baz=128,slow=5.5,SNR=17
KBZ PP **PP** 02 36 46.6 -1.7
comp=Z,9.7nm,1.0s,baz=47,slow=8.0,SNR=3.7
KBZ PKKPbc **PKKPdf** 02 50 19.1 +0.1
comp=Z,2.3nm,0.9s,baz=324,slow=5.0,SNR=3.5
comp=Z,4.6nm,0.6s
GOF Gofitskoye 92.33 315 *ceP* **P** 02 33 05.9 0.0
POKR Poker Plat Res 92.34 25 P **P** 02 33 06.0 +0.5
baz=260
EYAK Cordova Ski Ar 92.40 29 P **P** 02 33 05.9 +0.1
baz=262
M24K Tolsona, Glenn 92.42 28 P **P** 02 33 06.5 +0.5
baz=261,SNR=5.6
HDA Harding Lake 92.43 26 P **P** 02 33 05.2 -0.7
baz=261,SNR=15
KIV Kislovodsk 92.46 314 *eP* **P** 02 33 06.7 +0.1
KIV *e* 02 36 47.4
KIV *e* 02 43 26.5
KIV pmax pmax
comp=Z,94nm,3.8s
KIV pmax pmax
comp=Z,19nm,1.1s
KIV MLR MLR
comp=Z,150nm,20.0s
ILAR Eielson Array 92.52 25 P **P** 02 33 05.2 -1.1
comp=Z,13nm,0.9s,baz=270,slow=4.3,SNR=75
ILAR PKKPbc **PKKPdf** 02 50 18.5 -0.7
comp=Z,1.6nm,0.7s,baz=316,slow=1.0,SNR=12
ILAR LR LR 03 13 28.4
comp=Z,209nm,20.2s,baz=268,slow=34
comp=Z,13nm,0.9s
D24K Happy Valley 92.52 21 P **P** 02 33 06.4 +0.2
baz=259
F24K Squaw Lake 92.57 22 P **P** 02 33 07.3 +0.8
baz=260
G24K Hadweenzic Riv 92.59 23 IAmb IAmb 02 33 08.6
comp=Z,92nm,1.4s
G24K Hadweenzic Riv 92.59 23 P **P** 02 33 07.1 +0.5
baz=260
C24K Franklin Bluff 92.66 20 P **P** 02 33 07.9 +1.1
baz=260
K24K Donnelly Dome 92.85 26 P **P** 02 33 08.7 +0.8
baz=262
PAX Paxson 92.87 27 P **P** 02 33 08.5 +0.4
baz=262,SNR=14
HARP HAARP 92.94 28 P **P** 02 33 08.9 +0.6
baz=262
KAIM Kayak Island 92.98 30 P **P** 02 33 08.9 +0.4
baz=263
BMRM Bremner River 93.01 29 P **P** 02 33 08.9 +0.2
baz=263
N25K Chitina, Valde 93.10 28 P **P** 02 33 09.4 +0.3
baz=263
G25K Bearman Lake 93.14 23 P **P** 02 33 09.2 +0.1
baz=262
J25K Salcha River, 93.14 25 P **P** 02 33 08.2 -1.0
baz=262,SNR=12
NVL N'lazarevskaya 93.19 197 *eP* **P** 02 33 08.4 -0.9
NVL pmax pmax
comp=Z,76nm,1.6s
PRP Porcupine Dome 93.20 25 P **P** 02 33 09.5 -0.1
baz=262
RIDG Independent Ri 93.25 26 P **P** 02 33 09.8 0.0
baz=263,SNR=9.4
D25K Kavik River 93.41 21 P **P** 02 33 10.5 +0.1
baz=262
F25K Christian Rive 93.43 22 P **P** 02 33 11.3 +0.8
baz=262
E25K Arctic Village 93.53 22 P **P** 02 33 11.7 +0.8
baz=262,SNR=38
BGLC Bering Glacier 93.56 30 P **P** 02 33 11.5 +0.3
baz=264
SCRK Sand Creek 93.66 26 P **P** 02 33 11.8 0.0
baz=264,SNR=8.2
CRQE Cirque 93.72 29 P **P** 02 33 12.6 +0.5
baz=264
MCARA McCarthy VSAT 93.82 29 P **P** 02 33 12.5 +0.1
baz=264
VRH Novokhopyorsk 93.82 321 *i iP* **P** 02 33 12.0 -0.6
VRH pmax pmax
comp=Z,52nm,0.6s
L26K Log Cabin Wild 93.84 27 P **P** 02 33 12.7 +0.3
baz=264,SNR=6.4
J26L Joseph Creek 93.90 26 P **P** 02 33 12.9 +0.1
baz=264
LABN Labinsk 93.93 314 *eP* **P** 02 33 14.2 +0.9
LABN pmax pmax
comp=Z,67nm,1.4s
C26K Camden Bay 93.99 20 P **P** 02 33 14.0 +1.0
baz=263
F26K Sheenjek River 94.01 22 P **P** 02 33 13.7 +0.6
baz=264
G26K Porcupine Rive 94.07 23 P **P** 02 33 14.5 +1.2
baz=264
I26K Coal Creek Min 94.16 25 P **P** 02 33 13.5 -0.3
baz=264
ERBR Yeremizino-Bor 94.19 315 *eP* **P** 02 33 14.0 -0.4
ERBR *e*PP **pP** 02 33 49.7 -1.3
ERBR *e* 02 43 35.0
ERBR *e* 02 44 02.5
ERBR pmax pmax
comp=Z,45nm,1.3s
MESA MESA 94.23 30 P **P** 02 33 15.0 +0.5
baz=265
M27K Edge Creek, AK 94.45 28 P **P** 02 33 15.7 +0.3
baz=265
K27K Chicken 94.50 26 P **P** 02 33 16.3 +0.8
baz=265
L27K Beaver Creek, 94.53 27 P **P** 02 33 16.7 +1.1

baz=265,SNR=12
SOC Sochi 94.57 313 *e*P P 02 33 10.0 -6.2
SOC *e*S **SKSac 02 43 30.6 -7.1**
SOC *e*SS **SS 02 50 37.4 -5.5**
SOC *e*SSS SSS 02 54 23.7
CTG Chitna Glacier 94.60 29 P **P 02 33 16.7 +0.6**
baz=266
I27K Kandik River 94.82 25 P **P 02 33 18.2 +1.2**
baz=266
H27K Steamboat Moun 94.91 24 P **P 02 33 18.2 +0.9**
baz=266
BVCY Beaver Creek 94.93 28 P **P 02 33 18.9 +1.5**
baz=266
EGAK Eagle 94.96 25 P **P 02 33 17.9 +0.4**
baz=266
TROLL Troll, Antarti 95.01 194 ⇑P **P 02 33 19.1 +1.3**
comp=Z,2µm,0.7s
YUK3 Moose Creek 95.08 29 P **P 02 33 19.3 +0.9**
baz=266
LODK Lodwar 95.18 273 ⇑P **P 02 33 21.0 +1.3**
SNR=11
LODK Lodwar 95.18 273 *e*P **P 02 33 20.2 +0.4**
VORD Divnogorie 95.33 321 *e*P **P 02 33 16.1 -3.4**
VORD *e* 02 37 12.1
VORD pmax pmax
comp=Z,30nm,1.0s
YUK8 Steele Glacier 95.38 29 P **P 02 33 20.5 +0.7**
baz=267
VORR Voronezh 95.42 321 *e*P **P 02 33 19.6 -0.3**
VORR pmax pmax
comp=Z,33nm,0.6s
VSR Storozhevoye 95.43 321 *e*P P 02 33 14.6 -5.3
VSR *e* 02 37 11.5
VSR pmax pmax
comp=Z,20nm,1.0s
PNL Peninsula 95.48 31 P **P 02 33 21.3 +1.2**
baz=267
I28M Miner Creek 95.51 25 IAmb IAmb 02 33 22.6
comp=Z,40nm,0.9s
I28M Miner Creek 95.51 25 P **P 02 33 20.6 +0.5**
baz=267
F28M Old Crow 95.64 23 P **P 02 33 21.1 +0.5**
baz=268
LPSR Galich'ya Gora 95.64 322 *e*P **P 02 33 16.8 -4.1**
LPSR *e* 02 37 12.1
LPSR pmax pmax
comp=Z,40nm,1.0s
DAWY Dawson 95.68 26 P **P 02 33 21.6 +0.7**
baz=268,SNR=31
KLMR Klimovskoe 95.69 331 *e*P P 02 33 15.6 -5.3
KLMR *e**PP pP 02 33 53.6 -3.9
KLMR S **SKSac 02 43 37.6 -5.2**
KLMR pmax pmax
comp=Z,205nm,1.4s
O29M Mount Kennedy 95.92 30 P **P 02 33 21.2 -0.9**
baz=268
YUK4 Talbot Arm 95.92 29 P **P 02 33 22.3 0.0**
baz=268
M29M Somme Creek 96.05 28 IAmb IAmb 02 34 09.7
comp=Z,50nm,1.8s
M29M Somme Creek 96.05 28 P **P 02 33 23.1 +0.4**
baz=268
YUK6 Outpost Mounta 96.05 29 P **P 02 33 22.9 0.0**
baz=268
D28M Stokes Point 96.11 21 P **P 02 33 22.9 +0.3**
baz=269
H29M Whitestone 96.18 24 IAmb IAmb 02 34 52.3
comp=Z,58nm,1.6s
H29M Whitestone 96.18 24 P **P 02 33 23.3 +0.2**
baz=269
J29N Klondike Camp 96.21 26 P **P 02 33 23.8 +0.5**
baz=269,SNR=11
L29M L29M 96.22 27 P **P 02 33 23.6 +0.3**
baz=269,SNR=7.5
ANN Anapa 96.28 314 *e*P **P 02 33 22.6 -1.3**
ANN *e**PP **pP 02 33 58.3 -2.3**
ANN *e* 02 43 45.2
ANN pmax pmax
comp=Z,74nm,0.9s
P29M Windy Craggy 96.32 31 P **P 02 33 24.2 +0.3**
baz=269
E29M Blow River 96.40 22 P **P 02 33 24.2 +0.2**
baz=269
HYT Haines Junctio 96.47 30 P **P 02 33 25.1 +0.5**
baz=269
K29M Barlow Dome 96.50 26 P **P 02 33 25.5 +0.8**
baz=269
SNAA Sanae 96.51 193 *ce*P **P 02 33 24.8 +0.2**
SNAA pmax pmax
comp=Z,21nm,0.9s
SNAA Sanae 96.51 193 ⇑P **P 02 33 25.3 +0.7**
comp=Z,456nm,0.5s
SNAA ⇓PKiKP **PKiKP 02 38 00.3 -0.8**
comp=Z,8.7nm,0.3s
SNAA Sanae 96.51 193 P **P 02 33 25.3 +0.7**
comp=Z,23nm,0.7s,baz=178,slow=4.8,SNR=36
comp=Z,23nm,0.7s
MOS Moscow 96.52 325 *e*P **P 02 33 21.8 -3.0**
MOS *e**PP **pP 02 33 56.6 -4.8**
MOS *e*SP **sP 02 34 12.7 -3.8**
MOS *e* 02 37 24.4
MOS *e* 02 43 45.5
MOS *e*S **S 02 44 23.8 -8.8**
MOS pmax pmax
comp=Z,200nm,1.5s
MOS pmax pmax
comp=Z,110nm,1.2s
N30M Aishikik Lake 96.68 29 P **P 02 33 26.1 +0.7**
baz=269
P30M Million Dollar 96.72 30 P **P 02 33 26.5 +0.8**
baz=269
M30M Minto, Yukon 96.82 28 P **P 02 33 26.9 +0.8**
baz=270
EPYK Eagle Plains 96.85 24 P **P 02 33 25.7 -0.4**
baz=270,SNR=15
I30M Mount Dempster 97.00 25 P **P 02 33 27.0 +0.1**
baz=270
J30M Hart River 97.03 26 P Pdif 02 33 27.6 +0.4
baz=270,SNR=16
G30M tAoh Zraii Nji 97.04 23 P Pdif 02 33 27.1 +0.1
baz=271
OBN Obninsk 97.11 325 *c*P **P 02 33 26.1 -1.3**
OBN *e**PP **pP 02 34 00.0 -4.1**
OBN *e*SP **sP 02 34 16.1 -3.1**
OBN *e* 02 37 29.4
OBN *e*PPP PPP 02 39 32.0
OBN *e*S **SKSac 02 43 52.8 +2.4**
OBN *e*SS **SS 02 51 17.0 -1.1**
OBN pmax pmax
comp=Z,70nm,1.1s
OBN MLR MLR
comp=Z,420nm,22.0s
OBN Obninsk 97.11 325 P **P 02 33 26.9 -0.5**
comp=Z,33nm,0.5s,baz=47,slow=2.0,SNR=20
OBN LR LR 03 20 36.9
comp=Z,225nm,20.8s,baz=106,slow=37
comp=Z,33nm,0.5s
O30N Mendenhall 97.16 30 P Pdif 02 33 28.1 +0.4
baz=270
F30M Barrier River 97.20 23 P **P 02 33 27.4 -0.2**
baz=271,SNR=9.9
MMAI Mount Meron Ar 97.36 302 P Pdif 02 33 30.2 +0.9
comp=Z,4.0nm,0.5s,baz=86,slow=6.8,SNR=34
MMAI PKiKP **PKiKP 02 38 04.4 +0.8**
comp=Z,1.0nm,0.6s,baz=79,slow=4.3,SNR=5.9
MMAI LR LR 03 20 24.8
comp=Z,174nm,21.9s,baz=78,slow=37
comp=Z,4.0nm,0.5s
EIL Elat 97.59 299 LR LR 03 23 43.4
comp=Z,384nm,19.4s,baz=88,slow=39
WHY Whitehorse 97.75 30 P Pdif 02 33 30.4 0.0
baz=271
LVZ Lovozero 97.78 338 *ce*P **P 02 33 28.8 -1.5**
LVZ pmax pmax
comp=Z,35nm,1.1s
G31M Satah River 97.81 23 IAmb IAmb 02 33 31.3
comp=Z,47nm,1.4s
G31M Satah River 97.81 23 P **P 02 33 29.3 -1.0**
baz=273
M31M Drury Creek, Y 97.95 28 P **P 02 33 31.1 0.0**
baz=272
F31M Tsiigehtchic 97.99 23 P **P 02 33 30.5 -0.6**
baz=273
INK Inuvik 98.02 22 P Pdif 02 33 31.3 0.0
baz=274
VNA2 Neumayer--Watz 98.07 193 ⇑P Pdif 02 33 32.1 +0.6
comp=Z,14nm,0.7s,baz=108,slow=3.3
VNA2 ⇓PKiKP **PKiKP 02 38 04.6 +0.9**
comp=Z,0.6nm,0.3s,baz=62,slow=2.5
APA Apatity 98.28 337 *i*P **P 02 33 28.2 -4.2**
APA *i* *PP pP 02 33 59.0 -10
APA pmax pmax
comp=Z,17nm,1.1s
VNA3 Neumayer Olymp 98.33 192 ⇓PKiKP **PKiKP 02 38 05.0 +0.7**
comp=Z,0.6nm,0.2s
VNA3 ⇑Pdiff **P 02 33 32.1 -0.6**
comp=Z,2.9nm,0.6s
P32M Atlin 98.37 31 P Pdif 02 33 34.0 +0.9
baz=272
FARO Faro, Yukon 98.43 28 P Pdif 02 33 33.9 +0.6
baz=273
N32M Quiet Lake 98.61 29 P Pdif 02 33 34.8 +0.6
baz=273
SIM Simferopol' 98.64 314 *e*P **P 02 33 33.4 -1.2**
SIM *e* 02 37 36.4
SIM *e*S **S 02 44 42.7 -8.4**
SIM pmax pmax
comp=Z,35nm,0.9s
SIM smax smax
comp=N,145nm,16.1s
P33M Teslin, Yukon 98.79 30 P Pdif 02 33 35.6 +0.5
baz=273
CRAG Craig 98.83 35 P Pdif 02 33 35.2 0.0
baz=272
BRTR Keskin Array B 98.97 309 P **P 02 33 36.0 -0.3**
comp=N,8.8nm,1.0s,baz=121,slow=5.1,SNR=35
BRTR PP **PP 02 37 39.2 -1.1**
comp=N,14nm,1.1s,baz=124,slow=6.1,SNR=8.2
BRTR PKKPbc **PKKPbc 02 50 01.6 -2.1**
comp=N,0.9nm,0.9s,baz=210,slow=4.5,SNR=4.0
BRTR LR LR 03 27 07.3
comp=N,323nm,19.8s,baz=122,slow=40
comp=N,8.8nm,1.0s
WRAK Wrangell Islan 99.23 34 P **Pdif 02 33 38.6 +1.7**
baz=275
MBAR Mbarara 99.36 268 *i*P **Pdif 02 33 39.0 +0.3**
MBAR pmax pmax
comp=Z,11nm,1.1s
MBAR Mbarara 99.36 268 LR LR 03 18 21.8
comp=Z,316nm,18.6s,baz=74,slow=35
MBAR Mbarara 99.36 268 P **Pdif 02 33 39.4 +0.7**
MMPY Sheldon Lake, 99.38 28 P **Pdif 02 33 39.3 +1.7**
baz=275
HOPEN Hopen 99.51 347 *e*P **Pdif 02 33 39.3 +1.6**
VALR Valaam 99.87 331 *i*P **Pdif 02 33 38.5 -1.1**
VALR pmax pmax
comp=Z,36nm,1.0s
LSZ Lusaka 99.90 253 LR LR 03 13 50.6
comp=Z,540nm,21.5s,baz=112,slow=32
LSZ Lusaka 99.90 253 P **Pdif 02 33 41.6 +0.6**
BOSA Boshof 100.06 240 P **Pdif 02 33 41.8 +0.3**
comp=Z,9.7nm,1.0s,baz=99,slow=2.9,SNR=16
BOSA PP **PP 02 37 46.4 -2.3**
comp=Z,2.7nm,0.8s,baz=75,slow=5.3,SNR=4.2
BOSA PKiKP **PKiKP 02 38 09.5 +0.8**
comp=Z,2.3nm,0.9s,baz=181,slow=3.2,SNR=3.9
BOSA PKKPbc **PKKPbc 02 49 58.1 -1.9**
comp=Z,1.7nm,0.9s,baz=269,slow=1.6,SNR=4.0
A36M Sachs Harbour 100.33 18 P **Pdif 02 33 41.8 +0.4**
baz=282
SPA0 Spitsbergen Ar 100.81 349 *e*P **Pdif 02 33 44.0 +0.4**
SPITS Spitsbergen Ar 100.81 349 P **Pdif 02 33 43.6 +0.1**
comp=Z,14nm,0.7s,baz=95,slow=9.3,SNR=15
ARA0 ARCESS Array S 100.89 340 *e*P **Pdif 02 33 44.0 0.0**
ARCES ARCESS Array B 100.89 340 P **Pdif 02 33 43.2 -0.8**
comp=Z,11nm,0.6s,baz=83,slow=6.2,SNR=42
ARCES PKiKP **PKiKP 02 38 09.4 +0.6**
comp=Z,2.2nm,0.6s,baz=128,slow=1.2,SNR=14
ARCES PKKPbc **PKKPbc 02 49 56.1 -3.0**
comp=Z,2.4nm,0.7s,baz=234,slow=4.1,SNR=11
HAMF Hammerfest 101.25 341 *e*P **Pdif 02 33 46.0 +0.4**
HAMF IAmb IAmb 02 33 48.2
comp=Z,17nm,0.6s
C36M Paulatuk 101.27 20 P **Pdif 02 33 46.0 +0.3**
baz=283
KBS Kingsbay 101.30 350 *e*P **Pdif 02 33 45.0 -0.7**
HSPB Hornsund (broa 101.43 348 *e*P **Pdif 02 33 46.8 +0.5**
AKASG Malin Array Be 101.72 320 *i*P **Pdif 02 33 47.5 -0.6**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 101.72 320 P **Pdif 02 33 47.3 -0.8**
comp=Z,2.5nm,0.5s,baz=75,slow=3.9,SNR=18
AKASG PP **PP 02 38 01.3 +0.9**
comp=Z,6.5nm,0.9s,baz=76,slow=6.6,SNR=5.9
AKASG PKiKP **PKiKP 02 38 10.6 -0.2**
comp=Z,11nm,1.1s,baz=68,slow=2.3,SNR=9.2
AKBB Malin Array Si 101.72 320 *i*P **Pdif 02 33 45.9 -2.2**
AKBB pmax pmax
comp=Z,7.0nm,1.0s
KIEV Kiev 101.73 320 ⇑P **Pdif 02 33 47.1 -1.0**
KIEV Kiev 101.73 320 P **Pdif 02 33 47.1 -1.0**
KTK1 Kautokeino 101.79 339 IAmb IAmb 02 33 47.8
comp=Z,61nm,1.2s
KTK1 *e*P **Pdif 02 33 47.9 -0.2**
FINES FINESS Array B 102.15 332 *i*P **Pdif 02 33 49.2 -0.6**
FINES pmax pmax
comp=Z,11nm,0.8s
FINES FINESS Array B 102.15 332 P **Pdif 02 33 49.0 -0.8**
comp=Z,10nm,0.8s,baz=46,slow=5.3,SNR=36
FINES PKiKP **PKiKP 02 38 11.6 +0.4**
comp=Z,4.4nm,0.6s,baz=49,slow=2.5,SNR=7.7
FINES PKKPbc **PKKPbc 02 49 52.8 -2.3**
comp=Z,2.1nm,0.8s,baz=321,slow=2.7,SNR=4.7
MNK Minsk 102.16 324 *e*P **Pdif 02 33 50.0 0.0**
MILM Milestii Mici 102.27 317 *i*PP **PKiKP 02 38 08.0 -3.9**
comp=Z,160nm,1.6s
SORM Soroca 102.49 318 ⇓P **Pdif 02 33 51.1 -0.5**
SORM Soroca 102.49 318 P **Pdif 02 33 51.1 -0.5**
JETT Jettan, Norway 102.62 340 *e*P **Pdif 02 33 52.1 +0.3**
JETT IAmb IAmb 02 33 54.1
comp=Z,25nm,0.7s
CFR Carcaliu 102.87 315 ⇓P **Pdif 02 33 53.9 +0.5**
CFR Carcaliu 102.87 315 P **Pdif 02 33 53.8 +0.5**
VASR Vaslui 103.00 316 ⇑P **Pdif 02 33 53.8 -0.1**
ISAL Salakas 103.03 326 *e*P **Pdif 02 33 54.9 +1.1**
HARR Harsova 103.05 314 ⇓P **Pdif 02 33 54.5 +0.3**
HARR Harsova 103.05 314 P **Pdif 02 33 54.5 +0.3**
TRO Tromso 103.09 340 *e*P **Pdif 02 33 53.3 -0.5**
TRO IAmb IAmb 02 33 56.6
comp=Z,497nm,2.4s
MEF Metsahovi 103.18 330 *e*P **Pdif 02 33 53.8 -0.6**
TESR Tescani 103.79 316 ⇓P **Pdif 02 33 57.9 +0.4**
VRI Vrincioaia 103.80 316 ⇓P **Pdif 02 33 58.7 +1.1**
VRI Vrincioaia 103.80 316 P **Pdif 02 33 58.6 +1.1**
NEHR Nehoiu 104.14 315 ⇓P **Pdif 02 34 00.1 +1.0**
VSVD Vaisvydziai 104.19 326 *e*P **Pdif 02 33 59.8 +0.8**
PABE Paberze 104.25 326 *e*P **Pdif 02 33 59.2 -0.1**
RAF Rauma 104.28 332 *e*P **Pdif 02 33 58.8 -0.5**
MLR Muntele Rosu 104.38 315 ⇑P **Pdif 02 34 00.8 +0.4**
MLR Muntele Rosu 104.38 315 P **Pdif 02 34 00.7 +0.4**
BURAR Bucovina Array 104.64 318 ⇓P **Pdif 02 34 02.3 +0.9**
BURAR Bucovina Array 104.64 318 P **Pdif 02 34 02.2 +0.9**
ELND Elena 104.68 313 ⇓P **Pdif 02 34 01.7 +0.2**
STEI Steigen 104.93 339 *e*P **Pdif 02 34 01.3 -0.7**
SUW Suwalki 104.96 324 *e*P **Pdif 02 34 02.5 0.0**
FAUS Fauske 105.11 339 *e*P **Pdif 02 34 02.8 -0.1**
PLVB Pleven 105.55 313 ⇑P **Pdif 02 34 05.4 +0.1**
MOR8 Moi Rana 105.86 338 *e*P **Pdif 02 34 06.2 0.0**
IDI Anoyia 106.05 305 PKP **PKiKP 02 38 19.9 +0.6**
STOK Stokkvaagen 106.34 338 *e*P **Pdif 02 34 05.9 -2.4**
KOLS Kolonicke sedl 106.40 319 *e*P **Pdif 02 34 10.4 +1.4**
KOLS *e* 02 38 39.6
KOLS Kolonicke sedl 106.40 319 *e*PDIFF **Pdif 02 34 10.4 +1.4**
KOLS *e*PP **PP 02 38 39.6 +4.3**
YKA Yellowknife Ar 106.92 26 Pdiff **Pdif 02 34 11.5 +0.5**
comp=Z,0.6nm,0.8s,baz=294,slow=5.2,SNR=12
YKA PKiKP **PKiKP 02 38 20.2 +0.2**
comp=Z,2.2nm,0.5s,baz=295,slow=2.0,SNR=42
YKA PKKPbc **PKKPbc 02 49 36.6 -4.1**
comp=Z,2.7nm,0.7s,baz=109,slow=2.9,SNR=20
CRVS Cervenica-Dubn 106.93 319 *e*P **Pdif 02 34 12.1 +0.7**
CRVS *e* 02 38 43.8
CRVS Cervenica-Dubn 106.93 319 *e*PDIFF **Pdif 02 34 12.1 +0.7**
CRVS *e*PP **PP 02 38 43.8 +4.6**
NSS Namsos 107.45 336 *e*P **Pdif 02 34 13.8 +0.5**
KECS Kecovo 107.65 319 *e*PP **PP 02 38 49.4 +5.0**
LANS Liptovska Anna 108.17 320 *e*PP **PP 02 38 54.8 +6.6**
HFS Hagfors 108.35 332 Pdiff **Pdif 02 34 17.0 -0.4**
comp=Z,5.3nm,0.6s,baz=109,slow=3.6,SNR=17
HFS PKiKP **PKiKP 02 38 22.1 -0.7**
comp=Z,2.3nm,0.6s,baz=127,slow=3.8,SNR=1.9
HFS PKKPbc **PKKPbc 02 49 33.9 -2.4**
comp=Z,2.1nm,0.5s,baz=232,slow=1.7,SNR=10
VYHS Vyhne 108.72 319 *e*PKP **PKiKP 02 38 24.2 +0.4**
VYHS *e**PP **PP 02 38 56.7 +4.5**
NEEM North Greenlan 108.77 0 *i*P **PKiKP 02 38 23.2 -0.3**
NC602 NORSAR Array S 109.12 333 *e*P **Pdif 02 34 19.8 -1.0**
NORES NORESS Array B 109.12 333 P **Pdif 02 34 19.7 -1.1**
NB2 NORSAR Subarra 109.15 333 P **Pdif 02 34 20.1 -0.9**
comp=Z,28nm,1.2s,baz=72,slow=4.4
NB2 PKP **PKiKP 02 38 24.4 +0.1**
comp=Z,8.6nm,1.2s,baz=69,slow=2.2
NB2 PP PP 02 38 44.6 -10
comp=Z,52nm,1.7s,baz=67,slow=7.4
NB2 PKKP **PKKPbc 02 49 32.5 -1.3**
comp=Z,1.3nm,0.7s,baz=239,slow=2.9
NB2 NORSAR Subarra 109.15 333 P **Pdif 02 34 20.1 -0.9**
baz=72,slow=4.4
NOA NORSAR Array B 109.15 333 Pdiff **Pdif 02 34 20.6 -0.5**
comp=Z,6.5nm,1.0s,baz=69,slow=4.5,SNR=11
NOA PKiKP **PKiKP 02 38 24.6 +0.4**
comp=Z,1.6nm,0.6s,baz=261,slow=3.2,SNR=5.9
NOA PP **PP 02 38 55.1 +0.2**
comp=Z,7.8nm,1.1s,baz=68,slow=7.3,SNR=5.0
NOA PKKPbc **PKKPbc 02 49 32.2 -1.6**
comp=Z,1.7nm,0.7s,baz=67,slow=3.2,SNR=10
MAUC Maruska 109.18 320 *e*PKP **PKiKP 02 38 25.8 +1.1**
MORC Moravsky Berou 109.26 321 *e*PKP **PKiKP 02 38 24.6 -0.2**
JAVC Velka Javorina 109.39 320 *e*PKP **PKiKP 02 38 26.6 +1.5**
KRLC Kraliky 109.67 321 *e*PKP **PKiKP 02 38 26.7 +1.1**
DOMB Dombas 109.68 335 *e*P **Pdif 02 34 23.4 0.0**
MODS Modra-Piesok 109.76 319 *e*PKP **PKiKP 02 38 27.3 +1.5**
OSL Oslo 109.81 332 *e*P **Pdif 02 34 24.9 +1.1**
DPC Dobruska-Polom 109.88 321 *e*PKP **PKiKP 02 38 27.1 +1.1**
DPC *e*PKP **PP 02 39 01.3 +0.8**
OSTC Ostas 109.89 322 *e*PKP **PKiKP 02 38 27.2 +1.2**
VRAC Vranov 109.97 320 *e*PKP **PKiKP 02 38 27.1 +1.0**
VRAC Vranov 109.97 320 PKiKP **PKiKP 02 38 26.3 +0.2**
comp=Z,2.1nm,0.8s,baz=224,slow=8.7,SNR=4.6
VRAC PP **PP 02 38 58.0 -3.2**
comp=Z,6.5nm,0.9s,baz=68,slow=10.0,SNR=3.0
CHVC Chvalec 109.99 322 *e*PKP **PKiKP 02 38 27.2 +1.1**
KRUC Moravsky 110.16 320 *e*PKP **PKiKP 02 38 27.4 +0.9**
KONO Kongsberg 110.44 332 *e*P **Pdif 02 34 27.7 +1.0**
RONA Rosalia, Austr 110.56 319 *e*PKiKP **PKiKP 02 38 28.3 +0.9**
comp=Z,2.2nm,0.6s
RONA *e**PP **PP 02 39 10.6 +5.1**
comp=Z,39nm,1.9s
NVAR Mina Array Bea 110.62 51 Pdiff **Pdif 02 34 32.9 +4.5**
comp=Z,0.9nm,0.7s,baz=259,slow=6.0,SNR=3.7
NVAR PKiKP **PKiKP 02 38 28.9 +1.0**
comp=Z,1.2nm,0.6s,baz=265,slow=2.2,SNR=4.7
NVAR PP **PP 02 39 04.9 -1.6**
comp=Z,3.2nm,0.9s,baz=255,slow=9.3,SNR=5.3
NVAR PKKPbc **PKKPbc 02 49 28.6 +0.1**
comp=Z,3.0nm,0.6s,baz=118,slow=4.4,SNR=13
CONA Conrad Observa 110.79 319 *e*PKiKP **PKiKP 02 38 28.7 +0.8**
comp=Z,12nm,1.6s
CONA *e**PP **PP 02 39 13.8 +6.7**
comp=Z,79nm,1.5s
PVCC Panska Ves 110.91 322 *e*PKP **PKiKP 02 38 28.8 +0.9**
GOPC GO Pecny, Ondr 110.95 321 *e*PKP **PKiKP 02 38 28.6 +0.6**
PRU Pruhonice 111.08 321 *e*PKP **PKiKP 02 38 28.2 0.0**
PRA Prague 111.13 322 *e*PKP **PKiKP 02 38 29.0 +0.7**
ARSA Arzberg 111.18 318 *e**PP **PP 02 39 15.6 +5.7**
comp=Z,54nm,1.9s
BRG Berggiesshubel 111.20 322 Amp 02 39 19.5
comp=Z,24nm,1.2s
BRG Berggiesshubel 111.20 322 *i*PKiKP **PKiKP 02 38 29.2 +0.9**
BRG 02 39 02.1
BRG 02 39 14.0
BRG PS **PS 02 48 40.0 -3.5**
BRG SS SS 02 54 39.0 +8.1
BRG pmax pmax
comp=Z,5.0nm,0.7s
BRG pmax pmax
comp=Z,24nm,1.2s
BRG Berggiesshubel 111.20 322 ‖ *e*Pif 02 34 30.8
BRG Berggiesshubel 111.20 322 Amp 02 34 32.4
comp=Z,5.4nm,1.1s
BRG Berggiesshubel 111.20 322 PKiKP **PKiKP 02 38 29.3 +0.9**
BRG Berggiesshubel 111.20 322 Amp 02 38 30.0
comp=Z,4.9nm,0.7s
BRG Berggiesshubel 111.20 322 PP **PP 02 39 02.1 -7.7**
BRG Berggiesshubel 111.20 322 Amp 02 39 06.0
comp=Z,45nm,1.7s
BRG Berggiesshubel 111.20 322 P **PP 02 39 14.0 +4.2**
CIS Catalina Islan 111.20 57 P **PKiKP 02 38 30.4 +1.4**
baz=277
FMP Fort Macarthur 111.27 56 P **PKiKP 02 38 30.4 +1.4**
baz=277
EDW2 Edwards Air Fo 111.36 55 P **PKiKP 02 38 30.1 +0.8**
baz=278
CKRC Cesky Krumlov 111.55 320 *e*PKP **PKiKP 02 38 29.8 +0.6**
MPMC Manual Prospec 111.61 54 P **PKiKP 02 38 30.7 +0.8**
baz=278
CLL Collm 111.63 323 *i*PKiKP **PKiKP 02 38 29.3 +0.1**
CLL *i* 02 39 12.7
CLL pmax pmax
comp=Z,36nm,1.4s
SOKA Soboth 111.64 318 *i*PKiKP **PKiKP 02 38 29.8 +0.3**
comp=Z,20nm,1.5s,SNR=5.4
SOKA *e**PP **PP 02 39 13.8 +0.5**
comp=Z,54nm,1.4s
BFSC Mount Baldy Ra 111.72 56 P **PKiKP 02 38 30.9 +0.8**
baz=278
MOA Molln 111.84 319 *e*PKiKP **PKiKP 02 38 29.5 -0.3**
comp=Z,3.7nm,0.6s
MOA *e**PP **PP 02 39 18.9 +4.3**
comp=Z,30nm,1.4s
KHC Kasperske Hory 111.93 321 *e*PKP **PKiKP 02 38 30.2 +0.3**
GERES GERESS Array B 111.93 320 PKiKP **PKiKP 02 38 30.4 +0.4**
comp=Z,9.8nm,0.5s,baz=52,slow=3.5,SNR=32
LJU Ljubljana 112.14 317 *i*PKiKP **PKiKP 02 38 31.0 +0.7**
MURC Murrieta 112.19 56 P **PKiKP 02 38 31.9 +1.0**
baz=278
GSC Goldstone, Bar 112.27 54 P **PKiKP 02 38 32.2 +1.1**
baz=278
BIOA Bad Ischl, Aus 112.29 319 *e*PKiKP **PKiKP 02 38 30.4 -0.2**
comp=Z,8.3nm,0.9s
BIOA *e**PP **PP 02 39 22.3 +4.5**
comp=Z,31nm,1.4s
CRNS Crni Vrh 112.31 317 *i*PKiKP **PKiKP 02 38 31.0 +0.2**
HLID Hailey 112.53 45 P **PKiKP 02 38 32.5 +1.1**
baz=284,SNR=5.2
VOJS Vojsko 112.58 317 *i*PKiKP **PKiKP 02 38 31.4 +0.1**
MYKA Terra Mystica 112.58 318 *i*PKiKP **PKiKP 02 38 31.6 +0.4**
comp=Z,11nm,0.8s
MYKA *e**PP **PP 02 39 21.0 +1.0**
comp=Z,33nm,1.5s
SHOC Shoshone, Teco 112.61 54 P **PKiKP 02 38 32.9 +1.4**
baz=279
KBA Koelnbreinsper 112.66 319 *i*PKiKP **PKiKP 02 38 31.1 -0.4**
comp=Z,9.4nm,0.7s,SNR=5.2
KBA *e**PP **PP 02 39 24.9 +4.3**
comp=Z,27nm,1.2s
HEC Hector,Ludlow 112.72 55 P **PKiKP 02 38 32.9 +1.0**
baz=279
R11B Troy Canyon, C 112.74 51 P **PKiKP 02 38 33.1 +1.1**
baz=280
PFO Pinyon Flats O 112.80 56 P **PKiKP 02 38 33.5 +1.4**
baz=278
TPFO Pinon Flats 112.80 56 P **PKiKP 02 38 33.4 +1.2**
baz=278
MONP2 Monument Peak 112.92 57 P **PKiKP 02 38 33.7 +1.1**
baz=278
TUQ Turquoise Moun 112.96 54 P **PKiKP 02 38 33.5 +1.1**
baz=279
LESA Schwarzleotal 112.99 319 *e*PKiKP **PKiKP 02 38 31.9 -0.1**
comp=Z,10nm,0.8s
LESA *e**PP **PP 02 39 27.9 +5.0**
comp=Z,45nm,1.5s
BELC Belle Mtn. Jos 113.12 56 P **PKiKP 02 38 33.5 +0.8**
baz=278
IKP In-Ko-Pah, Jac 113.22 57 P **PKiKP 02 38 34.2 +1.2**
baz=278
GMRC Granite Mounta 113.28 55 P **PKiKP 02 38 34.1 +1.1**
baz=279
ABTA Abfaltersbach 113.30 318 *i*PKiKP **PKiKP 02 38 32.5 -0.1**
comp=Z,14nm,0.6s,SNR=13
ABTA *e*pPKiKP **pPKiKP 02 39 12.3 +1.3**
comp=Z,15nm,1.9s
SUMG Summit 113.31 356 *i*P **PKiKP 02 38 32.0 -0.3**
SCO Scoresbysund 113.34 350 *i*P **PKiKP 02 38 31.7 -0.2**
UPNV Upernavik 113.35 2 *i*P **PKiKP 02 38 31.4 -0.4**
BC3 Big Chuckawall 113.62 56 P **PKiKP 02 38 35.1 +1.4**
baz=279
WTTA Wattenberg 113.72 319 *i*PKP **PKiKP 02 38 33.7 +0.2**

WTTA ePP PP 02 39 30.1 +2.0
comp=Z,49nm,0.4s,SNR=51
WATA Walderalm 113.73 319 *i* PKP **PKiKP** 02 38 33.7 +0.2
comp=Z,17nm,0.7s
WATA epPKiKP **pPKiKP** 02 39 12.1 +0.2
comp=Z,15nm,0.5s,SNR=8.9
IRM Iron Mountain 113.80 55 P **PKiKP** 02 38 35.1 +1.2
comp=Z,6.5nm,0.6s
BOZ Bozeman (W) 113.92 43 P **PKiKP** 02 38 35.1 +1.2
baz=279
SQTA Sankt Quirin 114.01 319 *i* PKP **PKiKP** 02 38 34.3 +0.3
baz=286,SNR=5.0
MOTA Moosalm 114.04 319 ePKP **PKiKP** 02 38 34.4 +0.3
comp=Z,11nm,0.6s,SNR=12
RETA Reutte 114.21 320 *i* PKP **PKiKP** 02 38 34.4 +0.3
comp=Z,18nm,0.5s,SNR=20
FETA Feichten 114.38 319 ePKP **PKiKP** 02 38 34.5 +0.1
comp=Z,6.9nm,0.5s,SNR=6.2
FETA ePP **PP** 02 38 35.0 +0.2
comp=Z,8.7nm,0.5s,SNR=9.9
EGMT Eagleton 114.41 40 P **PKiKP** 02 39 34.5 +1.7
comp=Z,22nm,1.3s
DUG Dugway, Tooele 114.47 49 P **PKiKP** 02 38 35.8 +1.0
baz=289
PDMCI Parker Dam,Lak 114.59 55 P **PKiKP** 02 38 36.2 +1.0
baz=283
DAVA Damuels 114.85 320 ePKP PKPdf 02 38 36.4 +1.0
comp=Z,30nm,0.4s
DAVA ePP **PP** 02 38 36.0 +0.3
comp=Z,16nm,1.1s
H17A Grant Village 114.98 44 P PKPdf 02 39 39.9 +3.8
baz=287
RLMT Red Lodge 115.66 43 P **PKPdf** 02 38 37.2 +1.0
baz=288
BTNL Ternell 115.95 324 *d*PKPdf **PKiKP** 02 38 38.4 +1.0
MEM Membach 116.01 324 *d*PKPdf **PKiKP** 02 38 38.1 +0.6
214A Organ Pipe Nat 116.08 58 P **PKiKP** 02 38 38.2 +0.6
baz=279
CDF Champ du Feu 116.10 321 ePKIKP **PKPdf** 02 38 39.2 +0.8
CDF pmax pmax 02 38 37.0 -1.0
comp=Z,34nm,1.7s
BW06 Boulder Array 116.16 45 P **PKiKP** 02 38 39.0 +0.5
baz=287
PDAR Pinedale Array 116.16 45 PKP **PKiKP** 02 38 39.0 +0.5
comp=Z,1.6nm,0.6s,baz=124,slow=1.6,SNR=11
PDAR PKKPbc **PKKPbc** 02 49 08.9 -1.1
comp=Z,3.6nm,0.8s,baz=96,slow=5.0,SNR=7.2
PDAR SKKPbc SKKPbc 02 52 39.2 -3.5
comp=Z,0.8nm,0.6s,baz=105,slow=4.5,SNR=4.9
WLF Walferdange 116.30 323 *d*PKPdf **PKiKP** 02 38 39.6 +1.4
WLF Walferdange 116.30 323 PKP **PKiKP** 02 38 38.6 +0.4
BCLA Clavier 116.50 324 *d*PKPdf **PKiKP** 02 38 39.2 +0.6
HINF Hinteralfeld 116.58 321 ePKIKP **PKPdf** 02 38 38.1 -0.8
HINF pmax pmax
comp=Z,16nm,0.6s
WUAZ Wupatki 116.60 53 P **PKiKP** 02 38 40.2 +0.7
baz=282,SNR=5.3
RCHB Rochefort 116.65 324 *d*PKPdf **PKiKP** 02 38 40.1 +1.3
ICESG Greenland Ices 116.82 356 *i* P **PKPdf** 02 38 38.3 -0.8
HAU Haudompre 116.83 321 ePKIKP **PKPdf** 02 38 38.8 -0.5
HAU pmax pmax
comp=Z,9.0nm,0.7s
SOEG Soedalen 116.84 352 *i* P **PKPdf** 02 38 38.1 -0.6
BMRD Maredsous 116.86 324 *d*PKPdf **PKiKP** 02 38 39.9 +0.6
GIVF Givet 116.91 324 ePKIKP **PKiKP** 02 38 39.4 0.0
GIVF pmax pmax
comp=Z,10.0nm,0.6s
PGF Pioggiola 116.92 315 ePKIKP **PKiKP** 02 38 39.9 +0.1
PGF pmax pmax
comp=Z,240nm,1.9s
DOU Dourbes 117.05 324 *d*PKPdf **PKiKP** 02 38 40.5 +0.9
ILULI Ilulissat 117.05 1 *i* P **PKPdf** 02 38 38.3 -0.7
LAO LASA Array 117.13 40 P **PKiKP** 02 38 41.2 +1.2
baz=292,SNR=7.8
LAO LASA Array 117.13 40 P **PKiKP** 02 38 41.1 +1.1
baz=292,SNR=7.8
BAIF Baives 117.29 324 ePKIKP **PKiKP** 02 38 40.2 +0.1
BAIF pmax pmax
comp=Z,71nm,1.4s
LPG La Plagne 117.49 319 ePKIKP **PKPdf** 02 38 40.7 -0.3
LPG pmax pmax
comp=Z,17nm,0.5s
LPL La Plagne 117.50 319 ePKIKP **PKPdf** 02 38 40.6 -0.3
LPL pmax pmax
comp=Z,25nm,0.5s
CABF La Chapelle 117.52 320 ePKIKP **PKPdf** 02 38 40.6 -0.2
CABF pmax pmax
comp=Z,30nm,0.5s
SBF Sospel 117.59 317 ePKIKP **PKPdf** 02 38 40.3 -0.7
SBF pmax pmax
comp=Z,21nm,0.7s
DGMT Dagmar 117.70 38 P **PKiKP** 02 38 42.2 +1.1
baz=294
DGMT Dagmar 117.70 38 P **PKiKP** 02 38 42.1 +1.1
baz=294
TUC Tucson 117.71 57 P **PKiKP** 02 38 42.2 +0.6
baz=281
O20A White River Ci 117.87 48 P **PKiKP** 02 38 42.6 +0.8
baz=287,SNR=12
W18A Petrified Fore 117.99 53 P **PKiKP** 02 38 42.6 +0.4
baz=283
ORIF Oris-en-Rattie 118.27 318 ePKIKP **PKPdf** 02 38 41.8 -0.5
ORIF pmax pmax
comp=Z,15nm,0.5s
K22A Casper 118.33 44 P **PKiKP** 02 38 43.2 +0.6
baz=289
MVCO Mesa Verde 118.46 51 P **PKiKP** 02 38 44.0 +0.9
baz=285,SNR=8.9
KEST Kesra 118.50 307 PKP **PKiKP** 02 38 44.0 +1.0
comp=Z,11nm,0.8s,baz=71,slow=0.4,SNR=17
KEST PP **PP** 02 39 58.0 -3.9
comp=Z,80nm,1.0s,baz=304,slow=3.1,SNR=12
KEST PKKPab **PKKPab** 02 49 06.0 +2.8
comp=Z,3.1nm,0.7s,baz=22,slow=8.1,SNR=4.2
EKA Eskdalemuir Ar 118.55 332 PKP **PKiKP** 02 38 42.7 +0.3
comp=Z,7.3nm,0.5s,baz=27,slow=2.6,SNR=31
EKA PKKPbc **PKKPbc** 02 49 00.6 -1.1
comp=Z,1.6nm,0.6s,baz=234,slow=3.9,SNR=5.1
LOR Lormes 118.67 321 ePKIKP **PKPdf** 02 38 42.5 -0.4
LOR pmax pmax
comp=Z,118nm,2.0s
SSF Saint Saulge 118.97 321 ePKIKP **PKPdf** 02 38 43.2 -0.2
SSF pmax pmax
comp=Z,24nm,0.6s
VIVF Saint-Julien-l 119.09 319 ePKIKP **PKPdf** 02 38 43.4 -0.4
VIVF pmax pmax
comp=Z,10.0nm,0.6s
AVF Avril sur Loir 119.18 321 ePKIKP **PKPdf** 02 38 43.2 -0.6
AVF pmax pmax
comp=Z,11nm,0.6s
SFJD Kangerlussuaq 119.28 0 *i* P **PKPdf** 02 38 42.3 -1.1
N23A Red Feather La 119.31 46 P **PKiKP** 02 38 45.4 +0.7
baz=289
RSSD Black Hills 119.51 42 P **PKiKP** 02 38 45.8 +0.9
baz=292
RSSD Black Hills 119.51 42 P **PKiKP** 02 38 44.9 0.0
baz=292
DY2G Dye2 119.75 358 *i* P **PKPdf** 02 38 43.9 -0.8
ISCO Idaho Springs 119.89 47 P **PKiKP** 02 38 46.4 +0.5
baz=288,SNR=7.2
ISCO Idaho Springs 119.89 47 P **PKiKP** 02 38 46.8 +0.9
baz=288
ANGG Ammassalik, Gr 120.05 354 *i* P **PKPdf** 02 38 43.9 -1.0
121A Cookes Peak, D 120.15 56 P **PKiKP** 02 38 47.1 +0.6
baz=283
121A Cookes Peak, D 120.15 56 P **PKiKP** 02 38 47.3 +0.8
baz=283,SNR=6.0
LDF La Druitiere 120.48 324 ePKIKP **PKiKP** 02 38 47.4 +1.0
LDF pmax pmax
comp=Z,172nm,2.0s
Y22A Socorro 120.49 54 P **PKiKP** 02 38 48.6 +1.5
baz=284,SNR=7.2
Y22D IRIS PASSCAL I 120.50 54 P **PKiKP** 02 38 48.0 +1.0
baz=284
Y22F Passcal Instru 120.50 54 P **PKiKP** 02 38 48.0 +1.0
baz=284
Q24A Divide 120.50 48 P **PKiKP** 02 38 47.6 +0.5
baz=288
SDCO Great Sand Dun 120.61 50 P **PKiKP** 02 38 48.0 +0.7
baz=287,SNR=5.1
SDCO Great Sand Dun 120.61 50 P **PKiKP** 02 38 47.9 +0.5
baz=287
ANMO Albuquerque 120.65 53 P **PKiKP** 02 38 47.6 +0.2
baz=285
ANMO Albuquerque 120.65 53 P **PKiKP** 02 38 48.2 +0.8
baz=285,SNR=14

MDND Maddock 120.74 37 P **PKiKP** 02 38 47.8 +0.9
baz=298
RJF Les Rejaudoux 120.96 320 ePKIKP **PKiKP** 02 38 47.8 +0.4
RJF pmax pmax
comp=Z,100nm,1.8s
GRR Gorron 121.01 324 ePKIKP **PKiKP** 02 38 47.8 +0.4
GRR pmax pmax
comp=Z,183nm,1.8s
MFF Saint Martin d 121.43 322 ePKIKP **PKPdf** 02 38 47.9 -0.2
MFF pmax pmax
comp=Z,35nm,0.6s
T25A Trinidad 121.62 50 P **PKiKP** 02 38 49.5 +0.2
baz=288
ULM Lac du Bonnet 121.64 33 PKP **PKPdf** 02 38 48.1 -0.3
comp=Z,5.5nm,0.5s,baz=279,slow=1.9,SNR=24
ULM PKKPbc **PKKPab** 02 48 47.4 -1.8
comp=Z,6.9nm,0.9s,baz=100,slow=3.3,SNR=11
SGMF Saint Gilles 122.06 325 ePKIKP **PKPdf** 02 38 48.9 -0.4
SGMF pmax pmax
comp=Z,53nm,1.1s
OGNE Ogallala 122.07 45 P **PKiKP** 02 38 50.5 +0.7
baz=292
OGNE Ogallala 122.07 45 P **PKiKP** 02 38 50.8 +0.9
baz=292
NUUK Nuuk 122.09 1 *i* P **PKiKP** 02 38 49.4 +0.4
ETOS Mallorca 122.25 314 PKP **PKPdf** 02 38 49.1 -0.9
MNTX Cornudas Mount 122.33 56 P **PKiKP** 02 38 50.9 +0.3
baz=284,SNR=19
MNTX Cornudas Mount 122.33 56 P **PKiKP** 02 38 51.5 +0.9
baz=284,SNR=19
KSCO Kaye Shedlock' 122.34 47 P **PKiKP** 02 38 50.8 +0.3
baz=290
ROSF Rostrenen 122.43 325 ePKIKP **PKPdf** 02 38 49.6 -0.4
ROSF pmax pmax
comp=Z,173nm,1.6s
QUIF Quistinic 122.58 325 ePKIKP **PKPdf** 02 38 50.0 -0.3
QUIF pmax pmax
comp=Z,244nm,1.8s
EPF Esparros 122.69 318 ePKIKP **PKPdf** 02 38 50.6 -0.2
EPF pmax pmax
comp=Z,6.0nm,0.4s
AGMN Agassiz Nation 122.69 35 P **PKiKP** 02 38 50.9 +0.1
baz=302
AGMN Agassiz Nation 122.69 35 P **PKPdf** 02 38 50.1 -0.5
baz=302
SUSD Miller 122.70 40 P **PKiKP** 02 38 51.1 +0.2
baz=297
K30B Basset 123.04 42 P **PKiKP** 02 38 51.7 0.0
baz=295
ETSF Etsaut 123.34 318 ePKIKP **PKiKP** 02 38 53.4 +1.1
ETSF pmax pmax
comp=Z,8.0nm,0.6s
SJPF Ste Jean 123.69 319 ePKIKP **PKiKP** 02 38 53.1 +0.2
SJPF pmax pmax
comp=Z,74nm,1.7s
F33A 5 Mile Ranch, 123.70 38 P **PKiKP** 02 38 52.9 +0.1
baz=300,SNR=11
MSTX Muleshoe 123.84 53 P **PKiKP** 02 38 53.5 -0.1
baz=287,SNR=8.5
MSTX Muleshoe 123.84 53 P **PKiKP** 02 38 53.7 +0.1
baz=287,SNR=8.5
B35A Bob, Littlefor 123.86 34 P **PKPdf** 02 38 52.7 -0.1
baz=304,SNR=9.3
TX31 Lajitas Ar. Si 124.32 59 P **PKiKP** 02 38 55.2 +0.6
baz=284
TXAR Lajitas Array 124.32 59 PKP **PKPdf** 02 38 53.6 -0.7
comp=Z,2.0nm,0.7s,baz=216,slow=2.1,SNR=19
TXAR PKKPbc **PKKPbc** 02 48 39.4 +0.2
comp=Z,1.0nm,0.5s,baz=105,slow=5.3,SNR=26
AMTX Amarillo 124.42 52 P **PKiKP** 02 38 55.6 +0.9
baz=289
CBKS Cedar Bluff 124.51 47 P **PKiKP** 02 38 55.6 +0.9
baz=293
CBKS Cedar Bluff 124.51 47 P **PKiKP** 02 38 55.2 +0.5
baz=293
BGNE Belgrade 124.56 43 P **PKPdf** 02 38 54.4 +0.1
baz=296,SNR=6.3
BGNE Belgrade 124.56 43 P **PKiKP** 02 38 54.9 +0.2
baz=296
ECHE Chera 125.01 315 PKP **PKPdf** 02 38 54.8 -0.5
NRS Narsarsuaq 125.04 357 *i* P **PKPdf** 02 38 54.0 -0.6
IVI Ivigtut 125.08 359 *i* P **PKPdf** 02 38 53.9 -0.8
EYMN Ely 125.32 33 P **PKiKP** 02 38 56.6 +0.7
baz=306,SNR=10
EYMN Ely 125.32 33 P **PKiKP** 02 38 55.9 0.0
baz=306,SNR=10
F36A Milaca 125.34 36 P **PKiKP** 02 38 56.1 0.0
baz=303
R32A Long Quarter, 125.40 47 P **PKiKP** 02 38 57.4 +0.9
baz=293
ETOB Tobarra 125.81 314 PKP **PKPdf** 02 38 56.5 -0.4
E38A The Farm, Brul 126.07 35 P **PKPdf** 02 38 57.1 0.0
baz=305,SNR=10
SPMN Marine on St. 126.11 37 P **PKiKP** 02 38 58.4 +0.8
baz=303,SNR=6.4
UCM Universidad Co 126.29 316 PKP **PKiKP** 02 38 58.8 +0.6
I37B Waseca 126.40 38 P **PKiKP** 02 38 58.7 +0.4
baz=302,SNR=9.8
KSU1 Kansas State U 126.62 45 P **PKiKP** 02 38 59.4 +0.5
baz=296
WMOK Wichita Mounta 126.72 51 P **PKPdf** 02 38 58.7 0.0
baz=291,SNR=9.9
WMOK Wichita Mounta 126.72 51 P **PKiKP** 02 38 59.7 +0.5
baz=291,SNR=9.9
ABTX Abilene, Hawle 126.75 54 P **PKiKP** 02 38 59.8 +0.5
baz=288,SNR=6.3
ABTX Abilene, Hawle 126.75 54 P **PKiKP** 02 38 59.5 +0.2
baz=288
ESDC Sonseca Array 127.07 316 PKP **PKiKP** 02 39 00.1 +0.3
comp=Z,4.9nm,0.8s,baz=20,slow=2.3,SNR=16
ESDC PP **PP** 02 41 00.2 +0.9
comp=Z,19nm,1.1s,baz=58,slow=6.8,SNR=14
ESDC SKPab SKiKP 02 42 03.6 -18
comp=Z,1.2nm,0.6s,baz=35,slow=3.5,SNR=4.7
ESDC PKKP **PKKPdf** 02 49 14.2 +0.1
comp=Z,0.4nm,0.5s,baz=268,slow=2.6,SNR=4.6
JCT Junction City 127.27 56 P **PKiKP** 02 39 01.0 +0.6
baz=287
JCT Junction City 127.27 56 P **PKiKP** 02 39 01.1 +0.6
baz=287
SCIA State Center 127.60 40 P **PKiKP** 02 39 00.8 +0.1
baz=300
T35B Sooner Cattle 127.60 47 P **PKiKP** 02 39 00.7 -0.2
baz=294
G40A Rib Lake 127.61 35 P **PKPdf** 02 39 00.1 0.0
baz=306,SNR=5.6
PBRG Braganca 127.90 320 ePKPdf **PKiKP** 02 39 02.3 +0.9
833A Chaparral WMA, 128.20 59 P **PKiKP** 02 39 02.4 +0.1
baz=286
MVO Moncorvo 128.41 319 ePKPdf **PKiKP** 02 39 03.8 +1.4
P38A Dawn 128.51 43 P **PKiKP** 02 39 02.6 0.0
baz=299
TUL3 Leonard 128.54 48 P **PKiKP** 02 39 02.6 -0.2
baz=294,SNR=5.7
TUL3 Leonard 128.54 48 P **PKiKP** 02 39 02.9 +0.1
baz=294,SNR=5.7
WHTX Lake Whitney, 128.70 54 P **PKiKP** 02 39 03.6 +0.4
baz=290
E43A Lone Tree Farm 128.71 32 P **PKiKP** 02 39 03.0 +0.2
baz=310
PGAV Gavieira, Arco 128.79 321 ePKPdf **PKiKP** 02 39 04.4 +1.2
POLO Lamas de Olo 128.80 320 ePKPdf **PKiKP** 02 39 04.5 +1.2
PVRL Vila Real 128.80 320 ePKPdf **PKiKP** 02 39 04.5 +1.3
TORD Torodi Ar. Bea 128.86 282 PKhKP PKPpre 02 38 52.5
comp=Z,0.6nm,0.5s,baz=68,slow=1.9,SNR=9.0
TORD PKP **PKPdf** 02 39 03.2 0.0
comp=Z,18nm,0.6s,baz=78,slow=2.8,SNR=59
TORD SKPbc SKiKP 02 42 10.2 -16
comp=Z,16nm,0.7s,baz=60,slow=4.5,SNR=8.9
JFWS Jewell Farm 128.92 38 P **PKiKP** 02 39 03.0 -0.3
baz=304
JFWS Jewell Farm 128.92 38 P **PKPdf** 02 39 02.0 -0.6
baz=304,SNR=6.5
435B Jarrell 128.99 55 P **PKiKP** 02 39 04.4 +0.5
baz=289
MTE Manteigas 129.14 319 ePKPdf **PKiKP** 02 39 05.2 +1.3
MTE eSKP SKPbc 02 42 11.6 +0.6
PVIS Viseu 129.20 319 ePKPdf **PKiKP** 02 39 05.1 +1.1
PVIS eSKP SKPbc 02 42 11.3 +0.1
U38A Gravette 129.35 47 P **PKPdf** 02 39 03.9 +0.3
baz=296,SNR=8.0
PCBR Castelo Branco 129.37 318 ePKPdf **PKiKP** 02 39 05.5 +1.2
PCBR eSKP SKPbc 02 42 11.8 +0.1
PTO Porto 129.44 320 ePKPdf **PKiKP** 02 39 05.5 +1.1
PTO eSKP SKPbc 02 42 12.3 +0.4
PMRV Marv??o 129.52 317 ePKPdf **PKiKP** 02 39 05.6 +0.9
PMRV Marv??o 129.52 317 ePP **PP** 02 41 16.2 +1.0

PMRV eSKP SKPbc 02 42 12.7 +0.4
P40A Paris 129.56 42 P **PKiKP** 02 39 04.5 -0.2
baz=300,SNR=5.0
S39A Bolivar 129.56 45 P **PKPdf** 02 39 04.2 +0.2
baz=297,SNR=33
PLCA Paso Flores 129.57 160 PKhKP PKPpre 02 38 51.2
comp=Z,1.7nm,0.7s,baz=200,slow=10,SNR=4.8
PLCA PKP **PKPdf** 02 39 04.1 0.0
comp=Z,17nm,0.8s,baz=251,slow=1.7,SNR=46
PLCA SKPbc SKPab 02 42 12.1 +0.3
comp=Z,29nm,1.2s,baz=208,slow=4.4,SNR=5.8
PLCA Paso Flores 129.57 160 *e*P **PKPdf** 02 39 04.1 0.0
SCHQ Schefferville 129.58 13 PKhKP PKPpre 02 38 51.0
comp=Z,1.5nm,0.8s,baz=41,slow=17,SNR=2.1
SCHQ PKP **PKiKP** 02 39 04.4 +0.1
comp=Z,6.6nm,0.5s,baz=350,slow=2.0,SNR=22
SCHQ SKPbc SKPbc 02 42 12.4 +0.4
comp=Z,11nm,0.6s,baz=333,slow=3.4,SNR=14
COI Coimbra 129.80 319 eSKP SKPbc 02 42 13.8 +0.6
PBAR Barrancos 129.89 316 ePKPdf **PKiKP** 02 39 06.6 +1.2
PBAR Barrancos 129.89 316 ePP **PP** 02 41 20.0 +2.4
PBAR eSKP SKPbc 02 42 13.8 +0.2
PESTR Estremoz 129.93 317 ePKPdf **PKiKP** 02 39 06.5 +1.0
PESTR eSKP SKPbc 02 42 14.0 +0.3
PCAS Casmilo, Conde 129.94 319 ePKPdf **PKiKP** 02 39 06.4 +0.9
PCAS eSKP SKPbc 02 42 13.8 +0.1
R40A Maddies Statio 130.01 44 P **PKiKP** 02 39 05.3 -0.4
baz=299,SNR=11
PMTG Montargil 130.26 317 ePKPdf **PKiKP** 02 39 06.9 +0.8
PMTG eSKP **SKPbc** 02 42 15.0 +0.1
EVO Evora 130.38 317 ePKPdf **PKiKP** 02 39 07.6 +1.2
EVO eSKP **SKPbc** 02 42 15.9 +0.6
U40A Yellville 130.50 46 P **PKPdf** 02 39 06.1 +0.3
baz=297,SNR=8.7
U40A P **PKPdf** 02 39 06.1 +0.3
baz=297,SNR=8.7
PBEJ Beja 130.53 316 ePKPdf **PKiKP** 02 39 08.1 +1.4
PBEJ eSKP **SKPbc** 02 42 16.5 +0.6
PVAQ Vaqueiros 130.73 315 eSKP **SKPbc** 02 42 17.5 +0.9
MIAR Mount Ida 130.75 49 P **PKiKP** 02 39 07.7 +0.4
baz=295
MIAR Mount Ida 130.75 49 P **PKiKP** 02 39 07.2 0.0
baz=295,SNR=8.1
L44A Lake County Fo 130.76 37 P **PKiKP** 02 39 06.9 -0.1
baz=306
HDIL Hopedale 130.82 40 P **PKiKP** 02 39 07.2 -0.1
baz=303
HDIL Hopedale 130.82 40 P **PKiKP** 02 39 07.1 -0.1
baz=303
CCM Cathedral Cave 130.83 44 P **PKiKP** 02 39 07.4 +0.2
baz=300
CCM Cathedral Cave 130.83 44 P **PKiKP** 02 39 07.5 +0.2
baz=300,SNR=7.9
PCVE Castro Verde 130.84 316 ePKPdf **PKiKP** 02 39 08.7 +1.4
PCVE eSKP **SKPbc** 02 42 18.0 +1.0
MESJ Messejana 130.87 316 ePKPdf **PKiKP** 02 39 08.6 +1.2
MESJ eSKP **SKPbc** 02 42 18.0 +0.9
MESJ Messejana 130.87 316 ePKPdf **PKiKP** 02 39 07.4 0.0
MESJ ePP **PP** 02 41 25.9 +2.0
PNCL Nicolau / Gran 130.94 316 ePKPdf **PKiKP** 02 39 08.9 +1.4
PBDV Barranco-do-Ve 130.95 315 eSKP **SKPbc** 02 42 18.8 +1.3
GLMI Grayling 130.99 33 P **PKiKP** 02 39 07.5 +0.1
baz=311
NATX Nacogdoches 131.01 53 P **PKiKP** 02 39 08.2 +0.4
baz=292
PMAFR Mafra 131.03 318 ePKPdf **PKiKP** 02 39 09.4 +1.7
LIS Lisbon 131.06 317 ePP **PP** 02 41 26.9 +1.8
MORF Marmelete 131.43 316 ePP **PP** 02 41 29.3 +1.6
SFIN Lafayette 132.31 39 P **PKiKP** 02 39 10.2 0.0
baz=306
OLIL Olney 132.59 41 P **PKiKP** 02 39 10.6 -0.2
baz=303
AAM Ann Arbor 133.17 35 P **PKiKP** 02 39 11.5 -0.4
baz=311
O48B Farmland 133.57 38 P **PKiKP** 02 39 12.5 -0.3
baz=308
OXF Oxford 133.84 47 P **PKiKP** 02 39 13.1 -0.4
baz=299
WCI Wyandotte Cave 134.05 41 P **PKiKP** 02 39 13.8 0.0
baz=305
VBMS Vicksburg 134.06 50 P **PKiKP** 02 39 13.9 -0.1
baz=296
WVT Waverly 134.16 44 P **PKiKP** 02 39 13.6 -0.5
baz=301
P49A Miami Univ. Ec 134.28 38 P **PKiKP** 02 39 13.8 -0.4
baz=307
TRQA Tornquist 134.55 166 *e*P **PKPdf** 02 39 13.4 -0.1
ACSO Alum Creek Sta 134.89 36 P **PKiKP** 02 39 15.1 -0.4
baz=310
KIC Kosan Boka 135.24 273 *e*P **PKiKP** 02 39 17.6 +0.7
comp=Z,44nm,0.6s
ERPA Erie 135.30 32 P **PKiKP** 02 39 15.9 -0.3
baz=315
DBIC Dimbokro 135.36 273 PKhKP PKPpre 02 39 03.6
comp=Z,8.8nm,0.7s,baz=118,slow=4.2,SNR=12
DBIC PKP **PKPdf** 02 39 15.6 0.0
comp=Z,15nm,0.6s,baz=83,slow=3.0,SNR=9.0
DBIC PP **PP** 02 41 52.0 -1.9
comp=Z,36nm,1.2s,baz=84,slow=7.4,SNR=12
DBIC SKPbc **SKPbc** 02 42 32.4 -0.6
comp=Z,24nm,0.9s,baz=107,slow=4.2,SNR=7.1
M53A WI Miller and 135.40 33 P **PKiKP** 02 39 16.2 -0.3
baz=313
LIC Lamto 135.51 273 *e*P **PKiKP** 02 39 17.7 +0.2
comp=Z,110nm,0.6s
TIC Toumodi 135.52 273 *e*P **PKPdf** 02 39 16.0 +0.1
comp=Z,19nm,0.7s
T50A Nancy 135.69 41 P **PKPdf** 02 39 16.1 +0.5
baz=305
T50A P **PKPdf** 02 39 16.1 +0.5
baz=305
P52A Corning 135.77 36 P **PKPdf** 02 39 16.2 +0.6
baz=310
O53A New Philadelph 135.90 35 P **PKPdf** 02 39 16.3 +0.4
baz=312
LONY Lake Ozonia 136.01 26 P **PKiKP** 02 39 17.1 -0.5
baz=323
LRAL Lakeview Retre 136.31 47 P **PKiKP** 02 39 17.9 -0.7
baz=300
J58A Remsen 136.69 27 P **PKPdf** 02 39 18.1 +0.8
baz=321
J58A P **PKPdf** 02 39 18.1 +0.8
baz=321
TZTN Tazewell 136.81 41 P **PKiKP** 02 39 18.9 -0.5
baz=306
MCWV Mont Chateau 137.08 35 P **PKiKP** 02 39 19.9 0.0
baz=313
BRAL Brewton 137.17 50 P **PKiKP** 02 39 19.9 -0.4
baz=298
BINY Binghamton 137.26 29 P **PKiKP** 02 39 19.9 -0.4
baz=320
LBNH Lisbon 137.41 24 P **PKiKP** 02 39 20.1 -0.4
baz=326
SSPA Standing Stone 137.46 32 P **PKiKP** 02 39 19.8 -0.9
baz=316
PKME Peaks-Kenny Pk 137.53 20 P **PKiKP** 02 39 20.5 -0.1
baz=331
BLA Blacksburg 138.36 38 P **PKiKP** 02 39 21.8 -0.9
baz=310
L61B Northampton 138.57 26 P **PKiKP** 02 39 22.3 -0.6
baz=322
GOGA Godfrey 138.65 45 P **PKiKP** 02 39 22.4 -0.9
baz=304
HRV Adam Dziewonsk 139.00 25 P **PKiKP** 02 39 22.7 -1.0
baz=326
KMSC Kings Mountain 139.08 41 P **PKPdf** 02 39 22.7 +0.8
baz=308
CO01 Juntas del Tor 139.10 153 *e*P **PKPdf** 02 39 15.8 -6.7
PAL Palisades 139.17 28 P **PKiKP** 02 39 23.0 -1.1
baz=322
CBN Corbin Frederi 139.47 34 P **PKPdf** 02 39 23.5 +1.1
baz=315
TIGA Tifton 139.61 47 P **PKiKP** 02 39 24.3 -1.0
baz=302
LCO Las Campanas 139.63 151 *e*P **PKPdf** 02 39 16.5 -7.0
AC05 El Transito 139.98 151 *e*P **PKPdf** 02 39 17.5 -6.4
AC04 Llanos de Chal 140.12 150 *e*P **PKPdf** 02 39 18.8 -5.3
AC01 Pan de Azucar 142.04 149 *e*P **PKPdf** 02 39 23.6 -4.0
AC02 Maricunga 142.21 151 *e*P **PKPdf** 02 39 24.9 -3.5
DWPF Disney Wildern 142.92 50 P **PKiKP** 02 39 31.6 -0.6
baz=300
RODS Rosario do Sul 143.31 172 *e*P **PKPdf** 02 39 28.5 -1.2
GO02 Mina Guanaco 143.37 149 *e*P PKPbc 02 39 27.9 +0.2
PB14 IPOC Station P 143.38 148 *e*P PKPbc 02 39 28.4 +0.6
CPSB Cacapava Do Su 143.46 175 *e*P **PKPdf** 02 39 29.7 -0.2
ITQB Itaqui 143.75 170 *e*P PKPbc 02 39 29.3 +0.9

BOAB	**BOACO BROADBAN**	**144.07**	**77**	PKP	**PKPdf**	**02 39 31.0**	**-0.3**
UNIS	**Unistalda (Bra**	**144.59**	**172**	*e*P	PKPbc	02 39 31.4	+0.5
CNLB	**Canela**	**144.70**	**178**	*e*P	**PKPdf**	**02 39 31.8**	**-0.4**
VACA	**Villa Angela C**	**144.76**	**163**	*e*P	**PKPdf**	**02 39 32.2**	**0.0**
JTS	**Las Juntas de**	**144.97**	**81**	PKP	**PKPdf**	**02 39 33.8**	**+0.9**
	comp=Z,98nm,0.6s,baz=264,slow=2.6,SNR=100						
PB15	**IPOC Station P**	**145.02**	**147**↑	*e*P	**PKPdf**	**02 39 34.0**	**+0.9**
ALGR	**Alto Alegre (B**	**145.09**	**175**	*e*P	**PKPdf**	**02 39 33.0**	**+0.1**
PB04	**IPOC Station P**	**145.35**	**145**↑	*i*P	**PKPab**	**02 39 34.8**	**+0.8**
PB06	**IPOC Station P**	**145.37**	**147**↑	*e*P	**PKPab**	**02 39 34.8**	**+0.7**
ITAL	**Pital**	**145.63**	**81**	*e*P	**PKiKP**	**02 39 39.4**	**+1.3**
LVC	**Limon Verde**	**145.81**	**147**	PKP2	**PKPab**	**02 39 37.0**	**+1.0**
LVC	**Limon Verde**	**145.81**	**147**	PKPbc	**PKPab**	**02 39 37.0**	**+1.0**
	comp=Z,123nm,0.7s,baz=252,slow=2.6,SNR=97						
LVC				SKPbc	**SKiKP**	**02 43 01.3**	**0.0**
	comp=Z,9.6nm,0.7s,baz=235,slow=4.4,SNR=3.2						
LVC	**Limon Verde**	**145.81**	**147**↑	*i*P	**PKPab**	**02 39 36.4**	**+0.4**
LVC	**Limon Verde**	**145.81**	**147**	*e*P	**PKPab**	**02 39 36.1**	**+0.2**
HDC	**Heredia**	**145.81**	**81**	*e*P	**PKPab**	**02 39 35.7**	**-0.2**
HDC3	**Heredia 3**	**145.82**	**81**	*e*P	**PKPab**	**02 39 36.9**	**+1.0**
AF01	**San Pedro de A**	**145.91**	**149**	*e*P	**PKPab**	**02 39 36.9**	**+0.7**
OCM	**Ochomogo**	**145.97**	**82**	*e*P	**PKPbc**	**02 39 36.1**	**+0.2**
CVIMO	**Finca Echandi**	**145.98**	**81**	*e*P	**PKPab**	**02 39 36.5**	**-0.2**
TICA	**Tres Isletas**	**146.03**	**163**	*e*P	**PKPbc**	**02 39 35.0**	**-0.5**
VICA	**Volcano Irazu**	**146.08**	**81**	*e*P	**PKPbc**	**02 39 36.8**	**+0.3**
ICR3	**Volcano Irazu**	**146.09**	**81**	*e*P	**PKPab**	**02 39 37.3**	**-0.1**
ICR3				*e*S		02 40 23.4	
RAFA	**San Farael, Vo**	**146.11**	**81**	*e*P	**PKPbc**	**02 39 36.7**	**+0.2**
VTRT	**Volcan Turrial**	**146.13**	**81**	*e*P	**PKPbc**	**02 39 36.4**	**-0.2**
VTLA	**Turrialba Volc**	**146.15**	**81**	*e*P	**PKPbc**	**02 39 36.7**	**+0.1**
CDM	**Cerro de Muert**	**146.18**	**82**	*e*P	**PKPab**	**02 39 38.1**	**+0.3**
VTCV	**VTCV, Calle Va**	**146.19**	**81**	*e*P	**PKPbc**	**02 39 36.1**	**-0.4**
CRSM	**Crissiumal (Br**	**146.27**	**173**	*e*P	**PKPbc**	**02 39 35.7**	**-0.5**
ITAB	**Concordia**	**146.71**	**176**	*e*P	**PKPdf**	**02 39 35.3**	**-0.3**
DRK0	**Durika**	**146.71**	**83**	*e*P	**PKPdf**	**02 39 36.0**	**-0.1**
CPUP	**Villa Florida**	**146.87**	**168**	PKPbc	**PKPbc**	**02 39 37.0**	**-0.9**
	comp=Z,100nm,0.7s,baz=196,slow=1.6,SNR=165						
CPUP				SKPbc	**SKPbc**	**02 43 02.4**	**-0.3**
	comp=Z,27nm,1.1s,baz=207,slow=1.9,SNR=4.6						
CPUP				PKKP	**PKKPdf**	**02 48 37.5**	**+2.2**
	comp=Z,0.7nm,0.5s,baz=30,slow=4.7,SNR=3.0						
CPUP	**Villa Florida**	**146.87**	**168**	*e*P	**PKPdf**	**02 39 35.3**	**-0.5**
BRU2	**Volcan**	**147.28**	**83**↑	*e*P	**PKPdf**	**02 39 37.5**	**+0.5**
FRBT	**Francisco Belt**	**147.88**	**174**	*e*P	**PKPdf**	**02 39 37.8**	**+0.1**
ESFA	**Espinillo Form**	**147.91**	**165**	*e*P	**PKPdf**	**02 39 37.8**	**+0.2**
GMAL	**Guarumal, Vera**	**148.75**	**85**	*e*P	**PKiKP**	**02 39 44.3**	**-0.3**
PTGB	**Pitanga**	**149.21**	**176**	*e*P	**PKPdf**	**02 39 40.7**	**+0.8**
MCR1	**Marechal Candi**	**149.27**	**172**	*e*P	**PKPdf**	**02 39 39.9**	**0.0**
PET01	**Itanhaem-SP**	**149.62**	**185**	*e*P	**PKPdf**	**02 39 41.9**	**+1.5**
SPB	**Sao Paulo**	**150.32**	**184**	*e*P	**PKPdf**	**02 39 42.8**	**+1.2**
PARB	**Paraibuna**	**150.38**	**188**	*e*P	**PKPdf**	**02 39 42.3**	**+0.6**
LDASE	**Londrina, Braz**	**150.58**	**178**	*e*P	**PKPdf**	**02 39 42.8**	**+0.7**
AMBA	**Amambai (Brazi**	**150.63**	**170**	*e*P	**PKPdf**	**02 39 43.6**	**+1.5**
FRTB	**Fartura**	**150.66**	**180**	*e*P	**PKPdf**	**02 39 42.8**	**+0.6**
OTAV	**Otavalo**	**150.79**	**101**	*e*P	**PKPdf**	**02 39 42.6**	**-0.5**
VAO	**Valinhos**	**150.87**	**185**	*e*P	**PKPdf**	**02 39 43.2**	**+0.7**
DUB01	**Friburgo-RJ**	**150.99**	**194**	*e*P	**PKPdf**	**02 39 43.2**	**+0.5**
MURT	**Porto Murtinho**	**151.29**	**165**	*e*P	**PKPdf**	**02 39 43.6**	**+0.5**
ANTJ	**Antonio Joao (**	**151.34**	**168**	*e*P	**PKPdf**	**02 39 44.0**	**+0.8**
RCLB	**Rio Claro- Sao**	**151.49**	**184**	*e*P	**PKPdf**	**02 39 44.0**	**+0.5**
ALF01	**Guarapari-ES**	**151.92**	**198**	*e*P	**PKPdf**	**02 39 45.2**	**+1.2**
PCMB	**Pacaembu**	**152.35**	**177**	*e*P	**PKPdf**	**02 39 45.2**	**+0.5**
BSCB	**Bom Sucesso**	**152.55**	**190**	*e*P	**PKPdf**	**02 39 44.8**	**-0.3**
BDQN	**Bodoquena, MS**	**152.67**	**166**	*e*P	**PKPdf**	**02 39 44.7**	**-0.4**
AQDB	**Aquidauana**	**152.88**	**168**	*e*P	**PKPdf**	**02 39 45.3**	**-0.1**
BB19B	**Bebedouro**	**152.90**	**183**	*e*P	**PKPdf**	**02 39 45.8**	**+0.2**
RIB01	**Linhares ES**	**153.03**	**200**	*e*P	**PKPdf**	**02 39 45.5**	**-0.2**
RPRD	**Ribas do Rio P**	**153.23**	**172**	*e*P	**PKPdf**	**02 39 46.0**	**0.0**
CZSB	**Cruzeiro do Su**	**153.29**	**121**	*e*P	**PKPdf**	**02 39 47.2**	**+1.0**
ABR01	**Abrolhos, BA**	**153.63**	**204**	*e*P	**PKPdf**	**02 39 46.0**	**-0.6**
BBRB	**Robore, Bolivi**	**153.76**	**158**	*e*P	**PKPdf**	**02 39 47.0**	**+0.2**
SJMB	**Sao Joao De Ma**	**153.86**	**199**	*e*P	**PKPdf**	**02 39 46.6**	**-0.3**
ITRB	**Iturama**	**154.27**	**179**	*e*P	**PKPdf**	**02 39 47.4**	**-0.1**
BSSD	**Serra de San D**	**154.44**	**155**	*e*P	**PKPdf**	**02 39 48.0**	**+0.2**
DIAM	**Diamantina, MG**	**154.94**	**194**	*e*P	**PKPdf**	**02 39 48.4**	**-0.2**
PMNB	**Patos De Minas**	**155.22**	**188**	*e*P	**PKPdf**	**02 39 49.5**	**+0.5**
SIV	**San Ignacio**	**155.30**	**153**	PKP	**PKPdf**	**02 39 49.8**	**+0.8**
	comp=Z,12nm,0.9s,baz=207,slow=1.5,SNR=44						
SIV				PKPab	**PKPab**	**02 40 14.6**	**0.0**
	comp=Z,13nm,0.6s,baz=210,slow=6.0,SNR=4.2						
GUA01	**Guaratinga, BA**	**155.32**	**203**	*e*P	**PKPdf**	**02 39 50.1**	**+1.1**
ROSC	**El Rosal**	**155.54**	**92**	PKP	**PKPdf**	**02 39 48.2**	**-1.7**
	comp=Z,5.7nm,0.4s,baz=58,slow=2.9,SNR=8.4						
ROSC				PKPab	**PKPab**	**02 40 16.9**	**+0.4**
	comp=Z,19nm,0.6s,baz=183,slow=17,SNR=5.5						
IPMB	**Ipameri, GO**	**155.94**	**184**	*e*P	**PKPdf**	**02 39 50.3**	**+0.4**
PTLB	**Pontes e Lacer**	**156.60**	**157**	*e*P	**PKPdf**	**02 39 51.1**	**+0.5**
ETMB	**Extrema**	**157.19**	**134**	*e*P	**PKPdf**	**02 39 51.7**	**+0.3**
SALV	**Santo Antonio**	**157.29**	**165**	*e*P	**PKPdf**	**02 39 51.7**	**+0.2**
TBTG	**Tabatinga, AM**	**157.42**	**117**	*e*P	**PKPdf**	**02 39 52.2**	**+0.3**
ARAG	**Araguaiana, MT**	**158.16**	**175**	*e*P	**PKPdf**	**02 39 53.2**	**+0.6**
JANB	**Januaria**	**158.21**	**194**	*e*P	**PKPdf**	**02 39 53.2**	**+0.4**
BDFB	**Brasilia**	**158.25**	**185**	PKP	**PKPdf**	**02 39 52.7**	**-0.2**
	comp=Z,17nm,0.9s,baz=110,slow=1.2,SNR=24						
BDFB				PKPab	**PKPab**	**02 40 26.8**	**-0.5**
	comp=Z,6.4nm,0.7s,baz=114,slow=1.8,SNR=5.3						
VILB	**Vilhena**	**158.36**	**151**	*e*P	**PKPdf**	**02 39 53.2**	**+0.2**
SDV	**Santo Domingo**	**159.16**	**81**	PKP	**PKPdf**	**02 39 54.3**	**+0.1**
	comp=Z,33nm,1.1s,baz=192,slow=0.1,SNR=31						
SDV				PKPab	**pPKPdf**	**02 40 33.1**	**+0.3**
	comp=Z,14nm,0.7s,baz=252,slow=7.2,SNR=7.5						
SDV	**Santo Domingo**	**159.16**	**81**	*e*P	**PKPdf**	**02 39 54.2**	**+0.1**
NBLA	**Lagarto - SE**	**159.18**	**215**	*e*P	**PKPdf**	**02 39 53.6**	**-0.3**
NBAN	**Anadia - AL**	**159.29**	**221**	*e*P	**PKPdf**	**02 39 53.6**	**-0.5**
SAML	**Samuel**	**159.90**	**138**	*e*P	**PKPdf**	**02 39 55.3**	**+0.5**
SDBA	**SAO DESIDERIO**	**160.91**	**195**	*e*P	**PKPdf**	**02 39 56.1**	**+0.2**
PDRB	**Porto dos Gac**	**161.02**	**159**	*e*P	**PKPdf**	**02 39 56.5**	**+0.5**
NBLV	**Livramento - P**	**161.41**	**224**	*e*P	**PKPdf**	**02 39 56.7**	**+0.2**
RCBR	**Riachuelo**	**161.72**	**230**	*e*P	**PKPdf**	**02 39 56.5**	**-0.3**
SNDB	**Serra Nova Dou**	**161.90**	**175**	*e*P	**PKPdf**	**02 39 57.3**	**+0.5**
CLDB	**Colider**	**162.03**	**161**	*e*P	**PKPdf**	**02 39 57.1**	**+0.1**
TEFE	**Tefe**	**162.32**	**123**	*e*P	**PKPdf**	**02 39 57.9**	**+0.6**
NBCL	**Cascavel-CE**	**164.56**	**228**	*e*P	**PKPdf**	**02 39 59.4**	**0.0**
SMTB	**Santa Maria do**	**164.90**	**188**	*e*P	**PKPdf**	**02 39 59.8**	**+0.1**
MACA	**Manacapuru-AM**	**165.70**	**130**	*e*P	**PKPdf**	**02 40 00.6**	**+0.2**
NPGB	**Novo Progresso**	**165.74**	**157**	*e*P	**PKPdf**	**02 40 01.0**	**+0.6**
ITTB	**Itaituba**	**167.96**	**150**	*e*P	**PKPdf**	**02 40 02.7**	**+0.6**
BOAV	**Boa Vista**	**168.65**	**109**	*e*P	**PKPdf**	**02 40 03.1**	**+0.5**
MALB	**Monte Alegre**	**170.85**	**151**	*e*P	**PKPdf**	**02 40 04.2**	**+0.3**
TMAB	**Tom-Au,PA,Br**	**171.34**	**191**	*e*P	**PKPdf**	**02 40 05.0**	**+0.9**
MCPB	**Macapa, AP**	**173.12**	**161**	*e*P	**PKPdf**	**02 40 05.0**	**+0.1**

*IDC **02** 02:25:39.3±2.5, 15°.00S×71°.31W, h96km±29km, mb3.1/3, mbtmp3.6/6, Error ellipse: s-maj=53.7km s-min=23.2km az=31.0*

ISC 02 02:25:38.6±0.8,**15°.2S**±0°.1×**71°.6W**±0°.1,**h100**km,**n7,** σ2§**40**/9,**mb3.3**/3,**Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**6.05**	**301**	P	**Pn**	**02 27 06.8**	**+1.2**
	4.9nm,0.3s,baz=131,slow=11,SNR=2.7						
NNA				S	**Sn**	**02 28 09.7**	**-3.9**
	4.7nm,0.4s,baz=27,slow=2.7,SNR=1.4						
LVC	**Limon Verde**	**7.79**	**162**	P	**Pn**	**02 27 31.8**	**+2.2**
	2.4nm,0.2s,baz=4.8,slow=9.6,SNR=18						
LVC				S	**Sn**	**02 28 53.5**	**-2.8**
	8.7nm,0.3s,baz=71,slow=22,SNR=17						
SIV	**San Ignacio**	**10.14**	**96**	P	**Pn**	**02 28 00.3**	**-1.0**
	0.7nm,0.6s,baz=359,slow=11,SNR=1.3						
TXAR	**Lajitas Array**	**54.05**	**325**	P	**P**	**02 34 54.3**	**+1.2**
	0.2nm,0.6s,baz=148,slow=8.6,SNR=3.1						
	0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**77.76**	**73**	P	**P**	**02 37 24.0**	**-1.3**
	0.2nm,0.4s,baz=248,slow=4.8,SNR=5.2						
	0.2nm,0.4s						
YKA	**Yellowknife Ar**	**84.44**	**341**	P	**P**	**02 38 00.6**	**+0.9**
	0.5nm,0.7s,baz=137,slow=5.0,SNR=7.7						
	0.5nm,0.7s						
SONM	**Songino Array**	**147.42**	**3**	PKPbc	**PKPbc**	**02 45 11.5**	**+0.4**
	1.2nm,0.7s,baz=328,slow=2.1,SNR=5.7						

*CATAC **02** 02:27:59.4±2.7, 14°.87N×89°.19W, h3km±18km, ML3.6*
*SNET **02** 02:28:09.1±1.4, 13°.18N×89°.85W, h39km±5km, ML2.1*

ISC 02 02:28:04.8±3.3,**13°.1N**±0°.1×**89°.9W**±0°.1,**h4**km±13km,**n11,** σ0§**51**/15,**El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.75**	**38**	*e*P	**Pb**	**02 28 20.9**	**+0.4**
JAYA				*e*S	**Sb**	**02 28 30.8**	**-0.3**
JAYA				IAML		02 28 32.8	
	comp=Z,256nm,0.2s						
JAYA	**Jayaque - finc**	**0.75**	**38**	*i*P	**Pn**	**02 28 22.5**	**+0.2**
JAYA				IAML		02 28 32.8	
	comp=Z,600nm,1.0s						
CEVE	**Cerro Verde**	**0.81**	**21**	*e*P	**Pn**	**02 28 23.4**	**+0.2**
CEVE				*e*S	**Sb**	**02 28 33.5**	**+0.4**
CEVE				IAML		02 28 34.6	
	comp=Z,200nm,0.3s						
CEVE	**Cerro Verde**	**0.81**	**21**	*i*P	**Pg**	**02 28 20.2**	**-0.3**
CEVE				*i*S	**Sn**	**02 28 35.7**	**-0.2**
CEVE				IAML		02 28 36.7	
	comp=Z,190nm,1.0s						
NUBE	**Las Nubes**	**0.84**	**10**	*e*P	**Pb**	**02 28 22.3**	**+0.1**
NUBE				*e*S	**Sg**	**02 28 32.9**	**+0.8**
NUBE	**Las Nubes**	**0.84**	**10**	*i*P	**Pg**	**02 28 20.3**	**-0.7**
NUBE				IAML		02 28 34.1	
	comp=Z,180nm,1.0s						
NUBE				*i*S	**Sn**	**02 28 35.7**	**-0.8**
SNJE	**San Jose**	**0.86**	**21**	*e*P	**Pb**	**02 28 22.7**	**+0.3**
SNJE				IAML		02 28 38.5	
	comp=Z,22nm,0.3s						
SLOZ	**Alcaldia de Sa**	**0.97**	**8**	*e*S	**Sb**	**02 28 37.4**	**+0.1**
SJTE	**Alcalda de S**	**1.05**	**59**	*e*P	**Pn**	**02 28 26.7**	**+0.3**
SJTE				*e*S	**Sg**	**02 28 38.4**	**-0.2**
SJTE				IAML		02 28 40.5	
	comp=Z,30nm,0.2s						
GUMI	**Mixco**	**1.69**	**337**	*i*P	Pn	02 28 25.0	-10
GUMI				IAML		02 28 27.6	
	comp=Z,4μm,1.0s						
AVCB	**Coban**	**2.44**	**349**	*i*P	Pn	02 28 23.7	-22
AVCB				IAML		02 28 24.7	
	comp=Z,16μm,1.0s						

*DNK **02** 02:30:02.6±1.0, 51°.33N×16°.07E, h33km±30km, ML3.2*
*VIE **02** 02:30:03.6±0.7, 51°.43N×16°.13E, h0km, mb2.8/6, ml2.7/7, Error ellipse: s-maj=7.2km s-min=5.0km az=73.0, Suspected Mining induced.*
*IPEC **02** 02:30:03.1±0.2, 51°.49N×16°.22E, h1km, ML2.2/4, Error ellipse: s-maj=2.0km s-min=1.1km az=37.0*
*PRU **02** 02:30:05.4, 51°.42N×16°.10E, h0km, Felt In Liberec*

ISC 02 02:30:01.9±0.8,**51°.55N**±0°.03×**16°.11E**±0°.02,**h0**km,**n40,** σ1§**08**/76,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**170**	*e*Pg	**Pg**	**02 30 16.1**	**+0.5**
KSP				*e*Sg	**Sg**	**02 30 24.9**	**0.0**
CHVC	**Chvalec**	**0.96**	**182**	*e*PG	**Pb**	**02 30 20.9**	**-0.6**
CHVC				*e*SG	**Sg**	**02 30 32.9**	**+0.1**
	comp=Z,37nm,0.4s						
OSTC	**Ostas**	**1.00**	**176**	*e*PG	**Pb**	**02 30 21.4**	**-0.6**
OSTC				*e*SG	**Sg**	**02 30 34.0**	**+0.1**
	comp=Z,34nm,0.5s						
UPC	**Upice**	**1.05**	**183**	*e*PG	**Pb**	**02 30 22.3**	**-0.6**
UPC				*e*SG	**Sg**	**02 30 35.3**	**-0.1**
	comp=Z,84nm,0.5s						
DPC	**Dobruska-Polom**	**1.21**	**173**	*e*PG	**Pg**	**02 30 24.8**	**-0.2**
DPC				*e*SG	**Sg**	**02 30 40.1**	**-0.6**
	comp=Z,29nm,0.4s						
PVCC	**Panska Ves**	**1.41**	**224**	*e*PG	**Pb**	**02 30 29.4**	**+0.4**
PVCC				*e*SG	**Sn**	**02 30 48.2**	**+0.1**
	comp=Z,134nm,0.2s						
BRG	**Berggiesshubel**	**1.52**	**244**	Pg	**Pg**	**02 30 31.9**	**+1.0**
BRG				Sg	**Sb**	**02 30 52.1**	**+1.3**
BRG				Amp		02 30 54.1	
	comp=Z,62nm,0.3s						
KRLC	**Kraliky**	**1.54**	**164**	*e*PG	**Pn**	**02 30 30.4**	**-0.2**
KRLC				*e*SG	**Sg**	**02 30 50.3**	**-0.9**
	comp=Z,25nm,0.3s						
PRA	**Prague**	**1.82**	**216**	*e*PN	**Pn**	**02 30 34.8**	**+0.3**
PRU	**Pruhonice**	**1.85**	**213**	*e*PG	**Pg**	**02 30 37.1**	**-0.3**
PRU				*e*SG	**Sb**	**02 31 00.6**	**+0.3**
	comp=Z,16nm,0.2s						
HSKC	**Hora Svate Kat**	**1.93**	**242**	*e*PG	**Pg**	**02 30 38.7**	**-0.2**
HSKC				*e*SG	**Sg**	**02 31 03.6**	**-0.3**
	comp=Z,41nm,0.3s						
CLL	**Collm**	**1.96**	**264**	*e*Pn	**Pn**	**02 30 37.0**	**+0.7**
CLL				*e*Pg	**Pg**	**02 30 39.0**	**-0.4**
CLL				*e*Sg	**Sg**	**02 31 06.0**	**+1.3**
	comp=Z,25nm,0.5s						
MORC	**Moravsky Berou**	**2.00**	**152**	*e*Pn	**Pn**	**02 30 36.7**	**-0.2**
	baz=334						
MORC				*e*Sg	**Sn**	**02 31 02.8**	**+0.2**
	comp=Z,19nm,0.5s,baz=334						
MORC	**Moravsky Berou**	**2.00**	**152**	*e*PN	**Pn**	**02 30 36.8**	**-0.2**
MORC				*e*SG	**Sn**	**02 31 02.9**	**+0.3**
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*SG	**Sb**	**02 31 09.5**	**+0.6**
VRAC	**Vranov**	**2.27**	**172**	*e*Pn	**Pn**	**02 30 40.7**	**+0.1**
	baz=354						
VRAC				*e*Sg	**Sb**	**02 31 11.7**	**-0.5**
	comp=Z,14nm,0.3s,baz=354						
TREC	**Trest**	**2.29**	**190**	*e*SG	**Sb**	**02 31 14.2**	**+1.2**
KRUC	**Moravsky**	**2.50**	**176**	*e*Pn	**Pn**	**02 30 43.9**	**+0.1**
	baz=357						
KRUC				*e*Sg	**Sb**	**02 31 19.3**	**+0.4**
	comp=Z,16nm,0.5s,baz=357						
NKC	**Novy Kostel**	**2.67**	**242**	*e*SG	**Sg**	**02 31 28.0**	**+0.6**
	comp=Z,41nm,0.3s						
OJC	**Ojcow**	**2.69**	**118**	*e*Pg	**Pg**	**02 30 53.7**	**+0.3**
OJC				*e*Sg	**Sg**	**02 31 28.4**	**+0.1**
JAVC	**Velka Javorina**	**2.88**	**159**	*e*Pn	**Pn**	**02 30 48.8**	**-0.2**
	baz=341						
JAVC	**Velka Javorina**	**2.88**	**159**	*e*PN	**Pn**	**02 30 48.9**	**-0.1**
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN	**Pn**	**02 30 49.8**	**+0.3**
KHC				*e*PG	**Pg**	**02 30 56.2**	**-1.5**
KHC				*e*SN	**Sn**	**02 31 24.5**	**-0.7**
KHC				*e*SG	**Sg**	**02 31 33.6**	**-1.8**
	comp=Z,12nm,0.3s						
CKRC	**Cesky Krumlov**	**2.97**	**204**	*e*PN	**Pn**	**02 30 50.5**	**+0.3**
CKRC				*e*PG	**Pb**	**02 30 56.9**	**+1.3**
CKRC				*e*SG	**Sb**	**02 31 34.5**	**+2.1**
LANS	**Liptovska Anna**	**3.23**	**137**	*e*PG	**Pg**	**02 31 06.0**	**+2.3**
LANS				*e*SG	**Sg**	**02 31 46.6**	**+1.1**
MODS	**Modra-Piesok**	**3.27**	**166**	*e*PN	**Pn**	**02 30 52.7**	**-1.7**
MODS				*e*PG	**Pg**	**02 31 05.3**	**+0.8**
MODS				*e*SG	**Sg**	**02 31 46.9**	**+0.1**
NIE	**Niedzica**	**3.42**	**127**	*e*Pg	**Pg**	**02 31 07.2**	**-0.3**
NIE				*e*Sg	**Sg**	**02 31 50.5**	**-1.3**
VYHS	**Vyhne**	**3.53**	**149**	*e*PG	**Pg**	**02 31 10.2**	**+0.7**
CONA	**Conrad Observa**	**3.63**	**183**	*e*Pn	**Pn**	**02 30 59.8**	**+0.4**
	comp=Z,0.2nm,0.1s						
CONA				*e*Sg	**Sg**	**02 31 56.9**	**-1.6**
	comp=Z,7.6nm,0.4s						
BSD	**Bornholm Skovb**	**3.64**	**349**	*e*P	**Pn**	**02 31 00.3**	**+0.9**
BSD				*e*S	**Sn**	**02 31 41.9**	**-1.2**
BSD				IAML		02 31 55.0	
	comp=Z,31nm,0.8s						
RONA	**Rosalia, Austr**	**3.86**	**178**	*e*Sg	**Sg**	**02 32 04.7**	**-1.0**
	comp=Z,5.6nm,0.4s						
MOA	**Molln**	**3.89**	**199**	*i*Pn	**Pn**	**02 31 03.5**	**+0.6**
	comp=Z,0.6nm,0.2s						
MOA				Sg	**Sg**	**02 32 05.7**	**-1.2**
	comp=Z,7.0nm,0.4s						
BIOA	**Bad Ischl, Aus**	**4.18**	**203**	Sg	**Sg**	**02 32 14.7**	**-1.5**
	comp=Z,8.0nm,0.4s						
ARSA	**Arzberg**	**4.32**	**185**	Pn	**Pn**	**02 31 10.4**	**+1.5**
	comp=Z,0.6nm,0.3s						
ARSA				*e*Sg	**Sg**	**02 32 18.0**	**-2.6**
	comp=Z,8.2nm,0.6s						
LUNU	**Lund**	**4.38**	**340**	*e*P	**Pn**	**02 31 10.1**	**+0.5**
LUNU				*e*S	**Sn**	**02 32 00.4**	**-1.0**
LESA	**Schwarzleotal**	**4.70**	**210**	*e*Pn	**Pn**	**02 31 15.7**	**+1.6**
	comp=Z,0.5nm,0.2s						
LESA				*e*Sg	**Sg**	**02 32 30.8**	**-1.8**
	comp=Z,3.8nm,0.4s						
BLEU	**Blekinge**	**4.77**	**358**	*e*P	**Pn**	**02 31 16.1**	**+1.2**
BLEU				*e*S	**Sn**	**02 32 09.4**	**-1.4**
KBA	**Koelnbreinsper**	**4.83**	**203**	*e*Pn	**Pn**	**02 31 17.3**	**+1.4**
	comp=Z,0.6nm,0.3s						
KBA				*e*Sg	**Sg**	**02 32 35.1**	**-1.7**
	comp=Z,2.2nm,0.3s						
BJUU	**Bjuv**	**4.89**	**339**	*e*P	**Pn**	**02 31 16.7**	**+0.2**
BJUU				*e*S	**Sn**	**02 32 11.8**	**-1.9**
DEL	**Delary**	**5.10**	**346**	*e*P	**Pn**	**02 31 20.2**	**+0.7**
DEL				*e*S	**Sn**	**02 32 15.9**	**-3.1**

*SOME **02** 02:39:51.0, 39°.62N×68°.32E, h15km*
*NNC **02** 02:39:53.6±2.4, 39°.80N×68°.27E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=30.5km s-min=16.9km az=117.0*
*ISU **02** 02:39:53.9, 39°.83N×67°.84E, h17km*

ISC 02 02:39:54.0±0.9,**39°.83N**±0°.03×**68°.01E**±0°.03,**h13**km±7km,**n18,** σ2§**42**/33,**1C-1D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BXML	**Bakhmal**	**0.15**	**175**	P	**Pg**	**02 39 58.1**	**+0.4**
BXML				S	**Sg**	**02 40 01.3**	**+1.0**
DZI	**Dzhizak**	**0.32**	**333**	P	**Pg**	**02 40 00.3**	**-0.2**
DZI				S	**Sg**	**02 40 05.1**	**+0.3**
AGL	**Agalyk**	**0.93**	**251**	P	**Pb**	**02 40 09.3**	**-2.7**
AGL				S	**Sb**	**02 40 20.7**	**-3.6**
YNGY	**Yangiyul**	**1.49**	**31**	P	**Pg**	**02 40 22.6**	**0.0**
YNGY				S	**Sg**	**02 40 44.1**	**+2.1**
PKMR	**Pachkamar**	**1.80**	**225**	P	**Pn**	**02 40 25.2**	**+0.4**
PKMR				S	**Sn**	**02 40 48.5**	**+0.9**
NUT	**Nurota**	**1.93**	**293**	P	**Pn**	**02 40 26.9**	**+0.4**
NUT				S	**Sn**	**02 40 51.2**	**+0.5**
TGS	**TashGRES**	**1.96**	**35**	P	**Pb**	**02 40 28.8**	**-0.7**
TGS				S	**Sg**	**02 40 54.9**	**-2.1**
MINT	**Mingtut**	**2.36**	**73**	P	**Pb**	**02 40 37.2**	**+0.9**
MINT				S	**Sg**	**02 41 10.7**	**+1.0**
IUG	**Iuzhnay**	**2.77**	**33**	*e*P	**Pb**	**02 40 43.0**	**-0.4**
	33nm,0.3s						
IUG				*e*S	**Sg**	**02 41 20.7**	**-2.3**
	176nm,0.3s						
IUG	**Iuzhnay**	**2.77**	**33**	Pg	**Pb**	**02 40 43.0**	**-0.4**
	33nm,0.3s						
IUG				Lg	Lg	02 41 20.7	
	176nm,0.3s						
BUXR	**Bukhara**	**2.83**	**269**	P	**Pn**	**02 40 40.2**	**+1.3**
BUXR				S	**Sn**	**02 41 16.0**	**+3.2**
FRG	**Fergana**	**2.94**	**78**	P	**Pb**	**02 40 45.6**	**-0.7**
FRG				S	**Sg**	**02 41 26.5**	**-2.0**
BRLS	**Borolday**	**3.48**	**23**	*e*P	**Pn**	**02 40 50.5**	**+2.7**
	11nm,0.4s						
BRLS				*e*S	**Sb**	**02 41 34.1**	**-3.4**
	26nm,0.4s						
BRLS	**Borolday**	**3.48**	**23**	Pg	**Pn**	**02 40 50.5**	**+2.7**
	11nm,0.4s						
BRLS				Lg	Lg	02 41 34.1	
	26nm,0.4s						
DZN	**Dzhankel'dy**	**3.71**

M_{rr}1.14; $M_{\theta\theta}$-1.24; $M_{\phi\phi}$0.10; $M_{r\theta}$-0.07; $M_{\theta\phi}$0.55; $M_{\phi r}$-0.15; Fault plane solution: $M_0$1.30000×10^{17} NP1: ϕ_s279.24000°,δ46.33000°,λ75.30000°. NP2: ϕ_s120.05000°,δ45.60000°,λ104.89000°. Principal axes: T 1.1708, Plg79.0000°, Azm112.0000°; N 0.2636, Plg11.0000°, Azm290.0000°; P -1.4344, Plg0.0000°, Azm20.0000°;

*NEIC **02** 03:01:20.7,6.01S×142.52E,h12km*

*DJA **02** 03:01:23.7±0.8,6.3S×14.2E±,h32km±8km,M5.3/33, mb5.2/33,mB5.7/23,MLv6.0/3,Mw(mB)5.2/23, MwMwp5.2/6,Mwp5.4/6*

*GCMT **02** 03:01:23.0±0.1,6.11S±0.01×142.49E±0.01,h12km, MW5.4/135,Moment Tensor Solution. s105,c164; s135,c252; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}1.30±.03; $M_{\theta\theta}$-1.30±.02; $M_{\phi\phi}$0.00±.02; $M_{r\theta}$0.77±.06; $M_{\theta\phi}$0.83±.02; $M_{\phi r}$-0.65±.07; Best double couple: $M_0$1.81400×10^{17} NP1:ϕ_s126.00000°,δ62.00000°, λ101.00000°. NP2:ϕ_s283.00000°,δ30.00000°,λ70.00000°. Principal axes: T 1.6340, Plg71.0000°, Azm61.0000°; N 0.3560, Plg10.0000°, Azm301.0000°; P -1.9950, Plg17.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 03:01:20.0±0.6,6.07S±0.04×142.52E±0.04,h15km±3km, n944,σ1s29/798,mb5.4/215,MS5.0/138,27C-6D,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
TABU	**Tabubil**	**1.52**	**302**	P	**Pg**		**03 01 48.4**	**-0.8**
MMPI	**Merauke**	**3.19**	**222**	P	**Pn**		**03 02 11.0**	**+1.4**
GENI	**Genyem**	**4.18**	**326**	P	**Pn**		**03 02 26.1**	**+2.9**
GENI	**Genyem**	**4.18**	**326**	P	**Pn**		**03 02 24.6**	**+1.4**
SMPI	**Sarmi**	**5.56**	**317**	P	**Pn**		**03 02 45.2**	**+3.0**
PMG	**Port Moresby**	**5.67**	**126**	P	**Pn**		**03 02 43.7**	**0.0**
PMG	**Port Moresby**	**5.67**	**126**	Pn	**Pn**		**03 02 43.1**	**-0.5**
	81nm,0.3s,baz=321,slow=10,SNR=111							
PMG				Sn	**Sn**		**03 03 47.3**	**-1.2**
	80nm,0.3s,baz=329,slow=23,SNR=13							
	322nm,0.5s							
MANU	**Manus Island**	**6.27**	**51**	Pn	**Pn**		**03 02 52.0**	**0.0**
MANU	**Manus Island**	**6.27**	**51**	P	**Pn**		**03 02 55.1**	**+3.0**
	576nm,1.8s							
COEN	**Coen**	**7.86**	**175**	P	**Pn**		**03 03 15.0**	**+1.1**
	baz=7.9,SNR=5.5							
COEN	**Coen**	**7.86**	**175**	Pn	**Pn**		**03 03 16.1**	**+2.2**
KAVG	**Kavieng**	**8.96**	**68**	P	**Pn**		**03 03 33.2**	**+4.3**
RABL	**Rabaul**	**9.79**	**79**	Pn	**Pn**		**03 03 40.9**	**+0.6**
RABL	**Rabaul**	**9.79**	**79**	P	**Pn**		**03 03 43.7**	**+3.4**
FAKI	**Fak Fak**	**10.71**	**287**	Pn	**Pn**		**03 03 51.8**	**-1.2**
FAKI	**Fak Fak**	**10.71**	**287**	P	**Pn**		**03 03 52.2**	**-0.7**
FAKI	**Fak Fak**	**10.71**	**287**	P	**Pn**		**03 03 50.9**	**-2.0**
SAUI	**Saumlaki**	**11.30**	**260**	Pn	**Pn**		**03 04 00.4**	**-0.6**
SAUI	**Saumlaki**	**11.30**	**260**	P	**Pn**		**03 04 02.7**	**+1.7**
SAUI	**Saumlaki**	**11.30**	**260**	P	**Pn**		**03 04 02.0**	**+1.0**
	2µm,1.2s,19µm9µm							
KDU	**Kakadu**	**11.89**	**236**	P	**Pn**		**03 04 09.2**	**+0.1**
	baz=12,SNR=45							
KDU	**Kakadu**	**11.89**	**236**	P	**Pn**		**03 04 08.4**	**-0.7**
MTSU	**Mount Surprise**	**12.12**	**172**	P	**Pn**		**03 04 14.2**	**+2.0**
	baz=12,SNR=9.3							
MTSU	**Mount Surprise**	**12.12**	**172**	P	**Pn**		**03 04 13.6**	**+1.4**
SWI	**Sorong**	**12.37**	**294**	P	**Pn**		**03 04 14.5**	**-1.2**
SWI				pmax	pmax			
	comp=Z,142nm,1.3s							
SWI	**Sorong**	**12.37**	**294**	P	**Pn**		**03 04 13.9**	**-1.8**
BNDI	**Bandanaira**	**12.66**	**276**	P	**Pn**		**03 04 17.9**	**-1.7**
MTN	**Manton Dam**	**13.09**	**238**	P	**Pn**		**03 04 24.4**	**-1.1**
	baz=13,SNR=25							
MTN	**Manton Dam**	**13.09**	**238**	Pn	**Pn**		**03 04 24.2**	**-1.3**
MTN	**Manton Dam**	**13.09**	**238**	P	**Pn**		**03 04 24.3**	**-1.2**
DRS	**Darwin Rock St**	**13.09**	**240**	P	**Pn**		**03 04 24.8**	**-0.7**
TV1H	**Townsville Har**	**13.76**	**163**	P	**Pn**		**03 04 36.3**	**+1.7**
CTA	**Charters Tower**	**14.40**	**166**	P	**Pn**		**03 04 45.2**	**+1.8**
CTA	**Charters Tower**	**14.40**	**166**	Pn	**Pn**		**03 04 45.3**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=338,slow=12,SNR=9.0							
CTA				Lg	Lg		03 08 56.9	
	comp=Z,0.9nm,0.3s,baz=75,slow=23,SNR=4.0							
	comp=Z,7.8nm,1.0s							
CTAO	**Charters Tower**	**14.40**	**166**	Pn	**Pn**		**03 04 44.1**	**+0.7**
CTAO	**Charters Tower**	**14.40**	**166**	P	**Pn**		**03 04 45.2**	**+1.8**
CTAO	**Charters Tower**	**14.40**	**166**	P	**Pn**		**03 04 44.1**	**+0.7**
QIS	**Mount Isa**	**14.68**	**191**	P	**Pn**		**03 04 46.8**	**-0.4**
	baz=15,SNR=16							
QIS	**Mount Isa**	**14.68**	**191**	P	**Pn**		**03 04 47.0**	**-0.2**
NLAI	**Namlea**	**15.62**	**280**	P	**Pn**		**03 05 01.1**	**+1.3**
	comp=Z,56nm,0.8s							
WB0	**Warramunga Arr**	**15.74**	**209**	Pn	**Pn**		**03 04 59.6**	**-1.7**
WR0	**Warramunga Arr**	**15.84**	**209**	Pn	**Pn**		**03 05 01.0**	**-1.6**
WRAB	**Tennant Creek**	**15.90**	**209**		**Pn**		**03 05 00.5**	**-2.9**
WRAB	**Tennant Creek**	**15.90**	**209**	P	**Pn**		**03 05 00.5**	**-2.9**
WRAB				pmax	pmax			
	comp=Z,60nm,0.7s							
WB2	**Warramunga Arr**	**15.91**	**209**	Pn	**Pn**		**03 05 01.1**	**-2.4**
WC3	**Warramunga Arr**	**15.91**	**209**	P	**Pn**		**03 05 01.6**	**-2.0**
	baz=16							
WRA	**Warramunga Arr**	**15.92**	**209**	Pn	**Pn**		**03 05 01.6**	**-2.0**
WRA	**Warramunga Arr**	**15.92**	**209**	*i* P	**Pn**		**03 05 01.0**	**-2.6**
WRA				pmax	pmax			
	comp=Z,28nm,0.5s							
WRA	**Warramunga Arr**	**15.92**	**209**	Pn	**Pn**		**03 05 02.0**	**-1.6**
	comp=Z,7.3nm,0.3s,baz=26,slow=13,SNR=54							
WRA				Sn	Sn		03 07 50.4	-9.5
	comp=Z,5.5nm,0.3s,baz=31,slow=22,SNR=4.6							
WRA				Lg	Lg		03 09 48.7	
	comp=Z,5.0nm,0.3s,baz=34,slow=28,SNR=7.3							
WRA				LR	LR		03 11 58.7	
	comp=Z,14µm,20.5s,baz=14,slow=40							
LBMI	**Labuha**	**15.93**	**289**	P	**P**		**03 05 12.4**	**+5.1**
KNRA	**Kununurra**	**16.53**	**234**	Pn	**Pn**		**03 05 09.1**	**-2.4**
KNRA	**Kununurra**	**16.53**	**234**	P	**Pn**		**03 05 09.8**	**-1.6**
TNTI	**Ternate**	**16.59**	**294**	P	**P**		**03 05 13.2**	**-1.4**
TNTI	**Ternate**	**16.59**	**294**	P	**Pn**		**03 05 13.1**	**+0.9**
	comp=Z,78nm,1.1s,comp=Z,2µm							
SANI	**Sanana**	**16.96**	**283**	P	**Pn**		**03 05 15.5**	**-1.5**
SANI	**Sanana**	**16.96**	**283**	P	**Pn**		**03 05 14.8**	**-2.2**
HNR	**Honiara**	**17.59**	**102**	P	**P**		**03 05 26.9**	**+1.2**
HNR	**Honiara**	**17.59**	**102**	P	**P**		**03 05 26.3**	**+0.6**
HNR				pmax	pmax			
	comp=Z,694nm,1.0s							
HNR	**Honiara**	**17.59**	**102**	P	**P**		**03 05 26.1**	**+0.5**
	comp=Z,4µm,0.6s,baz=280,slow=11,SNR=7.6							
SOEI	**Soe**	**18.44**	**257**		**P**		**03 05 35.4**	**+0.1**
SOEI				IAmb	IAmb		03 05 46.3	
	comp=Z,650nm,1.2s							
SOEI	**Soe**	**18.44**	**257**	P	**Pn**		**03 05 37.0**	**+1.6**
SOEI	**Soe**	**18.44**	**257**	P	**Pn**		**03 05 37.0**	**+1.6**
	comp=Z,656nm,1.0s,comp=Z,8µm							
RK1H	**Rockhampton Ha**	**18.85**	**157**	P	**Pn**		**03 05 41.6**	**+1.5**
AS01	**Alice Springs**	**19.34**	**204**	P	**Pn**		**03 05 46.8**	**+0.7**
AS31	**Alice Springs**	**19.36**	**204**	P	**P**		**03 05 45.3**	**+0.1**
ASAR	**Alice Springs**	**19.36**	**204**	P	**Pn**		**03 05 46.8**	**+0.4**
ASAR	**Alice Springs**	**19.36**	**204**	P	**Pn**		**03 05 47.4**	**+1.0**
	comp=Z,114nm,0.6s,baz=30,slow=9.8,SNR=158							
ASAR				S	**Sn**		**03 09 17.1**	**-6.2**
	comp=Z,20nm,0.6s,baz=21,slow=27,SNR=4.9							
ASAR				Lg	Lg		03 11 25.5	
	baz=28,slow=28							
ASAR				LR	LR		03 14 05.3	
	comp=Z,11µm,20.5s,baz=32,slow=39							
ASPA	**Alice Springs**	**19.36**	**204**	P	**Pn**		**03 05 46.6**	**+0.2**
	baz=19							
GD1S	**Gladstone Soft**	**19.53**	**156**	P	**Pn**		**03 05 49.9**	**+1.6**
KMSI	**Cibinong**	**19.65**	**289**	P	**Pn**		**03 05 49.6**	**-0.2**
	comp=Z,632nm,1.1s,comp=Z,1µm							
MMRI	**Maumere**	**20.27**	**262**		**P**		**03 05 54.7**	**-0.5**
MMRI				IAmb	IAmb		03 05 59.8	
	comp=Z,629nm,1.9s							
MMRI	**Maumere**	**20.27**	**262**	P	Pn		03 05 57.1	-0.2
MMRI	**Maumere**	**20.27**	**262**	P	Pn		03 05 56.5	-0.8
	comp=Z,179nm,1.2s,comp=Z,3µm							
PATS	**Pohnpei**	**20.32**	**51**	P	Pn		03 05 57.0	-0.7
	baz=20,SNR=5.8							
PATS	**Pohnpei**	**20.32**	**51**	P	**P**		**03 05 55.2**	**-0.4**
LUWI	**Luwuk**	**20.33**	**283**		**P**		**03 05 56.3**	**+0.5**
LUWI	**Luwuk**	**20.33**	**283**	P	Pn		03 05 57.0	-0.9
LUWI	**Luwuk**	**20.33**	**283**	P	Pn		03 05 56.9	-1.0
	comp=Z,271nm,1.1s,comp=Z,5µm							
FITZ	**Fitzroy Crossi**	**20.35**	**233**	P	**P**		**03 05 56.8**	**+0.7**
	baz=20,SNR=46							
FITZ	**Fitzroy Crossi**	**20.35**	**233**	P	**P**		**03 05 56.2**	**+0.2**
QLP	**Quilpie**	**20.46**	**176**	P	Pn		03 06 00.2	+0.9
	baz=21,SNR=36							
QLP	**Quilpie**	**20.46**	**176**	P	Pn		03 05 59.4	+0.1
EDFI	**Ende, Flores**	**20.82**	**261**	P	**P**		**03 06 01.8**	**+0.5**
	comp=Z,110nm,1.4s							
EIDS	**Eidsvold**	**20.87**	**158**	P	Pn		03 06 04.6	+0.6
	baz=21,SNR=23							
EIDS	**Eidsvold**	**20.87**	**158**	P	**P**		**03 06 02.8**	**+1.2**
EIDS	**Eidsvold**	**20.87**	**158**	P	Pn		03 06 04.1	0.0
DAV	**Davao City (W)**	**21.36**	**307**	LR	LR		03 15 04.9	
	comp=Z,620nm,19.2s,baz=148,slow=39							
INKA	**Innaminka**	**21.62**	**184**	P	**P**		**03 06 11.6**	**+2.0**
BASI	**Baing, Sumba**	**22.10**	**258**	P	**P**		**03 06 17.4**	**+2.4**
BKSI	**Bulukumba**	**22.30**	**271**	P	**P**		**03 06 18.2**	**+1.1**
	comp=Z,245nm,1.4s,comp=Z,3µm							
OOD	**Oodnadatta**	**22.56**	**196**	P	**P**		**03 06 21.3**	**+1.6**
KAPI	**Kappang**	**22.69**	**272**	P	**P**		**03 06 20.5**	**-0.7**
KAPI				IAmb	IAmb		03 06 29.2	
	comp=Z,290nm,1.2s							
KAPI	**Kappang**	**22.69**	**272**	P	**P**		**03 06 23.3**	**+2.1**
KAPI	**Kappang**	**22.69**	**272**	P	**P**		**03 06 20.5**	**-0.7**
KAPI				pmax	pmax			
	comp=Z,290nm,1.3s							
TOLI2	**Tolitoli**	**22.85**	**287**	P	**P**		**03 06 22.6**	**-0.3**
TOLI2				IAmb	IAmb		03 06 45.4	
	comp=Z,132nm,1.1s							
TOLI2	**Tolitoli**	**22.85**	**287**	P	**P**		**03 06 24.4**	**+1.5**
WRKA	**Warakurna**	**23.27**	**214**	P	**P**		**03 06 27.7**	**+0.5**
	baz=23,SNR=66							
WRKA	**Warakurna**	**23.27**	**214**	P	**P**		**03 06 27.5**	**+0.3**
LCRK	**Leigh Creek**	**24.58**	**189**	P	**P**		**03 06 40.7**	**+1.2**
PLAI	**Plampang**	**24.68**	**262**	P	**P**		**03 06 41.3**	**+0.7**
PLAI	**Plampang**	**24.68**	**262**	P	**P**		**03 06 40.5**	**-0.1**
	comp=Z,52nm,0.8s,comp=Z,1µm							
MULG	**Mulgathing**	**25.37**	**197**	P	**P**		**03 06 48.9**	**+2.3**
CMSA	**Cobar Meteorol**	**25.51**	**174**	P	**P**		**03 06 49.7**	**+1.9**
	baz=26,SNR=13							
CMSA	**Cobar Meteorol**	**25.51**	**174**	P	**P**		**03 06 49.8**	**+1.9**
KOUNC	**Koumac, New Ca**	**25.55**	**126**	P	**P**		**03 06 47.9**	**-0.6**
KOUNC	**Koumac, New Ca**	**25.55**	**126**	P	**P**		**03 06 48.8**	**+0.4**
TWSI	**Taliwang, Sumb**	**25.56**	**262**	P	**P**		**03 06 49.4**	**+0.8**
	comp=Z,25nm,0.8s							
STKA	**Stephens Creek**	**25.69**	**182**	P	**P**		**03 06 50.3**	**+0.7**
	baz=26,SNR=25							
STKA	**Stephens Creek**	**25.69**	**182**	P	**P**		**03 06 48.5**	**-1.0**
STKA	**Stephens Creek**	**25.69**	**182**	P	**P**		**03 06 50.4**	**+0.9**
STKA	**Stephens Creek**	**25.69**	**182**	*i* P	**P**		**03 06 49.2**	**-0.3**
STKA	**Stephens Creek**	**25.69**	**182**	P	**P**		**03 06 50.2**	**+0.7**
	comp=Z,19nm,0.9s,baz=347,slow=8.5,SNR=32							
STKA				LR	LR		03 18 22.2	
	comp=Z,6µm,18.2s,baz=353,slow=40							
	comp=Z,19nm,0.9s							
ARMA	**Armidale**	**25.69**	**162**	P	**P**		**03 06 52.4**	**+2.7**
	baz=26,SNR=5.6							
ARMA	**Armidale**	**25.69**	**162**	P	**P**		**03 06 49.2**	**-0.5**
ARMA	**Armidale**	**25.69**	**162**	P	**P**		**03 06 52.6**	**+2.9**
MBWA	**Marble Bar**	**26.69**	**234**	P	**P**		**03 06 57.5**	**-1.2**
MBWA	**Marble Bar**	**26.69**	**234**	IAMs_20	IAMs_20		03 16 40.1	
	comp=Z,5µm,22.0s							
MBWA	**Marble Bar**	**26.69**	**234**	P	**P**		**03 07 00.9**	**+2.2**
PSA00	**Pilbara Seismi**	**26.81**	**233**	P	**P**		**03 06 59.3**	**-0.5**
PSA00				IAmb	IAmb		03 07 07.7	
	comp=Z,44nm,0.7s							
PSA00	**Pilbara Seismi**	**26.81**	**233**	P	**P**		**03 06 59.0**	**-0.8**
PSA00				IAmb	IAmb		03 07 07.7	
	comp=Z,16nm,0.7s							
PSA00	**Pilbara Seismi**	**26.81**	**233**	P	**P**		**03 07 01.7**	**+1.9**
PSAD3	**Pilbara Seismi**	**26.90**	**233**	IAMs_20	IAMs_20		03 18 25.8	
	comp=Z,6µm,18.0s							
WHYH	**Whyalla**	**27.22**	**189**	P	**P**		**03 07 06.0**	**+2.7**
BBOO	**Buckleboo**	**27.28**	**192**	P	**P**		**03 07 04.6**	**+0.7**
	baz=27,SNR=16							
BBOO	**Buckleboo**	**27.28**	**192**	P	**P**		**03 07 03.9**	**0.0**
BBOO	**Buckleboo**	**27.28**	**192**	P	**P**		**03 07 05.2**	**+1.3**
HTT	**Hallett**	**27.43**	**187**	P	**P**		**03 07 07.2**	**+1.9**
	baz=28,SNR=7.4							
HTT	**Hallett**	**27.43**	**187**	P	**P**		**03 07 08.3**	**+3.0**
DZM	**Mont Dzumac**	**28.06**	**127**	P	**P**		**03 07 11.5**	**+0.3**
DZM	**Mont Dzumac**	**28.06**	**127**	P	**P**		**03 07 12.6**	**+1.5**
DZM	**Mont Dzumac**	**28.06**	**127**	*e*P	**P**		**03 07 11.8**	**+0.6**
	comp=Z,112nm,1.4s							
DZM				*e*S	S		03 11 47.6	-8.0
	comp=Z,556nm,24.1s							
DZM				*e*LR	LR		03 14 25.9	
	comp=Z,5µm,24.5s							
DZM	**Mont Dzumac**	**28.06**	**127**	P	**P**		**03 07 11.7**	**+0.6**
	comp=Z,19nm,0.9s,baz=288,slow=9.6,SNR=6.4							
DZM				LR	LR		03 18 05.6	
	comp=Z,3µm,21.9s,baz=315,slow=36							
	comp=Z,19nm,0.9s							
LIFNC	**LIFOU**	**28.07**	**124**	P	**P**		**03 07 10.8**	**-0.4**
LIFNC				IAmb	IAmb		03 07 38.1	
	comp=Z,109nm,1.0s							
LIFNC	**LIFOU**	**28.07**	**124**	P	**P**		**03 07 11.3**	**+0.2**
FORT	**Forrest**	**28.08**	**207**	P	**P**		**03 07 11.4**	**+0.3**
	baz=28,SNR=20							
FORT	**Forrest**	**28.08**	**207**	P	**P**		**03 07 11.2**	**+0.1**
FORT				IAmb	IAmb		03 08 06.7	
	comp=Z,89nm,0.8s							
FORT	**Forrest**	**28.08**	**207**	P	**P**		**03 07 12.6**	**+1.5**
JAGI	**Jajag, Banyuwa**	**28.24**	**263**	P	**P**		**03 07 11.0**	**-1.7**
JAGI	**Jajag, Banyuwa**	**28.24**	**263**	P	**P**		**03 07 14.5**	**+1.8**
YATNC	**Mamie plateau,**	**28.41**	**126**	P	**P**		**03 07 14.7**	**+0.5**
YNG	**Young**	**28.61**	**170**	P	**P**		**03 07 17.8**	**+2.0**
	baz=29,SNR=6.2							
YNG	**Young**	**28.61**	**170**	P	**P**		**03 07 18.5**	**+2.7**
PINNC	**Pines Island,**	**29.13**	**127**	IAMs_20	IAMs_20		03 18 02.0	
	comp=Z,4µm,21.0s							
TGY	**Tagaytay City**	**29.33**	**313**	LR	LR		03 21 00.7	
	comp=Z,659nm,18.3s,baz=88,slow=40							
CAN	**Canberra**	**29.71**	**169**	IAMs_20	IAMs_20		03 19 54.5	
	comp=Z,6µm,20.0s							
ARPS	**Mount Arapiles**	**30.56**	**181**	P	**P**		**03 07 34.5**	**+1.5**
	baz=31,SNR=10							
ARPS	**Mount Arapiles**	**30.56**	**181**	P	**P**		**03 07 34.5**	**+1.5**
MEEK	**Meekatharra**	**30.62**	**225**	P	**P**		**03 07 34.1**	**+0.3**
	baz=31,SNR=6.2							
TOO	**Toolangi**	**31.47**	**175**	P	**P**		**03 07 43.5**	**+2.4**
	baz=32,SNR=5.9							
TOO	**Toolangi**	**31.47**	**175**	P	**P**		**03 07 41.3**	**+0.2**
TOO	**Toolangi**	**31.47**	**175**	P	**P**		**03 07 43.5**	**+2.4**
TOO	**Toolangi**	**31.47**	**175**	P	**P**		**03 07 41.3**	**+0.2**
TOO				pmax	pmax			
	comp=Z,38nm,1.5s							
TOO				MLR	MLR			
	comp=Z,10µm,18.0s							
KMBL	**Kambalda**	**31.73**	**215**	P	**P**		**03 07 45.8**	**+2.3**
GIRL	**Giralia**	**31.87**	**236**	P	**P**		**03 07 44.6**	**-0.2**
	baz=32,SNR=3.8							
JCJ	**Chichijima**	**32.97**	**359**	LR	LR		03 18 29.1	
	comp=Z,679nm,20.7s,baz=172,slow=31							
MORW	**Morawa**	**33.90**	**224**	P	**P**		**03 08 03.3**	**+0.9**
	baz=34,SNR=3.2							
BLDU	**Ballidu**	**34.41**	**222**	P	**P**		**03 08 06.7**	**-0.2**
	baz=34,SNR=7.3							
LEM	**Lembang**	**34.69**	**267**	LR	LR		03 23 47.6	
	comp=Z,838nm,21.6s,baz=64,slow=39							
CNJI	**Cibinong**	**35.17**	**266**	P	**P**		**03 08 12.5**	**-1.1**
	comp=Z,56nm,1.2s,comp=Z,615nm							
JOW	**Kunigami**	**35.50**	**338**	P	**P**		**03 08 15.3**	**-0.9**
JOW	**Kunigami**	**35.50**	**338**	LR	LR		03 21 04.5	
	comp=Z,640nm,20.2s,baz=142,slow=33							
NWAO	**Narrogin (SRO)**	**35.60**	**218**	IAMs_20	IAMs_20		03 21 44.0	
	comp=Z,3µm,18.0s							
NWAO	**Narrogin (SRO)**	**35.60**	**218**	LR	LR		03 23 46.9	
	comp=Z,3µm,19.8s,baz=41,slow=38							
NACB	**Ninganchiao**	**36.33**	**327**	P	**P**		**03 08 23.4**	**0.0**
SSLB	**Suanglung**	**36.38**	**325**	P	**P**		**03 08 23.7**	**-0.2**
MSVF	**Nonsavu**	**36.57**	**112**	P	**P**		**03 08 24.9**	**-0.8**
MSVF	**Nonsavu**	**36.57**	**112**	P	**P**		**03 08 24.9**	**-0.8**
MSVF				pmax	pmax			
	comp=Z,27nm,1.0s							
MSVF				MLR	MLR			
	comp=Z,2µm,19.0s							
QZH	**Quanzhou**	**38.64**	**324**	⇑*i*P	**P**		**03 08 43.1**	**+0.2**
QZH				S	**S**		**03 14 38.6**	**-0.4**
QZH				pmax	pmax			
	comp=Z,730nm,5.3s							
QZH				LR	LR			
	comp=Z,700nm,12.5s							
QZH				LR	LR			
	comp=Z,1µm,17.3s							
QZH				LR	LR			
	comp=Z,920nm,17.1s							
JHJ	**Hachijo jima 2**	**39.06**	**356**	LR	LR		03 21 56.4	
	comp=Z,1µm,21.6s,baz=301,slow=32							
JMN	**Monobe**	**40.42**	**349**	P	**P**		**03 08 55.9**	**-1.8**
JMN				IAmb	IAmb		03 08 59.6	
	comp=Z,76nm,1.0s							
JNU	**Nakatsue**	**40.52**	**345**	P	**P**		**03 08 57.9**	**-0.6**
JNU	**Nakatsue**	**40.52**	**345**	LR	LR		03 23 01.4	
	comp=Z,552nm,19.4s,baz=148,slow=32							
QIZ	**Qiongzhong**	**40.73**	**308**	P	**P**		**03 09 00.6**	**+0.1**
QIZ				S	**S**		**03 15 09.9**	**-0.7**
QIZ				SS	**SS**		**03 18 10.0**	**-1.6**
QIZ				pmax	pmax			
	comp=Z,29nm,1.3s							
QIZ				pmax	pmax			
	comp=Z,450nm,6.1s							
QIZ				LR	LR			
	comp=Z,600nm,21.9s							
QIZ				LR	LR			
	comp=Z,390nm,16.8s							
QIZ				LR	LR			
	comp=Z,600nm,15.1s							
QIZ	**Qiongzhong**	**40.73**	**308**	P	**P**		**03 08 59.2**	**-1.3**
OUZ	**Omahuta**	**40.74**	**140**	IAMs_20	IAMs_20		03 25 53.8	
	comp=Z,3µm,18.0s							
INU	**Inuyama**	**41.52**	**353**	P	**P**		**03 09 06.0**	**-0.7**
INU				IAmb	IAmb		03 09 07.3	
	comp=Z,177nm,1.8s							
JGF	**Kuroka**	**41.73**	**354**	P	**P**		**03 09 07.4**	**-1.2**
MJAR	**Matsushiro Arr**	**42.58**	**355**	P	**P**		**03 09 13.9**	**-1.5**
	comp=Z,25nm,1.0s,baz=179,slow=7.9,SNR=17							
MJAR				PcP	**PcP**		**03 11 08.3**	**+0.6**
	comp=Z,4.3nm,0.7s,baz=170,slow=3.2,SNR=5.2							
MJAR				LR	LR		03 25 06.3	
	comp=Z,554nm,20.5s,baz=166,slow=34							
	comp=Z,25nm,1.0s							
MAJO	**Matsushiro**	**42.58**	**355**	P	**P**		**03 09 13.8**	**-1.6**
MAJO	**Matsushiro**	**42.58**	**355**	*i* P	**P**		**03 09 13.4**	**-2.0**
MAJO				pmax	pmax			
	comp=Z,35nm,1.0s							
MJB9	**Matsu-Tunnel**	**42.59**	**355**	P	**P**		**03 09 14.6**	**-0.9**
IPM	**Ipoh**	**42.74**	**283**	P	**P**		**03 09 16.9**	**-0.2**
KULM	**Kulim**	**43.30**	**284**	P	**P**		**03 09 20.6**	**-1.0**
TOZ	**Tahuroa Road**	**43.49**	**141**	P	**P**		**03 09 23.2**	**+0.4**
TOZ				IAmb	IAmb		03 09 32.7	
	comp=Z,129nm,1.5s							
TOZ				IAMs_20	IAMs_20		03 27 26.8	
	comp=Z,2µm,19.0s							
HIZ	**Hauiti**	**43.59**	**143**	IAMs_20	IAMs_20		03 30 52.2	
	comp=Z,2µm,18.0s							
RAO	**Raoul Island**	**43.86**	**127**	LR	LR		03 24 44.8	
	comp=Z,1µm,21.6s,baz=332,slow=32							
DSZ	**Denniston Nort**	**44.05**	**148**	IAMs_20	IAMs_20		03 26 50.4	
	comp=Z,3µm,20.0s							
NJ2	**Nanjing**	**44.11**	**331**	⇑P	**P**		**03 09 29.1**	**+1.3**
NJ2				pP	**sP**		**03 09 36.7**	**+1.9**
NJ2				sP	pP		03 09 40.2	+7.4
NJ2				S	**S**		**03 16 03.2**	**+3.0**
NJ2				pmax	pmax			
	comp=Z,58nm,1.0s							
NJ2				pmax	pmax			
	comp=Z,1µm,4.7s							
NJ2				LR	LR			
	comp=Z,730nm,14.7s							
NJ2				LR	LR			
	comp=Z,910nm,16.1s							
NJ2				LR	LR			
	comp=Z,550nm,18.9s							
MRNZ	**Matariki Terra**	**44.31**	**147**	P	**P**		**03 09 28.8**	**-0.5**
RPSI	**Rantau Prapat**	**44.40**	**280**	P	**P**		**03 09 29.5**	**-0.9**
PSI	**Prapat**	**44.42**	**280**	P	**P**		**03 09 29.5**	**-1.3**
PSI				pmax	pmax			

LYN pP sP 03 10 17.6 +1.6
LYN sP pP 03 10 20.3 +6.3
LYN S **S** **03 17 13.2 -2.2**
LYN pmax pmax
comp=Z,160nm,0.8s
LYN pmax pmax
comp=Z,920nm,5.6s
LYN LR LR
comp=Z,770nm,18.2s
LYN LR LR
comp=Z,670nm,17.6s
LYN LR LR
comp=Z,810nm,20.1s
CM31 Chiang Mai Arr 49.40 300 P **P** **03 10 08.8 -0.7**
CM31 IAmb IAmb 03 10 12.9
comp=Z,28nm,0.8s
CMAR Chiang Mai Arr 49.40 300 P **P** **03 10 08.8 -0.7**
CMAR Chiang Mai Arr 49.40 300*ce*P **P** **03 10 11.0 +1.5**
CMAR pmax pmax
comp=Z,23nm,0.8s
CMAR Chiang Mai Arr 49.40 300 P **P** **03 10 11.8 +2.3**
comp=Z,23nm,0.8s,baz=120,slow=5.8,SNR=71
CMAR PcP **PcP** **03 11 34.2 +2.3**
comp=Z,4.3nm,0.6s,baz=127,slow=4.5,SNR=4.0
comp=Z,23nm,0.8s
MSHR Mys Shultsa 49.51 349 *i* P **P** **03 10 09.5 -0.4**
MSHR pmax pmax
comp=Z,44nm,1.1s
CHTO Chiang Mai 49.55 301 P **P** **03 10 09.7 -1.0**
CHTO Chiang Mai 49.55 301 P **P** **03 10 09.7 -1.0**
CHTO pmax pmax
comp=Z,17nm,0.8s
KMI Kunming 49.58 310 ⇑P **P** **03 10 12.6 +1.6**
KMI S **S** **03 17 26.8 +7.8**
KMI pmax pmax
comp=Z,68nm,1.0s
KMI pmax pmax
comp=Z,420nm,5.8s
KMI LR LR
comp=Z,290nm,13.8s
KMI LR LR
comp=Z,300nm,23.5s
KMI LR LR
comp=Z,490nm,18.0s
PSTR Posyet 49.65 349 *i* P **P** **03 10 10.5 -0.5**
VLA Vladivostok 49.90 350 *i* P **P** **03 10 12.5 -0.4**
VLA pmax pmax
comp=Z,48nm,1.1s
ASAJ Asahikawa 49.95 0 LR LR 03 35 47.0
comp=Z,173nm,18.6s,baz=78,slow=42
HNS HongShan 50.44 331 ⇑P **P** **03 10 17.4 +0.4**
HNS *e*S **S** **03 17 25.2 -4.9**
HNS pmax pmax
comp=Z,56nm,1.0s
HNS pmax pmax
comp=Z,760nm,5.8s
HNS LR LR
comp=Z,1μm,19.1s
HNS LR LR
comp=Z,260nm,15.9s
HNS LR LR
comp=Z,850nm,18.8s
USA0B Ussuriysk Arra 50.93 350 P **P** **03 10 20.1 -0.6**
USA0B IAmb IAmb 03 10 25.9
comp=Z,66nm,1.1s
USA0B Ussuriysk Arra 50.93 350 *i* P **P** **03 10 20.3 -0.4**
USRK Ussuriysk Ar. 50.93 350 P **P** **03 10 20.1 -0.6**
USRK Ussuriysk Ar. 50.93 350 P **P** **03 10 21.0 +0.3**
comp=Z,33nm,0.7s,baz=176,slow=7.1,SNR=42
USRK LR LR 03 29 47.0
comp=Z,314nm,20.5s,baz=161,slow=34
comp=Z,33nm,0.7s
XAN Xi'an 51.00 324 ⇓P **P** **03 10 20.7 -0.8**
XAN pP sP 03 10 28.4 -0.1
XAN S **S** **03 17 35.2 -3.1**
XAN SS **SS** **03 21 11.0 -2.6**
XAN pmax pmax
comp=Z,44nm,1.2s
XAN pmax pmax
comp=Z,1μm,5.7s
XAN LR LR
comp=Z,430nm,13.6s
XAN LR LR
comp=Z,540nm,12.1s
XAN LR LR
comp=Z,940nm,20.0s
PZH PanZhiHua 51.08 311 P **P** **03 10 23.3 +1.0**
PZH sP sP 03 10 37.6 +8.3
PZH S **S** **03 17 41.4 +1.6**
PZH pmax pmax
comp=Z,40nm,1.1s
PZH pmax pmax
comp=Z,520nm,8.6s
PZH LR LR
comp=Z,400nm,19.1s
PZH LR LR
comp=Z,360nm,17.7s
PZH LR LR
comp=Z,420nm,20.6s
MDJ Mudanjiang 51.78 348 P **P** **03 10 27.0 0.0**
MDJ pP sP 03 10 35.8 +1.6
MDJ sP pP 03 10 40.0 +7.8
MDJ pmax pmax
comp=Z,28nm,1.1s
MDJ pmax pmax
comp=Z,600nm,4.6s
MDJ Mudanjiang 51.78 348 P **P** **03 10 25.9 -1.2**
MDJ IAmb IAmb 03 10 37.1
comp=Z,44nm,1.1s
TIY Taiyuan 51.80 330 ⇑P **P** **03 10 27.5 +0.1**
TIY pP **sP** **03 10 35.4 +1.0**
TIY sP pP 03 10 45.5 +13
TIY pmax pmax
comp=Z,19nm,0.6s
TIY pmax pmax
comp=Z,490nm,5.0s
TIY LR LR
comp=Z,310nm,6.7s
TIY LR LR
comp=Z,510nm,14.7s
TIY LR LR
comp=Z,590nm,23.0s
BJT Baijiatuau 51.90 334 P **P** **03 10 25.7 -2.3**
BJT IAmb IAmb 03 10 37.6
comp=Z,99nm,1.8s
BJT Baijiatuau 51.90 334 P **P** **03 10 25.7 -2.3**
BJT pmax pmax
comp=Z,99nm,1.8s
BJI Beijing 51.91 334 P **P** **03 10 28.1 0.0**
BJI pmax pmax
comp=Z,14nm,1.0s
BJI pmax pmax
comp=Z,310nm,6.3s
BJI LR LR
comp=Z,250nm,18.4s
BJI LR LR
comp=Z,210nm,17.2s
BJI LR LR
comp=Z,330nm,18.4s
CN2 Changchun 51.98 344 P **P** **03 10 28.5 -0.1**
CN2 S **S** **03 17 47.5 -3.9**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 LR LR
comp=Z,600nm,17.0s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,700nm,18.0s
CD2 Chengdu 52.21 317 P **P** **03 10 31.9 +1.3**
CD2 S **S** **03 17 58.4 +3.4**
CD2 pmax pmax
comp=Z,90nm,0.7s
CD2 pmax pmax
comp=Z,980nm,4.9s
CD2 LR LR
comp=Z,690nm,8.8s
CD2 LR LR
comp=Z,600nm,14.9s
CD2 LR LR
comp=Z,320nm,10.0s
TNCH TengChong 52.79 308 P **P** **03 10 36.6 +1.5**
TNCH S **S** **03 18 03.4 0.0**
TNCH ScS **ScS** **03 20 23.7 -1.4**
TNCH pmax pmax
comp=Z,69nm,0.9s
TNCH pmax pmax
comp=Z,540nm,4.9s
TNCH LR LR
comp=Z,420nm,15.0s
TNCH LR LR
comp=Z,610nm,17.4s
TNCH LR LR
comp=Z,370nm,21.4s
YSS Yuzh-Sakhalins 52.79 0 P **P** **03 10 33.7 -0.8**
YSS IAmb IAmb 03 10 35.9
comp=Z,38nm,0.7s
YSS Yuzh-Sakhalins 52.79 0 *e*P **P** **03 10 34.3 -0.2**
YSS pmax pmax
comp=Z,40nm,1.1s
HHC Hu-ho-hao-te 54.66 331 *e*P **P** **03 10 49.1 +0.7**
HHC S **S** **03 18 30.9 +2.9**
HHC sS sS 03 18 39.3 +2.8
HHC pmax pmax
comp=Z,29nm,0.9s
HHC pmax pmax
comp=Z,530nm,4.7s
HHC LR LR
comp=Z,310nm,16.8s
HHC LR LR
comp=Z,490nm,16.0s
HHC LR LR
comp=Z,830nm,17.6s
XLT XiLinHaoTe 55.17 337 *e*P **P** **03 10 51.2 -0.9**
XLT sP sP 03 11 04.6 +5.3
XLT S **S** **03 18 27.1 -7.7**
XLT sS sS 03 18 50.9 +7.6
XLT SS **SS** **03 22 20.4 +1.1**
XLT pmax pmax
comp=Z,14nm,1.0s
XLT pmax pmax
comp=Z,560nm,6.1s
XLT LR LR
comp=Z,90nm,14.9s
XLT LR LR
comp=Z,420nm,12.8s
XLT LR LR
comp=Z,1μm,16.2s
BTO Baotou 55.22 330 *e*P **P** **03 10 54.5 +2.0**
BTO pP sP 03 11 04.8 +5.3
BTO sP pP 03 11 08.4 +11
BTO PP **PP** **03 12 57.5 +1.3**
BTO S **S** **03 18 37.5 +1.9**
BTO pmax pmax
comp=Z,56nm,0.9s
BTO pmax pmax
comp=Z,2μm,5.6s
BTO LR LR
comp=Z,1μm,19.6s
BTO LR LR
comp=Z,770nm,14.7s
BTO LR LR
comp=Z,2μm,18.4s
LZH Lanzhou 55.44 322 ⇓P **P** **03 10 56.1 +1.8**
LZH pP sP 03 11 04.4 +3.1
LZH S **S** **03 18 46.3 +7.4**
LZH pmax pmax
comp=Z,86nm,1.0s
LZH pmax pmax
comp=Z,890nm,6.3s
LZH LR LR
comp=Z,610nm,18.5s
LZH LR LR
comp=Z,470nm,18.9s
LZH LR LR
comp=Z,610nm,19.2s
KLR Kul'dur 55.87 351*ce*P **P** **03 10 56.1 -0.8**
KLR pmax pmax
comp=Z,105nm,2.5s
KLR Kul'dur 55.87 351 P **P** **03 10 57.2 +0.4**
comp=Z,19nm,0.7s,baz=180,slow=4.9,SNR=64
KLR LR LR 03 30 20.1
comp=Z,455nm,21.0s,baz=171,slow=31
comp=Z,19nm,0.7s
TYV Tymovskoe 56.70 0 *e*P **P** **03 11 03.2 +0.4**
TYV *e*S **S** **03 19 00.6 +5.9**
TYV pmax pmax
comp=Z,20nm,0.8s
TYV pmax pmax
comp=Z,400nm,3.8s
TYV smax smax
comp=N,400nm,6.5s
TYV smax smax
comp=E,500nm,6.5s
GRNR Gornyy 56.86 355 ⇓*i*P **P** **03 11 04.5 +0.6**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
HEH HeiHe 57.60 349 *e*P **P** **03 11 08.6 -0.6**
HEH pmax pmax
comp=Z,37nm,0.9s
HEH pmax pmax
comp=Z,790nm,5.7s
RAR Rarotonga 57.76 111 LR LR 03 34 20.9
comp=Z,330nm,20.6s,baz=274,slow=34
HIA Hailar 58.58 343 *i* P **P** **03 11 15.8 -0.3**
HIA pmax pmax
comp=Z,10.0nm,0.9s
GTA Gaotai 60.02 323 *e*P **P** **03 11 28.1 +1.7**
GTA pP sP 03 11 35.3 +1.8
GTA sP pP 03 11 38.4 +6.9
GTA S **S** **03 19 44.0 +5.2**
GTA pmax pmax
comp=Z,31nm,1.0s
GTA LR LR
comp=Z,210nm,12.7s
GTA LR LR
comp=Z,250nm,13.9s
GTA LR LR
comp=Z,240nm,17.1s
PEA0B Petropavlovsk- 60.34 10 P **P** **03 11 27.5 -0.6**
PEA0B Petropavlovsk- 60.34 10*ce*P **P** **03 11 26.6 -1.6**
PETK Petropavlovsk- 60.34 10 P **P** **03 11 27.4 -0.8**
PETK Petropavlovsk- 60.34 10 P **P** **03 11 27.9 -0.3**
comp=Z,47nm,0.9s,baz=184,slow=6.8,SNR=38
PETK LR LR 03 38 14.2
comp=Z,168nm,19.1s,baz=212,slow=37
comp=Z,47nm,0.9s
PET Petropavlovsk 60.44 11 *i* P **P** **03 11 28.6 -0.2**
PET pmax pmax
comp=Z,24nm,1.1s
LSA Lhasa 60.77 309 P **P** **03 11 32.2 +0.1**
LSA IAmb IAmb 03 11 36.3
comp=Z,38nm,0.8s
LSA Lhasa 60.77 309 P **P** **03 11 32.2 +0.1**
LSA pmax pmax
comp=Z,38nm,0.8s
LSA MLR MLR
comp=Z,300nm,21.0s
ZEA Zeya 60.96 350 *e*P **P** **03 11 32.9 +0.6**
ZEA pmax pmax
comp=N,20nm,0.9s
ZEA pmax pmax
comp=Z,40nm,0.7s
GOMU GeErMu 61.35 317 P **P** **03 11 37.1 +1.3**
GOMU pP sP 03 11 43.2 +0.3
GOMU S **S** **03 19 54.5 -1.8**
GOMU pmax pmax
comp=Z,21nm,1.0s
GOMU LR LR
comp=Z,190nm,17.6s
GOMU LR LR
comp=Z,260nm,19.5s
GOMU LR LR
comp=Z,450nm,18.2s
ULN Ulaanbaatar 62.12 334 P **P** **03 11 40.0 -0.5**
ULN IAmb IAmb 03 11 46.4
comp=Z,19nm,0.8s
ULN Ulaanbaatar 62.12 334*ce*P **P** **03 11 41.1 +0.6**
ULN pmax pmax
comp=Z,15nm,0.9s
SONM Songino Array 62.38 333 P **P** **03 11 41.8 -0.4**
SONM Songino Array 62.38 333 P **P** **03 11 43.0 +0.8**
comp=Z,8.1nm,0.8s,baz=152,slow=7.7,SNR=29
SONM PKP2bc 03 40 57.7
comp=Z,1.2nm,1.0s,baz=298,slow=3.1,SNR=4.4
comp=Z,8.1nm,0.8s
CIT Chita 62.93 340 *e*P **P** **03 11 47.2 +1.5**
CIT *e* 03 11 50.5
CIT *e* 03 12 29.1
CIT pmax pmax
comp=Z,153nm,3.4s
PALK Pallekele 63.08 281 LR LR 03 42 21.9
comp=Z,385nm,20.4s,baz=213,slow=39
CASY Casey 64.07 194 IAMs_20 IAMs_20 03 38 16.0
comp=Z,2μm,18.0s
SHEM Shemya Is, Ala 64.42 21 LR LR 03 36 37.8
comp=Z,260nm,20.1s,baz=200,slow=33
ZAK Zakamensk 65.64 334 *e*P **P** **03 12 04.0 +0.4**
ZAK pmax pmax
comp=Z,38nm,1.0s
MA2 Magadan 65.77 5 P **P** **03 12 03.6 -0.5**
MA2 IAmb IAmb 03 12 06.3
comp=Z,35nm,0.9s
MA2 Magadan 65.77 5*ce*P **P** **03 12 04.0 -0.1**
MA2 pmax pmax
comp=Z,115nm,2.5s
MA2 Magadan 65.77 5 P **P** **03 12 03.8 -0.2**
comp=Z,31nm,1.0s,baz=155,slow=7.4,SNR=17
MA2 LR LR 03 38 05.0
comp=Z,240nm,21.7s,baz=186,slow=34
comp=Z,31nm,1.0s
IRK Irkutsk 66.59 335 *e*P **P** **03 12 10.0 +0.5**
PPT Papeete 67.15 106 LR LR 03 39 10.0
comp=Z,232nm,18.3s,baz=266,slow=34
PPT2 Papeete2 67.15 106 *e*LQ LQ 03 29 47.9
comp=Z,3μm,32.2s
PPT2 *e*LR LR 03 32 31.6
comp=Z,447nm,24.2s
PPT2 *e*LR LR 03 32 32.9
comp=Z,494nm,22.0s
HYB Hyderabad 67.33 292 *e*P **P** **03 12 15.2 +0.2**
TBI Tubuai 67.45 113 *e*SS SS 03 25 31.1 -0.9
comp=Z,1μm,26.2s
TBI *e*LQ LQ 03 29 35.5
comp=Z,9μm,39.0s
TBI *e*LR LR 03 32 29.1
comp=Z,3μm,24.8s
MOY Mondy 67.58 333 *e*P **P** **03 12 16.6 +0.7**
MOY pmax pmax
comp=Z,100nm,2.3s
YAK Yakutsk 68.62 354 *e*P **P** **03 12 20.5 -1.6**
YAK *e**PP **sP** **03 12 27.8 -1.6**
YAK *e* 03 12 45.5
YAK *e*PPP PPP 03 16 30.1
YAK *e*S **S** **03 21 22.7 -1.4**
YAK *e* 03 22 18.3
YAK *e*SS **SS** **03 25 47.2 -1.6**
YAK pmax pmax
comp=Z,21nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK smax smax
comp=E,273nm,4.9s
YAK smax smax
comp=N,247nm,4.4s
YAK MLR MLR
comp=Z,261nm,22.0s
YAK MLR MLR
comp=N,119nm,14.0s
YAK MLR MLR
comp=E,75nm,14.0s
YAK Yakutsk 68.62 354 P **P** **03 12 22.0 -0.1**
comp=E,26nm,0.6s,baz=181,slow=5.8,SNR=5.8
YAK LR LR 03 42 03.6
comp=E,231nm,19.1s,baz=151,slow=36
comp=E,26nm,0.6s
SEY Seymchan 69.22 5⇑*e*P **P** **03 12 25.9 0.0**
SEY pmax pmax
comp=Z,62nm,2.5s
SEY Seymchan 69.22 5 P **P** **03 12 25.9 0.0**
comp=Z,13nm,0.8s,baz=179,slow=4.8,SNR=42
SEY LR LR 03 40 25.6
comp=Z,284nm,21.4s,baz=196,slow=34
comp=Z,13nm,0.8s
WMQ Urumqi 69.99 321 *e*P **P** **03 12 32.5 +1.4**
WMQ PcP **PcP** **03 12 52.1 -1.2**
WMQ pmax pmax
comp=Z,61nm,0.9s
WMQ LR LR
comp=Z,550nm,20.7s
WMQ LR LR
comp=Z,280nm,23.5s
NIKH Nikolski High 71.71 29 P **P** **03 12 42.1 +0.8**
baz=232
VNDA Vanda 72.14 176 P **P** **03 12 44.8 +1.2**
comp=Z,2.3nm,0.6s,baz=342,slow=8.0,SNR=9.3
VNDA LR LR 03 44 37.1
comp=Z,946nm,18.2s,baz=349,slow=36
comp=Z,2.3nm,0.6s
DGZ Jazzator, Alta 73.16 326*c i*P **P** **03 12 50.6 +0.4**
DGZ pmax pmax
comp=Z,32nm,0.7s
UNV Unalaska Valle 73.36 29 P **P** **03 12 51.5 +0.5**
baz=234
ZSN Zaisan 73.50 323 *e*P **P** **03 12 52.0 -0.1**
ZSN pmax pmax
comp=Z,16nm,1.1s
ZSN Zaisan 73.50 323 *e*P **P** **03 12 52.1 -0.1**
comp=Z,16nm,1.1s,baz=323
P08K Saint George I 73.68 25 P **P** **03 12 53.5 +0.7**
baz=230
SPIA Saint Paul Isl 73.76 25 P **P** **03 12 54.3 +1.0**
baz=230
MK31 Makanchi Array 74.76 322 P **P** **03 12 59.2 -0.3**
MK31 IAmb IAmb 03 13 02.9
comp=Z,36nm,1.1s
MK31 Makanchi Array 74.76 322*ce*P **P** **03 12 58.9 -0.6**
MKAR Makanchi Array 74.76 322 P **P** **03 12 59.3 -0.2**
MKAR Makanchi Array 74.76 322 P **P** **03 13 00.3 +0.9**
comp=Z,41nm,0.8s,baz=111,slow=5.4,SNR=228
comp=Z,41nm,0.8s
MAKZ Makanchi 74.96 322 P **P** **03 13 00.5 -0.2**
MAKZ IAmb IAmb 03 13 03.0
comp=Z,38nm,0.8s
MAKZ Makanchi 74.96 322 P **P** **03 13 00.6 0.0**
SHLS Shalkode 75.04 318 *e*P **P** **03 12 59.6 -1.7**
SHLS pmax pmax
comp=Z,22nm,0.9s
SHLS Shalkode 75.04 318 *e*P **P** **03 12 59.7 -1.7**
comp=Z,22nm,0.9s,baz=318
PDGK Podgornoye 75.09 318 P **P** **03 13 01.1 -0.5**
UZB Uzynbulak 75.33 317 *e*P **P** **03 13 03.0 0.0**
UZB pmax pmax
comp=Z,20nm,0.8s
UZB Uzynbulak 75.33 317 *e*P **P** **03 13 03.0 0.0**
comp=Z,20nm,0.8s,baz=317
FALS False Pass 75.42 29 P **P** **03 13 03.6 +0.6**
baz=236
PRZ Przheval'sk 75.50 317 P **P** **03 13 04.2 +0.1**
PRZ IAmb IAmb 03 13 07.2
comp=Z,43nm,0.9s
PRZ Przheval'sk 75.50 317 P **P** **03 13 04.2 +0.1**
PRZ pmax pmax
comp=Z,43nm,0.9s
PRZ MLR MLR
comp=Z,400nm,22.0s
TARG Taragay, Kyrgy 75.62 316 P **P** **03 13 05.4 +0.3**
TARG Taragay, Kyrgy 75.62 316 P **P** **03 13 05.4 +0.3**
TARG pmax pmax
comp=Z,21nm,0.9s
SATY Saty 75.72 317 *e*P **P** **03 13 05.1 -0.1**
SATY pmax pmax
comp=Z,24nm,1.1s
SATY Saty 75.72 317 *e*P **P** **03 13 05.2 -0.1**
comp=Z,24nm,1.1s,baz=317
ZHN Zhinishke 75.74 317 *e*P **P** **03 13 05.0 -0.3**
ZHN Zhinishke 75.74 317 *e*P **P** **03 13 05.1 -0.3**
baz=317
BILL Bilibino 75.82 9 P **P** **03 13 04.1 -0.9**
BILL Bilibino 75.82 9⇑*e*P **P** **03 13 05.0 -0.1**
BILL pmax pmax
comp=Z,18nm,1.2s
KSH Kashi 76.14 313 P **P** **03 13 10.7 +3.0**
KSH pP PcP 03 13 17.1 -2.7
KSH sP sP 03 13 26.1 +11
KSH S **S** **03 22 58.7 +7.4**
KSH pmax pmax
comp=Z,61nm,0.9s
KSH LR LR
comp=Z,450nm,16.5s
KSH LR LR
comp=Z,270nm,14.4s
KSH LR LR
comp=Z,550nm,17.2s
TDK Taldyqorghan 76.47 319 *e*P **P** **03 13 09.5 +0.2**
TDK pmax pmax
comp=Z,40nm,1.1s

TDK Taldyqorghan 76.47 319 *e*P P 03 13 09.6 +0.2
comp=2,40nm,1.1s,baz=319
TAOE Nuku Hiva Isla 76.61 98 *e*LR LR 03 36 45.5
comp=2,644nm,22.2s
MDOK Medeo 76.68 317 *e*P P 03 13 10.3 -0.4
MDOK Medeo 76.68 317 *e*P P 03 13 10.3 -0.4
baz=317
ZAA0 Zalesovo Array 76.74 329 P P 03 13 09.8 -0.7
ZALV Zalesovo Beam 76.74 329 P P 03 13 10.0 -0.6
ZALV Zalesovo Beam 76.74 329 *i* P P 03 13 10.3 -0.3
ZALV pmax pmax
comp=2,20nm,0.8s
ZALV Zalesovo Beam 76.74 329 P P 03 13 10.6 0.0
comp=2,20nm,0.8s,baz=116,slow=6.1,SNR=64
ZALV LR LR 03 45 40.4
comp=2,278nm,21.9s,baz=115,slow=35
comp=2,20nm,0.8s
NRN Naryn 76.78 315 P P 03 13 11.3 -0.2
NRN Naryn 76.78 315 P P 03 13 11.3 -0.2
NRN pmax pmax
comp=2,19nm,0.9s
CHKK Chushkaly 76.97 317 *e*P P 03 13 12.3 +0.1
CHKK Chushkaly 76.97 317 *e*P P 03 13 12.3 +0.1
baz=318
SDPT Sand Point 77.11 29 P P 03 13 12.1 -0.5
baz=239
BOOM Boomskoye usch 77.19 316 P P 03 13 13.3 -0.4
BOOM IAmb IAmb 03 13 16.3
comp=2,28nm,0.7s
BOOM Boomskoye usch 77.19 316 P P 03 13 13.3 -0.4
BOOM pmax pmax
comp=2,28nm,0.7s
CHNA Chernabura Isl 77.28 30 P P 03 13 14.0 +0.4
baz=240
M11K Mekoryuk 77.42 23 P P 03 13 14.8 +0.5
baz=233
KUU Kurty 77.42 317 *e*P P 03 13 14.5 -0.2
KUU pmax pmax
comp=2,23nm,0.7s
KUU Kurty 77.42 317 *e*P P 03 13 14.6 -0.2
comp=2,23nm,0.7s,baz=317
TKM2 Tokmak 2 77.58 316 P P 03 13 16.8 +0.9
SNR=33
TKM2 Tokmak 2 77.58 316 *i* P P 03 13 16.0 +0.1
TKM2 pmax pmax
comp=2,13nm,0.7s
GAMB Gambell 77.64 19 P P 03 13 15.8 +0.4
baz=227
KBK Karagaybulak 77.94 316 P P 03 13 19.2 +1.4
SNR=16
S14K Fog Glacier 78.04 29 P P 03 13 17.8 -0.2
baz=240
TIXI Tiksi 78.09 356 P P 03 13 16.0 -1.8
TIXI Tiksi 78.09 356 *ce*P P 03 13 15.4 -2.4
TIXI pmax pmax
comp=2,8.0nm,0.7s
TIXI Tiksi 78.09 356 LR LR 03 47 16.7
comp=2,179nm,19.8s,baz=196,slow=35
UCH Uchtor 78.10 315 P P 03 13 20.5 +1.4
SNR=52
CHMS Chumysh 78.19 316 P P 03 13 20.1 +1.1
SNR=13
AAK Ala-Archa 78.25 316 P P 03 13 20.6 +1.1
SNR=14
AAK Ala-Archa 78.25 316 P P 03 13 18.9 -0.7
AAK Ala-Archa 78.25 316 *ce*P P 03 13 19.6 +0.1
AAK pmax pmax
comp=2,25nm,1.3s
SGDS Sogindy 78.43 316 *e*P P 03 13 20.1 -0.3
SGDS Sogindy 78.43 316 *e*P P 03 13 20.2 -0.3
baz=316
USP Ospenovka 78.45 316 P P 03 13 21.5 +1.0
SNR=44
M13K Dall Lake 78.58 24 P P 03 13 21.5 +0.8
baz=235
CHGN Chignik 78.60 29 P P 03 13 20.6 -0.2
CHGN IAmb IAmb 03 13 56.1
comp=2,67nm,1.0s
CHGN Chignik 78.60 29 P P 03 13 21.0 +0.1
baz=240
KURK Kurchatov 78.64 324 P P 03 13 21.0 -0.2
KURK IAmb IAmb 03 13 24.3
comp=2,40nm,1.0s
KURK Kurchatov 78.64 324 *ce*P P 03 13 21.8 +0.6
KURK pmax pmax
comp=2,33nm,0.8s
KURBB Kurchatov Arra 78.65 324 P P 03 13 21.4 +0.1
KURBB Kurchatov Arra 78.65 324 P P 03 13 21.6 +0.3
comp=2,20nm,0.9s,baz=116,slow=4.8,SNR=129
comp=2,20nm,0.9s
EKS2 Erkin-Say 78.75 316 P P 03 13 22.9 +0.6
SNR=42
O14K Tigyukauivet M 78.81 26 P P 03 13 22.1 +0.1
O14K Tigyukauivet M 78.81 26 P P 03 13 22.4 +0.4
baz=237
ARSB Arslanbob 78.89 314 P P 03 13 22.3 -0.8
ARSB Arslanbob 78.89 314 P P 03 13 22.3 -0.8
ARSB pmax pmax
comp=2,13nm,1.1s
N14K Kuskokwak Cree 79.00 25 P P 03 13 23.3 +0.3
baz=237
DRK Karamyk 79.19 312 P P 03 13 23.5 -1.4
M14K Bethel 79.34 24 P P 03 13 24.7 -0.1
M14K Bethel 79.34 24 P P 03 13 25.3 +0.4
baz=236
BTLS Baital 79.36 318 *e*P P 03 13 25.6 +0.2
BTLS pmax pmax
comp=2,28nm,1.3s
BTLS Baital 79.36 318 *e*P P 03 13 25.6 +0.2
comp=2,28nm,1.3s,baz=318
L14K Kuka Creek 79.38 24 P P 03 13 24.9 -0.1
L14K Kuka Creek 79.38 24 P P 03 13 25.5 +0.5
baz=236
O15K Ungalikthiuk R 79.40 26 P P 03 13 25.2 0.0
baz=239
R16K Pilot Point 79.62 28 P P 03 13 26.2 -0.2
baz=241
N15K Kwethluk River 79.81 25 P P 03 13 27.0 -0.5
N15K IAmb IAmb 03 13 29.7
comp=2,55nm,0.9s
N15K Kwethluk River 79.81 25 P P 03 13 27.6 +0.1
baz=238
M15K Kasigluk River 79.83 25 P P 03 13 27.5 -0.1
baz=238
J14K Nanvaranak Lak 79.85 22 P P 03 13 27.4 -0.1
J14K IAmb IAmb 03 13 34.2
comp=2,43nm,1.3s
J14K Nanvaranak Lak 79.85 22 P P 03 13 28.0 +0.4
baz=235
KBL Kabul 79.97 307 P P 03 13 29.2 0.0
KBL Kabul 79.97 307 P P 03 13 29.2 0.0
KBL pmax pmax
comp=2,24nm,0.8s
L15K Ungalak Mounta 80.04 24 P P 03 13 28.8 +0.2
baz=237
TNA Tin City 80.05 19 P P 03 13 28.8 +0.2
baz=230
P16K Nushagak River 80.14 27 P P 03 13 28.8 -0.5
baz=240
GAR Garm 80.16 311 IAmb IAmb 03 13 32.6
comp=2,66nm,1.0s
ANM Nome 80.27 20 P P 03 13 30.1 +0.3
baz=233,SNR=7.6
K15K Wolf Creek Mou 80.36 23 IAmb IAmb 03 13 32.8
comp=2,53nm,0.8s
K15K Wolf Creek Mou 80.36 23 P P 03 13 30.9 +0.5
baz=237
O16K Kokwok River B 80.38 26 IAmb IAmb 03 13 32.4
comp=2,61nm,1.0s
O16K Kokwok River B 80.38 26 P P 03 13 30.6 +0.1
baz=240,SNR=12
MAW Mawson 80.47 202 LR LR 03 48 16.2
comp=2,758nm,18.0s,baz=82,slow=35
F14K Arctic Creek 80.51 19 P P 03 13 31.3 +0.2
baz=232
N16K Nishlik Lake 80.53 25 P P 03 13 31.2 -0.2
baz=240
DZA Taraz 80.54 315 *e*P P 03 13 31.8 0.0
DZA pmax pmax
comp=2,14nm,0.7s
DZA Taraz 80.54 315 *e*P P 03 13 31.9 0.0
comp=2,14nm,0.7s,baz=315
Q16K King Salmon 80.58 28 P P 03 13 31.6 0.0
baz=242
M16K Timber Creek 80.73 25 P P 03 13 32.4 0.0
baz=239,SNR=13
Q17K Contact Creek 80.74 28 P P 03 13 31.9 -0.8
baz=242,SNR=9.6
L16K Owhat River 80.87 24 IAmb IAmb 03 13 35.1
comp=2,43nm,0.8s
L16K Owhat River 80.87 24 P P 03 13 33.1 -0.1
baz=239,SNR=14
O17K Koliganek Bris 80.91 26 P P 03 13 33.0 -0.3
baz=241,SNR=41
CHGR Chuvangaron 80.93 311 P P 03 13 34.5 +0.4
G15K Niukluk 80.99 20 P P 03 13 33.6 -0.1
baz=234
SIMJ Simiganj 81.05 311 P P 03 13 34.5 -0.3
SIMJ IAmb IAmb 03 13 38.0
comp=2,74nm,1.1s
KK31 Karatay Array 81.17 315 *i* P P 03 13 35.8 +0.6
KKAR Karatay Array 81.17 315 P P 03 13 35.1 -0.1
KKAR Karatay Array 81.17 315 IAmb IAmb 03 13 37.0
comp=2,12nm,0.8s
KKAR Karatay Array 81.17 315 P P 03 13 35.1 -0.1
F15K North Star Dit 81.20 19 IAmb IAmb 03 13 37.1
comp=2,33nm,1.1s
F15K North Star Dit 81.20 19 P P 03 13 34.8 0.0
baz=233
N17K Nushagak Hills 81.23 26 IAmb IAmb 03 13 37.6
comp=2,49nm,0.9s
N17K Nushagak Hills 81.23 26 P P 03 13 34.7 -0.4
baz=241,SNR=14
IUG luznay 81.24 314 *e*P P 03 13 35.8 +0.1
IUG pmax pmax
comp=2,18nm,1.1s
IUG luznay 81.24 314 *e*P P 03 13 35.9 +0.1
comp=2,18nm,1.1s,baz=314
J16K Anvik River 81.26 23 IAmb IAmb 03 13 37.9
comp=2,39nm,0.9s
J16K Anvik River 81.26 23 P P 03 13 35.3 +0.1
baz=237,SNR=15
H16K Elim 81.41 21 P P 03 13 36.1 +0.2
baz=236,SNR=33
OHAK Old Harbor 81.53 30 IAmb IAmb 03 13 38.4
comp=2,37nm,1.1s
OHAK Old Harbor 81.53 30 P P 03 13 36.1 -0.6
baz=245
OTUK Ortayu 81.53 321 P P 03 13 36.9 -0.1
I17K Unalakleet 81.56 22 IAmb IAmb 03 13 39.5
comp=2,52nm,0.9s
I17K Unalakleet 81.56 22 P P 03 13 36.8 +0.1
baz=237,SNR=16
M17K Holitna River 81.56 25 P P 03 13 36.0 -0.8
baz=241
P18K Big Mountain, 81.57 27 IAmb IAmb 03 14 10.0
comp=2,39nm,1.2s
P18K IAMs_20 IAMs_20 03 42 30.9
comp=2,983nm,22.0s
P18K Big Mountain, 81.57 27 P P 03 13 36.3 -0.6
baz=243
L17K Donlin 81.57 24 P P 03 13 37.1 +0.2
baz=240
CHM Chimkent 81.59 314 *e*P P 03 13 37.9 +0.5
CHM pmax pmax
comp=2,19nm,1.1s
CHM Chimkent 81.59 314 *e*P P 03 13 38.0 +0.5
comp=2,19nm,1.1s,baz=314
BRLS Boroldoy 81.63 315 *e*P P 03 13 37.6 0.0
BRLS Boroldoy 81.63 315 *e*P P 03 13 37.6 0.0
baz=315
O18K Koktuh Hills 81.79 27 IAmb IAmb 03 14 35.2
comp=2,55nm,1.6s
O18K Koktuh Hills 81.79 27 P P 03 13 37.9 -0.2
baz=243
G16K Koyuk River 81.80 20 IAmb IAmb 03 13 40.2
comp=2,43nm,0.9s
G16K Koyuk River 81.80 20 P P 03 13 38.2 +0.2
baz=236
K17K Iditarod 81.86 24 P P 03 13 38.4 0.0
baz=240
N18K Kilae Creek 81.87 26 IAmb IAmb 03 13 40.9
comp=2,50nm,0.9s
N18K Kilae Creek 81.87 26 P P 03 13 39.2 +0.7
baz=242
BRZS Berezniki 81.89 322 *e*P P 03 13 38.8 0.0
BRZS Berezniki 81.89 322 *e*P P 03 13 38.9 0.0
baz=322
Q19K Cape Douglas, 82.09 28 P P 03 13 39.4 -0.3
baz=244
KDAK Kodiak Island 82.11 29 P P 03 13 40.2 +0.5
KDAK IAmb IAmb 03 13 41.5
comp=2,32nm,0.9s
KDAK Kodiak Island 82.11 29 P P 03 13 40.2 +0.5
KDAK pmax pmax
comp=2,32nm,0.9s
KDAK Kodiak Island 82.11 29 P P 03 13 39.9 +0.2
baz=245
SVW2 Sparrevohn 82.20 26 IAmb IAmb 03 13 42.6
comp=2,32nm,0.8s
L18K Granite Mounta 82.27 24 IAmb IAmb 03 13 43.6
comp=2,40nm,1.1s
L18K Granite Mounta 82.27 24 P P 03 13 41.1 +0.5
baz=241
M18K Stony River 82.28 25 P P 03 13 41.1 +0.5
baz=242
O19K Port Alsworth 82.34 27 IAmb IAmb 03 13 41.9
comp=2,27nm,1.0s
O19K Port Alsworth 82.34 27 P P 03 13 40.4 -0.6
baz=244
H17K Granite Mounta 82.41 21 P P 03 13 41.3 +0.1
baz=238,SNR=14
G17K Kiwalik Mounta 82.45 21 P P 03 13 42.2 +0.8
baz=237
C16K Lisburne Hills 82.55 17 P P 03 13 42.3 +0.5
baz=232
N19K Bonanza Creek 82.55 26 IAmb IAmb 03 13 44.1
comp=2,49nm,0.9s
N19K Bonanza Creek 82.55 26 P P 03 13 42.0 -0.2
baz=243
Q20K Shuyak Island 82.55 29 P P 03 13 41.9 -0.1
baz=245
P19K Oil Pt 82.59 27 P P 03 13 41.9 -0.4
baz=245
F17K Baldwin Pennin 82.76 20 IAmb IAmb 03 13 45.1
comp=2,34nm,0.8s
F17K Baldwin Pennin 82.76 20 P P 03 13 43.1 +0.1
baz=236
ILSW Iliamna Southw 82.78 27 IAmb IAmb 03 13 46.8
comp=2,22nm,0.9s
J18K Innoko River 82.86 23 IAmb IAmb 03 13 45.4
comp=2,24nm,0.8s
J18K Innoko River 82.86 23 P P 03 13 43.3 -0.3
baz=241
TTA Tatalina 82.88 24 IAmb IAmb 03 13 46.6
comp=2,23nm,1.1s
TTA Tatalina 82.88 24 P P 03 13 43.6 -0.2
baz=242
D17K Noatak River 82.89 18 P P 03 13 43.5 -0.1
baz=235
L19K White Mountain 83.01 25 IAmb IAmb 03 13 47.3
comp=2,47nm,1.1s
L19K White Mountain 83.01 25 P P 03 13 44.6 +0.2
baz=243
O20K Slope Mountain 83.06 27 P P 03 13 45.0 +0.2
baz=245
M19K Big River Lodg 83.08 25 IAmb IAmb 03 13 47.1
comp=2,39nm,1.1s
M19K Big River Lodg 83.08 25 P P 03 13 44.4 -0.3
baz=243,SNR=7.0
H18K Honhosa River 83.08 21 IAmb IAmb 03 14 18.0
comp=2,57nm,1.6s
H18K Honhosa River 83.08 21 P P 03 13 45.3 +0.5
baz=239
C17K DeLong Mountai 83.31 18 P P 03 13 45.9 +0.1
baz=234
G18K Tagagawik 83.36 21 IAmb IAmb 03 13 47.9
comp=2,35nm,0.8s
G18K Tagagawik 83.36 21 P P 03 13 46.0 -0.1
baz=239
F18K Selawik 83.39 20 P P 03 13 46.0 -0.2
baz=238
GCSA Galena City Sc 83.42 22 P P 03 13 46.4 -0.1
baz=241,SNR=8.5
E18K Tukpahlearik C 83.52 19 IAmb IAmb 03 13 49.0
comp=2,30nm,0.8s
E18K IAMs_20 IAMs_20 03 43 24.0
comp=2,639nm,21.0s
E18K Tukpahlearik C 83.52 19 P P 03 13 47.0 +0.1
baz=237
J19K Poorman 83.54 23 P P 03 13 47.8 +0.7
baz=242
L20K Farewell, AK 83.55 25 P P 03 13 47.9 +0.7
baz=244,SNR=9.6
M20K Styx River 83.60 25 P P 03 13 47.5 -0.1
baz=244
N20K Mount Spurr 83.71 26 P P 03 13 47.5 -0.6
baz=245
BRSE Bradley Lake S 83.78 28 P P 03 13 47.6 -0.8
baz=247
K20K Telida 83.86 24 IAmb IAmb 03 13 51.0
comp=2,39nm,0.9s
K20K Telida 83.86 24 P P 03 13 49.0 +0.2
baz=243
QSPA South Pole Qui 83.90 180 P P 03 13 48.1 -1.0
QSPA IAmb IAmb 03 13 52.3
comp=2,28nm,0.8s
QSPA South Pole Qui 83.90 180 P P 03 13 49.3 +0.2
comp=2,30nm,0.9s,baz=353,slow=2.5,SNR=32
QSPA PKKP **PKKPdf** 03 31 59.3 +0.5
comp=2,2.6nm,0.5s,baz=133,slow=4.1,SNR=13
QSPA LR LR 03 52 23.4
comp=2,2µm,18.1s,baz=14,slow=36
comp=2,30nm,0.9s
H19K Roundabout Mou 83.97 21 IAmb IAmb 03 13 51.4
comp=2,43nm,0.9s
H19K Roundabout Mou 83.97 21 P P 03 13 49.0 -0.2
baz=241
CAPN Captain Cook N 84.00 27 P P 03 13 49.1 -0.3
baz=246
C18K Utuk River 84.01 18 IAmb IAmb 03 14 29.9
comp=2,21nm,1.1s
C18K Utukok River 84.01 18 P P 03 13 48.9 -0.5
baz=236
G19K Purcell Mounta 84.04 21 IAmb IAmb 03 13 52.5
comp=2,51nm,1.1s
G19K Purcell Mounta 84.04 21 P P 03 13 49.5 -0.1
baz=240,SNR=28
F19K Shaleruckik Mo 84.15 20 IAmb IAmb 03 13 53.5
comp=2,18nm,0.8s
F19K Shaleruckik Mo 84.15 20 P P 03 13 49.7 -0.5
baz=240
J20K Nowinta River 84.20 23 IAmb IAmb 03 13 52.8
comp=2,34nm,0.8s
J20K Nowinta River 84.20 23 P P 03 13 50.6 +0.1
baz=243,SNR=22
BVA0 Borovoye Array 84.23 325 *i* P P 03 13 51.1 +0.2
BVAR Borovoye Array 84.23 325 P P 03 13 51.1 +0.2
comp=2,125nm,0.8s,baz=112,slow=6.4,SNR=306
comp=2,125nm,0.8s
B18K Kokolik River 84.23 17 P P 03 13 50.9 +0.4
baz=236
BRVK Borovoye 84.30 325 P P 03 13 50.4 -0.8
BRVK Borovoye 84.30 325 *ce*P P 03 13 52.0 +0.8
BRVK pmax pmax
comp=2,106nm,1.0s
SKT Skwentna 84.33 26 IAmb IAmb 03 13 51.3
comp=2,20nm,1.0s
SKT Skwentna 84.33 26 P P 03 13 49.9 -1.3
baz=246,SNR=7.0
I20K Naaghedeneel 84.36 23 IAMs_20 IAMs_20 03 44 15.7
comp=2,915nm,22.0s
I20K Naaghedeneel 84.36 23 P P 03 13 51.1 -0.1
baz=243
PPLA Purkeypile 84.43 25 P P 03 13 51.2 -0.7
baz=245
SUA Susitna One 84.46 26 IAmb IAmb 03 13 52.4
comp=2,40nm,0.8s
SUA Susitna One 84.46 26 P P 03 13 51.0 -1.0
baz=247,SNR=20
SEW Seward 84.52 28 P P 03 13 51.7 -0.4
baz=248,SNR=7.0
H20K Anotleneega Mo 84.53 22 P P 03 13 52.1 0.0
baz=242
O22K Cooper Landing 84.54 27 P P 03 13 52.0 -0.3
baz=248,SNR=17
E19K Redstone River 84.64 20 P P 03 13 52.7 0.0
baz=240
CAST Castle Rocks 84.70 24 IAmb IAmb 03 13 54.2
comp=2,35nm,0.8s
CAST Castle Rocks 84.70 24 P P 03 13 52.3 -0.7
baz=245,SNR=28
C19K Lookout Ridge 84.75 18 P P 03 13 52.9 -0.3
baz=238
RC01 Rabbit Creek A 84.77 27 P P 03 13 51.9 -1.5
baz=248,SNR=20
CHUM Lake Minchumin 84.80 24 P P 03 13 53.0 -0.5
baz=245,SNR=66
M22K Willow 84.85 26 IAMs_20 IAMs_20 03 44 51.7
comp=2,724nm,22.0s
M22K Willow 84.85 26 P P 03 13 52.2 -1.6
baz=247,SNR=14
D19K Kuna River 84.88 19 IAmb IAmb 03 13 55.8
comp=2,39nm,0.9s
D19K IAMs_20 IAMs_20 03 43 41.5
comp=2,809nm,22.0s
D19K Kuna River 84.88 19 P P 03 13 53.9 0.0
baz=239
F20K Avaraart Lake 84.96 20 IAmb IAmb 03 13 56.5
comp=2,28nm,0.9s
F20K Avaraart Lake 84.96 20 P P 03 13 53.7 -0.5
baz=242
CUT Chulitna 85.04 26 P P 03 13 53.3 -1.4
baz=247,SNR=9.1
IMAR Indian Mountai 85.17 22 P P 03 13 55.0 -0.3
KTH Kantishna Hill 85.23 24 IAmb IAmb 03 14 27.0
comp=2,63nm,1.3s
PMR Palmer 85.23 26 IAMs_20 IAMs_20 03 45 44.6
comp=2,699nm,22.0s
PMR Palmer 85.23 26 P P 03 13 54.3 -1.3
baz=248,SNR=21
H21K Melozitna Rive 85.37 22 IAmb IAmb 03 13 58.2
comp=2,18nm,0.9s
H21K IAMs_20 IAMs_20 03 44 44.9
comp=2,770nm,22.0s
H21K Melozitna Rive 85.37 22 P P 03 13 55.6 -0.8
baz=244
E20K Nigu River 85.38 19 P P 03 13 56.2 -0.2
baz=241
GHO Glory Hole Cre 85.39 26 IAmb IAmb 03 13 57.6
comp=2,38nm,0.8s
BPAW Bear Paw Mtn. 85.42 24 IAmb IAmb 03 13 57.7
comp=2,19nm,0.8s
BPAW Bear Paw Mtn. 85.42 24 P P 03 13 55.8 -0.8
baz=246
P23K Montague Islan 85.44 28 P P 03 13 56.1 -0.7
baz=250
TRF Thorofare Moun 85.45 25 IAmb IAmb 03 13 59.4
comp=2,24nm,0.9s
TRF Thorofare Moun 85.45 25 P P 03 13 55.9 -1.1
baz=247,SNR=10
KNK Knik Glacier 85.46 27 IAMs_20 IAMs_20 03 44 34.8
comp=2,696nm,22.0s
KNK Knik Glacier 85.46 27 P P 03 13 56.3 -0.6
baz=249,SNR=18
D20K Etivluk River 85.47 19 P P 03 13 56.4 -0.4
baz=241
I21K Tanana 85.48 23 IAmb IAmb 03 13 59.0
comp=2,31nm,0.9s
I21K Tanana 85.48 23 P P 03 13 56.5 -0.3
baz=245
G21K Allakaket 85.49 21 IAMs_20 IAMs_20 03 45 26.3
comp=2,773nm,22.0s
G21K Allakaket 85.49 21 P P 03 13 56.7 -0.2
baz=244,SNR=12
SML Sawmill 85.66 26 IAMs_20 IAMs_20 03 41 38.1
comp=2,665nm,22.0s
SML Sawmill 85.66 26 P P 03 13 57.4 -0.5
baz=249,SNR=21
Q23K Middleton Isla 85.75 29 P P 03 13 57.3 -1.0
baz=251
F21K Alatna River 85.81 21 IAMs_20 IAMs_20 03 44 58.2
comp=2,784nm,22.0s
F21K Alatna River 85.81 21 P P 03 13 57.9 -0.6
baz=244,SNR=8.1
MLY Manley 85.90 23 IAmb IAmb 03 14 00.6
comp=2,44nm,0.8s
MLY Manley 85.90 23 P P 03 13 58.4 -0.6
baz=246,SNR=14
M23K Glacier View 85.92 27 P P 03 13 59.0 -0.3
baz=249,SNR=14
WAT1 Susitna Watana 85.94 25 P P 03 13 58.8 -0.5
baz=248
H22K Ishtalitna Cre 86.00 22 P P 03 13 59.7 +0.2
baz=246,SNR=16
RND Reindeer 86.03 25 IAMs_20 IAMs_20 03 43 57.6
comp=2,824nm,21.0s
MCK McKinley 86.11 25 P P 03 13 58.4 -1.7
baz=248,SNR=31
SCM Sheep Creek Mo 86.12 27 P P 03 13 59.4 -0.8
baz=250,SNR=13
E21K Killik River 86.20 19 IAmb IAmb 03 14 02.4
comp=2,37nm,0.9s

E21K **Killik River** 86.20 19 P P 03 14 00.1 -0.4
baz=243
WAT6 **Susitna Watana** 86.20 26 P P 03 13 59.4 -1.3
baz=249,SNR=15
NEA2 **Nenana** 86.38 24 IAmb IAmb 03 14 02.0
comp=Z,17nm,0.7s
NEA2 **Nenana** 86.38 24 P P 03 14 00.2 -1.2
baz=248
EYAK **Cordova Ski Ar** 86.40 28 P P 03 14 00.8 -0.7
baz=251
I23K **Minto, Yukon-K** 86.48 23 IAMs_20 IAMs_20 03 44 27.6
comp=Z,706nm,21.0s
I23K **Minto, Yukon-K** 86.48 23 P P 03 14 01.6 -0.2
baz=248,SNR=12
DHY **Denali Highway** 86.53 25 P P 03 14 01.3 -1.1
baz=250,SNR=35
KLU **Klutina** 86.63 27 IAMs_20 IAMs_20 03 46 09.8
comp=Z,655nm,20.0s
KLU **Klutina** 86.63 27 P P 03 14 02.7 -0.1
baz=251,SNR=13
M24K **Tolsona, Glenn** 86.72 26 P P 03 14 03.0 -0.2
baz=251,SNR=6.7
A21K **Barrow** 86.76 16 P P 03 14 03.2 +0.2
baz=240,SNR=18
E22K **Anaktuvuk Pass** 86.78 20 IAmb IAmb 03 14 06.5
comp=Z,42nm,0.8s
E22K **Anaktuvuk Pass** 86.78 20 P P 03 14 03.3 0.0
baz=245
D22K **Ayikyak River** 86.81 19 IAmb IAmb 03 14 06.9
comp=Z,38nm,1.0s
D22K **Ayikyak River** 86.81 19 P P 03 14 04.1 +0.6
baz=244
G23K **Bananza Creek** 86.84 22 IAmb IAmb 03 14 05.6
comp=Z,26nm,0.8s
G23K IAMs_20 IAMs_20 03 46 06.2
comp=Z,675nm,22.0s
G23K **Bananza Creek** 86.84 22 P P 03 14 03.3 -0.3
baz=247
KAIM **Kayak Island** 86.84 29 P P 03 14 03.2 -0.5
baz=252
COLA **College** 86.97 24 P P 03 14 03.1 -1.1
COLA **College** 86.97 24 P P 03 14 03.1 -1.1
COLA pmax pmax
comp=Z,57nm,0.8s
COLA **College** 86.97 24 P P 03 14 03.3 -0.9
baz=249
COLD **Coldfoot** 86.98 21 P P 03 14 04.4 +0.2
baz=247,SNR=16
BMRM **Bremner River** 87.07 28 P P 03 14 04.4 -0.5
baz=252,SNR=11
HDA **Harding Lake** 87.17 24 IAmb IAmb 03 14 07.5
comp=Z,30nm,0.9s
HDA **Harding Lake** 87.17 24 P P 03 14 04.3 -1.0
baz=250,SNR=14
POKR **Poker Plat Res** 87.23 23 IAmb IAmb 03 14 06.4
comp=Z,16nm,0.9s
POKR **Poker Plat Res** 87.23 23 P P 03 14 04.1 -1.4
baz=249,SNR=9.1
HARP **HAARP** 87.27 26 P P 03 14 04.8 -0.9
baz=252
N25K **Chitina, Valde** 87.27 27 IAmb IAmb 03 14 11.7
comp=Z,15nm,0.8s
N25K IAMs_20 IAMs_20 03 45 14.6
comp=Z,1um,22.0s
N25K **Chitina, Valde** 87.27 27 P P 03 14 05.4 -0.5
baz=252
H24K **Noodor Dome** 87.31 23 IAmb IAmb 03 14 08.1
comp=Z,23nm,1.0s
H24K IAMs_20 IAMs_20 03 46 06.2
comp=Z,814nm,22.0s
H24K **Noodor Dome** 87.31 23 P P 03 14 05.2 -0.8
baz=249
PAX **Paxson** 87.31 26 P P 03 14 05.6 -0.5
baz=251,SNR=10
ILAR **Eielson Array** 87.32 24 P P 03 14 04.5 -1.4
comp=Z,40nm,0.8s,baz=256,slow=5.0,SNR=242
ILAR LR LR 03 49 37.8
comp=Z,188nm,20.0s,baz=265,slow=33
comp=Z,40nm,0.8s
K24K **Donnelly Dome** 87.45 25 P P 03 14 06.1 -0.5
baz=251,SNR=8.9
E23K **Chandalar** 87.51 20 P P 03 14 06.7 -0.2
baz=247
D23K **Nanushuk River** 87.51 19 P P 03 14 07.6 +0.8
baz=246
GLB **Gilahina Butte** 87.58 27 IAmb IAmb 03 14 08.9
comp=Z,33nm,0.8s
VRDI **Verde Repeater** 87.68 28 IAmb IAmb 03 14 09.4
comp=Z,25nm,1.0s
CRQE **Cirque** 87.71 28 P P 03 14 07.9 -0.2
baz=253
G24K **Hadweenzic Riv** 87.77 22 IAMs_20 IAMs_20 03 46 44.4
comp=Z,848nm,21.0s
G24K **Hadweenzic Riv** 87.77 22 P P 03 14 07.8 -0.3
baz=249,SNR=20
RIDG **Independent Ri** 87.83 25 IAMs_20 IAMs_20 03 47 09.2
comp=Z,995nm,21.0s
RIDG **Independent Ri** 87.83 25 P P 03 14 07.6 -0.9
baz=252,SNR=23
C23K **Itkillik River** 87.88 19 P P 03 14 08.5 -0.1
baz=246
J25K **Salcha River,** 87.89 24 P P 03 14 07.9 -0.9
baz=251
F24K **Squaw Lake** 87.92 21 IAMs_20 IAMs_20 03 45 37.4
comp=Z,923nm,22.0s
F24K **Squaw Lake** 87.92 21 P P 03 14 09.1 +0.3
baz=249
MCARA **McCarthy VSAT** 87.92 28 IAmb IAmb 03 14 10.7
comp=Z,28nm,1.0s
MCARA **McCarthy VSAT** 87.92 28 P P 03 14 08.9 -0.1
baz=254,SNR=5.9
MENT **Mentasta** 88.06 26 IAmb IAmb 03 14 11.3
comp=Z,28nm,0.8s
MESA **MESA** 88.10 29 P P 03 14 10.3 +0.2
baz=254
PRP **Porcupine Dome** 88.12 23 IAMs_20 IAMs_20 03 46 06.8
comp=Z,591nm,21.0s
PRP **Porcupine Dome** 88.12 23 P P 03 14 09.3 -0.7
baz=251,SNR=7.2
D24K **Happy Valley** 88.20 19 P P 03 14 10.3 +0.3
baz=248
L26K **Log Cabin Wild** 88.25 26 IAmb IAmb 03 14 12.2
comp=Z,26nm,0.9s
L26K **Log Cabin Wild** 88.25 26 P P 03 14 10.2 -0.3
baz=253,SNR=14
SCRK **Sand Creek** 88.26 25 IAmb IAmb 03 14 12.0
comp=Z,21nm,0.9s
SCRK **Sand Creek** 88.26 25 P P 03 14 09.8 -0.8
baz=253,SNR=20
G25K **Bearman Lake** 88.31 22 P P 03 14 10.6 0.0
baz=250,SNR=21
GRNC **Granite Creek** 88.34 28 IAmb IAmb 03 14 13.0
comp=Z,37nm,0.9s
C24K **Franklin Bluff** 88.45 19 P P 03 14 11.1 -0.1
baz=248
J26L **Joseph Creek** 88.59 25 IAmb IAmb 03 14 13.9
comp=Z,33nm,0.9s
J26L **Joseph Creek** 88.59 25 P P 03 14 12.0 -0.1
baz=253
CTG **Chitna Glacier** 88.60 28 P P 03 14 12.3 0.0
baz=255,SNR=18
M27K **Edge Creek, AK** 88.72 27 IAMs_20 IAMs_20 03 51 08.2
comp=Z,601nm,19.0s
M27K **Edge Creek, AK** 88.72 27 P P 03 14 12.7 -0.1
baz=254,SNR=25
LOGN **Logan Glacier** 88.72 28 IAmb IAmb 03 14 14.8
comp=Z,37nm,0.9s
F25K **Christian Rive** 88.75 21 P P 03 14 12.9 +0.1
baz=251
PINM **Pinnacle** 88.90 29 P P 03 14 14.1 +0.5
baz=256,SNR=5.7
L27K **Beaver Creek,** 88.93 26 IAmb IAmb 03 14 15.7
comp=Z,23nm,0.9s
L27K **Beaver Creek,** 88.93 26 P P 03 14 13.9 +0.2
baz=254
BCAR **Beaver Creek A** 88.95 26 P P 03 14 13.5 -0.3
E25K **Arctic Village** 88.95 21 IAmb IAmb 03 14 16.3
comp=Z,31nm,0.9s
E25K IAMs_20 IAMs_20 03 43 12.7
comp=Z,695nm,20.0s
E25K **Arctic Village** 88.95 21 P P 03 14 14.1 +0.4
baz=251,SNR=34
I26K **Coal Creek Min** 89.00 24 IAmb IAmb 03 14 15.7
comp=Z,17nm,0.9s
I26K **Coal Creek Min** 89.00 24 P P 03 14 14.1 +0.3
baz=253
D25K **Kavik River** 89.07 20 IAmb IAmb 03 14 16.1
comp=Z,15nm,0.8s

D25K **Kavik River** 89.07 20 P P 03 14 14.3 0.0
baz=250
K27K **Chicken** 89.08 25 P P 03 14 15.0 +0.6
baz=254
BMAR **Burnt Mountain** 89.08 22 P P 03 14 14.6 +0.3
BVCY **Beaver Creek** 89.19 27 P P 03 14 15.0 +0.1
baz=255,SNR=14
UOSS **Minazif** 89.20 295 P P 03 14 15.3 -0.4
YUK3 **Moose Creek** 89.21 28 P P 03 14 15.8 +0.5
baz=256,SNR=25
PNL **Peninsula** 89.22 30 P P 03 14 15.5 +0.4
baz=257
G26K **Porcupine Rive** 89.23 22 P P 03 14 15.7 +0.7
baz=253,SNR=51
GEYT **Alibeck** 89.29 308 P P 03 14 17.2 +1.2
GEYT **Alibeck** 89.29 308 P P 03 14 17.2 +1.2
GEYT pmax pmax
comp=Z,12nm,0.9s
GEYT **Alibeck** 89.29 308 P P 03 14 17.0 +1.1
comp=Z,17nm,1.1s,baz=116,slow=3.4,SNR=8.6
GEYT LR LR 03 57 40.6
comp=Z,176nm,20.0s,baz=116,slow=38
comp=Z,17nm,1.1s
F26K **Sheenjek River** 89.33 21 P P 03 14 16.2 +0.7
baz=252,SNR=33
YUK8 **Steele Glacier** 89.42 28 P P 03 14 16.7 +0.4
baz=256
EGAK **Eagle** 89.67 25 IAmb IAmb 03 14 18.8
comp=Z,38nm,0.9s
EGAK **Eagle** 89.67 25 P P 03 14 17.1 +0.1
baz=255,SNR=21
I27K **Kandik River** 89.70 24 P P 03 14 17.5 +0.3
baz=255
ABKAR **Akbulak array** 89.72 319 P P 03 14 16.6 -1.1
ABKAR **Akbulak array** 89.72 319 IAmb IAmb 03 14 18.7
comp=Z,12nm,0.8s
C26K **Camden Bay** 89.75 19 P P 03 14 18.1 +0.8
baz=252
O29M **Mount Kennedy** 89.76 29 P P 03 14 18.5 +0.7
baz=257
H27K **Steamboat Moun** 89.90 23 P P 03 14 18.7 +0.5
baz=255,SNR=56
YUK4 **Talbot Arm** 89.95 28 P P 03 14 19.0 +0.3
baz=257,SNR=17
YUK6 **Outpost Mounta** 90.00 29 P P 03 14 19.2 +0.1
baz=258
P29M **Windy Craggy** 90.03 30 IAmb IAmb 03 14 21.1
comp=Z,24nm,0.8s
P29M **Windy Craggy** 90.03 30 P P 03 14 19.0 +0.1
baz=258
DAWY **Dawson** 90.23 25 IAmb IAmb 03 14 22.5
comp=Z,38nm,1.1s
DAWY **Dawson** 90.23 25 P P 03 14 19.9 +0.1
baz=257,SNR=21
M29M **Somme Creek** 90.28 27 IAmb IAmb 03 14 22.2
comp=Z,24nm,0.8s
M29M **Somme Creek** 90.28 27 P P 03 14 20.3 +0.2
baz=258
I28M **Miner Creek** 90.33 24 IAmb IAmb 03 14 22.2
comp=Z,29nm,1.0s
I28M **Miner Creek** 90.33 24 P P 03 14 20.6 +0.3
baz=256
HYT **Haines Junctio** 90.39 29 IAmb IAmb 03 14 24.2
comp=Z,24nm,0.8s
HYT **Haines Junctio** 90.39 29 P P 03 14 21.1 +0.4
baz=258,SNR=10
S31K **Pelican** 90.47 32 P P 03 14 21.2 +0.3
baz=259
P30M **Million Dollar** 90.51 30 P P 03 14 21.5 +0.3
baz=259
L29M **L29M** 90.57 27 P P 03 14 21.9 +0.5
baz=258
SVE **Sverdlovsk** 90.61 327 eP P 03 14 21.5 -0.1
SVE pmax pmax
comp=Z,21nm,1.0s
PLBC **Pleasant Camp** 90.68 30 P P 03 14 21.9 +0.1
baz=259
N30M **Aishikik Lake** 90.71 28 IAmb IAmb 03 14 24.0
comp=Z,23nm,0.9s
N30M **Aishikik Lake** 90.71 28 P P 03 14 22.3 +0.2
baz=259
J29N **Klondike Camp** 90.82 25 IAmb IAmb 03 14 25.1
comp=Z,21nm,0.9s
J29N **Klondike Camp** 90.82 25 P P 03 14 22.9 +0.3
baz=258,SNR=11
F28M **Old Crow** 90.88 22 IAmb IAmb 03 14 27.7
comp=Z,33nm,1.8s
F28M **Old Crow** 90.88 22 P P 03 14 22.6 -0.1
baz=256,SNR=7.2
K29M **Barlow Dome** 90.99 26 IAmb IAmb 03 14 25.6
comp=Z,33nm,0.9s
K29M **Barlow Dome** 90.99 26 P P 03 14 23.4 0.0
baz=258
O30N **Mendenhall** 91.06 29 IAmb IAmb 03 14 25.4
comp=Z,13nm,0.8s
O30N **Mendenhall** 91.06 29 P P 03 14 23.7 0.0
baz=260,SNR=5.8
M30M **Minto, Yukon** 91.07 27 IAmb IAmb 03 14 25.6
comp=Z,19nm,1.1s
M30M **Minto, Yukon** 91.07 27 P P 03 14 23.7 0.0
baz=259,SNR=9.8
H29M **Whitestone** 91.14 23 IAmb IAmb 03 14 46.0
comp=Z,24nm,1.2s
H29M **Whitestone** 91.14 23 P P 03 14 23.9 0.0
baz=258
SKAG **Skagway** 91.20 30 P P 03 14 24.3 0.0
baz=260
WHY **Whitehorse** 91.62 29 IAmb IAmb 03 14 28.0
comp=Z,13nm,0.9s
WHY **Whitehorse** 91.62 29 P P 03 14 26.3 -0.1
baz=261
J30M **Hart River** 91.65 25 IAmb IAmb 03 14 28.5
comp=Z,21nm,1.0s
J30M **Hart River** 91.65 25 P P 03 14 26.4 0.0
baz=259
MAYO **Mayo, Yukon** 91.66 26 IAMs_20 IAMs_20 03 50 03.6
comp=Z,730nm,22.0s
MAYO **Mayo, Yukon** 91.66 26 P P 03 14 26.3 0.0
baz=260
ARU **Arti** 91.67 326 P P 03 14 25.3 -1.3
ARU IAmb IAmb 03 14 28.0
comp=Z,28nm,1.0s
ARU **Arti** 91.67 326 dP P 03 14 26.0 -0.6
ARU 03 18 05.0
ARU S SKSac 03 24 58.4 -0.3
ARU SS SS 03 31 32.5 -1.1
ARU pmax pmax
comp=Z,33nm,1.1s
D28M **Stokes Point** 91.68 20 P P 03 14 26.3 0.0
baz=257
I30M **Mount Dempster** 91.75 25 IAmb IAmb 03 14 29.1
comp=Z,26nm,1.2s
I30M **Mount Dempster** 91.75 25 P P 03 14 26.6 -0.3
baz=259
E29M **Blow River** 91.78 21 IAMs_20 IAMs_20 03 49 11.4
comp=Z,803nm,22.0s
E29M **Blow River** 91.78 21 P P 03 14 26.3 -0.4
baz=258
EPYK **Eagle Plains** 91.82 23 IAmb IAmb 03 14 28.8
comp=Z,28nm,0.9s
EPYK **Eagle Plains** 91.82 23 P P 03 14 26.6 -0.5
baz=259,SNR=17
U33K **Whale Pass** 91.85 34 P P 03 14 27.2 -0.2
baz=262
P32M **Atlin** 92.03 30 P P 03 14 28.6 +0.3
baz=262
M31M **Drury Creek, Y** 92.10 28 IAmb IAmb 03 14 57.9
comp=Z,21nm,1.4s
M31M **Drury Creek, Y** 92.10 28 P P 03 14 29.0 +0.5
baz=261
G30M **tAoh Zraii Nji** 92.13 23 IAmb IAmb 03 14 30.4
comp=Z,17nm,1.0s
G30M **tAoh Zraii Nji** 92.13 23 P P 03 14 28.9 +0.3
baz=260
WRAK **Wrangell Islan** 92.32 34 P P 03 14 29.6 +0.1
baz=263
F30M **Barrier River** 92.41 22 P P 03 14 30.1 +0.3
baz=260
N32M **Quiet Lake** 92.57 29 IAmb IAmb 03 14 35.2
comp=Z,20nm,1.1s
N32M **Quiet Lake** 92.57 29 P P 03 14 30.6 -0.1
baz=262
P33M **Teslin, Yukon** 92.57 30 P P 03 14 30.8 0.0
baz=262
FARO **Faro, Yukon** 92.59 28 IAmb IAmb 03 14 32.1
comp=Z,13nm,0.9s
FARO **Faro, Yukon** 92.59 28 P P 03 14 31.1 +0.3
baz=262

V35K **Ketchikan** 92.59 35 P P 03 14 31.2 +0.4
baz=263
Q32M **Nakina River** 92.68 31 P P 03 14 31.3 -0.2
baz=263
G31M **Satah River** 92.88 23 IAmb IAmb 03 14 33.8
comp=Z,19nm,1.1s
G31M **Satah River** 92.88 23 P P 03 14 32.2 +0.4
baz=261,SNR=11
ELIB **Princess Elisa** 92.94 196 dP P 03 14 32.8 +0.5
comp=Z,11nm,1.1s
S34M **Telegraph Cree** 93.16 32 P P 03 14 33.5 +0.2
baz=264
F31M **Tsiigehtchic** 93.16 23 IAmb IAmb 03 16 29.2
comp=Z,43nm,1.9s
F31M **Tsiigehtchic** 93.16 23 P P 03 14 33.6 +0.5
baz=262
INK **Inuvik** 93.36 22 P P 03 14 34.8 +0.7
baz=262
R33M **Jennings River** 93.40 31 IAmb IAmb 03 14 39.5
comp=Z,21nm,1.4s
R33M **Jennings River** 93.40 31 P P 03 14 34.8 +0.2
baz=264
MMPY **Sheldon Lake,** 93.60 28 P P 03 14 35.9 +0.5
baz=264
DLBC **Dease Lake** 93.79 32 P P 03 14 36.9 +0.5
baz=265
DLBC **Dease Lake** 93.79 32 LR LR 03 48 13.2
comp=Z,191nm,21.0s,baz=284,slow=30
BBB **Bella Bella** 94.36 38 LR LR 03 51 11.5
comp=Z,424nm,19.1s,baz=244,slow=32
WTLY **Watson Lake, Y** 94.56 30 IAmb IAmb 03 15 10.4
comp=Z,15nm,1.0s
WTLY **Watson Lake, Y** 94.56 30 P P 03 14 40.3 +0.4
baz=266
TGTN **Hyland Airport** 94.91 29 P P 03 14 41.6 +0.2
baz=266
BELA **Belgrano 2** 96.16 181 P P 03 14 46.6 -0.3
BELA IAmb IAmb 03 14 53.8
comp=Z,29nm,1.6s
A36M **Sachs Harbour** 96.42 18 IAmb IAmb 03 14 48.5
comp=Z,11nm,0.9s
A36M **Sachs Harbour** 96.42 18 P P 03 14 47.9 -0.1
baz=270
KIRV **Kirov** 96.76 328 ceP P 03 14 48.3 -1.5
C36M **Paulatuk** 96.85 21 IAmb IAmb 03 14 52.5
comp=Z,30nm,2.0s
C36M **Paulatuk** 96.85 21 P P 03 14 50.0 0.0
baz=271
YBH **Yreka Blue Hor** 97.56 49 LR LR 03 53 03.0
comp=Z,361nm,20.1s,baz=300,slow=32
GNW **Green Mountain** 97.58 43 P P 03 14 52.1 -1.7
GNW IAmb IAmb 03 14 56.5
comp=Z,9.7nm,0.8s
BELG **Belogornoye** 97.76 322 i P P 03 14 52.5 -2.0
BELG pmax pmax
comp=Z,9.0nm,0.9s
ORV **Oroville** 98.44 51 P P 03 14 57.5 -0.4
ORV **Oroville** 98.44 51 P P 03 14 57.5 -0.4
ORV pmax pmax
comp=Z,4.0nm,0.9s
J05D **Fort Rock, OR** 98.67 47 Pdif 03 14 59.6 +0.5
J05D IAmb IAmb 03 15 01.1
comp=Z,12nm,0.9s
RAYN **Ar Rayn** 98.81 293 P P 03 14 59.2 -0.8
RAYN **Ar Rayn** 98.81 293 P P 03 14 59.2 -0.8
RAYN pmax pmax
comp=Z,6.0nm,1.1s
NVAR **Mina Array Bea** 100.93 52 P Pdif 03 15 10.7 +1.4
comp=Z,3.9nm,0.8s,baz=257,slow=6.4,SNR=9.3
NV11 **Mina Array Sit** 101.05 52 IAMs_20 IAMs_20 03 56 14.4
comp=Z,546nm,18.0s
KIV **Kislovodsk** 101.26 313 eP Pdif 03 15 07.6 -2.9
KIV pmax pmax
comp=Z,5.0nm,1.1s
YKA **Yellowknife Ar** 101.30 27 i P Pdif 03 15 09.3 -0.8
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA **Yellowknife Ar** 101.30 27 P Pdif 03 15 09.4 -0.7
comp=Z,1.5nm,0.8s,baz=279,slow=4.9,SNR=24
YKA PP PP 03 19 16.1 -3.1
comp=Z,1.1nm,0.9s,baz=277,slow=7.2,SNR=7.2
YKA PKiKP PKiKP 03 19 34.3 -0.1
comp=Z,0.4nm,0.6s,baz=266,slow=1.3,SNR=4.7
YKA PKKPbc PKKPbc 03 31 19.0 -3.1
comp=Z,0.5nm,0.9s,baz=89,slow=3.2,SNR=5.2
VRH **Novokhopyorsk** 101.47 321 eP Pdif 03 15 08.7 -2.4
VRH pmax pmax
comp=Z,10.0nm,0.8s
KLMR **Klimovskoe** 101.60 331 eP Pdif 03 15 09.1 -2.4
KLMR e 03 19 20.0
KLMR pmax pmax
comp=Z,11nm,0.9s
BMN **Battle Mountai** 101.72 50 IAMs_20 IAMs_20 03 48 50.9
comp=Z,856nm,22.0s
MONP2 **Monument Peak** 102.55 58 P Pdif 03 15 15.6 -1.0
baz=271
IKP **In-Ko-Pah, Jac** 102.81 58 P Pdif 03 15 17.7 +0.1
baz=271
VORR **Voronezh** 102.99 322 eP Pdif 03 15 14.6 -3.2
VORR pmax pmax
comp=Z,30nm,0.4s
LPSR **Galich'ya Gora** 103.05 323 eP Pdif 03 15 16.0 -2.1
LPSR e 03 19 31.1
LPSR pmax pmax
comp=Z,10.0nm,0.9s
R11B **Troy Canyon, C** 103.07 52 P Pdif 03 15 18.5 -0.3
baz=273
VSR **Storozhevoye** 103.07 321 eP Pdif 03 15 14.8 -3.4
VSR e 03 19 30.9
VSR pmax pmax
comp=Z,10.0nm,1.4s
VTX **Valle De La Tr** 103.11 59 IAMs_20 IAMs_20 03 50 58.8
comp=Z,928nm,21.0s
CPBX **Cerro Prieto** 103.50 58 IAMs_20 IAMs_20 03 50 26.9
comp=Z,755nm,22.0s
IRM **Iron Mountain** 103.58 56 P Pdif 03 15 19.8 -1.2
baz=272
Q12A **Willow Creek R** 103.62 51 IAMs_20 IAMs_20 03 50 00.5
comp=Z,787nm,22.0s
HLID **Hailey** 103.63 47 P Pdif 03 15 20.7 -0.4
baz=275
OBN **Obninsk** 104.06 325 i P Pdif 03 15 22.1 -0.4
OBN e 03 19 39.8
OBN ePPP PPP 03 21 51.4
OBN pmax pmax
comp=Z,4.0nm,0.7s
OBN MLR MLR
comp=Z,276nm,19.0s
PDMCI **Parker Dam,Lak** 104.41 56 P Pdif 03 15 24.3 -0.3
baz=272
ARCES **ARCESS Array B** 104.91 341 Pdiff Pdif 03 15 25.0 -1.0
comp=Z,6.8nm,0.8s,baz=58,slow=7.5,SNR=6.2
PIX **Pinacate** 105.09 59 IAMs_20 IAMs_20 03 52 13.2
comp=Z,660nm,21.0s
KNB **Kanab** 105.33 53 IAMs_20 IAMs_20 03 51 07.0
comp=Z,759nm,21.0s
PKCU **Pink Cliffs** 105.71 53 IAMs_20 IAMs_20 03 56 36.9
comp=Z,842nm,21.0s
HMU **Henry Mountain** 106.90 52 IAMs_20 IAMs_20 03 58 29.5
comp=Z,660nm,20.0s
PDAR **Pinedale Array** 107.24 47 Pdiff Pdif 03 15 37.4 0.0
comp=Z,0.4nm,0.6s,baz=234,slow=3.0,SNR=5.2
PDAR PKiKP PKiKP 03 19 46.9 +0.5
comp=Z,1.1nm,0.8s,baz=220,slow=1.9,SNR=8.2
TULEG **Thule** 107.53 7 IAMs_20 IAMs_20 03 52 39.4
comp=Z,551nm,20.0s
BRTR **Keskin Array B** 108.36 310 PKiKP PKiKP 03 19 49.9 +1.4
comp=Z,0.8nm,0.8s,baz=76,slow=3.7,SNR=4.1
MNK **Minsk** 109.09 326 i P Pdif 03 15 40.3 -4.6
MNK i 03 20 12.9
MNK i PPP PPP 03 22 34.9
MNK i 03 26 53.8
MNK i SS SS 03 35 45.4 +9.3
MNK i SSS SSS 03 39 40.4
MNK pmax pmax
comp=Z,3.0nm,0.7s
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK pmax pmax
comp=N,10.0nm,0.9s
MNK MLR MLR
comp=Z,201nm,19.0s
MNK MLR MLR
comp=N,154nm,19.0s
MNK MLR MLR
comp=E,126nm,15.0s
SMCO **Snowmass** 109.69 51 IAMs_20 IAMs_20 03 50 16.0

comp=Z,752nm,21.0s
BOSA Boshof 110.52 237 PKKPab PKKPab 03 31 02.0 -1.6
comp=Z,2.6nm,0.8s,baz=220,slow=13,SNR=3.7
RSSD Black Hills 110.97 45 P **PKiKP 03 19 52.9 -0.4**
baz=282
Q24A Divide 111.12 51 P **PKiKP 03 19 53.6 -0.2**
baz=280
LSZ Lusaka 111.59 251 IAMs_20 IAMs_20 04 00 41.9
comp=Z,598nm,21.0s
MNTX Cornudas Mount 111.95 58 P **PKiKP 03 19 55.2 -0.1**
baz=277
MDND Maddock 113.01 40 P **PKiKP 03 19 56.7 -0.1**
baz=287
TXAR Lajitas Array 113.69 61 PKiKP **PKiKP 03 19 59.2 +0.4**
comp=Z,1.8nm,1.0s,baz=264,slow=0.9,SNR=12
TXAR PKKPab **PKKPab 03 30 49.9 +1.2**
comp=Z,1.0nm,0.8s,baz=126,slow=6.1,SNR=8.6
KOLS Kolonicke sedl 114.16 321 *e*PKIKP **PKiKP 03 20 01.5 +2.6**
KOLS Kolonicke sedl 114.16 321 *e*PKP **PKiKP 03 20 01.5 +2.6**
NB2 NORSAR Subarra1 14.28 336 PKPdf PKPdf 03 19 59.3 +0.5
comp=Z,6.3nm,1.4s,baz=45,slow=2.0
NB2 NORSAR Subarra1 14.28 336 PKPdf PKPdf 03 19 59.3 +0.5
baz=45,slow=2.0
NOA NORSAR Array B 114.28 336 PKP **PKiKP 03 19 58.5 -0.3**
comp=Z,1.4nm,0.9s,baz=52,slow=1.8,SNR=4.1
ULM Lac du Bonnet 114.53 37 PKP **PKiKP 03 19 56.5 -3.1**
comp=Z,4.0nm,0.6s,baz=266,slow=2.0,SNR=12
D32A Dogwood Acres, 114.90 40 IAMs_20 IAMs_20 04 04 23.7
comp=Z,595nm,19.0s
AGMN Agassiz Nation 115.23 39 P **PKiKP 03 20 00.7 -0.3**
baz=291
ZAIG Zacatecas 115.28 68 IAMs_20 IAMs_20 03 59 37.9
comp=Z,804nm,22.0s
CBKS Cedar Bluff 115.29 50 IAMs_20 IAMs_20 04 04 51.7
comp=Z,675nm,21.0s
LANS Liptovska Anna 115.81 322 *e*PKIKP **PKPdf 03 20 04.7 +2.6**
LANS Liptovska Anna 115.81 322 *e*PKP **PKPdf 03 20 04.7 +2.6**
ECSD EROS Data Cent 116.24 44 **PKPdf 03 20 02.0 -1.1**
VYHS Vyhne 116.44 322 *e*PKIKP **PKiKP 03 20 04.5 +1.2**
VYHS Vyhne 116.44 322 *e*PKP **PKiKP 03 20 04.5 +1.2**
ABTX Abilene, Hawle 116.63 57 P **PKPdf 03 20 04.0 -0.2**
baz=280
JCT Junction City 116.86 59 P **PKPdf 03 20 04.3 -0.4**
baz=279
WMOK Wichita Mounta 116.93 54 P **PKPdf 03 20 04.2 -0.5**
baz=282
KRLC Kraliky 117.04 324 *e*PKP **PKiKP 03 20 06.0 +1.5**
OSTC Ostas 117.16 325 *e*PKP **PKiKP 03 20 06.5 +1.8**
DPC Dobruska-Polom 117.19 324 *e*PKP **PKiKP 03 20 05.3 +0.5**
CHVC Chvalec 117.24 325 *e*PKP **PKiKP 03 20 05.7 +0.9**
FNA Florina 117.32 313 PKPdf **PKPdf 03 20 05.2 -0.1**
FNA Florina 117.32 313 PKIKP **PKPdf 03 20 05.2 -0.1**
MODS Modra-Piesok 117.45 322 *e*PKIKP **PKiKP 03 20 06.3 +1.0**
MODS Modra-Piesok 117.45 322 *e*PKP **PKiKP 03 20 06.3 +1.0**
833A Chaparral WMA, 117.54 61 P **PKPdf 03 20 06.0 -0.1**
baz=278
KSU1 Kansas State U 117.58 49 P **PKPdf 03 20 05.9 +0.1**
baz=286
PLPT Palo Pinto 117.69 56 PKPdf **PKiKP 03 20 06.7 +0.5**
OK029 Liberty Lake 117.76 53 IAMs_20 IAMs_20 04 04 03.2
comp=Z,702nm,21.0s
KBN Korea 117.79 313 IAMs_20 IAMs_20 04 13 16.5
comp=Z,521nm,22.0s
EYMN Ely 118.07 38 PKPdf **PKPdf 03 20 05.2 -1.2**
EYMN Ely 118.07 38 P **PKPdf 03 20 06.5 0.0**
baz=294
PVCC Panska Ves 118.11 325 *e*PKP **PKiKP 03 20 08.0 +1.5**
SPMN Marine on St. 118.31 41 P **PKPdf 03 20 06.9 -0.1**
baz=292
RONA Rosalia, Austr 118.32 322 *e*PKiKP **PKiKP 03 20 08.2 +1.1**
comp=Z,5.0nm,0.7s
PRU Pruhonice 118.38 325 *e*PKP **PKiKP 03 20 08.3 +1.3**
CONA Conrad Observa 118.49 322 *i* PKiKP **PKiKP 03 20 08.5 +1.1**
comp=Z,2.2nm,0.6s,SNR=4.8
CLL Collm 118.62 327 *i* PKIKP **PKiKP 03 20 08.0 +0.6**
CLL MLR MLR
comp=Z,400nm,22.0s
CLL Collm 118.62 327 *e*Pdif **Pdif 03 16 27.0 -0.4**
CLL *i* PKiKP **PKiKP 03 20 08.0 +0.6**
CLL *i* PP **PP 03 21 24.9 +0.3**
CLL AMS AMS 04 10 00.0
comp=Z,400nm,22.0s
ARSA Arzberg 118.99 322 *e*pPKP pPKPdf 03 20 18.0 +4.2
comp=Z,2.2nm,1.2s
CKRC Cesky Krumlov 119.04 324 *e*PKP **PKiKP 03 20 09.4 +1.0**
TUL3 Leonard 119.04 52 P **PKPdf 03 20 08.3 -0.4**
baz=285
KHC Kasperske Hory 119.33 324*c i*PKIKP **PKPdf 03 20 08.9 0.0**
KHC pmax pmax
comp=Z,10.0nm,1.3s
KHC Kasperske Hory 119.33 324 *e*PKP **PKiKP 03 20 10.0 +1.0**
TLIG Tlapa 119.35 73 IAMs_20 IAMs_20 04 03 19.6
comp=Z,667nm,19.0s
GERES GERESS Array B 119.39 324 PKP **PKiKP 03 20 10.2 +1.0**
comp=Z,3.0nm,0.6s,baz=35,slow=3.6,SNR=9.0
NKC Novy Kostel 119.45 326 *e*PKP **PKiKP 03 20 10.7 +1.6**
TSUM Tsumeb 120.25 244 IAMs_20 IAMs_20 04 10 24.1
comp=Z,621nm,21.0s
KBA Koelnbreinsper 120.40 322 *e*PKiKP **PKPdf 03 20 11.5 +0.3**
comp=Z,7.3nm,0.7s
LESA Schwarzleotal 120.65 323 *e*PKiKP **PKiKP 03 20 12.0 +0.3**
comp=Z,5.7nm,0.6s
JFWS Jewell Farm 120.89 43 P **PKPdf 03 20 12.1 +0.1**
baz=293,SNR=7.2
ABTA Abfaltersbach 121.06 322 *i* PKP **PKiKP 03 20 12.7 +0.4**
comp=Z,7.6nm,0.8s,SNR=8.6
MIAR Mount Ida 121.14 53 P **PKPdf 03 20 12.7 -0.1**
baz=286
WTTA Wattenberg 121.35 323 *e*PKiKP **PKiKP 03 20 14.2 +1.1**
comp=Z,9.5nm,0.7s
WATA Walderalm 121.35 323 *e*PKiKP **PKiKP 03 20 13.8 +0.7**
comp=Z,3.6nm,0.6s
SQTA Sankt Quirin 121.62 323 *i* PKiKP **PKiKP 03 20 14.6 +1.0**
comp=Z,8.3nm,0.9s
MOTA Moosalm 121.63 323 *e*PKiKP **PKiKP 03 20 14.5 +0.8**
comp=Z,5.5nm,0.6s
CCM Cathedral Cave 121.91 49 PKPdf **PKPdf 03 20 12.9 -1.2**
CCM Cathedral Cave 121.91 49 PKIKP **PKPdf 03 20 12.9 -1.2**
CCM Cathedral Cave 121.91 49 P **PKPdf 03 20 13.9 -0.2**
baz=289
FETA Feichten 122.01 323 *i* PKiKP **PKiKP 03 20 15.3 +0.8**
comp=Z,6.7nm,0.9s,SNR=7.5
DAVA Damuels 122.38 324 *i* PKiKP **PKiKP 03 20 16.0 +0.8**
comp=Z,14nm,0.7s,SNR=7.7
HDIL Hopedale 122.44 45 P **PKPdf 03 20 15.1 0.0**
baz=292
MURB Monte Urbino 122.59 318 IAMs_20 IAMs_20 04 19 02.9
comp=Z,560nm,18.0s
L44A Lake County Fo 122.76 43 P **PKPdf 03 20 15.8 +0.2**
baz=294
TUE Stuetta 123.11 323 **PKiKP 03 20 17.4 +0.7**
GLMI Grayling 123.72 39 P **PKPdf 03 20 17.4 0.0**
baz=299
EKA Eskdalemuir Ar 123.75 337 PKP **PKPdf 03 20 17.2 0.0**
comp=Z,1.7nm,0.6s,baz=32,slow=2.8,SNR=4.8
SFIN Lafayette 124.06 45 P **PKPdf 03 20 18.4 +0.3**
baz=294
VBMS Vicksburg 124.23 55 IAMs_20 IAMs_20 04 02 44.1
comp=Z,646nm,21.0s
VBMS Vicksburg 124.23 55 P **PKPdf 03 20 18.8 +0.1**
baz=286
PLCA Paso Flores 124.40 150 PKP **PKiKP 03 20 20.1 +0.8**
comp=Z,2.5nm,0.9s,baz=213,slow=4.9,SNR=5.3
OXF Oxford 124.45 52 P **PKPdf 03 20 19.0 -0.1**
baz=288
WVT Waverly 125.13 50 P **PKPdf 03 20 20.1 -0.3**
baz=291
O48B Farmland 125.45 44 P **PKPdf 03 20 20.9 0.0**
baz=296,SNR=5.8
WCI Wyandotte Cave 125.48 47 PKPdf **PKPdf 03 20 20.6 -0.4**
WCI Wyandotte Cave 125.48 47 PKIKP **PKPdf 03 20 20.6 -0.4**
WCI Wyandotte Cave 125.48 47 P **PKPdf 03 20 21.1 +0.1**
baz=293
AAM Ann Arbor 125.54 41 P **PKPdf 03 20 21.3 +0.3**
baz=298
SCHQ Schefferville 125.96 21 PKPdf **PKPdf 03 20 20.9 -0.5**
SCHQ Schefferville 125.96 21 PKP **PKPdf 03 20 21.6 +0.2**
comp=Z,6.7nm,0.8s,baz=344,slow=1.8,SNR=12
P49A Miami Univ. Ec 126.07 45 P **PKPdf 03 20 22.0 -0.1**
baz=296,SNR=5.6
LRAL Lakeview Retre 126.82 53 P **PKPdf 03 20 23.7 0.0**
baz=289
ACSO Alum Creek Sta 126.96 43 P **PKPdf 03 20 23.9 +0.2**
baz=298
BRAL Brewton 127.37 55 P **PKPdf 03 20 24.8 0.0**
baz=288
PETF Flores 127.69 73 IAMs_20 IAMs_20 04 06 46.6
comp=Z,614nm,20.0s
P52A Corning 127.81 43 P **PKPdf 03 20 25.7 +0.3**
baz=298
M53A WI Miller and 127.91 41 P **PKPdf 03 20 25.7 +0.1**
baz=300
KEST Kesra 127.93 311 PKP **PKPdf 03 20 26.4 +0.5**
comp=Z,9.4nm,1.0s,baz=311,slow=5.1,SNR=6.3
ERPA Erie 128.00 40 P **PKPdf 03 20 26.1 +0.4**
baz=302
O53A New Philadelph 128.14 42 P **PKPdf 03 20 26.5 +0.4**
baz=299
TZTN Tazewell 128.16 48 P **PKPdf 03 20 26.4 +0.2**
baz=294
MCWV Mont Chateau 129.35 42 P **PKPdf 03 20 28.4 +0.1**
baz=300
VA01 Torpederas 129.37 142 IAMs_20 IAMs_20 04 09 21.5
comp=Z,498nm,18.0s
GOGA Godfrey 129.46 51 P **PKPdf 03 20 28.8 +0.1**
baz=292
MT03 Universidad Ad 129.72 144 IAMs_20 IAMs_20 04 03 42.5
comp=Z,446nm,18.0s
LONY Lake Ozonia 129.79 34 P **PKPdf 03 20 29.3 +0.2**
baz=309
TIGA Tifton 130.08 54 P **PKPdf 03 20 30.1 +0.1**
baz=291
SSPA Standing Stone 130.12 40 PKPdf **PKPdf 03 20 27.8 -2.0**
SSPA Standing Stone 130.12 40 P **PKPdf 03 20 29.8 +0.1**
baz=303
BLA Blacksburg 130.13 45 P **PKPdf 03 20 30.0 +0.1**
baz=298
J58A Remsen 130.16 36 **PKPdf 03 20 28.7 -1.1**
KMSC Kings Mountain 130.38 48 P **PKPdf 03 20 30.8 +0.3**
baz=295
BINY Binghamton 130.43 37 P **PKPdf 03 20 30.5 +0.2**
baz=306
LBNH Lisbon 131.49 33 P **PKPdf 03 20 32.5 +0.2**
baz=312
CBN Corbin Frederi 131.74 43 P **PKPdf 03 20 33.0 +0.1**
baz=301
PKME Peaks-Kenny Pk 132.16 30 P **PKPdf 03 20 33.7 +0.2**
baz=315
L61B Northampton 132.23 35 P **PKPdf 03 20 34.1 +0.3**
baz=309
DUNO Dulce Nombre, 132.33 82 IAMs_20 IAMs_20 04 10 54.1
comp=Z,480nm,21.0s
PAL Palisades 132.40 37 P **PKPdf 03 20 34.4 +0.4**
baz=307
HRV Adam Dziewonsk 132.83 34 P **PKPdf 03 20 35.2 +0.4**
baz=311
CNNC Cliffs of the 132.86 46 P **PKPdf 03 20 35.4 +0.4**
baz=299
DWPF Disney Wildern 132.97 57 P **PKPdf 03 20 35.9 +0.4**
baz=290
ESDC Sonseco Array 134.97 323 PKP **PKPdf 03 20 38.3 -0.8**
comp=Z,0.8nm,1.0s,baz=245,slow=9.5,SNR=3.7
MCRA Macar, Loja 136.34 103 **PKPdf 03 20 40.4 -1.9**
TORD Torodi Ar. Bea 140.78 283 IAMs_20 IAMs_20 04 22 27.0
comp=Z,359nm,20.0s
TORD Torodi Ar. Bea 140.78 283 PKhKP PKPpre 03 20 43.7
comp=Z,4.3nm,0.9s,baz=68,slow=5.1,SNR=18
TORD PKP **PKiKP 03 20 53.1 +0.1**
comp=Z,5.8nm,0.9s,baz=110,slow=1.5,SNR=11
CPUP Villa Florida 142.47 150 PKP **PKPdf 03 20 54.4 +1.3**
comp=Z,6.4nm,0.9s,baz=224,slow=2.4,SNR=8.6
ROSC El Rosal 143.31 90 PKP PKPbc 03 20 53.3 +0.9
comp=Z,37nm,0.9s,baz=276,slow=1.8,SNR=23
SDV Santo Domingo 147.02 83 **PKPdf 03 21 01.1 -0.3**
ETMB Extrema 147.31 119 **PKPdf 03 21 02.5 +0.8**
KIC Kosan Boka 147.46 272⇑ *e*PKP2 **PKPbc 03 21 05.2 +0.7**
comp=Z,60nm,0.9s
DBIC Dimbokro 147.57 273 **PKPdf 03 21 02.2 +0.1**
DBIC Dimbokro 147.57 273 PKIKP **PKPdf 03 21 02.3 +0.1**
DBIC Dimbokro 147.57 273 PKPbc **PKPbc 03 21 06.2 +1.4**
comp=Z,39nm,0.9s,baz=96,slow=3.3,SNR=38
LIC Lamto 147.74 272⇑ *e*PKP2 **PKPbc 03 21 05.9 +0.6**
comp=Z,105nm,0.8s
TIC Toumodi 147.74 273⇑ *i*PKP2 **PKiKP 03 21 06.9 -0.4**
comp=Z,55nm,0.9s
SPB Sao Paulo 148.96 162 **PKPdf 03 21 04.0 -0.2**
OBIP Obispado Ponce 149.19 65 PKPdf **PKPdf 03 21 01.2 -3.5**
CELP Cerrillos 149.20 65 **PKPdf 03 21 04.8 +0.1**
GCPR Guaynabo City 149.57 64 PKPdf **PKPdf 03 21 04.1 -1.2**
BAUV El Baul 149.57 83 PKPdf **PKPdf 03 21 02.9 -2.5**
PTLB Pontes e Lacer 149.71 135 PKPdf **PKPdf 03 21 04.1 -1.4**
SAML Samuel 150.35 120 PKPdf **PKPdf 03 21 05.8 -0.9**
SAML Samuel 150.35 120 PKIKP **PKPdf 03 21 05.8 -0.9**
VILB Vilhena 150.56 130 PKPdf **PKPdf 03 21 05.5 -1.5**
BDFB Brasilia 156.04 154 PKP **PKPdf 03 21 17.3 +2.3**
comp=Z,3.7nm,0.9s,baz=158,slow=5.4,SNR=4.2
BDFB PKPab **PKPab 03 21 42.8 +0.8**
comp=Z,4.8nm,0.7s,baz=213,slow=4.0,SNR=5.9
BOAV Boa Vista 156.74 98 PKPdf **PKPdf 03 21 14.5 -1.3**

*IDC **02** 03:06:05.0±1.3,5.74S×142.45E,h0km,mb4.2/4, mbtmp4.3/6,ML2.2/1,Error ellipse: s-maj=47.4km s-min=32.0km az=67.0*
ISC 02 03:06:04.6±1.0,6.1S±0.2×143.2E±0.2,h10km,n6,σ2.8s17/7, mb4.2/4,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.13**	**130**	Pn	**Pb**	**03 07 35.7**	**+1.3**
	3.7nm,0.3s,baz=176,slow=20,SNR=1.4						
PMG				Sn	**Sb**	**03 08 34.3**	**-1.8**
	4.8nm,0.3s,baz=214,slow=17,SNR=1.6						
	88nm,1.0s						
ASAR	**Alice Springs**	**19.58**	**206**	P	**Pn**	**03 10 34.4**	**+0.1**
	18nm,0.8s,baz=33,slow=12,SNR=1.9						
MKAR	**Makanchi Array**	**75.20**	**322**	P	**P**	**03 17 47.0**	**-0.5**
	1.6nm,0.8s,baz=114,slow=6.8,SNR=2.4						
	1.6nm,0.8s						
KURBB	**Kurchatov Arra**	**79.07**	**324**	P	**P**	**03 18 05.4**	**-3.6**
	0.9nm,0.9s,baz=126,slow=4.5,SNR=1.6						
	0.9nm,0.9s						
BVAR	**Borovoye Array**	**84.64**	**325**	P	**P**	**03 18 38.2**	**-0.2**
	2.5nm,0.6s,baz=102,slow=4.2,SNR=4.5						
	2.6nm,0.6s						
ILAR	**Eielson Array**	**87.12**	**24**	P	**P**	**03 18 51.0**	**+0.6**
	1.4nm,0.8s,baz=254,slow=4.4,SNR=5.6						
	1.4nm,0.8s						

*AEIC **02** 03:08:15.0±1.1,55.51N±0.07×158.75W±0.07,h5km±7km, ML3.2,ML3.3/24(NEIC),Error ellipse: s-maj=10.6km s-min=5.9km az=168.0*
*NEIC **02** 03:08:15.8±0.9,55.53N±0.07×158.83W±0.08,h2km±10km, Error ellipse: s-maj=11.3km s-min=5.9km az=160.0*
ISC 02 03:08:15.4±1.5,55.52N±0.04×158.78W±0.04,h2km±13km, n84,σ0.963/83,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNKR	**Veniaminof 5**	**0.61**	**327**		**Pg**	**03 08 27.1**	**+0.1**
VNKR					**Sb**	**03 08 38.0**	**+0.2**
CHGN	**Chignik**	**0.81**	**15**		**Pg**	**03 08 30.2**	**-0.6**
CHGN	**Chignik**	**0.81**	**15**	P	**Pg**	**03 08 30.2**	**-0.6**
	baz=193						
CHNA	**Chernabura Isl**	**0.83**	**214**	P	**Pg**	**03 08 31.6**	**+0.2**
	baz=35						
CHNA				S	**Sb**	**03 08 43.4**	**-0.8**
	baz=35						
CNBA	**Chernabura Isl**	**0.84**	**214**		**Pg**	**03 08 31.6**	**+0.1**
CNBA					**Sb**	**03 08 43.4**	**-1.0**
CNBA	**Chernabura Isl**	**0.84**	**214**	IAML		03 08 45.6	
	comp=N,1μm,0.4s						
S14K	**Fog Glacier**	**0.88**	**331**	P	**Pg**	**03 08 32.5**	**+0.3**
	baz=150						
VNFG	**Fog Glacier, M**	**0.88**	**331**		**Pg**	**03 08 32.5**	**+0.3**
VNFG	**Fog Glacier, M**	**0.88**	**331**	IAML		03 08 44.2	
	comp=N,732nm,2.5s						
VNFG				IAML		03 08 58.5	
	comp=E,769nm,0.9s						
SDPT	**Sand Point**	**0.98**	**260**		**Pg**	**03 08 33.6**	**-0.6**
SDPT					**Sg**	**03 08 47.3**	**+0.4**
SDPT	**Sand Point**	**0.98**	**260**	P	**Pg**	**03 08 34.1**	**-0.1**
SDPT	**Sand Point**	**0.98**	**260**	P	**Pg**	**03 08 33.6**	**-0.6**
	baz=80						
SDPT				S	**Sg**	**03 08 47.3**	**+0.4**
	baz=80						
ANPB	**Aniakchak Plen**	**1.31**	**12**		**Pg**	**03 08 39.7**	**-0.9**
ANNW	**Aniakchak Nort**	**1.48**	**12**		**Pn**	**03 08 43.0**	**-0.1**
PS1A	**Pavlof South-1**	**1.69**	**268**		**Pn**	**03 08 45.5**	**-0.4**
PVV	**Pavlof Volcano**	**1.72**	**266**		**Pn**	**03 08 45.8**	**-0.5**
PVV					**Sn**	**03 09 08.8**	**+0.1**
R16K	**Pilot Point**	**2.16**	**18**		**Pn**	**03 08 52.7**	**+0.4**
	baz=198						
ISLZ	**Isanotski Laza**	**2.94**	**256**		**Pn**	**03 09 03.0**	**-0.1**
SSLS	**Shishaldin Sou**	**3.10**	**257**		**Pn**	**03 09 05.7**	**+0.3**
Q17K	**Contact Creek**	**3.17**	**29**	P	**Pn**	**03 09 06.5**	**+0.1**
	baz=211						
CNTC	**Contact Creek**	**3.17**	**29**		**Pn**	**03 09 06.5**	**+0.1**
ANCK	**Angle Creek**	**3.23**	**33**		**Pn**	**03 09 08.0**	**+0.8**
OHAK	**Old Harbor**	**3.50**	**59**	Pn	**Pn**	**03 09 11.5**	**+0.9**
OHAK	**Old Harbor**	**3.50**	**59**	P	**Pn**	**03 09 11.6**	**+0.9**
P16K	**Nushagak River**	**3.54**	**7**		**Pn**	**03 09 11.9**	**+0.6**
P16K	**Nushagak River**	**3.54**	**7**	P	**Pn**	**03 09 11.9**	**+0.6**
	baz=187						
O15K	**Ungalikthiuk R**	**3.71**	**352**		**Pn**	**03 09 13.1**	**-0.4**
O15K	**Ungalikthiuk R**	**3.71**	**352**	P	**Pn**	**03 09 13.1**	**-0.4**
	baz=170						
O14K	**Tigyukauivet M**	**3.97**	**341**		**Pn**	**03 09 17.7**	**+0.5**
O14K	**Tigyukauivet M**	**3.97**	**341**	IAML		03 11 41.3	
	comp=E,58nm,3.2s						
O14K	**Tigyukauivet M**	**3.97**	**341**	P	**Pn**	**03 09 17.7**	**+0.5**
	baz=159						
O16K	**Kokwok River B**	**4.10**	**5**		**Pn**	**03 09 18.8**	**-0.2**
O16K	**Kokwok River B**	**4.10**	**5**	IAML		03 10 25.4	
	comp=E,40nm,3.2s						
O16K				IAML		03 10 29.5	
	comp=N,32nm,3.2s						
O16K	**Kokwok River B**	**4.10**	**5**	P	**Pn**	**03 09 18.8**	**-0.2**
	baz=185						
KDAK	**Kodiak Island**	**4.10**	**54**		**Pn**	**03 09 19.9**	**+0.9**
KDAK	**Kodiak Island**	**4.10**	**54**	IAML		03 10 31.1	
	comp=N,36nm,2.8s						
KDAK				IAML		03 11 43.8	
	comp=N,41nm,3.8s						
P18K	**Big Mountain,**	**4.33**	**25**		**Pn**	**03 09 22.2**	**0.0**
P18K	**Big Mountain,**	**4.33**	**25**	IAML		03 10 03.2	
	comp=E,24nm,3.5s						
P18K				IAML		03 10 32.3	
	comp=N,28nm,3.0s						
P18K	**Big Mountain,**	**4.33**	**25**	P	**Pn**	**03 09 22.2**	**0.0**
	baz=208						
O17K	**Koliganek Bris**	**4.36**	**11**		**Pn**	**03 09 22.6**	**+0.1**
O17K	**Koliganek Bris**	**4.36**	**11**	P	**Pn**	**03 09 22.6**	**+0.1**
	baz=192						
N14K	**Kuskokwak Cree**	**4.68**	**342**		**Pn**	**03 09 27.4**	**+0.5**
N14K	**Kuskokwak Cree**	**4.68**	**342**	P	**Pn**	**03 09 27.4**	**+0.5**
	baz=159						
N15K	**Kwethluk River**	**4.71**	**352**		**Pn**	**03 09 28.4**	**+1.0**
N15K	**Kwethluk River**	**4.71**	**352**	P	**Pn**	**03 09 28.4**	**+1.0**
	baz=171						
UNV	**Unalaska Valle**	**4.79**	**253**	P	**Pn**	**03 09 25.8**	**-2.6**
N16K	**Nishlik Lake**	**4.96**	**0**		**Pn**	**03 09 31.5**	**+0.6**
N16K	**Nishlik Lake**	**4.96**	**0**	P	**Pn**	**03 09 31.5**	**+0.6**
	baz=180						
N17K	**Nushagak Hills**	**5.09**	**9**		**Pn**	**03 09 32.7**	**+0.1**
N17K	**Nushagak Hills**	**5.09**	**9**	IAML		03 10 40.4	
	comp=N,20nm,3.5s						
N17K				IAML		03 10 44.0	
	comp=E,29nm,3.9s						
N17K	**Nushagak Hills**	**5.09**	**9**	P	**Pn**	**03 09 32.7**	**+0.1**
	baz=190						
M15K	**Kasigluk River**	**5.28**	**350**		**Pn**	**03 09 35.5**	**+0.3**
M15K	**Kasigluk River**	**5.28**	**350**	P	**Pn**	**03 09 35.5**	**+0.3**
	baz=168						
M13K	**Dall Lake**	**5.47**	**336**		**Pn**	**03 09 37.9**	**+0.2**
M13K	**Dall Lake**	**5.47**	**336**	P	**Pn**	**03 09 37.9**	**+0.2**
	baz=152						
M14K	**Bethel**	**5.51**	**344**		**Pn**	**03 09 38.5**	**+0.2**
M14K	**Bethel**	**5.51**	**344**	P	**Pn**	**03 09 38.5**	**+0.2**
	baz=161						
M16K	**Timber Creek**	**5.52**	**359**		**Pn**	**03 09 38.8**	**+0.4**
M16K	**Timber Creek**	**5.52**	**359**	P	**Pn**	**03 09 38.8**	**+0.4**
	baz=179						
SVW2	**Sparrevohn**	**5.84**	**15**	P	**Pn**	**03 09 43.9**	**+1.0**
M17K	**Holitna River**	**5.94**	**6**		**Pn**	**03 09 44.6**	**+0.5**
M17K	**Holitna River**	**5.94**	**6**	P	**Pn**	**03 09 44.6**	**+0.5**
	baz=187						
M18K	**Stony River**	**6.18**	**13**		**Pn**	**03 09 48.4**	**+0.9**
M18K	**Stony River**	**6.18**	**13**	P	**Pn**	**03 09 48.4**	**+0.9**
	baz=196						
L14K	**Kuka Creek**	**6.18**	**342**		**Pn**	**03 09 47.5**	**-0.1**
L14K	**Kuka Creek**	**6.18**	**342**	P	**Pn**	**03 09 47.4**	**-0.1**
	baz=159						
L16K	**Owhat River**	**6.22**	**357**		**Pn**	**03 09 49.0**	**+1.0**
L16K	**Owhat River**	**6.22**	**357**	P	**Pn**	**03 09 49.0**	**+1.0**
	baz=176						
L15K	**Ungalak Mounta**	**6.33**	**348**		**Pn**	**03 09 49.3**	**-0.3**
L15K	**Ungalak Mounta**	**6.33**	**348**	P	**Pn**	**03 09 49.3**	**-0.3**
	baz=166						
L17K	**Donlin**	**6.64**	**2**		**Pn**	**03 09 53.8**	**0.0**
L17K	**Donlin**	**6.64**	**2**	P	**Pn**	**03 09 53.8**	**0.0**
	baz=182						
L18K	**Granite Mounta**	**6.80**	**8**		**Pn**	**03 09 56.1**	**+0.1**
L18K	**Granite Mounta**	**6.80**	**8**	P	**Pn**	**03 09 56.1**	**+0.1**
	baz=190						
K15K	**Wolf Creek Mou**	**6.94**	**349**		**Pn**	**03 09 59.0**	**+1.1**
K15K	**Wolf Creek Mou**	**6.94**	**349**	P	**Pn**	**03 09 59.0**	**+1.1**
	baz=167						
L19K	**White Mountain**	**6.98**	**15**		**Pn**	**03 09 59.4**	**+0.9**
L19K	**White Mountain**	**6.98**	**15**	P	**Pn**	**03 09 59.4**	**+0.9**
	baz=198						
K17K	**Iditarod**	**7.22**	**2**		**Pn**	**03 10 02.1**	**+0.3**
K17K	**Iditarod**	**7.22**	**2**	P	**Pn**	**03 10 02.1**	**+0.3**
	baz=182						
TTA	**Tatalina**	**7.56**	**10**	P	**Pn**	**03 10 07.3**	**+0.7**
J19K	**Poorman**	**8.64**	**9**		**Pn**	**03 10 20.8**	**-0.6**
J19K	**Poorman**	**8.64**	**9**	P	**Pn**	**03 10 20.8**	**-0.6**
	baz=192						

*IDC **02** 03:11:53.1±1.0,5.96S×142.68E,h0km,mb4.0/8, mbtmp4.1/10,ML2.1/1,Error ellipse: s-maj=42.8km s-min=23.6km az=73.0*
*NEIC **02** 03:12:01.6±1.7,4.9S±0.1×143.0E±0.1,h10km±1km, mb4.6/22,Error ellipse: s-maj=22.8km s-min=21.0km az=212.0*
ISC 02 03:11:54.7±0.7,6.07S±0.09×142.6E±0.1,h10km,n38, σ0.983/35,mb4.5/17,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.58**	**127**	Pn	**Pn**	**03 13 19.7**	**+2.0**
	3.3nm,0.3s,baz=311,slow=9.3,SNR=3.0						
PMG				Sn	**Sn**	**03 14 20.3**	**-1.7**
	4.3nm,0.3s,baz=323,slow=20,SNR=5.7						
	14nm,0.5s						
RABL	**Rabaul**	**9.68**	**79**		**Pn**	**03 14 14.1**	**-0.1**
WRAB	**Tennant Creek**	**15.96**	**210**		P	03 16 03.1	+20
WRAB				IAmb	IAmb	03 16 03.4	
	comp=Z,126nm,1.4s						
WB2	**Warramunga Arr**	**15.97**	**210**		P	03 16 03.6	+20
WB2				IAmb	IAmb	03 16 10.4	
	comp=Z,34nm,1.1s						
WRA	**Warramunga Arr**	**15.97**	**210**	Pn	**Pn**	**03 15 37.6**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=22,slow=12,SNR=1.1						
WRA				Lg	Lg	03 20 29.8	
	baz=30,slow=31						
ASAR	**Alice Springs**	**19.41**	**205**	P	**P**	**03 16 22.1**	**+1.0**
	comp=Z,6.9nm,0.8s,baz=32,slow=11,SNR=6.1						
ARMA	**Armidale**	**25.66**	**162**	P	P	03 17 40.2	+15
KSRS	**Korea Array**	**45.42**	**344**	P	**P**	**03 20 13.6**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=164,slow=9.0,SNR=2.6						
	comp=Z,0.9nm,0.5s						
SONM	**Songino Array**	**62.43**	**333**	P	**P**	**03 22 19.2**	**+1.1**
SONM	**Songino Array**	**62.43**	**333**	P	**P**	**03 22 17.3**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=145,slow=5.3,SNR=3.2						
	comp=Z,0.6nm,0.8s						
MKAR	**Makanchi Array**	**74.82**	**322**	P	**P**	**03 23 35.8**	**+0.4**
**MKA

J16K	Anvik River	81.22	22	P	P	03 24 11.4	+0.9
N18K	Kilae Creek	81.82	26	P	P	03 24 14.2	+0.4
P19K	Oil Pt	82.54	27	P	P	03 24 17.6	-0.1
L19K	White Mountain	82.96	25	P	P	03 24 19.8	+0.1
L19K				IAmb	IAmb	03 24 28.2	
	comp=Z,2.7nm,1.1s						
CNPM	China Poot	83.41	28	P	P	03 24 21.7	-0.4
J19K	Poorman	83.50	23	P	P	03 24 22.9	+0.5
K20K	Telida	83.82	24	P	P	03 24 24.0	-0.1
K20K				IAmb	IAmb	03 24 31.0	
	comp=Z,11nm,1.5s						
QSPA	South Pole Qui	83.90	180	P	P	03 24 37.9	+13
QSPA	South Pole Qui	83.90	180	P	P	03 24 24.9	+0.2
	comp=Z,2.9nm,1.0s,baz=354,slow=22,SNR=3.4						
	comp=Z,2.9nm,1.0s						
J20K	Nowinta River	84.16	23	P	P	03 24 26.6	+0.8
J20K				IAmb	IAmb	03 24 27.7	
	comp=Z,2.3nm,0.9s						
SKT	Skwentna	84.28	26	P	P	03 24 26.2	-0.3
BVAR	Borovoye Array	84.29	325	P	P	03 24 27.1	+0.4
	comp=Z,3.7nm,0.8s,baz=117,slow=5.0,SNR=12						
	comp=Z,3.7nm,0.8s						
E19K	Redstone River	84.61	20	P	P	03 24 28.6	+0.6
E19K				IAmb	IAmb	03 24 37.3	
	comp=Z,5.8nm,1.4s						
CAST	Castle Rocks	84.65	24	P	P	03 24 27.9	-0.5
RC01	Rabbit Creek A	84.72	27	P	P	03 24 28.4	-0.3
RC01				IAmb	IAmb	03 24 30.6	
	comp=Z,4.5nm,1.1s						
D19K	Kuna River	84.84	19	P	P	03 24 29.6	+0.3
IMAR	Indian Mountai	85.12	22	P	P	03 24 30.9	+0.2
SML	Sawmill	85.61	26	P	P	03 24 33.1	-0.1
RND	Reindeer	85.98	25	P	P	03 24 34.6	-0.5
RND				IAmb	IAmb	03 24 40.3	
	comp=Z,3.2nm,0.9s						
SCM	Sheep Creek Mo	86.06	27	P	P	03 24 35.6	0.0
ILAR	Eielson Array	87.28	24	P	P	03 24 40.1	-1.2
	comp=Z,1.4nm,0.7s,baz=259,slow=4.9,SNR=23						
	comp=Z,1.4nm,0.7s						

MOS ***02*** *03:14:32.7±0.7,5.°99S×142.°53E,h11km,mb5.0/24,Error ellipse: s-maj=11.3km s-min=6.8km az=113.3*

IDC ***02*** *03:14:32.7±0.6,5.°96S×142.°71E,h0km,mb4.7/14, mbtmp4.8/17,ML3.2/2,MS4.1/2,Error ellipse: s-maj=26.4km s-min=13.8km az=80.0*

BJI ***02*** *03:14:32.3±0.0,6.°13S×143.°13E,h20km,mb4.8/53, mB5.4/17,Ms4.9/4,Ms7 4.6/6*

NEIC ***02*** *03:14:34.1±1.1,6.°14S±0.°08×142.°62E±0.°08,h10km±1km, mb5.1/111,Error ellipse: s-maj=14.0km s-min=13.0km az=119.0*

DJA ***02*** *03:14:36.9±2.0,6.°S±3.°×14.°2E±.°,h18km±17km,M5.2/19, mB5.4/1,mb5.0/19,MLv5.3/5,Mw(mB)4.8/1*

ISC 02 03:14:34.3±0.4,6.°18S±0.°05×142.°57E±0.°05,h10km,n233, σ1°59/238,mb5.0/110,MS4.5/3,14C-2D,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	Tabubil	1.61	304	P	Pn	03 15 03.1	+0.2
MMPI	Merauke	3.14	223	P	Pn	03 15 24.8	+0.9
GENI	Genyem	4.29	326	P	Pn	03 15 41.9	+2.2
GENI	Genyem	4.29	326	P	Pn	03 15 41.1	+1.4
PMG	Port Moresby	5.57	125	Pn	Pn	03 15 55.6	-1.7
PMG	Port Moresby	5.57	125	P	Pn	03 15 58.4	+1.1
PMG	Port Moresby	5.57	125	*ce*P	Pn	03 15 59.1	+1.8
PMG				pmax	pmax		
	comp=Z,50nm,0.6s						
PMG	Port Moresby	5.57	125	Pn	Pn	03 15 58.6	+1.3
	comp=Z,27nm,0.3s,baz=292,slow=11,SNR=24						
PMG				Sn	Sn	03 17 02.8	+1.4
	comp=Z,50nm,0.3s,baz=270,slow=20,SNR=12						
PMG				LR	LR	03 18 52.9	
	comp=Z,1μm,19.5s,baz=309,slow=47						
	comp=Z,91nm,0.5s						
SMPI	Sarmi	5.67	317	P	Pn	03 16 00.4	+1.8
	comp=Z,210nm,1.2s,comp=Z,1.4nm						
MANU	Manus Island	6.31	50	Pn	Pn	03 16 06.3	-1.2
COEN	Coen	7.75	176	Pn	Pn	03 16 28.1	+0.7
FAKI	Fak Fak	10.78	287	Pn	Pn	03 17 08.1	-0.8
FAKI	Fak Fak	10.78	287	P	Pn	03 17 09.5	+0.6
	comp=Z,89nm,0.8s						
SAUI	Saumlaki	11.32	260	Pn	Pn	03 17 17.4	+1.1
SAUI	Saumlaki	11.32	260	P	Pn	03 17 14.8	-1.5
	comp=Z,814nm,1.0s						
KDU	Kakadu	11.87	236	P	Pn	03 17 24.4	+0.6
SWI	Sorong	12.46	295	P	Pn	03 17 30.9	-0.9
SWI				pmax	pmax		
	comp=Z,66nm,1.2s						
SWI	Sorong	12.46	295	P	Pn	03 17 32.9	+1.1
	comp=Z,65nm,1.1s						
MTN	Manton Dam	13.07	239	Pn	Pn	03 17 39.5	-0.8
MTN	Manton Dam	13.07	239	P	Pn	03 17 41.6	+1.3
DRS	Darwin Rock St	13.08	241	P	Pn	03 17 40.7	+0.4
CTA	Charters Tower	14.28	166	Pn	Pn	03 18 00.7	+3.8
	comp=Z,0.1nm,0.3s,baz=214,slow=18,SNR=0.8						
	comp=Z,12nm,1.1s						
QIS	Mount Isa	14.58	191	P	Pn	03 18 01.5	+0.6
NLAI	Namlea	15.69	280	P	Pn	03 18 16.7	+1.1
	comp=Z,18nm,0.5s						
WR0	Warramunga Arr	15.76	209	Pn	Pn	03 18 15.7	-0.9
WRAB	Tennant Creek	15.83	210	P	Pn	03 18 15.9	-1.7
WRAB	Tennant Creek	15.83	210	P	Pn	03 18 18.6	+1.1
WRAB				pmax	pmax		
	comp=Z,67nm,1.0s						
WB2	Warramunga Arr	15.84	209	Pn	Pn	03 18 14.9	-2.7
WRA	Warramunga Arr	15.85	210	Pn	Pn	03 18 16.4	-1.2
	comp=Z,4.4nm,0.3s,baz=30,slow=13,SNR=14						
WRA				Sn	Sn	03 21 08.2	-5.4
	comp=Z,1.5nm,0.3s,baz=32,slow=24,SNR=3.0						
WRA				Lg	Lg	03 23 04.0	
	comp=Z,1.9nm,0.3s,baz=30,slow=30,SNR=8.3						
KNRA	Kununurra	16.50	234	Pn	Pn	03 18 24.9	-1.2
KNRA				IAmb	IAmb	03 18 31.7	
	comp=Z,186nm,1.1s						
KNRA	Kununurra	16.50	234	P	Pn	03 18 25.5	-0.6
SOEI	Soe	18.46	258		Pn	03 18 51.9	+1.2
SOEI	Soe	18.46	258	P	Pn	03 18 52.3	+1.6
SOEI	Soe	18.46	258	P	Pn	03 18 50.9	+0.2
	comp=Z,310nm,1.2s						
AS31	Alice Springs	19.28	205		Pn	03 19 02.1	+1.7
ASAR	Alice Springs	19.28	205		P	03 19 00.1	+0.7
ASAR	Alice Springs	19.28	205	P	Pn	03 19 02.3	+1.8
	comp=Z,156nm,1.0s,baz=33,slow=9.9,SNR=84						
ASAR				S	Sn	03 22 31.3	-5.5
	comp=Z,7.4nm,0.7s,baz=24,slow=28,SNR=4.9						
ASAR				Lg	Lg	03 24 55.1	
	comp=Z,0.3nm,0.3s,baz=23,slow=29,SNR=1.7						
ASAR				LR	LR	03 27 30.7	
	comp=Z,1μm,20.8s,baz=356,slow=40						
KMSI	Cibinong	19.73	289	P	Pn	03 19 05.0	-0.8
	comp=Z,173nm,0.9s						
FITZ	Fitzroy Crossi	20.32	233		P	03 19 11.9	+1.1
LUWI	Luwuk	20.40	284	P	Pn	03 19 14.7	+1.0
GTOI	Gorontalo	20.66	288	P	Pn	03 19 15.7	-1.1
	comp=Z,31nm,0.9s						
EDFI	Ende, Flores	20.85	262	P	P	03 19 15.5	-1.2
	comp=Z,41nm,1.3s						
BKSI	Bulukumba	22.35	271	P	P	03 19 32.9	+0.2
	comp=Z,91nm,0.9s						
KAPI	Kappang	22.73	272	P	P	03 19 35.9	-0.9
KAPI				IAmb	IAmb	03 19 41.3	
	comp=Z,96nm,1.1s						
KAPI	Kappang	22.73	272	P	P	03 19 35.9	-0.9
KAPI				pmax	pmax		
	comp=Z,96nm,1.1s						
TTSI	Tana Toraja	22.88	277	P	P	03 19 47.4	+9.0
TOLI2	Tolitoli	22.92	288	P	P	03 19 38.1	-0.7
PLAI	Plampang	24.71	262	P	P	03 19 55.2	-0.9
STKA	Stephens Creek	25.58	182	P	P	03 20 05.2	+1.4
	comp=Z,12nm,0.8s,baz=2.4,slow=10,SNR=6.5						
	comp=Z,12nm,0.8s						
MJAR	Matsushiro Arr	42.69	355	P	P	03 22 29.4	-2.1
	comp=Z,4.5nm,0.7s,baz=180,slow=8.4,SNR=10						
	comp=Z,4.5nm,0.7s						
NJ2	Nanjing	44.23	331	*e*P	P	03 22 45.3	+1.4
NJ2				pmax	pmax		
	comp=Z,14nm,0.7s						
RPSI	Rantau Prapat	44.46	280	P	P	03 22 45.6	-0.5
PSI	Prapat	44.48	280	P	P	03 22 45.7	-0.8
PSI				pmax	pmax		
	comp=Z,21nm,1.2s						
KSRS	Korea Array	45.51	344	P	P	03 22 52.9	-1.1
	comp=Z,4.9nm,0.6s,baz=165,slow=9.2,SNR=15						
	comp=Z,4.9nm,0.6s						

ENH	Enshi	48.15	321	P	P	03 23 14.8	-0.2
ENH				IAmb	IAmb	03 23 16.0	
	comp=Z,12nm,0.9s						
PHRA	Phrae	48.41	301	P	P	03 23 15.9	-1.2
CRAI	Chiangrai	49.08	303	P	P	03 23 21.5	-0.7
LYN	LuoYang	49.48	327	⇑P	P	03 23 25.1	0.0
LYN				pP	sP	03 23 29.9	+0.1
LYN				sP	pP	03 23 33.0	+4.6
LYN				pmax	pmax		
	comp=Z,39nm,0.9s						
CMAR	Chiang Mai Arr	49.49	301	P	P	03 23 26.0	+0.6
	comp=Z,2.8nm,0.4s,baz=118,slow=6.2,SNR=14						
	comp=Z,2.8nm,0.4s						
CHTO	Chiang Mai	49.65	301	P	P	03 23 25.2	-1.4
CHTO	Chiang Mai	49.65	301	P	P	03 23 25.2	-1.4
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KMI	Kunming	49.68	310	⇑P	P	03 23 29.6	+2.6
KMI				pmax	pmax		
	comp=Z,20nm,1.4s						
VLA	Vladivostok	50.01	350	*i* P	P	03 23 28.8	-0.1
VLA				pmax	pmax		
	comp=Z,23nm,0.8s						
HNS	HongShan	50.55	331	⇑P	P	03 23 33.0	-0.1
HNS				pmax	pmax		
	comp=Z,16nm,1.0s						
USRK	Ussuriysk Ar.	51.05	350	P	P	03 23 35.7	-1.0
	comp=Z,9.5nm,0.8s,baz=162,slow=7.6,SNR=15						
	comp=Z,9.5nm,0.8s						
XAN	Xi'an	51.11	324	⇑P	P	03 23 38.0	+0.5
XAN				pP	sP	03 23 42.2	0.0
XAN				pmax	pmax		
	comp=Z,13nm,1.1s						
XAN				pmax	pmax		
	comp=Z,410nm,5.5s						
PZH	PanZhiHua	51.19	311	P	P	03 23 39.9	+1.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BJI	Beijing	52.03	334	P	P	03 23 43.7	-0.4
BJI				pmax	pmax		
	comp=Z,4.0nm,1.3s						
CN2	Changchun	52.10	344	P	P	03 23 45.5	+0.9
CD2	Chengdu	52.32	317	*e*P	P	03 23 50.0	+3.4
HHC	Hu-ho-hao-te	54.77	331	*e*P	P	03 24 05.1	+0.6
HHC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,330nm,5.3s						
HHC				LR	LR		
	comp=Z,340nm,13.0s						
HHC				LR	LR		
	comp=Z,430nm,13.8s						
BTO	Baotou	55.33	330	*e*P	P	03 24 12.8	+4.3
BTO				pP	sP	03 24 17.4	+4.2
BTO				sP	pP	03 24 19.7	+7.8
BTO				PP	PP	03 26 19.5	+7.1
BTO				S	S	03 32 00.7	+7.8
BTO				pmax	pmax		
	comp=Z,15nm,0.9s						
BTO				pmax	pmax		
	comp=Z,730nm,6.4s						
BTO				LR	LR		
	comp=Z,810nm,5.7s						
BTO				LR	LR		
	comp=Z,460nm,4.9s						
BTO				LR	LR		
	comp=Z,630nm,7.3s						
LZH	Lanzhou	55.55	322	*e*P	P	03 24 11.8	+1.5
LZH				sP	sP	03 24 17.9	+2.9
LZH				pmax	pmax		
	comp=Z,27nm,1.0s						
KLR	Kul'dur	55.98	351	P	P	03 24 11.6	-1.2
	comp=Z,5.6nm,0.7s,baz=166,slow=5.1,SNR=17						
	comp=Z,5.6nm,0.7s						
HEH	HeiHe	57.72	349	*e*P	P	03 24 24.5	-0.7
HEH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HEH				pmax	pmax		
	comp=Z,600nm,4.9s						
GTA	Gaotai	60.13	323	*e*P	P	03 24 42.5	+0.1
GTA				pP	sP	03 24 48.0	+0.9
GTA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GTA				LR	LR		
	comp=Z,140nm,17.9s						
GTA				LR	LR		
	comp=Z,250nm,17.5s						
GTA				LR	LR		
	comp=Z,300nm,17.5s						
PEA0B	Petropavlovsk-	60.44	10	*ce*P	P	03 24 43.5	-0.5
PETK	Petropavlovsk-	60.44	10	P	P	03 24 42.2	-1.8
PETK	Petropavlovsk-	60.44	10	P	P	03 24 42.6	-1.4
	comp=Z,18nm,0.9s,baz=164,slow=5.3,SNR=10						
	comp=Z,18nm,0.9s						
ZEA	Zeya	61.07	350	*e*P	P	03 24 47.3	-1.0
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GOMU	GeErMu	61.45	317	P	P	03 24 53.0	+1.3
GOMU				pP	sP	03 24 57.9	+1.4
GOMU				sP	pP	03 25 01.1	+5.9
GOMU				PP	PP	03 27 09.2	+2.0
GOMU				S	S	03 33 20.0	+6.5
GOMU				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ULN	Ulaanbaatar	62.23	334	P	P	03 24 55.3	-1.1
ULN				IAmb	IAmb	03 24 57.8	
	comp=Z,11nm,1.2s						
ULN	Ulaanbaatar	62.23	334	*ce*P	P	03 24 56.4	-0.1
ULN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SONM	Songino Array	62.50	333	P	P	03 24 57.8	-0.4
	comp=Z,2.5nm,0.9s,baz=154,slow=6.7,SNR=11						
	comp=Z,2.5nm,0.9s						
ZAK	Zakamensk	65.76	334	*e*P	P	03 25 18.2	-1.4
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MA2	Magadan	65.87	5	*ce*P	P	03 25 19.4	-0.5
MA2				pmax	pmax		
	comp=Z,25nm,2.5s						
YAK	Yakutsk	68.74	354	*ce*P	P	03 25 38.3	+0.3
YAK				pmax	pmax		
	comp=Z,12nm,0.7s						
SEY	Seymchan	69.32	5	*ce*P	P	03 25 41.2	-0.5
SEY				pmax	pmax		
	comp=Z,16nm,2.5s						
WMQ	Urumqi	70.10	321	*e*P	P	03 25 48.3	+1.3
WMQ				pP	sP	03 25 54.9	+3.1
WMQ				PcP	PcP	03 26 10.8	+1.8
WMQ				S	S	03 34 54.7	-3.5
WMQ				pmax	pmax		
	comp=Z,26nm,1.1s						
WMQ				LR	LR		
	comp=Z,170nm,24.1s						
DGZ	Jazzator, Alta	73.28	326	*i* P	P	03 26 06.3	+0.2
DGZ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MK31	Makanchi Array	74.87	322	P	P	03 26 14.1	-1.3
MK31	Makanchi Array	74.87	322	*ce*P	P	03 26 14.7	-0.6
MKAR	Makanchi Array	74.87	322	P	P	03 26 14.2	-1.1
MKAR	Makanchi Array	74.87	322	P	P	03 26 14.7	-0.6
	comp=Z,7.6nm,0.8s,baz=108,slow=6.6,SNR=40						
	comp=Z,7.6nm,0.8s						
MAKZ	Makanchi	75.07	322	P	P	03 26 14.4	-2.1
MAKZ	Makanchi	75.07	322	P	P	03 26 14.4	-2.1
MAKZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
TARG	Taragay, Kyrgy	75.73	316	P	P	03 26 19.6	-1.3
TARG	Taragay, Kyrgy	75.73	316	P	P	03 26 19.6	-1.3
TARG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BILL	Bilibino	75.91	9	*i* P	P	03 26 20.6	-0.2
BILL				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KSH	Kashi	76.24	313	P	P	03 26 25.9	+2.4
KSH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ZAA0	Zalesovo Array	76.86	329	P	P	03 26 25.6	-0.9
ZALV	Zalesovo Beam	76.86	329	P	P	03 26 25.3	-1.1
ZALV	Zalesovo Beam	76.86	329	P	P	03 26 25.3	-1.1
ZALV	Zalesovo Beam	76.86	329	P	P	03 26 24.8	-1.6
	comp=Z,2.9nm,0.6s,baz=112,slow=5.0,SNR=13						
	comp=Z,2.9nm,0.6s						
NRN	Naryn	76.89	315	P	P	03 26 26.3	-1.1
NRN	Naryn	76.89	315	P	P	03 26 26.3	-1.1
NRN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BOOM	Boomskoye usch	77.30	316	P	P	03 26 28.2	-1.3
BOOM	Boomskoye usch	77.30	316	P	P	03 26 28.2	-1.3
BOOM				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AAK	Ala-Archa	78.36	316	P	P	03 26 35.0	-0.3
AAK	Ala-Archa	78.36	316	*ce*P	P	03 26 34.5	-0.8
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KURK	Kurchatov	78.75	324	P	P	03 26 36.8	-0.2
KURK	Kurchatov	78.75	324	*ce*P	P	03 26 37.5	+0.4
KURK				pmax	pmax		
	comp=Z,25nm,2.5s						
KURBB	Kurchatov Arra	78.76	324	P	P	03 26 36.2	-0.9
	comp=Z,4.1nm,0.9s,baz=110,slow=4.6,SNR=22						
	comp=Z,4.1nm,0.9s						
ARSB	Arslanbob	78.99	314	P	P	03 26 38.1	-0.8
ARSB	Arslanbob	78.99	314	P	P	03 26 38.1	-0.8
ARSB				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KBL	Kabul	80.07	307	P	P	03 26 43.2	-1.7
KBL	Kabul	80.07	307	P	P	03 26 43.2	-1.7
KBL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GAR	Garm	80.26	311	P	P	03 26 45.1	-0.7
GAR				IAmb	IAmb	03 26 47.0	
	comp=Z,14nm,1.1s						
M16K	Timber Creek	80.81	25	P	P	03 26 47.7	-0.3
M16K				IAmb	IAmb	03 26 49.2	
	comp=Z,27nm,0.9s						
CHGR	Chuyangaron	81.04	311	P	P	03 26 49.4	-0.5
CHGR				IAmb	IAmb	03 26 51.1	
	comp=Z,17nm,0.8s						
CHGR	Chuyangaron	81.04	311	P	P	03 26 49.4	-0.5
CHGR				pmax	pmax		
	comp=Z,17nm,0.8s						
SIMJ	Simiganj	81.15	311	P	P	03 26 49.6	-0.9
KK31	Karatay Array	81.28	315	P	P	03 26 49.7	-1.3
KK31	Karatay Array	81.28	315	P	P	03 26 49.7	-1.3
KK31				pmax	pmax		
	comp=Z,16nm,1.9s						
KKAR	Karatay Array	81.28	315	P	P	03 26 49.8	-1.2
KKAR	Karatay Array	81.28	315	P	P	03 26 49.9	-1.1
KKAR				IAmb	IAmb	03 26 55.1	
	comp=Z,16nm,1.9s						
KKAR	Karatay Array	81.28	315	P	P	03 26 49.9	-1.1
KKAR				pmax	pmax		
	comp=Z,16nm,1.9s						
F15K	North Star Dit	81.29	19	P	P	03 26 50.1	-0.4
N17K	Nushagak Hills	81.31	26	P	P	03 26 50.4	-0.3
N17K				IAmb	IAmb	03 26 52.2	
	comp=Z,16nm,0.9s						
J16K	Anvik River	81.34	23	P	P	03 26 50.6	-0.2
J16K				IAmb	IAmb	03 26 52.4	
	comp=Z,8.5nm,0.7s						
G16K	Koyuk River	81.88	20	P	P	03 26 53.2	-0.4
G16K				IAmb	IAmb	03 26 55.1	
	comp=Z,21nm,1.1s						
K17K	Iditarod	81.94	24	P	P	03 26 53.2	-0.8
N18K	Kilae Creek	81.95	26	P	P	03 26 53.3	-0.8
N18K				IAmb	IAmb	03 26 55.9	
	comp=Z,14nm,0.8s						
SVW2	Sparrevohn	82.28	26	P	P	03 26 55.3	-0.5
N19K	Bonanza Creek	82.62	26	P	P	03 26 56.5	-1.2
N19K				IAmb	IAmb	03 26 58.6	
	comp=Z,19nm,0.9s						
F17K	Baldwin Pennin	82.85	20	P	P	03 26 58.9	+0.2
F17K				IAmb	IAmb	03 26 59.6	
	comp=Z,10nm,0.8s						
J18K	Innoko River	82.94	23	P	P	03 26 57.6	-1.6
J18K				IAmb	IAmb	03 29 26.7	
	comp=Z,40nm,1.9s						
G18K	Tagagawik	83.44	21	P	P	03 27 00.2	-1.6
G18K				IAmb	IAmb	03 27 02.4	
	comp=Z,9.7nm,0.9s						
E18K	Tukpahlearik C	83.60	19	P	P	03 27 02.6	0.0
E18K				IAmb	IAmb	03 27 03.5	
	comp=Z,8.4nm,0.8s						
J19K	Poorman	83.62	23	P	P	03 27 02.2	-0.6
M20K	Styx River	83.68	25	P	P	03 27 02.5	-0.7
M20K				IAmb	IAmb	03 27 04.0	
	comp=Z,13nm,0.8s						
QSPA	South Pole Qui	83.79	180	P	P	03 27 04.0	+0.2
QSPA				IAmb	IAmb	03 27 09.1	
	comp=Z,12nm,1.0s						
QSPA	South Pole Qui	83.79	180	P	P	03 27 04.6	+0.8
	comp=Z,9.1nm,0.9s,baz=346,slow=2.5,SNR=19						
	comp=Z,9.1nm,0.9s						
K20K	Telida	83.94	24	P	P	03 27 03.8	-0.6
K20K				IAmb	IAmb	03 27 05.9	
	comp=Z,10nm,0.8s						
H19K	Roundabout Mou	84.05	21	P	P	03 27 04.6	-0.3
H19K				IAmb	IAmb	03 27 05.9	
	comp=Z,12nm,0.9s						
C18K	Utukok River	84.10	18	P	P	03 27 04.7	-0.5
C18K				IAmb	IAmb	03 27 07.6	
	comp=Z,19nm,1.6s						
G19K	Purcell Mounta	84.12	21	P	P	03 27 04.5	-0.7
G19K				IAmb	IAmb	03 27 06.8	
	comp=Z,8.4nm,0.9s						
J20K	Nowinta River	84.28	23	P	P	03 27 05.3	-0.8
J20K				IAmb	IAmb	03 27 07.2	
	comp=Z,8.1nm,0.8s						
BVAR	Borovoye Array	84.34	325	P	P	03 27 06.0	-0.7
	comp=Z,19nm,0.7s,baz=113,slow=6.0,SNR=48						
	comp=Z,19nm,0.7s						
BRVK	Borovoye	84.41	325	P	P	03 27 05.5	-1.4
BRVK	Borovoye	84.41	325	*ce*P	P	03 27 07.0	0.0
BRVK				pmax	pmax		
	comp=Z,17nm,1.0s						
SUA	Susitna One	84.54	26	P	P	03 27 06.5	-1.1
SUA				IAmb	IAmb	03 27 06.9	
	comp=Z,12nm,0.8s						
O22K	Cooper Landing	84.61	27	P	P	03 27 06.6	-1.2
E19K	Redstone River	84.73	20	P	P	03 27 07.7	-0.7
E19K				IAmb	IAmb	03 27 09.3	
	comp=Z,12nm,0.8s						
CAST	Castle Rocks	84.78	24	P	P	03 27 07.5	-1.2
CAST				IAmb	IAmb	03 27 09.1	
	comp=Z,14nm,1.0s						
C19K	Lookout Ridge	84.83	18	P	P	03 27 08.3	-0.5
C19K				IAmb	IAmb	03 27 11.1	
	comp=Z,15nm,0.8s						
RC01	Rabbit Creek A	84.84	27	P	P	03 27 07.3	-1.7
D19K	Kuna River	84.97	19	P	P	03 27 08.7	-0.8
D19K				IAmb	IAmb	03 27 11.2	
	comp=Z,6.8nm,0.7s						
F20K	Avaraart Lake	85.04	20	P	P	03 27 08.9	-0.9
CUT	Chulitna	85.12	26	P	P	03 27 09.7	-0.7
PMR	Palmer	85.30	26	P	P	03 27 10.5	-0.7
PMR				IAmb	IAmb	03 27 11.0	
	comp=Z,13nm,0.9s						
PMR	Palmer	85.30	26	P	P	03 27 10.5	-0.7
PMR				pmax	pmax		
	comp=Z,13nm,0.9s						
KTH	Kantishna Hill	85.31	24	P	P	03 27 09.3	-2.0
KTH				IAmb	IAmb	03 27 18.7	
	comp=Z,23nm,1.4s						
KNK	Knik Gl

D22K	**Ayikyak River**	**86.90**	**19**	P		**P**	**03 27 18.4**	**-0.6**
D22K				IAmb		IAmb	03 27 20.4	
	comp=Z,6.8nm,0.6s							
G23K	**Bananza Creek**	**86.92**	**22**	P		**P**	**03 27 18.2**	**-1.1**
CCB	**Clear Creek Bu**	**86.99**	**24**	P		**P**	**03 27 17.2**	**-2.3**
COLA	**College**	**87.05**	**24**	P		**P**	**03 27 18.9**	**-0.9**
COLA	**College**	**87.05**	**24**	P		**P**	**03 27 18.9**	**-0.9**
COLA				pmax		pmax		
	comp=Z,12nm,0.4s							
HDA	**Harding Lake**	**87.25**	**24**	P		**P**	**03 27 20.2**	**-0.7**
HDA				IAmb		IAmb	03 27 21.9	
	comp=Z,13nm,1.2s							
H24K	**Noodor Dome**	**87.39**	**23**	P		**P**	**03 27 20.5**	**-1.1**
H24K				IAmb		IAmb	03 27 22.1	
	comp=Z,5.7nm,0.8s							
IL31		**87.40**	**24**	P		**P**	**03 27 19.3**	**-2.3**
IL31				IAmb		IAmb	03 27 20.4	
	comp=Z,10nm,0.7s							
ILAR	**Eielson Array**	**87.40**	**24**	P		**P**	**03 27 19.2**	**-2.3**
	comp=Z,10nm,0.8s,baz=256,slow=5.1,SNR=95							
	comp=Z,10nm,0.8s							
GLB	**Gilahina Butte**	**87.65**	**27**	P		**P**	**03 27 21.4**	**-1.5**
GLB				IAmb		IAmb	03 27 23.3	
	comp=Z,13nm,0.8s							
CRQM	**Cirque**	**87.76**	**28**	P		**P**	**03 27 22.7**	**-1.0**
G24K	**Hadweenzic Riv**	**87.85**	**22**	P		**P**	**03 27 23.3**	**-0.4**
G24K				IAmb		IAmb	03 27 25.3	
	comp=Z,11nm,1.1s							
RIDG	**Independent Ri**	**87.90**	**25**	P		**P**	**03 27 24.0**	**-0.1**
J25K	**Salcha River,**	**87.96**	**24**	P		**P**	**03 27 22.8**	**-1.6**
J25K				IAmb		IAmb	03 27 24.2	
	comp=Z,11nm,0.9s							
C23K	**Itkillik River**	**87.97**	**19**	P		**P**	**03 27 23.9**	**-0.3**
F24K	**Squaw Lake**	**88.00**	**21**	P		**P**	**03 27 23.7**	**-0.8**
F24K				IAmb		IAmb	03 27 25.9	
	comp=Z,12nm,1.0s							
D24K	**Happy Valley**	**88.28**	**19**	P		**P**	**03 27 25.5**	**-0.2**
BARN	**Barnard Glacie**	**88.54**	**28**	P		**P**	**03 27 26.3**	**-1.0**
FYU	**Fort Yukon**	**88.65**	**22**	P		**P**	**03 27 27.2**	**-0.2**
CTGM	**Chitina Glacie**	**88.67**	**28**	P		**P**	**03 27 27.1**	**-0.8**
J26L	**Joseph Creek**	**88.67**	**25**	P		**P**	**03 27 27.0**	**-0.7**
J26L				IAmb		IAmb	03 27 28.3	
	comp=Z,9.0nm,0.8s							
M27K	**Edge Creek, AK**	**88.79**	**27**	P		**P**	**03 27 27.3**	**-1.1**
M27K				IAmb		IAmb	03 27 29.4	
	comp=Z,10nm,0.8s							
L27K	**Beaver Creek,**	**89.00**	**26**	P		**P**	**03 27 28.8**	**-0.5**
L27K				IAmb		IAmb	03 27 30.2	
	comp=Z,7.7nm,0.9s							
BCAR	**Beaver Creek A**	**89.02**	**26**	P		**P**	**03 27 28.9**	**-0.5**
E25K	**Arctic Village**	**89.03**	**21**	P		**P**	**03 27 29.2**	**-0.1**
E25K				IAmb		IAmb	03 27 30.7	
	comp=Z,7.9nm,0.9s							
I26K	**Coal Creek Min**	**89.08**	**24**	P		**P**	**03 27 27.9**	**-1.6**
I26K				IAmb		IAmb	03 30 23.4	
	comp=Z,25nm,1.9s							
K27K	**Chicken**	**89.16**	**25**	P		**P**	**03 27 29.1**	**-0.8**
BMAR	**Burnt Mountain**	**89.17**	**22**	P		**P**	**03 27 29.7**	**-0.3**
EGAK	**Eagle**	**89.74**	**25**	P		**P**	**03 27 31.5**	**-1.2**
EGAK				IAmb		IAmb	03 27 33.3	
	comp=Z,7.8nm,0.8s							
ABKAR	**Akbulak array**	**89.83**	**319**	P		**P**	**03 27 31.9**	**-1.5**
ABKAR	**Akbulak array**	**89.83**	**319**	P		**P**	**03 27 31.7**	**-1.7**
DAWY	**Dawson**	**90.31**	**25**	P		**P**	**03 27 34.7**	**-0.7**
DAWY				IAmb		IAmb	03 27 36.4	
	comp=Z,8.0nm,0.9s							
M29M	**Somme Creek**	**90.36**	**27**	P		**P**	**03 27 35.2**	**-0.5**
M29M				IAmb		IAmb	03 27 36.7	
	comp=Z,7.8nm,0.8s							
I28M	**Miner Creek**	**90.41**	**24**	P		**P**	**03 27 34.8**	**-1.1**
I28M				IAmb		IAmb	03 27 37.2	
	comp=Z,9.1nm,1.1s							
L29M	**L29M**	**90.65**	**27**	P		**P**	**03 27 35.9**	**-1.1**
L29M				IAmb		IAmb	03 27 38.2	
	comp=Z,9.4nm,0.9s							
K29M	**Barlow Dome**	**91.07**	**26**	P		**P**	**03 27 38.2**	**-0.8**
K29M				IAmb		IAmb	03 27 40.0	
	comp=Z,15nm,1.2s							
J30M	**Hart River**	**91.72**	**25**	P		**P**	**03 27 41.3**	**-0.7**
ARU	**Arti**	**91.79**	**326**	*d iP*		**P**	**03 27 40.8**	**-1.5**
ARU				*e*			03 31 20.3	
ARU				S		**SKSac**	**03 38 13.4**	**-1.8**
ARU				SS		**SS**	**03 44 45.3**	**-5.6**
ARU				pmax		pmax		
	comp=Z,2.0nm,0.9s							
I30M	**Mount Dempster**	**91.82**	**25**	P		**P**	**03 27 41.4**	**-1.1**
I30M				IAmb		IAmb	03 27 43.3	
	comp=Z,9.5nm,1.4s							
ELIB	**Princess Elisa**	**92.85**	**196**	*d*P		**P**	**03 27 48.0**	**+0.8**
	comp=Z,5.1nm,1.0s							
G31M	**Satah River**	**92.96**	**23**	P		**P**	**03 27 46.6**	**-0.9**
G31M				IAmb		IAmb	03 30 05.1	
	comp=Z,16nm,1.6s							
YKA	**Yellowknife Ar**	**101.37**	**28**	P		**Pdif**	**03 28 24.8**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=278,slow=5.8,SNR=6.8							
OBN	**Obninsk**	**104.18**	**325**	*i* P		**Pdif**	**03 28 39.4**	**+1.2**
OBN				*e*			03 32 53.8	
OBN				*e*PPP		PPP	03 35 07.3	
OBN				pmax		pmax		
	comp=Z,5.0nm,0.9s							
GERES	**GERESS Array B**	**119.50**	**324**	PKP		**PKPdf**	**03 33 21.5**	**-3.0**
	comp=Z,0.6nm,0.5s,baz=48,slow=1.5,SNR=2.5							
WTTA	**Wattenberg**	**121.46**	**323**	*e*PKP		**PKiKP**	**03 33 29.0**	**+0.4**
	comp=Z,1.7nm,0.4s							
SQTA	**Sankt Quirin**	**121.74**	**323**	*e*PKP		**PKiKP**	**03 33 30.1**	**+1.0**
	comp=Z,0.9nm,0.5s							
MOTA	**Moosalm**	**121.74**	**323**	*e*PKP		**PKiKP**	**03 33 29.6**	**+0.5**
	comp=Z,2.3nm,0.7s							
CNGN	**Cerro Negro**	**131.04**	**79**			PKPpre	03 33 41.2	
TORD	**Torodi Ar. Bea**	**140.85**	**283**	PKhKP		PKPpre	03 34 00.8	
	comp=Z,1.2nm,1.0s,baz=81,slow=4.7,SNR=2.9							
SDDR	**Presa de Saban**	**144.68**	**66**			**PKPab**	**03 34 10.6**	**-0.5**
SDV	**Santo Domingo**	**146.99**	**83**			**PKPbc**	**03 34 18.1**	**-0.6**
ETMB	**Extrema**	**147.22**	**119**	PKPbc		**PKPbc**	**03 34 17.9**	**-1.2**
DBIC	**Dimbokro**	**147.62**	**273**	PKPbc		**PKPbc**	**03 34 20.4**	**+0.2**
	comp=Z,5.3nm,0.8s,baz=84,slow=4.5,SNR=5.5							
GCPR	**Guaynabo City**	**149.58**	**64**	PKPdf		**PKPdf**	**03 34 19.0**	**-1.6**
HUMP	**Col San Antoni**	**149.84**	**64**			**PKPbc**	**03 34 23.8**	**-2.0**
SAML	**Samuel**	**150.26**	**120**			**PKPbc**	**03 34 24.9**	**-2.0**
SAML	**Samuel**	**150.26**	**120**	PKIKP		**PKPbc**	**03 34 24.9**	**-2.0**

*ISN **02** 03:17:37.9±1.3,30.91N×47.76E,h20km±13km,ML3.3*
*TEH **02** 03:17:39.4,31.16N×47.83E,h11km±30km,ML3.4*
ISC 02 03:17:40.0±1.5,31.1N±0.1×47.79E±0.05,h10km,n24,
σ0°67/28,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.77**	**72**	Pg	**Pg**	**03 17 53.5**	**-1.3**
RAFI	**Al-Rafai**	**1.56**	**294**	*e*Pg	**Pn**	**03 18 08.0**	**+0.2**
RAFI				*e*Sg	**Sn**	**03 18 28.0**	**-0.2**
RAFI				AML	AML	03 18 34.3	
	comp=N,333nm,0.6s						
RAFI				AML	AML	03 18 34.4	
	comp=E,288nm,0.6s						
IKFM	**Kafar-mosalman**	**2.43**	**1**	Pn	**Pn**	**03 18 19.9**	**+0.2**
IBDR	**Badra**	**2.56**	**322**	*e*Pn	**Pn**	**03 18 22.0**	**+0.5**
IBDR				*e*Sn	**Sn**	**03 18 54.0**	**+1.3**
JHBN	**Jahan bin**	**2.71**	**64**	Pn	**Pn**	**03 18 24.5**	**+0.6**
IDOB	**Doab**	**2.71**	**7**	Pn	**Pn**	**03 18 23.7**	**-0.2**
ZNGN	**Zangian**	**2.81**	**68**	Pn	**Pn**	**03 18 26.0**	**+0.7**
ILBA	**Ilam Banvizeh**	**2.86**	**333**	Pn	**Pn**	**03 18 26.8**	**+1.0**
IBRJ	**Brojen**	**3.08**	**74**	Pn	**Pn**	**03 18 29.3**	**+0.4**
IPIR	**Pirpir**	**3.08**	**58**	Pn	**Pn**	**03 18 29.7**	**+0.7**
KLNJ	**Kolanjah**	**3.27**	**90**	Pn	**Pn**	**03 18 32.4**	**+0.8**
IGHG	**Ghaleghazi**	**3.39**	**343**	Pn	**Pn**	**03 18 33.6**	**+0.4**
BHD	**Baghdad**	**3.62**	**308**	*e*Pn	**Pn**	**03 18 36.0**	**-0.1**
BHD				*e*Sn	**Sn**	**03 19 19.0**	**+0.2**
BHD				AML	AML	03 19 21.5	
	comp=E,151nm,0.4s						
IDHR	**Dehrash**	**3.79**	**342**	Pn	**Pn**	**03 18 38.4**	**-0.2**
IGAR	**Gharneh**	**3.85**	**69**	Pn	**Pn**	**03 18 39.8**	**+0.3**
IKLH	**Kolahrood**	**3.91**	**54**	Pn	**Pn**	**03 18 40.4**	**+0.1**
IRAM	**Ramesheh**	**3.99**	**78**	Pn	**Pn**	**03 18 42.4**	**+0.9**
IZEF	**Zefreh**	**4.26**	**64**	Pn	**Pn**	**03 18 45.6**	**+0.4**
IQOM	**Qom**	**4.65**	**36**	Pn	**Pn**	**03 18 50.8**	**+0.3**
KRSH	**Karshahi**	**4.66**	**51**	Pn	**Pn**	**03 18 51.6**	**+1.0**
IKRK	**Kirkuk**	**5.18**	**327**	*e*Pn	**Pn**	**03 18 58.0**	**+0.4**
IKRK				*e*Sn	**Sn**	**03 19 58.0**	**+0.6**
IDMV	**Damavand**	**5.71**	**37**	Pn	**Pn**	**03 19 04.8**	**-0.4**
KLST	**Kelardasht - M**	**6.06**	**26**	Pn	**Pn**	**03 19 10.6**	**+0.7**
MZPU	**Pul - Mazandar**	**6.20**	**30**	Pn	**Pn**	**03 19 12.6**	**+0.8**

*IDC **02** 03:19:27.0±1.1,5.77S×142.62E,h0km,mb3.7/4,*
mbtmp4.1/7,ML4.6/2,Error ellipse: s-maj=31.6km
s-min=22.0km az=88.0
ISC 02 03:19:31.0±1.0,6.1S±0.1×142.4E±0.1,h28km,n8,σ2.6°36/9,
mb3.7/4,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.76**	**125**	Pn	**Pn**	**03 20 55.2**	**+0.6**
	21nm,0.3s,baz=297,slow=4.5,SNR=5.6						
PMG				Sn	**Sn**	**03 21 59.4**	**-0.4**
	4.5nm,0.3s,baz=234,slow=20,SNR=2.0						
CTA	**Charters Tower**	**14.41**	**165**	Lg	Lg	03 27 08.2	
	0.3nm,0.3s,baz=30,slow=18,SNR=1.6						
WRA	**Warramunga Arr**	**15.84**	**209**	Pn	**P**	**03 23 15.0**	**-0.7**
	2.2nm,0.3s,baz=27,slow=13,SNR=5.5						
WRA				Sn	**Sn**	**03 26 03.6**	**-3.4**
	0.8nm,0.3s,baz=35,slow=23,SNR=1.4						
WRA				Lg	Lg	03 27 58.5	
	0.7nm,0.3s,baz=27,slow=25,SNR=2.9						
	16nm,0.7s						
ASAR	**Alice Springs**	**19.29**	**204**	P	**Pn**	**03 23 58.6**	**+3.7**
	2.7nm,0.3s,baz=31,slow=11,SNR=10.0						
ASAR				Lg	Lg	03 29 53.2	
	0.3nm,0.3s,baz=25,slow=32,SNR=3.4						
	10nm,0.5s						
MKAR	**Makanchi Array**	**74.69**	**322**	P	**P**	**03 31 08.8**	**+0.7**
	0.3nm,0.6s,baz=97,slow=7.7,SNR=2.1						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**78.59**	**324**	P	**P**	**03 31 29.9**	**-0.1**
	0.1nm,0.3s,baz=117,slow=4.7,SNR=1.6						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**84.17**	**325**	P	**P**	**03 32 00.3**	**+0.8**
	0.6nm,0.5s,baz=100,slow=6.4,SNR=2.4						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**87.39**	**24**	P	**P**	**03 32 12.8**	**-2.5**
	0.6nm,0.8s,baz=258,slow=5.6,SNR=7.7						
	0.6nm,0.8s						

PRU 02 03:32:51.4,50.03N×18.51E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.30**	**231**	*e*PG	Pg	03 32 56.8	-0.4
	5.7nm,0.6s						
OKC				*e*SG	Sg	03 33 01.2	+0.1
MORC	**Moravsky Berou**	**0.68**	**248**	*e*PG	Pg	03 33 03.7	-0.6
MORC				*e*SG	Sg	03 33 12.1	-0.9
LANS	**Liptovska Anna**	**1.08**	**144**	*e*PG	Pg	03 33 11.6	-0.4
LANS				*e*SG	Sg	03 33 26.7	+0.7
LANS				*e*LG	Lg	03 33 30.4	
KRLC	**Kraliky**	**1.11**	**273**	*e*PG	Pg	03 33 11.2	-1.6
KRLC				*e*SG	Sg	03 33 26.5	-0.7
DPC	**Dobruska-Polom**	**1.44**	**284**	*e*PG	Pn	03 33 17.5	-1.3
DPC				*e*SG	Sg	03 33 37.1	-0.6

*NEIC **02** 03:35:14.5±1.1,56.26N±0.08×149.5W±0.1,h24km±10km,*
ML3.6/26,ML3.5(AEIC),Error ellipse: s-maj=12.4km
s-min=8.7km az=164.0
*AEIC **02** 03:35:16.7±1.2,56.29N±0.08×149.5W±0.1,h2km±8km,*
Error ellipse: s-maj=12.6km s-min=8.3km az=161.0
ISC 02 03:35:12.1±1.5,56.24N±0.09×149.53W±0.06,h10km,
n178,σ0.91/177,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.27**	**314**		**Pn**	**03 35 50.1**	**+0.5**
KDAK					**Sn**	**03 36 16.3**	**-1.4**
OHAK	**Old Harbor**	**2.29**	**297**		**Pn**	**03 35 50.3**	**+0.4**
OHAK					**Sn**	**03 36 16.8**	**-1.4**
OHAK	**Old Harbor**	**2.29**	**297**	P	**Pn**	**03 35 50.4**	**+0.4**
OHAK	**Old Harbor**	**2.29**	**297**	P	**Pn**	**03 35 50.3**	**+0.4**
	baz=113						
OHAK				S	**Sn**	**03 36 16.8**	**-1.4**
	baz=113						
SII	**Sitkinak Islan**	**2.61**	**279**		**Sn**	**03 36 25.2**	**-0.8**
SII	**Sitkinak Islan**	**2.61**	**279**	S	**Sn**	**03 36 25.2**	**-0.8**
	baz=94						
Q20K	**Shuyak Island**	**2.83**	**328**	P	**Pn**	**03 35 57.8**	**+0.4**
	baz=145						
Q20K				S	**Sn**	**03 36 30.7**	**-0.8**
	baz=145						
SYI	**Shuyak Island**	**2.83**	**328**		**Pn**	**03 35 57.8**	**+0.4**
SYI					**Sn**	**03 36 30.8**	**-0.7**
CNPM	**China Poot**	**3.42**	**345**		**Pn**	**03 36 05.5**	**+0.1**
CNPM					**Sn**	**03 36 44.8**	**-1.2**
CNPM	**China Poot**	**3.42**	**345**	IAML		03 36 47.3	
	comp=N,54nm,0.8s						
CNPM				IAML		03 36 47.3	
	comp=E,75nm,0.5s						
Q19K	**Cape Douglas,**	**3.48**	**322**		**Pn**	**03 36 07.8**	**+1.4**
Q19K	**Cape Douglas,**	**3.48**	**322**	P	**Pn**	**03 36 07.8**	**+1.4**
	baz=138						
BRSE	**Bradley Lake S**	**3.57**	**350**		**Pn**	**03 36 07.5**	**0.0**
BRSE	**Bradley Lake S**	**3.57**	**350**	P	**Pn**	**03 36 07.5**	**0.0**
	baz=169						
BRLK	**Bradley Lake**	**3.60**	**349**	Pn	**Pn**	**03 36 08.2**	**+0.2**
BRLK				IAML		03 36 52.8	
	comp=E,68nm,0.8s						
BRLK				IAML		03 37 01.3	
	comp=N,55nm,1.7s						
Q23K	**Middleton Isla**	**3.62**	**27**		**Pn**	**03 36 07.9**	**-0.2**
Q23K	**Middleton Isla**	**3.62**	**27**	IAML		03 37 55.1	
	comp=N,262nm,1.8s						
Q23K	**Middleton Isla**	**3.62**	**27**	P	**Pn**	**03 36 07.9**	**-0.2**
	baz=210						
MID	**Middleton Isla**	**3.62**	**27**		**Pn**	**03 36 07.9**	**-0.3**
MID	**Middleton Isla**	**3.62**	**27**	IAML		03 37 25.8	
	comp=N,265nm,2.1s						
MID	**Middleton Isla**	**3.62**	**27**	P	**Pn**	**03 36 08.2**	**0.0**
KAKN	**Katmai Knife C**	**3.64**	**307**		**Pn**	**03 36 10.2**	**+1.6**
ACHA	**Angle Creek He**	**3.72**	**304**		**Pn**	**03 36 11.4**	**+1.8**
SEW	**Seward**	**3.87**	**1**		**Pn**	**03 36 11.2**	**-0.4**
SEW	**Seward**	**3.87**	**1**	P	**Pn**	**03 36 11.2**	**-0.4**
	baz=181						
P23K	**Montague Islan**	**3.93**	**16**		**Pn**	**03 36 12.4**	**0.0**
P23K	**Montague Islan**	**3.93**	**16**	P	**Pn**	**03 36 12.4**	**0.0**
	baz=198						
P19K	**Oil Pt**	**3.95**	**332**		**Pn**	**03 36 13.9**	**+1.2**
P19K	**Oil Pt**	**3.95**	**332**	IAML		03 37 10.4	
	comp=E,105nm,0.5s						
P19K				IAML		03 37 12.7	
	comp=N,146nm,0.7s						
P19K	**Oil Pt**	**3.95**	**332**	P	**Pn**	**03 36 13.9**	**+1.2**
	baz=148						
CNTC	**Contact Creek**	**4.00**	**303**		**Pn**	**03 36 15.2**	**+1.6**
Q17K	**Contact Creek**	**4.00**	**303**	P	**Pn**	**03 36 15.2**	**+1.6**
	baz=117						
O20K	**Slope Mountain**	**4.18**	**338**		**Pn**	**03 36 16.8**	**+0.8**
O20K	**Slope Mountain**	**4.18**	**338**	P	**Pn**	**03 36 16.7**	**+0.8**
	baz=155						
ILSW	**Iliamna Southw**	**4.21**	**334**		**Pn**	**03 36 16.9**	**+0.4**
ILSW	**Iliamna Southw**	**4.21**	**334**	IAML		03 37 09.7	
	comp=N,57nm,0.8s						
ILSW				IAML		03 37 16.7	
	comp=E,65nm,0.9s						
O22K	**Cooper Landing**	**4.25**	**359**		**Pn**	**03 36 17.3**	**+0.5**
O22K	**Cooper Landing**	**4.25**	**359**	P	**Pn**	**03 36 17.3**	**+0.5**
	baz=178						
SLKM	**Skilak Lake**	**4.29**	**355**		**Pn**	**03 36 17.5**	**0.0**
P18K	**Big Mountain,**	**4.39**	**318**		**Pn**	**03 36 19.3**	**+0.5**
P18K	**Big Mountain,**	**4.39**	**318**	IAML		03 37 08.8	
	comp=N,27nm,3.0s						
P18K				IAML		03 37 47.7	
	comp=E,28nm,3.0s						
P18K	**Big Mountain,**	**4.39**	**318**	P	**Pn**	**03 36 19.3**	**+0.5**
	baz=133						
HIN	**Hinchinbrook I**	**4.46**	**20**		**Pn**	**03 36 20.0**	**+0.2**
HIN	**Hinchinbrook I**	**4.46**	**20**	IAML		03 37 12.1	
	comp=E,134nm,0.7s						
HIN				IAML		03 37 18.8	
	comp=N,134nm,1.0s						
RED	**Redoubt Volcan**	**4.52**	**339**		**Pn**	**03 36 20.7**	**0.0**
RDSO	**Redoubt South**	**4.55**	**340**		**Pn**	**03 36 20.9**	**-0.2**
RSO	**Redoubt South**	**4.56**	**339**		**Pn**	**03 36 21.4**	**+0.1**
KAIM	**Kayak Island**	**4.58**	**34**		**Pn**	**03 36 21.9**	**+0.5**
KAIM	**Kayak Island**	**4.58**	**34**	P	**Pn**	**03 36 21.9**	**+0.5**
	baz=219						
RDT	**Redoubt**	**4.60**	**342**		**Pn**	**03 36 21.3**	**-0.4**
NCT	**North Crescent**	**4.68**	**339**		**Pn**	**03 36 22.9**	**0.0**
O19K	**Port Alsworth**	**4.70**	**329**		**Pn**	**03 36 24.6**	**+1.5**
O18K	**Koktuh Hills**	**4.71**	**323**		**Pn**	**03 36 23.9**	**+0.7**
O18K	**Koktuh Hills**	**4.71**	**323**	P	**Pn**	**03 36 23.9**	**+0.7**
	baz=138						
EYAK	**Cordova Ski Ar**	**4.75**	**23**		**Pn**	**03 36 24.0**	**+0.3**
EYAK	**Cordova Ski Ar**	**4.75**	**23**	P	**Pn**	**03 36 24.2**	**+0.5**
EYAK	**Cordova Ski Ar**	**4.75**	**23**	P	**Pn**	**03 36 24.0**	**+0.3**
	baz=206						
RC01	**Rabbit Creek A**	**4.86**	**359**		**Pn**	**03 36 25.3**	**0.0**
RC01	**Rabbit Creek A**	**4.86**	**359**	P	**Pn**	**03 36 25.3**	**0.0**
	baz=179						
RAGM	**Ragged Mountai**	**4.88**	**30**		**Pn**	**03 36 26.0**	**+0.5**
SUCK	**Suckling Hills**	**4.90**	**36**		**Pn**	**03 36 26.4**	**+0.6**
FIS	**Fire Island**	**4.93**	**356**		**Pn**	**03 36 26.9**	**+0.8**
HMT	**Hamilton**	**4.96**	**32**		**Pn**	**03 36 27.3**	**+0.7**
NICHA	**Nichawak Mount**	**4.97**	**34**		**Pn**	**03 36 27.3**	**+0.6**
GOAT	**Goat Mountain**	**5.03**	**28**		**Pn**	**03 36 28.3**	**+0.7**
BGLC	**Bering Glacier**	**5.10**	**38**		**Pn**	**03 36 29.4**	**+0.9**
BGLC	**Bering Glacier**	**5.10**	**38**	P	**Pn**	**03 36 29.4**	**+0.9**
	baz=223						
N20K	**Mount Spurr**	**5.16**	**345**	P	**Pn**	**03 36 29.6**	**+0.1**
	baz=163						
SPCR	**Spurr Chakacha**	**5.16**	**345**		**Pn**	**03 36 29.6**	**+0.1**
BERG	**Berg Lake**	**5.17**	**34**		**Pn**	**03 36 29.8**	**+0.3**
KNK	**Knik Glacier**	**5.21**	**6**		**Pn**	**03 36 30.7**	**+0.6**
KNK	**Knik Glacier**	**5.21**	**6**	P	**Pn**	**03 36 30.7**	**+0.6**
	baz=187						
SPCP	**Crater Peak Br**	**5.22**	**346**		**Pn**	**03 36 30.7**	**+0.4**
N19K	**Bonanza Creek**	**5.26**	**333**		**Pn**	**03 36 31.1**	**+0.2**
N19K	**Bonanza Creek**	**5.26**	**333**	P	**Pn**	**03 36 31.1**	**+0.2**
	baz=148						
SUA	**Susitna One**	**5.27**	**354**		**Pn**	**03 36 31.3**	**+0.2**
SUA	**Susitna One**	**5.27**	**354**	P	**Pn**	**03 36 31.3**	**+0.2**
	baz=172						
SNH	**Sunshine Point**	**5.30**	**39**		**Pn**	**03 36 31.9**	**+0.6**
P16K	**Nushagak River**	**5.33**	**305**		**Pn**	**03 36 33.3**	**+1.6**
P16K	**Nushagak River**	**5.33**	**305**	P	**Pn**	**03 36 33.3**	**+1.6**
	baz=118						
KHIT	**Khitrov Hills**	**5.35**	**36**		**Pn**	**03 36 32.4**	**+0.3**
PMR	**Palmer**	**5.37**	**2**	Pn	**Pn**	**03 36 33.2**	**+1.1**
PMR	**Palmer**	**5.37**	**2**	P	**Pn**	**03 36 33.3**	**+1.1**
BMRM	**Bremner River**	**5.39**	**26**		**Pn**	**03 36 33.1**	**+0.5**
BMRM	**Bremner River**	**5.39**	**26**	P	**Pn**	**03 36 33.1**	**+0.5**
	baz=211						
STLK	**Strandline Lak**	**5.40**	**348**		**Pn**	**03 36 33.0**	**+0.2**
GHO	**Glory Hole Cre**	**5.55**	**3**		**Pn**	**03 36 36.0**	**+1.1**
N18K	**Kilae Creek**	**5.56**	**326**		**Pn**	**03 36 35.5**	**+0.6**
N18K	**Kilae Creek**	**5.56**	**326**	P	**Pn**	**03 36 35.5**	**+0.6**
	baz=140						
BARK	**Barkley Ridge**	**5.58**	**39**		**Pn**	**03 36 36.0**	**+0.7**
KLU	**Klutina**	**5.59**	**18**		**Pn**	**03 36 35.8**	**+0.5**
KLU	**Klutina**	**5.59**	**18**	P	**Pn**	**03 36 35.8**	**+0.5**
	baz=201						
SML	**Sawmill**	**5.61**	**6**		**Pn**	**03 36 36.4**	**+0.8**
SML	**Sawmill**	**5.61**	**6**	P	**Pn**	**03 36 36.4**	**+0.8**
	baz=187						
MESA	**MESA**	**5.62**	**42**		**Pn**	**03 36 36.4**	**+0.6**
MESA	**MESA**	**5.62**	**42**	P	**Pn**	**03 36 36.4**	**+0.6**
	baz=229						
CRQM	**Cirque**	**5.63**	**34**		**Pn**	**03 36 36.7**	**+0.7**
CRQE	**Cirque**	**5.64**	**34**	P	**Pn**	**03 36 36.7**	**+0.6**
	baz=220						
M23K	**Glacier View**	**5.64**	**9**		**Pn**	**03 36 37.2**	**+1.2**
M23K	**Glacier View**	**5.64**	**9**	P	**Pn**	**03 36 37.2**	**+1.2**
	baz=190						
O16K	**Kokwok River B**	**5.66**	**310**		**Pn**	**03 36 37.9**	**+1.6**
O16K	**Kokwok River B**	**5.66**	**310**	P	**Pn**	**03 36 37.9**	**+1.6**
	baz=122						
SCM	**Sheep Creek Mo**	**5.72**	**11**		**Pn**	**03 36 38.3**	**+1.2**
SCM	**Sheep Creek Mo**	**5.72**	**11**	P	**Pn**	**03 36 38.3**	**+1.2**
	baz=192						
TGL	**Tana Glacier**	**5.73**	**35**		**Pn**	**03 36 37.7**	**+0.4**
ISLE	**Juniper Island**	**5.78**	**38**		**Pn**	**03 36 38.3**	**+0.4**
BAGL	**Bagley Icefiel**	**5.78**	**40**		**Pn**	**03 36 38.2**	**+0.4**
SVW2	**Sparrevohn**	**5.80**	**330**	P	**Pn**	**03 36 38.6**	**+0.5**
SKT	**Skwentna**	**5.84**	**351**		**Pn**	**03 36 39.3**	**+0.6**
SKT	**Skwentna**	**5.84**	**351**

BER ***02*** *03:35:44.6±3.6,82.˚59N×7.˚23W,h10km,mb(Pn)3.2, ML1.3(DNK),Confirmed Earthquake*
FCIAR ***02*** *03:35:45.0,82.˚75N×4.˚83W,h10km,station OMEGA has station magnitude of 3.90*
DNK ***02*** *03:35:46.3±2.1,82.˚36N×6.˚88W,h20km±27km,ML1.3*
ISC 02 03:35:34.9±1.2,83.˚14N±0.˚09×6.˚09W±0.˚05,h10km,n13, σ4§06/25,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.10**	**228**	*e*		**Pb**	**03 36 13.8**	**+1.0**
	baz=57,slow=12							
NOR				*i* P		**Pg**	**03 36 14.3**	**-0.7**
NOR				*i* S		**Sn**	**03 36 32.4**	**-3.6**
NOR				IAML			03 36 37.6	
	comp=Z,2.6nm,0.3s							
NOR	**Nord**	**2.10**	**228**	*e*		**Pb**	**03 36 13.8**	**+1.0**
	baz=57,slow=12							
NOR				*i* P		**Pg**	**03 36 14.3**	**-0.7**
NOR				*i* S		**Sn**	**03 36 32.4**	**-3.6**
NOR				IAML			03 36 37.6	
	comp=Z,2.6nm,0.3s							
KBS	**Kingsbay**	**5.05**	**137**	*e*	P	**Pn**	**03 36 54.4**	**+3.9**
KBS				*e*	S	**Sn**	**03 37 44.5**	**-4.3**
KBS				IAML			03 37 50.8	
	comp=Z,3.1nm,0.8s							
KBS	**Kingsbay**	**5.05**	**137**	*i* P		**Pn**	**03 36 54.4**	**+3.9**
KBS				*e*	S	**Sn**	**03 37 43.8**	**-5.0**
KBS	**Kingsbay**	**5.05**	**137**	*e*	P	**Pn**	**03 36 54.3**	**+3.9**
KBS				*e*	S	**Sn**	**03 37 44.8**	**-3.9**
SPA0	**Spitsbergen Ar**	**6.11**	**132**	*e*	P	**Pn**	**03 37 09.3**	**+4.3**
SPA0				*e*	S	**Sn**	**03 38 11.0**	**-3.9**
SPA0				IAML			03 38 30.0	
	comp=Z,3.1nm,0.9s							
SPA0	**Spitsbergen Ar**	**6.11**	**132**	*e*	P	**Pn**	**03 37 09.2**	**+4.1**
SPA0				*e*	S	**Sn**	**03 38 11.1**	**-3.8**
HSPB	**Hornsund (broa**	**7.13**	**138**	*e*	P	Pn	03 37 24.1	+5.1
OMEGA	**Omega**	**7.61**	**79**	P		**Pn**	**03 37 27.7**	**+2.2**
OMEGA				*e*	S	**Sn**	**03 38 46.2**	**-5.3**
	comp=Z,32nm,3.0s							
HOPEN	**Hopen**	**8.44**	**124**	*e*	P	**Pn**	**03 37 41.7**	**+4.7**
HOPEN	**Hopen**	**8.44**	**124**	*e*	P	**Pn**	**03 37 41.6**	**+4.7**
HOPEN				*e*	S	**Sn**	**03 39 07.6**	**-4.5**
NEEM	**North Greenlan**	**9.14**	**257**	*i* P		**Pn**	**03 37 49.7**	**+2.9**
NEEM				*e*	S	**Sn**	**03 39 24.5**	**-5.2**
NEEM				IAML			03 39 30.9	
	comp=Z,1.0nm,0.4s							
NEEM	**North Greenlan**	**9.14**	**257**	*i* P		**Pn**	**03 37 49.7**	**+2.9**
NEEM				*e*	S	**Sn**	**03 39 24.5**	**-5.2**
NEEM				IAML			03 39 30.9	
	comp=Z,1.0nm,0.4s							

BJI ***02*** *03:42:26.8±0.0,24˚.32N×122˚.93E,h50km,mb4.5/63, mB5.0/30,ML4.3/10,Ms4.4/52,Ms7 4.2/52*
GCMT ***02*** *03:42:27.5±0.4,24˚.15N±0˚.03×122˚.83E±0˚.03,h43km±1km, MW5.1/73,Moment Tensor Solution. s40,c43; s73,c95; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr5.09±.36; Mθθ-5.00±.21; Mϕϕ-0.08±.21; Mrθ1.80±.16; Mθϕ0.17±.17; Mϕr0.97±.18; Best double couple: Mo5.44300×10¹⁶ NP1:ϕs282.00000°,δ56.00000°,λ78.00000°. NP2: ϕs282.00000°,δ36.00000°,λ107.00000°. Principal axes: T 5.5740, Plg76.0000°, Azm314.0000°; N -0.2610, Plg10.0000°, Azm88.0000°; P -5.3120, Plg10.0000°, Azm180.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
TAP ***02*** *03:42:27.4,24˚.32N×122˚.92E,h42km,ML5.3,D*
NIED ***02*** *03:42:27.3,24˚.33N×122˚.97E,h48km,MW4.9,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr2.09; Mθθ-3.04; Mϕϕ0.95; Mrθ0.45; Mθϕ0.06; Mϕr0.22; Fault plane solution: Mo2.63000×10¹⁶ NP1:ϕs81.00000°, δ51.00000°,λ77.00000°. NP2:ϕs282.00000°,δ41.00000°, λ106.00000°.*
NEIC ***02*** *03:42:27.5±1.7,24˚.29N±0˚.05×122˚.93E±0˚.05,h46km±4km, mb4.8/110,Mwr5.0/24 Error ellipse: s-maj=7.8km s-min=6.1km az=127.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr2.23; Mθθ-2.91; Mϕϕ0.68; Mrθ1.81; Mθϕ0.15; Mϕr1.13; Fault plane solution: Mo3.40000×10¹⁶ NP1:ϕs69.82000°,δ66.32000°, λ66.68000°. NP2:ϕs296.84000°,δ32.75000°,λ132.07000°. Principal axes: T 3.2849, Plg61.0000°, Azm304.0000°; N 0.2114, Plg21.0000°, Azm80.0000°; P -3.4964, Plg18.0000°, Azm177.0000°;*
ASIES ***02*** *03:42:27.4,24˚.32N×122˚.92E,h42km,ML5.3,Mw4.7, Moment Tensor Solution. Moment tensor: Scale 10²³Nm; Mrr1.07; Mθθ-1.35; Mϕϕ0.28; Mrθ0.68; Mθϕ-0.12; Mϕr0.32; Fault plane solution: Mo1.45113×10²³ NP1:ϕs72.80000°, δ61.41000°,λ75.26000°. NP2:ϕs281.59000°,δ31.88000°, λ115.02000°. Principal axes: T Plg69.8600°, Azm311.2990°; N Plg12.9070°, Azm79.9700°; P Plg15.1910°, Azm173.5380°;*
NEIC ***02*** *03:42:27.8,24˚.34N×122˚.93E,h48km*
JMA ***02*** *03:42:27.3±0.1,24˚.2˚×123˚.0E±0˚.5,h48km±1km, MD4.9/13,MW4.9/13,NW OFF ISHIGAKIJIMA IS*
JMA Felt III J1 at NW OFF ISHIGAKIJIMA IS .
IDC ***02*** *03:42:28.1±2.7,24˚.47N×123˚.01E,h56km±24km,mb4.1/28, mbtmp4.4/29,ML4.0/1,MS4.2/42,Error ellipse: s-maj=14.6km s-min=12.2km az=68.0*
ISC 02 03:42:27.6±0.4,24˚.28N±0˚.02×123˚.01E±0˚.03,h52km±3km, h51km:pP-P,n499,σ1§64/622,mb4.7/90,MS4.2/42,3C-19D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.18**	**342**	*i* P		**Pn**	**03 42 34.9**	**-1.0**
JYNG				S		**Sn**	**03 42 40.3**	**-1.6**
JYNG	**Yonagunijimaku**	**0.18**	**342**	A		A	03 42 34.9	
	comp=E,460nm,0.5s,comp=N,987nm,0.7s							
YOJ	**Yonaguni jima**	**0.18**	**1**			**Pn**	**03 42 35.1**	**-0.9**
YOJ					Sn	**Sn**	**03 42 40.6**	**-1.4**
YOJ	**Yonaguni jima**	**0.18**	**1**	P		**Pn**	**03 42 35.2**	**-0.9**
YOJ	**Yonaguni jima**	**0.18**	**1**	⇓P		**Pn**	**03 42 35.1**	**-0.9**
	baz=25							
YOJ				S		**Sn**	**03 42 40.6**	**-1.4**
	baz=25							
YOJ	**Yonaguni jima**	**0.18**	**1**	P		**Pn**	**03 42 35.1**	**-0.9**
YOJ				S		**Sn**	**03 42 40.5**	**-1.4**
YOJ	**Yonaguni jima**	**0.18**	**1**	A		A	03 42 35.1	
	comp=E,317nm,1.3s,comp=N,451nm,4.3s							
EOS3	**EOS3**	**0.63**	**270**	⇓P		**Pn**	**03 42 39.8**	**-0.5**
	baz=272							
EOS3				S		**Sn**	**03 42 49.4**	**-0.2**
	baz=272							
EOS4	**EOS4**	**0.65**	**256**	*e*P		**Pn**	**03 42 40.9**	**+0.5**
	baz=253							
EOS4				*e*S		**Sn**	**03 42 50.3**	**+0.6**
	baz=253							
EOS2	**EOS2**	**0.72**	**281**	⇓P		**Pn**	**03 42 40.7**	**-0.8**
	baz=284							
EOS2				S		**Sn**	**03 42 51.4**	**-0.3**
	baz=284							
HATJ	**Hateruma jima**	**0.76**	**107**	P		**Pn**	**03 42 42.4**	**+0.2**
HATJ				*e*S		**Sn**	**03 42 53.7**	**+0.9**
HATJ	**Hateruma jima**	**0.76**	**107**	A		A	03 42 42.4	
	comp=E,185nm,1.7s,comp=N,106nm,1.0s							
JKRS	**Kuro-shima**	**0.92**	**93**	P		**Pn**	**03 42 44.7**	**+0.5**
JKRS				*e*S		**Sn**	**03 42 57.6**	**+1.2**
JKRS	**Kuro-shima**	**0.92**	**93**	A		A	03 42 44.7	
	comp=E,79nm,2.4s,comp=N,90nm,2.1s							
JIJ	**Ishigaki jima**	**1.04**	**85**	P		**Pn**	**03 42 45.8**	**-0.1**
JIJ				S		**Sn**	**03 42 59.4**	**0.0**
JIJ	**Ishigaki jima**	**1.04**	**85**	A		A	03 42 45.8	
	comp=E,25nm,0.9s,comp=N,35nm,1.1s							
ESAO	**Su ao**	**1.10**	**286**	P		**Pn**	**03 42 45.5**	**-1.2**
	baz=294							
ESAO				S		**Sn**	**03 42 58.5**	**-2.3**
	baz=294							
TWC	**Suao**	**1.10**	**287**	*e*P		**Pn**	**03 42 45.2**	**-1.6**
	baz=296							
TWC				S		**Sn**	**03 42 58.2**	**-2.8**
	baz=296							
EGS		**1.13**	**300**	⇓*i*P		**Pn**	**03 42 45.9**	**-1.2**
	baz=308							
EGS				S		**Sn**	**03 42 59.6**	**-1.9**
	baz=308							
EWUT	**Wuta**	**1.13**	**278**	P		**Pn**	**03 42 46.2**	**-0.9**
	baz=287							
EWUT				S		**Sn**	**03 42 59.8**	**-1.8**
	baz=287							
EHP	**Heping Village**	**1.16**	**272**	*e*P		**Pn**	**03 42 47.7**	**+0.3**
	baz=278							
EHP				*e*S		**Sn**	**03 43 01.8**	**-0.4**
	baz=278							
EAHA	**Aohua**	**1.16**	**273**	P		**Pn**	**03 42 47.3**	**-0.2**
	baz=280							
EAHA				S		**Sn**	**03 43 01.8**	**-0.5**
	baz=280							
ENA	**Nanau**	**1.16**	**277**	⇓*i*P		**Pn**	**03 42 46.6**	**-1.0**
	baz=285							
ENA				*i* S		**Sn**	**03 43 00.8**	**-1.6**
	baz=285							
TWB1	**Santiao Chiao**	**1.18**	**308**	⇓*i*P		**Pn**	**03 42 46.4**	**-1.3**
	baz=319							
TWB1				S		**Sn**	**03 42 59.9**	**-2.7**
	baz=319							
NTC	**Toucheng**	**1.21**	**298**	P		**Pn**	**03 42 47.5**	**-0.7**
	baz=298							
NTC				S		**Sn**	**03 43 02.2**	**-1.4**
	baz=298							
JISG	**Ishigakijimahi**	**1.23**	**75**	P		**Pn**	**03 42 48.2**	**-0.1**
JISG				S		**Sn**	**03 43 04.0**	**+0.1**
JISG	**Ishigakijimahi**	**1.23**	**75**	A		A	03 42 48.2	
	comp=E,46nm,0.6s,comp=N,59nm,0.5s							
NDS	**Dongshan**	**1.23**	**287**	⇓P		**Pn**	**03 42 47.7**	**-0.7**
	baz=295							
NDS				S		**Sn**	**03 43 02.0**	**-1.9**
	baz=295							
ILA	**Ilan**	**1.24**	**293**	*i* P		**Pn**	**03 42 48.0**	**-0.6**
	baz=292							
ILA				S		**Sn**	**03 43 02.8**	**-1.5**
	baz=292							
ETL	**Fush Village**	**1.27**	**265**	P		**Pn**	**03 42 48.6**	**-0.4**
	baz=248							
ETL				S		**Sn**	**03 43 05.0**	**+0.1**
	baz=248							
TIPB	**Shuangxi**	**1.27**	**303**	*e*P		**Pn**	**03 42 48.0**	**-1.0**
	baz=313							
TIPB				S		**Sn**	**03 43 02.6**	**-2.5**
	baz=313							
NACB	**Ninganchiao**	**1.29**	**265**			**Pn**	**03 42 48.7**	**-0.6**
NACB						Sn	**03 43 02.6**	**-2.9**
NACB	**Ninganchiao**	**1.29**	**265**			P	**03 42 49.0**	**-0.3**
NACB	**Ninganchiao**	**1.29**	**265**	P		**Pn**	**03 42 48.7**	**-0.6**
	baz=249							
NACB				S		**Sn**	**03 43 04.0**	**-1.5**
	baz=249							
TWE	**Neicheng**	**1.30**	**290**	*i* P		**Pn**	**03 42 48.2**	**-1.1**
	baz=289							
TWE				*i* S		**Sn**	**03 43 04.1**	**-1.5**
	baz=289							
TWD	**Chiawan**	**1.30**	**261**	*i* P		**Pn**	**03 42 48.6**	**-0.8**
	baz=245							
TWD				*i* S		**Sn**	**03 43 04.4**	**-1.4**
	baz=245							
SXI1	**Grass Mountain**	**1.31**	**308**	P		**Pn**	**03 42 48.6**	**-1.0**
	baz=319							
SXI1				*e*S		**Sn**	**03 43 03.6**	**-2.4**
	baz=319							
HWA	**Hwalien**	**1.32**	**257**	*i* P		**Pn**	**03 42 49.2**	**-0.4**
	baz=254							
HWA				S		**Sn**	**03 43 05.7**	**-0.3**
	baz=254							
ENTT	**Nioudou**	**1.36**	**285**	*i* P		**Pn**	**03 42 49.8**	**-0.4**
	baz=292							
ENTT				S		**Sn**	**03 43 05.7**	**-1.5**
	baz=292							
NWF	**Wu-fen Shan**	**1.36**	**305**	⇓*i*P		**Pn**	**03 42 49.5**	**-0.8**
	baz=306							
NWF				*i* S		**Sn**	**03 43 05.5**	**-1.9**
	baz=306							
WFSB	**Wu-fen Shan**	**1.36**	**305**	⇓P		**Pn**	**03 42 49.5**	**-0.7**
	baz=306							
WFSB				S		**Sn**	**03 43 05.1**	**-2.1**
	baz=306							
LATG	**Datong**	**1.37**	**281**	⇓P		**Pn**	**03 42 49.8**	**-0.7**
	baz=287							
LATG				*e*S		**Sn**	**03 43 06.8**	**-0.8**
	baz=287							
FUSB	**Fushanzhiwuyua**	**1.38**	**290**	⇓P		**Pn**	**03 42 49.6**	**-0.9**
	baz=290							
FUSB				S		**Sn**	**03 43 05.7**	**-2.0**
	baz=290							
ETLH	**Xiulin Townshi**	**1.39**	**267**	P		**Pn**	**03 42 50.3**	**-0.4**
	baz=265							
ETLH				S		**Sn**	**03 43 07.7**	**-0.4**
	baz=265							
NDT	**Datong Townshi**	**1.40**	**283**	P		**Pn**	**03 42 50.8**	**0.0**
	baz=290							
NDT				*e*S		**Sn**	**03 43 07.1**	**-1.0**
	baz=290							
SHUL	**Shoufeng**	**1.41**	**250**	P		**Pn**	**03 42 50.4**	**-0.4**
	baz=247							
SHUL				S		**Sn**	**03 43 08.5**	**+0.2**
	baz=247							
TNOU	**National Taiwa**	**1.42**	**308**	⇓P		**Pn**	**03 42 49.9**	**-1.0**
	baz=316							
TNOU				S		**Sn**	**03 43 07.1**	**-1.4**
	baz=316							
ETM	**Tongmen**	**1.42**	**257**	P		**Pn**	**03 42 50.3**	**-0.7**
	baz=244							
ETM				S		**Sn**	**03 43 07.5**	**-1.1**
	baz=244							
NWLT	**Wulai**	**1.46**	**290**	P		**Pn**	**03 42 51.0**	**-0.5**
	baz=300							
NWLT				S		**Sn**	**03 43 08.3**	**-1.2**
	baz=300							
TWA	**Mucha**	**1.47**	**299**	⇓*i*P		**Pn**	**03 42 51.0**	**-0.7**
	baz=309							
TWA				S		**Sn**	**03 43 07.9**	**-1.9**
	baz=309							
LXIB	**Xiulin Townshi**	**1.48**	**260**	P		**Pn**	**03 42 51.2**	**-0.7**
	baz=245							
LXIB				S		**Sn**	**03 43 09.1**	**-1.2**
	baz=245							
NNSB	**Datong**	**1.49**	**276**	P		**Pn**	**03 42 52.3**	**+0.2**
	baz=274							
NNSB				*e*S		**Sn**	**03 43 10.4**	**0.0**
	baz=274							
NNS	**Nan Shan**	**1.50**	**276**	*i* P		**Pn**	**03 42 52.1**	**-0.1**
	baz=262							
NNS				*e*S		**Sn**	**03 43 10.5**	**-0.2**
	baz=262							
NHY	**Taipei**	**1.51**	**300**	*e*P		**Pn**	**03 42 53.2**	**+1.0**
	baz=311							
NHY				S		**Sn**	**03 43 10.6**	**-0.2**
	baz=311							
ESL	**Shilin**	**1.51**	**252**	*i* P		**Pn**	**03 42 51.1**	**-1.2**
	baz=249							
ESL				S		**Sn**	**03 43 07.4**	**-3.5**
	baz=249							
NWRT	**Kuosheng**	**1.53**	**307**	P		**Pn**	**03 42 51.5**	**-0.9**
	baz=308							
NWRT				S		**Sn**	**03 43 11.0**	**-0.3**
	baz=308							
YHNB	**Yeheng**	**1.54**	**285**			**Pn**	**03 42 52.0**	**-0.7**
YHNB						Sn	**03 43 10.2**	**-1.3**
YHNB	**Yeheng**	**1.54**	**285**	P		**Pn**	**03 42 53.2**	**+0.5**
YHNB	**Yeheng**	**1.54**	**285**	P		Pn	**03 42 52.6**	**0.0**
	baz=293							
YHNB				*e*S		**Sn**	**03 43 14.5**	**+2.9**
	baz=293							
TATO	**Taipei**	**1.54**	**297**			**Pn**	**03 42 51.7**	**-1.0**
TATO						Sn	**03 43 09.4**	**-2.3**
TATO	**Taipei**	**1.54**	**297**	P		**Pn**	**03 42 52.2**	**-0.5**
TATO	**Taipei**	**1.54**	**297**	P		**Pn**	**03 42 52.0**	**-0.7**
	baz=297							
TATO				S		**Sn**	**03 43 09.6**	**-2.1**
	baz=297							
NSK	**Sanguang**	**1.55**	**285**	*i* P		**Pn**	**03 42 52.5**	**-0.4**
	baz=293							
NSK				S		**Sn**	**03 43 10.7**	**-1.2**
	baz=293							
TAP	**Taipei**	**1.56**	**299**	*i* P		**Pn**	**03 42 53.0**	**+0.1**
	baz=309							
TAP				*i* S		**Sn**	**03 43 10.2**	**-1.8**
	baz=309							
YM01	**YM01**	**1.56**	**304**	P		**Pn**	**03 42 52.2**	**-0.9**
	baz=304							
YM01				S		**Sn**	**03 43 10.3**	**-1.9**
	baz=304							
EGFH	**Guangfu**	**1.57**	**247**	P		**Pn**	**03 42 52.2**	**-0.9**
	baz=245							
EGFH				S		**Sn**	**03 43 11.1**	**-1.1**
	baz=245							
YM08	**YM08**	**1.57**	**305**	P		**Pn**	**03 42 51.8**	**-1.3**
	baz=306							
YM08				*e*S		**Sn**	**03 43 11.8**	**-0.6**
	baz=306							
WARBT	**Fenglin Townsh**	**1.58**	**250**	P		**Pn**	**03 42 52.0**	**-1.3**
	baz=247							
WARBT				S		**Sn**	**03 43 10.0**	**-2.7**
	baz=247							
JTJ	**Tarama**	**1.59**	**77**	P		**Pn**	**03 42 53.9**	**+0.7**
JTJ	**Tarama**	**1.59**	**77**	A		A	03 42 53.9	
	comp=E,26nm,1.8s,comp=N,42nm,0.8s							
PCYT	**Pengchaiyu**	**1.59**	**328**	⇓*i*P		**Pn**	**03 42 53.1**	**-0.2**
	baz=319							
PCYT				*e*S		**Sn**	**03 43 12.5**	**-0.2**
	baz=319							
WHF	**Hehuan Shan**	**1.60**	**265**	*i* P		**Pn**	**03 42 53.6**	**-0.2**
	baz=251							
WHF				*i* S		**Sn**	**03 43 13.9**	**+0.4**
	baz=251							
FUSS	**Fushou**	**1.61**	**269**	P		**Pn**	**03 42 54.1**	**+0.3**
	baz=267							
FUSS				S		**Sn**	**03 43 12.6**	**-1.0**
	baz=267							
TWY	**Chenhua**	**1.62**	**308**	*i* P		**Pn**	**03 42 53.2**	**-0.5**
	baz=309							
TWY				S		**Sn**	**03 43 13.0**	**-0.4**
	baz=309							
ANP	**Anpu**	**1.62**	**304**	*i* P		**Pn**	**03 42 52.5**	**-1.4**
	baz=305							
ANP				*e*S		**Sn**	**03 43 10.6**	**-3.1**
	baz=305							
NSM	**Shimen**	**1.63**	**308**	P		**Pn**	**03 42 53.6**	**-0.3**
	baz=309							
NSM				*e*S		**Sn**	**03 43 16.4**	**+2.6**
	baz=309							
HGSD	**Ruisui**	**1.65**	**242**	P		**Pn**	**03 42 52.8**	**-1.3**
	baz=239							
HGSD				S		**Sn**	**03 43 11.6**	**-2.6**
	baz=239							
TWS1	**Kuangyinshan**	**1.66**	**300**	*i* P		**Pn**	**03 42 53.6**	**-0.7**
	baz=300							
TWS1				*i* S		**Sn**	**03 43 14.2**	**-0.3**
	baz=300							
NTST	**Danshui**	**1.67**	**302**	P		**Pn**	**03 42 53.5**	**-0.9**
	baz=303							
NTST				*e*S		**Sn**	**03 43 13.4**	**-1.2**
	baz=303							
TWT	**Tachien**	**1.67**	**269**	*i* P		**Pn**	**03 42 55.8**	**+1.2**
	baz=267							
TWT				S		**Sn**	**03 43 15.8**	**+0.8**
	baz=267							
TDCB	**Techi**	**1.69**	**269**	P		**Pn**	**03 42 55.2**	**+0.4**
	baz=268							
TDCB				S		**Sn**	**03 43 15.5**	**+0.2**
	baz=268							
CHGB	**Renai**	**1.69**	**263**	P		**Pn**	**03 42 54.6**	**-0.2**
	baz=249							
CHGB				S		**Sn**	**03 43 15.5**	**0.0**
	baz=249							
OWD	**Renai**	**1.70**	**259**	⇓P		**Pn**	**03 42 54.6**	**-0.4**
	baz=257							
OWD				S		**Sn**	**03 43 15.0**	**-0.8**
	baz=257							
NTY	**Taoyuan**	**1.71**	**295**	P		**Pn**	**03 42 54.5**	**-0.4**
	baz=295							
NTY				S		**Sn**	**03 43 15.3**	**-0.4**
	baz=295							
EHYH	**Wanrong**	**1.71**	**243**	P		**Pn**	**03 42 54.4**	**-0.6**
	baz=240							
EHYH				*e*S		**Sn**	**03 43 13.8**	**-1.9**
	baz=240							
ECBN	**Changbin**	**1.72**	**236**	P		**Pn**	**03 42 54.1**	**-1.0**
	baz=233							
ECBN				S		**Sn**	**03 43 13.9**	**-2.0**
	baz=233							
EHY	**Hungye**	**1.73**	**244**	*i* P		**Pn**	**03 42 54.2**	**-1.0**
	baz=253							
EHY				S		**Sn**	**03 43 14.5**	**-1.5**
	baz=253							
WUSB	**Renai**	**1.75**	**261**	P		**Pn**	**03 42 55.4**	**-0.2**
	baz=259							
WUSB				S		**Sn**	**03 43 16.6**	**-0.3**
	baz=259							
NFF	**Wufeng Townshi**	**1.76**	**282**	P		**Pn**	**03 42 56.4**	**+0.7**
	baz=281							
NFF				*e*S		**Sn**	**03 43 17.6**	**+0.7**
	baz=281							
VWDT	**VWDT**	**1.79**	**253**	P		**Pn**	**03 42 56.0**	**0.0**
	baz=251							
VWDT				S		**Sn**	**03 43 16.6**	**-0.9**
	baz=251							
NCUH	**Zhongli**	**1.79**	**293**	P		**Pn**	**03 42 56.3**	**+0.2**
	baz=304							
NCUH				*e*S		**Sn**	**03 43 17.7**	**0.0**
	baz=304							
YULB	**Yu-li**	**1.80**	**241**			**Pn**	**03 42 55.5**	**-0.7**
YULB					Sn	**Sn**	**03 43 14.9**	**-3.0**
YULB	**Yu-li**	**1.80**	**241**	P		**Pn**	**03 42 55.8**	**-0.4**
YULB	**Yu-li**	**1.80**	**241**	P		**Pn**	**03 42 55.4**	**-0.8**
	baz=238							
YULB				S		**Sn**	**03 43 15.6**	**-2.3**
	baz=238							
EYUL	**Yuli**	**1.80**	**239**	P		**Pn**	**03 42 55.5**	**-0.7**
	baz=236							
EYUL				S		**Sn**	**03 43 16.1**	**-1.9**
	baz=236							
NJD	**Zhudong**	**1.81**	**285**	P		**Pn**	**03 42 58.6**	**+2.3**
	baz=284							
NJD				S		**Sn**	**03 43 21.1**	**+3.1**
	baz=284							
TWF1	**Yuli**	**1.82**	**240**	*i* P		**Pn**	**03 42 55.7**	**-0.8**
	baz=237							
TWF1				S		**Sn**	**03 43 16.4**	**-1.9**
	baz=237							
CHKH	**Chenggong**	**1.83**	**234**	P		**Pn**	**03 42 55.4**	**-1.3**
	baz=221							
CHKH				S		**Sn**	**03 43 15.6**	**-3.0**
	baz=221							
LIOB	**Emei**	**1.85**	**282**	P		**Pn**	**03 42 58.0**	**+1.1**
	baz=293							
LIOB				S		**Sn**	**03 43 19.8**	**+0.7**
	baz=293							
NSTT	**Nanjuang**	**1.86**	**281**	*i* P		**Pn**	**03 42 57.7**	**+0.7**
	baz=292							
NSTT				S		**Sn**	**03 43 20.6**	**+1.2**
	baz=292							
WHP	**Taichung City**	**1.88**	**270**	P		**Pn**	**03 42 59.0**	**+1.6**
	baz=257							
WHP				S		**Sn**	**03 43 21.0**	**+1.0**
	baz=257							
FULB	**Fuli**	**1.91**	**236**	P		**Pn**	**03 42 56.4**	**-1.3**
	baz=221							
FULB				S		**Sn**	**03 43 18.0**	**-2.5**
	baz=221							
SBCB	**Hsinchu**	**1.91**	**286**	P		**Pn**	**03 42 58.0**	**+0.4**
	baz=285							
SBCB				*e*S		**Sn**	**03 43 20.8**	**+0.2**
	baz=285							
CHKT	**Chengkung**	**1.91**	**232**	*i* P		**Pn**	**03 42 55.9**	**-1.8**
	baz=218							
CHKT				S		**Sn**	**03 43 17.0**	**-3.6**
	baz=218							
NHW	**Xinwu Township**	**1.92**	**292**	P		**Pn**	**03 42 56.7**	**-1.2**
	baz=305							
NHW				*e*S		**Sn**	**03 43 23.9**	**+3.0**
	baz=305							
HSN	**Hsinchu**	**1.93**	**286**	P		**Pn**	**03 42 57.7**	**-0.2**
	baz=301							
HSN				S		**Sn**	**03 43 20.3**	**-0.7**
	baz=301							
WCS	**Beigang Elemen**	**1.93**	**264**	P		**Pn**	**03 42 58.4**	**+0.5**
	baz=253							
WCS				S		**Sn**	**03 43 21.8**	**+0.8**
	baz=253							
SSLB	**Suanglung**	**1.94**	**256**			**Pn**	**03 42 57.9**	**-0.2**
SSLB						Sn	**03 43 18.2**	**-3.2**

baz=247
ECS Chishang 2.02 235 P Pn 03 42 58.8 -0.4
baz=222
ECS S Sn 03 43 20.5 -2.8
baz=222
NMLH Miaoli 2.04 278 P Pn 03 43 00.7 +1.3
baz=276
NMLH S Sn 03 43 26.4 +2.7
baz=276
TWQ1 Liyutan 2.04 272 *i* P Pn 03 43 00.9 +1.4
baz=271
TWQ1 *i* S Sn 03 43 25.6 +1.8
baz=271
JIRB Irabujima 2.05 74 A A 03 43 00.4
comp=E,18nm,2.5s,comp=N,19nm,2.7s
NSY Sanyi 2.05 274 *i* P Pn 03 43 01.4 +1.7
baz=273
NSY *i* S Sn 03 43 26.7 +2.6
baz=273
WHYT Xinyi Township 2.05 254 P Pn 03 43 00.3 +0.6
baz=242
WHYT S Sn 03 43 24.4 +0.2
baz=242
ELDTW Lidau 2.12 240 *i* P Pn 03 42 59.7 -1.0
baz=237
ELDTW S Sn 03 43 22.7 -3.3
baz=237
TCU Taichung 2.13 267 *i* P Pn 03 43 02.3 +1.6
baz=265
TCU *i* S Sn 03 43 28.8 +2.8
baz=265
WJS Zhushan 2.13 258 P Pn 03 43 02.4 +1.7
baz=256
WJS S Sn 03 43 28.9 +2.9
baz=256
LDUT Ludao 2.13 222 P Pn 03 42 59.0 -1.7
baz=210
LDUT S Sn 03 43 22.0 -4.1
baz=210
JIKM Ikemajima 2.14 72 A A 03 43 01.7
comp=E,23nm,3.2s,comp=N,17nm,5.0s
JMJ Miyako jima 2 2.15 75 P Pn 03 43 03.0 +2.1
ALS Alishan 2.16 250 *i* P Pn 03 43 01.9 +0.6
baz=247
ALS *i* S Sn 03 43 27.1 +0.1
baz=247
WDJ Dajia District 2.16 272 P Pn 03 43 02.7 +1.6
baz=271
WDJ S Sn 03 43 28.9 +2.2
baz=271
WNT Mingjian 2.16 260 *i* P Pn 03 43 02.7 +1.6
baz=246
WNT *i* S Sn 03 43 29.4 +2.7
baz=246
JMJ2 Miyako jima3 2.16 77 A A 03 43 02.1
comp=E,22nm,2.8s,comp=N,19nm,1.5s
LONT Longtian 2.20 232 P Pn 03 43 01.0 -0.7
baz=221
LONT S Sn 03 43 25.9 -1.9
baz=221
JOGS Gusukube 2.24 77 A A 03 43 03.2
comp=E,29nm,2.0s,comp=N,25nm,3.8s
WCHH Zhanghua 2.25 265 P Pn 03 43 04.1 +1.8
baz=264
WCHH S Sn 03 43 31.7 +2.9
baz=264
TTN Taitung 2.29 229 *i* P Pn 03 43 02.1 -0.7
baz=216
TTN *i* S Sn 03 43 28.0 -1.8
baz=216
TWGBT Beinan 2.29 231 P Pn 03 43 02.4 -0.5
TWGBT Beinan 2.29 231 P Pn 03 43 01.9 -1.0
baz=240
TWGBT S Sn 03 43 28.0 -2.0
baz=240
TWG Pinlang 2.30 231 Pn 03 43 01.9 -1.1
TWG Pinlang 2.30 231 *i* P Pn 03 43 02.0 -0.9
baz=240
TWG S Sn 03 43 27.5 -2.6
baz=240
WGK Gukeng 2.31 256 *i* P Pn 03 43 04.8 +1.6
baz=243
WGK *i* S Sn 03 43 32.6 +2.1
baz=243
STYH Taoyuan 2.33 242 P Pn 03 43 03.8 +0.4
baz=232
STYH S Sn 03 43 30.3 -0.4
baz=232
WDLH Douliu 2.33 256 P Pn 03 43 05.1 +1.6
baz=243
WDLH S Sn 03 43 33.8 +2.8
baz=243
WCKO Fanlu 2.35 250 P Pn 03 43 05.7 +1.9
baz=247
WCKO S Sn 03 43 33.1 +1.6
baz=247
TPUB Ta-pu 2.39 246 Pn 03 43 05.0 +0.8
TPUB Ta-pu 2.39 246 P Pn 03 43 05.6 +1.4
baz=244
TPUB S Sn 03 43 33.7 +1.4
baz=244
CHN4 Tsaushan 2.40 248 *i* P Pn 03 43 06.1 +1.7
baz=245
CHN4 *i* S Sn 03 43 34.8 +2.2
baz=245
WRL Guolierlin Hig 2.43 262 P Pn 03 43 06.2 +1.3
baz=260
WRL S Sn 03 43 34.9 +1.5
baz=260
RLNB Erlin 2.45 261 P Pn 03 43 06.3 +1.2
baz=260
RLNB S Sn 03 43 35.7 +1.9
baz=260
WTK Tuku 2.47 257 P Pn 03 43 07.0 +1.7
baz=245
WTK S Sn 03 43 37.0 +2.7
baz=245
CHY Chiayi 2.49 252 P Pn 03 43 07.1 +1.5
baz=250
CHY S Sn 03 43 35.8 +1.0
baz=250
SLGT Liugui 2.52 240 P Pn 03 43 07.0 +1.0
baz=230
SLGT S Sn 03 43 36.9 +1.3
baz=230
SGST Jiashian 2.52 242 *i* P Pn 03 43 06.8 +0.6
baz=240
SGST *i* S Sn 03 43 36.7 +1.1
baz=240
ECL Taimali 2.52 229 P Pn 03 43 04.8 -1.3
baz=236
ECL S Sn 03 43 32.0 -3.6
baz=236
WTCT Ta-ch'eng 2.53 261 *i* P Pn 03 43 07.4 +1.3
baz=259
WTCT *i* S Sn 03 43 36.7 +1.1
baz=259
SNST Tainan City 2.53 246 P Pn 03 43 07.8 +1.6
baz=243
SNST S Sn 03 43 37.2 +1.4
baz=243
LAY Lan-yu 2.60 211 *i* P Pn 03 43 05.1 -2.2
baz=208
LAY *i* S Sn 03 43 33.7 -4.0
baz=208
LYUB Lan-yu 2.62 210 P Pn 03 43 05.4 -2.1
baz=207
LYUB S Sn 03 43 34.0 -4.0
baz=207
WSF Szhu 2.63 256 *i* P Pn 03 43 09.6 +2.1
baz=269
WSF *i* S Sn 03 43 40.1 +1.9
baz=269
WSL Shuilin Townsh 2.65 254 P Pn 03 43 09.5 +1.6
baz=252
WSL S Sn 03 43 41.2 +2.4
baz=252
ICHU Yijhu 2.66 250 P Pn 03 43 09.6 +1.6
baz=248
ICHU S Sn 03 43 41.2 +2.2
baz=248
TSMG Majia 2.68 235 P Pn 03 43 08.7 +0.5
baz=228
TSMG S Sn 03 43 40.1 +0.7
baz=228
SCST Cishan 2.69 239 P Pn 03 43 10.7 +2.3
baz=226
SCST S Sn 03 43 43.0 +3.2
baz=226
CHN8 Yiju 2.73 251 *i* P Pn 03 43 10.2 +1.4
baz=248
CHN8 *i* S Sn 03 43 42.1 +1.5
baz=248
TAW Tawu 2.73 226 *i* P Pn 03 43 08.1 -0.7
baz=231
TAW S Sn 03 43 38.7 -1.9
baz=231
EAST Anshuo 2.74 227 *i* P Pn 03 43 08.0 -1.1
baz=232
EAST S Sn 03 43 39.6 -1.4
baz=232
SSHA Shanhua 2.74 246 P Pn 03 43 10.6 +1.5
baz=256
SSHA S Sn 03 43 44.1 +3.1
baz=256
MASBT Mashibuluo 2.74 233 P Pn 03 43 09.2 +0.1
baz=223
MASBT S Sn 03 43 40.8 -0.2
baz=223
SHHT Tainan City 2.74 243 P Pn 03 43 12.3 +3.2
baz=241
SHHT S Sn 03 43 43.6 +2.6
baz=241
TAWH Dawu Township 2.75 226 P Pn 03 43 08.1 -1.1
baz=231
TAWH S Sn 03 43 37.8 -3.3
baz=231
SGLT Jiouru 2.78 237 *i* P Pn 03 43 12.5 +2.9
baz=234
SGLT *i* S Sn 03 43 45.3 +3.3
baz=234
TWM1 Shoushan 2.78 239 *i* P Pn 03 43 12.6 +3.0
baz=227
TWM1 *i* S Sn 03 43 45.9 +3.9
baz=227
SCLT Jiali 2.80 247 *e*P Pn 03 43 12.7 +2.7
baz=245
SCLT *i* S Sn 03 43 44.2 +1.7
baz=245
TSPT Pingtung City 2.81 236 P Pn 03 43 12.8 +2.8
baz=233
TSPT S Sn 03 43 48.5 +6.0
baz=233
TAI1 Yung-k'ang 2.83 245 *e*P Pn 03 43 12.1 +1.8
baz=255
TAI1 S Sn 03 43 46.0 +2.9
baz=255
SNJT Kaohsiung City 2.89 239 P Pn 03 43 13.8 +2.7
baz=236
SNJT S Sn 03 43 49.6 +5.1
baz=236
SLIU Shizi 2.89 225 P Pn 03 43 09.9 -1.3
baz=213
SLIU *e*S Sn 03 43 43.5 -1.2
baz=213
SCZT Fangliau 2.90 230 *i* P Pn 03 43 11.9 +0.6
baz=220
SCZT S Sn 03 43 45.4 +0.5
baz=220
TSCK Chigu Township 2.91 248 *i* P Pn 03 43 12.8 +1.5
baz=245
TSCK *i* S Sn 03 43 46.0 +1.0
baz=245
WSSB Gushan 3.00 238 P Pn 03 43 15.2 +2.5
baz=234
WSSB S Sn 03 43 51.4 +3.9
baz=234
KAU Kaohsiung 3.01 236 P Pn 03 43 16.1 +3.3
baz=233
KAU *i* S Sn 03 43 52.7 +5.1
baz=233
SMST Manzhou Townsh 3.01 222 P Pn 03 43 12.6 -0.2
baz=219
SMST S Sn 03 43 45.9 -1.7
baz=219
TSEB Hengchuen, Pin 3.06 220 *i* P Pn 03 43 14.8 +1.4
baz=217
TSEB *i* S Sn 03 43 47.8 -1.1
baz=217
HEN Hengchun 3.08 223 *i* P Pn 03 43 14.7 +0.9
baz=220
HEN *i* S Sn 03 43 49.0 -0.4
baz=220
TWKBT Hengchun 3.08 221 P Pn 03 43 13.3 -0.4
baz=218
TWKBT S Sn 03 43 48.7 -0.8
baz=218
TWK1 Hengchun 3.09 221 *i* P Pn 03 43 13.9 0.0
baz=218
TWK1 *i* S Sn 03 43 49.2 -0.3
baz=218
WDGT Dungji 3.23 252 *i* P Pn 03 43 16.2 +0.4
baz=250
WDGT *i* S Sn 03 43 52.4 -0.6
baz=250
PHUB P'eng-hu 3.23 257 P Pn 03 43 16.0 +0.1
baz=255
PHUB S Sn 03 43 52.9 -0.2
baz=255
PNG Penghu 3.24 258 *i* P Pn 03 43 16.1 +0.2
baz=256
PNG *i* S Sn 03 43 52.7 -0.5
baz=256
VWUC VWUC 3.31 283 P Pn 03 43 16.3 -0.6
baz=283
VWUC S Sn 03 43 52.6 -2.5
baz=283
MATB Ma-tsu 3.34 305 P Pn 03 43 15.9 -1.3
baz=305
MATB S Sn 03 43 55.8 +0.1
baz=305
VCHM Qimei 3.45 253 P Pn 03 43 19.1 +0.3
baz=251
VCHM S Sn 03 43 57.4 -1.0
baz=251
PTMZ Houxiangcun 3.62 283 P Pn 03 43 20.4 -0.6
baz=283
PTMZ S Sn 03 44 00.9 -1.6
baz=283
XPSS Dashiqiu 3.66 317 P Pn 03 43 21.0 -0.7
baz=309
XPSS *e*S Sn 03 44 04.3 +0.7
baz=309
LYJJ Jianjiangzhen 3.70 308 P Pn 03 43 21.1 -1.2
baz=309
LYJJ *e*S Sn 03 44 03.7 -0.9
baz=309
MHZQ Yeshan 4.03 298 P Pn 03 43 26.6 -0.2
baz=298
MHZQ *e*S Sn 03 44 12.6 -0.1
baz=298
QZH Quanzhou 4.07 280 *i* P Pn 03 43 26.4 -0.9
QZH S Sn 03 44 10.6 -3.1
QZH smax smax
comp=N,450nm,0.7s
QZH smax smax
comp=N,480nm,0.7s
QZH LR LR
comp=N,5μm,9.3s
QZH LR LR
comp=N,3μm,9.2s
QZH LR LR
comp=N,2μm,9.5s
KNM Kinmen 4.17 273 *i* P Pn 03 43 29.9 +1.2
baz=284
KNM *i* S Sn 03 44 16.6 +0.4
baz=284
KNMB Chin-men Tao 4.21 273 Pn Pn 03 43 28.2 -1.0
KNMB Chin-men Tao 4.21 273 P Pn 03 43 28.3 -1.0
baz=284
KNMB S Sn 03 44 16.2 -1.0
baz=284
AXDP Jialang 4.63 279 P Pn 03 43 34.2 -0.7
baz=279
AXDP S Sn 03 44 25.8 -1.6
baz=279
ZPLA Ao Xicun 4.82 267 P Pn 03 43 36.9 -0.6
baz=257
ZPLA *e*S Sn 03 44 29.9 -2.1
baz=257
DSXP Dongshan 5.14 265 P Pn 03 43 40.7 -1.2
baz=264
DSXP *e*S Sn 03 44 37.6 -2.3
baz=264
SXFK Yanhouchang 5.29 295 P Pn 03 43 43.5 -0.5
baz=295
JOW Kunigami 5.39 61 Pn Pn 03 43 45.2 -0.2
JOW Kunigami 5.39 61 P Pn 03 43 45.8 +0.3
JOW Kunigami 5.39 61 P Pn 03 43 45.4 0.0
comp=N,10nm,0.3s,baz=242,slow=12,SNR=33
JOW S Sn 03 44 44.1 -2.1
comp=N,45nm,0.6s,baz=282,slow=19,SNR=1.0
comp=N,33nm,0.3s
SSE Sheshan 6.98 347 P Pn 03 44 07.0 -0.1
SSE S Sn 03 45 29.7 +4.6
SSE smax smax
comp=N,31nm,1.3s
SSE smax smax
comp=N,59nm,1.1s
SSE LR LR
comp=N,810nm,20.3s
SSE LR LR
comp=N,540nm,20.6s
JMZ Minamidaito 2 7.61 77 Pn Pn 03 44 14.8 -1.0
HKPS Hong Kong Po S 8.39 258 Pn Pn 03 44 25.8 -0.8
NJ2 Nanjing 8.56 336 *e*P Pn 03 44 28.4 -0.5
NJ2 PP 03 44 38.3
NJ2 sP 03 44 44.8
NJ2 S Sn 03 46 01.5 -2.5
NJ2 pmax pmax
comp=N,48nm,0.6s
NJ2 smax smax
comp=N,73nm,1.0s
NJ2 smax smax
comp=N,83nm,1.4s
NJ2 LR LR
comp=N,990nm,4.0s
NJ2 LR LR
comp=N,1μm,4.3s
NJ2 LR LR
comp=N,2μm,14.2s
GZH Guangzhou 8.94 264 *e*P Pn 03 44 28.9 -5.1
GZH S Sn 03 46 05.6 -7.7
GZH smax smax
comp=N,140nm,1.1s
GZH smax smax
comp=N,130nm,0.9s
CNSH ChangSha 9.84 295 ⇑P Pn 03 44 48.8 +2.4
CNSH LR LR
comp=N,890nm,16.6s
WHN Wuhan 9.90 311 ⇓P Pn 03 44 47.3 +0.1
WHN S Sn 03 46 41.4 +4.6
WHN pmax pmax
comp=N,52nm,0.5s
WHN LR LR
comp=N,4μm,15.9s
TGY Tagaytay City 10.31 191 P Pn 03 44 59.7 +6.7
comp=N,177nm,0.3s,baz=21,slow=6.0,SNR=3.9
TGY LR LR 03 49 01.4
comp=N,1μm,21.9s,baz=196,slow=38
JNU Nakatsue 11.19 36 P Pn 03 45 09.8 +5.0
comp=N,4.6nm,0.7s,baz=172,slow=17,SNR=1.6
JNU LR LR 03 49 28.0
comp=N,990nm,20.7s,baz=204,slow=38
QIZ Qiongzhong 13.31 249 P Pn 03 45 33.6 -0.2
QIZ S Sn 03 48 00.2 0.0
QIZ LR LR
comp=N,690nm,15.6s
QIZ LR LR
comp=N,650nm,16.1s
QIZ LR LR
comp=N,760nm,17.2s
LYN LuoYang 13.74 321 *e*P Pn 03 45 39.9 +0.3
LYN pmax pmax
comp=N,22nm,0.8s
LYN pmax pmax
comp=N,240nm,5.1s
LYN LR LR
comp=N,2μm,13.1s
LYN LR LR
comp=N,2μm,15.8s
LYN LR LR
comp=N,2μm,20.9s
KSRS Korea Array 13.79 17 P P 03 45 45.5 -1.7
comp=N,19nm,0.7s,baz=198,slow=12,SNR=30
KSRS LR LR 03 51 33.7
comp=N,917nm,19.2s,baz=205,slow=40
KS19 Wonju Array Si 13.82 16 Pn 03 45 41.4 +0.7
DL2 Dalian 14.63 356 P P 03 46 03.7 +7.1
DL2 *e*S S 03 48 50.0 +1.1
DL2 pmax pmax
comp=Z,72nm,1.6s
DL2 LR LR
comp=N,1μm,14.2s
DL2 LR LR
comp=E,650nm,10.9s
DL2 LR LR
comp=Z,1μm,13.0s
HNS HongShan 14.88 333 ⇑P P 03 45 57.6 -1.8
HNS SS S 03 49 00.6 +6.5
HNS pmax pmax
comp=Z,15nm,1.6s
HNS LR LR
comp=Z,1μm,15.9s
HNS LR LR
comp=Z,610nm,15.9s
HNS LR LR
comp=Z,1μm,18.2s
GYA Guiyang 14.93 282 P Pn 03 45 52.0 -3.6
GYA pP P 03 46 02.7 +2.5
GYA LR LR
comp=Z,960nm,18.3s
XAN Xi'an 15.67 312 ⇑P P 03 46 06.1 -2.1
XAN pP pP 03 46 17.9 -1.7
XAN sS S 03 49 09.7 -0.6
XAN pmax pmax
comp=Z,41nm,1.3s
XAN pmax pmax
comp=Z,330nm,4.8s
XAN LR LR
comp=Z,2μm,18.2s
XAN LR LR
comp=Z,750nm,15.8s
XAN LR LR
comp=Z,1μm,21.5s
BJI Beijing 16.73 342 P P 03 46 20.7 +0.8
BJI sP pP 03 46 31.7 +0.5
BJI pmax pmax
comp=Z,7.0nm,0.9s
BJI LR LR
comp=Z,330nm,18.9s
BJI LR LR
comp=Z,240nm,15.7s
BJI LR LR
comp=Z,460nm,20.8s
DAV Davao City (W) 17.29 171 LR LR 03 53 55.6
comp=Z,452nm,18.9s,baz=350,slow=39
SNY Shenyang 17.50 1 ⇓P P 03 46 30.9 +2.5
SNY pmax pmax
comp=Z,10.0nm,0.5s
SNY pmax pmax
comp=Z,220nm,3.6s
SNY LR LR
comp=Z,290nm,6.5s
SNY LR LR
comp=Z,590nm,5.1s
SNY LR LR
comp=Z,1μm,12.8s
JCJ Chichijima 17.51 77 LR LR 03 51 52.8
comp=Z,462nm,20.1s,baz=268,slow=32
MJAR Matsushiro Arr 17.89 43 LR LR 03 53 45.2
comp=Z,540nm,19.8s,baz=219,slow=38
CD2 Chengdu 18.28 295 *e*P Pn 03 46 37.0 -0.6
KMI Kunming 18.43 277 ⇓P Pn 03 46 42.7 +3.1
KMI pmax pmax
comp=Z,16nm,0.7s
HHC Hu-ho-hao-te 19.10 333 *e*P Pn 03 46 47.6 +0.2
HHC pP pP 03 46 57.1 -0.4
HHC sP sP 03 47 03.2 -0.7
HHC S Sn 03 50 16.9 -3.7
HHC SS SnSn 03 50 42.5 +7.1
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,260nm,4.1s
HHC LR LR
comp=Z,810nm,17.2s
HHC LR LR
comp=Z,660nm,17.6s
HHC LR LR
comp=Z,1μm,18.1s
KKM Kota Kinabalu 19.27 201 P 03 46 48.0 -0.1

KKM IAmb IAmb 03 46 52.1
comp=Z,185nm,1.9s
PZH PanZhiHua 19.34 281 P **Pn** **03 46 51.5 +1.1**
PZH pP **pP** **03 47 00.7 +0.3**
PZH pmax pmax
comp=Z,40nm,0.9s
PZH pmax pmax
comp=Z,190nm,7.3s
PZH LR LR
comp=Z,880nm,12.8s
PZH LR LR
comp=Z,550nm,14.1s
PZH LR LR
comp=Z,740nm,16.0s
CN2 Changchun 19.57 5 P **Pn** **03 46 54.4 +1.6**
CN2 pP sP 03 47 04.8 -4.1
CN2 sP pP 03 47 10.5 +8.0
CN2 S **S** **03 50 26.1 -3.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,1µm,12.0s
CN2 LR LR
comp=Z,500nm,12.0s
CN2 LR LR
comp=Z,2µm,12.0s
BTO Baotou 19.58 329 *e*P **Pn** **03 46 54.0 +0.9**
BTO pP **pP** **03 47 04.5 +1.6**
BTO sP **sP** **03 47 09.3 -0.1**
BTO PP **PnPn** **03 47 13.8 +5.9**
BTO pmax pmax
comp=Z,30nm,0.8s
BTO pmax pmax
comp=Z,440nm,6.8s
BTO LR LR
comp=Z,1µm,13.3s
BTO LR LR
comp=Z,1µm,13.5s
BTO LR LR
comp=Z,2µm,15.5s
LZH Lanzhou 20.28 310 *e*P Pn 03 47 01.0 -0.4
LZH pP sP 03 47 12.7 -4.4
LZH S **S** **03 50 43.1 -0.6**
LZH sS sS 03 51 00.3 -2.3
LZH pmax pmax
comp=Z,25nm,1.1s
LZH LR LR
comp=Z,720nm,17.9s
LZH LR LR
comp=Z,890nm,17.9s
LZH LR LR
comp=Z,1µm,17.2s
XLT XiLinHaoTe 20.38 346 *e*P Pn 03 47 05.6 +3.2
XLT pP sP 03 47 16.3 -1.5
XLT sP pP 03 47 23.6 +12
XLT PP **PnPn** **03 47 27.0 +8.2**
XLT pmax pmax
comp=Z,21nm,0.8s
XLT pmax pmax
comp=Z,450nm,5.8s
XLT LR LR
comp=Z,88nm,15.3s
XLT LR LR
comp=Z,420nm,13.6s
XLT LR LR
comp=Z,1µm,16.2s
MDJ Mudanjiang 20.98 13 P Pn 03 47 08.9 -0.6
MDJ pmax pmax
comp=Z,15nm,0.7s
MDJ pmax pmax
comp=Z,590nm,4.5s
MDJ Mudanjiang 20.98 13 P **P** **03 47 06.8 +0.4**
USRK Ussuriysk Ar. 21.18 18 P **P** **03 47 07.5 -1.1**
comp=Z,6.2nm,0.6s,baz=210,slow=9.7,SNR=15
USRK LR LR 03 55 16.0
comp=Z,545nm,21.2s,baz=195,slow=36
comp=Z,6.2nm,0.6s
CRAI Chiangrai 21.33 264 P **P** **03 47 10.8 +0.5**
BNX BinXian 21.70 8 ⇓P **P** **03 47 14.5 +0.4**
BNX pmax pmax
comp=Z,24nm,1.0s
BNX pmax pmax
comp=Z,390nm,4.8s
TNCH TengChong 22.26 277 P **P** **03 47 22.2 +1.7**
TNCH S **S** **03 51 19.6 -3.0**
TNCH pmax pmax
comp=Z,87nm,0.4s
TNCH pmax pmax
comp=Z,280nm,3.2s
TNCH LR LR
comp=Z,740nm,12.7s
TNCH LR LR
comp=Z,340nm,5.7s
TNCH LR LR
comp=Z,670nm,16.1s
CHTO Chiang Mai 23.02 261 P **P** **03 47 27.1 -1.3**
CMAR Chiang Mai Arr 23.13 260 P **P** **03 47 29.4 -0.1**
CMAR Chiang Mai Arr 23.13 260 P **P** **03 47 31.0 +1.5**
comp=Z,3.1nm,0.6s,baz=63,slow=8.0,SNR=10
CMAR PcP **PcP** **03 51 18.1 +1.2**
comp=Z,1.4nm,0.3s,baz=52,slow=0.6,SNR=8.0
CMAR LR LR 03 57 41.1
comp=Z,343nm,18.3s,baz=75,slow=39
comp=Z,3.1nm,0.6s
TOLI2 Tolitoli 23.14 186 P **P** **03 47 28.2 -1.2**
TOLI2 IAmb IAmb 03 47 37.0
comp=Z,42nm,1.5s
GTOI Gorontalo 23.51 180 P **P** **03 47 31.9 -1.1**
comp=Z,44nm,0.8s,comp=Z,484nm
MRSI Marisa 23.69 183 P **P** **03 47 39.0 +4.3**
TNTI Ternate 23.75 169 P **P** **03 47 34.2 -1.1**
TNTI Ternate 23.75 169 P **P** **03 47 37.3 +2.0**
comp=Z,92nm,0.9s,comp=Z,1µm
MPSI Mapaga 23.99 188 P **P** **03 47 39.0 +1.5**
comp=Z,8.9nm,1.1s
SBUM Sibu 24.08 207 P **P** **03 47 37.9 -0.4**
SBUM IAmb IAmb 03 47 41.6
comp=Z,52nm,1.4s
GTA Gaotai 24.71 313 *e*P **P** **03 47 44.3 +0.2**
GTA sP sP 03 47 59.9 -3.1
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA LR LR
comp=Z,420nm,12.4s
GTA LR LR
comp=Z,370nm,15.1s
GTA LR LR
comp=Z,410nm,17.1s
LUWI Luwuk 25.18 181 P **P** **03 47 49.5 +1.3**
ASAJ Asahikawa 25.45 34 LR LR 03 59 50.9
comp=Z,348nm,18.3s,baz=80,slow=41
KLR Kul'dur 25.83 13 P **P** **03 47 53.0 -1.0**
comp=Z,6.9nm,0.5s,baz=210,slow=8.5,SNR=31
KLR PcP **PcP** **03 51 21.6 -0.5**
comp=Z,2.0nm,0.6s,baz=215,slow=2.7,SNR=5.7
KLR LR LR 03 58 20.3
comp=Z,674nm,21.3s,baz=200,slow=37
comp=Z,6.9nm,0.5s
HEH HeiHe 26.15 6 *e*P **P** **03 47 57.8 +1.0**
HEH pmax pmax
comp=Z,15nm,0.7s
HEH pmax pmax
comp=Z,730nm,5.0s
SANI Sanana 26.33 173 P **P** **03 47 59.1 +0.3**
SONM Songino Array 26.95 335 P **P** **03 48 03.5 -0.8**
SONM Songino Array 26.95 335 P **P** **03 48 03.4 -0.8**
comp=Z,4.7nm,0.8s,baz=150,slow=11,SNR=18
SONM LR LR 04 00 04.9
comp=Z,835nm,18.2s,baz=149,slow=39
comp=Z,4.7nm,0.8s
GOMU GeErMu 27.00 303 P **P** **03 48 06.0 +0.9**
GOMU pmax pmax
comp=Z,3.0nm,0.8s
GOMU LR LR
comp=Z,650nm,18.6s
GOMU LR LR
comp=Z,240nm,18.6s
GOMU LR LR
comp=Z,610nm,17.8s
NLAI Namlea 27.64 171 P **P** **03 48 16.4 +5.9**
RPSI Rantau Prapat 31.64 231 P **P** **03 48 45.2 -0.8**
WMQ Urumqi 34.80 313 *e*P **P** **03 49 14.6 +1.3**
WMQ ScS ScS 03 59 28.4 -1.9
YAK Yakutsk 38.01 5 LR LR 04 05 59.8
comp=Z,317nm,19.0s,baz=140,slow=37
PETK Petropavlovsk- 38.87 33 LR LR 04 06 04.7
comp=Z,237nm,19.1s,baz=229,slow=37
MK31 Makanchi Array 39.43 315 P **P** **03 49 50.9 -1.7**
MKAR Makanchi Array 39.43 315 P **P** **03 49 51.1 -1.5**
MKAR Makanchi Array 39.43 315 P **P** **03 49 51.2 -1.4**
comp=Z,1.6nm,0.4s,baz=102,slow=9.9,SNR=31
MKAR PcP **PcP** **03 51 59.5 -0.3**
comp=Z,2.5nm,0.8s,baz=103,slow=6.2,SNR=6.4
MKAR LR LR 04 07 29.5
comp=Z,359nm,18.8s,baz=91,slow=38
comp=Z,1.6nm,0.4s
MAKZ Makanchi 39.64 315 P **P** **03 49 52.8 -1.5**
MAKZ Makanchi 39.64 315 P **P** **03 49 53.2 -1.0**
MAKZ pP **pP** **03 50 07.7 +0.1**
MA2 Magadan 40.27 22 LR LR 04 06 42.2
comp=Z,405nm,22.0s,baz=216,slow=36
PMG Port Moresby 40.95 142 P **P** **03 50 06.1 +0.7**
PMG IAmb IAmb 03 50 20.3
comp=Z,12nm,0.8s
PMG Port Moresby 40.95 142 LR LR 04 06 36.9
comp=Z,286nm,20.3s,baz=246,slow=35
ZAA0 Zalesovo Array 41.08 326 P **P** **03 50 04.7 -1.3**
ZALV Zalesovo Beam 41.08 326 P **P** **03 50 03.9 -2.1**
ZALV Zalesovo Beam 41.08 326 P **P** **03 50 05.2 -0.8**
comp=Z,2.2nm,0.4s,baz=109,slow=7.4,SNR=12
ZALV LR LR 04 08 26.2
comp=Z,570nm,19.3s,baz=122,slow=38
comp=Z,2.2nm,0.4s
NRN Naryn 42.48 305 P **P** **03 50 17.6 -0.5**
NRN IAmb IAmb 03 50 35.8
comp=Z,13nm,0.9s
COEN Coen 42.81 150 P **P** **03 50 20.0 -0.5**
COEN IAmb IAmb 03 50 23.5
comp=Z,13nm,0.7s
KURK Kurchatov 43.09 319 P **P** **03 50 21.1 -1.4**
KURBB Kurchatov Arra 43.11 319 P **P** **03 50 21.1 -1.6**
comp=Z,1.1nm,0.5s,baz=111,slow=10,SNR=12
KURBB PcP **PcP** **03 52 08.4 -3.2**
comp=Z,1.1nm,0.6s,baz=115,slow=3.2,SNR=4.5
comp=Z,1.1nm,0.5s
SEY Seynchan 43.33 19 P **P** **03 50 22.9 -1.3**
comp=Z,1.2nm,0.4s,baz=222,slow=10,SNR=6.8
SEY LR LR 04 08 21.2
comp=Z,332nm,21.3s,baz=250,slow=36
comp=Z,1.2nm,0.4s
AAK Ala-Archa 43.77 307 P **P** **03 50 26.7 -1.6**
AAK Ala-Archa 43.77 307 LR LR 04 11 30.7
comp=Z,316nm,18.6s,baz=106,slow=40
AAK Ala-Archa 43.77 307 P **P** **03 50 28.7 +0.4**
AAK pP **pP** **03 50 42.8 +1.0**
PALK Pallekele 43.87 254 LR LR 04 09 19.3
comp=Z,143nm,20.0s,baz=158,slow=37
WB0 Warramunga Arr 45.17 165 P **P** **03 50 40.0 +0.7**
WB0 IAmb IAmb 03 50 41.4
comp=Z,14nm,0.8s
WRAB Tennant Creek 45.32 165 P **P** **03 50 41.6 +1.1**
WRAB IAmb IAmb 03 50 42.7
comp=Z,17nm,0.8s
WRA Warramunga Arr 45.32 165 P **P** **03 50 40.8 +0.2**
WRA Warramunga Arr 45.32 165 P **P** **03 50 41.2 +0.6**
comp=Z,15nm,0.8s,baz=346,slow=8.6,SNR=32
comp=Z,15nm,0.8s
WB2 Warramunga Arr 45.33 165 P **P** **03 50 40.9 +0.3**
WB2 IAmb IAmb 03 50 42.8
comp=Z,18nm,0.8s
WR0 Warramunga Arr 45.39 165 P **P** **03 50 41.9 +0.8**
PSA00 Pilbara Seismi 45.68 184 P **P** **03 50 44.1 +0.7**
PSA00 IAmb IAmb 03 50 57.5
comp=Z,29nm,1.8s
GAR Garm 46.58 301 P **P** **03 50 50.4 -0.2**
KK31 Karatay Array 46.74 307 P **P** **03 50 51.3 -0.3**
KKAR Karatay Array 46.74 307 P **P** **03 50 50.8 -0.8**
KKAR Karatay Array 46.74 307 P **P** **03 50 51.3 -0.3**
KKAR IAmb IAmb 03 52 25.7
comp=Z,5.2nm,0.8s
TIXI Tiksi 47.51 3 P **P** **03 50 55.6 -1.5**
TIXI IAmb IAmb 03 50 57.2
comp=Z,6.0nm,0.7s
TIXI Tiksi 47.51 3 P **P** **03 50 55.2 -1.9**
comp=Z,5.3nm,0.6s,baz=194,slow=5.4,SNR=12
comp=Z,5.3nm,0.6s
TIXI Tiksi 47.51 3 P **P** **03 50 55.3 -1.9**
SIMJ Simiganj 47.59 301 P **P** **03 50 58.4 -0.1**
SIMJ IAmb IAmb 03 51 16.3
comp=Z,6.6nm,0.8s
SIMJ Simiganj 47.59 301 P **P** **03 50 58.8 +0.3**
SIMJ pP **sP** **03 51 14.7 -3.4**
KBL Kabul 47.62 295 P **P** **03 50 58.0 -0.9**
KBL IAmb IAmb 03 51 16.2
comp=Z,14nm,0.9s
SHEM Shemya Is, Ala 47.69 40 LR LR 04 09 32.6
comp=Z,119nm,22.0s,baz=218,slow=34
BVAR Borovoye Array 48.66 320 P **P** **03 51 04.8 -1.5**
comp=Z,1.2nm,0.4s,baz=106,slow=9.9,SNR=10
BVAR PcP **PcP** **03 52 30.3 -0.7**
comp=Z,2.3nm,0.5s,baz=111,slow=4.0,SNR=6.2
comp=Z,1.2nm,0.4s
BRVK Borovoye 48.73 320 P **P** **03 51 06.2 -0.6**
BRVK pP **pP** **03 51 22.2 +1.7**
AS31 Alice Springs 48.82 167 P **P** **03 51 09.0 +1.1**
ASAR Alice Springs 48.82 167 P **P** **03 51 08.8 +0.9**
ASAR Alice Springs 48.82 167 P **P** **03 51 09.2 +1.3**
comp=Z,2.4nm,0.6s,baz=344,slow=5.8,SNR=18
comp=Z,2.4nm,0.6s
HNR Honiara 49.23 128 LR LR 04 11 17.3
comp=Z,987nm,19.6s,baz=302,slow=35
CTA Charters Tower 49.58 151 LR LR 04 10 13.8
comp=Z,176nm,21.1s,baz=0.0,slow=34
ABKAR Akbulak array 54.56 314 P **P** **03 51 49.7 -0.7**
ABKAR Akbulak array 54.56 314 P **P** **03 51 49.9 -0.6**
ABKAR IAmb IAmb 03 52 53.6
comp=Z,4.6nm,0.8s
AKTO Aktyubinsk 55.87 316 LR LR 04 17 11.5
comp=Z,250nm,20.2s,baz=30,slow=37
GEYT Alibeck 56.18 300 P **P** **03 52 03.5 +1.2**
comp=Z,3.2nm,0.6s,baz=90,slow=2.9,SNR=6.1
comp=Z,3.2nm,0.6s
NWAO Narrogin (SRO) 57.16 186 LR LR 04 17 06.2
comp=Z,48nm,19.8s,baz=266,slow=36
STKA Stephens Creek 58.60 161 P **P** **03 52 20.8 +1.6**
comp=Z,2.5nm,0.8s,baz=335,slow=5.1,SNR=6.4
comp=Z,2.5nm,0.8s
KIRV Kirov 61.09 325 LR LR 04 21 28.8
comp=Z,480nm,19.5s,baz=97,slow=38
D17K Noatak River 61.67 25 P **P** **03 52 40.0 +0.2**
baz=265
C17K DeLong Mountai 61.71 24 P **P** **03 52 40.5 +0.4**
baz=264
B18K Kokolik River 62.28 23 P **P** **03 52 45.1 +1.2**
baz=265
F17K Baldwin Pennin 62.30 26 P **P** **03 52 45.2 +1.2**
baz=267
BELG Belogornoye 62.34 318 LR LR 04 22 06.8
comp=Z,213nm,20.5s,baz=138,slow=38
C18K Utukok River 62.45 24 P **P** **03 52 45.5 +0.3**
baz=266
DZM Mont Dzumac 62.49 134 *e*LR LR 04 12 33.8
comp=Z,563nm,26.1s
DZM Mont Dzumac 62.49 134 LR LR 04 15 15.9
comp=Z,172nm,21.9s,baz=278,slow=31
G17K Kiwalik Mounta 62.51 27 P **P** **03 52 45.8 +0.3**
baz=268
F18K Selawik 62.95 26 P **P** **03 52 48.6 +0.3**
baz=269
C19K Lookout Ridge 63.06 23 P **P** **03 52 49.2 +0.1**
C19K IAmb IAmb 03 52 51.4
comp=Z,4.6nm,0.6s
C19K Lookout Ridge 63.06 23 P **P** **03 52 50.1 +0.9**
baz=268
N16K Nishlik Lake 63.42 33 P **P** **03 52 52.4 +0.8**
baz=273
D19K Kuna River 63.57 24 IAmb IAmb 03 52 55.1
comp=Z,5.4nm,0.6s
D19K Kuna River 63.57 24 P **P** **03 52 52.6 +0.1**
baz=269
E19K Redstone River 63.91 25 IAmb IAmb 03 53 33.3
comp=Z,9.9nm,0.9s
G19K Purcell Mounta 63.98 26 P **P** **03 52 56.3 +1.1**
baz=271
D20K Etivluk River 64.13 24 P **P** **03 52 56.9 +0.7**
baz=270
H19K Roundabout Mou 64.26 27 P **P** **03 52 57.3 +0.3**
baz=272
E20K Nigu River 64.29 24 P **P** **03 52 57.5 +0.2**
baz=271
F20K Avaraart Lake 64.50 25 P **P** **03 53 00.2 +1.6**
baz=272
J19K Poorman 64.70 29 P **P** **03 53 00.6 +0.6**
baz=274
H20K Anotleneega Mo 64.92 27 P **P** **03 53 01.7 +0.3**
baz=274
J20K Nowinta River 65.33 29 P **P** **03 53 05.2 +1.1**
baz=275
F21K Alatna River 65.36 25 P **P** **03 53 05.3 +1.1**
baz=274
G21K Allakaket 65.41 26 P **P** **03 53 05.0 +0.5**
baz=274
K20K Telida 65.44 29 P **P** **03 53 06.0 +1.2**
baz=275
D22K Ayikyak River 65.55 23 P **P** **03 53 06.0 +0.6**
baz=274
H21K Melozitna Rive 65.77 27 IAmb IAmb 03 53 36.1
comp=Z,22nm,1.8s
H21K Melozitna Rive 65.77 27 P **P** **03 53 07.3 +0.5**
baz=275
E22K Anaktuvuk Pass 65.93 24 IAmb IAmb 03 53 09.5
comp=Z,16nm,1.6s
E22K Anaktuvuk Pass 65.93 24 P **P** **03 53 08.3 +0.4**
baz=275
I21K Tanana 66.16 27 P **P** **03 53 10.9 +1.6**
baz=276
C23K Itkillik River 66.20 22 P **P** **03 53 10.5 +0.9**
baz=276
D23K Nanushuk River 66.26 23 P **P** **03 53 11.4 +1.4**
baz=276
CAST Castle Rocks 66.32 29 IAmb IAmb 03 53 13.0
comp=Z,4.4nm,0.7s
CAST Castle Rocks 66.32 29 P **P** **03 53 11.8 +1.4**
baz=277
H22K Ishtalitna Cre 66.33 27 P **P** **03 53 11.2 +0.8**
baz=277
COLD Coldfoot 66.64 25 P **P** **03 53 13.3 +0.9**
baz=277
MLY Manley 66.70 27 P **P** **03 53 13.9 +1.0**
baz=278
KBZ Khabaz 66.71 309 LR LR 04 24 48.0
comp=Z,147nm,19.9s,baz=64,slow=38
BPAW Bear Paw Mtn. 66.72 28 P **P** **03 53 14.3 +1.3**
baz=278
G23K Bananza Creek 66.77 26 P **P** **03 53 13.8 +0.5**
baz=278
KDAK Kodiak Island 66.86 35 P **P** **03 53 14.1 +0.2**
C24K Franklin Bluff 66.87 22 P **P** **03 53 15.0 +1.2**
baz=277
D24K Happy Valley 66.90 23 IAmb IAmb 03 53 17.4
comp=Z,8.1nm,0.8s
D24K Happy Valley 66.90 23 P **P** **03 53 15.3 +1.2**
baz=278
SUA Susitna One 67.21 31 IAmb IAmb 03 53 18.4
comp=Z,10nm,0.8s
SUA Susitna One 67.21 31 P **P** **03 53 16.4 +0.1**
baz=279
I23K Minto, Yukon-K 67.26 27 IAmb IAmb 03 54 46.5
comp=Z,33nm,1.9s
I23K Minto, Yukon-K 67.26 27 P **P** **03 53 17.3 +0.9**
baz=279
F24K Squaw Lake 67.48 25 IAmb IAmb 03 53 20.9
comp=Z,6.1nm,0.9s
F24K Squaw Lake 67.48 25 P **P** **03 53 18.4 +0.6**
baz=279
MCK McKinley 67.67 29 P **P** **03 53 19.3 +0.3**
baz=280
RND Reindeer 67.76 29 IAmb IAmb 03 53 21.1
comp=Z,21nm,1.2s
H24K Noodor Dome 67.76 26 P **P** **03 53 21.2 +1.6**
baz=280
MDM Murphy Dome 67.76 27 IAmb IAmb 03 53 22.1
comp=Z,17nm,1.2s
G24K Hadweenzic Riv 67.77 25 IAmb IAmb 03 53 22.5
comp=Z,5.4nm,0.8s
G24K Hadweenzic Riv 67.77 25 P **P** **03 53 20.5 +0.9**
baz=280
WRH Wood River Hil 67.91 28 P **P** **03 53 21.2 +0.8**
WRH IAmb IAmb 03 53 21.4
comp=Z,16nm,1.4s
COLA College 67.94 27 P **P** **03 53 21.5 +1.0**
PMR Palmer 67.95 31 P **P** **03 53 21.3 +0.6**
baz=280
POKR Poker Plat Res 68.07 27 IAmb IAmb 03 53 23.3
comp=Z,9.0nm,0.5s
POKR Poker Plat Res 68.07 27 P **P** **03 53 22.3 +0.8**
baz=280
E25K Arctic Village 68.25 24 IAmb IAmb 03 53 49.1
comp=Z,14nm,1.7s
E25K Arctic Village 68.25 24 P **P** **03 53 24.0 +1.5**
baz=281
G25K Bearman Lake 68.30 25 P **P** **03 53 24.6 +1.7**
baz=281
F25K Christian Rive 68.32 24 P **P** **03 53 24.8 +1.7**
baz=281
IL31 68.36 27 IAmb IAmb 03 54 04.6
comp=Z,13nm,1.6s
ILAR Eielson Array 68.36 27 P **P** **03 53 22.4 -0.9**
comp=Z,2.0nm,0.5s,baz=274,slow=5.5,SNR=17
ILAR LR LR 04 26 06.2
comp=Z,81nm,18.2s,baz=86,slow=38
comp=Z,2.0nm,0.5s
HDA Harding Lake 68.40 28 IAmb IAmb 03 54 04.1
comp=Z,37nm,2.0s
WAT6 Susitna Watana 68.41 30 P **P** **03 53 24.3 +0.4**
baz=281
DHY Denali Highway 68.48 29 P **P** **03 53 24.8 +0.6**
baz=281
SCM Sheep Creek Mo 68.75 31 P **P** **03 53 26.5 +0.6**
baz=282
PRP Porcupine Dome 68.78 27 P **P** **03 53 25.9 -0.2**
PRP IAmb IAmb 03 53 28.5
comp=Z,9.8nm,1.4s
PRP Porcupine Dome 68.78 27 P **P** **03 53 26.4 +0.3**
baz=282
F26K Sheenjek River 68.86 24 P **P** **03 53 28.0 +1.6**
baz=282
K24K Donnelly Dome 69.03 28 P **P** **03 53 27.5 -0.1**
baz=282
G26K Porcupine Rive 69.16 25 P **P** **03 53 29.8 +1.6**
baz=283
M24K Tolsona, Glenn 69.22 30 P **P** **03 53 30.3 +1.6**
baz=283
RIDG Independent Ri 69.45 28 P **P** **03 53 30.4 +0.3**
baz=283
KLU Klutina 69.47 31 P **P** **03 53 31.5 +1.1**
baz=283
HARP HAARP 69.62 30 P **P** **03 53 32.3 +1.2**
baz=283
SPITS Spitsbergen Ar 69.74 348 P **P** **03 53 30.6 -1.1**
comp=Z,7.6nm,0.8s,baz=128,slow=2.4,SNR=7.0
SPITS LR LR 04 27 59.1
comp=Z,260nm,20.4s,baz=36,slow=39
comp=Z,7.6nm,0.8s
SCRK Sand Creek 69.76 28 IAmb IAmb 03 54 13.5
comp=Z,16nm,1.8s
SCRK Sand Creek 69.76 28 P **P** **03 53 32.5 +0.3**
baz=284
I26K Coal Creek Min 69.79 27 P **P** **03 53 31.9 -0.3**
baz=284
J26L Joseph Creek 69.82 27 IAmb IAmb 03 53 34.6
comp=Z,13nm,1.4s
J26L Joseph Creek 69.82 27 P **P** **03 53 32.8 +0.3**
baz=284
RAYN Ar Rayn 69.91 287 P **P** **03 53 33.6 0.0**
RAYN Ar Rayn 69.91 287 P **P** **03 53 34.1 +0.5**
RAYN pP **pP** **03 53 49.3 +1.3**
RAYN sP **PcP** **03 53 54.6 -1.2**
N25K Chitina, Valde 70.06 31 P **P** **03 53 35.6 +1.6**
baz=284
ARCES ARCESS Array B 70.07 338 P **P** **03 53 32.5 -1.3**
comp=Z,4.6nm,1.0s,baz=86,slow=7.4,SNR=6.2
ARCES LR LR 04 31 23.1
comp=Z,137nm,18.2s,baz=114,slow=42
comp=Z,4.6nm,1.0s
H27K Steamboat Moun 70.21 25 P **P** **03 53 36.2 +1.4**
baz=285
D28M Stokes Point 70.38 22 P **P** **03 53 36.6 +1.0**
baz=287
F28M Old Crow 70.46 24 IAmb IAmb 03 54 40.4
comp=Z,24nm,1.9s
F28M Old Crow 70.46 24 P **P** **03 53 37.0 +0.8**
baz=286
K27K Chicken 70.56 28 P **P** **03 53 38.2 +1.3**
baz=286
L27K Beaver Creek, 70.94 29 P **P** **03 53 40.8 +1.5**
baz=286
E29M Blow River 70.95 23 IAmb IAmb 03 56 03.2
comp=Z,24nm,1.9s
E29M Blow River 70.95 23 P **P** **03 53 40.0 +0.8**
baz=288

I28M	**Miner Creek**	**71.05**	**26**	P		**P**	**03 53 41.0**	**+1.0**
	baz=287							
M27K	**Edge Creek, AK**	**71.11**	**29**	P		**P**	**03 53 41.0**	**+0.6**
	baz=286							
H29M	**Whitestone**	**71.44**	**25**	P		**P**	**03 53 43.1**	**+0.9**
	baz=288							
DAWY	**Dawson**	**71.69**	**27**	P		**P**	**03 53 44.2**	**+0.4**
DAWY				IAmb		IAmb	03 54 47.3	
	comp=Z,19nm,1.7s							
DAWY	**Dawson**	**71.69**	**27**	P		**P**	**03 53 44.4**	**+0.7**
	baz=288							
CTG	**Chitna Glacier**	**71.75**	**31**	P		**P**	**03 53 45.8**	**+1.5**
	baz=287							
YUK3	**Moose Creek**	**71.92**	**30**	P		**P**	**03 53 46.7**	**+1.3**
	baz=288							
G30M	**tAoh Zraii Nji**	**72.01**	**24**	IAmb		IAmb	03 53 47.1	
	comp=Z,14nm,1.4s							
G30M	**tAoh Zraii Nji**	**72.01**	**24**	P		**P**	**03 53 45.5**	**-0.1**
	baz=290							
EPYK	**Eagle Plains**	**72.02**	**25**	P		**P**	**03 53 45.5**	**-0.2**
	baz=289							
J29N	**Klondike Camp**	**72.05**	**27**	IAmb		IAmb	03 53 48.2	
	comp=Z,12nm,0.5s							
J29N	**Klondike Camp**	**72.05**	**27**	P		**P**	**03 53 47.2**	**+1.2**
	baz=289							
FINES	**FINESS Array B**	**72.20**	**330**	P		**P**	**03 53 45.4**	**-1.4**
	comp=Z,2.6nm,0.7s,baz=57,slow=5.1,SNR=18							
FINES				LR		LR	04 29 06.3	
	comp=Z,430nm,18.6s,baz=79,slow=39							
	comp=Z,2.6nm,0.7s							
INK	**Inuvik**	**72.51**	**22**	P		**P**	**03 53 48.1**	**-0.4**
	baz=292							
L29M	**L29M**	**72.53**	**28**	IAmb		IAmb	03 53 51.9	
	comp=Z,7.0nm,0.7s							
L29M	**L29M**	**72.53**	**28**	P		**P**	**03 53 50.8**	**+2.0**
	baz=289							
K29M	**Barlow Dome**	**72.54**	**27**	P		**P**	**03 53 50.3**	**+1.4**
	baz=289							
I30M	**Mount Dempster**	**72.54**	**26**	IAmb		IAmb	03 53 59.6	
	comp=Z,14nm,1.6s							
I30M	**Mount Dempster**	**72.54**	**26**	P		**P**	**03 53 49.3**	**+0.4**
	baz=290							
M29M	**Somme Creek**	**72.60**	**29**	IAmb		IAmb	03 53 52.5	
	comp=Z,7.6nm,0.8s							
M29M	**Somme Creek**	**72.60**	**29**	P		**P**	**03 53 51.3**	**+2.0**
	baz=289							
G31M	**Satah River**	**72.75**	**24**	IAmb		IAmb	03 55 44.1	
	comp=Z,29nm,1.9s							
G31M	**Satah River**	**72.75**	**24**	P		**P**	**03 53 49.2**	**-0.7**
	baz=291							
F31M	**Tsiigehtchic**	**72.75**	**23**	IAmb		IAmb	03 54 58.6	
	comp=Z,19nm,1.6s							
F31M	**Tsiigehtchic**	**72.75**	**23**	P		**P**	**03 53 49.5**	**-0.5**
	baz=292							
J30M	**Hart River**	**72.78**	**26**	IAmb		IAmb	03 56 11.8	
	comp=Z,18nm,1.7s							
J30M	**Hart River**	**72.78**	**26**	P		**P**	**03 53 51.4**	**+1.0**
	baz=290							
BCPM	**Bancas Point**	**72.87**	**31**	P		**P**	**03 53 51.4**	**+0.5**
M30M	**Minto, Yukon**	**73.28**	**28**	IAmb		IAmb	03 53 55.8	
	comp=Z,9.9nm,1.2s							
M30M	**Minto, Yukon**	**73.28**	**28**	P		**P**	**03 53 54.7**	**+1.4**
	baz=290							
A36M	**Sachs Harbour**	**73.53**	**18**	P		**P**	**03 53 54.9**	**+0.4**
	baz=298							
AKASG	**Malin Array Be**	**73.90**	**319**	P		**P**	**03 53 56.2**	**-0.8**
	comp=Z,1.3nm,0.4s,baz=58,slow=5.9,SNR=11							
	comp=Z,1.3nm,0.4s							
BR131	**Keskin Array S**	**74.45**	**307**	P		**P**	**03 54 00.3**	**-0.4**
BR131				IAmb		IAmb	03 56 13.2	
	comp=Z,26nm,1.9s							
BRTR	**Keskin Array B**	**74.45**	**307**	P		**P**	**03 54 00.0**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=96,slow=4.6,SNR=10							
	comp=Z,1.3nm,0.7s							
M31M	**Drury Creek, Y**	**74.46**	**28**	IAmb		IAmb	03 54 02.2	
	comp=Z,5.6nm,0.7s							
M31M	**Drury Creek, Y**	**74.46**	**28**	P		**P**	**03 54 00.5**	**+0.3**
	baz=292							
WHY	**Whitehorse**	**74.83**	**30**	P		**P**	**03 54 03.5**	**+1.0**
	baz=292							
FARO	**Faro, Yukon**	**74.90**	**28**	IAmb		IAmb	03 54 04.7	
	comp=Z,9.0nm,0.8s							
FARO	**Faro, Yukon**	**74.90**	**28**	P		**P**	**03 54 03.3**	**+0.6**
	baz=293							
C36M	**Paulatuk**	**75.15**	**20**	IAmb		IAmb	03 54 04.3	
	comp=Z,4.7nm,0.6s							
C36M	**Paulatuk**	**75.15**	**20**	P		**P**	**03 54 03.1**	**-0.8**
	baz=300							
P32M	**Atlin**	**75.79**	**31**	P		**P**	**03 54 09.2**	**+1.3**
	baz=294							
P33M	**Teslin, Yukon**	**75.95**	**30**	P		**P**	**03 54 09.9**	**+1.1**
	baz=294							
TGTN	**Hyland Airport**	**77.38**	**28**	P		**P**	**03 54 17.8**	**+1.0**
	baz=298							
BUR08	**Bucovina Ar. S**	**77.44**	**317**	P		**P**	**03 54 17.5**	**0.0**
BUR08				IAmb		IAmb	03 57 07.5	
	comp=Z,22nm,1.9s							
MLR	**Muntele Rosu**	**77.78**	**314**	LR		LR	04 33 15.9	
	comp=Z,152nm,18.6s,baz=58,slow=39							
WTLY	**Watson Lake, Y**	**77.81**	**29**	P		**P**	**03 54 20.1**	**+0.9**
	baz=298							
DLBC	**Dease Lake**	**78.01**	**31**	P		**P**	**03 54 21.4**	**+1.0**
	baz=297							
HFS	**Hagfors**	**78.29**	**331**	P		**P**	**03 54 20.9**	**-0.9**
	comp=Z,1.8nm,0.5s,baz=95,slow=5.1,SNR=9.9							
HFS				LR		LR	04 32 17.0	
	comp=Z,399nm,19.5s,baz=64,slow=38							
	comp=Z,1.8nm,0.5s							
RES	**Resolute Bay**	**78.29**	**10**	IAmb		IAmb	03 54 39.8	
	comp=Z,18nm,1.9s							
WRGLY	**Wrigley**	**78.49**	**25**	IAmb		IAmb	03 54 24.4	
	comp=Z,14nm,1.2s							
WRGLY	**Wrigley**	**78.49**	**25**	P		**P**	**03 54 23.0**	**+0.2**
	baz=302							
NB2	**NORSAR Subarra**	**78.91**	**333**	P		**P**	**03 54 24.2**	**-1.1**
	comp=Z,5.1nm,1.0s,baz=59,slow=5.6							
NOA	**NORSAR Array B**	**78.91**	**333**	P		**P**	**03 54 24.4**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=55,slow=5.8,SNR=9.5							
NOA				LR		LR	04 33 03.6	
	comp=Z,234nm,18.3s,baz=260,slow=38							
	comp=Z,1.6nm,0.7s							
JMIC	**Jan Mayen**	**79.16**	**346**	LR		LR	04 34 40.1	
	comp=Z,124nm,18.5s,baz=18,slow=40							
URZ	**Urewera**	**80.27**	**140**	LR		LR	04 30 22.7	
	comp=Z,125nm,18.5s,baz=313,slow=36							
RPZ	**Rata Peaks**	**80.75**	**147**	LR		LR	04 28 04.0	
	comp=Z,88nm,21.6s,baz=271,slow=34							
YKA	**Yellowknife Ar**	**82.23**	**23**	P		**P**	**03 54 42.8**	**-0.2**
	comp=Z,6.6nm,0.8s,baz=310,slow=5.2,SNR=68							
	comp=Z,6.6nm,0.8s							
CLL	**Collm**	**82.97**	**324**	*e*P		**P**	**03 54 48.0**	**+1.0**
CLL				*i* (pP)		**pP**	**03 55 03.2**	**+1.5**
CLL				AMS		AMS	04 36 00.0	
	comp=Z,200nm,18.9s							
GERES	**GERESS Array B**	**83.82**	**321**	P		**P**	**03 54 49.7**	**-1.8**
	comp=Z,1.5nm,0.7s,baz=58,slow=9.3,SNR=4.0							
	comp=Z,1.5nm,0.7s							
MOA	**Molln**	**83.98**	**320**	*i* P		**P**	**03 54 52.9**	**+0.5**
	comp=Z,1.9nm,0.5s							
SOKA	**Soboth**	**84.11**	**319**	*e*P		**P**	**03 54 52.6**	**-0.5**
	comp=Z,2.5nm,0.6s							
LESA	**Schwarzleotal**	**85.13**	**320**	*e*P		**P**	**03 54 58.6**	**+0.3**
	comp=Z,1.3nm,0.5s							
BORG	**Borgarnes**	**87.05**	**345**	LR		LR	04 37 14.3	
	comp=Z,169nm,20.3s,baz=40,slow=38							
RAR	**Rarotonga**	**87.64**	**114**	LR		LR	04 27 12.5	
	comp=Z,51nm,19.6s,baz=238,slow=31							
D08A	**Wollman Farm,**	**89.72**	**37**	P		**P**	**03 55 21.5**	**+1.2**
NEW	**Newport**	**89.97**	**35**	P		**P**	**03 55 22.7**	**+1.3**
	baz=308							
FRB	**Frobisher Bay**	**91.80**	**5**	LR		LR	04 41 20.9	
	comp=Z,216nm,18.2s,baz=127,slow=39							
BMO	**Blue Mountains**	**91.95**	**38**	IAmb		IAmb	03 55 34.0	
	comp=Z,4.7nm,1.0s							
FFC	**Flin Flon**	**92.37**	**24**	P		**P**	**03 55 32.4**	**0.0**
PLID	**Pearl Lake**	**92.54**	**37**	IAmb		IAmb	03 55 52.2	
	comp=Z,3.9nm,0.9s							
KEST	**Kesra**	**93.45**	**312**	P		**P**	**03 55 37.1**	**-0.8**
	comp=Z,3.0nm,0.8s,baz=59,slow=12,SNR=3.6							
	comp=Z,3.0nm,0.8s							
EGMT	**Eagleton**	**93.88**	**32**	P		**P**	**03 55 40.6**	**+1.0**
	baz=313							
HLID	**Hailey**	**94.38**	**38**	IAmb		IAmb	03 55 46.0	
	comp=Z,4.1nm,0.9s							
PPT2	**Papeete2**	**94.80**	**107**	*e*LR		LR	04 26 15.9	
	comp=Z,169nm,25.5s							
NVAR	**Mina Array Bea**	**95.22**	**44**	P		**P**	**03 55 47.1**	**+1.0**
	comp=Z,2.1nm,0.7s,baz=286,slow=5.3,SNR=6.9							
	comp=Z,2.1nm,0.7s							
DGMT	**Dagmar**	**96.16**	**29**	P		**P**	**03 55 51.0**	**+1.0**
	baz=318							
R11B	**Troy Canyon, C**	**96.96**	**43**	P		**P**	**03 55 55.1**	**+1.1**
	baz=308							
PDAR	**Pinedale Array**	**97.57**	**36**	P		Pdif	03 55 56.9	0.0
	comp=Z,0.2nm,0.4s,baz=126,slow=1.9,SNR=4.7							
	comp=Z,0.2nm,0.4s							
ULM	**Lac du Bonnet**	**98.19**	**24**	P		**P**	**03 55 58.0**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=334,slow=1.6,SNR=3.4							
	comp=Z,1.0nm,0.6s							
DBIC	**Dimbokro**	**120.61**	**294**	PKP		**PKPdf**	**04 01 13.3**	**-1.1**
	baz=53,slow=5.1,SNR=4.4							
BDFB	**Brasilia**	**167.96**	**314**	PKPab		**PKPab**	**04 03 35.5**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=45,slow=5.7,SNR=3.4							

IDC ***02*** *03:42:34.1±1.3,5.˚84S×142.˚87E, h0km, mb3.9/3, mbtmp3.9/5, ML1.6/1, MS3.6/1, Error ellipse: s-maj=37.3km s-min=25.8km az=72.0*

ISC 02 03:42:35.3±1.0, 6.°0S±0.°1×142.°7E±0.°1, h10km, n7, σ1§08/7, mb3.8/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.53**	**128**	Pn		**Pn**	**03 43 57.8**	**0.0**
	1.2nm,0.3s,baz=300,slow=14,SNR=1.4							
PMG				Sn		**Sn**	**03 45 01.5**	**0.0**
	1.4nm,0.3s,baz=299,slow=10,SNR=1.7							
	6.6nm,0.4s							
WRA	**Warramunga Arr**	**16.05**	**210**	Pn		**Pn**	**03 46 20.1**	**-1.1**
	0.3nm,0.3s,baz=30,slow=13,SNR=11							
WRA				Sn		Sn	03 49 08.1	-11
	0.2nm,0.3s,baz=30,slow=23,SNR=3.5							
WRA				Lg		Lg	03 51 06.1	
	0.4nm,0.3s,baz=38,slow=24,SNR=2.9							
ASAR	**Alice Springs**	**19.48**	**205**	P		**Pn**	**03 47 05.1**	**+1.3**
	2.4nm,0.6s,baz=31,slow=9.7,SNR=20							
ASAR				Lg		Lg	03 53 04.5	
	0.1nm,0.3s,baz=25,slow=33,SNR=3.4							
TGY	**Tagaytay City**	**29.45**	**313**	LR		LR	04 02 02.5	
	comp=Z,126nm,20.2s,baz=168,slow=40							
MKAR	**Makanchi Array**	**74.85**	**322**	P		**P**	**03 54 17.1**	**+0.9**
	0.7nm,0.8s,baz=120,slow=5.2,SNR=3.3							
	0.7nm,0.8s							
BVAR	**Borovoye Array**	**84.31**	**325**	P		**P**	**03 55 06.5**	**-0.9**
	1.3nm,0.6s,baz=116,slow=6.7,SNR=5.5							
	1.3nm,0.6s							
ILAR	**Eielson Array**	**87.21**	**24**	P		**P**	**03 55 21.6**	**-0.1**
	0.4nm,0.7s,baz=252,slow=4.7,SNR=2.9							
	0.4nm,0.7s							

SKHL ***02*** *03:44:59.8±0.2, 45˚.20N×146˚.40E, h76km±3km, mb4.8/6*
JMA ***02*** *03:44:59.6±0.3, 45˚N±1˚×14˚6E±˚, h20km, MV3.5/17, SOUTHERN SEA OF OKHOTSK*

ISC 02 03:44:57.8±2.0, 45.°18N±0.°06×146.°37E±0.°09, h14km±22km, n13, σ0§82/21, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**1.06**	**87**	*e*P		**Pg**	**03 45 18.1**	**-0.1**
KUR				AMB		AMB	03 45 20.4	
	210nm,0.4s							
KUR				*e*S		**Sg**	**03 45 31.7**	**-0.3**
KUR				A		A	03 45 34.8	
	740nm,0.2s							
KUR				A		A	03 45 34.8	
	700nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**1.21**	**198**	*i* P		**Pb**	**03 45 20.3**	**-0.1**
YUK				AMB		AMB	03 45 21.6	
	380nm,0.2s							
YUK				*e*S		**Sb**	**03 45 35.5**	**-0.3**
YUK				A		A	03 45 36.0	
	860nm,0.4s							
YUK				A		A	03 45 36.0	
	410nm,0.4s							
SHO	**Shikotan**	**1.35**	**166**	*i* P		**Pn**	**03 45 22.7**	**+0.4**
SHO				AMB		AMB	03 45 23.7	
	160nm,0.2s							
SHO				*i* S		**Sb**	**03 45 40.0**	**-0.1**
SHO				A		A	03 45 41.3	
	2μm,0.4s							
SHO				A		A	03 45 41.3	
	3μm,0.4s							
JRA	**Rausu**	**1.53**	**216**	*e*P		**Pn**	**03 45 25.3**	**+0.6**
JRA				*e*S		**Sn**	**03 45 43.3**	**-1.1**
JNSB	**Nemuroshibetsu**	**1.72**	**215**	*e*S		**Sn**	**03 45 48.7**	**-0.3**
NMR	**Nemuro--Hokkai**	**1.87**	**195**	*e*P		**Pn**	**03 45 30.0**	**+0.6**
NMR				*e*S		**Sn**	**03 45 52.3**	**-0.5**
NEM2	**Nemuro 2**	**1.88**	**194**	*e*P		**Pn**	**03 45 30.6**	**+1.2**
NEM2				*e*S		**Sn**	**03 45 53.9**	**+1.1**
JNK	**Nakash**	**1.99**	**217**	*e*P		**Pn**	**03 45 32.2**	**+1.1**
JTKR	**Abashiri--Toko**	**2.14**	**236**	*e*P		**Pn**	**03 45 33.3**	**+0.3**
AKK	**Akkeshi**	**2.43**	**208**	*e*P		**Pn**	**03 45 37.5**	**+0.4**
AKK				*e*S		**Sn**	**03 46 05.9**	**-0.7**
JMP	**Maruseppu**	**2.45**	**242**	*e*S		**Sn**	**03 46 06.2**	**-1.0**
JKK2	**Kamakawa 2**	**2.91**	**244**	*e*P		**Pn**	**03 45 44.9**	**+1.3**
YSS	**Yuzh-Sakhalins**	**3.08**	**306**	*e*P		**Pn**	**03 45 46.9**	**+0.9**
YSS				AMB		AMB	03 45 53.5	
	90nm,0.3s							
YSS				*e*S		**Sn**	**03 46 21.7**	**-0.9**
YSS				A		A	03 46 24.7	
	80nm,0.8s							
YSS				A		A	03 46 24.7	
	150nm,0.8s							

IDC ***02*** *03:52:43.9±7.9, 45˚.49N×147˚.23E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=195.5km s-min=31.8km az=165.0*
MOS ***02*** *03:52:48.0±1.3, 44˚.46N×147˚.48E, h95km, mb4.1/1, Error ellipse: s-maj=26.3km s-min=20.0km az=62.7*
SKHL ***02*** *03:52:48.2±0.1, 44˚.20N×147˚.70E, h109km±2km, mb4.9/3, msha5.8/3*
JMA ***02*** *03:52:49.5±0.3, 44˚N±2˚×14˚8E±˚, h94km, MV3.3/21, E OFF HOKKAIDO*

ISC 02 03:52:47.2±1.4, 44.°1N±0.°1×147.°8E±0.°1, h98km±7km, n32, σ0§94/40, mb3.4/6, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SHO	**Shikotan**	**0.75**	**252**	⇑ *i* PN		**Pn**	**03 53 05.7**	**+0.9**
SHO				*i* S		**Sn**	**03 53 17.8**	**-0.3**
SHO				pmax		pmax		
	comp=Z,75nm,0.2s							
SHO				smax		smax		
	comp=N,3μm,0.3s							
SHO				smax		smax		
	comp=E,346nm,0.2s							
SHO	**Shikotan**	**0.75**	**252**	*i* P		**Pn**	**03 53 05.7**	**+0.9**
SHO				AMB		AMB	03 53 05.9	
	comp=E,80nm,0.2s							
SHO				*i* S		**Sn**	**03 53 17.8**	**-0.3**
SHO				A		A	03 53 18.2	
	comp=E,3μm,0.3s							
SHO				A		A	03 53 18.2	
	comp=E,350nm,0.3s							
KUR	**Kuril'sk**	**1.13**	**2**	⇓ *i* PN		**Pn**	**03 53 09.5**	**+0.6**
KUR				*e*S		**Sn**	**03 53 25.0**	**-0.3**
KUR				pmax		pmax		
	comp=N,61nm,0.3s							
KUR				pmax		pmax		
	comp=E,60nm,0.3s							
KUR				pmax		pmax		
	comp=Z,300nm,0.3s							
KUR				smax		smax		
	comp=E,1μm,0.5s							
KUR				smax		smax		
	comp=N,1μm,0.4s							
KUR	**Kuril'sk**	**1.13**	**2**	*i* P		**Pn**	**03 53 09.5**	**+0.6**
KUR				AMB		AMB	03 53 09.8	
	comp=N,300nm,0.3s							
KUR				*e*S		**Sn**	**03 53 24.5**	**-0.8**
KUR				A		A	03 53 25.7	
	comp=N,1μm,0.5s							
KUR				A		A	03 53 25.7	
	comp=N,1μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**1.41**	**268**	*c* PN		**Pn**	**03 53 12.8**	**+0.6**
YUK				*i* S		**Sn**	**03 53 30.3**	**-0.8**
YUK				pmax		pmax		
	comp=E,93nm,0.2s							
YUK				pmax		pmax		
	comp=Z,597nm,0.2s							
YUK				smax		smax		
	comp=N,1μm,0.2s							
YUK				smax		smax		
	comp=E,445nm,0.1s							
YUK	**Yuzh-Kuril'sk**	**1.41**	**268**	*i* P		**Pn**	**03 53 12.8**	**+0.6**
YUK				AMB		AMB	03 53 13.8	
	comp=E,600nm,0.3s							
YUK				*i* S		**Sn**	**03 53 30.3**	**-0.8**
YUK				A		A	03 53 32.3	
	comp=E,1μm,0.2s							
YUK				A		A	03 53 32.3	
	comp=E,450nm,0.2s							
NEM2	**Nemuro 2**	**1.67**	**245**	*e*P		**Pn**	**03 53 16.1**	**+0.6**
NEM2				*e*S		**Sn**	**03 53 35.7**	**-1.3**
NMR	**Nemuro--Hokkai**	**1.68**	**245**	*e*PN		**Pn**	**03 53 16.5**	**+0.9**
NMR				*e*S		**Sn**	**03 53 35.7**	**-1.5**
NMR	**Nemuro--Hokkai**	**1.68**	**245**	*e*P		**Pn**	**03 53 16.5**	**+0.9**
NMR				*e*S		**Sn**	**03 53 35.9**	**-1.3**
JRA	**Rausu**	**1.95**	**266**	*e*P		**Pn**	**03 53 20.2**	**+1.2**
JNSB	**Nemuroshibetsu**	**2.06**	**262**	*e*P		**Pn**	**03 53 22.0**	**+1.6**
JNK	**Nakash**	**2.30**	**258**	*e*P		**Pn**	**03 53 24.8**	**+1.2**
JNK				*e*S		**Sn**	**03 53 51.2**	**-0.2**
AKK	**Akkeshi**	**2.42**	**244**	*e*S		**Sn**	**03 53 54.1**	**-0.1**
JAK	**Akkeshi**	**2.52**	**245**	*e*P		**Pn**	**03 53 27.1**	**+0.6**
JAK				*e*S		**Sn**	**03 53 55.4**	**-1.3**
JTKR	**Abashiri--Toko**	**2.82**	**269**	*e*P		**Pn**	**03 53 31.5**	**+1.1**
JAR	**Ashorobuto**	**3.04**	**256**	P		**Pn**	**03 53 35.2**	**+1.8**
JAR				*e*S		**Sn**	**03 54 09.7**	**+0.6**
JOB	**Onbets**	**3.13**	**249**	*e*P		**Pn**	**03 53 36.0**	**+1.4**
JOB				*e*S		**Sn**	**03 54 10.4**	**-0.9**
JCH	**Churui**	**3.57**	**247**	P		**Pn**	**03 53 41.3**	**+0.7**
JCH				*e*S		**Sn**	**03 54 20.6**	**-1.2**
SONM	**Songino Array**	**28.78**	**292**	P		**P**	**03 58 35.8**	**+0.1**
	comp=E,0.3nm,0.6s,baz=95,slow=7.7,SNR=2.2							
	comp=E,0.3nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**29.06**	**141**	T		T	04 29 43.0	
	baz=331,slow=75,SNR=5.9							
H11N1	**WAKE ISLAND Hy**	**29.07**	**141**	T		T	04 29 45.9	
	baz=331,slow=75,SNR=7.8							
H11N3	**WAKE ISLAND Hy**	**29.08**	**141**	T		T	04 29 44.4	
	baz=331,slow=75,SNR=7.2							
H11S1	**WAKE ISLAND Hy**	**30.04**	**142**	T		T	04 30 57.1	
	baz=332,slow=76,SNR=13							
H11S3	**WAKE ISLAND Hy**	**30.05**	**142**	T		T	04 30 59.5	
	baz=332,slow=76,SNR=12							
H11S2	**WAKE ISLAND Hy**	**30.06**	**142**	T		T	04 31 00.3	
	baz=332,slow=76,SNR=10							
ILAR	**Eielson Array**	**40.92**	**36**	P		**P**	**04 00 20.2**	**+0.8**
	comp=E,0.2nm,0.8s,baz=277,slow=9.7,SNR=5.8							
	comp=E,0.2nm,0.8s							
MKAR	**Makanchi Array**	**44.85**	**298**	P		**P**	**04 00 51.5**	**+0.1**
	comp=E,0.3nm,0.5s,baz=77,slow=8.7,SNR=7.4							
	comp=E,0.3nm,0.5s							
KURK	**Kurchatov**	**45.73**	**304**	P		**P**	**04 00 58.0**	**-0.3**
KURK	**Kurchatov**	**45.73**	**304**	*e*P		**P**	**04 00 58.0**	**-0.3**
KURBB	**Kurchatov Arra**	**45.82**	**304**	P		**P**	**04 00 58.0**	**-0.9**
	comp=E,0.3nm,0.4s,baz=74,slow=8.1,SNR=4.4							
	comp=E,0.3nm,0.4s							
ARCES	**ARCESS Array B**	**59.08**	**340**	P		**P**	**04 02 36.2**	**-0.4**
	comp=E,2.7nm,0.8s,baz=35,slow=8.1,SNR=1.5							
	comp=E,2.7nm,0.8s							
FINES	**FINESS Array B**	**64.78**	**333**	P		**P**	**04 03 13.8**	**-1.0**
	comp=E,1.1nm,0.6s,baz=41,slow=10,SNR=5.0							
	comp=E,1.1nm,0.6s							

IDC ***02*** *04:00:19.0±21.0, 19˚.51N×66˚.08W, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=459.6km s-min=76.0km az=152.0*
NEIC ***02*** *04:00:21.4±1.2, 19˚.61N±0˚.08×66˚.25W±0˚.04, h35km±2km, ML3.3/28, Md3.8/8(RSPR), Error ellipse: s-maj=14.3km s-min=4.2km az=24.0*
SDD ***02*** *04:00:22.7±1.6, 19˚.49N×66˚.44W, h31km±137km, MD3.9, ML3.0, MW3.7*
RSPR ***02*** *04:00:22.1, 19˚.65N×66˚.27W, h40km±28km, MD3.8/8*

ISC 02 04:00:23.0±1.4, 19.°42N±0.°05×66.°47W±0.°04, h20km±4km, n56, σ1§05/59, mb3.2/3, 13C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EMPR	**Esperanza - Ma**	**0.94**	**183**	Pn		**Pn**	**04 00 40.9**	**-0.3**
EMPR				IAML			04 00 57.9	
	comp=E,941nm,0.6s							
EMPR				IAML			04 01 00.1	
	comp=N,714nm,0.6s							
AOPR	**Arecibo Observ**	**1.10**	**194**	⇑ *e*P		**Pn**	**04 00 43.1**	**-0.4**
AOPR	**Arecibo Observ**	**1.10**	**194**	*e*S		**Sg**	**04 01 00.6**	**+1.6**
AOPR	**Arecibo Observ**	**1.10**	**194**			**Pb**	**04 00 43.4**	**-0.1**
AOPR						**Sg**	**04 01 00.6**	**+1.6**
AOPR	**Arecibo Observ**	**1.10**	**194**	*e*Pg		**Pn**	**04 00 43.1**	**-0.4**
AOPR				IAML			04 01 08.0	
	comp=N,1μm,0.3s							
AOPR	**Arecibo Observ**	**1.10**	**194**	*e*P		**Pn**	**04 00 42.8**	**-0.6**
AOPR				*e*S		**Sb**	**04 00 56.4**	**-1.1**
AGPR	**Aguadilla, PR**	**1.13**	**213**	⇑ *e*P		**Pg**	**04 00 44.5**	**-0.4**
AGPR	**Aguadilla, PR**	**1.13**	**213**			**Pg**	**04 00 44.5**	**-0.4**
AGPR	**Aguadilla, PR**	**1.13**	**213**	IAML			04 01 00.1	
	comp=E,327nm,0.4s							
AGPR	**Aguadilla, PR**	**1.13**	**213**	*e*Pg		**Pb**	**04 00 43.5**	**-0.3**
AGPR				IAML			04 01 19.3	
	comp=N,263nm,0.4s							
GCPR	**Guaynabo City**	**1.17**	**162**	*e*S		**Sn**	**04 00 59.8**	**+0.2**
GCPR	**Guaynabo City**	**1.17**	**162**			**Pn**	**04 00 42.9**	**-1.3**
GCPR				I

PCDR			⇑*e*Sg		**Sn**	**04 01 22.2**	**+1.4**
PCDR			IAML			04 01 26.6	
	comp=N,149nm,1.3s						
PCDR			IAML			04 01 29.5	
	comp=E,135nm,0.8s						
MIDR	**Miches**	**2.48 260**	*e*Pg		**Pb**	**04 01 04.2**	**-2.7**
MIDR			IAML			04 01 35.0	
	comp=E,26nm,0.4s						
MIDR			IAML			04 01 42.5	
	comp=N,29nm,1.6s						
SADR	**Isla Saona**	**2.51 241**	*e*Pg		**Pb**	**04 01 05.0**	**-2.4**
HATOM	**Hato Mayor del**	**2.83 258**	*e*Pg		**Pn**	**04 01 07.6**	**+0.4**
HATOM			IAML			04 02 06.6	
	comp=N,30nm,1.0s						
SDDR	**Presa de Saban**	**4.58 265**			**Pn**	**04 01 32.5**	**+1.3**
SDDR			IAML			04 03 00.4	
	comp=N,34nm,0.9s						
SDDR	**Presa de Saban**	**4.58 265**	*e*P		**Pn**	**04 01 33.0**	**+1.8**
SDDR	**Presa de Saban**	**4.58 265**	*e*S		**Sn**	**04 02 25.8**	**+1.9**
MBFL	**Flemmings, Mon**	**4.84 123**	*e*P		**Pn**	**04 01 36.0**	**+1.1**
ANBD	**Bethesda, Anti**	**5.06 117**	*e*P		**Pn**	**04 01 37.0**	**-0.8**
TXAR	**Lajitas Array**	**35.16 294**	P		**P**	**04 07 17.4**	**+1.5**
	comp=N,0.5nm,0.6s,baz=102,slow=9.5,SNR=8.3						
	comp=N,0.5nm,0.6s						
YKA	**Yellowknife Ar**	**54.18 335**	P		**P**	**04 09 46.4**	**-0.4**
	comp=N,0.2nm,0.8s,baz=170,slow=8.5,SNR=2.2						
	comp=N,0.2nm,0.8s						
ILAR	**Eielson Array**	**68.53 333**	P		**P**	**04 11 23.7**	**-0.2**
	comp=N,0.1nm,0.6s,baz=95,slow=4.8,SNR=4.8						
	comp=N,0.1nm,0.6s						

JMA ***02*** *04:08:09.9±0.1,24°N×123°E±0.7,h45km±3km, MV2.9/11,NW OFF ISHIGAKIJIMA IS*
TAP ***02*** *04:08:10.1,24.27N×122.85E,h33km,ML2.5,C*
ISC 02 04:08:10.0±1.3,24°4N±0°1×122°97E±0°03,h47km±7km, n19,σ0969/30,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.08**	**343**	*i* P		**Pn**	**Pn**	**04 08 17.4**	**0.0**
JYNG				*e*S		**Sn**	**Sn**	**04 08 22.7**	**+0.1**
YOJ	**Yonaguni jima**	**0.09**	**24**	P		**Pn**	**Pn**	**04 08 17.4**	**-0.1**
	baz=34								
YOJ				S		**Sn**	**Sn**	**04 08 22.6**	**0.0**
	baz=34								
YOJ	**Yonaguni jima**	**0.09**	**24**	P		**Pn**	**Pn**	**04 08 17.5**	**+0.1**
YOJ				S		**Sn**	**Sn**	**04 08 22.8**	**+0.2**
EOS3	**EOS3**	**0.60**	**262**	*e*P		**Pn**	**Pn**	**04 08 22.1**	**-0.1**
	baz=272								
EOS4	**EOS4**	**0.65**	**247**	*e*P		**Pn**	**Pn**	**04 08 22.9**	**+0.3**
	baz=256								
EOS2	**EOS2**	**0.67**	**274**	P		**Pn**	**Pn**	**04 08 23.1**	**0.0**
	baz=289								
EOS2				S		**Sn**	**Sn**	**04 08 33.2**	**+0.5**
	baz=289								
JKRS	**Kuro-shima**	**0.96**	**98**	P		**Pn**	**Pn**	**04 08 27.3**	**+0.2**
JKRS				*e*S		**Sn**	**Sn**	**04 08 39.9**	**+0.2**
TWC	**Suao**	**1.05**	**283**	P		**Pn**	**Pn**	**04 08 27.4**	**-0.9**
	baz=303								
TWC				S		**Sn**	**Sn**	**04 08 40.5**	**-1.3**
	baz=303								
JIJ	**Ishigaki jima**	**1.07**	**90**	*e*P		**Pn**	**Pn**	**04 08 28.2**	**-0.4**
JIJ				*e*S		**Sn**	**Sn**	**04 08 41.5**	**-0.9**
EWUT	**Wuta**	**1.09**	**274**	*e*P		**Pn**	**Pn**	**04 08 28.2**	**-0.7**
	baz=280								
TIPB	**Shuangxi**	**1.20**	**300**	*e*P		**Pn**	**Pn**	**04 08 30.2**	**-0.2**
	baz=318								
TIPB				*e*S		**Sn**	**Sn**	**04 08 44.8**	**-0.7**
	baz=318								
SXI1	**Grass Mountain**	**1.23**	**306**	*e*P		**Pn**	**Pn**	**04 08 31.3**	**+0.4**
	baz=322								
JISG	**Ishigakijimahi**	**1.24**	**80**	*e*P		**Pn**	**Pn**	**04 08 30.9**	**0.0**
JISG				*e*S		**Sn**	**Sn**	**04 08 46.4**	**-0.1**
NACB	**Ninganchiao**	**1.27**	**261**	*e*P		**Pn**	**Pn**	**04 08 31.3**	**-0.1**
	baz=250								
NACB				*e*S		**Sn**	**Sn**	**04 08 47.2**	**-0.1**
	baz=250								
FUSB	**Fushanzhiwuyua**	**1.31**	**287**	*e*P		**Pn**	**Pn**	**04 08 32.8**	**+0.7**
	baz=302								
FUSB				*e*S		**Sn**	**Sn**	**04 08 47.9**	**-0.6**
	baz=302								
LATG	**Datong**	**1.32**	**277**	*e*P		**Pn**	**Pn**	**04 08 33.3**	**+1.1**
	baz=293								
NWLT	**Wulai**	**1.39**	**287**	*e*P		**Pn**	**Pn**	**04 08 34.0**	**+0.9**
	baz=304								
YHNB	**Yeheng**	**1.48**	**282**	*e*P		**Pn**	**Pn**	**04 08 36.2**	**+1.9**
	baz=297								
JTJ	**Tarama**	**1.60**	**80**	*e*P		**Pn**	**Pn**	**04 08 36.5**	**+0.6**

IDC 02 04:08:43.2±1.9,5°99S×142°99E,h0km,mb3.7/2, mbtmp3.6/4,ML3.1/2,Error ellipse: s-maj=89.9km s-min=32.7km az=109.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.22**	**210**		Pn		Pn	04 12 32.1	-0.5
	baz=32,slow=12,SNR=1.5								
	0.4nm,0.7s								
ASAR	**Alice Springs**	**19.63**	**206**	P			P	04 13 13.6	0.0
	0.2nm,0.3s,baz=30,slow=10,SNR=11								
	1.9nm,0.7s								
BVAR	**Borovoye Array**	**84.43**	**325**	P			P	04 21 18.2	+0.6
	0.5nm,0.6s,baz=97,slow=6.0,SNR=3.5								
	0.5nm,0.6s								
ILAR	**Eielson Array**	**87.06**	**24**	P			P	04 21 30.0	-0.5
	0.3nm,0.8s,baz=245,slow=5.9,SNR=2.4								
	0.3nm,0.8s								

IDC ***02*** *04:10:02.9±0.8,5°90S×142°83E,h0km,mb4.0/8, mbtmp4.1/10,ML2.1/1,Error ellipse: s-maj=37.3km s-min=18.6km az=71.0*
ISC 02 04:10:04.5±0.8,6°0S±0°1×142°7E±0°1,h10km,n11, σ1⇟37/12,mb4.0/8,New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.57**	**127**	Pn			**Pn**	**04 11 27.5**	**-0.1**
	3.8nm,0.3s,baz=318,slow=12,SNR=4.1								
PMG				Sn			**Sn**	**04 12 31.7**	**0.0**
	5.0nm,0.3s,baz=266,slow=18,SNR=7.5								
	11nm,0.4s								
WRA	**Warramunga Arr**	**16.02**	**210**	Pn			**Pn**	**04 13 47.2**	**-2.9**
	0.5nm,0.3s,baz=28,slow=14,SNR=16								
ASAR	**Alice Springs**	**19.45**	**205**	P			**P**	**04 14 33.0**	**+1.6**
	5.7nm,0.6s,baz=32,slow=10,SNR=23								
STKA	**Stephens Creek**	**25.73**	**182**	P			**P**	**04 15 36.8**	**+1.6**
	1.4nm,0.7s,baz=342,slow=13,SNR=4.3								
	1.4nm,0.7s								
SONM	**Songino Array**	**62.42**	**333**	P			**P**	**04 20 28.8**	**+0.9**
	0.6nm,0.8s,baz=162,slow=5.5,SNR=2.4								
	0.6nm,0.8s								
MKAR	**Makanchi Array**	**74.82**	**322**	P			**P**	**04 21 45.5**	**+0.2**
	1.1nm,0.7s,baz=112,slow=5.8,SNR=13								
	1.1nm,0.7s								
ZALV	**Zalesovo Beam**	**76.78**	**329**	P			**P**	**04 21 55.7**	**-0.6**
	0.6nm,0.5s,baz=120,slow=5.5,SNR=2.3								
	0.6nm,0.5s								
KURBB	**Kurchatov Arra**	**78.71**	**324**	P			**P**	**04 22 06.7**	**-0.4**
	0.8nm,0.9s,baz=110,slow=4.2,SNR=4.9								
	0.8nm,0.9s								
QSPA	**South Pole Qui**	**83.93**	**180**	P			**P**	**04 22 34.9**	**+0.2**
	2.4nm,1.0s,baz=281,slow=2.5,SNR=5.2								
	2.4nm,1.0s								
BVAR	**Borovoye Array**	**84.28**	**325**	P			**P**	**04 22 36.6**	**0.0**
	2.9nm,0.6s,baz=105,slow=6.6,SNR=16								
	2.9nm,0.6s								
ILAR	**Eielson Array**	**87.24**	**24**	P			**P**	**04 22 49.5**	**-1.4**
	1.3nm,0.7s,baz=259,slow=4.7,SNR=26								
	1.3nm,0.7s								

IDC ***02*** *04:12:06.8±0.9,5°79S×142°90E,h0km,mb3.9/7, mbtmp4.0/9,ML2.3/1,Error ellipse: s-maj=28.0km s-min=14.3km az=97.0*
ISC 02 04:12:08.5±0.8,5°8S±0°1×142°9E±0°1,h10km,n11, σ1⇟05/12,mb3.9/7,New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.54**	**131**	Pn			**Pn**	**04 13 31.8**	**+0.6**
	5.9nm,0.3s,baz=311,slow=20,SNR=3.1								
PMG				Sn			**Sn**	**04 14 34.4**	**-0.6**
	8.9nm,0.3s,baz=345,slow=20,SNR=2.8								
	19nm,0.4s								

WRA	**Warramunga Arr**	**16.36**	**210**	Pn			Pn	04 15 51.2	-7.3
	0.5nm,0.3s,baz=30,slow=14,SNR=2.5								
WRA				Sn			Sn	04 18 44.5	-16
	0.4nm,0.3s,baz=37,slow=29,SNR=4.9								
WRA				Lg			Lg	04 20 43.2	
	0.2nm,0.3s,baz=27,slow=35,SNR=5.4								
ASAR	**Alice Springs**	**19.79**	**205**	P			**P**	**04 16 36.9**	**-2.3**
	6.9nm,0.6s,baz=29,slow=11,SNR=11								
ASAR				S			**S**	**04 20 23.1**	**+0.9**
	1.8nm,0.7s,baz=25,slow=29,SNR=2.7								
ASAR				Lg			Lg	04 22 34.9	
	0.1nm,0.3s,baz=19,slow=31,SNR=3.6								
STKA	**Stephens Creek**	**25.99**	**183**	P			**P**	**04 17 42.8**	**+1.2**
	1.6nm,0.7s,baz=351,slow=13,SNR=3.0								
	1.6nm,0.7s								
CMAR	**Chiang Mai Arr**	**49.59**	**300**	P			**P**	**04 21 00.7**	**+0.3**
	0.8nm,0.3s,baz=110,slow=7.8,SNR=1.2								
	0.8nm,0.3s								
MKAR	**Makanchi Array**	**74.77**	**322**	P			**P**	**04 23 48.9**	**-0.1**
	0.6nm,0.7s,baz=107,slow=7.9,SNR=4.2								
	0.6nm,0.7s								
ZALV	**Zalesovo Beam**	**76.69**	**329**	P			**P**	**04 24 00.3**	**+0.6**
	0.4nm,0.4s,baz=116,slow=6.6,SNR=2.1								
	0.4nm,0.4s								
KURBB	**Kurchatov Arra**	**78.64**	**324**	P			**P**	**04 24 10.6**	**-0.1**
	0.3nm,0.5s,baz=117,slow=4.3,SNR=2.7								
	0.3nm,0.5s								
BVAR	**Borovoye Array**	**84.21**	**325**	P			**P**	**04 24 40.0**	**-0.2**
	2.7nm,0.9s,baz=112,slow=6.4,SNR=7.1								
	2.7nm,0.9s								
ILAR	**Eielson Array**	**86.90**	**24**	P			**P**	**04 24 52.6**	**-0.8**
	0.5nm,0.6s,baz=252,slow=5.6,SNR=12								
	0.5nm,0.6s								
TORD	**Torodi Ar. Bea**	**141.09**	**284**	PKP			**PKPdf**	**04 31 41.1**	**+0.8**
	0.3nm,0.8s,baz=66,slow=1.2,SNR=2.1								

SOME ***02*** *04:13:53.3,39°25N×77°15E,h0km*
NNC ***02*** *04:13:55.3±1.1,39°27N×77°14E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=7.3km s-min=6.0km az=175.0*
KRNET ***02*** *04:14:00.0±0.1,39°24N×77°14E,mb2.9*
ISC 02 04:14:01.5±1.5,39°23N±0°07×77°11E±0°04,h10km,n61, σ2⇟37/98,39C-15D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NRN	**Naryn**	**2.36**	**339**	⇑*i* P			**Pn**	**04 14 41.0**	**+0.3**
	baz=38								
NRN				⇑*i* S			**Sn**	**04 15 11.1**	**+1.2**
	baz=38								
TARG	**Taragay, Kyrgy**	**2.55**	**12**	⇑*i* P			**Pn**	**04 14 43.8**	**+0.4**
	baz=11								
TARG				⇑*i* S			**Sn**	**04 15 15.4**	**+0.7**
	baz=11								
SFK	**Sufi-Kurgan**	**2.90**	**287**	⇑*i* P			**Pn**	**04 14 48.8**	**+0.9**
	baz=87								
SFK				⇑*i* S			**Sn**	**04 15 24.6**	**+1.7**
	baz=87								
KDJ	**Kajisay**	**2.90**	**1**	⇑*i* P			**Pn**	**04 14 48.3**	**+0.4**
	baz=1.0								
KDJ				⇑*i* S			**Sn**	**04 15 23.7**	**+0.8**
	baz=1.0								
ULHL	**Ulahol**	**3.09**	**348**	P			**Pb**	**04 14 54.5**	**-2.1**
	SNR=5.0								
ULHL	**Ulahol**	**3.09**	**348**	⇑*i* P			**Pn**	**04 14 51.0**	**+0.5**
	baz=48								
ULHL				⇑*i* S			**Sn**	**04 15 28.2**	**+0.6**
	baz=48								
BOOM	**Boomskoye usch**	**3.38**	**345**	⇓*i* P			**Pn**	**04 14 55.2**	**+0.7**
	baz=45								
BOOM				⇓*i* S			**Sn**	**04 15 35.5**	**+0.8**
	baz=45								
ARLS	**Aral**	**3.38**	**322**	⇓*i* P			**Pn**	**04 14 55.2**	**+0.7**
	baz=22								
ARLS				⇓*i* S			**Sn**	**04 15 35.4**	**+0.6**
	baz=22								
PRZ	**Przheval'sk**	**3.40**	**16**	⇑*i* P			**Pn**	**04 14 55.6**	**+0.8**
	baz=16								
PRZ				⇑*i* S			**Sn**	**04 15 36.1**	**+0.9**
	baz=16								
OHH	**Osh**	**3.57**	**293**	⇑*i* P			**Pn**	**04 14 58.0**	**+0.9**
	baz=92								
OHH				⇑*i* S			**Sn**	**04 15 40.5**	**+1.1**
	baz=92								
ANVS	**Anan'yevo**	**3.58**	**7**	⇑*i* P			**Pn**	**04 14 57.5**	**+0.3**
	baz=6.0								
ANVS				⇑*i* S			**Sn**	**04 15 40.0**	**+0.4**
	baz=6.0								
UCH	**Uchtor**	**3.59**	**327**	P			**Pb**	**04 15 03.9**	**-1.5**
	SNR=6.9								
UCH	**Uchtor**	**3.59**	**327**	⇑*i* P			**Pn**	**04 14 58.3**	**+0.6**
	baz=27								
UCH				⇑*i* S			**Sn**	**04 15 40.8**	**+0.5**
	baz=27								
ARSB	**Arslanbob**	**3.79**	**305**	⇑*i* P			**Pn**	**04 15 01.0**	**+0.9**
	baz=5.0								
ARSB				⇑*i* S			**Sn**	**04 15 45.6**	**+0.7**
	baz=5.0								
KBK	**Karagaybulak**	**3.80**	**335**	P			**Pb**	**04 15 08.4**	**-0.3**
	SNR=6.5								
KBK	**Karagaybulak**	**3.80**	**335**	⇓*i* P			**Pn**	**04 15 01.1**	**+0.8**
	baz=35								
KBK				⇓*i* S			**Sn**	**04 15 45.7**	**+0.6**
	baz=35								
TNSS	**Tian-Shan**	**3.81**	**358**	*e*P			**Pb**	**04 15 04.9**	**-4.2**
	3.6nm,0.3s								
TNSS				*e*S			**Sb**	**04 15 56.4**	**+1.0**
	4.8nm,0.4s								
TNSS	**Tian-Shan**	**3.81**	**358**	Pg			**Pb**	**04 15 04.9**	**-4.2**
	3.6nm,0.3s								
TNSS				Lg			Lg	04 15 56.4	
	4.8nm,0.4s								
TKM2	**Tokmak 2**	**3.86**	**343**	P			**Pb**	**04 15 07.2**	**-2.7**
	SNR=7.6								
TKM2	**Tokmak 2**	**3.86**	**343**	⇑Pg			**Pn**	**04 15 04.9**	**+3.7**
	3.0nm,0.5s								
TKM2				⇑Lg			Lg	04 15 57.4	
	4.8nm,0.5s								
TKM2	**Tokmak 2**	**3.86**	**343**	⇓*i* P			**Pn**	**04 15 02.0**	**+0.8**
	baz=43								
TKM2				⇓*i* S			**Sn**	**04 15 47.0**	**+0.2**
	baz=43								
KST	**Kastek**	**3.91**	**348**	*e*P			**Pb**	**04 15 06.6**	**-4.0**
	3.7nm,0.4s								
KST				*e*S			**Sb**	**04 15 59.5**	**+1.5**
	8.0nm,0.8s								
KST	**Kastek**	**3.91**	**348**	Pg			**Pb**	**04 15 06.6**	**-4.0**
	3.7nm,0.4s								
KST				Lg			Lg	04 15 59.5	
	8.0nm,0.8s								
MTBS	**Maitube**	**3.93**	**353**	*e*P			**Pb**	**04 15 06.4**	**-4.6**
	2.0nm,0.3s								
MTBS				*e*S			**Sb**	**04 15 59.0**	**+0.4**
	6.7nm,0.4s								
MTBS	**Maitube**	**3.93**	**353**	Pg			**Pb**	**04 15 06.4**	**-4.6**
	2.0nm,0.3s								
MTBS				Lg			Lg	04 15 59.0	
	6.7nm,0.4s								
AAK	**Ala-Archa**	**3.94**	**331**	P			**Pb**	**04 15 10.1**	**-1.1**
	SNR=7.6								
AAK	**Ala-Archa**	**3.94**	**331**	⇑*i* P			**Pn**	**04 15 03.0**	**+0.8**
	baz=30								
AAK				⇑*i* S			**Sn**	**04 15 49.0**	**+0.4**
	baz=30								
SATY	**Saty**	**3.95**	**14**	*e*P			**Pb**	**04 15 07.3**	**-4.0**
	2.0nm,0.3s								
SATY				*e*S			**Sb**	**04 16 00.8**	**+1.6**
	11nm,0.3s								
SATY	**Saty**	**3.95**	**14**	Pg			**Pb**	**04 15 07.3**	**-4.0**
	2.0nm,0.3s								
SATY				Lg			Lg	04 16 00.8	
	11nm,0.3s								
KOTS	**Kotyrbulak**	**4.00**	**360**	*e*P			**Pb**	**04 15 08.4**	**-3.9**
	4.3nm,0.5s								
KOTS				*e*S			**Sb**	**04 16 02.5**	**+1.8**
	17nm,0.4s								
KOTS	**Kotyrbulak**	**4.00**	**360**	Pg			**Pb**	**04 15 08.4**	**-3.9**
	4.3nm,0.5s								
KOTS				Lg			Lg	04 16 02.5	
	17nm,0.4s								
FRU1	**Bishkek**	**4.04**	**333**	⇑*i* P			**Pn**	**04 15 04.8**	**+1.3**
	baz=33								
FRU1				⇑*i* S			**Sn**	**04 15 51.9**	**+1.0**
	baz=33								
DRK	**Karamyk**	**4.13**	**275**	⇓*e*P			**Pn**	**04 15 06.2**	**+1.3**
	baz=75								
DRK				⇓*e*S			**Sn**	**04 15 54.0**	**+0.6**
	baz=75								

DGS	**Degeres**	**4.14**	**346**	*e*P			**Pb**	**04 15 10.8**	**-3.7**
	3.7nm,0.3s								
DGS				*e*S			**Sb**	**04 16 06.7**	**+2.2**
	6.3nm,0.9s								
DGS	**Degeres**	**4.14**	**346**	Pg			**Pb**	**04 15 10.8**	**-3.7**
	3.7nm,0.3s								
DGS				Lg			Lg	04 16 06.7	
	6.3nm,0.9s								
CHMS	**Chumysh**	**4.17**	**335**	⇑Pg			Pn	04 15 09.9	+4.7
	1.0nm,0.3s								
CHMS				⇓Lg			Lg	04 16 04.0	
	3.2nm,0.5s								
CHMS	**Chumysh**	**4.17**	**335**	⇓*i* P			**Pn**	**04 15 06.0**	**+0.8**
	baz=35								
CHMS				⇓*i* S			**Sn**	**04 15 54.2**	**+0.2**
	baz=35								
UZB	**Uzynbulak**	**4.17**	**20**	*e*P			**Pn**	**04 15 09.8**	**+4.4**
	4.1nm,0.2s								
UZB				*e*S			**Sb**	**04 16 04.6**	**-1.0**
	6.0nm,0.6s								
UZB	**Uzynbulak**	**4.17**	**20**	Pg			**Pn**	**04 15 09.0**	**+3.6**
	5.5nm,0.3s								
UZB				Lg			Lg	04 16 04.0	
	6.0nm,0.6s								
EKS2	**Erkin-Say**	**4.26**	**325**	⇑*i* P			**Pn**	**04 15 07.6**	**+1.0**
	baz=24								
EKS2				⇑*i* S			**Sn**	**04 15 56.6**	**+0.2**
	baz=24								
SHLS	**Shalkode**	**4.31**	**24**	*e*P			**Pb**	**04 15 15.1**	**-2.3**
	1.9nm,0.2s								
SHLS				*e*S			**Sb**	**04 16 13.6**	**+4.1**
	447nm,0.1s								
SHLS	**Shalkode**	**4.31**	**24**	Pg			**Pb**	**04 15 15.1**	**-2.3**
	4.1nm,0.4s								
SHLS				Lg			Lg	04 16 14.3	
	12nm,0.8s								
KURS	**Kuram**	**4.33**	**10**	*e*P			**Pb**	**04 15 13.6**	**-4.2**
	1.3nm,0.5s								
KURS				*e*S			**Sb**	**04 16 10.9**	**+0.8**
	3.6nm,0.3s								
KURS	**Kuram**	**4.33**	**10**	Pg			**Pb**	**04 15 13.6**	**-4.2**
	1.3nm,0.5s								
KURS				Lg			Lg	04 16 11.9	
	6.0nm,0.8s								
PDGK	**Podgornoye**	**4.47**	**23**	Pg			**Pb**	**04 15 16.7**	**-3.5**
	1.3nm,0.6s								
PDGK				Lg			Lg	04 16 16.3	
	7.0nm,0.7s								
USP	**Ospenovka**	**4.49**	**335**	⇓*i* P			**Pn**	**04 15 10.5**	**+0.8**
	baz=35								
USP				⇓*i* S			**Sn**	**04 16 02.2**	**+0.2**
	baz=35								
KTBS	**Karatobe**	**4.49**	**356**	*e*P			**Pb**	**04 15 16.3**	**-4.2**
	1.9nm,0.6s								
KTBS				*e*S			**Sb**	**04 16 16.1**	**+1.4**
	5.8nm,0.5s								
KTBS	**Karatobe**	**4.49**	**356**	Pg			**Pb**	**04 15 16.3**	**-4.2**
	1.9nm,0.6s								
KTBS				Lg			Lg	04 16 16.1	
	5.8nm,0.5s								
MRKS	**Merke**	**4.58**	**321**	*e*P			**Pb**	**04 15 18.7**	**-3.3**
	0.9nm,0.3s								
MRKS				*e*S			**Sb**	**04 16 19.9**	**+2.5**
	12nm,0.3s								
MRKS	**Merke**	**4.58**	**321**	Pg			**Pb**	**04 15 18.7**	**-3.3**
	0.9nm,0.3s								
MRKS				Lg			Lg	04 16 19.9	
	12nm,0.3s								
KRBS	**Karabastau**	**4.59**	**347**	*e*P			**Pb**	**04 15 18.4**	**-3.9**
	2.5nm,0.6s								
KRBS				*e*S			**Sb**	**04 16 19.7**	**+2.1**
	3.7nm,0.4s								
KRBS	**Karabastau**	**4.59**	**347**	Pg			**Pb**	**04 15 18.4**	**-3.9**
	2.5nm,0.6s								
KRBS				Lg			Lg	04 16 19.7	
	3.7nm,0.4s								
ARK	**Arkit**	**4.69**	**305**	⇑*i* P			**Pn**	**04 15 13.5**	**+1.0**
	baz=5.0								
ARK				⇑*i* S			**Sn**	**04 16 07.3**	**+0.3**
	baz=5.0								
MNAS	**Manas**	**4.78**	**314**	⇑*i* P			**Pn**	**04 15 14.7**	**+1.0**
	baz=14								
MNAS				⇑*i* S			**Sn**	**04 16 09.3**	**+0.1**
	baz=14								
KTMS	**Ketmen**	**4.87**	**29**	*e*P			**Pb**	**04 15 23.6**	**-3.4**
	0.3nm,0.1s								
KTMS				*e*S			**Sb**	**04 16 28.6**	**+3.0**
	4.1nm,0.4s								
KTMS	**Ketmen**	**4.87**	**29**	Pg			**Pb**	**04 15 23.6**	**-3.4**
	0.3nm,0.1s								
KTMS				Lg			Lg	04 16 28.6	
	4.1nm,0.4s								
BTK	**Batken**	**4.93**	**282**	⇑*i* P			**Pn**	**04 15 17.0**	**+1.3**
	baz=81								
BTK				⇑*i* S			**Sn**	**04 16 13.2**	**+0.3**
	baz=81								
BLB	**Baldybastay**	**4.97**	**11**	Pg			**Pb**	**04 15 25.7**	**-3.1**
	1.3nm,0.2s								
BLB				Lg			Lg	04 16 32.4	
	8.8nm,0.6s								
TRKS	**Terek-Say**	**5.11**	**299**	⇑*i* P			**Pn**	**04 15 18.6**	**+0.3**
	baz=98								
TRKS				⇑*i* S			**Sn**	**04 16 16.1**	**-1.3**
	baz=98								
GAR	**Garm**	**5.29**	**270**	⇑*i* P			**Pn**	**04 15 21.7**	**+0.9**
	baz=70								
GAR				⇑*i* S			**Sn**	**04 16 21.5**	**-0.3**
	baz=70								
KNOS	**Konyrlen**	**5.35**	**16**	Pg			**Pb**	**04 15 32.1**	**-3.1**
	1.2nm,0.5s								
KNOS				Lg			Lg	04 16 42.9	
	3.2nm,0.5s								

IDC ***02*** *04:21:52.8±1.0,5°

FAKI	**Fak Fak**	**2.45**	**317**	P		**Pn**	**04 37 30.1**	**-0.3**
FAKI				S		**Sn**	**04 37 57.7**	**-1.5**
BNDI	**Bandanaira**	**4.01**	**273**	P		**Pn**	**04 37 52.7**	**+0.8**
BNDI	**Bandanaira**	**4.01**	**273**	P		**Pn**	**04 37 52.6**	**+0.7**
BNDI				S		**Sn**	**04 38 38.6**	**+0.9**
SAUI	**Saumlaki**	**4.16**	**219**	P		**Pn**	**04 37 54.7**	**+0.8**
SWI	**Sorong**	**4.67**	**325**	P		**Pn**	**04 38 00.9**	**0.0**
SWI				S		**Sn**	**04 38 51.5**	**-2.4**
NLAI	**Namlea**	**6.97**	**282**	P		**Pn**	**04 38 34.0**	**+1.5**
	48nm,0.5s,0.2nm							
LBMI	**Labuha**	**7.59**	**302**	P		**Pn**	**04 38 41.1**	**0.0**
	133nm,0.7s,0.4nm							
KDU	**Kakadu**	**8.04**	**190**	P		**Pn**	**04 38 47.2**	**-0.1**
SANI	**Sanana**	**8.36**	**288**	P		**Pn**	**04 38 49.8**	**-1.8**
SANI	**Sanana**	**8.36**	**288**	P		**Pn**	**04 38 49.8**	**-1.8**
SOEI	**Soe**	**10.80**	**242**	P		**Pn**	**04 39 24.8**	**-0.5**
	24nm,0.6s							
KNRA	**Kununurra**	**12.01**	**205**	P		**Pn**	**04 39 40.0**	**-1.7**
GTOI	**Gorontalo**	**12.13**	**296**	P		**Pn**	**04 39 45.2**	**+1.8**
	5.4nm,0.5s							
COEN	**Coen**	**12.94**	**136**	P		**Pn**	**04 39 53.3**	**-1.1**
	8.2nm,1.5s							
WRA	**Warramunga Arr**	**15.13**	**179**	Pn		**Pn**	**04 40 20.5**	**-3.7**
	0.8nm,0.3s,baz=358,slow=13,SNR=36							
WRA				Sn		Sn	04 42 58.9	-12
	0.7nm,0.3s,baz=355,slow=24,SNR=5.4							
	1.8nm,0.5s							
QIS	**Mount Isa**	**16.68**	**161**	P		**Pn**	**04 40 44.5**	**+0.4**
BKB	**Balikpapan**	**17.35**	**281**	P		**Pn**	**04 40 49.9**	**-2.6**
AS01	**Alice Springs**	**18.83**	**180**	P		**P**	**04 41 09.7**	**-0.2**
ASAR	**Alice Springs**	**18.83**	**180**	P		**P**	**04 41 08.6**	**-1.3**
	1.0nm,0.3s,baz=359,slow=10,SNR=38							
ASAR				LR		LR	04 49 08.9	
	comp=Z,134nm,20.8s,baz=336,slow=40							
	5.9nm,0.9s							
CTA	**Charters Tower**	**19.42**	**143**	P		**Pn**	**04 41 20.4**	**+2.6**
	4.4nm,0.9s,baz=324,slow=12,SNR=4.3							
WRKA	**Warakurna**	**20.91**	**194**	P		**P**	**04 41 33.1**	**+0.6**
TNG	**Tangerang**	**27.19**	**266**	P		P	04 42 41.6	+8.0
CMAR	**Chiang Mai Arr**	**41.47**	**305**	P		**P**	**04 44 38.3**	**+1.6**
	1.0nm,0.3s,baz=111,slow=4.9,SNR=1.3							
	1.0nm,0.3s							
USRK	**Ussuriysk Ar.**	**48.73**	**358**	P		**P**	**04 45 35.1**	**+1.1**
	2.4nm,0.7s,baz=128,slow=9.3,SNR=4.3							
	2.4nm,0.7s							
MKAR	**Makanchi Array**	**68.56**	**325**	P		**P**	**04 47 53.8**	**+1.7**
	1.7nm,0.8s,baz=122,slow=7.5,SNR=17							
	1.7nm,0.8s							
ZALV	**Zalesovo Beam**	**71.36**	**332**	P		**P**	**04 48 10.8**	**+1.7**
	0.4nm,0.4s,baz=116,slow=3.4,SNR=1.8							
	0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**72.69**	**327**	P		**P**	**04 48 19.0**	**+1.8**
	0.8nm,0.7s,baz=126,slow=5.0,SNR=6.2							
	0.8nm,0.7s							
BVAR	**Borovoye Array**	**78.28**	**326**	P		**P**	**04 48 50.4**	**+1.2**
	0.6nm,0.5s,baz=106,slow=4.7,SNR=3.8							
	0.6nm,0.5s							
MAW	**Mawson**	**78.49**	**202**	LR		LR	05 19 25.6	
	comp=Z,150nm,20.8s,baz=254,slow=33							
ILAR	**Eielson Array**	**89.64**	**25**	P		**P**	**04 49 46.4**	**-0.5**
	0.3nm,0.9s,baz=260,slow=5.4,SNR=2.7							
	0.3nm,0.9s							

MEX 02 04:37:26.1±0.7, 16°29N×98°87W, h16km±904km, MD3.6,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRIG	**Cruz Grande**	**0.51**	**330**	*eP*	Pg	04 37 34.1	-2.2
CRIG				*eS*	Sg	04 37 41.2	-2.0
PNIG	**Pinotepa**	**0.72**	**82**	*eP*	Pg	04 37 37.3	-2.9
PNIG				*eS*	Sg	04 37 46.6	-3.1
MGIG	**Malinaltepec**	**0.96**	**13**	*eP*	Pb	04 37 41.6	-3.0
DAIG	**Los Arroyos**	**1.05**	**314**	*eP*	Pb	04 37 43.2	-2.6
TLIG	**Tlapa**	**1.30**	**13**	*eP*	Pn	04 37 46.9	-2.8
TLIG				*eS*	Sb	04 38 01.6	-5.1
YOIG	**Yosondua**	**1.39**	**66**	*eP*	Pn	04 37 48.1	-2.9
YOIG				*eS*	Sn	04 38 02.9	-6.2
TXIG	**Tlaxiaco**	**1.42**	**48**	*eP*	Pn	04 37 48.6	-2.9
TXIG				*eS*	Sn	04 38 04.8	-5.2
CAIG	**El Cayaco**	**1.54**	**300**	*eP*	Pn	04 37 51.4	-1.5
CAIG				*eS*	Sn	04 38 07.1	-5.5
PEIG	**Puerto Escondi**	**1.68**	**100**	*eP*	Pn	04 37 51.0	-3.8
PEIG				*eS*	Sn	04 38 07.3	-8.6
FTIG	**Fresnillo de T**	**1.76**	**23**	*eP*	Pn	04 37 53.8	-2.2
MEIG	**Mezcala**	**1.78**	**336**	*eP*	Pn	04 37 53.4	-2.9
HLIG	**Huajuapan de L**	**1.84**	**33**	*eP*	Pn	04 37 55.3	-1.9
VHO	**Vista Hermosa**	**2.19**	**69**	*eP*	Pn	04 37 59.8	-2.2
TOIG	**Toxpalan**	**2.49**	**44**	*eP*	Pn	04 38 03.2	-2.9

NEIC ***02*** *04:37:34.1±2.0, 16°.22N±0°.05×98°.83W±0°.04, h10km±2km, mb4.1/36, Md4.7/137(MEX), Error ellipse: s-maj=9.8km s-min=6.3km az=204.0*
IDC ***02*** *04:37:34.7±7.2, 16°.42N×98°.67W, h0km, mb3.8/5, mbtmp3.8/6, ML3.7/1, MS4.1/1, Error ellipse: s-maj=142.4km s-min=29.4km az=12.0*
MEX ***02*** *04:37:37.2±1.0, 16°.25N×98°.88W, h16km±12km, MD4.5*
ISC 02 04:37:31.9±1.2, 16°22N±0°.03×98°83W±0°.02, h1km±7km,
n167, σ1s85/256, mb4.1/13, 2C-1D, Near coast of
Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRIG	**Cruz Grande**	**0.59**	**330**		**Pn**	**04 37 45.6**	**-1.9**
CRIG					**Sb**	**04 37 52.7**	**-1.3**
CRIG	**Cruz Grande**	**0.59**	**330**	*eP*	**Pn**	**04 37 45.6**	**-1.9**
CRIG				*i* S	**Sb**	**04 37 52.6**	**-1.3**
PNIG	**Pinotepa**	**0.69**	**76**		**Pn**	**04 37 47.4**	**-1.6**
PNIG					**Sn**	**04 37 58.0**	**-2.4**
PNIG	**Pinotepa**	**0.69**	**76**	*i* P	**Pn**	**04 37 48.8**	**-0.2**
PNIG				*i* S	**Sn**	**04 37 58.2**	**-2.2**
MGIG	**Malinaltepec**	**1.02**	**10**		**Pn**	**04 37 53.3**	**-0.4**
MGIG					**Sb**	**04 38 06.0**	**-0.7**
MGIG	**Malinaltepec**	**1.02**	**10**	*i* P	**Pn**	**04 37 53.4**	**-0.2**
MGIG				*eS*	**Sb**	**04 38 06.0**	**-0.7**
MGIG	**Malinaltepec**	**1.02**	**10**	*eS*	**Pn**	**04 37 53.2**	**-0.4**
DAIG	**Los Arroyos**	**1.12**	**315**		**Pg**	**04 37 53.5**	**+0.1**
DAIG					**Sg**	**04 38 06.2**	**-1.8**
DAIG	**Los Arroyos**	**1.12**	**315**	*i* P	**Pn**	**04 37 54.9**	**0.0**
DAIG				*eS*	**Sg**	**04 38 06.2**	**-1.8**
DAIG	**Los Arroyos**	**1.12**	**315**	*eS*	**Pb**	**04 37 54.8**	**+0.6**
VNTA	**La Mica**	**1.18**	**306**	*i* P	**Pg**	**04 37 56.3**	**+1.8**
VNTA				*i* S	**Sn**	**04 38 10.5**	**-1.8**
ACP2	**Acapulco**	**1.21**	**303**		**Pg**	**04 37 56.4**	**+1.2**
ACP2					**Sn**	**04 38 12.0**	**-1.0**
ACP2	**Acapulco**	**1.21**	**303**	*i* P	**Pg**	**04 37 56.5**	**+1.3**
ACP2				*i* S	**Sn**	**04 38 12.0**	**-1.0**
TLIG	**Tlapa**	**1.36**	**11**	Pn	**Pg**	**04 37 58.3**	**+0.3**
TLIG				Sn	**Sg**	**04 38 16.8**	**+1.1**
TLIG	**Tlapa**	**1.36**	**11**	*i* P	**Pg**	**04 37 58.7**	**+0.7**
TLIG				*eS*	**Sg**	**04 38 15.7**	**0.0**
YOIG	**Yosondua**	**1.38**	**63**		**Pg**	**04 37 59.0**	**+0.5**
YOIG					**Sg**	**04 38 16.8**	**+0.4**
YOIG	**Yosondua**	**1.38**	**63**	*eP*	**Pg**	**04 37 59.3**	**+0.8**
YOIG				*eS*	**Sb**	**04 38 14.7**	**-2.3**
TXIG	**Tlaxiaco**	**1.44**	**45**		**Pg**	**04 38 00.0**	**+0.4**
TXIG					**Sg**	**04 38 18.6**	**+0.2**
TXIG	**Tlaxiaco**	**1.44**	**45**	*i* P	**Pg**	**04 38 00.2**	**+0.6**
TXIG				*eS*	**Sg**	**04 38 18.6**	**+0.2**
HMTT	**Tlapaneco**	**1.59**	**9**		**Pb**	**04 38 01.7**	**-0.5**
HMTT					**Sb**	**04 38 21.9**	**-1.0**
HMTT	**Tlapaneco**	**1.59**	**9**	*eP*	**Pb**	**04 38 01.7**	**-0.5**
HMTT				*eS*	**Sb**	**04 38 21.9**	**-1.0**
CAIG	**El Cayaco**	**1.61**	**301**		**Pg**	**04 38 02.6**	**-0.2**
CAIG					**Sn**	**04 38 21.1**	**-1.8**
CAIG	**El Cayaco**	**1.61**	**301**	*i* P	**Pb**	**04 38 01.5**	**-0.9**
CAIG				*eS*	**Sn**	**04 38 19.6**	**-3.3**
PEIG	**Puerto Escondi**	**1.63**	**98**		**Pb**	**04 38 02.1**	**-0.8**
PEIG					**Sn**	**04 38 22.1**	**-1.4**
PEIG	**Puerto Escondi**	**1.63**	**98**	*eP*	**Pb**	**04 38 02.1**	**-0.8**
PEIG				*eS*	**Sn**	**04 38 22.1**	**-1.4**
FTIG	**Fresnillo de T**	**1.80**	**21**		**Pb**	**04 38 05.2**	**-0.8**
FTIG					**Sn**	**04 38 24.8**	**-3.2**
FTIG	**Fresnillo de T**	**1.80**	**21**	*eP*	**Pb**	**04 38 05.2**	**-0.8**
FTIG				*eS*	**Sn**	**04 38 24.8**	**-3.2**
ATYC	**Atoyac**	**1.83**	**303**	*i* P	**Pg**	**04 38 08.3**	**+1.3**
ATYC				*eS*	**Sg**	**04 38 30.4**	**-0.3**
MEIG	**Mezcala**	**1.86**	**336**		**Pb**	**04 38 05.2**	**-1.5**
MEIG					**Sn**	**04 38 26.1**	**-3.1**
MEIG	**Mezcala**	**1.86**	**336**	*eP*	**Pb**	**04 38 05.2**	**-1.5**
MEIG				*eS*	**Sn**	**04 38 26.1**	**-3.1**
HLIG	**Huajuapan de L**	**1.88**	**31**		**Pb**	**04 38 06.1**	**-1.1**
HLIG					**Sb**	**04 38 30.1**	**-1.1**
HLIG	**Huajuapan de L**	**1.88**	**31**	*eP*	**Pb**	**04 38 06.1**	**-1.1**
HLIG				*eS*	**Sb**	**04 38 30.1**	**-1.1**
OXIG	**Oaxaca**	**2.18**	**67**		**Pb**	**04 38 11.0**	**-1.3**
OXIG					**Sg**	**04 38 42.0**	**0.0**
VHO	**Vista Hermosa**	**2.18**	**67**	*eP*	**Pb**	**04 38 11.0**	**-1.3**
VHO				*eS*	**Sg**	**04 38 42.0**	**0.0**
OXBJ	**Oaxaca**	**2.18**	**67**		**Pg**	**04 38 15.5**	**+1.6**
OXBJ					**Sg**	**04 38 43.1**	**+0.9**
OXBJ	**Oaxaca**	**2.18**	**67**	*eP*	**Pg**	**04 38 15.5**	**+1.6**
OXBJ				*eS*	**Sg**	**04 38 43.1**	**+0.9**
PLIG	**Platanillo**	**2.25**	**343**		**Pb**	**04 38 11.3**	**-2.2**
PLIG					**Sb**	**04 38 41.7**	**-0.3**
PLIG	**Platanillo**	**2.25**	**343**	*eP*	**Pb**	**04 38 11.3**	**-2.2**
PLIG				*eS*	**Sb**	**04 38 41.7**	**-0.3**
ARIG	**Puente Sto Nin**	**2.51**	**325**		**Pb**	**04 38 17.8**	**-0.1**
ARIG					**Sn**	**04 38 43.5**	**-1.8**
ARIG	**Puente Sto Nin**	**2.51**	**325**	*eP*	**Pb**	**04 38 16.4**	**-1.5**
ARIG				*eS*	**Sn**	**04 38 43.5**	**-1.8**
TOIG	**Toxpalan**	**2.51**	**42**	*eP*	**Pb**	**04 38 15.6**	**-2.4**
TOIG				*eS*	**Sb**	**04 38 46.5**	**-3.0**
TPIG	**Tehuac#an**	**2.60**	**32**		**Pn**	**04 38 16.6**	**+1.3**
TPIG					**Sn**	**04 38 43.4**	**-4.2**
TPIG	**Tehuac#an**	**2.60**	**32**	*eP*	**Pn**	**04 38 16.6**	**+1.3**
TPIG				*eS*	**Sn**	**04 38 43.4**	**-4.2**
YAIG	**Yautepec**	**2.64**	**355**		**Pn**	**04 38 18.2**	**-1.9**
YAIG					**Sn**	**04 38 49.1**	**+0.5**
YAIG	**Yautepec**	**2.64**	**355**	*eP*	**Pb**	**04 38 18.2**	**-1.9**
YAIG				*eS*	**Sn**	**04 38 49.1**	**+0.5**
HUIG	**Huatulco**	**2.65**	**99**		**Pn**	**04 38 13.2**	**-2.8**
HUIG					**Sn**	**04 38 45.3**	**-3.4**
HUIG	**Huatulco**	**2.65**	**99**	*eP*	**Pn**	**04 38 13.2**	**-2.8**
HUIG				*eS*	**Sn**	**04 38 45.3**	**-3.4**
PET2	**Petatlan**	**2.67**	**300**	*eP*	**Pg**	**04 38 22.8**	**-0.5**
PET2				*eS*	**Sn**	**04 38 48.4**	**-0.9**
PPIG	**Popocatepetl**	**2.84**	**4**		**Pb**	**04 38 22.3**	**-1.5**
PPIG					**Sb**	**04 38 59.2**	**0.0**
PPM	**Popocatepetl**	**2.84**	**4**	*eP*	**Pb**	**04 38 22.3**	**-1.5**
PPM				*eS*	**Sn**	**04 38 54.1**	**+0.1**
ZIIG	**Zihuatanejo**	**2.88**	**299**		**Pb**	**04 38 23.9**	**-0.2**
ZIIG					**Sn**	**04 38 51.7**	**-2.6**
ZIIG	**Zihuatanejo**	**2.88**	**299**	*eP*	**Pb**	**04 38 23.9**	**-0.2**
ZIIG				*eS*	**Sn**	**04 38 51.7**	**-2.6**
AMVM	**AMECAMECA**	**2.90**	**1**		**Pb**	**04 38 24.6**	**0.0**
AMVM					**Sb**	**04 38 57.3**	**-3.4**
AMVM	**AMECAMECA**	**2.90**	**1**	*eP*	**Pb**	**04 38 24.6**	**0.0**
AMVM				*eS*	**Sb**	**04 38 57.3**	**-3.4**
TEJU	**Tejupilco**	**2.96**	**335**	*eP*	**Pn**	**04 38 20.0**	**-0.3**
TEJU				*eS*	**Sb**	**04 38 59.6**	**-2.7**
MPVM	**San Francisco**	**2.97**	**357**	*eP*	**Pb**	**04 38 23.8**	**-2.1**
MPVM				*eS*	**Sb**	**04 38 59.4**	**-3.3**
TLVM	**San Miguel Top**	**2.99**	**354**	*eP*	**Pb**	**04 38 24.5**	**-1.8**
TLVM				*eS*	**Sn**	**04 38 58.9**	**+1.3**
XCVM	**Xochimilco**	**3.03**	**355**	*eP*	**Pb**	**04 38 25.6**	**-1.2**
XCVM				*eS*	**Sb**	**04 39 00.1**	**-4.4**
AOVM	**Tlapan**	**3.07**	**351**	*eP*	**Pn**	**04 38 23.9**	**+1.9**
AOVM				*eS*	**Sn**	**04 38 56.3**	**-3.3**
THVM	**De Xico**	**3.08**	**357**	*eP*	**Pb**	**04 38 25.2**	**-2.5**
THVM				*eS*	**Sn**	**04 38 58.4**	**-1.2**
CNCY	**Coyoacan**	**3.10**	**354**	*e*	**Pg**	**04 38 32.1**	**+0.8**
CNCY				*eS*	**Sb**	**04 39 03.7**	**-2.7**
INVM	**La Marquesa**	**3.10**	**350**	*eP*	**Pb**	**04 38 25.4**	**-2.7**
INVM				*eS*	**Sn**	**04 39 01.6**	**+1.3**
UNM	**Universidad Na**	**3.11**	**354**	Pn	**Pn**	**04 38 22.6**	**+0.1**
UNM	**Universidad Na**	**3.11**	**354**	*eP*	**Pb**	**04 38 26.8**	**+0.4**
UNM				*eS*	**Sn**	**04 39 02.1**	**+1.7**
COVM	**Coyoacan**	**3.13**	**354**	*eS*	**Sn**	**04 39 02.2**	**+1.3**
TOVM	**TOLUCA**	**3.15**	**345**	*eP*	**Pb**	**04 38 26.0**	**-3.1**
TOVM				*eS*	**Sn**	**04 38 58.5**	**-3.1**
BJVM	**Benito Juarez**	**3.15**	**354**	*eP*	**Pn**	**04 38 24.1**	**+1.1**
BJVM				*eS*	**Sn**	**04 39 01.3**	**-0.2**
CJVM	**Cuajimalpa**	**3.15**	**352**	*eP*	**Pg**	**04 38 30.6**	**-1.9**
CJVM				*eS*	**Sn**	**04 39 02.7**	**+1.2**
MHVM	**Bosque de Chap**	**3.19**	**353**	*eP*	**Pb**	**04 38 26.5**	**-3.1**
MHVM				*eS*	**Sn**	**04 39 03.8**	**+1.4**
TXVM	**Universitario**	**3.20**	**358**	*eP*	**Pn**	**04 38 22.5**	**-1.2**
TXVM				*eS*	**Sb**	**04 39 05.3**	**-4.0**
PBVM	**Pinon**	**3.21**	**356**		**Pb**	**04 38 28.8**	**-1.0**
PBVM					**Sn**	**04 39 00.5**	**-2.1**
PBVM	**Pinon**	**3.21**	**356**	*eP*	**Pb**	**04 38 28.8**	**-1.0**
PBVM				*eS*	**Sn**	**04 39 00.5**	**-2.1**
CTVM	**Cuauhtemoc**	**3.22**	**354**	*eS*	**Sb**	**04 39 09.1**	**-0.9**
NEUV	**Arroyo Zacate**	**3.25**	**62**	*eP*	**Sn**	**04 38 24.9**	**+0.7**
NEUV				*eS*	**Sn**	**04 39 04.8**	**+1.2**
PTVM	**Pico Tres Padr**	**3.37**	**355**	*eP*	**Pb**	**04 38 31.4**	**-1.2**
PTVM				*eS*	**Sn**	**04 39 05.4**	**-1.4**
VTVM	**Tizayuca**	**3.53**	**1**		**Pn**	**04 38 30.6**	**+2.3**
VTVM					**Sn**	**04 39 10.9**	**0.0**
VTVM	**Tizayuca**	**3.53**	**1**	*eP*	**Pn**	**04 38 30.6**	**+2.3**
VTVM				*eS*	**Sn**	**04 39 10.9**	**0.0**
ZUVM	**ZUMPANGO**	**3.59**	**356**		**Pb**	**04 38 34.9**	**-1.6**
ZUVM					**Sn**	**04 39 14.8**	**+2.4**
ZUVM	**ZUMPANGO**	**3.59**	**356**	*eP*	**Pb**	**04 38 34.9**	**-1.6**
ZUVM				*eS*	**Sn**	**04 39 14.8**	**+2.4**
JAUV	**Jalcomulco**	**3.67**	**31**	*eP*	**Pn**	**04 38 29.4**	**-0.7**
JAUV				*eS*	**Sn**	**04 39 12.5**	**-1.5**
ACIG	**Acambay**	**3.87**	**345**		**Pn**	**04 38 35.0**	**+2.1**
ACIG					**Sn**	**04 39 19.9**	**+0.8**
ACIG	**Acambay**	**3.87**	**345**	*eP*	**Pn**	**04 38 35.0**	**+2.1**
ACIG				*eS*	**Sn**	**04 39 19.9**	**+0.8**
CMIG	**Matias Romero**	**3.88**	**77**		**Pn**	**04 38 33.3**	**+0.5**
CMIG					**Sn**	**04 39 17.9**	**-1.0**
CMIG	**Matias Romero**	**3.88**	**77**	Pn	**Pn**	**04 38 33.5**	**+0.7**
	5.4nm,0.3s,baz=240,slow=14,SNR=42						
CMIG				Sn	**Sn**	**04 39 17.7**	**-1.3**
	7.3nm,0.3s,baz=229,slow=19,SNR=5.4						
CMIG				Lg	Lg	04 39 35.8	
	15nm,0.3s,baz=217,slow=23,SNR=4.1						
	13nm,0.4s						
CMIG	**Matias Romero**	**3.88**	**77**	*eP*	**Pn**	**04 38 33.3**	**+0.5**
CMIG				*eS*	**Sn**	**04 39 17.9**	**-1.0**
NILT	**Santiago Nilte**	**4.05**	**85**	*eS*	**Sn**	**04 39 23.2**	**-0.2**
NILT	**Santiago Nilte**	**4.05**	**85**	*eS*	**Sn**	**04 39 23.3**	**0.0**
DHIG	**Demacu**	**4.06**	**357**		**Pb**	**04 38 45.5**	**+1.1**
DHIG					**Sb**	**04 39 29.3**	**-4.9**
DEIG	**Demacu**	**4.06**	**357**	*eP*	Pb	04 38 39.3	-5.2
DEIG				*eS*	**Sn**	**04 39 24.3**	**+0.3**
MOIG	**Morelia**	**4.11**	**327**	Pn	**Pn**	**04 38 36.8**	**+0.7**
MOIG	**Morelia**	**4.11**	**327**	*eP*	Pb	04 38 40.1	-5.2
MOIG				*eS*	**Sn**	**04 39 21.6**	**-3.4**
LVIG	**Laguna Verde**	**4.17**	**33**	*eP*	**Pn**	**04 38 35.5**	**-1.3**
LVIG				*eS*	**Sn**	**04 39 24.6**	**-1.6**
PMUV	**Sontecomapan**	**4.22**	**56**	*eP*	**Pn**	**04 38 38.0**	**+0.4**
PMUV				*eS*	**Sn**	**04 39 29.4**	**+1.8**
JRQG	**Juriquilla Cam**	**4.72**	**341**	Pn	**Pn**	**04 38 47.7**	**+3.2**
JRQG	**Juriquilla Cam**	**4.72**	**341**	*eP*	**Pb**	**04 38 54.2**	**-1.4**
JRQG				*eS*	**Sn**	**04 39 42.0**	**+2.0**
MMIG	**Aquila**	**4.78**	**296**		Pn	04 38 49.2	+4.0
MMIG					**Sn**	**04 39 40.1**	**-1.2**
MMIG	**Aquila**	**4.78**	**296**	*eP*	Pn	04 38 49.2	+4.0
MMIG				*eS*	**Sn**	**04 39 40.1**	**-1.2**
CTUV	**Llano Grande**	**5.24**	**5**	*eP*	**Pn**	**04 38 53.1**	**+1.5**
CTUV				*eS*	**Sn**	**04 39 53.1**	**+0.4**
PCIG		**5.42**	**95**		**Pn**	**04 38 51.7**	**-2.2**
PCIG					**Sn**	**04 39 57.5**	**+0.5**
PCIG		**5.42**	**95**	*eP*	**Pn**	**04 38 51.7**	**-2.2**
PCIG				*eS*	**Sn**	**04 39 57.5**	**+0.5**
PCIG		**5.42**	**95**	*eS*	**Pn**	**04 38 52.0**	**-2.0**
COIG	**Colima**	**5.49**	**303**	*eP*	**Pn**	**04 38 57.9**	**+2.9**
COIG				*eS*	**Sn**	**04 39 57.6**	**-1.4**
TGIG		**5.50**	**83**		**Pn**	**04 38 52.5**	**-2.7**
TGIG					**Sn**	**04 39 59.9**	**+0.7**
TGIG		**5.50**	**83**	*eP*	**Pn**	**04 38 52.5**	**-2.7**
TGIG				*eS*	**Sn**	**04 39 59.9**	**+0.7**
JUBC	**Volcan de Coli**	**5.58**	**307**	*eP*	**Pn**	**04 38 59.6**	**+3.1**
JUBC				*eS*	**Sn**	**04 40 01.0**	**-0.4**
EZ5V		**5.58**	**306**		Pn	04 39 00.5	+4.0
EZ5V		**5.58**	**306**	*eP*	Pn	04 39 00.5	+4.0
EZ5V				*eS*	**Sn**	**04 40 06.3**	**+4.9**
MNGA	**Volcan de Coli**	**5.59**	**306**	*eP*	Pn	04 39 01.7	+5.2
MNGA				*eS*	**Sn**	**04 39 58.3**	**-3.3**
INCO	**Volcan de Coli**	**5.61**	**307**	*eP*	**Pn**	**04 38 56.8**	**-0.2**
INCO				*eS*	**Sn**	**04 39 59.6**	**-2.7**
SOMAC	**Volcano de Col**	**5.63**	**306**	*eP*	**Pn**	**04 39 00.1**	**+2.9**
SOMAC				*eS*	**Sn**	**04 40 02.4**	**-0.5**
CEGR	**Campo Tres**	**5.74**	**304**	*eP*	Pn	04 39 02.7	+4.2
CEGR				*eS*	**Sn**	**04 40 02.5**	**-2.6**
RPIG	**Rio Verde**	**5.74**	**349**		**Pn**	**04 39 01.5**	**+3.1**
RPIG				*eS*	**Sn**	**04 40 07.6**	**+2.5**
RPIG	**Rio Verde**	**5.74**	**349**	*eP*	**Pn**	**04 39 01.5**	**+3.1**
RPIG				*eS*	**Sn**	**04 40 07.6**	**+2.5**
CIHU	**Emiliano Zapat**	**6.39**	**299**	*eP*	**Pn**	**04 39 08.3**	**+0.9**
CIHU				*eS*	**Sn**	**04 40 17.8**	**-3.3**
CCIG	**Comitan**	**6.42**	**89**		**Pn**	**04 39 09.5**	**+1.5**
CCIG	**Comitan**	**6.42**	**89**	*eS*	**Sn**	**04 40 16.9**	**-5.3**
AAIG	**Aguscalientes**	**6.63**	**330**		**Sn**	**04 40 25.5**	**-1.8**
AAIG	**Aguscalientes**	**6.63**	**330**	*eS*	**Sn**	**04 40 25.5**	**-1.8**
GTIG	**Gomez Farias**	**6.82**	**357**		**Pn**	**04 39 15.6**	**+2.4**
GTIG					**Sn**	**04 40 29.7**	**-1.8**
GTIG	**Gomez Farias**	**6.82**	**357**	*eP*	**Pn**	**04 39 15.6**	**+2.4**
GTIG				*eS*	**Sn**	**04 40 29.7**	**-1.8**
ESTA	**Talpa de Allen**	**7.07**	**307**	*eP*	**Pn**	**04 39 13.6**	**-3.2**
ESTA				*eS*	**Sn**	**04 40 33.2**	**-4.6**
H06E1	**SOCORRO T-PHAS**	**1.82**	**284**	T	T	04 52 36.9	
	SNR=6.1						
TXAR	**Lajitas Array**	**13.79**	**342**	Pn	**P**	**04 40 57.6**	**0.0**
	0.1nm,0.3s,baz=162,slow=12,SNR=9.7						
SAND	**Sanderson**	**14.00**	**348**	Pn	**Pn**	**04 40 53.0**	**+1.3**
MNHN	**Monahans**	**15.47**	**347**	Pn	**Pn**	**04 41 11.7**	**+0.1**
VHRN	**Van Horn**	**15.55**	**340**	Pn	**Pn**	**04 41 12.4**	**-0.3**
WHTX	**Lake Whitney,**	**15.75**	**4**	Pn	**Pn**	**04 41 15.0**	**-0.1**
WHTX				IAmb	IAmb	04 41 22.2	
	comp=Z,18nm,0.9s						
ABTX	**Abilene, Hawle**	**16.35**	**358**	P	**P**	**04 41 25.1**	**-0.8**
PLPT	**Palo Pinto**	**16.53**	**2**	P	**P**	**04 41 27.5**	**-0.4**
PLPT				IAmb	IAmb	04 41 31.0	
	comp=Z,12nm,0.7s						
DKNS	**Dickens**	**17.47**	**354**	P	**P**	**04 41 39.2**	**+0.8**
SMWD	**Samnorwood**	**18.85**	**356**		**Pn**	**04 41 55.3**	**+1.4**
OK052	**Battle Ridge R**	**19.77**	**5**	P	**Pn**	**04 42 04.2**	**-0.9**
OK052				IAmb	IAmb	04 42 04.9	
	comp=Z,8.2nm,0.8s						
OK033	**Mehan**	**19.82**	**5**		**Pn**	**04 42 04.5**	**-1.0**
OK033				IAmb	IAmb	04 42 05.3	
	comp=Z,11nm,0.8s						
ANMO	**Albuquerque**	**19.86**	**341**	P	**Pn**	**04 42 08.2**	**+1.9**
OK048	**Pawnee Station**	**20.18**	**4**		Pn	04 42 08.1	-1.8
OK048				IAmb	IAmb	04 42 11.8	
	comp=Z,11nm,0.9s						
RTBA	**Rita Blanca**	**20.43**	**351**	P	Pn	04 42 11.8	-1.1
RTBA				IAmb	IAmb	04 42 14.6	
	comp=Z

WRA Sn **Sn** **04 46 34.1 -1.9**
0.3nm,0.3s,baz=32,slow=28,SNR=1.6
ASAR Alice Springs 19.27 205 P **Pn** **04 44 26.3 +3.2**
4.1nm,0.6s,baz=34,slow=10.0,SNR=13
MKAR Makanchi Array 74.81 322 P **P** **04 51 38.7 +0.9**
1.1nm,0.8s,baz=116,slow=7.1,SNR=9.0
1.1nm,0.8s
KURBB Kurchatov Arra 78.71 324 P **P** **04 51 59.1 -0.5**
0.3nm,0.3s,baz=110,slow=4.5,SNR=3.2
0.3nm,0.3s
BVAR Borovoye Array 84.28 325 P **P** **04 52 29.9 +0.7**
2.3nm,0.8s,baz=112,slow=6.7,SNR=10.0
2.3nm,0.8s
ILAR Eielson Array 87.41 24 P **P** **04 52 42.4 -2.0**
0.8nm,0.7s,baz=250,slow=4.4,SNR=12
0.8nm,0.7s

SJA ***02*** *04:42:06.8±0.8,22.˚10S×63.˚83W,h594km±7km,MW5.5*
MOS ***02*** *04:42:13.5±1.1,22.˚01S×63.˚69W,h513km,mb5.3/34, Error ellipse: s-maj=9.4km s-min=6.2km az=101.6*
NEIC ***02*** *04:42:14.8,22.˚01S×63.˚83W,h540km,Moment Tensor Solution. Duration: 25 Moment tensor: Scale 10^17Nm; Mrr-1.15; Mθθ0.12; Mφφ1.03; Mrθ-0.56; Mθφ0.06; Mφr0.97; Fault plane solution: M0 1.55000×10^17 NP1: φs161.88000°,δ68.22000°,λ-104.24000°. NP2: φs16.24000°,δ25.83000°,λ-58.39000°. Principal axes: T 1.4174, Plg22.0000°, Azm263.0000°; N 0.2672, Plg13.0000°, Azm167.0000°; P -1.6846, Plg64.0000°, Azm48.0000°;*
BJI ***02*** *04:42:14.4±0.0,21.˚99S×64.˚16W,h522km,mB5.3/16*
NEIC ***02*** *04:42:14.8,22.˚11S×63.˚72W,h540km*
VAO ***02*** *04:42:15.2±0.2,22.˚03S×63.˚71W,h530km,mb5.7*
NEIC ***02*** *04:42:15.4±1.3,22.˚05S±0.˚08×63.˚75W±0.˚07,h525km±5km, mb5.4/187,Mww5.4/33,Error ellipse: s-maj=12.6km s-min=8.7km az=198.0*
GCMT ***02*** *04:42:16.4±0.3,22.˚00S±0.˚03×63.˚68W±0.˚02,h543km±1km, MW5.4/104,Moment Tensor Solution. s104,c147; Duration: 1s3 Moment tensor: Scale 10^17Nm; Mrr-1.30±.04; Mθθ0.13±.07; Mφφ1.17±.06; Mrθ-0.88±.08; Mθφ0.06±.06; Mφr1.00±.07; Best double couple: M0 1.78400×10^17 NP1:φs155.00000°,δ69.00000°, λ-108.00000°. NP2:φs16.00000°,δ27.00000°, λ-52.00000°. Principal axes: T 1.5710, Plg22.0000°, Azm258.0000°; N 0.4270, Plg17.0000°, Azm161.0000°; P -1.9970, Plg62.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
IDC ***02*** *04:42:16.7±0.3,21.˚94S×63.˚54W,h536km±3km,mb4.9/24, mbtmp5.8/28 Error ellipse: s-maj=9.3km s-min=5.8km az=52.0*
ISC 02 04:42:15.8±0.2,21.˚99S±0.˚03×63.˚72W±0.˚04,h534km±2km, h535km:pP-P,n1380,σ1s30/1578,mb5.4/211,23C-28D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.67**	**263**	*eP*	**P**	**P**	**04 43 22.6**	**-0.5**
YJA				*eS*	**S**	**S**	04 44 17.2	-0.7
SLA	**San Lorenzo**	**3.17**	**211**	*eP*	**P**	**P**	**04 43 29.3**	**-1.5**
SLA				*eS*	**S**	**S**	04 44 29.2	-2.8
AF01	**San Pedro de A**	**4.23**	**256**	P	**P**	**P**	**04 43 36.8**	**-1.8**
FSA	**Cafayete**	**4.59**	**206**	*eP*	**P**	**P**	**04 43 39.2**	**-2.2**
LVC	**Limon Verde**	**4.84**	**262**		**P**	**P**	**04 43 41.4**	**-2.3**
LVC	**Limon Verde**	**4.84**	**262**	P	**P**	**P**	**04 43 41.4**	**-2.3**
LVC	**Limon Verde**	**4.84**	**262**	*eP*	**P**	**P**	**04 43 41.5**	**-2.3**
LVC				*eS*	**S**	**S**	04 44 52.1	-3.5
LVC	**Limon Verde**	**4.84**	**262**	P	**P**	**P**	**04 43 41.6**	**-2.1**
	2µm,0.4s,baz=87,slow=8.6,SNR=3263							
LVC				S	**S**	**S**	04 44 50.1	-5.4
	1µm,0.3s,baz=277,slow=19,SNR=6.8							
LVC	**Limon Verde**	**4.84**	**262**	*eP*	**P**	**P**	**04 43 41.5**	**-2.3**
AHML	**Horco Molle**	**5.00**	**197**	*eP*	**P**	**P**	**04 43 42.3**	**-2.4**
AHML				*eS*	**S**	**S**	04 44 53.5	-3.8
PB09	**IPOC Station P**	**5.13**	**271**	P	**P**	**P**	**04 43 44.4**	**-1.6**
PB09	**IPOC Station P**	**5.13**	**271**	*eP*	**P**	**P**	**04 43 44.6**	**-1.5**
PB09				*eS*	**S**	**S**	04 44 56.7	-3.0
BBRB	**Robore, Bolivi**	**5.21**	**46**	*eP*	**P**	**P**	**04 43 46.5**	**-0.1**
TICA	**Tres Isletas**	**5.34**	**146**	*eP*	**P**	**P**	**04 43 47.8**	**+0.3**
PB08	**IPOC Station P**	**5.39**	**289**	P	**P**	**P**	**04 43 47.1**	**-1.6**
PB08	**IPOC Station P**	**5.39**	**289**	P	**P**	P	04 43 43.1	-5.5
PB08				S	**S**	**S**	**04 44 58.6**	**-5.8**
PB08	**IPOC Station P**	**5.39**	**289**	*eP*	**P**	**P**	**04 43 47.0**	**-1.6**
PB08				*eS*	**S**	**S**	04 45 01.4	-3.0
PB01	**IPOC Station P**	**5.45**	**279**	P	**P**	**P**	**04 43 46.9**	**-1.9**
PB01	**IPOC Station P**	**5.45**	**279**	*eP*	**P**	**P**	**04 43 47.1**	**-1.7**
PB01				*eS*	**S**	**S**	04 45 01.8	-3.0
PB15	**IPOC Station P**	**5.45**	**256**	P	**P**	**P**	**04 43 46.5**	**-2.4**
PB15	**IPOC Station P**	**5.45**	**256**	*eP*	**P**	**P**	**04 43 46.4**	**-2.4**
PB15				*eS*	**S**	**S**	04 45 01.3	-3.6
PB06	**IPOC Station P**	**5.46**	**261**	P	**P**	**P**	**04 43 46.5**	**-2.4**
PB06	**IPOC Station P**	**5.46**	**261**	*eP*	**P**	**P**	**04 43 46.5**	**-2.4**
PB06				*eS*	**S**	**S**	04 45 01.2	-3.8
BBSD	**Serra de San D**	**5.61**	**32**	*eP*	**P**	**P**	**04 43 50.1**	**-0.1**
GO01	**Chusmiza**	**5.62**	**293**	P	**P**	**P**	**04 43 49.1**	**-1.6**
ESFA	**Espinillo Form**	**5.64**	**123**	*eP*	**P**	**P**	**04 43 49.9**	**-0.4**
MURT	**Porto Murtinho**	**5.69**	**88**	*eP*	**P**	**P**	**04 43 50.8**	**0.0**
PB07	**IPOC Station P**	**5.73**	**271**	P	**P**	**P**	**04 43 50.2**	**-1.4**
PB07	**IPOC Station P**	**5.73**	**271**	S	**S**	**S**	**04 45 02.2**	**-7.3**
PB07				P	**P**	P	04 43 44.8	-6.6
PB02	**IPOC Station P**	**5.78**	**275**	P	**P**	**P**	**04 43 49.9**	**-1.9**
PB04	**IPOC Station P**	**5.97**	**265**	P	**P**	**P**	**04 43 51.7**	**-1.8**
PB11	**IPOC Station P**	**5.97**	**291**		**P**	**P**	**04 43 52.4**	**-1.2**
PATCX	**Punta Patache**	**6.10**	**280**	P	**P**	**P**	**04 43 53.6**	**-1.1**
TA02	**Huaiquique**	**6.22**	**285**	P	**P**	**P**	**04 43 54.2**	**-1.5**
GO02	**Mina Guanaco**	**6.24**	**238**		**P**	**P**	**04 43 54.3**	**-1.9**
VACA	**Villa Angela C**	**6.26**	**155**	*eP*	**P**	**P**	**04 43 55.8**	**-0.1**
SIV	**San Ignacio**	**6.47**	**23**	P	**P**	**P**	**04 43 58.4**	**+0.1**
	576nm,0.8s,baz=200,slow=8.6,SNR=1392							
SIV				S	**S**	**S**	**04 45 21.1**	**-0.8**
	108nm,0.7s,baz=295,slow=17,SNR=1.7							
PB16	**IPOC Station P**	**6.54**	**308**	P	**P**	**P**	**04 43 58.6**	**-0.9**
PB14	**IPOC Station P**	**6.68**	**246**		**P**	**P**	**04 43 58.5**	**-1.8**
PB14	**IPOC Station P**	**6.68**	**246**	P	**P**	P	04 43 54.0	-6.4
PB14				S	**S**	**S**	04 45 20.9	-5.0
BDQN	**Bodoquena, MS**	**6.68**	**78**	*eP*	**P**	**P**	**04 43 59.9**	**-0.2**
AC02	**Maricunga**	**6.90**	**225**		**P**	**P**	**04 44 00.8**	**-1.8**
LPAZ	**La Paz**	**7.04**	**323**	P	**P**	**P**	**04 44 03.4**	**-0.9**
PB12	**IPOC Station P**	**7.05**	**297**		**P**	**P**	**04 44 01.9**	**-1.9**
ANTJ	**Antonio Joao (**	**7.16**	**92**	*eP*	**P**	**P**	**04 44 04.8**	**0.0**
CPUP	**Villa Florida**	**7.26**	**128**	P	**P**	**P**	**04 44 04.7**	**-1.0**
CPUP	**Villa Florida**	**7.26**	**128**	P	**P**	**P**	**04 44 05.0**	**-0.7**
	2µm,0.7s,baz=310,slow=8.5,SNR=3327							
CPUP				S	**S**	**S**	**04 45 34.2**	**-1.5**
	110nm,0.7s,baz=88,slow=18,SNR=1.8							
CPUP				PKiKP	**PKiKP**	**PKiKP**	**04 57 47.7**	**-0.6**
	1.5nm,0.6s,baz=135,slow=1.4,SNR=3.3							
CPUP	**Villa Florida**	**7.26**	**128**	*eP*	**P**	**P**	**04 44 05.2**	**-0.5**
I08BO	**LAS PENAS INFR**	**7.28**	**321**	P	**P**	**P**	**04 44 07.0**	**+0.4**
	baz=127,slow=7.6,SNR=5.3							
AC01	**Pan de Azucar**	**7.53**	**235**		**P**	**P**	**04 44 07.1**	**-1.1**
AQDB	**Aquidauana**	**7.63**	**80**		**P**	**P**	**04 44 09.2**	**-0.2**
AQDB	**Aquidauana**	**7.63**	**80**	*eP*	**P**	**P**	**04 44 09.6**	**+0.1**
PTLB	**Pontes e Lacer**	**7.82**	**35**	P	**P**	**P**	**04 44 11.3**	**-0.1**
PTLB	**Pontes e Lacer**	**7.82**	**35**	*eP*	**P**	**P**	**04 44 12.2**	**+0.8**
AMBA	**Amambai (Brazi**	**8.13**	**98**	*eP*	**P**	**P**	**04 44 14.6**	**+0.2**
GO03	**Copiap**	**8.13**	**225**	P	**P**	**P**	**04 44 12.8**	**-1.6**
AC04	**Llanos de Chal**	**9.09**	**226**	P	**P**	**P**	**04 44 22.6**	**-1.4**
MCR1	**Marechal Candi**	**9.24**	**107**	*eP*	**P**	**P**	**04 44 25.9**	**+0.3**
LCO	**Las Campanas**	**9.41**	**221**	P	**P**	**P**	**04 44 26.3**	**-1.3**
LCO	**Las Campanas**	**9.41**	**221**	P	**P**	**P**	**04 44 26.3**	**-1.3**
RPRD	**Ribas do Rio P**	**9.47**	**83**	*eP*	**P**	**P**	**04 44 28.3**	**+0.3**
VILB	**Vilhena**	**9.59**	**21**	P	**P**	**P**	**04 44 29.7**	**+0.3**
VILB	**Vilhena**	**9.59**	**21**	*eP*	**P**	**P**	**04 44 29.8**	**+0.3**
SALV	**Santo Antonio**	**9.71**	**53**	*eP*	**P**	**P**	**04 44 30.7**	**+0.1**
CO01	**Juntas del Tor**	**9.80**	**214**	P	**P**	**P**	**04 44 31.1**	**-0.6**
ITQB	**Itaqui**	**9.97**	**142**	P	**P**	**P**	**04 44 32.3**	**-0.7**
ITQB	**Itaqui**	**9.97**	**142**	*eP*	**P**	**P**	**04 44 32.4**	**-0.6**
TRCB	**Terra Rica**	**10.29**	**97**	P	**P**	**P**	**04 44 35.9**	**-0.7**
TRCB	**Terra Rica**	**10.29**	**97**	*eP*	**P**	**P**	**04 44 36.9**	**+0.3**
GO04	**Tololo Observa**	**10.34**	**216**	P	**P**	**P**	**04 44 35.6**	**-1.5**
CRSM	**Crissiumal (Br**	**10.36**	**124**	*eP*	**P**	**P**	**04 44 36.8**	**-0.4**
CO05	**La Serena**	**10.39**	**219**	P	**P**	**P**	**04 44 35.5**	**-2.0**
UNIS	**Unistalda (Bra**	**10.52**	**134**	*eP*	**P**	**P**	**04 44 38.7**	**-0.1**
FRBT	**Francisco Belt**	**10.52**	**114**	*eP*	**P**	**P**	**04 44 38.5**	**-0.5**
PSAL	**Palomas, Salto**	**10.58**	**150**	*eP*	**P**	**P**	**04 44 38.6**	**-0.8**
CO03	**El Pedregal**	**10.80**	**214**	P	**P**	**P**	**04 44 40.3**	**-1.4**
PTGB	**Pitanga**	**11.05**	**106**	*eP*	**P**	**P**	**04 44 44.6**	**+0.1**
CO06	**Fray Jorge**	**11.18**	**218**	P	**P**	**P**	**04 44 43.5**	**-2.2**
CO02	**Combarbal**	**11.25**	**214**	P	**P**	**P**	**04 44 44.5**	**-2.0**
RODS	**Rosario do Sul**	**11.30**	**139**	*eP*	**P**	**P**	**04 44 45.9**	**-1.1**
PCMB	**Pacaembu**	**11.58**	**90**	*eP*	**P**	**P**	**04 44 49.9**	**-0.1**
LDASE	**Londrina, Braz**	**11.72**	**99**	*eP*	**P**	**P**	**04 44 50.7**	**-0.7**
ITAB	**Concordia**	**11.76**	**119**	P	**P**	**P**	**04 44 50.6**	**-1.1**
ITAB	**Concordia**	**11.76**	**119**	*eP*	**P**	**P**	**04 44 50.7**	**-1.1**
ALGR	**Alto Alegre (B**	**11.80**	**127**	*eP*	**P**	**P**	**04 44 50.8**	**-1.4**
TBOT	**Tacuaremb**	**11.89**	**146**	*eP*	**P**	**P**	**04 44 51.7**	**-1.3**
PDRB	**Porto dos Gac**	**12.29**	**34**	*eP*	**P**	**P**	**04 44 57.0**	**-0.5**
VA03	**San Esteban**	**12.32**	**208**	P	**P**	**P**	**04 44 56.1**	**-1.6**
ETMB	**Extrema**	**12.34**	**348**	P	**P**	**P**	**04 44 57.1**	**-0.9**
ETMB	**Extrema**	**12.34**	**348**	*eP*	**P**	**P**	**04 44 57.0**	**-0.9**
CPSB	**Cacapava Do Su**	**12.46**	**134**	*eP*	**P**	**P**	**04 44 57.4**	**-1.6**
VA06	**Catapilco**	**12.49**	**211**	P	**P**	**P**	**04 44 57.2**	**-2.1**
ITRB	**Iturama**	**12.70**	**82**	*eP*	**P**	**P**	**04 45 01.0**	**-0.6**
PEL	**Peldehue**	**12.71**	**208**	P	**P**	**P**	**04 45 00.1**	**-1.5**
PEL	**Peldehue**	**12.71**	**208**	P	**P**	**P**	**04 45 00.1**	**-1.5**
MT16	**CCHEN**	**12.88**	**206**	P	**P**	**P**	**04 45 02.1**	**-1.4**
ARAG	**Araguaiana, MT**	**12.89**	**63**	*eP*	**P**	**P**	**04 45 03.1**	**-0.5**
MT03	**Universidad Ad**	**12.94**	**206**	P	**P**	**P**	**04 45 02.6**	**-1.4**
MT05	**Renca**	**12.94**	**207**	P	**P**	**P**	**04 45 02.6**	**-1.4**
SAML	**Samuel**	**12.98**	**2**	P	**P**	**P**	**04 45 04.6**	**0.0**
SAML	**Samuel**	**12.98**	**2**	P	**P**	**P**	**04 45 04.6**	**0.0**
SAML	**Samuel**	**12.98**	**2**	*eP*	**P**	**P**	**04 45 04.4**	**-0.2**
MT02	**Curacav**	**13.00**	**209**	P	**P**	**P**	**04 45 02.6**	**-2.0**
VA01	**Torpederas**	**13.04**	**211**	P	**P**	**P**	**04 45 02.5**	**-2.5**
MT13	**San Alfonso**	**13.06**	**205**	P	**P**	**P**	**04 45 03.9**	**-1.5**
LMEL	**Las Melosas**	**13.12**	**204**	P	**P**	**P**	**04 45 04.5**	**-1.6**
FRTB	**Fartura**	**13.14**	**99**	*eP*	**P**	**P**	**04 45 05.2**	**-1.0**
PLTB	**Pedras Altas**	**13.27**	**139**	P	**P**	**P**	**04 45 05.5**	**-1.9**
PLTB	**Pedras Altas**	**13.27**	**139**	*eP*	**P**	**P**	**04 45 05.2**	**-2.2**
MT09	**Talagante**	**13.28**	**207**	P	**P**	**P**	**04 45 06.9**	**-1.8**
BO04	**La Punta**	**13.41**	**205**	P	**P**	**P**	**04 45 07.1**	**-1.8**
CLDB	**Colider**	**13.41**	**36**	*eP*	**P**	**P**	**04 45 08.4**	**-0.7**
VA05	**Santo Domingo**	**13.55**	**209**	P	**P**	**P**	**04 45 07.7**	**-2.5**
CNLB	**Canela**	**13.70**	**125**	*eP*	**P**	**P**	**04 45 09.5**	**-2.5**
BO01	**Tunca**	**13.95**	**206**	P	**P**	**P**	**04 45 12.1**	**-2.4**
BB19B	**Bebedouro**	**14.17**	**89**	*eP*	**P**	**P**	**04 45 15.7**	**-1.3**
BO02	**Sierra Bellavi**	**14.18**	**204**	P	**P**	**P**	**04 45 15.2**	**-1.7**
GO05	**Huala**	**14.84**	**207**	P	**P**	**P**	**04 45 21.3**	**-2.4**
RCLB	**Rio Claro- Sao**	**15.00**	**95**	*eP*	**P**	**P**	**04 45 23.4**	**-2.2**
SPB	**Sao Paulo**	**15.11**	**99**	P	**P**	**P**	**04 45 25.1**	**-1.6**
SPB	**Sao Paulo**	**15.11**	**99**	*eP*	**P**	**P**	**04 45 24.4**	**-2.2**
IPMB	**Ipameri, GO**	**15.11**	**77**	*eP*	**P**	**P**	**04 45 25.3**	**-1.5**
ML02	**Panimavida**	**15.28**	**204**	P	**P**	**P**	**04 45 26.2**	**-2.1**
PET01	**Itanhaem-SP**	**15.30**	**102**	*eP*	**P**	**P**	**04 45 25.9**	**-2.7**
SNDB	**Serra Nova Dou**	**15.49**	**52**	*eP*	**P**	**P**	**04 45 29.2**	**-1.6**
VAO	**Valinhos**	**15.52**	**97**	*eP*	**P**	**P**	**04 45 28.3**	**-2.7**
NNA	**Nana**	**16.00**	**306**	*i P*	**P**	**P**	**04 45 34.7**	**-1.2**
NNA				pmax	pmax			
	comp=Z,1µm,0.9s							
NNA	**Nana**	**16.00**	**306**	P	**P**	**P**	**04 45 35.5**	**-0.5**
	comp=Z,1µm,0.7s,baz=128,slow=12,SNR=328							
NNA				S	**S**	**S**	**04 48 22.7**	**+2.9**
	comp=Z,13nm,0.3s,baz=132,slow=12,SNR=1.2							
NNA				ScP	**ScP**	**ScP**	**04 52 42.7**	**+1.5**
	comp=Z,31nm,0.9s,baz=30,slow=1.8,SNR=4.2							
TRQA	**Tornquist**	**16.09**	**175**	P	**P**	**P**	**04 45 31.6**	**-4.8**
TRQA	**Tornquist**	**16.09**	**175**	P	**P**	**P**	**04 45 31.6**	**-4.8**
BDFB	**Brasilia**	**16.15**	**70**	P	**P**	**P**	**04 45 36.5**	**-1.0**
BDFB	**Brasilia**	**16.15**	**70**	P	**P**	**P**	**04 45 36.5**	**-1.0**
BDFB	**Brasilia**	**16.15**	**70**	P	**P**	**P**	**04 45 36.0**	**-1.4**
	comp=Z,806nm,0.7s,baz=242,slow=12,SNR=1160							
BDFB				S	**S**	**S**	**04 48 21.2**	**-1.4**
	comp=Z,31nm,0.7s,baz=288,slow=19,SNR=1.5							
PMNB	**Patos De Minas**	**16.58**	**81**	*eP*	**P**	**P**	**04 45 39.4**	**-2.1**
CZSB	**Cruzeiro do Su**	**16.61**	**327**	P	**P**	**P**	**04 45 40.0**	**-1.8**
CZSB	**Cruzeiro do Su**	**16.61**	**327**	*eP*	**P**	**P**	**04 45 39.4**	**-2.4**
PARB	**Paraibuna**	**16.76**	**98**	*eP*	**P**	**P**	**04 45 41.6**	**-1.6**
BI05	**Punta Hualpn**	**16.85**	**207**	P	**P**	**P**	**04 45 42.3**	**-1.4**
NPGB	**Novo Progresso**	**16.91**	**30**	*eP*	**P**	**P**	**04 45 42.8**	**-1.8**
H03N1	**Juan Fernandez**	**17.61**	**226**	P	**P**	**P**	**04 45 50.6**	**+0.1**
H03N2	**Juan Fernandez**	**17.62**	**226**	P	**P**	**P**	**04 45 50.5**	**-0.1**
H03N3	**Juan Fernandez**	**17.63**	**226**	P	**P**	**P**	**04 45 50.9**	**+0.2**
BSCB	**Bom Sucesso**	**17.66**	**90**	*eP*	**P**	**P**	**04 45 51.0**	**-0.5**
VA04	**Juan Fernndez**	**17.68**	**226**	P	**P**	**P**	**04 45 50.8**	**-0.5**
H03S3	**Juan Fernandez**	**17.84**	**225**	P	**P**	**P**	**04 45 52.2**	**-0.4**
	baz=20,slow=16,SNR=8.8							
H03S1	**Juan Fernandez**	**17.85**	**225**	P	**P**	**P**	**04 45 52.0**	**-0.6**
	baz=20,slow=16,SNR=5.7							
H03S2	**Juan Fernandez**	**17.86**	**225**	P	**P**	**P**	**04 45 52.4**	**-0.3**
	baz=20,slow=16,SNR=9.1							
TEFE	**Tefe**	**18.39**	**357**	*eP*	**P**	**P**	**04 45 58.1**	**-0.1**
TBTG	**Tabatinga, AM**	**18.69**	**340**	P	**P**	**P**	**04 46 00.7**	**-0.1**
TBTG	**Tabatinga, AM**	**18.69**	**340**	*eP*	**P**	**P**	**04 46 00.9**	**+0.1**
GO06	**Cururrehue**	**18.75**	**199**	P	**P**	**P**	**04 45 59.9**	**-1.3**
MACA	**Manacapuru-AM**	**18.95**	**9**	P	**P**	**P**	**04 46 03.0**	**-0.3**
MACA	**Manacapuru-AM**	**18.95**	**9**	*eP*	**P**	**P**	**04 46 02.9**	**-0.3**
LR03	**Panguipulli**	**19.07**	**201**	P	**P**	**P**	**04 46 02.9**	**-1.0**
ITTB	**Itaituba**	**19.15**	**25**	*eP*	**P**	**P**	**04 46 04.5**	**-0.6**
DIAM	**Diamantina, MG**	**19.18**	**83**	*eP*	**P**	**P**	**04 46 05.1**	**-0.3**
LR05	**Currie**	**19.50**	**199**	P	**P**	**P**	**04 46 06.7**	**-1.2**
PLCA	**Paso Flores**	**19.56**	**196**	P	**P**	**P**	**04 46 07.2**	**-1.4**
PLCA	**Paso Flores**	**19.56**	**196**	P	**P**	**P**	**04 46 07.2**	**-1.4**
PLCA	**Paso Flores**	**19.56**	**196**	P	**P**	**P**	**04 46 06.9**	**-1.7**
	comp=Z,38nm,0.6s,baz=14,slow=10,SNR=169							
PLCA				S	**S**	**S**	**04 49 16.8**	**-0.8**
	comp=Z,10.0nm,1.0s,baz=266,slow=23,SNR=2.3							
PLCA				PcP	**PcP**	**PcP**	**04 50 03.8**	**+1.0**
	comp=Z,34nm,0.8s,baz=24,slow=1.2,SNR=8.6							
PLCA				ScP	**ScP**	**ScP**	**04 52 49.8**	**+1.3**
	comp=Z,8.8nm,0.9s,baz=333,slow=4.3,SNR=3.2							
PLCA				PKiKP	**PKiKP**	**PKiKP**	**04 57 51.5**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=42,slow=1.0,SNR=6.8							
PLCA	**Paso Flores**	**19.56**	**196**	*eP*	**P**	**P**	**04 46 06.5**	**-2.1**
JANB	**Januaria**	**19.64**	**73**	*eP*	**P**	**P**	**04 46 09.7**	**+0.1**
DUB01	**Friburgo-RJ**	**19.79**	**94**	*eP*	**P**	**P**	**04 46 10.3**	**-0.6**
SMTB	**Santa Maria do**	**20.27**	**52**	*eP*	**P**	**P**	**04 46 15.1**	**-0.2**
SDBA	**SAO DESIDERIO**	**20.32**	**65**	*eP*	**P**	**P**	**04 46 15.3**	**-0.5**
LL03	**Petrohue**	**20.45**	**199**	P	**P**	**P**	**04 46 15.1**	**-1.5**
ATAH	**Atahualpa**	**20.46**	**314**	P	**P**	**P**	**04 46 19.4**	**+1.9**
	comp=Z,153nm,0.7s,baz=140,slow=9.4,SNR=70							
ATAH				S	**S**	**S**	**04 49 37.0**	**+3.9**
	comp=Z,6.8nm,0.6s,baz=102,slow=23,SNR=0.9							
	comp=Z,153nm,0.7s							
LL05	**Los Muermos**	**21.03**	**201**	P	**P**	**P**	**04 46 20.3**	**-1.5**
SJMB	**Sao Joao De Ma**	**21.38**	**85**	*eP*	**P**	**P**	**04 46 25.0**	**-0.3**
ALF01	**Guarapari-ES**	**21.47**	**91**	*eP*	**P**	**P**	**04 46 25.6**	**-0.4**
LL01	**San Ignacio de**	**21.60**	**198**	P	**P**	**P**	**04 46 25.1**	**-1.7**
LL06	**Loncomilla**	**21.81**	**200**	P	**P**	**P**	**04 46 26.9**	**-1.9**
RIB01	**Linhares ES**	**21.99**	**87**	*eP*	**P**	**P**	**04 46 30.2**	**-0.5**
MALB	**Monte Alegre**	**22.03**	**26**	*eP*	**P**	**P**	**04 46 30.6**	**-0.5**
LL02	**Futaleuf**	**22.20**	**196**	P	**P**	**P**	**04 46 30.8**	**-1.5**
LL07	**Hotel Espejo d**	**22.32**	**199**	P	**P**	**P**	**04 46 31.6**	**-1.8**
GUA01	**Guaratinga, BA**	**23.19**	**81**	*eP*	**P**	**P**	**04 46 41.6**	**+0.1**
MCRA	**Macar, Loja**	**23.55**	**316**	P	**P**	**P**	**04 46 45.0**	**+0.2**
AY01	**Puyuhuapi**	**23.56**	**196**	P	**P**	**P**	**04 46 42.7**	**-1.6**
ABR01	**Abrolhos, BA**	**23.85**	**85**	*eP*	**P**	**P**	**04 46 47.0**	**-0.2**
MCPB	**Macapa, AP**	**24.32**	**29**	*eP*	**P**	**P**	**04 46 51.2**	**-0.3**
BOAV	**Boa Vista**	**24.44**	**8**	P	**P**	**P**	**04 46 52.4**	**-0.1**
BOAV	**Boa Vista**	**24.44**	**8**	*eP*	**P**	**P**	**04 46 51.9**	**-0.7**
COYC	**Coyhaique**	**24.50**	**194**	P	**P**	**P**	**04 46 51.7**	**-0.9**
COHC	**Cochancay**	**24.59**	**320**	P	**P**	**P**	**04 46 55.6**	**+1.7**
TMAB	**Tom-Au,PA,Br**	**24.72**	**40**	*eP*	**P**	**P**	**04 46 55.7**	**+0.6**
CHSH	**Refugio Sur-Vo**	**25.15**	**322**	P	**P**	**P**	**04 46 59.7**	**+0.2**
AY02	**Valle Explorad**	**25.62**	**195**	P	**P**	**P**	**04 47 01.6**	**-1.0**
SALI	**Salinas**	**25.87**	**317**	P	**P**	**P**	**04 47 05.3**	**0.0**
PULU	**Pululahua**	**26.20**	**325**	P	**P**	**P**	**04 47 08.4**	**-0.2**
AY03	**Cochrane**	**26.20**	**194**	P	**P**	**P**	**04 47 07.2**	**-0.5**
OTAV	**Otavalo**	**26.35**	**325**	P	**P**	**P**	**04 47 10.3**	**+0.3**
OTAV	**Otavalo**	**26.35**	**325**	P	**P**	**P**	**04 47 10.3**	**+0.3**
OTAV	**Otavalo**	**26.35**	**325**	*eP*	**P**	**P**	**04 47 10.4**	**+0.5**
NBLA	**Lagoa - SE**	**26.12**	**70**	*eP*	**P**	**P**	**04 47 15.5**	**-0.7**
PTGC	**Puerto Gaitan,**	**27.30**	**341**	P	**S**	**S**	**04 51 14.3**	**-5.7**
	comp=Z,134nm,0.7s,comp=Z,2µm							
GO08	**Villa O'Higgin**	**27.35**	**193**	P	**P**	**P**	**04 47 18.4**	**+0.7**
POPC	**Popayan, Colom**	**27.47**	**331**	P	**S**	**S**	**04 51 20.9**	**-2.2**
	comp=Z,25nm,1.4s							
VILC	**Villavicencio,**	**27.72**	**338**	P	**S**	**S**	**04 51 28.0**	**+1.3**
CVER	**Cruz Verde, Cu**	**28.23**	**338**	P	**S**	**S**	**04 51 33.0**	**-2.3**
	comp=Z,114nm,1.1s,comp=Z,2µm							
NBPB	**Pedra_Branca-C**	**28.50**	**59**	*eP*	**P**	**P**	**04 47 28.6**	**+0.2**
ROSC	**El Rosal**	**28.61**	**337**	P	**P**	**P**	**04 47 30.2**	**+0.5**
ROSC	**El Rosal**	**28.61**	**337**	P	**P**	**P**	**04 47 30.6**	**+0.9**
	comp=Z,176nm,0.5s,baz=162,slow=8.6,SNR=101							
ROSC				S	**S**	**S**	**04 51 43.1**	**+2.0**
	comp=Z,46nm,0.8s,baz=21,slow=23,SNR=7.2							
	comp=Z,176nm,0.5s							
ROSC	**El Rosal**	**28.61**	**337**	P	**S**	**S**	**04 51 43.5**	**+2.4**
	comp=Z,76nm,1.0s							
YOTC	**Yotoco, Valle**	**28.62**	**333**	P	**S**	**S**	**04 51 32.7**	**-8.0**
	comp=Z,31nm,1.0s							
NBAN	**Anadia - AL**	**29.05**	**69**	*eP*	**P**	**P**	**04 47 32.2**	**-0.9**
RUSC	**La Rusia**	**29.19**	**341**	P	S	S	04 51 39.6	-11
	comp=Z,176nm,0.9s,comp=Z,2µm							
SPBC	**San Pablo de B**	**29.28**	**339**	P	**S**	**S**	**04 51 47.7**	**-3.2**
TAMC	**Tame, Arauca**	**29.34**	**343**	P	**S**	**S**	**04 51 47.7**	**-4.0**
	comp=Z,166nm,0.8s,comp=Z,2µm							
PLMC	**San Jos del P**	**29.42**	**334**	P	**S**	**S**	**04 51 49.7**	**-3.4**
	comp=Z,82nm,0.8s							
NORC	**Norcasia**	**29.48**	**337**	P	**S**	**S**	**04 51 49.8**	**-4.1**
	comp=Z,50nm,0.7s							
**N

PAPH	**Port-au-Prince**	**41.13**	**348**	P	**P**	**04 49 13.4**	**-0.1**
PAPH				IAmb	IAmb	04 49 14.3	
	comp=Z,85nm,0.6s						
CRIN	**San Cristobal**	**41.38**	**324**	P	**P**	**04 49 14.7**	**-1.0**
SDDR	**Presa de Saban**	**41.39**	**349**	P	**P**	**04 49 14.1**	**-1.5**
AMPH	**Amapala**	**42.19**	**324**	*e*P	**P**	**04 49 19.0**	**-2.9**
YUSH	**Yuscaran**	**42.31**	**326**	*e*S	**PcP**	**04 51 04.2**	**-0.1**
YUSH	**Yuscaran**	**42.31**	**326**	*e*P	**P**	**04 49 22.4**	**-0.6**
LCND	**La Caada**	**42.34**	**324**	IAML		04 49 24.8	
	comp=Z,128nm,0.5s						
TGUH	**Tegucigalpa,Un**	**42.62**	**325**	P	**P**	**04 49 25.3**	**-0.2**
TGUH				IAmb	IAmb	04 49 27.3	
	comp=Z,93nm,0.8s						
PMSA	**Palmer Station**	**42.77**	**180**	P	**P**	**04 49 25.7**	**-0.1**
PMSA	**Palmer Station**	**42.77**	**180**	*e*P	**P**	**04 49 26.6**	**+0.8**
PQSS	**Presa 15 de Se**	**42.97**	**323**	*e*P	**P**	**04 49 28.4**	**+0.4**
TECO	**Alcaldia de Te**	**43.02**	**323**	*e*P	**P**	**04 49 29.5**	**+1.0**
TECO	**Alcaldia de Te**	**43.02**	**323**	*e*P	**P**	**04 49 29.1**	**+0.6**
GTBY	**Guantanamo Bay**	**43.12**	**344**	*e*P	**P**	**04 49 26.8**	**-2.3**
SCLA	**Alcaldia de Sa**	**43.12**	**323**	*e*P	**P**	**04 49 30.0**	**+0.7**
COEG	**Centro de Oper**	**43.14**	**323**	*e*P	**P**	**04 49 30.6**	**+1.1**
MASC	**Masc**	**43.15**	**345**	*e*P	**P**	**04 49 28.2**	**-1.1**
SJTE	**Alcalda de S**	**43.21**	**323**	*e*P	**P**	**04 49 30.6**	**+0.6**
PAVA	**Las Pavas**	**43.25**	**323**	IAML		04 49 33.9	
	comp=Z,117nm,0.8s						
LOMA	**Loma Larga**	**43.33**	**322**	*e*P	**P**	**04 49 32.9**	**+1.9**
RCC	**Rio Carpintero**	**43.34**	**343**	*e*P	**P**	**04 49 28.6**	**-2.3**
RCC				*e*P	P	04 49 28.6	-2.2
RCC				*e*P	P	04 49 29.1	-1.8
MARVS	**Santiago de Cu**	**43.40**	**343**	*e*P	**P**	**04 49 29.5**	**-1.8**
JAYA	**Jayaque - finc**	**43.49**	**322**	*e*P	**P**	**04 49 33.3**	**+1.0**
SABCS	**La Quijada**	**43.59**	**344**	*e*P	**P**	**04 49 30.3**	**-2.5**
PILO	**Pilon**	**43.74**	**341**	*e*P	**P**	**04 49 32.5**	**-1.5**
PILO				*i* P	**P**	**04 49 32.5**	**-1.5**
LMGC	**Las Mercedes**	**43.77**	**342**	*e*P	**P**	**04 49 32.1**	**-2.1**
PINC	**Pinares de May**	**43.83**	**344**	*e*P	**P**	**04 49 32.3**	**-2.4**
YAR	**Yar**	**43.87**	**343**	*e*P	**P**	**04 49 34.6**	**-0.4**
HLGC	**Holguin**	**44.29**	**343**	*e*P	**P**	**04 49 38.3**	**+0.1**
CCCC	**Cccc**	**45.06**	**341**	⇓*e*P	P	04 49 52.8	+8.6
MGV	**Manicaragua**	**46.61**	**339**	*e*P	**P**	**04 49 54.9**	**-1.0**
CAMR	**Camarioca**	**47.96**	**338**	P	**P**	**04 50 06.2**	**+0.2**
CAMR				IAmb	IAmb	04 50 07.2	
	comp=Z,135nm,0.8s						
CAMR	**Camarioca**	**47.96**	**338**	*e*P	**P**	**04 50 05.6**	**-0.4**
SOR	**Soroa**	**48.31**	**336**	P	**P**	**04 50 08.5**	**-0.2**
SOR				IAmb	IAmb	04 50 09.7	
	comp=Z,76nm,0.8s						
SOR	**Soroa**	**48.31**	**336**	P	**P**	**04 50 08.5**	**-0.2**
SOR				pmax	pmax		
	comp=Z,76nm,0.8s						
SOR	**Soroa**	**48.31**	**336**	*e*P	**P**	**04 50 07.6**	**-1.1**
TEIG	**Tepich**	**48.33**	**329**	P	**P**	**04 50 08.3**	**-0.5**
TEIG	**Tepich**	**48.33**	**329**	⇑P	**P**	**04 50 08.1**	**-0.8**
TEIG				PcP	**PcP**	**04 51 25.9**	**+0.6**
TEIG				ScP	**ScP**	**04 54 30.7**	**+1.7**
H10N3	**ASCENSION HYDR**	**49.38**	**81**	P	**P**	**04 50 17.2**	**+0.7**
	baz=230,slow=6.6,SNR=4.6						
H10N1	**ASCENSION HYDR**	**49.40**	**81**	P	**P**	**04 50 17.7**	**+1.0**
	baz=230,slow=6.6,SNR=7.6						
H10N2	**ASCENSION HYDR**	**49.40**	**81**	P	**P**	**04 50 17.4**	**+0.8**
	baz=230,slow=6.6,SNR=5.1						
ASCN	**Ascension**	**49.47**	**81**	P	**P**	**04 50 17.5**	**-0.1**
TLIG	**Tlapa**	**52.05**	**316**	P	**P**	**04 50 36.7**	**+0.4**
TLIG				IAmb	IAmb	04 50 38.2	
	comp=Z,94nm,0.7s						
DWPF	**Disney Wildern**	**52.66**	**340**	P	**P**	**04 50 40.4**	**+0.1**
	baz=159						
SHEL	**Horse Pasture**	**54.89**	**94**	P	**P**	**04 50 56.8**	**+0.4**
SHEL				IAmb	IAmb	04 50 58.1	
	comp=Z,156nm,0.8s						
SHEL	**Horse Pasture**	**54.89**	**94**	P	**P**	**04 50 56.8**	**+0.4**
SHEL				pmax	pmax		
	comp=Z,156nm,0.8s						
SHEL	**Horse Pasture**	**54.89**	**94**	*e*P	**P**	**04 50 56.4**	**-0.1**
SHEL	**Horse Pasture**	**54.89**	**94**	P	**P**	**04 50 57.2**	**+0.8**
456A	**Hilliard**	**55.28**	**341**	P	**P**	**04 50 59.4**	**+0.7**
	baz=159						
MOIG	**Morelia**	**55.28**	**316**	P	**P**	**04 50 59.4**	**+0.1**
MOIG				IAmb	IAmb	04 51 01.7	
	comp=Z,159nm,0.8s						
553A	**Crawfordville**	**55.57**	**338**	P	**P**	**04 51 01.4**	**+0.7**
	baz=157						
TIGA	**Tifton**	**56.44**	**340**	P	**P**	**04 51 06.8**	**0.0**
	baz=158,SNR=6.9						
TIGA	**Tifton**	**56.44**	**340**	P	**P**	**04 51 06.9**	**+0.2**
	baz=158,SNR=6.9						
255A	**Hazlehurst**	**56.54**	**341**	P	**P**	**04 51 07.7**	**+0.3**
255A				IAmb	IAmb	04 51 08.7	
	comp=Z,237nm,1.1s						
255A	**Hazlehurst**	**56.54**	**341**	P	**P**	**04 51 07.8**	**+0.4**
	baz=159,SNR=10						
352A	**Blakely**	**56.92**	**338**	P	**P**	**04 51 10.0**	**-0.1**
	baz=157,SNR=18						
NHSC	**New Hope**	**56.99**	**344**	P	**P**	**04 51 11.2**	**+0.6**
NHSC				IAmb	IAmb	04 51 12.5	
	comp=Z,426nm,1.4s						
NHSC	**New Hope**	**56.99**	**344**	P	**P**	**04 51 11.1**	**+0.6**
	baz=162,SNR=5.1						
NHSC	**New Hope**	**56.99**	**344**	P	**P**	**04 51 11.3**	**+0.8**
	baz=162,SNR=5.1						
154A	**Montrose**	**57.37**	**341**	P	**P**	**04 51 13.3**	**+0.2**
	baz=159,SNR=22						
BRAL	**Brewton**	**57.40**	**336**	P	**P**	**04 51 13.6**	**+0.2**
BRAL				IAmb	IAmb	04 51 14.4	
	comp=Z,239nm,0.9s						
BRAL	**Brewton**	**57.40**	**336**	P	**P**	**04 51 13.6**	**+0.2**
	baz=154,SNR=9.7						
BRAL	**Brewton**	**57.40**	**336**	P	**P**	**04 51 13.4**	**+0.1**
	baz=154,SNR=9.7						
Y58A	**Scranton**	**57.62**	**344**	P	**P**	**04 51 14.9**	**+0.1**
	baz=163						
Y58A				P	**P**	**04 51 14.9**	**+0.1**
	baz=163						
HAW	**Hawthorne Fire**	**57.62**	**342**	P	**P**	**04 51 15.0**	**+0.2**
	baz=160,SNR=10						
250A	**Grady**	**57.84**	**337**	P	**P**	**04 51 16.2**	**-0.1**
250A				IAmb	IAmb	04 51 17.0	
	comp=Z,166nm,0.9s						
250A	**Grady**	**57.84**	**337**	P	**P**	**04 51 16.3**	**-0.1**
	baz=155,SNR=23						
152A	**Waverly Hall**	**57.94**	**339**	P	**P**	**04 51 16.6**	**-0.4**
	baz=157,SNR=17						
VNA3	**Neumayer Olymp**	**58.10**	**162**	⇑P	**P**	**04 51 18.0**	**+0.4**
	comp=Z,103nm,0.6s						
VNA3				⇑PcP	**PcP**	**04 52 02.7**	**+0.6**
	comp=Z,60nm,0.8s						
VNA3				⇓pP	**pP**	**04 53 03.5**	**+0.8**
	comp=Z,28nm,1.0s						
X58A	**Rowland**	**58.16**	**345**	P	**P**	**04 51 18.6**	**+0.2**
	baz=163,SNR=5.5						
X58A				P	**P**	**04 51 18.6**	**+0.2**
	baz=163,SNR=5.5						
GOGA	**Godfrey**	**58.22**	**341**	P	**P**	**04 51 18.5**	**-0.3**
	baz=158						
GOGA	**Godfrey**	**58.22**	**341**	P	**P**	**04 51 18.6**	**-0.3**
	baz=158						
VNA1	**Neumayer--Stat**	**58.24**	**161**	⇑P	**P**	**04 51 19.4**	**+0.9**
	comp=Z,170nm,1.0s						
VNA1				⇑PcP	**PcP**	**04 52 03.4**	**+0.8**
	comp=Z,55nm,0.6s						
VNA1				⇓pP	**pP**	**04 53 03.8**	**+0.2**
	comp=Z,49nm,1.0s						
MBO	**M'Bour**	**58.39**	**56**	P	**P**	**04 51 20.8**	**+0.4**
MBO				IAmb	IAmb	04 51 23.2	
	comp=Z,188nm,0.9s						
MBO	**M'Bour**	**58.39**	**56**	P	**P**	**04 51 21.0**	**+0.6**
CNNC	**Cliffs of the**	**58.48**	**346**	P	**P**	**04 51 20.6**	**0.0**
	baz=165						
346A	**Big Creek Wild**	**58.53**	**334**	P	**P**	**04 51 20.6**	**-0.4**
	baz=152,SNR=5.4						
VNA2	**Neumayer--Watz**	**58.62**	**161**	⇑P	**P**	**04 51 21.6**	**+0.5**
	comp=Z,151nm,0.6s,baz=294,slow=6.9						
VNA2				⇑PcP	**PcP**	**04 52 04.3**	**+0.1**
	comp=Z,27nm,0.5s,baz=304,slow=4.9						
VNA2				⇓pP	**pP**	**04 53 06.3**	**-0.1**
	comp=Z,31nm,0.8s,baz=296,slow=6.0						
HODGE	**Hodges**	**58.63**	**342**	P	**P**	**04 51 21.7**	**+0.1**
	baz=160,SNR=11						
Z51A	**Franklin**	**58.68**	**339**	P	**P**	**04 51 21.8**	**-0.2**
	baz=157,SNR=11						
Y52A	**Lilburn**	**58.83**	**340**	P	**P**	**04 51 22.7**	**-0.3**
	baz=158,SNR=12						
Y52A				P	**P**	**04 51 22.7**	**-0.3**
	baz=158,SNR=12						
W57A	**Gilead**	**58.89**	**344**	P	**P**	**04 51 23.0**	**-0.4**
	baz=162,SNR=7.6						
W57A				P	**P**	**04 51 23.1**	**-0.2**
	baz=162,SNR=7.6						
PAULI	**Pauline**	**59.05**	**343**	P	**P**	**04 51 24.5**	**0.0**
	baz=160,SNR=6.9						
LRAL	**Lakeview Retre**	**59.06**	**337**	P	**P**	**04 51 24.0**	**-0.5**
	baz=155,SNR=22						
LRAL	**Lakeview Retre**	**59.06**	**337**	P	**P**	**04 51 24.1**	**-0.4**
	baz=155,SNR=22						
KMSC	**Kings Mountain**	**59.23**	**343**	P	**P**	**04 51 25.6**	**+0.1**
	baz=161,SNR=16						
KMSC	**Kings Mountain**	**59.23**	**343**	P	**P**	**04 51 25.7**	**+0.1**
	baz=161,SNR=16						
V58A	**Windy Hill, Pi**	**59.29**	**345**	P	**P**	**04 51 25.4**	**-0.6**
	baz=164,SNR=5.6						
V58A				P	**P**	**04 51 25.4**	**-0.6**
	baz=164,SNR=5.6						
HBVL	**Hebbronville**	**59.34**	**324**	P	**P**	**04 51 27.4**	**+0.8**
146A	**Union**	**59.47**	**335**	P	**P**	**04 51 27.4**	**+0.1**
	baz=153,SNR=13						
U59A	**Littleton**	**59.53**	**347**	P	**P**	**04 51 27.3**	**-0.3**
	baz=165						
U59A				P	**P**	**04 51 27.3**	**-0.3**
	baz=165						
CASEE	**Lake Jocassee**	**59.53**	**342**	P	**P**	**04 51 27.8**	**+0.1**
	baz=159,SNR=14						
441A	**DeRidder**	**59.58**	**331**	P	**P**	**04 51 29.6**	**+1.6**
	baz=148						
Y49A	**Blount Mountai**	**59.59**	**338**	P	**P**	**04 51 27.3**	**-0.8**
	baz=156,SNR=22						
Z47A	**Carrollton**	**59.59**	**336**	P	**P**	**04 51 27.8**	**-0.4**
	baz=154,SNR=16						
VBMS	**Vicksburg**	**59.69**	**334**	P	**P**	**04 51 28.6**	**-0.1**
	baz=151						
X51A	**Calhoun**	**59.72**	**340**	P	**P**	**04 51 28.8**	**-0.1**
	baz=157,SNR=15						
X51A				P	**P**	**04 51 28.8**	**-0.1**
	baz=157,SNR=15						
V55A	**Taylorsville**	**59.86**	**344**	P	**P**	**04 51 30.3**	**+0.5**
	baz=161,SNR=17						
V55A				P	**P**	**04 51 30.3**	**+0.5**
	baz=161,SNR=17						
W52A	**Murphy**	**59.92**	**341**	P	**P**	**04 51 30.4**	**+0.1**
	baz=158,SNR=11						
T59A	**Double "B" Far**	**60.08**	**347**	P	**P**	**04 51 31.0**	**-0.3**
	baz=165,SNR=6.9						
T59A				P	**P**	**04 51 31.0**	**-0.3**
	baz=165,SNR=6.9						
U56A	**King**	**60.12**	**345**	P	**P**	**04 51 32.1**	**+0.5**
	baz=162						
U56A				P	**P**	**04 51 32.1**	**+0.5**
	baz=162						
V53A	**Saluda**	**60.13**	**342**	P	**P**	**04 51 31.9**	**+0.2**
	baz=160,SNR=18						
V53A				P	**P**	**04 51 31.9**	**+0.2**
	baz=160,SNR=18						
HKT	**Hockley**	**60.17**	**328**	P	**P**	**04 51 32.9**	**+0.9**
HKT	**Hockley**	**60.17**	**328**	P	**P**	**04 51 32.9**	**+0.9**
HKT				pmax	pmax		
	comp=Z,101nm,1.2s						
HKT	**Hockley**	**60.17**	**328**	P	**P**	**04 51 33.3**	**+1.4**
	baz=146						
HKT	**Hockley**	**60.17**	**328**	P	**P**	**04 51 33.0**	**+1.1**
SNAA	**Sanae**	**60.26**	**161**	P	**P**	**04 51 32.3**	**+0.2**
SNAA				IAmb	IAmb	04 51 33.5	
	comp=Z,146nm,1.0s						
SNAA	**Sanae**	**60.26**	**161**	*i* P	**P**	**04 51 31.6**	**-0.5**
SNAA				pmax	pmax		
	comp=Z,101nm,1.0s						
SNAA	**Sanae**	**60.26**	**161**	*e*P	**P**	**04 51 31.7**	**-0.5**
SNAA	**Sanae**	**60.26**	**161**	⇑P	**P**	**04 51 32.4**	**+0.2**
	comp=Z,1μm,0.5s						
SNAA				⇑PcP	**PcP**	**04 52 11.0**	**+0.2**
	comp=Z,600nm,0.6s						
SNAA				⇓pP	**pP**	**04 53 19.0**	**+0.7**
	comp=Z,564nm,1.0s						
SNAA	**Sanae**	**60.26**	**161**	P	**P**	**04 51 32.5**	**+0.3**
	comp=Z,70nm,0.5s,baz=293,slow=8.9,SNR=183						
SNAA				PcP	**PcP**	**04 52 11.1**	**+0.2**
	comp=Z,27nm,0.8s,baz=304,slow=3.6,SNR=4.2						
	comp=Z,70nm,0.5s						
735A	**Kenedy**	**60.29**	**326**	P	**P**	**04 51 34.0**	**+1.1**
	baz=145,SNR=16						
X48A	**Hartselle**	**60.35**	**338**	P	**P**	**04 51 32.9**	**-0.3**
	baz=155,SNR=42						
TKL	**Tuckaleechee C**	**60.40**	**341**	P	**P**	**04 51 32.9**	**-0.5**
	baz=159,SNR=18						
W50A	**Signal Mountai**	**60.45**	**340**	P	**P**	**04 51 33.5**	**-0.4**
	baz=157,SNR=12						
T57A	**Hurt**	**60.47**	**346**	P	**P**	**04 51 33.8**	**-0.1**
	baz=164,SNR=6.4						
T57A				P	**P**	**04 51 33.8**	**-0.1**
	baz=164,SNR=6.4						
143A	**Socs Landing,**	**60.48**	**333**	P	**P**	**04 51 33.9**	**0.0**
	baz=150,SNR=9.3						
V52A	**Sevierville**	**60.52**	**342**	P	**P**	**04 51 33.9**	**-0.3**
	baz=159,SNR=17						
U54A	**Nelsons Funny**	**60.65**	**343**	P	**P**	**04 51 35.3**	**+0.1**
	baz=161,SNR=22						
U54A				P	**P**	**04 51 35.3**	**+0.1**
	baz=161,SNR=22						
V51A	**Loudon**	**60.71**	**341**	P	**P**	**04 51 34.8**	**-0.7**
	baz=158,SNR=8.2						
833A	**Chaparral WMA,**	**60.72**	**324**	P	**P**	**04 51 36.4**	**+0.7**
	baz=142,SNR=52						
833A	**Chaparral WMA,**	**60.72**	**324**	P	**P**	**04 51 36.4**	**+0.7**
	baz=142,SNR=52						
BLA	**Blacksburg**	**60.95**	**345**	P	**P**	**04 51 37.6**	**+0.5**
BLA	**Blacksburg**	**60.95**	**345**	P	**P**	**04 51 37.6**	**+0.5**
BLA				pmax	pmax		
	comp=Z,133nm,1.5s						
BLA	**Blacksburg**	**60.95**	**345**	P	**P**	**04 51 37.3**	**+0.3**
	baz=162,SNR=7.0						
BLA	**Blacksburg**	**60.95**	**345**	P	**P**	**04 51 37.6**	**+0.5**
	baz=162,SNR=7.0						
R58B	**Mineral**	**61.10**	**347**	P	**P**	**04 51 38.1**	**+0.1**
	baz=165,SNR=6.3						
R58B				P	**P**	**04 51 38.1**	**+0.1**
	baz=165,SNR=6.3						
NATX	**Nacogdoches**	**61.11**	**330**	P	**P**	**04 51 39.2**	**+1.0**
	baz=147,SNR=17						
NATX	**Nacogdoches**	**61.11**	**330**	P	**P**	**04 51 39.2**	**+1.0**
	baz=147,SNR=17						
S57A	**Dark Hollow, R**	**61.13**	**346**	P	**P**	**04 51 38.5**	**+0.3**
	baz=164						
S57A				P	**P**	**04 51 38.5**	**+0.3**
	baz=164						
TZTN	**Tazewell**	**61.16**	**342**	P	**P**	**04 51 37.9**	**-0.5**
	baz=159,SNR=5.7						
TZTN	**Tazewell**	**61.16**	**342**	P	**P**	**04 51 38.3**	**-0.1**
	baz=159,SNR=5.7						
PLAL	**Pickwick Lake**	**61.20**	**337**	P	**P**	**04 51 38.0**	**-0.7**
CBN	**Corbin Frederi**	**61.23**	**348**	P	**P**	**04 51 38.8**	**-0.1**
	baz=166						
CBN	**Corbin Frederi**	**61.23**	**348**	P	**P**	**04 51 39.3**	**+0.5**
	baz=166						
OXF	**Oxford**	**61.27**	**336**	P	**P**	**04 51 38.4**	**-0.8**
OXF				IAmb	IAmb	04 51 39.6	
	comp=Z,174nm,0.9s						
OXF	**Oxford**	**61.27**	**336**	P	**P**	**04 51 38.4**	**-0.8**
OXF				pmax	pmax		
	comp=Z,174nm,1.0s						
OXF	**Oxford**	**61.27**	**336**	P	**P**	**04 51 38.3**	**-0.8**
	baz=153,SNR=25						
OXF	**Oxford**	**61.27**	**336**	P	**P**	**04 51 38.3**	**-0.8**
	baz=153,SNR=25						
V48A	**Smith Brothers**	**61.44**	**339**	P	**P**	**04 51 39.6**	**-0.7**
	baz=156,SNR=24						
CCAR	**Cane Creek**	**61.68**	**334**	P	**P**	**04 51 42.1**	**+0.3**
	baz=150,SNR=5.3						
435B	**Jarrell**	**61.73**	**327**	P	**P**	**04 51 42.8**	**+0.6**
	baz=144						
435B	**Jarrell**	**61.73**	**327**	P	**P**	**04 51 42.9**	**+0.6**
	baz=144						
S54A	**Dingess, Beckl**	**61.73**	**344**	P	**P**	**04 51 42.4**	**+0.2**
	baz=162,SNR=14						
S54A				P	**P**	**04 51 42.4**	**+0.2**
	baz=162,SNR=14						
U49A	**Red Boiling Sp**	**61.81**	**340**	P	**P**	**04 51 42.0**	**-0.6**
	baz=157,SNR=16						
237A	**Washetta, Mont**	**61.85**	**329**	P	**P**	**04 51 44.1**	**+1.1**
	baz=146,SNR=32						
R55A	**Marlinton**	**61.90**	**345**	P	**P**	**04 51 44.2**	**+0.9**
	baz=163,SNR=5.6						
R55A				P	**P**	**04 51 44.2**	**+0.9**
	baz=163,SNR=5.6						
TROLL	**Troll, Antarti**	**61.97**	**161**	⇑P	**P**	**04 51 43.9**	**+0.5**
	comp=Z,7μm,0.5s						
TROLL				⇑PcP	**PcP**	**04 52 18.4**	**+0.5**
	comp=Z,3μm,0.8s						
TROLL				⇓pP	**pP**	**04 53 31.8**	**+1.4**
	comp=Z,797nm,0.8s						
T50A	**Nancy**	**61.98**	**341**	P	**P**	**04 51 43.1**	**-0.6**
	baz=158						
T50A				P	**P**	**04 51 43.1**	**-0.6**
	baz=158						
WVT	**Waverly**	**62.14**	**338**	P	**P**	**04 51 43.8**	**-1.0**
WVT	**Waverly**	**62.14**	**338**	P	**P**	**04 51 43.9**	**-1.0**
	baz=155						
WVT	**Waverly**	**62.14**	**338**	P	**P**	**04 51 43.5**	**-1.3**
	baz=155,SNR=74						
WVT	**Waverly**	**62.14**	**338**	P	**P**	**04 51 43.4**	**-1.5**
WVT				pP	**pP**	**04 53 30.9**	**-1.8**
S51A	**Beattyville**	**62.19**	**342**	P	**P**	**04 51 45.1**	**0.0**
	baz=159,SNR=7.9						
S51A				P	**P**	**04 51 45.1**	**0.0**
	baz=159,SNR=7.9						
DRIO	**Del Rio**	**62.25**	**324**	P	**P**	**04 51 46.3**	**+0.6**
SDMD	**Soldier's Deli**	**62.30**	**349**	P	**P**	**04 51 46.1**	**+0.4**
	baz=166,SNR=6.2						
R53A	**Hurricane**	**62.40**	**344**	P	**P**	**04 51 46.6**	**+0.1**
	baz=161,SNR=23						
R53A				P	**P**	**04 51 46.6**	**+0.1**
	baz=161,SNR=23						
GEDE	**Greenville**	**62.48**	**350**	P	**P**	**04 51 47.2**	**+0.3**
	baz=168,SNR=8.2						
Z38A	**Mt. Pleasant**	**62.51**	**331**	P	**P**	**04 51 48.3**	**+1.0**
	baz=147,SNR=16						
PSUB	**Penn St. - Bra**	**62.56**	**350**	P	**P**	**04 51 46.7**	**-0.8**
	baz=168						
P57A	**Homestead Farm**	**62.59**	**348**	P	**P**	**04 51 48.8**	**+1.1**
	baz=165,SNR=16						
P57A				P	**P**	**04 51 48.8**	**+1.1**
	baz=165,SNR=16						
JCT	**Junction City**	**62.63**	**325**	P	**P**	**04 51 48.7**	**+0.5**
JCT				IAmb	IAmb	04 51 49.3	
	comp=Z,59nm,0.7s						
JCT	**Junction City**	**62.63**	**325**	P	**P**	**04 51 48.7**	**+0.5**
JCT				pmax	pmax		
	comp=Z,59nm,0.7s						
JCT	**Junction City**	**62.63**	**325**	P	**P**	**04 51 48.5**	**+0.3**
	baz=142,SNR=29						
JCT	**Junction City**	**62.63**	**325**	P	**P**	**04 51 48.6**	**+0.5**
	baz=142,SNR=29						
WHTX	**Lake Whitney,**	**62.64**	**328**	P	**P**	**04 51 48.6**	**+0.5**
	baz=145,SNR=14						
WHTX	**Lake Whitney,**	**62.64**	**328**	P	**P**	**04 51 48.6**	**+0.5**
	baz=145,SNR=14						
T47A	**Sharon Grove**	**62.67**	**339**	P	**P**	**04 51 47.5**	**-0.8**
	baz=156,SNR=38						
Q54A	**Coxs Mills**	**62.73**	**345**	P	**P**	**04 51 48.7**	**+0.1**
	baz=162,SNR=11						
Q54A				P	**P**	**04 51 48.7**	**+0.1**
	baz=162,SNR=11						
BRDY	**Brady**	**62.85**	**326**	P	**P**	**04 51 49.8**	**+0.2**
BRDY				IAmb	IAmb	04 51 50.5	
	comp=Z,60nm,0.7s						
PANJ	**Princeton**	**62.88**	**351**	P	**P**	**04 51 50.3**	**+0.8**
	baz=169,SNR=8.9						
MIAR	**Mount Ida**	**62.98**	**333**	P	**P**	**04 51 50.1**	**-0.2**
MIAR	**Mount Ida**	**62.98**	**333**	P	**P**	**04 51 50.1**	**-0.2**
MIAR				pmax	pmax		
	comp=Z,45nm,1.0s						
MIAR	**Mount Ida**	**62.98**	**333**	P	**P**	**04 51 50.2**	**-0.2**
	baz=149,SNR=26						
MIAR	**Mount Ida**	**62.98**	**333**	P	**P**	**04 51 50.2**	**-0.2**
	baz=149,SNR=26						
R50A	**Paris**	**63.00**	**342**	P	**P**	**04 51 50.1**	**-0.2**
	baz=159,SNR=18						
R50A				P	**P**	**04 51 50.1**	**-0.2**
	baz=159,SNR=18						
Q52A	**Bidwell**	**63.07**	**344**	P	**P**	**04 51 50.9**	**+0.1**
	baz=161,SNR=14						
Q52A				P	**P**	**04 51 50.9**	**+0.1**
	baz=161,SNR=14						
MCWV	**Mont Chateau**	**63.15**	**346**	P	**P**	**04 51 51.8**	**+0.5**
	baz=163,SNR=13						
MCWV	**Mont Chateau**	**63.15**	**346**	P	**P**	**04 51 52.4**	**+1.1**
	baz=163,SNR=13						
BRNJ	**Basking Ridge**	**63.16**	**351**	P	**P**	**04 51 51.9**	**+0.6**
	baz=169,SNR=5.8						
T45B	**Paducah**	**63.22**	**338**	P	**P**	**04 51 50.8**	**-1.0**
	baz=154,SNR=16						
FOR	**Fordham**	**63.24**	**351**	P	**P**	**04 51 51.7**	**0.0**
	baz=170,SNR=5.4						
R49A	**Shelbyville**	**63.26**	**341**	P	**P**	**04 51 51.5**	**-0.5**
	baz=158,SNR=5.2						
R49A				P	**P**	**04 51 51.5**	**-0.5**
	baz=158,SNR=5.2						
LCAR	**Lake Charles**	**63.31**	**335**	P	**P**	**04 51 51.9**	**-0.4**
	baz=152,SNR=49						
P53A	**Whipple**	**63.35**	**345**	P	**P**	**04 51 52.8**	**+0.3**
	baz=162,SNR=32						
P53A				P	**P**	**04 51 52.8**	**+0.3**
	baz=162,SNR=32						
PAL	**Palisades**	**63.38**	**351**	P	**P**	**04 51 52.6**	**-0.1**
	baz=170						
Q51A	**Peebles**	**63.42**	**343**	P	**P**	**04 51 52.8**	**-0.2**
	baz=160,SNR=12						
Q51A				P	**P**	**04 51 52.8**	**-0.2**
	baz=160,SNR=12						
SAND	**Sanderson**	**63.49**	**323**	P	**P**	**04 51 54.3**	**+0.5**
SAND				IAmb	IAmb	04 51 55.8	
	comp=Z,118nm,1.1s						
FCAR	**Ozark Folk Cen**	**63.53**	**334**	P	**P**	**04 51 53.2**	**-0.6**
WCI	**Wyandotte Cave**	**63.54**	**340**	P	**P**	**04 51 52.9**	**-0.9**
	baz=157						
WCI	**Wyandotte Cave**	**63.54**	**340**	P	**P**	**04 51 53.0**	**-0.8**
	baz=157,SNR=18						
WCI	**Wyandotte Cave**	**63.54

O52A **Adamsville** 64.05 345 P P 04 51 57.2 +0.2
baz=161,SNR=7.9
O52A P P 04 51 57.2 +0.2
baz=161,SNR=7.9
TIC **Toumodi** 64.14 71 eP P 04 51 57.0 -1.2
comp=Z,141nm,0.9s
NPNY **Mohonk Preserv** 64.15 351 P P 04 51 58.1 +0.5
baz=169
KSPA **Keystone Colle** 64.20 350 P P 04 51 58.2 +0.2
KSPA IAmb IAmb 04 51 59.4
comp=Z,68nm,0.9s
KSPA **Keystone Colle** 64.20 350 P P 04 51 58.5 +0.6
baz=168,SNR=17
M57A **Sunshine Farm,** 64.22 349 P P 04 51 59.0 +0.9
baz=166,SNR=19
M57A P P 04 51 59.0 +0.9
baz=166,SNR=19
U40A **Yellville** 64.23 334 P P 04 51 58.0 -0.2
baz=150,SNR=48
U40A P P 04 51 58.0 -0.2
baz=150,SNR=48
ABTX **Abilene, Hawle** 64.25 327 P P 04 51 58.7 +0.2
baz=143,SNR=16
ABTX **Abilene, Hawle** 64.25 327 P P 04 51 58.5 0.0
baz=143,SNR=16
KIC **Kosan Boka** 64.25 71 eP P 04 51 58.6 -0.3
comp=Z,490nm,0.7s
P49A **Miami Univ. Ec** 64.27 342 P P 04 51 57.7 -0.7
baz=158,SNR=24
P49A **Miami Univ. Ec** 64.27 342 P P 04 51 57.8 -0.6
baz=158,SNR=24
DBIC **Dimbokro** 64.30 71 P P 04 51 58.9 -0.2
comp=Z,252nm,0.8s,baz=236,slow=7.9,SNR=231
DBIC S S 04 59 55.6 -0.2
comp=Z,6.1nm,0.9s,baz=235,slow=12,SNR=9.1
comp=Z,252nm,0.8s
DBIC **Dimbokro** 64.30 71 ⇓P P 04 51 59.0 -0.1
DBIC pP pP 04 53 46.6 -0.6
PSDB **Penn State Uni** 64.33 347 P P 04 52 00.2 +1.5
baz=165
P48A **Milroy** 64.41 341 P P 04 51 58.4 -0.9
baz=158,SNR=14
P48A P P 04 51 58.4 -0.9
baz=158,SNR=14
QUA2 **Belchertown** 64.44 353 P P 04 51 59.7 +0.3
baz=171
ACSO **Alum Creek Sta** 64.45 344 P P 04 51 59.6 0.0
ACSO IAmb IAmb 04 52 00.2
comp=Z,136nm,0.8s
ACSO **Alum Creek Sta** 64.45 344 P P 04 51 59.1 -0.4
baz=160,SNR=19
ACSO **Alum Creek Sta** 64.45 344 P P 04 51 59.7 +0.1
baz=160,SNR=19
N53A **Lisbon** 64.47 346 P P 04 52 00.4 +0.7
baz=162,SNR=8.5
N53A P P 04 52 00.4 +0.7
baz=162,SNR=8.5
HRV **Adam Dziewonsk** 64.58 354 P P 04 52 00.8 +0.5
HRV **Adam Dziewonsk** 64.58 354 P P 04 52 00.2 -0.1
baz=172
HRV **Adam Dziewonsk** 64.58 354 P P 04 52 01.0 +0.7
baz=172,SNR=8.5
HRV **Adam Dziewonsk** 64.58 354 P P 04 52 00.7 +0.4
OLIL **Olney** 64.58 339 P P 04 51 59.2 -1.2
baz=155,SNR=6.9
L61B **Northampton** 64.65 353 P P 04 52 00.7 0.0
baz=171,SNR=11
L61B **Northampton** 64.65 353 P P 04 52 00.5 -0.2
baz=171,SNR=11
M55A **Ridgway** 64.66 348 P P 04 52 01.2 +0.3
baz=165,SNR=27
M55A P P 04 52 01.2 +0.3
baz=165,SNR=27
NVL **N'lazarevskaya** 64.66 159 eP P 04 51 59.4 -1.1
NVL pmax pmax
comp=Z,245nm,0.9s
MGMO **Mountain Grove** 64.69 335 P P 04 52 01.2 0.0
MGMO IAmb IAmb 04 52 02.0
comp=Z,99nm,0.8s
L59A **Walton** 64.71 351 P P 04 52 01.8 +0.6
baz=168,SNR=8.8
L59A P P 04 52 01.8 +0.6
baz=168,SNR=8.8
FVM **French Village** 64.72 337 P P 04 52 00.8 -0.6
baz=153,SNR=17
O49A **Covington** 64.77 343 P P 04 52 01.3 -0.3
baz=159,SNR=18
O49A P P 04 52 01.3 -0.3
baz=159,SNR=18
K62A **Royalston** 64.81 353 P P 04 52 02.4 +0.7
baz=171,SNR=5.6
K62A P P 04 52 02.4 +0.7
baz=171,SNR=5.6
BINY **Binghamton** 64.86 350 P P 04 52 02.6 +0.5
baz=168,SNR=21
BINY **Binghamton** 64.86 350 P P 04 52 02.9 +0.7
baz=168,SNR=21
PAOC **Oil Creek Stat** 64.89 347 P P 04 52 02.7 +0.4
baz=164
MNHN **Monahans** 64.90 323 P P 04 52 03.3 +0.6
MNHN IAmb IAmb 04 52 04.0
comp=Z,102nm,0.6s
U38A **Gravette** 64.94 333 P P 04 52 02.3 -0.4
baz=149,SNR=21
N51A **Ashland** 64.94 344 P P 04 52 02.5 -0.2
baz=161,SNR=6.5
N51A P P 04 52 02.5 -0.2
baz=161,SNR=6.5
M53A **WI Miller and** 65.04 346 P P 04 52 03.3 +0.1
baz=163,SNR=11
Q44A **Meyer Farm, Va** 65.04 338 P P 04 52 02.0 -1.3
baz=154,SNR=15
TRY **Troy** 65.05 352 P P 04 52 04.0 +0.8
baz=170,SNR=14
O48B **Farmland** 65.07 342 P P 04 52 02.9 -0.5
baz=158,SNR=32
O48B **Farmland** 65.07 342 P P 04 52 03.0 -0.5
baz=158,SNR=32
L56A **Greenwood** 65.07 349 P P 04 52 03.9 +0.4
baz=166,SNR=29
L56A P P 04 52 03.9 +0.4
baz=166,SNR=29
CCM **Cathedral Cave** 65.09 336 P P 04 52 02.9 -0.7
baz=152
CCM **Cathedral Cave** 65.09 336 P P 04 52 03.1 -0.6
baz=152,SNR=48
CCM **Cathedral Cave** 65.09 336 P P 04 52 02.9 -0.7
CCM pP pP 04 53 50.8 -2.1
TUL3 **Leonard** 65.10 332 P P 04 52 03.7 0.0
TUL3 IAmb IAmb 04 52 04.5
comp=Z,65nm,0.8s
TUL3 **Leonard** 65.10 332 P P 04 52 04.0 +0.3
baz=147,SNR=38
TUL3 **Leonard** 65.10 332 P P 04 52 03.7 0.0
baz=147,SNR=38
P46A **Rosedale** 65.10 340 P P 04 52 02.6 -1.0
baz=156,SNR=12
HCNY **Howe Caverns** 65.11 351 P P 04 52 04.4 +0.8
baz=169,SNR=15
ALLY **Alegheny Colle** 65.12 346 P P 04 52 04.3 +0.6
baz=163,SNR=13
DEOK **Depew** 65.35 331 P P 04 52 05.7 +0.3
N49A **Columbus Grove** 65.42 343 P P 04 52 05.2 -0.4
baz=159,SNR=29
N49A P P 04 52 05.2 -0.4
baz=159,SNR=29
K57A **Scipio Center** 65.47 350 P P 04 52 06.2 +0.2
baz=167,SNR=7.3
WMOK **Wichita Mounta** 65.51 329 P P 04 52 07.1 +0.7
WMOK **Wichita Mounta** 65.51 329 P P 04 52 06.4 0.0
baz=144,SNR=37
WMOK **Wichita Mounta** 65.51 329 P P 04 52 06.1 -0.3
baz=144,SNR=37
J61A **Chester** 65.52 353 P P 04 52 06.9 +0.7
baz=171,SNR=6.9
J61A P P 04 52 06.9 +0.7
baz=171,SNR=6.9
ERPA **Erie** 65.53 347 P P 04 52 06.7 +0.3
baz=164,SNR=26
M50A **Fremont** 65.57 344 P P 04 52 06.5 -0.1
baz=160,SNR=5.2
M50A P P 04 52 06.5 -0.1
baz=160,SNR=5.2
S39A **Bolivar** 65.57 335 P P 04 52 06.7 +0.1
baz=150,SNR=84
R40A **Maddies Statio** 65.68 336 P P 04 52 06.4 -0.9
baz=151,SNR=42
ACCN **Adirondack Com** 65.69 352 P P 04 52 08.0 +0.7
baz=170
SFIN **Lafayette** 65.76 341 P P 04 52 06.6 -1.1
baz=156,SNR=18
SFIN **Lafayette** 65.76 341 P P 04 52 07.2 -0.6
baz=156,SNR=18
N47A **Urbana** 65.80 342 P P 04 52 07.6 -0.4
baz=158,SNR=26
N47A P P 04 52 07.6 -0.4
baz=158,SNR=26
P43A **Skaggs, Pawnee** 65.88 338 P P 04 52 07.7 -0.8
baz=154,SNR=29
J58A **Remsen** 65.89 351 P P 04 52 08.9 +0.4
baz=168,SNR=9.0
J58A P P 04 52 08.9 +0.4
baz=168,SNR=9.0
O44A **Mansfield** 65.99 339 P P 04 52 08.2 -1.0
baz=155,SNR=15
I63A **Otisfield** 66.01 355 P P 04 52 10.3 +1.0
baz=173,SNR=8.3
I63A P P 04 52 10.3 +1.0
baz=173,SNR=8.3
OK048 **Pawnee Station** 66.03 331 P P 04 52 10.1 +0.5
OK048 IAmb IAmb 04 52 11.2
comp=Z,207nm,1.3s
J57A **Williamstown** 66.05 350 P P 04 52 09.8 +0.3
baz=168,SNR=6.2
J57A P P 04 52 09.8 +0.3
baz=168,SNR=6.2
J56A **Wolcott** 66.06 350 P P 04 52 09.7 +0.1
baz=167,SNR=5.0
J56A P P 04 52 09.7 +0.1
baz=167,SNR=5.0
MCVT **Middlebury Col** 66.17 353 P P 04 52 11.2 +0.9
baz=171,SNR=14
T35B **Sooner Cattle** 66.25 332 P P 04 52 11.6 +0.6
baz=147,SNR=52
LBNH **Lisbon** 66.33 354 P P 04 52 11.8 +0.5
LBNH **Lisbon** 66.33 354 P P 04 52 11.8 +0.5
LBNH pmax pmax
comp=Z,57nm,0.9s
LBNH **Lisbon** 66.33 354 P P 04 52 11.7 +0.4
baz=172,SNR=10
LBNH **Lisbon** 66.33 354 P P 04 52 12.2 +0.9
baz=172,SNR=10
NCB **Newcomb** 66.34 352 P P 04 52 11.5 +0.2
baz=169,SNR=9.3
L48A **N Adams** 66.44 343 P P 04 52 11.8 -0.2
baz=159,SNR=18
L48A P P 04 52 11.8 -0.2
baz=159,SNR=18
WCNY **West Carthage** 66.55 351 P P 04 52 13.0 +0.4
baz=168,SNR=12
AAM **Ann Arbor** 66.57 344 P P 04 52 12.3 -0.4
baz=160
H62A **Milan** 66.59 354 P P 04 52 13.6 +0.8
baz=173,SNR=6.0
H62A P P 04 52 13.6 +0.8
baz=173,SNR=6.0
HDIL **Hopedale** 66.62 339 P P 04 52 12.4 -0.7
baz=154,SNR=29
HDIL **Hopedale** 66.62 339 P P 04 52 12.5 -0.7
baz=154,SNR=29
MNTX **Cornudas Mount** 66.65 322 P P 04 52 13.6 0.0
MNTX **Cornudas Mount** 66.65 322 P P 04 52 13.5 0.0
baz=138,SNR=83
MNTX **Cornudas Mount** 66.65 322 P P 04 52 13.1 -0.5
baz=138,SNR=83
P40A **Paris** 66.68 336 P P 04 52 12.8 -0.7
baz=152,SNR=31
K50A **Casco** 66.76 345 P P 04 52 13.7 -0.2
baz=161,SNR=6.7
K50A P P 04 52 13.7 -0.2
baz=161,SNR=6.7
MSTX **Muleshoe** 66.92 325 P P 04 52 15.7 +0.4
MSTX **Muleshoe** 66.92 325 P P 04 52 15.8 +0.4
baz=141,SNR=82
MSTX **Muleshoe** 66.92 325 P P 04 52 15.7 +0.4
baz=141,SNR=82
KAN14 **Manchester OK** 66.94 331 P P 04 52 15.6 +0.4
KAN14 IAmb IAmb 04 52 16.6
comp=Z,158nm,1.4s
U32A **Winter Ranch,** 66.95 330 P P 04 52 16.3 +1.0
baz=145
G65A **Preston** 66.95 357 P P 04 52 15.8 +0.7
baz=176,SNR=5.8
G65A P P 04 52 15.8 +0.7
baz=176,SNR=5.8
L46A **Eue Claire** 67.02 342 P P 04 52 15.1 -0.4
baz=157,SNR=10
L46A P P 04 52 15.1 -0.4
baz=157,SNR=10
LONY **Lake Ozonia** 67.02 352 P P 04 52 15.8 +0.3
baz=169,SNR=21
AMTX **Amarillo** 67.07 327 P P 04 52 16.5 +0.3
AMTX IAmb IAmb 04 52 17.5
comp=Z,70nm,0.9s
AMTX **Amarillo** 67.07 327 P P 04 52 16.4 +0.3
baz=142
AMTX **Amarillo** 67.07 327 P P 04 52 16.2 +0.1
baz=142,SNR=25
FRNY **Flat Rock** 67.11 352 P P 04 52 16.1 +0.1
FRNY **Flat Rock** 67.11 352 P P 04 52 16.2 +0.1
baz=170,SNR=9.7
PKME **Peaks-Kenny Pk** 67.12 356 P P 04 52 16.2 +0.1
baz=174,SNR=13
PKME **Peaks-Kenny Pk** 67.12 356 P P 04 52 16.5 +0.5
baz=174,SNR=13
G62A **West of Eustis** 67.17 355 P P 04 52 17.2 +0.7
baz=173,SNR=14
G62A P P 04 52 17.2 +0.7
baz=173,SNR=14
BMNY **Brushton-Moira** 67.23 352 P P 04 52 17.3 +0.5
baz=169,SNR=28
N41A **Harden Midland** 67.29 338 P P 04 52 16.7 -0.6
baz=153,SNR=37
P38A **Dawn** 67.33 335 P P 04 52 17.0 -0.5
baz=150,SNR=123
F63A **Nahmakanta, Br** 67.54 356 P P 04 52 19.3 +0.6
baz=175,SNR=8.7
F63A P P 04 52 19.3 +0.6
baz=175,SNR=8.7
L44A **Lake County Fo** 67.65 341 P P 04 52 18.9 -0.5
baz=156
L44A **Lake County Fo** 67.65 341 P P 04 52 19.4 0.0
baz=156
F64A **Sherman** 67.66 357 P P 04 52 19.8 +0.5
baz=175,SNR=18
F64A P P 04 52 19.8 +0.5
baz=175,SNR=18
J47A **Sunmer** 67.75 343 P P 04 52 19.4 -0.5
baz=159,SNR=10
J47A P P 04 52 19.4 -0.5
baz=159,SNR=10
F62A **Pittston Farm,** 67.80 355 P P 04 52 20.6 +0.4
baz=174,SNR=8.8
F62A P P 04 52 20.6 +0.4
baz=174,SNR=8.8
L42A **Oliver, Polo** 68.05 339 P P 04 52 21.6 -0.2
baz=154,SNR=7.9
KSU1 **Kansas State U** 68.12 333 P P 04 52 22.2 -0.2
baz=147,SNR=17
KSU1 **Kansas State U** 68.12 333 P P 04 52 22.4 0.0
baz=147,SNR=17
QSPA **South Pole Qui** 68.21 180 P P 04 52 23.4 +0.6
QSPA **South Pole Qui** 68.21 180 P P 04 52 23.1 +0.4
comp=Z,128nm,0.5s,baz=163,slow=3.4,SNR=1069
QSPA S S 05 00 43.1 +2.5
comp=Z,2.1nm,1.0s,baz=82,slow=23,SNR=8.4
comp=Z,128nm,0.5s
QSPA **South Pole Qui** 68.21 180 P P 04 52 23.4 +0.6
QSPA pP pP 04 54 12.8 +0.3
E63A **Oxbow** 68.22 356 P P 04 52 23.6 +0.8
baz=175,SNR=12
E63A P P 04 52 23.6 +0.8
baz=175,SNR=12
N38A **Joes South For** 68.22 336 P P 04 52 22.5 -0.5
N38A IAmb IAmb 04 52 23.2
comp=Z,84nm,0.8s
N38A **Joes South For** 68.22 336 P P 04 52 22.1 -0.9
baz=151,SNR=18
K43A **Burlington** 68.26 341 P P 04 52 23.1 +0.1
baz=156,SNR=11
ELIB **Princess Elisa** 68.38 160 dP P 04 52 22.9 -0.8
comp=Z,190nm,0.6s
R32A **Long Quarter,** 68.48 331 P P 04 52 25.2 +0.7
baz=145,SNR=32
E62A **Clayton Lake** 68.48 356 P P 04 52 25.3 +0.9
baz=174,SNR=20
E62A P P 04 52 25.3 +0.9
baz=174,SNR=20
L40A **Anamosa** 68.62 338 P P 04 52 25.0 -0.3
baz=153,SNR=43
121A **Cookes Peak, D** 68.65 321 P P 04 52 27.7 +1.7
baz=136,SNR=48
121A **Cookes Peak, D** 68.65 321 P P 04 52 27.6 +1.7
baz=136,SNR=48
D62A **Allapoint, All** 68.91 356 P P 04 52 27.0 +0.1
baz=175,SNR=23
D62A P P 04 52 27.0 +0.1
baz=175,SNR=23
JFWS **Jewell Farm** 69.05 339 P P 04 52 27.8 -0.1
baz=154,SNR=43
JFWS **Jewell Farm** 69.05 339 P P 04 52 27.9 0.0
baz=154,SNR=43
GLMI **Grayling** 69.17 344 P P 04 52 28.2 -0.4
baz=159,SNR=11
GLMI **Grayling** 69.17 344 P P 04 52 28.6 0.0
baz=159,SNR=11
SCIA **State Center** 69.19 337 P P 04 52 28.5 -0.3
baz=151,SNR=13
SCIA **State Center** 69.19 337 P P 04 52 28.7 0.0
baz=151,SNR=13
Y22A **Socorro** 69.19 322 P P 04 52 30.6 +1.4
baz=137,SNR=18
N35A **Tabor** 69.21 335 P P 04 52 28.6 -0.3
N35A IAmb IAmb 04 52 29.6
comp=Z,102nm,0.8s
N35A PcP PcP 04 52 48.7 +0.4
N35A **Tabor** 69.21 335 P P 04 52 28.8 -0.1
baz=148,SNR=20
CBKS **Cedar Bluff** 69.26 331 P P 04 52 30.4 +1.1
CBKS **Cedar Bluff** 69.26 331 P P 04 52 30.4 +1.1
CBKS pmax pmax
comp=Z,368nm,1.4s
CBKS **Cedar Bluff** 69.26 331 P P 04 52 30.4 +1.1
baz=144,SNR=24
CBKS **Cedar Bluff** 69.26 331 P P 04 52 30.3 +1.0
baz=144,SNR=24
Y22D **IRIS PASSCAL I** 69.27 323 P P 04 52 30.3 +0.7
baz=137
Y22F **Passcal Instru** 69.27 323 P P 04 52 30.4 +0.8
baz=137
LMQ **La Malbaie** 69.47 355 P P 04 52 30.2 -0.1
I42A **Draeger Farm,** 69.51 341 P P 04 52 30.6 0.0
baz=155,SNR=27
G45A **Suttons Bay** 69.64 344 P P 04 52 31.3 -0.1
baz=158
G45A P P 04 52 31.3 -0.1
baz=158
ANMO **Albuquerque** 69.65 324 P P 04 52 33.4 +1.5
baz=138
ANMO **Albuquerque** 69.65 324 P P 04 52 33.2 +1.2
baz=138,SNR=87
ANMO **Albuquerque** 69.65 324 P P 04 52 33.0 +1.1
ANMO pP pP 04 54 24.2 +0.5
K38A **Parkersburg** 69.67 338 P P 04 52 31.4 -0.2
baz=151,SNR=22
H43A **Windswept, Lux** 69.70 342 P P 04 52 31.5 -0.2
baz=156,SNR=9.4
I40A **Norwalk** 70.05 340 P P 04 52 33.6 -0.2
baz=154,SNR=12
T25A **Trinidad** 70.21 326 P P 04 52 36.7 +1.5
baz=140,SNR=7.6
TUC **Tucson** 70.28 319 P P 04 52 37.0 +1.4
TUC **Tucson** 70.28 319 P P 04 52 37.0 +1.4
TUC pmax pmax
comp=Z,92nm,1.6s
TUC **Tucson** 70.28 319 P P 04 52 37.1 +1.4
baz=134
TUC **Tucson** 70.28 319 P P 04 52 36.8 +1.2
TUC pP pP 04 54 28.7 +0.9
TUC sP sP 04 55 24.1 +0.3
L34A **Svendsen Farm,** 70.44 335 P P 04 52 36.2 0.0
baz=148,SNR=26
E46A **Sault Ste Mari** 70.54 345 P P 04 52 36.6 0.0
baz=160,SNR=20
BGNE **Belgrade** 70.70 333 P P 04 52 38.2 +0.4
baz=146,SNR=26
BGNE **Belgrade** 70.70 333 P P 04 52 37.9 +0.1
baz=146,SNR=26
KSCO **Kaye Shedlock'** 70.77 329 P P 04 52 39.6 +1.2
baz=142,SNR=12
KSCO **Kaye Shedlock'** 70.77 329 P P 04 52 39.6 +1.2
baz=142,SNR=12
F42A **Maple Grove Fa** 70.98 342 P P 04 52 39.4 0.0
baz=156
I37B **Waseca** 71.09 338 P P 04 52 39.9 -0.1
baz=151,SNR=43
G40A **Rib Lake** 71.15 341 P P 04 52 40.4 0.0
baz=154,SNR=18
SDCO **Great Sand Dun** 71.23 326 P P 04 52 42.7 +1.4
SDCO **Great Sand Dun** 71.23 326 P P 04 52 42.8 +1.4
baz=139,SNR=43
SDCO **Great Sand Dun** 71.23 326 P P 04 52 42.7 +1.4
baz=139,SNR=43
E43A **Lone Tree Farm** 71.23 343 P P 04 52 41.1 +0.3
baz=157,SNR=25
214A **Organ Pipe Nat** 71.30 317 P P 04 52 43.1 +1.5
baz=132,SNR=29
COWI **Conover** 71.58 342 P P 04 52 43.1 +0.2
baz=155
W18A **Petrified Fore** 71.63 322 P P 04 52 45.1 +1.5
baz=136,SNR=38
SPMN **Marine on St.** 71.95 339 P P 04 52 44.6 -0.4
baz=152,SNR=43
SPMN **Marine on St.** 71.95 339 P P 04 52 44.6 -0.4
baz=152,SNR=43
Q24A **Divide** 71.98 327 P P 04 52 47.4 +1.7
baz=140,SNR=51
OGNE **Ogallala** 72.02 330 P P 04 52 46.2 +0.6
OGNE IAmb IAmb 04 52 47.8
comp=Z,101nm,0.8s
OGNE **Ogallala** 72.02 330 P P 04 52 46.8 +1.2
baz=143,SNR=6.8
OGNE **Ogallala** 72.02 330 P P 04 52 46.8 +1.2
baz=143,SNR=6.8
ECSD **EROS Data Cent** 72.03 336 P P 04 52 45.5 -0.1
ECSD IAmb IAmb 04 52 46.4
comp=Z,120nm,1.2s
KOMG **Komaggas** 72.10 115 eP P 04 52 46.4 +0.1
KOMG IAmb IAmb 04 52 47.5
comp=Z,58nm,0.7s
D41A **Chassel** 72.29 342 P P 04 52 47.6 +0.7
baz=156,SNR=56
K30B **Basset** 72.36 333 P P 04 52 47.9 +0.4
baz=145,SNR=20
MVCO **Mesa Verde** 72.43 324 P P 04 52 49.9 +1.6
baz=137,SNR=56
CER **Ceres** 72.65 120 eP P 04 52 49.3 -0.2
CER IAmb IAmb 04 52 50.1
comp=Z,52nm,0.9s
F36A **Milaca** 72.75 339 P P 04 52 49.4 -0.2
baz=151,SNR=51
E38A **The Farm, Brul** 72.77 340 P P 04 52 49.3 -0.4
baz=153,SNR=18
ISCO **Idaho Springs** 72.85 327 P P 04 52 52.1 +1.4
ISCO IAmb IAmb 04 52 53.3
comp=Z,62nm,0.8s
ISCO **Idaho Springs** 72.85 327 P P 04 52 52.1 +1.4
ISCO pmax pmax
comp=Z,62nm,0.8s
ISCO **Idaho Springs** 72.85 327 P P 04 52 52.4 +1.7
baz=140,SNR=94
ISCO **Idaho Springs** 72.85 327 P P 04 52 52.1 +1.4
baz=140,SNR=94
WUAZ **Wupatki** 72.86 321 P P 04 52 52.6 +1.9
baz=134,SNR=45
TOA0 **Torodi Ar. Sit** 73.02 68 P P 04 52 51.6 -0.2
TORD **Torodi Ar. Bea** 73.02 68 P P 04 52 51.7 -0.1
TORD **Torodi Ar. Bea** 73.02 68 P P 04 52 51.3 -0.5
comp=Z,206nm,0.5s,baz=260,slow=5.3,SNR=2508
TORD pP pP 04 54 44.1 +0.4
comp=Z,17nm,0.9s,baz=257,slow=4.8,SNR=3.1
TORD S S 05 01 34.2 -2.3
comp=Z,1.6nm,0.6s,baz=247,slow=11,SNR=6.1
comp=Z,206nm,0.5s
CVNA **Calvinia** 73.53 118 eP P 04 52 55.1 +0.4
CVNA IAmb IAmb 04 52 55.6
comp=Z,162nm,1.4s
SUSD **Miller** 73.55 334 P P 04 52 54.5 +0.3
SUSD IAmb IAmb 04 52 55.1
comp=Z,119nm,0.9s
SUSD **Miller** 73.55 334 P P 04 52 54.2 0.0
baz=146,SNR=6.6
SUSD **Miller** 73.55 334 P P 04 52 54.4 +0.2

baz=146,SNR=6.6
PV21 Cone Mtn., Par 73.67 325 P P 04 52 56.6 +1.3
PDMCI Parker Dam,Lak 73.70 318 P P 04 52 56.9 +1.6
baz=132,SNR=8.9
F33A 5 Mile Ranch, 73.70 337 P P 04 52 54.8 -0.2
baz=149,SNR=30
N23A Red Feather La 73.84 328 P P 04 52 58.0 +1.7
baz=140,SNR=18
IKP In-Ko-Pah, Jac 73.86 316 P P 04 52 58.0 +1.6
baz=130,SNR=15
EYMN Ely 73.95 341 P P 04 52 56.0 -0.4
baz=153,SNR=33
EYMN Ely 73.95 341 P P 04 52 56.1 -0.3
baz=153,SNR=33
CBX Cerro Bola 74.00 315 P P 04 52 58.7 +1.5
CBX IAmb IAmb 04 52 59.7
comp=Z,62nm,0.8s
BC3 Big Chuckawall 74.09 317 P P 04 52 59.3 +1.6
baz=131,SNR=23
SUR Sutherland 74.14 119 P P 04 52 58.3 0.0
SUR IAmb IAmb 04 52 59.7
comp=Z,89nm,1.1s
SUR Sutherland 74.14 119 *i* P **P 04 52 58.7 +0.4**
SUR Sutherland 74.14 119 *eP* **P 04 52 58.1 -0.1**
SUR IAmb IAmb 04 52 59.3
comp=Z,95nm,1.1s
SUR Sutherland 74.14 119 P P 04 52 58.5 +0.2
comp=Z,27nm,0.6s,baz=266,slow=4.9,SNR=72
comp=Z,27nm,0.6s
SUR Sutherland 74.14 119 *i* P **P 04 52 57.8 -0.5**
TAOE Nuku Hiva Isla 74.20 267 *eS* **S 05 01 45.4 -4.4**
comp=Z,154nm,26.1s
TAOE *e*SS SS 05 06 30.3 -20
comp=Z,119nm,25.4s
MONP2 Monument Peak 74.22 316 P P 04 52 60.0 +1.5
baz=130,SNR=26
IRM Iron Mountain 74.22 318 P P 04 53 00.0 +1.7
baz=131,SNR=19
BAR Barrett 74.24 316 P P 04 53 00.2 +1.8
NEE2 Needles Airpor 74.30 318 P P 04 53 00.4 +1.7
baz=132
O20A White River Ci 74.44 326 P P 04 53 01.1 +1.5
O20A IAmb IAmb 04 53 02.4
comp=Z,125nm,0.9s
O20A White River Ci 74.44 326 P P 04 53 01.4 +1.8
baz=138,SNR=71
109C Camp Elliot, M 74.66 316 P P 04 53 02.3 +1.6
baz=130
BELC Belle Mtn. Jos 74.66 317 P P 04 53 02.7 +1.8
baz=131,SNR=34
TPFO Pinon Flats 74.69 316 P P 04 53 03.0 +1.9
baz=130,SNR=16
PFO Pinyon Flats O 74.70 316 P P 04 53 02.5 +1.4
PFO Pinyon Flats O 74.70 316 P P 04 53 02.5 +1.4
PFO pmax pmax
comp=Z,31nm,0.9s
PFO Pinyon Flats O 74.70 316 P P 04 53 03.0 +1.9
baz=130,SNR=14
FRAZ Fraserburg 74.76 119 *eP* **P 04 53 01.6 0.0**
FRAZ IAmb IAmb 04 53 02.6
comp=Z,133nm,1.1s
GMRC Granite Mounta 74.96 318 P P 04 53 04.4 +1.9
baz=131,SNR=84
B35A Bob, Littlefor 75.01 340 P P 04 53 02.4 0.0
baz=151,SNR=71
RWWY Rawlins 75.07 328 P P 04 53 03.7 +0.5
RWWY IAmb IAmb 04 53 04.8
comp=Z,172nm,1.1s
D32B Dogwood Acres, 75.07 337 P P 04 53 02.9 +0.2
baz=148,SNR=8.6
MURC Murrieta 75.17 316 P P 04 53 05.5 +1.9
baz=130,SNR=24
TSUM Tsumeb 75.27 105 P P 04 53 04.5 -0.2
TSUM IAmb IAmb 04 53 05.8
comp=Z,161nm,0.8s
TSUM Tsumeb 75.27 105 *i* P **P 04 53 04.8 +0.1**
TSUM Tsumeb 75.27 105 *eP* **P 04 53 03.5 -1.2**
TSUM IAmb IAmb 04 53 05.6
comp=Z,167nm,0.8s
TSUM Tsumeb 75.27 105 P P 04 53 04.4 -0.3
comp=Z,140nm,0.7s,baz=245,slow=5.2,SNR=168
TSUM pP **pP 04 54 58.8 +1.4**
comp=Z,14nm,0.9s,baz=244,slow=8.2,SNR=4.2
TSUM S **S 05 02 01.0 -0.2**
comp=Z,1.1nm,0.4s,baz=223,slow=19,SNR=1.8
comp=Z,140nm,0.7s
TSUM Tsumeb 75.27 105 *i* P **P 04 53 03.8 -0.9**
GRAN Grantham 75.27 119 *eP* **P 04 53 04.4 0.0**
GRAN IAmb IAmb 04 53 05.1
comp=Z,68nm,0.6s
HEC Hector,Ludlow 75.41 318 P P 04 53 07.0 +2.0
baz=131,SNR=66
BBRC Big Bear Solar 75.41 317 P P 04 53 07.2 +2.0
baz=130
RSSD Black Hills 75.44 331 P P 04 53 06.2 +1.1
RSSD Black Hills 75.44 331 P P 04 53 06.2 +1.1
RSSD pmax pmax
comp=Z,56nm,1.1s
RSSD Black Hills 75.44 331 P P 04 53 05.8 +0.7
baz=142
RSSD Black Hills 75.44 331 P P 04 53 06.0 +0.8
baz=142,SNR=33
RDMU Red Mountain 75.45 326 P P 04 53 06.7 +1.4
RDMU IAmb IAmb 04 53 07.8
comp=Z,114nm,0.9s
K22A Casper 75.46 329 P P 04 53 06.7 +1.4
baz=140,SNR=23
K22A Casper 75.46 329 P P 04 53 06.5 +1.3
baz=140,SNR=23
TIO Tiouine 75.50 48 P P 04 53 06.2 +0.5
TUQ Turquoise Moun 75.54 318 P P 04 53 07.5 +1.7
baz=131,SNR=19
SCI2 San Clemente I 75.66 315 P P 04 53 07.5 +1.2
baz=129
AGMN Agassiz Nation 75.66 338 P P 04 53 06.4 +0.4
AGMN Agassiz Nation 75.66 338 P P 04 53 06.2 +0.3
baz=150,SNR=47
UPI Upington 75.67 115 *eP* **P 04 53 05.0 -1.8**
UPI IAmb IAmb 04 53 07.5
comp=Z,132nm,0.7s
SHPR Sheep Range 75.78 319 P P 04 53 08.8 +1.7
CIS Catalina Islan 75.83 315 P P 04 53 09.1 +1.7
baz=129,SNR=6.3
BFSC Mount Baldy Ra 75.87 316 P P 04 53 09.1 +1.5
baz=130,SNR=17
FMP Fort Macarthur 75.95 316 P P 04 53 09.4 +1.5
baz=129
E28A Huff 75.99 335 P P 04 53 08.7 +0.8
E28A IAmb IAmb 04 53 09.8
comp=Z,121nm,0.8s
E28A Huff 75.99 335 P P 04 53 08.7 +0.8
baz=145,SNR=27
GSC Goldstone, Bar 76.01 318 P P 04 53 09.6 +1.3
GSC Goldstone, Bar 76.01 318 P P 04 53 09.6 +1.3
GSC pmax pmax
comp=Z,47nm,1.0s
GSC Goldstone, Bar 76.01 318 P P 04 53 10.0 +1.7
baz=130,SNR=35
BRAK Brakfontein 76.01 119 *eP* **P 04 53 07.9 -0.7**
BRAK IAmb IAmb 04 53 08.6
comp=Z,35nm,0.6s
SHOC Shoshone, Teco 76.06 318 P P 04 53 10.3 +1.7
baz=131,SNR=7.2
SBA Scott Base 76.19 190 P P 04 53 10.3 +1.8
SBA IAmb IAmb 04 53 11.5
comp=Z,271nm,1.8s
SBA Scott Base 76.19 190 P P 04 53 10.3 +1.8
SBA pmax pmax
comp=Z,271nm,1.8s
DECC Green Verdugo 76.31 316 P P 04 53 11.6 +1.6
baz=129,SNR=8.5
ROOI Rooidraai Farm 76.33 120 *eP* **P 04 53 08.9 -1.4**
ROOI IAmb IAmb 04 53 10.8
comp=Z,104nm,0.9s
SNCC San Nicolas Is 76.47 315 P P 04 53 11.8 +1.0
baz=128
EDW2 Edwards Air Fo 76.49 317 P P 04 53 11.9 +0.9
baz=129,SNR=21
PKA Prieska 76.53 117 *eP* **P 04 53 09.4 -2.1**
PKA IAmb IAmb 04 53 10.8
comp=Z,29nm,0.8s
SCHQ Schefferville 76.55 358 P P 04 53 10.8 +0.1
comp=Z,63nm,0.7s,baz=178,slow=4.3,SNR=209
SCHQ S **S 05 02 11.4 -1.8**
comp=Z,4.5nm,1.1s,baz=268,slow=19,SNR=11
comp=Z,63nm,0.7s
MDND Maddock 76.62 336 P P 04 53 12.3 +1.0
MDND IAmb IAmb 04 53 13.2
comp=Z,290nm,1.1s
MDND Maddock 76.62 336 P P 04 53 12.3 +1.0
baz=146,SNR=21
MDND Maddock 76.62 336 P P 04 53 12.0 +0.7
baz=146,SNR=21
BFON Badsfontein, M 76.65 119 *eP* **P 04 53 11.4 -0.7**
BFON IAmb IAmb 04 53 12.8
comp=Z,75nm,0.9s
LRMC Laurel Mtn Rad 76.67 317 P P 04 53 13.7 +1.7
baz=130
BUFB Buffelsbos 76.78 122 *eP* **P 04 53 12.3 -0.4**
BUFB IAmb IAmb 04 53 13.1
comp=Z,18nm,0.5s
FURC Furnace Creek, 76.79 319 P P 04 53 14.5 +2.1
baz=130
AVE Averroes 76.83 46 P P 04 53 12.2 -0.6
MPMC Manual Prospec 76.92 318 P P 04 53 14.7 +1.2
baz=130,SNR=21
DUG Dugway, Tooele 76.92 324 P P 04 53 14.3 +1.0
DUG Dugway, Tooele 76.92 324 P P 04 53 14.3 +1.0
DUG pmax pmax
comp=Z,65nm,1.1s
DUG Dugway, Tooele 76.92 324 P P 04 53 15.0 +1.7
baz=134,SNR=45
SCZ2 Santa Cruz Isl 77.00 315 P P 04 53 15.1 +1.4
baz=128,SNR=7.3
BW06 Boulder Array 77.04 327 P P 04 53 14.8 +0.9
baz=137,SNR=42
PD31 Pinedale Array 77.04 327 P P 04 53 14.6 +0.5
PDAR Pinedale Array 77.04 327 P P 04 53 14.8 +0.8
PDAR Pinedale Array 77.04 327 P P 04 53 14.5 +0.5
comp=Z,21nm,0.6s,baz=131,slow=8.1,SNR=216
PDAR pP **pP 04 55 09.8 +1.3**
comp=Z,3.4nm,0.5s,baz=128,slow=5.8,SNR=5.5
PDAR S **S 05 02 21.8 +2.5**
comp=Z,1.5nm,1.0s,baz=153,slow=10,SNR=11
PDAR PKKPbc **PKKPbc 05 12 16.7 -1.5**
comp=Z,0.3nm,0.4s,baz=276,slow=3.4,SNR=4.2
comp=Z,21nm,0.6s
GRAF Camdeboo Natio 77.15 120 *eP* **P 04 53 14.6 -0.2**
GRAF IAmb IAmb 04 53 15.7
comp=Z,127nm,1.0s
VNDA Vanda 77.17 189 P P 04 53 15.0 +1.1
VNDA Vanda 77.17 189 P P 04 53 15.0 +1.1
VNDA pmax pmax
comp=Z,51nm,0.9s
VNDA Vanda 77.17 189 P P 04 53 14.9 +0.9
comp=Z,50nm,0.8s,baz=140,slow=5.1,SNR=64
comp=Z,50nm,0.8s
ARVC Arvin 77.18 316 P P 04 53 16.2 +1.6
baz=129
R11B Troy Canyon, C 77.25 321 P P 04 53 17.3 +2.1
baz=132,SNR=68
ISA Isabella, Lake 77.28 317 P P 04 53 16.2 +0.9
ISA Isabella, Lake 77.28 317 P P 04 53 16.2 +0.9
ISA pmax pmax
comp=Z,50nm,1.0s
ISA Isabella, Lake 77.28 317 P P 04 53 17.0 +1.7
baz=129,SNR=32
SBC Santa Barbara 77.32 315 P P 04 53 16.9 +1.5
baz=128
ULM Lac du Bonnet 77.35 340 *i* P **P 04 53 15.5 +0.3**
ULM Lac du Bonnet 77.35 340 P P 04 53 15.1 -0.1
comp=Z,32nm,0.7s,baz=151,slow=6.1,SNR=58
ULM S **S 05 02 18.2 -3.5**
comp=Z,8.6nm,1.0s,baz=135,slow=6.7,SNR=20
comp=Z,32nm,0.7s
CWC Cottonwood Cre 77.53 318 P P 04 53 18.5 +1.8
baz=130
PKM Mcpherson Peak 77.66 316 P P 04 53 19.4 +1.9
baz=128,SNR=6.5
VES Vestal, Richgr 77.78 317 P P 04 53 19.3 +1.4
baz=129,SNR=27
TBI Tubuai 77.87 250 *eP* **P 04 53 20.5 +1.8**
comp=Z,154nm,0.9s
TBI *e*S **S 05 02 29.4 +0.9**
comp=Z,452nm,23.8s
TBI *e*sS **sS 05 05 58.2 +6.6**
comp=Z,2μm,28.2s
SOE Somerset East 77.88 120 *eP* **P 04 53 18.0 -0.7**
SOE IAmb IAmb 04 53 19.5
comp=Z,159nm,0.9s
TIN Tinemaha, Big 78.01 318 P P 04 53 21.1 +1.8
baz=130,SNR=7.2
SMMC Simmler 78.04 316 P P 04 53 21.2 +1.9
baz=128,SNR=8.0
SNOW Snow King Moun 78.14 327 P P 04 53 21.1 +1.1
SNOW IAmb IAmb 04 53 22.3
comp=Z,139nm,1.6s
TPAW Teton Pass 78.26 327 P P 04 53 20.8 +0.2
MOOW Moose Ponds 78.35 327 P P 04 53 21.7 +0.7
GRHM Grahamstown, E 78.35 121 *eP* **P 04 53 20.8 -0.4**
GRHM IAmb IAmb 04 53 21.9
comp=Z,149nm,0.8s
LAO LASA Array 78.40 332 P P 04 53 22.0 +1.0
baz=140,SNR=18
HVD Gariep Dam 78.49 118 *eP* **P 04 53 21.5 -0.6**
HVD IAmb IAmb 04 53 22.8
comp=Z,166nm,1.1s
IFR Ifrane 78.50 47 P P 04 53 22.1 +0.1
MORF Marmelete 78.52 42 *eP* **P 04 53 22.4 +0.6**
RLMT Red Lodge 78.62 329 P P 04 53 23.5 +1.1
baz=138,SNR=89
PTEO Sao Teotonio 78.62 42 *eP* **P 04 53 24.1 +1.8**
comp=Z,248nm,1.8s
ELK Elko 78.65 323 P P 04 53 24.1 +1.4
H17A Grant Village 78.73 328 P P 04 53 24.5 +1.4
H17A Grant Village 78.73 328 P P 04 53 24.7 +1.6
baz=136,SNR=28
MLAC Mammoth, Mammo 78.75 318 P P 04 53 25.0 +1.6
baz=129
VAH Vaihoa 78.91 258 *eP* **P 04 53 26.0 +1.6**
comp=Z,161nm,1.1s
PBDV Barranco-do-Ve 78.92 42 *eP* **P 04 53 24.9 +0.9**
PBDV Barranco-do-Ve 78.92 42 P P 04 53 23.5 -0.5
NVAR Mina Array Bea 78.93 319 P P 04 53 25.3 +1.0
NVAR Mina Array Bea 78.93 319 P P 04 53 25.4 +1.1
comp=Z,28nm,0.9s,baz=134,slow=5.2,SNR=66
comp=Z,28nm,0.9s
DGMT Dagmar 78.93 334 P P 04 53 24.9 +1.1
DGMT IAmb IAmb 04 53 26.2
comp=Z,222nm,0.9s
DGMT Dagmar 78.93 334 P P 04 53 25.4 +1.6
baz=142,SNR=64
DGMT Dagmar 78.93 334 P P 04 53 25.2 +1.4
baz=142,SNR=64
BOSA Boshof 78.94 116 P P 04 53 23.7 -0.8
BOSA Boshof 78.94 116 *i* P **P 04 53 24.7 +0.2**
BOSA Boshof 78.94 116 *ij* P **P 04 53 23.5 -1.0**
BOSA IAmb IAmb 04 53 24.6
comp=Z,61nm,0.8s
BOSA Boshof 78.94 116 P P 04 53 23.8 -0.8
comp=Z,59nm,0.8s,baz=248,slow=5.8,SNR=95
BOSA S **S 05 02 35.4 -4.3**
comp=Z,1.7nm,0.7s,baz=34,slow=19,SNR=8.1
BOSA PKKPbc **PKKPbc 05 12 12.3 0.0**
comp=Z,1.4nm,0.8s,baz=80,slow=3.8,SNR=4.6
comp=Z,59nm,0.8s
BOSA Boshof 78.94 116 *i* P **P 04 53 23.7 -0.8**
PNCL Nicolau / Gran 79.10 41 *eP* **P 04 53 25.9 +1.0**
PNCL Nicolau / Gran 79.10 41 P P 04 53 24.9 +0.1
PCVE Castro Verde 79.10 42 *eP* **P 04 53 26.0 +1.1**
comp=Z,133nm,1.7s
PCVE Castro Verde 79.10 42 P P 04 53 25.5 +0.6
LIS Lisbon 79.11 40 *eP* **P 04 53 22.6 -2.3**
MESJ Messejana 79.12 42 *eP* **P 04 53 26.1 +1.1**
MESJ Messejana 79.12 42 P P 04 53 25.8 +0.8
MESJ IAmb IAmb 04 53 26.9
comp=Z,79nm,0.8s
MESJ Messejana 79.12 42 *eP* **P 04 53 26.0 +1.1**
MESJ Messejana 79.12 42 *eP* **P 04 53 26.1 +1.1**
MESJ IAmb IAmb 04 53 26.7
comp=Z,105nm,1.0s
YHH Holmes Hill 79.15 328 P P 04 53 26.1 +0.7
PVAQ Vaqueiros 79.16 42 *eP* **P 04 53 25.6 +0.4**
PVAQ Vaqueiros 79.16 42 P P 04 53 25.7 +0.4
PVAQ IAmb IAmb 04 53 27.5
comp=Z,293nm,1.9s
PVAQ Vaqueiros 79.16 42 P P 04 53 25.2 0.0
PMAFR Mafra 79.18 40 *eP* **P 04 53 26.5 +1.2**
KVN Kaiserville 79.20 320 P P 04 53 26.4 +0.8
KVN Kaiserville 79.20 320 P P 04 53 26.4 +0.8
KVN pmax pmax
comp=Z,97nm,1.1s
PMOR Pomariorio Ree 79.23 258 *eP* **P 04 53 27.7 +1.6**
comp=Z,142nm,1.0s
GCMT Greycliff 79.31 329 P P 04 53 26.7 +0.7
EGRO El Granado 79.39 42 P P 04 53 26.6 +0.2
PBEJ Beja 79.45 42 *eP* **P 04 53 27.8 +1.0**
comp=Z,98nm,1.6s
SWZ Schweizer 79.47 115 *eP* **P 04 53 25.4 -2.0**
SWZ IAmb IAmb 04 53 27.3
comp=Z,78nm,0.9s
TVO Taravao 79.52 255 *eP* **P 04 53 29.6 +1.9**
comp=Z,17nm,0.9s
BMN Battle Mountai 79.58 321 P P 04 53 28.7 +1.1
BMN Battle Mountai 79.58 321 P P 04 53 28.7 +1.1
BMN pmax pmax
comp=Z,8.0nm,1.0s
EVO Evora 79.68 41 *eP* **P 04 53 28.7 +0.8**
comp=Z,86nm,1.6s
PAE Paea 79.85 255 *eP* **P 04 53 31.1 +1.8**
comp=Z,25nm,1.1s
SAO San Andreas Ge 79.86 316 P P 04 53 29.3 +0.4
SAO San Andreas Ge 79.86 316 P P 04 53 29.3 +0.4
SAO pmax pmax
comp=Z,57nm,1.4s
PPT2 Papeete2 79.88 255 *eP* **P 04 53 31.0 +1.4**
comp=Z,65nm,1.3s
PPT2 *e*pP pP 04 55 12.1 -13
comp=Z,91nm,27.5s
PPT2 *e*S **S 05 02 49.1 -0.5**
comp=Z,156nm,26.2s
PPT2 *e*sS **sS 05 06 09.9 -3.9**
comp=Z,632nm,25.2s
PMTG Montargil 79.89 41 *eP* **P 04 53 29.6 +0.6**
comp=Z,125nm,1.4s
PBAR Barrancos 80.06 42 *eP* **P 04 53 30.5 +0.6**
HLID Hailey 80.11 325 P P 04 53 31.9 +1.6
HLID IAmb IAmb 04 53 33.3
comp=Z,109nm,1.0s
HLID Hailey 80.11 325 P P 04 53 32.2 +1.9
baz=133,SNR=116
BOZ Bozeman (W) 80.11 328 P P 04 53 31.1 +0.9
baz=136,SNR=21
PESTR Estremoz 80.15 41 *eP* **P 04 53 31.4 +1.0**
comp=Z,99nm,1.2s
PESTR Estremoz 80.15 41 P P 04 53 31.3 +0.9
PESTR IAmb IAmb 04 53 32.2
comp=Z,111nm,1.1s
PCAS Casmilo, Conde 80.34 40 *eP* **P 04 53 31.9 +0.5**
comp=Z,182nm,1.6s
PAHR Pah Rah Range 80.39 320 P P 04 53 32.8 +1.0
LBTB Lobatse 80.41 113 P P 04 53 31.6 -0.7
LBTB IAmb IAmb 04 53 32.8
comp=Z,79nm,0.8s
LBTB Lobatse 80.41 113 *i* P **P 04 53 32.7 +0.3**
LBTB Lobatse 80.41 113 P P 04 53 31.6 -0.7
LBTB pmax pmax
comp=Z,79nm,0.8s
LBTB Lobatse 80.41 113 *ij* *eP* **P 04 53 31.8 -0.5**
LBTB IAmb IAmb 04 53 32.5
comp=Z,80nm,0.7s
LBTB Lobatse 80.41 113 P P 04 53 31.5 -0.8
comp=Z,64nm,0.6s,baz=253,slow=8.2,SNR=118
comp=Z,64nm,0.6s
LBTB Lobatse 80.41 113 *i* P **P 04 53 32.7 +0.3**
COI Coimbra 80.49 40 *eP* **P 04 53 33.0 +0.9**
comp=Z,193nm,1.1s
PMRV Marv??o 80.62 41 *eP* **P 04 53 33.1 +0.3**
LRM Limekiln Ridge 80.68 328 P P 04 53 34.3 +1.0
TAM Tamanrasset 80.78 61 P P 04 53 35.1 +0.8
TAM IAmb IAmb 04 53 36.1
comp=Z,240nm,1.4s
TAM Tamanrasset 80.78 61 P P 04 53 35.1 +0.8
TAM pmax pmax
comp=Z,240nm,1.4s
PCBR Castelo Branco 80.82 40 *eP* **P 04 53 34.1 +0.3**
comp=Z,102nm,1.1s
AFDM Forest Hills D 80.88 318 P P 04 53 34.7 +0.4
PTO Porto 80.97 39 *eP* **P 04 53 35.6 +1.0**
EGMT Eagleton 80.99 331 P P 04 53 35.0 +0.3
EGMT IAmb IAmb 04 53 36.2
comp=Z,110nm,1.1s
EGMT Eagleton 80.99 331 P P 04 53 35.2 +0.6
baz=138,SNR=58
PVIS Viseu 81.12 40 *eP* **P 04 53 35.9 +0.5**
MTE Manteigas 81.13 40 *eP* **P 04 53 36.1 +0.6**
MTE Manteigas 81.13 40 P P 04 53 36.1 +0.6
MTE IAmb IAmb 04 53 36.9
comp=Z,73nm,0.9s
SNKL Senekal, Frees 81.14 117 *eP* **P 04 53 35.3 -0.8**
SNKL IAmb IAmb 04 53 36.5
comp=Z,226nm,0.8s
KSR Koster 81.23 114 *eP* **P 04 53 35.0 -1.7**
KSR IAmb IAmb 04 53 37.1
comp=Z,61nm,1.1s
PRYS Parys 81.25 115 *eP* **P 04 53 35.7 -1.0**
PRYS IAmb IAmb 04 53 36.7
comp=Z,103nm,0.6s
WDLM Western Deep L 81.48 115 *eP* **P 04 53 36.9 -1.0**
WDLM IAmb IAmb 04 53 38.2
comp=Z,117nm,1.2s
PVRL Vila Real 81.58 39 *eP* **P 04 53 38.6 +0.8**
comp=Z,127nm,0.9s
POLO Lamas de Olo 81.59 39 *eP* **P 04 53 38.3 +0.4**
BPMT Black Pine Rid 81.60 328 P P 04 53 39.0 +1.0
PGAV Gavieira, Arco 81.69 38 *eP* **P 04 53 38.7 +0.3**
OVMT Ovando 81.82 328 P P 04 53 39.8 +0.7
HRAO HartRAO 81.89 115 *ij* *iP* **P 04 53 39.4 -0.6**
MVO Moncorvo 81.91 40 *eP* **P 04 53 40.3 +0.8**
comp=Z,188nm,1.5s
NHAM Northam, North 81.91 114 *eP* **P 04 53 39.5 -0.5**
NHAM IAmb IAmb 04 53 40.6
comp=Z,141nm,0.9s
NYAT Nyati, Northwe 81.97 114 *eP* **P 04 53 39.8 -0.6**
NYAT IAmb IAmb 04 53 41.0
comp=Z,110nm,0.7s
PLID Pearl Lake 81.98 326 P P 04 53 40.5 +0.5
J08A Circle Bar Ran 82.18 323 P P 04 53 42.2 +1.3
J08A IAmb IAmb 04 53 43.7
comp=Z,228nm,1.3s
MAW Mawson 82.42 162 P P 04 53 42.0 +0.4
MAW Mawson 82.42 162 P P 04 53 42.3 +0.7
comp=Z,136nm,0.7s,baz=230,slow=7.2,SNR=51
comp=Z,136nm,0.7s
PBRG Braganca 82.48 39 *eP* **P 04 53 43.0 +0.7**
comp=Z,171nm,1.5s
PAB San Pablo 82.56 42 P P 04 53 43.5 +0.7
PAB IAmb IAmb 04 53 44.5
comp=Z,137nm,1.1s
PAB San Pablo 82.56 42 P P 04 53 43.5 +0.7
PAB pmax pmax
comp=Z,137nm,1.2s
LEPH Lephalale, Lim 82.69 113 *eP* **P 04 53 43.6 -0.4**
LEPH IAmb IAmb 04 53 44.6
comp=Z,146nm,0.6s
ESDC Sonseca Array 82.87 42 P P 04 53 45.0 +0.6
ESDC IAmb IAmb 04 53 46.2
comp=Z,98nm,1.1s
ESDC Sonseca Array 82.87 42 P P 04 53 44.7 +0.3
comp=Z,74nm,0.9s,baz=242,slow=4.7,SNR=135
ESDC pP **pP 04 55 40.9 +0.9**
comp=Z,14nm,1.2s,baz=235,slow=5.6,SNR=7.7
comp=Z,74nm,0.9s
NWCL Newcastle 83.08 117 *eP* **P 04 53 45.4 -0.5**
NWCL IAmb IAmb 04 53 46.2
comp=Z,92nm,0.7s
YBH Yreka Blue Hor 83.62 320 P P 04 53 47.9 -0.3
YBH Yreka Blue Hor 83.62 320 P P 04 53 47.9 -0.3
YBH pmax pmax
comp=Z,22nm,0.9s
CRLN Carolina, Mapu 83.82 115 *eP* **P 04 53 49.8 +0.2**
CRLN IAmb IAmb 04 53 50.2
comp=Z,46nm,0.9s
IVI Ivigtut 83.85 8 P P 04 53 49.5 +0.9
IVI IAmb IAmb 04 53 50.5
comp=Z,100nm,0.9s
IVI Ivigtut 83.85 8 *i* P **P 04 53 48.1 -0.5**
IVI IAmb IAmb 04 53 50.1
comp=Z,97nm,0.9s
PINE Pine Mountain 83.85 322 P P 04 53 50.6 +1.2
PINE IAmb IAmb 04 53 52.1
comp=Z,112nm,1.2s
NRS Narsarsuaq 84.17 9 *i* P **P 04 53 48.9 -1.3**
NRS IAmb IAmb 04 53 51.1
comp=Z,45nm,0.8s
FCC Fort Churchill 84.28 345 P P 04 53 51.2 +0.4
FCC IAmb IAmb 04 53 52.2
comp=Z,113nm,1.1s
FCC Fort Churchill 84.28 345 P P 04 53 51.2 +0.4

FCC pmax pmax
comp=Z,113nm,1.2s
I05D Terrebonne, OR 84.41 322 P P 04 53 53.2 +1.3
I05D lAmb lAmb 04 53 54.6
comp=Z,98nm,1.2s
E08A Dider Farm, El 84.52 325 P P 04 53 52.8 +0.5
NEW Newport 84.68 327 P P 04 53 53.0 -0.1
baz=132,SNR=17
I04A Tendick Farm, 84.69 322 P P 04 53 53.3 0.0
BLWY Bulawayo 84.72 109 *i* P **P 04 53 54.7 +0.5**
BLWY Bulawayo 84.72 109 *i* P **P 04 53 54.7 +0.5**
PILG Pilgrimsrest, 84.78 115 *eP* **P 04 53 54.2 -0.3**
PILG lAmb lAmb 04 53 55.6
comp=Z,124nm,0.9s
KBO Bosley Butte 84.82 320 P P 04 53 55.1 +1.1
C09A Chrisman Ranch 84.95 327 P P 04 53 55.1 +0.7
C09A lAmb lAmb 04 53 56.2
comp=Z,93nm,0.8s
MUSN Musina, Limpop 85.03 112 *i* P **P 04 53 56.9 +1.3**
MUSN Musina, Limpop 85.03 112 *eP* **P 04 53 54.9 -0.7**
MUSN lAmb lAmb 04 53 57.0
comp=Z,108nm,0.6s
MUSN Musina, Limpop 85.03 112 *i* P **P 04 53 55.6 +0.1**
HOED Hoedspruit, Li 85.16 114 ⇓*i* P **P 04 53 56.4 +0.2**
HOED lAmb lAmb 04 53 57.1
comp=Z,61nm,0.8s
KEBM Edson Butte 85.27 320 P P 04 53 57.1 +0.9
KEBM lAmb lAmb 04 53 58.2
comp=Z,169nm,1.1s
LTY Liberty 85.86 325 P P 04 53 59.4 +0.5
LTY lAmb lAmb 04 54 00.1
comp=Z,45nm,0.7s
MOPA Mopani 85.89 114 *i* P **P 04 54 00.9 +1.3**
MOPA Mopani 85.89 114 *eP* **P 04 53 58.9 -0.8**
MOPA lAmb lAmb 04 54 01.1
comp=Z,168nm,1.0s
MOPA Mopani 85.89 114 *i* P **P 04 53 59.6 0.0**
F04A Amboy 85.99 323 P P 04 54 00.1 +0.7
F04A lAmb lAmb 04 54 01.1
comp=Z,55nm,0.9s
LSZ Lusaka 86.12 105 P P 04 54 01.9 +0.9
LSZ lAmb lAmb 04 54 03.4
comp=Z,76nm,0.8s
LSZ Lusaka 86.12 105 *i* P **P 04 54 02.3 +1.4**
LSZ Lusaka 86.12 105 P P 04 54 02.1 +1.1
comp=Z,64nm,0.8s,baz=244,slow=4.4,SNR=74
LSZ pP **pP 04 55 59.1 +1.4**
comp=Z,13nm,0.8s,baz=241,slow=3.6,SNR=5.5
comp=Z,64nm,0.8s
LSZ Lusaka 86.12 105 *i* P **P 04 54 00.9 0.0**
EDM Edmonton 86.33 333 P P 04 54 01.0 +0.1
EDM lAmb lAmb 04 54 01.9
comp=Z,120nm,0.9s
EDM Edmonton 86.33 333 P P 04 54 01.0 +0.1
EDM pmax pmax
comp=Z,120nm,0.9s
NUUK Nuuk 86.39 5 *i* P **P 04 54 01.0 +0.2**
NUUK lAmb lAmb 04 54 02.6
comp=Z,96nm,1.3s
D05A Enumclaw 86.52 324 P P 04 54 02.6 +0.7
D05A lAmb lAmb 04 54 03.6
comp=Z,97nm,1.2s
KRI Karoi 86.83 107 *i* P **P 04 54 06.2 +1.9**
KRI Karoi 86.83 107 *eP* **P 04 54 03.8 -0.5**
KRI Karoi 86.83 107 *i* P **P 04 54 04.9 +0.6**
GNW Green Mountain 87.20 324 P P 04 54 05.4 +0.4
NLWA Neilton Lookou 87.66 324 P P 04 54 08.3 +0.9
NLWA lAmb lAmb 04 54 10.4
comp=Z,82nm,1.4s
PGC Sidney 88.19 325 P P 04 54 10.8 +1.1
PGC lAmb lAmb 04 54 12.7
comp=Z,29nm,0.8s
DY2G Dye2 89.17 7 *i* P **P 04 54 12.6 -1.6**
DY2G lAmb lAmb 04 54 15.5
comp=Z,149nm,0.9s
SFJD Kangerlussuaq 89.26 5 *i* P **P 04 54 12.6 -1.6**
SFJD lAmb lAmb 04 54 15.2
comp=Z,68nm,1.1s
ISOG Isortoq, Green 89.29 10 *i* P **P 04 54 13.3 -1.1**
ISOG lAmb lAmb 04 54 15.2
comp=Z,64nm,1.0s
ANGG Ammassalik, Gr 89.58 11 *i* P **P 04 54 14.2 -1.5**
ANGG lAmb lAmb 04 54 16.3
comp=Z,100nm,1.0s
KEST Kesra 89.80 51 P P 04 54 18.6 +1.0
comp=Z,54nm,0.9s,baz=240,slow=3.7,SNR=49
KEST pP **pP 04 56 16.7 +1.1**
comp=Z,4.9nm,0.7s,baz=315,slow=1.4,SNR=2.1
KEST PKKPbc **PKKPbc 05 11 48.1 +0.3**
comp=Z,4.5nm,0.8s,baz=45,slow=1.4,SNR=5.8
comp=Z,54nm,0.9s
DSB Dublin 89.80 30 P P 04 54 17.0 -0.1
DSB lAmb lAmb 04 54 18.1
comp=Z,64nm,1.0s
SSB Saint Sauveur 91.20 41 P P 04 54 24.3 +0.5
ILULI Ilulissat 91.40 4 *i* P **P 04 54 22.6 -1.5**
ILULI lAmb lAmb 04 54 25.1
comp=Z,89nm,1.3s
VSL Villasalto 91.55 48 P P 04 54 26.0 +0.5
ICESG Greenland Ices 92.48 8 *i* P **P 04 54 28.5 -1.0**
ICESG lAmb lAmb 04 54 30.3
comp=Z,72nm,0.8s
EKA Eskdalemuir Ar 92.57 30 P P 04 54 28.9 -0.9
comp=Z,2.6nm,0.4s,baz=237,slow=5.2,SNR=21
EKA pP **pP 04 56 27.4 -0.6**
comp=Z,9.9nm,0.9s,baz=225,slow=4.9,SNR=4.7
EKA PKKPbc **PKKPbc 05 11 40.8 -0.8**
comp=Z,0.6nm,0.3s,baz=46,slow=2.9,SNR=4.9
comp=Z,2.6nm,0.4s
UMMG Uummannaq 92.77 4 *i* P **P 04 54 30.2 -0.1**
UMMG lAmb lAmb 04 54 31.2
comp=Z,154nm,1.8s
YKA Yellowknife Ar 93.32 339 P P 04 54 33.4 +0.4
YKA Yellowknife Ar 93.32 339 P P 04 54 33.4 +0.4
YKA Yellowknife Ar 93.32 339 P P 04 54 33.2 +0.2
comp=Z,31nm,0.8s,baz=129,slow=4.6,SNR=288
YKA pP **pP 04 56 31.2 -0.5**
comp=Z,3.4nm,0.8s,baz=127,slow=4.3,SNR=5.1
YKA PKKP **PKiKP 04 59 15.6 -0.1**
comp=Z,0.4nm,0.5s,baz=127,slow=2.3,SNR=2.0
YKA PKKP **PKKPdf 05 11 37.4 -0.9**
comp=Z,0.6nm,0.5s,baz=319,slow=2.7,SNR=18
comp=Z,31nm,0.8s
DOU Dourbes 93.67 37 *dP* **P 04 54 34.4 -0.5**
comp=Z,20nm,1.2s
BMRD Maredsous 93.86 37 *dP* **P 04 54 35.3 -0.5**
comp=Z,28nm,1.0s
MBAR Mbarara 93.92 92 *i* P **P 04 54 37.4 +0.2**
MBAR pmax pmax
comp=Z,8.0nm,1.1s
RCHB Rochefort 94.05 37 *dP* **P 04 54 36.4 -0.3**
BGES Gesves 94.08 37 *dP* **P 04 54 36.7 -0.1**
ECH Echery 94.21 39 P P 04 54 37.2 -0.3
ECH lAmb lAmb 04 54 38.1
comp=Z,31nm,1.1s
ECH Echery 94.21 39 P P 04 54 37.2 -0.3
ECH pmax pmax
comp=Z,31nm,1.1s
WLF Walferdange 94.33 38 *dP* **P 04 54 38.5 +0.5**
comp=Z,30nm,1.1s
BSTI Sart Tilman 94.45 37 *dP* **P 04 54 38.5 0.0**
BHOU Houvegnez 94.58 37 *dP* **P 04 54 39.1 0.0**
comp=Z,14nm,1.1s
MEM Membach 94.70 37 *dP* **P 04 54 39.7 +0.1**
TUE Stuetta 94.72 42 P P 04 54 40.5 +0.4
TUE lAmb lAmb 04 54 41.2
comp=Z,29nm,0.8s
BTNL Ternell 94.76 37 *dP* **P 04 54 40.0 +0.1**
comp=Z,13nm,1.0s
CESX Cesi 95.10 46 P P 04 54 42.5 +0.8
KOTAN Kotaneelee Air 95.30 334 P P 04 54 43.0 +0.8
baz=126
FUORN Ofenpass-Fuorn 95.35 42 P P 04 54 43.3 +0.3
FUORN lAmb lAmb 04 54 44.2
comp=Z,24nm,0.9s
DAVA Damuels 95.41 41 *i* P **P 04 54 43.6 +0.5**
comp=Z,49nm,0.9s,SNR=8.5
DAVA *e*PKKP **PKKPbc 05 11 32.3 -1.7**
comp=Z,2.3nm,0.5s
NRCA Norcia 95.55 46 P P 04 54 43.8 0.0
FETA Feichten 95.81 41 *i* P **P 04 54 45.4 +0.4**
comp=Z,44nm,1.1s,SNR=8.2
FETA *e*PKKP **PKKPbc 05 11 32.4 -0.5**
comp=Z,0.8nm,0.4s
SUMG Summit 95.86 7 P P 04 54 45.4 +0.5
SUMG lAmb lAmb 04 54 46.4
comp=Z,28nm,1.1s
SUMG Summit 95.86 7 P P 04 54 45.4 +0.5
SUMG Summit 95.86 7 *i* P **P 04 54 44.1 -0.8**
SUMG lAmb lAmb 04 54 46.1
comp=Z,27nm,1.1s
RETA Reutte 96.04 41 *i* P **P 04 54 46.3 +0.4**
comp=Z,60nm,1.3s,SNR=7.6
MOTA Moosalm 96.18 41 *i* PcP **PcP 04 54 46.9 +0.2**
comp=Z,69nm,1.4s,SNR=10
MOTA *e*PKKP **PKKPbc 05 11 30.9 -1.0**
comp=Z,1.5nm,0.3s
SQTA Sankt Quirin 96.19 41 *i* P **P 04 54 47.2 +0.6**
comp=Z,46nm,0.7s,SNR=13
SQTA *e*PKKP **PKKPbc 05 11 31.0 -0.8**
comp=Z,2.2nm,0.5s
T35M Bob Quinn 96.27 330 P P 04 54 47.2 +0.7
baz=121
KULLO Kullorsuaq 96.43 2 *i* P **P 04 54 45.6 -1.2**
KULLO lAmb lAmb 04 54 55.8
comp=Z,12nm,1.0s
WATA Walderalm 96.47 41 *i* Pdiff **P 04 54 48.3 +0.4**
comp=Z,18nm,0.8s,SNR=6.6
WTTA Wattenberg 96.48 42 *i* Pdiff **P 04 54 48.6 +0.6**
comp=Z,58nm,1.2s,SNR=9.2
WTTA *e*PKKP **PKKPbc 05 11 30.4 -0.7**
comp=Z,1.7nm,0.4s
CIMO Cimolais 96.57 43 P P 04 54 48.7 +0.4
CIMO lAmb lAmb 04 57 03.8
comp=Z,67nm,2.0s
STAL STALIGIAL 96.72 43 P P 04 54 48.9 0.0
STAL lAmb lAmb 04 54 49.8
comp=Z,13nm,0.9s
ABTA Abfaltersbach 96.80 42 *e*Pdiff **P 04 54 49.7 +0.4**
comp=Z,23nm,0.8s
WRGLY Wrigley 96.90 337 P P 04 54 50.2 +1.0
baz=126
DLBC Dease Lake 96.92 331 P P 04 54 50.9 +1.3
baz=121
S34M Telegraph Cree 97.15 330 P P 04 54 51.9 +1.4
baz=120
SABO M.te Sabotino 97.17 43 P P 04 54 51.6 +0.7
SABO lAmb lAmb 04 55 18.1
comp=Z,267nm,2.0s
LESA Schwarzleotal 97.19 42 *e*Pdiff **P 04 54 51.3 +0.2**
comp=Z,19nm,0.8s
LESA *e*PKKP **PKKPbc 05 11 28.0 -1.1**
comp=Z,2.1nm,0.4s
WTLY Watson Lake, Y 97.26 333 P P 04 54 52.0 +1.0
baz=122
GRF Grafenberg Arr 97.27 39 *e*Pdiff **P 04 54 51.6 +0.4**
PRED Cave del Predi 97.33 43 P P 04 54 52.3 +0.6
PRED lAmb lAmb 04 58 25.8
comp=Z,58nm,1.9s
KBA Koelnbreinsper 97.46 42 *e*Pdiff **P 04 54 52.5 +0.1**
comp=Z,12nm,0.7s
MYKA Terra Mystica 97.46 43 *e*Pdiff **P 04 54 53.0 +0.7**
comp=Z,22nm,0.8s
TGTN Hyland Airport 97.79 334 P P 04 54 54.8 +1.4
baz=122
R33M Jennings River 97.83 332 P P 04 54 54.8 +1.1
baz=120
BIOA Bad Ischl, Aus 97.89 42 *e*Pdiff **P 04 54 54.3 +0.2**
comp=Z,12nm,0.7s
NKC Novy Kostel 98.21 39 *e*PDIFF **P 04 54 56.5 +1.0**
MOA Molln 98.34 42 *e*Pdiff **P 04 54 56.3 +0.2**
comp=Z,18nm,0.8s
GERES GERESS Array B 98.39 41 Pdif **P 04 54 56.7 +0.3**
GERES GERESS Array B 98.39 41 *i* P **P 04 54 56.7 +0.3**
GERES GERESS Array B 98.39 41 P Pdif 04 54 56.1 -0.3
comp=Z,3.4nm,0.9s,baz=251,slow=3.0,SNR=6.2
GERES PKiKP **PKiKP 04 59 26.8 +1.6**
comp=Z,1.3nm,0.6s,baz=321,slow=1.7,SNR=3.9
GERES PKKPbc **PKKPbc 05 11 25.3 -0.6**
comp=Z,1.1nm,0.7s,baz=79,slow=5.2,SNR=3.1
comp=Z,3.4nm,0.9s
KHC Kasperske Hory 98.43 40 Pdif Pdif 04 54 56.5 0.0
KHC lAmb lAmb 04 54 57.7
comp=Z,15nm,1.3s
KHC Kasperske Hory 98.43 40 *i* P Pdif 04 54 56.5 0.0
KHC pmax pmax
comp=Z,15nm,1.3s
KHC Kasperske Hory 98.43 40 *e*PDIFF Pdif 04 54 56.0 -0.5
RES Resolute Bay 98.50 352 Pdif **P 04 54 57.1 +0.9**
RES Resolute Bay 98.50 352 *i* P **P 04 54 57.1 +0.9**
RES pmax pmax
comp=Z,8.0nm,1.1s
CKRC Cesky Krumlov 98.75 41 *e*PDIFF **P 04 54 58.1 +0.1**
HSKC Hora Svate Kat 98.94 39 *e*PDIFF **P 04 54 59.5 +0.7**
CLL Collm 98.97 38 *i* P **P 04 54 58.9 0.0**
CLL *e**PP **pP 04 56 58.0 +0.5**
CLL pmax pmax
comp=Z,17nm,1.2s
CLL Collm 98.97 38 *i* Pdif **P 04 54 58.9 0.0**
comp=Z,17nm,1.2s
CLL *ex* x 04 55 11.0
CLL *e*pP **pP 04 56 58.0 +0.5**
CLL *e*PP **PP 04 59 06.0 -3.8**
P33M Teslin, Yukon 99.04 332 Pdif **Pdif 04 55 00.2 +1.2**
P33M lAmb lAmb 04 57 49.0
comp=Z,53nm,2.0s
P33M Teslin, Yukon 99.04 332 P Pdif 04 54 59.7 +0.7
baz=119
P32M Atlin 99.15 331 P Pdif 04 55 00.1 +0.7
baz=118
BRG Berggiesshubel 99.34 39 *eP* **Pdif 04 55 01.0 +0.6**
BRG Amp 04 55 01.4
comp=Z,5.7nm,0.8s
BRG Berggiesshubel 99.34 39 *eP* **Pdif 04 55 01.0 +0.6**
BRG pmax pmax
comp=Z,6.0nm,0.8s
PRU Pruhonice 99.35 40 *e*PDIFF **Pdif 04 55 01.2 +0.7**
GOPC GO Pecny, Ondr 99.47 40 *e*PDIFF **Pdif 04 55 01.4 +0.4**
NEEM North Greenlan 99.50 3 *i* P **Pdif 04 54 60.0 -1.0**
NEEM lAmb lAmb 04 55 01.9
comp=Z,8.7nm,0.8s
RONA Rosalia, Austr 99.55 42 *e*Pdiff **Pdif 04 55 02.0 +0.6**
comp=Z,8.6nm,1.0s
PVCC Panska Ves 99.58 39 *e*PDIFF **Pdif 04 55 02.3 +0.8**
FARO Faro, Yukon 100.23 334 P Pdif 04 55 05.3 +1.2
baz=118
MODS Modra-Piesok 100.41 42 *eP* **Pdif 04 55 05.6 +0.4**
MODS Modra-Piesok 100.41 42 *e*PDIFF **Pdif 04 55 05.6 +0.4**
MODS *e*PP **PP 04 59 15.4 -5.3**
UPC Upice 100.42 40 *e*PDIFF **Pdif 04 55 06.1 +0.9**
DPC Dobruska-Polom 100.55 40 *e*PDIFF **Pdif 04 55 06.9 +1.0**
OSTC Ostas 100.56 40 *e*PDIFF **Pdif 04 55 05.9 0.0**
KRLC Kraliky 100.72 40 *e*PDIFF **Pdif 04 55 07.8 +1.2**
P29M Windy Craggy 101.00 330 P Pdif 04 55 08.6 +0.9
baz=115
MAUC Maruska 101.10 41 *e*PDIFF **Pdif 04 55 09.3 +1.0**
VYHS Vyhne 101.42 42 *eP* **Pdif 04 55 09.7 0.0**
VYHS Vyhne 101.42 42 *e*PDIFF **Pdif 04 55 09.6 -0.1**
VYHS Vyhne 101.42 42 *e*PP **PP 04 59 22.4 -5.8**
N30M Aishikik Lake 101.47 332 P Pdif 04 55 10.9 +1.2
baz=115
M30M Minto, Yukon 101.82 333 P Pdif 04 55 12.2 +1.0
baz=115
NB2 NORSAR Subarra 101.99 29 P Pdif 04 55 12.4 +0.4
comp=Z,13nm,1.7s,baz=245,slow=4.6
NB2 PP **PKiKP 04 59 28.9 -2.3**
comp=Z,22nm,1.7s,baz=242,slow=6.9
NB2 PKKP PKKPdf 05 11 37.3 +15
comp=Z,1.2nm,0.6s,baz=64,slow=4.6
NB2 NORSAR Subarra 101.99 29 P Pdif 04 55 12.4 +0.4
baz=245,slow=4.6
NOA NORSAR Array B 101.99 29 P Pdif 04 55 12.8 +0.8
comp=Z,2.1nm,0.9s,baz=246,slow=4.6,SNR=4.7
NOA PKiKP **PKiKP 04 59 29.7 -1.4**
comp=Z,3.2nm,1.0s,baz=248,slow=1.6,SNR=4.9
LANS Liptovska Anna 102.03 42 *eP* **Pdif 04 55 14.0 +1.5**
LANS Liptovska Anna 102.03 42 *e*PDIFF **Pdif 04 55 14.0 +1.5**
YUK4 Talbot Arm 102.11 332 P Pdif 04 55 13.2 +0.5
baz=114
PINM Pinnacle 102.35 330 P Pdif 04 55 15.2 +1.5
baz=113
M29M Somme Creek 102.47 333 P Pdif 04 55 14.4 +0.2
baz=114
J30M Hart River 102.48 335 P Pdif 04 55 15.1 +0.9
baz=115
A36M Sachs Harbour 102.48 344 P Pdif 04 55 14.8 +0.9
baz=123
L29M L29M 102.60 333 P Pdif 04 55 15.6 +1.0
baz=114
K29M Barlow Dome 102.65 334 P Pdif 04 55 15.7 +0.8
baz=114
G31M Satah River 102.73 338 P Pdif 04 55 16.1 +1.1
baz=116
I30M Mount Dempster 102.77 336 P Pdif 04 55 16.1 +0.6
baz=115
F31M Tsiigehtchic 102.77 338 P Pdif 04 55 16.2 +1.0
baz=117
HFS Hagfors 102.77 30 P Pdif 04 55 15.5 +0.1
comp=Z,2.7nm,0.9s,baz=130,slow=2.3,SNR=1.8
HFS PKiKP **PKiKP 04 59 32.3 -0.2**
comp=Z,3.5nm,0.8s,baz=234,slow=4.8,SNR=3.2
HFS PKKPbc **PKKPbc 05 11 11.3 -2.3**
comp=Z,4.6nm,1.0s,baz=112,slow=6.4,SNR=3.0
YUK3 Moose Creek 103.08 332 P Pdif 04 55 17.6 +0.6
baz=112
INK Inuvik 103.09 339 P Pdif 04 55 17.7 +1.1
baz=117
J29N Klondike Camp 103.17 335 P Pdif 04 55 18.5 +1.3
baz=113
CTG Chitna Glacier 103.17 331 P Pdif 04 55 18.6 +1.2
baz=112
CRVS Cervenica-Dubn 103.20 42 *e*PP **PKiKP 04 59 40.8 +7.1**
EPYK Eagle Plains 103.37 337 P Pdif 04 55 17.7 -0.3
baz=114
G30M tAoh Zraii Nji 103.44 337 P Pdif 04 55 19.3 +0.9
baz=115
DAWY Dawson 103.49 334 P Pdif 04 55 19.6 +1.0
baz=112
F30M Barrier River 103.56 338 P Pdif 04 55 19.6 +0.8
baz=115
CRQE Cirque 103.90 330 P Pdif 04 55 20.8 +0.2
baz=110
H29M Whitestone 103.92 336 P Pdif 04 55 20.9 +0.4
baz=113
L27K Beaver Creek, 104.14 333 P Pdif 04 55 22.0 +0.5
baz=111
I28M Miner Creek 104.23 335 P Pdif 04 55 22.3 +0.3
baz=112
K27K Chicken 104.58 334 P Pdif 04 55 25.0 +1.6
baz=110
E29M Blow River 104.60 338 P Pdif 04 55 24.6 +1.2
baz=113
L26K Log Cabin Wild 104.78 332 P PKiKP 04 59 36.9 +0.7
baz=109
F28M Old Crow 105.00 337 P PKiKP 04 59 37.4 +0.9
baz=111
EYAK Cordova Ski Ar 105.07 330 P PKiKP 04 59 36.7 0.0
baz=108
H27K Steamboat Moun 105.12 336 P PKiKP 04 59 36.8 0.0
baz=110
D28M Stokes Point 105.24 339 P PKiKP 04 59 37.8 +1.0
baz=112
J26L Joseph Creek 105.35 334 P PKiKP 04 59 38.0 +0.7
baz=109
SCRK Sand Creek 105.36 333 P PKiKP 04 59 38.1 +0.7
baz=108
I26K Coal Creek Min 105.44 335 P PKiKP 04 59 37.4 +0.1
baz=109
RIDG Independent Ri 105.65 333 P PKiKP 04 59 38.4 +0.6
baz=108
PAX Paxson 105.68 332 P PKiKP 04 59 38.6 +0.6
baz=108
P23K Montague Islan 105.69 329 P PKiKP 04 59 38.7 +0.8
baz=107
SCM Sheep Creek Mo 106.18 331 P PKiKP 04 59 39.9 +1.0
baz=106
G26K Porcupine Rive 106.21 336 P PKiKP 04 59 39.7 +1.0
baz=108
M23K Glacier View 106.35 330 P PKiKP 04 59 40.2 +1.0
baz=106
PRP Porcupine Dome 106.45 335 P PKiKP 04 59 40.1 +0.8
baz=107
F26K Sheenjek River 106.57 337 P PKiKP 04 59 39.7 +0.3
baz=107
WAT6 Susitna Watana 106.57 331 P PKiKP 04 59 40.5 +0.8
baz=106
KNK Knik Glacier 106.58 330 P PKiKP 04 59 40.2 +0.6
baz=106
SML Sawmill 106.63 330 P PKiKP 04 59 40.2 +0.5
baz=106
ILAR Eielson Array 106.80 334 Pdiff **Pdif 04 55 34.1 +0.8**
comp=Z,0.4nm,0.9s,baz=124,slow=3.5,SNR=4.1
ILAR PKiKP **PKiKP 04 59 39.5 -0.3**
comp=Z,1.3nm,0.8s,baz=135,slow=1.6,SNR=10
ILAR PKKPbc **PKKPbc 05 10 59.2 -2.4**
comp=Z,1.4nm,0.6s,baz=297,slow=3.1,SNR=14
G25K Bearman Lake 107.03 336 P PKiKP 04 59 41.1 +0.9
baz=106
F25K Christian Rive 107.09 337 P PKiKP 04 59 40.9 +0.5
baz=106
RC01 Rabbit Creek A 107.10 330 P PKiKP 04 59 40.9 +0.4
baz=104
E25K Arctic Village 107.20 337 P PKiKP 04 59 41.4 +0.8
baz=106
BRSE Bradley Lake S 107.25 328 P PKiKP 04 59 42.0 +1.2
baz=104
MCK McKinley 107.39 332 P PKiKP 04 59 41.9 +0.8
baz=104
M22K Willow 107.44 330 P PKiKP 04 59 41.5 +0.4
baz=104
H24K Noodor Dome 107.48 335 P PKiKP 04 59 41.8 +0.6
baz=105
G24K Hadweenzic Riv 107.54 335 P PKiKP 04 59 42.1 +0.9
baz=105
KDAK Kodiak Island 107.73 326 P PKiKP 04 59 42.3 +0.6
baz=103
F24K Squaw Lake 107.90 336 P PKiKP 04 59 42.6 +0.7
baz=104
I23K Minto, Yukon-K 107.91 334 P PKiKP 04 59 43.2 +1.3
baz=104
TRF Thorofare Moun 107.91 332 P PKiKP 04 59 43.1 +0.9
baz=103
SKT Skwentna 108.14 330 P PKiKP 04 59 43.9 +1.4
baz=103
BPAW Bear Paw Mtn. 108.36 332 P PKiKP 04 59 42.8 -0.1
baz=102
AKASG Malin Array Be 108.52 42 PKiKP **PKiKP 04 59 43.1 -0.4**
comp=Z,4.1nm,0.5s,baz=262,slow=2.7,SNR=23
AKASG PKKPbc **PKKPbc 05 10 54.7 -1.1**
comp=Z,1.8nm,0.5s,baz=62,slow=3.7,SNR=8.3
AKASG PKKPab **PKKPab 05 11 09.2 +0.4**
comp=Z,2.9nm,0.7s,baz=65,slow=4.1,SNR=6.8
G23K Bananza Creek 108.53 335 P PKiKP 04 59 42.7 -0.5
baz=102
PPLA Purkeypile 108.64 331 P PKiKP 04 59 42.5 -1.1
baz=102
E23K Chandalar 108.66 337 P PKiKP 04 59 43.3 -0.1
baz=102
CAST Castle Rocks 108.69 332 P PKiKP 04 59 42.8 -0.6
baz=102
C24K Franklin Bluff 108.70 338 P PKiKP 04 59 42.7 -0.5
baz=103
COLD Coldfoot 108.71 336 P PKiKP 04 59 43.0 -0.4
baz=102
M20K Styx River 108.86 330 P PKiKP 04 59 43.0 -0.9
baz=101
H22K Ishtalitna Cre 108.89 334 P PKiKP 04 59 43.5 -0.3
baz=102
FINES FINESS Array B 108.96 31 PKiKP **PKiKP 04 59 44.2 +0.2**
comp=Z,1.7nm,0.6s,baz=270,slow=1.4,SNR=12
FINES PKKPbc **PKKPbc 05 10 53.5 -1.3**
comp=Z,2.0nm,0.4s,baz=76,slow=3.6,SNR=22
FINES PKKPab **PKKPab 05 11 07.1 +0.6**
comp=Z,5.2nm,0.7s,baz=76,slow=5.9,SNR=11
MMAI Mount Meron Ar 109.00 61 PKiKP **PKiKP 04 59 45.5 +0.4**
comp=Z,3.7nm,0.5s,baz=270,slow=0.6,SNR=8.7
MMAI PKKPbc **PKKPbc 05 10 54.2 +0.3**
comp=Z,1.4nm,0.3s,baz=83,slow=3.6,SNR=5.2
I21K Tanana 109.00 333 P PKiKP 04 59 44.1 +0.1
baz=101
O19K Port Alsworth 109.11 328 P PKiKP 04 59 43.7 -0.5
baz=101
BRTR Keskin Array B 109.19 54 PKiKP **PKiKP 04 59 45.5 +0.2**
comp=Z,4.1nm,0.8s,baz=213,slow=2.2,SNR=19
N19K Bonanza Creek 109.30 329 P PKiKP 04 59 44.4 -0.4
baz=101
SPITS Spitsbergen Ar 109.35 12 PKKPbc PKKPbc 05 10 52.2 -1.7
comp=Z,3.5nm,0.6s,baz=102,slow=6.6,SNR=8.3
SPITS PKKPab **PKKPab 05 11 04.5 -0.1**
comp=Z,9.1nm,0.6s,baz=108,slow=4.7,SNR=11
C23K Itkillik River 109.37 338 P PKiKP 04 59 44.6 +0.1
baz=101
H21K Melozitna River 109.43 334 P PKiKP 04 59 44.9 +0.2
baz=100
O18K Koktuh Hills 109.48 328 P PKiKP 04 59 44.8 -0.3
baz=100
E22K Anaktuvuk Pass 109.49 337 P PKiKP 04 59 44.3 -0.5
baz=100
K20K Telida 109.56 331 P PKiKP 04 59 44.6 -0.5

baz=100
J20K Nowinta River 109.73 332 P **PKiKP** 04 59 44.8 -0.6
baz=100
G21K Allakaket 109.86 335 P **PKiKP** 04 59 45.6 +0.1
baz=99
D22K Ayikyak River 109.93 337 P **PKiKP** 04 59 45.3 -0.4
baz=99
F21K Alatna River 109.96 336 P **PKiKP** 04 59 45.7 -0.1
baz=99
M18K Stony River 110.06 329 P **PKiKP** 04 59 45.5 -0.5
baz=99
ARCES ARCESS Array B 110.13 22 PKiKP **PKiKP** 04 59 46.4 +0.4
comp=Z,1.0nm,0.4s,baz=260,slow=3.6,SNR=1.6
ARCES PKKPbc **PKKPbc** 05 10 49.7 -1.6
comp=Z,1.8nm,0.6s,baz=83,slow=3.7,SNR=8.1
ARCES PKKPab **PKKPab** 05 11 01.6 +0.4
comp=Z,10nm,0.6s,baz=87,slow=4.9,SNR=15
H20K Anotleneega Mo 110.25 334 P **PKiKP** 04 59 45.4 -0.9
baz=99
R16K Pilot Point 110.32 325 P **PKiKP** 04 59 46.2 -0.4
baz=99
J19K Poorman 110.35 332 P **PKiKP** 04 59 45.9 -0.6
baz=98
N17K Nushagak Hills 110.57 328 P **PKiKP** 04 59 46.5 -0.6
baz=98
L18K Granite Mounta 110.57 330 P **PKiKP** 04 59 46.1 -0.9
baz=98
J18K Innoko River 110.75 331 P **PKiKP** 04 59 46.7 -0.6
baz=98
H19K Roundabout Mou 110.91 334 P **PKiKP** 04 59 47.1 -0.4
baz=97
E20K Nigu River 111.12 336 P **PKiKP** 04 59 47.9 -0.1
baz=96
VALR Valaam 111.23 31 *i* PKiKP **PKiKP** 04 59 48.0 -0.2
VALR pmax pmax
comp=Z,12nm,0.9s
G19K Purcell Mounta 111.24 334 P **PKiKP** 04 59 48.1 -0.1
baz=96
L17K Donlin 111.31 330 P **PKiKP** 04 59 48.4 -0.1
baz=97
D20K Etivluk River 111.33 337 P **PKiKP** 04 59 48.2 -0.2
baz=96
K17K Iditarod 111.38 330 P **PKiKP** 04 59 47.9 -0.6
baz=97
E19K Redstone River 111.43 336 P **PKiKP** 04 59 48.2 -0.3
baz=96
M16K Timber Creek 111.49 329 P **PKiKP** 04 59 48.3 -0.5
baz=97
A21K Barrow 111.56 340 P **PKiKP** 04 59 48.9 +0.3
baz=95
H18K Honhosa River 111.66 333 P **PKiKP** 04 59 48.9 -0.1
baz=96
G18K Tagagawik 111.85 334 P **PKiKP** 04 59 48.8 -0.6
baz=95
D19K Kuna River 111.85 337 P **PKiKP** 04 59 49.2 -0.2
baz=94
F18K Selawik 112.31 335 P **PKiKP** 04 59 50.1 0.0
baz=94
C19K Lookout Ridge 112.43 337 P **PKiKP** 04 59 50.7 +0.3
baz=93
J16K Anvik River 112.48 331 P **PKiKP** 04 59 50.3 -0.3
baz=94
G17K Kiwalik Mounta 112.65 333 P **PKiKP** 04 59 50.8 -0.1
baz=93
E18K Tukpahlearik C 112.73 335 P **PKiKP** 04 59 51.3 +0.3
baz=93
N14K Kuskokwak Cree 112.73 327 P **PKiKP** 04 59 51.2 0.0
baz=95
L15K Ungalak Mounta 112.77 329 P **PKiKP** 04 59 51.1 -0.1
baz=94
APA Apatity 112.83 24 ⇓ *i* PKiKP PKiKP 05 00 08.2 +17
APA *i* 05 00 56.9
APA pmax pmax
comp=Z,10.0nm,1.0s
K15K Wolf Creek Mou 112.83 330 P **PKiKP** 04 59 51.0 -0.3
baz=94
F17K Baldwin Pennin 112.94 334 P **PKiKP** 04 59 51.3 0.0
baz=92
C18K Utukok River 112.99 337 P **PKiKP** 04 59 51.3 -0.2
baz=92
B18K Kokolik River 113.22 338 P **PKiKP** 04 59 52.0 +0.2
baz=91
H16K Elim 113.28 332 P **PKiKP** 04 59 52.1 0.0
baz=92
L14K Kuka Creek 113.32 329 P **PKiKP** 04 59 52.1 -0.2
baz=93
G16K Koyuk River 113.35 333 P **PKiKP** 04 59 52.1 -0.1
baz=92
OBN Obninsk 113.58 38 *i* PKiKP **PKiKP** 04 59 52.5 -0.4
OBN *e* 05 00 55.3
OBN pmax pmax
comp=Z,8.0nm,0.4s
D17K Noatak River 113.69 336 P **PKiKP** 04 59 52.8 0.0
baz=90
C17K DeLong Mountai 113.72 337 P **PKiKP** 04 59 53.0 +0.1
baz=90
G15K Niukluk 114.06 333 P **PKiKP** 04 59 53.6 0.0
baz=91
MOS Moscow 114.22 37 *i* PKiKP PKPdf 04 59 53.4 -0.7
MOS pmax pmax
comp=Z,42nm,0.8s
F15K North Star Dit 114.31 334 P **PKiKP** 04 59 54.4 +0.4
baz=90
SOC Sochi 114.36 51 *i* PKiKP PKPdf 04 59 54.3 -0.5
SOC *e* 05 00 59.7
SOC *e*PPP PPP 05 03 31.3
SOC *e*PS **PS** **05 10 51.7 +3.5**
SOC *e* 05 16 12.9
SOC *e*SSS SSS 05 20 38.5
C16K Lisburne Hills 114.53 336 P **PKiKP** 04 59 54.9 +0.5
baz=88
ANM Nome 114.63 332 P **PKiKP** 04 59 54.8 +0.1
baz=90
LPSR Galich'ya Gora 114.77 41 *e*PKiKP PKPdf 04 59 53.7 -1.6
LPSR pmax pmax
comp=Z,40nm,0.7s
VSR Storozhevoye 114.81 42 *e*PKiKP PKPdf 04 59 53.4 -2.0
VSR pmax pmax
comp=Z,30nm,1.2s
VORD Divnogorie 114.87 43 *e*PKiKP PKPdf 04 59 53.3 -2.2
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORR Voronezh 114.87 42 *e*PKiKP **PKiKP** 04 59 55.9 +0.4
VORR pmax pmax
comp=Z,23nm,0.6s
F14K Arctic Creek 115.01 333 P **PKiKP** 04 59 55.7 +0.3
baz=88
RAYN Ar Rayn 115.36 74 P **PKPdf** 04 59 57.1 -0.3
KLMR Klimovskoe 115.38 32 *e*PKiKP **PKPdf** 04 59 53.8 -2.4
KLMR pmax pmax
comp=Z,56nm,1.3s
TNA Tin City 115.67 333 P **PKiKP** 04 59 57.0 +0.4
baz=87
VRH Novokhopyorsk 116.41 43 *e*PKiKP **PKPdf** 04 59 58.4 -0.1
VRH pmax pmax
comp=Z,28nm,0.9s
KIV Kislovodsk 116.54 51 *e*PKiKP **PKPdf** 04 59 59.1 0.0
KIV pmax pmax
comp=Z,33nm,1.1s
KBZ Khabaz 116.67 51 *c i* PKiKP **PKiKP** 04 59 59.4 +0.2
KBZ Khabaz 116.67 51 PKP **PKiKP** 04 59 59.9 +0.6
comp=Z,16nm,0.7s,baz=169,slow=2.1,SNR=34
BELG Belogornoye 120.08 41 *i* PKiKP **PKiKP** 05 00 05.6 0.0
SMRA Abu-Samra 120.37 73 P **PKPdf** 05 00 06.4 -0.5
KIRV Kirov 120.54 34 *i* PKiKP **PKPdf** 05 00 05.9 -0.3
TRNA Turayna 120.71 74 P **PKPdf** 05 00 07.3 -0.3
baz=12
ABTO Aybut 120.87 82 P **PKPdf** 05 00 07.1 -1.1
SLWR Sila 121.00 74 P **PKPdf** 05 00 08.0 -0.1
STKA Stephens Creek 121.21 205 *i* PKiKP **PKiKP** 05 00 08.6 -0.1
STKA Stephens Creek 121.21 205 PKP **PKiKP** 05 00 08.8 +0.1
comp=Z,17nm,0.8s,baz=93,slow=2.6,SNR=37
STKA PKKPbc **PKKPbc** 05 10 12.3 -0.9
comp=Z,5.0nm,0.7s,baz=342,slow=5.3,SNR=13
WHFO Wadi Hawf 121.45 82 P **PKPdf** 05 00 08.9 -0.4
DOK Doka 121.96 81 P **PKPdf** 05 00 10.0 -0.2
SNR=6.5
JRN Qarnain Island 122.21 74 P **PKPdf** 05 00 10.3 -0.2
DMTO DMTO 122.48 82 P **PKPdf** 05 00 10.3 -0.9
SHAO Shalim 123.18 82 P **PKPdf** 05 00 12.1 -0.5
AJN Ajban 124.04 75 *i* PKiKP **PKiKP** 05 00 14.4 0.0
SNR=6.5
AJN Ajban 124.04 75 P **PKPdf** 05 00 13.1 -0.9
ASUD Al Ashush, Dub 124.36 75 *i* PKiKP **PKiKP** 05 00 15.0 +0.1
SNR=12
ASUD Al Ashush, Dub 124.36 75 P **PKiKP** 05 00 15.0 +0.1
SNR=12
FAQ Al Faqa, Dubai 124.62 74 *i* PKiKP **PKPdf** 05 00 15.2 +0.1
SNR=24
FAQ Al Faqa, Dubai 124.62 74 P **PKPdf** 05 00 15.1 -0.1
ALNE Al Ain 124.64 75 *i* PKiKP **PKPdf** 05 00 15.4 +0.2
SNR=9.7
ALNE Al Ain 124.64 75 P **PKPdf** 05 00 15.4 +0.2
SNR=9.7
BILL Bilibino 124.71 339 ⇑ *e*PKiKP **PKiKP** 05 00 14.3 -0.1
BILL pmax pmax
comp=Z,51nm,1.7s
NAZ Nazwa, Dubai 124.72 74 PKiKP **PKPdf** 05 00 15.4 +0.1
NAZ Nazwa, Dubai 124.72 74 P **PKPdf** 05 00 15.2 -0.1
ASHO Ashiyiah 125.03 75 *i* PKiKP **PKPdf** 05 00 15.8 -0.1
SNR=7.1
ASHO Ashiyiah 125.03 75 P **PKPdf** 05 00 15.5 -0.4
HATD Hatta, Dubai 125.12 74 *i* PKiKP **PKPdf** 05 00 16.0 -0.1
SNR=8.9
HATD Hatta, Dubai 125.12 74 P **PKPdf** 05 00 15.7 -0.4
ARQ Araqi 125.19 76 P **PKPdf** 05 00 16.1 -0.2
SNR=10.0
UOSS Minazif 125.20 74 *i* PKiKP **PKPdf** 05 00 15.7 -0.6
SNR=6.7
UOSS Minazif 125.20 74 P **PKPdf** 05 00 15.4 -0.8
SHME Shamm 125.33 73 *i* PKiKP **PKPdf** 05 00 16.2 -0.3
SNR=12
SHME Shamm 125.33 73 P **PKPdf** 05 00 16.6 +0.1
MDH Madha 125.35 74 P **PKPdf** 05 00 15.6 -0.9
SOHO SOHO 125.35 75 *i* PKiKP **PKPdf** 05 00 16.2 -0.4
SNR=25
SOHO SOHO 125.35 75 P **PKPdf** 05 00 16.1 -0.4
DQM DQM 125.40 81 P **PKPdf** 05 00 15.4 -1.3
BSY Bisya 125.69 77 P **PKPdf** 05 00 16.9 -0.4
ARU Arti 125.80 35 *i* PKiKP **PKPdf** 05 00 16.5 +0.1
ARU 05 02 16.4
ARU 05 06 37.9
HOQ Hoqain 125.95 76 P **PKPdf** 05 00 16.9 -0.8
MHTO MHTO 126.03 79 P **PKPdf** 05 00 17.6 -0.3
SNR=15
JMDO Jabal Madar 126.43 78 P **PKPdf** 05 00 17.7 -0.9
SMDO Samad 126.52 77 P **PKPdf** 05 00 18.7 -0.2
SHEM Shemya Is, Ala 126.59 320 PKP **PKiKP** 05 00 18.4 -0.1
comp=Z,34nm,0.5s,baz=45,slow=4.3,SNR=1.7
BIDO Bidbid 126.67 76 P **PKPdf** 05 00 18.7 -0.4
AKTO Aktyubinsk 126.76 43 PKiKP **PKPdf** 05 00 18.6 +0.2
WBK Wadi Bani Khal 127.27 78 P **PKPdf** 05 00 20.1 -0.2
JLN Jalan Bani Buh 127.58 78 P **PKPdf** 05 00 20.7 -0.1
JLN P **PKiKP** 05 00 20.8 -0.6
GEYT Alibeck 127.95 58 PKP **PKiKP** 05 00 21.8 -0.1
comp=Z,18nm,0.6s,baz=269,slow=3.9,SNR=21
GEYT PP **PP** 05 02 30.4 -2.3
comp=Z,5.2nm,0.8s,baz=270,slow=7.2,SNR=4.3
AB31 Akbulak array 128.19 44 *i* PKiKP **PKiKP** 05 00 22.3 +0.4
TIXI Tiksi 129.79 355 *i* PKiKP **PKPdf** 05 00 22.8 -0.8
TIXI Tiksi 129.79 355 PKP **PKPdf** 05 00 23.5 -0.1
comp=Z,22nm,0.8s,baz=58,slow=3.4,SNR=14
TIXI SKPbc SKPab 05 02 57.3 +1.0
comp=Z,4.6nm,0.3s,baz=44,slow=4.9,SNR=11
ASAR Alice Springs 131.49 202 PKhKP PKPpre 05 00 11.0
comp=Z,4.2nm,0.6s,baz=136,slow=2.1,SNR=50
ASAR PKP **PKPdf** 05 00 28.4 0.0
comp=Z,34nm,0.6s,baz=151,slow=2.3,SNR=55
ASAR pPKP pPKPdf 05 02 35.0 +1.0
comp=Z,2.3nm,0.7s,baz=155,slow=2.3,SNR=3.7
ASAR SKPbc **SKPbc** 05 03 04.1 +0.1
comp=Z,15nm,0.5s,baz=151,slow=4.0,SNR=24
ASAR PKKP **PKKPdf** 05 10 24.6 0.0
comp=Z,1.2nm,0.3s,baz=345,slow=1.8,SNR=9.2
ASAR SKKP 05 13 10.2
comp=Z,1.3nm,0.9s,baz=338,slow=4.5,SNR=2.7
SEY Seymchan 132.38 339 *c i* PKiKP **PKPdf** 05 00 29.2 +0.5
SEY pmax pmax
comp=Z,84nm,1.3s
SEY Seymchan 132.38 339 PKhKP PKPpre 05 00 13.3
comp=Z,0.8nm,0.3s,baz=92,slow=13,SNR=4.1
SEY PKP **PKiKP** 05 00 30.1 +0.2
comp=Z,37nm,0.6s,baz=88,slow=3.4,SNR=6.2
SEY SKPbc **SKPab** 05 03 07.5 0.0
comp=Z,7.2nm,0.5s,baz=94,slow=3.5,SNR=11
KAAM Kaadhehdhoo 132.75 111 P **PKiKP** 05 00 31.9 -0.3
BRVK Borovoye 133.31 37 *c i* PKiKP **PKPdf** 05 00 29.9 -0.9
BRVK pmax pmax
comp=Z,29nm,0.7s
BRVK Borovoye 133.31 37 P **PKPdf** 05 00 30.3 -0.4
BVA0 Borovoye Array 133.38 37 *i* PKiKP **PKiKP** 05 00 32.0 -0.3
BVAR Borovoye Array 133.38 37 PKhKP PKPpre 05 00 16.2
comp=Z,0.6nm,0.4s,baz=316,slow=2.6,SNR=4.1
BVAR PKP **PKPdf** 05 00 30.3 -0.6
comp=Z,4.9nm,0.5s,baz=298,slow=1.8,SNR=8.2
BVAR pPKP pPKPdf 05 02 38.4 +1.8
comp=Z,9.6nm,1.0s,baz=270,slow=2.4,SNR=5.5
BVAR SKPbc **SKPab** 05 03 12.1 -0.2
comp=Z,18nm,0.6s,baz=292,slow=3.3,SNR=20
BVAR SKKPbc **SKKPbc** 05 12 27.5 -1.6
comp=Z,2.7nm,0.8s,baz=110,slow=3.4,SNR=8.1
BVAR SKKP 05 13 06.3
comp=Z,1.7nm,0.8s,baz=126,slow=2.0,SNR=4.1
WRA Warramunga Arr 134.74 204 PKhKP PKPpre 05 00 16.4
comp=Z,3.3nm,0.3s,baz=163,slow=2.0,SNR=42
WRA PKP **PKPdf** 05 00 34.8 +0.3
comp=Z,54nm,0.5s,baz=163,slow=1.6,SNR=54
WRA pPKP pPKPdf 05 02 40.9 +0.6
comp=Z,2.2nm,0.6s,baz=165,slow=1.6,SNR=2.8
WRA SKPbc **SKPbc** 05 03 15.6 +0.8
comp=Z,24nm,0.6s,baz=156,slow=2.8,SNR=30
WRA PKKP **PKKPdf** 05 10 18.0 -0.3
comp=Z,0.8nm,0.6s,baz=330,slow=2.0,SNR=6.4
WRA SKKP 05 13 01.8
comp=Z,5.0nm,1.1s,baz=342,slow=5.2,SNR=5.2
MA2 Magadan 135.22 336 *c i* PKiKP **PKPdf** 05 00 34.5 +0.4
MA2 pmax pmax
comp=Z,10.0nm,0.8s
MA2 Magadan 135.22 336 PKP **PKPdf** 05 00 34.8 +0.7
comp=Z,8.3nm,0.5s,baz=98,slow=6.2,SNR=12
MA2 SKPbc **SKPbc** 05 03 16.4 +1.5
comp=Z,8.8nm,0.9s,baz=44,slow=4.7,SNR=6.9
PET Petropavlovsk 135.30 325 *c i* PKiKP **PKPdf** 05 00 34.9 +0.5
PET pmax pmax
comp=Z,70nm,2.5s
PEA0B Petropavlovsk- 135.77 325 *c i* PKiKP **PKPdf** 05 00 35.8 +0.4
PETK Petropavlovsk- 135.77 325 PKhKP PKPpre 05 00 29.3
comp=Z,6.9nm,0.7s,baz=85,slow=3.5,SNR=5.9
PETK PKP sPdif 05 00 36.4 +0.6
comp=Z,26nm,0.8s,baz=76,slow=2.2,SNR=17
PETK pPKP pPKPdf 05 02 42.6 +1.1
comp=Z,11nm,1.1s,baz=84,slow=4.5,SNR=3.4
PETK SKPbc **SKPbc** 05 03 18.3 +1.4
comp=Z,24nm,1.1s,baz=44,slow=5.7,SNR=8.4
PETK PKKP **PKKPdf** 05 10 15.9 -1.6
comp=Z,2.6nm,0.8s,baz=259,slow=2.9,SNR=4.3
BRZS Berezniki 135.91 40 *i* PKiKP **PKPdf** 05 00 36.4 +0.7
BRZS Berezniki 135.91 40 *e*PKiKP **PKPdf** 05 00 36.4 +0.7
baz=40
CHM Chimkent 136.22 51 *i* PKiKP **PKPdf** 05 00 37.3 +0.8
CHM *e* 05 03 19.8
CHM Chimkent 136.22 51 *e*PKiKP **PKPdf** 05 00 37.4 +0.8
baz=51
CHM *e*SKP 05 03 19.9
baz=51
BRLS Borolday 136.23 50 *i* PKiKP **PKPdf** 05 00 36.9 +0.4
BRLS *e* 05 03 19.6
BRLS Borolday 136.23 50 *e*PKiKP **PKPdf** 05 00 37.0 +0.4
baz=51
BRLS *e*SKP 05 03 19.7
baz=51
OTUK Ortayu 136.35 42 PKiKP **PKPdf** 05 00 37.2 +0.6
IUG Iuzhnay 136.57 51 *i* PKiKP **PKiKP** 05 00 38.3 -0.9
IUG Iuzhnay 136.57 51 *e*PKiKP **PKiKP** 05 00 38.4 -0.9
baz=52
IUG *e*SKP 05 03 21.2
baz=52
KK31 Karatay Array 136.69 50 *i* PKiKP **PKPdf** 05 00 37.4 0.0
KBL Kabul 136.91 63 P **PKPdf** 05 00 38.4 0.0
DZA Taraz 137.32 50 *i* PKiKP **PKPdf** 05 00 38.9 +0.3
DZA Taraz 137.32 50 *e*PKiKP **PKPdf** 05 00 38.1 -0.5
baz=50
BTLS Baital 138.57 46 *i* PKiKP **PKiKP** 05 00 42.1 -0.9
BTLS Baital 138.57 46 *e*PKiKP **PKiKP** 05 00 42.1 -0.9
baz=46
YAK Yakutsk 138.93 350 *e*PKiKP **PKPdf** 05 00 38.2 -2.7
YAK *e* 05 03 38.4
YAK pmax pmax
comp=Z,72nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.4s
YAK pmax pmax
comp=E,7.0nm,1.5s
YAK pmax pmax
comp=Z,210nm,4.3s
YAK pmax pmax
comp=N,93nm,4.7s
YAK pmax pmax
comp=E,97nm,3.0s
YAK Yakutsk 138.93 350 PKhKP PKPpre 05 00 36.1
comp=E,16nm,0.4s,baz=91,slow=0.6,SNR=2.2
YAK PKP **PKPdf** **05 00 41.4 +0.5**
comp=E,65nm,0.9s,baz=51,slow=1.1,SNR=11
KURBB Kurchatov Arra 138.98 36 PKiKP **PKPdf** **05 00 40.8 -0.5**
KURBB Kurchatov Arra 138.98 36 PKhKP PKPpre 05 00 33.8
comp=E,5.9nm,0.6s,baz=299,slow=3.0,SNR=29
KURBB PKP **PKPdf** **05 00 41.7 +0.4**
comp=E,23nm,0.5s,baz=299,slow=2.7,SNR=26
KURBB pPKP pPKPdf 05 02 48.4 +1.4
comp=E,6.6nm,0.7s,baz=298,slow=2.7,SNR=8.1
KURBB SKPbc **SKPbc** **05 03 26.8 +0.7**
comp=E,5.2nm,0.4s,baz=303,slow=3.4,SNR=8.7
KURK Kurchatov 138.98 36 *i* PKiKP **PKPdf** **05 00 41.9 +0.6**
EKS2 Erkin-Say 139.12 50 P **PKPdf** **05 00 36.4 -5.7**
SNR=9.6
USP Ospenovka 139.45 48 P **PKiKP** **05 00 44.3 -0.7**
SNR=5.6
SGDS Sogindy 139.48 48 *i* PKiKP **PKPdf** **05 00 43.7 +1.2**
SGDS Sogindy 139.48 48 *e*PKiKP **PKPdf** **05 00 43.8 +1.2**
baz=48
AAK Ala-Archa 139.63 49 P **PKPdf** **05 00 36.6 -6.4**
SNR=18
AAK Ala-Archa 139.63 49 *i* PKiKP **PKPdf** **05 00 41.0 -2.0**
AAK Ala-Archa 139.63 49 *i* PKPdf **PKPdf** **05 00 35.5 -7.5**
SNR=23
UCH Uchtor 139.77 50 P **PKPdf** **05 00 37.4 -6.2**
SNR=37
KBK Karagaybulak 139.95 49 P **PKPdf** **05 00 37.6 -6.0**
SNR=16
ZALV Zalesovo Beam 140.20 29 PKhKP PKPpre 05 00 37.5
comp=E,15nm,0.4s,baz=310,slow=3.7,SNR=30
ZALV PKP **PKPdf** **05 00 42.7 -0.7**
comp=E,115nm,0.6s,baz=288,slow=1.7,SNR=32
ZALV pPKP pPKPdf 05 02 50.4 +1.1
comp=E,22nm,0.8s,baz=307,slow=2.9,SNR=8.9
ZALV SKPbc **SKPbc** **05 03 30.2 +0.9**
comp=E,22nm,0.6s,baz=312,slow=3.2,SNR=11
TKM2 Tokmak 2 140.32 49 P **PKPdf** **05 00 38.0 -6.4**
SNR=26
TKM2 Tokmak 2 140.32 49 PKHKP PKPpre 05 00 40.0
ULHL Ulahol 140.99 49 P **PKPdf** **05 00 41.5 -4.1**
SNR=8.6
TNSS Tian-Shan 141.22 48 *i* PKiKP **PKPdf** **05 00 47.3 +1.2**
TNSS Tian-Shan 141.22 48 *e*PKiKP **PKPdf** **05 00 47.3 +1.2**
baz=48
MDOK Medeo 141.24 48 *i* PKiKP **PKPdf** **05 00 47.2 +1.4**
MDOK Medeo 141.24 48 *e*PKiKP **PKPdf** **05 00 47.3 +1.4**
baz=48
KSH Kashi 141.58 54 PKP **PKPdf** **05 00 41.6 -5.0**
KSH sPKP 05 03 35.5
UZB Uzunbulak 142.59 47 *e*PKiKP **PKPdf** **05 00 46.6 -1.7**
UZB Uzunbulak 142.59 47 *e*PKP **PKPdf** **05 00 46.6 -1.7**
baz=47
PDGK Podgornoye 142.84 46 PKHKP PKPpre 05 00 45.6
SHLS Shalkode 142.89 47 *e*PKiKP **PKPdf** **05 00 48.1 -0.6**
SHLS Shalkode 142.89 47 *e*PKP **PKPdf** **05 00 48.2 -0.6**
baz=47
MK31 Makanchi Array 143.06 40 *i* PKiKP PKPbc 05 00 46.9 0.0
MKAR Makanchi Array 143.06 40 PKP PKPbc 05 00 47.6 +0.7
comp=E,44nm,0.5s,baz=298,slow=3.1,SNR=570
MKAR SKPbc **SKiKP** **05 03 38.4 +0.7**
comp=E,17nm,0.9s,baz=299,slow=3.0,SNR=4.6
BOD Bodaibo 144.17 2 *e*PKiKP PKPbc 05 00 49.6 -0.3
BOD pmax pmax
comp=Z,536nm,0.9s
DGZ Jazzator, Alta 144.19 32 *i* PKiKP PKPbc 05 00 49.9 -0.6
HYB Hyderabad 144.25 90 *e*PKPbc PKPbc 05 00 51.2 -0.2
TYV Tymovskoe 144.58 331 *e*PKiKP **PKPab** **05 00 52.6 +0.7**
TYV pmax pmax
comp=Z,300nm,1.8s
TYV pmax pmax
comp=Z,84nm,1.4s
YSS Yuzh-Sakhalins 147.17 326 *e*PKiKP **PKPdf** **05 00 57.2 +1.5**
YSS pmax pmax
comp=Z,90nm,1.0s
ZEA Zeya 147.22 348 *e*PKiKP **PKPdf** **05 00 56.6 +1.0**
ZEA pmax pmax
comp=Z,90nm,0.8s
WMQ Urumqi 147.86 41 *i* PKPbc **PKPdf** **05 00 58.8 +1.7**
MOY Mondy 148.09 18 *e*PKHKP PKPpre 05 00 59.0
MOY pmax pmax
comp=Z,279nm,2.1s
IRK Irkutsk 148.41 14 *e*PKHKP PKPpre 05 00 58.9
IRK pmax pmax
comp=Z,285nm,1.7s
ASAJ Asahikawa 149.03 322 PKP **PKPdf** **05 00 59.8 +0.9**
comp=Z,52nm,1.0s,baz=276,slow=19,SNR=3.5
ASAJ PKPbc **PKiKP** **05 01 04.5 -0.1**
comp=Z,81nm,0.9s,baz=276,slow=14,SNR=10
ZAK Zakamensk 149.88 17 *e*PKHKP PKPpre 05 01 01.3
ZAK pmax pmax
comp=Z,85nm,1.0s
KLR Kul'dur 150.17 339 PKP **PKPdf** **05 01 01.4 +0.9**
comp=Z,24nm,0.6s,baz=27,slow=2.5,SNR=28
KLR PKPbc **PKiKP** **05 01 06.7 -0.1**
comp=Z,92nm,0.7s,baz=28,slow=3.5,SNR=92
KLR pPKPbc **pPKPbc** **05 03 11.3 +0.1**
comp=Z,10nm,0.9s,baz=27,slow=4.0,SNR=4.2
HEH HeiHe 150.46 345 PKPbc **PKPdf** **05 01 01.4 +0.5**
SONM Songino Array 153.02 15 PKP **PKPdf** **05 01 05.9 +0.9**
comp=Z,22nm,0.9s,baz=306,slow=0.8,SNR=93
SONM PKPbc **PKiKP** **05 01 13.6 +0.7**
comp=Z,45nm,0.7s,baz=310,slow=1.1,SNR=47
SONM PKPab **PKPab** **05 01 27.3 +0.4**
comp=Z,30nm,0.7s,baz=336,slow=3.2,SNR=18
SONM pPKPbc **pPKPbc** **05 03 19.1 +1.0**
comp=Z,33nm,0.8s,baz=316,slow=1.3,SNR=18
USRK Ussuriysk Ar. 154.32 333 PKP **PKPdf** **05 01 07.3 +0.6**
comp=Z,9.8nm,0.9s,baz=16,slow=1.0,SNR=10.0
USRK PKPbc **PKPbc** **05 01 16.3 +0.8**
comp=Z,27nm,0.9s,baz=354,slow=1.4,SNR=24
USRK PKPab **PKPab** **05 01 33.3 +1.0**
comp=Z,12nm,0.9s,baz=40,slow=3.5,SNR=6.4
MJAR Matsushiro Arr 156.07 312 PKP **PKPdf** **05 01 09.9 +0.6**
comp=Z,4.2nm,0.8s,baz=44,slow=0.5,SNR=8.3
MJAR PKPbc PKPbc 05 01 19.8
comp=Z,7.7nm,0.8s,baz=69,slow=1.2,SNR=8.5
MJAR PKPab **PKPab** **05 01 40.4 +0.2**
comp=Z,16nm,0.9s,baz=54,slow=3.4,SNR=12
MJAR pPKPbc **pPKPbc** **05 03 25.4 +9.3**
comp=Z,5.7nm,0.9s,baz=66,slow=1.2,SNR=4.3
LSA Lhasa 156.15 66 *i* PKPdf **PKPdf** **05 01 11.1 +0.9**
SNR=7.1
GOMU GeErMu 156.57 48 PKP **PKPdf** **05 01 11.6 +1.1**
GOMU AMB AMB
comp=Z,150nm,5.1s
CN2 Changchun 156.96 343 PKP **PKPdf** **05 01 07.5 -2.7**
GTA Gaotai 157.66 35 PKP **PKPdf** **05 01 11.8 +0.4**
GTA PKPab **PKPab** **05 01 47.5 +0.4**
GTA pPKP pPKPdf 05 03 18.0 +0.1
GTA SKKS 05 11 23.6
XLT XiLinHaoTe 158.15 0 *e*PKP **PKPdf** **05 01 13.2 +1.4**
XLT PKPab **PKPab** **05 01 49.6 +0.6**
XLT PP **PP** **05 05 33.2 +3.0**
XLT AMB AMB
comp=Z,330nm,7.2s
BTO Baotou 160.70 15 *e*PKP **PKPdf** **05 01 15.3 +0.5**
BTO PKPab **PKPab** **05 02 00.3 +0.1**
BTO pPKP **pPKPdf** **05 03 23.5 +1.8**
BTO PP **PP** **05 05 47.7 +3.7**
BTO SS SS 05 25 13.6 +1.2
HHC Hu-ho-hao-te 160.78 11 *e*PKP **PKPdf** **05 01 16.4 +1.5**
KSRS Korea Array 161.59 329 PKP **PKPdf** **05 01 16.6 +1.0**
comp=Z,7.7nm,0.8s,baz=77,slow=1.7,SNR=26
KSRS PKPab **PKPab** **05 02 05.4 +1.2**
comp=Z,14nm,0.8s,baz=35,slow=4.5,SNR=21
KSRS pPKPab **pPKPab** **05 04 04.7 +0.8**
comp=Z,4.7nm,0.8s,baz=39,slow=3.6,SNR=7.4
KSRS PP **PP** **05 05 51.9 +3.0**
comp=Z,0.6nm,0.3s,baz=10,slow=4.5,SNR=4.7
BJI Beijing 162.00 0 PKP **PKPdf** **05 01 17.6 +1.6**
BJI pPKP **pPKPdf** **05 03 24.3 +1.4**
LZH Lanzhou 162.26 35 ⇑ PKP **PKPdf** **05 01 17.8 +1.2**
JNU Nakatsue 162.97 314 PKP **PKPdf** **05 01 17.8 +0.5**
comp=Z,7.9nm,0.8s,baz=22,slow=5.4,SNR=2.3
JNU PKPab **PKPab** **05 02 10.3 -0.2**
comp=Z,9.6nm,0.9s,baz=78,slow=9.3,SNR=2.7
CMAR Chiang Mai Arr 163.36 99 PKP **PKPdf** **05 01 18.8 +0.8**
comp=Z,16nm,0.8s,baz=268,slow=2.6,SNR=94

CMAR				PKPab	**PKPab**	**05 02 12.3**	**-0.3**
	comp=Z,6.2nm,0.4s,baz=252,slow=5.9,SNR=12								
CMAR				pPKPab	**pPKPab**	**05 04 11.6**	**0.0**
	comp=Z,2.8nm,0.8s,baz=251,slow=6.5,SNR=3.1								
CMAR				PP	**PP**	**05 05 59.6**	**-0.2**
	comp=Z,4.5nm,0.8s,baz=258,slow=5.5,SNR=9.4								
TNCH	**TengChong**	**163.43**	**76**	PKP	**PKPdf**	**05 01 18.8**	**+0.7**
TNCH				PKPab	**PKPab**	**05 02 13.8**	**+0.7**
TNCH				pPKP	pPKPdf	05 03 22.3	-2.6
TNCH				PP	**PP**	**05 06 06.1**	**+5.7**
TNCH				AMB	AMB		
	comp=Z,210nm,5.4s								
TIY	**Taiyuan**	**163.98**	**11**	PKP	**PKPdf**	**05 01 19.6**	**+1.5**
TIY				PKPab	**PKPab**	**05 02 15.4**	**+0.7**
HNS	**HongShan**	**164.58**	**5**	⇓PKP	**PKPdf**	**05 01 19.6**	**+1.1**
HNS				PKPab	**PKPab**	**05 02 17.8**	**+0.6**
HNS				pPKP	**pPKPdf**	**05 03 27.0**	**+1.5**
HNS				PP	**PP**	**05 06 03.5**	**-0.4**
CD2	**Chengdu**	**165.70**	**49**	PKP	**PKPdf**	**05 01 18.0**	**-1.7**
PZH	**PanZhiHua**	**166.00**	**68**	PKP	**PKPdf**	**05 01 20.0**	**-0.2**
PZH				PKPab	**PKPab**	**05 02 23.8**	**-0.5**
PZH				PP	**PP**	**05 06 11.1**	**-2.3**
PZH				SKKS		05 12 05.8	
PZH				AMB	AMB		
	comp=Z,230nm,5.5s								
XAN	**Xi'an**	**166.36**	**27**	⇓PKP	**PKPdf**	**05 01 20.7**	**+0.6**
XAN				PKPab	**PKPab**	**05 02 25.0**	**-0.3**
XAN				pPKP	pPKPdf	05 03 28.3	+1.2
XAN				PP	**PP**	**05 06 13.0**	**-0.6**
XAN				AMB	AMB		
	comp=Z,310nm,4.7s								
LYN	**LuoYang**	**167.04**	**14**	⇓PKP	**PKPdf**	**05 01 21.5**	**+1.0**
KMI	**Kunming**	**167.20**	**73**	⇓PKP	**PKPdf**	**05 01 21.7**	**+0.5**
JOW	**Kunigami**	**168.06**	**296**	PKP	**PKPdf**	**05 01 23.5**	**+2.0**
	comp=Z,44nm,1.0s,baz=84,slow=3.3,SNR=8.4								
NJ2	**Nanjing**	**169.72**	**348**	⇓PKP	**PKPdf**	**05 01 22.6**	**+0.3**
NJ2				PKPab	**PKPab**	**05 02 39.5**	**-0.6**
GYA	**Guiyang**	**170.16**	**61**	⇑PKP	**PKPdf**	**05 01 23.4**	**+0.4**
GYA				PKPab	**PKPab**	**05 02 41.8**	**-0.9**
GYA				PP	**PP**	**05 06 33.5**	**-0.5**
GYA				AMB	AMB		
	comp=Z,280nm,9.3s								
WHN	**Wuhan**	**171.31**	**11**	PKP	**PKPdf**	**05 01 24.0**	**+0.8**
WHN				PKPab	**PKPab**	**05 02 46.7**	**-0.4**
WHN				pPKP	**pPKPdf**	**05 03 31.2**	**+0.8**
WHN				PP	**PP**	**05 06 39.0**	**+1.3**
QIZ	**Qiongzhong**	**173.29**	**115**	PKP	**PKPdf**	**05 01 20.4**	**-4.0**
QIZ				sPKP		05 04 14.6	
QIZ				PP	**PP**	**05 06 48.9**	**-0.3**
QIZ				AMB	AMB		
	comp=Z,180nm,10.8s								

*IDC **02** 05:05:26.4±1.8,53.87N×169.17E,h0km,mb3.2/2, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=54.5km s-min=23.6km az=3.0*

ISC 02 05:05:30.6±1.1,54.0N±0.2×169.17E±0.07,h25km,n4, σ1§59/6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHEM	**Shemya Is, Ala**	**3.22**	**111**	Pn	**Pn**	**05 06 18.8**	**-0.6**
	8.5nm,0.3s,baz=277,slow=19,SNR=6.9						
SHEM				Sn	**Sn**	**05 06 58.3**	**+1.4**
	3.9nm,0.3s,baz=285,slow=20,SNR=1.3						
	43nm,0.6s						
PETK	**Petropavlovsk-**	**6.89**	**267**	Pn	**Pn**	**05 07 10.0**	**+0.1**
	1.2nm,0.3s,baz=75,slow=16,SNR=6.6						
PETK				Sn	**Sn**	**05 08 28.0**	**+0.5**
	0.2nm,0.3s,baz=78,slow=21,SNR=1.4						
	2.3nm,0.5s						
ILAR	**Eielson Array**	**24.30**	**46**	P	**P**	**05 10 47.2**	**+1.6**
	0.5nm,0.8s,baz=261,slow=7.2,SNR=4.4						
	0.5nm,0.8s						
TXAR	**Lajitas Array**	**65.23**	**74**	P	**P**	**05 16 08.4**	**-1.6**
	0.2nm,0.6s,baz=296,slow=4.5,SNR=5.4						
	0.2nm,0.6s						

*IDC **02** 05:05:59.2±1.4,27.53N×86.24E,h0km,mb3.8/6, mbtmp3.8/8, ML3.6/2, Error ellipse: s-maj=82.2km s-min=20.3km az=56.0*
*DMN **02** 05:06:03.0±0.2,27.69N×86.33E,h10km,Ml4.7/6, Error ellipse: s-maj=5.1km s-min=1.6km az=21.0*

ISC 02 05:06:02.8±0.9,27.68N±0.06×86.32E±0.03,h17km±6km, n22,σ1§11/38,mb3.8/6,Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIRN	**Jiri**	**0.11**	**262**	*e*Pg	**Pg**	**05 06 07.0**	**+0.2**
JIRN				*e*Sg	**Sg**	**05 06 09.9**	**+0.3**
	14μm,0.2s						
GUN	**Gumba**	**0.45**	**301**	*e*Pg	**Pg**	**05 06 12.3**	**+0.2**
GUN				*e*Sg	**Sb**	**05 06 19.6**	**+0.5**
	14μm,0.5s						
RAMN	**Ramite**	**0.77**	**161**	*e*Pg	**Pb**	**05 06 17.7**	**-0.1**
RAMN				*e*Sg	**Sg**	**05 06 27.8**	**-0.2**
	5μm,0.4s						
PKI	**Pulchoki**	**0.81**	**263**	*e*Pg	**Pg**	**05 06 19.1**	**+0.4**
PKI				*e*Sg	**Sb**	**05 06 29.6**	**+0.2**
	2μm,0.5s						
PKIN	**Phulchoki**	**0.82**	**263**	*e*Pg	**Pg**	**05 06 19.2**	**+0.4**
PKIN				*e*Sg	**Sb**	**05 06 29.7**	**0.0**
	3μm,0.4s						
KKN	**Kakani**	**0.93**	**277**	*e*Pg	**Pb**	**05 06 20.9**	**+0.4**
KKN				*e*Sg	**Sb**	**05 06 33.1**	**+0.5**
KKN				*e*Sg	**Sb**	**05 06 33.1**	**+0.5**
	4μm,0.3s						
DMN	**Daman**	**1.08**	**267**	*e*Pg	**Pg**	**05 06 23.8**	**+0.2**
DMN				*e*Sg	**Sn**	**05 06 38.3**	**+0.3**
	581nm,0.3s						
ODAN	**Odare**	**1.25**	**130**	*e*Pg	**Pb**	**05 06 26.4**	**+0.3**
ODAN				*e*Sg	**Sg**	**05 06 44.1**	**+0.7**
ODAN				*e*Sg	**Sn**	**05 06 44.3**	**+1.9**
TAPN	**Taplejung**	**1.28**	**104**	*e*Pg	**Pg**	**05 06 27.4**	**-0.1**
TAPN				*e*Sg	**Sn**	**05 06 43.3**	**+0.2**
	1μm,0.3s						
GKN	**Gorkha**	**1.52**	**283**	*e*Pg	**Pb**	**05 06 31.3**	**+0.7**
GKN				*e*Sg	**Sg**	**05 06 51.7**	**-0.3**
	4μm,0.6s						
DANN	**Dangsing**	**2.36**	**287**	*e*Pn	**Pn**	**05 06 42.7**	**+1.7**
DANN	**Dangsing**	**2.36**	**287**	*e*Pg	**Pb**	**05 06 45.7**	**+0.7**
DANN				*e*Sg	**Sb**	**05 07 15.7**	**+1.8**
	2μm,0.5s						
KOLN	**Koldanda**	**2.41**	**273**	*e*Pg	**Pb**	**05 06 46.5**	**+0.7**
KOLN				*e*Sg	**Sb**	**05 07 17.9**	**+2.6**
KOLN				*e*Sg	**Sg**	**05 07 18.1**	**-2.2**
PYUN	**Piuthan**	**2.97**	**279**	*e*Pn	**Pn**	**05 06 48.7**	**-0.7**
PYUN				*e*Sg	**Sg**	**05 07 36.4**	**-2.0**
	1μm,0.5s						
AAK	**Ala-Archa**	**17.75**	**330**	P	**Pn**	**05 10 09.7**	**+0.5**
	0.1nm,0.3s,baz=135,slow=10,SNR=2.5						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**19.35**	**352**	P	**P**	**05 10 26.1**	**-1.2**
	0.3nm,0.3s,baz=173,slow=11,SNR=9.1						
	1.5nm,0.6s						
KURBB	**Kurchatov Arra**	**23.67**	**348**	P	**P**	**05 11 14.4**	**+1.2**
	1.4nm,0.6s,baz=170,slow=9.4,SNR=7.6						
	1.4nm,0.6s						
AKASG	**Malin Array Be**	**48.47**	**315**	P	**P**	**05 14 43.9**	**-0.5**
	1.0nm,0.9s,baz=92,slow=6.2,SNR=4.4						
	1.0nm,0.9s						
FINES	**FINESS Array B**	**51.92**	**328**	P	**P**	**05 15 09.4**	**-0.9**
	2.0nm,0.9s,baz=102,slow=8.4,SNR=3.4						
	2.0nm,0.9s						
ARCES	**ARCESS Array B**	**54.22**	**338**	P	**P**	**05 15 27.4**	**+0.3**
	3.4nm,1.0s,baz=106,slow=6.7,SNR=1.5						
	3.4nm,1.0s						
WRA	**Warramunga Arr**	**66.34**	**130**	P	**P**	**05 16 51.0**	**+0.3**
	0.4nm,0.8s,baz=322,slow=6.4,SNR=5.1						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**68.65**	**133**	P	**P**	**05 17 02.5**	**-2.8**
	0.1nm,0.3s,baz=307,slow=5.4,SNR=1.4						
	0.1nm,0.3s						

*UPA **02** 05:14:05.9±0.6,4.66N×82.52W,h5km±26km,MW4.7*
*UCR **02** 05:14:08.5±1.1,4.68N×82.54W,h35km±99km,MW3.7*
*RSNC **02** 05:14:11.1±0.5,5.2N±2.8W±,h0km,mB5.5,mb4.1, ML3.1,Mw(mB)5.0*

ISC 02 05:14:00.4±1.1,4.47N±0.04×82.00W±0.07,h10km,n78, σ1§97/82,South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CACAO	**El Cacao, Vera**	**3.07**	**22**	*e*P	**Pb**	**05 14 55.7**	**+0.5**
CACAO				*e*S	**Sb**	**05 15 32.7**	**0.0**
CACAO	**El Cacao, Vera**	**3.07**	**22**	P	**Pb**	**05 14 56.3**	**+1.1**
CACAO				S	**Sb**	**05 15 32.9**	**+0.2**
GMAL	**Guarumal, Vera**	**3.36**	**13**	*e*P	**Pb**	**05 14 58.9**	**-1.2**
GMAL				*e*S	**Sb**	**05 15 39.0**	**-2.0**
PEDA3	**Pedasi**	**3.62**	**33**	*e*P	**Pb**	**05 15 05.0**	**+0.5**
AZU	**Azuero**	**3.72**	**27**	*e*P	**Pb**	**05 15 04.8**	**-1.4**
AZU				*e*S	**Sb**	**05 15 49.9**	**-1.5**
AZU	**Azuero**	**3.72**	**27**	P	**Pb**	**05 15 08.0**	**+1.8**
AZU				S	**Sb**	**05 15 49.3**	**-2.1**
PTPM	**Petroterminale**	**3.81**	**347**	*e*P	**Pn**	**05 15 00.7**	**+1.6**
DVD	**David**	**3.96**	**354**	*e*P	**Pn**	**05 15 03.9**	**+2.6**
PIRO	**Carate, Puerto**	**4.12**	**341**	*e*P	**Pn**	**05 15 03.7**	**+0.2**
CDITO	**Canoas**	**4.16**	**348**	*e*P	**Pn**	**05 15 05.9**	**+1.8**
CDITO	**Canoas**	**4.16**	**348**	*e*P	**Pn**	**05 15 05.8**	**+1.8**
BCO2	**Palmira**	**4.25**	**353**	*e*P	**Pn**	**05 15 08.3**	**+2.9**
BCO2				*e*S	**Sn**	**05 15 55.7**	**+0.5**
EDAD	**Golfito**	**4.31**	**345**	*e*P	**Pn**	**05 15 06.8**	**+0.6**
LNBQ3	**Los Naranjos,**	**4.31**	**354**	*e*P	**Pn**	**05 15 08.8**	**+2.6**
BRU2	**Volcan**	**4.35**	**351**	*e*P	**Pn**	**05 15 09.5**	**+2.7**
BRU2				*e*S	**Sn**	**05 15 57.8**	**+0.2**
BRU2	**Volcan**	**4.35**	**351**	*e*P	**Pn**	**05 15 09.5**	**+2.7**
BC3P	**Paso Ancho**	**4.36**	**352**	*e*P	**Pn**	**05 15 09.5**	**+2.6**
MLIR3	**Monte Lirio, C**	**4.37**	**349**	*e*P	**Pn**	**05 15 09.5**	**+2.6**
EDP2	**Potrero Grande**	**4.66**	**346**	*e*P	**Pn**	**05 15 13.1**	**+2.2**
EDPN	**Palmar Norte**	**4.69**	**342**	*e*P	**Pn**	**05 15 12.4**	**+1.2**
EDPN				*e*S	**Sn**	**05 16 02.4**	**-3.3**
EDBA	**Buenos Aires**	**4.83**	**345**	*e*P	**Pn**	**05 15 15.6**	**+2.4**
DRK0	**Durika**	**4.92**	**346**	*e*P	**Pn**	**05 15 16.4**	**+1.8**
ZANG	**Zanguenga, Cho**	**4.93**	**25**	*e*P	Pn	05 15 21.0	+6.4
CNI2	**El Empalme, Bo**	**4.94**	**355**	*e*P	**Pn**	**05 15 17.4**	**+2.6**
CNI2				*e*S	**Sn**	**05 16 11.8**	**-0.2**
UPA	**Univ. de Panam**	**5.11**	**29**	*e*P	Pn	05 15 24.0	+7.0
UPA	**Univ. de Panam**	**5.11**	**29**	P	**Pb**	**05 15 27.6**	**-2.3**
	3μm,0.8s,69μm						
BCIP	**Isla Barro Col**	**5.13**	**25**	*e*P	Pn	05 15 24.0	+6.5
PEZE	**Perez Zeledon,**	**5.15**	**341**	*e*P	**Pn**	**05 15 19.1**	**+1.4**
FRIJ	**El Hiral**	**5.23**	**25**	*e*P	Pn	05 15 24.9	+6.1
BBAC	**Balboa, Cauca**	**5.34**	**117**	P	**Pb**	**05 15 35.3**	**+1.3**
BBAC				S	**Sb**	**05 16 36.7**	**-1.5**
CDM	**Cerro de Muert**	**5.34**	**341**	*e*P	**Pn**	**05 15 21.9**	**+1.3**
JAMC	**Jamundi, Valle**	**5.46**	**103**	P	**Pb**	**05 15 37.8**	**+1.7**
	5.7nm,0.5s						
JAMC				S	**Sb**	**05 16 42.3**	**+0.4**
	5.7nm,0.5s						
OTAV	**Otavalo**	**5.50**	**140**	P	**Pb**	**05 15 35.5**	**-1.5**
	5.4nm,1.2s						
ABE2	**San Pablo**	**5.58**	**339**	*e*P	**Pn**	**05 15 24.4**	**+0.6**
LCR2	**La Lucha 2**	**5.60**	**339**	*e*P	**Pn**	**05 15 24.9**	**+0.9**
POPC	**Popayan, Colom**	**5.65**	**110**	P	**Pg**	**05 15 48.5**	**-0.3**
	8.0nm,0.7s						
GCUF	**Volcan Galeras**	**5.66**	**125**	P	**Pb**	**05 15 39.9**	**+0.2**
	22nm,0.6s						
UPD2	**Meteti**	**5.66**	**44**	*e*P	Pb	05 15 33.7	-5.7
UPD2	**Meteti**	**5.66**	**44**	P	**Pb**	**05 15 39.5**	**+0.1**
	114nm,0.6s,3μm						
UPD2				S	**Sb**	**05 16 46.7**	**-0.7**
	114nm,0.6s,3μm						
YOTC	**Yotoco, Valle**	**5.66**	**95**	P	**Pb**	**05 15 40.7**	**+1.2**
	12nm,0.7s						
PCAYA	**Pacayas**	**5.70**	**342**	*e*P	**Pn**	**05 15 27.7**	**+2.3**
ACOS	**Acosta**	**5.71**	**338**	*e*P	**Pn**	**05 15 26.0**	**+0.6**
PLMC	**San Jos del P**	**5.72**	**85**	P	**Pb**	**05 15 41.2**	**+0.8**
RAFA	**San Farael, Vo**	**5.74**	**342**	*e*P	**Pn**	**05 15 28.1**	**+2.0**
CVTV	**Tajo**	**5.76**	**343**	*e*P	**Pn**	**05 15 28.7**	**+2.4**
ICR3	**Volcano Irazu**	**5.76**	**342**	*e*P	**Pn**	**05 15 28.2**	**+1.8**
CVTQ	**Turrialba Volc**	**5.77**	**342**	*e*P	**Pn**	**05 15 28.4**	**+2.3**
CORON	**Coronado**	**5.81**	**340**	*e*P	**Pn**	**05 15 29.5**	**+2.6**
CRUC	**La Cruz**	**5.81**	**120**	P	**Pb**	**05 15 43.4**	**+1.2**
	242nm,0.6s,1.7nm						
CBOC	**Ciudad Bolivar**	**6.12**	**77**	P	**Pb**	**05 15 47.0**	**-0.4**
	5.2nm,1.1s						
DBBC	**Dabeiba**	**6.29**	**66**	P	**Pb**	**05 15 50.3**	**+0.1**
APAC	**Apartado, Choc**	**6.38**	**57**	P	**Pb**	**05 15 52.4**	**+0.8**
	54nm,0.7s						
INDI	**Punta indio, G**	**6.38**	**327**	*i* P	**Pn**	**05 15 33.4**	**-1.2**
INDI				IAML		05 15 35.3	
	comp=Z,300nm,1.0s						
DUNO	**Dulce Nombre,**	**6.56**	**328**	*i* P	**Pn**	**05 15 34.5**	**-2.5**
DUNO				*i* S	**Pn**	**05 15 38.3**	**+1.3**
DUNO				IAML		05 15 38.4	
	comp=Z,340nm,1.0s						
ANIL	**Santa Ana**	**6.58**	**90**	P	**Pb**	**05 15 55.5**	**+0.3**
	comp=Z,27nm,0.5s						
PIAT	**Ana Tenorio**	**6.60**	**145**	P	Pb	05 15 51.6	-3.9
	comp=Z,0.7nm,0.5s						
GUY2C	**Guyana, Caldas**	**6.66**	**83**	P	**Pb**	**05 15 55.6**	**-1.0**
	comp=Z,7.8nm,0.6s						
SAJU	**San Juanillo,**	**6.66**	**327**	*i* P	Pn	05 15 35.9	-2.5
SAJU				IAML		05 15 39.1	
	comp=Z,390nm,1.0s						
ORTC	**Ortega, Tolima**	**6.76**	**95**	P	**Pb**	**05 15 57.9**	**-0.3**
	comp=Z,14nm,0.8s,comp=Z,852nm						
ORTG	**Ortega, Santa**	**6.78**	**330**	*i* P	**Pn**	**05 15 38.5**	**-1.6**
ORTG				IAML		05 15 41.7	
	comp=Z,130nm,1.0s						
GARC	**Garzon, Huila**	**6.88**	**109**	P	**Pb**	**05 15 58.5**	**-1.9**
	comp=Z,6.0nm,0.7s,comp=Z,1μm						
FLOC	**Florencia**	**6.96**	**114**	P	**Pb**	**05 15 59.1**	**-2.5**
	comp=Z,3.4nm,0.7s						
HZTE	**Horizontes, Gu**	**7.15**	**330**	*i* P	**Pn**	**05 15 44.2**	**-0.9**
HZTE				IAML		05 15 47.4	
	comp=Z,260nm,1.0s						
NORC	**Norcasia**	**7.19**	**81**	P	**Pb**	**05 16 03.7**	**-1.8**
	comp=Z,17nm,0.7s						
UREC	**San Jos de Ur**	**7.21**	**63**	P	**Pb**	**05 16 03.6**	**-2.2**
	comp=Z,4.1nm,0.9s,comp=Z,1μm						
COHC	**Cochancay**	**7.42**	**158**	P	Pn	05 15 58.8	+10
	comp=Z,1.6nm,0.7s						
SPBC	**San Pablo de B**	**7.99**	**81**	P	**Pb**	**05 16 14.8**	**-4.3**
	comp=Z,2.8nm,1.0s						
NADN	**Granada**	**8.26**	**331**	*i* P	**Pn**	**05 15 59.1**	**-1.2**
NADN				IAML		05 17 11.4	
	comp=Z,4μm,1.0s						
RE6B4	**Centro civico**	**8.71**	**331**	*i* P	**Pn**	**05 16 05.2**	**-1.4**
RE6B4				IAML		05 16 40.9	
	comp=Z,710nm,1.0s						
BOAB	**BOACO BROADBAN**	**8.71**	**336**	*i* P	**Pn**	**05 16 07.5**	**+0.9**
BOAB				IAML		05 16 28.0	
	comp=Z,21nm,1.0s						
MCRA	**Macar, Loja**	**9.02**	**167**	P	Pn	05 16 19.9	+9.0
LCND	**La Casada**	**10.53**	**327**	*e*P	**Pn**	**05 16 34.0**	**+2.5**
LCND				IAML		05 16 41.7	
	comp=Z,27nm,0.3s						
SCLA	**Alcaldia de Sa**	**11.32**	**325**	*e*P	**Pn**	**05 16 45.7**	**+3.3**
SCLA				IAML		05 16 47.2	
	comp=Z,24nm,0.3s						
SJTE	**Alcalda de S**	**11.41**	**323**	*e*P	**Pn**	**05 16 46.6**	**+2.9**
PAVA	**Las Pavas**	**11.45**	**324**	*e*P	**Pn**	**05 16 48.0**	**+3.7**
JAVA	**Jayaque - finc**	**11.71**	**322**	*e*P	**Pn**	**05 16 51.0**	**+3.1**
CEVE	**Cerro Verde**	**11.95**	**322**	*e*P	**Pn**	**05 16 55.9**	**+4.7**
NUBE	**Las Nubes**	**12.11**	**321**	*e*P	**Pn**	**05 16 57.0**	**+3.8**

*SFS **02** 05:28:21.4,39.34N×0.00E,h6km,ML2.4/5,ML3.1/5, MLv2.0/5*
*MDD **02** 05:28:23.0±0.3,39.40N×0.00E,h11km,mb_Lg2.6/9, Error ellipse: s-maj=2.8km s-min=1.6km az=128.0*

ISC 02 05:28:20.9±1.1,39.38N±0.03×0.00W±0.02,h15km±9km, n23,σ1§02/49,Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EBEN2	**Beniarda presa**	**0.72**	**192**	Pg	**Pn**	**05 28 37.1**	**+0.5**
EBEN2				Sg	**Sn**	**05 28 47.5**	**+0.1**
EBEN2				*i* Vmb_Lg		05 28 48.0	
ECHE	**Chera**	**0.78**	**286**	Pg	**Pg**	**05 28 36.2**	**+0.2**
ECHE				Sg	**Sg**	**05 28 46.5**	**+0.1**
ECHE	**Chera**	**0.78**	**286**	Pg	**Pg**	**05 28 36.4**	**+0.3**
ECHE				Sg	**Sb**	**05 28 47.7**	**+1.1**
AFON	**Font Roja**	**0.83**	**211**	Pg	**Pn**	**05 28 39.1**	**+0.8**
AFON				Sg	**Sn**	**05 28 50.9**	**+0.6**
AFON				*i* Vmb_Lg		05 28 53.4	
EVIV	**Cofrentes, Val**	**0.88**	**263**	Pg	**Pg**	**05 28 38.2**	**+0.3**
EVIV				Sg	**Sb**	**05 28 50.3**	**+0.9**
EVIV				*i* Vmb_Lg		05 28 51.6	
EMOS	**Mosqueruela**	**1.05**	**340**	Pg	**Pg**	**05 28 41.3**	**+0.1**
EMOS				Sg	**Sb**	**05 28 54.2**	**-0.3**
EMOS				*i* Vmb_Lg		05 28 56.6	
EIBI	**Ibiza**	**1.10**	**108**	Pg	**Pb**	**05 28 41.0**	**-0.7**
EIBI				Sg	**Sg**	**05 28 56.1**	**-0.5**
EIBI	**Ibiza**	**1.10**	**108**	Pg	**Pb**	**05 28 41.6**	**-0.1**
EIBI				Sg	**Sg**	**05 28 56.1**	**-0.5**
EIBI				*i* Vmb_Lg		05 29 01.8	
E0901	**Celadas (Terue**	**1.40**	**322**	Pg	**Pg**	**05 28 48.2**	**+0.3**
E0901				Sg	**Sg**	**05 29 07.9**	**+1.8**
ETOB	**Tobarra**	**1.41**	**239**	Pn	**Pn**	**05 28 46.7**	**+0.5**
ETOB				Sn	**Sn**	**05 29 03.5**	**-1.1**
ETOB	**Tobarra**	**1.41**	**239**	Pn	**Pn**	**05 28 46.9**	**+0.7**
ETOB				Sn	**Sn**	**05 29 05.1**	**+0.5**
ETOB				*i* Vmb_Lg		05 29 09.8	
ERTA	**Horta de San J**	**1.59**	**9**	Pn	**Pn**	**05 28 49.0**	**+0.3**
ERTA				Sn	**Sn**	**05 29 08.6**	**-0.4**
E1002	**Yechar (Murcia**	**1.73**	**221**	Pg	**Pg**	**05 28 55.5**	**+1.5**
E1002				Sn	**Sn**	**05 29 12.9**	**+0.7**
EMUR	**La Murta**	**1.82**	**213**	Pn	**Pn**	**05 28 52.0**	**+0.3**
EMUR	**La Murta**	**1.82**	**213**	Pn	**Pn**	**05 28 52.2**	**+0.4**
EMUR				Sg	**Sg**	**05 29 18.9**	**-0.5**
EPOB	**Poblet**	**2.13**	**22**	Pn	**Pn**	**05 28 57.1**	**+0.9**
EPOB				Pg	**Pg**	**05 29 01.9**	**0.0**
EPOB				Sn	**Sn**	**05 29 22.4**	**-0.1**
EPOB				Sg	**Sg**	**05 29 28.6**	**-1.0**
ETOS	**Mallorca**	**2.21**	**79**	Pn	**Pn**	**05 28 57.4**	**+0.3**
EQES	**Quesada**	**2.88**	**238**	Pn	**Pn**	**05 29 07.2**	**+0.8**
EQES				Sn	**Sn**	**05 29 40.9**	**+0.2**
EQES				Sg	**Sg**	**05 29 52.2**	**-1.2**
PSIM	**Granatula de C**	**2.98**	**260**	Pn	**Pn**	**05 29 10.3**	**+2.6**
PSIM				Pg	**Pg**	**05 29 16.9**	**-1.1**
PSIM				Sg	**Sg**	**05 29 54.4**	**-2.1**
PAB	**San Pablo**	**3.37**	**274**	Pn	**Pn**	**05 29 13.3**	**+0.2**
PAB				Sn	**Sn**	**05 29 51.0**	**-1.9**
PAB				Sg	**Sg**	**05 30 08.0**	**-1.1**
GUD	**Guadarrama**	**3.43**	**293**	Pn	**Pn**	**05 29 14.8**	**+0.8**
GUD				Sn	**Sn**	**05 29 55.5**	**+1.1**
EADA	**Adamuz**	**3.78**	**253**	Sn	**Sn**	**05 30 00.7**	**-2.2**
EADA				Sg	**Sg**	**05 30 20.9**	**-1.3**
ECAB	**El Cabril**	**4.43**	**255**	Sn	**Sn**	**05 30 17.6**	**-1.5**
ECAB				Sg	**Sg**	**05 30 42.0**	**-1.2**

IDC 02 05:30:20.8±3.5,54.41N×87.24E,h0km,mbtmp2.9/2, ML2.9/2,Error ellipse: s-maj=32.4km s-min=19.9km az=49.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.50**	**253**	I	I	**05 38 36.2**	
	baz=70,slow=348,SNR=6.5						
ZALV	**Zalesovo Beam**	**1.50**	**253**	Pg	Pn	05 30 48.3	-0.6
	4.2nm,0.3s,baz=67,slow=32,SNR=20						
ZALV				Lg	Lg	05 31 08.0	
	1.3nm,0.3s,baz=74,slow=27,SNR=3.2						
KURBB	**Kurchatov Arra**	**6.53**	**238**	Pn	Pn	05 31 59.1	+1.1
	0.2nm,0.3s,baz=54,slow=13,SNR=3.6						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**8.24**	**204**	Pn	Pn	05 32 22.2	+0.5
	0.2nm,0.3s,baz=33,slow=16,SNR=5.7						
	0.2nm,0.3s						

*IDC **02** 05:34:46.2±1.1,82.28N×6.12W,h0km,mb3.3/9, mbtmp3.5/11,ML3.7/2,MS3.5/20,Error ellipse: s-maj=32.9km s-min=16.6km az=45.0*
*DNK **02** 05:34:49.7±3.0,82.16N×6.06W,h18km±41km,ML2.5*
*FCIAR **02** 05:34:49.0,82.34N×5.81W,h10km,station OMEGA has station magnitude of 4.00*

ISC 02 05:34:45.7±0.6,82.29N±0.08×6.49W±0.05,h10km,n35, σ2§85/29,mb3.3/9,MS3.5/17,1C,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NOR	**Nord**	**1.59**	**249**	*e*	**Pb**	**05 35 15.8**	**+0.7**
	baz=76,slow=16						
NOR				⇑*i*P	**Pn**	**05 35 16.0**	**+2.1**
NOR				*i* S	**Sn**	**05 35 34.8**	**+0.3**
NOR				IAML		05 35 39.9	
	comp=Z,200nm,0.4s						
KBS	**Kingsbay**	**4.50**	**129**	*i* P	**Pn**	**05 35 55.0**	**+1.2**
KBS	**Kingsbay**	**4.50**	**129**	*e*P	**Pn**	**05 35 54.7**	**+0.9**
KBS				*e*S	**Sn**	**05 36 44.9**	**-1.2**
SPA0	**Spitsbergen Ar**	**5.62**	**125**	*e*P	**Pn**	**05 36 09.7**	**+0.6**
SPA0				*e*S	**Sn**

NEW	**Newport**	**45.14**	**298**	LR	LR	06 02 34.0	
	comp=Z,178nm,19.6s,baz=78,slow=37						
SONM	**Songino Array**	**45.83**	**60**	P	**P**	**05 43 08.7**	**+1.3**
	comp=Z,0.8nm,0.9s,baz=336,slow=6.8,SNR=3.0						
	comp=Z,0.8nm,0.9s						
AAK	**Ala-Archa**	**46.82**	**92**	LR	LR	06 05 44.6	
	comp=Z,93nm,18.5s,baz=344,slow=40						
YBH	**Yreka Blue Hor**	**52.23**	**302**	LR	LR	06 09 14.1	
	comp=Z,62nm,20.9s,baz=24,slow=40						
ELK	**Elko**	**52.32**	**295**	LR	LR	06 06 58.6	
	comp=Z,134nm,19.9s,baz=50,slow=37						
ANMO	**Albuquerque**	**56.92**	**285**	LR	LR	06 11 01.9	
	comp=Z,106nm,18.9s,baz=163,slow=38						

CATAC ***02*** *05:37:11.5±0.3, 9.49N×84.49W, h7km±3km, ML3.7*
UCR ***02*** *05:37:11.4±1.1, 9.44N×84.52W, h16km±7km, MW4.2*

ISC 02 05:37:11.7±1.0, **9.46N**±0.03×**84.51W**±0.02, **h16**km±7km, **n94**, σ0**s79**/100, **Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RITA	**Parrita**	**0.19**	**71**	*e*P	**Pg**	**05 37 15.7**	**-0.5**
RITA				*e*S	**Sg**	**05 37 20.7**	**+1.4**
JACO	**JACO, Garabito**	**0.25**	**325**	*e*P	**Pg**	**05 37 16.5**	**-0.8**
JACO	**JACO, Garabito**	**0.25**	**325**	*i* P	**Pg**	**05 37 16.4**	**-0.8**
JACO				IAML		05 37 22.3	
	comp=Z,21μm,1.0s						
SVQ2	**Quepos**	**0.34**	**94**	*e*P	**Pg**	**05 37 18.2**	**-0.6**
LLNJ	**Naranjito**	**0.41**	**88**	*e*P	**Pg**	**05 37 19.4**	**-0.6**
LLNJ				*e*S	**Sb**	**05 37 26.8**	**+0.2**
TRB2	**Turrubares**	**0.46**	**8**	*e*P	**Pg**	**05 37 20.3**	**-0.6**
ACOS	**Acosta**	**0.48**	**46**	*e*P	**Pg**	**05 37 20.7**	**-0.6**
ABE2	**San Pablo**	**0.52**	**62**	*e*P	**Pg**	**05 37 21.4**	**-0.6**
LAFE	**Finca La Fe, P**	**0.52**	**312**	*e*P	**Pg**	**05 37 21.9**	**-0.2**
LAFE				*e*S	**Sb**	**05 37 31.4**	**+1.5**
LAFE	**Finca La Fe, P**	**0.52**	**312**	*i* P	**Pg**	**05 37 21.9**	**-0.2**
LAFE				IAML		05 37 32.0	
	comp=Z,47nm,1.0s						
RAZU	**San Marcos de**	**0.52**	**68**	*e*P	**Pg**	**05 37 21.6**	**-0.5**
ARZA	**Esparza**	**0.55**	**344**	*e*P	**Pb**	**05 37 23.0**	**-0.1**
SANTA	**Santa Ana**	**0.57**	**34**	*e*P	**Pg**	**05 37 22.2**	**-0.9**
LCR2	**La Lucha 2**	**0.57**	**61**	*e*P	**Pg**	**05 37 22.1**	**-1.0**
LCR2	**La Lucha 2**	**0.57**	**61**	*i* P	**Pg**	**05 37 22.1**	**-1.0**
LCR2				IAML		05 37 38.9	
	comp=Z,2μm,1.0s						
BELE	**Belen**	**0.61**	**32**	*e*P	**Pb**	**05 37 23.9**	**-0.1**
TCS1	**Tacares**	**0.62**	**20**	*e*P	**Pg**	**05 37 23.5**	**-0.4**
TCS1	**Tacares**	**0.62**	**20**	*i* P	**Pg**	**05 37 22.9**	**-1.0**
TCS1				IAML		05 37 41.5	
	comp=Z,20μm,1.0s						
AMPA	**Desamparados**	**0.62**	**46**	*e*P	**Pg**	**05 37 23.1**	**-0.9**
SRA1	**San Ramn**	**0.62**	**3**	*e*P	**Pg**	**05 37 23.4**	**-0.7**
RAMO	**San Ramon**	**0.63**	**4**	*e*P	**Pb**	**05 37 24.5**	**+0.1**
SJS	**Escuela Geology**	**0.66**	**43**	*e*P	**Pg**	**05 37 23.9**	**-0.8**
SJS3	**Mercedes San J**	**0.66**	**44**	*e*P	**Pg**	**05 37 24.1**	**-0.6**
HDC	**Heredia**	**0.67**	**36**	*e*P	**Pg**	**05 37 24.2**	**-0.7**
HDC3	**Heredia 3**	**0.67**	**36**	*e*P	**Pg**	**05 37 24.2**	**-0.7**
HDC3	**Heredia 3**	**0.67**	**36**	*i* P	**Pg**	**05 37 24.3**	**-0.6**
HDC3				IAML		05 37 41.3	
	comp=Z,2μm,1.0s						
OCM	**Ochomogo**	**0.70**	**51**	*e*P	**Pg**	**05 37 24.1**	**-1.3**
OCM	**Ochomogo**	**0.70**	**51**	*i* P	**Pg**	**05 37 24.1**	**-1.3**
OCM				IAML		05 37 51.0	
	comp=Z,920nm,1.0s						
CORON	**Coronado**	**0.72**	**45**	*e*P	**Pb**	**05 37 26.2**	**+0.2**
ZARE	**Zarcero**	**0.73**	**10**	*e*P	**Pb**	**05 37 26.0**	**-0.2**
REPA	**Paraso**	**0.73**	**60**	*e*P	**Pb**	**05 37 26.0**	**-0.3**
CDM	**Cerro de Muert**	**0.75**	**83**	*e*P	**Pg**	**05 37 25.0**	**-1.3**
CDM	**Cerro de Muert**	**0.75**	**83**	*i* P	**Pg**	**05 37 25.9**	**-0.5**
CDM				IAML		05 37 46.5	
	comp=Z,2μm,1.0s						
VPS6	**Volcano Poas**	**0.78**	**21**	*e*P	**Pg**	**05 37 26.4**	**-0.6**
CVIMO	**Finca Echandi**	**0.80**	**45**	*e*P	**Pg**	**05 37 26.5**	**-0.8**
CPMI	**Catarata Coope**	**0.83**	**9**	*e*P	**Pg**	**05 37 27.2**	**-0.8**
CPMI	**Catarata Coope**	**0.83**	**9**	*i* P	**Pg**	**05 37 27.1**	**-0.8**
CPMI				IAML		05 37 41.7	
	comp=Z,2μm,1.0s						
PEZE	**Perez Zeledon,**	**0.83**	**95**	*i* P	**Pg**	**05 37 27.4**	**-0.5**
PEZE				IAML		05 37 49.1	
	comp=Z,870nm,1.0s						
PCAYA	**Pacayas**	**0.83**	**57**	*e*P	**Pg**	**05 37 27.4**	**-0.5**
ICR3	**Volcano Irazu**	**0.85**	**52**	*e*P	**Pg**	**05 37 27.1**	**-1.1**
RAFA	**San Farael, Vo**	**0.85**	**54**	*e*P	**Pg**	**05 37 27.4**	**-1.0**
NYURE	**Nandayure**	**0.90**	**306**	*e*P	**Pg**	**05 37 28.9**	**-0.3**
VTLA	**Turrialba Volc**	**0.91**	**53**	*e*P	**Pg**	**05 37 28.5**	**-0.9**
CVTQ	**Turrialba Volc**	**0.91**	**54**	*e*P	**Pg**	**05 37 28.9**	**-0.6**
SOCE	**Pocosol**	**0.92**	**354**	*e*P	**Pg**	**05 37 28.8**	**-0.9**
SOCE	**Pocosol**	**0.92**	**354**	*i* P	**Pg**	**05 37 28.9**	**-0.8**
SOCE				IAML		05 37 48.7	
	comp=Z,3μm,1.0s						
CVTV	**Tajo**	**0.93**	**54**	*e*P	**Pg**	**05 37 28.8**	**-1.0**
OCHAL	**Ojochal**	**0.93**	**113**	*i* P	**Pb**	**05 37 29.5**	**0.0**
OCHAL				IAML		05 37 47.1	
	comp=Z,14nm,1.0s						
JTS	**Las Juntas de**	**0.93**	**332**	*e*P	**Pg**	**05 37 28.1**	**-1.8**
VTCV	**VTCV, Calle Va**	**0.93**	**56**	*e*P	**Pg**	**05 37 28.9**	**-0.9**
VTCV	**VTCV, Calle Va**	**0.93**	**56**	*i* P	**Pg**	**05 37 28.7**	**-1.2**
VTCV				IAML		05 37 49.2	
	comp=Z,2μm,1.0s						
VERB	**Verbena**	**0.94**	**59**	*e*P	**Pg**	**05 37 28.9**	**-1.1**
ITAL	**Pital**	**1.01**	**14**	*e*P	**Pg**	**05 37 30.4**	**-1.0**
ARE1	**Arenal 1**	**1.02**	**349**	*e*P	**Pg**	**05 37 30.4**	**-1.0**
VACR	**Volcan Arenal**	**1.02**	**351**	*e*P	**Pg**	**05 37 30.6**	**-0.9**
RIFO	**Rio Frio, Sara**	**1.03**	**34**	*e*P	**Pb**	**05 37 31.0**	**-0.3**
RIFO	**Rio Frio, Sara**	**1.03**	**34**	*i* P	**Pb**	**05 37 31.0**	**-0.3**
RIFO				IAML		05 37 56.5	
	comp=Z,2μm,1.0s						
CEDE	**Laguna Cedeo**	**1.04**	**350**	*e*P	**Pb**	**05 37 31.0**	**-0.5**
CMARA	**Lajas Hojancha**	**1.06**	**302**	*e*P	**Pb**	**05 37 30.2**	**-1.5**
INDI	**Punta indio, G**	**1.06**	**293**	*e*P	**Pb**	**05 37 30.1**	**-1.6**
INDI	**Punta indio, G**	**1.06**	**293**	*i* P	**Pb**	**05 37 31.7**	**0.0**
INDI				*i* S	**Sg**	**05 37 46.4**	**+0.4**
INDI				IAML		05 37 53.6	
	comp=Z,2μm,1.0s						
SARA	**Sarapiqu**	**1.10**	**26**	*e*P	**Pb**	**05 37 31.8**	**-0.6**
PLAN	**Los Planes de**	**1.14**	**134**	*i* P	**Pg**	**05 37 33.5**	**-0.2**
PLAN				IAML		05 37 58.9	
	comp=Z,2μm,1.0s						
DUNO	**Dulce Nombre,**	**1.15**	**303**	*e*P	**Pb**	**05 37 32.0**	**-1.2**
DUNO	**Dulce Nombre,**	**1.15**	**303**	*i* P	**Pb**	**05 37 33.1**	**-0.1**
DUNO				*i* S	**Sn**	**05 37 49.2**	**+0.6**
DUNO				IAML		05 37 54.8	
	comp=Z,2μm,1.0s						
PLVR	**Palo Verde**	**1.21**	**317**	*e*P	**Pn**	**05 37 32.9**	**-1.3**
JUD3	**Juan Diaz 3**	**1.23**	**305**	*e*P	**Pn**	**05 37 33.2**	**-1.2**
COVE	**Coope Vega, Sa**	**1.26**	**5**	*i* P	**Pn**	**05 37 34.4**	**-0.3**
COVE				IAML		05 37 56.8	
	comp=Z,1μm,1.0s						
DRK0	**Durika**	**1.27**	**99**	*e*P	**Pn**	**05 37 33.5**	**-1.4**
ACAL	**Aguas Claras**	**1.28**	**336**	*e*P	**Pn**	**05 37 34.5**	**-0.5**
ORTG	**Ortega, Santa**	**1.29**	**314**	*e*P	**Pn**	**05 37 34.2**	**-1.1**
ORTG	**Ortega, Santa**	**1.29**	**314**	*i* P	**Pn**	**05 37 35.4**	**+0.1**
ORTG				*i* S	**Sg**	**05 37 53.5**	**-0.1**
ORTG				IAML		05 38 07.1	
	comp=Z,1μm,1.0s						
SAJU	**San Juanillo,**	**1.33**	**297**	*i* P	**Pn**	**05 37 35.9**	**+0.3**
SAJU				IAML		05 38 03.0	
	comp=Z,720nm,1.0s						
CUI	**Cuipilapa**	**1.35**	**332**	*e*P	**Pn**	**05 37 35.6**	**-0.5**
POTG	**Potrero Grande**	**1.44**	**106**	*e*P	**Pn**	**05 37 36.5**	**-0.7**
POTG	**Potrero Grande**	**1.44**	**106**	*i* P	**Pn**	**05 37 36.9**	**-0.3**
POTG				IAML		05 38 02.4	
	comp=Z,1μm,1.0s						
VMAR	**Armenia, Volca**	**1.47**	**336**	*e*P	**Pn**	**05 37 37.8**	**+0.2**
ALIBA	**Liberia Airpor**	**1.52**	**318**	*e*P	**Pb**	**05 37 39.8**	**+0.2**
GPS3	**Bodega del ICE**	**1.54**	**327**	*e*P	**Pg**	**05 37 42.2**	**+0.9**
VRLE	**La Escondida,**	**1.56**	**328**	*e*P	**Pn**	**05 37 38.9**	**-0.1**
LCHIL	**Los Chiles**	**1.58**	**353**	*e*P	**Pn**	**05 37 39.2**	**0.0**
GB1A	**Borinquen Arri**	**1.61**	**327**	*e*P	**Pn**	**05 37 39.6**	**0.0**
HZTE	**Horizontes, Gu**	**1.64**	**320**	*e*P	**Pn**	**05 37 40.1**	**+0.1**
HZTE	**Horizontes, Gu**	**1.64**	**320**	*i* P	**Pn**	**05 37 40.1**	**+0.1**
HZTE				IAML		05 37 46.6	
	comp=Z,1μm,1.0s						
CDITO	**Canoas**	**1.84**	**118**	*i* P	**Pn**	**05 37 43.3**	**+0.5**
CDITO				IAML		05 38 36.2	
	comp=Z,840nm,1.0s						
BRU2	**Volcan**	**1.92**	**110**	*i* P	**Pn**	**05 37 44.3**	**+0.4**
BRU2				IAML		05 38 32.2	
	comp=Z,540nm,1.0s						
ACON	**Acoyapa**	**2.58**	**345**	*e*P	**Pn**	**05 37 54.0**	**+1.2**
BLUN	**Bluefields**	**2.63**	**16**	*i* P	**Pn**	**05 37 54.3**	**+0.7**
BLUN				IAML		05 38 32.8	
	comp=Z,220nm,1.0s						
ESPN	**Las Esperanzas**	**2.73**	**4**	*e*P	**Pn**	**05 37 56.2**	**+1.2**
BOAB	**BOACO BROADBAN**	**3.18**	**339**	*i* P	**Pn**	**05 38 01.2**	**0.0**
BOAB				IAML		05 39 05.7	
	comp=Z,96nm,1.0s						
MACN	**El Madrono**	**3.67**	**325**	*i* P	**Pn**	**05 38 08.0**	**+0.1**
MACN				IAML		05 38 20.7	
	comp=Z,35nm,1.0s						
TEL3	**Telica 3**	**3.85**	**324**	*i* P	**Pn**	**05 38 11.1**	**+0.7**
TEL3				IAML		05 38 20.8	
	comp=Z,370nm,1.0s						
HERN	**Volcan Telica**	**3.87**	**324**	*i* P	**Pn**	**05 38 09.8**	**-0.9**
HERN				IAML		05 38 13.3	
	comp=Z,860nm,1.0s						
LIMN	**Finca el Limon**	**4.02**	**333**	*i* P	**Pn**	**05 38 12.9**	**+0.1**
LIMN				IAML		05 39 46.1	
	comp=Z,42nm,1.0s						

IDC ***02*** *05:38:46.2±1.6, 17.90S×67.15W, h250km±17km, mb3.4/8, mbtmp4.0/10, Error ellipse: s-maj=24.8km s-min=15.9km az=114.0*
NEIC ***02*** *05:38:47.9±1.7, 17.96S±0.08×67.2W±0.1, h269km±10km, mb4.2/20, Error ellipse: s-maj=17.1km s-min=10.6km az=106.0*
SCB ***02*** *05:38:48.0±1.6, 18.02S×67.31W, h270km±18km, ML4.3/4, MW3.9, Error ellipse: s-maj=6.3km s-min=4.7km az=1.0*

ISC 02 05:38:46.8±0.6, **17.96S**±0.05×**67.23W**±0.06, **h250**km, **n74**, σ1**s92**/75, **mb3.8**/9, **Central Bolivia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEO	**Opoqueri**	**0.87**	**226**	Pg	**Pn**	**05 39 25.7**	**+3.9**
SOEJ	**Jacaque**	**1.34**	**317**	Pg	**Pn**	**05 39 28.6**	**+3.9**
BBOE	**La Paz, Chanca**	**1.35**	**327**	Pg	**Pn**	**05 39 28.8**	**+4.0**
SOET	**ToroToro**	**1.36**	**97**	Pg	**Pn**	**05 39 27.7**	**+3.2**
BBOD	**La Paz, Gloria**	**1.85**	**315**	Pg	**Pn**	**05 39 32.1**	**+3.4**
LPAZ	**La Paz**	**1.87**	**332**		**Pn**	**05 39 31.6**	**+2.6**
LPAZ	**La Paz**	**1.87**	**332**	Pg	**Pn**	**05 39 31.9**	**+3.0**
AOEA	**Aiquile**	**1.91**	**97**	Pg	**Pn**	**05 39 32.2**	**+3.3**
PB16	**IPOC Station P**	**2.20**	**260**		**Pn**	**05 39 34.8**	**+3.0**
PB16	**IPOC Station P**	**2.20**	**260**	Pg	**Pn**	**05 39 34.9**	**+3.1**
GO01	**Chusmiza**	**2.52**	**227**		**Pn**	**05 39 37.6**	**+2.8**
GO01	**Chusmiza**	**2.52**	**227**	Pg	**Pn**	**05 39 37.8**	**+2.9**
PB08	**IPOC Station P**	**2.84**	**220**		**Pn**	**05 39 39.1**	**+1.1**
PB08	**IPOC Station P**	**2.84**	**220**	Pg	**Pn**	**05 39 39.6**	**+1.6**
PB11	**IPOC Station P**	**2.92**	**232**		**Pn**	**05 39 40.5**	**+1.9**
PB11	**IPOC Station P**	**2.92**	**232**	Pg	**Pn**	**05 39 40.5**	**+1.9**
PB12	**IPOC Station P**	**3.02**	**257**		**Pn**	**05 39 41.0**	**+1.4**
PB12	**IPOC Station P**	**3.02**	**257**	Pg	**Pn**	**05 39 41.2**	**+1.6**
TA02	**Huaiquique**	**3.58**	**230**		**Pn**	**05 39 47.5**	**+1.7**
MOCB	**Mochara**	**3.60**	**156**	Pg	**Pn**	**05 39 50.1**	**+3.6**
MOCB				Sg	**S**	**05 40 36.0**	**+2.2**
MOCB				IAML		05 40 43.4	
	47nm,1.7s						
PB01	**IPOC Station P**	**3.74**	**214**		**Pn**	**05 39 49.5**	**+1.9**
PB01	**IPOC Station P**	**3.74**	**214**	Pg	**Pn**	**05 39 50.1**	**+2.4**
PB01				Sg	**S**	**05 40 35.5**	**-0.5**
PB01				IAML		05 40 38.5	
	231nm,0.3s						
TA01	**Diego Aracena**	**3.81**	**227**		**Pn**	**05 39 49.6**	**+1.2**
PATCX	**Punta Patache**	**3.97**	**224**		**Pn**	**05 39 51.8**	**+1.5**
PB02	**IPOC Station P**	**4.19**	**216**		**Pn**	**05 39 54.7**	**+1.8**
PB02	**IPOC Station P**	**4.19**	**216**	Pg	**Pn**	**05 39 54.8**	**+1.8**
PB02				Sg	**S**	**05 40 44.0**	**-1.5**
PB02				IAML		05 40 48.6	
	316nm,0.3s						
PB09	**IPOC Station P**	**4.26**	**206**		**Pn**	**05 39 57.0**	**+3.0**
PB09	**IPOC Station P**	**4.26**	**206**	Pg	**Pn**	**05 39 56.6**	**+2.7**
PB07	**IPOC Station P**	**4.51**	**213**		**Pn**	**05 39 58.4**	**+1.5**
LVC	**Limon Verde**	**4.89**	**199**	Pn	**Pn**	**05 40 03.0**	**+1.3**
LVC	**Limon Verde**	**4.89**	**199**	P	**Pn**	**05 40 03.4**	**+1.8**
	68nm,0.4s,baz=24,slow=8.5,SNR=29						
LVC				S	**S**	**05 41 00.7**	**-0.6**
	39nm,0.4s,baz=108,slow=20,SNR=14						
AF01	**San Pedro de A**	**5.05**	**190**		**Pn**	**05 40 05.7**	**+2.2**
PB04	**IPOC Station P**	**5.15**	**212**		**Pn**	**05 40 03.8**	**-0.8**
PB06	**IPOC Station P**	**5.21**	**205**	Pn	**Pn**	**05 40 06.7**	**+1.4**
PB15	**IPOC Station P**	**5.63**	**202**	Pn	**Pn**	**05 40 11.8**	**+1.2**
PB15	**IPOC Station P**	**5.63**	**202**	Pg	**Pn**	**05 40 12.0**	**+1.4**
PB15				Sg	**S**	**05 41 15.8**	**-1.7**
PB15				IAML		05 41 19.0	
	469nm,0.3s						
SIV	**San Ignacio**	**6.21**	**73**	P	**Pn**	**05 40 17.1**	**-0.5**
	4.8nm,0.4s,baz=257,slow=10						
PB14	**IPOC Station P**	**7.27**	**203**	Pn	**Pn**	**05 40 31.8**	**+0.6**
GO02	**Mina Guanaco**	**7.50**	**197**		**Pn**	**05 40 34.2**	**+0.1**
PTLB	**Pontes e Lacer**	**8.14**	**73**		**Pn**	**05 40 41.3**	**-0.7**
ETMB	**Extrema**	**8.15**	**7**	Pn	**Pn**	**05 40 42.6**	**+0.4**
VILB	**Vilhena**	**8.40**	**55**		**Pn**	**05 40 45.0**	**-0.4**
AC02	**Maricunga**	**9.01**	**191**	Pn	**Pn**	**05 40 53.7**	**+0.3**
SAML	**Samuel**	**9.78**	**24**		**Pn**	**05 41 03.0**	**+0.2**
VA03	**San Esteban**	**15.05**	**191**		**P**	**05 42 09.0**	**+1.4**
MT02	**Curacav**	**15.64**	**192**	P	**P**	**05 42 14.7**	**+1.0**
MT02				IAmb	IAmb	05 42 17.1	
	comp=Z,10nm,0.7s						
MT03	**Universidad Ad**	**15.75**	**190**	P	**P**	**05 42 16.1**	**+1.1**
MT13	**San Alfonso**	**15.96**	**189**	P	**P**	**05 42 17.3**	**0.0**
MACA	**Manacapuru-AM**	**16.04**	**24**	P	**P**	**05 42 19.2**	**+0.9**
MACA				IAmb	IAmb	05 42 20.2	
	comp=Z,8.2nm,0.7s						
MT09	**Talagante**	**16.11**	**191**	P	**P**	**05 42 19.6**	**+0.6**
MT09				IAmb	IAmb	05 42 51.1	
	comp=Z,22nm,1.5s						
BO01	**Tunca**	**16.73**	**191**	P	**P**	**05 42 26.0**	**+0.4**
BO01				IAmb	IAmb	05 42 30.5	
	comp=Z,6.4nm,0.6s						
BO02	**Sierra Bellavi**	**17.07**	**190**	P	**P**	**05 42 30.4**	**+1.0**
MCRA	**Macar, Loja**	**18.37**	**316**	P	**P**	**05 42 43.6**	**-0.1**
BOSC	**San Juan Bosco**	**18.40**	**322**	P	**P**	**05 42 43.1**	**-1.0**
BOSC				IAmb	IAmb	05 42 48.3	
	comp=Z,3.2nm,0.4s						
ARNL	**Arenillas**	**19.06**	**317**	P	**P**	**05 42 52.1**	**+1.1**
COHC	**Cochancay**	**19.40**	**321**	P	**P**	**05 42 55.1**	**+0.5**
TRQA	**Tornquist**	**20.55**	**168**	P	**P**	**05 43 05.8**	**-0.9**
TRQA				IAmb	IAmb	05 43 43.1	
	comp=Z,13nm,1.4s						
BOAV	**Boa Vista**	**21.27**	**19**	P	**P**	**05 43 13.3**	**-1.0**
GO06	**Curarrehue**	**21.86**	**189**	P	**P**	**05 43 19.7**	**+0.1**
PLCA	**Paso Flores**	**22.88**	**187**	P	**P**	**05 43 28.9**	**0.0**
PLCA				IAmb	IAmb	05 43 40.7	
	comp=Z,8.1nm,1.5s						
PLCA	**Paso Flores**	**22.88**	**187**	P	**P**	**05 43 29.6**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=356,slow=12,SNR=7.3						
	comp=Z,0.9nm,0.5s						
PDAR	**Pinedale Array**	**71.89**	**329**	P	**P**	**05 49 42.8**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=118,slow=9.0,SNR=8.4						
	comp=Z,0.5nm,0.4s						
QSPA	**South Pole Qui**	**72.22**	**180**	P	**P**	**05 49 44.6**	**-0.1**
QSPA				IAmb	IAmb	05 50 05.3	
	comp=Z,5.4nm,1.4s						
QSPA	**South Pole Qui**	**72.22**	**180**	P	**P**	**05 49 44.5**	**-0.1**
	comp=Z,1.2nm,1.1s,baz=191,slow=8.1,SNR=1.6						
	comp=Z,1.2nm,1.1s						
ULM	**Lac du Bonnet**	**72.46**	**341**	P	**P**	**05 49 44.3**	**-1.6**
	comp=Z,0.8nm,0.4s,baz=132,slow=4.0,SNR=3.8						
	comp=Z,0.8nm,0.4s						
SCHQ	**Schefferville**	**72.50**	**0**	P	**P**	**05 49 44.5**	**-1.5**
	comp=Z,2.6nm,0.9s,baz=238,slow=9.5,SNR=4.3						
	comp=Z,2.6nm,0.9s						
TOA0	**Torodi Ar. Sit**	**74.68**	**70**	P	P	05 49 57.6	-1.9
TOA0				IAmb	IAmb	05 50 35.6	
	comp=Z,5.6nm,1.5s						
TORD	**Torodi Ar. Bea**	**74.68**	**70**	P	P	05 49 57.2	-2.4
TORD	**Torodi Ar. Bea**	**74.68**	**70**	P	P	05 49 57.4	-2.2
	comp=Z,0.7nm,0.5s,baz=253,slow=5.0,SNR=7.0						
	comp=Z,0.7nm,0.5s						
ESDC	**Sonseca Array**	**82.20**	**44**	P	**P**	**05 50 39.2**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=257,slow=5.5,SNR=2.8						
	comp=Z,0.5nm,0.6s						
YKA	**Yellowknife Ar**	**88.40**	**340**	P	**P**	**05 51 09.6**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=129,slow=4.5,SNR=40						
	comp=Z,1.8nm,0.7s						
ZALV	**Zalesovo Beam**	**138.09**	**25**	PKP	**PKPdf**	**05 57 40.6**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=229,slow=3.3,SNR=1.8						
MKAR	**Makanchi Array**	**141.84**	**34**	PKhKP	PKPpre	05 57 44.4	
	comp=Z,0.1nm,0.3s,baz=328,slow=5.1,SNR=1.7						
SONM	**Songino Array**	**149.75**	**9**	PKPbc	**PKPdf**	**05 58 06.7**	**+4.4**
	comp=Z,1.0nm,0.6s,baz=315,slow=0.9,SNR=6.2						

NEIC ***02*** *05:42:02.6±1.7, 31.05N×0.06×103.27W±0.03, h2km±6km, mb_Lg2.7/39, ML2.9/66, Error ellipse: s-maj=8.6km s-min=3.8km az=171.0*

ISC 02 05:42:02.9±1.3, **31.05N**±0.03×**103.29W**±0.03, **h2**km±15km, **n46**, σ1**s05**/44, **Western Texas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNHN	**Monahans**	**0.54**	**57**		**Pb**	**05 42 13.9**	**-1.2**
MNHN				Sg	**Sb**	**05 42 21.8**	**-1.6**
PECS	**Pecos**	**0.59**	**303**		**Pg**	**05 42 14.4**	**+0.2**
PECS				Sg	**Sg**	**05 42 23.2**	**+1.3**
ALPN	**Alpine**	**0.74**	**204**	Pg	**Pg**	**05 42 17.2**	**+0.1**
ALPN				IAML		05 42 32.6	
	295nm,0.3s						
ODSA	**Odessa**	**1.24**	**31**	Pg	**Pg**	**05 42 26.1**	**-0.6**
VHRN	**Van Horn**	**1.48**	**260**		**Pn**	**05 42 30.0**	**-0.8**
VHRN				Sg	**Sg**	**05 42 50.5**	**0.0**
VHRN				IAML		05 42 54.2	
	171nm,0.6s						
VHRN				IAML		05 42 56.0	
	139nm,0.5s						
SAND	**Sanderson**	**1.49**	**137**		**Pg**	**05 42 31.6**	**+0.2**
TX31	**Lajitas Ar. Si**	**1.74**	**191**		**Pb**	**05 42 34.7**	**-1.0**
TX31	**Lajitas Ar. Si**	**1.74**	**191**	P	**Pb**	**05 42 35.3**	**-0.4**
	baz=11						
TX31				Sb	**Sg**	**05 42 59.0**	**+0.1**
	baz=11						
TXAR	**Lajitas Array**	**1.74**	**191**		**Pn**	**05 42 34.6**	**+0.3**
OZNA	**Ozona**	**1.86**	**93**		**Pb**	**05 42 37.2**	**-0.5**
MNTX	**Cornudas Mount**	**1.90**	**290**	P	**Pn**	**05 42 37.3**	**+0.9**
	baz=109						
MNTX				S	**Sb**	**05 43 03.0**	**+0.4**
	baz=109						
SGCY	**Sterling City**	**2.04**	**64**		**Pb**	**05 42 39.2**	**-1.5**
SGCY				IAmb_Lg		05 43 11.6	
	comp=Z,33nm,1.0s						
POST	**Post**	**2.52**	**37**		**Pn**	**05 42 46.0**	**+1.0**
SN05	**Snyder 5**	**2.74**	**48**		**Pn**	**05 42 49.1**	**+1.2**
DRIO	**Del Rio**	**2.83**	**124**		**Pn**	**05 42 51.0**	**+1.8**
DRIO				IAmb_Lg		05 43 32.2	
	comp=Z,27nm,0.7s						
SN07	**Snyder 07**	**2.88**	**44**		**Pn**	**05 42 51.1**	**+1.2**
MSTX	**Muleshoe**	**2.94**	**8**		**Pn**	**05 42 53.0**	**+2.2**
MSTX	**Muleshoe**	**2.94**	**8**	P	**Pn**	**05 42 50.5**	**-0.3**
	baz=188						
JCT	**Junction City**	**3.06**	**100**		**Pn**	**05 42 54.0**	**+1.7**
DKNS	**Dickens**	**3.29**	**37**		**Pn**	**05 42 56.5**	**+1.0**
DKNS				IAmb_Lg		05 43 51.2	
	comp=Z,32nm,1.0s						
ABTX	**Abilene, Hawle**	**3.48**	**62**		**Pn**	**05 42 58.5**	**+0.4**
ABTX				IAmb_Lg		05 44 02.0	
	comp=Z,31nm,1.2s						
ABTX	**Abilene, Hawle**	**3.48**	**62**	P	**Pn**	**05 42 59.3**	**+1.2**
	baz=244						
APMT	**Aspermont**	**3.52**	**49**		**Pn**	**05 42 59.6**	**+1.0**
APMT				IAmb_Lg		05 43 58.7	
	comp=Z,21nm,0.9s						
BRDY	**Brady**	**3.69**	**85**		**Pn**	**05 43 02.6**	**+1.7**
HNDO	**Hondo**	**3.79**	**

ETOB	**Tobarra**	**1.45**	**238**	Pn	**Pn**	**05 53 39.7**	**+0.5**
ETOB				Sn	**Sb**	**05 53 58.6**	**+0.3**
ETOB	**Tobarra**	**1.45**	**238**	Pn	**Pn**	**05 53 39.7**	**+0.5**
ETOB				Sn	**Sn**	**05 53 56.9**	**-0.9**
ETOB				*i* Vmb_Lg		05 54 02.2	
ERTA	**Horta de San J**	**1.56**	**9**	Pn	**Pb**	**05 53 42.1**	**-0.1**
ERTA				Sn	**Sg**	**05 54 03.5**	**-0.6**
ERTA				*i* Vmb_Lg		05 54 14.0	
EMUR	**La Murta**	**1.86**	**213**	Sn	**Sb**	**05 54 10.1**	**-0.1**
EMUR				Pn	**Pn**	**05 53 46.3**	**+1.5**
EMUR	**La Murta**	**1.86**	**213**	Pn	**Pb**	**05 53 48.1**	**+0.8**
EMUR				Sn	**Sn**	**05 54 08.5**	**+0.6**
EMUR				Sg	**Sg**	**05 54 12.8**	**-0.8**
CART	**Cartagena**	**1.99**	**204**	Pg	**Pb**	**05 53 51.2**	**+1.6**
EPOB	**Poblet**	**2.10**	**22**	Pn	**Pn**	**05 53 49.1**	**+0.9**
EPOB				Pg	**Pg**	**05 53 54.8**	**+0.7**
EPOB				Sn	**Sb**	**05 54 15.6**	**-1.6**
EPOB				Sg	**Sg**	**05 54 21.8**	**+0.4**
ETOS	**Mallorca**	**2.19**	**80**	Pn	**Pn**	**05 53 50.1**	**+0.8**
ETOS				Sn	**Sn**	**05 54 15.9**	**-0.1**
UCM	**Universidad Co**	**2.67**	**291**	Pg	**Pg**	**05 54 04.2**	**-0.8**
UCM				Sg	**Sg**	**05 54 39.2**	**-0.4**
EQES	**Quesada**	**2.91**	**237**	Pn	**Pn**	**05 54 00.4**	**+1.1**
EQES				Sn	**Sn**	**05 54 34.6**	**+0.6**
EQES				Sg	**Sg**	**05 54 45.5**	**-1.9**
PSIM	**Granatula de C**	**3.00**	**260**	Pn	**Pn**	**05 54 02.8**	**+2.3**
PSIM				Pg	**Pg**	**05 54 10.4**	**-0.9**
PSIM				Sn	**Sn**	**05 54 36.0**	**-0.1**
PSIM				Sg	**Sg**	**05 54 47.6**	**-2.6**
PAB	**San Pablo**	**3.39**	**274**	Pn	**Pn**	**05 54 06.2**	**+0.3**
PAB				Sn	**Sn**	**05 54 45.0**	**-0.7**
PAB				Sg	**Sg**	**05 55 00.6**	**-2.0**
GUD	**Guadarrama**	**3.43**	**292**	Pn	**Pn**	**05 54 08.1**	**+1.5**
EQTA	**Presa de Quent**	**3.50**	**232**	Pn	**Pn**	**05 54 09.3**	**+1.7**
EPF	**Esparros**	**3.62**	**4**	*e*Pg	**Pg**	**05 54 22.1**	**-1.1**
EPF				*e*Sn	**Sn**	**05 54 51.1**	**-0.4**
	3.0nm,0.4s						
EADA	**Adamuz**	**3.80**	**252**	Pg	**Pb**	**05 54 23.5**	**+3.0**
EADA				Pn	**Pn**	**05 54 11.6**	**-0.1**
EADA	**Adamuz**	**3.80**	**252**	Pn	**Pn**	**05 54 11.5**	**-0.2**
EADA				Pg	**Pg**	**05 54 24.7**	**-2.0**
EADA				Sn	**Sn**	**05 54 53.7**	**-2.2**
EADA				Sg	**Sg**	**05 55 13.9**	**-2.1**
SJPF	**Ste Jean**	**3.81**	**346**	*e*Pn	**Pn**	**05 54 12.9**	**+1.2**
SJPF				*e*Sn	**Sn**	**05 54 56.1**	**0.0**
	0.6nm,0.2s						

IDC 02 05:58:22.8±1.4,**6°36S**×**143°29E**,**h0**km,**mb3.8**/2,
mbtmp3.8/5,**ML3.5**/2,**MS3.6**/10,**Error ellipse:**
s-maj=33.5km s-min=23.8km az=82.0,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.88**	**129**	Pn	Pn	05 59 36.7	-0.8
	3.3nm,0.3s,baz=286,slow=19,SNR=1.7						
PMG				Sn	Sn	06 00 37.0	+2.3
	4.4nm,0.3s,baz=298,slow=15,SNR=6.0						
PMG				LR	LR	06 02 31.1	
	comp=Z,368nm,18.2s,baz=281,slow=51						
CTA	**Charters Tower**	**13.94**	**168**	LR	LR	06 06 52.3	
	comp=Z,200nm,19.1s,baz=331,slow=36						
WRA	**Warramunga Arr**	**16.06**	**212**	Pn	Pn	06 02 08.0	-2.1
	0.1nm,0.3s,baz=30,slow=13,SNR=3.3						
WRA				Sn	Sn	06 04 59.4	-10
	0.1nm,0.3s,baz=28,slow=23,SNR=4.9						
WRA				Lg	Lg	06 06 50.2	
	baz=40,slow=26,SNR=2.6						
	1.6nm,0.8s						
ASAR	**Alice Springs**	**19.43**	**207**	P	Pn	06 02 52.7	+0.7
	0.3nm,0.3s,baz=26,slow=12,SNR=12						
ASAR				Lg	Lg	06 08 40.3	
	baz=35,slow=30						
ASAR				LR	LR	06 11 26.3	
	comp=Z,170nm,18.3s,baz=10.0,slow=40						
	2.2nm,0.7s						
STKA	**Stephens Creek**	**25.43**	**183**	LR	LR	06 14 51.5	
	comp=Z,127nm,19.7s,baz=311,slow=39						
LEM	**Lembang**	**35.44**	**267**	LR	LR	06 23 30.8	
	comp=Z,41nm,18.9s,baz=110,slow=43						
NWAO	**Narrogin (SRO)**	**35.85**	**219**	LR	LR	06 20 56.0	
	comp=Z,173nm,18.8s,baz=66,slow=38						
RPZ	**Rata Peaks**	**44.48**	**151**	LR	LR	06 26 45.8	
	comp=Z,91nm,18.4s,baz=192,slow=38						
SHEM	**Shemya Is, Ala**	**64.42**	**20**	LR	LR	06 34 01.2	
	comp=Z,28nm,21.4s,baz=312,slow=33						
VNDA	**Vanda**	**71.80**	**176**	LR	LR	06 38 53.4	
	comp=Z,152nm,19.3s,baz=194,slow=34						
MKAR	**Makanchi Array**	**75.46**	**322**	P	P	06 10 08.9	+0.1
	0.4nm,0.6s,baz=107,slow=7.3,SNR=5.5						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**84.91**	**325**	P	P	06 10 59.3	-0.4
	1.2nm,0.8s,baz=100,slow=6.3,SNR=5.0						
	1.2nm,0.8s						
YBH	**Yreka Blue Hor**	**97.17**	**49**	LR	LR	06 48 39.6	
	comp=Z,44nm,19.3s,baz=88,slow=31						

IDC 02 06:00:59.3±3.7,**55°54N**×**86°25E**,**h0**km,**mbtmp2.7**/2,
ML2.4/2,**Error ellipse: s-maj=29.7km s-min=25.0km**
az=26.0,**Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.79**	**208**	I	I	06 12 24.5	
	baz=27,slow=352,SNR=6.1						
ZALV	**Zalesovo Beam**	**1.79**	**208**	Pg	Pn	06 01 31.0	-0.5
	2.9nm,0.3s,baz=30,slow=16,SNR=9.3						
ZALV				Lg	Lg	06 01 56.0	
	2.0nm,0.3s,baz=25,slow=26,SNR=1.8						
KURBB	**Kurchatov Arra**	**6.77**	**227**	Pn	Pn	06 02 39.6	-0.2
	baz=45,slow=14,SNR=4.0						
KURBB				Lg	Lg	06 04 36.5	
	baz=40,slow=29,SNR=1.5						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**9.10**	**197**	Pn	Pn	06 03 12.4	+0.6
	0.1nm,0.3s,baz=12,slow=9.7,SNR=2.1						
	0.1nm,0.3s						

*HEL **02** 06:12:07.1±0.1,67°.59N×33°.83E,h0km,ML1.9,Suspected explosion*
*KOLA **02** 06:12:07.6,67°.64N×33°.77E,h0km,ML2.2,Error ellipse: s-maj=5.5km s-min=2.0km az=150.0,Khibiny, mines Kirovsk, Yukspor*
*IDC **02** 06:12:10.1±1.5,67°.68N×33°.30E,h0km,mbtmp3.5/6, ML2.5/5,Error ellipse: s-maj=15.4km s-min=8.4km az=84.0*

ISC 02 06:12:06.3±0.8,**67°.63N**±0°.03×**33°.77E**±0°.03,**h0**km,**n33,**
σ1**°76**/57,**Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.15**	**247**	P	**Pg**	**06 12 10.5**	**+1.3**
APA0	**Apatity Array**	**0.30**	**266**	P	**Pg**	**06 12 12.9**	**+0.9**
APA0				S	**Sg**	**06 12 17.1**	**+1.2**
LVZ	**Lovozero**	**0.43**	**51**	P	**Pg**	**06 12 15.4**	**+0.8**
LVZ				S	**Sg**	**06 12 21.1**	**+0.9**
LVZ	**Lovozero**	**0.43**	**51**	PG	**Pg**	**06 12 14.9**	**+0.3**
	baz=225						
LVZ				SG	**Sg**	**06 12 21.1**	**+0.9**
VRF	**Varrio**	**1.59**	**276**	PG	**Pn**	**06 12 35.8**	**+0.1**
VRF				MSG		06 12 55.6	
	comp=Z,12nm,0.2s						
VRF				SG	**Sn**	**06 12 56.3**	**-0.7**
TERR	**Teriberka**	**1.66**	**17**	P	**Pn**	**06 12 36.9**	**+0.3**
TERR				S	**Sn**	**06 12 58.0**	**-0.5**
OLKF	**Oulanka, Finla**	**2.16**	**235**	PG	**Pn**	**06 12 46.0**	**+2.4**
OLKF				MSG		06 13 11.1	
	comp=Z,7.5nm,0.2s						
RAJF	**Raja-Jooseppi**	**2.22**	**295**	PB	**Pn**	**06 12 45.1**	**+0.8**
RAJF				SB	**Sn**	**06 13 14.1**	**+1.7**
KU6	**Riekki**	**2.22**	**225**	PG	**Pn**	**06 12 46.4**	**+2.0**
	baz=45						
KU6				MSG		06 13 12.4	
	comp=Z,4.8nm,0.2s						
KU6				SG	**Sb**	**06 13 17.0**	**+1.6**
MSF	**Maaselka**	**2.55**	**230**	PG	**Pn**	**06 12 52.0**	**+3.1**
MSF				SG	**Sb**	**06 13 26.4**	**+1.8**
SGF	**Sodankyl**	**2.79**	**269**	PN	**Pn**	**06 12 53.0**	**+0.9**
SGF				SG	**Sb**	**06 13 31.5**	**0.0**
KMNF	**Kaamanen**	**2.93**	**304**	PN	**Pn**	**06 12 55.0**	**+0.8**
KMNF				SB	**Sb**	**06 13 36.1**	**+0.3**
VADS	**Vadso**	**2.97**	**330**	P	**Pn**	**06 12 55.2**	**+0.6**
VADS				S	**Sn**	**06 13 30.8**	**-0.1**
RNF	**Rovaniemi**	**3.20**	**255**	PN	**Pn**	**06 12 59.0**	**+1.2**
	baz=68						
RNF				SN	**Sn**	**06 13 37.9**	**+1.4**
RANF	**Ranua**	**3.20**	**243**	PN	**Pn**	**06 12 59.6**	**+1.8**
RANF				SG	**Sb**	**06 13 45.7**	**+2.2**
KEV	**Kevo**	**3.26**	**314**	*e*P	**Pn**	**06 13 00.2**	**+1.5**
KEV	**Kevo**	**3.26**	**314**	PN	**Pn**	**06 12 59.9**	**+1.2**
	baz=127						
KEV				SN	**Sn**	**06 13 38.5**	**+0.4**
ARA0	**ARCESS Array S**	**3.58**	**306**	*e*P	**Pn**	**06 13 03.9**	**+0.8**
ARCES	**ARCESS Array B**	**3.58**	**306**	P	**Pn**	**06 13 03.3**	**+0.2**
ARCES				S	**Sn**	**06 13 45.3**	**-0.8**
ARCES	**ARCESS Array B**	**3.58**	**306**	Pn	**Pn**	**06 13 03.9**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=123,slow=15,SNR=196						
ARCES				Pg	**Pb**	**06 13 11.9**	**+1.4**
	comp=Z,1.1nm,0.3s,baz=118,slow=15,SNR=17						
ARCES				Sn	**Sn**	**06 13 43.4**	**-2.6**
	comp=Z,1.3nm,0.3s,baz=116,slow=25,SNR=15						
ARCES				Lg	Lg	06 13 56.6	
	comp=Z,2.9nm,0.3s,baz=122,slow=24,SNR=13						
	comp=Z,3.3nm,0.3s						
RMF	**Romuvaara**	**3.77**	**206**	PN	**Pn**	**06 13 06.7**	**+1.1**
	baz=27						
KLF	**Kolari**	**3.80**	**269**	PN	**Pn**	**06 13 06.7**	**+0.6**
KLF				SG	**Sg**	**06 14 05.6**	**-2.7**
HEF	**Hetta**	**3.88**	**286**	PN	**Pn**	**06 13 08.0**	**+0.8**
	baz=94						
HEF				SN	**Sn**	**06 13 53.0**	**-0.3**
OUL	**Oulu**	**4.07**	**235**	PB	**Pb**	**06 13 16.3**	**-2.4**
	baz=49						
OUL				SG	**Sb**	**06 14 11.2**	**+2.8**
KTK1	**Kautokeino**	**4.15**	**294**	PN	**Pn**	**06 13 12.5**	**+1.7**
KTK1				SG	**Sb**	**06 14 13.8**	**+3.2**
PAJU	**Pajala**	**4.17**	**267**	PN	**Pn**	**06 13 11.6**	**+0.4**
PAJU				SN	**Sn**	**06 14 00.7**	**+0.2**
KALU	**Kalix**	**4.49**	**252**	PG	**Pb**	**06 13 28.3**	**+2.4**
KALU				SG	**Sg**	**06 14 28.0**	**-2.5**
FINES	**FINESS Array B**	**7.03**	**212**	Pn	**Pn**	**06 13 50.9**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=27,slow=13,SNR=5.2						
FINES				Sn	**Sn**	**06 15 08.6**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=24,slow=24,SNR=2.4						
FINES				Lg	Lg	06 15 44.4	
	comp=Z,0.8nm,0.3s,baz=24,slow=26,SNR=7.6						
	comp=Z,0.5nm,0.4s						
FAUS	**Fauske**	**7.09**	**277**	S	**Sn**	**06 15 07.3**	**-5.0**
HFS	**Hagfors**	**11.55**	**239**	Pn	**Pn**	**06 14 49.6**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=40,slow=19,SNR=2.1						
HFS				Sn	Sn	06 16 51.1	-11
	comp=Z,0.2nm,0.3s,baz=75,slow=17,SNR=1.5						
HFS				Lg	Lg	06 18 04.9	
	comp=Z,0.3nm,0.3s,baz=37,slow=30,SNR=2.5						
	comp=Z,1.7nm,0.8s						
SPITS	**Spitsbergen Ar**	**11.68**	**342**	Pn	**Pn**	**06 14 51.4**	**-2.5**
	baz=146,slow=15						
	comp=Z,25nm,1.2s						
NOA	**NORSAR Array B**	**11.74**	**247**	Pn	**Pn**	**06 14 53.8**	**-1.0**
	baz=45,slow=11,SNR=1.6						
NOA				Sn	Sn	06 16 57.4	-9.0
	baz=41,slow=20,SNR=1.4						
NOA				Lg	Lg	06 18 14.8	
	baz=40,slow=24,SNR=4.0						
	comp=Z,0.6nm,0.9s						
AKASG	**Malin Array Be**	**17.13**	**190**	Pn	**Pn**	**06 16 03.8**	**-3.0**
	comp=Z,0.4nm,0.5s,baz=8.1,slow=13,SNR=4.3						

*NEIC **02** 06:30:09.9±1.2,55°.95N±0°.09×150°.0W±0°.1,h7km±8km, ML3.4/32,ML3.3(AEIC),Error ellipse: s-maj=13.7km s-min=9.0km az=160.0*
*AEIC **02** 06:30:14.2±1.2,55°.93N±0°.09×149°.9W±0°.1,h7km±8km, Error ellipse: s-maj=14.1km s-min=8.7km az=158.0*
*IDC **02** 06:30:20.1±4.3,56°.23N×148°.59W,h0km,mb3.5/1, mbtmp3.1/3,ML2.8/2,MS2.6/1,Error ellipse: s-maj=78.7km s-min=48.2km az=77.0*

ISC 02 06:30:10.2±1.7,**56°.0N**±0°.1×**149°.97W**±0°.05,**h10**km,**n140,**
σ0**°98**/138,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.21**	**305**		Pn	**06 30 46.9**	**+0.1**
OHAK					Sn	**06 31 12.3**	**-1.7**
OHAK	**Old Harbor**	**2.21**	**305**	P	Pn	**06 30 46.9**	**+0.1**
	baz=124						
OHAK				S	Sn	**06 31 12.3**	**-1.7**
	baz=124						
KDAK	**Kodiak Island**	**2.29**	**322**		Pn	06 30 48.4	+0.3
KDAK					Sn	06 31 14.5	-1.7
KDAK	**Kodiak Island**	**2.29**	**322**	LR	LR	06 32 02.4	
	comp=Z,118nm,20.1s,baz=143,slow=38						
SII	**Sitkinak Islan**	**2.42**	**285**		Sn	**06 31 17.0**	**-2.3**
SII	**Sitkinak Islan**	**2.42**	**285**	S	Sn	**06 31 17.0**	**-2.3**
	baz=103						
SYI	**Shuyak Island**	**2.93**	**334**		Pn	**06 30 57.4**	**+0.7**
SYI					Sn	**06 31 31.7**	**-0.2**
SYI	**Shuyak Island**	**2.93**	**334**	IAML		06 31 41.0	
	comp=E,45nm,1.5s						
Q20K	**Shuyak Island**	**2.93**	**334**	P	Pn	**06 30 57.4**	**+0.7**
	baz=153						
Q20K				S	Sn	**06 31 31.7**	**-0.2**
	baz=153						
Q19K	**Cape Douglas,**	**3.54**	**328**		Pn	**06 31 06.7**	**+1.4**
Q19K	**Cape Douglas,**	**3.54**	**328**	IAML		06 31 54.2	
	comp=N,150nm,1.1s						
Q19K	**Cape Douglas,**	**3.54**	**328**	P	Pn	**06 31 06.6**	**+1.4**
	baz=145						
CNPM	**China Poot**	**3.60**	**350**		Pn	**06 31 06.1**	**0.0**
CNPM					Sn	**06 31 48.2**	**-0.4**
CNPM	**China Poot**	**3.60**	**350**	IAML		06 32 06.6	
	comp=E,30nm,1.3s						
ACHA	**Angle Creek He**	**3.67**	**309**		Pn	**06 31 08.2**	**+1.3**
BRSE	**Bradley Lake S**	**3.78**	**354**		Pn	**06 31 08.3**	**-0.2**
BRSE					Sn	**06 31 51.1**	**-1.8**
BRSE	**Bradley Lake S**	**3.78**	**354**	P	Pn	**06 31 08.3**	**-0.2**
	baz=174						
BRSE				S	Sn	**06 31 51.1**	**-1.8**
	baz=174						
BRLK	**Bradley Lake**	**3.81**	**353**		Pn	**06 31 08.6**	**-0.3**
BRLK	**Bradley Lake**	**3.81**	**353**	IAML		06 31 53.9	
	comp=E,32nm,1.2s						
BRLK				IAML		06 31 54.9	
	comp=N,29nm,1.0s						
KAHC	**Katmai Hardscr**	**3.81**	**316**		Pn	**06 31 10.6**	**+1.6**
KAHC	**Katmai Hardscr**	**3.81**	**316**	P	Pn	**06 31 10.6**	**+1.6**
	baz=133						
CNTC	**Contact Creek**	**3.94**	**308**		Pn	**06 31 11.9**	**+1.2**
Q17K	**Contact Creek**	**3.94**	**308**	P	Pn	**06 31 11.9**	**+1.2**
	baz=123						
Q23K	**Middleton Isla**	**3.95**	**28**		Pn	**06 31 10.5**	**-0.2**
Q23K	**Middleton Isla**	**3.95**	**28**	P	Pn	**06 31 10.5**	**-0.2**
	baz=211						
P23K	**Montague Islan**	**4.24**	**18**		Pn	**06 31 14.5**	**-0.3**
P23K	**Montague Islan**	**4.24**	**18**	P	Pn	**06 31 14.5**	**-0.3**
	baz=200						
ILSW	**Iliamna Southw**	**4.34**	**338**	Pn	Pn	**06 31 17.2**	**+1.0**
ILSW				IAML		06 32 09.8	
	comp=N,25nm,0.4s						
ILSW				IAML		06 32 10.1	
	comp=E,28nm,0.8s						
P18K	**Big Mountain,**	**4.42**	**323**		Pn	**06 31 17.6**	**+0.3**
P18K	**Big Mountain,**	**4.42**	**323**	P	Pn	**06 31 17.6**	**+0.3**
	baz=139						
SLKM	**Skilak Lake**	**4.53**	**358**		Pn	**06 31 18.4**	**-0.3**
P17K	**Kvichak River**	**4.73**	**315**		Pn	**06 31 22.9**	**+1.5**
P17K	**Kvichak River**	**4.73**	**315**	P	Pn	**06 31 22.9**	**+1.5**
	baz=130						
CHGN	**Chignik**	**4.73**	**277**	Pn	Pn	**06 31 21.9**	**+0.4**
CHGN				IAML		06 32 23.2	
	comp=E,38nm,1.5s						
CHGN				IAML		06 33 40.2	
	comp=N,38nm,1.5s						
O18K	**Koktuh Hills**	**4.77**	**326**		Pn	**06 31 22.8**	**+0.7**
O18K	**Koktuh Hills**	**4.77**	**326**	IAML		06 32 26.4	
	comp=N,15nm,1.5s						
O18K				IAML		06 32 32.3	
	comp=E,16nm,0.9s						
O18K	**Koktuh Hills**	**4.77**	**326**	P	Pn	**06 31 22.8**	**+0.7**
	baz=142						
HIN	**Hinchinbrook I**	**4.78**	**21**		Pn	**06 31 22.4**	**+0.2**
HIN	**Hinchinbrook I**	**4.78**	**21**	IAML		06 33 21.8	
	comp=E,62nm,1.4s						
HIN				IAML		06 33 38.3	
	comp=N,44nm,1.5s						
O19K	**Port Alsworth**	**4.80**	**333**		Pn	**06 31 21.6**	**-0.8**
KAIM	**Kayak Island**	**4.92**	**35**		Pn	**06 31 24.4**	**+0.2**
KAIM	**Kayak Island**	**4.92**	**35**	IAML		06 32 27.0	
	comp=N,44nm,1.2s						
KAIM	**Kayak Island**	**4.92**	**35**	P	Pn	**06 31 24.3**	**+0.2**
	baz=219						
EYAK	**Cordova Ski Ar**	**5.08**	**24**		Pn	**06 31 26.6**	**+0.3**
EYAK	**Cordova Ski Ar**	**5.08**	**24**	P	Pn	**06 31 26.6**	**+0.3**
	baz=208						
RAGM	**Ragged Mountai**	**5.22**	**30**		Pn	**06 31 28.5**	**+0.3**
RAGM	**Ragged Mountai**	**5.22**	**30**	IAML		06 32 36.9	
	comp=E,38nm,0.7s						
P16K	**Nushagak River**	**5.28**	**308**		Pn	**06 31 30.4**	**+1.3**
P16K	**Nushagak River**	**5.28**	**308**	P	Pn	**06 31 30.4**	**+1.3**
	baz=122						
HMT	**Hamilton**	**5.30**	**32**		Pn	**06 31 29.8**	**+0.5**
HMT	**Hamilton**	**5.30**	**32**	IAML		06 32 47.0	
	comp=N,42nm,1.3s						
NICHA	**Nichawak Mount**	**5.31**	**34**		Pn	**06 31 30.0**	**+0.5**
O17K	**Koliganek Bris**	**5.36**	**318**		Pn	**06 31 31.1**	**+1.0**
O17K	**Koliganek Bris**	**5.36**	**318**	P	Pn	**06 31 31.1**	**+1.0**
	baz=132						
GOAT	**Goat Mountain**	**5.36**	**29**		Pn	**06 31 30.7**	**+0.4**
N19K	**Bonanza Creek**	**5.38**	**336**		Pn	**06 31 30.6**	**+0.1**
N19K	**Bonanza Creek**	**5.38**	**336**	P	Pn	**06 31 30.6**	**+0.1**
	baz=152						
BGLC	**Bering Glacier**	**5.45**	**38**		Pn	**06 31 32.2**	**+0.9**
BGLC	**Bering Glacier**	**5.45**	**38**	P	Pn	**06 31 32.2**	**+0.9**
	baz=223						
KNK	**Knik Glacier**	**5.49**	**8**		Pn	**06 31 32.4**	**+0.5**
KNK	**Knik Glacier**	**5.49**	**8**	P	Pn	**06 31 32.4**	**+0.5**
	baz=189						
SUA	**Susitna One**	**5.50**	**356**		Pn	**06 31 32.5**	**+0.4**
SUA	**Susitna One**	**5.50**	**356**	P	Pn	**06 31 32.5**	**+0.4**
	baz=176						
BERG	**Berg Lake**	**5.51**	**34**		Pn	**06 31 32.3**	**+0.1**
GRIN	**Grindle Hills**	**5.55**	**37**		Pn	**06 31 33.6**	**+0.7**
STLK	**Strandline Lak**	**5.60**	**351**		Pn	**06 31 33.4**	**-0.1**
N18K	**Kilae Creek**	**5.63**	**329**		Pn	**06 31 34.4**	**+0.5**
N18K	**Kilae Creek**	**5.63**	**329**	P	Pn	**06 31 34.4**	**+0.5**
	baz=144						
O16K	**Kokwok River B**	**5.64**	**313**		Pn	**06 31 35.1**	**+1.1**
O16K	**Kokwok River B**	**5.64**	**313**	P	Pn	**06 31 35.1**	**+1.1**
	baz=127						
SNH	**Sunshine Point**	**5.65**	**39**		Pn	**06 31 34.7**	**+0.6**
KHIT	**Khitrov Hills**	**5.70**	**36**		Pn	**06 31 35.1**	**+0.2**
BMRM	**Bremner River**	**5.72**	**27**		Pn	**06 31 35.6**	**+0.4**
BMRM	**Bremner River**	**5.72**	**27**	P	Pn	**06 31 35.6**	**+0.4**
	baz=212						
GHO	**Glory Hole Cre**	**5.82**	**5**		Pn	**06 31 37.5**	**+1.0**
WAX	**Waxell Ridge**	**5.84**	**37**		Pn	**06 31 37.2**	**+0.5**
SVW2	**Sparrevohn**	**5.89**	**332**	Pn	Pn	**06 31 37.5**	**0.0**
KLU	**Klutina**	**5.90**	**19**		Pn	**06 31 38.4**	**+0.7**
KLU	**Klutina**	**5.90**	**19**	P	Pn	**06 31 38.4**	**+0.7**
	baz=203						
N17K	**Nushagak Hills**	**5.92**	**323**		Pn	**06 31 38.8**	**+0.9**
N17K	**Nushagak Hills**	**5.92**	**323**	P	Pn	**06 31 38.8**	**+0.9**
	baz=137						
BARK	**Barkley Ridge**	**5.93**	**39**		Pn	**06 31 38.3**	**+0.3**
MESA	**MESA**	**5.97**	**42**		Pn	**06 31 39.0**	**+0.3**
MESA	**MESA**	**5.97**	**42**	P	Pn	**06 31 39.0**	**+0.3**
	baz=229						
CRQM	**Cirque**	**5.97**	**34**		Pn	**06 31 39.0**	**+0.3**
CRQE	**Cirque**	**5.98**	**34**	P	Pn	**06 31 39.0**	**+0.2**
	baz=220						
TGL	**Tana Glacier**	**6.07**	**35**		Pn	**06 31 40.4**	**+0.4**
ISLE	**Juniper Island**	**6.12**	**38**		Pn	**06 31 41.1**	**+0.4**
BAGL	**Bagley Icefiel**	**6.13**	**39**		Pn	**06 31 41.0**	**+0.4**
O15K	**Ungalikthiuk R**	**6.18**	**305**		Pn	**06 31 42.6**	**+1.2**
O15K	**Ungalikthiuk R**	**6.18**	**305**	P	Pn	**06 31 42.6**	**+1.2**
	baz=117						
VRDI	**Verde Repeater**	**6.25**	**30**		Pn	**06 31 42.7**	**+0.2**
N25K	**Chitina, Valde**	**6.28**	**24**		Pn	**06 31 43.2**	**+0.4**
N25K	**Chitina, Valde**	**6.28**	**24**	P	Pn	**06 31 43.2**	**+0.4**
	baz=209						
M18K	**Stony River**	**6.29**	**333**		Pn	**06 31 42.9**	**0.0**
M18K	**Stony River**	**6.29**	**333**	P	Pn	**06 31 42.9**	**0.0**
	baz=149						
GLB	**Gilahina Butte**	**6.33**	**28**		Pn	**06 31 44.0**	**+0.5**
KIAG	**Kiagna River**	**6.35**	**36**		Pn	**06 31 44.2**	**+0.3**
SAMH	**Samovar Hills**	**6.40**	**46**		Pn	**06 31 45.2**	**+0.8**
GRNC	**Granite Creek**	**6.42**	**39**		Pn	**06 31 45.2**	**+0.3**
TABL	**Table Mountain**	**6.45**	**43**		Pn	**06 31 45.8**	**+0.5**
N16K	**Nishlik Lake**	**6.46**	**318**		Pn	**06 31 46.6**	**+1.4**
N16K	**Nishlik Lake**	**6.46**	**318**	P	Pn	**06 31 46.6**	**+1.4**
	baz=131						
MCARA	**McCarthy VSAT**	**6.50**	**31**		Pn	**06 31 46.5**	**+0.7**
MCARA	**McCarthy VSAT**	**6.50**	**31**	P	Pn	**06 31 46.5**	**+0.7**
	baz=217						
PTPK	**Patty Peak**	**6.51**	**34**		Pn	**06 31 46.8**	**+0.6**
PCA	**Pinnacle**	**6.59**	**47**		Pn	**06 31 48.0**	**+0.8**
PINM	**Pinnacle**	**6.59**	**47**	P	Pn	**06 31 47.9**	**+0.8**
	baz=235						
WASW	**Wrangell South**	**6.66**	**24**		Pn	**06 31 49.0**	**+0.9**
M17K	**Holitna River**	**6.67**	**327**		Pn	**06 31 49.3**	**+1.2**
M17K	**Holitna River**	**6.67**	**327**	P	Pn	**06 31 49.3**	**+1.2**
	baz=141		

*IDC **02** 06:43:24.9±1.0,30°.39S×178°.46W,h0km,mb3.9/5, mbtmp3.9/5,Error ellipse: s-maj=29.2km s-min=18.7km az=123.0*

ISC 02 06:43:29.1±0.9,30°.53S±0°.09×178°.4W±0°.2,h35km,n17, σ1§46/13,mb4.0/5,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.32**	**16**	Pn	**Pn**	**06 43 49.9**	**-1.2**
	90nm,0.3s,baz=229,slow=19,SNR=1.6						
RAO				Sn	**Sn**	**06 44 07.0**	**-0.6**
	343nm,0.3s,baz=167,slow=21,SNR=7.2						
URZ	**Urewera**	**8.58**	**205**	Pn	**Pn**	**06 45 28.6**	**-2.2**
	0.4nm,0.3s,baz=345,slow=4.1,SNR=1.5						
URZ				Sn	**Sn**	**06 47 04.9**	**-1.3**
	2.0nm,0.3s,baz=85,slow=22,SNR=7.8						
CTA	**Charters Tower**	**33.52**	**280**	P	**P**	**06 50 07.0**	**+1.4**
	1.1nm,0.3s,baz=105,slow=14,SNR=2.1 1.1nm,0.3s						
STKA	**Stephens Creek**	**34.16**	**257**	P	**P**	**06 50 12.2**	**+1.2**
	1.3nm,0.5s,baz=86,slow=8.9,SNR=4.8 1.3nm,0.5s						
ASAR	**Alice Springs**	**42.80**	**267**	P	**P**	**06 51 22.9**	**-0.9**
	0.4nm,0.5s,baz=103,slow=6.9,SNR=6.6 0.4nm,0.5s						
WRA	**Warramunga Arr**	**43.80**	**272**	P	**P**	**06 51 31.1**	**-0.8**
	1.3nm,0.5s,baz=111,slow=7.8,SNR=9.7 1.3nm,0.5s						
QSPA	**South Pole Qui**	**59.58**	**180**	P	**P**	**06 53 31.8**	**+2.6**
	0.5nm,0.6s,baz=165,slow=1.5,SNR=10 0.5nm,0.6s						
H03S2	**Juan Fernandez**	**80.64**	**124**	T	T	08 24 32.4	
	baz=235						
H03S1	**Juan Fernandez**	**80.66**	**124**	T	T	08 24 32.4	
	baz=235						
H03S3	**Juan Fernandez**	**80.66**	**124**	T	T	08 24 32.4	
	baz=235						
H03N3	**Juan Fernandez**	**80.84**	**123**	T	T	08 24 52.2	
	baz=241,slow=74						
H03N2	**Juan Fernandez**	**80.84**	**123**	T	T	08 24 51.3	
	baz=241						
H03N1	**Juan Fernandez**	**80.85**	**123**	T	T	08 24 53.7	
	baz=241,slow=74						
FINES	**FINESS Array B**	**145.16**	**340**	PKP	**PKPdf**	**07 03 01.8**	**-0.4**
	2.4nm,0.4s,baz=49,slow=4.3,SNR=17						
NOA	**NORSAR Array B**	**148.83**	**351**	PKPbc	**PKPbc**	**07 03 11.9**	**-0.5**
	0.4nm,0.5s,baz=16,slow=4.2,SNR=3.2						
HFS	**Hagfors**	**149.31**	**348**	PKPbc	**PKiKP**	**07 03 15.7**	**+1.0**
	3.9nm,1.0s,baz=88,slow=8.2,SNR=4.1						
TORD	**Torodi Ar. Bea**	**162.70**	**180**	PKPab	**PKPab**	**07 04 16.8**	**+0.4**
	0.2nm,0.4s,baz=182,slow=2.9,SNR=1.4						

IDC 02 06:57:03.9±2.1,51°.39N×81°.81E,h0km,mbtmp1.8/2, ML1.2/1,Error ellipse: s-maj=20.0km s-min=16.4km az=13.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.21**	**251**	Pg	Pb	06 57 43.3	-1.3
	baz=71,slow=18,SNR=2.9						
KURBB				Lg	Lg	06 58 13.5	
	0.1nm,0.3s,baz=72,slow=32,SNR=5.6						
ZALV	**Zalesovo Beam**	**3.15**	**34**	Pn	Pn	06 57 53.7	-1.1
	0.1nm,0.3s,baz=220,slow=12,SNR=1.4 0.3nm,0.3s						
I46RU	**ZALESOVO INFRA**	**3.16**	**34**	I	I	07 17 40.0	
	baz=212,slow=319,SNR=6.9						
MKAR	**Makanchi Array**	**4.61**	**176**	Pn	Pn	06 58 16.3	+1.6
	0.1nm,0.4s,baz=354,slow=11,SNR=2.1						
MKAR				Lg	Lg	06 59 30.5	
	0.1nm,0.3s,baz=0.8,slow=26,SNR=6.9						

*CATAC **02** 06:57:17.7±1.2,8°.07N×82°.80W,h1km±4km,ML2.5*
*UPA **02** 06:57:20.3±0.9,8°.25N×82°.67W,h8km±6km,MW2.9*

ISC 02 06:57:18.9±1.8,8°.17N±0°.10×82°.73W±0°.06,h29km±8km, n15,σ0§82/22,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.15**	**282**	*eP*	**Pb**	**06 57 24.4**	**-0.1**
PTPM				*eS*	**Sb**	**06 57 28.8**	**+0.4**
CDITO	**Canoas**	**0.42**	**341**	*eP*	**Pb**	**06 57 27.9**	**-0.2**
CDITO	**Canoas**	**0.42**	**341**	*i P*	**Pb**	**06 57 27.4**	**-0.7**
CDITO				*i* S	**Sb**	**06 57 33.9**	**-0.4**
CDITO				IAML		06 57 37.5	
	comp=Z,210nm,1.0s						
BCO2	**Palmira**	**0.58**	**21**	*eP*	**Pn**	**06 57 31.4**	**0.0**
BCO2				*eS*	**Sb**	**06 57 38.2**	**-0.6**
BRU2	**Volcan**	**0.62**	**4**	*eP*	**Pn**	**06 57 31.6**	**-0.2**
BRU2				*eS*	**Sn**	**06 57 40.7**	**-0.2**
BRU2	**Volcan**	**0.62**	**4**	*i P*	**Pn**	**06 57 31.8**	**-0.1**
BRU2				IAML		06 57 46.2	
	comp=Z,150nm,1.0s						
MLIR3	**Monte Lirio, C**	**0.62**	**352**	*eP*	**Pn**	**06 57 32.0**	**+0.1**
BC3P	**Paso Ancho**	**0.65**	**11**	*eP*	**Pn**	**06 57 32.1**	**-0.3**
LNBQ3	**Los Naranjos,**	**0.68**	**25**	*eP*	**Pn**	**06 57 32.5**	**-0.2**
POTG	**Potrero Grande**	**0.95**	**336**	*i P*	**Pb**	**06 57 37.3**	**+0.4**
POTG				*i* S	**Sn**	**06 57 51.0**	**+2.0**
POTG				IAML		06 57 54.7	
	comp=Z,230nm,1.0s						
CHGR2	**Aguacate**	**0.96**	**37**	*eP*	**Pb**	**06 57 37.0**	**0.0**
CHGR2				*eS*	**Sn**	**06 57 49.5**	**+0.5**
PLAN	**Los Planes de**	**1.06**	**298**	*i P*	**Pn**	**06 57 37.5**	**-0.3**
PLAN				*i* SA		06 57 51.9	
PLAN				IAML		06 57 57.1	
	comp=Z,210nm,1.0s						
CDM	**Cerro de Muert**	**1.71**	**323**	*i P*	**Pb**	**06 57 49.2**	**-0.7**
CDM				*i* S	**Sb**	**06 58 12.6**	**+1.4**
CDM				IAML		06 58 14.2	
	comp=Z,26nm,1.0s						
RIMA	**Rio Macho**	**1.94**	**325**	*i P*	**Pb**	**06 57 52.6**	**-1.1**
RIMA				*i* SA		06 58 17.9	
RIMA				IAML		06 58 20.4	
	comp=Z,25nm,1.0s						
LCR2	**La Lucha 2**	**2.00**	**321**	*i P*	**Pb**	**06 57 53.2**	**-1.6**
LCR2				IAML		06 58 20.0	
	comp=Z,24nm,1.0s						

*IDC **02** 07:00:41.8±0.9,17°.92S×174°.20W,h0km,mb3.9/10, mbtmp3.9/10,MS3.2/2,Error ellipse: s-maj=38.5km s-min=20.2km az=142.0*
*NEIC **02** 07:00:42.0±1.8,17°.9S±0°.2×174°.02W±0°.05,h10km±2km, mb4.2/12,Error ellipse: s-maj=37.3km s-min=6.5km az=6.0*

ISC 02 07:00:42.8±0.6,18°.0S±0°.1×174°.13W±0°.08,h10km,n28, σ1§17/27,mb4.2/13,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.11**	**105**		**Pn**	**07 01 43.9**	**-1.8**
MSVF	**Nonsavu**	**7.46**	**271**	Pn	**Pn**	**07 02 32.3**	**+0.5**
RAR	**Rarotonga**	**13.88**	**105**	LR	LR	07 08 43.9	
	comp=Z,50nm,18.1s,baz=250,slow=34						
MARNC	**Mare, Loyalty**	**17.14**	**256**	P	**Pn**	**07 04 42.4**	**-0.1**
OUENC	**Ouen Island, N**	**18.38**	**253**	P	**Pn**	**07 04 55.8**	**-2.1**
OUENC				IAmb	IAmb	07 05 37.8	
	comp=Z,15nm,1.1s						
DZM	**Mont Dzumac**	**18.68**	**254**	P	**P**	**07 04 59.0**	**-2.4**
URZ	**Urewera**	**21.55**	**199**	P	**P**	**07 05 33.6**	**+1.3**
	comp=Z,7.1nm,0.6s,baz=97,slow=16,SNR=1.8 comp=Z,7.1nm,0.6s						
MRZ	**Mangatainoka R**	**24.22**	**199**	P	**P**	**07 05 59.6**	**-0.1**
SNZO	**South Karori**	**25.09**	**200**	P	**P**	**07 06 07.4**	**-0.1**
INZ	**Inchbonnie**	**27.49**	**203**	P	**P**	**07 06 31.2**	**+1.9**
CTA	**Charters Tower**	**37.44**	**260**	P	**P**	**07 07 57.6**	**+0.9**
	comp=Z,2.6nm,0.6s,baz=104,slow=11,SNR=6.6 comp=Z,2.6nm,0.6s						
CTAO	**Charters Tower**	**37.44**	**260**	P	**P**	**07 07 55.2**	**-1.4**
CTAO				IAmb	IAmb	07 07 58.6	
	comp=Z,4.5nm,0.8s						
STKA	**Stephens Creek**	**42.16**	**242**	P	**P**	**07 08 36.9**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=55,slow=12,SNR=1.7 comp=Z,0.5nm,0.4s						
WB0	**Warramunga Arr**	**48.58**	**259**	P	**P**	**07 09 26.5**	**-0.4**
WB0				IAmb	IAmb	07 09 27.0	
	comp=Z,4.1nm,0.7s						
WRA	**Warramunga Arr**	**48.61**	**259**	P	**P**	**07 09 26.4**	**-0.7**
WRA	**Warramunga Arr**	**48.61**	**259**	P	**P**	**07 09 26.6**	**-0.5**
	comp=Z,2.3nm,0.5s,baz=98,slow=5.9,SNR=22 comp=Z,2.3nm,0.5s						
AS31	**Alice Springs**	**48.67**	**254**	P	**P**	**07 09 26.5**	**-1.0**
AS31				IAmb	IAmb	07 09 35.0	
	comp=Z,1.2nm,0.6s						
ASAR	**Alice Springs**	**48.68**	**254**	P	**P**	**07 09 26.1**	**-1.5**
ASAR	**Alice Springs**	**48.68**	**254**	P	**P**	**07 09 27.3**	**-0.3**
	comp=Z,3.3nm,0.7s,baz=93,slow=8.1,SNR=35						
ASAR				PcP	**PcP**	**07 10 52.8**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=108,slow=3.6,SNR=5.1 comp=Z,3.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**57.02**	**260**	P	**P**	**07 10 29.4**	**+0.1**
FITZ				IAmb	IAmb	07 11 04.4	
	comp=Z,3.3nm,1.4s						
TGY	**Tagaytay City**	**71.55**	**292**	LR	LR	07 38 38.7	
	comp=Z,34nm,20.7s,baz=279,slow=32						
QSPA	**South Pole Qui**	**72.01**	**180**	P	**P**	**07 12 07.7**	**+0.9**
QSPA				IAmb	IAmb	07 12 21.6	
	comp=Z,2.1nm,1.1s						
QSPA	**South Pole Qui**	**72.01**	**180**	P	**P**	**07 12 08.6**	**+1.8**
	comp=Z,1.4nm,0.9s,baz=11,slow=4.4,SNR=2.5 comp=Z,1.4nm,0.9s						
TXAR	**Lajitas Array**	**82.66**	**56**	P	**P**	**07 13 07.3**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=266,slow=6.0,SNR=2.8 comp=Z,0.3nm,0.7s						
PDAR	**Pinedale Array**	**84.69**	**42**	P	**P**	**07 13 17.4**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=214,slow=3.9,SNR=3.0 comp=Z,0.3nm,0.6s						
ILAR	**Eielson Array**	**85.16**	**11**	P	**P**	**07 13 19.4**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=229,slow=7.0,SNR=6.3 comp=Z,0.4nm,0.7s						
YKA	**Yellowknife Ar**	**92.79**	**24**	P	**P**	**07 13 55.4**	**+0.3**
	comp=Z,0.1nm,0.7s,baz=224,slow=5.2,SNR=2.2 comp=Z,0.1nm,0.7s						
ARCES	**ARCESS Array B**	**127.11**	**351**	PKP	**PKiKP**	**07 19 47.5**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=54,slow=1.6,SNR=1.4						

*IDC **02** 07:00:50.1±2.4,9°.35S×112°.11E,h0km,mb3.8/7, mbtmp3.8/7,MS3.8/2,Error ellipse: s-maj=134.5km s-min=18.0km az=51.0*
*DJA **02** 07:00:54.4±1.8,10°.5±8°.×11°.2E±°,h16km±16km,M4.0/12, mb4.3/3,MLv3.8/12*

ISC 02 07:00:51.6±0.9,9°.56S±0°.09×111°.87E±0°.05,h10km,n25, σ1§70/22,mb3.9/7,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**1.53**	**358**	P	**Pb**	**07 01 19.3**	**-0.7**
UGM	**Wanagama**	**2.11**	**321**	P	**Pb**	**07 01 29.5**	**-0.4**
UGM				S	**Sb**	**07 01 56.3**	**+0.1**
NGJI	**Ngawi**	**2.21**	**349**	P	**Pb**	**07 01 31.4**	**-0.3**
YOGI	**Yogyakarta**	**2.33**	**318**	P	**Pb**	**07 01 33.0**	**-0.7**
BLJI	**Banyuglugur**	**2.48**	**44**	P	**Pb**	**07 01 35.6**	**-0.7**
JAGI	**Jajag, Banyuwa**	**2.50**	**65**	P	**Pb**	**07 01 35.6**	**-1.0**
ABJI	**Asem Bagus**	**2.92**	**53**	P	**Pn**	**07 01 40.1**	**+2.0**
KMMI	**Kalianget**	**3.24**	**40**	P	**Pn**	**07 01 45.4**	**+2.8**
IGBI	**Denpasar**	**3.32**	**77**	P	**Pn**	**07 01 46.9**	**+3.3**
SRBI	**Singaraja**	**3.61**	**66**	P	**Pn**	**07 01 49.2**	**+1.5**
KPJI	**Karang Pucung**	**3.65**	**307**	P	**Pn**	**07 01 51.2**	**+3.0**
CMJI	**Cimerak**	**3.81**	**297**	P	**Pn**	**07 01 51.4**	**+1.0**
TWSI	**Taliwang, Sumb**	**5.02**	**81**	P	**Pn**	**07 02 10.3**	**+3.3**
	18nm,0.6s,0.1nm						
PLAI	**Plampang**	**5.88**	**83**	P	**Pn**	**07 02 20.1**	**+1.3**
	23nm,0.8s,0.1nm						
WRA	**Warramunga Arr**	**24.03**	**118**	P	**P**	**07 06 05.7**	**-1.3**
	1.2nm,0.6s,baz=291,slow=12,SNR=10 1.2nm,0.6s						
ASAR	**Alice Springs**	**25.30**	**126**	P	**P**	**07 06 18.0**	**-0.5**
	1.2nm,0.5s,baz=307,slow=9.3,SNR=15						
ASAR				LR	LR	07 15 42.4	
	comp=Z,91nm,20.8s,baz=180,slow=35 1.2nm,0.5s						
STKA	**Stephens Creek**	**35.38**	**133**	P	**P**	**07 07 47.6**	**-0.1**
	3.1nm,0.7s,baz=322,slow=10.0,SNR=8.0 3.1nm,0.7s						
H08S2	**Diego Garcia H**	**38.97**	**270**	T	T	07 50 07.9	
	baz=95						
H08S3	**Diego Garcia H**	**38.98**	**270**	T	T	07 50 07.9	
	baz=95						
H08S1	**Diego Carcia H**	**38.98**	**270**	T	T	07 50 07.9	
	baz=95						
SONM	**Songino Array**	**57.34**	**356**	P	**P**	**07 10 39.0**	**-1.0**
	0.7nm,0.6s,baz=171,slow=5.2,SNR=4.4 0.7nm,0.6s						
MKAR	**Makanchi Array**	**62.00**	**337**	P	**P**	**07 11 11.2**	**-0.8**
	0.4nm,0.4s,baz=152,slow=7.0,SNR=8.1 0.4nm,0.4s						
MAW	**Mawson**	**66.40**	**198**	LR	LR	07 36 12.4	
	comp=Z,153nm,18.1s,baz=320,slow=32						
ZALV	**Zalesovo Beam**	**67.28**	**343**	P	**P**	**07 11 45.9**	**-0.4**
	0.4nm,0.4s,baz=170,slow=4.0,SNR=1.3 0.4nm,0.4s						
BVAR	**Borovoye Array**	**71.65**	**335**	P	**P**	**07 12 13.0**	**-0.4**
	0.3nm,0.5s,baz=128,slow=6.4,SNR=1.7 0.3nm,0.5s						

*CATAC **02** 07:03:58.4±1.4,14°.39N×87°.37W,h74km±41km,ML3.7*
*SNET **02** 07:04:05.4±0.8,12°.61N×88°.38W,h29km±3km,ML3.1*

ISC 02 07:04:04.9±1.7,12°.59N±0°.07×88°.36W±0°.04,h33km±5km, n49,σ0§88/57,1D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**0.83**	**4**	*eP*	**Pn**	**07 04 20.2**	**-0.2**
RANC	**El Ranchito**	**0.84**	**4**	*i P*	**Pn**	**07 04 21.1**	**+0.5**
RANC				IAML		07 04 36.1	
	comp=Z,2μm,1.0s						
LCND	**La Caada**	**0.84**	**32**	*i P*	**Pn**	**07 04 21.0**	**+0.5**
LCND				IAML		07 04 34.2	
	comp=Z,760nm,0.3s						
LCND	**La Caada**	**0.84**	**32**	*i P*	**Pn**	**07 04 19.4**	**-1.1**
LCND				IAML		07 04 37.4	
	comp=Z,680nm,1.0s						
CNCH	**Conchagua**	**0.85**	**37**	*eP*	**Pn**	**07 04 21.2**	**+0.5**
CNCH	**Conchagua**	**0.85**	**37**	*i P*	**Pn**	**07 04 19.6**	**-1.1**
CNCH				IAML		07 04 36.7	
	comp=Z,2μm,1.0s						
BLLM	**Bellamira**	**0.85**	**8**	*eP*	**Pb**	**07 04 21.4**	**0.0**
CSGN	**Cosiguina Volc**	**0.87**	**64**	*i P*	**Pb**	**07 04 22.6**	**+1.0**
CSGN				IAML		07 04 40.3	
	comp=Z,3μm,1.0s						
PACA	**Pacayal**	**0.87**	**2**	*eP*	**Pb**	**07 04 21.9**	**+0.1**
PACA	**Pacayal**	**0.87**	**2**	*i P*	**Pn**	**07 04 20.8**	**-0.2**
PACA				IAML		07 04 36.1	
	comp=Z,10μm,1.0s						
CNRM	**Centro Naciona**	**0.90**	**12**	*i P*	**Pn**	**07 04 19.6**	**-1.6**
CNRM				IAML		07 04 37.3	
	comp=Z,4μm,1.0s						
TECA	**Tecapa**	**0.91**	**351**	*eP*	**Pb**	**07 04 22.2**	**-0.2**
AMPH	**Amapala**	**0.97**	**45**	*i*↓*P*	**Pn**	**07 04 22.9**	**+0.7**
AMPH				*eS*	**Sb**	**07 04 36.5**	**+0.7**
TECO	**Alcaldia de Te**	**1.03**	**336**	*i P*	**Pb**	**07 04 24.8**	**+0.5**
TECO				IAML		07 04 39.3	
	comp=Z,380nm,1.0s						
PQSS	**Presa 15 de Se**	**1.04**	**349**	*eP*	**Pn**	**07 04 24.0**	**+0.7**
PQSS				*eS*	**Sb**	**07 04 38.4**	**+0.4**
PQSS	**Presa 15 de Se**	**1.04**	**349**	*i P*	**Pn**	**07 04 21.8**	**-1.5**
PQSS				IAML		07 04 39.9	
	comp=Z,1μm,1.0s						
UESV	**Universidad de**	**1.12**	**338**	*i P*	**Pn**	**07 04 24.4**	**0.0**
UESV				IAML		07 04 44.1	
	comp=Z,390nm,1.0s						
COEG	**Centro de Oper**	**1.14**	**333**	*eP*	**Pn**	**07 04 25.0**	**+0.3**
COEG				*eS*	**Sb**	**07 04 40.6**	**-0.3**
COEG				IAML		07 04 44.2	
	comp=Z,280nm,0.2s						
COEG	**Centro de Oper**	**1.14**	**333**	*i P*	**Pn**	**07 04 25.6**	**+0.9**
COEG				IAML		07 04 44.1	
	comp=Z,240nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.16**	**342**	*eP*	**Pn**	**07 04 25.7**	**+0.8**
SCLA				*eS*	**Sb**	**07 04 41.5**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.16**	**342**	*i P*	**Pn**	**07 04 23.3**	**-1.6**
SCLA				IAML		07 04 45.4	
	comp=Z,290nm,1.0s						
SJTE	**Alcalda de S**	**1.20**	**328**	*eP*	**Pn**	**07 04 25.6**	**+0.1**
SJTE	**Alcalda de S**	**1.20**	**328**	*i P*	**Pb**	**07 04 27.0**	**-0.2**
SJTE				IAML		07 04 43.0	
	comp=Z,900nm,1.0s						
LFRS	**El Faro**	**1.23**	**326**	*eP*	**Pn**	**07 04 26.1**	**+0.1**
PAVA	**Las Pavas**	**1.25**	**333**	*eP*	**Pn**	**07 04 27.0**	**+0.8**
PAVA				*eS*	**Sb**	**07 04 43.5**	**-0.5**
PAVA				*eS*	**Sb**	**07 04 43.5**	**-0.5**
PAVA	**Las Pavas**	**1.25**	**333**	*i P*	**Pn**	**07 04 25.5**	**-0.7**
PAVA				IAML		07 04 44.9	
	comp=Z,650nm,1.0s						
CRIN	**San Cristobal**	**1.28**	**85**	*i P*	**Pn**	**07 04 26.4**	**-0.2**
CRIN				IAML		07 04 48.6	
	comp=Z,1μm,1.0s						
LOMA	**Loma Larga**	**1.31**	**323**	*i P*	**Pb**	**07 04 28.8**	**-0.4**
LOMA				IAML		07 04 47.3	
	comp=Z,390nm,1.0s						
PKGN	**Cerro Pekin**	**1.35**	**87**	*i P*	**Pn**	**07 04 26.8**	**-0.6**
PKGN				IAML		07 04 48.5	
	comp=Z,1μm,1.0s						
SNET	**Serv Nac Est T**	**1.38**	**322**	*i P*	**Pn**	**07 04 29.2**	**+1.2**
SNET				IAML		07 04 50.0	
	comp=Z,590nm,1.0s						
UEES	**Universidad Ev**	**1.41**	**322**	*eP*	**Pn**	**07 04 29.0**	**+0.6**
PIC2	**El Picacho**	**1.44**	**323**	*i P*	**Pn**	**07 04 29.8**	**+0.8**
PMON	**Piamonte**	**1.45**	**320**	*i P*	**Pn**	**07 04 29.4**	**+0.4**
PMON				IAML		07 04 52.5	
	comp=Z,520nm,1.0s						
TEL3	**Telica 3**	**1.48**	**91**	*i P*	**Pn**	**07 04 28.7**	**-0.5**
TEL3				IAML		07 04 56.9	
	comp=Z,360nm,1.0s						
HERN	**Volcan Telica**	**1.49**	**89**	*i P*	**Pn**	**07 04 28.0**	**-1.5**
HERN				IAML		07 04 51.4	
	comp=Z,450nm,1.0s						
JAYA	**Jayaque - finc**	**1.50**	**315**	*eP*	**Pn**	**07 04 29.5**	**-0.2**
JAYA	**Jayaque - finc**	**1.50**	**315**	*i P*	**Pb**	**07 04 32.1**	**-0.2**
JAYA				IAML		07 04 49.7	
	comp=Z,1μm,1.0s						
CNGA	**Al SSO del Vol**	**1.62**	**93**	*i P*	**Pn**	**07 04 30.0**	**-1.2**
CNGA				IAML		07 05 04.1	
	comp=Z,280nm,1.0s						
CNGN	**Cerro Negro**	**1.62**	**93**	*i P*	**Pn**	**07 04 29.8**	**-1.4**
CNGN				IAML		07 04 58.0	
	comp=Z,250nm,1.0s						
MACN	**El Madrono**	**1.65**	**94**	*i P*	**Pn**	**07 04 30.5**	**-1.1**
MACN				IAML		07 05 05.6	
	comp=Z,110nm,1.0s						
CEVE	**Cerro Verde**	**1.74**	**315**	*eP*	**Pn**	**07 04 34.4**	**+1.3**
CEVE				IAML		07 05 02.4	
	comp=Z,247nm,0.2s						
CEVE	**Cerro Verde**	**1.74**	**315**	*i P*	**Pn**	**07 04 34.4**	**+1.3**
CEVE				IAML		07 05 05.1	
	comp=Z,270nm,1.0s						
SNJE	**San Jose**	**1.76**	**316**	*eP*	**Pn**	**07 04 34.2**	**+0.9**
COPN	**Copaltepe**	**1.77**	**103**	*i P*	**Pn**	**07 04 34.6**	**+1.3**
COPN				IAML		07 04 58.0	
	comp=Z,270nm,1.0s						
UNIC	**Universidad Ca**	**1.80**	**320**	*i P*	**Pn**	**07 04 31.9**	**-1.9**
UNIC				*i* S	**Sb**	**07 04 58.3**	**-1.4**
UNIC				IAML		07 05 02.9	
	comp=Z,220nm,1.0s						
NUBE	**Las Nubes**	**1.90**	**313**	*eP*	**Pn**	**07 04 35.6**	**+0.4**
NUBE				*eS*	**Sn**	**07 04 58.4**	**+0.2**
NUBE	**Las Nubes**	**1.90**	**313**	*i P*	**Pn**	**07 04 35.2**	**0.0**
NUBE				IAML		07 05 00.2	
	comp=Z,440nm,1.0s						
SLOZ	**Alcaldia de Sa**	**1.99**	**316**	*eP*	**Pn**	**07 04 37.5**	**+1.2**
YUSH	**Yuscaran**	**2.00**	**47**	*eP*	**Pn**	**07 04 37.6**	**+1.1**

IDC 02 07:05:26.8±2.6,54°.12N×86°.55E,h0km,mbtmp3.0/2, ML2.7/2,Error ellipse: s-maj=21.5km s-min=13.3km az=55.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**261**	I	I	07 12 32.4	
	baz=83,slow=349,SNR=2.2						
ZALV	**Zalesovo Beam**	**1.03**	**261**	Pg	Pg	07 05 45.2	-1.4
	0.8nm,0.3s,baz=80,slow=16,SNR=7.6						
ZALV				Lg	Lg	07 06 01.6	
	2.9nm,0.3s,baz=78,slow=30,SNR=13						
KURBB	**Kurchatov Arra**	**6.03**	**238**	Pn	Pn	07 06 57.7	+0.5
	0.1nm,0.3s,baz=54,slow=13,SNR=5.8						
KURBB				Lg	Lg	07 08 39.6	
	baz=50,slow=50,SNR=4.6 0.6nm,0.4s						
MKAR	**Makanchi Array**	**7.82**	**202**	Pn	Pn	07 07 23.1	+1.3
	0.2nm,0.3s,baz=25,slow=14,SNR=11 0.3nm,0.3s						

*IDC **02** 07:17:21.5±1.1,49°.75N×81°.61E,h0km,mbtmp2.8/4, ML2.0/3,Error ellipse: s-maj=16.1km s-min=8.6km az=56.0*
*NNC **02** 07:17:24.4±1.8,49°.51N×81°.35E,h0km,mb3.5,mpv3.0, Error ellipse: s-maj=28.1km s-min=6.9km az=53.0, Suspected Mining explosion.*

ISC 02 07:17:17.9±0.9,50°.09N±0°.05×82°.09E±0°.05,h0km,n14, σ1§67/18,6C-2D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.31**	**287**	⇑Pn	**Pb**	**07 17 59.8**	**-0.5**
	29nm,0.8s						
KURK				⇑Sn	**Sb**	**07 18 29.5**	**+0.1**
	27nm,0.5s						
KURBB	**Kurchatov Arra**	**2.34**	**285**	Pn	**Pn**	**07 17 59.1**	**+1.5**
	0.3nm,0.3s,baz=112,slow=19,SNR=141						
KURBB				Lg	Lg	07 18 29.9	
	0.6nm,0.3s,baz=117,slow=30,SNR=14						
KURBB				Rg	Rg	07 18 46.4	
	3.5nm,0.7s,baz=103,slow=40,SNR=1.6 7.6nm,0.7s						
KURBB	**Kurchatov Arra**	**2.34**	**285**	⇑Pn	**Pb**	**07 18 00.2**	**-0.7**
	28nm,0.8s						
KURBB				⇓Sn	**Sb**	**07 18 30.0**	**-0.3**
	56nm,0.6s						
ZSN	**Zaisan**	**3.21**	**144**	Pg	**Pg**	**07 18 20.9**	**+1.4**
ZSN				Lg	Lg	07 18 58.9	
MAKZ	**Makanchi**	**3.28**	**181**	⇓Pg	**Pn**	**07 18 11.9**	**+1.4**
	3.9nm,0.8s						
MAKZ				⇑Lg	Lg	07 18 51.7	
	12nm,0.8s						
MK31	**Makanchi Array**	**3.30**	**178**	⇑Pg	**Pb**	**07 18 13.6**	**-3.6**
	2.7nm,0.6s,baz=354,slow=12,SNR=30						

PMG	**Port Moresby**	**5.24**	**126**		**Pn**	**Pn**	**07 18 53.5 +0.6**
PMG	**Port Moresby**	**5.24**	**126**	Pn		**Pn**	**07 18 51.7 -1.2**
	20nm,0.6s,baz=314,slow=12,SNR=11						
PMG				Sn		**Sn**	**07 19 51.5 -1.9**
	2.2nm,0.3s,baz=252,slow=19,SNR=3.2						
MANU	**Manus Island**	**6.15**	**47**	Pn		**Pn**	**07 19 04.3 -1.2**
COEN	**Coen**	**7.62**	**178**			**Pn**	**07 19 30.3 +4.7**
MTN	**Manton Dam**	**13.29**	**240**			**Pn**	**07 20 44.0 +0.7**
WR0	**Warramunga Arr**	**15.82**	**210**			**Pn**	**07 21 17.9 +0.5**
WRAB	**Tennant Creek**	**15.89**	**211**			**Pn**	**07 21 19.2 +0.8**
WRAB				IAmb		IAmb	07 21 31.4
	comp=Z,15nm,0.8s						
WB2	**Warramunga Arr**	**15.90**	**211**	Pn		**Pn**	**07 21 19.1 +0.6**
WRA	**Warramunga Arr**	**15.90**	**211**	Pn		**Pn**	**07 21 17.6 -1.0**
	comp=Z,0.5nm,0.3s,baz=33,slow=14,SNR=17						
WRA				Sn		**Sn**	**07 24 09.8 -5.2**
	comp=Z,0.5nm,0.3s,baz=33,slow=24,SNR=5.6						
WRA				Lg		Lg	07 26 02.0
	comp=Z,0.5nm,0.3s,baz=22,slow=29,SNR=5.4						
	comp=Z,2.1nm,0.6s						
KNRA	**Kununurra**	**16.69**	**235**			**Pn**	**07 21 29.9 +1.2**
KNRA				IAmb		IAmb	07 21 37.0
	comp=Z,20nm,0.9s						
TNTI	**Ternate**	**17.01**	**294**	Pn		**Pn**	**07 21 29.8 -2.9**
TNTI				IAmb		IAmb	07 21 31.4
	comp=Z,20nm,0.8s						
SOEI	**Soe**	**18.75**	**258**	P		**P**	**07 21 52.7 -1.2**
SOEI				IAmb		IAmb	07 22 07.1
	comp=Z,26nm,1.0s						
AS31	**Alice Springs**	**19.31**	**206**	P		**Pn**	**07 22 03.0 +2.1**
ASAR	**Alice Springs**	**19.31**	**206**	P		**Pn**	**07 22 03.4 +2.5**
ASAR	**Alice Springs**	**19.31**	**206**	P		**Pn**	**07 22 02.3 +1.3**
	comp=Z,27nm,0.7s,baz=33,slow=9.9,SNR=252						
ASAR				S		**Sn**	**07 25 29.2 -8.4**
	comp=Z,2.2nm,0.9s,baz=16,slow=29,SNR=5.0						
ASAR				Lg		Lg	07 27 48.2
	baz=23,slow=17,SNR=3.2						
FITZ	**Fitzroy Crossi**	**20.51**	**234**	P		**P**	**07 22 13.4 +0.4**
EIDS	**Eidsvold**	**20.52**	**158**	P		**P**	**07 22 12.8 -0.2**
LUWI	**Luwuk**	**20.73**	**284**	P		**P**	**07 22 15.1 -0.4**
LUWI				IAmb		IAmb	07 22 51.7
	comp=Z,26nm,1.0s						
KAPI	**Kappang**	**23.06**	**272**	P		**P**	**07 22 40.1 -0.2**
TOLI2	**Tolitoli**	**23.26**	**288**	P		**P**	**07 22 40.6 -1.8**
TOLI2				IAmb		IAmb	07 22 50.2
	comp=Z,9.2nm,0.9s						
STKA	**Stephens Creek**	**25.48**	**183**	P		**P**	**07 23 02.8 -0.2**
	comp=Z,1.1nm,0.3s,baz=344,slow=8.8,SNR=6.1						
	comp=Z,1.1nm,0.3s						
PSA00	**Pilbara Seismi**	**26.96**	**233**	P		**P**	**07 23 17.3 +0.7**
PSA00				IAmb		IAmb	07 23 23.3
	comp=Z,14nm,1.2s						
FORT	**Forrest**	**28.05**	**208**	P		**P**	**07 23 27.5 +1.3**
MKAR	**Makanchi Array**	**75.16**	**322**	P		**P**	**07 29 18.6 +1.4**
	comp=Z,2.4nm,0.7s,baz=106,slow=7.2,SNR=23						
	comp=Z,2.4nm,0.7s						
ZALV	**Zalesovo Beam**	**77.12**	**329**	P		**P**	**07 29 28.9 +0.8**
	comp=Z,0.8nm,0.6s,baz=117,slow=5.6,SNR=4.2						
	comp=Z,0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**79.05**	**324**	P		**P**	**07 29 39.9 +1.0**
	comp=Z,2.1nm,0.9s,baz=116,slow=4.7,SNR=14						
	comp=Z,2.1nm,0.9s						
MAW	**Mawson**	**80.40**	**203**	P		**P**	**07 29 46.7 +0.7**
MAW	**Mawson**	**80.40**	**203**	P		**P**	**07 29 46.2 +0.3**
	comp=Z,23nm,0.7s,baz=55,slow=12,SNR=12						
QSPA	**South Pole Qui**	**83.67**	**180**	P		**P**	**07 30 04.1 +0.7**
QSPA				IAmb		IAmb	07 30 40.3
	comp=Z,3.6nm,1.1s						
QSPA	**South Pole Qui**	**83.67**	**180**	P		**P**	**07 30 03.1 -0.2**
	comp=Z,1.6nm,0.6s,baz=89,slow=0.5,SNR=14						
	comp=Z,1.6nm,0.6s						
BRVK	**Borovoye**	**84.69**	**325**			**P**	**07 30 09.5 +0.9**
E19K	**Redstone River**	**84.73**	**20**	P		**P**	**07 30 09.3 +0.8**
E19K				IAmb		IAmb	07 30 53.0
	comp=Z,5.4nm,1.2s						
IMAR	**Indian Mountai**	**85.24**	**22**	P		**P**	**07 30 10.9 -0.2**
E22K	**Anaktuvuk Pass**	**86.87**	**20**	P		**P**	**07 30 19.6 +0.5**
E22K				IAmb		IAmb	07 30 21.8
	comp=Z,3.3nm,1.1s						
D22K	**Ayikyak River**	**86.91**	**19**	P		**P**	**07 30 20.2 +1.0**
H24K	**Noodor Dome**	**87.38**	**23**	P		**P**	**07 30 22.0 +0.3**
H24K				IAmb		IAmb	07 30 30.2
	comp=Z,2.4nm,1.1s						
ILAR	**Eielson Array**	**87.38**	**24**	P		**P**	**07 30 21.1 -0.6**
ILAR	**Eielson Array**	**87.38**	**24**	P		**P**	**07 30 20.9 -0.7**
	comp=Z,1.0nm,0.8s,baz=249,slow=5.4,SNR=9.9						
	comp=Z,1.0nm,0.8s						
DBIC	**Dimbokro**	**147.95**	**273**	PKPbc		**PKiKP**	**07 37 23.3 +0.2**
	comp=Z,5.7nm,1.0s,baz=104,slow=4.2,SNR=3.9						

JMA 02 07:37:06.7±0.2,24°N±1°×122°4E±°,h19km±3km,MV1.6/7, NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.17**	**185**	P	Pg	07 37 11.2	-0.1
HATJ				S	Sg	07 37 14.3	-0.1
JKRS	**Kuro-shima**	**0.17**	**87**	P	Pg	07 37 11.2	-0.1
JKRS				*e*S	Sg	07 37 14.6	+0.2
JIJ	**Ishigaki jima**	**0.32**	**65**	P	Pg	07 37 13.4	-0.3
JIJ				*e*S	Sg	07 37 18.1	-0.3
JISG	**Ishigakijimahi**	**0.57**	**51**	*e*P	Pg	07 37 18.1	0.0
JISG				*e*S	Sb	07 37 25.8	0.0
YOJ	**Yonaguni jima**	**0.77**	**288**	*e*S	Sg	07 37 32.8	+0.6
JYNG	**Yonagunijimaku**	**0.83**	**286**	*e*P	Pb	07 37 21.8	-0.7

TAP 02 07:37:47.0,24°31N×121°72E,h6km±1km,ML1.4,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.02**	**100**	*i* P	Pg	07 37 48.6	+0.6
	baz=101						
EHP				*i* S	Sg	07 37 49.6	+0.8
	baz=101						
EAHA	**Aohua**	**0.02**	**44**	*i* P	Pg	07 37 48.7	+0.6
	baz=44						
EAHA				*i* S	Sg	07 37 49.5	+0.6
	baz=44						
ENA	**Nanau**	**0.12**	**9**	*i* P	Pg	07 37 50.3	+0.8
	baz=12						
ENA				*i* S	Sg	07 37 52.2	+1.1
	baz=12						
EWUT	**Wuta**	**0.14**	**21**	*i* P	Pg	07 37 50.7	+0.8
	baz=21						
EWUT				*i* S	Sg	07 37 52.7	+0.8
	baz=21						
NACB	**Ninganchiao**	**0.18**	**220**	P	Pg	07 37 51.8	+1.1
	baz=219						
NACB				S	Sg	07 37 54.4	+1.4
	baz=219						
ETLH	**Xiulin Townshi**	**0.24**	**244**	S	Sg	07 37 56.8	+1.7
	baz=244						
LATG	**Datong**	**0.28**	**321**	P	Pb	07 37 54.1	-0.5
	baz=321						
LATG				S	Sb	07 37 59.0	-0.7
	baz=321						
WHF	**Hehuan Shan**	**0.45**	**248**	*e*S	Sb	07 38 03.5	-1.2
	baz=247						
ILA	**Ilan**	**0.45**	**3**	*e*P	Pb	07 37 58.5	+1.1
	baz=4.0						
ILA				*e*S	Sb	07 38 03.9	-0.5
	baz=4.0						
FUSB	**Fushanzhiwuyua**	**0.46**	**345**	*e*S	Sb	07 38 06.7	+1.9
	baz=344						
NSK	**Sanguang**	**0.49**	**318**	*e*P	Pb	07 37 58.6	+0.5
	baz=317						

*JMA **02** 07:44:39.3±0.1,24°N±3°×123°0E±0°.7,h46km±2km, MV2.0/9,NW OFF ISHIGAKIJIMA IS*

*TAP **02** 07:44:39.8,23°.98N×122°.82E,h11km±1km,ML2.6,D*

ISC 02 07:44:38.7±1.2,24°.09N±0°.08×123°.00E±0°.03,h26km±14km, n22,σ1°13/32,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.37**	**352**	P	**Pb**	**07 44 46.7**	**-0.1**
JYNG				S	**Sb**	**07 44 52.0**	**-0.3**
YOJ	**Yonaguni jima**	**0.37**	**2**	S	Sn	07 45 09.4	+14
	baz=19						
YOJ	**Yonaguni jima**	**0.37**	**2**	P	**Pb**	**07 44 46.8**	**-0.1**
YOJ				S	**Sb**	**07 44 52.1**	**-0.4**
HATJ	**Hateruma jima**	**0.74**	**92**	*e*S	**Sn**	**07 45 05.2**	**+1.4**
JKRS	**Kuro-shima**	**0.93**	**80**	*e*P	**Pb**	**07 44 56.8**	**+0.5**
JKRS				*e*S	**Sb**	**07 45 09.8**	**+1.5**
JIJ	**Ishigaki jima**	**1.08**	**75**	*e*P	**Pn**	**07 44 57.9**	**-0.3**
JIJ				S	**Sb**	**07 45 11.2**	**-1.3**
EGS		**1.23**	**308**	*e*P	**Pb**	**07 45 03.8**	**+2.4**
	baz=312						
JISG	**Ishigakijimahi**	**1.30**	**67**	*e*S	**Sn**	**07 45 16.0**	**-1.6**
WARBT	**Fenglin Townsh**	**1.52**	**256**	*e*P	**Pn**	**07 45 04.3**	**0.0**
	baz=259						
WARBT				*e*S	**Sn**	**07 45 22.5**	**-0.8**
	baz=259						
HGSD	**Ruisui**	**1.56**	**248**	*e*S	**Sn**	**07 45 23.4**	**-0.7**
	baz=252						
ECBN	**Changbin**	**1.61**	**242**	P	**Pn**	**07 45 05.3**	**-0.3**
	baz=237						
EHY	**Hungye**	**1.64**	**250**	*e*P	**Pn**	**07 45 06.6**	**+0.7**
	baz=260						
EHY				*e*S	**Sn**	**07 45 26.0**	**-0.3**
	baz=260						
CHGB	**Renai**	**1.67**	**269**	P	**Pn**	**07 45 06.4**	**-0.1**
	baz=277						
CHGB				*e*S	**Sn**	**07 45 24.7**	**-2.5**
	baz=277						
OWD	**Renai**	**1.67**	**266**	*e*P	**Pn**	**07 45 06.3**	**-0.2**
	baz=274						
OWD				*e*S	**Sn**	**07 45 26.3**	**-0.9**
	baz=274						
YULB	**Yu-li**	**1.71**	**246**	*e*P	**Pn**	**07 45 07.0**	**+0.2**
	baz=246						
YULB				*e*S	**Sn**	**07 45 27.3**	**-0.5**
	baz=246						
WUSB	**Renai**	**1.72**	**267**	P	**Pn**	**07 45 07.7**	**+0.6**
	baz=274						
WUSB				*e*S	**Sn**	**07 45 27.9**	**-0.6**
	baz=274						
VWDT	**VWDT**	**1.73**	**259**	*e*P	**Pn**	**07 45 07.6**	**+0.4**
	baz=267						
VWDT				*e*S	**Sn**	**07 45 27.8**	**-0.6**
	baz=267						
ANP	**Anpu**	**1.74**	**309**	*e*P	**Pb**	**07 45 10.0**	**0.0**
	baz=310						
CHKT	**Chengkung**	**1.79**	**237**	*e*S	**Sn**	**07 45 28.8**	**-1.1**
	baz=234						
WHP	**Taichung City**	**1.89**	**276**	P	**Pn**	**07 45 11.5**	**+2.2**
	baz=277						
EHD	**Haiduan**	**1.89**	**241**	*e*S	**Sn**	**07 45 31.0**	**-1.4**
	baz=250						
LDUT	**Ludao**	**1.99**	**225**	*e*S	**Sn**	**07 45 33.2**	**-1.6**
	baz=223						

IDC 02 07:46:36.9±3.4,6°.09S×141°.88E,h0km,mb3.6/2, mbtmp3.5/4,ML3.5/2,Error ellipse: s-maj=114.4km s-min=28.2km az=100.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.60**	**207**	Pn		07 50 16.5	-1.8
	0.2nm,0.3s,baz=25,slow=14,SNR=2.6						
WRA				Lg	Lg	07 54 53.0	
	baz=29,slow=29						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**19.09**	**203**	P	Pn	07 51 01.9	0.0
	0.2nm,0.3s,baz=32,slow=9.9,SNR=14						
	1.4nm,0.8s						
MKAR	**Makanchi Array**	**74.38**	**322**	P	P	07 58 18.4	+1.8
	0.3nm,0.8s,baz=123,slow=7.1,SNR=2.8						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**83.88**	**325**	P	P	07 59 06.5	-2.0
	0.6nm,0.7s,baz=95,slow=3.3,SNR=2.7						
	0.6nm,0.7s						

ISU 02 07:47:06.0,39°.67N×71°.93E,h12km,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHMI	**Chimion**	**0.68**	**332**	P	Pb	07 47 19.5	-0.3
CHMI				S	Sb	07 47 29.7	+0.6
FRG	**Fergana**	**0.71**	**351**	P	Pb	07 47 20.2	-0.2
FRG				S	Sb	07 47 30.8	+0.6
TSTA	**Tashata**	**1.00**	**25**	P	Pb	07 47 25.3	0.0
TSTA				S	Sn	07 47 39.7	-0.3
ANR	**Andizhan**	**1.13**	**17**	P	Pn	07 47 27.7	0.0
ANR				S	Sn	07 47 44.0	+0.8
KSNS	**Kasansay**	**1.52**	**348**	P	Pb	07 47 34.0	-0.2
KSNS				S	Sg	07 47 54.9	0.0
BXML	**Bakhmal**	**3.01**	**272**	P	Pb	07 47 59.8	+0.2
BXML				S	Sg	07 48 42.5	-0.2

KRNET 02 07:47:45.6±0.1,39°.68N×71°.93E,h14km,mb2.4,20C-14D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**0.23**	**206**	⇑*e*P	Pg	07 47 50.1	-0.7
	baz=6.0						
DRK				⇑*e*S	Sg	07 47 53.3	-1.0
	baz=6.0						
BTK	**Batken**	**0.93**	**294**	⇑*e*P	Pb	07 48 03.2	-0.4
	baz=94						
BTK				⇑*e*S	Sb	07 48 16.2	+0.3
	baz=94						
OHH	**Osh**	**1.07**	**38**	⇑*i*P	Pb	07 48 05.8	-0.1
	baz=38						
OHH				⇑*i*S	Sg	07 48 20.4	+0.3
	baz=38						
SFK	**Sufi-Kurgan**	**1.26**	**74**	⇑*i*P	Pb	07 48 09.1	-0.1
	baz=74						
SFK				⇑*i*S	Sg	07 48 26.2	0.0
	baz=74						
GAR	**Garm**	**1.43**	**242**	⇓*i*P	Pb	07 48 12.1	+0.1
	baz=42						
GAR				⇓*i*S	Sg	07 48 31.4	-0.1
	baz=42						
ARSB	**Arslanbob**	**1.82**	**26**	⇓*i*P	Pb	07 48 19.2	+0.3
	baz=26						
ARSB				⇓*i*S	Sg	07 48 43.6	-0.8
	baz=26						
TRKS	**Terek-Say**	**1.94**	**342**	⇑*i*P	Pb	07 48 20.1	-0.7
	baz=42						
TRKS				⇑*i*S	Sb	07 48 45.1	+0.1
	baz=42						
ARK	**Arkit**	**2.11**	**1**	⇓*i*P	Pb	07 48 23.6	-0.2
	baz=1.0						
ARK				⇓*i*S	Sb	07 48 51.0	+1.1
	baz=1.0						
CHGR	**Chuyangaron**	**2.38**	**245**	⇓*i*P	Pb	07 48 27.1	-1.3
	baz=45						
CHGR				⇓*i*S	Sb	07 48 57.6	-0.1
	baz=45						
ARLS	**Aral**	**2.83**	**39**	⇓*i*P	Pb	07 48 33.5	-2.6
	baz=39						
ARLS				⇓*i*S	Sb	07 49 08.2	-2.5
	baz=39						
MNAS	**Manas**	**2.83**	**9**	⇑*i*P	Pb	07 48 33.7	-2.4
	baz=9.0						
MNAS				⇑*i*S	Sb	07 49 08.5	-2.2
	baz=9.0						
UCH	**Uchtor**	**3.21**	**37**	⇑*i*P	Pn	07 48 38.8	+2.8
	baz=37						
UCH				⇑*i*S	Sn	07 49 17.8	+3.5
	baz=37						
EKS2	**Erkin-Say**	**3.29**	**25**	⇑*i*P	Pn	07 48 39.9	+3.1
	baz=25						
EKS2				⇑*i*S	Sn	07 49 19.3	+3.6
	baz=25						
AAK	**Ala-Archa**	**3.53**	**32**	⇑*i*P	Pn	07 48 43.2	+3.0
	baz=32						
AAK				⇑*i*S	Sn	07 49 25.0	+3.2
	baz=32						
KKAR	**Karatay Array**	**3.58**	**343**	⇑*i*P	Pn	07 48 43.8	+3.1
	baz=43						
KKAR				⇑*i*S	Sn	07 49 26.2	+3.4
	baz=43						
USP	**Ospenovka**	**4.07**	**28**	⇓*i*P	Pn	07 48 50.4	+3.0
	baz=28						
USP				⇓*i*S	Sn	07 49 37.8	+2.9
	baz=28						
TKM2	**Tokmak 2**	**4.25**	**39**	⇓*i*P	Pn	07 48 53.4	+3.2
	baz=39						
TKM2				⇓*i*S	Sn	07 49 42.6	+2.9
	baz=39						

IDC 02 07:55:42.2±3.5,54°.35N×87°.12E,h0km,mbtmp2.9/2, ML2.4/2,Error ellipse: s-maj=33.3km s-min=20.9km az=46.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.41**	**254**	I	I	08 04 41.0	
	0.1nm,0.8s,baz=73,slow=348,SNR=5.2						
ZALV	**Zalesovo Beam**	**1.41**	**254**	Pg	Pn	07 56 07.1	-2.0
	0.8nm,0.3s,baz=71,slow=20,SNR=9.6						
ZALV				Lg	Lg	07 56 26.9	
	0.6nm,0.3s,baz=65,slow=26,SNR=3.3						
KURBB	**Kurchatov Arra**	**6.44**	**238**	Pn	Pn	07 57 19.6	+1.5
	baz=54,slow=14,SNR=3.2						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**8.17**	**204**	Pn	Pn	07 57 42.9	+1.0
	0.1nm,0.3s,baz=28,slow=14,SNR=6.8						
	0.2nm,0.3s						

*IDC **02** 07:58:60.0±0.5,6°.01S×142°.58E,h0km,mb4.7/18, mbtmp4.7/22,ML3.9/4,MS3.7/19,Error ellipse: s-maj=19.7km s-min=11.9km az=74.0*

*MOS **02** 07:59:00.3±0.9,5°.98S×142°.66E,h11km,mb5.0/31,Error ellipse: s-maj=11.1km s-min=5.8km az=117.1*

*BJI **02** 07:59:00.8±0.0,6°.06S×142°.85E,h17km,mb4.9/66, mB5.4/26,Ms5.3/4,Ms7 5.0/4*

*NEIC **02** 07:59:02.8±1.4,6°.05S±0°.07×142°.54E±0°.07,h10km±1km, mb5.1/62,Error ellipse: s-maj=11.9km s-min=11.8km az=120.0*

*DJA **02** 07:59:05.1±0.3,6°.S±3°×14°.2E±°,h10km,M5.2/19, mb4.8/19,mB5.5/7,MLv5.5/4,Mw(mB)5.0/7,MwMwp6.4/2, Mwp6.3/2*

ISC 02 07:59:01.9±0.3,6°.10S±0°.04×142°.56E±0°.05,h10km,n441, σ1°16/435,mb4.9/95,MS3.6/17,9C-4D,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.56**	**302**	P	**Pb**	**07 59 30.9**	**-0.1**
MMPI	**Merauke**	**3.19**	**222**	P	**Pn**	**07 59 55.2**	**+2.9**
GENI	**Genyem**	**4.22**	**325**	P	**Pb**	**08 00 11.7**	**-4.6**
GENI	**Genyem**	**4.22**	**325**	P	**Pn**	**08 00 08.7**	**+2.3**
SMPI	**Sarmi**	**5.60**	**317**	P	**Pn**	**08 00 28.2**	**+2.8**
	233nm,1.3s,0.8nm						
PMG	**Port Moresby**	**5.62**	**126**	Pn	**Pn**	**08 00 26.4**	**+0.7**
PMG	**Port Moresby**	**5.62**	**126**	P	**Pn**	**08 00 26.9**	**+1.3**
PMG	**Port Moresby**	**5.62**	**126**	P	**Pn**	**08 00 27.0**	**+1.3**
PMG	**Port Moresby**	**5.62**	**126**	*i* P	**Pn**	**08 00 25.8**	**+0.2**
PMG	**Port Moresby**	**5.62**	**126**	Pn	**Pn**	**08 00 26.6**	**+1.0**
	39nm,0.3s,baz=331,slow=3.8,SNR=98						
PMG				Sn	**Sn**	**08 01 30.0**	**-0.3**
	32nm,0.3s,baz=211,slow=20,SNR=10						
	149nm,0.4s						
MANU	**Manus Island**	**6.26**	**50**	Pn	**Pn**	**08 00 35.1**	**+0.6**
COEN	**Coen**	**7.83**	**176**	Pn	**Pn**	**08 00 57.7**	**+1.6**
COEN	**Coen**	**7.83**	**176**	P	**Pn**	**08 00 55.6**	**-0.5**
RABL	**Rabaul**	**9.75**	**79**	Pn	**Pn**	**08 01 23.8**	**+1.3**
FAKI	**Fak Fak**	**10.75**	**287**	Pn	**Pn**	**08 01 35.7**	**-0.4**
FAKI	**Fak Fak**	**10.75**	**287**	P	**Pn**	**08 01 37.3**	**+1.2**
FAKI	**Fak Fak**	**10.75**	**287**	P	**Pn**	**08 01 35.3**	**-0.8**
	63nm,0.8s						
SAUI	**Saumlaki**	**11.33**	**260**		**Pn**	**08 01 43.2**	**-0.8**
SAUI	**Saumlaki**	**11.33**	**260**	P	**Pn**	**08 01 43.5**	**-0.5**
	352nm,0.9s,13μm						
KDU	**Kakadu**	**11.91**	**236**	P	**Pn**	**08 01 51.8**	**-0.1**
MTSU	**Mount Surprise**	**12.09**	**172**	P	**Pn**	**08 01 54.2**	**-0.2**
SWI	**Sorong**	**12.41**	**294**	P	**Pn**	**08 01 57.8**	**-1.1**
MTN	**Manton Dam**	**13.11**	**238**		**Pn**	**08 02 07.7**	**-0.6**
DRS	**Darwin Rock St**	**13.11**	**240**	P	**Pn**	**08 02 08.6**	**+0.2**
CTA	**Charters Tower**	**14.36**	**166**	Pn	**Pn**	**08 02 26.6**	**+1.0**
	baz=345,slow=15,SNR=2.2						
CTA				Lg	Lg	08 06 36.2	
	0.1nm,0.3s,baz=249,slow=18,SNR=4.8						
CTA				LR	LR	08 07 31.6	
	comp=Z,258nm,21.0s,baz=350,slow=35						
	2.0nm,0.8s						
CTAO	**Charters Tower**	**14.36**	**166**	Pn	**Pn**	**08 02 26.3**	**+0.7**
CTAO	**Charters Tower**	**14.36**	**166**	P	**Pn**	**08 02 26.3**	**+0.7**
QIS	**Mount Isa**	**14.66**	**191**	P	**Pn**	**08 02 29.1**	**-0.5**
WR0	**Warramunga Arr**	**15.83**	**209**		**Pn**	**08 02 43.4**	**-1.7**
WRA	**Warramunga Arr**	**15.91**	**209**	Pn	**Pn**	**08 02 44.8**	**-1.4**
	2.3nm,0.3s,baz=30,slow=13,SNR=81						
WRA				Sn	**Sn**	**08 05 34.1**	**-8.7**
	1.6nm,0.3s,baz=39,slow=23,SNR=6.3						
WRA				Lg	Lg	08 07 28.6	
	0.9nm,0.3s,baz=39,slow=31,SNR=5.8						
	3.7nm,0.3s						
KNRA	**Kununurra**	**16.55**	**234**	Pn	**Pn**	**08 02 53.0**	**-1.3**
KNRA				IAmb	IAmb	08 03 02.0	
	comp=Z,51nm,0.6s						
HNR	**Honiara**	**17.54**	**102**	P	**Pn**	**08 03 06.5**	**-0.4**
HNR				IAmb	IAmb	08 03 15.4	
	comp=Z,135nm,0.8s						
HNR	**Honiara**	**17.54**	**102**	P	**Pn**	**08 03 07.7**	**+0.9**
	comp=Z,2μm,0.8s,baz=195,slow=2.2,SNR=3.7						
SOEI	**Soe**	**18.48**	**257**		**Pn**	**08 03 19.4**	**+1.0**
SOEI				IAmb	IAmb	08 03 26.1	
	comp=Z,259nm,1.4s						
SOEI	**Soe**	**18.48**	**257**	P	**Pn**	**08 03 20.5**	**+2.1**
	comp=Z,160nm,0.9s,comp=Z,2μm						
AS31	**Alice Springs**	**19.35**	**205**	P	**Pn**	**08 03 29.8**	**+0.9**
ASAR	**Alice Springs**	**19.35**	**205**		**Pn**	**08 03 29.9**	**+1.0**
ASAR	**Alice Springs**	**19.35**	**205**	P	**Pn**	**08 03 30.0**	**+1.0**
	comp=Z,2.3nm,0.3s,baz=32,slow=9.5,SNR=75						
ASAR				S	**Sn**	**08 06 58.0**	**-8.1**
	comp=Z,7.3nm,0.8s,baz=16,slow=28,SNR=6.2						
ASAR				Lg	Lg	08 09 15.2	
	comp=Z,0.1nm,0.3s,baz=26,slow=25,SNR=4.0						
ASAR				LR	LR	08 11 48.4	
	comp=Z,655nm,21.3s,baz=29,slow=40						
	comp=Z,35nm,0.6s						
PATS	**Pohnpei**	**20.30**	**51**	P	**P**	**08 03 37.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**20.37**	**233**	P	**P**	**08 03 39.9**	**+0.9**
EIDS	**Eidsvold**	**20.83**	**158**		**P**	**08 03 45.8**	**+1.9**
EDFI	**Ende, Flores**	**20.86**	**261**	P	**P**	**08 03 45.7**	**+1.3**
	comp=Z,21nm,1.2s						
DAV	**Davao City (W)**	**21.40**	**307**	LR	LR	08 12 46.2	
	comp=Z,34nm,18.7s,baz=161,slow=39						
BKSI	**Bulukumba**	**22.34**	**271**	P	**P**	**08 04 01.9**	**+1.7**
	comp=Z,51nm,0.9s,comp=Z,576nm						
KAPI	**Kappang**	**22.73**	**272**	P	**P**	**08 04 04.4**	**+0.1**
KAPI			

NJ2 pmax pmax
comp=Z,19nm,1.3s
RPSI Rantau Prapat 44.44 280 P **P** **08 07 12.9 -0.7**
PSI Prapat 44.46 280 P **P** **08 07 12.9 -1.0**
PSI pmax pmax
comp=Z,10.0nm,1.1s
URZ Urewera 44.78 141 LR LR 08 25 50.0
comp=Z,132nm,18.3s,baz=128,slow=36
TUWZ Tuamarina 44.93 146 P **P** **08 07 18.4 +1.2**
RPZ Rata Peaks 45.06 151 LR LR 08 24 33.5
comp=Z,215nm,19.7s,baz=190,slow=34
WHN Wuhan 45.36 325 P **P** **08 07 23.8 +3.2**
KSAR Wonju Array Be 45.43 344 P **P** **08 07 21.3 +0.3**
KSAR Wonju Array Be 45.43 344 P **P** **08 07 21.3 +0.3**
KSRS Korea Array 45.43 344 P **P** **08 07 21.0 0.0**
KSRS PcP **PcP** **08 09 01.0 +0.8**
comp=Z,4.9nm,0.7s,baz=164,slow=9.7,SNR=18
comp=Z,1.9nm,0.7s,baz=158,slow=4.6,SNR=3.3
comp=Z,4.9nm,0.7s
GYA Guiyang 47.52 315 P **P** **08 07 39.5 +1.7**
GYA pmax pmax
comp=Z,16nm,1.6s
LYN LuoYang 49.41 327 ⇓P **P** **08 07 51.6 -0.5**
LYN pP pP 08 07 56.0 +0.5
LYN pmax pmax
comp=Z,44nm,0.6s
LYN pmax pmax
comp=Z,370nm,4.6s
CMAR Chiang Mai Arr 49.45 300 P **P** **08 07 52.6 -0.1**
CMAR Chiang Mai Arr 49.45 300 P **P** **08 07 52.7 0.0**
comp=Z,3.8nm,0.7s,baz=125,slow=5.7,SNR=21
comp=Z,3.8nm,0.7s
CHTO Chiang Mai 49.60 301 P **P** **08 07 53.3 -0.6**
CHTO Chiang Mai 49.60 301 P **P** **08 07 53.3 -0.6**
CHTO pmax pmax
comp=Z,5.0nm,0.8s
KMI Kunming 49.62 310 ⇑P **P** **08 07 56.9 +2.7**
KMI pmax pmax
comp=Z,22nm,1.1s
ASAJ Asahikawa 49.98 0 LR LR 08 31 51.8
comp=Z,29nm,19.3s,baz=190,slow=40
HNS HongShan 50.48 331 ⇓P **P** **08 08 00.7 +0.6**
HNS pmax pmax
comp=Z,19nm,1.0s
USA0B Ussuriysk Arra 50.96 350 P **P** **08 08 03.2 -0.5**
USA0B Ussuriysk Arra 50.96 350 *i* P **P** **08 08 03.4 -0.3**
USRK Ussuriysk Ar. 50.96 350 P **P** **08 08 03.0 -0.7**
comp=Z,8.6nm,0.8s,baz=178,slow=8.1,SNR=18
comp=Z,8.6nm,0.8s
XAN Xi'an 51.05 324 ⇓P **P** **08 08 04.6 0.0**
XAN sP sP 08 08 11.3 +2.0
XAN pmax pmax
comp=Z,14nm,1.1s
XAN pmax pmax
comp=Z,310nm,5.5s
XAN LR LR
comp=Z,230nm,6.9s
XAN LR LR
comp=Z,250nm,5.5s
XAN LR LR
comp=Z,190nm,5.6s
PZH PanZhiHua 51.13 311 P **P** **08 08 06.8 +1.3**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,120nm,5.0s
MDJ Mudanjiang 51.81 348 P **P** **08 08 12.6 +2.5**
MDJ pmax pmax
comp=Z,14nm,1.4s
MDJ pmax pmax
comp=Z,750nm,6.2s
TIY Taiyuan 51.84 330 *e*P **P** **08 08 14.2 +3.7**
BJI Beijing 51.95 334 P **P** **08 08 11.2 0.0**
BJI sP **sP** **08 08 17.6 +1.7**
BJI pmax pmax
comp=Z,3.0nm,1.2s
BJI pmax pmax
comp=Z,83nm,5.4s
CN2 Changchun 52.02 344 P **P** **08 08 11.6 0.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 Chengdu 52.25 317 *e*P **P** **08 08 14.0 +0.3**
YSS Yuzh-Sakhalins 52.82 0 *e*P **P** **08 08 15.4 -2.1**
YSS pmax pmax
comp=Z,20nm,0.7s
TNCH TengChong 52.84 308 *e*P **P** **08 08 20.4 +2.1**
TNCH pP sP 08 08 23.5 +0.5
TNCH pmax pmax
comp=Z,52nm,0.7s
BNX BinXian 53.35 347 ⇑P **P** **08 08 22.0 +0.5**
BNX pmax pmax
comp=Z,21nm,0.9s
BNX pmax pmax
comp=Z,380nm,4.9s
HHC Hu-ho-hao-te 54.70 331 *e*P **P** **08 08 33.9 +2.4**
HHC pmax pmax
comp=Z,9.0nm,1.1s
HHC pmax pmax
comp=Z,100nm,4.4s
BTO Baotou 55.26 330 *e*P **P** **08 08 37.6 +2.0**
BTO pP **sP** **08 08 42.1 +1.8**
BTO sP **pP** **08 08 44.5 +5.5**
BTO S **S** **08 16 23.2 +3.7**
BTO SS **SS** **08 19 58.0 -6.1**
BTO pmax pmax
comp=Z,15nm,0.7s
BTO pmax pmax
comp=Z,390nm,4.9s
BTO LR LR
comp=Z,540nm,6.9s
BTO LR LR
comp=Z,440nm,5.7s
BTO LR LR
comp=Z,490nm,6.0s
LZH Lanzhou 55.48 322 *e*P **P** **08 08 38.0 +0.6**
LZH pP sP 08 08 42.4 +0.3
LZH pmax pmax
comp=Z,27nm,1.2s
KLR Kul'dur 55.90 351 *i* P **P** **08 08 39.4 -0.5**
KLR pmax pmax
comp=Z,35nm,2.2s
TYV Tymovskoe 56.73 0 *e*P **P** **08 08 46.4 +0.6**
TYV pmax pmax
comp=Z,200nm,4.0s
TYV pmax pmax
comp=Z,10.0nm,0.7s
HEH HeiHe 57.64 349 *e*P **P** **08 08 53.0 +0.8**
HEH pmax pmax
comp=Z,7.0nm,0.9s
GTA Gaotai 60.06 323 *e*P **P** **08 09 10.7 +1.2**
GTA pP pP 08 09 13.8 +0.8
GTA pmax pmax
comp=Z,10.0nm,0.9s
PEA0B Petropavlovsk- 60.36 10 P **P** **08 09 10.9 -0.2**
PEA0B Petropavlovsk- 60.36 10 P **P** **08 09 10.9 -0.2**
PEA0B pmax pmax
comp=Z,63nm,1.1s
PETK Petropavlovsk- 60.36 10 P **P** **08 09 10.6 -0.5**
PETK Petropavlovsk- 60.36 10 P **P** **08 09 10.6 -0.5**
PETK Petropavlovsk- 60.36 10 P **P** **08 09 10.0 -1.1**
comp=Z,19nm,1.0s,baz=153,slow=5.6,SNR=8.5
comp=Z,19nm,1.0s
ZEA Zeya 60.99 350 *e*P **P** **08 09 15.8 +0.4**
ZEA pmax pmax
comp=Z,20nm,1.2s
GOMU GeErMu 61.39 317 P **P** **08 09 19.7 +0.8**
GOMU pP sP 08 09 25.8 +2.1
GOMU sP pP 08 09 27.0 +4.6
GOMU pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 62.15 334 P **P** **08 09 23.8 +0.2**
ULN IAmb IAmb 08 09 27.3
comp=Z,7.0nm,0.8s
ULN Ulaanbaatar 62.15 334 *ce*P **P** **08 09 24.3 +0.7**
ULN pmax pmax
comp=Z,11nm,1.3s
SONM Songino Array 62.42 333 P **P** **08 09 25.8 +0.5**
SONM Songino Array 62.42 333 P **P** **08 09 25.8 +0.5**
SONM pmax pmax
comp=Z,6.0nm,1.1s
SONM Songino Array 62.42 333 P **P** **08 09 25.0 -0.4**
comp=Z,3.1nm,0.9s,baz=156,slow=7.2,SNR=12
comp=Z,3.1nm,0.9s
PALK Pallekele 63.12 281 LR LR 08 40 26.8
comp=Z,67nm,18.8s,baz=256,slow=39
SHEM Shemya Is, Ala 64.43 21 LR LR 08 37 05.6
comp=Z,22nm,18.8s,baz=124,slow=36
ZAK Zakamensk 65.68 334 *e*P **P** **08 09 46.3 -0.4**
ZAK pmax pmax
comp=Z,11nm,1.2s
MA2 Magadan 65.79 5 P **P** **08 09 46.7 -0.4**
MA2 IAmb IAmb 08 09 53.2
comp=Z,13nm,0.9s
MA2 Magadan 65.79 5 *ce*P **P** **08 09 45.4 -1.6**
MA2 pmax pmax
comp=Z,13nm,1.3s
PPT2 Papeete2 67.10 106 *e*LR LR 08 30 16.2
comp=Z,81nm,24.2s
MOY Mondy 67.61 333 *e*P **P** **08 10 00.4 +1.4**
MOY pmax pmax
comp=Z,27nm,1.7s
YAK Yakutsk 68.66 354 LR LR 08 40 00.4
comp=Z,29nm,18.7s,baz=224,slow=36
SEY Seymchan 69.24 5 *i* P **P** **08 10 05.8 -3.0**
SEY pmax pmax
comp=Z,18nm,3.0s
SEY Seymchan 69.24 5 LR LR 08 37 29.4
comp=Z,39nm,21.6s,baz=312,slow=33
WMQ Urumqi 70.03 321 *e*P **P** **08 10 15.5 +1.3**
WMQ PcP **PcP** **08 10 37.0 +0.6**
WMQ pmax pmax
comp=Z,19nm,0.7s
VNDA Vanda 72.11 176 LR LR 08 42 19.9
comp=Z,138nm,18.1s,baz=199,slow=36
DGZ Jazzator, Alta 73.20 326 *i* P **P** **08 10 33.3 0.0**
DGZ pmax pmax
comp=Z,11nm,0.8s
ZSN Zaisan 73.55 323 *e*P **P** **08 10 35.7 +0.5**
ZSN pmax pmax
comp=Z,5.0nm,0.8s
ZSN Zaisan 73.55 323 *e*P **P** **08 10 35.8 +0.5**
comp=Z,4.8nm,0.8s,baz=323
MK31 Makanchi Array 74.80 322 P **P** **08 10 42.9 +0.3**
MK31 IAmb IAmb 08 10 44.4
comp=Z,11nm,1.0s
MK31 Makanchi Array 74.80 322 *ce*P **P** **08 10 42.8 +0.3**
MKAR Makanchi Array 74.80 322 P **P** **08 10 43.0 +0.4**
MKAR Makanchi Array 74.80 322 P **P** **08 10 43.0 +0.4**
MKAR Makanchi Array 74.80 322 P **P** **08 10 42.9 +0.3**
comp=Z,12nm,0.9s,baz=111,slow=6.6,SNR=54
comp=Z,12nm,0.9s
MAKZ Makanchi 75.00 322 P **P** **08 10 43.9 +0.2**
MAKZ IAmb IAmb 08 10 45.4
comp=Z,15nm,0.9s
MAKZ Makanchi 75.00 322 P **P** **08 10 43.9 +0.2**
MAKZ pmax pmax
comp=Z,15nm,0.9s
SHLS Shalkode 75.09 318 *e*P **P** **08 10 43.2 -1.2**
SHLS pmax pmax
comp=Z,7.0nm,0.8s
SHLS Shalkode 75.09 318 *e*P **P** **08 10 43.2 -1.2**
comp=Z,6.8nm,0.8s,baz=318
UZB Uzynbulak 75.38 317 *e*P **P** **08 10 46.6 +0.5**
UZB pmax pmax
comp=Z,5.0nm,0.8s
UZB Uzynbulak 75.38 317 *e*P **P** **08 10 46.6 +0.5**
comp=Z,5.4nm,0.8s,baz=317
FALS False Pass 75.42 29 P **P** **08 10 45.8 0.0**
baz=236
SATY Saty 75.76 317 *e*P **P** **08 10 48.6 +0.3**
SATY pmax pmax
comp=Z,6.0nm,0.8s
SATY Saty 75.76 317 *e*P **P** **08 10 48.7 +0.3**
comp=Z,5.6nm,0.8s,baz=317
ZHN Zhinishke 75.78 317 *e*P **P** **08 10 48.8 +0.4**
ZHN pmax pmax
comp=Z,1.0nm,0.1s
ZHN Zhinishke 75.78 317 *e*P **P** **08 10 48.8 +0.4**
comp=Z,1.4nm,0.1s,baz=317
BILL Bilibino 75.83 9 *i* P **P** **08 10 46.1 -1.9**
BILL pmax pmax
comp=Z,9.0nm,1.7s
KSH Kashi 76.18 313 P **P** **08 10 53.2 +2.4**
KSH pmax pmax
comp=Z,13nm,0.6s
NIL Nilore 76.41 307 P **P** **08 10 53.3 +1.2**
TDK Taldyqorghan 76.51 319 *e*P **P** **08 10 53.1 +0.7**
TDK pmax pmax
comp=Z,6.0nm,0.6s
TDK Taldyqorghan 76.51 319 *e*P **P** **08 10 53.1 +0.7**
comp=Z,5.9nm,0.6s,baz=319
MDOK Medeo 76.72 317 *e*P **P** **08 10 54.4 +0.6**
MDOK Medeo 76.72 317 *e*P **P** **08 10 54.4 +0.6**
baz=317
ZAA0 Zalesovo Array 76.78 329 P **P** **08 10 53.2 -0.5**
ZAA0 IAmb IAmb 08 10 56.4
comp=Z,12nm,1.3s
ZALV Zalesovo Beam 76.78 329 P **P** **08 10 53.5 -0.2**
ZALV Zalesovo Beam 76.78 329 P **P** **08 10 53.5 -0.2**
ZALV Zalesovo Beam 76.78 329 P **P** **08 10 52.5 -1.1**
comp=Z,4.0nm,0.7s,baz=107,slow=5.1,SNR=15
comp=Z,4.0nm,0.7s
CHKK Chushkaly 77.02 317 *e*P **P** **08 10 55.3 0.0**
CHKK pmax pmax
comp=Z,10.0nm,0.7s
CHKK Chushkaly 77.02 317 *e*P **P** **08 10 55.3 0.0**
comp=Z,10nm,0.7s,baz=317
BOOM Boomskoye usch 77.24 316 P **P** **08 10 57.6 +0.8**
KUU Kurty 77.47 317 *e*P **P** **08 10 58.0 +0.2**
KUU pmax pmax
comp=Z,10.0nm,0.8s
KUU Kurty 77.47 317 *e*P **P** **08 10 58.1 +0.2**
comp=Z,9.8nm,0.8s,baz=317
TIXI Tiksi 78.11 356 *i* P **P** **08 10 58.1 -2.6**
TIXI pmax pmax
comp=Z,13nm,2.3s
AAK Ala-Archa 78.29 316 P **P** **08 11 02.9 +0.3**
AAK Ala-Archa 78.29 316 *ce*P **P** **08 11 03.5 +0.9**
AAK pmax pmax
comp=Z,9.0nm,1.3s
AAK Ala-Archa 78.29 316 P **P** **08 11 02.2 -0.4**
comp=Z,3.0nm,0.8s,baz=72,slow=2.1,SNR=3.6
comp=Z,3.0nm,0.8s
SGDS Sogindy 78.47 316 *e*P **P** **08 11 03.3 -0.1**
SGDS Sogindy 78.47 316 *e*P **P** **08 11 03.4 -0.1**
baz=316
M13K Dall Lake 78.59 24 P **P** **08 11 04.2 +0.7**
baz=235
CHGN Chignik 78.60 29 P **P** **08 11 03.2 -0.6**
baz=240
KURK Kurchatov 78.68 324 P **P** **08 11 04.3 0.0**
KURK IAmb IAmb 08 11 05.8
comp=Z,15nm,1.1s
KURK Kurchatov 78.68 324 *ce*P **P** **08 11 04.3 0.0**
KURK pmax pmax
comp=Z,16nm,1.3s
KURBB Kurchatov Arra 78.69 324 P **P** **08 11 03.9 -0.5**
comp=Z,6.0nm,0.9s,baz=117,slow=4.7,SNR=22
comp=Z,6.0nm,0.9s
O14K Tigyukauivet M 78.82 26 P **P** **08 11 05.0 +0.1**
baz=237
N14K Kuskokwak Cree 79.01 25 P **P** **08 11 05.8 0.0**
baz=237
M14K Bethel 79.35 24 P **P** **08 11 07.7 0.0**
baz=236
L14K Kuka Creek 79.39 24 P **P** **08 11 08.2 +0.2**
baz=236
BTLS Baital 79.41 318 *e*P **P** **08 11 08.7 +0.3**
BTLS Baital 79.41 318 *e*P **P** **08 11 08.7 +0.3**
baz=318
O15K Ungalikthiuk R 79.41 26 P **P** **08 11 08.7 +0.6**
baz=239
R16K Pilot Point 79.62 28 P **P** **08 11 09.4 +0.1**
baz=241
N15K Kwethluk River 79.81 25 P **P** **08 11 10.7 +0.3**
baz=238
M15K Kasigluk River 79.84 25 P **P** **08 11 10.6 +0.1**
baz=238
J14K Nanvaranak Lak 79.86 22 P **P** **08 11 10.7 +0.2**
baz=235
KBL Kabul 80.02 307 P **P** **08 11 12.4 +0.1**
KBL Kabul 80.02 307 P **P** **08 11 12.4 +0.1**
KBL pmax pmax
comp=Z,6.0nm,0.9s
L15K Ungalak Mounta 80.05 24 P **P** **08 11 12.0 +0.4**
baz=237
TNA Tin City 80.06 19 P **P** **08 11 11.9 +0.4**
baz=230
P16K Nushagak River 80.15 27 P **P** **08 11 11.5 -0.7**
baz=240
GAR Garm 80.20 311 P **P** **08 11 13.4 +0.3**
GAR IAmb IAmb 08 11 17.4
comp=Z,28nm,1.2s
ANM Nome 80.28 20 P **P** **08 11 12.7 0.0**
baz=233
K15K Wolf Creek Mou 80.37 23 P **P** **08 11 13.6 +0.3**
baz=237
O16K Kokwok River B 80.38 26 P **P** **08 11 13.5 +0.1**
baz=240
F14K Arctic Creek 80.52 19 P **P** **08 11 14.5 +0.4**
baz=232
N16K Nishlik Lake 80.53 25 P **P** **08 11 14.7 +0.5**
baz=239
DZA Taraz 80.58 315 *e*P **P** **08 11 14.6 -0.3**
DZA Taraz 80.58 315 *e*P **P** **08 11 14.7 -0.3**
baz=315
M16K Timber Creek 80.73 25 P **P** **08 11 16.0 +0.7**
baz=239
Q17K Contact Creek 80.75 28 P **P** **08 11 15.1 -0.4**
baz=242
L16K Owhat River 80.88 24 P **P** **08 11 16.4 +0.4**
L16K IAmb IAmb 08 11 17.0
comp=Z,11nm,0.8s
L16K Owhat River 80.88 24 P **P** **08 11 15.9 -0.1**
baz=239
O17K Koliganek Bris 80.91 26 P **P** **08 11 16.3 +0.1**
baz=241
P17K Kvichak River 80.93 27 P **P** **08 11 16.2 -0.1**
baz=242
CHGR Chuyangaron 80.98 311 P **P** **08 11 17.1 -0.1**
CHGR IAmb IAmb 08 11 18.7
comp=Z,31nm,0.9s
CHGR Chuyangaron 80.98 311 P **P** **08 11 17.1 -0.1**
CHGR pmax pmax
comp=Z,31nm,0.9s
G15K Niukluk 81.00 20 P **P** **08 11 16.3 -0.3**
baz=234
SIMJ Simiganj 81.09 311 P **P** **08 11 18.2 +0.3**
SIMJ IAmb IAmb 08 11 19.4
comp=Z,17nm,1.0s
F15K North Star Dit 81.22 19 P **P** **08 11 17.8 +0.1**
baz=233
KK31 Karatay Array 81.22 315 P **P** **08 11 18.3 0.0**
KK31 Karatay Array 81.22 315 P **P** **08 11 18.3 0.0**
KK31 pmax pmax
comp=Z,48nm,1.0s
KKAR Karatay Array 81.22 315 P **P** **08 11 19.4 +1.1**
KKAR Karatay Array 81.22 315 P **P** **08 11 18.3 0.0**
KKAR IAmb IAmb 08 13 54.1
comp=Z,48nm,0.9s
KKAR Karatay Array 81.22 315 P **P** **08 11 19.4 +1.1**
N17K Nushagak Hills 81.24 26 P **P** **08 11 18.4 +0.4**
baz=241,SNR=5.6
J16K Anvik River 81.27 23 P **P** **08 11 18.7 +0.6**
baz=237
IUG Iuzhnay 81.29 314 *e*P **P** **08 11 18.7 -0.1**
IUG pmax pmax
comp=Z,3.0nm,0.3s
IUG Iuzhnay 81.29 314 *e*P **P** **08 11 18.8 -0.1**
comp=Z,3.4nm,0.3s,baz=314
H16K Elim 81.42 21 P **P** **08 11 19.2 +0.4**
baz=236,SNR=8.4
OHAK Old Harbor 81.53 30 P **P** **08 11 19.5 0.0**
baz=245
M17K Holitna River 81.56 25 P **P** **08 11 20.4 +0.7**
baz=240
I17K Unalakleet 81.56 22 P **P** **08 11 20.4 +0.8**
baz=237
P18K Big Mountain, 81.57 27 P **P** **08 11 20.0 +0.2**
baz=243
L17K Donlin 81.58 24 P **P** **08 11 20.3 +0.5**
baz=240
CHM Chimkent 81.64 314 *e*P **P** **08 11 20.9 +0.4**
CHM pmax pmax
comp=Z,3.0nm,0.3s
CHM Chimkent 81.64 314 *e*P **P** **08 11 20.9 +0.4**
comp=Z,3.2nm,0.3s,baz=314
BRLS Boroldav 81.67 315 *e*P **P** **08 11 20.7 0.0**
BRLS Boroldav 81.67 315 *e*P **P** **08 11 20.8 0.0**
baz=315
O18K Koktuh Hills 81.79 27 P **P** **08 11 21.2 +0.2**
baz=243
G16K Koyuk River 81.81 20 P **P** **08 11 21.2 +0.4**
baz=236
K17K Iditarod 81.87 24 P **P** **08 11 22.2 +1.0**
baz=240
N18K Kilae Creek 81.88 26 P **P** **08 11 22.0 +0.7**
baz=242
BRZS Berezniki 81.94 322 *e*P **P** **08 11 21.5 -0.4**
BRZS Berezniki 81.94 322 *e*P **P** **08 11 21.5 -0.4**
baz=322
KDAK Kodiak Island 82.11 29 P **P** **08 11 23.0 +0.4**
baz=245
KDAK Kodiak Island 82.11 29 P **P** **08 11 22.7 +0.1**
comp=Z,5.8nm,0.8s,baz=262,slow=3.1,SNR=4.5
comp=Z,5.8nm,0.8s
SVW2 Sparrevohn 82.20 26 P **P** **08 11 23.5 +0.4**
SVW2 IAmb IAmb 08 12 09.7
comp=Z,45nm,1.7s
L18K Granite Mounta 82.27 24 P **P** **08 11 24.6 +1.2**
baz=241
M18K Stony River 82.29 25 P **P** **08 11 24.6 +1.2**
baz=242
O19K Port Alsworth 82.34 27 P **P** **08 11 24.0 +0.3**
baz=244
H17K Granite Mounta 82.42 21 P **P** **08 11 24.9 +0.8**
baz=238,SNR=6.1
G17K Kiwalik Mounta 82.46 21 P **P** **08 11 24.8 +0.5**
baz=237
N19K Bonanza Creek 82.55 26 P **P** **08 11 25.1 +0.1**
baz=243
P19K Oil Pt 82.60 27 P **P** **08 11 24.8 -0.4**
P19K Oil Pt 82.60 27 P **P** **08 11 25.1 -0.1**
baz=244
F17K Baldwin Pennin 82.77 20 P **P** **08 11 26.7 +0.8**
baz=236
J18K Innoko River 82.87 23 P **P** **08 11 27.2 +0.7**
baz=241
TTA Tatalina 82.89 24 P **P** **08 11 27.5 +0.8**
baz=242
D17K Noatak River 82.90 18 P **P** **08 11 27.6 +1.1**
baz=234,SNR=5.9
L19K White Mountain 83.02 25 P **P** **08 11 28.2 +0.8**
baz=243
M19K Big River Lodg 83.08 25 P **P** **08 11 28.3 +0.7**
baz=243
H18K Honhosa River 83.09 21 P **P** **08 11 27.9 +0.3**
baz=239
C17K DeLong Mountai 83.32 18 P **P** **08 11 29.1 +0.3**
baz=234
G18K Tagagawik 83.37 21 P **P** **08 11 29.5 +0.5**
baz=239
F18K Selawik 83.40 20 P **P** **08 11 29.9 +0.8**
baz=238
GCSA Galena City Sc 83.43 22 P **P** **08 11 29.5 +0.2**
baz=241,SNR=6.6
CNPM China Poot 83.47 28 P **P** **08 11 29.2 -0.5**
E18K Tukpahlearik C 83.53 19 P **P** **08 11 30.3 +0.5**
baz=237
J19K Poorman 83.55 23 P **P** **08 11 30.5 +0.5**
baz=242
L20K Farewell, AK 83.56 25 P **P** **08 11 30.6 +0.5**
baz=244
M20K Styx River 83.61 25 P **P** **08 11 30.9 +0.4**
baz=244
N20K Mount Spurr 83.72 26 P **P** **08 11 31.5 +0.5**
baz=245
K20K Telida 83.87 24 P **P** **08 11 32.2 +0.5**
baz=243
QSPA South Pole Qui 83.87 180 P **P** **08 11 32.3 +0.4**
QSPA IAmb IAmb 08 11 33.5
comp=Z,9.8nm,0.8s
QSPA South Pole Qui 83.87 180 P **P** **08 11 31.8 0.0**
comp=Z,14nm,0.9s,baz=314,slow=1.0,SNR=56
comp=Z,14nm,0.9s
CAPN Captain Cook N 84.01 27 P **P** **08 11 32.7 +0.3**
baz=246
C18K Utukok River 84.02 18 P **P** **08 11 32.5 0.0**
C18K IAmb IAmb 08 11 56.5
comp=Z,7.8nm,1.1s
C18K Utukok River 84.02 18 P **P** **08 11 32.4 0.0**
baz=236
G19K Purcell Mounta 84.05 21 P **P** **08 11 33.0 +0.5**
baz=240
F19K Shaleruckik Mo 84.16 20 P **P** **08 11 33.1 +0.1**
baz=240
J20K Nowinta River 84.21 23 P **P** **08 11 34.4 +1.0**
baz=243,SNR=6.4
B18K Kokolik River 84.24 17 P **P** **08 11 34.0 +0.6**
baz=236

BVAR	Borovoye Array	84.27	325	P		P		08 11 33.9	0.0
	comp=Z,26nm,0.8s,baz=104,slow=6.3,SNR=105								
	comp=Z,26nm,0.8s								
SKT	Skwentna	84.34	26	P		P		08 11 34.1	0.0
	baz=246								
BRVK	Borovoye	84.34	325	P		P		08 11 34.3	0.0
BRVK	Borovoye	84.34	325	*cP*		P		08 11 34.7	+0.4
BRVK				pmax		pmax			
	comp=Z,39nm,1.3s								
SUA	Susitna One	84.47	26	P		P		08 11 33.8	-1.1
SUA				IAmb		IAmb		08 11 35.4	
	comp=Z,8.3nm,0.8s								
SUA	Susitna One	84.47	26	P		P		08 11 34.7	-0.2
	baz=247,SNR=5.7								
SEW	Seward	84.53	28	P		P		08 11 34.7	-0.3
	baz=248								
H20K	Anotleneega Mo	84.53	22	P		P		08 11 34.9	-0.1
	baz=242								
O22K	Cooper Landing	84.55	27	P		P		08 11 35.0	-0.1
O22K	Cooper Landing	84.55	27	P		P		08 11 35.5	+0.4
	baz=248								
E19K	Redstone River	84.66	20	P		P		08 11 35.7	+0.1
	baz=240								
CAST	Castle Rocks	84.70	24	P		P		08 11 35.8	-0.1
	baz=245,SNR=7.0								
C19K	Lookout Ridge	84.76	18	P		P		08 11 36.6	+0.4
	baz=238								
RC01	Rabbit Creek A	84.77	27	P		P		08 11 35.4	-0.9
RC01	Rabbit Creek A	84.77	27	P		P		08 11 36.2	-0.1
	baz=248,SNR=9.6								
CHUM	Lake Minchumin	84.81	24	P		P		08 11 36.6	+0.3
	baz=245,SNR=12								
M22K	Willow	84.86	26	P		P		08 11 36.8	+0.2
	baz=247								
D19K	Kuna River	84.89	19	P		P		08 11 36.7	-0.1
	baz=239								
F20K	Avaraart Lake	84.97	20	P		P		08 11 37.6	+0.5
	baz=242								
CUT	Chulitna	85.05	26	P		P		08 11 37.1	-0.5
CUT	Chulitna	85.05	26	P		P		08 11 37.2	-0.4
	baz=247								
PMR	Palmer	85.23	26	P		P		08 11 38.2	-0.3
	baz=248								
H21K	Melozitna Rive	85.38	22	P		P		08 11 39.0	-0.3
	baz=244								
E20K	Nigu River	85.39	19	P		P		08 11 39.4	+0.1
	baz=241								
BPAW	Bear Paw Mtn.	85.43	24	P		P		08 11 39.4	-0.1
	baz=246								
P23K	Montague Islan	85.45	28	P		P		08 11 39.7	+0.1
	baz=250								
TRF	Thorofare Moun	85.45	25	P		P		08 11 39.3	-0.5
	baz=247								
KNK	Knik Glacier	85.47	27	P		P		08 11 39.3	-0.5
KNK				IAmb		IAmb		08 11 41.0	
	comp=Z,19nm,0.8s								
KNK	Knik Glacier	85.47	27	P		P		08 11 40.0	+0.2
	baz=249,SNR=5.5								
D20K	Etivluk River	85.48	19	P		P		08 11 39.7	0.0
	baz=241								
I21K	Tanana	85.49	23	P		P		08 11 39.6	-0.1
	baz=245								
G21K	Allakaket	85.50	21	P		P		08 11 39.7	-0.1
	baz=244								
SML	Sawmill	85.67	26	P		P		08 11 40.3	-0.5
SML				IAmb		IAmb		08 11 41.0	
	comp=Z,19nm,0.8s								
SML	Sawmill	85.67	26	P		P		08 11 40.3	-0.5
SML				pmax		pmax			
	comp=Z,19nm,0.8s								
SML	Sawmill	85.67	26	P		P		08 11 40.9	+0.1
	baz=249,SNR=7.1								
Q23K	Middleton Isla	85.75	29	P		P		08 11 41.2	0.0
	baz=251								
F21K	Alatna River	85.82	21	P		P		08 11 42.1	+0.6
	baz=244								
MLY	Manley	85.91	23	P		P		08 11 42.0	+0.1
	baz=246,SNR=10								
M23K	Glacier View	85.93	27	P		P		08 11 42.3	+0.3
	baz=249								
WAT1	Susitna Watana	85.95	25	P		P		08 11 41.9	-0.3
	baz=248								
H22K	Ishtalitna Cre	86.01	22	P		P		08 11 42.1	-0.3
	baz=246								
RND	Reindeer	86.03	25	P		P		08 11 41.9	-0.7
MCK	McKinley	86.12	25	P		P		08 11 42.2	-0.8
	baz=248,SNR=7.9								
SCM	Sheep Creek Mo	86.12	27	P		P		08 11 42.4	-0.7
SCM				IAmb		IAmb		08 11 43.9	
	comp=Z,17nm,0.9s								
SCM	Sheep Creek Mo	86.12	27	P		P		08 11 42.4	-0.7
SCM				pmax		pmax			
	comp=Z,17nm,0.9s								
SCM	Sheep Creek Mo	86.12	27	P		P		08 11 42.6	-0.5
	baz=250								
WAT6	Susitna Watana	86.20	26	P		P		08 11 42.9	-0.7
	baz=249								
E21K	Killik River	86.21	19	P		P		08 11 43.1	-0.3
	baz=243								
EYAK	Cordova Ski Ar	86.41	28	P		P		08 11 43.9	-0.5
	baz=251								
I23K	Minto, Yukon-K	86.49	23	P		P		08 11 44.3	-0.4
	baz=248								
DHY	Denali Highway	86.54	25	P		P		08 11 44.2	-1.0
DHY				IAmb		IAmb		08 11 45.8	
	comp=Z,14nm,0.9s								
DHY	Denali Highway	86.54	25	P		P		08 11 45.0	-0.2
	baz=250,SNR=11								
KLU	Klutina	86.64	27	P		P		08 11 45.4	-0.3
	baz=251								
M24K	Tolsona, Glenn	86.73	26	P		P		08 11 45.8	-0.2
M24K	Tolsona, Glenn	86.73	26	P		P		08 11 45.8	-0.2
	baz=251								
A21K	Barrow	86.77	16	P		P		08 11 45.1	-0.8
	baz=240								
E22K	Anaktuvuk Pass	86.80	20	P		P		08 11 46.8	+0.5
	baz=245								
D22K	Ayikyak River	86.83	19	P		P		08 11 46.7	+0.4
	baz=244								
G23K	Bananza Creek	86.84	22	P		P		08 11 46.6	+0.1
G23K				IAmb		IAmb		08 11 47.5	
	comp=Z,5.4nm,0.7s								
G23K	Bananza Creek	86.84	22	P		P		08 11 47.3	+0.7
	baz=247								
COLA	College	86.98	24	P		P		08 11 46.2	-0.9
COLD	Coldfoot	86.99	21	P		P		08 11 47.5	+0.4
	baz=247								
BMRM	Bremner River	87.07	28	P		P		08 11 47.9	+0.2
	baz=252								
HDA	Harding Lake	87.18	24	P		P		08 11 48.0	-0.2
	baz=250								
POKR	Poker Plat Res	87.23	23	P		P		08 11 48.0	-0.4
	baz=249								
HARP	HAARP	87.27	26	P		P		08 11 48.4	-0.2
	baz=252								
N25K	Chitina, Valde	87.27	27	P		P		08 11 48.6	-0.1
	baz=252								
H24K	Noodor Dome	87.32	23	P		P		08 11 48.9	0.0
	baz=249								
PAX	Paxson	87.32	26	P		P		08 11 48.9	-0.1
	baz=251								
IL31		87.33	24	P		P		08 11 47.5	-1.3
IL31				IAmb		IAmb		08 11 48.1	
	comp=Z,10nm,0.8s								
ILAR	Eielson Array	87.33	24	P		P		08 11 47.1	-1.8
	comp=Z,8.8nm,0.8s,baz=256,slow=5.1,SNR=83								
ILAR				LR		LR		08 46 27.4	
	comp=Z,26nm,21.9s,baz=46,slow=33								
	comp=Z,8.8nm,0.8s								
K24K	Donnelly Dome	87.46	25	P		P		08 11 49.8	+0.2
	baz=251								
E23K	Chandalar	87.52	20	P		P		08 11 50.7	+0.9
	baz=247								
D23K	Nanushuk River	87.52	19	P		P		08 11 50.5	+0.9
	baz=246,SNR=21								
CRQE	Cirque	87.72	28	P		P		08 11 51.1	+0.2
	baz=253								
G24K	Hadweenzic Riv	87.78	22	P		P		08 11 51.9	+1.0
	baz=249								
RIDG	Independent Ri	87.83	25	P		P		08 11 51.5	+0.1
	baz=252,SNR=5.6								
J25K	Salcha River,	87.89	24	P		P		08 11 51.6	-0.1
	baz=251								
C23K	Itkillik River	87.89	19	P		P		08 11 52.3	+0.8
	baz=246								
F24K	Squaw Lake	87.92	21	P		P		08 11 52.6	+0.9
	baz=249								
MCARA	McCarthy VSAT	87.93	28	P		P		08 11 52.9	+1.1
	baz=253								
PRP	Porcupine Dome	88.12	23	P		P		08 11 53.1	+0.3
	baz=251								
D24K	Happy Valley	88.21	19	P		P		08 11 53.8	+0.8
	baz=248								
L26K	Log Cabin Wild	88.26	26	P		P		08 11 53.8	+0.4
	baz=253,SNR=5.4								
SCRK	Sand Creek	88.27	25	P		P		08 11 53.5	0.0
	baz=252								
G25K	Bearman Lake	88.32	22	P		P		08 11 54.0	+0.6
	baz=250								
GRNC	Granite Creek	88.34	28	P		P		08 11 54.2	+0.1
C24K	Franklin Bluff	88.46	19	P		P		08 11 54.9	+0.8
	baz=248								
CTG	Chitna Glacier	88.60	28	P		P		08 11 55.8	+0.7
	baz=255,SNR=5.5								
J26L	Joseph Creek	88.60	25	P		P		08 11 55.6	+0.5
	baz=253								
CTGM	Chitina Glacie	88.60	28	P		P		08 11 55.5	+0.3
M27K	Edge Creek, AK	88.72	27	P		P		08 11 55.7	0.0
M27K				IAmb		IAmb		08 11 57.2	
	comp=Z,15nm,0.9s								
M27K	Edge Creek, AK	88.72	27	P		P		08 11 56.6	+0.9
	baz=254,SNR=6.7								
F25K	Christian Rive	88.76	21	P		P		08 11 56.5	+0.8
	baz=251								
PINM	Pinnacle	88.90	29	P		P		08 11 57.2	+0.7
	baz=256								
L27K	Beaver Creek,	88.93	26	P		P		08 11 57.4	+0.8
	baz=254								
E25K	Arctic Village	88.96	21	P		P		08 11 57.9	+1.3
	baz=251,SNR=6.2								
K27K	Chicken	89.09	25	P		P		08 11 58.1	+0.9
	baz=254								
BMAR	Burnt Mountain	89.09	22	P		P		08 11 57.8	+0.6
BVCY	Beaver Creek	89.19	27	P		P		08 11 59.0	+1.2
	baz=255								
YUK3	Moose Creek	89.22	28	P		P		08 11 58.8	+0.7
	baz=256,SNR=5.6								
PNL	Peninsula	89.22	30	P		P		08 11 58.7	+0.7
	baz=257								
G26K	Porcupine Rive	89.24	22	P		P		08 11 58.6	+0.8
	baz=253,SNR=17								
F26K	Sheenjek River	89.34	21	P		P		08 11 59.3	+0.9
	baz=252,SNR=14								
GEYT	Allbeck	89.34	308	P		P		08 11 58.8	-0.2
	comp=Z,2.4nm,0.7s,baz=71,slow=6.4,SNR=6.4								
	comp=Z,2.4nm,0.7s								
YUK8	Steele Glacier	89.42	28	P		P		08 11 59.8	+0.6
	baz=256								
EGAK	Eagle	89.67	25	P		P		08 12 00.4	+0.5
	baz=255								
I27K	Kandik River	89.70	24	P		P		08 12 00.3	+0.1
	baz=255								
ABKAR	Akbulak array	89.77	319	P		P		08 11 59.7	-1.0
H27K	Steamboat Moun	89.91	23	P		P		08 12 01.8	+0.7
	baz=255								
YUK4	Talbot Arm	89.96	28	P		P		08 12 02.5	+0.9
	baz=257								
P29M	Windy Craggy	90.03	30	P		P		08 12 02.5	+0.7
	baz=258								
DAWY	Dawson	90.24	25	P		P		08 12 03.2	+0.5
DAWY				IAmb		IAmb		08 12 04.2	
	comp=Z,10nm,1.0s								
DAWY	Dawson	90.24	25	P		P		08 12 03.4	+0.7
	baz=257								
M29M	Somme Creek	90.29	27	P		P		08 12 03.6	+0.6
	baz=258								
I28M	Miner Creek	90.34	24	P		P		08 12 03.9	+0.7
	baz=256								
HYT	Haines Junctio	90.39	29	P		P		08 12 03.9	+0.4
	baz=258								
P30M	Million Dollar	90.52	30	P		P		08 12 04.7	+0.7
	baz=259								
L29M	L29M	90.58	27	P		P		08 12 04.8	+0.5
	baz=258								
N30M	Aishikik Lake	90.72	28	P		P		08 12 05.2	+0.2
	baz=259								
J29N	Klondike Camp	90.83	25	P		P		08 12 06.6	+1.2
	baz=258								
F28M	Old Crow	90.89	22	P		P		08 12 07.0	+1.4
	baz=256								
K29M	Barlow Dome	91.00	26	P		P		08 12 06.7	+0.4
	baz=258								
O30N	Mendenhall	91.06	29	P		P		08 12 07.0	+0.5
	baz=260								
M30M	Minto, Yukon	91.07	27	P		P		08 12 07.0	+0.4
	baz=259								
H29M	Whitestone	91.15	23	P		P		08 12 07.4	+0.6
	baz=258								
AKTO	Aktyubinsk	91.18	320	P		P		08 12 04.9	-2.4
	comp=Z,1.8nm,0.7s,baz=173,slow=3.3,SNR=5.0								
	comp=Z,1.8nm,0.7s								
WHY	Whitehorse	91.63	29	P		P		08 12 09.8	+0.5
	baz=261								
J30M	Hart River	91.65	25	P		P		08 12 09.5	+0.2
J30M				IAmb		IAmb		08 12 10.7	
	comp=Z,10.0nm,1.1s								
J30M	Hart River	91.65	25	P		P		08 12 09.7	+0.4
	baz=259								
ARU	Arti	91.72	326	*c iP*		P		08 12 08.6	-1.0
ARU								08 15 48.5	
ARU				S		SKSac		08 22 41.3	-1.1
ARU				SS		SS		08 29 20.0	+2.5
ARU				pmax		pmax			
	comp=Z,18nm,1.4s								
ARU	Arti	91.72	326	P		P		08 12 07.6	-2.0
	comp=Z,8.6nm,0.2s,baz=114,slow=8.4,SNR=5.3								
I30M	Mount Dempster	91.75	25	P		P		08 12 09.7	-0.1
	baz=259								
E29M	Blow River	91.78	21	P		P		08 12 11.5	+1.8
	baz=258								
EPYK	Eagle Plains	91.83	23	P		P		08 12 10.3	+0.3
	baz=259								
G30M	tAoh Zraii Nji	92.14	23	P		P		08 12 11.7	+0.3
	baz=260								
F30M	Barrier River	92.42	22	P		P		08 12 13.2	+0.6
	baz=260								
FARO	Faro, Yukon	92.59	28	P		P		08 12 14.1	+0.5
	baz=262								
H31M	Peel River	92.69	24	P		P		08 12 14.1	+0.2
	baz=261								
G31M	Satah River	92.89	23	P		P		08 12 15.4	+0.6
	baz=261								
ELIB	Princess Elisa	92.93	196	*d*P		P		08 12 16.5	+1.3
	comp=Z,4.3nm,1.0s								
INK	Inuvik	93.37	22	LR		LR		08 49 39.3	
	comp=Z,44nm,21.3s,baz=16,slow=33								
A36M	Sachs Harbour	96.44	18	P		P		08 12 31.1	+0.2
	baz=270								
KIRV	Kirv	96.80	328	*i* P		P		08 12 31.3	-1.5
YBH	Yreka Blue Hor	97.55	49	LR		LR		08 52 03.8	
	comp=Z,40nm,18.3s,baz=164,slow=33								
BELG	Belogornoye	97.80	322	*i* P		P		08 12 35.5	-2.0
BELG				pmax		pmax			
	comp=Z,2.0nm,0.9s								
YKA	Yellowknife Ar	101.30	27	P		Pdif		08 12 50.9	-2.0
	comp=Z,0.5nm,0.9s,baz=277,slow=5.1,SNR=6.7								
YKA				PP		PP		08 17 00.3	-1.8
	comp=Z,0.5nm,0.9s,baz=273,slow=7.6,SNR=6.6								
OBN	Obninsk	104.11	325	*i* P		Pdif		08 13 05.1	-0.4
OBN				*e*				08 17 19.2	
OBN				pmax		pmax			
	comp=Z,4.0nm,0.8s								
TXAR	Lajitas Array	113.67	61	PKiKP		PKiKP		08 17 40.2	-1.4
	comp=Z,0.8nm,1.1s,baz=217,slow=1.3,SNR=3.8								
ULM	Lac du Bonnet	114.52	37	PKP		PKiKP		08 17 40.9	-1.6
	comp=Z,1.3nm,0.5s,baz=294,slow=2.2,SNR=4.4								
ABTX	Abilene, Hawle	116.61	57	P		PKPdf		08 17 46.2	-0.8
	baz=280								
JCT	Junction City	116.84	59	P		PKPdf		08 17 47.0	-0.6
	baz=279								
SPMN	Marine on St.	118.30	41	P		PKiKP		08 17 50.4	+0.5
	baz=292								
GERES	GERESS Array B	119.43	324	PKP		PKPdf		08 17 51.9	-0.1
	comp=Z,0.4nm,0.4s,baz=12,slow=5.0,SNR=3.5								
CCM	Cathedral Cave	121.89	49	P		PKPdf		08 17 56.9	-0.1
	baz=289								
O48B	Farmland	125.45	44	P		PKPdf		08 18 03.5	-0.2
	baz=296								
WCI	Wyndotte Cave	125.47	47	P		PKPdf		08 18 04.1	+0.3
	baz=293								
SCHQ	Schefferville	125.97	21	PKP		PKPdf		08 18 03.3	-1.0
	comp=Z,2.1nm,0.8s,baz=30,slow=8.5,SNR=3.8								
P49A	Miami Univ. Ec	126.06	45	P		PKPdf		08 18 05.0	+0.1
	baz=296								
LRAL	Lakeview Retre	126.81	53	P		PKPdf		08 18 06.5	-0.1
	baz=289								
ACSO	Alum Creek Sta	126.95	43	P		PKPdf		08 18 06.7	0.0
	baz=298								
BRAL	Brewton	127.35	55	P		PKPdf		08 18 07.7	+0.1
	baz=288								
ERPA	Erie	127.99	40	P		PKiKP		08 18 09.5	+0.4
	baz=302								
BLA	Blacksburg	130.12	45	P		PKPdf		08 18 12.7	-0.1
	baz=298								
SSPA	Standing Stone	130.12	40	P		PKPdf		08 18 12.7	0.0
	baz=303								
L61B	Northampton	132.23	35	P		PKPdf		08 18 17.2	+0.6
	baz=309								
PAL	Palisades	132.39	38	P		PKPdf		08 18 17.6	+0.7
	baz=307								
TORD	Torodi Ar. Bea	140.82	283	PKhKP		PKPpre		08 18 26.2	
	comp=Z,1.8nm,1.2s,baz=57,slow=4.6,SNR=4.8								
CPUP	Villa Florida	142.43	150	PKP		PKPdf		08 18 33.2	-2.7
	comp=Z,2.3nm,1.0s,baz=252,slow=9.6,SNR=3.2								
ROSC	El Rosal	143.27	90	PKP		PKPbc		08 18 36.5	+1.3
	comp=Z,7.1nm,0.5s,baz=345,slow=5.2,SNR=6.9								
DBIC	Dimbokro	147.62	273	PKPbc		PKPdf		08 18 44.9	-0.2
	comp=Z,8.2nm,0.9s,baz=70,slow=4.0,SNR=8.1								

IDC 02 07:59:27.5±3.2, 54.23N×87.44E, h0km, mbtmp3.4/2, ML2.7/2, Error ellipse: s-maj=25.8km s-min=16.6km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.57	261	I	I	08 08 47.0	
	0.1nm,1.0s,baz=80,slow=349,SNR=4.2						
ZALV	Zalesovo Beam	1.57	261	Pg	Pn	07 59 54.2	-2.4
	1.4nm,0.3s,baz=80,slow=14,SNR=6.3						
ZALV				Lg	Lg	08 00 18.6	
	2.7nm,0.3s,baz=80,slow=26,SNR=6.1						
KURBB	Kurchatov Arra	6.54	240	Pn	Pn	08 01 04.4	-0.5
	0.1nm,0.3s,baz=56,slow=14,SNR=1.8						
KURBB				Lg	Lg	08 02 55.5	
	baz=58,slow=35						
	4.1nm,0.2s						
MKAR	Makanchi Array	8.13	206	Pn	Pn	08 01 29.1	+2.4
	0.1nm,0.3s,baz=25,slow=13,SNR=5.2						
MKAR				Sn	Sn	08 02 58.6	-0.8
	0.2nm,0.3s,baz=26,slow=33,SNR=9.3						
MKAR				Lg	Lg	08 03 45.8	
	baz=25,slow=21,SNR=2.0						
	0.2nm,0.3s						

*NEIC **02** 08:06:00.6±0.8, 56.05N±0.09×149.9W±0.1, h23km±10km, ML3.5/46, ML3.3(AEIC), Error ellipse: s-maj=13.9km s-min=8.6km az=158.0*

*AEIC **02** 08:06:03.3±1.0, 56.0N±0.1×149.8W±0.1, h8km±8km, Error ellipse: s-maj=15.2km s-min=9.8km az=160.0*

ISC 02 08:05:58.0±1.6, 56.02N±0.09×149.86W±0.06, h10km, n181, σ1.901/174, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	Old Harbor	2.24	304		Pn	08 06 35.6	+0.5
OHAK					Sn	08 07 01.4	-1.5
OHAK	Old Harbor	2.24	304	IAML		08 07 01.8	
	comp=N,148nm,0.4s						
OHAK				IAML		08 07 01.9	
	comp=E,130nm,0.5s						
OHAK	Old Harbor	2.24	304	P	Pn	08 06 35.6	+0.5
OHAK	Old Harbor	2.24	304	P	Pn	08 06 35.6	+0.5
	baz=121						
OHAK				S	Sn	08 07 01.4	-1.5
	baz=121						
KDAK	Kodiak Island	2.31	321		Pn	08 06 37.0	+0.9
KDAK	Kodiak Island	2.31	321		Sn	08 07 02.9	-1.6
SII	Sitkinak Islan	2.47	284	IAML		08 07 08.0	
	comp=E,136nm,0.7s						
SII	Sitkinak Islan	2.47	284		Pn	08 06 38.5	+0.2
SII					Sn	08 07 07.1	-1.4
SII	Sitkinak Islan	2.47	284	P	Pn	08 06 38.5	+0.2
	baz=100						
SII				S	Sn	08 07 07.1	-1.4
	baz=100						
Q20K	Shuyak Island	2.93	333	P	Pn	08 06 45.4	+0.7
	baz=151						
Q20K				S	Sn	08 07 19.6	-0.4
	baz=151						
SYI	Shuyak Island	2.93	333		Pn	08 06 45.4	+0.7
SYI					Sn	08 07 19.6	-0.3
Q19K	Cape Douglas,	3.56	327		Pn	08 06 54.8	+1.5
Q19K	Cape Douglas,	3.56	327	IAML		08 07 40.3	
	comp=N,190nm,0.9s						
Q19K	Cape Douglas,	3.56	327	P	Pn	08 06 54.8	+1.5
	baz=143						
CNPM	China Poot	3.59	349		Pn	08 06 53.9	+0.2
CNPM					Sn	08 07 34.8	-1.3
CNPM	China Poot	3.59	349	IAML		08 07 37.3	
	comp=E,36nm,0.6s						
ACHA	Angle Creek He	3.70	309		Pn	08 06 56.9	+1.6
BRSE	Bradley Lake S	3.76	353		Pn	08 06 55.9	-0.1
BRSE					Sn	08 07 38.7	-1.6
BRSE	Bradley Lake S	3.76	353	P	Pn	08 06 55.9	-0.1
	baz=173						
BRSE				S	Sn	08 07 38.7	-1.6
	baz=173						
BRLK	Bradley Lake	3.79	352		Pn	08 06 56.7	+0.2
BRLK				IAML		08 07 45.0	
	comp=E,32nm,0.5s						
KAHC	Katmai Hardscr	3.83	315		Pn	08 06 59.0	+1.8
KAHC	Katmai Hardscr	3.83	315	P	Pn	08 06 59.0	+1.8
	baz=131						
Q23K	Middleton Isla	3.90	27		Pn	08 06 58.1	+0.2
Q23K	Middleton Isla	3.90	27	IAML		08 09 09.7	
	comp=E,124nm,1.4s						
Q23K				IAML		08 09 29.0	
	comp=N,117nm,1.4s						
Q23K	Middleton Isla	3.90	27	P	Pn	08 06 58.1	+0.2
	baz=211						
MID	Middleton Isla	3.90	27	P	Pn	08 06 58.1	+0.2
CNTC	Contact Creek	3.98	307		Pn	08 07 00.5	+1.4
Q17K	Contact Creek	3.98	307	P	Pn	08 07 00.5	+1.4
	baz=122						
P19K	Oil Pt	4.06	335		Pn	08 07 01.3	+1.1
P19K	Oil Pt	4.06	335	IAML		08 07 52.4	
	comp=E,91nm,0.4s						
P19K	Oil Pt	4.06	335	P	Pn	08 07 01.3	+1.1
	baz=152						
SEW	Seward	4.10	3		Pn	08 07 00.5	-0.1
SEW	Seward	4.10	3	P	Pn	08 07 00.5	-0.1
	baz=184						
P23K	Montague Islan	4.19	17		Pn	08 07 02.3	+0.3
P23K	Montague Islan	4.19	17	P	Pn	08 07 02.3	+0.3
	baz=200						
O20K	Slope Mountain	4.33	341		Pn	08 07 04.1	+0.2
O20K	Slope Mountain	4.33	341	P	Pn	08 07 04.1	+0.2
	baz=159						
ILSW	Iliamna Southw	4.34	338		Pn	08 07 04.4	+0.3
ILSW	Iliamna Southw	4.34	338	IAML		08 07 54.9	

O18K	**Koktuh Hills** comp=N,18nm,0.5s	4.78	326	IAML			08 08 06.4
O18K	comp=E,18nm,0.8s			IAML			08 08 07.1
O18K	**Koktuh Hills** baz=141	4.78	326	P		Pn	**08 07 10.7 +0.6**
O19K	**Port Alsworth**	4.80	332			Pn	**08 07 11.0 +0.7**
O19K	**Port Alsworth** baz=149	4.80	332	P		Pn	**08 07 11.0 +0.7**
CAPN	**Captain Cook N**	4.81	352			Pn	**08 07 11.8 +1.5**
CAPN	**Captain Cook N** comp=N,68nm,1.5s	4.81	352	IAML			08 08 03.8
CAPN	**Captain Cook N** baz=172	4.81	352	P		Pn	**08 07 11.9 +1.5**
DFR	**Drift River**	4.82	343			Pn	**08 07 10.8 +0.2**
KAIM	**Kayak Island**	4.87	34			Pn	**08 07 11.8 +0.6**
KAIM	**Kayak Island** comp=E,64nm,1.4s	4.87	34	IAML			08 08 12.0
KAIM	**Kayak Island** baz=219	4.87	34	P		Pn	**08 07 11.8 +0.6**
EYAK	**Cordova Ski Ar**	5.03	24			Pn	**08 07 14.1 +0.7**
EYAK	**Cordova Ski Ar**	5.03	24	P		Pn	**08 07 14.4 +1.0**
EYAK	**Cordova Ski Ar** baz=208	5.03	24	P		Pn	**08 07 14.1 +0.7**
RC01	**Rabbit Creek A**	5.08	1			Pn	**08 07 14.3 +0.1**
RC01	**Rabbit Creek A** comp=E,21nm,0.3s	5.08	1	IAML			08 08 12.5
RC01	comp=N,15nm,0.6s			IAML			08 08 16.5
RC01	**Rabbit Creek A** baz=181	5.08	1	P		Pn	**08 07 14.3 +0.1**
RAGM	**Ragged Mountai**	5.16	30			Pn	**08 07 16.0 +0.7**
SUCK	**Suckling Hills**	5.19	36			Pn	**08 07 16.5 +0.9**
SUCK	**Suckling Hills** comp=N,50nm,0.5s	5.19	36	IAML			08 08 14.6
SUCK	comp=E,36nm,1.0s			IAML			08 08 18.1
HMT	**Hamilton**	5.24	32			Pn	**08 07 17.0 +0.6**
NICHA	**Nichawak Mount**	5.25	34			Pn	**08 07 17.5 +1.0**
GOAT	**Goat Mountain**	5.31	29			Pn	**08 07 18.3 +0.9**
P16K	**Nushagak River**	5.32	308			Pn	**08 07 18.8 +1.5**
P16K	**Nushagak River** baz=121	5.32	308	P		Pn	**08 07 18.8 +1.5**
N19K	**Bonanza Creek**	5.38	335			Pn	**08 07 18.6 +0.2**
N19K	**Bonanza Creek** baz=151	5.38	335	P		Pn	**08 07 18.6 +0.2**
O17K	**Koliganek Bris**	5.38	317			Pn	**08 07 19.5 +1.2**
O17K	**Koliganek Bris** baz=131	5.38	317	P		Pn	**08 07 19.5 +1.2**
BGLC	**Bering Glacier**	5.39	38			Pn	**08 07 19.4 +1.1**
BGLC	**Bering Glacier** baz=224	5.39	38	P		Pn	**08 07 19.4 +1.1**
SPCP	**Crater Peak Br**	5.39	348			Pn	**08 07 19.2 +0.6**
S14K	**Fog Glacier** baz=88	5.42	277	P		Pn	**08 07 20.9 +1.9**
VNFG	**Fog Glacier, M**	5.42	277			Pn	**08 07 20.9 +1.9**
KNK	**Knik Glacier**	5.46	7			Pn	**08 07 19.7 +0.4**
KNK	**Knik Glacier** baz=188	5.46	7	P		Pn	**08 07 19.7 +0.4**
BERG	**Berg Lake**	5.46	34			Pn	**08 07 19.7 +0.4**
SUA	**Susitna One**	5.48	356			Pn	**08 07 19.5 -0.2**
SUA	**Susitna One** baz=175	5.48	356	P		Pn	**08 07 19.5 -0.2**
GRIN	**Grindle Hills**	5.50	36			Pn	**08 07 20.9 +1.0**
DIV	**Divide**	5.55	21			Pn	**08 07 21.4 +0.8**
SNH	**Sunshine Point**	5.59	39			Pn	**08 07 21.9 +0.7**
STLK	**Strandline Lak**	5.59	350			Pn	**08 07 21.5 +0.3**
PMR	**Palmer**	5.60	4			Pn	**08 07 21.8 +0.6**
PMR	**Palmer**	5.60	4	P		Pn	**08 07 23.0 +1.8**
PMR	**Palmer** baz=184	5.60	4	P		Pn	**08 07 21.8 +0.6**
KHIT	**Khitrov Hills**	5.64	36			Pn	**08 07 22.7 +0.7**
N18K	**Kilae Creek**	5.64	328			Pn	**08 07 22.4 +0.4**
N18K	**Kilae Creek** baz=143	5.64	328	P		Pn	**08 07 22.4 +0.4**
BMRM	**Bremner River**	5.67	27			Pn	**08 07 23.0 +0.7**
BMRM	**Bremner River** baz=212	5.67	27	P		Pn	**08 07 23.0 +0.7**
WAX	**Waxell Ridge**	5.78	37			Pn	**08 07 24.6 +0.9**
GHO	**Glory Hole Cre**	5.79	4			Pn	**08 07 24.7 +0.8**
KLU	**Klutina**	5.85	19			Pn	**08 07 25.8 +0.9**
KLU	**Klutina** baz=202	5.85	19	P		Pn	**08 07 25.8 +0.9**
SML	**Sawmill**	5.86	7			Pn	**08 07 25.6 +0.8**
SML	**Sawmill** baz=189	5.86	7	P		Pn	**08 07 25.6 +0.8**
BARK	**Barkley Ridge**	5.87	39			Pn	**08 07 25.7 +0.7**
SVW2	**Sparrevohn**	5.90	332	P		Pn	**08 07 25.8 +0.4**
MESA	**MESA**	5.91	42			Pn	**08 07 26.6 +0.9**
MESA	**MESA** baz=229	5.91	42	P		Pn	**08 07 26.6 +0.9**
CRQM	**Cirque**	5.92	34			Pn	**08 07 26.4 +0.6**
CRQE	**Cirque** baz=220	5.93	34	P		Pn	**08 07 26.4 +0.5**
SCM	**Sheep Creek Mo**	5.97	12			Pn	**08 07 27.0 +0.6**
SCM	**Sheep Creek Mo** baz=194	5.97	12	P		Pn	**08 07 27.0 +0.6**
TGL	**Tana Glacier**	6.01	35			Pn	**08 07 27.7 +0.6**
SDPT	**Sand Point**	6.04	268			Pn	**08 07 28.2 +0.9**
SDPT	**Sand Point**	6.04	268	P		Pn	**08 07 28.3 +0.9**
SDPT	**Sand Point** baz=79	6.04	268	P		Pn	**08 07 28.2 +0.9**
ISLE	**Juniper Island**	6.06	38			Pn	**08 07 28.4 +0.7**
BAGL	**Bagley Icefiel**	6.07	39			Pn	**08 07 28.5 +0.8**
VRDI	**Verde Repeater**	6.20	30			Pn	**08 07 30.4 +0.7**
O15K	**Ungalikthiuk R**	6.22	305			Pn	**08 07 31.1 +1.3**
O15K	**Ungalikthiuk R** baz=116	6.22	305	P		Pn	**08 07 31.1 +1.3**
N25K	**Chitina, Valde**	6.23	24			Pn	**08 07 31.0 +1.0**
N25K	**Chitina, Valde** baz=209	6.23	24	P		Pn	**08 07 31.0 +1.0**
GLB	**Gilahina Butte**	6.28	28			Pn	**08 07 31.4 +0.8**
KIAG	**Kiagna River**	6.29	36			Pn	**08 07 31.7 +0.8**
M18K	**Stony River**	6.30	333			Pn	**08 07 31.1 +0.3**
M18K	**Stony River** baz=148	6.30	333	P		Pn	**08 07 31.1 +0.3**
SAMH	**Samovar Hills**	6.33	46			Pn	**08 07 32.9 +1.5**
GRNC	**Granite Creek**	6.36	39			Pn	**08 07 32.6 +0.7**
TABL	**Table Mountain**	6.38	43			Pn	**08 07 33.3 +1.0**
MCARA	**McCarthy VSAT**	6.45	31			Pn	**08 07 33.9 +1.0**
MCARA	**McCarthy VSAT** baz=217	6.45	31	P		Pn	**08 07 33.9 +1.0**
PTPK	**Patty Peak**	6.46	34			Pn	**08 07 34.3 +1.1**
PCA	**Pinnacle**	6.53	47			Pn	**08 07 35.2 +1.1**
PINM	**Pinnacle** baz=236	6.53	47	P		Pn	**08 07 35.2 +1.1**
WASW	**Wrangell South**	6.61	24			Pn	**08 07 36.4 +1.0**
BARN	**Barnard Glacie**	6.62	37			Pn	**08 07 36.5 +1.0**
CTG	**Chitna Glacier** baz=226	6.67	39	P		Pn	**08 07 36.9 +0.9**
CTGM	**Chitina Glacie**	6.67	39			Pn	**08 07 36.9 +0.8**
PNL	**Peninsula**	6.67	52			Pn	**08 07 37.0 +1.0**
PNL	**Peninsula**	6.67	52	P		Pn	**08 07 37.3 +1.3**
PNL	**Peninsula** baz=242	6.67	52	P		Pn	**08 07 37.0 +1.0**
M17K	**Holitna River**	6.68	327			Pn	**08 07 36.9 +0.8**
M17K	**Holitna River** baz=140	6.68	327	P		Pn	**08 07 36.9 +0.8**
LOGN	**Logan Glacier**	6.69	40			Pn	**08 07 37.1 +0.7**
BCPM	**Bancas Point**	6.71	50			Pn	**08 07 37.8 +1.2**
PS1A	**Pavlof South-1**	6.74	270			Pn	**08 07 37.7 +0.7**
WAT7	**Susitna Watana**	6.85	4			Pn	**08 07 39.3 +0.8**
PN7A	**Pavlof North-7**	6.88	270			Pn	**08 07 40.0 +1.1**
PAX	**Paxson**	7.32	16			Pn	**08 07 46.4 +1.5**
PAX	**Paxson** baz=200	7.32	16	P		Pn	**08 07 46.4 +1.5**
O29M	**Mount Kennedy**	7.35	50			Pn	**08 07 46.8 +1.4**
O29M	**Mount Kennedy** baz=239	7.35	50	P		Pn	**08 07 46.8 +1.4**
P29M	**Windy Craggy**	7.41	56			Pn	**08 07 46.8 +0.6**
P29M	**Windy Craggy** baz=246	7.41	56	P		Pn	**08 07 46.8 +0.6**
RND	**Reindeer**	7.42	4			Pn	**08 07 47.3 +0.9**
TRF	**Thorofare Moun**	7.45	359			Pn	**08 07 48.0 +1.1**
TRF	**Thorofare Moun** baz=178	7.45	359	P		Pn	**08 07 48.0 +1.1**
M27K	**Edge Creek, AK**	7.55	30			Pn	**08 07 49.6 +1.4**
M27K	**Edge Creek, AK** baz=217	7.55	30	P		Pn	**08 07 49.7 +1.4**
MCK	**McKinley**	7.75	3			Pn	**08 07 51.9 +1.1**
MCK	**McKinley** baz=184	7.75	3	P		Pn	**08 07 51.9 +1.1**
FALS	**False Pass**	7.80	267	P		Pn	**08 07 52.0 +0.6**
SIT	**Sitka**	8.10	77	P		Pn	**08 07 54.0 -1.6**
BPAW	**Bear Paw Mtn.**	8.12	356			Pn	**08 07 57.5 +1.6**
BPAW	**Bear Paw Mtn.** baz=176	8.12	356	P		Pn	**08 07 57.5 +1.6**
SKAG	**Skagway**	8.50	60	P		Pn	**08 08 01.7 +0.7**
M29M	**Somme Creek**	8.68	38	Pn		Pn	**08 08 05.5 +1.8**
CCB	**Clear Creek Bu**	8.71	6	Pn		Pn	**08 08 05.1 +1.2**
JIS	**Juneau Island**	8.71	69	P		Pn	**08 08 03.9 0.0**
IL31		8.90	8			Pn	**08 08 08.5 +2.1**
ILAR	**Eielson Array**	8.90	8	Pn		Pn	**08 08 08.8 +2.3**

*MDD **02** 08:08:49.0±0.3,38°.01N×1°.45W, h10km, mb_Lg2.6/15, Error ellipse: s-maj=2.6km s-min=2.1km az=131.0*
*SFS **02** 08:08:49.3,37°.97N×1°.46W, h5km, ML2.3/6, ML2.6/6, MLv2.2/6*

ISC 02 08:08:48.2±0.8, 38°.01N±0°.02×1°.45W±0°.02, h14km±5km, n21, σ0s90/47, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
E001A	**Albudeite (Mur**	**0.04**	**73**	Pg	**Pg**	**08 08 50.8**	**-0.1**
E001A				Sg	**Sg**	**08 08 52.4**	**-0.3**
E1002	**Yechar (Murcia**	**0.07**	**4**	Pg	**Pg**	**08 08 50.9**	**-0.2**
E1002				Sg	**Sg**	**08 08 53.1**	**0.0**
EMUR	**La Murta**	**0.23**	**135**	Pg	**Pg**	**08 08 53.3**	**0.0**
EMUR				Sg	**Sg**	**08 08 56.5**	**-0.2**
EMUR	**La Murta**	**0.23**	**135**	Pg	**Pg**	**08 08 53.3**	**0.0**
EMUR				Sg	**Sg**	**08 08 56.6**	**-0.2**
EMUR				*i* Vmb_Lg		08 08 58.7	
EZAR	**Zarzadilla de**	**0.24**	**237**	Pg	**Pg**	**08 08 53.0**	**-0.5**
EZAR				Sg	**Sg**	**08 08 57.1**	**+0.1**
EZAR				*i* Vmb_Lg		08 08 57.8	
TLOR	**Lorca, Murcia**	**0.40**	**209**	Pg	**Pg**	**08 08 56.1**	**-0.1**
TLOR				Sg	**Sg**	**08 09 01.5**	**-0.2**
CART	**Cartagena**	**0.55**	**140**	Pg	**Pb**	**08 08 58.9**	**-0.6**
CART				Sg	**Sg**	**08 09 05.6**	**-0.6**
ETOB	**Tobarra**	**0.64**	**353**	Pg	**Pg**	**08 09 01.1**	**+0.3**
ETOB				Sg	**Sb**	**08 09 10.6**	**+0.4**
ETOB	**Tobarra**	**0.64**	**353**	Pg	**Pb**	**08 09 01.8**	**+0.6**
ETOB				Sg	**Sb**	**08 09 10.8**	**+0.7**
ETOB				*i* Vmb_Lg		08 09 13.7	
AFON	**Font Roja**	**0.97**	**47**	Pg	**Pn**	**08 09 08.0**	**+0.6**
AFON				Sg	**Sn**	**08 09 21.7**	**+0.7**
AFON				*i* Vmb_Lg		08 09 25.6	
ENIJ	**Nijar**	**1.20**	**211**	Pn	**Pb**	**08 09 10.2**	**-0.5**
ENIJ				Sn	**Sg**	**08 09 26.3**	**+0.6**
EVIV	**Cofrentes, Val**	**1.29**	**11**	Pg	**Pg**	**08 09 13.1**	**+0.1**
EVIV				Sg	**Sb**	**08 09 29.5**	**+0.9**
EVIV				*i* Vmb_Lg		08 09 31.9	
EQES	**Quesada**	**1.30**	**262**	Pg	**Pg**	**08 09 12.9**	**-0.4**
EQES				Sg	**Sn**	**08 09 30.8**	**+1.6**
EQES				*i* Vmb_Lg		08 09 32.9	
ECHE	**Chera**	**1.63**	**13**	Pn	**Pg**	**08 09 19.0**	**-0.5**
ECHE				Sn	**Sb**	**08 09 39.0**	**+0.7**
PSIM	**Granatula de C**	**1.99**	**295**	Pn	**Pn**	**08 09 20.8**	**-0.6**
PSIM				Sn	**Sn**	**08 09 45.8**	**-0.3**
PSIM				Sg	**Sg**	**08 09 52.5**	**+0.3**
EMOS	**Mosqueruela**	**2.47**	**17**	Pn	**Pn**	**08 09 29.1**	**+0.9**
EMOS				Sn	**Sn**	**08 09 56.7**	**-1.5**
EMOS				Sg	**Sg**	**08 10 06.6**	**-1.2**
EADA	**Adamuz**	**2.48**	**275**	Pn	**Pn**	**08 09 28.0**	**-0.1**
EADA				Sn	**Sn**	**08 09 57.7**	**-0.4**
EADA				Sg	**Sg**	**08 10 08.9**	**+1.2**
E0901	**Celadas (Terue**	**2.48**	**6**	Sn	**Sn**	**08 09 56.5**	**-1.9**
E0901				Sg	**Sg**	**08 10 09.1**	**+1.0**
PAB	**San Pablo**	**2.74**	**305**	Pn	**Pg**	**08 09 31.6**	**-0.1**
PAB				Sg	**Sg**	**08 10 15.8**	**-0.5**
PAB				*i* Vmb_Lg		08 10 21.6	
ECAB	**El Cabril**	**3.14**	**273**	Pn	**Pn**	**08 09 40.1**	**+2.9**
ECAB				Sn	**Sn**	**08 10 13.6**	**-0.8**
ECAB				Sg	**Sg**	**08 10 29.0**	**0.0**
GUD	**Guadarrama**	**3.37**	**322**	Pg	**Pg**	**08 09 51.5**	**-1.3**
GUD				Sn	**Sn**	**08 10 18.4**	**-1.9**
GUD				Sg	**Sg**	**08 10 35.7**	**-0.8**

*IDC **02** 08:21:06.4±4.9, 1°.60N×98°.73E, h102km±44km, mb4.1/17, mbtmp4.5/19, Error ellipse: s-maj=46.9km s-min=11.4km az=55.0*
*DJA **02** 08:21:09.9±0.3, 2°.N±2°×9°.9E±°, h117km±4km, M4.6/14, mb4.8/1, MLv4.5/14*
*NEIC **02** 08:21:10.1±1.1, 1°.83N±0°.06×98°.93E±0°.05, h123km±7km, mb4.4/27, Error ellipse: s-maj=9.5km s-min=5.0km az=216.0*

ISC 02 08:21:07.9±0.5, 1°.86N±0°.04×98°.94E±0°.04, h100km, n85, σ2s02/90, mb4.5/30, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPSI	**Rantau Prapat**	**0.83**	**359**	Pn	**Pn**	**08 21 31.0**	**+4.5**
PSI	**Prapat**	**0.94**	**359**	P	**Pn**	**08 21 31.5**	**+3.7**
GSI	**Gunungsitoli**	**1.48**	**248**	Pn	**Pn**	**08 21 37.6**	**+3.8**
GSI	**Gunungsitoli**	**1.48**	**248**	P	**Pn**	**08 21 38.1**	**+4.3**
PBSI	**Pulau Batu**	**2.01**	**199**	P	**Pn**	**08 21 44.3**	**+3.7**
PBSI				S	**Sn**	**08 22 09.3**	**+3.7**
KCSI	**Kotacane, Aceh**	**2.02**	**325**	P	**Pn**	**08 21 43.6**	**+2.8**
KCSI				S	**Sn**	**08 22 08.6**	**+2.7**
BKNI	**Bangkinang**	**2.59**	**126**		**Pn**	**08 21 51.3**	**+3.1**
BKNI	**Bangkinang**	**2.59**	**126**	P	**Pn**	**08 21 52.4**	**+4.2**
BKNI	**Bangkinang**	**2.59**	**126**	P	**Pn**	**08 21 51.3**	**+3.1**
SNSI	**Sinabang, Aceh**	**2.67**	**282**	P	**Pn**	**08 21 53.0**	**+3.8**
SNSI				S	**Sn**	**08 22 23.0**	**+1.9**
PDSI	**Padang**	**3.14**	**151**	P	**Pn**	**08 21 59.0**	**+3.4**
PDSI				S	**Sn**	**08 22 36.2**	**+3.8**
SISI	**Saibi**	**3.17**	**177**	P	**Pn**	**08 21 57.4**	**+1.5**
IPM	**Ipoh**	**3.33**	**39**		**Pn**	**08 22 01.5**	**+3.4**
IPM	**Ipoh**	**3.33**	**39**	P	Pn	08 22 03.6	+5.5
MLSI	**Meulaboh, Aceh**	**3.49**	**313**	P	**Pn**	**08 22 02.9**	**+2.8**
MLSI				S	**Sn**	**08 22 41.5**	**+0.9**
KULM	**Kulim**	**3.81**	**26**	Pn	**Pn**	**08 22 07.3**	**+2.8**
LHMI	**Lhok Sumawe**	**3.90**	**329**	Pn	**Pn**	**08 22 08.3**	**+2.6**
LHMI	**Lhok Sumawe**	**3.90**	**329**	P	**Pn**	**08 22 08.5**	**+2.8**
KRJI	**Kerinci**	**4.66**	**147**	P	**Pn**	**08 22 18.9**	**+2.8**
PPSI	**Pulau Pagai**	**4.71**	**167**	P	**Pn**	**08 22 16.6**	**-0.1**
MYKOM	**Kota Tinggi**	**4.90**	**91**	Pn	**Pn**	**08 22 22.3**	**+3.0**
SRIT	**Nakonsritamara**	**6.72**	**6**	Pn	**Pn**	**08 22 45.4**	**+1.3**
SRIT	**Nakonsritamara**	**6.72**	**6**	P	**Pn**	**08 22 46.8**	**+2.8**
SURA	**Surathani**	**7.29**	**5**	P	**Pn**	**08 22 54.8**	**+3.0**
MNAI	**Manna**	**7.36**	**147**	Pn	**Pn**	**08 22 54.1**	**+1.3**
MNAI	**Manna**	**7.36**	**147**	P	**Pn**	**08 22 54.3**	**+1.5**
LEM	**Lembang** 33nm,0.6s,baz=323,slow=19,SNR=4.5	**12.22**	**135**	P	**Pn**	**08 23 57.1**	**-1.6**
SBUM	**Sibu**	**13.28**	**87**	Pn	**Pn**	**08 24 14.6**	**+2.1**
CM31	**Chiang Mai Arr**	**16.50**	**360**	P	**Pn**	**08 24 54.5**	**+1.1**
CM31	comp=Z,12nm,0.8s			IAmb	IAmb	08 24 57.6	
CMAR	**Chiang Mai Arr**	**16.50**	**360**	P	**Pn**	**08 24 54.5**	**+1.1**
CMAR	**Chiang Mai Arr** comp=Z,7.6nm,0.6s,baz=191,slow=10,SNR=42	**16.50**	**360**	P	**Pn**	**08 24 55.2**	**+1.8**
PHRA	**Phrae**	**16.59**	**4**	P	**Pn**	**08 24 56.0**	**+1.5**
CHTO	**Chiang Mai**	**16.85**	**360**		**Pn**	**08 24 58.2**	**+0.5**
CHTO	**Chiang Mai**	**16.85**	**360**	P	**Pn**	**08 24 59.3**	**+1.6**
CRAI	**Chiangrai**	**18.31**	**4**	P	**P**	**08 25 14.8**	**+0.6**
CRAI				IAmb	IAmb	08 25 16.0	
TOLI2	**Tolitoli** comp=Z,8.9nm,0.6s	**21.84**	**92**	P	**P**	**08 25 51.7**	**-0.8**
TOLI2	comp=Z,9.9nm,0.6s			IAmb	IAmb	08 25 53.8	
TOLI2	**Tolitoli**	**21.84**	**92**	P	**P**	**08 25 53.5**	**+1.0**
LUWI	**Luwuk**	**24.00**	**97**	P	**P**	**08 26 13.6**	**+0.1**
LUWI	**Luwuk**	**24.00**	**97**	P	**P**	**08 26 14.7**	**+1.2**
PZH	**PanZhiHua**	**24.65**	**6**	P	**P**	**08 26 21.2**	**+1.8**
PZH	comp=Z,10.0nm,5.0s			pmax	pmax		
PZH	comp=Z,120nm,4.8s			pmax	pmax		
KNRA	**Kununurra**	**34.24**	**122**	P	**P**	**08 27 44.1**	**-0.3**
KNRA	comp=Z,25nm,1.3s			IAmb	IAmb	08 27 44.7	
MTN	**Manton Dam**	**35.13**	**115**	P	**P**	**08 27 52.0**	**-0.1**
NIL	**Nilore**	**39.73**	**326**	P	**P**	**08 28 30.1**	**-0.7**
NIL	comp=Z,11nm,1.1s			IAmb	IAmb	08 28 31.3	
HHC	**Hu-ho-hao-te**	**40.46**	**15**	*eP*	**P**	**08 28 38.5**	**+1.7**
HHC	comp=Z,10.0nm,0.8s			pmax	pmax		
HHC	comp=Z,220nm,5.1s			pmax	pmax		
WB0	**Warramunga Arr**	**40.89**	**123**	P	**P**	**08 28 38.7**	**-1.8**
WRA	**Warramunga Arr**	**40.92**	**124**	P	**P**	**08 28 39.3**	**-1.5**
WRA	comp=Z,11nm,0.4s,baz=306,slow=9.1,SNR=54			PcP	**PcP**	**08 30 38.2**	**-1.4**
AS31	**Alice Springs**	**42.42**	**129**	P	**P**	**08 28 51.1**	**-1.9**
ASAR	**Alice Springs** comp=Z,0.5nm,0.5s,baz=320,slow=2.3,SNR=2.8	**42.42**	**129**	P	**P**	**08 28 51.1**	**-1.9**
ASAR	comp=Z,1.1nm,0.4s comp=Z,1.2nm,0.3s,baz=295,slow=7.6,SNR=16			PcP	**PcP**	**08 30 43.5**	**-1.0**
FORT	**Forrest** comp=Z,0.6nm,0.6s,baz=297,slow=2.6,SNR=5.4	**42.68**	**142**	P	**P**	**08 28 53.9**	**-1.0**
FORT	comp=Z,1.2nm,0.3s			IAmb	IAmb	08 29 09.7	
WMQ	**Urumqi** comp=Z,14nm,1.1s	**42.96**	**348**	*eP*	**P**	**08 28 58.2**	**+1.1**
WMQ	comp=Z,13nm,0.7s			pmax	pmax		
BOOM	**Boomskoye usch**	**45.40**	**336**	P	**P**	**08 29 16.9**	**+0.2**
BOOM	comp=Z,5.4nm,1.0s			IAmb	IAmb	08 29 37.0	
UCH	**Uchtor** SNR=8.9	**45.78**	**335**	P	**P**	**08 29 21.0**	**+0.9**
TKM2	**Tokmak 2** SNR=5.4	**45.90**	**336**	P	**P**	**08 29 21.4**	**+0.8**
KBK	**Karagaybulak** SNR=7.6	**45.95**	**335**	P	**P**	**08 29 22.6**	**+1.6**
AAK	**Ala-Archa**	**46.12**	**335**	P	**P**	**08 29 23.7**	**+1.4**
AAK	**Ala-Archa** comp=Z,2.0nm,0.6s,baz=188,slow=19,SNR=7.1	**46.12**	**335**	P	**P**	**08 29 23.7**	**+1.4**
SONM	**Songino Array** comp=Z,0.8nm,0.4s,baz=192,slow=9.1,SNR=7.5	**46.25**	**7**	P	**P**	**08 29 23.4**	**+0.1**
EKS2	**Erkin-Say** SNR=6.2	**46.45**	**334**	P	**P**	**08 29 26.1**	**+1.2**
USP	**Ospenovka** SNR=9.0	**46.63**	**335**	P	**P**	**08 29 27.3**	**+1.1**
MK31	**Makanchi Array**	**47.05**	**344**	P	**P**	**08 29 29.5**	**+0.1**
MK31	comp=Z,4.4nm,0.7s			IAmb	IAmb	08 29 30.1	
MKAR	**Makanchi Array**	**47.05**	**344**	P	**P**	**08 29 29.2**	**-0.2**
MKAR	**Makanchi Array** comp=Z,3.1nm,0.4s,baz=156,slow=8.5,SNR=68	**47.05**	**344**	P	**P**	**08 29 29.4**	**-0.1**
KK31	**Karatay Array** comp=Z,3.1nm,0.4s	**48.27**	**332**	P	**P**	**08 29 37.9**	**-1.0**
KK31	comp=Z,5.7nm,1.4s			IAmb	IAmb	08 29 40.4	
KKAR	**Karatay Array**	**48.27**	**332**	P	**P**	**08 29 38.4**	**-0.4**
KURBB	**Kurchatov Arra** comp=Z,3.0nm,0.5s,baz=164,slow=7.1,SNR=25	**51.57**	**344**	P	**P**	**08 30 03.5**	**-0.1**
KURK	**Kurchatov** comp=Z,3.0nm,0.5s	**51.63**	**344**	P	**P**	**08 30 03.6**	**-0.5**
KURK	comp=Z,6.0nm,0.8s			IAmb	IAmb	08 30 05.0	
GEYT	**Alibeck** comp=Z,3.0nm,0.9s,baz=140,slow=9.1,SNR=2.8	**51.85**	**319**	P	**P**	**08 30 04.3**	**-1.7**
STKA	**Stephens Creek**	**52.52**	**133**	P	**P**	**08 30 10.3**	**-0.8**
STKA	**Stephens Creek** comp=Z,1.0nm,0.4s,baz=299,slow=7.3,SNR=5.0	**52.52**	**133**	P	**P**	**08 30 09.2**	**-1.8**
ZAA0	**Zalesovo Array**	**53.21**	**350**	P	**P**	**08 30 15.3**	**-0.3**
ZALV	**Zalesovo Beam**	**53.21**	**350**	P	**P**	**08 30 14.9**	**-0.8**
ZALV	**Zalesovo Beam** comp=Z,7.0nm,0.4s,baz=178,slow=6.4,SNR=34	**53.21**	**350**	P	**P**	**08 30 15.4**	**-0.2**
BVAR	**Borovoye Array** comp=Z,3.9nm,0.5s,baz=139,slow=9.6,SNR=22	**56.22**	**340**	P	**P**	**08 30 36.9**	**-0.7**
BRVK	**Borovoye** comp=Z,3.9nm,0.5s	**56.29**	**340**	P	**P**	**08 30 37.3**	**-0.7**
BRVK	comp=Z,3.8nm,0.7s			IAmb	IAmb	08 30 37.8	
EIDS	**Eidsvold**	**57.23**	**122**	P	**P**	**08 30 44.7**	**-0.5**
EIDS	comp=Z,7.4nm,1.2s			IAmb	IAmb	08 30 53.3	
ABKAR	**Akbulak array**	**57.77**	**331**	P	**P**	**08 30 47.7**	**-0.8**
ABKAR	comp=Z,6.9nm,0.7s			IAmb	IAmb	08 30 48.6	
AKTO	**Aktyubinsk** comp=Z,2.1nm,0.5s,baz=114,slow=7.2,SNR=5.5	**59.49**	**331**	P	**P**	**08 30 59.4**	**-1.1**
ARU	**Arti** comp=Z,6.0nm,0.2s,baz=179,slow=2.3,SNR=4.7	**63.27**	**336**	P	**P**	**08 31 24.7**	**-1.1**
KBZ	**Khabaz** comp=Z,2.1nm,0.8s,baz=74,slow=4.8,SNR=3.8	**64.73**	**318**	P	**P**	**08 31 33.7**	**-1.9**
BRTR	**Keskin Array B** comp=Z,0.8nm,0.6s,baz=116,slow=5.6,SNR=4.6	**69.97**	**312**	P	**P**	**08 32 07.5**	**-1.4**
FINES	**FINESS Array B**	**80.23**	**332**	P	**P**	**08 33 06.4**	**-0.8**
FINES	**FINESS Array B** comp=Z,1.1nm,0.4s,baz=102,slow=5.6,SNR=14	**80.23**	**332**	P	**P**	**08 33 06.1**	**-1.1**
ARCES	**ARCESS Array B** comp=Z,3.6nm,0.9s,baz=70,slow=4.0,SNR=6.6	**82.51**	**340**	P	**P**	**08 33 17.7**	**-1.4**
HFS	**Hagfors** comp=Z,2.6nm,0.8s,baz=96,slow=6.6,SNR=8.4	**86.03**	**330**	P	**P**	**08 33 36.5**	**-0.6**
TXAR	**Lajitas Array** comp=Z,0.1nm,0.5s,baz=340,slow=1.3,SNR=1.5	**142.18**	**33**	PKhKP	PKPpre	08 40 24.6	

IDC 02 08:25:04.5±3.3, 54°.16N×87°.25E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=30.4km s-min=19.1km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** 0.1nm,0.8s,baz=81,slow=348,SNR=11	**1.45**	**263**	I	I	08 34 50.0	
ZALV	**Zalesovo Beam** 1.3nm,0.3s,baz=83,slow=16,SNR=12	**1.45**	**263**	Pg	Pn	08 25 30.1	-

MKAR				Sn	**Sn**	**08 33 36.5**	**+2.0**
	0.2nm,0.3s,baz=42,slow=24,SNR=4.3						
MKAR				Lg	Lg	08 34 23.1	
	0.1nm,0.3s,baz=37,slow=26,SNR=6.1						
	0.4nm,0.5s						
SONM	**Songino Array**	**11.59 113**		Lg	Lg	08 35 43.0	
	baz=301,slow=26						
I34MN	**SONGINO INFRAS**	**11.61 113**		I	I	09 36 20.0	
	baz=307,slow=325,SNR=1.3						

*IDC **02** 08:30:40.9±1.1,5.2S×142.88E,h0km,mb4.2/4, mbtmp4.2/5,ML1.4/1,MS3.1/1,Error ellipse: s-maj=40.8km s-min=25.4km az=65.0*

ISC 02 08:30:42.3±0.9,5.48S±0.09×142.52E±0.08,h10km,n11, σ2.86/12,mb4.2/3,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.31 279**		P	**Pn**	**08 31 04.7**	**-2.0**
PMG	**Port Moresby**	**6.03 131**		Pn	**Pn**	**08 32 10.3**	**-1.3**
	0.7nm,0.3s,baz=271,slow=17,SNR=1.4						
PMG				Sn	**Sn**	**08 33 20.2**	**-0.6**
	0.6nm,0.3s,baz=325,slow=11,SNR=1.4						
PMG				LR	LR	08 35 10.7	
	comp=Z,142nm,18.1s,baz=112,slow=45						
	2.7nm,0.2s						
COEN	**Coen**	**8.45 176**		P	Pb	08 33 03.7	-5.1
	9.8nm,1.3s						
KDU	**Kakadu**	**12.23 233**		P	**Pn**	**08 33 37.9**	**+1.2**
WRA	**Warramunga Arr**	**16.43 208**		Pn	**Pn**	**08 34 33.1**	**-0.1**
	0.8nm,0.3s,baz=29,slow=13,SNR=25						
WRA				Sn	**Sn**	**08 37 29.7**	**-6.1**
	0.1nm,0.3s,baz=38,slow=26,SNR=2.8						
WRA				Lg	Lg	08 39 25.6	
	baz=24,slow=25,SNR=2.4						
AS01	**Alice Springs**	**19.88 204**		P	**Pn**	**08 35 18.6**	**+3.1**
ASAR	**Alice Springs**	**19.90 204**		P	**Pn**	**08 35 18.1**	**+2.4**
	8.3nm,1.1s,baz=35,slow=9.9,SNR=38						
	8.3nm,1.1s						
OOD	**Oodnadatta**	**23.13 196**		P	**P**	**08 35 52.0**	**+3.3**
MKAR	**Makanchi Array**	**74.29 322**		P	**P**	**08 42 20.6**	**+0.7**
	1.6nm,0.8s,baz=108,slow=6.1,SNR=11						
	1.6nm,0.8s						
BVAR	**Borovoye Array**	**83.75 325**		P	**P**	**08 43 11.7**	**+0.1**
	3.8nm,0.7s,baz=114,slow=6.6,SNR=16						
	3.8nm,0.7s						
ILAR	**Eielson Array**	**86.78 24**		P	**P**	**08 43 24.9**	**-1.6**
	1.3nm,0.8s,baz=262,slow=4.9,SNR=18						
	1.3nm,0.8s						

IDC 02 08:37:17.6±1.9,6.69S×129.08E,h0km,mb3.8/2, mbtmp3.9/4,ML3.9/2,Error ellipse: s-maj=145.7km s-min=29.2km az=68.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.13 159**		Pn	Pn	08 40 37.9	-1.4
	0.5nm,0.3s,baz=341,slow=12,SNR=15						
WRA				Sn	Sn	08 43 03.4	-14
	0.7nm,0.3s,baz=343,slow=22,SNR=6.6						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**17.51 165**		P	P	08 41 24.3	-0.3
	0.5nm,0.3s,baz=349,slow=11,SNR=29						
ASAR				S	Sn	08 44 27.0	-12
	0.2nm,0.3s,baz=338,slow=24,SNR=2.3						
	1.8nm,0.5s						
MKAR	**Makanchi Array**	**67.46 327**		P	P	08 48 16.2	+0.9
	0.6nm,0.4s,baz=117,slow=7.9,SNR=13						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**71.77 329**		P	P	08 48 40.3	-1.4
	0.3nm,0.5s,baz=125,slow=4.5,SNR=3.3						
	0.3nm,0.5s						

IDC 02 08:39:33.1±2.4,54.64N×83.69E,h0km,mbtmp2.4/2, ML2.1/2,3C-1D,Error ellipse: s-maj=19.4km s-min=11.4km az=162.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.96 136**		I	I	08 45 20.0	
	0.4nm,1.0s,baz=318,slow=344,SNR=13						
ZALV	**Zalesovo Beam**	**0.96 136**		Pg	Pg	08 39 51.5	+0.1
	3.1nm,0.3s,baz=320,slow=19,SNR=26						
ZALV				Lg	Lg	08 40 05.1	
	7.7nm,0.3s,baz=318,slow=30,SNR=5.5						
KURK	**Kurchatov**	**5.00 220**		⇓Pg	Pg	08 41 07.5	-1.3
	2.4nm,0.7s						
KURK				⇑Lg	Lg	08 42 19.1	
	5.6nm,0.9s						
KURBB	**Kurchatov Arra**	**5.11 220**		Pn	Pn	08 40 50.7	-0.1
	baz=38,slow=13,SNR=2.2						
KURBB				Lg	Lg	08 42 11.6	
	baz=43,slow=32,SNR=2.2						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**5.11 220**		⇑Pg	Pg	08 41 09.6	-1.3
	4.3nm,1.1s,baz=39,slow=16						
KURBB				⇑Lg	Lg	08 42 19.6	
	11nm,0.8s,baz=44,slow=32						
MKAR	**Makanchi Array**	**7.91 187**		Pn	Pn	08 41 30.1	+0.8
	0.1nm,0.3s,baz=7.6,slow=12,SNR=2.4						
MKAR				Lg	Lg	08 43 41.5	
	0.1nm,0.3s,baz=7.4,slow=32,SNR=1.6						
	0.1nm,0.4s						

*HEL **02** 08:40:33.2±0.3,59.21N×27.82E,h0km,ML2.2,Suspected explosion*
*EST **02** 08:40:33.3±0.1,59.22N×27.84E,h0km,ML2.0(HEL), Explosion*
*UPP **02** 08:40:34.4±3.0,59.39N×27.85E,h0km,ML1.7*
*LVSN **02** 08:40:36.2±4.0,59.13N×27.57E,h0km±66km,ML2.2*
*IDC **02** 08:40:37.9±2.3,59.50N×27.34E,h0km,mbtmp3.4/3, ML2.2/3,Error ellipse: s-maj=21.3km s-min=12.4km az=111.0*

ISC 02 08:40:31.8±0.9,59.20N±0.02×27.81E±0.04,h0km,n41, σ1.35/68,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VSU	**Vasula**	**0.93 218**		*e*P	**Pg**	**08 40 50.0**	**+0.5**
VSU				*e*S	**Sg**	**08 41 00.0**	**-1.5**
VSU				AML	AML	08 41 05.1	
	comp=E,38nm,0.6s						
VSU				AML	AML	08 41 07.6	
	comp=N,44nm,0.4s						
VSU				AML	AML	08 41 26.1	
	comp=Z,26nm,0.6s						
VSU	**Vasula**	**0.93 218**		*e*P	**Pb**	**08 40 50.4**	**-0.3**
VSU				*e*S	**Sb**	**08 41 02.5**	**-1.0**
ARBE	**Arbavere**	**0.97 285**		*e*P	**Pg**	**08 40 50.5**	**+0.2**
ARBE				*e*S	**Sg**	**08 41 02.6**	**-0.2**
ARBE				AML	AML	08 41 24.8	
	comp=N,297nm,0.5s						
ARBE				AML	AML	08 41 25.6	
	comp=E,224nm,0.5s						
ARBE				AML	AML	08 41 30.7	
	comp=Z,169nm,0.4s						
ARBE	**Arbavere**	**0.97 285**		*e*P	**Pg**	**08 40 50.5**	**+0.2**
ARBE				*e*S	**Sg**	**08 41 02.4**	**-0.4**
VJF	**Virojoki**	**1.35 355**		*e*P	**Pg**	**08 40 56.6**	**-1.0**
VJF				*e*SB	**Sg**	**08 41 14.4**	**-0.6**
VJF				MSG		08 41 20.9	
	comp=Z,15nm,0.1s						
EE07	**Piusa Caves, O**	**1.37 188**		*e*P	**Pg**	**08 40 58.4**	**+0.4**
EE07				*e*S	**Sb**	**08 41 16.4**	**0.0**
EE08	**Sarghaua, Vand**	**1.44 249**		*e*P	**Pn**	**08 40 59.0**	**0.0**
EE08				*e*S	**Sb**	**08 41 17.9**	**-0.3**
EE08				*e*SN	**Sn**	**08 41 21.1**	**+2.5**
PVF	**Pernaja**	**1.67 325**		*e*PG	**Pn**	**08 41 03.0**	**+0.8**
PVF				MSG		08 41 23.0	
	comp=Z,12nm,0.2s						
PVF				*e*S	**Sn**	**08 41 24.0**	**-0.3**
HEL1	**Helsinki**	**1.78 305**		*e*PG	**Pb**	**08 41 05.3**	**+0.1**
HEL1				*e*SG	**Sb**	**08 41 27.9**	**-0.1**
HEL1				MSG		08 41 28.3	
	comp=Z,11nm,0.1s						
MEF	**Metsahovi**	**2.01 302**		*e*P	**Pb**	**08 41 09.2**	**0.0**
MEF	**Metsahovi**	**2.01 302**		*e*P	**Pb**	**08 41 09.1**	**0.0**
MEF				*e*S	**Sb**	**08 41 34.4**	**-0.2**
MEF				AML	AML	08 41 35.6	
	comp=N,61nm,0.3s						
MEF				AML	AML	08 41 35.6	
	comp=E,32nm,0.2s						
MEF				AML	AML	08 41 36.3	
	comp=Z,21nm,0.2s						
MEF	**Metsahovi**	**2.01 302**		*e*PG	**Pb**	**08 41 09.0**	**-0.2**
MEF				*e*SB	**Sb**	**08 41 34.4**	**-0.2**
MEF				MSG		08 41 36.0	
	comp=Z,10nm,0.1s						
NUR	**Nurmijrvi**	**2.07 311**		*e*PB	**Pb**	**08 41 09.6**	**-0.5**
NUR				*e*SB	**Sb**	**08 41 36.0**	**-0.3**
NUR				MSG		08 41 37.2	
	comp=Z,9.7nm,0.1s						
MTSE	**Matsula**	**2.13 258**		*e*P	**Pb**	**08 41 10.5**	**-0.6**
MTSE	**Matsula**	**2.13 258**		*e*P	**Pb**	**08 41 10.6**	**-0.6**
MTSE	**Matsula**	**2.13 258**		*e*PB	**Pb**	**08 41 10.5**	**-0.6**
MTSE				*e*SG	**Sg**	**08 41 39.0**	**-1.1**
EE01	**Perakula, Nova**	**2.15 272**		*e*P	**Pb**	**08 41 10.7**	**-0.9**
EE01				*e*PB	**Pg**	**08 41 11.3**	**-1.7**
EE01				*e*SB	**Sb**	**08 41 38.5**	**-0.3**
EE01				*e*SG	**Sg**	**08 41 39.6**	**-1.3**
RUF	**Ruokolahti**	**2.30 14**		*e*P	**Pn**	**08 41 11.4**	**+0.5**
RUF				*e*SG	**Sb**	**08 41 43.4**	**+0.3**
RUF				MSG		08 41 46.3	
	comp=Z,5.0nm,0.1s						
FIA0	**FINESS Array S**	**2.41 340**		*e*P	**Pn**	**08 41 13.2**	**+0.7**
FIA0				*e*S	**Sn**	**08 41 43.7**	**+1.2**
FIA0				MSG		08 41 47.8	
	comp=Z,8.1nm,0.1s						
FINES	**FINESS Array B**	**2.41 340**		Pg	**Pn**	**08 41 13.1**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=161,slow=16,SNR=16						
FINES				Lg	Lg	08 41 43.1	
	comp=Z,0.8nm,0.3s,baz=163,slow=30,SNR=9.1						
FIA1	**FINESS Array S**	**2.41 340**		*e*P	**Pn**	**08 41 13.2**	**+0.8**
FIA1				*e*PB	**Pb**	**08 41 14.7**	**-1.3**
FIA1				*e*S	**Sn**	**08 41 43.8**	**+1.2**
FIA1				*e*SG	**Sb**	**08 41 47.0**	**+0.8**
FIA1				MSG		08 41 47.9	
	comp=Z,9.6nm,0.1s						
KAF	**Kangasniemi**	**3.02 346**		*e*P	**Pn**	**08 41 22.5**	**+1.8**
KAF				*e*SG	**Sb**	**08 42 04.2**	**+0.6**
KAF				MSG		08 42 07.5	
	comp=Z,3.2nm,0.1s						
SLIT	**Slitere, Latvi**	**3.30 244**		*e*P	**Pb**	**08 41 28.4**	**-2.7**
SLIT				AML	AML	08 42 16.8	
	comp=N,76nm,0.7s						
SLIT				AML	AML	08 42 22.7	
	comp=Z,50nm,0.4s						
SLIT				AML	AML	08 42 23.0	
	comp=E,67nm,0.6s						
SLIT	**Slitere, Latvi**	**3.30 244**		*e*SG	**Sb**	**08 42 13.5**	**+1.6**
KEF	**Keuruu**	**3.31 335**		*e*P	**Pn**	**08 41 26.7**	**+2.0**
KEF				*e*SG	**Sb**	**08 42 15.3**	**+3.3**
KEF				MSG		08 42 15.9	
	comp=Z,1.6nm,0.1s						
RAF	**Rauma**	**3.54 304**		*e*P	**Pn**	**08 41 30.1**	**+2.3**
RAF	**Rauma**	**3.54 304**		*e*P	**Pn**	**08 41 30.0**	**+2.2**
RAF				AML	AML	08 42 29.4	
	comp=E,5.3nm,0.3s						
RAF				AML	AML	08 42 29.7	
	comp=Z,4.2nm,0.3s						
RAF				AML	AML	08 42 29.7	
	comp=N,10nm,0.2s						
RAF	**Rauma**	**3.54 304**		*e*P	**Pn**	**08 41 30.0**	**+2.2**
KPF	**Kankaanpaa**	**3.88 315**		*e*P	**Pn**	**08 41 34.7**	**+2.2**
KPF				MSG		08 42 35.9	
	comp=Z,2.1nm,0.2s						
AAL	**Aland**	**4.08 287**		P	**Pn**	**08 41 37.3**	**+2.0**
AAL				S	**Sn**	**08 42 24.9**	**+1.1**
AAL	**Aland**	**4.08 287**		*e*SG	**Sg**	**08 42 39.5**	**-3.3**
JOF	**Joensuu**	**4.10 23**		*e*P	**Pn**	**08 41 36.9**	**+1.3**
JOF				*e*S	**Sn**	**08 42 23.8**	**-0.4**
NIF	**Nilsia**	**4.21 360**		*e*P	**Pn**	**08 41 38.4**	**+1.3**
NRTU	**Norrtaelje**	**4.71 280**		P	**Pn**	**08 41 45.7**	**+1.7**
GRAU	**Graesoe**	**4.82 288**		P	**Pn**	**08 41 46.2**	**+0.7**
GRAU				S	**Sn**	**08 42 41.5**	**-0.5**
GOTU	**Gotland**	**5.09 257**		P	**Pn**	**08 41 51.6**	**+2.5**
FLYU	**Flymyra**	**5.12 285**		P	**Pn**	**08 41 51.0**	**+1.4**
FIBU	**Brunna**	**5.37 282**		P	**Pn**	**08 41 55.5**	**+2.5**
HFS	**Hagfors**	**7.21 284**		Pn	**Pn**	**08 42 18.4**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=89,slow=13,SNR=1.3						
HFS				Lg	Lg	08 44 12.7	
	comp=Z,0.3nm,0.3s,baz=90,slow=29,SNR=2.1						
	comp=Z,1.9nm,1.0s						
NOA	**NORSAR Array B**	**8.49 290**		Pn	**Pn**	**08 42 34.5**	**-1.4**
	baz=101,slow=18,SNR=6.5						
	comp=Z,0.7nm,0.9s						
ARCES	**ARCESS Array B**	**10.43 356**		Pn	**Pn**	**08 43 00.6**	**-1.7**
	baz=169,slow=14,SNR=6.2						
	comp=Z,7.4nm,1.2s						

*CATAC **02** 08:41:57.2±0.3,9.22N×84.07W,h5km±3km,ML3.2*
*UCR **02** 08:41:58.0±1.8,9.22N×84.04W,h29km±4km,MW3.5*

ISC 02 08:41:56.9±1.2,9.19N±0.03×84.08W±0.03,h12km±11km, n81,σ0.47/89,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVQ2	**Quepos**	**0.26 340**		*e*P	**Pb**	**08 42 04.2**	**+0.6**
SVQ2				*e*S	**Sb**	**08 42 09.5**	**+1.4**
LLNJ	**Naranjito**	**0.29 355**		*e*P	**Pb**	**08 42 04.7**	**+0.6**
LLNJ				*e*S	**Sb**	**08 42 10.4**	**+1.6**
ZELE	**Perez Zeledon**	**0.41 63**		*e*P	**Pb**	**08 42 06.3**	**+0.1**
RITA	**Parrita**	**0.42 323**		*e*P	**Pb**	**08 42 07.4**	**+1.2**
OCHAL	**Ojochal**	**0.43 102**		*i* P	**Pg**	**08 42 05.7**	**+0.2**
OCHAL				IAML		08 42 06.8	
	comp=Z,44nm,1.0s						
PEZE	**Perez Zeledon,**	**0.44 64**		*e*P	**Pb**	**08 42 06.5**	**-0.2**
PEZE	**Perez Zeledon,**	**0.44 64**		*i* P	**Pg**	**08 42 05.6**	**0.0**
PEZE				IAML		08 42 06.6	
	comp=Z,900nm,1.0s						
PEZE				*i* S	**Sg**	**08 42 11.7**	**+0.2**
RAZU	**San Marcos de**	**0.47 6**		*e*P	**Pb**	**08 42 07.3**	**0.0**
CDM	**Cerro de Muert**	**0.48 40**		*e*P	**Pb**	**08 42 07.2**	**-0.3**
CDM	**Cerro de Muert**	**0.48 40**		*i* P	**Pg**	**08 42 06.2**	**-0.2**
CDM				IAML		08 42 07.7	
	comp=Z,730nm,1.0s						
CDM				*i* S	**Sg**	**08 42 12.7**	**-0.1**
ABE2	**San Pablo**	**0.51 2**		*e*P	**Pb**	**08 42 08.1**	**0.0**
LCR2	**La Lucha 2**	**0.56 7**		*e*P	**Pb**	**08 42 08.4**	**-0.3**
LCR2	**La Lucha 2**	**0.56 7**		*i* P	**Pg**	**08 42 07.6**	**-0.2**
LCR2				IAML		08 42 08.8	
	comp=Z,790nm,1.0s						
ACOS	**Acosta**	**0.61 352**		*e*P	**Pb**	**08 42 09.3**	**-0.4**
RIMA	**Rio Macho**	**0.61 20**		*e*P	**Pg**	**08 42 09.2**	**+0.2**
RIMA	**Rio Macho**	**0.61 20**		*i* P	**Pg**	**08 42 09.1**	**+0.2**
RIMA				IAML		08 42 09.6	
	comp=Z,1μm,1.0s						
PLAN	**Los Planes de**	**0.65 143**		*i* P	**Pg**	**08 42 10.2**	**+0.7**
PLAN				IAML		08 42 21.7	
	comp=Z,4μm,1.0s						
EDPN	**Palmar Norte**	**0.65 110**		*e*P	**Pb**	**08 42 10.2**	**-0.1**
REPA	**Paraso**	**0.67 18**		*e*P	**Pb**	**08 42 11.2**	**+0.5**
TAGO	**Cartago**	**0.69 13**		*e*P	**Pg**	**08 42 10.7**	**+0.3**
AMPA	**Desamparados**	**0.70 1**		*e*P	**Pg**	**08 42 10.5**	**-0.1**
OCM	**Ochomogo**	**0.71 9**		*e*P	**Pg**	**08 42 10.7**	**-0.1**
OCM	**Ochomogo**	**0.71 9**		*i* P	**Pg**	**08 42 10.3**	**-0.5**
OCM				*i* S	**Sg**	**08 42 20.0**	**-0.2**
OCM				IAML		08 42 24.1	
	comp=Z,1μm,1.0s						
TRIO	**Tres Rios**	**0.72 6**		*e*P	**Pg**	**08 42 10.9**	**0.0**
JACO	**JACO, Garabito**	**0.74 309**		*e*P	**Pg**	**08 42 11.6**	**+0.2**
JACO	**JACO, Garabito**	**0.74 309**		*i* P	**Pg**	**08 42 11.6**	**+0.2**
JACO				IAML		08 42 24.6	
	comp=Z,460nm,1.0s						
SJS3	**Mercedes San J**	**0.75 2**		*e*P	**Pg**	**08 42 11.7**	**+0.2**
SANTA	**Santa Ana**	**0.75 352**		*e*P	**Pg**	**08 42 11.5**	**0.0**
LUPE	**Guadalupe**	**0.76 2**		*e*P	**Pg**	**08 42 11.7**	**+0.1**
PCAYA	**Pacayas**	**0.77 20**		*e*P	**Pg**	**08 42 12.0**	**+0.1**
TIBA	**Tibas**	**0.77 0**		*e*P	**Pg**	**08 42 12.0**	**+0.1**
VINA	**Juan Vinas**	**0.78 25**		*e*P	**Pg**	**08 42 12.1**	**+0.1**
CORON	**Coronado**	**0.78 5**		*e*P	**Pn**	**08 42 13.5**	**-0.5**
DOMI	**Santo Domingo**	**0.79 359**		*e*P	**Pg**	**08 42 12.4**	**+0.1**
BELE	**Belen**	**0.79 352**		*e*P	**Pb**	**08 42 13.1**	**+0.4**
RAFA	**San Farael, Vo**	**0.81 19**		*e*P	**Pg**	**08 42 12.6**	**0.0**
HDC	**Heredia**	**0.81 357**		*e*P	**Pg**	**08 42 12.7**	**0.0**
HDC3	**Heredia 3**	**0.81 358**		*e*P	**Pg**	**08 42 12.7**	**0.0**
HDC3	**Heredia 3**	**0.81 358**		*i* P	**Pg**	**08 42 12.7**	**0.0**
HDC3				IAML		08 42 27.3	
	comp=Z,1μm,1.0s						
TURIB	**Turrialba**	**0.81 28**		*e*P	**Pg**	**08 42 12.4**	**-0.2**
ICR3	**Volcano Irazu**	**0.82 17**		*e*P	**Pg**	**08 42 12.9**	**0.0**
DRK0	**Durika**	**0.82 85**		*e*P	**Pg**	**08 42 12.6**	**-0.3**
VICA	**Volcano Irazu**	**0.82 16**		*e*P	**Pg**	**08 42 13.0**	**0.0**
VERB	**Verbena**	**0.84 26**		*e*P	**Pg**	**08 42 13.2**	**-0.1**
CVIMO	**Finca Echandi**	**0.84 9**		*e*P	**Pg**	**08 42 13.3**	**0.0**
VTRT	**Volcan Turrial**	**0.86 19**		*e*P	**Pg**	**08 42 13.4**	**-0.2**
VTCV	**VTCV, Calle Va**	**0.86 23**		*e*P	**Pg**	**08 42 13.5**	**-0.1**
VTCV	**VTCV, Calle Va**	**0.86 23**		*i* P	**Pg**	**08 42 13.5**	**-0.1**
VTCV				IAML		08 42 27.1	
	comp=Z,2μm,1.0s						
VTLA	**Turrialba Volc**	**0.86 20**		*e*P	**Pg**	**08 42 13.6**	**-0.1**
CVTQ	**Turrialba Volc**	**0.87 21**		*e*P	**Pg**	**08 42 13.7**	**-0.1**
CVTV	**Tajo**	**0.87 22**		*e*P	**Pg**	**08 42 13.8**	**-0.1**
VTR0	**Volcan Turrial**	**0.88 21**		*e*P	**Pg**	**08 42 14.0**	**0.0**
CVTR	**Volcan Turrial**	**0.88 21**		*e*P	**Pg**	**08 42 13.9**	**-0.2**
VTUN	**Crater Central**	**0.89 20**		*i* P	**Pg**	**08 42 13.7**	**-0.4**
VTUN				*i* S	**Sg**	**08 42 25.5**	**-0.2**
VTUN				IAML		08 42 30.7	
	comp=Z,900nm,1.0s						
RVSTA	**Santa Teresita**	**0.89 28**		*e*P	**Pg**	**08 42 14.0**	**-0.1**
VTLO	**VTLO**	**0.92 22**		*e*P	**Pg**	**08 42 14.4**	**-0.3**
POTG	**Potrero Grande**	**0.95 98**		*e*P	**Pg**	**08 42 14.9**	**-0.4**
POTG	**Potrero Grande**	**0.95 98**		*i* P	**Pg**	**08 42 15.0**	**-0.4**
POTG				IAML		08 42 32.0	
	comp=Z,1μm,1.0s						
RAMO	**San Ramon**	**0.97 337**		*e*P	**Pn**	**08 42 16.5**	**-0.1**
SRA1	**San Ramn**	**0.98 336**		*e*P	**Pb**	**08 42 15.4**	**-0.5**
LAFE	**Finca La Fe, P**	**1.03 307**		*e*P	**Pb**	**08 42 15.7**	**-1.0**
LAFE	**Finca La Fe, P**	**1.03 307**		IAML		08 42 15.9	
	comp=Z,1.9nm,1.0s						
LAFE				*i* P	**Pb**	**08 42 16.8**	**+0.1**
LAFE				*i* S	**Sn**	**08 42 31.1**	**-0.5**
RVLA	**Villa Bonita**	**1.03 28**		*e*P	**Pb**	**08 42 16.4**	**-0.4**
CBL1	**Cabuya**	**1.08 292**		*e*P	**Pb**	**08 42 15.8**	**-1.7**
CPMI	**Catarata Coope**	**1.13 345**		*e*P	**Pb**	**08 42 18.0**	**-0.6**
CPMI	**Catarata Coope**	**1.13 345**		*i* P	**Pb**	**08 42 18.0**	**-0.6**
CPMI				IAML		08 42 34.2	
	comp=Z,700nm,1.0s						
RIFO	**Rio Frio, Sara**	**1.13 8**		*e*P	**Pb**	**08 42 17.8**	**-0.7**
RIFO	**Rio Frio, Sara**	**1.13 8**		*i* P	**Pb**	**08 42 17.8**	**-0.7**
RIFO				IAML		08 42 34.8	
	comp=Z,2μm,1.0s						
CARI	**Cariari**	**1.22 16**		*e*P	**Pg**	**08 42 20.3**	**-0.1**
SARA	**Sarapiqu**	**1.26 2**		*e*P	**Pn**	**08 42 20.2**	**-0.2**
SOCE	**Pocosol**	**1.30 336**		*e*P	**Pn**	**08 42 20.8**	**-0.3**
SOCE	**Pocosol**	**1.30 336**		*i* P	**Pn**	**08 42 20.6**	**-0.5**
SOCE				IAML		08 42 41.1	
	comp=Z,950nm,1.0s						
JUNT	**Juntas**	**1.39 321**		*e*P	**Pn**	**08 42 21.6**	**-0.7**
JTS	**Las Juntas de**	**1.40 322**		*e*P	**Pn**	**08 42 21.2**	**-1.1**
VACR	**Volcan Arenal**	**1.41 335**		*e*P	**Pn**	**08 42 22.7**	**+0.2**
ARE1	**Arenal 1**	**1.42 333**		*e*P	**Pn**	**08 42 22.6**	**0.0**
BRU2	**Volcan**	**1.42 106**		*i* P	**Pb**	**08 42 23.6**	**+0.1**
BRU2				*i* S	**Sg**	**08 42 43.0**	**+0.2**
BRU2				IAML		08 42 45.7	
	comp=Z,210nm,1.0s						
CEDE	**Laguna Cedeo**	**1.43 334**		*e*P	**Pn**	**08 42 23.2**	**+0.3**
COVE	**Coope Vega, Sa**	**1.56 348**		*e*P	**Pn**	**08 42 24.1**	**-0.4**
COVE	**Coope Vega, Sa**	**1.56 348**		*i* P	**Pn**	**08 42 24.4**	**-0.1**
COVE				IAML		08 42 24.6	
	comp=Z,280nm,1.0s						
ORTG	**Ortega, Santa**	**1.79 311**		*i* P	**Pn**	**08 42 27.9**	**0.0**
ORTG				IAML		08 43 02.7	
	comp=Z,55nm,1.0s						

*IDC **02** 08:50:37.4±1.0,6.09S×143.34E,h0km,mb4.0/6, mbtmp4.0/8,ML1.6/1,MS3.1/4,Error ellipse: s-maj=43.0km s-min=22.1km az=77.0*

ISC 02 08:50:39.2±0.9,6.15S±0.1×143.4E±0.2,h10km,n12, σ1.11/9,mb3.9/6,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.95 131**		Pn	**Pn**	**08 51 53.5**	**-0.1**
	1.6nm,0.3s,baz=306,slow=13,SNR=12						
PMG				Sn	**Sn**	**08 52 50.9**	**0.0**
	1.6nm,0.3s,baz=309,slow=21,SNR=1.5						
PMG				LR	LR	08 54 03.3	
	comp=Z,122nm,20.2s,baz=312,slow=41						
	16nm,0.7s						
CTA	**Charters Tower**	**14.14 169**		Lg	Lg	08 58 03.8	
	baz=335,slow=21,SNR=1.7						
WRA	**Warramunga Arr**	**16.30 212**		Pn	Pn	08 54 21.4	-7.1
	0.1nm,0.3s,baz=32,slow=11,SNR=6.1						
WRA				Lg	Lg	08 59 08.5	
	0.1nm,0.3s,baz=33,slow=27,SNR=5.7						
ASAR	**Alice Springs**	**19.68 207**		P	**P**	**08 55 08.3**	**-0.3**
	3.8nm,0.6s,baz=33,slow=10,SNR=88						
ASAR				Lg	Lg	09 00 57.3	
	baz=26,slow=32						
ASAR				LR	LR	09 02 36.2	
	comp=Z,89nm,19.1s,baz=60,slow=36						
DAV	**Davao City (W)**	**22.09 306**		LR	LR	09 06 12.2	
	comp=Z,28nm,18.4s,baz=180,slow=42						
STKA	**Stephens Creek**	**25.66 184**		P	**P**	**08 56 10.7**	**+1.4**
	1.6nm,0.8s,baz=9.6,slow=9.2,SNR=3.3						
	1.6nm,0.8s						
DZM	**Mont Dzumac**

PAPH eS Sn 08 56 53.5 +0.4
PAPH Port-au-Prince 1.34 101 *i* P **Pg** 08 56 36.0 0.0
PAPH eS Sn 08 56 55.0 +1.9
MASC Masc 1.48 340 *e*P **Pg** 08 56 39.6 +1.0
MASC eS **Sb** 08 56 56.3 -0.4
MASC IAML 08 57 00.5
comp=E,67nm,0.5s
MASC IAML 08 57 01.1
comp=N,83nm,0.4s
MASC Masc 1.48 340 *i* P **Pg** 08 56 39.7 +1.2
MASC eS **Sg** 08 56 58.7 +1.0
MASC IAML 08 57 01.1
comp=Z,42nm,0.8s
GTBY Guantanamo Bay 1.76 311 *e*Pg **Pg** 08 56 44.4 +0.5
GTBY IAML 08 57 11.2
comp=N,102nm,0.3s
GTBY IAML 08 57 11.6
comp=E,77nm,0.3s
GTBY Guantanamo Bay 1.76 311 *e*P **Pg** 08 56 44.1 +0.2
GTBY eS **Sg** 08 57 07.0 +0.2
GTBY IAML 08 57 11.2
comp=E,103nm,0.2s
GTBY IAML 08 57 11.8
comp=E,75nm,0.4s
GTBY Guantanamo Bay 1.76 311 *i* P **Pg** 08 56 44.6 +0.6
GTBY eS **Sg** 08 57 07.7 +0.9
GTBY IAML 08 57 15.7
comp=Z,29nm,0.6s
LOPE2 Hotel El Peder 1.99 112 *e*Pg **Pb** 08 56 46.6 +0.1
LOPE2 e**Sg** **Sg** 08 57 13.6 -0.7
LOPE2 Hotel El Peder 1.99 112 *i* P **Pb** 08 56 46.8 +0.2
LOPE2 eS **Sg** 08 57 12.5 -1.7
NEDR Neiba UASD 2.18 97 *e*Pg **Pb** 08 56 50.2 +0.5
NEDR IAML 08 57 37.1
comp=N,108nm,0.9s
SABCS La Quijada 2.19 316 *e*P **Pb** 08 56 49.9 -0.2
SABCS eS **Sn** 08 57 14.1 0.0
SABCS IAML 08 57 21.7
comp=E,131nm,0.6s
SABCS IAML 08 57 22.0
comp=N,115nm,0.5s
MOAC Moa 2.22 328 *e*P **Pg** 08 56 51.9 -0.8
MOAC eS **Sb** 08 57 18.4 +0.4
MOAC IAML 08 57 23.1
comp=E,50nm,0.6s
MOAC IAML 08 57 25.4
comp=N,36nm,0.4s
RCC Rio Carpintero 2.24 303 *e*P **Pb** 08 56 50.5 -0.3
RCC eS **Sb** 08 57 18.9 +0.2
RCC e**Sg** **Sg** 08 57 22.9 +0.5
RCC IAML 08 57 25.3
comp=N,51nm,0.3s
RCC IAML 08 57 26.0
comp=E,39nm,0.3s
SDDR Presa de Saban 2.29 85 *e*Pg **Pb** 08 56 51.5 -0.1
SDDR ⇓e**Sg** **Sb** 08 57 20.5 +0.5
SDDR IAML 08 57 21.3
comp=N,79nm,0.8s
SDDR IAML 08 57 21.7
comp=E,88nm,0.7s
SDDR Presa de Saban 2.29 85 *e*P **Pb** 08 56 51.2 -0.4
SDDR eS **Sb** 08 57 19.3 -0.7
SDDR IAML 08 57 22.0
comp=E,88nm,0.6s
SDDR IAML 08 57 22.9
comp=E,87nm,0.7s
SDDR Presa de Saban 2.29 85 *i* P **Pb** 08 56 51.0 -0.6
SDDR eS **Sb** 08 57 18.7 -1.3
SDDR IAML 08 57 25.2
comp=Z,58nm,0.5s
PODR Polo 2.37 105 *e*Pg **Pb** 08 56 52.9 -0.2
PODR IAML 08 57 34.1
comp=E,132nm,0.5s
PODR IAML 08 57 46.1
comp=N,90nm,1.0s
PODR Polo 2.37 105 *i* P **Pb** 08 56 52.9 -0.2
MARVS Santiago de Cu 2.41 301 *e*P **Pb** 08 56 53.6 -0.1
MARVS eS **Sb** 08 57 23.0 -0.6
MARVS IAML 08 57 28.8
comp=N,65nm,0.4s
MARVS IAML 08 57 31.5
comp=E,59nm,0.3s
LOBA2 Hotel Casa Bon 2.56 105 *e*Pg **Pb** 08 56 56.1 -0.2
PINC Pinares de May 2.61 311 *e*P **Pb** 08 56 55.4 -1.6
CHIV Chivirico 2.83 295 *e*P **Pb** 08 56 58.3 -2.6
CHIV eS **Sb** 08 57 37.1 +1.4
CHIV IAML 08 57 42.4
comp=E,16nm,0.5s
CHIV IAML 08 57 44.2
comp=N,15nm,0.2s
YAR Yar 2.97 303 *e*P **Pn** 08 56 56.1 -1.4
YAR eS **Sn** 08 57 32.4 -0.9
YAR IAML 08 57 50.2
comp=E,22nm,1.0s
YAR IAML 08 57 55.0
comp=N,17nm,0.7s
STH Stony Hill 3.04 257 *e*P **Pb** 08 57 05.5 +0.9
STH eS **Sb** 08 57 41.4 -0.4
STH IAML 08 57 48.3
comp=E,3μm,0.3s
STH IAML 08 57 48.5
comp=N,3μm,0.2s
HLGC Holguin 3.06 314 *e*P **Pb** 08 57 05.7 +0.8
LMGC Las Mercedes 3.38 293 *e*P **Pn** 08 57 03.9 +0.8
LMGC IAML 08 57 57.4
comp=N,12nm,0.1s
LMGC IAML 08 57 59.6
comp=E,7.8nm,0.2s
PILO Pilon 3.68 288 *e*P **Pn** 08 57 08.6 +1.2
CCCC Cccc 4.52 303 *e*P **Pb** 08 57 26.7 -3.1
CCCC eS **Sb** 08 58 23.2 -1.2

IDC 02 09:06:10.2±5.2, 3°66S×138°48E, h0km, mb3.4/2, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=211.4km s-min=33.5km az=85.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.68**	**194**	Pn	Pn	09 10 05.2	-0.3
	0.2nm,0.3s,baz=16,slow=11,SNR=7.3						
WRA				Sn	Sn	09 13 01.2	-10
	0.1nm,0.3s,baz=17,slow=23,SNR=2.0						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**20.37**	**192**	P	P	09 10 48.8	+0.1
	0.9nm,0.4s,baz=14,slow=11,SNR=32						
ASAR				S	S	09 14 28.3	-10
	1.0nm,0.9s,baz=12,slow=22,SNR=7.6						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**70.41**	**323**	P	P	09 17 26.4	0.0
	0.4nm,0.9s,baz=132,slow=6.4,SNR=2.7						
	0.4nm,0.9s						

*IDC **02** 09:13:44.0±1.8, 3°64N×97°90E, h122km±15km, mb4.2/27, mbtmp4.6/28, MS3.1/1, Error ellipse: s-maj=16.7km s-min=10.4km az=53.0*
*DJA **02** 09:13:44.5±0.4, 3°N±2°×97°8E±°, h127km±6km, M4.7/13, mb4.8/4, mB5.5/2, MLv4.6/13, Mw(mB)5.0/2*
*NEIC **02** 09:13:44.6±1.8, 3°43N±0°06×97°84E±0.07, h130km±6km, mb4.7/96, Error ellipse: s-maj=10.6km s-min=7.3km az=61.0*

ISC 02 09:13:44.2±0.6, 3°46N±0°04×97°85E±0°05, h130km±5km, n197, σ0s97/206, mb4.6/87, 4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCSI	**Kotacane, Aceh**	**0.10**	**310**	P	**Pn**	**09 14 01.6**	**-0.3**
KCSI				S	**Sn**	**09 14 13.6**	**-1.7**
PSI	**Prapat**	**1.25**	**121**	P	**Pn**	**09 14 11.1**	**+1.4**
RPSI	**Rantau Prapat**	**1.31**	**125**	Pn	**Pn**	**09 14 11.2**	**+0.9**
RPSI				Sn	**Sn**	**09 14 30.8**	**+0.8**
MLSI	**Meulaboh, Aceh**	**1.66**	**299**	P	**Pn**	**09 14 14.8**	**+0.7**
SNSI	**Sinabang, Aceh**	**1.84**	**236**	P	**Pn**	**09 14 17.3**	**+1.0**
LHMI	**Lhok Sumawe**	**1.98**	**333**	Pn	**Pn**	**09 14 18.8**	**+0.9**
LHMI				Sn	**Sn**	**09 14 44.7**	**+0.9**
LHMI	**Lhok Sumawe**	**1.98**	**333**	P	**Pn**	**09 14 18.9**	**+0.9**
LHMI	**Lhok Sumawe**	**1.98**	**333**	P	**Pn**	**09 14 18.7**	**+0.8**
LHMI				S	**Sn**	**09 14 43.9**	**+0.1**
GSI	**Gunungsitoli**	**2.15**	**187**	Pn	**Pn**	**09 14 20.4**	**+0.3**
GSI	**Gunungsitoli**	**2.15**	**187**	P	**Pn**	**09 14 20.4**	**+0.3**
IPM	**Ipoh**	**3.33**	**72**		**Pn**	**09 14 35.0**	**-0.1**
IPM	**Ipoh**	**3.33**	**72**	P	**Pn**	**09 14 35.9**	**+0.8**
KULM	**Kulim**	**3.33**	**57**	Pn	**Pn**	**09 14 35.1**	**0.0**

PBSI Pulau Batu 3.51 173 P **Pn** 09 14 37.4 -0.1
SISI Saibi 4.91 165 P **Pn** 09 14 55.9 -0.2
PDSI Padang 5.06 149 P **Pn** 09 14 59.4 +1.2
48nm,0.5s,7μm0.5nm
SRIT Nakonsritamara 5.40 19 Pn **Pn** 09 15 02.1 -0.5
SRIT Nakonsritamara 5.40 19 P **Pn** 09 15 02.3 -0.3
SURA Surathani 5.94 17 P **Pn** 09 15 09.9 -0.1
PPSI Pulau Pagai 6.54 161 P **Pn** 09 15 18.6 +0.5
MNAI Manna 9.29 147 Pn **Pn** 09 15 53.7 -1.4
UBPT Khong Chiam 13.94 32 Pn **Pn** 09 16 58.1 +1.8
UBPT Khong Chiam 13.94 32 P **Pn** 09 16 57.9 +1.6
SBUM Sibu 14.38 94 Pn **Pn** 09 17 02.5 +0.6
CM31 Chiang Mai Arr 14.95 4 P **Pn** 09 17 10.5 -0.9
CMAR Chiang Mai Arr 14.95 4 P **Pn** 09 17 10.0 +1.0
CMAR Chiang Mai Arr 14.95 4 P **Pn** 09 17 10.3 +1.3
18nm,0.8s,baz=196,slow=13,SNR=80
CMAR ScP **ScP** 09 25 31.8 0.0
0.8nm,0.4s,baz=238,slow=2.4,SNR=4.1
PHRA Phrae 15.13 9 P **P** 09 17 12.7 -0.6
CHTO Chiang Mai 15.30 4 P **Pn** 09 17 14.6 +1.2
CHTO IAmb IAmb 09 17 15.4
comp=Z,20nm,1.0s
CHTO Chiang Mai 15.30 4 P **Pn** 09 17 14.4 +1.0
NONG Nongkai 15.42 19 P **Pn** 09 17 15.4 +0.6
CRAI Chiangrai 16.85 8 **Pn** 09 17 33.4 +1.0
PALK Pallekele 17.49 283 P **Pn** 09 17 41.2 +0.9
comp=Z,6.9nm,0.7s,baz=124,slow=8.0,SNR=4.8
MND Mandalay 18.53 355 P **P** 09 17 51.4 +0.7
SLVN Son La 18.72 18 P **Pn** 09 17 54.2 -0.6
SLVN IAmb IAmb 09 17 57.9
comp=Z,28nm,0.7s
SAIH SAIHA 19.50 346 *e*P **P** 09 18 01.1 -0.4
KOD Kodaikanal 21.32 289 *e*P **P** 09 18 19.4 -1.9
KMI Kunming 22.05 12 ⇓P **P** 09 18 30.4 +1.6
KMI pmax pmax
comp=Z,36nm,1.0s
KOHI KOHIMA 22.43 351 IAmb IAmb 09 16 42.5
comp=Z,17nm,0.3s
TOLI2 Tolitoli 23.03 95 P **P** 09 18 39.0 +0.7
TOLI2 Tolitoli 23.03 95 P **P** 09 18 39.2 +1.0
PZH PanZhiHua 23.22 9 P **P** 09 18 39.2 -0.8
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.7s
ZIRO ZIRO 24.24 351 IAmb IAmb 09 17 03.5
ENH Enshi 28.86 21 P **P** 09 19 29.6 -1.0
ENH IAmb IAmb 09 19 29.9
comp=Z,7.8nm,0.6s
PTH Pithoragarh 30.88 329 *e*P **P** 09 19 48.4 -0.2
KUDL Kundal 31.90 322 *e*P **P** 09 19 57.2 -0.1
XAN Xi'an 32.13 17 ⇓P **P** 09 19 57.4 -2.0
XAN pmax pmax
comp=Z,21nm,0.6s
LZH Lanzhou 32.94 9 *e*P **P** 09 20 05.4 -1.2
LZH pmax pmax
comp=Z,12nm,1.1s
SMLA Simla 33.73 327 *e*P **P** 09 20 13.0 -0.3
SMLA IAmb IAmb 09 20 18.5
comp=Z,5.4nm,0.5s
LYN LuoYang 33.79 22 ⇓P **P** 09 20 13.8 0.0
LYN pmax pmax
comp=Z,27nm,0.7s
NJ2 Nanjing 34.62 32 *e*P **P** 09 20 22.8 +1.9
NJ2 pmax pmax
comp=Z,15nm,1.0s
DHRM DHARAMSHALA 35.07 327 *e*P **P** 09 20 24.7 -0.4
NIL Nilore 37.81 325 P **P** 09 20 47.7 -0.5
NIL IAmb IAmb 09 20 49.2
comp=Z,13nm,0.5s
HHC Hu-ho-hao-te 39.23 17 *e*P **P** 09 21 02.8 +2.8
HHC pmax pmax
comp=Z,6.0nm,0.6s
HHC pmax pmax
comp=Z,90nm,4.5s
BJT Baijiatuan 40.00 22 P **P** 09 21 06.5 +0.2
BJT IAmb IAmb 09 21 08.1
comp=Z,6.2nm,0.5s
BJI Beijing 40.02 22 P **P** 09 21 06.9 +0.5
BJI pmax pmax
comp=Z,4.0nm,0.5s
BJI pmax pmax
comp=Z,47nm,4.1s
KBL Kabul 40.90 323 P **P** 09 21 14.3 +0.3
WMQ Urumqi 41.19 349 *e*P **P** 09 21 16.8 +0.7
WMQ pmax pmax
comp=Z,13nm,0.7s
TARG Taragay, Kyrgy 42.13 338 P **P** 09 21 23.1 -1.1
TARG IAmb IAmb 09 21 25.0
comp=Z,5.2nm,0.6s
TJN Taejon 42.57 36 P **P** 09 21 27.0 -0.3
NRN Naryn 42.60 336 P **P** 09 21 27.5 -0.4
WB0 Warramunga Arr 42.68 124 P **P** 09 21 28.6 +0.2
WRA Warramunga Arr 42.72 124 P **P** 09 21 29.4 +0.7
comp=Z,3.0nm,0.6s,baz=302,slow=9.2,SNR=26
WRA ScP **ScP** 09 26 58.2 +0.9
comp=Z,0.7nm,0.9s,baz=312,slow=3.6,SNR=5.8
comp=Z,3.0nm,0.6s
WRAB Tennant Creek 42.72 124 P **P** 09 21 27.8 -1.0
WRAB IAmb IAmb 09 21 30.3
comp=Z,4.9nm,0.6s
WB2 Warramunga Arr 42.73 124 P **P** 09 21 28.7 -0.1
WR0 Warramunga Arr 42.89 124 P **P** 09 21 30.1 0.0
WR0 IAmb IAmb 09 21 31.7
comp=Z,5.3nm,0.7s
DRK Karamyk 42.95 330 P **P** 09 21 30.7 0.0
GAR Garm 43.35 328 P **P** 09 21 33.0 -0.7
GAR IAmb IAmb 09 21 33.8
comp=Z,5.8nm,0.5s
XLT XiLinHaoTe 43.39 19 *e*P **P** 09 21 33.0 -0.9
XLT pP pP 09 22 06.9 +3.6
XLT sP sP 09 22 19.9 +1.9
XLT pmax pmax
comp=Z,5.0nm,1.0s
XLT pmax pmax
comp=Z,610nm,6.0s
BOOM Boomskoye usch 43.51 336 P **P** 09 21 34.9 -0.1
KSAR Wonju Array Be 43.61 35 P **P** 09 21 35.7 +0.1
KS19 Wonju Array Si 43.64 35 P **P** 09 21 35.9 0.0
KS19 IAmb IAmb 09 21 49.1
comp=Z,31nm,1.4s
KSRS Korea Array 43.64 35 P **P** 09 21 35.4 -0.4
comp=Z,4.5nm,0.7s,baz=235,slow=7.8,SNR=13
KSRS LR LR 09 40 53.0
comp=Z,20nm,18.7s,baz=15,slow=38
comp=Z,4.5nm,0.7s
CHGR Chuyangaron 43.71 327 P **P** 09 21 35.5 -1.1
SIMJ Simiganj 43.80 327 P **P** 09 21 36.4 -0.9
SIMJ IAmb IAmb 09 21 36.8
comp=Z,4.2nm,0.5s
ARSB Arslanbob 43.82 333 P **P** 09 21 37.0 -0.4
BTK Batken 43.88 330 P **P** 09 21 38.0 +0.2
BTK IAmb IAmb 09 21 39.9
comp=Z,5.0nm,0.4s
AAK Ala-Archa 44.22 335 P **P** 09 21 40.6 -0.1
AAK Ala-Archa 44.22 335 P **P** 09 21 38.7 -1.9
comp=Z,1.4nm,0.5s,baz=171,slow=9.5,SNR=4.3
AAK PcP **PcP** 09 23 22.1 -1.0
comp=Z,3.1nm,0.6s,baz=165,slow=7.9,SNR=5.6
AAK ScP **ScP** 09 27 04.1 +0.9
comp=Z,1.0nm,0.6s,baz=130,slow=6.8,SNR=4.3
comp=Z,1.4nm,0.5s
ASAR Alice Springs 44.27 129 P **P** 09 21 40.6 -0.6
ASAR Alice Springs 44.27 129 P **P** 09 21 41.9 +0.7
comp=Z,1.6nm,0.5s,baz=300,slow=7.7,SNR=38
ASAR ScP **ScP** 09 27 04.9 +1.3
comp=Z,0.7nm,0.5s,baz=303,slow=4.4,SNR=11
ASAR S **S** 09 28 01.9 -3.5
comp=Z,0.8nm,0.8s,baz=298,slow=13,SNR=6.3
comp=Z,1.6nm,0.5s
AS31 Alice Springs 44.27 129 P **P** 09 21 41.9 +0.7
FORT Forrest 44.60 142 P **P** 09 21 42.2 -1.5
FORT IAmb IAmb 09 21 50.5
comp=Z,13nm,1.1s
SONM Songino Array 44.82 8 P **P** 09 21 44.7 -0.6
SONM Songino Array 44.82 8 P **P** 09 21 44.9 -0.4
comp=Z,3.8nm,0.5s,baz=192,slow=9.5,SNR=29
SONM PcP **PcP** 09 23 25.7 +0.7
comp=Z,2.6nm,0.8s,baz=183,slow=3.8,SNR=10
SONM ScP **ScP** 09 27 06.3 +0.8
comp=Z,1.1nm,0.7s,baz=205,slow=3.7,SNR=5.9
comp=Z,3.8nm,0.5s
ULN Ulaanbaatar 44.95 9 P **P** 09 21 45.9 -0.4
JMN Monobe 45.10 44 P **P** 09 21 47.6 0.0
HRA Herat 45.19 317 P **P** 09 21 48.5 0.0

MK31 Makanchi Array 45.24 345 P **P** 09 21 47.9 -0.6
MKAR Makanchi Array 45.24 345 P **P** 09 21 47.7 -0.7
MKAR Makanchi Array 45.24 345 P **P** 09 21 47.3 -1.2
comp=Z,4.6nm,0.5s,baz=161,slow=8.3,SNR=52
MKAR ScP **ScP** 09 27 06.7 -0.3
comp=Z,0.5nm,0.7s,baz=141,slow=4.8,SNR=3.7
comp=Z,4.6nm,0.5s
MAKZ Makanchi 45.33 345 P **P** 09 21 48.1 -1.1
MAKZ IAmb IAmb 09 21 48.9
comp=Z,5.6nm,0.7s
KK31 Karatay Array 46.36 332 P **P** 09 21 55.5 -1.9
KKAR Karatay Array 46.36 332 P **P** 09 21 56.1 -1.2
KURBB Kurchatov Arra 49.75 344 P **P** 09 22 22.5 -0.7
comp=Z,7.7nm,0.6s,baz=163,slow=7.0,SNR=61
comp=Z,7.7nm,0.6s
KURK Kurchatov 49.81 344 P **P** 09 22 23.2 -0.4
KURK IAmb IAmb 09 22 23.8
comp=Z,7.4nm,0.8s
GEYT Alibeck 49.94 319 P **P** 09 22 25.9 +0.9
GEYT Alibeck 49.94 319 P **P** 09 22 25.6 +0.6
comp=Z,17nm,0.7s,baz=142,slow=7.5,SNR=23
comp=Z,17nm,0.7s
GYA0B ALIBECK ARRAY 49.94 319 P **P** 09 22 25.6 +0.7
JSD Sado 50.44 42 P **P** 09 22 28.9 +0.2
USA0B Ussuriysk Arra 50.52 32 P **P** 09 22 29.3 +0.2
USA0B IAmb IAmb 09 22 55.9
comp=Z,11nm,1.2s
USRK Ussuriysk Ar. 50.52 32 P **P** 09 22 29.2 +0.1
USRK Ussuriysk Ar. 50.52 32 P **P** 09 22 28.8 -0.4
comp=Z,1.6nm,0.4s,baz=228,slow=7.3,SNR=12
comp=Z,1.6nm,0.4s
BBOO Buckleboo 51.08 138 P **P** 09 22 33.1 -0.5
BBOO IAmb IAmb 09 22 47.2
comp=Z,22nm,1.4s
ZAA0 Zalesovo Array 51.46 350 P **P** 09 22 35.6 -0.4
ZAA0 IAmb IAmb 09 22 36.0
comp=Z,21nm,0.8s
ZALV Zalesovo Beam 51.46 350 P **P** 09 22 35.4 -0.5
ZALV Zalesovo Beam 51.46 350 P **P** 09 22 35.3 -0.7
comp=Z,21nm,0.3s,baz=174,slow=6.8,SNR=50
comp=Z,21nm,0.3s
JMM Marumori 52.05 43 P **P** 09 22 40.1 -0.6
RAYN Ar Rayn 54.31 297 P **P** 09 22 55.7 -1.9
RAYN IAmb IAmb 09 23 01.2
comp=Z,6.2nm,0.6s
BVAR Borovoye Array 54.36 340 P **P** 09 22 56.1 -1.2
comp=Z,16nm,0.5s,baz=139,slow=9.5,SNR=116
comp=Z,16nm,0.5s
STKA Stephens Creek 54.40 134 P **P** 09 22 56.5 -1.5
STKA Stephens Creek 54.40 134 P **P** 09 22 59.3 +1.3
comp=Z,2.8nm,0.8s,baz=304,slow=4.2,SNR=5.9
comp=Z,2.8nm,0.8s
BRVK Borovoye 54.42 340 P **P** 09 22 56.5 -1.2
BRVK IAmb IAmb 09 22 57.8
comp=Z,12nm,0.6s
ABKAR Akbulak array 55.86 331 P **P** 09 23 07.8 -0.4
VOI Vohitsoka 55.91 241 P **P** 09 23 07.6 -1.6
VOI IAmb IAmb 09 23 13.9
comp=Z,20nm,1.5s
JKA Kamikawa-asahi 56.49 37 P **P** 09 23 13.2 +0.5
AKTO Aktyubinsk 57.58 331 P **P** 09 23 19.2 -1.1
comp=Z,3.9nm,0.4s,baz=120,slow=5.0,SNR=15
comp=Z,3.9nm,0.4s
ARU Arti 61.38 336 P **P** 09 23 45.6 -0.7
ARU IAmb IAmb 09 23 46.1
comp=Z,16nm,1.0s
ARU Arti 61.38 336 P **P** 09 23 45.3 -0.9
comp=Z,8.5nm,0.3s,baz=115,slow=7.0,SNR=7.8
comp=Z,8.5nm,0.3s
GURO Guroymak-BITLI 61.52 312 P **P** 09 23 47.8 0.0
GURO IAmb IAmb 09 23 50.0
comp=Z,5.5nm,0.6s
MARD Mardin 62.05 311 P **P** 09 23 51.0 -0.3
MARD IAmb IAmb 09 23 52.7
comp=Z,9.7nm,0.7s
KBZ Khabaz 62.82 318 P **P** 09 23 56.4 +0.3
comp=Z,7.3nm,0.9s,baz=143,slow=6.4,SNR=11
comp=Z,7.3nm,0.9s
MMAI Mount Meron Ar 65.14 305 P **P** 09 24 12.8 +1.2
comp=Z,0.7nm,0.3s,baz=99,slow=9.4,SNR=3.9
comp=Z,0.7nm,0.3s
BNN Bunyan 66.22 311 P **P** 09 24 16.9 -1.6
KIRV Kirov 66.56 335 P **P** 09 24 19.0 -1.0
comp=Z,18nm,0.4s,baz=108,slow=3.4,SNR=6.3
comp=Z,18nm,0.4s
BR131 Keskin Array S 68.10 312 P **P** 09 24 30.0 -0.4
BR131 IAmb IAmb 09 24 31.4
comp=Z,6.2nm,0.7s
BRTR Keskin Array B 68.10 312 P **P** 09 24 31.2 +0.8
BRTR Keskin Array B 68.10 312 P **P** 09 24 29.9 -0.4
comp=Z,4.3nm,0.7s,baz=132,slow=7.4,SNR=24
comp=Z,4.3nm,0.7s
AKAS Kas 70.47 307 P **P** 09 24 43.2 -1.9
AKAS IAmb IAmb 09 25 01.8
comp=Z,8.7nm,0.9s
TIRR Tirgusor 72.97 315 P **P** 09 24 59.2 -0.5
AKASG Malin Array Be 73.89 322 P **P** 09 25 05.0 +0.1
comp=Z,70nm,0.5s,baz=92,slow=4.7,SNR=2.0
AKBB Malin Array Si 73.89 322 P **P** 09 25 04.5 -0.4
AKBB IAmb IAmb 09 25 05.1
comp=Z,6.0nm,0.7s
KIEV Kiev 73.90 322 P **P** 09 25 04.6 -0.3
KIEV IAmb IAmb 09 25 05.1
comp=Z,5.4nm,0.7s
BURAR Bucovina Array 75.78 318 P **P** 09 25 16.9 +0.9
BUR08 Bucovina Ar. S 75.80 318 P **P** 09 25 16.6 +0.5
BOSA Boshof 76.47 240 P **P** 09 25 21.7 +1.4
BOSA IAmb IAmb 09 25 23.4
comp=Z,17nm,1.4s
BOSA Boshof 76.47 240 P **P** 09 25 22.1 +1.9
comp=Z,2.9nm,0.4s,baz=98,slow=4.2,SNR=13
comp=Z,2.9nm,0.4s
LVZ Lovozero 76.95 340 P **P** 09 25 22.0 -0.1
LVZ IAmb IAmb 09 25 22.2
comp=Z,21nm,0.8s
KWP Kalwaria Pacla 77.77 320 P **P** 09 25 28.3 +1.3
KWP IAmb IAmb 09 25 38.5
comp=Z,24nm,1.4s
KOLS Kolonicke sedl 77.94 319 *e*P **P** 09 25 30.0 +2.0
FIA1 FINESS Array S 78.32 332 P **P** 09 25 30.2 +0.4
FINES FINESS Array B 78.32 332 P **P** 09 25 29.8 +0.1
comp=Z,6.1nm,0.4s,baz=102,slow=5.9,SNR=60
comp=Z,6.1nm,0.4s
CRVS Cervenica-Dubn 78.47 319 *e*P **P** 09 25 33.3 +2.4
STHS Stebnicka Huta 78.68 320 *e*P **P** 09 25 32.7 +0.7
LANS Liptovska Anna 79.80 319 *e*P **P** 09 25 39.9 +1.7
ARCES ARCESS Array B 80.65 340 P **P** 09 25 42.4 +0.1
ARCES IAmb IAmb 09 25 50.7
comp=Z,30nm,1.4s
ARCES ARCESS Array B 80.65 340 P **P** 09 25 42.3 +0.1
comp=Z,2.0nm,0.5s,baz=92,slow=5.7,SNR=30
comp=Z,2.0nm,0.5s
MORC Moravsky Berou 81.11 320 P **P** 09 25 45.9 +0.7
MODS Modra-Piesok 81.16 318 *e*P **P** 09 25 46.7 +1.3
RONA Rosalia, Austr 81.77 318 *e*PcP **PcP** 09 25 54.1 0.0
comp=Z,8.4nm,1.5s
ARSA Arzberg 82.27 317 *e*P **P** 09 25 53.4 +2.2
comp=Z,2.2nm,0.5s
SOKA Soboth 82.57 316 *e*P **P** 09 25 53.7 +0.8
comp=Z,7.2nm,1.4s
GEC2 GERESS Array S 83.56 319 P **P** 09 25 59.7 +1.7
GERES GERESS Array B 83.56 319 P **P** 09 25 58.5 +0.6
comp=Z,1.5nm,0.4s,baz=91,slow=6.4,SNR=7.2
comp=Z,1.5nm,0.4s
BIOA Bad Ischl, Aus 83.56 317 *e*P **P** 09 25 59.0 +1.1
comp=Z,2.1nm,0.5s
PRED Cave del Predi 83.57 316 P **P** 09 25 58.1 0.0
PRED IAmb IAmb 09 25 59.7
comp=Z,8.8nm,1.0s
KBA Koelnbreinsper 83.74 317 *e*PcP **P** 09 26 01.4 +2.4
comp=Z,2.4nm,0.6s
HFS Hagfors 84.11 330 P **P** 09 26 00.9 +0.6
comp=Z,2.6nm,0.4s,baz=122,slow=5.4,SNR=32
comp=Z,2.6nm,0.4s
LESA Schwarzleotal 84.21 317 *e*P **P** 09 26 02.2 +0.9
comp=Z,3.0nm,0.4s
CIMO Cimolais 84.35 316 P **P** 09 26 02.9 +1.0
CIMO IAmb IAmb 09 26 04.0
comp=Z,6.4nm,0.7s
SPB1 Spitsbergen Ar 84.89 348 P **P** 09 26 03.6 -0.4
SPB1 IAmb IAmb 09 26 17.6
comp=Z,29nm,1.2s
SPB2 Spitsbergen Ar 84.89 348 P **P** 09 26 03.4 -0.6
SPA2 Spitsbergen Ar 84.89 348 P **P** 09 26 03.5 -0.5
SPA1 Spitsbergen Ar 84.89 348 P **P** 09 26 03.7 -0.3
SPA0 Spitsbergen Ar 84.89 348 P **P** 09 26 03.8 -0.2

SPA3	**Spitsbergen Ar**	**84.89**	**348**	P		**P**	**09 26 03.7**	**-0.4**
SPB4	**Spitsbergen Ar**	**84.89**	**348**	P		**P**	**09 26 03.4**	**-0.6**
WTTA	**Wattenberg**	**84.91**	**317**	*e*P		**P**	**09 26 05.8**	**+0.8**
	comp=Z,3.5nm,0.4s							
NC405	**NORSAR Array S**	**85.12**	**331**	P		**P**	**09 26 04.9**	**-0.6**
NC405				IAmb		IAmb	09 26 20.9	
	comp=Z,14nm,1.2s							
NC602	**NORSAR Array S**	**85.20**	**331**	P		**P**	**09 26 06.5**	**+0.6**
NC602				IAmb		IAmb	09 26 28.0	
	comp=Z,25nm,1.4s							
SQTA	**Sankt Quirin**	**85.20**	**317**	*e*P		**P**	**09 26 07.3**	**+1.0**
	comp=Z,5.1nm,0.7s							
NB201	**NORSAR Array S**	**85.33**	**331**	P		**P**	**09 26 07.0**	**+0.5**
NB201				IAmb		IAmb	09 26 26.8	
	comp=Z,26nm,1.4s							
NB2	**NORSAR Subarra**	**85.37**	**331**	P		**P**	**09 26 06.3**	**-0.4**
	comp=Z,9.7nm,1.2s,baz=92,slow=4.8							
NOA	**NORSAR Array B**	**85.37**	**331**	P		**P**	**09 26 06.4**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=94,slow=5.9,SNR=5.4							
	comp=Z,1.8nm,0.8s							
RETA	**Reutte**	**85.51**	**317**	*e*P		**P**	**09 26 08.9**	**+1.1**
	comp=Z,3.2nm,0.4s							
NAO01	**NORSAR Array S**	**85.52**	**331**	P		**P**	**09 26 08.0**	**+0.5**
NAO01				IAmb		IAmb	09 26 08.9	
	comp=Z,14nm,1.1s							
ELIB	**Princess Elisa**	**88.49**	**197**	*d*P		**P**	**09 26 21.4**	**-0.3**
	comp=Z,3.0nm,0.8s							
D19K	**Kuna River**	**91.93**	**21**	P		**P**	**09 26 38.2**	**+0.6**
D19K				IAmb		IAmb	09 26 56.7	
	comp=Z,3.2nm,1.2s							
E19K	**Redstone River**	**92.51**	**22**	P		**P**	**09 26 41.2**	**+0.8**
F20K	**Avaraart Lake**	**93.19**	**22**	P		**P**	**09 26 44.0**	**+0.5**
F20K				IAmb		IAmb	09 26 44.4	
	comp=Z,2.8nm,0.7s							
QSPA	**South Pole Qui**	**93.38**	**180**	P		**P**	**09 26 46.6**	**+2.1**
QSPA	**South Pole Qui**	**93.38**	**180**	P		**P**	**09 26 46.2**	**+1.7**
	comp=Z,0.9nm,0.7s,baz=263,slow=1.9,SNR=5.3							
	comp=Z,0.9nm,0.7s							
EKA	**Eskdalemuir Ar**	**93.43**	**326**	P		**P**	**09 26 45.2**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=102,slow=4.3,SNR=4.6							
	comp=Z,1.5nm,0.5s							
IMAR	**Indian Mountai**	**94.26**	**23**	P		**P**	**09 26 48.9**	**+0.5**
H21K	**Melozitna Rive**	**94.74**	**23**	P		**P**	**09 26 51.4**	**+0.7**
H21K				IAmb		IAmb	09 26 52.1	
	comp=Z,1.9nm,0.7s							
K20K	**Telida**	**94.95**	**25**	P		**P**	**09 26 52.7**	**+1.1**
K20K				IAmb		IAmb	09 26 53.2	
	comp=Z,3.2nm,0.8s							
COLD	**Coldfoot**	**95.17**	**21**	P		**P**	**09 26 53.5**	**+0.9**
O18K	**Koktuh Hills**	**95.46**	**29**	P		**P**	**09 26 55.2**	**+1.2**
PPLA	**Purkeypile**	**95.90**	**26**	P		**P**	**09 26 55.8**	**-0.4**
BPAW	**Bear Paw Mtn.**	**96.00**	**24**	P		**P**	**09 26 56.6**	**+0.2**
BPAW				IAmb		IAmb	09 26 59.0	
	comp=Z,5.6nm,1.4s							
ILAR	**Eielson Array**	**97.38**	**23**	P		**P**	**09 27 01.9**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=292,slow=4.8,SNR=4.4							
	comp=Z,0.2nm,0.7s							
SCHQ	**Schefferville**	**120.54**	**350**	PKP		**PKPdf**	**09 32 20.4**	**0.0**
	comp=Z,0.6nm,0.5s,baz=57,slow=1.0,SNR=4.5							
ULM	**Lac du Bonnet**	**125.21**	**11**	PKP		**PKPdf**	**09 32 29.7**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=36,slow=4.6,SNR=4.2							
PDAR	**Pinedale Array**	**127.74**	**25**	PKP		**PKPdf**	**09 32 35.5**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=92,slow=3.4,SNR=4.2							
TXAR	**Lajitas Array**	**141.41**	**31**	PKhKP		PKPpre	09 32 55.1	
	comp=Z,0.5nm,0.5s,baz=36,slow=0.3,SNR=9.8							
BDFB	**Brasilia**	**144.30**	**248**	PKP		PKPbc	09 33 06.0	+1.4
	comp=Z,3.0nm,0.7s,baz=143,slow=5.6,SNR=4.2							
CPUP	**Villa Florida**	**147.09**	**224**	PKPbc		**PKPbc**	**09 33 13.2**	**+0.5**
	comp=Z,2.7nm,0.9s,baz=66,slow=3.5,SNR=5.0							

*IDC **02** 09:14:39.5±1.7, 64°.17N×17°.94W, h0km, mb3.5/4, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=51.0km s-min=17.8km az=24.0*

ISC 02 09:14:40.7±1.1, 64°.1N±0°.3×18°.1W±0°.2, h10km, n6, σ1s13/6, mb3.7/4, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**1.56**	**296**	Pg	**Pn**	**09 15 07.2**	**-1.3**
	13nm,0.3s,baz=106,slow=14,SNR=34						
BORG				Lg	Lg	09 15 30.1	
	3.2nm,0.3s,baz=71,slow=20,SNR=9.4						
EKA	**Eskdalemuir Ar**	**11.53**	**133**	Pn	**Pn**	**09 17 24.9**	**-0.4**
	baz=322,slow=14						
	1.2nm,0.6s						
SCHQ	**Schefferville**	**25.81**	**272**	P	**P**	**09 20 12.9**	**+1.3**
	2.1nm,0.8s,baz=68,slow=16,SNR=2.5						
	2.1nm,0.8s						
YKA	**Yellowknife Ar**	**39.43**	**313**	P	**P**	**09 22 10.1**	**-0.1**
	0.2nm,0.8s,baz=37,slow=9.1,SNR=3.7						
	0.2nm,0.8s						
ILAR	**Eielson Array**	**46.08**	**332**	P	**P**	**09 23 04.6**	**+0.4**
	0.8nm,1.1s,baz=32,slow=5.4,SNR=4.7						
	0.8nm,1.1s						
PDAR	**Pinedale Array**	**53.18**	**293**	P	**P**	**09 23 59.2**	**+0.5**
	0.7nm,0.8s,baz=38,slow=7.5,SNR=6.5						
	0.7nm,0.8s						

IDC 02 09:19:34.9±3.1, 53°.56N×87°.62E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=27.5km s-min=16.0km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.71**	**284**	I	I	09 31 20.0	
	baz=102,slow=351,SNR=4.2						
ZALV	**Zalesovo Beam**	**1.71**	**284**	Pg	Pn	09 20 06.3	+0.4
	0.9nm,0.3s,baz=100,slow=16,SNR=8.4						
ZALV				Lg	Lg	09 20 28.9	
	0.5nm,0.3s,baz=99,slow=27,SNR=3.9						
KURBB	**Kurchatov Arra**	**6.32**	**246**	Pn	Pn	09 21 09.0	-0.3
	0.1nm,0.3s,baz=62,slow=13,SNR=2.0						
KURBB				Lg	Lg	09 22 54.8	
	0.1nm,0.3s,baz=63,slow=32,SNR=5.1						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.58**	**209**	Pn	Pn	09 21 28.3	+1.7
	0.2nm,0.3s,baz=29,slow=13,SNR=7.1						
MKAR				Lg	Lg	09 23 35.4	
	baz=28,slow=28						
	0.3nm,0.3s						

*GCG **02** 09:21:22.6±0.3, 14°.69N×90°.38W, h109km±67km, MD3.5*
*SNET **02** 09:21:22.9±1.1, 13°.48N×90°.63W, h20km±7km, ML2.9*

ISC 02 09:21:21.6±3.2, 13°.5N±0°.1×90°.68W±0°.07, h20km±11km, n11, σ0s88/18, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCG	**Pacaya**	**0.91**	**4**	*e*P	**Pb**	**09 21 39.5**	**+0.5**
NUBE	**Las Nubes**	**0.97**	**64**	*e*P	**Pb**	**09 21 39.5**	**-0.4**
NUBE				*e*S	**Sg**	**09 21 53.0**	**-0.6**
FUG	**Fuego 3**	**0.98**	**351**	*e*P	**Pb**	**09 21 40.0**	**-0.1**
FUG				*e*S	**Sb**	**09 21 53.6**	**+0.9**
SLOZ	**Alcaldia de Sa**	**1.03**	**58**	*e*P	**Pb**	**09 21 40.8**	**0.0**
SLOZ				*e*S	**Sn**	**09 21 54.9**	**0.0**
CEVE	**Cerro Verde**	**1.08**	**71**	*e*P	**Pb**	**09 21 41.9**	**0.0**
CEVE				*e*S	**Sn**	**09 21 56.5**	**-0.1**
CEVE				IAML		09 21 58.0	
	comp=Z,306nm,0.2s						
SNJE	**San Jose**	**1.11**	**69**	*e*P	**Pb**	**09 21 42.3**	**-0.1**
JAYA	**Jayaque - finc**	**1.21**	**81**	*e*P	**Pn**	**09 21 43.5**	**-0.1**
JAYA				*e*S	**Sb**	**09 21 59.1**	**-0.1**
JAYA				IAML		09 22 03.0	
	comp=Z,262nm,0.2s						
STG3	**Santiaguito 3,**	**1.50**	**325**	*e*P	**Pn**	**09 21 48.4**	**+0.7**
STG3				*e*S	**Sn**	**09 22 04.5**	**-2.3**
MTO3	**Montecristo**	**1.58**	**54**	*e*P	**Pn**	**09 21 49.0**	**+0.3**
SJTE	**Alcalda de S**	**1.63**	**85**	*e*P	**Pn**	**09 21 50.2**	**+0.8**
SJTE				*e*S	**Sb**	**09 22 10.9**	**-0.5**
SCLA	**Alcaldia de Sa**	**1.91**	**83**	*e*P	**Pn**	**09 21 54.7**	**+1.5**

*SDD **02** 09:29:34.6±0.7, 19°.58N×66°.48W, h31km±55km, MD3.1, ML2.4, MW2.7*
*NEIC **02** 09:29:34.1±1.4, 19°.49N±0°.02×66°.32W±0°.07, h10km±2km, ML2.3/20, Md3.3/7(RSPR), Error ellipse: s-maj=11.7km s-min=4.7km az=95.0*
*RSPR **02** 09:29:37.8, 19°.42N×66°.34W, h13km±14km, MD3.3/7*

ISC 02 09:29:35.5±2.4, 19°.4N±0°.1×66°.27W±0°.07, h31km±13km, n30, σ1s04/37, 7C-1D, Puerto Rico region

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

GCPR	**Guaynabo City**	**1.14**	**171**	*e*P		**Pb**	**09 29 56.5**	**-0.2**
GCPR	**Guaynabo City**	**1.14**	**171**	*e*S		**Sb**	**09 30 10.6**	**-0.5**
GCPR	**Guaynabo City**	**1.14**	**171**			**Pb**	**09 29 56.9**	**+0.2**
GCPR						**Sb**	**09 30 10.7**	**-0.5**
GCPR				IAML			09 30 12.4	
	comp=E,46nm,0.8s							
AOPR	**Arecibo Observ**	**1.18**	**203**	*e*P		**Pn**	**09 29 56.0**	**0.0**
AOPR	**Arecibo Observ**	**1.18**	**203**	*e*S		**Sn**	**09 30 10.9**	**-0.1**
AOPR	**Arecibo Observ**	**1.18**	**203**			**Pn**	**09 29 56.0**	**0.0**
AOPR				IAML			09 30 13.6	
	comp=N,239nm,0.3s							
AOPR						**Sb**	**09 30 13.7**	**+1.3**
AOPR	**Arecibo Observ**	**1.18**	**203**	*e*Pg		**Pn**	**09 29 55.9**	**-0.1**
AOPR				*e*Sg		**Sb**	**09 30 12.3**	**-0.1**
AOPR				IAML			09 30 17.2	
	comp=E,340nm,0.3s							
AOPR				IAML			09 30 20.9	
	comp=N,186nm,0.3s							
UUPR	**Utuado, UPR, P**	**1.26**	**200**	*e*P		**Pn**	**09 29 57.3**	**+0.3**
UUPR	**Utuado, UPR, P**	**1.26**	**200**	*e*S		**Sn**	**09 30 12.8**	**-0.1**
UUPR	**Utuado, UPR, P**	**1.26**	**200**			**Pn**	**09 29 57.3**	**+0.3**
HUMP	**Col San Antoni**	**1.35**	**163**	Pn		**Pb**	**09 30 00.1**	**-0.2**
HUMP				IAML			09 30 20.4	
	comp=N,32nm,0.4s							
HUMP				IAML			09 30 20.7	
	comp=E,45nm,0.5s							
CELP	**Cerrillos**	**1.39**	**192**	*e*P		**Pn**	**09 29 59.7**	**+0.9**
CELP	**Cerrillos**	**1.39**	**192**	*e*S		**Sn**	**09 30 12.4**	**-3.8**
CELP	**Cerrillos**	**1.39**	**192**			**Pb**	**09 29 59.9**	**-1.0**
CELP						**Sb**	**09 30 19.8**	**+1.5**
CELP	**Cerrillos**	**1.39**	**192**	*e*Pg		**Pn**	**09 29 59.8**	**+0.9**
CELP				IAML			09 30 33.3	
	comp=N,24nm,0.8s							
OBIP	**Obispado Ponce**	**1.43**	**193**	Pn		**Pn**	**09 29 59.9**	**+0.6**
OBIP				IAML			09 30 20.7	
	comp=N,27nm,1.1s							
IGPR	**InterUniversit**	**1.48**	**174**	*e*P		**Pn**	**09 30 01.2**	**+1.2**
IGPR	**InterUniversit**	**1.48**	**174**	*e*S		**Sn**	**09 30 16.6**	**-1.7**
IGPR	**InterUniversit**	**1.48**	**174**			**Pb**	**09 30 02.0**	**-0.3**
IGPR				IAML			09 30 24.1	
	comp=E,72nm,0.2s							
IGPR				IAML			09 30 27.6	
	comp=N,61nm,0.2s							
CRPR	**Cabo Rojo, PR**	**1.64**	**209**	*e*P		**Pn**	**09 30 02.9**	**+0.8**
CRPR	**Cabo Rojo, PR**	**1.64**	**209**	*e*S		**Sn**	**09 30 21.9**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.64**	**209**			**Pn**	**09 30 03.0**	**+0.8**
CRPR						**Sb**	**09 30 24.6**	**-0.6**
CRPR				IAML			09 30 28.9	
	comp=N,21nm,1.9s							
CRPR	**Cabo Rojo, PR**	**1.64**	**209**	*e*Pg		**Pn**	**09 30 03.0**	**+0.9**
CRPR				IAML			09 30 26.1	
	comp=E,19nm,0.5s							
CRPR				IAML			09 30 28.3	
	comp=N,30nm,2.6s							
MLPR	**Magueyes Islan**	**1.64**	**207**	*e*P		**Pn**	**09 30 02.6**	**+0.4**
MLPR	**Magueyes Islan**	**1.64**	**207**	*e*S		**Sn**	**09 30 22.7**	**+0.4**
MLPR	**Magueyes Islan**	**1.64**	**207**			**Pn**	**09 30 02.7**	**+0.5**
MLPR						**Sn**	**09 30 23.7**	**+1.4**
MLPR				IAML			09 30 24.5	
	comp=E,26nm,1.2s							
MLPR				IAML			09 30 28.0	
	comp=N,22nm,0.8s							
MLPR	**Magueyes Islan**	**1.64**	**207**	*e*Pg		**Pn**	**09 30 03.0**	**+0.7**
MLPR				*e*Sg		**Sn**	**09 30 23.6**	**+1.3**
MLPR				IAML			09 30 50.6	
	comp=N,12nm,1.2s							
HATOM	**Hato Mayor del**	**3.01**	**258**	*e*Pg		**Pn**	**09 30 20.9**	**-0.3**
SDDR	**Presa de Saban**	**4.76**	**265**	Pn		**Pn**	**09 30 46.0**	**+0.7**
GDHS	**Morne Mazeau,**	**5.32**	**126**	Pn		**Pn**	**09 30 54.4**	**+1.4**

TAP 02 09:32:55.5, 24°.01N×121°.75E, h27km, ML1.8, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.14**	**255**	*e*P	Pb	09 33 01.1	+0.3
	baz=256						
HWA				*e*S	Sb	09 33 05.1	+0.8
	baz=256						
TWD	**Chiawan**	**0.16**	**295**	P	Pb	09 33 00.8	-0.2
	baz=296						
TWD				S	Sb	09 33 04.9	+0.3
	baz=296						
NACB	**Ninganchiao**	**0.21**	**318**	P	Pb	09 33 01.2	-0.4
	baz=317						
NACB				S	Sb	09 33 05.7	0.0
	baz=317						
ETM	**Tongmen**	**0.24**	**259**	*e*P	Pb	09 33 02.0	+0.1
	baz=259						
SHUL	**Shoufeng**	**0.28**	**218**	*e*S	Sn	09 33 09.9	+0.6
	baz=221						
LXIB	**Xiulin Townshi**	**0.31**	**271**	P	Pb	09 33 03.3	+0.3
	baz=272						
ETLH	**Xiulin Townshi**	**0.31**	**308**	*e*P	Pb	09 33 02.9	-0.1
	baz=307						
ETLH				S	Sb	09 33 08.8	+0.8
	baz=307						
ENA	**Nanau**	**0.41**	**359**	*e*S	Sb	09 33 09.9	-0.5
	baz=351						
WARBT	**Fenglin Townsh**	**0.45**	**229**	P	Pb	09 33 05.0	0.0
	baz=225						
WHF	**Hehuan Shan**	**0.46**	**286**	*e*P	Pb	09 33 05.8	+0.3
	baz=278						
WHF				*e*S	Sb	09 33 13.2	+0.8
	baz=278						
FUSS	**Fushou**	**0.52**	**297**	*e*P	Pb	09 33 06.5	+0.2
	baz=297						
FUSS				*e*S	Sn	09 33 14.9	-0.6
	baz=297						
CHGB	**Renai**	**0.53**	**275**	*e*P	Pb	09 33 06.9	+0.4
	baz=269						
NNSB	**Datong**	**0.53**	**321**	P	Pb	09 33 06.4	-0.1
	baz=320						
NNSB				*e*S	Sb	09 33 14.7	+0.8
	baz=320						
LATG	**Datong**	**0.56**	**338**	*e*S	Sb	09 33 14.6	0.0
	baz=330						
WUSB	**Renai**	**0.58**	**268**	P	Pn	09 33 07.8	-0.3
	baz=268						
WUSB				*e*S	Sn	09 33 17.0	+0.2
	baz=268						

JMA 02 09:33:00.1±0.1, 24°.2N±0°.3×123°.8E±0°.2, h13km±1km, MV1.7/10, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.12**	**317**	P	Pg	09 33 03.3	0.0
IRIF				S	Sg	09 33 06.0	+0.4
JKRS	**Kuro-shima**	**0.17**	**92**	P	Pg	09 33 04.2	+0.2
JKRS				S	Sg	09 33 07.0	+0.3
HATJ	**Hateruma jima**	**0.19**	**185**	P	Pg	09 33 04.2	-0.1
HATJ				S	Sg	09 33 07.2	+0.1
JIJ	**Ishigaki jima**	**0.32**	**68**	P	Pg	09 33 06.3	-0.2
JIJ				S	Sg	09 33 11.0	+0.2
JISG	**Ishigakijimahi**	**0.56**	**52**	P	Pg	09 33 11.1	0.0
JISG				S	Sb	09 33 19.1	-0.6
YOJ	**Yonaguni jima**	**0.77**	**286**	P	Pg	09 33 15.1	0.0
YOJ				S	Sg	09 33 25.3	+0.1
JYNG	**Yonagunijimaku**	**0.83**	**285**	*e*P	Pg	09 33 16.2	+0.1
JYNG				*e*S	Sg	09 33 26.9	0.0
JTJ	**Tarama**	**0.89**	**64**	P	Pg	09 33 17.1	-0.2
JTJ				S	Sb	09 33 29.6	+0.3

*IDC **02** 09:37:08.4±1.1, 6°.26S×143°.46E, h0km, mb3.8/4, mbtmp4.0/8, ML4.0/3, MS3.4/3, Error ellipse: s-maj=39.5km s-min=23.2km az=87.0*

ISC 02 09:37:09.9±0.8, 6°.23S±0°.08×143°.63E±0°.08, h10km, n20, σ1s83/18, mb3.8/4, MS3.5/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**2.58**	**292**	P	**Pn**	**09 37 53.9**	**+2.1**
PMG	**Port Moresby**	**4.71**	**132**	P	**Pn**	**09 38 23.3**	**+2.2**
PMG	**Port Moresby**	**4.71**	**132**	Pn	**Pn**	**09 38 23.0**	**+1.9**
	31nm,0.5s,baz=317,slow=8.3,SNR=19						
PMG				Sn	**Sn**	**09 39 15.0**	**-0.9**
	4.1nm,0.3s,baz=29,slow=22,SNR=1.7						
COEN	**Coen**	**7.69**	**183**	P	**Pn**	**09 39 04.7**	**+2.6**
KAVG	**Kavieng**	**8.02**	**63**	P	**Pn**	**09 39 06.4**	**-0.2**
MTSU	**Mount Surprise**	**11.85**	**177**	P	**Pn**	**09 40 00.4**	**+1.2**
TV1H	**Townsville Har**	**13.32**	**167**	P	**Pn**	**09 40 19.7**	**+0.6**

DRS	**Darwin Rock St**	**13.99**	**243**	P		**Pn**	**09 40 28.4**	**+0.1**
CTA	**Charters Tower**	**14.01**	**170**	Pn		**Pn**	**09 40 30.3**	**+1.6**
	0.2nm,0.3s,baz=342,slow=13,SNR=2.7							
CTA				Lg		Lg	09 44 35.8	
	0.1nm,0.3s,baz=237,slow=23,SNR=2.1							
	1.3nm,0.5s							
QIS	**Mount Isa**	**14.77**	**195**	P		**Pn**	**09 40 38.5**	**-0.6**
WRA	**Warramunga Arr**	**16.35**	**213**	Pn		**Pn**	**09 40 56.0**	**-3.8**
	0.8nm,0.3s,baz=32,slow=13,SNR=32							
WRA				Sn		Sn	09 43 45.0	-16
	0.2nm,0.3s,baz=30,slow=24,SNR=2.2							
WRA				Lg		Lg	09 45 43.8	
	0.3nm,0.3s,baz=35,slow=29,SNR=4.8							
	1.6nm,0.4s							
KNRA	**Kununurra**	**17.34**	**236**	P		**Pn**	**09 41 09.4**	**-2.9**
ASAR	**Alice Springs**	**19.70**	**207**	P		**P**	**09 41 40.3**	**+0.7**
	1.1nm,0.3s,baz=35,slow=9.7,SNR=165							
ASAR				Lg		Lg	09 47 30.8	
	0.1nm,0.3s,baz=34,slow=32,SNR=4.0							
	7.6nm,0.6s							
STKA	**Stephens Creek**	**25.59**	**184**	P		**P**	**09 42 38.5**	**-0.8**
	0.7nm,0.4s,baz=343,slow=10,SNR=3.0							
	0.7nm,0.4s							
DZM	**Mont Dzumac**	**27.09**	**128**	LR	LR	09 52 59.1		
	comp=Z,96nm,19.9s,baz=221,slow=35							
SHEM	**Shemya Is, Ala**	**64.18**	**20**	LR	LR	10 12 36.2		
	comp=Z,29nm,19.6s,baz=296,slow=33							
MKAR	**Makanchi Array**	**75.56**	**321**	P		**P**	**09 48 55.6**	**+0.7**
	0.4nm,0.6s,baz=112,slow=7.0,SNR=4.7							
	0.4nm,0.6s							
AAK	**Ala-Archa**	**79.13**	**315**	LR	LR	10 24 37.9		
	comp=Z,23nm,21.1s,baz=94,slow=36							
QSPA	**South Pole Qui**	**83.74**	**180**	P		**P**	**09 49 37.9**	**-1.2**
	0.9nm,0.7s,baz=303,slow=1.2,SNR=6.8							
	0.9nm,0.7s							
ILAR	**Eielson Array**	**87.02**	**24**	P		**P**	**09 49 55.5**	**+0.1**
	0.3nm,0.4s,baz=267,slow=4.4,SNR=8.8							
	0.3nm,0.4s							

*IDC **02** 09:38:35.3±1.9, 55°.34N×166°.28E, h0km, mb3.3/4, mbtmp3.3/5, ML2.0/1, Error ellipse: s-maj=85.5km s-min=21.5km az=161.0*
*KRSC **02** 09:38:39.4±1.1, 55°.36N×165°.91E, h30km±10km, Ml3.7*

ISC 02 09:38:38.8±0.9, 55°.49N±0°.06×166°.21E±0°.08, h20km, n37, σ1s39/41, mb3.4/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.32**	**205**	*e*P	**Pb**	**09 38 45.0**	**-0.7**
BKI				*e*S	**Sb**	**09 38 50.3**	**-0.2**
KBG	**Krutoberegovo**	**2.12**	**293**	*e*P	**Pn**	**09 39 12.8**	**-0.2**
KBG				*e*S	**Sn**	**09 39 37.9**	**-0.8**
BDR	**Baidarnaya**	**3.01**	**293**	*e*P	**Pn**	**09 39 26.5**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**3.15**	**280**	*e*P	**Pn**	**09 39 28.3**	**+1.0**
LGNR	**Loginova**	**3.17**	**283**	*e*P	**Pn**	**09 39 29.2**	**+1.4**
KLY	**Klyuchi**	**3.24**	**287**	*e*S	**Sn**	**09 40 04.6**	**-1.7**
BZP	**Bezymyannyi-Pe**	**3.24**	**280**	*e*P	**Pn**	**09 39 29.0**	**+0.5**
KRSR	**Krestovskiy**	**3.27**	**285**	*e*P	**Pn**	**09 39 29.1**	**+0.2**
KRSR				*e*S	**Sn**	**09 40 08.1**	**+0.9**
BZMR	**Bezymyannaya**	**3.27**	**280**	*e*P	**Pn**	**09 39 30.4**	**+1.5**
BZWR	**Bezymyannyi-We**	**3.27**	**281**	*e*P	**Pn**	**09 39 30.0**	**+1.0**
TUMD	**Tumrok D**	**3.33**	**267**	*e*P	**Pn**	**09 39 31.0**	**+1.3**
KIRR	**Kirishev**	**3.35**	**280**	*e*P	**Pn**	**09 39 31.1**	**+1.0**
KMNR	**Kamenistaya**	**3.40**	**277**	*e*P	**Pn**	**09 39 31.9**	**+1.2**
KPT	**Kopyto**	**3.42**	**280**	*e*P	**Pn**	**09 39 31.9**	**+0.9**
TUMR	**Tumrok**	**3.47**	**269**	*e*P	**Pn**	**09 39 32.9**	**+1.2**
SRDR	**Sredinnyy**	**3.75**	**285**	*e*P	**Pn**	**09 39 36.5**	**+1.1**
KII	**Karymskiy**	**4.18**	**252**	*e*P	**Pn**	**09 39 43.2**	**+1.8**
SPN	**Mys Shipunski**	**4.35**	**239**	*e*P	**Pn**	**09 39 44.9**	**+1.2**
SPN				*e*S	**Sn**	**09 40 31.6**	**-2.1**
SMAR	**Somma**	**4.87**	**246**	*e*P	**Pn**	**09 39 52.3**	**+1.3**
KRER	**Koryakskii**	**4.88**	**246**	*e*P	**Pn**	**09 39 52.7**	**+1.5**
UGLR	**Uglovaya**	**4.89**	**245**	*e*P	**Pn**	**09 39 52.6**	**+1.4**
AVH	**Avacha**	**4.91**	**246**	*e*P	**Pn**	**09 39 53.0**	**+1.6**
KRX	**Arik**	**4.91**	**247**	*e*P	**Pn**	**09 39 52.5**	**+1.0**
KOK	**Koryaka**	**4.95**	**247**	*e*P	**Pn**	**09 39 53.0**	**+1.1**
DALK	**Dalny**	**5.02**	**244**	*e*P	**Pn**	**09 39 54.8**	**+2.0**
DALK				*e*S	**Sn**	**09 40 48.9**	**-1.3**
GNL	**Ganaly**	**5.13**	**253**	*e*P	**Pn**	**09 39 56.3**	**+1.7**
KRMR	**Karymshinskiy**	**5.45**	**244**	*e*P	**Pn**	**09 40 00.9**	**+2.2**
PETK	**Petropavlovsk-**	**5.53**	**248**	Pn	**Pn**	**09 39 57.3**	**-2.5**
	0.2nm,0.3s,baz=76,slow=19,SNR=2.1						
PETK				Sn	**Sn**	**09 41 03.3**	**+0.5**
	0.8nm,0.3s,baz=90,slow=23,SNR=4.6						
	6.2nm,1.0s						
**MTVR

MJAR	**Matsushiro Arr**	**23.21**	**346**	P	**P**	**09 57 00.6**	**+0.3**
	comp=Z,3.2nm,0.9s,baz=168,slow=13,SNR=4.1						
	comp=Z,3.2nm,0.9s						
KSRS	**Korea Array**	**27.80**	**330**	P	**P**	**09 57 41.7**	**+0.2**
	comp=Z,1.3nm,0.4s,baz=156,slow=9.2,SNR=5.5						
	comp=Z,1.3nm,0.4s						
COEN	**Coen**	**27.84**	**184**	P	**P**	**09 57 43.1**	**+1.0**
COEN				IAmb	IAmb	09 58 12.1	
	comp=Z,13nm,1.3s						
USA0B	**Ussuriysk Arra**	**32.03**	**342**	P	**P**	**09 58 16.4**	**-2.3**
USRK	**Ussuriysk Ar.**	**32.03**	**342**	P	**P**	**09 58 16.4**	**-2.3**
KNRA	**Kununurra**	**33.52**	**209**	P	**P**	**09 58 31.4**	**-0.6**
WB0	**Warramunga Arr**	**35.12**	**197**	P	**P**	**09 58 45.2**	**-0.4**
WB0				IAmb	IAmb	09 59 02.3	
	comp=Z,5.4nm,1.2s						
WR0	**Warramunga Arr**	**35.26**	**197**	P	**P**	**09 58 46.2**	**-0.6**
WR0				IAmb	IAmb	09 59 00.8	
	comp=Z,4.1nm,1.1s						
WRAB	**Tennant Creek**	**35.28**	**197**	P	**P**	**09 58 46.8**	**-0.3**
WRAB				IAmb	IAmb	09 59 00.0	
	comp=Z,8.1nm,1.4s						
WB2	**Warramunga Arr**	**35.29**	**197**	P	**P**	**09 58 47.1**	**-0.1**
WB2				IAmb	IAmb	09 58 47.4	
	comp=Z,2.8nm,0.8s						
WRA	**Warramunga Arr**	**35.30**	**197**	P	**P**	**09 58 46.6**	**-0.6**
WRA	**Warramunga Arr**	**35.30**	**197**	P	**P**	**09 58 46.5**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=15,slow=9.3,SNR=18						
	comp=Z,0.9nm,0.4s						
FITZ	**Fitzroy Crossi**	**37.12**	**211**	P	**P**	**09 59 01.9**	**-0.6**
AS31	**Alice Springs**	**38.95**	**196**	P	**P**	**09 59 17.9**	**0.0**
ASAR	**Alice Springs**	**38.95**	**196**	P	**P**	**09 59 16.8**	**-1.1**
ASAR	**Alice Springs**	**38.95**	**196**	P	**P**	**09 59 17.4**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=14,slow=13,SNR=16						
	comp=Z,0.3nm,0.4s						
STKA	**Stephens Creek**	**45.73**	**184**	P	**P**	**10 00 11.7**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=8.4,slow=12,SNR=3.8						
	comp=Z,1.7nm,0.7s						
FORT	**Forrest**	**47.38**	**200**	P	**P**	**10 00 25.4**	**+0.2**
FORT				IAmb	IAmb	10 00 36.2	
	comp=Z,18nm,1.2s						
MK31	**Makanchi Array**	**61.19**	**316**	P	**P**	**10 02 06.0**	**+1.3**
MKAR	**Makanchi Array**	**61.19**	**316**	P	**P**	**10 02 05.7**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=94,slow=8.7,SNR=11						
	comp=Z,0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**61.28**	**324**	P	**P**	**10 02 05.3**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=112,slow=6.7,SNR=1.8						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**64.30**	**320**	P	**P**	**10 02 25.6**	**+0.5**
	comp=Z,1.0nm,0.4s,baz=103,slow=6.8,SNR=7.1						
	comp=Z,1.0nm,0.4s						
ILAR	**Eielson Array**	**68.19**	**25**	P	**P**	**10 02 49.8**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=253,slow=5.3,SNR=5.2						
	comp=Z,0.1nm,0.4s						
BVAR	**Borovoye Array**	**69.60**	**322**	P	**P**	**10 02 59.0**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=105,slow=8.8,SNR=4.8						
	comp=Z,0.8nm,0.4s						
BMAR	**Burnt Mountain**	**69.71**	**23**	P	**P**	**10 02 57.9**	**-1.1**
M27K	**Edge Creek, AK**	**69.92**	**28**	P	**P**	**10 03 03.1**	**+2.7**
M27K				IAmb	IAmb	10 03 06.0	
	comp=Z,5.6nm,1.4s						
ARCES	**ARCESS Array B**	**86.68**	**342**	P	**P**	**10 04 32.2**	**+0.4**

*IDC **02** 10:05:13.6±1.0,28°.79N×142°.79E, h0km, mb3.7/9, mbtmp3.7/10, ML3.1/1, Error ellipse: s-maj=33.2km s-min=16.9km az=85.0*

ISC 02 10:05:18.4±0.9, 28°.68N±0°.08×142°.6E±0°.2, h35km, n11, σ1s 84/12, mb4.0/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.62**	**193**	Pn	**Pn**	**10 05 45.2**	**+0.7**
	13nm,0.3s,baz=36,slow=19,SNR=2.0						
JCJ				Sn	**Sn**	**10 06 00.7**	**-3.5**
	48nm,0.3s,baz=287,slow=19,SNR=6.5						
MJAR	**Matsushiro Arr**	**8.67**	**336**	Pn	**Pn**	**10 07 19.2**	**-2.0**
	0.2nm,0.3s,baz=160,slow=12,SNR=8.6						
	1.2nm,0.3s						
ZALV	**Zalesovo Beam**	**48.55**	**318**	P	**P**	**10 13 58.5**	**+0.5**
	0.6nm,0.4s,baz=85,slow=9.1,SNR=4.1						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**49.00**	**190**	P	**P**	**10 14 03.6**	**+1.9**
	0.9nm,0.3s,baz=10,slow=8.6,SNR=20						
	0.9nm,0.3s						
MKAR	**Makanchi Array**	**49.77**	**309**	P	**P**	**10 14 07.8**	**+0.4**
	0.6nm,0.6s,baz=88,slow=11,SNR=9.6						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**52.21**	**314**	P	**P**	**10 14 25.4**	**-0.3**
	0.7nm,0.2s,baz=90,slow=7.8,SNR=11						
	0.7nm,0.2s						
ASAR	**Alice Springs**	**52.72**	**190**	P	**P**	**10 14 30.7**	**+1.0**
	0.1nm,0.3s,baz=9.0,slow=6.2,SNR=8.6						
	0.1nm,0.3s						
ILAR	**Eielson Array**	**56.15**	**29**	P	**P**	**10 14 52.7**	**-1.5**
	0.2nm,0.6s,baz=263,slow=6.0,SNR=4.2						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**57.14**	**317**	P	**P**	**10 15 02.8**	**+1.4**
	1.6nm,0.7s,baz=95,slow=9.8,SNR=9.1						
	1.6nm,0.7s						
AKTO	**Aktyubinsk**	**65.16**	**315**	P	**P**	**10 15 57.9**	**+2.1**
	0.9nm,0.5s,baz=63,slow=4.5,SNR=2.5						
	0.9nm,0.5s						
YKA	**Yellowknife Ar**	**70.57**	**29**	P	**P**	**10 16 29.7**	**+0.1**
	0.2nm,0.6s,baz=296,slow=6.7,SNR=3.9						
	0.2nm,0.6s						

IDC 02 10:06:28.6±3.9, 55°.83N×86°.32E, h0km, mbtmp2.8/3, ML2.4/3, Error ellipse: s-maj=33.2km s-min=29.8km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.07**	**205**	I	I	10 20 30.0	
	baz=24,slow=350,SNR=1.4						
ZALV	**Zalesovo Beam**	**2.07**	**205**	Pn	Pn	10 07 04.8	+0.2
	1.9nm,0.3s,baz=22,slow=15,SNR=21						
ZALV				Lg	Lg	10 07 34.3	
	2.4nm,0.3s,baz=26,slow=26,SNR=10						
	3.9nm,0.4s						
KURBB	**Kurchatov Arra**	**7.00**	**225**	Pn	Pn	10 08 11.8	-0.5
	0.1nm,0.3s,baz=42,slow=14,SNR=2.0						
	0.5nm,0.2s						
MKAR	**Makanchi Array**	**9.39**	**197**	Pn	Pn	10 08 45.3	+0.2
	0.1nm,0.3s,baz=21,slow=13,SNR=2.1						
	0.1nm,0.5s						

*NEIC **02** 10:11:09.0±1.0, 29°.18N±0°.06×130°.47E±0°.09, h10km±1km, mb4.5/68, Error ellipse: s-maj=13.3km s-min=9.5km az=98.0*

*JMA **02** 10:11:12.4±0.1, 29°.3N±0°.4×130°.5E±0°.9, h59km±3km, MV3.5/28, NEAR AMAMI-OSHIMA ISLAND*

*NIED **02** 10:11:12.4, 29°.31N×130°.50E, h59km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr0.44; Mθθ-0.31; Mφφ-0.13; Mrθ0.68; Mθφ-0.69; Mφr0.86; Fault plane solution: M0 1.30000×10^15^ NP1:φs35.00000°, δ75.00000°, λ77.00000°. NP2:φs257.00000°, δ20.00000°, λ130.00000°.*

*IDC **02** 10:11:13.6±1.9, 29°.32N×130°.49E, h47km±17km, mb3.7/15, mbtmp3.9/19, ML3.3/4, MS3.4/5 Error ellipse: s-maj=24.1km s-min=13.3km az=91.0*

ISC 02 10:11:12.5±0.5, 29°.25N±0°.04×130°.56E±0°.05, h39km±2km, n129, σ1s 14/138, mb4.5/51, MS3.6/3, 1C, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.84**	**315**	*i* P	**Pn**	**10 11 27.2**	**-0.6**
JNN				S	**Sn**	**10 11 39.1**	**+0.1**
JYAK	**Yakushimahirau**	**0.99**	**358**	*i* P	**Pn**	**10 11 29.4**	**-0.4**
JYAK				*e*S	**Sn**	**10 11 42.7**	**+0.1**
JZK	**Kikaishima**	**1.06**	**209**	P	**Pn**	**10 11 32.0**	**+1.2**
JZK				*e*S	**Sn**	**10 11 46.7**	**+2.4**
JAM	**Amami Oshima**	**1.18**	**225**	P	**Pn**	**10 11 33.1**	**+0.7**
JMTN	**Minamitane**	**1.19**	**14**	P	**Pn**	**10 11 32.2**	**-0.3**
JMTN				*e*S	**Sn**	**10 11 47.5**	**0.0**
JTAJ	**Takarajima**	**1.19**	**266**	*e*P	**Pn**	**10 11 33.0**	**+0.4**
JKC	**Kuchinoerabu**	**1.25**	**346**	*i* P	**Pn**	**10 11 33.2**	**-0.3**
JTN	**Tanegashima 3**	**1.45**	**14**	P	**Pn**	**10 11 36.0**	**-0.2**
JAMN	**Amaminishikomi**	**1.57**	**231**	P	**Pn**	**10 11 38.5**	**+0.7**
JAMN				S	**Sn**	**10 11 59.4**	**+2.4**
JTSR	**Tashiro 2**	**1.94**	**9**	P	**Pn**	**10 11 43.2**	**+0.2**
JTK	**Tokunoshima**	**2.03**	**225**	P	**Pn**	**10 11 44.9**	**+0.8**
JTK				*e*S	**Sn**	**10 12 10.2**	**+2.0**
JSU	**Suzuyama**	**2.25**	**358**	*e*P	**Pn**	**10 11 46.9**	**-0.4**
JNAR	**Kushima--Naru**	**2.36**	**15**	P	**Pn**	**10 11 49.1**	**+0.5**
JNAR				*e*S	**Sn**	**10 12 17.0**	**+0.7**
JOW	**Kunigami**	**3.14**	**221**	Pn	**Pn**	**10 11 57.8**	**-1.6**
JOW	**Kunigami**	**3.14**	**221**	P	**Pn**	**10 11 59.8**	**+0.3**
	6.2nm,0.3s,baz=285,slow=30,SNR=26						
JOW				S	**Sn**	**10 12 34.8**	**-0.8**
	50nm,0.3s,baz=72,slow=19,SNR=8.6						
	15nm,0.3s						
JMZ	**Minamidaito 2**	**3.46**	**170**	Pn	**Pn**	**10 12 02.9**	**-1.0**
JNU	**Nakatsue**	**3.87**	**4**	Pn	**Pn**	**10 12 09.8**	**+0.2**
JNU	**Nakatsue**	**3.87**	**4**	P	**Pn**	**10 12 10.2**	**+0.7**
	2.9nm,0.3s,baz=189,slow=15,SNR=36						
JNU				S	**Sn**	**10 12 53.9**	**0.0**
	13nm,0.4s,baz=223,slow=12,SNR=1.3						
JNU				LR	LR	10 13 56.8	
	comp=Z,182nm,21.3s,baz=147,slow=43						
	14nm,0.4s						
JMN	**Monobe**	**5.29**	**32**	Pn	**Pn**	**10 12 28.9**	**-0.1**
INU	**Inuyama**	**8.18**	**40**	Pn	**Pn**	**10 13 10.0**	**+1.4**
KSRS	**Korea Array**	**8.48**	**346**	P	**Pn**	**10 13 13.1**	**+0.4**
	0.2nm,0.3s,baz=168,slow=15,SNR=3.5						
KSRS				LR	LR	10 16 45.1	
	comp=Z,110nm,20.5s,baz=180,slow=40						
	1.7nm,0.7s						
JGF	**Kuroka**	**8.55**	**40**	Pn	**Pn**	**10 13 14.4**	**+0.6**
NJ2	**Nanjing**	**10.46**	**288**	*e*P	**Pn**	**10 13 38.0**	**-1.9**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**14.97**	**4**	P	**P**	**10 14 45.4**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=175,slow=9.4,SNR=6.1						
CN2	**Changchun**	**15.09**	**346**	P	**P**	**10 14 49.3**	**+1.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HNS	**HongShan**	**15.53**	**306**	*e*P	**P**	**10 14 53.5**	**+1.0**
BJI	**Beijing**	**15.98**	**316**	P	**P**	**10 15 00.4**	**+3.0**
BJI				pmax	pmax		
	comp=Z,3.0nm,1.4s						
BJI				pmax	pmax		
	comp=Z,140nm,4.9s						
XLT	**XiLinHaoTe**	**18.64**	**326**	*e*P	**Pn**	**10 15 28.4**	**+0.9**
XLT				pP	pP	10 15 33.4	-3.2
XLT				PP	**sP**	**10 15 41.0**	**-0.4**
XLT				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,340nm,5.0s						
XAN	**Xi'an**	**19.02**	**290**	⇑P	**P**	**10 15 30.4**	**-0.7**
XAN				pP	Pn	10 15 33.9	+1.8
XAN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**19.34**	**312**	*e*P	**P**	**10 15 33.1**	**-1.6**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,250nm,5.1s						
KLR	**Kul'dur**	**19.98**	**2**	P	**P**	**10 15 40.5**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=187,slow=6.2,SNR=11						
	comp=Z,1.9nm,0.7s						
LZH	**Lanzhou**	**23.46**	**294**	*e*P	**P**	**10 16 19.1**	**+0.5**
LZH				sP	pP	10 16 23.3	-5.5
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
PZH	**PanZhiHua**	**25.59**	**271**	P	**P**	**10 16 39.9**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,120nm,5.9s						
SONM	**Songino Array**	**26.31**	**322**	P	**P**	**10 16 42.8**	**-1.8**
	comp=Z,0.8nm,0.7s,baz=145,slow=13,SNR=5.2						
SONM				LR	LR	10 28 11.3	
	comp=Z,92nm,18.4s,baz=12,slow=39						
	comp=Z,0.8nm,0.7s						
WMQ	**Urumqi**	**36.96**	**305**	*e*P	**P**	**10 18 19.7**	**+1.7**
MK31	**Makanchi Array**	**41.16**	**309**	P	**P**	**10 18 52.9**	**-0.1**
MKAR	**Makanchi Array**	**41.16**	**309**	P	**P**	**10 18 52.9**	**-0.1**
MKAR	**Makanchi Array**	**41.16**	**309**	P	**P**	**10 18 53.0**	**0.0**
	comp=Z,0.9nm,0.4s,baz=91,slow=10,SNR=19						
MKAR				PcP	**PcP**	**10 20 49.9**	**-1.9**
	comp=Z,0.1nm,0.4s,baz=76,slow=2.4,SNR=1.9						
	comp=Z,0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**41.19**	**320**	P	**P**	**10 18 52.3**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=102,slow=6.1,SNR=4.1						
	comp=Z,1.1nm,0.4s						
PMG	**Port Moresby**	**41.63**	**155**	P	**P**	**10 18 54.3**	**-2.7**
PMG				IAmb	IAmb	10 18 56.5	
	comp=Z,7.9nm,0.8s						
MTN	**Manton Dam**	**41.84**	**179**	P	**P**	**10 18 56.0**	**-2.8**
TARG	**Taragay, Kyrgy**	**44.09**	**301**	P	**P**	**10 19 14.7**	**-2.6**
KURK	**Kurchatov**	**44.13**	**314**	P	**P**	**10 19 16.9**	**-0.1**
KURK				IAmb	IAmb	10 19 17.7	
	comp=Z,6.8nm,0.6s						
KURBB	**Kurchatov Arra**	**44.18**	**314**	P	**P**	**10 19 17.1**	**-0.3**
	comp=Z,4.6nm,0.5s,baz=100,slow=9.0,SNR=27						
	comp=Z,4.6nm,0.5s						
AAK	**Ala-Archa**	**46.52**	**302**	LR	LR	10 41 30.2	
	comp=Z,67nm,18.6s,baz=88,slow=39						
WB0	**Warramunga Arr**	**48.87**	**175**	P	**P**	**10 19 53.8**	**-0.6**
WB0				IAmb	IAmb	10 20 16.2	
	comp=Z,7.5nm,1.4s						
WRAB	**Tennant Creek**	**49.03**	**175**	P	**P**	**10 19 55.0**	**-0.6**
WRAB				IAmb	IAmb	10 19 59.2	
	comp=Z,9.7nm,1.4s						
WRA	**Warramunga Arr**	**49.04**	**175**	P	**P**	**10 19 55.7**	**0.0**
WRA	**Warramunga Arr**	**49.04**	**175**	P	**P**	**10 19 56.4**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=354,slow=8.2,SNR=1.9						
	comp=Z,0.3nm,0.7s						
WB2	**Warramunga Arr**	**49.04**	**175**	P	**P**	**10 19 55.2**	**-0.5**
WB2				IAmb	IAmb	10 20 13.4	
	comp=Z,4.1nm,1.1s						
WR0	**Warramunga Arr**	**49.07**	**175**	P	**P**	**10 19 55.7**	**-0.2**
WR0				IAmb	IAmb	10 20 11.4	
	comp=Z,7.3nm,1.4s						
KK31	**Karatay Array**	**49.42**	**303**	P	**P**	**10 19 57.4**	**-1.2**
KKAR	**Karatay Array**	**49.42**	**303**	P	**P**	**10 19 58.3**	**-0.2**
KKAR	**Karatay Array**	**49.42**	**303**	P	**P**	**10 19 57.5**	**-1.0**
KKAR				IAmb	IAmb	10 20 00.3	
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**49.46**	**316**	P	**P**	**10 19 58.5**	**-0.2**
	comp=Z,4.8nm,0.5s,baz=93,slow=9.9,SNR=33						
	comp=Z,4.8nm,0.5s						
BRVK	**Borovoye**	**49.53**	**316**	P	**P**	**10 19 58.7**	**-0.4**
ASAR	**Alice Springs**	**52.70**	**176**	P	**P**	**10 20 24.5**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=8.3,slow=13,SNR=11						
	comp=Z,0.2nm,0.5s						
F15K	**North Star Dit**	**53.38**	**28**	P	**P**	**10 20 30.3**	**+2.5**
F15K				IAmb	IAmb	10 20 37.0	
	comp=Z,5.1nm,1.1s						
F17K	**Baldwin Pennin**	**54.86**	**27**	P	**P**	**10 20 41.1**	**+2.5**
F17K				IAmb	IAmb	10 21 05.8	
	comp=Z,5.5nm,1.4s						
C18K	**Utukok River**	**55.19**	**24**	P	**P**	**10 20 42.2**	**+1.3**
C18K				IAmb	IAmb	10 21 06.3	
	comp=Z,4.8nm,1.4s						
ABKAR	**Akbulak array**	**56.13**	**312**	P	**P**	**10 20 47.9**	**-0.1**
D19K	**Kuna River**	**56.29**	**25**	P	**P**	**10 20 49.9**	**+1.0**
ARU	**Arti**	**56.34**	**321**	P	**P**	**10 20 49.1**	**-0.3**
	comp=Z,4.0nm,0.2s,baz=140,slow=2.6,SNR=4.9						
	comp=Z,4.0nm,0.2s						
N17K	**Nushagak Hills**	**56.35**	**34**	P	**P**	**10 20 50.4**	**+1.1**
N17K				IAmb	IAmb	10 21 14.3	
	comp=Z,6.8nm,1.2s						
J19K	**Poorman**	**57.07**	**30**	P	**P**	**10 20 56.0**	**+1.6**
J19K				IAmb	IAmb	10 21 03.1	
	comp=Z,6.7nm,1.5s						
AKTO	**Aktyubinsk**	**57.23**	**313**	P	**P**	**10 20 55.4**	**-0.3**
	comp=Z,2.4nm,0.9s,baz=97,slow=5.7,SNR=5.7						
	comp=Z,2.4nm,0.9s						
L19K	**White Mountain**	**57.44**	**32**	P	**P**	**10 20 58.3**	**+1.3**
L19K				IAmb	IAmb	10 21 12.3	
	comp=Z,7.6nm,1.3s						
J20K	**Nowinta River**	**57.72**	**30**	P	**P**	**10 20 58.5**	**-0.4**
J20K				IAmb	IAmb	10 21 11.6	
	comp=Z,4.4nm,1.1s						
K20K	**Telida**	**57.77**	**31**	P	**P**	**10 20 59.9**	**+0.6**
K20K				IAmb	IAmb	10 21 20.4	
	comp=Z,9.7nm,1.4s						
IMAR	**Indian Mountai**	**57.87**	**28**	P	**P**	**10 21 01.0**	**+1.0**
F21K	**Alatna River**	**57.98**	**26**	P	**P**	**10 21 01.5**	**+0.7**
D22K	**Ayikyak River**	**58.30**	**24**	P	**P**	**10 21 04.4**	**+1.4**
D22K				IAmb	IAmb	10 21 14.1	
	comp=Z,3.8nm,1.1s						
E22K	**Anaktuvuk Pass**	**58.61**	**25**	P	**P**	**10 21 06.7**	**+1.5**
KDAK	**Kodiak Island**	**58.88**	**38**	P	**P**	**10 21 08.0**	**+0.8**
SUA	**Susitna One**	**59.43**	**33**	P	**P**	**10 21 11.7**	**+0.6**
SUA				IAmb	IAmb	10 21 27.3	
	comp=Z,4.8nm,1.0s						
MORW	**Morawa**	**59.62**	**195**	P	**P**	**10 21 12.0**	**-0.6**
O22K	**Cooper Landing**	**60.03**	**34**	P	**P**	**10 21 16.6**	**+1.5**
RND	**Reindeer**	**60.11**	**31**	P	**P**	**10 21 16.5**	**+0.8**
RND				IAmb	IAmb	10 21 29.6	
	comp=Z,8.8nm,1.3s						
F24K	**Squaw Lake**	**60.13**	**26**	P	**P**	**10 21 16.9**	**+1.2**
MDM	**Murphy Dome**	**60.22**	**29**	P	**P**	**10 21 17.9**	**+1.5**
MDM				IAmb	IAmb	10 21 19.0	
	comp=Z,6.7nm,1.3s						
KNK	**Knik Glacier**	**60.53**	**33**	P	**P**	**10 21 19.2**	**+0.7**
IL31		**60.81**	**29**	P	**P**	**10 21 20.4**	**+0.2**
IL31				IAmb	IAmb	10 21 46.4	
	comp=Z,8.7nm,1.5s						
ILAR	**Eielson Array**	**60.81**	**29**	P	**P**	**10 21 20.1**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=266,slow=5.4,SNR=2.4						
	comp=Z,0.2nm,0.6s						
E25K	**Arctic Village**	**60.95**	**25**	P	**P**	**10 21 22.1**	**+0.9**
SCM	**Sheep Creek Mo**	**61.00**	**33**	P	**P**	**10 21 22.5**	**+0.7**
PRP	**Porcupine Dome**	**61.29**	**28**	P	**P**	**10 21 24.8**	**+1.1**
PRP				IAmb	IAmb	10 21 26.1	
	comp=Z,6.9nm,1.4s						
BMAR	**Burnt Mountain**	**61.41**	**26**	P	**P**	**10 21 25.8**	**+1.4**
M24K	**Tolsona, Glenn**	**61.50**	**32**	P	**P**	**10 21 25.1**	**0.0**
STKA	**Stephens Creek**	**61.68**	**169**	P	**P**	**10 21 25.7**	**-0.8**
KLU	**Klutina**	**61.72**	**33**	P	**P**	**10 21 27.9**	**+1.3**
MARNC	**Mare, Loyalty**	**62.03**	**140**	P	**P**	**10 21 29.3**	**+0.2**
MARNC				IAmb	IAmb	10 21 43.1	
	comp=Z,1.7nm,0.4s						
OUENC	**Ouen Island, N**	**62.12**	**142**	P	**P**	**10 21 29.7**	**0.0**
SCRK	**Sand Creek**	**62.18**	**30**	P	**P**	**10 21 29.9**	**+0.2**
SCRK				IAmb	IAmb	10 21 43.9	
	comp=Z,6.3nm,1.2s						
K27K	**Chicken**	**62.99**	**30**	P	**P**	**10 21 36.4**	**+1.4**
K27K				IAmb	IAmb	10 22 00.1	
	comp=Z,5.8nm,1.3s						
KIP	**Kipapa**	**64.16**	**79**	P	**P**	**10 21 44.8**	**+1.4**
EPYK	**Eagle Plains**	**64.65**	**26**	P	**P**	**10 21 47.5**	**+1.6**
L29M	**L29M**	**64.93**	**30**	P	**P**	**10 21 50.0**	**+2.2**
I30M	**Mount Dempster**	**65.10**	**28**	P	**P**	**10 21 50.5**	**+1.6**
I30M				IAmb	IAmb	10 22 04.6	
	comp=Z,5.5nm,1.4s						
J30M	**Hart River**	**65.29**	**28**	P	**P**	**10 21 50.4**	**+0.2**
J30M				IAmb	IAmb	10 22 16.5	
	comp=Z,3.4nm,1.4s						
INK	**Inuvik**	**65.31**	**24**	P	**P**	**10 21 50.5**	**+0.4**
H31M	**Peel River**	**65.74**	**27**	P	**P**	**10 21 54.2**	**+1.2**
H31M				IAmb	IAmb	10 22 19.9	
	comp=Z,7.5nm,1.4s						
A36M	**Sachs Harbour**	**66.72**	**19**	P	**P**	**10 22 00.2**	**+1.1**
A36M				IAmb	IAmb	10 22 20.3	
	comp=Z,2.4nm,0.9s						
M31M	**Drury Creek, Y**	**66.84**	**31**	P	**P**	**10 22 01.4**	**+1.3**
M31M				IAmb	IAmb	10 22 14.1	
	comp=Z,7.2nm,1.5s						
FARO	**Faro, Yukon**	**67.30**	**30**	P	**P**	**10 22 04.9**	**+1.9**
C36M	**Paulatuk**	**68.15**	**22**	P	**P**	**10 22 09.1**	**+1.0**
C36M				IAmb	IAmb	10 22 14.8	
	comp=Z,4.5nm,1.4s						
KBZ	**Khabaz**	**68.86**	**309**	P	**P**	**10 22 13.6**	**+0.5**
	comp=Z,4.9nm,1.1s,baz=87,slow=2.3,SNR=4.6						
	comp=Z,4.9nm,1.1s						
FINES	**FINESS Array B**	**71.26**	**331**	P	**P**	**10 22 26.3**	**-1.1**
FINES	**FINESS Array B**	**71.26**	**331**	P	**P**	**10 22 26.0**	**-1.5**
	comp=Z,1.0nm,0.5s,baz=81,slow=5.7,SNR=13						
	comp=Z,1.0nm,0.5s						
RES	**Resolute Bay**	**72.20**	**11**	P	**P**	**10 22 34.1**	**+1.2**
AKASG	**Malin Array Be**	**74.58**	**320**	P	**P**	**10 22 47.0**	**-0.3**
	comp=Z,2.2nm,0.3s,baz=58,slow=6.4,SNR=1.2						
AKBB	**Malin Array Si**	**74.58**	**320**	P	**P**	**10 22 47.5**	**+0.2**
AKBB				IAmb	IAmb	10 22 47.8	
	comp=Z,4.4nm,0.6s						
KIEV	**Kiev**	**74.59**	**320**	P	**P**	**10 22 47.5**	**+0.2**
KIEV				IAmb	IAmb	10 22 47.8	
	comp=Z,3.9nm,0.6s						
RAYN	**Ar Rayn**	**74.81**	**289**	P	**P**	**10 22 48.5**	**-0.7**
NIUE	**Niue**	**74.84**	**122**	P	**P**	**10 22 49.7**	**+0.5**
YKA	**Yellowknife Ar**	**74.93**	**26**	P	**P**	**10 22 50.1**	**+1.0**
YKA	**Yellowknife Ar**	**74.93**	**26**	P	**P**	**10 22 49.6**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=306,slow=5.8,SNR=4.1						
	comp=Z,0.2nm,0.7s						
YKAB2	**New Yellowknif**	**74.97**	**26**	P	**P**	**10 22 50.2**	**+0.9**
BR131	**Keskin Array S**	**76.81**	**308**	P	**P**	**10 23 00.5**	**0.0**
BR131				IAmb	IAmb	10 23 02.2	
	comp=Z,2.3nm,0.7s						

comp=Z,20nm,1.1s
FORT **Forrest** **52.18** **245** P **P** **10 22 55.9 -0.6**
FORT IAmb IAmb 10 23 01.2
comp=Z,18nm,1.2s
KNRA **Kununurra** **53.19** **264** P **P** **10 23 03.9 0.0**
FITZ **Fitzroy Crossi** **55.65** **261** P **P** **10 23 22.3 +0.7**
MBWA **Marble Bar** **60.58** **256** P **P** **10 23 56.4 +0.9**
MBWA IAmb IAmb 10 24 05.3
comp=Z,7.9nm,1.1s
MAJO **Matsushiro** **70.28** **322** P **P** **10 24 58.8 +1.8**
MJB9 **Matsu-Tunnel** **70.28** **322** P **P** **10 24 59.6 +2.7**
QSPA **South Pole Qui** **71.30** **180** P **P** **10 25 03.3 +0.5**
ILAR **Eielson Array** **86.11** **12** P **P** **10 26 20.2 -2.3**
comp=Z,0.3nm,0.8s,baz=228,slow=6.2,SNR=5.3
comp=Z,0.3nm,0.8s

IDC 02 10:16:35.2±2.0, 5°.87S×143°.07E, h0km, mb3.7/2, mbtmp3.6/4, ML3.4/2, Error ellipse: s-maj=103.0km s-min=32.5km az=110.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.36**	**210**	Pn	Pn	10 20 24.6	-1.9
	0.1nm,0.3s,baz=30,slow=13,SNR=3.0						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**19.77**	**206**	P	P	10 21 07.7	+0.6
	0.2nm,0.3s,baz=33,slow=9.7,SNR=15						
	1.7nm,0.8s						
BVAR	**Borovoye Array**	**84.38**	**325**	P	P	10 29 10.3	+0.8
	0.4nm,0.5s,baz=124,slow=4.7,SNR=2.0						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**86.92**	**24**	P	P	10 29 21.0	-0.8
	0.6nm,1.1s,baz=238,slow=6.3,SNR=2.2						
	0.6nm,1.1s						

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*NEIC **02** 10:25:41.0±2.0, 50°.2S±0°.2×116°.0E±0°.1, h10km±2km, mb4.5/15, Error ellipse: s-maj=29.6km s-min=11.2km az=191.0*
*IDC **02** 10:25:41.8±1.2, 49°.86S×116°.08E, h0km, mb4.1/5, mbtmp4.1/6, ML2.6/1, MS3.6/5, Error ellipse: s-maj=46.6km s-min=26.0km az=107.0*
ISC 02 10:25:40.5±1.2, 50°.2S±0°.2×116°.0E±0°.2, h10km, n30, σ1s07/24, mb4.5/12, MS3.5/4, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.35**	**354**	T	T	10 44 39.5	
	baz=174,slow=73,SNR=167						
H01W1	**Cape Leeuwin H**	**15.36**	**354**	T	T	10 44 40.0	
	baz=174,slow=73,SNR=138						
H01W3	**Cape Leeuwin H**	**15.37**	**354**	T	T	10 44 39.1	
	baz=174,slow=73,SNR=178						
NWAO	**Narrogin (SRO)**	**17.28**	**4**		P	**10 29 44.8 +1.5**	
NWAO					IAmb IAmb	10 30 20.1	
	comp=Z,51nm,1.4s						
NWAO	**Narrogin (SRO)**	**17.28**	**4**	Pn	**Pn**	**10 29 41.8 0.0**	
	comp=Z,1.0nm,0.3s,baz=180,slow=8.1,SNR=8.1						
NWAO					LR LR	10 34 31.6	
	comp=Z,153nm,20.5s,baz=114,slow=31						
	comp=Z,4.4nm,0.5s						
MORW	**Morawa**	**21.11**	**0**	P	**P**	**10 30 25.4 +0.2**	
MORW					IAmb IAmb	10 30 25.5	
	comp=Z,12nm,0.9s						
FORT	**Forrest**	**21.41**	**30**	P	**P**	**10 30 27.2 -1.2**	
FORT					IAmb IAmb	10 30 44.6	
	comp=Z,17nm,0.9s						
MCQ	**Macquarie Isla**	**26.28**	**116**	P	**P**	**10 31 14.6 -1.1**	
STKA	**Stephens Creek**	**26.40**	**56**	P	**P**	**10 31 17.1 0.0**	
STKA	**Stephens Creek**	**26.40**	**56**	P	**P**	**10 31 17.4 +0.3**	
	comp=Z,3.0nm,0.8s,baz=208,slow=9.1,SNR=8.2						
	comp=Z,3.0nm,0.8s						
PSA00	**Pilbara Seismi**	**28.73**	**7**	P	**P**	**10 31 35.7 -2.3**	
PSA00					IAmb IAmb	10 32 14.9	
	comp=Z,9.0nm,0.9s						
MBWA	**Marble Bar**	**29.13**	**7**	P	**P**	**10 31 39.6 -2.0**	
MBWA					IAmb IAmb	10 31 45.5	
	comp=Z,11nm,1.2s						
ASAR	**Alice Springs**	**29.95**	**34**	P	**P**	**10 31 49.8 +1.0**	
ASAR	**Alice Springs**	**29.95**	**34**	P	**P**	**10 31 49.1 +0.3**	
	comp=Z,1.8nm,0.7s,baz=207,slow=8.0,SNR=30						
ASAR				PcP	**PcP**	**10 34 51.2 -0.1**	
	comp=Z,0.3nm,0.8s,baz=210,slow=1.9,SNR=2.1						
	comp=Z,1.8nm,0.7s						
AS31	**Alice Springs**	**29.95**	**34**	P	**P**	**10 31 49.3 +0.4**	
AIS	**Amsterdam Isla**	**29.95**	**280**	P	**P**	**10 31 47.6 -1.1**	
WRA	**Warramunga Arr**	**33.53**	**32**	P	**P**	**10 32 20.8 +0.5**	
WRA	**Warramunga Arr**	**33.53**	**32**	P	**P**	**10 32 20.6 +0.3**	
	comp=Z,3.9nm,0.6s,baz=199,slow=8.9,SNR=19						
WRA				PcP	**PcP**	**10 35 01.4 +0.4**	
	comp=Z,0.5nm,0.8s,baz=214,slow=2.9,SNR=2.4						
	comp=Z,3.9nm,0.6s						
WB2	**Warramunga Arr**	**33.53**	**32**	P	**P**	**10 32 20.9 +0.5**	
WB2					IAmb IAmb	10 32 22.9	
	comp=Z,4.5nm,0.8s						
WRAB	**Tennant Creek**	**33.54**	**32**	P	**P**	**10 32 20.9 +0.5**	
WRAB					IAmb IAmb	10 32 22.9	
	comp=Z,4.8nm,0.7s						
WR0	**Warramunga Arr**	**33.58**	**33**	P	**P**	**10 32 20.9 +0.1**	
WR0					IAmb IAmb	10 32 21.8	
	comp=Z,5.0nm,0.8s						
WB0	**Warramunga Arr**	**33.71**	**32**	P	**P**	**10 32 21.9 0.0**	
CTA	**Charters Tower**	**38.44**	**50**	LR	LR	10 49 10.3	
	comp=Z,73nm,18.4s,baz=221,slow=37						
QSPA	**South Pole Qui**	**39.93**	**180**	P	P	10 33 21.0	+6.4
	comp=Z,0.9nm,0.7s,baz=330,slow=20,SNR=2.0						
	comp=Z,0.9nm,0.7s						
LEM	**Lembang**	**43.80**	**348**	LR	LR	10 49 05.1	
	comp=Z,57nm,19.4s,baz=234,slow=32						
DZM	**Mont Dzumac**	**48.26**	**73**	LR	LR	10 51 06.5	
	comp=Z,52nm,20.3s,baz=218,slow=32						
CMAR	**Chiang Mai Arr**	**70.00**	**343**	P	**P**	**10 36 53.2 +1.1**	
	comp=Z,0.8nm,0.5s,baz=192,slow=6.2,SNR=5.5						
	comp=Z,0.8nm,0.5s						
KSAR	**Wonju Array Be**	**87.90**	**9**	P	**P**	**10 38 31.2 +1.5**	
AAK	**Ala-Archa**	**99.32**	**330**	LR	LR	11 21 25.6	
	comp=Z,35nm,18.7s,baz=218,slow=34						
YKA	**Yellowknife Ar**	**150.23**	**46**	PKPbc	**PKiKP**	**10 45 33.0 +1.8**	
	comp=Z,0.3nm,0.7s,baz=283,slow=1.8,SNR=6.6						

TAP 02 11:05:25.9, 24°.50N×121°.84E, h9km, ML1.2, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EWUT	**Wuta**	**0.07**	**224**	*i* P	Pg	11 05 28.1	+0.1
	baz=224						
EWUT				*i* S	Sg	11 05 29.8	+0.2
	baz=224						
ESAO	**Su ao**	**0.08**	**6**	*i* P	Pg	11 05 29.1	+1.0
	baz=7.0						
ESAO				*i* S	Sg	11 05 29.7	0.0
	baz=7.0						
TWC	**Suao**	**0.11**	**7**	*e*P	Pg	11 05 28.8	+0.3
	baz=13						
TWC				S	Sg	11 05 30.8	+0.3
	baz=13						
ENA	**Nanau**	**0.11**	**230**	*i* P	Pg	11 05 28.6	+0.1
	baz=227						
ENA				*i* S	Sg	11 05 30.6	+0.2
	baz=227						
ENTT	**Nioudou**	**0.28**	**300**	*i* P	Pg	11 05 32.3	+0.7
	baz=300						
ENTT				S	Sg	11 05 36.4	+1.0
	baz=300						
LATG	**Datong**	**0.28**	**277**	P	Pg	11 05 32.3	+0.7
	baz=277						
LATG				S	Sg	11 05 36.3	+0.9
	baz=277						
NDT	**Datong Townshi**	**0.31**	**289**	*i* S	Sg	11 05 37.2	+1.0
	baz=289						
EOS2	**EOS2**	**0.37**	**102**	*e*S	Sg	11 05 38.7	+0.7
	baz=101						
NWLT	**Wulai**	**0.41**	**313**	*e*P	Pb	11 05 35.0	-0.3
	baz=313						
NNSB	**Datong**	**0.42**	**260**	*e*S	Sg	11 05 40.2	+0.5
	baz=260						
NNS	**Nan Shan**	**0.42**	**262**	*e*S	Sg	11 05 40.3	+0.4
	baz=261						
YHNB	**Yeheng**	**0.45**	**292**	S	Sg	11 05 41.5	+0.8
	baz=298						
NSK	**Sanguang**	**0.47**	**292**	S	Sg	11 05 42.0	+0.8
	baz=298						
TIPB	**Shuangxi**	**0.47**	**359**	*e*S	Sb	11 05 42.4	-1.0
	baz=360						
EOS3	**EOS3**	**0.49**	**116**	*e*S	Sg	11 05 42.2	+0.4
	baz=120						

JMA 02 11:05:45.5±0.2, 24°.3N±0°.6×123°.8E±0°.8, h15km±2km, MV0.5/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.12**	**315**	*e*S	Sg	11 05 51.5	+0.1
JKRS	**Kuro-shima**	**0.17**	**93**	P	Pg	11 05 49.6	0.0
JKRS				S	Sg	11 05 52.9	+0.5
HATJ	**Hateruma jima**	**0.19**	**186**	P	Pg	11 05 49.8	-0.2
HATJ				S	Sg	11 05 53.3	+0.4
JIJ	**Ishigaki jima**	**0.31**	**68**	P	Pg	11 05 51.8	-0.2
JIJ				S	Sg	11 05 56.2	-0.2
JISG	**Ishigakijimahi**	**0.56**	**52**	P	Pg	11 05 56.7	+0.2
JISG				*e*S	Sb	11 06 04.5	-0.2

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*SOME **02** 11:07:37.2, 41°.22N×83°.85E, h0km*
*NNC **02** 11:07:45.5±2.6, 41°.12N×83°.28E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=21.7km s-min=15.7km az=16.0*
ISC 02 11:07:49.5±2.4, 41°.4N±0°.1×83°.23E±0°.10, h10km, n19, σ2s28/24, 3C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**2.98**	**315**	*e*P	**Pb**	**11 08 43.6**	**+0.8**
	13nm,0.5s						
KTMS				*e*S	**Sg**	**11 09 27.7**	**+2.4**
	19nm,0.6s						
KTMS	**Ketmen**	**2.98**	**315**	Pg	**Pb**	**11 08 43.6**	**+0.8**
	13nm,0.5s						
KTMS				Lg	Lg	11 09 27.7	
	19nm,0.6s						
SHLS	**Shalkode**	**3.32**	**304**	*e*P	**Pb**	**11 08 44.8**	**-3.9**
	19nm,0.7s						
SHLS				*e*S	**Sb**	**11 09 29.1**	**0.0**
	57nm,0.5s						
SHLS	**Shalkode**	**3.32**	**304**	Pg	**Pn**	**11 08 43.4**	**+1.7**
	19nm,0.7s						
SHLS				Lg	Lg	11 09 27.5	
	57nm,0.5s						
PDGK	**Podgornoye**	**3.40**	**307**	Pg	**Pb**	**11 08 49.0**	**-0.9**
	2.7nm,0.8s						
PDGK				Lg	Lg	11 09 36.9	
	16nm,0.6s						
UZB	**Uzynbulak**	**3.60**	**301**	*e*P	**Pg**	**11 08 55.7**	**-2.7**
	3.6nm,0.3s						
UZB				*e*S	**Sg**	**11 09 48.4**	**+3.4**
	18nm,0.4s						
UZB	**Uzynbulak**	**3.60**	**301**	Pg	**Pg**	**11 08 55.7**	**-2.7**
	3.6nm,0.3s						
UZB				Lg	Lg	11 09 48.4	
	18nm,0.4s						
DJR	**Jarkent**	**3.90**	**321**	*e*P	**Pb**	**11 08 58.7**	**+0.3**
	4.7nm,0.5s						
DJR				*e*S	**Sg**	**11 09 53.6**	**-1.1**
	12nm,0.5s						
DJR	**Jarkent**	**3.90**	**321**	Pg	**Pb**	**11 08 58.7**	**+0.3**
	4.7nm,0.5s						
DJR				Lg	Lg	11 09 53.6	
	12nm,0.5s						
SATY	**Saty**	**3.96**	**297**	*e*P	**Pb**	**11 09 00.8**	**+1.3**
	1.4nm,0.2s						
SATY				*e*S	**Sg**	**11 09 57.3**	**+0.5**
	24nm,0.8s						
SATY	**Saty**	**3.96**	**297**	Pg	**Pb**	**11 09 00.8**	**+1.3**
	1.4nm,0.2s						
SATY				Lg	Lg	11 09 57.3	
	24nm,0.8s						
KURS	**Kuram**	**4.31**	**301**	*e*P	**Pg**	**11 09 08.0**	**-4.0**
	4.8nm,0.7s						
KURS				*e*S	**Sg**	**11 10 09.6**	**+1.8**
	10nm,0.9s						
KURS	**Kuram**	**4.31**	**301**	Pg	**Pg**	**11 09 08.0**	**-4.0**
	4.8nm,0.7s						
KURS				Lg	Lg	11 10 09.6	
	10nm,0.9s						
KAPS	**Kapalarasan**	**4.83**	**326**	*e*P	**Pb**	**11 09 16.6**	**+2.2**
	1.5nm,0.1s						
KAPS				*e*S	**Sg**	**11 10 24.0**	**-0.7**
	8.6nm,0.4s						
KAPS	**Kapalarasan**	**4.83**	**326**	Pg	**Pg**	**11 09 19.0**	**-3.1**
KAPS				Lg	Lg	11 10 23.8	
CHKK	**Chushkaly**	**5.24**	**301**	*e*P	Pg	11 09 24.3	-5.5
	0.7nm,0.1s						
CHKK				*e*S	**Sg**	**11 10 37.2**	**-0.3**
	6.0nm,0.5s						
CHKK	**Chushkaly**	**5.24**	**301**	Pg	Pg	11 09 24.3	-5.5
	0.7nm,0.1s						
CHKK				Lg	Lg	11 10 37.2	
	6.0nm,0.5s						
MK31	**Makanchi Array**	**5.48**	**353**	⇑Pn	**Pn**	**11 09 12.2**	**+1.0**
	1.2nm,0.5s,baz=170,slow=15,SNR=7.0						
MK31				⇑Lg	Lg	11 10 47.6	
	12nm,0.6s,baz=165,slow=28,SNR=12						
MAKZ	**Makanchi**	**5.52**	**351**	⇑Lg	Lg	11 10 54.3	
	14nm,0.9s						

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*IDC **02** 11:10:29.1±1.1, 5°.96S×142°.71E, h0km, mb4.0/4, mbtmp4.0/6, ML1.6/1, Error ellipse: s-maj=35.2km s-min=24.6km az=69.0*
ISC 02 11:10:29.6±0.8, 5°.86S±0°.08×142°.74E±0°.07, h10km, n15, σ2s62/16, mb4.0/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.62**	**291**	P	**Pn**	**11 11 00.0**	**+1.7**
PMG	**Port Moresby**	**5.62**	**129**	Pn	**Pn**	**11 11 54.8**	**+1.6**
	1.1nm,0.3s,baz=309,slow=13,SNR=2.3						
PMG				Sn	**Sn**	**11 12 57.7**	**-0.3**
	1.6nm,0.3s,baz=295,slow=23,SNR=6.1						
	4.5nm,0.4s						
MANU	**Manus Island**	**5.97**	**51**	P	**Pb**	**11 12 11.2**	**-2.6**
COEN	**Coen**	**8.06**	**177**	P	**Pn**	**11 12 29.7**	**+2.9**
MTN	**Manton Dam**	**13.39**	**238**	P	**Pn**	**11 13 36.6**	**-3.2**
WRA	**Warramunga Arr**	**16.21**	**210**	Pn	**Pn**	**11 14 12.4**	**-5.2**
	0.4nm,0.3s,baz=25,slow=13,SNR=18						
WRA				Sn	Sn	11 16 59.6	-18
	0.2nm,0.3s,baz=25,slow=21,SNR=2.2						
WRA				Lg	Lg	11 18 52.6	
	baz=35,slow=28,SNR=1.2						
KNRA	**Kununurra**	**16.83**	**233**	P	**Pn**	**11 14 21.8**	**-3.7**
ASAR	**Alice Springs**	**19.64**	**205**	P	**P**	**11 14 58.5**	**-0.2**
	3.4nm,0.8s,baz=32,slow=11,SNR=28						
ASAR				S	S	11 18 27.0	-13
	0.8nm,0.8s,baz=16,slow=29,SNR=4.2						
ASAR				Lg	Lg	11 20 47.9	
	baz=22,slow=30,SNR=1.3						
OOD	**Oodnadatta**	**22.82**	**196**	P	**P**	**11 15 33.9**	**+1.1**
WRKA	**Warakurna**	**23.57**	**214**	P	**P**	**11 15 39.5**	**-1.0**
LCRK	**Leigh Creek**	**24.83**	**189**	P	**P**	**11 15 54.2**	**+2.1**
MKAR	**Makanchi Array**	**74.73**	**322**	P	**P**	**11 22 12.1**	**+2.3**
	1.0nm,0.8s,baz=105,slow=7.4,SNR=6.6						
	1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**78.61**	**324**	P	**P**	**11 22 33.3**	**+1.7**
	0.5nm,0.7s,baz=110,slow=4.8,SNR=3.2						
	0.5nm,0.7s						
BVAR	**Borovoye Array**	**84.18**	**325**	P	**P**	**11 23 02.5**	**+1.4**
	2.6nm,0.8s,baz=110,slow=6.0,SNR=9.6						
	2.6nm,0.8s						
ILAR	**Eielson Array**	**87.04**	**24**	P	**P**	**11 23 16.1**	**+1.0**
	0.9nm,0.8s,baz=260,slow=5.1,SNR=9.9						
	0.9nm,0.8s						

JMA 02 11:17:31.9±0.2, 24°.2N±0°.4×123°.8E±0°.5, h15km±2km, MV0.5/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.12**	**321**	P	Pg	11 17 35.3	-0.1
IRIF				S	Sb	11 17 38.2	-0.3
JKRS	**Kuro-shima**	**0.18**	**91**	P	Pg	11 17 36.1	-0.1
JKRS				S	Sg	11 17 39.4	+0.3
HATJ	**Hateruma jima**	**0.18**	**182**	P	Pg	11 17 36.1	-0.1
HATJ				S	Sg	11 17 39.5	+0.3
JIJ	**Ishigaki jima**	**0.33**	**68**	*e*P	Pg	11 17 38.9	+0.3
JIJ				S	Sg	11 17 42.8	-0.4
JISG	**Ishigakijimahi**	**0.57**	**53**	*e*P	Pg	11 17 43.0	-0.2
JISG				*e*S	Sg	11 17 50.1	-0.6

TAP 02 11:17:41.6, 24°.80N×122°.39E, h7km±2km, ML2.1, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS2	**EOS2**	**0.41**	**200**	*e*P	Pb	11 17 50.4	-0.6
	baz=200						
EOS2				S	Sb	11 17 58.0	+0.7
	baz=200						
TWB1	**Santiao Chiao**	**0.41**	**300**	P	Pb	11 17 50.6	-0.6
	baz=300						
TWB1				*e*S	Sb	11 17 56.5	-1.2
	baz=300						
EOS3	**EOS3**	**0.52**	**187**	P	Pb	11 17 52.6	-0.2
	baz=186						
EOS3				*e*S	Sb	11 18 00.9	+0.4
	baz=186						
TWC	**Suao**	**0.52**	**249**	*i* P	Pb	11 17 52.7	-0.4
	baz=248						
TWC				*e*S	Sb	11 18 02.4	+1.5
	baz=248						
TIPB	**Shuangxi**	**0.54**	**289**	*e*P	Pb	11 17 53.0	-0.3
	baz=288						
TIPB				*e*S	Sb	11 18 01.9	+0.6
	baz=288						
SXI1	**Grass Mountain**	**0.55**	**302**	P	Pb	11 17 53.3	-0.2
	baz=302						
SXI1				S	Sb	11 18 02.1	+0.4
	baz=302						
NWF	**Wu-fen Shan**	**0.61**	**296**	*e*S	Sb	11 18 04.4	+0.9
	baz=296						
EWUT	**Wuta**	**0.66**	**237**	P	Pb	11 17 55.1	-0.2
	baz=237						
EWUT				S	Sb	11 18 05.3	+0.7
	baz=237						
TWE	**Neicheng**	**0.66**	**263**	*e*P	Pb	11 17 55.1	-0.2
	baz=262						
EOS4	**EOS4**	**0.68**	**185**	*e*P	Pb	11 17 55.7	+0.2
	baz=185						
ENA	**Nanau**	**0.69**	**238**	P	Pb	11 17 55.7	-0.3
	baz=237						
FUSB	**Fushanzhiwuyua**	**0.73**	**267**	*e*P	Pb	11 17 56.9	+0.3
	baz=266						
ENTT	**Nioudou**	**0.76**	**258**	*e*P	Pn	11 17 58.2	-0.5
	baz=257						
NWLT	**Wulai**	**0.80**	**268**	*e*S	Sb	11 18 09.1	+0.1
	baz=268						
NDT	**Datong Townshi**	**0.82**	**256**	*e*P	Pn	11 17 58.8	-0.7
	baz=256						
NDT				*e*S	Sb	11 18 09.9	+0.5
	baz=256						
LATG	**Datong**	**0.82**	**251**	*e*P	Pb	11 17 58.4	+0.1
	baz=251						
LATG				*e*S	Sb	11 18 10.2	+0.6
	baz=251						
TWY	**Chenhua**	**0.85**	**304**	*e*P	Pb	11 17 59.3	+0.6
	baz=303						
YHNB	**Yeheng**	**0.93**	**262**	*e*P	Pb	11 18 00.2	+0.2
	baz=261						
YHNB				*e*S	Sb	11 18 12.5	-0.1
	baz=261						
NSK	**Sanguang**	**0.94**	**263**	*e*P	Pb	11 18 00.6	+0.3
	baz=262						
NACB	**Ninganchiao**	**0.95**	**229**	*e*P	Pb	11 18 00.2	-0.3
	baz=229						
NACB				S	Sn	11 18 14.3	-0.9
	baz=229						
NNSB	**Datong**	**0.98**	**248**	*e*P	Pb	11 18 01.4	+0.4
	baz=247						
NNSB				*e*S	Sn	11 18 15.4	-0.8
	baz=247						
NNS	**Nan Shan**	**0.99**	**249**	*e*S	Sb	11 18 15.2	+0.8
	baz=248						
ETLH	**Xiulin Townshi**	**1.01**	**234**	*e*P	Pb	11 18 01.5	0.0
	baz=234						
FUSS	**Fushou**	**1.18**	**242**	*e*P	Pn	11 18 04.7	0.0
	baz=242						
WHF	**Hehuan Shan**	**1.21**	**238**	*e*P	Pn	11 18 05.6	+0.3
	baz=237						

IDC 02 11:19:42.4±5.2, 29°.99S×179°.78W, h468km±50km, mb3.1/2, mbtmp4.1/4, Error ellipse: s-maj=61.7km s-min=37.2km az=56.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.64**	**197**	P	P	11 21 45.9	+1.2
	10.0nm,0.3s,baz=328,slow=3.0,SNR=50						
URZ				S	S	11 23 24.0	-1.3
	3.3nm,0.3s,baz=156,slow=20,SNR=1.7						
DZM	**Mont Dzumac**	**14.67**	**299**	P	P	11 22 48.9	-1.0
	1.8nm,0.6s,baz=144,slow=18,SNR=1.5						
ASAR	**Alice Springs**	**41.59**	**267**	P	P	11 26 48.8	+0.3
	0.8nm,0.5s,baz=106,slow=7.7,SNR=26						
	0.8nm,0.5s						
WRA	**Warramunga Arr**	**42.54**	**273**	P	P	11 26 55.6	-0.4
	1.0nm,0.3s,baz=110,slow=8.1,SNR=44						
	1.0nm,0.3s						
FINES	**FINESS Array B**	**144.22**	**339**	PKP	PKPbc	11 38 22.5	-0.5
	0.4nm,0.3s,baz=43,slow=4.4,SNR=3.7						

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*SJA **02** 11:27:31.3±0.6, 34°.42S×70°.54W, h114km±3km, ML4.5, MW4.3*
*IDC **02** 11:27:31.8±2.5, 34°.35S×70°.20W, h94km±22km, mb4.2/11, mbtmp4.5/14, Error ellipse: s-maj=22.5km s-min=13.8km az=102.0*
*NEIC **02** 11:27:31.9, 34°.44S×70°.37W, h104km*
*NEIC **02** 11:27:32.2±2.0, 34°.42S±0°.05×70°.14W±0°.1, h103km±4km, mb4.8/36, Mwr4.4/27, Error ellipse: s-maj=12.2km s-min=6.7km az=98.0, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr-1.74; Mθθ1.01; Mφφ0.73; Mrθ3.13; Mθφ-0.81; Mφr-4.17; Fault plane solution: M0 5.48000×10^15 NP1:φs120.36000°, δ9.63000°, λ-111.76000°. NP2:φs322.40000°, δ81.06000°, λ-86.40000°. Principal axes: T 5.4189, Plg36.0000°, Azm49.0000°; N 0.1257, Plg4.0000°, Azm142.0000°; P -5.5447, Plg54.0000°, Azm237.0000°.*
*GUC **02** 11:27:32.5±0.9, 34°.38S×70°.52W, h99km±3km, ML4.3*
ISC 02 11:27:32.0±0.5, 34°.41S±0°.03×70°.48W±0°.04, h104km±4km, n183, σ1s22/231, mb4.8/24, 7C-8D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BO04	**La Punta**	**0.43**	**345**		**Pn**	**11 27 48.2**	**+0.3**
BO04				Sn	**Sn**	**11 28 00.5**	**+0.8**
BO04	**La Punta**	**0.43**	**345**	⇓*i*P	**Pn**	**11 27 48.3**	**+0.4**
BO04				*e*S	**Sn**	**11 28 00.3**	**+0.5**
BO04				IAML		11 28 01.2	
	comp=N,25μm,0.2s						
BO02	**Sierra Bellavi**	**0.46**	**213**		**Pn**	**11 27 48.7**	**+0.7**
BO02				Sn	**Sn**	**11 28 01.7**	**+1.6**
BO02	**Sierra Bellavi**	**0.46**	**213**	*e*P	**Pn**	**11 27 48.7**	**+0.7**
BO02				IAML		11 28 05.0	
	comp=Z,10μm,0.6s						
BO02	**Sierra Bellavi**	**0.46**	**213**	*e*P	**Pn**	**11 27 48.8**	**+0.7**
BO02				*e*S	**Sn**	**11 28 01.6**	**+1.5**
BO01	**Tunca**	**0.50**	**272**		**Pn**	**11 27 48.9**	**+0.7**
BO01				Sn	**Sn**	**11 28 01.7**	**+1.3**
BO01	**Tunca**	**0.50**	**272**	*e*P	**Pn**	**11 27 49.0**	**+0.7**
BO01				*e*S	**Sn**	**11 28 01.8**	**+1.3**
BO01	**Tunca**	**0.50**	**272**	⇑*i*P	**Pn**	**11 27 48.9**	**+0.7**
BO01				*e*S	**Sn**	**11 28 01.1**	**+0.7**
BO01				IAML		11 28 02.7	
	comp=N,8μm,0.2s						
LMEL	**Las Melosas**	**0.60**	**22**		**Pn**	**11 27 50.0**	**+0.7**

MT09	**Talangate**	**0.76**	**326**			**Pn**	**11 27 51.1**	**+0.5**
MT09					Sn	**Sn**	**11 28 05.1**	**+0.7**
MT09	**Talangate**	**0.76**	**326**	⇓	*iP*	**Pn**	**11 27 51.1**	**+0.5**
MT09					*eS*	**Sn**	**11 28 04.9**	**+0.4**
MT09					IAML		11 28 06.6	
	comp=E,23μm,0.4s							
MT15	**Las Vizcachas**	**0.81**	**358**		*eP*	**Pn**	**11 27 51.7**	**+0.8**
MT15					*eS*	**Sn**	**11 28 06.2**	**+1.1**
MT03	**Universidad Ad**	**0.92**	**358**			**Pn**	**11 27 52.8**	**+0.8**
MT03	**Universidad Ad**	**0.92**	**358**		*eP*	**Pn**	**11 27 52.9**	**+0.8**
MT03					*eS*	**Sn**	**11 28 08.3**	**+1.3**
MT03					IAML		11 28 09.8	
	comp=Z,9μm,0.1s							
MT03	**Universidad Ad**	**0.92**	**358**	⇓	*iP*	**Pn**	**11 27 52.7**	**+0.7**
MT03					*eS*	**Sn**	**11 28 08.1**	**+1.1**
MT03					IAML		11 28 09.2	
	comp=N,12μm,0.3s							
MT16	**CCHEN**	**0.98**	**358**			**Pn**	**11 27 53.5**	**+0.8**
MT16	**CCHEN**	**0.98**	**358**	⇓	*iP*	**Pn**	**11 27 53.4**	**+0.8**
MT16					*eS*	**Sn**	**11 28 08.9**	**+0.8**
MT16					IAML		11 28 10.4	
	comp=E,4μm,0.5s							
MT14	**Cerro Cal¡n**	**1.01**	**357**	⇓	*iP*	**Pn**	**11 27 53.9**	**+0.9**
MT14					*eS*	**Sn**	**11 28 09.7**	**+1.0**
MT14					IAML		11 28 14.4	
	comp=N,14μm,0.6s							
MT05	**Renca**	**1.04**	**348**			**Pn**	**11 27 54.0**	**+0.8**
MT05	**Renca**	**1.04**	**348**		*eP*	**Pn**	**11 27 54.2**	**+0.9**
MT05					*eS*	**Sn**	**11 28 11.0**	**+1.8**
MT05					IAML		11 28 12.0	
	comp=Z,12μm,0.2s							
MT05	**Renca**	**1.04**	**348**		*eP*	**Pn**	**11 27 54.0**	**+0.8**
MT05					*eS*	**Sn**	**11 28 10.1**	**+0.9**
MT05					IAML		11 28 11.4	
	comp=E,26μm,0.3s							
MT04	**Ro Olivares**	**1.04**	**16**	⇑	*iP*	**Pn**	**11 27 54.2**	**+0.7**
MT04					*eS*	**Sn**	**11 28 10.7**	**+1.1**
MT04					IAML		11 28 13.1	
	comp=E,4μm,0.4s							
FCH	**Farellones**	**1.09**	**8**	⇓	*iP*	**Pn**	**11 27 54.9**	**+0.8**
FCH					*eS*	**Sn**	**11 28 11.9**	**+1.2**
FCH					IAML		11 28 13.2	
	comp=E,8μm,0.3s							
MT10	**Hacienda Santa**	**1.14**	**357**		*eP*	**Pn**	**11 27 55.1**	**+0.7**
MT10					*eS*	**Sn**	**11 28 12.2**	**+1.0**
MT10					IAML		11 28 16.3	
	comp=E,7μm,0.3s							
VA05	**Santo Domingo**	**1.21**	**308**			**Pn**	**11 27 55.4**	**+0.4**
VA05	**Santo Domingo**	**1.21**	**308**		*eP*	**Pn**	**11 27 55.4**	**+0.4**
VA05					*eS*	**Sn**	**11 28 12.4**	**0.0**
VA05					IAML		11 28 14.7	
	comp=N,11μm,0.4s							
BO03	**Pichilemu**	**1.23**	**266**	⇑	*iP*	**Pn**	**11 27 56.0**	**+0.8**
BO03					*eS*	**Sn**	**11 28 13.5**	**+0.6**
BO03					IAML		11 28 18.3	
	comp=N,3μm,0.5s							
MT02	**Curacav**	**1.27**	**334**			**Pn**	**11 27 56.4**	**+0.6**
MT02	**Curacav**	**1.27**	**334**		*eP*	**Pn**	**11 27 56.6**	**+0.8**
MT02					*eS*	**Sn**	**11 28 14.6**	**+0.8**
MT02	**Curacav**	**1.27**	**334**		*iP*	**Pn**	**11 27 56.4**	**+0.6**
MT02					*eS*	**Sn**	**11 28 13.8**	**0.0**
MT02					IAML		11 28 15.7	
	comp=E,4μm,0.5s							
PEL	**Peldehue**	**1.27**	**352**			**Pn**	**11 27 56.5**	**+0.6**
PEL	**Peldehue**	**1.27**	**352**		*eP*	**Pn**	**11 27 56.5**	**+0.6**
PEL					*eS*	**Sn**	**11 28 15.9**	**+2.0**
PEL	**Peldehue**	**1.27**	**352**		*eP*	**Pn**	**11 27 56.5**	**+0.6**
PEL					*eS*	**Sn**	**11 28 14.5**	**+0.6**
PEL					IAML		11 28 16.4	
	comp=E,6μm,0.5s							
GO05	**Huala**	**1.34**	**243**			**Pn**	**11 27 56.9**	**+0.3**
GO05	**Huala**	**1.34**	**243**		*eP*	**Pn**	**11 27 56.9**	**+0.3**
GO05					*eS*	**Sn**	**11 28 15.8**	**+0.7**
GO05	**Huala**	**1.34**	**243**		*iP*	**Pn**	**11 27 56.8**	**+0.3**
GO05					*eS*	**Sn**	**11 28 15.0**	**-0.1**
GO05					IAML		11 28 16.8	
	comp=E,5μm,0.2s							
ROC1	**El Roble**	**1.50**	**342**		*eP*	**Pn**	**11 27 59.4**	**+0.6**
ROC1					*eS*	**Sn**	**11 28 20.6**	**+1.6**
ROCH	**El Roble**	**1.50**	**343**		*eP*	**Pn**	**11 27 59.3**	**+0.6**
ROCH					*eS*	**Sn**	**11 28 19.8**	**+0.8**
ROCH					IAML		11 28 23.6	
	comp=N,7μm,0.3s							
ML02	**Panimavida**	**1.56**	**210**			**Pn**	**11 28 00.4**	**+1.2**
ML02	**Panimavida**	**1.56**	**210**	⇑	*iP*	**Pn**	**11 28 00.3**	**+1.2**
ML02					*eS*	**Sn**	**11 28 21.1**	**+1.4**
ML02					IAML		11 28 22.7	
	comp=E,6μm,0.7s							
EDS3	**Malargue**	**1.62**	**147**		*eP*	**Pn**	**11 28 01.4**	**+1.3**
VA03	**San Esteban**	**1.64**	**358**			**Pn**	**11 28 01.2**	**+0.9**
VA03	**San Esteban**	**1.64**	**358**		*eP*	**Pn**	**11 28 01.4**	**+1.0**
VA03					*eS*	**Sn**	**11 28 24.3**	**+2.4**
VA03					IAML		11 28 28.1	
	comp=Z,4μm,0.3s							
VA03	**San Esteban**	**1.64**	**358**		*eP*	**Pn**	**11 28 01.5**	**+1.1**
VA03					*eS*	**Sn**	**11 28 23.6**	**+1.7**
VA03					IAML		11 28 27.1	
	comp=E,8μm,0.2s							
VA01	**Torpederas**	**1.69**	**324**			**Pn**	**11 28 02.1**	**+1.2**
VA01	**Torpederas**	**1.69**	**324**		*eP*	**Pn**	**11 28 01.9**	**+1.1**
VA01	**Torpederas**	**1.69**	**324**		*eP*	**Pn**	**11 28 01.9**	**+1.1**
AVIZ	**Vizcacheras**	**1.88**	**61**		*eP*	**Pn**	**11 28 04.5**	**+1.2**
AAGR	**Agrelo**	**1.91**	**47**		*eP*	**Pn**	**11 28 05.2**	**+1.5**
VA06	**Catapilco**	**1.97**	**339**		Pn	**Pn**	**11 28 04.7**	**+0.4**
VA06	**Catapilco**	**1.97**	**339**		*eP*	**Pn**	**11 28 04.7**	**+0.4**
VA06					*eS*	**Sn**	**11 28 28.5**	**-0.5**
VA06					IAML		11 28 35.6	
	comp=E,5μm,0.4s							
ARCO	**CERRO ARCO**	**2.03**	**40**		*eP*	**Pn**	**11 28 06.6**	**+1.3**
ASAL	**Salagasta**	**2.27**	**38**		*eP*	**Pn**	**11 28 10.1**	**+1.7**
BI02	**San Fabin de**	**2.34**	**196**		*eP*	**Pn**	**11 28 10.1**	**+0.9**
RTLS	**Leoncito**	**2.79**	**21**		*eP*	**Pn**	**11 28 17.5**	**+2.2**
RTLS					IAML		11 28 54.2	
	comp=Z,1μm,0.5s							
BI05	**Punta Hualpn**	**3.21**	**223**			**Pn**	**11 28 20.1**	**-0.6**
BI05	**Punta Hualpn**	**3.21**	**223**		*eP*	**Pn**	**11 28 19.6**	**-1.0**
CO02	**Combarbal**	**3.23**	**352**			**Pn**	**11 28 21.0**	**-0.1**
CO02	**Combarbal**	**3.23**	**352**		*eP*	**Pn**	**11 28 21.0**	**0.0**
CO02					IAML		11 29 03.2	
	comp=Z,826nm,0.5s							
CO02	**Combarbal**	**3.23**	**352**		*eP*	**Pn**	**11 28 20.8**	**-0.3**
CO02					*eS*	**Sn**	**11 28 57.6**	**-1.2**
SJA	**San Juan**	**3.29**	**30**		*eP*	**Pn**	**11 28 23.6**	**+1.8**
CO03	**El Pedregal**	**3.57**	**357**			**Pn**	**11 28 25.9**	**+0.3**
CO03	**El Pedregal**	**3.57**	**357**		*eP*	**Pn**	**11 28 26.1**	**+0.5**
CO03					*eS*	**Sn**	**11 29 07.0**	**+0.2**
CO03					IAML		11 29 09.1	
	comp=Z,885nm,0.8s							
CO03	**El Pedregal**	**3.57**	**357**		*eP*	**Pn**	**11 28 25.8**	**+0.3**
CO03					*eS*	**Sn**	**11 29 06.0**	**-0.9**
DOCA	**Reserva Natura**	**3.65**	**19**		*eP*	**Pn**	**11 28 27.7**	**+0.8**
DOCA					*eS*	**Sn**	**11 29 10.7**	**+1.5**
DOCA					IAML		11 29 19.0	
	comp=Z,955nm,0.9s							
CO06	**Fray Jorge**	**3.85**	**345**			**Pn**	**11 28 29.3**	**0.0**
CO06	**Fray Jorge**	**3.85**	**345**		*eP*	**Pn**	**11 28 28.8**	**-0.5**
ACCO	**Cerro Coronel**	**3.99**	**18**		*eP*	**Pn**	**11 28 32.4**	**+0.9**
ACCO					*eS*	**Sn**	**11 29 19.8**	**+2.2**
ACCO					IAML		11 29 26.5	
	comp=Z,409nm,0.5s							
GO04	**Tololo Observa**	**4.23**	**356**		Pn	**Pn**	**11 28 34.6**	**0.0**
GO04	**Tololo Observa**	**4.23**	**356**		*eP*	**Pn**	**11 28 34.7**	**0.0**
GO04					*eS*	**Sn**	**11 29 22.7**	**-0.5**
GO04	**Tololo Observa**	**4.23**	**356**		*eP*	**Pn**	**11 28 34.0**	**-0.7**
AROD	**Rodeo**	**4.32**	**12**		*eP*	**Pn**	**11 28 37.1**	**+1.3**
ACDV	**Cuesta del Vie**	**4.38**	**16**		*eP*	**Pn**	**11 28 37.5**	**+1.0**
ACDV					*eS*	**Sn**	**11 29 27.6**	**+1.0**
CO01	**Juntas del Tor**	**4.43**	**4**			**Pn**	**11 28 38.2**	**+0.8**
CO01	**Juntas del Tor**	**4.43**	**4**		*eP*	**Pn**	**11 28 38.5**	**+1.2**
CO01					*eS*	**Sn**	**11 29 30.1**	**+2.1**
CO01	**Juntas del Tor**	**4.43**	**4**		*eP*	**Pn**	**11 28 38.0**	**+0.7**
CO05	**La Serena**	**4.53**	**352**			**Pn**	**11 28 37.7**	**-0.7**
CO05	**La Serena**	**4.53**	**352**		*eP*	**Pn**	**11 28 37.2**	**-1.1**
AVFE	**Valle Fertil**	**4.53**	**35**		*eP*	**Pn**	**11 28 38.3**	**-0.2**
AVFE					*eS*	**Sn**	**11 29 30.1**	**0.0**
AVFE					IAML		11 29 33.1	
	comp=Z,203nm,0.8s							
ACHE	**Chepes**	**4.56**	**46**		*eP*	**Pn**	**11 28 38.9**	**-0.1**
LC02	**Puerto Saavedr**	**4.96**	**207**		Pn	**Pn**	**11 28 44.4**	**+0.2**
LC02	**Puerto Saavedr**	**4.96**	**207**		*eP*	**Pn**	**11 28 41.8**	**-2.4**
GO06	**Curarrehue**	**5.22**	**188**		Pn	**Pn**	**11 28 48.1**	**+0.2**
LCO	**Las Campanas**	**5.39**	**358**		Pn	**Pn**	**11 28 49.0**	**-1.3**
LCO	**Las Campanas**	**5.39**	**358**		*eP*	**Pn**	**11 28 49.3**	**-1.0**
LR03	**Panguipulli**	**5.42**	**195**		Pn	**Pn**	**11 28 47.6**	**-2.8**
LR05	**Currie**	**5.94**	**191**		Pn	**Pn**	**11 28 56.4**	**-1.0**
AC04	**Llanos de Chal**	**6.21**	**355**		Pn	**Pn**	**11 29 00.3**	**-0.8**
PLCA	**Paso Flores**	**6.31**	**181**		Pn	**Pn**	**11 29 02.9**	**+0.3**
PLCA	**Paso Flores**	**6.31**	**181**		P	**Pn**	**11 29 03.2**	**+0.6**
	comp=Z,5.0nm,0.5s,baz=2.3,slow=13,SNR=33							
GO03	**Copiap**	**6.80**	**2**			**Pn**	**11 29 07.6**	**-1.7**
LL03	**Petrohue**	**6.89**	**192**		Pn	**Pn**	**11 29 10.0**	**-0.3**
VA04	**Juan Fernndez**	**6.98**	**274**		Pn	**Pn**	**11 29 13.1**	**+1.5**
AC02	**Maricunga**	**7.64**	**9**		Pn	**Pn**	**11 29 19.4**	**-1.7**
TRQA	**Tornquist**	**7.77**	**120**		Pn	**Pn**	**11 29 22.1**	**-0.2**
LL01	**San Ignacio de**	**8.10**	**190**		Pn	**Pn**	**11 29 25.1**	**-1.7**
AC01	**Pan de Azucar**	**8.24**	**359**		Pn	**Pn**	**11 29 25.9**	**-2.8**
LL07	**Hotel Espejo d**	**8.73**	**195**		Pn	**Pn**	**11 29 33.0**	**-2.3**
LL02	**Futaleuf**	**8.83**	**187**		Pn	**Pn**	**11 29 32.9**	**-3.8**
GO02	**Mina Guanaco**	**9.25**	**5**		Pn	**Pn**	**11 29 40.0**	**-2.7**
PB14	**IPOC Station P**	**9.75**	**0**		Pn	**Pn**	**11 29 45.9**	**-3.7**
AY01	**Puyuhuapi**	**10.14**	**189**		Pn	**Pn**	**11 29 50.9**	**-3.5**
PB15	**IPOC Station P**	**11.20**	**5**		Pn	**Pn**	**11 30 07.3**	**-1.8**
PB06	**IPOC Station P**	**11.69**	**4**		Pn	**Pn**	**11 30 13.3**	**-2.4**
LVC	**Limon Verde**	**11.84**	**7**		P	**Pn**	**11 30 17.0**	**-0.8**
	comp=Z,5.4nm,0.5s,baz=184,slow=11,SNR=6.8							
LVC					S	Sn	11 32 18.0	-10
	comp=Z,4.2nm,0.5s,baz=274,slow=13,SNR=1.6							
PB04	**IPOC Station P**	**12.04**	**1**		Pn	**Pn**	**11 30 19.7**	**-0.5**
PB09	**IPOC Station P**	**12.61**	**5**		Pn	Pn	11 30 22.7	-5.2
PB07	**IPOC Station P**	**12.65**	**3**		Pn	**Pn**	**11 30 25.5**	**-2.8**
PB02	**IPOC Station P**	**13.05**	**2**		Pn	**Pn**	**11 30 32.1**	**-1.4**
PB01	**IPOC Station P**	**13.35**	**4**			**Pn**	**11 30 36.6**	**-0.8**
PATCX	**Punta Patache**	**13.54**	**1**		Pn	**Pn**	**11 30 39.2**	**-0.7**
TA01	**Diego Aracena**	**13.79**	**1**		Pn	**Pn**	**11 30 42.4**	**-0.7**
CPUP	**Villa Florida**	**13.91**	**58**		Pn	**Pn**	**11 30 43.3**	**-1.2**
CPUP	**Villa Florida**	**13.91**	**58**		P	**Pn**	**11 30 40.9**	**-3.6**
	comp=Z,3.9nm,0.7s,baz=229,slow=12,SNR=9.7							
GO08	**Villa O'Higgin**	**14.13**	**186**		Pn	**Pn**	**11 30 46.0**	**-1.3**
PB08	**IPOC Station P**	**14.26**	**5**		Pn	**Pn**	**11 30 47.3**	**-2.3**
PLTB	**Pedras Altas**	**14.39**	**84**		Pn	**Pn**	**11 30 47.8**	**-3.0**
PB11	**IPOC Station P**	**14.61**	**3**		Pn	**Pn**	**11 30 52.4**	**-1.4**
GO01	**Chusmiza**	**14.73**	**5**		Pn	**Pn**	**11 30 55.1**	**-0.6**
PB12	**IPOC Station P**	**15.73**	**1**		Pn	**Pn**	**11 31 07.7**	**-0.2**
PB12					IAmb	IAmb	11 31 08.6	
	comp=Z,80nm,0.7s							
PB16	**IPOC Station P**	**16.03**	**3**			**Pn**	**11 31 10.8**	**-1.3**
PB16					IAmb	IAmb	11 31 13.9	
	comp=Z,38nm,0.8s							
ITAB	**Concordia**	**17.29**	**71**			**Pn**	**11 31 26.7**	**-0.2**
LPAZ	**La Paz**	**18.17**	**7**		Pn	**Pn**	**11 31 38.2**	**+0.1**
AQDB	**Aquidauana**	**19.06**	**47**		P	**P**	**11 31 46.0**	**-0.3**
MG03	**Isla Dawson**	**19.43**	**180**		P	**P**	**11 31 48.5**	**-1.5**
MG03					IAmb	IAmb	11 31 52.7	
	comp=Z,80nm,1.2s							
TRCB	**Terra Rica**	**19.44**	**58**		P	**P**	**11 31 49.6**	**-0.8**
SIV	**San Ignacio**	**20.20**	**27**		P	**P**	**11 31 57.6**	**-1.0**
	comp=Z,35nm,0.9s,baz=195,slow=8.5,SNR=118							
	comp=Z,35nm,0.9s							
USHA	**Ushuaia**	**20.47**	**177**		P	**P**	**11 32 01.7**	**+0.6**
	comp=Z,20nm,0.4s,baz=0.6,slow=0.7,SNR=1.4							
	comp=Z,20nm,0.4s							
PTLB	**Pontes e Lacer**	**21.47**	**31**		P	**P**	**11 32 11.5**	**-0.7**
PTLB					IAmb	IAmb	11 32 14.3	
	comp=Z,17nm,0.7s							
SPB	**Sao Paulo**	**22.80**	**68**		P	**P**	**11 32 23.8**	**-2.2**
SPB					IAmb	IAmb	11 32 26.5	
	comp=Z,34nm,0.8s							
VILB	**Vilhena**	**23.31**	**26**		P	**P**	**11 32 30.0**	**-1.0**
VILB					IAmb	IAmb	11 32 32.0	
	comp=Z,32nm,0.7s							
ETMB	**Extrema**	**24.79**	**10**		P	**P**	**11 32 44.8**	**+0.5**
SAML	**Samuel**	**26.21**	**16**		P	**P**	**11 32 56.5**	**-0.7**
CZSB	**Cruzeiro do Su**	**26.63**	**355**		P	**P**	**11 33 01.3**	**+0.4**
CZSB					IAmb	IAmb	11 33 07.1	
	comp=Z,24nm,1.2s							
BDFB	**Brasilia**	**27.52**	**53**		P	**P**	**11 33 07.8**	**-1.3**
BDFB					IAmb	IAmb	11 33 08.7	
	comp=Z,20nm,0.8s							
BDFB	**Brasilia**	**27.52**	**53**		P	**P**	**11 33 07.6**	**-1.4**
	comp=Z,17nm,0.7s,baz=219,slow=8.2,SNR=28							
	comp=Z,17nm,0.7s							
TBTG	**Tabatinga, AM**	**30.08**	**1**		P	**P**	**11 33 31.0**	**-0.6**
PMSA	**Palmer Station**	**30.65**	**175**		P	**P**	**11 33 35.0**	**-1.1**
MACA	**Manacapuru-AM**	**32.40**	**18**		P	**P**	**11 33 51.6**	**-0.4**
BOAV	**Boa Vista**	**37.79**	**16**		P	**P**	**11 34 37.9**	**-0.4**
BOAV					IAmb	IAmb	11 34 38.6	
	comp=Z,13nm,0.7s							
RCBR	**Riachuelo**	**42.77**	**56**		P	**P**	**11 35 19.6**	**+0.1**
RCBR					IAmb	IAmb	11 35 30.6	
	comp=Z,22nm,1.4s							
SDV	**Santo Domingo**	**43.06**	**360**		P	**P**	**11 35 21.6**	**-0.2**
BAUV	**El Baul**	**43.18**	**4**		P	**P**	**11 35 22.2**	**-0.3**
BAUV					IAmb	IAmb	11 35 23.1	
	comp=Z,21nm,0.7s							
BCIP	**Isla Barro Col**	**44.24**	**347**		P	**P**	**11 35 30.6**	**-0.5**
MLPR	**Magueyes Islan**	**52.19**	**4**		P	**P**	**11 36 31.5**	**-0.6**
MLPR					IAmb	IAmb	11 36 57.6	
	comp=Z,17nm,1.0s							
CELP	**Cerrillos**	**52.32**	**5**		P	**P**	**11 36 33.4**	**+0.2**
QSPA	**South Pole Qui**	**55.83**	**180**		P	**P**	**11 36 59.9**	**+1.6**
QSPA					IAmb	IAmb	11 37 00.8	
	comp=Z,19nm,1.1s							
QSPA	**South Pole Qui**	**55.83**	**180**		P	**P**	**11 36 59.7**	**+1.4**
	comp=Z,9.3nm,0.8s,baz=158,slow=0.3,SNR=59							
	comp=Z,9.3nm,0.8s							
VNDA	**Vanda**	**63.95**	**191**		P	**P**	**11 37 55.6**	**+2.1**
	comp=Z,2.6nm,0.8s,baz=127,slow=6.2,SNR=2.4							
	comp=Z,2.6nm,0.8s							
GOGA	**Godfrey**	**68.56**	**348**		P	**P**	**11 38 23.7**	**+0.4**
HNDO	**Hondo**	**69.17**	**333**		P	**P**	**11 38 29.0**	**+1.8**
Z47A	**Carrollton**	**69.25**	**344**		P	**P**	**11 38 28.5**	**+0.8**
Z47A					IAmb	IAmb	11 38 47.5	
	comp=Z,22nm,1.4s							
SAND	**Sanderson**	**70.65**	**331**		P	**P**	**11 38 38.2**	**+1.8**
CPCT	**Cooper Cave**	**70.73**	**348**		P	**P**	**11 38 37.2**	**+0.6**
CPCT					IAmb	IAmb	11 38 47.0	
	comp=Z,11nm,1.3s							
TXAR	**Lajitas Array**	**70.73**	**330**		P	**P**	**11 38 38.6**	**+1.7**
TXAR	**Lajitas Array**	**70.73**	**330**		P	**P**	**11 38 38.0**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=156,slow=9.8,SNR=17							
	comp=Z,0.8nm,0.5s							
TX31	**Lajitas Ar. Si**	**70.73**	**330**		P	**P**	**11 38 38.5**	**+1.5**
LIC	**Lamto**	**73.68**	**70**	⇑	*iP*	**P**	**11 38 54.5**	**-0.2**
	comp=Z,12nm,0.6s							
TIC	**Toumodi**	**73.95**	**70**	⇑	*iP*	**P**	**11 38 56.3**	**0.0**
	comp=Z,8.3nm,0.2s							
KIC	**Kosan Boka**	**73.99**	**71**	⇑	*iP*	**P**	**11 38 56.5**	**-0.1**
	comp=Z,18nm,0.6s							
DBIC	**Dimbokro**	**74.09**	**70**		P	**P**	**11 38 57.2**	**+0.1**
	comp=Z,8.7nm,0.7s,baz=206,slow=5.2,SNR=12							
	comp=Z,8.7nm,0.7s							
R40A	**Maddies Statio**	**75.11**	**342**		P	**P**	**11 39 03.2**	**+0.8**
BOSA	**Boshof**	**78.73**	**117**		P	**P**	**11 39 23.0**	**-0.3**
BOSA	**Boshof**	**78.73**	**117**		P	**P**	**11 39 23.5**	**+0.1**
	comp=Z,4.6nm,0.8s,baz=222,slow=4.3,SNR=6.5							
	comp=Z,4.6nm,0.8s							
E46A	**Sault Ste Mari**	**81.37**	**350**		P	**P**	**11 39 37.0**	**+0.3**
E46A					IAmb	IAmb	11 39 47.9	
	comp=Z,38nm,1.4s							
TOA0	**Torodi Ar. Sit**	**83.14**	**69**		P	**P**	**11 39 45.6**	**-1.1**
TOA0					IAmb	IAmb	11 39 47.8	
	comp=Z,9.7nm,0.7s							
TORD	**Torodi Ar. Bea**	**83.14**	**69**		P	**P**	**11 39 46.4**	**-0.3**
	comp=Z,7.9nm,0.7s,baz=218,slow=5.8,SNR=24							
	comp=Z,7.9nm,0.7s							
PDAR	**Pinedale Array**	**84.72**	**332**		P	**P**	**11 39 56.0**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=152,slow=8.2,SNR=4.0							
	comp=Z,0.6nm,0.7s							
NVAR	**Mina Array Bea**	**84.97**	**324**		P	**P**	**11 39 58.0**	**+2.2**
	comp=Z,0.5nm,0.5s,baz=163,slow=6.6,SNR=2.1							
	comp=Z,0.5nm,0.5s							
HPAH	**Hawaii Prepara**	**97.28**	**289**		P	**P**	**11 40 53.6**	**0.0**
IMAR	**Indian Mountai**	**118.27**	**333**		PKPdf	**PKiKP**	**11 46 07.5**	**+1.4**
D19K	**Kuna River**	**120.69**	**335**		PKPdf	**PKiKP**	**11 46 12.3**	**+1.5**
WRA	**Warramunga Arr**	**121.02**	**207**		PKP	**PKPdf**	**11 46 12.4**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=172,slow=1.9,SNR=5.5							
FINES	**FINESS Array B**	**122.59**	**35**		PKPdf	**PKiKP**	**11 46 16.4**	**+1.7**
ATKA	**Atka Island**	**124.34**	**314**		PKPdf	**PKiKP**	**11 46 20.0**	**+1.7**
BVAR	**Borovoye Array**	**146.69**	**44**		PKPbc	**PKPab**	**11 47 01.9**	**-0.6**
	comp=Z,3.1nm,0.5s,baz=295,slow=3.2,SNR=22							
KURBB	**Kurchatov Arra**	**152.26**	**45**		PKPbc	**PKPbc**	**11 47 15.3**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=304,slow=2.9,SNR=3.7							
ZALV	**Zalesovo Beam**	**153.86**	**34**		PKPbc	**PKPbc**	**11 47 18.5**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=357,slow=2.9,SNR=2.5							
ZALV					PKPab	**PKPab**	**11 47 30.7**	**-1.3**
	comp=Z,2.0nm,0.7s,baz=302,slow=4.9,SNR=5.5							
MKAR	**Makanchi Array**	**156.04**	**51**		PKPab	**PKPab**	**11 47 40.9**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=279,slow=2.7,SNR=7.8							
MKAR					PP	**PP**	**11 51 18.4**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=339,slow=3.7,SNR=3.8							

JMA 02 11:29:44.3±0.2, 24°2N±0°.5×123°.8E±0°.5, h15km±2km, MV0.7/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.12**	**320**	P		P	Pg	11 29 47.8	0.0
JKRS	**Kuro-shima**	**0.18**	**92**	P		P	Pg	11 29 48.6	0.0
JKRS				*eS*		Sg	Sg	11 29 52.0	+0.5
HATJ	**Hateruma jima**	**0.19**	**182**	P		P	Pg	11 29 48.6	-0.2
HATJ				*eS*		Sg	Sg	11 29 52.0	+0.3
JIJ	**Ishigaki jima**	**0.32**	**68**	*eP*		P	Pg	11 29 50.8	-0.3
JIJ				*eS*		Sg	Sg	11 29 55.5	-0.2
JISG	**Ishigakijimahi**	**0.57**	**53**	P		P	Pg	11 29 55.7	+0.2

TAP 02 11:29:50.0, 24°.16N×121°.72E, h14km, ML1.5, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.09**	**267**	*i* P		P	Pg	11 29 53.6	+0.5
	baz=266								
ETL				*i* S		Sg	Sg	11 29 56.2	+1.2
	baz=266								
NACB	**Ninganchiao**	**0.11**	**275**	P		P	Pb	11 29 53.7	-0.2
	baz=275								
NACB				S		Sb	Sb	11 29 56.4	-0.1
	baz=275								
TWD	**Chiawan**	**0.14**	**233**	*i* P		P	Pb	11 29 54.0	-0.4
	baz=231								
TWD				*i* S		Sb	Sb	11 29 57.0	-0.2
	baz=231								
EAHA	**Aohua**	**0.17**	**7**	*eP*		P	Pb	11 29 54.7	-0.2
	baz=6.0								
EAHA				*eS*		Sb	Sb	11 29 57.9	-0.2
	baz=6.0								
ETLH	**Xiulin Townshi**	**0.22**	**281**	P		P	Pb	11 29 55.6	-0.2
	baz=281								
ETLH				S		Sb	Sb	11 29 59.5	-0.3
	baz=281								
ENA	**Nanau**	**0.27**	**5**	*eP*		P	Pb	11 29 56.1	-0.4
	baz=6.0								
ENA				*eS*		Sb	Sb	11 30 00.4	-0.6
	baz

IDC ***02*** *11:46:23.2±1.3, 6.15S×137.02E, h0km, mb3.6/3, mbtmp3.5/5, ML1.3/1, Error ellipse: s-maj=41.0km s-min=27.6km az=60.0*

ISC 02 11:46:28.5±1.0, 6.2S±0.2×143.0E±0.2, h35km, n6, σ0§53/6, mb3.6/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.23**	**127**	Pn	**Pn**	**11 47 44.2**	**0.0**
	0.8nm,0.3s,baz=270,slow=14,SNR=2.0						
PMG				Sn	**Sn**	**11 48 43.5**	**+0.3**
	1.5nm,0.3s,baz=108,slow=16,SNR=6.0						
	3.2nm,0.4s						
WRA	**Warramunga Arr**	**16.00**	**211**	Pn	Pn	11 50 04.5	-6.5
	0.2nm,0.3s,baz=31,slow=14,SNR=6.2						
WRA				Sn	Sn	11 52 53.3	-14
	0.1nm,0.3s,baz=96,slow=34,SNR=1.8						
WRA				Lg	Lg	11 54 47.3	
	baz=38,slow=27,SNR=2.6						
ASAR	**Alice Springs**	**19.41**	**206**	P	**P**	**11 50 51.5**	**-0.3**
	1.1nm,0.6s,baz=38,slow=7.7,SNR=27						
MKAR	**Makanchi Array**	**75.15**	**322**	P	**P**	**11 58 07.7**	**+0.4**
	0.1nm,0.5s,baz=123,slow=5.3,SNR=1.4						
	0.1nm,0.5s						
BVAR	**Borovoye Array**	**84.60**	**325**	P	**P**	**11 58 58.5**	**+0.3**
	0.5nm,0.5s,baz=103,slow=6.5,SNR=3.7						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**87.29**	**24**	P	**P**	**11 59 10.7**	**-0.7**
	0.2nm,0.6s,baz=257,slow=5.1,SNR=6.9						
	0.2nm,0.6s						

IDC ***02*** *11:46:54.6±2.3, 23.95S×178.97E, h541km±22km, mb3.3/7, mbtmp4.2/8, Error ellipse: s-maj=23.3km s-min=20.1km az=15.0*

NEIC ***02*** *11:46:56.9±1.9, 24.1S±0.2×179.0E±0.1, h563km±12km, mb4.2/20, Error ellipse: s-maj=23.3km s-min=16.5km az=207.0*

ISC 02 11:46:55.1±0.7, 24.12S±0.08×179.07E±0.10, h548km, n57, σ1§57/67, mb4.2/15, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.78**	**153**	P	**P**	**11 48 32.4**	**+0.9**
RAO				S	**S**	**11 49 53.5**	**+3.1**
OUENC	**Ouen Island, N**	**11.37**	**276**	P	**P**	**11 49 27.9**	**+0.7**
DZM	**Mont Dzumac**	**11.80**	**277**	P	**P**	**11 49 32.5**	**+0.7**
DZM	**Mont Dzumac**	**11.80**	**277**	P	**P**	**11 49 31.6**	**-0.2**
	2.3nm,0.5s,baz=113,slow=19,SNR=6.4						
OUZ	**Omahuta**	**12.04**	**202**	P	**P**	**11 49 35.9**	**+2.0**
WCZ	**Waipu Caves**	**12.47**	**198**	P	**P**	**11 49 41.5**	**+3.2**
WIAZ	**Waiheke Island**	**13.08**	**194**	P	**P**	**11 49 46.5**	**+1.9**
RVAZ	**Riverhead Bore**	**13.19**	**196**	P	**P**	**11 49 47.8**	**+2.1**
ETAZ	**East Tamaki Re**	**13.28**	**195**	P	**P**	**11 49 48.6**	**+1.9**
WTAZ	**Waitarua**	**13.34**	**196**	P	**P**	**11 49 49.5**	**+2.2**
MKAZ	**Moumakai**	**13.37**	**194**	P	**P**	**11 49 49.6**	**+2.0**
AWAZ	**Awhitu Peninsu**	**13.45**	**195**	P	**P**	**11 49 50.4**	**+2.0**
HAZ	**Te Kaha**	**13.64**	**184**	P	**P**	**11 49 48.7**	**-1.6**
HAZ				S	**S**	**11 52 12.3**	**-2.4**
WMGZ	**Waiomatatini S**	**13.67**	**182**	P	**P**	**11 49 50.9**	**+0.2**
WMGZ				S	**S**	**11 52 13.6**	**-1.6**
RUGZ	**Raukumara Rang**	**13.85**	**185**	P	**P**	**11 49 52.0**	**-0.8**
RUGZ				S	**S**	**11 52 15.8**	**-3.2**
TOZ	**Tahuroa Road**	**13.91**	**192**	P	**P**	**11 49 54.9**	**+1.7**
TWGZ	**Tauwhareparae**	**14.04**	**184**	P	**P**	**11 49 53.1**	**-1.5**
TWGZ				S	**S**	**11 52 20.3**	**-2.2**
URZ	**Urewera**	**14.19**	**186**	P	**P**	**11 49 54.3**	**-1.8**
	24nm,0.5s,baz=336,slow=0.4,SNR=22						
URZ				S	**S**	**11 52 22.0**	**-3.2**
	26nm,0.9s,baz=321,slow=23,SNR=8.5						
URZ	**Urewera**	**14.19**	**186**	P	**P**	**11 49 54.3**	**-1.8**
URZ				S	**S**	**11 52 23.4**	**-1.8**
HIZ	**Hauiti**	**14.79**	**193**	P	**P**	**11 50 03.9**	**+1.6**
TSZ	**Takapari Road**	**16.11**	**189**	P	**P**	**11 50 12.4**	**-3.2**
TSZ				S	**S**	**11 52 56.2**	**-3.1**
BFZ	**Birch Farm**	**16.68**	**187**	P	**P**	**11 50 20.8**	**-0.1**
MRZ	**Mangatainoka R**	**16.75**	**189**	P	**P**	**11 50 20.9**	**-0.6**
TCW	**Tory Channel**	**17.51**	**192**	P	**P**	**11 50 28.1**	**-0.2**
SNZO	**South Karori**	**17.53**	**191**	P	**P**	**11 50 29.5**	**+1.0**
ARMA	**Armidale**	**25.15**	**250**	P	**P**	**11 51 38.9**	**+1.4**
ARMA				IAmb	IAmb	11 51 46.3	
	comp=Z,9.1nm,1.1s						
CAN	**Canberra**	**28.30**	**240**	P	**P**	**11 52 05.7**	**+0.7**
CAN				IAmb	IAmb	11 52 06.5	
	comp=Z,10nm,1.0s						
CTA	**Charters Tower**	**30.63**	**271**	P	**P**	**11 52 24.8**	**-0.5**
	comp=Z,4.4nm,0.3s,baz=97,slow=9.7,SNR=30						
	comp=Z,4.4nm,0.3s						
CTAO	**Charters Tower**	**30.63**	**271**	P	**P**	**11 52 25.2**	**0.0**
CTAO				IAmb	IAmb	11 52 25.5	
	comp=Z,4.6nm,0.6s						
TOO	**Toolangi**	**31.61**	**237**	P	**P**	**11 52 34.4**	**+0.9**
TOO				IAmb	IAmb	11 52 35.1	
	comp=Z,6.8nm,0.8s						
TAU	**Tasmania Unive**	**32.16**	**227**	P	**P**	**11 52 38.9**	**+0.9**
STKA	**Stephens Creek**	**33.85**	**248**	P	**P**	**11 52 53.0**	**+0.5**
STKA	**Stephens Creek**	**33.85**	**248**	P	**P**	**11 52 51.8**	**-0.7**
	comp=Z,4.3nm,0.6s,baz=108,slow=12,SNR=6.4						
	comp=Z,4.3nm,0.6s						
BBOO	**Buckleboo**	**38.58**	**247**	P	**P**	**11 53 30.9**	**-0.5**
BBOO				IAmb	IAmb	11 53 53.5	
	comp=Z,8.3nm,1.2s						
AS31	**Alice Springs**	**41.16**	**261**	P	**P**	**11 53 52.0**	**-0.3**
ASAR	**Alice Springs**	**41.16**	**261**	P	**P**	**11 53 52.0**	**-0.4**
ASAR	**Alice Springs**	**41.16**	**261**	P	**P**	**11 53 51.6**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=93,slow=8.6,SNR=20						
ASAR				PcP	**PcP**	**11 55 37.8**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=98,slow=4.8,SNR=3.1						
ASAR				ScP	**ScP**	**11 58 37.7**	**+1.4**
	comp=Z,0.7nm,0.9s,baz=101,slow=4.8,SNR=4.5						
	comp=Z,2.1nm,0.8s						
WR0	**Warramunga Arr**	**41.36**	**267**	P	**P**	**11 53 52.6**	**-1.2**
WRAB	**Tennant Creek**	**41.54**	**267**	P	**P**	**11 53 54.1**	**-1.2**
WRAB				IAmb	IAmb	11 54 14.4	
	comp=Z,4.2nm,1.1s						
WB0	**Warramunga Arr**	**41.54**	**267**	P	**P**	**11 53 53.9**	**-1.4**
WB0				IAmb	IAmb	11 53 54.6	
	comp=Z,3.8nm,0.7s						
WRA	**Warramunga Arr**	**41.54**	**267**	P	**P**	**11 53 54.1**	**-1.3**
WRA	**Warramunga Arr**	**41.54**	**267**	P	**P**	**11 53 53.7**	**-1.7**
	comp=Z,1.9nm,0.5s,baz=90,slow=5.8,SNR=32						
WRA				ScP	**ScP**	**11 58 38.7**	**+0.8**
	comp=Z,1.0nm,0.9s,baz=97,slow=3.7,SNR=4.6						
	comp=Z,1.9nm,0.5s						
FORT	**Forrest**	**45.44**	**250**	P	**P**	**11 54 24.5**	**-0.9**
FORT				IAmb	IAmb	11 54 26.4	
	comp=Z,13nm,0.8s						
KNRA	**Kununurra**	**47.84**	**270**	P	**P**	**11 54 43.0**	**-0.7**
KNRA				IAmb	IAmb	11 54 50.3	
	comp=Z,9.9nm,1.1s						
QSPA	**South Pole Qui**	**65.96**	**180**	P	**P**	**11 56 48.7**	**+1.6**
QSPA				IAmb	IAmb	11 56 50.6	
	comp=Z,5.4nm,0.9s						
QSPA	**South Pole Qui**	**65.96**	**180**	P	**P**	**11 56 48.5**	**+1.3**
	comp=Z,4.1nm,0.6s,baz=50,slow=2.2,SNR=54						
	comp=Z,4.1nm,0.6s						
BELA	**Belgrano 2**	**76.32**	**173**	P	**P**	**11 57 47.9**	**+0.4**
M17K	**Holitna River**	**87.31**	**11**	P	**P**	**11 58 44.3**	**+0.9**
TXAR	**Lajitas Array**	**91.27**	**58**	P	**P**	**11 59 03.1**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=217,slow=6.0,SNR=5.0						
	comp=Z,0.4nm,0.7s						
ILAR	**Eielson Array**	**92.45**	**14**	P	**P**	**11 59 07.0**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=206,slow=5.9,SNR=2.2						
	comp=Z,0.2nm,0.7s						
BVAR	**Borovoye Array**	**120.04**	**319**	PKP	**PKPdf**	**12 04 41.5**	**-1.9**
	comp=Z,0.6nm,0.4s,baz=77,slow=2.4,SNR=4.7						
ARCES	**ARCESS Array B**	**131.93**	**348**	PKP	**PKPdf**	**12 05 05.4**	**-0.3**
	comp=Z,4.8nm,1.1s,baz=29,slow=2.1,SNR=4.9						
HFS	**Hagfors**	**142.59**	**348**	PKhKP	PKPpre	12 05 21.1	
	comp=Z,3.2nm,0.4s,baz=67,slow=3.7,SNR=23						
MMAI	**Mount Meron Ar**	**147.01**	**294**	PKPbc	**PKPbc**	**12 05 36.3**	**-0.8**
	comp=Z,1.1nm,0.2s,baz=54,slow=7.3,SNR=4.7						
BRTR	**Keskin Array B**	**147.03**	**306**	PKPbc	**PKPbc**	**12 05 35.5**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=158,slow=4.2,SNR=4.2						
EKA	**Eskdalemuir Ar**	**148.78**	**2**	PKPbc	**PKPbc**	**12 05 39.7**	**-0.9**
	comp=Z,4.0nm,0.8s,baz=348,slow=1.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**168.81**	**193**	PKPab	**PKPab**	**12 07 14.4**	**0.0**
	comp=Z,1.3nm,0.7s,baz=156,slow=3.3,SNR=6.7						

IDC 02 12:01:30.1±5.9, 0.93N×126.90E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=363.2km s-min=31.5km az=87.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.99**	**161**	P	P	12 06 24.7	-1.3
	0.6nm,0.3s,baz=332,slow=12,SNR=34						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**25.38**	**165**	P	P	12 07 00.2	+0.9
	1.2nm,0.7s,baz=342,slow=11,SNR=24						
	1.2nm,0.7s						
ILAR	**Eielson Array**	**87.54**	**25**	P	P	12 14 19.6	-0.1
	0.3nm,0.8s,baz=246,slow=4.9,SNR=5.9						
	0.3nm,0.8s						

JMA 02 12:06:47.7±0.2, 24.2N±0.3×123.8E±0.4, h14km±1km, MV0.5/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.12**	**320**	P	Pg	12 06 51.1	0.0
IRIF				S	Sg	12 06 53.6	+0.2
JKRS	**Kuro-shima**	**0.18**	**91**	P	Pg	12 06 51.8	-0.1
JKRS				S	Sg	12 06 55.3	+0.6
HATJ	**Hateruma jima**	**0.18**	**183**	P	Pg	12 06 51.9	-0.1
HATJ				S	Sg	12 06 55.3	+0.4
JIJ	**Ishigaki jima**	**0.32**	**68**	P	Pg	12 06 54.5	+0.1
JIJ				S	Sg	12 06 58.6	-0.3
JISG	**Ishigakijimahi**	**0.57**	**53**	P	Pg	12 06 58.8	0.0
JISG				S	Sb	12 07 07.1	-0.3

TAP 02 12:06:58.8, 24.24N×121.76E, h7km, ML1.9, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EAHA	**Aohua**	**0.09**	**346**	*i* P	Pg	12 07 00.9	0.0
	baz=346						
EAHA				*i* S	Sg	12 07 02.7	+0.3
	baz=346						
ETL	**Fush Village**	**0.15**	**238**	*i* P	Pg	12 07 01.8	-0.1
	baz=237						
ETL				*i* S	Sg	12 07 04.4	+0.3
	baz=237						
NACB	**Ninganchiao**	**0.17**	**247**	*i* P	Pg	12 07 02.0	-0.2
	baz=246						
NACB				*i* S	Sg	12 07 04.7	+0.2
	baz=246						
ENA	**Nanau**	**0.19**	**354**	*i* P	Pg	12 07 02.6	0.0
	baz=355						
ENA				*i* S	Sg	12 07 05.3	+0.1
	baz=355						
EWUT	**Wuta**	**0.20**	**4**	*i* P	Pg	12 07 03.0	+0.1
	baz=3.0						
EWUT				*i* S	Sg	12 07 05.7	0.0
	baz=3.0						
TWD	**Chiawan**	**0.22**	**224**	*i* P	Pg	12 07 03.0	-0.2
	baz=222						
TWD				*i* S	Sg	12 07 06.2	0.0
	baz=222						
ETLH	**Xiulin Townshi**	**0.26**	**263**	*i* P	Pg	12 07 03.9	0.0
	baz=262						
ETLH				*i* S	Sg	12 07 07.7	+0.3
	baz=262						
ESAO	**Su ao**	**0.34**	**12**	*i* P	Pg	12 07 05.2	-0.3
	baz=12						
ESAO				*i* S	Sg	12 07 09.6	-0.5
	baz=12						
LATG	**Datong**	**0.36**	**324**	*i* P	Pg	12 07 06.0	0.0
	baz=323						
LATG				*i* S	Sg	12 07 11.1	+0.3
	baz=323						
ETM	**Tongmen**	**0.37**	**222**	*i* P	Pg	12 07 05.7	-0.3
	baz=222						
ETM				*i* S	Sg	12 07 10.6	-0.2
	baz=222						
TWC	**Suao**	**0.38**	**12**	*i* P	Pg	12 07 06.0	-0.2
	baz=13						
TWC				*i* S	Sg	12 07 11.3	+0.2
	baz=13						
LXIB	**Xiulin Townshi**	**0.39**	**236**	*i* P	Pg	12 07 05.8	-0.6
	baz=235						
LXIB				*i* S	Sg	12 07 12.2	+0.7
	baz=235						
NNSB	**Datong**	**0.39**	**298**	*i* P	Pg	12 07 06.8	+0.3
	baz=298						
NNSB				*i* S	Sg	12 07 11.5	-0.2
	baz=298						
NNS	**Nan Shan**	**0.41**	**299**	*i* P	Pg	12 07 07.0	+0.2
	baz=299						
NNS				*i* S	Sg	12 07 12.1	-0.1
	baz=299						
NDT	**Datong Townshi**	**0.43**	**328**	*i* P	Pg	12 07 07.4	+0.3
	baz=327						
NDT				*i* S	Sg	12 07 13.5	+0.8
	baz=327						
ENTT	**Nioudou**	**0.44**	**336**	*i* P	Pg	12 07 07.4	+0.1
	baz=336						
ENTT				*i* S	Sg	12 07 13.3	+0.3
	baz=336						
WHF	**Hehuan Shan**	**0.47**	**258**	*i* P	Pg	12 07 07.7	-0.2
	baz=257						
WHF				*i* S	Sg	12 07 13.8	-0.2
	baz=257						
FUSS	**Fushou**	**0.47**	**271**	*i* P	Pg	12 07 08.2	+0.2
	baz=270						
FUSS				*i* S	Sg	12 07 14.2	0.0
	baz=270						
SHUL	**Shoufeng**	**0.49**	**202**	P	Pb	12 07 10.2	+0.4
	baz=202						
SHUL				S	Sb	12 07 19.9	+2.9
	baz=202						
TWE	**Neicheng**	**0.49**	**350**	*i* P	Pg	12 07 08.5	+0.2
	baz=351						
TWE				*i* S	Sg	12 07 14.8	+0.2
	baz=351						
ESL	**Shilin**	**0.52**	**215**	P	Pg	12 07 08.1	-0.8
	baz=214						
FUSB	**Fushanzhiwuyua**	**0.54**	**343**	P	Pg	12 07 09.6	+0.3
	baz=342						
FUSB				S	Sg	12 07 16.2	-0.1
	baz=342						
YHNB	**Yeheng**	**0.56**	**321**	*i* P	Pg	12 07 10.1	+0.5
	baz=320						
YHNB				*i* S	Sg	12 07 17.2	+0.4
	baz=320						
CHGB	**Renai**	**0.57**	**252**	P	Pg	12 07 09.8	0.0
	baz=251						
CHGB				S	Sg	12 07 17.9	+0.7
	baz=251						
NSK	**Sanguang**	**0.57**	**320**	*i* P	Pg	12 07 10.3	+0.5
	baz=320						
NSK				*i* S	Sg	12 07 17.4	+0.2
	baz=320						
NWLT	**Wulai**	**0.58**	**336**	*e*P	Pg	12 07 10.4	+0.3
	baz=336						
NWLT				*e*S	Sg	12 07 17.4	-0.3
	baz=336						
OWD	**Renai**	**0.61**	**242**	P	Pg	12 07 10.6	0.0
	baz=242						
OWD				S	Sg	12 07 19.2	+0.7
	baz=242						
WARBT	**Fenglin Townsh**	**0.62**	**214**	P	Pg	12 07 10.2	-0.6
	baz=213						
WARBT				S	Sb	12 07 20.6	-0.5
	baz=213						
WUSB	**Renai**	**0.64**	**247**	P	Pg	12 07 10.9	-0.3
	baz=247						
WUSB				S	Sg	12 07 19.5	0.0
	baz=247						
NFF	**Wufeng Townshi**	**0.71**	**304**	*e*S	Sg	12 07 21.8	+0.2
	baz=303						
TIPB	**Shuangxi**	**0.73**	**4**	P	Pg	12 07 12.8	0.0
	baz=4.0						
TIPB				S	Sg	12 07 21.8	-0.6
	baz=4.0						
VWDT	**VWDT**	**0.75**	**230**	P	Pg	12 07 13.1	-0.1
	baz=229						
VWDT				S	Sg	12 07 23.6	+0.7
	baz=229						
WHP	**Taichung City**	**0.75**	**273**	P	Pb	12 07 14.7	+0.5
	baz=272						
WHP				S	Sb	12 07 24.0	-0.6
	baz=272						
WCS	**Beigang Elemen**	**0.80**	**257**	*e*P	Pg	12 07 13.9	-0.3
	baz=256						
WCS				*e*S	Sg	12 07 24.9	+0.4
	baz=256						
EHY	**Hungye**	**0.83**	**209**	*e*P	Pg	12 07 14.8	-0.1
	baz=208						
SXI1	**Grass Mountain**	**0.86**	**7**	*e*P	Pg	12 07 15.7	+0.4
	baz=6.0						
SXI1				*e*S	Sg	12 07 26.2	-0.2
	baz=6.0						
SSLB	**Suanglung**	**0.87**	**239**	*e*P	Pg	12 07 14.9	-0.6
	baz=238						
SSLB				*e*S	Sg	12 07 25.9	-0.8
	baz=238						
YULB	**Yu-li**	**0.94**	**207**	*e*P	Pg	12 07 17.0	+0.1
	baz=206						
YULB				*e*S	Sb	12 07 30.1	-0.2
	baz=206						

IDC ***02*** *12:17:59.8±1.5, 30.26N×87.35E, h0km, mb3.6/8, mbtmp3.5/10, ML3.4/2, MS3.9/1, Error ellipse: s-maj=35.9km s-min=29.5km az=95.0*

ISC 02 12:18:01.7±1.0, 30.4N±0.1×87.5E±0.1, h10km, n13, σ1§13/12, mb3.4/8, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMLA	**Simla**	**8.95**	**277**	*ex*	Pn	12 20 14.4	+3.3
SMLA				*ex*	**Sn**	**12 21 53.5**	**+1.6**
CMAR	**Chiang Mai Arr**	**15.76**	**136**	Pn	**Pn**	**12 21 44.4**	**+0.6**
	0.1nm,0.3s,baz=328,slow=13,SNR=2.5						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**16.90**	**348**	Pn	**Pn**	**12 21 57.4**	**-0.8**
	0.1nm,0.3s,baz=158,slow=12,SNR=2.6						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**21.33**	**344**	P	**P**	**12 22 48.1**	**-0.5**
	1.3nm,1.0s,baz=154,slow=11,SNR=6.9						
	1.3nm,1.0s						
SONM	**Songino Array**	**22.67**	**34**	P	**P**	**12 23 03.7**	**+0.4**
	0.3nm,0.3s,baz=224,slow=8.1,SNR=2.2						
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**23.64**	**356**	P	**P**	**12 23 13.9**	**+0.9**
	0.7nm,0.6s,baz=187,slow=12,SNR=5.2						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**25.87**	**336**	P	**P**	**12 23 34.0**	**+0.5**
	0.4nm,0.6s,baz=160,slow=9.2,SNR=3.4						
	0.4nm,0.6s						
ASF	**Jabal al Asfar**	**42.99**	**286**	LR	LR	12 47 54.5	
	comp=Z,155nm,21.5s,baz=168,slow=42						
FINES	**FINESS Array B**	**50.24**	**327**	P	**P**	**12 26 57.0**	**-0.7**
	1.3nm,0.8s,baz=100,slow=3.4,SNR=3.6						
	1.3nm,0.8s						
ARCES	**ARCESS Array B**	**52.16**	**337**	P	**P**	**12 27 12.0**	**0.0**
	5.0nm,1.0s,baz=96,slow=7.6,SNR=6.9						
	5.0nm,1.0s						
ILAR	**Eielson Array**	**76.17**	**21**	P	**P**	**12 29 51.1**	**+1.3**
	0.2nm,0.8s,baz=303,slow=5.0,SNR=2.2						
	0.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**79.93**	**279**	P	**P**	**12 30 10.4**	**-1.0**
	0.6nm,0.5s,baz=47,slow=4.7,SNR=7.6						
	0.6nm,0.5s						
CPUP	**Villa Florida**	**148.89**	**269**	PKPbc	**PKPbc**	**12 37 48.3**	**-1.8**
	0.9nm,0.4s,baz=48,slow=2.1,SNR=3.4						

IDC ***02*** *12:18:04.5±0.8, 6.29S×143.42E, h0km, mb4.1/9, mbtmp4.1/11, ML1.6/1, MS3.7/5, Error ellipse: s-maj=32.3km s-min=17.5km az=75.0*

ISC 02 12:18:09.6±0.7, 6.4S±0.1×143.3E±0.1, h35km, n18, σ1§41/14, mb4.2/9, MS3.6/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.85**	**128**	Pn	**Pn**	**12 19 19.4**	**-0.8**
	1.8nm,0.3s,baz=344,slow=1.9,SNR=6.8						
PMG				Sn	**Sn**	**12 20 15.5**	**+0.4**
	1.6nm,0.3s,baz=357,slow=8.7,SNR=3.3						
	13nm,0.5s						
CTA	**Charters Tower**	**13.90**	**168**	Lg	Lg	12 25 29.3	
	0.1nm,0.3s,baz=61,slow=12,SNR=3.0						
WRA	**Warramunga Arr**	**16.02**	**212**	Pn	**Pn**	**12 21 49.0**	**-3.4**
	0.5nm,0.3s,baz=28,slow=13,SNR=17						
WRA				Sn	Sn	12 24 42.3	-6.7
	0.2nm,0.3s,baz=246,slow=40,SNR=1.7						
WRA				Lg	Lg	12 26 33.5	
	0.2nm,0.3s,baz=29,slow=26,SNR=5.5						
ASAR	**Alice Springs**	**19.39**	**207**	P	**P**	**12 22 34.8**	**+2.1**
	5.6nm,0.6s,baz=34,slow=9.7,SNR=106						
ASAR				S	S	12 26 02.2	-7.9
	1.1nm,0.9s,baz=17,slow=30,SNR=2.3						
ASAR				Lg	Lg	12 28 23.4	
	0.5nm,0.3s,baz=26,slow=27,SNR=6.8						
STKA	**Stephens Creek**	**25.38**	**183**	P	**P**	**12 23 35.0**	**+1.2**
	0.8nm,0.6s,baz=1.4,slow=16,SNR=2.0						
STKA				LR	LR	12 34 01.8	
	comp=Z,81nm,20.1s,baz=18,slow=38						
	0.8nm,0.6s						
DZM	**Mont Dzumac**	**27.25**	**127**	LR	LR	12 32 59.9	
	comp=Z,77nm,18.9s,baz=240,slow=33						
KSRS	**Korea Array**	**45.94**	**343**	P	**P**	**12 26 28.6**	**-0.5**
	1.0nm,0.6s,baz=166,slow=11,SNR=5.6						
	1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**50.23**	**300**	P	**P**	**12 27 02.4**	**-0.2**
	0.4nm,0.5s,baz=119,slow=6.9,SNR=1.4						
	0.4nm,0.5s						
RAR	**Rarotonga**	**56.92**	**111**	LR	LR	12 48 30.7	
	comp=Z,49nm,20.2s,baz=170,slow=32						
MKAR	**Makanchi Array**	**75.50**	**322**	P	**P**	**12 29 51.0**	**+0.6**
	2.2nm,0.8s,baz=100,slow=8.3,SNR=5.7						
	2.2nm,0.8s						
ZALV	**Zalesovo Beam**	**77.42**	**329**	P	**P**	**12 30 01.4**	**+0.3**
	0.7nm,0.4s,baz=138,slow=5.5,SNR=1.8						
	0.7nm,0.4s						
AAK	**Ala-Archa**	**79.02**	**316**	LR	LR	13 06 01.0	
	comp=Z,52nm,21.6s,baz=114,slow=36						
KURBB	**Kurchatov Arra**	**79.37**	**324**	P	**P**	**12 30 12.6**	**+0.6**
	1.0nm,0.2s,baz=116,slow=4.5,SNR=3.5						
	1.0nm,0.2s						
QSPA	**South Pole Qui**	**83.56**	**180**	P	**P**	**12 30 34.6**	**+0.6**
	1.3nm,0.5s,baz=283,slow=1.7,SNR=34						
QSPA				LR	LR	13 06 42.3	
	comp=Z,199nm,18.3s,baz=224,slow=35						
	1.3nm,0.5s						
BVAR	**Borovoye Array**	**84.95**	**325**	P	**P**	**12 30 41.2**	**+0.1**
	3.7nm,0.8s,baz=104,slow=6.1,SNR=7.1						
	3.7nm,0.8s						
ILAR	**Eielson Array**	**87.33**	**24**	P	**P**	**12 30 51.9**	**-0.7**
	1.7nm,1.1s,baz=253,slow=5.3,SNR=9.0						
	1.7nm,1.1s						
TORD	**Torodi Ar. Bea**	**141.60**	**283**	PKhKP	PKPpre	12 37 34.7	
	0.3nm,

PALK Pallekele 13.76 281 Pn **Pn** **12 22 44.2 +0.6**
PALK Pallekele 13.76 281 Pn **Pn** **12 22 42.9 -0.7**
0.4nm,0.3s,baz=225,slow=10.0,SNR=1.9
PALK Sn Sn 12 25 00.1 -15
2.0nm,0.3s,baz=291,slow=18,SNR=12
PALK LR LR 12 27 47.8
comp=Z,268nm,18.7s,baz=224,slow=36
1.6nm,0.3s
CM31 Chiang Mai Arr 14.27 18 Pn **Pn** **12 22 51.7 +1.2**
CMAR Chiang Mai Arr 14.27 18 Pn **Pn** **12 22 51.7 +1.2**
CMAR Chiang Mai Arr 14.27 18 Pn **Pn** **12 22 50.8 +0.2**
1.3nm,0.3s,baz=212,slow=16,SNR=21
CMAR LR LR 12 28 30.5
comp=Z,89nm,18.6s,baz=210,slow=38
CHTO Chiang Mai 14.61 18 Pn **Pn** **12 22 55.9 +0.9**
CHTO Chiang Mai 14.61 18 P **P** **12 23 00.3 -0.3**
PHRA Phrae 14.75 23 Pn **Pn** **12 22 57.8 +0.8**
UBPT Khong Chiam 15.10 46 Pn **Pn** **12 22 59.1 -2.4**
CRAI Chiangrai 16.39 21 Pn **Pn** **12 23 17.7 -0.4**
LEM Lembang 17.62 131 LR LR 12 31 05.0
comp=Z,141nm,20.2s,baz=292,slow=40
SBUM Sibu 18.02 97 **Pn** **12 23 36.6 -1.9**
SLVN Son La 18.85 29 P **P** **12 23 46.5 -1.1**
QIZ Qiongzhong 20.70 46 P Pn 12 24 10.5 +0.1
QIZ sP pwP 12 24 22.8 +1.9
QIZ S Sn 12 28 03.2 +0.1
QIZ sS sS 12 28 17.8 +4.9
QIZ LR LR
comp=N,180nm,10.1s
QIZ LR LR
comp=E,100nm,9.3s
QIZ LR LR
comp=Z,170nm,13.5s
KMI Kunming 21.73 21 ⇓P **P** **12 24 22.1 +3.1**
KMI pP pP 12 24 30.6 +1.8
KMI pmax pmax
comp=Z,14nm,1.1s
KMI LR LR
comp=Z,160nm,16.6s
PZH PanZhiHua 22.68 17 P **P** **12 24 29.3 +0.2**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,150nm,6.0s
GYA Guiyang 24.52 27⇑*iP* **P** **12 24 47.0 +0.2**
GYA pP pP 12 24 55.5 -2.0
GYA sP pwP 12 25 02.1 +1.1
GYA pmax pmax
comp=Z,31nm,0.7s
LSA Lhasa 24.91 353 P **P** **12 24 51.9 +1.3**
LSA IAmb IAmb 12 24 52.9
comp=Z,16nm,0.6s
H08S3 Diego Garcia H 25.06 241 T T 12 50 40.6
baz=60
H08S2 Diego Garcia H 25.06 240 T T 12 50 37.1
baz=60
H08S1 Diego Carcia H 25.08 240 T T 12 50 41.8
baz=60
TOLI2 Tolitoli 26.68 97 P **P** **12 25 07.5 +1.1**
TOLI2 IAmb IAmb 12 25 14.6
comp=Z,16nm,1.2s
TOLI2 Tolitoli 26.68 97 P **P** **12 25 06.6 +0.3**
LUWI Luwuk 29.02 101 P **P** **12 25 26.6 -0.7**
LUWI IAmb IAmb 12 25 50.2
comp=Z,19nm,0.7s
ENH Enshi 29.06 28 P **P** **12 25 26.5 -1.0**
ENH IAmb IAmb 12 25 26.9
comp=Z,11nm,0.7s
DAV Davao City (W) 31.17 84 LR LR 12 40 59.7
comp=Z,344nm,18.1s,baz=285,slow=42
WHN Wuhan 31.78 34 ⇑P **P** **12 25 52.2 +0.8**
WHN sP **pwP** **12 26 05.9 +0.2**
XAN Xi'an 32.07 23 ⇑P **P** **12 25 52.5 -1.5**
XAN pP pP 12 26 02.8 -2.1
XAN sP pwP 12 26 05.4 -2.5
XAN S **S** **12 30 57.2 -6.0**
XAN pmax pmax
comp=Z,37nm,0.8s
XAN pmax pmax
comp=Z,240nm,4.7s
NACB Ninganchiao 32.54 51 P **P** **12 25 55.2 -3.0**
NACB IAmb IAmb 12 26 05.0
comp=Z,21nm,1.0s
TATO Taipei 32.88 50 P **P** **12 26 00.2 -1.0**
SOEI Soe 33.17 116 P **P** **12 26 01.8 -2.2**
LYN LuoYang 34.02 27 *eP* **P** **12 26 10.4 -0.5**
LYN pmax pmax
comp=Z,34nm,0.5s
NIL Nilore 34.73 328 P **P** **12 26 15.1 -2.0**
NIL IAmb IAmb 12 26 29.4
comp=Z,9nm,0.6s
GTA Gaotai 34.77 7 P **P** **12 26 16.9 -0.7**
GTA pP pP 12 26 23.1 -5.4
GTA pmax pmax
comp=Z,10.0nm,1.0s
NJ2 Nanjing 35.51 37 *eP* **P** **12 26 27.1 +3.3**
NJ2 pmax pmax
comp=Z,19nm,1.4s
MBWA Marble Bar 35.90 137 P **P** **12 26 26.2 -1.1**
PSA00 Pilbara Seismi 36.26 137 P **P** **12 26 30.0 -0.4**
PSA00 IAmb IAmb 12 26 45.1
comp=Z,27nm,1.4s
HNS HongShan 37.39 27 ⇑P **P** **12 26 40.2 +0.4**
HNS pmax pmax
comp=Z,19nm,0.9s
KSH Kashi 38.30 337 P **P** **12 26 50.0 +2.3**
KSH pP pP 12 26 59.1 +0.2
KSH LR LR
comp=N,410nm,15.1s
KSH LR LR
comp=E,230nm,16.5s
FITZ Fitzroy Crossi 38.39 127 P **P** **12 26 49.7 +1.2**
FAKI Fak Fak 38.67 101 IAmb IAmb 12 26 50.5
comp=Z,17nm,0.9s
FAKI P **P** **12 26 51.8 +0.8**
FAKI Fak Fak 38.67 101 P **P** **12 26 51.6 +0.6**
SAUI Saumlaki 39.03 109 P **P** **12 26 53.0 -0.9**
ROCAM Rodrigues Isla 39.03 230 P **P** **12 26 50.6 -3.2**
HHC Hu-ho-hao-te 39.05 21 *eP* **P** **12 26 56.7 +2.8**
HHC pmax pmax
comp=Z,7.0nm,0.5s
HHC pmax pmax
comp=Z,280nm,5.3s
JOW Kunigami 39.09 52 P **P** **12 26 54.7 +0.5**
JOW IAmb IAmb 12 26 55.3
comp=Z,18nm,0.8s
JOW Kunigami 39.09 52 LR LR 12 43 16.1
comp=Z,74nm,18.9s,baz=326,slow=37
WMQ Urumqi 39.26 352 *eP* **P** **12 26 57.8 +2.3**
KNRA Kununurra 39.73 122 P **P** **12 26 59.6 -0.1**
NRN Naryn 39.95 338 P **P** **12 26 59.9 -1.7**
DRK Karamyk 40.05 333 P **P** **12 27 03.3 +0.9**
DRK IAmb IAmb 12 27 25.1
comp=Z,19nm,0.8s
BJI Beijing 40.21 26 P **P** **12 27 04.1 +0.8**
BJI pmax pmax
comp=Z,4.0nm,0.8s
BJI pmax pmax
comp=Z,99nm,4.6s
CHGR Chuyangaron 40.69 329 P **P** **12 27 06.9 -0.6**
CHGR IAmb IAmb 12 27 07.5
comp=Z,8.0nm,0.8s
SIMJ Simiganj 40.76 329 P **P** **12 27 07.7 -0.5**
BOOM Boomskoye usch 40.90 339 P **P** **12 27 09.9 +0.6**
BOOM IAmb IAmb 12 27 36.0
comp=Z,39nm,1.5s
BTK Batken 40.97 332 P **P** **12 27 11.7 +1.9**
BTK IAmb IAmb 12 27 28.0
comp=Z,14nm,1.4s
ARSB Arslanbob 41.04 335 P **P** **12 27 10.8 +0.4**
AAK Ala-Archa 41.56 338 P **P** **12 27 16.2 +1.6**
AAK IAmb IAmb 12 27 41.6
comp=Z,14nm,1.5s
AAK Ala-Archa 41.56 338 P **P** **12 27 13.4 -1.2**
comp=Z,0.9nm,0.8s,baz=125,slow=7.5,SNR=1.7
AAK LR LR 12 46 02.5
comp=Z,62nm,18.4s,baz=193,slow=38
comp=Z,0.9nm,0.8s
MK31 Makanchi Array 43.07 348 P **P** **12 27 27.0 +0.3**
MK31 IAmb IAmb 12 27 27.9
comp=Z,8.8nm,0.9s
MKAR Makanchi Array 43.07 348 P **P** **12 27 26.9 +0.2**
MKAR Makanchi Array 43.07 348 P **P** **12 27 26.6 -0.2**
comp=Z,7.3nm,0.5s,baz=168,slow=7.8,SNR=93
MKAR LR LR 12 48 10.5
comp=Z,80nm,18.4s,baz=298,slow=40
comp=Z,7.3nm,0.5s
MAKZ Makanchi 43.15 348 P **P** **12 27 27.6 +0.2**
MAKZ IAmb IAmb 12 27 28.4
comp=Z,9.6nm,0.6s
XLT XiLinHaoTe 43.37 23 *eP* **P** **12 27 29.1 -0.2**
XLT pP pP 12 27 38.6 -1.9
XLT sP pwP 12 27 41.8 -1.9
XLT pmax pmax
comp=Z,5.0nm,0.6s
XLT pmax pmax
comp=Z,330nm,5.4s
KK31 Karatay Array 43.55 335 P **P** **12 27 31.5 +0.8**
KKAR Karatay Array 43.55 335 P **P** **12 27 31.2 +0.5**
H01W3 Cape Leeuwin H 43.70 156 T T 13 14 30.0
baz=330
H01W2 Cape Leeuwin H 43.71 156 T T 13 14 32.5
baz=330
H01W1 Cape Leeuwin H 43.71 156 T T 13 14 30.3
baz=330
SONM Songino Array 44.07 12 P **P** **12 27 34.7 -0.2**
SONM Songino Array 44.07 12 P **P** **12 27 34.2 -0.8**
comp=Z,3.9nm,0.7s,baz=192,slow=8.6,SNR=27
SONM PcP **PP** **12 29 19.3 +1.1**
comp=Z,1.3nm,0.6s,baz=198,slow=1.8,SNR=4.7
SONM LR LR 12 47 43.3
comp=Z,64nm,20.6s,baz=178,slow=39
comp=Z,3.9nm,0.7s
JNU Nakatsue 44.17 46 P **P** **12 27 36.1 +0.2**
JNU IAmb IAmb 12 28 03.3
comp=Z,30nm,1.5s
JNU Nakatsue 44.17 46 LR LR 12 49 18.7
comp=Z,54nm,18.2s,baz=312,slow=41
ULN Ulaanbaatar 44.24 12 P **P** **12 27 35.8 -0.5**
WRKA Warakurna 44.41 134 P **P** **12 27 39.3 +1.4**
KSRS Korea Array 44.66 39 P **P** **12 27 39.0 -0.6**
comp=Z,0.6nm,0.4s,baz=223,slow=8.7,SNR=2.6
KSRS LR LR 12 46 26.4
comp=Z,44nm,18.5s,baz=245,slow=36
comp=Z,0.6nm,0.4s
WB0 Warramunga Arr 46.37 123 P **P** **12 27 55.1 +1.6**
WRA Warramunga Arr 46.41 123 P **P** **12 27 55.1 +1.3**
WRA Warramunga Arr 46.41 123 P **P** **12 27 55.1 +1.3**
comp=Z,17nm,0.8s,baz=300,slow=9.3,SNR=22
comp=Z,17nm,0.8s
WRAB Tennant Creek 46.41 123 P **P** **12 27 55.6 +1.8**
WB2 Warramunga Arr 46.42 123 P **P** **12 27 55.7 +1.9**
WR0 Warramunga Arr 46.58 123 P **P** **12 27 57.0 +1.9**
GEYT Alibeck 46.59 320 P **P** **12 27 56.3 +1.3**
GEYT IAmb IAmb 12 27 57.2
comp=Z,12nm,0.8s
GEYT Alibeck 46.59 320 P **P** **12 27 55.5 +0.5**
comp=Z,9.6nm,0.6s,baz=156,slow=8.1,SNR=15
comp=Z,9.6nm,0.6s
GYA0B ALIBECK ARRAY 46.59 320 P **P** **12 27 56.3 +1.3**
GYA0B IAmb IAmb 12 27 57.2
comp=Z,13nm,0.8s
CN2 Changchun 47.51 31 P **P** **12 28 02.1 +0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
KURBB Kurchatov Arra 47.52 346 P **P** **12 28 02.4 +0.5**
comp=Z,4.2nm,0.8s,baz=168,slow=6.5,SNR=43
KURBB PcP **PcP** **12 29 32.0 +0.5**
comp=Z,2.1nm,0.6s,baz=158,slow=3.2,SNR=5.3
comp=Z,4.2nm,0.8s
KURK Kurchatov 47.58 347 P **P** **12 28 03.0 +0.6**
KURK IAmb IAmb 12 28 15.7
comp=Z,5.6nm,0.8s
AS31 Alice Springs 47.88 128 P **P** **12 28 06.5 +1.3**
ASAR Alice Springs 47.88 128 P **P** **12 28 06.2 +1.0**
ASAR Alice Springs 47.88 128 P **P** **12 28 06.0 +0.8**
comp=Z,6.1nm,0.7s,baz=299,slow=8.0,SNR=33
ASAR PcP **PcP** **12 29 34.5 +1.1**
comp=Z,1.7nm,0.7s,baz=322,slow=2.8,SNR=2.5
comp=Z,6.1nm,0.7s
FORT Forrest 47.89 140 P **P** **12 28 05.1 0.0**
AS01 Alice Springs 47.92 128 P **P** **12 28 06.9 +1.4**
ZAA0 Zalesovo Array 49.57 353 P **P** **12 28 17.9 +0.3**
ZALV Zalesovo Beam 49.57 353 P **P** **12 28 17.9 +0.2**
comp=Z,11nm,0.6s,baz=181,slow=5.9,SNR=57
ZALV PcP **PcP** **12 29 39.2 +0.4**
comp=Z,0.5nm,0.4s,baz=141,slow=4.8,SNR=0.9
ZALV LR LR 12 51 30.6
comp=Z,49nm,19.5s,baz=353,slow=39
comp=Z,11nm,0.6s
MJAR Matsushiro Arr 51.09 46 P **P** **12 28 29.1 -0.4**
comp=Z,0.7nm,0.5s,baz=270,slow=7.5,SNR=1.8
comp=Z,0.7nm,0.5s
USRK Usuriysk Ar. 51.28 34 P **P** **12 28 30.4 -0.3**
comp=Z,1.4nm,0.6s,baz=226,slow=6.0,SNR=2.5
USRK LR LR 12 52 41.7
comp=Z,79nm,19.0s,baz=178,slow=39
comp=Z,1.4nm,0.6s
OOD Oodnadatta 51.42 131 P **P** **12 28 33.3 +1.3**
BVAR Borovoye Array 51.91 342 P **P** **12 28 35.2 0.0**
comp=Z,4.8nm,0.7s,baz=143,slow=9.0,SNR=26
BVAR LR LR 12 52 52.7
comp=Z,92nm,18.8s,baz=259,slow=39
comp=Z,4.8nm,0.7s
BRVK Borovoye 51.97 342 P **P** **12 28 36.0 +0.3**
BRVK IAmb IAmb 12 28 36.5
comp=Z,4.8nm,0.7s
ABKAR Akbulak array 52.97 332 P **P** **12 28 43.7 +0.5**
KLR Kul'dur 54.41 29 LR LR 12 54 00.2
comp=Z,78nm,18.2s,baz=207,slow=38
PMG Port Moresby 54.53 105 P **P** **12 28 55.2 +0.1**
PMG IAmb IAmb 12 29 10.6
comp=Z,7.9nm,0.8s
INKA Innaminka 55.25 129 P **P** **12 29 01.9 +1.7**
GNI Garni 56.70 316 LR LR 12 54 43.2
comp=Z,34nm,19.9s,baz=210,slow=37
CTA Charters Tower 56.71 118 P **P** **12 29 10.6 -0.2**
comp=Z,3.2nm,1.0s,baz=306,slow=14,SNR=1.4
comp=Z,3.2nm,1.0s
CTAO Charters Tower 56.71 118 P **P** **12 29 09.2 -1.6**
CTAO IAmb IAmb 12 29 20.1
comp=Z,5.3nm,0.9s
JKA Kamikawa-asahi 57.60 40 P **P** **12 29 17.2 +0.5**
STKA Stephens Creek 57.92 132 P **P** **12 29 18.7 -0.4**
STKA Stephens Creek 57.92 132 P **P** **12 29 18.9 -0.1**
comp=Z,1.1nm,0.5s,baz=326,slow=11,SNR=3.6
comp=Z,1.1nm,0.5s
ARU Arti 58.74 338 LR LR 12 56 43.1
comp=Z,49nm,18.7s,baz=238,slow=38
KBZ Khabaz 59.46 319 P **P** **12 29 28.4 -1.1**
comp=Z,2.9nm,0.9s,baz=66,slow=5.6,SNR=4.1
comp=Z,2.9nm,0.9s
CMSA Cobar Meteorol 60.82 130 P **P** **12 29 41.3 +2.1**
EIL Elat 61.11 301 LR LR 12 57 06.2
comp=Z,91nm,18.2s,baz=247,slow=37
MMAI Mount Meron Ar 61.46 305 P **P** **12 29 43.4 -0.2**
comp=Z,0.5nm,0.3s,baz=110,slow=12,SNR=1.8
MMAI LR LR 12 59 16.5
comp=Z,34nm,18.1s,baz=146,slow=39
comp=Z,0.5nm,0.3s
H04N2 CROZET ISLANDS 63.24 212 T T 13 38 29.4
baz=49,slow=75,SNR=582
H04N1 CROZET ISLANDS 63.25 212 T T 13 38 30.3
baz=49,slow=75,SNR=628
H04N3 CROZET ISLANDS 63.26 212 T T 13 38 28.7
baz=49,slow=75,SNR=548
H04S1 CROZET ISLANDS 63.63 211 T T 13 39 02.0
baz=47,slow=76,SNR=3.8
H04S3 CROZET ISLANDS 63.64 211 T T 13 39 00.1
baz=47,slow=76,SNR=26
H04S2 CROZET ISLANDS 63.65 211 T T 13 39 06.9
baz=47,slow=76,SNR=6.0
BR131 Keskin Array S 64.55 312 P **P** **12 30 04.3 +0.2**
BR131 IAmb IAmb 12 30 04.5
comp=Z,7.1nm,1.2s
BRTR Keskin Array B 64.55 312 P **P** **12 30 04.2 +0.2**
comp=Z,1.8nm,0.7s,baz=133,slow=7.5,SNR=8.7
comp=Z,1.8nm,0.7s
CAN Canberra 64.98 133 P **P** **12 30 09.3 +2.4**
CAN IAmb IAmb 12 30 09.9
comp=Z,6.5nm,0.6s
CAN Canberra 64.98 133 P **P** **12 30 09.2 +2.4**
ARMA Armidale 65.00 127 P **P** **12 30 06.0 -1.1**
ARMA IAmb IAmb 12 30 18.0
comp=Z,9.6nm,1.2s
MA2 Magadan 69.36 27 P **P** **12 30 32.6 -1.5**
MA2 IAmb IAmb 12 30 34.2
comp=Z,5.1nm,0.7s
TIXI Tiksi 70.16 11 P **P** **12 30 38.1 -0.6**
BURAR Bucovina Array 72.41 318 P **P** **12 30 53.9 +0.9**
BUR08 Bucovina Ar. S 72.43 318 P **P** **12 30 54.2 +1.1**
KOLS Kolonicke sedl 74.60 319 *eP* **P** **12 31 08.7 +3.0**
CRVS Cervenica-Dubn 75.12 319 *eP* P 12 31 13.8 +5.1
FIA1 FINESS Array S 75.46 333 P **P** **12 31 10.9 +0.5**
FINES FINESS Array B 75.46 333 P **P** **12 31 10.8 +0.4**
FINES FINESS Array B 75.46 333 P **P** **12 31 09.8 -0.6**
comp=Z,10nm,0.7s,baz=111,slow=5.0,SNR=35
comp=Z,10nm,0.7s
ARCES ARCESS Array B 78.16 340 P **P** **12 31 25.6 +0.1**
comp=Z,4.7nm,0.9s,baz=100,slow=4.7,SNR=5.8
comp=Z,4.7nm,0.9s
GEC2 GERESS Array S 80.20 319 P **P** **12 31 36.6 -0.6**
GEC2 IAmb IAmb 12 31 39.3
comp=Z,7.5nm,0.9s
GERES GERESS Array B 80.20 319 P **P** **12 31 36.7 -0.4**
GERES GERESS Array B 80.20 319 P **P** **12 31 37.3 +0.2**
comp=Z,3.9nm,0.8s,baz=69,slow=7.3,SNR=8.0
comp=Z,3.9nm,0.8s
RGN Rugen 80.85 324 P **P** **12 31 39.9 -0.5**
CIMO Cimolais 80.91 316 P **P** **12 31 39.8 -1.1**
CIMO IAmb IAmb 12 31 46.2
comp=Z,8.6nm,1.1s
HFS Hagfors 81.15 330 P **P** **12 31 42.2 +0.3**
comp=Z,3.5nm,0.5s,baz=116,slow=5.1,SNR=18
comp=Z,3.5nm,0.5s
NC405 NORSAR Array S 82.21 331 P **P** **12 31 48.2 +0.8**
NC405 IAmb IAmb 12 31 54.2
comp=Z,5.6nm,0.9s
NC602 NORSAR Array S 82.27 331 P **P** **12 31 48.2 +0.5**
NC602 IAmb IAmb 12 31 59.0
comp=Z,9.5nm,1.1s
NB201 NORSAR Array S 82.41 331 P **P** **12 31 48.6 0.0**
NB2 NORSAR Subarra 82.45 331 P **P** **12 31 48.6 -0.2**
comp=Z,1.9nm,0.8s,baz=94,slow=5.6
NOA NORSAR Array B 82.45 331 P **P** **12 31 48.5 -0.2**
comp=Z,1.1nm,0.7s,baz=94,slow=5.4,SNR=5.0
comp=Z,1.1nm,0.7s
SPITS Spitsbergen Ar 82.83 348 P **P** **12 31 50.0 -0.3**
comp=Z,6.5nm,0.9s,baz=120,slow=8.5,SNR=6.6
comp=Z,6.5nm,0.9s
RPZ Rata Peaks 83.80 135 LR LR 13 11 31.5
comp=Z,201nm,18.5s,baz=206,slow=37
C16K Lisburne Hills 89.36 21 P **P** **12 32 23.4 +0.8**
C16K IAmb IAmb 12 32 39.5
comp=Z,8.3nm,1.4s
VNDA Vanda 89.94 168 P **P** **12 32 25.5 +0.4**
ANM Nome 90.08 25 P **P** **12 32 26.7 +0.5**
ANM IAmb IAmb 12 32 36.0
comp=Z,5.9nm,1.3s
F15K North Star Dit 90.15 24 P **P** **12 32 27.0 +0.6**
F15K IAmb IAmb 12 32 27.7
comp=Z,2.8nm,0.8s
EKA Eskdalemuir Ar 90.31 325 P **P** **12 32 28.5 +1.1**
comp=Z,4.8nm,0.8s,baz=98,slow=6.1,SNR=6.1
comp=Z,4.8nm,0.8s
C18K Utukok River 90.76 21 P **P** **12 32 30.2 +0.9**
TORD Torodi Ar. Bea 91.46 283 P **P** **12 32 34.4 +0.8**
comp=Z,1.0nm,0.9s,baz=50,slow=4.5,SNR=5.1
comp=Z,1.0nm,0.9s
D19K Kuna River 91.89 21 P **P** **12 32 35.5 +0.9**
D19K IAmb IAmb 12 32 36.1
comp=Z,3.9nm,0.7s
IMAR Indian Mountai 94.35 22 P **P** **12 32 46.6 +0.8**
MLY Manley 95.88 23 P **P** **12 32 52.1 -0.8**
MLY IAmb IAmb 12 33 09.8
comp=Z,6.0nm,1.5s
CAST Castle Rocks 96.00 24 P **P** **12 32 54.0 +0.4**
CAST IAmb IAmb 12 32 55.3
comp=Z,1.6nm,0.9s
BMAR Burnt Mountain 96.97 19 P **P** **12 32 58.8 +1.0**
IL31 97.47 22 P Pdif 12 33 01.2 +1.1
IL31 IAmb IAmb 12 33 23.5
comp=Z,1.4nm,1.1s
ILAR Eielson Array 97.47 22 P **P** **12 33 00.1 0.0**
ILAR Eielson Array 97.47 22 P **P** **12 32 59.3 -0.8**
comp=Z,0.3nm,0.6s,baz=314,slow=4.2,SNR=6.6
comp=Z,0.3nm,0.6s
CAPN Captain Cook N 97.47 27 P Pdif 12 33 03.0 +2.8
PRP Porcupine Dome 97.61 21 P **P** **12 33 01.4 +0.6**
A36M Sachs Harbour 99.17 12 P **Pdif** **12 33 06.8 -0.7**
A36M IAmb IAmb 12 33 08.9
comp=Z,2.9nm,0.8s
RES Resolute Bay 100.41 2 Pdif **Pdif** **12 33 14.6 +1.6**
YKA Yellowknife Ar 109.31 14 PP **PP** **12 38 23.0 -2.3**
comp=Z,0.3nm,0.8s,baz=336,slow=7.5,SNR=5.6
SCHQ Schefferville 118.51 348 PKPdf **PKiKP** **12 38 15.0 +0.9**
SCHQ Schefferville 118.51 348 PKP **PKPdf** **12 38 14.2 +0.1**
comp=Z,0.6nm,0.4s,baz=245,slow=18,SNR=5.5
PLID Pearl Lake 123.38 25 PKPdf **PKPdf** **12 38 24.4 +0.3**
ULM Lac du Bonnet 124.43 8 PKP **PKPdf** **12 38 24.9 -0.7**
comp=Z,1.0nm,0.7s,baz=28,slow=2.4,SNR=4.2
PDAR Pinedale Array 127.90 22 PKP **PKPdf** **12 38 33.0 +0.2**
comp=Z,0.5nm,0.6s,baz=132,slow=2.2,SNR=6.0
TXAR Lajitas Array 141.88 26 PKhKP PKPpre 12 38 52.9
comp=Z,0.2nm,0.7s,baz=195,slow=2.8,SNR=2.3
TXAR PKP **PKPdf** **12 38 59.2 +0.2**
comp=Z,0.4nm,0.5s,baz=97,slow=0.3,SNR=6.2
CPUP Villa Florida 145.49 229 PKPbc **PKPab** **12 39 06.6 +1.0**
comp=Z,3.1nm,0.6s,baz=87,slow=2.7,SNR=9.6

IDC 02 12:27:57.6±2.0, 6°01S×142°30E, h0km, mb3.5/1, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=163.9km s-min=29.2km az=116.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.86**	**208**	Pn	Pn	12 31 41.7	-0.7
	0.1nm,0.3s,baz=32,slow=13,SNR=1.2						
WRA				Lg	Lg	12 36 19.7	
	baz=30,slow=30,SNR=1.0						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**19.32**	**204**	P	Pn	12 32 25.4	-0.2
	0.1nm,0.3s,baz=27,slow=12,SNR=7.3						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**87.36**	**24**	P	P	12 40 46.1	-0.2
	0.3nm,0.8s,baz=259,slow=5.7,SNR=4.6						
	0.3nm,0.8s						

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*IDC **02** 12:28:55.5±23.0, 42°71N×126°04W, h0km, mb3.1/2, mbtmp3.2/3, ML2.9/1, MS3.1/9, Error ellipse: s-maj=497.7km s-min=27.8km az=65.0*
*NEIC **02** 12:28:55.8±1.9, 42°40N±0°04×126°44W±0°1, h10km±2km, ML3.3/76, Error ellipse: s-maj=16.6km s-min=3.1km az=244.0*

ISC 02 12:28:54.6±1.7, 42°41N±0°06×126°5W±0°1, h10km, n65, σ1§12/51, MS3.0/4, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**1.65**	**73**	Pn	**Pn**	**12 29 22.3**	**-1.3**
KBO	**Bosley Butte**	**1.68**	**96**	Pn	**Pn**	**12 29 23.9**	**-0.3**
KBO				IAML		12 29 47.1	
	comp=E,215nm,2.0s						
KBO				IAML		12 29 47.5	
	comp=N,252nm,2.0s						
J01E	**Myrtle Point**	**2.02**	**67**	Pn	**Pn**	**12 29 28.4**	**-0.3**
K02D	**Willamette Mer**	**2.10**	**81**	Pn	**Pn**	**12 29 30.0**	**+0.1**
L02F	**Cave Junction**	**2.18**	**97**	Pn	**Pn**	**12 29 30.8**	**-0.1**
JCC	**Jacoby Creek,**	**2.43**	**130**	Pn	**Pn**	**12 29 34.2**	**-0.1**
DBO	**Dodson Butte**	**2.48**	**72**	Pn	**Pn**	**12 29 35.6**	**+0.4**
DBO				IAML		12 30 16.0	
	comp=E,94nm,3.7s						
KHMM	**Horse Mountain**	**2.57**	**126**	Pn	**Pn**	**12 29 36.3**	**-0.1**
KHMM				IAML		12 30 54.7	
	comp=E,86nm,4.6s						
HUMO	**Hull Mountain**	**2.61**	**85**		**Pn**	**12 29 37.3**	**+0.4**
KMPM	**Mount Pierce**	**2.67**	**138**	Pn	**Pn**	**12 29 37.7**	**0.0**
KMPM				IAML		12 30 27.1	
	comp=E,104nm,4.3s						
KMPM				IAML		12 31 01.6	
	comp=N,89nm,1.7s						
YBH	**Yreka Blue Hor**	**2.89**	**102**		**Pn**	**12 29 41.8**	**+1.1**
YBH	**Yreka Blue Hor**	**2.89**	**102**	LR	LR	12 30 45.4	
	comp=N,168nm,20.4s,baz=244,slow=41						
KMRM	**Mail Ridge**	**3.02**	**135**	Pn	**Pn**	**12 29 42.0**	**-0.5**
KMRM				IAML		12 30 56.6	
	comp=E,76nm,3.8s						
KMRM				IAML		12 31 29.4	
	comp=N,70nm,3.8s						
L04D	**Klamath Falls**	**3.10**	**92**		**Pn**	**12 29 45.2**	**+1.5**
L04D				IAML		12 30 55.1	
	comp=N,52nm,4.7s						
BUCK	**Buck Mountain**	**3.11**	**54**	Pn	**Pn**	**12 29 43.9**	**+0.1**
BUCK				IAML		12 30 37.2	
	comp=E,94nm,3.7s						
BUCK				IAML		12 31 29.3	

	comp=N,108nm,3.4s							
COR	**Corvallis**	**3.17**	**46**	Pn	**Pn**	**12 29 45.6**	**+1.1**	
COR				IAML		12 30 08.1		
	comp=N,98nm,3.9s							
COR				IAML		12 31 02.0		
	comp=N,85nm,3.3s							
I04A	**Tendick Farm,**	**3.28**	**64**		**Pn**	**12 29 47.1**	**+1.0**	
I04A				IAML		12 31 04.1		
	comp=E,59nm,3.0s							
HEBO	**Mount Hebo**	**3.42**	**34**	Pn	**Pn**	**12 29 47.7**	**-0.3**	
H04D	**Lebanon**	**3.44**	**51**		**Pn**	**12 29 49.3**	**+1.1**	
H04D				IAML		12 30 22.6		
	comp=E,80nm,3.2s							
H04D				IAML		12 31 23.5		
	comp=N,89nm,3.0s							
K04D	**Chiloquin, OR**	**3.50**	**85**	Pn	**Pn**	**12 29 48.4**	**-0.8**	
K04D				IAML		12 30 57.5		
	comp=N,76nm,2.3s							
K04D				IAML		12 31 29.3		
	comp=E,78nm,4.1s							
G03D	**McMinnville, O**	**3.64**	**39**	Pn	**Pn**	**12 29 51.9**	**+1.0**	
G03D				IAML		12 31 50.0		
	comp=E,83nm,2.8s							
H04A	**Detroit Lake**	**3.86**	**53**		**Pn**	**12 29 54.8**	**+0.8**	
H04A				IAML		12 31 54.0		
	comp=E,36nm,3.6s							
J05D	**Fort Rock, OR**	**3.95**	**75**	Pn	**Pn**	**12 29 56.1**	**+0.7**	
J05D				IAML		12 30 26.9		
	comp=N,44nm,4.8s							
J05D				IAML		12 32 28.0		
	comp=E,34nm,4.7s							
F03A	**Seaside**	**4.10**	**30**	Pn	**Pn**	**12 29 55.7**	**-1.5**	
K05A	**Summer Lake**	**4.14**	**84**	Pn	**Pn**	**12 29 56.0**	**-2.0**	
K05A				IAML		12 30 58.4		
	comp=N,52nm,4.5s							
K05A				IAML		12 31 04.5		
	comp=E,30nm,5.0s							
I05D	**Terrebonne, OR**	**4.21**	**61**	Pn	**Pn**	**12 29 57.6**	**-1.3**	
PINE	**Pine Mountain**	**4.28**	**69**	Pn	**Pn**	**12 29 57.6**	**-2.4**	
PINE				IAML		12 31 50.9		
	comp=E,36nm,4.3s							
PINE				IAML		12 32 12.0		
	comp=N,46nm,4.9s							
HOOD	**Mount Hood Mea**	**4.54**	**49**		**Pn**	**12 30 05.3**	**+1.8**	
HOOD				IAML		12 31 07.0		
	comp=N,32nm,3.9s							
F04A	**Amboy**	**4.57**	**38**	Pn	**Pn**	**12 30 04.6**	**+0.9**	
F04A				IAML		12 30 59.2		
	comp=E,30nm,3.6s							
E03A	**Lebam**	**4.63**	**26**	Pn	**Pn**	**12 30 04.0**	**-0.5**	
G05A	**Wamic**	**4.68**	**51**	Pn	**Pn**	**12 30 06.5**	**+1.2**	
ORV	**Oroville**	**4.73**	**126**		**Pn**	**12 30 06.8**	**+0.9**	
ORV				IAML		12 31 17.6		
	comp=E,18nm,4.7s							
ORV				IAML		12 31 42.0		
	comp=N,15nm,4.9s							
G06A	**Carlson Farm,**	**5.08**	**54**	Pn	**Pn**	**12 30 11.5**	**+0.6**	
G06A				IAML		12 31 16.6		
	comp=E,24nm,4.6s							
G06A				IAML		12 33 17.1		
	comp=N,20nm,4.1s							
WISH	**Wishkah**	**5.08**	**21**	Pn	**Pn**	**12 30 10.0**	**-0.7**	
NLWA	**Neilton Lookou**	**5.31**	**20**	Pn	**Pn**	**12 30 14.6**	**+0.6**	
I07A	**Izee**	**5.36**	**70**	Pn	**Pn**	**12 30 13.5**	**-1.2**	
I07A				IAML		12 30 57.8		
	comp=E,16nm,4.5s							
I07A				IAML		12 31 20.3		
	comp=N,14nm,4.3s							
AFDM	**Forest Hills D**	**5.43**	**128**	Pn	**Pn**	**12 30 16.6**	**+1.0**	
AFDM				IAML		12 31 11.0		
	comp=E,15nm,4.0s							
AFDM				IAML		12 32 08.7		
	comp=N,13nm,4.0s							
LON	**Longmire**	**5.47**	**36**		**Pn**	**12 30 17.4**	**+1.2**	
D05A	**Enumclaw**	**5.74**	**32**	Pn	**Pn**	**12 30 21.5**	**+1.7**	
GNW	**Green Mountain**	**5.76**	**25**	Pn	**Pn**	**12 30 22.1**	**+1.9**	
WVOR	**Wild Horse Val**	**5.80**	**87**		**Pn**	**12 30 20.9**	**0.0**	
B04A	**Port Angeles**	**6.02**	**19**	Pn	**Pn**	**12 30 25.0**	**+1.3**	
MXC	**Moxie City**	**6.07**	**45**		**Pn**	**12 30 23.8**	**-0.6**	
G08A	**Pilot Rock**	**6.15**	**60**	Pn	**Pn**	**12 30 23.5**	**-2.0**	
E07A	**Sunnyside**	**6.29**	**47**		**Pn**	**12 30 28.5**	**+1.0**	
LTY	**Liberty**	**6.36**	**38**	Pn	**Pn**	**12 30 29.1**	**+0.6**	
HAWA	**Hanford**	**6.37**	**49**	Pn	**Pn**	**12 30 29.4**	**+0.9**	
BMO	**Blue Mountains**	**7.09**	**67**	Pn	**Pn**	**12 30 38.8**	**+0.4**	
NVAR	**Mina Array Bea**	**7.40**	**120**	Pn	**Pn**	**12 30 44.6**	**+1.8**	
	comp=N,0.2nm,0.3s,baz=300,slow=11,SNR=2.9							
	comp=N,0.8nm,0.6s							
F10A	**Beach Ranch, E**	**7.54**	**59**	Pn	**Pn**	**12 30 45.9**	**+1.3**	
ELK	**Elko**	**8.59**	**97**	LR	LR	12 34 22.6		
	comp=N,125nm,20.0s,baz=253,slow=39							
NEW	**Newport**	**8.81**	**45**	LR	LR	12 33 37.0		
	comp=N,101nm,19.7s,baz=164,slow=34							
PFO	**Pinyon Flats O**	**11.81**	**135**	LR	LR	12 35 46.8		
	comp=N,65nm,21.0s,baz=347,slow=35							
ANMO	**Albuquerque**	**17.30**	**109**	LR	LR	12 40 17.0		
	comp=N,99nm,19.7s,baz=77,slow=40							
YKA	**Yellowknife Ar**	**21.31**	**15**	P	**P**	**12 33 39.6**	**-1.6**	
	comp=N,1.7nm,0.9s,baz=205,slow=11,SNR=18							
	comp=N,1.7nm,0.9s							
KDAK	**Kodiak Island**	**22.53**	**322**	LR	LR	12 40 17.1		
	comp=N,75nm,19.9s,baz=130,slow=30							
TXAR	**Lajitas Array**	**22.54**	**118**	P	**P**	**12 33 55.6**	**+0.8**	
	comp=N,0.4nm,0.8s,baz=310,slow=7.0,SNR=3.5							
TXAR				LR	LR	12 43 19.0		
	comp=N,52nm,19.1s,baz=66,slow=38							
	comp=N,0.4nm,0.8s							
LPIG	**La Paz**	**22.65**	**139**	LR	LR	12 42 37.1		
	comp=N,52nm,19.3s,baz=336,slow=36							
SHEM	**Shemya Is, Ala**	**40.31**	**306**	LR	LR	12 49 08.8		
	comp=N,47nm,20.0s,baz=184,slow=30							
H11N3	**WAKE ISLAND Hy**	**59.85**	**270**	T	T	13 43 25.3		
	baz=51,slow=75,SNR=27							
H11N2	**WAKE ISLAND Hy**	**59.85**	**270**	T	T	13 43 25.2		
	baz=51,slow=75,SNR=20							
H11N1	**WAKE ISLAND Hy**	**59.86**	**270**	T	T	13 43 26.6		
	baz=51,slow=75,SNR=19							
H11S1	**WAKE ISLAND Hy**	**60.75**	**269**	T	T	13 44 33.0		
	baz=50,slow=75,SNR=12							
H11S2	**WAKE ISLAND Hy**	**60.76**	**269**	T	T	13 44 33.6		
	baz=50,slow=75,SNR=9.8							
H11S3	**WAKE ISLAND Hy**	**60.77**	**269**	T	T	13 44 33.4		
	baz=50,slow=75,SNR=8.0							

IDC 02 12:37:47.5±2.6, 8°12S×119°43E, h0km, mb3.2/2, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=229.9km s-min=29.0km az=52.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.61**	**131**	P	P	12 42 06.4	-0.2
	0.2nm,0.3s,baz=303,slow=12,SNR=7.8						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**20.77**	**140**	P	P	12 42 30.4	+0.2
	0.5nm,0.5s,baz=318,slow=9.7,SNR=16						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**63.88**	**332**	P	P	12 48 21.9	-0.1
	0.1nm,0.4s,baz=144,slow=5.4,SNR=2.1						
	0.1nm,0.4s						

*IDC **02** 12:44:13.8±0.7, 5°.96S×143°.10E, h0km, mb4.4/14, mbtmp4.4/16, ML0.9/1, MS3.6/5, Error ellipse: s-maj=27.7km s-min=13.8km az=78.0*

*DJA **02** 12:44:17.7±0.3, 6°.5±3°×14°.3E±°, h10km, M4.7/19, mB5.0/6, mb4.7/19, MLv5.0/6, Mw(mB)4.4/6*

*NEIC **02** 12:44:17.2±2.5, 6°.16S±0°.07×142°.60E±0°.07, h10km±1km, mb4.7/64, Error ellipse: s-maj=12.4km s-min=12.1km az=115.0*

ISC 02 12:44:16.4±0.4, 6°.16S±0°.05×142°.73E±0°.05, h10km, n133, σ1°88/124, mb4.7/52, MS3.7/3, 1C-2D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**1.75**	**300**	P	**Pb**	**12 44 48.4**	**-0.2**
MMPI	**Merauke**	**3.27**	**225**	P	**Pn**	**12 45 10.6**	**+2.8**
MMPI				S	**Sg**	**12 46 07.2**	**+5.7**
GENI	**Genyem**	**4.37**	**324**	P	**Pn**	**12 45 24.5**	**+1.6**
GENI	**Genyem**	**4.37**	**324**	P	**Pn**	**12 45 23.8**	**+0.9**
PMG	**Port Moresby**	**5.44**	**127**	Pn	**Pn**	**12 45 39.9**	**+2.2**
PMG	**Port Moresby**	**5.44**	**127**	P	**Pn**	**12 45 39.9**	**+2.2**
PMG	**Port Moresby**	**5.44**	**127**	Pn	Pn	12 45 32.4	-5.2
	0.3nm,0.3s,baz=347,slow=23,SNR=1.4						
PMG				Sn	**Sn**	**12 46 35.7**	**-4.7**
	2.8nm,0.3s,baz=333,slow=8.4,SNR=3.9						

SMPI	**Sarmi**	**5.77**	**316**	P	**Pn**	**12 45 43.0**	**+0.8**	
	114nm,1.0s,6μm0.5nm							
MANU	**Manus Island**	**6.17**	**49**	Pn	**Pn**	**12 45 50.4**	**+2.7**	
MANU	**Manus Island**	**6.17**	**49**	P	**Pn**	**12 45 52.1**	**+4.4**	
BULU	**Kimbe**	**7.57**	**86**	P	**Pn**	**12 46 11.0**	**+4.1**	
COEN	**Coen**	**7.76**	**177**	Pn	**Pn**	**12 46 09.7**	**+0.2**	
COEN	**Coen**	**7.76**	**177**	P	**Pn**	**12 46 11.0**	**+1.4**	
RABL	**Rabaul**	**9.59**	**79**	Pn	**Pn**	**12 46 37.3**	**+2.6**	
FAKI	**Fak Fak**	**10.94**	**287**	Pn	**Pn**	**12 46 51.8**	**-1.4**	
FAKI	**Fak Fak**	**10.94**	**287**	P	**Pn**	**12 46 54.5**	**+1.4**	
FAKI	**Fak Fak**	**10.94**	**287**	P	**Pn**	**12 46 53.2**	**+0.1**	
	27nm,0.8s							
SAUI	**Saumlaki**	**11.49**	**260**	Pn	**Pn**	**12 46 59.2**	**-1.5**	
SAUI	**Saumlaki**	**11.49**	**260**	P	Pn	12 47 12.0	+11	
KDU	**Kakadu**	**12.02**	**237**	P	**Pn**	**12 47 09.5**	**+1.6**	
MTN	**Manton Dam**	**13.22**	**239**	Pn	**Pn**	**12 47 24.3**	**-0.2**	
MTN	**Manton Dam**	**13.22**	**239**	P	**Pn**	**12 47 24.4**	**0.0**	
DRS	**Darwin Rock St**	**13.23**	**241**	P	**Pn**	**12 47 25.4**	**+0.9**	
CTA	**Charters Tower**	**14.26**	**166**	Pn	**Pn**	**12 47 39.6**	**+1.0**	
	1.2nm,0.9s,baz=5.9,slow=12,SNR=1.5							
CTA				Lg	Lg	12 51 51.6		
	0.1nm,0.3s,baz=229,slow=20,SNR=2.7							
CTA				LR	LR	12 53 24.6		
	comp=Z,244nm,20.0s,baz=336,slow=38							
CTAO	**Charters Tower**	**14.26**	**166**	Pn	**Pn**	**12 47 39.1**	**+0.5**	
QIS	**Mount Isa**	**14.63**	**192**	P	**Pn**	**12 47 43.8**	**+0.1**	
WB0	**Warramunga Arr**	**15.77**	**210**	Pn	**Pn**	**12 47 59.5**	**+0.7**	
WR0	**Warramunga Arr**	**15.86**	**209**		**Pn**	**12 47 59.1**	**-0.9**	
WRAB	**Tennant Creek**	**15.93**	**210**		**Pn**	**12 48 00.8**	**-0.1**	
WB2	**Warramunga Arr**	**15.94**	**210**	Pn	**Pn**	**12 48 00.9**	**-0.1**	
WRA	**Warramunga Arr**	**15.95**	**210**	Pn	**Pn**	**12 48 00.1**	**-1.0**	
WRA	**Warramunga Arr**	**15.95**	**210**	Pn	**Pn**	**12 48 00.0**	**-1.0**	
	0.9nm,0.3s,baz=28,slow=13,SNR=18							
WRA				Sn	**Sn**	**12 50 49.8**	**-8.2**	
	1.0nm,0.3s,baz=34,slow=20,SNR=5.0							
WRA				Lg	Lg	12 52 47.1		
	0.7nm,0.3s,baz=32,slow=26,SNR=4.7							
KNRA	**Kununurra**	**16.65**	**234**		**Pn**	**12 48 09.8**	**-0.3**	
KNRA				IAmb	IAmb	12 48 24.8		
	comp=Z,32nm,0.7s							
KNRA	**Kununurra**	**16.65**	**234**	P	**Pn**	**12 48 09.5**	**-0.6**	
SOEI	**Soe**	**18.63**	**258**	P	**P**	**12 48 33.9**	**-0.6**	
SOEI				IAmb	IAmb	12 48 54.1		
	comp=Z,42nm,0.8s							
SOEI	**Soe**	**18.63**	**258**	P	**Pn**	**12 48 36.5**	**+1.7**	
	comp=Z,58nm,0.9s							
AS31	**Alice Springs**	**19.37**	**205**	P	**Pn**	**12 48 44.2**	**+0.6**	
ASAR	**Alice Springs**	**19.37**	**205**		**Pn**	**12 48 43.4**	**-0.2**	
ASAR	**Alice Springs**	**19.37**	**205**	P	**Pn**	**12 48 45.6**	**+2.1**	
	comp=Z,17nm,0.6s,baz=32,slow=11,SNR=176							
ASAR				S	**Sn**	**12 52 14.1**	**-6.9**	
	comp=Z,3.6nm,0.6s,baz=17,slow=28,SNR=5.0							
ASAR				Lg	Lg	12 54 38.7		
	comp=Z,0.2nm,0.3s,baz=19,slow=30,SNR=4.3							
ASAR				LR	LR	12 57 13.4		
	comp=Z,177nm,20.3s,baz=9.5,slow=40							
PATS	**Pohnpei**	**20.21**	**51**	P	**P**	**12 48 52.2**	**+0.5**	
FITZ	**Fitzroy Crossi**	**20.47**	**233**	P	**P**	**12 48 53.9**	**-0.7**	
LUWI	**Luwuk**	**20.55**	**284**	P	**P**	**12 48 52.1**	**-3.3**	
LUWI				IAmb	IAmb	12 49 14.3		
	comp=Z,37nm,0.8s							
LUWI	**Luwuk**	**20.55**	**284**	P	Pn	12 48 57.4	-0.3	
	comp=Z,57nm,0.8s,comp=Z,698nm							
EIDS	**Eidsvold**	**20.70**	**158**	P	**P**	**12 48 58.1**	**+1.1**	
EDFI	**Ende, Flores**	**21.02**	**262**	P	**P**	**12 49 02.2**	**+1.5**	
	comp=Z,11nm,0.8s							
MRSI	**Marisa**	**21.78**	**287**	P	**P**	**12 49 10.2**	**+1.5**	
	comp=Z,44nm,0.6s							
BKSI	**Bukumba**	**22.51**	**271**	P	**P**	**12 49 18.4**	**+1.8**	
	comp=Z,34nm,0.9s							
KAPI	**Kappang**	**22.90**	**272**	P	**P**	**12 49 18.0**	**-2.7**	
KAPI				IAmb	IAmb	12 49 23.6		
	comp=Z,14nm,0.8s							
TOLI2	**Tolitoli**	**23.08**	**288**	P	**P**	**12 49 19.4**	**-3.0**	
TOLI2				IAmb	IAmb	12 49 24.9		
	comp=Z,25nm,0.8s							
MPSI	**Mapaga**	**23.69**	**285**	P	**P**	**12 49 29.0**	**+0.4**	
	comp=Z,22nm,0.9s							
ARMA	**Armidale**	**25.54**	**162**	P	**P**	**12 49 45.6**	**0.0**	
ARMA				IAmb	IAmb	12 49 57.6		
	comp=Z,20nm,1.4s							
STKA	**Stephens Creek**	**25.61**	**182**	P	**P**	**12 49 46.3**	**+0.3**	
STKA	**Stephens Creek**	**25.61**	**182**	P	**P**	**12 49 47.6**	**+1.6**	
	comp=Z,1.7nm,0.6s,baz=357,slow=12,SNR=4.4							
	comp=Z,1.7nm,0.6s							
BKB	**Balikpapan**	**26.23**	**280**	P	**P**	**12 49 50.5**	**-1.5**	
PSA00	**Pilbara Seismi**	**26.93**	**233**	P	**P**	**12 49 55.6**	**-2.5**	
BBOO	**Buckleboo**	**27.23**	**192**	P	**P**	**12 49 59.6**	**-1.2**	
BBOO				IAmb	IAmb	12 50 07.7		
	comp=Z,16nm,1.2s							
FORT	**Forrest**	**28.10**	**208**	P	**P**	**12 50 08.8**	**+0.3**	
FORT				IAmb	IAmb	12 50 24.3		
	comp=Z,34nm,1.5s							
JOW	**Kunigami**	**35.66**	**338**	LR	LR	13 03 03.0		
	comp=Z,42nm,20.6s,baz=21,slow=32							
NWAO	**Narrogin (SRO)**	**35.66**	**218**	LR	LR	13 06 40.7		
	comp=Z,135nm,19.1s,baz=230,slow=37							
MJAR	**Matsushiro Arr**	**42.69**	**355**	P	**P**	**12 52 10.3**	**-3.3**	
	comp=Z,1.5nm,0.6s,baz=173,slow=7.7,SNR=4.5							
	comp=Z,1.5nm,0.6s							
NJ2	**Nanjing**	**44.30**	**331**	*e*P	**P**	**12 52 27.8**	**+1.2**	
NJ2				pmax	pmax			
	comp=Z,14nm,1.1s							
RTZ	**Ruatahuna**	**44.75**	**141**	P	**P**	**12 52 32.2**	**+1.8**	
TUWZ	**Tuamarina**	**44.78**	**146**	P	**P**	**12 52 31.7**	**+1.2**	
KSRS	**Korea Array**	**45.54**	**343**	P	**P**	**12 52 35.0**	**-1.3**	
	comp=Z,2.3nm,0.7s,baz=164,slow=9.8,SNR=9.5							
	comp=Z,2.3nm,0.7s							
JTM	**Tenmabayashi**	**46.74**	**358**	P	**P**	**12 52 44.1**	**-1.7**	
PHRA	**Phrae**	**48.55**	**301**	P	**P**	**12 53 00.7**	**+0.4**	
CRAI	**Chiangrai**	**49.21**	**303**	P	**P**	**12 53 05.5**	**+0.2**	
LYN	**LuoYang**	**49.56**	**327**	⇓P	**P**	**12 53 07.8**	**0.0**	
LYN				pmax	pmax			
	comp=Z,25nm,0.5s							
CM31	**Chiang Mai Arr**	**49.63**	**300**	P	**P**	**12 53 09.2**	**+0.7**	
CM31				IAmb	IAmb	12 53 11.1		
	comp=Z,5.6nm,0.6s							
CMAR	**Chiang Mai Arr**	**49.63**	**300**	P	**P**	**12 53 08.8**	**+0.2**	
CMAR	**Chiang Mai Arr**	**49.63**	**300**	P	**P**	**12 53 08.7**	**+0.1**	
	comp=Z,3.5nm,0.7s,baz=115,slow=6.1,SNR=27							
	comp=Z,3.5nm,0.7s							
CHTO	**Chiang Mai**	**49.78**	**301**	P	**P**	**12 53 10.0**	**+0.3**	
CHTO				IAmb	IAmb	12 53 10.7		
	comp=Z,4.5nm,0.8s							
USRK	**Ussuriysk Ar.**	**51.06**	**350**	P	**P**	**12 53 20.3**	**+1.4**	
USRK	**Ussuriysk Ar.**	**51.06**	**350**	P	**P**	**12 53 17.4**	**-1.4**	
	comp=Z,3.2nm,0.7s,baz=182,slow=7.6,SNR=5.9							
	comp=Z,3.2nm,0.7s							
XAN	**Xi'an**	**51.20**	**324**	⇑P	**P**	**12 53 19.6**	**-0.7**	
XAN				pP	sP	12 53 30.6	+5.3	
XAN				pmax	pmax			
	comp=Z,8.0nm,0.6s							
PZH	**PanZhiHua**	**51.30**	**311**	P	**P**	**12 53 21.7**	**+0.4**	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.9s							
PZH				pmax	pmax			
	comp=Z,130nm,5.3s							
BJT	**Baijiatuau**	**52.07**	**334**	P	**P**	**12 53 26.0**	**-0.6**	
BJT				IAmb	IAmb	12 53 26.9		
	comp=Z,13nm,1.5s							
HHC	**Hu-ho-hao-te**	**54.84**	**331**	*e*P	**P**	**12 53 50.5**	**+3.5**	
HHC				pmax	pmax			
	comp=Z,7.0nm,0.6s							
HHC				pmax	pmax			
	comp=Z,230nm,5.7s							
XLT	**XiLinHaoTe**	**55.34**	**337**	*e*P	**P**	**12 53 53.3**	**+2.7**	
XLT				pP	sP	12 54 03.9	+8.2	
XLT				sP	pP	12 54 10.1	+16	
XLT				PcP	**PcP**	**12 54 52.5**	**+1.4**	
XLT				PP	PP	12 56 02.6	+8.1	
XLT				pmax	pmax			
	comp=Z,7.0nm,0.8s							
XLT				pmax	pmax			
	comp=Z,300nm,5.2s							
LZH	**Lanzhou**	**55.64**	**322**	*e*P	**P**	**12 53 52.9**	**-0.1**	
LZH				pP	sP	12 54 04.6	+6.5	
LZH				pmax	pmax			
	comp=Z,17nm,1.0s							
PETK	**Petropavlovsk-**	**60.39**	**10**	P	**P**	**12 54 23.4**	**-2.4**	
	comp=Z,9.2nm,1.1s,baz=184,slow=8.7,SNR=2.7							
	comp=Z,9.2nm,1.1s							
ULN	**Ulaanbaatar**	**62.29**	**334**	P	**P**	**12 54 39.2**	**+0.2**	
SONM	**Songino Array**	**62.56**	**333**	P	**P**	**12 54 40.6**	**-0.2**	
SONM	**Songino Array**	**62.56**	**333**	P	**P**	**12 54 39.8**	**-0.9**	
	comp=Z,1.0nm,0.6s,baz=161,slow=7.5,SNR=6.6							

	comp=Z,1.0nm,0.6s							
WMQ	**Urumqi**	**70.19**	**321**	*e*P	**P**	**12 55 31.2**	**+1.5**	
MK31	**Makanchi Array**	**74.96**	**322**	P	**P**	**12 55 57.9**	**0.0**	
MKAR	**Makanchi Array**	**74.96**	**322**	P	**P**	**12 55 57.5**	**-0.4**	
MKAR	**Makanchi Array**	**74.96**	**322**	P	**P**	**12 55 57.8**	**-0.1**	
	comp=Z,4.8nm,0.7s,baz=106,slow=7.2,SNR=37							
	comp=Z,4.8nm,0.7s							
MAKZ	**Makanchi**	**75.16**	**322**	P	**P**	**12 55 59.2**	**+0.1**	
MAKZ				IAmb	IAmb	12 55 59.7		
	comp=Z,8.1nm,1.1s							
KSH	**Kashi**	**76.36**	**313**	P	**P**	**12 56 07.8**	**+1.6**	
KSH				pmax	pmax			
	comp=Z,4.0nm,0.8s							
NIL	**Nilore**	**76.59**	**307**	P	**P**	**12 56 07.9**	**+0.3**	
ZAA0	**Zalesovo Array**	**76.93**	**329**	P	**P**	**12 56 07.8**	**-1.2**	
ZAA0				IAmb	IAmb	12 56 08.3		
	comp=Z,3.6nm,0.8s							
ZALV	**Zalesovo Beam**	**76.93**	**329**	P	**P**	**12 56 07.9**	**-1.1**	
ZALV	**Zalesovo Beam**	**76.93**	**329**	P	**P**	**12 56 07.5**	**-1.4**	
	comp=Z,2.7nm,0.6s,baz=114,slow=5.6,SNR=16							
	comp=Z,2.7nm,0.6s							
AAK	**Ala-Archa**	**78.46**	**316**	P	**P**	**12 56 18.5**	**+0.5**	
AAK				IAmb	IAmb	12 56 19.1		
	comp=Z,8.7nm,1.4s							
AAK	**Ala-Archa**	**78.46**	**316**	P	**P**	**12 56 17.3**	**-0.7**	
	comp=Z,1.5nm,0.6s,baz=162,slow=13,SNR=3.8							
	comp=Z,1.5nm,0.6s							
KURK	**Kurchatov**	**78.83**	**324**	P	**P**	**12 56 19.0**	**-0.7**	
KURK				IAmb	IAmb	12 56 19.9		
	comp=Z,3.5nm,0.7s							
KURBB	**Kurchatov Arra**	**78.85**	**324**	P	**P**	**12 56 18.9**	**-0.8**	
	comp=Z,2.0nm,0.6s,baz=116,slow=4.5,SNR=22							
	comp=Z,2.0nm,0.6s							
GAR	**Garm**	**80.37**	**311**	P	**P**	**12 56 27.7**	**-0.8**	
GAR				IAmb	IAmb	12 56 28.9		
	comp=Z,9.7nm,1.1s							
CHGR	**Chuyangaron**	**81.15**	**311**	P	**P**	**12 56 32.2**	**-0.5**	
SIMJ	**Simiganj**	**81.27**	**311**	P	**P**	**12 56 33.0**	**-0.3**	
SIMJ				IAmb	IAmb	12 56 33.8		
	comp=Z,6.3nm,1.0s							
KK31	**Karatay Array**	**81.39**	**315**	P	**P**	**12 56 33.2**	**-0.5**	
KDAK	**Kodiak Island**	**82.08**	**29**	LR	LR	13 29 33.3		
	comp=Z,43nm,19.1s,baz=162,slow=33							
QSPA	**South Pole Qui**	**83.81**	**180**	P	**P**	**12 56 46.0**	**0.0**	
	comp=Z,2.7nm,0.7s,baz=308,slow=1.2,SNR=21							
	comp=Z,2.7nm,0.7s							
H19K	**Roundabout Mou**	**83.97**	**21**	IAmb	IAmb	12 56 54.4		
	comp=Z,11nm,1.4s							
BVAR	**Borovoye Array**	**84.42**	**325**	P	**P**	**12 56 48.8**	**-0.4**	
	comp=Z,17nm,0.6s,baz=110,slow=6.8,SNR=94							
	comp=Z,17nm,0.6s							
BRVK	**Borovoye**	**84.49**	**325**	P	**P**	**12 56 49.0**	**-0.5**	
RC01	**Rabbit Creek A**	**84.75**	**27**	P	**P**	**12 56 50.8**	**+0.2**	
C19K	**Lookout Ridge**	**84.77**	**18**	IAmb	IAmb	12 56 51.7		
	comp=Z,6.6nm,0.9s							
D19K	**Kuna River**	**84.90**	**19**	IAmb	IAmb	12 56 50.7		
	comp=Z,12nm,1.4s							
RND	**Reindeer**	**86.02**	**25**	P	**P**	**12 56 55.1**	**-1.9**	
RND				IAmb	IAmb	12 56 56.0		
	comp=Z,4.7nm,0.8s							
DHY	**Denali Highway**	**86.52**	**25**	P	**P**	**12 56 58.9**	**-0.8**	
DHY				IAmb	IAmb	12 56 59.0		
	comp=Z,4.2nm,0.8s							
E22K	**Anaktuvuk Pass**	**86.80**	**20**	IAmb	IAmb	12 57 01.6		
	comp=Z,3.6nm,0.8s							
G23K	**Bananza Creek**	**86.84**	**22**	IAmb	IAmb	12 57 01.0		
	comp=Z,2.9nm,0.8s							
CCB	**Clear Creek Bu**	**86.91**	**24**	P	**P**	**12 56 59.1**	**-2.2**	
CCB				IAmb	IAmb	12 56 59.6		
	comp=Z,5.1nm,0.8s							
BMRM	**Bremner River**	**87.05**	**28**	P	**P**	**12 57 01.2**	**-0.9**	
PAX	**Paxson**	**87.30**	**26**	P	**P**	**12 57 02.3**	**-1.0**	
IL31		**87.32**	**24**	P	**P**	**12 57 00.7**	**-2.5**	
IL31				IAmb	IAmb	12 57 01.3		
	comp=Z,3.5nm,0.8s							
ILAR	**Eielson Array**	**87.32**	**24**	P	**P**	**12 57 00.8**	**-2.5

JISG	**Ishigakijimahi**	**0.57**	**54**	*e*P		Pg	12 45 51.8	0.0

IDC ***02*** *12:49:48.9±0.8,6°24′S×143°44′E,h0km,mb4.1/7, mbtmp4.1/9,ML2.1/1,Error ellipse: s-maj=36.7km s-min=21.1km az=68.0*
ISC 02 12:49:54.4±0.8,6°3′S±0°1′×143°5′E±0°2,h35km,n11, σ0s82/11,mb4.1/7,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**4.82**	**131**	Pn		**Pn**	**12 51 04.8**	**+0.3**
	5.1nm,0.3s,baz=24,slow=4.1,SNR=11							
PMG				Sn		**Sn**	**12 51 58.9**	**-0.3**
	3.5nm,0.3s,baz=285,slow=24,SNR=7.7							
	11nm,0.3s							
WRA	**Warramunga Arr**	**16.24**	**212**	Sn		Sn	12 56 25.6	-14
	0.4nm,0.3s,baz=24,slow=22,SNR=1.9							
WRA				Lg		Lg	12 58 21.3	
	0.2nm,0.3s,baz=23,slow=29,SNR=2.6							
ASAR	**Alice Springs**	**19.61**	**207**	P		**P**	**12 54 20.6**	**+0.7**
	4.6nm,0.6s,baz=29,slow=13,SNR=3.5							
PETK	**Petropavlovsk-**	**60.35**	**10**	P		**P**	**13 00 01.1**	**+1.3**
	3.2nm,0.8s,baz=182,slow=4.3,SNR=2.0							
	3.2nm,0.8s							
MKAR	**Makanchi Array**	**75.48**	**322**	P		**P**	**13 01 35.2**	**+0.1**
	1.6nm,0.7s,baz=107,slow=6.4,SNR=9.7							
	1.6nm,0.7s							
ZALV	**Zalesovo Beam**	**77.38**	**329**	P		**P**	**13 01 44.2**	**-1.5**
	0.3nm,0.4s,baz=117,slow=7.0,SNR=2.3							
	0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**79.34**	**324**	P		**P**	**13 01 56.5**	**-0.1**
	0.5nm,0.6s,baz=112,slow=4.5,SNR=4.9							
	0.5nm,0.6s							
QSPA	**South Pole Qui**	**83.72**	**180**	P		**P**	**13 02 19.0**	**-0.6**
	1.5nm,0.5s,baz=179,slow=0.7,SNR=22							
	1.5nm,0.5s							
BVAR	**Borovoye Array**	**84.92**	**325**	P		**P**	**13 02 25.7**	**-0.1**
	1.6nm,0.7s,baz=103,slow=6.7,SNR=7.8							
	1.6nm,0.7s							
ILAR	**Eielson Array**	**87.11**	**24**	P		**P**	**13 02 35.8**	**-0.6**
	0.5nm,0.8s,baz=253,slow=5.3,SNR=6.3							
	0.5nm,0.8s							
DBIC	**Dimbokro**	**148.52**	**273**	PKPbc		**PKPbc**	**13 09 38.7**	**0.0**
	1.3nm,0.7s,baz=59,slow=6.2,SNR=4.0							

IDC ***02*** *12:55:04.3±1.4,30°18′N×87°69′E,h0km,mb3.8/12, mbtmp3.7/15,ML3.2/3,MS3.2/5,Error ellipse: s-maj=29.4km s-min=27.6km az=116.0*
ISC 02 12:55:06.2±0.9,30°2′N±0°1′×87°7′E±0°1,h10km,n22, σ1s56/19,mb3.7/12,MS3.1/4,Xizang

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
TNCH	**TengChong**	**10.93**	**116**	*e*P		Pn	12 57 50.7	+7.9
TNCH				pP			12 57 52.9	
TNCH				S		Sn	12 59 56.9	+12
TNCH				pmax		pmax		
	comp=Z,15nm,0.5s							
TNCH				pmax		pmax		
	comp=Z,120nm,4.7s							
TNCH				LR		LR		
	comp=N,140nm,9.5s							
TNCH				LR		LR		
	comp=E,210nm,10.6s							
TNCH				LR		LR		
	comp=Z,260nm,10.5s							
KSH	**Kashi**	**13.33**	**317**	P		**Pn**	**12 58 19.2**	**+3.7**
KSH				sP		P	12 58 26.1	+0.8
KSH				S		**Sn**	**13 00 40.2**	**-3.6**
KSH				pmax		pmax		
	comp=Z,6.0nm,0.7s							
KSH				LR		LR		
	comp=N,100nm,6.2s							
KSH				LR		LR		
	comp=E,240nm,6.0s							
KSH				LR		LR		
	comp=Z,250nm,5.8s							
CMAR	**Chiang Mai Arr**	**15.57**	**136**	Pn		**Pn**	**12 58 45.0**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=315,slow=13,SNR=2.2							
CMAR				LR		LR	13 05 07.3	
	comp=Z,36nm,18.2s,baz=320,slow=39							
	comp=Z,0.8nm,0.7s							
AAK	**Ala-Archa**	**16.27**	**323**	Pn		**Pn**	**12 58 54.9**	**0.0**
	baz=170,slow=6.1,SNR=1.9							
	comp=Z,0.9nm,0.7s							
MKAR	**Makanchi Array**	**17.05**	**347**	P		**Pn**	**12 59 05.7**	**+1.0**
	baz=165,slow=12,SNR=3.2							
	comp=Z,0.6nm,0.7s							
KURBB	**Kurchatov Arra**	**21.49**	**344**	P		**P**	**12 59 54.0**	**-0.9**
	comp=Z,3.4nm,0.9s,baz=154,slow=11,SNR=14							
	comp=Z,3.4nm,0.9s							
SONM	**Songino Array**	**22.71**	**34**	P		**P**	**13 00 08.5**	**+0.3**
	comp=Z,1.3nm,1.0s,baz=234,slow=13,SNR=7.4							
	comp=Z,1.3nm,1.0s							
ZALV	**Zalesovo Beam**	**23.79**	**356**	P		**P**	**13 00 19.4**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=170,slow=9.9,SNR=8.2							
ZALV				LR		LR	13 09 15.5	
	comp=Z,24nm,18.9s,baz=352,slow=36							
	comp=Z,1.4nm,0.7s							
GEYT	**Alibeck**	**25.58**	**295**	LR		LR	13 12 49.0	
	comp=Z,61nm,18.1s,baz=170,slow=42							
BVAR	**Borovoye Array**	**26.04**	**336**	P		**P**	**13 00 40.0**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=132,slow=6.4,SNR=9.2							
	comp=Z,1.0nm,0.6s							
KSRS	**Korea Array**	**34.00**	**67**	LR		LR	13 16 54.1	
	comp=Z,32nm,20.2s,baz=60,slow=38							
BRTR	**Keskin Array B**	**44.69**	**297**	P		**P**	**13 03 18.8**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=102,slow=9.3,SNR=1.5							
	comp=Z,0.6nm,0.5s							
EIL	**Elat**	**45.33**	**283**	LR		LR	13 27 55.2	
	comp=Z,78nm,18.2s,baz=247,slow=44							
FINES	**FINESS Array B**	**50.41**	**327**	P		**P**	**13 04 03.1**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=116,slow=8.7,SNR=5.3							
	comp=Z,1.2nm,0.6s							
ARCES	**ARCESS Array B**	**52.33**	**337**	P		**P**	**13 04 17.4**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=114,slow=9.0,SNR=1.1							
	comp=Z,1.7nm,0.7s							
HFS	**Hagfors**	**56.40**	**325**	P		**P**	**13 04 47.9**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=126,slow=7.5,SNR=6.4							
	comp=Z,2.8nm,0.8s							
NB2	**NORSAR Subarra**	**57.57**	**326**	P		**P**	**13 04 57.8**	**+2.0**
	comp=Z,4.4nm,1.1s,baz=85,slow=7.4							
NOA	**NORSAR Array B**	**57.57**	**326**	P		**P**	**13 04 57.5**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=85,slow=6.9,SNR=3.7							
	comp=Z,0.4nm,0.5s							
ILAR	**Eielson Array**	**76.25**	**21**	P		**P**	**13 06 55.0**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=310,slow=5.6,SNR=1.4							
	comp=Z,0.2nm,0.7s							
TORD	**Torodi Ar. Bea**	**80.07**	**279**	P		**P**	**13 07 16.6**	**0.0**
	comp=Z,1.4nm,0.6s,baz=50,slow=5.8,SNR=10							
	comp=Z,1.4nm,0.6s							
YKA	**Yellowknife Ar**	**85.88**	**10**	P		**P**	**13 07 45.0**	**-0.8**
	comp=Z,0.5nm,1.0s,baz=344,slow=5.0,SNR=5.2							
	comp=Z,0.5nm,1.0s							
CPUP	**Villa Florida**	**149.01**	**268**	PKPbc		**PKPbc**	**13 14 54.5**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=99,slow=5.2,SNR=3.3							

IDC 02 12:55:40.4±1.4,6°18′S×143°04E,h0km,mb3.9/2, mbtmp3.7/5,ML1.3/1,Error ellipse: s-maj=44.3km s-min=27.0km az=60.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.19**	**128**	Pn		Pn	12 56 59.8	+0.5
	0.8nm,0.3s,baz=282,slow=14,SNR=1.8							
PMG				Sn		Sn	12 57 58.6	-1.4
	1.2nm,0.3s,baz=24,slow=20,SNR=2.3							
	2.1nm,0.4s							
WRA	**Warramunga Arr**	**16.09**	**211**	Pn		Pn	12 59 26.3	-1.8
	1.1nm,0.7s,baz=27,slow=13,SNR=1.2							
ASAR	**Alice Springs**	**19.48**	**206**	P		Pn	13 00 10.3	0.0
	1.3nm,0.9s,baz=33,slow=12,SNR=1.3							
MKAR	**Makanchi Array**	**75.16**	**322**	P		P	13 07 24.6	-0.1
	0.4nm,0.7s,baz=97,slow=8.3,SNR=4.3							
	0.4nm,0.7s							
BVAR	**Borovoye Array**	**84.61**	**325**	P		P	13 08 15.8	0.0
	1.4nm,0.7s,baz=116,slow=6.6,SNR=7.9							
	1.4nm,0.7s							

IDC ***02*** *12:56:51.4±0.7,6°32′S×143°45E,h0km,mb4.4/10, mbtmp4.4/12,ML2.4/1,MS3.1/2,Error ellipse: s-maj=28.7km s-min=16.2km az=77.0*
NEIC ***02*** *12:56:54.3±1.3,6°34′S±0°09×143°30′E±0°09,h10km±1km, mb4.7/73,Error ellipse: s-maj=15.2km s-min=13.5km az=137.0*
ISC 02 12:56:53.2±0.5,6°51′S±0°06×143°25′E±0°07,h10km,n101, σ1s49/96,mb4.7/44,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**4.83**	**127**			**Pn**	**12 58 07.5**	**+1.6**
PMG	**Port Moresby**	**4.83**	**127**	P		**Pn**	**12 58 07.6**	**+1.7**
PMG	**Port Moresby**	**4.83**	**127**	Pn		**Pn**	**12 58 06.3**	**+0.4**
	11nm,0.3s,baz=12,slow=5.2,SNR=24							
PMG				Sn		**Sn**	**12 58 60.0**	**-1.9**
	10nm,0.3s,baz=272,slow=23,SNR=13							
	25nm,0.3s							
COEN	**Coen**	**7.40**	**181**	Pn		**Pn**	**12 58 42.1**	**+0.7**
RABL	**Rabaul**	**9.17**	**76**	Pn		**Pn**	**12 59 03.0**	**-2.6**
KDU	**Kakadu**	**12.27**	**239**	P		**Pn**	**12 59 48.1**	**0.0**
MTN	**Manton Dam**	**13.50**	**241**	Pn		**Pn**	**13 00 04.8**	**0.0**
MTN	**Manton Dam**	**13.50**	**241**	P		**Pn**	**13 00 05.0**	**+0.1**
DRS	**Darwin Rock St**	**13.52**	**243**	P		**Pn**	**13 00 06.0**	**+0.8**
CTA	**Charters Tower**	**13.81**	**168**	Lg		Lg	13 04 14.5	
	0.2nm,0.3s,baz=59,slow=19,SNR=1.9							
WB0	**Warramunga Arr**	**15.74**	**212**	Pn		**P**	**13 00 37.9**	**-1.3**
WR0	**Warramunga Arr**	**15.82**	**211**	Pn		**Pn**	**13 00 36.8**	**+0.6**
WRAB	**Tennant Creek**	**15.90**	**212**	Pn		**Pn**	**13 00 37.8**	**+0.6**
WB2	**Warramunga Arr**	**15.90**	**212**	Pn		**Pn**	**13 00 37.6**	**+0.3**
WRA	**Warramunga Arr**	**15.91**	**212**	Pn		**Pn**	**13 00 37.6**	**+0.2**
WRA	**Warramunga Arr**	**15.91**	**212**	Pn		**Pn**	**13 00 35.2**	**-2.2**
	0.9nm,0.3s,baz=31,slow=13,SNR=15							
WRA				Sn		**Sn**	**13 03 26.2**	**-7.8**
	0.9nm,0.3s,baz=32,slow=22,SNR=5.3							
WRA				Lg		Lg	13 05 24.4	
	0.3nm,0.3s,baz=31,slow=30,SNR=2.8							
KNRA	**Kununurra**	**16.87**	**236**	Pn		**Pn**	**13 00 49.2**	**-0.4**
KNRA	**Kununurra**	**16.87**	**236**	P		**Pn**	**13 00 49.3**	**-0.3**
SOEI	**Soe**	**19.06**	**259**	P		**P**	**13 01 16.4**	**+0.3**
SOEI				IAmb		IAmb	13 01 35.6	
	comp=Z,32nm,0.8s							
SOEI	**Soe**	**19.06**	**259**	P		**Pn**	**13 01 20.4**	**+3.6**
AS31	**Alice Springs**	**19.28**	**207**	P		**Pn**	**13 01 22.0**	**+2.8**
ASAR	**Alice Springs**	**19.28**	**207**	P		**Pn**	**13 01 22.0**	**+2.7**
ASAR	**Alice Springs**	**19.28**	**207**	P		**Pn**	**13 01 21.7**	**+2.4**
	comp=Z,11nm,0.7s,baz=36,slow=8.8,SNR=34							
ASAR				S		**Sn**	**13 04 48.8**	**-6.8**
	comp=Z,1.2nm,0.5s,baz=20,slow=27,SNR=4.4							
ASAR				Lg		Lg	13 07 10.2	
	baz=23,slow=33							
PATS	**Pohnpei**	**20.04**	**49**	P		**P**	**13 01 26.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**20.68**	**235**	P		Pn	13 01 36.1	+0.2
DAV	**Davao City (W)**	**22.20**	**307**	LR		LR	13 09 23.9	
	comp=Z,32nm,20.4s,baz=300,slow=34							
TOLI2	**Tolitoli**	**23.67**	**288**	P		**P**	**13 02 04.8**	**-0.4**
BBOO	**Buckleboo**	**27.01**	**193**	P		**P**	**13 02 37.4**	**+1.9**
CAN	**Canberra**	**29.16**	**170**	P		**P**	**13 02 56.6**	**+1.9**
CAN				IAmb		IAmb	13 03 15.1	
	comp=Z,18nm,1.3s							
JNU	**Nakatsue**	**41.13**	**344**	LR		LR	13 21 10.3	
	comp=Z,28nm,18.1s,baz=26,slow=36							
RTZ	**Ruatahuna**	**44.16**	**141**	P		**P**	**13 05 04.0**	**+1.7**
TUWZ	**Tuamarina**	**44.21**	**147**	P		**P**	**13 05 03.6**	**+1.1**
KSRS	**Korea Array**	**46.02**	**343**	P		**P**	**13 05 16.1**	**-0.8**
	comp=Z,3.1nm,0.8s,baz=162,slow=9.9,SNR=8.7							
	comp=Z,3.1nm,0.8s							
CMAR	**Chiang Mai Arr**	**50.25**	**300**	P		**P**	**13 05 49.8**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=116,slow=7.4,SNR=5.2							
	comp=Z,0.5nm,0.5s							
USRK	**Ussuriysk Ar.**	**51.49**	**350**	P		**P**	**13 05 57.2**	**-1.7**
	comp=Z,4.7nm,0.8s,baz=212,slow=6.8,SNR=7.3							
	comp=Z,4.7nm,0.8s							
PETK	**Petropavlovsk-**	**60.64**	**10**	P		**P**	**13 07 03.2**	**-1.1**
	comp=Z,7.5nm,0.8s,baz=166,slow=7.8,SNR=7.7							
	comp=Z,7.5nm,0.8s							
SONM	**Songino Array**	**63.10**	**333**	P		**P**	**13 07 21.1**	**0.0**
	comp=Z,0.9nm,0.6s,baz=157,slow=6.3,SNR=6.2							
	comp=Z,0.9nm,0.6s							
MA2	**Magadan**	**66.15**	**4**	P		**P**	**13 07 38.8**	**-1.8**
MK31	**Makanchi Array**	**75.55**	**322**	P		**P**	**13 08 38.4**	**+0.3**
MK31				IAmb		IAmb	13 08 39.2	
	comp=Z,5.7nm,1.1s							
MKAR	**Makanchi Array**	**75.55**	**322**	P		**P**	**13 08 38.2**	**+0.2**
MKAR	**Makanchi Array**	**75.55**	**322**	P		**P**	**13 08 38.1**	**0.0**
	comp=Z,5.8nm,0.8s,baz=107,slow=7.0,SNR=44							
	comp=Z,5.8nm,0.8s							
MAKZ	**Makanchi**	**75.75**	**322**	P		**P**	**13 08 39.3**	**+0.1**
MAKZ				IAmb		IAmb	13 08 40.2	
	comp=Z,8.8nm,1.1s							
NIL	**Nilore**	**77.21**	**307**	P		**P**	**13 08 48.7**	**+0.9**
ZAA0	**Zalesovo Array**	**77.49**	**329**	P		**P**	**13 08 48.0**	**-0.8**
ZALV	**Zalesovo Beam**	**77.49**	**329**	P		**P**	**13 08 48.0**	**-0.8**
ZALV	**Zalesovo Beam**	**77.49**	**329**	P		**P**	**13 08 47.8**	**-1.1**
	comp=Z,2.1nm,0.6s,baz=109,slow=6.4,SNR=10							
	comp=Z,2.1nm,0.6s							
KURK	**Kurchatov**	**79.41**	**324**	P		**P**	**13 08 59.4**	**-0.1**
KURBB	**Kurchatov Arra**	**79.43**	**324**	P		**P**	**13 08 59.2**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=114,slow=4.6,SNR=20							
	comp=Z,1.5nm,0.6s							
O16K	**Kokwok River B**	**80.45**	**26**	P		**P**	**13 09 05.0**	**+0.1**
O16K				IAmb		IAmb	13 09 19.5	
	comp=Z,11nm,1.2s							
K15K	**Wolf Creek Mou**	**80.48**	**23**	P		**P**	**13 09 05.7**	**+0.6**
K15K				IAmb		IAmb	13 09 06.0	
	comp=Z,5.2nm,0.8s							
M16K	**Timber Creek**	**80.82**	**25**	P		**P**	**13 09 07.0**	**+0.1**
M16K				IAmb		IAmb	13 09 21.3	
	comp=Z,19nm,1.4s							
L16K	**Owhat River**	**80.97**	**24**	P		**P**	**13 09 08.2**	**+0.5**
L16K				IAmb		IAmb	13 09 27.6	
	comp=Z,7.4nm,1.1s							
N17K	**Nushagak Hills**	**81.31**	**26**			**P**	**13 09 10.1**	**+0.5**
N17K				IAmb		IAmb	13 09 34.5	
	comp=Z,17nm,1.4s							
F15K	**North Star Dit**	**81.38**	**19**	P		**P**	**13 09 10.0**	**+0.1**
J16K	**Anvik River**	**81.39**	**22**	P		**P**	**13 09 10.4**	**+0.5**
OHAK	**Old Harbor**	**81.55**	**29**	P		**P**	**13 09 10.6**	**-0.2**
OHAK				IAmb		IAmb	13 09 17.5	
	comp=Z,10nm,1.3s							
P18K	**Big Mountain,**	**81.62**	**27**	P		**P**	**13 09 11.9**	**+0.6**
P18K				IAmb		IAmb	13 09 36.6	
	comp=Z,18nm,1.5s							
M17K	**Holitna River**	**81.65**	**25**	P		**P**	**13 09 12.2**	**+0.8**
M17K				IAmb		IAmb	13 09 30.5	
	comp=Z,16nm,1.4s							
CHGR	**Chuyangaron**	**81.77**	**310**	P		**P**	**13 09 13.3**	**+0.7**
SIMJ	**Simiganj**	**81.88**	**310**	P		**P**	**13 09 13.5**	**+0.2**
SIMJ				IAmb		IAmb	13 09 19.7	
	comp=Z,4.2nm,0.9s							
N18K	**Kilae Creek**	**81.95**	**26**	P		**P**	**13 09 13.6**	**+0.7**
N18K				IAmb		IAmb	13 09 32.3	
	comp=Z,14nm,1.4s							
G16K	**Koyuk River**	**81.96**	**20**	P		**P**	**13 09 12.9**	**+0.1**
G16K				IAmb		IAmb	13 09 15.3	
	comp=Z,9.2nm,1.4s							
K17K	**Iditarod**	**81.97**	**23**	P		**P**	**13 09 12.6**	**-0.4**
K17K				IAmb		IAmb	13 09 14.6	
	comp=Z,9.2nm,1.0s							
KKAR	**Karatay Array**	**81.99**	**315**	P		**P**	**13 09 13.6**	**-0.1**
KDAK	**Kodiak Island**	**82.14**	**29**	P		**P**	**13 09 13.6**	**-0.3**
SVW2	**Sparrevohn**	**82.28**	**25**	P		**P**	**13 09 14.6**	**-0.1**
SVW2				IAmb		IAmb	13 09 22.8	
	comp=Z,6.8nm,1.0s							
L18K	**Granite Mounta**	**82.37**	**24**	P		**P**	**13 09 15.3**	**+0.3**
L18K				IAmb		IAmb	13 09 16.6	
	comp=Z,11nm,1.4s							
N19K	**Bonanza Creek**	**82.62**	**26**	P		**P**	**13 09 16.9**	**+0.3**
N19K				IAmb		IAmb	13 09 17.2	
	comp=Z,5.5nm,0.8s							
P19K	**Oil Pt**	**82.65**	**27**	P		**P**	**13 09 15.8**	**-0.9**
C16K	**Lisburne Hills**	**82.75**	**17**	P		**P**	**13 09 16.7**	**-0.2**
C16K				IAmb		IAmb	13 09 34.3	
	comp=Z,5.8nm,1.4s							
F17K	**Baldwin Pennin**	**82.93**	**19**	P		**P**	**13 09 18.6**	**+0.7**
J18K	**Innoko River**	**82.98**	**23**	P		**P**	**13 09 17.8**	**-0.4**
J18K				IAmb		IAmb	13 09 23.5	
	comp=Z,6.0nm,1.2s							
TTA	**Tatalina**	**82.99**	**24**	P		**P**	**13 09 18.9**	**+0.5**
QSPA	**South Pole Qui**	**83.46**	**180**	P		**P**	**13 09 21.6**	**+0.7**
QSPA				IAmb		IAmb	13 09 22.3	
	comp=Z,5.3nm,0.7s							
QSPA	**South Pole Qui**	**83.46**	**180**	P		**P**	**13 09 21.4**	**+0.5**
	comp=Z,4.5nm,0.5s,baz=266,slow=0.4,SNR=76							
	comp=Z,4.5nm,0.5s							
E18K	**Tukpahlearik C**	**83.69**	**19**	IAmb		IAmb	13 09 25.7	
	comp=Z,5.8nm,1.1s							
G19K	**Purcell Mounta**	**84.19**	**21**	IAmb		IAmb	13 09 25.3	
	comp=Z,6.2nm,1.2s							
RND	**Reindeer**	**86.12**	**25**	P		**P**	**13 09 33.1**	**-1.2**
SCM	**Sheep Creek Mo**	**86.18**	**26**	P		**P**	**13 09 34.2**	**-0.4**
DHY	**Denali Highway**	**86.61**	**25**	P		**P**	**13 09 36.5**	**-0.3**
DHY				IAmb		IAmb	13 09 36.8	
	comp=Z,5.9nm,0.8s							
M24K	**Tolsona, Glenn**	**86.79**	**26**	P		**P**	**13 09 37.7**	**+0.1**
E22K	**Anaktuvuk Pass**	**86.95**	**20**	P		**P**	**13 09 38.3**	**+0.1**
G23K	**Bananza Creek**	**86.98**	**21**	P		**P**	**13 09 38.3**	**-0.1**
G23K				IAmb		IAmb	13 09 39.1	
	comp=Z,3.3nm,0.8s							
D22K	**Ayikyak River**	**86.99**	**19**	P		**P**	**13 09 38.7**	**+0.3**
D22K				IAmb		IAmb	13 09 42.3	
	comp=Z,4.4nm,0.9s							
CCB	**Clear Creek Bu**	**87.02**	**24**	P		**P**	**13 09 38.3**	**-0.2**
CCB				IAmb		IAmb	13 09 45.1	
	comp=Z,4.4nm,1.2s							
HMT	**Hamilton**	**87.08**	**28**	P		**P**	**13 09 38.7**	**-0.3**
ILAR	**Eielson Array**	**87.43**	**24**	P		**P**	**13 09 38.5**	**-2.1**
	comp=Z,2.4nm,0.8s,baz=259,slow=5.0,SNR=12							
	comp=Z,2.4nm,0.8s							
F24K	**Squaw Lake**	**88.06**	**21**	IAmb		IAmb	13 09 44.8	
	comp=Z,5.8nm,0.8s							
LOGN	**Logan Glacier**	**88.76**	**28**	P		**P**	**13 09 47.1**	**0.0**
M27K	**Edge Creek, AK**	**88.78**	**27**	P		**P**	**13 09 45.7**	**-1.5**
L27K	**Beaver Creek,**	**89.00**	**26**	P		**P**	**13 09 48.5**	**+0.4**
L27K				IAmb		IAmb	13 09 55.4	
	comp=Z,9.9nm,1.5s							
BCAR	**Beaver Creek A**	**89.02**	**26**	P		**P**	**13 09 47.6**	**-0.6**
E25K	**Arctic Village**	**89.10**	**21**	P		**P**	**13 09 48.9**	**+0.5**
E25K				IAmb		IAmb	13 09 49.7	
	comp=Z,3.0nm,0.9s							
K27K	**Chicken**	**89.17**	**25**	P		**P**	**13 09 49.0**	**+0.2**
K27K				IAmb		IAmb	13 09 50.1	
	comp=Z,8.0nm,1.1s							
BMAR	**Burnt Mountain**	**89.22**	**22**	P		**P**	**13 09 49.6**	**+0.6**
DAWY	**Dawson**	**90.32**	**25**	P		**P**	**13 09 54.1**	**-0.2**
DAWY				IAmb		IAmb	13 09 55.0	
	comp=Z,3.7nm,0.8s							
M29M	**Somme Creek**	**90.34**	**27**	P		**P**	**13 09 54.3**	**-0.1**
M29M				IAmb		IAmb	13 09 55.1	
	comp=Z,2.5nm,0.6s							
L29M	**L29M**	**90.64**	**26**	P		**P**	**13 09 56.1**	**+0.4**
L29M				IAmb		IAmb	13 09 57.1	
	comp=Z,4.1nm,0.8s							
K29M	**Barlow Dome**	**91.07**	**26**	P		**P**	**13 09 58.0**	**+0.2**
K29M				IAmb		IAmb	13 09 58.6	
	comp=Z,4.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**141.59**	**283**	PKhKP		PKPpre	13 16 20.6	
	comp=Z,0.5nm,0.7s,baz=30,slow=3.6,SNR=3.0							
DBIC	**Dimbokro**	**148.32**	**272**	PKPbc		**PKPbc**	**13 16 41.5**	**+0.7**
	comp=Z,11nm,0.9s,baz=83,slow=2.2,SNR=12							

SJA ***02*** *13:07:54.3±0.6,24°02′S×67°06W,h211km±4km,ML3.5, MW3.4*
GUC ***02*** *13:07:56.7±0.6,24°02′S×67°31W,h212km±10km,ML3.8*
ISC 02 13:07:52.8±1.7,24°03S±0°03×67°12W±0°06, h227km±13km,n40,σ1s90/69,3C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SLA	**San Lorenzo**	**1.63**	**116**	*e*P		**Pn**	**13 08 30.5**	**+0.3**
SLA				*e*S		**S**	**13 08 56.8**	**-2.6**
LVC	**Limon Verde**	**2.17**	**310**	*e*P		**Pn**	**13 08 36.7**	**+1.2**
LVC				*e*S		**S**	**13 09 08.3**	**-0.4**
LVC	**Limon Verde**	**2.17**	**310**	*e*P		**Pn**	**13 08 36.6**	**+1.2**
LVC				*e*S		**S**	**13 09 06.5**	**-2.2**
LVC				IAML			13 09 08.5	
	comp=Z,372nm,0.3s							
PB15	**IPOC Station P**	**2.31**	**290**	*e*P		**Pn**	**13 08 38.2**	**+1.5**
PB15				*e*S		**S**	**13 09 10.4**	**-0.5**
PB15	**IPOC Station P**	**2.31**	**290**	↑*i*P		**Pn**	**13 08 38.2**	**+1.5**
PB15				*e*S		**S**	**13 09 08.7**	**-2.2**
PB15				IAML			13 09 13.8	
	comp=E,669nm,0.5s							
YJA	**Yavi**	**2.36**	**39**	*e*P		**Pn**	**13 08 38.7**	**+1.1**
GO02	**Mina Guanaco**	**2.52**	**243**	*e*P		**Pn**	**13 08 40.5**	**+1.5**
GO02				*e*S		**S**	**13 09 14.7**	**-0.3**
GO02	**Mina Guanaco**	**2.52**	**243**	↑*i*P		**Pn**	**13 08 40.4**	**+1.4**
GO02				*i* S		**S**	**13 09 14.1

IDC ***02*** *13:12:53.0±13.0, 31.05S×179.91E, h90km±134km, mb3.5/3, mbtmp4.0/4, ML4.4/1, MS3.6/1, Error ellipse: s-maj=140.4km s-min=51.1km az=5.0*
WEL ***02*** *13:13:12.7±1.3, 33.7°×18.0W±1.6, h234km±24km, M4.4/5, mB4.6/3, MLv4.5/5, Mw(mB)3.8/3, Error ellipse: s-maj=0.0km s-min=0.0km az=109.1*

ISC 02 13:13:10.6±1.1, 32.88S±0.08×179.8W±0.1, h250km, n33, σ2.250/51, mb3.3/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.94**	**24**	P	**Pn**	**13 14 13.3**	**-0.4**
GLKZ				S	**S**	**13 15 04.4**	**+0.5**
MXZ	**Matakaoa Point**	**4.93**	**198**	P	Pn	13 14 30.6	+5.2
MXZ				S	**S**	**13 15 27.8**	**+2.7**
WMGZ	**Waiomatatini S**	**5.15**	**196**	P	**Pn**	**13 14 30.6**	**+2.5**
WMGZ				S	**S**	**13 15 35.7**	**+5.8**
HAZ	**Te Kaha**	**5.26**	**202**	P	**Pn**	**13 14 32.3**	**+2.8**
HAZ				S	**S**	**13 15 33.1**	**+0.7**
PKGZ	**Pakihiroa**	**5.30**	**199**	P	**Pn**	**13 14 31.7**	**+1.7**
PKGZ				S	**S**	**13 15 36.8**	**+3.4**
PUZ	**Puketiti**	**5.42**	**197**	P	**Pn**	**13 14 30.3**	**-1.2**
PUZ				S	**S**	**13 15 37.6**	**+1.5**
RUGZ	**Raukumara Rang**	**5.49**	**202**	P	**Pn**	**13 14 36.5**	**+4.1**
RUGZ				S	**S**	**13 15 38.4**	**+0.8**
WCZ	**Waipu Caves**	**5.74**	**236**	P	**Pn**	**13 14 38.6**	**+3.2**
WCZ	**Waipu Caves**	**5.74**	**236**	P	**Pn**	**13 14 38.1**	**+2.7**
URZ	**Urewera**	**5.94**	**204**	P	**Pn**	**13 14 40.4**	**+2.6**
	6.2nm,0.3s,baz=22,slow=19,SNR=22						
URZ				S	**S**	**13 15 49.4**	**+1.8**
	49nm,0.5s,baz=165,slow=22,SNR=16 14nm,0.2s						
OUZ	**Omahuta**	**5.98**	**245**	P	**Pn**	**13 14 39.4**	**+1.1**
NMHZ	**Naumai**	**6.79**	**203**	P	**Pn**	**13 14 49.6**	**+0.9**
NMHZ				S	**S**	**13 16 06.4**	**-0.9**
ARHZ	**Aropaoanui**	**6.89**	**201**	P	**Pn**	**13 14 51.2**	**+1.5**
ARHZ				S	**S**	**13 16 08.9**	**-0.4**
BKZ	**Black Stump Fm**	**6.96**	**205**	P	**Pn**	**13 14 53.3**	**+2.6**
BKZ				S	**S**	**13 16 11.2**	**+0.1**
MCHZ	**McNeill Hill**	**7.15**	**203**	P	**Pn**	**13 14 55.2**	**+2.3**
MCHZ				S	**S**	**13 16 14.0**	**-1.2**
KWHZ	**Kaweka Forest**	**7.22**	**204**	P	**Pn**	**13 14 56.6**	**+2.6**
KWHZ				S	**S**	**13 16 15.6**	**-1.4**
CKHZ	**Cape Kidnapper**	**7.23**	**200**	P	**Pn**	**13 14 56.8**	**+2.8**
CKHZ				S	**S**	**13 16 16.4**	**-0.7**
KAHZ	**Kahuranaki**	**7.41**	**200**	P	**Pn**	**13 14 59.3**	**+3.0**
KAHZ				S	**S**	**13 16 20.9**	**-0.6**
KRHZ	**Kereru**	**7.43**	**204**	P	**Pn**	**13 14 59.0**	**+2.4**
KRHZ				S	**S**	**13 16 18.9**	**-3.0**
PXZ	**Pawanui**	**7.63**	**200**	P	**Pn**	**13 15 00.9**	**+1.8**
PXZ				S	**S**	**13 16 23.6**	**-2.9**
PNHZ	**Pukenui**	**7.73**	**204**	P	**Pn**	**13 15 00.1**	**-0.4**
PNHZ				S	**S**	**13 16 25.5**	**-3.3**
WPHZ	**Waipukurau**	**7.79**	**202**	P	**Pn**	**13 15 01.7**	**+0.6**
WPHZ				S	**S**	**13 16 26.6**	**-3.5**
PRHZ	**Porangahau**	**7.92**	**200**	P	**Pn**	**13 15 02.9**	**+0.1**
PRHZ				S	**S**	**13 16 29.7**	**-3.3**
DVHZ	**Dannevirke**	**8.09**	**203**	P	**Pn**	**13 15 05.9**	**+0.9**
DVHZ				S	**S**	**13 16 33.0**	**-4.1**
ANWZ	**Angora Road**	**8.14**	**201**	P	**Pn**	**13 15 06.3**	**+0.7**
POWZ	**Post Office Ro**	**8.31**	**204**	P	**Pn**	**13 15 08.0**	**+0.3**
POWZ				S	**S**	**13 16 36.8**	**-5.3**
PRWZ	**Pori Road**	**8.39**	**203**	P	**Pn**	**13 15 09.4**	**+0.7**
PRWZ				S	**S**	**13 16 39.3**	**-4.6**
BFZ	**Birch Farm**	**8.41**	**201**	P	**Pn**	**13 15 08.9**	**-0.1**
BFZ				S	S	13 16 37.7	-6.9
MRZ	**Mangatainoka R**	**8.61**	**204**	P	Pn	13 15 09.4	-2.2
MRZ				S	S	13 16 42.3	-6.8
CTA	**Charters Tower**	**32.82**	**284**	P	P	13 19 12.1	-8.9
	1.7nm,0.7s,baz=106,slow=8.5,SNR=0.9 1.7nm,0.7s						
ASAR	**Alice Springs**	**41.54**	**271**	P	P	13 20 29.4	-4.7
	0.7nm,0.6s,baz=108,slow=7.6,SNR=10						
ASAR				LR	LR	13 36 05.9	
	comp=Z,85nm,19.9s,baz=35,slow=34 0.7nm,0.6s						
WRA	**Warramunga Arr**	**42.76**	**276**	P	P	13 20 38.6	-5.3
	0.8nm,0.5s,baz=114,slow=8.1,SNR=8.3 0.8nm,0.5s						
FINES	**FINESS Array B**	**146.90**	**337**	PKPbc	**PKPdf**	**13 32 18.1**	**-2.3**
	0.8nm,0.5s,baz=67,slow=3.6,SNR=7.1						

WEL 02 13:13:35.9±0.4, 40.3°×17.7°E±°, h33km±4km, M2.4/16, ML2.7/19, MLv2.4/16, Error ellipse: s-maj=0.0km s-min=0.0km az=100.6, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAHZ	**Kahuranaki**	**0.08**	**131**	P	Pb	13 13 43.0	+1.4
KAHZ				S	Sb	13 13 48.3	+2.7
CKHZ	**Cape Kidnapper**	**0.23**	**68**	P	Pb	13 13 43.7	+0.9
CKHZ				S	Sb	13 13 49.7	+2.2
PXZ	**Pawanui**	**0.29**	**171**	P	Pn	13 13 44.5	+0.7
PXZ				S	Sb	13 13 51.0	+2.3
MCHZ	**McNeill Hill**	**0.31**	**345**	P	Pn	13 13 45.2	+1.0
MCHZ				S	Sn	13 13 52.0	+2.8
KRHZ	**Kereru**	**0.35**	**287**	P	Pn	13 13 45.3	+0.6
WPHZ	**Waipukurau**	**0.42**	**221**	P	Pn	13 13 46.6	+0.8
KWHZ	**Kaweka Forest**	**0.43**	**317**	P	Pn	13 13 46.5	+0.5
PNHZ	**Pukenui**	**0.49**	**250**	P	Pn	13 13 47.3	+0.6
ARHZ	**Aropaoanui**	**0.50**	**17**	P	Pn	13 13 47.5	+0.7
PRHZ	**Porangahau**	**0.54**	**194**	P	Pn	13 13 47.7	+0.4
BHHZ	**Black Hill Sta**	**0.63**	**294**	P	Pb	13 13 49.1	+0.5
BKZ	**Black Stump Fm**	**0.63**	**337**	P	Pb	13 13 49.0	+0.5
NMHZ	**Naumai**	**0.65**	**0**	P	Pb	13 13 49.6	+0.7
TSZ	**Takapari Road**	**0.72**	**244**	P	Pb	13 13 50.2	0.0
DVHZ	**Dannevirke**	**0.74**	**221**	P	Pb	13 13 50.5	+0.1
ANWZ	**Angora Road**	**0.76**	**199**	P	Pb	13 13 50.6	-0.1
RAHZ	**Arahi**	**0.86**	**15**	P	Pb	13 13 52.1	-0.3
MOVZ	**Moawhango**	**0.88**	**292**	P	Pb	13 13 53.1	+0.3
MTHZ	**Maungataniwha**	**0.89**	**2**	P	Pn	13 13 52.5	+0.3
MRHZ	**Matea Rd**	**0.96**	**342**	P	Pb	13 13 54.1	0.0
KNZ	**Kokohu**	**0.99**	**43**	P	Pn	13 13 52.9	-0.5
TUVZ	**Tukino**	**1.01**	**298**	P	Pb	13 13 55.7	+0.7
WNVZ	**Wahianoa**	**1.02**	**294**	P	Pb	13 13 55.9	+0.7
POWZ	**Post Office Ro**	**1.02**	**231**	P	Pb	13 13 54.7	-0.4
BFZ	**Birch Farm**	**1.03**	**204**	P	Pn	13 13 54.1	+0.1
PRWZ	**Pori Road**	**1.03**	**218**	P	Pn	13 13 54.7	+0.6
MHGZ	**Mahia Peninsul**	**1.04**	**56**	P	Pn	13 13 54.2	0.0
ETVZ	**East Tongariro**	**1.04**	**305**	P	Pb	13 13 55.9	+0.4
SNGZ	**Shannon Statio**	**1.05**	**24**	P	Pn	13 13 54.4	0.0
OTVZ	**Oturere**	**1.05**	**303**	P	Pb	13 13 56.0	+0.2
TMVZ	**Te Maari**	**1.06**	**306**	P	Pb	13 13 56.0	+0.2
SNVZ	**South Ngauruho**	**1.06**	**301**	P	Pb	13 13 56.1	+0.3
RITZ	**Rihia Road**	**1.06**	**316**	P	Pb	13 13 56.1	+0.3
TRVZ	**Turoa**	**1.07**	**294**	P	Pb	13 13 56.7	+0.6
FWVZ	**Far West T-bar**	**1.08**	**296**	P	Pb	13 13 56.4	+0.1
NTVZ	**North Tongarir**	**1.08**	**306**	P	Pb	13 13 56.3	0.0
NGZ	**Ngauruhoe**	**1.09**	**301**	P	Pb	13 13 56.6	+0.2
MTVZ	**Mangateitei**	**1.09**	**289**	P	Pb	13 13 56.8	+0.5
NNVZ	**North Ngauruho**	**1.10**	**303**	P	Pb	13 13 56.8	+0.2
COVZ	**Chateau Observ**	**1.12**	**299**	P	Pb	13 13 57.1	+0.3
RTZ	**Ruatahuna**	**1.14**	**7**	P	Pn	13 13 55.9	+0.3
TIWZ	**Tintock**	**1.25**	**214**	P	Pn	13 13 57.4	+0.3
MUGZ	**Murupara**	**1.27**	**359**	P	Pn	13 13 57.7	+0.4
RIGZ	**Rimuhau**	**1.28**	**36**	P	Pn	13 13 56.9	-0.6
MRZ	**Mangatainoka R**	**1.31**	**225**	P	Pn	13 13 57.9	0.0
RAGZ	**Rawiri**	**1.33**	**21**	P	Pn	13 13 58.1	-0.2
HOWZ	**Holdsworth Sta**	**1.52**	**220**	P	Pn	13 14 00.5	-0.3
MWZ	**Matawai**	**1.52**	**22**	P	Pn	13 14 00.2	-0.6
OGWZ	**Otaki Gorge**	**1.65**	**229**	P	Pn	13 14 02.6	+0.1
CNGZ	**Carnagh Statio**	**1.67**	**41**	P	Pn	13 14 01.8	-1.0
MTW	**Mount Morrison**	**1.73**	**215**	P	Pn	13 14 02.9	-0.8
KIW	**Kapiti Island**	**1.83**	**232**	P	Pn	13 14 05.0	0.0
CAW	**Cannon Point**	**1.90**	**224**	P	Pn	13 14 05.3	-0.8
RUGZ	**Raukumara Rang**	**1.90**	**21**	P	Pn	13 14 05.6	-0.5
PLWZ	**Palliser**	**2.17**	**212**	P	Pn	13 14 08.2	-1.6
RVAZ	**Riverhead Bore**	**3.45**	**329**	P	Pb	13 14 32.9	-3.4
CTZ	**Chatham Island**	**6.33**	**131**	P	Pn	13 15 06.4	-0.5

JMA 02 13:16:21.5±0.1, 24.2N±0.3×123.8E±0.3, h18km±1km, MV1.4/10, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.14**	**315**	P	Pg	13 16 25.6	-0.1
IRIF				*eS*	Sg	13 16 28.5	+0.1
JKRS	**Kuro-shima**	**0.16**	**89**	P	Pg	13 16 25.8	0.0
JKRS				*eS*	Sg	13 16 29.1	+0.3
HATJ	**Hateruma jima**	**0.18**	**190**	P	Pb	13 16 26.0	+0.1
HATJ				*eS*	Sg	13 16 29.3	0.0
JIJ	**Ishigaki jima**	**0.31**	**65**	P	Pg	13 16 27.9	-0.3
JIJ				*eS*	Sg	13 16 32.5	-0.2
JISG	**Ishigakijimahi**	**0.56**	**51**	*eS*	Sb	13 16 40.3	0.0
YOJ	**Yonaguni jima**	**0.79**	**287**	*eS*	Sn	13 16 48.3	-0.7
JYNG	**Yonagunijimaku**	**0.84**	**285**	*eS*	Sg	13 16 49.5	+0.4
JTJ	**Tarama**	**0.89**	**63**	*eS*	Sn	13 16 51.0	-0.5

TAP 02 13:17:21.5, 24.58N×121.71E, h7km, ML1.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDS	**Dongshan**	**0.06**	**10**	*i* P	Pg	13 17 23.4	+0.3
	baz=10.0						
NDS				*i* S	Sg	13 17 24.6	+0.3
	baz=10.0						
ESAO	**Su ao**	**0.13**	**91**	P	Pg	13 17 24.4	+0.2
	baz=90						
ESAO				S	Sg	13 17 26.4	+0.4
	baz=90						
TWC	**Suao**	**0.14**	**77**	*i* P	Pg	13 17 24.7	+0.4
	baz=77						
TWC				*i* S	Sg	13 17 26.8	+0.6
	baz=77						
ENTT	**Nioudou**	**0.14**	**296**	*i* P	Pg	13 17 25.1	+0.6
	baz=296						
ENTT				S	Sg	13 17 27.5	+1.0
	baz=296						
TWE	**Neicheng**	**0.15**	**346**	*i* P	Pg	13 17 25.1	+0.6
	baz=1.0						
TWE				*i* S	Sg	13 17 27.5	+0.9
	baz=1.0						
EWUT	**Wuta**	**0.15**	**153**	*eP*	Pg	13 17 25.1	+0.6
	baz=145						
EWUT				S	Sg	13 17 27.1	+0.5
	baz=145						
ENA	**Nanau**	**0.15**	**168**	*eP*	Pg	13 17 25.4	+0.7
	baz=158						
ENA				*i* S	Sg	13 17 27.6	+0.8
	baz=158						
LATG	**Datong**	**0.17**	**255**	P	Pg	13 17 25.5	+0.6
	baz=255						
LATG				S	Sg	13 17 28.1	+0.8
	baz=255						
NDT	**Datong Townshi**	**0.18**	**278**	*i* P	Pg	13 17 25.8	+0.7
	baz=278						
NDT				S	Sg	13 17 28.5	+0.9
	baz=278						
FUSB	**Fushanzhiwuyua**	**0.21**	**329**	*i* P	Pg	13 17 26.5	+0.8
	baz=331						
FUSB				S	Sg	13 17 29.5	+0.9
	baz=331						
EAHA	**Aohua**	**0.25**	**173**	S	Sg	13 17 30.2	+0.5
	baz=173						
NWLT	**Wulai**	**0.27**	**317**	P	Pg	13 17 27.7	+0.8
	baz=318						
NWLT				S	Sg	13 17 31.1	+0.6
	baz=318						
YHNB	**Yeheng**	**0.31**	**287**	P	Pg	13 17 28.4	+0.7
	baz=292						
YHNB				*eS*	Sg	13 17 32.5	+0.6
	baz=292						
NNSB	**Datong**	**0.33**	**243**	P	Pg	13 17 28.3	+0.3
	baz=230						
NNSB				S	Sg	13 17 33.3	+0.9
	baz=230						
NSK	**Sanguang**	**0.33**	**287**	P	Pg	13 17 28.6	+0.6
	baz=292						
NSK				*i* S	Sg	13 17 33.3	+0.9
	baz=292						
NNS	**Nan Shan**	**0.33**	**246**	*eP*	Pg	13 17 28.4	+0.3
	baz=232						
NNS				S	Sg	13 17 32.9	+0.4
	baz=232						
TIPB	**Shuangxi**	**0.41**	**16**	*eP*	Pg	13 17 30.1	+0.7
	baz=15						
TIPB				*eS*	Sg	13 17 35.5	+0.7
	baz=15						
NACB	**Ninganchiao**	**0.41**	**194**	*eP*	Pb	13 17 30.8	-0.5
	baz=202						
NACB				*eS*	Sg	13 17 36.3	+1.3
	baz=202						
ETLH	**Xiulin Townshi**	**0.42**	**209**	*eP*	Pg	13 17 30.4	+0.6
	baz=208						
TWD	**Chiawan**	**0.51**	**191**	*eS*	Sb	13 17 39.4	-1.0
	baz=191						
NFF	**Wufeng Townshi**	**0.54**	**276**	*eS*	Sb	13 17 40.8	-0.6
	baz=276						

JMA 02 13:19:46.2±0.1, 24.3N±0.3×123.8E±0.3, h12km±1km, MV1.3/10, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.12**	**318**	P	Pg	13 19 49.3	0.0
IRIF				*eS*	Sg	13 19 51.9	+0.3
JKRS	**Kuro-shima**	**0.17**	**93**	P	Pg	13 19 50.4	+0.2
JKRS				*eS*	Sg	13 19 53.4	+0.5
HATJ	**Hateruma jima**	**0.19**	**183**	*i* P	Pg	13 19 50.3	-0.1
HATJ				*eS*	Sg	13 19 53.3	+0.1
JIJ	**Ishigaki jima**	**0.32**	**69**	*i* P	Pg	13 19 52.4	-0.2
JIJ				*eS*	Sg	13 19 57.1	+0.1
JISG	**Ishigakijimahi**	**0.56**	**53**	P	Pg	13 19 57.2	0.0
JISG				*eS*	Sb	13 20 05.6	-0.4
YOJ	**Yonaguni jima**	**0.77**	**286**	*eP*	Pg	13 20 01.0	0.0
JYNG	**Yonagunijimaku**	**0.82**	**285**	*eP*	Pg	13 20 02.0	-0.1
JYNG				*eS*	Sb	13 20 13.2	-0.2
JTJ	**Tarama**	**0.90**	**64**	*eP*	Pg	13 20 03.4	-0.1
JTJ				*eS*	Sb	13 20 15.8	+0.2

TAP 02 13:20:22.4, 23.94N×121.76E, h55km, ML1.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.21**	**313**	P	Pn	13 20 31.2	-0.1
	baz=315						
TWD				*eS*	Sn	13 20 37.7	0.0
	baz=315						
SHUL	**Shoufeng**	**0.24**	**231**	P	Pn	13 20 31.8	+0.3
	baz=228						
SHUL				S	Sn	13 20 38.8	+0.8
	baz=228						
ETM	**Tongmen**	**0.25**	**276**	*eP*	Pn	13 20 31.8	+0.2
	baz=275						
ETM				*eS*	Sn	13 20 38.1	-0.1
	baz=275						
NACB	**Ninganchiao**	**0.28**	**327**	S	Sn	13 20 39.1	+0.5
	baz=328						
ESL	**Shilin**	**0.33**	**248**	*i* P	Pn	13 20 32.1	-0.1
	baz=257						
ESL				S	Sn	13 20 39.2	-0.1
	baz=257						
LXIB	**Xiulin Townshi**	**0.33**	**285**	*eP*	Pn	13 20 32.3	-0.2
	baz=284						
LXIB				*eS*	Sn	13 20 39.2	-0.4
	baz=284						
ETLH	**Xiulin Townshi**	**0.37**	**316**	*eP*	Pn	13 20 32.8	+0.1
	baz=309						
ETLH				S	Sn	13 20 40.0	-0.2
	baz=309						
EGFH	**Guangfu**	**0.41**	**229**	P	Pn	13 20 32.9	-0.1
	baz=240						
WARBT	**Fenglin Townsh**	**0.41**	**238**	*i* P	Pn	13 20 32.7	-0.3
	baz=244						
WARBT				S	Sn	13 20 40.3	-0.4
	baz=244						
WHF	**Hehuan Shan**	**0.50**	**294**	*eP*	Pn	13 20 34.7	+0.3
	baz=289						
WHF				*eS*	Sn	13 20 43.2	+0.1
	baz=289						
EWUT	**Wuta**	**0.51**	**1**	*eS*	Sn	13 20 42.9	+0.5
	baz=358						
EOS4	**EOS4**	**0.54**	**70**	*eS*	Sn	13 20 42.4	-0.1
	baz=70						
OWD	**Renai**	**0.54**	**272**	*eP*	Pn	13 20 35.1	+0.5
	baz=271						
OWD				*eS*	Sn	13 20 43.9	+0.5
	baz=271						
HGSD	**Ruisui**	**0.54**	**215**	*eP*	Pn	13 20 35.6	+1.2
	baz=226						
CHGB	**Renai**	**0.55**	**283**	*eP*	Pn	13 20 35.4	+0.6
	baz=280						
CHGB				*eS*	Sn	13 20 44.4	+0.6
	baz=280						
FUSS	**Fushou**	**0.57**	**303**	*eS*	Sn	13 20 44.7	+0.6
	baz=303						
EHY	**Hungye**	**0.59**	**223**	*eP*	Pn	13 20 34.6	-0.4
	baz=230						
WUSB	**Renai**	**0.59**	**275**	*eP*	Pn	13 20 35.9	+0.7
	baz=268						
WUSB				*eS*	Sn	13 20 45.6	+1.1
	baz=268						
VWDT	**VWDT**	**0.60**	**252**	*eP*	Pn	13 20 35.9	+0.8
	baz=247						
VWDT				*eS*	Sn	13 20 45.1	+0.8
	baz=247						
NNSB	**Datong**	**0.60**	**325**	P	Pn	13 20 35.8	+0.5
	baz=331						
NNSB				S	Sn	13 20 45.1	+0.6
	baz=331						
EOS3	**EOS3**	**0.61**	**55**	*eS*	Sn	13 20 45.4	+1.0
	baz=51						
LATG	**Datong**	**0.63**	**340**	*eP*	Pn	13 20 36.0	+0.4
	baz=333						
TWC	**Suao**	**0.67**	**7**	*eS*	Sn	13 20 46.7	+0.8
	baz=8.0						
YULB	**Yu-li**	**0.69**	**218**	*eP*	Pn	13 20 35.9	-0.4
	baz=225						
YULB				*eS*	Sn	13 20 45.9	-0.4
	baz=225						
NDT	**Datong Townshi**	**0.70**	**341**	*eS*	Sn	13 20 47.0	+0.5
	baz=342						
ENTT	**Nioudou**	**0.72**	**346**	*eP*	Pn	13 20 37.2	+0.6
	baz=341						
ENTT				*eS*	Sn	13 20 47.9	+0.8
	baz=341						
TWF1	**Yuli**	**0.72**	**216**	*eP*	Pn	13 20 36.4	-0.2
	baz=223						
SSLB	**Suanglung**	**0.76**	**259**	*eP*	Pn	13 20 37.9	+0.8
	baz=254						
YHNB	**Yeheng**	**0.81**	**334**	*eP*	Pn	13 20 38.6	+0.8
	baz=341						
NSK	**Sanguang**	**0.82**	**333**	*eS*	Sn	13 20 49.8	+0.3
	baz=341						
FULB	**Fuli**	**0.85**	**210**	*eP*	Pn	13 20 38.8	+0.4
	baz=219						
WHYT	**Xinyi Township**	**0.87**	**254**	*eP*	Pn	13 20 40.0	+1.5
	baz=253						
EHD	**Haiduan**	**0.94**	**213**	*eP*	Pn	13 20 38.6	-0.8
	baz=213						
ALS	**Alishan**	**0.98**	**244**	*eP*	Pn	13 20 41.8	+1.6
	baz=237						
ELDTW	**Lidau**	**1.01**	**223**	*eP*	Pn	13 20 40.4	-0.1
	baz=219						

JMA 02 13:21:54.5±0.1, 24.3N±0.4×123.8E±0.3, h12km±1km, MV0.9/10, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.12**	**317**	P	Pg	13 21 57.7	+0.1
IRIF				*eS*	Sg	13 21 59.8	-0.1
JKRS	**Kuro-shima**	**0.17**	**94**	*i* P	Pg	13 21 58.6	+0.2
JKRS				*eS*	Sg	13 22 02.0	+0.8
HATJ	**Hateruma jima**	**0.19**	**184**	P	Pg	13 21 58.6	-0.1
JIJ	**Ishigaki jima**	**0.32**	**69**	P	Pg	13 22 00.7	-0.3
JIJ				*eS*	Sg	13 22 05.2	-0.1
JISG	**Ishigakijimahi**	**0.56**	**53**	P	Pg	13 22 05.5	0.0
JISG				*eS*	Sg	13 22 13.4	+0.5
YOJ	**Yonaguni jima**	**0.77**	**286**	*eP*	Pg	13 22 09.2	-0.1
JYNG	**Yonagunijimaku**	**0.82**	**284**	*eP*	Pg	13 22 10.5	+0.1
JYNG				*eS*	Sb	13 22 21.7	0.0
JTJ	**Tarama**	**0.89**	**64**	*eS*	Sb	13 22 24.1	+0.3

TAP 02 13:22:38.6, 24.88N×122.50E, h16km±1km, ML2.5, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.48**	**286**	*eP*	Pb	13 22 49.4	+0.7
	baz=285						
TWB1				*i* S	Sb	13 22 55.7	+0.2
	baz=285						
EOS2	**EOS2**	**0.52**	**208**	P	Pb	13 22 49.6	+0.4
	baz=205						
EOS2				S	Sg	13 22 55.8	+0.1
	baz=205						
SXI1	**Grass Mountain**	**0.60**	**291**	*eP*	Pn	13 22 52.2	-0.5
	baz=291						
SXI1				*eS*	Sb	13 23 00.3	+1.2
	baz=291						
EOS3	**EOS3**	**0.61**	**195**	P	Pb	13 22 51.3	+0.4
	baz=195						
EOS3				*eS*	Sb	13 23 00.1	+0.9
	baz=195						
TIPB	**Shuangxi**	**0.62**	**279**	*eP*	Pn	13 22 52.1	-0.7
	baz=279						
TIPB				*eS*	Sb	13 23 00.6	+1.1
	baz=279						
YOJ	**Yonaguni jima**	**0.62**	**131**	*eP*	Pb	13 22 51.4	+0.2
	baz=122						
YOJ				S	Sg	13 22 59.0	-0.2
	baz=122						
TWC	**Suao**	**0.65**	**246**	*eP*	Pg	13 22 51.0	-0.3
	baz=245						
TWC				*eS*	Sb	13 23 01.6	+1.2
	baz=245						
NWF	**Wu-fen Shan**	**0.68**	**287**	*eS*	Sn	13 23 02.9	-1.1
	baz=286						
WFSB	**Wu-fen Shan**	**0.68**	**287**	*eS*	Sn	13 23 02.8	-1.1
	baz=286						
NDS	**Dongshan**	**0.75**	**251**	*eP*	Pb	13 22 53.9	+0.5
	baz=241						
TWE	**Neicheng**	**0.77**	**258**	*eP*	Pg	13 22 53.6	0.0
	baz=258						
EOS4	**EOS4**	**0.77**	**192**	*eS*	Sg	13 23 03.9	+0.2
	baz=180						
EWUT	**Wuta**	**0.78**	**237**	*eP*	Pg	13 22 53.6	-0.2
	baz=236						
EWUT				*eS*	Sg	13 23 04.2	0.0
	baz=236						
ENA	**Nanau**	**0.82**	**237**	*eP*	Pb	13 22 54.2	-0.3
	baz=237						
FUSB	**Fushanzhiwuyua**	**0.83**	**262**	*eP*	Pg	13 22 55.3	+0.4
	baz=262						
ENTT	**Nioudou**	**0.88**	**255**	*eP*	Pg	13 22 55.9	+0.2
	baz=254						
EAHA	**Aohua**	**0.88**	**232**	*eP*	Pb	13 22 55.3	-0.2
	baz=232						
YM01	**YM01**	**0.88**	**288**	*eS*	Sn	13 23 08.3	-0.7
	baz=287						

ISC 02 13:23:42.7±0.7, 6°37'S±0.07'×142°79'E±0.07', h10km, n37, σ2§26/35, mb3.8/7, MS3.2/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.90**	**305**	P	**Pb**	**13 24 17.1**	**-0.5**
GENI	**Genyem**	**4.57**	**325**	P	**Pn**	**13 24 53.4**	**+1.4**
PMG	**Port Moresby**	**5.28**	**125**		**Pn**	**13 24 58.9**	**-2.8**
PMG	**Port Moresby**	**5.28**	**125**	Pn	**Pn**	**13 25 02.7**	**+0.9**
	1.4nm,0.3s,baz=316,slow=5.1,SNR=5.9						
PMG				Sn	**Sn**	**13 26 02.5**	**-0.2**
	3.6nm,0.3s,baz=167,slow=8.9,SNR=3.3						
	7.4nm,0.5s						
COEN	**Coen**	**7.55**	**177**	Pn	Pb	13 25 45.8	-8.1
COEN	**Coen**	**7.55**	**177**	P	Pn	13 25 38.8	+5.8
FAKI	**Fak Fak**	**11.05**	**288**	P	**Pn**	**13 26 21.2**	**+0.2**
KDU	**Kakadu**	**11.95**	**238**	P	**Pn**	**13 26 33.7**	**+0.4**
MTN	**Manton Dam**	**13.17**	**240**	P	**Pn**	**13 26 49.5**	**-0.4**
MTN	**Manton Dam**	**13.17**	**240**	P	**Pn**	**13 26 50.0**	**+0.1**
DRS	**Darwin Rock St**	**13.18**	**242**	P	**Pn**	**13 26 51.4**	**+1.2**
	18nm,0.7s						
CTA	**Charters Tower**	**14.05**	**166**	Lg	Lg	13 31 16.8	
	0.2nm,0.3s,baz=212,slow=2.9,SNR=3.7						
CTA				LR	LR	13 32 36.3	
	comp=Z,107nm,19.4s,baz=288,slow=38						
QIS	**Mount Isa**	**14.44**	**192**	P	**Pn**	**13 27 11.5**	**+4.1**
WB0	**Warramunga Arr**	**15.62**	**211**	P	**Pn**	**13 27 24.2**	**+1.1**
WR0	**Warramunga Arr**	**15.71**	**210**	P	**Pn**	**13 27 25.6**	**+1.3**
WR0				IAmb	IAmb	13 27 34.9	
	comp=Z,17nm,1.3s						
WRAB	**Tennant Creek**	**15.78**	**211**	P	**Pn**	**13 27 26.4**	**+1.2**
WRAB				IAmb	IAmb	13 27 38.4	
	comp=Z,12nm,1.0s						
WB2	**Warramunga Arr**	**15.79**	**210**	P	**Pn**	**13 27 26.3**	**+1.0**
WB2				IAmb	IAmb	13 27 35.9	
	comp=Z,10nm,0.9s						
WRA	**Warramunga Arr**	**15.79**	**211**	P	**Pn**	**13 27 26.4**	**+1.0**
WRA	**Warramunga Arr**	**15.79**	**211**	Pn	**Pn**	**13 27 26.5**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=30,slow=13,SNR=32						
WRA				Sn	**Sn**	**13 30 15.8**	**-4.9**
	comp=Z,0.4nm,0.3s,baz=28,slow=23,SNR=4.6						
WRA				Lg	Lg	13 32 08.2	
	comp=Z,0.4nm,0.3s,baz=31,slow=28,SNR=5.2						
KNRA	**Kununurra**	**16.57**	**235**	P	**Pn**	**13 27 35.3**	**-0.1**
KNRA				IAmb	IAmb	13 27 46.8	
	comp=Z,25nm,1.1s						
KNRA	**Kununurra**	**16.57**	**235**	P	**Pn**	**13 27 35.1**	**-0.3**
AS01	**Alice Springs**	**19.18**	**205**	P	**Pn**	**13 28 10.5**	**+2.8**
	comp=Z,32nm,1.0s						
AS31	**Alice Springs**	**19.20**	**205**	P	**Pn**	**13 28 11.0**	**+3.1**
AS31				IAmb	IAmb	13 28 13.9	
	comp=Z,9.0nm,1.1s						
ASAR	**Alice Springs**	**19.20**	**205**	P	**Pn**	**13 28 10.9**	**+3.0**
ASAR	**Alice Springs**	**19.20**	**205**	P	**Pn**	**13 28 10.7**	**+2.7**
	comp=Z,23nm,0.9s,baz=32,slow=9.8,SNR=95						
ASAR				S	**Sn**	**13 31 38.2**	**-5.2**
	comp=Z,1.1nm,0.7s,baz=22,slow=26,SNR=5.4						
ASAR				Lg	Lg	13 33 54.2	
	comp=Z,0.1nm,0.3s,baz=30,slow=31,SNR=2.6						
FITZ	**Fitzroy Crossi**	**20.39**	**234**	P	**P**	**13 28 22.2**	**+2.3**
DAV	**Davao City (W)**	**21.75**	**308**	LR	LR	13 36 48.1	
	comp=Z,22nm,21.2s,baz=270,slow=36						
OOD	**Oodnadatta**	**22.35**	**197**	P	**P**	**13 28 45.4**	**+4.4**
WRKA	**Warakurna**	**23.18**	**215**	P	**P**	**13 28 51.9**	**+2.1**
STKA	**Stephens Creek**	**25.40**	**182**	P	**P**	**13 29 12.3**	**+1.8**
	comp=Z,1.9nm,0.9s,baz=342,slow=11,SNR=2.9						
STKA				LR	LR	13 41 28.4	
	comp=Z,88nm,19.6s,baz=202,slow=42						
	comp=Z,1.9nm,0.9s						
JNU	**Nakatsue**	**40.87**	**345**	LR	LR	13 46 18.2	
	comp=Z,36nm,19.0s,baz=26,slow=33						
CMAR	**Chiang Mai Arr**	**49.78**	**301**	P	**P**	**13 32 36.5**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=124,slow=6.6,SNR=6.8						
	comp=Z,0.9nm,0.7s						
MKAR	**Makanchi Array**	**75.15**	**322**	P	**P**	**13 35 23.8**	**-1.6**
	comp=Z,0.7nm,0.8s,baz=99,slow=8.9,SNR=6.0						
	comp=Z,0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**77.13**	**329**	P	**P**	**13 35 34.8**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=90,slow=1.9,SNR=1.5						
	comp=Z,0.2nm,0.3s						
KURBB	**Kurchatov Array**	**79.05**	**324**	P	**P**	**13 35 46.4**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=119,slow=4.3,SNR=5.9						
	comp=Z,0.3nm,0.5s						
BVAR	**Borovoye Array**	**84.62**	**325**	P	**P**	**13 36 16.9**	**+0.3**
	comp=Z,4.0nm,0.9s,baz=117,slow=6.3,SNR=18						
	comp=Z,4.0nm,0.9s						
ILAR	**Eielson Array**	**87.49**	**24**	P	**P**	**13 36 28.4**	**-2.0**
	comp=Z,1.0nm,0.9s,baz=257,slow=4.4,SNR=8.2						
	comp=Z,1.0nm,0.9s						

TAP 02 13:43:22.1, 24°57N×121°87E, h27km, ML1.9, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.05**	**342**	*i* P	Pb	13 43 26.9	+0.1
	baz=353						
TWC				*i* S	Sb	13 43 30.1	+0.1
	baz=353						
EWUT	**Wuta**	**0.14**	**214**	P	Pb	13 43 27.7	+0.3
	baz=214						
EWUT				S	Sb	13 43 31.2	+0.2
	baz=214						
NDS	**Dongshan**	**0.15**	**297**	P	Pb	13 43 27.9	+0.4
	baz=297						
NDS				*e*S	Sb	13 43 31.7	+0.5
	baz=297						
ENA	**Nanau**	**0.18**	**220**	P	Pb	13 43 28.0	+0.2
	baz=218						
ENA				S	Sb	13 43 31.8	+0.2
	baz=218						
TWE	**Neicheng**	**0.24**	**311**	*i* P	Pb	13 43 28.9	+0.4
	baz=313						
TWE				S	Sb	13 43 33.5	+0.7
	baz=313						
EAHA	**Aohua**	**0.26**	**206**	*e*S	Sb	13 43 33.0	-0.3
	baz=206						
ENTT	**Nioudou**	**0.28**	**285**	*i* P	Pb	13 43 29.5	+0.4
	baz=286						
ENTT				*i* S	Sb	13 43 34.2	+0.3
	baz=286						
EGS		**0.28**	**12**	*e*S	Sb	13 43 33.1	-0.8
	baz=14						
LATG	**Datong**	**0.31**	**265**	P	Pb	13 43 29.8	+0.3
	baz=266						
LATG				*e*S	Sb	13 43 34.8	+0.1
	baz=266						
FUSB	**Fushanzhiwuyua**	**0.32**	**308**	P	Pb	13 43 30.2	+0.6
	baz=301						
FUSB				*e*S	Sb	13 43 35.2	+0.4
	baz=301						
NDT	**Datong Townshi**	**0.32**	**277**	P	Pb	13 43 30.2	+0.5
	baz=274						
NDT				S	Sb	13 43 35.5	+0.7
	baz=274						
EOS2	**EOS2**	**0.36**	**113**	*e*P	Pn	13 43 31.0	-0.4
	baz=115						
EOS2				*e*S	Sn	13 43 37.5	-0.2
	baz=115						
NWLT	**Wulai**	**0.39**	**303**	S	Sb	13 43 37.1	+0.5
	baz=304						
TIPB	**Shuangxi**	**0.41**	**355**	*e*P	Pb	13 43 31.6	+0.6
	baz=358						
TIPB				*e*S	Sb	13 43 37.7	+0.7
	baz=358						
YHNB	**Yeheng**	**0.46**	**283**	P	Pb	13 43 32.1	+0.3
	baz=283						
NNSB	**Datong**	**0.46**	**253**	*e*P	Pb	13 43 32.1	+0.2
	baz=249						
NACB	**Ninganchiao**	**0.46**	**212**	*e*S	Sb	13 43 38.3	-0.1
	baz=216						
NSK	**Sanguang**	**0.47**	**284**	P	Pb	13 43 32.4	+0.4
	baz=285						
NSK				S	Sb	13 43 38.8	0.0
	baz=285						
EOS3	**EOS3**	**0.50**	**124**	*e*P	Pn	13 43 33.1	-0.1
	baz=129						
SXI1	**Grass Mountain**	**0.53**	**1**	*e*P	Pn	13 43 33.8	-0.1
	baz=1.0						
SXI1				*e*S	Sn	13 43 41.2	-0.8
	baz=1.0						
YM01	**YM01**	**0.64**	**335**	*e*S	Sn	13 43 44.4	-0.2
	baz=336						
LXIB	**Xiulin Townshi**	**0.68**	**217**	*e*P	Pn	13 43 36.0	-0.1
	baz=217						

JMA 02 13:44:05.9±0.2, 24°2N±0.7'×123°8E±0.4, h18km±1km,
MV0.4/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.15**	**317**	P	Pg	13 44 10.1	-0.1
IRIF				S	Sg	13 44 13.3	+0.2
JKRS	**Kuro-shima**	**0.15**	**86**	P	Pg	13 44 10.1	-0.1
JKRS				S	Sg	13 44 13.5	+0.3
HATJ	**Hateruma jima**	**0.17**	**191**	S	Sg	13 44 13.7	+0.2
JIJ	**Ishigaki jima**	**0.31**	**64**	P	Pg	13 44 12.3	-0.3
JIJ				S	Sg	13 44 17.0	-0.1
JISG	**Ishigakijimahi**	**0.56**	**50**	P	Pg	13 44 17.1	0.0
JISG				*e*S	Sb	13 44 25.1	+0.4

*IDC **02** 13:53:36.4±0.9, 5°.80S×142°.71E, h0km, mb4.0/7, mbtmp4.0/9, ML1.8/1, MS3.5/2, Error ellipse: s-maj=38.0km s-min=19.7km az=76.0*
*DJA **02** 13:53:40.6±0.5, 6°S±4°×14°2E±°, h10km, M4.6/9, mb4.2/9, MLv4.7/5*

ISC 02 13:53:37.1±0.7, 5°89S±0°.10×142°.9E±0°.1, h10km, n17, σ2§44/16, mb3.9/7, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMPI	**Merauke**	**3.56**	**224**	P	**Pn**	**13 54 31.4**	**-1.1**
GENI	**Genyem**	**4.25**	**320**	P	**Pn**	**13 54 44.2**	**+2.3**
PMG	**Port Moresby**	**5.50**	**130**	Pn	**Pn**	**13 55 03.5**	**+4.4**
	1.7nm,0.3s,baz=15,slow=1.5,SNR=8.8						
PMG				Sn	**Sn**	**13 55 58.5**	**-3.9**
	1.1nm,0.3s,baz=13,slow=6.0,SNR=3.6						
PMG				LR	LR	13 57 30.4	
	comp=Z,87nm,21.0s,baz=78,slow=41						
	8.8nm,0.5s						
SMPI	**Sarmi**	**5.68**	**313**	P	**Pn**	**13 55 04.4**	**+2.7**
	34nm,0.8s,0.3nm						
FAKI	**Fak Fak**	**11.00**	**285**	P	**Pn**	**13 56 11.8**	**-2.9**
	24nm,1.4s						
CTA	**Charters Tower**	**14.49**	**167**	Lg	Lg	14 01 14.0	
	0.1nm,0.3s,baz=358,slow=13,SNR=1.3						
WRA	**Warramunga Arr**	**16.25**	**210**	Pn	**Pn**	**13 57 22.9**	**-2.8**
	0.5nm,0.3s,baz=29,slow=13,SNR=16						
WRA				Sn	Sn	14 00 14.2	-12
	0.4nm,0.3s,baz=22,slow=23,SNR=4.9						
WRA				Lg	Lg	14 02 05.8	
	0.5nm,0.3s,baz=30,slow=26,SNR=5.0						
HNR	**Honiara**	**17.28**	**103**	LR	LR	14 04 40.3	
	comp=Z,755nm,19.5s,baz=196,slow=38						
SOEI	**Soe**	**18.83**	**257**	P	**P**	**13 57 55.8**	**-1.6**
	33nm,0.8s						
ASAR	**Alice Springs**	**19.67**	**205**	P	**P**	**13 58 07.6**	**+1.1**
	3.1nm,0.6s,baz=34,slow=10,SNR=56						
ASAR				S	S	14 01 36.3	-12
	0.6nm,0.6s,baz=309,slow=32,SNR=2.2						
ASAR				Lg	Lg	14 03 57.0	
	0.1nm,0.3s,baz=28,slow=28,SNR=1.7						
STKA	**Stephens Creek**	**25.88**	**182**	P	**P**	**13 59 11.2**	**+2.0**
	0.6nm,0.5s,baz=338,slow=14,SNR=1.7						
	0.6nm,0.5s						
KSRS	**Korea Array**	**45.32**	**343**	P	**P**	**14 01 55.5**	**+0.1**
	0.5nm,0.6s,baz=158,slow=9.7,SNR=2.0						
	0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**49.62**	**300**	P	**P**	**14 02 27.2**	**-2.0**
	0.3nm,0.4s,baz=112,slow=5.9,SNR=2.0						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**74.84**	**322**	P	**P**	**14 05 18.8**	**+0.8**
	0.8nm,0.7s,baz=99,slow=7.5,SNR=8.7						
	0.8nm,0.7s						
QSPA	**South Pole Qui**	**84.08**	**180**	P	**P**	**14 06 08.9**	**+0.8**
	3.0nm,0.8s,baz=290,slow=0.9,SNR=24						
	3.0nm,0.8s						
BVAR	**Borovoye Array**	**84.29**	**325**	P	**P**	**14 06 09.8**	**+0.6**
	2.8nm,0.7s,baz=109,slow=6.9,SNR=14						
	2.8nm,0.7s						
ILAR	**Eielson Array**	**87.02**	**24**	P	**P**	**14 06 22.4**	**-0.1**
	1.1nm,0.7s,baz=257,slow=4.8,SNR=19						
	1.1nm,0.7s						

DJA 02 13:54:17.7±1.1, 1°N±4°×97°E±1°, h10km, M3.9/9, mb4.5/4, mB5.1/1, MLv3.6/9, Mw(mB)4.5/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**1.06**	**44**	P	Pg	13 54 37.8	-0.4
PBSI	**Pulau Batu**	**1.57**	**112**	P	Pn	13 54 45.4	-0.2
SISI	**Saibi**	**2.92**	**129**	P	Pn	13 55 04.5	+0.2
KCSI	**Kotacane, Aceh**	**3.11**	**18**	P	Pn	13 55 07.0	+0.1
PPSI	**Pulau Pagai**	**4.57**	**136**	P	Pn	13 55 27.1	+0.2
MNAI	**Manna**	**7.82**	**129**	P	Pn	13 56 11.8	+0.1
	203nm,1.2s,0.7nm						

TRN 02 14:01:02.5, 16°46N×61°82W, h145km, MD3.8, North of Guadeloupe., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABD	**La Joyeuse, An**	**0.32**	**87**	*e*P	Pn	14 01 23.9	+1.4
ABD				*e*S	Sn	14 01 39.0	+1.4
MBFL	**Flemmings, Mon**	**0.47**	**308**	*e*P	Pn	14 01 24.7	+1.5
MBFL				*e*S	Sn	14 01 40.1	+1.3
ANBD	**Bethesda, Anti**	**0.59**	**5**	*i* P	Pn	14 01 25.1	+1.3
ANBD				*e*S	Sn	14 01 40.7	+0.7
TBG	**Guadaloupe-3**	**0.62**	**164**	*e*P	Pn	14 01 24.5	+0.5
TBG				*e*S	Sn	14 01 40.4	+0.1
TBG				*e*S		14 01 41.8	
SVN	**Savane Anatole**	**1.72**	**158**	*e*P	Pn	14 01 35.6	+1.4
SVN				*e*S	Sn	14 01 59.4	+0.9
FDF	**Fort de France**	**1.83**	**159**	*e*P	Pn	14 01 35.9	+0.4
FDF				*e*S	Sn	14 02 01.8	+1.1
MPOM	**Morne Pois Mar**	**2.21**	**155**	*e*P	Pn	14 01 40.5	+0.7
MPOM				*e*S	Sn	14 02 09.0	+0.5
SLBI	**Saint Lucia, B**	**2.55**	**161**	*e*P	Pn	14 01 45.4	+1.3
SLBI				*e*S	Sn	14 02 17.9	+1.7
SLCP	**Castries, St.**	**2.56**	**162**	*e*S	Sn	14 02 16.3	0.0
GCMP	**Grenada, Carri**	**3.96**	**174**	*e*P	Pn	14 02 03.3	+1.1
GCMP				*e*S	Sn	14 02 47.3	-1.3
GRW	**Mount Saint Ca**	**4.27**	**178**	*e*P	Pn	14 02 08.0	+1.6
GRW				*e*S	Sn	14 02 54.6	-1.4
AOPR	**Arecibo Observ**	**5.07**	**292**	*e*P	Pn	14 02 17.9	+1.1

WEL 02 14:17:38.1±0.6, 39°S±4°×17°7E±°, h27km±6km, M3.5/12, ML3.8/12, MLv3.5/12, Error ellipse: s-maj=0.0km s-min=0.0km az=154.3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WHHZ	**Waihua**	**0.09**	**293**	P	Pb	14 17 43.9	+0.9
WHHZ				S	Sb	14 17 48.9	+2.6
KNZ	**Kokohu**	**0.27**	**71**	P	Pn	14 17 45.9	-0.5
KNZ				S	Sn	14 17 52.0	+0.4
RAHZ	**Arahi**	**0.28**	**315**	P	Pn	14 17 46.1	-0.4
RAHZ				S	Sn	14 17 52.3	+0.5
ARHZ	**Aropaoanui**	**0.31**	**241**	P	Pn	14 17 46.4	-0.4
ARHZ				S	Sn	14 17 53.1	+0.6
SNGZ	**Shannon Statio**	**0.33**	**360**	P	Pn	14 17 47.0	-0.2
SNGZ				S	Sn	14 17 53.7	+0.7
NMHZ	**Naumai**	**0.42**	**272**	P	Pn	14 17 48.2	-0.2
NMHZ				S	Sn	14 17 56.0	+0.7
MHGZ	**Mahia Peninsul**	**0.44**	**95**	P	Pn	14 17 48.4	-0.3
PRGZ	**Paritu Road**	**0.46**	**66**	P	Pn	14 17 48.9	-0.1
PRGZ				S	Sn	14 17 58.1	+1.8
MTHZ	**Maungataniwha**	**0.47**	**304**	P	Pn	14 17 48.7	-0.4
RIGZ	**Rimuhau**	**0.52**	**39**	P	Pn	14 17 50.0	+0.1
RTZ	**Ruatahuna**	**0.57**	**330**	P	Pn	14 17 50.5	0.0
CKHZ	**Cape Kidnapper**	**0.58**	**200**	P	Pn	14 17 50.3	-0.3
CKHZ				S	Sn	14 18 00.4	+1.1
MCHZ	**McNeill Hill**	**0.60**	**236**	P	Pn	14 17 51.1	+0.2
RAGZ	**Rawiri**	**0.62**	**5**	P	Pn	14 17 51.5	+0.3
BKZ	**Black Stump Fm**	**0.66**	**265**	P	Pn	14 17 51.8	0.0
KAHZ	**Kahuranaki**	**0.77**	**208**	P	Pb	14 17 53.0	+0.1
MRHZ	**Matea Rd**	**0.77**	**291**	P	Pn	14 17 53.6	+0.3
MUGZ	**Murupara**	**0.78**	**325**	P	Pn	14 17 53.7	+0.4
KWHZ	**Kaweka Forest**	**0.78**	**246**	P	Pn	14 17 53.3	0.0
TKGZ	**Te Karaka**	**0.78**	**31**	P	Pn	14 17 53.4	0.0
MWZ	**Matawai**	**0.79**	**11**	P	Pn	14 17 53.4	-0.1
URZ	**Urewera**	**0.87**	**348**	P	Pb	14 17 55.0	+0.4
KRHZ	**Kereru**	**0.92**	**235**	P	Pn	14 17 55.0	-0.3
CNGZ	**Carnagh Statio**	**0.92**	**47**	P	Pn	14 17 55.3	0.0
ALRZ	**Allen Road**	**0.95**	**305**	P	Pb	14 17 56.4	+0.4
PRRZ	**Plateau Road**	**0.96**	**309**	P	Pb	14 17 56.4	+0.2
PXZ	**Pawanui**	**0.99**	**202**	P	Pn	14 17 55.0	-1.2
HATZ	**Hinemaiaia**	**1.00**	**282**	P	Pb	14 17 57.2	+0.4
RRRZ	**Republican Roa**	**1.01**	**320**	P	Pb	14 17 57.9	+1.0
THQ2	**Tauhara North**	**1.02**	**296**	P	Pb	14 17 58.4	+1.3
TWGZ	**Tauwhareparae**	**1.06**	**28**	P	Pn	14 17 57.4	+0.1
BHHZ	**Black Hill Sta**	**1.06**	**249**	P	Pn	14 17 57.2	-0.1
ARAZ	**Aratiatia Land**	**1.07**	**297**	P	Pb	14 17 59.7	+1.7
TARZ	**Mount Tarawera**	**1.09**	**323**	P	Pb	14 17 58.7	+0.3
WPRZ	**Whakapapatarin**	**1.09**	**302**	P	Pb	14 17 58.3	-0.1
HRRZ	**Handcock Road**	**1.10**	**311**	P	Pb	14 17 58.6	+0.1
EDRZ	**Edgecumbe**	**1.11**	**335**	P	Pb	14 17 58.6	-0.1
HLRZ	**Highlands Stat**	**1.16**	**318**	P	Pb	14 18 01.1	+1.6
RITZ	**Rihia Road**	**1.16**	**276**	P	Pb	14 17 59.3	-0.2
HSRZ	**Hossack Road**	**1.17**	**313**	P	Pb	14 17 59.7	-0.1
RUGZ	**Raukumara Rang**	**1.18**	**13**	P	Pn	14 17 59.0	+0.1
WPHZ	**Waipukurau**	**1.18**	**216**	P	Pn	14 17 58.0	-0.8
MKRZ	**Makatiti**	**1.19**	**325**	P	Pb	14 18 02.5	+2.4
PNHZ	**Pukenui**	**1.19**	**227**	P	Pn	14 17 58.2	-0.8
GRRZ	**Galatos Road**	**1.23**	**308**	P	Pb	14 18 00.4	-0.3
MARZ	**Manawahe**	**1.24**	**335**	P	Pb	14 18 01.4	+0.5
RATZ	**Rangitukua**	**1.25**	**281**	P	Pb	14 18 00.5	-0.6
OMRZ	**Omania**	**1.26**	**323**	P	Pn	14 18 00.5	+0.6
PUZ	**Puketiti**	**1.26**	**35**	P	Pn	14 17 59.4	-0.6
MOVZ	**Moawhango**	**1.27**	**256**	P	Pn	14 18 00.6	+0.5
ETVZ	**East Tongariro**	**1.27**	**268**	P	Pn	14 18 00.7	+0.5
PRHZ	**Porangahau**	**1.27**	**205**	P	Pn	14 17 58.6	-1.5
TMVZ	**Te Maari**	**1.27**	**269**	P	Pn	14 18 00.8	+0.5
KATZ	**Kakaramea**	**1.29**	**276**	P	Pn	14 18 01.1	+0.6
NTVZ	**North Tongarir**	**1.30**	**270**	P	Pn	14 18 01.0	+0.5
UTU	**Utuhina**	**1.30**	**316**	P	Pb	14 18 02.6	+0.7
OTVZ	**Oturere**	**1.30**	**267**	P	Pn	14 18 01.2	+0.5
WATZ	**Wairara**	**1.32**	**287**	P	Pn	14 18 01.3	+0.5
TUVZ	**Tukino**	**1.32**	**263**	P	Pn	14 18 01.5	+0.6
KRVZ	**Karewarewa**	**1.32**	**270**	P	Pn	14 18 01.4	+0.5
SNVZ	**South Ngauruho**	**1.32**	**266**	P	Pn	14 18 01.6	+0.6
KUTZ	**Kaahu Road**	**1.34**	**297**	P	Pn	14 18 01.6	+0.5
NNVZ	**North Ngauruho**	**1.34**	**269**	P	Pn	14 18 01.8	+0.6
PKGZ	**Pakihiroa**	**1.35**	**25**	P	Pn	14 18 01.1	-0.2
NGRZ	**Ngongotaha**	**1.35**	**318**	P	Pb	14 18 04.2	+1.3
NGZ	**Ngauruhoe**	**1.35**	**267**	P	Pn	14 18 01.9	+0.5
WTVZ	**West Tongariro**	**1.36**	**269**	P	Pn	14 18 02.2	+0.8
WNVZ	**Wahianoa**	**1.37**	**260**	P	Pn	14 18 02.1	+0.5
WHVZ	**Whangaehu Hut**	**1.37**	**262**	P	Pn	14 18 02.2	+0.5
KARZ	**Kaharoa**	**1.39**	**321**	P	Pn	14 18 02.5	+0.7
MAVZ	**Matarangi**	**1.39**	**263**	P	Pn	14 18 02.4	+0.4
FWVZ	**Far West T-bar**	**1.40**	**264**	P	Pn	14 18 02.4	+0.3
HAZ	**Te Kaha**	**1.40**	**14**	P	Pn	14 18 02.2	+0.4
COVZ	**Chateau Observ**	**1.40**	**266**	P	Pn	14 18 02.4	+0.5
TRVZ	**Turoa**	**1.41**	**262**	P	Pn	14 18 02.5	+0.4
TSZ	**Takapari Road**	**1.43**	**228**	P	Pn	14 18 01.1	-1.2
MTVZ	**Mangateitei**	**1.48**	**259**	P	Pn	14 18 03.3	+0.3
TWVZ	**Taurewa**	**1.48**	**271**	P	Pb	14 18 05.0	0.0
DVHZ	**Dannevirke**	**1.49**	**217**	P	Pn	14 18 01.7	-1.5
ANWZ	**Angora Road**	**1.50**	**206**	P	Pn	14 18 02.1	-1.1
WMGZ	**Waiomatatini S**	**1.54**	**33**	P	Pn	14 18 03.4	-0.4
PKVZ	**Pokaka**	**1.56**	**263**	P	Pb	14 18 06.4	+0.1
TLZ	**Tolley Road**	**1.61**	**298**	P	Pn	14 18 05.1	+0.3
TGRZ	**Tauranga**	**1.62**	**328**	P	Pb	14 18 09.4	+2.0
POWZ	**Post Office Ro**	**1.76**	**223**	P	Pn	14 18 06.0	-0.8
BFZ	**Birch Farm**	**1.78**	**208**	P	Pn	14 18 05.0	-2.1
PRWZ	**Pori Road**	**1.79**	**216**	P	Pn	14 18 06.3	-0.9
WAZ	**Wanganui**	**1.93**	**250**	P	Pb	14 18 11.0	-1.6
TOZ	**Tahuroa Road**	**2.00**	**313**	P	Pb	14 18 16.9	+3.1
TIWZ	**Tintock**	**2.00**	**214**	P	Pn	14 18 08.7	-1.5
VRZ	**Vera Road**	**2.01**	**269**	P	Pn	14 18 11.2	+1.0
HIZ	**Hauiti**	**2.03**	**286**	P	Pn	14 18 11.9	+1.4
MRZ	**Mangatainoka R**	**2.06**	**221**	P	Pn	14 18 09.2	-1.7
HOWZ	**Holdsworth Sta**	**2.27**	**218**	P	Pn	14 18 11.8	-2.0
TMWZ	**Te Maipa**	**2.28**	**209**	P	Pn	14 18 11.8	-2.2
OGWZ	**Otaki Gorge**	**2.38**	**224**	P	Pn	14 18 13.3	-2.0
DREZ	**Durham Road**	**2.44**	**267**	P	Pn	14 18 18.2	+2.0
MTW	**Mount Morrison**	**2.48**	**214**	P	Pn	14 18 14.5	-2.3
NEZ	**North Egmont**	**2.53**	**265**	P	Pn	14 18 19.9	+2.5
KIW	**Kapiti Island**	**2.56**	**226**	P	Pn	14 18 15.7	-2.1
CAW	**Cannon Point**	**2.65**	**220**	P	Pn	14 18 16.3	-2.7
PAWZ	**Paruwai Farm**	**2.70**	**212**	P	Pn

HSRZ Hossack Road 6.89 205 P P 14 21 43.3 +2.3
RTZ Ruatahuna 6.94 199 P Pn 14 21 39.8 -1.1
HRRZ Handcock Road 6.95 204 P P 14 21 42.4 +0.6
GRRZ Galatos Road 6.98 206 P P 14 21 43.4 +1.4
SNGZ Shannon Statio 7.00 197 P Pn 14 21 40.9 -0.7
PRRZ Plateau Road 7.01 203 P Pn 14 21 41.3 -0.5
PRGZ Paritu Road 7.01 193 P P 14 21 42.7 +0.3
ALRZ Allen Road 7.08 203 P P 14 21 43.6 +0.4
WPRZ Whakapapatarin 7.11 205 P P 14 21 43.4 0.0
KNZ Kokohu 7.15 194 P Pn 14 21 41.8 -1.5
TLZ Tolley Road 7.18 209 P P 14 21 44.4 +0.1
RAHZ Arahi 7.19 198 P Pn 14 21 42.7 -1.1
MTHZ Maungataniwha 7.20 200 P Pn 14 21 42.7 -1.2
KUTZ Kaahu Road 7.21 207 P P 14 21 45.7 +1.2
MHGZ Mahia Peninsul 7.23 193 P P 14 21 44.6 -0.2
WHHZ Waihua 7.30 197 P Pn 14 21 44.5 -0.5
MRHZ Matea Rd 7.31 202 P Pn 14 21 43.8 -1.3
WATZ Wairara 7.43 206 P P 14 21 47.0 0.0
NMHZ Naumai 7.43 199 P Pn 14 21 45.8 -0.8
HATZ Hinemaiaia 7.47 204 P P 14 21 47.2 -0.2
ARHZ Aropaoanui 7.54 198 P Pn 14 21 47.3 -0.4
BKZ Black Stump Fm 7.59 201 P Pn 14 21 46.8 -1.5
BKZ Black Stump Fm 7.59 201 P Pn 14 21 45.9 -2.4
RITZ Rihia Road 7.62 205 P Pn 14 21 48.7 0.0
KATZ Kakaramea 7.68 205 P P 14 21 50.0 +0.1
MCHZ McNeill Hill 7.79 199 P Pn 14 21 50.1 -0.4
KRVZ Karewarewa 7.81 205 P P 14 21 51.0 -0.3
KWHZ Kaweka Forest 7.85 200 P Pn 14 21 48.6 -2.6
NNVZ North Ngauruho 7.85 205 P Pn 14 21 50.9 -0.5
TWVZ Taurewa 7.86 206 P Pn 14 21 50.8 -0.6
CKHZ Cape Kidnapper 7.89 196 P P 14 21 52.3 +0.2
COVZ Chateau Observ 7.94 205 P Pn 14 21 51.3 -1.0
TUVZ Tukino 7.96 205 P Pn 14 21 51.7 -0.9
MAVZ Matarangi 7.99 205 P Pn 14 21 52.3 -0.8
WHVZ Whangaehu Hut 7.99 205 P Pn 14 21 52.3 -0.8
KAHZ Kahuranaki 8.07 197 P Pn 14 21 53.0 -0.7
PXZ Pawanui 8.30 197 P Pn 14 21 54.8 -1.5
MHEZ Mangahewa 8.32 212 P P 14 22 00.0 +3.1
WPHZ Waipukurau 8.44 199 P Pn 14 21 56.5 -1.4
PRHZ Porangahau 8.58 197 P Pn 14 21 57.3 -2.2
DVHZ Dannevirke 8.73 199 P Pn 14 21 59.3 -2.1
ANWZ Angora Road 8.80 197 P Pn 14 22 00.6 -1.5
POWZ Post Office Ro 8.93 201 P Pn 14 22 02.2 -1.4
BFZ Birch Farm 9.07 198 P P 14 22 04.2 -1.0
SNZO South Karori 10.10 203 P P 14 22 14.5 -2.1
NFK Norfolk Island 10.77 283 P Pn 14 22 26.4 +1.3
RPZ Rata Peaks 13.54 209 P P 14 22 53.4 -1.1
RPZ Rata Peaks 13.54 209 P P 14 22 53.5 -1.1
36nm,0.7s,baz=9.4,slow=2.1,SNR=22
RPZ S S 14 25 10.7 -10
39nm,0.6s,baz=318,slow=3.1,SNR=8.0
MSVF Nonsavu 14.40 353 P P 14 23 02.4 -1.9
MSVF Nonsavu 14.40 353 P P 14 23 04.4 +0.1
PINNC Pines Island, 14.55 307 P P 14 23 04.7 -1.1
PINNC Pines Island, 14.55 307 P P 14 23 06.6 +0.8
ODZ Otahua Downs 14.81 207 P P 14 23 07.9 -0.4
OUENC Ouen Island, N 15.10 306 P P 14 23 11.1 -0.6
OUENC Ouen Island, N 15.10 306 P P 14 23 12.8 +1.1
YATNC Mamie plateau, 15.31 308 P P 14 23 15.0 +1.0
TAVE Taveuni 15.32 1 P P 14 23 14.0 -0.2
ONTNC Ouen Toro 15.44 306 P P 14 23 15.0 -0.4
ONTNC Ouen Toro 15.44 306 P P 14 23 16.4 +1.0
DZM Mont Dzumac 15.60 306 P P 14 23 17.2 -0.1
DZM IAmb IAmb 14 23 19.0
comp=Z,35nm,0.9s
DZM Mont Dzumac 15.60 306 P P 14 23 18.0 +0.7
DZM Mont Dzumac 15.60 306 P P 14 23 16.5 -0.8
comp=Z,30nm,0.8s,baz=127,slow=12,SNR=26
DGTI Dogotuki 15.73 359 P P 14 23 18.5 -0.1
LIFNC LIFOU 15.99 312 P P 14 23 20.8 -0.5
KOUNC Koumac, New Ca 18.11 306 P P 14 23 43.1 -0.7
KOUNC IAmb IAmb 14 23 48.6
comp=Z,42nm,1.1s
KOUNC Koumac, New Ca 18.11 306 P P 14 23 45.4 +1.6
ARMA Armidale 24.22 266 P P 14 24 42.7 +1.7
ARMA IAmb IAmb 14 24 44.0
comp=Z,17nm,0.8s
ARMA Armidale 24.22 266 P P 14 24 42.9 +1.9
MGCD Mangrove Creek 24.26 260 P P 14 24 43.5 +2.4
WOLH Wollongong Har 24.37 257 P P 14 24 44.3 +2.2
SYDH Sydney Hard Ro 24.52 258 P P 14 24 45.5 +2.1
AUPHS Peel High Scho 24.72 265 P P 14 24 46.8 +1.5
CNB Canberra Magne 25.58 254 P P 14 24 54.7 +1.8
CAN Canberra 25.88 254 P P 14 24 56.9 +1.3
CAN IAmb IAmb 14 24 58.2
comp=Z,30nm,1.2s
CAN Canberra 25.88 254 P P 14 24 57.0 +1.4
EIDS Eidsvold 26.12 277 P P 14 24 57.7 0.0
EIDS IAmb IAmb 14 24 58.9
comp=Z,21nm,0.7s
EIDS Eidsvold 26.12 277 P P 14 24 58.2 +0.5
AUSMG Snowy Mountain 26.18 252 P P 14 24 59.9 +1.6
YNG Young 26.42 257 P P 14 25 02.1 +1.7
AUDCS Dubbo College 26.45 261 P P 14 25 02.3 +1.7
GLAD Gladstone 27.02 242 P P 14 25 06.9 +1.4
RK1H Rockhampton Ha 27.39 281 P P 14 25 09.6 +0.6
AULRC Lightning Ridg 27.53 267 P P 14 25 11.6 +1.4
TAU Tasmania Unive 27.87 238 P P 14 25 14.3 +1.4
TOO Toolangi 28.68 249 P P 14 25 21.5 +1.2
TOO Toolangi 28.68 249 P P 14 25 21.6 +1.3
CMSA Cobar Meteorol 29.03 262 P P 14 25 24.5 +1.2
BRAT Ballarat 29.92 249 P P 14 25 33.4 +2.3
QLP Quilpie 31.50 271 P P 14 25 45.3 +0.4
ARPS Mount Arapiles 31.62 251 P P 14 25 47.5 +1.7
AUAYR Ayr State High 31.68 285 P P 14 25 47.3 +0.8
CTA Charters Tower 32.39 283 P P 14 25 53.1 +0.4
comp=Z,14nm,0.6s,baz=111,slow=9.6,SNR=40
comp=Z,14nm,0.6s
CTAO Charters Tower 32.39 283 P P 14 25 52.9 +0.3
CTAO IAmb IAmb 14 25 54.0
comp=Z,65nm,1.4s
CTAO Charters Tower 32.39 283 P P 14 25 53.4 +0.7
STKA Stephens Creek 32.40 260 P P 14 25 53.0 +0.4
STKA Stephens Creek 32.40 260 P P 14 25 53.4 +0.8
STKA Stephens Creek 32.40 260 P P 14 25 53.5 +0.8
comp=Z,12nm,0.6s,baz=100,slow=10,SNR=34
comp=Z,12nm,0.6s
TARA Tarawa 33.92 347 P P 14 26 03.6 -2.1
INKA Innaminka 34.11 267 P P 14 26 08.3 +1.1
HTT Hallett 34.35 257 P P 14 26 09.9 +0.6
LCRK Leigh Creek 35.53 261 P P 14 26 19.5 +0.2
WHYH Whyalla 35.53 257 P P 14 26 19.8 +0.6
BBOO Buckleboo 36.83 257 P P 14 26 29.8 -0.3
BBOO IAmb IAmb 14 26 30.5
comp=Z,24nm,0.8s
BBOO Buckleboo 36.83 257 P P 14 26 29.8 -0.3
RABL Rabaul 38.05 311 P P 14 26 39.5 -0.9
RABL Rabaul 38.05 311 P P 14 26 40.2 -0.2
BULU Kimbe 38.26 307 P P 14 26 43.2 +1.1
ASAR Alice Springs 41.29 270 P P 14 27 06.1 -0.6
comp=Z,11nm,0.7s,baz=114,slow=7.8,SNR=17
ASAR S S 14 32 46.6 -4.0
comp=Z,2.8nm,1.0s,baz=108,slow=15,SNR=3.3
comp=Z,11nm,0.7s
WRA Warramunga Arr 42.43 275 ScP ScP 14 32 11.7 -0.5
comp=Z,3.0nm,0.9s,baz=116,slow=3.8,SNR=3.9
WRA S S 14 33 03.3 -4.0
comp=Z,0.9nm,0.8s,baz=116,slow=14,SNR=3.8
SBA Scott Base 46.23 184 P P 14 27 47.5 +3.0
SBA IAmb IAmb 14 27 52.4
comp=Z,25nm,1.1s
VNDA Vanda 46.24 185 P P 14 27 46.4 +1.7
VNDA Vanda 46.24 185 P P 14 27 46.9 +2.2
comp=Z,1.2nm,0.6s,baz=357,slow=10,SNR=1.4
comp=Z,1.2nm,0.6s
QSPA South Pole Qui 58.02 180 P P 14 29 12.6 +2.0
QSPA South Pole Qui 58.02 180 P P 14 29 13.1 +2.6
comp=Z,48nm,0.8s,baz=235,slow=0.7,SNR=387
comp=Z,48nm,0.8s
MMRI Maumere 58.16 280 P P 14 29 11.8 -0.4
comp=Z,21nm,0.5s
EDFI Ende, Flores 58.56 280 P P 14 29 14.2 -0.8
comp=Z,6.7nm,0.5s
BKSI Bulukumba 61.72 282 P P 14 29 35.5 -0.5
comp=Z,13nm,1.2s
PLAI Plampang 61.80 277 P P 14 29 35.8 -0.8
comp=Z,13nm,1.4s
GTOI Gorontalo 62.78 290 P P 14 29 42.7 -0.2
TOLI2 Tolitoli 64.85 289 P P 14 29 55.4 -0.9
TOLI2 IAmb IAmb 14 30 02.9
comp=Z,9.3nm,0.8s
JAGI Jajag, Banyuwa 65.05 276 P P 14 29 56.7 -0.9
comp=Z,20nm,1.3s
MPSI Mapaga 65.11 287 P P 14 29 57.1 -0.8
comp=Z,9.6nm,0.9s
ELIB Princess Elisa 74.95 187 dP P 14 30 56.8 +0.6
comp=Z,7.5nm,0.8s
ELIB dPcP PcP 14 31 08.6 +0.6
TROLL Troll, Antarti 76.17 181 ⇑P P 14 31 04.5 +1.4
comp=Z,405nm,0.6s
SNAA Sanae 76.50 179 P P 14 31 05.8 +0.9
SNAA IAmb IAmb 14 31 06.9
comp=Z,18nm,0.9s
SNAA Sanae 76.50 179 ⇑P P 14 31 06.1 +1.3
comp=Z,132nm,0.3s
SNAA Sanae 76.50 179 P P 14 31 05.8 +0.9
comp=Z,7.0nm,0.4s,baz=244,slow=5.4,SNR=14
comp=Z,7.0nm,0.4s
VNA3 Neumayer Olymp 76.73 177 ⇑P P 14 31 07.4 +1.4
comp=Z,98nm,0.7s
VNA2 Neumayer--Watz 77.14 178 ⇑P P 14 31 10.0 +1.7
comp=Z,46nm,0.6s,baz=173,slow=5.3
VNA1 Neumayer--Stat 77.38 177 ⇑P P 14 31 11.4 +1.8
comp=Z,39nm,0.7s
MJAR Matsushiro Art 78.65 327 P P 14 31 16.0 -1.0
comp=Z,9.1nm,0.9s,baz=163,slow=5.0,SNR=12
comp=Z,9.1nm,0.9s
JNU Nakatsue 79.67 320 P P 14 31 21.9 -0.7
comp=Z,14nm,1.0s,baz=60,slow=3.5,SNR=5.8
comp=Z,14nm,1.0s
LL02 Futaleuf 80.42 135 P P 14 31 28.9 +2.5
LL02 IAmb IAmb 14 31 29.7
comp=Z,16nm,0.7s
PLCA Paso Flores 82.64 134 P P 14 31 40.7 +2.6
PLCA IAmb IAmb 14 31 41.6
comp=Z,15nm,1.2s
PLCA Paso Flores 82.64 134 P P 14 31 40.6 +2.5
comp=Z,3.9nm,0.7s,baz=244,slow=4.7,SNR=19
comp=Z,3.9nm,0.7s
ASAJ Asahikawa 83.15 334 P P 14 31 40.9 +0.7
comp=Z,12nm,0.7s,baz=323,slow=7.2,SNR=6.9
comp=Z,12nm,0.7s
GSI Gunungsitoli 84.20 275 P P 14 31 46.0 -0.3
KSRS Korea Array 84.51 321 P P 14 31 47.1 -0.1
comp=Z,7.5nm,0.7s,baz=143,slow=5.3,SNR=24
comp=Z,7.5nm,0.7s
KSAR Wonju Array Be 84.53 321 P 14 31 47.1 -0.1
NJ2 Nanjing 86.02 312 eP P 14 31 56.6 +1.9
NJ2 pmax pmax
comp=Z,11nm,1.3s
PETK Petropavlovsk- 87.03 347 P P 14 31 58.3 -0.7
PETK Petropavlovsk- 87.03 347 P P 14 31 59.3 +0.3
comp=Z,17nm,0.8s,baz=147,slow=6.7,SNR=10
comp=Z,17nm,0.8s
USRK Ussuriysk Ar. 87.61 328 P P 14 32 02.6 +0.7
comp=Z,5.8nm,0.7s,baz=143,slow=2.0,SNR=9.7
comp=Z,5.8nm,0.7s
CN2 Changchun 90.44 324 P P 14 32 15.2 +0.1
CN2 pmax pmax
comp=Z,20nm,0.8s
NVAR Mina Array Bea 90.69 44 P P 14 32 18.5 +1.8
comp=Z,3.7nm,0.7s,baz=223,slow=8.1,SNR=15
comp=Z,3.7nm,0.7s
GYA Guiyang 90.87 301 P P 14 32 17.9 +0.2
GYA pmax pmax
comp=Z,7.0nm,1.2s
ENH Enshi 91.11 305 P P 14 32 17.8 -0.8
ENH IAmb IAmb 14 32 19.6
comp=Z,12nm,0.9s
KLR Kul'dur 91.62 331 P P 14 32 20.2 -0.3
comp=Z,3.1nm,0.9s,baz=62,slow=1.7,SNR=7.3
comp=Z,3.1nm,0.9s
LYN LuoYang 91.72 310 eP P 14 32 22.2 +0.9
LYN pmax pmax
comp=Z,17nm,0.7s
CMAR Chiang Mai Arr 92.30 290 P P 14 32 24.9 +0.5
comp=Z,0.4nm,0.4s,baz=149,slow=3.9,SNR=4.7
CMAR PKKPbc PKKPbc 14 49 37.6 +1.5
comp=Z,0.6nm,0.4s,baz=286,slow=3.3,SNR=4.6
comp=Z,0.4nm,0.4s
PZH PanZhiHua 94.53 298 P P 14 32 38.2 +3.6
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,150nm,5.0s
TXAR Lajitas Array 94.79 58 P P 14 32 36.9 +1.2
comp=Z,0.4nm,0.8s,baz=209,slow=6.7,SNR=4.0
comp=Z,0.4nm,0.8s
HHC Hu-ho-hao-te 96.15 315 eP P 14 32 42.6 +1.1
HHC pmax pmax
comp=Z,6.0nm,0.7s
HHC pmax pmax
comp=Z,140nm,5.5s
PDAR Pinedale Array 98.58 45 P P 14 32 53.5 +0.9
comp=Z,0.7nm,0.8s,baz=224,slow=4.1,SNR=6.7
comp=Z,0.7nm,0.8s
ILAR Eielson Array 99.98 14 P Pdif 14 32 58.0 +0.1
comp=Z,0.5nm,0.9s,baz=226,slow=4.8,SNR=4.5
ILAR PKiKP PKiKP 14 37 24.7 +1.3
comp=Z,0.3nm,0.5s,baz=258,slow=2.4,SNR=5.3
comp=Z,0.5nm,0.9s
YKA Yellowknife A 107.74 26 PKiKP PKiKP 14 37 37.9 +0.3
comp=Z,0.6nm,0.9s,baz=258,slow=1.5,SNR=6.8
YKA PKKPbc PKKPbc 14 48 51.1 -2.8
comp=Z,0.3nm,0.6s,baz=40,slow=3.0,SNR=8.4
WMQ Urumqi 112.88 308 eP PKiKP 14 37 49.6 +1.6
FCC Fort Churchill 114.86 35 PKPdf 14 37 50.4 -0.8
ZSN Zaisan 116.05 311 ePKP PKPdf 14 37 52.7 -1.3
baz=311
MK31 Makanchi Array 117.50 310 PKPdf 14 37 56.2 -0.6
MKAR Makanchi Array 117.50 310 PKP PKPdf 14 37 55.8 -1.0
comp=Z,1.7nm,0.6s,baz=94,slow=2.4,SNR=17
MKAR PKKPbc PKKPab 14 48 22.4 -0.9
comp=Z,0.9nm,0.5s,baz=281,slow=3.3,SNR=17
MAKZ Makanchi 117.71 310 PKPdf 14 37 56.2 -1.0
ZALV Zalesovo Beam 118.11 318 PKP PKPdf 14 37 56.4 -1.2
comp=Z,2.0nm,0.7s,baz=72,slow=1.1,SNR=9.3
SHLS Shalkode 118.24 305 ePKP PKPdf 14 37 56.8 -1.7
baz=306
UZB Uzynbulak 118.54 305 ePKP PKPdf 14 37 58.0 -1.0
baz=305
SATY Satty 118.94 305 ePKP PKPdf 14 37 59.0 -0.9
baz=305
ZHN Zhinishke 118.96 305 ePKP PKPdf 14 37 58.7 -1.1
baz=305
MDOK Medeo 119.92 305 ePKP PKPdf 14 38 00.7 -1.0
baz=305
CHKK Chushkaly 120.17 305 ePKP PKPdf 14 38 00.4 -1.6
baz=306
KUU Kurty 120.63 305 ePKP PKPdf 14 38 01.5 -1.4
baz=305
KURK Kurchatov 120.93 313 PKPdf 14 38 02.2 -1.0
KURBB Kurchatov Arra 120.96 313 PKP PKPdf 14 38 02.1 -1.1
comp=Z,4.8nm,0.7s,baz=109,slow=1.9,SNR=39
KURBB PKKPbc PKKPbc 14 48 09.7 +1.2
comp=Z,0.3nm,0.3s,baz=282,slow=4.8,SNR=6.4
BTLS Baital 122.52 306 ePKP PKPdf 14 38 05.5 -1.0
baz=306
GAR Garm 123.60 298 PKPdf 14 38 08.2 -0.7
DZA Taraz 123.88 303 ePKP PKPdf 14 38 08.2 -1.0
baz=303
BRZS Berezniki 124.49 312 ePKP PKPdf 14 38 08.6 -1.5
baz=312
KK31 Karatay Array 124.52 303 PKPdf 14 38 10.0 -0.4
KKAR Karatay Array 124.52 303 PKPdf 14 38 10.0 -0.4
KKAR Karatay Array 124.52 303 PKPdf 14 38 09.9 -0.5
IUG Iuzhnay 124.63 302 ePKP PKPdf 14 38 09.8 -1.0
baz=302
BRLS Boroldaу 124.98 303 ePKP PKPdf 14 38 10.6 -0.7
baz=303
LSZ Lusaka 125.67 214 PKP PKiKP 14 38 13.5 -0.5
comp=Z,2.6nm,0.7s,baz=138,slow=3.7,SNR=3.9
BVAR Borovoye Array 126.36 315 PKP PKPdf 14 38 13.1 -0.5
comp=Z,5.9nm,0.6s,baz=94,slow=1.9,SNR=34
BRVK Borovoye 126.43 315 PKPdf 14 38 12.6 -1.0
ABKAR Akbulak array 132.64 310 PKPdf 14 38 25.0 -0.5
GEYT Alibeck 132.65 294 PKP PKiKP 14 38 26.6 -0.6
comp=Z,2.3nm,0.7s,baz=109,slow=6.9,SNR=3.6
GEYT SKPbc SKPbc 14 41 14.4 -0.6
comp=Z,7.8nm,1.0s,baz=129,slow=2.1,SNR=8.0
ARU Arti 133.24 319 PKPdf 14 38 26.6 +0.1
SPITS Spitsbergen Ar 133.26 355 PKP PKiKP 14 38 26.3 -1.0
comp=Z,3.8nm,0.6s,baz=101,slow=4.3,SNR=5.7
ARCES ARCESS Array B 139.84 346 PKhKP PKPpre 14 38 31.8
comp=Z,4.7nm,0.8s,baz=318,slow=1.6,SNR=13
ARCES PKP PKPdf 14 38 38.9 +0.6
comp=Z,3.4nm,0.7s,baz=64,slow=2.8,SNR=5.2
ONI Oni 144.19 300 PKPab 14 38 45.9 -0.4
KBZ Khabaz 144.53 302 PKP PKPbc 14 38 46.6 -0.4
comp=Z,21nm,0.9s,baz=102,slow=3.5,SNR=29
GURO Guroymak-BITLI 145.28 293 PKPbc 14 38 49.4 -0.4
BCA Borcka 145.60 298 ⇑P PKPdf 14 38 49.3 0.0
FIA1 FINESS Array S 146.08 338 PKPbc 14 38 50.4 -0.8
FINES FINESS Array B 146.08 338 PKPbc 14 38 50.4 -0.7
FINES FINESS Array B 146.08 338 PKPbc PKPbc 14 38 50.5 -0.6
comp=Z,32nm,0.6s,baz=42,slow=3.3,SNR=160
MEF Metsahovi 147.55 337 eP PKPbc 14 38 55.1 -0.1
RAF Rauma 147.72 340 eP PKPbc 14 38 55.0 -0.7
MTSE Matsula 148.88 336 eP PKPbc 14 38 58.5 -0.1
NB2 NORSAR Subarra 150.11 349 PKP PKPbc 14 39 01.4 -0.2
comp=Z,6.6nm,0.7s,baz=18,slow=2.6
NOA NORSAR Array B 150.11 349 PKPbc PKPbc 14 39 01.1 -0.5
comp=Z,13nm,0.8s,baz=16,slow=4.1,SNR=41
MMAI Mount Meron Ar 150.17 281 PKPbc PKiKP 14 39 03.4 0.0
comp=Z,7.2nm,0.5s,baz=81,slow=5.2,SNR=28
HFS Hagfors 150.50 346 PKPbc PKPbc 14 39 01.8 -0.7
comp=Z,19nm,0.7s,baz=163,slow=1.5,SNR=26
HFS PKPab PKPab 14 39 10.0 -0.8
comp=Z,5.5nm,0.5s,baz=77,slow=6.5,SNR=15
VSVD Vaisvydziai 150.83 332 eP PKiKP 14 39 04.1 +0.3
PABE Paberze 151.15 331 eP PKiKP 14 39 04.6 +0.1
KIEV Kiev 151.51 319 ⇓P PKPbc 14 39 04.7 -0.4
PBUR Paburge 151.57 334 eP PKiKP 14 39 05.9 +0.5
BRTR Keskin Array B 151.78 295 PKPbc PKPbc 14 39 05.4 -0.9
comp=Z,5.0nm,0.5s,baz=136,slow=3.8,SNR=25
BRTR PKPab PKPab 14 39 15.9 -1.1
comp=Z,4.0nm,0.8s,baz=96,slow=3.7,SNR=11
SUW Suwalki 152.51 330 PKPdf PKPdf 14 38 60.0 +0.1
SUW PKPbc PKiKP 14 39 07.5 +0.1
SUW PKPab 14 39 18.2 -1.2
SUW Suwalki 152.51 330 eP PKiKP 14 39 06.9 -0.5
SORM Soroca 153.20 315 ⇑P PKPbc 14 39 08.4 -0.5
DBIC Dimbokro 154.31 169 PKP PKPdf 14 39 04.4 +0.7
comp=Z,4.5nm,0.7s,baz=102,slow=3.2,SNR=6.5
DBIC PKPbc PKiKP 14 39 12.7 +0.3
comp=Z,2.2nm,0.5s,baz=352,slow=0.8,SNR=5.7
DBIC PKPab PKPab 14 39 28.7 +0.6
comp=Z,6.9nm,0.8s,baz=174,slow=4.5,SNR=6.1
TESR Tescani 154.96 313 ⇑P PKPab 14 39 29.1 -1.1
VRI Vrincioaia 155.18 311 ⇑P PKPab 14 39 30.1 -1.1
PLOR Plostina 155.24 311 ⇓P PKPab 14 39 31.2 -0.3
BURAR Bucovina Array 155.31 316 ⇑P PKPab 14 39 24.7 -7.1
TURR Turia 155.55 312 ⇑P PKPab 14 39 32.0 -0.8
NEHR Nehoiu 155.64 311 ⇑P PKPab 14 39 34.7 +1.5
OZUR 155.68 313 ⇑P PKPab 14 39 32.3 -1.1
MLR Muntele Rosu 155.84 311 ⇑P PKPab 14 39 35.0 +0.8
KOLS Kolonicke sedl 156.23 322 ePKP PKPab 14 39 36.7 +0.6
VOIR 156.43 312 ⇑P PKPab 14 39 35.4 -1.3
CRVS Cervenica-Dubn 156.68 322 ePKP PKPab 14 39 37.5 0.0
ARR Arges 156.72 312 ⇑P PKPab 14 39 39.2 +1.2
MARR Marisel-Cluj 157.02 316 ⇑P PKPab 14 39 38.9 -0.3
LOT Lotru 157.23 313 ⇑P PKPab 14 39 38.4 -1.8
LANS Liptovska Anna 157.52 325 ePKP PKPab 14 39 41.6 +0.4
MORC Moravsky Berou 157.98 328 ePKP PKPab 14 39 42.5 -0.7
SURR Surduc 158.09 315 ⇑P PKPab 14 39 43.2 -0.5
SIRR Siria 158.09 316 ⇑P PKPab 14 39 43.1 -0.7
VYHS Vyhne 158.27 324 ePKP PKPab 14 39 44.3 -0.1
HERR Herculane 158.34 313 ⇑P PKPab 14 39 41.1 -3.8
BZS Buzias 158.46 315 ⇑P PKPab 14 39 41.6 -3.7
CLL Collm 158.53 337 i PKPab PKPab 14 39 44.4 -1.0
comp=Z,23nm,1.0s
BRG Berggiesshubel 158.57 335 ePKP PKPab 14 39 45.4 -0.2
BRG Amp 14 39 46.0
comp=Z,11nm,0.9s
JAVC Velka Javorina 158.58 327 ePKP PKPab 14 39 46.4 +0.6
VRAC Vranov 158.74 329 ePKP PKPab 14 39 46.1 -0.4
KRUC Moravsky 159.01 329 ePKP PKPab 14 39 47.1 -0.5
MODS Modra-Piesok 159.11 326 ePKP PKPab 14 39 48.9 +0.8
FRGS Fruska Gora 159.78 316 ⇓P PKPab 14 39 50.8 -0.4
RONA Rosalia, Austr 160.05 326 i PKP PKPab 14 39 52.2 -0.1
comp=Z,6.0nm,1.1s
CONA Conrad Observa 160.09 327 ePKP PKPab 14 39 52.4 0.0
comp=Z,8.4nm,0.9s
KHC Kasperske Hory 160.13 333 ePKPAB PKPab 14 39 52.0 -0.5
GERES GERESS Array B 160.31 332 PKPab PKPab 14 39 51.9 -1.5
comp=Z,2.4nm,0.8s,baz=23,slow=7.2,SNR=5.1
GRF Grafenberg Arr 160.50 338 ePKP PKPab 14 39 54.2 +0.2
baz=30,slow=3.7
ARSA Arzberg 160.74 326 i PKP PKPab 14 39 53.6 -1.6
comp=Z,3.6nm,0.9s
TOA0 Torodi Ar. Sit 161.07 185 PKPdf PKPdf 14 39 11.2 -0.7
TOA0 PKPab 14 39 57.5 +0.3
TORD Torodi Ar. Bea 161.07 185 PKPdf 14 39 11.3 -0.6
TORD PKPab 14 39 57.5 +0.2
TORD Torodi Ar. Bea 161.07 185 PKP PKPdf 14 39 12.3 +0.4
comp=Z,2.5nm,0.9s,baz=349,slow=1.5,SNR=9.5
TORD PKPab PKPab 14 39 57.4 +0.2
comp=Z,3.4nm,0.5s,baz=174,slow=2.8,SNR=27
SOKA Soboth 161.38 326 i PKP PKPab 14 39 57.2 -1.0
comp=Z,5.9nm,1.4s
OBKA Obir 161.74 326 i PKP PKPab 14 39 58.6 -1.1
comp=Z,8.8nm,1.4s
KBA Koelnbreinsper 161.85 329 i PKP PKPab 14 40 00.0 -0.3
comp=Z,5.1nm,1.5s
LESA Schwarzleotal 161.86 331 i PKP PKPab 14 39 59.7 -0.5
comp=Z,7.9nm,1.3s
MYKA Terra Mystica 162.06 328 i PKP PKPab 14 39 59.7 -1.5
comp=Z,2.9nm,0.5s
WATA Walderalm 162.37 333 i PKP PKPab 14 40 02.5 -0.1
comp=Z,11nm,1.1s
WTTA Wattenberg 162.41 333 ePKP PKPab 14 40 02.1 -0.6
comp=Z,8.3nm,1.3s
ABTA Abfaltersbach 162.47 330 i PKP PKPab 14 40 02.2 -0.7
comp=Z,10nm,1.3s
MOTA Moosalm 162.54 334 i PKP PKPab 14 40 02.8 -0.5
comp=Z,12nm,1.0s
RETA Reutte 162.55 335 i PKP PKPab 14 40 03.1 -0.1
comp=Z,9.8nm,1.0s
SQTA Sankt Quirin 162.60 334 i PKP PKPab 14 40 03.0 -0.5
comp=Z,8.7nm,1.2s
FETA Feichten 162.95 334 i PKP PKPab 14 40 04.7 -0.4
comp=Z,11nm,1.2s
DAVA Damuels 163.03 336 ePKP PKPab 14 40 05.2 -0.2
comp=Z,11nm,0.9s
FUORN Ofenpass-Fuorn 163.46 334 PKPdf PKPdf 14 39 12.5 -1.2
FUORN PKPab 14 40 07.6 +0.1

*IDC **02** 14:21:32.5±4.5, 6.6°66S×130.3°31E, h59km±43km, mb4.0/12, mbtmp4.4/15, ML4.8/2, MS3.3/4, Error ellipse: s-maj=36.9km s-min=17.8km az=69.0*
*DJA **02** 14:21:37.9±0.2, 7.3°S×13.0°E, h115km±5km, M4.6/22, mB5.1/11, mb4.6/22, MLv4.9/14, Mw(mB)4.5/11*
*NEIC **02** 14:21:38.1±1.9, 6.6°68S±0.7°×130.2°25E±0.9, h107km±8km, mb4.5/28, Error ellipse: s-maj=13.3km s-min=10.4km az=82.0*

ISC 02 14:21:36.9±0.4, 6.7°71S±0.5°×130.3°33E±0.6, h100km, n114, σ1°53/111, mb4.4/29, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.59	143	Pn	Pn	Pn	14 22 06.9	+2.6
SAUI	Saumlaki	1.59	143	Pn	Pn	Pn	14 22 06.9	+2.6
SAUI				S	S	Sn	14 22 27.2	+2.1
BNDI	Bandanaira	2.21	349	Pn	Pn	Pn	14 22 14.7	+2.5
BNDI	Bandanaira	2.21	349	Pn	Pn	Pn	14 22 14.4	+2.2
FAKI	Fak Fak	4.22	27	Pn	Pn	Pn	14 22 39.4	+0.3
FAKI	Fak Fak	4.22	27	P	Pn	Pn	14 22 39.4	+0.3
FAKI	Fak Fak	4.22	27	P	Pn	Pn	14 22 39.5	+0.3
NLAI	Namlea	4.71	317	P	Pn	Pn	14 22 48.7	+3.0
DRS	Darwin Rock St	5.71	174	P	Pn	Pn	14 22 58.9	-0.4
SWI	Sorong	5.88	9	P	Pn	Pn	14 23 01.3	-0.3
	96nm,0.4s,10μm1.0nm							
MTN	Manton Dam	6.15	173	Pn	Pn	Pn	14 23 05.7	+0.5
MTN	Manton Dam	6.15	173	P	Pn	Pn	14 23 04.9	-0.3
KDU	Kakadu	6.30	161	P	Pn	Pn	14 23 06.7	-0.6
SANI	Sanana	6.34	317	P	Pn	Pn	14 23 10.7	+2.9
SANI	Sanana	6.34	317	P	Pn	Pn	14 23 10.4	+2.6
	27nm,0.6s,585nm0.1nm							
LBMI	Labuha	6.66	335	P	Pn	Pn	14 23 14.5	+2.3
	105nm,0.7s,1μm0.5nm							
SOEI	Soe	6.72	243		Pn	Pn	14 23 13.7	+0.7
SOEI	Soe	6.72	243	P	Pn	Pn	14 23 13.8	+0.7
SOEI	Soe	6.72	243	P	Pn	Pn	14 23 13.6	+0.5
	107nm,0.7s,2μm1.9nm							
BBSI	Bau Bau	7.81	279	P	Pn	Pn	14 23 30.9	+3.1
	48nm,1.0s,0.2nm							
MMRI	Maumere	8.24	256	Pn	Pn	Pn	14 23 33.5	-0.2
MMRI	Maumere	8.24	256	P	Pn	Pn	14 23 35.0	+1.3
	32nm,0.7s							
EDFI	Ende, Flores	8.80	256	P	Pn	Pn	14 23 42.8	+1.5
	18nm,0.8s,513nm							
KNRA	Kununurra	9.04	190	Pn	Pn	Pn	14 23 42.5	-2.1

LUWI	Luwuk	9.41 306			Pn	14 23 46.0	-3.5
MMPI	Merauke	10.12 101	P		Pn	14 23 59.1	-0.2
	312nm,0.9s						
BKSI	Bulukumba	10.24 277	P		Pn	14 24 02.5	+1.6
	28nm,0.9s						
TABU	Tabubil	10.93 83	P		Pn	14 24 09.8	-0.6
MRSI	Marisa	11.00 310	P		Pn	14 24 14.0	+2.8
	41nm,1.1s						
MPSI	Mapaga	12.54 304	P		Pn	14 24 34.4	+2.6
	6.4nm,1.0s,799nm						
PLAI	Plampang	12.61 260	P		Pn	14 24 31.1	-1.7
TWSI	Taliwang, Sumb	13.48 261	P		Pn	14 24 44.7	+0.6
	9.5nm,0.6s						
WB0	Warramunga Arr	13.57 163	Pn		Pn	14 24 42.6	-2.7
WRAB	Tennant Creek	13.71 164	Pn		Pn	14 24 43.6	-3.6
WRA	Warramunga Arr	13.72 164			Pn	14 24 42.4	-4.9
WRA	Warramunga Arr	13.72 164	P		Pn	14 24 43.5	-3.8
	4.6nm,0.3s,baz=336,slow=13,SNR=104						
WRA			S		Sn	14 26 59.8	-19
	3.5nm,0.3s,baz=352,slow=22,SNR=5.9						
	13nm,0.7s						
WB2	Warramunga Arr	13.72 164	Pn		Pn	14 24 43.2	-4.1
WR0	Warramunga Arr	13.79 163	Pn		Pn	14 24 45.2	-3.0
DAV	Davao City (W)	14.48 341	LR		LR	14 30 36.8	
	comp=Z,42nm,19.8s,baz=321,slow=38						
COEN	Coen	14.54 121	Pn		Pn	14 24 56.9	-0.9
COEN	Coen	14.54 121	P		Pn	14 24 57.7	-0.2
JAGI	Jajag, Banyuwa	16.13 263	Pn		Pn	14 25 15.4	-2.4
JAGI	Jajag, Banyuwa	16.13 263	P		Pn	14 25 16.1	-1.8
	18nm,1.0s						
KMMI	Kalianget	16.25 268	P		P	14 25 22.1	+1.5
	56nm,0.7s						
QIS	Mount Isa	16.44 148	P		Pn	14 25 20.6	-1.1
BLJI	Banyuglugur	16.63 265	P		Pn	14 25 25.2	+1.1
	45nm,0.5s						
PMG	Port Moresby	16.88 100	P		P	14 25 29.5	+2.0
PMG			IAmb		IAmb	14 25 32.0	
	comp=Z,23nm,1.1s						
PMG	Port Moresby	16.88 100	P		Pn	14 25 26.6	-0.6
PMG	Port Moresby	16.88 100	P		Pn	14 25 26.5	-0.6
PMG	Port Moresby	16.88 100	P		Pn	14 25 26.2	-0.9
	comp=Z,11nm,0.7s,baz=220,slow=15,SNR=1.9						
AS31	Alice Springs	17.21 169	P		Pn	14 25 29.4	-1.7
AS31			IAmb		IAmb	14 25 33.8	
	comp=Z,9.8nm,0.5s						
ASAR	Alice Springs	17.21 169	P		Pn	14 25 30.1	-1.0
ASAR	Alice Springs	17.21 169	P		Pn	14 25 29.2	-1.8
	comp=Z,3.1nm,0.3s,baz=339,slow=8.9,SNR=172						
ASAR			S		Sn	14 28 31.9	-11
	comp=Z,5.6nm,0.7s,baz=349,slow=24,SNR=9.4						
	comp=Z,11nm,0.6s						
AS01	Alice Springs	17.21 169	P		Pn	14 25 30.6	-0.6
MBWA	Marble Bar	17.65 214	P		P	14 25 34.2	-1.8
PSA00	Pilbara Seismi	17.92 213	P		P	14 25 37.8	-1.1
PSA00			IAmb		IAmb	14 25 44.5	
	comp=Z,16nm,0.7s						
WRKA	Warakurna	18.33 186	P		P	14 25 43.8	+0.3
CTA	Charters Tower	20.39 132	LR		LR	14 35 29.9	
	comp=Z,82nm,20.4s,baz=269,slow=41						
OOD	Oodnadatta	21.58 167	P		P	14 26 19.2	+0.7
BBJI	Bungbulang	22.52 267	P		P	14 26 29.5	+0.9
FORT	Forrest	24.04 185	P		P	14 26 43.4	+0.7
FORT			IAmb		IAmb	14 27 27.2	
	comp=Z,25nm,0.8s						
STKA	Stephens Creek	27.16 159	P		P	14 27 11.3	+0.4
	comp=Z,1.8nm,0.4s,baz=336,slow=4.7,SNR=2.0						
	comp=Z,1.8nm,0.4s						
NWAO	Narrogin (SRO)	28.79 203	LR		LR	14 39 10.0	
	comp=Z,55nm,18.5s,baz=19,slow=37						
RPSI	Rantau Prapat	32.71 286	P		P	14 27 59.9	-0.3
RPSI			IAmb		IAmb	14 28 02.0	
	comp=Z,11nm,0.9s						
PSI	Prapat	32.74 286	P		P	14 28 00.9	+0.3
UBPT	Khong Chiam	32.93 312	P		P	14 28 01.8	-0.2
GSI	Gunungsitoli	33.64 283	P		P	14 28 08.8	+0.5
CMAR	Chiang Mai Arr	39.80 309	P		P	14 29 00.1	-0.4
	comp=Z,3.2nm,0.6s,baz=136,slow=7.3,SNR=33						
CMAR			PcP		PcP	14 31 05.7	+0.8
	comp=Z,0.6nm,0.6s,baz=166,slow=2.8,SNR=4.6						
	comp=Z,3.2nm,0.6s						
CHTO	Chiang Mai	40.01 310	P		P	14 29 01.0	-1.2
CHTO			IAmb		IAmb	14 29 02.6	
	comp=Z,5.7nm,0.7s						
CHTO	Chiang Mai	40.01 310	P		P	14 29 02.0	-0.2
NJ2	Nanjing	40.07 345	eP		P	14 29 05.5	+3.0
NJ2			pmax		pmax		
	comp=Z,10.0nm,1.4s						
ENH	Enshi	41.86 333	P		P	14 29 15.7	-1.5
ENH			IAmb		IAmb	14 29 17.2	
	comp=Z,7.1nm,0.9s						
ENH	Enshi	41.86 333	P		P	14 29 17.1	-0.1
PZH	PanZhiHua	43.11 321	P		P	14 29 26.7	-0.9
PZH			pmax		pmax		
	comp=Z,10.0nm,0.8s						
PZH			pmax		pmax		
	comp=Z,110nm,4.9s						
KSRS	Korea Array	43.99 357	P		P	14 29 34.1	-0.2
	comp=Z,0.7nm,0.5s,baz=179,slow=8.8,SNR=2.9						
	comp=Z,0.7nm,0.5s						
BJI	Beijing	48.32 345	P		P	14 30 08.2	0.0
BJI			pmax		pmax		
	comp=Z,3.0nm,0.7s						
BJI			pmax		pmax		
	comp=Z,96nm,4.4s						
LZH	Lanzhou	49.30 332	eP		P	14 30 16.8	+0.8
LZH			pP		pwP	14 30 43.6	+1.4
LZH			pmax		pmax		
	comp=Z,12nm,1.0s						
HHC	Hu-ho-hao-te	50.37 342	eP		P	14 30 27.7	+3.7
HHC			pmax		pmax		
	comp=Z,6.0nm,0.9s						
HHC			pmax		pmax		
	comp=Z,92nm,4.8s						
USRK	Ussuriysk Ar.	50.70 2	P		P	14 30 25.8	-0.3
	comp=Z,0.9nm,0.6s,baz=133,slow=7.3,SNR=1.9						
	comp=Z,0.9nm,0.6s						
LSA	Lhasa	52.22 316	P		P	14 30 36.8	-1.6
LSA			IAmb		IAmb	14 30 39.4	
	comp=Z,5.5nm,0.8s						
GTA	Gaotai	53.88 331	eP		P	14 30 50.2	+0.2
GTA			pP		pP	14 30 55.9	-18
GTA			pmax		pmax		
	comp=Z,5.0nm,0.8s						
ULN	Ulaanbaatar	58.09 342	P		P	14 31 19.8	-0.1
SONM	Songino Array	58.27 341	P		P	14 31 20.0	-1.2
SONM	Songino Array	58.27 341	P		P	14 31 20.3	-0.9
	comp=Z,1.6nm,0.4s,baz=170,slow=6.8,SNR=3.6						
	comp=Z,1.6nm,0.4s						
WMQ	Urumqi	63.33 327	eP		P	14 31 54.9	-0.6
WMQ			pP		sP	14 32 29.6	-1.4
KSH	Kashi	68.03 317	P		P	14 32 26.7	+0.9
KSH			pmax		pmax		
	comp=Z,5.0nm,0.7s						
MK31	Makanchi Array	68.16 327	P		P	14 32 26.8	+0.4
MK31			IAmb		IAmb	14 32 27.6	
	comp=Z,9.4nm,0.9s						
MKAR	Makanchi Array	68.16 327	P		P	14 32 26.8	+0.4
	comp=Z,9.1nm,0.5s,baz=112,slow=8.8,SNR=215						
	comp=Z,9.1nm,0.5s						
MAKZ	Makanchi	68.34 326	P		P	14 32 27.8	+0.2
KBK	Karagaybulak	70.25 320	P		P	14 32 40.7	+1.1
	SNR=6.2						
UCH	Uchtor	70.32 319	P		P	14 32 41.4	+1.1
	SNR=8.8						
AAK	Ala-Archa	70.53 320	P		P	14 32 42.2	+0.9
	SNR=7.3						
AAK	Ala-Archa	70.53 320	P		P	14 32 42.2	+0.9
AAK			IAmb		IAmb	14 32 43.0	
	comp=Z,7.8nm,0.7s						
USP	Ospenovka	70.84 320	P		P	14 32 43.7	+0.7
	SNR=15						
ARSB	Arslanbob	70.89 318	P		P	14 32 44.1	+0.6
ARSB			IAmb		IAmb	14 32 44.9	
	comp=Z,4.2nm,0.7s						
EKS2	Erkin-Say	71.01 319	P		P	14 32 45.5	+1.4
	SNR=7.8						
ZALV	Zalesovo Beam	71.47 334	P		P	14 32 46.0	-0.5
	comp=Z,2.2nm,0.5s,baz=135,slow=5.9,SNR=11						
	comp=Z,2.2nm,0.5s						
CHGR	Chuyangaron	72.38 314	P		P	14 32 51.6	-0.7
KURBB	Kurchatov Arra	72.44 328	P		P	14 32 52.2	0.0
	comp=Z,2.8nm,0.5s,baz=128,slow=5.0,SNR=27						
	comp=Z,2.8nm,0.5s						
KURK	Kurchatov	72.44 328	P		P	14 32 52.4	+0.1
SIMJ	Simiganj	72.48 314	P		P	14 32 52.9	-0.1
KK31	Karatay Array	73.34 319	P		P	14 32 57.6	-0.2
KK31			IAmb		IAmb	14 32 58.9	
	comp=Z,5.6nm,1.0s						
KKAR	Karatay Array	73.34 319	P		P	14 32 57.2	-0.7
KKAR	Karatay Array	73.34 319	P		P	14 32 57.4	-0.5
KKAR			IAmb		IAmb	14 32 59.0	
	comp=Z,5.5nm,1.0s						
BVAR	Borovoye Array	77.99 328	P		P	14 33 23.9	-0.3
	comp=Z,1.1nm,0.3s,baz=105,slow=7.4,SNR=16						
	comp=Z,1.1nm,0.3s						
BRVK	Borovoye	78.06 328	P		P	14 33 24.4	-0.1
GEYT	Alibeck	80.28 310	P		P	14 33 36.5	-0.5
	comp=Z,2.7nm,0.8s,baz=120,slow=8.8,SNR=4.8						
	comp=Z,2.7nm,0.8s						
ABKAR	Akbulak array	82.48 321	P		P	14 33 47.9	-0.4
QSPA	South Pole Qui	83.27 180	P		P	14 33 52.6	+0.3
QSPA	South Pole Qui	83.27 180	P		P	14 33 52.8	+0.5
	comp=Z,1.9nm,0.7s,baz=192,slow=8.8,SNR=2.7						
	comp=Z,1.9nm,0.7s						
RAYN	Ar Rayn	87.93 294	P		P	14 34 16.3	+0.2
ILAR	Eielson Array	92.95 25	P		P	14 34 37.5	-1.0
	comp=Z,0.3nm,0.7s,baz=274,slow=3.8,SNR=4.4						
	comp=Z,0.3nm,0.7s						
BRTR	Keskin Array B	99.39 309	LR		LR	15 28 52.9	
	comp=Z,52nm,18.6s,baz=223,slow=41						
CPUP	Villa Florida	146.33 168	PKPbc		PKPbc	14 41 07.2	+0.4
	comp=Z,2.9nm,0.8s,baz=197,slow=4.1,SNR=4.6						

*IDC **02** 14:30:28.7±1.7, 33°.42N×140°.40E, h90km±15km, mb3.1/3, mbtmp3.4/4, Error ellipse: s-maj=48.2km s-min=12.2km az=82.0*

*JMA **02** 14:30:28.7±0.1, 33°.6N±0°.3×140°.5E±0°.8, h82km±2km, MV3.1/31, E OFF HACHIJOJIMA ISLAND*

ISC 02 14:30:28.4±1.0, 33°.57N±0°.04×140°.47E±0°.08, h83km±9km, n24, σ1s01/34, mb3.5/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	Mitsune	0.71	230	P	Pn	14 30 45.0	+0.6
JHJ2				eS	Sn	14 30 56.8	+0.4
JHJ	Hachijo jima 2	0.73	232	P	Pn	14 30 45.1	+0.5
	1µm,0.2s,baz=129,slow=23,SNR=143						
JHJ				S	Sn	14 30 57.1	+0.5
	1µm,0.3s,baz=90,slow=23,SNR=39						
JHCJ	Hachijojimakas	0.75	229	P	Pn	14 30 45.1	+0.3
JHCJ				S	Sn	14 30 57.0	0.0
JMKN	Mikurajimanish	0.80	294	P	Pn	14 30 45.4	0.0
JMKN				eS	Sn	14 30 57.7	-0.3
JMYK	Miyake Tsubota	0.91	303	P	Pn	14 30 46.7	+0.1
JMYK				eS	Sn	14 31 00.2	0.0
BSO1	Boso 1	1.16	21	P	Pn	14 30 49.7	+0.6
BSO3	Boso 3	1.23	2	P	Pn	14 30 50.7	+0.5
BSO3				eS	Sn	14 31 07.0	+0.4
JAOM	Aogashimamukai	1.25	208	eP	Pn	14 30 51.8	+1.1
JAOM				eS	Sn	14 31 08.9	+1.5
JNIO	Niijimaoohara	1.27	309	eP	Pn	14 30 50.9	+0.1
JNIO				eS	Sn	14 31 07.4	-0.3
JTHY	Toshimahigashi	1.37	315	P	Pn	14 30 52.4	+0.2
JTHY				eS	Sn	14 31 09.5	-0.5
JIM2	Oshima 3	1.43	323	P	Pn	14 30 52.9	-0.2
JIM2				S	Sn	14 31 10.6	-1.0
JIZS	Izushimoda	1.75	311	P	Pn	14 30 57.3	+0.3
JIZS				eS	Sn	14 31 19.6	+0.8
JOD2	Odawara 2	2.04	326	P	Pn	14 31 01.0	+0.1
JOD2				S	Sn	14 31 24.9	-0.8
TK02	Tokai 2	2.29	280	P	Pn	14 31 04.7	+0.7
TK04	Tokai 4	2.30	291	P	Pn	14 31 05.2	+0.9
SHZ3	Shizuoka 3	2.39	309	P	Pn	14 31 06.8	+1.1
JYN	Shimod	2.50	321	P	Pn	14 31 07.9	+0.9
MJAR	Matsushiro Arr	3.50	329	P	Pn	14 31 23.4	+2.9
	2.3nm,0.4s,baz=149,slow=13,SNR=5.6						
MJAR				S	Sn	14 32 03.4	+2.6
	1.5nm,0.4s,baz=93,slow=20,SNR=4.3						
H11N2	WAKE ISLAND Hy 27.25 114			T	T	15 05 04.1	
	baz=306,slow=75,SNR=8.6						
H11N1	WAKE ISLAND Hy 27.26 114			T	T	15 05 04.2	
	baz=306,slow=75,SNR=6.1						
H11N3	WAKE ISLAND Hy 27.27 114			T	T	15 05 05.3	
	baz=306,slow=75,SNR=6.0						
ILAR	Eielson Array	52.84	31	P	P	14 39 35.1	+0.1
	0.6nm,1.1s,baz=246,slow=6.8,SNR=2.1						
	0.6nm,1.1s						
WRA	Warramunga Arr	53.53	187	P	P	14 39 38.9	-1.7
	0.3nm,0.4s,baz=3.9,slow=7.6,SNR=7.5						
	0.3nm,0.4s						
ASAR	Alice Springs	57.26	187	P	P	14 40 06.0	-1.3
	0.3nm,0.7s,baz=15,slow=13,SNR=5.2						
	0.3nm,0.7s						

TAP 02 14:33:53.1, 24°.91N×122°.50E, h47km±1km, ML2.2, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	Santiao Chiao	0.47	282	P	Pn	14 34 03.0	-0.9
	baz=282						
TWB1				S	Sn	14 34 09.9	-1.7
	baz=282						
EGS		0.52	263	eP	Pn	14 34 04.2	-0.3
	baz=263						
EGS				eS	Sn	14 34 13.5	+1.0
	baz=263						
EOS2	EOS2	0.55	207	eP	Pn	14 34 04.3	-0.4
	baz=206						
EOS2				eS	Sn	14 34 10.5	-2.4
	baz=206						
SXI1	Grass Mountain	0.60	288	P	Pn	14 34 06.6	+1.1
	baz=285						
SXI1				S	Sn	14 34 15.1	+0.7
	baz=285						
TIPB	Shuangxi	0.61	276	eP	Pn	14 34 06.7	+1.0
	baz=279						
TIPB				S	Sn	14 34 15.1	+0.4
	baz=279						
EOS3	EOS3	0.64	195	eS	Sn	14 34 15.3	+0.2
	baz=197						
YOJ	Yonaguni jima	0.64	134	P	Pn	14 34 06.4	+0.4
	baz=129						
YOJ				eS	Sn	14 34 14.5	-0.9
	baz=129						
TWC	Suao	0.66	243	eS	Sn	14 34 15.5	-0.3
	baz=235						
WFSB	Wu-fen Shan	0.67	284	eS	Sn	14 34 17.1	+1.1
	baz=293						
TWE	Neheng	0.78	256	P	Pn	14 34 08.0	+0.2
	baz=248						
TWE				eS	Sn	14 34 18.3	-0.2
	baz=248						
EOS4	EOS4	0.80	192	eS	Sn	14 34 18.9	+0.4
	baz=192						
EWUT	Wuta	0.80	235	eP	Pn	14 34 08.4	+0.2
	baz=228						
ENA	Nanau	0.84	235	eP	Pn	14 34 09.0	+0.4
	baz=228						
FUSB	Fushanzhiwuyua	0.84	260	eP	Pn	14 34 09.5	+0.8
	baz=260						
FUSB				eS	Sn	14 34 20.2	+0.1
	baz=260						
YM01	YM01	0.88	286	eP	Pn	14 34 12.6	+3.4
	baz=286						
YM01				eS	Sn	14 34 22.2	+1.3
	baz=286						
ENTT	Nioudou	0.89	253	eP	Pn	14 34 11.3	+1.9
	baz=244						
ENTT				eS	Sn	14 34 21.9	+0.8
	baz=244						
NWLT	Wulai	0.92	262	eP	Pn	14 34 11.4	+1.7
	baz=262						
NWLT				eS	Sn	14 34 21.6	-0.2
	baz=262						
NDT	Datong Townshi	0.95	251	eP	Pn	14 34 12.2	+2.1
	baz=245						
NDT				eS	Sn	14 34 24.6	+2.0
	baz=245						
LATG	Datong	0.96	247	eP	Pn	14 34 11.3	+0.9
	baz=248						
YHNB	Yeheng	1.05	257	eP	Pn	14 34 13.6	+2.1
	baz=257						
NSK	Sanguang	1.06	258	eP	Pn	14 34 13.7	+2.0
	baz=257						
NACB	Ninganchiao	1.10	229	eP	Pn	14 34 13.3	+1.1
	baz=225						
NNSB	Datong	1.12	245	eP	Pn	14 34 14.2	+1.7
	baz=245						
NNS	Nan Shan	1.13	246	eP	Pn	14 34 14.9	+2.2
	baz=246						
ETLH	Xiulin Townshi	1.16	233	eP	Pn	14 34 14.6	+1.5
	baz=222						
FUSS	Fushou	1.32	240	eP	Pn	14 34 17.9	+2.6
	baz=241						
WHF	Hehuan Shan	1.36	236	P	Pn	14 34 18.5	+2.5
	baz=236						

JMA 02 14:33:56.0±0.2, 24°.3N±0°.4×123°.8E±0°.5, h15km±1km, MV1.0/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	Iriomote-Funau	0.12	319	P	Pg	14 33 59.4	0.0
IRIF				eS	Sg	14 34 01.8	+0.2
JKRS	Kuro-shima	0.18	93	iP	Pg	14 34 00.3	0.0
JKRS				eS	Sg	14 34 03.6	+0.5
HATJ	Hateruma jima	0.19	182	P	Pg	14 34 00.3	-0.1
HATJ				eS	Sg	14 34 03.6	+0.2
JIJ	Ishigaki jima	0.32	69	P	Pg	14 34 02.5	-0.2
JIJ				eS	Sg	14 34 07.0	-0.3
JISG	Ishigakijimahi	0.56	53	P	Pg	14 34 07.2	0.0
JISG				eS	Sb	14 34 15.9	+0.4
JYNG	Yonagunijimaku	0.82	284	eS	Sb	14 34 23.4	+0.6

DJA 02 14:34:02.1±1.0, 4°S±6°×102°E±°, h14km±8km, M3.8/9, mb4.0/1, MLv3.6/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	Manna	1.42	110	P	Pn	14 34 26.7	-0.8
KRJI	Kerinci	1.77	355	P	Pn	14 34 32.0	-0.5
LHSI	Lahat	1.90	89	P	Pb	14 34 35.4	-1.2
PPSI	Pulau Pagai	1.95	304	P	Pn	14 34 34.5	-0.3
PDSI	Padang	3.16	338	P	Pn	14 34 52.2	+0.7
KASI	Kota Agung	3.30	120	P	Pn	14 34 51.9	-1.5
SISI	Saibi	3.57	315	P	Pn	14 34 57.0	-0.2
PBSI	Pulau Batu	5.05	319	P	Pn	14 35 18.1	+0.6

JMA 02 14:36:38.0±0.2, 24°.2N±0°.4×123°.8E±0°.4, h16km±1km, MV0.4/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	Iriomote-Funau	0.12	320	P	Pg	14 36 41.5	-0.1
IRIF				eS	Sb	14 36 44.2	-0.2
JKRS	Kuro-shima	0.18	92	P	Pg	14 36 42.4	0.0
JKRS				eS	Sg	14 36 45.6	+0.3
HATJ	Hateruma jima	0.19	182	P	Pg	14 36 42.3	-0.1
HATJ				eS	Sg	14 36 45.5	0.0
JIJ	Ishigaki jima	0.32	68	P	Pg	14 36 44.5	-0.2
JIJ				S	Sg	14 36 49.1	-0.3
JISG	Ishigakijimahi	0.57	53	P	Pg	14 36 49.3	+0.1

TAP 02 14:36:45.8, 24°.47N×121°.81E, h9km, ML1.2, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EWUT	Wuta	0.04	223	iP	Pg	14 36 47.8	+0.2
	baz=224						
EWUT				iS	Sg	14 36 49.0	+0.2
	baz=224						
ENA	Nanau	0.07	233	iP	Pg	14 36 48.2	+0.2
	baz=229						
ENA				iS	Sg	14 36 49.6	+0.1
	baz=229						
TWC	Suao	0.14	16	eP	Pg	14 36 49.2	+0.2
	baz=19						
LATG	Datong	0.26	284	S	Sg	14 36 55.9	+1.1
	baz=283						
ENTT	Nioudou	0.28	307	eP	Pg	14 36 52.0	+0.6
	baz=306						
ENTT				eS	Sg	14 36 55.8	+0.7
	baz=306						
NDT	Datong Townshi	0.30	296	eS	Sg	14 36 56.5	+0.7
	baz=295						

OMAN 02 14:43:10.6±1.8, 14°.51N×57°.54E, h30km±67km, mb3.9/1, Error ellipse: s-maj=85.4km s-min=10.2km az=344.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHAO	Shalim	3.95	333	P	Pn	14 44 08.9	-0.4
	SNR=5.8						
SHAO				S	Sn	14 44 55.6	+0.9
DMTO	DMTO	4.05	322	P	Pn	14 44 10.7	0.0
	SNR=8.1						
DMTO				S	Sn	14 44 58.2	+1.2
DQM	DQM	5.39	360	P	Pn	14 44 29.5	+0.4
MHTO	MHTO	6.46	4	P	Pn	14 44 44.3	+0.6
JLN	Jalan Bani Buh	7.81	13	P	Pn	14 45 00.8	-1.5
JMDO	Jabal Madar	7.84	4	P	Pn	14 45 04.3	+1.6
WBK	Wadi Bani Khal	8.17	9	P	Pn	14 45 07.4	+0.1
	SNR=24						
SMDO	Samad	8.52	3	P	Pn	14 45 12.2	0.0
ARQ	Araqi	8.84	354	P	Pn	14 45 18.3	+1.9
HOQ	Hoqain	9.03	359	P	Pn	14 45 19.2	+0.1
SOHO	SOHO	9.62	354	P	Pn	14 45 28.7	+1.5

JMA 02 14:56:55.1±0.2, 24°.3N±0°.4×123°.8E±0°.6, h17km±1km, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	Iriomote-Funau	0.10	322	S	Sg	14 57 01.2	+0.1
JKRS	Kuro-shima	0.19	95	P	Pg	14 56 59.8	0.0
JKRS				S	Sg	14 57 03.0	0.0
HATJ	Hateruma jima	0.20	178	P	Pg	14 56 59.7	-0.2
HATJ				S	Sg	14 57 03.1	0.0
JIJ	Ishigaki jima	0.33	71	P	Pg	14 57 02.0	-0.1
JIJ				S	Sg	14 57 06.4	-0.5

TAP 02 14:56:57.7, 24°.23N×121°.75E, h10km, ML2.4, 1D, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EAHA	Aohua	0.10	355	P	Pb	14 57 01.1	-0.7
	baz=354						
EAHA				S	Sg	14 57 03.7	+1.3
	baz=354						
ETL	Fush Village	0.13	240	P	Pg	14 57 01.5	+0.6
	baz=239						
ETL				S	Sg	14 57 04.6	+1.5
	baz=239						
NACB	Ninganchiao	0.15	250	iP	Pg	14 57 01.7	+0.6
	baz=249						
NACB				S	Sg	14 57 04.4	+0.9
	baz=249						
ENA	Nanau	0.20	358	iP	Pg	14 57 02.7	+0.7
	baz=359						
ENA				S	Sg	14 57 06.3	+1.4
	baz=359						
EWUT	Wuta	0.22	7	P	Pg	14 57 03.0	+0.7
	baz=6.0						
EWUT				S	Sg	14 57 06.8	+1.4
	baz=6.0						
ETLH	Xiulin Townshi	0.25	266	P	Pb	14 57 03.6	-0.7
	baz=265						
ETLH				eS	Sg	14 57 07.7	+1.5
	baz=265						
HWA	Hwalien	0.28	208	eP	Pb	14 57 05.7	+0.9
	baz=206						
ETM	Tongmen	0.35	222	eP	Pg	14 57 05.2

	baz=301							
NNSH	**Datong**	**0.39**	**301**	*e*P		Pb	14 57 06.8	0.0
	baz=301							
NNSH				*e*S		Sb	14 57 12.5	-0.4
	baz=301							
TWC	**Suao**	**0.39**	**13**	*i* P		Pg	14 57 06.1	+0.6
	baz=14							
TWC				*e*S		Sg	14 57 11.7	+1.0
	baz=14							
NNS	**Nan Shan**	**0.41**	**302**	P		Pb	14 57 06.8	-0.2
	baz=302							
NNS				S		Sb	14 57 12.7	-0.6
	baz=302							
NDS	**Dongshan**	**0.41**	**356**	P		Pb	14 57 06.7	-0.3
	baz=355							
NDS				S		Sb	14 57 12.8	-0.5
	baz=355							
NDT	**Datong Townshi**	**0.43**	**330**	P		Pb	14 57 07.4	-0.1
	baz=330							
NDT				*e*S		Sb	14 57 14.4	+0.4
	baz=330							
ENTT	**Nioudou**	**0.45**	**338**	⇓*i* P		Pb	14 57 07.5	-0.1
	baz=338							
ENTT				S		Sb	14 57 14.3	-0.1
	baz=338							
WHF	**Hehuan Shan**	**0.45**	**260**	*e*P		Pb	14 57 07.7	-0.3
	baz=259							
WHF				*e*S		Sb	14 57 13.9	-1.0
	baz=259							
FUSS	**Fushou**	**0.46**	**273**	*e*P		Pb	14 57 07.9	-0.2
	baz=272							
FUSS				*e*S		Sb	14 57 14.7	-0.4
	baz=272							
SHUL	**Shoufeng**	**0.47**	**201**	*e*P		Pb	14 57 08.7	+0.7
	baz=201							
TWE	**Neicheng**	**0.50**	**351**	*i* P		Pb	14 57 08.5	-0.1
	baz=352							
TWE				S		Sb	14 57 15.7	-0.2
	baz=352							
ESL	**Shilin**	**0.50**	**215**	P		Pg	14 57 07.7	+0.1
	baz=214							
CHGB	**Renai**	**0.55**	**253**	P		Pb	14 57 09.6	0.0
	baz=252							
CHGB				*e*S		Sb	14 57 17.3	-0.3
	baz=252							
FUSB	**Fushanzhiwuyua**	**0.55**	**344**	P		Pb	14 57 09.6	+0.1
	baz=344							
FUSB				S		Sb	14 57 17.2	-0.3
	baz=344							
YHNB	**Yeheng**	**0.56**	**322**	*e*P		Pb	14 57 09.9	+0.3
	baz=322							
YHNB				*e*S		Sb	14 57 17.9	+0.2
	baz=322							
NSK	**Sanguang**	**0.57**	**322**	P		Pb	14 57 10.1	+0.2
	baz=321							
NSK				S		Sb	14 57 18.6	+0.5
	baz=321							
OWD	**Renai**	**0.59**	**243**	*e*P		Pb	14 57 10.1	-0.1
	baz=242							
NWLT	**Wulai**	**0.59**	**338**	P		Pb	14 57 10.3	+0.1
	baz=337							
NWLT				*e*S		Sb	14 57 18.9	+0.2
	baz=337							
WARBT	**Fenglin Townsh**	**0.61**	**213**	*e*P		Pg	14 57 09.6	+0.1
	baz=213							
WUSB	**Renai**	**0.62**	**248**	*e*P		Pb	14 57 10.6	-0.1
	baz=248							
EGFH	**Guangfu**	**0.63**	**208**	*e*P		Pg	14 57 10.2	+0.3
	baz=207							
VWDT	**VWDT**	**0.73**	**230**	*e*P		Pb	14 57 12.5	0.0
	baz=229							
VWDT				*e*S		Sn	14 57 23.9	-1.3
	baz=229							
WHP	**Taichung City**	**0.74**	**274**	*e*P		Pn	14 57 14.2	0.0
	baz=273							
WHP				*e*S		Sb	14 57 24.0	+1.2
	baz=273							
HGSD	**Ruisui**	**0.79**	**202**	*e*P		Pb	14 57 13.9	+0.4
	baz=202							
LIOB	**Emei**	**0.79**	**302**	*e*P		Pn	14 57 14.8	-0.1
	baz=302							
NSTT	**Nanjuang**	**0.79**	**301**	*e*P		Pn	14 57 14.6	-0.4
	baz=300							
EHY	**Hungye**	**0.82**	**209**	*e*P		Pb	14 57 13.8	-0.2
	baz=208							
SSLB	**Suanglung**	**0.85**	**239**	*e*P		Pb	14 57 14.5	0.0
	baz=239							
SXI1	**Grass Mountain**	**0.87**	**7**	*e*P		Pb	14 57 15.4	+0.4
	baz=7.0							
TYC	**Yuchr**	**0.88**	**249**	*e*P		Pn	14 57 15.8	-0.3
	baz=248							
YULB	**Yu-li**	**0.93**	**207**	*e*P		Pg	14 57 14.9	-0.7
	baz=206							
YM01	**YM01**	**0.93**	**350**	*e*P		Pb	14 57 16.2	+0.3
	baz=349							
ANP	**Anpu**	**0.98**	**348**	*e*P		Pn	14 57 17.6	+0.1
	baz=348							

IDC ***02*** *15:18:39.0±0.6,27˚.10N×140˚.28E, h428km±6km, mb3.5/15, mbtmp4.2/20, Error ellipse: s-maj=16.8km s-min=10.2km az=73.0*

JMA ***02*** *15:18:43.2±0.3,27˚.N±1˚×14˚.1E±˚, h459km±3km, MV3.7/38, W OFF OGASAWARA*

ISC 02 15:18:41.0±0.7,27˚.20N±0˚.08×140˚.4E±0˚.1, h450km, n45, σ1§88/55, mb3.8/15, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.56**	**93**	P	**P**	**15 19 41.0**	**+1.7**
CBIJ				S	**S**	**15 20 26.5**	**0.0**
JCJ	**Chichijima**	**1.56**	**93**	P	**P**	**15 19 36.5**	**-2.8**
	145nm,0.3s,baz=270,slow=18,SNR=12						
JCJ				S	**S**	**15 20 21.7**	**-4.8**
	191nm,0.4s,baz=248,slow=23,SNR=11						
JHH2	**Haha-jima-NKT2**	**1.65**	**109**	P	**P**	**15 19 42.0**	**+2.3**
JHH2				S	**S**	**15 20 29.0**	**+1.7**
JHJ	**Hachijo jima 2**	**5.93**	**355**	P	**P**	**15 20 12.7**	**-1.8**
	62nm,0.7s,baz=48,slow=17,SNR=1.1						
JHJ				S	**S**	**15 21 29.3**	**-1.6**
	160nm,0.8s,baz=244,slow=22,SNR=1.1						
BSO1	**Boso 1**	**7.45**	**3**	*e*P	**P**	**15 20 32.0**	**+2.2**
BSO3	**Boso 3**	**7.58**	**0**	*e*P	**P**	**15 20 33.6**	**+2.1**
JIE	**Ise**	**7.86**	**337**	*e*P	**P**	**15 20 38.0**	**+3.3**
JKN2	**Miekihoku**	**7.88**	**334**	*e*P	**P**	**15 20 39.0**	**+4.0**
JOD2	**Odawara 2**	**8.12**	**352**	P	**P**	**15 20 39.7**	**+2.0**
JOD2				*e*S	**S**	**15 22 10.5**	**-3.0**
JWY	**Kouya**	**8.15**	**330**	*e*P	**P**	**15 20 42.0**	**+4.0**
JEG	**Eigenji**	**8.64**	**337**	P	**P**	**15 20 47.1**	**+3.9**
JHU	**Hanno**	**8.69**	**354**	P	**P**	**15 20 45.3**	**+1.6**
JHU				*e*S	**S**	**15 22 22.3**	**-2.2**
JRY	**Ryogami san**	**8.89**	**352**	P	**P**	**15 20 47.8**	**+1.8**
JYT	**Yasato**	**9.01**	**359**	P	**P**	**15 20 48.5**	**+1.3**
JYT				S	**S**	**15 22 28.7**	**-2.2**
JAG	**Ashikaga**	**9.24**	**355**	P	**P**	**15 20 49.9**	**+0.2**
JAG				*e*S	**S**	**15 22 32.0**	**-3.6**
JHO	**Hitachi**	**9.39**	**1**	P	**P**	**15 20 52.9**	**+1.6**
MJAR	**Matsushiro Arr**	**9.51**	**349**	P	**P**	**15 20 52.9**	**+0.2**
	1.1nm,0.4s,baz=200,slow=18,SNR=14						
MJAR				S	**S**	**15 22 40.9**	**-0.1**
	1.2nm,0.6s,baz=130,slow=26,SNR=2.3						
JAMN	**Amaminishikomi**	**10.04**	**279**	*e*P	**P**	**15 20 59.7**	**+1.2**
JFK	**Kawauchi**	**10.15**	**2**	P	**P**	**15 21 01.8**	**+2.1**
JNU	**Nakatsue**	**10.16**	**308**	P	**P**	**15 21 00.9**	**+1.0**
	4.1nm,0.4s,baz=106,slow=7.6,SNR=8.6						
JSJ	**Shimokoshiki**	**10.36**	**298**	*e*P	**P**	**15 21 02.6**	**+0.6**
JOW	**Kunigami**	**10.86**	**271**	P	**P**	**15 21 07.6**	**+0.1**
JOW	**Kunigami**	**10.86**	**271**	P	**P**	**15 21 06.9**	**-0.6**
	16nm,0.3s,baz=111,slow=15,SNR=12						
JKE	**Kume jima 2**	**12.23**	**269**	P	**P**	**15 21 22.4**	**0.0**
KSRS	**Korea Array**	**14.70**	**317**	P	**P**	**15 21 48.0**	**-0.8**
	1.1nm,0.8s,baz=250,slow=29,SNR=4.1						
ASAJ	**Asahikawa**	**16.97**	**5**	P	**P**	**15 22 14.4**	**+1.6**
	15nm,1.0s,baz=163,slow=19,SNR=5.8						
USRK	**Ussuriysk Ar.**	**18.28**	**340**	P	**P**	**15 22 26.7**	**+0.4**
	4.4nm,0.6s,baz=163,slow=9.8,SNR=13						
SONM	**Songino Array**	**33.57**	**317**	P	**P**	**15 24 42.1**	**0.0**
	0.6nm,0.5s,baz=111,slow=6.3,SNR=2.0						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**47.23**	**188**	P	**P**	**15 26 31.2**	**-0.8**
	0.4nm,0.3s,baz=5.7,slow=7.6,SNR=18						
	0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**48.40**	**319**	P	**P**	**15 26 39.5**	**-0.9**
	1.9nm,0.5s,baz=101,slow=7.8,SNR=10						
ZALV				PcP	**PcP**	**15 27 57.5**	**-1.0**
	0.7nm,0.4s,baz=106,slow=4.7,SNR=3.1						
	1.9nm,0.5s						
MKAR	**Makanchi Array**	**49.21**	**310**	P	**P**	**15 26 46.4**	**-0.3**
	1.0nm,0.5s,baz=90,slow=9.8,SNR=16						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**50.96**	**188**	P	**P**	**15 26 58.8**	**-1.0**
	0.1nm,0.3s,baz=352,slow=3.7,SNR=4.2						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**51.86**	**314**	P	**P**	**15 27 05.5**	**-0.5**
	6.0nm,0.6s,baz=91,slow=8.1,SNR=84						
	6.0nm,0.6s						
BVAR	**Borovoye Array**	**56.92**	**317**	P	**P**	**15 27 41.3**	**-0.5**
	5.3nm,0.5s,baz=85,slow=6.7,SNR=44						
	5.3nm,0.5s						
ILAR	**Eielson Array**	**58.37**	**29**	P	**P**	**15 27 52.7**	**+1.2**
	0.7nm,0.5s,baz=249,slow=5.9,SNR=25						
	0.7nm,0.5s						
SPITS	**Spitsbergen Ar**	**70.00**	**350**	P	**P**	**15 29 06.2**	**+0.6**
	6.1nm,0.8s,baz=81,slow=10,SNR=11						
	6.1nm,0.8s						
YKA	**Yellowknife Ar**	**72.79**	**28**	P	**P**	**15 29 23.2**	**+1.0**
	1.0nm,0.5s,baz=297,slow=6.0,SNR=18						
	1.0nm,0.5s						
ARCES	**ARCESS Array B**	**72.93**	**341**	P	**P**	**15 29 23.2**	**+0.2**
	4.0nm,0.7s,baz=70,slow=8.6,SNR=17						
	4.0nm,0.7s						
FINES	**FINESS Array B**	**77.17**	**333**	P	**P**	**15 29 46.8**	**-0.1**
	4.7nm,0.4s,baz=66,slow=5.1,SNR=76						
	4.7nm,0.4s						
HFS	**Hagfors**	**82.71**	**336**	P	**P**	**15 30 14.9**	**-1.3**
	2.4nm,0.5s,baz=72,slow=4.7,SNR=19						
	2.4nm,0.5s						
NB2	**NORSAR Subarra**	**82.94**	**338**	P	**P**	**15 30 16.8**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=49,slow=4.6						
NB2	**NORSAR Subarra**	**82.94**	**338**	P	**P**	**15 30 16.8**	**-0.5**
	baz=49,slow=4.6						
NOA	**NORSAR Array B**	**82.94**	**338**	P	**P**	**15 30 16.6**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=46,slow=4.8,SNR=11						
	comp=Z,1.8nm,0.5s						
BRTR	**Keskin Array B**	**84.79**	**312**	P	**P**	**15 30 26.7**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=72,slow=4.7,SNR=2.4						
	comp=Z,0.5nm,0.7s						
PLCA	**Paso Flores**	**151.13**	**126**	PKPbc	**PKiKP**	**15 37 43.7**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=282,slow=2.8,SNR=8.0						

MDD ***02*** *15:21:05.8±0.6,35˚.65N×3˚.70W, h0km, mb_Lg2.6/7, Error ellipse: s-maj=6.8km s-min=3.3km az=47.0*

SFS ***02*** *15:21:06.6,35˚.64N×3˚.65W, h16km, ML2.8/11, ML3.2/7, MLv2.6/11*

INMG ***02*** *15:21:06.3±1.4,35˚.70N×3˚.64W, h1km, ML2.3, Error ellipse: s-maj=5.0km s-min=3.1km az=56.0*

CNRM ***02*** *15:21:07.0,35˚.63N×3˚.64W, h4km, ML2.6*

IGIL ***02*** *15:21:07.3,35˚.65N×3˚.70W, h1km*

ISC 02 15:21:05.7±1.0,35˚.64N±0˚.02×3˚.65W±0˚.02, h16km±9km, n53, σ1§09/75, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.48**	**209**	P	**Pn**	**15 21 17.7**	**-0.2**
PALE	**Palemas**	**0.48**	**209**	S	**Sn**	**15 21 25.3**	**-0.8**
EALB	**Alboran**	**0.58**	**59**	Pg	**Pg**	**15 21 17.3**	**+0.1**
EALB				Sg	**Sg**	**15 21 25.7**	**+0.6**
WMELI	**Melilla**	**0.66**	**119**	Pg	**Pg**	**15 21 18.9**	**+0.3**
WMELI				Sg	**Sg**	**15 21 27.0**	**-0.3**
EMEL	**Melilla**	**0.66**	**121**	⇑Pg	**Pb**	**15 21 19.2**	**+0.3**
EMEL				Sg	**Sg**	**15 21 27.5**	**0.0**
EMLI	**Melilla**	**0.67**	**120**	Pg	**Pb**	**15 21 19.2**	**+0.2**
EMLI				Sg	**Sg**	**15 21 27.3**	**-0.3**
GOG	**Mont Gurugu**	**0.68**	**128**	P	**Pg**	**15 21 19.1**	**+0.1**
GOG	**Mont Gurugu**	**0.68**	**128**	S	**Sg**	**15 21 28.4**	**+0.3**
CHAS	**Isla Isabel Ii**	**1.10**	**114**	Pn	**Pn**	**15 21 24.8**	**-1.5**
CHAS				Sn	**Sb**	**15 21 40.8**	**+0.4**
AKLM	**AKL**	**1.14**	**189**	P	**Pg**	**15 21 28.3**	**+0.5**
AKLM	**AKL**	**1.14**	**189**	S	**Sn**	**15 21 42.3**	**-0.1**
ELGU	**Los Guajares,**	**1.22**	**1**	Pn	**Pn**	**15 21 27.5**	**-0.6**
ELGU	**Los Guajares,**	**1.22**	**1**	Pg	**Pn**	**15 21 27.7**	**-0.5**
ELGU				Sg	**Sb**	**15 21 43.2**	**-0.8**
ELGU				*i* Vmb_Lg		15 21 48.4	
EMAL	**Malaga-Limoner**	**1.28**	**331**	Sn	**Sb**	**15 21 44.8**	**-0.8**
EMAL				Pn	**Pn**	**15 21 28.5**	**-0.4**
EMIJ	**Mijas**	**1.29**	**316**	Pn	**Pn**	**15 21 28.5**	**-0.6**
EMIJ				Sn	**Sb**	**15 21 45.1**	**-0.9**
EMIJ	**Mijas**	**1.29**	**316**	Pg	**Pn**	**15 21 28.5**	**-0.6**
EMIJ				Sg	**Sb**	**15 21 44.0**	**-2.0**
EMIJ				*i* Vmb_Lg		15 21 46.9	
TAF	**Taforalt**	**1.31**	**129**	P	**Pn**	**15 21 29.0**	**-0.3**
TAF	**Taforalt**	**1.31**	**129**	S	**Sn**	**15 21 45.3**	**-1.2**
SMIR	**Smir Dam**	**1.41**	**272**	P	**Pb**	**15 21 31.5**	**0.0**
SMIR	**Smir Dam**	**1.41**	**272**	S	**Sg**	**15 21 49.6**	**-1.5**
CEU	**Ceuta**	**1.42**	**281**	Sn	**Sn**	**15 21 46.8**	**-2.4**
EGOR	**Sierra Gorda,**	**1.51**	**346**	Pn	**Pn**	**15 21 32.4**	**+0.2**
EGOR	**Sierra Gorda,**	**1.51**	**346**	Pg	**Pb**	**15 21 33.4**	**0.0**
EGOR				Sg	**Sg**	**15 21 53.9**	**-0.5**
EGOR				*i* Vmb_Lg		15 22 03.3	
EQUE	**Quentar**	**1.57**	**6**	Pg	**Pn**	**15 21 33.5**	**+0.6**
EQUE				Sg	**Sb**	**15 21 54.3**	**+0.2**
EQUE				*i* Vmb_Lg		15 21 56.6	
JBK	**JBK**	**1.58**	**145**	P	**Pn**	**15 21 32.4**	**-0.7**
JBK	**JBK**	**1.58**	**145**	S	**Sn**	**15 21 51.4**	**-2.0**
EQES	**Quesada**	**2.21**	**12**	Pn	**Pb**	**15 21 43.9**	**-1.4**
EQES				Sn	**Sb**	**15 22 12.0**	**-0.4**
EQES				*i* Vmb_Lg		15 22 13.0	
IFR	**Ifrane**	**2.44**	**210**	Sn	**Sn**	**15 22 14.8**	**+0.1**
EADA	**Adamuz**	**2.63**	**344**	Pn	**Pn**	**15 21 47.5**	**+0.1**
EADA				Pg	**Pb**	**15 21 51.4**	**-1.0**
EADA				Sn	**Sn**	**15 22 20.0**	**+1.0**
EADA				Sg	**Sb**	**15 22 25.3**	**+0.9**
EADA				*i* Vmb_Lg		15 23 11.2	
ECAB	**El Cabril**	**2.81**	**330**	Sn	**Sn**	**15 22 23.2**	**-0.3**
ECAB				Pn	**Pn**	**15 21 50.8**	**+0.8**
ECAB	**El Cabril**	**2.81**	**330**	Pn	**Pn**	**15 21 51.0**	**+1.1**
ECAB				Sn	**Sn**	**15 22 24.7**	**+1.1**
ECAB				*i* Vmb_Lg		15 22 35.4	
MD31	**MD31**	**2.92**	**199**	P	**Pn**	**15 21 53.0**	**+1.5**
MD31	**MD31**	**2.92**	**199**	S	**Sn**	**15 22 25.3**	**-0.8**
MDT	**Midelt**	**2.93**	**196**	P	**Pn**	**15 21 51.1**	**-0.5**
PSIM	**Granatula de C**	**3.17**	**359**	Pn	**Pn**	**15 21 56.3**	**+1.4**
PSIM				Pg	**Pb**	**15 22 00.2**	**-1.5**
PSIM				Sn	**Sn**	**15 22 34.4**	**+1.9**
ZHG	**ZHG**	**3.30**	**229**	P	**Pn**	**15 21 59.3**	**+2.6**
ZHG	**ZHG**	**3.30**	**229**	S	**Sn**	**15 22 36.4**	**+0.8**
ETOB	**Tobarra**	**3.44**	**29**	Pn	**Pn**	**15 21 60.0**	**+1.4**
ETOB				Sn	**Sn**	**15 22 40.2**	**+1.2**
PBAR	**Barrancos**	**3.71**	**314**	*e*P	**Pn**	**15 22 03.3**	**+1.1**
PBAR				*e*S	**Sn**	**15 22 45.7**	**+0.1**
PBAR				A	A	15 22 58.5	
	3.5nm,0.8s						
PVAQ	**Vaqueiros**	**3.71**	**299**	*e*P	**Pn**	**15 22 03.7**	**+1.4**
PVAQ				*e*S	**Sn**	**15 22 45.7**	**-0.1**
PVAQ				A	A	15 22 53.9	
	6.5nm,0.6s						
PVAQ	**Vaqueiros**	**3.71**	**299**	P	**Pn**	**15 22 02.7**	**+0.3**
PVAQ	**Vaqueiros**	**3.71**	**299**	S	**Sn**	**15 22 43.8**	**-2.0**
PBDV	**Barranco-do-Ve**	**3.80**	**296**	*e*P	**Pn**	**15 22 04.6**	**+1.1**
PCVE	**Castro Verde**	**4.05**	**301**	*e*P	**Pn**	**15 22 07.6**	**+0.7**
MESJ	**Messejana**	**4.27**	**302**	*e*P	**Pn**	**15 22 11.3**	**+1.3**
MESJ	**Messejana**	**4.27**	**302**	*e*P	**Pn**	**15 22 11.1**	**+1.1**
PESTR	**Estremoz**	**4.50**	**317**	*e*S	**Sn**	**15 23 04.9**	**-0.2**
PESTR				A	A	15 23 06.3	
	4.8nm,0.7s						
EVO	**Evora**	**4.52**	**311**	*e*P	**Pn**	**15 22 14.6**	**+1.1**
PNCL	**Nicolau / Gran**	**4.62**	**304**	*e*P	**Pn**	**15 22 15.8**	**+1.0**
PMRV	**Marv??o**	**4.81**	**323**	*e*P	**Pn**	**15 22 20.0**	**+2.6**
PMTG	**Montargil**	**5.00**	**315**	*e*P	**Pn**	**15 22 22.0**	**+2.1**
OUZM	**OUZ**	**5.39**	**210**	P	**Pn**	**15 22 27.1**	**+1.6**
OUZM	**OUZ**	**5.39**	**210**	S	**Sn**	**15 23 27.8**	**+0.5**

IDC ***02*** *15:24:30.7±2.9,36˚.10N×71˚.06E, h80km±25km, mb3.8/12, mbtmp4.1/18, Error ellipse: s-maj=19.4km s-min=14.8km az=160.0*

NNC ***02*** *15:24:34.6±3.8,36˚.81N×70˚.50E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=36.8km s-min=17.3km az=152.0*

ISC 02 15:24:33.3±0.9,36˚.26N±0˚.09×70˚.90E±0˚.07, h100km, n32, σ1§26/38, mb4.0/10, 5C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**6.59**	**24**	P	**Pn**	**15 26 08.7**	**+0.8**
	SNR=20						
EKS2	**Erkin-Say**	**6.77**	**18**	P	**Pn**	**15 26 11.0**	**+0.9**
	SNR=37						
KK31	**Karatay Array**	**6.84**	**358**	⇓P	**Pn**	**15 26 11.8**	**+0.8**
	6.1nm,0.4s,baz=174,slow=12,SNR=69						
KK31				⇓S	**Sn**	**15 27 24.8**	**-2.6**
	14nm,0.5s,baz=188,slow=18,SNR=8.4						
AAK	**Ala-Archa**	**6.95**	**22**	P	**Pn**	**15 26 13.5**	**+0.9**
	SNR=24						
AAK	**Ala-Archa**	**6.95**	**22**	P	**Pn**	**15 26 13.1**	**+0.5**
	22nm,0.3s,baz=173,slow=6.5,SNR=134						
AAK				S	**Sn**	**15 27 28.9**	**-1.3**
	21nm,0.5s,baz=348,slow=19,SNR=11						
KBK	**Karagaybulak**	**7.12**	**25**	P	**Pn**	**15 26 15.9**	**+1.0**
	SNR=8.4						
CHMS	**Chumysh**	**7.36**	**23**	P	**Pn**	**15 26 18.9**	**+0.8**
	SNR=12						
CHMS	**Chumysh**	**7.36**	**23**	⇓P	**Pn**	**15 26 18.5**	**+0.5**
	8.5nm,0.4s						
CHMS				⇓S	**Sn**	**15 27 38.0**	**-1.9**
	36nm,0.7s						
USP	**Ospenovka**	**7.53**	**21**	P	**Pn**	**15 26 21.3**	**+0.9**
	SNR=8.1						
TKM2	**Tokmak 2**	**7.58**	**27**	P	**Pn**	**15 26 21.6**	**+0.5**
	SNR=14						
TKM2	**Tokmak 2**	**7.58**	**27**	⇓P	**Pn**	**15 26 21.0**	**-0.1**
	10nm,0.6s						
TKM2				⇑S	**Sn**	**15 27 45.0**	**-0.5**
	25nm,0.8s						
GEYT	**Alibeck**	**10.35**	**283**	P	**Pn**	**15 26 59.0**	**+0.4**
	6.3nm,0.4s,baz=113,slow=10,SNR=27						
GEYT				S	**Sn**	**15 28 50.5**	**-2.1**
	8.5nm,0.4s,baz=114,slow=29,SNR=12						
GYA0B	**ALIBECK ARRAY**	**10.35**	**283**	⇑P	**Pn**	**15 26 58.6**	**0.0**
GYA0B				⇑S	**Sn**	**15 28 49.9**	**-2.7**
MKAR	**Makanchi Array**	**13.54**	**35**	P	**Pn**	**15 27 40.5**	**-0.6**
	1.7nm,0.9s,baz=221,slow=12,SNR=10						
AB31	**Akbulak array**	**15.26**	**332**	⇓P	**Pn**	**15 28 02.6**	**-0.5**
	1.9nm,0.3s,baz=142,slow=12,SNR=208						
AB31				⇑S	Sn	15 30 42.5	-8.9
	9.4nm,0.6s,baz=148,slow=22,SNR=16						
KURBB	**Kurchatov Arra**	**15.38**	**19**	P	**Pn**	**15 28 05.9**	**+1.3**
	1.3nm,0.7s,baz=207,slow=11,SNR=6.6						
BVAR	**Borovoye Array**	**16.77**	**359**	P	**Pn**	**15 28 22.2**	**+0.4**
	2.9nm,0.7s,baz=160,slow=12,SNR=10						
AKTO	**Aktyubinsk**	**16.95**	**331**	P	**Pn**	**15 28 25.1**	**+1.0**
	11nm,0.5s,baz=145,slow=12,SNR=25						
AKTO	**Aktyubinsk**	**16.95**	**331**	⇓P	**P**	**15 28 26.2**	**+1.8**
	8.1nm,0.8s						
AKTO				⇑S	Sn	15 31 23.5	-8.7
	6.0nm,0.8s						
ZALV	**Zalesovo Beam**	**20.17**	**24**	P	**P**	**15 28 59.2**	**-0.4**
	4.0nm,0.4s,baz=206,slow=9.9,SNR=19						
	4.0nm,0.4s						
GNI	**Garni**	**20.89**	**289**	P	**P**	**15 29 07.8**	**+0.2**
	2.7nm,0.4s,baz=44,slow=12,SNR=1.6						
	2.7nm,0.4s						
ARU	**Arti**	**21.84**	**341**	P	**P**	**15 29 18.1**	**+0.8**
	6.2nm,0.5s,baz=151,slow=7.0,SNR=3.2						
	6.2nm,0.5s						
FINES	**FINESS Array B**	**37.64**	**326**	P	**P**	**15 31 40.4**	**+2.2**
	1.4nm,0.4s,baz=122,slow=9.0,SNR=12						
	1.4nm,0.4s						
HFS	**Hagfors**	**43.21**	**322**	P	**P**	**15 32 25.7**	**+1.7**
	1.2nm,0.4s,baz=96,slow=12,SNR=7.5						
	1.2nm,0.4s						
NB2	**NORSAR Subarra**	**44.52**	**323**	P	**P**	**15 32 36.0**	**+1.4**
	comp=Z,1.8nm,0.7s,baz=96,slow=8.6						
NOA	**NORSAR Array B**	**44.52**	**323**	P	**P**	**15 32 36.0**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=97,slow=7.8,SNR=5.9						
	comp=Z,0.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**65.63**	**269**	P	**P**	**15 35 06.5**	**-0.4**
	comp=Z,2.1nm,0.4s,baz=51,slow=6.2,SNR=24						
	comp=Z,2.1nm,0.4s						
ILAR	**Eielson Array**	**75.03**	**16**	P	**P**	**15 36 03.1**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=306,slow=4.4,SNR=6.2						
	comp=Z,0.3nm,0.7s						
BOSA	**Boshof**	**77.51**	**220**	P	**P**	**15 36 18.6**	**+0.5**
	comp=Z,7.3nm,0.7s,baz=34,slow=5.0,SNR=12						
	comp=Z,7.3nm,0.7s						
YKA	**Yellowknife Ar**	**81.49**	**3**	P	**P**	**15 36 39.6**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=347,slow=5.4,SNR=21						
	comp=Z,1.3nm,0.8s						
WRA	**Warramunga Arr**	**81.93**	**122**	P	**P**	**15 36 40.4**	**-1.7**
	comp=Z,0.4nm,0.4s,baz=324,slow=5.0,SNR=12						
	comp=Z,0.4nm,0.4s						
ASAR	**Alice Springs**	**84.18**	**125**	P	**P**	**15 36 52.2**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=310,slow=5.0,SNR=9.7						
	comp=Z,0.4nm,0.6s						

NEIC ***02*** *15:25:22.7±2.1,36˚.58N±0˚.01×121˚.17W±0˚.04, h21km±4km, Error ellipse: s-maj=5.0km s-min=1.5km az=82.0*

**N

JJOM	**Saint Joseph's**	**0.92**	**313**			Pg	15 25 40.0	-0.9
MTOS	**Mt Oso, Westle**	**0.94**	**350**			Pb	15 25 41.6	0.0
PHAM	**Harlan Ranch**	**0.95**	**141**			Pg	15 25 40.0	-1.5
RAMR	**Ramage Ranch**	**0.97**	**167**			Pg	15 25 41.2	-0.6
PKEM	**Kettleman Hill**	**0.97**	**122**			Pb	15 25 42.6	+0.3
GHC	**Gold Hill**	**0.98**	**140**			Pg	15 25 41.7	-0.3
MYLM	**Yosemite Lake**	**0.98**	**35**			Pg	15 25 41.5	-0.5
CMLM	**Mount Lewis**	**0.99**	**335**			Pg	15 25 41.8	-0.4
CALM	**Calaveras Res.**	**1.02**	**328**			Pg	15 25 42.3	-0.5
PKLM	**Kerr Lake**	**1.03**	**141**			Pg	15 25 42.8	-0.2
TCHL	**Shandon**	**1.07**	**146**			Pg	15 25 43.6	-0.2
PMRM	**Maxey Ranch**	**1.07**	**138**			Pg	15 25 43.1	-0.7
TCAS	**Cass Winery, P**	**1.07**	**154**			Pg	15 25 43.3	-0.6
JSJM	**St Joseph**	**1.08**	**315**			Pg	15 25 42.7	-1.2
CSTL	**Corral Hollow**	**1.10**	**344**			Pg	15 25 44.1	-0.2
JBMM	**Black Mountain**	**1.10**	**312**			Pg	15 25 43.0	-1.4
TRAM	**Private Proper**	**1.14**	**142**			Pg	15 25 44.6	-0.5
JFP	**Foothills Park**	**1.15**	**313**			Pb	15 25 43.5	-1.8
WENL	**Wente Vineyard**	**1.15**	**334**			Pb	15 25 43.1	-2.2
JPSM		**1.16**	**303**			Pb	15 25 43.7	-1.6
JSFB	**Stanford Teles**	**1.17**	**315**			Pb	15 25 43.9	-1.8
CVLM	**Vallecito**	**1.19**	**332**			Pb	15 25 44.9	-1.0
JRSC	**Jasper Ridge**	**1.21**	**313**			Pb	15 25 44.0	-2.3
FRI	**Friant**	**1.21**	**70**			Pb	15 25 44.5	-1.8
TSCN	**Private Proper**	**1.21**	**148**			Pb	15 25 45.5	-0.8
CNIC	**Niles Canyon**	**1.22**	**327**			Pn	15 25 44.9	-1.6
MBUM	**Mount Bullion**	**1.29**	**40**			Pn	15 25 46.4	-1.2
LSDC	**Los Osos Digit**	**1.30**	**170**			Pn	15 25 46.8	-0.7
TRAY	**Twisselman Ran**	**1.31**	**141**			Pn	15 25 47.6	-0.2
PBPM	**Bitterwater Pu**	**1.31**	**139**			Pn	15 25 47.7	-0.1
CMOB	**Morgan Territo**	**1.34**	**336**			Pg	15 25 50.0	+1.1
JCHM	**Cahill Ridge**	**1.37**	**313**			Pn	15 25 46.6	-1.9
DPD	**Davis Peak**	**1.38**	**168**			Pn	15 25 47.9	-0.7
DCD	**Diablo Creek**	**1.39**	**170**			Pn	15 25 48.4	-0.4
SAC	**San Andreas**	**1.44**	**314**			Pn	15 25 47.5	-1.9
JMGM	**Milagra Ridge**	**1.50**	**315**			Pn	15 25 48.2	-2.2
SMMC	**Simmler**	**1.56**	**144**			Pn	15 25 49.8	-1.4
CMB	**Columbia Colle**	**1.57**	**22**			Pn	15 25 50.6	-0.6
CPIM	**Pinole Ridge**	**1.65**	**329**			Pn	15 25 51.5	-0.9
MRHM	**Rocky Hill**	**1.67**	**100**			Pn	15 25 51.4	-1.3
MDPB	**Devils Postpil**	**1.94**	**57**	Pn	Pn	Pn	15 25 57.4	+0.7
MDPB				IAML			15 26 25.4	
	comp=N,110nm,0.4s							
MINS	**Minaret Summit**	**1.97**	**56**			Pn	15 25 58.2	+1.1
MDYM	**Dry Creek**	**2.00**	**57**			Pb	15 25 58.9	-1.1
MDCM	**Deadman Creek**	**2.01**	**55**			Pn	15 25 58.9	+1.3
MLCM	**Laurel Creek C**	**2.05**	**59**			Pb	15 25 59.6	-1.1
MEMM	**East Mammoth H**	**2.06**	**58**			Pb	15 26 00.0	-1.0
MCSM	**Casa Diablo Ho**	**2.07**	**58**			Pb	15 26 00.5	-0.7
MCBM	**Casa Benchmark**	**2.08**	**59**			Pb	15 26 00.7	-0.5
MCCM	**Marconi Confer**	**2.09**	**319**	Pn	Pn	Pn	15 25 57.0	-1.4
MCCM				IAML			15 26 10.9	
	comp=E,113nm,3.0s							
MCVM	**Convict Lake**	**2.10**	**61**			Pb	15 26 00.4	-1.1
SCHCA	**Scheelite**	**2.10**	**68**			Pb	15 26 00.9	-0.8
BCW	**Bitter Crk WRg**	**2.15**	**139**			Pn	15 25 58.7	-0.6
BCW				IAML			15 26 38.7	
	comp=E,107nm,0.8s							
ISA	**Isabella, Lake**	**2.34**	**112**			Pn	15 26 02.1	+0.2
ISA				IAML			15 26 36.0	
	comp=N,60nm,0.4s							
ISA				IAML			15 26 36.7	
	comp=E,59nm,0.6s							
WAKR	**Walker**	**2.34**	**34**			Pn	15 26 01.5	-0.6
WAKR				IAML			15 26 41.0	
	comp=N,63nm,0.6s							
WAKR				IAML			15 26 44.4	
	comp=E,58nm,0.9s							
AFDM	**Forest Hills D**	**2.37**	**3**			Pn	15 26 01.9	-0.4
DSP	**Deep Springs**	**2.65**	**72**			Pn	15 26 06.5	+0.4
PNTR	**Pine Nut**	**2.78**	**25**			Pn	15 26 08.0	-0.2
PNTR				IAML			15 27 09.8	
	comp=E,50nm,1.5s							
PNTR				IAML			15 27 10.6	
	comp=N,45nm,1.1s							
YERR	**Yerington**	**2.83**	**31**			Pn	15 26 08.6	-0.2
YERR				IAML			15 26 57.7	
	comp=N,39nm,0.7s							
HOPS	**Hopland Field**	**2.86**	**328**	Pn	Pn	Pn	15 26 06.4	-2.6
LCH	**Last Change Ra**	**2.87**	**76**	Pn	Pn	Pn	15 26 08.4	-0.9
LCH				IAML			15 26 52.9	
	comp=E,33nm,0.4s							
LCH				IAML			15 27 02.2	
	comp=N,38nm,0.5s							
CCAC	**Calif City Air**	**2.90**	**119**			Pn	15 26 10.1	+0.4
CCAC				IAML			15 27 05.4	
	comp=N,51nm,2.0s							
CCAC				IAML			15 27 06.5	
	comp=E,53nm,1.1s							
NVAR	**Mina Array Bea**	**2.91**	**50**			Pn	15 26 11.0	+1.2
RYN	**Ryan**	**2.91**	**45**			Pn	15 26 11.9	+2.1
RYN				IAML			15 26 55.4	
	comp=E,40nm,0.4s							
NV11	**Mina Array Sit**	**3.00**	**51**	Pn	Pn	Pn	15 26 10.2	-0.8
KVN	**Kaiserville**	**3.44**	**43**			Pn	15 26 17.9	+0.8
KVN				IAML			15 27 14.7	
	comp=N,19nm,1.5s							
QSM	**Queen of Sheba**	**3.50**	**99**	Pn	Pn	Pn	15 26 16.5	-1.3
QSM				IAML			15 27 59.7	
	comp=N,23nm,3.6s							
QSM				IAML			15 28 01.1	
	comp=E,17nm,3.0s							
GSC	**Goldstone, Bar**	**3.73**	**109**			Pn	15 26 17.9	-3.2
GSC				IAML			15 26 52.8	
	comp=N,16nm,0.1s							
GSC				IAML			15 26 52.9	
	comp=E,28nm,0.1s							

IDC 02 15:49:39.2±354.0, 53°.04N×33°.27E, h0km, Error ellipse: s-maj=146.2km s-min=85.2km az=28.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.33**	**30**	I	I	16 17 00.0	
	0.4nm,0.8s,baz=213,slow=331,SNR=8.1						
I26DE	**FREYUNG INFRAS**	**13.01**	**259**	I	I	17 06 40.0	
	baz=64,slow=344,SNR=1.0						
I31KZ	**AKTYUBINSK INF**	**15.55**	**90**	I	I	17 26 41.5	
	0.1nm,0.9s,baz=290,slow=329,SNR=3.4						
I46RU	**ZALESOVO INFRA**	**30.13**	**67**	I	I	18 52 20.0	
	baz=288,slow=331,SNR=1.7						

*IDC **02** 15:54:25.0±0.9, 5°.79S×142°.49E, h0km, mb4.0/6, mbtmp3.9/9, ML3.6/2, Error ellipse: s-maj=35.5km s-min=19.0km az=78.0*

ISC 02 15:54:26.3±0.8, 6°.01S±0°.09×142°.2E±0°.1, h10km, n9, σ2.9 29/12, mb4.0/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.96**	**125**	Pn	**Pn**	**15 55 55.1**	**+0.5**
	3.3nm,0.4s,baz=286,slow=12,SNR=6.3						
PMG				Sn	**Sn**	**15 57 01.6**	**-1.3**
	1.1nm,0.3s,baz=201,slow=20,SNR=1.9						
WRA	**Warramunga Arr**	**15.82**	**208**	Pn	**P**	**15 58 12.6**	**-0.5**
	0.2nm,0.3s,baz=30,slow=12,SNR=12						
WRA				Sn	**Sn**	**16 01 00.5**	**-4.3**
	0.2nm,0.3s,baz=26,slow=22,SNR=3.9						
WRA				Lg	Lg	16 02 50.1	
	baz=83,slow=25						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**19.29**	**204**	P	**Pn**	**15 58 55.7**	**+3.3**
	0.3nm,0.3s,baz=28,slow=13,SNR=27						
ASAR				S	**S**	**16 02 28.9**	**-1.1**
	1.2nm,0.7s,baz=21,slow=27,SNR=5.2						
ASAR				Lg	Lg	16 04 41.0	
	baz=17,slow=29						
	2.3nm,0.8s						
STKA	**Stephens Creek**	**25.74**	**181**	P	**P**	**15 59 60.0**	**+2.9**
	1.2nm,0.3s,baz=11,slow=5.2,SNR=2.4						
	1.2nm,0.3s						
USRK	**Ussuriysk Ar.**	**50.82**	**351**	P	**P**	**16 03 26.5**	**-0.5**
	2.4nm,0.8s,baz=178,slow=6.0,SNR=4.7						
	2.4nm,0.8s						
MKAR	**Makanchi Array**	**74.52**	**322**	P	**P**	**16 06 06.1**	**+0.8**
	1.1nm,0.8s,baz=111,slow=6.6,SNR=11						
	1.1nm,0.8s						
KURBB	**Kurchatov Arra**	**78.42**	**324**	P	**P**	**16 06 27.3**	**+0.1**
	0.1nm,0.3s,baz=119,slow=5.8,SNR=2.5						
	0.1nm,0.3s						
QSPA	**South Pole Qui**	**83.96**	**180**	P	**P**	**16 06 57.2**	**+0.6**
	2.3nm,1.0s,baz=260,slow=1.1,SNR=8.3						
ILAR	**Eielson Array**	**87.40**	**24**	P	**P**	**16 07 11.3**	**-2.2**
	0.7nm,0.8s,baz=262,slow=3.9,SNR=5.2						
	0.7nm,0.8s						

JMA 02 15:59:55.4±0.1, 24°.2N±0°.3×123°.8E±0°.3, h14km±1km, MV2.3/10, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.14**	**313**	P	Pg	15 59 58.9	-0.2
IRIF				*eS*	Sb	16 00 02.2	-0.4
JKRS	**Kuro-shima**	**0.15**	**91**	P	Pg	15 59 59.4	+0.1
JKRS				S	Sb	16 00 02.6	-0.5
HATJ	**Hateruma jima**	**0.19**	**190**	P	Pg	15 59 59.6	-0.2
HATJ				S	Sg	16 00 02.7	0.0
JIJ	**Ishigaki jima**	**0.30**	**66**	P	Pg	16 00 01.5	-0.2
JIJ				*eS*	Sg	16 00 05.9	-0.1
JISG	**Ishigakijimahi**	**0.55**	**51**	P	Pg	16 00 06.1	-0.1
JISG				S	Sg	16 00 13.9	+0.4
YOJ	**Yonaguni jima**	**0.79**	**286**	P	Pg	16 00 10.7	0.0
YOJ				S	Sb	16 00 21.6	+0.3
JYNG	**Yonagunijimaku**	**0.84**	**285**	P	Pg	16 00 11.5	-0.2
JYNG				S	Sb	16 00 23.0	+0.1
JTJ	**Tarama**	**0.88**	**63**	P	Pb	16 00 12.4	0.0
JTJ				S	Sg	16 00 24.2	+0.2

TAP 02 16:00:04.1, 24°.14N×121°.74E, h17km, ML1.8, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.11**	**280**	P	Pg	16 00 08.0	+0.2
	baz=279						
ETL				S	Sg	16 00 10.6	+0.3
	baz=279						
NACB	**Ninganchiao**	**0.14**	**284**	*i* P	Pb	16 00 08.2	0.0
	baz=284						
NACB				*i* S	Sb	16 00 10.9	0.0
	baz=284						
TWD	**Chiawan**	**0.14**	**245**	P	Pb	16 00 08.3	0.0
	baz=251						
TWD				S	Sb	16 00 11.3	+0.2
	baz=251						
EAHA	**Aohua**	**0.19**	**0**	P	Pb	16 00 09.1	-0.1
	baz=359						
EAHA				S	Sb	16 00 12.6	+0.1
	baz=359						
ETLH	**Xiulin Townshi**	**0.24**	**286**	*i* P	Pb	16 00 10.0	-0.1
	baz=285						
ETLH				S	Sb	16 00 13.9	-0.2
	baz=285						
ETM	**Tongmen**	**0.28**	**232**	*i* P	Pb	16 00 10.7	0.0
	baz=227						
ETM				*eS*	Sb	16 00 15.2	0.0
	baz=227						
ENA	**Nanau**	**0.29**	**0**	*eP*	Pb	16 00 10.8	0.0
	baz=1.0						
ENA				S	Sb	16 00 15.2	-0.1
	baz=1.0						
EWUT	**Wuta**	**0.31**	**7**	*eS*	Sb	16 00 15.9	0.0
	baz=6.0						
LXIB	**Xiulin Townshi**	**0.32**	**248**	P	Pb	16 00 11.3	-0.2
	baz=247						
LXIB				S	Sb	16 00 16.5	+0.1
	baz=247						
SHUL	**Shoufeng**	**0.39**	**205**	*eP*	Pb	16 00 13.6	+1.1
	baz=196						
SHUL				*eS*	Sn	16 00 20.6	-1.2
	baz=196						
ESL	**Shilin**	**0.43**	**221**	P	Pb	16 00 13.2	-0.1
	baz=222						
ESL				*eS*	Sb	16 00 20.2	+0.8
	baz=222						
WHF	**Hehuan Shan**	**0.43**	**271**	P	Pb	16 00 13.6	0.0
	baz=270						
WHF				S	Sb	16 00 20.1	+0.2
	baz=270						
NNSB	**Datong**	**0.43**	**312**	P	Pb	16 00 13.5	+0.1
	baz=311						
NNSB				S	Sb	16 00 19.9	+0.2
	baz=311						
LATG	**Datong**	**0.44**	**334**	*i* P	Pb	16 00 13.6	+0.1
	baz=333						
LATG				S	Sb	16 00 19.9	+0.1
	baz=333						
NNS	**Nan Shan**	**0.45**	**312**	*eP*	Pb	16 00 13.8	+0.2
	baz=312						
NNS				*i* S	Sb	16 00 20.3	+0.2
	baz=312						
FUSS	**Fushou**	**0.47**	**283**	P	Pb	16 00 14.1	+0.1
	baz=283						
FUSS				S	Sb	16 00 21.4	+0.7
	baz=283						
TWC	**Suao**	**0.48**	**12**	*eS*	Sb	16 00 21.5	+0.7
	baz=9.0						
NDT	**Datong Townshi**	**0.51**	**336**	*eP*	Pb	16 00 15.0	+0.5
	baz=335						
NDT				*eS*	Sb	16 00 22.2	+0.6
	baz=335						
CHGB	**Renai**	**0.52**	**261**	P	Pb	16 00 15.3	+0.4
	baz=255						
CHGB				*eS*	Sb	16 00 22.5	+0.2
	baz=255						
ENTT	**Nioudou**	**0.52**	**342**	P	Pb	16 00 15.2	+0.4
	baz=342						
ENTT				*eS*	Sb	16 00 22.7	+0.6
	baz=342						
WARBT	**Fenglin Townsh**	**0.53**	**218**	*eP*	Pb	16 00 14.9	-0.1
	baz=229						
OWD	**Renai**	**0.55**	**250**	*eP*	Pb	16 00 15.7	+0.4
	baz=249						
OWD				*eS*	Sb	16 00 23.3	+0.4
	baz=249						
TWE	**Neicheng**	**0.58**	**354**	*eP*	Pn	16 00 16.7	-0.9
	baz=344						
WUSB	**Renai**	**0.59**	**256**	*eP*	Pb	16 00 16.6	+0.6
	baz=255						
WUSB				*eS*	Sb	16 00 23.9	-0.2
	baz=255						
YHNB	**Yeheng**	**0.62**	**328**	*eP*	Pb	16 00 17.2	+0.6
	baz=328						
YHNB				*eS*	Sb	16 00 25.8	+0.7
	baz=328						
FUSB	**Fushanzhiwuyua**	**0.63**	**347**	*eS*	Sb	16 00 25.9	+0.6
	baz=347						
NSK	**Sanguang**	**0.64**	**327**	*eP*	Pb	16 00 17.6	+0.7
	baz=327						
NSK				*eS*	Sb	16 00 26.2	+0.8
	baz=327						
VWDT	**VWDT**	**0.67**	**235**	*eP*	Pg	16 00 16.0	-1.2
	baz=234						
VWDT				*eS*	Sn	16 00 28.1	-0.7
	baz=234						
NWLT	**Wulai**	**0.67**	**341**	*eS*	Sb	16 00 26.9	+0.5
	baz=345						
HGSD	**Ruisui**	**0.71**	**204**	*eS*	Sn	16 00 31.6	+1.9
	baz=193						

TAP 02 16:00:38.0, 24°.48N×122°.04E, h26km, ML1.7, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESAO	**Su ao**	**0.20**	**299**	*eS*	Sb	16 00 48.2	+0.3
	baz=299						
TWC	**Suao**	**0.22**	**308**	P	Pb	16 00 42.8	-1.3
	baz=309						
TWC				S	Sb	16 00 48.1	-0.1
	baz=309						
ENA	**Nanau**	**0.28**	**260**	S	Sb	16 00 49.6	+0.2
	baz=265						
NDS	**Dongshan**	**0.33**	**298**	*eS*	Sb	16 00 51.4	+0.5
	baz=298						
EGS		**0.38**	**345**	*i* P	Pb	16 00 46.9	+0.5
	baz=346						
TWE	**Neicheng**	**0.42**	**306**	*eS*	Sb	16 00 53.0	-0.1
	baz=306						
ENTT	**Nioudou**	**0.46**	**291**	*eS*	Sb	16 00 54.8	+0.5
	baz=291						
LATG	**Datong**	**0.47**	**277**	P	Pn	16 00 48.7	-0.5
	baz=283						
LATG				S	Sb	16 00 55.6	+1.0
	baz=283						
NDT	**Datong Townshi**	**0.49**	**285**	*eS*	Sn	16 00 56.5	-0.7
	baz=285						
FUSB	**Fushanzhiwuyua**	**0.50**	**305**	P	Pb	16 00 48.5	+0.2
	baz=299						
FUSB				*eS*	Sb	16 00 54.8	-0.6
	baz=299						
NWLT	**Wulai**	**0.57**	**302**	*eS*	Sb	16 00 56.6	-0.8
	baz=296						
YHNB	**Yeheng**	**0.63**	**288**	S	Sb	16 00 59.7	+0.5
	baz=290						
NSK	**Sanguang**	**0.65**	**288**	S	Sb	16 00 58.9	-0.8
	baz=295						
NFF	**Wufeng Townshi**	**0.85**	**281**	*eS*	Sn	16 01 08.1	+2.0
	baz=284						

JMA 02 16:01:00.4±0.2, 24°.2N±0°.4×123°.8E±0°.4, h15km±1km, MV1.0/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.14**	**314**	P	Pg	16 01 04.1	0.0
JKRS	**Kuro-shima**	**0.16**	**91**	*i* P	Pg	16 01 04.5	0.0
JKRS				S	Sb	16 01 07.7	-0.5
HATJ	**Hateruma jima**	**0.18**	**189**	P	Pg	16 01 04.7	-0.2
HATJ				*eS*	Sg	16 01 08.0	+0.2
JIJ	**Ishigaki jima**	**0.31**	**66**	P	Pg	16 01 06.6	-0.2
JIJ				*eS*	Sg	16 01 11.1	-0.1
JISG	**Ishigakijimahi**	**0.55**	**51**	P	Pg	16 01 11.3	-0.1
JISG				S	Sb	16 01 19.9	+0.3
JYNG	**Yonagunijimaku**	**0.84**	**285**	*eP*	Pg	16 01 16.7	0.0
JYNG				*eS*	Sg	16 01 28.5	+0.8

*NEIC **02** 16:01:18.4±1.6, 56°.36N±0°.08×148°.5W±0°.1, h20km±10km, ML3.5/60, ML3.3(AEIC), Error ellipse: s-maj=12.5km s-min=8.2km az=165.0*

*AEIC **02** 16:01:21.5±1.7, 56°.3N±0°.1×148°.4W±0°.1, h12km±7km, Error ellipse: s-maj=15.2km s-min=9.4km az=179.0*

ISC 02 16:01:17.2±2.0, 56°.4N±0°.1×148°.48W±0°.05, h10km, n191, σ1.9 23/193, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.62**	**303**	Pn	**Pn**	**16 02 00.2**	**+0.8**
KDAK	**Kodiak Island**	**2.62**	**303**		**Sn**	**16 02 29.6**	**-1.6**
OHAK	**Old Harbor**	**2.76**	**289**		**Pn**	**16 02 01.4**	**0.0**
OHAK	**Old Harbor**	**2.76**	**289**		**Sn**	**16 02 32.3**	**-2.4**
OHAK	**Old Harbor**	**2.76**	**289**	IAML		16 02 34.1	
	comp=N,82nm,0.7s						
OHAK				IAML		16 02 39.9	
	comp=E,60nm,0.4s						
OHAK	**Old Harbor**	**2.76**	**289**	P	**Pn**	**16 02 01.5**	**+0.2**
	baz=107						
OHAK				S	**Sn**	**16 02 32.3**	**-2.4**
	baz=107						
SYI	**Shuyak Island**	**3.04**	**318**	Pn	**Pn**	**16 02 06.4**	**+1.2**
SYI	**Shuyak Island**	**3.04**	**318**		**Sn**	**16 02 41.8**	**+0.3**
Q20K	**Shuyak Island**	**3.04**	**318**	P	**Pn**	**16 02 06.3**	**+1.1**
	baz=136						
Q20K				S	**Sn**	**16 02 41.8**	**+0.2**
	baz=136						
MID	**Middleton Isla**	**3.22**	**20**		**Pn**	**16 02 08.4**	**+0.7**
MID					**Sn**	**16 02 45.0**	**-1.0**
MID	**Middleton Isla**	**3.22**	**20**	IAML		16 03 00.7	
	comp=E,142nm,1.3s						
MID				IAML		16 03 03.2	
	comp=N,153nm,1.4s						
CNPM	**China Poot**	**3.44**	**336**	Pn	**Pn**	**16 02 11.6**	**+0.9**
CNPM	**China Poot**	**3.44**	**336**		**Sn**	**16 02 50.5**	**-1.0**
BRSE	**Bradley Lake S**	**3.53**	**341**		**Pn**	**16 02 12.7**	**+0.6**
BRSE					**Sn**	**16 02 52.3**	**-1.5**
BRSE	**Bradley Lake S**	**3.53**	**341**	P	**Pn**	**16 02 12.6**	**+0.6**
	baz=160						
BRSE				S	**Sn**	**16 02 52.3**	**-1.5**
	baz=160						
BRLK	**Bradley Lake**	**3.58**	**340**	Pn	**Pn**	**16 02 12.7**	**0.0**
BRLK	**Bradley Lake**	**3.58**	**340**		**Sn**	**16 02 53.6**	**-1.5**
BRLK	**Bradley Lake**	**3.58**	**340**	IAML		16 02 56.7	
	comp=E,52nm,0.3s						
BRLK				IAML		16 02 59.2	
	comp=N,45nm,1.4s						
P23K	**Montague Islan**	**3.63**	**9**		**Pn**	**16 02 14.1**	**+0.8**
P23K					**Sn**	**16 02 54.5**	**-1.5**
P23K	**Montague Islan**	**3.63**	**9**	P	**Pn**	**16 02 14.1**	**+0.8**
	baz=189						
P23K				S	**Sn**	**16 02 54.5**	**-1.5**
	baz=189						
SEW	**Seward**	**3.72**	**353**	P	**Pn**	**16 02 15.0**	**+0.5**
	baz=172						
Q19K	**Cape Douglas,**	**3.74**	**314**	Pn	**Pn**	**16 02 14.5**	**-0.3**
Q19K				IAML		16 03 14.7	
	comp=N,110nm,1.3s						
Q19K	**Cape Douglas,**	**3.74**	**314**	P	**Pn**	**16 02 16.6**	**+1.8**
	baz=131						
AUL	**Augustine Lava**	**3.97**	**320**		**Pn**	**16 02 19.9**	**+1.9**
P19K	**Oil Pt**	**4.10**	**324**	Pn	**Pn**	**16 02 20.0**	**+0.1**
P19K				IAML		16 03 15.5	
	comp=N,79nm,0.6s						
P19K	**Oil Pt**	**4.10**	**324**	P	**Pn**	**16 02 21.2**	**+1.4**
	baz=141						
HIN	**Hinchinbrook I**	**4.12**	**14**		**Pn**	**16 02 20.5**	**+0.4**
KAIM	**Kayak Island**	**4.12**	**30**	Pn	**Pn**	**16 02 20.5**	**+0.5**
KAIM				IAML		16 03 12.0	
	comp=N,70nm,0.8s						
KAIM				IAML		16 03 21.2	
	comp=E,79nm,1.5s						
KAIM	**Kayak Island**	**4.12**	**30**	P	**Pn**	**16 02 20.8**	**+0.8**
	baz=212						
ACHA	**Angle Creek He**	**4.12**	**299**		**Pn**	**16 02 21.6**	**+1.5**
O22K	**Cooper Landing**	**4.12**	**351**		**Pn**	**16 02 20.6**	**+0.6**
O22K	**Cooper Landing**	**4.12**	**351**	P	**Pn**	**16 02 20.6**	**+0.6**
	baz=170						
KAHC	**Katmai Hardscr**	**4.16**	**305**		**Pn**	**16 02 22.2**	**+1.4**
KAHC	**Katmai Hardscr**	**4.16**	**305**	P	**Pn**	**16 02 22.2**	**+1.4**
	baz=121						
SLKM	**Skilak Lake**	**4.19**	**348**		**Pn**	**16 02 21.7**	**+0.6**
O20K	**Slope Mountain**	**4.27**	**331**		**Pn**	**16 02 22.9**	**+0.7**
O20K	**Slope Mountain**	**4.27**	**331**	P	**Pn**	**16 02 22.9**	**+0.7**
	baz=148						
ILSW	**Iliamna Southw**	**4.33**	**327**	Pn	**Pn**	**16 02 23.1**	**0.0**
ILSW				IAML		16 03 19.8	
	comp=N,32nm,0.7s						
ILSW				IAML		16 03 22.4	
	comp=E,33nm,1.1s						
EYAK	**Cordova Ski Ar**	**4.37**	**18**	P	**Pn**	**16 02 24.6**	**+1.1**
	baz=200						
SUCK	**Suckling Hills**	**4.42**	**32**		**Pn**	**16 02 24.8**	**+0.6**
SUCK				IAML		16 03 32.9	
	comp=E,40nm,1.1s						
SUCK				IAML		16 03 39.0	
	comp=N,54nm,1.4s						
RAGM	**Ragged Mountai**	**4.45**	**25**		**Pn**	**16 02 25.5**	**+0.9**
NICHA	**Nichawak Mount**	**4.50**	**30**		**Pn**	**16 02 26.2**	**+0.9**
HMT	**Hamilton**	**4.50**	**28**		**

	comp=E,28nm,1.4s						
O19K	**Port Alsworth**	4.87	323	P		Pn	16 02 31.3 +0.9
	baz=139						
KHIT	**Khitrov Hills**	4.88	32			Pn	16 02 31.1 +0.6
O18K	**Koktuh Hills**	4.95	317			Pn	16 02 31.8 +0.4
O18K	**Koktuh Hills**	4.95	317	P		Pn	16 02 32.4 +1.0
	baz=132						
BMRM	**Bremner River**	4.98	22			Pn	16 02 32.9 +0.9
BMRM	**Bremner River**	4.98	22	P		Pn	16 02 32.9 +0.9
	baz=205						
KNK	**Knik Glacier**	5.00	0	Pn		Pn	16 02 32.6 +0.4
KNK				IAML			16 03 40.0
	comp=N,22nm,0.6s						
KNK				IAML			16 03 46.9
	comp=E,21nm,0.9s						
KNK	**Knik Glacier**	5.00	0	P		Pn	16 02 33.4 +1.2
	baz=180						
WAX	**Waxell Ridge**	5.00	34			Pn	16 02 32.9 +0.7
BARK	**Barkley Ridge**	5.08	36			Pn	16 02 33.9 +0.5
MESA	**MESA**	5.10	40	Pn		Pn	16 02 34.7 +0.9
MESA				IAML			16 05 08.5
	comp=E,28nm,1.2s						
MESA				IAML			16 05 08.9
	comp=N,45nm,0.4s						
CRQM	**Cirque**	5.16	31			Pn	16 02 35.3 +0.8
CRQM	**Cirque**	5.16	31	IAML			16 03 36.2
	comp=E,28nm,0.7s						
CRQM				IAML			16 03 36.9
	comp=N,33nm,0.7s						
N20K	**Mount Spurr**	5.16	340	P		Pn	16 02 35.3 +0.9
	baz=157						
SPCR	**Spurr Chakacha**	5.16	340			Pn	16 02 35.3 +0.9
CRQE	**Cirque**	5.17	31	P		Pn	16 02 35.3 +0.7
	baz=214						
SUA	**Susitna One**	5.18	348	Pn		Pn	16 02 35.5 +0.7
SUA				IAML			16 03 42.5
	comp=N,16nm,1.5s						
SUA	**Susitna One**	5.18	348	P		Pn	16 02 35.6 +0.7
	baz=166						
PMR	**Palmer**	5.19	357	Pn		Pn	16 02 35.2 +0.4
PMR				IAML			16 03 33.3
	comp=N,20nm,1.2s						
PMR				IAML			16 03 38.2
	comp=E,20nm,1.0s						
KLU	**Klutina**	5.25	14			Pn	16 02 37.0 +1.3
KLU	**Klutina**	5.25	14	IAML			16 03 35.2
	comp=E,26nm,0.8s						
KLU				IAML			16 03 52.3
	comp=N,27nm,1.2s						
KLU	**Klutina**	5.25	14	P		Pn	16 02 37.0 +1.3
	baz=195						
TGL	**Tana Glacier**	5.25	32			Pn	16 02 36.6 +0.9
TGL				IAML			16 03 43.8
	comp=N,20nm,1.3s						
TGL				IAML			16 03 45.3
	comp=E,20nm,0.7s						
BAGL	**Bagley Icefiel**	5.28	37			Pn	16 02 36.8 +0.9
ISLE	**Juniper Island**	5.28	35	Pn		Pn	16 02 36.5 +0.3
ISLE				IAML			16 03 47.2
	comp=N,24nm,1.5s						
ISLE				IAML			16 03 59.4
	comp=E,18nm,1.2s						
GHO	**Glory Hole Cre**	5.37	358			Pn	16 02 39.0 +1.8
STLK	**Strandline Lak**	5.37	343			Pn	16 02 38.4 +1.1
SML	**Sawmill**	5.40	1	Pn		Pn	16 02 38.6 +1.0
SML	**Sawmill**	5.40	1	P		Pn	16 02 39.4 +1.7
	baz=181						
N19K	**Bonanza Creek**	5.40	327			Pn	16 02 38.7 +0.9
N19K	**Bonanza Creek**	5.40	327	P		Pn	16 02 38.4 +0.6
	baz=142						
SPNN	**North Nagishla**	5.41	338			Pn	16 02 39.5 +1.5
SCM	**Sheep Creek Mo**	5.46	6			Pn	16 02 40.5 +2.0
SCM	**Sheep Creek Mo**	5.46	6	P		Pn	16 02 40.4 +2.0
	baz=186						
VRDI	**Verde Repeater**	5.48	26	Pn		Pn	16 02 39.8 +0.9
SAMH	**Samovar Hills**	5.50	44			Pn	16 02 40.6 +1.5
CHGN	**Chignik**	5.52	273			Pn	16 02 40.2 +0.9
KIAG	**Kiagna River**	5.52	33			Pn	16 02 40.4 +0.9
N25K	**Chitina, Valde**	5.57	20			Pn	16 02 41.4 +1.4
N25K	**Chitina, Valde**	5.57	20	P		Pn	16 02 41.4 +1.4
	baz=202						
GRNC	**Granite Creek**	5.57	36	Pn		Pn	16 02 41.0 +0.8
TABL	**Table Mountain**	5.57	41			Pn	16 02 41.0 +0.8
GLB	**Gilahina Butte**	5.58	24			Pn	16 02 41.3 +1.1
O17K	**Koliganek Bris**	5.66	310			Pn	16 02 42.4 +1.2
O17K	**Koliganek Bris**	5.66	310	P		Pn	16 02 42.4 +1.2
	baz=123						
PCA	**Pinnacle**	5.69	46			Pn	16 02 42.8 +1.1
PINM	**Pinnacle**	5.69	46	P		Pn	16 02 42.8 +1.1
	baz=232						
PTPK	**Patty Peak**	5.71	31			Pn	16 02 43.0 +1.0
MCARA	**McCarthy VSAT**	5.72	27			Pn	16 02 43.1 +1.1
P16K	**Nushagak River**	5.72	301			Pn	16 02 43.5 +1.4
P16K	**Nushagak River**	5.72	301	P		Pn	16 02 43.5 +1.4
	baz=114						
N18K	**Kilae Creek**	5.76	321	Pn		Pn	16 02 43.0 +0.4
N18K	**Kilae Creek**	5.76	321	P		Pn	16 02 43.6 +1.0
	baz=135						
SKT	**Skwentna**	5.78	346			Pn	16 02 45.3 +2.3
SKT	**Skwentna**	5.78	346	P		Pn	16 02 45.3 +2.3
	baz=163						
PNL	**Peninsula**	5.82	52	P		Pn	16 02 44.7 +1.3
	baz=239						
M24K	**Tolsona, Glenn**	5.82	11	Pn		Pn	16 02 45.8 +2.3
M24K	**Tolsona, Glenn**	5.82	11	P		Pn	16 02 45.6 +2.1
	baz=192						
BARN	**Barnard Glacie**	5.85	35			Pn	16 02 44.7 +0.8
BCPM	**Bancas Point**	5.86	49	Pn		Pn	16 02 43.9 -0.1
CTG	**Chitna Glacier**	5.88	36	P		Pn	16 02 45.1 +0.8
	baz=222						
CTGM	**Chitina Glacie**	5.88	36			Pn	16 02 45.1 +0.7
LOGN	**Logan Glacier**	5.89	38	Pn		Pn	16 02 45.2 +0.7
SVW2	**Sparrevohn**	5.96	325			Pn	16 02 45.7 +0.4
M20K	**Styx River**	5.97	338			Pn	16 02 47.0 +1.4
M20K	**Styx River**	5.97	338	P		Pn	16 02 47.0 +1.4
	baz=155						
O16K	**Kokwok River B**	6.01	306	Pn		Pn	16 02 47.3 +1.2
O16K	**Kokwok River B**	6.01	306	P		Pn	16 02 47.1 +1.1
	baz=118						
N17K	**Nushagak Hills**	6.14	316	Pn		Pn	16 02 48.7 +0.9
N17K	**Nushagak Hills**	6.14	316	P		Pn	16 02 48.7 +0.9
	baz=129						
HARP	**HAARP**	6.22	14			Pn	16 02 51.3 +2.3
HARP	**HAARP**	6.22	14	P		Pn	16 02 51.3 +2.3
	baz=197						
M18K	**Stony River**	6.34	326			Pn	16 02 51.6 +1.1
M18K	**Stony River**	6.34	326	P		Pn	16 02 51.6 +1.1
	baz=140						
O29M	**Mount Kennedy**	6.50	49			Pn	16 02 54.1 +1.3
O29M	**Mount Kennedy**	6.50	49	P		Pn	16 02 54.1 +1.3
	baz=237						
P29M	**Windy Craggy**	6.55	56			Pn	16 02 53.9 +0.5
P29M	**Windy Craggy**	6.55	56	P		Pn	16 02 53.9 +0.5
	baz=244						
L19K	**White Mountain**	6.63	333	Pn		Pn	16 02 54.7 +0.2
L19K	**White Mountain**	6.63	333	P		Pn	16 02 54.9 +0.4
	baz=148						
O15K	**Ungalikthiuk R**	6.66	299			Pn	16 02 56.6 +1.7
O15K	**Ungalikthiuk R**	6.66	299	P		Pn	16 02 56.6 +1.7
	baz=110						
DHY	**Denali Highway**	6.69	4	P		Pn	16 02 57.4 +1.9
	baz=185						
N16K	**Nishlik Lake**	6.75	311			Pn	16 02 57.2 +1.0
N16K	**Nishlik Lake**	6.75	311	P		Pn	16 02 57.2 +1.0
	baz=123						
M17K	**Holitna River**	6.80	321	Pn		Pn	16 02 58.0 +1.1
M17K	**Holitna River**	6.80	321	P		Pn	16 02 58.0 +1.1
	baz=134						
M27K	**Edge Creek, AK**	6.83	27	Pn		Pn	16 02 59.1 +1.6
S31K	**Pelican**	6.83	72	Pn		Pn	16 02 55.9 -1.4
S31K	**Pelican**	6.83	72	P		Pn	16 02 55.9 -1.4
	baz=261						
RND	**Reindeer**	7.00	359	Pn		Pn	16 03 01.6 +1.9
M16K	**Timber Creek**	7.13	315	Pn		Pn	16 03 01.0 -0.5
M16K	**Timber Creek**	7.13	315	P		Pn	16 03 02.6 +1.1
	baz=126						
L18K	**Granite Mounta**	7.16	328	Pn		Pn	16 03 02.0 +0.3
N15K	**Kwethluk River**	7.17	306	Pn		Pn	16 03 02.3 +0.4
HYT	**Haines Junctio**	7.23	48	Pn		Pn	16 03 03.1 +0.2
CAST	**Castle Rocks**	7.24	347	Pn		Pn	16 03 03.7 +0.8
KTH	**Kantishna Hill**	7.25	351	Pn		Pn	16 03 04.8 +1.7
SIT	**Sitka**	7.27	80	Pn		Pn	16 03 00.9 -2.3
TTA	**Tatalina**	7.55	333	Pn		Pn	16 03 08.1 +0.9
RIDG	**Independent Ri**	7.56	12	Pn		Pn	16 03 08.8 +1.5
L16K	**Owhat River**	7.75	318	Pn		Pn	16 03 11.1 +1.2
N30M	**Aishikik Lake**	7.75	45			Pn	16 03 10.9 +1.0
N30M	**Aishikik Lake**	7.75	45	P		Pn	16 03 11.5 +1.6
	baz=234						
BWN	**Browne**	7.79	357	Pn		Pn	16 03 13.4 +3.1
BPAW	**Bear Paw Mtn.**	7.80	352	Pn		Pn	16 03 10.6 0.0
O30N	**Mendenhall**	7.80	51	Pn		Pn	16 03 11.3 +0.7
JIS	**Juneau Island**	7.85	71	Pn		Pn	16 03 10.1 -1.1
M29M	**Somme Creek**	7.90	36			Pn	16 03 12.9 +0.9
K17K	**Iditarod**	8.03	326	Pn		Pn	16 03 13.8 +0.1
WRH	**Wood River Hil**	8.07	1	Pn		Pn	16 03 16.4 +2.1
J20K	**Nowinta River**	8.26	343	Pn		Pn	16 03 18.5 +1.6
WHY	**Whitehorse**	8.28	54	Pn		Pn	16 03 18.1 +0.7
ILAR	**Eielson Array**	8.41	5	Pn		Pn	16 03 19.7 +0.8
J26L	**Joseph Creek**	8.45	15	Pn		Pn	16 03 21.1 +1.5
L29M	**L29M**	8.49	34	Pn		Pn	16 03 21.6 +1.6
M30M	**Minto, Yukon**	8.55	39	Pn		Pn	16 03 22.6 +1.6
MDM	**Murphy Dome**	8.56	1	Pn		Pn	16 03 23.0 +2.0
MLY	**Manley**	8.70	354	Pn		Pn	16 03 24.4 +1.5
POKR	**Poker Plat Res**	8.73	3	Pn		Pn	16 03 25.3 +1.9
I23K	**Minto, Yukon-K**	8.76	358	Pn		Pn	16 03 25.2 +1.5
K15K	**Wolf Creek Mou**	8.88	317	Pn		Pn	16 03 27.9 +2.6
I21K	**Tanana**	8.95	350	Pn		Pn	16 03 27.2 +1.0
J16K	**Anvik River**	9.18	323	Pn		Pn	16 03 29.6 +0.2
K29M	**Barlow Dome**	9.22	32	Pn		Pn	16 03 31.3 +1.2
M31M	**Drury Creek, Y**	9.23	45	Pn		Pn	16 03 32.4 +2.2
H21K	**Melozitna Rive**	9.49	349	Pn		Pn	16 03 34.1 +0.4
R33M	**Jennings River**	9.78	65	Pn		Pn	16 03 38.6 +0.8
IMAR	**Indian Mountai**	9.91	347	Pn		Pn	16 03 40.0 +0.5
J30M	**Hart River**	10.11	31	Pn		Pn	16 03 44.7 +2.4
F19K	**Shaleruckik Mo**	11.32	341	Pn		Pn	16 03 57.6 -1.1

IDC ***02*** *16:10:49.5±0.6, 15°.09S×173°.65W, h0km, mb4.5/11, mbtmp4.5/11, MS3.8/35, Error ellipse: s-maj=30.0km s-min=16.0km az=131.0*

NEIC ***02*** *16:10:54.0±1.6, 15°.3S±0°.1×173°.4W±0°.1, h36km±7km, mb4.9/56, Error ellipse: s-maj=19.8km s-min=17.7km az=105.0*

NOU ***02*** *16:11:02.8, 15°.80S×173°.21W, h80km, mb5.0/18, Tonga Islands*

ISC 02 16:10:53.7±0.4, 15°.22S±0°.08×173°.41W±0°.09, h30km, n415, σ1$26/375, mb4.9/41, MS3.9/34, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	5.08	140	Pn	**Pn**	**16 12 07.3**	**-0.6**
NIUE	**Niue**	5.08	140	P	**Pn**	**16 12 08.8**	**+0.9**
TAVE	**Taveuni**	6.42	256	P	Pb	16 12 36.2	-8.5
DGTI	**Dogotuki**	6.68	260	P	Pn	16 12 39.4	+10
RAO	**Raoul Island**	14.57	196	LR	LR	16 18 50.9	
	comp=Z,169nm,21.2s,baz=62,slow=33						
LIFNC	**LIFOU**	19.21	250	P	**P**	**16 15 12.5**	**-2.8**
LIFNC				IAmb	IAmb	16 15 23.1	
	comp=Z,46nm,0.9s						
LIFNC	**LIFOU**	19.21	250	P	**Pn**	**16 15 21.2**	**+4.8**
PINNC	**Pines Island,**	19.53	245	P	**Pn**	**16 15 20.5**	**+0.2**
PINNC				IAmb	IAmb	16 15 26.0	
	comp=Z,109nm,1.6s						
OUENC	**Ouen Island, N**	20.00	246	P	**P**	**16 15 24.7**	**+0.6**
OUENC	**Ouen Island, N**	20.00	246	P	**Pn**	**16 15 28.4**	**+2.5**
DZM	**Mont Dzumac**	20.26	247	P	**P**	**16 15 24.9**	**-2.0**
DZM	**Mont Dzumac**	20.26	247	P	Pn	16 15 31.8	+2.8
DZM	**Mont Dzumac**	20.26	247	LR	LR	16 22 15.8	
	comp=Z,225nm,21.9s,baz=85,slow=34						
ONTNC	**Ouen Toro**	20.31	247	P	**P**	**16 15 25.4**	**-2.0**
NFK	**Norfolk Island**	22.04	228	P	**P**	**16 15 47.4**	**+1.4**
PPT	**Papeete**	22.98	99	LR	LR	16 23 16.6	
	comp=Z,43nm,19.4s,baz=156,slow=32						
OUZ	**Omahuta**	23.08	208	P	**P**	**16 15 58.3**	**+1.4**
WMGZ	**Waiomatatini S**	23.65	196	P	**P**	**16 16 04.2**	**+1.8**
HAZ	**Te Kaha**	23.77	198	P	**P**	**16 16 04.3**	**+0.7**
PKGZ	**Pakihiroa**	23.81	197	P	**P**	**16 16 05.3**	**+1.3**
PUZ	**Puketiti**	23.93	196	P	**P**	**16 16 06.4**	**+1.3**
RUGZ	**Raukumara Rang**	23.99	198	P	**P**	**16 16 07.6**	**+1.8**
TWGZ	**Tauwhareparae**	24.10	197	P	**P**	**16 16 08.0**	**+1.2**
CNGZ	**Carnagh Statio**	24.33	196	P	**P**	**16 16 11.0**	**+2.2**
MWZ	**Matawai**	24.38	197	P	**P**	**16 16 10.4**	**+1.1**
TKGZ	**Te Karaka**	24.39	197	P	**P**	**16 16 10.6**	**+1.3**
URZ	**Urewera**	24.43	198	P	**P**	**16 16 09.3**	**-0.4**
URZ	**Urewera**	24.43	198	LR	LR	16 24 32.5	
	comp=Z,215nm,18.2s,baz=120,slow=34						
URZ	**Urewera**	24.43	198	P	**P**	**16 16 09.1**	**-0.7**
TOZ	**Tahuroa Road**	24.48	202	P	**P**	**16 16 08.7**	**-1.5**
TOZ				IAmb	IAmb	16 16 13.6	
	comp=Z,29nm,0.6s						
TOZ	**Tahuroa Road**	24.48	202	P	**P**	**16 16 12.4**	**+2.2**
KARZ	**Kaharoa**	24.49	200	P	**P**	**16 16 13.7**	**+3.5**
RAGZ	**Rawiri**	24.56	198	P	**P**	**16 16 13.2**	**+2.2**
RTZ	**Ruatahuna**	24.80	198		**P**	**16 16 10.2**	**-2.9**
RTZ				IAmb	IAmb	16 16 18.3	
	comp=Z,24nm,0.6s						
HRRZ	**Handcock Road**	24.81	200	P	**P**	**16 16 14.9**	**+1.7**
SNGZ	**Shannon Statio**	24.85	197	P	**P**	**16 16 15.5**	**+1.9**
PRRZ	**Plateau Road**	24.88	199	P	**P**	**16 16 15.8**	**+2.1**
RAHZ	**Arahi**	25.05	198	P	**P**	**16 16 17.3**	**+2.0**
MTHZ	**Maungataniwha**	25.06	198	P	**P**	**16 16 15.4**	**-0.1**
NMHZ	**Naumai**	25.30	198	P	**P**	**16 16 19.5**	**+1.9**
HIZ	**Hauiti**	25.41	202	P	**P**	**16 16 18.2**	**-0.4**
HIZ	**Hauiti**	25.41	202	P	**P**	**16 16 19.6**	**+1.0**
HIZ	**Hauiti**	25.41	202	P	**P**	**16 16 20.5**	**+1.9**
RATZ	**Rangitukua**	25.41	200	P	**P**	**16 16 21.8**	**+3.2**
BKZ	**Black Stump Fm**	25.45	198		**P**	**16 16 19.0**	**-0.1**
BKZ				IAmb	IAmb	16 16 37.6	
	comp=Z,60nm,1.7s						
BKZ	**Black Stump Fm**	25.45	198	P	**P**	**16 16 19.5**	**+0.4**
BKZ	**Black Stump Fm**	25.45	198	P	**P**	**16 16 21.0**	**+1.9**
MCHZ	**McNeill Hill**	25.65	198	P	**P**	**16 16 22.0**	**+1.2**
NTVZ	**North Tongarir**	25.65	200	P	**P**	**16 16 21.6**	**+0.6**
TMVZ	**Te Maari**	25.66	200	P	**P**	**16 16 21.0**	**0.0**
ETVZ	**East Tongariro**	25.68	200	P	**P**	**16 16 21.1**	**0.0**
NNVZ	**North Ngauruho**	25.70	200	P	**P**	**16 16 23.8**	**+2.3**
KWHZ	**Kaweka Forest**	25.71	198	P	**P**	**16 16 21.6**	**+0.2**
OTVZ	**Oturere**	25.71	200	P	**P**	**16 16 20.8**	**-0.8**
SNVZ	**South Ngauruho**	25.74	200	P	**P**	**16 16 21.1**	**-0.7**
TUVZ	**Tukino**	25.81	200	P	**P**	**16 16 22.4**	**0.0**
FWVZ	**Far West T-bar**	25.84	200	P	**P**	**16 16 23.2**	**+0.5**
TRVZ	**Turoa**	25.88	200	P	**P**	**16 16 23.9**	**+0.8**
BHHZ	**Black Hill Sta**	25.88	199	P	**P**	**16 16 22.2**	**-0.8**
WNVZ	**Wahianoa**	25.89	200	P	**P**	**16 16 22.2**	**-0.9**
MOVZ	**Moawhango**	25.91	199	P	**P**	**16 16 24.1**	**+0.9**
KRHZ	**Kereru**	25.93	198	P	**P**	**16 16 23.9**	**+0.6**
VRZ	**Vera Road**	25.99	201	P	**P**	**16 16 24.9**	**+1.1**
PXZ	**Pawanui**	26.14	197	P	**P**	**16 16 27.3**	**+2.1**
PNHZ	**Pukenui**	26.23	198	P	**P**	**16 16 27.0**	**+0.9**
WPHZ	**Waipukurau**	26.30	198	P	**P**	**16 16 27.4**	**+0.8**
LREZ	**Lake Rotokare**	26.41	202	P	**P**	**16 16 32.5**	**+4.9**
PRHZ	**Porangahau**	26.43	197	P	**P**	**16 16 31.0**	**+3.2**
TSZ	**Takapari Road**	26.44	199	P	**P**	**16 16 27.3**	**-0.7**
WAZ	**Wanganui**	26.47	200	P	**P**	**16 16 28.5**	**+0.3**
DVHZ	**Dannevirke**	26.59	198	P	**P**	**16 16 30.5**	**+1.2**
HNR	**Honiara**	26.64	279	LR	LR	16 26 02.5	
	comp=Z,205nm,20.6s,baz=216,slow=35						
ANWZ	**Angora Road**	26.65	197	P	**P**	**16 16 30.8**	**+1.0**
PRWZ	**Pori Road**	26.89	198	P	**P**	**16 16 33.0**	**+1.1**
BFZ	**Birch Farm**	26.92	198	P	**P**	**16 16 29.2**	**-3.1**
BFZ	**Birch Farm**	26.92	198	P	**P**	**16 16 32.2**	**-0.1**
BFZ	**Birch Farm**	26.92	198	P	**P**	**16 16 32.6**	**+0.3**
MRZ	**Mangatainoka R**	27.10	199	P	**P**	**16 16 31.1**	**-2.8**
MRZ				IAmb	IAmb	16 16 37.5	
	comp=Z,21nm,0.5s						
MRZ	**Mangatainoka R**	27.10	199	P	**P**	**16 16 33.2**	**-0.7**
TIWZ	**Tintock**	27.12	198	P	**P**	**16 16 36.5**	**+2.5**
HOWZ	**Holdsworth Sta**	27.34	198	P	**P**	**16 16 35.8**	**-0.2**
OGWZ	**Otaki Gorge**	27.37	199	P	**P**	**16 16 37.8**	**+1.5**
KIW	**Kapiti Island**	27.50	199	P	**P**	**16 16 37.2**	**-0.2**
CAW	**Cannon Point**	27.67	199	P	**P**	**16 16 39.2**	**+0.2**
TRWZ	**Traveller**	27.75	198	P	**P**	**16 16 41.0**	**+1.3**
DUWZ	**D'Urville Isla**	27.77	201	P	**P**	**16 16 39.8**	**-0.1**
SNZO	**South Karori**	27.97	199	P	**P**	**16 16 39.2**	**-2.4**
SNZO				IAmb	IAmb	16 16 43.3	
	comp=Z,26nm,0.7s						
SNZO	**South Karori**	27.97	199	P	**P**	**16 16 40.9**	**-0.7**
BHW	**Baring Head**	28.00	199	P	**P**	**16 16 41.5**	**-0.4**
BHW				IAmb	IAmb	16 16 43.9	
	comp=Z,17nm,0.6s						
BHW	**Baring Head**	28.00	199	P	**P**	**16 16 41.8**	**-0.1**
TCW	**Tory Channel**	28.02	200	P	**P**	**16 16 39.8**	**-2.3**
TCW	**Tory Channel**	28.02	200	P	**P**	**16 16 43.0**	**+0.9**
PLWZ	**Palliser**	28.03	198	P	**P**	**16 16 39.4**	**-2.9**
PLWZ	**Palliser**	28.03	198	P	**P**	**16 16 42.7**	**+0.4**
TKNZ	**Takaka Hill**	28.32	202	P	**P**	**16 16 41.2**	**-3.5**
TKNZ	**Takaka Hill**	28.32	202	P	**P**	**16 16 44.6**	**-0.1**
TUWZ	**Tuamarina**	28.32	200	P	**P**	**16 16 42.0**	**-2.8**
TUWZ	**Tuamarina**	28.32	200	P	**P**	**16 16 45.0**	**+0.2**
NNZ	**Nelson**	28.33	201	P	**P**	**16 16 42.2**	**-2.6**
NNZ				IAmb	IAmb	16 16 49.1	
	comp=Z,63nm,1.6s						
NNZ	**Nelson**	28.33	201	P	**P**	**16 16 43.6**	**-1.2**
BSWZ	**Blackbirch Sta**	28.60	200	P	**P**	**16 16 48.5**	**+1.3**
MRNZ	**Matariki Terra**	28.71	202	P	**P**	**16 16 47.7**	**-0.6**
MRNZ	**Matariki Terra**	28.71	202	P	**P**	**16 16 48.7**	**+0.4**
THZ	**Tophouse**	28.98	201	P	**P**	**16 16 49.0**	**-1.7**
KHZ	**Kahutara**	29.34	200	P	**P**	**16 16 52.4**	**-1.4**
KHZ				IAmb	IAmb	16 16 59.9	
	comp=Z,26nm,0.9s						
KHZ	**Kahutara**	29.34	200	P	**P**	**16 16 52.9**	**-0.9**
DSZ	**Denniston Nort**	29.36	203	P	**P**	**16 16 50.5**	**-3.6**
GVZ	**Greta Valley S**	30.00	200	P	**P**	**16 16 58.3**	**-1.4**
LTZ	**Lake Taylor**	30.10	201	P	**P**	**16 16 57.3**	**-3.3**
INZ	**Inchbonnie**	30.34	202	P	**P**	**16 17 00.5**	**-2.2**
RPZ	**Rata Peaks**	31.34	202	P	**P**	**16 17 09.8**	**-1.7**
RPZ	**Rata Peaks**	31.34	202	P	**P**	**16 17 11.3**	**-0.3**
RPZ	**Rata Peaks**	31.34	202	LR	LR	16 28 53.5	
	comp=Z,161nm,21.5s,baz=20,slow=34						
JCZ	**Jackson Bay**	32.51	204	P	**P**	**16 17 21.7**	**-0.2**
ODZ	**Otahua Downs**	32.65	201	P	**P**	**16 17 22.9**	**0.0**
MLZ	**Mavora Lakes**	33.85	204	P	**P**	**16 17 32.2**	**-1.2**
DCZ	**Deep Cove**	34.31	205	P	**P**	**16 17 36.0**	**-1.4**
WHZ	**Wether Hill Ro**	34.36	203	P	**P**	**16 17 37.1**	**-0.8**
SYZ	**Scrubby Hill**	34.47	201	P	**P**	**16 17 38.7**	**0.0**
ARMA	**Armidale**	35.43	239	P	**P**	**16 17 45.8**	**-1.7**
CTA	**Charters Tower**	38.67	257	LR	LR	16 31 44.8	
	comp=Z,60nm,21.8s,baz=84,slow=33						
H11S2	**WAKE ISLAND Hy**	38.80	329	T	T	16 58 41.3	
	baz=146,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	38.81	329	T	T	16 58 49.1	
	baz=146,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	38.82	329	T	T	16 58 43.1	
	baz=146,slow=76,SNR=8.1						
CAN	**Canberra**	39.13	232	P	**P**	**16 18 16.4**	**-2.3**
CAN				IAmb	IAmb	16 19 28.4	
	comp=Z,28nm,1.5s						
CAN	**Canberra**	39.13	232	P	**P**	**16 18 17.7**	**-1.0**
H11N3	**WAKE ISLAND Hy**	39.74	330	T	T	16 59 48.7	
	baz=146,slow=76,SNR=6.1						
H11N1	**WAKE ISLAND Hy**	39.75	330	T	T	16 59 49.2	
	baz=146,slow=76,SNR=7.8						
H11N2	**WAKE ISLAND Hy**	39.76	330	T	T	16 59 50.1	
	baz=146,slow=76,SNR=7.1						
TOO	**Toolangi**	42.57	231	P	**P**	**16 18 45.4**	**-1.7**
TOO				IAmb	IAmb	16 18 47.5	
	comp=Z,28nm,1.3s						
TAU	**Tasmania Unive**	43.44	223	P	**P**	**16 18 52.7**	**-1.2**
STKA	**Stephens Creek**	44.12	240	P	**P**	**16 18 57.8**	**-1.8**
STKA	**Stephens Creek**	44.12	240	P	**P**	**16 18 58.7**	**-0.9**
	comp=Z,5.7nm,0.8s,baz=86,slow=9.7,SNR=11						
STKA				LR	LR	16 35 13.3	
	comp=Z,78nm,19.6s,baz=48,slow=33 comp=Z,5.7nm,0.8s						
BBOO	**Buckleboo**	48.89	240	P	**P**	**16 19 34.8**	**-2.3**
BBOO				IAmb	IAmb	16 19 54.1	
	comp=Z,13nm,1.1s						
WB0	**Warramunga Arr**	49.83	257	P	**P**	**16 19 42.2**	**-2.2**
WRA	**Warramunga Arr**	49.87	257	P	**P**	**16 19 42.9**	**-1.8**
WRA	**Warramunga Arr**	49.87	257	P	**P**	**16 19 43.0**	**-1.8**
	comp=Z,2.7nm,0.5s,baz=92,slow=6.9,SNR=35 comp=Z,2.7nm,0.5s		

comp=Z,7.0nm,0.7s,baz=53,slow=3.9,SNR=40
comp=Z,7.0nm,0.7s

O15K **Ungalikthiuk R** 74.95 7 P P 16 22 33.9 +2.3
baz=194
P16K **Nushagak River** 75.05 8 P P 16 22 32.6 +0.5
baz=195
P17K **Kvichak River** 75.43 9 P P 16 22 35.3 +1.0
baz=197
N14K **Kuskokwak Cree** 75.48 6 P P 16 22 35.9 +1.3
baz=192
P18K **Big Mountain,** 75.80 9 P P 16 22 36.5 0.0
baz=198
O17K **Koliganek Bris** 75.89 8 P P 16 22 37.6 +0.7
baz=196
R11B **Troy Canyon, C** 75.94 43 P P 16 22 37.5 -0.5
baz=237
KSRS **Korea Array** 76.02 316 LR LR 16 50 10.8
comp=Z,16nm,21.9s,baz=110,slow=31
O18K **Koktuh Hills** 76.25 9 P P 16 22 40.3 +1.2
baz=198
M14K **Bethel** 76.26 6 P P 16 22 40.0 +0.9
baz=191
TUC **Tucson** 76.28 51 P P 16 22 39.1 -0.8
baz=242
M15K **Kasigluk River** 76.34 6 P P 16 22 40.6 +1.1
baz=192
P19K **Oil Pt** 76.38 10 P P 16 22 41.0 +1.2
baz=200
N17K **Nushagak Hills** 76.60 8 P P 16 22 41.4 +0.4
baz=196
O19K **Port Alsworth** 76.71 10 P P 16 22 41.2 -0.4
baz=199
L14K **Kuka Creek** 76.78 5 P P 16 22 43.3 +1.4
baz=190
M16K **Timber Creek** 76.85 7 P P 16 22 43.8 +1.4
baz=194
O20K **Slope Mountain** 76.89 11 P P 16 22 43.6 +0.9
baz=200
L15K **Ungalak Mounta** 77.22 6 P P 16 22 44.9 +0.5
baz=192
N19K **Bonanza Creek** 77.28 9 P P 16 22 44.9 0.0
baz=199
WUAZ **Wupatki** 77.38 48 P P 16 22 45.7 -0.5
baz=241
ELK **Elko** 77.45 41 LR LR 16 50 34.8
comp=Z,72nm,20.8s,baz=266,slow=31
L16K **Owhat River** 77.46 7 P P 16 22 46.8 +1.0
baz=194
M18K **Stony River** 77.72 9 P P 16 22 49.0 +1.8
baz=197
BBB **Bella Bella** 77.73 27 LR LR 16 48 07.6
comp=Z,81nm,21.9s,baz=192,slow=29
K15K **Wolf Creek Mou** 77.82 6 P P 16 22 49.9 +2.1
baz=192
P23K **Montague Islan** 77.85 13 P P 16 22 49.6 +1.6
baz=206
L17K **Donlin** 78.01 7 P P 16 22 50.7 +1.8
baz=195
L18K **Granite Mounta** 78.30 8 P P 16 22 52.7 +2.2
baz=196
SUA **Susitna One** 78.52 11 P P 16 22 51.9 +0.1
baz=202
K17K **Iditarod** 78.58 7 P P 16 22 52.8 +0.9
baz=195
V35K **Ketchikan** 78.62 23 P P 16 22 52.8 +0.5
baz=221
121A **Cookes Peak, D** 78.64 52 P P 16 22 53.3 0.0
baz=244
SIT **Sitka** 78.66 20 P P 16 22 53.1 +0.6
baz=217
DUG **Dugway, Tooele** 78.73 43 P P 16 22 53.4 -0.1
baz=239
SKT **Skwentna** 78.86 10 P P 16 22 53.7 +0.1
baz=201
J16K **Anvik River** 78.88 6 P P 16 22 55.2 +1.5
baz=192
M22K **Willow** 78.91 11 P P 16 22 54.9 +1.1
baz=203
KNK **Knik Glacier** 78.91 12 P P 16 22 54.1 +0.2
baz=204
BGLC **Bering Glacier** 78.91 15 P P 16 22 55.0 +1.2
baz=209
PMR **Palmer** 78.94 12 P P 16 22 54.4 +0.4
baz=204
L20K **Farewell, AK** 78.95 9 P P 16 22 53.8 -0.3
baz=199
TTA **Tatalina** 79.07 8 P P 16 22 55.1 +0.2
baz=197
S31K **Pelican** 79.09 19 P P 16 22 55.2 +0.3
baz=216
BMRM **Bremner River** 79.34 14 P P 16 22 56.5 +0.2
baz=208
I17K **Unalakleet** 79.46 6 P P 16 22 57.9 +1.1
baz=192
CUT **Chulitna** 79.48 11 P P 16 22 57.1 +0.2
baz=203
HLID **Hailey** 79.49 39 P P 16 22 58.6 +0.9
baz=237
J18K **Innoko River** 79.50 8 P P 16 22 57.9 +0.9
baz=196
KLU **Klutina** 79.51 13 P P 16 22 57.9 +0.7
baz=207
SCM **Sheep Creek Mo** 79.52 12 P P 16 22 56.8 -0.4
baz=205
PPLA **Purkeypile** 79.61 10 P P 16 22 58.0 +0.2
baz=201
K20K **Telida** 79.75 9 P P 16 22 59.0 +0.6
baz=199
N25K **Chitina, Valde** 79.91 14 P P 16 23 00.6 +1.2
baz=208
MA2 **Magadan** 79.99 342 LR LR 16 53 31.2
comp=Z,28nm,21.8s,baz=108,slow=32
NJ2 **Nanjing** 80.04 307 eP P 16 23 02.5 +1.8
NJ2 pmax pmax
comp=Z,9.0nm,1.2s
H16K **Elim** 80.07 5 P P 16 23 01.9 +1.9
baz=191
CAST **Castle Rocks** 80.12 10 P P 16 22 59.6 -0.8
baz=201
WAT6 **Susitna Watana** 80.12 12 P P 16 23 01.4 +0.8
baz=205
MNTX **Cornudas Mount** 80.13 53 P P 16 23 01.8 +0.6
baz=245
CTG **Chitna Glacier** 80.13 15 P P 16 23 01.0 +0.3
baz=211
J19K **Poorman** 80.15 8 P P 16 23 01.7 +1.2
baz=197
WAT1 **Susitna Watana** 80.19 11 P P 16 23 01.7 +0.8
baz=204
MVCO **Mesa Verde** 80.23 47 P P 16 23 01.6 -0.3
baz=242
G15K **Niukluk** 80.28 4 P P 16 23 02.4 +1.2
baz=189
KLR **Kul'dur** 80.36 327 LR LR 16 55 52.6
comp=Z,24nm,18.4s,baz=134,slow=34
TRF **Thorofare Moun** 80.45 10 P P 16 23 01.4 -1.0
TRF IAmb IAmb 16 24 08.7
comp=Z,36nm,1.9s
TRF **Thorofare Moun** 80.45 10 P P 16 23 03.1 +0.7
baz=202
HARP **HAARP** 80.49 13 P P 16 23 04.6 +2.2
baz=208
CHUM **Lake Minchumin** 80.52 9 P P 16 23 03.9 +1.4
baz=200
TXAR **Lajitas Array** 80.52 56 P P 16 23 04.6 +1.2
comp=Z,3.1nm,1.0s,baz=225,slow=5.1,SNR=18
comp=Z,3.1nm,1.0s
J20K **Nowinta River** 80.52 8 P P 16 23 03.4 +0.8
baz=199
NEW **Newport** 80.56 34 LR LR 16 51 03.5
comp=Z,70nm,19.5s,baz=188,slow=30
H17K **Granite Mounta** 80.57 6 P P 16 23 03.1 +0.3
baz=193
SKAG **Skagway** 80.57 19 P P 16 23 04.6 +1.8
baz=217
P30M **Million Dollar** 80.62 18 P P 16 23 03.8 +0.6
baz=215
F14K **Arctic Creek** 80.63 3 P P 16 23 04.4 +1.4
baz=187
DHY **Denali Highway** 80.64 12 P P 16 23 03.8 +0.4
baz=205
TNA **Tin City** 80.64 2 P P 16 23 03.6 +0.5
baz=185
ANMO **Albuquerque** 80.69 50 P P 16 23 03.6 -0.8
baz=244
ANMO **Albuquerque** 80.69 50 LR LR 16 52 01.3
comp=Z,87nm,19.9s,baz=346,slow=31
G16K **Koyuk River** 80.80 5 P P 16 23 05.3 +1.4
baz=191

YUK8 **Steele Glacier** 80.81 16 P P 16 23 05.2 +0.8
baz=213
PAX **Paxson** 80.93 13 P P 16 23 04.6 -0.3
baz=207
H18K **Honhosa River** 80.94 6 P P 16 23 04.7 -0.1
baz=195
MCK **McKinley** 80.94 11 P P 16 23 04.9 +0.1
baz=204,SNR=6.6
F15K **North Star Dit** 80.95 4 P P 16 23 05.7 +0.9
baz=188
HYT **Haines Junctio** 81.04 17 P P 16 23 05.6 +0.1
baz=215
YUK3 **Moose Creek** 81.05 15 P P 16 23 05.3 -0.3
baz=212
G17K **Kiwalik Mounta** 81.05 5 P P 16 23 05.7 +0.4
baz=192
YUK4 **Talbot Arm** 81.16 16 P P 16 23 06.6 +0.3
baz=214
P32M **Atlin** 81.18 19 P P 16 23 06.0 -0.2
baz=218
M27K **Edge Creek, AK** 81.20 14 P P 16 23 06.4 0.0
baz=211
O30N **Mendenhall** 81.40 18 P P 16 23 07.4 0.0
baz=216
BVCY **Beaver Creek** 81.49 15 P P 16 23 08.4 +0.6
baz=212
H19K **Roundabout Mou** 81.52 7 P P 16 23 08.7 +0.9
baz=196
DLBC **Dease Lake** 81.53 21 P P 16 23 07.9 -0.2
baz=222
DLBC **Dease Lake** 81.53 21 LR LR 16 55 09.1
comp=Z,94nm,19.0s,baz=261,slow=33
K24K **Donnelly Dome** 81.61 12 P P 16 23 08.4 0.0
baz=207
G18K **Tagagawik** 81.63 6 P P 16 23 09.1 +0.7
baz=194
WHY **Whitehorse** 81.67 18 P P 16 23 08.4 -0.4
baz=217
H20K **Anotleneega Mo** 81.68 8 P P 16 23 09.1 +0.4
baz=198
NEA2 **Nenana** 81.71 10 P P 16 23 09.1 +0.3
baz=204
RIDG **Independent Ri** 81.75 12 P P 16 23 09.8 +0.7
baz=208
WRH **Wood River Hil** 81.77 11 P P 16 23 07.7 -1.5
WRH IAmb IAmb 16 23 10.4
comp=Z,12nm,1.0s
I21K **Tanana** 81.79 9 P P 16 23 09.9 +0.7
baz=201
L27K **Beaver Creek,** 81.82 14 P P 16 23 08.2 -1.3
baz=211
MLY **Manley** 81.84 10 P P 16 23 09.3 -0.3
MLY **Manley** 81.84 10 P P 16 23 10.0 +0.4
baz=202,SNR=6.1
F17K **Baldwin Pennin** 81.92 5 P P 16 23 11.1 +1.2
baz=192
HDA **Harding Lake** 81.93 11 P P 16 23 10.9 +0.9
baz=206
R33M **Jennings River** 81.93 20 P P 16 23 10.4 +0.1
baz=221
P33M **Teslin, Yukon** 81.95 19 P P 16 23 10.3 0.0
baz=219
CCB **Clear Creek Bu** 81.99 11 P P 16 23 10.1 -0.2
CCB IAmb IAmb 16 23 11.7
comp=Z,7.9nm,0.8s
G19K **Purcell Mounta** 82.04 7 P P 16 23 11.7 +1.1
G19K **Purcell Mounta** 82.04 7 P P 16 23 11.1 +0.5
baz=196,SNR=5.9
H21K **Melozitna Rive** 82.11 8 P P 16 23 11.8 +0.8
baz=200
M29M **Somme Creek** 82.12 16 P P 16 23 11.7 +0.5
baz=214
SCRK **Sand Creek** 82.14 13 P P 16 23 10.3 -1.0
SCRK IAmb IAmb 16 24 35.9
comp=Z,24nm,1.9s
SCRK **Sand Creek** 82.14 13 P P 16 23 12.1 +0.8
baz=208
PDAR **Pinedale Array** 82.14 42 P P 16 23 12.7 +0.7
comp=Z,2.4nm,0.8s,baz=221,slow=3.0,SNR=17
PDAR LR LR 16 53 37.8
comp=Z,100nm,20.3s,baz=224,slow=31
comp=Z,2.4nm,0.8s
I23K **Minto, Yukon-K** 82.17 10 P P 16 23 09.8 -1.4
I23K IAmb IAmb 16 23 50.5
comp=Z,24nm,2.0s
I23K **Minto, Yukon-K** 82.17 10 P P 16 23 12.3 +1.1
baz=203
COLA **College** 82.18 11 P P 16 23 12.5 +1.2
baz=205
F18K **Selawik** 82.22 6 P P 16 23 10.9 -0.5
baz=193
BOZ **Bozeman (W)** 82.26 39 P P 16 23 12.3 -0.1
baz=239
IL31 82.27 11 IAmb IAmb 16 24 33.4
comp=Z,26nm,1.9s
ILAR **Eielson Array** 82.27 11 P P 16 23 10.0 -1.8
ILAR **Eielson Array** 82.27 11 P P 16 23 11.7 -0.1
comp=Z,1.6nm,0.7s,baz=226,slow=6.3,SNR=23
ILAR LR LR 16 51 36.5
comp=Z,55nm,20.7s,baz=272,slow=30
comp=Z,1.6nm,0.7s
H17A **Grant Village** 82.29 40 P P 16 23 11.5 -1.2
baz=240
IMAR **Indian Mountai** 82.29 8 P P 16 23 12.1 +0.2
J25K **Salcha River,** 82.42 12 P P 16 23 11.8 -0.8
baz=207
POKR **Poker Plat Res** 82.48 11 P P 16 23 13.0 +0.1
baz=205,SNR=5.9
H22K **Ishtalitna Cre** 82.55 9 P P 16 23 14.2 +1.0
baz=201
K27K **Chicken** 82.59 13 P P 16 23 14.1 +0.6
baz=210
SDCO **Great Sand Dun** 82.60 48 P P 16 23 14.3 -0.2
baz=244
F19K **Shaleruckik Mo** 82.63 6 P P 16 23 14.4 +0.8
baz=195
M30M **Minto, Yukon** 82.67 16 P P 16 23 13.7 -0.3
baz=215
J26L **Joseph Creek** 82.69 13 P P 16 23 13.7 -0.4
J26L **Joseph Creek** 82.69 13 P P 16 23 14.5 +0.4
baz=209,SNR=6.5
L29M **L29M** 82.76 15 P P 16 23 15.0 +0.6
baz=214
G21K **Allakaket** 82.83 8 P P 16 23 15.8 +1.1
baz=199
E18K **Tukpahlearik C** 82.94 5 P P 16 23 16.0 +0.8
baz=192
D17K **Noatak River** 83.03 4 P P 16 23 16.6 +1.0
baz=190
M31M **Drury Creek, Y** 83.04 17 P P 16 23 16.0 +0.1
baz=218
MSTX **Muleshoe** 83.06 52 P P 16 23 16.2 -0.5
baz=246
H24K **Noodor Dome** 83.06 10 P P 16 23 16.9 +0.9
baz=205
F20K **Avaraart Lake** 83.06 7 P P 16 23 17.1 +1.3
baz=197
T25A **Trinidad** 83.13 49 P P 16 23 15.8 -1.4
baz=245
PRP **Porcupine Dome** 83.19 11 P P 16 23 16.0 -0.8
PRP IAmb IAmb 16 23 17.8
comp=Z,6.7nm,0.9s
PRP **Porcupine Dome** 83.19 11 P P 16 23 17.2 +0.5
baz=207,SNR=5.9
WTLY **Watson Lake, Y** 83.20 21 P P 16 23 17.1 +0.3
baz=223
DAWY **Dawson** 83.25 14 P P 16 23 17.3 +0.3
baz=213
E19K **Redstone River** 83.29 6 P P 16 23 18.1 +1.1
baz=196
Q24A **Divide** 83.37 47 P P 16 23 17.6 -1.0
baz=244
ISCO **Idaho Springs** 83.41 46 P P 16 23 16.8 -2.0
baz=244
EGAK **Eagle** 83.44 13 P P 16 23 19.0 +1.1
baz=211
RLMT **Red Lodge** 83.46 40 P P 16 23 17.7 -1.0
baz=241
C16K **Lisburne Hills** 83.47 3 P P 16 23 18.4 +0.5
baz=188
F21K **Alatna River** 83.50 8 P P 16 23 19.4 +1.2
baz=199
G23K **Bananza Creek** 83.51 9 P P 16 23 19.3 +1.0
baz=203
K29M **Barlow Dome** 83.52 15 P P 16 23 18.5 +0.1
baz=215
833A **Chaparral WMA,** 83.61 59 P P 16 23 18.2 -1.4
baz=249

COLD **Coldfoot** 83.96 9 P P 16 23 22.0 +1.5
baz=202,SNR=5.5
I27K **Kandik River** 84.06 13 P P 16 23 22.4 +1.4
baz=211
K22A **Casper** 84.06 43 P P 16 23 20.6 -1.2
baz=243
C18K **Utukok River** 84.10 4 P P 16 23 22.2 +1.0
baz=192
E20K **Nigu River** 84.17 6 P P 16 23 23.6 +1.9
baz=197
D19K **Kuna River** 84.21 6 IAmb IAmb 16 23 26.1
comp=Z,14nm,1.5s
D19K **Kuna River** 84.21 6 P P 16 23 22.4 +0.6
baz=195
I28M **Miner Creek** 84.29 13 P P 16 23 22.3 0.0
baz=212
TGTN **Hyland Airport** 84.41 20 P P 16 23 23.9 +0.9
baz=223
J30M **Hart River** 84.42 15 P P 16 23 23.8 +0.7
baz=216
D20K **Etivluk River** 84.57 6 P P 16 23 24.6 +1.0
baz=196
E22K **Anaktuvuk Pass** 84.58 8 P P 16 23 23.9 +0.2
E22K IAmb IAmb 16 23 25.6
comp=Z,5.9nm,0.9s
E22K **Anaktuvuk Pass** 84.58 8 P P 16 23 24.6 +0.9
baz=201,SNR=8.0
F24K **Squaw Lake** 84.59 10 P P 16 23 23.8 0.0
baz=205
H27K **Steamboat Moun** 84.62 12 P P 16 23 24.3 +0.4
baz=211
B18K **Kokolik River** 84.76 4 P P 16 23 25.5 +1.0
baz=191
G26K **Porcupine Rive** 84.80 11 P P 16 23 24.8 +0.1
baz=208,SNR=11
E23K **Chandalar** 84.82 9 P P 16 23 25.3 +0.3
baz=203
KOTAN **Kotaneelee Air** 84.90 22 P P 16 23 25.0 -0.4
baz=227
I30M **Mount Dempster** 84.94 15 P P 16 23 25.5 -0.1
baz=216
ABTX **Abilene, Hawle** 84.97 54 P P 16 23 25.0 -1.4
baz=248
F25K **Christian Rive** 85.03 10 P P 16 23 26.2 +0.2
baz=207
D22K **Ayikyak River** 85.17 7 P P 16 23 25.8 -0.8
D22K IAmb IAmb 16 23 28.4
comp=Z,6.9nm,0.8s
D22K **Ayikyak River** 85.17 7 P P 16 23 27.7 +1.1
baz=200,SNR=7.8
H29M **Whitestone** 85.29 14 P P 16 23 28.3 +1.1
baz=214
F26K **Sheenjek River** 85.39 11 P P 16 23 28.5 +0.8
baz=208
D23K **Nanushuk River** 85.51 8 P P 16 23 29.2 +0.9
baz=202
E25K **Arctic Village** 85.52 10 P P 16 23 28.7 +0.3
baz=207
EPYK **Eagle Plains** 85.79 14 P P 16 23 30.1 +0.3
baz=215
F28M **Old Crow** 86.14 12 P P 16 23 31.8 +0.4
baz=212
C23K **Itkillik River** 86.33 8 P P 16 23 33.5 +1.2
baz=202
RSSD **Black Hills** 86.33 42 P P 16 23 32.6 -0.6
baz=245
WMOK **Wichita Mounta** 86.40 53 P P 16 23 32.9 -0.6
baz=249
G30M **tAoh Zraii Nji** 86.41 14 P P 16 23 32.8 0.0
G30M IAmb IAmb 16 23 34.1
comp=Z,4.9nm,0.8s
G30M **tAoh Zraii Nji** 86.41 14 P P 16 23 33.3 +0.5
baz=216
C24K **Franklin Bluff** 86.48 8 P P 16 23 33.6 +0.6
baz=204
G31M **Satah River** 86.82 14 P P 16 23 35.5 +0.8
baz=218
F31M **Tsiigehtchic** 87.36 14 P P 16 23 37.8 +0.5
F31M IAmb IAmb 16 23 38.8
comp=Z,8.5nm,0.9s
F31M **Tsiigehtchic** 87.36 14 P P 16 23 38.0 +0.7
baz=218
MAW **Mawson** 87.96 199 P P 16 23 40.9 +0.5
comp=Z,6nm,0.9s,baz=74,slow=17,SNR=1.6
comp=Z,16nm,0.9s
INK **Inuvik** 88.09 14 P P 16 23 41.8 +1.0
baz=218
INK **Inuvik** 88.09 14 LR LR 16 56 25.1
comp=Z,54nm,19.0s,baz=69,slow=31
HHC **Hu-ho-hao-te** 88.89 313 eP P 16 23 45.9 +0.5
HHC pmax pmax
comp=Z,9.0nm,0.8s
HHC pmax pmax
comp=Z,76nm,5.4s
YAK **Yakutsk** 88.94 337 LR LR 16 55 54.6
comp=Z,33nm,21.9s,baz=104,slow=30
YKA **Yellowknife Ar** 89.93 23 P P 16 23 49.5 -0.1
comp=Z,1.3nm,0.9s,baz=238,slow=4.5,SNR=18
YKA LR LR 16 58 17.5
comp=Z,78nm,18.7s,baz=266,slow=32
comp=Z,1.3nm,0.9s
PZH **PanZhiHua** 92.18 297 P P 16 24 01.8 +0.7
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.8s
ELIB **Princess Elisa** 92.31 185 dP P 16 24 00.8 -0.1
A36M **Sachs Harbour** 92.72 13 P P 16 24 01.2 -1.1
A36M IAmb IAmb 16 24 03.7
comp=Z,5.9nm,0.9s
A36M **Sachs Harbour** 92.72 13 P P 16 24 02.8 +0.5
baz=226
LZH **Lanzhou** 93.11 306 eP P 16 24 07.5 +2.3
LZH pP pwP 16 24 32.5 +15
LZH pmax pmax
comp=Z,8.0nm,1.1s
ULM **Lac du Bonnet** 93.80 39 LR LR 16 59 50.9
comp=Z,87nm,20.3s,baz=268,slow=31
GOGA **Godfrey** 98.17 58 P P 16 24 26.3 -1.8
baz=257
TKL **Tuckaleechee C** 98.42 55 LR LR 17 06 01.2
comp=Z,55nm,19.0s,baz=158,slow=34
LONY **Lake Ozonia** 106.76 47 P PKiKP 16 29 13.2 -3.1
baz=265
LBNH **Lisbon** 108.63 48 P PKiKP 16 29 16.6 -3.1
baz=267
VYHS **Vyhne** 145.31 346 ePKP PKPdf 16 30 29.4 +0.8
KHC **Kasperske Hory** 145.70 352 ePKP PKPab 16 30 30.7 +0.7
KHC ex x 16 30 50.0
MLR **Muntele Rosu** 145.70 336 PKPbc PKPab 16 30 30.6 +0.4
comp=Z,6.0nm,0.9s,baz=32,slow=2.1,SNR=5.9
MODS **Modra-Piesok** 145.78 347 ePKP PKPab 16 30 31.5 +1.2
CKRC **Cesky Krumlov** 145.89 351 ePKP PKPab 16 30 30.9 +0.2
GERES **GERESS Array B** 145.96 352 PKPbc PKPbc 16 30 31.1 +0.5
comp=Z,2.7nm,0.7s,baz=19,slow=5.8,SNR=11
BRTR **Keskin Array B** 146.01 321 PKPdf 16 30 29.6 -0.6
BRTR **Keskin Array B** 146.01 321 PKPbc PKPbc 16 30 31.2 +0.2
comp=Z,4.7nm,0.9s,baz=83,slow=2.1,SNR=14
DAVOX **Davos/Dischmat** 148.41 356 PKPbc PKPbc 16 30 37.2 -0.4
comp=Z,3.0nm,0.7s,baz=45,slow=2.9,SNR=4.3
MMAI **Mount Meron Ar** 148.44 309 PKPbc PKPbc 16 30 36.8 -1.2
comp=Z,1.8nm,0.7s,baz=22,slow=4.8,SNR=5.7
ESDC **Sonseca Array** 153.94 19 PKPab PKPab 16 31 03.9 +0.2
comp=Z,1.1nm,0.8s,baz=343,slow=3.8,SNR=3.1

PRE 02 16:26:10.6±1.5, 26°47'S×27°32'E, h2km, ML1.5, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WDLM	**Western Deep L**	**0.10**	**62**	*e*P		Pg	16 26 12.6	-0.1
WDLM				*e*S		Sg	16 26 14.5	+0.5
WDLM				IAML			16 26 15.2	
	comp=Z,137nm,0.1s							
PRYS	**Parys**	**0.45**	**176**	*e*P		Pg	16 26 19.4	+0.1
PRYS				*e*S		Sg	16 26 26.0	+0.8
PRYS				IAML			16 26 29.4	
	comp=Z,16nm,0.2s							
PRYS	**Parys**	**0.45**	**176**	*e*P		Pg	16 26 19.6	+0.3
PRYS				*e*S		Sb	16 26 27.3	-1.4
PRYS				IAML			16 26 29.6	
	comp=Z,18nm,0.4s							
KSR	**Koster**	**0.73**	**328**	*e*P		Pg	16 26 24.7	+0.2
KSR				*e*S		Sb	16 26 35.4	-1.1
KSR				IAML			16 26 42.3	
	comp=Z,46nm,0.1s							

KSR	**Koster**	**0.73 328**	*eP*	Pg	16 26 24.4	-0.2
KSR			*eS*	Sb	16 26 36.0	-0.5
KSR			IAML		16 26 43.1	
	comp=Z,62nm,0.1s					
SNKL	**Senekal, Frees**	**1.84 168**	*eP*	Pn	16 26 42.6	-0.8
SNKL			*eS*	Sn	16 27 06.9	-0.5
SNKL			IAML		16 27 09.5	
	comp=Z,13nm,0.5s					
SWZ	**Schweizer**	**1.91 248**	*eP*	Pb	16 26 46.2	-0.2
SWZ			*eS*	Sg	16 27 13.6	+1.4
SWZ			IAML		16 27 24.7	
	comp=Z,5.6nm,0.3s					
LBTB	**Lobatse**	**2.13 313**	*eP*	Pn	16 26 48.6	+1.3
LBTB			*eS*	Sn	16 27 14.3	-0.1
LBTB			IAML		16 27 20.2	
	comp=Z,16nm,0.2s					
LBTB	**Lobatse**	**2.13 313**	*eP*	Pb	16 26 48.6	-1.3
LBTB			*eS*	Sb	16 27 17.3	+0.4
LBTB			IAML		16 27 20.2	
	comp=Z,16nm,0.2s					
LEPH	**Lephalale, Lim**	**2.64 9**	*eP*	Pn	16 26 53.4	-0.9
LEPH			*eS*	Sn	16 27 27.8	+0.9
LEPH			IAML		16 27 29.1	
	comp=Z,3.4nm,0.3s					
LEPH	**Lephalale, Lim**	**2.64 9**	*eP*	Pn	16 26 51.7	-2.6
LEPH			*eS*	Sn	16 27 23.5	-3.4
LEPH			IAML		16 27 29.4	
	comp=Z,3.4nm,0.3s					
BOSA	**Boshof**	**2.81 220**	*eP*	Pn	16 26 56.7	0.0
BOSA			*eS*	Sn	16 27 32.3	+0.9
BOSA			IAML		16 27 49.6	
	comp=Z,1.5nm,0.3s					
BOSA	**Boshof**	**2.81 220**	*eP*	Pn	16 26 57.9	+1.2
BOSA			*eS*	Sb	16 27 35.0	-1.7
BOSA			IAML		16 27 50.0	
	comp=Z,1.5nm,0.3s					

IDC ***02*** *16:34:21.9±1.2,21°.49S×68°.79W,h0km,mb3.7/2, mbtmp3.6/3,ML4.0/1,MS3.9/4,Error ellipse: s-maj=63.5km s-min=38.7km az=109.0*
VAO ***02*** *16:34:32.1±0.6,21°.46S×68°.50W,h10km,mb4.4*
SJA ***02*** *16:34:33.8±0.6,21°.81S×68°.82W,h112km±3km,ML3.7, MW3.7*
GUC ***02*** *16:34:35.2±0.6,21°.77S×68°.67W,h97km±3km,ML3.8*
ISC 02 16:34:34.0±0.7,21°.77S±0°.03×68°.73W±0°.05,h105km±6km, n56,σ1°.41/72,9C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.48 266**		*eP*	**Pn**	**16 34 51.2**	**+0.7**
PB09				*eS*	**Sn**	**16 35 03.8**	**+1.1**
PB09				IAML		16 35 04.5	
	comp=Z,3μm,0.2s						
PB09	**IPOC Station P**	**0.48 266**	⇑	*iP*	**Pn**	**16 34 51.1**	**+0.7**
PB09				*i*S	**Sn**	**16 35 03.6**	**+0.9**
PB09				IAML		16 35 04.8	
	comp=N,3μm,0.2s						
LVC	**Limon Verde**	**0.86 191**		*eP*	**Pn**	**16 34 54.5**	**+0.7**
LVC				*eS*	**Sn**	**16 35 09.7**	**+1.0**
LVC	**Limon Verde**	**0.86 191**		*eP*	**Pn**	**16 34 54.1**	**+0.3**
LVC				*i*S	**Sn**	**16 35 09.0**	**+0.3**
LVC				IAML		16 35 09.7	
	comp=N,9μm,0.4s						
LVC	**Limon Verde**	**0.86 191**		*eP*	**Pn**	**16 34 54.5**	**+0.7**
PB01	**IPOC Station P**	**1.01 315**		*eP*	**Pn**	**16 34 55.7**	**+0.7**
PB01				IAML		16 35 13.3	
	comp=Z,1μm,0.2s						
PB01	**IPOC Station P**	**1.01 315**		*eP*	**Pn**	**16 34 55.5**	**+0.5**
PB01				*i*S	**Sn**	**16 35 11.1**	**+0.2**
PB01				IAML		16 35 14.2	
	comp=E,2μm,0.2s						
PB07	**IPOC Station P**	**1.08 272**		*eP*	**Pn**	**16 34 56.4**	**+0.6**
PB07				*eS*	**Sn**	**16 35 13.8**	**+1.5**
PB07				IAML		16 35 14.8	
	comp=Z,1μm,0.2s						
PB07	**IPOC Station P**	**1.08 272**	⇑	*iP*	**Pn**	**16 34 56.3**	**+0.5**
PB07				*i*S	**Sn**	**16 35 12.7**	**+0.4**
PB07				IAML		16 35 15.3	
	comp=E,2μm,0.1s						
PB02	**IPOC Station P**	**1.17 292**		*eP*	**Pn**	**16 34 57.4**	**+0.6**
PB02				*eS*	**Sn**	**16 35 14.9**	**+0.9**
PB02				IAML		16 35 15.5	
	comp=Z,2μm,0.4s						
PB02	**IPOC Station P**	**1.17 292**	⇑	*iP*	**Pn**	**16 34 57.3**	**+0.4**
PB02				*i*S	**Sn**	**16 35 14.3**	**+0.2**
PB02				IAML		16 35 19.5	
	comp=E,2μm,0.2s						
PB06	**IPOC Station P**	**1.22 220**		*eP*	**Pn**	**16 34 58.2**	**+0.7**
PB06				IAML		16 35 17.8	
	comp=Z,577nm,0.3s						
PB06	**IPOC Station P**	**1.22 220**	⇑	*iP*	**Pn**	**16 34 58.1**	**+0.7**
PB06				*i*S	**Sn**	**16 35 16.1**	**+1.0**
PB06				IAML		16 35 17.8	
	comp=E,2μm,0.1s						
AF01	**San Pedro de A**	**1.29 157**		*eP*	**Pn**	**16 35 00.1**	**+1.7**
AF01				*i*S	**Sn**	**16 35 16.4**	**-0.3**
AF01				IAML		16 35 36.9	
	comp=E,976nm,0.5s						
PB04	**IPOC Station P**	**1.44 246**		*eP*	**Pn**	**16 34 59.8**	**-0.1**
PB04				IAML		16 35 27.3	
	comp=Z,684nm,0.2s						
PB04	**IPOC Station P**	**1.44 246**	⇑	*iP*	**Pn**	**16 35 00.4**	**+0.5**
PB04				*i*S	**Sn**	**16 35 20.1**	**+0.5**
PB04				IAML		16 35 27.9	
	comp=E,1μm,0.3s						
PB15	**IPOC Station P**	**1.59 205**		*eS*	**Pn**	**16 35 03.2**	**+1.3**
PB15				IAML		16 35 29.5	
	comp=Z,3μm,0.2s						
PB15	**IPOC Station P**	**1.59 205**	⇑	*iP*	**Pn**	**16 35 02.9**	**+1.0**
PB15				*i*S	**Sn**	**16 35 24.8**	**+1.8**
PX03	**IPOC Station P**	**1.59 328**		*eP*	**Pn**	**16 35 02.5**	**+0.7**
PX03				*i*S	**Sn**	**16 35 23.8**	**+0.8**
PX03				IAML		16 35 26.9	
	comp=N,1μm,0.2s						
PATCX	**Punta Patache**	**1.63 305**	⇑	*iP*	**Pn**	**16 35 02.9**	**+0.7**
PATCX				*i*S	**Sn**	**16 35 23.9**	**+0.3**
PATCX				IAML		16 35 28.7	
	comp=E,3μm,0.5s						
PB08	**IPOC Station P**	**1.66 346**		*eP*	**Pn**	**16 35 05.0**	**+2.1**
PB08	**IPOC Station P**	**1.66 346**		*eP*	**Pn**	**16 35 04.9**	**+1.9**
PB08				*i*S	**Sn**	**16 35 27.4**	**+2.5**
TA01	**Diego Aracena**	**1.81 311**		*eP*	**Pn**	**16 35 05.0**	**+0.7**
TA01				IAML		16 35 33.8	
	comp=Z,295nm,0.3s						
TA01	**Diego Aracena**	**1.81 311**	⇑	*iP*	**Pn**	**16 35 04.7**	**+0.4**
TA01				*i*S	**Sn**	**16 35 26.6**	**-0.8**
TA01				IAML		16 35 32.6	
	comp=E,1μm,0.3s						
TA02	**Huaiquique**	**1.98 318**		*eP*	**Pn**	**16 35 07.0**	**+0.5**
TA02				IAML		16 35 41.8	
	comp=Z,547nm,0.7s						
TA02	**Huaiquique**	**1.98 318**		*eP*	**Pn**	**16 35 08.2**	**+1.7**
TA02				*i*S	**Sn**	**16 35 31.7**	**+0.3**
TA02				IAML		16 35 40.5	
	comp=N,976nm,0.2s						
GO01	**Chusmiza**	**2.13 348**		*eP*	**Pn**	**16 35 10.8**	**+1.9**
GO01	**Chusmiza**	**2.13 348**		*eP*	**Pn**	**16 35 10.6**	**+1.7**
GO01				*i*S	**Sn**	**16 35 38.7**	**+3.1**
GO01				IAML		16 35 44.5	
	comp=N,572nm,0.2s						
PB11	**IPOC Station P**	**2.17 336**		*eP*	**Pn**	**16 35 10.2**	**+1.0**
PB11				IAML		16 35 42.1	
	comp=Z,210nm,0.2s						
PB11	**IPOC Station P**	**2.17 336**		*eP*	**Pn**	**16 35 09.9**	**+0.7**
PB11				*i*S	**Sn**	**16 35 36.3**	**+0.2**
PB11				IAML		16 35 42.9	
	comp=E,723nm,0.2s						
YJA	**Yavi**	**3.01 98**		*eP*	**Pn**	**16 35 23.4**	**+3.0**
PB14	**IPOC Station P**	**3.24 208**		*eP*	**Pn**	**16 35 23.4**	**+0.1**
PB14				IAML		16 36 09.9	
	comp=Z,183nm,0.6s						
GO02	**Mina Guanaco**	**3.47 193**		*eP*	**Pn**	**16 35 26.8**	**+0.3**
GO02	**Mina Guanaco**	**3.47 193**	⇑	*iP*	**Pn**	**16 35 26.4**	**-0.1**
PB12	**IPOC Station P**	**3.48 334**		*eP*	**Pn**	**16 35 25.8**	**-0.6**
PB12				IAML		16 36 20.8	
	comp=Z,136nm,0.5s						
PB12	**IPOC Station P**	**3.48 334**		*eP*	**Pn**	**16 35 25.5**	**-0.8**
PB16	**IPOC Station P**	**3.49 348**		*eP*	**Pn**	**16 35 29.3**	**+2.3**
AC01	**Pan de Azucar**	**4.69 201**		*eP*	**Pn**	**16 35 41.0**	**-1.6**
AC01				IAML		16 36 53.6	
	comp=Z,109nm,0.6s						
AC02	**Maricunga**	**5.06 184**		*eP*	**Pn**	**16 35 49.0**	**+1.0**
AC02				IAML		16 37 03.3	
	comp=Z,33nm,0.7s						
BBSD	**Serra de San D**	**8.91 61**		*eP*	**Pn**	**16 36 37.5**	**-2.4**
BBRB	**Robore, Bolivi**	**9.07 69**		*eP*	**Pn**	**16 36 38.7**	**-3.4**
MURT	**Porto Murtinho**	**10.34 91**		*eP*	**Pn**	**16 36 56.5**	**-2.7**
PTLB	**Pontes e Lacer**	**11.05 57**		*eP*	**Pn**	**16 37 06.4**	**-2.6**
BDQN	**Bodoquena, MS**	**11.26 85**		*eP*	**Pn**	**16 37 08.8**	**-3.0**
ANTJ	**Antonio Joao (**	**11.82 93**		*eP*	**Pn**	**16 37 18.3**	**-0.9**
ETMB	**Extrema**	**12.12 12**		*eP*	**Pn**	**16 37 19.8**	**-3.5**
PLCA	**Paso Flores**	**18.97 184**		P	**Pn**	**16 38 49.2**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=356,slow=19,SNR=3.0 comp=Z,1.2nm,0.7s						
RCBR	**Riachuelo**	**35.48 68**		LR	LR	16 57 23.9	
	comp=Z,270nm,19.1s,baz=58,slow=39						
JTS	**Las Juntas de**	**35.62 332**		LR	LR	16 55 05.8	
	comp=Z,43nm,18.2s,baz=148,slow=35						
TORD	**Torodi Ar. Bea**	**77.29 70**		P	**P**	**16 46 18.5**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=253,slow=5.4,SNR=7.0 comp=Z,0.4nm,0.5s						
BOSA	**Boshof**	**83.17 118**		LR	LR	17 20 03.0	
	comp=Z,90nm,18.6s,baz=198,slow=33						
LSZ	**Lusaka**	**90.66 107**		LR	LR	17 25 58.0	
	comp=Z,71nm,18.2s,baz=162,slow=34						
YKA	**Yellowknife Ar**	**91.49 341**		P	**P**	**16 47 29.2**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=143,slow=5.2,SNR=2.3 comp=Z,0.2nm,0.5s						
ASAR	**Alice Springs**	**129.76 207**		PKP	**PKiKP**	**16 53 33.0**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=145,slow=1.5,SNR=6.4						
WRA	**Warramunga Arr**	**132.81 210**		PKP	**PKiKP**	**16 53 39.4**	**+0.7**
	comp=Z,0.5nm,1.0s,baz=147,slow=2.0,SNR=2.2						
MKAR	**Makanchi Array**	**145.75 36**		PKPbc	**PKPab**	**16 54 01.9**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=292,slow=3.2,SNR=5.6						

JMA 02 16:34:53.2±0.2,24°.2N±0°.3×123°.8E±0°.5,h13km±2km, MV1.0/8,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.12 320**		P	Pg	16 34 56.4	0.0
IRIF				*e*S	Sg	16 34 59.2	+0.5
JKRS	**Kuro-shima**	**0.18 92**		*i* P	Pg	16 34 57.5	+0.1
HATJ	**Hateruma jima**	**0.19 182**		P	Pg	16 34 57.5	0.0
HATJ				*e*S	Sg	16 35 00.3	-0.1
JIJ	**Ishigaki jima**	**0.32 68**		P	Pg	16 34 59.6	-0.2
JIJ				*e*S	Sg	16 35 04.3	0.0
JISG	**Ishigakijimahi**	**0.57 53**		*e*P	Pg	16 35 04.5	+0.1
JISG				*e*S	Sg	16 35 12.4	+0.5
JTJ	**Tarama**	**0.90 64**		*e*S	Sb	16 35 22.9	+0.3

TAP 02 16:35:28.5,24°.15N×121°.72E,h14km,ML1.9,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETL	**Fush Village**	**0.09 274**		*i* P	Pg	16 35 32.0	+0.5
	baz=274						
ETL				*i* S	Sg	16 35 34.7	+1.1
	baz=274						
NACB	**Ninganchiao**	**0.12 281**		*i* P	Pb	16 35 32.3	-0.2
	baz=280						
NACB				*i* S	Sb	16 35 35.1	0.0
	baz=280						
TWD	**Chiawan**	**0.14 238**		P	Pb	16 35 32.5	-0.3
	baz=236						
TWD				S	Sb	16 35 35.5	-0.2
	baz=236						
EAHA	**Aohua**	**0.18 5**		*i* S	Sb	16 35 36.7	-0.2
	baz=5.0						
HWA	**Hwalien**	**0.20 211**		*e*P	Pb	16 35 34.0	+0.1
	baz=209						
ETLH	**Xiulin Townshi**	**0.23 284**		*i* P	Pb	16 35 34.2	-0.2
	baz=284						
ETLH				S	Sb	16 35 38.3	-0.1
	baz=284						
ENA	**Nanau**	**0.28 4**		P	Pb	16 35 35.0	-0.2
	baz=5.0						
ENA				S	Sb	16 35 39.5	-0.3
	baz=5.0						
ETM	**Tongmen**	**0.28 228**		P	Pb	16 35 34.9	-0.4
	baz=228						
ETM				S	Sb	16 35 39.3	-0.5
	baz=228						
EWUT	**Wuta**	**0.30 10**		P	Pb	16 35 35.6	0.0
	baz=10.0						
EWUT				S	Sb	16 35 39.9	-0.5
	baz=10.0						
LXIB	**Xiulin Townshi**	**0.31 245**		P	Pb	16 35 35.4	-0.5
	baz=245						
LXIB				S	Sb	16 35 40.7	-0.2
	baz=245						
SHUL	**Shoufeng**	**0.39 202**		*e*P	Pn	16 35 38.8	-0.8
	baz=201						
SHUL				S	Sn	16 35 45.1	-1.8
	baz=201						
NNSB	**Datong**	**0.41 312**		P	Pb	16 35 37.6	0.0
	baz=311						
NNSB				S	Sb	16 35 44.0	+0.2
	baz=311						
WHF	**Hehuan Shan**	**0.42 269**		P	Pb	16 35 37.8	-0.1
	baz=268						
WHF				S	Sb	16 35 44.3	+0.1
	baz=268						
LATG	**Datong**	**0.42 335**		P	Pb	16 35 37.7	0.0
	baz=335						
LATG				S	Sb	16 35 44.1	+0.1
	baz=335						
ESL	**Shilin**	**0.43 218**		*i* P	Pg	16 35 37.3	+0.3
	baz=217						
NNS	**Nan Shan**	**0.43 312**		P	Pb	16 35 38.0	+0.1
	baz=312						
NNS				S	Sb	16 35 44.4	+0.2
	baz=312						
ESAO	**Su ao**	**0.44 15**		S	Sb	16 35 44.2	-0.2
	baz=14						
TWC	**Suao**	**0.47 14**		*e*S	Sb	16 35 45.5	+0.2
	baz=15						
NDS	**Dongshan**	**0.48 359**		P	Pb	16 35 38.9	+0.1
	baz=359						
NDS				S	Sb	16 35 46.5	+0.9
	baz=359						
NDT	**Datong Townshi**	**0.49 337**		P	Pb	16 35 39.2	+0.3
	baz=337						
NDT				S	Sb	16 35 46.5	+0.6
	baz=337						
ENTT	**Nioudou**	**0.51 344**		P	Pb	16 35 39.3	+0.1
	baz=344						
ENTT				S	Sb	16 35 46.9	+0.5
	baz=344						
CHGB	**Renai**	**0.51 260**		*i* P	Pb	16 35 39.5	+0.2
	baz=259						
CHGB				*i* S	Sb	16 35 46.6	0.0
	baz=259						
WARBT	**Fenglin Townsh**	**0.53 215**		P	Pg	16 35 39.0	0.0
	baz=215						
OWD	**Renai**	**0.54 249**		*e*P	Pb	16 35 39.8	+0.1
	baz=248						
OWD				*e*S	Sb	16 35 47.3	-0.1
	baz=248						
WUSB	**Renai**	**0.57 254**		P	Pb	16 35 40.7	+0.3
	baz=253						
WUSB				S	Sb	16 35 48.6	+0.1
	baz=253						
YHNB	**Yeheng**	**0.60 329**		P	Pb	16 35 41.2	+0.3
	baz=328						
YHNB				S	Sb	16 35 49.9	+0.6
	baz=328						
FUSB	**Fushanzhiwuyua**	**0.62 349**		*e*P	Pb	16 35 41.5	+0.4
	baz=348						
FUSB				*e*S	Sb	16 35 50.2	+0.5
	baz=348						
NSK	**Sanguang**	**0.62 328**		P	Pb	16 35 41.7	+0.6
	baz=328						
NSK				S	Sb	16 35 50.3	+0.7
	baz=328						
NWLT	**Wulai**	**0.65 342**		*e*P	Pb	16 35 42.1	+0.4
	baz=342						
NWLT				*e*S	Sb	16 35 51.1	+0.5
	baz=342						
VWDT	**VWDT**	**0.66 233**		*e*S	Sn	16 35 52.2	-1.4
	baz=233						
SSLB	**Suanglung**	**0.79 243**		*e*P	Pb	16 35 44.4	+0.4
	baz=242						
SSLB				*e*S	Sb	16 35 54.8	+0.2
	baz=242						

IDC 02 16:37:25.5±1.9,6°.61S×142°.73E,h0km,mb3.4/1, mbtmp3.1/4,ML2.8/2,MS2.6/1,Error ellipse: s-maj=34.9km s-min=29.7km az=62.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.19 123**		Pn	Pn	16 38 44.8	+0.3
	1.7nm,0.4s,baz=96,slow=23,SNR=1.4						
PMG				Sn	Sn	16 39 47.1	+1.9
	0.7nm,0.3s,baz=19,slow=18,SNR=2.1						
PMG				LR	LR	16 41 04.9	
	comp=Z,62nm,18.4s,baz=231,slow=42						
WRA	**Warramunga Arr**	**15.56 211**		Pn	Pn	16 41 07.3	+0.8
	baz=33,slow=13,SNR=1.0						
WRA				Lg	Lg	16 45 39.3	
	baz=37,slow=26,SNR=1.3 0.1nm,0.5s						
ASAR	**Alice Springs**	**18.96 206**		P	P	16 41 48.0	-0.6
	baz=33,slow=10,SNR=2.2 0.3nm,0.7s						
MKAR	**Makanchi Array**	**75.31 322**		P	P	16 49 10.7	0.0
	0.3nm,0.7s,baz=112,slow=6.4,SNR=3.5 0.3nm,0.7s						

WEL 02 16:40:23.2±1.4,36°.S±8°.×17°.9E±1°.1,h33km,M3.3/21, ML3.5/23,MLv3.3/21,Error ellipse: s-maj=0.0km s-min=0.0km az=64.2,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.26 197**		P	Pn	16 40 44.1	-0.4
WMGZ	**Waiomatatini S**	**1.49 191**		P	Pn	16 40 48.6	+0.9
HAZ	**Te Kaha**	**1.61 209**		P	Pn	16 40 48.6	-0.7
PKGZ	**Pakihiroa**	**1.63 200**		P	Pn	16 40 49.9	+0.3
PUZ	**Puketiti**	**1.76 194**		P	Pn	16 40 51.5	+0.1
PUZ				S	Sb	16 41 17.1	+0.4
RUGZ	**Raukumara Rang**	**1.83 208**		P	Pn	16 40 52.3	-0.2
RUGZ				S	Sn	16 41 14.9	+0.3
TWGZ	**Tauwhareparae**	**1.93 199**		P	Pn	16 40 54.0	+0.3
CNGZ	**Carnagh Statio**	**2.17 192**		P	Pn	16 40 56.9	-0.2
TKGZ	**Te Karaka**	**2.21 199**		P	Pn	16 40 57.1	-0.4
MWZ	**Matawai**	**2.21 206**		P	Pn	16 40 57.6	0.0
URZ	**Urewera**	**2.32 214**		P	Pn	16 40 58.5	-0.5
URZ				S	Sn	16 41 24.7	-1.7
MARZ	**Manawahe**	**2.34 225**		P	Pn	16 40 59.0	-0.3
EDRZ	**Edgecumbe**	**2.39 222**		P	Pn	16 41 00.2	+0.2
RAGZ	**Rawiri**	**2.40 207**		P	Pn	16 41 00.0	-0.2
TGRZ	**Tauranga**	**2.44 235**		P	Pn	16 41 00.6	0.0
RIGZ	**Rimuhau**	**2.48 199**		P	Pn	16 41 00.5	-0.8
LIRZ	**Lichensteins R**	**2.52 229**		P	Pn	16 41 02.6	+0.7
OMRZ	**Omania**	**2.60 227**		P	Pn	16 41 03.2	+0.3
TARZ	**Mount Tarawera**	**2.61 223**		P	Pn	16 41 04.7	+1.5
KARZ	**Kaharoa**	**2.62 230**		P	Pn	16 41 03.2	0.0
MUGZ	**Murupara**	**2.65 216**		P	Pn	16 41 03.1	-0.6
RTZ	**Ruatahuna**	**2.67 212**		P	Pn	16 41 03.2	-0.8
SNGZ	**Shannon Statio**	**2.68 205**		P	Pn	16 41 03.4	-0.6
RRRZ	**Republican Roa**	**2.68 222**		P	Pn	16 41 04.8	+0.8
HLRZ	**Highlands Stat**	**2.71 225**		P	Pn	16 41 04.8	+0.4
RAHZ	**Arahi**	**2.89 207**		P	Pn	16 41 06.1	-0.7
MTHZ	**Maungataniwha**	**2.93 211**		P	Pn	16 41 06.5	-1.0
TOZ	**Tahuroa Road**	**2.96 241**		P	Pn	16 41 08.2	+0.4
WHHZ	**Waihua**	**2.98 204**		P	Pn	16 41 07.2	-0.9
MKAZ	**Moumakai**	**3.00 255**		P	Pn	16 41 09.0	+0.6
NMHZ	**Naumai**	**3.15 209**		P	Pn	16 41 09.6	-0.9
ETAZ	**East Tamaki Re**	**3.15 258**		P	Pn	16 41 11.6	+1.1
ARHZ	**Aropaoanui**	**3.23 205**		P	Pn	16 41 09.9	-1.6
TLZ	**Tolley Road**	**3.25 232**		P	Pn	16 41 12.6	+0.7
BKZ	**Black Stump Fm**	**3.34 212**		P	Pn	16 41 12.0	-1.2
MCHZ	**McNeill Hill**	**3.50 207**		P	Pn	16 41 13.9	-1.4
KWHZ	**Kaweka Forest**	**3.59 211**		P	Pn	16 41 14.2	-2.3
TMVZ	**Te Maari**	**3.68 221**		P	Pn	16 41 17.2	-0.7
NTVZ	**North Tongarir**	**3.68 221**		P	Pn	16 41 17.4	-0.5
ETVZ	**East Tongariro**	**3.69 220**		P	Pn	16 41 17.1	-0.9
OTVZ	**Oturere**	**3.73 220**		P	Pn	16 41 17.8	-0.9
NNVZ	**North Ngauruho**	**3.74 221**		P	Pn	16 41 20.4	+1.7
WTVZ	**West Tongariro**	**3.74 222**		P	Pn	16 41 20.7	+2.0
KAHZ	**Kahuranaki**	**3.75 203**		P	Pn	16 41 16.2	-2.6
NGZ	**Ngauruhoe**	**3.78 221**		P	Pn	16 41 18.8	-0.5
TWVZ	**Taurewa**	**3.79 223**		P	Pn	16 41 21.5	+2.1
HIZ	**Hauiti**	**3.79 234**		P	Pn	16 41 20.0	+0.7
KRHZ	**Kereru**	**3.79 209**		P	Pn	16 41 16.5	-2.8
BHHZ	**Black Hill Sta**	**3.79 214**		P	Pn	16 41 17.3	-2.1
FWVZ	**Far West T-bar**	**3.86 220**		P	Pn	16 41 20.5	0.0
MOVZ	**Moawhango**	**3.87 217**		P	Pn	16 41 18.5	-2.0
TRVZ	**Turoa**	**3.90 220**		P	Pn	16 41 20.3	-0.6
MTVZ	**Mangateitei**	**4.00 220**		P	Pn	16 41 20.7	-1.5
PNHZ	**Pukenui**	**4.09 209**		P	Pn	16 41 19.8	-3.6
WPHZ	**Waipukurau**	**4.14 206**		P	Pn	16 41 21.3	-2.8
VRZ	**Vera Road**	**4.22 228**		P	Pn	16 41 23.4	-1.8
PRHZ	**Porangahau**	**4.25 203**		P	Pn	16 41 22.0	-3.6
TSZ	**Takapari Road**	**4.31 210**		P	Pn	16 41 22.7	-3.8
NEZ	**North Egmont**	**4.71 230**		P	Pn	16 41 34.7	+2.7
BFZ	**Birch Farm**	**4.75 204**		P	Pn	16 41 28.1	-4.4
OGWZ	**Otaki Gorge**	**5.28 211**		P	Pn	16 41 35.8	-3.9

DJA ***02*** *16:51:49.4±1.8,7°.N±14°.×12°.8E±1°.0,h10km,M4.5/9, mB5.0/4,mb4.4/9,MLv4.6/6,Mw(mB)4.4/4*
IDC ***02*** *16:52:14.2±1.0,4°.59N×125°.45E,h0km,mb3.6/5, mbtmp3.7/6,ML4.1/1,MS2.6/1,Error ellipse: s-maj=64.3km s-min=18.0km az=74.0*
ISC 02 16:52:13.9±1.1,5°.4N±0°.1×127°.2E±0°.1,h10km,n14, σ1°.15/16,mb3.5/5,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.31 315**		Pn	**Pb**	**16 52 56.3**	**+0.6**
	38nm,0.3s,baz=186,slow=3.2,SNR=4.9						
DAV				Sn	**Sg**	**16 53 28.1**	**-0.2**
	49nm,0.3s,baz=271,slow=21,SNR=6.2						
DAV				LR	LR	16 54 07.2	
	comp=Z,112nm,20.6s,baz=124,slow=46 120nm,0.3s						
SGSI	**Sangihe**	**2.44 224**		P	**Pn**	**16 52 53.4**	**-0.3**
TNTI	**Ternate**	**4.64 178**		P	**Pn**	**16 53 25.2**	**+1.1**
	27nm,0.8s,0.2nm						
LBMI	**

IDC 02 17:02:24.2±6.3, 6°30S×143°14E, h0km, mb3.4/1, mbtmp3.3/3, ML3.1/2, Error ellipse: s-maj=213.1km s-min=38.0km az=97.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.04**	**128**	Sn	Sn	17 04 31.7	-8.4
	0.3nm,0.3s,baz=256,slow=20,SNR=1.4						
WRA	**Warramunga Arr**	**16.04**	**211**	Pn	Pn	17 06 10.3	-1.0
	0.1nm,0.3s,baz=30,slow=12,SNR=2.1						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**19.42**	**206**	P	P	17 06 52.5	+0.2
	baz=37,slow=9.1,SNR=7.5						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**75.32**	**322**	P	P	17 14 09.6	+0.2
	0.3nm,0.8s,baz=134,slow=4.2,SNR=2.4						
	0.3nm,0.8s						

TAP 02 17:04:24.8, 24°44N×121°76E, h19km±1km, ML1.3, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.01**	**74**	*i* P	Pg	17 04 28.4	+0.3
	baz=72						
EWUT				*i* S	Sg	17 04 31.2	+0.9
	baz=72						
ENA	**Nanau**	**0.02**	**236**	P	Pg	17 04 28.4	+0.3
	baz=220						
ENA				S	Sg	17 04 31.0	+0.6
	baz=220						
ESAO	**Su ao**	**0.15**	**29**	S	Sg	17 04 32.9	+0.7
	baz=28						
TWC	**Suao**	**0.18**	**25**	*i* P	Pg	17 04 30.1	+0.5
	baz=28						
TWC				*i* S	Sg	17 04 33.9	+0.9
	baz=28						
NDS	**Dongshan**	**0.20**	**348**	*e*S	Sg	17 04 34.6	+1.4
	baz=347						
LATG	**Datong**	**0.23**	**294**	P	Pg	17 04 31.4	+1.0
	baz=293						
LATG				*e*S	Sg	17 04 35.5	+1.2
	baz=293						
ENTT	**Nioudou**	**0.27**	**318**	*e*P	Pg	17 04 31.7	+0.8
	baz=318						
ENTT				S	Sg	17 04 36.3	+1.3
	baz=318						
NDT	**Datong Townshi**	**0.28**	**305**	S	Sg	17 04 36.5	+1.2
	baz=305						
TWE	**Neicheng**	**0.29**	**343**	P	Pb	17 04 32.1	+0.7
	baz=345						
NNSB	**Datong**	**0.35**	**268**	*e*P	Pb	17 04 32.8	+0.4
	baz=268						
NNSB				*e*S	Sb	17 04 37.6	-0.1
	baz=268						
FUSB	**Fushanzhiwuyua**	**0.35**	**333**	*e*S	Sb	17 04 38.8	+0.9
	baz=333						
NNS	**Nan Shan**	**0.35**	**270**	*e*S	Sb	17 04 38.1	+0.2
	baz=269						
YHNB	**Yeheng**	**0.42**	**303**	*e*P	Pb	17 04 34.3	+0.6
	baz=302						
YHNB				*e*S	Sb	17 04 40.4	+0.6
	baz=302						
NSK	**Sanguang**	**0.44**	**303**	*e*S	Sb	17 04 40.7	+0.5
	baz=302						
FUSS	**Fushou**	**0.51**	**248**	*e*S	Sb	17 04 42.6	+0.2
	baz=247						

JMA 02 17:04:46.6±0.2, 24°3N±0°4×123°8E±0°5, h13km±2km, MV1.0/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.13**	**313**	*e*P	Pg	17 04 49.9	+0.1
JKRS	**Kuro-shima**	**0.16**	**94**	P	Pg	17 04 50.5	+0.1
HATJ	**Hateruma jima**	**0.19**	**187**	P	Pg	17 04 50.8	-0.1
HATJ				*e*S	Sg	17 04 54.1	+0.3
JIJ	**Ishigaki jima**	**0.31**	**68**	*e*P	Pg	17 04 52.7	-0.2
JIJ				*e*S	Sg	17 04 57.1	0.0
JISG	**Ishigakijimahi**	**0.55**	**52**	*e*P	Pg	17 04 57.6	+0.2
JISG				*e*S	Sg	17 05 05.3	+0.6

JMA 02 17:16:12.6±0.2, 24°2N±0°5×123°9E±0°6, h14km±1km, MV0.4/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKRS	**Kuro-shima**	**0.14**	**93**	P	Pg	17 16 16.3	0.0
JKRS				*e*S	Sg	17 16 18.9	+0.2
IRIF	**Iriomote-Funau**	**0.15**	**308**	S	Sg	17 16 19.0	+0.1
HATJ	**Hateruma jima**	**0.19**	**194**	P	Pg	17 16 16.9	-0.1
HATJ				*e*S	Sg	17 16 20.3	+0.3
JIJ	**Ishigaki jima**	**0.29**	**66**	P	Pg	17 16 18.4	-0.2
JIJ				S	Sg	17 16 22.6	-0.1
JISG	**Ishigakijimahi**	**0.54**	**50**	P	Pg	17 16 23.3	+0.1
JISG				*e*S	Sb	17 16 30.9	-0.5

TAP 02 17:16:14.1, 24°29N×121°73E, h15km, ML2.2, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAHA	**Aohua**	**0.04**	**14**	*i* P	Pg	17 16 17.5	+0.6
	baz=14						
EAHA				*i* S	Sg	17 16 19.8	+1.1
	baz=14						
ENA	**Nanau**	**0.14**	**5**	*i* P	Pb	17 16 18.3	-0.1
	baz=7.0						
ENA				S	Sb	17 16 21.3	+0.1
	baz=7.0						
EWUT	**Wuta**	**0.16**	**16**	P	Pb	17 16 18.6	-0.2
	baz=16						
EWUT				S	Sb	17 16 21.7	-0.2
	baz=16						
ETL	**Fush Village**	**0.16**	**216**	*e*P	Pg	17 16 18.4	+0.2
	baz=216						
ETLH	**Xiulin Townshi**	**0.24**	**250**	*e*P	Pb	17 16 20.3	+0.1
	baz=249						
ETLH				S	Sb	17 16 24.0	-0.3
	baz=249						
TWD	**Chiawan**	**0.24**	**210**	P	Pg	17 16 19.7	+0.3
	baz=208						
TWD				S	Sb	17 16 23.7	-0.6
	baz=208						
ESAO	**Su ao**	**0.30**	**20**	P	Pb	17 16 20.9	-0.4
	baz=20						
LATG	**Datong**	**0.30**	**323**	P	Pb	17 16 21.3	-0.1
	baz=322						
LATG				S	Sb	17 16 26.4	+0.2
	baz=322						
HWA	**Hwalien**	**0.33**	**200**	*e*P	Pb	17 16 22.0	+0.3
	baz=198						
TWC	**Suao**	**0.34**	**19**	P	Pb	17 16 21.5	-0.3
	baz=20						
TWC				*e*S	Sb	17 16 26.9	0.0
	baz=20						
NDS	**Dongshan**	**0.34**	**358**	*e*P	Pb	17 16 21.8	-0.1
	baz=358						
NNSB	**Datong**	**0.34**	**293**	P	Pb	17 16 22.2	+0.2
	baz=293						
NNSB				S	Sb	17 16 27.5	+0.1
	baz=293						
NNS	**Nan Shan**	**0.36**	**295**	P	Pb	17 16 22.3	+0.1
	baz=294						
NNS				S	Sb	17 16 27.7	0.0
	baz=294						
NDT	**Datong Townshi**	**0.37**	**328**	*e*P	Pb	17 16 22.5	+0.1
	baz=327						
ENTT	**Nioudou**	**0.38**	**337**	P	Pb	17 16 22.5	0.0
	baz=337						
ENTT				*e*S	Sb	17 16 28.4	+0.2
	baz=337						
ETM	**Tongmen**	**0.39**	**214**	*e*P	Pb	17 16 22.4	-0.3
	baz=213						
LXIB	**Xiulin Townshi**	**0.39**	**227**	*e*P	Pb	17 16 22.5	-0.4
	baz=226						
LXIB				*e*S	Sb	17 16 28.8	+0.1
	baz=226						
TWE	**Neicheng**	**0.43**	**352**	P	Pb	17 16 23.5	0.0
	baz=354						
TWE				*e*S	Sb	17 16 30.2	+0.5
	baz=354						
FUSS	**Fushou**	**0.45**	**265**	*e*P	Pb	17 16 24.0	+0.2
	baz=264						
FUSS				*e*S	Sb	17 16 30.6	+0.3
	baz=264						
WHF	**Hehuan Shan**	**0.45**	**251**	P	Pb	17 16 24.2	+0.3
	baz=250						
WHF				*e*S	Sb	17 16 30.4	-0.2
	baz=250						
FUSB	**Fushanzhiwuyua**	**0.48**	**345**	*e*P	Pb	17 16 24.3	0.0
	baz=344						
FUSB				*e*S	Sb	17 16 31.4	+0.1
	baz=344						
YHNB	**Yeheng**	**0.50**	**320**	*e*P	Pb	17 16 24.6	+0.1
	baz=319						
YHNB				*e*S	Sb	17 16 32.0	+0.3
	baz=319						
NSK	**Sanguang**	**0.51**	**319**	P	Pb	17 16 24.9	0.0
	baz=319						
NSK				*e*S	Sb	17 16 32.2	+0.1
	baz=319						
TDCB	**Techi**	**0.52**	**266**	*e*P	Pb	17 16 25.6	+0.6
	baz=265						
TDCB				*e*S	Sb	17 16 32.3	-0.1
	baz=265						
SHUL	**Shoufeng**	**0.52**	**197**	*e*P	Pb	17 16 25.3	+0.3
	baz=196						
NWLT	**Wulai**	**0.53**	**337**	*e*P	Pb	17 16 25.1	0.0
	baz=336						
NWLT				*e*S	Sb	17 16 32.5	0.0
	baz=336						
EOS3	**EOS3**	**0.54**	**90**	*e*P	Pn	17 16 26.5	-0.5
	baz=90						
ESL	**Shilin**	**0.55**	**210**	*e*P	Pg	17 16 25.0	+0.1
	baz=208						
CHGB	**Renai**	**0.56**	**246**	*e*P	Pb	17 16 25.9	+0.2
	baz=245						
CHGB				*e*S	Sb	17 16 34.4	+0.8
	baz=245						
WUSB	**Renai**	**0.63**	**242**	*e*P	Pb	17 16 27.2	+0.3
	baz=241						
WARBT	**Fenglin Townsh**	**0.65**	**209**	*e*P	Pg	17 16 26.5	-0.4
	baz=208						
NFF	**Wufeng Townshi**	**0.65**	**301**	*e*P	Pb	17 16 27.9	+0.6
	baz=301						
NFF				*e*S	Sb	17 16 37.0	+0.9
	baz=301						
TIPB	**Shuangxi**	**0.68**	**7**	*e*P	Pb	17 16 28.0	+0.2
	baz=7.0						
WHP	**Taichung City**	**0.71**	**269**	*e*S	Sn	17 16 39.5	-1.0
	baz=268						
LIOB	**Emei**	**0.74**	**299**	*e*P	Pn	17 16 29.8	-0.2
	baz=298						
LIOB				*e*S	Sn	17 16 40.1	-1.0
	baz=298						
NSTT	**Nanjuang**	**0.74**	**297**	*e*P	Pn	17 16 29.7	-0.4
	baz=297						
NSTT				*e*S	Sb	17 16 39.8	+1.1
	baz=297						
VWDT	**VWDT**	**0.76**	**225**	*e*P	Pb	17 16 29.2	+0.2
	baz=225						
VWDT				*e*S	Sn	17 16 40.3	-1.1
	baz=225						
SXI1	**Grass Mountain**	**0.81**	**9**	*e*P	Pb	17 16 30.3	+0.3
	baz=9.0						

TAP 02 17:24:11.4, 24°21N×121°77E, h9km, ML1.6, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.10**	**344**	*e*P	Pg	17 24 14.5	+0.5
	baz=348						
EHP				*e*S	Sg	17 24 16.8	+1.0
	baz=348						
EAHA	**Aohua**	**0.12**	**346**	P	Pg	17 24 14.4	+0.2
	baz=346						
EAHA				S	Sg	17 24 16.9	+0.6
	baz=346						
ETL	**Fush Village**	**0.14**	**250**	*i* P	Pg	17 24 14.9	+0.3
	baz=250						
ETL				*e*S	Sg	17 24 17.6	+0.7
	baz=250						
NACB	**Ninganchiao**	**0.17**	**258**	*i* P	Pg	17 24 15.1	+0.2
	baz=251						
NACB				S	Sg	17 24 18.0	+0.6
	baz=251						
TWD	**Chiawan**	**0.21**	**231**	P	Pg	17 24 15.8	+0.2
	baz=237						
ENA	**Nanau**	**0.22**	**353**	*i* P	Pg	17 24 16.1	+0.2
	baz=355						
ENA				*e*S	Sg	17 24 19.4	+0.5
	baz=355						
EWUT	**Wuta**	**0.23**	**1**	*i* P	Pg	17 24 16.4	+0.3
	baz=2.0						
EWUT				S	Sg	17 24 20.2	+0.8
	baz=2.0						
ETM	**Tongmen**	**0.35**	**227**	P	Pg	17 24 18.7	+0.4
	baz=232						
LXIB	**Xiulin Townshi**	**0.38**	**240**	S	Sg	17 24 25.0	+1.1
	baz=242						
LATG	**Datong**	**0.40**	**325**	*i* P	Pg	17 24 19.5	+0.3
	baz=326						
LATG				*e*S	Sg	17 24 24.8	+0.3
	baz=326						
TWC	**Suao**	**0.41**	**10**	*e*P	Pg	17 24 19.6	+0.2
	baz=12						
NNSB	**Datong**	**0.42**	**302**	P	Pg	17 24 20.1	+0.5
	baz=302						
NNSB				S	Sg	17 24 25.8	+0.7
	baz=302						
NDS	**Dongshan**	**0.43**	**353**	P	Pg	17 24 20.3	+0.6
	baz=353						
NDS				*e*S	Sg	17 24 26.1	+0.8
	baz=353						
NNS	**Nan Shan**	**0.43**	**302**	*e*P	Pg	17 24 20.3	+0.4
	baz=303						
NNS				*e*S	Sg	17 24 26.3	+0.8
	baz=303						
NDT	**Datong Townshi**	**0.46**	**329**	*e*P	Pg	17 24 20.8	+0.5
	baz=329						
NDT				*e*S	Sb	17 24 27.9	-0.7
	baz=329						
WHF	**Hehuan Shan**	**0.47**	**262**	*e*S	Sg	17 24 27.5	+0.7
	baz=263						
ENTT	**Nioudou**	**0.47**	**336**	*e*P	Pg	17 24 21.0	+0.5
	baz=337						
ENTT				*e*S	Sg	17 24 27.6	+0.9
	baz=337						
ESL	**Shilin**	**0.50**	**218**	*e*P	Pg	17 24 21.3	+0.2
	baz=228						
TWE	**Neicheng**	**0.52**	**349**	P	Pg	17 24 22.0	+0.5
	baz=351						
TWE				*e*S	Sg	17 24 28.8	+0.5
	baz=351						
CHGB	**Renai**	**0.57**	**255**	*e*P	Pg	17 24 22.8	+0.3
	baz=249						
CHGB				*e*S	Sg	17 24 30.5	+0.6
	baz=249						
FUSB	**Fushanzhiwuyua**	**0.57**	**343**	P	Pg	17 24 23.0	+0.5
	baz=343						
FUSB				*e*S	Sg	17 24 30.2	+0.1
	baz=343						
YHNB	**Yeheng**	**0.58**	**322**	P	Pb	17 24 23.4	-0.5
	baz=322						
YHNB				*e*S	Sg	17 24 30.9	+0.5
	baz=322						
NSK	**Sanguang**	**0.60**	**321**	P	Pg	17 24 23.5	+0.5
	baz=322						
NSK				*e*S	Sg	17 24 31.6	+0.7
	baz=322						
WARBT	**Fenglin Townsh**	**0.60**	**216**	*e*P	Pg	17 24 23.3	+0.2
	baz=224						
WARBT				*e*S	Sb	17 24 32.8	+0.1
	baz=224						
NWLT	**Wulai**	**0.62**	**337**	*e*S	Sg	17 24 31.9	+0.4
	baz=337						
WUSB	**Renai**	**0.64**	**250**	*e*P	Pb	17 24 24.3	-0.4
	baz=244						
WUSB				*e*S	Sg	17 24 32.9	+0.8
	baz=244						
TIPB	**Shuangxi**	**0.76**	**4**	*e*S	Sg	17 24 35.9	-0.2
	baz=4.0						
SSLB	**Suanglung**	**0.86**	**241**	*e*P	Pg	17 24 27.9	0.0
	baz=251						
SSLB				*e*S	Sg	17 24 38.3	-0.8
	baz=251						

JMA 02 17:24:37.2±0.1, 24°2N±0°3×123°8E±0°3, h18km, MV0.8/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.14**	**317**	S	Sg	17 24 44.2	+0.1
JKRS	**Kuro-shima**	**0.16**	**88**	P	Pg	17 24 41.5	0.0
JKRS				S	Sg	17 24 44.5	0.0
HATJ	**Hateruma jima**	**0.18**	**188**	P	Pg	17 24 41.6	-0.2
HATJ				S	Sg	17 24 44.9	0.0
JIJ	**Ishigaki jima**	**0.31**	**65**	P	Pg	17 24 43.8	-0.1
JIJ				S	Sg	17 24 48.2	-0.4
JISG	**Ishigakijimahi**	**0.56**	**51**	P	Pb	17 24 48.0	-0.4

*IDC **02** 17:27:11.8±1.0, 5°72S×142°53E, h0km, mb3.7/6, mbtmp3.6/9, ML3.5/2, Error ellipse: s-maj=30.6km s-min=20.4km az=80.0*

ISC 02 17:27:13.5±0.8, 5°7S±0°1×142°5E±0°1, h10km, n9, σ0°82/10, mb3.6/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.91**	**129**	Pn	**Pn**	**17 28 41.8**	**+0.7**
	2.9nm,0.5s,baz=310,slow=16,SNR=2.1						
PMG				Sn	**Sn**	**17 29 48.8**	**-0.1**
	0.8nm,0.3s,baz=349,slow=19,SNR=1.9						
WRA	**Warramunga Arr**	**16.20**	**209**	Pn	**Pn**	**17 31 00.8**	**-0.7**
	0.1nm,0.3s,baz=25,slow=13,SNR=8.3						
WRA				Sn	Sn	17 33 47.0	-14
	0.1nm,0.3s,baz=26,slow=22,SNR=3.8						
WRA				Lg	Lg	17 35 46.8	
	0.1nm,0.3s,baz=31,slow=29,SNR=4.5						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**19.66**	**204**	P	**P**	**17 31 43.6**	**+0.8**
	0.3nm,0.3s,baz=31,slow=12,SNR=38						
ASAR				S	S	17 35 14.8	-10
	1.1nm,0.8s,baz=20,slow=27,SNR=5.1						
ASAR				Lg	Lg	17 37 36.6	
	baz=54,slow=49						
	1.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**49.19**	**300**	P	**P**	**17 36 02.7**	**+0.4**
	0.2nm,0.3s,baz=134,slow=2.6,SNR=1.9						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**74.46**	**322**	P	**P**	**17 38 53.0**	**+0.9**
	0.5nm,0.8s,baz=101,slow=7.5,SNR=4.9						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**78.35**	**324**	P	**P**	**17 39 14.2**	**+0.1**
	0.3nm,0.8s,baz=108,slow=4.4,SNR=3.0						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**83.92**	**325**	P	**P**	**17 39 43.3**	**-0.4**
	0.7nm,0.7s,baz=104,slow=6.1,SNR=3.6						
	0.7nm,0.7s						
QSPA	**South Pole Qui**	**84.24**	**180**	P	**P**	**17 39 44.2**	**-1.0**
	2.2nm,1.2s,baz=350,slow=6.1,SNR=2.7						
	2.2nm,1.2s						
ILAR	**Eielson Array**	**87.02**	**24**	P	**P**	**17 39 58.0**	**-0.9**
	0.3nm,0.9s,baz=255,slow=3.5,SNR=2.8						
	0.3nm,0.9s						

IDC 02 17:34:11.6±1.7, 6°18S×145°24E, h0km, mb3.3/3, mbtmp3.3/5, ML0.6/1, Error ellipse: s-maj=52.4km s-min=24.8km az=74.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.73**	**149**	Pn	Pn	17 35 09.9	-0.6
	0.3nm,0.3s,baz=318,slow=16,SNR=1.9						
PMG				Sn	Sn	17 35 55.1	-0.1
	0.3nm,0.3s,baz=338,slow=19,SNR=1.6						
	3.2nm,0.8s						
WRA	**Warramunga Arr**	**17.31**	**217**	Pn	Pn	17 38 14.0	-0.9
	0.9nm,0.7s,baz=34,slow=12,SNR=1.6						
ASAR	**Alice Springs**	**20.53**	**211**	P	P	17 38 52.5	+0.7
	0.3nm,0.5s,baz=34,slow=9.4,SNR=5.8						
	0.3nm,0.5s						
SONM	**Songino Array**	**63.72**	**332**	P	P	17 44 44.8	-0.4
	0.4nm,0.4s,baz=150,slow=6.1,SNR=1.6						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**76.53**	**321**	P	P	17 46 04.3	+0.5
	0.2nm,0.8s,baz=117,slow=5.0,SNR=1.7						
	0.2nm,0.8s						

TAP 02 17:41:16.1, 24°32N×121°73E, h11km, ML1.1, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAHA	**Aohua**	**0.01**	**42**	*e*P	Pg	17 41 18.3	+0.2
	baz=45						
EHP	**Heping Village**	**0.01**	**140**	*e*P	Pg	17 41 18.6	+0.5
	baz=129						
EHP				*e*S	Sg	17 41 20.4	+1.0
	baz=129						
ENA	**Nanau**	**0.11**	**5**	*i* P	Pg	17 41 19.3	+0.3
	baz=9.0						
ENA				S	Sg	17 41 21.2	+0.2
	baz=9.0						
EWUT	**Wuta**	**0.13**	**19**	S	Sg	17 41 21.8	+0.2
	baz=28						
ETL	**Fush Village**	**0.19**	**211**	*i* P	Pg	17 41 20.6	+0.4
	baz=211						
ETL				*e*S	Sg	17 41 23.6	+0.6
	baz=211						
NACB	**Ninganchiao**	**0.19**	**220**	*e*P	Pg	17 41 20.5	+0.3
	baz=214						
NACB				S	Sg	17 41 23.6	+0.5
	baz=214						
ETLH	**Xiulin Townshi**	**0.25**	**243**	P	Pg	17 41 21.8	+0.4
	baz=243						
ETLH				*e*S	Sg	17 41 25.7	+0.7
	baz=243						
LATG	**Datong**	**0.28**	**319**	*i* P	Pb	17 41 22.7	-0.6
	baz=319						
NNSB	**Datong**	**0.34**	**289**	S	Sg	17 41 27.8	+0.4
	baz=288						
NDT	**Datong Townshi**	**0.34**	**325**	*e*P	Pb	17 41 23.9	-0.4
	baz=324						
NDT				*e*S	Sb	17 41 29.4	-0.3
	baz=324						
NNS	**Nan Shan**	**0.35**	**290**	*e*S	Sg	17 41 28.5	+0.7
	baz=290						
ENTT	**Nioudou**	**0.35**	**335**	P	Pb	17 41 24.0	-0.4
	baz=335						
ENTT				*e*S	Sg	17 41 28.9	+1.0
	baz=335						

JMA 02 17:42:16.1±0.1, 24°2N±0°3×123°8E±0°3, h12km±1km, MV1.6/10, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.12**	**317**	P	Pg	17 42 19.4	0.0
JKRS	**Kuro-shima**	**0.17**	**92**	*i* P	Pg	17 42 20.1	+0.2
JKRS				*e*S	Sg	17 42 23.6	+0.9
HATJ	**Hateruma jima**	**0.19**	**185**	*i* P	Pg	17 42 20.2	-0.1
HATJ				*e*S	Sg	17 42 22.9	-0.2
JIJ	**Ishigaki jima**	**0.32**	**68**	*i* P	Pg	17 42 22.3	-0.2
JIJ				*e*S	Sg	17 42 26.9	0.0
JISG	**Ishigakijimahi**	**0.56**	**52**	P	Pg	17 42 27.1	0.0
JISG				*e*S	Sb	17 42 35.1	-0.6
YOJ	**Yonaguni jima**	**0.77**	**287**	*e*P	Pg	17 42 30.9	-0.2
JYNG	**Yonagunijimaku**	**0.83**	**285**	*e*P	Pg	17 42 32.1	0.0
JYNG				*e*S	Sb	17 42 43.7	+0.3
JTJ	**Tarama**	**0.89**	**64**	*e*P	Pg	17 42 33.2	-0.1
JTJ				*e*S	Sb	17 42 45.6	+0.3

IDC 02 17:43:02.0±270.0, 53°86N×42°57E, h0km, Error ellipse: s-maj=119.9km s-min=75.9km az=147.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.19**	**315**	I	I	18 07 30.0	
	0.1nm,0.6s,baz=131,slow=337,SNR=5.8						
I31KZ	**AKTYUBINSK INF**	**10.12**	**104**	I	I	18 40 30.0	
	0.2nm,0.9s,baz=296,slow=321,SNR=7.0						
I26DE	**FREYUNG INFRAS**	**18.63**	**266**	I	I	19 39 10.0	
	baz=64,slow=343,SNR=0.9						
I46RU	**ZALESOVO INFRA**	**24.63**	**73**	I	I	20 15 30.0	
	baz=286,slow=331,SNR=1.5						

IDC 02 17:43:35.7±2.0, 6°00.5S×142°32.8E, h0km, mb3.3/1, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=39.5km s-min=34.8km az=104.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.47**	**128**	P	Pn	17 44 59.2	+0.7
	3.0nm,0.3s,baz=273,slow=23,SNR=2.5						
PMG				Sn	Sn	17 46 00.6	-1.6
	0.5nm,0.3s,baz=341,slow=22,SNR=1.8						
WRA	**Warramunga Arr**	**16.12**	**210**	Pn	Pn	17 47 22.9	-1.1
	0.1nm,0.3s,baz=31,slow=12,SNR=4.6						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**19.55**	**205**	P	P	17 48 05.7	+0.6
	0.2nm,0.3s,baz=32,slow=9.8,SNR=30						
	3.0nm,0.8s						
ILAR	**Eielson Array**	**87.14**	**24**	P	P	17 56 23.2	-0.1
	0.2nm,0.7s,baz=263,slow=3.6,SNR=1.7						
	0.2nm,0.7s						

TRN 02 17:48:27.8, 16°14N×60°.88W, h24km, MD3.5, East of Guadeloupe., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABD	**La Joyeuse, An**	**0.67**	**300**	*eP*	Pn	17 48 42.8	+1.0
ABD				*eS*	Sn	17 48 53.5	+1.8
TBG	**Guadeloupe-3**	**0.79**	**249**	*eP*	Pn	17 48 45.8	+2.3
TBG				*eS*	Sn	17 48 57.5	+2.9
ANBD	**Bethesda, Anti**	**1.24**	**317**	*eP*	Pb	17 48 51.6	+1.0
ANBD				*eS*	Sb	17 49 07.8	+1.7
FDF	**Fort de France**	**1.42**	**191**	*eP*	Pb	17 48 53.1	-0.6
FDF				*eS*	Sb	17 49 11.6	+0.2
MPOM	**Morne Pois Mar**	**1.69**	**179**	*eP*	Pb	17 48 57.8	-0.3
MPOM				*eS*	Sb	17 49 19.4	+0.5

*IDC **02** 18:06:45.2±0.7, 44°.34S×76°.44W, h0km, mb4.3/9, mbtmp4.3/10, ML5.0/1, MS4.3/32, Error ellipse: s-maj=27.2km s-min=19.9km az=118.0*

*NEIC **02** 18:06:46.2±1.8, 44°.32S±0°.05×76°.2W±0°.1, h10km±1km, mb5.0/81, Mww5.1/20, Error ellipse: s-maj=12.7km s-min=8.8km az=253.0*

*NEIC **02** 18:06:46.2, 44°.52S×76°.99W, h12km, Moment Tensor Solution. Duration: 19s6 Moment tensor: Scale 10^16^Nm; Mrr=-2.70; Mθθ-0.16; Mϕϕ2.86; Mrθ-3.03; Mθϕ-1.34; Mϕr4.32; Fault plane solution: M0 6.10000×10^16^ NP1: ϕs146.25000°, δ75.49000°, λ-98.36000°. NP2: ϕs356.65000°, δ16.70000°, λ-60.66000°. Principal axes: T 6.3410, Plg30.0000°, Azm243.0000°; N -0.4841, Plg8.0000°, Azm148.0000°; P -5.8569, Plg59.0000°, Azm45.0000°;*

*NEIC **02** 18:06:46.2, 44°.32S×76°.15W, h12km*

*GCMT **02** 18:06:47.2±0.2, 44°.45S±0°.01×76°.60W±0°.02, h13km±1km, MW5.0/113, Moment Tensor Solution. s43, c55; s113, c161; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-1.39±.13; Mθθ-1.49±.10; Mϕϕ2.88±.12; Mrθ-0.11±.26; Mθϕ-2.63±.09; Mϕr-1.32±.29; Best double couple: M0 3.68600×10^16^ NP1: ϕs16.00000°, δ81.00000°, λ-26.00000°. NP2: ϕs111.00000°, δ64.00000°, λ-170.00000°. Principal axes: T 4.3470, Plg11.0000°, Azm66.0000°; N -1.3220, Plg63.0000°, Azm179.0000°; P -3.0250, Plg24.0000°, Azm331.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*GUC **02** 18:06:48.0±0.6, 44°.31S×76°.06W, h21km±7km, ML4.0*

*VAO **02** 18:06:58.5±0.8, 43°.13S×75°.49W, h10km, mb5.0*

ISC 02 18:06:47.2±0.6, 44°.35S±0°.04×76°.19W±0°.06, h15km±3km, h15km:pP-P, n280, σ1s76/260, mb5.0/54, MS4.3/31, 8C-4D, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO07	**Milladeo Hill,**	**2.21**	**57**		**Pn**	**18 07 22.1**	**-1.2**
GO07	**Milladeo Hill,**	**2.21**	**57**	⇑*iP*	**Pn**	**18 07 22.2**	**-1.2**
GO07				*eS*	**Sn**	**18 07 49.1**	**-1.3**
GO07				IAML		18 08 20.5	
	comp=N,1μm,0.2s						
LL07	**Hotel Espejo d**	**2.49**	**53**		**Pn**	**18 07 26.3**	**-0.8**
LL07	**Hotel Espejo d**	**2.49**	**53**	*eP*	**Pn**	**18 07 26.6**	**-0.6**
LL07				*eS*	**Sn**	**18 07 55.9**	**-1.2**
LL07				IAML		18 08 03.8	
	comp=N,876nm,0.4s						
AY01	**Puyuhuapi**	**2.54**	**93**		**Pn**	**18 07 27.4**	**-0.5**
AY01	**Puyuhuapi**	**2.54**	**93**	⇑*eP*	**Pn**	**18 07 27.4**	**-0.5**
AY01				*eS*	**Sn**	**18 07 56.8**	**-1.7**
AY01				IAML		18 08 08.2	
	comp=E,2μm,0.5s						
LL06	**Loncomilla**	**2.84**	**42**		**Pn**	**18 07 31.0**	**-1.0**
LL06	**Loncomilla**	**2.84**	**42**	⇑*iP*	**Pn**	**18 07 31.2**	**-0.7**
LL06				*eS*	**Sn**	**18 08 06.2**	**+0.4**
LL06				IAML		18 08 11.9	
	comp=E,535nm,0.3s						
HUDS	**Hudson**	**2.84**	**126**	⇓*iP*	**Pn**	**18 07 31.8**	**-0.3**
AY02	**Valle Explorad**	**3.00**	**136**		**Pn**	**18 07 34.1**	**-0.1**
AY02	**Valle Explorad**	**3.00**	**136**	*eP*	**Pn**	**18 07 34.4**	**+0.1**
AY02				*eS*	**Sn**	**18 08 09.7**	**-0.2**
COYC	**Coyhaique**	**3.17**	**114**	Pn	**Pn**	**18 07 35.9**	**-0.6**
COYC	**Coyhaique**	**3.17**	**114**	*eP*	**Pn**	**18 07 36.7**	**+0.2**
COYC				*eS*	**Sn**	**18 08 13.1**	**-0.8**
COYC				IAML		18 08 19.9	
	comp=N,427nm,0.3s						
LL02	**Futaleuf**	**3.35**	**71**	Pn	**Pn**	**18 07 38.6**	**-0.5**
LL02	**Futaleuf**	**3.35**	**71**	*eP*	**Pn**	**18 07 39.0**	**0.0**
LL01	**San Ignacio de**	**3.39**	**56**		**Pn**	**18 07 38.7**	**-0.7**
LL01	**San Ignacio de**	**3.39**	**56**	*iP*	**Pn**	**18 07 38.8**	**-0.7**
LL01				IAML		18 08 36.1	
LL05	**Los Muermos**	**3.55**	**35**		**Pn**	**18 07 40.6**	**-1.3**
LL05	**Los Muermos**	**3.55**	**35**	*eP*	**Pn**	**18 07 42.0**	**+0.2**
AY03	**Cochrane**	**3.85**	**140**		**Pn**	**18 07 45.5**	**-0.4**
LL03	**Petrohue**	**4.25**	**42**		**Pn**	**18 07 50.8**	**-0.6**
LL03	**Petrohue**	**4.25**	**42**	*eP*	**Pn**	**18 07 51.4**	**0.0**
GO08	**Villa O'Higgin**	**4.83**	**150**	Pn	**Pn**	**18 07 59.1**	**-0.2**
GO08	**Villa O'Higgin**	**4.83**	**150**	⇓*iP*	**Pn**	**18 07 59.3**	**0.0**
LR05	**Currie**	**5.15**	**38**	Pn	**Pn**	**18 08 03.1**	**-0.7**
LR05	**Currie**	**5.15**	**38**	*eP*	**Pn**	**18 08 04.3**	**+0.5**
LR03	**Panguipulli**	**5.51**	**33**		**Pn**	**18 08 08.4**	**-0.4**
PLCA	**Paso Flores**	**5.51**	**51**	Pn	**Pn**	**18 08 09.5**	**+0.7**
PLCA	**Paso Flores**	**5.51**	**51**	Pn	**Pn**	**18 08 09.0**	**+0.1**
	comp=N,10.0nm,0.3s,baz=229,slow=16,SNR=285						
PLCA				Sn	**Sn**	**18 09 18.9**	**+6.9**
	baz=219,slow=17						
PLCA				LR	LR	18 10 26.6	
	comp=N,7μm,20.2s,baz=234,slow=39						
	comp=N,92nm,0.7s						
PLCA	**Paso Flores**	**5.51**	**51**	*eP*	**Pn**	**18 08 10.3**	**+1.4**
GO06	**Curarrehue**	**5.92**	**38**	Pn	**Pn**	**18 08 14.2**	**-0.2**
LC02	**Puerto Saavedr**	**5.94**	**22**	Pn	**Pn**	**18 08 13.9**	**-0.6**
GO09	**Cerro Castillo**	**7.40**	**161**		**Pn**	**18 08 34.9**	**+0.3**
MG05	**Puerto Natales**	**7.74**	**163**		**Pn**	**18 08 39.0**	**-0.3**
BI05	**Punta Hualpn**	**7.93**	**18**	Pn	**Pn**	**18 08 40.3**	**-1.6**
MG04	**Isla Riesco**	**9.05**	**162**	Pn	**Pn**	**18 08 56.9**	**-0.3**
ML02	**Panimavida**	**9.32**	**25**		**Pn**	**18 08 59.5**	**-1.5**
MG02	**Cerro Sombrero**	**9.62**	**154**	Pn	**Pn**	**18 09 03.5**	**-1.5**
GO05	**Huala**	**9.88**	**21**		**Pn**	**18 09 06.5**	**-2.3**
MG03	**Isla Dawson**	**10.22**	**161**	Pn	**Pn**	**18 09 11.6**	**-1.6**
BO02	**Sierra Bellavi**	**10.41**	**25**		**Pn**	**18 09 14.3**	**-1.7**
H03S1	**Juan Fernandez**	**10.70**	**348**	T	T	18 20 13.7	
	baz=169,SNR=384						
H03S2	**Juan Fernandez**	**10.71**	**348**	T	T	18 21 10.3	
	baz=169,slow=74,SNR=392						
H03S3	**Juan Fernandez**	**10.71**	**348**	T	T	18 21 18.0	
	baz=169,slow=74,SNR=494						
H03N3	**Juan Fernandez**	**11.08**	**348**	Pn	**Pn**	**18 09 23.7**	**-1.2**
H03N1	**Juan Fernandez**	**11.09**	**348**	Pn	**Pn**	**18 09 23.6**	**-1.4**
H03N2	**Juan Fernandez**	**11.10**	**348**	Pn	**Pn**	**18 09 23.7**	**-1.4**
BO04	**La Punta**	**11.21**	**25**		**Pn**	**18 09 24.8**	**-2.2**
VA05	**Santo Domingo**	**11.25**	**20**	Pn	**Pn**	**18 09 25.7**	**-1.7**
MT09	**Talagante**	**11.30**	**23**	Pn	**Pn**	**18 09 24.9**	**-3.4**
LMEL	**Las Melosas**	**11.46**	**26**		**Pn**	**18 09 28.3**	**-2.2**
MT13	**San Alfonso**	**11.54**	**25**		**Pn**	**18 09 28.7**	**-2.7**
MT03	**Universidad Ad**	**11.70**	**24**		**Pn**	**18 09 30.4**	**-3.3**
MT02	**Curacav**	**11.75**	**21**		**Pn**	**18 09 31.3**	**-3.0**
MT16	**CCHEN**	**11.76**	**24**		**Pn**	**18 09 31.9**	**-2.6**
VA01	**Torpederas**	**11.85**	**19**	Pn	**Pn**	**18 09 32.6**	**-3.0**
MG01	**Puerto William**	**11.95**	**155**	Pn	**Pn**	**18 09 35.4**	**-1.4**
PEL	**Peldehue**	**11.98**	**23**		**Pn**	**18 09 34.7**	**-2.8**
VA06	**Catapilco**	**12.37**	**20**		**Pn**	**18 09 39.8**	**-3.0**
VA03	**San Esteban**	**12.37**	**23**		**Pn**	**18 09 39.8**	**-3.1**
TRQA	**Tornquist**	**12.40**	**64**	Pn	**Pn**	**18 09 42.0**	**-1.2**
CO02	**Combarbal**	**13.74**	**19**		**Pn**	**18 09 58.7**	**-2.9**
CO06	**Fray Jorge**	**14.12**	**16**		**Pn**	**18 10 02.7**	**-3.9**
CO03	**El Pedregal**	**14.17**	**20**		**Pn**	**18 10 03.4**	**-4.0**
CO01	**Juntas del Tor**	**15.14**	**21**		**Pn**	**18 10 18.7**	**-2.0**
GO03	**Copiap**	**17.39**	**18**	P	**Pn**	**18 10 49.1**	**-0.2**
AC02	**Maricunga**	**18.38**	**20**	P	**P**	**18 11 01.3**	**-0.7**
PSAL	**Palomas, Salto**	**19.73**	**54**	*eP*	**P**	**18 11 15.9**	**-0.3**
GO02	**Mina Guanaco**	**19.88**	**18**	P	**P**	**18 11 17.0**	**-1.2**
GO02				IAmb	IAmb	18 11 32.0	
	comp=Z,89nm,1.8s						
PB14	**IPOC Station P**	**20.23**	**15**	P	**P**	**18 11 21.0**	**-1.1**
TBOT	**Tacuaremb**	**20.29**	**58**	*eP*	**P**	**18 11 22.8**	**+0.5**
ITQB	**Itaqui**	**21.34**	**53**	P	**P**	**18 11 31.1**	**-2.6**
ITQB	**Itaqui**	**21.34**	**53**	*eP*	**P**	**18 11 32.9**	**-0.8**
PMSA	**Palmer Station**	**21.57**	**166**	P	**P**	**18 11 35.8**	**0.0**
RODS	**Rosario do Sul**	**21.68**	**57**	*eP*	**P**	**18 11 37.0**	**-0.4**
PLTB	**Pedras Altas**	**21.69**	**62**	P	**P**	**18 11 35.2**	**-2.3**
PB15	**IPOC Station P**	**21.80**	**17**	P	**P**	**18 11 37.3**	**-1.6**
PB15				IAmb	IAmb	18 11 53.4	
	comp=Z,64nm,1.1s						
TICA	**Tres Isletas**	**22.00**	**41**	*eP*	**P**	**18 11 40.0**	**-0.9**
PB06	**IPOC Station P**	**22.26**	**16**	P	**P**	**18 11 43.1**	**-0.7**
PB06				IAmb	IAmb	18 11 59.8	
	comp=Z,42nm,1.1s						
AF01	**San Pedro de A**	**22.34**	**20**	P	**P**	**18 11 43.5**	**-1.2**
AF01				IAmb	IAmb	18 11 57.2	
	comp=Z,86nm,0.9s						
LVC	**Limon Verde**	**22.50**	**18**	P	**P**	**18 11 45.0**	**-1.5**
LVC				IAmb	IAmb	18 11 58.3	
	comp=Z,66nm,1.2s						
LVC	**Limon Verde**	**22.50**	**18**	*eP*	**P**	**18 11 44.3**	**-2.2**
PB04	**IPOC Station P**	**22.51**	**15**	P	**P**	**18 11 44.0**	**-2.5**
PB04				IAmb	IAmb	18 12 01.9	
	comp=Z,76nm,1.2s						
UNIS	**Unistalda (Bra**	**22.69**	**55**	*eP*	**P**	**18 11 48.8**	**+0.6**
PB07	**IPOC Station P**	**23.16**	**15**	P	**P**	**18 11 52.9**	**-0.3**
PB09	**IPOC Station P**	**23.21**	**17**	P	**P**	**18 11 52.8**	**-1.1**
PB02	**IPOC Station P**	**23.55**	**15**	P	**P**	**18 11 56.3**	**-0.8**
CPUP	**Villa Florida**	**23.57**	**47**	P	**P**	**18 11 55.2**	**-1.9**
CPUP	**Villa Florida**	**23.57**	**47**	P	**P**	**18 11 55.6**	**-1.5**
	comp=Z,59nm,1.3s,baz=215,slow=12,SNR=17						
CPUP				LR	LR	18 21 24.4	
	comp=Z,1μm,19.9s,baz=220,slow=37						
CPUP	**Villa Florida**	**23.57**	**47**	*eP*	**P**	**18 11 57.1**	**0.0**
PB01	**IPOC Station P**	**23.90**	**16**	P	**P**	**18 11 59.0**	**-1.4**
ALGR	**Alto Alegre (B**	**24.11**	**58**	*eP*	**P**	**18 12 03.2**	**+0.9**
ESFA	**Espinillo Form**	**24.12**	**42**	*eP*	**P**	**18 12 02.7**	**+0.3**
CRSM	**Crissiumal (Br**	**24.47**	**54**	*eP*	**P**	**18 12 07.1**	**+1.5**
PB08	**IPOC Station P**	**24.84**	**16**	P	**P**	**18 12 08.0**	**-1.4**
PB08				IAmb	IAmb	18 12 30.4	
	comp=Z,34nm,1.4s						
CNLB	**Canela**	**25.09**	**62**	*eP*	**P**	**18 12 12.7**	**+1.4**
PB11	**IPOC Station P**	**25.11**	**15**	P	**P**	**18 12 09.7**	**-1.9**
PB11				IAmb	IAmb	18 12 16.6	
	comp=Z,48nm,1.1s						
GO01	**Chusmiza**	**25.29**	**16**	P	**P**	**18 12 10.8**	**-2.8**
GO01				IAmb	IAmb	18 12 31.5	
	comp=Z,35nm,1.1s						
ITAB	**Concordia**	**25.79**	**57**	P	**P**	**18 12 16.2**	**-1.3**
ITAB	**Concordia**	**25.79**	**57**	*eP*	**P**	**18 12 19.9**	**+2.3**
PB12	**IPOC Station P**	**26.12**	**13**	P	**P**	**18 12 19.5**	**-1.2**
FRBT	**Francisco Belt**	**26.19**	**53**	*eP*	**P**	**18 12 22.1**	**+0.8**
PB16	**IPOC Station P**	**26.53**	**14**	P	**P**	**18 12 24.1**	**-0.9**
MCR1	**Marechal Candi**	**26.83**	**50**	*eP*	**P**	**18 12 28.8**	**+1.8**
MURT	**Porto Murtinho**	**27.35**	**40**	*eP*	**P**	**18 12 31.5**	**-0.1**
AMBA	**Amambai (Brazi**	**27.56**	**46**	*eP*	**P**	**18 12 33.7**	**+0.1**
PTGB	**Pitanga**	**27.73**	**53**	*eP*	**P**	**18 12 37.6**	**+2.5**
ANTJ	**Antonio Joao (**	**27.82**	**43**	*eP*	**P**	**18 12 36.5**	**+0.6**
BDQN	**Bodoquena, MS**	**28.79**	**40**	*eP*	**P**	**18 12 44.3**	**-0.2**
TRCB	**Terra Rica**	**28.93**	**50**	P	**P**	**18 12 44.6**	**-1.2**
TRCB	**Terra Rica**	**28.93**	**50**	*eP*	**P**	**18 12 46.3**	**+0.6**
AQDB	**Aquidauana**	**29.27**	**42**	P	**P**	**18 12 47.2**	**-1.5**
AQDB				IAmb	IAmb	18 13 03.8	
	comp=Z,53nm,1.2s						
AQDB	**Aquidauana**	**29.27**	**42**	*eP*	**P**	**18 12 48.7**	**0.0**
LDASE	**Londrina, Braz**	**29.30**	**53**	*eP*	**P**	**18 12 50.8**	**+1.7**
BBRB	**Robore, Bolivi**	**29.40**	**33**	*eP*	**P**	**18 12 50.1**	**+0.1**
BBSD	**Serra de San D**	**30.09**	**31**	*eP*	**P**	**18 12 55.4**	**-0.7**
FRTB	**Fartura**	**30.24**	**55**	*eP*	**P**	**18 12 58.2**	**+0.8**
RPRD	**Ribas do Rio P**	**30.25**	**45**	*eP*	**P**	**18 13 00.4**	**+2.8**
PCMB	**Pacaembu**	**30.63**	**50**	*eP*	**P**	**18 13 03.2**	**+2.3**
PET01	**Itanhaem-SP**	**30.91**	**59**	*eP*	**P**	**18 13 05.2**	**+1.9**
SIV	**San Ignacio**	**31.03**	**29**	LR	LR	18 26 58.0	
	comp=Z,403nm,21.4s,baz=214,slow=39						
SPB	**Sao Paulo**	**31.33**	**58**	P	**P**	**18 13 06.9**	**0.0**
SPB				IAmb	IAmb	18 13 13.6	
	comp=Z,61nm,1.8s						
SPB	**Sao Paulo**	**31.33**	**58**	*eP*	**P**	**18 13 10.9**	**+4.0**
RPN	**Rapa Nui**	**31.64**	**292**	LR	LR	18 22 20.9	
	comp=Z,378nm,21.4s,baz=113,slow=30						
VAO	**Vaihos**	**32.05**	**58**	*eP*	**P**	**18 13 15.6**	**+2.1**
PTLB	**Pontes e Lacer**	**32.24**	**32**	P	**P**	**18 13 14.3**	**-0.7**
PTLB				IAmb	IAmb	18 13 25.2	
	comp=Z,15nm,0.8s						
PTLB	**Pontes e Lacer**	**32.24**	**32**	*eP*	**P**	**18 13 15.3**	**+0.3**
NNA	**Nana**	**32.25**	**359**	LR	LR	18 22 45.3	
	comp=Z,228nm,19.5s,baz=180,slow=30						
PARB	**Paraibuna**	**32.63**	**60**	*eP*	**P**	**18 13 22.2**	**+3.7**
VILB	**Vilhena**	**34.16**	**29**	P	**P**	**18 13 30.7**	**-1.1**
VILB				IAmb	IAmb	18 13 44.4	
	comp=Z,48nm,1.6s						
BSCB	**Bom Sucesso**	**34.89**	**58**	*eP*	**P**	**18 13 40.3**	**+2.1**
ARAG	**Araguaiana, MT**	**35.23**	**44**	*eP*	**P**	**18 13 43.5**	**+2.4**
IPMB	**Ipameri, GO**	**35.24**	**51**	*eP*	**P**	**18 13 44.5**	**+3.3**
ETMB	**Extrema**	**35.47**	**17**	P	**P**	**18 13 41.8**	**-1.4**
ETMB	**Extrema**	**35.47**	**17**	*eP*	**P**	**18 13 43.2**	**+0.1**
DUB01	**Friburgo-RJ**	**35.59**	**63**	*eP*	**P**	**18 13 47.6**	**+3.4**
PMNB	**Patos De Minas**	**35.80**	**54**	*eP*	**P**	**18 13 50.0**	**+3.9**
CZSB	**Cruzeiro do Su**	**36.60**	**6**	P	**P**	**18 13 52.9**	**+0.1**
CZSB				IAmb	IAmb	18 14 09.5	
	comp=Z,20nm,1.2s						
CZSB	**Cruzeiro do Su**	**36.60**	**6**	*eP*	**P**	**18 13 55.4**	**+2.6**
PDRB	**Porto dos Gac**	**36.67**	**33**	*eP*	**P**	**18 13 54.0**	**+0.6**
SAML	**Samuel**	**37.03**	**22**	P	**P**	**18 13 55.5**	**-1.0**
SAML				IAmb	IAmb	18 14 07.3	
	comp=Z,52nm,1.9s						
SAML	**Samuel**	**37.03**	**22**	*eP*	**P**	**18 13 56.4**	**-0.1**
ATAH	**Atahualpa**	**37.12**	**356**	LR	LR	18 25 19.8	
	comp=Z,237nm,19.8s,baz=188,slow=30						
BDFB	**Brasilia**	**37.26**	**49**	P	**P**	**18 13 56.5**	**-2.0**
BDFB				IAmb	IAmb	18 14 03.8	
	comp=Z,44nm,1.3s						
BDFB	**Brasilia**	**37.26**	**49**	P	**P**	**18 13 59.0**	**+0.5**
	comp=Z,7.0nm,0.5s,baz=224,slow=10,SNR=15						
BDFB				LR	LR	18 29 59.3	
	comp=Z,1μm,18.6s,baz=206,slow=37						
	comp=Z,7.0nm,0.5s						
BELA	**Belgrano 2**	**37.41**	**167**		**Pn**	**18 13 59.0**	**0.0**
BELA				IAmb	IAmb	18 14 02.5	
	comp=Z,52nm,1.9s						
DIAM	**Diamantina, MG**	**37.62**	**57**	*eP*	**P**	**18 14 05.4**	**+3.8**
ALF01	**Guarapari-ES**	**37.70**	**63**	*eP*	**P**	**18 14 05.2**	**+3.1**
SNDB	**Serra Nova Dou**	**38.70**	**41**	*eP*	**P**	**18 14 10.6**	**0.0**
SJMB	**Sao Joao De Ma**	**38.83**	**60**	*eP*	**P**	**18 14 15.5**	**+3.9**
JANB	**Januaria**	**39.79**	**53**	*eP*	**P**	**18 14 23.3**	**+3.6**
MCRA	**Macar, Loja**	**39.95**	**354**	P	**P**	**18 14 20.0**	**-1.0**
TBTG	**Tabatinga, AM**	**40.38**	**10**	*eP*	**P**	**18 14 26.9**	**+2.4**
VNA3	**Neumayer Olymp**	**41.27**	**153**	⇑P	**P**	**18 14 31.1**	**-0.3**
	comp=Z,11nm,1.0s						
GUA01	**Guaratinga, BA**	**41.28**	**60**	*eP*	P	18 14 36.6	+4.6
NPGB	**Novo Progresso**	**41.37**	**32**	*eP*	**P**	**18 14 35.3**	**+2.5**
SDBA	**SAO DESIDERIO**	**41.61**	**50**	*eP*	**P**	**18 14 35.7**	**+0.9**
COHC	**Cochancay**	**41.79**	**355**	P	**P**	**18 14 35.0**	**-1.2**
TEFE	**Tefe**	**41.93**	**17**	*eP*	**P**	**18 14 39.1**	**+1.9**
VNA2	**Neumayer--Watz**	**42.00**	**153**	⇑P	**P**	**18 14 37.5**	**+0.2**
	comp=Z,12nm,0.7s,baz=289,slow=8.9						
SMTB	**Santa Maria do**	**43.19**	**44**	*eP*	**P**	**18 14 48.6**	**+1.0**
MACA	**Manacapuru-AM**	**43.24**	**23**	*eP*	**P**	**18 14 49.7**	**+1.7**
SNAA	**Sanae**	**43.46**	**154**	P	**P**	**18 14 48.1**	**-1.2**
SNAA				IAmb	IAmb	18 15 03.7	
	comp=Z,33nm,1.4s						
SNAA	**Sanae**	**43.46**	**154**	⇑P	**P**	**18 14 50.4**	**+1.2**
	comp=Z,211nm,1.0s						
ITTB	**Itaituba**	**43.70**	**30**	*eP*	**P**	**18 14 51.9**	**+0.2**
QSPA	**South Pole Qui**	**45.90**	**180**	P	**P**	**18 15 08.8**	**0.0**
	comp=Z,3.7nm,0.9s,baz=145,slow=5.2,SNR=9.1						
QSPA				LR	LR	18 32 00.2	
	comp=Z,192nm,20.0s,baz=188,slow=33						
	comp=Z,3.7nm,0.9s						
MALB	**Monte Alegre**	**46.56**	**31**	*eP*	**P**	**18 15 15.3**	**+0.9**
NBLA	**Lagarto - SE**	**46.84**	**57**	*eP*	**P**	**18 15 18.5**	**+1.9**
BOAV	**Boa Vista**	**48.60**	**21**	P	**P**	**18 15 28.9**	**-1.4**
NBAN	**Anadia - AL**	**48.79**	**57**	*eP*	**P**	**18 15 34.5**	**+2.7**
ROSC	**El Rosal**	**48.99**	**2**	LR	LR	18 34 10.5	
	comp=Z,292nm,20.3s,baz=229,slow=34						
ELIB	**Princess Elisa**	**51.33**	**157**	*dP*	**P**	**18 15 50.1**	**-0.4**
	comp=Z,8.0nm,1.0s						
NBCL	**Cascavel-CE**	**52.01**	**51**	*eP*	P	18 16 01.0	+4.9
RCBR	**Riachuelo**	**52.07**	**55**	P	**P**	**18 15 56.3**	**-0.3**
RCBR				IAmb	IAmb	18 17 22.8	
	comp=Z,55nm,1.8s						
RCBR	**Riachuelo**	**52.07**	**55**	LR	LR	18 38 58.7	
	comp=Z,682nm,18.1s,baz=214,slow=37						
CDITO	**Canoas**	**53.02**	**352**	P	**P**	**18 16 03.4**	**-0.1**
SDV	**Santo Domingo**	**53.22**	**7**	P	**P**	**18 16 04.1**	**-1.1**
VNDA	**Vanda**	**53.32**	**193**	P	**P**	**18 16 06.1**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=170,slow=12,SNR=1.5						
	comp=Z,1.7nm,0.8s						
BAUV	**El Baul**	**53.55**	**10**	P	**P**	**18 16 05.4**	**-2.0**
BAUV				IAmb	IAmb	18 16 22.9	
	comp=Z,23nm,1.1s						
MDP	**Montagnes des**	**53.59**	**30**	LR	LR	18 39 31.5	
	comp=Z,562nm,18.2s,baz=162,slow=37						
SRBA	**San Rafael, Bu**	**53.72**	**351**	P	**P**	**18 16 08.8**	**0.0**
OBIP	**Obispado Ponce**	**62.70**	**10**		**P**	**18 17 11.3**	**-0.1**
CELP	**Cerrillos**	**62.73**	**10**	P	**P**	**18 17 11.4**	**-0.2**
SABA	**Saba**	**62.79**	**14**	P	**P**	**18 17 11.6**	**-0.4**
CMIG	**Matias Romero**	**63.48**	**340**	LR	LR	18 37 58.3	
	comp=Z,198nm,20.1s,baz=176,slow=30						
GTBY	**Guantanamo Bay**	**63.97**	**1**	P	**P**	**18 17 19.0**	**-0.7**
MAW	**Mawson**	**64.17**	**164**	LR	LR	18 43 58.4	
	comp=Z,447nm,22.0s,baz=226,slow=35						
TEIG	**Tepich**	**65.20**	**347**	LR	LR	18 39 54.2	
	comp=Z,851nm,19.5s,baz=342,slow=30						
PPT2	**Papeete2**	**66.11**	**268**	*eS*	**S**	**18 26 27.0**	**+4.9**
	comp=Z,78nm,26.8s						
PPT2	**Papeete2**	**66.11**	**268**	*eLR*	LR	18 37 10.7	
	comp=Z,220nm,25.0s						
PPT2				*eLR*	LR	18 37 17.1	
	comp=Z,132nm,28.0s						
PPT	**Papeete**	**66.13**	**268**	LR	LR	18 38 16.2	
	comp=Z,96nm,21.9s,baz=160,slow=29						
RAR	**Rarotonga**	**71.01**	**259**	LR	LR	18 41 00.4	
	comp=Z,396nm,18.2s,baz=132,slow=29						
SUR	**Sutherland**	**72.71**	**118**	LR	LR	18 45 09.3	
	comp=Z,217nm,21.6s,baz=198,slow=32						
RPZ	**Rata Peaks**	**73.83**	**224**	LR	LR	18 43 40.8	
	comp=Z,490nm,18.4s,baz=140,slow=30						
URZ	**Urewera**	**74.50**	**231**	LR	LR	18 42 40.3	
	comp=Z,286nm,19.4s,baz=298,slow=29						
LPIG	**La Paz**	**74.93**	**328**	LR	LR	18 44 07.2	
	comp=Z,94nm,20.7s,baz=192,slow=30						
HNDO	**Hondo**	**76.49**	**339**	P	**P**	**18 18 37.0**	**+0.7**
TX31	**Lajitas Ar. Si**	**77.51**	**336**	P	**P**	**18 18 41.6**	**-0.5**
TXAR	**Lajitas Array**	**77.51**	**336**	P	**P**	**18 18 41.8**	**-0.4**
TXAR	**Lajitas Array**	**77.51**	**336**

DZM	**Mont Dzumac**	**92.62**	**236**	*e*LR		LR	18 49 26.9	
	comp=Z,392nm,32.5s							
NEW	**Newport**	**98.98**	**334**	LR		LR	19 01 46.9	
	comp=Z,83nm,19.3s,baz=124,slow=33							
ILAR	**Eielson Array**	**121.85**	**332**	PKP		**PKPdf**	**18 25 38.3**	**-1.2**
	comp=Z,1.0nm,0.9s,baz=142,slow=2.4,SNR=5.6							
H11S2	**WAKE ISLAND Hyd**	**21.99**	**265**	T		T	20 39 01.1	
	baz=132,slow=76,SNR=9.7							
H11S1	**WAKE ISLAND Hyd**	**22.01**	**265**	T		T	20 39 01.0	
	baz=132,slow=76,SNR=4.9							
H11S3	**WAKE ISLAND Hyd**	**22.01**	**265**	T		T	20 39 02.0	
	baz=132,slow=76,SNR=7.3							
BRTR	**Keskin Array B**	**129.13**	**69**	PKP		**PKiKP**	**18 25 56.2**	**+1.1**
	comp=Z,1.0nm,0.9s,baz=248,slow=1.6,SNR=3.0							
GEYT	**Alibeck**	**145.36**	**85**	PKPbc		**PKiKP**	**18 26 26.5**	**-1.6**
	comp=Z,7.3nm,1.0s,baz=209,slow=4.8,SNR=8.8							
HYB	**Hyderabad**	**145.77**	**134**	*e*PKPdf		**PKPdf**	**18 26 24.1**	**-1.3**
HYB				*e*PKPab		**PKPbc**	**18 26 25.1**	**-0.7**
ARU	**Arti**	**149.30**	**51**			**PKPdf**	**18 26 30.2**	**+0.2**
ABKAR	**Akbulak array**	**149.90**	**65**	PKPdf		**PKPdf**	**18 26 30.5**	**-0.8**
ABKAR						**PKPbc**	**18 26 36.1**	**0.0**
TIXI	**Tiksi**	**150.06**	**344**	PKPdf		**PKPdf**	**18 26 31.4**	**+0.6**
TIXI						**pPKPdf**	**18 26 35.1**	**+0.3**
UBPT	**Khong Chiam**	**150.99**	**183**	PKPdf		**PKPdf**	**18 26 32.8**	**-1.2**
UBPT						**pPKPdf**	**18 26 37.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**153.87**	**169**			**PKPdf**	**18 26 35.7**	**-2.5**
CMAR	**Chiang Mai Arr**	**153.87**	**169**	PKP		**PKPdf**	**18 26 40.0**	**+1.8**
	comp=Z,2.5nm,1.0s,baz=300,slow=1.8,SNR=5.8							
CMAR				PKPbc		**sPKPdf**	**18 26 44.6**	**+1.1**
	comp=Z,1.5nm,0.6s,baz=217,slow=3.6,SNR=4.6							
PHRA	**Phrae**	**154.06**	**172**	PKPdf		**PKPdf**	**18 26 35.8**	**-2.6**
PHRA						**pPKPdf**	**18 26 43.9**	**+1.4**
NIL	**Nilore**	**154.10**	**104**	PKPdf		**PKPdf**	**18 26 36.2**	**-1.9**
NIL						**sPKPdf**	**18 26 43.8**	**+0.4**
CHTO	**Chiang Mai**	**154.22**	**169**	PKPdf		**PKPdf**	**18 26 36.4**	**-2.2**
GAR	**Garm**	**154.53**	**90**	PKPdf		**PKPdf**	**18 26 38.1**	**-0.5**
GAR						**sPKPdf**	**18 26 45.0**	**+1.0**
BVAR	**Borovoye Array**	**156.47**	**56**	PKP		**PKPdf**	**18 26 41.9**	**+1.2**
	comp=Z,2.0nm,0.9s,baz=318,slow=1.9,SNR=4.3							
BVAR				PKPab		**pPKPab**	**18 27 11.9**	**-1.4**
	comp=Z,0.8nm,0.7s,baz=258,slow=5.7,SNR=4.6							
MND	**Mandalay**	**156.84**	**162**			**PKPdf**	**18 26 41.4**	**-0.7**
KSH	**Kashi**	**158.79**	**93**	PKP		**PKPdf**	**18 26 48.2**	**+4.1**
KURBB	**Kurchatov Arra**	**161.85**	**61**	PKPab		**pPKPab**	**18 27 34.3**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=283,slow=3.8,SNR=3.2							
PZH	**PanZhiHua**	**162.12**	**174**	PKP		**PKPdf**	**18 26 47.4**	**-0.8**
NJ2	**Nanjing**	**162.99**	**229**	*e*P		**PKPdf**	**18 26 48.6**	**-0.1**
NJ2				pmax		pmax		
	comp=Z,13nm,1.8s							
ZAA0	**Zalesovo Array**	**164.34**	**45**			**PKPdf**	**18 26 48.5**	**-0.7**
ZALV	**Zalesovo Beam**	**164.34**	**45**			**PKPdf**	**18 26 47.7**	**-1.5**
ZALV	**Zalesovo Beam**	**164.34**	**45**	PKP		**PKPdf**	**18 26 48.4**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=298,slow=3.1,SNR=4.9							
ZALV				PKPab		**pPKPab**	**18 27 45.5**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=300,slow=6.5,SNR=1.0							
MK31	**Makanchi Array**	**164.74**	**73**			**PKPdf**	**18 26 47.7**	**-2.2**
MKAR	**Makanchi Array**	**164.74**	**73**	PKP		**PKPdf**	**18 26 51.6**	**+1.7**
	comp=Z,1.3nm,0.9s,baz=289,slow=2.8,SNR=9.0							
MKAR				PKPab		**PKPab**	**18 27 44.9**	**-0.9**
	comp=Z,1.5nm,1.0s,baz=248,slow=2.3,SNR=3.8							
CD2	**Chengdu**	**166.59**	**180**	PKP		**PKPdf**	**18 26 51.0**	**-0.9**
WMQ	**Urumqi**	**168.40**	**87**	*e*P		**PKPdf**	**18 26 52.5**	**-0.4**
GOMU	**GeErMu**	**169.36**	**137**	PKP		**PKPdf**	**18 27 00.2**	**+6.1**
GOMU				pPKP		sPKPdf	18 27 07.0	+7.5
GOMU				sPKP			18 27 13.2	
GOMU				pmax		pmax		
	comp=Z,120nm,5.3s							
LZH	**Lanzhou**	**171.75**	**180**	*e*PKP		**PKPdf**	**18 27 02.5**	**+7.4**
LZH				PKP		**PKPab**	**18 28 16.0**	**-1.0**
HHC	**Hu-ho-hao-te**	**173.29**	**241**	*e*P		**PKPdf**	**18 26 51.2**	**-4.4**
GTA	**Gaotai**	**174.24**	**147**	PKP		**PKPdf**	**18 26 57.7**	**+1.7**
GTA				pPKP		sPKPdf	18 27 02.3	+0.9
GTA				PKPab		**pPKPab**	**18 28 33.0**	**+1.1**

*NNC **02** 18:07:14.9±1.3,41˚43N×83˚62E,h0km,mb4.1,mpv3.8, Error ellipse: s-maj=11.2km s-min=7.1km az=173.0*
*SOME **02** 18:07:15.2,41˚53N×83˚63E,h10km*
ISC 02 18:07:13.0±2.3,41˚5N±0˚1×83˚65E±0˚07,h10km,n41, σ1s99/61,6C-5D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**3.14**	**310**	*e*P	**Pg**	**18 08 12.2**	**-1.0**
	7.7nm,0.5s						
KTMS				*e*S	**Sg**	**18 08 53.6**	**-0.3**
	41nm,0.5s						
KTMS	**Ketmen**	**3.14**	**310**	Pg	**Pg**	**18 08 12.2**	**-1.0**
	7.7nm,0.5s						
KTMS				Lg	Lg	18 08 53.6	
	41nm,0.5s						
SHLS	**Shalkode**	**3.54**	**300**	*e*P	**Pb**	**18 08 15.3**	**-0.4**
	31nm,0.5s						
SHLS				*e*S	**Sb**	**18 08 59.0**	**+0.3**
	126nm,0.6s						
SHLS	**Shalkode**	**3.54**	**300**	Pg	**Pb**	**18 08 15.3**	**-0.4**
	31nm,0.5s						
SHLS				Lg	Lg	18 08 59.0	
	126nm,0.6s						
PDGK	**Podgornoye**	**3.60**	**303**	⇑Pg	**Pg**	**18 08 21.3**	**-0.7**
	16nm,0.5s						
PDGK				⇑Lg	Lg	18 09 12.0	
UZB	**Uzynbulak**	**3.82**	**298**	*e*P	**Pg**	**18 08 24.0**	**-2.2**
	9.0nm,0.3s						
UZB				*e*S	**Sg**	**18 09 13.8**	**-1.9**
	36nm,0.8s						
UZB	**Uzynbulak**	**3.82**	**298**	Pg	**Pg**	**18 08 24.0**	**-2.2**
	9.0nm,0.3s						
UZB				Lg	Lg	18 09 13.8	
	36nm,0.8s						
DJR	**Jarkent**	**4.03**	**317**	*e*P	**Pg**	**18 08 29.5**	**-0.7**
	7.8nm,0.3s						
DJR				*e*S	**Sg**	**18 09 22.7**	**+0.3**
	25nm,0.6s						
DJR	**Jarkent**	**4.03**	**317**	Pg	**Pg**	**18 08 30.3**	**+0.1**
	12nm,0.6s						
DJR				Lg	Lg	18 09 24.9	
	36nm,0.6s						
SATY	**Saty**	**4.20**	**294**	*e*P	**Pg**	**18 08 31.4**	**-2.1**
	15nm,0.6s						
SATY				*e*S	**Sg**	**18 09 26.5**	**-1.5**
	58nm,0.5s						
SATY	**Saty**	**4.20**	**294**	Pg	**Pg**	**18 08 31.4**	**-2.1**
	15nm,0.6s						
SATY				Lg	Lg	18 09 26.5	
	58nm,0.5s						
ZHN	**Zhinishke**	**4.22**	**295**	*e*P	**Pg**	**18 08 33.7**	**-0.2**
	6.1nm,0.3s						
ZHN				*e*S	**Sg**	**18 09 30.9**	**+2.2**
	45nm,0.5s						
KURS	**Kuram**	**4.53**	**298**	*e*P	**Pg**	**18 08 38.5**	**-1.2**
	9.2nm,0.5s						
KURS				*e*S	**Sg**	**18 09 39.2**	**+0.8**
	20nm,0.6s						
KURS	**Kuram**	**4.53**	**298**	Pg	**Pg**	**18 08 38.5**	**-1.2**
	9.2nm,0.5s						
KURS				Lg	Lg	18 09 39.2	
	20nm,0.6s						
BLB	**Baldybastay**	**4.62**	**306**	Pg	**Pg**	**18 08 39.2**	**-2.4**
	18nm,0.4s						
BLB				Lg	Lg	18 09 39.8	
	19nm,0.5s						
KAPS	**Kapalarasan**	**4.94**	**322**	*e*P	**Pg**	**18 08 44.9**	**-2.6**
	12nm,0.6s						
KAPS				*e*S	**Sg**	**18 09 49.1**	**-2.3**
	18nm,0.5s						
ARXS	**Arharly**	**5.08**	**305**	*e*P	**Pg**	**18 08 47.6**	**-2.8**
	4.4nm,0.4s						
ARXS				*e*S	**Sg**	**18 09 53.7**	**-2.5**
	14nm,0.5s						
ARXS	**Arharly**	**5.08**	**305**	Pg	**Pg**	**18 08 50.9**	**+0.6**
	11nm,0.5s						
ARXS				Lg	Lg	18 10 00.3	
	29nm,0.6s						
KOTS	**Kotyrbulak**	**5.16**	**292**	*e*P	**Pg**	**18 08 49.5**	**-2.3**
	7.3nm,0.3s						
KOTS				*e*S	**Sg**	**18 09 57.0**	**-1.6**
	31nm,0.7s						
MDOK	**Medeo**	**5.18**	**291**	*e*P	**Pg**	**18 08 49.2**	**-3.0**
	7.3nm,0.6s						
MDOK				*e*S	**Sg**	**18 09 56.4**	**-2.9**
	33nm,0.7s						
MDOK	**Medeo**	**5.18**	**291**	Pg	**Pg**	**18 08 49.2**	**-3.0**
	7.3nm,0.6s						
MDOK				⇑Pg	Pb	18 08 50.2	+6.4
	17nm,0.8s						
MDOK				Lg	Lg	18 09 56.4	
	33nm,0.7s						
MDOK				Lg	Lg	18 10 00.9	
	40nm,0.8s						
TNSS	**Tian-Shan**	**5.21**	**290**	*e*P	**Pg**	**18 08 50.6**	**-2.3**
	4.9nm,0.3s						
TNSS				*e*S	**Sg**	**18 09 59.1**	**-1.4**
	17nm,0.8s						
TNSS	**Tian-Shan**	**5.21**	**290**	Pg	**Pg**	**18 08 50.6**	**-2.3**
	4.9nm,0.3s						
TNSS				Lg	Lg	18 09 59.1	
	17nm,0.8s						
MK31	**Makanchi Array**	**5.42**	**350**	Pn	**Pn**	**18 08 36.7**	**+2.8**
	0.3nm,0.3s,baz=156,slow=13,SNR=21						
MK31				Pg	**Pg**	**18 08 53.8**	**-3.0**
	3.1nm,0.6s,baz=166,slow=15,SNR=10.0						
MK31				⇓Lg	Lg	18 10 07.6	
	26nm,0.6s,baz=168,slow=26,SNR=14						
CHKK	**Chushkaly**	**5.46**	**298**	*e*P	**Pg**	**18 08 55.4**	**-2.2**
	0.7nm,0.1s						
CHKK				*e*S	**Sg**	**18 10 07.2**	**-1.1**
	22nm,0.5s						
CHKK	**Chushkaly**	**5.46**	**298**	Pg	**Pg**	**18 08 55.4**	**-2.2**
	0.7nm,0.1s						
CHKK				Lg	Lg	18 10 07.2	
	22nm,0.5s						
MAKZ	**Makanchi**	**5.47**	**348**	⇓Pn	**Pn**	**18 08 37.7**	**+3.0**
	1.9nm,0.7s						
MAKZ				⇑Lg	Lg	18 10 11.2	
	27nm,1.1s						
MTBS	**Maitube**	**5.61**	**290**	*e*P	**Pg**	**18 08 57.9**	**-2.5**
	3.8nm,0.2s						
MTBS				*e*S	**Sg**	**18 10 11.8**	**-1.1**
	11nm,0.5s						
MTBS	**Maitube**	**5.61**	**290**	Pg	**Pg**	**18 08 57.9**	**-2.5**
	3.8nm,0.2s						
MTBS				Lg	Lg	18 10 11.8	
	11nm,0.5s						
KTBS	**Karatobe**	**5.61**	**296**	*e*P	**Pg**	**18 08 59.0**	**-1.5**
	2.7nm,0.3s						
KTBS				*e*S	**Sg**	**18 10 13.2**	**+0.1**
	20nm,0.6s						
KUU	**Kurty**	**5.91**	**297**	*e*P	**Pg**	**18 09 05.1**	**-1.0**
	1.3nm,0.1s						
KUU				*e*S	**Sg**	**18 10 24.1**	**+1.5**
	11nm,0.7s						
KUU	**Kurty**	**5.91**	**297**	Pg	**Pg**	**18 09 05.1**	**-1.0**
	1.3nm,0.1s						
KUU				Lg	Lg	18 10 24.1	
	11nm,0.7s						
KST	**Kastek**	**5.92**	**288**	*e*P	**Pg**	**18 09 04.3**	**-2.0**
	5.7nm,0.5s						
KST				*e*S	**Sg**	**18 10 23.3**	**+0.4**
	30nm,0.8s						
KST	**Kastek**	**5.92**	**288**	Pg	**Pg**	**18 09 04.3**	**-2.0**
	5.7nm,0.5s						
KST				Lg	Lg	18 10 23.3	
	30nm,0.8s						
ZSN	**Zaisan**	**6.05**	**8**	*e*P	**Pg**	**18 09 06.2**	**-2.6**
	3.6nm,0.5s						
ZSN				*e*S	**Sg**	**18 10 26.2**	**-0.8**
	38nm,1.0s						
DGS	**Degeres**	**6.10**	**290**	*e*P	**Pg**	**18 09 07.8**	**-2.0**
	3.6nm,0.4s						
DGS				*e*S	**Sg**	**18 10 28.4**	**-0.4**
	13nm,0.7s						
TKM2	**Tokmak 2**	**6.15**	**286**	⇑Pn	**Pn**	**18 08 45.4**	**+1.2**
	12nm,1.2s						
TKM2				⇓Sn	**Sn**	**18 09 58.3**	**+3.5**
	7.7nm,0.8s						
TKM2				⇓Lg	Lg	18 10 29.3	
	32nm,0.9s						
KRBS	**Karabastau**	**6.29**	**293**	*e*P	**Pg**	**18 09 11.3**	**-2.2**
	1.6nm,0.3s						
KRBS				*e*S	**Sg**	**18 10 34.3**	**-0.7**
	6.1nm,0.6s						
KRBS	**Karabastau**	**6.29**	**293**	Pg	**Pg**	**18 09 09.6**	**-3.9**
	1.6nm,0.4s						
KRBS				Lg	Lg	18 10 32.3	
	9.3nm,0.6s						
KURBB	**Kurchatov Arra**	**9.82**	**341**	⇓Lg	Lg	18 12 28.9		
	24nm,0.7s							
KURK	**Kurchatov**	**9.89**	**341**	⇑Lg	Lg	18 12 33.0		
	14nm,0.8s							

IDC 02 18:11:15.5±2.6,5˚90S×130˚30E,h0km,mb3.5/1, mbtmp3.2/3,ML3.2/2,Error ellipse: s-maj=178.9km s-min=31.4km az=70.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.50**	**165**	Pn	Pn	18 14 41.2	-0.8
	0.1nm,0.3s,baz=348,slow=13,SNR=9.4						
WRA				Sn	Sn	18 17 11.6	-12
	0.2nm,0.3s,baz=338,slow=22,SNR=1.8						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**18.00**	**169**	P	P	18 15 27.8	-0.1
	0.1nm,0.3s,baz=344,slow=9.3,SNR=6.9						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**67.48**	**326**	P	P	18 22 13.3	0.0
	0.2nm,0.4s,baz=121,slow=6.5,SNR=6.5						
	0.2nm,0.4s						

*IDC **02** 18:16:27.0±1.1,54˚32N×35˚14W,h0km,mb3.6/8, mbtmp3.6/9,ML2.4/1,MS3.3/11,Error ellipse: s-maj=34.4km s-min=20.6km az=13.0*
ISC 02 18:16:28.5±0.9,54˚3N±0˚2×35˚2W±0˚1,h10km,n18, σ0s88/10,mb3.8/8,MS3.3/10,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**12.57**	**28**	LR	LR	18 22 05.6	
	comp=Z,48nm,18.4s,baz=242,slow=27						
SCHQ	**Schefferville**	**18.29**	**285**	P	**P**	**18 20 42.1**	**-0.2**
	0.1nm,0.3s,baz=77,slow=14,SNR=4.1						
SCHQ				LR	LR	18 25 53.5	
	comp=Z,144nm,21.3s,baz=126,slow=31						
	2.1nm,0.8s						
NOA	**NORSAR Array B**	**25.23**	**56**	LR	LR	18 30 06.0	
	comp=Z,32nm,20.2s,baz=240,slow=32						
ESDC	**Sonseca Array**	**25.56**	**112**	P	**P**	**18 21 57.9**	**+0.5**
	1.2nm,1.0s,baz=312,slow=7.7,SNR=2.3						
ESDC				LR	LR	18 29 48.5	
	comp=Z,75nm,19.0s,baz=270,slow=31						
	1.2nm,1.0s						
HFS	**Hagfors**	**26.56**	**57**	LR	LR	18 30 33.6	
	comp=Z,68nm,18.1s,baz=282,slow=32						
DAVOX	**Davos/Dischmat**	**29.17**	**86**	LR	LR	18 33 55.9	
	comp=Z,137nm,18.1s,baz=278,slow=36						
GERES	**GERESS Array B**	**30.34**	**80**	LR	LR	18 32 53.4	
	comp=Z,55nm,19.0s,baz=270,slow=32						
VRAC	**Vranov**	**31.78**	**77**	LR	LR	18 33 26.7	
	comp=Z,50nm,19.8s,baz=293,slow=32						
YKA	**Yellowknife Ar**	**39.87**	**315**	P	**P**	**18 24 02.0**	**+0.2**
	0.4nm,0.9s,baz=60,slow=8.7,SNR=2.1						
YKA				PcP	**PcP**	**18 26 06.5**	**-0.7**
	0.3nm,0.8s,baz=53,slow=3.2,SNR=3.3						
YKA				LR	LR	18 38 02.8	
	comp=Z,47nm,18.0s,baz=314,slow=32						
	0.4nm,0.9s						
BRTR	**Keskin Array B**	**47.22**	**78**	P	**P**	**18 25 02.9**	**+1.4**
	1.0nm,0.9s,baz=321,slow=4.1,SNR=4.0						
	1.0nm,0.9s						
KBZ	**Khabaz**	**49.76**	**68**	LR	LR	18 46 25.5	
	comp=Z,51nm,18.9s,baz=270,slow=36						
TORD	**Torodi Ar. Bea**	**50.21**	**131**	P	**P**	**18 25 23.6**	**-0.9**
	1.3nm,0.9s,baz=338,slow=4.7,SNR=5.7						
	1.3nm,0.9s						
GNI	**Garni**	**53.19**	**70**	LR	LR	18 50 25.8	
	comp=Z,28nm,18.3s,baz=256,slow=38						
TXAR	**Lajitas Array**	**54.38**	**272**	P	**P**	**18 25 56.1**	**+0.6**
	0.2nm,0.7s,baz=52,slow=5.8,SNR=2.5						
	0.2nm,0.7s						
BVAR	**Borovoye Array**	**56.57**	**44**	P	**P**	**18 26 10.8**	**-0.1**
	0.6nm,0.7s,baz=318,slow=7.8,SNR=3.9						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**61.66**	**42**	P	**P**	**18 26 46.2**	**+0.1**
	1.0nm,0.8s,baz=327,slow=6.9,SNR=10.0						
	1.0nm,0.8s						
MKAR	**Makanchi Array**	**66.22**	**42**	P	**P**	**18 27 15.1**	**-1.2**
	0.5nm,0.7s,baz=336,slow=4.3,SNR=4.2						
	0.5nm,0.7s						
MBAR	**Mbarara**	**76.65**	**110**	LR	LR	19 00 13.7	
	comp=Z,268nm,21.5s,baz=210,slow=34						

DJA 02 18:22:28.0±0.4,7˚S±3˚×12˚9E±˚,h222km±10km,M3.9/7, mb3.6/6,mB4.5/1,MLv4.0/7,Mw(mB)3.7/1,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.25**	**126**	P	Pn	18 23 12.1	+1.4
SAUI				S	S	18 23 44.4	+0.4
FAKI	**Fak Fak**	**4.63**	**37**	P	Pn	18 23 38.1	-0.3
SOEI	**Soe**	**6.00**	**239**	P	Pn	18 23 55.6	-0.1
	9.9nm,1.4s,0.1nm						
SWI	**Sorong**	**6.02**	**17**	P	Pn	18 23 55.6	-0.3
	6.8nm,0.9s,0.1nm						
LBMI	**Labuha**	**6.28**	**342**	P	Pn	18 24 00.9	+1.6
	31nm,1.5s,0.1nm						

*IDC **02** 18:27:05.4±0.7,6˚28S×143˚45E,h0km,mb4.3/13, mbtmp4.3/15,ML2.0/1,MS3.7/4,Error ellipse: s-maj=29.2km s-min=15.6km az=77.0*
*NEIC **02** 18:27:07.4±1.5,6˚34S±0˚07×143˚22E±0˚07,h10km±1km, mb4.6/66,Error ellipse: s-maj=12.5km s-min=11.9km az=135.0*
*DJA **02** 18:27:10.2±1.5,6˚S±3˚×14˚3E±˚,h23km±12km,M4.7/16, mB5.1/3,mb4.6/16,MLv4.8/6,Mw(mB)4.4/3*
ISC 02 18:27:06.9±0.4,6˚38S±0˚05×143˚28E±0˚05,h10km,n131, σ1s47/125,mb4.6/55,2C,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**2.32**	**298**	P	**Pn**	**18 27 45.4**	**+0.2**
MMPI	**Merauke**	**3.54**	**234**	P	**Pn**	**18 28 03.2**	**+1.3**
LAE	**Lae**	**3.62**	**95**	P	**Pb**	**18 28 08.5**	**-2.6**
GENI	**Genyem**	**4.87**	**320**	P	**Pn**	**18 28 22.7**	**+2.4**
PMG	**Port Moresby**	**4.88**	**128**		**Pn**	**18 28 20.9**	**+0.4**
PMG	**Port Moresby**	**4.88**	**128**	P	**Pn**	**18 28 24.0**	**+3.6**
PMG	**Port Moresby**	**4.88**	**128**	P	**Pn**	**18 28 23.6**	**+3.2**
PMG	**Port Moresby**	**4.88**	**128**	Pn	**Pn**	**18 28 21.3**	**+0.9**
	4.4nm,0.3s,baz=338,slow=3.9,SNR=17						
PMG				Sn	**Sn**	**18 29 13.8**	**-3.3**
	5.8nm,0.3s,baz=12,slow=6.7,SNR=3.9						
PMG				LR	LR	18 30 41.8	
	comp=Z,154nm,19.9s,baz=278,slow=45						
	7.4nm,0.3s						
MANU	**Manus Island**	**5.93**	**44**	Pn	**Pn**	**18 28 36.1**	**+1.2**
SMPI	**Sarmi**	**6.30**	**314**	P	**Pn**	**18 28 41.9**	**+1.9**
	52nm,1.1s,0.2nm						
COEN	**Coen**	**7.53**	**181**		**Pn**	**18 28 58.7**	**+1.8**
COEN	**Coen**	**7.53**	**181**	P	**Pn**	**18 28 59.0**	**+2.2**
RABL	**Rabaul**	**9.11**	**77**	Pn	**Pn**	**18 29 19.4**	**+0.8**
FAKI	**Fak Fak**	**11.52**	**287**	Pn	**Pn**	**18 29 50.1**	**-1.4**
MTSU	**Mount Surprise**	**11.73**	**175**	P	**Pn**	**18 29 57.1**	**+2.7**
SAUI	**Saumlaki**	**11.99**	**262**	Pn	**Pn**	**18 29 56.5**	**-1.5**
KDU	**Kakadu**	**12.36**	**239**	P	**Pn**	**18 30 02.5**	**-0.5**
MTN	**Manton Dam**	**13.58**	**241**	Pn	**Pn**	**18 30 17.5**	**-2.2**
MTN	**Manton Dam**	**13.58**	**241**	P	**Pn**	**18 30 19.4**	**-0.4**
DRS	**Darwin Rock St**	**13.61**	**243**	P	**Pn**	**18 30 19.7**	**-0.4**
CTA	**Charters Tower**	**13.93**	**168**	Lg	Lg	18 34 24.2	
	0.2nm,0.3s,baz=241,slow=11,SNR=2.7						
CTA				LR	LR	18 36 10.2	
	comp=Z,248nm,18.7s,baz=21,slow=39						
QIS	**Mount Isa**	**14.54**	**194**	P	**Pn**	**18 30 34.0**	**+1.2**
WB0	**Warramunga Arr**	**15.86**	**212**		**Pn**	**18 30 48.2**	**-2.2**
WR0	**Warramunga Arr**	**15.94**	**211**		**Pn**	**18 30 49.1**	**-2.4**
WRAB	**Tennant Creek**	**16.02**	**212**		**Pn**	**18 30 50.2**	**-2.3**
WB2	**Warramunga Arr**	**16.03**	**212**		**Pn**	**18 30 50.5**	**-2.1**
WRA	**Warramunga Arr**	**16.04**	**212**	Pn	**Pn**	**18 30 49.4**	**-3.3**
WRA	**Warramunga Arr**	**16.04**	**212**	Pn	**Pn**	**18 30 50.7**	**-2.0**
	1.5nm,0.3s,baz=32,slow=13,SNR=39						
WRA				Sn	Sn	18 33 37.1	-14
	0.6nm,0.3s,baz=27,slow=21,SNR=3.2						
WRA				Lg	Lg	18 35 31.8	
	baz=19,slow=24						
KNRA	**Kununurra**	**16.97**	**236**	Pn	**Pn**	**18 31 02.6**	**-1.9**
KNRA				IAmb	IAmb	18 31 03.9	
	comp=Z,33nm,0.7s						
KNRA	**Kununurra**	**16.97**	**236**	P	**Pn**	**18 31 03.2**	**-1.3**
SANI	**Sanana**	**17.77**	**283**	P	**P**	**18 31 16.4**	**+1.1**
	comp=Z,21nm,1.1s						
SOEI	**Soe**	**19.11**	**259**		**Pn**	**18 31 30.6**	**-0.6**
SOEI				IAmb	IAmb	18 31 54.6	
	comp=Z,37nm,0.9s						
SOEI					**Sn**	**18 34 59.7**	**-5.9**
SOEI	**Soe**	**19.11**	**259**	P	**Pn**	**18 31 31.7**	**+0.6**
	comp=Z,44nm,0.8s,comp=Z,566nm						
AS01	**Alice Springs**	**19.39**	**207**	P	**Pn**	**18 31 34.9**	**+0.7**
AS31	**Alice Springs**	**19.41**	**207**		**P**	**18 31 34.2**	**+0.8**
ASAR	**Alice Springs**	**19.41**	**207**		**Pn**	**18 31 34.5**	**0.0**
ASAR	**Alice Springs**	**19.41**	**207**	P	**Pn**	**18 31 35.5**	**+1.0**
	comp=Z,12nm,0.7s,baz=33,slow=9.5,SNR=60						
ASAR				S	Sn	18 35 01.1	-11
	comp=Z,0.9nm,0.6s,baz=9.6,slow=28,SNR=4.1						
ASAR				Lg	Lg	18 37 19.2	
	comp=Z,0.1nm,0.3s,baz=13,slow=29,SNR=2.6						
EIDS	**Eidsvold**	**20.31**	**159**	P	**P**	**18 31 44.8**	**+1.7**
FITZ	**Fitzroy Crossi**	**20.77**	**234**	P	**P**	**18 31 49.0**	**+0.7**
LUWI	**Luwuk**	**21.13**	**284**	P	**P**	**18 31 53.5**	**+1.3**
LUWI				IAmb	IAmb	18 32 10.9

USRK Ussuriysk Ar. 51.37 350 P **P** **18 36 11.0 -0.6**
USRK Ussuriysk Ar. 51.37 350 P **P** **18 36 11.9 +0.2**
comp=Z,5.5nm,0.7s,baz=179,slow=6.8,SNR=14
comp=Z,5.5nm,0.7s
XAN Xi'an 51.70 323 ⇑P **P** **18 36 14.1 -0.3**
XAN pP sP 18 36 19.2 0.0
XAN pmax pmax
comp=Z,10.0nm,1.5s
PZH PanZhiHua 51.85 311 P **P** **18 36 17.0 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,5.3s
HHC Hu-ho-hao-te 55.29 331 *eP* **P** **18 36 42.8 +2.1**
HHC pmax pmax
comp=Z,7.0nm,0.8s
HHC pmax pmax
comp=Z,180nm,5.7s
LZH Lanzhou 56.15 322 *eP* **P** **18 36 48.5 +1.4**
LZH sP sP 18 37 00.3 +8.4
LZH pmax pmax
comp=Z,18nm,1.0s
PETK Petropavlovsk- 60.51 10 P **P** **18 37 16.8 -0.3**
PETK Petropavlovsk- 60.51 10 P **P** **18 37 17.2 +0.1**
comp=Z,4.3nm,0.6s,baz=160,slow=6.0,SNR=12
comp=Z,4.3nm,0.6s
GTA Gaotai 60.72 322 *eP* **P** **18 37 20.0 +1.1**
GTA sP sP 18 37 32.5 +8.7
GTA pmax pmax
comp=Z,4.0nm,1.0s
LSA Lhasa 61.55 309 P **P** **18 37 23.9 -1.2**
LSA lAmb lAmb 18 37 27.8
comp=Z,2.6nm,0.7s
GOMU GeErMu 62.08 317 P **P** **18 37 30.4 +1.9**
GOMU pP sP 18 37 34.4 +1.0
GOMU sP pP 18 37 36.7 +4.6
GOMU pmax pmax
comp=Z,3.0nm,1.2s
ULN Ulaanbaatar 62.72 333 P **P** **18 37 31.5 -0.8**
ULN lAmb lAmb 18 37 34.1
comp=Z,4.3nm,1.1s
SONM Songino Array 63.00 333 P **P** **18 37 32.9 -1.2**
SONM Songino Array 63.00 333 P **P** **18 37 34.7 +0.6**
comp=Z,1.1nm,0.6s,baz=150,slow=9.9,SNR=4.7
comp=Z,1.1nm,0.6s
MA2 Magadan 66.02 4 P **P** **18 37 52.8 -0.6**
MA2 lAmb lAmb 18 37 54.4
comp=Z,6.1nm,0.8s
WMQ Urumqi 70.70 321 *eP* **P** **18 38 24.0 +0.8**
WMQ pmax pmax
comp=Z,11nm,0.9s
MK31 Makanchi Array 75.46 322 P **P** **18 38 51.1 -0.2**
MK31 lAmb lAmb 18 38 52.9
comp=Z,8.3nm,1.2s
MKAR Makanchi Array 75.46 322 P **P** **18 38 50.8 -0.6**
MKAR Makanchi Array 75.46 322 P **P** **18 38 51.9 +0.6**
comp=Z,6.4nm,0.7s,baz=103,slow=7.4,SNR=66
comp=Z,6.4nm,0.7s
MAKZ Makanchi 75.66 322 P **P** **18 38 52.3 -0.2**
KSH Kashi 76.90 313 P **P** **18 39 01.4 +1.6**
KSH pmax pmax
comp=Z,5.0nm,1.1s
NIL Nilore 77.15 306 P **P** **18 39 00.9 -0.3**
ZAA0 Zalesovo Array 77.39 329 P **P** **18 39 00.8 -1.2**
ZALV Zalesovo Beam 77.39 329 P **P** **18 39 00.6 -1.4**
ZALV Zalesovo Beam 77.39 329 P **P** **18 39 01.4 -0.7**
comp=Z,2.4nm,0.6s,baz=116,slow=6.6,SNR=13
comp=Z,2.4nm,0.6s
O14K Tigyukauivet M 78.77 26 P **P** **18 39 09.8 +0.2**
M14K Bethel 79.31 24 P **P** **18 39 12.8 +0.4**
KURK Kurchatov 79.33 324 P **P** **18 39 12.1 -0.6**
KURBB Kurchatov Arra 79.34 324 P **P** **18 39 12.8 0.0**
comp=Z,1.8nm,0.6s,baz=116,slow=4.4,SNR=23
comp=Z,1.8nm,0.6s
ARSB Arslanbob 79.64 314 P **P** **18 39 15.7 +0.7**
O16K Kokwok River B 80.32 26 P **P** **18 39 18.2 +0.3**
O16K lAmb lAmb 18 39 19.8
comp=Z,7.2nm,1.1s
M16K Timber Creek 80.69 25 P **P** **18 39 20.6 +0.6**
M16K lAmb lAmb 18 39 40.2
comp=Z,15nm,1.4s
L16K Owhat River 80.85 24 P **P** **18 39 21.1 +0.4**
GAR Garm 80.92 311 P **P** **18 39 21.4 -0.5**
GAR lAmb lAmb 18 39 23.0
comp=Z,11nm,1.3s
N17K Nushagak Hills 81.19 26 P **P** **18 39 23.3 +0.7**
N17K lAmb lAmb 18 39 58.1
comp=Z,10nm,1.4s
J16K Anvik River 81.26 22 P **P** **18 39 23.4 +0.5**
J16K lAmb lAmb 18 39 24.2
comp=Z,8.2nm,1.2s
OHAK Old Harbor 81.42 29 P **P** **18 39 23.8 -0.1**
OHAK lAmb lAmb 18 39 53.5
comp=Z,12nm,1.3s
CHGR Chuyangaron 81.70 310 P **P** **18 39 25.6 -0.4**
SIMJ Simiganj 81.82 310 P **P** **18 39 26.1 -0.6**
SIMJ lAmb lAmb 18 39 27.8
comp=Z,5.7nm,0.9s
H17K Granite Mounta 82.42 21 P **P** **18 39 29.3 +0.3**
H17K lAmb lAmb 18 39 30.7
comp=Z,4.3nm,0.9s
G18K Tagagawik 83.38 21 lAmb lAmb 18 39 36.4
comp=Z,5.7nm,1.2s
QSPA South Pole Qui 83.59 180 P **P** **18 39 35.1 -0.2**
comp=Z,2.9nm,0.5s,baz=222,slow=0.5,SNR=34
comp=Z,2.9nm,0.5s
G19K Purcell Mounta 84.06 21 lAmb lAmb 18 39 39.5
comp=Z,5.3nm,1.1s
BVAR Borovoye Array 84.91 325 P **P** **18 39 42.1 0.0**
comp=Z,7.2nm,0.8s,baz=103,slow=7.0,SNR=39
comp=Z,7.2nm,0.8s
BRVK Borovoye 84.98 325 P **P** **18 39 41.7 -0.7**
BRVK lAmb lAmb 18 39 43.7
comp=Z,5.6nm,0.8s
MLY Manley 85.89 23 P **P** **18 39 45.9 -0.8**
MLY lAmb lAmb 18 39 47.9
comp=Z,9.5nm,1.5s
DHY Denali Highway 86.49 25 P **P** **18 39 49.3 -0.6**
DHY lAmb lAmb 18 39 51.9
comp=Z,4.2nm,0.8s
CCB Clear Creek Bu 86.89 24 lAmb lAmb 18 39 51.2
comp=Z,5.9nm,1.0s
IL31 87.30 24 lAmb lAmb 18 39 57.5
comp=Z,4.9nm,1.2s
ILAR Eielson Array 87.30 24 P **P** **18 39 51.9 -1.8**
comp=Z,2.3nm,0.8s,baz=254,slow=4.8,SNR=21
comp=Z,2.3nm,0.8s
WSAR Wadi Sarin 87.59 294 LR LR 19 25 48.6
comp=Z,68nm,18.7s,baz=236,slow=40
RIDG Independent Ri 87.78 25 P **P** **18 39 55.8 -0.2**
J25K Salcha River, 87.86 24 P **P** **18 39 55.4 -1.0**
J25K lAmb lAmb 18 39 56.5
comp=Z,4.3nm,1.0s
F24K Squaw Lake 87.93 21 P **P** **18 39 57.1 +0.5**
F24K lAmb lAmb 18 39 58.5
comp=Z,4.6nm,0.8s
J26L Joseph Creek 88.56 24 P **P** **18 39 59.0 -0.8**
KIRV Kirov 97.42 328 LR LR 19 28 54.3
comp=Z,86nm,18.9s,baz=275,slow=38
TORD Torodi Ar. Bea 141.58 283 PKhKP PKPpre 18 46 33.8
comp=Z,0.5nm,0.7s,baz=79,slow=3.5,SNR=3.8
DBIC Dimbokro 148.34 272 PKPbc **PKPbc** **18 46 55.0 +0.4**
comp=Z,8.1nm,0.8s,baz=86,slow=4.3,SNR=11

*IDC **02** 18:30:03.4±12.0, 42.35S×82.47W, h0km, mb4.1/3, mbtmp4.0/4, ML4.4/1, MS4.1/15, Error ellipse: s-maj=332.8km s-min=31.7km az=9.0*
*NEIC **02** 18:30:04.8±1.7, 42.56S±0.08×82.2W±0.2, h10km±2km, mb4.4/28, Error ellipse: s-maj=19.5km s-min=14.0km az=263.0*
ISC 02 18:30:03.9±1.1, 42.6S±0.1×82.4W±0.1, h10km, n96, σ1§48/79, mb4.3/13, MS4.1/14, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO07	**Milladeo Hill,**	**6.41**	**97**	Pn	**Pn**	**18 31 34.1**	**-4.3**
GO07	**Milladeo Hill,**	**6.41**	**97**	*eP*	**Pn**	**18 31 35.5**	**-2.8**
LL06	**Loncomilla**	**6.48**	**89**	Pn	**Pn**	**18 31 38.0**	**-1.3**
LL06	**Loncomilla**	**6.48**	**89**	*eP*	**Pn**	**18 31 37.2**	**-2.1**
AY01	**Puyuhuapi**	**7.29**	**108**	Pn	**Pn**	**18 31 49.5**	**-0.9**
AY01	**Puyuhuapi**	**7.29**	**108**	*eP*	**Pn**	**18 31 49.2**	**-1.2**
LL01	**San Ignacio de**	**7.36**	**92**	Pn	**Pn**	**18 31 50.6**	**-0.7**
LL01	**San Ignacio de**	**7.36**	**92**	*eP*	**Pn**	**18 31 50.6**	**-0.7**
AY02	**Valle Explorad**	**7.61**	**124**		**Pn**	**18 31 53.9**	**-0.8**
LL02	**Futaleuf**	**7.74**	**98**	Pn	**Pn**	**18 31 57.0**	**+0.4**
LL02	**Futaleuf**	**7.74**	**98**	*eP*	**Pn**	**18 31 57.1**	**+0.4**
LC02	**Puerto Saavedr**	**7.82**	**64**	Pn	**Pn**	**18 31 56.2**	**-1.4**
COYC	**Coyhaique**	**7.97**	**115**	Pn	**Pn**	**18 32 00.9**	**+1.1**
LR05	**Currie**	**8.14**	**76**	Pn	**Pn**	**18 32 00.7**	**-1.4**
LR05	**Currie**	**8.14**	**76**	*eP*	**Pn**	**18 32 00.7**	**-1.4**
AY03	**Cochrane**	**8.34**	**127**		**Pn**	**18 32 05.1**	**+0.3**
GO06	**Curarrehue**	**8.76**	**73**		**Pn**	**18 32 10.0**	**-0.7**
GO06	**Curarrehue**	**8.76**	**73**	*eP*	**Pn**	**18 32 10.0**	**-0.7**
GO08	**Villa O'Higgin**	**9.03**	**134**		**Pn**	**18 32 12.4**	**-1.8**
PLCA	**Paso Flores**	**9.04**	**82**		**Pn**	**18 32 14.7**	**+0.2**
PLCA	**Paso Flores**	**9.04**	**82**	Pn	**Pn**	**18 32 15.4**	**+0.9**
	0.9nm,0.3s,baz=267,slow=10.0,SNR=15						
PLCA				Sn	**Sn**	**18 34 00.3**	**+3.9**
	baz=4.2,slow=20,SNR=0.8						
PLCA				LR	LR	18 35 08.6	
	comp=Z,485nm,19.9s,baz=244,slow=34 1.6nm,0.4s						
H03S1	**Juan Fernandez**	**9.17**	**18**	Pn	**Pn**	**18 32 17.4**	**+1.5**
	baz=201,slow=6.8						
H03S1				T	T	18 42 15.0	
	baz=195,slow=73,SNR=79						
H03S2	**Juan Fernandez**	**9.17**	**18**	Pn	**Pn**	**18 32 17.6**	**+1.7**
	baz=201,slow=6.8						
H03S2				T	T	18 42 13.8	
	baz=195,slow=73,SNR=89						
BI05	**Punta Hualpn**	**9.18**	**53**	Pn	**Pn**	**18 32 14.2**	**-2.1**
H03S3	**Juan Fernandez**	**9.18**	**18**	Pn	**Pn**	**18 32 17.5**	**+1.4**
	baz=201,slow=6.8						
H03S3				T	T	18 42 18.1	
	baz=195,slow=73,SNR=124						
VA04	**Juan Fernndez**	**9.38**	**18**		**Pn**	**18 32 18.1**	**-1.0**
H03N3	**Juan Fernandez**	**9.54**	**18**	Pn	**Pn**	**18 32 22.9**	**+1.9**
	baz=174,slow=27						
H03N2	**Juan Fernandez**	**9.55**	**18**	Pn	**Pn**	**18 32 22.6**	**+1.5**
	baz=174,slow=27						
H03N1	**Juan Fernandez**	**9.55**	**18**	Pn	**Pn**	**18 32 22.3**	**+1.1**
	baz=174,slow=27						
ML02	**Panimavida**	**10.90**	**55**		**Pn**	**18 32 38.3**	**-1.6**
GO09	**Cerro Castillo**	**11.03**	**145**	Pn	**Pn**	**18 32 41.0**	**-0.7**
GO05	**Huala**	**11.12**	**50**		**Pn**	**18 32 41.5**	**-1.5**
BO02	**Sierra Bellavi**	**11.94**	**53**		**Pn**	**18 32 51.8**	**-2.5**
VA05	**Santo Domingo**	**12.30**	**47**		**Pn**	**18 32 56.8**	**-2.3**
MT09	**Talagante**	**12.55**	**49**		**Pn**	**18 33 00.9**	**-1.7**
BO04	**La Punta**	**12.61**	**51**		**Pn**	**18 33 01.1**	**-2.3**
VA01	**Torpederas**	**12.77**	**45**	Pn	**Pn**	**18 33 04.3**	**-1.2**
MT02	**Curacav**	**12.86**	**47**		**Pn**	**18 33 05.3**	**-1.5**
LMEL	**Las Melosas**	**12.95**	**51**		**Pn**	**18 33 07.1**	**-1.0**
MT03	**Universidad Ad**	**13.03**	**50**	Pn	**Pn**	**18 33 06.4**	**-2.8**
MT16	**CCHEN**	**13.07**	**49**	Pn	**Pn**	**18 33 08.5**	**-1.2**
PEL	**Peldehue**	**13.20**	**48**		**Pn**	**18 33 10.4**	**-0.9**
VA06	**Catapilco**	**13.32**	**45**	Pn	**Pn**	**18 33 11.2**	**-1.7**
VA03	**San Esteban**	**13.56**	**47**		**Pn**	**18 33 14.1**	**-2.3**
CO02	**Combarbal**	**14.55**	**42**		**Pn**	**18 33 27.3**	**-2.7**
CO06	**Fray Jorge**	**14.69**	**39**	Pn	**Pn**	**18 33 29.4**	**-2.3**
CO03	**El Pedregal**	**15.00**	**42**		**Pn**	**18 33 35.0**	**-1.0**
CO01	**Juntas del Tor**	**16.00**	**42**		**Pn**	**18 33 47.9**	**-1.4**
TRQA	**Tornquist**	**16.19**	**81**		**Pn**	**18 33 53.0**	**+1.5**
LCO	**Las Campanas**	**16.52**	**39**		**Pn**	**18 33 55.9**	**0.0**
LCO				lAmb	lAmb	18 34 04.7	
	comp=Z,38nm,1.2s						
AC02	**Maricunga**	**19.09**	**39**	P	**P**	**18 34 25.2**	**-2.1**
GO02	**Mina Guanaco**	**20.34**	**35**		**P**	**18 34 39.6**	**-1.0**
GO02				lAmb	lAmb	18 34 48.9	
	comp=Z,29nm,1.1s						
PB14	**IPOC Station P**	**20.48**	**33**	P	**P**	**18 34 41.5**	**-0.7**
PB15	**IPOC Station P**	**22.12**	**33**	P	**P**	**18 35 00.4**	**+0.6**
LVC	**Limon Verde**	**22.89**	**34**	P	**P**	**18 35 06.9**	**-1.2**
LVC	**Limon Verde**	**22.89**	**34**	LR	LR	18 42 04.5	
	comp=Z,231nm,20.3s,baz=200,slow=32						
AF01	**San Pedro de A**	**22.89**	**36**	P	**P**	**18 35 07.2**	**-0.8**
PB09	**IPOC Station P**	**23.48**	**32**	P	**P**	**18 35 13.4**	**-0.5**
PB09				lAmb	lAmb	18 35 36.6	
	comp=Z,19nm,1.2s						
PB01	**IPOC Station P**	**24.07**	**31**	P	**P**	**18 35 19.7**	**+0.2**
PB01				lAmb	lAmb	18 35 23.1	
	comp=Z,7.3nm,0.8s						
ITQB	**Itaqui**	**24.36**	**66**	P	**P**	**18 35 22.0**	**-0.1**
PB08	**IPOC Station P**	**25.02**	**31**	P	**P**	**18 35 28.2**	**-0.3**
PB08				lAmb	lAmb	18 35 35.8	
	comp=Z,15nm,1.5s						
PB11	**IPOC Station P**	**25.18**	**29**	P	**P**	**18 35 31.5**	**+1.8**
PB11				lAmb	lAmb	18 36 00.6	
	comp=Z,11nm,1.1s						
PLTB	**Pedras Altas**	**25.23**	**74**	P	**P**	**18 35 29.1**	**-0.8**
PLTB				lAmb	lAmb	18 35 33.6	
	comp=Z,6.6nm,0.8s						
GO01	**Chusmiza**	**25.44**	**30**	P	**P**	**18 35 32.0**	**-0.4**
GO01				lAmb	lAmb	18 35 51.7	
	comp=Z,9.9nm,1.3s						
CPUP	**Villa Florida**	**26.12**	**60**	P	**P**	**18 35 37.2**	**-0.8**
CPUP				lAmb	lAmb	18 35 41.5	
	comp=Z,11nm,1.3s						
CPUP	**Villa Florida**	**26.12**	**60**	P	**P**	**18 35 38.6**	**+0.6**
	comp=Z,2.8nm,0.7s,baz=242,slow=8.3,SNR=6.0						
CPUP				LR	LR	18 46 03.4	
	comp=Z,479nm,19.3s,baz=216,slow=37						
	comp=Z,2.8nm,0.7s						
RPN	**Rapa Nui**	**26.84**	**296**	LR	LR	18 43 13.9	
	comp=Z,330nm,19.3s,baz=123,slow=30						
NNA	**Nana**	**30.89**	**11**	LR	LR	18 45 28.9	
	comp=Z,180nm,19.4s,baz=185,slow=30						
AQDB	**Aquidauana**	**31.45**	**54**	P	**P**	**18 36 25.5**	**0.0**
TRCB	**Terra Rica**	**31.63**	**61**	P	**P**	**18 36 27.7**	**+0.5**
HOPE	**Hope Point**	**32.03**	**127**	P	**P**	**18 36 30.8**	**+0.5**
SIV	**San Ignacio**	**32.20**	**41**	LR	LR	18 48 51.7	
	comp=Z,342nm,18.1s,baz=220,slow=35						
PTLB	**Pontes e Lacer**	**33.62**	**43**	P	**P**	**18 36 44.6**	**0.0**
PTLB				lAmb	lAmb	18 36 47.4	
	comp=Z,4.1nm,0.9s						
ATAH	**Atahualpa**	**35.51**	**7**	LR	LR	18 48 48.8	
	comp=Z,167nm,18.6s,baz=186,slow=32						
ETMB	**Extrema**	**35.60**	**28**	P	**P**	**18 37 01.6**	**-0.1**
ETMB				lAmb	lAmb	18 37 03.6	
	comp=Z,3.0nm,0.9s						
SAML	**Samuel**	**37.52**	**32**		**P**	**18 37 17.9**	**-0.2**
SAML				lAmb	lAmb	18 37 21.3	
	comp=Z,5.1nm,0.9s						
MCRA	**Macar, Loja**	**38.14**	**4**	P	**P**	**18 37 24.1**	**+0.8**
BDFB	**Brasilia**	**39.83**	**58**	P	**P**	**18 37 37.5**	**-0.2**
BDFB				lAmb	lAmb	18 37 39.9	
	comp=Z,7.7nm,1.0s						
BDFB	**Brasilia**	**39.83**	**58**	P	**P**	**18 37 37.8**	**+0.1**
	comp=Z,4.5nm,0.8s,baz=214,slow=9.9,SNR=5.7						
BDFB				LR	LR	18 54 47.1	
	comp=Z,290nm,18.4s,baz=284,slow=37						
	comp=Z,4.5nm,0.8s						
COHC	**Cochancay**	**40.07**	**5**	P	**P**	**18 37 40.4**	**+1.0**
ROSC	**El Rosal**	**47.79**	**11**	LR	LR	18 55 13.6	
	comp=Z,430nm,19.8s,baz=206,slow=32						
BOAV	**Boa Vista**	**48.96**	**30**	P	**P**	**18 38 50.4**	**-0.1**
BOAV				lAmb	lAmb	18 38 52.2	
	comp=Z,3.0nm,0.9s						
SDV	**Santo Domingo**	**52.36**	**15**	P	**P**	**18 39 16.6**	**+0.3**
VNDA	**Vanda**	**53.95**	**194**	LR	LR	18 57 34.4	
	comp=Z,148nm,19.9s,baz=190,slow=30						
MDP	**Montagnes des**	**54.62**	**37**	LR	LR	19 00 12.7	
	comp=Z,167nm,18.4s,baz=138,slow=33						
RCBR	**Riachuelo**	**54.97**	**62**	LR	LR	19 02 35.7	
	comp=Z,222nm,18.8s,baz=266,slow=36						
TEIG	**Tepich**	**62.76**	**354**	LR	LR	19 01 16.4	
	comp=Z,779nm,20.1s,baz=247,slow=30						
TXAR	**Lajitas Array**	**74.23**	**341**	P	**P**	**18 41 40.4**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=157,slow=9.4,SNR=5.9						
	comp=Z,0.6nm,0.8s						
SUR	**Sutherland**	**77.46**	**122**	LR	LR	19 11 54.9	
	comp=Z,71nm,20.4s,baz=170,slow=32						
BBTS	**Babate**	**82.94**	**63**	LR	LR	19 18 33.2	
	comp=Z,159nm,18.1s,baz=143,slow=35						
H11S2	**WAKE ISLAND Hyl**	**17.58**	**270**	T	T	20 56 44.6	
	baz=129,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hyl**	**17.59**	**270**	T	T	20 56 53.4	
	baz=129,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hyl**	**17.59**	**270**	T	T	20 56 54.1	
	baz=129,slow=76,SNR=23						
H11N3	**WAKE ISLAND Hyl**	**18.19**	**271**	T	T	20 58 03.8	
	baz=130						
H11N1	**WAKE ISLAND Hyl**	**18.20**	**271**	T	T	20 57 55.9	
	baz=130						
H11N2	**WAKE ISLAND Hyl**	**18.21**	**271**	T	T	20 57 57.3	
	baz=130						

*IDC **02** 18:34:26.8±1.2, 6.09S×143.12E, h0km, mb3.9/3, mbtmp3.9/5, ML1.1/1, Error ellipse: s-maj=43.5km s-min=27.0km az=57.0*
ISC 02 18:34:31.3±1.0, 6.49S±0.10×142.78E±0.10, h35km, n6, σ2§15/9, mb3.8/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.21**	**124**	Pn	**Pn**	**18 35 47.3**	**+0.5**
	0.5nm,0.3s,baz=47,slow=6.1,SNR=2.1						
PMG				Sn	**Sn**	**18 36 45.5**	**-0.2**
	0.5nm,0.3s,baz=33,slow=19,SNR=2.2 3.7nm,0.5s						
WRA	**Warramunga Arr**	**15.69**	**211**	Pn	**P**	**18 38 11.7**	**-1.8**
	0.2nm,0.3s,baz=29,slow=14,SNR=1.9						
WRA				Sn	**Sn**	**18 41 01.8**	**-0.9**
	0.1nm,0.3s,baz=26,slow=22,SNR=2.3						
WRA				Lg	Lg	18 42 53.2	
	0.1nm,0.3s,baz=100,slow=16,SNR=2.2						
ASAR	**Alice Springs**	**19.09**	**206**	P	**Pn**	**18 38 56.0**	**+3.8**
	3.1nm,0.6s,baz=35,slow=8.2,SNR=4.7						
ASAR				S	**Sn**	**18 42 23.1**	**-2.1**
	0.7nm,0.7s,baz=24,slow=27,SNR=2.1						
ASAR				Lg	Lg	18 44 45.3	
	baz=25,slow=29,SNR=1.9						
MKAR	**Makanchi Array**	**75.25**	**322**	P	**P**	**18 46 11.4**	**+0.7**
	0.4nm,0.7s,baz=102,slow=6.2,SNR=5.9 0.4nm,0.7s						
BVAR	**Borovoye Array**	**84.72**	**325**	P	**P**	**18 47 02.3**	**+0.6**
	2.7nm,0.8s,baz=97,slow=5.8,SNR=12 2.7nm,0.8s						
ILAR	**Eielson Array**	**87.60**	**24**	P	**P**	**18 47 13.7**	**-2.0**
	0.4nm,0.7s,baz=248,slow=4.1,SNR=5.2 0.4nm,0.7s						

*IDC **02** 18:42:27.3±0.7, 6.01S×143.06E, h0km, mb4.1/10, mbtmp4.1/13, ML2.5/2, MS3.8/15, Error ellipse: s-maj=32.5km s-min=14.8km az=73.0*
*NEIC **02** 18:42:29.1±1.9, 6.23S±0.08×142.83E±0.07, h10km±1km, mb4.5/48, Error ellipse: s-maj=13.1km s-min=12.2km az=163.0*
*DJA **02** 18:42:31.2±0.3, 6°S±3°×14°3E±°, h10km, M4.7/19, mB4.9/3, mb4.5/19, MLv4.9/6, Mw(mB)4.2/3*
ISC 02 18:42:29.3±0.4, 6°24S±0.05×142°84E±0.06, h10km, n119, σ1§51/104, mb4.5/33, MS3.9/13, 1C, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**1.87**	**301**	P	**Pb**	**18 43 02.3**	**-1.3**
MMPI	**Merauke**	**3.29**	**228**	P	**Pn**	**18 43 23.3**	**+2.4**
GENI	**Genyem**	**4.49**	**324**	P	**Pn**	**18 43 38.2**	**+0.7**
PMG	**Port Moresby**	**5.32**	**127**		**Pn**	**18 43 48.5**	**-0.3**
PMG	**Port Moresby**	**5.32**	**127**	P	**Pn**	**18 43 49.2**	**+0.5**
PMG	**Port Moresby**	**5.32**	**127**	P	**Pn**	**18 43 49.3**	**+0.5**
PMG	**Port Moresby**	**5.32**	**127**	Pn	**Pn**	**18 43 49.0**	**+0.3**
	3.7nm,0.3s,baz=336,slow=5.4,SNR=24						
PMG				Sn	**Sn**	**18 44 48.2**	**-1.9**
	5.5nm,0.3s,baz=228,slow=20,SNR=12 27nm,0.6s						
SMPI	**Sarmi**	**5.89**	**316**	P	**Pn**	**18 43 57.8**	**+1.1**
	77nm,1.6s,1µm0.4nm						
MANU	**Manus Island**	**6.14**	**48**	Pn	**Pn**	**18 44 01.0**	**+0.8**
COEN	**Coen**	**7.68**	**178**		**Pn**	**18 44 23.1**	**+1.7**
RABL	**Rabaul**	**9.51**	**78**	Pn	**Pn**	**18 44 47.5**	**+1.1**
FAKI	**Fak Fak**	**11.06**	**287**	Pn	**Pn**	**18 45 07.5**	**-0.1**
SAUI	**Saumlaki**	**11.58**	**261**		**Pn**	**18 45 15.2**	**+0.4**
SAUI	**Saumlaki**	**11.58**	**261**	P	**Pn**	**18 45 16.1**	**+1.3**
	177nm,1.0s						
KDU	**Kakadu**	**12.06**	**237**	P	**Pn**	**18 45 22.2**	**+0.8**
MTN	**Manton Dam**	**13.28**	**240**	Pn	**Pn**	**18 45 35.7**	**-2.3**
DRS	**Darwin Rock St**	**13.29**	**242**	P	**Pn**	**18 45 39.8**	**+1.7**
CTA	**Charters Tower**	**14.16**	**167**	Pn	**Pn**	**18 45 53.3**	**+3.1**
	baz=25,slow=17,SNR=1.8						
CTA				Lg	Lg	18 50 04.7	
	0.1nm,0.3s,baz=246,slow=21,SNR=2.5						
CTA				LR	LR	18 50 52.5	
	comp=Z,170nm,18.2s,baz=356,slow=35 2.3nm,1.0s						
CTAO	**Charters Tower**	**14.16**	**167**	Pn	Pn	18 45 46.2	-4.0
QIS	**Mount Isa**	**14.58**	**192**	P	**Pn**	**18 45 57.4**	**+1.6**
WB0	**Warramunga Arr**	**15.76**	**211**		**Pn**	**18 46 10.9**	**-0.6**
WR0	**Warramunga Arr**	**15.85**	**210**		**Pn**	**18 46 11.4**	**-1.3**
WR0				lAmb	lAmb	18 46 24.0	
	comp=Z,20nm,0.8s						
WRAB	**Tennant Creek**	**15.92**	**210**		**Pn**	**18 46 12.1**	**-1.5**
WB2	**Warramunga Arr**	**15.93**	**210**		**Pn**	**18 46 12.0**	**-1.7**
WRA	**Warramunga Arr**	**15.93**	**210**		**Pn**	**18 46 12.3**	**-1.4**
WRA	**Warramunga Arr**	**15.93**	**210**	Pn	**Pn**	**18 46 12.4**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=23,slow=14,SNR=22						
WRA				Sn	Sn	18 49 02.2	-8.4
	comp=Z,0.2nm,0.3s,baz=28,slow=23,SNR=3.3						
WRA				Lg	Lg	18 50 55.9	
	comp=Z,0.3nm,0.3s,baz=40,slow=26,SNR=2.8						
KNRA	**Kununurra**	**16.69**	**235**	Pn	**Pn**	**18 46 21.7**	**-1.8**
KNRA				lAmb	lAmb	18 46 33.6	
	comp=Z,53nm,0.9s						
HNR	**Honiara**	**17.24**	**102**	P	**P**	**18 46 31.2**	**-0.8**
HNR				lAmb	lAmb	18 46 48.1	
	comp=Z,44nm,0.8s						
SANI	**Sanana**	**17.31**	**283**	P	**P**	**18 46 34.2**	**+1.5**
SOEI	**Soe**	**18.72**	**258**	P	**P**	**18 46 47.5**	**-0.9**
SOEI				lAmb	lAmb	18 47 18.2	
	comp=Z,41nm,0.7s						
SOEI	**Soe**	**18.72**	**258**	P	**Pn**	**18 46 50.5**	**+1.8**
SOEI	**Soe**	**18.72**	**258**	P	**Pn**	**18 46 50.0**	**+1.3**
	comp=Z,57nm,0.9s						
AS01	**Alice Springs**	**19.32**	**205**	P	**Pn**	**18 46 57.3**	**+1.4**
AS31	**Alice Springs**	**19.34**	**205**		**P**	**18 46 54.8**	**-0.2**
ASAR	**Alice Springs**	**19.34**	**205**		**P**	**18 46 55.5**	**+0.5**
ASAR	**Alice Springs**	**19.34**	**205**	P	**Pn**	**18 46 57.9**	**+1.7**
	comp=Z,31nm,0.9s,baz=34,slow=7.2,SNR=117						
ASAR				S	**Sn**	**18 50 27.7**	**-5.6**
	comp=Z,2.2nm,0.7s,baz=18,slow=27,SNR=5.5						
ASAR				Lg	Lg	18 52 40.7	
	comp=Z,0.2nm,0.3s,baz=20,slow=28,SNR=4.0						
ASAR				LR	LR	18 55 06.7	
	comp=Z,872nm,18.6s,baz=36,slow=39						
QLP	**Quilpie**	**20.28**	**176**	P	Pn	18 47 09.1	+1.9
FITZ	**Fitzroy Crossi**	**20.51**	**233**	P	**P**	**18 47 07.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**20.51**	**233**	P	**P**	**18 47 09.5**	**+1.7**
MMRI	**Maumere**	**20.56**	**262**	P	**P**	**18 47 08.5**	**+0.1**
MMRI				lAmb	lAmb	18 47 47.0	
	comp=Z,42nm,1.4s						
EIDS	**Eidsvold**	**20.60**

DZM	**Mont Dzumac**	**27.71**	**127**	LR		LR	18 59 03.6		
	comp=Z,305nm,20.6s,baz=290,slow=36								
FORT	**Forrest**	**28.08**	**208**	P		**P**	**18 48 19.9**	**-1.3**	
SYDH	**Sydney Hard Ro**	**28.36**	**166**	P		**P**	**18 48 25.9**	**+2.3**	
LEM	**Lembang**	**34.99**	**267**	LR		LR	19 07 36.3		
	comp=Z,68nm,18.7s,baz=135,slow=43								
NWAO	**Narrogin (SRO)**	**35.67**	**219**	P		**P**	**18 49 27.1**	**-0.8**	
NWAO	**Narrogin (SRO)**	**35.67**	**219**	LR		LR	19 05 00.2		
	comp=Z,354nm,20.6s,baz=74,slow=38								
NJ2	**Nanjing**	**44.41**	**330**	*e*P		**P**	**18 50 41.2**	**+0.8**	
NJ2				pmax		pmax			
	comp=Z,7.0nm,0.8s								
URZ	**Urewera**	**44.50**	**141**	LR		LR	19 10 52.2		
	comp=Z,104nm,18.4s,baz=300,slow=38								
KSRS	**Korea Array**	**45.64**	**343**	P		**P**	**18 50 48.7**	**-1.3**	
	comp=Z,4.0nm,1.0s,baz=164,slow=8.9,SNR=8.8								
	comp=Z,4.0nm,1.0s								
CMAR	**Chiang Mai Arr**	**49.76**	**300**	P		**P**	**18 51 22.1**	**-0.2**	
	comp=Z,0.9nm,0.8s,baz=108,slow=6.6,SNR=6.9								
	comp=Z,0.9nm,0.8s								
USRK	**Ussuriysk Ar.**	**51.15**	**350**	P		**P**	**18 51 31.6**	**-0.8**	
	comp=Z,2.9nm,0.8s,baz=169,slow=8.2,SNR=6.2								
	comp=Z,2.9nm,0.8s								
XAN	**Xi'an**	**51.32**	**324**	⇑P		**P**	**18 51 33.4**	**-0.6**	
XAN				pmax		pmax			
	comp=Z,7.0nm,1.2s								
HHC	**Hu-ho-hao-te**	**54.95**	**331**	*e*P		**P**	**18 52 03.8**	**+3.1**	
HHC				pmax		pmax			
	comp=Z,5.0nm,0.8s								
HHC				pmax		pmax			
	comp=Z,150nm,6.0s								
RAR	**Rarotonga**	**57.40**	**111**	LR		LR	19 17 05.1		
	comp=Z,34nm,18.1s,baz=158,slow=36								
SHEM	**Shemya Is, Ala**	**64.46**	**20**	LR		LR	19 16 02.4		
	comp=Z,91nm,21.9s,baz=44,slow=31								
PPT	**Papeete**	**66.80**	**106**	LR		LR	19 18 31.5		
	comp=Z,51nm,20.9s,baz=166,slow=32								
PPT2	**Papeete2**	**66.80**	**106**	*e*LR		LR	19 13 24.8		
	comp=Z,78nm,22.0s								
PPT2				*e*LR		LR	19 13 25.2		
	comp=Z,124nm,31.8s								
TBI	**Tubuai**	**67.09**	**113**	*e*LR		LR	19 13 40.5		
	comp=Z,859nm,34.8s								
ATKA	**Atka Island**	**68.73**	**27**	P		**P**	**18 53 35.6**	**+2.5**	
WMQ	**Urumqi**	**70.32**	**321**	*e*P		**P**	**18 53 44.7**	**+1.4**	
MK31	**Makanchi Array**	**75.08**	**322**	P		**P**	**18 54 10.8**	**-0.8**	
MKAR	**Makanchi Array**	**75.08**	**322**	P		**P**	**18 54 10.4**	**-1.1**	
MKAR	**Makanchi Array**	**75.08**	**322**	P		**P**	**18 54 10.8**	**-0.7**	
	comp=Z,0.9nm,0.7s,baz=104,slow=6.6,SNR=10.0								
	comp=Z,0.9nm,0.7s								
MAKZ	**Makanchi**	**75.28**	**322**	P		**P**	**18 54 11.5**	**-1.1**	
KSH	**Kashi**	**76.48**	**313**	P		**P**	**18 54 20.9**	**+1.1**	
KSH				pmax		pmax			
	comp=Z,3.0nm,1.9s								
NIL	**Nilore**	**76.72**	**307**	P		**P**	**18 54 20.3**	**-0.8**	
NIL				IAmb		IAmb	18 54 23.9		
	comp=Z,4.8nm,0.8s								
ZALV	**Zalesovo Beam**	**77.04**	**329**	P		**P**	**18 54 21.5**	**-1.0**	
	comp=Z,0.2nm,0.3s,baz=108,slow=7.7,SNR=1.8								
	comp=Z,0.2nm,0.3s								
KURBB	**Kurchatov Arra**	**78.97**	**324**	P		**P**	**18 54 32.3**	**-0.9**	
	comp=Z,0.4nm,0.6s,baz=111,slow=4.1,SNR=4.8								
	comp=Z,0.4nm,0.6s								
O16K	**Kokwok River B**	**80.39**	**26**	P		**P**	**18 54 40.2**	**-0.5**	
L16K	**Owhat River**	**80.89**	**24**	P		**P**	**18 54 42.7**	**-0.7**	
L16K				IAmb		IAmb	18 54 59.7		
	comp=Z,7.7nm,1.2s								
J16K	**Anvik River**	**81.29**	**22**	P		**P**	**18 54 45.4**	**-0.1**	
J16K				IAmb		IAmb	18 54 54.3		
	comp=Z,4.1nm,1.1s								
SIMJ	**Simiganj**	**81.39**	**310**	P		**P**	**18 54 44.8**	**-2.0**	
SIMJ				IAmb		IAmb	18 54 54.1		
	comp=Z,3.4nm,1.1s								
KK31	**Karatay Array**	**81.51**	**315**	P		**P**	**18 54 45.9**	**-1.3**	
KK31				IAmb		IAmb	18 54 49.0		
	comp=Z,6.6nm,1.4s								
P18K	**Big Mountain,**	**81.57**	**27**	P		**P**	**18 54 47.2**	**+0.1**	
M17K	**Holitna River**	**81.57**	**25**	P		**P**	**18 54 46.3**	**-0.8**	
K17K	**Iditarod**	**81.89**	**23**	P		**P**	**18 54 47.8**	**-0.9**	
KDAK	**Kodiak Island**	**82.10**	**29**	LR		LR	19 22 58.4		
	comp=Z,78nm,21.8s,baz=233,slow=30								
SVW2	**Sparrevohn**	**82.21**	**26**	P		**P**	**18 54 49.8**	**-0.6**	
SVW2				IAmb		IAmb	18 55 01.2		
	comp=Z,7.4nm,1.2s								
N19K	**Bonanza Creek**	**82.55**	**26**	P		**P**	**18 54 51.0**	**-1.4**	
J18K	**Innoko River**	**82.89**	**23**	P		**P**	**18 54 52.8**	**-1.1**	
J18K				IAmb		IAmb	18 55 23.3		
	comp=Z,2.8nm,1.1s								
G18K	**Tagagawik**	**83.40**	**21**	P		**P**	**18 54 55.4**	**-1.1**	
G18K				IAmb		IAmb	18 55 01.3		
	comp=Z,7.4nm,1.4s								
QSPA	**South Pole Qui**	**83.73**	**180**	P		**P**	**18 54 58.6**	**+0.1**	
	comp=Z,1.6nm,0.8s,baz=353,slow=1.4,SNR=9.8								
	comp=Z,1.6nm,0.8s								
SUA	**Susitna One**	**84.47**	**26**	P		**P**	**18 55 01.6**	**-0.6**	
BVAR	**Borovoye Array**	**84.54**	**325**	P		**P**	**18 55 02.1**	**-0.5**	
	comp=Z,3.4nm,0.7s,baz=116,slow=6.6,SNR=18								
	comp=Z,3.4nm,0.7s								
IMAR	**Indian Mountai**	**85.20**	**22**	P		**P**	**18 55 04.1**	**-1.5**	
RND	**Reindeer**	**86.04**	**25**	P		**P**	**18 55 08.0**	**-2.0**	
D22K	**Ayikyak River**	**86.87**	**19**	P		**P**	**18 55 12.7**	**-1.2**	
D22K				IAmb		IAmb	18 55 16.1		
	comp=Z,2.3nm,0.7s								
CCB	**Clear Creek Bu**	**86.93**	**24**	P		**P**	**18 55 11.2**	**-3.0**	
CCB				IAmb		IAmb	18 55 27.1		
	comp=Z,2.7nm,0.9s								
ILAR	**Eielson Array**	**87.34**	**24**	P		**P**	**18 55 13.6**	**-2.7**	
ILAR	**Eielson Array**	**87.34**	**24**	P		**P**	**18 55 13.7**	**-2.6**	
	comp=Z,1.5nm,0.8s,baz=249,slow=5.1,SNR=17								
ILAR				LR		LR	19 29 13.4		
	comp=Z,62nm,21.4s,baz=194,slow=32								
	comp=Z,1.5nm,0.8s								
C23K	**Itkillik River**	**87.94**	**19**	P		**P**	**18 55 18.2**	**-0.7**	
M27K	**Edge Creek, AK**	**88.72**	**27**	P		**P**	**18 55 21.7**	**-1.3**	
M27K				IAmb		IAmb	18 55 33.4		
	comp=Z,4.2nm,0.9s								
BMAR	**Burnt Mountain**	**89.12**	**22**	P		**P**	**18 55 24.3**	**-0.4**	
INK	**Inuvik**	**93.39**	**22**	LR		LR	19 34 09.3		
	comp=Z,40nm,19.3s,baz=206,slow=33								
BBB	**Bella Bella**	**94.29**	**38**	LR		LR	19 29 31.2		
	comp=Z,33nm,20.3s,baz=272,slow=30								
YBH	**Yreka Blue Hor**	**97.43**	**49**	LR		LR	19 32 34.1		
	comp=Z,68nm,19.8s,baz=299,slow=31								
DBIC	**Dimbokro**	**147.90**	**273**	PKPbc		**PKiKP**	**19 02 17.4**	**-0.5**	
	comp=Z,4.4nm,0.8s,baz=100,slow=5.6,SNR=6.8								

NEIC ***02*** *19:08:20.3±1.8, 38.08N±0.07×1.46W±0.09, h9km±10km, ML3.9/14, Error ellipse: s-maj=12.8km s-min=5.5km az=224.0*

SFS ***02*** *19:08:21.7, 38.01N×1.45W, h10km, mb4.2/4, ML4.3/9, ML4.3/16, MLv4.4/16*

IDC ***02*** *19:08:21.6±1.2, 37.80N×1.38W, h0km, mb3.4/5, mbtmp3.4/8, ML3.6/3, Error ellipse: s-maj=35.4km s-min=21.9km az=106.0*

MDD ***02*** *19:08:22.3±0.2, 37.98N×1.42W, h12km, mb_Lg4.1/37, Error ellipse: s-maj=1.5km s-min=1.0km az=141.0*

CRAAG ***02*** *19:08:22.4, 37.98N×1.42W, Ml4.1, Espagne*

INMG ***02*** *19:08:22.1±1.7, 37.98N×1.44W, h15km±3km, ML3.7, Error ellipse: s-maj=2.1km s-min=1.9km az=137.0*

LDG ***02*** *19:08:22.0±0.2, 37.98N×1.42W, h12km, Ml3.7/14, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*

STR ***02*** *19:08:24.5±1.5, 38.N±15°×±2.4, h10km, MLv4.5/12, Error ellipse: s-maj=0.0km s-min=0.0km az=115.4, preliminary*

ISC 02 19:08:21.4±0.7, 38.04N±0.02×1.48W±0.02, h18km±4km, n165, σ1§83/292, mb3.3/5, 1C, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
E1002	**Yechar (Murcia**	**0.05**	**40**	Pg	**Pg**	**19 08 24.4**	**-0.3**
E1002				Sg	**Sg**	**19 08 26.8**	**-0.1**
E001A	**Albudeite (Mur**	**0.07**	**105**	Pg	**Pg**	**19 08 24.3**	**-0.5**
E001A				Sg	**Sg**	**19 08 26.0**	**-1.0**
EZAR	**Zarzadilla de**	**0.23**	**227**	Pg	**Pg**	**19 08 26.5**	**-0.4**
EZAR				Sg	**Sg**	**19 08 30.3**	**-0.4**
EZAR				*i* Vmb_Lg		19 08 31.4	
EMUR	**La Murta**	**0.27**	**136**	P	**Pg**	**19 08 26.4**	**-1.1**
EMUR	**La Murta**	**0.27**	**136**	Pg	**Pg**	**19 08 26.9**	**-0.6**
EMUR				Sg	**Sg**	**19 08 30.1**	**-1.5**
EMUR				*i* Vmb_Lg		19 08 31.4	
TLOR	**Lorca, Murcia**	**0.41**	**204**	Pg	**Pg**	**19 08 29.6**	**-0.4**
TLOR				Sg	**Sb**	**19 08 35.9**	**-0.3**
TLOR	**Lorca, Murcia**	**0.41**	**204**	Pg	**Pg**	**19 08 29.8**	**-0.2**
TLOR				Sg	**Sg**	**19 08 35.1**	**-0.5**
ELOR	**Lorca, Murcia**	**0.45**	**208**	Pg	**Pg**	**19 08 30.0**	**-0.5**
ELOR				Sg	**Sg**	**19 08 35.6**	**-1.1**
ELOR				*i* Vmb_Lg		19 08 39.2	
ETRV	**Los Montesinos**	**0.56**	**91**	Pg	**Pb**	**19 08 33.2**	**+0.4**
ETRV				Sg	**Sg**	**19 08 39.1**	**-1.2**
CART	**Cartagena**	**0.59**	**140**	Pg	**Pg**	**19 08 32.5**	**-0.6**
CART				Sg	**Sg**	**19 08 39.1**	**-1.8**
CART				IAML		19 08 40.6	
	comp=E,5μm,0.8s						
CART	**Cartagena**	**0.59**	**140**	Sg	**Sg**	**19 08 39.9**	**-1.0**
CART				Pg	**Pg**	**19 08 32.5**	**-0.6**
CART	**Cartagena**	**0.59**	**140**	P	**Pg**	**19 08 32.2**	**-0.9**
ETOB	**Tobarra**	**0.61**	**355**	Pg	**Pg**	**19 08 34.5**	**+0.9**
ETOB	**Tobarra**	**0.61**	**355**	P	**Pg**	**19 08 34.0**	**+0.5**
ETOB	**Tobarra**	**0.61**	**355**	Pg	**Pg**	**19 08 34.6**	**+1.0**
ETOB				Sg	**Sn**	**19 08 43.8**	**-1.0**
ETOB				*i* Vmb_Lg		19 08 48.1	
AFON	**Font Roja**	**0.97**	**49**	Pg	**Pb**	**19 08 39.6**	**-0.2**
AFON				Sg	**Sg**	**19 08 52.7**	**-0.3**
AFON				*i* Vmb_Lg		19 09 00.8	
EBEN2	**Beniarda presa**	**1.20**	**57**	Pn	**Pn**	**19 08 42.0**	**-1.3**
EBEN2				Pg	**Pg**	**19 08 44.3**	**-0.3**
EBEN2				Sg	**Sg**	**19 09 00.1**	**-0.2**
EBEN2				*i* Vmb_Lg		19 09 08.0	
ENIJ	**Nijar**	**1.21**	**209**	Pn	**Pn**	**19 08 43.1**	**-0.4**
ENIJ	**Nijar**	**1.21**	**209**	P	**Pn**	**19 08 43.0**	**-0.5**
ENIJ	**Nijar**	**1.21**	**209**	⇑Pg	**Pn**	**19 08 43.2**	**-0.4**
ENIJ				Sg	**Sb**	**19 08 58.4**	**-0.7**
ENIJ				*i* Vmb_Lg		19 09 08.5	
EVIV	**Cofrentes, Val**	**1.26**	**13**	Pn	**Pb**	**19 08 44.8**	**+0.1**
EVIV				Pg	**Sg**	**19 09 03.5**	**+1.2**
EVIV				Sg	**Sg**	**19 09 03.5**	**+1.2**
EVIV				*i* Vmb_Lg		19 09 07.3	
EQES	**Quesada**	**1.28**	**260**	Pg	**Pg**	**19 08 46.6**	**+0.4**
EQES				Sg	**Sg**	**19 09 03.5**	**+0.6**
EQES				*i* Vmb_Lg		19 09 09.3	
EBER	**Berja**	**1.60**	**225**	Pn	**Pn**	**19 08 49.6**	**+0.6**
EBER	**Berja**	**1.60**	**225**	P	**Pn**	**19 08 49.7**	**+0.6**
ECHE	**Chera**	**1.60**	**14**	Pn	**Pn**	**19 08 49.5**	**+0.5**
ECHE	**Chera**	**1.60**	**14**	P	**Pn**	**19 08 49.1**	**+0.1**
ECHE	**Chera**	**1.60**	**14**	Pg	**Pg**	**19 08 52.5**	**+0.2**
ECHE				Sn	**Sn**	**19 09 09.8**	**+0.5**
ECHE				Sg	**Sg**	**19 09 12.3**	**-0.9**
ECHE				*i* Vmb_Lg		19 09 19.5	
EQTA	**Presa de Quent**	**1.77**	**243**	Sn	**Sb**	**19 09 15.5**	**+0.3**
EQTA				Pn	**Pb**	**19 08 52.9**	**-0.4**
EQUE	**Quentar**	**1.77**	**243**	Pg	**Pb**	**19 08 53.1**	**-0.3**
EQUE				Sg	**Sg**	**19 09 16.9**	**-1.5**
EQUE				*i* Vmb_Lg		19 09 24.2	
PSIM	**Granatula de C**	**1.95**	**294**	Pn	**Pn**	**19 08 54.5**	**+0.7**
PSIM				Pg	**Pg**	**19 08 58.0**	**-0.9**
PSIM				Sn	**Sb**	**19 09 19.8**	**-0.8**
PSIM				Sg	**Sg**	**19 09 23.9**	**-0.4**
ELGU	**Los Guajares,**	**2.07**	**236**	Pn	**Pn**	**19 08 56.6**	**+1.2**
ELGU	**Los Guajares,**	**2.07**	**236**	Pn	**Pn**	**19 08 55.9**	**+0.5**
ELGU				Pg	**Pb**	**19 08 58.5**	**0.0**
ELGU				Sn	**Sn**	**19 09 21.8**	**+1.0**
ELGU				Sg	**Sg**	**19 09 29.7**	**+1.7**
ELGU				*i* Vmb_Lg		19 09 39.3	
EGOR	**Sierra Gorda,**	**2.29**	**247**	Pn	**Pn**	**19 09 00.0**	**+1.6**
EGOR				Sn	**Sn**	**19 09 28.1**	**+1.9**
EGOR	**Sierra Gorda,**	**2.29**	**247**	Pn	**Pn**	**19 08 58.6**	**+0.1**
EGOR				Pg	**Pb**	**19 09 02.3**	**0.0**
EGOR				Sn	**Sb**	**19 09 28.2**	**-2.0**
EGOR				Sg	**Sg**	**19 09 33.9**	**-1.1**
EGOR				*i* Vmb_Lg		19 09 49.5	
EIBI	**Ibiza**	**2.42**	**65**	Pn	**Pn**	**19 08 59.1**	**-1.1**
EIBI	**Ibiza**	**2.42**	**65**	P	**Pn**	**19 08 58.7**	**-1.5**
EIBI	**Ibiza**	**2.42**	**65**	Pn	**Pn**	**19 08 59.1**	**-1.1**
EIBI				Pg	**Pb**	**19 09 04.7**	**+0.2**
EIBI				Sn	**Sn**	**19 09 26.5**	**-3.0**
EIBI				*i* Vmb_Lg		19 09 30.3	
EADA	**Adamuz**	**2.45**	**274**	P	**Pn**	**19 09 00.9**	**+0.3**
EADA	**Adamuz**	**2.45**	**274**	Pn	**Pn**	**19 09 01.1**	**+0.5**
EADA				Pg	**Pb**	**19 09 06.4**	**+1.4**
EADA				Sn	**Sn**	**19 09 31.4**	**+1.3**
EADA				Sg	**Sg**	**19 09 40.2**	**+0.1**
EADA				*i* Vmb_Lg		19 09 45.0	
E0901	**Celadas (Terue**	**2.46**	**6**	Pn	**Pn**	**19 09 02.0**	**+1.2**
E0901				Pg	**Pb**	**19 09 06.2**	**+1.0**
E0901				Sn	**Sn**	**19 09 31.2**	**+0.8**
E0901				Sg	**Sg**	**19 09 38.4**	**-2.0**
E0901				*i* Vmb_Lg		19 09 51.3	
ECOL	**Islas Columbre**	**2.51**	**42**	Pn	**Pn**	**19 09 01.2**	**-0.1**
ECOL				Pg	**Pb**	**19 09 06.2**	**+0.2**
ECOL				Sn	**Sn**	**19 09 31.3**	**-0.3**
ECOL				Sg	**Sg**	**19 09 39.4**	**-2.8**
ESBB	**Sonseca Array**	**2.54**	**311**	Pn	**Pn**	**19 09 02.0**	**+0.2**
ESDC	**Sonseca Array**	**2.54**	**311**	Pn	**Pn**	**19 09 01.4**	**-0.4**
ESDC	**Sonseca Array**	**2.54**	**311**	Pn	**Pn**	**19 09 02.5**	**+0.7**
ESDC				Pg	**Pg**	**19 09 08.8**	**-1.3**
ESDC				Sn	**Sb**	**19 09 35.3**	**-2.1**
ESDC				Sg	**Sg**	**19 09 41.7**	**-1.4**
ESDC				*i* Vmb_Lg		19 09 46.6	
ESDC	**Sonseca Array**	**2.54**	**311**	Pn	**Pn**	**19 09 02.5**	**+0.7**
	comp=E,4.3nm,0.3s,baz=124,slow=13,SNR=158						
ESDC				Pg	**Pg**	**19 09 09.4**	**-0.7**
	comp=E,26nm,0.3s,baz=128,slow=16,SNR=47						
ESDC				Lg	Lg	19 09 43.9	
	comp=E,61nm,0.3s,baz=118,slow=28,SNR=16						
OKGL	**Djebel Kef Gue**	**2.62**	**139**	P	**Pn**	**19 09 02.0**	**-0.9**
UCM	**Universidad Co**	**2.65**	**329**	Pn	**Pn**	**19 09 04.2**	**+0.8**
UCM	**Universidad Co**	**2.65**	**329**	P	**Pn**	**19 09 03.9**	**+0.6**
EMAL	**Malaga-Limoner**	**2.67**	**242**	Pn	**Pn**	**19 09 05.4**	**+1.8**
PAB	**San Pablo**	**2.70**	**305**	Pn	**Pn**	**19 09 04.8**	**+0.7**
PAB	**San Pablo**	**2.70**	**305**	Pn	**Pn**	**19 09 04.8**	**+0.7**
PAB				Sg	**Sg**	**19 09 46.3**	**-2.0**
PAB				*i* Vmb_Lg		19 09 51.4	
ODJA	**Bouhanifia**	**2.90**	**158**	P	**Pn**	**19 09 07.0**	**+0.1**
ECAB	**El Cabril**	**3.11**	**272**	P	**Pn**	**19 09 09.7**	**0.0**
ECAB	**El Cabril**	**3.11**	**272**	Pn	**Pn**	**19 09 09.9**	**+0.2**
ECAB				Sn	**Sn**	**19 09 47.3**	**+0.8**
ECAB				Sg	**Sg**	**19 09 58.5**	**-2.8**
ECAB				*i* Vmb_Lg		19 10 05.7	
ERTA	**Horta de San J**	**3.24**	**25**	Pn	**Pn**	**19 09 12.2**	**+0.8**
ERTA				Sn	**Sn**	**19 09 49.7**	**+0.2**
ERTA				Sg	**Sb**	**19 10 01.3**	**+3.7**
GUD	**Guadarrama**	**3.33**	**322**	Pn	**Pn**	**19 09 13.7**	**+0.9**
GUD				Pg	**Pb**	**19 09 22.3**	**+2.3**
GUD				Sg	**Sg**	**19 10 07.3**	**-1.1**
GUD				*i* Vmb_Lg		19 10 14.8	
ESAC	**San Caprasio**	**3.76**	**12**	Pn	**Pn**	**19 09 18.8**	**+0.1**
ESAC				Pg	**Pb**	**19 09 28.1**	**+0.7**
ESAC				Sn	**Sn**	**19 10 04.2**	**+1.7**
ESAC				Sg	**Sb**	**19 10 17.1**	**+4.4**
ETOS	**Mallorca**	**3.77**	**61**	P	**Pn**	**19 09 17.9**	**-0.8**
ETOS	**Mallorca**	**3.77**	**61**	Pn	**Pn**	**19 09 18.3**	**-0.4**
ETOS				Sn	**Sn**	**19 09 59.9**	**-2.7**
EPOB	**Poblet**	**3.85**	**30**	Pn	**Pn**	**19 09 20.6**	**+0.7**
EPOB				Sn	**Sn**	**19 10 04.4**	**-0.4**
EPOB				Sg	**Sb**	**19 10 19.6**	**+4.2**
EPLA	**Plasencia**	**4.12**	**301**	Pn	**Pn**	**19 09 24.1**	**+0.6**
EPLA				Sn	**Sn**	**19 10 12.5**	**+1.3**
EPLA				Sg	**Sg**	**19 10 29.7**	**-3.8**
EPLA				*i* Vmb_Lg		19 10 39.9	
PBAR	**Barrancos**	**4.39**	**274**	*e*Pn	**Pn**	**19 09 27.6**	**+0.4**
PBAR				*e*Sn	**Sn**	**19 10 18.5**	**+0.6**
PBAR				*e*Sg	**Sg**	**19 10 41.0**	**-1.3**
PBAR				A	A	19 10 54.1	
	comp=E,114nm,0.5s						
PBAR	**Barrancos**	**4.39**	**274**	P	**Pn**	**19 09 27.3**	**+0.1**
EBAD	**Badajoz**	**4.41**	**281**	P	**Pn**	**19 09 27.8**	**+0.3**
EBAD	**Badajoz**	**4.41**	**281**	Pn	**Pn**	**19 09 27.4**	**-0.1**
EBAD				Sn	**Sn**	**19 10 18.8**	**+0.5**
EBAD				Sg	**Sg**	**19 10 37.8**	**-5.1**
EBAD				*i* Vmb_Lg		19 10 49.6	
EJUZ	**Juzbado, Salam**	**4.57**	**313**	Pn	**Pn**	**19 09 28.8**	**-1.0**
EJUZ				Sn	**Sn**	**19 10 21.7**	**-0.8**
EJUZ				Sg	**Sg**	**19 10 46.3**	**-1.9**
EGRO	**El Granado**	**4.78**	**266**	P	**Pn**	**19 09 32.6**	**0.0**
EGRO	**El Granado**	**4.78**	**266**	Pn	**Pn**	**19 09 32.4**	**-0.3**
EGRO				Sn	**Sn**	**19 10 29.4**	**+1.8**
EGRO				Sg	**Sg**	**19 10 51.3**	**-3.7**
EGRO				*i* Vmb_Lg		19 11 02.7	
ECHI	**Chisagues Biel**	**4.80**	**15**	Pn	**Pn**	**19 09 34.6**	**+1.7**
ECHI				Sn	**Sn**	**19 10 27.1**	**-1.1**
ECHI				Sg	**Sg**	**19 10 52.9**	**-2.5**
PMRV	**Marv??o**	**4.83**	**289**	*e*Pn	**Pn**	**19 09 34.0**	**+0.7**
PMRV				*e*Sn	**Sn**	**19 10 28.5**	**-0.3**
PMRV				*e*Sg	**Sg**	**19 10 56.4**	**0.0**
PMRV				A	A	19 11 03.9	
	comp=E,133nm,0.5s						
MAHO	**Mahon**	**4.85**	**66**	Pn	**Pn**	**19 09 33.1**	**-0.4**
MAHO				IAML		19 11 47.4	
	comp=E,119nm,3.5s						
MAHO				IAML		19 12 13.6	
	comp=N,116nm,3.0s						
PESTR	**Estremoz**	**4.87**	**282**	*e*Pn	**Pn**	**19 09 33.7**	**-0.1**
PESTR				*e*Sn	**Sn**	**19 10 29.0**	**-0.8**
PESTR				*e*Sg	**Sg**	**19 10 56.0**	**-1.7**
PESTR				A	A	19 11 07.8	
	comp=N,131nm,0.8s						
PESTR	**Estremoz**	**4.87**	**282**	Pn	**Pn**	**19 09 33.4**	**-0.4**
PESTR	**Estremoz**	**4.87**	**282**	P	**Pn**	**19 09 34.5**	**+0.7**
ETSF	**Etsaut**	**4.91**	**8**	*e*Pn	**Pn**	**19 09 36.4**	**+2.0**
ETSF				*e*Sg	**Sg**	**19 10 54.7**	**-4.2**
	comp=N,54nm,0.5s						
PVAQ	**Vaqueiros**	**4.99**	**265**	*e*Pn	**Pn**	**19 09 35.8**	**+0.4**
PVAQ				*e*Sn	**Sn**	**19 10 32.5**	**-0.1**
PVAQ				*e*Sg	**Sg**	**19 10 59.5**	**-2.0**
PVAQ				A	A	19 11 13.3	
	comp=N,78nm,0.6s						
PVAQ	**Vaqueiros**	**4.99**	**265**	Pn	**Pn**	**19 09 34.6**	**-0.8**
PVAQ				IAML		19 10 55.7	
	comp=E,62nm,4.2s						
PVAQ				IAML		19 11 22.9	
	comp=N,69nm,1.2s						
PVAQ	**Vaqueiros**	**4.99**	**265**	P	**Pn**	**19 09 35.3**	**-0.1**
PCBR	**Castelo Branco**	**5.01**	**293**	*e*Pn	**Pn**	**19 09 37.8**	**+2.0**
PCBR				*e*Sn	**Sn**	**19 10 32.0**	**-1.2**
PCBR				*e*Sg	**Sg**	**19 10 59.3**	**-3.0**
PCBR				A	A	19 11 12.1	
	comp=N,82nm,0.5s						
PAND	**Andorre**	**5.04**	**26**	P	**Pn**	**19 09 37.7**	**+1.4**
PBEJ	**Beja**	**5.04**	**272**	*e*Pn	**Pn**	**19 09 37.2**	**+1.0**
PBEJ				*e*Sg	**Sg**	**19 11 02.4**	**-0.9**
PBEJ				A	A	19 11 11.6	
	comp=N,40nm,0.6s						
SJPF	**Ste Jean**	**5.08**	**2**	*e*Pn	**Pn**	**19 09 38.6**	**+1.9**
SJPF				*e*Sn	**Sn**	**19 10 32.5**	**-2.3**
SJPF				*e*Sg	**Sg**	**19 11 00.2**	**-4.1**
	comp=N,54nm,0.6s						
VALC	**Valcebollere**	**5.11**	**31**	P	**Pn**	**19 09 38.7**	**+1.5**
SALF	**Salau**	**5.14**	**22**	P	**Pn**	**19 09 39.2**	**+1.6**
EVO	**Evora**	**5.17**	**278**	*e*Pn	**Pn**	**19 09 38.4**	**+0.5**
EVO				*e*Sn	**Sn**	**19 10 35.7**	**-1.2**
EVO				*e*Sg	**Sg**	**19 11 06.7**	**-0.5**
EVO				A	A	19 11 14.9	
	comp=N,112nm,0.8s						
EPF	**Esparros**	**5.18**	**15**	*e*Pn	**Pn**	**19 09 40.1**	**+2.0**
EPF				*e*Sn	**Sn**	**19 10 34.4**	**-3.0**
EPF				*e*Sg	**Sg**	**19 11 02.5**	**-5.1**
	comp=N,60nm,0.4s						
EALK	**Alkurruntz**	**5.18**	**360**	Pn	**Pn**	**19 09 40.7**	**+2.6**
EALK				Sn	**Sn**	**19 10 35.0**	**-2.5**
EALK				Sg	**Sg**	**19 11 02.8**	**-4.8**
EALK				*i* Vmb_Lg		19 11 20.2	
PBDV	**Barranco-do-Ve**	**5.18**	**263**	*e*Pn	**Pn**	**19 09 38.9**	**+0.8**
PBDV				*e*Sn	**Sn**	**19 10 38.0**	**+0.5**
PBDV				*e*Sg	**Sg**	**19 11 07.3**	**-0.5**
PBDV				A	A	19 11 21.5	
	comp=N,72nm,0.7s						
PBDV	**Barranco-do-Ve**	**5.18**	**263**	P	**Pn**	**19 09

MONQ S **Sn** **19 11 12.1 -1.2**
LFF La Frestale 7.10 13 *e*Pn **Pn** **19 10 05.7 +1.3**
LFF *e*Sn **Sn** **19 11 19.9 -4.6**
LFF *e*Sg **Sg** **19 12 02.9 -6.1**
comp=E,21nm,0.5s
LASF Ste Croix 7.26 32 *e*Pn **Pn** **19 10 06.6 0.0**
CAF Calviac 7.38 20 *e*Pn **Pn** **19 10 08.7 +0.4**
CAF *e*Sn **Sn** **19 11 26.8 -4.8**
CAF *e*Sg **Sg** **19 12 11.2 -6.9**
comp=E,9.2nm,0.4s
RJF Les Rejaudoux 7.60 16 *e*Pn **Pn** **19 10 11.7 +0.4**
RJF *e*Sn **Sn** **19 11 32.6 -4.4**
RJF *e*Sg Sb 19 12 18.0 +15
comp=E,3.6nm,0.3s
FRNF Fournols 7.94 21 P **Pn** **19 10 15.9 -0.1**
SMRF Simiane la Rot 7.98 40 *e*Pn **Pn** **19 10 14.9 -1.6**
LBL Lubilhac 8.01 25 P **Pn** **19 10 18.1 +1.1**
LMR La Mourre 8.05 46 *e*Pn **Pn** **19 10 16.9 -0.6**
LMR *e*Sn **Sn** **19 11 41.5 -6.5**
comp=E,2.6nm,0.3s
VIVF Saint-Julien-l 8.23 32 *e*Pn **Pn** **19 10 18.6 -1.4**
VERF Verneugheol 8.25 20 P **Pn** **19 10 20.2 -0.1**
VERF S **Sn** **19 11 50.4 -2.7**
COLF Collangettes 8.41 26 P **Pn** **19 10 23.1 +0.6**
SSB Saint Sauveur 8.52 30 Pn **Pn** **19 10 22.4 -1.6**
SSB Saint Sauveur 8.52 30 P **Pn** **19 10 25.4 +1.4**
VSL Villasalto 8.61 77 Pn **Pn** **19 10 24.3 -0.8**
MFF Saint Martin d 8.62 6 *e*Pn **Pn** **19 10 25.9 +0.7**
TCF Toulx Ste Croi 8.69 17 *e*Pn **Pn** **19 10 26.6 +0.4**
ORIF Oris-en-Rattie 8.82 36 *e*Pn **Pn** **19 10 27.3 -0.8**
KEST Kesra 8.97 102 Pn **Pn** **19 10 30.6 +0.4**
KEST Kesra 8.97 102 Pn **Pn** **19 10 32.7 +2.5**
comp=E,0.7nm,0.3s,baz=51,slow=15,SNR=10
KEST Sn **Sn** **19 12 08.9 -2.0**
comp=E,0.1nm,0.3s,baz=214,slow=14,SNR=2.3
comp=E,3.0nm,0.6s
BGF Bois d'Agland 9.10 19 *e*Pn **Pn** **19 10 31.8 0.0**
BGF *e*Sg Sn 19 13 04.3 +51
comp=E,27nm,0.6s
MBDF Montbardon 9.11 40 *e*Pn **Pn** **19 10 31.9 -0.3**
AVF Avril sur Loir 9.45 21 *e*Pn **Pn** **19 10 36.0 -0.6**
SMF Signal de Mont 9.46 23 *e*Pn **Pn** **19 10 36.4 -0.4**
LPG La Plagne 9.66 37 *e*Pn **Pn** **19 10 39.8 0.0**
LPL La Plagne 9.66 37 *e*Pn **Pn** **19 10 39.3 -0.5**
HYF Humbligny 9.71 17 *e*Pn **Pn** **19 10 39.1 -1.1**
SSF Saint Saulge 9.74 21 *e*Pn **Pn** **19 10 40.4 -0.2**
QUIF Quistinic 9.95 353 *e*Pn **Pn** **19 10 44.0 +0.5**
QUIF *e*Sn **Sn** **19 12 28.4 -6.3**
comp=E,14nm,0.5s
SGMF Saint Gilles 10.24 356 *e*Pn **Pn** **19 10 47.4 -0.1**
CLF Chambon-Foret 10.35 14 Pn Pn 19 10 43.7 -5.2
GRR Gorron 10.36 2 *e*Pn **Pn** **19 10 48.7 -0.4**
ROSF Rostrenen 10.38 353 *e*Pn **Pn** **19 10 49.3 0.0**
ROSF *e*Sn **Sn** **19 12 38.3 -6.9**
comp=E,2.2nm,0.2s
LDF La Druitiere 10.60 5 *e*Pn **Pn** **19 10 52.3 -0.1**
CESX Cesi 11.66 63 Pn **Pn** **19 11 04.0 -2.9**
GERES GERESS Array B 15.41 41 Pn **P** **19 12 02.4 0.0**
comp=E,0.2nm,0.3s,baz=225,slow=9.6,SNR=2.8
comp=E,0.7nm,0.6s
NOA NORSAR Array B 24.37 15 P **P** **19 13 42.4 +4.1**
comp=E,0.6nm,0.9s,baz=205,slow=8.6,SNR=2.8
comp=E,0.6nm,0.9s
TORD Torodi Ar. Bea 24.95 173 P **P** **19 13 43.9 +0.1**
comp=E,2.3nm,1.0s,baz=355,slow=9.8,SNR=9.5
comp=E,2.3nm,1.0s
KURBB Kurchatov Arra 55.93 49 P **P** **19 18 01.5 +3.3**
comp=E,0.2nm,0.6s,baz=289,slow=7.5,SNR=2.6
comp=E,0.2nm,0.6s
MKAR Makanchi Array 59.69 52 P **P** **19 18 28.0 +3.3**
comp=E,0.3nm,0.7s,baz=289,slow=4.4,SNR=2.6
comp=E,0.3nm,0.7s
YKA Yellowknife Ar 66.46 332 P P 19 19 14.7 +5.3
comp=E,0.1nm,0.5s,baz=50,slow=6.8,SNR=1.9
comp=E,0.1nm,0.5s

*NEIC **02** 19:12:32.5±1.6,50.38S±0.10×120.11E±0.2,h10km±1km, mb5.0/71, Error ellipse: s-maj=19.1km s-min=16.3km az=95.0*
*IDC **02** 19:12:33.1±1.7,50.02S×119.98E,h0km, mb4.5/6, mbtmp4.5/6,MS4.0/18, Error ellipse: s-maj=47.9km s-min=36.0km az=149.0*
*GCMT **02** 19:12:36.5±0.4,50.14S±0.02×119.94E±0.08,h16km±1km, MW4.8/68, Moment Tensor Solution. s14,c15; s68,c89; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=1.87±.18; Mθθ 1.61±.12; Mθφ 0.25±.11; Mrθ 0.04±.30; Mφφ -0.25±.06; Mrφ 1.41±.50; Best double couple: Mo2.12700×10^16 NP1:φs 128.00000°, δ56.00000°, λ-58.00000°. NP2: φs 260.00000°, δ46.00000°, λ-128.00000°. Principal axes: T 1.6760, Plg5.0000°, Azm195.0000°; N 0.8990, Plg26.0000°, Azm288.0000°; P -2.5780, Plg63.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 19:12:32.6±0.4,50.38S±0.07×120.11E±0.09,h10km,n114, σ1§45/100,mb4.9/38,MS4.0/18,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H01W2	**Cape Leeuwin H**	**16.07**	**342**	Pn		**P**	**19 16 26.7**	**+5.0**
	baz=184,slow=76							
H01W2				T		T	19 32 23.9	
	baz=164,slow=74,SNR=47							
H01W1	**Cape Leeuwin H**	**16.07**	**342**	Pn		**P**	**19 16 26.7**	**+5.0**
	baz=184,slow=76							
H01W1				T		T	19 32 26.4	
	baz=164,slow=74,SNR=49							
H01W3	**Cape Leeuwin H**	**16.09**	**342**	Pn		**P**	**19 16 26.9**	**+5.1**
	baz=184,slow=76							
H01W3				T		T	19 32 27.4	
	baz=164,slow=74,SNR=53							
CASY	**Casey**	**16.68**	**194**	P		**P**	**19 16 30.1**	**+1.7**
NWAO	**Narrogin (SRO)**	**17.57**	**352**	LR		LR	19 21 42.0	
	comp=Z,682nm,19.5s,baz=150,slow=32							
FORT	**Forrest**	**20.46**	**20**	P		**P**	**19 17 07.0**	**-3.2**
ARPS	**Mount Arapiles**	**20.70**	**57**	P		Pn	19 17 15.4	+0.2
BBOO	**Buckleboo**	**21.14**	**40**	P		**P**	**19 17 14.9**	**-2.7**
BBOO	**Buckleboo**	**21.14**	**40**	P		**P**	**19 17 18.7**	**+1.1**
BRAT	**Ballarat**	**21.30**	**62**	P		**P**	**19 17 23.1**	**+3.9**
WHYH	**Whyalla**	**21.60**	**43**	P		**P**	**19 17 23.8**	**+1.4**
HTT	**Hallett**	**21.87**	**46**	P		**P**	**19 17 27.3**	**+1.9**
TOO	**Toolangi**	**22.18**	**64**	P		**P**	**19 17 28.2**	**-0.5**
TOO	**Toolangi**	**22.18**	**64**	P		**P**	**19 17 31.6**	**+2.9**
MULG	**Mulgathing**	**22.64**	**33**	P		**P**	**19 17 34.0**	**+0.3**
LCRK	**Leigh Creek**	**24.10**	**41**	P		**P**	**19 17 49.0**	**+0.8**
STKA	**Stephens Creek**	**24.42**	**49**	P		**P**	**19 17 51.4**	**+0.2**
STKA	**Stephens Creek**	**24.42**	**49**	P		**P**	**19 17 52.2**	**+1.0**
STKA	**Stephens Creek**	**24.42**	**49**	P		**P**	**19 17 51.5**	**+0.4**
	10.0nm,0.8s,baz=197,slow=12,SNR=22							
STKA				LR		LR	19 25 35.5	
	comp=Z,304nm,21.3s,baz=205,slow=32							
	10.0nm,0.8s							
WRKA	**Warakurna**	**26.08**	**17**	P		**P**	**19 18 06.2**	**-0.1**
CMSA	**Cobar Meteorol**	**26.76**	**55**	P		**P**	**19 18 14.1**	**+1.8**
INKA	**Innaminka**	**27.53**	**43**	P		**P**	**19 18 20.2**	**+0.9**
PSA00	**Pilbara Seismi**	**28.75**	**359**	P		**P**	**19 18 29.5**	**-0.7**
ASAR	**Alice Springs**	**28.75**	**27**	P		**P**	**19 18 29.3**	**-0.9**
ASAR	**Alice Springs**	**28.75**	**27**	P		**P**	**19 18 30.1**	**-0.1**
	10nm,1.0s,baz=204,slow=8.8,SNR=47							
ASAR				PcP		**PcP**	**19 21 41.0**	**+0.8**
	0.2nm,0.7s,baz=189,slow=2.3,SNR=1.5							
ASAR				LR		LR	19 28 37.1	
	comp=Z,459nm,20.7s,baz=199,slow=34							
	10nm,1.0s							
AS31	**Alice Springs**	**28.75**	**27**	P		**P**	**19 18 29.4**	**-0.8**
AS01	**Alice Springs**	**28.77**	**27**	P		**P**	**19 18 30.6**	**+0.2**
MBWA	**Marble Bar**	**29.16**	**359**	P		**P**	**19 18 33.2**	**-0.7**
MBWA				IAmb		IAmb	19 18 34.3	
	comp=Z,18nm,1.1s							
QLP	**Quilpie**	**30.10**	**47**	P		**P**	**19 18 44.2**	**+2.1**
ARMA	**Armidale**	**30.86**	**62**	P		**P**	**19 18 48.6**	**-0.4**
ARMA				IAmb		IAmb	19 18 58.5	
	comp=Z,34nm,1.9s							
VNDA	**Vanda**	**31.39**	**164**	LR		LR	19 30 47.5	
	comp=Z,377nm,20.0s,baz=305,slow=34							
WRA	**Warramunga Arr**	**32.40**	**26**	P		**P**	**19 19 02.0**	**-0.5**
WRA	**Warramunga Arr**	**32.40**	**26**	P		**P**	**19 19 02.1**	**-0.4**
	comp=Z,3.2nm,1.0s,baz=202,slow=9.2,SNR=8.6							
WRA				PcP		**PcP**	**19 21 50.3**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=193,slow=5.5,SNR=1.9							
	comp=Z,3.2nm,1.0s							
WB2	**Warramunga Arr**	**32.41**	**26**	P		**P**	**19 19 01.9**	**-0.6**
WB2				IAmb		IAmb	19 19 04.4	
	comp=Z,34nm,1.9s							
WRAB	**Tennant Creek**	**32.41**	**26**	P		**P**	**19 19 02.6**	**0.0**
WRAB				IAmb		IAmb	19 19 19.9	
	comp=Z,31nm,1.9s							
WR0	**Warramunga Arr**	**32.44**	**26**	P		**P**	**19 19 01.9**	**-0.9**
WR0				IAmb		IAmb	19 19 14.9	
	comp=Z,16nm,1.4s							
FITZ	**Fitzroy Crossi**	**32.51**	**10**	P		**P**	**19 19 02.5**	**-0.9**
FITZ	**Fitzroy Crossi**	**32.51**	**10**	P		**P**	**19 19 04.1**	**+0.7**
WB0	**Warramunga Arr**	**32.59**	**26**	P		**P**	**19 19 03.7**	**-0.3**
WB0				IAmb		IAmb	19 19 11.4	
	comp=Z,19nm,1.5s							
MAW	**Mawson**	**32.62**	**217**	LR		LR	19 30 32.3	
	comp=Z,216nm,18.2s,baz=106,slow=33							
QIS	**Mount Isa**	**33.52**	**34**	P		**P**	**19 19 12.9**	**+0.7**
RPZ	**Rata Peaks**	**34.77**	**99**	P		**P**	**19 19 25.2**	**+2.3**
RPZ				IAmb		IAmb	19 19 26.4	
	comp=Z,82nm,1.9s							
RPZ	**Rata Peaks**	**34.77**	**99**	LR		LR	19 30 18.5	
	comp=Z,200nm,19.6s,baz=216,slow=30							
KNRA	**Kununurra**	**35.31**	**15**	P		**P**	**19 19 26.8**	**-0.9**
KNRA				IAmb		IAmb	19 19 28.7	
	comp=Z,19nm,1.1s							
INZ	**Inchbonnie**	**35.51**	**98**	P		**P**	**19 19 29.6**	**+0.3**
INZ				IAmb		IAmb	19 20 24.5	
	comp=Z,52nm,1.4s							
MQZ	**McQueen's Vall**	**35.78**	**100**	P		**P**	**19 19 32.0**	**+0.4**
MQZ				IAmb		IAmb	19 20 20.8	
	comp=Z,58nm,1.5s							
DSZ	**Denniston Nort**	**36.24**	**97**	P		**P**	**19 19 34.9**	**-0.7**
GVZ	**Greta Valley S**	**36.39**	**99**	P		**P**	**19 19 36.4**	**-0.5**
CTA	**Charters Tower**	**36.63**	**44**	P		**P**	**19 19 39.6**	**+0.5**
	comp=Z,7.0nm,0.9s,baz=221,slow=9.3,SNR=6.5							
CTA				LR		LR	19 34 04.0	
	comp=Z,223nm,19.4s,baz=222,slow=35							
	comp=Z,7.0nm,0.9s							
CTAQ	**Charters Tower**	**36.63**	**44**	P		**P**	**19 19 38.9**	**-0.2**
TKNZ	**Takaka Hill**	**37.36**	**96**	P		**P**	**19 19 43.8**	**-1.3**
NNZ	**Nelson**	**37.52**	**97**	P		**P**	**19 19 45.4**	**-1.1**
NNZ				IAmb		IAmb	19 19 59.3	
	comp=Z,45nm,1.5s							
MTSU	**Mount Surprise**	**37.54**	**40**	P		**P**	**19 19 48.3**	**+1.5**
BSWZ	**Blackbirch Sta**	**37.57**	**98**	P		**P**	**19 19 46.8**	**-0.2**
CMWZ	**Cape Campbell**	**37.77**	**98**	P		**P**	**19 19 50.0**	**+1.5**
SNZO	**South Karori**	**38.32**	**98**	P		**P**	**19 19 53.1**	**0.0**
MRZ	**Mangatainoka R**	**39.23**	**98**	P		**P**	**19 20 01.2**	**+0.4**
MRZ				IAmb		IAmb	19 20 17.3	
	comp=Z,28nm,1.2s							
QSPA	**South Pole Qui**	**39.74**	**180**	P		**P**	**19 20 05.7**	**+0.6**
QSPA	**South Pole Qui**	**39.74**	**180**	LR		LR	19 36 03.2	
	comp=Z,165nm,21.7s,baz=305,slow=35							
SOEI	**Soe**	**40.64**	**6**	P		**P**	**19 20 11.8**	**-1.1**
SOEI				IAmb		IAmb	19 20 39.8	
	comp=Z,95nm,1.7s							
SOEI	**Soe**	**40.64**	**6**	P		**P**	**19 20 14.8**	**+1.9**
COEN	**Coen**	**40.89**	**36**	P		**P**	**19 20 13.4**	**-1.4**
RTZ	**Ruatahuna**	**41.27**	**96**	P		**P**	**19 20 17.2**	**-0.7**
RTZ				IAmb		IAmb	19 21 06.2	
	comp=Z,51nm,1.4s							
XMIS	**Christmas Isla**	**41.53**	**338**	P		**P**	**19 20 19.3**	**-0.8**
XMIS				IAmb		IAmb	19 20 57.1	
	comp=Z,58nm,1.2s							
MMRI	**Maumere**	**41.65**	**3**	P		**P**	**19 20 19.2**	**-1.8**
MMRI				IAmb		IAmb	19 20 26.2	
	comp=Z,85nm,1.9s							
CTZ	**Chatham Island**	**42.45**	**106**	P		**P**	**19 20 26.3**	**-1.0**
KAPI	**Kappang**	**45.21**	**359**	P		**P**	**19 20 49.8**	**+0.1**
KAPI				IAmb		IAmb	19 20 51.8	
	comp=Z,17nm,1.3s							
ONTNC	**Ouen Toro**	**45.64**	**70**	P		**P**	**19 20 52.6**	**-0.5**
KOUNC	**Koumac, New Ca**	**45.70**	**66**	P		**P**	**19 20 54.1**	**+0.4**
KOUNC				IAmb		IAmb	19 20 57.7	
	comp=Z,16nm,1.0s							
OUENC	**Ouen Island, N**	**45.79**	**70**	P		**P**	**19 20 54.8**	**+0.4**
OUENC				IAmb		IAmb	19 20 58.6	
	comp=Z,58nm,1.5s							
DZM	**Mont Dzumac**	**45.81**	**69**	P		**P**	**19 20 56.0**	**+1.4**
DZM				IAmb		IAmb	19 20 58.6	
	comp=Z,17nm,1.3s							
DZM	**Mont Dzumac**	**45.81**	**69**	LR		LR	19 36 23.4	
	comp=Z,53nm,20.6s,baz=237,slow=31							
PMG	**Port Moresby**	**46.58**	**38**	P		**P**	**19 21 00.1**	**-0.5**
	comp=Z,9.8nm,0.8s,baz=207,slow=9.0,SNR=6.4							
	comp=Z,9.8nm,0.8s							
LUWI	**Luwuk**	**49.21**	**4**	P		**P**	**19 21 20.9**	**-0.1**
LUWI				IAmb		IAmb	19 21 32.9	
	comp=Z,26nm,1.3s							
TOLI2	**Tolitoli**	**51.30**	**1**	P		**P**	**19 21 35.4**	**-1.3**
TOLI2				IAmb		IAmb	19 21 37.7	
	comp=Z,22nm,1.5s							
SNAA	**Sanae**	**51.79**	**200**	LR		LR	19 42 37.5	
	comp=Z,546nm,18.4s,baz=190,slow=35							
HNR	**Honiara**	**52.40**	**53**	LR		LR	19 42 37.8	
	comp=Z,1μm,18.6s,baz=240,slow=34							
SBUM	**Sibu**	**53.06**	**350**	P		**P**	**19 21 48.8**	**-1.0**
SBUM				IAmb		IAmb	19 21 58.1	
	comp=Z,13nm,1.2s							
GSI	**Gunungsitoli**	**54.98**	**332**	P		**P**	**19 22 04.4**	**+0.5**
GSI				IAmb		IAmb	19 22 07.0	
	comp=Z,24nm,1.5s							
DAV	**Davao City (W)**	**57.41**	**6**	LR		LR	19 48 25.4	
	comp=Z,103nm,18.7s,baz=117,slow=38							
SRIT	**Nakonsritamara**	**61.38**	**337**	P		**P**	**19 22 46.8**	**-1.9**
SRIT				IAmb		IAmb	19 22 48.6	
	comp=Z,4.9nm,0.7s							
SMAI	**San Martin Ant**	**61.69**	**177**	P		**P**	**19 22 50.5**	**+0.4**
FUNA	**Funafuti**	**63.99**	**71**	P		**P**	**19 23 05.2**	**-1.0**
UBPT	**Khong Chiam**	**66.63**	**345**	P		**P**	**19 23 22.0**	**-1.0**
UBPT				IAmb		IAmb	19 23 24.9	
	comp=Z,11nm,1.2s							
PALK	**Pallekele**	**66.79**	**317**	P		**P**	**19 23 22.7**	**-1.6**
PALK	**Pallekele**	**66.79**	**317**	LR		LR	19 47 16.7	
	comp=Z,72nm,19.3s,baz=259,slow=31							
RAR	**Rarotonga**	**67.74**	**97**	P		**P**	**19 23 28.6**	**-1.7**
PHRA	**Phrae**	**70.78**	**340**	P		**P**	**19 23 49.4**	**+0.5**
CM31	**Chiang Mai Arr**	**71.03**	**339**	P		**P**	**19 23 50.5**	**-0.1**
CM31				IAmb		IAmb	19 23 52.2	
	comp=Z,11nm,1.1s							
CMAR	**Chiang Mai Arr**	**71.03**	**339**	P		**P**	**19 23 50.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**71.03**	**339**	P		**P**	**19 23 50.5**	**0.0**
	comp=Z,3.8nm,0.9s,baz=188,slow=5.6,SNR=31							
CMAR				LR		LR	19 52 04.7	
	comp=Z,30nm,20.8s,baz=165,slow=34							
	comp=Z,3.8nm,0.9s							
SUR	**Sutherland**	**71.22**	**242**	P		**P**	**19 23 52.4**	**+0.4**
SUR	**Sutherland**	**71.22**	**242**	LR		LR	19 50 37.9	
	comp=Z,100nm,18.0s,baz=168,slow=32							
CHTO	**Chiang Mai**	**71.38**	**339**	P		**P**	**19 23 52.7**	**+0.1**
CRAI	**Chiangrai**	**72.43**	**341**	P		**P**	**19 23 59.0**	**+0.1**
CRAI				IAmb		IAmb	19 24 00.9	
	comp=Z,10nm,1.2s							
HKPS	**Hong Kong Po S**	**72.53**	**354**	P		**P**	**19 23 58.6**	**-0.7**
SLVN	**Son La**	**72.82**	**344**	P		**P**	**19 24 00.4**	**-0.9**
SLVN				IAmb		IAmb	19 24 10.3	
	comp=Z,14nm,1.5s							
SSLB	**Suanglung**	**73.84**	**1**	P		**P**	**19 24 06.3**	**-0.9**
HOPE	**Hope Point**	**73.88**	**194**	P		**P**	**19 24 05.2**	**-1.9**
LBTB	**Lobatse**	**73.90**	**250**	LR		LR	19 50 49.6	
	comp=Z,158nm,18.3s,baz=165,slow=31							
KNMB	**Chin-men Tao**	**74.52**	**358**	P		**P**	**19 24 10.4**	**-0.7**
YOJ	**Yonaguni jima**	**74.55**	**3**	P		**P**	**19 24 09.5**	**-1.7**
MG03	**Isla Dawson**	**75.77**	**174**	P		**P**	**19 24 17.7**	**-0.4**
GO10	**Punta Arenas**	**76.41**	**173**	P		**P**	**19 24 22.2**	**+0.3**
LSZ	**Lusaka**	**79.61**	**259**	LR		LR	19 52 35.3	
	comp=Z,102nm,21.3s,baz=168,slow=30							
ENH	**Enshi**	**80.84**	**351**	P		**P**	**19 24 46.1**	**-0.2**
ENH				IAmb		IAmb	19 24 48.0	
	comp=Z,23nm,1.6s							
TSUM	**Tsumeb**	**83.11**	**248**	P		**P**	**19 24 58.7**	**-0.1**
TSUM				IAmb		IAmb	19 25 03.3	
	comp=Z,25nm,1.8s							
KIBK	**Kibwezi**	**83.14**	**275**	P		**P**	**19 24 59.4**	**+0.5**
LSA	**Lhasa**	**83.76**	**335**	P		**P**	**19 25 01.9**	**-0.2**
LSA				IAmb		IAmb	19 25 03.9	
	comp=Z,11nm,1.1s							
KSAR	**Wonju Array Be**	**87.71**	**6**	P		**P**	**19 25 22.2**	**+1.3**
MJAR	**Matsushiro Arr**	**88.01**	**14**	LR		LR	20 02 25.2	
	comp=Z,59nm,21.3s,baz=278,slow=34							
ASAJ	**Asahikawa**	**96.13**	**16**	LR		LR	20 07 43.6	
	comp=Z,37nm,21.8s,baz=86,slow=35							
PDAR	**Pinedale Array**	**145.57**	**83**	PKPbc		**PKPab**	**19 32 12.7**	**+1.6**
	comp=Z,4.6nm,1.2s,baz=230,slow=4.2,SNR=9.9							
YKA	**Yellowknife Ar**	**148.44**	**46**	PKPbc		**PKiKP**	**19 32 19.3**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=274,slow=2.4,SNR=19							

*INMG **02** 19:16:11.9±1.5,37.98N×1.42W,h16km±2km,ML2.9, Error ellipse: s-maj=1.8km s-min=1.7km az=136.0*
*MDD **02** 19:16:12.1±0.2,37.99N×1.42W,h12km,mb_Lg3.3/42, Error ellipse: s-maj=1.7km s-min=1.1km az=140.0*
*LDG **02** 19:16:12.0±0.3,37.99N×1.42W,h12km,Ml2.9/6, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*CNRM **02** 19:16:12.6,37.85N×1.53W,h18km,ML3.5*
*SFS **02** 19:16:12.2,37.99N×1.38W,h18km,ML3.2/14,ML3.5/12, MLv3.0/14*

ISC 02 19:16:10.9±0.7,38.00N±0.02×1.41W±0.02,h17km±3km, n76,σ2§12/169,2C-1D,Spain

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
E001A	**Albudeite (Mur**	**0.02**	**28**	↑Pg		**Pg**	**19 16 14.0**	**+0.1**
E001A				Sg		**Sg**	**19 16 15.8**	**-0.1**
E1002	**Yechar (Murcia**	**0.08**	**340**	↑Pg		**Pb**	**19 16 14.2**	**-0.1**
E1002				Sg		**Sb**	**19 16 16.2**	**-0.3**
EMUR	**La Murta**	**0.20**	**140**	Pg		**Pg**	**19 16 16.6**	**+0.8**
EMUR				Sg		**Sg**	**19 16 19.8**	**+0.6**
EMUR	**La Murta**	**0.20**	**140**	↓Pg		**Pg**	**19 16 16.6**	**+0.8**
EMUR				Sg		**Sg**	**19 16 19.6**	**+0.4**
EMUR				*i* Vmb_Lg			19 16 20.6	
EZAR	**Zarzadilla de**	**0.26**	**242**	Pg		**Pg**	**19 16 16.5**	**-0.2**
EZAR				Sg		**Sg**	**19 16 20.3**	**-0.4**
EZAR				*i* Vmb_Lg			19 16 21.5	
TLOR	**Lorca, Murcia**	**0.41**	**213**	Pg		**Pb**	**19 16 20.0**	**+0.3**
TLOR				Sg		**Sg**	**19 16 25.0**	**+0.1**
TLOR	**Lorca, Murcia**	**0.41**	**213**	Pg		**Pg**	**19 16 19.7**	**+0.4**
TLOR				Sg		**Sg**	**19 16 25.0**	**+0.1**
ELOR	**Lorca, Murcia**	**0.45**	**217**	Pg		**Pg**	**19 16 20.0**	**0.0**
ELOR				Sg		**Sg**	**19 16 25.7**	**-0.4**
ELOR				*i* Vmb_Lg			19 16 28.1	
ETRV	**Los Montesinos**	**0.51**	**87**	Pg		**Pb**	**19 16 21.8**	**+0.4**
ETRV				Sg		**Sb**	**19 16 28.5**	**0.0**
ETRV				*i* Vmb_Lg			19 16 33.9	
CART	**Cartagena**	**0.52**	**142**	Pg		**Pn**	**19 16 22.3**	**-1.2**
CART				Sg		**Sb**	**19 16 28.6**	**-0.2**
CART	**Cartagena**	**0.52**	**142**	P		**Pn**	**19 16 22.6**	**-1.0**
ETOB	**Tobarra**	**0.65**	**350**	Pg		**Pb**	**19 16 24.2**	**+0.3**
ETOB				Sg		**Sb**	**19 16 33.5**	**+0.8**
ETOB	**Tobarra**	**0.65**	**350**	Pg		**Pb**	**19 16 24.1**	**+0.3**
ETOB				Sg		**Sb**	**19 16 33.2**	**+0.4**
ETOB				*i* Vmb_Lg			19 16 36.8	
EBEN2	**Beniarda presa**	**1.17**	**54**	Pg		**Pn**	**19 16 31.8**	**-0.7**
EBEN2				Sg		**Sb**	**19 16 47.7**	**+0.2**
EBEN2				*i* Vmb_Lg			19 16 58.0	
ENIJ	**Nijar**	**1.21**	**212**	Pn		**Pn**	**19 16 33.0**	**+0.1**
ENIJ				Sn		**Sb**	**19 16 48.2**	**-0.4**
ENIJ	**Nijar**	**1.21**	**212**	Pg		**Pn**	**19 16 33.1**	**+0.1**
ENIJ				Sg		**Sn**	**19 16 48.2**	**-0.3**
ENIJ				*i* Vmb_Lg			19 16 54.6	
EVIV	**Cofrentes, Val**	**1.29**	**10**	Pn		**Pn**	**19 16 34.7**	**+0.6**
EVIV				Pg		**Pb**	**19 16 36.1**	**+1.5**
EVIV				Sn		**Sn**	**19 16 51.3**	**+0.3**
EVIV				Sg		**Sb**	**19 16 52.6**	**+1.7**
EVIV				*i* Vmb_Lg			19 16 55.9	
EQES	**Quesada**	**1.33**	**262**	Pg		**Pb**	**19 16 36.5**	**+1.0**
EQES				Sg		**Sb**	**19 16 53.9**	**+1.6**
EQES				*i* Vmb_Lg			19 16 56.4	
EBER	**Berja**	**1.61**	**228**	Pn		**Pn**	**19 16 39.9**	**+1.1**
ECHE	**Chera**	**1.63**	**12**	Pn		**Pn**	**19 16 39.0**	**+0.2**
ECHE				Pg		**Pb**	**19 16 41.7**	**+1.2**
ECHE				Sn		**Sn**	**19 16 59.7**	**+0.3**
ECHE	**Chera**	**1.63**	**12**	Pn		**Pn**	**19 16 39.1**	**+0.3**
ECHE				Pg		**Pb**	**19 16 41.6**	**+1.2**
ECHE				Sn		**Sn**	**19 16 58.6**	**-0.8**
ECHE				Sg		**Sb**	**19 17 02.8**	**+2.1**
ECHE				*i* Vmb_Lg			19 17 06.1	
EQUE	**Quentar**	**1.80**	**244**	Pn		**Pn**	**19 16 41.3**	**+0.1**
EQUE				Pb		**Pb**	**19 16 43.1**	**-0.4**
EQUE				Pg		**Pg**	19 16 44.2	-1.3
EQUE				Sg		**Sb**	**19 17 06.9**	**+1.2**
EQUE				*i* Vmb_Lg			19 17 10.3	
EQTA	**Presa de Quent**	**1.80**	**245**	Sg		**Sg**	**19 17 08.9**	**0.0**
EQTA				Pn		**Pn**	**19 16 42.1**	**+0.9**
PSIM	**Granatula de C**	**2.02**	**295**	Pn		**Pn**	**19 16 44.3**	**+0.1**
PSIM				Pg		**Pb**	**19 16 48.2**	**+1.0**
PSIM				Sn		**

PBAR				Sn	Sn	19 18 06.3	-2.6	
PBAR				Sg	Sg	19 18 30.4	-3.3	
EBAD	**Badajoz**	**4.47**	**281**	Pn	Pn	19 17 17.6	-0.2	
EBAD				Sn	Sn	19 18 08.0	-1.5	
EBAD				Sg	Sb	19 18 27.2	+4.7	
ECHI	**Chisagues Biel**	**4.82**	**14**	Pn	Pn	19 17 24.8	+2.1	
ECHI				*i* Vmb_Lg		19 18 01.8		
EGRO	**El Granado**	**4.84**	**266**	Pn	Pn	19 17 21.9	-1.0	
EGRO				Sn	Sn	19 18 16.5	-2.0	
EGRO				Sg	Sg	19 18 43.1	-3.1	
EGRO				*i* Vmb_Lg		19 19 22.2		
PMRV	**Marv??o**	**4.89**	**289**	*e*Sn	Sn	19 18 18.1	-1.8	
PMRV				*e*Sg	Sg	19 18 47.3	-0.7	
PMRV				A	A	19 18 48.4		
	14nm,0.8s							
PESTR	**Estremoz**	**4.93**	**282**	*e*Pn	Pn	19 17 25.0	+0.8	
PESTR				*e*Sn	Sn	19 18 18.8	-2.1	
PESTR				*e*Sg	Sg	19 18 45.0	-4.2	
PESTR				A	A	19 18 56.9		
	18nm,0.5s							
PESTR	**Estremoz**	**4.93**	**282**	P	Pn	19 17 24.8	+0.6	
ETSF	**Etsaut**	**4.94**	**7**	*e*Pn	Pn	19 17 26.1	+1.8	
ETSF				*e*Sn	Sn	19 18 19.3	-1.7	
	2.3nm,0.3s							
ETSF				*e*Sg	Sg	19 18 46.1	-3.2	
	4.2nm,0.3s							
PVAQ	**Vaqueiros**	**5.04**	**265**	*e*Pn	Pn	19 17 25.9	+0.2	
PVAQ				*e*Sn	Sn	19 18 20.8	-2.7	
PVAQ				A	A	19 19 03.1		
	9.7nm,0.7s							
PCBR	**Castelo Branco**	**5.08**	**293**	*e*Sn	Sn	19 18 20.5	-4.0	
PCBR				*e*Sg	Sg	19 18 50.7	-3.2	
SJPF	**Ste Jean**	**5.11**	**1**	*e*Pn	Pn	19 17 28.5	+1.8	
SJPF				*e*Sg	Sg	19 18 51.2	-3.7	
	1.6nm,0.2s							
EPF	**Esparros**	**5.20**	**14**	*e*Pn	Pn	19 17 29.8	+1.9	
EPF				*e*Sn	Sn	19 18 25.7	-1.8	
	3.1nm,0.3s							
EPF				*e*Sg	Sg	19 18 53.9	-3.8	
	3.3nm,0.3s							
EVO	**Evora**	**5.23**	**278**	*e*Sn	Sn	19 18 26.1	-2.0	
EVO				*e*Sg	Sb	19 18 52.3	+8.0	
EVO				A	A	19 19 04.7		
	13nm,0.9s							
PCVE	**Castro Verde**	**5.26**	**268**	*e*Pn	Pn	19 17 28.8	0.0	
MVO	**Moncorvo**	**5.37**	**308**	*e*Pn	Pn	19 17 30.6	+0.3	
MVO				*e*Sn	Sn	19 18 28.2	-3.6	
MVO				*e*Sg	Sg	19 18 59.4	-3.9	
MVO				A	A	19 19 12.5		
	8.4nm,0.5s							
MESJ	**Messejana**	**5.39**	**270**	*e*Pn	Pn	19 17 30.8	+0.3	
ELAN	**Lanestosa**	**5.45**	**344**	Pn	Pn	19 17 32.6	+1.3	
ELAN				Sg	Sb	19 18 59.2	+8.5	
PMTG	**Montargil**	**5.45**	**283**	*e*Sn	Sn	19 18 31.4	-2.3	
PMTG				A	A	19 19 14.5		
	11nm,0.7s							
PBRG	**Braganca**	**5.59**	**314**	*e*Pn	Pn	19 17 33.4	+0.1	
PBRG				*e*Sn	Sn	19 18 33.0	-4.2	
PBRG				*e*Sg	Sg	19 19 07.4	-2.9	
PBRG				A	A	19 19 13.1		
	8.1nm,0.5s							
ECAL	**Calabor**	**5.68**	**316**	Pn	Pn	19 17 34.9	+0.3	
PVIS	**Viseu**	**5.71**	**300**	*e*Pn	Pn	19 17 35.8	+0.8	
PVIS				*e*Sn	Sn	19 18 36.0	-4.2	
PVIS				*e*Sg	Sg	19 19 10.5	-3.7	
PVIS				A	A	19 19 21.2		
	7.0nm,0.5s							
PCAS	**Casmilo, Conde**	**5.89**	**293**	*e*Pn	Pn	19 17 38.4	+1.0	
PCAS				*e*Sn	Sn	19 18 41.5	-3.0	
PCAS				*e*Sg	Sg	19 19 19.2	-0.7	
PCAS				A	A	19 19 33.9		
	12nm,0.6s							
MTLF	**Montolieu**	**6.00**	**26**	*e*Sg	Sg	19 19 18.6	-4.9	
	1.0nm,0.2s							
EARI	**Arriondas**	**6.03**	**333**	Pn	Pn	19 17 40.6	+1.2	
EARI				Sn	Sn	19 18 44.4	-3.6	
EARI				Sg	Sg	19 19 19.2	-5.3	
PCAB	**Cabril**	**6.30**	**308**	*e*Pn	Pn	19 17 43.8	+0.8	
PGAV	**Gavieira, Arco**	**6.59**	**309**	*e*Pn	Pn	19 17 47.4	+0.3	
EPON	**Pontenova**	**6.88**	**322**	Pn	Pn	19 17 51.4	+0.4	
EPON				Sn	Sn	19 19 02.9	-5.9	
EPON				Sg	Sb	19 19 43.1	+11	
LFF	**La Frestale**	**7.12**	**12**	*e*Pn	Pn	19 17 55.3	+1.1	
CAF	**Calviac**	**7.39**	**20**	*e*Pn	Pn	19 17 59.7	+1.7	

WEL ***02*** *19:21:18.3±0.7,34˚S±10˚×17˚9E±2˚0,h211km±17km, M3.8/16,mB4.3/9,ML4.3/18,MLv4.2/16,Mw(mB)3.5/9, Error ellipse: s-maj=0.0km s-min=0.0km az=114.6*
NOU ***02*** *19:21:37.0,36˚09S×179˚26E,h268km,MLv4.2/7, Off E. Coast of N. Island, N.Z.*

ISC 02 19:21:14.8±1.5,34˚0S±0˚1×179˚0E±0˚2,h250km,n64, σ2s21/70,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGZ	**Tauwhareparae**	**4.20**	**191**	P	Pn	**19 22 24.3**	**+3.3**
TWGZ				S	S	19 23 15.2	+1.5
MWZ	**Matawai**	**4.44**	**195**	P	Pn	**19 22 26.7**	**+2.9**
MWZ				S	S	19 23 19.7	+0.9
URZ	**Urewera**	**4.47**	**199**	P	Pn	**19 22 28.2**	**+4.1**
URZ	**Urewera**	**4.47**	**199**	P	Pn	**19 22 26.7**	**+2.6**
URZ				S	S	**19 23 19.7**	**+0.4**
CNGZ	**Carnagh Statio**	**4.47**	**188**	P	Pn	**19 22 27.1**	**+3.0**
TKGZ	**Te Karaka**	**4.48**	**192**	P	Pn	**19 22 26.8**	**+2.5**
TKGZ				S	S	**19 23 18.9**	**-0.6**
RAGZ	**Rawiri**	**4.62**	**195**	P	Pn	**19 22 28.9**	**+2.9**
RAGZ				S	S	**19 23 24.0**	**+1.3**
RIGZ	**Rimuhau**	**4.76**	**192**	P	Pn	**19 22 29.7**	**+2.1**
RIGZ				S	S	**19 23 25.1**	**-0.6**
MUGZ	**Murupara**	**4.77**	**201**	P	Pn	**19 22 30.5**	**+2.7**
MUGZ				S	S	**19 23 25.8**	**-0.1**
RAHZ	**Arahi**	**5.10**	**197**	P	Pn	**19 22 34.0**	**+2.3**
RAHZ				S	S	**19 23 33.2**	**+0.1**
TLZ	**Tolley Road**	**5.11**	**212**	P	Pn	19 22 37.5	+5.6
GLKZ	**Green Lake**	**5.45**	**30**	S	S	**19 23 39.1**	**-2.0**
BKZ	**Black Stump Fm**	**5.49**	**201**	P	Pn	**19 22 39.1**	**+2.5**
HIZ	**Hauiti**	**5.57**	**216**	P	Pn	19 22 44.7	+7.2
HIZ	**Hauiti**	**5.57**	**216**	P	Pn	19 22 45.7	+8.2
MCHZ	**McNeill Hill**	**5.69**	**198**	P	Pn	**19 22 41.5**	**+2.4**
MCHZ				S	S	**19 23 46.1**	**-0.3**
MCHZ	**McNeill Hill**	**5.69**	**198**	P	S	**19 23 47.1**	**+0.6**
NTVZ	**North Tongarir**	**5.70**	**207**	P	Pn	**19 22 43.3**	**+4.0**
TMVZ	**Te Maari**	**5.71**	**207**	P	Pn	**19 22 43.0**	**+3.6**
ETVZ	**East Tongariro**	**5.72**	**206**	P	Pn	**19 22 42.3**	**+2.7**
SNVZ	**South Ngauruho**	**5.79**	**207**	P	Pn	**19 22 43.3**	**+2.8**
NGZ	**Ngauruhoe**	**5.80**	**207**	P	Pn	**19 22 44.3**	**+3.8**
TUVZ	**Tukino**	**5.86**	**206**	P	Pn	**19 22 44.7**	**+3.4**
FWVZ	**Far West T-bar**	**5.89**	**207**	P	Pn	**19 22 44.4**	**+2.7**
BHHZ	**Black Hill Sta**	**5.92**	**203**	P	Pn	**19 22 43.4**	**+1.5**
BHHZ				S	S	**19 23 50.5**	**-1.1**
TRVZ	**Turoa**	**5.93**	**207**	P	Pn	**19 22 45.0**	**+2.8**
WNVZ	**Wahianoa**	**5.93**	**206**	P	Pn	**19 22 44.4**	**+2.1**
MOVZ	**Moawhango**	**5.95**	**205**	P	Pn	**19 22 43.7**	**+1.4**
MOVZ				S	S	**19 23 51.6**	**-0.7**
KRHZ	**Kereru**	**5.97**	**200**	P	Pn	**19 22 43.6**	**+1.1**
KRHZ				S	S	**19 23 50.3**	**-2.4**
KRHZ	**Kereru**	**5.97**	**200**	P	S	**19 23 50.9**	**-1.8**
KAHZ	**Kahuranaki**	**5.98**	**196**	P	Pn	**19 22 44.1**	**+1.4**
PXZ	**Pawanui**	**6.21**	**195**	P	Pn	**19 22 46.2**	**+0.8**
PXZ				S	S	**19 23 54.9**	**-3.2**
PNHZ	**Pukenui**	**6.27**	**200**	P	Pn	**19 22 46.9**	**+0.7**
PNHZ	**Pukenui**	**6.27**	**200**	P	S	**19 23 56.7**	**-2.7**
WPHZ	**Waipukurau**	**6.34**	**198**	P	Pn	**19 22 47.7**	**+0.5**
WPHZ	**Waipukurau**	**6.34**	**198**	P	S	**19 23 58.1**	**-3.0**
TSZ	**Takapari Road**	**6.47**	**201**	P	Pn	**19 22 49.7**	**+0.9**
PRHZ	**Porangahau**	**6.49**	**196**	P	Pn	**19 22 49.6**	**+0.6**
PRHZ	**Porangahau**	**6.49**	**196**	P	S	19 23 56.1	-8.3
WAZ	**Wanganui**	**6.54**	**208**	P	Pn	**19 22 53.5**	**+3.8**
DVHZ	**Dannevirke**	**6.64**	**199**	P	Pn	**19 22 52.3**	**+1.5**
DVHZ	**Dannevirke**	**6.64**	**199**	P	S	19 24 00.6	-7.2
ANWZ	**Angora Road**	**6.71**	**197**	P	Pn	**19 22 54.2**	**+2.5**
ANWZ	**Angora Road**	**6.71**	**197**	P	S	**19 24 03.4**	**-6.0**
POWZ	**Post Office Ro**	**6.84**	**201**	P	Pn	**19 22 54.5**	**+1.2**
POWZ	**Post Office Ro**	**6.84**	**201**	P	S	**19 24 09.2**	**-3.2**
PRWZ	**Pori Road**	**6.93**	**199**	P	S	19 24 07.7	-6.8
BFZ	**Birch Farm**	**6.97**	**197**	P	Pn	**19 22 55.4**	**+0.3**
BFZ	**Birch Farm**	**6.97**	**197**	P	S	19 24 08.3	-7.2
DUWZ	**D'Urville Isla**	**7.86**	**209**	P	Pn	**19 23 06.3**	**+0.1**
BHW	**Baring Head**	**8.04**	**203**	P	Pn	**19 23 07.8**	**-0.7**
TCW	**Tory Channel**	**8.07**	**206**	P	Pn	**19 23 08.6**	**-0.3**
TUWZ	**Tuamarina**	**8.38**	**207**	P	Pn	**19 23 12.4**	**-0.4**
NNZ	**Nelson**	**8.43**	**210**	P	Pn	**19 23 13.3**	**-0.1**
BSWZ	**Blackbirch Sta**	**8.66**	**206**	P	Pn	**19 23 16.4**	**0.0**
MRNZ	**Matariki Terra**	**8.84**	**212**	P	Pn	**19 23 19.5**	**+0.8**
THZ	**Tophouse**	**9.08**	**210**	P	Pn	**19 23 22.3**	**+0.6**
KHZ	**Kahutara**	**9.39**	**206**	P	Pn	**19 23 26.5**	**+0.9**
DSZ	**Denniston Nort**	**9.55**	**214**	P	Pn	**19 23 28.7**	**+1.0**
GVZ	**Greta Valley S**	**10.05**	**206**	P	Pn	**19 23 33.5**	**-0.4**
LTZ	**Lake Taylor**	**10.19**	**209**	P	Pn	**19 23 35.3**	**-0.4**
MQZ	**McQueen's Vall**	**10.83**	**205**	P	Pn	**19 23 42.5**	**-1.2**
RPZ	**Rata Peaks**	**11.46**	**210**	P	Pn	**19 23 54.0**	**+2.4**
ODZ	**Otahua Downs**	**12.72**	**208**	P	Pn	**19 24 08.7**	**+1.5**

IDC ***02*** *19:21:57.0±1.1,27˚01N×130˚01E,h0km,mb3.5/8, mbtmp3.5/9,ML2.5/1,Error ellipse: s-maj=27.5km s-min=22.3km az=72.0*
NIED ***02*** *19:22:00.9,26˚85N×129˚91E,h53km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=2.20; $M_{\theta\theta}$=2.64; $M_{\phi\phi}$=4.84; $M_{r\theta}$=2.40; $M_{\theta\phi}$=4.13; $M_{\phi r}$=3.57; Fault plane solution: $M_0$7.29000×10^{14} NP1: ϕ_s165.00000˚,δ76.00000˚,λ-141.00000˚. NP2: ϕ_s63.00000˚,δ52.00000˚,λ-18.00000˚.*
JMA ***02*** *19:22:00.9±0.1,26˚9N±0˚3×129˚9E±0˚4,h53km,MD3.7/20, MV4.2/20,NEAR AMAMI-OSHIMA ISLAND*

ISC 02 19:22:00.2±1.8,26˚87N±0˚04×129˚92E±0˚03,h23km±14km, n29,σ0s99/46,mb3.6/8,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**1.25**	**317**	P	Pn	**19 22 22.9**	**+0.6**
JTK				*e*S	Sn	19 22 38.2	-0.3
JTK	**Tokunoshima**	**1.25**	**317**	A	A	19 22 22.9	
	comp=E,2.0nm,0.3s,comp=N,3.0nm,0.4s						
JOKE	**Okinoerabujima**	**1.30**	**292**	P	Pn	**19 22 23.4**	**+0.5**
JOKE				*e*S	Sn	19 22 39.4	-0.2
JYRO	**Yoronjima**	**1.32**	**277**	P	Pn	**19 22 23.4**	**+0.2**
JYRO				S	Sn	19 22 39.9	-0.2
JZK	**Kikaishima**	**1.44**	**2**	P	Pb	**19 22 25.9**	**-0.4**
JZK				*e*S	Sb	**19 22 44.4**	**+0.2**
JOW	**Kunigami**	**1.47**	**269**	P	Pn	**19 22 25.7**	**+0.4**
JOW				*e*S	Sn	**19 22 43.0**	**-0.8**
JOW	**Kunigami**	**1.47**	**269**	Pn	Pn	**19 22 25.8**	**+0.4**
	comp=N,414nm,0.3s,baz=293,slow=29,SNR=3055						
JOW				Sn	Sn	**19 22 42.1**	**-1.7**
	comp=N,215nm,0.3s,baz=130,slow=15,SNR=16						
JAMN	**Amaminishikomi**	**1.52**	**334**	P	Pn	**19 22 26.3**	**+0.4**
JAMN				*e*S	Sn	**19 22 44.4**	**-0.5**
JKDJ	**Kitadaitoujima**	**1.54**	**126**	P	Pn	**19 22 26.4**	**+0.3**
JKDJ				*e*S	Sn	**19 22 45.3**	**-0.1**
JKDJ	**Kitadaitoujima**	**1.54**	**126**	A	A	19 22 26.4	
	comp=E,4.0nm,5.4s,comp=N,2.0nm,4.2s						
JAM	**Amami Oshima**	**1.56**	**350**	P	Pn	**19 22 27.0**	**+0.6**
JAM				S	Sn	**19 22 45.9**	**-0.1**
JMZ	**Minamidaito 2**	**1.57**	**132**	P	Pn	**19 22 26.7**	**+0.1**
JMZ				S	Sn	**19 22 45.1**	**-1.1**
JNTH	**Nagotoyohara**	**1.74**	**259**	P	Pn	**19 22 29.0**	**+0.1**
JNTH				*e*S	Sn	**19 22 48.8**	**-1.5**
JIH	**Iheya**	**1.75**	**276**	P	Pn	**19 22 29.6**	**+0.5**
JIH				S	Sn	**19 22 50.8**	**0.0**
JJT3	**Tamagusuku3**	**2.05**	**250**	P	Pn	**19 22 33.8**	**+0.6**
JJT3				S	Sn	**19 22 57.9**	**-0.2**
JTAJ	**Takarajima**	**2.36**	**345**	P	Pn	**19 22 38.0**	**+0.5**
JTAJ				*e*S	Sn	**19 23 04.6**	**-1.2**
JAGN	**Aguni-jima**	**2.41**	**264**	P	Pn	**19 22 38.8**	**+0.6**
JAGN				S	Sn	**19 23 06.2**	**-0.9**
JKE	**Kume jima 2**	**2.86**	**260**	P	Pn	**19 22 44.3**	**-0.1**
JKE				*e*S	Sn	**19 23 17.3**	**-0.8**
JNN	**Nakanoshima**	**2.96**	**359**	P	Pn	**19 22 47.4**	**+1.6**
JNN				*e*S	Sn	**19 23 20.8**	**+0.3**
JNU	**Nakatsue**	**6.28**	**7**	Pn	Pn	**19 23 33.0**	**+1.5**
	comp=N,3.8nm,0.3s,baz=346,slow=6.1,SNR=39						
JNU				Sn	Sn	**19 24 39.1**	**-3.5**
	comp=N,2.2nm,0.3s,baz=309,slow=19,SNR=7.0						
MJAR	**Matsushiro Arr**	**11.94**	**34**	Pn	Pn	**19 24 48.5**	**-0.5**
	baz=199,slow=12,SNR=1.7						
	comp=N,1.0nm,0.7s						
MKAR	**Makanchi Array**	**42.25**	**311**	P	P	**19 29 51.4**	**-0.2**
	comp=N,0.2nm,0.4s,baz=98,slow=10.0,SNR=6.3						
	comp=N,0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**42.67**	**322**	P	P	**19 29 55.0**	**+0.2**
	comp=N,0.3nm,0.5s,baz=105,slow=11,SNR=1.6						
	comp=N,0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**45.44**	**316**	P	P	**19 30 16.8**	**-0.4**
	comp=N,0.3nm,0.4s,baz=102,slow=9.0,SNR=6.5						
KURBB				PcP	PcP	**19 31 56.2**	**+0.2**
	comp=N,0.2nm,0.8s,baz=95,slow=3.0,SNR=2.4						
	comp=N,0.3nm,0.4s						
WRA	**Warramunga Arr**	**46.73**	**174**	P	P	**19 30 28.5**	**+0.8**
	comp=N,0.6nm,0.8s,baz=356,slow=8.5,SNR=3.1						
	comp=N,0.6nm,0.8s						
ASAR	**Alice Springs**	**50.39**	**175**	P	P	**19 30 57.8**	**+2.1**
	comp=N,0.6nm,0.8s,baz=5.3,slow=15,SNR=2.1						
	comp=N,0.6nm,0.8s						
BVAR	**Borovoye Array**	**50.81**	**318**	P	P	**19 30 58.3**	**-0.3**
	comp=N,0.4nm,0.5s,baz=107,slow=9.2,SNR=2.1						
	comp=N,0.4nm,0.5s						
FINES	**FINESS Array B**	**73.05**	**331**	P	P	**19 33 29.1**	**+1.2**
	comp=N,1.8nm,0.9s,baz=60,slow=6.6,SNR=4.8						
	comp=N,1.8nm,0.9s						
YKA	**Yellowknife Ar**	**77.30**	**25**	P	P	**19 33 50.4**	**-2.0**
	comp=N,0.1nm,0.5s,baz=316,slow=4.3,SNR=1.4						
	comp=N,0.1nm,0.5s						

IDC ***02*** *19:24:46.3±2.3,49˚85S×120˚01E,h0km,mb3.7/4, mbtmp3.7/4,MS3.3/3,Error ellipse: s-maj=59.4km s-min=50.6km az=143.0*

ISC 02 19:24:47.1±2.4,50˚0S±0˚4×120˚1E±0˚4,h10km,n11, σ0s64/6,mb3.7/4,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.67**	**342**	T	T	19 44 36.6	
	baz=164,slow=74,SNR=9.4						
H01W1	**Cape Leeuwin H**	**15.68**	**342**	T	T	19 44 33.8	
	baz=164,slow=74,SNR=9.8						
H01W3	**Cape Leeuwin H**	**15.69**	**342**	T	T	19 44 37.6	
	baz=164,slow=74,SNR=7.4						
NWAO	**Narrogin (SRO)**	**17.16**	**352**	LR	LR	19 34 03.7	
	comp=Z,66nm,21.7s,baz=136,slow=33						
STKA	**Stephens Creek**	**24.18**	**50**	P	P	**19 30 04.3**	**+0.8**
	1.7nm,0.9s,baz=210,slow=14,SNR=3.4						
STKA				LR	LR	19 37 36.6	
	comp=Z,70nm,21.7s,baz=203,slow=32						
	1.7nm,0.9s						
ASAR	**Alice Springs**	**28.40**	**27**	P	P	**19 30 41.4**	**-0.4**
	1.1nm,0.8s,baz=210,slow=9.0,SNR=9.4						
	1.1nm,0.8s						
VNDA	**Vanda**	**31.79**	**164**	LR	LR	19 42 12.9	
	comp=Z,99nm,19.3s,baz=194,slow=33						
WRA	**Warramunga Arr**	**32.05**	**26**	P	P	**19 31 13.5**	**-0.5**
	0.7nm,1.0s,baz=210,slow=8.7,SNR=1.9						
	0.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**70.64**	**339**	P	P	**19 36 03.0**	**+0.3**
	0.7nm,0.7s,baz=203,slow=5.9,SNR=4.4						
	0.7nm,0.7s						
PDAR	**Pinedale Array**	**145.56**	**83**	PKPbc	**PKPab**	**19 44 25.6**	**-0.1**
	0.1nm,0.3s,baz=236,slow=6.4,SNR=1.6						
YKA	**Yellowknife Ar**	**148.18**	**46**	PKPbc	**PKPbc**	**19 44 31.5**	**-0.4**
	0.3nm,0.6s,baz=273,slow=2.5,SNR=6.4						

IDC 02 19:32:10.4±5.9,22˚79N×94˚08E,h93km±44km,mb3.3/4, mbtmp3.5/5,Error ellipse: s-maj=146.0km s-min=16.7km az=58.0,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.27**	**132**	P	Pn	19 33 39.9	-0.5
	0.8nm,0.5s,baz=308,slow=12,SNR=6.0						
CMAR				S	Sn	19 34 51.9	+1.2
	0.2nm,0.3s,baz=278,slow=15,SNR=1.3						
MKAR	**Makanchi Array**	**25.77**	**341**	P	P	19 37 32.5	0.0
	0.6nm,0.6s,baz=146,slow=11,SNR=8.6						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**30.32**	**340**	P	P	19 38 13.0	+0.1
	0.3nm,0.5s,baz=147,slow=9.5,SNR=3.3						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**57.86**	**134**	P	P	19 41 52.4	-0.3
	0.4nm,0.3s,baz=319,slow=7.7,SNR=9.8						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**60.26**	**137**	P	P	19 42 09.4	+0.2
	0.4nm,0.5s,baz=322,slow=6.9,SNR=13						
	0.4nm,0.5s						

MDD ***02*** *19:34:13.0±0.3,37˚99N×1˚44W,h12km±1km,mb_Lg2.4/10, Error ellipse: s-maj=3.2km s-min=2.5km az=116.0*
SFS ***02*** *19:34:13.2,37˚97N×1˚45W,h15km,ML2.1/6,ML2.5/5, MLv1.9/6*

ISC 02 19:34:12.1±0.8,38˚00N±0˚02×1˚42W±0˚03,h16km±5km, n15,σ0s43/31,2C-1D,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
E001A	**Albudeite (Mur**	**0.03**	**47**	↑Pg	Pg	**19 34 14.9**	**0.0**
E001A				Sg	Sg	**19 34 16.7**	**-0.1**
E1002	**Yechar (Murcia**	**0.08**	**350**	↑Pg	Pg	**19 34 15.0**	**-0.2**
E1002				Sg	Sg	**19 34 17.4**	**+0.1**
EMUR	**La Murta**	**0.21**	**137**	Pg	Pb	**19 34 17.4**	**-0.2**
EMUR				Sg	Sb	**19 34 21.1**	**-0.2**
EMUR	**La Murta**	**0.21**	**137**	↓Pg	Pb	**19 34 17.4**	**-0.2**
EMUR				Sg	Sg	**19 34 20.4**	**+0.2**
EMUR				*i* Vmb_Lg		19 34 21.4	
EZAR	**Zarzadilla de**	**0.25**	**241**	Pg	Pg	**19 34 17.7**	**+0.1**
EZAR				Sg	Sg	**19 34 21.1**	**-0.2**
EZAR				*i* Vmb_Lg		19 34 21.8	
TLOR	**Lorca, Murcia**	**0.40**	**212**	Pg	Pg	**19 34 20.3**	**+0.1**
TLOR				Sg	Sg	**19 34 25.4**	**-0.3**
CART	**Cartagena**	**0.53**	**141**	Pg	Pb	**19 34 23.1**	**+0.1**
CART				Sg	Sg	**19 34 30.0**	**+0.4**
ETOB	**Tobarra**	**0.66**	**351**	Pg	Pb	**19 34 25.2**	**-0.1**
ETOB				Sg	Sb	**19 34 34.9**	**+0.7**
ETOB	**Tobarra**	**0.66**	**351**	Pg	Pb	**19 34 25.2**	**-0.1**
ETOB				Sg	Sb	**19 34 34.6**	**+0.4**
ETOB				*i* Vmb_Lg		19 34 37.8	
EBEN2	**Beniarda presa**	**1.18**	**55**	Pg	Pg	**19 34 34.7**	**-0.2**
EBEN2				Sg	Sg	**19 34 51.2**	**+0.8**
EBEN2				*i* Vmb_Lg		19 34 55.6	
ENIJ	**Nijar**	**1.20**	**212**	Sn	Sb	**19 34 48.8**	**-0.9**
ENIJ	**Nijar**	**1.20**	**212**	Pg	Pn	**19 34 34.0**	**-0.2**
ENIJ				Sg	Sb	**19 34 50.1**	**+0.4**
ENIJ				*i* Vmb_Lg		19 34 54.8	
EVIV	**Cofrentes, Val**	**1.29**	**11**	Pg	Pb	**19 34 36.0**	**-0.1**
EVIV				Sg	Sg	**19 34 53.7**	**-0.2**
EVIV				*i* Vmb_Lg		19 34 57.4	
EQES	**Quesada**	**1.32**	**262**	Pg	Pb	**19 34 36.8**	**+0.2**
EQES				Sg	Sg	**19 34 54.8**	**+0.1**
EQES				*i* Vmb_Lg		19 34 57.5	
ECHE	**Chera**	**1.63**	**12**	Pn	Pn	**19 34 40.7**	**+0.4**
ECHE				Pg	Pg	**19 34 43.2**	**-0.3**
ECHE				Sn	Sn	**19 35 01.1**	**+0.1**
ECHE				Sg	Sg	**19 35 03.4**	**-1.3**
ECHE				*i* Vmb_Lg		19 35 11.5	

NEIC ***02*** *19:35:08.3±2.6,52˚8N±0˚2×169˚5W±0˚1,h122km±6km, mb3.7/53,ML3.6/8,ML3.4(AEIC),Error ellipse: s-maj=24.4km s-min=8.7km az=155.0*
AEIC ***02*** *19:35:09.8±3.2,52˚9N±0˚1×169˚7W±0˚1,h108km±5km, Error ellipse: s-maj=21.3km s-min=7.9km az=154.0*
IDC ***02*** *19:35:16.5±1.7,52˚93N×165˚65W,h0km,mb3.8/5, mbtmp3.7/6,ML3.3/1,Error ellipse: s-maj=46.9km s-min=22.5km az=22.0*

ISC 02 19:35:09.6±0.9,52˚8N±0˚1×169˚55W±0˚07,h119km±6km, n149,σ1s64/144,mb3.8/7,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**0.11**	**258**		Pn	**19 35 25.3**	**-0.6**
CLCO					Sn	**19 35 37.9**	**-0.2**
CLES	**Cleveland East**	**0.21**	**274**		Pn	**19 35 25.2**	**-0.9**
CLES	**Cleveland East**	**0.21**	**274**		Sn	**19 35 37.6**	**-0.8**
NIKH	**Nikolski High**	**0.45**	**69**		Pn	**19 35 26.7**	**-0.3**
NIKH	**Nikolski High**	**0.45**	**69**		Sn	**19 35 39.5**	**-0.8**
OKCE	**Okmok Cone E**	**1.04**	**53**		Pn	**19 35 32.0**	**+0.1**
OKCE					Sn	**19 35 48.7**	**-0.1**
OKNC	**Okmok New Cone**	**1.08**	**52**		Pn	**19 35 32.1**	**-0.1**
OKER	**Okmok East Rim**	**1.11**	**54**		Pn	**19 35 32.6**	**-0.1**
OKFG	**Magazine Ridge**	**1.16**	**58**		Pn	**19 35 33.2**	**+0.1**
MAPS	**Pakushin South**	**1.86**	**56**		Pn	**19 35 41.5**	**+0.3**
MAPS					Sn	**19 36

comp=Z,4.3nm,0.9s
H21K **Melozitna Rive** **15.39** **27** **Pn** **19 38 39.8 -0.2**
H21K IAmb IAmb 19 38 48.3
comp=Z,4.8nm,1.4s
BWN **Browne** **15.40** **35** **Pn** **19 38 40.1 0.0**
KLU **Klutina** **15.41** **46** Pn **Pn** **19 38 36.4 -3.9**
DHY **Denali Highway** **15.54** **40** **Pn** **19 38 41.2 -0.7**
DHY IAmb IAmb 19 39 21.6
comp=Z,6.3nm,1.4s
MLY **Manley** **15.54** **31** P **Pn** **19 38 42.0 0.0**
M24K **Tolsona, Glenn** **15.56** **44** **Pn** **19 38 41.5 -0.7**
RAGM **Ragged Mountai** **15.58** **51** **Pn** **19 38 41.3 -1.1**
C16K **Lisburne Hills** **15.65** **6** **P** **19 38 44.1 -0.6**
C16K IAmb IAmb 19 39 14.3
comp=Z,7.3nm,1.4s
G21K **Allakaket** **15.88** **24** **Pn** **19 38 45.6 -0.4**
N25K **Chitina, Valde** **16.04** **47** Pn **Pn** **19 38 46.3 -1.8**
N25K IAmb IAmb 19 39 19.8
comp=Z,7.1nm,1.2s
I23K **Minto, Yukon-K** **16.06** **32** P **Pn** **19 38 47.5 -0.7**
I23K IAmb IAmb 19 38 52.0
comp=Z,8.5nm,1.4s
WRH **Wood River Hil** **16.06** **35** Pn **Pn** **19 38 46.5 -1.8**
WRH IAmb IAmb 19 38 51.5
comp=Z,5.6nm,1.3s
CCB **Clear Creek Bu** **16.26** **35** Pn **Pn** **19 38 47.3 -3.4**
CCB IAmb IAmb 19 38 58.3
comp=Z,5.0nm,1.4s
MDM **Murphy Dome** **16.30** **33** **Pn** **19 38 49.5 -1.8**
MDM IAmb IAmb 19 39 23.4
comp=Z,7.3nm,1.5s
GLB **Gilahina Butte** **16.33** **48** **Pn** **19 38 49.9 -1.8**
GLB IAmb IAmb 19 39 33.5
comp=Z,7.1nm,1.3s
CRQM **Cirque** **16.42** **51** **Pn** **19 38 51.4 -1.5**
VRDI **Verde Repeater** **16.42** **49** **Pn** **19 38 51.4 -1.5**
WAX **Waxell Ridge** **16.46** **52** **Pn** **19 38 52.9 -0.5**
TGL **Tana Glacier** **16.56** **51** **Pn** **19 38 53.6 -1.0**
IL31 **16.65** **35** **Pn** **19 38 53.0 -2.4**
ILAR **Eielson Array** **16.65** **35** Pn **Pn** **19 38 51.4 -4.2**
comp=Z,0.1nm,0.3s,baz=234,slow=10,SNR=2.3
comp=Z,0.2nm,0.6s
MCARA **McCarthy VSAT** **16.66** **49** **Pn** **19 38 54.6 -1.2**
ISLE **Juniper Island** **16.75** **52** **Pn** **19 38 56.5 -0.4**
RIDG **Independent Ri** **16.86** **40** **Pn** **19 38 57.2 -0.9**
RIDG IAmb IAmb 19 39 07.8
comp=Z,6.7nm,1.3s
G23K **Bananza Creek** **16.93** **27** P **Pn** **19 38 58.7 -0.3**
H24K **Noodor Dome** **16.98** **31** **Pn** **19 38 59.1 -0.4**
H24K IAmb IAmb 19 39 02.5
comp=Z,3.8nm,1.0s
M26K **Nabesna, AK** **17.04** **45** **P** **19 38 58.8 -1.4**
GRNC **Granite Creek** **17.06** **51** **P** **19 38 58.5 -2.2**
J25K **Salcha River,** **17.11** **37** **P** **19 38 58.7 -2.3**
J25K IAmb IAmb 19 39 00.7
comp=Z,2.5nm,0.8s
BARN **Barnard Glacier** **17.20** **50** **P** **19 38 59.7 -2.5**
BARN IAmb IAmb 19 39 06.2
comp=Z,10nm,1.4s
SCRK **Sand Creek** **17.30** **40** **P** **19 38 59.9 -3.4**
CTGM **Chitina Glacie** **17.32** **51** **P** **19 39 03.3 -0.2**
CTGM IAmb IAmb 19 39 37.6
comp=Z,10nm,1.4s
G24K **Hadweenzic Riv** **17.66** **30** **P** **19 39 06.2 -0.8**
G24K IAmb IAmb 19 39 36.3
comp=Z,9.2nm,1.4s
J26L **Joseph Creek** **17.72** **39** P **P** **19 39 05.4 -2.3**
J26L IAmb IAmb 19 39 08.0
comp=Z,4.3nm,0.9s
L27K **Beaver Creek,** **17.79** **44** **P** **19 39 08.1 -0.3**
BCAR **Beaver Creek A** **17.81** **44** P **P** **19 39 07.6 -1.0**
F24K **Squaw Lake** **18.10** **27** P **P** **19 39 11.4 -0.5**
O29M **Mount Kennedy** **18.50** **54** P **P** **19 39 16.5 +0.1**
P29M **Windy Craggy** **18.82** **56** P **Pn** **19 39 20.7 -0.9**
BMAR **Burnt Mountain** **19.00** **30** P **P** **19 39 20.2 -1.5**
M29M **Somme Creek** **19.04** **47** P **P** **19 39 22.2 0.0**
M29M IAmb IAmb 19 39 22.9
comp=Z,5.3nm,1.1s
DAWY **Dawson** **19.18** **42** P **P** **19 39 22.4 -1.2**
C23K **Itkillik River** **19.18** **20** P **P** **19 39 22.5 -1.0**
C23K IAmb IAmb 19 39 26.9
comp=Z,4.1nm,1.1s
N30M **Aishikik Lake** **19.44** **51** P **P** **19 39 25.9 -0.5**
N30M IAmb IAmb 19 39 35.6
comp=Z,6.6nm,1.3s
I28M **Miner Creek** **19.53** **38** P **P** **19 39 25.1 -2.3**
I28M IAmb IAmb 19 39 28.4
comp=Z,3.1nm,0.9s
K29M **Barlow Dome** **19.87** **44** P **P** **19 39 30.4 -0.9**
H29M **Whitestone** **20.45** **37** P **P** **19 39 35.8 -1.4**
H29M IAmb IAmb 19 39 38.3
comp=Z,4.4nm,0.9s
F28M **Old Crow** **20.60** **33** P **P** **19 39 38.4 -0.4**
F28M IAmb IAmb 19 39 48.8
comp=Z,4.6nm,1.4s
J30M **Hart River** **20.60** **42** P **P** **19 39 38.3 -0.8**
I30M **Mount Dempster** **20.81** **40** P **P** **19 39 39.3 -1.9**
I30M IAmb IAmb 19 40 08.3
comp=Z,4.0nm,1.4s
G30M **tAoh Zraii Nji** **21.55** **36** P **P** **19 39 46.8 -2.2**
G30M IAmb IAmb 19 40 04.4
comp=Z,5.3nm,1.4s
E29M **Blow River** **21.64** **32** P **P** **19 39 49.2 -0.7**
H31M **Peel River** **21.80** **40** P **P** **19 39 49.4 -2.3**
H31M IAmb IAmb 19 40 19.9
comp=Z,6.8nm,1.5s
G31M **Satah River** **22.23** **37** P **P** **19 39 55.5 -0.6**
H11N2 **WAKE ISLAND Hy** **37.73** **218** T T 20 23 54.5
baz=24
H11N3 **WAKE ISLAND Hy** **37.74** **218** T T 20 23 51.7
baz=24
H11N1 **WAKE ISLAND Hy** **37.75** **218** T T 20 23 45.6
baz=24
NVAR **Mina Array Bea** **37.78** **91** P **P** **19 42 15.3 +1.0**
comp=Z,0.6nm,0.3s,baz=267,slow=7.2,SNR=2.2
comp=Z,0.6nm,0.3s
H11S1 **WAKE ISLAND Hy** **38.92** **217** T T 20 24 15.0
baz=23,slow=74,SNR=15
H11S2 **WAKE ISLAND Hy** **38.94** **217** T T 20 24 28.1
baz=23,slow=74,SNR=14
H11S3 **WAKE ISLAND Hy** **38.94** **217** T T 20 23 54.9
baz=23,SNR=9.5
PDAR **Pinedale Array** **40.43** **80** P **P** **19 42 37.5 +1.2**
comp=Z,0.3nm,0.5s,baz=305,slow=5.2,SNR=4.5
comp=Z,0.3nm,0.5s
TXAR **Lajitas Array** **52.85** **89** P **P** **19 44 14.8 +1.8**
comp=Z,0.5nm,0.5s,baz=304,slow=6.4,SNR=10
comp=Z,0.5nm,0.5s
KURBB **Kurchatov Arra** **62.08** **318** P **pP** **19 45 47.2 +1.7**
comp=Z,0.6nm,0.7s,baz=45,slow=7.5,SNR=7.5
comp=Z,0.6nm,0.7s
BVAR **Borovoye Array** **63.28** **324** P **pP** **19 45 55.8 +2.4**
comp=Z,1.4nm,0.6s,baz=53,slow=7.4,SNR=8.1
comp=Z,1.4nm,0.6s

*IDC **02** 19:39:47.6±1.1,38°.01N×26°.14W, h0km, mb3.7/11, mbtmp3.8/12, ML4.2/1, MS3.5/7, Error ellipse: s-maj=31.1km s-min=19.6km az=1.0*
*SVSA **02** 19:39:50.6±1.2,37°.93N×26°.12W, h5km±3km, ML4.1(INMG), Error ellipse: s-maj=4.0km s-min=1.2km az=32.0*

ISC 02 19:39:46.1±1.3, 37°.83N±0°.05×26°.28W±0°.04, h2km±8km, n78, σ2°00/83, mb3.8/12, MS3.4/6, 3C-3D, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSET	**Sete Cidades**	**0.45**	**90**	*iP*	**Pg**	**19 39 56.6**	**+2.0**
PSET				*eS*	**Sg**	**19 40 01.6**	**+1.2**
PSET				A	A	19 40 02.9	
	22μm,0.2s						
PDA	**Ponta Delgada**	**0.50**	**99**	*eP*	**Pg**	**19 39 57.5**	**+1.9**
PDA				*eS*	**Sg**	**19 40 03.3**	**+1.2**
POVGA	**Lagoa**	**0.56**	**98**	*eP*	**Pg**	**19 39 58.7**	**+2.0**
POVGA				*eS*	**Sg**	**19 40 04.9**	**+0.9**
POVGA				A	A	19 40 06.8	
	10μm,0.3s						
PRIG	**Ribeira Grande**	**0.60**	**91**	*eP*	**Pg**	**19 39 59.0**	**+1.5**
PRIG				*eS*	**Sg**	**19 40 05.4**	**+0.1**
PRIG				A	A	19 40 07.0	
	33μm,0.3s						
CMLA	**Cha da Macela**	**0.60**	**96**	*eP*	**Pg**	**19 39 59.2**	**+1.5**
CMLA				*eS*	**Sg**	**19 40 06.0**	**+0.5**
CMLA				A	A	19 40 07.5	
	18μm,0.3s						
PCALD	**Caldeiras da R**	**0.63**	**92**	*eP*	**Pg**	**19 39 59.2**	**+1.0**
PCALD				*eS*	**Sg**	**19 40 06.1**	**-0.2**
PCALD				A	A	19 40 06.8	
	7μm,0.2s						
PGRON	**Lagoa das Cont**	**0.72**	**94**	*iP*	**Pg**	**19 40 00.7**	**+0.8**
PGRON				*eS*	**Sg**	**19 40 09.7**	**+0.4**
PGRON				A	A	19 40 11.7	
	5μm,0.2s						
PPOV	**Povoa§£o**	**0.83**	**95**	*eP*	**Pg**	**19 40 02.0**	**+0.1**
PPOV				*eS*	**Sg**	**19 40 10.6**	**-2.0**
PPOV				A	A	19 40 12.0	
	5μm,0.3s						
BART	**Pico Bartolome**	**0.88**	**93**	*iP*	**Pg**	**19 40 02.6**	**-0.4**
BART				*eS*	**Sg**	**19 40 12.9**	**-1.6**
BART				A	A	19 40 14.9	
	3μm,0.2s						
PNOR2	**Nordeste**	**0.90**	**89**	*eP*	**Pg**	**19 40 02.7**	**-0.6**
PNOR2				*eS*	**Sg**	**19 40 12.1**	**-2.9**
PNOR2				A	A	19 40 13.8	
	6μm,0.3s						
PSCM	**Serra do Cume**	**1.09**	**323**	*eP*	**Pg**	**19 40 07.7**	**+0.7**
PSCM				*eS*	**Sg**	**19 40 20.8**	**-0.4**
PSCM				A	A	19 40 23.1	
	6μm,0.2s						
PPV	**Praia da Vit**	**1.09**	**326**	*eP*	**Pg**	**19 40 07.7**	**+0.6**
PPV				*eS*	**Sg**	**19 40 20.7**	**-0.5**
PPV				A	A	19 40 21.8	
	8μm,0.2s						
ADH	**Angra Heroismo**	**1.12**	**318**	*eP*	**Pg**	**19 40 07.0**	**-0.5**
ADH				*eS*	**Sg**	**19 40 20.4**	**-1.6**
ADH				A	A	19 40 21.9	
	1μm,0.1s						
PAGU	**Águalva, Azore**	**1.18**	**323**	*iP*	**Pg**	**19 40 08.9**	**+0.2**
PAGU				*eS*	**Sg**	**19 40 22.9**	**-1.0**
PAGU				A	A	19 40 23.6	
	6μm,0.3s						
PSMA	**Santa Maria**	**1.24**	**132**	*eP*	**Pg**	**19 40 09.5**	**-0.3**
PSMA				*eS*	**Sg**	**19 40 23.3**	**-2.5**
PSMA				A	A	19 40 25.9	
	1μm,0.2s						
PSBA	**Serra de Santa**	**1.25**	**319**	*iP*	**Pg**	**19 40 10.2**	**+0.2**
PSBA				*eS*	**Sg**	**19 40 25.1**	**-1.1**
PSBA				A	A	19 40 26.3	
	1μm,0.2s						
PSMN	**Pico do Norte,**	**1.27**	**130**	*iP*	**Pg**	**19 40 09.9**	**-0.5**
PSMN				*eS*	**Sg**	**19 40 24.4**	**-2.5**
PSMN				A	A	19 40 25.7	
	386nm,0.2s						
PID	**Ribeirinha**	**1.57**	**294**	*eP*	**Pn**	**19 40 15.8**	**+0.7**
PID				*eS*	**Sn**	**19 40 34.4**	**-1.7**
PID				A	A	19 40 34.9	
	427nm,0.2s						
PMAN	**Manadas**	**1.63**	**300**	*eP*	**Pn**	**19 40 16.1**	**+0.2**
PMAN				*eS*	**Sn**	**19 40 35.2**	**-2.3**
PMAN				A	A	19 40 37.3	
	761nm,0.2s						
PPNO	**Prainha do Nor**	**1.69**	**293**	*eP*	**Pn**	**19 40 17.1**	**+0.4**
PPNO				*eS*	**Sn**	**19 40 36.6**	**-2.4**
PPNO				A	A	19 40 37.8	
	374nm,0.1s						
ROSA	**Rosais**	**1.78**	**301**	*eP*	**Pn**	**19 40 18.3**	**+0.4**
ROSA				*eS*	**Sn**	**19 40 38.8**	**-2.4**
ROSA				A	A	19 40 41.5	
	574nm,0.2s						
PGRA	**Graciosa**	**1.79**	**313**	*eP*	Pg	19 40 26.8	+6.3
PGRA				*eS*	**Sg**	**19 40 47.6**	**+3.8**
PGRA				A	A	19 40 50.8	
	633nm,0.3s						
PICO	**Pico**	**1.82**	**292**	*eP*	**Pn**	**19 40 19.0**	**+0.5**
PICO				*eS*	**Sn**	**19 40 40.4**	**-1.8**
PICO				A	A	19 40 41.4	
	1μm,0.2s						
SRBC	**Serra Branca**	**1.83**	**312**	*eP*	Pn	19 40 12.8	-5.9
SRBC				*eS*	**Sn**	**19 40 38.2**	**-4.3**
SRBC				A	A	19 40 40.4	
	2μm,0.2s						
PCAN	**Candelaria**	**1.85**	**291**	*eP*	**Pn**	**19 40 19.5**	**+0.6**
PCAN				*eS*	**Sn**	**19 40 41.4**	**-1.5**
PCAN				A	A	19 40 42.9	
	428nm,0.1s						
HOR	**Horta**	**1.98**	**291**	*eP*	**Pn**	**19 40 20.9**	**+0.3**
HOR				*eS*	**Sn**	**19 40 44.2**	**-1.8**
HOR				A	A	19 40 48.4	
	1μm,0.3s						
PFCBR	**Castelo Branco**	**2.04**	**291**	*eP*	**Pn**	**19 40 22.0**	**+0.5**
PFCBR				*eS*	**Sn**	**19 40 45.7**	**-1.8**
PFCBR				A	A	19 40 49.4	
	227nm,0.3s						
CALA	**Caldeira**	**2.05**	**292**	*eP*	**Pn**	**19 40 22.5**	**+0.8**
CALA				*eS*	**Sn**	**19 40 45.9**	**-2.0**
CALA				A	A	19 40 48.3	
	2μm,0.2s						
PCED	**Cedros**	**2.07**	**294**	*eP*	**Pn**	**19 40 22.1**	**+0.3**
PCED				*eS*	**Sn**	**19 40 45.9**	**-2.3**
PCED				A	A	19 40 47.8	
	305nm,0.1s						
PMAR	**Madeira**	**9.20**	**121**	*eP*	**Pn**	**19 41 59.6**	**-0.3**
PMAFR	**Mafra**	**13.39**	**80**	*eP*	**Pn**	**19 42 54.1**	**-3.0**
PSBE	**So Bento**	**13.77**	**78**	*eP*	**Pn**	**19 42 59.6**	**-2.8**
PTEO	**Sao Teotonio**	**13.91**	**86**	*eP*	**Pn**	**19 43 02.1**	**-2.2**
PNCL	**Nicolau / Gran**	**14.01**	**83**	*eP*	Pn	19 43 01.3	-4.4
PNCL				*eS*	Sn	19 45 23.0	-19
PNCL				A	A	19 45 31.8	
	6.0nm,0.7s						
PCAS	**Casmilo, Conde**	**14.02**	**75**	*eP*	**Pn**	**19 43 02.3**	**-3.5**
PCAS				*eS*	Sn	19 45 21.6	-20
PCAS				A	A	19 45 30.1	
	6.8nm,0.7s						
PTO	**Porto**	**14.05**	**71**	*eP*	Pn	19 43 00.5	-5.6
PTO				A	A	19 43 22.7	
	175nm,1.5s						
COI	**Coimbra**	**14.10**	**75**	*eP*	Pn	19 43 01.7	-5.1
COI				A	A	19 43 19.1	
	148nm,1.4s						
PMTG	**Montargil**	**14.21**	**79**	*eP*	**Pn**	**19 43 05.2**	**-3.1**
PMTG				*eS*	Sn	19 45 27.5	-19
PMTG				A	A	19 45 58.8	
	3.8nm,0.7s						
MESJ	**Messejana**	**14.28**	**84**	*eP*	Pn	19 43 05.4	-3.9
EVO	**Evora**	**14.39**	**82**	*eP*	Pn	19 43 06.4	-4.5
EVO				A	A	19 43 22.7	
	92nm,1.8s						
PGAV	**Gavieira, Arco**	**14.43**	**68**	*eP*	Pn	19 43 05.0	-6.5
PGAV				A	A	19 43 36.3	
	143nm,1.9s						
PCVE	**Castro Verde**	**14.44**	**85**	*eP*	**Pn**	**19 43 08.3**	**-3.3**
PVIS	**Viseu**	**14.54**	**73**	*eP*	Pn	19 43 07.3	-5.5
PBEJ	**Beja**	**14.54**	**84**	*eP*	**Pn**	**19 43 09.4**	**-3.5**
PBDV	**Barranco-do-Ve**	**14.58**	**87**	*eP*	**Pn**	**19 43 11.9**	**-1.5**
PVAQ	**Vaqueiros**	**14.72**	**86**	*eP*	**Pn**	**19 43 14.9**	**-0.5**
PVAQ				*eS*	Sn	19 45 42.5	-17
PVRL	**Vila Real**	**14.73**	**71**	*eP*	Pn	19 43 09.8	-5.7
MTE	**Manteigas**	**14.78**	**74**	*eP*	Pn	19 43 11.5	-4.6
MTE				A	A	19 44 55.4	
	95nm,1.6s						
PCBR	**Castelo Branco**	**14.80**	**76**	*eP*	Pn	19 43 11.3	-5.1
PMRV	**Marv??o**	**14.86**	**78**	*eP*	Pn	19 43 12.9	-4.3
PMRV				*eS*	Sn	19 45 44.0	-18
PMRV				A	A	19 45 52.6	
	3.9nm,1.1s						
PBAR	**Barrancos**	**15.18**	**83**	*eP*	**Pn**	**19 43 17.4**	**-4.1**
PBAR				*eS*	Sn	19 45 49.8	-20
PBAR				A	A	19 46 05.2	
	3.4nm,0.8s						
MVO	**Moncorvo**	**15.23**	**71**	*eP*	**Pn**	**19 43 16.9**	**-5.4**
PBRG	**Braganca**	**15.53**	**69**	*eP*	**Pn**	**19 43 20.8**	**-5.4**
PBRG				*eS*	Sn	19 45 56.3	-22
ESDC	**Sonseca Array**	**17.50**	**77**	P	**Pn**	**19 43 47.2**	**-4.2**
	1.4nm,0.3s,baz=266,slow=13,SNR=15						
ESDC				*eS*	Sn	19 46 48.0	-19
	1.2nm,0.7s,baz=270,slow=24,SNR=2.2						
ESDC				LR	LR	19 48 33.0	
	comp=Z,73nm,21.5s,baz=329,slow=30						
MDT	**Midelt**	**18.37**	**99**	P	**Pn**	**19 44 00.8**	**-1.4**
	0.8nm,0.3s,baz=251,slow=12,SNR=8.6						
	15nm,0.8s						
EKA	**Eskdalemuir Ar**	**23.47**	**34**	P	**P**	**19 44 56.0**	**-0.8**
	0.6nm,0.6s,baz=234,slow=7.8,SNR=0.9						
	0.6nm,0.6s						
VRAC	**Vranov**	**32.70**	**56**	LR	LR	19 56 53.3	
	comp=Z,57nm,19.7s,baz=309,slow=32						
NOA	**NORSAR Array B**	**32.94**	**33**	LR	LR	19 57 57.1	
	comp=Z,46nm,18.9s,baz=225,slow=33						
HFS	**Hagfors**	**33.65**	**35**	LR	LR	19 59 30.3	
	comp=Z,62nm,18.3s,baz=235,slow=35						
JMIC	**Jan Mayen**	**34.50**	**10**	LR	LR	19 56 53.5	
	comp=Z,65nm,20.5s,baz=50,slow=30						
TORD	**Torodi Ar. Bea**	**34.99**	**127**	P	**P**	**19 46 42.2**	**+2.2**
	1.0nm,0.7s,baz=325,slow=9.6,SNR=5.2						
	1.0nm,0.7s						
FINES	**FINESS Array B**	**39.83**	**36**	P	**P**	**19 47 20.5**	**0.0**
	1.4nm,0.8s,baz=275,slow=3.5,SNR=3.6						
	1.4nm,0.8s						
AKASG	**Malin Array Be**	**40.85**	**53**	P	**P**	**19 47 30.9**	**+1.8**
	0.3nm,0.5s,baz=279,slow=7.4,SNR=2.2						
	0.3nm,0.5s						
ARCES	**ARCESS Array B**	**41.93**	**24**	P	**P**	**19 47 37.8**	**0.0**
	3.2nm,0.8s,baz=248,slow=6.4,SNR=5.7						
	3.2nm,0.8s						
BRTR	**Keskin Array B**	**45.99**	**68**	P	**P**	**19 48 10.9**	**-0.1**
	0.5nm,0.8s,baz=283,slow=5.4,SNR=2.6						
	0.5nm,0.8s						
H10N2	**ASCENSION HYDR**	**46.73**	**164**	T	T	20 37 56.3	
	baz=348,slow=75,SNR=14						
H10N3	**ASCENSION HYDR**	**46.74**	**164**	T	T	20 37 57.8	
	baz=348,slow=75,SNR=9.0						
H10N1	**ASCENSION HYDR**	**46.75**	**164**	T	T	20 37 56.1	
	baz=348,slow=75,SNR=12						
H10S3	**ASCENSION HYDR**	**47.79**	**164**	T	T	20 39 20.8	
	baz=347,slow=74,SNR=6.0						
H10S2	**ASCENSION HYDR**	**47.80**	**164**	T	T	20 39 21.1	
	baz=233,slow=74,SNR=7.2						
ROSC	**El Rosal**	**54.63**	**245**	LR	LR	20 12 37.6	
	comp=Z,165nm,18.1s,baz=212,slow=36						
PDAR	**Pinedale Array**	**61.22**	**303**	P	**P**	**19 50 03.5**	**+0.8**
	1.1nm,0.7s,baz=67,slow=6.9,SNR=10.0						
	1.1nm,0.7s						
TXAR	**Lajitas Array**	**63.34**	**288**	P	**P**	**19 50 19.9**	**+2.8**
	3.8nm,0.7s,baz=78,slow=8.6,SNR=13						
BVAR	**Borovoye Array**	**64.46**	**42**	P	**P**	**19 50 24.0**	**+0.1**
	0.2nm,0.3s,baz=304,slow=8.5,SNR=1.6						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**70.01**	**41**	P	**P**	**19 50 59.5**	**+0.4**
	0.5nm,0.9s,baz=310,slow=6.1,SNR=3.4						
	0.5nm,0.9s						
PFO	**Pinyon Flats O**	**70.46**	**298**	LR	LR	20 19 30.3	
	comp=Z,44nm,19.6s,baz=190,slow=34						
ZALV	**Zalesovo Beam**	**71.09**	**36**	P	**P**	**19 51 06.2**	**+0.5**
	0.6nm,0.6s,baz=316,slow=6.0,SNR=2.2						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**74.31**	**43**	P	**P**	**19 51 25.6**	**+0.6**
	0.7nm,0.8s,baz=325,slow=5.6,SNR=6.7						
	0.7nm,0.8s						

*IDC **02** 19:42:37.2±0.6,0°.69S×135°.58E, h0km, mb4.3/16, mbtmp4.3/18, ML4.1/1, MS3.7/6, Error ellipse: s-maj=34.0km s-min=12.9km az=73.0*
*DJA **02** 19:42:39.7±0.4, 1°.5S×13°.5E±°, h10km, M4.7/14, mB5.4/4, mb4.6/14, MLv4.6/9, Mw(mB)4.8/4*
*NEIC **02** 19:42:43.7±1.9, 0°.90S±0°.09×135°.42E±0°.08, h42km±7km, mb4.5/76, Error ellipse: s-maj=12.3km s-min=11.9km az=183.0*

ISC 02 19:42:42.6±0.4, 0°.83S±0°.05×135°.40E±0°.06, h35km, n129, σ1°08/130, mb4.5/52, MS3.8/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**3.50**	**109**	P	**Pn**	**19 43 32.5**	**-2.1**
FAKI	**Fak Fak**	**3.77**	**237**	Pn	**Pn**	**19 43 39.1**	**+0.8**
FAKI				Sn	**Sn**	**19 44 21.0**	**-0.6**
FAKI	**Fak Fak**	**3.77**	**237**	P	**Pn**	**19 43 39.2**	**+0.9**
SWI	**Sorong**	**4.14**	**269**	P	**Pn**	**19 43 43.2**	**-0.1**
GENI	**Genyem**	**5.08**	**110**	P	**Pn**	**19 43 55.2**	**-1.0**
BNDI	**Bandanaira**	**6.60**	**236**	P	**Pn**	**19 44 18.0**	**+0.8**
	270nm,1.3s,1.6nm						
LBMI	**Labuha**	**7.90**	**271**	P	**Pn**	**19 44 36.2**	**+1.1**
	35nm,0.9s,0.2nm						
TNTI	**Ternate**	**8.19**	**281**	Pn	**Pn**	**19 44 40.4**	**+1.4**
NLAI	**Namlea**	**8.63**	**254**	P	**Pn**	**19 44 45.8**	**+0.7**
	17nm,0.7s,2μm						
SANI	**Sanana**	**9.49**	**263**	P	**Pn**	**19 44 55.6**	**-1.2**
	7.6nm,1.2s						
GTOI	**Gorontalo**	**12.47**	**277**	P	**Pn**	**19 45 41.4**	**+3.7**
	21nm,1.1s						
MTN	**Manton Dam**	**12.67**	**199**	Pn	**Pn**	**19 45 40.3**	**0.0**
SOEI	**Soe**	**14.19**	**231**		**P**	**19 46 05.7**	**-2.5**
SOEI	**Soe**	**14.19**	**231**	P	**Pn**	**19 46 02.4**	**+1.1**
	17nm,0.6s						
PMG	**Port Moresby**	**14.47**	**126**	P	**Pn**	**19 46 07.5**	**+2.5**
PMG	**Port Moresby**	**14.47**	**126**	Pn	**Pn**	**19 46 02.4**	**-2.6**
	3.2nm,0.8s,baz=208,slow=7.8,SNR=2.0						
PMG				LR	LR	19 52 29.9	
	comp=Z,251nm,18.9s,baz=267,slow=41						
TOLI2	**Tolitoli**	**14.74**	**277**	P	**Pn**	**19 46 11.3**	**+2.5**
BATI	**Baumata**	**14.93**	**231**	LR	LR	19 52 42.0	
	comp=Z,122nm,19.6s,slow=40						
COEN	**Coen**	**15.14**	**150**		**Pn**	**19 46 13.4**	**-0.6**
MPSI	**Mapaga**	**15.55**	**274**	P	**P**	**19 46 21.6**	**-1.6**
	8.5nm,1.0s						
TTSI	**Tana Toraja**	**15.73**	**262**	P	**Pn**	**19 46 23.7**	**+2.1**
	41nm,1.2s						
KNRA	**Kununurra**	**16.14**	**204**		**Pn**	**19 46 24.8**	**-2.2**
KNRA				IAmb	IAmb	19 46 28.4	
	comp=Z,20nm,0.8s						
KAPI	**Kappang**	**16.17**	**255**	P	**Pn**	**19 46 28.3**	**+1.0**
BKB	**Balikpapan**	**18.51**	**269**	P	**P**	**19 46 54.8**	**-1.2**
WB0	**Warramunga Arr**	**18.85**	**183**	P	**P**	**19 46 58.9**	**-0.8**
WRAB	**Tennant Creek**	**19.02**	**183**	P	**P**	**19 47 00.9**	**-0.7**
WRAB				IAmb	IAmb	19 47 12.9	
	comp=Z,36nm,1.4s						
WB2	**Warramunga Arr**	**19.03**	**183**	P	**P**	**19 47 01.0**	**-0.7**
WB2				IAmb	IAmb	19 47 13.1	
	comp=Z,33nm,1.4s						
WRA	**Warramunga Arr**	**19.03**	**183**	P	**P**	**19 47 01.6**	**-0.1**
WRA	**Warramunga Arr**	**19.03**	**183**	P	**P**	**19 47 01.8**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=3.3,slow=11,SNR=29						
	comp=Z,7.1nm,0.8s						
WR0	**Warramunga Arr**	**19.03**	**182**	P	**P**	**19 47 01.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**19.66**	**209**	P	**Pn**	**19 47 09.6**	**-0.6**
KKM	**Kota Kinabalu**	**20.34**	**290**		**P**	**19 47 16.2**	**0.0**
KKM				IAmb	IAmb	19 47 18.3	
	comp=Z,22nm,0.9s						
CTA	**Charters Tower**	**21.89**	**152**	P	**P**	**19 47 32.8**	**+0.1**
	comp=Z,3.9nm,1.0s,baz=194,slow=14,SNR=2.2						
CTA				LR	LR	19 56 11.0	
	comp=Z,70nm,19.5s,baz=281,slow=37						
	comp=Z,3.9nm,1.0s						
CTAO	**Charters Tower**	**21.89**	**152**	P	**P**	**19 47 32.9**	**+0.1**
KMMI	**Kalianget**	**22.25**	**253**	P	**P**	**19 47 39.7**	**+3.1**
JAGI	**Jajag, Banyuwa**	**22.48**	**250**	P	**P**	**19 47 38.8**	**-0.4**
JAGI				IAmb	IAmb	19 47 42.8	
	comp=Z,20nm,1.1s						
AS31	**Alice Springs**	**22.75**	**184**	P	**P**	**

CMAR				PcP	PcP	19 52 22.4	+1.1	
CMAR	**Chiang Mai Arr**	**40.64**	**300**	P	P	19 50 19.6	0.0	
	comp=Z,1.5nm,0.8s,baz=114,slow=6.8,SNR=11							
CMAR				PcP	PcP	19 52 21.7	+0.5	
	comp=Z,0.7nm,0.7s,baz=181,slow=2.1,SNR=6.2							
	comp=Z,1.5nm,0.8s							
CHTO	**Chiang Mai**	**40.78**	**300**	P	P	19 50 20.0	-0.8	
PZH	**PanZhiHua**	**42.32**	**312**	P	P	19 50 31.4	-2.0	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.8s							
PZH				pmax	pmax			
	comp=Z,90nm,4.5s							
TNCH	**TengChong**	**43.98**	**308**	P	P	19 50 47.0	0.0	
TNCH				pP	pP	19 50 50.0	-7.4	
TNCH				pmax	pmax			
	comp=Z,6.0nm,0.9s							
USRK	**Ussuriysk Ar.**	**44.93**	**357**	P	P	19 50 53.3	-0.7	
USRK	**Ussuriysk Ar.**	**44.93**	**357**	P	P	19 50 52.5	-1.5	
	comp=Z,1.6nm,0.6s,baz=158,slow=5.8,SNR=4.8							
	comp=Z,1.6nm,0.6s							
JKA	**Kamikawa-asahi**	**45.21**	**7**	P	P	19 50 55.6	-0.6	
MDJ	**Mudanjiang**	**45.54**	**354**	P	P	19 50 58.6	-0.3	
MDJ				pmax	pmax			
	comp=Z,9.0nm,0.8s							
MDJ				pmax	pmax			
	comp=Z,550nm,5.1s							
MDJ	**Mudanjiang**	**45.54**	**354**	P	P	19 50 58.5	-0.3	
LZH	**Lanzhou**	**47.02**	**325**	*eP*	P	19 51 12.0	+1.1	
LZH				pP	pP	19 51 20.1	-1.1	
LZH				pmax	pmax			
	comp=Z,18nm,1.3s							
GTA	**Gaotai**	**51.62**	**325**	*eP*	P	19 51 46.7	+0.8	
GTA				pP	pP	19 51 51.7	-4.7	
GTA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
LSA	**Lhasa**	**51.97**	**310**	P	P	19 51 48.9	-0.2	
ULN	**Ulaanbaatar**	**54.41**	**337**	P	P	19 52 06.2	-0.1	
ULN				IAmb	IAmb	19 52 08.7		
	comp=Z,4.3nm,1.1s							
SONM	**Songino Array**	**54.65**	**336**	P	P	19 52 07.3	-0.8	
	comp=Z,0.5nm,0.5s,baz=134,slow=4.2,SNR=2.6							
	comp=Z,0.5nm,0.5s							
YAK	**Yakutsk**	**62.84**	**357**	P	P	19 53 04.3	-0.3	
MK31	**Makanchi Array**	**66.30**	**323**	P	P	19 53 27.7	+0.1	
MKAR	**Makanchi Array**	**66.30**	**323**	P	P	19 53 27.6	0.0	
MKAR	**Makanchi Array**	**66.30**	**323**	P	P	19 53 27.9	+0.4	
	comp=Z,3.1nm,0.6s,baz=115,slow=7.7,SNR=39							
	comp=Z,3.1nm,0.6s							
MAKZ	**Makanchi**	**66.49**	**323**	P	P	19 53 29.3	+0.5	
MAKZ				IAmb	IAmb	19 53 30.3		
	comp=Z,5.1nm,0.7s							
KSH	**Kashi**	**67.40**	**314**	P	P	19 53 35.1	+0.3	
KSH				pmax	pmax			
	comp=Z,3.0nm,1.0s							
NIL	**Nilore**	**67.56**	**307**	P	P	19 53 36.1	+0.3	
NIL				IAmb	IAmb	19 53 37.2		
	comp=Z,4.9nm,0.9s							
ZALV	**Zalesovo Beam**	**68.67**	**331**	P	P	19 53 42.3	0.0	
ZALV	**Zalesovo Beam**	**68.67**	**331**	P	P	19 53 41.8	-0.5	
	comp=Z,1.1nm,0.6s,baz=116,slow=6.2,SNR=7.1							
	comp=Z,1.1nm,0.6s							
ARSB	**Arslanbob**	**70.17**	**315**	P	P	19 53 53.0	+0.9	
CLES	**Cleveland East**	**70.17**	**32**	P	P	19 53 50.9	-0.7	
KURK	**Kurchatov**	**70.30**	**326**	P	P	19 53 52.7	+0.3	
KURK				IAmb	IAmb	19 53 53.7		
	comp=Z,4.1nm,0.8s							
KURBB	**Kurchatov Arra**	**70.30**	**325**	P	P	19 53 52.6	+0.2	
	comp=Z,3.1nm,0.8s,baz=116,slow=5.5,SNR=24							
	comp=Z,3.1nm,0.8s							
GAR	**Garm**	**71.38**	**312**	P	P	19 53 59.6	+0.1	
GAR				IAmb	IAmb	19 54 00.3		
	comp=Z,5.1nm,0.6s							
CHGR	**Chuyangaron**	**72.15**	**311**	P	P	19 54 03.3	-0.7	
CHGR				IAmb	IAmb	19 54 05.7		
	comp=Z,7.7nm,0.9s							
SIMJ	**Simiganj**	**72.27**	**311**	P	P	19 54 04.5	-0.3	
KK31	**Karatay Array**	**72.48**	**316**	P	P	19 54 05.6	-0.3	
KK31				IAmb	IAmb	19 54 07.2		
	comp=Z,3.4nm,0.8s							
KKAR	**Karatay Array**	**72.48**	**316**	P	P	19 54 05.7	-0.2	
KKAR				IAmb	IAmb	19 54 07.2		
	comp=Z,3.4nm,0.8s							
KKAR	**Karatay Array**	**72.48**	**316**	P	P	19 54 05.9	+0.1	
BVAR	**Borovoye Array**	**75.89**	**326**	P	P	19 54 25.7	+0.2	
	comp=Z,3.1nm,0.7s,baz=117,slow=8.3,SNR=17							
	comp=Z,3.1nm,0.7s							
BRVK	**Borovoye**	**75.97**	**326**	P	P	19 54 26.2	+0.3	
BRVK				IAmb	IAmb	19 54 27.1		
	comp=Z,3.5nm,0.7s							
SDPT	**Sand Point**	**76.26**	**32**	P	P	19 54 29.6	+2.1	
HRA	**Herat**	**76.61**	**306**	P	P	19 54 30.5	+0.3	
M13K	**Dall Lake**	**76.92**	**27**	P	P	19 54 32.4	+1.2	
L14K	**Kuka Creek**	**77.62**	**26**	P	P	19 54 36.0	+0.9	
M14K	**Bethel**	**77.69**	**27**	P	P	19 54 36.7	+1.2	
K15K	**Wolf Creek Mou**	**78.52**	**25**	P	P	19 54 41.4	+1.4	
K15K				IAmb	IAmb	19 55 19.5		
	comp=Z,14nm,1.4s							
F15K	**North Star Dit**	**78.81**	**21**	P	P	19 54 40.9	-0.7	
F15K				IAmb	IAmb	19 54 45.2		
	comp=Z,12nm,1.3s							
L16K	**Owhat River**	**79.18**	**26**	P	P	19 54 44.0	+0.4	
L16K				IAmb	IAmb	19 54 45.2		
	comp=Z,6.6nm,1.0s							
K17K	**Iditarod**	**80.07**	**25**	P	P	19 54 50.1	+1.6	
K17K				IAmb	IAmb	19 54 53.9		
	comp=Z,9.3nm,1.2s							
GEYT	**Alibeck**	**80.49**	**309**	P	P	19 54 52.4	+1.1	
GEYT				IAmb	IAmb	19 54 53.4		
	comp=Z,6.4nm,0.8s							
GEYT	**Alibeck**	**80.49**	**309**	P	P	19 54 52.0	+0.7	
	comp=Z,4.2nm,0.7s,baz=159,slow=4.5,SNR=8.6							
	comp=Z,4.2nm,0.7s							
GYA0B	**ALIBECK ARRAY**	**80.49**	**309**	P	P	19 54 52.0	+0.6	
GYA0B				IAmb	IAmb	19 54 53.3		
	comp=Z,6.0nm,0.8s							
E18K	**Tukpahlearik C**	**81.02**	**21**	P	P	19 54 54.5	+1.0	
E18K				IAmb	IAmb	19 54 55.7		
	comp=Z,3.3nm,0.8s							
TTA	**Tatalina**	**81.13**	**26**	P	P	19 54 55.1	+0.9	
TTA				IAmb	IAmb	19 54 57.7		
	comp=Z,4.7nm,1.2s							
ABKAR	**Akbulak array**	**81.16**	**320**	P	P	19 54 54.5	-0.1	
ABKAR	**Akbulak array**	**81.16**	**320**	P	P	19 54 54.3	-0.4	
ABKAR				IAmb	IAmb	19 54 56.9		
	comp=Z,2.6nm,0.8s							
G19K	**Purcell Mounta**	**81.81**	**22**	P	P	19 54 58.5	+0.8	
G19K				IAmb	IAmb	19 54 59.4		
	comp=Z,4.2nm,0.8s							
E19K	**Redstone River**	**82.23**	**21**	P	P	19 54 59.9	0.0	
E19K				IAmb	IAmb	19 55 05.3		
	comp=Z,5.1nm,0.9s							
D19K	**Kuna River**	**82.31**	**20**	P	P	19 55 00.7	+0.3	
MAW	**Mawson**	**82.63**	**202**	P	P	19 55 01.0	-0.9	
MAW	**Mawson**	**82.63**	**202**	P	P	19 55 03.1	+1.1	
	comp=Z,7.7nm,0.3s,baz=52,slow=15,SNR=9.4							
	comp=Z,7.7nm,0.3s							
F20K	**Avaraart Lake**	**82.64**	**22**	P	P	19 55 03.2	+1.2	
F20K				IAmb	IAmb	19 55 04.3		
	comp=Z,6.7nm,1.5s							
IMAR	**Indian Mountai**	**83.04**	**23**	P	P	19 55 04.4	+0.2	
B20K	**Meade River**	**83.20**	**19**	P	P	19 55 05.5	+0.7	
H21K	**Melozitna Rive**	**83.31**	**23**	P	P	19 55 05.8	+0.2	
MLY	**Manley**	**83.97**	**24**	P	P	19 55 09.7	+0.7	
G23K	**Bananza Creek**	**84.69**	**23**	P	P	19 55 13.7	+1.1	
G23K				IAmb	IAmb	19 55 14.6		
	comp=Z,2.8nm,0.8s							
C23K	**Itkillik River**	**85.28**	**20**	P	P	19 55 15.8	+0.3	
C23K				IAmb	IAmb	19 55 23.8		
	comp=Z,6.5nm,1.4s							
ILAR	**Eielson Array**	**85.51**	**25**	P	P	19 55 15.7	-1.1	
	comp=Z,1.2nm,0.8s,baz=247,slow=5.3,SNR=8.1							
	comp=Z,1.2nm,0.8s							
F24K	**Squaw Lake**	**85.69**	**22**	P	P	19 55 19.1	+1.5	
F24K				IAmb	IAmb	19 55 20.3		
	comp=Z,3.8nm,0.9s							
FYU	**Fort Yukon**	**86.52**	**23**	P	P	19 55 22.7	+1.1	
FYU				IAmb	IAmb	19 55 34.4		
	comp=Z,4.3nm,0.9s							
BMAR	**Burnt Mountain**	**86.92**	**22**	P	P	19 55 25.0	+1.4	
K27K	**Chicken**	**87.45**	**26**	P	P	19 55 27.9	+1.7	
DAWY	**Dawson**	**88.63**	**26**	P	P	19 55 33.1	+1.2	
DAWY				IAmb	IAmb	19 55 33.9		
	comp=Z,1.8nm,0.7s							
QSPA	**South Pole Qui**	**89.11**	**180**	P	P	19 55 35.0	+0.8	
QSPA	**South Pole Qui**	**89.11**	**180**	P	P	19 55 35.0	+0.8	
	comp=Z,6.2nm,0.9s,baz=310,slow=3.2,SNR=12							
QSPA				LR	LR	20 33 50.7		
	comp=Z,167nm,20.1s,baz=236,slow=34							
	comp=Z,6.2nm,0.9s							
L29M	**L29M**	**89.13**	**27**	P	P	19 55 35.1	+0.9	
L29M				IAmb	IAmb	19 55 40.1		
	comp=Z,3.6nm,0.9s							
ARCES	**ARCESS Array B**	**97.65**	**341**	P	P	19 56 12.4	-0.9	
	comp=Z,3.0nm,0.8s,baz=84,slow=9.2,SNR=5.3							
	comp=Z,3.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**132.55**	**287**	PKP	PKPdf	20 01 54.9	+0.4	
	comp=Z,0.7nm,0.8s,baz=48,slow=3.4,SNR=3.5							
CPUP	**Villa Florida**	**150.34**	**156**	PKPbc	PKPbc	20 02 31.7	+0.7	
	comp=Z,6.2nm,0.8s,baz=241,slow=1.9,SNR=15							

*NEIC **02** 19:44:57.8±1.6, 60.32N±0.04×153.64W±0.09, h189km±4km, Error ellipse: s-maj=6.3km s-min=6.3km az=183.0*

*AEIC **02** 19:44:58.7±1.5, 60.32N±0.04×153.58W±0.08, h189km±3km, ML3.4, ML3.6/185(NEIC), Error ellipse: s-maj=6.6km s-min=6.0km az=174.0*

ISC 02 19:44:57.9±0.8, 60.33N±0.05×153.60W±0.04, h186km±7km, n358, σ0.74/380, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
O19K	**Port Alsworth**	**0.38**	**250**		**Pn**	**19 45 23.0**	**+0.1**
O19K				Sn	**Sn**	**19 45 41.0**	**-1.0**
O19K				IAML		19 45 42.2	
	comp=E,1μm,0.6s						
O19K				IAML		19 45 42.5	
	comp=N,702nm,0.5s						
O19K	**Port Alsworth**	**0.38**	**250**	P	**Pn**	**19 45 22.9**	**+0.1**
	baz=71						
O19K				S	**Sn**	**19 45 41.4**	**-0.7**
	baz=71						
NCT	**North Crescent**	**0.41**	**54**		**Pn**	**19 45 23.5**	**+0.4**
RDWB	**Redoubt West**	**0.41**	**66**		**Pn**	**19 45 23.4**	**+0.3**
RDWB					**Sn**	**19 45 42.5**	**-0.1**
ILSW	**Iliamna Southw**	**0.41**	**146**		**Pn**	**19 45 23.1**	**0.0**
ILSW				Sn	**Sn**	**19 45 42.5**	**-0.1**
ILSW				IAML		19 45 43.2	
	comp=N,201nm,1.0s						
ILSW				IAML		19 45 48.4	
	comp=E,190nm,0.7s						
RED	**Redoubt Volcan**	**0.42**	**77**		**Pn**	**19 45 23.4**	**+0.4**
RSO	**Redoubt South**	**0.44**	**72**		**Pn**	**19 45 23.7**	**+0.4**
RDSO	**Redoubt South**	**0.44**	**73**		**Pn**	**19 45 23.6**	**+0.3**
RDJH	**Redoubt Jeurge**	**0.47**	**56**		**Pn**	**19 45 23.9**	**+0.5**
DFR	**Drift River**	**0.53**	**59**		**Pn**	**19 45 23.8**	**+0.3**
O20K	**Slope Mountain**	**0.55**	**116**		**Pn**	**19 45 24.1**	**+0.5**
O20K					**Sn**	**19 45 43.7**	**+0.4**
O20K	**Slope Mountain**	**0.55**	**116**	P	**Pn**	**19 45 24.1**	**+0.5**
	baz=297						
O20K				S	**Sn**	**19 45 43.7**	**+0.4**
	baz=297						
RDT	**Redoubt**	**0.64**	**67**		**Pn**	**19 45 24.3**	**+0.3**
N19K	**Bonanza Creek**	**0.66**	**319**	Pn	**Pn**	**19 45 24.1**	**0.0**
N19K				Sn	**Sn**	**19 45 43.4**	**-1.0**
N19K				IAML		19 45 44.8	
	comp=N,610nm,0.7s						
N19K				IAML		19 45 45.1	
	comp=E,530nm,0.8s						
N19K	**Bonanza Creek**	**0.66**	**319**	P	**Pn**	**19 45 24.3**	**+0.2**
	baz=137						
N19K				S	**Sn**	**19 45 43.8**	**-0.7**
	baz=137						
P19K	**Oil Pt**	**0.70**	**165**		**Pn**	**19 45 24.9**	**+0.6**
P19K				Sn	**Sn**	**19 45 44.8**	**+0.2**
P19K				IAML		19 45 45.8	
	comp=N,594nm,0.5s						
P19K				IAML		19 45 46.0	
	comp=E,742nm,0.7s						
P19K	**Oil Pt**	**0.70**	**165**	P	**Pn**	**19 45 24.6**	**+0.3**
	baz=346						
P19K				S	**Sn**	**19 45 45.2**	**+0.6**
	baz=346						
O18K	**Koktuh Hills**	**0.94**	**240**		**Pn**	**19 45 26.1**	**+0.4**
O18K				Sn	**Sn**	**19 45 46.5**	**-0.7**
O18K				IAML		19 45 47.5	
	comp=E,217nm,0.9s						
O18K	**Koktuh Hills**	**0.94**	**240**	P	**Pn**	**19 45 26.0**	**+0.4**
	baz=60						
O18K				S	**Sn**	**19 45 46.8**	**-0.3**
	baz=60						
AUL	**Augustine Lava**	**0.95**	**175**		**Pn**	**19 45 26.4**	**+0.6**
AU22	**Augustine Moun**	**0.97**	**173**		**Pn**	**19 45 26.4**	**+0.5**
AUCH	**Augustine Cone**	**0.97**	**175**		**Pn**	**19 45 26.4**	**+0.4**
N20K	**Mount Spurr**	**1.11**	**37**	P	**Pn**	**19 45 27.6**	**+0.6**
	baz=218						
SPCR	**Spurr Chakacha**	**1.11**	**37**		**Pn**	**19 45 27.6**	**+0.6**
SPBG	**Spurr Blockage**	**1.11**	**32**		**Pn**	**19 45 28.0**	**+1.0**
SPNN	**North Nagishla**	**1.13**	**22**		**Pn**	**19 45 28.1**	**+0.8**
SPCN	**Chakachatna No**	**1.14**	**37**		**Pn**	**19 45 28.0**	**+0.8**
SPCP	**Crater Peak Br**	**1.18**	**36**		**Pn**	**19 45 28.3**	**+0.6**
N18K	**Kilae Creek**	**1.19**	**288**		**Pn**	**19 45 27.8**	**+0.3**
N18K				Sn	**Sn**	**19 45 49.3**	**-1.3**
N18K				IAML		19 45 50.3	
	comp=E,401nm,0.7s						
N18K				IAML		19 45 50.5	
	comp=N,259nm,0.9s						
N18K	**Kilae Creek**	**1.19**	**288**	P	**Pn**	**19 45 27.8**	**+0.3**
	baz=106						
HOM	**Homer**	**1.19**	**123**		**Pn**	**19 45 28.2**	**+0.7**
HOM				Sn	**Sn**	**19 45 50.7**	**+0.2**
HOM	**Homer**	**1.19**	**123**	P	**Pn**	**19 45 28.2**	**+0.7**
	baz=305						
SPCG	**Spurr Capps Gl**	**1.24**	**38**		**Pn**	**19 45 28.6**	**+0.5**
SVW2	**Sparrevohn**	**1.24**	**309**		**Pn**	**19 45 27.9**	**-0.1**
SVW2				Sn	**Sn**	**19 45 50.1**	**-1.3**
SVW2				IAML		19 45 51.3	
	comp=E,199nm,0.8s						
SVW2				IAML		19 45 51.3	
	comp=N,254nm,1.2s						
P18K	**Big Mountain,**	**1.25**	**222**		**Pn**	**19 45 28.1**	**+0.1**
P18K				Sn	**Sn**	**19 45 50.4**	**-1.1**
P18K	**Big Mountain,**	**1.25**	**222**	P	**Pn**	**19 45 28.2**	**+0.1**
	baz=41						
CAPN	**Captain Cook N**	**1.29**	**69**		**Pn**	**19 45 29.8**	**+1.5**
CAPN	**Captain Cook N**	**1.29**	**69**	P	**Pn**	**19 45 29.8**	**+1.5**
	baz=250						
Q19K	**Cape Douglas,**	**1.40**	**181**		**Pn**	**19 45 29.6**	**+0.2**
Q19K				Sn	**Sn**	**19 45 53.2**	**-0.6**
Q19K				IAML		19 45 58.9	
	comp=N,384nm,0.8s						
Q19K				IAML		19 46 01.8	
	comp=E,452nm,0.9s						
Q19K	**Cape Douglas,**	**1.40**	**181**	P	**Pn**	**19 45 29.6**	**+0.2**
	baz=1.4						
CNPM	**China Poot**	**1.44**	**123**		**Pn**	**19 45 29.9**	**+0.2**
CNPM				Sn	**Sn**	**19 45 53.5**	**-0.8**
STLK	**Strandline Lak**	**1.46**	**35**		**Pn**	**19 45 30.3**	**+0.4**
BRLK	**Bradley Lake**	**1.47**	**111**		**Pn**	**19 45 30.1**	**+0.1**
BRLK				Sn	**Sn**	**19 45 54.2**	**-0.7**
BRSE	**Bradley Lake S**	**1.55**	**111**		**Pn**	**19 45 31.2**	**+0.5**
BRSE	**Bradley Lake S**	**1.55**	**111**	P	**Pn**	**19 45 31.2**	**+0.5**
	baz=294						
M20K	**Styx River**	**1.58**	**8**		**Pn**	**19 45 31.9**	**+0.8**
M20K	**Styx River**	**1.58**	**8**	P	**Pn**	**19 45 31.8**	**+0.8**
	baz=188						
M18K	**Stony River**	**1.60**	**318**		**Pn**	**19 45 31.2**	**+0.1**
M18K	**Stony River**	**1.60**	**318**	P	**Pn**	**19 45 31.2**	**+0.1**
	baz=136						
SLKM	**Skilak Lake**	**1.69**	**82**		**Pn**	**19 45 31.7**	**-0.4**
N17K	**Nushagak Hills**	**1.79**	**278**		**Pn**	**19 45 33.6**	**+0.5**
N17K				Sn	**Sn**	**19 45 59.5**	**-1.0**
N17K	**Nushagak Hills**	**1.79**	**278**	P	**Pn**	**19 45 33.5**	**+0.5**
	baz=95						
SUA	**Susitna One**	**1.80**	**49**		**Pn**	**19 45 33.2**	**-0.1**
SUA				Sn	**Sn**	**19 46 00.2**	**-0.6**
SUA				IAML		19 46 02.1	
	comp=E,660nm,0.5s						
SUA				IAML		19 46 02.8	
	comp=N,578nm,0.6s						
SUA	**Susitna One**	**1.80**	**49**	P	**Pn**	**19 45 33.2**	**-0.1**
	baz=232						
Q20K	**Shuyak Island**	**1.83**	**160**	P	**Pn**	**19 45 33.4**	**-0.1**
	baz=341						
SYI	**Shuyak Island**	**1.83**	**160**	Pn	**Pn**	**19 45 33.3**	**-0.1**
SYI				Sn	**Sn**	**19 45 59.1**	**-2.0**
SYI				IAML		19 46 00.9	
	comp=N,435nm,0.4s						
SYI				IAML		19 46 01.3	
	comp=E,496nm,0.5s						
KAHC	**Katmai Hardscr**	**1.83**	**204**		**Pn**	**19 45 33.7**	**0.0**
KAHC	**Katmai Hardscr**	**1.83**	**204**	P	**Pn**	**19 45 33.7**	**0.0**
	baz=23						
P17K	**Kvichak River**	**1.83**	**233**		**Pn**	**19 45 34.0**	**+0.6**
P17K	**Kvichak River**	**1.83**	**233**	P	**Pn**	**19 45 34.0**	**+0.6**
	baz=51						
O17K	**Koliganek Bris**	**1.84**	**254**		**Pn**	**19 45 34.0**	**+0.4**
O17K	**Koliganek Bris**	**1.84**	**254**	P	**Pn**	**19 45 34.0**	**+0.4**
	baz=71						
FIS	**Fire Island**	**1.85**	**62**		**Pn**	**19 45 34.2**	**+0.6**
FIS				Sn	**Sn**	**19 46 01.0**	**-0.5**
FIS				IAML		19 46 05.2	
	comp=N,786nm,0.5s						
O22K	**Cooper Landing**	**1.93**	**84**		**Pn**	**19 45 34.1**	**-0.3**
O22K	**Cooper Landing**	**1.93**	**84**	P	**Pn**	**19 45 34.2**	**-0.3**
	baz=267						
SKT	**Skwentna**	**1.94**	**30**		**Pn**	**19 45 35.1**	**+0.5**
SKT				Sn	**Sn**	**19 46 02.9**	**-0.4**
SKT				IAML		19 46 05.1	
	comp=E,210nm,1.0s						
SKT				IAML		19 46 05.3	
	comp=N,193nm,0.3s						
SKT	**Skwentna**	**1.94**	**30**	P	**Pn**	**19 45 35.1**	**+0.5**
	baz=212						
L19K	**White Mountain**	**1.96**	**342**	Pn	**Pn**	**19 45 34.9**	**+0.1**
L19K	**White Mountain**	**1.96**	**342**	P	**Pn**	**19 45 35.0**	**+0.1**
	baz=161						
RC01	**Rabbit Creek A**	**2.05**	**66**	Pn	**Pn**	**19 45 35.0**	**-0.7**
RC01	**Rabbit Creek A**	**2.05**	**66**	P	**Pn**	**19 45 35.2**	**-0.6**
	baz=249						
SEW	**Seward**	**2.08**	**94**		**Pn**	**19 45 36.1**	**+0.1**
SEW	**Seward**	**2.08**	**94**	P	**Pn**	**19 45 36.1**	**+0.1**
	baz=278						
KVTA	**Katmai Vly 10**	**2.14**	**205**		**Pn**	**19 45 37.0**	**+0.2**
L20K	**Farewell, AK**	**2.16**	**357**		**Pn**	**19 45 37.7**	**+0.7**
L20K	**Farewell, AK**	**2.16**	**357**	P	**Pn**	**19 45 37.7**	**+0.7**
	baz=176						
M17K	**Holitna River**	**2.17**	**302**		**Pn**	**19 45 37.3**	**+0.4**
M17K				IAML		19 46 07.8	
	comp=N,114nm,1.4s						
M17K				IAML		19 46 14.0	
	comp=E,67nm,1.1s						
M17K	**Holitna River**	**2.17**	**302**	P	**Pn**	**19 45 37.4**	**+0.4**
	baz=118						
M22K	**Willow**	**2.22**	**48**		**Pn**	**19 45 36.6**	**-0.9**
M22K	**Willow**	**2.22**	**48**	P	**Pn**	**19 45 37.3**	**-0.2**
	baz=231						
KCE	**Katmai Mt Cerb**	**2.24**	**202**		**Pn**	**19 45 38.4**	**+0.4**
ACHA	**Angle Creek He**	**2.30**	**203**		**Pn**	**19 45 38.5**	**-0.2**
ANCK	**Angle Creek**	**2.35**	**205**		**Pn**	**19 45 39.2**	**+0.1**
O16K	**Kokwok River B**	**2.38**	**254**		**Pn**	**19 45 39.8**	**+0.4**
O16K	**Kokwok River B**	**2.38**	**254**	P	**Pn**	**19 45 39.8**	**+0.4**
	baz=70						
CNTC	**Contact Creek**	**2.38**	**211**		**Pn**	**19 45 39.5**	**-0.1**
Q17K	**Contact Creek**	**2.38**	**211**	P	**Pn**	**19 45 39.5**	**-0.1**
	baz=29						
L18K	**Granite Mounta**	**2.42**	**323**	Pn	**Pn**	**19 45 39.9**	**+0.1**
L18K				IAML		19 46 12.2	
	comp=E,54nm,1.1s						
L18K				IAML		19 46 13.2	
	comp=N,54nm,1.4s						
L18K	**Granite Mounta**	**2.42**	**323**	P	**Pn**	**19 45 39.8**	**+0.1**
	baz=140						
PMR	**Palmer**	**2.52**	**58**	Pn	**Pn**	**19 45 39.7**	**-1.3**
PMR				IAML		19 46 14.3	
	comp=E,282nm,0.6s						
PMR				IAML		19 46 14.9	
	comp=N,414nm,0.3s						
PMR	**Palmer**	**2.52**	**58**	P	**Pn**	**19 45 39.8**	**-1.2**
	baz=241						
N16K	**Nishlik Lake**	**2.57**	**276**		**Pn**	**19 45 42.1**	**+0.5**
N16K	**Nishlik Lake**	**2.57**	**276**	P	**Pn**	**19 45 42.1**	**+0.5**
	baz=91						
P16K	**Nushagak River**	**2.58**	**242**		**Pn**	**19 45 42.4**	**+0.7**
P16K	**Nushagak River**	**2.58**	**242**	P	**Pn**	**19 45 42.4**	**+0.7**
	baz=58						
KDAK	**Kodiak Island**	**2.60**	**168**	Pn	**Pn**	**19 45 40.8**	**-1.3**
KDAK				IAML		19 46 16.9	
	comp=N,81nm,0.3s						
KDAK				IAML		19 46 18.1	
	comp=N,125nm,0.7s						
CUT	**Chulitna**	**2.63**	**36**		**Pn**	**19 45 41.8**	**-0.4**
CUT				IAML		19 46 19.5	
	comp=N,460nm,0.2s						
CUT	**Chulitna**	**2.63**	**36**	P	**Pn**	**19 45 42.0**	**-0.3**
	baz=219						
PPLA	**Purkeypile**	**2.67**	**14**		**Pn**	**19 45 43.7**	**+0.9**
PPLA	**Purkeypile**	**2.67**	**14**	P	**Pn**	**19 45 43.7**	**+0.9**
	baz=195						
GHO	**Glory Hole Cre**	**2.70**	**55**		**Pn**	**19 45 42.1**	**-1.0**
GHO				IAML		19 46 18.3	
	comp=N,476nm,0.4s						
M16K	**Timber Creek**	**2.73**	**287**		**Pn**	**19 45 44.1**	**+0.7**
M16K	**Timber Creek**	**2.73**	**287**	P	**Pn**	**19 45 44.1**	**+0.7**
	baz=102						
KNK	**Knik Glacier**	**2.74**	**64**		**Pn**	**19 45 42.6**	**-0.9**
KNK	**Knik Glacier**	**2.74**	**64**	P	**Pn**	**19 45 42.7**	**-0.9**
	baz=249						
TTA	**Tatalina**	**2.86**	**337**	Pn	**Pn**	**19 45 44.8**	**-0.2**
TTA	**Tatalina**	**2.86**	**337**	P	**Pn**	**19 45 44.8**	**-0.2**
	baz=155						
L17K	**Donlin**	**2.91**	**311**		**Pn**	**19 45 45.5**	**0.0**

	comp=N,67nm,0.8s								
J18K	**Innoko River**	**3.48**	**336**			**Pn**	**19 45 52.6**	**+0.1**	
J18K				IAML			19 46 35.0		
	comp=N,45nm,1.1s								
J18K				IAML			19 46 37.2		
	comp=E,27nm,1.1s								
J18K	**Innoko River**	**3.48**	**336**	P		**Pn**	**19 45 52.6**	**+0.1**	
	baz=153								
WAT1	**Susitna Watana**	**3.48**	**42**			**Pn**	**19 45 52.0**	**-0.6**	
WAT1	**Susitna Watana**	**3.48**	**42**	P		**Pn**	**19 45 52.0**	**-0.6**	
	baz=226								
TRF	**Thorofare Moun**	**3.50**	**25**	Pn	Pn	**Pn**	**19 45 52.7**	**-0.3**	
TRF				IAML			19 46 38.6		
	comp=E,104nm,0.9s								
TRF				IAML			19 46 38.8		
	comp=N,135nm,0.5s								
TRF	**Thorofare Moun**	**3.50**	**25**	P		**Pn**	**19 45 52.6**	**-0.3**	
	baz=208								
HIN	**Hinchinbrook I**	**3.53**	**86**			**Pn**	**19 45 53.5**	**+0.4**	
M15K	**Kasigluk River**	**3.53**	**279**			**Pn**	**19 45 53.7**	**+0.7**	
M15K	**Kasigluk River**	**3.53**	**279**	P		**Pn**	**19 45 53.7**	**+0.7**	
	baz=93								
WAT6	**Susitna Watana**	**3.61**	**49**			**Pn**	**19 45 53.6**	**-0.7**	
WAT6	**Susitna Watana**	**3.61**	**49**	P		**Pn**	**19 45 53.6**	**-0.7**	
	baz=234								
CHUM	**Lake Minchumin**	**3.62**	**9**			**Pn**	**19 45 54.3**	**+0.1**	
CHUM	**Lake Minchumin**	**3.62**	**9**	P		**Pn**	**19 45 54.3**	**+0.1**	
	baz=190								
MID	**Middleton Isla**	**3.77**	**101**	Pn	Pn	**Pn**	**19 45 56.8**	**+0.7**	
MID				IAML			19 46 42.2		
	comp=N,153nm,0.8s								
MID				IAML			19 46 58.7		
	comp=E,168nm,1.5s								
J19K	**Poorman**	**3.80**	**346**	Pn	Pn	**Pn**	**19 45 56.8**	**+0.3**	
J19K	**Poorman**	**3.80**	**346**	P		**Pn**	**19 45 56.7**	**+0.3**	
	baz=164								
RND	**Reindeer**	**3.82**	**34**	Pn	Pn	**Pn**	**19 45 56.2**	**-0.6**	
RND				IAML			19 46 42.9		
	comp=N,98nm,0.4s								
RND				IAML			19 46 44.3		
	comp=E,130nm,0.4s								
J20K	**Nowinta River**	**3.87**	**356**			**Pn**	**19 45 58.0**	**+0.6**	
J20K	**Nowinta River**	**3.87**	**356**	P		**Pn**	**19 45 57.8**	**+0.4**	
	baz=176								
EYAK	**Cordova Ski Ar**	**3.90**	**83**			**Pn**	**19 45 58.1**	**+0.4**	
EYAK	**Cordova Ski Ar**	**3.90**	**83**	P		**Pn**	**19 45 58.1**	**+0.4**	
	baz=270								
KLU	**Klutina**	**3.93**	**69**			**Pn**	**19 45 57.8**	**-0.4**	
KLU	**Klutina**	**3.93**	**69**	P		**Pn**	**19 45 57.9**	**-0.3**	
	baz=256								
DIV	**Divide**	**3.93**	**75**			**Pn**	**19 45 57.9**	**-0.3**	
BPAW	**Bear Paw Mtn.**	**3.98**	**17**	Pn	Pn	**Pn**	**19 45 57.9**	**-0.8**	
BPAW				IAML			19 46 45.0		
	comp=N,37nm,0.8s								
BPAW				IAML			19 46 45.6		
	comp=E,38nm,0.6s								
BPAW	**Bear Paw Mtn.**	**3.98**	**17**	P		**Pn**	**19 45 57.9**	**-0.8**	
	baz=199								
M24K	**Tolsona, Glenn**	**4.01**	**60**	Pn		**Pn**	**19 45 59.5**	**+0.4**	
M24K	**Tolsona, Glenn**	**4.01**	**60**	P		**Pn**	**19 45 59.6**	**+0.4**	
	baz=247								
O14K	**Tigyukauivet M**	**4.02**	**258**	Pn		**Pn**	**19 46 00.1**	**+0.8**	
O14K	**Tigyukauivet M**	**4.02**	**258**	P		**Pn**	**19 46 00.0**	**+0.8**	
	baz=71								
DHY	**Denali Highway**	**4.05**	**44**	Pn		**Pn**	**19 45 59.3**	**-0.4**	
DHY	**Denali Highway**	**4.05**	**44**	P		**Pn**	**19 45 59.3**	**-0.4**	
	baz=230								
MCK	**McKinley**	**4.06**	**31**			**Pn**	**19 45 59.4**	**-0.4**	
MCK	**McKinley**	**4.06**	**31**	P		**Pn**	**19 45 59.4**	**-0.4**	
	baz=215								
N14K	**Kuskokwak Cree**	**4.07**	**268**			**Pn**	**19 46 00.9**	**+1.0**	
N14K	**Kuskokwak Cree**	**4.07**	**268**	P		**Pn**	**19 46 00.9**	**+1.0**	
	baz=81								
L15K	**Ungalak Mounta**	**4.07**	**293**			**Pn**	**19 46 00.4**	**+0.5**	
L15K	**Ungalak Mounta**	**4.07**	**293**	P		**Pn**	**19 46 00.4**	**+0.5**	
	baz=106								
M14K	**Bethel**	**4.15**	**280**	Pn		**Pn**	**19 46 01.9**	**+1.0**	
M14K	**Bethel**	**4.15**	**280**	P		**Pn**	**19 46 01.9**	**+1.0**	
	baz=92								
K15K	**Wolf Creek Mou**	**4.30**	**301**			**Pn**	**19 46 03.4**	**+0.5**	
K15K	**Wolf Creek Mou**	**4.30**	**301**	P		**Pn**	**19 46 03.4**	**+0.5**	
	baz=114								
BWN	**Browne**	**4.32**	**25**	Pn	Pn	**Pn**	**19 46 02.9**	**-0.1**	
BWN				IAML			19 46 60.0		
	comp=N,60nm,0.6s								
BWN				IAML			19 47 17.3		
	comp=E,52nm,1.1s								
GOAT	**Goat Mountain**	**4.40**	**83**			**Pn**	**19 46 04.4**	**+0.2**	
RAGM	**Ragged Mountai**	**4.43**	**85**			**Pn**	**19 46 04.4**	**-0.1**	
J16K	**Anvik River**	**4.45**	**315**			**Pn**	**19 46 04.2**	**-0.6**	
J16K				IAML			19 46 59.4		
	comp=E,14nm,1.4s								
J16K	**Anvik River**	**4.45**	**315**	P		**Pn**	**19 46 04.1**	**-0.6**	
	baz=129								
BMRM	**Bremner River**	**4.47**	**78**			**Pn**	**19 46 05.5**	**+0.4**	
BMRM	**Bremner River**	**4.47**	**78**	P		**Pn**	**19 46 05.5**	**+0.4**	
	baz=266								
I20K	**Naaghedeneel**	**4.50**	**355**			**Pn**	**19 46 05.4**	**0.0**	
I20K				IAML			19 47 15.9		
	comp=N,29nm,1.4s								
I20K				IAML			19 47 38.1		
	comp=E,30nm,1.3s								
I20K	**Naaghedeneel**	**4.50**	**355**	P		**Pn**	**19 46 05.6**	**+0.2**	
	baz=174								
L14K	**Kuka Creek**	**4.56**	**287**			**Pn**	**19 46 07.0**	**+0.9**	
L14K				IAML			19 47 31.9		
	comp=E,11nm,1.2s								
L14K				IAML			19 47 32.3		
	comp=N,14nm,1.2s								
L14K	**Kuka Creek**	**4.56**	**287**	P		**Pn**	**19 46 07.1**	**+0.9**	
	baz=99								
HARP	**HAARP**	**4.56**	**59**			**Pn**	**19 46 07.1**	**+0.9**	
HARP	**HAARP**	**4.56**	**59**	P		**Pn**	**19 46 07.1**	**+0.9**	
	baz=246								
N25K	**Chitina, Valde**	**4.57**	**70**			**Pn**	**19 46 06.4**	**0.0**	
N25K	**Chitina, Valde**	**4.57**	**70**	P		**Pn**	**19 46 06.6**	**+0.2**	
	baz=258								
KAIM	**Kayak Island**	**4.61**	**91**	Pn	Pn	**Pn**	**19 46 08.0**	**+1.2**	
KAIM				IAML			19 47 05.5		
	comp=N,96nm,0.8s								
KAIM				IAML			19 47 08.9		
	comp=E,104nm,1.4s								
KAIM	**Kayak Island**	**4.61**	**91**	P		**Pn**	**19 46 07.6**	**+0.8**	
	baz=279								
HMT	**Hamilton**	**4.64**	**86**			**Pn**	**19 46 08.0**	**+0.7**	
CHIR	**Chirikof Islan**	**4.64**	**194**	Pn	Pn	**Pn**	**19 46 05.0**	**-2.3**	
CHIR				IAML			19 46 57.8		
	comp=E,78nm,1.4s								
CHIR				IAML			19 48 39.0		
	comp=N,99nm,1.5s								
PAX	**Paxson**	**4.70**	**52**			**Pn**	**19 46 08.3**	**+0.4**	
PAX	**Paxson**	**4.70**	**52**	P		**Pn**	**19 46 08.3**	**+0.4**	
	baz=239								
NEA2	**Nenana**	**4.77**	**24**			**Pn**	**19 46 07.4**	**-1.4**	
NEA2				IAML			19 47 04.3		
	comp=E,32nm,0.6s								
NEA2				IAML			19 47 04.4		
	comp=N,29nm,0.9s								
NEA2	**Nenana**	**4.77**	**24**	P		**Pn**	**19 46 07.7**	**-1.1**	
	baz=208								
WACK	**Wrangell Chich**	**4.79**	**66**			**Pn**	**19 46 09.7**	**+0.4**	
NICHA	**Nichawak Mount**	**4.79**	**87**			**Pn**	**19 46 09.9**	**+0.8**	
M13K	**Dall Lake**	**4.84**	**275**	Pn		**Pn**	**19 46 10.6**	**+0.9**	
M13K				IAML			19 47 09.4		
	comp=N,11nm,1.4s								
M13K	**Dall Lake**	**4.84**	**275**	P		**Pn**	**19 46 10.7**	**+1.0**	
	baz=87								
I17K	**Unalakleet**	**4.88**	**320**	Pn		**Pn**	**19 46 09.7**	**-0.6**	
WRH	**Wood River Hil**	**4.88**	**29**	Pn		**Pn**	**19 46 09.6**	**-0.7**	
WRH				IAML			19 47 04.3		
	comp=E,36nm,0.8s								
WRH				IAML			19 47 06.3		
	comp=N,37nm,0.5s								
MLY	**Manley**	**4.90**	**14**	Pn		**Pn**	**19 46 09.7**	**-0.9**	
MLY	**Manley**	**4.90**	**14**	P		**Pn**	**19 46 09.7**	**-0.9**	
	baz=197								
SUCK	**Suckling Hills**	**4.91**	**89**	Pn		**Pn**	**19 46 11.2**	**+0.6**	
SUCK				IAML			19 47 10.5		
	comp=N,53nm,0.7s								
SUCK				IAML			19 47 10.8		
	comp=E,49nm,1.5s								
GLB	**Gilahina Butte**	**4.91**	**73**	Pn		**Pn**	**19 46 11.0**	**+0.3**	
GLB				IAML			19 47 08.8		
	comp=E,89nm,0.4s								
GLB				IAML			19 47 09.0		
	comp=N,101nm,0.5s								

BERG	**Berg Lake**	**4.92**	**85**			**Pn**	**19 46 10.8**	**0.0**	
I21K	**Tanana**	**4.93**	**8**			**Pn**	**19 46 10.3**	**-0.5**	
I21K				IAML			19 47 09.3		
	comp=N,11nm,1.2s								
I21K	**Tanana**	**4.93**	**8**	P		**Pn**	**19 46 10.4**	**-0.4**	
	baz=189								
VRDI	**Verde Repeater**	**5.05**	**75**	Pn		**Pn**	**19 46 13.0**	**+0.3**	
VRDI				IAML			19 47 12.5		
	comp=E,58nm,0.5s								
VRDI				IAML			19 47 23.7		
	comp=N,50nm,0.7s								
K24K	**Donnelly Dome**	**5.07**	**43**			**Pn**	**19 46 13.4**	**+0.7**	
K24K	**Donnelly Dome**	**5.07**	**43**	P		**Pn**	**19 46 13.4**	**+0.7**	
	baz=230								
CCB	**Clear Creek Bu**	**5.10**	**29**	Pn		**Pn**	**19 46 12.1**	**-0.9**	
CCB				IAML			19 47 10.9		
	comp=N,23nm,0.5s								
CCB				IAML			19 47 13.4		
	comp=E,26nm,0.3s								
GRIN	**Grindle Hills**	**5.11**	**86**			**Pn**	**19 46 14.2**	**+0.9**	
S14K	**Fog Glacier**	**5.13**	**220**	P		**Pn**	**19 46 14.1**	**+0.6**	
	baz=35								
VNFG	**Fog Glacier, M**	**5.13**	**220**			**Pn**	**19 46 14.1**	**+0.6**	
VNFG	**Fog Glacier, M**	**5.13**	**220**	IAML			19 47 41.7		
	comp=E,85nm,1.1s								
VNFG				IAML			19 48 06.9		
	comp=N,84nm,1.4s								
HDA	**Harding Lake**	**5.13**	**34**			**Pn**	**19 46 12.8**	**-0.7**	
HDA	**Harding Lake**	**5.13**	**34**	P		**Pn**	**19 46 13.2**	**-0.2**	
	baz=227								
KHIT	**Khitrov Hills**	**5.14**	**84**			**Pn**	**19 46 13.4**	**-0.2**	
CRQM	**Cirque**	**5.18**	**81**			**Pn**	**19 46 14.9**	**+0.6**	
CRQM				IAML			19 47 17.7		
	comp=E,81nm,1.0s								
CRQE	**Cirque**	**5.21**	**81**	P		**Pn**	**19 46 14.9**	**+0.4**	
	baz=270								
I23K	**Minto, Yukon-K**	**5.22**	**20**			**Pn**	**19 46 13.5**	**-1.0**	
I23K				IAML			19 47 14.0		
	comp=N,28nm,1.5s								
I23K				IAML			19 47 15.6		
	comp=E,16nm,1.3s								
I23K	**Minto, Yukon-K**	**5.22**	**20**	P		**Pn**	**19 46 13.7**	**-0.9**	
	baz=204								
H20K	**Anotleneega Mo**	**5.22**	**354**			**Pn**	**19 46 14.4**	**-0.2**	
H20K	**Anotleneega Mo**	**5.22**	**354**	P		**Pn**	**19 46 14.4**	**-0.2**	
	baz=173								
MDM	**Murphy Dome**	**5.27**	**26**			**Pn**	**19 46 14.4**	**-0.8**	
MDM				IAML			19 47 14.0		
	comp=E,22nm,0.8s								
MDM				IAML			19 47 16.0		
	comp=N,26nm,1.0s								
COLA	**College**	**5.28**	**28**			**Pn**	**19 46 14.8**	**-0.5**	
COLA				IAML			19 47 18.3		
	comp=N,75nm,0.5s								
MCARA	**McCarthy VSAT**	**5.28**	**74**			**Pn**	**19 46 16.1**	**+0.7**	
MCARA	**McCarthy VSAT**	**5.28**	**74**	P		**Pn**	**19 46 16.1**	**+0.7**	
	baz=263								
H18K	**Honhosa River**	**5.32**	**338**			**Pn**	**19 46 15.8**	**-0.1**	
H18K	**Honhosa River**	**5.32**	**338**	P		**Pn**	**19 46 15.9**	**+0.1**	
	baz=153								
WAX	**Waxell Ridge**	**5.33**	**84**			**Pn**	**19 46 16.4**	**+0.2**	
TGL	**Tana Glacier**	**5.33**	**81**			**Pn**	**19 46 16.6**	**+0.4**	
TGL				IAML			19 47 20.5		
	comp=E,66nm,0.6s								
TGL				IAML			19 47 21.2		
	comp=N,61nm,0.5s								
J14K	**Nanvaranak Lak**	**5.35**	**301**			**Pn**	**19 46 16.3**	**+0.1**	
J14K	**Nanvaranak Lak**	**5.35**	**301**	P		**Pn**	**19 46 16.3**	**+0.1**	
	baz=113								
RIDG	**Independent Ri**	**5.36**	**46**			**Pn**	**19 46 16.6**	**+0.2**	
RIDG	**Independent Ri**	**5.36**	**46**	P		**Pn**	**19 46 16.8**	**+0.3**	
	baz=234								
SNH	**Sunshine Point**	**5.36**	**87**	Pn		**Pn**	**19 46 17.8**	**+1.2**	
SNH				IAML			19 47 19.5		
	comp=E,49nm,0.7s								
SNH				IAML			19 47 22.4		
	comp=N,59nm,1.3s								
H21K	**Melozitna Rive**	**5.36**	**4**			**Pn**	**19 46 15.9**	**-0.6**	
H21K	**Melozitna Rive**	**5.36**	**4**	P		**Pn**	**19 46 16.1**	**-0.3**	
	baz=184								
H19K	**Roundabout Mou**	**5.38**	**347**			**Pn**	**19 46 16.5**	**-0.1**	
H19K	**Roundabout Mou**	**5.38**	**347**	P		**Pn**	**19 46 17.1**	**+0.5**	
	baz=165								
MENT	**Mentasta**	**5.39**	**57**			**Pn**	**19 46 17.4**	**+0.5**	
MENT				IAML			19 47 39.5		
	comp=E,71nm,0.4s								
MENT				IAML			19 47 39.8		
	comp=N,57nm,0.6s								
IL31		**5.43**	**32**	Pn		**Pn**	**19 46 16.6**	**-0.7**	
ILAR	**Eielson Array**	**5.43**	**32**	Pn		**Pn**	**19 46 16.2**	**-1.2**	
H17K	**Granite Mounta**	**5.47**	**331**			**Pn**	**19 46 17.5**	**-0.3**	
H17K	**Granite Mounta**	**5.47**	**331**	P		**Pn**	**19 46 17.2**	**-0.6**	
	baz=145								
M26K	**Nabesna, AK**	**5.51**	**63**			**Pn**	**19 46 18.9**	**+0.5**	
M26K	**Nabesna, AK**	**5.51**	**63**	P		**Pn**	**19 46 18.5**	**+0.1**	
	baz=252								
BARK	**Barkley Ridge**	**5.51**	**84**			**Pn**	**19 46 19.0**	**+0.5**	
PTPK	**Patty Peak**	**5.53**	**76**			**Pn**	**19 46 19.9**	**+1.1**	
KIAG	**Kiagna River**	**5.57**	**79**			**Pn**	**19 46 20.0**	**+0.7**	
ISLE	**Juniper Island**	**5.58**	**82**			**Pn**	**19 46 20.1**	**+0.7**	
POKR	**Poker Plat Res**	**5.58**	**28**			**Pn**	**19 46 18.7**	**-0.6**	
POKR	**Poker Plat Res**	**5.58**	**28**	P		**Pn**	**19 46 19.3**	**0.0**	
	baz=213								
H22K	**Ishtalitna Cre**	**5.68**	**9**			**Pn**	**19 46 20.7**	**+0.1**	
H22K	**Ishtalitna Cre**	**5.68**	**9**	P		**Pn**	**19 46 20.7**	**+0.1**	
	baz=191								
IMAR	**Indian Mountai**	**5.68**	**359**	Pn		**Pn**	**19 46 20.6**	**+0.1**	
BAGL	**Bagley Icefiel**	**5.71**	**83**			**Pn**	**19 46 21.9**	**+0.9**	
J25K	**Salcha River,**	**5.75**	**38**	Pn		**Pn**	**19 46 21.4**	**0.0**	
J25K	**Salcha River,**	**5.75**	**38**	P		**Pn**	**19 46 21.5**	**0.0**	
	baz=225								
MESA	**MESA**	**5.80**	**86**			**Pn**	**19 46 23.6**	**+1.2**	
MESA	**MESA**	**5.80**	**86**	P		**Pn**	**19 46 23.6**	**+1.2**	
	baz=276								
SCRK	**Sand Creek**	**5.80**	**47**	Pn		**Pn**	**19 46 21.9**	**-0.4**	
SCRK	**Sand Creek**	**5.80**	**47**	P		**Pn**	**19 46 21.9**	**-0.4**	
	baz=235								
GRNC	**Granite Creek**	**5.86**	**81**			**Pn**	**19 46 24.0**	**+0.8**	
H16K	**Elim**	**5.89**	**321**			**Pn**	**19 46 23.5**	**+0.2**	
H16K	**Elim**	**5.89**	**321**	P		**Pn**	**19 46 23.5**	**+0.2**	
	baz=133								
BARN	**Barnard Glacie**	**5.91**	**78**			**Pn**	**19 46 25.2**	**+1.4**	
M27K	**Edge Creek, AK**	**6.00**	**65**			**Pn**	**19 46 26.2**	**+1.3**	
G18K	**Tagagawik**	**6.04**	**340**	Pn		**Pn**	**19 46 25.9**	**+0.6**	
G18K	**Tagagawik**	**6.04**	**340**	P		**Pn**	**19 46 26.0**	**+0.7**	
	baz=155								
G19K	**Purcell Mounta**	**6.05**	**346**			**Pn**	**19 46 26.0**	**+0.7**	
G19K	**Purcell Mounta**	**6.05**	**346**	P		**Pn**	**19 46 25.9**	**+0.5**	
	baz=163								
CTG	**Chitina Glacier**	**6.07**	**79**	P		**Pn**	**19 46 26.9**	**+1.1**	
	baz=269								
CTGM	**Chitina Glacie**	**6.07**	**79**	Pn		**Pn**	**19 46 26.8**	**+1.0**	
G17K	**Kiwalik Mounta**	**6.11**	**331**			**Pn**	**19 46 26.1**	**0.0**	
G17K	**Kiwalik Mounta**	**6.11**	**331**	P		**Pn**	**19 46 26.2**	**0.0**	
	baz=145								
H24K	**Noodor Dome**	**6.11**	**23**			**Pn**	**19 46 25.6**	**-0.6**	
H24K	**Noodor Dome**	**6.11**	**23**	P		**Pn**	**19 46 25.0**	**-1.2**	
	baz=208								
TABL	**Table Mountain**	**6.18**	**84**	Pn		**Pn**	**19 46 27.7**	**+0.4**	
SDPT	**Sand Point**	**6.19**	**219**	Pn		**Pn**	**19 46 27.2**	**-0.2**	
G21K	**Allakaket**	**6.21**	**0**			**Pn**	**19 46 26.9**	**-0.6**	
G21K	**Allakaket**	**6.21**	**0**	P		**Pn**	**19 46 27.6**	**0.0**	
	baz=180								
LOGN	**Logan Glacier**	**6.23**	**80**			**Pn**	**19 46 28.4**	**+0.5**	
L27K	**Beaver Creek,**	**6.23**	**59**			**Pn**	**19 46 28.5**	**+0.6**	
L27K	**Beaver Creek,**	**6.23**	**59**	P		**Pn**	**19 46 28.4**	**+0.6**	
	baz=249								
BCAR	**Beaver Creek A**	**6.25**	**59**			**Pn**	**19 46 28.5**	**+0.4**	
J26L	**Joseph Creek**	**6.26**	**44**			**Pn**	**19 46 27.8**	**-0.5**	
YUK2	**White River**	**6.36**	**71**			**Pn**	**19 46 30.4**	**+0.8**	
PRP	**Porcupine Dome**	**6.38**	**32**	Pn		**Pn**	**19 46 28.9**	**-0.9**	
PRP	**Porcupine Dome**	**6.38**	**32**	P		**Pn**	**19 46 29.2**	**-0.6**	
	baz=219								
G16K	**Koyuk River**	**6.47**	**326**	Pn		**Pn**	**19 46 30.7**	**-0.1**	
BVCY	**Beaver Creek**	**6.47**	**66**			**Pn**	**19 46 31.9**	**+1.0**	
BVCY	**Beaver Creek**	**6.47**	**66**	P		**Pn**	**19 46 31.9**	**+1.0**	
	baz=257								
YUK3	**Moose Creek**	**6.54**	**71**			**Pn**	**19 46 34.3**	**+2.2**	
YUK3	**Moose Creek**	**6.54**	**71**	P		**Pn**	**19 46 34.3**	**+2.2**	
	baz=263								
K27K	**Chicken**	**6.54**	**50**			**Pn**	**19 46 32.0**	**+0.1**	
G23K	**Bananza Creek**	**6.60**	**12**	Pn		**Pn**	**19 46 31.6**	**-1.0**	
PCA	**Pinnacle**	**6.65**	**86**			**Pn**	**19 46 34.0**	**+0.7**	
PINM	**Pinnacle**	**6.66**	**86**	P		**Pn**	**19 46 35.5**	**+2.1**	
	baz=278								

F20K	**Avaraart Lake**	**6.81**	**353**	Pn		**Pn**	**19 46 35.1**	**-0.2**	
F21K	**Alatna River**	**6.92**	**0**	Pn		**Pn**	**19 46 35.9**	**-0.9**	
G24K	**Hadweenzic Riv**	**6.96**	**21**			**Pn**	**19 46 35.8**	**-1.4**	
PNL	**Peninsula**	**7.15**	**89**			**Pn**	**19 46 40.9**	**+1.0**	
PNL	**Peninsula**	**7.15**	**89**	P		**Pn**	**19 46 40.9**	**+1.0**	
	baz=281								
EGAK	**Eagle**	**7.27**	**47**	Pn		**Pn**	**19 46 40.7**	**-0.6**	
E19K	**Redstone River**	**7.33**	**349**			**Pn**	**19 46 42.4**	**+0.2**	
O29M	**Mount Kennedy**	**7.46**	**84**			**Pn**	**19 46 44.0**	**0.0**	
M29M	**Somme Creek**	**7.57**	**67**			**Pn**	**19 46 45.8**	**+0.4**	
DAWY	**Dawson**	**7.62**	**54**			**Pn**	**19 46 46.7**	**+0.7**	
F24K	**Squaw Lake**	**7.64**	**17**	Pn		**Pn**	**19 46 45.2**	**-1.0**	
L29M	**L29M**	**7.86**	**63**	Pn		**Pn**	**19 46 49.9**	**+0.8**	
HYT	**Haines Junctio**	**7.94**	**79**	Pn		**Pn**	**19 46 50.9**	**+0.5**	
P29M	**Windy Craggy**	**7.99**	**88**			**Pn**	**19 46 50.9**	**+0.1**	
I28M	**Miner Creek**	**8.07**	**45**	Pn		**Pn**	**19 46 51.8**	**-0.2**	
N30M	**Aishikik Lake**	**8.13**	**75**	Pn		**Pn**	**19 46 52.1**	**-0.6**	
BMAR	**Burnt Mountain**	**8.15**	**25**	Pn		**Pn**	**19 46 50.7**	**-2.3**	
J29N	**Klondike Camp**	**8.25**	**53**	Pn		**Pn**	**19 46 55.5**	**+1.3**	
K29M	**Barlow Dome**	**8.32**	**58**			**Pn**	**19 46 56.1**	**+0.9**	
M30M	**Minto, Yukon**	**8.36**	**67**	Pn		**Pn**	**19 46 56.4**	**+0.7**	
E25K	**Arctic Village**	**8.56**	**21**	Pn		**Pn**	**19 46 56.6**	**-1.6**	
D22K	**Ayikyak River**	**8.60**	**2**	Pn		**Pn**	**19 46 59.7**	**+1.0**	
O30N	**Mendenhall**	**8.64**	**79**	Pn		**Pn**	**19 46 59.6**	**+0.3**	
C18K	**Utukok River**	**8.96**	**342**	Pn		**Pn**	**19 47 03.0**	**-0.6**	
H29M	**Whitestone**	**9.04**	**43**	Pn		**Pn**	**19 47 04.3**	**-0.2**	
AKUT	**Akutan**	**9.05**	**232**	Pn		**Pn**	**19 47 05.4**	**+0.7**	
J30M	**Hart River**	**9.05**	**55**			**Pn**	**19 47 07.3**	**+2.5**	
SKAG	**Skagway**	**9.22**	**87**	Pn		**Pn**	**19 47 07.9**	**+0.9**	
WHY	**Whitehrse**	**9.24**	**80**	Pn		**Pn**	**19 47 07.5**	**+0.2**	
I30M	**Mount Dempster**	**9.28**	**51**	Pn		**Pn**	**19 47 08.0**	**+0.3**	
F28M	**Old Crow**	**9.46**	**34**	Pn		**Pn**	**19 47 08.4**	**-1.5**	
D25K	**Kavik River**	**9.53**	**16**	Pn		**Pn**	**19 47 11.3**	**+0.3**	
C23K	**Itkillik River**	**9.63**	**6**	Pn		**Pn**	**19 47 11.9**	**-0.3**	
EPYK	**Eagle Plains**	**9.68**	**44**	Pn		**Pn**	**19 47 13.5**	**+0.6**	
B20K	**Meade River**	**9.84**	**353**	Pn		**Pn**	**19 47 13.3**	**-1.5**	
G30M	**tAoh Zraii Nji**	**10.17**	**42**	Pn		**Pn**	**19 47 18.8**	**-0.5**	
H31M	**Peel River**	**10.29**	**50**	Pn		**Pn**	**19 47 20.4**	**-0.5**	
P33M	**Teslin, Yukon**	**10.32**	**82**	Pn		**Pn**	**19 47 19.2**	**-2.1**	
E29M	**Blow River**	**10.53**	**33**	Pn		**Pn**	**19 47 23.7**	**-0.2**	
G31M	**Satah River**	**10.80**	**44**	Pn		**Pn**	**19 47 27.4**	**0.0**	
Q32M	**Nakina River**	**10.87**	**88**	Pn		**Pn**	**19 47 29.6**	**+1.1**	
MMPY	**Sheldon Lake,**	**10.91**	**68**	Pn		**Pn**	**19 47 30.8**	**+2.0**	
F31M	**Tsiigehtchic**	**11.24**	**42**	Pn		**Pn**	**19 47 33.1**	**+0.1**	
R33M	**Jennings River**	**11.40**	**85**	Pn		**Pn**	**19 47 36.7**	**+1.4**	
U33K	**Whale Pass**	**11.57**	**102**	Pn		**Pn**	**19 47 39.9**	**+2.5**	
INK	**Inuvik**	**11.76**	**39**	Pn		**Pn**	**19 47 39.6**	**-0.1**	
S34M	**Telegraph Cree**	**11.78**	**92**	Pn		**Pn**	**19 47 41.8**	**+1.7**	
CRAG	**Craig**	**11.91**	**105**	P		**P**	**19 47 46.2**	**-0.8**	
DLBC	**Dease Lake**	**12.15**	**89**	Pn		**Pn**	**19 47 46.1**	**+1.3**	
GRNB	**Grenville Isla**	**14.34**	**106**			**P**	**19 48 13.9**	**-0.2**	
YKA	**Yellowknife Ar**	**18.59**	**66**	P		**P**	**19 49

baz=242
LATG Datong 0.39 325 *e*P Pg 20 07 36.9 +0.4
baz=325
LATG *e*S Sg 20 07 42.4 +0.7
baz=325
NNSB Datong 0.42 301 *e*P Pg 20 07 37.4 +0.4
baz=302
NNSB *e*S Sg 20 07 43.2 +0.7
baz=302
NDT Datong Townshi 0.45 328 *e*S Sb 20 07 45.0 -1.1
baz=329
ENTT Nioudou 0.47 336 *e*S Sg 20 07 45.1 +1.1
baz=337
WHF Hehuan Shan 0.47 262 *e*S Sg 20 07 45.0 +0.7
baz=263
CHGB Renai 0.57 255 *e*S Sg 20 07 48.2 +0.8
baz=248
FUSB Fushanzhiwuyua 0.57 343 *e*S Sg 20 07 48.1 +0.7
baz=343
YHNB Yeheng 0.58 321 *e*P Pg 20 07 40.7 +0.6
baz=322
YHNB *e*S Sg 20 07 48.4 +0.7
baz=322
WUSB Renai 0.64 250 *e*S Sg 20 07 50.3 +0.7
baz=244

WEL 02 20:07:35.4, 39°S±19°×17°6E±3°, h27km±55km, M2.0/4, ML1.9/8, MLv2.0/4, Error ellipse: s-maj=0.0km s-min=0.0km az=102.6, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTHZ	**Maungataniwha**	**0.40**	**124**	P	Pn	20 07 50.8	+5.3
URZ	**Urewera**	**0.66**	**56**	P	Pb	20 07 48.0	-0.3
TMVZ	**Te Maari**	**0.73**	**226**	P	Pn	20 07 50.1	-0.1
ETVZ	**East Tongariro**	**0.74**	**227**	P	Pn	20 07 50.2	-0.1
OTVZ	**Oturere**	**0.79**	**227**	P	Pb	20 07 50.6	0.0
KWHZ	**Kaweka Forest**	**0.79**	**179**	P	Pn	20 07 51.9	+1.0
RAGZ	**Rawiri**	**0.80**	**81**	P	Pb	20 07 50.0	-0.7
TUVZ	**Tukino**	**0.87**	**223**	P	Pb	20 07 51.1	-0.8
BHHZ	**Black Hill Sta**	**0.90**	**197**	P	Pn	20 07 51.8	-0.6
WNVZ	**Wahianoa**	**0.94**	**222**	P	Pn	20 07 51.7	-1.3
RUGZ	**Raukumara Rang**	**1.20**	**57**	P	Pb	20 08 00.6	+3.1
MYRZ	**Mayor Island**	**1.35**	**354**	P	Pb	20 07 59.5	-0.6

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*IDC **02** 20:14:44.6±1.3, 6.°12S×142.°88E, h0km, mb3.7/3, mbtmp3.7/5, ML0.8/1, MS3.0/1, Error ellipse: s-maj=36.6km s-min=26.4km az=71.0*

ISC 02 20:14:46.3±0.8, 6.°16S±0.°10×142.°71E±0.°08, h10km, n14, σ2°49/14, mb3.6/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.72**	**301**	P	**Pn**	**20 15 14.4**	**-1.9**
GENI	**Genyem**	**4.35**	**324**	P	**Pn**	**20 15 52.3**	**-0.2**
PMG	**Port Moresby**	**5.47**	**126**	Pn	**Pn**	**20 16 06.6**	**-1.3**
	0.2nm,0.3s,baz=3.5,slow=17,SNR=1.6						
PMG				Sn	**Sn**	**20 17 08.4**	**-2.5**
	0.7nm,0.3s,baz=347,slow=11,SNR=3.8 1.5nm,0.4s						
CTA	**Charters Tower**	**14.27**	**166**	LR	LR	20 23 55.7	
	comp=Z,64nm,20.0s,baz=271,slow=39						
WRA	**Warramunga Arr**	**15.94**	**210**	Pn	**Pn**	**20 18 26.8**	**-4.0**
	0.2nm,0.3s,baz=29,slow=13,SNR=8.9						
WRA				Lg	Lg	20 23 06.3	
	0.1nm,0.3s,baz=14,slow=34,SNR=1.6						
WB1	**Warramunga Ar.**	**15.95**	**210**	P	**P**	**20 18 33.4**	**-1.1**
SOEI	**Soe**	**18.61**	**258**	P	**Pn**	**20 19 04.9**	**+0.5**
ASAR	**Alice Springs**	**19.36**	**205**	P	**P**	**20 19 12.4**	**+0.1**
	3.8nm,0.8s,baz=31,slow=10,SNR=33						
ASAR				Lg	Lg	20 25 04.7	
	baz=23,slow=28,SNR=1.9						
FITZ	**Fitzroy Crossi**	**20.45**	**233**	P	**P**	**20 19 24.4**	**+0.3**
OOD	**Oodnadatta**	**22.53**	**196**	P	**P**	**20 19 49.6**	**+3.2**
AULRC	**Lightning Ridg**	**23.68**	**168**	P	**P**	**20 20 03.2**	**+5.0**
MKAR	**Makanchi Array**	**74.94**	**322**	P	**P**	**20 26 29.3**	**+1.6**
	0.6nm,1.0s,baz=103,slow=5.2,SNR=2.9 0.6nm,1.0s						
BVAR	**Borovoye Array**	**84.40**	**325**	P	**P**	**20 27 18.8**	**-0.1**
	1.0nm,0.9s,baz=115,slow=6.8,SNR=3.5 1.0nm,0.9s						
ILAR	**Eielson Array**	**87.33**	**24**	P	**P**	**20 27 31.9**	**-1.2**
	0.3nm,0.8s,baz=258,slow=4.5,SNR=2.6 0.3nm,0.8s						

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*IDC **02** 20:32:07.7±2.8, 43.°22N×105.°10W, h0km, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=56.9km s-min=11.1km az=155.0*

*NEIC **02** 20:32:11.0±1.4, 43.°59N±0.°04×105.°12W±0.°07, h0km±2km, ML3.0/44, Error ellipse: s-maj=9.1km s-min=6.6km az=72.0*

ISC 02 20:32:10.2±1.1, 43.°59N±0.°06×105.°13W±0.°05, h0km, n26, σ0°98/25, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.95**	**56**		**Pb**	**20 32 29.5**	**-0.2**
RSSD				IAML		20 32 52.9	
	282nm,0.5s						
K22A	**Casper**	**1.39**	**228**		**Pg**	**20 32 35.7**	**-1.0**
PHWY	**Pilot Hill**	**2.30**	**186**		**Pn**	**20 32 50.3**	**+0.7**
PHWY				IAML		20 33 25.3	
	51nm,0.4s						
PHWY				IAML		20 33 30.1	
	74nm,0.5s						
RWWY	**Rawlins**	**2.44**	**220**		**Pn**	**20 32 51.4**	**-0.1**
RWWY				IAML		20 33 26.5	
	98nm,1.1s						
RWWY				IAML		20 33 29.6	
	90nm,0.8s						
N23A	**Red Feather La**	**2.76**	**193**	Pn	**Pn**	**20 32 56.2**	**+0.3**
N23A				IAML		20 33 47.7	
	comp=N,80nm,0.7s						
BRIGG	**Briggsdale**	**3.07**	**168**		**Pn**	**20 33 00.2**	**+0.2**
LAO	**LASA Array**	**3.19**	**346**		**Pn**	**20 33 02.5**	**+0.9**
RLMT	**Red Lodge**	**3.34**	**299**		**Pn**	**20 33 03.8**	**0.0**
RLMT				IAML		20 34 07.9	
	comp=N,29nm,0.6s						
RLMT				IAML		20 34 08.5	
	comp=N,35nm,1.3s						
PD31	**Pinedale Array**	**3.34**	**257**		**Pn**	**20 33 04.3**	**+0.5**
PDAR	**Pinedale Array**	**3.34**	**257**		**Pn**	**20 33 05.2**	**+1.3**
PDAR	**Pinedale Array**	**3.34**	**257**	Pn	**Pn**	**20 33 04.3**	**+0.5**
	comp=N,1.5nm,0.3s,baz=72,slow=15,SNR=29						
PDAR				Lg	Lg	20 33 50.4	
	comp=N,3.4nm,0.3s,baz=87,slow=32,SNR=3.7 comp=N,2.7nm,0.4s						
OGNE	**Ogallala**	**3.50**	**138**		**Pn**	**20 33 06.4**	**+0.4**
YMP	**Mirror Lake Pl**	**3.79**	**289**		**Pn**	**20 33 11.1**	**+0.9**
ISCO	**Idaho Springs**	**3.81**	**186**		**Pn**	**20 33 11.2**	**+0.9**
LOHW	**Long Hollow**	**3.97**	**272**		**Pn**	**20 33 12.5**	**0.0**
LOHW				IAML		20 34 19.4	
	comp=N,14nm,1.4s						
H17A	**Grant Village**	**4.01**	**283**		**Pn**	**20 33 13.9**	**+0.8**
H17A				IAML		20 34 18.0	
	comp=E,17nm,1.1s						
H17A				IAML		20 34 18.3	
	comp=N,30nm,1.3s						
FLWY	**Flagg Ranch**	**4.06**	**279**		**Pn**	**20 33 15.2**	**+1.5**
FLWY				IAML		20 34 27.0	
	comp=N,18nm,1.4s						
FLWY				IAML		20 34 27.5	
	comp=N,26nm,1.0s						
MOOW	**Moose Ponds**	**4.07**	**274**		**Pn**	**20 33 14.9**	**+1.0**
SNOW	**Snow King Moun**	**4.09**	**270**		**Pn**	**20 33 15.5**	**+1.3**
K30B	**Basset**	**4.14**	**101**		**Pn**	**20 33 16.5**	**+1.8**
REDW	**Red Top Meadow**	**4.17**	**269**		**Pn**	**20 33 15.9**	**+0.7**
YFT	**Old Faithful**	**4.20**	**284**		**Pn**	**20 33 17.6**	**+1.9**
YFT				IAML		20 34 29.6	
	comp=E,18nm,1.1s						
YFT				IAML		20 34 34.4	
	comp=N,14nm,1.2s						
YHH	**Holmes Hill**	**4.28**	**288**		**Pn**	**20 33 16.8**	**-0.1**
RDMU	**Red Mountain**	**4.47**	**229**		**Pn**	**20 33 20.2**	**+0.8**
RDMU				IAML		20 34 41.5	
	comp=E,21nm,1.0s						
RDMU				IAML		20 34 46.9	
	comp=N,15nm,1.1s						
I10CA	**LAC DU BONNET**	**9.08**	**40**	I	I	21 27 40.0	
	baz=222,slow=332,SNR=1.6						
ULM	**Lac du Bonnet**	**9.19**	**40**	Pn	**Pn**	**20 34 22.8**	**-1.0**
	comp=N,0.3nm,0.3s,baz=230,slow=13,SNR=2.9						
ULM				Lg	Lg	20 36 57.5	
	comp=N,0.2nm,0.3s,baz=315,slow=22,SNR=3.5 comp=N,1.0nm,0.3s						

IDC 02 20:36:22.1±3.9, 6.°03S×142.°27E, h0km, mb3.2/1, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=120.7km s-min=31.3km az=100.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.84**	**208**	Pn	Pn	20 40 04.9	-1.7
	0.1nm,0.3s,baz=31,slow=13,SNR=4.9						
WRA				Lg	Lg	20 44 46.1	
	baz=30,slow=30,SNR=1.2 0.7nm,0.9s						
ASAR	**Alice Springs**	**19.30**	**204**	P	Pn	20 40 49.3	-0.5
	0.1nm,0.3s,baz=34,slow=9.7,SNR=12 0.7nm,0.7s						
MKAR	**Makanchi Array**	**74.57**	**322**	P	P	20 48 03.1	+0.1
	0.2nm,0.7s,baz=104,slow=6.1,SNR=1.7 0.2nm,0.7s						

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*IDC **02** 20:47:38.0±2.0, 0.°71N×127.°14E, h0km, mb3.3/4, mbtmp3.4/4, Error ellipse: s-maj=189.9km s-min=22.8km az=67.0*

*DJA **02** 20:47:44.0±0.3, 0.°5±4.°×12.°5E±.°, h10km, M3.9/14, mb4.1/3, mB4.7/2, MLv3.8/14, Mw(mB)4.0/2*

ISC 02 20:47:42.4±1.0, 0.°23S±0.°08×125.°21E±0.°05, h10km, n14, σ1°53/14, mb3.5/4, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.46**	**303**	P	**Pn**	**20 48 09.5**	**+0.6**
SANI	**Sanana**	**1.97**	**157**	P	**Pn**	**20 48 15.8**	**-0.1**
LBMI	**Labuha**	**2.33**	**100**	P	**Pn**	**20 48 22.6**	**+1.7**
GTOI	**Gorontalo**	**2.36**	**291**	P	**Pb**	**20 48 25.1**	**+0.1**
TNTI	**Ternate**	**2.38**	**65**	P	**Pn**	**20 48 23.2**	**+1.7**
LUWI	**Luwuk**	**2.57**	**252**	P	**Pn**	**20 48 26.1**	**+2.0**
MRSI	**Marisa**	**3.34**	**282**	P	**Pn**	**20 48 34.3**	**-0.5**
NLAI	**Namlea**	**3.54**	**148**	P	**Pn**	**20 48 38.5**	**+1.0**
MPSI	**Mapaga**	**5.34**	**276**	P	**Pn**	**20 49 04.2**	**+1.9**
	11nm,0.7s,707nm0.1nm						
TTSI	**Tana Toraja**	**6.07**	**242**	P	**Pn**	**20 49 14.4**	**+2.1**
WRA	**Warramunga Arr**	**21.54**	**156**	P	**P**	**20 52 30.4**	**-1.7**
	0.5nm,0.8s,baz=341,slow=12,SNR=5.1 0.5nm,0.8s						
ASAR	**Alice Springs**	**24.78**	**161**	P	**P**	**20 53 05.0**	**+0.3**
	0.3nm,0.6s,baz=350,slow=14,SNR=6.2 0.3nm,0.6s						
MKAR	**Makanchi Array**	**59.98**	**327**	P	**P**	**20 57 48.5**	**-0.7**
	0.3nm,0.4s,baz=121,slow=8.7,SNR=7.9 0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**64.28**	**329**	P	**P**	**20 58 16.2**	**-1.7**
	0.2nm,0.3s,baz=138,slow=6.5,SNR=3.6 0.2nm,0.3s						

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*NEIC **02** 20:51:06.9±1.7, 56.°59N±0.°07×148.°60W±0.°09, h10km±2km, ML4.1/78, ML3.8(AEIC), Error ellipse: s-maj=12.2km s-min=7.5km az=156.0*

*IDC **02** 20:51:06.8±1.1, 56.°54N×148.°51W, h0km, mb4.1/10, mbtmp3.9/15, ML3.3/5, MS3.5/21, Error ellipse: s-maj=24.5km s-min=18.4km az=164.0*

*AEIC **02** 20:51:11.9±1.5, 56.°57N±0.°07×148.°59W±0.°10, h12km±6km, Error ellipse: s-maj=11.2km s-min=7.2km az=156.0*

ISC 02 20:51:08.3±0.7, 56.°68N±0.°07×148.°59W±0.°05, h10km, n314, σ1°07/299, mb4.2/10, MS3.4/15, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.44**	**299**		**Pn**	**20 51 47.7**	**-0.5**
KDAK	**Kodiak Island**	**2.44**	**299**	Pn	**Pn**	**20 51 47.5**	**-0.6**
	5.1nm,0.3s,baz=109,slow=5.6,SNR=135						
KDAK				Sn	**Sn**	**20 52 15.5**	**-2.5**
	17nm,0.3s,baz=321,slow=22,SNR=17						
KDAK				LR	LR	20 53 01.8	
	comp=Z,991nm,19.5s,baz=188,slow=45 32nm,0.7s						
OHAK	**Old Harbor**	**2.63**	**284**		**Sn**	**20 52 18.9**	**-3.8**
OHAK	**Old Harbor**	**2.63**	**284**		**Pn**	**20 51 49.4**	**-1.3**
OHAK	**Old Harbor**	**2.63**	**284**	IAML		20 52 23.3	
	comp=N,195nm,0.6s						
OHAK				IAML		20 52 28.5	
	comp=E,253nm,0.5s						
OHAK	**Old Harbor**	**2.63**	**284**	P	**Pn**	**20 51 49.5**	**-1.3**
OHAK	**Old Harbor**	**2.63**	**284**	P	**Pn**	**20 51 49.5**	**-1.3**
	baz=102						
OHAK				S	**Sn**	**20 52 18.9**	**-3.8**
	baz=102						
SYI	**Shuyak Island**	**2.81**	**315**		**Pn**	**20 51 53.2**	**-0.1**
SYI					**Sn**	**20 52 26.4**	**-0.8**
Q20K	**Shuyak Island**	**2.82**	**315**	P	**Pn**	**20 51 53.2**	**-0.1**
	baz=133						
Q20K				S	**Sn**	**20 52 26.4**	**-0.9**
	baz=133						
MID	**Middleton Isla**	**3.00**	**22**	Pn	**Pn**	**20 51 55.4**	**-0.4**
MID				IAML		20 52 37.6	
	comp=N,312nm,1.4s						
MID	**Middleton Isla**	**3.00**	**22**	P	**Pn**	**20 51 55.7**	**-0.2**
CNPM	**China Poot**	**3.18**	**335**		**Pn**	**20 51 58.3**	**-0.1**
CNPM	**China Poot**	**3.18**	**335**		**Sn**	**20 52 35.9**	**-0.4**
CNPM	**China Poot**	**3.18**	**335**	IAML		20 52 37.4	
	comp=E,209nm,0.4s						
CNPM				IAML		20 52 38.0	
	comp=N,187nm,0.4s						
BRSE	**Bradley Lake S**	**3.27**	**341**		**Pn**	**20 51 59.4**	**-0.3**
BRSE					**Sn**	**20 52 38.0**	**-0.6**
BRSE	**Bradley Lake S**	**3.27**	**341**	P	**Pn**	**20 51 59.4**	**-0.3**
	baz=159						
BRSE				S	**Sn**	**20 52 38.0**	**-0.6**
	baz=159						
BRLK	**Bradley Lake**	**3.32**	**339**		**Sn**	**20 52 38.7**	**-1.1**
BRLK	**Bradley Lake**	**3.32**	**339**		**Pn**	**20 51 59.7**	**-0.6**
BRLK	**Bradley Lake**	**3.32**	**339**	IAML		20 52 42.1	
	comp=N,227nm,0.5s						
BRLK				IAML		20 52 42.4	
	comp=E,184nm,0.7s						
P23K	**Montague Islan**	**3.38**	**10**		**Pn**	**20 52 01.1**	**-0.1**
P23K					**Sn**	**20 52 39.5**	**-1.8**
P23K	**Montague Islan**	**3.38**	**10**	P	**Pn**	**20 52 01.1**	**-0.1**
	baz=190						
P23K				S	**Sn**	**20 52 39.5**	**-1.8**
	baz=190						
HOM	**Homer**	**3.40**	**333**	Pn	**Pn**	**20 52 02.1**	**+0.8**
HOM				IAML		20 52 49.0	
	comp=E,435nm,1.0s						
HOM				IAML		20 53 02.8	
	comp=N,452nm,0.7s						
SEW	**Seward**	**3.46**	**353**		**Pn**	**20 52 02.0**	**-0.2**
SEW					**Sn**	**20 52 40.8**	**-2.4**
SEW	**Seward**	**3.46**	**353**	P	**Pn**	**20 52 02.1**	**-0.2**
	baz=172						
Q19K	**Cape Douglas,**	**3.52**	**312**	Pn	**Pn**	**20 52 03.6**	**+0.5**
Q19K				IAML		20 52 50.8	
	comp=N,362nm,0.7s						
AUCH	**Augustine Cone**	**3.73**	**318**		**Pn**	**20 52 06.9**	**+1.0**
KAKN	**Katmai Knife C**	**3.85**	**298**		**Pn**	**20 52 08.1**	**+0.5**
O22K	**Cooper Landing**	**3.86**	**352**		**Pn**	**20 52 06.5**	**-1.1**
O22K	**Cooper Landing**	**3.86**	**352**	P	**Pn**	**20 52 09.0**	**+1.4**
	baz=171						
P19K	**Oil Pt**	**3.86**	**322**	Pn	**Pn**	**20 52 07.6**	**-0.1**
P19K	**Oil Pt**	**3.86**	**322**	P	**Pn**	**20 52 08.4**	**+0.6**
	baz=139						
HIN	**Hinchinbrook I**	**3.88**	**15**		**Pn**	**20 52 07.7**	**-0.3**
HIN				IAML		20 52 59.0	
	comp=E,378nm,0.9s						
KAIM	**Kayak Island**	**3.93**	**32**		**Pn**	**20 52 08.4**	**-0.2**
KAIM				IAML		20 53 04.5	
	comp=N,355nm,0.7s						
KAIM	**Kayak Island**	**3.93**	**32**	P	**Pn**	**20 52 08.5**	**-0.1**
	baz=215						
SLKM	**Skilak Lake**	**3.93**	**348**		**Pn**	**20 52 08.4**	**-0.3**
ACHA	**Angle Creek He**	**3.95**	**296**		**Pn**	**20 52 10.0**	**+0.9**
KVTA	**Katmai Vly 10**	**4.00**	**298**		**Pn**	**20 52 11.2**	**+1.6**
O20K	**Slope Mountain**	**4.02**	**330**		**Pn**	**20 52 10.4**	**+0.5**
O20K	**Slope Mountain**	**4.02**	**330**	P	**Pn**	**20 52 10.4**	**+0.5**
	baz=147						
CHIR	**Chirikof Islan**	**4.02**	**261**	Pn	Pn	20 52 06.0	-3.8
CHIR				IAML		20 53 00.1	
	comp=N,151nm,2.1s						
CHIR				IAML		20 53 47.4	
	comp=E,149nm,2.2s						
ILSW	**Iliamna Southw**	**4.09**	**326**		**Pn**	**20 52 10.5**	**-0.5**
ILSW				IAML		20 52 60.0	
	comp=N,214nm,0.4s						
ILSW				IAML		20 53 07.0	
	comp=E,158nm,0.7s						
EYAK	**Cordova Ski Ar**	**4.15**	**20**		**Pn**	**20 52 11.8**	**+0.2**
EYAK	**Cordova Ski Ar**	**4.15**	**20**	P	**Pn**	**20 52 12.1**	**+0.4**
EYAK	**Cordova Ski Ar**	**4.15**	**20**	P	**Pn**	**20 52 11.8**	**+0.2**
	baz=201						
SUCK	**Suckling Hills**	**4.24**	**35**		**Pn**	**20 52 12.7**	**-0.2**
SUCK				IAML		20 53 18.8	
	comp=N,262nm,0.8s						
SUCK				IAML		20 53 24.2	
	comp=E,151nm,1.0s						
RAGM	**Ragged Mountai**	**4.24**	**27**		**Pn**	**20 52 13.0**	**0.0**
CNTC	**Contact Creek**	**4.25**	**295**		**Pn**	**20 52 13.5**	**+0.4**
Q17K	**Contact Creek**	**4.25**	**295**	P	**Pn**	**20 52 13.5**	**+0.4**
	baz=110						
HMT	**Hamilton**	**4.31**	**30**		**Pn**	**20 52 13.8**	**-0.1**
CAPN	**Captain Cook N**	**4.31**	**343**		**Pn**	**20 52 13.5**	**-0.3**
NICHA	**Nichawak Mount**	**4.31**	**32**		**Pn**	**20 52 14.0**	**+0.1**
RED	**Redoubt Volcan**	**4.34**	**331**		**Pn**	**20 52 14.1**	**-0.3**
RDSO	**Redoubt South**	**4.37**	**332**		**Pn**	**20 52 14.2**	**-0.5**
RSO	**Redoubt South**	**4.38**	**332**		**Pn**	**20 52 14.3**	**-0.6**
RDT	**Redoubt**	**4.38**	**335**		**Pn**	**20 52 14.4**	**-0.6**
GOAT	**Goat Mountain**	**4.40**	**26**		**Pn**	**20 52 15.2**	**0.0**
RDWB	**Redoubt West**	**4.42**	**332**		**Pn**	**20 52 15.1**	**-0.4**
BGLC	**Bering Glacier**	**4.43**	**37**		**Pn**	**20 52 15.5**	**0.0**
BGLC	**Bering Glacier**	**4.43**	**37**	P	**Pn**	**20 52 15.5**	**0.0**
	baz=220						
P18K	**Big Mountain,**	**4.46**	**310**		**Pn**	**20 52 15.6**	**-0.3**
P18K	**Big Mountain,**	**4.46**	**310**	P	**Pn**	**20 52 15.2**	**-0.7**
	baz=126						
RC01	**Rabbit Creek A**	**4.46**	**353**		**Pn**	**20 52 15.7**	**-0.2**
RC01				IAML		20 53 07.9	
	comp=N,144nm,0.5s						
RC01				IAML		20 53 09.4	
	comp=E,169nm,0.5s						
DFR	**Drift River**	**4.47**	**333**		**Pn**	**20 52 15.7**	**-0.4**
NCT	**North Crescent**	**4.50**	**332**		**Pn**	**20 52 16.3**	**-0.3**
BERG	**Berg Lake**	**4.52**	**32**		**Pn**	**20 52 16.5**	**-0.2**
BERG				IAML		20 53 17.6	
	comp=N,258nm,0.9s						
GRIN	**Grindle Hills**	**4.55**	**35**		**Pn**	**20 52 17.2**	**+0.1**
FIS	**Fire Island**	**4.56**	**350**		**Pn**	**20 52 16.8**	**-0.4**
SNH	**Sunshine Point**	**4.63**	**38**		**Pn**	**20 52 18.1**	**-0.2**
SNH				IAML		20 53 16.2	
	comp=N,102nm,0.9s						
SNH				IAML		20 53 30.8	
	comp=E,131nm,1.1s						
O19K	**Port Alsworth**	**4.64**	**322**		**Pn**	**20 52 17.1**	**-1.1**
DIV	**Divide**	**4.69**	**17**		**Pn**	**20 52 19.3**	**+0.1**
KHIT	**Khitrov Hills**	**4.69**	**34**		**Pn**	**20 52 18.9**	**-0.3**
O18K	**Koktuh Hills**	**4.73**	**315**		**Pn**	**20 52 18.9**	**-0.7**
O18K				IAML		20 53 21.2	
	comp=N,84nm,0.8s						
O18K	**Koktuh Hills**	**4.73**	**315**	P	**Pn**	**20 52 18.9**	**-0.7**
	baz=130						
KNK	**Knik Glacier**	**4.75**	**1**		**Pn**	**20 52 20.2**	**+0.3**
KNK				IAML		20 53 27.7	
	comp=E,92nm,0.7s						
KNK				IAML		20 53 29.6	
	comp=N,97nm,0.7s						
KNK	**Knik Glacier**	**4.75**	**1**	P	**Pn**	**20 52 20.5**	**+0.6**
	baz=181						
BMRM	**Bremner River**	**4.77**	**24**		**Pn**	**20 52 20.3**	**+0.1**
BMRM	**Bremner River**	**4.77**	**24**	P	**Pn**	**20 52 20.3**	**+0.1**
	baz=207						
WAX	**Waxell Ridge**	**4.83**	**36**		**Pn**	**20 52 20.8**	**-0.2**
WAX				IAML		20 53 25.5	
	comp=E,159nm,0.6s						
P17K	**Kvichak River**	**4.88**	**304**		**Pn**	**20 52 22.0**	**+0.2**
P17K	**Kvichak River**	**4.88**	**304**	P	**Pn**	**20 52 22.0**	**+0.2**
	baz=119						
N20K	**Mount Spurr**	**4.91**	**339**	P	**Pn**	**20 52 21.7**	**-0.4**
	baz=156						
SPCR	**Spurr Chakacha**	**4.91**	**339**		**Pn**	**20 52 21.7**	**-0.4**
BARK	**Barkley Ridge**	**4.91**	**38**		**Pn**	**20 52 21.8**	**-0.4**
SUA	**Susitna One**	**4.92**	**348**		**Pn**	**20 52 22.2**	**-0.2**
SUA	**Susitna One**	**4.92**	**348**	P	**Pn**	**20 52 22.4**	**0.0**
	baz=166						
PMR	**Palmer**	**4.94**	**357**		**Pn**	**20 52 22.6**	**+0.2**
PMR				IAML		20 53 19.5	
	comp=E,77nm,0.7s						
PMR				IAML		20 53 20.5	
	comp=N,70nm,0.6s						
PMR	**Palmer**	**4.94**	**357**	P	**Pn**	**20 52 23.6**	**+1.2**
MESA	**MESA**	**4.94**	**42**		**Pn**	**20 52 22.2**	**-0.5**
MESA				IAML		20 53 32.1	
	comp=N,100nm,1.1s						
MESA				IAML		20 53 50.9	
	comp=E,90nm,1.0s						
MESA	**MESA**	**4.94**	**42**	P	**Pn**	**20 52 22.3**	**-0.5**
	baz=227						
SPCP	**Crater Peak Br**	**4.96**	**340**		**Pn**	**20 52 23.1**	**+0.3**
CRQM	**Cirque**	**4.97**	**33**		**Pn**	**20 52 23.1**	**-0.1**
CRQM				IAML		20 53 25.8	
	comp=E,121nm,0.7s						
CRQM				IAML		20 53 33.4	
	comp=N,122nm,0.9s						
CRQE	**Cirque**	**4.99**	**33**	P	**Pn**	**20 52 22.9**	**-0.4**
	baz=216						
KLU	**Klutina**	**5.02**	**15**		**Pn**	**20 52 24.2**	**+0.6**
KLU				IAML		20 53 23.6	
	comp=E,82nm,0.5s						
KLU				IAML		20 53 28.4	
	comp=N,97nm,0.6s						
KLU	**Klutina**	**5.02**	**15**	P	**Pn**	**20 52 23.9**	**+0.3**
	baz=196						
TGL	**Tana Glacier**	**5.07**	**34**		**Pn**	**20 52 24.2**	**-0.1**
TGL				IAML		20 53 25.0	
	comp=E,101nm,0.7s						
TGL				IAML		20 53 27.5	
	comp=N,64nm,0.7s						
ISLE	**Juniper Island**	**5.11**	**37**		**Pn**	**20 52 24.5**	**-0.5**
ISLE				IAML		20 53 29.9	
	comp=N,124nm,1.0s						
ISLE				IAML		20 53 33.0	
	comp=E,111nm,1.1s						
GHO	**Glory Hole Cre**	**5.11**	**358**		**Pn**	**20 52 25.7**	**+0.8**
GHO				IAML		20 53 27.4	
	comp=N,165nm,0.6s						
GHO				IAML		20 53 34.6	
	comp=E,112nm,0.8s						
BAGL	**Bagley Icefiel**	**5.11**	**39**		**Pn**	**20 52 24.8**	**-0.1**
STLK	**Strandline Lak**	**5.11**	**342**		**Pn**	**20 52 25.2**	**+0.3**
SML	**Sawmill**	**5.14**	**1**		**Pn**	**20 52 25.7**	**+0.3**
SML				IAML		20 53 30.1	
	comp=E,106nm,0.8s						
SML				IAML		20 53 39.2	
	comp=N,110nm,1.0s						
SML	**Sawmill**	**5.14**	**1**	P	**Pn**	**20 52 26.0**	**+0.6**
	baz=181						
N19K	**Bonanza Creek**	**5.16**	**326**	Pn	**Pn**	**20 52 25

baz=134
P16K Nushagak River 5.55 299 Pn 20 52 31.1 +0.3
P16K Nushagak River 5.55 299 P Pn 20 52 31.2 +0.3
baz=112
PCA Pinnacle 5.56 49 Pn 20 52 30.9 -0.2
PINM Pinnacle 5.56 49 P Pn 20 52 30.9 -0.2
baz=235
M24K Tolsona, Glenn 5.58 12 Pn Pn 20 52 30.9 -0.5
M24K Tolsona, Glenn 5.58 12 P Pn 20 52 32.4 +1.1
baz=193
BARN Barnard Glacie 5.67 36 Pn 20 52 32.6 -0.2
CTG Chitna Glacier 5.71 38 P Pn 20 52 33.1 -0.1
baz=224
PNL Peninsula 5.71 55 Pn 20 52 33.1 0.0
PNL Peninsula 5.71 55 P Pn 20 52 33.3 +0.2
PNL Peninsula 5.71 55 P Pn 20 52 33.1 0.0
baz=241
CTGM Chitina Glacie 5.71 38 Pn Pn 20 52 32.9 -0.3
M20K Styx River 5.71 338 Pn Pn 20 52 32.5 -0.7
M20K Styx River 5.71 338 P Pn 20 52 33.0 -0.2
baz=154
SVW2 Sparrevohn 5.72 324 Pn 20 52 32.4 -0.8
WASW Wrangell South 5.73 21 Pn 20 52 34.1 +0.6
LOGN Logan Glacier 5.73 40 Pn 20 52 33.0 -0.5
BCPM Bancas Point 5.74 51 Pn 20 52 33.5 -0.1
CUT Chulitna 5.80 352 Pn 20 52 34.2 -0.2
O16K Kokwok River B 5.82 304 Pn Pn 20 52 33.6 -1.0
O16K Kokwok River B 5.82 304 P Pn 20 52 34.8 +0.2
baz=117
N17K Nushagak Hills 5.92 314 Pn Pn 20 52 34.3 -1.6
N17K Nushagak Hills 5.92 314 P Pn 20 52 36.0 0.0
baz=128
WAT6 Susitna Watana 5.93 4 Pn 20 52 37.1 +0.8
WAT6 Susitna Watana 5.93 4 P Pn 20 52 37.1 +0.8
baz=184
M18K Stony River 6.10 325 Pn 20 52 37.7 -0.7
M18K Stony River 6.10 325 P Pn 20 52 37.7 -0.7
baz=140
WAT7 Susitna Watana 6.17 359 Pn 20 52 40.2 +0.6
L19K White Mountain 6.37 333 Pn Pn 20 52 41.4 -0.8
L19K White Mountain 6.37 333 P Pn 20 52 41.6 -0.6
baz=148
O29M Mount Kennedy 6.38 51 Pn 20 52 42.1 -0.3
O29M Mount Kennedy 6.38 51 P Pn 20 52 42.7 +0.3
baz=239
M26K Nabesna, AK 6.40 24 Pn 20 52 42.8 +0.2
DHY Denali Highway 6.44 5 Pn Pn 20 52 43.1 -0.2
DHY Denali Highway 6.44 5 P Pn 20 52 44.1 +0.8
baz=186
P29M Windy Craggy 6.46 58 Pn 20 52 42.1 -1.2
P29M Windy Craggy 6.46 58 P Pn 20 52 42.3 -1.0
baz=246
YUK2 White River 6.48 35 Pn 20 52 44.8 +1.1
YUK8 Steele Glacier 6.49 41 Pn 20 52 45.1 +1.2
YUK8 Steele Glacier 6.49 41 P Pn 20 52 45.1 +1.2
baz=228
CNBA Chernabura Isl 6.49 258 Pn Pn 20 52 42.2 -1.5
O15K Ungalikthiuk R 6.49 297 Pn 20 52 43.9 +0.1
O15K Ungalikthiuk R 6.49 297 P Pn 20 52 43.9 +0.1
baz=109
PAX Paxson 6.50 13 Pn 20 52 45.0 +1.0
PAX Paxson 6.50 13 P Pn 20 52 45.0 +1.0
baz=195
N16K Nishlik Lake 6.54 310 Pn 20 52 44.9 +0.4
N16K Nishlik Lake 6.54 310 P Pn 20 52 44.9 +0.4
baz=122
M17K Holitna River 6.57 320 Pn Pn 20 52 43.9 -1.0
M17K Holitna River 6.57 320 P Pn 20 52 44.9 -0.1
baz=133
YUK3 Moose Creek 6.59 36 Pn 20 52 46.0 +0.7
YUK3 Moose Creek 6.59 36 P Pn 20 52 46.0 +0.7
baz=222
M27K Edge Creek, AK 6.63 28 Pn Pn 20 52 44.2 -1.7
YUK7 Dusty Glacier 6.68 50 Pn 20 52 47.1 +0.5
MENT Mentasta 6.74 19 Pn 20 52 48.0 +0.8
RND Reindeer 6.75 359 Pn Pn 20 52 47.4 0.0
SDPT Sand Point 6.80 264 Pn Pn 20 52 47.6 -0.4
SDPT Sand Point 6.80 264 P Pn 20 52 49.2 +1.2
YUK6 Outpost Mounta 6.81 47 Pn 20 52 49.1 +0.7
YUK6 Outpost Mounta 6.81 47 P Pn 20 52 49.1 +0.7
baz=235
S31K Pelican 6.81 74 Pn 20 52 45.3 -2.9
TRF Thorofare Moun 6.84 354 Pn Pn 20 52 46.8 -2.0
TRF Thorofare Moun 6.84 354 P Pn 20 52 50.1 +1.3
baz=172
L18K Granite Mounta 6.92 327 Pn Pn 20 52 47.7 -2.0
M16K Timber Creek 6.92 313 Pn Pn 20 52 47.9 -1.8
M16K Timber Creek 6.92 313 P Pn 20 52 49.9 +0.3
baz=125
YUK4 Talbot Arm 6.94 44 P Pn 20 52 52.5 +2.4
baz=231
N15K Kwethluk River 6.98 305 Pn Pn 20 52 49.9 -0.6
CAST Castle Rocks 6.98 347 Pn 20 52 49.3 -1.3
CAST Castle Rocks 6.98 347 P Pn 20 52 51.3 +0.7
baz=164
KTH Kantishna Hill 6.99 351 Pn Pn 20 52 49.0 -1.7
HYT Haines Junctio 7.10 50 Pn Pn 20 52 52.2 -0.1
O14K Tigyukauivet M 7.22 296 Pn Pn 20 52 53.7 0.0
K20K Telida 7.24 340 Pn 20 52 51.8 -2.2
L27K Beaver Creek, 7.24 25 Pn 20 52 53.9 -0.3
BCAR Beaver Creek A 7.26 25 Pn Pn 20 52 54.0 -0.3
SIT Sitka 7.28 82 P Pn 20 52 52.3 -2.3
TTA Tatalina 7.30 332 Pn Pn 20 52 53.9 -1.0
TTA Tatalina 7.30 332 P Pn 20 52 54.4 -0.5
RIDG Independent Ri 7.32 13 Pn 20 52 54.5 -0.8
RIDG Independent Ri 7.32 13 P Pn 20 52 56.6 +1.4
baz=196
L16K Owhat River 7.52 317 Pn Pn 20 52 57.0 -0.9
BWN Browne 7.53 357 Pn Pn 20 52 57.5 -0.5
BPAW Bear Paw Mtn. 7.54 352 Pn Pn 20 52 56.9 -1.3
BPAW Bear Paw Mtn. 7.54 352 P Pn 20 52 58.8 +0.6
baz=170
SKAG Skagway 7.56 63 Pn Pn 20 52 58.8 +0.4
SKAG Skagway 7.56 63 P Pn 20 52 58.8 +0.4
N30M Aishikik Lake 7.61 46 Pn 20 52 59.3 +0.1
PN7A Pavlof North-7 7.62 266 Pn 20 52 58.9 -0.4
SCRK Sand Creek 7.67 15 Pn Pn 20 52 59.0 -1.0
S32K Killisnoo 7.68 78 Pn Pn 20 52 58.2 -1.8
O30N Mendenhall 7.68 53 Pn 20 52 59.5 -0.7
M29M Somme Creek 7.73 37 Pn Pn 20 52 59.5 -1.4
R32K Eaglecrest 7.75 72 Pn 20 52 59.8 -1.2
K17K Iditarod 7.79 325 Pn 20 52 59.6 -2.0
HDA Harding Lake 7.80 5 Pn 20 53 00.2 -1.5
JIS Juneau Island 7.82 72 Pn 20 53 00.3 -1.7
JIS Juneau Island 7.82 72 P Pn 20 53 01.3 -0.7
WRH Wood River Hil 7.82 2 Pn Pn 20 53 01.1 -0.9
J18K Innoko River 7.92 333 Pn Pn 20 53 01.1 -2.3
NEA2 Nenana 7.94 358 Pn 20 53 01.5 -2.2
CCB Clear Creek Bu 8.00 2 Pn Pn 20 53 03.4 -1.1
J20K Nowinta River 8.00 342 Pn Pn 20 53 03.1 -1.4
K27K Chicken 8.04 21 Pn 20 53 04.1 -0.9
M14K Bethel 8.06 306 Pn Pn 20 53 03.4 -1.9
J25K Salcha River, 8.11 10 Pn Pn 20 53 04.5 -1.6
J19K Poorman 8.12 338 Pn Pn 20 53 04.3 -1.8
IL31 8.16 5 Pn Pn 20 53 05.5 -1.1
ILAR Eielson Array 8.16 5 Pn Pn 20 53 05.9 -0.8
ILAR Eielson Array 8.16 5 Pn Pn 20 53 06.3 -0.3
comp=N,0.3nm,0.3s,baz=190,slow=14,SNR=11
ILAR Sn Sn 20 54 36.5 -2.3
comp=N,0.9nm,0.3s,baz=190,slow=22,SNR=13
ILAR LR LR 20 56 19.6
comp=N,58nm,19.1s,baz=203,slow=38
comp=N,0.4nm,0.5s
WHY Whitehorse 8.18 55 Pn Pn 20 53 06.7 -0.3
J26L Joseph Creek 8.22 15 Pn Pn 20 53 06.9 -0.7
L29M L29M 8.31 35 Pn Pn 20 53 07.6 -1.2
MDM Murphy Dome 8.31 1 Pn 20 53 08.2 -0.6
P32M Atlin 8.39 63 Pn Pn 20 53 08.7 -1.2
P32M Atlin 8.39 63 P Pn 20 53 09.9 0.0
baz=255
M30M Minto, Yukon 8.39 40 Pn 20 53 08.2 -1.7
MLY Manley 8.44 354 Pn Pn 20 53 08.6 -2.0
POKR Poker Plat Res 8.48 3 Pn Pn 20 53 10.2 -0.9
I23K Minto, Yukon-K 8.51 358 Pn 20 53 09.9 -1.4
M13K Dall Lake 8.57 302 Pn Pn 20 53 10.2 -2.1
U33K Whale Pass 8.60 87 Pn Pn 20 53 09.5 -3.2
L14K Kuka Creek 8.64 309 Pn Pn 20 53 11.3 -1.8
K15K Wolf Creek Mou 8.65 316 Pn Pn 20 53 11.3 -2.1
I21K Tanana 8.69 350 Pn 20 53 12.3 -1.5
I21K Tanana 8.69 350 P Pn 20 53 15.5 +1.6
baz=168
DAWY Dawson 8.69 28 Pn 20 53 12.0 -1.9
CRAG Craig 8.73 92 Pn Pn 20 53 11.1 -3.4

EGAK Eagle 8.89 21 Pn Pn 20 53 14.1 -2.6
J16K Anvik River 8.94 323 Pn Pn 20 53 16.4 -1.0
P33M Teslin, Yukon 8.99 60 Pn Pn 20 53 17.3 -0.8
P33M Teslin, Yukon 8.99 60 P Pn 20 53 17.4 -0.7
baz=253
PRP Porcupine Dome 8.99 8 Pn Pn 20 53 14.4 -3.7
Q32M Nakina River 9.00 69 Pn Pn 20 53 18.9 +0.5
K29M Barlow Dome 9.03 33 Pn Pn 20 53 18.9 +0.1
M31M Drury Creek, Y 9.09 47 Pn 20 53 19.7 +0.2
H21K Melozitna Rive 9.23 349 Pn Pn 20 53 21.2 -0.1
I27K Kandik River 9.56 18 Pn 20 53 27.4 +1.6
I27K Kandik River 9.56 18 P Pn 20 53 27.4 +1.6
baz=204
IMAR Indian Mountai 9.65 347 Pn Pn 20 53 27.1 0.0
R33M Jennings River 9.73 66 Pn Pn 20 53 27.2 -1.0
G24K Hadweenzic Riv 10.07 3 Pn Pn 20 53 32.8 0.0
G23K Bananza Creek 10.09 357 Pn Pn 20 53 32.2 -0.9
DLBC Dease Lake 10.12 72 Pn Pn 20 53 32.8 -0.8
comp=N,0.4nm,0.3s,baz=251,slow=7.5,SNR=10
DLBC Sn Sn 20 55 25.0 -2.1
comp=N,0.2nm,0.3s,baz=178,slow=18,SNR=1.6
DLBC LR LR 20 56 58.9
comp=N,289nm,18.2s,baz=284,slow=35
comp=N,0.9nm,0.3s
I30M Mount Dempster 10.40 30 Pn Pn 20 53 37.1 -0.4
MMPY Sheldon Lake, 10.57 49 Pn Pn 20 53 39.8 +0.1
F21K Alatna River 10.82 350 Pn Pn 20 53 42.6 -0.5
F24K Squaw Lake 10.88 1 Pn 20 53 44.3 +0.4
F20K Avaraart Lake 10.93 345 Pn 20 53 43.8 -0.6
H31M Peel River 11.40 31 Pn 20 53 50.4 -0.6
E25K Arctic Village 11.56 6 Pn Pn 20 53 53.3 +0.1
BBB Bella Bella 12.72 102 LR LR 20 57 54.7
comp=N,257nm,20.1s,baz=288,slow=32
F31M Tsiigehtchic 12.79 27 Pn Pn 20 54 09.5 -0.4
C23K Itkillik River 13.24 357 Pn 20 54 14.4 -1.6
INK Inuvik 13.52 24 Pn 20 54 18.9 -1.0
INK Inuvik 13.52 24 Pn Pn 20 54 22.9 +3.1
comp=N,0.1nm,0.3s,baz=216,slow=15,SNR=4.2
INK LR LR 21 00 29.9
comp=N,63nm,18.7s,baz=3.0,slow=41
comp=N,3.3nm,1.1s
B20K Meade River 13.89 348 Pn 20 54 23.7 -1.2
YKA Yellowknife Ar 18.00 57 P P 20 55 19.1 +0.3
comp=N,0.1nm,0.3s,baz=265,slow=11,SNR=20
YKA LR LR 21 02 04.2
comp=N,167nm,18.5s,baz=249,slow=36
comp=N,3.0nm,1.0s
NEW Newport 20.77 101 LR LR 21 02 27.2
comp=N,162nm,18.4s,baz=289,slow=33
SHEM Shemya Is, Ala 21.73 275 LR LR 21 04 55.9
comp=N,72nm,18.9s,baz=18,slow=38
YBH Yreka Blue Hor 22.38 121 LR LR 21 02 36.4
comp=N,102nm,19.2s,baz=340,slow=31
ELK Elko 26.82 112 LR LR 21 05 15.0
comp=N,108nm,19.6s,baz=313,slow=32
NVAR Mina Array Bea 27.07 119 LR LR 21 05 24.8
comp=N,88nm,18.7s,baz=244,slow=32
PETK Petropavlovsk- 30.43 286 LR LR 21 08 44.7
comp=N,60nm,20.2s,baz=114,slow=35
MA2 Magadan 31.18 301 LR LR 21 10 16.4
comp=N,97nm,18.0s,baz=100,slow=37
ULM Lac du Bonnet 31.35 79 LR LR 21 09 45.1
comp=N,122nm,19.1s,baz=298,slow=36
PFO Pinyon Flats O 31.84 123 LR LR 21 07 30.4
comp=N,87nm,19.9s,baz=309,slow=31
TIXI Tiksi 35.55 327 LR LR 21 12 32.3
comp=N,37nm,19.1s,baz=226,slow=36
ANMO Albuquerque 35.73 109 LR LR 21 11 11.6
comp=N,58nm,19.3s,baz=76,slow=34
TXAR Lajitas Array 41.61 112 LR LR 21 15 06.8
comp=N,33nm,18.2s,baz=357,slow=35
SCHQ Schefferville 43.45 56 LR LR 21 19 28.3
comp=N,143nm,18.0s,baz=82,slow=39
TKL Tuckaleechee C 47.53 88 LR LR 21 19 48.0
comp=N,136nm,18.0s,baz=340,slow=36
H11N2 WAKE ISLAND Hy 49.42 240 T T 21 53 12.7
baz=30
H11N3 WAKE ISLAND Hy 49.42 240 T T 21 53 22.8
baz=30
H11N1 WAKE ISLAND Hy 49.44 240 T T 21 53 16.6
baz=30
H11S1 WAKE ISLAND Hy 50.56 240 T T 21 54 39.1
baz=30,slow=76,SNR=5.1
H11S2 WAKE ISLAND Hy 50.57 240 T T 21 54 41.1
baz=30,slow=76,SNR=5.9
H11S3 WAKE ISLAND Hy 50.58 240 T T 21 54 40.5
baz=30,slow=76,SNR=5.8
SONM Songino Array 58.68 310 P P 21 01 06.9 +1.2
comp=N,3.3nm,1.0s,baz=46,slow=6.7,SNR=11
comp=N,3.3nm,1.0s
ZALV Zalesovo Beam 61.43 327 P P 21 01 25.1 +0.8
comp=N,3.5nm,0.7s,baz=30,slow=7.4,SNR=20
comp=N,3.5nm,0.7s
NB2 NORSAR Subarra 61.55 11 P P 21 01 25.4 +0.4
comp=Z,3.1nm,1.1s,baz=348,slow=6.9
NOA NORSAR Array B 61.55 11 P P 21 01 25.6 +0.6
comp=Z,0.8nm,0.8s,baz=348,slow=6.8,SNR=4.1
comp=Z,0.8nm,0.8s
FINES FINESS Array B 62.14 3 P P 21 01 29.3 +0.4
comp=Z,1.6nm,0.8s,baz=3.8,slow=5.7,SNR=4.7
comp=Z,1.6nm,0.8s
BVAR Borovoye Array 66.08 335 P P 21 01 56.1 +1.1
comp=Z,3.4nm,0.7s,baz=30,slow=6.8,SNR=15
comp=Z,3.4nm,0.7s
KURBB Kurchatov Arra 66.19 329 P P 21 01 56.5 +0.9
comp=Z,1.5nm,0.7s,baz=30,slow=6.5,SNR=10
comp=Z,1.5nm,0.7s
JTS Las Juntas de 67.09 107 LR LR 21 34 12.2
comp=Z,33nm,18.1s,baz=71,slow=39
MKAR Makanchi Array 68.49 325 P P 21 02 11.1 +0.7
comp=Z,1.1nm,0.8s,baz=49,slow=6.9,SNR=12
comp=Z,1.1nm,0.8s
AKASG Malin Array Be 72.97 1 P P 21 02 38.3 +0.9
comp=Z,0.7nm,0.6s,baz=348,slow=7.2,SNR=2.4
comp=Z,0.7nm,0.6s
BRTR Keskin Array B 83.94 358 P P 21 03 40.0 +1.5
comp=Z,0.6nm,0.7s,baz=7.0,slow=6.3,SNR=4.0
comp=Z,0.6nm,0.7s
CMAR Chiang Mai Arr 86.43 298 P P 21 03 51.4 +0.3
comp=Z,1.3nm,0.8s,baz=15,slow=4.6,SNR=8.5
comp=Z,1.3nm,0.8s
QSPA South Pole Qui 146.47 180 PKPbc PKPdf 21 10 47.6 +0.9
comp=Z,3.2nm,1.0s,baz=88,slow=0.8,SNR=7.4
MAW Mawson 161.93 220 PKP PKPdf 21 11 09.5 +1.5
comp=Z,38nm,1.2s,baz=68,slow=5.4,SNR=2.1

*IDC **02** 21:02:15.0±0.8, 5.°85S×142.°83E, h0km, mb4.1/9, mbtmp4.1/11, ML1.5/1, MS3.4/1, Error ellipse: s-maj=32.3km s-min=16.1km az=85.0*

ISC 02 21:02:19.7±0.7, 6.°01S±0.°08×142.°6E±0.°1, h35km, n14, σ1§84/15, mb4.1/9, New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PMG	Port Moresby	5.65	127	Pn	Pn		21 03 40.6	-0.6
	0.9nm,0.3s,baz=66,slow=23,SNR=2.3							
PMG				Sn	Sn		21 04 45.4	+0.5
	4.7nm,0.3s,baz=163,slow=14,SNR=3.8							
PMG				Lg	Lg		21 05 11.5	
	2.6nm,0.3s,baz=197,slow=21,SNR=1.5							
	3.0nm,0.3s							
CTA	Charters Tower	14.44	166	Lg	Lg		21 10 01.4	
	0.3nm,0.3s,baz=61,slow=14,SNR=6.2							
CTA				LR	LR		21 11 36.4	
	comp=Z,131nm,19.2s,baz=336,slow=39							
WRA	Warramunga Arr	16.00	209	Pn	Pn		21 06 00.5	-1.7
	1.5nm,0.3s,baz=27,slow=13,SNR=38							
WRA				Sn	Sn		21 08 50.1	-8.5
	0.6nm,0.3s,baz=28,slow=23,SNR=2.2							
WRA				Lg	Lg		21 10 44.1	
	0.4nm,0.3s,baz=23,slow=28,SNR=1.9							
ASAR	Alice Springs	19.44	205	P	P		21 06 46.3	+3.0
	13nm,0.8s,baz=32,slow=10,SNR=179							
ASAR				S	S		21 10 17.1	-4.3
	1.3nm,0.6s,baz=27,slow=26,SNR=4.1							
ASAR				Lg	Lg		21 12 41.2	
	baz=21,slow=31							
STKA	Stephens Creek	25.75	182	P	P		21 07 48.1	+1.0
	0.9nm,0.5s,baz=341,slow=4.1,SNR=3.0							
	0.9nm,0.5s							
MJAR	Matsushiro Arr	42.53	355	P	P		21 10 11.4	-0.6
	1.8nm,0.8s,baz=170,slow=7.1,SNR=4.4							
	1.8nm,0.8s							
KSRS	Korea Array	45.36	344	P	P		21 10 35.0	+0.4
	1.3nm,0.6s,baz=164,slow=9.7,SNR=6.3							
	1.3nm,0.6s							
CMAR	Chiang Mai Arr	49.43	300	P	P		21 11 07.9	+1.3
	1.1nm,0.7s,baz=116,slow=6.7,SNR=2.4							
	1.1nm,0.7s							
USRK	Ussuriysk Ar.	50.89	350	P	P		21 11 17.1	-0.1
	1.9nm,0.6s,baz=161,slow=5.1,SNR=5.5							
	1.9nm,0.6s							
KLR	Kul'dur	55.82	351	P	P		21 11 53.5	+0.1
	1.3nm,0.6s,baz=164,slow=9.3,SNR=6.7							
	1.3nm,0.6s							
PETK	Petropavlovsk-	60.27	10	P	P		21 12 23.1	-1.4
	6.5nm,1.0s,baz=106,slow=6.5,SNR=4.7							
	6.5nm,1.0s							
QSPA	South Pole Qui	83.95	180	P	P		21 14 48.0	+1.9
	1.1nm,0.7s,baz=354,slow=10,SNR=8.8							
	1.1nm,0.7s							
ILAR	Eielson Array	87.25	24	P	P		21 15 01.3	-0.9
	1.1nm,0.6s,baz=257,slow=4.9,SNR=19							
	1.1nm,0.6s							
TORD	Torodi Ar. Bea	140.83	283	PKP	PKPdf		21 21 47.0	0.0
	0.3nm,0.6s,baz=46,slow=3.7,SNR=2.1							

*MOS **02** 21:03:40.9±0.9, 0.°23S×96.°68E, h16km, mb5.4/81, Error ellipse: s-maj=7.3km s-min=3.6km az=115.2*
*IDC **02** 21:03:40.2±0.4, 0.°30S×96.°62E, h0km, mb5.0/34, mbtmp5.0/37, ML5.0/3, MS4.1/22, Error ellipse: s-maj=15.1km s-min=10.8km az=48.0*
*NEIC **02** 21:03:42.8±1.9, 0.°17S±0.°06×96.°79E±0.°07, h10km±1km, mb5.3/157, Mww5.1/12, Error ellipse: s-maj=12.7km s-min=10.5km az=245.0*
*GCMT **02** 21:03:42.8±0.2, 0.°22S±0.°01×96.°64E±0.°01, h18km, MW5.1/102, Moment Tensor Solution. s68,c97; s102,c172; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.09±.18; Mθθ 1.68±.11; Mϕϕ 2.41±.13; Mrθ 2.47±.32; Mθϕ -3.72±.09; Mϕr -2.26±.33; Best double couple: M○5.97000×10^16 NP1:ϕs313.00000°, δ62.00000°, λ-95.00000°. NP2:ϕs144.00000°, δ28.00000°, λ-80.00000°. Principal axes: T 6.8040, Plg17.0000°, Azm47.0000°; N -1.6680, Plg5.0000°, Azm316.0000°; P -5.1360, Plg72.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **02** 21:03:42.5±0.1, 0.°S±2.°×9.°7E±.°, h10km, M5.1/73, mb5.2/73, mB5.5/30, MLv5.6/20, Mw(mB)5.0/30, MwMwp4.8/7, Mwp5.2/7*
*NEIC **02** 21:03:44.1, 0.°15S×96.°80E, h16km*
*NEIC **02** 21:03:44.1, 0.°15S×96.°90E, h16km, Moment Tensor Solution. Duration: 1§8 Moment tensor: Scale 10^16Nm; Mrr=4.02; Mθθ 1.51; Mϕϕ 2.51; Mrθ -0.61; Mθϕ -3.84; Mϕr -1.07; Fault plane solution: M○5.23000×10^16 NP1: ϕs340.08000°, δ51.77000°, λ-59.53000°. NP2: ϕs116.53000°, δ47.39000°, λ-122.77000°. Principal axes: T 5.9042, Plg2.0000°, Azm49.0000°; N -1.3578, Plg23.0000°, Azm140.0000°; P -4.5464, Plg66.0000°, Azm314.0000°;*
*BJI **02** 21:03:44.6±0.0, 0.°05N×96.°67E, h17km, mb4.9/76, mB5.2/44, Ms4.8/61, Ms7 4.5/60*
*BGR **02** 21:03:49.6, 0.°59S×95.°05E, h36km±1km, mb4.7*

ISC 02 21:03:44.2±0.4, 0.°23S±0.°04×96.°66E±0.°04, h24km±2km, h24km:pP-P, n846, σ1§22/860, mb5.2/235, MS4.3/50, 76C-13D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
PBSI	Pulau Batu	1.63	84	P	Pn		21 04 09.7	-1.8
GSI	Gunungsitoli	1.78	31		Pn		21 04 11.4	-2.1
GSI	Gunungsitoli	1.78	31	P	Pn		21 04 12.3	-1.3
GSI	Gunungsitoli	1.78	31	P	Pn		21 04 12.2	-1.3
SNSI	Sinabang, Aceh	2.65	353	P	Pn		21 04 24.4	-1.0
SISI	Saibi	2.67	114	P	Pn		21 04 23.6	-2.1
RPSI	Rantau Prapat	3.69	38		Pn		21 04 38.4	-1.4
PSI	Prapat	3.77	37	P	Pn		21 04 38.6	-2.4
PSI	Prapat	3.77	37	P	Pn		21 04 38.4	-2.6
PDSI	Padang	3.87	100	P	Pn		21 04 39.7	-2.5
KCSI	Kotacane, Aceh	3.89	17	P	Pn		21 04 41.2	-1.4
PPSI	Pulau Pagai	4.19	127	P	Pn		21 04 44.3	-2.4
BKNI	Bangkinang	4.42	83		Pn		21 04 48.4	-1.4
BKNI	Bangkinang	4.42	83	P	Pn		21 04 49.9	+0.1
BKNI	Bangkinang	4.42	83	P	Pn		21 04 48.8	-1.0
MLSI	Meulaboh, Aceh	4.48	357	P	Pn		21 04 49.7	-0.9
KRJI	Kerinci	5.15	111	P	Pn		21 04 59.0	-0.9
	3μm,0.6s,38μm16nm							
LHMI	Lhok Sumawe	5.43	3	Pn	Pn		21 05 02.6	-1.2
LHMI	Lhok Sumawe	5.43	3	P	Pn		21 05 03.1	-0.7
LHMI	Lhok Sumawe	5.43	3	P	Pn		21 05 02.5	-1.3
	596nm,0.9s,8μm4μm5.8nm							
IPM	Ipoh	6.40	43		Pn		21 05 16.0	-1.1
IPM	Ipoh	6.40	43	P	Pn		21 05 16.3	-0.8
KULM	Kulim	6.78	36	Pn	Pn		21 05 20.3	-2.1
MNAI	Manna	7.51	123	Pn	Pn		21 05 30.0	-2.3
MNAI	Manna	7.51	123	P	Pn		21 05 30.2	-2.2
MNAI	Manna	7.51	123	P	Pn		21 05 30.0	-2.3
	804nm,0.6s,9μm4.4nm							
LHSI	Lahat	7.74	118	P	Pn		21 05 35.4	0.0
	327nm,0.8s,4μm2.5nm							
DSRI	Dabo	7.93	92	P	Pn		21 05 37.3	-0.7
	63nm,0.7s,3μm0.3nm							
TPRI	Tanjung Pinang	7.95	82	P	Pn		21 05 36.5	-1.9
	47nm,0.6s,1μm3μm0.3nm							
LWLI	Liwa	8.79	123	P	Pn		21 05 48.7	-1.3
	705nm,0.6s,5μm							
SRIT	Nakonsritamara	9.25	18	Pn	Pn		21 05 53.1	-3.1
SRIT	Nakonsritamara	9.25	18	P	Pn		21 05 53.7	-2.5
KASI	Kota Agung	9.43	124	P	Pn		21 05 55.2	-3.5
	154nm,0.7s,1μm							
SURA	Surathani	9.80	18	P	Pn		21 06 01.0	-2.7
PBA	Port Blair	12.44	342	eP	Pn		21 06 37.0	-2.9
LEM	Lembang	12.75	121	Pn	Pn		21 06 44.5	+0.3
	4.7nm,0.3s,baz=14,slow=21,SNR=3.6							
LEM				LR	LR		21 12 25.5	
	comp=Z,1μm,18.9s,baz=292,slow=41							
	11nm,0.4s							
BBJI	Bungbulang	13.11	123	P	Pn		21 06 49.8	+0.7
DGPR	DIGLIPUR	13.83	345	eP	Pn		21 06 53.6	-5.2
KPJI	Karang Pucung	14.13	120	P	Pn		21 07 01.2	-1.8
	53nm,0.7s							
SRDT	SRDT	14.69	9	P	Pn		21 07 10.0	-0.7
STKI	Sintang	14.82	89	P	Pn		21 07 12.2	-0.3
	99nm,1.2s							
NAYO	Nakonayok	15.18	18	P	Pn		21 07 16.7	-0.5
SMRI	Semarang	15.33	117	P	Pn		21 07 19.3	+0.1
	63nm,0.8s							
SBUM	Sibu	15.79	80		Pn		21 07 22.3	-2.9
PWJI	Pagerwojo	16.96	118	P	P		21 07 41.3	-0.6
	34nm,0.8s							
GRJI	Gresik	17.12	113	P	P		21 07 43.3	-0.4
PALK	Pallekele	17.57	295	P	P		21 07 49.5	+0.8
PALK	Pallekele	17.57	295	*i* P	Pn		21 07 47.3	-0.5
PALK	Pallekele	17.57	295	P	Pn		21 07 48.0	+0.2
	3.1nm,0.3s,baz=223,slow=9.4,SNR=22							
PALK				S	Sn		21 10 50.0	-13
	23nm,0.6s,baz=126,slow=19,SNR=8.2							
PALK				LR	LR		21 13 20.4	
	comp=Z,899nm,19.7s,baz=220,slow=33							
	19nm,0.5s							
PALK	Pallekele	17.57	295	P	P		21 07 49.9	+1.3
PALK				P	P		21 07 50.0	+1.3
UBPT	Khong Chiam	17.71	29		Pn		21 07 46.5	-2.8
UBPT				IAmb	IAmb		21 07 51.6	
	comp=Z,163nm,0.9s							
UBPT	Khong Chiam	17.71	29	P	Pn		21 07 48.7	-0.6
MTKI	Muara Teweh, K	18.25	92	P	Pn		21 07 54.7	-1.4
	comp=Z,82nm,1.4s,comp=Z,4μm							
KMMI	Kalianget	18.55	112	P	P		21 07 58.5	-0.9
	comp=Z,36nm,0.8s							
CM31	Chiang Mai Arr	18.71	7	P	Pn		21 08 01.7	+0.1
CM31				IAmb	IAmb		21 08 03.2	
	comp=Z,179nm,0.8s							
CMAR	Chiang Mai Arr	18.71	7	P	P		21 08 01.2	+0.1
CMAR	Chiang Mai Arr	18.71	7	P	Pn		21 08 01.8	+0.2
	comp=Z,3.4nm,0.3s,baz=195,slow=12,SNR=117							
CMAR				PcP	PcP		21 12 29.6	+0.7
	comp=Z,3.9nm,0.7s,baz=210,slow=3.1,SNR=8.8							
CMAR				LR	LR		21 15 32.0	
	comp=Z,335nm,18.6s,baz=185,slow=38							
	comp=Z,113nm,0.8s							
PHRA	Phrae	18.94	10	P	Pn		21 08 04.0	-0.4
CHTO	Chiang Mai	19.06	7	P	P		21 08 05.2	+0.2
CHTO	Chiang Mai	19.06	7	P	Pn		21 08 06.0	+0.1
CHTO	Chiang Mai	19.06	7	P	P		21 08 05.2	+0.2
CHTO				pmax	pmax			

comp=Z,48nm,0.8s
CHTO Chiang Mai 19.06 7 P Pn 21 08 05.7 -0.2
NONG Nongkai 19.27 19 P P 21 08 07.1 -0.2
SRBI Singaraja 20.07 113 P P 21 08 16.1 0.0
comp=Z,31nm,1.0s
BKB Balikpapan 20.26 93 P P 21 08 18.4 +0.2
BKB IAmb IAmb 21 08 24.4
comp=Z,155nm,0.7s
BKB Balikpapan 20.26 93 P Pn 21 08 19.8 -0.5
BKB Balikpapan 20.26 93 P P 21 08 18.6 +0.4
comp=Z,229nm,0.7s,comp=Z,2μm
KKM Kota Kinabalu 20.50 72 P P 21 08 19.2 -1.7
KKM IAmb IAmb 21 08 28.4
comp=Z,132nm,0.9s
KKM Kota Kinabalu 20.50 72 P P 21 08 21.6 +0.8
CRAI Chiangrai 20.66 10 P P 21 08 22.8 +0.3
CRAI IAmb IAmb 21 08 36.6
comp=Z,134nm,1.0s
MDRS Chennai 20.96 310 *e*P Pn 21 08 28.6 +0.2
MDRS IVmB_BB 21 08 32.2
comp=Z,916nm,1.9s
TRD Trivandrum 21.46 294 *e*P **P 21 08 33.7 +2.6**
MND Mandalay 22.12 359 P **P 21 08 37.6 -0.5**
VIS Vishakhapatnam 22.14 324 *e*P **P 21 08 38.8 +0.4**
VIS IVmB_BB 21 08 53.7
comp=Z,587nm,0.8s
VIS *e*S **S 21 12 37.6 -3.7**
SLVN Son La 22.58 18 P **P 21 08 42.1 -0.9**
SLVN IAmb IAmb 21 08 49.6
comp=Z,85nm,0.9s
PLAI Plampang 22.70 113 P **P 21 08 42.3 -2.1**
comp=Z,30nm,0.7s
SAIH SAIHA 22.87 351 *e*P **P 21 08 47.5 +1.3**
QIZ Qiongzhong 23.11 33 P **P 21 08 47.6 -1.0**
QIZ pP **pP 21 08 53.3 -0.8**
QIZ S **S 21 12 57.0 -1.6**
QIZ pmax pmax
comp=Z,30nm,1.1s
QIZ LR LR
comp=Z,620nm,11.8s
QIZ LR LR
comp=Z,650nm,12.6s
QIZ LR LR
comp=Z,700nm,10.9s
QIZ Qiongzhong 23.11 33 P **P 21 08 48.4 -0.2**
QIZ IAmb IAmb 21 08 54.7
comp=Z,102nm,0.9s
QIZ Qiongzhong 23.11 33 P **P 21 08 49.6 +1.0**
MPSI Mapaga 23.25 89 P **P 21 08 50.0 -0.1**
comp=Z,33nm,1.1s
TTSI Tana Toraja 23.32 97 P **P 21 08 51.2 +0.4**
comp=Z,56nm,1.0s
KAPI Kappang 23.55 102 P **P 21 08 51.4 -1.7**
KAPI Kappang 23.55 102 P **P 21 08 55.4 +2.3**
KAPI Kappang 23.55 102 *i* P **P 21 08 54.8 +1.7**
KAPI pmax pmax
comp=Z,42nm,1.1s
TOLI2 Tolitoli 24.16 87 P **P 21 08 56.5 -2.4**
TOLI2 Tolitoli 24.16 87 P **P 21 08 59.7 +0.8**
HYB Hyderabad 25.01 315 *e*P **P 21 09 07.9 +1.4**
HYB IVmB_BB 21 09 10.4
comp=Z,324nm,1.9s
HYB Hyderabad 25.01 315 *e*P **P 21 09 07.9 +1.4**
IMP Imphal 25.05 354 *e*P **P 21 09 06.7 -0.2**
TNCH TengChong 25.18 4 P **P 21 09 09.8 +1.6**
TNCH pP pP 21 09 12.7 -1.2
TNCH S **S 21 13 32.9 +0.7**
TNCH sS pS 21 13 37.6 -1.2
TNCH pmax pmax
comp=Z,99nm,1.1s
TNCH pmax pmax
comp=Z,360nm,4.6s
TNCH LR LR
comp=Z,480nm,11.8s
TNCH LR LR
comp=Z,380nm,9.7s
TNCH LR LR
comp=Z,900nm,11.4s
H08S2 Diego Garcia H 25.19 252 T T 21 35 27.4
baz=74
H08S3 Diego Garcia H 25.19 252 T T 21 35 19.3
baz=74
H08S1 Diego Carcia H 25.21 252 T T 21 35 24.6
baz=74
MRSI Marisa 25.30 88 P **P 21 09 09.1 -0.1**
comp=Z,50nm,0.8s,comp=Z,678nm
KMI Kunming 25.89 13 ⇑P **P 21 09 15.5 +0.9**
KMI S **S 21 13 44.4 +0.9**
KMI pmax pmax
comp=Z,66nm,1.3s
KMI pmax pmax
comp=Z,280nm,6.9s
KMI LR LR
comp=Z,770nm,18.4s
KMI LR LR
comp=Z,2μm,20.1s
KMI LR LR
comp=Z,1μm,14.3s
KOHI KOHIMA 25.92 355 *e*P **P 21 09 16.8 +1.9**
SHL Shillong 26.06 350 IVmB_BB 21 09 28.6
comp=Z,1μm,1.2s
BOK Bokaro 26.07 337 *e*P **P 21 09 18.3 +2.2**
BOK IVmB_BB 21 09 28.8
comp=Z,1μm,0.7s
LUWI Luwuk 26.13 92 P **P 21 09 15.2 -1.6**
LUWI Luwuk 26.13 92 P **P 21 09 17.3 +0.6**
LUWI Luwuk 26.13 92 P **P 21 09 17.8 +1.1**
comp=Z,133nm,0.9s,comp=Z,1μm
EDFI Ende, Flores 26.33 109 P **P 21 09 17.9 -0.8**
comp=Z,13nm,0.8s
BBSI Bau Bau 26.39 102 P **P 21 09 18.9 -0.2**
comp=Z,66nm,1.0s,comp=Z,653nm
PZH PanZhiHua 27.03 10 P **P 21 09 25.4 +0.6**
PZH pP **pwP 21 09 35.9 -0.9**
PZH sP **sP 21 09 39.7 +6.7**
PZH S **S 21 14 00.0 -1.4**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,200nm,6.6s
PZH LR LR
comp=Z,510nm,16.5s
PZH LR LR
comp=Z,1μm,18.0s
PZH LR LR
comp=Z,610nm,17.8s
GOA Goa 27.44 306 *e*P **P 21 09 30.2 +1.7**
TGY Tagaytay City 27.94 58 LR LR 21 20 15.5
comp=Z,487nm,21.3s,baz=276,slow=36
HKPS Hong Kong Po S 28.13 36 P **P 21 09 35.8 +1.2**
GYA Guiyang 28.24 19 ⇑*i*P **P 21 09 34.8 -0.9**
GYA sP pwP 21 09 46.7 -0.9
GYA PP **PnPn 21 10 29.9 +5.5**
GYA S **S 21 14 19.3 -1.1**
GYA pmax pmax
comp=Z,10.0nm,1.7s
GYA LR LR
comp=Z,770nm,14.5s
GYA LR LR
comp=Z,940nm,14.8s
GYA LR LR
comp=Z,1μm,14.7s
GZH Guangzhou 28.30 34 *e*P P 21 09 41.9 +5.8
GZH S S 21 14 34.5 +13
GZH pmax pmax
comp=Z,24nm,0.8s
GZH LR LR
comp=Z,320nm,14.4s
GZH LR LR
comp=Z,420nm,13.7s
SZP Santa 29.35 52 P **P 21 09 45.2 -0.3**
DAV Davao City (W) 29.75 75 LR LR 21 23 04.0
comp=Z,360nm,19.2s,baz=266,slow=39
LSA Lhasa 30.23 350 P **P 21 09 54.0 +0.3**
LSA IAmb IAmb 21 10 06.3
comp=Z,25nm,0.7s
LSA Lhasa 30.23 350 P **P 21 09 54.0 +0.3**
LSA pmax pmax
comp=Z,25nm,0.7s
LSA Lhasa 30.23 350 *i* P **P 21 09 55.2 +1.5**
SNR=24
LSA Lhasa 30.23 350 P **P 21 09 55.6 +1.9**
LSA P **P 21 09 55.6 +1.9**
LBMI Labuha 30.85 91 P **P 21 09 59.4 +0.5**
comp=Z,87nm,0.9s

PSA00 Pilbara Seismi 31.01 135 P **P 21 09 56.7 -3.5**
PSA00 Pilbara Seismi 31.01 135 P **P 21 09 58.6 -1.6**
PSA00 IAmb IAmb 21 10 04.7
comp=Z,25nm,1.6s
CD2 Chengdu 31.70 12 P **P 21 10 06.1 -0.1**
CD2 S **S 21 15 13.7 -0.8**
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 LR LR
comp=Z,700nm,16.2s
CD2 LR LR
comp=Z,2μm,18.6s
CD2 LR LR
comp=Z,700nm,15.7s
ENH Enshi 32.70 21 P **P 21 10 14.0 -1.0**
ENH Enshi 32.70 21 P **P 21 10 14.9 -0.1**
TWG Pinlang 33.01 44 P **P 21 10 15.8 -1.9**
TWG IAmb IAmb 21 10 45.0
comp=Z,43nm,1.0s
TWGBT Beinan 33.02 44 P **P 21 10 17.3 -0.5**
TPUB Ta-pu 33.02 43 P **P 21 10 18.4 +0.6**
TPUB Ta-pu 33.02 43 P **P 21 10 18.4 +0.6**
YULB Yu-li 33.54 44 P **P 21 10 23.9 +1.5**
SSLB Suanglung 33.56 43 P **P 21 10 22.5 -0.1**
SSLB Suanglung 33.56 43 P **P 21 10 23.2 +0.6**
FITZ Fitzroy Crossi 33.57 124 P **P 21 10 22.1 -0.5**
baz=34,SNR=10.0
FITZ Fitzroy Crossi 33.57 124 P **P 21 10 21.4 -1.2**
FITZ Fitzroy Crossi 33.57 124 P **P 21 10 22.2 -0.5**
NACB Ninganchiao 34.26 43 P **P 21 10 29.2 +0.6**
SWI Sorong 34.61 91 P **P 21 10 32.5 +0.7**
comp=Z,23nm,1.0s
WHN Wuhan 34.93 27 ⇑P P 21 10 39.1 +4.8
WHN sP pwP 21 10 44.8 -1.5
WHN pmax pmax
comp=Z,160nm,1.3s
WHN LR LR
comp=Z,2μm,11.1s
WHN LR LR
comp=Z,2μm,15.7s
WHN LR LR
comp=Z,2μm,12.4s
XAN Xi'an 35.98 17 ⇑P **P 21 10 43.2 -0.2**
XAN sP sP 21 10 52.8 +1.2
XAN S **S 21 16 19.5 -1.3**
XAN pmax pmax
comp=Z,77nm,0.7s
XAN pmax pmax
comp=Z,410nm,3.8s
XAN LR LR
comp=Z,830nm,16.2s
XAN LR LR
comp=Z,1μm,17.2s
XAN LR LR
comp=Z,1μm,13.9s
SMLA Simla 36.26 331 *e*P **P 21 10 45.9 +0.1**
GOMU GeErMu 36.29 357 P **P 21 10 47.7 +1.4**
GOMU pP sP 21 10 54.6 0.0
GOMU sP pwP 21 10 55.8 -2.5
GOMU SS SS 21 18 44.2 -21
GOMU pmax pmax
comp=Z,7.0nm,1.4s
GOMU LR LR
comp=Z,180nm,15.3s
GOMU LR LR
comp=Z,290nm,16.5s
GOMU LR LR
comp=Z,230nm,18.9s
MUN Mundaring 36.59 151 P **P 21 10 49.3 +0.8**
baz=37,SNR=5.7
LZH Lanzhou 36.75 10 *e*P **P 21 10 52.4 +2.4**
LZH pP pwP 21 11 00.1 -2.0
LZH PcP **PcP 21 13 12.7 +0.5**
LZH pmax pmax
comp=Z,37nm,1.1s
LZH LR LR
comp=Z,700nm,15.5s
LZH LR LR
comp=Z,1μm,17.4s
LZH LR LR
comp=Z,790nm,20.6s
KLBR Kellerberrin 37.03 149 P **P 21 10 52.8 +0.5**
baz=37,SNR=4.8
KLBR Kellerberrin 37.03 149 P **P 21 10 53.4 +1.0**
DHRM DHARAMSHALA 37.60 331 *e*P **P 21 10 57.2 -0.2**
DHRM IVmB_BB 21 10 58.1
comp=Z,350nm,0.5s
LYN LuoYang 37.64 22 *e*P **P 21 10 58.5 +1.1**
LYN sP pwP 21 11 07.0 -2.5
LYN S **S 21 16 47.6 +1.7**
LYN sS sS 21 16 54.6 -0.7
LYN pmax pmax
comp=Z,41nm,0.9s
LYN pmax pmax
comp=Z,170nm,10.7s
LYN LR LR
comp=Z,910nm,12.4s
LYN LR LR
comp=Z,760nm,15.1s
LYN LR LR
comp=Z,1μm,12.4s
NWAO Narrogin (SRO) 37.86 151 LR LR 21 26 05.9
comp=Z,253nm,18.1s,baz=7.0,slow=36
H01W3 Cape Leeuwin H 38.15 156 T T 21 51 58.3
baz=333,slow=76,SNR=44
H01W2 Cape Leeuwin H 38.16 156 T T 21 52 00.0
baz=333,slow=76,SNR=58
H01W1 Cape Leeuwin H 38.16 156 T T 21 52 00.3
baz=333,slow=76,SNR=42
NJ2 Nanjing 38.36 31 *e*P **P 21 11 04.6 +1.0**
NJ2 pP **sP 21 11 11.9 +0.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.8s
NJ2 pmax pmax
comp=Z,190nm,4.7s
NJ2 LR LR
comp=Z,690nm,12.3s
NJ2 LR LR
comp=Z,310nm,10.4s
NJ2 LR LR
comp=Z,820nm,13.7s
SSE Sheshan 38.89 35 P **P 21 11 09.5 +1.5**
SSE S **S 21 17 07.7 +2.7**
SSE pmax pmax
comp=Z,20nm,0.7s
SSE pmax pmax
comp=Z,130nm,3.5s
SSE LR LR
comp=Z,500nm,13.4s
SSE LR LR
comp=Z,270nm,13.4s
KMBL Kambalda 39.11 145 P **P 21 11 10.5 +0.6**
baz=39,SNR=12
KMBL Kambalda 39.11 145 P **P 21 11 10.7 +0.8**
WRKA Warakurna 39.29 131 P **P 21 11 11.6 +0.1**
baz=39,SNR=14
WRKA Warakurna 39.29 131 P **P 21 11 11.9 +0.4**
GTA Gaotai 39.56 4 *e*P **P 21 11 14.5 +0.9**
GTA sP pwP 21 11 24.0 -1.6
GTA pmax pmax
comp=Z,8.0nm,1.2s
GTA LR LR
comp=Z,250nm,16.7s
GTA LR LR
comp=Z,290nm,14.3s
GTA LR LR
comp=Z,250nm,15.5s
NIL Nilore 40.25 329 P **P 21 11 18.8 -0.6**
NIL IAmb IAmb 21 11 19.8
comp=Z,40nm,0.6s
NIL Nilore 40.25 329 P **P 21 11 18.8 -0.6**
NIL pmax pmax
comp=Z,40nm,0.6s
NIL Nilore 40.25 329 P **P 21 11 19.2 -0.1**
TIY Taiyuan 40.47 19 ⇑P **P 21 11 25.9 +4.7**
TIY pP **pwP 21 11 32.4 -0.9**
TIY S **S 21 17 25.8 -2.9**
TIY pmax pmax
comp=Z,21nm,0.5s
TIY pmax pmax
comp=Z,160nm,4.5s
TIY LR LR
comp=Z,650nm,13.9s
TIY LR LR
comp=Z,450nm,11.4s
TIY LR LR

comp=Z,610nm,15.9s
JOW Kunigami 40.62 46 P **P 21 11 21.7 -0.8**
JOW Kunigami 40.62 46 LR LR 21 26 59.5
comp=Z,205nm,21.2s,baz=183,slow=34
HNS HongShan 41.00 22 ⇓P **P 21 11 27.0 +1.6**
HNS sP **pwP 21 11 37.7 +0.2**
HNS *e*S **S 21 17 40.8 +4.5**
HNS pmax pmax
comp=Z,32nm,1.0s
HNS pmax pmax
comp=Z,230nm,4.4s
HNS LR LR
comp=Z,470nm,13.3s
HNS LR LR
comp=Z,230nm,15.9s
HNS LR LR
comp=Z,550nm,15.1s
WRA Warramunga Arr 41.76 120 P **P 21 11 31.7 -0.3**
comp=Z,18nm,1.0s,baz=298,slow=9.6,SNR=3.9
WRA PcP **PcP 21 13 27.4 -0.8**
comp=Z,2.4nm,0.8s,baz=303,slow=2.7,SNR=2.9
comp=Z,18nm,1.0s
SMPI Sarmi 42.08 93 P **P 21 11 36.2 +1.5**
comp=Z,33nm,1.3s
BTO Baotou 42.43 15 *e*P **P 21 11 39.6 +2.4**
BTO pP **sP 21 11 44.2 -1.3**
BTO sP **pwP 21 11 46.8 -2.6**
BTO PP **PP 21 13 21.3 +5.4**
BTO pmax pmax
comp=Z,67nm,1.1s
BTO pmax pmax
comp=Z,410nm,5.4s
BTO LR LR
comp=Z,570nm,4.9s
BTO LR LR
comp=Z,2μm,14.3s
BTO LR LR
comp=Z,730nm,11.8s
FORT Forrest 42.55 138 P **P 21 11 39.0 +0.7**
baz=43,SNR=9.1
FORT Forrest 42.55 138 P **P 21 11 37.6 -0.6**
FORT IAmb IAmb 21 11 50.7
comp=Z,48nm,0.8s
FORT Forrest 42.55 138 P **P 21 11 38.9 +0.7**
JLN Jalan Bani Buh 42.57 304 P **P 21 11 40.0 +1.5**
ASAR Alice Springs 42.99 126 P **P 21 11 41.1 -0.9**
ASAR Alice Springs 42.99 126 P **P 21 11 41.6 -0.4**
comp=Z,27nm,0.9s,baz=300,slow=7.1,SNR=26
ASAR PcP **PcP 21 13 31.9 -0.4**
comp=Z,5.3nm,0.6s,baz=299,slow=2.8,SNR=3.1
comp=Z,27nm,0.9s
AS31 Alice Springs 42.99 126 P **P 21 11 41.4 -0.6**
AS01 Alice Springs 43.03 125 P **P 21 11 43.1 +0.8**
HHC Hu-ho-hao-te 43.08 17 *e*P **P 21 11 45.0 +2.5**
HHC S **S 21 18 08.4 +1.2**
HHC SS **SS 21 21 15.5 -4.7**
HHC pmax pmax
comp=Z,12nm,1.2s
HHC LR LR
comp=Z,740nm,14.5s
HHC LR LR
comp=Z,470nm,14.8s
HHC LR LR
comp=Z,880nm,15.3s
KBL Kabul 43.18 326 P **P 21 11 43.2 -0.4**
KBL Kabul 43.18 326 P **P 21 11 43.2 -0.4**
KBL pmax pmax
comp=Z,7.0nm,1.1s
MHTO MHTO 43.28 302 P **P 21 11 45.2 +0.8**
MHTO P **P 21 11 45.2 +0.8**
JMDO Jabal Madar 43.75 303 P **P 21 11 49.5 +1.4**
BJT Baijiatuau 43.84 22 P **P 21 11 48.2 -0.3**
BJT Baijiatuau 43.84 22 P **P 21 11 49.9 +1.4**
BJT Baijiatuau 43.84 22 P **P 21 11 48.2 -0.3**
BJT pmax pmax
comp=Z,21nm,0.7s
KSH Kashi 43.85 337 P **P 21 11 47.9 -0.9**
KSH pP sP 21 11 57.2 +0.1
KSH sP pwP 21 12 00.5 -0.4
KSH S **S 21 18 13.2 -5.5**
KSH pmax pmax
comp=Z,16nm,0.7s
KSH LR LR
comp=Z,290nm,17.9s
BJI Beijing 43.86 22 P **P 21 11 50.6 +1.9**
BJI sP **pwP 21 11 59.8 -1.1**
BJI pmax pmax
comp=Z,13nm,0.9s
BJI pmax pmax
comp=Z,220nm,5.1s
BJI LR LR
comp=Z,150nm,13.7s
BJI LR LR
comp=Z,160nm,16.7s
BJI LR LR
comp=Z,110nm,14.1s
SMDO Samad 44.10 304 P **P 21 11 53.0 +2.0**
SMDO P **P 21 11 53.0 +2.0**
SHAO Shalim 44.23 296 P **P 21 11 53.9 +1.9**
BIDO Bidbid 44.24 305 P **P 21 11 53.9 +1.9**
WMQ Urumqi 44.59 351 ⇑*i*P **P 21 11 56.3 +1.8**
WMQ pP pwP 21 12 05.8 -0.8
WMQ pmax pmax
comp=Z,30nm,1.3s
WMQ LR LR
comp=Z,140nm,19.5s
BSY Bisya 44.67 303 P **P 21 11 57.4 +1.9**
DMTO DMTO 44.74 296 P **P 21 11 57.6 +1.6**
HOQ Hoqain 44.94 305 P **P 21 11 57.8 +0.2**
HOQ P **P 21 11 57.8 +0.2**
TARG Taragay, Kyrgy 45.12 340 P **P 21 12 00.0 +0.8**
TARG IAmb IAmb 21 12 11.8
comp=Z,44nm,0.8s
TARG Taragay, Kyrgy 45.12 340 P **P 21 12 00.0 +0.8**
TARG pmax pmax
comp=Z,44nm,0.8s
DL2 Dalian 45.19 28 P **P 21 12 03.4 +4.1**
DL2 pmax pmax
comp=Z,62nm,0.8s
DL2 LR LR
comp=Z,520nm,16.8s
DL2 LR LR
comp=Z,430nm,19.9s
DL2 LR LR
comp=Z,320nm,17.5s
RBK Rabkut 45.34 295 P **P 21 12 02.8 +1.8**
ARQ Araqi 45.48 304 P **P 21 12 03.9 +1.9**
SNR=5.5
NRN Naryn 45.50 338 P **P 21 12 02.5 +0.3**
NRN IAmb IAmb 21 12 14.1
comp=Z,34nm,0.7s
NRN Naryn 45.50 338 P **P 21 12 02.5 +0.3**
NRN pmax pmax
comp=Z,34nm,0.7s
DRK Karamyk 45.60 333 P **P 21 12 03.1 +0.2**
DOK Doka 45.77 297 P **P 21 12 05.5 +1.3**
SNR=5.1
DOK P **P 21 12 05.5 +1.3**
SNR=5.1
SOHO SOHO 45.82 305 *i* P **P 21 12 06.4 +1.9**
SNR=7.0
SOHO SOHO 45.82 305 P **P 21 12 06.1 +1.6**
SOHO P **P 21 12 06.1 +1.6**
WHFO Wadi Hawf 45.86 295 P **P 21 12 06.1 +1.1**
SHLS Shalkode 45.87 342 *e*P **P 21 12 04.6 -0.2**
SHLS pmax pmax
comp=Z,19nm,0.7s
SHLS Shalkode 45.87 342 *e*P **P 21 12 04.6 -0.2**
comp=Z,19nm,0.7s,baz=343
GAR Garm 45.91 331 P **P 21 12 04.3 -1.0**
GAR IAmb IAmb 21 12 16.3
comp=Z,30nm,0.9s
UZB Uzynbulak 45.99 342 *e*P **P 21 12 06.3 +0.5**
UZB pmax pmax
comp=Z,23nm,0.5s
UZB Uzynbulak 45.99 342 *e*P **P 21 12 06.4 +0.5**
comp=Z,23nm,0.5s,baz=342
PDGK Podgornoye 46.02 343 *i* P **P 21 12 06.8 +0.8**
PDGK pmax pmax
comp=Z,33nm,0.7s
SATY Saty 46.11 341 *e*P **P 21 12 06.9 +0.2**
SATY pmax pmax
comp=Z,27nm,0.8s
SATY Saty 46.11 341 *e*P **P 21 12 07.0 +0.2**
comp=Z,27nm,0.8s,baz=342

ABTO Aybut 46.12 295 P **P** 21 12 08.2 +1.1
SNR=5.0
ABTO P **P** 21 12 08.2 +1.1
SNR=5.0
ZHN Zhinishke 46.20 342 *e*P **P** 21 12 07.7 +0.3
ZHN Zhinishke 46.20 342 *e*P **P** 21 12 07.7 +0.3
baz=342
CHGR Chuyangaron 46.21 330 P **P** 21 12 05.7 -1.9
CHGR pmax pmax
comp=Z,57nm,1.1s
JNU Nakatsue 46.24 41 P **P** 21 12 06.4 -1.4
JNU IAmb IAmb 21 12 13.5
comp=Z,40nm,1.0s
JNU Nakatsue 46.24 41 P **P** 21 12 08.5 +0.7
JNU Nakatsue 46.24 41 LR LR 21 33 18.2
comp=Z,204nm,18.3s,baz=226,slow=38
TJN Taejon 46.25 35 pP **P** 21 12 07.4 -0.3
TJN Taejon 46.25 35 P **P** 21 12 07.9 +0.1
TJN Taejon 46.25 35 *i* P **P** 21 12 06.5 -1.3
SIMJ Simiganj 46.29 330 P **P** 21 12 06.4 -1.9
SIMJ IAmb IAmb 21 12 26.0
comp=Z,42nm,1.2s
OOD Oodnadatta 46.37 130 P **P** 21 12 08.8 0.0
ALNE Al Ain 46.43 304 *i* P **P** 21 12 11.4 +2.1
SNR=31
ALNE Al Ain 46.43 304 P **P** 21 12 11.2 +1.8
SNR=8.2
MULG Mulgathing 46.43 134 P **P** 21 12 09.5 +0.2
UOSS Minazif 46.44 306 P **P** 21 12 10.9 +1.4
ASHO Ashiyiah 46.45 305 P **P** 21 12 11.4 +1.8
ASHO Ashiyiah 46.45 305 P **P** 21 12 11.3 +1.8
HATD Hatta, Dubai 46.45 305 P **P** 21 12 09.9 +0.4
HATD Hatta, Dubai 46.45 305 P **P** 21 12 11.4 +1.8
HATD P **P** 21 12 11.4 +1.8
BTK Batken 46.51 333 P **P** 21 12 09.9 0.0
BTK Batken 46.51 333 P **P** 21 12 09.9 0.0
BTK pmax pmax
comp=Z,131nm,1.8s
MDH Madha 46.52 306 P **P** 21 12 10.8 +0.7
ARSB Arslanbob 46.60 335 P **P** 21 12 10.7 +0.1
ARSB Arslanbob 46.60 335 P **P** 21 12 10.7 +0.1
ARSB pmax pmax
comp=Z,18nm,1.1s
MDOK Medeo 46.65 340 *e*P **P** 21 12 10.9 0.0
MDOK Medeo 46.65 340 *e*P **P** 21 12 10.9 0.0
baz=340
AAA Alma-Ata 46.73 340 *e*P **P** 21 12 11.6 +0.1
AAA pmax pmax
comp=Z,27nm,0.9s
AAA Alma-Ata 46.73 340 *e*P **P** 21 12 11.6 +0.1
comp=Z,27nm,0.9s,baz=340
UCH Uchtor 46.75 337 P **P** 21 12 13.3 +1.2
SNR=18
FAQ Al Faqa, Dubai 46.85 305 *i* P **P** 21 12 14.3 +1.6
SNR=8.5
FAQ Al Faqa, Dubai 46.85 305 P **P** 21 12 14.4 +1.6
FAQ P **P** 21 12 14.4 +1.6
NAZ Nazwa, Dubai 46.90 305 P **P** 21 12 14.9 +1.8
TKM2 Tokmak 2 46.94 339 P **P** 21 12 14.6 +1.3
SNR=10
TKM2 Tokmak 2 46.94 339 *i* P **P** 21 12 14.2 +0.9
TKM2 pmax pmax
comp=Z,41nm,1.1s
KBK Karagaybulak 46.95 338 P **P** 21 12 15.1 +1.7
SNR=12
ASUD Al Ashush, Dub 47.02 305 P **P** 21 12 16.1 +2.1
AAK Ala-Archa 47.10 338 P **P** 21 12 13.8 -0.7
SNR=7.0
AAK Ala-Archa 47.10 338 P **P** 21 12 14.7 +0.2
AAK IAmb IAmb 21 12 31.4
comp=Z,32nm,1.4s
AAK Ala-Archa 47.10 338 *ce*P **P** 21 12 14.6 0.0
AAK pmax pmax
comp=Z,29nm,1.7s
AAK Ala-Archa 47.10 338 *i* P **P** 21 12 15.8 +1.3
SNR=7.1
AAK Ala-Archa 47.10 338 LR LR 21 33 37.1
comp=Z,239nm,20.4s,baz=141,slow=38
AAK Ala-Archa 47.10 338 P **P** 21 12 16.0 +1.4
AAK P **P** 21 12 16.0 +1.4
HRA Herat 47.16 320 P **P** 21 12 15.2 0.0
FRU1 Bishkek 47.20 338 P **P** 21 12 15.5 +0.3
FRU1 IAmb IAmb 21 12 34.6
comp=Z,23nm,1.0s
FRU1 Bishkek 47.20 338 P **P** 21 12 15.5 +0.3
FRU1 pmax pmax
comp=Z,23nm,1.0s
XLT XiLinHaoTe 47.24 19 *e*P **P** 21 12 18.3 +2.8
XLT pP sP 21 12 22.0 -1.8
XLT sP pwP 21 12 26.6 -1.1
XLT PcP **PcP** **21 13 47.1 +0.5**
XLT pmax pmax
comp=Z,10.0nm,1.0s
XLT pmax pmax
comp=Z,120nm,4.2s
XLT LR LR
comp=Z,56nm,14.0s
XLT LR LR
comp=Z,500nm,14.5s
XLT LR LR
comp=Z,740nm,13.2s
CHKK Chushkaly 47.28 341 *e*P **P** 21 12 15.7 0.0
CHKK Chushkaly 47.28 341 *e*P **P** 21 12 15.8 0.0
baz=341
KSAR Wonju Array Be 47.30 34 P **P** 21 12 15.7 -0.3
KSAR Wonju Array Be 47.30 34 P **P** 21 12 15.7 -0.3
CHMS Chumysh 47.32 338 P **P** 21 12 16.6 +0.6
SNR=11
KSRS Korea Array 47.33 34 P **P** 21 12 16.1 0.0
comp=Z,9.5nm,0.8s,baz=221,slow=8.9,SNR=26
KSRS LR LR 21 34 04.6
comp=Z,234nm,18.4s,baz=225,slow=38
comp=Z,9.5nm,0.8s
KS19 Wonju Array Si 47.33 34 P **P** 21 12 15.9 -0.3
EKS2 Erkin-Say 47.40 337 P **P** 21 12 18.4 +1.5
SNR=16
KUU Kurty 47.53 340 *e*P **P** 21 12 17.5 -0.2
KUU pmax pmax
comp=Z,30nm,1.1s
KUU Kurty 47.53 340 *e*P **P** 21 12 17.6 -0.2
comp=Z,30nm,1.1s,baz=340
USP Ospenovka 47.64 338 P **P** 21 12 19.5 +0.9
SNR=35
SGDS Sogindy 47.75 338 *e*P **P** 21 12 19.1 -0.4
SGDS Sogindy 47.75 338 *e*P **P** 21 12 19.2 -0.4
baz=338
TDK Taldyqorghan 47.86 343 *e*P **P** 21 12 20.2 0.0
TDK pmax pmax
comp=Z,21nm,0.8s
TDK Taldyqorghan 47.86 343 *e*P **P** 21 12 20.3 0.0
comp=Z,21nm,0.8s,baz=343
MK31 Makanchi Array 48.50 347 P **P** 21 12 25.1 0.0
MK31 Makanchi Array 48.50 347 *i* P **P** 21 12 25.8 +0.7
MK31 pmax pmax
comp=Z,29nm,0.5s
MKAR Makanchi Array 48.50 347 P **P** 21 12 25.4 +0.3
MKAR Makanchi Array 48.50 347 P **P** 21 12 25.9 +0.7
comp=Z,50nm,0.5s,baz=157,slow=8.3,SNR=775
MKAR LR LR 21 38 33.4
comp=Z,98nm,18.5s,baz=174,slow=43
comp=Z,50nm,0.5s
IUG luzhnay 48.54 334 *e*P **P** 21 12 25.5 -0.1
IUG pmax pmax
comp=Z,21nm,0.9s
IUG luzhnay 48.54 334 *e*P **P** 21 12 25.6 -0.1
comp=Z,21nm,0.9s,baz=334
DZA Taraz 48.58 335 *e*P **P** 21 12 25.5 -0.3
DZA pmax pmax
comp=Z,20nm,0.7s
DZA Taraz 48.58 335 *e*P **P** 21 12 25.5 -0.3
comp=Z,20nm,0.7s,baz=335
MAKZ Makanchi 48.58 347 P **P** 21 12 25.5 -0.3
MAKZ IAmb IAmb 21 12 37.4
comp=Z,26nm,0.7s
MAKZ Makanchi 48.58 347 P **P** 21 12 25.5 -0.3
MAKZ pmax pmax
comp=Z,26nm,0.7s
ZSN Zaisan 48.59 349 *e*P **P** 21 12 26.5 +0.7
ZSN pmax pmax
comp=Z,24nm,1.1s
ZSN Zaisan 48.59 349 *e*P **P** 21 12 26.5 +0.7
comp=Z,24nm,1.1s,baz=349
JMN Monobe 48.59 42 P **P** 21 12 25.5 -0.7
JMN IAmb IAmb 21 12 33.0
comp=Z,30nm,0.8s

JMN Monobe 48.59 42 P **P** 21 12 27.4 +1.3
SONM Songino Array 48.62 9 P **P** 21 12 26.6 +0.4
SONM IAmb IAmb 21 12 38.5
comp=Z,43nm,1.0s
SONM Songino Array 48.62 9 P **P** 21 12 27.0 +0.9
comp=Z,36nm,1.0s,baz=192,slow=9.1,SNR=52
SONM PcP **PcP** **21 13 51.5 0.0**
comp=Z,5.8nm,0.9s,baz=190,slow=3.8,SNR=4.1
SONM LR LR 21 35 55.5
comp=Z,310nm,18.5s,baz=190,slow=40
comp=Z,36nm,1.0s
ULN Ulaanbaatar 48.75 9 P **P** 21 12 27.6 +0.3
ULN IAmb IAmb 21 12 38.9
comp=Z,36nm,1.1s
ULN Ulaanbaatar 48.75 9 *ce*P **P** 21 12 28.1 +0.8
ULN pmax pmax
comp=Z,28nm,1.0s
ULN Ulaanbaatar 48.75 9 P **P** 21 12 28.0 +0.8
GHWR Ruwais 48.79 303 P **P** 21 12 29.5 +1.8
GHWR P **P** 21 12 29.5 +1.8
KK31 Karatay Array 49.10 335 P **P** 21 12 28.8 -1.0
KK31 Karatay Array 49.10 335 P **P** 21 12 28.8 -1.0
KK31 pmax pmax
comp=Z,19nm,1.0s
KKAR Karatay Array 49.10 335 P **P** 21 12 29.9 +0.1
KKAR Karatay Array 49.10 335 P **P** 21 12 29.2 -0.6
KKAR IAmb IAmb 21 12 41.8
comp=Z,19nm,0.9s
KKAR Karatay Array 49.10 335 P **P** 21 12 29.9 +0.1
BBOO Buckleboo 49.24 135 P **P** 21 12 30.5 -0.6
BBOO IAmb IAmb 21 12 45.3
comp=Z,66nm,1.8s
BBOO Buckleboo 49.24 135 P **P** 21 12 32.8 +1.7
BRLS Borolday 49.34 334 *e*P **P** 21 12 30.2 -1.4
BRLS Borolday 49.34 334 *e*P **P** 21 12 30.3 -1.4
baz=334
BTLS Baital 49.34 339 *e*P **P** 21 12 31.4 -0.1
BTLS Baital 49.34 339 *e*P **P** 21 12 31.4 -0.1
baz=339
LCRK Leigh Creek 49.59 131 P **P** 21 12 34.3 +0.5
SLWR Sila 49.83 302 P **P** 21 12 37.3 +1.7
SLWR P **P** 21 12 37.3 +1.7
MTSU Mount Surprise 50.08 114 P **P** 21 12 37.9 +0.2
baz=50,SNR=4.4
INKA Innaminka 50.32 127 P **P** 21 12 41.0 +1.7
DGZ Jazzator, Alta 50.37 352 *i* P **P** 21 12 39.2 -0.3
DGZ pmax pmax
comp=Z,36nm,1.2s
TRNA Turayna 50.48 303 P **P** 21 12 42.0 +1.4
MANU Manus Island 50.73 92 P **P** 21 12 42.8 +0.1
ZAK Zakamensk 50.74 5 *e*P **P** 21 12 42.8 +0.5
ZAK pmax pmax
comp=Z,16nm,1.0s
SMRA Abu-Samra 50.81 303 P **P** 21 12 44.5 +1.4
CN2 Changchun 50.82 27 P **P** 21 12 43.2 +0.4
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 LR LR
comp=Z,400nm,14.0s
CN2 LR LR
comp=Z,600nm,14.0s
CN2 LR LR
comp=Z,900nm,15.0s
PMG Port Moresby 51.08 102 P **P** 21 12 43.7 -1.6
PMG IAmb IAmb 21 12 49.1
comp=Z,35nm,0.8s
PMG Port Moresby 51.08 102 P **P** 21 12 46.1 +0.8
PMG Port Moresby 51.08 102 P **P** 21 12 45.8 +0.5
PMG Port Moresby 51.08 102 *ce*P **P** 21 12 45.2 -0.1
PMG pmax pmax
comp=Z,46nm,1.0s
SAKB Bahrain 51.53 304 P **P** 21 12 48.6 +0.2
HTT Hallett 51.61 134 P **P** 21 12 49.1 +0.1
baz=52,SNR=11
HTT Hallett 51.61 134 P **P** 21 12 49.9 +0.9
MOY Mondy 51.84 3 *e*P **P** 21 12 51.2 +0.7
MOY pmax pmax
comp=Z,34nm,2.1s
GEYT Alibeck 51.97 321 P **P** 21 12 51.8 +0.2
GEYT Alibeck 51.97 321 P **P** 21 12 51.9 +0.2
comp=Z,7.2nm,0.6s,baz=139,slow=9.8,SNR=19
GEYT LR LR 21 37 16.6
comp=Z,132nm,19.0s,baz=153,slow=39
comp=Z,7.2nm,0.6s
GYA0 ALIBECK ARRAY 51.97 321 P **P** 21 12 51.9 +0.3
JGF Kuroka 52.01 42 P **P** 21 12 51.5 -0.5
JGF Kuroka 52.01 42 P **P** 21 12 51.8 -0.2
SEM Semipalatinsk 52.36 347 *e*P **P** 21 12 54.1 -0.4
SEM pmax pmax
comp=Z,18nm,0.8s
SEM Semipalatinsk 52.36 347 *e*P **P** 21 12 54.1 -0.4
comp=Z,18nm,0.8s,baz=347
CTA Charters Tower 52.37 115 P **P** 21 12 56.2 +1.3
CTA Charters Tower 52.37 115 P **P** 21 12 54.7 -0.2
comp=Z,23nm,0.9s,baz=272,slow=8.3,SNR=7.3
comp=Z,23nm,0.9s
CTAO Charters Tower 52.37 115 P **P** 21 12 53.8 -1.0
CTAO IAmb IAmb 21 12 59.0
comp=Z,29nm,1.0s
CTAO Charters Tower 52.37 115 P **P** 21 12 56.0 +1.1
CTAO Charters Tower 52.37 115 P **P** 21 12 53.8 -1.0
CTAO pmax pmax
comp=Z,29nm,1.0s
IRK Irkutsk 52.68 6 *e*P **P** 21 12 57.3 +0.7
IRK pmax pmax
comp=Z,49nm,2.6s
OTUK Ortayu 52.69 340 *i* P **P** 21 12 57.2 +0.4
OTUK pmax pmax
comp=Z,36nm,0.6s
QLP Quilpie 52.71 124 P **P** 21 12 56.9 -0.3
baz=53,SNR=3.2
QLP Quilpie 52.71 124 P **P** 21 12 58.1 +0.8
STKA Stephens Creek 52.82 131 P **P** 21 12 58.0 0.0
baz=53,SNR=30
STKA Stephens Creek 52.82 131 P **P** 21 12 57.4 -0.6
STKA Stephens Creek 52.82 131 P **P** 21 12 59.0 +1.0
STKA Stephens Creek 52.82 131 *i* P **P** 21 12 56.3 -1.7
STKA Stephens Creek 52.82 131 P **P** 21 12 58.0 0.0
comp=Z,17nm,0.6s,baz=307,slow=6.7,SNR=43
comp=Z,17nm,0.6s
KURBB Kurchatov Arra 52.97 346 P **P** 21 12 59.1 +0.4
comp=Z,9.5nm,0.6s,baz=168,slow=6.7,SNR=86
KURBB LR LR 21 37 36.7
comp=Z,166nm,21.9s,baz=178,slow=38
comp=Z,9.5nm,0.6s
KURK Kurchatov 53.03 346 P **P** 21 12 59.2 0.0
KURK IAmb IAmb 21 13 18.0
comp=Z,33nm,1.0s
KURK Kurchatov 53.03 346 *ce*P **P** 21 12 59.5 +0.3
KURK pmax pmax
comp=Z,29nm,1.3s
KURK Kurchatov 53.03 346 P **P** 21 12 59.5 +0.3
MAJO Matsushiro 53.11 42 P **P** 21 13 01.6 +1.5
MAJO Matsushiro 53.11 42 *i* P **P** 21 13 01.1 +1.0
MAJO pmax pmax
comp=Z,17nm,1.1s
MJAR Matsushiro Arr 53.11 42 P **P** 21 13 00.8 +0.8
comp=Z,9.4nm,1.0s,baz=221,slow=6.7,SNR=14
MJAR LR LR 21 39 14.7
comp=Z,91nm,18.7s,baz=202,slow=40
comp=Z,9.4nm,1.0s
HIA Hailar 53.16 19 P **P** 21 13 00.8 +0.6
HIA Hailar 53.16 19 P **P** 21 13 01.8 +1.6
HIA Hailar 53.16 19 *i* P **P** 21 13 01.1 +0.9
HIA pmax pmax
comp=Z,25nm,1.1s
MDJ Mudanjiang 53.38 29 P P 21 13 09.8 +8.0
MDJ pmax pmax
comp=Z,21nm,1.2s
MDJ pmax pmax
comp=Z,410nm,5.3s
MDJ Mudanjiang 53.38 29 P **P** 21 13 01.4 -0.4
MDJ Mudanjiang 53.38 29 P **P** 21 13 03.4 +1.6
BRZS Berezniki 54.07 341 *e*P **P** 21 13 06.6 -0.2
BRZS Berezniki 54.07 341 *e*P **P** 21 13 06.7 -0.2
baz=341
USA0B Ussuriysk Arra 54.27 31 P **P** 21 13 08.7 +0.3
USA0B IAmb IAmb 21 13 14.2
comp=Z,36nm,0.9s
USA0B Ussuriysk Arra 54.27 31 *i* P **P** 21 13 07.2 -1.2
USRK Ussuriysk Ar. 54.27 31 P **P** 21 13 08.6 +0.2
USRK Ussuriysk Ar. 54.27 31 P **P** 21 13 08.8 +0.5
comp=Z,32nm,0.9s,baz=230,slow=4.3,SNR=14
USRK LR LR 21 39 10.9
comp=Z,291nm,18.0s,baz=219,slow=39

comp=Z,32nm,0.9s
ATD Arta Tunnel 54.70 284 P **P** 21 13 11.8 -0.3
ATD IAmb IAmb 21 13 14.8
comp=Z,51nm,1.3s
ZAA0 Zalesovo Array 54.88 351 P **P** 21 13 12.8 +0.1
ZALV Zalesovo Beam 54.88 351 P **P** 21 13 13.1 +0.5
comp=Z,80nm,0.5s,baz=176,slow=7.1,SNR=535
ZALV LR LR 21 41 47.9
comp=Z,115nm,18.1s,baz=176,slow=42
comp=Z,80nm,0.5s
RAYN Ar Rayn 54.96 299 P **P** 21 13 14.4 +0.6
RAYN Ar Rayn 54.96 299 P **P** 21 13 14.4 +0.6
RAYN pmax pmax
comp=Z,15nm,0.9s
RAYN Ar Rayn 54.96 299 *i* P **P** 21 13 14.6 +0.7
SNR=21
RAYN Ar Rayn 54.96 299 P **P** 21 13 14.3 +0.4
ARPS Mount Arapiles 55.36 136 P **P** 21 13 17.8 +1.3
baz=55,SNR=5.9
CMSA Cobar Meteorol 55.81 129 P **P** 21 13 20.2 +0.4
baz=56,SNR=31
CMSA Cobar Meteorol 55.81 129 P **P** 21 13 20.8 +1.0
HEH HeiHe 56.73 23 *e*P **P** 21 13 26.2 +0.2
HEH pmax pmax
comp=Z,9.0nm,1.0s
HEH pmax pmax
comp=Z,310nm,5.2s
AULRC Lightning Ridg 56.83 126 P **P** 21 13 29.2 +2.1
BRAT Ballarat 57.20 136 P **P** 21 13 30.9 +1.4
BVAR Borovoye Array 57.42 342 P **P** 21 13 30.2 -0.7
comp=Z,17nm,0.5s,baz=145,slow=9.0,SNR=69
BVAR LR LR 21 40 25.0
comp=Z,144nm,19.8s,baz=131,slow=38
comp=Z,17nm,0.5s
BRVK Borovoye 57.48 341 P **P** 21 13 30.8 -0.4
BRVK IAmb IAmb 21 13 48.1
comp=Z,17nm,0.8s
BRVK Borovoye 57.48 341 *i* P **P** 21 13 29.1 -2.2
BRVK pmax pmax
comp=Z,12nm,0.6s
BRVK Borovoye 57.48 341 P **P** 21 13 30.9 -0.4
BRVK P **P** 21 13 30.9 -0.4
KLR Kul'dur 57.77 26 *ce*P **P** 21 13 34.4 +1.0
KLR pmax pmax
comp=Z,18nm,1.0s
KLR Kul'dur 57.77 26 P **P** 21 13 34.0 +0.7
comp=Z,12nm,0.9s,baz=243,slow=6.5,SNR=16
KLR LR LR 21 40 15.5
comp=Z,260nm,18.4s,baz=210,slow=38
comp=Z,12nm,0.9s
EIDS Eidsvold 58.13 120 P **P** 21 13 36.5 +0.2
baz=58,SNR=11
EIDS Eidsvold 58.13 120 P **P** 21 13 36.5 +0.2
EIDS IAmb IAmb 21 13 37.4
comp=Z,21nm,0.8s
EIDS Eidsvold 58.13 120 P **P** 21 13 36.5 +0.2
TOO Toolangi 58.30 135 P **P** 21 13 38.7 +1.4
baz=58,SNR=5.5
TOO Toolangi 58.30 135 P **P** 21 13 37.8 +0.4
TOO Toolangi 58.30 135 P **P** 21 13 39.1 +1.7
TOO Toolangi 58.30 135 P **P** 21 13 37.8 +0.4
TOO pmax pmax
comp=Z,13nm,1.0s
AUDCS Dubbo College 58.38 128 P **P** 21 13 38.8 +0.8
FURI Furi 58.44 281 P **P** 21 13 40.5 +1.5
LKRN Lenkeran, Azer 58.52 317 P **P** 21 13 40.7 +1.9
AB31 Akbulak array 58.52 333 ⇑ *e*P **P** 21 13 37.2 -1.4
AB31 pmax pmax
comp=Z,20nm,0.6s
ABKAR Akbulak array 58.52 333 P **P** 21 13 37.8 -0.8
ABKAR Akbulak array 58.52 333 IAmb IAmb 21 13 39.0
comp=Z,27nm,0.7s
KIBK Kibwezi 58.63 267 P **P** 21 13 41.0 +0.9
KIBK IAmb IAmb 21 13 42.2
comp=Z,18nm,1.0s
KIBK Kibwezi 58.63 267 P **P** 21 13 41.1 +0.9
YNG Young 59.01 131 P **P** 21 13 43.0 +0.6
baz=59,SNR=17
YNG Young 59.01 131 P **P** 21 13 43.1 +0.8
ZEA Zeya 59.46 21 *e*P **P** 21 13 45.4 +0.4
ZEA pmax pmax
comp=Z,10.0nm,0.8s
BOD Bodaibo 59.51 11 *e*P **P** 21 13 45.2 -0.1
BOD pmax pmax
comp=Z,36nm,1.2s
AUPHS Peel High Scho 59.77 126 P **P** 21 13 48.9 +1.2
CAN Canberra 59.87 132 P **P** 21 13 47.9 -0.4
CAN Canberra 59.87 132 P **P** 21 13 49.1 +0.8
CAN Canberra 59.87 132 P **P** 21 13 47.9 -0.4
CAN pmax pmax
comp=Z,104nm,1.7s
ARMA Armidale 60.14 125 P **P** 21 13 51.7 +1.3
baz=60,SNR=5.6
ARMA Armidale 60.14 125 P **P** 21 13 50.7 +0.4
ARMA IAmb IAmb 21 13 56.1
comp=Z,28nm,0.9s
ARMA Armidale 60.14 125 P **P** 21 13 51.8 +1.5
CNB Canberra Magne 60.14 131 P **P** 21 13 50.3 +0.1
AKTO Aktyubinsk 60.24 333 *i* P **P** 21 13 48.6 -1.9
AKTO pmax pmax
comp=Z,4.0nm,0.6s
H04N2 CROZET ISLANDS 60.29 214 T T 22 20 52.3
baz=54,slow=75,SNR=16
H04N1 CROZET ISLANDS 60.30 214 T T 22 20 48.7
baz=54,slow=75,SNR=14
H04N3 CROZET ISLANDS 60.31 214 T T 22 20 45.9
baz=54,slow=75,SNR=92
H04S1 CROZET ISLANDS 60.62 214 T T 22 21 03.0
baz=53,slow=75,SNR=9.4
H04S3 CROZET ISLANDS 60.64 214 T T 22 21 07.4
baz=53,slow=75,SNR=14
H04S2 CROZET ISLANDS 60.64 214 T T 22 21 12.4
baz=53,slow=75,SNR=10.0
MNGR Mingechevir, A 60.67 318 P **P** 21 13 55.5 +1.9
SEKA Sheki 60.81 319 P **P** 21 13 56.0 +1.4
NAX Nakhchivan 60.99 316 P **P** 21 13 57.7 +1.8
GANJ Ganja 61.11 318 P **P** 21 13 58.1 +1.8
LODK Lodwar 61.37 274 P **P** 21 13 58.7 -0.2
LODK Lodwar 61.37 274 P **P** 21 14 00.8 +1.8
SNR=6.2
ZKTA Zakatala 61.39 319 P **P** 21 14 00.4 +1.9
GLAD Gladstone 61.61 138 P **P** 21 14 01.9 +1.9
comp=Z,27nm,1.0s
YSS Yuzh-Sakhalins 61.83 34 P **P** 21 14 00.7 -0.6
YSS Yuzh-Sakhalins 61.83 34 P **P** 21 14 03.9 +2.6
YSS Yuzh-Sakhalins 61.83 34 *e*P **P** 21 14 04.7 +3.4
YSS pmax pmax
comp=Z,50nm,0.9s
GNI Garni 61.95 317 P **P** 21 14 03.1 +0.6
GNI IAmb IAmb 21 14 36.5
comp=Z,27nm,0.9s
GNI Garni 61.95 317 *ce*P **P** 21 14 03.5 +1.0
GNI pmax pmax
comp=Z,39nm,1.3s
GNI Garni 61.95 317 P **P** 21 14 03.0 +0.5
GNI Garni 61.95 317 P **P** 21 14 03.0 +0.5
GNI P **P** 21 14 03.0 +0.5
GROC Groznyy 62.69 320 *e*P **P** 21 14 07.0 -0.2
GROC *e* 21 14 45.3
TRLG Trialeti 63.02 318 P **P** 21 14 09.8 +0.2
GURO Guroymak-BITLI 63.16 314 P **P** 21 14 10.9 +0.3
GURO IAmb IAmb 21 14 23.0
comp=Z,19nm,0.9s
HNR Honiara 63.63 100 P **P** 21 14 14.4 +0.4
HNR Honiara 63.63 100 P **P** 21 14 13.7 -0.2
comp=Z,1μm,0.7s,baz=188,slow=5.5,SNR=6.5
HNR LR LR 21 43 08.8
comp=Z,5μm,19.6s,baz=271,slow=37
SVE Sverdlovsk 63.82 339 *ce*P **P** 21 14 14.1 -0.2
SVE pmax pmax
comp=Z,37nm,0.8s
ONI Oni 63.92 319 IAmb IAmb 21 14 29.9
comp=Z,14nm,1.0s
TYV Tymovskoe 64.08 30 *e*P **P** 21 14 19.0 +2.8
TYV pmax pmax
comp=Z,7.0nm,1.5s
TYV pmax pmax
comp=Z,200nm,4.0s
NCK Nalchik 64.24 320 *i* P **P** 21 14 17.2 -0.3
NCK pmax pmax
comp=Z,29nm,0.8s
ARU Arti 64.29 338 P **P** 21 14 16.7 -0.8
ARU Arti 64.29 338 *d* P **P** 21 14 16.6 -0.8
ARU 21 14 49.1
ARU 21 16 34.1

ARU S **S** **21 22 52.6 -1.2**
ARU SS **SS** **21 26 59.8 -4.0**
ARU pmax pmax
comp=Z,48nm,1.5s
ARU **Arti** **64.29 338** LR LR 21 45 48.7
comp=Z,103nm,18.2s,baz=136,slow=39
BCA **Borcka** **64.65 317** ⇑P **P** **21 14 18.6 -1.6**
KBZ **Khabaz** **64.80 320** P **P** **21 14 21.3 +0.2**
comp=Z,18nm,0.7s,baz=124,slow=5.5,SNR=84
comp=Z,18nm,0.7s
KIV **Kislovodsk** **65.04 320** ⇑P **P** **21 14 22.0 -0.8**
KIV **Kislovodsk** **65.04 320** P **P** **21 14 22.9 +0.1**
KIV **Kislovodsk** **65.04 320** *e*P **P** **21 14 22.8 +0.1**
KIV *e*S **S** **21 23 03.0 -0.8**
KIV pmax pmax
comp=Z,29nm,1.0s
KIV MLR MLR
comp=Z,56nm,17.0s
KIV **Kislovodsk** **65.04 320** *i* P **P** **21 14 22.9 +0.1**
SNR=12
KIV **Kislovodsk** **65.04 320** P **P** **21 14 22.8 +0.1**
GHAJ **Ghor Haditha** **65.69 305** P **P** **21 14 27.1 +0.1**
GHAJ IAmb IAmb 21 14 29.1
comp=Z,25nm,1.1s
BALJ **Balqa** **65.85 306** P **P** **21 14 27.7 -0.4**
BALJ IAmb IAmb 21 14 30.4
comp=Z,56nm,1.7s
MBAR **Mbarara** **65.92 269** P **P** **21 14 29.7 +0.6**
MBAR IAmb IAmb 21 14 31.4
comp=Z,29nm,1.2s
MBAR **Mbarara** **65.92 269** *i* P **P** **21 14 29.9 +0.8**
MBAR pmax pmax
comp=Z,31nm,1.4s
MBAR **Mbarara** **65.92 269** P **P** **21 14 30.1 +1.0**
MBAR P **P** **21 14 30.1 +1.0**
ARPR **Arapgir-MALATY** **66.04 314** P **P** **21 14 28.9 -0.5**
ARPR IAmb IAmb 21 14 41.3
comp=Z,25nm,0.8s
GAZ **Gaziantep** **66.19 311** P **P** **21 14 31.0 +0.7**
MMAI **Mount Meron Ar** **66.30 306** P **P** **21 14 32.6 +1.5**
comp=Z,12nm,0.6s,baz=99,slow=8.8,SNR=48
comp=Z,12nm,0.6s
BELG **Belogornoye** **66.51 330** *i* P **P** **21 14 29.7 -2.2**
BELG pmax pmax
comp=Z,7.0nm,0.7s
CASY **Casey** **66.64 174** P **P** **21 14 33.2 +0.7**
CASY IAmb IAmb 21 14 34.0
comp=Z,31nm,1.1s
SOC **Sochi** **66.82 319** *e*P **P** **21 14 32.0 -2.1**
SOC *e* 21 17 02.4
SOC *e*PPP PPP 21 18 33.9
SOC *e*S **S** **21 23 22.4 -2.9**
SOC *e*SS **SS** **21 27 40.6 -3.1**
SOC pmax pmax
comp=Z,46nm,0.7s
YAK **Yakutsk** **66.94 16** P **P** **21 14 34.0 -0.4**
YAK **Yakutsk** **66.94 16** *e*P **P** **21 14 33.3 -1.1**
YAK *e**PP **sP** **21 14 42.8 -0.1**
YAK *e* 21 15 04.7
YAK *e* 21 17 00.4
YAK *e*PPP PPP 21 18 39.5
YAK *e*S **S** **21 23 27.7 +1.7**
YAK *e**SS sS 21 23 47.4 +11
YAK *e* 21 24 30.7
YAK *e*SS **SS** **21 27 46.3 +1.5**
YAK pmax pmax
comp=Z,31nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.3s
YAK pmax pmax
comp=Z,395nm,4.9s
YAK pmax pmax
comp=N,167nm,5.1s
YAK pmax pmax
comp=E,224nm,5.1s
YAK smax smax
comp=E,263nm,5.3s
YAK smax smax
comp=N,243nm,4.5s
YAK MLR MLR
comp=Z,295nm,17.0s
YAK MLR MLR
comp=N,181nm,19.0s
YAK MLR MLR
comp=E,123nm,16.0s
YAK **Yakutsk** **66.94 16** P **P** **21 14 33.6 -0.8**
comp=E,31nm,0.7s,baz=309,slow=1.3,SNR=14
YAK LR LR 21 45 11.1
comp=E,200nm,21.1s,baz=215,slow=37
comp=E,31nm,0.7s
ERBR **Yeremizino-Bor** **67.22 321** *e*P **P** **21 14 36.3 -0.3**
ERBR pmax pmax
comp=Z,57nm,0.6s
CSS **Mathiatis** **68.51 308** P **P** **21 14 45.2 +0.3**
VRH **Novokhopyorsk** **69.00 327** *e*P **P** **21 14 46.6 -1.1**
VRH pmax pmax
comp=Z,35nm,0.8s
KOUNC **Koumac, New Ca** **69.02 112** P **P** **21 14 47.8 -0.6**
KOUNC IAmb IAmb 21 14 53.3
comp=Z,23nm,1.1s
KOUNC **Koumac, New Ca** **69.02 112** P **P** **21 14 49.3 +0.9**
LSZ **Lusaka** **69.19 254** **P** **21 14 49.9 +0.2**
LSZ IAmb IAmb 21 14 51.2
comp=Z,44nm,1.8s
LSZ **Lusaka** **69.19 254** P **P** **21 14 49.9 +0.2**
LSZ pmax pmax
comp=Z,44nm,1.8s
LSZ **Lusaka** **69.19 254** P **P** **21 14 49.7 +0.1**
LSZ P **P** **21 14 49.7 +0.1**
KIRV **Kirov** **69.38 336** *ce*P **P** **21 14 49.8 0.0**
BR131 **Keskin Array S** **69.67 313** P **P** **21 14 51.4 -0.8**
BR131 IAmb IAmb 21 14 52.0
comp=Z,12nm,0.7s
BR131 **Keskin Array S** **69.67 313** *i* P **P** **21 14 50.4 -1.9**
BRTR **Keskin Array B** **69.67 313** P **P** **21 14 51.7 -0.6**
BRTR **Keskin Array B** **69.67 313** P **P** **21 14 51.7 -0.6**
BRTR **Keskin Array B** **69.67 313** P **P** **21 14 51.5 -0.8**
comp=Z,8.8nm,0.7s,baz=137,slow=6.6,SNR=61
comp=Z,8.8nm,0.7s
VORD **Divnogorie** **70.25 326** *e*P **P** **21 14 53.4 -2.0**
VORD *e**PP **sP** **21 15 03.7 -0.2**
VORD pmax pmax
comp=Z,20nm,0.8s
ANTO **Ankara** **70.34 313** **P** **21 14 55.5 -0.7**
ANTO IAmb IAmb 21 14 56.9
comp=Z,53nm,1.6s
ANTO **Ankara** **70.34 313** P **P** **21 14 55.6 -0.7**
ANTO pmax pmax
comp=Z,53nm,1.6s
BR231 **Keskin MP Arra** **70.34 313** P **P** **21 14 55.7 -0.6**
BR231 IAmb IAmb 21 14 56.9
comp=Z,17nm,0.9s
VSR **Storozhevoye** **70.44 326** *e*P **P** **21 14 54.3 -2.2**
VSR *e**PP **sP** **21 15 04.3 -0.7**
VSR pmax pmax
comp=Z,30nm,0.6s
VORR **Voronezh** **70.62 326** P P 21 14 52.4 -5.2
VORR pmax pmax
comp=Z,47nm,0.8s
SIM **Simferopol'** **71.06 318** *e*P **P** **21 14 59.7 -0.7**
SIM *e* 21 17 41.2
SIM pmax pmax
comp=Z,79nm,0.9s
SIM MLR MLR
comp=Z,36nm,15.9s
LPSR **Galich'ya Gora** **71.19 327** *e*P **P** **21 14 59.8 -1.2**
LPSR *e**PP **sP** **21 15 09.6 0.0**
LPSR pmax pmax
comp=Z,50nm,0.8s
DZM **Mont Dzumac** **71.22 113** P **P** **21 15 01.3 -0.7**
DZM IAmb IAmb 21 15 03.3
comp=Z,46nm,1.7s
DZM **Mont Dzumac** **71.22 113** P **P** **21 15 03.2 +1.2**
OUENC **Ouen Island, N** **71.63 113** P **P** **21 15 03.6 -0.7**
ELL **Elmali** **71.66 309** P **P** **21 15 04.0 -0.4**
ELL **Elmali** **71.66 309** P **P** **21 15 04.0 -0.4**
ELL pmax pmax
comp=Z,114nm,0.8s
LBTB **Lobatse** **72.77 244** P **P** **21 15 11.1 -0.2**
LBTB IAmb IAmb 21 15 12.6
comp=Z,22nm,1.1s
LBTB **Lobatse** **72.77 244** P **P** **21 15 11.1 -0.2**
LBTB pmax pmax
comp=Z,22nm,1.1s
MA2 **Magadan** **72.85 26** P **P** **21 15 10.5 -0.4**
comp=Z,4.4nm,0.7s,baz=249,slow=7.4,SNR=5.2
comp=Z,4.4nm,0.7s
PETK **Petropavlovsk-** **73.22 33** P **P** **21 15 14.3 +1.1**
comp=Z,6.1nm,0.9s,baz=250,slow=4.2,SNR=3.1
comp=Z,6.1nm,0.9s
MOS **Moscow** **73.28 330** *e*P **P** **21 15 11.7 -1.8**
MOS *e* 21 15 22.3
MOS pmax pmax
comp=Z,100nm,0.7s
MOS pmax pmax
comp=Z,63nm,0.5s
KARP **Karpathos** **73.54 307** P **P** **21 15 14.8 -0.7**
OBN **Obninsk** **73.55 329** P **P** **21 15 14.8 -0.2**
OBN **Obninsk** **73.55 329** ⇓*e*P **P** **21 15 14.7 -0.3**
OBN *e**PP **pwP** **21 15 25.2 -2.2**
OBN *e* 21 15 30.4
OBN *e*PPP PPP 21 19 42.1
OBN pmax pmax
comp=Z,68nm,1.3s
OBN MLR MLR
comp=Z,126nm,18.0s
BOSA **Boshof** **73.60 240** P **P** **21 15 15.4 -0.7**
comp=Z,4.4nm,0.5s,baz=97,slow=3.4,SNR=13
comp=Z,4.4nm,0.5s
PET **Petropavlovsk** **73.72 34** ⇑P **P** **21 15 16.2 +0.1**
PURM **Purcari** **74.38 319** ⇑P **P** **21 15 19.8 -0.4**
TIXI **Tiksi** **74.68 10** P **P** **21 15 20.5 -0.9**
TIXI **Tiksi** **74.68 10** *ce*P **P** **21 15 20.3 -1.1**
TIXI pmax pmax
comp=Z,24nm,1.3s
TIXI **Tiksi** **74.68 10** LR LR 21 50 21.4
comp=Z,164nm,19.3s,baz=228,slow=38
TIRR **Tirgusor** **74.78 316** ⇑P **P** **21 15 21.1 -1.3**
TIRR **Tirgusor** **74.78 316** ⇑P **P** **21 15 21.1 -1.3**
KLMR **Klimovskoe** **74.81 335** *e*P **P** **21 15 19.1 -3.2**
KLMR pmax pmax
comp=Z,22nm,0.8s
TLBR **Topalu** **75.05 316** ⇑P **P** **21 15 22.8 -1.3**
ICOR **Ion Corvin** **75.11 316** ⇓P **P** **21 15 24.4 +0.1**
CFR **Carcaliu** **75.16 317** ⇑P **P** **21 15 24.5 -0.2**
CFR **Carcaliu** **75.16 317** ⇑P **P** **21 15 24.5 -0.2**
HARR **Harsova** **75.17 317** ⇓P **P** **21 15 24.6 -0.1**
HARR **Harsova** **75.17 317** ⇓P **P** **21 15 24.6 -0.1**
MILM **Milestii Mici** **75.19 319** ⇑*i*P **P** **21 15 24.0 -0.8**
comp=Z,20nm,0.5s
MILM **Milestii Mici** **75.19 319** ⇑P **P** **21 15 24.5 -0.3**
MILM **Milestii Mici** **75.19 319** ⇑P **P** **21 15 24.5 -0.3**
SEY **Seymchan** **75.28 23** *ce*P **P** **21 15 25.0 0.0**
SEY pmax pmax
comp=Z,15nm,1.3s
SEY **Seymchan** **75.28 23** P **P** **21 15 24.9 -0.1**
comp=Z,6.4nm,0.7s,baz=241,slow=7.2,SNR=26
comp=Z,6.4nm,0.7s
LEOM **Leova** **75.44 318** ⇑P **P** **21 15 26.2 0.0**
LEOM **Leova** **75.44 318** ⇑P **P** **21 15 26.2 0.0**
SORM **Soroca** **75.84 320** ⇑P **P** **21 15 27.7 -0.8**
SORM **Soroca** **75.84 320** ⇑P **P** **21 15 27.7 -0.8**
RAZG **Razgrad** **75.87 315** ⇑P **P** **21 15 28.2 -0.7**
GHRR **75.89 318** ⇑P **P** **21 15 28.5 -0.4**
AKASG **Malin Array Be** **76.06 323** P **P** **21 15 28.8 -0.9**
AKASG **Malin Array Be** **76.06 323** *i* P **P** **21 15 28.7 -0.9**
AKASG pmax pmax
comp=Z,18nm,0.6s
AKASG **Malin Array Be** **76.06 323** P **P** **21 15 28.8 -0.9**
comp=Z,8.1nm,0.6s,baz=90,slow=4.9,SNR=80
comp=Z,8.1nm,0.6s
AKBB **Malin Array Si** **76.06 323** IAmb IAmb 21 15 29.3
comp=Z,22nm,0.7s
AKBB **Malin Array Si** **76.06 323** *ce*P **P** **21 15 28.3 -1.4**
AKBB pmax pmax
comp=Z,24nm,0.7s
KIEV **Kiev** **76.07 323** ⇓P **P** **21 15 29.2 -0.5**
KIEV **Kiev** **76.07 323** P **P** **21 15 29.0 -0.7**
KIEV IAmb IAmb 21 15 29.3
comp=Z,20nm,0.7s
KIEV **Kiev** **76.07 323** ⇓P **P** **21 15 29.2 -0.5**
KIEV **Kiev** **76.07 323** *i* P **P** **21 15 28.9 -0.8**
SNR=14
ELND **Elena** **76.17 314** ⇑P **P** **21 15 29.3 -1.2**
VRI **Vrincioaia** **76.30 318** ⇑P **P** **21 15 30.8 -0.4**
VRI **Vrincioaia** **76.30 318** ⇑P **P** **21 15 30.8 -0.4**
PLOR **Plostina** **76.34 317** ⇑P **P** **21 15 31.8 +0.3**
PLOR **Plostina** **76.34 317** ⇑P **P** **21 15 31.8 +0.3**
NEHR **Nehoiu** **76.48 317** ⇑P **P** **21 15 31.7 -0.6**
TESR **Tescani** **76.51 318** ⇑P **P** **21 15 32.1 -0.3**
MLR **Muntele Rosu** **76.73 317** ⇑P **P** **21 15 34.3 +0.4**
MLR **Muntele Rosu** **76.73 317** P **P** **21 15 33.4 -0.4**
MLR **Muntele Rosu** **76.73 317** ⇑P **P** **21 15 34.3 +0.4**
TURR **Turia** **76.82 318** ⇑P **P** **21 15 33.9 -0.3**
COPA **Copaceanca** **76.92 316** ⇑P **P** **21 15 34.7 0.0**
DRBR **Darabani** **76.98 320** ⇑P **P** **21 15 34.6 -0.4**
PRAR **RASCA** **77.01 319** ⇑P **P** **21 15 35.3 +0.1**
PLVB **Pleven** **77.17 315** ⇑P **P** **21 15 35.7 -0.4**
HUMR **Humele** **77.17 316** ⇑P **P** **21 15 36.0 -0.2**
DOPR **Dopca** **77.23 317** ⇑P **P** **21 15 36.5 0.0**
MTUR **Matau** **77.27 317** ⇑P **P** **21 15 35.8 -1.0**
MTUR **Matau** **77.27 317** ⇑P **P** **21 15 35.8 -1.0**
VOIR **77.33 317** ⇑P **P** **21 15 36.1 -1.0**
VOIR **77.33 317** ⇑P **P** **21 15 36.1 -1.0**
HORU **Horodok** **77.36 321** P **P** **21 15 36.4 -0.7**
BURAR **Bucovina Array** **77.74 319** ⇑P **P** **21 15 39.4 0.0**
BURAR **Bucovina Array** **77.74 319** P **P** **21 15 39.8 +0.4**
BURAR IAmb IAmb 21 15 40.9
comp=Z,20nm,0.7s
BURAR **Bucovina Array** **77.74 319** ⇑P **P** **21 15 39.4 0.0**
BUR08 **Bucovina Ar. S** **77.76 319** IAmb IAmb 21 15 40.7
comp=Z,15nm,0.7s
MNK **Minsk** **78.00 326** *i* P **P** **21 15 40.2 -0.4**
MNK *i* 21 15 50.3
MNK *i* 21 18 36.1
MNK *i* PPP PPP 21 20 25.1
MNK *i* S **S** **21 25 34.7 +1.9**
MNK *i* SS **SS** **21 30 36.8 +2.6**
MNK pmax pmax
comp=Z,36nm,0.9s
MNK pmax pmax
comp=E,10.0nm,1.0s
MNK pmax pmax
comp=N,13nm,1.1s
MNK MLR MLR
comp=Z,84nm,14.0s
MNK MLR MLR
comp=E,75nm,16.0s
MNK MLR MLR
comp=N,135nm,15.0s
LIT **Litokhoron** **78.07 311** IAmb IAmb 21 15 40.5
comp=Z,14nm,0.7s
PUL **Pulkovo** **78.49 332** *ce*P **P** **21 15 43.7 +0.6**
PUL pmax pmax
comp=Z,41nm,0.6s
PUNG **Punghina** **78.55 315** ⇑P **P** **21 15 43.6 -0.2**
CJR **Cluj-Napoca** **78.61 318** ⇑P **P** **21 15 41.7 -2.5**
CJR **Cluj-Napoca** **78.61 318** ⇑P **P** **21 15 41.7 -2.5**
INZ **Inchbonnie** **78.69 134** P **P** **21 15 44.4 -0.3**
INZ IAmb IAmb 21 15 45.0
comp=Z,28nm,0.9s
VALR **Valaam** **78.80 333** *i* P **P** **21 15 42.7 -2.1**
VALR pmax pmax
comp=Z,32nm,0.6s
BMR **Baia Mare** **78.88 319** ⇑P **P** **21 15 45.2 -0.4**
BMR **Baia Mare** **78.88 319** ⇑P **P** **21 15 45.2 -0.4**
GZR **Gura Zlata** **78.89 316** ⇑P **P** **21 15 46.3 +0.6**
DEV **Deva** **78.90 317** ⇓P **P** **21 15 46.0 +0.3**
DEV **Deva** **78.90 317** ⇓P **P** **21 15 46.0 +0.3**
MARR **Marisel-Cluj** **78.92 318** ⇑P **P** **21 15 46.6 +0.7**
HERR **Herculane** **79.03 316** ⇑P **P** **21 15 45.6 -0.9**
MESR **Meseseni** **79.13 318** ⇑P **P** **21 15 46.8 -0.2**
OUZ **Omahuta** **79.20 126** P **P** **21 15 49.4 +1.8**
ISAL **Salakas** **79.28 327** *e*P **P** **21 15 47.3 -0.2**
LTZ **Lake Taylor** **79.30 133** P P 21 15 54.9 +6.8
TRSU **Trosnyk** **79.33 319** P **P** **21 15 49.1 +1.1**
RACZ **Rakaia** **79.37 134** P P 21 16 02.1 +14
SURR **Surduc** **79.41 317** ⇑P **P** **21 15 48.3 -0.2**
MRNZ **Matariki Terra** **79.43 132** P **P** **21 15 52.6 +3.9**
THZ **Tophouse** **79.60 132** IAmb IAmb 21 16 01.5
comp=Z,21nm,0.6s
THZ **Tophouse** **79.60 132** P **P** **21 15 47.3 -2.5**
THZ **Tophouse** **79.60 132** P **P** **21 15 47.5 -2.2**
TSUM **Tsumeb** **79.60 251** P **P** **21 15 51.3 +1.0**
BZS **Buzias** **79.73 316** ⇑P **P** **21 15 50.4 +0.1**
BZS **Buzias** **79.73 316** ⇑P **P** **21 15 50.4 +0.1**
MQZ **McQueen's Vall** **79.73 134** P P 21 15 59.9 +10
VSU **Vasula** **79.81 330** *ce*P **P** **21 15 50.3 0.0**
VSU pmax pmax
comp=Z,23nm,1.0s
KWP **Kalwaria Pacla** **79.82 321** *e*P **P** **21 15 52.5 +1.8**
SIRR **Siria** **79.82 317** ⇑P **P** **21 15 49.9 -0.9**
NNZ **Nelson** **79.87 132** P **P** **21 15 51.4 +0.3**
GVZ **Greta Valley S** **79.89 134** P **P** **21 15 50.8 -0.4**
AKCZ **Akaroa Harbour** **79.94 134** P P 21 16 02.0 +11
KOLS **Kolonicke sedl** **79.95 320** *e*P **P** **21 15 52.6 +1.2**
KOLS pmax pmax
comp=Z,35nm,0.8s
KOLS **Kolonicke sedl** **79.95 320** *e*P **P** **21 15 52.6 +1.2**
KHZ **Kahutara** **80.17 133** P P 21 15 41.6 -11
DUWZ **D'Urville Isla** **80.21 131** P **P** **21 15 57.4 +4.4**
APA **Apatity** **80.27 340** ⇓*i*P **P** **21 15 54.4 +1.7**
APA pmax pmax
comp=Z,14nm,1.0s
APA MLR MLR
comp=Z,800nm,16.0s
BSWZ **Blackbirch Sta** **80.31 132** P P 21 15 44.2 -9.3
TUWZ **Tuamarina** **80.32 132** P P 21 15 48.2 -5.3
PABE **Paberze** **80.45 327** P **P** **21 15 53.0 -0.8**
PABE IAmb IAmb 21 15 54.1
comp=Z,22nm,0.8s
PABE **Paberze** **80.45 327** *e*P **P** **21 15 53.6 -0.3**
CRVS **Cervenica-Dubn** **80.47 320** *e*P **P** **21 15 55.4 +1.2**
CRVS pmax pmax
comp=Z,32nm,1.5s
CRVS **Cervenica-Dubn** **80.47 320** *e*P **P** **21 15 55.4 +1.2**
SUW **Suwalki** **80.53 325** *e*P **P** **21 15 54.2 -0.2**
TCW **Tory Channel** **80.54 132** P **P** **21 15 52.1 -2.6**
CMWZ **Cape Campbell** **80.57 132** P P 21 15 46.2 -8.6
FRGS **Fruska Gora** **80.90 316** ⇓P **P** **21 15 56.3 -0.3**
KIW **Kapiti Island** **80.97 131** P **P** **21 15 59.8 +2.8**
BHW **Baring Head** **81.01 132** P **P** **21 15 53.4 -3.8**
FINES **FINESS Array B** **81.01 333** P **P** **21 15 56.5 -0.3**
comp=Z,18nm,0.5s,baz=100,slow=5.7,SNR=175
comp=Z,18nm,0.5s
CAW **Cannon Point** **81.11 131** P **P** **21 15 57.8 0.0**
OGWZ **Otaki Gorge** **81.16 131** P **P** **21 16 01.5 +3.5**
PSZ **Piszkesteto** **81.31 319** ⇑P **P** **21 15 59.2 +0.4**
PSZ **Piszkesteto** **81.31 319** ⇑P **P** **21 15 59.2 +0.4**
PLWZ **Palliser** **81.31 132** P **P** **21 15 55.2 -3.7**
MTSE **Matsula** **81.34 330** *e*P **P** **21 15 58.4 -0.2**
MRZ **Mangatainoka R** **81.44 131** P P 21 16 05.3 +5.8
MEF **Metsahovi** **81.45 331** *e*P **P** **21 15 58.5 -0.7**
PBUR **Paburge** **81.69 327** *e*P **P** **21 16 00.8 +0.3**
OJC **Ojcow** **81.78 321** *e*P **P** **21 16 00.7 -0.5**
OJC **Ojcow** **81.78 321** P **P** **21 16 01.1 -0.1**
LANS **Liptovska Anna** **81.81 320** *e*P **P** **21 16 01.9 +0.5**
LANS **Liptovska Anna** **81.81 320** *e*P **P** **21 16 01.9 +0.5**
MORH **Mrgy, Hungar** **81.88 317** ⇑P **P** **21 16 01.9 +0.2**
BKZ **Black Stump Fm** **81.97 129** IAmb IAmb 21 16 02.5
comp=Z,30nm,0.9s
BKZ **Black Stump Fm** **81.97 129** P **P** **21 16 01.8 -0.7**
VYHS **Vyhne** **82.11 319** *e*P **P** **21 16 03.1 +0.2**
VYHS pmax pmax
comp=Z,12nm,1.5s
VYHS **Vyhne** **82.11 319** *e*P **P** **21 16 03.1 +0.2**
BILL **Bilibino** **82.69 21** *e*P **P** **21 16 04.6 -0.9**
BILL pmax pmax
comp=Z,10.0nm,1.8s
MAUC **Maruska** **82.90 320** *e*P **P** **21 16 07.1 0.0**
RAF **Rauma** **82.91 332** *e*P **P** **21 16 06.9 +0.1**
JAVC **Velka Javorina** **82.93 319** *e*P **P** **21 16 07.5 +0.2**
MODS **Modra-Piesok** **83.11 319** *e*P **P** **21 16 08.6 +0.4**
MODS pmax pmax
comp=Z,30nm,1.3s
MODS **Modra-Piesok** **83.11 319** *e*P **P** **21 16 08.6 +0.4**
MORC **Moravsky Berou** **83.14 320** *e*P **P** **21 16 08.0 -0.3**
ZST **Bratislava** **83.21 318** *e*P **P** **21 16 09.1 +0.5**
ZST **Bratislava** **83.21 318** *e*P **P** **21 16 09.1 +0.5**
KRLC **Kraliky** **83.67 320** *e*P **P** **21 16 11.2 +0.1**
RONA **Rosalía, Austr** **83.68 318** *i* P **P** **21 16 11.2 +0.1**
comp=Z,3.8nm,0.9s
ARCES **ARCESS Array B** **83.69 340** P **P** **21 16 10.0 -0.7**
ARCES **ARCESS Array B** **83.69 340** P **P** **21 16 09.9 -0.7**
comp=Z,6.6nm,0.7s,baz=105,slow=4.3,SNR=28
comp=Z,6.6nm,0.7s
CONA **Conrad Observa** **84.00 318** *e*P **P** **21 16 12.8 0.0**
comp=Z,4.4nm,0.8s
DPC **Dobruska-Polom** **84.00 321** P **P** **21 16 13.1 +0.3**
DPC **Dobruska-Polom** **84.00 321** *e*P **P** **21 16 13.0 +0.3**
DPC *ex* x 21 16 23.6
KSP **Ksiaz** **84.09 321** P **P** **21 16 13.4 +0.3**
OSTC **Ostas** **84.10 321** *e*P **P** **21 16 13.7 +0.5**
ARSA **Arzberg** **84.14 317** *e*P **P** **21 16 14.0 +0.5**
comp=Z,9.8nm,0.8s,SNR=6.9
CHVC **Chvalec** **84.20 321** *e*P **P** **21 16 13.7 0.0**
CHVC *ex* x 21 16 21.7
UPC **Upice** **84.22 321** *e*P **P** **21 16 14.2 +0.4**
SOKA **Soboth** **84.41 317** *e*P **P** **21 16 15.5 +0.5**
comp=Z,14nm,0.9s,SNR=9.9
VNDA **Vanda** **84.54 169** P **P** **21 16 14.8 0.0**
VNDA IAmb IAmb 21 17 17.8
comp=Z,44nm,1.6s
VNDA **Vanda** **84.54 169** P **P** **21 16 14.8 0.0**
VNDA pmax pmax
comp=Z,44nm,1.6s
VNDA **Vanda** **84.54 169** P **P** **21 16 14.4 -0.4**
comp=Z,8.8nm,1.1s,baz=292,slow=3.3,SNR=6.9
comp=Z,8.8nm,1.1s
ELIB **Princess Elisa** **84.64 197** *d*P **P** **21 16 16.6 +0.9**
comp=Z,7.4nm,0.9s
OBKA **Obir** **84.73 317** *i* P **P** **21 16 17.0 +0.5**
comp=Z,13nm,1.3s
MOA **Molln** **85.06 318** *e*P **P** **21 16 17.9 -0.2**
comp=Z,6.3nm,1.1s
PRU **Pruhonice** **85.10 320** *e*P **P** **21 16 18.3 +0.1**
CKRC **Cesky Krumlov** **85.12 319** *e*P **P** **21 16 18.4 0.0**
CKRC *ex* x 21 16 29.3
PVCC **Panska Ves** **85.14 321** *e*P **P** **21 16 18.8 +0.4**
MYKA **Terra Mystica** **85.36 317** *e*P **P** **21 16 19.8 +0.1**
comp=Z,7.0nm,0.8s
PRED **Cave del Predi** **85.40 316** IAmb IAmb 21 16 20.7
comp=Z,16nm,1.0s
RICC **Richard** **85.44 321** *e*P **P** **21 16 20.2 +0.3**
BIOA **Bad Ischl, Aus** **85.46 318** *i* P **P** **21 16 19.8 -0.3**
comp=Z,9.2nm,1.3s
GEC2 **GERESS Array S** **85.53 319** IAmb IAmb 21 16 21.7
comp=Z,25nm,1.3s
GEC2 **GERESS Array S** **85.53 319** *e*P **P** **21 16 20.6 +0.2**
comp=Z,6.0nm,0.8s,baz=95,slow=4.9
GEC2 *ep*P **pwP** **21 16 31.5 -1.5**
GERES **GERESS Array B** **85.53 319** P **P** **21 16 20.3 -0.2**
GERES **GERESS Array B** **85.53 319** P **P** **21 16 20.7 +0.2**
comp=Z,5.3nm,0.8s,baz=76,slow=5.6,SNR=18
comp=Z,5.3nm,0.8s
BRG **Berggiesshubel** **85.57 321** *e*P **P** **21 16 20.7 +0.2**
BRG Amp 21 16 21.4
comp=Z,5.1nm,0.7s
BRG **Berggiesshubel** **85.57 321** P P 21 16 31.3 +11
BRG Amp 21 16 32.6
comp=Z,7.0nm,0.9s
BRG **Berggiesshubel** **85.57 321** *e*P **P** **21 16 20.7 +0.2**
BRG 21 16 31.3
BRG pmax pmax
comp=Z,5.0nm,0.7s
BRG pmax pmax
comp=Z,7.0nm,0.9s
BRG **Berggiesshubel** **85.57 321** *e*P **P** **21 16 21.1 +0.6**
comp=Z,2.8nm,0.7s,baz=95,slow=4.9
BRG *ep*P **pwP** **21 16 31.7 -1.3**
KBA **Koelnbreinsper** **85.60 317** *i* P **P** **21 16 20.6 -0.4**
comp=Z,15nm,1.7s
KHC **Kasperske Hory** **85.64 319** *e*P **P** **21 16 20.8 -0.2**
LESA **Schwarzleotal** **86.09 317** *e*P **P** **21 16 22.7 -0.6**
comp=Z,5.8nm,0.6s
WET **Wettzell** **86.09 319** *e*P **P** **21 16 23.7 +0.4**
comp=Z,3.8nm,0.8s,baz=95,slow=4.9
*ep*P **pwP** **21 16 34.2 -1.5**
ABTA **Abfaltersbach** **86.14 317** *e*P **P** **21 16 23.2 -0.4**
comp=Z,6.1nm,1.0s
CIMO **Cimolais** **86.16 316** IAmb IAmb 21 16 24.5
comp=Z,17nm,0.8s
CLL **Collm** **86.20 321** *i* P **P** **21 16 23.3 -0.4**
CLL pmax pmax
comp=Z,7.0nm,1.1s
CLL **Collm** **86.20 321** *i* P **P** **21 16 23.3 -0.4**
comp=Z,7.0nm,1.1s
ROTZ **Rotzenmuhle** **86.58 320** *e*P **P** **21 16 26.3 +0.7**
comp=Z,1.0nm,0.9s,baz=95,slow=4.9
ROTZ *ep*P **pwP** **21 16 37.0 -1.0**

MANZ	**Manzenberg**	**86.66**	**320**	*e*P		**P**	**21 16 26.9**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=95,slow=4.9							
MANZ				*e*pP		**pwP**	**21 16 37.5**	**-1.0**
HFS	**Hagfors**	**86.69**	**330**	P		**P**	**21 16 26.0**	**+0.1**
HFS	**Hagfors**	**86.69**	**330**	P		**P**	**21 16 26.0**	**+0.1**
	comp=Z,13nm,0.8s,baz=131,slow=4.1,SNR=16							
	comp=Z,13nm,0.8s							
CTI	**Castel Tesino**	**86.69**	**316**	IAmb		IAmb	21 16 27.4	
	comp=Z,15nm,0.7s							
WTTA	**Wattenberg**	**86.78**	**317**	*i* P		**P**	**21 16 26.4**	**-0.5**
	comp=Z,17nm,1.2s							
WATA	**Walderalm**	**86.83**	**317**	*i* P		**P**	**21 16 26.4**	**-0.6**
	comp=Z,3.1nm,0.5s							
MOX	**Moxa**	**87.02**	**321**	*e*P		**P**	**21 16 28.0**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=95,slow=4.9							
SQTA	**Sankt Quirin**	**87.07**	**317**	*e*P		**P**	**21 16 27.8**	**-0.3**
	comp=Z,6.7nm,0.6s,SNR=5.9							
MOTA	**Moosalm**	**87.15**	**317**	*e*P		**P**	**21 16 28.1**	**-0.5**
	comp=Z,6.3nm,0.7s,SNR=6.6							
GRF	**Grafenberg Arr**	**87.21**	**320**	*e*P		**P**	**21 16 29.3**	**+0.6**
	comp=Z,6.0nm,0.8s,baz=95,slow=4.9							
FETA	**Feichten**	**87.38**	**317**	*i* P		**P**	**21 16 29.8**	**0.0**
	comp=Z,6.7nm,1.3s							
RETA	**Reutte**	**87.39**	**317**	*e*P		**P**	**21 16 29.5**	**-0.1**
	comp=Z,6.1nm,0.6s							
NORES	**NORESS Array B**	**87.80**	**331**	P		**P**	**21 16 30.9**	**-0.3**
CLZ	**Clausthal**	**87.88**	**322**	*e*P		**P**	**21 16 32.2**	**+0.3**
	comp=Z,4.2nm,0.9s,baz=95,slow=4.9							
KEST	**Kesra**	**87.95**	**306**	P		**P**	**21 16 33.5**	**+0.9**
	comp=Z,9.0nm,1.0s,baz=31,slow=2.0,SNR=8.2							
	comp=Z,9.0nm,1.0s							
DAVA	**Damuels**	**87.98**	**317**	*i* P		**P**	**21 16 32.8**	**+0.2**
	comp=Z,11nm,0.9s							
NB2	**NORSAR Subarra**	**87.99**	**331**	P		**P**	**21 16 31.3**	**-0.9**
NB2	**NORSAR Subarra**	**87.99**	**331**	P		**P**	**21 16 31.3**	**-0.9**
	comp=Z,9.7nm,0.9s,baz=97,slow=4.8							
NOA	**NORSAR Array B**	**87.99**	**331**	P		**P**	**21 16 31.9**	**-0.2**
	comp=Z,5.0nm,0.9s,baz=100,slow=5.0,SNR=13							
	comp=Z,5.0nm,0.9s							
BSEG	**Bad Segeberg**	**88.02**	**324**	*e*P		**P**	**21 16 33.2**	**+0.8**
	comp=Z,8.3nm,0.9s,baz=95,slow=4.9							
BSEG				*e*pP		**pwP**	**21 16 44.0**	**-0.9**
NRDL	**Niedersach Rie**	**88.07**	**322**	*e*P		**P**	**21 16 34.6**	**+2.0**
	comp=Z,7.0nm,0.9s,baz=95,slow=4.9							
NC204	**NORSAR Array S**	**88.22**	**331**	IAmb		IAmb	21 16 33.8	
	comp=Z,27nm,1.2s							
SPITS	**Spitsbergen Ar**	**88.23**	**348**	P		**P**	**21 16 32.6**	**-0.4**
	comp=Z,4.6nm,0.5s,baz=105,slow=8.7,SNR=15							
	comp=Z,4.6nm,0.5s							
TNS	**Taunus Mts**	**89.03**	**320**	*e*P		**P**	**21 16 38.1**	**+0.7**
	comp=Z,2.2nm,0.7s,baz=95,slow=4.9							
BFO	**Black Forest**	**89.06**	**318**	*e*P		**P**	**21 16 37.5**	**0.0**
	comp=Z,2.3nm,0.7s,baz=95,slow=4.9							
KASTN	**Kahler Asten**	**89.07**	**321**	*e*P		**P**	**21 16 39.0**	**+1.5**
	comp=Z,6.6nm,1.0s,baz=95,slow=4.9							
IBBN	**Ibbenburen**	**89.51**	**322**	*e*P		**P**	**21 16 40.3**	**+0.8**
	comp=Z,14nm,0.7s,baz=95,slow=4.9							
IBBN				*e*pP		**pwP**	**21 16 50.4**	**-1.5**
QSPA	**South Pole Qui**	**89.72**	**180**	P		**P**	**21 16 40.1**	**-0.2**
QSPA				IAmb		IAmb	21 16 41.1	
	comp=Z,17nm,1.3s							
QSPA	**South Pole Qui**	**89.72**	**180**	P		**P**	**21 16 39.9**	**-0.4**
	comp=Z,10nm,1.1s,baz=307,slow=3.2,SNR=10							
	comp=Z,10nm,1.1s							
BUG	**Bochum–Univer**	**89.80**	**321**	*e*P		**P**	**21 16 41.5**	**+0.7**
	comp=Z,8.1nm,0.8s,baz=95,slow=4.9							
BUG				*e*pP		**pwP**	**21 16 52.0**	**-1.3**
AHRW	**Bad Neuenahr-A**	**89.91**	**320**	*e*P		**P**	**21 16 42.5**	**+1.1**
	comp=Z,6.2nm,0.8s,baz=95,slow=4.9							
TAM	**Tamanrasset**	**91.13**	**293**	P		**P**	**21 16 47.5**	**-0.4**
TAM	**Tamanrasset**	**91.13**	**293**	P		**P**	**21 16 47.5**	**-0.4**
TAM				pmax		pmax		
	comp=Z,13nm,1.3s							
F14K	**Arctic Creek**	**93.13**	**25**	P		**P**	**21 16 56.3**	**+0.2**
	baz=276							
C16K	**Lisburne Hills**	**93.19**	**22**	IAmb		IAmb	21 16 55.9	
	comp=Z,30nm,1.8s							
C16K	**Lisburne Hills**	**93.19**	**22**	P		**P**	**21 16 56.2**	**0.0**
	baz=277							
F15K	**North Star Dit**	**93.80**	**24**	P		**P**	**21 16 59.3**	**+0.2**
	baz=278							
C17K	**DeLong Mountai**	**93.95**	**21**	P		**P**	**21 17 00.0**	**+0.3**
	baz=279							
D17K	**Noatak River**	**94.11**	**22**	P		**P**	**21 17 01.1**	**+0.6**
	baz=279							
B18K	**Kokolik River**	**94.28**	**20**	P		**P**	**21 17 02.3**	**+1.1**
	baz=281							
C18K	**Utukok River**	**94.64**	**21**	P		**P**	**21 17 02.8**	**-0.2**
C18K				IAmb		IAmb	21 17 03.8	
	comp=Z,8.5nm,0.7s							
C18K	**Utukok River**	**94.64**	**21**	P		**P**	**21 17 03.2**	**+0.3**
	baz=281							
G16K	**Koyuk River**	**94.79**	**24**	P		**P**	**21 17 04.1**	**+0.5**
	baz=280							
TORD	**Torodi Ar. Bea**	**94.89**	**283**	P		**P**	**21 17 05.6**	**+0.5**
TORD	**Torodi Ar. Bea**	**94.89**	**283**	P		**P**	**21 17 05.4**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=88,slow=4.8,SNR=18							
	comp=Z,2.0nm,0.6s							
H16K	**Elim**	**94.97**	**25**	P		**P**	**21 17 04.6**	**+0.1**
	baz=280							
E18K	**Tukpahlearik C**	**95.10**	**22**	P		**P**	**21 17 05.5**	**+0.5**
	baz=282							
C19K	**Lookout Ridge**	**95.11**	**20**	IAmb		IAmb	21 17 25.3	
	comp=Z,13nm,1.0s							
G17K	**Kiwalik Mounta**	**95.47**	**24**	P		**P**	**21 17 07.1**	**+0.4**
	baz=281							
F18K	**Selawik**	**95.64**	**23**	P		**P**	**21 17 07.9**	**+0.4**
	baz=282							
B20K	**Meade River**	**95.72**	**19**	P		**P**	**21 17 08.2**	**+0.4**
	baz=285							
D19K	**Kuna River**	**95.78**	**21**	IAmb		IAmb	21 17 27.2	
	comp=Z,20nm,1.4s							
EKA	**Eskdalemuir Ar**	**95.78**	**326**	P		**P**	**21 17 07.9**	**-0.5**
EKA	**Eskdalemuir Ar**	**95.78**	**326**	P		**P**	**21 17 07.9**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=106,slow=5.4,SNR=5.6							
	comp=Z,1.2nm,0.6s							
H17K	**Granite Mounta**	**95.89**	**25**	IAmb		IAmb	21 17 28.3	
	comp=Z,6.9nm,0.9s							
H17K	**Granite Mounta**	**95.89**	**25**	P		**P**	**21 17 09.2**	**+0.5**
	baz=282							
J16K	**Anvik River**	**95.93**	**26**	P		**P**	**21 17 09.8**	**+0.9**
	baz=281							
F19K	**Shaleruckik Mo**	**96.31**	**23**	P		**P**	**21 17 10.5**	**0.0**
	baz=284							
E19K	**Redstone River**	**96.36**	**22**	P		**P**	**21 17 11.0**	**+0.3**
	baz=285							
H18K	**Honhosa River**	**96.48**	**24**	P		**P**	**21 17 11.7**	**+0.3**
	baz=284							
E20K	**Nigu River**	**96.53**	**21**	P		**P**	**21 17 11.9**	**+0.3**
	baz=286							
G19K	**Purcell Mounta**	**96.75**	**23**	IAmb		IAmb	21 17 30.0	
	comp=Z,5.3nm,0.8s							
G19K	**Purcell Mounta**	**96.75**	**23**	P		**P**	**21 17 13.0**	**+0.4**
	baz=285							
C21K	**Knifeblade Rid**	**96.76**	**20**	P		**P**	**21 17 13.1**	**+0.5**
	baz=287							
F20K	**Avaraart Lake**	**97.03**	**22**	IAmb		IAmb	21 17 31.2	
	comp=Z,5.4nm,0.8s							
F20K	**Avaraart Lake**	**97.03**	**22**	P		Pdif	21 17 14.1	+0.3
	baz=286							
K17K	**Iditarod**	**97.08**	**27**	P		Pdif	21 17 14.8	+0.6
	baz=283							
H19K	**Roundabout Mou**	**97.17**	**24**	P		**P**	**21 17 14.1**	**-0.3**
H19K				IAmb		IAmb	21 17 15.8	
	comp=Z,12nm,0.9s							
H19K	**Roundabout Mou**	**97.17**	**24**	P		Pdif	21 17 15.3	+0.8
	baz=285							
N16K	**Nishlik Lake**	**97.36**	**29**	P		Pdif	21 17 16.3	+0.7
	baz=283							
J18K	**Innoko River**	**97.59**	**26**	P		**P**	**21 17 15.7**	**-0.8**
J18K				IAmb		IAmb	21 17 22.6	
	comp=Z,9.9nm,1.2s							
J18K	**Innoko River**	**97.59**	**26**	P		Pdif	21 17 16.7	+0.2
	baz=285							
H20K	**Anotleneega Mo**	**97.80**	**24**	P		Pdif	21 17 17.8	+0.4
	baz=287							
J19K	**Poorman**	**97.92**	**25**	IAmb		IAmb	21 17 39.1	
	comp=Z,6.8nm,1.1s							
J19K	**Poorman**	**97.92**	**25**	P		Pdif	21 17 18.4	+0.5
	baz=286							
G21K	**Allakaket**	**98.03**	**22**	P		**P**	**21 17 18.0**	**-0.3**
G21K				IAmb		IAmb	21 17 37.9	
	comp=Z,5.8nm,0.8s							
IMAR	**Indian Mountai**	**98.10**	**23**	P		**P**	**21 17 17.8**	**-0.9**
K20K	**Telida**	**98.77**	**26**	P		**P**	**21 17 19.9**	**-1.8**
K20K				IAmb		IAmb	21 17 28.0	
	comp=Z,12nm,1.3s							
K20K	**Telida**	**98.77**	**26**	P		Pdif	21 17 22.4	+0.7
	baz=287							
ILAR	**Eielson Array**	**101.22**	**23**	P		**Pdif**	**21 17 32.0**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=296,slow=4.2,SNR=4.6							
ILAR				PP		**PP**	**21 21 46.4**	**+5.0**
	comp=Z,0.7nm,0.8s,baz=298,slow=4.2,SNR=5.0							
ILAR				PKKPbc		**PKKPbc**	**21 33 42.0**	**-3.2**
	comp=Z,0.8nm,0.9s,baz=154,slow=2.1,SNR=6.2							
YKA	**Yellowknife Ar**	**113.61**	**15**	PKiKP		**PKiKP**	**21 22 18.9**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=330,slow=2.3,SNR=6.8							
YKA				PP		**PP**	**21 23 10.5**	**-1.3**
	comp=Z,1.1nm,1.1s,baz=321,slow=5.8,SNR=5.6							
YKA				PKKPbc		**PKKPbc**	**21 33 03.8**	**-2.5**
	comp=Z,0.8nm,0.9s,baz=143,slow=3.2,SNR=10							
SCHQ	**Schefferville**	**123.92**	**349**	PKP		**PKPdf**	**21 22 39.9**	**-0.5**
	comp=Z,3.0nm,0.6s,baz=39,slow=4.4,SNR=12							
PLID	**Pearl Lake**	**126.82**	**29**	PKPdf		**PKiKP**	**21 22 46.8**	**-0.2**
BOZ	**Bozeman (W)**	**128.40**	**25**	P		**PKiKP**	**21 22 50.0**	**-0.1**
	baz=323							
HLID	**Hailey**	**128.71**	**29**	PKPdf		**PKPdf**	**21 22 50.2**	**+0.1**
HLID	**Hailey**	**128.71**	**29**	P		**PKiKP**	**21 22 50.6**	**-0.2**
	baz=319							
ULM	**Lac du Bonnet**	**129.03**	**10**	PKP		**PKPdf**	**21 22 49.5**	**-0.7**
	comp=Z,5.8nm,0.6s,baz=323,slow=2.2,SNR=15							
KVN	**Kaiserville**	**129.96**	**35**	PKPdf		**PKiKP**	**21 22 53.4**	**0.0**
KVN	**Kaiserville**	**129.96**	**35**	PKiKP		**PKiKP**	**21 22 53.4**	**0.0**
NVAR	**Mina Array Bea**	**130.25**	**36**	PKP		**PKPdf**	**21 22 52.8**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=45,slow=2.5,SNR=4.3							
PDAR	**Pinedale Array**	**131.56**	**26**	PKP		**PKPdf**	**21 22 55.0**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=161,slow=1.8,SNR=8.2							
EYMN	**Ely**	**131.95**	**7**	P		**PKPdf**	**21 22 55.6**	**-0.3**
	baz=349							
D41A	**Chassel**	**133.14**	**5**	P		**PKPdf**	**21 22 57.5**	**-0.6**
	baz=353							
G40A	**Rib Lake**	**134.75**	**7**	P		**PKPdf**	**21 23 00.4**	**-0.9**
	baz=350							
PDMCI	**Parker Dam,Lak**	**135.51**	**37**	P		**PKiKP**	**21 23 04.9**	**+0.4**
	baz=353							
ANMO	**Albuquerque**	**139.28**	**30**			**PKPdf**	**21 23 11.3**	**+1.1**
ANMO	**Albuquerque**	**139.28**	**30**	PKiKP		**PKPdf**	**21 23 11.3**	**+1.1**
KAN08	**Anthony NE Sta**	**140.78**	**19**	PKPpre		PKPpre	21 23 00.8	
KAN08						**PKPdf**	**21 23 09.9**	**-2.7**
ITQB	**Itaqui**	**140.84**	**218**			**PKPdf**	**21 23 13.6**	**+0.7**
BDFB	**Brasilia**	**141.71**	**244**	PKPdf		**PKPdf**	**21 23 15.5**	**+0.6**
BDFB	**Brasilia**	**141.71**	**244**	PKiKP		**PKPdf**	**21 23 15.5**	**+0.6**
BDFB	**Brasilia**	**141.71**	**244**	PKhKP		PKPpre	21 23 09.3	
	comp=Z,2.6nm,0.5s,baz=135,slow=14,SNR=1.7							
BDFB				PKP		**PKPdf**	**21 23 15.3**	**+0.4**
	comp=Z,3.7nm,0.6s,baz=53,slow=3.7,SNR=5.0							
CPUP	**Villa Florida**	**143.58**	**222**	PKP		PKPbc	21 23 14.8	-0.3
	comp=Z,16nm,0.8s,baz=119,slow=3.1,SNR=41							
WTFS	**Witchita Falls**	**143.75**	**22**			PKPbc	21 23 15.3	-0.1
U49A	**Red Boiling Sp**	**143.83**	**3**	P		PKPab	21 23 14.8	-0.2
	baz=356							
X37A	**Clayton**	**144.02**	**17**	P		**PKPab**	**21 23 15.7**	**0.0**
	baz=339							
ABTX	**Abilene, Hawle**	**144.30**	**24**	P		**PKPdf**	**21 23 18.2**	**-0.8**
	baz=331							
ABTX	**Abilene, Hawle**	**144.30**	**24**	P		**PKPab**	**21 23 16.9**	**0.0**
	baz=331							
V55A	**Taylorsville**	**144.51**	**357**	P		**PKPab**	**21 23 16.9**	**-0.6**
	baz=3.4							
V55A				P		**PKPab**	**21 23 16.9**	**-0.6**
	baz=3.4							
V48A	**Smith Brothers**	**144.53**	**5**	P		**PKPab**	**21 23 16.7**	**-0.9**
	baz=354							
MIAR	**Mount Ida**	**144.55**	**15**	P		PKPbc	21 23 18.0	+0.1
	baz=342							
MIAR	**Mount Ida**	**144.55**	**15**	P		**PKPab**	**21 23 17.4**	**-0.3**
	baz=342,SNR=13							
V52A	**Sevierville**	**144.57**	**0**	P		**PKPab**	**21 23 17.1**	**-0.6**
	baz=359,SNR=5.3							
Z35A	**Perchaven, San**	**144.57**	**20**	P		**PKPab**	**21 23 17.0**	**-0.8**
	baz=335							
V51A	**Loudon**	**144.60**	**1**	P		**PKPab**	**21 23 16.7**	**-1.1**
	baz=358							
PEL	**Peldehue**	**144.72**	**199**			**PKPab**	**21 23 18.4**	**-0.1**
PEL	**Peldehue**	**144.72**	**199**	PKiKP		**PKPab**	**21 23 18.4**	**-0.1**
V53A	**Saluda**	**144.74**	**359**	P		**PKPab**	**21 23 17.5**	**-1.0**
	baz=0.7,SNR=8.3							
V53A				P		**PKPab**	**21 23 17.5**	**-1.0**
	baz=0.7,SNR=8.3							
TKL	**Tuckaleechee C**	**144.75**	**1**	P		**PKPab**	**21 23 17.3**	**-1.2**
	baz=359							
MT02	**Curacav**	**144.76**	**198**			**PKPab**	**21 23 18.6**	**+0.1**
W57A	**Gilead**	**145.12**	**355**	P		**PKPbc**	**21 23 18.6**	**-1.1**
	baz=5.6,SNR=7.2							
W57A				P		**PKPbc**	**21 23 18.6**	**-1.1**
	baz=5.6,SNR=7.2							
TX31	**Lajitas Ar. Si**	**145.16**	**32**	P		**PKPbc**	**21 23 20.1**	**-0.1**
	baz=323							
TXAR	**Lajitas Array**	**145.16**	**32**	PKPbc		**PKPab**	**21 23 20.2**	**0.0**
	comp=Z,16nm,0.8s,baz=281,slow=2.0,SNR=67							
W50A	**Signal Mountai**	**145.16**	**3**	P		**PKPbc**	**21 23 18.9**	**-1.0**
	baz=356							
KMSC	**Kings Mountain**	**145.22**	**357**	P		**PKPbc**	**21 23 19.7**	**-0.4**
	baz=3.3							
KMSC	**Kings Mountain**	**145.22**	**357**	P		**PKPbc**	**21 23 19.0**	**-1.0**
	baz=3.3,SNR=17							
W52A	**Murphy**	**145.31**	**1**	P		**PKPbc**	**21 23 19.5**	**-0.9**
	baz=359							
Z38A	**Mt. Pleasant**	**145.37**	**17**	P		**PKPdf**	**21 23 20.9**	**+0.1**
	baz=339							
CASEE	**Lake Jocassee**	**145.42**	**359**	P		**PKPbc**	**21 23 19.4**	**-1.3**
	baz=0.5,SNR=18							
OXF	**Oxford**	**145.43**	**9**	P		**PKPbc**	**21 23 20.1**	**-0.6**
	baz=349							
OXF	**Oxford**	**145.43**	**9**	P		**PKPbc**	**21 23 19.2**	**-1.5**
	baz=349,SNR=7.5							
PAULI	**Pauline**	**145.56**	**358**			**PKPdf**	**21 23 20.5**	**-0.6**
PAULI	**Pauline**	**145.56**	**358**	P		**PKPdf**	**21 23 19.7**	**-1.3**
	baz=2.4							
BIRD	**Birdtown, Kers**	**145.66**	**356**	P		**PKPdf**	**21 23 20.9**	**-0.3**
	baz=4.8							
X48A	**Hartselle**	**145.78**	**5**	P		**PKPdf**	**21 23 20.7**	**-0.8**
	baz=353,SNR=11							
X51A	**Calhoun**	**145.82**	**2**	P		**PKPdf**	**21 23 21.4**	**-0.1**
	baz=357,SNR=9.0							
X51A				P		**PKPdf**	**21 23 21.4**	**-0.1**
	baz=357,SNR=9.0							
JCT	**Junction City**	**146.09**	**26**	P		**PKPbc**	**21 23 22.6**	**-0.4**
	baz=329							
JCT	**Junction City**	**146.09**	**26**	P		**PKPdf**	**21 23 21.8**	**-0.4**
	baz=329							
HODGE	**Hodges**	**146.16**	**358**	P		**PKPdf**	**21 23 22.3**	**+0.2**
	baz=1.7,SNR=6.2							
Y57A	**Sumter**	**146.28**	**356**	P		**PKPdf**	**21 23 22.7**	**+0.4**
	baz=5.0							
Y57A				P		**PKPdf**	**21 23 22.7**	**+0.4**
	baz=5.0							
Y58A	**Scranton**	**146.33**	**354**	P		**PKPbc**	**21 23 23.3**	**-0.2**
	baz=6.3							
Y58A				P		**PKPbc**	**21 23 23.3**	**-0.2**
	baz=6.3							
Y49A	**Blount Mountai**	**146.43**	**5**	P		**PKPdf**	**21 23 22.9**	**+0.4**
	baz=354,SNR=9.7							
Y52A	**Lilburn**	**146.54**	**1**	P		**PKPbc**	**21 23 24.0**	**-0.2**
	baz=358,SNR=11							
Y52A				P		**PKPbc**	**21 23 24.0**	**-0.2**
	baz=358,SNR=11							
Z47A	**Carrollton**	**146.91**	**7**	P		**PKPbc**	**21 23 24.4**	**-0.8**
	baz=351,SNR=6.8							
GOGA	**Godfrey**	**147.00**	**0**	P		**PKPbc**	**21 23 25.4**	**-0.1**
	baz=360							
GOGA	**Godfrey**	**147.00**	**0**	P		**PKPbc**	**21 23 24.9**	**-0.6**
	baz=360							
Z51A	**Franklin**	**147.05**	**3**	P		**PKPbc**	**21 23 24.7**	**-0.9**
	baz=356							
LRAL	**Lakeview Retre**	**147.19**	**6**	P		**PKPbc**	**21 23 25.1**	**-0.9**
	baz=353							
146A	**Union**	**147.32**	**9**	P		**PKPbc**	**21 23 26.4**	**0.0**
	baz=349,SNR=6.2							
833A	**Chaparral WMA,**	**148.12**	**27**	P		**PKPbc**	**21 23 28.9**	**+0.2**
	baz=328							
HKT	**Hockley**	**148.14**	**21**			**PKPbc**	**21 23 29.2**	**+0.6**
HKT	**Hockley**	**148.14**	**21**	PKP2		**PKPbc**	**21 23 29.2**	**+0.6**
250A	**Grady**	**148.31**	**5**	P		**PKPbc**	**21 23 29.1**	**0.0**
	baz=354							
LCO	**Las Campanas**	**148.51**	**202**			**PKPdf**	**21 23 27.2**	**+0.7**
LCO	**Las Campanas**	**148.51**	**202**	PKiKP		**PKPdf**	**21 23 27.2**	**+0.7**
TIGA	**Tifton**	**148.96**	**0**	P		**PKPbc**	**21 23 30.9**	**+0.1**
	baz=359							
BRAL	**Brewton**	**149.03**	**6**	P		**PKPbc**	**21 23 31.6**	**+0.6**
	baz=353							
PB15	**IPOC Station P**	**153.07**	**209**			**PKPab**	**21 23 53.0**	**+0.7**
LVC	**Limon Verde**	**153.29**	**211**			**PKiKP**	**21 23 42.4**	**+0.6**
LVC	**Limon Verde**	**153.29**	**211**	PKiKP		**PKiKP**	**21 23 42.4**	**+0.6**
SAML	**Samuel**	**157.94**	**245**			**PKPdf**	**21 23 40.2**	**+0.1**
SAML						**PKPab**	**21 24 13.6**	**+0.3**
SAML	**Samuel**	**157.94**	**245**	PKIKP		**PKPdf**	**21 23 40.2**	**+0.1**
SAML							21 24 13.6	
SAML	**Samuel**	**157.94**	**245**	*e*P		**PKPdf**	**21 23 41.1**	**+0.9**
ETMB	**Extrema**	**160.24**	**239**			**PKPab**	**21 24 23.1**	**-0.1**

IDC ***02*** *21:06:03.0±1.6,55.66N×162.89E,h0km,mb3.5/4, mbtmp3.5/5,ML2.8/1,MS4.1/1, Error ellipse: s-maj=113.6km s-min=24.3km az=143.0*
KRSC ***02*** *21:06:05.4±0.8,55.51N×162.83E,h58km±21km,Ml4.2*
MOS ***02*** *21:06:06.8±0.6,55.55N×162.77E,h54km,mb3.9/1, Error ellipse: s-maj=8.4km s-min=5.8km az=72.6*

ISC 02 21:06:08.3±1.1,55.55N±0.04°×162.80E±0.03,h44km±17km, n81,σ1§00/100,mb3.4/4,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBG	**Krutoberegovo**	**0.70**	**356**	PN	**Pn**	**21 06 20.9**	**-0.9**
KBG				S	**Sn**	**21 06 32.8**	**+1.2**
KBG	**Krutoberegovo**	**0.70**	**356**	*e*P	**Pn**	**21 06 20.9**	**-0.9**
KBG				*e*S	**Sn**	**21 06 32.8**	**+1.2**
ZLN	**Zelenaya**	**1.22**	**293**	PN	**Pn**	**21 06 28.3**	**-0.6**
ZLN				S	**Sn**	**21 06 44.4**	**+0.1**
ZLN	**Zelenaya**	**1.22**	**293**	*e*P	**Pn**	**21 06 28.3**	**-0.6**
ZLN				*e*S	**Sn**	**21 06 44.4**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**1.25**	**289**	PN	**Pn**	**21 06 28.6**	**-0.8**
BZGR				S	**Sn**	**21 06 45.1**	**0.0**
BZGR	**Bezymyannyi-Gr**	**1.25**	**289**	*e*P	**Pn**	**21 06 28.6**	**-0.8**
BZGR				*e*S	**Sn**	**21 06 45.1**	**0.0**
SMKR	**Semkarok**	**1.27**	**325**	*e*S	**Sn**	**21 06 46.8**	**+1.3**
BZP	**Bezymyannyi-Pe**	**1.33**	**287**	*e*P	**Pn**	**21 06 29.5**	**-1.0**
BDR	**Baidarnaya**	**1.35**	**319**	PN	**Pn**	**21 06 30.2**	**-0.5**
BDR				S	**Sn**	**21 06 49.0**	**+1.5**
BDR	**Baidarnaya**	**1.35**	**319**	*e*P	**Pn**	**21 06 30.2**	**-0.5**
BDR				*e*S	**Sn**	**21 06 49.0**	**+1.5**
BZMR	**Bezymyannaya**	**1.36**	**287**	PN	**Pn**	**21 06 30.2**	**-0.7**
BZMR	**Bezymyannaya**	**1.36**	**287**	*e*P	**Pn**	**21 06 30.2**	**-0.7**
BZWR	**Bezymyannyi-We**	**1.36**	**288**	PN	**Pn**	**21 06 30.3**	**-0.7**
BZWR	**Bezymyannyi-We**	**1.36**	**288**	*e*P	**Pn**	**21 06 30.3**	**-0.7**
TUMD	**Tumrok D**	**1.41**	**257**	*e*P	**Pn**	**21 06 30.6**	**-0.9**
TUMD				*e*S	**Sn**	**21 06 49.0**	**0.0**
KRSR	**Krestovskiy**	**1.42**	**299**	PN	**Pn**	**21 06 30.5**	**-1.2**
KRSR				S	**Sn**	**21 06 48.6**	**-0.7**
KRSR	**Krestovskiy**	**1.42**	**299**	*e*P	**Pn**	**21 06 30.5**	**-1.2**
KRSR				*e*S	**Sn**	**21 06 48.6**	**-0.7**
KLY	**Klyuchi**	**1.43**	**303**	PN	**Pn**	**21 06 29.4**	**-2.3**
KLY				S	**Sn**	**21 06 46.7**	**-2.5**
KLY	**Klyuchi**	**1.43**	**303**	*e*P	**Pn**	**21 06 29.4**	**-2.3**
KLY				*e*S	**Sn**	**21 06 46.7**	**-2.5**
SRKR	**Sorokina**	**1.43**	**321**	PN	**Pn**	**21 06 32.0**	**+0.2**
SRKR	**Sorokina**	**1.43**	**321**	*e*P	**Pn**	**21 06 32.0**	**+0.2**
KIRR	**Kirishev**	**1.44**	**287**	PN	**Pn**	**21 06 31.6**	**-0.4**
KIRR				S	**Sn**	**21 06 50.3**	**+0.4**
KIRR	**Kirishev**	**1.44**	**287**	*e*P	**Pn**	**21 06 31.6**	**-0.4**
KIRR				*e*S	**Sn**	**21 06 50.3**	**+0.4**
KMNR	**Kamenistaya**	**1.47**	**279**	PN	**Pn**	**21 06 31.7**	**-0.6**
KMNR				S	**Sn**	**21 06 51.8**	**+1.5**
KMNR	**K

0.2nm,0.7s
WRA Warramunga Arr 45.09 123 P P 21 19 03.8 -0.5
1.0nm,0.8s,baz=301,slow=9.2,SNR=6.6
1.0nm,0.8s
ASAR Alice Springs 46.52 128 P P 21 19 15.8 +0.2
0.5nm,0.5s,baz=303,slow=7.9,SNR=6.4
0.5nm,0.5s
MJAR Matsushiro Arr 51.36 45 P P 21 19 52.7 +0.4
0.5nm,0.5s,baz=237,slow=6.1,SNR=1.8
0.5nm,0.5s

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*IDC **02** 21:29:36.6±0.7, 16°.36S×67°.10E, h0km, mb4.3/23, mbtmp4.3/24, ML3.7/1, MS4.3/36, Error ellipse: s-maj=23.4km s-min=17.4km az=136.0*
*BJI **02** 21:29:38.0±0.0, 16°.60S×67°.30E, h10km, mb4.6/25, mB5.1/10, Ms4.7/6, Ms7 4.5/9*
*NEIC **02** 21:29:39.5±1.2, 16°.5S±0°.1×67°.2E±0°.1, h10km±1km, mb4.9/79, Error ellipse: s-maj=19.3km s-min=15.2km az=144.0*
*GCMT **02** 21:29:41.5±0.1, 16°.20S±0°.01×67°.05E±0°.01, h15km±1km, MW5.1/132, Moment Tensor Solution. s60,c72; s132,c220; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.59±.13; Mθθ-5.42±.12; Mφφ6.02±.14; Mrθ-0.36±.22; Mθφ2.25±.10; Mφr-2.14±.31; Best double couple: M₀6.45400×10¹⁶ NP1:φs145.00000°, δ79.00000°, λ168.00000°. NP2:φs237.00000°, δ79.00000°, λ11.00000°. Principal axes: T 7.0620, Plg16.0000°, Azm101.0000°; N -1.2100, Plg74.0000°, Azm282.0000°; P -5.8470, Plg0.0000°, Azm191.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 21:29:39.0±0.4, 16°.53S±0°.09×67°.11E±0°.06, h13km, n220, σ1.962/161, mb4.8/87, MS4.4/42, 18C-10D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCAM	**Rodrigues Isla**	**4.79**	**227**	Pn	**Pn**	**21 30 51.0**	**+0.1**
H08S1	**Diego Garcia H**	**10.27**	**31**	T	T	21 42 09.5	
	baz=211						
H08S2	**Diego Garcia H**	**10.28**	**31**	T	T	21 42 07.0	
	baz=211						
H08S3	**Diego Garcia H**	**10.29**	**31**	T	T	21 42 11.1	
	baz=211						
ABPO	**Ambohimpanom**	**19.10**	**260**	P	**P**	**21 34 03.9**	**+2.0**
OPO	**Ambohidratompo**	**19.11**	**261**	P	**P**	**21 34 00.2**	**-1.8**
	baz=95,slow=11,SNR=3.0						
	3.9nm,0.7s						
VOI	**Vohitsoka**	**19.91**	**251**	P	**P**	**21 34 13.3**	**+2.7**
PALK	**Pallekele**	**27.20**	**31**	LR	LR	21 44 05.6	
	comp=Z,416nm,18.4s,baz=315,slow=32						
H04N2	**CROZET ISLANDS**	**32.19**	**200**	T	T	22 10 31.2	
	baz=28,slow=75,SNR=858						
H04N1	**CROZET ISLANDS**	**32.20**	**200**	T	T	22 10 32.2	
	baz=28,slow=75,SNR=909						
H04N3	**CROZET ISLANDS**	**32.21**	**200**	T	T	22 10 31.0	
	baz=28,slow=75,SNR=1309						
GSI	**Gunungsitoli**	**34.90**	**62**	P	**P**	**21 36 29.7**	**-0.9**
GSI				IAmb	IAmb	21 36 34.2	
	comp=Z,22nm,1.0s						
GSI	**Gunungsitoli**	**34.90**	**62**	P	**P**	**21 36 31.7**	**+1.1**
GSI	**Gunungsitoli**	**34.90**	**62**	P	**P**	**21 36 29.6**	**-1.0**
	comp=Z,25nm,1.6s						
KCSI	**Kotacane, Aceh**	**36.26**	**59**	P	**P**	**21 36 43.6**	**+1.3**
	comp=Z,11nm,1.2s						
PDSI	**Padang**	**36.33**	**68**	P	**P**	**21 36 44.2**	**+1.2**
	comp=Z,16nm,0.9s						
KRJI	**Kerinci**	**36.71**	**71**	P	**P**	**21 36 48.4**	**+2.1**
	comp=Z,71nm,1.0s						
RPSI	**Rantau Prapat**	**36.77**	**62**	P	**P**	**21 36 45.1**	**-1.6**
ATD	**Arta Tunnel**	**36.78**	**318**	LR	LR	21 50 14.7	
	comp=Z,28nm,19.2s,baz=144,slow=34						
LODK	**Lodwar**	**37.11**	**299**	P	**P**	**21 36 49.7**	**0.0**
LSZ	**Lusaka**	**37.42**	**266**	P	**P**	**21 36 52.2**	**-0.2**
LSZ	**Lusaka**	**37.42**	**266**	LR	LR	21 50 08.0	
	comp=Z,912nm,20.9s,baz=113,slow=33						
KASI	**Kota Agung**	**38.22**	**78**	P	**P**	**21 37 00.0**	**+1.1**
	comp=Z,21nm,0.9s						
MBAR	**Mbarara**	**39.17**	**290**	LR	LR	21 50 33.1	
	comp=Z,1μm,20.7s,baz=99,slow=32						
IPM	**Ipoh**	**39.49**	**61**	P	**P**	**21 37 09.7**	**0.0**
IPM	**Ipoh**	**39.49**	**61**	P	**P**	**21 37 10.3**	**+0.6**
LBTB	**Lobatse**	**39.60**	**251**	LR	LR	21 51 31.3	
	comp=Z,581nm,18.3s,baz=91,slow=33						
KULM	**Kulim**	**39.62**	**60**	P	**P**	**21 37 09.3**	**-1.4**
DBJI	**Dramaga**	**40.01**	**80**	P	**P**	**21 37 16.0**	**+2.0**
	comp=Z,55nm,1.3s						
CNJI	**Cibinong**	**40.14**	**82**	P	**P**	**21 37 16.4**	**+1.3**
	comp=Z,35nm,1.0s,comp=Z,647nm						
CNJI				pP	**pwP**	**21 37 24.1**	**+1.9**
	comp=Z,35nm,1.0s,comp=Z,647nm						
BOSA	**Boshof**	**40.28**	**245**	P	**P**	**21 37 14.8**	**-1.5**
	comp=Z,2.5nm,0.9s,baz=35,slow=7.6,SNR=2.6						
BOSA				LR	LR	21 50 03.4	
	comp=Z,347nm,21.9s,baz=90,slow=30						
	comp=Z,2.5nm,0.9s						
WSAR	**Wadi Sarin**	**40.38**	**348**	LR	LR	21 49 41.2	
	comp=Z,235nm,19.7s,baz=182,slow=30						
MYKOM	**Kota Tinggi**	**40.58**	**67**	P	**P**	**21 37 17.9**	**-0.7**
MYKOM				IAmb	IAmb	21 37 26.5	
	comp=Z,24nm,0.9s						
BBJI	**Bungbulang**	**40.59**	**82**	P	**P**	**21 37 20.3**	**+1.4**
LEM	**Lembang**	**40.75**	**81**	LR	LR	21 50 36.5	
	comp=Z,746nm,21.3s,baz=168,slow=31						
SRDT	**SRDT**	**44.05**	**48**	P	**P**	**21 37 46.5**	**-0.4**
SUR	**Sutherland**	**44.65**	**241**	LR	LR	21 52 16.3	
	comp=Z,298nm,19.9s,baz=85,slow=30						
RAYN	**Ar Rayn**	**45.06**	**331**	P	**P**	**21 37 56.0**	**+1.1**
H01W3	**Cape Leeuwin H**	**45.69**	**123**	T	T	22 27 06.5	
	baz=282,slow=75,SNR=75						
H01W2	**Cape Leeuwin H**	**45.69**	**123**	T	T	22 27 04.0	
	baz=282,slow=75,SNR=82						
H01W1	**Cape Leeuwin H**	**45.71**	**123**	T	T	22 27 04.7	
	baz=282,slow=75,SNR=82						
JAGI	**Jajag, Banyuwa**	**46.53**	**86**	P	**P**	**21 38 06.1**	**-0.6**
JAGI	**Jajag, Banyuwa**	**46.53**	**86**	P	**P**	**21 38 07.5**	**+0.8**
JAGI	**Jajag, Banyuwa**	**46.53**	**86**	P	**P**	**21 38 07.2**	**+0.5**
	comp=Z,53nm,1.1s						
CM31	**Chiang Mai Arr**	**46.80**	**43**	P	**P**	**21 38 07.4**	**-1.3**
CM31				IAmb	IAmb	21 38 15.6	
	comp=Z,15nm,0.9s						
CMAR	**Chiang Mai Arr**	**46.80**	**43**	P	**P**	**21 38 07.7**	**-0.9**
	comp=Z,4.9nm,1.0s,baz=234,slow=8.7,SNR=28						
	comp=Z,4.9nm,1.0s						
CHTO	**Chiang Mai**	**47.05**	**43**	P	**P**	**21 38 10.2**	**-0.5**
CHTO				IAmb	IAmb	21 38 17.3	
	comp=Z,9.1nm,1.1s						
CHTO	**Chiang Mai**	**47.05**	**43**	P	**P**	**21 38 10.1**	**-0.5**
TSUM	**Tsumeb**	**47.09**	**259**	LR	LR	21 55 55.1	
	comp=Z,507nm,20.0s,baz=102,slow=34						
SRBI	**Singaraja**	**47.64**	**86**	P	**P**	**21 38 16.8**	**+1.4**
	comp=Z,49nm,0.9s						
PHRA	**Phrae**	**47.69**	**45**	P	**P**	**21 38 15.3**	**-0.3**
MND	**Mandalay**	**47.69**	**37**	P	**P**	**21 38 14.3**	**-1.3**
SBUM	**Sibu**	**48.37**	**71**	P	**P**	**21 38 19.9**	**-1.1**
CRAI	**Chiangrai**	**49.00**	**43**	P	**P**	**21 38 25.5**	**-0.2**
UBPT	**Khong Chiam**	**49.32**	**52**	P	**P**	**21 38 27.4**	**-0.8**
UBPT	**Khong Chiam**	**49.32**	**52**	P	**P**	**21 38 27.1**	**-1.1**
NONG	**Nongkai**	**49.40**	**47**	P	**P**	**21 38 28.3**	**-0.5**
NIL	**Nilore**	**50.24**	**7**	P	**P**	**21 38 34.9**	**-0.1**
KBL	**Kabul**	**50.82**	**2**	P	**P**	**21 38 39.6**	**0.0**
KBL				IAmb	IAmb	21 38 48.5	
	comp=Z,12nm,1.1s						
HRA	**Herat**	**50.84**	**355**	P	**P**	**21 38 37.6**	**-2.1**
MAW	**Mawson**	**51.12**	**182**	P	**P**	**21 38 42.4**	**+1.3**
MAW				IAmb	IAmb	21 38 46.3	
	comp=Z,16nm,1.2s						
TNCH	**TengChong**	**51.41**	**37**	P	**P**	**21 38 46.1**	**+1.9**
TNCH				pP	sP	21 38 49.2	+0.5
TNCH				pmax	pmax		
	comp=Z,16nm,1.1s						
LSA	**Lhasa**	**51.48**	**27**	P	**P**	**21 38 44.3**	**-0.6**
LSA				IAmb	IAmb	21 39 00.9	
	comp=Z,12nm,1.1s						
SLVN	**Son La**	**52.13**	**45**	IAmb	IAmb	21 38 57.1	
	comp=Z,13nm,0.9s						
KAPI	**Kappang**	**52.81**	**84**	P	**P**	**21 38 53.7**	**-0.9**
KAPI				IAmb	IAmb	21 38 59.0	
	comp=Z,22nm,1.0s						
KMI	**Kunming**	**54.03**	**41**	⇑P	**P**	**21 39 02.8**	**-0.8**
KMI				S	**S**	**21 46 40.7**	**+0.9**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PZH	**PanZhiHua**	**54.42**	**39**	P	**P**	**21 39 05.1**	**-1.2**
PZH				sP	**pwP**	**21 39 11.8**	**-1.6**
PZH				S	**S**	**21 46 45.3**	**+0.4**
PZH				pmax	pmax		
	comp=Z,30nm,0.9s						
PZH				pmax	pmax		
	comp=Z,150nm,6.1s						
PZH				LR	LR		
	comp=Z,190nm,18.6s						
PZH				LR	LR		
	comp=Z,240nm,17.7s						
PZH				LR	LR		
	comp=Z,330nm,21.0s						
GEYT	**Alibeck**	**54.82**	**351**	P	**P**	**21 39 07.8**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=212,slow=19,SNR=4.1						
GEYT				LR	LR	21 59 36.5	
	comp=Z,282nm,22.0s,baz=164,slow=33						
	comp=Z,1.1nm,0.7s						
SIMJ	**Simiganj**	**54.92**	**2**	P	**P**	**21 39 09.9**	**+0.2**
CHGR	**Chuyangaron**	**54.93**	**2**	P	**P**	**21 39 09.9**	**+0.3**
CHGR				IAmb	IAmb	21 39 20.4	
	comp=Z,12nm,1.0s						
BATI	**Baumata**	**55.23**	**91**	LR	LR	21 58 45.3	
	comp=Z,462nm,21.8s,baz=273,slow=32						
GAR	**Garm**	**55.32**	**3**	IAmb	IAmb	21 39 24.5	
	comp=Z,16nm,1.0s						
EIL	**Elat**	**55.43**	**326**	LR	LR	21 59 24.0	
	comp=Z,266nm,21.2s,baz=136,slow=32						
FITZ	**Fitzroy Crossi**	**55.69**	**101**	P	**P**	**21 39 12.3**	**-3.3**
DRK	**Karamyk**	**55.89**	**4**	P	**P**	**21 39 16.7**	**-0.1**
KSH	**Kashi**	**56.36**	**8**	P	P	21 39 15.2	-4.8
KSH				sP	sP	21 39 24.5	-0.1
KSH				pmax	pmax		
	comp=Z,11nm,1.2s						
KSH				LR	LR		
	comp=Z,380nm,16.5s						
KSH				LR	LR		
	comp=Z,400nm,11.8s						
KSH				LR	LR		
	comp=Z,360nm,15.5s						
GHAJ	**Ghor Haditha**	**56.39**	**327**	P	**P**	**21 39 21.6**	**+1.4**
GHAJ				IAmb	IAmb	21 39 27.3	
	comp=Z,18nm,1.1s						
BTK	**Batken**	**56.40**	**3**	IAmb	IAmb	21 39 29.4	
	comp=Z,9.1nm,1.0s						
LUWI	**Luwuk**	**56.90**	**80**	P	**P**	**21 39 23.6**	**-0.6**
BALJ	**Balqa**	**56.98**	**328**	P	**P**	**21 39 25.5**	**+1.0**
BALJ				IAmb	IAmb	21 39 31.5	
	comp=Z,15nm,1.1s						
ARSB	**Arslanbob**	**57.81**	**5**	P	**P**	**21 39 29.9**	**-0.4**
MMAI	**Mount Meron Ar**	**57.84**	**329**	P	**P**	**21 39 30.9**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=147,slow=8.6,SNR=1.5						
MMAI				LR	LR	22 01 15.8	
	comp=Z,172nm,21.5s,baz=130,slow=33						
	comp=Z,1.4nm,0.8s						
GOMU	**GeErMu**	**58.62**	**26**	P	**P**	**21 39 34.1**	**-2.2**
GOMU				pP	sP	21 39 41.2	+0.3
GOMU				sP	pwP	21 39 44.6	+1.2
GOMU				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AAK	**Ala-Archa**	**59.26**	**6**	P	**P**	**21 39 40.9**	**+0.5**
AAK				IAmb	IAmb	21 39 45.9	
	comp=Z,7.9nm,1.1s						
AAK	**Ala-Archa**	**59.26**	**6**	LR	LR	22 03 47.1	
	comp=Z,230nm,19.1s,baz=196,slow=35						
KK31	**Karatay Array**	**59.42**	**3**	P	**P**	**21 39 40.7**	**-0.6**
KKAR	**Karatay Array**	**59.42**	**3**	P	**P**	**21 39 41.0**	**-0.3**
FRU1	**Bishkek**	**59.45**	**6**	P	**P**	**21 39 41.6**	**0.0**
FRU1				IAmb	IAmb	21 39 50.7	
	comp=Z,18nm,1.2s						
GURO	**Guroymak-BITLI**	**59.62**	**337**	P	**P**	**21 39 44.4**	**+1.4**
GURO				IAmb	IAmb	21 39 49.3	
	comp=Z,5.4nm,0.7s						
GNI	**Garni**	**60.11**	**340**	P	**P**	**21 39 46.0**	**-0.3**
GAZ	**Gaziantep**	**60.39**	**333**	P	**P**	**21 39 49.6**	**+1.4**
GAZ				IAmb	IAmb	21 39 54.7	
	comp=Z,6.1nm,0.9s						
CSS	**Mathiatis**	**60.43**	**328**	P	**P**	**21 39 48.8**	**+0.4**
CSS				IAmb	IAmb	21 39 59.2	
	comp=Z,12nm,1.0s						
KARS	**Kars**	**61.09**	**339**	P	**P**	**21 39 54.6**	**+1.6**
ARPR	**Arapgir-MALATY**	**61.53**	**335**	P	**P**	**21 39 56.3**	**+0.3**
ARPR				IAmb	IAmb	21 40 23.6	
	comp=Z,7.8nm,0.9s						
DAV	**Davao City (W)**	**62.40**	**73**	LR	LR	22 05 06.0	
	comp=Z,179nm,20.9s,baz=261,slow=34						
ASAR	**Alice Springs**	**62.65**	**108**	LR	LR	22 03 58.8	
	comp=Z,949nm,20.0s,baz=275,slow=33						
GTA	**Gaotai**	**63.48**	**28**	*e*P	**P**	**21 40 08.2**	**-0.8**
GTA				sP	pwP	21 40 19.2	+3.1
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GTA				LR	LR		
	comp=Z,120nm,12.7s						
GTA				LR	LR		
	comp=Z,120nm,14.3s						
GTA				LR	LR		
	comp=Z,260nm,17.5s						
KBZ	**Khabaz**	**63.93**	**341**	P	**P**	**21 40 11.6**	**0.0**
	comp=Z,1.7nm,0.7s,baz=171,slow=6.5,SNR=7.7						
	comp=Z,1.7nm,0.7s						
BR131	**Keskin Array S**	**64.08**	**332**	P	**P**	**21 40 14.0**	**+1.1**
BR131				IAmb	IAmb	21 40 28.9	
	comp=Z,5.6nm,0.9s						
BRTR	**Keskin Array B**	**64.08**	**332**	P	**P**	**21 40 14.0**	**+1.1**
BRTR	**Keskin Array B**	**64.08**	**332**	P	**P**	**21 40 12.6**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=161,slow=7.7,SNR=10						
BRTR				LR	LR	22 06 40.4	
	comp=Z,193nm,19.3s,baz=155,slow=35						
	comp=Z,1.6nm,0.7s						
MAKZ	**Makanchi**	**64.45**	**11**	P	**P**	**21 40 14.9**	**-0.1**
MAKZ				IAmb	IAmb	21 40 23.0	
	comp=Z,7.3nm,1.0s						
MK31	**Makanchi Array**	**64.49**	**11**	IAmb	IAmb	21 40 23.3	
	comp=Z,8.8nm,1.1s						
MKAR	**Makanchi Array**	**64.49**	**11**	P	**P**	**21 40 13.4**	**-2.0**
	comp=Z,1.4nm,0.8s,baz=212,slow=7.5,SNR=15						
MKAR				LR	LR	22 06 02.1	
	comp=Z,143nm,20.8s,baz=194,slow=34						
	comp=Z,1.4nm,0.8s						
WHN	**Wuhan**	**65.24**	**44**	⇓P	P	21 40 26.5	+6.0
WHN				pmax	pmax		
	comp=Z,44nm,0.8s						
WHN				LR	LR		
	comp=Z,670nm,14.3s						
ABKAR	**Akbulak array**	**65.80**	**355**	P	**P**	**21 40 21.7**	**-2.0**
ABKAR	**Akbulak array**	**65.80**	**355**	IAmb	IAmb	21 40 30.1	
	comp=Z,9.2nm,1.1s						
YULB	**Yu-li**	**66.17**	**55**	P	**P**	**21 40 26.8**	**+0.1**
AKTO	**Aktyubinsk**	**67.15**	**354**	LR	LR	22 09 22.5	
	comp=Z,56nm,19.0s,baz=212,slow=36						
KURBB	**Kurchatov Arra**	**67.61**	**8**	P	**P**	**21 40 33.2**	**-2.1**
	comp=Z,1.3nm,0.6s,baz=204,slow=6.8,SNR=11						
	comp=Z,1.3nm,0.6s						
KURK	**Kurchatov**	**67.71**	**8**	P	**P**	**21 40 36.1**	**+0.2**
STKA	**Stephens Creek**	**68.47**	**118**	LR	LR	22 06 11.1	
	comp=Z,420nm,21.6s,baz=242,slow=32						
BVAR	**Borovoye Array**	**69.32**	**2**	P	**P**	**21 40 43.2**	**-2.7**
	comp=Z,4.3nm,0.8s,baz=164,slow=7.3,SNR=20						
BVAR				LR	LR	22 10 19.0	
	comp=Z,125nm,19.6s,baz=166,slow=35						
	comp=Z,4.3nm,0.8s						
BRVK	**Borovoye**	**69.35**	**2**	P	**P**	**21 40 45.4**	**-0.7**
BRVK				IAmb	IAmb	21 40 54.8	
	comp=Z,12nm,1.1s						
LIT	**Litokhoron**	**69.98**	**325**	P	**P**	**21 40 49.5**	**-0.8**
ELND	**Elena**	**70.25**	**329**	⇑P	P	21 40 57.7	+5.8
HARR	**Harsova**	**70.60**	**331**	⇑P	P	21 40 59.4	+5.4
BELG	**Belogornoye**	**70.69**	**347**	LR	LR	22 11 55.5	
	comp=Z,118nm,20.8s,baz=100,slow=36						
CFR	**Carcaliu**	**70.88**	**332**	⇓P	P	21 41 00.5	+4.8
TOA0	**Torodi Ar. Sit**	**71.05**	**291**	P	**P**	**21 40 57.3**	**0.0**
TOA0				IAmb	IAmb	21 41 06.0	
	comp=Z,12nm,1.2s						
TORD	**Torodi Ar. Bea**	**71.05**	**291**	P	**P**	**21 40 56.0**	**-1.3**
TORD				IAmb	IAmb	21 41 06.0	
	comp=Z,9.4nm,1.2s						
TORD	**Torodi Ar. Bea**	**71.05**	**291**	P	**P**	**21 40 56.0**	**-1.3**
	comp=Z,2.8nm,1.2s,baz=100,slow=6.5,SNR=8.2						
TORD				LR	LR	22 10 55.5	
	comp=Z,261nm,18.7s,baz=118,slow=35						
	comp=Z,2.8nm,1.2s						
PLVB	**Pleven**	**71.21**	**329**	⇓P	P	21 41 03.0	+5.3
ZAA0	**Zalesovo Array**	**71.82**	**11**	IAmb	IAmb	21 41 09.7	
	comp=Z,19nm,1.2s						
ZALV	**Zalesovo Beam**	**71.82**	**11**	P	**P**	**21 40 59.0**	**-2.1**
	comp=Z,3.6nm,0.6s,baz=205,slow=7.4,SNR=20						
ZALV				LR	LR	22 11 49.6	
	comp=Z,75nm,18.2s,baz=164,slow=35						
	comp=Z,3.6nm,0.6s						
VRI	**Vrincioaia**	**72.05**	**332**	⇓P	**P**	**21 41 04.2**	**+1.5**
PLOR	**Plostina**	**72.07**	**332**	⇑P	**P**	**21 41 04.7**	**+1.8**
MLR	**Muntele Rosu**	**72.12**	**331**	⇑P	**P**	**21 41 06.7**	**+3.3**
COVR	**Voineasa-Covas**	**72.27**	**331**	⇓P	**P**	**21 41 06.0**	**+1.9**
VOIR		**72.50**	**330**	⇑P	P	21 41 11.1	+5.6
TURR	**Turia**	**72.51**	**331**	⇑P	P	21 41 11.1	+5.5
DOPR	**Dopca**	**72.74**	**331**	⇑P	P	21 41 12.1	+5.3
ARU	**Arti**	**73.03**	**355**	P	**P**	**21 41 09.2**	**+0.9**
ARU				IAmb	IAmb	21 41 14.9	
	comp=Z,11nm,1.1s						
SONM	**Songino Array**	**73.06**	**26**	P	**P**	**21 41 09.4**	**+0.5**
SONM				IAmb	IAmb	21 41 22.6	
	comp=Z,5.6nm,0.8s						
SONM	**Songino Array**	**73.06**	**26**	P	**P**	**21 41 07.8**	**-1.1**
	comp=Z,4.1nm,1.0s,baz=221,slow=6.5,SNR=9.5						
	comp=Z,4.1nm,1.0s						
SORM	**Soroca**	**73.08**	**334**	⇓P	**P**	**21 41 12.9**	**+4.2**
ULN	**Ulaanbaatar**	**73.37**	**27**	P	**P**	**21 41 10.9**	**+0.2**
ULN				IAmb	IAmb	21 41 24.7	
	comp=Z,18nm,1.1s						
HERR	**Herculane**	**73.39**	**329**	⇑P	P	21 41 16.3	+5.6
QSPA	**South Pole Qui**	**73.56**	**180**	P	**P**	**21 41 13.8**	**+2.1**
QSPA				IAmb	IAmb	21 41 24.4	
	comp=Z,8.6nm,0.9s						
QSPA	**South Pole Qui**	**73.56**	**180**	P	**P**	**21 41 13.3**	**+1.7**
	comp=Z,6.4nm,1.1s,baz=269,slow=2.0,SNR=14						
	comp=Z,6.4nm,1.1s						
GZR	**Gura Zlata**	**73.57**	**329**	⇑P	P	21 41 19.2	+7.3
DEV	**Deva**	**73.86**	**330**	⇓P	P	21 41 19.2	+5.7
BURAR	**Bucovina Array**	**74.05**	**332**	P	**P**	**21 41 17.0**	**+2.4**
SURR	**Surduc**	**74.15**	**329**	⇑P	P	21 41 21.1	+6.0
BZS	**Buzias**	**74.31**	**329**	⇓P	P	21 41 21.5	+5.4
MARR	**Marisel-Cluj**	**74.33**	**330**	⇑P	**P**	**21 41 18.7**	**+2.4**
CTA	**Charters Tower**	**74.55**	**107**	LR	LR	22 11 15.7	
	comp=Z,438nm,20.6s,baz=250,slow=34						
KIC	**Kosan Boka**	**74.58**	**282**	⇑*i*P	**P**	**21 41 20.7**	**+2.3**
	comp=Z,13nm,0.9s						
AKASG	**Malin Array Be**	**74.74**	**336**	P	**P**	**21 41 19.9**	**+1.4**
AKASG	**Malin Array Be**	**74.74**	**336**	P	**P**	**21 41 16.7**	**-1.7**
	comp=Z,2.7nm,0.7s,baz=134,slow=4.9,SNR=19						
	comp=Z,2.7nm,0.7s						
AKBB	**Malin Array Si**	**74.74**	**336**	P	**P**	**21 41 18.9**	**+0.5**
AKBB				IAmb	IAmb	21 41 24.1	
	comp=Z,14nm,0.8s						
KIEV	**Kiev**	**74.74**	**336**	⇑P	**P**	**21 41 17.8**	**-0.7**
KIEV	**Kiev**	**74.74**	**336**	P	**P**	**21 41 19.5**	**+1.0**
KIEV				IAmb	IAmb	21 41 24.2	
	comp=Z,13nm,0.8s						
SIRR	**Siria**	**74.74**	**329**	⇑P	**P**	**21 41 17.3**	**-1.3**
DBIC	**Dimbokro**	**74.79**	**282**	P	**P**	**21 41 20.0**	**+0.4**
DBIC				IAmb	IAmb	21 41 28.7	
	comp=Z,20nm,1.2s						
DBIC	**Dimbokro**	**74.79**	**282**	P	**P**	**21 41 17.7**	**-1.9**
	comp=Z,4.6nm,0.9s,baz=96,slow=14,SNR=1.5						
DBIC				LR	LR	22 13 15.5	
	comp=Z,207nm,18.1s,baz=135,slow=35						
	comp=Z,4.6nm,0.9s						
LIC	**Lamto**	**74.81**	**281**	⇑*i*P	**P**	**21 41 19.1**	**-0.6**
	comp=Z,20nm,0.7s						
TIC	**Toumodi**	**74.94**	**282**	⇑*i*P	**P**	**21 41 19.1**	**-1.4**
	comp=Z,4.7nm,0.3s						
XLT	**XiLinHaoTe**	**74.94**	**34**	*e*P	**P**	**21 41 24.0**	**+4.1**
XLT				sP	pwP	21 41 30.2	+3.4
XLT				PcP	**PcP**	**21 41 38.0**	**+4.3**
XLT				PP	**PP**	**21 44 13.7**	**+5.8**
XLT				pmax	pmax		
	comp=Z,11nm,1.1s						
XLT				pmax	pmax		
	comp=Z,310nm,4.9s						
KEST	**Kesra**	**75.41**	**315**	LR	LR	22 15 04.9	
	comp=Z,232nm,19.4s,baz=60,slow=36						
MORH	**Mrgy, Hungar**	**76.22**	**328**	⇑P	**P**	**21 41 26.3**	**-0.7**
KOLS	**Kolonicke sedl**	**76.35**	**331**	*e*P	**P**	**21 41 31.0**	**+3.2**
KWP	**Kalwaria Pacla**	**76.66**	**332**	P	**P**	**21 41 30.4**	**+0.9**
VYHS	**Vyhne**	**77.67**	**329**	*e*P	P	21 41 40.2	+5.0
LANS	**Liptovska Anna**	**77.82**	**330**	*e*P	P	21 41 42.1	+6.0
PMG	**Port Moresby**	**77.91**	**96**	LR	LR	22 14 11.0	
	comp=Z,236nm,20.2s,baz=267,slow=34						
MODS	**Modra-Piesok**	**78.36**	**329**	*e*P	P	21 41 44.5	+5.4
OJC	**Ojcow**	**78.40**	**331**	P	**P**	**21 41 39.6**	**+0.3**
OJC				IAmb	IAmb	21 41 45.4	
	comp=Z,8nm,0.9s						
KSRS	**Korea Array**	**78.40**	**45**	P	**P**	**21 41 38.2**	**-1.3**
	comp=Z,2.8nm,0.9s,baz=233,slow=5.5,SNR=3.7						
	comp=Z,2.8nm,0.9s						
RONA	**Rosalia, Austr**	**78.41**	**328**	*e*P	**P**	**21 41 40.4**	**+1.0**
	comp=Z,8.1nm,0.9s						
SOKA	**Soboth**	**78.41**	**326**	*e*P	**P**	**21 41 44.2**	**+4.8**
	comp=Z,12nm,1.8s						
ARSA	**Arzberg**	**78.52**	**327**	*i* P	**P**	**21 41 41.0**	**+1.0**
	comp=Z,11nm,0.9s						
MAUC	**Maruska**	**78.75**	**330**	*e*P	P	21 41 46.9	+5.7
CONA	**Conrad Observa**	**78.78**	**328**	*e*P	**P**	**21 41 43.9**	**+2.4**
	comp=Z,12nm,1.0s						
MORC	**Moravsky Berou**	**79.16**	**330**	⇓P	**P**	**21 41 47.9**	**+4.4**
MORC	**Moravsky Berou**	**79.16**	**330**	P	**P**	**21 41 43.9**	**+0.4**
MORC				IAmb	IAmb	21 41 50.6	
	comp=Z,10nm,1.2s						
MORC	**Moravsky Berou**	**79.16**	**330**	*e*P	**P**	**21 41 45.7**	**+2.2**
KRUC	**Moravsky**	**79.25**	**329**	*e*P	**P**	**21 41 46.0**	**+2.1**
VRAC	**Vranov**	**79.31**	**329**	⇓P	P	21 41 50.2	+5.9
VRAC	**Vranov**	**79.31**	**329**	*e*P	**P**	**21 41 46

HNR	**Honiara**	**90.05 100**	LR	LR	22 22 40.0	
	comp=Z,3μm,19.1s,baz=238,slow=35					
ARCES	**ARCESS Array B**	**90.71 346**	P	**P**	**21 42 41.9**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=142,slow=3.3,SNR=0.9					
	comp=Z,1.2nm,0.7s					
DZM	**Mont Dzumac**	**92.22 114**	LR	LR	22 22 52.8	
	comp=Z,306nm,19.2s,baz=249,slow=35					
URZ	**Urewera**	**94.81 132**	LR	LR	22 18 28.6	
	comp=Z,193nm,19.0s,baz=302,slow=31					
TIXI	**Tiksi**	**97.15 16**	LR	LR	22 27 36.4	
	comp=Z,100nm,19.2s,baz=242,slow=36					
SPITS	**Spitsbergen Ar**	**98.71 351**	LR	LR	22 32 20.7	
	comp=Z,69nm,18.5s,baz=34,slow=38					
ILAR	**Eielson Array**	**126.60 17**	PKP	**PKPdf**	**21 48 41.1**	**-0.5**
	comp=Z,0.1nm,0.5s,baz=289,slow=2.8,SNR=3.4					
YKA	**Yellowknife Ar**	**134.07 1**	PKP	**PKPdf**	**21 48 55.5**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=353,slow=2.3,SNR=4.5					
ULM	**Lac du Bonnet**	**143.67 342**	PKP	**PKPdf**	**21 49 13.5**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=26,slow=7.8,SNR=3.6					
PDAR	**Pinedale Array**	**153.69 354**	PKPbc	**PKPbc**	**21 49 37.4**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=76,slow=3.3,SNR=5.3					
NVAR	**Mina Array Bea**	**157.67 11**	PKPab	**PKPab**	**21 50 08.2**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=357,slow=2.0,SNR=2.0					

MOS ***02*** *21:30:51.9±1.1,6.˚18S×142.˚95E,h10km,mb5.3/38,Error ellipse: s-maj=10.0km s-min=5.5km az=112.6*

IDC ***02*** *21:30:52.6±0.5,6.˚13S×143.˚01E,h0km,mb4.8/18, mbtmp4.8/20,ML3.8/2,MS4.2/29,Error ellipse: s-maj=20.7km s-min=11.5km az=76.0*

NEIC ***02*** *21:30:55.1,6.˚30S×142.˚48E,h20km,Moment Tensor Solution. Duration: 1ŧ9 Moment tensor: Scale 10¹⁶Nm; Mrr5.67; Mθθ-3.61; Mϕϕ-2.06; Mrθ3.71; Mθϕ3.63; Mϕr-1.74; Fault plane solution: M0 7.37000×10¹⁶ NP1: ϕs120.49000°,δ62.11000°,λ81.12000°. NP2: ϕs318.95000°,δ29.16000°,λ106.25000°. Principal axes: T 7.0006, Plg71.0000°, Azm10.0000°; N 0.7422, Plg8.0000°, Azm125.0000°; P -7.7428, Plg17.0000°, Azm217.0000°;*

BJI ***02*** *21:30:55.7±0.0,6.˚30S×143.˚18E,h47km,mb4.9/65, mB5.5/35,Ms4.7/21,Ms7 4.5/25*

NEIC ***02*** *21:30:55.1±2.5,6.˚18S±0.˚07×142.˚80E±0.˚07,h10km±1km, mb5.3/230,Mww5.2/15,Error ellipse: s-maj=11.7km s-min=11.6km az=173.0*

NEIC ***02*** *21:30:55.1,6.˚20S×142.˚78E,h20km*

DJA ***02*** *21:30:58.5±0.2,6.˚5±2.˚×14.˚3E±.˚,h39km±2km,M5.1/82, mb5.2/82,mB5.5/48,MLv5.8/6,Mw(mB)5.0/48, MwMwp4.8/1,Mwp5.1/1*

GCMT ***02*** *21:30:58.2±0.2,6.˚27S±0.˚01×142.˚74E±0.˚01,h14km, MW5.1/109,Moment Tensor Solution. s57,c71; s109,c168; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.79±.20; Mθθ-2.98±.13; Mϕϕ-1.80±.14; Mrθ-0.38±.26; Mθϕ3.53±.09; Mϕr-1.80±.29; Best double couple: M0 5.75600×10¹⁶ NP1:ϕs149.00000°,δ53.00000°, λ116.00000°. NP2:ϕs290.00000°,δ44.00000°,λ60.00000°. Principal axes: T 5.4690, Plg69.0000°, Azm119.0000°; N 0.5830, Plg21.0000°, Azm313.0000°; P -6.0420, Plg5.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 21:30:56.9±0.5,6.˚27S±0.˚04×142.˚79E±0.˚04,h28km±3km, h29km;pP-P,n747,σ1ŧ29/648,mb5.3/204,MS4.2/38, 12C-4D,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**1.85**	**302**	P	**Pb**	**21 31 28.9**	**-1.3**
MMPI	**Merauke**	**3.23**	**227**	P	**Pn**	**21 31 49.6**	**+3.7**
GENI	**Genyem**	**4.50**	**324**	P	**Pn**	**21 32 04.8**	**+1.6**
GENI	**Genyem**	**4.50**	**324**	P	**Pn**	**21 32 05.1**	**+1.9**
PMG	**Port Moresby**	**5.33**	**126**	Pn	**Pn**	**21 32 13.4**	**-1.2**
PMG	**Port Moresby**	**5.33**	**126**	P	**Pn**	**21 32 14.2**	**-0.5**
PMG	**Port Moresby**	**5.33**	**126**	P	**Pn**	**21 32 14.0**	**-0.7**
PMG	**Port Moresby**	**5.33**	**126**	*i* P	**Pn**	**21 32 13.0**	**-1.7**
PMG	**Port Moresby**	**5.33**	**126**	Pn	**Pn**	**21 32 14.2**	**-0.5**
	53nm,0.3s,baz=346,slow=4.8,SNR=91						
PMG				Sn	**Sn**	**21 33 12.7**	**-2.4**
	38nm,0.3s,baz=218,slow=22,SNR=13						
PMG				LR	LR	21 34 55.0	
	comp=Z,2μm,18.2s,baz=278,slow=46						
	147nm,0.4s						
SMPI	**Sarmi**	**5.89**	**316**	P	**Pn**	**21 32 24.2**	**+1.8**
	505nm,1.0s,8μm4μm2.8nm						
MANU	**Manus Island**	**6.20**	**48**	Pn	**Pn**	**21 32 25.7**	**-1.0**
MANU	**Manus Island**	**6.20**	**48**	P	**Pn**	**21 32 28.3**	**+1.6**
COEN	**Coen**	**7.65**	**177**	P	**Pn**	**21 32 48.8**	**+2.2**
	baz=7.7,SNR=25						
COEN	**Coen**	**7.65**	**177**	Pn	**Pn**	**21 32 48.0**	**+1.5**
COEN	**Coen**	**7.65**	**177**	P	**Pn**	**21 32 49.5**	**+3.0**
RABL	**Rabaul**	**9.56**	**78**	Pn	**Pn**	**21 33 12.5**	**-0.2**
RABL	**Rabaul**	**9.56**	**78**	P	**Pn**	**21 33 15.7**	**+2.9**
FAKI	**Fak Fak**	**11.03**	**287**	Pn	**Pn**	**21 33 28.9**	**-4.0**
FAKI	**Fak Fak**	**11.03**	**287**	P	**Pn**	**21 33 34.6**	**+1.7**
FAKI	**Fak Fak**	**11.03**	**287**	P	**Pn**	**21 33 32.1**	**-0.8**
	85nm,0.8s,1μm						
SAUI	**Saumlaki**	**11.53**	**261**	Pn	**Pn**	**21 33 41.0**	**+1.2**
SAUI	**Saumlaki**	**11.53**	**261**	P	**Pn**	**21 33 41.2**	**+1.4**
SAUI	**Saumlaki**	**11.53**	**261**	P	**Pn**	**21 33 41.0**	**+1.2**
	722nm,0.7s,9μm						
MTSU	**Mount Surprise**	**11.88**	**173**	P	**Pn**	**21 33 47.2**	**+2.6**
	baz=12,SNR=11						
MTSU	**Mount Surprise**	**11.88**	**173**	P	**Pn**	**21 33 47.4**	**+2.8**
KDU	**Kakadu**	**12.01**	**237**	P	**Pn**	**21 33 45.2**	**-1.1**
	baz=12,SNR=179						
KDU	**Kakadu**	**12.01**	**237**	P	**Pn**	**21 33 46.3**	**0.0**
SWI	**Sorong**	**12.70**	**295**	P	**Pn**	**21 33 59.5**	**+3.7**
SWI				pmax	pmax		
	comp=Z,91nm,0.7s						
SWI	**Sorong**	**12.70**	**295**	P	**Pn**	**21 33 55.4**	**-0.4**
	comp=Z,90nm,0.7s,comp=Z,1μm						
BNDI	**Bandanaira**	**12.95**	**277**	P	**Pn**	**21 34 00.6**	**+1.4**
	comp=Z,268nm,0.9s						
MTN	**Manton Dam**	**13.22**	**240**	P	**Pn**	**21 34 00.8**	**-2.1**
	baz=13,SNR=60						
MTN	**Manton Dam**	**13.22**	**240**	Pn	**Pn**	**21 34 01.4**	**-1.5**
MTN	**Manton Dam**	**13.22**	**240**	P	**Pn**	**21 34 01.6**	**-1.3**
DRS	**Darwin Rock St**	**13.23**	**242**	P	**Pn**	**21 34 03.9**	**+0.8**
TV1H	**Townsville Har**	**13.48**	**164**	P	**Pn**	**21 34 09.4**	**+2.9**
AUAYR	**Ayr State High**	**13.97**	**162**	P	**Pn**	**21 34 15.5**	**+2.4**
CTA	**Charters Tower**	**14.14**	**167**	P	**Pn**	**21 34 18.7**	**+3.3**
CTA	**Charters Tower**	**14.14**	**167**	Pn	**Pn**	**21 34 17.3**	**+1.8**
	comp=Z,1.2nm,0.3s,baz=342,slow=14,SNR=15						
CTA				Lg	Lg	21 38 25.4	
	comp=Z,0.8nm,0.3s,baz=247,slow=19,SNR=6.4						
CTA				LR	LR	21 39 40.4	
	comp=Z,2μm,18.4s,baz=354,slow=37						
	comp=Z,5.5nm,0.5s						
CTAO	**Charters Tower**	**14.14**	**167**	Pn	**Pn**	**21 34 13.6**	**-1.8**
CTAO	**Charters Tower**	**14.14**	**167**	P	**Pn**	**21 34 18.9**	**+3.5**
CTAO	**Charters Tower**	**14.14**	**167**	P	**Pn**	**21 34 13.6**	**-1.8**
QIS	**Mount Isa**	**14.53**	**192**	P	**Pn**	**21 34 21.1**	**+0.3**
	baz=15,SNR=33						
QIS	**Mount Isa**	**14.53**	**192**	P	**Pn**	**21 34 21.5**	**+0.7**
WB0	**Warramunga Arr**	**15.70**	**211**	P	**Pn**	**21 34 36.1**	**-0.3**
WR0	**Warramunga Arr**	**15.79**	**210**		**Pn**	**21 34 36.3**	**-1.2**
WRAB	**Tennant Creek**	**15.87**	**210**		**Pn**	**21 34 37.3**	**-1.1**
WRAB	**Tennant Creek**	**15.87**	**210**	*i* P	**Pn**	**21 34 37.3**	**-1.1**
WB2	**Warramunga Arr**	**15.87**	**210**		**Pn**	**21 34 37.7**	**-0.9**
WRA	**Warramunga Arr**	**15.88**	**210**		**Pn**	**21 34 38.2**	**-0.4**
WRA	**Warramunga Arr**	**15.88**	**210**	*i* P	**Pn**	**21 34 37.2**	**-1.4**
WRA				pmax	pmax		
	comp=Z,14nm,0.5s						
WRA	**Warramunga Arr**	**15.88**	**210**	Pn	**Pn**	**21 34 37.2**	**-1.4**
	comp=Z,3.9nm,0.3s,baz=32,slow=14,SNR=54						
WRA				Sn	**Sn**	**21 37 25.8**	**-8.1**
	comp=Z,3.9nm,0.3s,baz=46,slow=23,SNR=4.6						
WRA				Lg	Lg	21 39 20.1	
	comp=Z,3.5nm,0.3s,baz=39,slow=29,SNR=4.7						
NLAI	**Namlea**	**15.93**	**280**	P	**Pn**	**21 34 40.8**	**+1.6**
	comp=Z,34nm,0.8s						
LBMI	**Labuha**	**16.25**	**290**	P	**Pn**	**21 34 44.1**	**+0.7**
	comp=Z,105nm,0.9s,comp=Z,2μm						
KNRA	**Kununurra**	**16.63**	**235**	P	**Pn**	**21 34 46.9**	**-1.3**
	baz=17,SNR=20						
KNRA	**Kununurra**	**16.63**	**235**	Pn	**Pn**	**21 34 46.9**	**-1.3**
KNRA				IAmb	IAmb	21 34 54.0	
	comp=Z,139nm,0.7s						
KNRA	**Kununurra**	**16.63**	**235**	P	**Pn**	**21 34 47.0**	**-1.2**
TNTI	**Ternate**	**16.91**	**294**	P	**P**	**21 34 53.7**	**+0.1**
	comp=Z,22nm,0.8s						
SANI	**Sanana**	**17.27**	**283**	P	**P**	**21 34 58.4**	**+0.8**
SANI	**Sanana**	**17.27**	**283**	P	**P**	**21 34 57.5**	**-0.1**
	comp=Z,50nm,1.0s,comp=Z,731nm						
HNR	**Honiara**	**17.28**	**102**	P	**P**	**21 34 57.7**	**+0.1**
HNR				IAmb	IAmb	21 35 04.8	
	comp=Z,176nm,0.9s						
HNR	**Honiara**	**17.28**	**102**	P	**P**	**21 34 59.3**	**+1.7**
HNR	**Honiara**	**17.28**	**102**	P	**P**	**21 34 57.7**	**+0.1**
HNR				pmax	pmax		
	comp=Z,175nm,0.9s						
HNR	**Honiara**	**17.28**	**102**	P	**Pn**	**21 34 54.8**	**-1.6**
	comp=Z,614nm,0.4s,baz=292,slow=10,SNR=15						
RK1H	**Rockhampton Ha**	**18.56**	**157**	P	**Pn**	**21 35 14.6**	**+2.6**
SOEI	**Soe**	**18.67**	**258**	P	**Pn**	**21 35 14.5**	**+1.0**
SOEI				IAmb	IAmb	21 35 25.2	
	comp=Z,128nm,0.7s						
SOEI	**Soe**	**18.67**	**258**	P	**Pn**	**21 35 15.4**	**+1.9**
SOEI	**Soe**	**18.67**	**258**	P	**Pn**	**21 35 14.3**	**+0.8**
	comp=Z,304nm,0.8s,comp=Z,3μm						
AS01	**Alice Springs**	**19.27**	**205**	P	**Pn**	**21 35 22.4**	**+1.7**
AS31	**Alice Springs**	**19.29**	**205**	P	**Pn**	**21 35 22.8**	**+1.8**
AS31				IAmb	IAmb	21 35 24.9	
	comp=Z,107nm,0.6s						
ASAR	**Alice Springs**	**19.29**	**205**	P	**Pn**	**21 35 21.4**	**+0.5**
ASAR	**Alice Springs**	**19.29**	**205**	P	**Pn**	**21 35 23.0**	**+2.1**
	comp=Z,283nm,0.6s,baz=32,slow=9.9,SNR=801						
ASAR				S	**Sn**	**21 38 50.7**	**-5.9**
	comp=Z,26nm,0.6s,baz=22,slow=27,SNR=8.2						
ASAR				Lg	Lg	21 41 11.0	
	comp=Z,1.6nm,0.3s,baz=21,slow=28,SNR=2.1						
ASAR				LR	LR	21 43 30.0	
	comp=Z,4μm,21.1s,baz=34,slow=39						
BATI	**Baumata**	**19.33**	**257**	P	**Pn**	**21 35 22.2**	**+0.8**
KMSI	**Cibinong**	**19.97**	**289**	P	**Pn**	**21 35 29.7**	**+0.6**
	comp=Z,353nm,0.8s,comp=Z,5μm						
BBSI	**Bau Bau**	**20.13**	**271**	P	Pn	21 35 31.9	+0.9
	comp=Z,74nm,1.0s,comp=Z,1μm						
PATS	**Pohnpei**	**20.23**	**50**	P	Pn	21 35 33.4	+1.3
	baz=20,SNR=3.7						
PATS	**Pohnpei**	**20.23**	**50**	P	**P**	**21 35 29.2**	**-0.8**
PATS	**Pohnpei**	**20.23**	**50**	P	Pn	21 35 33.8	+1.7
QLP	**Quilpie**	**20.24**	**176**	P	Pn	21 35 33.5	+1.3
	baz=20,SNR=13						
QLP	**Quilpie**	**20.24**	**176**	P	Pn	21 35 32.7	+0.6
FITZ	**Fitzroy Crossi**	**20.45**	**233**	P	Pn	21 35 33.7	-0.9
	baz=20,SNR=138						
FITZ	**Fitzroy Crossi**	**20.45**	**233**	P	Pn	21 35 34.1	-0.5
FITZ	**Fitzroy Crossi**	**20.45**	**233**	P	Pn	21 35 33.9	-0.7
MMRI	**Maumere**	**20.52**	**262**	P	**P**	**21 35 32.8**	**-0.4**
MMRI	**Maumere**	**20.52**	**262**	P	**P**	**21 35 33.8**	**+0.6**
MMRI	**Maumere**	**20.52**	**262**	P	**P**	**21 35 33.7**	**+0.6**
	comp=Z,97nm,0.8s,comp=Z,2μm						
EIDS	**Eidsvold**	**20.58**	**158**	P	Pn	21 35 35.9	-0.2
	baz=21,SNR=29						
EIDS	**Eidsvold**	**20.58**	**158**	P	**P**	**21 35 34.8**	**+1.1**
EIDS	**Eidsvold**	**20.58**	**158**	P	Pn	21 35 35.9	-0.2
LUWI	**Luwuk**	**20.64**	**284**	P	**P**	**21 35 34.0**	**-0.4**
LUWI				IAmb	IAmb	21 35 41.8	
	comp=Z,109nm,0.8s						
LUWI	**Luwuk**	**20.64**	**284**	P	Pn	21 35 37.6	+0.7
LUWI	**Luwuk**	**20.64**	**284**	P	Pn	21 35 35.9	-1.0
	comp=Z,148nm,0.9s,comp=Z,2μm						
RMQ	**Roma**	**20.89**	**165**	P	Pn	21 35 38.5	-1.2
	baz=21,SNR=5.5						
EDFI	**Ende, Flores**	**21.07**	**262**	P	**P**	**21 35 39.0**	**-0.2**
	comp=Z,80nm,0.8s,comp=Z,1μm						
EDFI				pP	**pP**	**21 35 47.4**	**+0.3**
	comp=Z,80nm,0.8s,comp=Z,1μm						
INKA	**Innaminka**	**21.44**	**185**	P	**P**	**21 35 45.2**	**+2.2**
DAV	**Davao City (W)**	**21.70**	**307**	P	**P**	**21 35 47.8**	**+2.0**
	comp=Z,92nm,0.4s,baz=85,slow=10,SNR=1.4						
DAV				LR	LR	21 44 20.2	
	comp=Z,307nm,21.7s,baz=148,slow=37						
	comp=Z,92nm,0.4s						
MRSI	**Marisa**	**21.87**	**287**	P	**P**	**21 35 49.5**	**+1.8**
	comp=Z,88nm,0.8s,comp=Z,836nm						
MRSI				pP	**sP**	**21 35 58.4**	**-1.3**
	comp=Z,88nm,0.8s,comp=Z,836nm						
BASI	**Baing, Sumba**	**22.33**	**258**	P	**P**	**21 35 54.1**	**+1.4**
	comp=Z,164nm,0.7s,comp=Z,2μm						
OOD	**Oodnadatta**	**22.44**	**197**	P	**P**	**21 35 55.5**	**+1.8**
KAPI	**Kappang**	**22.96**	**272**	P	**P**	**21 36 00.8**	**+1.4**
KAPI				IAmb	IAmb	21 36 08.7	
	comp=Z,72nm,0.9s						
KAPI	**Kappang**	**22.96**	**272**	P	**P**	**21 36 01.1**	**+1.7**
KAPI	**Kappang**	**22.96**	**272**	*i* P	**P**	**21 35 59.8**	**+0.4**
KAPI				pmax	pmax		
	comp=Z,84nm,0.9s						
TTSI	**Tana Toraja**	**23.12**	**277**	P	**P**	**21 36 02.7**	**+1.7**
	comp=Z,66nm,1.0s,comp=Z,1μm						
TOLI2	**Tolitoli**	**23.17**	**288**	P	**P**	**21 36 01.6**	**+0.1**
TOLI2	**Tolitoli**	**23.17**	**288**	P	**P**	**21 36 01.8**	**+0.3**
WRKA	**Warakurna**	**23.26**	**215**	P	**P**	**21 36 02.7**	**+0.3**
	baz=23,SNR=341						
WRKA	**Warakurna**	**23.26**	**215**	P	**P**	**21 36 03.3**	**+1.0**
AULRC	**Lightning Ridg**	**23.55**	**169**	P	**P**	**21 36 05.7**	**+0.7**
MPSI	**Mapaga**	**23.78**	**285**	P	**P**	**21 36 08.1**	**+0.7**
	comp=Z,66nm,0.8s,comp=Z,1μm						
LCRK	**Leigh Creek**	**24.43**	**190**	P	**P**	**21 36 13.9**	**+0.6**
PLAI	**Plampang**	**24.93**	**263**	P	**P**	**21 36 17.3**	**-0.7**
PLAI	**Plampang**	**24.93**	**263**	P	**P**	**21 36 16.8**	**-1.2**
	comp=Z,89nm,0.8s,comp=Z,695nm						
KOUNC	**Koumac, New Ca**	**25.22**	**126**	P	**P**	**21 36 21.3**	**+0.8**
MULG	**Mulgathing**	**25.26**	**198**	P	**P**	**21 36 21.7**	**+0.9**
CMSA	**Cobar Meteorol**	**25.28**	**174**	P	**P**	**21 36 22.3**	**+1.3**
	baz=25,SNR=33						
CMSA	**Cobar Meteorol**	**25.28**	**174**	P	**P**	**21 36 22.7**	**+1.7**
ARMA	**Armidale**	**25.42**	**162**	P	**P**	**21 36 25.1**	**+2.8**
	baz=26,SNR=8.0						
ARMA	**Armidale**	**25.42**	**162**	P	**P**	**21 36 22.5**	**+0.1**
ARMA	**Armidale**	**25.42**	**162**	P	**P**	**21 36 24.5**	**+2.1**
STKA	**Stephens Creek**	**25.50**	**182**	P	**P**	**21 36 23.2**	**+0.2**
	baz=26,SNR=55						
STKA	**Stephens Creek**	**25.50**	**182**	P	**P**	**21 36 22.9**	**-0.1**
STKA	**Stephens Creek**	**25.50**	**182**	P	**P**	**21 36 23.2**	**+0.2**
STKA	**Stephens Creek**	**25.50**	**182**	*i* P	**P**	**21 36 22.2**	**-0.8**
STKA	**Stephens Creek**	**25.50**	**182**	P	**P**	**21 36 23.1**	**+0.2**
	comp=Z,21nm,0.5s,baz=354,slow=8.6,SNR=63						
STKA				Lg	Lg	21 44 27.0	
	baz=284,slow=24						
STKA				LR	LR	21 48 33.0	
	comp=Z,661nm,18.5s,baz=352,slow=41						
	comp=Z,21nm,0.5s						
TWSI	**Taliwang, Sumb**	**25.80**	**263**	P	**P**	**21 36 25.0**	**-0.9**
	comp=Z,51nm,0.7s						
AUPHS	**Peel High Scho**	**25.84**	**164**	P	**P**	**21 36 28.1**	**+2.0**
SMKI	**Samarinda**	**26.18**	**282**	P	**P**	**21 36 30.2**	**+0.9**
	comp=Z,406nm,0.6s,comp=Z,9μm						
BKB	**Balikpapan**	**26.31**	**280**	P	**P**	**21 36 33.6**	**+3.1**
BKB	**Balikpapan**	**26.31**	**280**	P	**P**	**21 36 31.0**	**+0.5**
	comp=Z,111nm,0.7s,comp=Z,1μm						
AUDCS	**Dubbo College**	**26.39**	**169**	P	**P**	**21 36 33.1**	**+2.0**
MBWA	**Marble Bar**	**26.79**	**234**	P	**P**	**21 36 37.1**	**+2.3**
PSA00	**Pilbara Seismi**	**26.91**	**233**	P	**P**	**21 36 36.0**	**+0.1**
PSA00	**Pilbara Seismi**	**26.91**	**233**	P	**P**	**21 36 36.0**	**+0.1**
WHYH	**Whyalla**	**27.07**	**190**	P	**P**	**21 36 40.8**	**+3.7**
	comp=Z,36nm,0.6s						
BBOO	**Buckleboo**	**27.14**	**193**	P	**P**	**21 36 37.7**	**-0.1**
	baz=27,SNR=46						
BBOO	**Buckleboo**	**27.14**	**193**	P	**P**	**21 36 37.7**	**-0.1**
BBOO				IAmb	IAmb	21 36 43.0	
	comp=Z,32nm,0.6s						
BBOO	**Buckleboo**	**27.14**	**193**	P	**P**	**21 36 37.9**	**+0.1**
HTT	**Hallett**	**27.26**	**187**	P	**P**	**21 36 39.6**	**+0.7**
	baz=27,SNR=21						
HTT	**Hallett**	**27.26**	**187**	P	**P**	**21 36 39.2**	**+0.3**
SRBI	**Singaraja**	**27.42**	**265**	P	**P**	**21 36 40.0**	**-0.5**
	comp=Z,26nm,0.7s						
DZM	**Mont Dzumac**	**27.72**	**127**	P	**P**	**21 36 45.9**	**+2.6**
DZM	**Mont Dzumac**	**27.72**	**127**	*e*P	**P**	**21 36 43.5**	**+0.2**
	comp=Z,103nm,1.4s						
DZM				*e*LR	LR	21 43 56.6	
	comp=Z,1μm,26.2s						
FORT	**Forrest**	**28.03**	**208**	P	**P**	**21 36 46.2**	**+0.5**
	baz=28,SNR=20						
FORT	**Forrest**	**28.03**	**208**	P	**P**	**21 36 46.3**	**+0.5**
FORT	**Forrest**	**28.03**	**208**	P	**P**	**21 36 46.1**	**+0.3**
YNG	**Young**	**28.37**	**170**	P	**P**	**21 36 50.2**	**+1.5**
	baz=28,SNR=14						
YNG	**Young**	**28.37**	**170**	P	**P**	**21 36 49.9**	**+1.1**
JAGI	**Jajag, Banyuwa**	**28.48**	**264**	P	**P**	**21 36 48.5**	**-1.6**
JAGI	**Jajag, Banyuwa**	**28.48**	**264**	P	**P**	**21 36 48.3**	**-1.8**
	comp=Z,37nm,1.0s						
KMMI	**Kalianget**	**28.64**	**267**	P	**P**	**21 36 52.5**	**+1.1**
	comp=Z,39nm,1.7s						
BLJI	**Banyuglugur**	**29.02**	**265**	P	**P**	**21 36 54.3**	**-0.4**
	comp=Z,36nm,0.5s						
KKM	**Kota Kinabalu**	**29.21**	**294**	P	**P**	**21 36 55.3**	**-1.3**
KKM	**Kota Kinabalu**	**29.21**	**294**	P	**P**	**21 36 57.0**	**+0.4**
CAN	**Canberra**	**29.47**	**170**	P	**P**	**21 37 00.8**	**+2.2**
TGY	**Tagaytay City**	**29.67**	**313**	LR	LR	21 48 46.6	
	comp=Z,194nm,21.4s,baz=112,slow=36						
ARPS	**Mount Arapiles**	**30.37**	**182**	P	**P**	**21 37 07.5**	**+1.0**
	baz=30,SNR=9.5						
ARPS	**Mount Arapiles**	**30.37**	**182**	P	**P**	**21 37 07.5**	**+1.0**
MEEK	**Meekatharra**	**30.67**	**226**	P	**P**	**21 37 09.8**	**+0.4**
	baz=31,SNR=6.6						
PWJI	**Pagerwojo**	**30.79**	**265**	P	**P**	**21 37 09.1**	**-1.4**
	comp=Z,32nm,0.9s						
BRAT	**Ballarat**	**31.15**	**178**	P	**P**	**21 37 15.1**	**+1.8**
	comp=Z,20nm,0.7s						
TOO	**Toolangi**	**31.25**	**176**	P	**P**	**21 37 16.4**	**+2.1**
KMBL	**Kambalda**	**31.73**	**215**	P	**P**	**21 37 18.5**	**-0.1**
	baz=32,SNR=12						
STKI	**Sintang**	**31.88**	**280**	P	**P**	**21 37 21.3**	**+1.2**
	comp=Z,15nm,1.2s,comp=Z,3μm						
UGM	**Wanagama**	**32.06**	**265**	P	**P**	**21 37 21.5**	**-0.2**
	comp=Z,75nm,0.9s						
SMRI	**Semarang**	**32.14**	**267**	P	**P**	**21 37 22.9**	**+0.5**
JCJ	**Chichijima**	**33.18**	**359**	LR	LR	21 51 18.0	
	comp=Z,216nm,18.2s,baz=138,slow=37						
KPJI	**Karang Pucung**	**33.64**	**266**	P	**P**	**21 37 36.4**	**+0.9**
	comp=Z,74nm,0.7s						
CMJI	**Cimerak**	**34.12**	**265**	P	**P**	**21 37 38.2**	**-1.4**
	comp=Z,126nm,0.8s						
KLBR	**Kellerberrin**	**34.39**	**220**	P	**P**	**21 37 41.7**	**-0.1**
	baz=34,SNR=5.5						
BBJI	**Bungbulang**	**34.91**	**266**	P	**P**	**21 37 45.7**	**-0.9**
LEM	**Lembang**	**34.95**	**267**	P	**P**	**21 37 46.6**	**-0.4**
	comp=Z,69nm,0.9s						
NWAO	**Narrogin (SRO)**	**35.62**	**219**	LR	LR	21 53 16.8	
	comp=Z,2μm,21.2s,baz=60,slow=38						
JOW	**Lunigami**	**35.79**	**337**	LR	LR	21 50 12.2	
	comp=Z,477nm,20.0s,baz=156,slow=32						
SKJI	**Sukabumi**	**36.00**	**267**	P	**P**	**21 37 55.1**	**-0.8**
	comp=Z,233nm,0.6s,comp=Z,2μm						
MSVF	**Nonsavu**	**36.24**	**111**	P	**P**	**21 37 59.6**	**+1.6**
MSVF	**Nonsavu**	**36.24**	**111**	*i* P	**P**	**21 37 54.4**	**-3.6**
MSVF				pmax	pmax		
	comp=Z,35nm,1.5s						
NACB	**Ninganchiao**	**36.65**	**326**	P	**P**	**21 37 59.6**	**-1.7**
NACB	**Ninganchiao**	**36.65**	**326**	P	**P**	**21 38 04.1**	**+2.8**
SSLB	**Suanglung**	**36.70**	**325**	P	**P**	**21 38 04.5**	**+2.7**
PPBI	**Pangkal Pinang**	**36.78**	**275**	P	**P**	**21 38 03.7**	**+1.2**
XMIS	**Christmas Isla**	**36.97**	**261**	P	**P**	**21 38 05.5**	**+1.4**
XMIS	**Christmas Isla**	**36.97**	**261**	P	**P**	**21 38 05.5**	**+1.4**
YHNB	**Yeheng**	**37.16**	**327**	P	**P**	**21 38 05.0**	**-0.8**
YHNB				IAmb	IAmb	21 38 16.1	
	comp=Z,43nm,0.8s						
YHNB	**Yeheng**	**37.16**	**327**	P	**P**	**21 38 07.1**	**+1.4**
DGTI	**Dogotuki**	**37.51**	**109**	P	**P**	**21 38 09.4**	**+0.7**
KASI	**Kota Agung**	**38.10**	**269**	P	**P**	**21 38 12.1**	**-1.6**
	comp=Z,27nm,1.0s						
LWLI	**Liwa**	**38.56**	**270**	P	**P**	**21 38 17.8**	**0.0**
	comp=Z,106nm,0.7s,comp=Z,1μm						
DSRI	**Dabo**	**38.56**	**277**	P	**P**	**21 38 19.0**	**+1.3**
	comp=Z,44nm,0.8s						
TPRI	**Tanjung Pinang**	**38.86**	**279**	P	**P**	**21 38 21.3**	**+1.1**
	comp=Z,59nm,1.0s						
JMN	**Monobe**	**40.67**	**349**

comp=Z,34nm,1.0s
INCN Inchon 46.07 342 P **P** **21 39 18.6 +0.2**
INCN pmax pmax
comp=Z,34nm,1.0s
JTM Tenmabayashi 46.85 358 P **P** **21 39 23.1 -1.4**
LHMI Lhok Sumawe 47.17 283 P **P** **21 39 27.1 -0.4**
MLSI Meulaboh, Aceh 47.48 282 P **P** **21 39 29.2 -0.7**
comp=Z,51nm,0.8s
GYA Guiyang 47.80 314⇑*i*P **P** **21 39 33.2 +0.9**
GYA pP sP 21 39 42.8 -2.0
GYA pmax pmax
comp=Z,14nm,0.9s
GYA pmax pmax
comp=Z,410nm,6.6s
ENH Enshi 48.37 321 P **P** **21 39 37.1 +0.6**
PHRA Phrae 48.66 301 P **P** **21 39 38.7 -0.2**
CRAI Chiangrai 49.32 303 P **P** **21 39 44.2 +0.2**
LYN LuoYang 49.69 327⇑P **P** **21 39 46.8 +0.3**
LYN pmax pmax
comp=Z,54nm,0.7s
LYN pmax pmax
comp=Z,390nm,4.6s
CM31 Chiang Mai Arr 49.74 300 P **P** **21 39 47.5 +0.4**
CMAR Chiang Mai Arr 49.74 300 P **P** **21 39 46.7 -0.5**
CMAR Chiang Mai Arr 49.74 300 P **P** **21 39 48.1 +1.0**
comp=Z,6.9nm,0.7s,baz=119,slow=5.9,SNR=39
comp=Z,6.9nm,0.7s
CHTO Chiang Mai 49.89 301 P **P** **21 39 48.3 0.0**
CHTO Chiang Mai 49.89 301 P **P** **21 39 49.2 +0.9**
CHTO Chiang Mai 49.89 301 P **P** **21 39 48.3 0.0**
CHTO pmax pmax
comp=Z,9.0nm,0.8s
KMI Kunming 49.91 310⇑P **P** **21 39 50.1 +1.4**
KMI pmax pmax
comp=Z,35nm,1.0s
KMI pmax pmax
comp=Z,250nm,7.6s
KMI LR LR
comp=Z,170nm,19.9s
KMI LR LR
comp=Z,240nm,20.5s
KMI LR LR
comp=Z,260nm,22.4s
VLA Vladivostok 50.15 350 *i*P **P** **21 39 47.8 -2.0**
VLA pmax pmax
comp=Z,53nm,1.4s
ASAJ Asahikawa 50.16 360 LR LR 22 01 11.4
comp=Z,118nm,20.3s,baz=168,slow=36
HNS HongShan 50.74 331⇑P **P** **21 39 54.4 0.0**
HNS *e*S **S** **21 47 07.8 -0.4**
HNS pmax pmax
comp=Z,11nm,0.8s
HNS LR LR
comp=Z,380nm,19.1s
HNS LR LR
comp=Z,220nm,20.7s
HNS LR LR
comp=Z,360nm,15.9s
USA0B Ussuriysk Arra 51.18 350 P **P** **21 39 57.0 -0.6**
USA0B Ussuriysk Arra 51.18 350 *i*P **P** **21 39 55.6 -2.0**
USRK Ussuriysk Ar. 51.18 350 P **P** **21 39 57.5 -0.1**
USRK Ussuriysk Ar. 51.18 350 P **P** **21 39 57.5 -0.1**
USRK Ussuriysk Ar. 51.18 350 P **P** **21 39 56.3 -1.3**
comp=Z,8.8nm,0.8s,baz=180,slow=9.1,SNR=21
USRK LR LR 22 00 14.4
comp=Z,158nm,18.5s,baz=154,slow=34
comp=Z,8.8nm,0.8s
XAN Xi'an 51.32 324⇑P **P** **21 39 58.2 -0.7**
XAN sP sP 21 40 15.6 +4.2
XAN S **S** **21 47 18.4 +1.9**
XAN pmax pmax
comp=Z,26nm,0.6s
XAN pmax pmax
comp=Z,310nm,4.0s
PZH PanZhiHua 51.42 311 P **P** **21 40 00.5 +0.6**
PZH pP **sP** **21 40 11.8 -0.6**
PZH sP pP 21 40 17.5 +8.6
PZH S **S** **21 47 18.9 +0.6**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH LR LR
comp=Z,190nm,18.0s
PZH LR LR
comp=Z,240nm,16.7s
PZH LR LR
comp=Z,330nm,21.0s
MDJ Mudanjiang 52.03 348 P **P** **21 40 03.2 -0.8**
MDJ pmax pmax
comp=Z,8.0nm,0.9s
MDJ pmax pmax
comp=Z,630nm,4.8s
MDJ Mudanjiang 52.03 348 P **P** **21 40 04.1 +0.1**
TIY Taiyuan 52.11 329⇑P P 21 40 10.2 +5.4
TIY pP sP 21 40 18.3 +0.9
TIY LR LR
comp=Z,290nm,17.2s
TIY LR LR
comp=Z,200nm,12.8s
TIY LR LR
comp=Z,380nm,17.3s
BJT Baijiatuau 52.20 334 P **P** **21 40 04.9 -0.4**
BJT IAmb IAmb 21 40 10.4
comp=Z,76nm,2.0s
BJT Baijiatuau 52.20 334 P **P** **21 40 04.9 -0.4**
BJT Baijiatuau 52.20 334 P **P** **21 40 04.9 -0.4**
BJT pmax pmax
comp=Z,76nm,2.0s
BJI Beijing 52.21 334 P **P** **21 40 05.0 -0.4**
BJI pmax pmax
comp=Z,3.0nm,0.6s
BJI pmax pmax
comp=Z,99nm,3.6s
BJI LR LR
comp=Z,150nm,15.3s
BJI LR LR
comp=Z,100nm,14.1s
BJI LR LR
comp=Z,180nm,16.2s
CN2 Changchun 52.25 344 P **P** **21 40 05.3 -0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 Chengdu 52.54 317 P **P** **21 40 08.0 -0.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
YSS Yuzh-Sakhalins 52.99 360 *e*P **P** **21 40 10.4 -0.6**
YSS pmax pmax
comp=Z,20nm,0.9s
TNCH TengChong 53.13 308 P **P** **21 40 13.7 +1.0**
TNCH PcP **PcP** **21 41 21.4 +0.6**
TNCH S **S** **21 47 40.7 -1.1**
TNCH sS sS 21 47 59.8 +3.1
TNCH SS **SS** **21 51 19.5 -2.2**
TNCH pmax pmax
comp=Z,42nm,1.6s
TNCH pmax pmax
comp=Z,240nm,3.1s
TNCH LR LR
comp=Z,130nm,14.7s
TNCH LR LR
comp=Z,130nm,11.2s
TNCH LR LR
comp=Z,270nm,19.5s
MND Mandalay 53.67 303 P **P** **21 40 17.5 +1.0**
HHC Hu-ho-hao-te 54.96 331 *e*P **P** **21 40 26.0 +0.3**
HHC pmax pmax
comp=Z,9.0nm,0.8s
HHC pmax pmax
comp=Z,210nm,7.1s
XLT XiLinHaoTe 55.47 337 *e*P **P** **21 40 33.5 +4.3**
XLT pP sP 21 40 46.4 +4.5
XLT sP pP 21 40 51.5 +13
XLT PcP **PcP** **21 41 26.9 -2.3**
XLT pmax pmax
comp=Z,8.0nm,0.8s
XLT pmax pmax
comp=Z,200nm,6.9s
XLT LR LR
comp=Z,410nm,15.7s
XLT LR LR
comp=Z,190nm,16.2s
BTO Baotou 55.53 330 *e*P **P** **21 40 32.7 +2.9**
BTO pP **sP** **21 40 45.0 +2.5**
BTO sP pP 21 40 50.8 +12
BTO PP **PP** **21 42 33.8 -0.3**
BTO SS **SS** **21 51 59.9 +0.9**
BTO pmax pmax
comp=Z,18nm,0.5s
BTO pmax pmax
comp=Z,710nm,5.6s
BTO LR LR
comp=Z,670nm,16.3s
BTO LR LR
comp=Z,570nm,15.7s
BTO LR LR
comp=Z,1μm,15.5s
LZH Lanzhou 55.77 322 *e*P **P** **21 40 31.5 -0.2**
LZH pmax pmax
comp=Z,26nm,1.6s
LZH LR LR
comp=Z,230nm,13.7s
LZH LR LR
comp=Z,260nm,16.1s
LZH LR LR
comp=Z,290nm,20.6s
KLR Kul'dur 56.11 351 *i*P **P** **21 40 29.8 -3.8**
KLR pmax pmax
comp=Z,30nm,1.4s
TYV Tymovskoe 56.91 360 *e*P **P** **21 40 39.4 +0.2**
TYV *e*S **S** **21 48 33.5 +2.3**
TYV pmax pmax
comp=Z,13nm,0.7s
TYV pmax pmax
comp=Z,300nm,4.7s
TYV smax smax
comp=N,500nm,5.7s
TYV smax smax
comp=E,500nm,5.7s
RAR Rarotonga 57.43 111 LR LR 22 03 13.8
comp=E,144nm,21.8s,baz=309,slow=34
HEH HeiHe 57.85 348 *e*P **P** **21 40 45.0 -1.0**
HEH pmax pmax
comp=E,11nm,0.9s
HEH pmax pmax
comp=E,620nm,4.6s
PETK Petropavlovsk- 60.49 10 P **P** **21 41 04.1 -0.1**
comp=E,9.3nm,0.8s,baz=131,slow=5.6,SNR=9.4
PETK LR LR 22 02 49.0
comp=E,111nm,21.9s,baz=205,slow=32
comp=E,9.3nm,0.8s
ZEA Zeya 61.21 350 *e*P **P** **21 41 08.6 -0.4**
ZEA pmax pmax
comp=N,20nm,1.0s
ZEA pmax pmax
comp=Z,30nm,1.0s
GOMU GeErMu 61.68 317 P **P** **21 41 14.4 +1.3**
GOMU pP pP 21 41 22.3 +0.1
GOMU pmax pmax
comp=Z,4.0nm,1.1s
ULN Ulaanbaatar 62.41 334 *i*P **P** **21 41 14.6 -2.9**
ULN pmax pmax
comp=Z,16nm,0.9s
SONM Songino Array 62.68 333 P **P** **21 41 19.8 +0.6**
comp=Z,5.0nm,0.7s,baz=160,slow=6.0,SNR=9.9
SONM PKP2bc 22 10 29.7
comp=Z,0.7nm,0.9s,baz=264,slow=2.9,SNR=4.7
comp=Z,5.0nm,0.7s
PALK Pallekele 63.39 281 LR LR 22 10 25.1
comp=Z,88nm,19.9s,baz=216,slow=37
CASY Casey 63.94 194 P **P** **21 41 28.1 +1.0**
CASY IAmb IAmb 21 41 29.2
comp=Z,22nm,0.7s
SHEM Shemya Is, Ala 64.51 20 LR LR 22 04 09.5
comp=Z,162nm,19.9s,baz=350,slow=31
MA2 Magadan 65.94 4 *i*P **P** **21 41 37.9 -2.3**
MA2 pmax pmax
comp=Z,26nm,1.3s
ZAK Zakamensk 65.94 334 *e*P **P** **21 41 40.6 0.0**
ZAK pmax pmax
comp=Z,16nm,1.3s
PPT Papeete 66.83 106 LR LR 22 10 06.6
comp=Z,50nm,18.1s,baz=234,slow=35
PPT2 Papeete2 66.83 106 *e*P P 21 41 36.5 -10
comp=Z,58nm,23.2s
PPT2 *e*S S 21 50 28.9 -9.2
comp=Z,86nm,26.0s
PPT2 *e*LQ LQ 21 59 16.1
comp=Z,387nm,28.5s
PPT2 *e*LR LR 22 02 00.0
comp=Z,287nm,28.5s
PPT2 *e*LR LR 22 02 00.0
comp=Z,429nm,27.2s
TBI Tubuai 67.12 113 *e*LR LR 22 02 00.4
comp=Z,955nm,30.8s
HYB Hyderabad 67.66 292 *e*P **P** **21 41 52.1 +0.1**
MOY Mondy 67.88 333 *e*P **P** **21 41 53.4 +0.6**
MOY pmax pmax
comp=Z,62nm,2.1s
YAK Yakutsk 68.86 353 *e*P **P** **21 41 57.9 -0.6**
YAK pmax pmax
comp=Z,9.0nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.5s
YAK pmax pmax
comp=E,1.0nm,0.9s
SEY Seymchan 69.40 5 *i*P **P** **21 41 59.8 -2.1**
SEY pmax pmax
comp=Z,22nm,1.9s
WMQ Urumqi 70.32 321⇑*i*P **P** **21 42 08.7 +0.6**
WMQ sP PcP 21 42 31.1 +1.5
WMQ pmax pmax
comp=Z,17nm,1.1s
NIKH Nikolski High 71.75 28 P **P** **21 42 15.9 -0.6**
baz=231
VNDA Vanda 71.92 176 P **P** **21 42 18.2 +1.1**
VNDA IAmb IAmb 21 42 44.1
comp=Z,45nm,1.8s
VNDA Vanda 71.92 176 P **P** **21 42 18.2 +1.1**
VNDA pmax pmax
comp=Z,45nm,1.8s
VNDA Vanda 71.92 176 P **P** **21 42 18.1 +0.9**
comp=Z,5.0nm,0.7s,baz=320,slow=7.7,SNR=12
comp=Z,5.0nm,0.7s
DGZ Jazzator, Alta 73.48 326 *i*P **P** **21 42 26.5 -0.6**
DGZ pmax pmax
comp=Z,14nm,0.7s
ZSN Zaisan 73.83 323 *e*P **P** **21 42 28.6 -0.4**
ZSN Zaisan 73.83 323 *e*P **P** **21 42 28.6 -0.4**
baz=323
MK31 Makanchi Array 75.08 322 *i*P **P** **21 42 35.5 -0.8**
MKAR Makanchi Array 75.08 322 P **P** **21 42 37.0 +0.7**
MKAR Makanchi Array 75.08 322 P **P** **21 42 37.0 +0.7**
comp=Z,10nm,0.7s,baz=107,slow=7.0,SNR=50
comp=Z,10nm,0.7s
MAKZ Makanchi 75.28 322 P **P** **21 42 37.9 +0.4**
MAKZ IAmb IAmb 21 42 43.7
comp=Z,31nm,1.1s
MAKZ Makanchi 75.28 322 P **P** **21 42 37.9 +0.4**
MAKZ pmax pmax
comp=Z,31nm,1.2s
SHLS Shalkode 75.37 317 *e*P **P** **21 42 35.9 -2.3**
SHLS pmax pmax
comp=Z,18nm,1.3s
SHLS Shalkode 75.37 317 *e*P **P** **21 42 35.9 -2.3**
comp=Z,18nm,1.3s,baz=318
UZB Uzynbulak 75.67 317 *e*P **P** **21 42 39.4 -0.5**
UZB pmax pmax
comp=Z,13nm,1.0s
UZB Uzynbulak 75.67 317 *e*P **P** **21 42 39.5 -0.5**
comp=Z,14nm,1.0s,baz=317
BILL Bilibino 75.97 9 P **P** **21 42 40.5 -0.4**
BILL IAmb IAmb 21 42 46.8
comp=Z,41nm,1.9s
BILL Bilibino 75.97 9 *i*P **P** **21 42 40.4 -0.5**
BILL pmax pmax
comp=Z,20nm,1.8s
SATY Saty 76.05 317 *e*P **P** **21 42 41.3 -0.7**
SATY pmax pmax
comp=Z,13nm,0.9s
SATY Saty 76.05 317 *e*P **P** **21 42 41.4 -0.7**
comp=Z,13nm,0.9s,baz=317
ZHN Zhinishke 76.07 317 *e*P **P** **21 42 41.5 -0.7**
ZHN Zhinishke 76.07 317 *e*P **P** **21 42 41.5 -0.7**
baz=317
TAOE Nuku Hiva Isla 76.31 98 *e*LR LR 22 06 11.6
comp=Z,272nm,25.2s
KSH Kashi 76.47 313 P **P** **21 42 46.3 +1.7**
KSH S **S** **21 52 32.2 +3.5**
KSH pmax pmax
comp=Z,12nm,1.1s
NIL Nilore 76.70 307 P **P** **21 42 46.9 +1.0**
NIL IAmb IAmb 21 42 47.4
comp=Z,27nm,0.7s
NIL Nilore 76.70 307 P **P** **21 42 46.9 +1.0**
NIL pmax pmax
comp=Z,27nm,0.7s
TDK Taldyqorghan 76.80 319 *e*P **P** **21 42 45.6 -0.5**
TDK pmax pmax
comp=Z,15nm,0.9s
TDK Taldyqorghan 76.80 319 *e*P **P** **21 42 45.7 -0.5**
comp=Z,15nm,0.9s,baz=319
MDOK Medeo 77.01 317 *e*P **P** **21 42 46.3 -1.2**
MDOK Medeo 77.01 317 *e*P **P** **21 42 46.4 -1.2**
baz=317
ZALV Zalesovo Beam 77.05 329 P **P** **21 42 46.5 -0.8**
ZALV Zalesovo Beam 77.05 329 P **P** **21 42 46.9 -0.4**
comp=Z,8.1nm,0.6s,baz=110,slow=5.7,SNR=21
comp=Z,8.1nm,0.6s
SDPT Sand Point 77.15 29 P **P** **21 42 47.2 -0.6**
baz=238
CHKK Chushkaly 77.30 317 *e*P **P** **21 42 48.3 -0.7**
CHKK Chushkaly 77.30 317 *e*P **P** **21 42 48.3 -0.7**
baz=317
CHNA Chernabura Isl 77.32 30 P **P** **21 42 48.5 -0.2**
baz=239
M11K Mekoryuk 77.50 23 P **P** **21 42 49.6 -0.1**
baz=232
GAMB Gambell 77.74 19 P **P** **21 42 50.8 -0.1**
baz=226
KUU Kurty 77.75 317 *e*P **P** **21 42 51.1 -0.4**
KUU pmax pmax
comp=Z,21nm,1.1s
KUU Kurty 77.75 317 *e*P **P** **21 42 51.2 -0.4**
comp=Z,21nm,1.1s,baz=317
SEM Semipalatinsk 77.89 324 *e*P **P** **21 42 51.6 -0.8**
SEM pmax pmax
comp=Z,17nm,1.4s
SEM Semipalatinsk 77.89 324 *e*P **P** **21 42 51.6 -0.8**
comp=Z,17nm,1.4s,baz=324
S14K Fog Glacier 78.08 29 P **P** **21 42 52.8 -0.3**
baz=239
TIXI Tiksi 78.31 356 *i*P **P** **21 42 52.4 -1.5**
TIXI pmax pmax
comp=Z,4.0nm,0.6s
AAK Ala-Archa 78.58 316 *i*P **P** **21 42 56.0 -0.3**
AAK pmax pmax
comp=Z,19nm,1.7s
M13K Dall Lake 78.65 24 P **P** **21 42 56.2 +0.2**
baz=235
SGDS Sogindy 78.76 316 *e*P **P** **21 42 56.7 -0.5**
SGDS Sogindy 78.76 316 *e*P **P** **21 42 56.7 -0.5**
baz=316
O14K Tigyukauivet M 78.88 26 IAmb IAmb 21 43 05.1
comp=Z,40nm,1.1s
O14K Tigyukauivet M 78.88 26 P **P** **21 42 57.4 +0.1**
baz=237
KURK Kurchatov 78.96 324 P **P** **21 42 58.3 +0.4**
KURK IAmb IAmb 21 43 03.9
comp=Z,29nm,1.1s
KURK Kurchatov 78.96 324*c* *i*P **P** **21 42 55.0 -3.0**
KURK pmax pmax
comp=Z,48nm,1.7s
KURBB Kurchatov Arra 78.97 324 P **P** **21 42 58.2 +0.2**
comp=Z,6.5nm,0.7s,baz=112,slow=4.5,SNR=32
comp=Z,6.5nm,0.7s
N14K Kuskokwak Cree 79.07 25 P **P** **21 42 58.4 +0.1**
baz=237
M14K Bethel 79.41 24 IAmb IAmb 21 43 07.9
comp=Z,27nm,0.8s
M14K Bethel 79.41 24 P **P** **21 43 00.7 +0.5**
baz=236
L14K Kuka Creek 79.45 24 IAmb IAmb 21 43 01.8
comp=Z,25nm,0.7s
L14K Kuka Creek 79.45 24 P **P** **21 43 01.2 +0.8**
baz=235
O15K Ungalikthiuk R 79.46 26 P **P** **21 43 00.9 +0.3**
baz=238
R16K Pilot Point 79.67 28 P **P** **21 43 02.1 +0.5**
baz=241
BTLS Baital 79.69 318 *e*P **P** **21 43 01.5 -0.6**
BTLS Baital 79.69 318 *e*P **P** **21 43 01.5 -0.6**
baz=318
CHIR Chirikof Islan 79.78 30 P **P** **21 43 02.4 0.0**
baz=243
N15K Kwethluk River 79.87 25 P **P** **21 43 02.8 +0.1**
baz=238
M15K Kasigluk River 79.90 25 P **P** **21 43 02.9 0.0**
baz=237
J14K Nanvaranak Lak 79.93 22 IAmb IAmb 21 43 05.0
comp=Z,86nm,1.8s
J14K Nanvaranak Lak 79.93 22 P **P** **21 43 03.2 +0.2**
baz=234
L15K Ungalak Mounta 80.12 24 P **P** **21 43 04.2 +0.2**
baz=236
TNA Tin City 80.15 19 P **P** **21 43 04.5 +0.4**
baz=230
P16K Nushagak River 80.20 27 P **P** **21 43 04.6 +0.1**
baz=240
ANM Nome 80.36 20 P **P** **21 43 05.5 +0.2**
baz=232
MAW Mawson 80.39 202 LR LR 22 15 29.9
comp=Z,309nm,19.2s,baz=107,slow=33
O16K Kokwok River B 80.44 26 IAmb IAmb 21 43 15.2
comp=Z,40nm,1.3s
O16K Kokwok River B 80.44 26 P **P** **21 43 05.9 +0.1**
baz=240
K15K Wolf Creek Mou 80.44 23 IAmb IAmb 21 43 13.6
comp=Z,38nm,1.1s
K15K Wolf Creek Mou 80.44 23 P **P** **21 43 06.3 +0.5**
baz=236
N16K Nishlik Lake 80.59 25 P **P** **21 43 07.3 +0.6**
baz=239
F14K Arctic Creek 80.61 19 P **P** **21 43 07.2 +0.6**
baz=231
Q17K Contact Creek 80.79 28 P **P** **21 43 07.5 -0.4**
baz=242
M16K Timber Creek 80.80 25 IAmb IAmb 21 43 19.1
comp=Z,29nm,0.9s
M16K Timber Creek 80.80 25 P **P** **21 43 08.2 +0.5**
baz=239
DZA Taraz 80.87 315 *e*P **P** **21 43 08.3 -0.2**
DZA Taraz 80.87 315 *e*P **P** **21 43 08.4 -0.2**
baz=315
L16K Owhat River 80.94 24 P **P** **21 43 08.3 -0.2**
L16K Owhat River 80.94 24 P **P** **21 43 08.8 +0.3**
baz=238
O17K Koliganek Bris 80.97 26 P **P** **21 43 09.1 +0.5**
baz=241
P17K Kvichak River 80.98 27 P **P** **21 43 08.6 0.0**
baz=241
G15K Niukluk 81.08 20 P **P** **21 43 09.3 +0.2**
baz=234
CHGR Chuyangaron 81.27 311 IAmb IAmb 21 43 17.0
comp=Z,42nm,0.9s
N17K Nushagak Hills 81.30 26 IAmb IAmb 21 43 18.6
comp=Z,18nm,0.8s
N17K Nushagak Hills 81.30 26 P **P** **21 43 10.9 +0.6**
baz=241
F15K North Star Dit 81.30 19 P **P** **21 43 10.9 +0.6**
baz=233
J16K Anvik River 81.34 22 IAmb IAmb 21 43 16.3
comp=Z,19nm,0.8s
J16K Anvik River 81.34 22 P **P** **21 43 11.2 +0.7**
baz=237
SIMJ Simiganj 81.38 311 P **P** **21 43 11.5 -0.1**
SIMJ IAmb IAmb 21 43 18.3
comp=Z,42nm,1.4s
H16K Elim 81.50 21 P **P** **21 43 11.5 +0.1**
baz=235
KKAR Karatay Array 81.51 315 P **P** **21 43 12.1 +0.2**
KKAR Karatay Array 81.51 315 IAmb IAmb 21 43 19.8
comp=Z,37nm,1.6s
KKAR Karatay Array 81.51 315 P **P** **21 43 12.1 +0.2**
OHAK Old Harbor 81.57 30 P **P** **21 43 11.8 -0.1**
baz=244
IUG Iuzhnay 81.58 314 *e*P **P** **21 43 11.9 -0.5**
IUG Iuzhnay 81.58 314 *e*P **P** **21 43 11.9 -0.5**
baz=314
P18K Big Mountain, 81.62 27 IAmb IAmb 21 43 33.3
comp=Z,61nm,2.0s
P18K Big Mountain, 81.62 27 P **P** **21 43 12.2 0.0**
baz=242
M17K Holitna River 81.62 25 IAmb IAmb 21 43 26.1
comp=Z,34nm,1.1s
M17K Holitna River 81.62 25 P **P** **21 43 12.8 +0.7**
baz=240
I17K Unalakleet 81.64 22 IAmb IAmb 21 43 18.5
comp=Z,25nm,1.1s
I17K Unalakleet 81.64 22 P **P** **21 43 12.8 +0.7**
baz=237

L17K **Donlin** 81.64 24 P P 21 43 12.8 +0.6
baz=239
O18K **Koktuh Hills** 81.84 27 IAmb IAmb 21 43 53.9
comp=Z,42nm,1.6s
O18K **Koktuh Hills** 81.84 27 P P 21 43 13.6 +0.3
baz=242
G16K **Koyuk River** 81.89 20 IAmb IAmb 21 43 19.3
comp=Z,20nm,0.9s
G16K **Koyuk River** 81.89 20 P P 21 43 13.7 +0.3
baz=235
CHM **Chimkent** 81.93 314 eP P 21 43 13.9 -0.3
CHM **Chimkent** 81.93 314 eP P 21 43 13.9 -0.3
baz=314
N18K **Kilae Creek** 81.93 26 P P 21 43 14.3 +0.5
baz=242
K17K **Iditarod** 81.94 23 IAmb IAmb 21 43 15.4
comp=Z,29nm,0.9s
K17K **Iditarod** 81.94 23 P P 21 43 14.2 +0.5
baz=239
BRLS **Borolday** 81.96 315 eP P 21 43 13.9 -0.4
BRLS **Borolday** 81.96 315 eP P 21 43 13.9 -0.4
baz=315
Q19K **Cape Douglas,** 82.14 28 IAmb IAmb 21 43 19.2
comp=Z,24nm,0.7s
Q19K **Cape Douglas,** 82.14 28 P P 21 43 14.3 -0.7
baz=244
KDAK **Kodiak Island** 82.15 29 P P 21 43 13.1 -1.8
KDAK IAmb IAmb 21 43 22.1
comp=Z,58nm,1.5s
KDAK **Kodiak Island** 82.15 29 i P P 21 43 15.3 +0.4
KDAK **Kodiak Island** 82.15 29 P P 21 43 14.8 -0.1
baz=245
KDAK **Kodiak Island** 82.15 29 P P 21 43 13.6 -1.3
comp=Z,5.5nm,0.6s,baz=274,slow=8.6,SNR=6.6
comp=Z,5.5nm,0.6s
BRZS **Berezniki** 82.22 322 eP P 21 43 15.2 -0.3
BRZS pmax pmax
comp=Z,9.0nm,1.0s
BRZS **Berezniki** 82.22 322 eP P 21 43 15.2 -0.3
comp=Z,9.3nm,1.0s,baz=322
SVW2 **Sparrevohn** 82.26 26 IAmb IAmb 21 43 23.1
comp=Z,63nm,1.6s
L18K **Granite Mounta** 82.34 24 P P 21 43 16.3 +0.5
baz=241
M18K **Stony River** 82.34 25 P P 21 43 16.3 +0.4
baz=242
O19K **Port Alsworth** 82.40 27 IAmb IAmb 21 43 24.7
comp=Z,66nm,1.9s
O19K **Port Alsworth** 82.40 27 P P 21 43 16.1 -0.1
baz=243
H17K **Granite Mounta** 82.50 21 IAmb IAmb 21 43 18.1
comp=Z,22nm,0.7s
H17K **Granite Mounta** 82.50 21 P P 21 43 16.9 +0.3
baz=238
G17K **Kiwalik Mounta** 82.54 21 P P 21 43 17.2 +0.4
baz=237
N19K **Bonanza Creek** 82.61 26 IAmb IAmb 21 43 28.3
comp=Z,21nm,0.8s
N19K **Bonanza Creek** 82.61 26 P P 21 43 17.2 -0.1
baz=243
P19K **Oil Pt** 82.65 27 P P 21 43 16.6 -0.9
P19K **Oil Pt** 82.65 27 P P 21 43 16.7 -0.9
baz=244
C16K **Lisburne Hills** 82.66 17 P P 21 43 17.1 -0.2
baz=232
F17K **Baldwin Pennin** 82.86 20 IAmb IAmb 21 43 24.1
comp=Z,17nm,0.8s
F17K **Baldwin Pennin** 82.86 20 P P 21 43 18.7 +0.3
baz=236
J18K **Innoko River** 82.94 23 P P 21 43 19.0 0.0
baz=241
TTA **Tatalina** 82.96 24 IAmb IAmb 21 43 36.0
comp=Z,31nm,1.7s
TTA **Tatalina** 82.96 24 P P 21 43 19.2 0.0
baz=241
D17K **Noatak River** 82.99 18 P P 21 43 19.6 +0.5
baz=234,SNR=12
L19K **White Mountain** 83.08 25 IAmb IAmb 21 43 21.1
comp=Z,30nm,1.2s
L19K **White Mountain** 83.08 25 P P 21 43 20.0 +0.2
baz=242,SNR=9.0
O20K **Slope Mountain** 83.11 27 P P 21 43 20.0 0.0
baz=245
H18K **Honhosa River** 83.17 21 P P 21 43 20.2 +0.1
baz=239
HOM **Homer** 83.38 28 P P 21 43 21.2 0.0
baz=246
C17K **DeLong Mountai** 83.42 17 P P 21 43 21.4 0.0
baz=234
G18K **Tagagawik** 83.45 21 IAmb IAmb 21 43 26.5
comp=Z,15nm,0.8s
G18K **Tagagawik** 83.45 21 P P 21 43 21.6 0.0
baz=239
F18K **Selawik** 83.48 20 P P 21 43 21.7 0.0
baz=238
GCSA **Galena City Sc** 83.51 22 P P 21 43 22.0 +0.2
baz=240
CNPM **China Poot** 83.52 28 IAmb IAmb 21 43 29.6
comp=Z,23nm,0.8s
E18K **Tukpahlearik C** 83.62 19 IAmb IAmb 21 43 28.1
comp=Z,18nm,0.8s
E18K **Tukpahlearik C** 83.62 19 P P 21 43 22.6 +0.3
baz=237
L20K **Farewell, AK** 83.62 25 P P 21 43 22.6 +0.1
baz=243
J19K **Poorman** 83.62 23 P P 21 43 22.7 +0.3
baz=242,SNR=9.2
M20K **Styx River** 83.67 25 P P 21 43 22.7 -0.1
baz=244
QSPA **South Pole Qui** 83.70 180 P P 21 43 23.2 +0.2
QSPA IAmb IAmb 21 43 23.9
comp=Z,21nm,0.7s
QSPA **South Pole Qui** 83.70 180 P P 21 43 23.3 +0.3
comp=Z,15nm,0.6s,baz=324,slow=0.9,SNR=57
QSPA LR LR 22 20 37.4
comp=Z,780nm,19.0s,baz=354,slow=36
comp=Z,15nm,0.6s
N20K **Mount Spurr** 83.77 26 P P 21 43 23.0 -0.4
baz=245
BRSE **Bradley Lake S** 83.83 28 P P 21 43 23.6 0.0
baz=246
K20K **Telida** 83.94 24 P P 21 43 24.4 +0.3
baz=243
H19K **Roundabout Mou** 84.05 21 IAmb IAmb 21 43 25.9
comp=Z,16nm,0.8s
H19K **Roundabout Mou** 84.05 21 P P 21 43 24.9 +0.3
baz=241
C18K **Utukok River** 84.12 18 P P 21 43 25.3 +0.3
baz=236
G19K **Purcell Mounta** 84.13 21 IAmb IAmb 21 43 30.9
comp=Z,21nm,1.1s
G19K **Purcell Mounta** 84.13 21 P P 21 43 25.5 +0.4
baz=240
F19K **Shaleruckik Mo** 84.24 20 IAmb IAmb 21 43 32.6
comp=Z,15nm,0.9s
F19K **Shaleruckik Mo** 84.24 20 P P 21 43 25.4 -0.2
baz=239
J20K **Nowinta River** 84.28 23 P P 21 43 26.2 +0.5
baz=243
B18K **Kokolik River** 84.34 17 P P 21 43 26.2 +0.2
baz=235
SKT **Skwentna** 84.39 26 P P 21 43 25.8 -0.7
baz=246
I20K **Naaghedeneel** 84.44 22 IAmb IAmb 21 43 34.2
comp=Z,25nm,0.9s
I20K **Naaghedeneel** 84.44 22 P P 21 43 26.3 -0.2
baz=243
PPLA **Purkeypile** 84.50 25 P P 21 43 26.3 -0.8
baz=245
SUA **Susitna One** 84.52 26 IAmb IAmb 21 43 31.3
comp=Z,20nm,0.9s
SUA **Susitna One** 84.52 26 P P 21 43 26.2 -1.0
baz=246,SNR=13
BVAR **Borovoye Array** 84.55 325 P P 21 43 27.3 -0.1
comp=Z,65nm,0.7s,baz=113,slow=6.9,SNR=214
SEW **Seward** 84.57 28 P P 21 43 26.8 -0.6
baz=248
O22K **Cooper Landing** 84.59 27 P P 21 43 26.7 -0.7
baz=247
H20K **Anotleneega Mo** 84.61 22 P P 21 43 27.5 +0.1
baz=242,SNR=17
BRVK **Borovoye** 84.62 325 P P 21 43 28.3 +0.5
BRVK **Borovoye** 84.62 325 i P P 21 43 26.6 -1.2
BRVK pmax pmax
comp=Z,70nm,1.1s
E19K **Redstone River** 84.74 20 P P 21 43 28.0 -0.1
baz=240
CAST **Castle Rocks** 84.77 24 IAmb IAmb 21 43 33.1
comp=Z,18nm,0.9s
CAST **Castle Rocks** 84.77 24 P P 21 43 27.5 -0.8
baz=245,SNR=22
RC01 **Rabbit Creek A** 84.82 27 P P 21 43 27.8 -0.9
baz=247,SNR=13
C19K **Lookout Ridge** 84.86 18 P P 21 43 29.0 +0.3
baz=238
CHUM **Lake Minchumin** 84.87 24 P P 21 43 28.8 0.0
baz=245,SNR=44
M22K **Willow** 84.91 26 P P 21 43 28.5 -0.5
baz=247
D19K **Kuna River** 84.99 19 IAmb IAmb 21 43 34.9
comp=Z,21nm,0.9s
D19K **Kuna River** 84.99 19 P P 21 43 29.2 -0.1
baz=239
F20K **Avaraart Lake** 85.05 20 IAmb IAmb 21 43 37.3
comp=Z,13nm,0.8s
F20K **Avaraart Lake** 85.05 20 P P 21 43 29.8 +0.2
baz=241
CUT **Chulitna** 85.11 25 P P 21 43 28.7 -1.3
baz=247,SNR=8.0
IMAR **Indian Mountai** 85.25 22 P P 21 43 30.3 -0.4
PMR **Palmer** 85.29 26 IAmb IAmb 21 43 35.4
comp=Z,19nm,0.8s
PMR **Palmer** 85.29 26 P P 21 43 30.0 -0.9
baz=248,SNR=9.9
KTH **Kantishna Hill** 85.30 24 IAmb IAmb 21 43 37.9
comp=Z,29nm,1.1s
GHO **Glory Hole Cre** 85.44 26 IAmb IAmb 21 43 36.6
comp=Z,20nm,0.8s
H21K **Melozitna Rive** 85.45 22 P P 21 43 31.5 -0.2
baz=244
E20K **Nigu River** 85.48 19 P P 21 43 32.0 +0.1
baz=241
P23K **Montague Islan** 85.49 28 P P 21 43 31.8 -0.2
baz=248
BPAW **Bear Paw Mtn.** 85.50 24 IAmb IAmb 21 43 32.1
comp=Z,44nm,1.7s
BPAW **Bear Paw Mtn.** 85.50 24 P P 21 43 31.1 -0.8
baz=246,SNR=10
TRF **Thorofare Moun** 85.52 24 IAmb IAmb 21 43 33.7
comp=Z,12nm,0.7s
TRF **Thorofare Moun** 85.52 24 P P 21 43 31.2 -1.1
baz=247,SNR=11
KNK **Knik Glacier** 85.52 27 P P 21 43 31.6 -0.6
baz=248,SNR=12
I21K **Tanana** 85.56 23 IAmb IAmb 21 43 38.0
comp=Z,17nm,0.8s
I21K **Tanana** 85.56 23 P P 21 43 32.1 -0.1
baz=245,SNR=15
D20K **Etivluk River** 85.57 19 P P 21 43 32.0 -0.2
baz=240
G21K **Allakaket** 85.58 21 P P 21 43 32.1 -0.2
baz=243
SML **Sawmill** 85.72 26 P P 21 43 32.5 -0.7
baz=248,SNR=14
HRA **Herat** 85.76 305 IAmb IAmb 21 43 42.1
comp=Z,42nm,1.7s
F21K **Alatna River** 85.91 20 P P 21 43 34.0 +0.1
baz=243
MLY **Manley** 85.97 23 IAmb IAmb 21 43 39.6
comp=Z,21nm,1.0s
MLY **Manley** 85.97 23 P P 21 43 33.9 -0.5
baz=246,SNR=20
M23K **Glacier View** 85.98 26 P P 21 43 33.8 -0.6
baz=249,SNR=8.4
WAT1 **Susitna Watana** 86.00 25 P P 21 43 33.8 -0.7
baz=248
H22K **Ishtalitna Cre** 86.09 22 P P 21 43 34.7 -0.2
baz=245,SNR=11
SCM **Sheep Creek Mo** 86.17 27 IAmb IAmb 21 43 42.3
comp=Z,26nm,0.8s
SCM **Sheep Creek Mo** 86.17 27 P P 21 43 35.0 -0.5
baz=249,SNR=7.4
MCK **McKinley** 86.18 24 P P 21 43 34.3 -1.1
baz=248,SNR=15
WAT6 **Susitna Watana** 86.26 26 P P 21 43 35.0 -0.9
baz=249,SNR=9.7
E21K **Killik River** 86.30 19 IAmb IAmb 21 43 42.7
comp=Z,21nm,0.8s
E21K **Killik River** 86.30 19 P P 21 43 36.0 +0.1
baz=243
C21K **Knifeblade Rid** 86.37 19 P P 21 43 36.4 +0.2
baz=242
EYAK **Cordova Ski Ar** 86.45 28 P P 21 43 36.5 -0.2
baz=251
NEA2 **Nenana** 86.46 24 IAmb IAmb 21 43 42.7
comp=Z,11nm,0.7s
NEA2 **Nenana** 86.46 24 P P 21 43 35.7 -1.0
baz=248,SNR=11
I23K **Milo, Yukon-K** 86.56 23 P P 21 43 37.1 0.0
baz=247,SNR=7.7
DHY **Denali Highway** 86.59 25 P P 21 43 37.0 -0.5
baz=249,SNR=19
KLU **Klutina** 86.69 27 IAmb IAmb 21 43 50.0
comp=Z,20nm,1.0s
KLU **Klutina** 86.69 27 P P 21 43 37.6 -0.4
baz=251,SNR=9.0
M24K **Tolsona, Glenn** 86.78 26 P P 21 43 38.3 -0.1
baz=250,SNR=10
WRH **Wood River Hil** 86.81 24 IAmb IAmb 21 43 42.6
comp=Z,24nm,1.0s
A21K **Barrow** 86.87 16 P P 21 43 38.6 0.0
baz=240,SNR=10
E22K **Anaktuvuk Pass** 86.88 20 IAmb IAmb 21 43 40.6
comp=Z,22nm,0.8s
E22K **Anaktuvuk Pass** 86.88 20 P P 21 43 39.1 +0.4
baz=245
KAIM **Kayak Island** 86.88 29 P P 21 43 38.6 -0.2
baz=252
D22K **Ayikyak River** 86.92 19 P P 21 43 39.2 +0.3
baz=244
G23K **Bananza Creek** 86.92 22 IAmb IAmb 21 43 44.6
comp=Z,16nm,0.8s
G23K **Bananza Creek** 86.92 22 P P 21 43 39.0 +0.1
baz=247
MDM **Murphy Dome** 86.93 23 IAmb IAmb 21 43 39.0
comp=Z,42nm,1.8s
COLA **College** 87.05 24 i P P 21 43 37.9 -1.6
COLA pmax pmax
comp=Z,22nm,0.8s
COLA **College** 87.05 24 P P 21 43 39.0 -0.6
baz=249
COLD **Coldfoot** 87.06 21 P P 21 43 39.7 +0.1
baz=246,SNR=12
WSAR **Wadi Sarin** 87.11 294 LR LR 22 27 48.3
comp=Z,63nm,19.7s,baz=114,slow=39
BMRM **Bremner River** 87.12 28 P P 21 43 39.8 -0.3
baz=252
HDA **Harding Lake** 87.25 24 P P 21 43 39.2 -1.3
baz=250,SNR=10
POKR **Poker Plat Res** 87.30 23 P P 21 43 40.1 -0.7
baz=249
N25K **Chitina, Valde** 87.32 27 IAmb IAmb 21 43 50.0
comp=Z,15nm,1.0s
N25K **Chitina, Valde** 87.32 27 P P 21 43 40.9 -0.2
baz=252,SNR=5.5
HARP **HAARP** 87.33 26 P P 21 43 41.0 0.0
baz=251
B22K **Teshekpuk Lake** 87.34 18 P P 21 43 40.8 0.0
baz=243
PAX **Paxson** 87.38 26 P P 21 43 40.7 -0.7
baz=251,SNR=11
H24K **Noodor Dome** 87.39 23 IAmb IAmb 21 43 49.7
comp=Z,12nm,0.8s
H24K **Noodor Dome** 87.39 23 P P 21 43 41.0 -0.3
baz=249
IL31 **Kantishna Hill** 87.40 24 IAmb IAmb 21 43 40.4
comp=Z,19nm,0.7s
ILAR **Eielson Array** 87.40 24 P P 21 43 38.8 -2.4
ILAR **Eielson Array** 87.40 24 P P 21 43 39.3 -2.0
comp=Z,15nm,0.7s,baz=256,slow=4.8,SNR=209
ILAR LR LR 22 20 19.3
comp=Z,93nm,18.9s,baz=290,slow=34
comp=Z,15nm,0.7s
BGLC **Bering Glacier** 87.48 29 P P 21 43 41.4 -0.3
baz=253
K24K **Donnelly Dome** 87.52 25 P P 21 43 41.8 -0.1
baz=251
E23K **Chandalar** 87.60 20 P P 21 43 42.7 +0.4
baz=247,SNR=11
D23K **Nanushuk River** 87.61 19 P P 21 43 43.0 +0.8
baz=246
GLB **Gilahina Butte** 87.63 27 IAmb IAmb 21 43 43.2
comp=Z,16nm,0.8s
CRQE **Cirque** 87.76 28 P P 21 43 43.0 -0.2
baz=253,SNR=13
G24K **Hadweenzic Riv** 87.86 22 IAmb IAmb 21 43 49.2
comp=Z,26nm,1.2s
G24K **Hadweenzic Riv** 87.86 22 P P 21 43 43.7 +0.3
baz=249
RIDG **Independent Ri** 87.89 25 P P 21 43 43.2 -0.6
baz=252,SNR=12
J25K **Salcha River,** 87.96 24 IAmb IAmb 21 43 48.7
comp=Z,18nm,0.8s
J25K **Salcha River,** 87.96 24 P P 21 43 43.2 -0.8
baz=251,SNR=18
MCARA **McCarthy VSAT** 87.98 28 IAmb IAmb 21 43 55.1
comp=Z,18nm,1.1s
MCARA **McCarthy VSAT** 87.98 28 P P 21 43 43.7 -0.4
baz=253
C23K **Itkillik River** 87.99 19 P P 21 43 44.5 +0.5
baz=246,SNR=49
F24K **Squaw Lake** 88.00 21 IAmb IAmb 21 43 50.4
comp=Z,21nm,0.9s
F24K **Squaw Lake** 88.00 21 P P 21 43 44.8 +0.7
baz=248,SNR=28
MENT **Mentasta** 88.12 26 IAmb IAmb 21 43 49.7
comp=Z,12nm,0.7s
MESA **MESA** 88.14 29 P P 21 43 44.0 -1.1
baz=254
PRP **Porcupine Dome** 88.19 23 P P 21 43 44.3 -0.9
baz=251
M26K **Nabesna, AK** 88.28 27 P P 21 43 45.9 +0.3
baz=253
D24K **Happy Valley** 88.30 19 P P 21 43 46.2 +0.8
baz=248
SCRK **Sand Creek** 88.33 25 P P 21 43 45.5 -0.4
baz=252,SNR=8.8
H25L **Birch Creek** 88.33 23 P P 21 43 45.7 +0.1
baz=250
G25K **Bearman Lake** 88.39 22 P P 21 43 46.2 +0.3
baz=250
C24K **Franklin Bluff** 88.55 19 P P 21 43 47.1 +0.5
baz=248
CTG **Chitna Glacier** 88.64 28 P P 21 43 47.3 -0.1
baz=255,SNR=11
J26L **Joseph Creek** 88.66 25 IAmb IAmb 21 43 48.3
comp=Z,12nm,0.7s
J26L **Joseph Creek** 88.66 25 P P 21 43 47.3 -0.1
baz=253,SNR=22
LOGN **Logan Glacier** 88.77 28 IAmb IAmb 21 43 53.6
comp=Z,18nm,0.8s
M27K **Edge Creek, AK** 88.77 27 IAmb IAmb 21 43 53.8
comp=Z,19nm,0.8s
M27K **Edge Creek, AK** 88.77 27 P P 21 43 48.2 +0.1
baz=254
F25K **Christian Rive** 88.84 21 P P 21 43 48.7 +0.5
baz=251
PINM **Pinnacle** 88.94 29 P P 21 43 48.5 -0.2
baz=256
L27K **Beaver Creek,** 88.99 26 P P 21 43 49.1 +0.2
baz=254
BCAR **Beaver Creek A** 89.01 26 P P 21 43 48.8 -0.2
E25K **Arctic Village** 89.04 21 IAmb IAmb 21 43 50.3
comp=Z,12nm,0.8s
E25K **Arctic Village** 89.04 21 P P 21 43 49.8 +0.8
baz=251,SNR=15
K27K **Chicken** 89.15 25 IAmb IAmb 21 43 50.8
comp=Z,19nm,0.8s
K27K **Chicken** 89.15 25 P P 21 43 50.2 +0.6
baz=254
D25K **Kavik River** 89.17 20 IAmb IAmb 21 43 55.1
comp=Z,39nm,1.7s
D25K **Kavik River** 89.17 20 P P 21 43 49.7 +0.1
baz=250
BMAR **Burnt Mountain** 89.17 22 P P 21 43 50.3 +0.7
BVCY **Beaver Creek** 89.24 27 P P 21 43 50.5 +0.4
baz=255
PNL **Peninsula** 89.25 30 P P 21 43 50.2 0.0
baz=256
YUK3 **Moose Creek** 89.26 28 P P 21 43 50.5 0.0
baz=255,SNR=9.1
G26K **Porcupine Rive** 89.32 22 P P 21 43 51.0 +0.8
baz=252
F26K **Sheenjek River** 89.41 21 P P 21 43 51.7 +0.9
baz=252
YUK8 **Steele Glacier** 89.46 28 P P 21 43 51.7 +0.2
baz=256
GEYT **Alibeck** 89.63 308 P P 21 43 54.7 +2.2
GEYT IAmb IAmb 21 43 59.4
comp=Z,31nm,1.7s
GEYT **Alibeck** 89.63 308 P P 21 43 54.7 +2.2
GEYT pmax pmax
comp=Z,31nm,1.7s
GEYT **Alibeck** 89.63 308 P P 21 43 52.2 -0.3
comp=Z,1.7nm,0.6s,baz=101,slow=7.7,SNR=4.0
comp=Z,1.7nm,0.6s
EGAK **Eagle** 89.73 25 IAmb IAmb 21 44 00.8
comp=Z,15nm,0.8s
EGAK **Eagle** 89.73 25 P P 21 43 52.1 -0.1
baz=255
I27K **Kandik River** 89.77 24 P P 21 43 52.7 +0.2
baz=254
O29M **Mount Kennedy** 89.80 29 IAmb IAmb 21 44 05.1
comp=Z,49nm,1.8s
O29M **Mount Kennedy** 89.80 29 P P 21 43 53.2 +0.3
baz=257
C26K **Camden Bay** 89.85 19 P P 21 43 53.5 +0.8
baz=251
H27K **Steamboat Moun** 89.97 23 P P 21 43 54.1 +0.6
baz=254
YUK4 **Talbot Arm** 90.00 28 P P 21 43 54.4 +0.5
baz=257,SNR=10
YUK6 **Outpost Mounta** 90.05 29 P P 21 43 54.2 0.0
baz=257
ABKAR **Akbulak array** 90.05 319 P P 21 43 52.8 -1.4
ABKAR **Akbulak array** 90.05 319 IAmb IAmb 21 43 55.2
comp=Z,6.8nm,0.8s
P29M **Windy Craggy** 90.07 30 IAmb IAmb 21 44 01.5
comp=Z,14nm,0.8s
P29M **Windy Craggy** 90.07 30 P P 21 43 54.0 0.0
baz=258
DAWY **Dawson** 90.30 25 P P 21 43 55.2 +0.2
baz=256
M29M **Somme Creek** 90.33 27 IAmb IAmb 21 43 56.4
comp=Z,11nm,0.7s
M29M **Somme Creek** 90.33 27 P P 21 43 55.3 0.0
baz=257
I28M **Miner Creek** 90.41 24 P P 21 43 55.5 -0.1
baz=256
HYT **Haines Junctio** 90.43 29 P P 21 43 56.1 +0.3
baz=258
S31K **Pelican** 90.50 32 P P 21 43 56.2 +0.3
baz=259
P30M **Million Dollar** 90.55 30 P P 21 43 56.3 0.0
baz=258
L29M **L29M** 90.63 27 IAmb IAmb 21 43 58.0
comp=Z,15nm,0.8s
L29M **L29M** 90.63 27 P P 21 43 57.1 +0.5
baz=258,SNR=17
N30M **Aishikik Lake** 90.76 28 P P 21 43 57.4 +0.2
baz=258
J29N **Klondike Camp** 90.89 25 IAmb IAmb 21 43 59.5
comp=Z,47nm,1.8s
J29N **Klondike Camp** 90.89 25 P P 21 43 57.8 0.0
baz=257
SVE **Sverdlovsk** 90.92 327 eP P 21 43 57.6 -0.4
F28M **Old Crow** 90.96 22 P P 21 43 58.1 +0.1
baz=256,SNR=7.5
K29M **Barlow Dome** 91.06 26 IAmb IAmb 21 44 04.5
comp=Z,14nm,0.8s
K29M **Barlow Dome** 91.06 26 P P 21 43 58.6 0.0
baz=258,SNR=15
O30N **Mendenhall** 91.10 29 IAmb IAmb 21 44 00.1
comp=Z,43nm,1.8s
O30N **Mendenhall** 91.10 29 P P 21 43 58.6 -0.2
baz=259
M30M **Minto, Yukon** 91.12 27 IAmb IAmb 21 43 59.8
comp=Z,23nm,1.7s
M30M **Minto, Yukon** 91.12 27 P P 21 43 58.9 0.0
baz=259,SNR=5.7
H29M **Whitestone** 91.21 23 IAmb IAmb 21 44 28.0
comp=Z,34nm,1.6s
H29M **Whitestone** 91.21 23 P P 21 43 59.1 -0.1
baz=257
S32K **Killisnoo** 91.28 32 P P 21 43 59.2 -0.4
baz=260
R32K **Eaglecrest** 91.45 32 P P 21 44 00.1 -0.3
baz=260
WHY **Whitehorse** 91.67 29 P P 21 44 01.3 -0.2
baz=260
J30M **Hart River** 91.71 25 IAmb IAmb 21 44 09.1
comp=Z,10nm,0.8s
J30M **Hart River** 91.71 25 P P 21 44 01.7 0.0
baz=259,SNR=11

I30M	**Mount Dempster** comp=Z,38nm,1.8s	91.81	25	IAmb	IAmb	21 44 02.8
I30M	**Mount Dempster** baz=259	91.81	25	P	**P**	**21 44 02.2 +0.1**
E29M	**Blow River** baz=258	91.86	21	P	**P**	**21 44 02.2 +0.1**
EPYK	**Eagle Plains** comp=Z,15nm,0.8s	91.90	23	IAmb	IAmb	21 44 07.7
EPYK	**Eagle Plains** baz=259,SNR=8.6	91.90	23	P	**P**	**21 44 02.2 -0.2**
ARU	**Arti**	91.99	326	P	**P**	**21 44 01.3 -1.6**
ARU	comp=Z,11nm,0.8s			IAmb	IAmb	21 44 02.2
ARU	**Arti**	91.99	326	*c i*P	**P**	**21 44 01.1 -1.9**
ARU						21 47 41.7
ARU				S	**SKSac**	**21 54 31.4 -2.5**
ARU	comp=Z,15nm,0.9s			pmax	pmax	
P32M	**Atlin** baz=261	92.07	30	P	**P**	**21 44 02.9 -0.4**
M31M	**Drury Creek, Y** baz=261	92.15	28	P	**P**	**21 44 03.2 -0.4**
G30M	**tAoh Zraii Nji** comp=Z,30nm,1.6s	92.21	23	IAmb	IAmb	21 44 14.7
G30M	**tAoh Zraii Nji** baz=259	92.21	23	P	**P**	**21 44 03.5 -0.4**
F30M	**Barrier River** baz=260	92.49	22	P	**P**	**21 44 05.0 -0.1**
P33M	**Teslin, Yukon** baz=262	92.61	30	P	**P**	**21 44 05.3 -0.5**
FARO	**Faro, Yukon** baz=262	92.64	28	P	**P**	**21 44 05.7 -0.2**
Q32M	**Nakina River** baz=262	92.72	31	P	**P**	**21 44 05.8 -0.7**
H31M	**Peel River** comp=Z,9.6nm,0.7s	92.75	24	IAmb	IAmb	21 44 10.8
H31M	**Peel River** baz=261	92.75	24	P	**P**	**21 44 05.9 -0.4**
ELIB	**Princess Elisa**	92.82	196	*d*P	**P**	**21 44 07.5 +0.8**
G31M	**Satah River** baz=261	92.95	23	P	**P**	**21 44 07.1 -0.1**
F31M	**Tsiigehtchic** baz=262	93.24	23	P	**P**	**21 44 08.6 +0.1**
R33M	**Jennings River** baz=264	93.43	31	P	**P**	**21 44 09.6 -0.2**
INK	**Inuvik** baz=262	93.44	22	P	**P**	**21 44 09.5 +0.1**
INK	**Inuvik** comp=Z,1.6nm,0.8s,baz=287,slow=5.4,SNR=3.2	93.44	22	P	**P**	**21 44 09.1 -0.3**
INK				LR	LR	22 22 47.4
	comp=Z,98nm,20.7s,baz=352,slow=33 comp=Z,1.6nm,0.8s					
MMPY	**Sheldon Lake,** baz=264	93.65	28	P	**P**	**21 44 10.4 -0.2**
DLBC	**Dease Lake** baz=264	93.82	32	P	**P**	**21 44 11.2 -0.2**
DLBC	**Dease Lake** comp=Z,2.3nm,0.8s,baz=211,slow=5.9,SNR=3.4	93.82	32	P	**P**	**21 44 10.8 -0.6**
DLBC				LR	LR	22 21 52.1
	comp=Z,97nm,18.7s,baz=287,slow=33 comp=Z,2.3nm,0.8s					
BBB	**Bella Bella** comp=Z,127nm,21.4s,baz=291,slow=30	94.35	38	LR	LR	22 17 20.8
TGTN	**Hyland Airport** baz=266	94.96	29	P	**P**	**21 44 16.6 0.0**
A36M	**Sachs Harbour** baz=270	96.53	18	P	**P**	**21 44 23.7 +0.2**
C36M	**Paulatuk** baz=271	96.94	21	P	**P**	**21 44 25.6 +0.3**
KOTAN	**Kotaneelee Air** baz=270	96.97	30	P	**P**	**21 44 25.6 -0.1**
KIRV	**Kirov**	97.07	328	*i* P	**P**	**21 44 25.3 -0.8**
YBH	**Yreka Blue Hor** comp=Z,243nm,20.3s,baz=299,slow=31	97.49	49	LR	LR	22 21 39.2
BELG	**Belogornoye**	98.09	322	*i* P	**P**	**21 44 28.3 -2.6**
BELG	comp=Z,4.0nm,0.8s			pmax	pmax	
SBC	**Santa Barbara** baz=269	99.69	56	P	**Pdif**	**21 44 37.8 -0.7**
SCZ2	**Santa Cruz Isl** baz=269	99.74	57	P	**Pdif**	**21 44 38.3 -0.5**
YKA	**Yellowknife Ar** comp=Z,0.8nm,0.8s,baz=282,slow=4.8,SNR=8.5	101.35	28	P	**Pdif**	**21 44 43.9 -1.4**
YKA				PKKPbc	**PKKPbc**	**22 00 53.9 -2.9**
	comp=Z,0.4nm,0.6s,baz=92,slow=2.7,SNR=5.0					
OBN	**Obninsk**	104.38	325	*i* P	**Pdif**	**21 44 55.1 -3.7**
OBN				*e*PPP	PPP	21 51 29.7
OBN	comp=Z,3.0nm,0.9s			pmax	pmax	
TXAR	**Lajitas Array** comp=Z,1.2nm,0.7s,baz=115,slow=6.2,SNR=10	113.55	61	PKKPab	PKKPab	22 00 25.3 +1.0
NOA	**NORSAR Array B** comp=Z,1.2nm,1.1s,baz=49,slow=1.8,SNR=1.8	114.58	336	PKP	**PKiKP**	**21 49 33.8 -0.4**
AGMN	**Agassiz Nation** baz=290	115.22	39	P	**PKiKP**	**21 49 35.5 -0.4**
WMOK	**Wichita Mounta** baz=282	116.83	54	P	**PKPdf**	**21 49 38.7 -0.7**
BRDY	**Brady**	117.28	58		**PKPdf**	**21 49 40.2 -0.2**
EYMN	**Ely** baz=294	118.06	38	P	**PKPdf**	**21 49 40.8 -0.5**
SPMN	**Marine on St.** baz=292	118.28	41	P	**PKPdf**	**21 49 41.1 -0.7**
RONA	**Rosalia, Austr** comp=Z,1.2nm,0.5s	118.65	322	*i* PKiKP	**PKiKP**	**21 49 42.8 +0.2**
CONA	**Conrad Observa** comp=Z,0.9nm,0.4s	118.82	322	*i* PKiKP	**PKiKP**	**21 49 43.3 +0.4**
CLL	**Collm**	118.94	327	*e*Pdif	**Pdif**	**21 46 03.0 -0.7**
CLL				*e*PKiKP	**PKPdf**	**21 49 40.0 -2.9**
CLL	comp=Z,200nm,18.2s			AMS	AMS	22 40 00.0
GERES	**GERESS Array B** comp=Z,1.0nm,0.6s,baz=55,slow=3.5,SNR=5.7	119.71	324	PKP	**PKiKP**	**21 49 45.0 +0.3**
SOKA	**Soboth** comp=Z,0.8nm,0.4s	119.86	321	*e*PKiKP	**PKiKP**	**21 49 45.1 +0.1**
S39A	**Bolivar**	120.38	50	PKPdf	**PKPdf**	**21 49 45.5 -0.6**
LESA	**Schwarzleotal** comp=Z,2.3nm,0.6s	120.97	323	*i* PKiKP	**PKPdf**	**21 49 47.0 -0.1**
MIAR	**Mount Ida** baz=285	121.05	53	P	**PKPdf**	**21 49 46.3 -1.2**
ABTA	**Abfaltersbach** comp=Z,2.5nm,0.7s	121.38	322	*i* PKiKP	**PKPdf**	**21 49 47.7 -0.2**
WTTA	**Wattenberg** comp=Z,2.6nm,0.5s	121.67	323	*i* PKiKP	**PKiKP**	**21 49 48.9 +0.2**
WATA	**Walderalm** comp=Z,1.4nm,0.5s	121.67	323	*i* PKiKP	**PKPdf**	**21 49 48.6 +0.1**
CCM	**Cathedral Cave** baz=289	121.83	49	P	**PKPdf**	**21 49 47.6 -1.2**
SQTA	**Sankt Quirin** comp=Z,0.9nm,0.3s	121.95	323	*i* PKiKP	**PKiKP**	**21 49 49.4 +0.2**
MOTA	**Moosalm** comp=Z,2.3nm,0.5s	121.95	323	*i* PKiKP	**PKiKP**	**21 49 49.2 0.0**
FETA	**Feichten** comp=Z,0.8nm,0.5s	122.33	323	*i* PKiKP	**PKiKP**	**21 49 50.4 +0.4**
HDIL	**Hopedale** baz=292	122.39	45	P	**PKPdf**	**21 49 49.0 -0.8**
DAVA	**Damuels** comp=Z,4.1nm,0.5s	122.70	324	*i* PKiKP	**PKiKP**	**21 49 50.9 +0.3**
BMRD	**Maredsous**	123.86	329	*d*PKPdf	**PKPdf**	**21 49 50.0 -2.4**
BMRD				*dp*PKPdf	**pPKPdf**	**21 50 02.4 0.0**
EKA	**Eskdalemuir Ar** comp=Z,1.5nm,0.6s,baz=23,slow=2.7,SNR=5.4	124.04	337	PKP	**PKPdf**	**21 49 52.5 0.0**
PLCA	**Paso Flores** comp=Z,1.5nm,0.7s,baz=275,slow=4.0,SNR=5.1	124.09	150	PKP	**PKiKP**	**21 49 54.0 +0.4**
SCHQ	**Schefferville** comp=Z,2.0nm,0.7s,baz=16,slow=5.8,SNR=6.4	126.05	21	PKP	**PKPdf**	**21 49 56.7 +0.2**
P52A	**Corning** baz=298	127.77	44	P	**PKPdf**	**21 49 59.1 -1.1**
M53A	**WI Miller and** baz=300	127.88	41	P	**PKPdf**	**21 49 59.5 -0.9**
ESDC	**Sonseca Array** comp=Z,0.3nm,0.6s,baz=17,slow=3.5,SNR=1.4	135.29	323	PKP	**PKPdf**	**21 50 15.3 +0.8**
MCRA	**Macar, Loja**	136.03	103	PKPdf	**PKPdf**	**21 50 16.5 -0.1**
TOA0	**Torodi Ar. Sit**	141.09	283	PKPdf	**PKPdf**	**21 50 21.4 -4.3**
TORD	**Torodi Ar. Bea**	141.09	283		PKPpre	21 50 20.5
TORD	**Torodi Ar. Bea** comp=Z,1.4nm,0.8s,baz=61,slow=4.5,SNR=6.9	141.09	283	PKhKP	PKPpre	21 50 20.2
CHN	**Chinchina**	141.76	90	P	**Pdif**	**21 47 56.1 +10**
CZSB	**Cruzeiro do Su**	141.96	111	PKPdf	**PKPdf**	**21 50 23.7 -3.7**
LPAZ	**La Paz**	142.07	127		**PKPdf**	**21 50 26.0 -2.2**
LPAZ	**La Paz**	142.07	127	PKIKP	**PKPdf**	**21 50 26.0 -2.2**
CPUP	**Villa Florida**	142.16	150	PKPdf	**PKPdf**	**21 50 27.5 +0.1**
CPUP	**Villa Florida**	142.16	150	PKIKP	**PKPdf**	**21 50 27.5 +0.1**
CPUP	**Villa Florida** comp=Z,3.0nm,0.7s,baz=179,slow=6.8,SNR=5.6	142.16	150	PKhKP	PKPpre	21 50 24.2
ROSC	**El Rosal** comp=Z,15nm,0.5s,baz=302,slow=12,SNR=7.8	143.04	90	PKP	PKPbc	21 50 27.5 +0.9
SDV	**Santo Domingo**	146.77	83		**PKPdf**	**21 50 36.0 +0.1**
ETMB	**Extrema**	146.98	119		**PKPdf**	**21 50 36.9 +0.8**
KIC	**Kosan Boka** comp=Z,49nm,0.8s	147.74	272	*i*PKP1	**PKPbc**	**21 50 41.2 +1.0**
DBIC	**Dimbokro**	147.86	273	PKPab	**PKiKP**	**21 50 41.6 -0.8**
DBIC	**Dimbokro**	147.86	273	PKP2	**PKiKP**	**21 50 41.6 -0.8**
DBIC	**Dimbokro** comp=Z,24nm,0.8s,baz=88,slow=2.3,SNR=33	147.86	273	PKPbc	**PKPbc**	**21 50 41.3 +0.8**
LIC	**Lamto** comp=Z,105nm,0.8s	148.01	272	*i*PKP1	**PKiKP**	**21 50 41.9 -0.8**
TIC	**Toumodi** comp=Z,4.7nm,0.3s	148.02	272	*i*PKP1	**PKPbc**	**21 50 41.9 +1.0**
MLPR	**Magueyes Islan**	148.66	66		**PKPbc**	**21 50 41.3 -1.1**
CELP	**Cerrillos**	149.04	65		**PKPbc**	**21 50 42.6 -0.8**
PTLB	**Pontes e Lacer**	149.38	135		**PKPdf**	**21 50 40.8 +0.9**
IGPR	**InterUniversit**	149.50	65		**PKPbc**	**21 50 43.6 -0.9**

*IDC **02** 21:41:45.7±0.8,6˚14S×142˚84E,h0km,mb4.2/11, mbtmp4.2/13,ML1.9/1,MS3.5/2,Error ellipse: s-maj=31.1km s-min=18.2km az=74.0*

ISC 02 21:41:50.8±0.7,6˚3S±0˚1×142˚7E±0˚1,h35km,n14, σ1s27/15,mb4.2/11,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	5.43	126	Pn		**Pn**	**21 43 08.6**	**-0.8**
	2.7nm,0.3s,baz=166,slow=3.1,SNR=6.0							
PMG				Sn		**Sn**	**21 44 11.8**	**+1.2**
	3.6nm,0.3s,baz=340,slow=12,SNR=4.0							
PMG				LR		LR	21 46 09.9	
	comp=Z,318nm,20.3s,baz=234,slow=49 10.0nm,0.4s							
WRA	**Warramunga Arr**	15.84	210	Pn		**Pn**	**21 45 28.9**	**-2.4**
	0.4nm,0.3s,baz=30,slow=13,SNR=6.3							
WRA				Lg		Lg	21 50 18.3	
	0.2nm,0.3s,baz=26,slow=28,SNR=5.0							
ASAR	**Alice Springs**	19.26	205	P		**P**	**21 46 14.7**	**+2.2**
	17nm,0.8s,baz=30,slow=12,SNR=17							
ASAR				Lg		Lg	21 52 06.5	
	0.1nm,0.3s,baz=24,slow=30,SNR=4.2							
MJAR	**Matsushiro Arr**	42.77	355	P		**P**	**21 49 43.7**	**-1.3**
	2.8nm,1.0s,baz=180,slow=11,SNR=4.5 2.8nm,1.0s							
KSRS	**Korea Array**	45.61	344	P		**P**	**21 50 07.1**	**-0.6**
	3.1nm,1.0s,baz=156,slow=8.9,SNR=6.9							
KSRS				LR		LR	22 06 00.8	
	comp=Z,70nm,20.4s,baz=0.0,slow=32 3.1nm,1.0s							
CMAR	**Chiang Mai Arr**	49.63	301	P		**P**	**21 50 39.7**	**+0.4**
	0.8nm,0.7s,baz=117,slow=6.0,SNR=7.2 0.8nm,0.7s							
USRK	**Ussuriysk Ar.**	51.14	350	P		**P**	**21 50 51.3**	**+1.1**
	3.2nm,0.9s,baz=180,slow=9.5,SNR=4.9 3.2nm,0.9s							
SONM	**Songino Array**	62.62	333	P		**P**	**21 52 12.3**	**+0.6**
	0.9nm,0.8s,baz=156,slow=6.6,SNR=4.4 0.9nm,0.8s							
MKAR	**Makanchi Array**	75.00	322	P		**P**	**21 53 29.7**	**+1.0**
	2.8nm,0.9s,baz=108,slow=6.5,SNR=14 2.8nm,0.9s							
ZALV	**Zalesovo Beam**	76.98	329	P		**P**	**21 53 39.7**	**0.0**
	1.4nm,0.7s,baz=108,slow=4.7,SNR=7.2 1.4nm,0.7s							
KURBB	**Kurchatov Arra**	78.89	324	P		**P**	**21 53 50.1**	**-0.3**
	1.7nm,0.9s,baz=116,slow=4.7,SNR=8.7 1.7nm,0.9s							
QSPA	**South Pole Qui**	83.72	180	P		**P**	**21 54 16.1**	**+0.1**
	1.6nm,0.7s,baz=329,slow=1.3,SNR=8.0 1.6nm,0.7s							
BVAR	**Borovoye Array**	84.47	325	P		**P**	**21 54 20.5**	**+0.6**
	8.2nm,0.7s,baz=108,slow=6.5,SNR=28 8.2nm,0.7s							
ILAR	**Eielson Array**	87.42	24	P		**P**	**21 54 33.2**	**-1.1**
	1.4nm,0.8s,baz=253,slow=5.6,SNR=4.3 1.4nm,0.8s							

*BJI **02** 21:44:50.7±0.0,51˚94N×178˚66E,h96km,mb5.1/74, mB5.3/28*

*MOS **02** 21:44:52.6±1.0,51˚90N×178˚67E,h105km,mb5.0/51, Error ellipse: s-maj=7.1km s-min=5.6km az=113.8*

*AEIC **02** 21:44:53.0±1.5,51˚79N±0˚10×178˚7E±0˚1,h94km±3km, Error ellipse: s-maj=14.4km s-min=9.0km az=173.0*

*IDC **02** 21:44:53.7±0.4,51˚95N×178˚63E,h97km±2km,mb4.3/35, mbtmp4.7/39,MS3.6/11,Error ellipse: s-maj=10.4km s-min=6.2km az=175.0*

*NEIC **02** 21:44:53.7±1.5,51˚79N±0˚10×178˚71E±0˚05,h96km±3km, mb5.0/489,ML5.0(AEIC),Error ellipse: s-maj=14.1km s-min=4.5km az=184.0*

*GCMT **02** 21:44:55.7±0.4,51˚82N±0˚03×178˚83E±0˚04, h100km±5km,MW4.9/90,Moment Tensor Solution. s14,c15; s90,c121; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-0.78±.16; Mθθ-1.92±.18; Mφφ2.70±.17; Mrθ 1.22±.10; Mθφ 1.24±.14; Mφr-1.37±.08; Best double couple: Mo3.27000×10^16^ NP1:φs333.00000°,δ79.00000°, λ-144.00000°. NP2:φs235.00000°,δ55.00000°, λ-14.00000°. Principal axes: T 3.3020, Plg16.0000°, Azm100.0000°; N -0.0630, Plg52.0000°, Azm349.0000°; P -3.2380, Plg33.0000°, Azm200.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 21:44:53.5±0.3,51˚82N±0˚05×178˚68E±0˚03,h99km±1km, h99km:pP-P,n1077,σ1s03/1016,mb5.0/301,15C-16D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LSSE	**Little Sitkin**	0.13	329			**Pn**	**21 45 06.8**	**-0.6**
LSPA	**Little Sitkin**	0.15	335			**Pn**	**21 45 07.0**	**-0.4**
LSPA						**Sn**	**21 45 17.8**	**0.0**
LSNW	**Little Sitkin**	0.18	327			**Pn**	**21 45 06.8**	**-0.7**
CESW	**Semis' Southwe**	0.56	82			**Pn**	**21 45 09.2**	**-0.4**
CEAP	**Semis' Anvil P**	0.59	72			**Pn**	**21 45 09.8**	**0.0**
AMKA	**Amchitka**	0.59	138	Pn		**Pn**	**21 45 09.4**	**-0.4**
AMKA				Sn		**Sn**	**21 45 21.1**	**-0.9**
CEPE	**Semis' Perret**	0.62	76			**Pn**	**21 45 10.0**	**0.0**
GANO	**Gareloi North**	1.56	89			**Pn**	**21 45 20.7**	**+0.3**
GAEA	**Gareloi East**	1.60	90			**Pn**	**21 45 21.4**	**+0.5**
TASE	**Tanaga Southea**	2.04	88			**Pn**	**21 45 27.0**	**+0.5**
TAFL	**Tanaga Flats**	2.13	90			**Pn**	**21 45 28.1**	**+0.5**
KICM	**Kanaga Island**	2.56	86			**Pn**	**21 45 33.9**	**+0.6**
KIWB	**Kanaga Island**	2.59	88	Pn		**Pn**	**21 45 33.1**	**-0.5**
KIRH	**Kanaga Island**	2.62	87			**Pn**	**21 45 34.5**	**+0.4**
KIRH						**Sn**	**21 46 06.1**	**+0.7**
ADK	**Adak**	2.88	87	Pn		**Pn**	**21 45 36.4**	**-1.1**
ADK				Sn		**Sn**	**21 46 11.5**	**+0.1**
ADK	**Adak**	2.88	87	P		**Pn**	**21 45 37.7**	**+0.2**
ADK	**Adak**	2.88	87	P		**Pn**	**21 45 36.4**	**-1.1**
ADK							21 46 11.5	
ADAG	**Mount Adagdak**	2.93	85			**Pn**	**21 45 38.3**	**+0.1**
SHEM	**Shemya Is, Ala** 531nm,0.3s,baz=39,slow=4.1,SNR=82	2.95	290	P		**Pn**	**21 45 37.5**	**-0.9**
SHEM	1µm,0.3s,baz=280,slow=16,SNR=15			S		**Sn**	**21 46 11.4**	**-1.8**
GSCK	**Great Sitkin C**	3.20	85			**Pn**	**21 45 41.9**	**0.0**
GSTD	**Great Sitkin T**	3.21	84			**Pn**	**21 45 42.2**	**+0.2**
GSMY	**Great Sitkin M**	3.27	84			**Pn**	**21 45 42.7**	**0.0**
GSTR	**Great Sitkin T**	3.27	83			**Pn**	**21 45 42.7**	**-0.1**
ATKA	**Atka Island**	4.42	82			**Sn**	**21 46 48.5**	**0.0**
ATKA	**Atka Island**	4.42	82	Pn		**Pn**	**21 45 57.3**	**-0.9**
ATKA	**Atka Island**	4.42	82	P		**Pn**	**21 45 58.9**	**+0.7**
KOFP	**Korovin Flat P**	4.49	81			**Pn**	**21 45 59.5**	**+0.4**
CLES	**Cleveland East**	7.08	77	Pn		**Pn**	**21 46 34.6**	**+0.4**
CLCO	**Concord Point,**	7.18	78			**Pn**	**21 46 37.9**	**+2.2**
NIKH	**Nikolski High**	7.72	77			**Pn**	**21 46 43.9**	**+1.0**
NIKH	**Nikolski High**	7.72	77	P		**Pn**	**21 46 45.0**	**+2.1**
NIKH	**Nikolski High** baz=266,SNR=19	7.72	77	P		**Pn**	**21 46 43.7**	**+0.7**
OKCE	**Okmok Cone E**	8.17	74			**Pn**	**21 46 51.1**	**+2.0**
OKNC	**Okmok New Cone**	8.20	73			**Pn**	**21 46 51.8**	**+2.3**
OKFG	**Magazine Ridge**	8.32	74			**Pn**	**21 46 53.6**	**+2.5**
SPIA	**Saint Paul Isl**	8.38	46			**Pn**	**21 46 55.1**	**+3.2**
SPIA	**Saint Paul Isl**	8.38	46	P		**Pn**	**21 46 55.2**	**+3.3**
SPIA	**Saint Paul Isl** 235,SNR=6.6	8.38	46	P		**Pn**	**21 46 53.9**	**+2.0**
P08K	**Saint George I**	8.39	51			**Pn**	**21 46 54.5**	**+2.4**
P08K	**Saint George I** baz=240	8.39	51	P		**Pn**	**21 46 54.2**	**+2.1**
MAPS	**Pakushin South**	8.94	72			**Pn**	**21 47 01.0**	**+1.4**
MGOD	**Makushin Gods**	8.98	72			**Pn**	**21 47 01.7**	**+1.6**
MSW	**Makushin Switc**	9.04	71			**Pn**	**21 47 02.8**	**+1.8**
MNAT	**Makushin Natee**	9.10	71			**Pn**	**21 47 03.2**	**+1.5**
UNV	**Unalaska Valle**	9.20	71			**Pn**	**21 47 04.8**	**+1.7**
UNV	**Unalaska Valle**	9.20	71	P		**Pn**	**21 47 04.9**	**+1.8**
UNV	**Unalaska Valle** baz=263,SNR=14	9.20	71	P		**Pn**	**21 47 04.6**	**+1.5**
AKRB	**Akutan Reef Bi**	9.49	70			**Pn**	**21 47 09.4**	**+2.4**
LVA	**Lava Point**	9.52	70			**Pn**	**21 47 09.9**	**+2.5**
ZRO	**Akutan Zero**	9.54	70			**Pn**	**21 47 09.7**	**+2.0**
AKGG	**Akutan Green G**	9.54	70			**Pn**	**21 47 09.9**	**+2.1**
AKLV	**Akutan Long Va**	9.56	70			**Pn**	**21 47 10.3**	**+2.3**
AKUT	**Akutan**	9.66	70	Pn		**Pn**	**21 47 09.3**	**0.0**
FALS	**False Pass** baz=261,SNR=6.8	11.12	67	P		**Pn**	**21 47 30.7**	**+1.5**
M11K	**Mekoryuk** baz=231,SNR=5.5	12.01	39	P		**Pn**	**21 47 43.8**	**+2.9**
PET	**Petropavlovsk**	12.28	283	P		**Pn**	**21 47 46.7**	**+2.1**
PET	**Petropavlovsk**	12.28	283	*ce*P		**Pn**	**21 47 44.1**	**-0.5**
PET	comp=Z,127nm,1.7s			pmax	pmax			
PEA0B	**Petropavlovsk-**	12.85	284	Pn		**Pn**	**21 47 52.4**	**+0.1**
PEA0B	**Petropavlovsk-**	12.85	284	*i* P		**Pn**	**21 47 51.5**	**-0.7**
PETK	**Petropavlovsk-**	12.85	284	Pn		**Pn**	**21 47 53.7**	**+1.5**
PETK	**Petropavlovsk-**	12.85	284	P		**Pn**	**21 47 53.7**	**+1.5**
PETK	**Petropavlovsk-** comp=Z,8.6nm,0.7s,baz=93,slow=20,SNR=22	12.85	284	P		**Pn**	**21 47 51.8**	**-0.4**
PETK				S		**Sn**	**21 50 05.3**	**-8.0**
	comp=Z,13nm,0.7s,baz=193,slow=38,SNR=2.3							
PETK				LR		LR	21 52 23.5	
	comp=Z,138nm,19.1s,baz=82,slow=35							
SDPT	**Sand Point**	12.87	66			**Pn**	**21 47 51.3**	**-1.0**
SDPT	**Sand Point**	12.87	66	P		**Pn**	**21 47 51.6**	**-0.8**
SDPT	**Sand Point** baz=263,SNR=5.5	12.87	66	P		**Pn**	**21 47 51.2**	**-1.2**
GAMB	**Gambell** baz=207	13.01	19	P		**Pn**	**21 47 56.2**	**+2.0**
M13K	**Dall Lake**	13.17	42	P		**Pn**	**21 47 59.4**	**+3.1**
M13K	**Dall Lake** baz=237	13.17	42	P		**Pn**	**21 47 58.6**	**+2.3**
CHNA	**Chernabura Isl** baz=266	13.32	68	P		**Pn**	**21 47 56.0**	**-2.3**
CNBA	**Chernabura Isl**	13.32	68			**Pn**	**21 47 56.0**	**-2.3**
S14K	**Fog Glacier** baz=260	13.53	62	P		**Pn**	**21 48 02.0**	**+0.9**
O14K	**Tigyukauivet M**	13.54	49			**Pn**	**21 48 03.4**	**+2.2**
O14K	**Tigyukauivet M** baz=245,SNR=9.9	13.54	49	P		**Pn**	**21 48 02.9**	**+1.8**
N14K	**Kuskokwak Cree** baz=242	13.64	46	P		**Pn**	**21 48 04.6**	**+2.1**
M14K	**Bethel**	13.93	43	Pn		**P**	**21 48 08.8**	**-2.2**
M14K	**Bethel** baz=239,SNR=23	13.93	43	P		**P**	**21 48 08.7**	**-2.4**
L14K	**Kuka Creek**	13.96	40			**P**	**21 48 09.3**	**-2.0**
L14K	**Kuka Creek** baz=235	13.96	40	P		**P**	**21 48 09.5**	**-1.9**
CHGN	**Chignik**	14.15	63	P		**Pn**	**21 48 09.4**	**+0.3**
CHGN	**Chignik** baz=261	14.15	63	P		**Pn**	**21 48 08.9**	**-0.2**
O15K	**Ungalikthiuk R** baz=248,SNR=30	14.19	50	P		**Pn**	**21 48 10.8**	**+1.2**
M15K	**Kasigluk River** baz=241	14.45	44	P		**Pn**	**21 48 14.4**	**+1.5**
N15K	**Kwethluk River** baz=244,SNR=51	14.47	46	P		**P**	**21 48 15.4**	**-1.7**
J14K	**Nanvaranak Lak** baz=229	14.50	34	P		**P**	**21 48 15.9**	**-1.4**
L15K	**Ungalak Mounta** baz=236	14.62	40	P		**P**	**21 48 17.5**	**-1.3**
R16K	**Pilot Point** baz=257	14.84	58	P		**Pn**	**21 48 19.5**	**+1.6**
K15K	**Wolf Creek Mou** baz=234,SNR=44	14.96	38	P		**P**	**21 48 21.8**	**-0.7**
P16K	**Nushagak River** baz=251,SNR=28	15.03	52	P		**P**	**21 48 22.1**	**-1.1**
O16K	**Kokwok River B** comp=Z,75nm,0.8s	15.16	50	IAmb	IAmb	21 48 27.7		
O16K	**Kokwok River B** baz=249,SNR=27	15.16	50	P		**P**	**21 48 23.9**	**-0.9**
N16K	**Nishlik Lake** baz=245	15.19	46	P		**P**	**21 48 24.1**	**-1.0**
ANM	**Nome**	15.22	27			**P**	**21 48 25.5**	**+0.1**
ANM	**Nome**	15.22	27	P		**P**	**21 48 25.5**	**+0.1**
ANM	comp=Z,11nm,0.9s			pmax	pmax			
ANM	**Nome** baz=220	15.22	27	P		**P**	**21 48 25.1**	**-0.3**
M16K	**Timber Creek** baz=243,SNR=14	15.35	44	P		**P**	**21 48 26.3**	**-0.5**
TNA	**Tin City** baz=213	15.38	21	P		**P**	**21 48 26.5**	**-0.6**
L16K	**Owhat River**	15.46	42			**P**	**21 48 27.8**	**-0.2**
L16K	**Owhat River** baz=240,SNR=20	15.46	42	P		**P**	**21 48 27.4**	**-0.6**
Q16K	**King Salmon** baz=254,SNR=5.7	15.59	54	P		**P**	**21 48 28.7**	**-0.7**
CHIR	**Chirikof Islan**	15.66	65	Pn		**Pn**	**21 48 27.1**	**-1.1**
CHIR	comp=Z,165nm,1.0s			IAmb	IAmb	21 48 49.0		
CHIR	**Chirikof Islan** baz=266	15.66	65	P		**Pn**	**21 48 28.1**	**0.0**
F14K	**Arctic Creek** baz=216,SNR=7.7	15.69	24	P		**P**	**21 48 30.4**	**-0.1**
O17K	**Koliganek Bris** baz=250,SNR=27	15.70	50	P		**P**	**21 48 30.1**	**-0.6**
P17K	**Kvichak River** baz=253,SNR=35	15.84	53	P		**P**	**21 48 32.0**	**-0.2**
Q17K	**Contact Creek** baz=257,SNR=17	15.88	56	P		**P**	**21 48 32.6**	**-0.2**
J16K	**Anvik River** baz=233,SNR=14	15.89	36	P		**P**	**21 48 33.5**	**+0.8**
G15K	**Niukluk** baz=222	15.93	27	P		**P**	**21 48 33.3**	**+0.2**
N17K	**Nushagak Hills** comp=Z,71nm,1.1s	15.93	47	IAmb	IAmb	21 48 37.1		
N17K	**Nushagak Hills** baz=248,SNR=17	15.93	47	P		**P**	**21 48 33.3**	**+0.1**
L17K	**Donlin** baz=241	16.15	41	P		**P**	**21 48 36.2**	**+0.5**
M17K	**Holitna River** comp=Z,93nm,0.9s	16.18	44	IAmb	IA

N19K	Bonanza Creek	17.28	48	IAmb	IAmb	21 48 53.6		
	comp=Z,99nm,0.8s							
N19K	Bonanza Creek	17.28	48	P	Pn	21 48 50.5	+2.3	
	baz=251							
G17K	Kiwalik Mounta	17.29	30	P	Pn	21 48 50.1	+1.8	
	baz=227,SNR=12							
BILL	Bilibino	17.35	344		Pn	21 48 50.0	+1.1	
BILL	Bilibino	17.35	344	eP	Pn	21 48 49.4	+0.5	
BILL				pmax	pmax			
	comp=Z,23nm,0.8s							
MA2	Magadan	17.43	307	P	Pn	21 48 50.8	+0.8	
MA2	Magadan	17.43	307	i P	Pn	21 48 50.1	+0.1	
MA2	Magadan	17.43	307	P	P	21 48 49.0	-0.8	
	comp=Z,4.6nm,0.5s,baz=90,slow=10.0,SNR=4.6							
MA2				ScP	ScP	21 56 50.2	-0.6	
	comp=Z,4.4nm,0.6s,baz=109,slow=5.7,SNR=4.4							
J18K	Innoko River	17.45	39	P	Pn	21 48 51.7	+1.5	
	baz=239,SNR=22							
TTA	Tatalina	17.46	41	P	Pn	21 48 51.0	+0.5	
TTA	Tatalina	17.46	41	P	Pn	21 48 51.0	+0.5	
TTA				pmax	pmax			
	comp=Z,42nm,0.9s							
TTA	Tatalina	17.46	41	P	Pn	21 48 51.9	+1.4	
	baz=242,SNR=30							
KDAK	Kodiak Island	17.52	59		P	21 48 49.5	-1.3	
KDAK				IAmb	IAmb	21 48 52.0		
	comp=Z,51nm,0.8s							
KDAK	Kodiak Island	17.52	59	i P	P	21 48 49.1	-1.7	
KDAK	Kodiak Island	17.52	59	P	P	21 48 48.7	-2.1	
	baz=262							
KDAK	Kodiak Island	17.52	59	P	P	21 48 48.7	-2.1	
	comp=Z,46nm,0.4s,baz=301,slow=4.7,SNR=150							
KDAK				S	Sn	21 51 58.0	-7.9	
	comp=Z,4.0nm,0.6s,baz=326,slow=19,SNR=1.5							
KDAK				LR	LR	21 55 13.1		
	comp=Z,190nm,21.8s,baz=294,slow=35							
KDAK				ScP	ScP	21 56 50.7	-0.4	
	comp=Z,3.4nm,0.8s,baz=131,slow=10,SNR=2.0							
P19K	Oil Pt	17.54	53		Pn	21 48 52.0	+0.6	
P19K	Oil Pt	17.54	53	P	P	21 48 51.1	+0.1	
	baz=256,SNR=20							
L19K	White Mountain	17.62	44	P	Pn	21 48 52.8	+0.5	
L19K				IAmb	IAmb	21 48 56.8		
	comp=Z,87nm,1.4s							
L19K	White Mountain	17.62	44	P	Pn	21 48 53.9	+1.6	
	baz=246,SNR=23							
ILSW	Iliamna Southw	17.67	51	P	Pn	21 48 53.0	0.0	
ILSW				IAmb	IAmb	21 48 57.3		
	comp=Z,161nm,1.3s							
Q20K	Shuyak Island	17.75	56	P	P	21 48 53.1	-0.1	
	baz=260							
SYI	Shuyak Island	17.75	56	P	Pn	21 48 54.0	+0.2	
SYI				IAmb	IAmb	21 49 08.3		
	comp=Z,167nm,1.4s							
F17K	Baldwin Pennin	17.77	27	P	Pn	21 48 55.0	+1.0	
	baz=224							
H18K	Honhosa River	17.80	33	P	Pn	21 48 55.7	+1.3	
	baz=232							
SEY	Seymchan	17.86	319	i P	P	21 48 54.6	+0.1	
SEY				pmax	pmax			
	comp=Z,8.0nm,0.8s							
SEY	Seymchan	17.86	319	P	P	21 48 52.7	-1.9	
	comp=Z,0.8nm,0.3s,baz=98,slow=12,SNR=1.9							
SEY				ScP	ScP	21 56 50.8	-0.9	
	comp=Z,3.4nm,0.7s,baz=184,slow=4.4,SNR=13							
O20K	Slope Mountain	17.95	51	P	P	21 48 55.3	-0.2	
	baz=255,SNR=7.0							
GCSA	Galena City Sc	18.07	35	P	Pn	21 48 57.7	0.0	
	baz=236							
J19K	Poorman	18.14	38	P	Pn	21 48 59.0	+0.5	
J19K	Poorman	18.14	38	P	Pn	21 48 58.9	+0.5	
	baz=240,SNR=20							
L20K	Farewell, AK	18.16	43	P	Pn	21 48 59.3	+0.6	
	baz=246,SNR=15							
G18K	Tagagawik	18.17	30	P	Pn	21 48 59.4	+0.5	
	baz=230,SNR=17							
C16K	Lisburne Hills	18.22	19	P	Pn	21 49 00.2	+0.8	
	baz=213							
D17K	Noatak River	18.25	22	P	Pn	21 49 00.4	+0.6	
	baz=218,SNR=9.6							
M20K	Styx River	18.26	46	IAmb	IAmb	21 49 07.7		
	comp=Z,65nm,0.7s							
M20K	Styx River	18.26	46	P	Pn	21 49 00.9	+0.9	
	baz=249							
F18K	Selawik	18.34	28	P	Pn	21 49 01.6	+0.8	
	baz=227,SNR=11							
K20K	Telida	18.45	41	IAmb	IAmb	21 49 05.6		
	comp=Z,76nm,1.2s							
K20K	Telida	18.45	41	P	Pn	21 49 02.4	+0.2	
	baz=244,SNR=22							
N20K	Mount Spurr	18.45	48	P	Pn	21 49 03.1	+0.8	
	baz=252,SNR=90							
CNPM	China Poot	18.50	54	IAmb	IAmb	21 49 03.3		
	comp=Z,61nm,0.6s							
E18K	Tukpahlearik C	18.66	25	P	Pn	21 49 04.5	-0.2	
	baz=223							
H19K	Roundabout Mou	18.67	33	P	Pn	21 49 04.6	-0.2	
	baz=234							
BRLK	Bradley Lake	18.73	53	IAmb	IAmb	21 49 05.3		
	comp=Z,74nm,0.9s							
J20K	Nowinta River	18.79	38	P	P	21 49 05.2	+0.5	
	baz=242,SNR=24							
BRSE	Bradley Lake S	18.79	53	P	P	21 49 03.8	-1.0	
	baz=258,SNR=18							
CAPN	Captain Cook N	18.83	50	P	P	21 49 04.2	-0.8	
	baz=255							
G19K	Purcell Mounta	18.83	31	IAmb	IAmb	21 49 12.4		
	comp=Z,54nm,0.8s							
G19K	Purcell Mounta	18.83	31	P	Pn	21 49 06.8	+0.1	
	baz=232,SNR=48							
C17K	DeLong Mountai	18.85	21	P	Pn	21 49 07.1	+0.2	
	baz=217,SNR=16							
I20K	Naaghedeneel	18.97	36	IAmb	IAmb	21 49 09.4		
	comp=Z,109nm,1.2s							
I20K	Naaghedeneel	18.97	36	P	Pn	21 49 08.1	-0.2	
	baz=240,SNR=14							
SKT	Skwentna	19.00	46	P	Pn	21 49 09.1	+0.2	
SKT	Skwentna	19.00	46	P	Pn	21 49 09.0	+0.2	
	baz=251,SNR=118							
PPLA	Purkeypile	19.04	43	P	Pn	21 49 09.6	+0.2	
	baz=248,SNR=29							
F19K	Shaleruckik Mo	19.05	29	P	Pn	21 49 08.9	-0.4	
	baz=229							
H20K	Anotleneega Mo	19.19	34	P	Pn	21 49 10.3	-0.7	
	baz=237,SNR=68							
SUA	Susitna One	19.20	48	P	Pn	21 49 10.3	-1.0	
SUA				IAmb	IAmb	21 49 14.3		
	comp=Z,74nm,0.9s							
SUA	Susitna One	19.20	48	P	Pn	21 49 10.3	-1.0	
	baz=254,SNR=38							
CAST	Castle Rocks	19.28	42	P	Pn	21 49 11.2	-0.9	
CAST	Castle Rocks	19.28	42	P	Pn	21 49 11.6	-0.5	
	baz=246,SNR=27							
FIS	Fire Island	19.36	49	P	Pn	21 49 11.9	-1.0	
CHUM	Lake Minchumin	19.38	40	P	Pn	21 49 13.0	-0.1	
	baz=245,SNR=48							
C18K	Utukok River	19.43	22	P	Pn	21 49 13.0	-0.8	
	baz=220							
O22K	Cooper Landing	19.44	51	P	P	21 49 12.8	+1.0	
O22K	Cooper Landing	19.44	51	P	P	21 49 12.2	+0.5	
	baz=258,SNR=64							
SEW	Seward	19.50	52	P	P	21 49 11.8	-0.6	
	baz=259,SNR=30							
M22K	Willow	19.57	47	IAmb	IAmb	21 49 38.6		
	comp=Z,127nm,0.9s							
M22K	Willow	19.57	47	P	P	21 49 13.6	+0.4	
	baz=254,SNR=14							
RC01	Rabbit Creek A	19.58	49		P	21 49 14.3	+1.0	
RC01				IAmb	IAmb	21 49 15.2		
	comp=Z,93nm,0.9s							
RC01	Rabbit Creek A	19.58	49	P	P	21 49 13.6	+0.4	
	baz=256,SNR=31							
E19K	Redstone River	19.62	28	P	Pn	21 49 14.9	-1.1	
	baz=229							
CUT	Chulitna	19.70	45	P	Pn	21 49 16.0	-0.9	
CUT				IAmb	IAmb	21 49 20.4		
	comp=Z,118nm,0.9s							
CUT	Chulitna	19.70	45	P	P	21 49 15.4	+0.9	
	baz=252							
F20K	Avaraart Lake	19.82	30	P	Pn	21 49 17.1	-1.1	
	baz=232							
KTH	Kantishna Hill	19.82	42	IAmb	IAmb	21 49 43.9		
	comp=Z,82nm,1.0s							
IMAR	Indian Mountai	19.85	34		P	21 49 17.4	+1.2	
B18K	Kokolik River	19.86	20	P	Pn	21 49 17.7	-1.0	
	baz=218,SNR=11							
PMR	Palmer	19.98	48		P	21 49 17.5	-0.1	
PMR	Palmer	19.98	48	P	Pn	21 49 20.4	+0.2	
	comp=Z,44nm,0.7s							
PMR	Palmer	19.98	48	P	P	21 49 17.5	-0.1	
PMR				pmax	pmax			
	comp=Z,32nm,0.8s							
PMR	Palmer	19.98	48	P	P	21 49 16.9	-0.7	
	baz=255,SNR=18							
BPAW	Bear Paw Mtn.	20.00	40	P	Pn	21 49 19.4	-1.1	
BPAW	Bear Paw Mtn.	20.00	40	P	P	21 49 19.1	+1.2	
	baz=246,SNR=35							
H21K	Melozitna Rive	20.02	35	IAmb	IAmb	21 49 20.7		
	comp=Z,74nm,0.8s							
H21K	Melozitna Rive	20.02	35	P	Pn	21 49 19.5	-1.1	
	baz=240,SNR=67							
TRF	Thorofare Moun	20.04	43	IAmb	IAmb	21 49 22.6		
	comp=Z,61nm,0.7s							
TRF	Thorofare Moun	20.04	43	P	P	21 49 19.4	+1.0	
	baz=249,SNR=33							
I21K	Tanana	20.09	37	P	P	21 49 19.6	+1.0	
I21K				IAmb	IAmb	21 49 21.5		
	comp=Z,82nm,0.9s							
I21K	Tanana	20.09	37	P	Pn	21 49 20.6	-0.8	
	baz=242,SNR=66							
D19K	Kuna River	20.09	25	P	Pn	21 49 20.2	-1.2	
	baz=225							
GHO	Glory Hole Cre	20.12	48	P	P	21 49 19.9	+0.7	
GHO				IAmb	IAmb	21 49 21.6		
	comp=Z,60nm,0.9s							
C19K	Lookout Ridge	20.16	23	P	P	21 49 20.9	+1.3	
	baz=222							
G21K	Allakaket	20.22	33	IAmb	IAmb	21 49 22.7		
	comp=Z,73nm,0.9s							
G21K	Allakaket	20.22	33	P	Pn	21 49 21.8	-1.2	
	baz=237							
KNK	Knik Glacier	20.25	49	IAmb	IAmb	21 49 22.3		
	comp=Z,131nm,1.1s							
KNK	Knik Glacier	20.25	49	P	P	21 49 19.8	-0.8	
	baz=257,SNR=33							
SML	Sawmill	20.41	48	IAmb	IAmb	21 49 45.5		
	comp=Z,104nm,1.2s							
SML	Sawmill	20.41	48	P	P	21 49 21.8	-0.4	
	baz=256,SNR=20							
E20K	Nigu River	20.45	27	P	P	21 49 23.6	+0.9	
	baz=229							
MLY	Manley	20.49	38		P	21 49 23.5	+0.4	
MLY	Manley	20.49	38	P	P	21 49 24.3	+1.2	
	baz=244,SNR=18							
P23K	Montague Islan	20.50	53	P	P	21 49 23.7	+0.6	
	baz=262,SNR=15							
WAT1	Susitna Watana	20.59	45	P	P	21 49 24.3	+0.1	
	baz=253							
F21K	Alatna River	20.63	31	IAmb	IAmb	21 49 27.1		
	comp=Z,58nm,0.9s							
F21K	Alatna River	20.63	31	P	P	21 49 25.6	+1.0	
	baz=235,SNR=50							
RND	Reindeer	20.64	43	P	P	21 49 25.0	+0.3	
RND	Reindeer	20.64	43	P	P	21 49 25.0	+0.3	
RND				pmax	pmax			
	comp=Z,26nm,0.7s							
D20K	Etivluk River	20.64	26	P	P	21 49 25.5	+0.9	
	baz=227							
H22K	Ishtalitna Cre	20.65	36	P	P	21 49 26.1	+1.4	
	baz=241,SNR=24							
BWN	Browne	20.65	41	IAmb	IAmb	21 49 50.6		
	comp=Z,113nm,1.0s							
M23K	Glacier View	20.68	48	P	P	21 49 24.3	-0.9	
	baz=256,SNR=29							
MCK	McKinley	20.71	42	P	P	21 49 26.0	+0.6	
	baz=250,SNR=19							
WAT6	Susitna Watana	20.87	46	P	P	21 49 26.9	-0.5	
	baz=254,SNR=56							
SCM	Sheep Creek Mo	20.88	48	IAmb	IAmb	21 49 29.6		
	comp=Z,94nm,0.8s							
SCM	Sheep Creek Mo	20.88	48	P	P	21 49 27.0	-0.4	
	baz=257,SNR=34							
MID	Middleton Isla	20.96	55	P	P	21 49 28.8	+0.7	
MID	Middleton Isla	20.96	55	P	P	21 49 28.8	+0.7	
MID				pmax	pmax			
	comp=Z,182nm,1.0s							
NEA2	Nenana	20.96	40	P	P	21 49 28.9	+0.8	
	baz=248,SNR=30							
HIN	Hinchinbrook I	21.00	52	IAmb	IAmb	21 49 31.0		
	comp=Z,102nm,0.8s							
I23K	Minto, Yukon-K	21.07	38	P	P	21 49 30.1	+0.8	
	baz=246,SNR=28							
DHY	Denali Highway	21.17	45	P	P	21 49 30.9	+0.3	
DHY				IAmb	IAmb	21 49 33.2		
	comp=Z,172nm,1.3s							
DHY	Denali Highway	21.17	45	P	P	21 49 30.4	-0.2	
	baz=254,SNR=44							
E21K	Killik River	21.20	28	P	P	21 49 31.1	+0.4	
	baz=232							
EYAK	Cordova Ski Ar	21.39	52	P	P	21 49 34.4	+1.7	
EYAK	Cordova Ski Ar	21.39	52	P	P	21 49 32.6	-0.1	
	baz=262,SNR=23							
C21K	Knifeblade Rid	21.43	26	P	P	21 49 33.8	+0.7	
	baz=229							
MDM	Murphy Dome	21.44	39	IAmb	IAmb	21 49 58.2		
	comp=Z,52nm,0.9s							
KLU	Klutina	21.46	49	IAmb	IAmb	21 49 41.1		
	comp=Z,88nm,1.1s							
KLU	Klutina	21.46	49	P	P	21 49 33.2	-0.3	
	baz=259,SNR=23							
M24K	Tolsona, Glenn	21.47	48	IAmb	IAmb	21 49 59.6		
	comp=Z,114nm,0.9s							
M24K	Tolsona, Glenn	21.47	48	P	P	21 49 34.2	+0.6	
	baz=257,SNR=35							
CCB	Clear Creek Bu	21.49	40	P	P	21 49 34.1	+0.3	
G23K	Bananza Creek	21.52	34	IAmb	IAmb	21 49 37.5		
	comp=Z,51nm,0.9s							
G23K	Bananza Creek	21.52	34	P	P	21 49 35.2	+1.1	
	baz=241							
COLA	College	21.55	40	P	P	21 49 35.0	+0.6	
COLA				IAmb	IAmb	21 49 59.5		
	comp=Z,73nm,0.9s							
COLA	College	21.55	40	P	P	21 49 37.4	+3.0	
COLA	College	21.55	40	i P	P	21 49 34.8	+0.4	
COLA				pmax	pmax			
	comp=Z,26nm,0.9s							
COLA	College	21.55	40	P	P	21 49 35.0	+0.6	
	baz=249							
E22K	Anaktuvuk Pass	21.67	30	P	P	21 49 36.4	+0.7	
	baz=236							
COLD	Coldfoot	21.71	33	P	P	21 49 36.6	+0.5	
	baz=240,SNR=7.2							
HDA	Harding Lake	21.76	41	P	P	21 49 36.9	+0.3	
	baz=251,SNR=27							
POKR	Poker Plat Res	21.81	39	P	P	21 49 37.9	+0.8	
	baz=249,SNR=17							
D22K	Ayikyak River	21.84	28	IAmb	IAmb	21 49 40.9		
	comp=Z,50nm,0.8s							
D22K	Ayikyak River	21.84	28	P	P	21 49 38.4	+0.8	
	baz=233,SNR=38							
ILAR	Eielson Array	21.91	41	P	P	21 49 36.8	-1.4	
ILAR	Eielson Array	21.91	41	P	P	21 49 36.6	-1.5	
	comp=Z,8.2nm,0.8s,baz=240,slow=9.3,SNR=68							
ILAR				pP	pP	21 49 57.8	+0.6	
	comp=Z,2.6nm,0.7s,baz=336,slow=31,SNR=5.2							
ILAR				PcP	PcP	21 53 32.8	-0.4	
	comp=Z,0.7nm,0.7s,baz=248,slow=3.1,SNR=2.7							
ILAR				ScP	ScP	21 56 59.5	-1.6	
	comp=Z,1.6nm,0.8s,baz=282,slow=3.0,SNR=10.0							
ILAR				LR	LR	21 59 18.1		
	comp=Z,104nm,19.3s,baz=272,slow=40							
	comp=Z,8.2nm,0.8s							
H24K	Noodor Dome	21.91	37	IAmb	IAmb	21 50 04.6		
	comp=Z,61nm,0.9s							
H24K	Noodor Dome	21.91	37	P	P	21 49 38.7	+0.4	
	baz=246							
KAIM	Kayak Island	21.98	54	P	P	21 49 39.2	+0.2	
KAIM	Kayak Island	21.98	54	P	P	21 49 38.0	-0.9	
	baz=265,SNR=20							
PAX	Paxson	21.98	46	P	P	21 49 38.7	-0.4	
	baz=256,SNR=51							
HARP	HAARP	22.00	47	P	P	21 49 39.4	+0.2	
	baz=258,SNR=18							
BMRM	Bremner River	22.00	51	P	P	21 49 38.7	-0.6	
	baz=262,SNR=48							
K24K	Donnelly Dome	22.07	43	P	P	21 49 39.6	-0.3	
	baz=254,SNR=16							
N25K	Chitina, Valde	22.11	49	IAmb	IAmb	21 49 43.1		
	comp=Z,106nm,1.3s							
N25K	Chitina, Valde	22.11	49	P	P	21 49 40.6	+0.2	
	baz=260,SNR=29							
E23K	Chandalar	22.32	31	P	P	21 49 43.3	+0.6	
	baz=239,SNR=36							
TYV	Tymovskoe	22.38	282	eP	P	21 49 45.3	+2.0	
TYV				pmax	pmax			
	comp=Z,15nm,1.0s							
TYV				pmax	pmax			
	comp=Z,200nm,4.4s							
G24K	Hadweenzic Riv	22.42	36	IAmb	IAmb	21 49 46.4		
	comp=Z,51nm,0.8s							
G24K	Hadweenzic Riv	22.42	36	P	P	21 49 44.6	+1.1	
	baz=245,SNR=51							
RIDG	Independent Ri	22.45	44	IAmb	IAmb	21 49 46.3		
	comp=Z,35nm,0.5s							
RIDG	Independent Ri	22.45	44	P	P	21 49 42.9	-1.0	
	baz=255,SNR=30							
J25K	Salcha River,	22.47	41	P	P	21 49 43.0	-1.2	
	baz=252,SNR=18							
D23K	Nanushuk River	22.48	29	P	P	21 49 44.8	+0.6	
	baz=236							
A21K	Barrow	22.49	21	P	P	21 49 44.0	-0.2	
	baz=223,SNR=16							
B22K	Teshekpuk Lake	22.57	24	P	P	21 49 44.8	-0.1	
	baz=229							
VRDI	Verde Repeater	22.59	51	P	P	21 49 45.3	-0.3	
VRDI				IAmb	IAmb	21 49 47.9		
	comp=Z,101nm,0.8s							
F24K	Squaw Lake	22.64	33	P	P	21 49 46.3	+0.5	
	baz=243							
PRP	Porcupine Dome	22.70	39	P	P	21 49 45.3	-1.3	
	baz=250,SNR=22							
CRQE	Cirque	22.71	52	P	P	21 49 46.0	-0.7	
	baz=264,SNR=45							
MENT	Mentasta	22.76	46	P	P	21 49 48.8	+1.7	
SNH	Sunshine Point	22.79	53	IAmb	IAmb	21 50 10.0		
	comp=Z,114nm,1.0s							
WAX	Waxell Ridge	22.80	53	P	P	21 49 48.5	+0.9	
WAX				IAmb	IAmb	21 50 10.6		
	comp=Z,99nm,1.0s							
MCARA	McCarthy VSAT	22.82	50	P	P	21 49 47.5	-0.2	
	baz=263,SNR=76							
TGL	Tana Glacier	22.84	52	IAmb	IAmb	21 49 50.1		
	comp=Z,93nm,0.8s							
H25L	Birch Creek	22.86	37	P	P	21 49 48.2	+0.2	
	baz=248							
SCRK	Sand Creek	22.88	43	P	P	21 49 47.3	-1.1	
	baz=256,SNR=25							
G25K	Bearman Lake	22.94	36	P	P	21 49 48.8	0.0	
	baz=247,SNR=19							
M26K	Nabesna, AK	22.98	48	P	P	21 49 49.3	-0.1	
	baz=260							
C23K	Itkillik River	23.01	27	P	P	21 49 49.3	-0.1	
C23K	Itkillik River	23.01	27	P	P	21 49 49.7	+0.4	
	baz=234,SNR=14							
ISLE	Juniper Island	23.07	52	IAmb	IAmb	21 49 57.7		
	comp=Z,53nm,0.7s							
D24K	Happy Valley	23.15	29	IAmb	IAmb	21 49 53.7		
	comp=Z,66nm,0.7s							
D24K	Happy Valley	23.15	29	P	P	21 49 51.4	+0.7	
	baz=238							
FYU	Fort Yukon	23.19	37	IAmb	IAmb	21 49 53.9		
	comp=Z,44nm,0.9s							
J26L	Joseph Creek	23.19	42	IAmb	IAmb	21 49 52.2		
	comp=Z,34nm,0.7s							
MESA	MESA	23.23	54	P	P	21 49 51.8	-0.1	
	baz=266,SNR=21							
F25K	Christian Rive	23.44	34	P	P	21 49 53.3	-0.2	
	baz=245							
C24K	Franklin Bluff	23.49	28	P	P	21 49 54.1	+0.2	
	baz=237							
M27K	Edge Creek, AK	23.49	48	IAmb	IAmb	21 49 56.6		
	comp=Z,49nm,0.9s							
M27K	Edge Creek, AK	23.49	48	P	P	21 49 54.2	0.0	
	baz=262,SNR=36							
CTG	Chitna Glacier	23.59	52	P	P	21 49 54.9	-0.1	
	baz=265,SNR=60							
L27K	Beaver Creek,	23.63	46	IAmb	IAmb	21 49 57.5		
	comp=Z,67nm,0.8s							
L27K	Beaver Creek,	23.63	46	P	P	21 49 55.2	-0.1	
	baz=260							
BCAR	Beaver Creek A	23.65	46	P	P	21 49 55.6	+0.1	
TABL	Table Mountain	23.65	53	IAmb	IAmb	21 49 56.7		
	comp=Z,66nm,0.7s							
E25K	Arctic Village	23.69	33	IAmb	IAmb	21 49 58.3		
	comp=Z,91nm,1.4s							
E25K	Arctic Village	23.69	33	P	P	21 49 56.2	+0.5	
	baz=244,SNR=44							
K27K	Chicken	23.71	44	IAmb	IAmb	21 49 58.7		
	comp=Z,68nm,1.2s							
K27K	Chicken	23.71	44	P	P	21 49 56.0	+0.1	
	baz=258							
YSS	Yuzh-Sakhalins	23.72	272	P	P	21 49 56.4	+0.2	
YSS				IAmb	IAmb	21 49 59.6		
	comp=Z,53nm,1.0s							
YSS	Yuzh-Sakhalins	23.72	272	eP	P	21 49 57.7	+1.6	
YSS				eS	S	21 54 03.2	-0.5	
YSS				pmax	pmax			
	comp=Z,50nm,0.8s							
BMAR	Burnt Mountain	23.75	35	P	P	21 49 56.3	0.0	
G26K	Porcupine Rive	23.86	36	P	P	21 49 57.5	+0.3	
	baz=249							
BVCY	Beaver Creek	23.97	48	P	P	21 49 58.3	-0.1	
	baz=262,SNR=17							
D25K	Kavik River	23.98	30	IAmb	IAmb	21 50 00.2		
	comp=Z,48nm,0.7s							
D25K	Kavik River	23.98	30	P	P	21 49 58.8	+0.4	
	baz=241							
F26K	Sheenjek River	24.01	35	P	P	21 49 59.4	+0.8	
	baz=247							
PINM	Pinnacle	24.08	54	P	P	21 49 59.4	+0.1	
	baz=268,SNR=29							
YUK3	Moose Creek	24.08	50	P	P	21 49 59.6	0.0	
	baz=264,SNR=95							
EGAK	Eagle	24.26	42	IAmb	IAmb	21 50 02.3		
	comp=Z,68nm,0.8s							
EGAK	Eagle	24.26	42	P	P	21 50 00.9	+0.1	
	baz=257,SNR=15							
I27K	Kandik River	24.28	40	P	P	21 50 00.4	-0.7	
	baz=255,SNR=8.4							
YUK8	Steele Glacier	24.37	51	P	P	21 50 02.1	-0.1	
	baz=266							
BCPM	Bancas Point	24.38	54	P	P	21 50 01.7	-0.3	
H27K	Steamboat Moun	24.48	39	P	P	21 50 01.4	-1.5	
	baz=253,SNR=9.6							
PNL	Peninsula	24.50	55	P	P	21 50 03.0	-0.1	
PNL	Peninsula	24.50	55	P	P	21 50 02.5	-0.6	
	baz=270,SNR=10							
C26K	Camden Bay	24.72	29	P	P	21 50 06.5	+1.5	
	baz=242,SNR=108							
DAWY	Dawson	24.87	44	IAmb	IAmb	21 50 09.8		
	comp=Z,51nm,0.7s							
DAWY	Dawson	24.87	44	P	P	21 50 06.6	+0.1	
	baz=260,SNR=57							
I28M	Miner Creek	24.92	41	IAmb	IAmb	21 50 07.6		
	comp=Z,42nm,0.8s							
I28M

K29M Barlow Dome 25.66 45 P P 21 50 13.8 +0.1
baz=263,SNR=20
N30M Aishikik Lake 25.67 51 IAmb IAmb 21 50 39.4
comp=Z,73nm,0.9s
N30M Aishikik Lake 25.67 51 P P 21 50 13.8 0.0
baz=268,SNR=41
H29M Whitestone 25.72 40 P P 21 50 13.7 -0.4
baz=257
P30M Million Dollar 25.73 54 P P 21 50 13.6 -0.6
baz=271
M30M Minto, Yukon 25.86 48 IAmb IAmb 21 50 20.5
comp=Z,29nm,0.8s
M30M Minto, Yukon 25.86 48 P P 21 50 15.2 -0.3
baz=266,SNR=21
JEM Erimo 25.93 262 P P 21 50 17.5 +1.3
O30N Mendenhall 26.15 52 IAmb IAmb 21 50 44.5
comp=Z,41nm,1.1s
O30N Mendenhall 26.15 52 P P 21 50 17.7 -0.4
baz=270,SNR=9.7
S31K Pelican 26.24 59 P P 21 50 18.1 -0.7
baz=276
J30M Hart River 26.27 44 P P 21 50 19.5 +0.3
baz=262
I30M Mount Dempster 26.34 42 P P 21 50 19.7 -0.2
baz=261,SNR=14
EPYK Eagle Plains 26.40 40 P P 21 50 20.2 -0.1
EPYK IAmb IAmb 21 50 21.4
comp=Z,32nm,0.8s
EPYK Eagle Plains 26.40 40 P P 21 50 19.8 -0.5
baz=258,SNR=14
E29M Blow River 26.46 35 P P 21 50 21.2 +0.5
baz=253,SNR=12
SKAG Skagway 26.58 55 P P 21 50 22.1 +0.2
baz=274
G30M tAoh Zraii Nji 26.72 38 P P 21 50 23.4 +0.2
baz=258,SNR=5.6
WHY Whitehorse 26.74 52 P P 21 50 23.5 0.0
WHY Whitehorse 26.74 52 P P 21 50 24.0 +0.5
baz=272
M31M Drury Creek, Y 26.97 49 P P 21 50 25.9 +0.5
baz=269,SNR=16
F30M Barrier River 27.02 37 P P 21 50 26.7 +0.9
baz=257
JIS Juneau Island 27.18 58 P P 21 50 27.3 +0.1
JIS IAmb IAmb 21 50 29.0
comp=Z,37nm,0.9s
S32K Killisnoo 27.18 59 P P 21 50 27.5 +0.3
baz=278
H31M Peel River 27.26 41 P P 21 50 27.6 -0.4
baz=262
P32M Atlin 27.39 55 IAmb IAmb 21 50 31.3
comp=Z,26nm,0.9s
P32M Atlin 27.39 55 P P 21 50 29.7 +0.5
baz=275
FARO Faro, Yukon 27.46 49 P P 21 50 30.1 +0.3
FARO Faro, Yukon 27.46 49 P P 21 50 29.9 +0.2
baz=270
G31M Satah River 27.47 39 IAmb IAmb 21 50 30.8
comp=Z,18nm,0.5s
G31M Satah River 27.47 39 P P 21 50 29.8 +0.1
baz=260,SNR=14
N32M Quiet Lake 27.61 51 P P 21 50 31.2 +0.1
baz=272
F31M Tsiigehtchic 27.76 38 P P 21 50 32.4 +0.1
F31M Tsiigehtchic 27.76 38 P P 21 50 32.9 +0.5
baz=260,SNR=11
P33M Teslin, Yukon 27.79 53 P P 21 50 33.3 +0.5
P33M IAmb IAmb 21 50 35.1
comp=Z,40nm,1.2s
P33M Teslin, Yukon 27.79 53 P P 21 50 33.0 +0.2
baz=274,SNR=16
JTM Tenmabayashi 27.92 262 P P 21 50 36.8 +2.7
comp=Z,67nm,1.9s
YAK Yakutsk 27.94 311 *e*P P 21 50 33.3 -0.6
YAK *e**PP **pP** 21 50 55.6 +0.1
YAK *e* 21 51 25.9
YAK *e* 21 53 45.1
YAK *e*S **S** 21 55 10.9 +0.7
YAK *e**SS **sS** 21 55 55.0 +6.7
YAK *e*SS **SnSn** 21 56 36.5 +1.7
YAK *e* 22 01 09.7
YAK pmax pmax
comp=Z,8.0nm,1.4s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.4s
YAK pmax pmax
comp=Z,211nm,4.3s
YAK pmax pmax
comp=N,74nm,3.8s
YAK pmax pmax
comp=E,86nm,3.5s
YAK smax smax
comp=E,195nm,4.0s
YAK smax smax
comp=N,179nm,4.0s
INK Inuvik 28.01 36 P P 21 50 34.9 +0.4
INK Inuvik 28.01 36 P P 21 50 35.0 +0.4
INK Inuvik 28.01 36 P P 21 50 34.8 +0.4
baz=258
INK Inuvik 28.01 36 P P 21 50 35.0 +0.4
comp=N,2.5nm,0.3s,baz=265,slow=7.8,SNR=8.9
INK ScP **ScP** 21 57 18.4 +0.1
comp=N,3.6nm,0.8s,baz=9.0,slow=2.0,SNR=5.2
comp=N,2.5nm,0.3s
Q32M Nakina River 28.19 56 IAmb IAmb 21 50 38.8
comp=Z,27nm,0.7s
Q32M Nakina River 28.19 56 P P 21 50 37.1 +0.6
baz=277
U33K Whale Pass 28.21 62 P P 21 50 36.8 +0.4
baz=282
CRAG Craig 28.34 63 P P 21 50 38.0 +0.4
baz=283
MMPY Sheldon Lake, 28.42 48 P P 21 50 38.7 +0.3
MMPY Sheldon Lake, 28.42 48 P P 21 50 38.9 +0.6
baz=271,SNR=12
WRAK Wrangell Islan 28.57 61 P P 21 50 40.1 +0.5
baz=282
R33M Jennings River 28.80 55 IAmb IAmb 21 50 44.0
comp=Z,28nm,0.7s
R33M Jennings River 28.80 55 P P 21 50 42.4 +0.5
baz=277,SNR=19
S34M Telegraph Cree 28.94 58 P P 21 50 43.1 +0.2
S34M Telegraph Cree 28.94 58 P P 21 50 43.7 +0.7
baz=280
DLBC Dease Lake 29.43 57 P P 21 50 47.9 +0.5
DLBC Dease Lake 29.43 57 P P 21 50 48.4 +1.1
baz=280,SNR=5.6
DLBC Dease Lake 29.43 57 P P 21 50 48.2 +0.8
comp=Z,12nm,0.7s,baz=284,slow=9.5,SNR=28
DLBC LR LR 22 02 47.3
comp=Z,168nm,20.3s,baz=288,slow=36
comp=Z,12nm,0.7s
KLR Kul'dur 29.54 284 *c*eP P 21 50 48.3 -0.1
KLR pmax pmax
comp=Z,49nm,1.3s
WTLY Watson Lake, Y 29.80 53 P P 21 50 51.2 +0.7
baz=278
JMM Marumori 29.89 257 P P 21 50 52.1 +0.6
JMM IAmb IAmb 21 50 53.5
comp=Z,32nm,1.1s
TGTN Hyland Airport 29.89 50 P P 21 50 51.9 +0.5
baz=276
ZEA Zeya 30.61 294 *e*P P 21 50 56.8 -0.9
ZEA pmax pmax
comp=Z,20nm,0.8s
A36M Sachs Harbour 31.47 30 P P 21 51 06.1 +1.1
A36M Sachs Harbour 31.47 30 P P 21 51 06.3 +1.2
baz=261,SNR=28
C36M Paulatuk 31.55 35 P P 21 51 05.9 +0.1
C36M Paulatuk 31.55 35 P P 21 51 06.3 +0.5
baz=266,SNR=7.9
USA0B Ussuriysk Arra 31.68 275 P P 21 51 07.2 0.0
USA0B Ussuriysk Arra 31.68 275 *i* P P 21 51 05.4 -1.8
USRK Ussuriysk Ar. 31.68 275 P P 21 51 06.7 -0.6
USRK Ussuriysk Ar. 31.68 275 P P 21 51 07.0 -0.3
comp=Z,8.6nm,0.8s,baz=62,slow=7.7,SNR=11
USRK pP **pP** 21 51 29.2 -0.2
comp=Z,2.6nm,0.7s,baz=48,slow=9.2,SNR=2.9
USRK PcP **PcP** 21 53 57.4 +0.8
comp=Z,5.3nm,0.6s,baz=25,slow=3.3,SNR=7.2
comp=Z,8.8nm,0.8s
HEH HeiHe 31.73 288 *e*P P 21 51 06.3 -1.3
HEH PcP **PcP** 21 53 56.7 +0.1
HEH pmax pmax
comp=Z,24nm,0.8s
HEH pmax pmax
comp=Z,510nm,4.9s
WRGLY Wrigley 31.94 46 P P 21 51 10.6 +1.3
WRGLY IAmb IAmb 21 51 11.3
comp=Z,31nm,1.0s
WRGLY Wrigley 31.94 46 P P 21 51 10.3 +1.0
baz=277
KOTAN Kotaneelee Air 32.14 52 P P 21 51 11.9 +0.8
baz=281,SNR=30
MAJO Matsushiro 32.32 258 P P 21 51 13.6 +0.7
MAJO IAmb IAmb 21 51 14.8
comp=Z,36nm,0.9s
MAJO Matsushiro 32.32 258 P P 21 51 14.3 +1.4
MAJO Matsushiro 32.32 258 *i* P P 21 51 11.6 -1.3
MAJO pmax pmax
comp=Z,41nm,1.0s
MAJO Matsushiro 32.32 258 P P 21 51 14.0 +1.1
MAJO pP **pP** 21 51 36.9 +1.9
MJAR Matsushiro Arr 32.32 258 P P 21 51 13.5 +0.6
comp=Z,10nm,0.6s,baz=49,slow=7.4,SNR=32
MJAR PcP **PcP** 21 53 59.0 +0.5
comp=Z,0.9nm,0.4s,baz=68,slow=1.7,SNR=4.8
comp=Z,10nm,0.6s
MJB9 Matsu-Tunnel 32.32 258 P P 21 51 14.3 +1.4
MJB9 IAmb IAmb 21 51 15.8
comp=Z,36nm,0.9s
FLDN Fort Liard 32.40 52 P P 21 51 15.2 +1.9
FLDN IAmb IAmb 21 51 16.2
comp=Z,24nm,0.7s
FLDN Fort Liard 32.40 52 P P 21 51 14.1 +0.8
baz=281
MDJ Mudanjiang 32.95 277 P P 21 51 17.6 -0.7
MDJ pmax pmax
comp=Z,15nm,2.0s
MDJ pmax pmax
comp=Z,280nm,5.4s
H11N2 WAKE ISLAND Hy 33.33 200 T T 22 26 44.2
baz=11,slow=76,SNR=48
H11N3 WAKE ISLAND Hy 33.34 200 T T 22 26 45.0
baz=11,slow=76,SNR=58
H11N1 WAKE ISLAND Hy 33.35 200 T T 22 26 45.5
baz=11,slow=76,SNR=64
JGF Kuroka 33.46 257 IAmb IAmb 21 51 25.3
comp=Z,26nm,0.8s
JGF Kuroka 33.46 257 P P 21 51 24.2 +1.3
BNX BinXian 33.73 280 ⇓P P 21 51 24.1 -1.0
BNX pmax pmax
comp=Z,37nm,0.7s
BNX pmax pmax
comp=Z,230nm,4.1s
H11S1 WAKE ISLAND Hy 34.56 200 T T 22 28 37.1
baz=18,slow=70,SNR=77
H11S2 WAKE ISLAND Hy 34.58 200 T T 22 28 25.8
baz=18,slow=70,SNR=48
H11S3 WAKE ISLAND Hy 34.58 200 T T 22 28 41.9
baz=18,slow=70,SNR=50
CN2 Changchun 35.92 279 P P 21 51 43.3 -0.6
CN2 pmax pmax
comp=Z,10.0nm,0.7s
YKA Yellowknife Ar 36.07 46 P P 21 51 44.5 -0.5
YKA pP **pP** 21 52 08.1 +0.7
YKA Yellowknife Ar 36.07 46 *i* P P 21 51 45.2 +0.3
YKA pmax pmax
comp=Z,7.0nm,0.7s
YKA Yellowknife Ar 36.07 46 P P 21 51 45.3 +0.4
comp=Z,7.3nm,0.7s,baz=283,slow=8.6,SNR=67
YKA pP **pP** 21 52 07.1 -0.3
comp=Z,7.7nm,0.7s,baz=283,slow=8.4,SNR=12
YKA PcP **PcP** 21 54 08.6 -0.2
comp=Z,0.2nm,0.4s,baz=305,slow=25,SNR=1.3
YKA ScP **ScP** 21 57 43.8 -2.0
comp=Z,1.7nm,0.8s,baz=296,slow=3.3,SNR=15
YKA LR LR 22 08 41.5
comp=Z,142nm,18.4s,baz=291,slow=40
comp=Z,7.3nm,0.7s
HIA Hailar 36.66 290 P P 21 51 49.8 -0.4
HIA IAmb IAmb 21 51 49.9
comp=Z,13nm,0.6s
HIA Hailar 36.66 290 *i* P P 21 51 49.1 -1.1
HIA pmax pmax
comp=Z,11nm,0.6s
HIA Hailar 36.66 290 P P 21 51 49.6 -0.6
JCJ Chichijima 36.86 242 P P 21 51 52.9 +0.7
JCJ Chichijima 36.86 242 LR LR 22 03 39.2
comp=Z,52nm,21.5s,baz=191,slow=30
GNW Green Mountain 37.20 73 P P 21 51 55.1 +0.4
GNW IAmb IAmb 21 51 57.0
comp=Z,14nm,0.8s
E03A Lebam 37.26 75 P P 21 51 55.9 +0.6
BRLDA Berland Lookou 37.41 61 P P 21 51 56.1 -0.4
F04D Rainier, OR 37.83 75 P P 21 52 00.6 +0.6
D05A Enumclaw 37.88 73 P P 21 51 59.7 -0.8
KSRS Korea Array 38.07 268 P P 21 52 03.5 +1.4
comp=Z,8.4nm,0.9s,baz=58,slow=8.4,SNR=24
KSRS pP **pP** 21 52 25.0 +0.3
comp=Z,3.2nm,0.8s,baz=58,slow=8.5,SNR=3.2
KSRS PcP **PcP** 21 54 16.1 +0.8
comp=Z,2.9nm,0.8s,baz=45,slow=3.4,SNR=9.8
comp=Z,8.4nm,0.9s
KS19 Wonju Array Si 38.07 268 P P 21 52 02.2 0.0
KS19 IAmb IAmb 21 52 04.6
comp=Z,18nm,1.0s
KSAR Wonju Array Be 38.10 268 P P 21 52 02.6 +0.2
KSAR Wonju Array Be 38.10 268 P P 21 52 02.6 +0.2
LON Longmire 38.20 73 P P 21 52 03.0 -0.3
LON IAmb IAmb 21 52 05.4
comp=Z,8.7nm,0.6s
LON Longmire 38.20 73 P P 21 52 03.0 -0.3
LON pmax pmax
comp=Z,9.0nm,0.6s
F04A Amboy 38.26 75 P P 21 52 03.1 -0.5
LTY Liberty 38.63 72 P P 21 52 06.0 -0.9
LTY IAmb IAmb 21 52 07.8
comp=Z,9.4nm,0.7s
H04D Lebanon 38.80 77 P P 21 52 08.5 +0.3
H04D IAmb IAmb 21 52 32.9
comp=Z,24nm,1.1s
H04A Detroit Lake 39.05 76 IAmb IAmb 21 52 12.8
comp=Z,18nm,0.7s
JNU Nakatsue 39.08 260 P P 21 52 11.3 +0.6
JNU IAmb IAmb 21 52 13.0
comp=Z,33nm,1.0s
JNU Nakatsue 39.08 260 P P 21 52 12.0 +1.3
TJN Taejon 39.09 267 P P 21 52 11.3 +0.5
TJN Taejon 39.09 267 *c*eP P 21 52 11.7 +1.0
I04A Tendick Farm, 39.39 78 P P 21 52 13.6 +0.3
I04A IAmb IAmb 21 52 16.6
comp=Z,19nm,0.8s
E07A Sunnyside 39.46 73 P P 21 52 12.9 -0.8
E07A IAmb IAmb 21 52 15.0
comp=Z,10nm,0.6s
L02F Cave Junction 39.62 81 P P 21 52 15.1 0.0
L02F IAmb IAmb 21 52 25.7
comp=Z,40nm,1.4s
HAWA Hanford 39.74 73 P P 21 52 15.2 -0.8
HAWA IAmb IAmb 21 52 17.7
comp=Z,18nm,0.8s
D08A Wollman Farm, 39.76 71 P P 21 52 15.8 -0.4
D08A IAmb IAmb 21 52 17.4
comp=Z,10nm,0.7s
C09A Chrisman Ranch 39.76 70 IAmb IAmb 21 52 17.4
comp=Z,28nm,1.1s
F07A Phinny Hill Vi 39.76 73 P P 21 52 15.8 -0.4
F07A IAmb IAmb 21 52 17.0
comp=Z,13nm,0.7s
E08A Dider Farm, El 39.97 72 P P 21 52 17.5 -0.4
E08A IAmb IAmb 21 52 19.3
comp=Z,14nm,0.6s
RES Resolute Bay 39.99 24 P P 21 52 18.7 +1.0
RES Resolute Bay 39.99 24 P P 21 52 18.7 +1.0
RES pmax pmax
comp=Z,6.0nm,1.0s
NEW Newport 40.20 69 IAmb IAmb 21 52 21.0
comp=Z,14nm,0.8s
NEW Newport 40.20 69 P P 21 52 19.1 -0.7
NEW pmax pmax
comp=Z,22nm,0.8s
NEW Newport 40.20 69 P P 21 52 19.3 -0.6
baz=300,SNR=12
KHMM Horse Mountain 40.24 82 P P 21 52 21.4 +1.0
KMPM Mount Pierce 40.27 83 P P 21 52 21.6 +1.0
YBH Yreka Blue Hor 40.37 81 P P 21 52 22.6 +1.2
YBH IAmb IAmb 21 52 24.1
comp=Z,25nm,0.7s
YBH Yreka Blue Hor 40.37 81 P P 21 52 22.6 +1.2
YBH pmax pmax
comp=Z,25nm,0.7s
J05D Fort Rock, OR 40.39 78 P P 21 52 22.2 +0.6
J05D IAmb IAmb 21 52 24.2
comp=Z,18nm,0.9s
E09A Wood Farm, Sta 40.49 72 P P 21 52 21.5 -0.8
E09A IAmb IAmb 21 52 23.5
comp=Z,34nm,1.4s
K05A Summer Lake 40.91 78 P P 21 52 26.4 +0.4
K05A IAmb IAmb 21 52 30.9
comp=Z,26nm,1.1s
I07A Izee 40.99 76 P P 21 52 26.8 +0.3
KCPM Cahto Peak 41.03 84 P P 21 52 26.9 0.0
F10A Beach Ranch, E 41.32 72 P P 21 52 28.5 -0.6
XLT XiLinHaoTe 41.56 285 *e*P P 21 52 31.3 +0.2
XLT pP pP 21 52 54.6 +0.5
XLT sP sP 21 53 06.1 +0.8
XLT pmax pmax
comp=Z,33nm,0.8s
XLT pmax pmax
comp=Z,110nm,5.0s
XLT LR LR
comp=Z,400nm,16.2s
XLT LR LR
comp=Z,250nm,16.2s
BMO Blue Mountains 41.88 73 P P 21 52 33.1 -0.7
BMO Blue Mountains 41.88 73 P P 21 52 33.1 -0.7
BMO pmax pmax
comp=Z,7.0nm,0.6s
J08A Circle Bar Ran 42.02 76 P P 21 52 34.2 -0.7
GDXM Geysers 42.05 84 P P 21 52 35.1 -0.1
GDXM IAmb IAmb 21 52 38.2
comp=Z,45nm,1.1s
ORV Oroville 42.40 82 P P 21 52 37.6 -0.3
ORV IAmb IAmb 21 52 39.3
comp=Z,22nm,0.7s
ORV Oroville 42.40 82 P P 21 52 37.6 -0.3
ORV pmax pmax
comp=Z,22nm,0.7s
WVOR Wild Horse Val 42.44 77 IAmb IAmb 21 52 40.1
comp=Z,12nm,0.6s
WVOR Wild Horse Val 42.44 77 P P 21 52 39.1 +0.7
WVOR pmax pmax
comp=Z,23nm,1.1s
ALE Alert 42.45 10 P P 21 52 38.8 +1.0
PLID Pearl Lake 42.53 72 P P 21 52 38.5 -0.6
AFDM Forest Hills D 43.09 83 P P 21 52 43.4 -0.1
OVMT Ovando 43.20 68 P P 21 52 43.5 -1.0
MFID Camas Ranch 43.57 74 P P 21 52 47.1 -0.3
PAHR Pah Rah Range 43.60 81 P P 21 52 47.8 0.0
PAHR IAmb IAmb 21 52 49.6
comp=Z,27nm,0.7s
EMB Emerald Bay 43.61 82 P P 21 52 48.0 0.0
EMB IAmb IAmb 21 52 49.8
comp=Z,23nm,0.7s
BJI Beijing 43.74 280 P P 21 52 49.2 +0.5
BJI PcP **PcP** 21 54 34.2 +0.5
BJI pmax pmax
comp=Z,8.0nm,0.9s
BJI pmax pmax
comp=Z,49nm,4.6s
BJT Baijiatuau 43.76 280 IAmb IAmb 21 52 51.4
comp=Z,12nm,0.8s
BJT Baijiatuau 43.76 280 P P 21 52 48.9 +0.1
BJT Baijiatuau 43.76 280 P P 21 52 49.9 +1.1
BJT PcP **PcP** 21 54 33.9 0.0
PNTR Pine Nut 43.85 82 P P 21 52 50.7 +0.9
CMB Columbia Colle 44.02 83 P P 21 52 51.2 +0.2
CMB Columbia Colle 44.02 83 P P 21 52 51.2 +0.2
CMB pmax pmax
comp=Z,10.0nm,0.8s
YERR Yerington 44.13 82 P P 21 52 51.9 -0.2
YERR IAmb IAmb 21 52 54.1
comp=Z,28nm,0.8s
WAKR Walker 44.31 82 P P 21 52 53.7 +0.2
HLID Hailey 44.33 73 P P 21 52 53.5 -0.1
HLID Hailey 44.33 73 P P 21 52 53.3 -0.2
baz=305,SNR=11
BMN Battle Mountai 44.48 79 P P 21 52 54.4 -0.4
BMN IAmb IAmb 21 52 56.4
comp=Z,19nm,1.1s
BMN Battle Mountai 44.48 79 P P 21 52 54.4 -0.4
BMN pmax pmax
comp=Z,19nm,1.1s
EGMT Eagleton 44.53 65 P P 21 52 54.4 -0.6
baz=303
ULN Ulaanbaatar 44.65 295 P P 21 52 56.4 +0.3
ULN IAmb IAmb 21 52 57.2
comp=Z,14nm,0.8s
ULN Ulaanbaatar 44.65 295 *c*eP P 21 52 55.9 -0.1
ULN pmax pmax
comp=Z,17nm,1.0s
KVN Kaiserville 44.79 81 IAmb IAmb 21 52 58.7
comp=Z,17nm,0.6s
BOZ Bozeman (W) 44.80 69 P P 21 52 56.3 -0.9
baz=304,SNR=32
SONM Songino Array 45.03 295 P P 21 52 59.4 +0.4
SONM IAmb IAmb 21 53 00.5
comp=Z,10nm,0.6s
SONM pP **pP** 21 53 21.3 -1.0
SONM Songino Array 45.03 295 P P 21 52 59.6 +0.6
comp=Z,10nm,0.6s,baz=61,slow=7.7,SNR=58
SONM pP **pP** 21 53 21.3 -1.0
comp=Z,4.0nm,0.7s,baz=57,slow=9.0,SNR=4.8
SONM PcP **PcP** 21 54 38.4 +0.2
comp=Z,4.8nm,0.6s,baz=66,slow=2.3,SNR=9.1
SONM ScP **ScP** 21 58 21.4 0.0
comp=Z,1.4nm,0.7s,baz=68,slow=2.7,SNR=6.7
comp=Z,10nm,0.6s
NVAR Mina Array Bea 45.05 81 P P 21 53 00.5 +1.1
comp=Z,26nm,0.6s,baz=297,slow=7.5,SNR=69
NVAR pP **pP** 21 53 23.0 +0.5
comp=Z,7.4nm,0.8s,baz=280,slow=8.3,SNR=2.8
NVAR ScP **ScP** 21 58 21.3 -0.4
comp=Z,2.8nm,0.6s,baz=298,slow=3.9,SNR=9.1
comp=Z,26nm,0.6s
JOW Kunigami 45.13 256 P P 21 53 00.7 +0.9
JOW Kunigami 45.13 256 P P 21 53 01.5 +1.6
NV11 Mina Array Sit 45.14 81 IAmb IAmb 21 53 01.9
comp=Z,19nm,0.7s
FFC Flin Flon 45.15 54 P P 21 52 58.9 -0.8
FFC Flin Flon 45.15 54 P P 21 52 58.9 -0.8
FFC pmax pmax
comp=Z,5.0nm,0.7s
ZAK Zakamensk 45.37 299 *e*P P 21 53 01.4 -0.2
ZAK *e* 21 54 38.9
ZAK pmax pmax
comp=Z,6.0nm,1.0s
ZAK pmax pmax
comp=Z,5.0nm,1.2s
ELK Elko 45.50 77 IAmb IAmb 21 53 04.1
comp=Z,12nm,0.5s
ELK Elko 45.50 77 P P 21 53 03.0 +0.1
MOY Mondy 45.90 302 *e*P P 21 53 06.0 +0.2
MOY pmax pmax
comp=Z,12nm,1.4s
YFT Old Faithful 45.92 70 IAmb IAmb 21 53 07.6
comp=Z,13nm,0.6s
TIN Tinemaha, Big 45.96 83 P P 21 53 06.9 +0.4
baz=310
HHC Hu-ho-hao-te 46.05 284 *e*P P 21 53 08.3 +1.2
HHC pmax pmax
comp=Z,17nm,1.1s
HHC pmax pmax
comp=Z,140nm,5.1s
HHC LR LR
comp=Z,130nm,12.2s
HHC LR LR
comp=Z,220nm,13.8s
HHC LR LR
comp=Z,190nm,13.9s
H17A Grant Village 46.10 70 IAmb IAmb 21 53 09.3
comp=Z,13nm,0.6s
H17A Grant Village 46.10 70 P P 21 53 07.8 +0.1
baz=306,SNR=13
LCH Last Change Ra 46.21 82 IAmb IAmb 21 53 10.4
comp=Z,16nm,0.8s
FLWY Flagg Ranch 46.21 70 IAmb IAmb 21 53 09.5
comp=Z,16nm,0.6s
VES Vestal, Richgr 46.22 85 P P 21 53 08.5 +0.2
baz=311,SNR=9.0
HNS HongShan 46.28 278 ⇓P P 21 53 09.9 +1.1
HNS pmax pmax
comp=Z,39nm,0.7s
PKM Mcpherson Peak 46.38 86 P P 21 53 09.6 -0.3
baz=311
GMN Gold Mountain 46.40 82 IAmb IAmb 21 53 11.9

comp=Z,18nm,0.7s
RLMT Red Lodge 46.44 68 IAmb IAmb 21 53 11.0
comp=Z,38nm,1.4s
RLMT Red Lodge 46.44 68 P **P** **21 53 09.8 -0.4**
baz=306,SNR=10
CWC Cottonwood Cre 46.45 83 P **P** **21 53 10.8 +0.4**
baz=310
ISA Isabella, Lake 46.71 85 P **P** **21 53 12.4 +0.2**
baz=311,SNR=5.1
R11B Troy Canyon, C 46.77 80 IAmb IAmb 21 53 14.1
comp=Z,15nm,0.6s
R11B Troy Canyon, C 46.77 80 P **P** **21 53 13.3 +0.5**
baz=309,SNR=14
FCC Fort Churchill 46.78 46 pP pP 21 53 36.6 +0.9
Q12A Willow Creek R 46.79 78 IAmb IAmb 21 53 14.8
comp=Z,15nm,0.6s
MPMC Manual Prospec 47.06 83 P **P** **21 53 15.9 +0.7**
baz=310,SNR=10
SCZ2 Santa Cruz Isl 47.08 87 P **P** **21 53 15.7 +0.5**
baz=312
BTO Baotou 47.13 285 *e*P **P** **21 53 17.0 +1.5**
BTO pP **pP** **21 53 38.8 -0.1**
BTO sP **sP** **21 53 49.5 -0.6**
BTO S **S** **22 00 02.4 +2.0**
BTO pmax pmax
comp=Z,99nm,0.9s
BTO pmax pmax
comp=Z,410nm,4.2s
BTO LR LR
comp=Z,510nm,6.2s
BTO LR LR
comp=Z,310nm,6.2s
BTO LR LR
comp=Z,180nm,4.8s
FURC Furnace Creek, 47.18 83 P **P** **21 53 16.5 +0.6**
baz=310
NJ2 Nanjing 47.23 269 ⇑P **P** **21 53 16.6 +0.3**
NJ2 pmax pmax
comp=Z,14nm,0.6s
LAO LASA Array 47.27 65 P **P** **21 53 16.0 -0.5**
baz=305
DUG Dugway, Tooele 47.30 76 P **P** **21 53 17.4 +0.5**
DUG pmax pmax
comp=Z,35nm,0.5s
DUG Dugway, Tooele 47.30 76 P **P** **21 53 17.2 +0.3**
baz=308,SNR=18
LRMC Laurel Mtn Rad 47.32 84 P **P** **21 53 16.6 -0.5**
baz=311
DGMT Dagmar 47.37 62 P **P** **21 53 16.0 -1.3**
baz=305
TIY Taiyuan 47.47 280 ⇑P **P** **21 53 19.8 +1.6**
TIY pmax pmax
comp=Z,38nm,0.6s
GWY Greenwater Val 47.48 83 IAmb IAmb 21 53 19.9
comp=Z,20nm,0.7s
QSM Queen of Sheba 47.50 83 IAmb IAmb 21 53 19.6
comp=Z,14nm,0.6s
EDW2 Edwards Air Fo 47.52 85 P **P** **21 53 19.0 +0.4**
baz=311
PD31 Pinedale Array 47.66 71 IAmb IAmb 21 53 20.0
comp=Z,11nm,0.6s
PDAR Pinedale Array 47.66 71 P **P** **21 53 19.2 -0.6**
comp=Z,11nm,0.5s,baz=317,slow=3.3,SNR=76
PDAR pP **pP** **21 53 43.4 0.0**
comp=Z,5.4nm,0.5s,baz=306,slow=3.2,SNR=5.6
PDAR ScP **ScP** **21 58 30.1 -2.5**
comp=Z,1.5nm,0.8s,baz=343,slow=1.1,SNR=6.5
comp=Z,11nm,0.5s
PSUT Pine Spring 47.70 78 IAmb IAmb 21 53 21.2
comp=Z,17nm,0.6s
DECC Green Verdugo 47.72 86 P **P** **21 53 20.8 +0.7**
baz=312
SHOC Shoshone, Teco 47.91 83 P **P** **21 53 22.0 +0.5**
baz=311,SNR=7.2
GSC Goldstone, Bar 47.97 84 P **P** **21 53 22.8 +0.7**
baz=311,SNR=33
FMP Fort Macarthur 48.10 86 P **P** **21 53 23.0 0.0**
baz=312
BFSC Mount Baldy Ra 48.15 85 P **P** **21 53 24.2 +0.7**
baz=312,SNR=5.4
BSUT Blindstream Ca 48.32 74 IAmb IAmb 21 53 26.4
comp=Z,8.4nm,0.5s
TUQ Turquoise Moun 48.43 83 P **P** **21 53 26.1 +0.4**
baz=311,SNR=8.9
HEC Hector,Ludlow 48.57 84 P **P** **21 53 27.4 +0.6**
baz=312,SNR=11
ELS Elsinore Mount 48.68 86 IAmb IAmb 21 53 28.7
comp=Z,14nm,0.8s
MURC Murrieta 48.86 86 P **P** **21 53 29.1 +0.3**
baz=312
V12A Nelson 48.90 82 IAmb IAmb 21 53 30.4
comp=Z,8.4nm,0.6s
P17A Butcher Ranch, 48.99 75 IAmb IAmb 21 53 31.6
comp=Z,12nm,0.6s
GMRC Granite Mounta 49.02 83 P **P** **21 53 30.6 +0.4**
baz=312,SNR=29
LCMT Little Creek M 49.05 79 IAmb IAmb 21 53 32.2
comp=Z,12nm,0.9s
Q16A Castle Valley 49.09 76 IAmb IAmb 21 53 32.5
comp=Z,14nm,0.7s
P18A Preston Nutter 49.19 75 IAmb IAmb 21 53 34.7
comp=Z,8.9nm,0.6s
KNB Kanab 49.30 79 IAmb IAmb 21 53 33.8
comp=Z,12nm,0.6s
PFO Pinyon Flats O 49.31 85 P **P** **21 53 32.8 +0.4**
PFO IAmb IAmb 21 53 33.9
comp=Z,16nm,1.3s
PFO Pinyon Flats O 49.31 85 P **P** **21 53 32.8 +0.4**
PFO pmax pmax
comp=Z,16nm,1.3s
PFO Pinyon Flats O 49.31 85 P **P** **21 53 31.5 -0.9**
baz=312
PFO Pinyon Flats O 49.31 85 P **P** **21 53 32.7 +0.3**
PFO pP **pP** **21 53 56.7 +0.7**
PFO PcP **PcP** **21 54 54.3 +0.7**
PFO ScP **ScP** **21 58 38.4 -1.2**
TPFO Pinon Flats 49.31 85 P **P** **21 53 32.0 -0.4**
baz=312
BELC Belle Mtn. Jos 49.33 84 P **P** **21 53 32.5 -0.1**
baz=312,SNR=13
PMD Palm Desert 49.33 85 IAmb IAmb 21 53 33.1
comp=Z,8.8nm,0.7s
109C Camp Elliot, M 49.39 86 P **P** **21 53 33.3 +0.4**
baz=313
LYN LuoYang 49.51 277 ⇓P **P** **21 53 34.5 +0.8**
LYN pmax pmax
comp=Z,59nm,0.8s
NEE2 Needles Airpor 49.67 83 P **P** **21 53 35.1 +0.1**
baz=312
IRM Iron Mountain 49.75 84 P **P** **21 53 36.4 +0.8**
baz=312,SNR=6.7
SPITS Spitsbergen Ar 49.81 355 P **P** **21 53 35.1 -0.4**
comp=Z,2.5nm,0.4s,baz=34,slow=6.1,SNR=21
SPITS pP **pP** **21 53 58.4 -0.3**
comp=Z,6.3nm,0.6s,baz=41,slow=6.6,SNR=2.6
comp=Z,2.5nm,0.4s
MONP2 Monument Peak 49.81 86 P **P** **21 53 36.7 +0.3**
baz=313,SNR=10
BC3 Big Chuckawall 49.90 84 P **P** **21 53 36.6 -0.3**
baz=312,SNR=7.4
W13A Hualapai Mount 49.91 82 IAmb IAmb 21 53 38.3
comp=Z,13nm,0.7s
RSSD Black Hills 50.03 66 P **P** **21 53 36.8 -1.2**
baz=308
RSSD Black Hills 50.03 66 P **P** **21 53 36.7 -1.2**
CBX Cerro Bola 50.06 87 pP 21 54 03.4 +1.7
O20A White River Ci 50.07 73 P **P** **21 53 37.4 -0.8**
baz=309,SNR=8.0
MDND Maddock 50.23 60 P **P** **21 53 38.5 -0.6**
baz=307
PDMCI Parker Dam,Lak 50.27 83 P **P** **21 53 40.1 +0.6**
baz=312,SNR=8.2
BLYC Blythe 50.41 84 IAmb IAmb 21 53 42.0
comp=Z,22nm,0.8s
BLYC pP pP 21 54 05.6 +1.4
ESJX Sierra Juarez 50.71 86 IAmb IAmb 21 53 44.4
comp=Z,11nm,0.7s
ESJX pP 21 54 08.2 +1.4
ULM Lac du Bonnet 50.74 56 IAmb IAmb 21 53 42.8
comp=Z,10nm,0.9s
ULM Lac du Bonnet 50.74 56 P **P** **21 53 41.9 -1.0**
comp=Z,5.5nm,0.5s,baz=314,slow=7.6,SNR=16
comp=Z,5.5nm,0.5s
N23A Red Feather La 50.94 71 P **P** **21 53 43.9 -1.0**
baz=309
WHN Wuhan 51.06 272 ⇓*i*P **P** **21 53 45.7 +0.2**
WHN pP **pP** **21 54 04.8 -4.4**
WHN sP **sP** **21 54 19.1 -1.1**
WHN pmax pmax
comp=Z,94nm,0.6s
WUAZ Wupatki 51.17 80 P **P** **21 53 46.6 +0.2**
baz=312,SNR=6.5
Y14A Wickenburg 51.22 82 IAmb IAmb 21 53 47.6
comp=Z,8.3nm,0.6s
SMCO Snowmass 51.43 73 IAmb IAmb 21 54 14.9
comp=Z,12nm,0.7s
113A Mohawk Valley, 51.54 84 IAmb IAmb 21 53 50.2
comp=Z,17nm,1.5s
113A pP 21 54 14.0 +1.3
MVCO Mesa Verde 51.80 76 IAmb IAmb 21 54 07.7
comp=Z,14nm,1.2s
MVCO Mesa Verde 51.80 76 P **P** **21 53 50.8 -0.4**
baz=311
ISCO Idaho Springs 51.84 72 P **P** **21 53 50.0 -1.6**
baz=310
X16A Lo Mia Camp, P 51.86 81 IAmb IAmb 21 53 53.5
comp=Z,12nm,0.6s
YULB Yu-li 51.91 260 P **P** **21 53 53.7 +1.8**
YULB Yu-li 51.91 260 P **P** **21 53 53.5 +1.6**
AGMN Agassiz Nation 51.94 58 IAmb IAmb 21 53 51.5
comp=Z,18nm,1.1s
AGMN Agassiz Nation 51.94 58 P **P** **21 53 50.7 -1.1**
baz=308,SNR=7.9
XAN Xi'an 52.03 279 ⇓P **P** **21 53 52.3 -0.4**
XAN pmax pmax
comp=Z,26nm,1.1s
XAN pmax pmax
comp=Z,170nm,4.5s
XAN Xi'an 52.03 279 P **P** **21 53 52.5 -0.3**
TPUB Ta-pu 52.38 260 P **P** **21 53 55.7 +0.3**
TPUB Ta-pu 52.38 260 P **P** **21 53 56.9 +1.5**
W18A Petrified Fore 52.43 79 P **P** **21 53 56.1 +0.3**
W18A IAmb IAmb 21 53 57.0
comp=Z,11nm,0.7s
W18A Petrified Fore 52.43 79 P **P** **21 53 56.4 +0.5**
baz=312
PIX Pinacate 52.55 85 P **P** **21 53 56.0 -0.6**
ZALV Zalesovo Beam 52.57 312 P **P** **21 53 55.6 -0.7**
comp=Z,1.1nm,0.4s,baz=53,slow=6.2,SNR=8.4
ZALV PcP **PcP** **21 55 05.7 +0.5**
comp=Z,8.4nm,0.7s,baz=28,slow=4.0,SNR=16
ZALV ScP **ScP** **21 58 53.1 0.0**
comp=Z,1.4nm,0.8s,baz=42,slow=5.7,SNR=5.1
comp=Z,1.1nm,0.4s
214A Organ Pipe Nat 52.68 84 P **P** **21 53 57.8 +0.2**
214A IAmb IAmb 21 53 59.1
comp=Z,23nm,1.1s
214A Organ Pipe Nat 52.68 84 P **P** **21 53 58.1 +0.5**
baz=314,SNR=7.4
SUSD Miller 52.69 63 P **P** **21 53 56.6 -0.9**
baz=309
X18A Snowflake 52.69 80 P **P** **21 53 58.2 +0.4**
X18A IAmb IAmb 21 53 59.5
comp=Z,15nm,0.6s
B35A Bob, Littlefor 53.02 57 P **P** **21 53 58.9 -0.9**
baz=308,SNR=5.4
OGNE Ogallala 53.19 68 P **P** **21 53 59.5 -1.7**
OGNE Ogallala 53.19 68 P **P** **21 54 00.4 -0.8**
baz=310
SUMG Summit 53.23 13 P **P** **21 54 02.1 +0.6**
SUMG IAmb IAmb 21 54 09.9
comp=Z,15nm,1.4s
SUMG Summit 53.23 13 P **P** **21 54 02.1 +0.6**
SUMG pmax pmax
comp=Z,15nm,1.4s
SDCO Great Sand Dun 53.24 74 P **P** **21 54 02.0 +0.1**
SDCO Great Sand Dun 53.24 74 P **P** **21 54 01.5 -0.4**
baz=311
K30B Basset 53.45 65 P **P** **21 54 02.6 -0.4**
baz=310
FRB Frobisher Bay 53.46 31 P **P** **21 54 02.8 +0.1**
FRB pmax pmax
comp=Z,21nm,1.6s
TUC Tucson 53.69 82 P **P** **21 54 05.2 +0.2**
TUC IAmb IAmb 21 54 06.7
comp=Z,11nm,0.9s
TUC **pP** **21 54 29.0 +0.2**
TUC Tucson 53.69 82 P **P** **21 54 05.2 +0.2**
TUC pmax pmax
comp=Z,11nm,0.9s
TUC Tucson 53.69 82 P **P** **21 54 05.6 +0.5**
baz=314
TUC Tucson 53.69 82 P **P** **21 54 05.8 +0.8**
TUC pP **pP** **21 54 30.1 +1.3**
LZH Lanzhou 53.75 284 ⇓*i*P **P** **21 54 06.4 +0.9**
LZH pP pP 21 54 34.1 +4.7
LZH pmax pmax
comp=Z,33nm,1.0s
LZH LR LR
comp=Z,520nm,11.7s
LZH LR LR
comp=Z,250nm,14.8s
GTA Gaotai 53.94 290 ⇓P **P** **21 54 07.1 +0.3**
GTA pP pP 21 54 29.6 -1.1
GTA pmax pmax
comp=Z,29nm,0.8s
GTA LR LR
comp=Z,200nm,11.1s
GTA LR LR
comp=Z,230nm,11.2s
GTA LR LR
comp=Z,180nm,13.9s
DGZ Jazzator, Alta 54.02 307 *i*P **P** **21 54 06.6 -0.6**
DGZ pmax pmax
comp=Z,12nm,0.9s
KSCO Kaye Shedlock' 54.10 71 P **P** **21 54 08.3 +0.3**
KSCO Kaye Shedlock' 54.10 71 P **P** **21 54 08.1 0.0**
baz=311
ENH Enshi 54.26 275 P **P** **21 54 09.2 +0.1**
ENH Enshi 54.26 275 P **P** **21 54 08.7 -0.5**
ENH PcP **PcP** **21 55 12.2 +0.1**
T25A Trinidad 54.29 73 IAmb IAmb 21 54 10.8
comp=Z,27nm,1.2s
T25A Trinidad 54.29 73 P **P** **21 54 09.6 +0.1**
baz=312,SNR=6.2
EYMN Ely 54.43 56 IAmb IAmb 21 54 10.2
comp=Z,18nm,0.8s
EYMN Ely 54.43 56 P **P** **21 54 09.3 -0.8**
baz=310,SNR=11
EYMN Ely 54.43 56 P **P** **21 54 09.5 -0.6**
baz=310,SNR=11
ANMO Albuquerque 54.54 77 P **P** **21 54 11.8 +0.5**
ANMO Albuquerque 54.54 77 P **P** **21 54 11.8 +0.5**
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ANMO Albuquerque 54.54 77 P **P** **21 54 11.4 +0.1**
baz=313
F36A Milaca 54.72 59 P **P** **21 54 11.0 -1.2**
baz=311
Y22A Socorro 54.91 78 P **P** **21 54 14.2 +0.2**
baz=313,SNR=6.8
BGNE Belgrade 55.10 66 P **P** **21 54 14.4 -0.6**
baz=311
319A Douglas 55.26 82 IAmb IAmb 21 54 18.1
comp=Z,23nm,1.1s
E38A The Farm, Brul 55.27 57 P **P** **21 54 15.2 -1.0**
baz=311,SNR=13
121A Cookes Peak, D 55.38 80 IAmb IAmb 21 54 19.0
comp=Z,9.0nm,0.7s
121A Cookes Peak, D 55.38 80 P **P** **21 54 17.7 +0.4**
baz=314,SNR=7.4
121A Cookes Peak, D 55.38 80 P **P** **21 54 17.7 +0.4**
baz=314,SNR=7.4
SPMN Marine on St. 55.52 59 P **P** **21 54 17.6 -0.4**
baz=311
CBKS Cedar Bluff 55.92 69 P **P** **21 54 20.0 -0.9**
baz=312
I37B Waseca 56.00 60 P **P** **21 54 20.9 -0.6**
baz=312
D41A Chassel 56.51 55 IAmb IAmb 21 54 25.7
comp=Z,34nm,1.3s
ZSN Zaisan 56.78 306 *e*P **P** **21 54 26.8 -0.1**
ZSN pmax pmax
comp=Z,5.0nm,0.5s
ZSN Zaisan 56.78 306 *e*P **P** **21 54 26.9 -0.1**
comp=Z,4.6nm,0.5s,baz=306
COWI Conover 56.86 56 IAmb IAmb 21 54 27.5
comp=Z,11nm,0.7s
COWI Conover 56.86 56 P **P** **21 54 26.5 -1.0**
baz=312
G40A Rib Lake 56.87 57 IAmb IAmb 21 54 27.1
comp=Z,8.9nm,0.8s
G40A Rib Lake 56.87 57 P **P** **21 54 26.5 -1.1**
baz=312,SNR=6.1
N35A Tabor 56.88 65 P **P** **21 54 26.7 -1.0**
baz=312,SNR=13
ARCES ARCESS Array B 57.37 349 P **P** **21 54 29.7 -1.0**
comp=Z,8.5nm,1.1s,baz=30,slow=8.4,SNR=12
comp=Z,8.5nm,1.1s
MNTX Cornudas Mount 57.42 79 P **P** **21 54 32.1 +0.5**
baz=314,SNR=17
MNTX Cornudas Mount 57.42 79 P **P** **21 54 32.2 +0.6**
baz=314,SNR=17
MSTX Muleshoe 57.42 75 IAmb IAmb 21 54 32.7
comp=Z,13nm,0.6s
MSTX Muleshoe 57.42 75 P **P** **21 54 31.5 -0.2**
baz=314,SNR=6.3
MSTX Muleshoe 57.42 75 P **P** **21 54 31.5 -0.2**
baz=314,SNR=6.3
AMTX Amarillo 57.44 74 P **P** **21 54 31.5 -0.3**
baz=314
AMTX Amarillo 57.44 74 P **P** **21 54 31.2 -0.7**
baz=314
SCIA State Center 57.52 62 P **P** **21 54 31.4 -0.7**
baz=313
KSU1 Kansas State U 57.52 67 IAmb IAmb 21 54 31.9
comp=Z,17nm,0.7s
KSU1 Kansas State U 57.52 67 P **P** **21 54 30.9 -1.3**
baz=313
KURK Kurchatov 57.56 312 P **P** **21 54 32.4 0.0**
KURK IAmb IAmb 21 54 34.2
comp=Z,19nm,0.8s
KURK Kurchatov 57.56 312 *ce*P **P** **21 54 32.4 0.0**
KURK pmax pmax
comp=Z,20nm,0.8s
KURK Kurchatov 57.56 312 ⇓P **P** **21 54 32.3 0.0**
KURK pP **pP** **21 54 56.6 +0.2**
KURBB Kurchatov Arra 57.67 312 P **P** **21 54 33.0 -0.1**
comp=Z,17nm,0.7s,baz=42,slow=6.6,SNR=120
KURBB pP **pP** **21 54 56.9 -0.3**
comp=Z,7.9nm,0.8s,baz=42,slow=6.7,SNR=4.9
KURBB PcP **PcP** **21 55 25.3 +0.3**
comp=Z,7.2nm,0.8s,baz=44,slow=5.2,SNR=9.4
KURBB ScP **ScP** **21 59 15.3 -0.3**
comp=Z,0.9nm,0.7s,baz=50,slow=4.3,SNR=4.1
comp=Z,17nm,0.7s
E43A Lone Tree Farm 57.77 55 P **P** **21 54 33.2 -0.7**
baz=313,SNR=14
WMQ Urumqi 57.77 301 ⇓*i*P **P** **21 54 34.5 +0.5**
WMQ pP pP 21 55 01.9 +3.7
WMQ pmax pmax
comp=Z,22nm,0.9s
APA Apatity 58.11 345 ⇓*i*P P 21 54 50.9 +15
APA pmax pmax
comp=Z,9.0nm,1.3s
SMWD Samnorwood 58.15 72 IAmb IAmb 21 54 38.9
comp=Z,10nm,0.6s
N38A Joes South For 58.27 63 P **P** **21 54 36.6 -0.8**
baz=313,SNR=6.2
VHRN Van Horn 58.30 79 IAmb IAmb 21 54 39.0
comp=Z,8.4nm,0.7s
JFWS Jewell Farm 58.44 60 P **P** **21 54 37.6 -1.0**
baz=313,SNR=6.2
JFWS Jewell Farm 58.44 60 P **P** **21 54 37.6 -1.0**
baz=313,SNR=6.2
I42A Draeger Farm, 58.48 58 P **P** **21 54 38.1 -0.8**
baz=313,SNR=9.3
L40A Anamosa 58.50 61 P **P** **21 54 37.8 -1.2**
baz=313,SNR=9.8
MK31 Makanchi Array 58.51 307 IAmb IAmb 21 54 39.2
comp=Z,8.7nm,0.7s
MK31 Makanchi Array 58.51 307 *ce*P **P** **21 54 38.4 -0.7**
MKAR Makanchi Array 58.51 307 P **P** **21 54 38.2 -0.9**
MKAR Makanchi Array 58.51 307 P **P** **21 54 38.3 -0.8**
comp=Z,9.6nm,0.6s,baz=50,slow=5.8,SNR=108
MKAR pP **pP** **21 55 02.4 -0.8**
comp=Z,4.1nm,0.7s,baz=49,slow=13,SNR=5.1
MKAR PcP **PcP** **21 55 28.9 +0.4**
comp=Z,2.2nm,0.6s,baz=66,slow=3.0,SNR=4.4
MKAR ScP **ScP** **21 59 19.2 -0.3**
comp=Z,0.4nm,0.7s,baz=54,slow=6.2,SNR=2.8
comp=Z,9.6nm,0.6s
MAKZ Makanchi 58.66 307 P **P** **21 54 39.3 -0.8**
MAKZ Makanchi 58.66 307 P **P** **21 54 39.3 -0.8**
MAKZ pmax pmax
comp=Z,14nm,0.6s
MAKZ Makanchi 58.66 307 P **P** **21 54 39.5 -0.6**
MAKZ pP **pP** **21 55 03.6 -0.5**
MAKZ sP **sP** **21 55 15.2 +0.3**
MAKZ PcP **PcP** **21 55 28.9 -0.1**
H43A Windswept, Lux 58.68 57 P **P** **21 54 39.1 -1.1**
baz=314,SNR=6.6
GYA Guiyang 58.71 274 ⇑*i*P **P** **21 54 40.9 +0.1**
GYA pmax pmax
comp=Z,15nm,0.9s
ODSA Odessa 58.84 77 IAmb IAmb 21 54 42.1
comp=Z,12nm,0.6s
P38A Dawn 58.90 64 P **P** **21 54 40.7 -1.1**
baz=314,SNR=7.2
GOMU GeErMu 59.02 290 P **P** **21 54 42.2 -1.0**
GOMU pmax pmax
comp=Z,12nm,0.9s
E46A Sault Ste Mari 59.13 53 P **P** **21 54 43.1 -0.1**
baz=314,SNR=6.7
WMOK Wichita Mounta 59.26 72 IAmb IAmb 21 54 45.0
comp=Z,6.4nm,0.7s
WMOK Wichita Mounta 59.26 72 P **P** **21 54 44.2 -0.2**
WMOK Wichita Mounta 59.26 72 P **P** **21 54 44.1 -0.3**
baz=314,SNR=9.3
WMOK Wichita Mounta 59.26 72 P **P** **21 54 44.4 -0.1**
baz=314,SNR=9.3
SN05 Snyder 5 59.31 75 IAmb IAmb 21 54 46.1
comp=Z,14nm,0.7s
BVAR Borovoye Array 59.52 318 P **P** **21 54 46.2 +0.3**
comp=Z,20nm,0.5s,baz=53,slow=6.9,SNR=89
BVAR pP **pP** **21 55 09.5 -0.3**
comp=Z,10nm,0.6s,baz=49,slow=8.0,SNR=4.7
BVAR PcP **PcP** **21 55 32.8 +0.5**
comp=Z,6.8nm,0.5s,baz=51,slow=4.3,SNR=5.4
BVAR ScP **ScP** **21 59 22.9 -0.9**
comp=Z,1.7nm,0.7s,baz=98,slow=2.1,SNR=4.0
comp=Z,20nm,0.5s
BRVK Borovoye 59.54 318 *ce*P **P** **21 54 46.1 +0.1**
BRVK pmax pmax
comp=Z,17nm,1.3s
BRVK Borovoye 59.54 318 ⇓P **P** **21 54 46.3 +0.3**
BRVK pP **pP** **21 55 10.8 +0.8**
BRVK PcP **PcP** **21 55 32.7 +0.3**
K43A Burlington 59.60 59 P **P** **21 54 44.8 -1.8**
baz=314,SNR=5.6
P40A Paris 59.79 63 P **P** **21 54 46.9 -1.1**
baz=314,SNR=20
GLMI Grayling 60.05 55 P **P** **21 54 48.8 -0.8**
baz=315
TX31 Lajitas Ar. Si 60.13 80 IAmb IAmb 21 54 51.3
comp=Z,11nm,0.7s
TX31 Lajitas Ar. Si 60.13 80 P **P** **21 54 50.6 +0.1**
baz=316,SNR=26
TXAR Lajitas Array 60.13 80 P **P** **21 54 50.8 +0.2**
comp=Z,9.8nm,0.7s,baz=302,slow=4.7,SNR=78
TXAR pP **pP** **21 55 14.6 -0.2**
comp=Z,2.3nm,0.5s,baz=304,slow=5.6,SNR=3.5
TXAR ScP **ScP** **21 59 25.9 -1.1**
comp=Z,1.0nm,0.7s,baz=296,slow=3.7,SNR=5.8
comp=Z,9.8nm,0.7s
TUL3 Leonard 60.19 69 P **P** **21 54 49.4 -1.3**
baz=315
L44A Lake County Fo 60.20 59 P **P** **21 54 49.7 -0.9**
baz=314
ABTX Abilene, Hawle 60.23 74 IAmb IAmb 21 54 51.6
comp=Z,12nm,0.6s
ABTX Abilene, Hawle 60.23 74 P **P** **21 54 51.1 0.0**
baz=315,SNR=5.7
ABTX Abilene, Hawle 60.23 74 P **P** **21 54 51.2 0.0**
baz=315,SNR=5.7
SLBS Sierra La Lagu 60.34 89 P **P** **21 54 53.3 +1.4**
SVE Sverdlovsk 60.36 326 *eP* **P** **21 54 52.7 +1.2**
SVE pmax pmax
comp=Z,19nm,1.1s
S39A Bolivar 60.36 66 P **P** **21 54 49.0 -2.8**
baz=315
R40A Maddies Statio 60.53 65 P **P** **21 54 51.5 -1.6**
baz=315,SNR=7.0
OZNA Ozona 60.55 77 IAmb IAmb 21 54 53.7
comp=Z,7.2nm,0.6s
HDIL Hopedale 60.59 61 P **P** **21 54 52.3 -1.1**
baz=315
HDIL Hopedale 60.59 61 P **P** **21 54 52.3 -1.1**
baz=315
SCHQ Schefferville 60.62 37 P **P** **21 54 53.3 -0.1**
SCHQ IAmb IAmb 21 54 53.8

comp=Z,20nm,1.1s
SCHQ pP **pP** 21 55 17.5 -0.1
SCHQ Schefferville 60.62 37 P **P** 21 54 52.9 -0.5
comp=Z,3.8nm,0.4s,baz=319,slow=6.1,SNR=21
SCHQ pP **pP** 21 55 16.9 -0.7
comp=Z,12nm,0.9s,baz=330,slow=7.9,SNR=7.0
comp=Z,3.8nm,0.4s
HPIG 60.62 83 P **P** 21 54 54.8 +0.8
HPIG IAmb IAmb 21 54 55.5
comp=Z,14nm,1.0s
U38A Gravette 60.63 68 P **P** 21 54 52.5 -1.3
baz=315,SNR=7.0
M44A Midewin, Midew 60.68 59 P **P** 21 54 53.1 -0.9
baz=315
BRZS Berezniki 60.77 315 *eP* **P** 21 54 54.2 -0.2
BRZS Berezniki 60.77 315 *eP* **P** 21 54 54.2 -0.2
baz=315
P43A Skaggs, Pawnee 61.11 62 P **P** 21 54 55.9 -1.0
baz=315,SNR=5.3
CCM Cathedral Cave 61.27 64 P **P** 21 54 57.0 -1.0
baz=315
CCM Cathedral Cave 61.27 64 P **P** 21 54 56.4 -1.6
baz=315,SNR=5.1
CCM Cathedral Cave 61.27 64 P **P** 21 54 56.5 -1.6
O44A Mansfield 61.32 61 P **P** 21 54 57.1 -1.2
baz=315
X37A Clayton 61.37 70 IAmb IAmb 21 54 59.2
comp=Z,17nm,0.9s
ARU Arti 61.38 327 P **P** 21 54 58.7 +0.2
ARU Arti 61.38 327 *d i*P **P** 21 54 58.6 +0.1
ARU *PP **pP** 21 55 22.2 -0.4
ARU 21 55 38.5
ARU S **S** 22 03 13.1 +2.0
ARU SS **SS** 22 07 09.8 -2.5
ARU pmax pmax
comp=Z,24nm,0.7s
ARU Arti 61.38 327 ⇓P **P** 21 54 59.1 +0.6
ARU pP **pP** 21 55 24.3 +1.7
BRDY Brady 61.57 75 IAmb IAmb 21 55 01.6
comp=Z,8.3nm,0.8s
U40A Yellville 61.57 67 P **P** 21 54 58.6 -1.5
baz=315,SNR=10.0
U40A P **P** 21 54 58.6 -1.5
baz=315,SNR=10.0
JCT Junction City 61.66 76 IAmb IAmb 21 55 05.9
comp=Z,8.5nm,0.6s
JCT Junction City 61.66 76 P **P** 21 55 00.4 -0.4
baz=316
TDK Taldyqorghan 61.70 308 *eP* **P** 21 55 00.8 0.0
TDK pmax pmax
comp=Z,11nm,0.7s
TDK Taldyqorghan 61.70 308 *eP* **P** 21 55 00.8 0.0
comp=Z,11nm,0.7s,baz=308
PZH PanZhiHua 61.72 278 P **P** 21 55 01.5 +0.1
PZH PcP **PcP** 21 55 42.4 +0.6
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,110nm,9.0s
FVM French Village 61.78 64 IAmb IAmb 21 55 00.9
comp=Z,9.8nm,0.6s
FVM French Village 61.78 64 P **P** 21 55 00.2 -1.2
baz=315,SNR=6.3
SFIN Lafayette 61.90 60 P **P** 21 55 01.5 -0.7
baz=316,SNR=12
SFIN Lafayette 61.90 60 P **P** 21 55 01.8 -0.4
baz=316,SNR=12
DRIO Del Rio 61.92 77 IAmb IAmb 21 55 04.3
comp=Z,8.1nm,0.5s
WHTX Lake Whitney 61.98 73 P **P** 21 55 02.7 -0.2
baz=316,SNR=9.0
WHTX Lake Whitney, 61.98 73 P **P** 21 55 02.9 0.0
baz=316,SNR=9.0
KMI Kunming 62.11 276 ⇓P **P** 21 55 04.0 -0.1
KMI pmax pmax
comp=Z,7.0nm,0.7s
L48A N Adams 62.19 57 P **P** 21 55 03.4 -0.7
baz=316
L48A P **P** 21 55 03.4 -0.7
baz=316
AAM Ann Arbor 62.33 56 P **P** 21 55 04.2 -0.8
baz=316
P46A Rosedale 62.38 60 P **P** 21 55 04.5 -0.9
baz=316
MIAR Mount Ida 62.44 68 P **P** 21 55 05.6 -0.3
MIAR Mount Ida 62.44 68 P **P** 21 55 05.5 -0.4
baz=316,SNR=13
MIAR Mount Ida 62.44 68 P **P** 21 55 05.7 -0.3
baz=316,SNR=13
KIRV Kirov 62.47 333 *ce*P **P** 21 55 05.6 -0.1
SHLS Shalkode 62.50 305 *eP* **P** 21 55 04.9 -1.5
SHLS pmax pmax
comp=Z,10.0nm,0.6s
SHLS Shalkode 62.50 305 *eP* **P** 21 55 04.9 -1.5
comp=Z,10nm,0.6s,baz=305
OLIL Olney 62.53 62 P **P** 21 55 05.5 -0.9
baz=316
Z38A Mt. Pleasant 62.54 70 P **P** 21 55 05.8 -0.7
baz=316,SNR=6.5
PBMO Poplar Bluff 62.64 65 P **P** 21 55 05.6 -1.6
baz=316,SNR=7.9
S44A Carbondale 62.64 63 IAmb IAmb 21 55 06.7
comp=Z,9.0nm,0.8s
WHAR Wooly Hollow 62.65 67 IAmb IAmb 21 55 06.4
comp=Z,14nm,0.6s
LCAR Lake Charles 62.73 66 IAmb IAmb 21 55 08.4
comp=Z,19nm,1.4s
UZB Uzynbulak 62.73 306 *eP* **P** 21 55 07.6 -0.3
UZB Uzynbulak 62.73 306 *eP* **P** 21 55 07.7 -0.3
baz=306
435B Jarrell 62.77 74 P **P** 21 55 07.3 -0.9
baz=316
KLMR Klimovskoe 63.01 339 *eP* **P** 21 55 08.0 -1.2
KLMR *e*PP **pP** 21 55 33.2 -0.3
KLMR pmax pmax
comp=Z,21nm,2.0s
ZHN Zhinishke 63.01 306 *eP* **P** 21 55 09.8 +0.1
ZHN Zhinishke 63.01 306 *eP* **P** 21 55 09.8 +0.1
baz=306
O48B Farmland 63.02 59 P **P** 21 55 08.1 -1.6
baz=316,SNR=5.6
O48B Farmland 63.02 59 P **P** 21 55 08.0 -1.7
baz=316,SNR=5.6
N49A Columbus Grove 63.05 58 P **P** 21 55 08.9 -1.0
baz=316
N49A P **P** 21 55 08.9 -1.0
baz=316
SATY Saty 63.11 306 *eP* **P** 21 55 10.6 +0.2
SATY Saty 63.11 306 *eP* **P** 21 55 10.6 +0.2
baz=306
CHKK Chushkaly 63.23 307 *eP* **P** 21 55 10.3 -0.7
CHKK Chushkaly 63.23 307 *eP* **P** 21 55 10.4 -0.7
baz=307
P48A Milroy 63.45 59 P **P** 21 55 11.4 -1.2
baz=316,SNR=7.3
P48A P **P** 21 55 11.4 -1.2
baz=316,SNR=7.3
KUU Kurty 63.52 308 *eP* **P** 21 55 12.2 -0.7
KUU pmax pmax
comp=Z,8.0nm,0.6s
KUU Kurty 63.52 308 *eP* **P** 21 55 12.3 -0.7
comp=Z,8.4nm,0.6s,baz=308
MDOK Medeo 63.71 307 *eP* **P** 21 55 14.3 -0.1
MDOK Medeo 63.71 307 *eP* **P** 21 55 14.3 -0.1
baz=307
AAA Alma-Ata 63.74 307 *eP* **P** 21 55 14.6 +0.2
AAA pmax pmax
comp=Z,13nm,0.7s
AAA Alma-Ata 63.74 307 *eP* **P** 21 55 14.7 +0.2
comp=Z,13nm,0.7s,baz=307
P49A Miami Univ. Ec 63.78 59 P **P** 21 55 13.7 -0.9
baz=317
BTLS Baital 63.78 310 *eP* **P** 21 55 14.5 -0.1
BTLS *eS* **S** 22 03 41.8 +0.4
BTLS Baital 63.78 310 *eP* **P** 21 55 14.5 -0.1
baz=310
BTLS *eS* **S** 22 03 41.9 +0.4
baz=310
NATX Nacogdoches 63.80 71 P **P** 21 55 14.5 -0.5
baz=316
TNSS Tian-Shan 63.85 307 *eP* **P** 21 55 15.4 -0.2
TNSS Tian-Shan 63.85 307 *eP* **P** 21 55 15.5 -0.2
baz=307
WCI Wyandotte Cave 63.88 61 P **P** 21 55 14.3 -1.0
baz=317
WUS Wushi 64.05 304 P **P** 21 55 16.9 +0.3
ACSO Alum Creek Sta 64.18 57 P **P** 21 55 16.2 -1.2
baz=317
T47A Sharon Grove 64.33 62 P **P** 21 55 17.7 -0.7
baz=317,SNR=9.8
HKT Hockley 64.42 74 P **P** 21 55 19.7 +0.8
HKT IAmb IAmb 21 55 20.1
comp=Z,11nm,0.5s
HKT Hockley 64.42 74 *i* P **P** 21 55 18.8 -0.1
HKT pmax pmax
comp=Z,7.0nm,0.6s
M53A WI Miller and 64.49 55 P **P** 21 55 18.4 -0.9
baz=318
WVT Waverly 64.56 63 P **P** 21 55 19.3 -0.5
WVT IAmb IAmb 21 55 19.7
comp=Z,10nm,0.7s
WVT Waverly 64.56 63 P **P** 21 55 19.3 -0.5
WVT pmax pmax
comp=Z,10.0nm,0.7s
WVT Waverly 64.56 63 P **P** 21 55 18.8 -1.0
baz=317
WVT Waverly 64.56 63 P **P** 21 55 18.6 -1.1
baz=317,SNR=5.8
WVT Waverly 64.56 63 P **P** 21 55 19.1 -0.7
WVT pP **pP** 21 55 44.7 +0.3
WVT sP **sP** 21 55 55.5 +0.3
SGDS Sogindy 64.68 309 *eP* **P** 21 55 19.9 -0.7
SGDS Sogindy 64.68 309 *eP* **P** 21 55 20.0 -0.7
baz=309
P51A Williamsport 64.69 58 P **P** 21 55 19.7 -0.9
baz=317
P51A P **P** 21 55 19.7 -0.9
baz=317
TNCH TengChong 64.78 279 *eP* **P** 21 55 22.0 +0.4
TNCH pmax pmax
comp=Z,17nm,0.6s
HBVL Hebbronville 64.81 78 IAmb IAmb 21 55 24.6
comp=Z,15nm,0.7s
OXF Oxford 64.84 66 P **P** 21 55 20.7 -0.9
baz=317,SNR=9.1
OXF Oxford 64.84 66 P **P** 21 55 20.8 -0.9
baz=317,SNR=9.1
O52A Adamsville 64.86 57 IAmb IAmb 21 55 22.1
comp=Z,28nm,1.1s
O52A Adamsville 64.86 57 P **P** 21 55 21.0 -0.7
baz=318
O52A P **P** 21 55 21.0 -0.7
baz=318
Q51A Peebles 64.87 58 P **P** 21 55 21.3 -0.6
baz=317,SNR=8.9
Q51A P **P** 21 55 21.3 -0.6
baz=317,SNR=8.9
R50A Paris 64.90 60 P **P** 21 55 21.2 -0.8
baz=317
R50A P **P** 21 55 21.2 -0.8
baz=317
FINES FINESS Array B 64.98 346 *i* P **P** 21 55 21.0 -1.1
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 64.98 346 P **P** 21 55 20.4 -1.7
comp=Z,2.6nm,0.8s,baz=24,slow=7.3,SNR=15
FINES pP **pP** 21 55 45.9 -0.7
comp=Z,3.9nm,0.9s,baz=25,slow=6.9,SNR=3.1
comp=Z,2.6nm,0.8s
O53A New Philadelph 65.09 56 P **P** 21 55 22.3 -0.9
baz=318
FRU1 Bishkek 65.16 308 IAmb IAmb 21 55 25.4
comp=Z,19nm,0.7s
FRU1 Bishkek 65.16 308 P **P** 21 55 24.8 +1.1
FRU1 pmax pmax
comp=Z,34nm,0.8s
PLAL Pickwick Lake 65.25 65 IAmb IAmb 21 55 24.0
comp=Z,17nm,0.7s
AAK Ala-Archa 65.36 308 P **P** 21 55 25.6 +0.4
AAK IAmb IAmb 21 55 26.5
comp=Z,11nm,0.7s
AAK Ala-Archa 65.36 308 *ce*P **P** 21 55 25.8 +0.6
AAK pmax pmax
comp=Z,11nm,0.7s
AAK Ala-Archa 65.36 308 ⇓P **P** 21 55 25.7 +0.6
AAK pP **pP** 21 55 49.5 0.0
V48A Smith Brothers 65.40 63 IAmb IAmb 21 55 25.1
comp=Z,10nm,0.6s
V48A Smith Brothers 65.40 63 P **P** 21 55 24.1 -1.2
baz=317
U49A Red Boiling Sp 65.41 62 IAmb IAmb 21 55 25.2
comp=Z,17nm,0.5s
U49A Red Boiling Sp 65.41 62 P **P** 21 55 24.7 -0.7
baz=317,SNR=6.2
CLTN Cedars of Leba 65.41 63 IAmb IAmb 21 55 25.7
comp=Z,24nm,0.8s
M55A Ridgway 65.43 54 P **P** 21 55 24.8 -0.6
baz=318
M55A P **P** 21 55 24.8 -0.6
baz=318
L56A Greenwood 65.53 53 P **P** 21 55 25.3 -0.7
baz=319
L56A P **P** 21 55 25.3 -0.7
baz=319
T50A Nancy 65.55 61 P **P** 21 55 25.5 -0.7
baz=317
T50A P **P** 21 55 25.5 -0.7
baz=317
ZAIG Zacatecas 65.58 84 P **P** 21 55 27.7 +0.8
ZAIG IAmb IAmb 21 55 28.8
comp=Z,18nm,0.9s
LSA Lhasa 65.81 288 IAmb IAmb 21 55 30.9
comp=Z,18nm,0.8s
LSA Lhasa 65.81 288 P **P** 21 55 30.1 +1.6
LSA pP **pP** 21 55 54.9 +1.6
SWI Sorong 65.91 234 P **P** 21 55 28.6 -0.1
ARLS Aral 66.02 308 P **P** 21 55 30.3 +0.9
ARLS pmax pmax
comp=Z,24nm,0.8s
R53A Hurricane 66.12 58 P **P** 21 55 29.5 -0.4
baz=318
R53A P **P** 21 55 29.5 -0.4
baz=318
X48A Hartselle 66.22 64 P **P** 21 55 28.9 -1.6
baz=318
BINY Binghamton 66.25 52 P **P** 21 55 29.9 -0.8
baz=319
M57A Sunshine Farm, 66.34 53 P **P** 21 55 30.6 -0.7
baz=319
M57A P **P** 21 55 30.6 -0.7
baz=319
AKTO Aktyubinsk 66.40 323 LR LR 22 26 24.9
comp=Z,83nm,19.7s,baz=17,slow=38
SSPA Standing Stone 66.49 54 P **P** 21 55 31.5 -0.7
baz=319
Z47A Carrollton 66.56 66 P **P** 21 55 31.9 -0.8
baz=318
ABKAR Akbulak array 66.62 321 P **P** 21 55 33.2 +0.4
ABKAR Akbulak array 66.62 321 IAmb IAmb 21 55 34.4
comp=Z,21nm,1.1s
W50A Signal Mountai 66.63 63 IAmb IAmb 21 55 32.7
comp=Z,12nm,0.7s
W50A Signal Mountai 66.63 63 P **P** 21 55 31.5 -1.7
baz=318
DZA Taraz 66.69 310 *eP* **P** 21 55 33.4 0.0
DZA Taraz 66.69 310 *eP* **P** 21 55 33.5 0.0
baz=310
V51A Loudon 66.71 61 P **P** 21 55 32.6 -1.1
baz=318
PMG Port Moresby 66.75 214 P **P** 21 55 34.2 +0.2
comp=Z,2.6nm,0.3s,baz=2.3,slow=10.0,SNR=3.4
comp=Z,2.6nm,0.3s
CPCT Cooper Cave 66.88 62 IAmb IAmb 21 55 56.0
comp=Z,34nm,1.5s
KK31 Karatay Array 66.91 311 IAmb IAmb 21 55 35.9
comp=Z,11nm,0.7s
KKAR Karatay Array 66.91 311 P **P** 21 55 34.9 +0.1
KKAR Karatay Array 66.91 311 IAmb IAmb 21 55 35.9
comp=Z,11nm,0.7s
KKAR Karatay Array 66.91 311 P **P** 21 55 34.9 +0.1
FPAL Fort Paine 66.95 63 IAmb IAmb 21 55 34.9
comp=Z,15nm,0.6s
KSH Kashi 66.96 305 P **P** 21 55 39.4 +4.0
KSH pP PcP 21 56 03.5 +0.3
KSH pmax pmax
comp=Z,19nm,0.7s
NB2 NORSAR Subarra 67.04 353 P **P** 21 55 34.5 -0.9
comp=Z,0.9nm,0.7s,baz=10.0,slow=6.5
NOA NORSAR Array B 67.04 353 P **P** 21 55 35.0 -0.4
comp=Z,1.3nm,0.7s,baz=17,slow=18,SNR=11
NOA pP **pP** 21 55 59.2 -0.8
comp=Z,2.6nm,0.7s,baz=7.9,slow=6.4,SNR=7.0
comp=Z,1.3nm,0.7s
CRAI Chiangrai 67.19 274 IAmb IAmb 21 55 38.4
comp=Z,35nm,1.3s
FAKI Fak Fak 67.19 232 P **P** 21 55 37.9 +1.0
FAKI Fak Fak 67.19 232 P **P** 21 55 37.0 +0.1
comp=Z,48nm,1.0s
BRLS Borolday 67.28 311 *eP* **P** 21 55 38.6 +1.4
BRLS Borolday 67.28 311 *eP* **P** 21 55 38.7 +1.4
baz=311
LRAL Lakeview Retre 67.29 65 P **P** 21 55 36.1 -1.3
baz=318
HFS Hagfors 67.74 352 P **P** 21 55 38.5 -1.3
comp=Z,1.3nm,0.5s,baz=304,slow=1.1,SNR=7.0
HFS pP **pP** 21 56 03.7 -0.7
comp=Z,2.9nm,0.7s,baz=299,slow=1.5,SNR=3.1
comp=Z,1.3nm,0.5s
TRKS Terek-Say 67.82 309 P **P** 21 55 41.4 +0.6
TRKS pmax pmax
comp=Z,15nm,1.0s
IUG luzhnay 67.87 310 *eP* **P** 21 55 41.3 +0.2
IUG *eS* **S** 22 04 32.1 +0.6
IUG pmax pmax
comp=Z,9.0nm,0.7s
IUG luzhnay 67.87 310 *eP* **P** 21 55 41.3 +0.2
comp=Z,8.8nm,0.7s,baz=310
IUG *eS* **S** 22 04 32.1 +0.6
baz=310
Z51A Franklin 68.10 64 P **P** 21 55 41.2 -1.2
baz=318
HRV Adam Dziewonsk 68.12 49 P **P** 21 55 42.2 -0.2
baz=321
BELG Belogornoye 68.30 330 *i* P **P** 21 55 43.0 -0.3
BELG pmax pmax
comp=Z,4.0nm,0.9s
Y52A Lilburn 68.31 63 P **P** 21 55 43.2 -0.6
baz=319
Y52A P **P** 21 55 43.2 -0.6
baz=319
SHL Shillong 68.41 284 *eP* **P** 21 55 44.2 -0.6
SHL IAmb IAmb 21 55 47.8
comp=Z,30nm,1.2s
250A Grady 68.48 65 IAmb IAmb 21 55 44.8
comp=Z,19nm,0.7s
250A Grady 68.48 65 P **P** 21 55 44.1 -0.8
baz=318
DRLN Deer Lake 68.53 36 P **P** 21 55 44.6 -0.3
DRLN IAmb IAmb 21 55 45.8
comp=Z,51nm,1.5s
KMSC Kings Mountain 68.84 60 IAmb IAmb 21 55 47.0
comp=Z,36nm,1.2s
KMSC Kings Mountain 68.84 60 P **P** 21 55 46.1 -1.0
baz=319
KMSC Kings Mountain 68.84 60 P **P** 21 55 46.2 -0.8
baz=319
OBN Obninsk 68.88 338 *eP* **P** 21 55 44.8 -2.1
OBN *e* 21 56 09.1
OBN *e* 21 58 22.9
OBN *e*PPP PPP 21 59 58.7
OBN pmax pmax
comp=Z,11nm,0.8s
GOGA Godfrey 68.98 63 P **P** 21 55 46.9 -1.0
baz=319
HODGE Hodges 69.02 61 P **P** 21 55 47.4 -0.7
baz=319
DRK Karamyk 69.08 308 IAmb IAmb 21 55 50.5
comp=Z,12nm,0.8s
BTK Batken 69.11 309 IAmb IAmb 21 55 50.3
comp=Z,20nm,0.8s
BTK Batken 69.11 309 P **P** 21 55 49.5 +0.7
BTK pmax pmax
comp=Z,28nm,1.2s
CHTO Chiang Mai 69.14 274 P **P** 21 55 48.9 -0.2
CHTO IAmb IAmb 21 55 50.1
comp=Z,8.7nm,0.6s
CHTO Chiang Mai 69.14 274 P **P** 21 55 49.7 +0.6
CHTO Chiang Mai 69.14 274 P **P** 21 55 48.9 -0.2
CHTO pmax pmax
comp=Z,9.0nm,0.6s
CHTO Chiang Mai 69.14 274 P **P** 21 55 49.1 0.0
CHTO pP **pP** 21 56 14.6 +0.6
CM31 Chiang Mai Arr 69.41 274 IAmb IAmb 21 55 52.1
comp=Z,17nm,1.1s
CMAR Chiang Mai Arr 69.41 274 P **P** 21 55 51.0 +0.2
CMAR Chiang Mai Arr 69.41 274 P **P** 21 55 51.0 +0.2
comp=Z,7.2nm,0.5s,baz=26,slow=7.0,SNR=55
CMAR pP **pP** 21 56 14.7 -1.0
comp=Z,3.7nm,0.7s,baz=16,slow=4.3,SNR=4.8
CMAR LR LR 22 30 06.0
comp=Z,19nm,18.0s,baz=80,slow=39
comp=Z,7.2nm,0.5s
SANI Sanana 69.63 238 P **P** 21 55 51.0 -1.1
comp=Z,32nm,0.8s,comp=Z,792nm
MRSI Marisa 69.70 243 P **P** 21 55 52.2 -0.3
comp=Z,68nm,0.9s,comp=Z,1μm
TOLI2 Tolitoli 69.82 244 IAmb IAmb 21 55 53.8
comp=Z,19nm,0.8s
TOLI2 Tolitoli 69.82 244 P **P** 21 55 53.0 -0.3
HAW Hawthorne Fire 70.03 61 P **P** 21 55 52.5 -1.9
baz=320
LUWI Luwuk 70.50 241 P **P** 21 55 56.2 -1.2
comp=Z,92nm,0.8s,comp=Z,938nm
MPSI Mapaga 70.95 245 P **P** 21 56 00.0 -0.2
comp=Z,41nm,0.8s,comp=Z,860nm
CHGR Chuyangaron 71.01 309 P **P** 21 56 00.9 +0.5
CHGR pmax pmax
comp=Z,87nm,1.3s
SIMJ Simiganj 71.08 309 P **P** 21 56 01.2 +0.3
SIMJ IAmb IAmb 21 56 02.7
comp=Z,31nm,0.9s
SIMJ Simiganj 71.08 309 P **P** 21 56 01.1 +0.3
DHRM DHARAMSHALA 72.32 300 *eP* **P** 21 56 08.8 +0.3
NIL Nilore 72.86 303 P **P** 21 56 12.3 +0.9
NIL Nilore 72.86 303 P **P** 21 56 12.3 +0.9
NIL pmax pmax
comp=Z,46nm,1.1s
EKA Eskdalemuir Ar 73.20 1 P **P** 21 56 13.5 +0.5
comp=Z,0.4nm,0.3s,baz=15,slow=3.5,SNR=2.2
comp=Z,0.4nm,0.3s
BOK Bokaro 73.33 287 *eP* **P** 21 56 14.0 -0.3
SBUM Sibu 73.68 253 IAmb IAmb 21 56 17.5
comp=Z,10nm,0.7s
TTSI Tana Toraja 73.79 243 P **P** 21 56 17.2 +0.2
comp=Z,32nm,1.1s
DWPF Disney Wildern 74.14 65 P **P** 21 56 18.9 0.0
baz=321
KBL Kabul 74.31 306 P **P** 21 56 19.9 -0.2
KBL IAmb IAmb 21 56 20.9
comp=Z,40nm,1.1s
KBL Kabul 74.31 306 P **P** 21 56 19.9 -0.2
KBL pmax pmax
comp=Z,40nm,1.1s
DZM Mont Dzumac 74.35 192 P **P** 21 56 22.4 +2.3
AKASG Malin Array Be 74.62 340 P **P** 21 56 20.6 -0.8
comp=Z,1.4nm,0.4s,baz=22,slow=6.6,SNR=7.8
AKASG pP **pP** 21 56 46.0 -0.3
comp=Z,2.6nm,0.5s,baz=20,slow=6.2,SNR=5.7
comp=Z,1.4nm,0.4s
AKBB Malin Array Si 74.62 340 pP 21 56 49.2 +2.9
AKBB Malin Array Si 74.62 340 *ce*P **P** 21 56 20.0 -1.4
AKBB pmax pmax
comp=Z,13nm,1.5s
KIEV Kiev 74.63 340 pP 21 56 49.2 +2.8
KDU Kakadu 75.64 227 P **P** 21 56 28.3 +0.8
STKI Sintang 76.03 252 P **P** 21 56 30.0 +0.1
comp=Z,21nm,1.3s
TV1H Townsville Har 76.07 211 P **P** 21 56 30.6 +0.7
comp=Z,24nm,0.8s
GEYT Alibeck 76.68 316 P **P** 21 56 34.2 +0.8
GEYT IAmb IAmb 21 56 35.1
comp=Z,13nm,0.8s
GEYT Alibeck 76.68 316 P **P** 21 56 34.2 +0.8
comp=Z,9.5nm,0.8s,baz=18,slow=5.3,SNR=22
comp=Z,9.5nm,0.8s
KWP Kalwaria Pacla 76.87 344 IAmb IAmb 21 57 02.4
comp=Z,20nm,1.2s
CTA Charters Tower 77.01 211 P **P** 21 56 36.0 +0.8
comp=Z,17nm,0.8s,baz=5.3,slow=5.9,SNR=11
comp=Z,17nm,0.8s
CTAO Charters Tower 77.01 211 P **P** 21 56 35.6 +0.3
CTAO IAmb IAmb 21 56 36.9
comp=Z,18nm,0.8s
CTAO Charters Tower 77.01 211 P **P** 21 56 36.0 +0.8
CTAO Charters Tower 77.01 211 P **P** 21 56 35.6 +0.3
CTAO pmax pmax
comp=Z,18nm,0.8s
SOEI Soe 77.05 235 IAmb IAmb 21 56 43.6
comp=Z,20nm,0.7s
SOEI Soe 77.05 235 P **P** 21 56 37.8 +2.0
SOEI Soe 77.05 235 P **P** 21 56 35.7 -0.1

	comp=Z,34nm,1.2s						
DGPR	**DIGLIPUR**	**77.15 275**	*eP*	**P**	**21 56 36.1**	**-0.1**
KIV	**Kislovodsk**	**77.29 329**	P	**P**	**21 56 37.3**	**+0.5**
KIV	**Kislovodsk**	**77.29 329**	*eP*	**P**	**21 56 37.3**	**+0.5**
KIV			pmax	pmax		
	comp=Z,7.0nm,1.0s					
KIV			MLR	MLR		
	comp=Z,55nm,18.0s					
KBZ	**Khabaz**	**77.43 329**	*ceP*	**P**	**21 56 37.2**	**-0.2**
KBZ			pmax	pmax		
	comp=Z,4.0nm,0.8s					
KBZ	**Khabaz**	**77.43 329**	P	**P**	**21 56 37.4**	**0.0**
	comp=Z,4.0nm,0.8s,baz=65,slow=4.1,SNR=10					
KBZ			pP	**pP**	**21 57 02.5**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=191,slow=2.7,SNR=3.6					
	comp=Z,4.0nm,0.8s					
EDFI	**Ende, Flores**	**77.54 238**	P	**P**	**21 56 37.1**	**-1.4**
	comp=Z,30nm,0.9s					
HRA	**Herat**	**77.74 311**	IAmb	IAmb	21 56 41.5	
	comp=Z,19nm,1.1s					
BATI	**Baumata**	**77.74 236**	P	**P**	**21 56 39.9**	**+0.4**
	comp=Z,72nm,0.7s					
CRVS	**Cervenica-Dubn**	**77.78 345**	*eP*	**P**	**21 56 40.7**	**+1.3**
CRVS	**Cervenica-Dubn**	**77.78 345**	*eP*	**P**	**21 56 40.7**	**+1.3**
LANS	**Liptovska Anna**	**77.85 346**	*eP*	**P**	**21 56 42.6**	**+2.8**
LANS	**Liptovska Anna**	**77.85 346**	*eP*	**P**	**21 56 42.6**	**+2.8**
BURAR	**Bucovina Array**	**78.36 342**	P	**P**	**21 56 43.0**	**+0.3**
PBA	**Port Blair**	**78.43 274**	*eP*	**P**	**21 56 42.8**	**-0.6**
PBA			IAmb	IAmb	21 56 47.0	
	comp=Z,16nm,0.8s					
VYHS	**Vyhne**	**78.59 346**	*eP*	**P**	**21 56 47.3**	**+3.5**
VYHS	**Vyhne**	**78.59 346**	*eP*	**P**	**21 56 47.3**	**+3.5**
GERES	**GERESS Array B**	**78.89 350**	P	**P**	**21 56 46.7**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=215,slow=41,SNR=1.9					
	comp=Z,0.6nm,0.7s					
BASI	**Baing, Sumba**	**79.36 238**	P	**P**	**21 56 46.8**	**-1.5**
	comp=Z,74nm,0.9s					
PLAI	**Plampang**	**79.70 241**	P	**P**	**21 56 49.6**	**-0.6**
PLAI	**Plampang**	**79.70 241**	P	**P**	**21 56 48.8**	**-1.4**
	comp=Z,32nm,0.8s					
GNI	**Garni**	**80.01 326**	LR	LR	22 37 15.3	
	comp=Z,41nm,18.1s,baz=87,slow=39					
LHMI	**Lhok Sumawe**	**80.80 267**	P	**P**	**21 56 57.0**	**+0.8**
	comp=Z,131nm,0.9s					
PPBI	**Pangkal Pinang**	**80.98 255**	P	**P**	**21 56 57.3**	**+0.2**
WB0	**Warramunga Arr**	**81.09 222**	P	**P**	**21 56 57.3**	**-0.3**
WB0			IAmb	IAmb	21 56 58.3	
	comp=Z,20nm,0.8s					
WR0	**Warramunga Arr**	**81.20 222**	P	**P**	**21 56 57.7**	**-0.4**
WR0			IAmb	IAmb	21 56 58.8	
	comp=Z,22nm,0.8s					
WRAB	**Tennant Creek**	**81.26 222**	P	**P**	**21 56 58.1**	**-0.3**
WRAB			IAmb	IAmb	21 57 26.8	
	comp=Z,26nm,1.1s					
WRAB	**Tennant Creek**	**81.26 222**	P	**P**	**21 56 58.1**	**-0.3**
WRAB			pmax	pmax		
	comp=Z,26nm,1.2s					
WB2	**Warramunga Arr**	**81.27 222**	P	**P**	**21 56 57.6**	**-0.8**
WB2			IAmb	IAmb	21 56 59.3	
	comp=Z,22nm,1.0s					
WRA	**Warramunga Arr**	**81.27 222**	P	**P**	**21 56 58.2**	**-0.3**
WRA	**Warramunga Arr**	**81.27 222**	P	**P**	**21 56 58.5**	**0.0**
	comp=Z,16nm,0.7s,baz=34,slow=6.2,SNR=24					
	comp=Z,16nm,0.7s					
PSI	**Prapat**	**81.47 264**	P	**P**	**21 57 00.0**	**+0.1**
PSI			pmax	pmax		
	comp=Z,23nm,1.0s					
RPSI	**Rantau Prapat**	**81.55 264**	IAmb	IAmb	21 57 00.5	
	comp=Z,15nm,0.7s					
TEOL	**Teolo**	**82.55 351**		pP	21 57 33.3	+2.9
HYB	**Hyderabad**	**82.58 289**	*eP*	**P**	**21 57 05.0**	**-0.6**
HYB			IVmB_BB		21 57 05.7	
	comp=Z,235nm,0.7s					
HYB	**Hyderabad**	**82.58 289**	*eP*	**P**	**21 57 05.4**	**-0.2**
HYB			*i* pP	**pP**	**21 57 29.0**	**-2.3**
GSI	**Gunungsitoli**	**83.47 264**	IAmb	IAmb	21 57 10.5	
	comp=Z,19nm,0.7s					
FITZ	**Fitzroy Crossi**	**83.52 230**	P	**P**	**21 57 10.8**	**+0.6**
BRTR	**Keskin Array B**	**83.87 334**	P	**P**	**21 57 11.8**	**-0.3**
BRTR	**Keskin Array B**	**83.87 334**	P	**P**	**21 57 12.8**	**+0.7**
	comp=Z,2.3nm,0.6s,baz=43,slow=1.9,SNR=16					
BRTR			LR	LR	22 40 23.4	
	comp=Z,55nm,18.5s,baz=5.5,slow=40					
	comp=Z,2.3nm,0.6s					
MARD	**Mardin**	**83.91 327**	P	**P**	**21 57 12.6**	**+0.3**
MARD			IAmb	IAmb	21 57 14.5	
	comp=Z,12nm,0.9s					
BNN	**Bunyan**	**84.05 332**	P	**P**	**21 57 13.0**	**0.0**
BNN			IAmb	IAmb	21 57 15.3	
	comp=Z,14nm,0.8s					
POO	**Poona**	**84.43 293**	*eP*	**P**	**21 57 15.4**	**+0.4**
AS01	**Alice Springs**	**84.76 220**	P	**P**	**21 57 16.7**	**+0.3**
	comp=Z,18nm,0.8s					
LHI	**Lord Howe Isla**	**84.76 197**	P	**P**	**21 57 14.5**	**-1.6**
ASAR	**Alice Springs**	**84.78 220**	P	**P**	**21 57 16.2**	**-0.3**
ASAR	**Alice Springs**	**84.78 220**	P	**P**	**21 57 17.2**	**+0.7**
	comp=Z,12nm,0.8s,baz=24,slow=5.1,SNR=33					
ASAR			pP	**pP**	**21 57 43.0**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=139,slow=9.6,SNR=2.7					
	comp=Z,12nm,0.8s					
GAZ	**Gaziantep**	**85.19 330**	P	**P**	**21 57 18.3**	**-0.4**
ARMA	**Armidale**	**85.27 203**	P	**P**	**21 57 19.8**	**+0.9**
ARMA			IAmb	IAmb	21 57 21.9	
	comp=Z,13nm,0.9s					
ARMA	**Armidale**	**85.27 203**	P	**P**	**21 57 21.2**	**+2.3**
GOA	**Goa**	**86.86 291**	*eP*	**P**	**21 57 26.7**	**-0.4**
OOD	**Oodnadatta**	**87.79 217**	P	**P**	**21 57 32.1**	**+1.0**
CMSA	**Cobar Meteorol**	**87.91 208**	P	**P**	**21 57 33.4**	**+1.8**
WRKA	**Warakurna**	**88.34 224**	P	**P**	**21 57 35.0**	**+1.2**
LCRK	**Leigh Creek**	**89.29 214**	P	**P**	**21 57 39.7**	**+1.6**
STKA	**Stephens Creek**	**89.47 211**	P	**P**	**21 57 39.8**	**+0.8**
STKA	**Stephens Creek**	**89.47 211**	P	**P**	**21 57 40.5**	**+1.6**
STKA	**Stephens Creek**	**89.47 211**	P	**P**	**21 57 40.4**	**+1.4**
	comp=Z,17nm,0.6s,baz=348,slow=6.1,SNR=33					
	comp=Z,17nm,0.6s					
MMAI	**Mount Meron Ar**	**89.58 330**	P	**P**	**21 57 40.2**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=318,slow=4.5,SNR=6.8					
MMAI			pP	**pP**	**21 58 04.8**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=27,slow=33,SNR=1.5					
MMAI			LR	LR	22 41 30.0	
	comp=Z,48nm,19.2s,baz=66,slow=38					
	comp=Z,0.5nm,0.4s					
YNG	**Young**	**89.78 205**	P	**P**	**21 57 42.1**	**+1.8**
MULG	**Mulgathing**	**90.64 217**	P	**P**	**21 57 44.7**	**+0.3**
	comp=Z,14nm,0.9s					
HTT	**Hallett**	**91.77 212**	P	**P**	**21 57 51.3**	**+1.7**
	comp=Z,14nm,1.4s					
BBOO	**Buckleboo**	**92.19 215**	P	**P**	**21 57 52.8**	**+1.3**
	comp=Z,13nm,1.5s					
MEEK	**Meekatharra**	**94.15 231**	P	**P**	**21 58 00.2**	**-0.6**
	comp=Z,17nm,1.2s					
RAYN	**Ar Rayn**	**94.51 318**	P	**P**	**21 58 02.5**	**-0.2**
RAYN			IAmb	IAmb	21 58 03.2	
	comp=Z,5.1nm,1.1s					
RAYN	**Ar Rayn**	**94.51 318**	P	**P**	**21 58 02.5**	**-0.2**
RAYN			pmax	pmax		
	comp=Z,5.0nm,1.1s					
TORD	**Torodi Ar. Bea**	**115.25 357**	PKP	**PKiKP**	**22 03 22.7**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=357,slow=2.0,SNR=9.8					
TORD			pPKP	**pPKiKP**	**22 03 49.5**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=131,slow=16,SNR=2.7					
DBIC	**Dimbokro**	**121.66 4**	PKP	**PKPdf**	**22 03 35.5**	**-0.3**
	comp=Z,1.5nm,0.4s,baz=2.9,slow=1.8,SNR=5.5					
H03N2	**Juan Fernandez**	**122.78 104**	T	T	00 17 13.7	
	baz=317,slow=77,SNR=2.0					
H03N1	**Juan Fernandez**	**122.80 104**	T	T	00 17 14.8	
	baz=317,slow=77,SNR=7.7					
H03N3	**Juan Fernandez**	**122.80 104**	T	T	00 17 35.3	
	baz=317,slow=77,SNR=2.4					
VNDA	**Vanda**	**129.50 185**	PKP	**PKiKP**	**22 03 49.5**	**0.0**
	comp=Z,1.2nm,0.7s,baz=125,slow=1.7,SNR=1.3					
CPUP	**Villa Florida**	**131.10 81**	PKIKP	**PKiKP**	**22 03 54.0**	**-0.3**
CPUP	**Villa Florida**	**131.10 81**	PKP	**PKiKP**	**22 03 54.0**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=28,slow=3.6,SNR=1.4					
CPUP			SKPbc	**SKPbc**	**22 07 07.4**	**-1.4**
	comp=Z,6.3nm,1.0s,baz=320,slow=4.2,SNR=11					
PLCA	**Paso Flores**	**132.61 105**	PKP	**PKiKP**	**22 03 57.8**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=208,slow=3.3,SNR=4.0					
PLCA			pPKP	**pPKPdf**	**22 04 23.4**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=270,slow=2.4,SNR=2.8					
PLCA			SKPbc	**SKPbc**	**22 07 13.9**	**+0.1**
	comp=Z,3.9nm,0.8s,baz=296,slow=4.0,SNR=12					
QSPA	**South Pole Qui**	**141.58 180**		PKPpre	22 04 07.3	
QSPA	**South Pole Qui**	**141.58 180**	PKhKP	PKPpre	22 04 06.8	
	comp=Z,3.5nm,0.6s,baz=166,slow=0.4,SNR=14					
QSPA			PKP	**PKPdf**	**22 04 09.6**	**-2.0**
	comp=Z,5.8nm,0.6s,baz=302,slow=0.1,SNR=18					
QSPA			pPKP	pPKPdf	22 04 38.6	0.0
	comp=Z,2.2nm,0.7s,baz=328,slow=0.3,SNR=2.4					
POGA	**Pongola**	**145.20 302**	PKPbc	**PKPab**	**22 04 19.7**	**+0.6**
LBTB	**Lobatse**	**146.28 312**		**PKPbc**	**22 04 22.7**	**+0.2**
LBTB	**Lobatse**	**146.28 312**	PKP2	**PKPbc**	**22 04 22.7**	**+0.2**
BOSA	**Boshof**	**149.49 309**	PKPbc	**PKPbc**	**22 04 30.8**	**-0.1**
BOSA	**Boshof**	**149.49 309**	PKP2	**PKPbc**	**22 04 30.8**	**-0.1**
BOSA	**Boshof**	**149.49 309**	PKPbc	**PKPbc**	**22 04 31.4**	**+0.4**
	comp=Z,13nm,0.6s,baz=36,slow=2.8,SNR=51					
BOSA			pPKPbc	**pPKPbc**	**22 04 56.8**	**-1.2**
	comp=Z,6.6nm,0.7s,baz=21,slow=4.7,SNR=2.9					
ELIB	**Princess Elisa**	**157.05 199**	*d*PKPdf	PKPdf	22 04 46.5	+11

RSNC 02 21:46:14.2±0.0, 7°N±2°×77°W±°, h132km±5km, mb3.6, mB4.8, ML2.5, Mw(mB)4.1, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.21**	**197**	P	Pn	21 46 31.4	-1.3
BARC				S	Sn	21 46 46.0	-0.6
PAMC	**Pamplona, Colo**	**0.68**	**38**	P	Pn	21 46 34.0	-1.2
PAMC				S	Sn	21 46 50.9	-0.2
RUSC	**La Rusia**	**0.90**	**178**	P	Pn	21 46 35.3	-1.7
RUSC				S	Sn	21 46 54.0	-0.2
PTBC	**PUERTO BERRIO,**	**1.35**	**259**	P	Pn	21 46 38.0	-2.8
PTBC				S	Sn	21 46 58.6	-2.5
TAMC	**Tame, Arauca**	**1.37**	**105**	P	Pn	21 46 39.8	-1.2
TAMC				S	Sn	21 47 01.4	-0.1
OCAC	**Ocana**	**1.44**	**352**	P	Pn	21 46 40.0	-2.0
OCAC				S	Sn	21 47 01.5	-1.7
SPBC	**San Pablo de B**	**1.48**	**220**	P	Pn	21 46 40.3	-2.1
SPBC				S	Sn	21 47 02.2	-1.6
NORC	**Norcasia**	**2.13**	**235**	P	Pn	21 46 47.3	-2.6
NORC				S	Sn	21 47 15.5	-1.8
ROSC	**El Rosal**	**2.28**	**212**	P	Pn	21 46 50.4	-1.8
ROSC				S	Sn	21 47 22.5	+1.2
CVER	**Cruz Verde, Cu**	**2.46**	**203**	P	Pn	21 46 53.1	-1.3
HELC	**Santa Helena**	**2.47**	**256**	P	Pn	21 46 53.3	-1.1
HELC				S	Sn	21 47 24.8	-0.5
UREC	**San Jos de Ur**	**2.57**	**292**	P	Pn	21 46 51.3	-4.1
UREC				S	Sn	21 47 22.4	-4.8
GUY2C	**Guyana, Caldas**	**2.73**	**235**	P	Pn	21 46 56.0	-1.8
GUY2C				S	Sn	21 47 31.6	+0.2
VILC	**Villavicencio,**	**2.73**	**192**	P	Pn	21 46 55.4	-2.2
VILC				S	Sn	21 47 29.9	-1.1
PTGC	**Puerto Gaitan,**	**2.76**	**159**	P	Pn	21 46 54.8	-3.1
PTGC				S	Sn	21 47 28.3	-3.3
NIZA	**Niza - Manizal**	**2.91**	**234**	P	Pn	21 47 02.5	+2.5
CMAN1	**Manizales, Cal**	**2.94**	**234**	P	Pn	21 46 57.6	-2.9
CBOC	**Ciudad Bolivar**	**3.02**	**252**	P	Pn	21 46 57.7	-1.6
CBOC				S	Sn	21 47 36.9	-0.8
DBBC	**Dabeiba**	**3.08**	**274**	P	Pn	21 46 59.6	-2.4
DBBC				S	Sn	21 47 37.5	-1.3
ANIL	**Santa Ana**	**3.23**	**225**	P	Pn	21 47 02.6	-1.6
ANIL				S	Sn	21 47 42.2	-0.5
ORTC	**Ortega, Tolima**	**3.57**	**216**	P	Pn	21 47 06.7	-1.7
ORTC				S	Sn	21 47 50.2	-0.1
PLMC	**San Jos del P**	**3.67**	**239**	P	Pn	21 47 07.4	-2.3
SJCC	**San Jacinto, C**	**3.69**	**327**	P	Pn	21 47 05.6	-4.4
SJCC				S	Sn	21 47 46.3	-6.9
YOTC	**Yotoco, Valle**	**4.26**	**229**	P	Pn	21 47 14.4	-3.2
URIC	**Uribia, Colomb**	**5.00**	**13**	P	Pn	21 47 22.0	-5.3

*IDC **02** 21:48:35.1±0.9, 6°19S×143°37E, h0km, mb4.0/6, mbtmp4.0/8, ML1.4/1, MS3.8/1, Error ellipse: s-maj=36.0km s-min=21.5km az=72.0*

ISC 02 21:48:36.3±0.9, 6°3S±0°1×143°2E±0°1, h10km, n12, σ1°45/11, mb4.0/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.97**	**128**	Pn	**Pn**	**21 49 52.4**	**+1.4**
	1.0nm,0.3s,baz=343,slow=8.1,SNR=2.6						
PMG				Sn	**Sn**	**21 50 47.3**	**-1.4**
	1.2nm,0.3s,baz=24,slow=19,SNR=1.7						
	8.6nm,0.5s						
CTA	**Charters Tower**	**14.01**	**168**	Lg	Lg	21 56 07.0	
	0.1nm,0.3s,baz=66,slow=22,SNR=1.4						
WRA	**Warramunga Arr**	**16.06**	**212**	Pn	**Pn**	**21 52 20.6**	**-1.8**
	0.4nm,0.3s,baz=29,slow=13,SNR=1.7						
WRA				Sn	Sn	21 55 07.3	-13
	0.5nm,0.3s,baz=31,slow=23,SNR=2.3						
WRA				Lg	Lg	21 57 15.8	
	0.3nm,0.3s,baz=29,slow=30,SNR=4.9						
ASAR	**Alice Springs**	**19.44**	**206**	P	**Pn**	**21 53 06.4**	**+2.1**
	3.4nm,0.6s,baz=30,slow=11,SNR=11						
ASAR				S	S	21 56 32.8	-10
	1.1nm,0.9s,baz=17,slow=28,SNR=4.6						
ASAR				Lg	Lg	21 58 58.9	
	baz=22,slow=30						
KLR	**Kul'dur**	**56.21**	**351**	LR	LR	22 21 27.2	
	comp=Z,72nm,18.8s,baz=215,slow=35						
MKAR	**Makanchi Array**	**75.37**	**322**	P	**P**	**22 00 21.1**	**+0.9**
	1.3nm,0.7s,baz=113,slow=7.7,SNR=8.6						
	1.3nm,0.7s						
ZALV	**Zalesovo Beam**	**77.30**	**329**	P	**P**	**22 00 30.6**	**-0.3**
	0.6nm,0.6s,baz=122,slow=7.4,SNR=3.7						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**79.25**	**324**	P	**P**	**22 00 42.4**	**+0.7**
	0.3nm,0.5s,baz=101,slow=7.2,SNR=3.7						
	0.3nm,0.5s						
QSPA	**South Pole Qui**	**83.66**	**180**	P	**P**	**22 01 04.9**	**-0.2**
	0.6nm,0.5s,baz=299,slow=10,SNR=5.7						
	0.6nm,0.5s						
BVAR	**Borovoye Array**	**84.82**	**325**	P	**P**	**22 01 12.2**	**+1.2**
	2.3nm,0.7s,baz=104,slow=6.3,SNR=6.9						
	2.3nm,0.7s						
ILAR	**Eielson Array**	**87.26**	**24**	P	**P**	**22 01 22.2**	**-0.7**
	0.7nm,0.9s,baz=262,slow=4.9,SNR=4.8						
	0.7nm,0.9s						
DBIC	**Dimbokro**	**148.28**	**272**	PKPbc	**PKiKP**	**22 08 24.1**	**-1.5**
	2.6nm,0.9s,baz=113,slow=4.2,SNR=3.5						

JMA 02 21:53:13.9±0.1, 24°3N±0°3×123°8E±0°3, h13km±1km, MV1.3/9, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.12**	**316**	P	Pg	21 53 17.1	0.0
IRIF				*e*S	Sg	21 53 19.6	+0.2
JKRS	**Kuro-shima**	**0.17**	**93**	*i* P	Pg	21 53 17.9	+0.2
JKRS				*e*S	Sg	21 53 20.6	+0.2
HATJ	**Hateruma jima**	**0.19**	**185**	*i* P	Pg	21 53 18.0	-0.1
HATJ				*e*S	Sg	21 53 21.4	+0.4
JIJ	**Ishigaki jima**	**0.31**	**68**	P	Pg	21 53 20.0	-0.2
JIJ				*e*S	Sg	21 53 24.8	+0.2
JISG	**Ishigakijimahi**	**0.56**	**52**	P	Pg	21 53 24.9	+0.1
JISG				*e*S	Sg	21 53 32.5	+0.2
JYNG	**Yonagunijimaku**	**0.83**	**284**	*e*S	Sb	21 53 41.3	+0.1
JTJ	**Tarama**	**0.89**	**64**	*e*S	Sb	21 53 43.5	+0.4

TAP 02 21:53:40.0, 23°83N×121°05E, h40km±1km, ML1.6, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SSLB	**Suanglung**	**0.10**	**244**	P	Sn	21 53 51.6	-2.5
SSLB	**Suanglung**	**0.10**	**244**	*i* P	Pn	21 53 46.7	-1.3
SSLB	baz=245			*i* S	Sn	21 53 51.7	-2.4
	baz=245						
VWDT	**VWDT**	**0.11**	**134**	S	Sn	21 53 52.1	-1.7
	baz=123						
SMLT	**Sun Moon Lake**	**0.15**	**290**	*e*S	Sn	21 53 52.7	-1.1
	baz=291						
WUSB	**Renai**	**0.17**	**21**	P	Pn	21 53 47.7	-0.1
	baz=21						
WUSB				*e*S	Sn	21 53 50.9	-2.9
	baz=21						
WHYT	**Xinyi Township**	**0.23**	**233**	S	Sn	21 53 52.8	-0.8
	baz=234						
CHGB	**Renai**	**0.25**	**26**	S	Sn	21 53 53.6	-0.7
	baz=31						
ALS	**Alishan**	**0.39**	**215**	*e*S	Sn	21 53 54.3	-2.1
	baz=214						
EHY	**Hungye**	**0.41**	**143**	P	Pn	21 53 48.7	-0.8
	baz=142						
EHY				*e*S	Sn	21 53 54.4	-1.8
	baz=142						
YULB	**Yu-li**	**0.49**	**153**	*e*S	Sn	21 53 54.5	-3.6
	baz=149						

*MOS **02** 21:58:36.5±1.1, 44°61N×147°10E, h161km, mb4.0/1, Error ellipse: s-maj=33.3km s-min=24.2km az=75.1*
*SKHL **02** 21:58:36.0±0.1, 44°50N×147°30E, h148km±4km, mb4.6/3, msha5.3/3*
*JMA **02** 21:58:38.8±0.4, 44°N±2°×14°7E±°, h146km, MV3.3/22, NEAR ETOROFU ISLAND*
*IDC **02** 21:58:52.5±19.0, 45°28N×146°86E, h266km±184km, mb3.0/6, mbtmp3.6/6, Error ellipse: s-maj=130.0km s-min=23.2km az=172.0*

ISC 02 21:58:37.1±0.9, 44°49N±0°09×147°29E±0°09, h153km±6km, n27, σ0°94/41, mb3.2/6, 1C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.70**	**208**	⇓ *i* PN	**Pn**	**21 59 00.6**	**+0.6**
SHO				*i* S	**Sn**	**21 59 16.9**	**-0.4**
SHO				pmax	pmax		
	comp=E,43nm,0.2s						
SHO				pmax	pmax		
	comp=Z,176nm,0.2s						
SHO				smax	smax		
	comp=N,2μm,0.3s						
SHO				smax	smax		
	comp=E,785nm,0.3s						
SHO	**Shikotan**	**0.70**	**208**	*i* P	**Pn**	**21 59 00.5**	**+0.6**
SHO				AMB	AMB	21 59 00.9	
	comp=E,180nm,0.3s						
SHO				*i* S	**Sn**	**21 59 16.9**	**-0.4**
SHO				A	A	21 59 17.6	
	comp=E,2μm,0.4s						
SHO				A	A	21 59 17.6	
	comp=E,790nm,0.4s						
KUR	**Kuril'sk**	**0.85**	**29**	⇑ *i* PN	**Pn**	**21 59 01.3**	**+0.4**
KUR				*i* S	**Sn**	**21 59 18.8**	**-0.4**
KUR				pmax	pmax		
	comp=Z,90nm,0.4s						
KUR				smax	smax		
	comp=E,131nm,0.5s						
KUR				smax	smax		
	comp=N,101nm,0.4s						
KUR	**Kuril'sk**	**0.85**	**29**	*i* P	**Pn**	**21 59 01.3**	**+0.4**
KUR				AMB	AMB	21 59 01.7	
	comp=N,120nm,0.3s						
KUR				*i* S	**Sn**	**21 59 18.2**	**-1.0**
KUR				A	A	21 59 19.4	
	comp=N,110nm,0.2s						
KUR				A	A	21 59 19.4	
	comp=N,150nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.12**	**246**	*d* PN	**Pn**	**21 59 03.8**	**+0.6**
YUK				*i* S	**Sn**	**21 59 23.4**	**+0.3**
YUK				pmax	pmax		
	comp=N,69nm,0.2s						
YUK				pmax	pmax		
	comp=Z,414nm,0.2s						
YUK				pmax	pmax		
	comp=E,20nm,0.1s						
YUK				smax	smax		
	comp=E,179nm,0.3s						
YUK				smax	smax		
	comp=N,461nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**1.12**	**246**	*i* P	**Pn**	**21 59 03.8**	**+0.6**
YUK				AMB	AMB	21 59 04.3	
	comp=N,320nm,0.4s						
YUK				*e*S	**Sn**	**21 59 23.6**	**+0.5**
YUK				A	A	21 59 24.1	
	comp=N,460nm,0.3s						
YUK				A	A	21 59 24.1	
	comp=N,230nm,0.3s						
NEM2	**Nemuro 2**	**1.59**	**225**	P	**Pn**	**21 59 08.2**	**+0.4**
NEM2				*e*S	**Sn**	**21 59 30.2**	**-1.1**
NMR	**Nemuro--Hokkai**	**1.59**	**226**	⇓ *i* PN	**Pn**	**21 59 08.2**	**+0.4**
NMR				*i* S	**Sn**	**21 59 30.2**	**-1.1**
NMR	**Nemuro--Hokkai**	**1.59**	**226**	*i* P	**Pn**	**21 59 08.2**	**+0.4**
NMR				*i* S	**Sn**	**21 59 30.3**	**-1.1**
JNSB	**Nemuroshibetsu**	**1.79**	**247**	*e*P	**Pn**	**21 59 11.3**	**+1.2**
JKHN	**Kushirohamanak**	**2.09**	**228**	*e*P	**Pn**	**21 59 14.1**	**+0.6**
JKHN				*e*S	**Sn**	**21 59 40.9**	**-0.4**
AKK	**Akkeshi**	**2.31**	**231**	*i* P	**Pn**	**21 59 17.1**	**+1.1**
JAK	**Akkeshi**	**2.40**	**232**	*e*P	**Pn**	**21 59 17.7**	**+0.5**
JAK				*e*S	**Sn**	**21 59 48.0**	**0.0**
JTKR	**Abashiri--Toko**	**2.49**	**259**	*e*P	**Pn**	**21 59 18.7**	**+0.5**
JAR	**Ashorobuto**	**2.81**	**246**	*e*P	**Pn**	**21 59 23.6**	**+1.4**
JAR				*e*S	**Sn**	**21 59 58.7**	**+1.6**
JOB	**Onbets**	**2.97**	**239**	*e*P	**Pn**	**21 59 25.3**	**+1.2**
JOB				*e*S	**Sn**	**22 00 00.2**	**-0.3**
JKK2	**Kamakawa 2**	**3.33**	**261**	*e*P	**Pn**	**21 59 29.6**	**+0.8**
JCH	**Churui**	**3.42**	**238**	*e*P	**Pn**	**21 59 30.3**	**+0.4**
JCH				*e*S	**Sn**	**22 00 09.2**	**-1.6**
JNBK	**Urakawa-nobuka**	**3.98**	**238**	*e*P	**Pn**	**21 59 36.7**	**-0.4**
ILAR	**Eielson Array**	**40.83**	**37**	P	**P**	**22 06 04.3**	**+1.1**
	comp=N,0.2nm,0.5s,baz=268,slow=9.0,SNR=5.3						
	comp=N,0.2nm,0.5s						
MKAR	**Makanchi Array**	**44.33**	**297**	P	**P**	**22 06 31.1**	**-0.6**
	comp=N,0.4nm,0.6s,baz=79,slow=9.3,SNR=7.9						
	comp=N,0.4nm,0.6s						
KURK	**Kurchatov**	**45.20**	**303**	P	**P**	**22 06 38.0**	**-0.5**
KURK	**Kurchatov**	**45.20**	**303**	*e*P

KVTA	Katmai Vly 10	3.84	311			Pn	22 05 50.2 +2.2
BRLK	Bradley Lake	3.85	352			Pn	22 05 47.7 -0.5
MID	Middleton Isla	3.94	27	Pn		Pn	22 05 49.1 -0.2
MID				IAML			22 06 55.2
	comp=N,130nm,1.4s						
MID				IAML			22 07 37.0
	comp=E,110nm,1.5s						
CNTC	Contact Creek	4.03	307			Pn	22 05 52.2 +1.5
Q17K	Contact Creek	4.03	307	P		Pn	22 05 52.2 +1.5
	baz=122						
P19K	Oil Pt	4.12	335			Pn	22 05 52.9 +1.0
P19K				IAML			22 06 45.4
	comp=E,108nm,0.5s						
P19K				IAML			22 06 45.4
	comp=N,116nm,0.6s						
P19K	Oil Pt	4.12	335	P		Pn	22 05 52.9 +1.0
	baz=152						
SEW	Seward	4.16	2			Pn	22 05 51.6 -0.7
SEW	Seward	4.16	2	P		Pn	22 05 51.6 -0.7
	baz=183						
P23K	Montague Islan	4.24	17			Pn	22 05 53.3 -0.1
P23K	Montague Islan	4.24	17	P		Pn	22 05 53.3 -0.1
	baz=198						
O20K	Slope Mountain	4.39	341			Pn	22 05 55.7 +0.1
O20K	Slope Mountain	4.39	341	P		Pn	22 05 55.7 +0.1
	baz=159						
ILSW	Iliamna Southw	4.40	338	Pn		Pn	22 05 56.3 +0.5
ILSW				IAML			22 06 47.5
	comp=N,38nm,0.4s						
ILSW				IAML			22 06 56.8
	comp=E,28nm,1.2s						
P18K	Big Mountain,	4.50	322			Pn	22 05 57.2 +0.1
P18K	Big Mountain,	4.50	322	P		Pn	22 05 57.7 +0.6
	baz=137						
O22K	Cooper Landing	4.53	1			Pn	22 05 57.8 +0.4
O22K	Cooper Landing	4.53	1	P		Pn	22 05 58.0 +0.6
	baz=180						
SLKM	Skilak Lake	4.56	357			Pn	22 05 57.2 -0.7
Q16K	King Salmon	4.60	309			Pn	22 06 00.1 +1.7
Q16K	King Salmon	4.60	309	P		Pn	22 06 00.1 +1.7
	baz=123						
RSO	Redoubt South	4.77	342			Pn	22 06 01.5 +0.5
HIN	Hinchinbrook I	4.78	20	Pn		Pn	22 06 01.2 +0.3
HIN				IAML			22 06 53.1
	comp=E,42nm,1.5s						
HIN				IAML			22 06 54.4
	comp=N,37nm,0.4s						
P17K	Kvichak River	4.82	315			Pn	22 06 02.8 +1.5
P17K	Kvichak River	4.82	315	P		Pn	22 06 02.8 +1.5
	baz=129						
RDT	Redoubt	4.82	345			Pn	22 06 00.8 -0.7
CHGN	Chignik	4.82	278			Pn	22 06 02.8 +1.4
CHGN				IAML			22 09 09.0
	comp=N,72nm,0.1s						
O18K	Koktuh Hills	4.84	326			Pn	22 06 02.6 +0.8
O18K				IAML			22 06 59.6
	comp=N,34nm,0.9s						
O18K				IAML			22 07 11.8
	comp=E,18nm,0.7s						
O18K	Koktuh Hills	4.84	326	P		Pn	22 06 02.2 +0.4
	baz=141						
CAPN	Captain Cook N	4.87	352	Pn		Pn	22 06 03.5 +1.5
CAPN				IAML			22 07 23.3
	comp=E,71nm,1.0s						
O19K	Port Alsworth	4.87	332			Pn	22 06 03.0 +0.9
KAIM	Kayak Island	4.90	34	Pn		Pn	22 06 03.0 +0.5
KAIM				IAML			22 07 04.5
	comp=E,48nm,1.5s						
KAIM				IAML			22 07 06.7
	comp=N,46nm,1.0s						
KAIM	Kayak Island	4.90	34	P		Pn	22 06 02.5 0.0
	baz=218						
EYAK	Cordova Ski Ar	5.07	23			Pn	22 06 05.0 +0.1
EYAK	Cordova Ski Ar	5.07	23	P		Pn	22 06 05.0 +0.1
	baz=206						
RC01	Rabbit Creek A	5.14	0			Pn	22 06 04.8 -1.0
RC01				IAML			22 07 04.8
	comp=E,23nm,0.4s						
RC01				IAML			22 07 05.4
	comp=N,19nm,0.4s						
RC01	Rabbit Creek A	5.14	0	P		Pn	22 06 05.5 -0.3
	baz=180						
FIS	Fire Island	5.20	358	Pn		Pn	22 06 05.6 -1.0
FIS				IAML			22 07 10.1
	comp=N,40nm,0.6s						
RAGM	Ragged Mountai	5.20	29			Pn	22 06 07.2 +0.5
RAGM				IAML			22 07 15.6
	comp=E,42nm,0.5s						
SUCK	Suckling Hills	5.22	35			Pn	22 06 07.2 +0.3
SUCK				IAML			22 07 04.9
	comp=N,24nm,1.0s						
SUCK				IAML			22 07 16.2
	comp=E,27nm,1.3s						
HMT	Hamilton	5.28	32			Pn	22 06 08.6 +0.9
HMT				IAML			22 07 16.2
	comp=N,52nm,0.8s						
NICHA	Nichawak Mount	5.29	33			Pn	22 06 08.4 +0.6
GOAT	Goat Mountain	5.35	28			Pn	22 06 09.3 +0.6
P16K	Nushagak River	5.37	308			Pn	22 06 10.7 +1.7
P16K	Nushagak River	5.37	308	P		Pn	22 06 10.7 +1.7
	baz=121						
BGLC	Bering Glacier	5.42	37			Pn	22 06 10.3 +0.7
BGLC	Bering Glacier	5.42	37	P		Pn	22 06 10.3 +0.7
	baz=222						
N19K	Bonanza Creek	5.45	335	Pn		Pn	22 06 10.5 +0.4
N19K	Bonanza Creek	5.45	335	P		Pn	22 06 09.9 -0.2
	baz=151						
O17K	Koliganek Bris	5.45	318			Pn	22 06 11.0 +1.0
O17K	Koliganek Bris	5.45	318	P		Pn	22 06 11.0 +1.0
	baz=131						
S14K	Fog Glacier	5.46	277	P		Pn	22 06 12.3 +2.0
	baz=89						
VNFG	Fog Glacier, M	5.46	277			Pn	22 06 12.3 +2.0
BERG	Berg Lake	5.49	34			Pn	22 06 10.9 +0.3
KNK	Knik Glacier	5.51	7	Pn		Pn	22 06 12.8 +1.8
KNK	Knik Glacier	5.51	7	P		Pn	22 06 10.8 -0.2
	baz=188						
GRIN	Grindle Hills	5.53	36			Pn	22 06 11.8 +0.7
SUA	Susitna One	5.54	355	Pn		Pn	22 06 11.0 -0.4
SUA	Susitna One	5.54	355	P		Pn	22 06 10.9 -0.4
	baz=174						
SNH	Sunshine Point	5.62	38	Pn		Pn	22 06 13.1 +0.7
STLK	Strandline Lak	5.65	350			Pn	22 06 12.6 -0.3
KHIT	Khitrov Hills	5.67	35			Pn	22 06 13.4 +0.2
N18K	Kilae Creek	5.71	328			Pn	22 06 13.8 +0.1
N18K	Kilae Creek	5.71	328	P		Pn	22 06 13.8 +0.1
	baz=143						
BMRM	Bremner River	5.71	26			Pn	22 06 14.1 +0.4
BMRM	Bremner River	5.71	26	P		Pn	22 06 14.1 +0.4
	baz=211						
O16K	Kokwok River B	5.73	313			Pn	22 06 15.1 +1.2
O16K	Kokwok River B	5.73	313	P		Pn	22 06 15.1 +1.2
	baz=126						
WAX	Waxell Ridge	5.81	36			Pn	22 06 15.3 +0.2
GHO	Glory Hole Cre	5.84	4			Pn	22 06 15.7 +0.1
BARK	Barkley Ridge	5.90	38			Pn	22 06 16.7 +0.4
KLU	Klutina	5.90	18			Pn	22 06 16.9 +0.6
KLU	Klutina	5.90	18	P		Pn	22 06 16.9 +0.6
	baz=202						
SML	Sawmill	5.91	7	Pn		Pn	22 06 17.6 +1.2
MESA	MESA	5.94	41	Pn		Pn	22 06 16.7 -0.2
CRQM	Cirque	5.95	33			Pn	22 06 17.8 +0.7
CRQE	Cirque	5.96	34	P		Pn	22 06 17.4 +0.2
	baz=219						
SVW2	Sparrevohn	5.97	332			Pn	22 06 17.2 +0.1
N17K	Nushagak Hills	6.00	323	Pn		Pn	22 06 18.6 +0.9
N17K	Nushagak Hills	6.00	323	P		Pn	22 06 17.9 +0.2
	baz=136						
SCM	Sheep Creek Mo	6.03	11	Pn		Pn	22 06 19.7 +1.7
SCM	Sheep Creek Mo	6.03	11	P		Pn	22 06 18.8 +0.8
	baz=193						
TGL	Tana Glacier	6.05	35			Pn	22 06 18.8 +0.4
ISLE	Juniper Island	6.09	37			Pn	22 06 19.5 +0.4
SKT	Skwentna	6.10	352			Pn	22 06 19.2 +0.2
BAGL	Bagley Icefiel	6.10	39			Pn	22 06 19.3 +0.4
VRDI	Verde Repeater	6.24	30	Pn		Pn	22 06 21.3 +0.3
N25K	Chitina, Valde	6.27	23			Pn	22 06 22.2 +0.8
N25K	Chitina, Valde	6.27	23	P		Pn	22 06 21.9 +0.5
	baz=208						
O15K	Ungalikthiuk R	6.27	305			Pn	22 06 23.0 +1.6
O15K	Ungalikthiuk R	6.27	305	P		Pn	22 06 23.0 +1.6
	baz=117						
GLB	Gilahina Butte	6.32	27			Pn	22 06 22.8 +0.8
KIAG	Kiagna River	6.33	35			Pn	22 06 22.4 +0.2
SAMH	Samovar Hills	6.36	45			Pn	22 06 23.4 +0.8
M18K	Stony River	6.36	333			Pn	22 06 22.6 0.0
M18K	Stony River	6.36	333	P		Pn	22 06 22.6 0.0
	baz=148						
GRNC	Granite Creek	6.39	38			Pn	22 06 23.7 +0.5
TABL	Table Mountain	6.41	42			Pn	22 06 24.1 +0.7
M24K	Tolsona, Glenn	6.44	15	Pn		Pn	22 06 25.2 +1.6
MCARA	McCarthy VSAT	6.48	30			Pn	22 06 25.0 +0.7
MCARA	McCarthy VSAT	6.48	30	P		Pn	22 06 25.3 +1.1
	baz=216						
PTPK	Patty Peak	6.49	33			Pn	22 06 25.2 +0.7
N16K	Nishlik Lake	6.54	317			Pn	22 06 26.7 +1.6
N16K	Nishlik Lake	6.54	317	P		Pn	22 06 26.7 +1.6
	baz=130						
PCA	Pinnacle	6.55	47			Pn	22 06 26.0 +0.8
PINM	Pinnacle	6.55	47	P		Pn	22 06 26.0 +0.8
	baz=235						
BARN	Barnard Glacie	6.66	37			Pn	22 06 27.4 +0.6
WACK	Wrangell Chich	6.67	23			Pn	22 06 27.5 +0.5
PNL	Peninsula	6.69	52			Pn	22 06 27.5 +0.4
PNL	Peninsula	6.69	52	P		Pn	22 06 27.5 +0.4
	baz=241						
CTG	Chitna Glacier	6.70	38	P		Pn	22 06 27.8 +0.4
	baz=225						
CTGM	Chitina Glacie	6.70	38			Pn	22 06 27.4 +0.1
LOGN	Logan Glacier	6.72	40			Pn	22 06 27.9 +0.2
BCPM	Bancas Point	6.73	49	Pn		Pn	22 06 28.6 +1.0
M17K	Holitna River	6.74	327			Pn	22 06 29.1 +1.3
M17K	Holitna River	6.74	327	P		Pn	22 06 29.0 +1.2
	baz=141						
N15K	Kwethluk River	6.89	312			Pn	22 06 32.1 +2.3
M16K	Timber Creek	6.97	320	Pn		Pn	22 06 32.4 +1.5
M16K	Timber Creek	6.97	320	P		Pn	22 06 31.9 +0.9
	baz=133						
O14K	Tigyukauivet M	6.98	303	Pn		Pn	22 06 32.9 +1.9
O14K	Tigyukauivet M	6.98	303	P		Pn	22 06 32.9 +1.9
	baz=113						
L18K	Granite Mounta	7.20	333	Pn		Pn	22 06 34.2 +0.1
DHY	Denali Highway	7.24	9	Pn		Pn	22 06 35.8 +1.1
O29M	Mount Kennedy	7.37	49			Pn	22 06 37.3 +0.9
O29M	Mount Kennedy	7.37	49	P		Pn	22 06 37.3 +0.9
	baz=239						
P29M	Windy Craggy	7.42	55			Pn	22 06 37.5 +0.4
P29M	Windy Craggy	7.42	55	P		Pn	22 06 37.5 +0.4
	baz=245						
M15K	Kasigluk River	7.43	314			Pn	22 06 38.9 +1.8
M15K	Kasigluk River	7.43	314	P		Pn	22 06 38.9 +1.8
	baz=125						
N14K	Kuskokwak Cree	7.46	307			Pn	22 06 39.6 +2.0
N14K	Kuskokwak Cree	7.46	307	P		Pn	22 06 39.6 +2.0
	baz=117						
TRF	Thorofare Moun	7.51	358	Pn		Pn	22 06 39.6 +1.1
CAST	Castle Rocks	7.56	352	Pn		Pn	22 06 41.2 +2.1
M27K	Edge Creek, AK	7.59	29	Pn		Pn	22 06 40.6 +1.0
M27K	Edge Creek, AK	7.59	29	P		Pn	22 06 40.8 +1.2
	baz=216						
L16K	Owhat River	7.63	323			Pn	22 06 41.0 +1.1
L16K	Owhat River	7.63	323	P		Pn	22 06 40.9 +0.9
	baz=135						
KTH	Kantishna Hill	7.63	356			Pn	22 06 41.3 +1.3
MENT	Mentasta	7.65	21	Pn		Pn	22 06 41.7 +1.4
TTA	Tatalina	7.66	338	Pn		Pn	22 06 40.7 +0.2
YUK7	Dusty Glacier	7.67	49			Pn	22 06 42.0 +1.3
S31K	Pelican	7.69	69	Pn		Pn	22 06 40.6 -0.2
K20K	Telida	7.72	346	Pn		Pn	22 06 41.7 +0.5
M14K	Bethel	7.98	312	Pn		Pn	22 06 46.9 +2.2
HYT	Haines Junctio	8.09	48	Pn		Pn	22 06 47.9 +1.5
BPAW	Bear Paw Mtn.	8.18	356	Pn		Pn	22 06 47.7 +0.2
RIDG	Independent Ri	8.19	16	Pn		Pn	22 06 49.6 +2.0
BCAR	Beaver Creek A	8.20	26	Pn		Pn	22 06 51.8 +4.0
J20K	Nowinta River	8.52	347	Pn		Pn	22 06 53.4 +1.3
L14K	Kuka Creek	8.60	314			Pn	22 06 55.3 +2.1
O30N	Mendenhall	8.66	51	Pn		Pn	22 06 55.0 +0.8
M29M	Somme Creek	8.71	37			Pn	22 06 56.5 +1.6
CCB	Clear Creek Bu	8.77	6	Pn		Pn	22 06 56.9 +1.4
IL31		8.95	8	Pn		Pn	22 07 00.1 +2.1
ILAR	Eielson Array	8.95	8	Pn		Pn	22 06 60.0 +1.9
MDM	Murphy Dome	9.06	4	Pn		Pn	22 07 02.6 +3.1
J16K	Anvik River	9.14	328	Pn		Pn	22 07 02.5 +1.9
WHY	Whitehorse	9.15	53	Pn		Pn	22 07 01.8 +0.9
I23K	Minto, Yukon-K	9.22	1	Pn		Pn	22 07 03.5 +1.8
I21K	Tanana	9.31	354	Pn		Pn	22 07 05.0 +2.1
P32M	Atlin	9.33	60	Pn		Pn	22 07 03.8 +0.5
M30M	Minto, Yukon	9.38	40	Pn		Pn	22 07 05.3 +1.3
H24K	Noodor Dome	9.95	5	Pn		Pn	22 07 14.3 +2.5
IMAR	Indian Mountai	10.23	351	Pn		Pn	22 07 15.8 +0.3
H17K	Granite Mounta	10.27	335	Pn		Pn	22 07 16.6 +0.5
G23K	Bananza Creek	10.79	360	Pn		Pn	22 07 24.0 +0.8
FYU	Fort Yukon	10.86	10	Pn		Pn	22 07 26.1 +1.9
BMAR	Burnt Mountain	11.76	10	Pn		Pn	22 07 37.9 +1.4

IDC 02 22:08:07.4±3.4, 32°37N×89°62E, h0km, mb3.3/2, mbtmp3.3/5, ML2.8/2, Error ellipse: s-maj=76.1km s-min=35.7km az=60.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	15.46	341	Pn	Pn	22 11 44.9	-2.0
	baz=152,slow=7.4,SNR=2.7						
	2.0nm,0.7s						
CMAR	Chiang Mai Arr	16.20	147	Pn	Pn	22 11 56.5	0.0
	0.3nm,0.4s,baz=323,slow=10,SNR=4.2						
KURBB	Kurchatov Arra	20.00	339	P	Pn	22 12 42.4	-0.7
	baz=151,slow=10.0,SNR=9.5						
	1.5nm,0.9s						
SONM	Songino Array	20.01	35	P	P	22 12 42.4	+0.6
	1.8nm,0.9s,baz=216,slow=12,SNR=5.3						
	1.8nm,0.9s						
ZALV	Zalesovo Beam	21.84	352	P	P	22 12 59.4	-1.9
	1.0nm,0.8s,baz=182,slow=9.9,SNR=4.6						
	1.0nm,0.8s						

IDC 02 22:10:24.4±1.5, 7°03S×123°41E, h0km, mb3.7/2, mbtmp3.8/4, ML3.8/2, Error ellipse: s-maj=195.3km s-min=26.3km az=59.0
NEIC 02 22:10:43.6±1.4, 7°.6S±0°.1×122°.79E±0°.09, h267km±11km, mb4.0/6, Error ellipse: s-maj=20.0km s-min=8.1km az=212.0

ISC 02 22:10:47.6±1.0, 8°.0S±0°.1×122°.95E±0°.09, h250km, n31, σ1s11/32, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	0.94	229		Pn	22 11 21.2	-1.1
MMRI				Sn	S	22 11 50.2	+0.6
MMRI	Maumere	0.94	229	P	Pn	22 11 21.8	-0.5
SOEI	Soe	2.17	143		Pn	22 11 32.0	+0.2
SOEI				Sn	S	22 12 07.0	+0.4
SOEI	Soe	2.17	143	P	Pn	22 11 32.0	+0.2
PLAI	Plampang	5.18	261	P	Pn	22 12 04.8	-0.8
JAGI	Jajag, Banyuwa	8.72	266	P	Pn	22 12 48.8	-1.3
MTN	Manton Dam	9.37	121	Pn	Pn	22 12 57.7	-0.6
MTN	Manton Dam	9.37	121	P	Pn	22 12 57.8	-0.6
KNRA	Kununurra	9.51	144	Pn	Pn	22 13 00.3	+0.3
KNRA	Kununurra	9.51	144	P	Pn	22 13 00.7	+0.7
FITZ	Fitzroy Crossi	10.36	166	Pn	Pn	22 13 11.4	+0.6
FITZ	Fitzroy Crossi	10.36	166	P	P	22 13 14.4	-1.6
KDU	Kakadu	10.46	117	P	Pn	22 13 11.7	-0.3
FAKI	Fak Fak	10.55	62	Pn	Pn	22 13 08.6	-4.6
UGM	Wanagama	12.31	270	Pn	Pn	22 13 27.7	-7.4
MBWA	Marble Bar	13.44	193	P	P	22 13 51.6	+1.4
MBWA	Marble Bar	13.44	193	P	P	22 13 53.1	+2.9
PSA00	Pilbara Seismi	13.81	192		Pn	22 13 52.4	-1.1
WB0	Warramunga Arr	16.11	138	P	P	22 14 18.5	-1.3
WB0				IAmb	IAmb	22 14 29.7	
	comp=Z,7.9nm,1.1s						
WRA	Warramunga Arr	16.20	138	P	P	22 14 18.9	-1.9
WRA	Warramunga Arr	16.20	138	Pn	P	22 14 21.0	+0.3
	comp=Z,0.3nm,0.3s,baz=315,slow=12,SNR=9.7						
WRA				Sn	S	22 17 19.3	+1.5
	comp=Z,0.2nm,0.3s,baz=315,slow=25,SNR=2.2						
	comp=Z,0.7nm,0.3s						
WRAB	Tennant Creek	16.20	138		Pn	22 14 21.3	-0.9
WB2	Warramunga Arr	16.21	138	P	Pn	22 14 21.6	-0.7
WB2				IAmb	IAmb	22 14 31.6	
	comp=Z,12nm,1.4s						
WR0	Warramunga Arr	16.34	138	Pn	Pn	22 14 23.2	-0.7
WR0				IAmb	IAmb	22 14 43.4	
	comp=Z,13nm,1.5s						
WRKA	Warakurna	17.68	164	P	Pn	22 14 39.2	-0.4
AS31	Alice Springs	18.78	147	P	Pn	22 14 51.5	-0.9
AS31				IAmb	IAmb	22 14 55.2	
	comp=Z,1.9nm,0.7s						
ASAR	Alice Springs	18.78	147	P	Pn	22 14 51.3	-1.2
	comp=Z,0.4nm,0.3s,baz=325,slow=11,SNR=27						
	comp=Z,5.1nm,0.7s						
MEEK	Meekatharra	18.98	192	P	Pn	22 14 54.3	-0.4
QIS	Mount Isa	20.37	129	P	P	22 15 05.7	-0.1
MKAR	Makanchi Array	65.44	331	P	P	22 21 05.5	+1.7
	comp=Z,0.4nm,0.6s,baz=140,slow=7.3,SNR=8.0						
	comp=Z,0.4nm,0.6s						
ZALV	Zalesovo Beam	69.58	337	P	P	22 21 30.1	+0.6
	comp=Z,0.4nm,0.5s,baz=139,slow=6.2,SNR=2.7						
	comp=Z,0.4nm,0.5s						

IDC 02 22:14:03.0±0.8, 6°.15S×142°.91E, h0km, mb4.1/10, mbtmp4.1/13, ML4.2/2, MS3.6/2, Error ellipse: s-maj=28.8km s-min=16.3km az=78.0
NEIC 02 22:14:05.2±2.2, 6°.2S±0°.1×142°.7E±0°.1, h10km±1km, mb4.4/24, Error ellipse: s-maj=18.2km s-min=17.0km az=104.0

ISC 02 22:14:05.2±0.6, 6°.26S±0°.06×142°.74E±0°.07, h10km, n45, σ1s39/41, mb4.3/18, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	Tabubil	1.80	303	P	Pn	22 14 37.1	+0.7
PMG	Port Moresby	5.38	126		Pn	22 15 26.0	+0.3
PMG	Port Moresby	5.38	126	Pn	Pn	22 15 24.1	-1.6
	27nm,0.5s,baz=332,slow=4.6,SNR=18						
PMG				Sn	Sn	22 16 28.2	+0.4
	2.4nm,0.3s,baz=151,slow=23,SNR=7.8						
MTN	Manton Dam	13.18	239	Pn	Pn	22 17 11.8	-0.8
CTA	Charters Tower	14.17	166	LR	LR	22 23 19.8	
	comp=Z,131nm,18.8s,baz=188,slow=39						
WR0	Warramunga Arr	15.78	210	Pn	Pn	22 17 48.0	+0.3
WR0				IAmb	IAmb	22 17 58.6	
	comp=Z,9.4nm,0.7s						
WRAB	Tennant Creek	15.85	210	Pn	Pn	22 17 49.1	+0.4
WB2	Warramunga Arr	15.86	210	Pn	Pn	22 17 49.9	+1.1
WRA	Warramunga Arr	15.86	210	Pn	Pn	22 17 48.5	-0.3
WRA	Warramunga Arr	15.86	210	Pn	Pn	22 17 49.4	+0.5
	comp=Z,0.6nm,0.3s,baz=32,slow=12,SNR=6.7						
WRA				Sn	Sn	22 20 40.2	-4.7
	comp=Z,0.3nm,0.3s,baz=29,slow=23,SNR=1.9						
WRA				Lg	Lg	22 22 31.7	
	comp=Z,0.3nm,0.3s,baz=25,slow=28,SNR=4.8						
	comp=Z,2.8nm,0.7s						
KNRA	Kununurra	16.60	235	Pn	Pn	22 17 57.2	-1.0
KNRA				IAmb	IAmb	22 18 00.6	
	comp=Z,16nm,0.9s						
AS31	Alice Springs	19.28	205	P	P	22 18 33.3	+3.0
ASAR	Alice Springs	19.28	205		P	22 18 32.8	+2.4
ASAR	Alice Springs	19.28	205	P	P	22 18 32.3	+1.9
	comp=Z,1.6nm,0.3s,baz=34,slow=8.2,SNR=100						
ASAR				S	Sn	22 22 05.7	-2.1
	comp=Z,1.5nm,0.7s,baz=16,slow=27,SNR=5.1						
ASAR				Lg	Lg	22 24 18.0	
	baz=11,slow=27,SNR=4.3						
	comp=Z,30nm,0.9s						
FITZ	Fitzroy Crossi	20.41	233		P	22 18 44.0	+1.3
EIDS	Eidsvold	20.62	158	P	P	22 18 46.1	+1.2
EIDS				IAmb	IAmb	22 18 52.0	
	comp=Z,11nm,1.0s						
STKA	Stephens Creek	25.51	182	P	P	22 19 33.4	-0.6
STKA	Stephens Creek	25.51	182	P	P	22 19 33.7	-0.3
	comp=Z,1.4nm,0.6s,baz=337,slow=10,SNR=4.9						
	comp=Z,1.4nm,0.6s						
FORT	Forrest	28.02	208	P	P	22 19 57.5	+0.9
TOO	Toolangi	31.27	176	P	P	22 20 26.7	+1.3
TOO				IAmb	IAmb	22 20 44.6	
	comp=Z,5.0nm,0.9s						
JNU	Nakatsue	40.75	345	P	P	22 21 44.8	-1.7
JNU				IAmb	IAmb	22 22 18.0	
	comp=Z,13nm,1.2s						
CMAR	Chiang Mai Arr	49.68	301	P	P	22 22 57.5	-0.2
	comp=Z,1.1nm,0.3s,baz=123,slow=7.0,SNR=7.4						
	comp=Z,1.1nm,0.3s						
USRK	Ussuriysk Ar.	51.15	350	P	P	22 23 07.4	-1.0
	comp=Z,2.0nm,0.9s,baz=167,slow=9.7,SNR=4.4						
	comp=Z,2.0nm,0.9s						
SONM	Songino Array	62.64	333	P	P	22 24 30.1	0.0
	comp=Z,0.3nm,0.4s,baz=145,slow=7.9,SNR=2.0						
	comp=Z,0.3nm,0.4s						
MK31	Makanchi Array	75.03	322	P	P	22 25 47.4	+0.1
MK31				IAmb	IAmb	22 25 49.0	
	comp=Z,3.7nm,1.4s						
MKAR	Makanchi Array	75.03	322	P	P	22 25 46.9	-0.3
MKAR	Makanchi Array	75.03	322	P	P	22 25 46.5	-0.7
	comp=Z,1.5nm,0.9s,baz=110,slow=7.3,SNR=12						
	comp=Z,1.5nm,0.9s						
MAKZ	Makanchi	75.23	322	P	P	22 25 47.3	-1.1
MAKZ				IAmb	IAmb	22 25 49.7	
	comp=Z,2.9nm,1.3s						
NIL	Nilore	76.65	307	P	P	22 25 56.6	-0.1
ZALV	Zalesovo Beam	77.01	329	P	P	22 25 56.8	-1.4
	comp=Z,0.6nm,0.5s,baz=124,slow=7.5,SNR=2.5						
	comp=Z,0.6nm,0.5s						
TIXI	Tiksi	78.29	356	LR	LR	23 01 20.7	
	comp=Z,51nm,18.8s,baz=261,slow=36						
KURBB	Kurchatov Arra	78.92	324	P	P	22 26 08.7	-0.3
	comp=Z,0.9nm,0.9s,baz=115,slow=4.3,SNR=7.0						
	comp=Z,0.9nm,0.9s						
M14K	Bethel	79.42	24	P	P	22 26 10.9	-0.5
L14K	Kuka Creek	79.46	24	P	P	22 26 11.3	-0.3
K15K	Wolf Creek Mou	80.45	23	P	P	22 26 16.0	-1.0
K15K				IAmb	IAmb	22 27

baz=170
ENA *e*S Sg 22 28 19.4 +0.9
baz=170
YHNB Yeheng 0.30 269 *e*P Pb 22 28 17.3 +0.2
baz=268
YHNB *e*S Sg 22 28 21.0 +0.9
baz=268
NSK Sanguang 0.32 270 *e*P Pb 22 28 17.7 +0.3
baz=269
NSK *e*S Sg 22 28 21.5 +1.0
baz=269
TIPB Shuangxi 0.32 21 *e*P Pb 22 28 17.0 -0.4
baz=20
TIPB *e*S Sg 22 28 20.9 +0.3
baz=20
NACB Ninganchiao 0.51 191 *e*S Sb 22 28 28.2 +0.2
baz=191

JMA 02 22:28:44.4±0.1, 24°2′N±0°3′×123°8′E±0°3′, h15km±1km, MV1.6/9, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.14**	**313**	*i* P	Pg	22 28 48.1	-0.1
JKRS	**Kuro-shima**	**0.15**	**90**	*i* P	Pg	22 28 48.4	0.0
JKRS				*e*S	Sb	22 28 51.5	-0.3
HATJ	**Hateruma jima**	**0.18**	**191**	*i* P	Pg	22 28 48.6	-0.2
HATJ				*e*S	Sg	22 28 52.0	+0.2
JIJ	**Ishigaki jima**	**0.30**	**65**	*i* P	Pg	22 28 50.5	-0.2
JIJ				*e*S	Sg	22 28 55.0	-0.1
JISG	**Ishigakijimahi**	**0.55**	**51**	P	Pg	22 28 55.1	-0.1
JISG				*e*S	Sg	22 29 02.9	+0.3
JYNG	**Yonagunijimaku**	**0.85**	**285**	*e*P	Pb	22 29 00.5	-0.2
JYNG				*e*S	Sg	22 29 12.5	+0.5
JTJ	**Tarama**	**0.88**	**63**	*e*S	Sg	22 29 13.8	+0.8

MOS ***02*** *22:36:04.1±0.9, 33°.46N×140°.85E, h89km, mb4.8/44, Error ellipse: s-maj=8.1km s-min=4.8km az=115.3*
BJI ***02*** *22:36:05.5±0.0, 33°.26N×141°.01E, h113km, mb4.5/59, mB4.9/20*
JMA ***02*** *22:36:07.5±0.2, 33°.5N±0°.4×140°.9E±0°.9, h83km±2km, MD4.6/34, MW4.6/34, E OFF HACHIJOJIMA ISLAND*
JMA Felt I J1 at E OFF HACHIJOJIMA ISLAND.
NEIC ***02*** *22:36:08.0±1.5, 33°.44N±0°.06×140°.81E±0°.08, h92km±6km, mb4.5/178, Error ellipse: s-maj=10.6km s-min=8.3km az=117.0*
NIED ***02*** *22:36:07.5, 33°.54N×140°.85E, h83km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=1.93; Mθθ=0.91; Mφφ 1.02; Mrθ=-2.65; Mθφ=0.37; Mφr=6.76; Fault plane solution: M0 7.44000×10^15 NP1: φs=158.00000°, δ=84.00000°, λ=-88.00000°. NP2: φs=322.00000°, δ=6.00000°, λ=-106.00000°.*
IDC ***02*** *22:36:07.5±0.8, 33°.47N×140°.78E, h91km±5km, mb4.0/30, mbtmp4.3/37, MS3.3/9 Error ellipse: s-maj=12.9km s-min=9.0km az=83.0*

ISC 02 22:36:07.1±0.6, 33°.47N±0°.04×140°.83E±0°.05, h90km±4km, n573, σ1°12/574, mb4.5/159, 10C-15D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.92**	**247**		**Pn**	**22 36 26.5**	**+0.6**
JHJ2				Sn	**Sn**	**22 36 40.8**	**+0.8**
JHJ2	**Mitsune**	**0.92**	**247**	P	**Pn**	**22 36 26.7**	**+0.8**
JHJ2	**Mitsune**	**0.92**	**247**	⇓P	**Pn**	22 36 26.7	+0.8
JHJ2				⇓S	**Sn**	**22 36 40.5**	**+0.5**
JHJ2	**Mitsune**	**0.92**	**247**	A	A	22 36 26.7	
	comp=Z,16nm,0.6s,comp=E,91nm,0.2s,comp=N,58nm,0.2s						
JHJ	**Hachijo jima 2**	**0.94**	**248**	P	**Pn**	**22 36 26.1**	**0.0**
	comp=N,6μm,0.4s,baz=357,slow=23,SNR=1871						
JHJ				S	**Sn**	**22 36 40.5**	**+0.1**
	comp=N,17μm,0.3s,baz=132,slow=23,SNR=26						
JHCJ	**Hachijojimakas**	**0.95**	**245**	⇓*i* P	**Pn**	**22 36 26.8**	**+0.6**
JHCJ				⇓*e*S	**Sn**	**22 36 40.6**	**0.0**
JHCJ	**Hachijojimakas**	**0.95**	**245**	A	A	22 36 26.8	
	comp=Z,10.0nm,1.7s,comp=E,19nm,1.1s,comp=N,15nm,0.9s						
JMKN	**Mikurajimanish**	**1.11**	**292**	⇓P	**Pn**	**22 36 28.2**	**+0.1**
JMKN				⇓*e*S	**Sn**	**22 36 43.8**	**-0.1**
JMKN	**Mikurajimanish**	**1.11**	**292**	A	A	22 36 28.2	
	comp=E,16nm,1.1s,comp=N,10.0nm,0.8s						
BSO1	**Boso 1**	**1.18**	**6**	P	**Pn**	**22 36 28.3**	**-0.1**
JMYK	**Miyake Tsubota**	**1.22**	**299**	P	**Pn**	**22 36 29.6**	**+0.3**
JMYK				S	**Sn**	**22 36 46.0**	**0.0**
JMYK	**Miyake Tsubota**	**1.22**	**299**	A	A	22 36 29.6	
	comp=E,30nm,0.6s,comp=N,34nm,0.7s						
JAOM	**Aogashimamukai**	**1.35**	**222**	⇓P	**Pn**	**22 36 31.9**	**+0.9**
JAOM				⇓*e*S	**Sn**	**22 36 50.5**	**+1.6**
JAOM	**Aogashimamukai**	**1.35**	**222**	A	A	22 36 31.9	
	comp=E,18nm,1.6s,comp=N,19nm,3.5s						
BSO3	**Boso 3**	**1.35**	**349**	*i* P	**Pn**	**22 36 30.8**	**+0.1**
JNIO	**Niijimaoohara**	**1.56**	**305**	A	A	22 36 33.8	
	comp=E,27nm,2.3s,comp=N,27nm,0.3s						
BSO4	**Boso 4**	**1.57**	**345**	P	**Pn**	**22 36 33.8**	**+0.1**
BSO4				*e*S	**Sn**	**22 36 53.4**	**-0.3**
JKO	**Kozu shima**	**1.58**	**297**	P	**Pn**	**22 36 34.4**	**+0.6**
JKO				*e*S	**Sn**	**22 36 54.4**	**+0.3**
JKO	**Kozu shima**	**1.58**	**297**	A	A	22 36 34.4	
	comp=E,29nm,1.5s,comp=N,22nm,1.5s						
JSKK	**Shikinejimakit**	**1.60**	**303**	P	**Pn**	**22 36 34.2**	**+0.1**
JSKK				*e*S	**Sn**	**22 36 54.4**	**-0.1**
JSKK	**Shikinejimakit**	**1.60**	**303**	A	A	22 36 34.2	
	comp=E,23nm,1.4s,comp=N,12nm,1.7s						
JTHY	**Toshimahigashi**	**1.65**	**310**	P	**Pn**	**22 36 35.2**	**+0.4**
JTHY				S	**Sn**	**22 36 56.1**	**+0.3**
JTHY	**Toshimahigashi**	**1.65**	**310**	A	A	22 36 35.2	
	comp=E,17nm,0.8s,comp=N,16nm,1.9s						
JIM2	**Oshima 3**	**1.70**	**317**	⇓*i* P	**Pn**	**22 36 35.1**	**-0.3**
JIM2				⇓*e*S	**Sn**	**22 36 55.3**	**-1.6**
JIM2	**Oshima 3**	**1.70**	**317**	A	A	22 36 35.1	
	comp=E,16nm,0.6s,comp=N,22nm,0.4s						
TATJ	**Tateyama 2**	**1.74**	**334**	A	A	22 36 35.8	
	comp=E,16nm,0.9s,comp=N,14nm,0.6s						
JKUC	**kamogawauchiur**	**1.76**	**343**	A	A	22 36 35.9	
	comp=E,10.0nm,0.5s,comp=N,10.0nm,0.5s						
JYO	**Yokosk**	**1.99**	**331**	A	A	22 36 39.2	
	comp=E,25nm,0.5s,comp=N,18nm,0.7s						
JIZS	**Izushimoda**	**2.04**	**308**	P	**Pn**	**22 36 40.4**	**+0.5**
JIZS				S	**Sn**	**22 37 05.1**	**+0.3**
JIZS	**Izushimoda**	**2.04**	**308**	A	A	22 36 40.4	
	comp=E,13nm,0.9s,comp=N,7.0nm,0.8s						
KTJ3	**Kamata3**	**2.06**	**315**	⇓P	**Pn**	**22 36 40.0**	**-0.1**
KTJ3				⇓S	**Sn**	**22 37 03.6**	**-1.6**
JHTM	**Izuhatsuma**	**2.11**	**315**	A	A	22 36 41.0	
	comp=E,12nm,0.9s,comp=N,14nm,0.3s						
JSG	**Sagara**	**2.50**	**299**		**Pn**	**22 36 47.0**	**+1.1**
JSG				Sn	**Sn**	**22 37 17.6**	**+1.9**
JSG	**Sagara**	**2.50**	**299**	P	**Pn**	**22 36 48.1**	**+2.2**
JGF	**Kuroka**	**3.56**	**307**		**Pn**	**22 37 01.5**	**+1.2**
JGF				Sn	**Sn**	**22 37 43.0**	**+1.5**
JGF	**Kuroka**	**3.56**	**307**	P	**Pn**	**22 37 02.1**	**+1.8**
INU	**Inuyama**	**3.66**	**302**		**Pn**	**22 37 02.9**	**+1.3**
INU				Sn	**Sn**	**22 37 44.5**	**+0.7**
INU	**Inuyama**	**3.66**	**302**	P	**Pn**	**22 37 03.3**	**+1.7**
MJAR	**Matsushiro Arr**	**3.74**	**326**	P	**Pn**	**22 37 02.3**	**-0.3**
	comp=N,25nm,0.3s,baz=220,slow=2.4,SNR=167						
MJAR				S	**Sn**	**22 37 45.8**	**+0.2**
	comp=N,73nm,0.5s,baz=144,slow=25,SNR=8.7						
MAJO	**Matsushiro**	**3.74**	**326**		**Pn**	**22 37 03.1**	**+0.4**
MAJO				Sn	**Sn**	**22 37 46.2**	**+0.5**
MAJO	**Matsushiro**	**3.74**	**326**	P	**Pn**	**22 37 03.4**	**+0.7**
MAJO	**Matsushiro**	**3.74**	**326**	*d* iP	**Pn**	**22 37 03.0**	**+0.3**
MJB9	**Matsu-Tunnel**	**3.75**	**326**		**Pn**	**22 37 04.3**	**+1.6**
MJB9				Sn	**Sn**	**22 37 46.3**	**+0.5**
JMM	**Marumori**	**4.38**	**360**		**Pn**	**22 37 09.6**	**-1.7**
JMM	**Marumori**	**4.38**	**360**	P	**Pn**	**22 37 11.2**	**-0.1**
JSD	**Sado**	**5.01**	**336**	Pn	**Pn**	**22 37 18.4**	**-1.4**
JSD	**Sado**	**5.01**	**336**	P	**Pn**	**22 37 21.0**	**+1.2**
JMN	**Monobe**	**5.80**	**274**	Pn	**Pn**	**22 37 30.7**	**0.0**
JMN	**Monobe**	**5.80**	**274**	P	**Pn**	**22 37 32.4**	**+1.7**
JCJ	**Chichijima**	**6.46**	**169**	Pn	**Pn**	**22 37 38.3**	**-1.4**
JCJ	**Chichijima**	**6.46**	**169**	P	Pn	22 37 25.7	-14
	comp=N,258nm,0.5s						
JCJ	**Chichijima**	**6.46**	**169**	P	Pn	22 37 33.6	-6.1
	comp=N,229nm,0.3s,baz=297,slow=20,SNR=34						
JCJ				S	Sn	22 38 41.8	-10
	comp=N,93nm,0.3s,baz=265,slow=21,SNR=2.1						
JTM	**Tenmabayashi**	**7.30**	**1**	Pn	**Pn**	**22 37 49.0**	**-2.0**
JTM	**Tenmabayashi**	**7.30**	**1**	P	**Pn**	**22 37 49.1**	**-2.0**
JNU	**Nakatsue**	**8.34**	**270**		**Pn**	**22 38 05.6**	**+0.4**
JNU	**Nakatsue**	**8.34**	**270**	P	**Pn**	**22 38 05.5**	**+0.2**
	comp=N,9,9nm,0.4s,baz=56,slow=2.0,SNR=11						
JNU				S	**Sn**	**22 39 37.0**	**-0.7**
	comp=N,9.2nm,1.0s,baz=246,slow=2.3,SNR=1.9						
JNU				LR	LR	22 40 26.4	
	comp=N,121nm,21.3s,baz=82,slow=31						
ERM	**Erimo**	**8.72**	**12**	Pn	**Pn**	**22 38 08.9**	**-1.5**
ERM	**Erimo**	**8.72**	**12**	*i* P	**Pn**	**22 38 07.7**	**-2.7**
NMR	**Nemuro--Hokkai**	**10.60**	**20**	*e*P	Pn	22 38 31.3	-4.6
ASAJ	**Asahikawa**	**10.72**	**7**	P	**Pn**	**22 38 38.0**	**+0.5**
ASAJ	**Asahikawa**	**10.72**	**7**	P	**Pn**	**22 38 38.0**	**+0.5**
	comp=N,9,0nm,0.4s,baz=191,slow=13,SNR=4.9						
ASAJ				S	Sn	22 40 26.4	-9.0
	comp=N,8.0nm,0.5s,baz=8.7,slow=25,SNR=1.7						
ASAJ				LR	LR	22 43 44.5	
	comp=N,100nm,20.8s,baz=37,slow=43						
JKA	**Kamikawa-asahi**	**10.72**	**7**	Pn	**Pn**	**22 38 35.1**	**-2.4**
KSRS	**Korea Array**	**11.25**	**294**	P	**Pn**	**22 38 45.1**	**+0.3**
	comp=N,0.9nm,0.5s,baz=103,slow=14,SNR=3.6						
KSRS				LR	LR	22 42 53.1	
	comp=N,154nm,20.4s,baz=115,slow=36						
YUK	**Yuzh-Kuril'sk**	**11.25**	**19**	P	**Pn**	**22 38 42.7**	**-2.1**
SHO	**Shikotan**	**11.39**	**23**	P	**Pn**	**22 38 44.8**	**-1.8**
JOW	**Kunigami**	**12.71**	**242**	P	**Pn**	**22 39 04.2**	**-0.3**
	comp=N,16nm,0.9s,baz=254,slow=9.5,SNR=2.4						
JOW				LR	LR	22 43 30.8	
	comp=N,236nm,21.4s,baz=314,slow=35						
USRK	**Ussuriysk Ar.**	**12.72**	**330**	P	**Pn**	**22 39 03.8**	**-0.8**
	comp=N,1.9nm,0.6s,baz=146,slow=12,SNR=5.6						
MDJ	**Mudanjiang**	**14.13**	**325**	P	**P**	**22 39 27.0**	**-0.8**
MDJ				pmax	pmax		
	comp=N,7.0nm,1.2s						
MDJ				pmax	pmax		
	comp=N,490nm,6.2s						
KLR	**Kul'dur**	**17.13**	**339**	*ce*P	**Pn**	**22 39 58.2**	**-2.5**
KLR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KLR	**Kul'dur**	**17.13**	**339**	P	**Pn**	**22 39 59.3**	**-1.4**
	comp=Z,4.2nm,0.6s,baz=136,slow=11,SNR=17						
KLR				LR	LR	22 45 41.6	
	comp=Z,108nm,20.1s,baz=186,slow=34						
NJ2	**Nanjing**	**18.53**	**272**	*e*P	**P**	**22 40 17.5**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,9.0nm,1.5s						
NACB	**Ninganchiao**	**19.21**	**246**	P	**P**	**22 40 22.8**	**-1.2**
SSLB	**Suanglung**	**19.91**	**246**	P	**P**	**22 40 30.4**	**-1.3**
SSLB				IAmb	IAmb	22 40 32.3	
	comp=Z,40nm,1.0s						
TPUB	**Ta-pu**	**20.42**	**245**	P	**P**	**22 40 36.3**	**-0.9**
TPUB				IAmb	IAmb	22 40 41.5	
	comp=Z,22nm,0.8s						
BJI	**Beijing**	**20.78**	**295**	P	**P**	**22 40 42.5**	**+1.7**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BJI				pmax	pmax		
	comp=Z,67nm,4.5s						
HNS	**HongShan**	**21.61**	**288**	⇑P	**P**	**22 40 47.8**	**-2.0**
HNS				pmax	pmax		
	comp=Z,22nm,1.3s						
XLT	**XiLinHaoTe**	**21.87**	**306**	*e*P	**P**	**22 40 54.9**	**+2.3**
XLT				sP	sP	22 41 25.5	+4.3
XLT				pmax	pmax		
	comp=Z,59nm,1.1s						
XLT				pmax	pmax		
	comp=Z,150nm,4.3s						
ZEA	**Zeya**	**22.44**	**339**	*e*P	**P**	**22 40 59.5**	**+1.1**
ZEA				pmax	pmax		
	comp=E,10.0nm,0.9s						
ZEA				pmax	pmax		
	comp=N,20nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,50nm,0.8s						
WHN	**Wuhan**	**22.62**	**270**	⇑*i* P	**P**	**22 41 00.7**	**+0.1**
WHN				pmax	pmax		
	comp=Z,74nm,0.6s						
LYN	**LuoYang**	**23.50**	**281**	*e*P	**P**	**22 41 11.8**	**+2.8**
LYN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**24.38**	**296**	*e*P	**P**	**22 41 17.0**	**0.0**
HHC				pmax	pmax		
	comp=Z,16nm,1.2s						
HHC				pmax	pmax		
	comp=Z,120nm,4.0s						
BTO	**Baotou**	**25.51**	**295**	*e*P	**P**	**22 41 28.3**	**+1.0**
BTO				PP	**PnPn**	**22 42 12.2**	**+4.1**
BTO				pmax	pmax		
	comp=Z,14nm,1.0s						
BTO				pmax	pmax		
	comp=Z,330nm,5.6s						
BTO				LR	LR		
	comp=Z,390nm,5.4s						
BTO				LR	LR		
	comp=Z,380nm,4.8s						
BTO				LR	LR		
	comp=Z,280nm,8.4s						
XAN	**Xi'an**	**26.48**	**280**	⇓P	**P**	**22 41 34.6**	**-1.4**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ENH	**Enshi**	**26.75**	**272**	P	**P**	**22 41 37.0**	**-1.5**
ENH				IAmb	IAmb	22 41 38.5	
	comp=Z,18nm,1.0s						
MA2	**Magadan**	**26.93**	**11**	LR	LR	22 53 05.6	
	comp=Z,60nm,19.4s,baz=120,slow=38						
H11N2	**WAKE ISLAND Hy**	**26.94**	**114**	T	T	23 10 40.5	
	baz=306,slow=75,SNR=22						
H11N1	**WAKE ISLAND Hy**	**26.94**	**114**	T	T	23 11 07.1	
	baz=306,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**26.96**	**114**	T	T	23 10 59.5	
	baz=306,slow=75,SNR=22						
H11S3	**WAKE ISLAND Hy**	**27.52**	**116**	T	T	23 11 27.6	
	baz=307,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**27.52**	**116**	T	T	23 11 24.8	
	baz=307,slow=75,SNR=10						
H11S2	**WAKE ISLAND Hy**	**27.53**	**116**	T	T	23 11 25.5	
	baz=307,slow=75,SNR=17						
ULN	**Ulaanbaatar**	**29.11**	**310**	*ce*P	**P**	**22 41 59.0**	**-0.4**
ULN				pmax	pmax		
	comp=Z,14nm,1.7s						
YAK	**Yakutsk**	**29.45**	**349**	LR	LR	22 53 50.6	
	comp=Z,86nm,19.7s,baz=173,slow=36						
SONM	**Songino Array**	**29.52**	**309**	P	**P**	**22 42 04.2**	**+1.1**
SONM	**Songino Array**	**29.52**	**309**	P	**P**	**22 42 04.2**	**+1.1**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM	**Songino Array**	**29.52**	**309**	P	**P**	**22 42 03.2**	**+0.1**
	comp=Z,2.9nm,0.6s,baz=117,slow=9.3,SNR=23						
	comp=Z,2.9nm,0.6s						
BOD	**Bodaibo**	**30.35**	**331**	*e*P	**P**	**22 42 10.0**	**-0.1**
BOD				pmax	pmax		
	comp=Z,16nm,1.1s						
SEY	**Seymchan**	**30.37**	**10**	*ce*P	**P**	**22 42 11.1**	**+0.9**
SEY				pmax	pmax		
	comp=Z,5.0nm,1.3s						
SEY	**Seymchan**	**30.37**	**10**	P	**P**	**22 42 10.6**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=179,slow=23,SNR=1.7						
	comp=Z,1.3nm,0.3s						
LZH	**Lanzhou**	**30.37**	**285**	*e*P	**P**	**22 42 10.8**	**0.0**
LZH				pP	pP	22 42 31.6	+0.4
LZH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
QIZ	**Qiongzhong**	**31.15**	**250**	P	**P**	**22 42 17.2**	**-0.3**
QIZ				pP	**pP**	**22 42 38.1**	**+0.2**
QIZ				pmax	pmax		
	comp=Z,16nm,1.0s						
QIZ				LR	LR		
	comp=Z,120nm,15.9s						
QIZ				LR	LR		
	comp=Z,90nm,13.4s						
QIZ				LR	LR		
	comp=Z,110nm,8.4s						
CD2	**Chengdu**	**31.37**	**276**	*e*P	**P**	**22 42 20.0**	**+0.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GTA	**Gaotai**	**33.31**	**292**	*e*P	**P**	**22 42 36.1**	**-0.3**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KMI	**Kunming**	**34.09**	**266**	⇓P	**P**	**22 42 42.5**	**-1.0**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
PZH	**PanZhiHua**	**34.41**	**269**	P	**P**	**22 42 44.6**	**-1.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
PZH				pmax	pmax		
	comp=Z,130nm,5.9s						
GTOI	**Gorontalo**	**36.70**	**211**	P	**P**	**22 43 03.5**	**-2.1**
	comp=Z,8.2nm,1.3s,comp=Z,417nm						
UBPT	**Khong Chiam**	**36.71**	**249**	P	**P**	**22 43 05.3**	**-0.4**
MRSI	**Marisa**	**37.31**	**212**	P	**P**	**22 43 09.8**	**-1.0**
	comp=Z,35nm,1.2s						
GOMU	**GeErMu**	**37.60**	**287**	P	**P**	**22 43 13.8**	**+0.3**
GOMU				pmax	pmax		
	comp=Z,22nm,1.1s						
TNCH	**TengChong**	**37.65**	**268**	P	**P**	**22 43 12.4**	**-1.4**
TNCH				pP	pP	22 43 34.7	+0.1
TNCH				pmax	pmax		
	comp=Z,11nm,1.2s						
CRAI	**Chiangrai**	**38.19**	**260**	P	**P**	**22 43 17.7**	**-0.5**
CRAI				IAmb	IAmb	22 43 18.8	
	comp=Z,10nm,1.2s						
PHRA	**Phrae**	**39.16**	**258**	P	**P**	**22 43 25.7**	**-0.6**
CHTO	**Chiang Mai**	**40.06**	**259**	P	**P**	**22 43 32.7**	**-1.1**
CHTO				IAmb	IAmb	22 43 34.3	
	comp=Z,9.0nm,0.9s						
CHTO	**Chiang Mai**	**40.06**	**259**	P	**P**	**22 43 32.7**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**40.23**	**259**	P	**P**	**22 43 35.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**40.23**	**259**	*i* P	**P**	**22 43 34.7**	**-0.5**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**40.23**	**259**	P	**P**	**22 43 34.0**	**-1.3**
	comp=Z,2.4nm,0.4s,baz=44,slow=7.2,SNR=17						
CMAR				LR	LR	23 00 53.9	
	comp=Z,12nm,18.4s,baz=65,slow=37						
	comp=Z,2.4nm,0.4s						
WMQ	**Urumqi**	**42.12**	**300**	*e*P	**P**	**22 43 51.7**	**+1.2**
WMQ				PP	**PP**	**22 45 27.1**	**-2.4**
WMQ				pmax	pmax		
	comp=Z,29nm,1.7s						
WMQ				pmax	pmax		
	comp=Z,130nm,3.7s						
LSA	**Lhasa**	**42.17**	**279**	P	**P**	**22 43 51.0**	**-0.5**
LSA	**Lhasa**	**42.17**	**279**	P	**P**	**22 43 51.0**	**-0.5**
LSA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
DGZ	**Jazzator, Alta**	**42.17**	**309**	*i* P	**P**	**22 43 51.7**	**+0.8**
DGZ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SAUI	**Saumlaki**	**42.21**	**194**	P	**P**	**22 43 50.3**	**-1.0**
KAPI	**Kappang**	**43.17**	**212**	P	**P**	**22 43 58.8**	**-0.3**
KAPI	**Kappang**	**43.17**	**212**	*i* P	**P**	**22 43 57.8**	**-1.3**
KAPI				pmax	pmax		
	comp=Z,77nm,1.3s						
ZSN	**Zaisan**	**43.89**	**306**	*e*P	**P**	**22 44 05.2**	**+0.6**
ZSN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ZSN	**Zaisan**	**43.89**	**306**	*e*P	**P**	**22 44 05.3**	**+0.6**
	comp=Z,5.7nm,1.0s,baz=306						
ZAA0	**Zalesovo Array**	**44.03**	**315**	P	**P**	**22 44 05.5**	**-0.1**
ZAA0				IAmb	IAmb	22 44 19.2	
	comp=Z,6.4nm,1.1s						
ZALV	**Zalesovo Beam**	**44.03**	**315**	P	**P**	**22 44 05.3**	**-0.3**
ZALV	**Zalesovo Beam**	**44.03**	**315**	P	**P**	**22 44 05.6**	**0.0**
	comp=Z,1.0nm,0.4s,baz=108,slow=9.0,SNR=7.7						
ZALV				PcP	**PcP**	**22 45 49.5**	**0.0**
	comp=Z,1.9nm,0.4s,baz=108,slow=3.3,SNR=6.8						
	comp=Z,1.0nm,0.4s						
F14K	**Arctic Creek**	**44.80**	**28**	P	**P**	**22 44 12.6**	**+1.1**
	baz=251						
ANM	**Nome**	**44.90**	**30**	P	**P**	**22 44 12.5**	**+0.1**
ANM				IAmb	IAmb	22 44 15.5	
	comp=Z,12nm,1.2s						
ANM	**Nome**	**44.90**	**30**	P	**P**	**22 44 12.5**	**+0.1**
ANM				pmax	pmax		
	comp=Z,12nm,1.2s						
ANM	**Nome**	**44.90**	**30**	P	**P**	**22 44 14.0**	**+1.6**
	baz=253						
L14K	**Kuka Creek**	**45.30**	**34**	P	**P**	**22 44 16.8**	**+1.2**
L14K	**Kuka Creek**	**45.30**	**34**	P	**P**	**22 44 17.7**	**+2.2**
	baz=259						
SRIT	**Nakonsritamara**	**45.32**	**246**	P	**P**	**22 44 15.6**	**-0.7**
SRIT				IAmb	IAmb	22 44 16.9	
	comp=Z,12nm,1.0s						
M14K	**Bethel**	**45.53**	**35**	P	**P**	**22 44 18.9**	**+1.5**
M14K				IAmb	IAmb	22 44 20.9	
	comp=Z,10nm,0.9s						
M14K	**Bethel**	**45.53**	**35**	P	**P**	**22 44 19.7**	**+2.3**
	baz=260						
F15K	**North Star Dit**	**45.53**	**28**	P	**P**	**22 44 19.4**	**+2.0**
F15K				IAmb	IAmb	22 44 20.6	
	comp=Z,6.0nm,0.8s						
F15K	**North Star Dit**	**45.53**	**28**	P	**P**	**22 44 19.3**	**+1.8**
	baz=252						
G15K	**Niukluk**	**45.57**	**29**	P	**P**	**22 44 19.9**	**+2.2**
	baz=254						
MK31	**Makanchi Array**	**45.68**	**305**	P	**P**	**22 44 18.6**	**-0.3**
MK31				IAmb	IAmb	22 44 21.9	
	comp=Z,6.1nm,1.1s						
MK31	**Makanchi Array**	**45.68**	**305**	*ce*P	**P**	**22 44 19.1**	**+0.2**
MKAR	**Makanchi Array**	**45.68**	**305**	*i* P	**P**	**22 44 19.3**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MKAR	**Makanchi Array**	**45.68**	**305**	P	**P**	**22 44 19.4**	**+0.5**
	comp=Z,3.0nm,0.4s,baz=85,slow=9.8,SNR=133						
MKAR				ScP	**ScP**	**22 49 39.1**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=73,slow=6.0,SNR=10						
MKAR				LR	LR	23 05 44.5	
	comp=Z,56nm,18.5s,baz=65,slow=39						
	comp=Z,3.0nm,0.4s						
MAKZ	**Makanchi**	**45.90**	**305**	P	**P**	**22 44 21.1**	**+0.5**
MAKZ				IAmb	IAmb	22 44 22.5	
	comp=Z,4.4nm,0.5s						
MAKZ	**Makanchi**	**45.90**	**305**	P	**P**	**22 44 21.1**	**+0.5**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.5s						
L15K	**Ungalak Mounta**	**45.92**	**34**	P	**P**	**22 44 21.8**	**+1.2**
	baz=260						
K15K	**Wolf Creek Mou**	**46.02**	**33**	P	**P**	**22 44 23.2**	**+1.9**
**K

O16K Kokwok River B 47.29 37 P P 22 44 31.6 +0.3
baz=265
P16K Nushagak River 47.30 38 P P 22 44 31.8 +0.6
baz=265
L17K Donlin 47.49 34 P P 22 44 34.0 +1.3
baz=262
K17K Iditarod 47.57 33 P P 22 44 34.6 +1.3
K17K IAmb IAmb 22 44 36.4
comp=Z,12nm,1.1s
K17K Iditarod 47.57 33 P P 22 44 34.8 +1.4
baz=262
E18K Tukpahlearik C 47.57 27 P P 22 44 34.0 +0.8
E18K IAmb IAmb 22 44 36.4
comp=Z,4.3nm,0.8s
E18K Tukpahlearik C 47.57 27 P P 22 44 34.7 +1.4
baz=255
C18K Utukok River 47.69 25 P P 22 44 34.5 +0.2
C18K IAmb IAmb 22 44 36.7
comp=Z,7.9nm,1.1s
C18K Utukok River 47.69 25 P P 22 44 35.8 +1.6
baz=253
B18K Kokolik River 47.69 24 P P 22 44 36.0 +1.8
baz=252
F18K Selawik 47.73 28 P P 22 44 36.0 +1.5
baz=257
M17K Holitna River 47.80 35 P P 22 44 36.9 +1.8
M17K IAmb IAmb 22 44 38.3
comp=Z,11nm,1.1s
M17K Holitna River 47.80 35 P P 22 44 36.3 +1.2
baz=264
O17K Koliganek Bris 47.81 37 P P 22 44 36.0 +0.8
baz=265
KURK Kurchatov 47.81 311 P P 22 44 35.3 -0.1
KURK IAmb IAmb 22 44 48.8
comp=Z,13nm,1.1s
KURK Kurchatov 47.81 311 *c*eP P 22 44 34.8 -0.6
KURK pmax pmax
comp=Z,12nm,1.7s
N17K Nushagak Hills 47.83 36 P P 22 44 37.2 +1.7
N17K IAmb IAmb 22 44 37.3
comp=Z,9.1nm,1.1s
N17K Nushagak Hills 47.83 36 P P 22 44 36.2 +0.8
baz=265
KURBB Kurchatov Arra 47.88 311 P P 22 44 36.1 +0.2
comp=Z,2.0nm,0.4s,baz=90,slow=7.3,SNR=52
comp=Z,2.0nm,0.4s
H18K Honhosa River 47.95 30 P P 22 44 37.1 +0.9
H18K Honhosa River 47.95 30 P P 22 44 37.0 +0.7
baz=259
G18K Tagagawik 47.97 29 P P 22 44 37.6 +1.2
G18K IAmb IAmb 22 44 39.0
comp=Z,5.0nm,0.8s
G18K Tagagawik 47.97 29 P P 22 44 37.7 +1.3
baz=258
P17K Kvichak River 48.10 38 P P 22 44 38.3 +0.8
baz=266
SHLS Shalkode 48.14 300 *e*P P 22 44 36.0 -2.2
SHLS Shalkode 48.14 300 *e*P P 22 44 36.0 -2.2
baz=300
L18K Granite Mounta 48.25 34 P P 22 44 40.1 +1.5
L18K Granite Mounta 48.25 34 P P 22 44 39.9 +1.3
baz=264
C19K Lookout Ridge 48.38 24 P 22 44 40.5 +1.0
C19K Lookout Ridge 48.38 24 P P 22 44 41.5 +2.0
baz=255,SNR=6.9
J18K Innoko River 48.39 32 P P 22 44 40.1 +0.4
UZB Uzynbulak 48.46 300 *e*P P 22 44 41.1 +0.4
UZB pmax pmax
comp=Z,10.0nm,1.0s
UZB Uzynbulak 48.46 300 *e*P P 22 44 41.1 +0.4
comp=Z,10nm,1.0s,baz=300
N18K Kilae Creek 48.48 36 P P 22 44 41.5 +1.0
F19K Shaleruckik Mo 48.51 28 P P 22 44 41.1 +0.6
F19K Shaleruckik Mo 48.51 28 P P 22 44 41.5 +1.0
baz=258
M18K Stony River 48.58 35 P P 22 44 41.6 +0.5
baz=265
TDK Taldyqorghan 48.59 303 *e*P P 22 44 40.9 -0.6
TDK Taldyqorghan 48.59 303 *e*P P 22 44 40.1 -1.4
baz=303
TTA Tatalina 48.64 33 P P 22 44 41.9 +0.2
TTA Tatalina 48.64 33 P P 22 44 41.9 +0.2
TTA pmax pmax
comp=Z,2.0nm,1.2s
TTA Tatalina 48.64 33 P P 22 44 42.4 +0.7
baz=264
G19K Purcell Mounta 48.65 29 P P 22 44 41.4 -0.3
G19K IAmb IAmb 22 44 43.8
comp=Z,6.2nm,1.1s
G19K Purcell Mounta 48.65 29 P P 22 44 42.2 +0.6
baz=260
SVW2 Sparrevohn 48.67 35 P P 22 44 43.3 +1.5
SVW2 IAmb IAmb 22 44 44.9
comp=Z,5.5nm,1.2s
P18K Big Mountain, 48.73 38 P P 22 44 43.4 +1.0
P18K IAmb IAmb 22 44 44.8
comp=Z,6.1nm,0.8s
P18K Big Mountain, 48.73 38 P P 22 44 43.1 +0.7
baz=267
D19K Kuna River 48.74 25 P P 22 44 42.6 +0.3
D19K IAmb IAmb 22 44 44.1
comp=Z,3.8nm,0.8s
D19K Kuna River 48.74 25 P P 22 44 43.6 +1.2
baz=257
O18K Koktuh Hills 48.77 37 P P 22 44 44.2 +1.6
O18K IAmb IAmb 22 44 45.8
comp=Z,4.1nm,0.7s
O18K Koktuh Hills 48.77 37 P P 22 44 43.8 +1.2
baz=267
H19K Roundabout Mou 48.80 29 P P 22 44 42.6 -0.2
H19K IAmb IAmb 22 44 45.5
comp=Z,12nm,1.1s
H19K Roundabout Mou 48.80 29 P P 22 44 44.4 +1.7
baz=261
JAGI Jajag, Banyuwa 48.81 216 P P 22 44 43.7 +0.3
E19K Redstone River 48.84 27 P P 22 44 44.4 +1.3
E19K Redstone River 48.84 27 P P 22 44 44.3 +1.2
baz=258
ZHN Zhinishke 48.88 301 *e*P P 22 44 44.2 +0.3
ZHN pmax pmax
comp=Z,5.0nm,1.3s
ZHN Zhinishke 48.88 301 *e*P P 22 44 44.3 +0.3
comp=Z,5.2nm,1.3s,baz=301
SATY Saty 48.92 300 *e*P P 22 44 44.0 -0.2
SATY pmax pmax
comp=Z,7.0nm,1.3s
SATY Saty 48.92 300 *e*P P 22 44 44.1 -0.2
comp=Z,7.1nm,1.3s,baz=300
J19K Poorman 48.94 32 P P 22 44 44.6 +0.7
J19K IAmb IAmb 22 44 46.1
comp=Z,3.2nm,0.7s
J19K Poorman 48.94 32 P P 22 44 45.3 +1.4
baz=263
L19K White Mountain 49.10 34 P P 22 44 47.3 +2.2
baz=265
N19K Bonanza Creek 49.18 36 P P 22 44 47.5 +1.6
N19K IAmb IAmb 22 44 52.2
comp=Z,5.6nm,1.1s
N19K Bonanza Creek 49.18 36 P P 22 44 47.2 +1.3
baz=267
D20K Etivluk River 49.33 25 P P 22 44 48.5 +1.7
baz=258
F20K Avaraart Lake 49.34 28 P P 22 44 47.8 +0.9
F20K Avaraart Lake 49.34 28 P P 22 44 48.2 +1.3
baz=260
E20K Nigu River 49.39 26 P P 22 44 48.9 +1.6
baz=259
H20K Anotleneega Mo 49.45 30 P P 22 44 49.6 +1.9
baz=262
I20K Naaghedeneel 49.53 31 P P 22 44 49.9 +1.6
baz=263
Q19K Cape Douglas, 49.54 38 P P 22 44 48.3 -0.2
Q19K Cape Douglas, 49.54 38 P P 22 44 49.2 +0.6
baz=269
K20K Telida 49.56 33 P P 22 44 49.9 +1.2
K20K IAmb IAmb 22 44 50.8
comp=Z,3.2nm,0.6s
K20K Telida 49.56 33 P P 22 44 50.5 +1.9
baz=265
L20K Farewell, AK 49.58 34 P P 22 44 49.9 +1.1
baz=266
J20K Nowinta River 49.60 31 P P 22 44 50.4 +1.5
J20K Nowinta River 49.60 31 P P 22 44 50.1 +1.2
baz=264
OHAK Old Harbor 49.73 41 P P 22 44 50.5 +0.6
P19K Oil Pt 49.76 37 P P 22 44 50.3 +0.1

MDOK Medeo 49.88 301 *e*P P 22 44 50.7 -0.8
MDOK Medeo 49.88 301 *e*P P 22 44 50.7 -0.8
baz=301
M20K Styx River 49.89 34 P P 22 44 52.3 +1.0
baz=267
AAA Alma-Ata 49.97 301 *e*P P 22 44 51.6 -0.5
AAA pmax pmax
comp=Z,8.0nm,0.9s
AAA Alma-Ata 49.97 301 *e*P P 22 44 51.6 -0.5
comp=Z,7.8nm,0.9s,baz=301
IMAR Indian Mountai 49.97 29 P P 22 44 52.2 +0.5
RSO Redoubt South 50.02 36 P P 22 44 53.4 +1.1
C21K Knifeblade Rid 50.06 25 P P 22 44 54.1 +1.7
baz=259
KDAK Kodiak Island 50.10 40 P P 22 44 53.3 +0.6
KDAK Kodiak Island 50.10 40 P P 22 44 53.3 +0.6
KDAK pmax pmax
comp=Z,12nm,0.8s
KDAK Kodiak Island 50.10 40 P P 22 44 53.0 +0.2
baz=271
G21K Allakaket 50.13 28 P P 22 44 54.2 +1.3
G21K IAmb IAmb 22 44 54.9
comp=Z,4.4nm,1.1s
G21K Allakaket 50.13 28 P P 22 44 54.5 +1.6
baz=263
E21K Killik River 50.23 26 P P 22 44 55.3 +1.6
baz=261
F21K Alatna River 50.23 27 P P 22 44 54.3 +0.6
F21K IAmb IAmb 22 44 56.4
comp=Z,2.5nm,0.7s
F21K Alatna River 50.23 27 P P 22 44 55.3 +1.6
baz=262
KUU Kurty 50.24 302 *e*P P 22 44 54.2 +0.1
KUU pmax pmax
comp=Z,7.0nm,0.8s
KUU Kurty 50.24 302 *e*P P 22 44 54.2 +0.1
comp=Z,6.9nm,0.8s,baz=302
N20K Mount Spurr 50.30 35 P P 22 44 55.6 +1.2
baz=268,SNR=8.1
H21K Melozitna Rive 50.32 30 P P 22 44 55.7 +1.3
H21K IAmb IAmb 22 44 57.2
comp=Z,4.6nm,0.8s
H21K Melozitna Rive 50.32 30 P P 22 44 55.9 +1.6
baz=264
PPLA Purkeypile 50.38 33 P P 22 44 56.3 +1.3
baz=267
CHUM Lake Minchumin 50.38 32 P P 22 44 56.1 +1.3
baz=266
CAST Castle Rocks 50.45 33 P P 22 44 56.7 +1.3
CAST IAmb IAmb 22 44 58.1
comp=Z,2.8nm,0.7s
CAST Castle Rocks 50.45 33 P P 22 44 56.8 +1.4
baz=267,SNR=5.5
I21K Tanana 50.62 30 P P 22 44 58.1 +1.6
I21K Tanana 50.62 30 P P 22 44 58.2 +1.6
baz=265
SKT Skwentna 50.65 34 P P 22 44 57.8 +1.0
SKT Skwentna 50.65 34 P P 22 44 57.9 +1.0
baz=268
B22K Teshekpuk Lake 50.75 23 P P 22 44 58.0 +0.5
B22K IAmb IAmb 22 45 00.0
comp=Z,7.3nm,1.1s
B22K Teshekpuk Lake 50.75 23 P P 22 44 58.9 +1.5
baz=260,SNR=5.4
D22K Ayikyak River 50.77 25 P P 22 44 58.8 +1.2
D22K Ayikyak River 50.77 25 P P 22 44 59.3 +1.7
baz=262
H22K Ishtalitna Cre 50.93 29 P P 22 45 00.5 +1.6
baz=265
BRLK Bradley Lake 50.95 37 P P 22 44 59.4 +0.2
BPAW Bear Paw Mtn. 50.98 32 P P 22 45 00.2 +0.9
BPAW Bear Paw Mtn. 50.98 32 P P 22 45 00.8 +1.5
baz=267
KTH Kantishna Hill 50.98 32 P P 22 44 59.4 0.0
E22K Anaktuvuk Pass 50.98 26 P P 22 45 00.8 +1.5
E22K Anaktuvuk Pass 50.98 26 P P 22 45 00.7 +1.4
baz=263
SUA Susitna One 51.01 35 P P 22 44 60.0 +0.2
SUA IAmb IAmb 22 45 02.2
comp=Z,4.8nm,1.0s
SUA Susitna One 51.01 35 P P 22 45 00.2 +0.5
baz=270
BRSE Bradley Lake S 51.02 37 P P 22 44 59.0 -0.7
baz=271
MLY Manley 51.13 30 P P 22 45 00.8 +0.3
MLY Manley 51.13 30 P P 22 45 01.3 +0.8
baz=267
TRF Thorofare Moun 51.26 33 P P 22 45 01.5 -0.1
baz=268
KSH Kashi 51.49 297 P P 22 45 07.9 +4.2
KSH pP pP 22 45 30.4 +5.0
KSH pmax pmax
comp=Z,7.0nm,1.0s
D23K Nanushuk River 51.49 25 P P 22 45 04.7 +1.7
baz=264
RC01 Rabbit Creek A 51.50 36 P P 22 45 04.0 +0.7
baz=271
COLD Coldfoot 51.51 28 P P 22 45 04.8 +1.6
baz=265
G23K Bananza Creek 51.54 28 IAmb IAmb 22 45 06.9
comp=Z,3.7nm,1.0s
G23K Bananza Creek 51.54 28 P P 22 45 05.0 +1.5
baz=266
SGDS Sogindy 51.55 302 *e*P P 22 45 03.9 0.0
SGDS pmax pmax
comp=Z,4.0nm,0.8s
SGDS Sogindy 51.55 302 *e*P P 22 45 04.0 0.0
comp=Z,3.6nm,0.8s,baz=302
GSI Gunungsitoli 51.61 241 P P 22 45 03.6 -1.1
C23K Itkillik River 51.62 24 P P 22 45 05.1 +1.1
baz=263,SNR=11
BTLS Baital 51.63 304 *e*P P 22 45 04.5 +0.1
BTLS pmax pmax
comp=Z,5.0nm,1.3s
BTLS Baital 51.63 304 *e*P P 22 45 04.6 +0.1
comp=Z,5.2nm,1.3s,baz=304
SEW Seward 51.66 37 P P 22 45 04.5 0.0
baz=272
BRZS Berezniki 51.68 310 *e*P P 22 45 04.5 -0.2
BRZS pmax pmax
comp=Z,6.0nm,1.5s
BRZS Berezniki 51.68 310 *e*P P 22 45 04.6 -0.2
comp=Z,6.0nm,1.5s,baz=310
FRU1 Bishkek 51.69 301 P P 22 45 05.2 +0.2
FRU1 IAmb IAmb 22 45 07.7
comp=Z,5.8nm,0.6s
FRU1 Bishkek 51.69 301 P P 22 45 05.2 +0.2
FRU1 pmax pmax
comp=Z,6.0nm,0.6s
I23K Minto, Yukon-K 51.72 30 P P 22 45 06.5 +1.7
baz=268
E23K Chandalar 51.80 27 P P 22 45 06.8 +1.4
baz=265,SNR=7.8
NEA2 Nenana 51.83 31 P P 22 45 05.5 -0.2
NEA2 IAmb IAmb 22 45 08.8
comp=Z,5.1nm,0.8s
NEA2 Nenana 51.83 31 P P 22 45 07.2 +1.5
baz=269
MCK McKinley 51.87 32 P P 22 45 07.5 +1.5
baz=269
RND Reindeer 51.91 33 P 22 45 06.4 +0.1
RND IAmb IAmb 22 45 22.1
comp=Z,4.0nm,1.1s
RND Reindeer 51.91 33 P P 22 45 06.4 +0.1
RND pmax pmax
comp=Z,4.0nm,1.1s
WAT1 Susitna Watana 52.05 33 P P 22 45 07.8 +0.5
baz=270
KNK Knik Glacier 52.11 35 P P 22 45 07.5 -0.3
KNK Knik Glacier 52.11 35 P P 22 45 08.9 +1.0
baz=272
SML Sawmill 52.16 35 P P 22 45 08.5 +0.3
SML Sawmill 52.16 35 P P 22 45 08.5 +0.3
SML pmax pmax
comp=Z,39nm,1.7s
SML Sawmill 52.16 35 P P 22 45 09.0 +0.8
baz=271
D24K Happy Valley 52.18 25 P P 22 45 09.8 +1.7
baz=265
MDM Murphy Dome 52.20 31 P P 22 45 08.6 +0.2
MDM IAmb IAmb 22 45 10.1
comp=Z,5.2nm,0.8s
C24K Franklin Bluff 52.27 25 P P 22 45 10.3 +1.5
baz=265
COLA College 52.36 31 *i* P P 22 45 07.5 -2.0
COLA pmax pmax
comp=Z,32nm,3.3s
H24K Noodor Dome 52.36 29 P P 22 45 11.1 +1.5
baz=269
CCB Clear Creek Bu 52.38 31 P P 22 45 09.2 -0.4
F24K Squaw Lake 52.42 27 P P 22 45 11.9 +1.9
baz=267
WAT6 Susitna Watana 52.42 34 P P 22 45 11.1 +0.8
baz=271
POKR Poker Plat Res 52.54 30 P P 22 45 11.5 +0.7
POKR IAmb IAmb 22 45 28.2
comp=Z,2.0nm,0.6s
POKR Poker Plat Res 52.54 30 P P 22 45 11.7 +0.8
baz=270
G24K Hadweenzic Riv 52.55 28 P P 22 45 12.8 +1.9
baz=268
SCM Sheep Creek Mo 52.64 35 P P 22 45 12.7 +1.0
baz=272
BVAR Borovoye Array 52.66 314 P P 22 45 12.6 +0.6
comp=Z,3.8nm,0.9s,baz=99,slow=9.2,SNR=13
comp=Z,3.8nm,0.9s
BRVK Borovoye 52.72 314 P P 22 45 13.6 +1.2
BRVK IAmb IAmb 22 45 13.8
comp=Z,4.5nm,0.8s
BRVK Borovoye 52.72 314 *i* P P 22 45 10.0 -2.4
BRVK pmax pmax
comp=Z,6.0nm,1.0s
HDA Harding Lake 52.75 31 P P 22 45 13.2 +0.8
HDA IAmb IAmb 22 45 15.3
comp=Z,4.7nm,0.8s
IL31 52.77 31 P P 22 45 12.6 0.0
ILAR Eielson Array 52.77 31 P P 22 45 12.6 0.0
ILAR Eielson Array 52.77 31 P P 22 45 12.7 +0.1
comp=Z,1.5nm,0.6s,baz=272,slow=6.5,SNR=26
comp=Z,1.5nm,0.6s
D25K Kavik River 53.06 25 P P 22 45 15.9 +1.2
D25K Kavik River 53.06 25 P P 22 45 16.3 +1.6
baz=267
G25K Bearman Lake 53.09 28 P P 22 45 16.9 +2.0
baz=270
HIN Hinchinbrook I 53.12 36 P P 22 45 15.6 +0.4
M24K Tolsona, Glenn 53.17 34 P P 22 45 16.9 +1.2
M24K Tolsona, Glenn 53.17 34 P P 22 45 17.3 +1.7
baz=273
H25L Birch Creek 53.21 29 P P 22 45 17.4 +1.7
baz=270
F25K Christian Rive 53.28 27 P P 22 45 18.1 +1.7
baz=269
FITZ Fitzroy Crossi 53.29 198 P P 22 45 16.3 -0.6
FITZ IAmb IAmb 22 45 18.7
comp=Z,5.2nm,0.9s
WB0 Warramunga Arr 53.30 188 P P 22 45 16.8 -0.2
E25K Arctic Village 53.32 27 P P 22 45 18.3 +1.7
E25K IAmb IAmb 22 45 20.4
comp=Z,8.0nm,1.1s
E25K Arctic Village 53.32 27 P P 22 45 18.6 +2.1
baz=269,SNR=8.3
KLU Klutina 53.33 35 P P 22 45 18.0 +1.2
KLU IAmb IAmb 22 45 18.2
comp=Z,3.0nm,0.6s
KLU Klutina 53.33 35 P P 22 45 18.1 +1.3
baz=274
PRP Porcupine Dome 53.34 30 P P 22 45 18.0 +1.0
PRP Porcupine Dome 53.34 30 P P 22 45 18.1 +1.2
baz=271
J25K Salcha River, 53.43 31 P P 22 45 18.0 +0.5
PAX Paxson 53.45 33 P P 22 45 18.4 +0.6
baz=273
WRAB Tennant Creek 53.47 188 P P 22 45 17.9 -0.3
WRAB Tennant Creek 53.47 188 P P 22 45 17.9 -0.3
WRAB pmax pmax
comp=Z,26nm,1.0s
WR0 Warramunga Arr 53.47 187 P P 22 45 17.8 -0.4
WB2 Warramunga Arr 53.48 188 P P 22 45 17.6 -0.6
WRA Warramunga Arr 53.48 188 P P 22 45 18.2 -0.1
WRA Warramunga Arr 53.48 188 P P 22 45 18.2 -0.1
comp=Z,8.7nm,0.4s,baz=4.5,slow=7.6,SNR=14
comp=Z,8.7nm,0.4s
EYAK Cordova Ski Ar 53.48 36 P P 22 45 19.2 +1.4
baz=275
C26K Camden Bay 53.59 24 P P 22 45 20.5 +2.0
baz=268
HARP HAARP 53.63 34 P P 22 45 20.3 +1.4
baz=274
BMAR Burnt Mountain 53.69 28 P P 22 45 21.0 +1.6
RIDG Independent Ri 53.69 32 P P 22 45 19.7 +0.3
RIDG Independent Ri 53.69 32 P P 22 45 19.8 +0.3
baz=273
F26K Sheenjek River 53.85 27 P P 22 45 22.8 +2.2
baz=271
N25K Chitina, Valde 53.95 35 P P 22 45 22.0 +0.6
N25K IAmb IAmb 22 45 23.5
comp=Z,2.1nm,0.7s
N25K Chitina, Valde 53.95 35 P P 22 45 21.6 +0.2
baz=275
BMRM Bremner River 54.00 36 P P 22 45 22.7 +1.0
baz=275
G26K Porcupine Rive 54.01 28 P P 22 45 22.8 +1.2
baz=272
DZA Taraz 54.02 302 *e*P P 22 45 22.1 0.0
DZA Taraz 54.02 302 *e*P P 22 45 22.1 0.0
baz=302
RAGM Ragged Mountai 54.02 36 P P 22 45 23.4 +1.5
SCRK Sand Creek 54.06 32 P P 22 45 21.7 -0.5
SCRK IAmb IAmb 22 45 40.6
comp=Z,4.2nm,1.2s
SCRK Sand Creek 54.06 32 P P 22 45 23.1 +0.9
baz=274
KAIM Kayak Island 54.20 37 P P 22 45 24.4 +1.3
J26L Joseph Creek 54.21 31 P P 22 45 23.9 +0.7
J26L Joseph Creek 54.21 31 P P 22 45 23.2 -0.1
baz=274
HMT Hamilton 54.23 36 P P 22 45 24.3 +0.9
HMT IAmb IAmb 22 45 24.6
comp=Z,8.6nm,1.0s
KK31 Karatay Array 54.55 302 P P 22 45 26.7 +0.7
KK31 IAmb IAmb 22 45 40.2
comp=Z,7.3nm,1.0s
KK31 Karatay Array 54.55 302 P P 22 45 26.7 +0.7
KK31 pmax pmax
comp=Z,7.0nm,1.0s
KKAR Karatay Array 54.55 302 P P 22 45 25.9 -0.1
KKAR Karatay Array 54.55 302 P P 22 45 26.7 +0.8
KKAR IAmb IAmb 22 45 40.2
comp=Z,7.2nm,1.0s
KKAR Karatay Array 54.55 302 P P 22 45 25.9 -0.1
KKAR pmax pmax
comp=Z,7.0nm,1.0s
MCARA McCarthy VSAT 54.72 35 P P 22 45 26.8 -0.1
MCARA IAmb IAmb 22 45 28.8
comp=Z,8.6nm,1.1s
MCARA McCarthy VSAT 54.72 35 P P 22 45 27.7 +0.8
baz=276
CRQM Cirque 54.74 36 P P 22 45 27.5 +0.2
CRQM IAmb IAmb 22 45 32.9
comp=Z,7.4nm,1.1s
CRQE Cirque 54.76 36 P P 22 45 28.3 +1.0
baz=277
K27K Chicken 54.89 32 P P 22 45 29.3 +1.2
K27K Chicken 54.89 32 P P 22 45 29.5 +1.4
baz=275
WAX Waxell Ridge 54.92 36 P P 22 45 29.7 +1.3
WAX IAmb IAmb 22 45 30.8
comp=Z,6.5nm,1.0s
H27K Steamboat Moun 54.95 29 P P 22 45 29.6 +1.1
baz=274
I27K Kandik River 54.96 30 P P 22 45 29.6 +1.1
baz=274
BRLS Borolday 55.05 302 *e*P P 22 45 30.9 +1.4
BRLS Borolday 55.05 302 *e*P P 22 45 31.0 +1.4
baz=302
L27K Beaver Creek, 55.10 33 P P 22 45 30.8 +1.1
baz=276
BCAR Beaver Creek A 55.12 33 P P 22 45 30.4 +0.6
IUG Iuzhnay 55.15 301 *e*P P 22 45 30.7 +0.3
IUG pmax pmax
comp=Z,5.0nm,0.7s
IUG Iuzhnay 55.15 301 *e*P P 22 45 30.7 +0.3
comp=Z,4.5nm,0.7s,baz=301
BTK Batken 55.16 299 P P 22 45 31.6 +1.1
CHM Chimkent 55.41 301 *e*P P 22 45 32.8 +0.7
CHM Chimkent 55.41 301 *e*P P 22 45 32.8 +0.7
baz=302
F28M Old Crow 55.49 27 P P 22 45 33.0 +0.7
F28M IAmb IAmb 22 45 35.5
comp=Z,5.3nm,1.1s
F28M Old Crow 55.49 27 P P 22 45 33.4 +1.1

baz=275
CTG Chitna Glacier 55.59 35 P P 22 45 33.7 +0.5
baz=278
I28M Miner Creek 55.67 30 P P 22 45 35.4 +1.6
I28M Miner Creek 55.67 30 P P 22 45 35.5 +1.8
baz=276
TABL Table Mountain 55.76 36 P P 22 45 35.4 +0.8
TABL IAmb IAmb 22 45 50.1
comp=Z,6.9nm,1.2s
LOGN Logan Glacier 55.77 35 P P 22 45 35.1 +0.5
LOGN IAmb IAmb 22 45 36.8
comp=Z,6.4nm,1.2s
GAR Garm 55.85 297 P P 22 45 36.5 +1.0
YUK3 Moose Creek 55.89 34 P P 22 45 36.9 +1.3
baz=278
DAWY Dawson 56.06 31 P P 22 45 38.4 +1.9
DAWY Dawson 56.06 31 P P 22 45 37.9 +1.4
baz=278
E29M Blow River 56.16 26 P P 22 45 39.2 +2.2
E29M IAmb IAmb 22 45 39.5
comp=Z,6.7nm,1.1s
E29M Blow River 56.16 26 P P 22 45 38.8 +1.8
baz=276
H29M Whitestone 56.22 29 P P 22 45 39.5 +2.0
M29M Somme Creek 56.72 33 P P 22 45 42.4 +1.2
M29M IAmb IAmb 22 45 44.8
comp=Z,4.6nm,0.6s
M29M Somme Creek 56.72 33 P P 22 45 43.2 +1.9
baz=279
L29M L29M 56.76 32 P P 22 45 41.2 -0.3
L29M L29M 56.76 32 P P 22 45 43.8 +2.3
baz=279,SNR=6.8
CHGR Chuyangaron 56.82 297 P P 22 45 42.6 +0.3
CHGR Chuyangaron 56.82 297 P P 22 45 42.6 +0.3
CHGR pmax pmax
comp=Z,27nm,0.6s
YUK4 Talbot Arm 56.82 35 P P 22 45 42.9 +0.8
baz=280
EPYK Eagle Plains 56.86 29 P P 22 45 42.2 +0.1
EPYK Eagle Plains 56.86 29 P P 22 45 43.8 +1.7
baz=278,SNR=9.3
K29M Barlow Dome 56.91 32 P P 22 45 43.6 +0.9
K29M Barlow Dome 56.91 32 P P 22 45 44.6 +2.0
baz=279
SIMJ Simiganj 56.93 297 P P 22 45 42.8 -0.3
G30M tAoh Zraii Nji 56.97 28 P P 22 45 43.3 +0.4
G30M tAoh Zraii Nji 56.97 28 P P 22 45 44.2 +1.3
baz=278,SNR=6.7
YUK6 Outpost Mounta 57.02 35 P P 22 45 44.8 +1.2
baz=280
O29M Mount Kennedy 57.04 36 P P 22 45 45.1 +1.6
O29M Mount Kennedy 57.04 36 P P 22 45 44.6 +1.0
baz=281
F30M Barrier River 57.05 27 P P 22 45 45.2 +1.9
baz=278,SNR=5.9
I30M Mount Dempster 57.18 30 P P 22 45 44.1 -0.3
I30M IAmb IAmb 22 45 47.7
comp=Z,5.6nm,0.8s
I30M Mount Dempster 57.18 30 P P 22 45 45.4 +0.9
baz=279
ASAR Alice Springs 57.20 188 P P 22 45 44.5 -0.5
comp=Z,2.7nm,0.4s,baz=3.6,slow=5.7,SNR=5.9
ASAR PcP **PcP** 22 46 38.4 -0.1
comp=Z,2.1nm,0.6s,baz=2.4,slow=6.5,SNR=1.6
comp=Z,2.7nm,0.4s
J30M Hart River 57.31 31 P P 22 45 46.7 +1.3
baz=280
M30M Minto, Yukon 57.46 33 P P 22 45 47.7 +1.3
baz=281
HYT Haines Junctio 57.46 35 P P 22 45 48.1 +1.5
baz=281
SVE Sverdlovsk 57.53 320 *eP* **P 22 45 47.4 +0.5**
SVE pmax pmax
comp=Z,13nm,1.0s
P29M Windy Craggy 57.58 37 P P 22 45 49.4 +2.1
baz=282
G31M Satah River 57.74 28 P P 22 45 48.7 +0.5
G31M IAmb IAmb 22 45 49.6
comp=Z,5.6nm,0.6s
G31M Satah River 57.74 28 P P 22 45 49.0 +0.9
baz=280,SNR=5.0
INK Inuvik 57.78 26 P P 22 45 49.0 +0.5
INK Inuvik 57.78 26 P P 22 45 49.0 +0.5
INK pmax pmax
comp=Z,1.0nm,0.4s
INK Inuvik 57.78 26 P P 22 45 49.6 +1.1
baz=280
F31M Tsiigehtchic 57.85 27 P P 22 45 49.5 +0.6
F31M IAmb IAmb 22 45 50.9
comp=Z,5.4nm,0.7s
F31M Tsiigehtchic 57.85 27 P P 22 45 49.7 +0.8
baz=280
P30M Million Dollar 57.87 36 P P 22 45 50.5 +1.2
baz=282
H31M Peel River 57.91 29 P P 22 45 50.6 +1.1
H31M IAmb IAmb 22 45 51.5
comp=Z,5.9nm,0.9s
H31M Peel River 57.91 29 P P 22 45 50.6 +1.1
baz=281
PSA00 Pilbara Seismi 58.28 203 P P 22 45 51.9 -0.6
KBL Kabul 58.30 293 P P 22 45 52.7 -0.2
KBL IAmb IAmb 22 45 53.1
comp=Z,4.9nm,1.1s
KBL Kabul 58.30 293 P P 22 45 52.7 -0.2
KBL pmax pmax
comp=Z,5.0nm,1.1s
M31M Drury Creek, Y 58.63 33 P P 22 45 55.2 +0.7
M31M IAmb IAmb 22 45 57.6
comp=Z,4.1nm,1.1s
M31M Drury Creek, Y 58.63 33 P P 22 45 55.3 +0.7
baz=283
ARU Arti 58.74 320 P P 22 45 55.1 -0.2
ARU Arti 58.74 320 *c i* **P P 22 45 54.9 -0.4**
ARU S **S** 22 53 53.8 +0.6
ARU SS **SS** 22 57 44.5 -2.5
ARU pmax pmax
comp=Z,10.0nm,0.8s
ARU Arti 58.74 320 P P 22 45 55.4 0.0
comp=Z,7.9nm,0.6s,baz=99,slow=1.7,SNR=18
comp=Z,7.9nm,0.6s
WHY Whitehorse 58.75 35 P P 22 45 55.0 -0.6
WHY IAmb IAmb 22 46 04.8
comp=Z,4.1nm,1.1s
WHY Whitehorse 58.75 35 P P 22 45 56.1 +0.6
baz=283
FARO Faro, Yukon 59.10 33 P P 22 45 58.3 +0.5
baz=284
P32M Atlin 59.58 36 P P 22 46 02.0 +0.8
P32M IAmb IAmb 22 46 03.4
comp=Z,2.7nm,0.8s
A36M Sachs Harbour 59.74 21 P P 22 46 03.4 +1.4
A36M IAmb IAmb 22 46 05.4
comp=Z,4.9nm,0.9s
A36M Sachs Harbour 59.74 21 P P 22 46 02.9 +1.0
baz=285
P33M Teslin, Yukon 59.86 35 P P 22 46 04.8 +1.7
baz=285
ABKAR Akbulak array 59.90 312 P P 22 46 03.1 -0.3
ABKAR IAmb IAmb 22 46 04.3
comp=Z,4.0nm,0.7s
ABKAR Akbulak array 59.90 312 P P 22 46 03.1 -0.3
MMPY Sheldon Lake, 59.94 32 P P 22 46 05.1 +1.5
MMPY Sheldon Lake, 59.94 32 P P 22 46 04.8 +1.2
baz=285
AKTO Aktyubinsk 60.73 313 P P 22 46 09.0 -0.1
AKTO Aktyubinsk 60.73 313 P P 22 46 08.9 -0.1
comp=Z,2.9nm,0.7s,baz=82,slow=7.2,SNR=7.4
comp=Z,2.9nm,0.7s
C36M Paulatuk 60.86 24 P P 22 46 09.9 +0.2
C36M Paulatuk 60.86 24 P P 22 46 09.8 +0.2
baz=288
TGTN Hyland Airport 61.60 33 P P 22 46 16.2 +1.3
baz=288
DLBC Dease Lake 61.74 37 P P 22 46 17.0 +1.1
baz=288
KIRV Kirov 62.81 324 *ce* **P P 22 46 22.5 -0.4**
HRA Herat 63.55 295 P P 22 46 28.5 0.0
HRA IAmb IAmb 22 46 30.2
comp=Z,8.4nm,0.7s
STKA Stephens Creek 65.01 179 P P 22 46 39.8 +2.2
comp=Z,3.9nm,0.7s,baz=18,slow=6.0,SNR=4.6
comp=Z,3.9nm,0.7s
GEYT Alibeck 65.17 300 P P 22 46 39.5 +0.7
comp=Z,4.2nm,1.1s,baz=72,slow=9.5,SNR=6.5
comp=Z,4.2nm,1.1s
BELG Belogornoye 66.10 318 *i* **P P 22 46 42.4 -2.0**
BELG pmax pmax
comp=Z,2.0nm,0.9s
BELG Belogornoye 66.10 318 P P 22 46 44.3 -0.1
comp=Z,7.8nm,0.8s,baz=53,slow=6.2,SNR=4.4
comp=Z,7.8nm,0.8s
RES Resolute Bay 66.16 14 P P 22 46 44.2 -0.3
RES Resolute Bay 66.16 14 P P 22 46 44.2 -0.3
RES pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 67.13 29 P P 22 46 51.0 +0.2
comp=Z,0.9nm,0.7s,baz=297,slow=6.4,SNR=14
comp=Z,0.9nm,0.7s
ARCES ARCESS Array B 67.16 340 P P 22 46 51.3 +0.3
comp=Z,3.7nm,0.9s,baz=52,slow=9.3,SNR=1.8
comp=Z,3.7nm,0.9s
VALR Valaam 69.90 331 *i* **P P 22 47 06.1 -2.0**
VALR pmax pmax
comp=Z,11nm,0.9s
OBN Obninsk 70.67 324 *eP* **P 22 47 12.1 -0.8**
OBN *e* 22 47 32.5
OBN *e* **PP pP 22 47 35.6 +0.2**
OBN *e* **SP sP 22 47 44.9 -0.1**
OBN *e* 22 49 49.4
OBN pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 71.74 333 P P 22 47 19.4 +0.2
comp=Z,1.7nm,0.6s,baz=47,slow=5.6,SNR=12
comp=Z,1.7nm,0.6s
KBZ Khabaz 72.87 311 *ce* **P P 22 47 25.2 -1.1**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 72.87 311 P P 22 47 27.5 +1.3
comp=Z,5.1nm,0.8s,baz=85,slow=1.7,SNR=9.3
comp=Z,5.1nm,0.8s
KIV Kislovodsk 72.89 312 P P 22 47 27.8 +1.2
KIV IAmb IAmb 22 47 29.2
comp=Z,8.1nm,0.8s
KIV Kislovodsk 72.89 312 *eP* **P 22 47 27.5 +0.9**
KIV pmax pmax
comp=Z,9.0nm,1.0s
PINE Pine Mountain 73.03 49 P P 22 47 29.3 +1.8
NEW Newport 73.03 43 P P 22 47 28.0 +0.7
baz=301
BMO Blue Mountains 74.72 46 P P 22 47 37.9 +0.7
BMO IAmb IAmb 22 47 40.0
comp=Z,7.0nm,0.8s
BMO Blue Mountains 74.72 46 P P 22 47 37.9 +0.7
BMO pmax pmax
comp=Z,7.0nm,0.8s
J08A Circle Bar Ran 74.79 48 P P 22 47 37.3 -0.4
J08A IAmb IAmb 22 47 51.7
comp=Z,7.3nm,1.1s
ORV Oroville 74.81 53 P P 22 47 37.1 -0.7
ORV Oroville 74.81 53 P P 22 47 37.1 -0.7
ORV pmax pmax
comp=Z,4.0nm,1.1s
WVOR Wild Horse Val 75.17 49 P P 22 47 40.6 +0.7
WVOR IAmb IAmb 22 47 42.7
comp=Z,7.3nm,1.1s
WVOR Wild Horse Val 75.17 49 P P 22 47 40.6 +0.7
WVOR pmax pmax
comp=Z,7.0nm,1.1s
PLID Pearl Lake 75.37 45 P P 22 47 40.2 -0.9
MFID Camas Ranch 76.39 47 P P 22 47 47.3 +0.5
MFID IAmb IAmb 22 47 48.9
comp=Z,4.3nm,0.8s
AKASG Malin Array Be 76.82 323 *i* **P P 22 47 48.7 -0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 76.82 323 P P 22 47 48.8 -0.1
comp=Z,1.9nm,0.6s,baz=47,slow=5.9,SNR=13
comp=Z,1.9nm,0.6s
HFS Hagfors 77.13 336 P P 22 47 50.3 -0.2
comp=Z,1.1nm,0.4s,baz=76,slow=6.3,SNR=12
comp=Z,1.1nm,0.4s
BMN Battle Mountai 77.14 50 P P 22 47 52.1 +0.9
BMN Battle Mountai 77.14 50 P P 22 47 52.1 +0.9
BMN pmax pmax
comp=Z,2.0nm,0.7s
HLID Hailey 77.16 46 P P 22 47 50.4 -0.8
HLID Hailey 77.16 46 P P 22 47 52.4 +1.2
baz=304
EGMT Eagleton 77.27 40 P P 22 47 52.4 +0.8
baz=306
NB2 NORSAR Subarra 77.28 337 P P 22 47 51.4 0.0
comp=Z,2.4nm,0.8s,baz=31,slow=6.5
NOA NORSAR Array B 77.28 337 P P 22 47 51.0 -0.4
comp=Z,2.0nm,0.8s,baz=40,slow=5.7,SNR=10
comp=Z,2.0nm,0.8s
NVAR Mina Array Bea 77.52 52 P P 22 47 54.1 +0.7
comp=Z,1.4nm,0.7s,baz=294,slow=6.5,SNR=5.4
comp=Z,1.4nm,0.7s
ARPR Arapgir-MALATY 78.22 309 P P 22 47 57.2 0.0
ARPR IAmb IAmb 22 47 59.8
comp=Z,11nm,1.1s
ELK Elko 78.23 49 P P 22 47 57.5 +0.2
ELK Elko 78.23 49 P P 22 47 57.5 +0.2
VES Vestal, Richgr 78.40 55 P P 22 47 59.4 +1.4
baz=303
TPH Tonopah 78.43 52 P P 22 47 58.2 -0.2
TPH IAmb IAmb 22 48 04.5
comp=Z,13nm,1.2s
TPH Tonopah 78.43 52 P P 22 47 58.2 -0.2
TPH pmax pmax
comp=Z,13nm,1.2s
R11B Troy Canyon, C 79.35 51 P P 22 48 02.8 -0.6
R11B Troy Canyon, C 79.35 51 P P 22 48 04.9 +1.5
baz=304
MPMC Manual Prospec 79.36 54 P P 22 48 04.1 +0.6
baz=304
QSM Queen of Sheba 79.83 54 P P 22 48 04.9 -1.0
QSM IAmb IAmb 22 48 07.4
comp=Z,4.6nm,0.8s
GWY Greenwater Val 79.84 53 P P 22 48 04.8 -1.3
GWY IAmb IAmb 22 48 07.5
comp=Z,5.4nm,0.8s
HWUT Hardware Ranch 80.00 47 P P 22 48 06.7 -0.2
DUG Dugway, Tooele 80.06 48 P P 22 48 07.7 +0.5
baz=306
PDAR Pinedale Array 80.52 45 P P 22 48 11.0 +1.3
comp=Z,0.4nm,0.5s,baz=250,slow=2.6,SNR=5.8
comp=Z,0.4nm,0.5s
HEC Hector,Ludlow 80.83 54 P P 22 48 11.6 +0.2
baz=304
BR131 Keskin Array S 80.85 312 P P 22 48 11.4 0.0
BR131 Keskin Array S 80.85 312 P P 22 48 11.4 0.0
BR131 pmax pmax
comp=Z,3.0nm,1.0s
BRTR Keskin Array B 80.85 312 P P 22 48 11.2 -0.3
BRTR Keskin Array B 80.85 312 P P 22 48 12.2 +0.8
comp=Z,1.9nm,0.9s,baz=112,slow=3.3,SNR=9.5
comp=Z,1.9nm,0.9s
KOLS Kolonicke sedl 81.42 324 *eP* **P 22 48 17.2 +3.1**
KOLS Kolonicke sedl 81.42 324 *eP* **P 22 48 17.2 +3.1**
PFO Pinyon Flats O 81.43 55 P P 22 48 15.6 +1.0
baz=305
TPFO Pinon Flats 81.44 55 P P 22 48 16.4 +1.8
baz=305
RAYN Ar Rayn 81.57 292 P P 22 48 15.2 -0.2
RAYN IAmb IAmb 22 48 16.8
comp=Z,11nm,0.9s
RAYN Ar Rayn 81.57 292 P P 22 48 15.2 -0.2
RAYN pmax pmax
comp=Z,11nm,0.9s
ULM Lac du Bonnet 82.74 33 P P 22 48 21.6 +0.7
comp=Z,0.8nm,0.5s,baz=80,slow=6.1,SNR=2.1
comp=Z,0.8nm,0.5s
VYHS Vyhne 83.38 325 *eP* **P 22 48 25.2 +0.9**
VYHS Vyhne 83.38 325 *eP* **P 22 48 25.2 +0.9**
MMAI Mount Meron Ar 83.63 305 P P 22 48 26.8 +0.9
comp=Z,4.7nm,0.9s,baz=61,slow=8.7,SNR=8.8
comp=Z,4.7nm,0.9s
BALJ Balqa 84.01 305 P P 22 48 28.6 +0.7
BALJ IAmb IAmb 22 48 29.8
comp=Z,17nm,1.0s
GERES GERESS Array B 85.48 328 P P 22 48 34.4 -0.6
comp=Z,0.8nm,0.5s,baz=38,slow=8.9,SNR=5.4
comp=Z,0.8nm,0.5s
EKA Eskdalemuir Ar 86.32 340 P P 22 48 38.6 -0.3
comp=Z,1.5nm,0.6s,baz=76,slow=3.7,SNR=1.8
comp=Z,1.5nm,0.6s
TX31 Lajitas Ar. Si 92.67 52 P P 22 49 10.5 +1.0
TX31 IAmb IAmb 22 49 11.7
comp=Z,4.2nm,1.1s
TXAR Lajitas Array 92.68 52 P P 22 49 09.8 +0.4
TXAR Lajitas Array 92.68 52 P P 22 49 09.9 +0.4
TXAR Lajitas Array 92.68 52 P P 22 49 09.5 +0.1
comp=Z,2.1nm,1.0s,baz=293,slow=3.8,SNR=12
comp=Z,2.1nm,1.0s
TORD Torodi Ar. Bea 119.45 313 PKP PKPdf 22 54 46.3 -0.6
comp=Z,0.2nm,0.6s,baz=44,slow=3.1,SNR=1.5
QSPA South Pole Qui 123.22 180 PKP PKPdf 22 54 52.2 -0.4
comp=Z,0.7nm,0.5s,baz=105,slow=0.7,SNR=7.9
H03N2 Juan Fernandez 146.97 101 T T 01 41 07.2
baz=286,slow=76,SNR=3.2
H03N3 Juan Fernandez 146.98 101 T T 01 41 08.1
baz=286,slow=76,SNR=5.4
H03N1 Juan Fernandez 146.99 101 T T 01 41 08.6
baz=286,slow=76,SNR=5.5

IDC ***02*** *22:38:47.5±0.6,6˚24S×143˚14E,h0km,mb4.5/13, mbtmp4.5/16,ML3.0/2,MS3.9/18,Error ellipse: s-maj=19.5km s-min=10.9km az=88.0*
NEIC ***02*** *22:38:49.4±1.3,6˚31S±0.08×142˚93E±0.08,h10km±1km, mb4.9/105,Error ellipse: s-maj=13.8km s-min=12.6km az=244.0*
DJA ***02*** *22:38:51.2±0.3,6˚S±3˚×14˚3E±˚,h10km,M4.7/31, mb4.7/31,mB5.2/17,MLv5.2/6,Mw(mB)4.6/17, MwMwp4.8/1,Mwp5.2/1*

ISC 02 22:38:49.6±0.4,6˚35S±0.05×143˚08E±0.06,h10km,n200, σ1ᵗ¹17/167,mb4.8/83,MS3.8/15,4C-4D,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**2.14**	**300**	P	**Pn**	**22 39 25.8**	**+0.3**
MMPI	**Merauke**	**3.41**	**232**	P	**Pn**	**22 39 43.0**	**+0.2**
GENI	**Genyem**	**4.73**	**322**	P	**Pn**	**22 40 02.1**	**+1.0**
PMG	**Port Moresby**	**5.05**	**127**	Pn	**Pn**	**22 40 06.1**	**+0.6**
	15nm,0.3s,baz=314,slow=15,SNR=38						
PMG				Sn	**Sn**	22 41 03.4	-0.5
	21nm,0.3s,baz=203,slow=22,SNR=14						
PMG				Lg	Lg	22 41 30.7	
	18nm,0.3s,baz=176,slow=19,SNR=3.1						
	60nm,0.4s						
MANU	**Manus Island**	**6.04**	**45**		**Pn**	**22 40 20.1**	**+0.9**
SMPI	**Sarmi**	**6.15**	**315**	P	**Pn**	**22 40 23.1**	**+2.6**
	101nm,1.1s,4μm0.9nm						
COEN	**Coen**	**7.56**	**179**	Pn	**Pn**	**22 40 40.9**	**+0.9**
FAKI	**Fak Fak**	**11.32**	**287**		Pn	22 41 27.8	-3.9
FAKI	**Fak Fak**	**11.32**	**287**	P	Pn	22 41 29.6	-2.0
FAKI	**Fak Fak**	**11.32**	**287**	P	Pn	22 41 29.0	-2.6
	40nm,0.8s,1μm3μm						
SAUI	**Saumlaki**	**11.80**	**261**		Pn	22 41 36.1	-2.1
SAUI	**Saumlaki**	**11.80**	**261**	P	**Pn**	**22 41 37.8**	**-0.4**
	621nm,1.1s						
KDU	**Kakadu**	**12.21**	**238**	P	Pn	22 41 41.0	-2.7
MTN	**Manton Dam**	**13.43**	**240**	Pn	Pn	22 41 57.6	-2.8
MTN	**Manton Dam**	**13.43**	**240**	P	Pn	22 41 57.9	-2.5
DRS	**Darwin Rock St**	**13.45**	**242**	P	Pn	22 41 58.8	-1.9
CTA	**Charters Tower**	**14.00**	**168**	Pn	**Pn**	**22 42 07.1**	**-1.1**
	0.1nm,0.3s,baz=12,slow=15,SNR=3.0						
CTA				Lg	Lg	22 46 22.5	
	0.5nm,0.3s,baz=61,slow=22,SNR=5.8						
CTA				LR	LR	22 47 35.3	
	comp=Z,292nm,21.7s,baz=2.5,slow=37						
	1.0nm,0.4s						
WB0	**Warramunga Arr**	**15.79**	**212**		**Pn**	**22 42 29.1**	**-3.0**
WRA	**Warramunga Arr**	**15.96**	**211**	Pn	Pn	22 42 30.1	-4.4
WRA	**Warramunga Arr**	**15.96**	**211**	Pn	**Pn**	**22 42 30.9**	**-3.5**
	3.3nm,0.3s,baz=27,slow=13,SNR=68						
WRA				Lg	Lg	22 47 19.3	
	0.3nm,0.3s,baz=28,slow=25,SNR=4.7						
NLAI	**Namlea**	**16.22**	**280**	P	**Pn**	**22 42 38.0**	**+0.2**
	19nm,0.7s						
KNRA	**Kununurra**	**16.82**	**235**		**Pn**	**22 42 42.1**	**-3.3**
KNRA				IAmb	IAmb	22 42 43.4	
	comp=Z,69nm,0.9s						
KNRA	**Kununurra**	**16.82**	**235**	P	**Pn**	**22 42 42.7**	**-2.8**
HNR	**Honiara**	**16.98**	**101**	LR	LR	22 49 11.0	
	comp=Z,2μm,21.1s,baz=268,slow=37						
TNTI	**Ternate**	**17.21**	**294**	P	**Pn**	**22 42 49.1**	**-1.2**
	comp=Z,17nm,1.0s						
SANI	**Sanana**	**17.57**	**283**	P	**Pn**	**22 42 57.2**	**+2.3**
	comp=Z,30nm,1.0s						
SOEI	**Soe**	**18.93**	**258**		**P**	**22 43 10.5**	**-0.5**
SOEI	**Soe**	**18.93**	**258**	P	**P**	**22 43 11.4**	**+0.3**
	comp=Z,141nm,0.9s,comp=Z,1μm						
AS01	**Alice Springs**	**19.33**	**206**	P	**P**	**22 43 16.3**	**+1.1**
AS31	**Alice Springs**	**19.35**	**206**		**P**	**22 43 15.2**	**-0.2**
ASAR	**Alice Springs**	**19.35**	**206**		**P**	**22 43 15.2**	**-0.3**
ASAR	**Alice Springs**	**19.35**	**206**	P	**P**	**22 43 16.4**	**+1.0**
	comp=Z,45nm,0.8s,baz=31,slow=10,SNR=117						
ASAR				S	**S**	22 46 57.9	+3.3
	comp=Z,4.9nm,0.9s,baz=35,slow=23,SNR=4.3						
ASAR				Lg	Lg	22 49 08.5	
	comp=Z,0.3nm,0.3s,baz=20,slow=30,SNR=4.9						
ASAR				LR	LR	22 51 18.5	
	comp=Z,1μm,18.6s,baz=35,slow=39						
QLP	**Quilpie**	**20.15**	**177**	P	**P**	**22 43 27.3**	**+3.2**
EIDS	**Eidsvold**	**20.40**	**159**	P	**P**	**22 43 28.0**	**+1.1**
BBSI	**Bau Bau**	**20.42**	**271**	P	**P**	**22 43 28.3**	**+1.1**
	comp=Z,40nm,1.1s						
FITZ	**Fitzroy Crossi**	**20.64**	**234**		**P**	**22 43 29.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**20.64**	**234**	P	**P**	**22 43 29.2**	**-0.3**
MMRI	**Maumere**	**20.79**	**262**	P	**P**	**22 43 29.5**	**-1.7**
MMRI				IAmb	IAmb	22 43 46.7	
	comp=Z,102nm,1.3s						
MMRI	**Maumere**	**20.79**	**262**	P	**P**	**22 43 30.9**	**-0.3**
	comp=Z,71nm,1.3s						
LUWI	**Luwuk**	**20.94**	**284**	P	**P**	**22 43 31.0**	**-1.8**
LUWI	**Luwuk**	**20.94**	**284**	P	**P**	**22 43 33.8**	**+1.0**
	comp=Z,98nm,1.1s,comp=Z,1μm						
EDFI	**Ende, Flores**	**21.34**	**262**	P	**P**	**22 43 36.4**	**-0.9**
	comp=Z,42nm,1.2s,comp=Z,459nm						
MRSI	**Marisa**	**22.16**	**287**	P	**P**	**22 43 47.5**	**+1.5**
	comp=Z,29nm,1.2s						
OOD	**Oodnadatta**	**22.45**	**197**	P	**P**	**22 43 50.5**	**+1.5**
BASI	**Baing, Sumba**	**22.60**	**259**	P	**P**	**22 43 51.1**	**+0.5**
	comp=Z,144nm,1.0s,comp=Z,2μm						
WRKA	**Warakurna**	**23.36**	**216**	P	**P**	**22 43 58.9**	**+0.4**
TTSI	**Tana Toraja**	**23.41**	**277**	P	**P**	**22 43 59.8**	**+0.7**
	comp=Z,15nm,0.9s						
TOLI2	**Tolitoli**	**23.46**	**288**	P	**P**	**22 43 56.9**	**-2.7**
TOLI2				IAmb	IAmb	22 44 08.4	
	comp=Z,42nm,1.0s						
MPSI	**Mapaga**	**24.07**	**285**	P	**P**	**22 44 05.7**	**+0.2**
	comp=Z,16nm,0.9s,comp=Z,1μm						
LCRK	**Leigh Creek**	**24.41**	**190**	P	**P**	**22 44 08.9**	**+0.6**
KOUNC	**Koumac, New Ca**	**24.94**	**127**	P	**P**	**22 44 13.1**	**-0.2**
PLAI	**Plampang**	**25.20**	**263**	P	**P**	**22 44 16.2**	**+0.4**
	comp=Z,27nm,1.0s						
MULG	**Mulgathing**	**25.27**	**199**	P	**P**	**22 44 16.6**	**+0.4**
STKA	**Stephens Creek**	**25.43**	**183**	P	**P**	**22 44 17.4**	**-0.3**
STKA	**Stephens Creek**	**25.43**	**183**	P	**P**	**22 44 18.2**	**+0.5**
	comp=Z,7.7nm,1.1s,baz=346,slow=11,SNR=9.1						
STKA				LR	LR	22 54 36.2	
	comp=Z,286nm,18.9s,baz=355,slow=37						
	comp=Z,7.7nm,1.1s						
BBOO	**Buckleboo**	**27.13**	**193**	P	**P**	**22 44 32.6**	**-0.4**
BBOO				IAmb	IAmb	22 44 37.9	
	comp=Z,27nm,1.4s						
BBOO	**Buckleboo**	**27.13**	**193**	P	**P**	**22 44 36.0**	**+3.0**
DZM	**Mont Dzumac**	**27.45**	**127**	P	**P**	**22 44 37.6**	**+1.5**
DZM	**Mont Dzumac**	**27.45**	**127**	LR	LR	22 55 42.1	
	comp=Z,212nm,20.1s,baz=276,slow=37						
LEM	**Lembang**	**35.23**	**267**	LR	LR	23 03 23.6	
	comp=Z,124nm,19.8s,baz=62,slow=42						
CNJI	**Cibinong**	**35.70**	**266**	P	**P**	**22 45 51.4**	**+2.7**
NWAO	**Narrogin (SRO)**	**35.73**	**219**	LR	LR	23 01 40.8	
	comp=Z,342nm,21.4s,baz=236,slow=38						
MJAR	**Matsushiro Arr**	**42.91**	**354**	LR	LR	23 04 16.7	
	comp=Z,53nm,19.6s,baz=164,slow=36						
URZ	**Urewera**	**44.26**	**141**	LR	LR	23 04 54.5	
	comp=Z,192nm,18.1s,baz=317,slow=35						
TUWZ	**Tuamarina**	**44.44**	**147**	P	**P**	**22 47 01.6**	**+0.8**
RPZ	**Rata Peaks**	**44.59**	**151**	LR	LR	23 04 34.7	
	comp=Z,191nm,18.8s,baz=289,slow=35						
NJ2	**Nanjing**	**44.63**	**330**	*eP*	**P**	**22 47 03.4**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,7.0nm,1.2s						
RPSI	**Rantau Prapat**	**45.00**	**280**	P	P	22 47 03.6	-2.1
RPSI				IAmb	IAmb	22 47 11.3	
	comp=Z,20nm,1.3s						
KSAR	**Wonju Array Be**	**45.82**	**343**	P	**P**	**22 47 11.8**	**0.0**
KSRS	**Korea Array**	**45.82**	**343**	P	**P**	**22 47 10.8**	**-0.9**
	comp=Z,3.3nm,1.0s,baz=161,slow=11,SNR=9.8						
	comp=Z,3.3nm,1.0s						
GYA	**Guiyang**	**48.06**	**314**	⇓ *i* P	**P**	**22 47 30.4**	**+0.7**
GYA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
LYN	**LuoYang**	**49.91**	**327**	⇓P	**P**	**22 47 43.3**	**-0.3**

LYN pmax pmax
comp=Z,17nm,0.9s
CMAR Chiang Mai Arr 50.02 300 P **P** **22 47 43.4 -1.3**
comp=Z,1.8nm,0.4s,baz=127,slow=5.4,SNR=8.0
comp=Z,1.8nm,0.4s
KMI Kunming 50.18 310 ⇑P **P** **22 47 47.0 +0.9**
KMI pmax pmax
comp=Z,8.0nm,1.2s
USRK Ussuriysk Ar. 51.30 350 P **P** **22 47 52.9 -1.0**
comp=Z,3.2nm,1.0s,baz=161,slow=7.5,SNR=4.6
comp=Z,3.2nm,1.0s
PZH PanZhiHua 51.69 311 P **P** **22 47 57.3 0.0**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,140nm,4.9s
BJI Beijing 52.41 334 P **P** **22 48 01.3 -0.9**
BJI pmax pmax
comp=Z,2.0nm,1.0s
BNX BinXian 53.72 346 ⇓P **P** **22 48 10.8 -1.0**
BNX pmax pmax
comp=Z,10.0nm,1.2s
BNX pmax pmax
comp=Z,330nm,4.8s
HHC Hu-ho-hao-te 55.17 331 *e*P **P** **22 48 22.8 +0.2**
HHC pmax pmax
comp=Z,7.0nm,0.8s
HHC pmax pmax
comp=Z,120nm,5.3s
XLT XiLinHaoTe 55.65 337 *e*P **P** **22 48 27.6 +1.6**
XLT pP sP 22 48 38.2 +7.2
XLT sP pP 22 48 47.2 +18
XLT PcP **PcP** **22 49 26.0 +0.5**
XLT pmax pmax
comp=Z,6.0nm,0.8s
XLT pmax pmax
comp=Z,110nm,4.8s
LZH Lanzhou 56.00 322 *e*P **P** **22 48 29.2 +0.4**
LZH pP pP 22 48 33.6 +1.2
LZH pmax pmax
comp=Z,15nm,1.1s
RAR Rarotonga 57.13 111 LR LR 23 12 02.1
comp=Z,40nm,18.6s,baz=320,slow=35
PETK Petropavlovsk- 60.52 10 P **P** **22 48 59.9 +0.1**
PETK Petropavlovsk- 60.52 10 P **P** **22 48 59.6 -0.2**
comp=Z,11nm,1.0s,baz=159,slow=6.3,SNR=4.5
PETK LR LR 23 14 08.1
comp=Z,25nm,20.8s,baz=191,slow=35
comp=Z,11nm,1.0s
GTA Gaotai 60.58 322 *e*P **P** **22 49 00.9 +0.2**
GTA pP pP 22 49 05.9 +1.5
GTA pmax pmax
comp=Z,4.0nm,0.9s
GOMU GeErMu 61.93 317 P **P** **22 49 09.4 -0.8**
GOMU pP pP 22 49 14.5 +0.6
GOMU sP sP 22 49 15.8 +0.5
GOMU pmax pmax
comp=Z,2.0nm,1.2s
ULN Ulaanbaatar 62.61 334 P **P** **22 49 13.9 -0.4**
SONM Songino Array 62.88 333 P **P** **22 49 14.9 -1.2**
SONM Songino Array 62.88 333 P **P** **22 49 15.5 -0.5**
comp=Z,0.9nm,0.7s,baz=151,slow=7.0,SNR=7.1
SONM LR LR 23 16 55.0
comp=Z,87nm,19.7s,baz=166,slow=36
comp=Z,0.9nm,0.7s
KIWB Kanaga Island 67.19 25 P **P** **22 49 44.0 +0.1**
YAK Yakutsk 68.96 353 LR LR 23 20 01.7
comp=Z,26nm,18.6s,baz=125,slow=36
WMQ Urumqi 70.56 321 *e*P **P** **22 50 04.7 -0.4**
WMQ PP **PP** **22 52 43.7 +2.2**
WMQ pmax pmax
comp=Z,13nm,1.5s
VNDA Vanda 71.82 176 LR LR 23 19 34.3
comp=Z,128nm,18.5s,baz=221,slow=34
MK31 Makanchi Array 75.32 322 P **P** **22 50 32.1 -1.2**
MKAR Makanchi Array 75.32 322 P **P** **22 50 32.8 -0.4**
MKAR Makanchi Array 75.32 322 P **P** **22 50 33.0 -0.3**
comp=Z,7.3nm,0.9s,baz=111,slow=6.9,SNR=41
comp=Z,7.3nm,0.9s
MAKZ Makanchi 75.52 322 P **P** **22 50 33.6 -0.8**
MAKZ IAmb IAmb 22 50 35.1
comp=Z,12nm,0.9s
KSH Kashi 76.74 313 P **P** **22 50 43.0 +1.4**
KSH pP pP 22 50 47.0 +1.7
KSH pmax pmax
comp=Z,8.0nm,1.1s
NIL Nilore 76.98 307 P **P** **22 50 42.0 -1.0**
NIL IAmb IAmb 22 50 50.6
comp=Z,9.9nm,0.7s
ZAA0 Zalesovo Array 77.27 329 P P 22 50 42.4 -1.6
ZALV Zalesovo Beam 77.27 329 P P 22 50 42.5 -1.5
ZALV Zalesovo Beam 77.27 329 P **P** **22 50 42.8 -1.2**
comp=Z,2.8nm,0.8s,baz=104,slow=6.3,SNR=12
comp=Z,2.8nm,0.8s
AAK Ala-Archa 78.84 316 P **P** **22 50 52.1 -1.2**
KURK Kurchatov 79.19 324 P **P** **22 50 53.3 -1.4**
KURK IAmb IAmb 22 50 55.2
comp=Z,11nm,1.0s
KURBB Kurchatov Arra 79.20 324 P **P** **22 50 54.1 -0.7**
comp=Z,5.8nm,0.9s,baz=115,slow=4.7,SNR=31
comp=Z,5.8nm,0.9s
ARSB Arslanbob 79.48 314 P P 22 50 55.3 -1.5
ANM Nome 80.34 20 P **P** **22 51 00.2 -0.5**
ANM IAmb IAmb 22 51 10.6
comp=Z,17nm,1.4s
K15K Wolf Creek Mou 80.40 23 P **P** **22 51 01.1 0.0**
K15K IAmb IAmb 22 51 02.5
comp=Z,12nm,1.1s
KBL Kabul 80.58 306 P P 22 51 01.4 -1.6
GAR Garm 80.76 311 P **P** **22 51 02.4 -1.3**
GAR IAmb IAmb 22 51 04.3
comp=Z,11nm,1.0s
L16K Owhat River 80.90 24 P **P** **22 51 03.6 -0.2**
L16K IAmb IAmb 22 51 04.9
comp=Z,20nm,1.4s
N17K Nushagak Hills 81.24 26 P **P** **22 51 05.5 -0.2**
N17K IAmb IAmb 22 51 06.7
comp=Z,17nm,1.4s
F15K North Star Dit 81.28 19 P **P** **22 51 05.8 +0.1**
F15K IAmb IAmb 22 51 15.4
comp=Z,15nm,1.4s
J16K Anvik River 81.31 22 P **P** **22 51 06.0 +0.1**
OHAK Old Harbor 81.49 30 P **P** **22 51 07.0 0.0**
CHGR Chuyangaron 81.54 310 P **P** **22 51 06.7 -1.1**
I17K Unalakleet 81.60 22 P **P** **22 51 07.9 +0.4**
SIMJ Simiganj 81.65 310 P **P** **22 51 07.9 -0.6**
KK31 Karatay Array 81.77 315 P **P** **22 51 07.7 -1.2**
KKAR Karatay Array 81.77 315 P **P** **22 51 08.1 -0.8**
KKAR Karatay Array 81.77 315 P **P** **22 51 07.7 -1.2**
KKAR IAmb IAmb 22 51 15.4
comp=Z,8.1nm,1.4s
G16K Koyuk River 81.86 20 P **P** **22 51 08.9 +0.1**
G16K IAmb IAmb 22 51 19.3
comp=Z,11nm,1.2s
K17K Iditarod 81.89 23 P **P** **22 51 08.2 -0.9**
K17K IAmb IAmb 22 51 10.4
comp=Z,12nm,1.0s
L18K Granite Mounta 82.29 24 P **P** **22 51 10.9 -0.2**
L18K IAmb IAmb 22 51 12.6
comp=Z,16nm,1.3s
H17K Granite Mounta 82.46 21 P **P** **22 51 11.4 -0.6**
N19K Bonanza Creek 82.55 26 P **P** **22 51 11.8 -0.9**
N19K IAmb IAmb 22 51 19.0
comp=Z,12nm,1.2s
P19K Oil Pt 82.58 27 P **P** **22 51 11.5 -1.2**
C16K Lisburne Hills 82.64 17 P **P** **22 51 13.0 +0.2**
C16K IAmb IAmb 22 51 22.2
comp=Z,15nm,1.4s
J18K Innoko River 82.89 23 P **P** **22 51 13.7 -0.6**
J18K IAmb IAmb 22 51 18.9
comp=Z,13nm,1.3s
G18K Tagagawik 83.42 21 P **P** **22 51 16.4 -0.6**
G18K IAmb IAmb 22 51 20.5
comp=Z,7.1nm,1.1s
J19K Poorman 83.58 23 P **P** **22 51 17.5 -0.3**
J19K IAmb IAmb 22 51 18.4
comp=Z,7.9nm,1.1s
E18K Tukpahlearik C 83.60 19 P **P** **22 51 17.2 -0.6**
E18K IAmb IAmb 22 51 25.7
comp=Z,8.0nm,1.1s
M20K Styx River 83.61 25 P **P** **22 51 17.6 -0.6**
M20K IAmb IAmb 22 51 18.4
comp=Z,11nm,1.1s
QSPA South Pole Qui 83.62 180 P **P** **22 51 17.2 -1.0**
comp=Z,4.8nm,0.9s,baz=121,slow=0.5,SNR=26
QSPA LR LR 23 27 19.0
comp=Z,250nm,19.2s,baz=264,slow=35
comp=Z,4.8nm,0.9s
K20K Telida 83.89 24 P **P** **22 51 19.5 +0.1**
K20K IAmb IAmb 22 51 20.6
comp=Z,9.9nm,1.1s
H19K Roundabout Mou 84.02 21 P **P** **22 51 19.6 -0.4**
H19K IAmb IAmb 22 51 21.0
comp=Z,9.8nm,1.1s
G19K Purcell Mounta 84.10 21 P **P** **22 51 20.1 -0.3**
G19K IAmb IAmb 22 51 21.6
comp=Z,13nm,1.2s
C18K Utukok River 84.10 18 P **P** **22 51 20.4 -0.1**
C18K IAmb IAmb 22 51 21.1
comp=Z,13nm,1.4s
F19K Shaleruckik Mo 84.22 20 P **P** **22 51 20.6 -0.4**
F19K IAmb IAmb 22 51 35.6
comp=Z,7.3nm,1.1s
J20K Nowinta River 84.24 23 P **P** **22 51 20.4 -0.7**
J20K IAmb IAmb 22 51 22.3
comp=Z,10nm,1.1s
SUA Susitna One 84.46 26 P **P** **22 51 21.2 -1.3**
SUA IAmb IAmb 22 51 24.5
comp=Z,9.9nm,1.1s
E19K Redstone River 84.72 20 P **P** **22 51 22.9 -0.6**
E19K IAmb IAmb 22 51 24.6
comp=Z,7.7nm,0.9s
CAST Castle Rocks 84.72 24 P **P** **22 51 22.7 -0.9**
CAST IAmb IAmb 22 51 23.6
comp=Z,7.4nm,1.1s
RC01 Rabbit Creek A 84.76 27 P **P** **22 51 22.7 -1.1**
RC01 IAmb IAmb 22 51 23.7
comp=Z,12nm,1.1s
BVAR Borovoye Array 84.78 325 P **P** **22 51 23.9 -0.2**
comp=Z,19nm,0.8s,baz=104,slow=6.3,SNR=67
comp=Z,19nm,0.8s
C19K Lookout Ridge 84.84 18 P **P** **22 51 24.1 -0.1**
BRVK Borovoye 84.85 325 P **P** **22 51 23.7 -0.8**
D19K Kuna River 84.97 18 P **P** **22 51 23.9 -0.9**
D19K IAmb IAmb 22 51 32.5
comp=Z,12nm,1.1s
F20K Avaraart Lake 85.02 20 P **P** **22 51 24.1 -1.0**
IMAR Indian Mountai 85.22 22 P **P** **22 51 25.1 -1.0**
PMR Palmer 85.23 26 P **P** **22 51 24.9 -1.3**
PMR IAmb IAmb 22 51 30.7
comp=Z,7.1nm,0.9s
KTH Kantishna Hill 85.25 24 P P 22 51 24.8 -1.5
GHO Glory Hole Cre 85.39 26 P **P** **22 51 26.8 -0.3**
GHO IAmb IAmb 22 51 34.4
comp=Z,13nm,1.2s
KNK Knik Glacier 85.46 27 P **P** **22 51 26.8 -0.6**
I21K Tanana 85.52 23 P **P** **22 51 27.4 -0.1**
I21K IAmb IAmb 22 51 35.0
comp=Z,8.8nm,1.1s
MLY Manley 85.93 23 P **P** **22 51 28.8 -0.9**
HRA Herat 86.04 305 P **P** **22 51 29.6 -1.5**
RND Reindeer 86.04 25 P P 22 51 28.6 -1.7
RND IAmb IAmb 22 51 29.8
comp=Z,12nm,1.0s
DHY Denali Highway 86.54 25 IAmb IAmb 22 51 39.3
comp=Z,7.2nm,1.0s
WRH Wood River Hil 86.76 24 IAmb IAmb 22 51 33.1
comp=Z,9.0nm,1.0s
RAGM Ragged Mountai 86.83 28 P **P** **22 51 33.7 -0.5**
G23K Bananza Creek 86.89 21 IAmb IAmb 22 51 34.7
comp=Z,7.2nm,1.1s
D22K Ayikyak River 86.89 19 IAmb IAmb 22 51 36.0
comp=Z,6.0nm,0.9s
BERG Berg Lake 87.30 28 P **P** **22 51 36.0 -0.4**
B22K Teshekpuk Lake 87.32 18 P **P** **22 51 35.8 -0.5**
ILAR Eielson Array 87.35 24 P P 22 51 34.6 -2.0
ILAR Eielson Array 87.35 24 P P 22 51 34.3 -2.3
comp=Z,3.8nm,0.8s,baz=256,slow=5.1,SNR=28
ILAR LR LR 23 23 21.1
comp=Z,32nm,21.8s,baz=256,slow=31
comp=Z,3.8nm,0.8s
TGL Tana Glacier 87.82 28 P **P** **22 51 38.8 -0.3**
G24K Hadweenzic Riv 87.82 22 P **P** **22 51 38.3 -0.5**
G24K IAmb IAmb 22 51 39.7
comp=Z,8.2nm,1.1s
RIDG Independent Ri 87.84 25 P **P** **22 51 37.9 -1.2**
J25K Salcha River, 87.91 24 P P 22 51 37.6 -1.7
C23K Itkillik River 87.97 19 P **P** **22 51 38.8 -0.6**
F24K Squaw Lake 87.97 21 P **P** **22 51 39.7 +0.1**
D24K Happy Valley 88.27 19 P **P** **22 51 40.3 -0.6**
SCRK Sand Creek 88.28 25 P **P** **22 51 40.2 -1.0**
BARN Barnard Glacie 88.45 28 P **P** **22 51 42.1 -0.1**
CTGM Chitina Glacie 88.58 28 P **P** **22 51 42.5 -0.2**
FYU Fort Yukon 88.61 22 P **P** **22 51 42.0 -0.5**
J26L Joseph Creek 88.61 25 P **P** **22 51 42.0 -0.8**
J26L IAmb IAmb 22 51 43.4
comp=Z,5.7nm,0.9s
LOGN Logan Glacier 88.70 28 P **P** **22 51 42.4 -0.9**
M27K Edge Creek, AK 88.71 27 P **P** **22 51 42.7 -0.6**
L27K Beaver Creek, 88.93 26 P **P** **22 51 43.6 -0.6**
L27K IAmb IAmb 22 51 45.1
comp=Z,5.6nm,1.1s
BCAR Beaver Creek A 88.95 26 P **P** **22 51 43.9 -0.4**
E25K Arctic Village 89.01 21 P **P** **22 51 44.2 -0.3**
E25K IAmb IAmb 22 51 46.0
comp=Z,7.1nm,1.1s
K27K Chicken 89.09 25 P **P** **22 51 44.7 -0.2**
BMAR Burnt Mountain 89.14 22 P **P** **22 51 44.8 -0.3**
EGAK Eagle 89.69 25 IAmb IAmb 22 52 05.5
comp=Z,11nm,1.1s
GEYT Alibeck 89.90 308 P P 22 51 47.0 -2.4
comp=Z,1.0nm,0.7s,baz=29,slow=3.3,SNR=2.2
comp=Z,1.0nm,0.7s
DAWY Dawson 90.25 25 P **P** **22 51 49.5 -0.9**
L29M L29M 90.57 26 P **P** **22 51 51.3 -0.6**
L29M IAmb IAmb 22 51 53.0
comp=Z,6.3nm,0.8s
K29M Barlow Dome 91.00 26 P **P** **22 51 53.2 -0.7**
K29M IAmb IAmb 22 51 54.9
comp=Z,6.9nm,1.0s
J30M Hart River 91.66 25 P **P** **22 51 55.7 -1.3**
J30M IAmb IAmb 22 52 05.7
comp=Z,8.7nm,1.4s
ELIB Princess Elisa 92.83 196 *d*P **P** **22 52 01.8 -0.6**
YBH Yreka Blue Hor 97.32 49 LR LR 23 33 16.6
comp=Z,48nm,18.7s,baz=264,slow=34
BELG Belogornoye 98.32 322 P P 22 52 25.6 -1.9
comp=Z,9.6nm,0.8s,baz=156,slow=1.2,SNR=4.3
TORD Torodi Ar. Bea 141.39 283 PKP **PKPdf** **22 58 21.2 -0.7**
comp=Z,1.4nm,1.1s,baz=73,slow=1.9,SNR=4.2
KIC Kosan Boka 148.02 272 ⇑*i*PKP2 **PKPdf** **22 58 36.4 +2.9**
comp=Z,28nm,1.1s
DBIC Dimbokro 148.15 272 PKPbc **PKPdf** **22 58 36.7 +3.0**
comp=Z,8.3nm,1.0s,baz=49,slow=5.1,SNR=7.2
LIC Lamto 148.31 272 ⇑*i*PKP2 **PKPdf** **22 58 37.1 +3.2**
comp=Z,44nm,1.0s
TIC Toumodi 148.31 272 ⇑*e*PKP2 **PKPdf** **22 58 35.4 +1.4**
comp=Z,2.3nm,0.2s

TAP 02 23:14:17.2,24°54N×122°00E,h26km,ML2.0,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ESAO	**Su ao**	**0.15**	**285**	*e*S		Sb	23 14 27.1	+1.1
	baz=286							
TWC	**Suao**	**0.15**	**297**	S		Sb	23 14 25.9	-0.2
	baz=300							
EWUT	**Wuta**	**0.22**	**245**	*e*S		Sb	23 14 27.2	-0.2
	baz=246							
ENA	**Nanau**	**0.26**	**245**	*e*S		Sb	23 14 28.3	+0.1
	baz=244							
NDS	**Dongshan**	**0.28**	**290**	*e*P		Pb	23 14 24.5	+0.5
	baz=290							
TWE	**Neicheng**	**0.35**	**301**	S		Sb	23 14 31.0	+0.5
	baz=303							
LATG	**Datong**	**0.43**	**270**	*e*S		Sn	23 14 34.6	-0.2
	baz=278							
FUSB	**Fushanzhiwuyua**	**0.43**	**301**	S		Sb	23 14 33.0	+0.3
	baz=300							
TIPB	**Shuangxi**	**0.46**	**340**	*e*S		Sb	23 14 31.1	-2.3
	baz=346							
NWLT	**Wulai**	**0.51**	**298**	*e*P		Pn	23 14 30.7	+1.9
	baz=300							
NWLT				*i* S		Sb	23 14 35.4	+0.6
	baz=300							
YHNB	**Yeheng**	**0.58**	**283**	*e*P		Pn	23 14 30.1	+0.3
	baz=285							
YHNB				S		Sn	23 14 37.9	-0.7
	baz=285							
NSK	**Sanguang**	**0.60**	**283**	S		Sb	23 14 37.6	+0.3
	baz=285							
TNOU	**National Taiwa**	**0.64**	**341**	*e*S		Sn	23 14 40.4	+0.5
	baz=356							
FUSS	**Fushou**	**0.75**	**247**	*e*S		Sn	23 14 43.2	+0.3
	baz=253							

JMA 02 23:14:49.2±0.2,24°2N±0°4×123°8E±0°5,h17km±1km,
MV0.9/7,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.12**	**321**	*e*P		Pg	23 14 52.8	-0.1
IRIF					S	Sb	23 14 55.9	+0.4
JKRS	**Kuro-shima**	**0.18**	**92**	P		Pg	23 14 53.7	0.0
JKRS					eS	Sg	23 14 56.5	-0.3
HATJ	**Hateruma jima**	**0.19**	**182**	*i* P		Pg	23 14 53.7	-0.1
HATJ					eS	Sg	23 14 57.0	+0.1
JIJ	**Ishigaki jima**	**0.33**	**68**	*e*P		Pg	23 14 55.8	-0.2
JIJ					eS	Sg	23 15 00.3	-0.4
JISG	**Ishigakijimahi**	**0.57**	**53**	*e*P		Pg	23 15 00.5	0.0
JYNG	**Yonagunijimaku**	**0.82**	**285**	*e*P		Pb	23 15 03.9	-1.0

*IDC **02** 23:21:11.6±22.0,23°32S×179°55W,h359km±245km,*
mb3.4/6,mbtmp4.1/6,Error ellipse: s-maj=155.7km
s-min=47.2km az=173.0
*NEIC **02** 23:21:24.4±1.4,23°8S±0°2×179°6W±0°3,h504km±22km,*
mb4.1/17,Error ellipse: s-maj=43.6km s-min=10.1km
az=48.0
ISC 02 23:21:23.9±0.9,23°8S±0°2×179°6W±0°1,h500km,n26,
σ1s03/26,mb3.9/13,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**11.94**	**273**	P		**P**	**23 24 02.4**	**+0.6**
LIFNC	**LIFOU**	**12.51**	**281**	P		**P**	**23 24 08.5**	**+0.6**
BFZ	**Birch Farm**	**17.23**	**191**	P		**P**	**23 24 56.7**	**-0.2**
MRZ	**Mangatainoka R**	**17.33**	**192**	P		**P**	**23 24 55.1**	**-2.9**
MRZ				IAmb		IAmb	23 25 10.7	
	comp=Z,15nm,1.2s							
NNZ	**Nelson**	**18.37**	**197**	P		**P**	**23 25 07.5**	**0.0**
NNZ				IAmb		IAmb	23 25 26.9	
	comp=Z,6.0nm,0.9s							
LTZ	**Lake Taylor**	**20.12**	**198**	P		**P**	**23 25 23.8**	**+0.2**
INZ	**Inchbonnie**	**20.31**	**199**	P		**P**	**23 25 25.9**	**+0.7**
WHZ	**Wether Hill Ro**	**24.26**	**201**	P		**P**	**23 26 02.2**	**+1.5**
WHZ				IAmb		IAmb	23 26 02.2	
	comp=Z,4.6nm,0.9s							
EIDS	**Eidsvold**	**26.66**	**260**	P		**P**	**23 26 22.8**	**+0.6**
EIDS				IAmb		IAmb	23 26 23.1	
	comp=Z,2.5nm,0.8s							
CTAO	**Charters Tower**	**31.81**	**270**	P		**P**	**23 27 07.2**	**+0.2**
CTAO				IAmb		IAmb	23 27 08.1	
	comp=Z,7.7nm,0.7s							
STKA	**Stephens Creek**	**35.08**	**248**	P		**P**	**23 27 33.9**	**-0.7**
STKA	**Stephens Creek**	**35.08**	**248**	P		**P**	**23 27 33.8**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=56,slow=4.6,SNR=4.2							
	comp=Z,1.6nm,0.7s							
BBOO	**Buckleboo**	**39.80**	**247**	P		**P**	**23 28 12.4**	**-0.9**
BBOO				IAmb		IAmb	23 28 23.9	
	comp=Z,3.9nm,1.1s							
AS31	**Alice Springs**	**42.38**	**260**	P		**P**	**23 28 33.7**	**-0.3**
ASAR	**Alice Springs**	**42.38**	**260**	P		**P**	**23 28 33.7**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=96,slow=6.9,SNR=24							
	comp=Z,2.3nm,0.8s							
WR0	**Warramunga Arr**	**42.56**	**266**	P		**P**	**23 28 34.3**	**-1.1**
WB2	**Warramunga Arr**	**42.74**	**266**	P		**P**	**23 28 35.9**	**-1.0**
WB2				IAmb		IAmb	23 28 36.4	
	comp=Z,4.3nm,0.6s							
WB0	**Warramunga Arr**	**42.74**	**266**	P		**P**	**23 28 35.9**	**-1.0**
WB0				IAmb		IAmb	23 28 36.4	
	comp=Z,5.2nm,0.5s							
WRAB	**Tennant Creek**	**42.74**	**266**	P		**P**	**23 28 35.7**	**-1.1**
WRAB				IAmb		IAmb	23 28 36.1	
	comp=Z,3.1nm,0.6s							
WRA	**Warramunga Arr**	**42.75**	**266**	P		**P**	**23 28 36.0**	**-0.9**
WRA	**Warramunga Arr**	**42.75**	**266**	P		**P**	**23 28 36.1**	**-0.9**
	comp=Z,3.3nm,0.5s,baz=96,slow=8.4,SNR=95							
	comp=Z,3.3nm,0.5s							
FORT	**Forrest**	**46.67**	**249**	P		**P**	**23 29 06.2**	**-0.8**
QSPA	**South Pole Qui**	**66.33**	**180**	P		**P**	**23 31 23.5**	**+1.3**
NVAR	**Mina Array Bea**	**84.42**	**44**	P		**P**	**23 33 02.5**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=232,slow=4.4,SNR=1.8							
	comp=Z,0.3nm,0.4s							
CMAR	**Chiang Mai Arr**	**89.79**	**290**	P		**P**	**23 33 30.1**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=114,slow=4.4,SNR=2.1							
	comp=Z,0.6nm,0.3s							
TXAR	**Lajitas Array**	**90.07**	**58**	P		**P**	**23 33 30.9**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=211,slow=6.3,SNR=4.6							
	comp=Z,0.3nm,0.6s							

*BUC **02** 23:22:53.8±0.2,45°72N×26°79E,h118km±1km,ml3.9/69,*
Error ellipse: s-maj=1.4km s-min=1.2km az=0.0
*CFUSG **02** 23:22:53.0,46°00N×26°80E,h100km,mb3.0/2,Romania*
Magtype MSH 3.4 from 1 stations
*SOF **02** 23:22:55.8,45°59N±0°01×26°77E±0°02,h100km±3km,*
MD3.3/4
*BEO **02** 23:22:59.1±0.9,45°04N×25°98E,h0km,ML2.7/5*
ISC 02 23:22:52.2±1.3,45.73N±0°03×26.76E±0°02,h132km±6km,
n95,σ1s14/153,83C-44D,Romania

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SPBR	**Spulber**	**0.02**	**347**	⇑P		**Pn**	**23 23 10.8**	**+0.7**
SPBR					⇓S	Sn	23 23 23.4	-0.3
VRI	**Vrincioaia**	**0.14**	**351**	⇑P		**Pn**	**23 23 10.7**	**+0.5**
VRI					⇑S	Sn	23 23 23.1	-0.7
PLOR	**Plostina**	**0.14**	**328**	⇑P		**Pn**	**23 23 10.6**	**+0.4**
PLOR					⇑S	Sn	23 23 23.0	-0.9
BISRR	**Bisoca**	**0.19**	**190**	⇑P		**Pn**	**23 23 11.1**	**+0.8**
BISRR					⇑S	Sn	23 23 23.2	-0.8
ODBI	**Odobesti**	**0.21**	**81**	⇑S		**Sn**	**23 23 23.2**	**-0.7**
PANC	**Panciu**	**0.31**	**63**	⇑P		**Pn**	**23 23 11.1**	**+0.5**
PANC					⇓S	Sn	23 23 24.1	-0.3
GRER		**0.38**	**156**	⇑S		**Sn**	**23 23 23.5**	**-1.5**
COVR	**Voineasa-Covas**	**0.40**	**287**	⇑P		**Pn**	**23 23 11.5**	**+0.4**
COVR					⇓S	Sn	23 23 24.7	-0.6
NEHR	**Nehoiu**	**0.45**	**227**	⇓P		**Pn**	**23 23 12.2**	**+0.9**
NEHR					⇑S	Sn	23 23 25.5	-0.1
GHRR		**0.56**	**54**	⇓P		**Pn**	**23 23 12.5**	**+0.7**
GHRR					⇓S	Sn	23 23 26.8	+0.1
TURR	**Turia**	**0.61**	**302**	⇑P		**Pn**	**23 23 12.9**	**+0.7**
TURR					⇑S	Sn	23 23 27.3	-0.1
MLR	**Muntele Rosu**	**0.62**	**247**	⇑P		**Pn**	**23 23 13.0**	**+0.9**
MLR					⇑S	Sn	23 23 27.4	-0.2
ISR	**Istrita**	**0.63**	**194**	⇑P		**Pn**	**23 23 13.4**	**+1.0**
ISR					⇑S	Sn	23 23 26.5	-1.1
TUDR		**0.66**	**102**	⇓P		**Pn**	**23 23 12.7**	**+0.3**
TUDR					⇓S	Sn	23 23 27.3	-0.4
SLCR	**Slobozia Conac**	**0.72**	**101**	⇓P		**Pn**	**23 23 13.3**	**+0.4**
SLCR					⇑S	Sn	23 23 27.8	-0.8
IZVR	**Izvoarele**	**0.73**	**105**	⇑P		**Pn**	**23 23 13.4**	**+0.4**
IZVR					⇑S	Sn	23 23 27.6	-1.1
OZUR		**0.77**	**299**	⇑P		**Pn**	**23 23 13.6**	**+0.3**
OZUR					⇑S	Sn	23 23 28.2	-1.1
VARL	**Varlezi**	**0.78**	**77**	⇓P		**Pn**	**23 23 13.8**	**+0.4**
VARL					⇓S	Sn	23 23 28.6	-0.8
TESR	**Tescani**	**0.78**	**355**	⇑P		**Pn**	**23 23 13.6**	**+0.2**
TESR					⇑S	Sn	23 23 28.1	-1.4
SCHL	**Schela**	**0.79**	**107**	⇓P		**Pn**	**23 23 13.9**	**+0.5**
SCHL					⇑S	Sn	23 23 28.6	-0.9
BIR	**Birlad**	**0.81**	**48**	⇓P		**Pn**	**23 23 14.2**	**+0.6**
BIR					⇑S	Sn	23 23 28.7	-1.1
NEGRR	**Negrea**	**0.81**	**104**	⇓P		**Pn**	**23 23 14.2**	**+0.6**
NEGRR					⇑S	Sn	23 23 29.4	-0.4
BOSR	**Bodos**	**0.84**	**295**	⇓P		**Pn**	**23 23 14.4**	**+0.5**
BOSR					⇓S	Sn	23 23 29.5	-0.8
SCTR	**Scanteiesti**	**0.87**	**93**	⇓P		**Pn**	**23 23 14.8**	**+0.8**
SCTR					⇓S	Sn	23 23 30.1	-0.6
TATR	**Tatarca**	**0.92**	**98**	⇓P		**Pn**	**23 23 15.2**	**+0.7**
TATR					⇓S	Sn	23 23 30.9	-0.5
VLDR	**Vladesti**	**0.93**	**83**	⇓P		**Pn**	**23 23 15.4**	**+0.7**
VLDR					⇓S	Sn	23 23 31.0	-0.7
GISR	**Galati**	**0.96**	**107**	⇑P		**Pn**	**23 23 15.3**	**+0.4**
GISR					⇑S	Sn	23 23 31.3	-0.7
PLAR	**PLOIESTI**	**0.97**	**212**	⇑S		**Sn**	**23 23 32.8**	**+0.6**
DOPR	**Dopca**	**0.98**	**284**	⇑P		**Pn**	**23 23 16.0**	**+0.8**
DOPR					⇓S	Sn	23 23 32.0	-0.6
GIUM	**Giurgiulesti**	**1.05**	**103**	⇑P		**Pn**	**23 23 16.6**	**+0.9**

GIUM				⇑S		Sn	23 23 33.2	-0.3	
SULR			1.11 199	⇑P		Pn	23 23 17.7	+1.4	
SULR				⇓S		Sn	23 23 34.7	+0.1	
CFR	**Carcaliu**		1.12 119	⇑P		Pn	23 23 16.7	+0.4	
CFR				⇓S		Sn	23 23 33.8	-0.9	
VASR	**Vaslui**		1.16 38	⇓P		Pn	23 23 17.5	+0.8	
VASR				⇓S		Sn	23 23 34.9	-0.6	
AMRR	**Amara**		1.19 160	⇓P		Pn	23 23 18.2	+1.0	
AMRR				⇑S		Sn	23 23 36.2	+0.1	
VOIR			1.23 257	⇑P		Pn	23 23 18.3	+0.7	
VOIR				⇑S		Sn	23 23 36.4	-0.6	
GIRR	**Girov**		1.24 352	⇑P		Pn	23 23 18.5	+0.9	
LEOM	**Leova**		1.27 54	⇓P		Pn	23 23 18.7	+0.8	
LEOM				⇑S		Sn	23 23 37.0	-0.6	
BIZ	**Bicaz**		1.29 340	⇑S		Sn	23 23 38.1	+0.2	
MTUR	**Matau**		1.29 248	⇑P		Pn	23 23 19.8	+1.5	
JOSR	**Joseni**		1.30 319	⇑P		Pn	23 23 18.9	+0.6	
JOSR				⇑S		Sn	23 23 38.1	-0.1	
HARR	**Harsova**		1.33 141	⇑P		Pn	23 23 19.3	+0.7	
INCR	**INCERC-Sediu C**		1.36 198	⇑S		Sn	23 23 39.3	+0.2	
CIOR	**Ciorogarla**		1.43 206	⇑P		Pn	23 23 20.7	+1.1	
CIOR				⇑S		Sn	23 23 41.3	+0.9	
TPGR	**Topolog**		1.46 126	⇓P		Pn	23 23 20.4	+0.3	
TPGR				⇑S		Sn	23 23 39.8	-1.5	
BUC1	**Bucharest**		1.48 201	⇑P		Pn	23 23 21.3	+1.2	
BUC1				⇑S		Sn	23 23 41.4	0.0	
TLBR	**Topalu**		1.50 142	⇓P		Pn	23 23 21.2	+0.8	
TLBR				⇑S		Sn	23 23 40.4	-1.4	
ARR	**Arges**		1.54 257	⇑P		Pn	23 23 22.5	+1.6	
ARR				⇑S		Sn	23 23 43.0	+0.3	
STFAR	**Stefanesti-Arg**		1.54 236	⇑P		Pn	23 23 22.2	+1.3	
STFAR				⇓S		Sn	23 23 44.1	+1.5	
TLCR			1.55 110	⇓P		Pn	23 23 21.5	+0.6	
TLCR				⇑S		Sn	23 23 42.6	-0.3	
SGRR	**Singureni**		1.61 200	⇑P		Pn	23 23 22.6	+0.9	
SGRR				⇑S		Sn	23 23 44.3	+0.3	
CVDA	**Cernavoda**		1.67 147	⇓P		Pn	23 23 23.4	+1.1	
CVDA				⇑S		Sn	23 23 44.1	-1.1	
PRAR	**RASCA**		1.67 348	⇑P		Pn	23 23 23.6	+1.2	
MDB	**Medias**		1.71 285	⇑P		Pn	23 23 24.7	+1.9	
TIRR	**Tirgusor**		1.73 137	⇓P		Pn	23 23 23.8	+0.8	
TIRR				⇑S		Sn	23 23 45.1	-1.5	
HUMR	**Humele**		1.74 227	⇑P		Pn	23 23 24.1	+0.9	
HUMR				⇓S		Sn	23 23 46.6	-0.2	
ICOR	**Ion Corvin**		1.78 155	⇑P		Pn	23 23 24.8	+1.2	
ICOR				⇑S		Sn	23 23 46.8	-0.8	
MILM	**Milestii Mici**		1.85 49	⇓P		Pn	23 23 25.2	+0.8	
KIS	**Kishinev**		1.91 48	⇑P		Pn	23 23 25.9	+0.8	
COPA	**Copaceanca**		1.94 215	⇑S		Sn	23 23 50.7	-0.2	
MFTR	**Murfatlar**		1.95 142	⇑P		Pn	23 23 26.6	+0.9	
MFTR				⇑S		Sn	23 23 50.7	-0.6	
EFOR	**EFORIE**		2.12 140	⇓P		Pn	23 23 28.8	+1.1	
EFOR				⇑S		Sn	23 23 54.4	-0.6	
BURAR	**Bucovina Array**		2.16 331	⇑P		Pn	23 23 30.7	+2.4	
RAZG	**Razgrad**		2.17 185	⇑P		Pn	23 23 29.5	+1.0	
ZIMR			2.30 206	⇑P		Pn	23 23 30.8	+0.9	
PURM	**Purcari**		2.31 69	⇓P		Pn	23 23 30.9	+0.9	
PURM				⇓S		Sn	23 23 57.9	-1.1	
PSN	**Preselentsi**		2.31 154	P		Pn	23 23 31.3	+1.2	
PSN				S		Sn	23 23 59.1	-0.1	
MANR	**Mangalia**		2.32 145	⇑P		Pn	23 23 31.3	+1.1	
LOZB	**Loznitsa**		2.37 183	⇑P		Pn	23 23 31.6	+0.8	
VLAD	**Vladila**		2.41 225	⇓P		Pn	23 23 32.1	+0.7	
NEF	**NEVSHA**		2.50 171	P		Pn	23 23 33.7	+1.3	
NEF				S		Sn	23 24 02.5	-0.8	
SZH	**Strazhitsa**		2.53 193	P		Pn	23 23 34.0	+1.1	
SZH				S		Sn	23 24 01.5	-2.6	
PRD	**Provadia**		2.61 169	P		Pn	23 23 35.2	+1.3	
PRD				S		Sn	23 24 06.8	+0.8	
SORM	**Soroca**		2.64 24	⇓P		Pn	23 23 34.5	+0.3	
MARR	**Marisel-Cluj**		2.70 292	⇑P		Pn	23 23 36.1	+1.1	
SRE	**Strehaia**		2.73 248	⇓P		Pn	23 23 35.9	+0.6	
GZR	**Gura Zlata**		2.82 265	⇑P		Pn	23 23 38.6	+2.1	
GZR				⇑S		Sn	23 24 12.3	+1.6	
GZR	**Gura Zlata**		2.82 265	*e*Pn		Pn	23 23 38.2	+1.7	
GZR				*e*Sn		Sn	23 24 08.1	-2.6	
ELND	**Elena**		2.87 193	⇑P		Pn	23 23 38.6	+1.4	
BAIL	**Bailesti**		2.97 236	⇑S		Sn	23 24 14.4	+0.4	
PUNG	**Punghina**		3.08 243	⇑P		Pn	23 23 40.3	+0.4	
VALD	**Valchedram**		3.13 230	P		Pn	23 23 41.9	+1.4	
HERR	**Herculane**		3.18 256	⇑P		Pn	23 23 41.9	+0.7	
MPEP	**Malo Peshtene**		3.21 223	P		Pn	23 23 43.1	+1.5	
JMB	**Yambol**		3.24 183	P		Pn	23 23 43.2	+1.1	
JMB				S		Sn	23 24 19.4	-1.1	
BZS	**Buzias**		3.60 270	⇑P		Pn	23 23 47.7	+1.0	
BZS	**Buzias**		3.60 270	*e*Pn		Pn	23 23 47.9	+1.2	
BZS				*e*Sn		Sn	23 24 27.5	-1.5	
ZAGS	**Zajecar**		3.75 241	*e*Pn		Pn	23 23 45.9	-2.8	
KUBS	**Kucevo**		3.83 252	*e*Pn		Pn	23 23 49.9	+0.1	
KUBS				*e*Sn		Sn	23 24 26.1	-8.3	
ZAPS	**Zavoj**		3.84 232	*e*Pn		Pn	23 23 46.8	-3.1	
ZAPS				*e*Sn		Sn	23 24 23.5	-11	
VTS	**Vitosha**		4.01 220	*e*Pn		Pn	23 23 51.3	-1.0	
VTS				*e*Sn		Sn	23 24 28.7	-10	
PRVS	**Prvonek**		4.66 228	*e*Pn		Pn	23 23 59.9	-0.9	
PRVS				*e*Sn		Sn	23 24 42.3	-12	
GRUS	**Gruza**		4.68 249	*e*Pn		Pn	23 24 00.9	-0.1	
SEV	**Sevastopol'**		5.03 101	*e*P		Pn	23 24 06.5	+0.8	
SEV				Pm			23 24 07.4		
	comp=Z,6.0nm,0.3s								
SEV				*e*S		Sn	23 25 03.5	+0.6	
SEV				Sm			23 25 06.9		
	comp=N,3.0nm,0.4s								
SEV				Sm			23 25 06.9		
	comp=E,2.0nm,0.3s								
DIVS	**Divibare**		5.08 254	*e*Sn		Sn	23 24 57.6	-6.5	
YAL	**Yalta**		5.38 101	*e*P		Pn	23 24 11.5	+1.1	
YAL				Pm			23 24 11.6		
	comp=Z,11nm,0.4s								

IDC 02 23:27:07.4±2.9, 6°15S×141°43E, h0km, mb4.0/3, mbtmp4.0/5, ML3.8/2, Error ellipse: s-maj=99.7km s-min=24.5km az=99.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.35**	**206**	Pn	Pn	23 30 44.8	-0.7
	0.4nm,0.3s,baz=28,slow=13,SNR=12						
WRA				Sn	Sn	23 33 37.5	+1.2
	0.2nm,0.3s,baz=21,slow=22,SNR=1.6						
WRA				Lg	Lg	23 35 16.1	
	0.1nm,0.3s,baz=29,slow=29,SNR=1.8						
	1.9nm,0.7s						
ASAR	**Alice Springs**	**18.86**	**202**	P	P	23 31 29.0	-0.3
	0.4nm,0.3s,baz=30,slow=10,SNR=30						
	3.8nm,0.6s						
MKAR	**Makanchi Array**	**74.15**	**322**	P	P	23 38 47.2	+1.4
	0.7nm,0.8s,baz=134,slow=6.2,SNR=7.9						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**78.08**	**325**	P	P	23 39 07.7	-0.4
	0.4nm,0.2s,baz=112,slow=6.1,SNR=2.0						
	0.4nm,0.2s						
BVAR	**Borovoye Array**	**83.66**	**325**	P	P	23 39 36.9	-1.0
	1.2nm,0.7s,baz=98,slow=6.1,SNR=8.7						
	1.2nm,0.7s						

IDC 02 23:33:01.8±294.0, 55°76N×45°42E, h0km, Error ellipse: s-maj=104.6km s-min=80.9km az=135.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**4.67**	**285**	I	I	00 02 35.0	
	0.2nm,1.0s,baz=98,slow=340,SNR=4.6						
I31KZ	**AKTYUBINSK INF**	**9.29**	**120**	I	I	00 27 40.0	
	0.1nm,1.0s,baz=311,slow=332,SNR=10						
I46RU	**ZALESOVO INFRA**	**22.55**	**78**	I	I	01 50 02.8	
	baz=289,slow=307,SNR=1.2						

IDC 02 23:48:05.6±2.4, 7°54S×127°90E, h0km, mb3.2/1, mbtmp3.3/3, ML3.6/2, Error ellipse: s-maj=289.5km s-min=32.7km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.81**	**154**	Pn	Pn	23 51 22.0	-1.0
	0.3nm,0.3s,baz=331,slow=13,SNR=18						
WRA				Sn	Sn	23 53 44.4	-13
	0.8nm,0.3s,baz=336,slow=22,SNR=14						
	0.3nm,0.4s						

ASAR	**Alice Springs**		**17.03**	**161**	P	Pn	23 52 06.3	+0.8	
	0.3nm,0.3s,baz=340,slow=10.0,SNR=8.7								
ASAR					S	Sn	23 55 05.5	-10	
	0.3nm,0.3s,baz=350,slow=25,SNR=3.3								
	0.4nm,0.4s								
MKAR	**Makanchi Array**		**67.56**	**328**	P	P	23 59 04.0	0.0	
	0.3nm,1.0s,baz=128,slow=7.1,SNR=4.1								
	0.3nm,1.0s								

*NEIC **03** 00:04:10.6±1.2, 37°.87S±0°.06×75°.5W±0°.1, h10km±2km, mb4.1/11, Error ellipse: s-maj=14.0km s-min=10.5km az=258.0*

*IDC **03** 00:04:11.3±0.9, 37°.98S×75°.29W, h0km, mb4.2/6, mbtmp4.0/8, ML4.0/2, MS3.3/2, Error ellipse: s-maj=32.3km s-min=21.8km az=55.0*

*GUC **03** 00:04:14.8±0.5, 37°.87S×75°.08W, h25km±5km, ML3.6*

ISC 03 00:04:14.8±0.7, 37.84S±0°.06×75°.33W±0°.08, h35km, n79, σ1s29/78, mb4.1/11, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BI04	**Isla Mocha**	**1.27**	**117**	*i* P	**Pn**	**00 04 34.2**	**-1.9**
BI04				*e*S	**Sn**	**00 04 48.4**	**-3.5**
BI04				IAML		00 04 53.1	
	comp=N,2μm,0.6s						
LC02	**Puerto Saavedr**	**1.80**	**122**		**Pn**	**00 04 42.5**	**-0.8**
LC02	**Puerto Saavedr**	**1.80**	**122**	*i* P	**Pn**	**00 04 41.7**	**-1.6**
BI05	**Punta Hualpn**	**2.02**	**58**	Pn	**Pn**	**00 04 46.3**	**-0.1**
BI05	**Punta Hualpn**	**2.02**	**58**	*i* P	**Pn**	**00 04 46.4**	**0.0**
BI05				*e*S	**Sn**	**00 05 08.4**	**-2.0**
BI05				IAML		00 05 13.3	
	comp=E,883nm,0.2s						
LR03	**Panguipulli**	**2.94**	**128**		**Pn**	**00 04 58.5**	**-0.5**
BI02	**San Fabin de**	**3.44**	**71**	⇑*i* P	**Pn**	**00 05 05.9**	**-0.1**
BI02				*e*S	**Sn**	**00 05 45.0**	**-0.6**
BI02				IAML		00 05 47.8	
	comp=N,224nm,0.3s						
GO06	**Curarrehue**	**3.48**	**121**	Pn	**Pn**	**00 05 06.3**	**-0.3**
GO06	**Curarrehue**	**3.48**	**121**	*i* P	**Pn**	**00 05 06.4**	**-0.2**
GO06				IAML		00 05 47.4	
	comp=N,126nm,0.5s						
LR05	**Currie**	**3.52**	**134**	Pn	**Pn**	**00 05 06.5**	**-0.5**
ML02	**Panimavida**	**3.76**	**58**		**Pn**	**00 05 10.9**	**+0.6**
LL05	**Los Muermos**	**3.84**	**159**		**Pn**	**00 05 09.2**	**-2.1**
GO05	**Huala**	**3.94**	**45**		**Pn**	**00 05 12.6**	**-0.1**
GO05	**Huala**	**3.94**	**45**	*i* P	**Pn**	**00 05 13.2**	**+0.5**
LL03	**Petrohue**	**4.00**	**146**		**Pn**	**00 05 12.9**	**-0.6**
BO03	**Pichilemu**	**4.31**	**40**	*i* P	**Pn**	**00 05 18.5**	**+0.7**
LL06	**Loncomilla**	**4.56**	**164**		**Pn**	**00 05 19.1**	**-2.2**
PLCA	**Paso Flores**	**4.70**	**129**	Pn	**Pn**	**00 05 23.2**	**0.0**
PLCA	**Paso Flores**	**4.70**	**129**	Pn	**Pn**	**00 05 22.8**	**-0.4**
	comp=N,1.6nm,0.3s,baz=306,slow=11,SNR=31						
PLCA				Sn	**Sn**	**00 06 17.2**	**+0.6**
	comp=N,1.9nm,0.3s,baz=11,slow=17,SNR=2.2						
PLCA				LR	LR	00 06 29.0	
	comp=N,109nm,18.2s,baz=305,slow=30						
	comp=N,3.5nm,0.3s						
PLCA	**Paso Flores**	**4.70**	**129**	*i* P	**Pn**	**00 05 23.3**	**0.0**
BO02	**Sierra Bellavi**	**4.77**	**52**		**Pn**	**00 05 24.4**	**+0.2**
BO01	**Tunca**	**4.86**	**46**	Pn	**Pn**	**00 05 25.2**	**-0.2**
BO01	**Tunca**	**4.86**	**46**	*i* P	**Pn**	**00 05 25.9**	**+0.5**
H03S1	**Juan Fernandez**	**4.93**	**323**	T	T	00 10 38.4	
	baz=144,slow=72,SNR=18						
H03S2	**Juan Fernandez**	**4.95**	**323**	T	T	00 10 37.5	
	baz=144,slow=72,SNR=16						
H03S3	**Juan Fernandez**	**4.95**	**323**	T	T	00 10 39.6	
	baz=144,slow=72,SNR=20						
LL01	**San Ignacio de**	**5.06**	**155**		**Pn**	**00 05 26.1**	**-1.9**
VA04	**Juan Fernndez**	**5.06**	**325**	Pn	**Pn**	**00 05 26.4**	**-1.7**
VA05	**Santo Domingo**	**5.15**	**37**		**Pn**	**00 05 29.8**	**+0.5**
LL07	**Hotel Espejo d**	**5.18**	**165**		**Pn**	**00 05 27.0**	**-2.7**
MT09	**Talagante**	**5.37**	**42**	Pn	**Pn**	**00 05 33.0**	**+0.4**
GO07	**Milladeo Hill,**	**5.42**	**167**		**Pn**	**00 05 31.1**	**-1.9**
BO04	**La Punta**	**5.42**	**46**		**Pn**	**00 05 33.1**	**-0.1**
VA01	**Torpederas**	**5.67**	**33**	Pn	**Pn**	**00 05 36.3**	**-0.2**
MT02	**Curacav**	**5.71**	**38**		**Pn**	**00 05 36.6**	**-0.4**
LMEL	**Las Melosas**	**5.76**	**48**		**Pn**	**00 05 38.2**	**+0.3**
MT13	**San Alfonso**	**5.79**	**47**		**Pn**	**00 05 38.8**	**+0.6**
MT05	**Renca**	**5.80**	**41**	Pn	**Pn**	**00 05 37.5**	**-0.9**
MT03	**Universidad Ad**	**5.85**	**44**		**Pn**	**00 05 38.1**	**-0.9**
MT16	**CCHEN**	**5.89**	**43**		**Pn**	**00 05 39.8**	**+0.2**
LL02	**Futaleuf**	**5.97**	**155**	Pn	**Pn**	**00 05 39.3**	**-1.3**
PEL	**Peldehue**	**6.02**	**40**		**Pn**	**00 05 42.0**	**+0.6**
FCH	**Farellones**	**6.09**	**44**	⇓*i* P	**Pn**	**00 05 42.9**	**+0.3**
VA06	**Catapilco**	**6.21**	**33**	Pn	**Pn**	**00 05 43.4**	**-0.6**
VA03	**San Esteban**	**6.39**	**39**		**Pn**	**00 05 46.9**	**+0.3**
AY01	**Puyuhuapi**	**6.88**	**164**		**Pn**	**00 05 51.8**	**-1.2**
CO02	**Combarbal**	**7.52**	**30**		**Pn**	**00 06 01.4**	**-0.7**
CO06	**Fray Jorge**	**7.77**	**24**	Pn	**Pn**	**00 06 04.5**	**-0.9**
CO03	**El Pedregal**	**7.97**	**30**		**Pn**	**00 06 07.8**	**-0.4**
COYC	**Coyhaique**	**8.10**	**164**	Pn	**Pn**	**00 06 08.8**	**-1.0**
CO01	**Juntas del Tor**	**8.96**	**31**	Pn	**Pn**	**00 06 21.4**	**-0.6**
LCO	**Las Campanas**	**9.61**	**25**	Pn	**Pn**	**00 06 30.2**	**-0.7**
AY03	**Cochrane**	**9.62**	**169**	Pn	**Pn**	**00 06 30.0**	**-0.7**
AC05	**El Transito**	**9.92**	**27**		**Pn**	**00 06 34.5**	**-0.5**
TRQA	**Tornquist**	**10.55**	**95**		**Pn**	**00 06 43.0**	**-0.4**
GO08	**Villa O'Higgin**	**10.81**	**170**	Pn	**Pn**	**00 06 46.3**	**-0.7**
AC02	**Maricunga**	**12.15**	**27**	Pn	**Pn**	**00 07 04.8**	**-1.1**
PLTB	**Pedras Altas**	**18.83**	**78**	P	**P**	**00 08 31.4**	**-0.1**
PLTB				IAmb	IAmb	00 08 35.1	
	comp=Z,10nm,1.1s						
GO01	**Chusmiza**	**18.88**	**18**	P	**P**	**00 08 31.7**	**-0.9**
GO01				IAmb	IAmb	00 09 00.2	
	comp=Z,4.8nm,1.0s						
CPUP	**Villa Florida**	**19.05**	**58**	P	**Pn**	**00 08 36.2**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=235,slow=7.9,SNR=2.9						
	comp=Z,1.1nm,0.7s						
ETMB	**Extrema**	**29.08**	**19**	P	**P**	**00 10 11.4**	**-0.6**
ETMB				IAmb	IAmb	00 10 23.4	
	comp=Z,4.4nm,1.0s						
RPN	**Rapa Nui**	**30.46**	**280**	LR	LR	00 18 54.1	
	comp=Z,128nm,18.2s,baz=118,slow=29						
SAML	**Samuel**	**30.78**	**24**		**P**	**00 10 26.4**	**-0.7**
SAML				IAmb	IAmb	00 10 37.7	
	comp=Z,2.4nm,0.9s						
MCRA	**Macar, Loja**	**33.58**	**352**	P	**P**	**00 10 49.5**	**-2.2**
COHC	**Cochancay**	**35.39**	**353**	P	**P**	**00 11 06.6**	**-0.6**
COHC				IAmb	IAmb	00 11 14.1	
	comp=Z,1.5nm,1.2s						
CHSH	**Refugio Sur-Vo**	**36.31**	**354**	P	**P**	**00 11 15.2**	**-0.7**
CHSH				IAmb	IAmb	00 11 29.3	
	comp=Z,17nm,1.3s						
ROSC	**El Rosal**	**42.47**	**1**	P	**P**	**00 12 03.2**	**-3.8**
ROSC				IAmb	IAmb	00 12 18.3	
	comp=Z,7.3nm,1.1s						
BAUV	**El Baul**	**47.03**	**10**	P	**P**	**00 12 41.5**	**-1.4**
RGM0	**Gandoca**	**47.67**	**350**	P	**P**	**00 12 46.4**	**-1.4**
QSPA	**South Pole Qui**	**52.40**	**180**	P	**P**	**00 13 24.2**	**+0.9**
	comp=Z,4.0nm,0.9s,baz=149,slow=1.6,SNR=11						
	comp=Z,4.0nm,0.9s						
TXAR	**Lajitas Array**	**71.90**	**334**	P	P	00 15 37.6	+3.3
	comp=Z,1.1nm,0.7s,baz=154,slow=9.0,SNR=8.8						
	comp=Z,1.1nm,0.7s						
ANMO	**Albuquerque**	**77.97**	**334**	P	P	00 16 12.4	+3.1
	comp=Z,2.3nm,0.9s,baz=244,slow=8.3,SNR=4.1						
	comp=Z,2.3nm,0.9s						
DBIC	**Dimbokro**	**78.91**	**73**	P	**P**	**00 16 16.6**	**+1.8**
	comp=Z,2.2nm,0.7s,baz=236,slow=6.4,SNR=4.6						
	comp=Z,2.2nm,0.7s						
PDAR	**Pinedale Array**	**86.06**	**335**	P	**P**	**00 16 54.1**	**+2.4**
	comp=Z,1.2nm,0.9s,baz=142,slow=5.6,SNR=5.8						
	comp=Z,1.2nm,0.9s						
TORD	**Torodi Ar. Bea**	**87.99**	**72**	P	**P**	**00 17 03.0**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=263,slow=3.8,SNR=3.8						
	comp=Z,0.8nm,0.8s						
BVAR	**Borovoye Array**	**151.88**	**46**	PKPbc	**PKiKP**	**00 24 07.3**	**+1.7**
	comp=Z,1.6nm,0.6s,baz=349,slow=4.8,SNR=11						
KURBB	**Kurchatov Arra**	**157.46**	**47**	PKPab	**PKPab**	**00 24 41.1**	**+2.7**
	comp=Z,0.3nm,0.8s,baz=308,slow=3.4,SNR=3.0						
ZALV	**Zalesovo Beam**	**158.89**	**34**	PKP	**PKPdf**	**00 24 08.2**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=318,slow=4.0,SNR=3.8						
ZALV				PKPab	**PKPab**	**00 24 47.0**	**+2.6**
	comp=Z,1.9nm,0.8s,baz=300,slow=5.4,SNR=7.3						
MKAR	**Makanchi Array**	**161.24**	**54**	PKPab	**PKPab**	**00 24 56.9**	**+1.9**
	comp=Z,0.6nm,0.9s,baz=298,slow=2.6,SNR=3.5						

*NEIC **03** 00:09:01.9±0.9, 19°.29N±0°.03×155°.19W±0°.02, h13km±1km, Error ellipse: s-maj=5.0km s-min=1.5km az=154.0*

HVO 03 00:09:02.7±0.5, 19°.33N±0°.02×155°.192W±0°.009, h6km±2km, ML2.5/29, ML2.4/44(NEIC), Error ellipse: s-maj=3.3km s-min=0.7km az=161.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUH	**Pauahi**	**0.05**	**334**		Pg	00 09 04.6	+0.3
PUH				Sg	Sg	00 09 05.9	+0.5
PUH				IAML		00 09 06.4	
	comp=N,2μm,0.2s						
KNHH	**Kane Nui o Ham**	**0.06**	**23**		Pg	00 09 04.8	+0.4
STCH	**Steam Cracks**	**0.09**	**48**		Pg	00 09 05.1	+0.4
STCH				Sg	Sg	00 09 06.8	+0.7
STCH				IAML		00 09 07.1	
	comp=E,3μm,0.1s						
STCH				IAML		00 09 07.2	
	comp=N,3μm,0.5s						
KKO	**Keanakako'i**	**0.10**	**315**	Pg	Pg	00 09 04.8	-0.2
KKO				Sg	Sg	00 09 07.4	+0.8
KKO				IAML		00 09 07.5	
	comp=E,2μm,0.3s						
KKO				IAML		00 09 08.0	
	comp=N,2μm,0.4s						
NPOC	**North of Pu'u**	**0.10**	**50**		Pg	00 09 05.1	+0.1
NPOC				IAML		00 09 07.7	
	comp=E,2μm,0.2s						
NPOC				IAML		00 09 07.7	
	comp=N,3μm,0.4s						
JCUZ	**Jacuzzi**	**0.10**	**57**	Pg	Pg	00 09 05.5	+0.4
JCUZ				IAML		00 09 08.0	
	comp=E,2μm,0.2s						
RIM	**Rim**	**0.10**	**311**		Pg	00 09 05.2	+0.2
RIM				IAML		00 09 08.7	
	comp=N,2μm,0.4s						
BYL	**Byron's Ledge**	**0.10**	**323**		Pg	00 09 05.1	0.0
BYL				IAML		00 09 07.9	
	comp=N,2μm,0.4s						
HLP	**Hilina Pali**	**0.11**	**254**	Pg	Pg	00 09 05.5	+0.3
HLP				IAML		00 09 08.2	
	comp=N,2μm,0.6s						
HLP				IAML		00 09 08.3	
	comp=E,2μm,0.2s						
SDHHI	**Sand Hill**	**0.11**	**302**		Pg	00 09 05.4	+0.1
SDHHI				IAML		00 09 08.5	
	comp=E,2μm,0.4s						
HATHI	**Halema'uma'u T**	**0.12**	**326**		Sg	00 09 07.9	+0.9
HATHI	**Halema'uma'u T**	**0.12**	**326**		Pg	00 09 05.5	+0.2
HATHI	**Halema'uma'u T**	**0.12**	**326**	IAML		00 09 08.0	
	comp=N,1μm,0.1s						
HATHI				IAML		00 09 08.7	
	comp=E,1μm,0.3s						
NPH	**North Pit**	**0.12**	**315**		Pg	00 09 05.3	0.0
SBLHI	**Steaming Bluff**	**0.12**	**324**		Pg	00 09 05.6	+0.2
SBLHI				IAML		00 09 08.1	
	comp=E,1μm,0.6s						
SBLHI				IAML		00 09 08.1	
	comp=N,1μm,0.3s						
OBL	**Observatory Le**	**0.12**	**316**		Pg	00 09 05.8	+0.3
OBL				IAML		00 09 09.8	
	comp=N,2μm,0.5s						
UWB	**Uwekahuna B**	**0.13**	**320**		Pg	00 09 05.6	+0.1
UWE	**Uwekahuna**	**0.13**	**314**		Pg	00 09 05.8	+0.2
UWE				IAML		00 09 08.1	
	comp=E,1μm,1.7s						
RSD	**Rainshed**	**0.16**	**329**		Pg	00 09 06.0	0.0
JOKA	**Jonika Flow**	**0.21**	**59**		Pg	00 09 06.8	0.0
HTC	**Hot Caves**	**0.21**	**245**		Pg	00 09 06.6	-0.4
MLH	**Mauna Loa**	**0.25**	**312**		Pg	00 09 07.7	+0.1
MLH				IAML		00 09 16.6	
	comp=N,564nm,0.2s						
HMH	**Humu'ula Sheep**	**0.39**	**315**		Pg	00 09 10.4	0.0
HMH	**Humu'ula Sheep**	**0.39**	**315**		Sg	00 09 16.8	+1.3
HMH	**Humu'ula Sheep**	**0.39**	**315**	IAML		00 09 17.5	
	comp=N,2μm,0.4s						
HMH				IAML		00 09 17.5	
	comp=E,2μm,0.

YOTC	**Yotoco, Valle**	**4.30 229**	P	**Pn**	**00 14 51.6**	**-0.3**
YOTC			S	**Sn**	**00 15 40.7**	**-1.2**
SMRC	**Santa Marta, M**	**4.44 346**	P	**Pn**	**00 14 55.0**	**+1.4**
BBAC	**Balboa, Cauca**	**6.32 221**	P	**Pn**	**00 15 20.2**	**+1.4**
PCRV	**Puerto La Cruz**	**9.01 68**	P	**Pn**	**00 15 55.6**	**+1.2**
	8.3nm,0.9s,baz=253,slow=3.4,SNR=1.5					
PCRV			S	**Sn**	**00 17 33.3**	**-1.2**
	5.2nm,0.5s,baz=180,slow=19,SNR=1.4					
TXAR	**Lajitas Array**	**36.46 312**	P	**P**	**00 20 39.1**	**+0.9**
	0.1nm,0.4s,baz=126,slow=9.1,SNR=2.1					
	0.1nm,0.4s					
ASAR	**Alice Springs**	**149.14 234**	PKPbc	**PKPbc**	**00 33 18.0**	**-0.9**
	0.4nm,0.7s,baz=118,slow=3.5,SNR=5.7					
WRA	**Warramunga Arr**	**150.36 241**	PKPbc	**PKPbc**	**00 33 20.9**	**-1.1**
	0.3nm,0.5s,baz=108,slow=2.8,SNR=6.1					

TAP 03 00:20:15.4, 24.02N×122.59E, h8km±1km, ML2.7, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.27**	**293**	*i*	P		Pg	00 20 20.8	+0.1
	baz=293								
EOS4				*i*	S		Sg	00 20 24.7	+0.5
	baz=293								
EOS3	**EOS3**	**0.37**	**317**	*i*	P		Pg	00 20 22.7	+0.1
	baz=317								
EOS3				*i*	S		Sg	00 20 27.8	+0.3
	baz=317								
EOS2	**EOS2**	**0.52**	**321**	*i*	P		Pg	00 20 25.3	-0.1
	baz=320								
EOS2				*i*	S		Sg	00 20 32.8	+0.6
	baz=320								

JMA 03 00:20:22.6±0.1, 24.3N±0.3×123.8E±0.3, h16km±1km, MV1.8/9, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.11**	**320**	P			Pg	00 20 26.1	-0.1
IRIF				S			Sb	00 20 28.9	-0.2
JKRS	**Kuro-shima**	**0.18**	**93**	P			Pg	00 20 27.2	+0.1
JKRS				S			Sb	00 20 30.7	-0.3
HATJ	**Hateruma jima**	**0.19**	**182**	P			Pg	00 20 27.0	-0.2
HATJ				S			Sg	00 20 30.5	+0.2
JIJ	**Ishigaki jima**	**0.32**	**69**	P			Pg	00 20 29.2	-0.2
JIJ				S			Sg	00 20 33.8	-0.3
JISG	**Ishigakijimahi**	**0.57**	**53**	P			Pg	00 20 33.8	-0.1
JISG				S			Sg	00 20 41.7	+0.3
YOJ	**Yonaguni jima**	**0.76**	**286**	*e*	P		Pb	00 20 37.6	0.0
JTJ	**Tarama**	**0.90**	**64**	*e*	S		Sg	00 20 52.4	+0.3

*TAP **03** 00:26:48.8, 23.53N×121.74E, h30km, ML3.5, C*
*ASIES **03** 00:26:48.8, 23.53N×121.74E, h30km, ML3.5, Mw3.2, Moment Tensor Solution. Moment tensor: Scale 10^20 Nm; Mrr2.64; Mθθ2.87; Mφφ-5.52; Mrθ-3.83; Mrφ-3.23; Mθφ2.88; Fault plane solution: M0 7.49887×10^20 NP1: φs340.36000°, δ70.70000°, λ39.58000°. NP2: φs235.08000°, δ53.04000°, λ155.56000°. Principal axes: T Plg41.2180°, Azm203.9290°; N Plg46.6740°, Azm2.1640°; P Plg11.0330°, Azm104.0940°;*
*JMA **03** 00:26:48.1±0.2, 23.5N±0.8×122.2E±°, h40km±4km, MV2.8/12, TAIWAN REGION*

ISC 03 00:26:48.0±0.9, 23.51N±0.02×121.78E±0.02, h28km±7km, n120, σ0.84/215, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.33**	**267**	*i*	P		**Pb**	**00 26 55.9**	**+0.2**
	baz=262								
HGSD				*i*	S		**Sb**	**00 27 00.7**	**-0.2**
	baz=262								
SHUL	**Shoufeng**	**0.34**	**324**	*i*	P		**Pb**	**00 26 56.2**	**+0.4**
	baz=328								
SHUL				*i*	S		**Sn**	**00 27 01.8**	**-1.2**
	baz=328								
ECBN	**Changbin**	**0.36**	**237**	*i*	P		**Pb**	**00 26 56.9**	**+0.7**
	baz=223								
ECBN				*i*	S		**Sb**	**00 27 02.4**	**+0.7**
	baz=223								
EGFH	**Guangfu**	**0.36**	**296**	*i*	P		**Pb**	**00 26 56.2**	**0.0**
	baz=300								
EGFH				*i*	S		**Sb**	**00 27 01.9**	**+0.2**
	baz=300								
EHYH	**Wanrong**	**0.40**	**267**	*i*	P		**Pn**	**00 26 57.4**	**-0.5**
	baz=264								
EHYH				*i*	S		**Sn**	**00 27 03.7**	**-0.8**
	baz=264								
WARBT	**Fenglin Townsh**	**0.42**	**300**	*i*	P		**Pb**	**00 26 57.1**	**+0.1**
	baz=304								
WARBT				*i*	S		**Sb**	**00 27 02.7**	**-0.4**
	baz=304								
EHY	**Hungye**	**0.42**	**269**	*i*	P		**Pb**	**00 26 57.4**	**+0.3**
	baz=266								
EHY				*i*	S		**Sb**	**00 27 03.4**	**+0.1**
	baz=266								
ESL	**Shilin**	**0.44**	**313**	*i*	P		**Pb**	**00 26 57.1**	**-0.2**
	baz=316								
ESL				*i*	S		**Sb**	**00 27 03.0**	**-0.8**
	baz=316								
EYUL	**Yuli**	**0.46**	**249**	*i*	P		**Pb**	**00 26 58.1**	**+0.5**
	baz=238								
EYUL				*i*	S		**Sn**	**00 27 05.1**	**-0.7**
	baz=238								
YULB	**Yu-li**	**0.46**	**255**	P			**Pn**	**00 26 58.4**	**-0.3**
YULB	**Yu-li**	**0.46**	**255**	P			**Pb**	**00 26 58.2**	**+0.5**
YULB	**Yu-li**	**0.46**	**255**	*i*	P		**Pb**	**00 26 58.2**	**+0.5**
	baz=265								
YULB				*i*	S		**Sn**	**00 27 05.2**	**-0.8**
	baz=265								
TWF1	**Yuli**	**0.47**	**250**	*i*	P		**Pb**	**00 26 58.2**	**+0.4**
	baz=239								
TWF1				*i*	S		**Sn**	**00 27 05.4**	**-0.9**
	baz=239								
CHKH	**Chenggong**	**0.48**	**228**	*i*	P		**Pb**	**00 26 57.8**	**-0.1**
	baz=212								
CHKH				*i*	S		**Sb**	**00 27 04.1**	**-0.6**
	baz=212								
HWA	**Hwalien**	**0.49**	**341**	*i*	P		**Pb**	**00 26 58.5**	**+0.3**
	baz=346								
HWA				*i*	S		**Sn**	**00 27 06.2**	**-0.5**
	baz=346								
ETM	**Tongmen**	**0.52**	**330**	*i*	P		**Pb**	**00 26 58.5**	**-0.2**
	baz=338								
ETM				*i*	S		**Sb**	**00 27 05.7**	**-0.4**
	baz=338								
FULB	**Fuli**	**0.55**	**235**	*i*	P		**Pb**	**00 26 59.3**	**+0.2**
	baz=221								
FULB				*i*	S		**Sb**	**00 27 06.9**	**+0.2**
	baz=221								
CHKT	**Chengkung**	**0.56**	**223**	*i*	P		**Pb**	**00 26 58.8**	**-0.5**
	baz=208								
CHKT				*i*	S		**Sb**	**00 27 06.2**	**-0.9**
	baz=208								
TWD	**Chiawan**	**0.59**	**343**	*i*	P		**Pb**	**00 26 59.5**	**-0.4**
	baz=357								
TWD				*i*	S		**Sb**	**00 27 07.6**	**-0.3**
	baz=357								
LXIB	**Xiulin Townshi**	**0.61**	**326**	*i*	P		**Pb**	**00 26 60.0**	**-0.3**
	baz=322								
LXIB				*i*	S		**Sb**	**00 27 07.6**	**-1.0**
	baz=322								
VWDT	**VWDT**	**0.63**	**292**	*i*	P		**Pb**	**00 27 00.6**	**+0.1**
	baz=292								
VWDT				*i*	S		**Sb**	**00 27 09.2**	**+0.1**
	baz=292								
EHD	**Haiduan**	**0.64**	**236**	*i*	P		**Pb**	**00 27 00.5**	**-0.2**
	baz=245								
EHD				*i*	S		**Sb**	**00 27 08.9**	**-0.4**
	baz=245								
ETL	**Fush Village**	**0.66**	**347**	*i*	P		**Pb**	**00 27 00.6**	**-0.4**
	baz=351								
ETL				*i*	S		**Sb**	**00 27 09.7**	**-0.2**
	baz=351								
ECS	**Chishang**	**0.66**	**231**	*i*	P		**Pb**	**00 27 01.3**	**+0.3**
	baz=242								
ECS				*i*	S		**Sn**	**00 27 11.4**	**+0.4**
	baz=242								
NACB	**Ninganchiao**	**0.68**	**346**	P			**Pb**	**00 27 01.0**	**-0.3**
NACB	**Ninganchiao**	**0.68**	**346**	*i*	P		**Pb**	**00 27 00.7**	**-0.7**
	baz=355								
NACB				*i*	S		**Sb**	**00 27 09.8**	**-0.7**
	baz=355								
OWD	**Renai**	**0.71**	**309**	*i*	P		**Pb**	**00 27 01.6**	**-0.3**
	baz=310								
OWD				*i*	S		**Sb**	**00 27 10.6**	**-0.8**
	baz=310								
ETLH	**Xiulin Townshi**	**0.74**	**338**	*i*	P		**Pb**	**00 27 02.0**	**-0.4**
	baz=349								
ETLH				*i*	S		**Sb**	**00 27 11.1**	**-1.2**
	baz=349								
ELDTW	**Lidau**	**0.77**	**246**	*i*	P		**Pb**	**00 27 02.4**	**-0.5**
	baz=242								
ELDTW				*i*	S		**Sb**	**00 27 11.4**	**-1.7**
	baz=242								
WUSB	**Renai**	**0.77**	**308**	*i*	P		**Pb**	**00 27 02.8**	**-0.2**
	baz=309								
WUSB				*i*	S		**Sb**	**00 27 12.1**	**-1.1**
	baz=309								
CHGB	**Renai**	**0.78**	**315**	*i*	P		**Pb**	**00 27 03.0**	**-0.2**
	baz=316								
CHGB				*i*	S		**Sb**	**00 27 12.4**	**-1.0**
	baz=316								
WHF	**Hehuan Shan**	**0.79**	**323**	*i*	P		**Pb**	**00 27 02.8**	**-0.6**
	baz=325								
WHF				*i*	S		**Sb**	**00 27 12.9**	**-1.0**
	baz=325								
SSLB	**Suanglung**	**0.81**	**290**	P			**Pb**	**00 27 03.0**	**-0.5**
SSLB	**Suanglung**	**0.81**	**290**	*i*	P		**Pb**	**00 27 02.8**	**-0.7**
	baz=290								
SSLB				*i*	S		**Sb**	**00 27 13.6**	**-0.4**
	baz=290								
LONT	**Longtian**	**0.85**	**225**	*i*	P		**Pn**	**00 27 03.3**	**-0.8**
	baz=233								
LONT				*i*	S		**Sb**	**00 27 13.7**	**-1.6**
	baz=233								
WHYT	**Xinyi Township**	**0.87**	**282**	*i*	P		**Pb**	**00 27 04.6**	**+0.1**
	baz=282								
FUSS	**Fushou**	**0.88**	**326**	*i*	P		**Pn**	**00 27 04.3**	**-0.4**
	baz=328								
FUSS				*i*	S		**Sb**	**00 27 14.8**	**-1.6**
	baz=328								
LDUT	**Ludao**	**0.88**	**199**	*i*	P		**Pn**	**00 27 03.7**	**-0.8**
	baz=189								
LDUT				*i*	S		**Sb**	**00 27 14.3**	**-1.9**
	baz=189								
SMLT	**Sun Moon Lake**	**0.89**	**295**	*i*	P		**Pn**	**00 27 04.6**	**-0.1**
	baz=295								
ALS	**Alishan**	**0.90**	**270**	*i*	P		**Pn**	**00 27 05.0**	**0.0**
	baz=268								
ALS				*i*	S		**Sn**	**00 27 16.8**	**-0.4**
	baz=268								
ENA	**Nanau**	**0.91**	**358**	*i*	P		**Pn**	**00 27 04.8**	**-0.1**
	baz=1.0								
ENA				*i*	S		**Sb**	**00 27 16.8**	**-0.2**
	baz=1.0								
EOS3	**EOS3**	**0.91**	**32**	P			**Pb**	**00 27 05.5**	**+0.4**
	baz=32								
EOS3				S			**Sn**	**00 27 17.5**	**+0.6**
	baz=32								
TWT	**Tachien**	**0.92**	**323**	*i*	P		**Pn**	**00 27 05.2**	**-0.1**
	baz=324								
TWT				*i*	S		**Sb**	**00 27 16.5**	**-1.0**
	baz=324								
EWUT	**Wuta**	**0.93**	**360**	*i*	P		**Pn**	**00 27 04.9**	**-0.3**
	baz=3.0								
EWUT				*i*	S		**Sb**	**00 27 17.4**	**-0.1**
	baz=3.0								
TDCB	**Techi**	**0.93**	**322**	*i*	P		**Pb**	**00 27 05.7**	**+0.1**
	baz=324								
TDCB				*i*	S		**Sb**	**00 27 16.5**	**-1.2**
	baz=324								
TWGBT	**Beinan**	**0.95**	**223**	P			**Pn**	**00 27 04.8**	**-0.6**
TWGBT	**Beinan**	**0.95**	**223**	*i*	P		**Pn**	**00 27 04.5**	**-0.9**
	baz=231								
TWGBT				*i*	S		**Sn**	**00 27 16.1**	**-1.9**
	baz=231								
TWG	**Pinlang**	**0.95**	**224**	*i*	P		**Pn**	**00 27 04.7**	**-0.7**
	baz=231								
TWG				*i*	S		**Sn**	**00 27 16.4**	**-1.7**
	baz=231								
WCS	**Beigang Elemen**	**0.96**	**304**	*i*	P		**Pn**	**00 27 05.7**	**+0.1**
	baz=310								
WCS				*i*	S		**Sb**	**00 27 17.1**	**-1.4**
	baz=310								
NNSB	**Datong**	**0.98**	**338**	P			**Pn**	**00 27 05.9**	**-0.1**
	baz=341								
NNSB				S			**Sn**	**00 27 17.7**	**-1.4**
	baz=341								
STYH	**Taoyuan**	**0.98**	**250**	*i*	P		**Pb**	**00 27 06.3**	**-0.1**
	baz=241								
STYH				*i*	S		**Sn**	**00 27 18.3**	**-0.6**
	baz=241								
NNS	**Nan Shan**	**1.00**	**338**	*i*	P		**Pn**	**00 27 06.3**	**0.0**
	baz=341								
NNS				*i*	S		**Sn**	**00 27 18.4**	**-1.1**
	baz=341								
WJS	**Zhushan**	**1.01**	**288**	*i*	P		**Pb**	**00 27 07.0**	**+0.1**
	baz=281								
WJS				*i*	S		**Sb**	**00 27 21.5**	**+1.6**
	baz=281								
ESAO	**Su ao**	**1.06**	**3**	P			**Pn**	**00 27 06.9**	**-0.1**
	baz=356								
ESAO				S			**Sn**	**00 27 20.4**	**-0.4**
	baz=356								
WNT	**Mingjian**	**1.07**	**290**	*i*	P		**Pb**	**00 27 08.7**	**+0.8**
	baz=290								
WNT				*i*	S		**Sb**	**00 27 23.2**	**+1.8**
	baz=290								
TPUB	**Ta-pu**	**1.08**	**259**	P			**Pb**	**00 27 08.5**	**+0.4**
TPUB	**Ta-pu**	**1.08**	**259**	P			**Pb**	**00 27 08.4**	**+0.4**
TPUB	**Ta-pu**	**1.08**	**259**	*i*	P		**Pb**	**00 27 08.3**	**+0.2**
	baz=257								
TPUB				*i*	S		**Sb**	**00 27 22.3**	**+0.6**
	baz=257								
WHP	**Taichung City**	**1.08**	**315**	*i*	P		**Pb**	**00 27 08.1**	**0.0**
	baz=316								
WHP				*i*	S		**Sb**	**00 27 21.4**	**-0.5**
	baz=316								
WCKO	**Fanlu**	**1.08**	**266**	*i*	P		**Pb**	**00 27 08.4**	**+0.3**
	baz=265								
WCKO				*i*	S		**Sb**	**00 27 23.0**	**+1.1**
	baz=265								
TWC	**Suao**	**1.09**	**3**	P			**Pn**	**00 27 07.8**	**+0.4**
	baz=15								
TWC				S			**Sn**	**00 27 21.9**	**+0.2**
	baz=15								
CHN4	**Tsaushan**	**1.10**	**262**	*i*	P		**Pb**	**00 27 08.7**	**+0.2**
	baz=252								
CHN4				*i*	S		**Sb**	**00 27 24.0**	**+1.5**
	baz=252								
WTP	**Ta-pu**	**1.10**	**256**	*i*	P		**Pb**	**00 27 08.8**	**+0.3**
	baz=254								
WTP				*i*	S		**Sb**	**00 27 23.6**	**+1.1**
	baz=254								
NDT	**Datong Townshi**	**1.11**	**347**	*i*	P		**Pn**	**00 27 08.1**	**+0.4**
	baz=350								
NDT				*i*	S		**Sn**	**00 27 21.8**	**-0.4**
	baz=350								
NDS	**Dongshan**	**1.12**	**357**	P			**Pb**	**00 27 08.5**	**-0.2**
	baz=8.0								
WGK	**Gukeng**	**1.13**	**279**	*i*	P		**Pb**	**00 27 09.2**	**+0.3**
	baz=278								
WGK				*i*	S		**Sb**	**00 27 26.1**	**+2.8**
	baz=278								
ENTT	**Nioudou**	**1.14**	**350**	P			**Pb**	**00 27 08.8**	**-0.2**
	baz=353								
ENTT				S			**Sn**	**00 27 22.4**	**-0.4**
	baz=353								
WDLH	**Douliu**	**1.15**	**279**	*i*	P		**Pb**	**00 27 09.2**	**-0.1**
	baz=278								
WDLH				*i*	S		**Sb**	**00 27 25.4**	**+1.5**
	baz=278								
SLGT	**Liugui**	**1.16**	**244**	*i*	P		**Pb**	**00 27 09.8**	**+0.3**
	baz=235								
SLGT				*i*	S		**Sb**	**00 27 24.5**	**+0.3**
	baz=235								
SGST	**Jiashian**	**1.18**	**249**	P			**Pb**	**00 27 09.8**	**0.0**
	baz=237								
SGST				S			**Sb**	**00 27 25.4**	**+0.7**
	baz=237								
TCU	**Taichung**	**1.19**	**302**	*i*	P		**Pb**	**00 27 10.4**	**+0.5**
	baz=303								
TCU				*i*	S		**Sb**	**00 27 27.4**	**+2.4**
	baz=303								
CHN1	**Nanshi**	**1.20**	**254**	*i*	P		**Pb**	**00 27 10.5**	**+0.5**
	baz=252								
CHN1				*i*	S		**Sb**	**00 27 26.5**	**+1.3**
	baz=252								
TWE	**Neicheng**	**1.21**	**355**	*e*	P		**Pn**	**00 27 09.7**	**+0.7**
	baz=358								
YHNB	**Yeheng**	**1.21**	**342**	P			**Pb**	**00 27 09.9**	**-0.4**
YHNB	**Yeheng**	**1.21**	**342**	P			**Pb**	**00 27 09.8**	**-0.5**
YHNB	**Yeheng**	**1.21**	**342**	P			**Pb**	**00 27 09.8**	**-0.5**
	baz=345								
YHNB				S			**Sn**	**00 27 24.4**	**-0.2**
	baz=345								
TWK	**Hsinying**	**1.21**	**259**	*i*	P		**Pb**	**00 27 10.6**	**+0.3**
	baz=256								
TWK				*i*	S		**Sb**	**00 27 26.1**	**+0.5**
	baz=256								
SNST	**Tainan City**	**1.22**	**256**	*i*	P		**Pb**	**00 27 10.9**	**+0.5**
	baz=254								
SNST				*i*	S		**Sb**	**00 27 26.8**	**+1.2**
	baz=254								
NSK	**Sanguang**	**1.22**	**342**	P			**Pn**	**00 27 09.7**	**+0.4**
	baz=344								
NSK				S			**Sn**	**00 27 24.5**	**-0.4**
	baz=344								
TWQ1	**Liyutan**	**1.24**	**312**	*i*	P		**Pb**	**00 27 11.5**	**+0.7**
	baz=313								
TWQ1				*i*	S		**Sb**	**00 27 27.6**	**+1.1**
	baz=313								
FUSB	**Fushanzhiwuyua**	**1.25**	**352**	*e*	P		**Pb**	**00 27 10.7**	**-0.4**
	baz=354								
WCHH	**Zhanghua**	**1.25**	**297**	*i*	P		**Pb**	**00 27 11.2**	**+0.3**
	baz=297								
WCHH				*i*	S		**Sb**	**00 27 29.6**	**+2.8**
	baz=297								
NFF	**Wufeng Townshi**	**1.27**	**332**	P			**Pb**	**00 27 11.9**	**+0.6**
	baz=342								
NFF				S			**Sb**	**00 27 26.8**	**-0.4**
	baz=342								
NWLT	**Wulai**	**1.28**	**349**	*e*	P		**Pn**	**00 27 10.6**	**+0.5**
	baz=342								
NWLT				*e*	S		**Sn**	**00 27 26.2**	**-0.2**
	baz=342								
WTK	**Tuku**	**1.29**	**278**	*i*	P		**Pb**	**00 27 11.2**	**-0.3**
	baz=277								
NSY	**Sanyi**	**1.30**	**314**	*i*	P		**Pb**	**00 27 12.2**	**+0.4**
	baz=315								
NSY				*i*	S		**Sb**	**00 27 29.7**	**+1.7**
	baz=315								
SSD	**Sandimen**	**1.30**	**234**	*i*	P		**Pb**	**00 27 12.4**	**+0.6**
	baz=228								
SSD				*i*	S		**Sb**	**00 27 28.8**	**+0.6**
	baz=228								
TSMG	**Majia**	**1.32**	**233**	*i*	P		**Pb**	**00 27 12.1**	**0.0**
	baz=228								
TSMG				*i*	S		**Sb**	**00 27 29.2**	**+0.6**
	baz=228								
NSTT	**Nanjuang**	**1.32**	**328**	P			**Pb**	**00 27 12.4**	**+0.2**
	baz=329								
NSTT				S			**Sb**	**00 27 27.9**	**-0.8**
	baz=329								
LIOB	**Emei**	**1.33**	**328**	P			**Pb**	**00 27 12.5**	**+0.3**
	baz=330								
LIOB				S			**Sb**	**00 27 28.3**	**-0.6**
	baz=330								
EGS		**1.33**	**6**	*e*	P		**Pb**	**00 27 12.5**	**+0.2**
	baz=18								
WDJ	**Dajia District**	**1.33**	**309**	P			**Pb**	**00 27 12.4**	**0.0**
	baz=310								
WDJ				S			**Sb**	**00 27 30.1**	**+1.0**
	baz=310								
SCST	**Cishan**	**1.34**	**242**	*i*	P		**Pb**	**00 27 14.2**	**+1.8**
	baz=240								
SCST				*i*	S		**Sb**	**00 27 31.6**	**+2.5**
	baz=240								
WRL	**Guolierlin Hig**	**1.34**	**287**	*i*	P		**Pb**	**00 27 12.1**	**-0.4**
	baz=275								
WRL				*i*	S		**Sb**	**00 27 30.6**	**+1.3**
	baz=275								
NMLH	**Miaoli**	**1.36**	**319**	P			**Pb**	**00 27 12.6**	**-0.2**
	baz=320								
NMLH				S			**Sb**	**00 27 30.8**	**+0.9**
	baz=320								
MASBT	**Mashibuluo**	**1.39**	**230**	P			**Pn**	**00 27 12.5**	**+1.1**
	baz=225								
MASBT				S			**Sn**	**00 27 29.1**	**+0.2**
	baz=225								
ICHU	**Yijhu**	**1.39**	**264**	P			**Pb**	**00 27 12.7**	**-0.5**
	baz=262								
ICHU				S			**Sb**	**00 27 30.5**	**-0.1**
	baz=262								
EAST	**Anshuo**	**1.42**	**218**	*e*	P		**Pb**	**00 27 14.5**	**+0.7**
	baz=214								
JYNG	**Yonagunijimaku**	**1.42**	**48**	S			**Sn**	**00 27 30.9**	**+1.3**
TIPB	**Shuangxi**	**1.45**	**2**	*e*	P		**Pb**	**00 27 14.0**	**-0.4**
	baz=352								
TIPB				*e*	S		**Sb**	**00 27 32.1**	**-0.4**
	baz=352								
YOJ	**Yonaguni jima**	**1.47**	**50**	*e*	P		**Pb**	**00 27 14.8**	**+0.1**
	baz=51								
YOJ				*e*	S		**Sn**	**00 27 32.4**	**+1.5**
	baz=51								
YOJ	**Yonaguni jima**	**1.47**	**50**	*e*	S		**Sn**	**00 27 31.4**	**+0.5**
LAY	**Lan-yu**	**1.48**	**188**	*e*	P		**Pn**	**00 27 12.3**	**-0.5**
	baz=185								
LAY				*e*	S		**Sn**	**00 27 29.8**	**-1.5**
	baz=185								
LYUB	**Lan-yu**	**1.51**	**187**	*e*	P		**Pn**	**00 27 12.1**	**-1.1**
	baz=184								
LYUB				*e*	S		**Sn**	**00 27 28.9**	**-3.0**
	baz=184								
NWF	**Wu-fen Shan**	**1.55**	**0**	*e*	P		**Pb**	**00 27 15.7**	**-0.5**
	baz=349								
NWF				*e*	S		**Sb**	**00 27 34.5**	**-0.9**
	baz=349								
WFSB	**Wu-fen Shan**	**1.55**	**0**	*e*	P		**Pb**	**00 27 15.9**	**-0.2**
	baz=349								
WFSB				*e*	S		**Sb**	**00 27 34.4**	**-0.9**
	baz=349								
SCZT	**Fangliau**	**1.56**	**224**	*e*	P		**Pn**	**00 27 15.1**	**+1.3**
	baz=216								
SLIU	**Shizi**	**1.58**	**215**	*e*	P		**Pn**	**00 27 14.2**	**+0.1**
	baz=212								
SXI1	**Grass Mountain**	**1.58**	**3**	P			**Pb**	**00 27 15.8**	**-0.8**
	baz=24								
SXI1				S			**Sb**	**00 27 36.1**	**0.0**
	baz=24								
TSCK	**Chigu Township**	**1.60**	**257**	*e*	P		**Pb**	**00 27 16.1**	**-0.7**
	baz=255								
TSCK				*e*	S		**Sb**	**00 27 36.0**	**-0.7**
	baz=255								
YM01	**YM01**	**1.64**	**353**	*e*	P		**Pb**	**00 27 16.7**	**-0.9**
	baz=356								
TWKBT	**Hengchun**	**1.80**	**210**	P			**Pn**	**00 27 17.6**	**+0.4**
	baz=207								
TWKBT				S			**Sn**	**00 27 39.0**	**-0.1**
	baz=207								
TWK1	**Hengchun**	**1.80**	**210**	P			**Pn**	**00 27 17.9**	**+0.7**
	baz=207								
TWK1				S			**Sn**	**00 27 38.9**	**-0.2**
	baz=207								
HATJ	**Hateruma jima**	**1.93**	**73**	*e*	S		**Sn**	**00 27 42.9**	**+0.6**
WDGT	**Dungji**	**1.96**	**263**	*e*	P		**Pn**	**00 27 20.4**	**+1.0**
	baz=262								
WDGT				*e*	S		**Sn**	**00 27 43.0**	**-0.2**
	baz=262								
PHUB	**P'eng-hu**	**2.03**	**270**	*e*	P		**Pn**	**00 27 21.2**	**+0.9**
	baz=269								
PHUB				*e*	S		**Sn**	**00 27 44.3**	**-0.4**
	baz=269								
JKRS	**Kuro-shima**	**2.16**	**70**	*e*	S		**Sn**	**00 27 49.5

ISC 03 00:26:49.0±0.8, 37°23N±0°02×22°11E±0°02, h11km±6km, n74, σ0991/110, mb3.5/7, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLMT	**Kalamata**	**0.17**	**193**	P	**Pg**	**00 26 52.6**	**-0.1**
KLMT				S	**Sg**	**00 26 55.1**	**-0.3**
	21μm,0.3s						
KLMT	**Kalamata**	**0.17**	**193**	P	**Pg**	**00 26 52.7**	**0.0**
KLMT				S	**Sg**	**00 26 55.3**	**-0.1**
PYL	**PYLOS**	**0.44**	**221**	P	**Pg**	**00 26 57.2**	**-0.5**
PYL				S	**Sg**	**00 27 04.1**	**+0.5**
	8μm,0.3s						
PYL	**PYLOS**	**0.44**	**221**	P	**Pg**	**00 26 57.4**	**-0.3**
PYL				S	**Sg**	**00 27 03.9**	**+0.3**
ZARO	**Zacharo**	**0.45**	**305**	P	**Pg**	**00 26 57.7**	**0.0**
PYL1	**Pylos**	**0.46**	**226**	P	**Pg**	**00 26 57.5**	**-0.4**
PYL1				S	**Sg**	**00 27 04.5**	**+0.6**
ARS1	**Argos**	**0.64**	**51**	P	**Pg**	**00 27 01.3**	**-0.1**
GUR	**Goura**	**0.73**	**15**	P	**Pg**	**00 27 02.2**	**-0.9**
GUR				S	**Sg**	**00 27 13.0**	**+0.3**
	2μm,0.4s						
GUR	**Goura**	**0.73**	**15**	P	**Pg**	**00 27 02.4**	**-0.7**
GUR				S	**Sg**	**00 27 13.0**	**+0.3**
DRO	**Drossia**	**0.79**	**336**	P	**Pg**	**00 27 04.0**	**-0.2**
DRO	**Drossia**	**0.79**	**336**	P	**Pg**	**00 27 04.0**	**-0.2**
DRO				S	**Sb**	**00 27 14.9**	**-0.4**
KLV	**Kalavryta, Ach**	**0.81**	**2**	P	**Pg**	**00 27 03.6**	**-1.1**
KLV				S	**Sb**	**00 27 16.8**	**+0.6**
	1μm,0.4s						
KLV	**Kalavryta, Ach**	**0.81**	**2**	P	**Pg**	**00 27 04.1**	**-0.6**
KLV				S	**Sg**	**00 27 15.4**	**+0.1**
VLI	**Veliai**	**0.84**	**127**	P	**Pg**	**00 27 04.8**	**-0.3**
VLI	**Veliai**	**0.84**	**127**	P	**Pg**	**00 27 04.8**	**-0.3**
VLI				S	**Sb**	**00 27 16.8**	**+0.1**
KRND	**KRANIDI**	**0.84**	**79**	P	**Pg**	**00 27 05.2**	**-0.1**
KRND				S	**Sg**	**00 27 16.7**	**+0.4**
	1μm,0.4s						
KRND	**KRANIDI**	**0.84**	**79**	P	**Pg**	**00 27 05.2**	**-0.1**
KRND				S	**Sg**	**00 27 16.4**	**+0.1**
THAL	**Thalero**	**0.92**	**28**	P	**Pg**	**00 27 05.9**	**-0.8**
THAL				S	**Sb**	**00 27 20.0**	**+0.9**
	3μm,0.4s						
THAL	**Thalero**	**0.92**	**28**	P	**Pg**	**00 27 06.1**	**-0.6**
MNVA	**Monemvasia**	**0.92**	**126**	P	**Pb**	**00 27 07.0**	**0.0**
MNVA				S	**Sg**	**00 27 18.9**	**+0.2**
RLS	**Riolos of Patr**	**0.97**	**329**	P	**Pg**	**00 27 07.0**	**-0.7**
RLS				S	**Sb**	**00 27 20.8**	**+0.2**
	768nm,0.3s						
RLS	**Riolos of Patr**	**0.97**	**329**	P	**Pg**	**00 27 07.3**	**-0.3**
RLS				S	**Sb**	**00 27 21.0**	**+0.4**
LOUT	**Loutraki**	**1.02**	**42**	P	**Pg**	**00 27 08.0**	**-0.7**
LOUT				S	**Sn**	**00 27 23.7**	**+0.1**
	1μm,1.1s						
LOUT	**Loutraki**	**1.02**	**42**	P	**Pg**	**00 27 08.2**	**-0.5**
ALIK	**Aliki, Aigiali**	**1.03**	**0**	P	**Pg**	**00 27 07.8**	**-1.0**
ALIK				S	**Sn**	**00 27 23.8**	**+0.1**
LTK	**Loutraki**	**1.04**	**40**	P	**Pg**	**00 27 08.4**	**-0.7**
LTK				S	**Sb**	**00 27 22.9**	**+0.1**
YDRA	**Hydra**	**1.09**	**83**	P	**Pg**	**00 27 09.8**	**-0.1**
YDRA				S	**Sn**	**00 27 24.9**	**-0.3**
KRI1	**kERI**	**1.11**	**293**	P	**Pg**	**00 27 09.7**	**-0.7**
KRI1				S	**Sn**	**00 27 26.4**	**+0.6**
	2μm,0.4s						
LTHK	**Lithakia**	**1.12**	**296**	P	**Pg**	**00 27 09.7**	**-0.8**
LTHK	**Lithakia**	**1.12**	**296**	P	**Pg**	**00 27 10.3**	**-0.2**
LTHK				S	**Sb**	**00 27 25.4**	**+0.5**
EFP	**Efpalio**	**1.21**	**352**	P	**Pb**	**00 27 11.2**	**-0.6**
EFP				S	**Sn**	**00 27 29.5**	**+1.4**
	620nm,0.4s						
EFP	**Efpalio**	**1.21**	**352**	P	**Pb**	**00 27 11.4**	**-0.4**
EFP				S	**Sb**	**00 27 27.6**	**+0.2**
VILL	**Villia**	**1.33**	**45**	P	**Pn**	**00 27 13.6**	**0.0**
VILL				S	**Sg**	**00 27 33.2**	**+1.2**
	808nm,0.7s						
VIL2	**Platees**	**1.34**	**43**	P	**Pn**	**00 27 13.7**	**0.0**
VIL2				S	**Sn**	**00 27 31.9**	**+0.3**
ANX	**Ano Chora**	**1.37**	**354**	P	**Pn**	**00 27 14.0**	**-0.1**
ANX	**Ano Chora**	**1.37**	**354**	P	**Pn**	**00 27 14.3**	**+0.2**
PVO	**Paravola**	**1.46**	**342**	P	**Pn**	**00 27 15.1**	**-0.1**
ATH	**Athens Observa**	**1.48**	**59**	P	**Pn**	**00 27 16.1**	**+0.6**
ATH				S	**Sg**	**00 27 37.0**	**+0.5**
	515nm,0.7s						
ATH	**Athens Observa**	**1.48**	**59**	P	**Pn**	**00 27 15.4**	**0.0**
ATH				S	**Sn**	**00 27 35.1**	**+0.3**
PSDA	**Pessada-Kefalo**	**1.50**	**307**	P	**Pb**	**00 27 16.7**	**-0.1**
PSDA				S	**Sg**	**00 27 36.7**	**-0.4**
	690nm,0.4s						
ATHU	**Athens Univers**	**1.52**	**61**	P	**Pn**	**00 27 16.4**	**+0.3**
ATHU				S	**Sg**	**00 27 38.2**	**+0.3**
ATHU	**Athens Univers**	**1.52**	**61**	P	**Pn**	**00 27 16.3**	**+0.3**
ATHU				S	**Sn**	**00 27 36.2**	**+0.3**
VLS	**Valsamata**	**1.53**	**309**	P	**Pn**	**00 27 16.8**	**+0.5**
VLS	**Valsamata**	**1.53**	**309**	P	**Pn**	**00 27 16.4**	**+0.1**
VLS				S	**Sn**	**00 27 35.7**	**-0.5**
AXAR	**Agios Charalam**	**1.59**	**16**	P	**Pb**	**00 27 18.1**	**-0.4**
AXAR				S	**Sg**	**00 27 39.8**	**-0.5**
	995nm,0.5s						
AXAR	**Agios Charalam**	**1.59**	**16**	P	**Pn**	**00 27 17.6**	**+0.4**
ANKY	**Antikythira Is**	**1.67**	**144**	P	**Pb**	**00 27 19.5**	**-0.1**
FSK	**Fiskardo**	**1.73**	**316**	P	**Pn**	**00 27 19.9**	**+0.9**
KYMI	**Kymi, Euboea I**	**2.11**	**48**	P	**Pn**	**00 27 24.9**	**+0.7**
KYMI				S	**Sn**	**00 27 52.0**	**+1.6**
	205nm,0.7s						
NEO	**Neokhori**	**2.25**	**23**	P	**Pn**	**00 27 27.1**	**+0.9**
XOR	**Xorichti**	**2.30**	**21**	P	**Pn**	**00 27 27.9**	**+1.1**
APE	**Apeiranthos**	**2.74**	**92**	P	**Pn**	**00 27 33.2**	**+0.3**
APE	**Apeiranthos**	**2.74**	**92**	P	**Pn**	**00 27 33.4**	**+0.5**
PAIG	**Paliouri**	**2.96**	**24**	P	**Pn**	**00 27 36.8**	**+0.9**
IDI	**Anoyia**	**2.97**	**130**	P	**Pn**	**00 27 37.4**	**+1.3**
CHOS	**Chios island**	**3.33**	**69**	P	**Pn**	**00 27 42.0**	**+0.9**
OUR	**Ouranopolis**	**3.43**	**25**	P	**Pn**	**00 27 43.1**	**+0.8**
SMG	**Samos**	**3.79**	**81**	P	**Pn**	**00 27 48.1**	**+0.8**
KOKK	**Kokkinochori,**	**3.87**	**22**	P	**Pn**	**00 27 49.7**	**+1.3**
KNT	**Kendrikon**	**3.97**	**9**	P	**Pn**	**00 27 51.4**	**+1.6**
SRS	**Serrai**	**4.05**	**16**	P	**Pn**	**00 27 52.4**	**+1.5**
NVR	**Nevrokopi**	**4.33**	**18**	P	**Pn**	**00 27 56.7**	**+1.9**
VAE	**Valguarnera**	**6.14**	**275**	P	**Pn**	**00 28 22.4**	**+2.9**
	0.5nm,0.3s,baz=182,slow=24,SNR=2.3						
VAE				S	**Sn**	**00 29 30.4**	**+0.6**
	5.9nm,0.6s,baz=355,slow=20,SNR=1.5 8.4nm,0.8s						
MLR	**Muntele Rosu**	**8.74**	**18**	P	**Pn**	**00 28 59.8**	**+4.4**
	0.1nm,0.3s,baz=186,slow=9.2,SNR=2.1 2.0nm,0.8s						
BRTR	**Keskin Array B**	**9.38**	**71**	P	**Pn**	**00 29 05.7**	**+1.5**
	0.1nm,0.3s,baz=251,slow=13,SNR=6.0 0.6nm,0.5s						
MMAI	**Mount Meron Ar**	**11.67**	**107**	P	**Pn**	**00 29 34.5**	**-1.0**
	0.5nm,0.3s,baz=289,slow=12,SNR=6.1 0.3nm,0.3s						
HFS	**Hagfors**	**23.55**	**349**	P	**P**	**00 32 00.2**	**+1.1**
	1.9nm,0.6s,baz=130,slow=13,SNR=6.2 1.9nm,0.6s						
FINES	**FINESS Array B**	**24.36**	**5**	P	**P**	**00 32 08.6**	**+1.8**
	1.2nm,0.9s,baz=207,slow=8.9,SNR=4.7 1.2nm,0.9s						
NB2	**NORSAR Subarra**	**24.81**	**347**	P	**P**	**00 32 09.7**	**-1.1**
	comp=Z,0.1nm,0.5s,baz=156,slow=9.3						
NOA	**NORSAR Array B**	**24.81**	**347**	P	**P**	**00 32 12.6**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=157,slow=9.0,SNR=3.7 comp=Z,0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**30.14**	**223**	P	**P**	**00 32 58.2**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=38,slow=9.6,SNR=2.4 comp=Z,0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**41.79**	**53**	P	**P**	**00 34 37.2**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=278,slow=8.7,SNR=9.6 comp=Z,0.6nm,0.5s						
MKAR	**Makanchi Array**	**44.73**	**58**	P	**P**	**00 35 00.4**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=276,slow=7.2,SNR=7.0 comp=Z,0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**45.39**	**48**	P	**P**	**00 35 05.4**	**-1.8**
	comp=Z,0.4nm,0.4s,baz=269,slow=9.6,SNR=3.5 comp=Z,0.4nm,0.4s						

TAP 03 00:37:29.7, 24°44N×121°93E, h10km, ML1.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EWUT	**Wuta**	**0.14**	**273**	*i* P	Pb	00 37 33.9	-0.5
	baz=272						
EWUT				*i* S	Sg	00 37 36.5	+1.4
	baz=272						
ENA	**Nanau**	**0.17**	**266**	*i* P	Pb	00 37 34.5	-0.5
	baz=265						
ENA				*i* S	Sg	00 37 37.3	+1.2
	baz=265						
TWC	**Suao**	**0.19**	**336**	*i* P	Pb	00 37 34.5	-0.8
	baz=338						
TWC				*i* S	Sg	00 37 36.7	+0.3
	baz=338						
EAHA	**Aohua**	**0.21**	**238**	*e*P	Pb	00 37 35.0	-0.6
	baz=238						
EAHA				*e*S	Sg	00 37 38.5	+1.5
	baz=238						
EOS2	**EOS2**	**0.27**	**94**	*i* P	Pb	00 37 36.2	-0.4
	baz=94						
EOS2				*i* S	Sb	00 37 40.9	-0.4
	baz=94						
TWE	**Neicheng**	**0.37**	**319**	*e*P	Pb	00 37 38.4	+0.1
	baz=320						
TWE				*e*S	Sg	00 37 43.0	+1.0
	baz=320						
EOS3	**EOS3**	**0.38**	**113**	*i* P	Pb	00 37 38.3	-0.2
	baz=113						
EOS3				*i* S	Sb	00 37 44.5	+0.1
	baz=113						
ENTT	**Nioudou**	**0.39**	**301**	*i* P	Pb	00 37 38.5	-0.2
	baz=301						
NACB	**Ninganchiao**	**0.41**	**229**	*i* P	Pb	00 37 38.4	-0.5
	baz=229						
NACB				*i* S	Sb	00 37 44.8	-0.4
	baz=229						
NDT	**Datong Townshi**	**0.41**	**293**	*i* P	Pb	00 37 39.0	-0.2
	baz=293						
FUSB	**Fushanzhiwuyua**	**0.45**	**316**	*i* P	Pb	00 37 39.9	+0.2
	baz=315						
FUSB				*i* S	Sb	00 37 46.5	0.0
	baz=315						
ETLH	**Xiulin Townshi**	**0.47**	**241**	*i* P	Pb	00 37 39.6	-0.5
	baz=240						
ETLH				*i* S	Sb	00 37 47.2	0.0
	baz=240						
NWLT	**Wulai**	**0.52**	**311**	*i* P	Pb	00 37 41.2	+0.3
	baz=310						
NWLT				S	Sb	00 37 48.1	-0.3
	baz=310						
TIPB	**Shuangxi**	**0.54**	**350**	*i* P	Pb	00 37 41.4	+0.1
	baz=349						
TIPB				*i* S	Sb	00 37 48.5	-0.6
	baz=349						
YHNB	**Yeheng**	**0.56**	**295**	P	Pb	00 37 41.7	+0.1
	baz=294						
YHNB				S	Sb	00 37 50.2	+0.6
	baz=294						
NSK	**Sanguang**	**0.57**	**294**	P	Pb	00 37 41.9	0.0
	baz=294						
NSK				S	Sb	00 37 50.1	0.0
	baz=294						
LXIB	**Xiulin Townshi**	**0.63**	**229**	*i* P	Pg	00 37 42.4	+0.4
	baz=228						
LXIB				*i* S	Sb	00 37 52.2	+0.3
	baz=228						
SXI1	**Grass Mountain**	**0.65**	**356**	*e*S	Sb	00 37 52.0	-0.4
	baz=355						
WHF	**Hehuan Shan**	**0.68**	**244**	*i* S	Sb	00 37 53.7	+0.3
	baz=243						
CHGB	**Renai**	**0.79**	**242**	*e*P	Pn	00 37 46.5	-0.6
	baz=241						
CHGB				*e*S	Sb	00 37 57.3	+0.8
	baz=241						

JMA 03 00:37:35.2±0.1, 24°2N±0°3×123°8E±0°3, h23km±1km, MV0.3/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.13**	**315**	*e*P	Pb	00 37 39.8	0.0
IRIF				*e*S	Sb	00 37 42.5	-0.4
JKRS	**Kuro-shima**	**0.17**	**92**	P	Pb	00 37 40.1	-0.1
JKRS				S	Sb	00 37 43.5	-0.1
HATJ	**Hateruma jima**	**0.19**	**186**	P	Pb	00 37 40.3	-0.2
HATJ				S	Sb	00 37 43.7	-0.3
JIJ	**Ishigaki jima**	**0.31**	**68**	S	Sb	00 37 46.8	-0.2
JISG	**Ishigakijimahi**	**0.56**	**52**	*e*P	Pb	00 37 45.9	-0.4

*IDC **03** 00:39:29.3±1.3, 6°26S×142°90E, h0km, mb3.8/6, mbtmp3.9/9, ML3.6/2, MS3.7/2, Error ellipse: s-maj=42.2km s-min=22.1km az=92.0*

ISC 03 00:39:33.5±1.0, 6°5S±0°1×142°8E±0°1, h35km, n10, σ2905/10, mb3.9/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.21**	**123**	Pn	**Pn**	**00 40 48.8**	**-0.3**
	7.7nm,0.3s,baz=289,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**15.63**	**211**	Pn	**P**	**00 43 13.1**	**-2.0**
	0.2nm,0.3s,baz=31,slow=13,SNR=13						
WRA				Sn	**Sn**	**00 46 01.2**	**-2.3**
	0.1nm,0.3s,baz=29,slow=24,SNR=1.7						
WRA				Lg	Lg	00 47 54.9	
	0.1nm,0.3s,baz=325,slow=35,SNR=2.1						
WRA				LR	LR	00 50 31.0	
	comp=Z,191nm,19.1s,baz=110,slow=42 0.8nm,0.6s						
ASAR	**Alice Springs**	**19.04**	**206**	P	**Pn**	**00 43 57.9**	**+4.1**
	0.3nm,0.3s,baz=34,slow=9.5,SNR=59 3.6nm,0.7s						
KSRS	**Korea Array**	**45.90**	**344**	P	**P**	**00 47 52.6**	**-0.1**
	2.0nm,0.8s,baz=165,slow=11,SNR=6.6 2.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**51.43**	**350**	P	**P**	**00 48 33.9**	**-1.3**
	2.3nm,0.7s,baz=176,slow=5.7,SNR=5.5 2.3nm,0.7s						
MKAR	**Makanchi Array**	**75.26**	**322**	P	**P**	**00 51 13.6**	**+0.6**
	0.6nm,0.7s,baz=108,slow=6.3,SNR=7.7 0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**77.26**	**329**	P	**P**	**00 51 23.9**	**-0.2**
	0.3nm,0.5s,baz=127,slow=9.2,SNR=2.2 0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**79.16**	**324**	P	**P**	**00 51 35.6**	**+0.9**
	0.2nm,0.5s,baz=116,slow=8.4,SNR=1.7 0.2nm,0.5s						
BVAR	**Borovoye Array**	**84.74**	**325**	P	**P**	**00 52 04.1**	**+0.1**
	0.8nm,0.7s,baz=91,slow=7.2,SNR=5.5 0.8nm,0.7s						
OPO	**Ambohidratompo**	**93.18**	**251**	LR	LR	01 30 01.8	
	comp=Z,50nm,19.9s,baz=265,slow=32						

*IDC **03** 00:42:27.9±0.5, 21°.19S×168°.63E, h0km, mb4.9/20, mbtmp4.9/22, ML4.3/2, MS4.2/35, Error ellipse: s-maj=16.9km s-min=14.3km az=106.0*
*MOS **03** 00:42:28.5±1.1, 21°.17S×168°.47E, h10km, mb5.5/45, Error ellipse: s-maj=8.2km s-min=7.7km az=44.0*
*BJI **03** 00:42:29.0±0.0, 21°.20S×168°.40E, h10km, mb5.0/54, mB5.4/28, Ms5.2/4, Ms7 4.9/3*
*NEIC **03** 00:42:30.3±2.6, 21°.28S±0°.06×168°.50E±0°.05, h10km±1km, mb5.3/221, Mwr5.1/14, Error ellipse: s-maj=11.0km s-min=7.4km az=4.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=4.47; $M_{\theta\theta}$0.41; $M_{\phi\phi}$4.06; $M_{r\theta}$0.10; $M_{\theta\phi}$-1.48; $M_{\phi r}$1.75; Fault plane solution: M_{o}4.85000×10^{16} NP1:ϕ_s168.54000°, δ55.36000°, λ-80.63000°. NP2:ϕ_s332.35000°, δ35.74000°, λ-103.26000°. Principal axes: T 4.8658, Plg10.0000°, Azm252.0000°; N -0.0263, Plg8.0000°, Azm343.0000°; P -4.8395, Plg77.0000°, Azm110.0000°;*
*BGR **03** 00:42:30.3, 21°.43S×168°.55E, h37km±1km*
*NOU **03** 00:42:31.0, 21°.02S×168°.41E, h0km, mb5.1/82, Loyalty Islands*
*NEIC **03** 00:42:32.3, 21°.27S×168°.35E, h10km*
*GCMT **03** 00:42:34.3±0.1, 21°.09S±0°.01×168°.49E±0°.01, h15km, MW5.2/139, Moment Tensor Solution. s93,c140; s139,c232; Duration: 0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.70±.01; $M_{\theta\theta}$0.05±.01; $M_{\phi\phi}$0.64±.01; $M_{r\theta}$0.03±.02; $M_{\theta\phi}$-0.24±.01; $M_{\phi r}$0.19±.02; Best double couple: M_{o}0.74000×10^{17} NP1:ϕ_s168.00000°, δ52.00000°, λ-81.00000°. NP2:ϕ_s334.00000°, δ39.00000°, λ-101.00000°. Principal axes: T 0.7520, Plg7.0000°, Azm251.0000°; N -0.0250, Plg7.0000°, Azm342.0000°; P -0.7270, Plg80.0000°, Azm117.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 00:42:31.4±0.4, 21°24S±0°04×168°53E±0°04, h17km±2km, h17km:pP-P,n816, σ1954/815, mb5.3/183, MS4.3/33, 40C-44D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**1.29**	**291**		**Pn**	**00 42 51.4**	**-3.3**
LIFNC	**LIFOU**	**1.29**	**291**	P	**Pn**	**00 42 51.8**	**-2.8**
PINNC	**Pines Island,**	**1.70**	**216**		**Pn**	**00 42 59.0**	**-1.2**
PINNC	**Pines Island,**	**1.70**	**216**	P	**Pn**	**00 43 00.0**	**-0.2**
OUENC	**Ouen Island, N**	**1.96**	**233**		**Pn**	**00 43 03.5**	**-0.3**
OUENC	**Ouen Island, N**	**1.96**	**233**	P	**Pb**	**00 43 04.4**	**-2.2**
DZM	**Mont Dzumac**	**2.11**	**247**		**Pn**	**00 43 05.2**	**-0.8**
DZM	**Mont Dzumac**	**2.11**	**247**	P	**Pn**	**00 43 05.8**	**-0.2**
DZM	**Mont Dzumac**	**2.11**	**247**	*e*Pn	**Pn**	**00 43 05.2**	**-0.8**
	10μm,1.2s						
DZM				*e*Sn	**Sn**	**00 43 32.2**	**+0.3**
	13μm,1.2s						
DZM	**Mont Dzumac**	**2.11**	**247**	Pn	**Pn**	**00 43 05.0**	**-1.0**
	313nm,0.3s,baz=112,slow=16,SNR=6057						
DZM				Sn	**Sn**	**00 43 32.1**	**+0.2**
	213nm,0.3s,baz=88,slow=15,SNR=4.8						
DZM				LR	LR	00 43 34.2	
	comp=Z,7μm,19.6s,baz=18,slow=30 1μm,0.2s						
ONTNC	**Ouen Toro**	**2.21**	**241**		**Pn**	**00 43 06.8**	**-0.4**
ONTNC	**Ouen Toro**	**2.21**	**241**	P	**Pb**	**00 43 08.1**	**-2.7**
KOUNC	**Koumac, New Ca**	**4.03**	**279**		**Pn**	**00 43 31.7**	**-0.6**
KOUNC	**Koumac, New Ca**	**4.03**	**279**	P	**Pn**	**00 43 32.1**	**-0.2**
NFK	**Norfolk Island**	**7.79**	**184**	P	**Pn**	**00 44 23.9**	**-0.1**
	baz=7.8,SNR=3.2						
MSVF	**Nonsavu**	**9.63**	**70**		**Pn**	**00 44 51.9**	**+2.6**
MSVF	**Nonsavu**	**9.63**	**70**	P	**Pn**	**00 44 53.0**	**+3.7**
MSVF	**Nonsavu**	**9.63**	**70**	P	**Pn**	**00 44 52.5**	**+3.2**
YSA	**Yasawairara**	**9.68**	**64**	P	**Pn**	**00 44 52.6**	**+2.7**
DGTI	**Dogotuki**	**11.69**	**67**	P	**Pn**	**00 45 19.4**	**+1.9**
LHI	**Lord Howe Isla**	**13.29**	**218**	P	**Pn**	**00 45 39.6**	**+0.3**
	baz=13						
HNR	**Honiara**	**14.36**	**324**		**Pn**	**00 45 53.8**	**-0.2**
HNR	**Honiara**	**14.36**	**324**	P	**Pn**	**00 45 53.8**	**-0.2**
HNR	**Honiara**	**14.36**	**324**	Pn	**Pn**	**00 45 52.9**	**-1.1**
	255nm,0.3s,baz=170,slow=11,SNR=1.9						
RAO	**Raoul Island**	**14.62**	**126**	LR	LR	00 50 11.9	
	comp=Z,535nm,19.3s,baz=328,slow=32						
GC1S	**Gold Coast 1 S**	**15.28**	**240**	P	**P**	**00 46 09.7**	**-1.4**
EIDS	**Eidsvold**	**16.55**	**252**	P	**P**	**00 46 24.9**	**-0.3**
	baz=17,SNR=11						
EIDS	**Eidsvold**	**16.55**	**252**		**Pn**	**00 46 22.2**	**-0.5**
EIDS	**Eidsvold**	**16.55**	**252**	P	**P**	**00 46 25.4**	**+0.2**
RK1H	**Rockhampton Ha**	**16.83**	**259**	P	**P**	**00 46 28.8**	**+0.5**
	43nm,0.9s						
TOZ	**Tahuroa Road**	**17.51**	**161**	P	**P**	**00 46 34.9**	**-0.8**
ARMA	**Armidale**	**17.73**	**236**	P	**P**	**00 46 39.4**	**+1.0**
	baz=18,SNR=17						
ARMA	**Armidale**	**17.73**	**236**	P	**Pn**	**00 46 36.3**	**-1.3**
ARMA	**Armidale**	**17.73**	**236**	P	**P**	**00 46 39.8**	**+1.4**
URZ	**Urewera**	**18.51**	**158**	Pn	**Pn**	**00 46 47.4**	**+0.4**
	0.3nm,0.3s,baz=142,slow=1.5,SNR=5.6						
URZ				LR	LR	00 52 51.5	
	comp=Z,2μm,18.8s,baz=94,slow=34 22nm,0.9s						
AUPHS	**Peel High Scho**	**18.61**	**235**	P	**Pn**	**00 46 51.2**	**+2.9**
RTZ	**Ruatahuna**	**18.78**	**159**	P	**Pn**	**00 46 52.6**	**+2.3**
BKZ	**Black Stump Fm**	**19.13**	**161**		**Pn**	**00 46 56.1**	**+1.5**
BKZ	**Black Stump Fm**	**19.13**	**161**	P	**Pn**	**00 46 56.5**	**+2.0**
MGCD	**Mangrove Creek**	**19.52**	**229**	P	**Pn**	**00 47 01.3**	**+2.1**
	baz=20,SNR=5.1						
MGCD	**Mangrove Creek**	**19.52**	**229**	P	**Pn**	**00 47 01.5**	**+2.3**
SYDH	**Sydney Hard Ro**	**20.08**	**228**	P	Pn	00 47 07.8	+2.0
	49nm,0.9s						
TKNZ	**Takaka Hill**	**20.09**	**170**	P	Pn	00 47 07.2	+1.3
AFI	**Afiamalu**	**20.12**	**72**		**P**	**00 47 05.9**	**+1.2**
AFI				IAmb	IAmb	00 47 15.6	
	comp=Z,130nm,1.2s						
AFI	**Afiamalu**	**20.12**	**72**	P	**P**	**00 47 05.9**	**+1.2**
AFI				pmax	pmax		
	comp=Z,130nm,1.3s						
MRZ	**Mangatainoka R**	**20.27**	**164**	Pn	Pn	00 47 07.2	-0.8
AULRC	**Lightning Ridg**	**20.27**	**242**	P	Pn	00 47 08.8	+0.7
NNZ	**Nelson**	**20.34**	**169**	P	Pn	00 47 07.7	-1.1
NNZ				IAmb	IAmb	00 47 13.6	
	comp=Z,167nm,1.2s						
WOLH	**Wollongong Har**	**20.35**	**226**	P	Pn	00 47 11.8	+2.7
	comp=Z,33nm,0.8s						
MRNZ	**Matariki Terra**	**20.41**	**171**	Pn	**P**	**00 47 08.2**	**+0.6**
TV1H	**Townsville Har**	**20.49**	**272**	P	Pn	00 47 10.8	0.0
	comp=Z,58nm,1.2s						
TCW	**Tory Channel**	**20.50**	**168**	P	Pn	00 47 10.2	-0.5
TUWZ	**Tuamarina**	**20.64**	**168**		Pn	00 47 11.9	-0.4
SNZO	**South Karori**	**20.68**	**167**	P	Pn	00 47 11.5	-1.3
THZ	**Tophouse**	**20.79**	**171**		Pn	00 47 13.1	-1.1
BHW	**Baring Head**	**20.81**	**166**	P	**P**	**00 47 11.9**	**+0.1**
AUDCS	**Dubbo College**	**20.84**	**234**	P	Pn	00 47 15.2	+0.4
	comp=Z,46nm,1.5s						
CTA	**Charters Tower**	**20.88**	**269**	P	Pn	00 47 14.6	-0.7
CTA	**Charters Tower**	**20.88**	**269**	P	Pn	00 47 13.8	-1.5
	comp=Z,42nm,0.8s,baz=97,slow=13,SNR=27						
CTA				S	**S**	**00 51 04.4**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=76,slow=14,SNR=1.4						
CTA				LR	LR	00 54 35.8	
	comp=Z,1μm,20.4s,baz=91,slow=35 comp=Z,42nm,0.8s						
CTAO	**Charters Tower

comp=Z,1µm,18.6s,baz=144,slow=33
comp=Z,36nm,1.0s
ODZ Otahua Downs 23.80 176 P **P** **00 47 43.9 +0.6**
DCZ Deep Cove 24.19 182 P **P** **00 47 47.6 +0.9**
WHZ Wether Hill Ro 24.59 181 P **P** **00 47 51.7 +1.1**
COEN Coen 25.21 283 P **P** **00 47 57.4 +1.0**
baz=25,SNR=7.1
COEN Coen 25.21 283 P **P** **00 47 57.0 +0.6**
COEN lAmb lAmb 00 48 09.8
comp=Z,56nm,0.9s
COEN Coen 25.21 283 P **P** **00 47 57.2 +0.8**
SYZ Scrubby Hill 25.24 179 P **P** **00 48 01.7 +5.4**
TOO Toolangi 25.74 226 P **P** **00 48 04.2 +3.1**
baz=26,SNR=4.2
TOO Toolangi 25.74 226 P **P** **00 48 02.4 +1.3**
TOO Toolangi 25.74 226 P **P** **00 48 04.2 +3.1**
TOO Toolangi 25.74 226 P **P** **00 48 02.4 +1.3**
TOO pmax pmax
comp=Z,28nm,1.1s
STKA Stephens Creek 26.25 241 P **P** **00 48 07.5 +1.7**
baz=26,SNR=8.0
STKA Stephens Creek 26.25 241 P **P** **00 48 06.5 +0.7**
STKA Stephens Creek 26.25 241 P **P** **00 48 07.0 +1.2**
STKA Stephens Creek 26.25 241 *i* P **P** **00 48 05.7 -0.1**
STKA Stephens Creek 26.25 241 P **P** **00 48 06.4 +0.6**
comp=Z,10nm,0.9s,baz=76,slow=12,SNR=16
STKA LR LR 00 57 53.0
comp=Z,1µm,19.6s,baz=79,slow=35
comp=Z,10nm,0.9s
LCRK Leigh Creek 28.71 245 P **P** **00 48 30.1 +2.3**
HTT Hallett 28.87 239 P **P** **00 48 32.2 +3.0**
RAR Rarotonga 29.52 96 LR LR 00 58 18.2
comp=Z,164nm,21.9s,baz=260,slow=32
OOD Oodnadatta 30.52 251 P **P** **00 48 45.0 +1.1**
BBOO Buckleboo 31.02 241 P **P** **00 48 48.8 +0.6**
baz=31,SNR=7.2
BBOO Buckleboo 31.02 241 P **P** **00 48 48.8 +0.6**
WR0 Warramunga Arr 31.81 266 P **P** **00 48 54.3 -1.1**
WR0 lAmb lAmb 00 49 07.3
comp=Z,33nm,0.9s
WB0 Warramunga Arr 31.98 266 P **P** **00 48 54.6 -2.2**
WB0 lAmb lAmb 00 49 07.1
comp=Z,72nm,1.4s
WB2 Warramunga Arr 31.99 266 P **P** **00 48 55.4 -1.5**
WB2 lAmb lAmb 00 49 07.3
comp=Z,61nm,1.4s
WRAB Tennant Creek 31.99 266 P **P** **00 48 56.2 -0.7**
WRAB lAmb lAmb 00 49 07.2
comp=Z,68nm,1.4s
WRAB Tennant Creek 31.99 266 *i* P **P** **00 48 54.7 -2.2**
WRAB pmax pmax
comp=Z,62nm,1.4s
WRA Warramunga Arr 32.00 266 P **P** **00 48 56.0 -1.0**
WRA Warramunga Arr 32.00 266 *i* P **P** **00 48 56.0 -1.0**
WRA pmax pmax
comp=Z,8.0nm,0.9s
WRA Warramunga Arr 32.00 266 P **P** **00 48 55.8 -1.2**
comp=Z,9.8nm,0.9s,baz=84,slow=6.7,SNR=12
comp=Z,9.8nm,0.9s
AS01 Alice Springs 32.01 259 P **P** **00 48 56.9 -0.2**
comp=Z,58nm,0.8s
AS31 Alice Springs 32.05 259 P **P** **00 48 57.1 -0.4**
ASAR Alice Springs 32.05 259 P **P** **00 48 56.8 -0.7**
comp=Z,34nm,0.7s,baz=83,slow=9.2,SNR=252
ASAR PcP **PcP** **00 51 46.1 -0.9**
comp=Z,2.4nm,1.0s,baz=96,slow=4.7,SNR=2.4
ASAR LR LR 01 01 33.0
comp=Z,1µm,18.6s,baz=96,slow=36
ASAR P3KPbc 01 20 26.6
comp=Z,0.8nm,0.9s,baz=274,slow=5.6,SNR=5.5
comp=Z,34nm,0.7s
ASPA Alice Springs 32.05 259 P **P** **00 48 57.1 -0.4**
baz=32
MULG Mulgathing 32.23 247 P **P** **00 48 59.4 +0.5**
GENI Genyem 33.26 300 P **P** **00 49 09.3 +1.3**
GENI Genyem 33.26 300 P **P** **00 49 07.7 -0.3**
comp=Z,79nm,1.1s,comp=Z,4µm
MTN Manton Dam 36.65 277 P **P** **00 49 37.2 -0.1**
MTN lAmb lAmb 00 49 47.9
comp=Z,103nm,1.2s
WRKA Warakurna 37.10 256 P **P** **00 49 40.8 -0.3**
baz=37,SNR=9.7
WRKA Warakurna 37.10 256 P **P** **00 49 41.0 -0.1**
FORT Forrest 37.42 247 P **P** **00 49 43.8 +0.1**
baz=37
FORT Forrest 37.42 247 P **P** **00 49 43.5 -0.2**
FORT lAmb lAmb 00 49 58.8
comp=Z,70nm,1.2s
KNRA Kununurra 38.06 272 P **P** **00 49 48.7 -0.5**
baz=38,SNR=8.2
KNRA Kununurra 38.06 272 P **P** **00 49 48.5 -0.7**
TBI Tubuai 38.83 101 *e*S **S** **00 55 50.8 -2.0**
comp=Z,1µm,29.0s
TBI *e*LQ LQ 00 58 55.2
comp=Z,6µm,29.0s
TBI *e*LR LR 01 00 32.5
comp=Z,4µm,30.2s
PPT2 Papeete2 39.59 92 *e*PKP2 **P** **00 49 59.5 -2.7**
comp=Z,115nm,38.2s
PPT2 *e*S **S** **00 56 04.0 -0.6**
comp=Z,389nm,26.2s
PPT2 *e*LQ LQ 00 59 20.9
comp=Z,2µm,28.0s
PPT2 *e*LR LR 01 00 45.5
comp=Z,984nm,30.8s
PPT2 *e*LR LR 01 00 51.4
comp=Z,1µm,28.5s
PPT Papeete 39.60 92 LR LR 01 02 13.5
comp=Z,341nm,19.9s,baz=258,slow=30
FAKI Fak Fak 39.71 292 P **P** **00 50 04.0 +0.9**
FAKI lAmb lAmb 00 50 12.9
comp=Z,55nm,1.1s
FITZ Fitzroy Crossi 40.42 267 P **P** **00 50 09.0 0.0**
baz=40,SNR=19
FITZ Fitzroy Crossi 40.42 267 P **P** **00 50 08.9 -0.1**
FITZ Fitzroy Crossi 40.42 267 P **P** **00 50 10.0 +1.0**
KMBL Kambalda 42.75 246 P **P** **00 50 28.9 +0.9**
SOEI Soe 44.02 278 P **P** **00 50 39.7 +1.2**
comp=Z,72nm,1.2s,comp=Z,1µm
NLAI Namlea 44.07 288 P **P** **00 50 39.6 +0.8**
comp=Z,57nm,1.4s
LBMI Labuha 44.96 292 P **P** **00 50 48.4 +2.5**
comp=Z,120nm,1.5s,comp=Z,2µm
PSA00 Pilbara Seismi 45.18 260 P **P** **00 50 48.0 +0.4**
PSA00 Pilbara Seismi 45.18 260 P **P** **00 50 47.6 0.0**
PSA00 lAmb lAmb 00 50 59.1
comp=Z,63nm,1.2s
PSA00 Pilbara Seismi 45.18 260 P **P** **00 50 50.6 +3.0**
MBWA Marble Bar 45.35 261 P **P** **00 50 49.6 +0.7**
MBWA Marble Bar 45.35 261 P **P** **00 50 50.0 +1.0**
SANI Sanana 45.60 289 P **P** **00 50 51.7 +0.7**
SANI Sanana 45.60 289 P **P** **00 50 49.7 -1.3**
comp=Z,154nm,1.1s,comp=Z,2µm
MEEK Meekatharra 45.72 253 P **P** **00 50 51.4 -0.4**
baz=46,SNR=6.4
MEEK Meekatharra 45.72 253 P **P** **00 50 52.5 +0.7**
KLBR Kellerberrin 46.28 246 P **P** **00 50 56.2 0.0**
baz=46,SNR=3.7
KLBR Kellerberrin 46.28 246 P **P** **00 50 56.5 +0.3**
MMRI Maumere 46.28 279 P **P** **00 50 58.7 +2.3**
comp=Z,83nm,1.2s
NWAO Narrogin (SRO) 46.73 244 LR LR 01 10 53.6
comp=Z,2µm,19.1s,baz=80,slow=36
EDFI Ende, Flores 46.75 278 P **P** **00 50 59.5 -0.7**
comp=Z,266nm,1.4s,comp=Z,590nm
BBSI Bau Bau 47.18 283 P **P** **00 51 05.7 +2.3**
comp=Z,26nm,1.1s
BLDU Ballidu 47.19 247 P **P** **00 51 03.6 +0.3**
baz=47,SNR=4.2
BASI Baing, Sumba 47.28 276 P **P** **00 51 05.7 +1.5**
comp=Z,157nm,1.5s,comp=Z,2µm
MUN Mundaring 47.59 246 P **P** **00 51 07.0 +0.5**
MORW Morawa 47.83 250 P **P** **00 51 10.2 +1.8**
baz=48,SNR=3.9
MORW Morawa 47.83 250 P **P** **00 51 08.1 -0.3**
LUWI Luwuk 48.91 288 P **P** **00 51 17.1 +0.3**
LUWI Luwuk 48.91 288 P **P** **00 51 18.0 +1.2**
LUWI Luwuk 48.91 288 P **P** **00 51 16.6 -0.2**
comp=Z,92nm,1.2s
KAPI Kappang 49.94 282 P **P** **00 51 25.0 +0.3**
KAPI Kappang 49.94 282 *d* *i* P **P** **00 51 24.5 -0.1**
KAPI pmax pmax
comp=Z,33nm,1.1s
PLAI Plampang 50.34 276 P **P** **00 51 28.2 +0.4**
PLAI Plampang 50.34 276 P **P** **00 51 27.8 0.0**
comp=Z,86nm,1.2s,comp=Z,1µm

MRSI Marisa 50.35 289 P **P** **00 51 28.7 +0.9**
comp=Z,15nm,0.6s,comp=Z,1µm
DAV Davao City (W) 50.68 299 LR LR 01 13 26.2
comp=Z,107nm,19.4s,baz=160,slow=37
TAOE Nuku Hiva Isla 50.86 84 *e*PKP2 P 00 51 37.9 +6.2
comp=Z,85nm,24.6s
TAOE *e*S **S** **00 58 52.4 +4.8**
comp=Z,397nm,25.4s
TWSI Taliwang, Sumb 51.20 276 P **P** **00 51 34.6 +0.3**
comp=Z,72nm,1.3s,comp=Z,1µm
TOLI2 Tolitoli 51.67 289 P **P** **00 51 36.6 -1.1**
TOLI2 Tolitoli 51.67 289 P **P** **00 51 37.1 -0.6**
JAGI Jajag, Banyuwa 53.83 275 P **P** **00 51 52.5 -1.2**
JAGI Jajag, Banyuwa 53.83 275 P **P** **00 51 55.9 +2.2**
VNDA Vanda 56.42 182 P **P** **00 52 11.6 +0.1**
comp=Z,5.3nm,0.9s,baz=336,slow=4.3,SNR=4.0
VNDA LR LR 01 11 41.7
comp=Z,122nm,21.0s,baz=20,slow=31
comp=Z,5.3nm,0.9s
SMRI Semarang 57.77 275 P **P** **00 52 22.2 +0.1**
KKM Kota Kinabalu 58.03 292 P **P** **00 52 23.8 -0.1**
KKM Kota Kinabalu 58.03 292 P **P** **00 52 26.2 +2.3**
CASY Casey 58.04 204 P **P** **00 52 23.1 0.0**
CASY lAmb lAmb 00 52 34.6
comp=Z,67nm,1.4s
STKI Sintang 59.54 283 P **P** **00 52 35.4 +1.0**
SBUM Sibu 59.89 286 P **P** **00 52 36.7 0.0**
SBUM lAmb lAmb 00 52 39.0
comp=Z,18nm,1.1s
BBJI Bungbulang 60.22 274 P **P** **00 52 40.6 +1.5**
LEM Lembang 60.47 274 LR LR 01 18 52.4
comp=Z,309nm,19.8s,baz=102,slow=36
CNJI Cibinong 60.76 273 P **P** **00 52 41.5 -1.2**
comp=Z,33nm,1.1s,comp=Z,1µm
CBJI Citeko 61.33 274 P **P** **00 52 46.2 -0.4**
DBJI Dramaga 61.38 274 P **P** **00 52 47.0 +0.1**
comp=Z,173nm,1.3s
JOW Kunigami 61.68 319 LR LR 01 18 48.1
comp=Z,45nm,18.1s,baz=173,slow=35
KASI Kota Agung 63.83 274 P **P** **00 53 02.1 -1.2**
comp=Z,85nm,1.0s
MJAR Matsushiro Arr 64.22 333 P **P** **00 53 03.9 -1.4**
comp=Z,7.9nm,0.9s,baz=169,slow=7.9,SNR=13
MJAR LR LR 01 19 30.5
comp=Z,39nm,21.1s,baz=142,slow=35
comp=Z,7.9nm,0.9s
MAJO Matsushiro 64.22 333 P **P** **00 53 06.7 +1.4**
MAJO Matsushiro 64.22 333 *i* P **P** **00 53 01.2 -4.1**
MAJO pmax pmax
comp=Z,24nm,1.4s
TPUB Ta-pu 64.32 311 P **P** **00 53 04.7 -1.6**
TPUB Ta-pu 64.32 311 P **P** **00 53 05.6 -0.7**
comp=Z,86nm,1.0s
JMM Marumori 64.32 336 P **P** **00 53 05.7 -0.3**
JMM Marumori 64.32 336 P **P** **00 53 07.5 +1.6**
SSLB Suanglung 64.41 311 P **P** **00 53 06.9 0.0**
SSLB Suanglung 64.41 311 P **P** **00 53 08.3 +1.4**
YHNB Yeheng 64.68 312 P **P** **00 53 08.2 -0.5**
YHNB Yeheng 64.68 312 P **P** **00 53 09.8 +1.1**
comp=Z,68nm,1.0s
TATO Taipei 64.81 313 P **P** **00 53 10.3 +0.9**
JNU Nakatsue 64.92 326 LR LR 01 18 14.2
comp=Z,32nm,20.3s,baz=33
JSD Sado 65.47 334 P **P** **00 53 14.3 +0.9**
QSPA South Pole Qui 68.82 180 P **P** **00 53 34.6 0.0**
QSPA South Pole Qui 68.82 180 P **P** **00 53 34.5 -0.1**
comp=Z,30nm,1.0s,baz=12,slow=2.5,SNR=49
QSPA LR LR 01 20 48.6
comp=Z,264nm,18.1s,baz=21,slow=33
comp=Z,30nm,1.0s
BKNI Bangkinang 69.20 279 P **P** **00 53 37.7 0.0**
JKA Kamikawa-asahi 69.24 340 P **P** **00 53 37.4 +0.2**
ASAJ Asahikawa 69.24 340 P **P** **00 53 37.4 +0.2**
ASAJ pmax pmax
comp=Z,72nm,1.0s
ASAJ Asahikawa 69.24 340 P **P** **00 53 37.1 -0.1**
comp=Z,48nm,0.9s,baz=199,slow=11,SNR=12
ASAJ LR LR 01 21 01.2
comp=Z,291nm,19.7s,baz=114,slow=33
comp=Z,48nm,0.9s
TJN Taejon 69.27 325 *ce*P **P** **00 53 36.7 -0.8**
KSRS Korea Array 69.79 326 P **P** **00 53 39.8 -0.9**
comp=Z,2.0nm,0.8s,baz=141,slow=6.7,SNR=5.8
comp=Z,2.0nm,0.8s
KSAR Wonju Array Be 69.80 326 P **P** **00 53 40.4 -0.4**
KSAR Wonju Array Be 69.80 326 P **P** **00 53 40.4 -0.4**
QIZ Qiongzhong 70.01 301 P **P** **00 53 43.6 +1.1**
QIZ S **S** **01 02 55.5 +3.0**
QIZ LR LR
comp=Z,96nm,15.2s
QIZ LR LR
comp=Z,98nm,9.0s
QIZ LR LR
comp=Z,92nm,12.8s
INCN Inchon 70.48 326 P **P** **00 53 45.1 +0.1**
INCN Inchon 70.48 326 P **P** **00 53 45.1 +0.1**
INCN pmax pmax
comp=Z,105nm,1.7s
IPM Ipoh 70.86 283 P **P** **00 53 46.6 -1.3**
IPM lAmb lAmb 00 53 59.1
comp=Z,30nm,0.8s
IPM Ipoh 70.86 283 P **P** **00 53 48.0 +0.1**
NJ2 Nanjing 71.19 317 *e*P **P** **00 53 51.1 +1.7**
NJ2 pP **pwP** **00 53 56.5 -1.9**
NJ2 sP **sP** **00 53 59.1 +3.7**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
KULM Kulim 71.53 283 P **P** **00 53 51.2 -0.7**
KULM lAmb lAmb 00 54 03.1
comp=Z,17nm,0.9s
UBPT Khong Chiam 71.73 295 P **P** **00 53 51.9 -1.1**
UBPT Khong Chiam 71.73 295 P **P** **00 53 54.2 +1.2**
comp=Z,18nm,0.9s
YSS Yuzh-Sakhalins 71.75 342 P **P** **00 53 52.5 0.0**
YSS Yuzh-Sakhalins 71.75 342 P **P** **00 53 53.6 +1.1**
comp=Z,70nm,1.1s
YSS Yuzh-Sakhalins 71.75 342 *e*P **P** **00 53 52.8 +0.3**
YSS *e* 00 54 01.4
YSS pmax pmax
comp=Z,70nm,1.0s
RPSI Rantau Prapat 72.07 280 P **P** **00 53 53.6 -1.6**
PSI Prapat 72.11 280 P **P** **00 53 54.9 -0.7**
comp=Z,16nm,1.1s
PSI Prapat 72.11 280 P **P** **00 53 53.6 -2.0**
PSI pmax pmax
comp=Z,16nm,1.1s
GSI Gunungsitoli 72.77 278 P **P** **00 53 58.9 -0.5**
GSI lAmb lAmb 00 54 10.6
comp=Z,32nm,1.0s
AMKA Amchitka 72.92 7 P **P** **00 54 02.1 +2.8**
GULI GuiLin 73.00 306 ⇓P **P** **00 53 59.6 -0.8**
GULI pmax pmax
comp=Z,20nm,1.2s
WHN Wuhan 73.21 313 ⇑P P 00 54 07.5 +6.0
WHN pP pwP 00 54 12.6 +2.0
WHN pmax pmax
comp=Z,140nm,1.2s
USA0B Ussuriysk Arra 73.21 333 P **P** **00 54 01.4 +0.1**
USA0B Ussuriysk Arra 73.21 333 P **P** **00 54 01.4 +0.1**
USA0B pmax pmax
comp=Z,64nm,1.2s
USRK Ussuriysk Ar. 73.21 333 P **P** **00 54 01.6 +0.4**
USRK Ussuriysk Ar. 73.21 333 P **P** **00 54 01.6 +0.4**
USRK Ussuriysk Ar. 73.21 333 P **P** **00 54 00.9 -0.3**
comp=Z,28nm,0.9s,baz=144,slow=4.6,SNR=33
comp=Z,28nm,0.9s
SRIT Nakonsritamara 73.85 286 P **P** **00 54 05.0 -0.6**
SRIT Nakonsritamara 73.85 286 P **P** **00 54 07.4 +1.7**
KIWB Kanaga Island 73.85 9 P **P** **00 54 06.5 +1.7**
ADK Adak 73.95 9 P **P** **00 54 06.5 +1.1**
ADK lAmb lAmb 00 54 18.9
comp=Z,58nm,1.1s
ADK Adak 73.95 9 P **P** **00 54 06.5 +1.1**
ADK pmax pmax
comp=Z,58nm,1.2s
SURA Surathani 74.06 287 P **P** **00 54 08.5 +1.6**
comp=Z,19nm,1.1s
MDJ Mudanjiang 74.57 332 P **P** **00 54 09.8 +0.6**
MDJ pP sP 00 54 12.9 -2.3
MDJ sP pwP 00 54 14.6 -4.4
MDJ PcP **PcP** **00 54 20.6 -2.9**
MDJ PP **PP** **00 56 59.0 +2.7**
MDJ S **S** **01 03 52.5 +8.7**
MDJ pmax pmax
comp=Z,34nm,1.1s
MDJ pmax pmax
comp=Z,320nm,5.9s
MDJ Mudanjiang 74.57 332 P **P** **00 54 09.4 +0.2**
MDJ lAmb lAmb 00 54 21.1
comp=Z,32nm,1.0s
MDJ Mudanjiang 74.57 332 P **P** **00 54 09.7 +0.6**
comp=Z,35nm,1.1s
PEA0B Petropavlovsk- 74.63 353 *ce*P **P** **00 54 08.0 -1.3**
PETK Petropavlovsk- 74.63 353 P **P** **00 54 10.0 +0.7**
PETK Petropavlovsk- 74.63 353 P **P** **00 54 10.0 +0.7**
PETK Petropavlovsk- 74.63 353 P **P** **00 54 09.1 -0.3**
comp=Z,23nm,0.9s,baz=114,slow=7.2,SNR=9.8
PETK LR LR 01 21 36.5
comp=Z,241nm,20.3s,baz=148,slow=32
comp=Z,23nm,0.9s
NONG Nongkai 75.01 296 P **P** **00 54 13.3 +1.0**
comp=Z,22nm,1.0s
TYV Tymovskoe 75.33 343 *e*P **P** **00 54 14.0 +0.6**
TYV pmax pmax
comp=Z,20nm,1.4s
TYV pmax pmax
comp=Z,200nm,4.3s
CN2 Changchun 75.82 329 P **P** **00 54 16.2 -0.2**
CN2 pmax pmax
comp=Z,20nm,0.9s
BNX BinXian 76.41 332 ⇑P **P** **00 54 19.2 -0.5**
BNX pmax pmax
comp=Z,22nm,0.8s
BNX pmax pmax
comp=Z,100nm,3.2s
GYA Guiyang 76.43 306 ⇑ *i* P **P** **00 54 20.6 +0.2**
GYA pmax pmax
comp=Z,15nm,1.1s
ENH Enshi 76.44 310 P **P** **00 54 19.5 -0.8**
ENH Enshi 76.44 310 P **P** **00 54 19.9 -0.4**
comp=Z,87nm,1.1s
SRDT SRDT 76.75 291 P **P** **00 54 23.7 +1.4**
comp=Z,37nm,1.0s
LYN LuoYang 76.91 315 *e*P **P** **00 54 26.4 +3.6**
LYN pP pwP 00 54 31.3 -0.6
LYN pmax pmax
comp=Z,21nm,0.6s
LYN pmax pmax
comp=Z,350nm,4.4s
GRNR Gornyy 77.08 340 ⇓ *i* P **P** **00 54 24.3 +0.9**
GRNR pmax pmax
comp=Z,40nm,1.1s
HNS HongShan 77.25 319 ⇓P **P** **00 54 24.7 +0.1**
HNS PcP **PcP** **00 54 35.8 +0.5**
HNS pmax pmax
comp=Z,22nm,1.3s
KLR Kul'dur 77.42 336 *ce*P **P** **00 54 23.5 -1.8**
KLR pmax pmax
comp=Z,52nm,1.7s
KLR Kul'dur 77.42 336 P **P** **00 54 25.6 +0.2**
comp=Z,12nm,1.0s,baz=136,slow=5.4,SNR=22
KLR LR LR 01 25 18.9
comp=Z,120nm,20.7s,baz=130,slow=33
comp=Z,12nm,1.0s
PHRA Phrae 77.66 296 P **P** **00 54 27.9 +0.6**
BJT Baijiatuau 78.07 322 P **P** **00 54 29.1 -0.1**
BJT lAmb lAmb 00 54 55.7
comp=Z,30nm,1.6s
BJT Baijiatuau 78.07 322 P **P** **00 54 31.5 +2.3**
comp=Z,11nm,1.3s
BJT Baijiatuau 78.07 322 P **P** **00 54 29.1 -0.1**
BJT pmax pmax
comp=Z,30nm,1.6s
BJI Beijing 78.08 322 P **P** **00 54 28.6 -0.6**
BJI pmax pmax
comp=Z,80nm,4.8s
CMAR Chiang Mai Arr 78.73 295 P **P** **00 54 33.6 +0.3**
CMAR Chiang Mai Arr 78.73 295 P **P** **00 54 34.1 +0.8**
comp=Z,3.8nm,0.4s,baz=132,slow=4.2,SNR=37
CMAR LR LR 01 30 21.6
comp=Z,45nm,20.4s,baz=140,slow=36
comp=Z,3.8nm,0.4s
KMI Kunming 78.78 303 ⇓P **P** **00 54 34.5 +0.8**
KMI pmax pmax
comp=Z,29nm,1.3s
CHTO Chiang Mai 78.89 295 P **P** **00 54 34.8 +0.6**
CHTO lAmb lAmb 00 54 36.0
comp=Z,46nm,1.5s
CHTO Chiang Mai 78.89 295 P **P** **00 54 34.8 +0.6**
comp=Z,12nm,1.2s
CHTO Chiang Mai 78.89 295 P **P** **00 54 34.8 +0.6**
CHTO pmax pmax
comp=Z,46nm,1.5s
XAN Xi'an 78.98 313 ⇓P P 00 54 44.3 +10
XAN pP PcP 00 54 48.8 +5.9
XAN sP pwP 00 54 51.6 +8.1
HEH HeiHe 79.92 335 *e*P **P** **00 54 38.6 -0.5**
HEH pmax pmax
comp=Z,26nm,1.3s
HEH pmax pmax
comp=Z,350nm,5.4s
BELA Belgrano 2 80.17 175 P **P** **00 54 39.5 -0.7**
BELA lAmb lAmb 00 54 40.5
comp=Z,49nm,1.3s
PZH PanZhiHua 80.24 303 P **P** **00 54 43.2 +1.7**
PZH pmax pmax
comp=Z,10.0nm,0.3s
PZH pmax pmax
comp=Z,160nm,6.9s
XLT XiLinHaoTe 80.67 324 *e*P **P** **00 54 43.3 -0.1**
XLT pP sP 00 54 47.4 -2.0
XLT pmax pmax
comp=Z,7.0nm,1.1s
XLT pmax pmax
comp=Z,130nm,4.3s
CD2 Chengdu 80.93 308 P **P** **00 54 47.0 +1.9**
HHC Hu-ho-hao-te 81.31 320 *e*P **P** **00 54 46.4 -0.5**
HHC pmax pmax
comp=Z,17nm,1.3s
HHC pmax pmax
comp=Z,180nm,6.1s
MA2 Magadan 81.83 351 *ce*P **P** **00 54 46.0 -3.1**
MA2 pmax pmax
comp=Z,31nm,2.5s
MA2 Magadan 81.83 351 LR LR 01 26 22.5
comp=Z,116nm,19.4s,baz=136,slow=32
TNCH TengChong 82.08 301 P **P** **00 54 51.3 -0.2**
TNCH pP pwP 00 54 57.8 -2.8
TNCH pmax pmax
comp=Z,190nm,6.4s
BTO Baotou 82.10 319 *e*P **P** **00 54 52.3 +1.2**
BTO pP **pwP** **00 54 57.1 -3.9**
BTO sP **PcP** **00 54 59.8 +3.3**
BTO S **S** **01 05 07.7 +2.6**
BTO pmax pmax
comp=Z,18nm,0.8s
BTO pmax pmax
comp=Z,530nm,4.9s
BTO LR LR
comp=Z,380nm,4.7s
BTO LR LR
comp=Z,360nm,4.9s
BTO LR LR
comp=Z,280nm,5.5s
HIA Hailar 82.50 330 P **P** **00 54 52.1 -0.8**
HIA Hailar 82.50 330 *i* P **P** **00 54 51.0 -1.9**
HIA pmax pmax
comp=Z,14nm,1.0s
ZEA Zeya 82.72 337 *e*P **P** **00 54 53.9 0.0**
ZEA *e*S **SKSac** **01 05 14.4 +0.2**
ZEA pmax pmax
comp=N,20nm,1.4s
ZEA pmax pmax
comp=Z,30nm,1.3s
LZH Lanzhou 83.58 313 ⇑P **P** **00 55 00.1 +1.1**
LZH sP pwP 00 55 10.7 +1.7
LZH S **SKSac** **01 05 22.2 +1.1**
LZH sS ScS 01 05 36.2 +2.5
LZH pmax pmax
comp=Z,20nm,1.4s
ELIB Princess Elisa 84.06 190 *d*P **P** **00 54 59.6 -1.3**
comp=Z,9.0nm,1.3s
OHAK Old Harbor 84.45 20 P **P** **00 55 04.8 +2.2**
Q16K King Salmon 84.66 17 P **P** **00 55 02.3 -1.3**
baz=212
SEY Seymchan 84.86 353 *ce*P **P** **00 55 03.5 -1.1**
SEY pmax pmax
comp=Z,25nm,1.7s
SEY Seymchan 84.86 353 P **P** **00 55 03.8 -0.8**
comp=Z,7.3nm,0.9s,baz=171,slow=5.1,SNR=16
SEY LR LR 01 30 31.9

comp=Z,243nm,18.8s,baz=184,slow=34
comp=Z,7.3nm,0.9s
N15K Kwethluk River 85.05 15 P **P 00 55 05.7 0.0**
N15K Kwethluk River 85.05 15 P **P 00 55 05.3 -0.3**
baz=209
O16K Kokwok River B 85.06 16 P **P 00 55 03.8 -1.9**
baz=211
M14K Bethel 85.13 14 P **P 00 55 05.9 0.0**
M14K IAmb IAmb 00 55 06.1
comp=Z,29nm,1.2s
M14K Bethel 85.13 14 P **P 00 55 05.4 -0.5**
baz=207
KDAK Kodiak Island 85.13 20 P **P 00 55 08.0 +1.9**
KDAK IAmb IAmb 00 55 21.0
comp=Z,36nm,1.1s
KDAK Kodiak Island 85.13 20 P **P 00 55 08.0 +1.9**
KDAK pmax pmax
comp=Z,36nm,1.2s
M15K Kasigluk River 85.37 15 P **P 00 55 06.6 -0.6**
baz=209
L14K Kuka Creek 85.49 13 P **P 00 55 07.6 -0.2**
L14K Kuka Creek 85.49 13 P **P 00 55 07.4 -0.4**
baz=207
N16K Nishlik Lake 85.64 16 P **P 00 55 08.6 -0.1**
baz=210
P18K Big Mountain, 85.67 18 P **P 00 55 07.7 -1.1**
P18K Big Mountain, 85.67 18 P **P 00 55 07.4 -1.4**
baz=214
L15K Ungalak Mounta 86.06 14 P **P 00 55 09.7 -0.8**
baz=208
O18K Koktuh Hills 86.06 17 P **P 00 55 09.9 -0.8**
O18K IAmb IAmb 00 55 23.8
comp=Z,48nm,1.4s
O18K Koktuh Hills 86.06 17 P **P 00 55 09.7 -1.0**
baz=214
M16K Timber Creek 86.07 15 P **P 00 55 10.9 +0.2**
M16K IAmb IAmb 00 55 25.4
comp=Z,49nm,1.4s
M16K Timber Creek 86.07 15 P **P 00 55 11.2 +0.5**
baz=210
P19K Oil Pt 86.46 18 P **P 00 55 14.7 +2.0**
TROLL Troll, Antarti 86.50 184 ⇑P **P 00 55 12.6 -0.5**
comp=Z,1µm,0.8s
L16K Owhat River 86.55 15 P **P 00 55 12.9 -0.1**
L16K IAmb IAmb 00 55 18.1
comp=Z,37nm,1.6s
N18K Kilae Creek 86.56 17 P **P 00 55 13.5 +0.3**
baz=213
J14K Nanvaranak Lak 86.58 12 P **P 00 55 13.1 0.0**
baz=206
O19K Port Alsworth 86.59 18 P **P 00 55 12.3 -0.9**
O19K IAmb IAmb 00 55 27.1
comp=Z,40nm,1.2s
O19K Port Alsworth 86.59 18 P **P 00 55 11.9 -1.3**
baz=214
K15K Wolf Creek Mou 86.59 14 P **P 00 55 13.3 +0.1**
K15K Wolf Creek Mou 86.59 14 P **P 00 55 12.9 -0.4**
baz=208
ILSW Iliamna Southw 86.75 18 P **P 00 55 16.2 +2.0**
ILSW IAmb IAmb 00 55 26.6
comp=Z,27nm,1.1s
SNAA Sanae 87.14 183 P **P 00 55 15.1 -1.1**
SNAA IAmb IAmb 00 55 16.4
comp=Z,17nm,1.0s
SNAA Sanae 87.14 183 *ce*P **P 00 55 14.1 -2.0**
SNAA pmax pmax
comp=Z,25nm,1.7s
SNAA Sanae 87.14 183 ⇑P **P 00 55 15.3 -0.8**
comp=Z,253nm,0.9s
M18K Stony River 87.27 16 P **P 00 55 15.9 -0.6**
baz=213
L18K Granite Mounta 87.66 16 P **P 00 55 19.9 +1.5**
L18K IAmb IAmb 00 55 35.0
comp=Z,23nm,1.3s
L18K Granite Mounta 87.66 16 P **P 00 55 18.5 +0.1**
baz=212
J16K Anvik River 87.67 13 P **P 00 55 17.7 -0.7**
J16K IAmb IAmb 00 55 33.0
comp=Z,58nm,1.9s
J16K Anvik River 87.67 13 P **P 00 55 17.9 -0.5**
baz=209
VNA3 Neumayer Olymp 87.76 181 ⇑P **P 00 55 18.0 -1.0**
comp=Z,15nm,0.7s
GTA Gaotai 88.02 314 *e*P **P 00 55 21.0 +0.1**
GTA sP pwP 00 55 31.8 +0.9
GTA pmax pmax
comp=Z,5.0nm,1.0s
VNA2 Neumayer--Watz 88.04 181 ⇑P **P 00 55 19.7 -0.6**
comp=Z,14nm,0.7s,baz=173,slow=4.3
ULN Ulaanbaatar 88.07 324 P **P 00 55 20.9 0.0**
ULN Ulaanbaatar 88.07 324 *ce*P **P 00 55 20.1 -0.8**
ULN pmax pmax
comp=Z,51nm,1.7s
L19K White Mountain 88.10 16 P **P 00 55 20.5 -0.1**
L19K IAmb IAmb 00 55 36.9
comp=Z,28nm,1.4s
J17K VABM Dome 88.11 14 P **P 00 55 20.1 -0.5**
baz=210
SONM Songino Array 88.42 323 P **P 00 55 22.2 -0.4**
SONM Songino Array 88.42 323 P **P 00 55 22.2 -0.4**
comp=Z,7.5nm,0.9s,baz=142,slow=4.5,SNR=46
SONM PKKPbc **PKKPdf 01 13 03.1 +0.8**
comp=Z,1.3nm,0.9s,baz=281,slow=2.2,SNR=7.0
SONM LR LR 01 32 16.6
comp=Z,59nm,21.4s,baz=24,slow=34
comp=Z,7.5nm,0.9s
KSXB Camp Six Broad 88.48 44 P **P 00 55 22.6 -0.4**
G15K Niukluk 88.51 11 P **P 00 55 21.4 -1.0**
baz=205
H16K Elim 88.53 12 P **P 00 55 21.9 -0.6**
baz=207
YAK Yakutsk 88.57 343 *ce*P **P 00 55 21.6 -1.1**
YAK pmax pmax
comp=Z,72nm,1.7s
YAK Yakutsk 88.57 343 P **P 00 55 22.2 -0.5**
comp=Z,18nm,0.5s,baz=75,slow=1.8,SNR=12
YAK LR LR 01 34 58.2
comp=Z,128nm,18.0s,baz=114,slow=36
comp=Z,18nm,0.5s
L20K Farewell, AK 88.60 16 P **P 00 55 21.3 -1.6**
baz=215
SUA Susitna One 88.65 18 P **P 00 55 22.4 -0.9**
baz=218
RC01 Rabbit Creek A 88.65 19 P **P 00 55 22.2 -0.9**
baz=218
J18K Innoko River 88.71 15 P **P 00 55 22.5 -0.9**
J18K Innoko River 88.71 15 P **P 00 55 22.5 -0.9**
baz=212
CMB Columbia Colle 88.98 48 P **P 00 55 24.5 -0.8**
CMB IAmb IAmb 00 55 25.4
comp=Z,14nm,1.1s
CMB Columbia Colle 88.98 48 P **P 00 55 24.5 -0.8**
CMB pmax pmax
comp=Z,14nm,1.1s
AFDM Forest Hills D 89.00 47 P **P 00 55 24.8 -0.6**
AFDM IAmb IAmb 00 55 39.0
comp=Z,34nm,1.3s
109C Camp Elliot, M 89.03 54 P **P 00 55 24.5 -1.1**
109C IAmb IAmb 00 55 25.7
comp=Z,17nm,1.2s
BILL Bilibino 89.03 359 P **P 00 55 24.2 -0.6**
BILL IAmb IAmb 00 55 25.0
comp=Z,35nm,1.1s
BILL Bilibino 89.03 359 ⇑ *e*P **P 00 55 24.1 -0.6**
BILL pmax pmax
comp=Z,59nm,1.7s
G16K Koyuk River 89.19 12 P **P 00 55 25.9 +0.4**
G16K Koyuk River 89.19 12 P **P 00 55 25.3 -0.2**
baz=207
BFSC Mount Baldy Ra 89.21 53 P **P 00 55 25.8 -0.8**
baz=244
EDW2 Edwards Air Fo 89.25 52 P **P 00 55 26.2 -0.5**
baz=243
ISA Isabella, Lake 89.25 51 P **P 00 55 26.5 -0.2**
ISA IAmb IAmb 00 55 27.2
comp=Z,29nm,1.2s
ISA Isabella, Lake 89.25 51 P **P 00 55 26.5 -0.2**
ISA pmax pmax
comp=Z,29nm,1.3s
ISA Isabella, Lake 89.25 51 P **P 00 55 26.3 -0.4**
baz=243
BAR Barrett 89.27 54 P **P 00 55 26.2 -0.6**
K20K Telida 89.28 16 P **P 00 55 25.6 -0.5**
baz=214
ESJX Sierra Juarez 89.53 55 IAmb IAmb 00 55 29.0
comp=Z,44nm,1.9s
MONP2 Monument Peak 89.55 54 P **P 00 55 28.1 -0.2**
baz=244
G17K Kiwalik Mounta 89.61 12 P **P 00 55 27.0 -0.6**
baz=208
MDPB Devils Postpil 89.71 49 P **P 00 55 29.0 0.0**
PFO Pinyon Flats O 89.83 54 P **P 00 55 29.3 -0.2**
PFO Pinyon Flats O 89.83 54 P **P 00 55 29.3 -0.2**
PFO pmax pmax
comp=Z,12nm,1.1s
WAKR Walker 89.86 48 P **P 00 55 30.0 +0.4**
WAKR IAmb IAmb 00 55 43.2
comp=Z,33nm,1.3s
PMD Palm Desert 89.91 54 P **P 00 55 29.0 -0.7**
PMD IAmb IAmb 00 55 29.9
comp=Z,14nm,1.1s
SFX San Felipe 89.97 57 P **P 00 55 29.4 -0.6**
SFX IAmb IAmb 00 57 00.4
comp=Z,13nm,0.8s
GOMU GeErMu 90.01 309 P **P 00 55 31.1 +0.5**
GOMU pP pwP 00 55 35.9 -4.8
GOMU sP sP 00 55 38.2 +1.6
GOMU pmax pmax
comp=Z,3.0nm,1.1s
PNTR Pine Nut 90.01 48 P **P 00 55 30.3 -0.1**
PNTR IAmb IAmb 00 55 43.8
comp=Z,23nm,1.1s
YERR Yerington 90.21 48 P **P 00 55 31.3 0.0**
YERR IAmb IAmb 00 55 31.5
comp=Z,21nm,1.3s
GSC Goldstone, Bar 90.31 52 P **P 00 55 31.3 -0.4**
GSC IAmb IAmb 00 55 32.0
comp=Z,33nm,1.7s
GSC Goldstone, Bar 90.31 52 P **P 00 55 31.3 -0.4**
GSC pmax pmax
comp=Z,33nm,1.7s
GSC Goldstone, Bar 90.31 52 P **P 00 55 31.2 -0.4**
baz=244
F17K Baldwin Pennin 90.33 12 P **P 00 55 31.0 +0.2**
F17K IAmb IAmb 00 55 47.2
comp=Z,12nm,0.9s
F17K Baldwin Pennin 90.33 12 P **P 00 55 30.5 -0.4**
baz=208
BELC Belle Mtn. Jos 90.34 54 P **P 00 55 30.6 -1.3**
baz=244
TRF Thorofare Moun 90.36 17 P **P 00 55 28.9 -2.4**
baz=218
PAHR Pah Rah Range 90.45 47 P **P 00 55 32.0 -0.2**
PAHR IAmb IAmb 00 55 45.4
comp=Z,38nm,1.5s
H19K Roundabout Mou 90.53 14 P **P 00 55 30.7 -1.1**
baz=212
QSM Queen of Sheba 90.55 51 P **P 00 55 32.1 -0.6**
QSM IAmb IAmb 00 55 46.3
comp=Z,34nm,1.5s
RYN Ryan 90.55 48 P **P 00 55 33.4 +0.6**
RYN IAmb IAmb 00 55 45.9
comp=Z,19nm,1.3s
BC3 Big Chuckawall 90.61 54 P **P 00 55 32.9 -0.2**
baz=245
NVAR Mina Array Bea 90.61 49 P **P 00 55 32.5 -0.6**
NVAR Mina Array Bea 90.61 49 P **P 00 55 31.6 -1.6**
comp=Z,4.4nm,0.9s,baz=223,slow=7.5,SNR=16
NVAR LR LR 01 29 25.0
comp=Z,160nm,19.0s,baz=266,slow=31
comp=Z,4.4nm,0.9s
NV11 Mina Array Sit 90.72 49 P **P 00 55 34.5 +0.9**
NV11 IAmb IAmb 00 55 38.5
comp=Z,17nm,1.2s
F18K Selawik 90.78 12 P **P 00 55 32.2 -0.7**
baz=210
GWY Greenwater Val 90.79 51 P **P 00 55 33.2 -0.7**
GWY IAmb IAmb 00 56 06.6
comp=Z,21nm,1.2s
BOD Bodaibo 90.83 334 *e*P **P 00 55 31.8 -1.6**
BOD pmax pmax
comp=Z,32nm,1.5s
H20K Anotleneega Mo 90.85 14 P **P 00 55 32.5 -0.8**
baz=214
LPIG La Paz 90.87 65 LR LR 01 29 52.9
comp=Z,105nm,18.1s,baz=222,slow=31
J05D Fort Rock, OR 90.90 43 P **P 00 55 34.8 +0.5**
G19K Purcell Mounta 90.91 13 P **P 00 55 34.3 +0.7**
G19K Purcell Mounta 90.91 13 P **P 00 55 32.7 -0.9**
baz=212
GMRC Granite Mounta 90.93 53 P **P 00 55 33.9 -0.7**
baz=245
H04A Detroit Lake 90.97 42 P **P 00 55 34.3 -0.2**
KVN Kaiserville 91.03 48 P **P 00 55 34.9 -0.2**
KVN IAmb IAmb 00 55 35.1
comp=Z,15nm,1.2s
KVN Kaiserville 91.03 48 P **P 00 55 34.9 -0.2**
KVN pmax pmax
comp=Z,15nm,1.2s
WCT Wildcat Mounta 91.09 51 P **P 00 55 34.8 -0.5**
WCT IAmb IAmb 00 55 35.6
comp=Z,18nm,1.2s
D17K Noatak River 91.13 10 P **P 00 55 34.4 -0.2**
baz=206
F04D Rainier, OR 91.16 40 P **P 00 55 36.1 +0.9**
TPH Tonopah 91.22 49 P **P 00 55 35.2 -0.8**
TPH Tonopah 91.22 49 P **P 00 55 35.2 -0.8**
TPH pmax pmax
comp=Z,124nm,1.3s
BARN Barnard Glacie 91.25 22 P **P 00 55 34.8 -0.7**
BARN IAmb IAmb 00 55 48.4
comp=Z,44nm,1.6s
C16K Lisburne Hills 91.28 9 P **P 00 55 36.0 +0.7**
baz=204
I21K Tanana 91.30 16 P **P 00 55 33.9 -1.5**
baz=216
CTG Chitna Glacier 91.30 22 P **P 00 55 34.0 -1.7**
baz=226
CTGM Chitina Glacie 91.30 22 P **P 00 55 34.3 -1.4**
CTGM IAmb IAmb 00 55 34.9
comp=Z,28nm,1.4s
E18K Tukpahlearik C 91.32 11 P **P 00 55 35.2 -0.3**
E18K Tukpahlearik C 91.32 11 P **P 00 55 34.9 -0.6**
baz=209
BLYC Blythe 91.35 54 P **P 00 55 35.9 -0.6**
BLYC IAmb IAmb 00 55 37.0
comp=Z,24nm,1.2s
F19K Shaleruckik Mo 91.36 13 P **P 00 55 35.2 -0.4**
F19K Shaleruckik Mo 91.36 13 P **P 00 55 33.7 -2.0**
baz=211
F04A Amboy 91.44 41 P **P 00 55 37.6 +1.1**
H21K Melozitna Rive 91.48 15 P **P 00 55 35.1 -1.2**
baz=216
MLY Manley 91.49 16 P **P 00 55 35.0 -1.4**
baz=218
113A Mohawk Valley, 91.52 55 P **P 00 55 36.8 -0.4**
113A IAmb IAmb 00 55 50.7
comp=Z,25nm,1.5s
IMAR Indian Mountai 91.52 15 P **P 00 55 36.0 -0.5**
ZAK Zakamensk 91.53 324 *e*P **P 00 55 36.2 -0.8**
ZAK pmax pmax
comp=Z,23nm,1.4s
P29M Windy Craggy 91.71 24 P **P 00 55 36.3 -1.2**
baz=229
WRH Wood River Hil 91.76 17 P **P 00 55 38.4 +0.8**
CBB Campbell River 91.81 36 P **P 00 55 37.7 -0.4**
C17K DeLong Mountai 91.81 10 P **P 00 55 37.9 +0.2**
baz=206
PDMCI Parker Dam,Lak 91.87 54 P **P 00 55 38.6 -0.2**
baz=246
V12A Nelson 91.93 52 P **P 00 55 38.3 -0.9**
214A Organ Pipe Nat 91.93 57 P **P 00 55 38.4 -0.9**
214A IAmb IAmb 00 55 39.8
comp=Z,20nm,1.5s
214A Organ Pipe Nat 91.93 57 P **P 00 55 39.0 -0.2**
baz=246
F20K Avaraart Lake 91.97 13 P **P 00 55 37.4 -1.1**
F20K Avaraart Lake 91.97 13 P **P 00 55 37.8 -0.7**
baz=213
GNW Green Mountain 92.00 39 P **P 00 55 38.8 -0.3**
E19K Redstone River 92.00 13 P **P 00 55 37.7 -1.0**
E19K IAmb IAmb 00 55 39.1
comp=Z,9.3nm,0.9s
E19K Redstone River 92.00 13 P **P 00 55 38.9 +0.2**
baz=212
WTNK Soaring Height 92.01 52 P **P 00 55 39.1 -0.4**
G21K Allakaket 92.02 14 P **P 00 55 37.5 -1.3**
G21K IAmb IAmb 00 55 38.5
comp=Z,20nm,1.4s
G21K Allakaket 92.02 14 P **P 00 55 37.7 -1.1**
baz=215
H22K Ishtalitna Cre 92.02 15 P **P 00 55 38.2 -0.6**
baz=217
SHPR Sheep Range 92.03 52 P **P 00 55 39.6 -0.1**
HDA Harding Lake 92.04 18 P **P 00 55 37.6 -1.3**
HDA Harding Lake 92.04 18 P **P 00 55 35.5 -3.4**
baz=221
YUK8 Steele Glacier 92.07 22 P **P 00 55 38.2 -1.3**
baz=227
M27K Edge Creek, AK 92.09 21 P **P 00 55 38.1 -1.3**
baz=225
COLA College 92.14 17 *i* P **P 00 55 35.6 -3.7**
COLA pmax pmax
comp=Z,5.0nm,1.0s
RIDG Independent Ri 92.15 19 P **P 00 55 38.5 -1.0**
baz=223
YUK3 Moose Creek 92.17 22 P **P 00 55 38.5 -1.3**
baz=226
WVOR Wild Horse Val 92.19 45 P **P 00 55 39.7 -0.6**
BMN Battle Mountai 92.25 47 P **P 00 55 39.8 -0.9**
BMN IAmb IAmb 00 55 54.5
comp=Z,15nm,1.2s
BMN Battle Mountai 92.25 47 P **P 00 55 39.8 -0.9**
BMN pmax pmax
comp=Z,15nm,1.2s
C18K Utukok River 92.30 11 P **P 00 55 39.5 -0.6**
C18K IAmb IAmb 00 55 40.4
comp=Z,15nm,1.1s
C18K Utukok River 92.30 11 P **P 00 55 39.4 -0.6**
baz=208
D05A Enumclaw 92.31 40 P **P 00 55 40.4 -0.2**
P30M Million Dollar 92.33 24 P **P 00 55 38.9 -1.5**
baz=229
IL31 92.33 18 P **P 00 55 38.1 -2.1**
ILAR Eielson Array 92.33 18 P **P 00 55 37.9 -2.3**
ILAR Eielson Array 92.33 18 P **P 00 55 37.9 -2.3**
ILAR Eielson Array 92.33 18 P **P 00 55 37.2 -3.0**
comp=Z,1.6nm,0.7s,baz=234,slow=5.5,SNR=34
ILAR LR LR 01 38 25.9
comp=Z,95nm,18.4s,baz=217,slow=36
comp=Z,1.6nm,0.7s
I07A Izee 92.38 43 P **P 00 55 40.3 -0.8**
I07A IAmb IAmb 00 55 55.6
comp=Z,12nm,1.0s
W13A Hualapai Mount 92.39 53 P **P 00 55 40.7 -0.8**
R11B Troy Canyon, C 92.50 50 P **P 00 55 41.0 -0.9**
R11B IAmb IAmb 00 55 54.1
comp=Z,18nm,1.6s
YUK4 Talbot Arm 92.51 23 P **P 00 55 40.3 -1.1**
baz=228
Y14A Wickenburg 92.58 55 P **P 00 55 41.8 -0.4**
HYT Haines Junctio 92.58 23 P **P 00 55 39.7 -1.9**
HYT IAmb IAmb 00 55 46.1
comp=Z,16nm,1.4s
HYT Haines Junctio 92.58 23 P **P 00 55 40.1 -1.6**
baz=229
SCRK Sand Creek 92.59 19 P **P 00 55 40.3 -1.3**
SCRK IAmb IAmb 00 55 53.9
comp=Z,40nm,2.0s
SCRK Sand Creek 92.59 19 P **P 00 55 40.1 -1.5**
baz=224
F21K Alatna River 92.61 14 P **P 00 55 39.6 -1.9**
F21K IAmb IAmb 00 55 53.4
comp=Z,39nm,1.9s
F21K Alatna River 92.61 14 P **P 00 55 40.4 -1.0**
baz=215
L27K Beaver Creek, 92.61 20 P **P 00 55 39.7 -1.9**
baz=225
J25K Salcha River, 92.64 18 P **P 00 55 40.4 -1.4**
J25K IAmb IAmb 00 55 41.5
comp=Z,20nm,1.8s
J25K Salcha River, 92.64 18 P **P 00 55 40.5 -1.3**
baz=222
J08A Circle Bar Ran 92.72 44 P **P 00 55 42.0 -0.7**
D19K Kuna River 92.72 12 P **P 00 55 41.1 -0.9**
D19K Kuna River 92.72 12 P **P 00 55 42.2 +0.2**
baz=211
B18K Kokolik River 92.83 10 P **P 00 55 42.1 -0.3**
baz=208
E20K Nigu River 92.89 12 P **P 00 55 42.3 -0.6**
baz=213
F07A Phinny Hill Vi 92.95 42 P **P 00 55 45.1 +1.6**
F07A IAmb IAmb 00 56 57.2
comp=Z,36nm,1.6s
C19K Lookout Ridge 92.98 11 P **P 00 55 42.6 -0.6**
C19K Lookout Ridge 92.98 11 P **P 00 55 43.6 +0.4**
baz=210
G23K Bananza Creek 93.00 15 P **P 00 55 42.2 -1.2**
baz=218
O30N Mendenhall 93.08 24 P **P 00 55 43.7 -0.1**
O30N IAmb IAmb 00 55 54.0
comp=Z,17nm,1.3s
O30N Mendenhall 93.08 24 P **P 00 55 42.2 -1.6**
baz=230
J26L Joseph Creek 93.09 19 P **P 00 55 42.1 -1.8**
J26L IAmb IAmb 00 55 55.3
comp=Z,31nm,1.9s
J26L Joseph Creek 93.09 19 P **P 00 55 43.3 -0.6**
baz=224
LTY Liberty 93.14 40 P **P 00 55 45.1 +0.7**
N30M Aishikik Lake 93.15 23 P **P 00 55 42.3 -1.8**
baz=229
D20K Etivluk River 93.20 12 P **P 00 55 43.9 -0.3**
baz=212
K27K Chicken 93.21 20 P **P 00 55 43.3 -1.0**
K27K IAmb IAmb 00 55 55.3
comp=Z,25nm,1.5s
K27K Chicken 93.21 20 P **P 00 55 43.9 -0.4**
baz=225
P32M Atlin 93.26 26 P **P 00 55 44.7 0.0**
P32M IAmb IAmb 00 55 57.5
comp=Z,22nm,1.4s
G08A Pilot Rock 93.28 42 P **P 00 55 44.1 -1.1**
M29M Somme Creek 93.31 22 P **P 00 55 42.8 -2.2**
M29M IAmb IAmb 00 55 43.6
comp=Z,12nm,1.3s
S34M Telegraph Cree 93.33 28 P **P 00 55 44.8 -0.2**
COLD Coldfoot 93.37 15 P **P 00 55 44.3 -0.7**
baz=218
WHY Whitehorse 93.47 24 P **P 00 55 44.0 -1.7**
baz=231
G24K Hadweenzic Riv 93.64 16 P **P 00 55 45.0 -1.3**
G24K IAmb IAmb 00 55 45.6
comp=Z,14nm,1.4s
G24K Hadweenzic Riv 93.64 16 P **P 00 55 45.6 -0.7**
baz=220
LCMT Little Creek M 93.64 52 P **P 00 55 46.1 -1.0**
TUC Tucson 93.65 57 P **P 00 55 46.5 -0.7**
TUC Tucson 93.65 57 P **P 00 55 46.5 -0.7**
TUC pmax pmax
comp=Z,12nm,1.5s
TUC Tucson 93.65 57 P **P 00 55 47.1 -0.2**
baz=247
E22K Anaktuvuk Pass 93.72 14 P **P 00 55 45.8 -0.9**
E22K IAmb IAmb 00 55 46.8
comp=Z,40nm,1.7s
E22K Anaktuvuk Pass 93.72 14 P **P 00 55 45.5 -1.1**
baz=217
ELK Elko 93.75 48 P **P 00 55 46.5 -1.2**
ELK Elko 93.75 48 P **P 00 55 46.5 -1.2**
ELK pmax pmax
comp=Z,8.0nm,1.5s
CCUT Cedar City 93.77 51 P **P 00 55 46.7 -1.1**
CCUT IAmb IAmb 00 55 49.3
comp=Z,21nm,1.9s
L29M L29M 93.87 21 P **P 00 55 46.0 -1.5**
L29M IAmb IAmb 00 56 00.6
comp=Z,21nm,1.4s
L29M L29M 93.87 21 P **P 00 55 46.0 -1.5**
baz=229
C21K Knifeblade Rid 93.93 12 P **P 00 55 47.4 -0.1**
baz=214
X16A Lo Mia Camp, P 93.96 55 P **P 00 55 48.0 -0.7**
X16A IAmb IAmb 00 56 02.4
comp=Z,27nm,1.8s
M30M Minto, Yukon 93.98 22 P **P 00 55 45.7 -2.2**
M30M IAmb IAmb 00 56 00.9
comp=Z,24nm,1.4s
M30M Minto, Yukon 93.98 22 P **P 00 55 46.4 -1.6**
baz=230
EGAK Eagle 94.02 19 P **P 00 55 46.4 -1.6**
baz=226
DAWY Dawson 94.09 20 P **P 00 55 46.5 -1.9**
DAWY IAmb IAmb 00 55 47.0
comp=Z,18nm,1.5s
DAWY Dawson 94.09 20 P **P 00 55 46.5 -1.9**
baz=228
U15A North Rim 94.11 53 P **P 00 55 49.0 -0.4**
DLBC Dease Lake 94.11 28 P **P 00 55 48.2 -0.5**

DLBC IAmb IAmb 00 56 02.4
comp=Z,21nm,1.3s
DLBC Dease Lake 94.11 28 P **P** **00 55 48.5 -0.2**
baz=235
BMO Blue Mountains 94.13 43 P **P** **00 55 48.5 -0.7**
BMO Blue Mountains 94.13 43 P **P** **00 55 48.5 -0.7**
BMO pmax pmax
comp=Z,9.0nm,1.7s
D22K Ayikyak River 94.14 13 P **P** **00 55 47.6 -0.8**
D22K IAmb IAmb 00 55 48.9
comp=Z,28nm,1.4s
D22K Ayikyak River 94.14 13 P **P** **00 55 48.2 -0.3**
baz=216
F24K Squaw Lake 94.16 15 P **P** **00 55 47.6 -1.0**
F24K Squaw Lake 94.16 15 P **P** **00 55 48.0 -0.6**
baz=220
E23K Chandalar 94.16 15 P **P** **00 55 47.9 -0.8**
baz=219
R33M Jennings River 94.27 27 P **P** **00 55 48.5 -1.0**
R33M IAmb IAmb 00 56 03.2
comp=Z,26nm,1.4s
I27K Kandik River 94.46 19 P **P** **00 55 48.5 -1.6**
baz=226
N32M Quiet Lake 94.46 24 P **P** **00 55 50.2 0.0**
N32M IAmb IAmb 00 59 37.0
comp=Z,18nm,0.8s
319A Douglas 94.48 58 **P** **00 55 49.8 -1.3**
319A IAmb IAmb 00 56 07.6
comp=Z,22nm,1.6s
PKCU Pink Cliffs 94.49 52 P **P** **00 55 50.1 -1.1**
PKCU IAmb IAmb 00 56 05.6
comp=Z,20nm,1.4s
K29M Barlow Dome 94.56 21 P **P** **00 55 48.5 -2.2**
K29M IAmb IAmb 00 56 03.1
comp=Z,19nm,1.6s
K29M Barlow Dome 94.56 21 P **P** **00 55 49.1 -1.6**
baz=229
D23K Nanushuk River 94.64 14 P **P** **00 55 50.6 -0.2**
baz=218
F25K Christian River 94.78 16 P **P** **00 55 50.7 -0.8**
baz=222
G26K Porcupine Rive 94.81 17 P **P** **00 55 50.6 -0.9**
baz=224
I28M Miner Creek 94.86 19 P **P** **00 55 49.5 -2.5**
I28M IAmb IAmb 00 56 04.7
comp=Z,29nm,1.8s
I28M Miner Creek 94.86 19 P **P** **00 55 50.4 -1.6**
baz=227
H27K Steamboat Moun 94.93 18 P **P** **00 55 51.1 -1.1**
baz=226
BMAR Burnt Mountain 94.94 16 P **P** **00 55 51.5 -0.8**
MAYO Mayo, Yukon 94.95 22 P **P** **00 55 51.2 -1.2**
FARO Faro, Yukon 95.02 24 P **P** **00 55 50.5 -2.2**
baz=233
E25K Arctic Village 95.20 16 P **P** **00 55 52.2 -1.1**
E25K IAmb IAmb 00 55 53.5
comp=Z,18nm,1.6s
E25K Arctic Village 95.20 16 P **P** **00 55 52.6 -0.8**
baz=222
D24K Happy Valley 95.20 14 P **P** **00 55 52.5 -0.8**
D24K IAmb IAmb 00 55 53.5
comp=Z,33nm,1.8s
D24K Happy Valley 95.20 14 P **P** **00 55 52.7 -0.6**
baz=219
DUG Dugway, Tooele 95.22 49 P **P** **00 55 54.2 -0.1**
DUG Dugway, Tooele 95.22 49 P **P** **00 55 54.2 -0.1**
DUG pmax pmax
comp=Z,6.0nm,1.2s
F26K Sheenjek River 95.25 16 P **P** **00 55 52.7 -0.9**
baz=224
C23K Itkillik River 95.34 13 P **P** **00 55 53.2 -0.8**
C23K IAmb IAmb 00 55 53.9
comp=Z,11nm,0.9s
C23K Itkillik River 95.34 13 P **P** **00 55 53.7 -0.3**
baz=218
LL01 San Ignacio de 95.38 139 P **P** **00 55 54.1 -0.8**
LL01 IAmb IAmb 00 55 55.6
comp=Z,9.0nm,1.1s
C24K Franklin Bluff 95.67 14 P **P** **00 55 55.1 -0.4**
baz=220
NEW Newport 95.72 40 LR LR 01 30 46.0
comp=Z,87nm,21.2s,baz=224,slow=30
HMU Henry Mountain 95.83 52 P **P** **00 55 54.7 -2.6**
HMU IAmb IAmb 00 55 55.3
comp=Z,13nm,0.8s
I30M Mount Dempster 95.83 20 P **P** **00 55 54.4 -2.1**
I30M IAmb IAmb 00 55 55.3
comp=Z,7.4nm,0.9s
I30M Mount Dempster 95.83 20 P **P** **00 55 54.6 -1.9**
baz=230
D25K Kavik River 95.90 15 P **P** **00 55 55.3 -1.3**
D25K Kavik River 95.90 15 P **P** **00 55 55.3 -1.3**
baz=222
EPYK Eagle Plains 96.46 19 P **P** **00 55 57.9 -1.3**
EPYK Eagle Plains 96.46 19 P **P** **00 55 57.6 -1.7**
baz=230
TIXI Tiksi 96.56 348 LR LR 01 35 00.5
comp=Z,81nm,21.4s,baz=177,slow=33
C26K Camden Bay 96.69 15 P **P** **00 56 00.0 0.0**
baz=223
H31M Peel River 96.86 20 P **P** **00 55 59.2 -1.8**
baz=232
G30M tAoh Zraii Nji 97.01 19 P **P** **00 55 59.4 -2.3**
G30M tAoh Zraii Nji 97.01 19 P **P** **00 55 60.0 -1.7**
baz=230
E29M Blow River 97.43 17 P **P** **00 56 01.5 -2.0**
baz=229
F30M Barrier River 97.54 19 P **P** **00 56 03.0 -0.9**
baz=231
G31M Satah River 97.57 20 P **P** **00 56 02.2 -1.9**
G31M IAmb IAmb 00 56 03.0
comp=Z,13nm,1.0s
G31M Satah River 97.57 20 P **P** **00 56 02.3 -1.8**
baz=232
ANMO Albuquerque 97.97 56 LR LR 01 36 41.9
comp=Z,116nm,18.2s,baz=286,slow=33
F31M Tsiigehtchic 98.05 19 P **P** **00 56 04.2 -2.1**
F31M IAmb IAmb 00 56 06.1
comp=Z,12nm,1.1s
F31M Tsiigehtchic 98.05 19 P **P** **00 56 04.6 -1.6**
baz=233
WMQ Urumqi 98.11 314 *e*P Pdif 00 56 09.7 +2.5
TXAR Lajitas Array 98.30 62 P **P** **00 56 07.5 -0.9**
comp=Z,0.7nm,1.0s,baz=239,slow=6.2,SNR=4.5
TXAR LR LR 01 33 08.1
comp=Z,83nm,18.9s,baz=219,slow=31
comp=Z,0.7nm,1.0s
PDAR Pinedale Array 98.45 47 LR LR 01 34 04.4
comp=Z,92nm,19.7s,baz=186,slow=32
INK Inuvik 98.64 19 P **P** **00 56 06.8 -2.1**
INK IAmb IAmb 00 56 08.4
comp=Z,16nm,1.5s
INK Inuvik 98.64 19 P **P** **00 56 06.8 -2.1**
INK pmax pmax
comp=Z,16nm,1.5s
INK Inuvik 98.64 19 P **P** **00 56 07.1 -1.8**
baz=233
INK Inuvik 98.64 19 LR LR 01 41 17.2
comp=Z,84nm,18.1s,baz=16,slow=36
MKAR Makanchi Array 102.69 315 P **Pdif** **00 56 26.4 -1.1**
comp=Z,0.6nm,0.8s,baz=116,slow=5.6,SNR=4.0
MKAR PP **PP** **01 00 39.4 -2.1**
comp=Z,0.8nm,0.9s,baz=90,slow=12,SNR=4.3
MKAR PKKPbc **PKKPbc** **01 12 25.6 -2.4**
comp=Z,2.9nm,0.9s,baz=299,slow=2.8,SNR=13
YKA Yellowknife Ar 102.74 28 P **Pdif** **00 56 25.8 -1.5**
comp=Z,0.4nm,0.6s,baz=257,slow=4.9,SNR=5.6
YKA PP **PP** **01 00 41.0 -0.3**
comp=Z,0.1nm,0.3s,baz=251,slow=7.8,SNR=4.3
ZALV Zalesovo Beam 103.31 323 Pdiff **Pdif** **00 56 29.7 -0.3**
comp=Z,0.1nm,0.3s,baz=98,slow=6.4,SNR=1.4
ZALV PKKPbc **PKKPbc** **01 12 23.4 -3.0**
comp=Z,0.2nm,0.5s,baz=338,slow=3.2,SNR=4.5
KURBB Kurchatov Arra 106.12 318 Pdiff **Pdif** **00 56 42.4 -0.2**
comp=Z,0.1nm,0.4s,baz=93,slow=4.7,SNR=1.4
KURBB PKiKP **PKiKP** **01 00 52.8 -1.6**
comp=Z,1.1nm,1.0s,baz=82,slow=2.1,SNR=6.4
KURBB PKKPbc **PKKPbc** **01 12 14.9 -2.8**
comp=Z,0.8nm,0.8s,baz=290,slow=3.3,SNR=7.1
BVAR Borovoye Array 111.52 320 PKiKP **PKiKP** **01 01 03.5 -1.0**
comp=Z,2.7nm,0.8s,baz=82,slow=2.1,SNR=12
BVAR PKKPbc **PKKPbc** **01 11 58.1 -2.4**
comp=Z,1.6nm,0.7s,baz=276,slow=2.7,SNR=9.3
BRVK Borovoye 111.59 320 *c i* PKiKP **PKiKP** **01 01 02.9 -1.7**
BRVK pmax pmax
comp=Z,4.0nm,1.3s
CPUP Villa Florida 115.09 135 PKP **PKiKP** **01 01 11.2 -1.0**
comp=Z,1.8nm,0.9s,baz=290,slow=2.1,SNR=4.8
SVE Sverdlovsk 117.29 324 *e*PKiKP **PKPdf** **01 01 14.7 -0.7**
SVE pmax pmax
comp=Z,11nm,1.4s
ARU Arti 118.46 324 PKPdf **PKPdf** **01 01 16.2 -1.5**
ARU Arti 118.46 324 *i* PKiKP **PKPdf** **01 01 16.2 -1.5**
ARU 01 02 37.2
ARU 01 08 28.2
ARU SS SS 01 18 56.4 +5.6
TRCB Terra Rica 120.62 135 PKPdf **PKPdf** **01 01 22.7 -0.3**
PTLB Pontes e Lacer 120.69 124 PKPdf **PKPdf** **01 01 22.9 -0.4**
KIRV Kirov 123.00 327 *c i* PKiKP **PKPdf** **01 01 23.7 -2.6**
BELG Belogornoye 125.33 320 *i* PKiKP **PKPdf** **01 01 29.6 -1.4**
SUMG Summit 126.43 10 PKPdf **PKPdf** **01 01 32.0 -1.1**
SUMG Summit 126.43 10 PKiKP **PKPdf** **01 01 32.0 -1.1**
ARCES ARCESS Array B 126.82 345 PKiKP **PKPdf** **01 01 32.9 -0.5**
ARCES pmax pmax
comp=Z,28nm,1.0s
ARCES ARCESS Array B 126.82 345 PKP **PKPdf** **01 01 32.6 -0.8**
comp=Z,7.6nm,0.6s,baz=72,slow=2.1,SNR=29
ARCES ARCESS Array B 126.82 345 P **PKPdf** **01 01 32.9 -0.5**
KLMR Klimovskoe 126.98 332 *e*PKiKP **PKPdf** **01 01 29.8 -4.1**
KLMR pmax pmax
comp=Z,54nm,1.4s
RAYN Ar Rayn 127.57 284 **PKPdf** **01 01 36.2 0.0**
RAYN Ar Rayn 127.57 284 PKiKP **PKPdf** **01 01 36.2 0.0**
BDFB Brasilia 128.72 133 PKP **PKPdf** **01 01 38.3 -0.5**
comp=Z,12nm,0.9s,baz=262,slow=0.2,SNR=19
HUMP Col San Antoni 128.91 83 **PKPdf** **01 01 37.8 -1.0**
VRH Novokhopyorsk 129.17 319 *e*PKiKP **PKPdf** **01 01 35.8 -2.6**
VRH pmax pmax
comp=Z,20nm,1.4s
KIV Kislovodsk 130.07 310 *i* PKiKP **PKPdf** **01 01 39.0 -1.5**
KIV pmax pmax
comp=Z,8.0nm,1.1s
VALR Valaam 130.38 335 *i* PKiKP **PKPdf** **01 01 38.6 -1.7**
LPSR Galich'ya Gora 130.40 322 *e*PKiKP **PKPdf** **01 01 38.8 -1.9**
LPSR pmax pmax
comp=Z,40nm,1.3s
VSR Storozhevoye 130.71 320 *e*PKiKP **PKPdf** **01 01 38.1 -3.2**
VSR pmax pmax
comp=Z,20nm,1.4s
OBN Obninsk 130.78 326 *i* PKiKP **PKPdf** **01 01 40.0 -1.3**
OBN pmax pmax
comp=Z,22nm,1.5s
BCA Borcka 131.20 307 ⇓P **PKPdf** **01 01 39.7 -2.9**
FINES FINESS Array B 132.17 337 PKP **PKPdf** **01 01 42.5 -1.2**
comp=Z,8.0nm,0.9s,baz=9.3,slow=1.6,SNR=16
SOC Sochi 132.25 310 *i* PKiKP **PKPdf** **01 01 41.7 -2.8**
SOC *e* 01 04 01.6
SOC *e*PPP PPP 01 06 54.1
SOC *e*PS **PS** **01 14 19.4 -3.9**
SOC *e*SS SS 01 21 39.5 -5.2
SOC *e*SSS SSS 01 26 35.0
VSU Vasula 133.77 333 *i* PKiKP **PKPdf** **01 01 44.1 -2.7**
MNK Minsk 135.50 328 *i* PKiKP **PKPdf** **01 01 46.2 -4.0**
MNK *i* 01 04 22.3
MNK *i* SS SS 01 22 21.4 -1.4
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK pmax pmax
comp=Z,16nm,1.0s
MNK pmax pmax
comp=N,8.0nm,0.9s
AKASG Malin Array Be 136.70 323 PKP **PKPdf** **01 01 51.4 -1.2**
comp=N,5.9nm,1.0s,baz=57,slow=2.5,SNR=12
AKBB Malin Array Si 136.70 323 PKPdf **PKPdf** **01 01 51.5 -1.0**
AKBB Malin Array Si 136.70 323 PKiKP **PKPdf** **01 01 50.6 -2.0**
KIEV Kiev 136.71 323 ⇑P **PKPdf** **01 01 51.5 -1.0**
KIEV Kiev 136.71 323 PKPdf **PKPdf** **01 01 51.5 -1.0**
KIEV Kiev 136.71 323 ⇑PKiKP **PKPdf** **01 01 51.5 -1.0**
PABE Paberze 136.77 331 PKPdf **PKPdf** **01 01 51.1 -1.4**
MMAI Mount Meron Ar 136.99 296 PKP **PKPdf** **01 01 52.7 -1.1**
comp=N,1.4nm,0.9s,baz=90,slow=4.3,SNR=4.4
NB2 NORSAR Subarra 137.19 344 PKPdf **PKPdf** **01 01 53.4 +0.2**
comp=Z,8.8nm,1.1s,baz=27,slow=1.8
NB2 NORSAR Subarra 137.19 344 PKPdf **PKPdf** **01 01 53.4 +0.2**
baz=27,slow=1.8
NOA NORSAR Array B 137.19 344 PKP **PKPdf** **01 01 51.6 -1.6**
comp=Z,2.8nm,0.8s,baz=34,slow=1.9,SNR=11
HFS Hagfors 137.26 342 PKP **PKPdf** **01 01 52.2 -1.1**
comp=Z,2.8nm,0.7s,baz=79,slow=3.2,SNR=5.1
BRTR Keskin Array B 137.48 306 **PKPdf** **01 01 54.6 0.0**
BRTR Keskin Array B 137.48 306 PKiKP **PKPdf** **01 01 54.6 0.0**
BRTR Keskin Array B 137.48 306 PKP **PKPdf** **01 01 54.2 -0.4**
comp=Z,0.8nm,0.8s,baz=140,slow=1.7,SNR=4.9
BRTR PP **PP** **01 04 47.1 +6.6**
comp=Z,0.8nm,1.0s,baz=90,slow=2.9,SNR=2.3
CFR Carcaliu 139.73 316 ⇓P **PKPdf** **01 01 58.3 0.0**
CFR Carcaliu 139.73 316 ⇓PKiKP **PKPdf** **01 01 58.3 0.0**
LVV L'vov 140.03 324 *e*PKiKP **PKPdf** **01 01 56.3 -2.4**
BURAR Bucovina Array 140.48 321 ⇓P **PKPdf** **01 02 00.6 +0.8**
KWP Kalwaria Pacla 140.85 325 *e*PKPdf **PKPdf** **01 01 59.7 -0.5**
MLR Muntele Rosu 141.01 317 ⇑P **PKPdf** **01 01 60.0 -0.8**
MLR Muntele Rosu 141.01 317 PKPdf **PKPdf** **01 01 59.3 -1.5**
MLR Muntele Rosu 141.01 317 ⇑PKiKP **PKPdf** **01 02 00.0 -0.8**
DOPR Dopca 141.15 318 ⇑P **PKPdf** **01 02 00.5 -0.4**
KOLS Kolonicke sedl 141.47 324 *e*PKiKP **PKPdf** **01 02 01.8 +0.4**
KOLS Kolonicke sedl 141.47 324 *e*PKP **PKPdf** **01 02 01.8 +0.4**
CJR Cluj-Napoca 141.88 320 ⇓P **PKiKP** **01 02 06.0 +0.8**
CJR Cluj-Napoca 141.88 320 ⇓PKiKP **PKiKP** **01 02 06.0 +0.8**
CRVS Cervenica-Dubn 141.94 324 *e*PKiKP **PKPdf** **01 02 02.8 +0.6**
CRVS Cervenica-Dubn 141.94 324 *e*PKP **PKPdf** **01 02 02.8 +0.6**
OJC Ojcow 142.02 327 *e*PKPdf **PKPdf** **01 02 02.8 +0.4**
ELND Elena 142.11 314 ⇓P **PKPdf** **01 02 02.7 0.0**
NIE Niedzica 142.25 326 *e*PKPdf **PKPdf** **01 02 02.8 0.0**
DEV Deva 142.71 319 ⇑P **PKPdf** **01 02 04.2 +0.5**
DEV Deva 142.71 319 ⇑PKiKP **PKPdf** **01 02 04.2 +0.5**
PLVB Pleven 142.76 315 ⇓P **PKPdf** **01 02 02.3 -1.5**
GZR Gura Zlata 143.03 319 ⇑P **PKPdf** **01 02 03.7 -0.7**
GZR Gura Zlata 143.03 319 ⇑PKiKP **PKPdf** **01 02 03.7 -0.7**
SIRR Siria 143.26 321 ⇑P PKPbc 01 02 01.5 -0.2
KSP Ksiaz 143.31 330 *e*PKPdf PKPab 01 01 59.4 -1.0
PSZ Piszkesteto 143.35 324 ⇓P **PKPdf** **01 02 03.9 -1.0**
PSZ Piszkesteto 143.35 324 ⇓PKiKP **PKPdf** **01 02 03.9 -1.0**
MORC Moravsky Berou 143.43 328 ⇑P PKPbc 01 02 03.3 +1.2
MORC Moravsky Berou 143.43 328 *e*PKP **PKPdf** **01 02 04.8 -0.1**
MORC Moravsky Berou 143.43 328 ⇑PKiKP PKPbc 01 02 03.3 +1.2
HERR Herculane 143.50 318 ⇓P PKPbc 01 02 02.2 -0.2
OSTC Ostas 143.54 330 *e*PKP PKPbc 01 02 02.4 +0.1
OSTC *ex* x 01 02 13.3
MAUC Maruska 143.56 327 *e*PKP PKPbc 01 02 03.8 +1.4
VYHS Vyhne 143.58 326 *e*PKiKP PKPbc 01 02 02.6 +0.1
VYHS Vyhne 143.58 326 *e*PKP PKPbc 01 02 02.6 +0.1
CHVC Chvalec 143.60 330 *e*PKP PKPab 01 02 02.2 +0.5
KRLC Kraliky 143.60 329 *e*PKP PKPbc 01 02 03.8 +1.2
BZS Buzias 143.62 320 ⇑P **PKPdf** **01 02 05.0 -0.3**
BZS Buzias 143.62 320 ⇑PKiKP **PKPdf** **01 02 05.0 -0.3**
UPC Upice 143.67 330 *e*PKP PKPbc 01 02 02.8 +0.1
KPL Plockton 143.69 355 *e*P PKPab 01 02 00.7 -1.0
JAVC Velka Javorina 143.96 327 *e*PKP **PKPdf** **01 02 05.5 -0.4**
RCBR Riachuelo 143.97 136 PKPab 01 02 03.9 -0.2
RCBR Riachuelo 143.97 136 PKiKP PKPab 01 02 03.9 -0.2
MDVR Moldovita 143.99 318 ⇑P PKPbc 01 02 03.9 0.0
BANR Banloc 144.04 320 ⇑P PKPbc 01 02 04.9 +1.0
VRAC Vranov 144.21 328 ⇓P PKPbc 01 02 04.7 +0.4
VRAC Vranov 144.21 328 *e*PKP **PKPab** **01 02 04.4 +0.4**
VRAC Vranov 144.21 328 ⇓PKiKP PKPbc 01 02 04.7 +0.3
PVCC Panska Ves 144.32 331 *e*PKP **PKPab** **01 02 04.1 -0.2**
FLTG Flechtingen 144.34 336 *e*PKPbc **PKPab** **01 02 04.4 +0.1**
baz=38,slow=3.0
BRG Berggiesshubel 144.34 332 *i* PKP **PKPab** **01 02 04.7 +0.3**
BRG Amp 01 02 06.4
comp=Z,82nm,1.2s
BRG Berggiesshubel 144.34 332 P **PKiKP** **01 02 16.1 +6.1**
BRG Amp 01 02 16.5
comp=Z,25nm,1.1s
BRG Berggiesshubel 144.34 332 *i* PKiKP **PKPab** **01 02 04.7 +0.3**
BRG pmax pmax
comp=Z,82nm,1.2s
BRG Berggiesshubel 144.34 332 *e*PKPbc **PKPab** **01 02 04.6 +0.3**
baz=38,slow=3.0
CLL Collm 144.43 333 ⇑ *i* PKiKP **PKPab** **01 02 04.8 +0.1**
CLL *i* 01 02 08.8
CLL pmax pmax
comp=Z,83nm,1.2s
CLL Collm 144.43 333 ⇑ *i* PKPbc **PKPab** **01 02 04.8 +0.1**
comp=Z,83nm,1.2s
CLL *i* PKiKP **pPKPdf** **01 02 08.8 -2.3**
CLL *i* x x 01 02 15.4
CLL Collm 144.43 333 *e*PKPbc **PKPab** **01 02 04.9 +0.1**
baz=38,slow=3.0
KRUC Moravsky 144.47 328 *e*PKP **PKPab** **01 02 05.2 +0.3**
MODS Modra-Piesok 144.47 327 *e*PKiKP PKPbc 01 02 05.9 +0.7
MODS Modra-Piesok 144.47 327 *e*PKP PKPbc 01 02 05.9 +0.7
RICC Richard 144.52 332 *e*PKP PKPbc 01 02 05.6 +0.3
NRDL Niedersach Rie 144.63 337 *e*PKPbc **PKPab** **01 02 05.5 +0.2**
baz=38,slow=3.0
GOPC GO Pecny, Ondr 144.65 330 *e*PKP **PKPab** **01 02 05.0 -0.6**
ZST Bratislava 144.67 326 *e*PKiKP PKPbc 01 02 06.3 +0.5
ZST Bratislava 144.67 326 *e*PKP PKPbc 01 02 06.3 +0.5
RETH Rethem/Aller, 144.70 338 *e*PKPbc **PKPab** **01 02 05.8 +0.3**
baz=38,slow=3.0
RETH *ep*PKPbc **PKiKP** **01 02 16.5 +5.9**
baz=34,slow=3.3
ASSE Asse, Remlinge 144.71 336 *e*PKPbc **PKPab** **01 02 05.9 +0.3**
baz=38,slow=3.0
ASSE *ep*PKPbc **PKiKP** **01 02 17.3 +6.7**
baz=34,slow=3.3
PRU Pruhonice 144.71 331 *e*PKP **PKPab** **01 02 05.4 -0.4**
PRU *ex* x 01 02 15.6
LAWE Loch Awe, Argy 144.74 354 *e*P **PKPab** **01 02 04.5 -1.2**
HSKC Hora Svate Kat 144.76 332 *e*PKP **PKPab** **01 02 05.7 -0.3**
HSKC *ex* x 01 02 16.9
FRGS Fruska Gora 144.95 320 ⇑P **PKPab** **01 02 07.1 +0.2**
FRGS Fruska Gora 144.95 320 *e*P **PKPab** **01 02 05.6 -1.3**
NEUB Neuenburg 145.00 334 *e*PKPbc **PKPab** **01 02 07.3 +0.5**
baz=38,slow=3.0
NEUB *ep*PKPbc **PKiKP** **01 02 18.4 +7.0**
baz=34,slow=3.3
VAY Valandovo 145.00 313 *i* P **PKPbc** **01 02 05.5 -1.6**
MORH Mrgy, Hungar 145.04 323 ⇓P **PKPbc** **01 02 06.9 -0.1**
CLZ Clausthal 145.06 336 *e*PKPbc **PKPab** **01 02 07.5 +0.5**
baz=38,slow=3.0
CLZ *ep*PKPbc **PKiKP** **01 02 18.3 +6.9**
baz=34,slow=3.3
STIP Stip 145.11 313 *i* P **PKPbc** **01 02 05.8 -1.7**
TANN Tannenbergstha 145.32 333 *e*PKPbc **PKPbc** **01 02 08.0 0.0**
baz=38,slow=3.0
EKA Eskdalemuir Ar 145.39 352 PKPbc **PKPbc** **01 02 06.5 -1.4**
comp=Z,17nm,0.6s,baz=354,slow=2.1,SNR=34
PLN Plauen 145.40 333 *e*PKPbc **PKPbc** **01 02 08.4 +0.2**
baz=38,slow=3.0
RONA Rosalia, Austr 145.41 326 *i* PKP **PKPbc** **01 02 08.0 -0.3**
comp=Z,99nm,1.3s,SNR=39
RONA *i* pPKiKP **pPKiKP** **01 02 19.6 +2.7**
comp=Z,36nm,1.2s
ESK Eskdalemuir 145.41 352 **PKPbc** **01 02 07.0 -1.0**
ESK Eskdalemuir 145.41 352 *e*P **PKPbc** **01 02 06.7 -1.3**
ESK IAmb IAmb 01 02 07.4
comp=Z,113nm,1.3s
ESK Eskdalemuir 145.41 352 PKiKP **PKPbc** **01 02 07.0 -1.0**
TEKS Tekeris 145.44 320 *e*P **PKPbc** **01 02 06.9 -1.6**
GTTG Gottingen 145.44 336 *e*PKPbc **PKPab** **01 02 08.6 +0.2**
baz=38,slow=3.0
GTTG *ep*PKPbc **PKiKP** **01 02 19.8 +7.6**
baz=34,slow=3.3
NKC Novy Kostel 145.46 333 *e*PKP **PKPdf** **01 02 08.2 -0.2**
CONA Conrad Observa 145.48 327 *e*PKP **PKPdf** **01 02 08.1 -0.4**
comp=Z,155nm,1.6s,SNR=37
CONA *ep*PKiKP **pPKiKP** **01 02 20.7 +3.6**
comp=Z,39nm,1.0s
SKO Skopje 145.49 314 *i* P **PKPdf** **01 02 08.7 +0.1**
MOX Moxa 145.50 334 *e*PKPbc **PKPbc** **01 02 08.7 +0.3**
baz=38,slow=3.0
MOX *ep*PKPbc **PKiKP** **01 02 19.8 +7.4**
baz=34,slow=3.3
IBBN Ibbenburen 145.60 339 *e*PKPbc **PKPdf** **01 02 08.8 +0.3**
baz=38,slow=3.0
IBBN *ep*PKPbc **PKiKP** **01 02 19.7 +7.2**
baz=34,slow=3.3
CKRC Cesky Krumlov 145.64 329 *e*PKP **PKPdf** **01 02 08.9 +0.2**
EDMD Edmundbyers 145.70 350 *e*P **PKPdf** **01 02 07.8 -0.8**
EDMD IAmb IAmb 01 02 08.6
comp=Z,67nm,0.9s
NEWG New Galloway 145.74 353 *e*P **PKPdf** **01 02 06.5 -2.1**
NEWG IAmb IAmb 01 02 09.0
comp=Z,71nm,1.0s
KHC Kasperske Hory 145.76 330 *e*PKP **PKPdf** **01 02 09.0 0.0**
KHC *ex* x 01 02 18.7
SJES Sjenica 145.83 317 *e*P **PKPdf** **01 02 07.9 -1.4**
BBLS Lazi&#263i 145.88 319 *e*P **PKPdf** **01 02 07.1 -2.3**
GEC2 GERESS Array S 145.91 330 *e*PKPbc **PKPbc** **01 02 10.2 +0.2**
baz=38,slow=3.0
GERES GERESS Array B 145.91 330 PKPbc **PKPdf** **01 02 08.7 -0.6**
comp=Z,54nm,1.0s,baz=35,slow=4.9,SNR=139
ROTZ Rotzenmuhle 145.91 332 *e*PKPbc **PKPbc** **01 02 10.2 +0.4**
baz=38,slow=3.0
RUDO Rudo 146.03 318 *e*P **PKPdf** **01 02 08.4 -1.1**
HAPS Hann Pijesak,Bl 146.04 319 *e*P **PKPdf** **01 02 08.8 -0.9**
FNA Florina 146.05 312 PKP2 **PKPdf** **01 02 09.6 -0.1**
WET Wettzell 146.07 331 *e*PKPbc **PKPbc** **01 02 10.7 +0.4**
baz=38,slow=3.0
ARSA Arzberg 146.10 326 *i* PKP **PKPbc** **01 02 10.6 +0.2**
comp=Z,60nm,1.6s,SNR=16
ARSA *i* pPKiKP **pPKiKP** **01 02 21.9 +3.5**
comp=Z,31nm,1.4s
KESW Keswick, Cumbr 146.11 351 *e*P **PKPdf** **01 02 08.3 -1.0**
KESW IAmb IAmb 01 02 10.2
comp=Z,134nm,1.1s
MOA Molln 146.33 328 *e*PKP **PKPbc** **01 02 11.3 +0.2**
comp=Z,78nm,1.5s,SNR=18
MOA *i* pPKiKP **pPKiKP** **01 02 23.1 +4.3**
comp=Z,51nm,1.6s
GRF Grafenberg Arr 146.39 333 *e*PKPbc **PKPbc** **01 02 11.2 0.0**
baz=38,slow=3.0
SOKA Soboth 146.72 326 *e*PKP **PKPdf** **01 02 09.9 -0.8**
comp=Z,32nm,1.2s,SNR=10
BLY Banja Luka 146.72 321 *e*P **PKPdf** **01 02 10.5 -0.2**
A051A Mrakovica 146.73 322 *e*P **PKPdf** **01 02 10.1 -0.7**
BIOA Bad Ischl, Aus 146.75 328 *i* PKP **PKPdf** **01 02 09.6 -1.1**
comp=Z,29nm,1.4s
DRME Dracevica, Mon 146.87 316 *e*P **PKPbc** **01 02 12.6 -0.3**
MGRS Mrkonjic Grad 146.97 321 *e*P **PKPdf** **01 02 10.5 -0.6**
LBWR Ladybower, Pea 147.03 349 *e*P **PKPdf** **01 02 11.0 +0.1**
LBWR IAmb IAmb 01 02 12.9
comp=Z,104nm,1.1s
CRES Cresnjev 147.04 324 *e*P **PKPdf** **01 02 10.6 -0.6**
TNS Taunus Mts 147.08 336 *e*PKPbc **PKPbc** **01 02 13.3 +0.1**
baz=38,slow=3.0
OBKA Obir 147.09 326 *i* PKP **PKPdf** **01 02 10.5 -0.9**
comp=Z,10nm,1.5s
OBKA Obir 147.09 326 *e*P **PKPdf** **01 02 09.9 -1.4**
A050A Klekovaca 147.26 322 *e*P **PKPdf** **01 02 11.9 +0.2**
KBA Koelnbreinsper 147.31 328 *i* PKP **PKPdf** **01 02 10.3 -1.6**
comp=Z,9.2nm,1.1s
BOJS Bojanci 147.36 324 *i* PKPbc **PKPbc** **01 02 14.1 -0.1**
LESA Schwarzleotal 147.40 329 *i* PKP **PKPdf** **01 02 10.5 -1.3**
comp=Z,15nm,1.3s
LJU Ljubljana 147.40 325 *i* PKPdf **PKPdf** **01 02 11.2 -0.6**
LJU *i* PKPbc **PKPbc** **01 02 13.8 -0.4**
STNC Stoke 147.42 350 *e*P **PKPdf** **01 02 10.2 -1.4**
STON Ston 147.46 318 *e*P **PKPdf** **01 02 11.7 -0.2**
MYKA Terra Mystica 147.47 327 *e*PKP **PKPdf** **01 02 12.9 +0.9**
comp=Z,24nm,1.0s,SNR=7.8
BEBN Eben Emael 147.57 340 *d*PKP **PKPbc** **01 02 13.9 -0.5**
BEBN *dp*PKPdf **PKiKP** **01 02 16.6 0.0**
BEBN *dx* x 01 02 27.8
BTNL Ternell 147.60 339 *d*PKPdf **PKPbc** **01 02 14.1 -0.5**
BTNL *dx* x 01 02 25.6
MEM Membach 147.62 339 *d*PKPdf **PKPbc** **01 02 14.3 -0.4**
MEM *dx* x 01 02 25.5
CEY Cerknica 147.65 325 *e*P **PKPdf** **01 02 11.3 -0.9**
CADS Cadrg 147.69 326 *i* PKPbc **PKPdf** **01 02 13.7 +1.4**
BSTI Sart Tilman 147.79 339 *d*PKPdf **PKPbc** **01 02 14.8 -0.3**
BSTI *dx* x 01 02 25.8
BHOU Houvegnez 147.84 339 *d*PKPdf **PKPbc** **01 02 15.2 -0.1**
BHOU *dx* x 01 02 26.3
STU Stuttgart 147.95 334 PKPbc **PKPbc** **01 02 16.1 +0.5**
STU Stuttgart 147.95 334 PKP2 **PKPbc** **01 02 16.1 +0.5**
STU Stuttgart 147.95 334 *e*PKPbc **PKPbc** **01 02 15.9 +0.3**
baz=38,slow=3.0
ABTA Abfaltersbach 147.96 328 *i* PKP **PKPdf** **01 02 11.5 -1.2**
comp=Z,15nm,1.0s
WATA Walderalm 147.99 330 *i* PKP **PKPdf** **01 02 11.9 -0.9**
comp=Z,11nm,1.6s
WATA *e*PKP **pPKPdf** **01 02 15.6 -1.8**
comp=Z,60nm,1.3s,SNR=13
WATA *i* pPKP **sPKPab** **01 02 27.1 +2.4**
comp=Z,24nm,1.0s
SKDS Skadanscina 148.00 325 *e*P **PKPdf** **01 02 13.5 +0.7**
WTTA Wattenberg 148.01 330 *i* PKP **PKPdf** **01 02 12.3 -0.6**
comp=Z,33nm,1.5s,SNR=21
WTTA *i* PKP **pPKPdf** **01 02 16.0 -1.5**
comp=Z,99nm,1.2s
WTTA *e*pPKP **sPKPab** **01 02 27.6 +2.7**
comp=Z,61nm,1.1s
BCLA Clavier 148.02 340 *d*PKPdf **PKPbc** **01 02 14.9 -0.9**

BCLA				*dx*	x	01 02 29.3			
BGES	**Gesves**	**148.12**	**340**	*d*PKPdf	**PKPbc**	**01 02 15.2**	**-0.8**		
BGES				*dp*PKPdf	**PKiKP**	**01 02 17.9**	**+0.1**		
BGES				*dx*	x	01 02 27.5			
STAL	**STALIGIAL**	**148.19**	**327**	PKPbc	**PKPbc**	**01 02 16.4**	**0.0**		
MOTA	**Moosalm**	**148.20**	**330**	*i* PKP	**PKPdf**	**01 02 12.3**	**-0.9**		
	comp=Z,15nm,1.0s								
MOTA				*e*PKP	**pPKPdf**	**01 02 16.3**	**-1.5**		
	comp=Z,98nm,1.0s,SNR=14								
MOTA				*i* pPKP	**sPKPab**	**01 02 27.7**	**+2.2**		
	comp=Z,56nm,0.9s								
SQTA	**Sankt Quirin**	**148.24**	**330**	*i* PKP	**PKPdf**	**01 02 12.6**	**-0.7**		
	comp=Z,9.5nm,1.1s								
SQTA				*e*PKP	**PKPbc**	**01 02 16.6**	**0.0**		
	comp=Z,66nm,0.8s,SNR=15								
SQTA				*i* pPKP	**sPKPab**	**01 02 27.9**	**+2.3**		
	comp=Z,57nm,0.9s								
RETA	**Reutte**	**148.25**	**331**	*i* PKP	**PKPdf**	**01 02 12.1**	**-1.1**		
	comp=Z,9.0nm,1.2s,SNR=6.2								
RETA				*i* PKP	**pPKPdf**	**01 02 16.4**	**-1.4**		
	comp=Z,35nm,1.0s								
RETA				*i* pPKP	**sPKPab**	**01 02 27.8**	**+2.2**		
	comp=Z,21nm,0.9s								
RCHB	**Rochefort**	**148.27**	**339**	*d*PKPdf	**PKPbc**	**01 02 15.8**	**-0.6**		
RCHB				*dx*	x	01 02 25.7			
BMRD	**Maredsous**	**148.29**	**340**	*d*PKPdf	**PKPbc**	**01 02 15.8**	**-0.7**		
CIMO	**Cimolais**	**148.30**	**328**		**PKPdf**	**01 02 12.7**	**-0.6**		
WLF	**Walferdange**	**148.38**	**338**	*d*PKPdf	**PKPbc**	**01 02 16.9**	**+0.2**		
WLF				*dx*	x	01 02 28.2			
UBR	**Ueberruh**	**148.40**	**332**	*e*PKPbc	**PKPbc**	**01 02 16.8**	**-0.1**		
	baz=38,slow=3.0								
DOU	**Dourbes**	**148.53**	**340**	*d*PKPdf	**PKPbc**	**01 02 16.8**	**-0.3**		
DOU				*dx*	x	01 02 28.3			
MCH1	**Michaelchurch**	**148.60**	**350**	*e*P	**PKPdf**	**01 02 15.5**	**+2.0**		
FETA	**Feichten**	**148.61**	**330**	*i* PKP	**PKPdf**	**01 02 13.4**	**-0.6**		
	comp=Z,18nm,1.2s								
FETA				*ep*PKP	**sPKPdf**	**01 02 17.7**	**-2.3**		
	comp=Z,90nm,1.0s,SNR=14								
FETA				*i* pPKP	**sPKPab**	**01 02 29.1**	**+1.9**		
	comp=Z,58nm,0.9s								
BFO	**Black Forest**	**148.65**	**334**		**PKPbc**	**01 02 16.4**	**-1.1**		
BFO	**Black Forest**	**148.65**	**334**	PKP2	**PKPbc**	**01 02 16.4**	**-1.1**		
BFO	**Black Forest**	**148.65**	**334**	*e*PKPbc	**PKPbc**	**01 02 17.3**	**-0.2**		
	baz=38,slow=3.0								
DAVA	**Damuels**	**148.80**	**331**	*e*PKP	**PKPdf**	**01 02 13.4**	**-0.8**		
	comp=Z,11nm,1.1s								
DAVA				*ep*PKP	**sPKPdf**	**01 02 18.1**	**-2.2**		
	comp=Z,50nm,0.9s,SNR=9.3								
DAVA				*i* pPKP	**sPKPab**	**01 02 29.5**	**+1.6**		
	comp=Z,32nm,0.9s								
SWN1	**Swindon**	**148.86**	**348**	*e*P	**PKPbc**	**01 02 17.0**	**-0.8**		
SWN1				IAmb	IAmb	01 02 17.9			
	comp=Z,372nm,1.3s								
CTI	**Castel Tesino**	**148.87**	**328**	PKPbc	**PKPbc**	**01 02 18.5**	**+0.2**		
CTI	**Castel Tesino**	**148.87**	**328**	PKP2	**PKPbc**	**01 02 18.5**	**+0.2**		
FUORN	**Ofenpass-Fuorn**	**149.12**	**330**	PKPdf	**PKPdf**	**01 02 14.9**	**0.0**		
FUORN				PKPbc	**PKPbc**	**01 02 19.9**	**+0.9**		
TEOL	**Teolo**	**149.34**	**327**	PKPbc	**PKiKP**	**01 02 20.3**	**-0.2**		
TUE	**Stuetta**	**149.65**	**331**	PKPbc	**PKiKP**	**01 02 21.4**	**0.0**		
TIP	**Timpagrande**	**149.94**	**313**	⇑P	**PKiKP**	**01 02 21.8**	**-0.2**		
CAMP	**Campotosto**	**150.24**	**321**	PKPab	**PKPab**	**01 02 32.3**	**+4.4**		
SSB	**Saint Sauveur**	**152.65**	**335**		**PKPab**	**01 02 37.6**	**-0.1**		
ESDC	**Sonseca Array**	**160.54**	**342**	PKPab	**PKPab**	**01 03 10.9**	**-0.8**		
	comp=Z,5.1nm,1.1s,baz=15,slow=3.9,SNR=9.0								
DBIC	**Dimbokro**	**164.16**	**205**	PKPab	**PKPab**	**01 03 27.9**	**-0.2**		
	comp=Z,2.7nm,0.7s,baz=100,slow=5.9,SNR=3.9								
TAM	**Tamanrasset**	**164.17**	**279**	PKiKP	**PKPdf**	**01 02 35.2**	**+0.5**		
TORD	**Torodi Ar. Bea**	**165.08**	**239**	PKP	**PKPdf**	**01 02 34.3**	**-1.2**		
	comp=Z,3.7nm,1.1s,baz=67,slow=1.1,SNR=14								
TORD				PKPab	**PKPab**	**01 03 31.4**	**-1.0**		
	comp=Z,2.8nm,1.0s,baz=103,slow=4.0,SNR=6.9								

KRSC ***03*** *00:45:22.0±1.6, 49.°73N×156.°70E, h16km±21km, Ml4.8*
MOS ***03*** *00:45:23.6±1.0, 49.°83N×155.°76E, h83km, mb4.6/14, Error ellipse: s-maj=10.6km s-min=4.1km az=72.3*
NEIC ***03*** *00:45:24.9±1.1, 49.°9N±0.°1×155.°7E±0.°2, h67km±9km, mb4.4/117, Error ellipse: s-maj=19.5km s-min=11.6km az=139.0*
IDC ***03*** *00:45:25.2±2.1, 49.°82N×155.°69E, h80km±18km, mb3.8/25, mbtmp4.1/32, MS3.3/11, Error ellipse: s-maj=15.2km s-min=11.0km az=140.0*

ISC 03 00:45:21.5±0.4, 49.°66N±0.°06×156.°02E±0.°05, h50km, n437, σ1ᵗ42/447, mb4.3/98, MS3.6/6, 2C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.02**	**3**	⇓*i*PN	**Pn**	**00 45 40.3**		**+0.9**
SKR				*i* S	**Sn**	**00 45 53.6**		**+0.9**
SKR				pmax	pmax			
	comp=Z,840nm,0.7s							
SKR				smax	smax			
	comp=N,6μm,0.4s							
SKR				smax	smax			
	comp=E,5μm,0.5s							
SKR	**Severo-Kuril's**	**1.02**	**3**	*e*P	**Pn**	**00 45 40.4**		**+0.9**
SKR				*e*S	**Sn**	**00 45 53.6**		**+0.9**
PAU	**Pauzhetka**	**1.88**	**15**	PN	**Pn**	**00 45 53.6**		**+2.6**
PAU				S	**Sn**	**00 46 15.8**		**+2.3**
PAU	**Pauzhetka**	**1.88**	**15**	*e*P	**Pn**	**00 45 53.6**		**+2.6**
PAU				*e*S	**Sn**	**00 46 15.8**		**+2.3**
KDTR	**Khodutka, Kamc**	**2.51**	**31**	PN	**Pn**	**00 46 00.2**		**+0.4**
KDTR				S	**Sn**	**00 46 28.4**		**-0.7**
KDTR	**Khodutka, Kamc**	**2.51**	**31**	*e*P	**Pn**	**00 46 00.2**		**+0.4**
KDTR				*e*S	**Sn**	**00 46 28.4**		**-0.7**
ASAK	**Asacha**	**2.97**	**23**	PN	**Pn**	**00 46 08.3**		**+2.2**
ASAK	**Asacha**	**2.97**	**23**	*e*P	**Pn**	**00 46 08.3**		**+2.2**
MTVR	**Mutnovka**	**3.13**	**25**	PN	**Pn**	**00 46 09.7**		**+1.3**
MTVR				S	**Sn**	**00 46 46.2**		**+1.5**
MTVR	**Mutnovka**	**3.13**	**25**	*e*P	**Pn**	**00 46 09.7**		**+1.3**
MTVR				*e*S	**Sn**	**00 46 46.2**		**+1.5**
GRL	**Gorelyy**	**3.17**	**23**	PN	**Pn**	**00 46 11.1**		**+2.2**
GRL	**Gorelyy**	**3.17**	**23**	*e*P	**Pn**	**00 46 11.1**		**+2.2**
RUS	**Russkaya**	**3.19**	**29**	PN	**Pn**	**00 46 10.2**		**+1.2**
RUS				S	**Sn**	**00 46 45.8**		**+0.1**
RUS	**Russkaya**	**3.19**	**29**	*e*P	**Pn**	**00 46 10.2**		**+1.2**
RUS				*e*S	**Sn**	**00 46 45.8**		**+0.1**
APC	**Apacha**	**3.34**	**12**	PN	**Pn**	**00 46 13.3**		**+2.2**
APC	**Apacha**	**3.34**	**12**	*e*P	**Pn**	**00 46 13.3**		**+2.2**
KRMR	**Karymshinskiy**	**3.44**	**22**	PN	**Pn**	**00 46 16.3**		**+3.9**
KRMR	**Karymshinskiy**	**3.44**	**22**	*e*P	**Pn**	**00 46 16.3**		**+3.9**
PEA0B	**Petropavlovsk-**	**3.61**	**16**	Pn	**Pn**	**00 46 16.8**		**+2.0**
PEA0B	**Petropavlovsk-**	**3.61**	**16**	PN	**Pn**	**00 46 16.8**		**+2.0**
PETK	**Petropavlovsk-**	**3.61**	**16**	Pn	**Pn**	**00 46 15.7**		**+0.9**
PETK	**Petropavlovsk-**	**3.61**	**16**	P	**Pn**	**00 46 16.8**		**+2.1**
	comp=E,12nm,0.4s,baz=253,slow=15,SNR=94							
PETK				S	**Sn**	**00 47 01.3**		**+5.2**
	comp=E,17nm,0.6s,baz=202,slow=19,SNR=4.6							
PETK				LR	LR	00 47 51.7		
	comp=E,299nm,19.7s,baz=201,slow=42							
PET	**Petropavlovsk**	**3.75**	**25**	Pn	**Pn**	**00 46 17.9**		**+1.2**
PET	**Petropavlovsk**	**3.75**	**25**	*e*PN	**Pn**	**00 46 19.2**		**+2.5**
PET				*e*S	**Sn**	**00 47 00.3**		**+0.8**
PET				pmax	pmax			
	comp=Z,43nm,0.4s							
PET				smax	smax			
	comp=E,454nm,0.6s							
PET				smax	smax			
	comp=N,360nm,0.6s							
PET	**Petropavlovsk**	**3.75**	**25**	*e*P	**Pn**	**00 46 19.1**		**+2.5**
PET				*e*S	**Sn**	**00 47 00.5**		**+1.0**
INSR	**Institute**	**3.77**	**24**	*e*S	**Sn**	**00 47 02.3**		**+2.2**
DALK	**Dalny**	**3.78**	**26**	PN	**Pn**	**00 46 19.6**		**+2.4**
DALK				S	**Sn**	**00 47 01.8**		**+1.5**
DALK	**Dalny**	**3.78**	**26**	*e*P	**Pn**	**00 46 19.6**		**+2.4**
DALK				*e*S	**Sn**	**00 47 01.8**		**+1.5**
KOK	**Koryaka**	**3.98**	**23**	PN	**Pn**	**00 46 23.5**		**+3.5**
KOK	**Koryaka**	**3.98**	**23**	*e*P	**Pn**	**00 46 23.5**		**+3.5**
AVH	**Avacha**	**3.99**	**24**	PN	**Pn**	**00 46 24.1**		**+4.0**
AVH	**Avacha**	**3.99**	**24**	*e*P	**Pn**	**00 46 24.1**		**+4.0**
SMAR	**Somma**	**4.00**	**25**	PN	**Pn**	**00 46 23.6**		**+3.2**
SMAR	**Somma**	**4.00**	**25**	*e*P	**Pn**	**00 46 23.6**		**+3.2**
KRX	**Arik**	**4.05**	**23**	PN	**Pn**	**00 46 24.6**		**+3.7**
KRX	**Arik**	**4.05**	**23**	*e*P	**Pn**	**00 46 24.6**		**+3.7**
GNL	**Ganaly**	**4.21**	**16**	PN	**Pn**	**00 46 26.2**		**+3.1**
GNL	**Ganaly**	**4.21**	**16**	*e*P	**Pn**	**00 46 26.2**		**+3.1**
SPN	**Mys Shipunski**	**4.25**	**35**	PN	**Pn**	**00 46 25.7**		**+2.1**
SPN	**Mys Shipunski**	**4.25**	**35**	*e*P	**Pn**	**00 46 25.7**		**+2.1**
TUMR	**Tumrok**	**6.17**	**23**	PN	Pn	00 46 56.5		+6.6
TUMR	**Tumrok**	**6.17**	**23**	*e*P	Pn	00 46 56.5		+6.5
KUR	**Kuril'sk**	**7.08**	**234**	PN	Pn	00 47 09.0		+6.6
KUR				S	**Sn**	**00 48 25.5**		**+4.0**
KUR				pmax	pmax			
	comp=Z,54nm,0.6s							
SHO	**Shikotan**	**8.56**	**231**	*e*PN	**Pn**	**00 47 24.5**		**+1.8**
TYV	**Tymovskoe**	**8.65**	**283**	*e*PN	Pn	00 47 29.4		+5.6
TYV				*e*S	**Sn**	**00 49 06.0**		**+6.1**
TYV				pmax	pmax			
	comp=Z,9.0nm,1.0s							
TYV				pmax	pmax			
	comp=Z,300nm,3.4s							
TYV				smax	smax			
	comp=N,200nm,5.1s							
TYV				smax	smax			
	comp=E,500nm,5.1s							
TYV				smax	smax			
	comp=N,5.0nm,1.9s							
TYV				smax	smax			
	comp=E,4.0nm,1.9s							
YUK	**Yuzh-Kuril'sk**	**8.95**	**235**	*e*PN	**Pn**	**00 47 29.8**		**+1.8**
YSS	**Yuzh-Sakhalins**	**9.25**	**258**	*e*PN	Pn	00 47 36.9		+4.9
YSS				pmax	pmax			
	comp=Z,20nm,0.5s							
NMR	**Nemuro--Hokkai**	**9.48**	**232**	*e*PN	**Pn**	**00 47 34.4**		**-0.8**
MA2	**Magadan**	**10.38**	**345**	Pn	**Pn**	**00 47 45.5**		**-2.0**
MA2	**Magadan**	**10.38**	**345**	P	**Pn**	**00 47 48.3**		**+0.8**
	comp=Z,9.5nm,0.6s,baz=162,slow=7.4,SNR=8.8							
MA2				LR	LR	00 51 58.5		
	comp=Z,99nm,18.4s,baz=128,slow=39							
JKA	**Kamikawa-asahi**	**10.72**	**244**	Pn	**Pn**	**00 47 54.1**		**+1.8**
ASAJ	**Asahikawa**	**10.73**	**244**	P	**Pn**	**00 47 54.7**		**+2.4**
	comp=Z,20nm,0.7s,baz=72,slow=14,SNR=9.9							
ASAJ				LR	LR	00 51 18.1		
	comp=Z,127nm,21.6s,baz=29,slow=33							
ERM	**Erimo**	**11.78**	**234**	Pn	**Pn**	**00 48 08.1**		**+1.5**
ERM	**Erimo**	**11.78**	**234**	*i* PN	**Pn**	**00 48 08.7**		**+2.1**
SEY	**Seymchan**	**13.45**	**353**	P	**Pn**	**00 48 31.7**		**+2.3**
	comp=Z,1.1nm,0.4s,baz=154,slow=12,SNR=1.5							
KLR	**Kul'dur**	**15.78**	**278**	*i* P	**Pn**	**00 49 01.5**		**+1.4**
KLR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KLR	**Kul'dur**	**15.78**	**278**	P	**P**	**00 49 04.8**		**+1.6**
	comp=Z,4.0nm,0.7s,baz=79,slow=11,SNR=13							
KLR				LR	LR	00 55 12.1		
	comp=Z,83nm,20.1s,baz=64,slow=38							
USRK	**Ussuriysk Ar.**	**17.27**	**261**	P	**Pn**	**00 49 18.7**		**0.0**
	comp=Z,1.2nm,0.5s,baz=60,slow=13,SNR=5.0							
HEH	**HeiHe**	**18.37**	**283**	*e*P	**Pn**	**00 49 34.3**		**+2.0**
HEH				pmax	pmax			
	comp=Z,12nm,0.8s							
HEH				pmax	pmax			
	comp=Z,240nm,4.9s							
MJAR	**Matsushiro Arr**	**18.41**	**231**	P	**Pn**	**00 49 32.9**		**0.0**
	comp=Z,1.8nm,0.6s,baz=19,slow=12,SNR=5.7							
MJAR				LR	LR	00 56 13.0		
	comp=Z,43nm,18.6s,baz=26,slow=35							
MAJO	**Matsushiro**	**18.41**	**231**	*i* P	**Pn**	**00 49 33.7**		**+0.8**
MDJ	**Mudanjiang**	**18.63**	**264**	P	**P**	**00 49 32.2**		**-2.5**
MDJ				pmax	pmax			
	comp=Z,11nm,0.9s							
MDJ				pmax	pmax			
	comp=Z,140nm,4.0s							
YAK	**Yakutsk**	**19.11**	**320**	*e*P	**Pn**	**00 49 42.3**		**+1.2**
YAK				pmax	pmax			
	comp=Z,22nm,0.9s							
YAK				pmax	pmax			
	comp=E,6.0nm,1.0s							
YAK				pmax	pmax			
	comp=N,5.0nm,1.0s							
YAK	**Yakutsk**	**19.11**	**320**	P	**P**	**00 49 37.5**		**-2.3**
	comp=N,13nm,0.5s,baz=333,slow=3.4,SNR=1.9							
YAK				LR	LR	00 56 17.2		
	comp=N,89nm,20.3s,baz=117,slow=35							
BILL	**Bilibino**	**19.13**	**12**	P	**P**	**00 49 39.8**		**-0.1**
BILL	**Bilibino**	**19.13**	**12**	*e*P	**Pn**	**00 49 41.3**		**+0.1**
BILL				pmax	pmax			
	comp=Z,6.0nm,1.0s							
JGF	**Kuroka**	**19.57**	**231**	P	**Pn**	**00 49 46.6**		**-0.2**
GAMB	**Gambell**	**22.32**	**39**	P	**P**	**00 50 15.1**		**+0.7**
	baz=247							
KSRS	**Korea Array**	**23.59**	**250**	P	**P**	**00 50 27.1**		**-0.4**
	comp=Z,3.8nm,0.8s,baz=47,slow=9.9,SNR=12							
	comp=Z,3.8nm,0.8s							
M11K	**Mekoryuk**	**23.82**	**49**	P	**P**	**00 50 31.2**		**+1.8**
	baz=261							
TNA	**Tin City**	**24.53**	**36**	P	**P**	**00 50 36.4**		**+0.6**
	baz=248,SNR=5.9							
JNU	**Nakatsue**	**24.90**	**238**	P	**P**	**00 50 40.8**		**+1.1**
	comp=Z,12nm,1.0s,baz=49,slow=11,SNR=2.7							
	comp=Z,12nm,1.0s							
F14K	**Arctic Creek**	**25.11**	**37**	P	**P**	**00 50 42.1**		**+1.0**
	baz=250							
ANM	**Nome**	**25.20**	**39**	P	**P**	**00 50 43.9**		**+2.0**
ANM				IAmb	IAmb	00 50 46.0		
	comp=Z,8.8nm,1.0s							
ANM	**Nome**	**25.20**	**39**	P	**P**	**00 50 43.9**		**+2.0**
ANM				pmax	pmax			
	comp=Z,9.0nm,1.0s							
ANM	**Nome**	**25.20**	**39**	P	**P**	**00 50 43.0**		**+1.1**
	baz=253							
M13K	**Dall Lake**	**25.23**	**49**	P	**P**	**00 50 44.3**		**+2.1**
	baz=264							
TIXI	**Tiksi**	**25.30**	**340**	P	**P**	**00 50 40.9**		**-1.8**
TIXI				IAmb	IAmb	00 50 43.0		
	comp=Z,9.5nm,0.6s							
TIXI	**Tiksi**	**25.30**	**340**	*i* P	**P**	**00 50 41.1**		**-1.6**
TIXI				pmax	pmax			
	comp=Z,8.0nm,0.6s							
J14K	**Nanvaranak Lak**	**25.51**	**44**	P	**P**	**00 50 45.9**		**+1.1**
J14K				IAmb	IAmb	00 51 26.7		
	comp=Z,21nm,1.4s							
J14K	**Nanvaranak Lak**	**25.51**	**44**	P	**P**	**00 50 45.8**		**+1.0**
	baz=259							
L14K	**Kuka Creek**	**25.67**	**47**	P	**P**	**00 50 47.5**		**+1.3**
	baz=263							
F15K	**North Star Dit**	**25.85**	**37**	P	**P**	**00 50 49.2**		**+1.3**
F15K	**North Star Dit**	**25.85**	**37**	P	**P**	**00 50 48.7**		**+0.8**
	baz=252							
G15K	**Niukluk**	**25.87**	**39**	P	**P**	**00 50 49.3**		**+1.3**
	baz=254							
M14K	**Bethel**	**25.95**	**49**	P	**P**	**00 50 49.8**		**+1.1**
	baz=264							
L15K	**Ungalak Mounta**	**26.29**	**47**	P	**P**	**00 50 52.4**		**+0.6**
	baz=263							
K15K	**Wolf Creek Mou**	**26.35**	**45**	P	**P**	**00 50 53.3**		**+0.9**
	baz=262							
H16K	**Elim**	**26.52**	**40**	P	**P**	**00 50 54.7**		**+0.8**
	baz=256							
M15K	**Kasigluk River**	**26.56**	**49**	P	**P**	**00 50 55.5**		**+1.2**
	baz=266							
C16K	**Lisburne Hills**	**26.56**	**31**	P	**P**	**00 50 54.2**		**0.0**
C16K				IAmb	IAmb	00 50 57.8		
	comp=Z,9.1nm,1.1s							
C16K	**Lisburne Hills**	**26.56**	**31**	P	**P**	**00 50 53.5**		**-0.7**
	baz=246							
G16K	**Koyuk River**	**26.66**	**38**	P	**P**	**00 50 55.0**		**-0.2**
	baz=255							
N15K	**Kwethluk River**	**26.82**	**50**	P	**P**	**00 50 59.5**		**+2.9**
N15K				IAmb	IAmb	00 51 15.2		
	comp=Z,7.8nm,1.1s							
J16K	**Anvik River**	**26.94**	**43**	P	**P**	**00 50 59.1**		**+1.5**
I17K	**Unalakleet**	**27.01**	**42**	P	**P**	**00 50 58.2**		**-0.1**
	baz=260							
D17K	**Noatak River**	**27.12**	**33**	P	**P**	**00 50 59.3**		**0.0**
	baz=250							
CHNA	**Chernabura Isl**	**27.30**	**62**	P	**P**	**00 51 01.6**		**+0.6**
	baz=278							
C17K	**DeLong Mountai**	**27.38**	**32**	P	**P**	**00 51 01.2**		**-0.4**
	baz=248							
G17K	**Kiwalik Mounta**	**27.38**	**38**	P	**P**	**00 51 01.3**		**-0.3**
	baz=256							
F17K	**Baldwin Pennin**	**27.39**	**36**	P	**P**	**00 51 03.0**		**+1.4**
F17K				IAmb	IAmb	00 51 03.9		
	comp=Z,6.7nm,0.8s							
F17K	**Baldwin Pennin**	**27.39**	**36**	P	**P**	**00 51 01.2**		**-0.5**
	baz=254							
M16K	**Timber Creek**	**27.43**	**48**	P	**P**	**00 51 03.4**		**+1.3**
M16K				IAmb	IAmb	00 51 41.9		
	comp=Z,18nm,1.4s							
M16K	**Timber Creek**	**27.43**	**48**	P	**P**	**00 51 03.2**		**+1.0**
	baz=267							
N16K	**Nishlik Lake**	**27.49**	**50**	P	**P**	**00 51 03.7**		**+1.0**
	baz=268							
H17K	**Granite Mounta**	**27.55**	**40**	P	**P**	**00 51 04.6**		**+1.4**
H17K	**Granite Mounta**	**27.55**	**40**	P	**P**	**00 51 03.9**		**+0.8**
	baz=258							
J17K	**VABM Dome**	**27.63**	**43**	P	**P**	**00 51 05.2**		**+1.3**
J17K	**VABM Dome**	**27.63**	**43**	P	**P**	**00 51 04.6**		**+0.7**
	baz=262							
O16K	**Kokwok River B**	**27.81**	**52**	P	**P**	**00 51 06.4**		**+0.9**
	baz=270							
L17K	**Donlin**	**27.84**	**46**	P	**P**	**00 51 05.8**		**0.0**
	baz=265							
P16K	**Nushagak River**	**27.86**	**53**	P	**P**	**00 51 07.1**		**+1.1**
	baz=272							
K17K	**Iditarod**	**27.89**	**45**	P	**P**	**00 51 07.0**		**+0.8**
	baz=264							
E18K	**Tukpahlearik C**	**27.93**	**34**	P	**P**	**00 51 06.7**		**+0.2**
	baz=253							
F18K	**Selawik**	**28.05**	**36**	P	**P**	**00 51 07.8**		**+0.2**
	baz=256							
C18K	**Utukok River**	**28.12**	**32**	P	**P**	**00 51 08.6**		**+0.3**
	baz=250							
R16K	**Pilot Point**	**28.14**	**56**	P	**P**	**00 51 09.6**		**+1.1**
	baz=275							
B18K	**Kokolik River**	**28.18**	**30**	P	**P**	**00 51 08.8**		**+0.1**
	baz=248							
M17K	**Holitna River**	**28.19**	**48**	P	**P**	**00 51 09.9**		**+1.0**
	baz=268							
H18K	**Honhosa River**	**28.24**	**40**	P	**P**	**00 51 09.8**		**+0.5**
	baz=260							
G18K	**Tagagawik**	**28.28**	**38**	P	**P**	**00 51 10.1**		**+0.5**
G18K				IAmb	IAmb	00 51 11.5		
	comp=Z,7.0nm,1.1s							
G18K	**Tagagawik**	**28.28**	**38**	P	**P**	**00 51 10.5**		**+0.9**
	baz=258							
N17K	**Nushagak Hills**	**28.28**	**50**	P	**P**	**00 51 10.9**		**+1.3**
N17K				IAmb	IAmb	00 51 14.6		
	comp=Z,9.7nm,1.3s							
N17K	**Nushagak Hills**	**28.28**	**50**	P	**P**	**00 51 10.2**		**+0.5**
	baz=269							
O17K	**Koliganek Bris**	**28.32**	**51**	P	**P**	**00 51 10.4**		**+0.4**
	baz=271							
L18K	**Granite Mounta**	**28.60**	**46**	P	**P**	**00 51 13.3**		**+0.8**
	baz=267							
J18K	**Innoko River**	**28.70**	**43**	P	**P**	**00 51 14.4**		**+1.0**
J18K	**Innoko River**	**28.70**	**43**	P	**P**	**00 51 13.7**		**+0.3**
	baz=264							
C19K	**Lookout Ridge**	**28.83**	**31**	P	**P**	**00 51 15.4**		**+0.9**
C19K	**Lookout Ridge**	**28.83**	**31**	P	**P**	**00 51 14.4**		**-0.1**
	baz=251							
F19K	**Shaleruckik Mo**	**28.84**	**36**	P	**P**	**00 51 14.0**		**-0.6**
	baz=257							
G19K	**Purcell Mounta**	**28.95**	**38**	P	**P**	**00 51 15.6**		**-0.1**
	baz=259							
TTA	**Tatalina**	**28.96**	**45**	P	**P**	**00 51 16.8**		**+1.0**
TTA	**Tatalina**	**28.96**	**45**	P	**P**	**00 51 16.8**		**+1.0**
TTA				pmax	pmax			
	comp=Z,2.0nm,1.2s							
TTA	**Tatalina**	**28.96**	**45**	P	**P**	**00 51 15.8**		**-0.1**
	baz=266							
M18K	**Stony River**	**28.97**	**48**	P	**P**	**00 51 16.9**		**+1.1**
	baz=269							
Q17K	**Contact Creek**	**29.00**	**54**	P	**P**	**00 51 17.1**		**+0.9**
	baz=275							
H19K	**Roundabout Mou**	**29.10**	**39**	P	**P**	**00 51 18.0**		**+1.1**
H19K				IAmb	IAmb	00 51 19.7		
	comp=Z,5.0nm,0.8s							
H19K	**Roundabout Mou**	**29.10**	**39**	P	**P**	**00 51 17.5**		**+0.6**
	baz=261							
D19K	**Kuna River**	**29.14**	**33**	P	**P**	**00 51 17.9**		**+0.5**
D19K	**Kuna River**	**29.14**	**33**	P	**P**	**00 51 17.3**		**0.0**
	baz=254							
E19K	**Redstone River**	**29.19**	**35**	P	**P**	**00 51 17.8**		**+0.1**
E19K	**Redstone River**	**29.19**	**35**	P	**P**	**00 51 18.3**		**+0.6**
	baz=257							
J19K	**Poorman**	**29.24**	**42**	P	**P**	**00 51 19.2**		**+1.1**
J19K	**Poorman**	**29.24**	**42**	P	**P**	**00 51 18.8**		**+0.6**
	baz=264							
N19K	**Bonanza Creek**	**29.61**	**49**	P	**P**	**00 51 22.0**		**+0.4**
	baz=271							
F20K	**Avaraart Lake**	**29.67**	**36**	P	**P**	**00 51 21.9**		**0.0**
	baz=259							
O19K	**Port Alsworth**	**29.70**	**50**	P	**P**	**00 51 22.5**		**+0.2**
	baz=272							
D20K	**Etivluk River**	**29.73**	**33**	P	**P**	**00 51 21.8**		**-0.7**
	baz=255							
H20K	**Anotleneega Mo**	**29.74**	**39**	P	**P**	**00 51 23.3

baz=265
D23K Nanushuk River 31.89 33 P P 00 51 41.3 -0.2
baz=261
RC01 Rabbit Creek A 31.91 48 P P 00 51 43.4 +1.6
RC01 IAmb IAmb 00 52 19.2
comp=Z,11nm,1.4s
RC01 Rabbit Creek A 31.91 48 P P 00 51 42.0 +0.2
baz=275
I23K Minto, Yukon-K 32.02 41 P P 00 51 44.2 +1.6
I23K IAmb IAmb 00 51 51.5
comp=Z,12nm,1.5s
I23K Minto, Yukon-K 32.02 41 P P 00 51 43.3 +0.6
baz=268
C23K Itkillik River 32.07 32 P P 00 51 43.9 +0.9
C23K IAmb IAmb 00 51 45.5
comp=Z,4.2nm,0.5s
C23K Itkillik River 32.07 32 P P 00 51 42.8 -0.2
baz=260
HHC Hu-ho-hao-te 32.10 271 *e*P P 00 51 45.2 +1.4
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,88nm,5.5s
NEA2 Nenana 32.12 42 P P 00 51 45.3 +1.7
NEA2 IAmb IAmb 00 51 46.2
comp=Z,4.9nm,0.6s
NEA2 Nenana 32.12 42 P P 00 51 43.5 -0.2
baz=270
SEW Seward 32.14 50 P P 00 51 44.6 +0.8
baz=276
E23K Chandalar 32.15 35 P P 00 51 43.3 -0.6
baz=264,SNR=5.8
MCK McKinley 32.18 43 P P 00 51 44.8 +0.7
baz=271
RND Reindeer 32.22 44 P P 00 51 45.1 +0.5
RND IAmb IAmb 00 51 45.4
comp=Z,4.4nm,0.8s
RND Reindeer 32.22 44 P P 00 51 45.1 +0.5
RND pmax pmax
comp=Z,4.0nm,0.8s
H11S1 WAKE ISLAND Hy 32.25 161 T T 01 26 00.2
baz=347,slow=76,SNR=100
GHO Glory Hole Cre 32.26 47 P P 00 51 46.0 +1.1
GHO IAmb IAmb 00 51 52.7
comp=Z,7.8nm,1.2s
H11S3 WAKE ISLAND Hy 32.26 161 T T 01 26 01.0
baz=347,slow=76,SNR=257
H11S2 WAKE ISLAND Hy 32.27 161 T T 01 26 01.6
baz=347,slow=76,SNR=86
SONM Songino Array 32.30 286 PcP PcP 00 54 32.3 -0.2
comp=Z,0.5nm,0.7s,baz=68,slow=1.4,SNR=5.1
SONM LR LR 01 04 49.4
comp=Z,79nm,18.7s,baz=106,slow=36
MDM Murphy Dome 32.49 41 P P 00 51 48.0 +1.2
MDM IAmb IAmb 00 51 49.7
comp=Z,3.0nm,0.7s
KNK Knik Glacier 32.51 48 P P 00 51 48.2 +1.2
KNK Knik Glacier 32.51 48 P P 00 51 47.9 +0.9
baz=275
SML Sawmill 32.54 47 P P 00 51 48.5 +1.1
SML Sawmill 32.54 47 P P 00 51 48.4 +1.1
SML pmax pmax
comp=Z,16nm,0.7s
SML Sawmill 32.54 47 P P 00 51 47.5 +0.2
baz=275,SNR=7.0
WRH Wood River Hil 32.55 42 P P 00 51 48.7 +1.4
WRH IAmb IAmb 00 52 19.0
comp=Z,7.1nm,1.3s
D24K Happy Valley 32.58 33 P P 00 51 48.8 +1.3
D24K IAmb IAmb 00 51 49.7
comp=Z,11nm,1.3s
D24K Happy Valley 32.58 33 P P 00 51 47.4 -0.1
baz=263
COLA College 32.65 41 *i* P P 00 51 48.4 +0.2
COLA pmax pmax
comp=Z,9.0nm,0.7s
COLA College 32.65 41 P P 00 51 48.6 +0.5
baz=270
H24K Noodor Dome 32.66 39 P P 00 51 49.9 +1.6
H24K Noodor Dome 32.66 39 P P 00 51 48.7 +0.3
baz=269
CCB Clear Creek Bu 32.67 41 P P 00 51 49.5 +1.2
C24K Franklin Bluff 32.71 32 P P 00 51 49.3 +0.7
baz=262
NJ2 Nanjing 32.74 252 *e*P P 00 51 49.9 +0.6
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
F24K Squaw Lake 32.75 36 P P 00 51 50.0 +1.0
F24K IAmb IAmb 00 51 52.7
comp=Z,2.8nm,0.7s
F24K Squaw Lake 32.75 36 P P 00 51 48.7 -0.4
baz=266
WAT6 Susitna Watana 32.76 45 P P 00 51 49.5 +0.1
baz=274
M23K Glacier View 32.82 47 P P 00 51 50.6 +0.8
baz=275
POKR Poker Plat Res 32.83 41 P P 00 51 51.2 +1.5
POKR IAmb IAmb 00 51 52.0
comp=Z,8.0nm,1.1s
POKR Poker Plat Res 32.83 41 P P 00 51 50.2 +0.4
baz=270
G24K Hadweenzic Riv 32.86 38 P P 00 51 51.6 +1.6
G24K IAmb IAmb 00 51 52.8
comp=Z,6.1nm,0.8s
G24K Hadweenzic Riv 32.86 38 P P 00 51 50.5 +0.5
baz=268
DHY Denali Highway 32.90 44 P P 00 51 51.4 +0.7
DHY IAmb IAmb 00 52 13.5
comp=Z,2.9nm,0.8s
DHY Denali Highway 32.90 44 P P 00 51 51.3 +0.7
baz=274
SCM Sheep Creek Mo 33.01 47 P P 00 51 52.7 +1.3
SCM IAmb IAmb 00 51 55.1
comp=Z,4.4nm,0.8s
SCM Sheep Creek Mo 33.01 47 P P 00 51 52.7 +1.3
SCM pmax pmax
comp=Z,4.0nm,0.8s
SCM Sheep Creek Mo 33.01 47 P P 00 51 52.8 +1.3
baz=276
HDA Harding Lake 33.04 42 P P 00 51 52.6 +1.0
HDA Harding Lake 33.04 42 P P 00 51 52.4 +0.8
baz=272,SNR=7.2
IL31 33.06 41 P P 00 51 52.6 +0.8
IL31 IAmb IAmb 00 51 53.6
comp=Z,3.1nm,0.6s
ILAR Eielson Array 33.06 41 P P 00 51 53.2 +1.4
ILAR Eielson Array 33.06 41 P P 00 51 53.2 +1.4
ILAR Eielson Array 33.06 41 P P 00 51 52.2 +0.4
comp=Z,1.9nm,0.7s,baz=257,slow=6.0,SNR=39
comp=Z,1.9nm,0.7s
G25K Bearman Lake 33.40 38 P P 00 51 55.0 +0.3
baz=269
D25K Kavik River 33.47 33 P P 00 51 56.2 +0.9
D25K Kavik River 33.47 33 P P 00 51 55.1 -0.2
baz=265
M24K Tolsona, Glenn 33.53 46 P P 00 51 56.4 +0.5
baz=276
HIN Hinchinbrook I 33.56 49 P P 00 51 57.1 +0.9
K24K Donnelly Dome 33.58 43 P P 00 51 57.4 +1.0
baz=274
F25K Christian Rive 33.61 36 P P 00 51 56.6 0.0
baz=268
PRP Porcupine Dome 33.63 40 P P 00 51 58.2 +1.3
PRP Porcupine Dome 33.63 40 P P 00 51 57.6 +0.7
baz=271,SNR=8.8
E25K Arctic Village 33.67 35 P P 00 51 58.8 +1.7
E25K Arctic Village 33.67 35 P P 00 51 56.8 -0.2
baz=267,SNR=5.1
KLU Klutina 33.71 47 P P 00 52 01.0 +3.5
KLU IAmb IAmb 00 52 27.3
comp=Z,8.4nm,1.4s
KLU Klutina 33.71 47 P P 00 51 58.1 +0.5
baz=277
J25K Salcha River, 33.72 42 P P 00 51 57.6 -0.1
J25K IAmb IAmb 00 51 58.6
comp=Z,3.8nm,0.6s
J25K Salcha River, 33.72 42 P P 00 51 57.5 -0.1
baz=273
FYU Fort Yukon 33.75 38 P P 00 51 58.7 +1.0
PAX Paxson 33.78 44 P P 00 51 58.7 +0.6
baz=275
EYAK Cordova Ski Ar 33.91 49 P P 00 51 58.8 -0.4
baz=279
HARP HAARP 33.97 45 P P 00 52 00.1 +0.4
baz=276
RIDG Independent Ri 34.00 43 P P 00 52 00.5 +0.5
RIDG Independent Ri 34.00 43 P P 00 51 59.9 -0.1
baz=275
BMAR Burnt Mountain 34.02 36 P P 00 52 01.1 +1.0
C26K Camden Bay 34.03 32 P P 00 51 59.6 -0.6
baz=265
F26K Sheenjek River 34.19 36 P P 00 52 01.6 0.0
baz=269
G26K Porcupine Rive 34.32 37 P P 00 52 02.8 +0.1
baz=271
N25K Chitina, Valde 34.33 47 P P 00 52 04.6 +1.7
N25K IAmb IAmb 00 52 05.4
comp=Z,3.8nm,0.8s
N25K Chitina, Valde 34.33 47 P P 00 52 03.2 +0.3
baz=278
SCRK Sand Creek 34.36 43 P P 00 52 04.0 +0.8
SCRK IAmb IAmb 00 52 04.3
comp=Z,4.3nm,1.1s
SCRK Sand Creek 34.36 43 P P 00 52 03.7 +0.5
baz=275
BMRM Bremner River 34.41 48 P P 00 52 04.3 +0.7
baz=279
J26L Joseph Creek 34.51 42 P P 00 52 05.0 +0.5
J26L Joseph Creek 34.51 42 P P 00 52 05.1 +0.6
baz=275
MENT Mentasta 34.58 44 P P 00 52 06.7 +1.7
MENT IAmb IAmb 00 52 10.5
comp=Z,6.3nm,1.3s
KAIM Kayak Island 34.67 50 P P 00 52 07.5 +1.8
KAIM Kayak Island 34.67 50 P P 00 52 06.1 +0.4
baz=280
GLB Gilahina Butte 34.72 47 P P 00 52 08.5 +2.2
GLB IAmb IAmb 00 52 31.6
comp=Z,7.5nm,1.3s
VRDI Verde Repeater 34.92 47 P P 00 52 09.7 +1.5
VRDI IAmb IAmb 00 52 31.0
comp=Z,4.1nm,1.2s
M26K Nabesna, AK 34.97 45 P P 00 52 10.4 +2.0
M26K IAmb IAmb 00 52 11.3
comp=Z,5.8nm,0.9s
M26K Nabesna, AK 34.97 45 P P 00 52 08.7 +0.3
baz=278
MCARA McCarthy VSAT 35.10 47 P P 00 52 11.7 +2.2
MCARA McCarthy VSAT 35.10 47 P P 00 52 10.4 +0.9
baz=280
CRQM Cirque 35.15 48 P P 00 52 12.1 +1.9
CRQE Cirque 35.17 48 P P 00 52 11.2 +0.9
baz=280
K27K Chicken 35.19 42 P P 00 52 11.7 +1.4
K27K IAmb IAmb 00 52 12.4
comp=Z,5.1nm,0.8s
K27K Chicken 35.19 42 P P 00 52 11.1 +0.9
baz=276
H27K Steamboat Moun 35.25 39 P P 00 52 10.8 0.0
baz=274
TGL Tana Glacier 35.30 48 P P 00 52 12.9 +1.6
TGL IAmb IAmb 00 52 13.4
comp=Z,5.3nm,0.8s
WAX Waxell Ridge 35.34 49 P P 00 52 13.5 +1.8
L27K Beaver Creek, 35.42 44 P P 00 52 14.1 +1.8
L27K Beaver Creek, 35.42 44 P P 00 52 11.8 -0.5
baz=278,SNR=13
BCAR Beaver Creek A 35.44 44 P P 00 52 14.2 +1.8
M27K Edge Creek, AK 35.49 45 P P 00 52 15.2 +2.2
M27K IAmb IAmb 00 52 16.9
comp=Z,6.8nm,1.1s
M27K Edge Creek, AK 35.49 45 P P 00 52 13.5 +0.5
baz=279
EGAK Eagle 35.51 41 P P 00 52 13.1 +0.1
EGAK Eagle 35.51 41 P P 00 52 12.9 -0.1
baz=276
BARN Barnard Glacie 35.81 47 P P 00 52 17.6 +1.8
F28M Old Crow 35.82 36 P P 00 52 17.4 +1.8
F28M IAmb IAmb 00 52 17.8
comp=Z,2.5nm,0.6s
F28M Old Crow 35.82 36 P P 00 52 15.6 -0.1
baz=273
GRNC Granite Creek 35.83 48 P P 00 52 17.3 +1.3
MESA MESA 35.84 49 P P 00 52 15.9 -0.1
baz=282
BVCY Beaver Creek 35.95 45 P P 00 52 16.9 +0.1
baz=280
I28M Miner Creek 35.96 40 P P 00 52 17.3 +0.3
baz=276
CTG Chitna Glacier 35.98 48 P P 00 52 17.4 +0.2
baz=281
CTGM Chitina Glacie 35.98 48 P P 00 52 19.2 +1.9
LOGN Logan Glacier 36.17 48 P P 00 52 19.6 +0.8
LOGN IAmb IAmb 00 52 21.2
comp=Z,5.9nm,0.9s
D28M Stokes Point 36.18 33 P P 00 52 18.2 -0.4
baz=272
TABL Table Mountain 36.18 48 P P 00 52 20.4 +1.5
YUK3 Moose Creek 36.25 46 P P 00 52 19.7 +0.2
baz=281
DAWY Dawson 36.36 42 P P 00 52 21.4 +1.1
DAWY IAmb IAmb 00 52 37.8
comp=Z,4.1nm,1.3s
DAWY Dawson 36.36 42 P P 00 52 20.5 +0.1
baz=279
E29M Blow River 36.52 35 P P 00 52 23.1 +1.5
E29M IAmb IAmb 00 52 52.4
comp=Z,6.6nm,1.4s
E29M Blow River 36.52 35 P P 00 52 22.1 +0.6
baz=274
H29M Whitestone 36.52 38 P P 00 52 22.0 +0.4
baz=277
YUK8 Steele Glacier 36.67 47 P P 00 52 23.1 -0.1
baz=282
PINM Pinnacle 36.69 49 P P 00 52 23.5 +0.3
baz=283
M29M Somme Creek 37.05 45 P P 00 52 28.5 +2.3
M29M IAmb IAmb 00 52 29.1
comp=Z,4.8nm,0.8s
M29M Somme Creek 37.05 45 P P 00 52 26.6 +0.4
baz=282
L29M L29M 37.07 43 P P 00 52 28.7 +2.3
L29M L29M 37.07 43 P P 00 52 27.1 +0.8
baz=281
EPYK Eagle Plains 37.17 38 P P 00 52 27.5 +0.4
baz=278
YUK4 Talbot Arm 37.18 46 P P 00 52 28.6 +1.1
baz=283
K29M Barlow Dome 37.21 42 P P 00 52 29.2 +1.5
K29M Barlow Dome 37.21 42 P P 00 52 28.9 +1.3
baz=280
G30M tAoh Zraii Nji 37.29 37 P P 00 52 28.8 +0.7
baz=277
F30M Barrier River 37.38 36 P P 00 52 29.8 +0.9
baz=277
YUK6 Outpost Mounta 37.41 47 P P 00 52 29.4 -0.1
baz=284
O29M Mount Kennedy 37.45 48 P P 00 52 29.9 +0.2
baz=284
I30M Mount Dempster 37.47 40 P P 00 52 31.3 +1.5
I30M IAmb IAmb 00 52 32.0
comp=Z,5.7nm,0.8s
I30M Mount Dempster 37.47 40 P P 00 52 28.9 -0.9
baz=280
J30M Hart River 37.60 41 P P 00 52 32.8 +1.9
J30M Hart River 37.60 41 P P 00 52 31.6 +0.7
baz=280
M30M Minto, Yukon 37.78 44 P P 00 52 32.9 +0.5
baz=283
HYT Haines Junctio 37.84 47 P P 00 52 34.8 +1.8
HYT IAmb IAmb 00 52 36.9
comp=Z,6.5nm,1.0s
HYT Haines Junctio 37.84 47 P P 00 52 33.4 +0.4
baz=284
N30M Aishikik Lake 37.89 46 P P 00 52 33.7 +0.4
baz=284
P29M Windy Craggy 38.03 49 P 00 52 37.0 +2.5
G31M Satah River 38.06 37 P P 00 52 36.3 +1.7
G31M Satah River 38.06 37 P P 00 52 35.2 +0.6
baz=279
INK Inuvik 38.15 35 P P 00 52 34.8 -0.5
baz=278
F31M Tsiigehtchic 38.19 36 P P 00 52 36.2 +0.6
baz=279
H31M Peel River 38.21 39 P P 00 52 36.5 +0.6
baz=280
P30M Million Dollar 38.28 48 P P 00 52 37.6 +1.0
baz=286
O30N Mendenhall 38.53 47 P P 00 52 40.1 +1.4
O30N IAmb IAmb 00 52 42.2
comp=Z,4.6nm,0.8s
O30N Mendenhall 38.53 47 P P 00 52 40.2 +1.6
baz=285
PLBC Pleasant Camp 38.75 49 P P 00 52 41.3 +0.8
baz=287
M31M Drury Creek, Y 38.95 44 P P 00 52 44.3 +2.1
M31M IAmb IAmb 00 52 53.2
comp=Z,7.6nm,1.4s
M31M Drury Creek, Y 38.95 44 P P 00 52 42.8 +0.6
baz=285
WHY Whitehorse 39.13 47 P P 00 52 45.9 +2.1
WHY IAmb IAmb 00 53 06.1
comp=Z,7.2nm,1.4s
WHY Whitehorse 39.13 47 P P 00 52 45.0 +1.2
baz=286
FARO Faro, Yukon 39.42 44 P P 00 52 46.8 +0.7
baz=286
P33M Teslin, Yukon 40.24 47 P P 00 52 52.3 -0.7
baz=288
MMPY Sheldon Lake, 40.25 43 P P 00 52 54.0 +1.0
MMPY Sheldon Lake, 40.25 43 P P 00 52 53.1 +0.2
baz=287
A36M Sachs Harbour 40.37 28 P P 00 52 54.5 +0.7
A36M Sachs Harbour 40.37 28 P P 00 52 52.9 -0.9
baz=281,SNR=12
C36M Paulatuk 41.32 32 P P 00 53 01.8 +0.2
C36M IAmb IAmb 00 53 03.5
comp=Z,7.5nm,1.1s
C36M Paulatuk 41.32 32 P P 00 53 01.4 -0.2
baz=285
R33M Jennings River 41.39 48 P P 00 53 02.4 -0.1
baz=290
ZALV Zalesovo Beam 42.53 304 P P 00 53 09.9 -1.8
comp=Z,0.5nm,0.4s,baz=59,slow=7.7,SNR=5.5
ZALV PcP PcP 00 55 02.6 -0.8
comp=Z,0.9nm,0.4s,baz=52,slow=3.7,SNR=6.3
ZALV LR LR 01 13 33.4
comp=Z,53nm,18.1s,baz=332,slow=40
comp=Z,0.5nm,0.4s
V35K Ketchikan 42.59 54 P P 00 53 12.8 +0.7
baz=294
WRGLY Wrigley 43.43 41 P P 00 53 19.1 +0.3
baz=292
WMQ Urumqi 45.72 290 *e*P P 00 53 38.7 +1.3
MK31 Makanchi Array 47.36 296 P P 00 53 48.3 -1.9
MK31 Makanchi Array 47.36 296 *i* P P 00 53 49.2 -1.0
MKAR Makanchi Array 47.36 296 P P 00 53 49.3 -0.9
comp=Z,1.1nm,0.7s,baz=60,slow=6.6,SNR=12
MKAR PcP PcP 00 55 18.8 -1.4
comp=Z,0.5nm,0.7s,baz=65,slow=3.8,SNR=3.2
MKAR LR LR 01 14 42.4
comp=Z,106nm,18.2s,baz=85,slow=37
comp=Z,1.1nm,0.7s
PZH PanZhiHua 47.36 261 P P 00 53 51.2 +0.6
PZH pmax pmax
comp=Z,10.0nm,0.4s
PZH pmax pmax
comp=Z,140nm,5.7s
KURK Kurchatov 47.40 303 P P 00 53 49.2 -1.2
KURK IAmb IAmb 00 53 51.0
comp=Z,7.5nm,1.1s
KURK Kurchatov 47.40 303 *c i*P P 00 53 47.8 -2.6
KURK pmax pmax
comp=Z,7.0nm,1.1s
YKA Yellowknife Ar 47.43 39 P P 00 53 51.5 +1.1
comp=Z,1.8nm,0.9s,baz=297,slow=7.8,SNR=18
comp=Z,1.8nm,0.9s
KURBB Kurchatov Arra 47.50 302 P P 00 53 50.0 -1.1
comp=Z,2.9nm,0.6s,baz=64,slow=7.6,SNR=23
KURBB PcP PcP 00 55 18.9 -1.7
comp=Z,1.4nm,0.8s,baz=66,slow=3.5,SNR=13
comp=Z,2.9nm,0.6s
SPITS Spitsbergen Ar 50.08 350 P P 00 54 09.7 -1.0
comp=Z,6.2nm,0.9s,baz=49,slow=6.6,SNR=4.1
comp=Z,6.2nm,0.9s
BVAR Borovoye Array 50.53 309 P P 00 54 13.2 -1.1
comp=Z,1.7nm,0.5s,baz=56,slow=8.0,SNR=14
BVAR PcP PcP 00 55 30.7 -0.9
comp=Z,1.2nm,0.6s,baz=70,slow=3.5,SNR=6.1
comp=Z,1.7nm,0.5s
BRVK Borovoye 50.57 309 P P 00 54 13.1 -1.5
BRVK IAmb IAmb 00 54 14.5
comp=Z,6.8nm,1.4s
BRVK Borovoye 50.57 309 *c i*P P 00 54 13.6 -1.0
BRVK pmax pmax
comp=Z,3.0nm,0.8s
CRAI Chiangrai 52.73 257 P P 00 54 30.9 -0.2
ARU Arti 54.19 317 *d i*P P 00 54 39.2 -2.1
ARU 00 56 37.6
ARU S S 01 02 09.9 -4.5
ARU SS SKiKP 01 05 47.6 0.0
ARU pmax pmax
comp=Z,3.0nm,0.9s
AAK Ala-Archa 54.29 296 LR LR 01 19 04.3
comp=Z,65nm,19.2s,baz=34,slow=37
ARCES ARCESS Array B 55.73 341 P P 00 54 49.3 -3.1
comp=Z,2.5nm,0.8s,baz=45,slow=7.9,SNR=1.4
comp=Z,2.5nm,0.8s
ORV Oroville 56.78 66 P P 00 55 02.1 +1.9
ORV Oroville 56.78 66 P P 00 55 02.1 +1.9
ORV pmax pmax
comp=Z,26nm,1.3s
BPMT Black Pine Rid 56.99 56 P P 00 55 03.0 +1.0
SUMG Summit 57.64 5 P P 00 55 05.7 -0.6
SUMG Summit 57.64 5 P P 00 55 05.7 -0.6
SUMG pmax pmax
comp=Z,9.0nm,0.9s
FCC Fort Churchill 57.76 35 P P 00 55 07.5 +0.7
FCC Fort Churchill 57.76 35 P P 00 55 07.5 +0.7
FCC pmax pmax
comp=Z,9.0nm,1.1s
ABKAR Akbulak array 58.05 310 P P 00 55 07.4 -1.7
ABKAR IAmb IAmb 00 55 10.6
comp=Z,3.4nm,1.2s
KVN Kaiserville 59.12 65 P P 00 55 17.0 +0.1
KVN pmax pmax
comp=Z,17nm,1.2s
CHGR Chuyangaron 59.95 295 P P 00 55 21.5 -1.0
CHGR Chuyangaron 59.95 295 P P 00 55 21.5 -1.0
CHGR pmax pmax
comp=Z,9.0nm,1.0s
SIMJ Simiganj 60.04 296 P P 00 55 22.4 -0.8
SIMJ IAmb IAmb 00 55 23.2
comp=Z,3.1nm,0.8s
VES Vestal, Richgr 60.65 68 P P 00 55 29.3 +2.1
baz=312
PKM Mcpherson Peak 60.85 69 P P 00 55 30.7 +1.9
baz=313
DUG Dugway, Tooele 61.41 61 P P 00 55 34.3 +1.8
baz=313
MPMC Manual Prospec 61.47 67 P P 00 55 34.0 +1.1
baz=313
BW06 Boulder Array 61.49 57 P P 00 55 33.4 +0.3
baz=313
PDAR Pinedale Array 61.49 57 P P 00 55 34.7 +1.7
comp=Z,1.0nm,0.7s,baz=303,slow=2.8,SNR=9.9
comp=Z,1.0nm,0.7s
SCZ2 Santa Cruz Isl 61.56 70 P P 00 55 34.8 +1.4
baz=313
BELG Belogornoye 61.64 319 *i* P P 00 55 31.1 -2.5
BELG pmax pmax
comp=Z,2.0nm,1.0s
FINES FINESS Array B 62.22 335 P P 00 55 35.0 -2.3
FINES FINESS Array B 62.22 335 P P 00 55 35.0 -2.3
comp=Z,0.4nm,0.3s,baz=35,slow=7.8,SNR=8.6
comp=Z,0.4nm,0.3s
OBN Obninsk 63.99 326 *i* P P 00 55 44.4 -4.7
OBN pmax pmax
comp=Z,7.0nm,0.9s
NOA NORSAR Array B 66.07 342 P P 00 56 00.5 -2.2
comp=Z,0.6nm,0.8s,baz=25,slow=6.3,SNR=2.1
NOA LR LR 01 30 08.9
comp=Z,22nm,18.3s,baz=265,slow=41
comp=Z,0.6nm,0.8s
HFS Hagfors 66.38 340 P P 00 56 03.2 -1.4
comp=Z,3.4nm,1.1s,baz=69,slow=7.9,SNR=2.0
comp=Z,3.4nm,1.1s
GEYT Ailbeck 66.76 302 P P 00 56 06.5 -1.0
comp=Z,1.1nm,0.4s,baz=56,slow=3.7,SNR=5.3
comp=Z,1.1nm,0.4s
SCHQ Schefferville 69.86 25 P P 00 56 26.9 +0.5
comp=Z,3.4nm,0.8s,baz=329,slow=5.8,SNR=19
comp=Z,3.4nm,0.8s
AKASG Malin Array Be 70.18 327 P P 00 56 27.2 -1.3
comp=Z,0.8nm,0.4s,baz=34,slow=0.3,SNR=4.2
comp=Z,0.8nm,0.4s
KBZ Khabaz 70.21 315 P P 00 56 27.8 -0.9
comp=Z,2.4nm,1.0s,baz=103,slow=1.5,SNR=4.4
comp=Z,2.4nm,1.0s

MNTX	**Cornudas Mount** baz=318	71.66	63	P		P		00 56 37.6	-0.2
WRA	**Warramunga Arr** comp=Z,1.8nm,0.8s,baz=16,slow=6.4,SNR=9.9 comp=Z,1.8nm,0.8s	71.92	201	P		P		00 56 39.6	+0.3
L44A	**Lake County Fo** baz=323	72.77	44	P		P		00 56 43.6	-0.6
WMOK	**Wichita Mounta** baz=320	73.09	56	P		P		00 56 46.5	+0.1
EKA	**Eskdalemuir Ar** comp=Z,0.5nm,0.5s,baz=21,slow=5.4,SNR=1.3 comp=Z,0.5nm,0.5s	73.93	348	P		P		00 56 50.4	-0.4
BUR08	**Bucovina Ar. S** BUR08	74.17	328	P IAmb	IAmb	P IAmb	00 57 09.6	00 56 51.5	-1.1
BURAR	**Bucovina Array** BURAR	74.19	328	P pmax	pmax	P		00 56 51.4	-1.3
TX31	**Lajitas Ar. Si** TX31	74.40	63	P IAmb	IAmb	P	00 56 56.4	00 56 54.8	+0.6
TXAR	**Lajitas Array**	74.40	63	P		P		00 56 55.0	+0.8
TXAR	**Lajitas Array** comp=Z,2.6nm,0.7s,baz=296,slow=4.4,SNR=19 comp=Z,2.6nm,0.7s	74.40	63	P		P		00 56 55.3	+1.1
ASAR	**Alice Springs** comp=Z,1.2nm,0.7s,baz=15,slow=4.9,SNR=13 comp=Z,1.2nm,0.7s	75.61	201	P		P		00 57 01.2	+0.4
WHTX	**Lake Whitney,** baz=320	75.89	57	P		P		00 57 03.2	+0.6
BRTR	**Keskin Array B** comp=Z,0.3nm,0.5s,baz=99,slow=1.4,SNR=6.9 comp=Z,0.3nm,0.5s	77.56	318	P		P		00 57 11.3	-0.7
MMAI	**Mount Meron Ar** comp=Z,5.7nm,0.7s,baz=37,slow=7.3,SNR=18 comp=Z,5.7nm,0.7s	82.29	313	P		P		00 57 37.2	-0.4
ESDC	**Sonseca Array** comp=Z,0.8nm,0.7s,baz=3.2,slow=4.7,SNR=5.5 comp=Z,0.8nm,0.7s	89.31	345	P		P		00 58 11.2	-1.0
TEIG	**Tepich** comp=Z,390nm,20.2s,baz=354,slow=37	90.20	58	LR		LR	01 41 03.6		
CPUP	**Villa Florida** comp=Z,1.1nm,0.6s,baz=267,slow=5.8,SNR=3.8	145.33	60	PKPbc		PKPab		01 04 53.4	-0.2
PLCA	**Paso Flores** comp=Z,1.0nm,0.8s,baz=231,slow=8.5,SNR=4.2	146.46	93	PKPbc		PKPbc		01 04 56.0	-0.5

*IDC **03** 00:55:15.5±0.8, 72.°10N×134.°53E, h0km, mb3.8/14, mbtmp3.8/14, MS4.2/2, Error ellipse: s-maj=29.0km s-min=14.8km az=160.0*

*NEIC **03** 00:55:17.6±1.4, 72.°1N±0.°2×133.°9E±0.°2, h14km±5km, mb4.1/60, Error ellipse: s-maj=22.9km s-min=9.6km az=169.0*

*YARS **03** 00:55:17.5, 71.°82N×133.°77E, h10km*

ISC 03 00:55:17.4±0.5, 71.°99N±0.°05×134.°03E±0.°04, h10km, n92, σ1°9 26/98, mb4.0/44, Near north coast of eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TIXI	**Tiksi**	1.66	260			Pn	00 55 45.9	-0.6
TIXI				Sn		Sn	00 56 06.8	-1.0
TIXI	**Tiksi**	1.66	260	P		Pn	00 55 45.9	-0.6
TIXI	**Tiksi** 189nm,0.0s	1.66	260	*i* Pg		Pn	00 55 46.0	-0.4
TIXI					*e*Lg	Lg	00 56 06.7	
TIXI					*e*Lg	Lg	00 56 06.7	
TIXI					*e*Sg	Sb	00 56 08.4	-0.4
TIXI	**Tiksi** 634nm,0.1s	1.66	260	Pn		Pn	00 55 46.1	-0.4
TIXI				Sn		Sn	00 56 07.1	-0.6
TIXI	71nm,0.3s,baz=93,slow=12,SNR=357 112nm,0.3s,baz=358,slow=7.5,SNR=16			LR		LR	00 56 24.5	
BTGS	**Batagay** comp=Z,88nm,19.9s,baz=208,slow=38	4.37	177	*e*Pn		Pn	00 56 22.3	-1.4
BTGS	0.6nm,0.2s			*e*Pg		Pb	00 56 34.3	+0.1
BTGS				*e*Sn		Sn	00 57 11.6	-3.0
BTGS				*e*Sn		Sn	00 57 11.6	-3.0
BTGS	132nm,0.8s			*e*Sg		Sg	00 57 36.1	-1.4
MOMR	**Moma** 2.0nm,0.2s	6.43	145	*i* Pg		Pb	00 57 13.8	+4.6
MOMR					*e*Lg	Lg	00 58 38.8	
MOMR					*e*Lg	Lg	00 58 38.8	
MOMR	25nm,0.5s				*e*Sg	Sg	00 58 46.8	+3.2
UNR	**Ust'-Nera** 3.0nm,0.6s	8.19	151	*i* Pg		Pb	00 57 44.7	+5.6
UNR	102nm,1.1s				*e*Lg	Lg	00 59 34.0	
YAK	**Yakutsk** 2.2nm,0.2s	10.14	192	*i* Pg		Pg	00 58 18.7	
YAK	18nm,0.9s				*e*Lg	Lg	01 00 35.0	
SVZ	**Severnaya Zeml**	10.65	327	*e*P		Pn	00 57 52.4	+2.6
SVZ				S		Sn	00 59 49.4	+0.7
BILL	**Bilibino**	11.61	94	Pn		Pn	00 58 03.4	+0.6
C16K	**Lisburne Hills**	20.14	70	P		P	00 59 50.3	-0.8
C18K	**Utukok River**	21.11	67	P		P	01 00 00.7	-1.0
C19K	**Lookout Ridge** C19K	21.28	65	P		pP	01 00 04.0	+0.5
PEA0B	**Petropavlovsk-**	21.57	139	P		P	01 00 04.2	-2.2
PETK	**Petropavlovsk-**	21.57	139	P		P	01 00 09.3	+2.6
F15K	**North Star Dit** F15K	22.03	75	P IAmb	IAmb	P IAmb	01 00 09.3 01 00 27.5	+2.6 -0.3
E18K	**Tukpahlearik C** E18K comp=Z,5.7nm,1.0s	22.07	69	P IAmb	IAmb	P IAmb	01 00 10.8 01 00 24.5	-1.1
D19K	**Kuna River** D19K comp=Z,6.5nm,1.1s	22.08	65	P IAmb	IAmb	P IAmb	01 00 10.8 01 00 17.4	-1.3
F17K	**Baldwin Pennin** F17K comp=Z,15nm,1.3s	22.54	71	P IAmb	IAmb	P IAmb	01 00 16.4 01 00 27.6	-0.5
G16K	**Koyuk River** comp=Z,9.4nm,1.1s	22.93	74	P		P	01 00 21.2	+0.1
E19K	**Redstone River** E19K comp=Z,6.8nm,1.1s	23.02	67	P IAmb	IAmb	P IAmb	01 00 21.8 01 00 40.4	-0.2
D22K	**Ayikyak River** D22K comp=Z,7.5nm,1.1s	23.34	61	P IAmb	IAmb	P IAmb	01 00 25.5 01 00 26.2	+0.2
G18K	**Tagagawik** G18K comp=Z,13nm,1.5s	23.68	71	P IAmb	IAmb	P IAmb	01 00 27.8 01 00 29.9	-0.9
F20K	**Avaraart Lake** F20K comp=Z,5.7nm,1.1s	23.73	67	P IAmb	IAmb	P IAmb	01 00 27.8 01 00 40.5	-1.2
G19K	**Purcell Mounta**	23.96	69	P		P	01 00 30.2	-1.2
E22K	**Anaktuvuk Pass**	24.08	62	P		P	01 00 31.2	-1.3
F21K	**Alatna River**	24.24	65	P		P	01 00 33.1	-0.9
H18K	**Honhosa River** H18K comp=Z,9.3nm,1.5s	24.29	72	P IAmb	IAmb	P IAmb	01 00 33.8 01 01 09.2	-0.7
J14K	**Nanvaranak Lak**	24.49	80	P		P	01 00 35.9	-0.4
H19K	**Roundabout Mou** H19K comp=Z,9.3nm,1.4s	24.59	70	P IAmb	IAmb	P IAmb	01 00 36.4 01 00 43.7	-0.7
D25K	**Kavik River** D25K comp=Z,10nm,1.5s	24.72	57	P IAmb	IAmb	P IAmb	01 00 38.6 01 00 46.0	+0.3
G21K	**Allakaket** G21K comp=Z,4.0nm,1.1s	24.73	66	P IAmb	IAmb	P IAmb	01 00 38.4 01 00 44.1	-0.1
J16K	**Anvik River** J16K comp=Z,6.4nm,1.4s	24.99	77	P IAmb	IAmb	P IAmb	01 00 41.0 01 01 05.1	+0.2
IMAR	**Indian Mountai**	25.04	67	P		P	01 00 40.6	-0.6
J17K	**VABM Dome**	25.37	75	P		P	01 00 44.2	0.0
K15K	**Wolf Creek Mou**	25.45	79	P		P	01 00 45.6	+0.6
H21K	**Melozitna Rive** H21K comp=Z,6.1nm,1.1s	25.55	67	P IAmb	IAmb	P IAmb	01 00 45.2 01 00 53.6	-0.6
G23K	**Bananza Creek**	25.57	63	P		P	01 00 44.7	-1.3
F24K	**Squaw Lake** F24K comp=Z,6.4nm,1.2s	25.58	61	P IAmb	IAmb	P IAmb	01 00 46.2 01 00 47.0	+0.1
E25K	**Arctic Village** E25K comp=Z,4.7nm,1.1s	25.77	58	P IAmb	IAmb	P IAmb	01 00 47.2 01 00 53.0	-0.7
J19K	**Poorman**	25.95	72	P		P	01 00 49.1	-0.4
J18K	**Innoko River** J18K	26.02	73	P IAmb	IAmb	P IAmb	01 00 49.2 01 01 28.6	-0.9
K17K	**Iditarod** K17K comp=Z,6.8nm,1.1s	26.11	76	P IAmb	IAmb	P IAmb	01 00 50.8 01 01 23.7	-0.1
I21K	**Tanana** I21K comp=Z,3.0nm,0.9s	26.13	67	P IAmb	IAmb	P IAmb	01 00 50.4 01 00 51.3	-0.6
L16K	**Owhat River** L16K comp=Z,3.6nm,1.1s	26.53	78	P IAmb	IAmb	P IAmb	01 00 56.2 01 01 08.5	+1.5
BMAR	**Burnt Mountain**	26.53	59	P		P	01 00 54.3	-0.4
MLY	**Manley**	26.60	66	P		P	01 00 54.5	-0.9
TTA	**Tatalina** TTA comp=Z,5.0nm,1.4s	26.64	73	P IAmb	IAmb	P IAmb	01 00 54.6 01 01 35.3	-1.1
H24K	**Noodor Dome** H24K comp=Z,3.2nm,0.9s	26.80	63	P IAmb	IAmb	P IAmb	01 00 57.0 01 01 00.6	-0.3
I23K	**Minto, Yukon-K** I23K comp=Z,8.3nm,1.4s	26.90	65	P IAmb	IAmb	P IAmb	01 00 57.2 01 01 19.4	-0.8
SONM	**Songino Array** comp=Z,0.7nm,1.0s,baz=14,slow=8.2,SNR=4.6 comp=Z,0.7nm,1.0s	27.38	223	P		P		01 01 05.1	+2.5
CAST	**Castle Rocks**	27.42	70	P		P		01 01 02.3	-0.5
ZALV	**Zalesovo Beam** comp=Z,0.6nm,0.5s,baz=44,slow=1.6,SNR=3.4	27.54	255	PcP		PcP		01 04 20.2	-1.0
KTH	**Kantishna Hill**	27.66	69	P		P		01 01 04.7	-0.2
WRH	**Wood River Hil** WRH comp=Z,6.7nm,1.3s	27.77	65	P IAmb	IAmb	P IAmb	01 01 44.9	01 01 05.2	-0.6
IL31	IL31 comp=Z,3.7nm,1.4s	27.88	64	P IAmb	IAmb	P IAmb	01 01 40.3	01 01 06.4	-0.3
ILAR	**Eielson Array**	27.88	64	P		P		01 01 05.9	-0.9
ILAR	**Eielson Array** comp=Z,1.1nm,0.8s,baz=324,slow=9.9,SNR=15 comp=Z,1.1nm,0.8s	27.88	64	P		P		01 01 05.0	-1.8
TRF	**Thorofare Moun** TRF comp=Z,2.8nm,1.0s	27.92	68	P IAmb	IAmb	P IAmb	01 01 10.0	01 01 06.7	-0.7
RND	**Reindeer** RND comp=Z,7.3nm,1.4s	28.37	67	P IAmb	IAmb	P IAmb	01 01 28.6	01 01 09.5	-1.8
J25K	**Salcha River,** J25K comp=Z,6.4nm,1.5s	28.42	63	P IAmb	IAmb	P IAmb	01 01 35.1	01 01 11.0	-0.7
DHY	**Denali Highway** DHY comp=Z,3.9nm,1.3s	29.05	67	P IAmb	IAmb	P IAmb	01 01 33.2	01 01 16.3	-1.1
H29M	**Whitestone**	29.07	56	P		P		01 01 17.5	+0.1
I28M	**Miner Creek**	29.26	59	P		P		01 01 18.9	-0.3
G31M	**Satah River**	29.57	53	P		P		01 01 21.4	-0.3
SML	**Sawmill**	29.77	69	P		P		01 01 21.9	-1.8
SCM	**Sheep Creek Mo**	30.04	68	P		P		01 01 24.4	-1.7
M24K	**Tolsona, Glenn**	30.16	67	P		P		01 01 26.8	-0.4
I30M	**Mount Dempster**	30.37	56	P		P		01 01 28.3	-0.8
L27K	**Beaver Creek,**	30.62	63	P		P		01 01 30.9	-0.3
KLU	**Klutina**	30.72	68	P		P		01 01 30.4	-1.7
J30M	**Hart River**	30.89	57	P		P		01 01 33.7	+0.1
N25K	**Chitina, Valde** N25K comp=Z,3.3nm,1.1s	31.01	67	P IAmb	IAmb	P IAmb	01 01 58.7	01 01 33.9	-0.8
M27K	**Edge Creek, AK**	31.17	64	P		P		01 01 35.9	-0.2
KURBB	**Kurchatov Arra** comp=Z,0.7nm,0.7s,baz=33,slow=8.6,SNR=3.7 comp=Z,0.7nm,0.7s	32.34	259	P		P		01 01 46.9	+0.6
M30M	**Minto, Yukon**	32.39	60	P		P		01 01 46.7	0.0
BVAR	**Borovoye Array** comp=Z,0.7nm,0.5s,baz=30,slow=8.3,SNR=4.4 comp=Z,0.7nm,0.5s	32.77	269	P		P		01 01 50.5	+0.3
MKAR	**Makanchi Array** comp=Z,0.6nm,0.7s,baz=48,slow=8.1,SNR=4.5 comp=Z,0.6nm,0.7s	34.62	252	P		P		01 02 07.9	+1.6
YKA	**Yellowknife Ar** comp=Z,1.0nm,0.6s,baz=335,slow=8.6,SNR=16 comp=Z,1.0nm,0.6s	37.90	45	P		P		01 02 32.3	-1.7
FINES	**FINESS Array B** comp=Z,2.2nm,0.6s,baz=27,slow=9.5,SNR=11 comp=Z,2.2nm,0.6s	38.05	312	P		P		01 02 36.1	+0.7
ABKAR	**Akbulak array**	39.30	276	P		P		01 02 46.7	+0.8
NOA	**NORSAR Array B** comp=Z,0.4nm,0.8s,baz=23,slow=8.0,SNR=1.5 comp=Z,0.4nm,0.8s	41.56	322	P		P		01 03 04.1	-0.5
GAR	**Garm**	45.33	259	P		P		01 03 35.5	+0.1
AKASG	**Malin Array Be** comp=Z,1.1nm,0.5s,baz=26,slow=8.2,SNR=5.8 comp=Z,1.1nm,0.5s	46.93	303	P		P		01 03 47.5	-0.1
GEYT	**Alibeck** comp=Z,0.7nm,0.6s,baz=350,slow=7.3,SNR=2.0 comp=Z,0.7nm,0.6s	50.09	271	P		P		01 04 12.9	+0.8
PDAR	**Pindale Array** comp=Z,0.7nm,0.5s,baz=21,slow=3.4,SNR=8.2 comp=Z,0.7nm,0.5s	57.24	52	P		P		01 05 03.5	-1.3
TXAR	**Lajitas Array** comp=Z,0.5nm,0.8s,baz=350,slow=4.0,SNR=4.4 comp=Z,0.5nm,0.8s	71.45	51	P		P		01 06 36.0	-1.8
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.9s,baz=359,slow=5.8,SNR=2.8 comp=Z,0.7nm,0.9s	89.38	314	P		P		01 08 12.4	-1.6
WRA	**Warramunga Arr** comp=Z,0.6nm,0.8s,baz=359,slow=4.3,SNR=2.5 comp=Z,0.6nm,0.8s	91.70	180	P		P		01 08 23.8	-0.7
MBAR	**Mbarara** comp=Z,159nm,18.2s,baz=111,slow=40	94.67	282	LR		LR	01 58 13.0		
PCRV	**Puerto La Cruz** comp=Z,65nm,18.0s,slow=38	97.08	19	LR		LR	01 56 52.0		
PLCA	**Paso Flores** comp=Z,2.3nm,0.9s,baz=207,slow=2.2,SNR=4.5	146.38	35	PKPbc		PKPdf		01 14 54.6	-1.5

*IDC **03** 01:02:52.7±0.7, 8.°66N×83.°11W, h0km, mb4.2/16, mbtmp4.3/19, ML4.5/3, MS3.9/17, Error ellipse: s-maj=25.7km s-min=14.1km az=49.0*

*UCR **03** 01:02:53.0±0.8, 8.°49N×83.°33W, h12km±1km, MW5.1, MB4.7(NEIC), Fault plane solution: NP1:φs47.33000°, δ65.10000°, λ-84.49000°.*

*RSNC **03** 01:02:53.8±0.9, 8.°N±6.°×8.°3W±.°, h21km±7km, mb4.8, mB5.4, ML4.2, Mw(mB)4.9*

*CATAC **03** 01:02:53.4±0.2, 8.°55N×83.°34W, h4km±1km, MB5.6, mb5.4, ML5.0*

*UPA **03** 01:02:54.3±2.9, 8.°59N×83.°22W, h0km±7km, MW4.5*

*NEIC **03** 01:02:54.2±1.4, 8.°64N±0.°05×83.°32W±0.°05, h7km±4km, mb4.9/89, Mwr4.7/35, Error ellipse: s-maj=8.1km s-min=5.6km az=217.0, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr 0.09; Mθθ 0.05; Mφφ -0.14; Mrθ 1.03; Mrφ -0.04; Mθφ -0.68; Fault plane solution: Mo 1.24000×10^16 NP1:φs 124.04000°, δ89.35000°, λ86.49000°. NP2:φs 23.51000°, δ3.57000°, λ169.45000°. Principal axes: T 1.2934, Plg46.0000°, Azm31.0000°; N -0.1226, Plg4.0000°, Azm124.0000°; P -1.1708, Plg44.0000°, Azm217.0000°;*

*NEIC **03** 01:02:54.2, 8.°64N×83.°32W, h7km*

*PPT **03** 01:02:57.2±0.2, 8.°57N×83.°41W, h10km, mb4.8/16, MLv5.1/6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 03 01:02:53.7±0.7, 8.°55N±0.°02×83.°31W±0.°02, h10km±4km, n355, σ1°10/413, mb4.9/57, MS3.9/12, 9C-44D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PTJ1	**Puerto Jimenez**	0.02	151		*e*P	Pg	01 02 55.3	-0.2
JIME	**Puerto Jimenez** JIME	0.02	224		*e*S	Sg	01 02 55.4 01 02 57.7	-0.1 +0.9
PIRO	**Carate, Puerto**	0.15	190		*e*P	Pg	01 02 56.1	-1.0
PIRO	**Carate, Puerto** PIRO comp=Z,430μm,1.0s	0.15	190		*i* P *i* S IAML	Pg Sg	01 02 56.4 01 02 59.0 01 03 00.9	-0.7 -0.4
FITO	**Golfito** FITO	0.17	65		*e*P *e*S	Pg Sg	01 02 57.2 01 03 00.7	-0.2 +0.7
EDAD	**Golfito** EDAD	0.17	55		*e*P *e*S	Pg Sg	01 02 57.4 01 03 00.8	-0.1 +0.7
PLAN	**Los Planes de** PLAN comp=Z,140μm,1.0s	0.38	288		*i* P *i* S IAML	Pg Sg	01 03 01.1 01 03 06.1 01 03 11.3	-0.2 -0.3
VITO	**San Vito**	0.43	52		*e*P	Pg	01 03 02.7	+0.5
EDPN	**Palmar Norte** EDPN	0.43	341		*e*P *e*S	Pg Sb	01 03 02.2 01 03 09.4	0.0 -0.6
CDITO	**Canoas** CDITO	0.43	87		Sg	Pg Sg	01 03 01.8 01 03 08.9	-0.5 +0.9
CDITO	**Canoas**	0.43	87		*i*P	Pg	01 03 01.8	-0.5
CDITO	**Canoas**	0.43	87		*e*S	Sg	01 03 08.7	+0.6
CDITO	**Canoas**	0.43	87		*e*P	Pg	01 03 01.8	-0.5
CDITO					*e*S	Sg	01 03 08.9	+0.9
CDITO					*i* P	Pg	01 03 02.2	-0.1
CDITO					*i* S	Sb	01 03 09.2	-0.9
CDITO	comp=Z,60μm,1.0s				IAML		01 03 16.6	
EDP2	**Potrero Grande**	0.48	16		*e*P	Pg	01 03 03.5	+0.3
POTG	**Potrero Grande**	0.53	21		*e*P	Pg	01 03 04.3	+0.2
POTG					*e*S	Sb	01 03 13.6	+0.6
POTG	**Potrero Grande**	0.53	21		*i* P	Pg	01 03 04.2	+0.1
POTG					*i* S	Sg	01 03 11.1	-0.1
POTG	comp=Z,92μm,1.0s				IAML		01 03 14.6	
MLIR3	**Monte Lirio, C**	0.54	64		*i*P	Pg	01 03 04.5	+0.3
MLIR3					*e*S	Sg	01 03 10.9	-0.5
PTPM	**Petroterminale**	0.55	129		*e*P	Pg	01 03 04.4	0.0
PTPM					*e*S	Sb	01 03 14.8	+1.3
EDBA	**Buenos Aires**	0.61	3		*e*P	Pg	01 03 05.5	0.0
BURE	**Buenos Aires** BURE	0.62	358		*e*P *e*S	Pg Sb	01 03 05.8 01 03 16.1	+0.1 +0.7
OCHAL	**Ojochal**	0.64	329		*i* P	Pg	01 03 05.4	-0.7
OCHAL					*i* S	Sg	01 03 14.4	0.0
OCHAL	comp=Z,270nm,1.0s				IAML		01 03 23.9	
BRU2	**Volcan**	0.66	69			Pg	01 03 06.2	-0.4
BRU2				Sg		Sg	01 03 15.8	+0.6
BRU2	**Volcan**	0.66	69		*i*P	Pg	01 03 06.2	-0.4
BRU2					*e*S	Sn	01 03 19.1	-0.7
BRU2	**Volcan**	0.66	69		*e*P	Pg	01 03 06.2	-0.4
BRU2	**Volcan**	0.66	69		*i* P	Pg	01 03 06.5	0.0
BRU2					*i* S	Sb	01 03 16.3	-0.4
BRU2	comp=Z,53μm,1.0s				IAML		01 03 30.0	
DRK0	**Durika**	0.71	5	Pg		Pg	01 03 07.1	-0.4
BCO2	**Palmira**	0.79	78		*i*P	Pg	01 03 08.4	-0.6
BCO2					*e*S	Sg	01 03 18.2	-1.2
DVD	**David**	0.86	98		*e*P	Pg	01 03 09.1	-1.3
DVD					*e*S	Sb	01 03 22.6	+0.3
PEZE	**Perez Zeledon,**	0.90	336			Pg	01 03 10.1	-1.1
PEZE						Sb	01 03 23.3	-0.3
PEZE	**Perez Zeledon,**	0.90	336		*e*P	Pg	01 03 10.0	-1.1
PEZE	**Perez Zeledon,**	0.90	336		*i* P	Pg	01 03 10.6	-0.5
PEZE					*i* S	Sg	01 03 23.0	+0.1
PEZE	comp=Z,53μm,1.0s				IAML		01 03 26.9	
CDM	**Cerro de Muert**	1.09	336		*e*P	Pg	01 03 13.4	-1.4
CDM	**Cerro de Muert**	1.09	336		*i* P	Pg	01 03 13.6	-1.2
CDM					*i* S	Sb	01 03 29.2	-0.3
CDM	comp=Z,33μm,1.0s				IAML		01 03 33.2	
CNI2	**El Empalme, Bo**	1.20	44		*e*P	Pb	01 03 14.9	-1.7
CNI2					*e*S	Sb	01 03 32.1	0.0
LLNJ	**Naranjito**	1.20	320		*e*P	Pb	01 03 14.6	-2.1
CHGR2	**Aguacate**	1.22	72		*e*P	Pn	01 03 14.6	-2.2
CHGR2					*e*S	Sb	01 03 31.7	-1.0
RAZU	**San Marcos de**	1.30	327		*e*P	Pn	01 03 17.2	-1.0
RIMA	**Rio Macho**	1.32	336			Pn	01 03 17.0	-1.5
ABE2	**San Pablo**	1.36	327		*e*P	Pn	01 03 17.9	-1.1
LCR2	**La Lucha 2**	1.37	330			Pn	01 03 18.0	-1.1
LCR2	**La Lucha 2**	1.37	330		*e*P	Pn	01 03 17.8	-1.2
LCR2	**La Lucha 2**	1.37	330		*i* P	Pn	01 03 18.6	-0.5
LCR2					*i* S	Sn	01 03 37.5	+0.1
LCR2	comp=Z,13μm,1.0s				IAML		01 03 42.4	
REPA	**Paraso**	1.38	337		*e*P	Pn	01 03 19.2	0.0
TURIB	**Turrialba**	1.40	345		*e*P	Pn	01 03 18.3	-1.1
PCAYA	**Pacayas**	1.44	340		*e*P	Pn	01 03 19.4	-0.8
OCM	**Ochomogo**	1.48	334		*e*P	Pn	01 03 19.5	-1.1
OCM	**Ochomogo**	1.48	334		*i* P	Pn	01 03 19.7	-0.9
OCM					*i* S	Sb	01 03 40.3	-0.1
OCM	comp=Z,12μm,1.0s				IAML		01 03 47.9	
VTCV	**VTCV, Calle Va**	1.48	344		*e*P	Pn	01 03 19.9	-0.8
VTCV	**VTCV, Calle Va**	1.48	344		*i* P	Pn	01 03 20.0	-0.6
VTCV					*i* S	Sb	01 03 40.4	0.0
VTCV	comp=Z,23μm,1.0s				IAML		01 03 52.2	
ACOS	**Acosta**	1.50	326		*e*P	Pn	01 03 20.3	-0.5
TRIO	**Tres Rios**	1.50	333		*e*P	Pn	01 03 20.0	-1.0
CVTV	**Tajo**	1.51	343		*e*P	Pn	01 03 20.3	-0.8
CVTQ	**Turrialba Volc**	1.51	343		*e*P	Pn	01 03 20.3	-0.9
VICA	**Volcano Irazu**	1.52	340		*e*P	Pn	01 03 21.1	-0.3
VTR0	**Volcan Turrial**	1.52	343		*e*P	Pn	01 03 20.7	-0.7
CVTR	**Volcan Turrial**	1.52	343		*e*P	Pn	01 03 20.6	-0.8
AMPA	**Desamparados**	1.53	331		*e*P	Pn	01 03 20.5	-0.8
VTUN	**Crater Central**	1.53	343		*i* P	Pn	01 03 20.7	-0.8
VTUN					*i* S	Sb	01 03 42.3	+0.3
VTUN	comp=Z,12μm,1.0s				IAML		01 03 46.7	
VTLO	**VTLO**	1.54	345		*e*P	Pn	01 03 20.9	-0.7
LCOCO	**El Coco**	1.54	351		*e*P	Pn	01 03 21.2	-0.1
IRES	**Siquirres**	1.55	353		*e*P	Pn	01 03 21.4	+0.1
CVIMO	**Finca Echandi**	1.59	337		*e*P	Pn	01 03 21.6	-0.6
HDC	**Heredia**	1.64	331			Pn	01 03 22.5	-0.3
HDC	**Heredia**	1.64	331		*e*P	Pn	01 03 22.4	-0.5
HDC	**Heredia**	1.64	331		*e*P	Pn	01 03 22.6	-0.2
HDC3	**Heredia 3**	1.64	331		*i* P	Pn	01 03 22.5	-0.3
HDC3					*i* S	Sb	01 03 45.4	+0.3
HDC3	comp=Z,32μm,1.0s				IAML		01 03 55.1	
JACO	**JACO, Garabito**	1.73	310	Pn		Pn	01 03 23.3	-0.5
JACO	**JACO, Garabito**	1.73	310		*e*P	Pn	01 03 23.1	-0.8
JACO	**JACO, Garabito**	1.73	310		*i* P	Pn	01 03 23.5	-0.4
JACO					*i* S	Sn	01 03 45.9	-0.1
JACO	comp=Z,8μm,1.0s				IAML		01 03 59.3	
TCS1	**Tacares**	1.77	327		*i* P	Pn	01 03 25.3	+0.7
TCS1	comp=Z,210μm,1.0s				IAML		01 03 53.8	
RIFO	**Rio Frio, Sara**	1.85	341		*i* P	Pn	01 03 25.8	+0.2
RIFO					*i* S	Sb	01 03 50.4	-0.6
RIFO	comp=Z,17μm,1.0s				IAML		01 04 11.1	
LAFE	**Finca La Fe, P**	2.01	308		*i* P	Pn	01 03 28.3	+0.5
LAFE					*i* S	Sb	01 03 54.7	-0.9
LAFE	comp=Z,46nm,1.0s				IAML		01 04 05.0	
CPMI	**Catarata Coope**	2.02	329		*e*P	Pn	01 03 28.0	-0.1
CPMI	**Catarata Coope**	2.02	329		*i* P	Pn	01 03 28.6	+0.6

CRIS3 El Cristo, Coc 2.68 96 *e*P **Pn 01 03 35.9 -1.1**
CRIS3 *e*S **Sn 01 04 11.7 +2.2**
CACAO El Cacao, Vera 2.71 116 *i*P **Pn 01 03 39.0 +1.7**
CACAO *e*S **Sn 01 04 09.3 -0.9**
CACAO El Cacao, Vera 2.71 116 P **Pn 01 03 37.0 -0.3**
ORTG Ortega, Santa 2.78 310 **Pn 01 03 37.8 -0.6**
ORTG Ortega, Santa 2.78 310 *i*P **Pn 01 03 38.0 -0.4**
ORTG *i*S **Sn 01 04 13.3 +1.2**
ORTG IAML 01 04 38.6
comp=Z,3µm,1.0s
SAJU San Juanillo, 2.81 303 *i*P **Pn 01 03 39.3 +0.6**
SAJU *i*S **Sn 01 04 13.9 +1.3**
SAJU IAML 01 04 34.2
comp=Z,5µm,1.0s
CHIT3 Chitre 2.92 101 *e*P **Pn 01 03 40.4 +0.1**
CHIT3 *e*S **Sn 01 04 16.3 +0.7**
PNME Penonome 2.95 91 *e*P **Pn 01 03 42.1 +1.4**
PNME *e*S **Sn 01 04 19.1 +2.8**
PNME Penonome 2.95 91 P **Pn 01 03 42.2 +1.5**
AZU Azuero 3.10 104 *i*P **Pn 01 03 44.4 +1.6**
AZU *e*S **Sn 01 04 21.5 +1.6**
AZU Azuero 3.10 104 P **Pn 01 03 44.3 +1.6**
HZTE Horizontes, Gu 3.11 314 Pn **Pn 01 03 43.9 +0.9**
HZTE Horizontes, Gu 3.11 314 *i*P **Pn 01 03 43.6 +0.7**
HZTE *i*S **Sn 01 04 22.0 +1.8**
HZTE IAML 01 04 54.0
comp=Z,4µm,1.0s
BLUN Bluefields 3.46 352 *i*P **Pn 01 03 47.9 +0.2**
BLUN IAML 01 04 04.5
comp=Z,1µm,1.0s
BLUN *i*S **Sn 01 04 30.8 +2.0**
BCIP Isla Barro Col 3.49 80 Pn **Pn 01 03 48.9 +0.8**
BCIP Isla Barro Col 3.49 80 *i*P **Pn 01 03 49.2 +1.1**
BCIP *e*S **Sb 01 04 37.9 -0.2**
BCIP Isla Barro Col 3.49 80 *e*P **Pn 01 03 48.7 +0.7**
BCIP Isla Barro Col 3.49 80 P **Pn 01 03 49.2 +1.1**
BCIP Isla Barro Col 3.49 80 *i*P **Pn 01 03 49.4 +1.3**
BCIP *i*S **Sn 01 04 31.4 +2.0**
BCIP IAML 01 04 59.4
comp=Z,2µm,1.0s
OMEN Al SSO del Vol 3.72 322 *i*P **Pn 01 03 50.8 -0.5**
OMEN IAML 01 04 05.4
comp=Z,540nm,1.0s
OMEN *i*S **Sn 01 04 36.6 +1.4**
ESPN Las Esperanzas 3.75 345 **Pn 01 03 51.5 -0.1**
ESPN Las Esperanzas 3.75 345 *i*P **Pn 01 03 52.3 +0.6**
ESPN *i*S **Sn 01 04 37.2 +1.3**
ESPN IAML 01 04 58.7
comp=Z,2µm,1.0s
UPA Univ. de Panam 3.76 83 P **Pn 01 03 52.5 +0.7**
ACON Acoyapa 3.86 332 **Pn 01 03 53.5 +0.3**
ACON Acoyapa 3.86 332 P **Pn 01 03 53.5 +0.3**
ACON Acoyapa 3.86 332 *i*P **Pn 01 03 53.5 +0.3**
ACON *i*S **Sn 01 04 39.3 +0.7**
ACON IAML 01 04 55.1
comp=Z,1µm,1.0s
CHPO Chepo, Panama 4.19 81 *e*S **Sb 01 04 55.3 -3.1**
CNTA3 Canitas, Panam 4.42 81 *e*P **Pb 01 04 07.5 -4.0**
CNTA3 *e*S **Sb 01 05 04.3 -0.6**
MAS3 Al N del Volca 4.46 321 *i*P **Pn 01 04 02.2 +0.8**
MAS3 IAML 01 05 32.3
comp=Z,650nm,1.0s
BOAB BOACO BROADBAN 4.51 329 Pn **Pn 01 04 01.9 -0.3**
BOAB BOACO BROADBAN 4.51 329 *i*P **Pn 01 04 03.3 +1.1**
BOAB *i*S **Sn 01 04 56.6 +1.9**
BOAB IAML 01 05 22.1
comp=Z,790nm,1.0s
WILN Americas 2 4.57 322 *i*P **Pn 01 04 04.0 +1.1**
WILN IAML 01 05 54.3
comp=Z,510nm,1.0s
UNAN Cigeo UNAN 4.58 321 *i*P **Pn 01 04 02.9 -0.2**
TISN Laguna Tiscapa 4.60 321 *i*P **Pn 01 04 03.4 -0.1**
TISN IAML 01 05 20.6
comp=Z,26nm,1.0s
APQ2 Apoyeque 4.68 321 *i*P **Pn 01 04 05.1 +0.6**
APQ2 IAML 01 05 17.4
comp=Z,440nm,1.0s
SAPS Ciudad Sandino 4.71 320 *i*P **Pn 01 04 04.6 -0.3**
SAPS IAML 01 05 08.3
comp=Z,380nm,1.0s
COPN Copaltepe 4.84 318 *i*P **Pn 01 04 07.1 +0.4**
COPN IAML 01 04 25.5
comp=Z,830nm,1.0s
MOM2 El Cardon 4.96 321 *i*P **Pn 01 04 09.0 +0.6**
MOM2 IAML 01 04 29.3
comp=Z,350nm,1.0s
MOM2 *i*S **Sn 01 05 08.0 +2.1**
MOMN Momotombo 4.98 321 *i*P **Pn 01 04 08.9 +0.3**
MOMN IAML 01 04 23.6
comp=Z,12nm,1.0s
MOMN *i*S **Sn 01 05 06.9 +0.6**
LEVN Ruinas Leon Vi 5.02 320 *i*P **Pn 01 04 09.8 +0.7**
LEVN IAmb IAmb 01 04 17.0
comp=Z,330nm,0.8s
LEVN *i*S **Sn 01 05 08.3 +1.0**
LEVN IAML 01 06 00.8
comp=Z,410nm,1.0s
MATN Matagalpa 5.05 330 **Pn 01 04 09.8 +0.1**
MATN Matagalpa 5.05 330 *e*P **Pn 01 04 10.7 +1.0**
MATN Matagalpa 5.05 330 *i*P **Pn 01 04 10.1 +0.4**
MATN IAML 01 04 28.9
comp=Z,380nm,1.0s
MATN IVmB_BB 01 04 28.9
comp=Z,3µm,1.0s
MATN IAmb IAmb 01 04 28.9
comp=Z,370nm,0.8s
MATN *i*S **Sn 01 05 10.2 +2.0**
MACN El Madrono 5.11 320 *i*P **Pn 01 04 10.7 +0.3**
MACN IAML 01 04 21.2
comp=Z,170nm,1.0s
MACN IVmB_BB 01 04 21.2
comp=Z,2µm,1.0s
MACN IAmb IAmb 01 04 21.3
comp=Z,73nm,0.4s
MACN *i*S **Sn 01 05 10.2 +0.8**
CNGA Al SSO del Vol 5.14 320 *i*P **Pn 01 04 11.1 +0.2**
CNGA IVmB_BB 01 04 44.7
comp=Z,7µm,1.0s
CNGA IAML 01 04 45.1
comp=Z,200nm,1.0s
CNGA *i*S **Sn 01 05 10.9 +0.5**
CNGN Cerro Negro 5.15 320 Pn **Pn 01 04 11.0 0.0**
CNGN Cerro Negro 5.15 320 P **Pn 01 04 13.0 +2.1**
comp=Z,306nm,1.0s,comp=Z,3µm
CNGN Cerro Negro 5.15 320 *i*P **Pn 01 04 10.4 -0.5**
CNGN IAmb IAmb 01 04 28.5
comp=Z,310nm,0.9s
CNGN IVmB_BB 01 04 46.9
comp=Z,3µm,1.0s
CNGN *i*S **Sn 01 05 11.1 +0.6**
CNGN IAML 01 05 59.4
comp=Z,500nm,1.0s
PRVC Isla de Provid 5.16 22 P **Pn 01 04 10.5 -0.6**
comp=Z,167nm,0.9s,comp=Z,2µm
ILCN San Idelfonso 5.21 320 *i*P **Pn 01 04 12.2 +0.5**
ILCN IAML 01 04 31.5
comp=Z,120nm,1.0s
ILCN IAmb IAmb 01 04 32.0
comp=Z,88nm,0.8s
ILCN IVmB_BB 01 04 57.5
comp=Z,5µm,1.0s
ILCN *i*S **Sn 01 05 12.9 +1.0**
PACN Al O del Volca 5.21 319 *i*P **Pn 01 04 12.1 +0.4**
PACN IAmb IAmb 01 04 19.7
comp=Z,120nm,0.8s
PACN IVmB_BB 01 05 01.8
comp=Z,15µm,1.0s
PACN IAML 01 05 01.9
comp=Z,330nm,1.0s
PACN *i*S **Sn 01 05 12.4 +0.5**
UPD2 Meteti 5.24 90 P **Pn 01 04 13.5 +1.3**
comp=Z,364nm,1.0s,comp=Z,4µm
TEL3 Telica 3 5.29 319 *i*P **Pn 01 04 12.9 -0.1**
TEL3 IVmB_BB 01 04 21.9
comp=Z,8µm,1.0s
TEL3 IAML 01 04 22.4
comp=Z,1µm,1.0s
TEL3 IAmb IAmb 01 04 22.4
comp=Z,1µm,0.9s
HERN Volcan Telica 5.31 320 *i*P **Pn 01 04 13.3 0.0**
HERN IVmB_BB 01 04 22.0
comp=Z,10µm,1.0s
HERN IAmb IAmb 01 04 30.7
comp=Z,220nm,0.8s
HERN IAML 01 04 34.3
comp=Z,500nm,1.0s
HERN *i*S **Sn 01 05 15.5 +0.9**
SIUN Universidad Ur 5.33 345 *i*P **Pn 01 04 13.3 -0.1**
SIUN IAmb IAmb 01 04 38.4
comp=Z,94nm,0.7s
SIUN IVmB_BB 01 04 58.8
comp=Z,2µm,1.0s
SIUN *i*S **Sn 01 05 16.5 +1.6**
SIUN IAML 01 05 49.2
comp=Z,160nm,1.0s
LIMN Finca el Limon 5.39 326 *i*P **Pn 01 04 14.9 +0.5**
LIMN IAML 01 04 20.2
comp=Z,450nm,1.0s
LIMN IVmB_BB 01 04 20.2
comp=Z,4µm,1.0s
LIMN IAmb IAmb 01 04 20.6
comp=Z,450nm,0.8s
LIMN *i*S **Sn 01 05 17.7 +1.1**
PKGN Cerro Pekin 5.45 319 *i*P **Pn 01 04 14.8 -0.3**
PKGN IAmb IAmb 01 04 34.0
comp=Z,600nm,0.8s
PKGN IVmB_BB 01 05 13.2
comp=Z,29µm,1.0s
PKGN IAML 01 05 13.3
comp=Z,2µm,1.0s
CRIN San Cristobal 5.52 319 **Pn 01 04 16.6 +0.5**
CRIN San Cristobal 5.52 319 P **Pn 01 04 19.6 +3.5**
comp=Z,587nm,0.8s,comp=Z,6µm
CRIN San Cristobal 5.52 319 *i*P **Pn 01 04 16.0 -0.1**
CRIN IAML 01 04 27.8
comp=Z,720nm,1.0s
CRIN IVmB_BB 01 04 27.8
comp=Z,6µm,1.0s
CRIN IAmb IAmb 01 04 27.9
comp=Z,590nm,0.8s
CRIN *i*S **Sn 01 05 20.4 +0.6**
CSGN Cosiguina Volc 6.06 317 *i*P **Pn 01 04 23.2 -0.4**
CSGN IAML 01 04 28.9
comp=Z,1µm,1.0s
CSGN IVmB_BB 01 04 29.6
comp=Z,9µm,1.0s
CSGN IAmb IAmb 01 04 30.0
comp=Z,950nm,0.6s
APAC Apartado, Choc 6.69 95 P **Pn 01 04 35.7 +3.5**
comp=Z,95nm,1.1s
TGUH Tegucigalpa,Un 6.71 325 **Pn 01 04 33.0 +0.5**
TGUH Tegucigalpa,Un 6.71 325 P **Pn 01 04 34.7 +2.2**
comp=Z,269nm,1.0s,comp=Z,2µm
PACA Pacayal 6.93 315 *i*P **Pn 01 04 35.9 +0.3**
PACA IAML 01 04 44.7
comp=Z,2µm,1.0s
PACA IAmb IAmb 01 04 44.8
comp=Z,1µm,0.8s
PACA IVmB_BB 01 04 58.0
comp=Z,10µm,1.0s
PACA *i*S **Sn 01 05 55.5 +0.8**
PAVA Las Pavas 7.53 313 *i*P **Pn 01 04 43.6 -0.2**
PAVA IAML 01 04 51.0
comp=Z,410nm,1.0s
PAVA IAmb IAmb 01 04 51.1
comp=Z,340nm,0.9s
PAVA *i*S **Sn 01 06 10.3 +0.8**
SNET Serv Nac Est T 7.73 312 Pn **Pn 01 04 47.0 +0.5**
UREC San Jos de Ur 7.74 95 P **Pn 01 04 48.0 +1.4**
comp=Z,32nm,0.9s,comp=Z,4µm
PLMC San Jos del P 7.86 117 P **Pn 01 04 46.6 -1.7**
comp=Z,14nm,0.9s
SJCC San Jacinto, C 8.14 80 P **Pn 01 04 54.5 +2.4**
comp=Z,77nm,1.1s,comp=Z,991nm
NUBE Las Nubes 8.28 311 *i*P **Pn 01 04 54.3 +0.2**
NUBE IAmb IAmb 01 05 15.2
comp=Z,180nm,0.9s
NUBE *i*S **Sn 01 06 25.3 -2.5**
YOTC Yotoco, Valle 8.28 123 P **Pn 01 04 56.6 +2.5**
comp=Z,14nm,1.0s
MTO3 Montecristo 8.30 315 **Pn 01 04 55.3 +0.9**
ESQI Esquipulas 8.40 316 Pn **Pn 01 04 55.9 +0.2**
APG El Apazote 9.49 313 LR LR 01 08 49.5
comp=Z,31nm,19.5s,baz=168,slow=37
OTAV Otavalo 9.57 149 **Pn 01 05 13.6 +1.4**
OTAV Otavalo 9.57 149 *e*P **Pn 01 05 13.6 +1.4**
ROSC El Rosal 9.66 112 Pn **Pn 01 05 15.6 +2.4**
IMBA Imbabura, San 9.67 148 Pn **Pn 01 05 14.9 +1.4**
PULU Pululahua 9.73 150 **Pn 01 05 15.4 +1.1**
SLOR San Lorenzo - 10.39 152 Pn **Pn 01 05 26.6 +3.1**
HUEH Huehuetenango 10.46 311 Pn **Pn 01 05 25.6 +1.5**
PETF Flores 10.48 323 Pn **Pn 01 05 23.6 -0.6**
CHSH Refugio Sur-Vo 10.92 156 Pn **Pn 01 05 32.8 +2.1**
CCIG Comitan 11.54 313 Pn **Pn 01 05 40.1 +1.3**
COHC Cochancay 11.67 160 **Pn 01 05 41.6 +1.2**
ARNL Arenillas 12.45 165 Pn **Pn 01 05 50.6 -0.5**
SDV Santo Domingo 12.54 88 Pn **Pn 01 05 52.9 +0.4**
SDV Santo Domingo 12.54 88 Pn **Pn 01 05 54.0 +1.5**
comp=Z,0.6nm,0.3s,baz=271,slow=8.6,SNR=8.0
SDV LR LR 01 11 23.4
comp=Z,440nm,18.5s,baz=272,slow=41
SDV Santo Domingo 12.54 88 *e*P **Pn 01 05 53.7 +1.2**
TEIG Tepich 12.56 338 LR LR 01 10 36.4
comp=Z,4µm,21.0s,baz=302,slow=37
MCRA Macar, Loja 13.27 165 **Pn 01 06 03.0 +0.6**
CMIG Matias Romero 14.11 308 Pn **Pn 01 06 15.3 +1.4**
comp=Z,0.9nm,0.3s,baz=126,slow=12,SNR=9.6
comp=Z,8.5nm,0.6s
SOR Soroa 14.16 1 Pn **Pn 01 06 15.3 +0.8**
NMDO Nuevo Mundo 14.40 33 Pn **Pn 01 06 17.5 -0.2**
BAUV El Baul 15.10 87 **Pn 01 06 26.3 -1.0**
BAUV IAmb IAmb 01 06 33.7
comp=Z,48nm,1.0s
SDDR Presa de Saban 15.61 47 Pn **Pn 01 06 34.6 +0.6**
ATAH Atahualpa 16.34 162 Pn **P 01 06 50.1 +3.4**
baz=12,slow=8.0
ATAH LR LR 01 12 18.2
comp=Z,678nm,19.4s,baz=343,slow=34
TLIG Tlapa 17.34 303 **Pn 01 06 55.8 -0.3**
MLPR Magueyes Islan 18.38 58 P **Pn 01 07 08.2 -0.7**
TBTG Tabatinga, AM 18.41 133 **P 01 07 08.2 -1.0**
PCRV Puerto La Cruz 18.50 84 Pn **Pn 01 07 10.6 +0.2**
comp=Z,1.3nm,0.3s,baz=263,slow=5.7,SNR=6.6
PCRV LR LR 01 15 10.8
comp=Z,385nm,19.0s,slow=40
comp=Z,12nm,0.8s
OBIP Obispado Ponce 18.78 58 P **P 01 07 12.9 -0.4**
UUPR Utuado, UPR, P 18.78 57 P **Pn 01 07 13.8 0.0**
AOPR Arecibo Observ 18.80 57 P **P 01 07 13.8 +0.2**
AOPR IAmb IAmb 01 07 18.4
comp=Z,73nm,1.1s
CELP Cerrillos 18.82 58 P **P 01 07 13.6 -0.1**
IGPR InterUniversit 19.17 59 P **P 01 07 17.5 0.0**
CZSB Cruzeiro do Su 19.32 147 P **P 01 07 18.5 -0.8**
CZSB IAmb IAmb 01 07 25.8
comp=Z,67nm,1.4s
CZSB Cruzeiro do Su 19.32 147 *e*P **Pn 01 07 20.6 +0.2**
GCPR Guaynabo City 19.34 58 P **P 01 07 19.9 +0.4**
HUMP Col San Antoni 19.46 59 P **P 01 07 20.5 -0.3**
MOIG Morelia 20.54 304 P **P 01 07 32.0 -0.8**
MOIG IAmb IAmb 01 07 44.4
comp=Z,42nm,0.9s
NNA Nana 21.39 162 P **P 01 07 42.6 +0.8**
comp=Z,3.8nm,0.3s,baz=25,slow=5.5,SNR=3.6
comp=Z,3.8nm,0.3s
SMRT St. Maarten 21.82 62 P **P 01 07 45.9 -0.5**
SMRT IAmb IAmb 01 08 04.3
comp=Z,103nm,1.5s
BOAV Boa Vista 23.48 104 P **P 01 08 04.0 +0.1**
BOAV Boa Vista 23.48 104 *e*P **P 01 08 05.2 +1.3**
HKT Hockley 24.31 333 P **P 01 08 11.1 -0.4**
HKT IAmb IAmb 01 08 14.3
comp=Z,51nm,1.9s
VBMS Vicksburg 24.48 345 P **P 01 08 12.4 -0.7**
146A Union 24.55 348 P **P 01 08 13.1 -0.7**
GOGA Godfrey 24.74 360 P **P 01 08 16.0 +0.6**
GOGA IAmb IAmb 01 08 19.1
comp=Z,30nm,1.1s
833A Chaparral WMA, 24.83 324 P **P 01 08 16.0 -0.3**
ETMB Extrema 24.96 137 P **P 01 08 16.6 -1.0**
Y52A Lilburn 25.20 359 P **P 01 08 18.9 -0.7**
Y52A IAmb IAmb 01 08 23.6
comp=Z,39nm,1.1s
MACA Manacapuru-AM 25.39 116 P **P 01 08 21.2 -0.3**
MACA IAmb IAmb 01 08 28.9
comp=Z,18nm,0.8s
Z41A Richland Creek 26.10 342 P **P 01 08 27.1 -0.7**
SAML Samuel 26.54 130 P **P 01 08 32.2 +0.3**
SAML Samuel 26.54 130 P **P 01 08 28.5 -3.4**
SAML Samuel 26.54 130 P **P 01 08 33.9 +2.0**
WLAR White Oak Lake 26.60 342 P **P 01 08 32.2 -0.1**
WLAR IAmb IAmb 01 08 37.7
comp=Z,32nm,1.0s
TKL Tuckaleechee C 26.98 359 LR LR 01 19 40.8
comp=Z,380nm,19.0s,baz=176,slow=38
GNAR Gosnell 27.96 348 P **P 01 08 44.6 +0.1**
TXAR Lajitas Array 28.16 320 P **P 01 08 46.4 -0.1**
TXAR Lajitas Array 28.16 320 P **P 01 08 47.3 +0.8**
comp=Z,0.4nm,0.7s,baz=115,slow=8.4,SNR=4.1
comp=Z,0.4nm,0.7s
LCAR Lake Charles 28.31 347 P **P 01 08 46.9 -0.7**
FCAR Ozark Folk Cen 28.38 345 P **P 01 08 47.5 -0.7**
FCAR IAmb IAmb 01 08 49.4
comp=Z,27nm,1.3s
H06E1 SOCORRO T-PHAS 28.65 294 T T 01 38 37.6
SNR=16
PB16 IPOC Station P 29.99 153 P **P 01 09 04.3 +0.9**
CCM Cathedral Cave 30.23 348 P **P 01 09 03.9 -0.8**
CCM IAmb IAmb 01 09 09.3
comp=Z,20nm,0.9s
ITTB Itaituba 30.35 114 *e*P **P 01 09 08.7 +2.7**
GO01 Chusmiza 31.30 154 P **P 01 09 15.6 +0.7**
GO01 IAmb IAmb 01 09 20.4
comp=Z,14nm,1.4s
VILB Vilhena 31.36 133 P **P 01 09 14.0 -0.9**
VILB IAmb IAmb 01 09 16.0
comp=Z,12nm,1.1s
P40A Paris 31.82 347 P **P 01 09 18.2 -0.5**
P40A IAmb IAmb 01 09 20.3
comp=Z,15nm,0.8s
N41A Harden Midland 32.72 349 P **P 01 09 24.8 -1.7**
SIV San Ignacio 32.86 138 LR LR 01 24 33.9
comp=Z,198nm,18.3s,baz=278,slow=40
319A Douglas 33.17 317 P **P 01 09 31.3 +0.5**
N38A Joes South For 33.30 346 P **P 01 09 30.3 -1.3**
PTLB Pontes e Lacer 33.80 135 P **P 01 09 34.9 -1.3**
N35A Tabor 33.99 343 P **P 01 09 36.9 -0.8**
BBSD Serra de San D 34.03 139 *e*P **P 01 09 37.9 -0.3**
SCIA State Center 34.35 347 P **P 01 09 40.1 -0.7**
I42A Draeger Farm, 35.54 353 P **P 01 09 50.2 -0.8**
I42A IAmb IAmb 01 10 07.1
comp=Z,23nm,1.4s
SADO Sadowa 36.26 5 LR LR 01 24 18.4
comp=Z,194nm,19.4s,baz=255,slow=36
ECSD EROS Data Cent 36.92 344 P **P 01 10 02.1 -0.8**
ECSD IAmb IAmb 01 10 08.7
comp=Z,20nm,1.0s
AC02 Maricunga 37.77 159 P **P 01 10 12.0 +1.2**
G62A West of Eustis 38.17 15 P **P 01 10 13.9 +0.6**
F36A Milaca 38.20 348 P **P 01 10 12.2 -1.5**
SUSD Miller 38.25 342 P **P 01 10 13.5 -0.6**
F33A 5 Mile Ranch, 38.80 345 P **P 01 10 17.3 -1.4**
F33A IAmb IAmb 01 10 19.2
comp=Z,18nm,0.8s
AQDB Aquidauana 39.62 137 *e*P **P 01 10 25.7 -0.1**
EYMN Ely 39.87 351 P **P 01 10 27.2 -0.3**
E28A Huff 40.71 342 P **P 01 10 34.4 -0.1**
E28A IAmb IAmb 01 10 36.1
comp=Z,31nm,1.1s
AGMN Agassiz Nation 41.01 347 P **P 01 10 35.4 -1.6**
PDAR Pinedale Array 41.13 330 P **P 01 10 37.9 -0.6**
comp=Z,0.6nm,0.8s,baz=167,slow=4.4,SNR=2.9
PDAR PcP **PcP 01 12 38.5 +0.6**
comp=Z,1.1nm,0.9s,baz=123,slow=6.7,SNR=5.2
comp=Z,0.6nm,0.8s
BATG Bathurst New B 41.29 18 P **P 01 10 40.1 +0.7**
MDND Maddock 41.53 343 P **P 01 10 41.0 -0.2**
AMBA Amambai (Brazi 41.80 139 *e*P **P 01 10 45.8 +2.0**
H03N2 Juan Fernandez 41.97 175 T T 01 55 20.8
baz=354,slow=76,SNR=12
H03N1 Juan Fernandez 41.97 174 T T 01 55 18.1
baz=354,slow=76,SNR=16
H03N3 Juan Fernandez 41.98 175 T T 01 55 17.4
baz=354,slow=76,SNR=21
BDFB Brasilia 42.43 124 P **P 01 10 48.4 -0.7**
comp=Z,0.9nm,0.5s,baz=270,slow=7.1,SNR=1.9
BDFB LR LR 01 28 12.7
comp=Z,126nm,20.7s,baz=331,slow=36
comp=Z,0.9nm,0.5s
ULM Lac du Bonnet 42.86 348 P **P 01 10 50.3 -1.8**
ULM IAmb IAmb 01 10 52.0
comp=Z,18nm,0.9s
ULM Lac du Bonnet 42.86 348 P **P 01 10 50.8 -1.3**
comp=Z,13nm,0.9s,baz=154,slow=8.0,SNR=20
comp=Z,13nm,0.9s
NVAR Mina Array Bea 43.30 319 P **P 01 10 57.1 +1.0**
NVAR Mina Array Bea 43.30 319 P **P 01 10 58.4 +2.2**
comp=Z,3.4nm,0.9s,baz=137,slow=7.5,SNR=9.9
comp=Z,3.4nm,0.9s
SDBA SAO DESIDERIO 43.48 118 *e*P **P 01 10 59.9 +2.2**
DGMT Dagmar 43.51 340 P **P 01 10 58.0 +0.5**
DGMT IAmb IAmb 01 10 59.8
comp=Z,20nm,1.1s
RPN Rapa Nui 43.52 215 LR LR 01 24 14.7
comp=Z,218nm,21.2s,baz=9,slow=29
ITQB Itaqui 45.87 147 P **P 01 11 17.6 +1.2**
ITQB IAmb IAmb 01 11 20.4
comp=Z,20nm,1.2s
ORV Oroville 46.00 318 P **P 01 11 18.1 +0.7**
ORV IAmb IAmb 01 11 27.2
comp=Z,17nm,1.2s
PSAL Palomas, Salto 46.48 149 *e*P **P 01 11 21.9 +0.7**
SCHQ Schefferville 47.99 13 P **P 01 11 31.6 -1.1**
SCHQ IAmb IAmb 01 11 36.9
comp=Z,14nm,1.1s
SCHQ Schefferville 47.99 13 P **P 01 11 31.8 -0.9**
comp=Z,6.7nm,0.8s,baz=193,slow=6.8,SNR=9.1
comp=Z,6.7nm,0.8s
FFC Flin Flon 48.40 346 P **P 01 11 35.6 -0.2**
FFC IAmb IAmb 01 11 42.5
comp=Z,12nm,1.1s
PLTB Pedras Altas 49.13 146 P **P 01 11 43.3 +1.5**
PLTB IAmb IAmb 01 11 45.7
comp=Z,34nm,1.8s
CMC01 Camacan, BA 49.47 119 *e*P **P 01 11 45.9 +1.3**
SJMB Sao Joao De Ma 49.60 123 *e*P **P 01 11 48.2 +2.6**
GUA01 Guaratinga, BA 49.76 120 *e*P **P 01 11 49.2 +2.3**
PLCA Paso Flores 50.43 167 P **P 01 11 51.5 -0.2**
PLCA IAmb IAmb 01 11 55.5
comp=Z,16nm,1.4s
PLCA Paso Flores 50.43 167 P **P 01 11 51.7 +0.1**
comp=Z,4.1nm,0.9s,baz=349,slow=7.9,SNR=11
comp=Z,4.1nm,0.9s
PLCA Paso Flores 50.43 167 *e*P **P 01 11 51.5 -0.2**
EDM Edmonton 50.74 337 P **P 01 11 53.6 -0.2**
LL02 Futaleuf 52.54 169 P **P 01 12 07.1 -0.2**
LL02 IAmb IAmb 01 12 11.5
comp=Z,19nm,1.2s
FRB Frobisher Bay 56.11 8 LR LR 01 37 01.5
comp=Z,212nm,18.2s,baz=203,slow=37
YKA Yellowknife Ar 58.45 344 P **P 01 12 49.0 -0.6**
YKA Yellowknife Ar 58.45 344 P **P 01 12 49.3 -0.3**
comp=Z,2.6nm,0.8s,baz=140,slow=6.8,SNR=30
comp=Z,2.6nm,0.8s
MMPY Sheldon Lake, 64.07 338 P **P 01 13 27.9 +0.1**
MMPY IAmb IAmb 01 13 35.5
comp=Z,9.8nm,1.2s
UPNV Upernavik 66.23 9 *i*P **P 01 13 40.4 -1.1**
RES Resolute Bay 66.43 357 P **P 01 13 42.0 -0.7**
RES IAmb IAmb 01 13 49.1
comp=Z,14nm,1.4s
RES Resolute Bay 66.43 357 LR LR 01 44 16.2
comp=Z,184nm,18.0s,baz=214,slow=37
ICESG Greenland Ices 66.75 16 *i*P **P 01 13 41.8 -3.5**
ICESG IAmb IAmb 01 13 49.5
comp=Z,11nm,1.0s
J30M Hart River 67.04 338 P **P 01 13 47.5 +0.5**
DAWY Dawson 67.95 337 P **P 01 13 52.7 0.0**
DAWY IAmb IAmb 01 14 08.6
comp=Z,22nm,1.9s
INK Inuvik 68.13 342 P **P 01 13 53.6 0.0**
A36M Sachs Harbour 68.33 347 P **P 01 13 54.1 -0.7**
A36M IAmb IAmb 01 14 02.9
comp=Z,11nm,1.0s
BCAR Beaver Creek A 68.47 335 P **P 01 13 56.3 +0.4**
SUMG Summit 69.39 13 P **P 01 14 00.9 -1.0**
SUMG Summit 69.39 13 *i*P **P 01 14 00.0 -1.9**
SUMG IAmb IAmb 01 14 05.7
comp=Z,20nm,1.0s
SCRK Sand Creek 69.74 336 P **P 01 14 04.1 +0.1**
SCRK IAmb IAmb 01 14 12.9
comp=Z,16nm,1.5s
RIDG Independent Ri 70.00 335 P **P 01 14 05.8 +0.4**
RIDG IAmb IAmb 01 14 19.3

comp=Z,14nm,1.1s
SCM Sheep Creek Mo 70.39 333 P **P** 01 14 07.6 -0.2
PPT2 Papeete2 70.41 248 *e*LR LR 01 35 26.4
comp=Z,64nm,26.0s
PPT2 *e*LR LR 01 35 31.7
comp=Z,78nm,22.8s
J25K Salcha River, 70.54 336 P **P** **01 14 09.5 +0.7**
J25K IAmb IAmb 01 14 18.1
comp=Z,9.5nm,1.1s
BORG Borgarnes 70.56 24 LR LR 01 42 30.6
comp=Z,74nm,19.3s,baz=258,slow=34
NEEM North Greenlan 70.90 7 *i* P **P** **01 14 10.0 -1.0**
NEEM IAmb IAmb 01 14 12.2
comp=Z,29nm,1.0s
GHO Glory Hole Cre 71.09 333 P **P** **01 14 12.7 +0.6**
GHO IAmb IAmb 01 14 15.4
comp=Z,8.0nm,0.9s
ILAR Eielson Array 71.21 336 P **P** **01 14 13.2 +0.4**
ILAR Eielson Array 71.21 336 P **P** **01 14 13.3 +0.6**
comp=Z,3.9nm,0.9s,baz=115,slow=4.4,SNR=36
comp=Z,3.9nm,0.9s
BMAR Burnt Mountain 71.35 339 P **P** **01 14 14.1 +0.5**
RND Reindeer 71.56 334 P **P** **01 14 14.5 -0.5**
MDM Murphy Dome 71.81 336 P **P** **01 14 17.0 +0.6**
MDM IAmb IAmb 01 14 23.0
comp=Z,10nm,1.4s
SUA Susitna One 71.83 332 P **P** **01 14 17.1 +0.4**
E25K Arctic Village 71.97 340 P **P** **01 14 17.7 +0.4**
E25K IAmb IAmb 01 14 25.5
comp=Z,7.0nm,1.1s
SCO Scoresbysund 72.64 18 *i* P **P** **01 14 20.2 -0.9**
BPAW Bear Paw Mtn. 72.68 335 P **P** **01 14 21.4 -0.2**
BPAW IAmb IAmb 01 14 29.1
comp=Z,9.2nm,1.1s
MLY Manley 72.85 336 P **P** **01 14 22.7 +0.1**
MLY IAmb IAmb 01 14 25.8
comp=Z,8.0nm,0.9s
IMAR Indian Mountai 74.32 336 P **P** **01 14 31.1 0.0**
G21K Allakaket 74.36 337 P **P** **01 14 31.7 +0.3**
G21K IAmb IAmb 01 14 35.2
comp=Z,11nm,0.9s
ESDC Sonseca Array 76.41 51 P **P** **01 14 43.9 +0.1**
ESDC Sonseca Array 76.41 51 P **P** **01 14 44.0 +0.1**
comp=Z,7.4nm,1.0s,baz=278,slow=6.3,SNR=13
comp=Z,7.4nm,1.0s
JMIC Jan Mayen 77.02 19 LR LR 01 49 27.0
comp=Z,38nm,19.1s,baz=270,slow=36
TIC Toumodi 77.50 85⇑ *e*P **P** **01 14 49.8 -0.6**
comp=Z,4.2nm,0.2s
LIC Lamto 77.55 85⇑ *e*P **P** **01 14 50.6 0.0**
comp=Z,54nm,0.8s
DBIC Dimbokro 77.66 85 P **P** **01 14 51.1 -0.2**
DBIC IAmb IAmb 01 14 57.7
comp=Z,14nm,1.0s
DBIC Dimbokro 77.66 85 P **P** **01 14 50.7 -0.5**
comp=Z,8.1nm,0.8s,baz=278,slow=5.4,SNR=11
comp=Z,8.1nm,0.8s
KIC Kosan Boka 77.81 85⇑ *i* P **P** **01 14 52.3 +0.2**
NOR Nord 78.24 8 *i* P **P** **01 14 52.7 -0.5**
NOR IAmb IAmb 01 14 54.7
comp=Z,10nm,1.4s
TOA0 Torodi Ar. Sit 83.27 78 P **P** **01 15 20.9 -0.4**
TOA0 IAmb IAmb 01 15 31.8
comp=Z,13nm,1.6s
TORD Torodi Ar. Bea 83.27 78 P **P** **01 15 21.2 -0.1**
TORD IAmb IAmb 01 15 28.5
comp=Z,16nm,1.9s
TORD Torodi Ar. Bea 83.27 78 P **P** **01 15 20.9 -0.5**
comp=Z,1.0nm,0.7s,baz=298,slow=4.9,SNR=7.4
comp=Z,1.0nm,0.7s
SPITS Spitsbergen Ar 83.67 12 LR LR 01 54 07.2
comp=Z,112nm,19.4s,baz=242,slow=37
NOA NORSAR Array B 84.77 29 P **P** **01 15 27.6 -0.6**
comp=Z,1.7nm,0.9s,baz=276,slow=4.9,SNR=4.7
NOA LR LR 01 54 10.6
comp=Z,25nm,18.1s,baz=45,slow=36
comp=Z,1.7nm,0.9s
HFS Hagfors 86.13 30 P **P** **01 15 33.8 -1.1**
comp=Z,2.2nm,0.8s,baz=66,slow=3.7,SNR=4.2
comp=Z,2.2nm,0.8s
CLL Collm 87.32 39 *e*P **P** **01 15 40.0 -0.9**
GERES GERESS Array B 88.22 41 P **P** **01 15 45.3 -0.1**
comp=Z,0.5nm,0.6s,baz=46,slow=2.8,SNR=4.6
comp=Z,0.5nm,0.6s
BILL Bilibino 89.59 339 P **P** **01 15 51.9 +0.6**
MODS Modra-Piesok 90.63 41 *e*P **P** **01 15 57.3 +0.6**
VYHS Vyhne 91.61 41 *e*P **P** **01 16 02.7 +1.5**
LANS Liptovska Anna 91.84 40 *e*P **P** **01 16 04.3 +2.0**
MA2 Magadan 99.68 335 LR LR 02 06 24.5
comp=Z,30nm,19.7s,baz=99,slow=38
MDJ Mudanjiang 119.32 334 P **PKiKP** **01 21 44.3 +0.6**
MDJ pmax pmax
comp=Z,7.0nm,1.1s
MDJ pmax pmax
comp=Z,260nm,5.5s
SONM Songino Array 123.20 352 PKP **PKiKP** **01 21 53.0 +1.5**
comp=Z,0.6nm,0.7s,baz=339,slow=3.6,SNR=2.8
MKAR Makanchi Array 123.42 12 PKP **PKPdf** **01 21 51.5 0.0**
comp=Z,0.1nm,0.6s,baz=298,slow=3.1,SNR=1.7
KSRS Korea Array 125.70 329 PKP **PKiKP** **01 21 58.8 +2.3**
comp=Z,1.9nm,0.7s,baz=4.7,slow=1.7,SNR=7.9
WMQ Urumqi 127.24 8 *e*P **PKiKP** **01 22 00.7 +1.2**
WMQ pmax pmax
comp=Z,12nm,0.6s
HHC Hu-ho-hao-te 128.97 345 *e*P **PKPdf** **01 21 56.5 -5.9**
HHC Hu-ho-hao-te 128.97 345 *e*P **PKPdf** **01 22 02.1 -0.3**
BTO Baotou 129.56 347 *e*P PKPpre 01 21 51.0
BTO pmax pmax
comp=Z,22nm,0.6s
BTO pmax pmax
comp=Z,150nm,5.0s
NJ2 Nanjing 134.41 333 *e*P **PKPdf** **01 22 13.4 +0.6**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
CD2 Chengdu 140.18 350 PKP **PKPdf** **01 22 22.0 -1.6**
ASAR Alice Springs 141.37 243 PKP **PKPdf** **01 22 24.2 -1.6**
comp=Z,0.6nm,0.6s,baz=110,slow=3.0,SNR=6.5
WRA Warramunga Arr 141.88 249 PKhKP PKPpre 01 22 22.5
comp=Z,2.8nm,1.1s,baz=95,slow=2.4,SNR=8.0
WRA PKP **PKPdf** **01 22 26.0 -0.9**
comp=Z,2.9nm,1.1s,baz=96,slow=2.7,SNR=7.2
PZH PanZhiHua 144.81 352 PKP **PKPdf** **01 22 32.4 +0.4**
CMAR Chiang Mai Arr 153.07 355 PKPbc **PKPbc** **01 22 49.7 -2.9**
comp=Z,0.7nm,0.3s,baz=316,slow=3.8,SNR=4.5

RSNC 03 01:03:52.0±0.0, 7°N±2°×7°3W±°, h138km±4km, ML2.2, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**199**	P	Pn	01 04 10.2	-1.1
BARC				S	Sn	01 04 25.0	-0.9
PAMC	**Pamplona, Colo**	**0.64**	**38**	P	Pn	01 04 12.8	-0.6
PAMC				S	Sn	01 04 29.9	+0.3
RUSC	**La Rusia**	**0.93**	**179**	P	Pn	01 04 14.5	-1.1
RUSC				S	Sn	01 04 33.1	-0.4
TAMC	**Tame, Arauca**	**1.36**	**107**	P	Pn	01 04 18.5	-0.7
PTBC	**PUERTO BERRIO,**	**1.38**	**258**	P	Pn	01 04 17.2	-2.2
PTBC				S	Sn	01 04 37.5	-2.7
OCAC	**Ocana**	**1.42**	**351**	P	Pn	01 04 18.6	-1.4
OCAC				S	Sn	01 04 41.1	-0.2
SPBC	**San Pablo de B**	**1.52**	**220**	P	Pn	01 04 19.2	-1.8
SPBC				S	Sn	01 04 42.1	-1.0
NORC	**Norcasia**	**2.16**	**235**	P	Pn	01 04 27.1	-1.4
NORC				S	Sn	01 04 55.2	-1.2
ROSC	**El Rosal**	**2.32**	**212**	P	Pn	01 04 29.3	-1.4
HELC	**Santa Helena** 19nm,1.0s	**2.50**	**255**	P	Pn	01 04 31.6	-1.3
HELC	**Santa Helena**	**2.50**	**255**	P	Pn	01 04 31.7	-1.2
HELC				S	Sn	01 05 02.5	-1.7
GUY2C	**Guyana, Caldas**	**2.76**	**235**	P	Pn	01 04 36.1	-0.2
GUY2C				S	Sn	01 05 10.9	+0.5
PTGC	**Puerto Gaitan,**	**2.79**	**160**	P	Pn	01 04 33.5	-2.7
PTGC				S	Sn	01 05 07.0	-3.3
CBOC	**Ciudad Bolivar** 15nm,0.9s	**3.05**	**252**	P	Pn	01 04 38.3	-1.4
CBOC	**Ciudad Bolivar**	**3.05**	**252**	P	Pn	01 04 38.4	-1.3
CBOC				S	Sn	01 05 08.7	-7.8
DBBC	**Dabeiba** 31nm,0.7s,11µm	**3.09**	**274**	P	Pn	01 04 38.6	-1.6
DBBC	**Dabeiba**	**3.09**	**274**	S	Sn	01 05 12.9	-4.5
DBBC	**Dabeiba**	**3.09**	**274**	P	Pn	01 04 38.8	-1.4
SJCC	**San Jacinto, C**	**3.68**	**326**	P	Pn	01 04 45.1	-2.7
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	P	Pn	01 04 51.1	-3.2
CRJC				S	Sn	01 05 36.8	-5.9
CAPC	**Capurgana**	**4.58**	**293**	P	Pn	01 05 00.6	+1.0

*IDC **03** 01:25:16.8±1.1, 1°48N×125°35E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=141.7km s-min=17.2km az=65.0*

ISC 03 01:25:17.9±1.2, 1°7N±0°5×12°6E±°, h10km, n7, σ0s44/7, mb3.8/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.06**	**159**	P	**P**	**01 30 23.8**	**0.0**
	1.7nm,0.7s,baz=335,slow=11,SNR=10.0						
	1.7nm,0.7s						
ASAR	**Alice Springs**	**26.41**	**163**	P	**P**	**01 30 55.5**	**+0.6**
	0.3nm,0.6s,baz=344,slow=7.8,SNR=5.5						
	0.3nm,0.6s						
STKA	**Stephens Creek**	**36.58**	**157**	P	**P**	**01 32 23.9**	**-0.3**
	1.0nm,0.6s,baz=330,slow=18,SNR=2.9						
	1.0nm,0.6s						
SONM	**Songino Array**	**48.94**	**343**	P	**P**	**01 34 04.7**	**+0.3**
	0.4nm,0.5s,baz=154,slow=6.6,SNR=2.4						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**58.75**	**326**	P	**P**	**01 35 16.4**	**+0.2**
	0.8nm,0.4s,baz=120,slow=7.4,SNR=31						
	0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**62.99**	**328**	P	**P**	**01 35 44.8**	**-0.1**
	0.6nm,0.4s,baz=131,slow=6.6,SNR=11						
	0.6nm,0.4s						
BVAR	**Borovoye Array**	**68.56**	**328**	P	**P**	**01 36 20.4**	**-0.4**
	0.9nm,0.8s,baz=134,slow=6.2,SNR=3.8						
	0.9nm,0.8s						

ROM 03 01:26:33.4±0.1, 38°496N±0°009×14°515E±0°007, h22km±1km, ML1.5/4, Error ellipse: s-maj=0.8km s-min=0.7km az=347.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVGP	**Vulcano Grotta**	**0.36**	**106**	P	Pb	01 26 41.1	-0.1
IVGP				S	Sb	01 26 47.2	+0.7
IVGP				AML	AML		
	comp=N,982µm,0.3s						
IVGP				AML	AML		
	comp=E,872µm,0.3s						
IVGP				AML	AML		
	comp=N,131µm,0.3s						
IVGP				AML	AML		
	comp=E,92µm,0.1s						
VPL	**Vulcano Piano**	**0.39**	**107**	P	Pb	01 26 41.7	+0.1
VPL				S	Sb	01 26 48.0	+0.8
VPL				AML	AML		
	comp=N,1012µm,0.4s						
VPL				AML	AML		
	comp=E,853µm,0.5s						
MSFR	**San Fratello**	**0.47**	**173**	P	Pb	01 26 42.7	-0.3
MSFR				AML	AML		
MSFR				AML	AML		
	comp=E,202µm,1.4s						
MSFR				AML	AML		
	comp=N,218µm,1.1s						
MSFR				AML	AML		
	comp=E,202µm,0.6s						
MSFR				AML	AML		
	comp=N,200µm,0.3s						
MSFR				AML	AML		
	comp=E,49µm,0.2s						
MUCR	**Ucria**	**0.53**	**148**	P	Pb	01 26 44.0	-0.2
MUCR				AML	AML		
MUCR				AML	AML		
	comp=E,764µm,0.4s						
MUCR				AML	AML		
	comp=N,947µm,1.3s						
MUCR				AML	AML		
	comp=E,428µm,1.6s						
MUCR				AML	AML		
	comp=N,652µm,0.6s						
MUCR				AML	AML		
	comp=E,60µm,0.2s						
PLLN	**Pollina**	**0.58**	**210**	P	Pb	01 26 45.1	+0.1
PLLN				AML	AML		
	comp=N,466µm,1.1s						
PLLN				AML	AML		
	comp=E,414µm,0.9s						
PLLN				AML	AML		
	comp=N,466µm,0.9s						
PLLN				AML	AML		
	comp=E,414µm,1.1s						
MILZ	**Milazzo**	**0.61**	**111**	P	Pb	01 26 45.2	-0.1
MILZ				S	Sb	01 26 53.8	+0.4
MILZ				AML	AML		
	comp=E,432µm,1.6s						
MILZ				AML	AML		
	comp=N,645µm,0.5s						
MILZ				AML	AML		
	comp=N,645µm,1.5s						
MILZ				AML	AML		
	comp=E,432µm,0.4s						
GIB	**Gibilmanna**	**0.64**	**217**	P	Pb	01 26 45.9	0.0
IST3	**Stromboli F**	**0.64**	**61**	P	Pb	01 26 46.1	+0.2
IST3				AML	AML		
	comp=E,967µm,1.5s						
IST3				AML	AML		
	comp=N,1210µm,0.6s						
IST3				AML	AML		
	comp=E,967µm,0.5s						
CSLB	**Castelbuono**	**0.66**	**213**	P	Pb	01 26 46.2	-0.1
CSLB				AML	AML		
	comp=E,107µm,0.3s						
CSLB				AML	AML		
	comp=N,108µm,1.5s						
CSLB				AML	AML		
	comp=N,108µm,0.5s						
NOV	**Novara**	**0.68**	**133**	P	Pn	01 26 47.3	-0.4
NOV				AML	AML		
	comp=E,576µm,0.5s						
NOV				AML	AML		
	comp=N,448µm,0.3s						
AIO	**Antillo**	**0.77**	**133**	P	Pb	01 26 48.2	+0.1
AIO				AML	AML		
	comp=N,311µm,0.2s						
AIO				AML	AML		
	comp=E,220µm,0.9s						
HLNI	**Lentini**	**1.18**	**166**	P	Pb	01 26 55.1	0.0

ROM 03 01:26:39.7±0.2, 38°59N±0°02×14°50E±0°01, h24km±2km, ML2.4/20, Error ellipse: s-maj=1.5km s-min=1.3km az=8.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LLI	**Lipari**	**0.38**	**112**	P	Pb	01 26 48.2	+0.3
LLI				S	Sb	01 26 53.9	+0.5
IVGP	**Vulcano Grotta**	**0.41**	**118**	P	Pb	01 26 48.7	+0.3
IVGP				S	Sb	01 26 54.6	+0.4
IVGP				AML	AML		
	comp=E,872µm,0.3s						
IVGP				AML	AML		
	comp=N,982µm,0.3s						
VPL	**Vulcano Piano**	**0.43**	**119**	P	Pb	01 26 48.7	-0.1
VPL				S	Sb	01 26 56.0	+1.1
VPL				AML	AML		
	comp=N,1012µm,0.4s						
VPL				AML	AML		
	comp=E,853µm,0.5s						
MSFR	**San Fratello**	**0.56**	**173**	P	Pb	01 26 50.8	-0.1
MSFR				S	Sb	01 26 58.6	+0.1
MSFR				AML	AML		
	comp=E,202µm,1.4s						
MSFR				AML	AML		
	comp=N,218µm,1.1s						
MSFR				AML	AML		
	comp=N,200µm,0.3s						
MSFR				AML	AML		
	comp=E,202µm,0.6s						
IST3	**Stromboli F**	**0.61**	**69**	AML	AML		
	comp=N,1210µm,0.6s						
IST3				AML	AML		
	comp=E,967µm,1.5s						
MUCR	**Ucria**	**0.62**	**152**	P	Pb	01 26 51.7	-0.3
MUCR				S	Sb	01 27 00.8	+0.5
MUCR				AML	AML		
	comp=E,764µm,0.4s						
MUCR				AML	AML		
	comp=N,947µm,1.3s						
MUCR				AML	AML		
	comp=E,428µm,1.6s						
MUCR				AML	AML		
	comp=N,652µm,0.6s						
MILZ	**Milazzo**	**0.65**	**119**	P	Pb	01 26 52.5	0.0
MILZ				AML	AML		
	comp=E,432µm,1.6s						
MILZ				AML	AML		
	comp=N,645µm,0.5s						
MILZ				AML	AML		
	comp=E,432µm,0.4s						
MILZ				AML	AML		
	comp=N,645µm,0.5s						
PLLN	**Pollina**	**0.66**	**206**	P	Pb	01 26 52.4	-0.2
PLLN				AML	AML		
	comp=N,466µm,1.1s						
PLLN				AML	AML		
	comp=E,414µm,0.9s						
PLLN				AML	AML		
	comp=N,466µm,0.9s						
PLLN				AML	AML		
	comp=E,414µm,1.1s						
GIB	**Gibilmanna**	**0.70**	**212**	P	Pb	01 26 53.5	+0.1
GIB				S	Sn	01 27 04.8	+0.4
CSLB	**Castelbuono**	**0.74**	**209**	P	Pb	01 26 53.4	-0.6
CSLB				S	Sn	01 27 04.4	-0.7
CSLB				AML	AML		
	comp=E,107µm,0.3s						
CSLB				AML	AML		
	comp=N,108µm,1.5s						
CSLB				AML	AML		
	comp=N,108µm,0.5s						
NOV	**Novara**	**0.75**	**138**	P	Pb	01 26 53.7	-0.4
NOV				S	Sn	01 27 04.9	-0.5
NOV				AML	AML		
	comp=N,448µm,0.3s						
NOV				AML	AML		
	comp=E,576µm,0.5s						
EPZF	**Pizzo Felice**	**0.81**	**160**	P	Pn	01 26 56.2	+0.5
EPZF				AML	AML		
	comp=E,585µm,0.4s						
AIO	**Antillo**	**0.84**	**137**	P	Pb	01 26 55.6	-0.2
AIO				S	Sn	01 27 07.8	+0.1
AIO				AML	AML		
	comp=E,220µm,0.9s						
AIO				AML	AML		
	comp=N,311µm,0.2s						
MPG	**Monte Pellegri**	**0.99**	**245**	P	Pb	01 26 58.8	+0.5
HLNI	**Lentini**	**1.27**	**167**	P	Pn	01 27 02.4	+0.5
HLNI				AML	AML		
	comp=E,51µm,0.5s						

*NDI **03** 01:31:30.2±3.3, 23°97N×93°89E, h96km±25km, ML3.5, MW3.9*
*IDC **03** 01:31:31.7±4.4, 23°84N×94°00E, h83km±39km, mb3.3/6, mbtmp3.6/7, Error ellipse: s-maj=82.4km s-min=15.4km az=63.0*

ISC 03 01:31:31.0±1.0, 23°97N±0°05×93°86E±0°06, h80km±11km, n15, σ2s18/21, mb3.5/6, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**0.86**	**6**	*e*Pg	**Pn**	**01 31 47.5**	**-1.0**
IMP				*i* Sg	**Sn**	**01 32 03.3**	**+1.8**
SAIH	**SAIHA**	**1.68**	**209**	*e*P	**Pn**	**01 31 57.8**	**-1.0**
SAIH				*e*S	**Sn**	**01 32 19.5**	**-0.3**
SAIH				IAML		01 32 24.5	
	comp=N,488nm,0.4s						
SAIH				IAML		01 32 24.8	
	comp=E,1µm,0.6s						
KOHI	**KOHIMA**	**1.75**	**7**	*e*P	**Pn**	**01 31 59.1**	**-0.7**
KOHI				*e*S	**Sn**	**01 32 21.1**	**-0.5**
KOHI				IAML		01 32 23.0	
	comp=E,413nm,0.4s						
KOHI				IAML		01 32 23.0	
	comp=E,394nm,0.5s						
AGT	**Agartala**	**2.38**	**268**	*e*P	**Pn**	**01 32 08.0**	**0.0**
AGT				*e*S	**Sn**	**01 32 37.4**	**+1.0**
AGT				*e*S		01 32 43.5	
BRDH	**Bariadhala**	**2.41**	**238**	S	**Sn**	**01 32 37.8**	**+0.8**
	comp=E,209nm,0.3s,baz=270,slow=20,SNR=28						
MOKO	**MOKOCHONG**	**2.41**	**14**	*e*P	**Pn**	**01 32 08.1**	**-0.5**
MOKO				*i* x	x	01 32 19.4	
MOKO				*e*S	**Sn**	**01 32 36.7**	**-0.6**
GUWA	**GUWAHATI**	**2.96**	**319**	*e*S	**Sn**	**01 32 46.6**	**-3.5**
GTK	**Tadong**	**5.79**	**306**	*e*P	**Pn**	**01 32 56.6**	**+2.1**
GTK				*e*S	**Sn**	**01 33 53.5**	**-6.1**
CMAR	**Chiang Mai Arr**	**7.25**	**138**	P	**Pn**	**01 33 12.5**	**-1.9**
	comp=E,1.1nm,0.4s,baz=313,slow=12,SNR=5.9						
MKAR	**Makanchi Array**	**24.59**	**341**	P	**P**	**01 36 45.6**	**+2.2**
	comp=E,0.8nm,0.4s,baz=155,slow=10,SNR=18						
	comp=E,0.8nm,0.4s						
SONM	**Songino Array**	**25.82**	**20**	P	**P**	**01 36 55.9**	**+1.2**
	comp=E,0.3nm,0.6s,baz=195,slow=10,SNR=2.2						
	comp=E,0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**29.14**	**340**	P	**P**	**01 37 25.8**	**+1.5**
	comp=E,0.4nm,0.7s,baz=157,slow=7.8,SNR=3.3						
	comp=E,0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**30.70**	**350**	P	**P**	**01 37 40.1**	**+2.1**
	comp=E,0.4nm,0.4s,baz=167,slow=7.0,SNR=2.1						
	comp=E,0.4nm,0.4s						
WRA	**Warramunga Arr**	**58.83**	**134**	P	**P**	**01 41 20.4**	**-1.1**
	comp=E,0.6nm,0.6s,baz=319,slow=7.6,SNR=19						
	comp=E,0.6nm,0.6s						
ASAR	**Alice Springs**	**61.27**	**138**	P	**P**	**01 41 37.2**	**-0.8**
	comp=E,0.9nm,0.5s,baz=320,slow=6.8,SNR=24						
	comp=E,0.9nm,0.5s						

IDC 03 02:02:29.4±3.0, 8°01S×118°77E, h0km, mb3.2/2, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=264.7km s-min=28.9km az=52.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.18**	**130**	P	P	02 06 54.7	-0.2
	0.1nm,0.3s,baz=307,slow=11,SNR=6.1						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**21.28**	**139**	P	P	02 07 17.8	+0.1
	0.6nm,0.5s,baz=313,slow=8.7,SNR=16						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**63.48**	**333**	P	P	02 13 01.3	0.0
	0.2nm,0.5s,baz=128,slow=5.9,SNR=2.7						
	0.2nm,0.5s						

*UPA **03** 02:04:05.4±0.4, 8°63N×83°34W, h13km±47km, MW2.6*
*CATAC **03** 02:04:07.9±0.5, 8°73N×83°35W, h1km±2km, ML2.2*

ISC 03 02:04:06.1±1.0, 8°70N±0°05×83°29W±0°04, h13km±11km, n12, σ0s67/22, 1C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAN	**Los Planes de**	**0.39**	**266**	*i* P	**Pg**	**02 04 14.4**	**+0.5**
PLAN				*i* S	**Sg**	**02 04 18.4**	**-0.8**
PLAN				IAML		02 04 23.2	
	comp=Z,510nm,1.0s						
POTG	**Potrero Grande**	**0.39**	**26**	*i* P	**Pb**	**02 04 15.7**	**+0.8**
POTG				*i* S	**Sb**	**02 04 20.7**	**-0.1**
POTG				IAML		02 04 30.1	
	comp=Z,310nm,1.0s						
OCHAL	**Ojochal**	**0.53**	**318**	*i* P	**Pg**	**02 04 16.4**	**-0.1**
OCHAL				*i* S	**Sg**	**02 04 22.8**	**-0.8**
OCHAL				IAML		02 04 27.8	
	comp=Z,1.8nm,1.0s						
BRU2	**Volcan**	**0.60**	**81**	*e*P	**Pb**	**02 04 19.0**	**+0.5**
BRU2				*e*S	**Sn**	**02 04 29.6**	**-0.5**
BRU2	**Volcan**	**0.60**	**81**	*i* P	**Pn**	**02 04 20.5**	**0.0**
BRU2				*i* S	**Sn**	**02 04 29.0**	**-1.1**
BRU2				IAML		02 04 34.7	
	comp=Z,110nm,1.0s						
PTPM	**Petroterminale**	**0.64**	**141**	*e*P	**Pg**	**02 04 18.1**	**-0.5**
PTPM				*e*S	**Sg**	**02 04 27.5**	**+0.4**
BCO2	**Palmira**	**0.75**	**89⇑**	*i* P	**Pb**	**02 04 21.1**	**0.0**
BCO2				*e*S	**Sb**	**02 04 33.0**	**+1.6**
LNBQ3	**Los Naranjos,**	**0.84**	**84**	*e*P	**Pg**	**02 04 22.3**	**-0.2**
CDM	**Cerro de Muert**	**0.97**	**331**	*i* P	**Pb**	**02 04 25.3**	**+0.3**
CDM				*i* S	**Sb**	**02 04 37.6**	**-0.3**
CDM				IAML		02 04 44.8	
	comp=Z,48nm,1.0s						
LCR2	**La Lucha 2**	**1.25**	**326**	*i* P	**Pg**	**02 04 30.6**	**+0.3**
LCR2				IAML		02 04 31.6	
	comp=Z,27nm,1.0s						
LCR2				*i* S	**Sg**	**02 04 46.3**	**-0.3**
VTCV	**VTCV, Calle Va**	**1.34**	**341**	*i* P	**Pg**	**02 04 32.3**	**+0.3**

VTCV					IAML		02 05 04.1	
	comp=Z,75nm,1.0s							
JACO	**JACO, Garabito**	**1.66**	**305**	*i* P	**Pb**	**02 04 37.2**	**+0.7**	
JACO				*i* S	**Sb**	**02 04 57.0**	**-0.3**	
JACO				IAML		02 05 53.8		
	comp=Z,31nm,1.0s							

IDC ***03*** *02:11:08.8±1.9,5°.40S×152°.35E,h0km,mb3.8/6, mbtmp3.8/7,ML1.9/1,MS3.9/1,Error ellipse: s-maj=73.3km s-min=22.1km az=121.0*

ISC 03 02:11:14.9±1.9,5°.4S±0°.3×152°.3E±0°.4,h40km,n9,σ0s57/9, mb3.6/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.43**	**232**	Pn	**Pn**	**02 12 47.9**	**+0.8**
	1.4nm,0.3s,baz=46,slow=9.0,SNR=7.2						
PMG				Sn	**Sn**	**02 13 58.6**	**-0.6**
	4.0nm,0.3s,baz=146,slow=20,SNR=5.5						
	15nm,0.7s						
HNR	**Honiara**	**8.60**	**118**	LR	LR	02 16 50.9	
	comp=Z,738nm,18.6s,baz=332,slow=40						
WRA	**Warramunga Arr**	**22.64**	**229**	P	**P**	**02 16 12.9**	**+0.1**
	2.0nm,0.9s,baz=54,slow=9.7,SNR=8.0						
	2.0nm,0.9s						
ASAR	**Alice Springs**	**25.34**	**222**	P	**P**	**02 16 37.4**	**-0.9**
	0.6nm,0.4s,baz=56,slow=9.2,SNR=18						
	0.6nm,0.4s						
SONM	**Songino Array**	**66.56**	**328**	P	**P**	**02 22 00.9**	**-0.2**
	0.3nm,0.5s,baz=134,slow=7.4,SNR=3.6						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**80.44**	**319**	P	**P**	**02 23 22.8**	**+0.1**
	0.9nm,1.1s,baz=110,slow=7.8,SNR=3.8						
	0.9nm,1.1s						
ILAR	**Eielson Array**	**82.93**	**22**	P	**P**	**02 23 35.5**	**+0.1**
	1.8nm,0.7s,baz=247,slow=5.4,SNR=38						
	1.8nm,0.7s						
BVAR	**Borovoye Array**	**89.41**	**323**	P	**P**	**02 24 07.3**	**-0.2**
	0.4nm,0.5s,baz=130,slow=6.2,SNR=3.7						
	0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**149.98**	**287**	PKPbc	**PKPbc**	**02 31 02.1**	**0.0**
	0.7nm,1.0s,baz=60,slow=3.8,SNR=3.3						

SSNC ***03*** *02:25:21.2±1.0,18°.48N×74°.14W,h5km,MD3.0,ML2.4, MW2.5*

OSPL ***03*** *02:25:23.0±2.4,18°.86N×73°.98W,h0km±19km,ML2.2*

ISC 03 02:25:19.3±3.2,18°.72N±0°.07×74°.01W±0°.05,h12km±25km, n16,σ0s89/28,Haiti region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MASC	**Masc**	**1.46**	**352**	*e*P	**Pn**	**02 25 46.0**	**+0.5**
MASC				*e*S	**Sn**	**02 26 03.1**	**-1.5**
MASC	**Masc**	**1.46**	**352**	*i* P	**Pb**	**02 25 46.3**	**-0.1**
MASC				*e*S	**Sn**	**02 26 04.0**	**-0.5**
MASC				IAML		02 26 06.7	
	comp=Z,27nm,0.4s						
GTBY	**Guantanamo Bay**	**1.59**	**319**	*e*P	**Pb**	**02 25 48.5**	**-0.1**
GTBY				*e*S	**Sb**	**02 26 09.2**	**+0.6**
GTBY				IAML		02 26 09.9	
	comp=Z,29nm,0.2s						
GTBY				IAML		02 26 10.3	
	comp=Z,38nm,0.1s						
GTBY	**Guantanamo Bay**	**1.59**	**319**	*i* P	**Pb**	**02 25 48.6**	**+0.1**
GTBY				*e*S	**Sb**	**02 26 09.5**	**+0.9**
GTBY				IAML		02 26 12.0	
	comp=Z,10nm,1.0s						
PAPH	**Port-au-Prince**	**1.63**	**97**	*e*P	**Pn**	**02 25 48.7**	**+0.8**
PAPH				*e*S	**Sb**	**02 26 11.0**	**+1.1**
PAPH				IAML		02 26 12.4	
	comp=E,86nm,0.2s						
PAPH				IAML		02 26 12.7	
	comp=N,79nm,0.2s						
PAPH	**Port-au-Prince**	**1.63**	**97**	*i* P	**Pb**	**02 25 48.9**	**-0.5**
PAPH				*e*S	**Sb**	**02 26 11.3**	**+1.3**
PAPH				IAML		02 26 13.4	
	comp=Z,48nm,0.3s						
RCC	**Rio Carpintero**	**2.03**	**309**	*e*P	**Pn**	**02 25 54.3**	**+1.0**
RCC				*e*S	**Sn**	**02 26 19.6**	**+0.9**
RCC				IAML		02 26 21.0	
	comp=N,6.6nm,0.1s						
RCC				IAML		02 26 21.8	
	comp=E,8.9nm,0.1s						
SABCS	**La Quijada**	**2.04**	**323**	*e*P	**Pn**	**02 25 54.0**	**+0.5**
SABCS				*e*S	**Sn**	**02 26 18.4**	**-0.7**
SABCS				IAML		02 26 24.1	
	comp=N,17nm,0.2s						
SABCS				IAML		02 26 24.5	
	comp=E,24nm,0.3s						
NMDO	**Nuevo Mundo**	**2.05**	**334**	*e*P	**Pb**	**02 25 55.9**	**-0.5**
NMDO				*e*S	**Sb**	**02 26 21.0**	**-0.8**
MOAC	**Moa**	**2.13**	**335**	*e*P	**Pb**	**02 25 57.6**	**-0.1**
MOAC				*e*S	**Sb**	**02 26 24.7**	**+0.6**
MOAC				IAML		02 26 27.5	
	comp=N,17nm,0.2s						
MOAC				IAML		02 26 27.9	
	comp=E,34nm,0.2s						
MARVS	**Santiago de Cu**	**2.19**	**306**	*e*P	**Pb**	**02 25 58.0**	**-0.9**
LOPE2	**Hotel El Peder**	**2.26**	**107**	*i* P	**Pb**	**02 25 59.4**	**-0.6**
LOPE2				*e*S	**Sb**	**02 26 28.8**	**+0.9**
PINC	**Pinares de May**	**2.43**	**317**	*e*P	**Pn**	**02 25 59.3**	**+0.5**
SDDR	**Presa de Saban**	**2.59**	**84**	*i* P	**Pb**	**02 26 04.6**	**-1.1**
SDDR				IAML		02 27 00.8	
	comp=Z,13nm,1.5s						
PODR	**Polo**	**2.65**	**102**	*i* P	**Pb**	**02 26 05.3**	**-1.5**
LMGC	**Las Mercedes**	**3.13**	**296**	*e*P	**Pn**	**02 26 08.4**	**0.0**
LMGC				*e*S	**Sn**	**02 26 44.3**	**-1.3**
LMGC				IAML		02 26 45.6	
	comp=N,6.3nm,0.1s						
LMGC				IAML		02 26 45.7	
	comp=E,7.0nm,0.1s						

UPA ***03*** *02:28:33.6±0.8,8°.64N×83°.33W,h11km±3km,MW3.4*

UCR ***03*** *02:28:34.2±1.0,8°.51N×83°.32W,h12km±1km,MW3.6*

CATAC ***03*** *02:28:34.3±0.3,8°.55N×83°.31W,h2km±1km,ML3.2*

ISC 03 02:28:34.4±0.8,8°.54N±0°.03×83°.32W±0°.02,h12km±5km, n40,σ0s82/65,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIME	**Puerto Jimenez**	**0.01**	**239**	*e*P	**Pg**	**02 28 36.4**	**-0.2**
PTJ1	**Puerto Jimnez**	**0.02**	**109**	*e*P	**Pg**	**02 28 36.3**	**-0.2**
PTJ1				*e*S	**Sg**	**02 28 38.7**	**+0.7**
PIRO	**Carate, Puerto**	**0.14**	**187**	*e*P	**Pg**	**02 28 37.3**	**-0.5**
PIRO	**Carate, Puerto**	**0.14**	**187**	*i* P	**Pg**	**02 28 37.3**	**-0.5**
PIRO				*i* S	**Sg**	**02 28 39.8**	**-0.4**
PIRO				IAML		02 28 43.1	
	comp=Z,14μm,1.0s						
FITO	**Golfito**	**0.18**	**63**	*e*P	**Pg**	**02 28 38.3**	**-0.2**
FITO				*e*S	**Sg**	**02 28 41.8**	**+0.5**
EDAD	**Golfito**	**0.19**	**54**	*e*P	**Pg**	**02 28 38.4**	**-0.2**
EDAD				*e*S	**Sg**	**02 28 42.0**	**+0.4**
PLAN	**Los Planes de**	**0.38**	**290**	*i* P	**Pb**	**02 28 42.7**	**-0.4**
PLAN				*i* S	**Sg**	**02 28 46.9**	**-0.2**
PLAN				IAML		02 28 57.0	
	comp=Z,4μm,1.0s						
EDPN	**Palmar Norte**	**0.44**	**342**	*e*P	**Pg**	**02 28 43.0**	**-0.1**
CDITO	**Canoas**	**0.44**	**86**	*e*P	**Pg**	**02 28 42.9**	**-0.3**
CDITO				*e*S	**Sb**	**02 28 50.0**	**-0.7**
CDITO	**Canoas**	**0.44**	**86**	*e*P	**Pg**	**02 28 42.8**	**-0.3**
CDITO	**Canoas**	**0.44**	**86**	*i* P	**Pg**	**02 28 42.8**	**-0.3**
CDITO				*i* S	**Sg**	**02 28 48.6**	**-0.5**
CDITO				IAML		02 28 54.7	
	comp=Z,1μm,1.0s						
VITO	**San Vito**	**0.44**	**51**	*e*P	**Pg**	**02 28 43.2**	**0.0**
EDP2	**Potrero Grande**	**0.49**	**17**	*e*P	**Pg**	**02 28 44.0**	**-0.1**
POTG	**Potrero Grande**	**0.55**	**21**	*e*P	**Pg**	**02 28 45.2**	**+0.1**
POTG	**Potrero Grande**	**0.55**	**21**	*i* P	**Pg**	**02 28 45.0**	**-0.1**
POTG				*i* S	**Sg**	**02 28 51.8**	**-0.6**
POTG				IAML		02 28 57.0	
	comp=Z,2μm,1.0s						
PTPM	**Petroterminale**	**0.55**	**128**	*e*P	**Pb**	**02 28 45.8**	**-0.1**
PTPM				*i* S	**Sn**	**02 28 56.0**	**-1.1**
EDBA	**Buenos Aires**	**0.62**	**4**	*e*P	**Pg**	**02 28 46.4**	**-0.1**
OCHAL	**Ojochal**	**0.64**	**330**	*i* P	**Pg**	**02 28 46.3**	**-0.6**
OCHAL				*i* S	**Sb**	**02 28 55.7**	**-0.7**
OCHAL				IAML		02 28 59.3	
	comp=Z,14nm,1.0s						
BRU2	**Volcan**	**0.67**	**68**	*e*P	**Pg**	**02 28 47.2**	**-0.2**
BRU2				*e*S	**Sb**	**02 28 57.5**	**+0.1**
BRU2	**Volcan**	**0.67**	**68**	*e*P	**Pg**	**02 28 47.0**	**-0.5**
BRU2				*i* S	**Sg**	**02 28 55.8**	**-0.5**
BRU2				IAML		02 29 03.2	
	comp=Z,860nm,1.0s						
DRK0	**Durika**	**0.72**	**6**	*e*P	**Pg**	**02 28 47.9**	**-0.6**
BCO2	**Palmira**	**0.80**	**77**	*e*P	**Pg**	**02 28 49.4**	**-0.5**
BCO2				*e*S	**Sb**	**02 29 01.1**	**-0.1**
DVD	**David**	**0.86**	**97**	*e*P	**Pb**	**02 28 51.4**	**0.0**
DVD				*e*S	**Sb**	**02 29 03.5**	**+0.6**
CDM	**Cerro de Muert**	**1.10**	**336**	*e*P	**Pg**	**02 28 54.6**	**-1.0**
CDM	**Cerro de Muert**	**1.10**	**336**	*i* P	**Pg**	**02 28 54.5**	**-1.1**
CDM				*i* S	**Sg**	**02 29 09.6**	**-0.4**
CDM				IAML		02 29 13.8	
	comp=Z,510nm,1.0s						
ABE2	**San Pablo**	**1.36**	**328**	*e*P	**Pn**	**02 28 59.6**	**+0.1**
LCR2	**La Lucha 2**	**1.37**	**330**	*e*P	**Pn**	**02 28 58.6**	**-1.0**
LCR2	**La Lucha 2**	**1.37**	**330**	*i* P	**Pn**	**02 28 59.0**	**-0.6**
LCR2				*i* S	**Sg**	**02 29 18.5**	**-0.2**
LCR2				IAML		02 29 21.9	
	comp=Z,210nm,1.0s						
OCM	**Ochomogo**	**1.49**	**335**	*i* P	**Pb**	**02 29 02.0**	**-0.1**
OCM				*i* S	**Sn**	**02 29 20.6**	**0.0**
OCM				IAML		02 29 25.5	
	comp=Z,300nm,1.0s						
VTCV	**VTCV, Calle Va**	**1.49**	**344**	*e*P	**Pn**	**02 29 01.1**	**0.0**
VTCV	**VTCV, Calle Va**	**1.49**	**344**	*i* P	**Pn**	**02 29 00.9**	**-0.3**
VTCV				*i* S	**Sg**	**02 29 22.0**	**-0.4**
VTCV				IAML		02 29 26.6	
	comp=Z,570nm,1.0s						
CVTV	**Tajo**	**1.51**	**344**	*e*P	**Pn**	**02 29 01.9**	**+0.3**
VTUN	**Crater Central**	**1.54**	**343**	*i* P	**Pb**	**02 29 02.4**	**-0.7**
VTUN				*i* S	**Sb**	**02 29 22.8**	**+0.2**
VTUN				IAML		02 29 32.7	
	comp=Z,270nm,1.0s						
JACO	**JACO, Garabito**	**1.73**	**310**	*i* P	**Pb**	**02 29 05.1**	**-1.0**
JACO				*i* S	**Sb**	**02 29 28.2**	**+0.4**
JACO				IAML		02 29 41.2	
	comp=Z,80nm,1.0s						
CPMI	**Catarata Coope**	**2.02**	**329**	*i* P	**Pb**	**02 29 09.8**	**-1.4**
CPMI				*i* S	**Sb**	**02 29 36.4**	**-0.1**
CPMI				IAML		02 29 46.4	
	comp=Z,130nm,1.0s						
SOCE	**Pocosol**	**2.23**	**325**	*i* P	**Pn**	**02 29 12.8**	**+1.5**
SOCE				IAML		02 29 15.2	
	comp=Z,270nm,1.0s						
SOCE				*i* S	**Sb**	**02 29 41.1**	**-1.3**
ORTG	**Ortega, Santa**	**2.78**	**311**	*i* P	**Pn**	**02 29 20.7**	**+1.9**
ORTG				IAML		02 29 22.0	
	comp=Z,37nm,1.0s						
ORTG				*i* S	**Sn**	**02 29 54.4**	**+2.0**
SAJU	**San Juanillo,**	**2.81**	**303**	*i* P	**Pn**	**02 29 19.4**	**+0.3**
SAJU				*i* S	**Sn**	**02 29 55.2**	**+2.3**
SAJU				IAML		02 30 40.8	
	comp=Z,44nm,1.0s						
HZTE	**Horizontes, Gu**	**3.11**	**314**	*i* P	**Pn**	**02 29 23.9**	**+0.5**
HZTE				*i* S	**Sn**	**02 30 03.5**	**+3.0**
HZTE				IAML		02 31 10.6	
	comp=Z,85nm,1.0s						

IDC 03 02:38:15.1±51.0,17°.75S×178°.00W,h0km,mb3.9/3, mbtmp3.9/3,Error ellipse: s-maj=936.5km s-min=163.7km az=79.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.05**	**241**	P	P	02 45 44.8	+0.8
	0.6nm,0.3s,baz=104,slow=8.3,SNR=3.3						
	0.6nm,0.3s						
WRA	**Warramunga Arr**	**45.05**	**259**	P	P	02 46 33.4	+0.3
	0.5nm,0.3s,baz=96,slow=7.6,SNR=10						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**45.21**	**254**	P	P	02 46 33.2	-1.1
	1.0nm,0.5s,baz=92,slow=8.3,SNR=16						
	1.0nm,0.5s						

IDC ***03*** *02:48:22.4±1.6,1°.74N×98°.80E,h0km,mb3.8/6, mbtmp3.8/7,ML4.8/1,MS3.1/2,Error ellipse: s-maj=73.4km s-min=24.7km az=52.0*

DJA ***03*** *02:48:24.7±0.3,2°.N±3°.×9°.9E±°,h10km,M4.0/9,mb4.1/1, MLv4.0/9*

ISC 03 02:48:25.3±0.9,1°.94N±0°.07×98°.90E±0°.10,h10km,n14, σ1s37/13,mb3.8/6,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**1.47**	**245**	P	**Pn**	**02 48 53.5**	**+1.7**
KCSI	**Kotacane, Aceh**	**1.94**	**324**	P	**Pn**	**02 48 58.8**	**+0.5**
PBSI	**Pulau Batu**	**2.07**	**197**	P	**Pn**	**02 49 00.0**	**-0.1**
SNSI	**Sinabang, Aceh**	**2.62**	**280**	P	**Pn**	**02 49 07.8**	**+0.2**
PDSI	**Padang**	**3.23**	**151**	P	**Pn**	**02 49 17.6**	**+1.5**
SISI	**Saibi**	**3.25**	**177**	P	**Pn**	**02 49 17.3**	**+1.0**
CMAR	**Chiang Mai Arr**	**16.42**	**0**	Pn	**Pn**	**02 52 18.6**	**+2.6**
	1.1nm,0.3s,baz=188,slow=12,SNR=4.2						
CMAR				LR	LR	02 58 56.8	
	comp=Z,48nm,18.5s,baz=185,slow=38						
	1.8nm,0.3s						
PALK	**Pallekele**	**18.89**	**287**	LR	LR	02 59 03.5	
	comp=Z,84nm,19.0s,baz=221,slow=34						
WRA	**Warramunga Arr**	**41.00**	**124**	P	**P**	**02 56 07.3**	**-1.6**
	1.3nm,0.7s,baz=303,slow=9.2,SNR=9.1						
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**46.97**	**344**	P	**P**	**02 56 56.9**	**+0.4**
	0.5nm,0.7s,baz=147,slow=7.3,SNR=6.3						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**51.49**	**344**	P	**P**	**02 57 30.7**	**-0.2**
	0.4nm,0.3s,baz=156,slow=7.1,SNR=1.6						
	0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**53.12**	**350**	P	**P**	**02 57 42.5**	**-0.6**
	1.7nm,1.0s,baz=145,slow=5.4,SNR=5.1						
	1.7nm,1.0s						
BVAR	**Borovoye Array**	**56.14**	**340**	P	**P**	**02 58 03.6**	**-1.4**
	1.4nm,0.8s,baz=134,slow=11,SNR=6.7						
	1.4nm,0.8s						
BRTR	**Keskin Array B**	**69.89**	**312**	P	**P**	**02 59 36.3**	**-0.6**
	0.6nm,0.7s,baz=147,slow=7.4,SNR=5.0						
	0.6nm,0.7s						

KRSC 03 02:52:08.9±1.9,49°.96N×155°.99E,h114km±12km,MI3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.73**	**6**	*e*P	Pn	02 52 28.8	+0.9
SKR				*e*S	Sn	02 52 43.2	+1.0
PAU	**Pauzhetka**	**1.60**	**19**	*e*P	Pn	02 52 40.0	+2.9
PAU				*e*S	Sn	02 53 01.2	+2.6
KDTR	**Khodutka, Kamc**	**2.28**	**35**	*e*S	Sn	02 53 13.2	-0.4
ASAK	**Asacha**	**2.71**	**26**	*e*P	Pn	02 52 53.0	+1.8
MTVR	**Mutnovka**	**2.88**	**28**	*e*P	Pn	02 52 55.1	+1.6
MTVR				*e*S	Sn	02 53 29.9	+2.0
GRL	**Gorelyy**	**2.91**	**26**	*e*P	Pn	02 52 56.0	+2.1
KOK	**Koryaka**	**3.73**	**25**	*e*P	Pn	02 53 07.5	+2.8
SMAR	**Somma**	**3.75**	**27**	*e*P	Pn	02 53 06.4	+1.3
KRX	**Arik**	**3.79**	**25**	*e*P	Pn	02 53 07.6	+2.1
GNL	**Ganaly**	**3.94**	**17**	*e*P	Pn	02 53 08.5	+1.1

NEIC ***03*** *02:52:46.2±2.4,8°.30S±0°.09×115°.49E±0°.05,h10km±1km, mb3.9/6,Error ellipse: s-maj=15.0km s-min=8.3km az=12.0*

IDC ***03*** *02:52:46.2±2.0,8°.16S×115°.72E,h0km,mb3.7/6, mbtmp3.7/6,MS3.0/1,Error ellipse: s-maj=129.4km s-min=18.1km az=53.0*

DJA ***03*** *02:52:47.9±0.5,8°.S±6°.×11°.5E±°,h13km±4km,M4.2/13, mb4.3/1,mB5.0/1,MLv4.1/13,Mw(mB)4.4/1*

ISC 03 02:52:46.3±0.6,8°.35S±0°.07×115°.46E±0°.04,h10km,n35, σ1s21/35,mb3.9/9,Bali region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRBI	**Singaraja**	**0.36**	**317**	P	**Pg**	**02 52 54.4**	**+1.0**
JAGI	**Jajag, Banyuwa**	**1.30**	**265**		**Pn**	**02 53 11.5**	**+1.0**
JAGI				Sn	**Sb**	**02 53 28.9**	**+1.3**
JAGI	**Jajag, Banyuwa**	**1.30**	**265**	P	**Pn**	**02 53 11.3**	**+0.8**
ABJI	**Asem Bagus**	**1.33**	**294**	P	**Pn**	**02 53 11.5**	**+0.6**
TWSI	**Taliwang, Sumb**	**1.46**	**105**	P	**Pn**	**02 53 13.7**	**+1.0**
BLJI	**Banyuglugur**	**1.94**	**288**	P	**Pn**	**02 53 20.6**	**+1.3**
KMMI	**Kalianget**	**1.96**	**311**	P	**Pn**	**02 53 20.4**	**+0.8**
GMJI	**Gumukmas**	**2.00**	**272**	P	**Pn**	**02 53 21.7**	**+1.6**
PLAI	**Plampang**	**2.34**	**102**	P	**Pn**	**02 53 27.5**	**+2.7**
GRJI	**Gresik**	**3.28**	**296**	P	**Pn**	**02 53 38.3**	**+0.5**
PWJI	**Pagerwojo**	**3.63**	**275**	P	**Pn**	**02 53 44.2**	**+1.6**
UGM	**Wanagama**	**4.91**	**275**	Pn	**Pn**	**02 53 59.2**	**-1.0**
UGM	**Wanagama**	**4.91**	**275**	P	**Pn**	**02 54 01.3**	**+1.1**
KAPI	**Kappang**	**5.40**	**52**	Pn	**Pn**	**02 54 05.9**	**-1.1**
BKSI	**Bulukumba**	**5.52**	**57**	P	**Pn**	**02 54 08.3**	**-0.3**
	20nm,0.6s,0.1nm						
LEM	**Lembang**	**7.92**	**280**	LR	LR	02 59 02.7	
	comp=Z,93nm,18.7s,baz=240,slow=46						
MBWA	**Marble Bar**	**13.38**	**163**	Pn	**Pn**	**02 55 55.5**	**-0.9**
GIRL	**Giralia**	**14.26**	**185**	Pn	**Pn**	**02 56 07.0**	**-1.4**
KNRA	**Kununurra**	**14.90**	**120**	Pn	**Pn**	**02 56 16.2**	**-1.0**
WB0	**Warramunga Arr**	**21.56**	**124**	P	**P**	**02 57 36.1**	**0.0**
WB0				IAmb	IAmb	02 57 44.1	
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**21.60**	**124**	P	**P**	**02 57 36.7**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=299,slow=12,SNR=9.9						
	comp=Z,0.5nm,0.6s						
WB2	**Warramunga Arr**	**21.61**	**124**	P	**P**	**02 57 37.2**	**+0.5**
WB2				IAmb	IAmb	02 57 56.6	
	comp=Z,8.6nm,1.2s						
AS31	**Alice Springs**	**23.32**	**133**	P	**P**	**02 57 55.5**	**+0.6**
ASAR	**Alice Springs**	**23.32**	**133**	P	**P**	**02 57 54.5**	**-0.3**
ASAR	**Alice Springs**	**23.32**	**133**	P	**P**	**02 57 56.0**	**+1.1**
	comp=Z,2.2nm,0.8s,baz=311,slow=9.6,SNR=26						
	comp=Z,2.2nm,0.8s						
BBOO	**Buckleboo**	**30.92**	**145**	P	**P**	**02 59 03.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**31.23**	**329**	P	**P**	**02 59 04.8**	**-1.5**
CMAR	**Chiang Mai Arr**	**31.23**	**329**	P	**P**	**02 59 08.6**	**+2.4**
	comp=Z,0.8nm,0.3s,baz=151,slow=8.0,SNR=8.3						
	comp=Z,0.8nm,0.3s						
STKA	**Stephens Creek**	**33.73**	**138**	P	**P**	**02 59 29.2**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=324,slow=17,SNR=3.2						
	comp=Z,0.6nm,0.4s						
SONM	**Songino Array**	**56.51**	**353**	P	**P**	**03 02 29.0**	**+0.2**
SONM				IAmb	IAmb	03 02 29.9	
	comp=Z,1.3nm,0.8s						
SONM	**Songino Array**	**56.51**	**353**	P	**P**	**03 02 29.4**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=174,slow=9.1,SNR=12						
	comp=Z,1.5nm,0.8s						
MKAR	**Makanchi Array**	**62.34**	**335**	P	**P**	**03 03 07.9**	**-1.0**
MKAR	**Makanchi Array**	**62.34**	**335**	P	**P**	**03 03 08.6**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=135,slow=5.8,SNR=4.4						
	comp=Z,0.2nm,0.5s						
ABKAR	**Akbulak array**	**75.05**	**326**	P	**P**	**03 04 26.0**	**-2.1**
ABKAR	**Akbulak array**	**75.05**	**326**	P	**P**	**03 04 26.6**	**-1.5**
ABKAR				IAmb	IAmb	03 04 59.5	
	comp=Z,3.0nm,1.4s						

IDC 03 03:22:51.7±1.7,1°.33N×125°.90E,h0km,mb3.4/4, mbtmp3.4/4,MS2.6/3,Error ellipse: s-maj=173.5km s-min=23.2km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**5.71**	**357**	LR	LR	03 26 23.6	
	comp=Z,17nm,19.0s,baz=184,slow=37						
BATI	**Baumata**	**11.67**	**191**	LR	LR	03 31 07.1	
	comp=Z,88nm,18.6s,baz=303,slow=42						
WRA	**Warramunga Arr**	**22.70**	**159**	P	P	03 27 55.2	0.0
	0.4nm,0.4s,baz=337,slow=11,SNR=9.8						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**26.04**	**163**	P	P	03 28 26.9	0.0
	0.2nm,0.4s,baz=350,slow=9.8,SNR=2.2						
	0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**31.45**	**304**	LR	LR	03 44 32.7	
	comp=Z,8.0nm,18.5s,baz=210,slow=41						
MKAR	**Makanchi Array**	**59.06**	**326**	P	P	03 32 53.9	+0.1
	0.3nm,0.6s,baz=108,slow=8.3,SNR=4.7						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**63.32**	**328**	P	P	03 33 22.4	-0.2
	0.2nm,0.3s,baz=123,slow=5.9,SNR=2.6						
	0.2nm,0.3s						

IDC ***03*** *03:43:53.4±4.7,36°.33N×71°.21E,h183km±39km,mb3.2/6, mbtmp3.6/11,Error ellipse: s-maj=47.4km s-min=29.3km az=149.0*

NNC ***03*** *03:44:02.4±4.1,37°.17N×71°.19E,h242km±68km,mb2.7, mpv3.8,Error ellipse: s-maj=48.5km s-min=24.7km az=12.0*

ISC 03 03:43:56.2±1.6,36°.7N±0°.1×71°.0E±0°.1,h188km,n20, σ1s35/23,mb3.4/5,1C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UCH	**Uchtor**	**6.14**	**25**	P	**Pn**	**03 45 26.9**	**+1.4**
	SNR=18						
EKS2	**Erkin-Say**	**6.32**	**19**	P	**Pn**	**03 45 29.4**	**+1.9**
	SNR=12						
KK31	**Karatay Array**	**6.41**	**357**	P	**Pn**	**03 45 29.8**	**+1.2**
	1.8nm,0.3s,baz=170,slow=13,SNR=40						
KK31				⇓S	**Sn**	**03 46 39.9**	**-1.7**
	6.9nm,0.4s,baz=187,slow=21,SNR=12						
AAK	**Ala-Archa**	**6.50**	**23**	P	**Pn**	**03 45 31.5**	**+1.6**
	SNR=5.5						
AAK	**Ala-Archa**	**6.50**	**23**	P	**Pn**	**03 45 31.5**	**+1.6**
	3.3nm,0.3s,baz=191,slow=5.3,SNR=18						
AAK				S	**Sn**	**03 46 42.5**	**-1.5**
	4.9nm,0.4s,baz=138,slow=22,SNR=14						
KBK	**Karagaybulak**	**6.67**	**26**	P	**Pn**	**03 45 34.0**	**+1.8**
	SNR=5.5						
TKM2	**Tokmak 2**	**7.13**	**28**	P	**Pn**	**03 45 39.4**	**+1.1**
	SNR=7.6						
TKM2	**Tokmak 2**	**7.13

	SNR=5.5								
KK31	**Karatay Array**	**5.75**	**350**	⇑P		**Pn**	**04 16 33.9**	**0.0**
	3.2nm,0.2s,baz=179,slow=13,SNR=3.6							
KK31				S		**S**	**04 17 40.2**	**-1.7**
	5.3nm,0.4s,baz=169,slow=23,SNR=10							
USP	**Ospenovka**	**6.16**	**18**	P		**Pn**	**04 16 39.7**	**+0.7**
	SNR=6.8							
TKM2	**Tokmak 2**	**6.17**	**26**	P		**Pn**	**04 16 39.6**	**+0.2**
	SNR=5.0							
TKM2	**Tokmak 2**	**6.17**	**26**	⇑P		**Pn**	**04 16 39.1**	**-0.3**
	10nm,0.7s							
KST	**Kastek**	**6.41**	**28**	P		**Pn**	**04 16 42.9**	**+0.6**
	6.7nm,0.5s							
DGS	**Degeres**	**6.52**	**26**	P		**Pn**	**04 16 44.0**	**+0.4**
	4.4nm,0.5s							
MTBS	**Maitube**	**6.67**	**30**	P		**Pn**	**04 16 46.0**	**+0.5**
	5.6nm,0.8s							
TNSS	**Tian-Shan**	**6.81**	**33**	P		**Pn**	**04 16 47.2**	**-0.3**
	7.4nm,0.6s							
MKAR	**Makanchi Array**	**12.12**	**36**	P		**Pn**	**04 17 53.9**	**-0.2**
	0.5nm,0.3s,baz=207,slow=9.8,SNR=13							
KURBB	**Kurchatov Arra**	**14.02**	**18**	P		**Pn**	**04 18 16.8**	**-0.3**
	0.5nm,0.7s,baz=208,slow=10,SNR=6.6							
AB31	**Akbulak array**	**14.63**	**328**	P		**P**	**04 18 24.3**	**-0.2**
	0.4nm,0.4s,baz=146,slow=11,SNR=21							
BVA0	**Borovoye Array**	**15.62**	**357**	P		**Pn**	**04 18 37.4**	**+1.0**
	0.1nm,0.4s,baz=166,slow=10,SNR=8.8							
BVAR	**Borovoye Array**	**15.62**	**357**	P		**Pn**	**04 18 37.1**	**+0.7**
	1.0nm,0.4s,baz=175,slow=9.9,SNR=9.9							
AKTO	**Aktyubinsk**	**16.34**	**327**	P		**P**	**04 18 45.0**	**+1.6**
	4.4nm,0.4s,baz=132,slow=9.9,SNR=13							
AKTO	**Aktyubinsk**	**16.34**	**327**	⇑P		**P**	**04 18 44.3**	**+0.9**
	2.5nm,0.5s							
ZALV	**Zalesovo Beam**	**18.77**	**24**	P		**P**	**04 19 10.2**	**+0.6**
	2.7nm,0.4s,baz=222,slow=11,SNR=18							
FINES	**FINESS Array B**	**37.10**	**325**	P		**P**	**04 21 55.2**	**-0.1**
	0.5nm,0.3s,baz=112,slow=11,SNR=8.6							
	0.5nm,0.3s							
ARCES	**ARCESS Array B**	**40.55**	**337**	P		**P**	**04 22 24.7**	**+1.0**
	0.7nm,0.4s,baz=121,slow=9.0,SNR=12							
	0.7nm,0.4s							
HFS	**Hagfors**	**42.76**	**321**	P		**P**	**04 22 42.0**	**+0.3**
	2.6nm,0.5s,baz=103,slow=11,SNR=14							
	2.6nm,0.5s							
NB2	**NORSAR Subarra**	**44.05**	**322**	P		**P**	**04 22 51.5**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=97,slow=7.9							
NOA	**NORSAR Array B**	**44.05**	**322**	P		**P**	**04 22 51.0**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=106,slow=7.2,SNR=4.9							
	comp=Z,0.4nm,0.4s							
YKA	**Yellowknife Ar**	**80.27**	**3**	P		**P**	**04 26 50.1**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=350,slow=5.6,SNR=7.6							
	comp=Z,0.3nm,0.6s							

IDC 03 04:16:25.9±6.8, 6°26′S×142°66′E, h0km, mb3.5/2, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=251.3km s-min=34.0km az=97.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.83**	**210**	Pn	Pn	04 20 08.2	-2.0
	0.1nm,0.3s,baz=31,slow=13,SNR=5.9						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**19.25**	**205**	P	Pn	04 20 52.8	-0.2
	0.1nm,0.3s,baz=36,slow=10,SNR=9.6						
	1.3nm,0.9s						
MKAR	**Makanchi Array**	**74.99**	**322**	P	P	04 28 09.3	+0.1
	0.2nm,0.7s,baz=101,slow=7.6,SNR=2.7						
	0.2nm,0.7s						
BVAR	**Borovoye Array**	**84.46**	**325**	P	P	04 29 00.5	0.0
	0.3nm,0.5s,baz=112,slow=6.4,SNR=2.2						
	0.3nm,0.5s						
BRG	**Berggiesshubel**	**118.54**	**326**	*e*P	Pdif	04 31 38.5	+3.0
BRG				Amp		04 31 39.7	
	comp=Z,6.9nm,1.4s						

IDC 03 04:27:43.9±5.6, 29°60S×176°00W, h0km, mb3.7/3, mbtmp3.7/3, MS2.7/1, Error ellipse: s-maj=174.8km s-min=47.5km az=24.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.71**	**281**	Pn	Pg	04 28 16.5	-0.2
	136nm,0.3s,baz=208,slow=13,SNR=5.4						
RAO				Sn	Sn	04 28 36.6	-1.0
	347nm,0.3s,baz=287,slow=22,SNR=8.5						
URZ	**Urewera**	**10.36**	**212**	LR	LR	04 34 17.5	
	comp=Z,46nm,20.8s,baz=299,slow=38						
STKA	**Stephens Creek**	**36.36**	**255**	P	P	04 34 50.6	+0.8
	1.6nm,0.7s,baz=98,slow=8.7,SNR=4.1						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**44.90**	**265**	P	P	04 35 59.8	-0.8
	0.3nm,0.6s,baz=108,slow=7.6,SNR=7.5						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**45.82**	**270**	P	P	04 36 07.2	-0.7
	0.7nm,0.5s,baz=110,slow=8.0,SNR=11						
	0.7nm,0.5s						

*CATAC **03** 04:33:33.4±0.4, 8.52N×83.28W, h4km±2km, ML2.8*
*UCR **03** 04:33:33.8±0.8, 8.49N×83.31W, h12km±1km, MW3.5*
*UPA **03** 04:33:34.8±1.0, 8.53N×83.21W, h0km±5km, MW3.1*

ISC 03 04:33:34.0±0.8, 8°52N±0′03″×83°31W±0′03″, h13km±4km, n30, σ1s60/51, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTJ1	**Puerto Jimnez**	**0.02**	**12**	*e*P	**Pg**	**04 33 35.9**	**-0.4**
PTJ1				*e*S	**Sg**	**04 33 38.4**	**+0.6**
JIME	**Puerto Jimenez**	**0.03**	**319**	*e*P	**Pg**	**04 33 36.0**	**-0.3**
JIME				*e*S	**Sg**	**04 33 38.4**	**+0.5**
PIRO	**Carate, Puerto**	**0.12**	**195**	*e*P	**Pg**	**04 33 36.6**	**-0.5**
PIRO	**Carate, Puerto**	**0.12**	**195**	*i* P	**Pg**	**04 33 36.6**	**-0.5**
PIRO				*i* S	**Sg**	**04 33 38.8**	**-0.6**
PIRO				IAML		04 33 43.1	
	comp=Z,9μm,1.0s						
FITO	**Golfito**	**0.18**	**54**	*e*P	**Pg**	**04 33 38.0**	**-0.2**
FITO				*e*S	**Sg**	**04 33 41.5**	**+0.5**
EDAD	**Golfito**	**0.19**	**46**	*e*P	**Pg**	**04 33 38.1**	**-0.3**
EDAD				*e*S	**Sg**	**04 33 41.8**	**+0.4**
CDITO	**Canoas**	**0.43**	**82**	*e*P	**Pg**	**04 33 42.5**	**-0.1**
CDITO				*e*S	**Sg**	**04 33 48.3**	**-0.1**
CDITO	**Canoas**	**0.43**	**82**	*e*P	**Pg**	**04 33 42.4**	**-0.1**
CDITO	**Canoas**	**0.43**	**82**	*i* P	**Pg**	**04 33 41.8**	**-0.8**
CDITO				*i* S	**Sg**	**04 33 47.7**	**-0.7**
CDITO				IAML		04 33 56.6	
	comp=Z,500nm,1.0s						
EDPN	**Palmar Norte**	**0.47**	**341**	*e*P	**Pg**	**04 33 42.9**	**-0.4**
PTPM	**Petroterminale**	**0.52**	**126**	*e*P	**Pb**	**04 33 45.3**	**+0.2**
PTPM				*e*S	**Sb**	**04 33 53.3**	**+0.7**
MLIR3	**Monte Lirio, C**	**0.55**	**60**	*e*P	**Pb**	**04 33 45.3**	**-0.3**
MLIR3				*e*S	**Sb**	**04 33 53.8**	**+0.3**
BURE	**Buenos Aires**	**0.65**	**357**	*e*P	**Pg**	**04 33 46.5**	**-0.3**
BRU2	**Volcan**	**0.67**	**66**	*e*P	**Pb**	**04 33 47.0**	**-0.7**
BRU2				*e*S	**Sb**	**04 33 57.3**	**+0.3**
BRU2	**Volcan**	**0.67**	**66**	*e*P	**Pg**	**04 33 46.8**	**-0.3**
BRU2	**Volcan**	**0.67**	**66**	*i* P	**Pg**	**04 33 46.4**	**-0.7**
BRU2				*i* S	**Sg**	**04 33 54.8**	**-1.1**
BRU2				IAML		04 34 03.4	
	comp=Z,360nm,1.0s						
OCHAL	**Ojochal**	**0.67**	**330**	*i* P	**Pg**	**04 33 46.2**	**-0.8**
OCHAL				*i* S	**Sg**	**04 33 55.9**	**0.0**
OCHAL				IAML		04 34 00.1	
	comp=Z,4.0nm,1.0s						
DRK0	**Durika**	**0.74**	**5**	*e*P	**Pg**	**04 33 47.7**	**-0.8**
BCO2	**Palmira**	**0.80**	**75**	*e*P	**Pg**	**04 33 49.2**	**-0.3**
BCO2				*e*S	**Sb**	**04 34 00.0**	**+0.3**
DVD	**David**	**0.85**	**95**	*e*P	**Pb**	**04 33 50.3**	**-0.3**
DVD				*e*S	**Sb**	**04 34 02.3**	**+0.3**
PEZE	**Perez Zeledon,**	**0.94**	**337**	*e*P	**Pg**	**04 33 51.4**	**-0.7**
PEZE	**Perez Zeledon,**	**0.94**	**337**	*i* P	**Pg**	**04 33 52.1**	**0.0**
PEZE				*i* S	**Sg**	**04 34 04.8**	**+0.4**
PEZE				IAML		04 34 07.3	
	comp=Z,430nm,1.0s						
CDM	**Cerro de Muert**	**1.12**	**336**	*i* P	**Pg**	**04 33 55.4**	**-0.4**
CDM				*i* S	**Sg**	**04 34 10.6**	**+0.1**
CDM				IAML		04 34 14.0	
	comp=Z,180nm,1.0s						
CNI2	**El Empalme, Bo**	**1.22**	**42**	*e*P	**Pg**	**04 33 56.9**	**-0.7**
CNI2				*e*S	**Sb**	**04 34 13.1**	**+0.4**
LCR2	**La Lucha 2**	**1.40**	**330**	*e*P	**Pn**	**04 33 58.8**	**-0.7**
LCR2	**La Lucha 2**	**1.40**	**330**	*i* P	**Pn**	**04 33 59.6**	**+0.1**
LCR2				*i* S	**Sg**	**04 34 18.6**	**-0.6**
LCR2				IAML		04 34 21.1	
	comp=Z,130nm,1.0s						

VTCV	**VTCV, Calle Va**	**1.52**	**344**	*i* P		**Pn**	**04 34 01.0**	**-0.1**
VTCV				*i* S		**Sn**	**04 34 22.0**	**+1.1**
VTCV				IAML			04 34 24.6	
	comp=Z,210nm,1.0s							
JACO	**JACO, Garabito**	**1.76**	**311**	*i* P		**Pn**	**04 34 04.0**	**-0.2**
JACO				*i* S		**Sn**	**04 34 27.9**	**+1.4**
JACO				IAML			04 34 36.7	
	comp=Z,46nm,1.0s							
SOCE	**Pocosol**	**2.26**	**325**	*i* P		**Pn**	**04 34 11.3**	**+0.1**
SOCE				*i* S		**Sn**	**04 34 40.5**	**+1.4**
SOCE				IAML			04 34 48.4	
	comp=Z,100nm,1.0s							
JTS	**Las Juntas de**	**2.40**	**317**	*e*P		**Pb**	**04 34 16.1**	**-1.0**

*ISU **03** 04:34:37.2, 41.16N×68.66E, h30km*
*SOME **03** 04:34:37.3, 41.30N×68.48E, h15km*
*NNC **03** 04:34:39.3±4.4, 41.25N×68.68E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=28.9km s-min=25.0km az=27.0*

ISC 03 04:34:35.6±1.6, 41°32N±0′06×68°45E±0′09, h15km±11km, n10, σ1s49/19, 1C-1D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHRV	**Charvak**	**1.18**	**74**	P	**Pg**	**04 34 58.0**	**-0.2**
CHRV				S	**Sn**	**04 35 14.0**	**+0.7**
CHMG	**Chimgan**	**1.20**	**78**	P	**Pg**	**04 34 58.2**	**-0.5**
CHMG				S	**Sn**	**04 35 14.3**	**+0.3**
IUG	**Iuzhnay**	**1.45**	**55**	*e*P	**Pg**	**04 35 03.5**	**+0.1**
	12nm,0.3s						
IUG				*e*S	**Sg**	**04 35 22.8**	**+0.6**
	78nm,0.3s						
IUG	**Iuzhnay**	**1.45**	**55**	P	**Pg**	**04 35 03.5**	**+0.1**
	12nm,0.3s						
IUG				S	**Sg**	**04 35 22.8**	**+0.6**
	78nm,0.3s						
BXML	**Bakhmal**	**1.66**	**191**	P	**Pb**	**04 35 06.6**	**+0.7**
BXML				S	**Sg**	**04 35 29.3**	**+0.2**
BRLS	**Boroldaу**	**2.00**	**31**	*e*P	**Pn**	**04 35 08.8**	**0.0**
	1.2nm,0.2s						
BRLS				*e*S	**Sn**	**04 35 31.8**	**-1.7**
	11nm,0.2s						
BRLS	**Boroldaу**	**2.00**	**31**	P	**Pn**	**04 35 08.7**	**0.0**
	1.2nm,0.2s						
BRLS				S	**Sn**	**04 35 31.8**	**-1.7**
	11nm,0.1s						
KK31	**Karatay Array**	**2.35**	**40**	⇑P	**Pb**	**04 35 20.0**	**+2.4**
	0.4nm,0.3s,baz=219,slow=18,SNR=5.5						
KK31				⇓S	**Sg**	**04 35 50.1**	**-1.0**
	3.2nm,0.3s,baz=217,slow=31,SNR=20						
MRKS	**Merke**	**3.83**	**67**	*e*P	**Pg**	**04 35 46.4**	**-2.6**
	1.6nm,0.3s						
MRKS				*e*S	**Sg**	**04 36 36.0**	**-2.7**
	5.9nm,0.3s						
MRKS	**Merke**	**3.83**	**67**	Pg	**Pb**	**04 35 45.1**	**+2.2**
	1.6nm,0.3s						
MRKS				Lg	Lg	04 36 34.6	
	5.9nm,0.3s						

*BUL **03** 04:39:56.0±2.9, 7.69S×39.60E, h10km, MD5.1*
*EAF **03** 04:39:57.1±3.7, 7.66S×39.44E, h10km, MD4.3*
*IDC **03** 04:40:07.4±0.5, 7.66S×38.23E, h0km, mb4.4/23, mbtmp4.4/25, ML5.1/2, MS3.7/20, Error ellipse: s-maj=17.2km s-min=15.1km az=100.0*
*NEIC **03** 04:40:09.6±1.9, 7.625±0.05×38.14E±0.10, h10km±1km, mb4.7/46, Error ellipse: s-maj=15.9km s-min=9.3km az=273.0*

ISC 03 04:40:08.8±0.3, 7°70S±0′04×38°11E±0′05, h10km, n196, σ1s84/184, mb4.7/61, MS3.7/18, 14C-11D, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DODT	**Dodoma, Tanzan**	**2.78**	**302**	*i* P	**Pn**	**04 40 53.9**	**+0.3**
DODT				*i* S	**Sb**	**04 41 34.3**	**+1.3**
PDHT	**Panda Hill**	**4.99**	**255**	*i* P	**Pn**	**04 41 26.7**	**+2.7**
PDHT				*i* S	**Sn**	**04 42 24.6**	**+2.8**
KIBK	**Kibwezi**	**5.32**	**359**		**Pn**	**04 41 27.0**	**-1.5**
KIBK	**Kibwezi**	**5.32**	**359**	*e*S	**Sb**	**04 42 50.0**	**+3.9**
KIBK				*e*S	**Pn**	**04 41 27.2**	**-1.3**
GETA	**Geita**	**6.82**	**314**	⇓*i*P	Pb	04 41 58.9	-8.8
GETA				*i* S	**Sb**	**04 43 28.7**	**-0.6**
ZOMB	**Zomba**	**8.10**	**199**	*e*PN	**Pn**	**04 42 05.3**	**-1.5**
ZOMB				*e*SN	**Sn**	**04 43 33.4**	**-5.1**
ZOMB	**Zomba**	**8.10**	**199**	*e*PN	**Pn**	**04 42 05.3**	**-1.5**
ZOMB				*e*SN	**Sn**	**04 43 33.4**	**-5.1**
MBAR	**Mbarara**	**10.18**	**313**		**Pn**	**04 42 32.6**	**-2.7**
MBAR	**Mbarara**	**10.18**	**313**	*i* P	**Pn**	**04 42 34.7**	**-0.7**
MBAR	**Mbarara**	**10.18**	**313**	*e*P	**Pn**	**04 42 33.3**	**-2.1**
MBAR	**Mbarara**	**10.18**	**313**	Pn	**Pn**	**04 42 33.1**	**-2.2**
	14nm,0.3s,baz=24,slow=22,SNR=31						
MBAR				Sn	**Sn**	**04 44 22.4**	**-7.4**
	15nm,0.3s,baz=18,slow=19,SNR=2.0						
MBAR				Lg	Lg	04 45 24.5	
	25nm,0.3s,baz=18,slow=19,SNR=7.4						
MBAR	**Mbarara**	**10.18**	**313**	*e*P	**Pn**	**04 42 34.1**	**-1.3**
MBAR				*e*S	Sn	04 45 17.5	+48
MBAR	**Mbarara**	**10.18**	**313**	*i* P	**Pn**	**04 42 34.7**	**-0.7**
LODK	**Lodwar**	**11.38**	**346**	Pn	**Pn**	**04 42 51.4**	**-0.3**
LODK	**Lodwar**	**11.38**	**346**	*e*P	**Pn**	**04 42 53.4**	**+1.7**
LODK				*e*S	Sn	04 45 31.5	+32
LODK	**Lodwar**	**11.38**	**346**	*e*P	**Pn**	**04 42 51.9**	**+0.2**
KRI	**Karoi**	**12.30**	**222**	*i* P	**Pn**	**04 43 04.3**	**+0.1**
KRI	**Karoi**	**12.30**	**222**	*i* P	**Pn**	**04 43 04.3**	**+0.1**
LSZ	**Lusaka**	**12.30**	**231**	Pn	**Pn**	**04 43 03.5**	**-0.7**
LSZ	**Lusaka**	**12.30**	**231**	*i* P	**Pn**	**04 43 04.2**	**-0.1**
LSZ	**Lusaka**	**12.30**	**231**	Pn	**Pn**	**04 43 03.6**	**-0.6**
	4.9nm,0.3s,baz=66,slow=12,SNR=23						
LSZ				LR	LR	04 46 59.4	
	comp=Z,147nm,19.7s,baz=26,slow=33						
	13nm,0.4s						
LSZ	**Lusaka**	**12.30**	**231**	*i* P	**Pn**	**04 43 04.2**	**-0.1**
OPO	**Ambohidratompo**	**13.95**	**142**	Pn	**Pn**	**04 43 26.3**	**-0.6**
	0.4nm,0.3s,baz=297,slow=14,SNR=19						
OPO				LR	LR	04 48 36.0	
	comp=Z,286nm,21.6s,baz=166,slow=37						
	20nm,0.7s						
ABPO	**Ambohimpanom**	**14.32**	**143**	Pn	**Pn**	**04 43 31.2**	**-0.8**
BLWY	**Bulawayo**	**15.42**	**216**	*i* P	**Pn**	**04 43 44.0**	**-2.7**
BLWY	**Bulawayo**	**15.42**	**216**	*i* P	**Pn**	**04 43 44.0**	**-2.7**
VOI	**Vohitsoka**	**16.42**	**150**	Pn	**Pn**	**04 44 00.9**	**+1.2**
VOI	**Vohitsoka**	**16.42**	**150**	*e*P	**P**	**04 44 07.2**	**+4.8**
FURI	**Furi**	**16.49**	**2**	Pn	**Pn**	**04 44 00.8**	**0.0**
FURI				IAmb	IAmb	04 44 04.4	
	comp=Z,33nm,0.5s						
MUSN	**Musina, Limpop**	**16.54**	**208**	*i* P	**Pn**	**04 43 57.0**	**-4.1**
MUSN	**Musina, Limpop**	**16.54**	**208**	*e*P	**Pn**	**04 44 00.1**	**-1.0**
MUSN	**Musina, Limpop**	**16.54**	**208**	*i* P	**Pn**	**04 43 57.0**	**-4.1**
MOPA	**Mopani**	**17.00**	**202**	*i* P	**Pn**	**04 44 04.8**	**-2.0**
MOPA	**Mopani**	**17.00**	**202**	*e*P	**Pn**	**04 44 06.8**	**-0.1**
MOPA	**Mopani**	**17.00**	**202**	*i* P	**Pn**	**04 44 04.8**	**-2.0**
HOED	**Hoedspruit, Li**	**17.99**	**202**	*e*P	**P**	**04 44 21.8**	**+2.2**
PILG	**Pilgrimsrest,**	**18.54**	**202**	*e*P	**P**	**04 44 26.1**	**+0.2**
DESE	**Dese**	**18.75**	**5**	*e*P	P	04 44 13.5	-15
ATD	**Arta Tunnel**	**19.67**	**14**	P	**P**	**04 44 35.6**	**-2.7**
ATD	**Arta Tunnel**	**19.67**	**14**	LR	LR	04 52 21.1	
	comp=Z,7.8nm,20.6s,baz=172,slow=37						
NHAM	**Northam, North**	**19.99**	**210**	*e*P	**P**	**04 44 40.9**	**-0.9**
NHAM				IAmb	IAmb	04 44 54.9	
	comp=Z,35nm,0.7s						
POGA	**Pongola**	**20.46**	**196**	P	Pn	04 44 48.0	-0.9
HRAO	**HartRAO**	**20.64**	**208**	*e*P	Pn	04 44 50.5	-0.6
LBTB	**Lobatse**	**20.96**	**213**	P	Pn	04 44 55.4	+0.5
LBTB				IAmb	IAmb	04 45 07.2	
	comp=Z,30nm,0.7s						
LBTB	**Lobatse**	**20.96**	**213**	*i* P	**P**	**04 44 48.0**	**-4.3**
LBTB	**Lobatse**	**20.96**	**213**	*e*P	Pn	04 44 55.9	+1.0
LBTB	**Lobatse**	**20.96**	**213**	P	Pn	04 44 57.3	+2.4
	comp=Z,14nm,0.7s,baz=27,slow=11,SNR=17						
LBTB				PP	**PnPn**	**04 45 11.6**	**+0.5**
	comp=Z,18nm,0.5s,baz=45,slow=14,SNR=9.8						
LBTB	**Lobatse**	**20.96**	**213**	*i* P	**P**	**04 44 48.0**	**-4.3**
KSR	**Koster**	**20.98**	**209**	*e*P	Pn	04 44 57.7	+2.6
KSR				IAmb	IAmb	04 45 09.9	
	comp=Z,50nm,0.6s						
TSUM	**Tsumeb**	**22.98**	**238**	P	**P**	**04 45 15.0**	**+1.1**
TSUM	**Tsumeb**	**22.98**	**238**	LR	LR	04 54 03.8	
	comp=Z,169nm,18.6s,baz=62,slow=36						
BOSA	**Boshof**	**24.08**	**209**	P	**P**	**04 45 25.1**	**+0.4**
BOSA				IAmb	IAmb	04 45 51.6	
	comp=Z,22nm,1.0s						
BOSA	**Boshof**	**24.08**	**209**	*i* P	**P**	**04 45 18.2**	**-6.5**
BOSA	**Boshof**	**24.08**	**209**	*e*P	**P**	**04 45 25.7**	**+0.9**

BOSA	**Boshof**	**24.08**	**209**	P		**P**	**04 45 25.2**	**+0.4**
	comp=Z,3.2nm,0.4s,baz=34,slow=11,SNR=16							
BOSA				S		**S**	**04 49 50.8**	**+8.3**
	comp=Z,3.0nm,0.5s,baz=107,slow=14,SNR=2.6							
	comp=Z,3.2nm,0.4s							
BOSA	**Boshof**	**24.08**	**209**	*i* P		**P**	**04 45 18.2**	**-6.5**
SUR	**Sutherland**	**29.36**	**211**	P		**P**	**04 46 13.3**	**+1.0**
SUR	**Sutherland**	**29.36**	**211**	*e*P		P	04 46 17.5	+5.1
SUR				IAmb		IAmb	04 47 01.5	
	comp=Z,233nm,2.1s							
WSAR	**Wadi Sarin**	**36.72**	**33**	LR		LR	05 02 54.9	
	comp=Z,104nm,19.0s,baz=216,slow=37							
TOA0	**Torodi Ar. Sit**	**41.68**	**300**	P		**P**	**04 47 58.1**	**0.0**
TORD	**Torodi Ar. Bea**	**41.68**	**300**	P		**P**	**04 47 58.5**	**+0.5**
TORD	**Torodi Ar. Bea**	**41.68**	**300**	P		**P**	**04 47 59.2**	**+1.1**
	comp=Z,4.7nm,1.1s,baz=118,slow=5.9,SNR=16							
TORD				PcP		**PcP**	**04 49 55.7**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=98,slow=5.3,SNR=5.5							
TORD				LR		LR	05 04 58.6	
	comp=Z,132nm,20.6s,baz=140,slow=36							
	comp=Z,4.7nm,1.1s							
PALK	**Pallekele**	**45.00**	**72**	LR		LR	05 03 02.5	
	comp=Z,126nm,20.9s,baz=341,slow=31							
DBIC	**Dimbokro**	**45.17**	**287**	P		**P**	**04 48 25.7**	**-0.6**
DBIC				IAmb		IAmb	04 48 34.8	
	comp=Z,15nm,1.4s							
DBIC	**Dimbokro**	**45.17**	**287**	P		**P**	**04 48 27.1**	**+0.8**
	comp=Z,3.2nm,0.7s,baz=93,slow=13,SNR=3.7							
	comp=Z,3.2nm,0.7s							
BR131	**Keskin Array S**	**47.36**	**355**	P		**P**	**04 48 44.0**	**+0.7**
BR131				IAmb		IAmb	04 48 45.8	
	comp=Z,12nm,1.0s							
BRTR	**Keskin Array B**	**47.36**	**355**	P		**P**	**04 48 43.7**	**+0.5**
BRTR	**Keskin Array B**	**47.36**	**355**	P		**P**	**04 48 44.9**	**+1.6**
	comp=Z,7.8nm,1.0s,baz=176,slow=9.6,SNR=34							
	comp=Z,7.8nm,1.0s							
HRA	**Herat**	**47.68**	**27**	P		**P**	**04 48 44.9**	**-1.1**
HRA				IAmb		IAmb	04 48 46.5	
	comp=Z,4.1nm,0.8s							
GNI	**Garni**	**48.00**	**7**	LR		LR	05 10 27.6	
	comp=Z,116nm,18.4s,baz=188,slow=38							
GEYT	**Alibeck**	**49.08**	**21**	LR		LR	05 12 09.2	
	comp=Z,308nm,19.1s,baz=182,slow=39							
VAE	**Valguarnera**	**50.11**	**335**	LR		LR	05 11 51.6	
	comp=Z,163nm,18.1s,baz=268,slow=38							
KEST	**Kesra**	**50.99**	**330**	P		**P**	**04 49 11.1**	**0.0**
	comp=Z,2.3nm,0.5s,baz=166,slow=2.7,SNR=4.4							
	comp=Z,2.3nm,0.5s							
KBZ	**Khabaz**	**51.37**	**4**	LR		LR	05 12 01.0	
	comp=Z,114nm,18.1s,baz=188,slow=37							
HARR	**Harsova**	**52.95**	**351**	⇓P		**P**	**04 49 27.2**	**+1.9**
CFR	**Carcaliu**	**53.39**	**351**	⇓P		**P**	**04 49 29.6**	**+1.0**
VOIR		**54.18**	**349**	⇓P		**P**	**04 49 35.1**	**+0.6**
ARR	**Arges**	**54.19**	**348**	⇑P		**P**	**04 49 35.6**	**+1.0**
HERR	**Herculane**	**54.21**	**346**	⇑P		**P**	**04 49 34.1**	**-0.6**
VRI	**Vrincioaia**	**54.29**	**350**	⇑P		**P**	**04 49 36.5**	**+1.3**
SIMJ	**Simiganj**	**54.33**	**30**	P		**P**	**04 49 35.9**	**0.0**
SIMJ				IAmb		IAmb	04 49 37.2	
	comp=Z,7.3nm,0.9s							
COVR	**Voineasa-Covas**	**54.36**	**350**	⇑P		**P**	**04 49 37.0**	**+1.2**
CHGR	**Chuyangaron**	**54.41**	**30**	P		**P**	**04 49 36.5**	**+0.2**
LOT	**Lotru**	**54.45**	**348**	⇑P		**P**	**04 49 37.8**	**+1.2**
TURR	**Turia**	**54.59**	**350**	⇑P		**P**	**04 49 38.1**	**+0.6**
GZR	**Gura Zlata**	**54.62**	**347**	⇑P		**P**	**04 49 38.8**	**+1.2**
DOPR	**Dopca**	**54.62**	**349**	⇑P		**P**	**04 49 38.2**	**+0.5**
OZUR		**54.67**	**350**	⇓P		**P**	**04 49 38.3**	**+0.3**
GAR	**Garm**	**55.24**	**30**	P		**P**	**04 49 42.9**	**+0.5**
CJR	**Cluj-Napoca**	**55.69**	**348**	⇑P		**P**	**04 49 47.9**	**+2.5**
SIRR	**Siria**	**55.70**	**346**	⇑P		**P**

BVAR	**Borovoye Array**	**66.41**	**21**	P		**P**	**04 50 57.7**	**-0.3**	
	comp=Z,2.1nm,0.8s,baz=226,slow=6.0,SNR=10								
BVAR				PcP		**PcP**	**04 51 27.6**	**-0.1**	
	comp=Z,2.1nm,0.8s,baz=224,slow=4.1,SNR=5.9								
	comp=Z,2.1nm,0.8s								
PHRA	**Phrae**	**66.55**	**66**	P		**P**	**04 50 59.6**	**0.0**	
KIRV	**Kirov**	**66.69**	**6**	LR		LR	05 20 24.1		
	comp=Z,28nm,18.1s,baz=209,slow=36								
MAKZ	**Makanchi**	**66.79**	**31**	P		**P**	**04 50 60.0**	**-0.7**	
MAKZ				IAmb		IAmb	04 51 01.4		
	comp=Z,7.1nm,0.9s								
MK31	**Makanchi Array**	**66.94**	**31**	P		**P**	**04 51 00.8**	**-0.8**	
MK31				IAmb		IAmb	04 51 02.3		
	comp=Z,5.2nm,0.9s								
MKAR	**Makanchi Array**	**66.94**	**31**	P		**P**	**04 51 01.2**	**-0.4**	
MKAR	**Makanchi Array**	**66.94**	**31**	P		**P**	**04 51 01.5**	**-0.1**	
	comp=Z,4.9nm,0.9s,baz=223,slow=6.1,SNR=37								
MKAR				LR		LR	05 20 50.8		
	comp=Z,42nm,19.1s,baz=283,slow=36								
	comp=Z,4.9nm,0.9s								
KURBB	**Kurchatov Arra**	**67.79**	**26**	P		**P**	**04 51 06.9**	**+0.1**	
	comp=Z,1.1nm,0.2s,baz=226,slow=7.0,SNR=11								
	comp=Z,1.1nm,0.2s								
KURK	**Kurchatov**	**67.89**	**26**	P		**P**	**04 51 07.5**	**+0.1**	
KURK				IAmb		IAmb	04 51 08.5		
	comp=Z,6.5nm,1.1s								
GOMU	**GeErMu**	**68.78**	**46**	P		**P**	**04 51 15.0**	**+1.1**	
GOMU				pP		sP	04 51 22.8	+4.4	
GOMU				sP		pP	04 51 25.9	+8.7	
GOMU				pmax		pmax			
	comp=Z,22nm,0.8s								
FINES	**FINESS Array B**	**69.57**	**354**	P		**P**	**04 51 16.3**	**-1.4**	
	comp=Z,3.8nm,0.9s,baz=146,slow=4.1,SNR=9.2								
	comp=Z,3.8nm,0.9s								
HFS	**Hagfors**	**70.34**	**347**	P		**P**	**04 51 22.2**	**-0.2**	
	comp=Z,3.4nm,0.6s,baz=134,slow=6.4,SNR=11								
	comp=Z,3.4nm,0.6s								
PZH	**PanZhiHua**	**70.40**	**58**	P		**P**	**04 51 25.8**	**+2.0**	
PZH				pmax		pmax			
	comp=Z,10.0nm,0.4s								
PZH				pmax		pmax			
	comp=Z,100nm,4.2s								
NB2	**NORSAR Subarra**	**71.70**	**347**	P		**P**	**04 51 30.6**	**-0.2**	
	comp=Z,8.0nm,1.1s,baz=151,slow=5.9								
NOA	**NORSAR Array B**	**71.70**	**347**	P		**P**	**04 51 29.5**	**-1.3**	
	comp=Z,3.0nm,1.0s,baz=151,slow=5.7,SNR=5.7								
NOA				LR		LR	05 27 46.7		
	comp=Z,12nm,18.1s,baz=235,slow=40								
	comp=Z,3.0nm,1.0s								
ZAA0	**Zalesovo Array**	**72.88**	**27**	P		**P**	**04 51 37.2**	**-0.7**	
ZALV	**Zalesovo Beam**	**72.88**	**27**	P		**P**	**04 51 36.9**	**-1.0**	
ZALV	**Zalesovo Beam**	**72.88**	**27**	P		**P**	**04 51 37.3**	**-0.6**	
	comp=Z,1.9nm,0.8s,baz=235,slow=5.2,SNR=8.8								
ZALV				LR		LR	05 27 45.5		
	comp=Z,42nm,18.4s,baz=196,slow=39								
	comp=Z,1.9nm,0.8s								
GTA	**Gaotai**	**73.75**	**45**	*eP*		**P**	**04 51 44.0**	**+0.4**	
GTA				pP		sP	04 51 51.8	+3.7	
GTA				pmax		pmax			
	comp=Z,7.0nm,0.7s								
ARCES	**ARCESS Array B**	**77.55**	**355**	P		**P**	**04 52 04.7**	**+0.2**	
	comp=Z,6.0nm,1.0s,baz=180,slow=2.4,SNR=6.7								
	comp=Z,6.0nm,1.0s								
XAN	**Xi'an**	**78.67**	**53**	⇑P		**P**	**04 52 11.7**	**+0.1**	
XAN				pP		sP	04 52 15.8	-0.3	
XAN				pmax		pmax			
	comp=Z,6.0nm,0.8s								
BELA	**Belgrano 2**	**78.92**	**192**	P		**P**	**04 52 14.0**	**+1.9**	
BELA				IAmb		IAmb	04 52 15.0		
	comp=Z,5.8nm,0.9s								
PSA00	**Pilbara Seismi**	**79.56**	**111**	P		**P**	**04 52 14.6**	**-2.1**	
PSA00				IAmb		IAmb	04 52 25.4		
	comp=Z,17nm,1.4s								
KAPI	**Kappang**	**81.08**	**94**	P		**P**	**04 52 24.5**	**-0.5**	
KAPI				IAmb		IAmb	04 52 34.8		
	comp=Z,11nm,1.2s								
SONM	**Songino Array**	**81.44**	**39**	P		**P**	**04 52 27.3**	**+0.9**	
SONM				IAmb		IAmb	04 52 28.7		
	comp=Z,5.3nm,1.0s								
SONM	**Songino Array**	**81.44**	**39**	P		**P**	**04 52 27.8**	**+1.4**	
	comp=Z,3.5nm,0.8s,baz=246,slow=5.3,SNR=20								
	comp=Z,3.5nm,0.8s								
ULN	**Ulaanbaatar**	**81.87**	**39**	P		**P**	**04 52 29.1**	**+0.5**	
ULN				IAmb		IAmb	04 52 38.5		
	comp=Z,7.9nm,1.4s								
QSPA	**South Pole Qui**	**82.38**	**180**	P		**P**	**04 52 31.4**	**+0.5**	
QSPA	**South Pole Qui**	**82.38**	**180**	P		**P**	**04 52 31.9**	**+0.9**	
	comp=Z,6.7nm,1.0s,baz=247,slow=3.5,SNR=10								
	comp=Z,6.7nm,1.0s								
HNS	**HongShan**	**84.12**	**51**	⇓P		**P**	**04 52 41.3**	**+1.0**	
HNS				pmax		pmax			
	comp=Z,22nm,1.1s								
BDFB	**Brasilia**	**84.25**	**255**	P		**P**	**04 52 45.0**	**+3.4**	
	comp=Z,4.6nm,0.8s,baz=78,slow=5.2,SNR=9.2								
SOEI	**Soe**	**84.96**	**99**	P		**P**	**04 52 44.5**	**-0.7**	
FITZ	**Fitzroy Crossi**	**85.31**	**108**	P		**P**	**04 52 45.7**	**-1.1**	
NJ2	**Nanjing**	**86.27**	**57**	*eP*		**P**	**04 52 51.6**	**+0.4**	
NJ2				pmax		pmax			
	comp=Z,12nm,0.5s								
KNRA	**Kununurra**	**88.57**	**106**	P		**P**	**04 53 01.6**	**-1.1**	
CPUP	**Villa Florida**	**91.47**	**243**	P		**P**	**04 53 18.8**	**+2.7**	
	comp=Z,2.9nm,1.0s,baz=77,slow=4.0,SNR=4.7								
	comp=Z,2.9nm,1.0s								
ASAR	**Alice Springs**	**92.21**	**114**	P		**P**	**04 53 18.4**	**-1.2**	
ASAR	**Alice Springs**	**92.21**	**114**	P		**P**	**04 53 19.4**	**-0.2**	
	comp=Z,2.2nm,0.9s,baz=263,slow=4.4,SNR=18								
	comp=Z,2.2nm,0.9s								
WRA	**Warramunga Arr**	**93.21**	**110**	P		**P**	**04 53 23.8**	**-0.5**	
	comp=Z,0.9nm,0.8s,baz=262,slow=3.0,SNR=5.4								
	comp=Z,0.9nm,0.8s								
KSRS	**Korea Array**	**94.47**	**53**	LR		LR	05 35 00.7		
	comp=Z,10nm,21.2s,baz=350,slow=35								
MDJ	**Mudanjiang**	**96.40**	**46**	P		**P**	**04 53 37.0**	**-1.3**	
MDJ				pmax		pmax			
	comp=Z,9.0nm,1.5s								
MDJ				pmax		pmax			
	comp=Z,300nm,6.9s								
SFJD	**Kangerlussuaq**	**96.53**	**337**	LR		LR	05 41 58.4		
	comp=Z,32nm,19.7s,baz=166,slow=38								
TIXI	**Tiksi**	**97.49**	**19**	LR		LR	05 42 30.3		
	comp=Z,51nm,18.9s,baz=343,slow=38								
KLR	**Kul'dur**	**98.15**	**41**	P		**P**	**04 53 43.9**	**-2.1**	
	comp=Z,1.5nm,0.7s,baz=297,slow=3.1,SNR=5.8								
	comp=Z,1.5nm,0.7s								
YKA	**Yellowknife Ar**	**121.79**	**346**	PKP		**PKPdf**	**04 59 02.8**	**-0.1**	
	comp=Z,0.2nm,0.4s,baz=33,slow=1.8,SNR=11								
ILAR	**Eielson Array**	**122.91**	**3**	PKP		**PKPdf**	**04 59 04.2**	**-0.8**	
	comp=Z,0.9nm,0.9s,baz=310,slow=3.6,SNR=7.7								
ULM	**Lac du Bonnet**	**122.95**	**327**	PKP		**PKPdf**	**04 59 04.3**	**-1.1**	
	comp=Z,1.0nm,0.6s,baz=40,slow=2.4,SNR=3.8								
PDAR	**Pinedale Array**	**134.97**	**326**	PKP		**PKPdf**	**04 59 29.1**	**+0.2**	
	comp=Z,0.3nm,0.6s,baz=106,slow=3.2,SNR=5.3								
TXAR	**Lajitas Array**	**138.14**	**306**	PKP		**PKPdf**	**04 59 35.4**	**+0.4**	
	comp=Z,0.8nm,1.0s,baz=142,slow=4.3,SNR=4.3								
NVAR	**Mina Array Bea**	**142.73**	**329**	PKP		**PKPdf**	**04 59 41.3**	**-1.9**	
	comp=Z,1.2nm,0.7s,baz=63,slow=2.2,SNR=6.4								

*SJA **03** 04:57:18.8±0.7, 24°.16S×67°.06W, h201km±4km, ML3.5, MW3.5*
*GUC **03** 04:57:20.7±0.6, 24°.17S×67°.37W, h218km±5km, ML3.8*
ISC 03 04:57:17.8±1.7, 24°.18S±0°.04×67°.11W±0°.05, h214km±14km, n34, σ1§35/57, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.55**	**110**	*eP*	**Pn**	**04 57 53.8**	**+0.3**
SLA				*eS*	**S**	**04 58 18.9**	**-2.0**
AF01	**San Pedro de A**	**1.57**	**321**	*eP*	**Pn**	**04 57 55.2**	**+1.4**
AF01				*eS*	**S**	**04 58 21.6**	**0.0**
FSA	**Cafayete**	**2.17**	**152**	*eP*	**Pn**	**04 58 00.0**	**+0.7**
LVC	**Limon Verde**	**2.28**	**313**	*eP*	**Pn**	**04 58 01.7**	**+0.9**
LVC				*eS*	**S**	**04 58 33.7**	**0.0**
LVC	**Limon Verde**	**2.28**	**313**	⇑*eP*	**Pn**	**04 58 01.6**	**+0.9**
LVC				*eS*	**S**	**04 58 32.7**	**-1.1**
LVC				IAML		04 58 35.6	
	351nm,0.4s						
PB15	**IPOC Station P**	**2.38**	**294**	*eP*	**Pn**	**04 58 02.6**	**+1.1**
PB15				*eS*	**S**	**04 58 35.0**	**-0.2**
PB15				IAML		04 58 36.6	
	comp=Z,422nm,0.2s						
PB15	**IPOC Station P**	**2.38**	**294**	*eP*	**Pn**	**04 58 02.7**	**+1.1**
GO02	**Mina Guanaco**	**2.46**	**246**	*eP*	**Pn**	**04 58 03.6**	**+1.1**
GO02				*eS*	**S**	**04 58 37.1**	**+0.1**
GO02	**Mina Guanaco**	**2.46**	**246**	*eP*	**Pn**	**04 58 03.3**	**+0.8**
GO02				*eS*	**S**	**04 58 36.5**	**-0.6**
GO02				IAML		04 58 37.8	
	comp=N,206nm,0.3s						
YJA	**Yavi**	**2.48**	**37**	*eP*	**Pn**	**04 58 03.9**	**+1.0**
YJA				*eS*	**S**	**04 58 36.8**	**-0.9**
PB06	**IPOC Station P**	**2.70**	**303**	*eP*	**Pn**	**04 58 05.8**	**+0.8**
PB06				*eS*	**S**	**04 58 40.9**	**-0.6**
PB06				IAML		04 58 45.5	
	comp=Z,144nm,0.3s						
PB06	**IPOC Station P**	**2.70**	**303**	*eP*	**Pn**	**04 58 05.4**	**+0.4**
PB06				*eS*	**S**	**04 58 40.1**	**-1.4**
PB06				IAML		04 58 42.6	
	comp=E,290nm,0.3s						
PB14	**IPOC Station P**	**3.04**	**261**	*eP*	**Pn**	**04 58 10.0**	**+1.0**
PB14	**IPOC Station P**	**3.04**	**261**	*eP*	**Pn**	**04 58 09.9**	**+0.9**
AHML	**Horco Molle**	**3.04**	**149**	*eP*	**Pn**	**04 58 09.9**	**+1.2**
PB09	**IPOC Station P**	**3.09**	**320**	*eP*	**Pn**	**04 58 11.2**	**+1.8**
PB09				*eS*	**S**	**04 58 49.5**	**0.0**
PB09				IAML		04 58 49.8	
	comp=Z,83nm,0.7s						
PB09	**IPOC Station P**	**3.09**	**320**	*eP*	**Pn**	**04 58 11.3**	**+1.8**
PB09				*eS*	**S**	**04 58 49.1**	**-0.4**
PB09				IAML		04 58 50.2	
	comp=N,87nm,0.4s						
AC02	**Maricunga**	**3.21**	**214**	*eP*	**Pn**	**04 58 12.8**	**+1.7**
PB04	**IPOC Station P**	**3.35**	**303**	*eP*	**Pn**	**04 58 13.7**	**+1.2**
PB04				*eS*	**S**	**04 58 53.3**	**-1.7**
PB04				IAML		04 58 56.6	
	comp=Z,147nm,0.4s						
PB04	**IPOC Station P**	**3.35**	**303**	*eP*	**Pn**	**04 58 13.7**	**+1.2**
PB04				*eS*	**S**	**04 58 53.3**	**-1.7**
PB07	**IPOC Station P**	**3.54**	**313**	*eP*	**Pn**	**04 58 16.1**	**+1.3**
PB07				*eS*	**S**	**04 58 58.2**	**-1.0**
PB07				IAML		04 58 58.4	
	comp=Z,109nm,0.4s						
PB07	**IPOC Station P**	**3.54**	**313**	*eP*	**Pn**	**04 58 16.1**	**+1.3**
PB07				*eS*	**S**	**04 58 57.5**	**-1.6**
AC01	**Pan de Azucar**	**3.72**	**238**	*eP*	**Pn**	**04 58 17.2**	**+0.4**
AC01				*eS*	**S**	**04 59 00.8**	**-2.0**
AC01				IAML		04 59 04.1	
	comp=Z,26nm,0.3s						
AC01	**Pan de Azucar**	**3.72**	**238**	*eP*	**Pn**	**04 58 17.3**	**+0.6**
PB01	**IPOC Station P**	**3.82**	**324**	*eP*	**Pn**	**04 58 19.1**	**+1.0**
PB01				*eS*	**S**	**04 59 03.4**	**-1.7**
PB01				IAML		04 59 06.4	
	comp=Z,54nm,0.2s						
PB02	**IPOC Station P**	**3.84**	**317**	*eP*	**Pn**	**04 58 19.3**	**+1.0**
PB02				*eS*	**S**	**04 59 03.3**	**-2.3**
PB02				IAML		04 59 14.7	
	comp=Z,92nm,0.2s						
GO03	**Copiap**	**4.41**	**219**	*eP*	**Pn**	**04 58 26.0**	**+0.8**
GO03				*eS*	**S**	**04 59 17.3**	**-0.9**
PB08	**IPOC Station P**	**4.45**	**334**	*eP*	**Pn**	**04 58 28.1**	**+2.0**
PB08				*eS*	**S**	**04 59 19.7**	**+0.1**
PB08				IAML		04 59 24.7	
	comp=Z,22nm,0.4s						
TA01	**Diego Aracena**	**4.59**	**321**	*eP*	**Pn**	**04 58 28.5**	**+1.0**
TA01				IAML		04 59 31.4	
	comp=Z,18nm,0.5s						
GO01	**Chusmiza**	**4.89**	**336**	*eP*	**Pn**	**04 58 33.5**	**+1.7**
PB11	**IPOC Station P**	**5.00**	**331**	*eP*	**Pn**	**04 58 33.0**	**+0.3**
PB11				*eS*	**S**	**04 59 27.2**	**-4.5**
PB11				IAML		04 59 31.5	
	comp=Z,18nm,0.5s						
ACLC	**CERRO LA CRUZ**	**5.22**	**179**	*eP*	**Pn**	**04 58 37.4**	**+1.8**
AC04	**Llanos de Chal**	**5.36**	**221**	*eP*	**Pn**	**04 58 37.1**	**0.0**
AC04				IAML		04 59 45.8	
	comp=Z,18nm,0.5s						
AC05	**El Transito**	**5.43**	**211**	*eP*	**Pn**	**04 58 39.3**	**+1.1**
AC05				*eS*	**S**	**04 59 40.9**	**-0.7**
AC05				IAML		04 59 47.8	
	comp=Z,21nm,0.4s						

IDC 03 05:09:16.6±2.5, 1°.69N×127°.35E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=205.0km s-min=27.4km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.56**	**163**	P	P	05 14 17.3	-1.3
	0.5nm,0.6s,baz=341,slow=11,SNR=6.8						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**26.00**	**166**	P	P	05 14 52.7	+1.4
	0.1nm,0.4s,baz=350,slow=14,SNR=1.5						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**59.58**	**326**	P	P	05 19 22.0	-0.2
	0.1nm,0.3s,baz=113,slow=7.8,SNR=4.6						
	0.1nm,0.3s						

*FUNV **03** 05:15:58.2, 8°.52N×71°.94W, h20km, MW3.3*
*RSNC **03** 05:15:59.5±0.0, 9°.2×7°.2W±°, h106km±6km, M2.2, ML2.1*
ISC 03 05:15:58.1±1.7, 8.74N±0°.07×71°.87W±0°.04, h19km±6km, n13, σ1§46/23, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOCV	**Socops**	**1.10**	**114**	*eP*	**Pn**	**05 16 18.5**	**-0.1**
SOCV				*eS*	**Sn**	**05 16 33.5**	**+0.2**
SDV	**Santo Domingo**	**1.23**	**83**	P	**Pn**	**05 16 21.2**	**+0.7**
SDV				S	**Sn**	**05 16 39.5**	**+2.8**
OCAC	**Ocana**	**1.52**	**251**	P	**Pg**	**05 16 26.3**	**-1.2**
OCAC				S	**Sg**	**05 16 49.4**	**+2.0**
PAMC	**Pamplona, Colo**	**1.62**	**211**	P	**Pg**	**05 16 29.8**	**+0.3**
PAMC				S	Sg	05 16 54.6	+3.9
LL7C	**La Loma 7 Curu**	**1.66**	**291**	P	**Pn**	**05 16 26.1**	**-0.2**
LL7C				S	**Sn**	**05 16 48.6**	**+1.4**
AGCC	**Aguachica**	**1.71**	**262**	P	**Pb**	**05 16 28.5**	**-0.6**
AGCC				S	**Sg**	**05 16 53.1**	**-0.5**
EZNC	**La Esperanza**	**1.82**	**232**	P	**Pg**	**05 16 32.8**	**-0.3**
EZNC				S	**Sg**	**05 16 58.7**	**+1.9**
VMM09	**Lebrija**	**2.14**	**221**	P	**Pg**	**05 16 39.1**	**-0.2**
VMM09				S	Sg	05 17 09.8	+2.7
TAMC	**Tame, Arauca**	**2.29**	**178**	P	**Pg**	**05 16 39.8**	**-2.5**
SANV	**Sanarito**	**2.42**	**72**	*eP*	**Pn**	**05 16 39.3**	**+2.4**
SANV				*eS*	**Sn**	**05 17 07.7**	**+1.6**
CRJC	**Cerrejon, Guaj**	**2.47**	**336**	P	**Pn**	**05 16 37.2**	**-0.4**
CRJC				S	**Sn**	**05 17 06.7**	**-0.7**
BAUV	**El Baul**	**3.79**	**87**	*eP*	**Pn**	**05 16 55.0**	**-0.5**
BAUV				*eS*	**Sn**	**05 17 37.9**	**-1.8**
BENV	**Beln**	**4.38**	**74**	*eP*	**Pn**	**05 17 04.0**	**+0.1**
BENV				*eS*	**Sn**	**05 17 53.1**	**-1.4**

IDC 03 05:24:37.1±5.8, 6°.11S×142°.56E, h0km, mb3.6/2, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=216.5km s-min=33.6km az=97.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.90**	**209**	Pn	Pn	05 28 20.9	-1.6
	0.1nm,0.3s,baz=28,slow=13,SNR=2.2						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**19.34**	**205**	P	P	05 29 04.5	+0.2
	0.2nm,0.3s,baz=35,slow=8.8,SNR=17						
	1.0nm,0.6s						
MKAR	**Makanchi Array**	**74.81**	**322**	P	P	05 36 19.6	+0.2
	0.3nm,0.8s,baz=101,slow=9.2,SNR=2.0						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**84.28**	**325**	P	P	05 37 10.9	0.0
	0.5nm,0.5s,baz=114,slow=9.6,SNR=2.9						
	0.5nm,0.5s						

*SOF **03** 05:25:23.3, 40°.62N±0°.02×23°.51E±0°.01, h7km±2km, MD3.5/8*
*ISK **03** 05:25:24.1, 40°.68N×23°.47E, h6km, ML3.2/17*
*ATH **03** 05:25:24.8, 40°.67N×23°.48E, h10km, ML3.1/31, Manual Solution by G.Panopoulou This location: 2020/05/11 18:07:23 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*BEO **03** 05:25:25.1±1.0, 40°.68N×23°.41E, h5km±5km, ML3.1/10*
*SKO **03** 05:25:25.4, 40°.67N×23°.49E, h1km, ML3.4*
*THE **03** 05:25:25.0, 40°.66N×23°.47E, h4km, ML3.0/15, Error ellipse: s-maj=0.7km s-min=0.3km az=14.0*
ISC 03 05:25:25.2±0.8, 40°.66N±0°.01×23°.47E±0°.01, h9km±6km, n166, σ0§76/236, 25C-6D, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STCV	**Stivos**	**0.13**	**263**	P	**Pg**	**05 25 28.1**	**-0.1**
STCV				*eS*	**S**	**05 25 30.0**	**-0.2**
SOH	**Sokhos**	**0.18**	**330**	P	**Pg**	**05 25 28.8**	**-0.2**
SOH				S	**Sg**	**05 25 31.8**	**+0.1**
SOH	**Sokhos**	**0.18**	**330**	⇑*iPg*	**Pg**	**05 25 28.8**	**-0.2**
SOH				*i* Sg	**Sg**	**05 25 31.8**	**+0.1**
SOH	**Sokhos**	**0.18**	**330**	P	**Pg**	**05 25 28.8**	**-0.2**
SOH				S	**Sg**	**05 25 31.8**	**+0.1**
NGRA	**Nigrita**	**0.24**	**5**	P	**Pg**	**05 25 29.8**	**-0.3**
NGRA				S	**Sg**	**05 25 33.3**	**-0.2**
HORT	**Hortiatis**	**0.29**	**257**	Pg	**Pg**	**05 25 30.9**	**-0.1**
HORT				Sg	**Sg**	**05 25 35.1**	**+0.1**
HORT	**Hortiatis**	**0.29**	**257**	P	**Pg**	**05 25 30.9**	**-0.1**
HORT				S	**Sg**	**05 25 34.9**	**-0.1**
	7μm,0.2s						
HORT	**Hortiatis**	**0.29**	**257**	P	**Pg**	**05 25 30.9**	**-0.1**
HORT				S	**Sg**	**05 25 34.3**	**-0.7**
THE	**Thessaloniki**	**0.39**	**265**	P	**Pg**	**05 25 32.3**	**-0.4**
THE				S	**Sg**	**05 25 37.7**	**-0.2**
	2μm,0.3s						
THE	**Thessaloniki**	**0.39**	**265**	⇓*iPg*	**Pg**	**05 25 32.4**	**-0.4**
THE				*i* Sg	**Sg**	**05 25 37.8**	**-0.2**
THE	**Thessaloniki**	**0.39**	**265**	P	**Pg**	**05 25 32.4**	**-0.4**
THE				S	**Sg**	**05 25 37.4**	**-0.5**
MMAA	**Thessaloniki**	**0.40**	**265**	P	**Pg**	**05 25 32.9**	**-0.2**
KOKK	**Kokkinochori,**	**0.43**	**69**	P	**Pg**	**05 25 33.4**	**-0.2**
KOKK				S	**Sg**	**05 25 39.2**	**0.0**
KOKK	**Kokkinochori,**	**0.43**	**69**	P	**Pg**	**05 25 33.4**	**-0.2**
KOKK				S	**Sg**	**05 25 39.1**	**-0.2**
OREA	**Oraiokastro**	**0.43**	**279**	P	**Pg**	**05 25 33.5**	**0.0**
OREA				S	**Sg**	**05 25 39.6**	**+0.3**
SRS	**Serrai**	**0.46**	**11**	P	**Pg**	**05 25 33.4**	**-0.8**
SRS				S	**Sg**	**05 25 40.6**	**+0.3**
	2μm,0.3s						
SRS	**Serrai**	**0.46**	**11**	⇑*iPg*	**Pg**	**05 25 33.5**	**-0.8**
SRS				*i* Sg	**Sb**	**05 25 45.6**	**+3.2**
SRS	**Serrai**	**0.46**	**11**	P	**Pg**	**05 25 33.6**	**-0.6**
OUR	**Ouranopolis**	**0.51**	**130**	Pg	**Pg**	**05 25 34.9**	**-0.2**
OUR				Sg	**Sg**	**05 25 42.3**	**+0.5**
OUR	**Ouranopolis**	**0.51**	**130**	P	**Pg**	**05 25 34.9**	**-0.2**
OUR				S	**Sg**	**05 25 41.9**	**+0.1**
	4μm,0.4s						
OUR	**Ouranopolis**	**0.51**	**130**	P	**Pg**	**05 25 34.9**	**-0.2**
OUR				S	**Sg**	**05 25 41.8**	**0.0**
KNT	**Kendrikon**	**0.66**	**319**	Pg	**Pg**	**05 25 37.1**	**-0.9**
KNT				Sg	**Sg**	**05 25 46.2**	**-0.4**
KNT	**Kendrikon**	**0.66**	**319**	P	**Pg**	**05 25 37.0**	**-0.9**
KNT	**Kendrikon**	**0.66**	**319**	⇑*iPg*	**Pg**	**05 25 37.1**	**-0.9**
KNT				*i* Sg	**Sg**	**05 25 46.4**	**-0.3**
KNT	**Kendrikon**	**0.66**	**319**	P	**Pg**	**05 25 37.3**	**-0.7**
PLN1	**Chaniotis**	**0.67**	**173**	P	**Pg**	**05 25 37.9**	**-0.3**
PLN1				S	**Sg**	**05 25 47.2**	**+0.4**
DRA2	**DRAMA**	**0.71**	**46**	P	**Pg**	**05 25 38.4**	**-0.6**
KVLA	**Kavala**	**0.74**	**68**	P	**Pg**	**05 25 39.1**	**-0.5**
KVLA				S	**Sg**	**05 25 48.4**	**-0.9**
NVR	**Nevrokopi**	**0.75**	**23**	P	**Pg**	**05 25 39.7**	**+0.1**
NVR				S	**Sb**	**05 25 50.5**	**-0.1**
	1μm,0.4s						
NVR	**Nevrokopi**	**0.75**	**23**	P	**Pb**	**05 25 40.0**	**-0.3**
NVR				S	**Sg**	**05 25 49.1**	**-0.3**
PAIG	**Paliouri**	**0.75**	**168**	Pg	**Pg**	**05 25 38.8**	**-0.9**
PAIG				Sg	**Sg**	**05 25 49.5**	**0.0**
PAIG	**Paliouri**	**0.75**	**168**	P	**Pg**	**05 25 38.7**	**-0.9**
PAIG				S	**Sg**	**05 25 49.3**	**-0.2**
	3μm,0.5s						
THS1	**Thassos, Thass**	**0.84**	**85**	P	**Pb**	**05 25 41.9**	**0.0**
KAVA	**Kavala**	**0.86**	**67**	P	**Pg**	**05 25 40.9**	**-0.8**
KAVA	**Kavala**	**0.86**	**67**	P	**Pg**	**05 25 41.0**	**-0.7**
KAVA				S	**Sg**	**05 25 51.9**	**-1.0**
GRG	**Griva**	**0.86**	**290**	Pg	**Pg**	**05 25 41.1**	**-0.7**
GRG	**Griva**	**0.86**	**290**	P	**Pg**	**05 25 40.7**	**-1.1**
GRG				S	**Sb**	**05 25 53.8**	**-0.2**
	2μm,0.4s						
GRG	**Griva**	**0.86**	**290**	*i* Pg	**Pg**	**05 25 41.4**	**-0.4**
GRG				*i* Sg	**Sg**	**05 25 53.1**	**+0.1**
GRG	**Griva**	**0.86**	**290**	P	**Pg**	**05 25 40.5**	**-1.4**
GRG				S	**Sg**	**05 25 52.5**	**-0.6**
VERN	**Vergina**	**0.90**	**259**	P	**Pg**	**05 25 42.5**	**+0.1**
VERN				S	**Sg**	**05 25 54.5**	**+0.5**
MMB	**Musomishta**	**0.91**	**13**	P	**Pg**	**05 25 42.1**	**-0.6**
MMB				S	**Sb**	**05 25 54.6**	**-0.7**
MMB	**Musomishta**	**0.91**	**13**

AGG	Agios Georgios	1.86	209	P	Pn	05 25 57.2	+0.1
NEST	Nestorio	1.86	263	P	Pn	05 25 57.2	-0.1
GADA	Gvkgeada	1.91	104	Pn	Pn	05 25 58.7	+0.9
PGB	Panagyurishte	1.92	16	P	Pb	05 26 00.2	-0.2
PGB				S	Sg	05 26 27.5	+0.6
MAKR	Makrakomi, Fth	1.94	212	P	Pn	05 25 58.7	+0.3
MAKR				S	Sn	05 26 23.7	+0.8
	comp=E,460nm,0.7s						
MAKR	Makrakomi, Fth	1.94	212	P	Pn	05 25 58.6	+0.3
VTS	Vitosha	1.96	355	P	Pn	05 25 59.8	+1.1
VTS				S	Sb	05 26 24.8	-0.9
VTS	Vitosha	1.96	355	eP	Pn	05 25 58.9	+0.2
VTS				eSg	Sb	05 26 25.5	-0.2
ALN	Alexandroupoli	1.97	82	Pn	Pn	05 25 59.4	+0.8
ALN	Alexandroupoli	1.97	82	P	Pn	05 25 57.4	-1.3
BOSS	Bosilegrad	1.98	338	eP	Pn	05 25 59.9	+1.1
BOSS				eSg	Sb	05 26 26.2	+0.2
AXAR	Agios Charalam	2.00	199	P	Pn	05 25 58.8	-0.2
AXAR	Agios Charalam	2.00	199	P	Pn	05 25 58.8	-0.2
ENEZ	Enez	2.04	87	Pn	Pn	05 26 00.0	+0.4
KYMI	Kymi, Euboea I	2.08	166	P	Pn	05 25 59.8	-0.5
KYMI	Kymi, Euboea I	2.08	166	P	Pn	05 25 59.0	-1.2
DIM	Dimitrovgrad	2.10	48	P	Pb	05 26 04.1	+0.7
DIM				S	Sg	05 26 33.4	+0.7
PRVS	Prvonek	2.12	331	eP	Pn	05 26 01.2	+0.4
PRVS				eSg	Sg	05 26 31.8	-1.5
EVR	Evrytania	2.17	217	P	Pn	05 26 01.4	0.0
JAN	Janina	2.25	244	P	Pn	05 26 03.2	+0.7
ERIK	Erikli-Kesan	2.31	89	Pn	Pn	05 26 03.6	+0.2
SIGR	SIGRI	2.34	128	Pn	Pn	05 26 04.4	+0.7
EZN	Ezine	2.34	110	Pn	Pn	05 26 04.0	+0.3
ANX	Ano Chora	2.39	211	P	Pn	05 26 04.9	+0.3
VIL2	Platees	2.45	184	P	Pn	05 26 05.3	-0.1
BARS	Barje	2.48	331	eP	Pn	05 26 07.3	+1.6
BARS				eSg	Sg	05 26 43.0	-1.9
VILL	Villia	2.50	183	P	Pn	05 26 05.7	-0.3
PVO	Paravola	2.54	217	P	Pn	05 26 06.8	+0.4
EFP	Efpalio	2.54	209	P	Pn	05 26 07.1	+0.6
IGT	Igoumenitsa	2.66	246	P	Pn	05 26 08.6	+0.4
LTK	Loutraki	2.67	189	P	Pn	05 26 08.1	-0.2
ZAPS	Zavoj	2.68	347	ePn	Pn	05 26 10.3	+1.8
MPEP	Malo Peshtene	2.70	4	P	Pn	05 26 09.3	+0.6
EDRB	Edirne	2.73	63	Pn	Pn	05 26 09.8	+0.6
EDRB	Edirne	2.73	63	P	Pn	05 26 08.5	-0.7
KLV	Kalavryta, Ach	2.81	202	P	Pn	05 26 10.4	+0.1
KLV				S	Sn	05 26 44.9	+0.6
KLV	Kalavryta, Ach	2.81	202	P	Pn	05 26 10.3	0.0
PLVB	Pleven	2.85	17	⇑P	Pb	05 26 15.2	+1.0
GUR	Goura	2.86	198	P	Pn	05 26 11.3	+0.3
GUR				S	Sn	05 26 46.5	+0.9
	comp=E,105nm,0.3s						
GUR	Goura	2.86	198	P	Pn	05 26 11.0	0.0
ELND	Elena	2.89	38	⇑P	Pn	05 26 12.0	+0.6
JMB	Yambol	2.93	50	S	Sg	05 26 59.6	+0.3
VALD	Valchedram	3.02	359	P	Pn	05 26 13.8	+0.7
DRO	Drossia	3.03	207	P	Pn	05 26 13.7	+0.4
SELS	Selova	3.10	326	ePn	Pn	05 26 13.9	-0.3
ZAGS	Zajecar	3.28	344	ePn	Pn	05 26 16.5	-0.2
KRND	KRANIDI	3.29	184	P	Pn	05 26 16.5	-0.3
GRUS	Gruza	3.82	328	ePn	Pn	05 26 24.0	-0.1
IVAS	Ivanjica	3.82	321	ePn	Pn	05 26 24.2	+0.1
APE	Apeiranthos	3.93	155	P	Pn	05 26 25.6	-0.1
KUBS	Kucevo	3.97	341	ePn	Pn	05 26 24.7	-1.5
TRUS	Trudelj	4.22	328	ePn	Pn	05 26 29.4	-0.2
DIVS	Divibare	4.29	324	ePn	Pn	05 26 30.5	-0.2
MDVR	Moldovita	4.31	343	⇓P	Pn	05 26 32.0	+1.1
BBLS	Lazi&#263i	4.40	318	ePn	Pn	05 26 31.1	-1.0
GZR	Gura Zlata	4.75	354	⇑P	Pn	05 26 36.7	-0.3
ARR	Arges	4.78	10	⇑P	Pn	05 26 37.8	+0.5
LOT	Lotru	4.79	3	⇑P	Pn	05 26 38.0	+0.5
STON	Ston	4.85	299	*i* P	Pn	05 26 39.8	+1.6
VOIR		4.91	13	⇑P	Pn	05 26 40.3	+1.2
ISR	Istrita	4.99	26	⇑P	Pn	05 26 42.2	+2.0
BZS	Buzias	5.13	345	⇑P	Pn	05 26 41.7	-0.4
MATE	Matera	5.15	272	⇓P	Pn	05 26 42.6	+0.3
MLR	Muntele Rosu	5.15	20	⇑P	Pn	05 26 43.7	+1.2
NEHR	Nehoiu	5.19	23	⇑P	Pn	05 26 44.8	+1.9
HARR	Harsova	5.19	38	⇑P	Pn	05 26 44.6	+1.6
DOPR	Dopca	5.48	14	⇑P	Pn	05 26 48.0	+1.1
RICI	Ricice	5.50	303	*i* P	Pn	05 26 48.9	+1.7
COVR	Voineasa-Covas	5.55	20	⇑P	Pn	05 26 48.8	+0.9
CFR	Carcaliu	5.66	36	⇑P	Pn	05 26 49.8	+0.4
PLOR	Plostina	5.68	23	⇑P	Pn	05 26 51.8	+2.1
TURR	Turia	5.70	18	⇑P	Pn	05 26 52.5	+2.5
VRI	Vrincioaia	5.72	23	⇑P	Pn	05 26 52.4	+2.2
HVAR	Hvar	5.81	298	*i* P	Pn	05 26 52.5	+1.1
MARR	Marisel-Cluj	6.01	358	⇑P	Pn	05 26 55.0	+0.7
DRGR		6.15	355	⇑P	Pn	05 26 55.5	-0.7
KIJV	Kijevo	6.21	305	*i* P	Pn	05 26 58.9	+1.9
ZIRJ	Zirje	6.54	300	*i* P	Pn	05 27 02.3	+0.9
MORH	Mrgy, Hungar	6.57	329	⇑P	Pn	05 27 01.6	-0.2
VASR	Vaslui	6.75	26	⇑P	Pn	05 27 05.4	+1.1
BURAR	Bucovina Array	7.06	10	⇑P	Pn	05 27 10.1	+1.4

GUC 03 05:30:31.1±0.8, 22°31S×66°46W, h245km±15km, ML3.7, 6C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.29	262⇑	eP	Pn	05 31 16.2	-0.1
LVC				eS	S	05 31 50.2	-1.5
LVC				IAML		05 31 51.1	
	425nm,0.5s						
PB09	IPOC Station P	2.63	281⇑	eP	Pn	05 31 19.4	-0.1
PB09				eS	S	05 31 56.3	-1.4
PB09				IAML		05 31 58.9	
	comp=E,42nm,0.4s						
PB06	IPOC Station P	2.90	262	eP	Pn	05 31 22.6	+0.1
PB06				eS	S	05 32 01.5	-1.4
PB15	IPOC Station P	2.92	252⇑	eP	Pn	05 31 22.6	0.0
PB15				eS	S	05 32 02.1	-1.2
PB01	IPOC Station P	3.08	294	eP	Pn	05 31 23.9	-0.4
PB01				eS	S	05 32 03.4	-3.0
PB07	IPOC Station P	3.23	280⇑	*i* Pg	Pn	05 31 25.4	-0.6
PB07				eS	S	05 32 06.0	-3.4
PB08	IPOC Station P	3.31	310	eP	Pn	05 31 27.1	-0.1
PB08				eS	S	05 32 10.3	-1.1
PB02	IPOC Station P	3.34	287	eP	Pn	05 31 26.6	-0.6
PB02				eS	S	05 32 09.0	-2.5
GO01	Chusmiza	3.66	315	eP	Pn	05 31 31.0	-0.3
GO01				eS	S	05 32 16.8	-2.0
PATCX	Punta Patache	3.74	293	eP	Pn	05 31 31.3	-0.5
PATCX				eS	S	05 32 16.1	-3.7
HMBC	Humberstone	3.78	302⇑	eP	Pn	05 31 31.4	-0.9
HMBC				eS	S	05 32 16.6	-4.1
PB11	IPOC Station P	3.92	310	eP	Pn	05 31 33.0	-0.9
PB11				eS	S	05 32 19.8	-3.8
PB16	IPOC Station P	4.88	324⇑	eP	Pn	05 31 46.4	+0.5
PB16				eS	S	05 32 44.2	-1.1
PB12	IPOC Station P	5.16	315	eP	Pn	05 31 47.9	-1.0
PB12				eS	S	05 32 45.5	-5.4

IDC 03 05:31:55.5±6.8, 5°90S×141°74E, h0km, mb3.4/1, mbtmp3.5/3, ML3.1/2, MS3.2/1, Error ellipse: s-maj=240.3km s-min=36.6km az=94.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.71	207	Pn	Pn	05 35 37.9	-0.4
	0.1nm,0.3s,baz=29,slow=13,SNR=1.2 0.4nm,0.5s						
ASAR	Alice Springs	19.21	202	P	P	05 36 21.4	+0.2
	0.1nm,0.3s,baz=31,slow=11,SNR=18						
ASAR				LR	LR	05 43 59.2	
	comp=Z,70nm,18.3s,baz=98,slow=38 3.1nm,1.0s						
MKAR	Makanchi Array	74.14	322	P	P	05 43 33.9	0.0
	0.3nm,0.9s,baz=118,slow=5.2,SNR=2.9 0.3nm,0.9s						

*NNC **03** 05:41:49.1±10.0, 51°04N×98°38E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=75.3km s-min=43.7km az=138.0*
*IDC **03** 05:41:56.9±1.9, 50°58N×98°19E, h0km, mbtmp3.1/5, ML2.6/5, Error ellipse: s-maj=58.4km s-min=15.9km az=17.0*
*MOS **03** 05:41:57.9±2.4, 50°87N×98°54E, h10km, mb3.9/1, Error ellipse: s-maj=14.1km s-min=10.3km az=165.5*

*ASRS **03** 05:41:58.6±0.3, 51°N±3°×9°8E±°, h10km, MLh4.4/7, Error ellipse: s-maj=6.0km s-min=2.3km az=4.0, confirmed*
ISC 03 05:41:55.4±0.7, 50°96N±0°04×98°04E±0°03, h10km, n46, σ1ᵗ93/62, 4C-5D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	Orlik	1.92	34	*i* PN	Pb	05 42 30.5	-0.2
ORL				*i* S	Sb	05 42 54.1	-0.7
MOY	Mondy	1.98	68⇓	*i* PN	Pn	05 42 29.5	+0.4
MOY				*e*		05 42 52.6	
MOY				pmax	pmax		
	comp=Z,361nm,0.5s						
MOY				smax	smax		
	comp=N,2μm,0.3s						
MOY	Mondy	1.98	68	⇓Pg	Pn	05 42 29.6	+0.5
MOY				Sg	Sn	05 42 53.8	-0.3
HVS	Khovu-Aksy	2.74	275	*i* PN	Pg	05 42 48.5	+0.5
HVS				*i* S	Sg	05 43 25.0	+1.5
ARS	Arshan	2.91	69	*e*PN	Pn	05 42 42.3	+0.5
ARS				*e*		05 42 46.2	
ARS				*e*		05 43 19.2	
ARS				pmax	pmax		
	comp=Z,158nm,0.3s						
ARS				smax	smax		
	comp=N,2μm,0.7s						
ARDR	Aradan	3.29	301	Pn	Pb	05 42 53.4	-0.4
ARDR				Pg	Pg	05 42 57.0	-1.4
ARDR				Sg	Sg	05 43 42.8	+1.8
ZAK	Zakamensk	3.38	98	*e*PN	Pn	05 42 49.8	+1.4
ZAK				*e*		05 42 52.9	
ZAK				*e*		05 43 35.1	
ZAK				pmax	pmax		
	comp=Z,207nm,0.6s						
ZAK				smax	smax		
	comp=N,1μm,0.8s						
ZAK	Zakamensk	3.38	98	Pn	Pn	05 42 49.9	+1.6
ZAK				Pg	Pb	05 42 53.7	-1.8
ZAK				Sg	Sb	05 43 36.1	-0.7
TLY	Talaya	3.59	76	*e*PN	Pb	05 42 56.8	-2.2
TLY				*e*		05 43 41.1	
TLY				pmax	pmax		
	comp=Z,62nm,0.5s						
TLY				smax	smax		
	comp=E,593nm,0.5s						
BLRR	Bol'shaya Rech	4.04	303	*i* PN	Pg	05 43 10.3	-2.5
BLRR				*i* S	Sg	05 44 03.2	-1.9
IRK	Irkutsk	4.09	69	*e*PN	Pb	05 43 06.2	-1.3
IRK				*e*		05 43 57.4	
IRK				pmax	pmax		
	comp=Z,183nm,0.1s						
IRK				smax	smax		
	comp=N,1μm,0.5s						
IRK	Irkutsk	4.09	69	Pg	Pb	05 43 05.8	-1.7
IRK				Sg	Sb	05 43 57.4	+0.4
LSTR	Listvyanka	4.35	75	*e*PN	Pb	05 43 12.0	+0.1
LSTR				*e*		05 44 03.4	
LSTR				pmax	pmax		
	comp=Z,27nm,0.5s						
LSTR				smax	smax		
	comp=N,193nm,0.8s						
DJOS	Djoyskaya Sosn	4.50	297	Pn	Pb	05 43 12.3	-2.2
DJOS				Pg	Pg	05 43 21.7	0.0
DJOS				Sg	Sg	05 44 20.0	0.0
CERR	Cheremushki	4.52	297	Pn	Pb	05 43 10.5	-4.2
CERR				Pg	Pg	05 43 21.2	-0.7
CERR				Sg	Sg	05 44 20.6	+0.3
MINR	Mina	4.58	331	Pn	Pn	05 43 10.0	+5.3
MINR				Pg	Pg	05 43 24.3	+1.3
MINR				Sg	Sg	05 44 26.9	+4.6
DJO	Djoy, Khakassi	4.60	296	Pn	Pb	05 43 12.9	-3.3
DJO				Pg	Pg	05 43 22.8	-0.7
DJO				Sg	Sg	05 44 23.8	+0.7
TBTR	Tabat	4.94	296	*i* PN	Pb	05 43 25.0	+3.1
CUR	Chagan-Uzun	6.24	266	Sg	Sg	05 45 15.3	-0.3
SONM	Songino Array	6.29	117	Pn	Pn	05 43 28.3	0.0
	comp=N,0.2nm,0.3s,baz=295,slow=14,SNR=4.0						
SONM				Pg	Pb	05 43 45.1	+0.1
	comp=N,2.7nm,0.3s,baz=295,slow=16,SNR=15						
SONM				Lg	Lg	05 45 09.7	
	comp=N,7.9nm,0.3s,baz=308,slow=28,SNR=11 comp=N,0.4nm,0.3s						
ULGR	Ulagan, Altay	6.40	271	Pg	Pg	05 43 59.0	+1.1
ULGR				Sg	Sg	05 45 22.6	+1.9
TASR	Tashtagol	6.54	290	Pn	Pn	05 43 38.6	+6.9
TASR				Sg	Sg	05 45 27.5	+2.1
YALR	Yailyu, Altay	6.58	281	Sg	Sg	05 45 28.5	+2.0
AKAR	Aktash	6.66	268	Pg	Pg	05 44 02.0	-0.9
AKAR				Sg	Sg	05 45 28.6	-0.4
CHBI	Chibit, Altay	6.73	269	Pg	Pg	05 44 02.8	-1.5
CHBI				Sg	Sg	05 45 30.6	-0.8
ARTR	Artybash	6.79	281	Pg	Pg	05 44 04.6	-0.7
ARTR				Sg	Sg	05 45 34.4	+1.3
DGZ	Jazzator, Alta	6.91	264	*i* P	Pn	05 43 38.9	+2.1
DGZ	Jazzator, Alta	6.91	264	Pg	Pg	05 44 05.6	-2.1
DGZ				Sg	Sg	05 45 37.9	+0.9
BRCR	Berchikul'	7.47	313	Pg	Pg	05 44 14.3	-4.0
BRCR				Sg	Sg	05 45 50.7	-4.3
ELDR	Elanda	7.53	277	Pn	Pn	05 43 51.0	+5.7
ELDR				Pg	Pg	05 44 19.5	0.0
ELDR				Sg	Sg	05 45 58.7	+1.7
ELT	Eltsovka	7.62	292	Pg	Pg	05 44 16.0	-5.3
ELT				Sg	Sg	05 45 57.4	-2.4
SALR	Pechorkino, Sa	8.25	300	Sg	Sg	05 46 17.9	-2.2
UKR	Ust'-Kan	8.38	275	Pg	Pg	05 44 29.4	-6.3
UKR				Sg	Sg	05 46 25.3	+1.2
ZAA0	Zalesovo Array	8.61	295	⇑Pg	Pg	05 44 29.2	-11
	comp=N,0.4nm,0.7s						
ZAA0				⇑Lg	Lg	05 46 26.4	
	comp=N,6.7nm,1.2s						
ZALV	Zalesovo Beam	8.61	295	Pn	Pn	05 44 06.2	+6.2
	comp=N,0.1nm,0.3s,baz=101,slow=15,SNR=2.2						
ZALV				Lg	Lg	05 46 27.3	
	comp=N,0.5nm,0.3s,baz=97,slow=25,SNR=7.3 comp=N,0.5nm,0.5s						
MK31	Makanchi Array	11.18	254	*i* P	Pn	05 44 31.6	-3.6
MK31	Makanchi Array	11.18	254	⇓Lg	Lg	05 47 53.3	
	comp=N,9.2nm,0.8s,baz=73,slow=31,SNR=4.1						
MKAR	Makanchi Array	11.18	254	Pn	Pn	05 44 37.7	+2.5
	comp=N,0.1nm,0.3s,baz=76,slow=12,SNR=2.7						
MKAR				Lg	Lg	05 47 41.1	
	comp=N,0.1nm,0.3s,baz=53,slow=15,SNR=3.7 comp=N,0.3nm,0.7s						
MAKZ	Makanchi	11.36	255	⇓Lg	Lg	05 47 55.5	
	comp=N,30nm,1.1s						
BOD	Bodaibo	11.54	47	*e*P	Pn	05 44 39.9	-0.2
BOD				pmax	pmax		
	comp=Z,4.0nm,2.1s						
KURK	Kurchatov	12.28	276	P	Pn	05 44 55.5	+5.3
KURK	Kurchatov	12.28	276	⇓Lg	Lg	05 48 27.7	
	comp=Z,16nm,1.1s						
KURBB	Kurchatov Arra	12.35	276	Pn	Pn	05 44 55.5	+4.3
	baz=80,slow=15,SNR=4.4						
KURBB				Lg	Lg	05 48 25.3	
	baz=85,slow=34,SNR=3.3 comp=Z,0.3nm,0.6s						
KURBB	Kurchatov Arra	12.35	276	⇑Lg	Lg	05 48 28.2	
	comp=Z,32nm,1.1s						
OTUK	Ortayu	16.85	271	⇑Lg	Lg	05 50 51.8	
	comp=Z,11nm,1.4s						
BVAR	Borovoye Array	17.11	288	Pn	P	05 45 56.8	+0.5
	baz=94,slow=12,SNR=5.3 comp=Z,0.9nm,0.7s						

IDC 03 05:45:12.5±10.0, 18°90N×147°06E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=381.2km s-min=139.6km az=21.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	43.80	321	P	P	05 53 20.1	-0.2
	0.3nm,0.5s,baz=132,slow=9.9,SNR=2.4 0.3nm,0.5s						
MKAR	Makanchi Array	59.26	314	P	P	05 55 15.8	-0.1
	0.5nm,0.7s,baz=89,slow=6.3,SNR=4.9 0.5nm,0.7s						
KURBB	Kurchatov Arra	62.03	318	P	P	05 55 34.7	0.0
	0.8nm,0.5s,baz=94,slow=7.3,SNR=10 0.8nm,0.5s						
BVAR	Borovoye Array	67.14	320	P	P	05 56 08.3	+0.2
	1.0nm,0.5s,baz=86,slow=7.9,SNR=6.2 1.0nm,0.5s						
FINES	FINESS Array B	87.24	336	P	P	05 58 00.6	-0.1
	2.6nm,1.1s,baz=60,slow=3.7,SNR=3.4 2.6nm,1.1s						

IDC 03 05:50:00.1±2.5, 5°98S×130°51E, h0km, mb3.4/1, mbtmp3.5/3, ML3.8/2, Error ellipse: s-maj=140.1km s-min=32.9km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.37	165	Pn	Pn	05 53 24.7	-0.3
	0.6nm,0.3s,baz=348,slow=13,SNR=24						
WRA				Sn	Sn	05 55 48.7	-17
	0.3nm,0.3s,baz=340,slow=22,SNR=3.2 0.9nm,0.4s						
ASAR	Alice Springs	17.89	170	P	Pn	05 54 10.7	+0.2
	0.2nm,0.3s,baz=346,slow=9.1,SNR=15						
ASAR				S	Sn	05 57 17.4	-13
	0.3nm,0.5s,baz=354,slow=26,SNR=4.7 0.4nm,0.4s						
MKAR	Makanchi Array	67.66	326	P	P	06 00 59.1	0.0
	0.3nm,0.7s,baz=110,slow=8.2,SNR=2.4 0.3nm,0.7s						

*IDC **03** 05:59:26.5±5.5, 52°07N×169°43W, h0km, mb3.7/7, mbtmp3.6/9, ML3.2/2, Error ellipse: s-maj=130.3km s-min=26.4km az=164.0*
*AEIC **03** 05:59:31.9±2.7, 52°20N±0°06×169°28W±0°08, h21km±6km, Error ellipse: s-maj=10.2km s-min=5.1km az=149.0*
*NEIC **03** 05:59:31.3±2.5, 52°14N±0°06×169°29W±0°08, h20km±9km, mb3.7/27, ML3.4/8, MS3.1(AEIC), Error ellipse: s-maj=10.2km s-min=5.3km az=149.0*
ISC 03 05:59:30.1±1.1, 52°1N±0°1×169°25W±0°06, h21km±5km, n72, σ1ᵗ30/80, mb3.8/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	Concord Point,	0.77	338		Pb	05 59 44.7	-0.1
CLCO					Sb	05 59 53.8	-1.0
CLES	Cleveland East	0.85	333		Pb	05 59 45.8	-0.4
NIKH	Nikolski High	0.94	15		Pb	05 59 47.5	-0.1
NIKH					Sn	06 00 01.0	+0.3
OKCE	Okmok Cone E	1.51	25		Pn	05 59 56.5	+0.6
OKER	Okmok East Rim	1.57	27		Pn	05 59 57.2	+0.5
OKFG	Magazine Ridge	1.57	31		Pn	05 59 56.6	0.0
OKFG					Sb	06 00 17.3	-0.5
MAPS	Pakushin South	2.23	38		Pn	06 00 06.5	+0.7
MAPS					Sn	06 00 33.5	+0.8
MGOD	Makushin Gods	2.25	39		Pn	06 00 06.7	+0.7
MSW	Makushin Switc	2.38	38		Pn	06 00 08.5	+0.8
MSW					Sn	06 00 37.9	+1.7
MNAT	Makushin Natee	2.39	39		Pn	06 00 09.2	+1.3
MNAT					Sn	06 00 37.7	+1.1
UNV	Unalaska Valle	2.43	42		Pn	06 00 09.5	+1.0
UNV					Sn	06 00 38.5	+0.9
AKUT	Akutan	2.95	44	Pn	Pn	06 00 17.1	+1.6
AKUT				IAML		06 01 13.6	
	comp=N,70nm,1.3s						
AKUT				IAML		06 01 55.9	
	comp=E,76nm,1.5s						
KOFP	Korovin Flat P	2.99	276		Pn	06 00 18.0	+1.7
ATKA	Atka Island	3.05	274		Pn	06 00 17.8	+0.8
ATKA					Sn	06 00 54.4	+2.0
GSTR	Great Sitkin T	4.20	273	Pn	Pn	06 00 33.4	+0.6
GSMY	Great Sitkin M	4.20	272		Pn	06 00 34.2	+1.4
GSCK	Great Sitkin C	4.27	272		Pn	06 00 35.1	+1.3
P08K	Saint George I	4.54	358		Pn	06 00 38.1	+0.6
ADK	Adak	4.60	271		Pn	06 00 39.5	+1.3
ADK	Adak	4.60	271	Pn	Pn	06 00 39.4	+1.1
ADK				IAML		06 01 36.8	
	comp=E,46nm,1.2s						
ADK				IAML		06 01 38.8	
	comp=E,44nm,1.1s						
KIWB	Kanaga Island	4.89	271	Pn	Pn	06 00 43.2	+1.0
SPIA	Saint Paul Isl	5.15	354		Pn	06 00 47.8	+2.0
CHGN	Chignik	7.64	52	Pn	Pn	06 01 22.8	+2.9
O14K	Tigyukakuivet M	8.49	29	Pn	Pn	06 01 33.9	+2.3
N15K	Kwethluk River	9.58	29	Pn	Pn	06 01 50.1	+3.5
M14K	Bethel	9.59	22	Pn	Pn	06 01 49.3	+2.7
L14K	Kuka Creek	9.96	19	Pn	Pn	06 01 52.4	+0.6
P18K	Big Mountain,	10.77	42	Pn	Pn	06 02 05.3	+2.4
N17K	Nushagak Hills	10.79	34	Pn	Pn	06 02 04.2	+1.1
O18K	Koktuh Hills	11.06	40	Pn	Pn	06 02 09.4	+2.5
K15K	Wolf Creek Mou	11.06	19	Pn	Pn	06 02 09.5	+2.6
KDAK	Kodiak Island	11.15	53	Pn	Pn	06 02 06.7	-1.4
	comp=E,0.3nm,0.3s,baz=203,slow=4.1,SNR=11						
KDAK				Sn	Sn	06 04 03.2	-8.7
	comp=E,0.2nm,0.3s,baz=144,slow=19,SNR=1.9						
CNPM	China Poot	12.56	46	Pn	Pn	06 02 28.0	+0.7
O22K	Cooper Landing	13.69	44	Pn	Pn	06 02 42.0	-0.6
SCM	Sheep Creek Mo	15.37	42	Pn	Pn	06 03 03.3	-2.1
KLU	Klutina	15.80	44		Pn	06 03 08.8	-2.2
KLU				IAmb	IAmb	06 03 12.5	
	comp=Z,3.1nm,0.6s						
I21K	Tanana	15.84	27	Pn	Pn	06 03 11.8	+0.3
H21K	Melozitna Rive	15.98	25	Pn	Pn	06 03 12.8	-0.4
MLY	Manley	16.09	29	Pn	Pn	06 03 16.2	+1.4
BERG	Berg Lake	16.37	49	Pn	Pn	06 03 17.8	-0.6
N25K	Chitina, Valde	16.42	45	Pn	Pn	06 03 18.1	-0.9
N25K				IAmb	IAmb	06 03 57.5	
	comp=Z,6.0nm,1.4s						
I23K	Minto, Yukon-K	16.60	30	Pn	Pn	06 03 21.5	+0.4
GLB	Gilahina Butte	16.70	46	Pn	Pn	06 03 20.5	-2.0
GLB				IAmb	IAmb	06 03 24.2	
	comp=Z,6.6nm,1.4s						
CRQM	Cirque	16.76	49	Pn	Pn	06 03 23.0	-0.4
CRQM				IAmb	IAmb	06 03 49.7	
	comp=Z,17nm,1.4s						
VRDI	Verde Repeater	16.78	47	Pn	Pn	06 03 21.8	-1.8
VRDI				IAmb	IAmb	06 03 26.9	
	comp=Z,4.5nm,1.2s						
WAX	Waxell Ridge	16.79	50	Pn	Pn	06 03 23.6	-0.1
ISLE	Juniper Island	17.08	49	Pn	Pn	06 03

comp=Z,0.7nm,0.4s,baz=49,slow=6.7,SNR=7.0
comp=Z,0.7nm,0.4s

MKAR	**Makanchi Array**	**64.06**	**314**	P		**P**	**06 10 00.7**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=24,slow=8.2,SNR=1.2							
	comp=Z,0.4nm,0.8s							
FINES	**FINESS Array B**	**66.18**	**352**	P		**P**	**06 10 13.4**	**-2.0**
	comp=Z,1.0nm,0.8s,baz=19,slow=13,SNR=1.6							
	comp=Z,1.0nm,0.8s							
NOA	**NORSAR Array B**	**67.24**	**360**	P		**P**	**06 10 22.0**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=1.0,slow=5.8,SNR=2.2							
	comp=Z,0.6nm,0.8s							
ABKAR	**Akbulak array**	**70.73**	**328**	P		**P**	**06 10 43.7**	**-0.4**

IDC 03 06:00:10.6±6.2, 6°08S×142°55E, h0km, mb3.6/2, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=234.0km s-min=33.1km az=97.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.92**	**209**	Pn	Pn	06 03 55.0	-1.2
	0.2nm,0.3s,baz=31,slow=13,SNR=4.7						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**19.36**	**205**	P	P	06 04 38.2	+0.3
	0.2nm,0.3s,baz=34,slow=10,SNR=18						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**74.78**	**322**	P	P	06 11 52.5	-0.2
	0.2nm,0.6s,baz=118,slow=8.5,SNR=1.9						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**84.25**	**325**	P	P	06 12 44.4	+0.3
	0.9nm,0.7s,baz=120,slow=5.8,SNR=4.5						
	0.9nm,0.7s						

*IDC **03** 06:07:40.3±1.3, 52°33N×169°41W, h0km, mb3.9/15, mbtmp3.9/17, ML4.1/3, MS3.0/1, Error ellipse: s-maj=35.3km s-min=15.8km az=175.0*
*NEIC **03** 06:07:41.7±2.7, 52°06N±0°03×169°17W±0°08, h10km±6km, mb3.8/10, ML3.7/8, ML3.6(AEIC), Error ellipse: s-maj=7.7km s-min=1.6km az=62.0*
*AEIC **03** 06:07:42.1±2.7, 52°07N±0°04×169°25W±0°09, h13km±5km, Error ellipse: s-maj=8.2km s-min=6.0km az=92.0*
ISC 03 06:07:40.7±2.0, 52°01N±0°07×169°26W±0°05, h10km±11km, n97, σ1s35/97, mb4.0/15, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLCO	**Concord Point,**	**0.83**	**340**		**Pb**	**06 07 57.1**	**-0.2**
CLCO					**Sb**	**06 08 08.1**	**-0.3**
CLES	**Cleveland East**	**0.91**	**335**		**Pg**	**06 07 58.0**	**-0.1**
CLES	**Cleveland East**	**0.91**	**335**		**Sb**	**06 08 10.0**	**-0.6**
CLES	**Cleveland East**	**0.91**	**335**	IAML		06 08 15.7	
	comp=E,10μm,0.4s						
CLES				IAML		06 08 21.1	
	comp=N,8μm,0.4s						
NIKH	**Nikolski High**	**0.99**	**14**		**Pg**	**06 07 59.2**	**-0.7**
NIKH					**Sb**	**06 08 13.2**	**0.0**
NIKH	**Nikolski High**	**0.99**	**14**	P	**Pg**	**06 07 59.4**	**-0.5**
OKCE	**Okmok Cone E**	**1.57**	**25**		**Pn**	**06 08 08.8**	**+0.2**
OKCE					**Sb**	**06 08 29.4**	**-0.3**
OKNC	**Okmok New Cone**	**1.60**	**25**		**Pn**	**06 08 09.1**	**-0.1**
OKER	**Okmok East Rim**	**1.62**	**26**		**Pn**	**06 08 09.1**	**-0.3**
OKFG	**Magazine Ridge**	**1.62**	**30**		**Pn**	**06 08 08.9**	**-0.5**
OKFG					**Sn**	**06 08 29.6**	**-0.8**
MAPS	**Pakushin South**	**2.28**	**37**		**Pn**	**06 08 17.7**	**-0.7**
MGOD	**Makushin Gods**	**2.30**	**38**		**Pn**	**06 08 18.6**	**-0.1**
MSW	**Makushin Switc**	**2.42**	**37**		**Pn**	**06 08 20.7**	**+0.3**
MSW					**Sn**	**06 08 50.1**	**0.0**
MNAT	**Makushin Natee**	**2.44**	**39**		**Pn**	**06 08 20.4**	**-0.2**
UNV	**Unalaska Valle**	**2.48**	**41**		**Pn**	**06 08 21.4**	**+0.3**
UNV	**Unalaska Valle**	**2.48**	**41**	P	**Pn**	**06 08 22.0**	**+0.9**
AKRB	**Akutan Reef Bi**	**2.87**	**41**		**Sn**	**06 09 02.8**	**+1.9**
AKUT	**Akutan**	**2.99**	**43**	Pn	**Pn**	**06 08 27.8**	**-0.3**
AKUT				IAML		06 09 14.3	
	comp=N,228nm,3.2s						
AKUT				IAML		06 09 15.7	
	comp=E,211nm,3.6s						
KOFP	**Korovin Flat P**	**3.00**	**277**		**Pn**	**06 08 29.7**	**+1.5**
ATKA	**Atka Island**	**3.05**	**276**		**Pn**	**06 08 30.2**	**+1.2**
ATKA	**Atka Island**	**3.05**	**276**	P	**Pn**	**06 08 30.2**	**+1.2**
WECS	**Westdahl Cape**	**3.69**	**45**		**Sn**	**06 09 22.2**	**+1.0**
GSMY	**Great Sitkin M**	**4.20**	**273**		**Pn**	**06 08 45.8**	**+1.0**
GSTR	**Great Sitkin T**	**4.20**	**274**	Pn	**Pn**	**06 08 45.3**	**+0.5**
GSTD	**Great Sitkin T**	**4.25**	**273**		**Pn**	**06 08 46.7**	**+1.1**
GSCK	**Great Sitkin C**	**4.27**	**273**		**Pn**	**06 08 47.1**	**+1.4**
ISNN	**Isanotski Nort**	**4.33**	**47**		**Sn**	**06 09 38.4**	**+1.4**
FALS	**False Pass**	**4.51**	**48**		**Sn**	**06 09 42.8**	**+1.5**
ADK	**Adak**	**4.60**	**271**		**Pn**	**06 08 51.5**	**+1.3**
ADK				IAML		06 09 49.1	
	comp=E,79nm,0.2s						
ADK				IAML		06 10 02.8	
	comp=E,86nm,1.1s						
ADK	**Adak**	**4.60**	**271**	P	**Pn**	**06 08 51.8**	**+1.6**
P08K	**Saint George I**	**4.61**	**358**		**Pn**	**06 08 50.8**	**+0.5**
KIWB	**Kanaga Island**	**4.89**	**271**		**Pn**	**06 08 55.8**	**+1.6**
SPIA	**Saint Paul Isl**	**5.21**	**354**		**Pn**	**06 09 06.4**	**+1.8**
SPIA	**Saint Paul Isl**	**5.21**	**354**	P	**Pn**	**06 09 00.6**	**+2.0**
TASE	**Tanaga Southea**	**5.44**	**272**		**Pn**	**06 09 03.9**	**+2.1**
O14K	**Tigyukauivet M**	**8.55**	**29**	Pn	**Pn**	**06 09 46.3**	**+2.0**
M13K	**Dall Lake**	**9.04**	**19**	Pn	**Pn**	**06 09 54.1**	**+3.0**
N15K	**Kwethluk River**	**9.64**	**28**	Pn	**Pn**	**06 10 01.4**	**+2.1**
M14K	**Bethel**	**9.64**	**22**	Pn	**Pn**	**06 10 01.5**	**+2.1**
O16K	**Kokwok River B**	**9.85**	**35**	Pn	**Pn**	**06 10 02.9**	**+0.7**
L14K	**Kuka Creek**	**10.02**	**18**	Pn	**Pn**	**06 10 07.1**	**+2.5**
SHEM	**Shemya Is, Ala**	**10.21**	**281**	Pn	**Pn**	**06 10 07.9**	**+0.7**
	comp=E,11nm,0.3s,baz=284,slow=20,SNR=4.6						
OHAK	**Old Harbor**	**10.62**	**54**	Pn	**Pn**	**06 10 11.0**	**-1.7**
OHAK	**Old Harbor**	**10.62**	**54**	P	**Pn**	**06 10 12.3**	**-0.4**
M16K	**Timber Creek**	**10.66**	**28**	Pn	**Pn**	**06 10 14.3**	**+1.0**
P18K	**Big Mountain,**	**10.81**	**41**	Pn	**Pn**	**06 10 17.4**	**+1.9**
N17K	**Nushagak Hills**	**10.84**	**33**	Pn	**Pn**	**06 10 16.8**	**+1.0**
L16K	**Owhat River**	**11.09**	**25**	Pn	**Pn**	**06 10 20.3**	**+1.2**
O18K	**Koktuh Hills**	**11.11**	**39**	Pn	**Pn**	**06 10 20.9**	**+1.4**
K15K	**Wolf Creek Mou**	**11.12**	**19**	Pn	**Pn**	**06 10 21.8**	**+2.2**
KDAK	**Kodiak Island**	**11.19**	**52**	Pn	**Pn**	**06 10 19.4**	**-1.1**
KDAK	**Kodiak Island**	**11.19**	**52**	Pn	**Pn**	**06 10 19.1**	**-1.4**
	comp=E,0.7nm,0.3s,baz=222,slow=4.3,SNR=19						
KDAK				Sn	Sn	06 12 13.9	-12
	comp=E,0.1nm,0.3s,baz=129,slow=13,SNR=2.2						
Q19K	**Cape Douglas,**	**11.23**	**46**	Pn	**Pn**	**06 10 22.6**	**+1.4**
M17K	**Holitna River**	**11.41**	**30**	Pn	**Pn**	**06 10 23.6**	**0.0**
SYI	**Shuyak Island**	**11.64**	**49**	Pn	**Pn**	**06 10 26.9**	**+0.2**
N19K	**Bonanza Creek**	**12.00**	**37**	Pn	**Pn**	**06 10 34.4**	**+2.7**
J16K	**Anvik River**	**12.20**	**19**	Pn	**Pn**	**06 10 35.6**	**+1.3**
K17K	**Iditarod**	**12.23**	**24**	Pn	**Pn**	**06 10 37.0**	**+2.2**
CNPM	**China Poot**	**12.60**	**46**	Pn	**Pn**	**06 10 39.6**	**-0.2**
ANM	**Nome**	**12.75**	**8**	Pn	**Pn**	**06 10 45.2**	**+3.4**
L19K	**White Mountain**	**12.82**	**32**	Pn	**Pn**	**06 10 44.1**	**+1.3**
O22K	**Cooper Landing**	**13.73**	**44**		**Pn**	**06 10 54.4**	**-0.8**
J20K	**Nowinta River**	**14.52**	**27**	Pn	**Pn**	**06 11 08.1**	**+2.0**
CAST	**Castle Rocks**	**14.60**	**32**	Pn	**Pn**	**06 11 08.0**	**+0.9**
KNK	**Knik Glacier**	**14.73**	**42**	Pn	**Pn**	**06 11 06.8**	**-2.1**
HIN	**Hinchinbrook I**	**15.12**	**47**	Pn	**Pn**	**06 11 11.8**	**-2.4**
SCM	**Sheep Creek Mo**	**15.41**	**42**		**Pn**	**06 11 16.6**	**-1.4**
BPAW	**Bear Paw Mtn.**	**15.42**	**31**		**Pn**	**06 11 18.8**	**+0.7**
BPAW				IAmb	IAmb	06 11 22.6	
	comp=Z,4.3nm,0.7s						
I21K	**Tanana**	**15.89**	**27**	Pn	**Pn**	**06 11 24.8**	**+0.6**
H21K	**Melozitna Rive**	**16.03**	**25**	Pn	**Pn**	**06 11 25.7**	**-0.3**
H21K				IAmb	IAmb	06 11 45.9	
	comp=Z,5.8nm,1.2s						
DHY	**Denali Highway**	**16.05**	**38**	Pn	**Pn**	**06 11 25.4**	**-1.0**
DHY				IAmb	IAmb	06 11 55.3	
	comp=Z,7.6nm,1.4s						
HMT	**Hamilton**	**16.14**	**49**	Pn	**Pn**	**06 11 26.0**	**-1.3**
HMT				IAmb	IAmb	06 11 54.7	
	comp=Z,30nm,1.4s						
MLY	**Manley**	**16.15**	**29**	P	**Pn**	**06 11 29.4**	**+1.9**
I23K	**Minto, Yukon-K**	**16.65**	**30**	Pn	**Pn**	**06 11 33.6**	**-0.3**
I23K				IAmb	IAmb	06 11 52.7	
	comp=Z,6.6nm,1.3s						
MESA	**MESA**	**17.18**	**51**	Pn	**Pn**	**06 11 40.4**	**-0.4**
MESA				IAmb	IAmb	06 11 45.3	
	comp=Z,27nm,1.3s						
ILAR	**Eielson Array**	**17.21**	**33**	Pn	**Pn**	**06 11 38.8**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=227,slow=11,SNR=6.1						
	comp=Z,0.2nm,0.4s						
PETK	**Petropavlovsk-**	**20.03**	**286**	P	**P**	**06 12 12.8**	**-0.6**
	comp=Z,2.0nm,0.3s,baz=84,slow=14,SNR=32						
	comp=Z,5.7nm,0.4s						
YKA	**Yellowknife Ar**	**30.43**	**48**	P	**P**	**06 13 53.2**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=273,slow=8.3,SNR=11						
	comp=Z,0.3nm,0.4s						

YAK	**Yakutsk**	**33.46**	**312**	LR	LR	06 30 32.4		
	comp=Z,26nm,18.3s,baz=210,slow=41							
H11S1	**WAKE ISLAND Hy**	**38.40**	**218**	T	T	06 56 19.0		
	baz=23,slow=76,SNR=29							
H11S2	**WAKE ISLAND Hy**	**38.42**	**218**	T	T	06 56 12.5		
	baz=23,slow=76,SNR=16							
H11S3	**WAKE ISLAND Hy**	**38.42**	**219**	T	T	06 56 17.1		
	baz=23,slow=76,SNR=15							
PDAR	**Pinedale Array**	**40.40**	**79**	P	**P**	**06 15 20.6**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=273,slow=5.8,SNR=5.1							
	comp=Z,0.3nm,0.5s							
KSRS	**Korea Array**	**45.52**	**277**	P	**P**	**06 16 00.1**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=253,slow=41,SNR=2.1							
	comp=Z,0.7nm,0.3s							
SONM	**Songino Array**	**51.55**	**301**	P	**P**	**06 16 45.8**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=36,slow=6.2,SNR=4.4							
	comp=Z,0.3nm,0.5s							
TXAR	**Lajitas Array**	**52.68**	**89**	P	**P**	**06 16 56.4**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=314,slow=5.1,SNR=4.9							
	comp=Z,0.2nm,0.5s							
ZALV	**Zalesovo Beam**	**57.74**	**318**	P	**P**	**06 17 30.1**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=50,slow=4.5,SNR=2.4							
	comp=Z,0.4nm,0.3s							
ARCES	**ARCESS Array B**	**58.29**	**354**	P	**P**	**06 17 33.2**	**-1.8**
	comp=Z,1.2nm,0.6s,baz=20,slow=8.1,SNR=4.6							
	comp=Z,1.2nm,0.6s							
KURBB	**Kurchatov Arra**	**62.80**	**318**	P	**P**	**06 18 05.2**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=45,slow=7.0,SNR=12							
	comp=Z,0.8nm,0.5s							
BVAR	**Borovoye Array**	**64.04**	**325**	P	**P**	**06 18 13.4**	**-0.8**
	comp=Z,1.7nm,0.4s,baz=51,slow=7.1,SNR=16							
	comp=Z,1.7nm,0.4s							
MKAR	**Makanchi Array**	**64.10**	**314**	P	**P**	**06 18 13.3**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=35,slow=4.4,SNR=6.9							
	comp=Z,0.5nm,0.7s							
FINES	**FINESS Array B**	**66.24**	**352**	P	**P**	**06 18 27.2**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=14,slow=7.0,SNR=10							
	comp=Z,1.4nm,0.6s							
NB2	**NORSAR Subarra**	**67.30**	**360**	P	**P**	**06 18 34.3**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=358,slow=6.2							
NOA	**NORSAR Array B**	**67.30**	**360**	P	**P**	**06 18 34.0**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=0.3,slow=6.3,SNR=4.3							
	comp=Z,0.8nm,0.8s							
HFS	**Hagfors**	**68.19**	**358**	P	**P**	**06 18 39.5**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=45,slow=4.4,SNR=15							
	comp=Z,1.4nm,0.5s							
AKASG	**Malin Array Be**	**76.47**	**348**	P	**P**	**06 19 29.0**	**-1.3**
	comp=Z,1.0nm,0.5s,baz=14,slow=5.8,SNR=5.3							
	comp=Z,1.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**76.77**	**283**	P	**P**	**06 19 33.7**	**+1.3**
	comp=Z,1.2nm,0.3s,baz=24,slow=6.5,SNR=7.2							
	comp=Z,1.2nm,0.3s							

IDC 03 06:12:14.9±3.1, 5°98S×142°91E, h0km, mb3.7/2, mbtmp3.7/4, ML3.7/2, Error ellipse: s-maj=104.5km s-min=32.6km az=95.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.19**	**210**	Pn	Pn	06 16 04.3	+0.3
	0.2nm,0.3s,baz=32,slow=12,SNR=6.1						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**19.61**	**205**	P	P	06 16 44.9	-0.1
	0.5nm,0.3s,baz=32,slow=11,SNR=25						
	3.5nm,0.7s						
MKAR	**Makanchi Array**	**74.92**	**322**	P	P	06 23 58.2	+0.3
	0.2nm,0.5s,baz=110,slow=6.3,SNR=2.1						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**84.38**	**325**	P	P	06 24 48.8	-0.2
	0.9nm,0.6s,baz=108,slow=9.5,SNR=5.4						
	0.9nm,0.6s						

IDC 03 06:15:08.9±1.8, 0°48S×124°04E, h0km, mb3.5/4, mbtmp3.5/4, MS3.9/1, Error ellipse: s-maj=206.0km s-min=27.1km az=62.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.82**	**153**	P	P	06 20 01.7	-1.3
	1.0nm,0.4s,baz=328,slow=11,SNR=8.2						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**24.96**	**158**	P	P	06 20 35.4	+1.0
	0.2nm,0.4s,baz=345,slow=14,SNR=6.4						
	0.2nm,0.4s						
STKA	**Stephens Creek**	**35.37**	**154**	P	P	06 22 06.5	0.0
	0.9nm,0.3s,baz=336,slow=10.0,SNR=4.4						
	0.9nm,0.3s						
DZM	**Mont Dzumac**	**46.53**	**120**	LR	LR	06 44 25.5	
	comp=Z,137nm,18.7s,baz=322,slow=38						
MKAR	**Makanchi Array**	**59.56**	**328**	P	P	06 25 14.3	-0.2
	0.2nm,0.8s,baz=145,slow=5.3,SNR=2.0						
	0.2nm,0.8s						

*IDC **03** 06:26:30.9±0.7, 6°24S×143°12E, h0km, mb4.5/13, mbtmp4.6/15, ML2.2/1, MS3.8/8, Error ellipse: s-maj=29.5km s-min=14.9km az=76.0*
*BJI **03** 06:26:31.0±0.0, 6°40S×142°90E, h10km, mb4.6/47, mB5.2/20, Ms4.9/3, Ms7 4.5/3*
*NEIC **03** 06:26:33.4±1.6, 6°39S±0°07×142°89E±0°08, h10km±1km, mb4.8/42, Error ellipse: s-maj=13.1km s-min=12.5km az=241.0*
*DJA **03** 06:26:34.7±1.7, 6°S±3°×14°3E±°, h14km±12km, M4.8/26, mb4.8/26, mB5.2/10, MLv5.2/6, Mw(mB)4.5/10, MwMwp5.1/1, Mwp5.3/1*
*PPT **03** 06:26:35.4±0.3, 6°45S×142°84E, h10km, mb4.9/16, MLv4.9/3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 03 06:26:32.9±0.4, 6°46S±0°05×142°95E±0°05, h10km, n123, σ1s83/124, mb4.8/47, MS3.9/7, 2C-5D, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**2.09**	**304**	P	**Pn**	**06 27 09.0**	**+0.9**
MMPI	**Merauke**	**3.23**	**232**	P	**Pn**	**06 27 26.8**	**+3.0**
GENI	**Genyem**	**4.74**	**324**	P	**Pn**	**06 27 43.6**	**-0.9**
PMG	**Port Moresby**	**5.09**	**125**	Pn	**Pn**	**06 27 50.4**	**+1.0**
PMG	**Port Moresby**	**5.09**	**125**	P	**Pn**	**06 27 50.8**	**+1.4**
PMG	**Port Moresby**	**5.09**	**125**	P	**Pn**	**06 27 50.9**	**+1.5**
PMG	**Port Moresby**	**5.09**	**125**	Pn	**Pn**	**06 27 50.5**	**+1.1**
	6.8nm,0.3s,baz=303,slow=17,SNR=16						
PMG				Sn	**Sn**	**06 28 47.4**	**-0.8**
	12nm,0.3s,baz=247,slow=22,SNR=6.5						
	39nm,0.8s						
SMPI	**Sarmi**	**6.13**	**316**	P	**Pn**	**06 28 04.0**	**+0.4**
	113nm,0.5s,0.8nm						
MANU	**Manus Island**	**6.21**	**45**	Pn	**Pn**	**06 28 06.1**	**+1.3**
COEN	**Coen**	**7.46**	**178**	Pn	**Pn**	**06 28 22.6**	**+0.7**
FAKI	**Fak Fak**	**11.23**	**288**	Pn	**Pn**	**06 29 12.5**	**-1.2**
SAUI	**Saumlaki**	**11.66**	**262**	Pn	**Pn**	**06 29 19.4**	**-0.1**
SAUI	**Saumlaki**	**11.66**	**262**	P	**Pn**	**06 29 19.9**	**+0.4**
	340nm,0.7s						
KDU	**Kakadu**	**12.04**	**238**	P	**Pn**	**06 29 25.2**	**+0.5**
MTN	**Manton Dam**	**13.26**	**241**	Pn	**Pn**	**06 29 40.5**	**-0.9**
MTN	**Manton Dam**	**13.26**	**241**	P	**Pn**	**06 29 40.9**	**-0.5**
CTA	**Charters Tower**	**13.92**	**167**	Lg	Lg	06 34 00.3	
	0.2nm,0.3s,baz=114,slow=6.6,SNR=4.1						
CTA				LR	LR	06 35 06.4	
	comp=Z,135nm,18.2s,baz=4.0,slow=37						
QIS	**Mount Isa**	**14.39**	**193**	P	**Pn**	**06 30 00.3**	**+3.5**
WB0	**Warramunga Arr**	**15.63**	**211**		**Pn**	**06 30 12.6**	**-0.8**
WRA	**Warramunga Arr**	**15.80**	**211**	P	**Pn**	**06 30 15.5**	**-0.2**
WRA	**Warramunga Arr**	**15.80**	**211**	Pn	**Pn**	**06 30 14.7**	**-1.0**
	1.4nm,0.3s,baz=30,slow=12,SNR=20						
WRA				Sn	Sn	06 32 59.0	-12
	0.2nm,0.3s,baz=43,slow=20,SNR=2.7						
WRA				Lg	Lg	06 34 56.9	
	1.1nm,0.3s,baz=28,slow=28,SNR=5.7						
KNRA	**Kununurra**	**16.66**	**235**	Pn	**Pn**	**06 30 25.9**	**-0.7**
KNRA				IAmb	IAmb	06 30 33.6	
	comp=Z,51nm,0.8s						
SANI	**Sanana**	**17.47**	**284**	P	**P**	**06 30 38.9**	**+0.8**
	comp=Z,31nm,0.9s						
SOEI	**Soe**	**18.78**	**259**		**P**	**06 30 52.2**	**-0.6**
SOEI				IAmb	IAmb	06 31 04.9	
	comp=Z,72nm,0.7s						
SOEI	**Soe**	**18.78**	**259**	P	**Pn**	**06 30 55.4**	**+2.2**
	comp=Z,122nm,0.7s,comp=Z,1μm						
AS01	**Alice Springs**	**19.17**	**206**	P	**Pn**	**06 31 00.1**	**+2.4**
	comp=Z,143nm,0.8s						
AS31	**Alice Springs**	**19.19**	**206**	P	**Pn**	**06 30 59.9**	**+1.9**
AS31				IAmb	IAmb	06 31 09.5	
	comp=Z,27nm,0.7s						
ASAR	**Alice Springs**	**19.19**	**206**	P	**Pn**	**06 30 59.8**	**+1.8**
ASAR	**Alice Springs**	**19.19**	**206**	P	**Pn**	**06 31 00.1**	**+2.1**
	comp=Z,98nm,0.8s,baz=33,slow=9.5,SNR=289						

ASAR				S	**Sn**	**06 34 26.4**	**-6.9**
	comp=Z,8.3nm,0.8s,baz=18,slow=28,SNR=5.6							
ASAR				Lg	Lg	06 36 41.1		
	baz=16,slow=29							
EIDS	**Eidsvold**	**20.35**	**158**	P	Pn	06 31 12.2	+0.5
FITZ	**Fitzroy Crossi**	**20.47**	**234**	P	**P**	**06 31 12.0**	**+1.0**
FITZ	**Fitzroy Crossi**	**20.47**	**234**	P	Pn	06 31 12.7	-0.4
LUWI	**Luwuk**	**20.84**	**284**	P	**P**	**06 31 15.6**	**+0.6**
LUWI	**Luwuk**	**20.84**	**284**	P	Pn	06 31 16.3	-1.2
	comp=Z,115nm,1.0s,comp=Z,2μm							
GTOI	**Gorontalo**	**21.11**	**289**	P	**P**	**06 31 21.1**	**+3.1**
	comp=Z,53nm,1.1s,comp=Z,540nmcomp=Z,3μm							
EDFI	**Ende, Flores**	**21.20**	**262**	P	**P**	**06 31 19.1**	**+0.1**
	comp=Z,26nm,0.9s							
OOD	**Oodnadatta**	**22.31**	**197**	P	**P**	**06 31 33.8**	**+3.1**
BKSI	**Bulukumba**	**22.74**	**272**	P	**P**	**06 31 37.8**	**+2.4**
	comp=Z,80nm,1.0s,comp=Z,554nm							
KAPI	**Kappang**	**23.13**	**272**	P	**P**	**06 31 40.3**	**+0.8**
KAPI				IAmb	IAmb	06 31 42.3		
	comp=Z,60nm,0.9s							
WRKA	**Warakurna**	**23.20**	**216**	P	**P**	**06 31 41.8**	**+1.6**
TOLI2	**Tolitoli**	**23.37**	**288**	P	**P**	**06 31 41.2**	**-0.8**
TOLI2				IAmb	IAmb	06 31 43.5		
	comp=Z,47nm,0.9s							
LCRK	**Leigh Creek**	**24.27**	**190**	P	**P**	**06 31 51.4**	**+0.9**
KOUNC	**Koumac, New Ca**	**24.98**	**126**	P	**P**	**06 31 58.8**	**+1.8**
KOUNC				IAmb	IAmb	06 31 59.2		
	comp=Z,24nm,1.3s							
PLAI	**Plampang**	**25.06**	**263**	P	**P**	**06 31 57.2**	**-0.6**
	comp=Z,39nm,0.8s							
MULG	**Mulgathing**	**25.13**	**198**	P	**P**	**06 31 59.8**	**+1.6**
STKA	**Stephens Creek**	**25.32**	**183**	P	**P**	**06 32 01.0**	**+1.1**
STKA	**Stephens Creek**	**25.32**	**183**	P	**P**	**06 32 01.4**	**+1.5**
	comp=Z,8.6nm,0.8s,baz=349,slow=8.6,SNR=18							
STKA				Lg	Lg	06 39 51.6		
	comp=Z,0.1nm,0.3s,baz=263,slow=9.8,SNR=2.3							
STKA				LR	LR	06 41 45.1		
	comp=Z,142nm,18.3s,baz=13,slow=36							
	comp=Z,8.6nm,0.8s							
PSA00	**Pilbara Seismi**	**26.92**	**234**	P	**P**	**06 32 14.9**	**+0.3**
PSA00	**Pilbara Seismi**	**26.92**	**234**	P	**P**	**06 32 14.6**	**0.0**
PSA00				IAmb	IAmb	06 32 15.3		
	comp=Z,12nm,0.9s							
BBOO	**Buckleboo**	**26.99**	**193**	P	**P**	**06 32 15.6**	**+0.5**
BBOO				IAmb	IAmb	06 32 24.8		
	comp=Z,11nm,0.8s							
BBOO	**Buckleboo**	**26.99**	**193**	P	**P**	**06 32 17.5**	**+2.4**
DZM	**Mont Dzumac**	**27.48**	**127**	*e*LR	LR	06 39 25.2		
	comp=Z,88nm,25.8s							
FORT	**Forrest**	**27.94**	**208**	P	**P**	**06 32 23.5**	**0.0**
FORT	**Forrest**	**27.94**	**208**	P	**P**	**06 32 25.4**	**+1.8**
KPJI	**Karang Pucung**	**33.78**	**266**	P	**P**	**06 33 15.3**	**-0.1**
	comp=Z,39nm,0.9s							
NWAO	**Narrogin (SRO)**	**35.57**	**219**	LR	LR	06 48 54.2		
	comp=Z,204nm,20.3s,baz=232,slow=38							
CNJI	**Cibinong**	**35.57**	**266**	P	**P**	**06 33 29.5**	**-1.3**
	comp=Z,47nm,1.1s,comp=Z,591nm							
JHJ	**Hachijo jima 2**	**39.48**	**356**	LR	LR	06 49 17.5		
	comp=Z,38nm,18.1s,baz=333,slow=35							
RTZ	**Ruatahuna**	**44.39**	**141**	P	**P**	**06 34 45.5**	**+1.6**
RTZ				IAmb	IAmb	06 35 34.1		
	comp=Z,30nm,1.2s							
NJ2	**Nanjing**	**44.66**	**330**	*e*P	**P**	**06 34 46.1**	**+0.1**
NJ2				pP	**sP**	**06 34 50.2**	**-0.4**
NJ2				sP	**pP**	**06 34 52.

comp=Z,0.9nm,0.4s
WMQ Urumqi 70.56 321 *e*P **P** **06 37 47.0 -1.4**
VNDA Vanda 71.72 176 LR LR 07 11 09.6
comp=Z,154nm,18.2s,baz=200,slow=37
MK31 Makanchi Array 75.33 322 P **P** **06 38 15.6 -0.9**
MK31 IAmb IAmb 06 38 17.0
comp=Z,9.2nm,1.1s
MKAR Makanchi Array 75.33 322 P **P** **06 38 15.6 -0.9**
MKAR Makanchi Array 75.33 322 P **P** **06 38 16.0 -0.6**
comp=Z,6.8nm,0.8s,baz=107,slow=7.3,SNR=65
comp=Z,6.8nm,0.8s
MAKZ Makanchi 75.52 322 P **P** **06 38 16.9 -0.8**
MAKZ IAmb IAmb 06 38 18.0
comp=Z,14nm,1.1s
KSH Kashi 76.72 313 P **P** **06 38 25.4 +0.6**
KSH pP sP 06 38 30.1 +0.6
KSH pmax pmax
comp=Z,8.0nm,1.0s
ZAA0 Zalesovo Array 77.29 329 P **P** **06 38 25.7 -1.8**
ZAA0 IAmb IAmb 06 38 26.6
comp=Z,4.4nm,0.8s
ZALV Zalesovo Beam 77.29 329 P **P** **06 38 25.4 -2.1**
ZALV Zalesovo Beam 77.29 329 P **P** **06 38 25.7 -1.8**
comp=Z,3.0nm,0.7s,baz=115,slow=4.7,SNR=18
comp=Z,3.0nm,0.7s
AAK Ala-Archa 78.82 316 P **P** **06 38 35.9 -0.6**
KURK Kurchatov 79.20 324 P **P** **06 38 36.9 -1.3**
KURK IAmb IAmb 06 38 38.2
comp=Z,11nm,0.9s
KURBB Kurchatov Arra 79.21 324 P **P** **06 38 37.0 -1.2**
comp=Z,6.3nm,0.9s,baz=114,slow=4.6,SNR=34
comp=Z,6.3nm,0.9s
M14K Bethel 79.52 24 P **P** **06 38 38.9 -0.7**
ANM Nome 80.48 20 P **P** **06 38 44.5 -0.3**
ANM IAmb IAmb 06 40 13.5
comp=Z,17nm,1.5s
K15K Wolf Creek Mou 80.55 23 P **P** **06 38 45.0 -0.2**
CHGR Chuyangaron 81.51 311 P **P** **06 38 50.5 -0.5**
CHGR IAmb IAmb 06 38 51.3
comp=Z,20nm,0.9s
SIMJ Simiganj 81.62 310 P **P** **06 38 50.6 -1.1**
SIMJ IAmb IAmb 06 38 52.0
comp=Z,13nm,1.1s
KKAR Karatay Array 81.75 315 P **P** **06 38 50.4 -1.6**
QSPA South Pole Qui 83.51 180 P **P** **06 39 01.2 +0.3**
comp=Z,8.0nm,0.8s,baz=330,slow=1.1,SNR=23
QSPA LR LR 07 18 00.8
comp=Z,243nm,18.4s,baz=250,slow=37
comp=Z,8.0nm,0.8s
BVAR Borovoye Array 84.79 325 P **P** **06 39 07.1 -0.4**
comp=Z,28nm,0.8s,baz=111,slow=6.4,SNR=96
comp=Z,28nm,0.8s
BRVK Borovoye 84.86 325 P **P** **06 39 06.7 -1.2**
KNK Knik Glacier 85.61 27 P **P** **06 39 10.2 -1.2**
KNK IAmb IAmb 06 39 11.6
comp=Z,13nm,1.0s
RND Reindeer 86.20 25 P **P** **06 39 12.3 -2.1**
RND IAmb IAmb 06 39 17.5
comp=Z,7.3nm,0.8s
ILAR Eielson Array 87.50 24 P **P** **06 39 18.0 -2.6**
comp=Z,3.6nm,0.8s,baz=258,slow=5.0,SNR=22
comp=Z,3.6nm,0.8s
BCAR Beaver Creek A 89.11 26 P **P** **06 39 27.2 -1.1**
ABKAR Akbulak array 90.30 319 P **P** **06 39 31.6 -2.5**
YBH Yreka Blue Hor 97.49 49 LR LR 07 16 03.8
comp=Z,51nm,21.0s,baz=284,slow=31
TXAR Lajitas Array 113.50 61 PKKPab PKKPab 06 56 01.0 -2.3
comp=Z,0.3nm,0.8s,baz=90,slow=2.7,SNR=4.2
MODS Modra-Piesok 118.01 322 *e*PKP **PKiKP** **06 45 20.7 +0.5**
TORD Torodi Ar. Bea 141.29 283 PKhKP PKPpre 06 45 58.5
comp=Z,1.4nm,1.0s,baz=60,slow=6.3,SNR=5.4
CPUP Villa Florida 141.93 150 PKP **PKiKP** **06 46 07.5 -1.3**
comp=Z,0.5nm,0.4s,baz=225,slow=5.7,SNR=3.0
KIC Kosan Boka 147.90 272 ⇓ *i*P **PKPbc** **06 46 19.2 -0.4**
comp=Z,23nm,1.0s
DBIC Dimbokro 148.02 272 PKPbc **PKPbc** **06 46 20.4 +0.5**
comp=Z,18nm,1.0s,baz=84,slow=6.2,SNR=12
LIC Lamto 148.18 271 ⇑ *i*P **PKPbc** **06 46 20.4 +0.1**
comp=Z,38nm,0.8s
TIC Toumodi 148.18 272 ⇑ *i*P **PKPbc** **06 46 20.4 +0.1**
comp=Z,4.0nm,0.2s

JMA ***03*** *06:34:32.7±0.5, 44.°N±2.°×14.°8E±.°, h0km, MV4.6/26, SE OFF ETOROFU*
NIED ***03*** *06:34:32.7, 43.°87N×148.°19E, h0km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.76; Mθθ-0.35; Mφφ-0.41; Mrθ0.39; Mrφ-0.39; Mθφ0.52; Fault plane solution: M₀1.00000×10¹⁵ NP1:φs39.00000°, δ65.00000°, λ,87.00000°. NP2:φs227.00000°, δ25.00000°, λ,97.00000°.*
SKHL ***03*** *06:34:34.5±0.1, 43.°90N×148.°40E, h48km±3km, mb5.0/6*
MOS ***03*** *06:34:36.4±0.8, 44.°12N×148.°05E, h50km, mb4.2/10, Error ellipse: s-maj=10.9km s-min=9.4km az=84.5*
NEIC ***03*** *06:34:37.8±1.0, 44.°0N±0.°1×148.°2E±0.°2, h47km±10km, mb4.3/34, Error ellipse: s-maj=18.1km s-min=13.2km az=134.0*
IDC ***03*** *06:34:42.3±3.2, 44.°14N×148.°12E, h88km±28km, mb3.6/14, mbtmp3.9/17, MS3.0/4, Error ellipse: s-maj=42.2km s-min=17.2km az=176.0*
ISC 03 06:34:36.3±0.6, **43.°99N**±0.°07×**148.°26E**±0.°07, **h39**km±4km, **n119**, σ1**s07**/121, **mb4.2**/38, **3C-1D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SHO	**Shikotan**	**1.04**	**264**	⇑ *i*	PN	**Pn**	**06 34 53.1**	**-1.3**
SHO				*i*	S	**Sn**	**06 35 06.9**	**-0.8**
SHO					pmax	pmax		
	comp=E,188nm,0.3s							
SHO					pmax	pmax		
	comp=Z,257nm,0.3s							
SHO					smax	smax		
	comp=N,2μm,0.2s							
SHO					smax	smax		
	comp=E,3μm,0.3s							
SHO	**Shikotan**	**1.04**	**264**	*i*	P	**Pn**	**06 34 53.3**	**-1.1**
SHO					AMB	AMB	06 34 54.6	
	comp=E,260nm,0.3s							
SHO				*i*	S	**Sn**	**06 35 07.4**	**-0.3**
SHO					A	A	06 35 11.3	
	comp=E,2μm,0.3s							
SHO					A	A	06 35 11.3	
	comp=E,3μm,0.3s							
KUR	**Kuril'sk**	**1.27**	**347**	*d*	PN	**Pn**	**06 34 56.8**	**-0.8**
KUR				*e*	S	**Sn**	**06 35 13.1**	**-0.3**
KUR					pmax	pmax		
	comp=N,434nm,0.4s							
KUR					pmax	pmax		
	comp=Z,1μm,0.4s							
KUR					pmax	pmax		
	comp=E,304nm,0.3s							
KUR					smax	smax		
	comp=E,1μm,0.6s							
KUR					smax	smax		
	comp=N,683nm,0.5s							
KUR	**Kuril'sk**	**1.27**	**347**	*i*	P	**Pn**	**06 34 56.6**	**-1.0**
KUR					AMB	AMB	06 34 57.3	
	comp=N,430nm,0.4s							
KUR					AMB	AMB	06 34 57.3	
	comp=N,300nm,0.4s							
KUR					AMB	AMB	06 34 57.3	
	comp=N,1μm,0.4s							
KUR				*e*	S	**Sn**	**06 35 13.1**	**-0.3**
KUR					A	A	06 35 19.5	
	comp=N,680nm,0.4s							
KUR					A	A	06 35 19.5	
	comp=N,1μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.73**	**272**	*c*	*i* PN	**Pn**	**06 35 03.2**	**-0.7**
YUK					*e* S	**Sn**	**06 35 24.8**	**+0.1**
YUK					pmax	pmax		
	comp=N,348nm,0.2s							
YUK					pmax	pmax		
	comp=Z,994nm,0.2s							
YUK					smax	smax		
	comp=N,2μm,0.4s							
YUK					smax	smax		
	comp=E,3μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**1.73**	**272**	*i*	P	**Pn**	**06 35 03.2**	**-0.7**
YUK					AMB	AMB	06 35 07.5	
	comp=E,990nm,0.2s							
YUK				*e*	S	**Sn**	**06 35 24.8**	**+0.1**
YUK					A	A	06 35 27.6	
	comp=E,2μm,0.5s							
YUK					A	A	06 35 27.6	
	comp=E,3μm,0.5s							
NEM2	**Nemuro 2**	**1.93**	**252**	*e*	P	**Pn**	**06 35 05.5**	**-1.1**
NEM2				*e*	S	**Sn**	**06 35 29.8**	**+0.2**
NMR	**Nemuro--Hokkai**	**1.94**	**252**	⇑ *i*	PN	**Pn**	**06 35 05.1**	**-1.6**
NMR				*e*	S	**Sn**	**06 35 31.3**	**+1.5**
NMR	**Nemuro--Hokkai**	**1.94**	**252**	*i*	P	**Pn**	**06 35 05.5**	**-1.2**
NMR				*e*	S	**Sn**	**06 35 29.7**	**-0.1**
RUSJ	**Misakicho**	**2.18**	**274**	*e*	PN	**Pn**	**06 35 09.4**	**-0.6**
RUSJ				*e*	S	**Sn**	**06 35 38.4**	**+2.7**
JRA	**Rausu**	**2.27**	**270**	*e*	P	**Pn**	**06 35 11.4**	**+0.2**
JRA				*e*	S	**Sn**	**06 35 40.4**	**+2.5**
JNSB	**Nemuroshibetsu**	**2.37**	**266**	*e*	P	**Pn**	**06 35 12.7**	**+0.1**
JKHN	**Kushirohamanak**	**2.43**	**249**	*e*	P	**Pn**	**06 35 13.3**	**-0.1**
JNK	**Nakash**	**2.60**	**262**	*e*	P	**Pn**	**06 35 15.3**	**-0.4**
AKK	**Akkeshi**	**2.67**	**250**	*e*	P	**Pn**	**06 35 16.8**	**0.0**
JAK	**Akkeshi**	**2.78**	**250**	*e*	P	**Pn**	**06 35 18.6**	**+0.3**
JTKR	**Abashiri--Toko**	**3.14**	**271**	*e*	P	**Pn**	**06 35 23.9**	**+0.7**
JAR	**Ashorobuto**	**3.33**	**260**	*e*	P	**Pn**	**06 35 26.6**	**+0.7**
JOB	**Onbets**	**3.40**	**253**	*e*	P	**Pn**	**06 35 26.8**	**0.0**
JCH	**Churui**	**3.83**	**251**	*e*	P	**Pn**	**06 35 33.0**	**+0.3**
JKA	**Kamikawa-asahi**	**4.08**	**274**	Pn		**Pn**	**06 35 37.5**	**+1.3**
ASAJ	**Asahikawa**	**4.09**	**274**	P		**Pn**	**06 35 40.4**	**+4.2**
	comp=E,45nm,0.5s,baz=90,slow=8.9,SNR=32							
ASAJ					LR	LR	06 37 20.1	
	comp=E,218nm,18.8s,baz=19,slow=40							
ERM	**Erimo**	**4.23**	**244**	Pn		**Pn**	**06 35 40.0**	**+1.8**
ERM	**Erimo**	**4.23**	**244**	*i*	PN	**Pn**	**06 35 40.1**	**+1.9**
JNBK	**Kokawa-nobuka**	**4.38**	**249**	*e*	P	**Pn**	**06 35 40.8**	**+0.6**
YSS	**Yuzh-Sakhalins**	**4.88**	**309**			**Pn**	**06 35 47.7**	**+0.7**
YSS	**Yuzh-Sakhalins**	**4.88**	**309**	*e*	PN	**Pn**	**06 35 46.2**	**-0.8**
YSS					pmax	pmax		
	comp=Z,40nm,1.4s							
YSS	**Yuzh-Sakhalins**	**4.88**	**309**	*e*	P	**Pn**	**06 35 48.4**	**+1.4**
YSS					AMB	AMB	06 35 50.6	
	comp=Z,60nm,0.3s							
YSS				*e*	S	**Sn**	**06 36 43.5**	**+1.3**
YSS					A	A	06 36 51.0	
	comp=Z,50nm,0.6s							
YSS					A	A	06 36 51.0	
	comp=Z,20nm,0.6s							
YSS	**Yuzh-Sakhalins**	**4.88**	**309**		P	**P**	**06 35 47.7**	**-3.3**
JTM	**Tenmabayashi**	**6.21**	**241**			**Pn**	**06 36 06.1**	**+0.7**
UGL	**Uglegorsk**	**6.64**	**322**	*e*	P	**Pn**	**06 36 13.3**	**+2.0**
UGL					AMB	AMB	06 36 15.7	
	comp=Z,40nm,0.4s							
TYV	**Tymovskoe**	**7.86**	**333**	*e*	P	**Pn**	**06 36 29.7**	**+1.8**
TYV					AMB	AMB	06 36 35.8	
	comp=Z,10.0nm,0.3s							
JMM	**Marumori**	**8.33**	**225**	Pn		**Pn**	**06 36 33.5**	**-0.9**
PET	**Petropavlovsk**	**11.35**	**34**	*i*	PN	**Pn**	**06 37 19.5**	**+3.7**
PET					pmax	pmax		
	comp=Z,23nm,0.9s							
PET	**Petropavlovsk**	**11.35**	**34**	*e*	P	**Pn**	**06 37 14.2**	**-1.6**
USRK	**Ussuriysk Ar.**	**11.71**	**277**	LR		LR	06 42 04.0	
	comp=Z,93nm,19.0s,baz=169,slow=38							
JGF	**Kuroka**	**11.85**	**229**	Pn		**Pn**	**06 37 23.4**	**+0.7**
KLR	**Kul'dur**	**12.50**	**301**	P		Pn	06 37 36.2	+4.8
	comp=Z,3.0nm,0.9s,baz=105,slow=15,SNR=4.5							
KLR					LR	LR	06 42 43.2	
	comp=Z,76nm,19.2s,baz=110,slow=39							
EKMR	**Ekimchan**	**13.59**	**317**	*e*	P	**Pn**	**06 37 46.2**	**-0.2**
KSRS	**Korsakov Array**	**16.73**	**254**	P		**P**	**06 38 30.1**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=66,slow=11,SNR=4.6							
JNU	**Nakatsue**	**17.36**	**237**		P	**Pn**	**06 38 35.9**	**+0.3**
JNU					IAmb	IAmb	06 38 56.4	
	comp=Z,35nm,1.5s							
JNU	**Nakatsue**	**17.36**	**237**	LR		LR	06 45 15.6	
	comp=Z,37nm,19.6s,baz=46,slow=36							
SEY	**Seymchan**	**19.13**	**6**	*i*	P	**P**	**06 38 55.8**	**+0.1**
SEY					pmax	pmax		
	comp=Z,3.0nm,1.0s							
BILL	**Bilibino**	**25.91**	**15**	*i*	P	**P**	**06 40 03.2**	**-1.1**
BILL					pmax	pmax		
	comp=Z,1.0nm,0.9s							
ULN	**Ulaanbaatar**	**28.68**	**292**	*i*	P	**P**	**06 40 28.0**	**-1.5**
ULN					pmax	pmax		
	comp=Z,2.0nm,1.5s							
H11N2	**WAKE ISLAND Hy**	**28.77**	**141**		T	T	07 11 12.3	
	baz=332,slow=76,SNR=161							
H11N1	**WAKE ISLAND Hy**	**28.78**	**141**		T	T	07 11 15.8	
	baz=332,slow=76,SNR=138							
H11N3	**WAKE ISLAND Hy**	**28.79**	**141**		T	T	07 11 16.1	
	baz=332,slow=76,SNR=223							
H11S1	**WAKE ISLAND Hy**	**29.76**	**143**		T	T	07 12 25.4	
	baz=333,slow=76,SNR=502							
H11S3	**WAKE ISLAND Hy**	**29.76**	**143**		T	T	07 12 27.2	
	baz=333,slow=76,SNR=341							
H11S2	**WAKE ISLAND Hy**	**29.77**	**143**		T	T	07 12 28.1	
	baz=333,slow=76,SNR=395							
M14K	**Bethel**	**33.72**	**42**		P	**P**	**06 41 14.3**	**+0.9**
C16K	**Lisburne Hills**	**34.14**	**29**		P	**P**	**06 41 17.6**	**+0.7**
C16K					IAmb	IAmb	06 41 17.7	
	comp=Z,4.4nm,1.2s							
G16K	**Koyuk River**	**34.38**	**34**		P	**P**	**06 41 19.5**	**+0.3**
G16K					IAmb	IAmb	06 41 38.2	
	comp=Z,6.1nm,1.5s							
L16K	**Owhat River**	**35.02**	**41**		P	**P**	**06 41 25.6**	**+0.9**
F17K	**Baldwin Pennin**	**35.08**	**33**		P	**P**	**06 41 25.7**	**+0.6**
E18K	**Tukpahlearik C**	**35.58**	**31**		P	**P**	**06 41 30.1**	**+0.7**
E18K					IAmb	IAmb	06 41 50.0	
	comp=Z,5.0nm,1.4s							
H18K	**Honhosa River**	**35.98**	**35**		P	**P**	**06 41 34.1**	**+1.2**
H18K					IAmb	IAmb	06 41 34.4	
	comp=Z,2.6nm,0.6s							
G18K	**Tagagawik**	**35.99**	**34**		P	**P**	**06 41 33.5**	**+0.5**
G18K					IAmb	IAmb	06 41 34.7	
	comp=Z,4.7nm,1.0s							
F19K	**Shaleruckik Mo**	**36.52**	**33**		P	**P**	**06 41 37.8**	**+0.3**
D19K	**Kuna River**	**36.76**	**30**		P	**P**	**06 41 40.3**	**+0.7**
D19K					IAmb	IAmb	06 41 46.8	
	comp=Z,7.6nm,1.2s							
H19K	**Roundabout Mou**	**36.83**	**35**		P	**P**	**06 41 40.8**	**+0.7**
E19K	**Redstone River**	**36.85**	**32**		P	**P**	**06 41 41.3**	**+0.9**
E19K					IAmb	IAmb	06 41 45.2	
	comp=Z,4.2nm,1.1s							
F20K	**Avaraart Lake**	**37.35**	**32**		P	**P**	**06 41 44.7**	**+0.1**
F20K					IAmb	IAmb	06 42 02.1	
	comp=Z,4.7nm,1.4s							
IMAR	**Indian Mountai**	**37.99**	**34**		P	**P**	**06 41 51.2**	**+1.2**
G21K	**Allakaket**	**38.15**	**33**		P	**P**	**06 41 52.6**	**+1.2**
KDAK	**Kodiak Island**	**38.49**	**48**		P	**P**	**06 41 55.0**	**+0.8**
KDAK	**Kodiak Island**	**38.49**	**48**		P	**P**	**06 41 55.1**	**+0.8**
KDAK					pmax	pmax		
	comp=Z,56nm,1.5s							
BRLK	**Bradley Lake**	**39.21**	**44**		P	**P**	**06 42 00.8**	**+0.5**
WRH	**Wood River Hil**	**40.31**	**37**		P	**P**	**06 42 10.0**	**+0.7**
WRH					IAmb	IAmb	06 42 17.8	
	comp=Z,5.8nm,1.3s							
ILAR	**Eielson Array**	**40.82**	**36**		P	**P**	**06 42 14.1**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=281,slow=9.5,SNR=5.1							
	comp=Z,1.0nm,0.8s							
ZALV	**Zalesovo Beam**	**41.50**	**307**		PcP	**PcP**	**06 44 16.6**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=108,slow=3.6,SNR=5.1							
CRQM	**Cirque**	**42.92**	**42**		P	**P**	**06 42 32.2**	**+1.2**
BCAR	**Beaver Creek A**	**43.21**	**39**		P	**P**	**06 42 34.2**	**+1.0**
I28M	**Miner Creek**	**43.70**	**35**		P	**P**	**06 42 38.1**	**+1.0**
I28M					IAmb	IAmb	06 42 39.4	
	comp=Z,4.1nm,0.8s							
EPYK	**Eagle Plains**	**44.88**	**33**		P	**P**	**06 42 48.0**	**+1.5**
EPYK					IAmb	IAmb	06 42 49.2	
	comp=Z,7.6nm,1.0s							
G30M	**tAoh Zraii Nji**	**44.98**	**33**			**P**	**06 42 48.2**	**+1.0**
G30M					IAmb	IAmb	06 42 49.2	
	comp=Z,3.3nm,0.7s							
MK31	**Makanchi Array**	**45.19**	**298**		P	**P**	**06 42 49.0**	**-0.2**
MK31	**Makanchi Array**	**45.19**	**298**		P	**P**	**06 42 49.0**	**-0.2**
MK31					pmax	pmax		
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**45.19**	**298**		P	**P**	**06 42 49.0**	**-0.2**
MKAR	**Makanchi Array**	**45.19**	**298**		P	**P**	**06 42 49.5**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=67,slow=3.0,SNR=10							
MKAR					PcP	**PcP**	**06 44 27.1**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=82,slow=4.8,SNR=3.8							
	comp=Z,1.0nm,0.7s							
I30M	**Mount Dempster**	**45.21**	**35**		P	**P**	**06 42 50.2**	**+1.0**
I30M					IAmb	IAmb	06 42 52.0	
	comp=Z,7.3nm,1.1s							
HYT	**Haines Junctio**	**45.62**	**41**		P	**P**	**06 42 53.5**	**+1.0**
HYT					IAmb	IAmb	06 42 56.3	
	comp=Z,5.5nm,1.0s							
INK	**Inuvik**	**45.79**	**31**		P	**P**	**06 42 54.9**	**+1.4**
INK					IAmb	IAmb	06 42 56.5	
	comp=Z,6.9nm,1.4s							
INK	**Inuvik**	**45.79**	**31**		P	**P**	**06 42 54.9**	**+1.4**
INK					pmax	pmax		
	comp=Z,7.0nm,1.4s							
KURK	**Kurchatov**	**46.06**	**304**		P	**P**	**06 42 56.4**	**+0.4**
KURK							06 44 31.7	
KURK	**Kurchatov**	**46.06**	**304**	*e*	P	**P**	**06 42 56.4**	**+0.4**
KURBB	**Kurchatov Arra**	**46.15**	**304**		P	**P**	**06 42 56.4**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=75,slow=8.4,SNR=5.7							
KURBB					PcP	**PcP**	**06 44 31.7**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=82,slow=3.5,SNR=5.7							
	comp=Z,0.7nm,0.4s							
M31M	**Drury Creek, Y**	**46.73**	**39**		P	**P**	**06 43 02.8**	**+1.7**
M31M					IAmb	IAmb	06 43 19.1	
	comp=Z,4.6nm,1.3s							
FARO	**Faro, Yukon**	**47.19**	**39**		P	**P**	**06 43 05.9**	**+1.1**
BOOM	**Boomskoye usch**	**51.10**	**295**		P	**P**	**06 43 35.5**	**+0.4**
BOOM	**Boomskoye usch**	**51.10**	**295**		P	**P**	**06 43 35.5**	**+0.4**
BOOM					pmax	pmax		
	comp=Z,7.0nm,1.0s							
ARSB	**Arslanbob**	**53.60**	**295**		P	**P**	**06 43 54.6**	**+1.1**
ARSB	**Arslanbob**	**53.60**	**295**		P	**P**	**06 43 54.7**	**+1.1**
ARSB					pmax	pmax		
	comp=Z,1.0nm,0.8s							
KK31	**Karatay Array**	**54.31**	**298**		P	**P**	**06 43 58.0**	**-0.6**
KK31	**Karatay Array**	**54.31**	**298**		P	**P**	**06 43 58.0**	**-0.6**
KK31					pmax	pmax		
	comp=Z,2.0nm,0.9s							
KKAR	**Karatay Array**	**54.31**	**298**		P	**P**	**06 43 58.4**	**-0.2**
KKAR	**Karatay Array**	**54.31**	**298**		P	**P**	**06 43 58.4**	**-0.2**
KKAR					pmax	pmax		
	comp=Z,2.0nm,0.9s							
YKA	**Yellowknife Ar**	**55.15**	**34**		P	**P**	**06 44 04.6**	**+0.3**
YKA	**Yellowknife Ar**	**55.15**	**34**	*e*	P	**P**	**06 44 05.5**	**+1.2**
YKA	**Yellowknife Ar**	**55.15**	**34**		P	**P**	**06 44 05.2**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=300,slow=7.2,SNR=8.3							
	comp=Z,0.4nm,0.6s							
ABKAR	**Akbulak array**	**57.54**	**309**		P	**P**	**06 44 21.4**	**-0.1**
ARCES	**ARCESS Array B**	**59.30**	**340**		P	**P**	**06 44 32.3**	**-1.2**
	comp=Z,3.2nm,1.0s,baz=36,slow=9.3,SNR=1.1							
	comp=Z,3.2nm,1.0s							
FINES	**FINESS Array B**	**65.02**	**333**	*e*	P	**P**	**06 45 12.1**	**+0.2**
FINES					pmax	pmax		
	comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**65.02**	**333**		P	**P**	**06 45 10.8**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=42,slow=7.3,SNR=13							
	comp=Z,0.9nm,0.5s							
NVAR	**Mina Array Bea**	**66.77**	**59**		P	**P**	**06 45 24.0**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=283,slow=8.2,SNR=5.6							
	comp=Z,0.6nm,0.6s							
PDAR	**Pinedale Array**	**69.14**	**50**		P	**P**	**06 45 39.4**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=249,slow=1.8,SNR=4.6							
	comp=Z,0.3nm,0.5s							
NB2	**NORSAR Subarra**	**69.67**	**339**		P	**P**	**06 45 40.8**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=31,slow=6.5							
NOA	**NORSAR Array B**	**69.67**	**339**		P	**P**	**06 45 40.7**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=31,slow=6.6,SNR=7.8							
	comp=Z,0.6nm,0.7s							
HFS	**Hagfors**	**69.78**	**338**		P	**P**	**06 45 41.5**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=48,slow=2.2,SNR=6.5							
	comp=Z,0.8nm,0.4s							
KBZ	**Khabaz**	**70.24**	**312**		P	**P**	**06 45 45.1**	**0.0**
	comp=Z,1.8nm,0.6s,baz=201,slow=12,SNR=4.6							
	comp=Z,1.8nm,0.6s							
AKASG	**Malin Array Be**	**71.86**	**324**	*e*	P	**P**	**06 45 54.4**	**-0.4**
AKASG					pmax	pmax		
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**71.86**	**324**		P	**P**	**06 45 54.1**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=38,slow=6.1,SNR=7.0							
	comp=Z,0.6nm,0.5s							
CLL	**Collm**	**77.47**	**333**	*e*	P	**P**	**06 46 27.0**	**-0.3**
TXAR	**Lajitas Array**	**81.84**	**57**		P	**P**	**06 46 52.4**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=302,slow=4.0,SNR=26							
	comp=Z,1.3nm,0.5s							
MMAI	**Mount Meron Ar**	**81.97**	**309**		P	**P**	**06 46 52.6**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=64,slow=3.4,SNR=3.7							
	comp=Z,0.9nm,0.5s							
H03N2	**Juan Fernandez**	**142.16**	**90**		T	T	09 32 52.2	
	baz=304,slow=77,SNR=52							
H03N3	**Juan Fernandez**	**142.17**	**90**		T	T	09 32 53.1	
	baz=304,slow=77,SNR=81							
H03N1	**Juan Fernandez**	**142.17**	**90**		T	T	09 32 54.1	
	baz=304,slow=77,SNR=66							

DJA 03 06:34:44.1±0.4, **1.°N**±5.°×**12.°2E**±.°, **h11**km±4km, **M4.2**/10, **mb4.4**/4, **MLv4.2**/10, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MRSI	**Marisa**	**0.64**	**229**	P		Pb	06 34 57.2	-0.1
GTOI	**Gorontalo**	**0.65**	**114**	P		Pg	06 34 53.2	-3.5
KMSI	**Cibinong**	**1.59**	**102**	P		Pn	06 35 12.5	+0.2
LUWI	**Luwuk**	**1.96**	**170**	P		Pn	06 35 16.9	-0.4
MPSI	**Mapaga**	**2.58**	**258**	P		Pn	06 35 26.1	+0.2
TTSI	**Tana Toraja**	**4.70**	**214**	P		Pn	06 35 55.6	+0.5
LBMI	**Labuha**	**5.30**	**107**	P		Pn	06 36 03.5	+0.1
	94nm,0.7s,0.4nm							
NLAI	**Namlea**	**6.23**	**131**	P		Pn	06 36 15.8	-0.2
	24nm,0.6s,0.1nm							
BKSI	**Bulukumba**	**6.59**	**200**	P		Pn	06 36 21.0	0.0
PPBI	**Pangkal Pinang**	**16.56**	**259**	P		P	06 38 49.7	+11

IDC ***03*** *06:50:10.7±15.0, 34.°28N×45.°86E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=309.5km s-min=33.3km az=14.0*
TEH ***03*** *06:50:12.2, 34.°25N×45.°98E, h8km±40km, ML3.3*
ISN ***03*** *06:50:12.0±1.1, 34.°34N×45.°96E, h18km±8km, ML3.3*
ISC 03 06:50:12.6±1.1, **34.°23N**±0.°03×**45.°96E**±0.°03, **h11**km±9km, **n34**, σ1**s26**/40,

comp=E,7.1nm,1.2s

*SJA **03** 06:52:12.0±0.5, 23°.92S×66°.70W, h233km±4km, ML3.6, MW3.6*
*GUC **03** 06:52:13.4±0.6, 23°.84S×67°.01W, h259km±9km, ML3.9*
ISC 03 06:52:10.8±1.9, **23°.92S**±0°.04×**66°.72W**±0°.05, **h241**km±15km, **n32**, σ1§**60**/56, **5C-2D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.37**	**126**	*e*P	**Pn**	**06 52 48.3**	**+0.8**
SLA				*e*S	**S**	**06 53 15.0**	**-1.3**
AF01	**San Pedro de A**	**1.65**	**305**	*e*P	**Pn**	**06 52 51.5**	**+1.7**
AF01				IAML		06 53 23.7	
	comp=E,116nm,0.4s						
YJA	**Yavi**	**2.06**	**33**	*e*P	**Pn**	**06 52 55.0**	**+1.3**
FSA	**Cafayete**	**2.29**	**163**	*e*P	**Pn**	**06 52 56.6**	**+1.2**
FSA				*e*S	**S**	**06 53 28.6**	**-2.0**
LVC	**Limon Verde**	**2.40**	**302**	*e*P	**Pn**	**06 52 57.9**	**+1.1**
LVC				*e*S	**S**	**06 53 33.6**	**+0.7**
LVC	**Limon Verde**	**2.40**	**302**⇑	*e*P	**Pn**	**06 52 58.0**	**+1.2**
LVC				*e*S	**S**	**06 53 32.2**	**-0.7**
LVC				IAML		06 53 33.7	
	comp=E,231nm,0.4s						
PB15	**IPOC Station P**	**2.62**	**285**	*e*P	**Pn**	**06 53 00.3**	**+1.4**
PB15				*e*S	**S**	**06 53 36.0**	**-0.7**
PB15				IAML		06 53 37.9	
	comp=Z,426nm,0.2s						
PB15	**IPOC Station P**	**2.62**	**285**⇑	*e*P	**Pn**	**06 53 00.3**	**+1.4**
PB15				*e*S	**S**	**06 53 36.0**	**-0.7**
PB06	**IPOC Station P**	**2.88**	**294**	*e*P	**Pn**	**06 53 03.1**	**+1.4**
PB06				*e*S	**S**	**06 53 40.1**	**-1.6**
PB06				IAML		06 53 43.1	
	comp=Z,113nm,0.3s						
PB06	**IPOC Station P**	**2.88**	**294**	*e*P	**Pn**	**06 53 02.6**	**+0.9**
PB06				*i* S	**S**	**06 53 39.7**	**-2.0**
PB06				IAML		06 53 40.8	
	comp=N,266nm,0.3s						
GO02	**Mina Guanaco**	**2.89**	**244**	*e*P	**Pn**	**06 53 03.4**	**+1.6**
GO02				*e*S	**S**	**06 53 41.3**	**-0.8**
GO02	**Mina Guanaco**	**2.89**	**244**⇑	*i*P	**Pn**	**06 53 03.4**	**+1.6**
GO02				*i* S	**S**	**06 53 41.1**	**-1.0**
GO02				IAML		06 53 41.7	
	comp=N,338nm,0.3s						
AHML	**Horco Molle**	**3.12**	**157**	*e*P	**Pn**	**06 53 05.5**	**+1.4**
AHML				*e*S	**S**	**06 53 44.3**	**-1.9**
PB09	**IPOC Station P**	**3.14**	**312**	*e*P	**Pn**	**06 53 06.4**	**+1.9**
PB09				*e*S	**S**	**06 53 48.3**	**+1.4**
PB09				IAML		06 53 49.1	
	comp=Z,78nm,0.2s						
PB09	**IPOC Station P**	**3.14**	**312**	*e*P	**Pn**	**06 53 05.7**	**+1.2**
PB09				*e*S	**S**	**06 53 45.5**	**-1.3**
PB14	**IPOC Station P**	**3.43**	**257**	*e*P	**Pn**	**06 53 09.3**	**+1.5**
PB14				IAML		06 53 55.3	
	comp=Z,62nm,0.4s						
PB14	**IPOC Station P**	**3.43**	**257**⇓	*i*P	**Pn**	**06 53 09.4**	**+1.5**
PB14				*i* S	**S**	**06 53 50.5**	**-2.4**
PB04	**IPOC Station P**	**3.53**	**296**	*e*P	**Pn**	**06 53 10.4**	**+1.5**
PB04				*e*S	**S**	**06 53 53.4**	**-1.4**
PB04				IAML		06 53 59.1	
	comp=Z,83nm,0.2s						
PB04	**IPOC Station P**	**3.53**	**296**	*e*P	**Pn**	**06 53 10.1**	**+1.2**
AC02	**Maricunga**	**3.63**	**216**	*e*P	**Pn**	**06 53 12.7**	**+2.3**
PB07	**IPOC Station P**	**3.64**	**306**	*e*P	**Pn**	**06 53 11.6**	**+1.3**
PB07				IAML		06 54 03.3	
	comp=Z,75nm,0.5s						
PB07	**IPOC Station P**	**3.64**	**306**⇑	*i*P	**Pn**	**06 53 11.5**	**+1.3**
PB07				*i* S	**S**	**06 53 54.4**	**-2.9**
PB01	**IPOC Station P**	**3.84**	**318**	*e*P	**Pn**	**06 53 13.7**	**+1.3**
PB01				*e*S	**S**	**06 53 59.7**	**-1.5**
PB01				IAML		06 54 02.8	
	comp=Z,52nm,0.3s						
PB01	**IPOC Station P**	**3.84**	**318**	*e*P	**Pn**	**06 53 13.6**	**+1.1**
PB01				*e*S	**S**	**06 53 59.6**	**-1.5**
PB02	**IPOC Station P**	**3.91**	**311**	*e*P	**Pn**	**06 53 14.6**	**+1.3**
PB02				*e*S	**S**	**06 54 01.2**	**-1.5**
PB02				IAML		06 54 07.1	
	comp=Z,153nm,0.4s						
PB02	**IPOC Station P**	**3.91**	**311**⇑	*i*P	**Pn**	**06 53 14.2**	**+0.9**
PB02				*i* S	**S**	**06 53 59.5**	**-3.2**
AC01	**Pan de Azucar**	**4.16**	**237**	*e*P	**Pn**	**06 53 17.1**	**+1.1**
AC01				*e*S	**S**	**06 54 05.7**	**-2.1**
AC01				IAML		06 54 06.0	
	comp=Z,35nm,0.5s						
PB08	**IPOC Station P**	**4.38**	**329**	*e*P	**Pn**	**06 53 21.3**	**+2.1**
PB08				*e*S	**S**	**06 54 13.0**	**-0.5**
PATCX	**Punta Patache**	**4.42**	**313**⇓	*i*P	**Pn**	**06 53 20.0**	**+0.6**
TA01	**Diego Aracena**	**4.62**	**316**	*e*P	**Pn**	**06 53 22.9**	**+1.1**
TA01				*e*S	**S**	**06 54 16.2**	**-1.9**
TA01				IAML		06 54 16.9	
	comp=Z,18nm,0.4s						
GO01	**Chusmiza**	**4.81**	**331**	*e*P	**Pn**	**06 53 26.4**	**+1.9**
PB11	**IPOC Station P**	**4.95**	**326**	*e*P	**Pn**	**06 53 26.5**	**+0.6**
PB11				*e*S	**S**	**06 54 22.9**	**-2.8**
PB11				IAML		06 54 31.4	
	comp=Z,27nm,0.3s						

*IDC **03** 07:11:24.4±0.8, 52°.32N×169°.42W, h0km, mb4.3/30, mbtmp4.3/32, ML4.0/2, MS3.3/11, Error ellipse: s-maj=23.5km s-min=13.8km az=177.0*
*AEIC **03** 07:11:25.3±2.4, 52°.03N±0°.04×169°.23W±0°.08, h6km±4km, Error ellipse: s-maj=7.4km s-min=5.7km az=105.0*
*NEIC **03** 07:11:25.1±2.2, 52°.05N±0°.04×169°.26W±0°.07, h10km±1km, mb4.5/41, ML4.2/8, ML4.0(AEIC), Error ellipse: s-maj=7.9km s-min=6.4km az=280.0*
ISC 03 07:11:26.2±1.3, **52°.10N**±0°.06×**169°.28W**±0°.04, **h18**km±5km, **n176**, σ1§**24**/169, **mb4.5**/62, **MS3.3**/10, **1C-1D, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLCO	**Concord Point,**	**0.74**	**339**		**Pb**	**07 11 41.3**	**+0.9**
CLCO					**Sn**	**07 11 53.1**	**+0.7**
CLES	**Cleveland East**	**0.81**	**333**		**Pb**	**07 11 42.5**	**+0.8**
CLES					**Sg**	**07 11 53.0**	**+0.1**
NIKH	**Nikolski High**	**0.91**	**17**		**Pg**	**07 11 43.5**	**-0.3**
NIKH	**Nikolski High**	**0.91**	**17**		**Sn**	**07 11 57.6**	**+0.9**
OKCE	**Okmok Cone E**	**1.49**	**27**		**Pn**	**07 11 53.0**	**+1.0**
OKCE					**Sb**	**07 12 13.3**	**+1.5**
OKNC	**Okmok New Cone**	**1.53**	**27**		**Pn**	**07 11 53.4**	**+0.8**
OKER	**Okmok East Rim**	**1.55**	**28**		**Pn**	**07 11 53.4**	**+0.6**
OKFG	**Magazine Ridge**	**1.55**	**32**		**Pn**	**07 11 53.2**	**+0.4**
OKFG					**Sn**	**07 12 14.0**	**+1.5**
MAPS	**Pakushin South**	**2.22**	**39**		**Pn**	**07 12 02.3**	**+0.3**
MAPS					**Sn**	**07 12 30.1**	**+1.2**
MGOD	**Makushin Gods**	**2.24**	**40**		**Pn**	**07 12 02.7**	**+0.4**
MSW	**Makushin Switc**	**2.36**	**39**		**Pn**	**07 12 04.8**	**+0.8**
MNAT	**Makushin Natee**	**2.38**	**40**		**Pn**	**07 12 05.1**	**+0.9**
MNAT					**Sn**	**07 12 34.3**	**+1.4**
UNV	**Unalaska Valle**	**2.42**	**43**	Pn	**Pn**	**07 12 05.3**	**+0.6**
ZRO	**Akutan Zero**	**2.82**	**44**		**Pn**	**07 12 12.1**	**+1.9**
AKBBA	**Akutan Broad B**	**2.84**	**44**		**Pn**	**07 12 12.8**	**+2.2**
LVA	**Lava Point**	**2.84**	**42**		**Pn**	**07 12 12.9**	**+2.3**
LVA					**Sn**	**07 12 48.1**	**+3.8**
AKGG	**Akutan Green G**	**2.89**	**42**		**Pn**	**07 12 13.3**	**+2.1**
AKUT	**Akutan**	**2.94**	**45**		**Pn**	**07 12 12.0**	**+0.2**
AKUT				IAML		07 13 01.4	
	comp=N,547nm,1.2s						
KOSE	**Korovin Southe**	**2.94**	**277**		**Pn**	**07 12 13.6**	**+1.6**
KOFP	**Korovin Flat P**	**2.97**	**275**		**Pn**	**07 12 14.1**	**+1.7**
ATKA	**Atka Island**	**3.03**	**274**		**Pn**	**07 12 14.1**	**+0.9**
ATKA				IAML		07 13 07.7	
	comp=E,451nm,0.8s						
WECS	**Westdahl Cape**	**3.63**	**46**		**Pn**	**07 12 22.8**	**+1.3**
GSTR	**Great Sitkin T**	**4.18**	**273**		**Pn**	**07 12 30.1**	**+1.1**
GSMY	**Great Sitkin M**	**4.18**	**272**		**Pn**	**07 12 30.3**	**+1.3**
GSTD	**Great Sitkin T**	**4.23**	**272**		**Pn**	**07 12 31.0**	**+1.2**
GSCK	**Great Sitkin C**	**4.25**	**271**		**Pn**	**07 12 31.0**	**+1.1**
ADK	**Adak**	**4.58**	**270**		**Pn**	**07 12 35.5**	**+1.0**
ADK				IAML		07 13 33.4	
	comp=E,240nm,0.2s						
ADK				IAML		07 13 47.0	
	comp=E,265nm,0.9s						
KIWB	**Kanaga Island**	**4.87**	**270**		**Pn**	**07 12 39.7**	**+1.3**
SPIA	**Saint Paul Isl**	**5.12**	**354**		**Pn**	**07 12 43.3**	**+1.6**
TASE	**Tanaga Southea**	**5.42**	**271**		**Pn**	**07 12 48.1**	**+2.1**
SDPT	**Sand Point**	**6.16**	**55**	Pn	**Pn**	**07 12 56.4**	**+0.4**
M14K	**Bethel**	**9.56**	**22**		**Pn**	**07 13 45.3**	**+2.6**
SHEM	**Shemya Is, Ala**	**10.18**	**280**	LR	LR	07 17 40.9	
	comp=E,155nm,19.7s,baz=146,slow=37						
M16K	**Timber Creek**	**10.59**	**28**	Pn	**Pn**	**07 13 59.2**	**+2.5**
P18K	**Big Mountain,**	**10.76**	**42**		**Pn**	**07 13 59.9**	**+0.8**
L16K	**Owhat River**	**11.01**	**25**		**Pn**	**07 14 04.3**	**+1.9**
O18K	**Koktuh Hills**	**11.05**	**40**		**Pn**	**07 14 05.5**	**+2.5**
KDAK	**Kodiak Island**	**11.15**	**53**	Pn	**Pn**	**07 14 03.5**	**-0.9**
KDAK	**Kodiak Island**	**11.15**	**53**	Pn	**Pn**	**07 14 03.7**	**-0.8**
	comp=E,1.5nm,0.3s,baz=261,slow=8.1,SNR=19						
KDAK				Sn	**Sn**	**07 16 01.6**	**-6.8**
	baz=343,slow=19						
Q19K	**Cape Douglas,**	**11.18**	**46**	Pn	**Pn**	**07 14 05.4**	**+0.6**
SYI	**Shuyak Island**	**11.59**	**49**	Pn	**Pn**	**07 14 10.0**	**-0.5**
SVW2	**Sparrevohn**	**11.73**	**34**	Pn	**Pn**	**07 14 14.1**	**+1.7**
RSO	**Redoubt South**	**12.39**	**41**	Pn	**Pn**	**07 14 23.3**	**+1.6**
CNPM	**China Poot**	**12.55**	**47**	Pn	**Pn**	**07 14 23.7**	**+0.1**
ANM	**Nome**	**12.66**	**8**	Pn	**Pn**	**07 14 26.8**	**+1.7**
BRLK	**Bradley Lake**	**12.82**	**46**	Pn	**Pn**	**07 14 26.9**	**-0.4**
TTA	**Tatalina**	**12.95**	**28**		**Pn**	**07 14 30.6**	**+1.5**
CAPN	**Captain Cook N**	**13.22**	**42**	Pn	**Pn**	**07 14 33.2**	**+0.5**
O22K	**Cooper Landing**	**13.68**	**45**		**Pn**	**07 14 38.2**	**-0.7**
SUA	**Susitna One**	**13.77**	**40**		**Pn**	**07 14 41.2**	**+0.8**
RC01	**Rabbit Creek A**	**13.98**	**42**		**Pn**	**07 14 42.7**	**-0.3**
CAST	**Castle Rocks**	**14.52**	**32**	Pn	**Pn**	**07 14 51.5**	**+1.0**
F17K	**Baldwin Pennin**	**14.94**	**13**		**Pn**	**07 14 55.6**	**-0.4**
KTH	**Kantishna Hill**	**15.00**	**33**	Pn	**Pn**	**07 14 58.5**	**+1.5**
BPAW	**Bear Paw Mtn.**	**15.35**	**31**	Pn	**Pn**	**07 15 02.7**	**+1.2**
BPAW				IAmb	IAmb	07 15 07.0	
	comp=Z,9.9nm,0.8s						
SCM	**Sheep Creek Mo**	**15.35**	**42**		**Pn**	**07 15 00.2**	**-1.5**
SCM				IAmb	IAmb	07 15 01.6	
	comp=Z,15nm,0.5s						
RND	**Reindeer**	**15.63**	**36**	Pn	**Pn**	**07 15 05.7**	**+0.4**
IMAR	**Indian Mountai**	**15.97**	**23**	Pn	**Pn**	**07 15 08.3**	**-1.4**
MLY	**Manley**	**16.07**	**29**	Pn	**Pn**	**07 15 12.5**	**+1.5**
I23K	**Minto, Yukon-K**	**16.58**	**30**	Pn	**Pn**	**07 15 18.3**	**+1.0**
ILAR	**Eielson Array**	**17.14**	**34**	P	**Pn**	**07 15 22.9**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=236,slow=11,SNR=17						
ILAR				PcP	**PcP**	**07 20 08.1**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=261,slow=2.8,SNR=4.2						
	comp=Z,0.6nm,0.6s						
G23K	**Bananza Creek**	**17.50**	**26**		**Pn**	**07 15 29.0**	**+0.1**
H24K	**Noodor Dome**	**17.50**	**30**		**Pn**	**07 15 28.9**	**-0.1**
J26L	**Joseph Creek**	**18.18**	**37**	Pn	**Pn**	**07 15 36.2**	**-1.2**
PET	**Petropavlovsk**	**19.43**	**285**	P	**P**	**07 15 50.7**	**-0.5**
PET				IAmb	IAmb	07 16 18.6	
	comp=Z,30nm,1.0s						
PETK	**Petropavlovsk-**	**19.98**	**286**	P	**P**	**07 15 56.5**	**-0.8**
	comp=Z,5.4nm,0.3s,baz=84,slow=13,SNR=107						
	comp=Z,15nm,0.4s						
O30N	**Mendenhall**	**20.09**	**51**	P	**P**	**07 15 59.3**	**+0.8**
O30N				IAmb	IAmb	07 16 02.2	
	comp=Z,18nm,0.8s						
H29M	**Whitestone**	**20.92**	**36**	P	**P**	**07 16 06.3**	**-1.1**
H29M				IAmb	IAmb	07 16 23.8	
	comp=Z,13nm,0.8s						
SEY	**Seymchan**	**22.89**	**313**	P	**P**	**07 16 26.9**	**-1.5**
	comp=Z,3.1nm,0.9s,baz=90,slow=17,SNR=6.5						
SEY				PcP	**PcP**	**07 20 19.5**	**+1.2**
	comp=Z,1.1nm,0.4s,baz=112,slow=3.4,SNR=6.3						
	comp=Z,3.1nm,0.9s						
MA2	**Magadan**	**23.34**	**304**	P	**P**	**07 16 31.8**	**-1.2**
	comp=Z,8.8nm,0.7s,baz=93,slow=12,SNR=6.9						
	comp=Z,8.8nm,0.7s						
YKA	**Yellowknife Ar**	**30.38**	**49**	P	**P**	**07 17 37.0**	**+0.4**
YKA	**Yellowknife Ar**	**30.38**	**49**	P	**P**	**07 17 38.0**	**+1.4**
	comp=Z,0.7nm,0.4s,baz=273,slow=8.3,SNR=24						
	comp=Z,0.7nm,0.4s						
ASAJ	**Asahikawa**	**32.59**	**275**	LR	LR	07 29 08.9	
	comp=Z,53nm,22.0s,baz=104,slow=33						
TIXI	**Tiksi**	**32.99**	**329**	P	**P**	**07 17 59.8**	**+0.4**
TIXI				IAmb	IAmb	07 18 02.0	
	comp=Z,2.2nm,0.7s						
TIXI	**Tiksi**	**32.99**	**329**	LR	LR	07 32 34.1	
	comp=Z,35nm,18.2s,baz=30,slow=39						
YAK	**Yakutsk**	**33.39**	**311**	LR	LR	07 31 18.6	
	comp=Z,64nm,21.4s,baz=101,slow=36						
KLR	**Kul'dur**	**36.60**	**290**	LR	LR	07 33 58.0	
	comp=Z,49nm,19.6s,baz=36,slow=37						
H11N2	**WAKE ISLAND Hy**	**37.28**	**219**	T	T	07 58 31.3	
	baz=24,slow=76,SNR=6.3						
H11N3	**WAKE ISLAND Hy**	**37.29**	**219**	T	T	07 58 28.8	
	baz=24,slow=76,SNR=6.6						
H11N1	**WAKE ISLAND Hy**	**37.30**	**219**	T	T	07 58 33.6	
	baz=24,slow=76,SNR=5.0						
EGMT	**Eagleton**	**37.50**	**72**	P	**P**	**07 18 39.4**	**+0.8**
EGMT				IAmb	IAmb	07 18 45.9	
	comp=Z,5.1nm,0.9s						
ELK	**Elko**	**38.10**	**85**	LR	LR	07 31 57.6	
	comp=Z,70nm,18.2s,baz=304,slow=32						
H11S1	**WAKE ISLAND Hy**	**38.47**	**218**	T	T	07 59 58.8	
	baz=23,slow=76,SNR=56						
H11S2	**WAKE ISLAND Hy**	**38.48**	**218**	T	T	07 59 57.5	
	baz=23,slow=76,SNR=44						
H11S3	**WAKE ISLAND Hy**	**38.48**	**218**	T	T	07 59 57.7	
	baz=23,slow=76,SNR=38						
HEH	**HeiHe**	**38.61**	**293**	*e*P	**P**	**07 18 46.7**	**-1.2**
HEH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HEH				pmax	pmax		
	comp=Z,300nm,6.4s						
MJAR	**Matsushiro Arr**	**39.74**	**268**	LR	LR	07 35 14.6	
	comp=Z,31nm,19.6s,baz=59,slow=36						
MDJ	**Mudanjiang**	**40.21**	**284**	P	**P**	**07 18 59.5**	**-1.8**
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,580nm,7.6s						
PD31	**Pinedale Array**	**40.40**	**79**	P	**P**	**07 19 02.9**	**-0.3**
PDAR	**Pinedale Array**	**40.40**	**79**	P	**P**	**07 19 05.0**	**+1.8**
	comp=Z,1.1nm,0.6s,baz=283,slow=4.8,SNR=7.0						
	comp=Z,1.1nm,0.6s						
BNX	**BinXian**	**40.90**	**287**	⇑P	**P**	**07 19 05.1**	**-1.8**
BNX				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BNX				pmax	pmax		
	comp=Z,150nm,4.9s						
FCC	**Fort Churchill**	**41.07**	**50**	P	**P**	**07 19 08.3**	**+0.2**
FCC				IAmb	IAmb	07 19 23.7	
	comp=Z,4.9nm,0.9s						
CN2	**Changchun**	**43.14**	**286**	P	P	07 19 19.1	-6.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KSRS	**Korea Array**	**45.49**	**277**	P	**P**	**07 19 44.8**	**+0.7**
	comp=Z,3.8nm,0.8s,baz=54,slow=7.5,SNR=13						
KSRS				LR	LR	07 36 17.5	
	comp=Z,22nm,21.2s,baz=70,slow=33						
	comp=Z,3.8nm,0.8s						
SPITS	**Spitsbergen Ar**	**49.94**	**358**	P	**P**	**07 20 16.4**	**-1.7**
	comp=Z,1.2nm,0.4s,baz=23,slow=7.8,SNR=19						
	comp=Z,1.2nm,0.4s						
SUMG	**Summit**	**51.02**	**17**	P	**P**	**07 20 27.2**	**+0.4**
ULN	**Ulaanbaatar**	**51.12**	**301**	P	**P**	**07 20 26.5**	**-1.1**
ULN				IAmb	IAmb	07 20 29.2	
	comp=Z,3.6nm,0.7s						
E43A	**Lone Tree Farm**	**51.30**	**62**	P	**P**	**07 20 29.4**	**+0.6**
E43A				IAmb	IAmb	07 20 35.7	
	comp=Z,3.6nm,0.7s						
SONM	**Songino Array**	**51.48**	**301**	P	**P**	**07 20 30.4**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=53,slow=7.8,SNR=9.3						
SONM				PcP	**PcP**	**07 21 44.5**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=120,slow=3.0,SNR=3.7						
	comp=Z,1.1nm,0.4s						
LPIG	**La Paz**	**52.40**	**99**	LR	LR	07 40 03.7	
	comp=Z,35nm,18.1s,baz=233,slow=33						
TX31	**Lajitas Ar. Si**	**52.70**	**89**	P	**P**	**07 20 40.8**	**+1.2**
TX31				IAmb	IAmb	07 21 09.4	
	comp=Z,2.2nm,0.8s						
TXAR	**Lajitas Array**	**52.70**	**89**	P	**P**	**07 20 40.1**	**+0.6**
TXAR	**Lajitas Array**	**52.70**	**89**	P	**P**	**07 20 41.1**	**+1.5**
	comp=Z,0.8nm,0.7s,baz=306,slow=5.4,SNR=12						
	comp=Z,0.8nm,0.7s						
HHC	**Hu-ho-hao-te**	**53.07**	**291**	*e*P	**P**	**07 20 41.1**	**-1.0**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,100nm,4.7s						
NJ2	**Nanjing**	**54.64**	**278**	*e*P	**P**	**07 20 52.8**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
SCHQ	**Schefferville**	**55.59**	**43**	P	**P**	**07 21 00.8**	**+0.6**
	comp=Z,4.0nm,0.9s,baz=301,slow=11,SNR=4.9						
	comp=Z,4.0nm,0.9s						
ZALV	**Zalesovo Beam**	**57.66**	**318**	P	**P**	**07 21 14.5**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=57,slow=5.5,SNR=4.9						
ZALV				PcP	**PcP**	**07 22 07.8**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=39,slow=5.9,SNR=2.6						
ZALV				LR	LR	07 47 16.7	
	comp=Z,25nm,19.6s,baz=50,slow=38						
	comp=Z,0.9nm,0.3s						
ARCES	**ARCESS Array B**	**58.19**	**354**	P	**P**	**07 21 17.6**	**-0.9**
	comp=Z,6.1nm,1.0s,baz=24,slow=8.1,SNR=13						
ARCES				LR	LR	07 49 01.7	
	comp=Z,31nm,18.2s,baz=110,slow=39						
	comp=Z,6.1nm,1.0s						
XAN	**Xi'an**	**59.23**	**287**	⇓P	**P**	**07 21 26.2**	**0.0**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KURBB	**Kurchatov Arra**	**62.72**	**318**	P	**P**	**07 21 49.5**	**0.0**
	comp=Z,6.1nm,0.9s,baz=45,slow=7.3,SNR=10						
	comp=Z,6.1nm,0.9s						
WMQ	**Urumqi**	**63.74**	**308**	*e*P	**P**	**07 21 59.0**	**+2.5**
BVAR	**Borovoye Array**	**63.95**	**325**	P	**P**	**07 21 57.5**	**-0.2**
	comp=Z,5.4nm,0.4s,baz=52,slow=6.5,SNR=33						
	comp=Z,5.4nm,0.4s						
BRVK	**Borovoye**	**63.96**	**325**	P	**P**	**07 21 57.5**	**-0.3**
BRVK				IAmb	IAmb	07 21 57.9	
	comp=Z,2.6nm,0.5s						
MK31	**Makanchi Array**	**64.03**	**314**	P	**P**	**07 21 57.0**	**-1.3**
MK31				IAmb	IAmb	07 21 60.0	
	comp=Z,1.5nm,1.0s						
MKAR	**Makanchi Array**	**64.03**	**314**	P	**P**	**07 21 58.1**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=47,slow=7.1,SNR=4.2						
	comp=Z,1.4nm,0.6s						
MAKZ	**Makanchi**	**64.16**	**314**	P	**P**	**07 21 58.0**	**-1.2**
MAKZ				IAmb	IAmb	07 22 00.4	
	comp=Z,2.3nm,0.8s						
ARU	**Arti**	**64.88**	**333**	P	**P**	**07 22 03.2**	**-0.5**
	comp=Z,3.2nm,0.4s,baz=73,slow=5.0,SNR=4.9						
	comp=Z,3.2nm,0.4s						
GOMU	**GeErMu**	**65.70**	**298**	sP	sP	07 22 16.3	-0.2
GOMU	**GeErMu**	**65.70**	**298**	pmax	pmax		
	comp=Z,5.0nm,0.9s						
GOMU	**GeErMu**	**65.70**	**298**	P	**P**	**07 22 09.7**	**-0.1**
GOMU	**GeErMu**	**65.70**	**298**	pP	pP	07 22 13.6	-1.1
FIA1	**FINESS Array S**	**66.14**	**352**	P	**P**	**07 22 11.2**	**-0.6**
FINES	**FINESS Array B**	**66.14**	**352**	P	**P**	**07 22 11.3**	**-0.4**
FINES	**FINESS Array B**	**66.14**	**352**	P	**P**	**07 22 11.1**	**-0.6**
	comp=Z,4.0nm,0.6s,baz=14,slow=8.0,SNR=24						
	comp=Z,4.0nm,0.6s						
RAF	**Rauma**	**66.88**	**354**	*e*P	**P**	**07 22 15.9**	**-0.5**
NB2	**NORSAR Subarra**	**67.21**	**360**	P	**P**	**07 22 18.4**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=0.9,slow=6.5						
NOA	**NORSAR Array B**	**67.21**	**360**	P	**P**	**07 22 18.9**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=0.5,slow=6.3,SNR=12						
	comp=Z,2.9nm,0.8s						
MEF	**Metsahovi**	**67.49**	**353**	*e*P	**P**	**07 22 20.3**	**-0.1**
HFS	**Hagfors**	**68.09**	**358**	P	**P**	**07 22 23.2**	**-1.0**
	comp=Z,4.8nm,0.5s,baz=31,slow=3.8,SNR=50						
	comp=Z,4.8nm,0.5s						
PZH	**PanZhiHua**	**68.95**	**286**	P	**P**	**07 22 31.3**	**+1.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
MTSE	**Matsula**	**69.03**	**353**	*e*P	**P**	**07 22 30.0**	**0.0**
BOOM	**Boomskoye usch**	**70.21**	**314**	P	**P**	**07 22 38.2**	**+0.3**
SLIT	**Slitere, Latvi**	**70.22**	**353**	*e*P	**P**	**07 22 37.5**	**+0.1**
AKTO	**Aktyubinsk**	**70.27**	**330**	P	**P**	**07 22 37.9**	**0.0**
	comp=Z,2.9nm,0.5s,baz=42,slow=4.7,SNR=13						
	comp=Z,2.9nm,0.5s						
ABKAR	**Akbulak array**	**70.69**	**328**	P	**P**	**07 22 40.1**	**-0.3**
AAK	**Ala-Archa**	**70.73**	**315**	P	**P**	**07 22 41.5**	**+0.6**
AAK				IAmb	IAmb	07 22 42.2	
	comp=Z,6.3nm,0.8s						
AAK	**Ala-Archa**	**70.73**	**315**	P	**P**	**07 22 41.2**	**+0.2**
	comp=Z,4.0nm,0.5s,baz=191,slow=4.1,SNR=11						
	comp=Z,4.0nm,0.5s						
NRN	**Naryn**	**71.04**	**314**	P	**P**	**07 22 43.4**	**+0.3**
NRN				IAmb	IAmb	07 22 44.5	
	comp=Z,3.6nm,0.8s						
BELG	**Belogornoye**	**71.35**	**337**	P	**P**	**07 22 44.8**	**+0.5**
	com

KUR14	**Kurchatov Arra**	**0.61**	**357**	⇑P		**Pg**	07 18 08.1	**-1.2**
KUR14				⇑S		**Sg**	07 18 16.8	**-0.6**
KUR15	**Kurchatov Arra**	**0.62**	**355**	⇓P		**Pg**	07 18 08.4	**-1.1**
KUR15				⇓S		**Sg**	07 18 17.4	**-0.1**
KURBB	**Kurchatov Arra**	**0.62**	**353**	Pg		**Pg**	07 18 08.6	**-1.1**
	2.9nm,0.3s,baz=166,slow=17,SNR=44							
KURBB				Lg		Lg	07 18 17.2	
	3.4nm,0.3s,baz=161,slow=32,SNR=11							
KURBB	**Kurchatov Arra**	**0.62**	**353**	⇑P		**Pg**	07 18 08.4	**-1.2**
	20nm,0.3s							
KURBB				⇑S		**Sg**	07 18 17.7	**0.0**
	74nm,0.5s							
KUR16	**Kurchatov Arra**	**0.63**	**351**	⇑P		**Pg**	07 18 08.6	**-1.2**
KUR16				⇑S		**Sg**	07 18 17.7	**-0.3**
KUR05	**Kurchatov Arra**	**0.64**	**354**	⇑P		**Pg**	07 18 08.8	**-1.2**
KUR05				⇑S		**Sg**	07 18 17.9	**-0.4**
KUR04	**Kurchatov Arra**	**0.66**	**354**	⇑P		**Pg**	07 18 09.1	**-1.2**
KUR04				⇑S		**Sg**	07 18 18.4	**-0.5**
KURK	**Kurchatov**	**0.71**	**358**	⇑P		**Pg**	07 18 09.8	**-1.5**
	6.2nm,0.3s							
KURK				⇑S		**Sg**	07 18 20.1	**-0.4**
	71nm,1.1s							
SEM	**Semipalatinsk**	**1.10**	**68**	P		**Pg**	07 18 17.9	**-0.9**
	6.1nm,0.1s							
SEM				S		**Sg**	07 18 31.8	**-1.3**
	30nm,0.1s							
BRZS	**Berezniki**	**3.85**	**272**	Pg		**Pb**	07 19 08.0	**+1.6**
	3.2nm,0.3s							
BRZS				Lg		Lg	07 19 57.9	
	4.2nm,0.5s							
MAKZ	**Makanchi**	**3.89**	**144**	⇑Pg		**Pb**	07 19 07.1	**0.0**
	0.6nm,0.4s							
MAKZ				⇑Lg		Lg	07 19 58.5	
	6.8nm,0.6s							
MK31	**Makanchi Array**	**4.03**	**142**	⇓Pn		**Pn**	07 18 59.5	**-1.0**
	0.1nm,0.1s,baz=321,slow=10,SNR=7.4							
MK31				⇑Pg		**Pb**	07 19 08.8	**-0.6**
	0.2nm,0.2s,baz=336,slow=14,SNR=7.5							
MK31				⇓Lg		Lg	07 20 03.0	
	2.4nm,0.4s,baz=340,slow=27,SNR=15							
MKAR	**Makanchi Array**	**4.03**	**142**	Pn		**Pn**	07 19 00.8	**+0.3**
	0.3nm,0.3s,baz=320,slow=10,SNR=15							
MKAR				Pg		**Pb**	07 19 09.8	**+0.4**
	0.8nm,0.3s,baz=329,slow=16,SNR=10							
MKAR				Sn		**Sn**	07 19 50.4	**+2.0**
	0.5nm,0.3s,baz=320,slow=22,SNR=2.9							
MKAR				Lg		Lg	07 20 03.2	
	1.9nm,0.3s,baz=327,slow=27,SNR=13							
	0.3nm,0.3s							
OTUK	**Ortayu**	**4.50**	**249**	Pg		**Pg**	07 19 21.2	**-2.6**
	0.8nm,0.2s							
OTUK				Lg		Lg	07 20 20.5	
	2.8nm,0.4s							
OTUK	**Ortayu**	**4.50**	**249**	⇓Lg		Lg	07 20 20.1	
	3.6nm,0.5s							
ZSN	**Zaisan**	**4.84**	**119**	Pg		**Pb**	07 19 24.6	**+1.3**
	2.6nm,0.2s							
ZSN				Lg		Lg	07 20 26.4	
	4.1nm,0.6s							
I46RU	**ZALESOVO INFRA**	**5.49**	**42**	I		I	07 51 10.0	
	baz=223,slow=336,SNR=3.2							
ZALV	**Zalesovo Beam**	**5.49**	**42**	Pn		**Pn**	07 19 21.4	**+0.9**
	0.6nm,0.3s,baz=231,slow=14,SNR=8.6							
ZALV				Sn		**Sn**	07 20 24.5	**+0.1**
	0.2nm,0.3s,baz=225,slow=22,SNR=2.0							
ZALV				Lg		Lg	07 20 46.7	
	0.2nm,0.3s,baz=231,slow=27,SNR=2.8							
	1.2nm,0.3s							
ARXS	**Arharly**	**5.82**	**186**	Lg		Lg	07 20 58.6	
BLB	**Baldybastay**	**5.91**	**181**	Lg		Lg	07 21 09.5	
	10nm,0.2s							
BVA0	**Borovoye Array**	**5.98**	**304**	⇓Lg		Lg	07 21 04.5	
	1.5nm,0.6s,baz=110,slow=14,SNR=5.2							
BVAR	**Borovoye Array**	**5.98**	**304**	Pn		**Pn**	07 19 27.6	**+0.3**
	baz=125,slow=14,SNR=2.3							
BVAR				Sn		**Sn**	07 20 37.5	**+1.0**
	0.1nm,0.3s,baz=112,slow=24,SNR=8.8							
BVAR				Lg		Lg	07 21 04.7	
	0.1nm,0.3s,baz=115,slow=27,SNR=3.0							
	0.4nm,0.5s							
KUU	**Kurty**	**6.31**	**195**	Pg		**Pg**	07 19 58.6	**0.0**
	1.7nm,0.1s							
KUU				Lg		Lg	07 21 24.9	
	7.3nm,0.6s							

SOME 03 07:19:22.5, 43.57N × 83.08E, h10 km, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KTMS	**Ketmen**	**1.99**	**267**	*e*P		Pg	07 20 00.4	-0.3
	1.6nm,0.2s							
KTMS				*e*S		Sg	07 20 27.6	+1.1
	4.5nm,0.2s							
KTMS	**Ketmen**	**1.99**	**267**	Pg		Pg	07 20 00.4	-0.3
	1.6nm,0.2s							
DJR	**Jarkent**	**2.50**	**289**	*e*P		Pg	07 20 09.6	-0.8
	1.7nm,0.2s							
DJR				*e*S		Sg	07 20 43.3	+0.5
	5.4nm,0.4s							
PDGK	**Podgornoye**	**2.63**	**266**	Pg		Pb	07 20 10.7	+0.9
	0.9nm,0.4s							
SHLS	**Shalkode**	**2.67**	**262**	*e*P		Pn	07 20 06.7	+1.0
	3.2nm,0.1s							
SHLS				*e*S		Sn	07 20 38.6	+0.4
	15nm,0.6s							
SHLS	**Shalkode**	**2.67**	**262**	Pg		Pn	07 20 06.7	+1.0
	3.2nm,0.1s							
KAPS	**Kapalarasan**	**3.17**	**304**	*e*P		Pb	07 20 20.5	+1.5
	2.8nm,0.5s							
KAPS				*e*S		Sg	07 21 02.2	-2.2
	3.0nm,0.4s							

*IDC **03** 07:24:05.8±4.6, 55.28N × 149.46W, h0 km, mb4.2/2, mbtmp3.8/6, ML3.5/4, Error ellipse: s-maj=77.4km s-min=32.3km az=15.0*

*NEIC **03** 07:24:11.8±1.5, 55.86N±0.07 × 149.3W±0.1, h10 km±6 km, mb3.9/3, ML3.9/40, ML3.7(AEIC), Error ellipse: s-maj=9.9km s-min=8.4km az=165.0*

*AEIC **03** 07:24:15.6±1.8, 55.79N±0.08 × 149.2W±0.1, h11 km±6 km, Error ellipse: s-maj=12.2km s-min=9.0km az=174.0*

ISC 03 07:24:12.0±0.9, 55.94N±0.08 × 149.28W±0.05, h10 km, n221, σ0.96/211, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OHAK	**Old Harbor**	**2.56**	**302**			**Pn**	**07 24 53.7**	**+0.2**
OHAK						**Sn**	**07 25 23.1**	**-1.6**
OHAK	**Old Harbor**	**2.56**	**302**	P		**Pn**	**07 24 53.7**	**+0.2**
	baz=120							
OHAK				S		**Sn**	**07 25 23.1**	**-1.6**
	baz=120							
KDAK	**Kodiak Island**	**2.59**	**317**	Pn		**Pn**	**07 24 54.0**	**+0.1**
KDAK	**Kodiak Island**	**2.59**	**317**			**Sn**	**07 25 24.2**	**-1.2**
KDAK	**Kodiak Island**	**2.59**	**317**	S		**Sn**	**07 25 24.2**	**-1.2**
	baz=135							
KDAK	**Kodiak Island**	**2.59**	**317**	Pn		**Pn**	**07 24 54.6**	**+0.7**
	8.1nm,0.3s,baz=139,slow=6.8,SNR=653							
KDAK				Sn		**Sn**	**07 25 24.0**	**-1.3**
	36nm,0.3s,baz=16,slow=22,SNR=45							
	22nm,0.3s							
SYI	**Shuyak Island**	**3.17**	**329**	Pn		**Pn**	**07 25 02.5**	**+0.7**
SYI				IAML			07 25 41.5	
	comp=E,174nm,0.4s							
Q20K	**Shuyak Island**	**3.17**	**329**	P		**Pn**	**07 25 02.5**	**+0.6**
	baz=147							
Q20K				S		**Sn**	**07 25 40.5**	**+0.9**
	baz=147							
CNPM	**China Poot**	**3.75**	**345**	Pn		**Pn**	**07 25 09.8**	**0.0**
CNPM	**China Poot**	**3.75**	**345**			**Sn**	**07 25 54.1**	**+0.1**
CNPM	**China Poot**	**3.75**	**345**	IAML			07 25 55.9	
	comp=E,74nm,0.5s							
CNPM				IAML			07 25 56.2	
	comp=N,59nm,0.4s							
Q19K	**Cape Douglas,**	**3.81**	**324**	Pn		**Pn**	**07 25 11.6**	**+0.8**
Q19K	**Cape Douglas,**	**3.81**	**324**	P		**Pn**	**07 25 12.1**	**+1.3**
	baz=141							
MID	**Middleton Isla**	**3.84**	**23**	Pn		**Pn**	**07 25 11.2**	**+0.2**
MID				IAML			07 26 10.7	
	comp=N,114nm,1.9s							
MID				IAML			07 27 18.5	
	comp=E,128nm,1.8s							
MID	**Middleton Isla**	**3.84**	**23**	P		**Pn**	**07 25 11.9**	**+0.9**
BRSE	**Bradley Lake S**	**3.89**	**349**			**Pn**	**07 25 12.2**	**+0.3**
BRSE						**Sn**	**07 25 57.1**	**-0.5**
	baz=168							
BRSE				S		**Sn**	07 25 57.1	-0.5
	baz=168							
BRLK	**Bradley Lake**	**3.93**	**348**	Pn		**Pn**	**07 25 12.6**	**+0.2**
BRLK	**Bradley Lake**	**3.93**	**348**			**Sn**	**07 25 58.1**	**-0.4**
BRLK	**Bradley Lake**	**3.93**	**348**	IAML			07 25 59.1	
	comp=N,46nm,0.6s							
BRLK				IAML			07 26 01.7	
	comp=E,77nm,0.6s							
HOM	**Homer**	**3.94**	**342**	Pn		**Pn**	**07 25 12.8**	**+0.4**
HOM				IAML			07 26 02.9	
	comp=N,241nm,1.1s							
HOM				IAML			07 27 46.5	
	comp=E,196nm,1.3s							
KAKN	**Katmai Knife C**	**3.94**	**309**			**Pn**	**07 25 13.4**	**+0.9**
ACHA	**Angle Creek He**	**4.01**	**307**			**Pn**	**07 25 14.4**	**+0.9**
ANCK	**Angle Creek**	**4.08**	**306**			**Pn**	**07 25 16.0**	**+1.6**
SEW	**Seward**	**4.18**	**359**			**Pn**	**07 25 15.8**	**+0.1**
SEW	**Seward**	**4.18**	**359**	P		**Pn**	**07 25 15.8**	**+0.1**
	baz=179							
P23K	**Montague Islan**	**4.19**	**13**			**Pn**	**07 25 16.4**	**+0.5**
P23K						**Sn**	**07 26 03.2**	**-1.6**
P23K	**Montague Islan**	**4.19**	**13**	P		**Pn**	**07 25 16.4**	**+0.5**
	baz=194							
P23K				S		**Sn**	**07 26 03.2**	**-1.6**
	baz=194							
P19K	**Oil Pt**	**4.28**	**332**			**Pn**	**07 25 17.5**	**+0.3**
P19K				IAML			07 26 10.7	
	comp=N,165nm,0.5s							
P19K				IAML			07 26 12.6	
	comp=E,191nm,0.4s							
P19K	**Oil Pt**	**4.28**	**332**	P		**Pn**	**07 25 18.0**	**+0.8**
	baz=149							
CNTC	**Contact Creek**	**4.29**	**306**			**Pn**	**07 25 18.2**	**+0.8**
CNTC						**Sn**	**07 26 06.8**	**-0.6**
Q17K	**Contact Creek**	**4.29**	**306**	P		**Pn**	**07 25 18.2**	**+0.8**
	baz=121							
Q17K				S		**Sn**	**07 26 06.8**	**-0.6**
	baz=121							
PLK1	**Peulik 1**	**4.43**	**298**			**Pn**	**07 25 20.3**	**+1.1**
O20K	**Slope Mountain**	**4.52**	**338**			**Pn**	**07 25 21.1**	**+0.6**
O20K	**Slope Mountain**	**4.52**	**338**	P		**Pn**	**07 25 21.1**	**+0.6**
	baz=156							
O22K	**Cooper Landing**	**4.56**	**357**			**Pn**	**07 25 21.4**	**+0.4**
O22K				IAML			07 26 20.9	
	comp=E,140nm,0.9s							
O22K	**Cooper Landing**	**4.56**	**357**	P		**Pn**	**07 25 21.4**	**+0.4**
	baz=177							
SLKM	**Skilak Lake**	**4.61**	**354**			**Pn**	**07 25 21.9**	**+0.2**
SLKM						**Sn**	**07 26 13.7**	**-1.5**
HIN	**Hinchinbrook I**	**4.71**	**17**			**Pn**	**07 25 23.1**	**+0.1**
HIN				IAML			07 26 17.6	
	comp=N,141nm,0.5s							
HIN				IAML			07 26 20.6	
	comp=E,96nm,0.5s							
P18K	**Big Mountain,**	**4.71**	**320**			**Pn**	**07 25 23.2**	**+0.1**
P18K	**Big Mountain,**	**4.71**	**320**	P		**Pn**	**07 25 23.3**	**+0.3**
	baz=135							
P18K				S		**Sn**	**07 26 16.6**	**-1.1**
	baz=135							
KAIM	**Kayak Island**	**4.76**	**31**			**Pn**	**07 25 24.0**	**+0.2**
KAIM				IAML			07 26 23.2	
	comp=E,121nm,0.6s							
KAIM				IAML			07 26 23.6	
	comp=N,113nm,0.4s							
KAIM	**Kayak Island**	**4.76**	**31**	P		**Pn**	**07 25 24.5**	**+0.8**
	baz=214							
Q16K	**King Salmon**	**4.85**	**308**			**Pn**	**07 25 26.1**	**+1.2**
Q16K	**King Salmon**	**4.85**	**308**	P		**Pn**	**07 25 26.1**	**+1.2**
	baz=122							
RDSO	**Redoubt South**	**4.88**	**339**			**Pn**	**07 25 25.4**	**-0.2**
RSO	**Redoubt South**	**4.89**	**339**			**Pn**	**07 25 25.2**	**-0.5**
RDWB	**Redoubt West**	**4.93**	**339**			**Pn**	**07 25 26.1**	**-0.2**
EYAK	**Cordova Ski Ar**	**4.98**	**21**			**Pn**	**07 25 27.4**	**+0.6**
EYAK	**Cordova Ski Ar**	**4.98**	**21**	P		**Pn**	**07 25 27.9**	**+1.1**
EYAK	**Cordova Ski Ar**	**4.98**	**21**	P		**Pn**	**07 25 27.4**	**+0.6**
	baz=203							
DFR	**Drift River**	**5.00**	**340**			**Pn**	**07 25 27.2**	**+0.1**
O19K	**Port Alsworth**	**5.04**	**330**			**Pn**	**07 25 27.5**	**+0.1**
O19K	**Port Alsworth**	**5.04**	**330**	P		**Pn**	**07 25 27.7**	**+0.2**
	baz=146							
O18K	**Koktuh Hills**	**5.04**	**324**			**Pn**	**07 25 27.2**	**-0.4**
O18K				IAML			07 26 26.7	
	comp=N,48nm,0.8s							
O18K	**Koktuh Hills**	**5.04**	**324**	P		**Pn**	**07 25 28.2**	**+0.6**
	baz=139							
P17K	**Kvichak River**	**5.05**	**313**			**Pn**	**07 25 28.5**	**+0.9**
P17K	**Kvichak River**	**5.05**	**313**	P		**Pn**	**07 25 29.0**	**+1.3**
	baz=128							
SUCK	**Suckling Hills**	**5.07**	**33**			**Pn**	**07 25 28.4**	**+0.4**
SUCK				IAML			07 26 28.8	
	comp=E,71nm,0.4s							
RAGM	**Ragged Mountai**	**5.08**	**27**			**Pn**	**07 25 29.0**	**+0.8**
CHGN	**Chignik**	**5.12**	**278**			**Pn**	**07 25 27.9**	**-0.8**
CHGN	**Chignik**	**5.12**	**278**	IAML			07 26 27.2	
	comp=E,79nm,0.3s							
CHGN				IAML			07 26 35.7	
	comp=N,67nm,1.5s							
CHGN	**Chignik**	**5.12**	**278**	P		**Pn**	**07 25 27.9**	**-0.8**
	baz=91							
HMT	**Hamilton**	**5.15**	**29**			**Pn**	**07 25 29.9**	**+0.8**
NICHA	**Nichawak Mount**	**5.15**	**31**			**Pn**	**07 25 30.1**	**+1.0**
RC01	**Rabbit Creek A**	**5.17**	**358**	Pn		**Pn**	**07 25 28.9**	**-0.5**
RC01				IAML			07 26 31.2	
	comp=E,62nm,0.3s							
RC01				IAML			07 26 31.6	
	comp=N,44nm,0.3s							
RC01	**Rabbit Creek A**	**5.17**	**358**	P		**Pn**	**07 25 29.9**	**+0.6**
	baz=177							
GOAT	**Goat Mountain**	**5.24**	**25**			**Pn**	**07 25 31.3**	**+1.0**
BERG	**Berg Lake**	**5.35**	**31**			**Pn**	**07 25 32.4**	**+0.5**
GRIN	**Grindle Hills**	**5.38**	**34**			**Pn**	**07 25 33.2**	**+0.9**
SNH	**Sunshine Point**	**5.46**	**36**			**Pn**	**07 25 34.0**	**+0.7**
N20K	**Mount Spurr**	**5.49**	**345**	P		**Pn**	**07 25 34.5**	**+0.6**
	baz=163							
SPCR	**Spurr Chakacha**	**5.49**	**345**			**Pn**	**07 25 34.5**	**+0.7**
VNSG	**Veniaminof 6**	**5.50**	**276**			**Pn**	**07 25 33.9**	**0.0**
KNK	**Knik Glacier**	**5.51**	**4**			**Pn**	**07 25 34.2**	**+0.2**
KNK	**Knik Glacier**	**5.51**	**4**	P		**Pn**	**07 25 34.8**	**+0.8**
	baz=185							
DIV	**Divide**	**5.52**	**18**			**Pn**	**07 25 35.2**	**+1.0**
KHIT	**Khitrov Hills**	**5.53**	**33**			**Pn**	**07 25 34.9**	**+0.5**
VNHG	**Veniaminof 1**	**5.54**	**277**			**Pn**	**07 25 34.9**	**+0.3**
SUA	**Susitna One**	**5.59**	**353**	Pn		**Pn**	**07 25 35.4**	**+0.1**
SUA	**Susitna One**	**5.59**	**353**	P		**Pn**	**07 25 35.6**	**+0.3**
	baz=172							
N19K	**Bonanza Creek**	**5.60**	**333**			**Pn**	**07 25 35.5**	**+0.1**
N19K	**Bonanza Creek**	**5.60**	**333**	P		**Pn**	**07 25 35.5**	**+0.1**
	baz=149							
BMRM	**Bremner River**	**5.61**	**24**			**Pn**	**07 25 36.4**	**+1.0**
P16K	**Nushagak River**	**5.63**	**307**			**Pn**	**07 25 36.7**	**+1.1**
P16K	**Nushagak River**	**5.63**	**307**	P		**Pn**	**07 25 36.7**	**+1.1**
	baz=120							
WAX	**Waxell Ridge**	**5.66**	**34**			**Pn**	**07 25 37.3**	**+1.2**
O17K	**Koliganek Bris**	**5.67**	**316**			**Pn**	**07 25 36.6**	**+0.4**
PMR	**Palmer**	**5.67**	**1**			**Pn**	**07 25 36.7**	**+0.5**
PMR	**Palmer**	**5.67**	**1**	P		**Pn**	**07 25 37.4**	**+1.2**
STLK	**Strandline Lak**	**5.73**	**348**			**Pn**	**07 25 37.6**	**+0.4**
BARK	**Barkley Ridge**	**5.74**	**36**			**Pn**	**07 25 38.0**	**+0.7**
VNWF	**Veniaminof 8**	**5.77**	**276**			**Pn**	**07 25 37.8**	**+0.1**
CRQM	**Cirque**	**5.81**	**31**			**Pn**	**07 25 39.1**	**+0.8**
CRQE	**Cirque**	**5.82**	**31**	P		**Pn**	**07 25 39.2**	**+0.8**
	baz=216							
KLU	**Klutina**	**5.84**	**16**			**Pn**	**07 25 39.6**	**+1.1**
KLU	**Klutina**	**5.84**	**16**	P		**Pn**	**07 25 39.7**	**+1.1**
	baz=199							
GHO	**Glory Hole Cre**	**5.85**	**2**			**Pn**	**07 25 40.0**	**+1.2**
N18K	**Kilae Creek**	**5.89**	**326**			**Pn**	**07 25 39.7**	**+0.4**
N18K	**Kilae Creek**	**5.89**	**326**	P		**Pn**	**07 25 39.7**	**+0.4**
	baz=141							
TGL	**Tana Glacier**	**5.90**	**32**			**Pn**	**07 25 40.5**	**+1.0**
SML	**Sawmill**	**5.91**	**4**	Pn		**Pn**	**07 25 40.7**	**+1.2**
SML	**Sawmill**	**5.91**	**4**	P		**Pn**	**07 25 40.9**	**+1.4**
	baz=185							
BAGL	**Bagley Icefiel**	**5.94**	**37**			**Pn**	**07 25 40.5**	**+0.7**
ISLE	**Juniper Island**	**5.94**	**35**			**Pn**	**07 25 41.7**	**+1.7**
CHNA	**Chernabura Isl**	**5.98**	**264**	P		Pn	07 25 38.8	-1.7
	baz=76							
CNBA	**Chernabura Isl**	**5.98**	**263**			Pn	07 25 38.8	-1.8
SCM	**Sheep Creek Mo**	**6.00**	**9**			**Pn**	**07 25 42.3**	**+1.5**
SCM	**Sheep Creek Mo**	**6.00**	**9**	P		**Pn**	**07 25 42.0**	**+1.2**
	baz=190							
VRDI	**Verde Repeater**	**6.11**	**27**			**Pn**	**07 25 43.4**	**+0.9**
SVW2	**Sparrevohn**	**6.13**	**330**	P		**Pn**	**07 25 42.8**	**+0.2**
SKT	**Skwentna**	**6.17**	**350**			**Pn**	**07 25 43.8**	**+0.7**
KIAG	**Kiagna River**	**6.18**	**33**			**Pn**	**07 25 44.1**	**+0.8**
N25K	**Chitina, Valde**	**6.18**	**21**			**Pn**	**07 25 44.6**	**+1.3**
N25K	**Chitina, Valde**	**6.18**	**21**	P		**Pn**	**07 25 44.5**	**+1.1**
	baz=205							
GLB	**Gilahina Butte**	**6.21**	**25**	Pn		**Pn**	**07 25 44.4**	**+0.7**
GRNC	**Granite Creek**	**6.23**	**36**			**Pn**	**07 25 45.0**	**+1.0**
TABL	**Table Mountain**	**6.23**	**40**			**Pn**	**07 25 45.0**	**+0.8**
YKU2	**Yakutat**	**6.27**	**51**	P		**Pn**	**07 25 45.7**	**+1.3**
PCA	**Pinnacle**	**6.35**	**45**			**Pn**	**07 25 46.4**	**+0.7**
PINM	**Pinnacle**	**6.35**	**45**	P		**Pn**	**07 25 46.4**	**+0.7**
	baz=232							
PTPK	**Patty Peak**	**6.35**	**31**			**Pn**	**07 25 46.9**	**+1.1**
MCARA	**McCarthy VSAT**	**6.36**	**28**			**Pn**	**07 25 46.3**	**+0.6**
SDPT	**Sand Point**	**6.37**	**269**			**Pn**	**07 25 45.1**	**-0.7**
SDPT	**Sand Point**	**6.37**	**269**	P		**Pn**	**07 25 45.5**	**-0.3**
SDPT	**Sand Point**	**6.37**	**269**	P		**Pn**	**07 25 45.1**	**-0.7**
	baz=81							
M24K	**Tolsona, Glenn**	**6.39**	**13**			**Pn**	**07 25 47.7**	**+1.5**
M24K	**Tolsona, Glenn**	**6.39**	**13**	P		**Pn**	**07 25 47.9**	**+1.7**
	baz=196							
PNL	**Peninsula**	**6.47**	**51**			**Pn**	**07 25 47.3**	**+0.1**
PNL	**Peninsula**	**6.47**	**51**	P		**Pn**	**07 25 48.4**	**+1.2**
BARN	**Barnard Glacie**	**6.50**	**35**			**Pn**	**07 25 48.5**	**+0.7**
BCPM	**Bancas Point**	**6.52**	**48**			**Pn**	**07 25 48.9**	**+1.0**
M18K	**Stony River**	**6.52**	**331**			**Pn**	**07 25 47.9**	**-0.1**
M18K	**Stony River**	**6.52**	**331**	P		**Pn**	**07 25 47.9**	**-0.1**
	baz=146							
O15K	**Ungalikthiuk R**	**6.53**	**304**			**Pn**	**07 25 49.1**	**+1.0**
CTG	**Chitna Glacier**	**6.54**	**36**	P		**Pn**	**07 25 49.0**	**+0.8**
	baz=223							
CTGM	**Chitina Glacie**	**6.54**	**36**	Pn		**Pn**	**07 25 49.3**	**+1.0**
LOGN	**Logan Glacier**	**6.55**	**38**			**Pn**	**07 25 49.4**	**+0.9**
WAT6	**Susitna Watana**	**6.71**	**6**			**Pn**	**07 25 51.8**	**+1.2**
WAT6	**Susitna Watana**	**6.71**	**6**	P		**Pn**	**07 25 51.8**	**+1.2**
	baz=187							
N16K	**Nishlik Lake**	**6.76**	**316**			**Pn**	**07 25 52.1**	**+0.8**
L19K	**White Mountain**	**6.89**	**338**			**Pn**	**07 25 53.1**	**+0.2**
L19K	**White Mountain**	**6.89**	**338**	P		**Pn**	**07 25 53.1**	**+0.2**
	baz=153							
WAT7	**Susitna Watana**	**6.92**	**2**			**Pn**	**07 25 55.0**	**+1.5**
M17K	**Holitna River**	**6.93**	**326**			**Pn**	**07 25 54.2**	**+0.7**
PS1A	**Pavlof South-1**	**7.07**	**271**			**Pn**	**07 25 54.4**	**-1.0**
N15K	**Kwethluk River**	**7.13**	**311**			**Pn**	**07 25 57.9**	**+1.7**
O29M	**Mount Kennedy**	**7.16**	**48**			**Pn**	**07 25 58.0**	**+1.3**
O29M	**Mount Kennedy**	**7.16**	**48**	P		**Pn**	**07 25 58.0**	**+1.3**
	baz=236							
M16K	**Timber Creek**	**7.19**	**319**			**Pn**	**07 25 57.8**	**+0.8**
P29M	**Windy Craggy**	**7.19**	**54**			**Pn**	**07 25 57.2**	**+0.1**
P29M	**Windy Craggy**	**7.19**	**54**	P		**Pn**	**07 25 57.2**	**+0.1**
	baz=244							
PN7A	**Pavlof North-7**	**7.21**	**271**			**Pn**	**07 25 57.1**	**-0.4**
DHY	**Denali Highway**	**7.22**	**7**	Pn		**Pn**	**07 25 58.7**	**+1.1**
DHY	**Denali Highway**	**7.22**	**7**	P		**Pn**	**07 25 58.8**	**+1.1**
	baz=188							
L18K	**Granite Mounta**	**7.36**	**332**			**Pn**	**07 25 59.0**	**-0.4**
L18K	**Granite Mounta**	**7.36**	**332**	P		**Pn**	**07 25 59.0**	**-0.4**
	baz=146							
S31K	**Pelican**	**7.42**	**69**			Pn	07 25 58.3	-1.9
S31K	**Pelican**	**7.42**	**69**	P		Pn	07 25 58.3	-1.9
	baz=259							
M27K	**Edge Creek, AK**	**7.47**	**28**	P		**Pn**	**07 26 02.5**	**+1.4**
	baz=214							
TRF	**Thorofare Moun**	**7.55**	**357**			**Pn**	**07 26 02.7**	**+0.5**
TRF	**Thorofare Moun**	**7.55**	**357**	P		**Pn**	**07 26 03.1**	**+0.9**
	baz=176							
M15K	**Kasigluk River**	**7.66**	**313**			**Pn**	**07 26 04.6**	**+1.0**
M15K	**Kasigluk River**	**7.66**	**313**	P		**Pn**	**07 26 04.6**	**+1.0**
	baz=124							
L17K	**Donlin**	**7.75**	**327**			**Pn**	**07 26 05.0**	**+0.2**
P30M	**Million Dollar**	**7.76**	**52**			**Pn**	**07 26 05.9**	**+0.9**
P30M	**Million Dollar**	**7.76**	**52**	P		**Pn**	**07 26 05.9**	**+0.9**
	baz=242							
TTA	**Tatalina**	**7.80**	**337**	P		**Pn**	**07 26 06.7**	**+1.2**
SIT	**Sitka**	**7.81**	**76**			Pn	07 26 02.5	-3.0
SIT	**Sitka**	**7.81**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRM1	**Kerman Provinc**	**0.32**	**180**	Pg	Pb	07 49 10.5	-0.4
ZRDN	**Zarand Kerman**	**0.65**	**283**	Pg	Pb	07 49 16.6	0.0
KHGB	**Koh Gabri**	**0.81**	**237**	Pg	Pb	07 49 19.5	0.0
TVBK	**TV Kerman**	**0.94**	**208**	Pg	Pn	07 49 22.4	-0.4
CHMN	**Cheshme madani**	**0.98**	**166**	Pg	Pb	07 49 22.4	0.0
NGRK	**Negar Kerman**	**1.26**	**202**	Pg	Pn	07 49 28.1	+0.9
IBAF	**Bafgh**	**1.65**	**298**	Pg	Pg	07 49 34.9	+0.5
BSRN	**Basiran**	**1.96**	**54**	Pn	Pb	07 49 39.0	+0.2
KBAM	**BAM**	**1.97**	**148**	Pn	Pg	07 49 39.8	-0.6
IKOO	**Kooshah**	**2.18**	**42**	Pn	Pb	07 49 42.5	-0.2
TPRV	**Parvadeh(Tabas**	**2.26**	**347**	Pn	Pb	07 49 43.8	-0.1
IMEH	**Mehriz**	**2.35**	**285**	Pn	Pb	07 49 45.5	-0.1
ITEG	**Tejag**	**2.42**	**31**	Pn	Pb	07 49 46.4	-0.4
NHDN	**Nehbandan**	**2.45**	**76**	Pn	Pb	07 49 46.5	-0.7
TKDS	**Koohdasht(Taba**	**2.79**	**357**	Pn	Pb	07 49 50.7	-2.3
IDAH	**Dahanechah**	**2.92**	**48**	Pn	Pn	07 49 52.7	+2.7
AFRZ	**Afriz**	**2.99**	**29**	Pn	Pn	07 49 53.3	+2.5
TNSJ	**Nastanj**	**3.18**	**350**	Pn	Pn	07 49 56.5	+3.1
ZHDN	**Zahedan**	**3.38**	**114**	Pn	Pn	07 49 59.5	+3.3
GENO	**Geno**	**3.54**	**196**	Pn	Pn	07 50 01.6	+3.2
ANAR	**Anarak**	**3.83**	**309**	Pn	Pn	07 50 05.4	+3.1
IZEF	**Zefreh**	**4.69**	**297**	Pn	Pn	07 50 18.1	+3.9

IDC 03 08:02:22.6±4.7, 6°.81S×142°.32E, h0km, mb3.8/2, mbtmp3.6/4, ML3.4/2, Error ellipse: s-maj=166.7km s-min=33.1km az=98.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.18**	**210**	Pn	Pn	08 05 56.6	-1.9
	0.1nm,0.3s,baz=30,slow=14,SNR=0.9 0.7nm,0.7s						
ASAR	**Alice Springs**	**18.61**	**205**	P	P	08 06 41.5	-0.3
	0.2nm,0.3s,baz=35,slow=9.6,SNR=11 0.8nm,0.5s						
MKAR	**Makanchi Array**	**75.21**	**322**	P	P	08 14 06.5	-0.8
	0.3nm,0.3s,baz=100,slow=8.7,SNR=7.6 0.3nm,0.3s						
BVAR	**Borovoye Array**	**84.71**	**325**	P	P	08 15 00.4	+1.9
	0.5nm,0.5s,baz=116,slow=10,SNR=2.9 0.5nm,0.5s						

*IDC **03** 08:20:05.2±4.9, 7°.36S×128°.75E, h103km±47km, mb4.0/11, mbtmp4.4/14, Error ellipse: s-maj=31.8km s-min=14.7km az=71.0*

*DJA **03** 08:20:08.0±0.3, 7°.S±3°×12°.9E±°, h155km±10km, M4.4/10, mB4.9/7, mb4.5/10, MLv4.6/9, Mw(mB)4.2/7*

*NEIC **03** 08:20:09.1±2.2, 7°.41S±0°.08×128°.89E±0°.06, h143km±7km, mb4.3/24, Error ellipse: s-maj=11.4km s-min=8.5km az=174.0*

ISC 03 08:20:07.7±0.4, 7°.43S±0°.05×128°.84E±0°.06, h131km, n92, σ1§40/93, mb4.3/25, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.50**	**103**		**Pn**	**08 20 48.6**	**+0.7**
SAUI	**Saumlaki**	**2.50**	**103**	P	**Pn**	**08 20 49.9**	**+2.0**
SAUI	**Saumlaki**	**2.50**	**103**	P	**Pn**	**08 20 50.0**	**+2.0**
BNDI	**Bandanaira**	**3.08**	**20**	P	**Pn**	**08 20 56.7**	**+1.4**
NLAI	**Namlea**	**4.51**	**337**	P	**Pn**	**08 21 15.6**	**+1.4**
SOEI	**Soe**	**5.08**	**243**		**Pn**	**08 21 22.9**	**+0.9**
SOEI	**Soe**	**5.08**	**243**	P	**Pn**	**08 21 23.9**	**+1.9**
SOEI	**Soe**	**5.08**	**243**	P	**Pn**	**08 21 23.1**	**+1.1**
	127nm,0.8s,3µm1.2nm						
DRS	**Darwin Rock St**	**5.37**	**158**	P	**Pn**	**08 21 26.8**	**+1.0**
FAKI	**Fak Fak**	**5.62**	**37**	Pn	**Pn**	**08 21 27.9**	**-1.3**
FAKI	**Fak Fak**	**5.62**	**37**	P	**Pn**	**08 21 28.3**	**-0.9**
FAKI	**Fak Fak**	**5.62**	**37**	P	**Pn**	**08 21 28.1**	**-1.1**
	78nm,0.5s,0.4nm						
MTN	**Manton Dam**	**5.84**	**157**	Pn	**Pn**	**08 21 32.5**	**+0.4**
MTN	**Manton Dam**	**5.84**	**157**	P	**Pn**	**08 21 33.0**	**+0.9**
KDU	**Kakadu**	**6.33**	**146**	P	**Pn**	**08 21 39.0**	**+0.3**
MMRI	**Maumere**	**6.64**	**259**	Pn	**Pn**	**08 21 43.5**	**+0.6**
EDFI	**Ende, Flores**	**7.20**	**259**	P	**Pn**	**08 21 52.1**	**+1.6**
	29nm,0.8s,928nm0.1nm						
KNRA	**Kununurra**	**8.20**	**181**	Pn	**Pn**	**08 22 03.0**	**-0.8**
KNRA	**Kununurra**	**8.20**	**181**	P	**Pn**	**08 22 03.6**	**-0.3**
BASI	**Baing, Sumba**	**8.62**	**251**	P	**Pn**	**08 22 08.5**	**-1.0**
	58nm,0.5s,1µm						
BKSI	**Bulukumba**	**8.91**	**283**	P	**Pn**	**08 22 14.4**	**+1.0**
	20nm,0.9s						
MRSI	**Marisa**	**10.44**	**318**	P	**Pn**	**08 22 33.0**	**-1.0**
	14nm,0.5s,777nm						
PLAI	**Plampang**	**11.04**	**262**	P	**Pn**	**08 22 42.0**	**0.0**
PLAI	**Plampang**	**11.04**	**262**	P	**Pn**	**08 22 41.6**	**-0.4**
	26nm,1.0s						
FITZ	**Fitzroy Crossi**	**11.05**	**196**	Pn	**Pn**	**08 22 39.3**	**-2.8**
WB0	**Warramunga Arr**	**13.40**	**157**	Pn	**Pn**	**08 23 10.4**	**-2.4**
WRA	**Warramunga Arr**	**13.54**	**157**	P	**Pn**	**08 23 12.7**	**-1.9**
	4.5nm,0.5s,baz=344,slow=12,SNR=59						
WRA				S	Sn	08 25 32.8	-11
	12nm,0.6s,baz=336,slow=22,SNR=12						
COEN	**Coen**	**15.51**	**116**	Pn	**Pn**	**08 23 38.4**	**-1.0**
COEN				IAmb	IAmb	08 23 44.3	
	comp=Z,6.3nm,0.6s						
COEN	**Coen**	**15.51**	**116**	P	**P**	**08 23 41.1**	**+0.1**
	comp=Z,11nm,0.8s						
MBWA	**Marble Bar**	**16.24**	**212**	Pn	**Pn**	**08 23 46.6**	**-1.9**
MBWA	**Marble Bar**	**16.24**	**212**	P	**P**	**08 23 49.4**	**+0.3**
PSA00	**Pilbara Seismi**	**16.53**	**211**	P	**Pn**	**08 23 51.9**	**0.0**
PSA00				IAmb	IAmb	08 23 58.1	
	comp=Z,15nm,0.7s						
QIS	**Mount Isa**	**16.70**	**142**	P	**P**	**08 23 55.4**	**+1.2**
AS31	**Alice Springs**	**16.86**	**164**	P	**Pn**	**08 23 56.8**	**+0.7**
ASAR	**Alice Springs**	**16.86**	**164**	P	**P**	**08 23 56.0**	**0.0**
ASAR	**Alice Springs**	**16.86**	**164**	P	**P**	**08 23 56.0**	**0.0**
	comp=Z,2.9nm,0.5s,baz=335,slow=9.5,SNR=60						
ASAR				S	**Sn**	**08 26 57.6**	**-6.5**
	comp=Z,2.3nm,0.6s,baz=342,slow=23,SNR=6.3						
AS01	**Alice Springs**	**16.88**	**164**	P	**Pn**	**08 23 57.8**	**+1.6**
WRKA	**Warakurna**	**17.52**	**182**	P	**Pn**	**08 24 05.5**	**+1.5**
PMG	**Port Moresby**	**18.23**	**97**	P	**Pn**	**08 24 13.1**	**+0.7**
	comp=Z,7.8nm,0.7s,baz=301,slow=7.1,SNR=5.1						
MTSU	**Mount Surprise**	**18.45**	**127**	P	**Pn**	**08 24 17.5**	**+2.4**
SBUM	**Sibu**	**19.27**	**300**	P	**Pn**	**08 24 25.1**	**+0.4**
OOD	**Oodnadatta**	**21.27**	**163**	P	**P**	**08 24 45.4**	**+1.7**
FORT	**Forrest**	**23.24**	**182**	P	**P**	**08 25 02.1**	**-1.3**
FORT	**Forrest**	**23.24**	**182**	P	**P**	**08 25 06.1**	**+2.7**
MULG	**Mulgathing**	**23.26**	**169**	P	**P**	**08 25 06.0**	**+2.4**
LCRK	**Leigh Creek**	**24.53**	**160**	P	**P**	**08 25 17.3**	**+2.2**
BBOO	**Buckleboo**	**26.13**	**166**	P	**P**	**08 25 30.6**	**+0.9**
BBOO				IAmb	IAmb	08 26 13.7	
	comp=Z,9.0nm,1.1s						
BBOO	**Buckleboo**	**26.13**	**166**	P	**P**	**08 25 31.6**	**+2.0**
MYKOM	**Kota Tinggi**	**26.56**	**289**	P	**P**	**08 25 36.2**	**+2.5**
STKA	**Stephens Creek**	**27.08**	**156**	P	**P**	**08 25 39.4**	**+1.3**
STKA	**Stephens Creek**	**27.08**	**156**	P	**P**	**08 25 39.4**	**+1.3**
	comp=Z,1.1nm,0.4s,baz=331,slow=9.8,SNR=7.4 comp=Z,1.1nm,0.4s						
CMAR	**Chiang Mai Arr**	**39.13**	**311**	P	**P**	**08 27 22.8**	**0.0**
	comp=Z,1.7nm,0.3s,baz=140,slow=7.5,SNR=11 comp=Z,1.7nm,0.3s						
PZH	**PanZhiHua**	**42.77**	**323**	P	**P**	**08 27 54.5**	**+2.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.3s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
KSRS	**Korea Array**	**44.66**	**359**	P	**P**	**08 28 07.2**	**0.0**
	comp=Z,1.1nm,0.6s,baz=174,slow=9.2,SNR=7.5 comp=Z,1.1nm,0.6s						
HHC	**Hu-ho-hao-te**	**50.60**	**343**	*eP*	**P**	**08 28 55.7**	**+2.4**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,75nm,4.6s						
USRK	**Ussuriysk Ar.**	**51.47**	**3**	P	**P**	**08 28 58.4**	**-1.1**
	comp=Z,1.8nm,0.6s,baz=183,slow=6.7,SNR=7.4 comp=Z,1.8nm,0.6s						
GTA	**Gaotai**	**53.80**	**332**	P	**P**	**08 29 16.8**	**-0.2**
GTA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SONM	**Songino Array**	**58.49**	**342**	P	**P**	**08 29 50.7**	**+0.5**
SONM				IAmb	IAmb	08 29 51.3	
	comp=Z,3.3nm,1.1s						
SONM	**Songino Array**	**58.49**	**342**	P	**P**	**08 29 50.4**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=161,slow=7.7,SNR=11 comp=Z,1.9nm,0.9s						
NIUE	**Niue**	**60.46**	**108**	P	**P**	**08 30 02.9**	**-1.2**
WMQ	**Urumqi**	**63.13**	**328**	*eP*	**P**	**08 30 22.7**	**+1.1**
WMQ				PcP	**pwP**	**08 30 56.8**	**-0.4**
WMQ				pmax	pmax		
	comp=Z,20nm,1.1s						
PETK	**Petropavlovsk-**	**65.09**	**19**	P	**P**	**08 30 33.8**	**-0.3**
PETK	**Petropavlovsk-**	**65.09**	**19**	P	**P**	**08 30 34.2**	**+0.1**
	comp=Z,2.8nm,0.6s,baz=187,slow=2.2,SNR=4.0 comp=Z,2.8nm,0.6s						
KSH	**Kashi**	**67.56**	**318**	P	**P**	**08 30 51.2**	**+0.9**
KSH				pmax	pmax		
	comp=Z,12nm,0.5s						
MK31	**Makanchi Array**	**67.96**	**327**	P	**P**	**08 30 52.2**	**-0.3**
MK31				IAmb	IAmb	08 30 53.9	
	comp=Z,5.1nm,0.6s						
MKAR	**Makanchi Array**	**67.96**	**327**	P	**P**	**08 30 52.2**	**-0.3**
MKAR	**Makanchi Array**	**67.96**	**327**	P	**P**	**08 30 53.1**	**+0.6**
	comp=Z,6.7nm,0.5s,baz=117,slow=8.4,SNR=81 comp=Z,6.7nm,0.5s						
MAKZ	**Makanchi**	**68.13**	**327**	P	**P**	**08 30 53.4**	**-0.2**
MAKZ				IAmb	IAmb	08 30 54.5	
	comp=Z,7.4nm,1.1s						
ULHL	**Ulahol**	**68.82**	**321**	P	P	08 31 04.6	+6.4
	SNR=7.9						
BOOM	**Boomskoye usch**	**69.14**	**321**	P	**P**	**08 31 00.3**	**+0.2**
BOOM				IAmb	IAmb	08 31 01.6	
	comp=Z,4.8nm,0.8s						
TKM2	**Tokmak 2**	**69.58**	**321**	P	**P**	**08 31 03.6**	**+0.7**
	SNR=5.7						
UCH	**Uchtor**	**69.91**	**320**	P	**P**	**08 31 06.0**	**+0.8**
	SNR=7.6						
AAK	**Ala-Archa**	**70.13**	**320**	P	**P**	**08 31 07.3**	**+1.1**
	SNR=6.3						
AAK	**Ala-Archa**	**70.13**	**320**	P	**P**	**08 31 06.9**	**+0.7**
AAK				IAmb	IAmb	08 31 07.8	
	comp=Z,5.3nm,0.8s						
ARSB	**Arslanbob**	**70.44**	**319**	P	**P**	**08 31 08.0**	**-0.1**
USP	**Ospenovka**	**70.45**	**321**	P	**P**	**08 31 08.7**	**+0.7**
	SNR=7.4						
EKS2	**Erkin-Say**	**70.59**	**320**	P	**P**	**08 31 10.2**	**+1.2**
	SNR=5.8						
GAR	**Garm**	**71.15**	**315**	P	**P**	**08 31 11.9**	**-0.5**
ZAA0	**Zalesovo Array**	**71.46**	**334**	P	**P**	**08 31 13.9**	**+0.1**
ZAA0				IAmb	IAmb	08 31 14.5	
	comp=Z,5.3nm,1.1s						
ZALV	**Zalesovo Beam**	**71.46**	**334**	P	**P**	**08 31 12.9**	**-0.8**
ZALV	**Zalesovo Beam**	**71.46**	**334**	P	**P**	**08 31 13.0**	**-0.8**
	comp=Z,3.4nm,0.6s,baz=131,slow=4.7,SNR=16 comp=Z,3.4nm,0.6s						
VNDA	**Vanda**	**72.17**	**173**	P	**P**	**08 31 18.7**	**+1.0**
KURBB	**Kurchatov Arra**	**72.28**	**329**	P	**P**	**08 31 18.4**	**-0.3**
	comp=Z,7.2nm,0.6s,baz=129,slow=5.0,SNR=81 comp=Z,7.2nm,0.6s						
KURK	**Kurchatov**	**72.28**	**329**	P	**P**	**08 31 18.5**	**-0.2**
BVAR	**Borovoye Array**	**77.81**	**328**	P	**P**	**08 31 50.4**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=124,slow=6.2,SNR=13 comp=Z,2.9nm,0.7s						
BRVK	**Borovoye**	**77.88**	**328**	P	**P**	**08 31 49.9**	**-0.9**
BRVK				IAmb	IAmb	08 31 51.6	
	comp=Z,2.6nm,0.6s						
TIXI	**Tiksi**	**78.91**	**0**	P	**P**	**08 31 54.1**	**-2.0**
TIXI				IAmb	IAmb	08 31 56.2	
	comp=Z,3.3nm,0.8s						
ABKAR	**Akbulak array**	**82.13**	**322**	P	**P**	**08 32 13.1**	**-0.7**
ABKAR				IAmb	IAmb	08 32 16.8	
	comp=Z,3.1nm,0.7s						
QSPA	**South Pole Qui**	**82.55**	**180**	P	**P**	**08 32 16.6**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=275,slow=0.9,SNR=9.3 comp=Z,1.8nm,0.8s						
BMAR	**Burnt Mountain**	**95.49**	**23**	P	**P**	**08 33 16.5**	**-0.8**
BCAR	**Beaver Creek A**	**96.28**	**27**	P	**P**	**08 33 20.4**	**-0.7**
CPUP	**Villa Florida**	**145.91**	**170**	PKPbc	**PKPab**	**08 39 33.7**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=184,slow=4.2,SNR=6.1						

*ASIES **03** 08:23:19.0,24°.11N×121°.83E, h5km, ML3.5, Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}1.27; $M_{\theta\theta}$-0.52; $M_{\phi\phi}$-0.13; $M_{r\theta}$0.40; $M_{r\phi}$-0.66; $M_{\theta\phi}$0.95; Fault plane solution: $M_0$1.56516×10^{21} NP1:ϕ_s33.30000°, δ66.85000°, λ71.87000°. NP2:ϕ_s253.10000°, δ29.09000°, λ126.06000°. Principal axes: T Plg63.6150°, Azm273.6140°; N Plg16.6300°, Azm40.6320°; P Plg19.8770°, Azm136.8310°;*

*TAP **03** 08:23:19.0,24°.11N×121°.83E, h5km, ML3.5, C*

*JMA **03** 08:23:20.0±0.3,24°N±1°×121°.8E±1°.0, h0km, MV2.9/8, TAIWAN REGION*

ISC 03 08:23:20.0±1.0, 24°.11N±0°.02×121°.83E±0°.03, h11km±6km, n77, σ0§90/117, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.20**	**284**	*i* P	**Pg**	**08 23 23.8**	**-0.5**
	baz=286						
ETL				*i* S	**Sg**	**08 23 27.7**	**+0.5**
	baz=286						
EHP	**Heping Village**	**0.22**	**337**	P	**Pg**	**08 23 24.5**	**-0.1**
	baz=337						
EHP				S	**Sg**	**08 23 28.8**	**+1.1**
	baz=337						
TWD	**Chiawan**	**0.22**	**262**	*eP*	**Pg**	**08 23 24.3**	**-0.3**
	baz=271						
TWD				S	**Sg**	**08 23 28.4**	**+0.6**
	baz=271						
NACB	**Ninganchiao**	**0.23**	**286**	P	**Pg**	**08 23 24.1**	**-0.7**
NACB	**Ninganchiao**	**0.23**	**286**	*eP*	**Pg**	**08 23 24.2**	**-0.6**
	baz=288						
NACB				S	**Sg**	**08 23 28.5**	**+0.5**
	baz=288						
EAHA	**Aohua**	**0.23**	**339**	*i* P	**Pg**	**08 23 24.7**	**-0.3**
	baz=336						
EAHA				S	**Sg**	**08 23 28.8**	**+0.6**
	baz=336						
HWA	**Hwalien**	**0.25**	**238**	P	**Pg**	**08 23 26.1**	**+1.0**
	baz=245						
ENA	**Nanau**	**0.33**	**345**	P	**Pg**	**08 23 26.2**	**-0.4**
	baz=344						
ENA				S	**Sb**	**08 23 31.8**	**-1.4**
	baz=344						
ETLH	**Xiulin Townshi**	**0.34**	**287**	P	**Pb**	**08 23 26.5**	**-1.6**
	baz=288						
ETLH				S	**Sb**	**08 23 32.1**	**-1.4**
	baz=288						
EWUT	**Wuta**	**0.34**	**351**	*eP*	**Pb**	**08 23 26.7**	**-1.4**
	baz=337						
EWUT				S	**Sb**	**08 23 32.0**	**-1.5**
	baz=337						
ETM	**Tongmen**	**0.34**	**245**	P	**Pb**	**08 23 26.9**	**-1.3**
	baz=259						
ETM				S	**Sb**	**08 23 32.9**	**-0.8**
	baz=259						
LXIB	**Xiulin Townshi**	**0.39**	**257**	P	**Pg**	**08 23 27.5**	**-0.4**
	baz=259						
LXIB				S	**Sb**	**08 23 34.0**	**-1.3**
	baz=259						
SHUL	**Shoufeng**	**0.41**	**218**	*eP*	**Pb**	**08 23 29.7**	**+0.5**
	baz=220						
SHUL				*eS*	**Sb**	**08 23 37.5**	**+2.1**
	baz=220						
EOS4	**EOS4**	**0.44**	**89**	*eP*	**Pn**	**08 23 31.8**	**-0.2**
	baz=99						
ESAO	**Su ao**	**0.46**	**1**	*eP*	**Pb**	**08 23 29.1**	**-1.2**
	baz=348						
ESAO				*eS*	**Sb**	**08 23 36.5**	**-0.7**
	baz=348						
ESL	**Shilin**	**0.47**	**231**	*eP*	**Pb**	**08 23 29.1**	**-1.3**
	baz=247						
ESL				*eS*	**Sb**	**08 23 36.9**	**-0.4**
	baz=247						
EOS2	**EOS2**	**0.48**	**50**	*eP*	**Pn**	**08 23 31.7**	**-1.0**
	baz=48						
TWC	**Suao**	**0.50**	**2**	*eP*	**Pb**	**08 23 29.4**	**-1.4**
	baz=350						
TWC				*eS*	**Sb**	**08 23 38.1**	**0.0**
	baz=350						
LATG	**Datong**	**0.51**	**327**	*eP*	**Pb**	**08 23 29.7**	**-1.4**
	baz=325						
LATG				*eS*	**Sb**	**08 23 37.7**	**-0.8**
	baz=325						
NNSB	**Datong**	**0.52**	**308**	*eP*	**Pb**	**08 23 29.9**	**-1.4**
	baz=308						
NNSB				*eS*	**Sb**	**08 23 37.4**	**-1.5**
	baz=308						
WHF	**Hehuan Shan**	**0.52**	**274**	P	**Pb**	**08 23 30.0**	**-1.5**
	baz=276						
WHF				*eS*	**Sb**	**08 23 38.4**	**-0.8**
	baz=276						
NDS	**Dongshan**	**0.53**	**348**	*eP*	**Pb**	**08 23 30.5**	**-1.0**
	baz=344						
NDS				*eS*	**Sb**	**08 23 39.5**	**+0.4**
	baz=344						
NNS	**Nan Shan**	**0.53**	**308**	P	**Pb**	**08 23 30.1**	**-1.4**
	baz=308						
NNS				*eS*	**Sb**	**08 23 38.4**	**-0.9**
	baz=308						
FUSS	**Fushou**	**0.56**	**284**	P	**Pb**	**08 23 30.9**	**-1.1**
	baz=297						
WARBT	**Fenglin Townsh**	**0.57**	**226**	*eP*	**Pb**	**08 23 30.7**	**-1.3**
	baz=243						
WARBT				*eS*	**Sb**	**08 23 39.4**	**-0.7**
	baz=243						
NDT	**Datong Townshi**	**0.57**	**329**	*eP*	**Pb**	**08 23 31.2**	**-0.9**
	baz=327						
NDT				*eS*	**Sb**	**08 23 40.3**	**+0.1**
	baz=327						
EGFH	**Guangfu**	**0.57**	**220**	*eP*	**Pn**	**08 23 32.9**	**-1.3**
	baz=223						
ENTT	**Nioudou**	**0.58**	**335**	*eP*	**Pb**	**08 23 31.2**	**-1.1**
	baz=334						
ENTT				*eS*	**Sb**	**08 23 40.3**	**-0.3**
	baz=334						
CHGB	**Renai**	**0.60**	**265**	*eP*	**Pb**	**08 23 31.9**	**-0.9**
	baz=267						
CHGB				*eS*	**Sb**	**08 23 41.1**	**-0.3**
	baz=267						
TWT	**Tachien**	**0.62**	**283**	*eP*	**Pb**	**08 23 32.3**	**-0.7**
	baz=294						
OWD	**Renai**	**0.62**	**256**	*eP*	**Pb**	**08 23 32.4**	**-0.6**
	baz=269						
OWD				*eS*	**Sb**	**08 23 41.6**	**-0.2**
	baz=269						
TWE	**Neicheng**	**0.63**	**346**	*eP*	**Pb**	**08 23 32.1**	**-0.9**
	baz=345						
TWE				S	**Sb**	**08 23 41.6**	**-0.3**
	baz=345						
TDCB	**Techi**	**0.63**	**283**	*eP*	**Pb**	**08 23 32.2**	**-1.0**
	baz=296						
TDCB				*eS*	**Sb**	**08 23 41.2**	**-1.0**
	baz=296						
WUSB	**Renai**	**0.67**	**260**	*eP*	**Pb**	**08 23 33.1**	**-0.7**
	baz=262						
WUSB				*eS*	**Sb**	**08 23 43.0**	**-0.1**
	baz=262						
FUSB	**Fushanzhiwuyua**	**0.69**	**341**	*eP*	**Pb**	**08 23 33.3**	**-0.8**
	baz=329						
YHNB	**Yeheng**	**0.70**	**323**	P	**Pb**	**08 23 33.7**	**-0.6**
YHNB	**Yeheng**	**0.70**	**323**	*eP*	**Pb**	**08 23 33.6**	**-0.6**
	baz=322						
YHNB				*eS*	**Sb**	**08 23 43.7**	**-0.2**
	baz=322						
NSK	**Sanguang**	**0.71**	**323**	P	**Pb**	**08 23 33.8**	**-0.8**
	baz=322						
NSK				S	**Sb**	**08 23 44.0**	**-0.3**
	baz=322						
HGSD	**Ruisui**	**0.72**	**211**	*eP*	**Pn**	**08 23 35.4**	**-0.8**
	baz=190						
VWDT	**VWDT**	**0.73**	**241**	P	**Pb**	**08 23 34.0**	**-0.7**
	baz=253						
VWDT				*eS*	**Sb**	**08 23 45.1**	**+0.4**
	baz=253						
NWLT	**Wulai**	**0.73**	**336**	*eP*	**Pb**	**08 23 34.1**	**-0.7**
	baz=334						
NWLT				*eS*	**Sb**	**08 23 44.7**	**-0.2**
	baz=334						
EGS		**0.74**	**7**	*eP*	**Pb**	**08 23 35.2**	**+0.2**
	baz=354						
EHY	**Hungye**	**0.76**	**218**	*eP*	**Pb**	**08 23 34.7**	**-0.7**
	baz=236						
WHP	**Taichung City**	**0.83**	**282**	*eP*	**Pb**	**08 23 36.6**	**+0.1**
	baz=283						
WHP				*eS*	**Sn**	**08 23 48.7**	**-1.3**
	baz=283						
NFF	**Wufeng Townshi**	**0.83**	**309**	*eP*	**Pb**	**08 23 36.2**	**-0.4**
	baz=317						
NFF				*eS*	**Sb**	**08 23 47.6**	**-0.3**
	baz=317						
WCS	**Beigang Elemen**	**0.84**	**267**	*eP*	**Pb**	**08 23 36.2**	**-0.5**
	baz=269						
TIPB	**Shuangxi**	**0.86**	**360**	*eP*	**Pb**	**08 23 36.9**	**-0.1**
	baz=345						
TIPB				*eS*	**Sb**	**08 23 48.8**	**+0.3**
	baz=345						
SSLB	**Suanglung**	**0.87**	**248**	P	**Pb**	**08 23 36.8**	**-0.3**
SSLB	**Suanglung**	**0.87**	**248**	*eP*	**Pb**	**08 23 36.8**	**-0.3**
	baz=263						
SSLB				*eS*	**Sb**	**08 23 48.6**	**-0.1**
	baz=263						
YULB	**Yu-li**	**0.87**	**215**	P	**Pn**	**08 23 37.6**	**-0.6**
SMLT	**Sun Moon Lake**	**0.88**	**255**	*eS*	**Sb**	**08 23 50.0**	**+0.6**
	baz=257						
NHDH	**Xindian Distri**	**0.89**	**342**	*eP*	**Pn**	**08 23 38.4**	**-0.2**
	baz=339						
TWB1	**Santiao Chiao**	**0.91**	**9**	*eP*	**Pn**	**08 23 38.1**	**-0.7**
	baz=356						
TWB1				*i* S	**Sn**	**08 23 52.4**	**+0.5**
	baz=356						
TYC	**Yuchr**	**0.92**	**257**	*eS*	**Sb**	**08 23 50.5**	**+0.3**
	baz=259						
TATO	**Taipei**	**0.92**	**340**	P	**Pn**	**08 23 38.5**	**-0.4**
NSTT	**Nanjuang**	**0.92**	**305**	*eP*	**Pb**	**08 23 37.9**	**-0.1**
	baz=304						
NSTT				*eS*	**Sb**	**08 23 50.9**	**+0.6**
	baz=304						
NWF	**Wu-fen Shan**	**0.96**	**357**	P	**Pn**	**08 23 39.4**	**-0.1**
	baz=344						
WFSB	**Wu-fen Shan**	**0.96**	**357**	P	**Pn**	**08 23 39.0**	**-0.4**
	baz=344						
SXI1	**Grass Mountain**	**0.98**	**2**	*eP*	**Pn**	**08 23 39.3**	**-0.5**
	baz=7.0						
TWQ1	**Liyutan**	**1.00**	**284**	*eP*	**Pn**	**08 23 40.2**	**+0.2**
	baz=287						
NSY	**Sanyi**	**1.02**	**288**	*eP*	**Pn**	**08 23 41.0**	**+0.6**
	baz=290						
SBCB	**Hsinchu**	**1.03**	**311**	*eP*	**Pn**	**08 23 41.0**

KURK	**Kurchatov**	**2.20**	**111**	⇓Pg		**Pn**	**08 27 09.2**	**+1.3**
	1.3nm,0.5s							
KURK				⇓Lg		Lg	08 27 40.2	
	6.7nm,0.7s							
BVA0	**Borovoye Array**	**3.41**	**298**	⇓Lg		Lg	08 28 14.8	
	2.0nm,0.8s							
BVAR	**Borovoye Array**	**3.41**	**298**	Pn		**Pn**	**08 27 24.6**	**-0.1**
	baz=102,slow=16,SNR=5.2							
BVAR				Sn		**Sn**	**08 28 07.0**	**+1.2**
	baz=108,slow=25,SNR=4.0							
	0.4nm,0.4s							
BRVK	**Borovoye**	**3.48**	**298**	⇑Lg		Lg	08 28 18.2	
	1.6nm,0.6s							
OTUK	**Ortayu**	**3.84**	**212**	⇑Lg		Lg	08 28 34.1	
	3.0nm,1.1s							
ZALV	**Zalesovo Beam**	**6.22**	**63**	Pn		**Pn**	**08 28 03.1**	**0.0**
	0.2nm,0.3s,baz=270,slow=13,SNR=3.1							
	0.5nm,0.4s							
I46RU	**ZALESOVO INFRA**	**6.22**	**63**	I		I	09 07 30.0	
	baz=245,slow=308,SNR=1.8							
MAKZ	**Makanchi**	**6.41**	**135**	⇓Lg		Lg	08 29 55.3	
	3.0nm,1.2s							
MK31	**Makanchi Array**	**6.56**	**134**	⇓Lg		Lg	08 29 59.0	
	0.6nm,0.6s,baz=318,slow=29,SNR=2.9							
MKAR	**Makanchi Array**	**6.56**	**134**	Pn		**Pn**	**08 28 08.2**	**+0.4**
	0.1nm,0.3s,baz=316,slow=10,SNR=3.5							
MKAR				Lg		Lg	08 29 56.9	
	0.1nm,0.3s,baz=312,slow=22,SNR=5.7							
	0.1nm,0.5s							

*IDC **03** 08:28:09.9±1.8,6˚14S×142˚88E,h0km,mb3.9/4, mbtmp3.9/6,ML3.5/2,Error ellipse: s-maj=69.9km s-min=29.9km az=105.0*

ISC 03 08:28:11.1±1.8,6˚2S±0˚2×142˚9E±0˚5,h10km,n6,σ0s73/6, mb4.0/4,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**15.94**	**211**	Pn	**Pn**		**08 31 54.9**	**-0.8**
	0.2nm,0.3s,baz=27,slow=13,SNR=3.7							
WRA				Sn	Sn		08 34 40.1	-13
	baz=29,slow=24							
WRA				Lg	Lg		08 36 29.9	
	baz=16,slow=27,SNR=3.0							
	1.4nm,1.0s							
ASAR	**Alice Springs**	**19.35**	**206**	P	**Pn**		**08 32 39.0**	**+0.9**
	0.2nm,0.3s,baz=36,slow=8.0,SNR=16							
ASAR				Lg	Lg		08 38 15.2	
	0.1nm,0.3s,baz=17,slow=30,SNR=4.3							
	6.4nm,1.0s							
MKAR	**Makanchi Array**	**75.10**	**322**	P	**P**		**08 39 53.9**	**+0.4**
	1.1nm,0.9s,baz=120,slow=7.2,SNR=7.6							
	1.1nm,0.9s							
KURBB	**Kurchatov Arra**	**78.99**	**324**	P	**P**		**08 40 15.1**	**-0.2**
	0.2nm,0.5s,baz=125,slow=4.9,SNR=2.8							
	0.2nm,0.5s							
BVAR	**Borovoye Array**	**84.57**	**325**	P	**P**		**08 40 44.6**	**0.0**
	3.5nm,0.9s,baz=113,slow=5.1,SNR=10							
	3.5nm,0.9s							
ILAR	**Eielson Array**	**87.34**	**24**	P	**P**		**08 40 57.9**	**-0.2**
	0.8nm,0.8s,baz=260,slow=4.5,SNR=8.7							
	0.8nm,0.8s							

DJA 03 08:37:34.4±0.6,6˚S±0.3˚×107˚4E±˚,h28km±5km,M4.0/8, mb4.6/1,MLv3.6/8,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KASI	**Kota Agung**	**0.22**	**86**	P	Pn		08 37 42.3	+0.5
KASI				S	Sb		08 37 46.9	+2.1
LWLI	**Liwa**	**0.56**	**337**	P	Pn		08 37 47.0	+0.3
LWLI				S	Sn		08 37 56.5	+1.3
CGJI	**Cibinong**	**1.76**	**127**	P	Pn		08 38 03.0	-0.1
MNAI	**Manna**	**1.77**	**312**	P	Pn		08 38 02.6	-0.5
MNAI				S	Sn		08 38 26.0	+1.3
LHSI	**Lahat**	**1.86**	**336**	P	Pn		08 38 02.9	-1.5
CNJI	**Cibinong**	**3.33**	**122**	P	Pn		08 38 24.8	+0.1
CMJI	**Cimerak**	**4.70**	**119**	P	Pn		08 38 44.0	+0.5
PPSI	**Pulau Pagai**	**5.07**	**303**	P	Pn		08 38 48.2	-0.5

*TRN **03** 09:03:05.9,18˚69N×65˚08W,h66km,MD4.2,North of the British Virgin Islands.*
*NEIC **03** 09:03:06.8±1.0,18˚93N±0˚08×65˚09W±0˚09,h35km±2km, ML2.6/24,Md3.2/10(RSPR),Error ellipse: s-maj=15.1km s-min=13.0km az=122.0*
*RSPR **03** 09:03:08.2,18˚91N×65˚10W,h29km±15km,MD3.2/10*

ISC 03 09:03:04.5±2.2,19˚0N±0˚1×65˚04W±0˚05,h26km±17km, n35,σ0s83/47,7C-9D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
HUMP	**Col San Antoni**	**1.11**	**224**	⇓*e*P	**Pb**		**09 03 25.1**	**+0.1**
HUMP	**Col San Antoni**	**1.11**	**224**		**Pb**		**09 03 25.1**	**+0.1**
HUMP					**Sn**		**09 03 38.7**	**-0.1**
HUMP				IAML			09 03 39.8	
	comp=E,212nm,0.3s							
HUMP				IAML			09 03 41.1	
	comp=N,181nm,0.2s							
HUMP	**Col San Antoni**	**1.11**	**224**	⇓*e*P	**Pb**		**09 03 25.1**	**+0.1**
HUMP				*e*S	**Sn**		**09 03 38.1**	**-0.7**
GCPR	**Guaynabo City**	**1.18**	**237**	⇑*e*P	**Pn**		**09 03 25.4**	**+0.2**
GCPR	**Guaynabo City**	**1.18**	**237**	*e*S	**Sn**		**09 03 39.7**	**-0.8**
GCPR	**Guaynabo City**	**1.18**	**237**		**Pn**		**09 03 25.2**	**0.0**
GCPR					**Sn**		**09 03 39.6**	**-0.9**
GCPR				IAML			09 03 41.4	
	comp=E,81nm,0.2s							
IGPR	**InterUniversit**	**1.41**	**226**	⇓*e*P	**Pn**		**09 03 29.2**	**+0.8**
IGPR	**InterUniversit**	**1.41**	**226**	*e*S	**Sn**		**09 03 45.5**	**-0.6**
IGPR	**InterUniversit**	**1.41**	**226**		**Pn**		**09 03 28.8**	**+0.3**
IGPR				IAML			09 03 46.8	
	comp=N,148nm,0.2s							
EMPR	**Esperanza - Ma**	**1.49**	**252**	Pn	**Pn**		**09 03 30.2**	**+0.7**
CELP	**Cerrillos**	**1.70**	**239**	⇓*e*P	**Pn**		**09 03 33.6**	**+1.2**
CELP	**Cerrillos**	**1.70**	**239**		**Pn**		**09 03 33.6**	**+1.2**
CELP					**Sn**		**09 03 53.7**	**+0.3**
CELP				IAML			09 03 57.6	
	comp=N,36nm,0.2s							
CELP	**Cerrillos**	**1.70**	**239**	⇓*e*P	**Pn**		**09 03 33.6**	**+1.2**
CELP				*e*S	**Sn**		**09 03 53.0**	**-0.3**
AOPR	**Arecibo Observ**	**1.73**	**250**	⇑*e*P	**Pn**		**09 03 33.9**	**+1.0**
AOPR	**Arecibo Observ**	**1.73**	**250**		**Pn**		**09 03 33.9**	**+1.0**
AOPR				IAML			09 04 00.5	
	comp=N,86nm,0.3s							
AOPR	**Arecibo Observ**	**1.73**	**250**	⇑*e*P	**Pn**		**09 03 33.9**	**+1.0**
AOPR	**Arecibo Observ**	**1.73**	**250**	*e*P	**Pb**		**09 03 34.4**	**-1.3**
AOPR				*e*S	**Sn**		**09 03 53.5**	**-0.6**
UUPR	**Utuado, UPR, P**	**1.74**	**247**	⇓*e*P	**Pn**		**09 03 33.5**	**+0.6**
UUPR	**Utuado, UPR, P**	**1.74**	**247**	*e*S	**Sn**		**09 03 53.6**	**-0.7**
UUPR	**Utuado, UPR, P**	**1.74**	**247**		**Pn**		**09 03 33.7**	**+0.7**
OBIP	**Obispado Ponce**	**1.74**	**239**	⇓*e*P	**Pn**		**09 03 33.1**	**+0.2**
OBIP	**Obispado Ponce**	**1.74**	**239**		**Pn**		**09 03 33.1**	**+0.2**
OBIP					**Sn**		**09 03 53.7**	**-0.6**
OBIP				IAML			09 03 55.8	
	comp=E,36nm,0.7s							
OBIP	**Obispado Ponce**	**1.74**	**239**	⇓*e*P	**Pn**		**09 03 33.1**	**+0.2**
OBIP				*e*S	**Sn**		**09 03 53.1**	**-1.2**
AGPR	**Aguadilla, PR**	**2.02**	**257**	Pn	**Pn**		**09 03 37.3**	**+0.4**
AGPR				IAML			09 04 02.3	
	comp=E,66nm,2.5s							
AGPR				IAML			09 04 05.3	
	comp=N,55nm,0.4s							
LSP	**Las Mesas**	**2.09**	**249**	⇑*e*P	**Pn**		**09 03 38.9**	**+1.1**
LSP	**Las Mesas**	**2.09**	**249**		**Pn**		**09 03 38.9**	**+1.1**
LSP					**Sn**		**09 04 02.8**	**-0.2**
LSP	**Las Mesas**	**2.09**	**249**	⇑*e*P	**Pn**		**09 03 38.9**	**+1.1**
LSP				*e*S	**Sn**		**09 04 02.8**	**-0.2**
PRSN	**Puerto Rico Se**	**2.13**	**250**	Pn	**Pn**		**09 03 39.0**	**+0.8**
PRSN				IAML			09 04 06.5	
	comp=E,50nm,0.2s							
PRSN				IAML			09 04 31.2	
	comp=N,65nm,0.3s							
MLPR	**Magueyes Islan**	**2.14**	**243**	⇓*e*P	**Pn**		**09 03 39.9**	**+1.5**
MLPR	**Magueyes Islan**	**2.14**	**243**	*e*S	**Sn**		**09 04 04.1**	**-0.1**
MLPR	**Magueyes Islan**	**2.14**	**243**	Pn	**Pn**		**09 03 39.1**	**+0.6**
MLPR				IAML			09 04 09.2	
	comp=N,24nm,2.9s							
CRPR	**Cabo Rojo, PR**	**2.18**	**245**	⇑*e*P	**Pn**		**09 03 40.1**	**+1.1**
CRPR	**Cabo Rojo, PR**	**2.18**	**245**		**Pn**		**09 03 40.5**	**+1.5**
CRPR	**Cabo Rojo, PR**	**2.18**	**245**	⇑*e*P	**Pn**		**09 03 40.1**	**+1.1**
CRPR				*e*S	**Sn**		**09 04 05.0**	**-0.1**
ANBD	**Bethesda, Anti**	**3.65**	**121**	*e*P	**Pn**		**09 03 59.9**	**+0.7**
ANBD				*e*S	**Sn**		**09 04 40.4**	**-1.0**

*ISK **03** 09:05:48.8,39˚99N×40˚02E,h6km,ML4.1/29*
*CFUSG **03** 09:05:48.8,40˚00N×40˚00E,h5km,mb3.5/4,Eastern Turkey Magtype MSH 3.5 from 3 stations*
*MOS **03** 09:05:49.5±1.4,40˚01N×39˚99E,h11km,mb4.3/21,Error ellipse: s-maj=5.0km s-min=4.1km az=86.1*
*AFAD **03** 09:05:49.9±0.0,40˚00N×40˚05E,h8km±1km,MW4.2*
*TIF **03** 09:05:49.0,40˚01N×40˚00E,h7km±2km*
*NEIC **03** 09:05:50.9±1.9,40˚00N±0˚06×40˚08E±0˚06,h10km±2km, mb4.2/18,Error ellipse: s-maj=9.6km s-min=7.3km az=12.0*
*IDC **03** 09:05:50.5±0.7,40˚05N×39˚96E,h0km,mb3.8/16, mbtmp3.8/26,ML3.5/9,MS3.4/24,Error ellipse: s-maj=12.3km s-min=7.3km az=0.0*
*NAO **03** 09:06:20.4,40˚00N×40˚02E,h0km,mb3.7*

ISC 03 09:05:49.8±0.8,40˚00N±0˚01×40˚05E±0˚01,h4km±6km, n289,σ1s96/328,mb4.1/39,MS3.2/17,10C-4D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
BAYB	**BAYBURT**	**0.30**	**32**	P	**Pg**		**09 05 55.3**	**-0.4**
BAYB				S	**Sg**		**09 05 59.8**	**+0.1**
KOPT	**Kop Dagi**	**0.34**	**88**	Pg	**Pb**		**09 05 56.8**	**-1.9**
KOPT	**Kop Dagi**	**0.34**	**88**	P	**Pg**		**09 05 56.3**	**-0.2**
KOPT				S	**Sb**		**09 06 03.8**	**-0.8**
KOPT				*i* AML	AML		09 06 04.0	
	comp=N,11μm,0.6s							
KOPT				*i* AML	AML		09 06 05.0	
	comp=E,3μm,0.4s							
BAYT	**Aydıntepe-Bayb**	**0.40**	**10**	Pg	**Pg**		**09 05 57.4**	**-0.1**
BAYT				Sg	**Sb**		**09 06 03.4**	**-2.6**
EUZM	**Uzumlu**	**0.40**	**222**	P	**Pg**		**09 05 56.8**	**-0.7**
EUZM				S	**Sg**		**09 06 04.5**	**+1.7**
ERZN	**Erzincan**	**0.49**	**211**	Pg	**Pg**		**09 05 58.2**	**-1.0**
ERZN				Sg	**Sg**		**09 06 05.3**	**-0.2**
EZC	**Erzincan**	**0.59**	**245**	P	**Pg**		**09 05 58.0**	**-3.2**
EZC				S	**Sg**		**09 06 05.7**	**-3.1**
KELT	**Kelkit**	**0.62**	**284**	P	**Pg**		**09 06 01.4**	**-0.4**
KELT				S	**Sg**		**09 06 10.5**	**+0.5**
GUMT	**Gumushane**	**0.63**	**316**	Pg	**Pg**		**09 06 01.6**	**-0.3**
GUMT				Sg	**Sb**		**09 06 10.8**	**-1.9**
KRIK	**Erzurum-spir**	**0.75**	**63**	P	**Pg**		**09 06 03.8**	**-0.5**
KRIK				S	**Sn**		**09 06 15.9**	**-3.4**
ECAT	**Cat-ERZURUM**	**0.82**	**119**	P	**Pg**		**09 06 03.8**	**-1.7**
ECAT				S	**Sb**		**09 06 17.4**	**-0.7**
ETEKE	**Tekederesi - E**	**0.86**	**104**	P	**Pg**		**09 06 05.4**	**-0.9**
ETEKE				S	**Sn**		**09 06 21.3**	**-0.9**
ETEKE				*i* AML	AML		09 06 25.0	
	comp=E,4μm,0.4s							
ETEKE				*i* AML	AML		09 06 27.0	
	comp=N,7μm,0.6s							
IZDR	**Rize**	**0.87**	**26**	P	**Pg**		**09 06 05.3**	**-1.2**
IZDR				S	**Sb**		**09 06 17.2**	**-2.5**
EKONA	**Konakl - Erz**	**0.94**	**104**	P	**Pg**		**09 06 06.5**	**-1.2**
EKONA				S	**Sb**		**09 06 20.6**	**-1.1**
EKONA				*i* AML	AML		09 06 27.0	
	comp=N,4μm,0.7s							
EKONA				*i* AML	AML		09 06 30.0	
	comp=E,6μm,0.6s							
MACK	**Trabzon**	**0.96**	**347**	P	**Pb**		**09 06 07.8**	**-1.3**
MACK				S	**Sb**		**09 06 21.2**	**-0.9**
TNCL	**Tunceli-Merkez**	**0.97**	**204**	P	**Pg**		**09 06 06.5**	**-1.9**
TNCL				S	**Sg**		**09 06 20.8**	**-0.2**
KTUT	**Trabzon**	**1.00**	**348**	Pg	**Pb**		**09 06 08.7**	**-1.1**
KTUT				Sg	**Sn**		**09 06 23.2**	**-2.1**
ERZM	**Erzurum**	**1.02**	**95**	P	**Pg**		**09 06 08.3**	**-1.0**
ERZM				S	**Sn**		**09 06 26.3**	**+0.4**
ALUC	**Giresun/Alucra**	**1.04**	**290**	P	**Pg**		**09 06 08.8**	**-0.9**
ALUC				S	**Sb**		**09 06 23.6**	**-0.9**
ALUC				*i* AML	AML		09 06 28.0	
	comp=N,7μm,0.5s							
BNGB	**Bingl**	**1.12**	**154**	Pn	**Pb**		**09 06 08.9**	**-2.9**
BINT	**Bingol**	**1.18**	**163**	*e*P	**Pb**		**09 06 09.1**	**-3.7**
CHOM	**Cayeli-Rize**	**1.22**	**26**	Pn	**Pg**		**09 06 13.3**	**+0.1**
PTK	**Pertek**	**1.22**	**205**	Pn	**Pn**		**09 06 12.1**	**-1.7**
ILIC	**ilic-Erzincan**	**1.27**	**245**	Pn	**Pn**		**09 06 12.9**	**-1.5**
KOVA	**Elazig, Kovanc**	**1.31**	**188**	P	**Pn**		**09 06 12.6**	**-2.3**
KOVA				S	**Sb**		**09 06 31.8**	**-0.4**
ESPY	**Espiye-Giresun**	**1.36**	**313**	Pn	**Pn**		**09 06 14.7**	**-0.9**
VRTB	**Varto-Mus**	**1.38**	**127**	Pn	**Pn**		**09 06 13.9**	**-2.0**
VRTB	**Varto-Mus**	**1.38**	**127**	P	**Pn**		**09 06 13.2**	**-2.7**
VRTB				S	**Sg**		**09 06 37.7**	**+3.7**
KOPR	**Koprukoy-ERZUR**	**1.39**	**90**	Pn	**Pg**		**09 06 15.4**	**-1.0**
KEMA	**Kemaliye**	**1.41**	**239**	P	**Pn**		**09 06 14.1**	**-2.2**
KEMA				S	**Sg**		**09 06 35.7**	**+0.7**
HOMI	**Horasan**	**1.43**	**88**	P	**Pn**		**09 06 15.4**	**-1.3**
HOMI				S	**Sg**		**09 06 39.2**	**+3.6**
SUSE	**Susehri**	**1.43**	**279**	P	**Pn**		**09 06 15.5**	**-1.2**
SUSE				S	**Sg**		**09 06 37.2**	**+1.5**
DDEM	**Demirkent**	**1.57**	**55**	P	**Pn**		**09 06 17.6**	**-1.0**
DDEM				S	**Sg**		**09 06 40.3**	**0.0**
ARPR	**Arapgir-MALATY**	**1.61**	**236**	Pn	**Pn**		**09 06 18.0**	**-1.1**
ARPR	**Arapgir-MALATY**	**1.61**	**236**		**Pn**		**09 06 18.5**	**-0.6**
HANI	**Diyarbakir_Han**	**1.61**	**170**	P	**Pn**		**09 06 18.8**	**-0.3**
HANI				S	**Sg**		**09 06 41.6**	**+0.1**
DBAD	**Bademkaya**	**1.61**	**51**	P	**Pb**		**09 06 18.3**	**-1.9**
DBAD				S	**Sg**		**09 06 40.9**	**-0.7**
MUSM	**Mu-Merkez**	**1.71**	**138**	P	**Pn**		**09 06 19.9**	**-0.6**
MUSM				S	**Sg**		**09 06 44.5**	**-0.2**
EKAR	**Karacoban**	**1.73**	**115**	P	**Pg**		**09 06 24.1**	**+1.2**
HOPA	**Hopa-Artvin**	**1.74**	**37**	Pn	**Pb**		**09 06 20.7**	**-1.6**
CUZAR	**Zara_SIVAS**	**1.75**	**267**	P	**Pb**		**09 06 21.3**	**-1.3**
CUZAR				S	**Sg**		**09 06 46.2**	**+0.1**
DAGI	**Agillar**	**1.78**	**52**	P	**Pb**		**09 06 21.3**	**-1.8**
DAGI				S	**Sg**		**09 06 48.0**	**+1.0**
SENK	**Senkaya-Erzuru**	**1.85**	**72**	Pn	**Pb**		**09 06 22.1**	**-2.1**
BCA	**Borcka**	**1.87**	**39**	Pn	**Pb**		**09 06 22.7**	**-1.9**
EATA	**Eleskirt**	**1.88**	**94**	P	**Pg**		**09 06 24.8**	**-1.1**
EATA				S	**Sg**		**09 06 52.0**	**+1.7**
ORDU	**Ordu-Boztepe**	**1.94**	**301**	P	**Pb**		**09 06 24.0**	**-1.8**
BATM	**Batumi**	**2.03**	**37**	Pn	**Pb**		**09 06 24.8**	**-2.4**
DYBB	**Diyarbakir**	**2.05**	**178**	Pn	**Pn**		**09 06 24.6**	**-0.5**
PRSB	**Persembe-Ordu**	**2.05**	**303**	Pn	**Pn**		**09 06 24.7**	**-0.4**
SVAN	**Silvan-Diyarba**	**2.06**	**154**	Pn	**Pn**		**09 06 24.8**	**-0.4**
SVAN	**Silvan-Diyarba**	**2.06**	**154**	P	**Pb**		**09 06 25.9**	**-1.9**
SVAN				S	**Sg**		**09 06 55.2**	**-0.7**
DIYA	**Diyarbakir**	**2.08**	**178**	P	**Pn**		**09 06 25.6**	**+0.1**
DIYA				S	**Sb**		**09 06 55.1**	**+0.7**
MAYA	**Malatya/Merkez**	**2.10**	**217**	P	**Pn**		**09 06 25.4**	**-0.4**
MAYA				S	**Sg**		**09 06 56.9**	**-0.3**
CUKAN	**kangal_SIVAS**	**2.11**	**252**	P	**Pn**		**09 06 26.6**	**+0.6**
GOLE	**Ardahan-G¶le**	**2.12**	**66**	P	**Pb**		**09 06 27.8**	**-1.0**
GURO	**Guroymak-BITLI**	**2.12**	**133**	Pn	**Pn**		**09 06 25.9**	**-0.2**
GURO	**Guroymak-BITLI**	**2.12**	**133**	Pn	**Pb**		**09 06 26.9**	**-1.9**
MLAZ	**Malazgirt-MUS**	**2.12**	**113**	Pn	**Pn**		**09 06 25.9**	**-0.2**
RSDY	**Resadiye-TOKAT**	**2.12**	**282**	Pn	**Pn**		**09 06 25.7**	**-0.4**
DORK	**Agr/Tutak/Do**	**2.20**	**105**	P	**Pb**		**09 06 29.2**	**-0.9**
DORK				S	**Sg**		**09 07 00.8**	**+0.4**
BLIS	**Bitlis-Merkez**	**2.26**	**134**	P	**Pn**		**09 06 28.5**	**+0.5**
AHAN	**Ardahan-Merkez**	**2.28**	**59**	P	**Pb**		**09 06 30.5**	**-1.1**
AGRB	**Hanur-Agry**	**2.31**	**100**	Pn	**Pn**		**09 06 28.7**	**-0.1**
BTMN	**Batman**	**2.31**	**155**	P	**Pb**		**09 06 30.3**	**-1.8**
BTMN				S	**Sg**		**09 07 02.8**	**-1.3**
NARI	**Adyaman-Kaht**	**2.34**	**206**	P	**Pn**		**09 06 29.7**	**+0.5**
SVSK	**Karacayir**	**2.35**	**269**	Pn	**Pn**		**09 06 28.6**	**-0.5**
KARS	**Kars**	**2.40**	**74**		**Pb**		**09 06 32.5**	**-1.1**
KARS	**Kars**	**2.40**	**74**	P	**Pb**		**09 06 32.5**	**-1.1**
KOTA	**Agri, Merkez-K**	**2.44**	**94**	P	**Pb**		**09 06 32.8**	**-1.5**
DARE	**Darende-Malaty**	**2.46**	**235**	Pn	**Pn**		**09 06 30.1**	**-0.6**
CUGUR	**Gurin_SVAS**	**2.50**	**240**	P	**Pb**		**09 06 34.0**	**-1.5**
EPOS	**Posof**	**2.53**	**53**	P	**Pb**		**09 06 32.9**	**-2.9**
MAZI	**Mazidag**	**2.56**	**173**	Pn	**Pn**		**09 06 31.8**	**-0.4**
DIGO	**Kars**	**2.58**	**80**	P	**Pb**		**09 06 35.8**	**-1.0**
HANM	**anlurfa/Hi**	**2.59**	**201**	P	**Pn**		**09 06 32.9**	**+0.4**
AZEY	**Adyaman-Merk**	**2.60**	**213**	P	**Pn**		**09 06 34.0**	**+1.3**
TOKT	**Tokat**	**2.70**	**278**	Pn	**Pn**		**09 06 33.8**	**-0.3**
ABS	**Abastumani**	**2.73**	**49**	P	**Pb**		**09 06 36.6**	**-2.7**
ABS				S	**Sg**		**09 07 15.1**	**-2.4**
ABS	**Abastumani**	**2.73**	**49**	P	**Pb**		**09 06 36.6**	**-2.7**
ABS				S	**Sg**		**09 07 15.2**	**-2.4**
MARD	**Mardin**	**2.75**	**168**	Pn	**Pn**		**09 06 35.5**	**+0.7**
TOKA	**Tokat**	**2.75**	**278**	Pn	**Pn**		**09 06 35.4**	**+0.6**
AKDM	**Akdamar-Van**	**2.83**	**125**	Pn	**Pn**		**09 06 35.9**	**0.0**
GEVA	**Gevas**	**2.89**	**125**	Pn	**Pn**		**09 06 37.5**	**+0.8**
VANB	**Van**	**2.95**	**117**	Pn	**Pn**		**09 06 38.7**	**+1.2**
AKH	**Akhalkalaki**	**2.97**	**61**	P	**Pb**		**09 06 39.9**	**-3.5**
AKH	**Akhalkalaki**	**2.97**	**61**	P	**Pb**		**09 06 39.9**	**-3.5**
AKH				S	**Sg**		**09 07 30.0**	**+4.7**
BGD	**Bogdanovka**	**2.98**	**64**	P	**Pg**		**09 06 44.3**	**-2.6**
BGD	**Bogdanovka**	**2.98**	**64**	P	**Pg**		**09 06 44.3**	**-2.6**
TKB	**Tkibuli**	**3.23**	**43**	P	**Pb**		**09 06 43.3**	**-4.4**
TKB				S	**Sb**		**09 07 25.3**	**-2.1**
TKB	**Tkibuli**	**3.23**	**43**	P	**Pb**		**09 06 43.3**	**-4.4**
TKB				S	**Sb**		**09 07 25.4**	**-2.1**
BRNG	**Burnasheti**	**3.29**	**59**	P	**Pb**		**09 06 49.1**	**+0.3**
BRNG	**Burnasheti**	**3.29**	**59**	P	**Pb**		**09 06 49.1**	**+0.3**
DMNI	**Dmanisi**	**3.42**	**66**	P	Pb		09 06 46.3	-4.6
DMNI	**Dmanisi**	**3.42**	**66**	P	Pb		09 06 46.3	-4.6
ALIG	**Mtskhetisjvari**	**3.44**	**51**	P	**Pb**		**09 06 49.2**	**-2.0**
ALIG				S	**Sg**		**09 07 35.0**	**-5.2**
ALIG	**Mtskhetisjvari**	**3.44**	**51**	P	**Pb**		**09 06 49.3**	**-2.0**
ALIG				S	**Sg**		**09 07 35.1**	**-5.2**
TRLG	**Trialeti**	**3.44**	**62**	P	Pb		09 06 46.6	-4.7
TRLG	**Trialeti**	**3.44**	**62**	P	Pb		09 06 46.6	-4.7
TRLG				S	**Sg**		**09 07 41.9**	**+1.6**
BNN	**Bunyan**	**3.45**	**252**		**Pb**		**09 06 48.0**	**-3.6**
VSLR	**Vesyoloye**	**3.45**	**360**	*i* P	**Pn**		**09 06 44.7**	**+0.3**
KZRT	**Kazreti**	**3.58**	**66**	P	**Pg**		**09 06 55.7**	**-2.7**
KZRT	**Kazreti**	**3.58**	**66**	P	**Pg**		**09 06 55.8**	**-2.7**
SOC	**Sochi**	**3.58**	**356**	*e*P	**Pn**		**09 06 46.8**	**+0.7**
SOC				*e*			09 07 29.9	
SOC				pmax	pmax			
	comp=Z,88nm,0.6s							
GAZ	**Gaziantep**	**3.60**	**219**	Pn	**Pn**		**09 06 46.7**	**+0.3**
GNI	**Garni**	**3.60**	**86**		**Pb**		**09 06 48.3**	**+1.7**
GNI	**Garni**	**3.60**	**86**	*i* P	**Pn**		**09 06 46.9**	**+0.3**
GNI	**Garni**	**3.60**	**86**	Pn	**Pb**		**09 06 50.1**	**-4.1**
	comp=Z,7.2nm,0.7s,baz=174,slow=10,SNR=3.9							
GNI				Pg	**Pg**		**09 06 56.4**	**-2.4**
	comp=Z,8.3nm,0.3s,baz=216,slow=8.7,SNR=31							
GNI				Sn	**Sn**		**09 07 26.7**	**-2.9**
	comp=Z,4.9nm,0.3s,baz=152,slow=18,SNR=4.0							
ONI	**Oni**	**3.64**	**44**	Pn	**Pn**		**09 06 46.5**	**-0.5**
ONI	**Oni**	**3.64**	**44**	P	**Pn**		**09 06 46.5**	**-0.5**
ONI	**Oni**	**3.64**	**44**	P	**Pn**		**09 06 45.8**	**-1.2**
ONI				S	**Sb**		**09 07 38.5**	**-0.7**
DIKM	**Dikmen**	**3.99**	**296**	⇑P	**Pg**		**09 07 04.8**	**-1.4**
DIKM				⇓S	**Sb**		**09 07 52.5**	**+3.2**
KBZ	**Khabaz**	**4.29**	**29**	*i* P	**Pn**		**09 06 56.1**	**+0.3**
KBZ	**Khabaz**	**4.29**	**29**	Pn	**Pn**		**09 06 58.1**	**+2.3**
	comp=Z,0.5nm,0.3s,baz=211,slow=9.7,SNR=10							
KBZ				LR	LR		09 08 55.1	
	comp=Z,444nm,19.2s,baz=206,slow=43							
	comp=Z,4.6nm,0.6s							
NAX	**Nakhchivan**	**4.29**	**99**	P	**Pn**		**09 06 54.4**	**-1.5**
DGRG	**David-gareji**	**4.30**	**69**	P	**Pb**		**09 07 07.1**	**+1.2**
DGRG	**David-gareji**	**4.30**	**69**	P	**Pb**		**09 07 07.1**	**+1.2**
DGRG				S	**Sg**		**09 08 15.3**	**+7.6**
MTEO	**Meteo**	**4.31**	**50**	P	**Pn**		**09 06 59.1**	**+2.6**

comp=N,11nm,0.4s
SEV smax smax
comp=E,8.0nm,0.4s
SEV Sevastopol' 6.55 316 *e*P **Pn 09 07 27.4 +0.5**
SEV Pm 09 07 31.5
comp=Z,4.0nm,0.4s
SEV *e*S **Sn 09 08 42.4 +0.3**
SEV Sm 09 08 47.7
comp=N,11nm,0.4s
SEV Sm 09 08 47.7
comp=E,8.0nm,0.4s
SIM Simferopol' 6.61 320 P **Pn 09 07 24.9 -2.7**
SIM *e*S **Sn 09 08 40.0 -3.4**
SIM pmax pmax
comp=Z,47nm,1.4s
SIM smax smax
comp=N,85nm,0.9s
SIM smax smax
comp=E,90nm,1.0s
SIM Simferopol' 6.61 320 *e*S **Sn 09 08 45.7 +2.3**
SIM Sm 09 08 50.9
comp=N,87nm,0.7s
SIM Sm 09 08 50.9
comp=E,69nm,0.4s
MDUB Mudurnu 6.79 277 Pn **Pn 09 07 31.6 +1.3**
CSS Mathiatis 7.34 229 **Pn 09 07 37.9 +0.2**
CSS Mathiatis 7.34 229 P **Pn 09 07 41.6 +3.9**
BORA Eskisehir 7.38 272 Pn **Pn 09 07 38.5 +0.2**
NATI Neve Ativ 7.57 209 P **Pn 09 07 43.9 +3.0**
GEM Giv'at Ha'Em 7.64 209 P **Pn 09 07 43.6 +1.7**
MMAI Mount Meron Ar 7.91 210 Pn **Pn 09 07 48.2 +2.5**
comp=E,1.4nm,0.3s,baz=54,slow=11,SNR=6.7
MMAI LR LR 09 11 12.3
comp=E,279nm,19.0s,baz=5.5,slow=41
comp=E,1.4nm,0.5s
ASF Jabal al Asfar 8.22 199 Pn **Pn 09 07 51.2 +1.3**
comp=E,0.2nm,0.3s,baz=334,slow=7.4,SNR=6.7
comp=E,4.6nm,0.7s
ASF Jabal al Asfar 8.22 199 P **Pn 09 07 51.2 +1.3**
QRNJ Al-Qirein 8.46 207 P **Pn 09 07 53.7 +0.6**
ELL Elmali 8.60 251 **Pn 09 07 55.7 +0.6**
ELL Elmali 8.60 251 P **Pn 09 07 55.7 +0.6**
BALJ Balqa 8.67 206 Pn **Pn 09 07 56.5 +0.5**
GHAJ Ghor Haditha 9.41 204 Pn **Pn 09 08 06.2 0.0**
TIRR Tirgusor 9.71 301 Pn **Pn 09 08 11.6 +1.4**
TIRR Tirgusor 9.71 301 P **Pn 09 08 11.6 +1.4**
TLCR 9.77 306 ⇑P **Pn 09 08 12.2 +1.3**
TPGR Topolog 9.87 303 ⇑P **Pn 09 08 13.8 +1.4**
CFR Carcaliu 10.19 304 ⇑P **Pn 09 08 16.5 -0.3**
EIL Elat 11.12 204 LR LR 09 13 15.4
comp=E,257nm,20.2s,baz=58,slow=40
VSR Storozhevoye 11.23 357 *e*P **Pn 09 08 29.0 -2.0**
VSR pmax pmax
comp=Z,9.0nm,0.7s
VRI Vrinceioaia 11.38 305 ⇑P **Pn 09 08 36.1 +3.0**
SORM Soroca 11.69 318 ⇓P **Pn 09 08 37.1 -0.1**
MLR Muntele Rosu 11.72 302 ⇑P Pn 09 08 43.1 +5.2
MLR Muntele Rosu 11.72 302 Pn **Pn 09 08 36.9 -1.0**
MLR Muntele Rosu 11.72 302 Pn **Pn 09 08 40.4 +2.5**
comp=Z,0.2nm,0.3s,baz=140,slow=18,SNR=3.4
MLR Sn **Sn 09 10 48.2 -1.1**
baz=190,slow=19
comp=Z,3.1nm,0.7s
APE Apeiranthos 11.74 260 P **Pn 09 08 39.9 +1.8**
APE pmax pmax
comp=Z,82nm,1.6s
VOIR 12.29 301 ⇑P **Pn 09 08 45.5 -0.1**
VOIR 12.29 301 P **Pn 09 08 45.9 +0.3**
VOIR pmax pmax
comp=Z,6.0nm,0.7s
LPSR Galich'ya Gora 12.62 357 *e*P **Pn 09 08 48.9 -1.1**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
AKASG Malin Array Be 13.11 328 **Pn 09 08 56.1 -0.6**
AKASG Malin Array Be 13.11 328 P **Pn 09 08 56.1 -0.6**
AKASG Malin Array Be 13.11 328 Pn **Pn 09 08 55.3 -1.4**
comp=Z,1.7nm,0.3s,baz=136,slow=14,SNR=12
AKASG Sn **Sn 09 11 15.1 -7.8**
comp=Z,0.8nm,0.3s,baz=136,slow=24,SNR=13
comp=Z,1.1nm,0.3s
AKBB Malin Array Si 13.11 328 Pn **Pn 09 08 56.3 -0.4**
AKBB Malin Array Si 13.11 328 *i* P **Pn 09 08 57.2 +0.5**
AKBB pmax pmax
comp=Z,6.0nm,0.9s
KIEV Kiev 13.11 328 Pn **Pn 09 08 56.3 -0.4**
KIEV Kiev 13.11 328 P **Pn 09 08 56.3 -0.4**
BURAR Bucovina Array 13.12 310 ⇑P **Pn 09 08 58.6 +1.6**
BURAR Bucovina Array 13.12 310 Pn **Pn 09 08 57.5 +0.5**
BUR Bucovina Array 13.12 310 P **Pn 09 08 57.5 +0.5**
BUR08 Bucovina Ar. S 13.15 310 Pn **Pn 09 08 56.3 -1.0**
GZR Gura Zlata 13.79 299 ⇑P **P 09 09 16.8 +2.1**
MARR Marisel-Cluj 14.00 304 ⇑P **Pn 09 09 10.8 +1.9**
GEYT Alibeck 14.21 93 **Pn 09 09 10.3 -1.6**
GEYT Alibeck 14.21 93 Pn **P 09 09 14.8 -4.7**
comp=Z,0.2nm,0.3s,baz=304,slow=10,SNR=3.6
comp=Z,1.0nm,0.4s
OBN Obninsk 15.30 352 *i* P **Pn 09 09 24.7 -1.6**
OBN pmax pmax
comp=Z,8.0nm,0.9s
OBN MLR MLR
comp=Z,67nm,16.0s
AKTO Aktyubinsk 16.36 44 Pn **P 09 09 40.6 -2.6**
comp=Z,0.1nm,0.3s,baz=240,slow=13,SNR=3.9
AKTO LR LR 09 17 41.6
comp=Z,72nm,18.2s,baz=255,slow=43
comp=Z,2.2nm,0.8s
ABKAR Akbulak array 16.87 50 Pn **Pn 09 09 46.0 -0.7**
RAYN Ar Rayn 17.07 163 Pn **Pn 09 09 48.5 -0.9**
RAYN Ar Rayn 17.07 163 P **Pn 09 09 48.5 -0.9**
RAYN pmax pmax
comp=Z,7.0nm,1.5s
NACGM Naroch 17.35 334 *e*P **Pn 09 09 49.8 -2.8**
comp=Z,13nm,0.9s,baz=144
MORC Moravsky Berou 18.64 309 P **Pn 09 10 08.5 -0.1**
MORC Moravsky Berou 18.64 309 P **Pn 09 10 08.5 -0.1**
MORC pmax pmax
comp=Z,3.0nm,0.9s
RONA Rosalia, Austr 18.73 302 *e*Pn **Pn 09 10 10.3 +0.6**
comp=Z,6.4nm,1.6s
VRAC Vranov 19.04 307 LR LR 09 19 12.2
comp=Z,68nm,18.2s,baz=138,slow=42
CONA Conrad Observa 19.07 303 *e*Pn **Pn 09 10 14.4 +0.4**
comp=Z,7.6nm,1.4s
ARSA Arzberg 19.12 300 *e*Pn **Pn 09 10 15.6 +1.1**
comp=Z,2.6nm,1.2s
SOKA Soboth 19.33 298 *i* Pn **Pn 09 10 17.1 0.0**
comp=Z,4.2nm,1.1s
KIRV Kirov 19.54 15 LR LR 09 18 00.0
comp=Z,46nm,18.1s,baz=209,slow=37
OBKA Obir 19.63 298 *i* Pn **Pn 09 10 20.8 +0.1**
comp=Z,12nm,1.6s
CAMP Campotosto 20.16 286 P **P 09 10 24.2 -0.9**
VSU Vasula 20.35 340 *i* P Pn 09 10 28.8 -0.1
VSU pmax pmax
comp=Z,22nm,1.7s
ARU Arti 20.44 30 P Pn 09 10 27.5 -2.5
ARU 09 10 43.9
ARU S Sn 09 14 19.1 -1.4
ARU SS **SnSn 09 14 38.3 +3.3**
ARU Arti 20.44 30 P Pn 09 10 29.4 -0.6
comp=Z,1.2nm,0.3s,baz=230,slow=13,SNR=3.5
ARU LR LR 09 20 31.4
comp=Z,57nm,18.7s,baz=178,slow=43
comp=Z,1.2nm,0.3s
BIOA Bad Ischl, Aus 20.47 301 *e*Pn Pn 09 10 30.5 0.0
comp=Z,4.0nm,1.0s
KBA Koelnbreinsper 20.55 299 *i* Pn Pn 09 10 31.7 +0.1
comp=Z,8.1nm,1.0s
GERES GERESS Array B 20.70 304 P Pn 09 10 32.3 -1.0
comp=Z,1.6nm,0.8s,baz=96,slow=11,SNR=5.2
GERES LR LR 09 19 06.4
comp=Z,50nm,18.1s,baz=113,slow=39
comp=Z,1.6nm,0.8s
PUL Pulkovo 20.71 346 *i* P Pn 09 10 31.8 -1.4
PUL pmax pmax
comp=Z,21nm,0.8s
CESX Cesi 20.77 286 P **P 09 10 31.6 -0.1**
CESX IAmb IAmb 09 10 50.1
comp=Z,29nm,1.5s
KHC Kasperske Hory 20.86 305 P Pn 09 10 32.8 -2.3
KHC IAmb IAmb 09 10 38.9
comp=Z,4.9nm,1.1s
KHC Kasperske Hory 20.86 305 *i* P Pn 09 10 33.0 -2.1
KHC pmax pmax
comp=Z,7.0nm,1.1s
KLMR Klimovskoe 20.88 359 *e*P **P 09 10 31.9 -0.7**
KLMR pmax pmax
comp=Z,34nm,1.4s
ABTA Abfaltersbach 21.05 298 *i* Pn **P 09 10 37.4 +2.6**
comp=Z,10nm,1.7s
LESA Schwarzleotal 21.05 300 *i* Pn **P 09 10 37.9 +3.1**
comp=Z,6.1nm,1.2s
SVE Sverdlovsk 21.54 32 *e*P P 09 10 50.3 +10
SVE pmax pmax
comp=Z,15nm,1.2s
CLL Collm 21.89 310 P **P 09 10 44.5 +0.9**
CLL IAmb IAmb 09 10 52.4
comp=Z,8.9nm,1.0s
CLL Collm 21.89 310 *i* P **P 09 10 46.5 +2.8**
CLL *i* 09 10 51.5
CLL pmax pmax
comp=Z,9.0nm,1.2s
CLL Collm 21.89 310 *i* Px Px 09 10 46.5
comp=Z,9.0nm,1.2s
CLL *i* x x 09 10 51.5
MOTA Moosalm 22.09 299 *i* Pn **P 09 10 48.3 +2.3**
comp=Z,14nm,1.4s
VALR Valaam 22.11 348 *i* P **P 09 10 46.0 +0.1**
VALR pmax pmax
comp=Z,12nm,1.2s
SIMJ Simiganj 22.40 84 P **P 09 10 47.9 -1.5**
SIMJ IAmb IAmb 09 11 17.2
comp=Z,6.6nm,1.2s
GRA1 Grafenberg Arr 22.49 305 P **P 09 10 49.8 -0.3**
GRF Grafenberg Arr 22.49 305 P **P 09 10 49.8 -0.3**
GRF pmax pmax
comp=Z,28nm,1.2s
GRF Grafenberg Arr 22.49 305 *e*P **P 09 10 52.0 +1.9**
comp=Z,23nm,1.5s,baz=105,slow=10.0
GRFO Grafenberg 22.49 305 P **P 09 10 50.1 0.0**
GRFO Grafenberg 22.49 305 P **P 09 10 50.1 0.0**
GRFO pmax pmax
comp=Z,29nm,1.3s
CHGR Chuyangaron 22.52 84 P **P 09 10 49.4 -1.2**
CHGR IAmb IAmb 09 10 57.1
comp=Z,9.0nm,0.9s
CHGR Chuyangaron 22.52 84 P **P 09 10 49.4 -1.2**
CHGR pmax pmax
comp=Z,9.0nm,0.9s
WSAR Wadi Sarin 22.94 131 LR LR 09 21 41.1
comp=Z,82nm,20.7s,baz=330,slow=41
KK31 Karatay Array 22.95 72 P **P 09 10 49.4 -5.6**
KK31 IAmb IAmb 09 11 00.2
comp=Z,14nm,1.2s
KK31 Karatay Array 22.95 72 P **P 09 10 49.4 -5.6**
KK31 pmax pmax
comp=Z,14nm,1.3s
KKAR Karatay Array 22.95 72 P **P 09 10 49.5 -5.4**
KKAR IAmb IAmb 09 11 00.2
comp=Z,14nm,1.2s
KKAR Karatay Array 22.95 72 P **P 09 10 49.6 -5.4**
KKAR pmax pmax
comp=Z,14nm,1.3s
FINES FINESS Array B 23.12 343 *i* P **P 09 11 00.3 +3.8**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 23.12 343 P **P 09 10 57.4 +0.9**
comp=Z,1.0nm,0.7s,baz=144,slow=10,SNR=10.0
FINES LR LR 09 22 22.5
comp=Z,71nm,18.6s,baz=184,slow=43
comp=Z,1.0nm,0.7s
KBL Kabul 23.65 94 P **P 09 11 02.3 -0.1**
KBL IAmb IAmb 09 11 07.8
comp=Z,3.5nm,0.9s
KBL Kabul 23.65 94 P **P 09 11 02.3 -0.1**
KBL pmax pmax
comp=Z,3.0nm,1.0s
BRVK Borovoye 24.34 47 *i* P **P 09 11 10.1 +1.5**
BRVK pmax pmax
comp=Z,12nm,3.4s
TNS Taunus Mts 24.36 305 P **P 09 11 09.9 +1.1**
TNS pmax pmax
comp=Z,15nm,1.7s
BVAR Borovoye Array 24.39 48 P **P 09 11 11.1 +2.0**
comp=Z,1.6nm,0.8s,baz=246,slow=5.3,SNR=5.8
BVAR LR LR 09 22 02.6
comp=Z,64nm,19.4s,baz=235,slow=40
comp=Z,1.6nm,0.8s
KEST Kesra 24.55 270 P **P 09 11 10.7 0.0**
KEST IAmb IAmb 09 11 17.3
comp=Z,12nm,1.0s
KEST Kesra 24.55 270 P **P 09 11 11.6 +1.0**
comp=Z,5.0nm,0.7s,baz=56,slow=5.3,SNR=6.4
comp=Z,5.0nm,0.7s
ARSB Arslanbob 24.94 76 P **P 09 11 13.0 -1.2**
ARSB Arslanbob 24.94 76 P **P 09 11 13.0 -1.2**
ARSB pmax pmax
comp=Z,2.0nm,1.0s
ARLS Aral 25.86 75 P **P 09 11 25.0 +2.4**
ARLS pmax pmax
comp=Z,7.0nm,1.2s
AAK Ala-Archa 25.90 73 P **P 09 11 21.8 -1.2**
AAK IAmb IAmb 09 11 30.2
comp=Z,6.7nm,1.4s
AAK Ala-Archa 25.90 73 P **P 09 11 21.8 -1.2**
AAK pmax pmax
comp=Z,7.0nm,1.4s
AAK Ala-Archa 25.90 73 LR LR 09 23 15.8
comp=Z,49nm,21.0s,baz=278,slow=40
HFS Hagfors 26.00 330 P **P 09 11 25.8 +2.4**
comp=Z,2.0nm,0.7s,baz=138,slow=8.9,SNR=2.5
HFS LR LR 09 21 25.3
comp=Z,75nm,21.4s,baz=139,slow=36
comp=Z,2.0nm,0.7s
NB2 NORSAR Subarra 27.52 329 P P 09 11 53.3 +16
comp=Z,1.2nm,1.1s,baz=127,slow=9.3
NOA NORSAR Array B 27.52 329 LR LR 09 24 21.7
comp=Z,42nm,20.0s,baz=135,slow=40
KURBB Kurchatov Arra 28.76 55 P **P 09 11 50.1 +1.8**
comp=Z,0.5nm,0.6s,baz=271,slow=9.8,SNR=6.4
comp=Z,0.5nm,0.6s
KURK Kurchatov 28.83 55 P **P 09 11 50.1 +1.1**
ARCES ARCESS Array B 30.58 350 P **P 09 12 05.8 +1.5**
comp=Z,2.0nm,0.8s,baz=146,slow=6.7,SNR=5.2
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 31.14 63 P **P 09 12 11.4 +2.0**
comp=Z,0.6nm,0.7s,baz=276,slow=5.7,SNR=3.6
MKAR LR LR 09 25 29.2
comp=Z,47nm,21.5s,baz=250,slow=38
comp=Z,0.6nm,0.7s
EKA Eskdalemuir Ar 32.29 313 P **P 09 12 20.0 +0.6**
EKA Eskdalemuir Ar 32.29 313 P **P 09 12 20.0 +0.6**
comp=Z,1.6nm,0.6s,baz=105,slow=9.3,SNR=6.4
comp=Z,1.6nm,0.6s
ZALV Zalesovo Beam 32.99 50 P **P 09 12 27.1 +1.5**
comp=Z,0.8nm,0.5s,baz=256,slow=10,SNR=4.7
ZALV LR LR 09 26 37.3
comp=Z,33nm,18.9s,baz=226,slow=38
comp=Z,0.8nm,0.5s
ESDC Sonseca Array 33.54 284 P **P 09 12 30.4 -0.3**
comp=Z,1.1nm,0.8s,baz=62,slow=9.7,SNR=4.2
comp=Z,1.1nm,0.8s
DGZ Jazzator, Alta 34.45 58 *i* P **P 09 12 41.2 +2.7**
DGZ pmax pmax
comp=Z,2.0nm,1.3s
WMQ Urumqi 35.28 68 *e*P **P 09 12 48.2 +2.5**
JMIC Jan Mayen 39.50 337 LR LR 09 29 29.8
comp=Z,35nm,18.4s,baz=40,slow=36
TORD Torodi Ar. Bea 42.99 242 P **P 09 13 50.5 +0.2**
comp=Z,1.3nm,1.0s,baz=43,slow=9.2,SNR=5.6
comp=Z,1.3nm,1.0s
SONM Songino Array 47.09 57 P **P 09 14 23.7 +0.9**
comp=Z,0.3nm,0.6s,baz=257,slow=7.6,SNR=2.2
SONM LR LR 09 36 28.0
comp=Z,162nm,18.2s,baz=264,slow=39
comp=Z,0.3nm,0.6s
ULN Ulaanbaatar 47.51 57 *i* P **P 09 14 26.5 +0.4**
ULN pmax pmax
comp=Z,2.0nm,1.0s
TIXI Tiksi 52.24 24 LR LR 09 42 42.2
comp=Z,29nm,18.5s,baz=18,slow=42
PZH PanZhiHua 52.37 85 P **P 09 15 05.4 +2.1**
PZH pmax pmax
comp=Z,10.0nm,0.4s
PZH pmax pmax
comp=Z,120nm,5.3s
HHC Hu-ho-hao-te 52.99 64 *e*P **P 09 15 07.2 -0.5**
HHC pmax pmax
comp=Z,6.0nm,0.7s
HHC pmax pmax
comp=Z,80nm,5.6s
CMAR Chiang Mai Arr 54.68 95 P **P 09 15 21.9 +1.7**
comp=Z,0.8nm,0.3s,baz=306,slow=8.4,SNR=5.6
comp=Z,0.8nm,0.3s
KLR Kul'dur 62.06 48 *i* P **P 09 16 11.0 -0.3**
KLR pmax pmax
comp=Z,1.0nm,1.0s
KLR Kul'dur 62.06 48 LR LR 09 48 13.1
comp=Z,52nm,18.2s,baz=153,slow=41
TSUM Tsumeb 62.52 204 LR LR 09 43 38.1
comp=Z,124nm,18.8s,baz=334,slow=36
MDJ Mudanjiang 63.09 53 P **P 09 16 17.0 -1.3**
MDJ pmax pmax
comp=Z,2.0nm,1.0s
MDJ pmax pmax
comp=Z,210nm,5.5s
KSRS Korea Array 65.77 61 LR LR 09 48 35.3
comp=Z,37nm,19.4s,baz=275,slow=39
LBTB Lobatse 66.07 194 LR LR 09 45 23.1
comp=Z,68nm,18.4s,baz=193,slow=36
PET Petropavlovsk 73.25 34 *i* P **P 09 17 23.9 +2.0**
PET pmax pmax
comp=Z,33nm,1.2s
YKA Yellowknife Ar 75.83 348 P **P 09 17 38.1 +1.5**
comp=Z,0.1nm,0.6s,baz=13,slow=6.4,SNR=2.7
comp=Z,0.1nm,0.6s

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*NNC **03** 09:05:56.5±0.5, 51°.71N×75°.43E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=12.9km s-min=3.0km az=26.0, Suspected Mining explosion.*
*IDC **03** 09:05:59.6±0.9, 51°.68N×75°.43E, h0km, mbtmp2.6/4, ML2.1/4, Error ellipse: s-maj=28.4km s-min=7.5km az=30.0*
ISC 03 09:05:58.4±1.0, 51°.60N±0°.09×75°.39E±0°.06, h0km, n11, σ1s03/13, 6C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
KURBB	**Kurchatov Arra**	**2.21**	**115**	Pn	**Pb**	**09 06 37.7**	**-1.5**
	0.5nm,0.3s,baz=303,slow=18,SNR=48						
KURBB				Lg	Lg	09 07 08.7	
	0.9nm,0.3s,baz=311,slow=34,SNR=15						
	1.4nm,0.4s						
KURBB	**Kurchatov Arra**	**2.21**	**115**	⇓Pg	**Pn**	**09 06 37.5**	**+1.2**
	4.9nm,0.6s						
KURBB				⇑Lg	Lg	09 07 07.7	
	41nm,0.6s						
KURK	**Kurchatov**	**2.22**	**112**	⇓Pg	**Pn**	**09 06 36.9**	**+0.4**
	1.7nm,0.4s						
KURK				⇑Lg	Lg	09 07 07.4	
	10nm,0.5s						
BVA0	**Borovoye Array**	**3.38**	**297**	Pg	**Pb**	**09 06 58.3**	**-0.9**
	1.7nm,0.8s,baz=111,slow=16,SNR=10						
BVA0				Lg	Lg	09 07 42.6	
	8.3nm,0.8s,baz=108,slow=26,SNR=9.4						
BVAR	**Borovoye Array**	**3.38**	**297**	Pn	**Pn**	**09 06 53.2**	**+0.7**
	0.1nm,0.3s,baz=110,slow=16,SNR=8.0						
BVAR				Sn	**Sn**	**09 07 34.0**	**+0.7**
	0.2nm,0.3s,baz=111,slow=24,SNR=7.2						
BVAR				Lg	Lg	09 07 44.5	
	0.4nm,0.3s,baz=105,slow=27,SNR=14						
	0.7nm,0.4s						
BRVK	**Borovoye**	**3.46**	**297**	⇑Pg	**Pb**	**09 06 59.0**	**-1.5**
	1.1nm,0.5s						
BRVK				⇓Lg	Lg	09 07 44.2	
	9.4nm,0.6s						
OTUK	**Ortayu**	**3.90**	**212**	⇓Lg	Lg	09 08 03.9	
	4.8nm,0.8s						
ZALV	**Zalesovo Beam**	**6.18**	**64**	Pn	**Pn**	**09 07 31.6**	**+0.7**
	0.3nm,0.3s,baz=255,slow=14,SNR=6.2						
ZALV				Sn	**Sn**	**09 08 42.6**	**+0.4**
	0.3nm,0.3s,baz=251,slow=26,SNR=4.0						
	1.2nm,0.5s						
I46RU	**ZALESOVO INFRA**	**6.18**	**64**	I	I	09 40 34.7	
	baz=251,slow=342,SNR=8.4						
MK31	**Makanchi Array**	**6.60**	**134**	⇑Pn	**Pn**	**09 07 36.6**	**-0.1**
	1.0nm,0.8s,baz=317,slow=11,SNR=4.2						
MK31				⇑Sn	**Sn**	**09 08 52.4**	**-0.2**
	0.2nm,0.3s,baz=325,slow=27,SNR=5.5						
MK31				⇑Lg	Lg	09 09 25.8	
	3.1nm,0.6s,baz=326,slow=25,SNR=8.1						
MKAR	**Makanchi Array**	**6.60**	**134**	Pn	**Pn**	**09 07 37.8**	**+1.1**
	0.1nm,0.3s,baz=308,slow=12,SNR=4.2						
MKAR				Sn	**Sn**	**09 08 53.5**	**+0.9**
	0.2nm,0.3s,baz=315,slow=22,SNR=6.0						
MKAR				Lg	Lg	09 09 26.9	
	0.5nm,0.3s,baz=324,slow=27,SNR=9.9						
	0.2nm,0.4s						

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*JMA **03** 09:09:24.4±0.3, 23°.0N±0°.7×12°.0E±°, h0km, TAIWAN REGION*
*ASIES **03** 09:09:27.6, 23°.06N×120°.58E, h8km, ML3.5, Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}1.63; $M_{\theta\theta}$0.21; $M_{\phi\phi}$-1.04; $M_{r\theta}$-0.07; $M_{\theta\phi}$-0.38; $M_{r\phi}$0.89; Fault plane solution: $M_0$1.68066×10^{21} NP1:$\phi_0$5.06000°, δ61.39000°, λ79.40000°. NP2:$\phi_0$206.40000°, δ30.35000°, λ108.64000°. Principal axes: T Plg71.5770°, Azm250.7460°; N Plg9.2940°, Azm10.1700°; P Plg15.7630°, Azm102.8180°;*
*TAP **03** 09:09:27.6, 23°.06N×120°.58E, h8km, ML3.5, B*
ISC 03 09:09:28.6±0.7, 23°.06N±0°.01×120°.59E±0°.01, h13km±4km, n136, σ1s15/268, 3C-14D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
SGST	**Jiashian**	**0.02**	**334**	⇑*i* P	**Pg**	**09 09 29.0**	**-1.9**
	baz=26						
SGST				*i* S	**Sg**	**09 09 31.1**	**-1.4**
	baz=26						
SLGT	**Liugui**	**0.09**	**145**	⇓P	**Pg**	**09 09 31.0**	**-0.4**
	baz=137						
SLGT				*e*S	**Sg**	**09 09 33.6**	**+0.2**
	baz=137						
CHN1	**Nanshi**	**0.13**	**334**	⇓*i* P	**Pg**	**09 09 31.5**	**-0.6**
	baz=341						
CHN1				S	**Sg**	**09 09 34.8**	**+0.3**
	baz=341						
SNST	**Tainan City**	**0.18**	**331**	⇓P	**Pg**	**09 09 32.4**	**-0.3**
	baz=336						
SNST				S	**Sg**	**09 09 36.5**	**+1.0**
	baz=336						
STYT	**Tauyuan**	**0.18**	**57**	⇓*i* P	**Pg**	**09 09 32.8**	**0.0**
	baz=61						
STYT				S	**Sg**	**09 09 36.8**	**+1.1**
	baz=61						
WTP	**Ta-pu**	**0.18**	**6**	⇓*i* P	**Pg**	**09 09 32.6**	**-0.2**
	baz=13						
WTP				S	**Sg**	**09 09 36.9**	**+1.1**
	baz=13						
SCST	**Cishan**	**0.20**	**207**	P	**Pg**	**09 09 32.7**	**-0.3**
	baz=203						
SCST				S	**Sg**	**09 09 36.6**	**+0.5**
	baz=203						
STYH	**Taoyuan**	**0.20**	**58**	P	**Pg**	**09 09 33.2**	**+0.2**
	baz=60						
STYH				S	**Sg**	**09 09 37.3**	**+1.2**
	baz=60						
CHN3	**Shinhua**	**0.21**	**273**	⇓*i* P	**Pg**	**09 09 33.4**	**+0.2**
	baz=275						
CHN3				*i* S	**Sg**	**09 09 38.6**	**+2.3**
	baz=275						
TWK	**Hsinying**	**0.22**	**335**	⇓*i* P	**Pg**	**09 09 33.2**	**-0.3**
	baz=348						
TWK				*e*S	**Sg**	**09 09 38.1**	**+1.3**
	baz=348						
SHHT	**Tainan City**	**0.23**	**259**	⇓P	**Pg**	**09 09 33.9**	**+0.4**
	baz=259						
SHHT				S	**Sg**	**09 09 39.1**	**+2.2**
	baz=259						
TPUB	**Ta-pu**	**0.24**	**8**	P	**Pg**	**09 09 33.6**	**-0.1**
	baz=18						
TPUB				S	**Sg**	**09 09 38.3**	**+1.1**
	baz=18						
CHN4	**Tsaushan**	**0.29**	**0**	*i* P	**Pb**	**09 09 34.6**	**-1.0**
	baz=3.0						
CHN4				S	**Sb**	**09 09 40.6**	**+0.3**
	baz=3.0						
TWM1	**Shoushan**	**0.29**	**213**	*i* P	**Pb**	**09 09 35.3**	**-0.3**
	baz=199						
TWM1				*e*S	**Sb**	**09 09 42.3**	**+1.9**
	baz=199						
SSHA	**Shanhua**	**0.29**	**284**	P	**Pb**	**09 09 35.4**	**-0.3**
	baz=296						
SSHA				S	**Sb**	**09 09 42.4**	**+2.0**
	baz=296						
SSD	**Sandimen**	**0.32**	**173**	⇓*i* P	**Pb**	**09 09 35.1**	**-1.1**

Code	Station	Δ	AZ	Op	ISC	Time	Res
	baz=160						
SSD				*i* S	Sb	09 09 40.4	-0.8
	baz=160						
TAI1	**Yung-k'ang**	**0.34**	**266**	*i* P	**Pb**	**09 09 36.6**	**+0.2**
	baz=274						
TAI1				*i* S	**Sb**	**09 09 44.2**	**+2.5**
	baz=274						
TSMG	**Majia**	**0.36**	**172**	P	**Pb**	**09 09 35.8**	**-1.1**
	baz=161						
TSMG				S	**Sb**	**09 09 41.2**	**-1.3**
	baz=161						
TAI	**Tainan**	**0.37**	**259**	P	**Pb**	**09 09 37.3**	**+0.3**
	baz=257						
TAI				S	**Sb**	**09 09 45.5**	**+2.8**
	baz=257						
WCKO	**Fanlu**	**0.37**	**2**	P	**Pb**	**09 09 36.5**	**-0.6**
	baz=5.0						
WCKO				S	**Sb**	**09 09 43.2**	**+0.4**
	baz=5.0						
SCLT	**Jiali**	**0.38**	**287**	*i* P	**Pb**	**09 09 36.9**	**-0.4**
	baz=288						
SCLT				*e*S	**Sb**	**09 09 44.5**	**+1.4**
	baz=288						
SNJT	**Kaohsiung City**	**0.39**	**218**	P	**Pn**	**09 09 38.4**	**-1.5**
	baz=201						
SNJT				S	**Sb**	**09 09 46.9**	**+3.6**
	baz=201						
TSPT	**Pingtung City**	**0.40**	**193**	P	**Pn**	**09 09 38.1**	**-1.9**
	baz=179						
TSPT				*e*S	**Sb**	**09 09 46.0**	**+2.5**
	baz=179						
ELDTW	**Lidau**	**0.41**	**72**	*i* P	**Pb**	**09 09 37.3**	**-0.5**
	baz=74						
ELDTW				S	**Sb**	**09 09 44.1**	**+0.1**
	baz=74						
ICHU	**Yijhu**	**0.41**	**316**	P	**Pb**	**09 09 37.4**	**-0.3**
	baz=320						
ICHU				S	**Sb**	**09 09 45.5**	**+1.6**
	baz=320						
CHN8	**Yiju**	**0.45**	**309**	*i* P	**Pb**	**09 09 37.9**	**-0.5**
	baz=328						
CHN8				*i* S	**Sb**	**09 09 47.1**	**+2.1**
	baz=328						
MASBT	**Mashibuluo**	**0.45**	**175**	⇓P	**Pb**	**09 09 37.4**	**-1.1**
	baz=165						
MASBT				*i* S	**Sb**	**09 09 44.3**	**-0.7**
	baz=165						
CHY	**Chiayi**	**0.46**	**340**	P	**Pb**	**09 09 38.9**	**+0.3**
	baz=345						
CHY				*i* S	**Sb**	**09 09 46.4**	**+1.1**
	baz=345						
TSCK	**Chigu Township**	**0.47**	**280**	P	**Pb**	**09 09 37.9**	**-0.9**
	baz=280						
TSCK				S	**Sb**	**09 09 47.2**	**+1.5**
	baz=280						
ALS	**Alishan**	**0.48**	**24**	⇑*i*P	**Pb**	**09 09 38.3**	**-0.9**
	baz=28						
ALS				*i* S	**Sb**	**09 09 46.6**	**+0.2**
	baz=28						
TWG	**Pinlang**	**0.50**	**119**	*i* P	**Pb**	**09 09 38.9**	**-0.4**
	baz=116						
TWG				*i* S	**Sn**	**09 09 48.6**	**-1.5**
	baz=116						
TWGBT	**Beinan**	**0.51**	**119**	⇓P	**Pb**	**09 09 38.9**	**-0.6**
	baz=116						
TWGBT				S	**Sb**	**09 09 48.4**	**+1.6**
	baz=116						
WSSB	**Gushan**	**0.52**	**216**	P	**Pn**	**09 09 40.4**	**-1.4**
	baz=230						
WSSB				S	**Sn**	**09 09 51.1**	**+0.6**
	baz=230						
LONT	**Longtian**	**0.52**	**107**	P	**Pb**	**09 09 39.5**	**-0.1**
	baz=101						
LONT				S	**Sb**	**09 09 48.6**	**+1.6**
	baz=101						
KAU	**Kaohsiung**	**0.56**	**208**	*e*P	**Pb**	**09 09 40.3**	**+0.1**
	baz=220						
KAU				*e*S	**Sn**	**09 09 52.4**	**+1.0**
	baz=220						
WSL	**Shuilin Townsh**	**0.57**	**324**	P	**Pb**	**09 09 40.4**	**0.0**
	baz=328						
WSL				S	**Sn**	**09 09 50.5**	**-1.1**
	baz=328						
EHD	**Haiduan**	**0.57**	**81**	⇓P	**Pb**	**09 09 40.2**	**-0.3**
	baz=82						
EHD				S	**Sb**	**09 09 49.7**	**+1.1**
	baz=82						
ECL	**Taimali**	**0.57**	**144**	*i* P	**Pb**	**09 09 39.7**	**-0.8**
	baz=136						
ECL				S	**Sb**	**09 09 49.3**	**+0.8**
	baz=136						
ECS	**Chishang**	**0.58**	**87**	P	**Pb**	**09 09 40.8**	**+0.2**
	baz=87						
ECS				S	**Sn**	**09 09 50.8**	**-1.1**
	baz=87						
TTN	**Taitung**	**0.60**	**121**	*i* P	**Pn**	**09 09 41.6**	**-1.2**
	baz=119						
TTN				*e*S	**Sn**	**09 09 51.9**	**-0.5**
	baz=119						
WDLH	**Douliu**	**0.62**	**355**	P	**Pb**	**09 09 41.4**	**0.0**
	baz=358						
WDLH				S	**Sn**	**09 09 52.1**	**-0.9**
	baz=358						
WTK	**Tuku**	**0.65**	**343**	P	**Pb**	**09 09 41.3**	**-0.5**
	baz=347						
WTK				S	**Sn**	**09 09 52.8**	**-0.8**
	baz=347						
FULB	**Fuli**	**0.66**	**78**	P	**Pb**	**09 09 42.4**	**+0.4**
	baz=79						
FULB				*e*S	**Sn**	**09 09 53.0**	**-0.9**
	baz=79						
WSF	**Szhu**	**0.67**	**329**	*i* P	**Pb**	**09 09 41.7**	**-0.4**
	baz=333						
WSF				*i* S	**Sn**	**09 09 52.5**	**-1.5**
	baz=333						
WHYT	**Xinyi Township**	**0.67**	**21**	P	**Pb**	**09 09 41.9**	**-0.4**
	baz=23						
WHYT				S	**Sn**	**09 09 53.0**	**-1.4**
	baz=23						
SCZT	**Fangliau**	**0.69**	**178**	⇓*i*P	**Pb**	**09 09 41.8**	**-0.7**
	baz=164						
SCZT				*e*S	**Sn**	**09 09 53.0**	**-1.6**
	baz=164						
TWF1	**Yuli**	**0.71**	**66**	*i* P	**Pb**	**09 09 43.0**	**+0.1**
	baz=68						
TWF1				*e*S	**Sb**	**09 09 53.1**	**+0.6**
	baz=68						
CHKT	**Chengkung**	**0.71**	**87**	*i* P	**Pn**	**09 09 43.8**	**-0.6**
	baz=78						
CHKT				S	**Sn**	**09 09 55.2**	**0.0**
	baz=78						
EAST	**Anshuo**	**0.72**	**161**	⇓*i*P	**Pb**	**09 09 42.4**	**-0.6**
	baz=149						
EAST				S	**Sn**	**09 09 55.2**	**-0.2**
	baz=149						
EYUL	**Yuli**	**0.73**	**67**	P	**Pb**	**09 09 43.4**	**+0.2**
	baz=68						
EYUL				*e*S	**Sb**	**09 09 54.2**	**+1.2**
	baz=68						
YULB	**Yu-li**	**0.73**	**63**	P	**Pb**	**09 09 43.1**	**0.0**
	baz=65						
YULB				*e*S	**Sb**	**09 09 53.7**	**+0.7**
	baz=65						
TWP	**Hsiaoliuchiu**	**0.74**	**197**	*i* P	**Pn**	**09 09 44.9**	**+0.1**
	baz=193						
TWP				*i* S	**Sn**	**09 09 59.8**	**+3.8**
	baz=193						
CHKH	**Chenggong**	**0.75**	**80**	P	**Pn**	**09 09 44.1**	**-0.7**
	baz=81						
CHKH				*e*S	**Sn**	**09 09 56.9**	**+0.8**
	baz=81						
TAW	**Tawu**	**0.76**	**158**	*i* P	**Pb**	**09 09 43.3**	**-0.3**
	baz=155						
TAW				*i* S	**Sn**	**09 09 55.6**	**-0.7**
	baz=155						
WJS	**Zhushan**	**0.77**	**9**	P	**Pb**	**09 09 44.0**	**+0.2**
	baz=12						
WJS				S	**Sn**	**09 09 56.3**	**-0.2**
	baz=12						
TAWH	**Dawu Township**	**0.77**	**159**	P	**Pb**	**09 09 43.4**	**-0.5**
	baz=149						
TAWH				S	**Sn**	**09 09 55.7**	**-0.9**
	baz=149						
SSLB	**Suanglung**	**0.79**	**25**	P	**Pb**	**09 09 43.8**	**-0.5**
	baz=27						
SSLB				*e*S	**Sn**	**09 09 56.4**	**-0.9**
	baz=27						
EHY	**Hungye**	**0.80**	**57**	*i* P	**Pb**	**09 09 44.3**	**-0.2**
	baz=66						
EHY				*e*S	**Sb**	**09 09 56.4**	**+1.2**
	baz=66						
EHYH	**Wanrong**	**0.81**	**58**	P	**Pn**	**09 09 44.9**	**-0.9**
	baz=67						
EHYH				*e*S	**Sb**	**09 09 55.6**	**+0.1**
	baz=67						
WNT	**Mingjian**	**0.81**	**6**	*i* P	**Pb**	**09 09 44.6**	**0.0**
	baz=10.0						
WNT				*i* S	**Sn**	**09 09 57.4**	**-0.3**
	baz=10.0						
ECBN	**Changbin**	**0.83**	**72**	P	**Pn**	**09 09 45.9**	**-0.1**
	baz=66						
ECBN				*e*S	**Sn**	**09 09 58.8**	**+0.7**
	baz=66						
WTCT	**Ta-ch'eng**	**0.85**	**340**	*e*P	**Pb**	**09 09 44.3**	**-0.9**
	baz=344						
WTCT				S	**Sn**	**09 09 57.4**	**-1.1**
	baz=344						
VWDT	**VWDT**	**0.85**	**36**	P	**Pb**	**09 09 45.3**	**+0.1**
	baz=39						
VWDT				*e*S	**Sn**	**09 09 58.0**	**-0.7**
	baz=39						
WRL	**Guolierlin Hig**	**0.86**	**347**	P	**Pb**	**09 09 44.8**	**-0.6**
	baz=350						
WRL				S	**Sn**	**09 09 58.0**	**-0.8**
	baz=350						
SMLT	**Sun Moon Lake**	**0.86**	**19**	*i* P	**Pb**	**09 09 45.4**	**-0.1**
	baz=22						
SMLT				*i* S	**Sn**	**09 09 59.3**	**+0.2**
	baz=22						
SLIU	**Shizi**	**0.86**	**167**	P	**Pb**	**09 09 44.9**	**-0.6**
	baz=164						
SLIU				S	**Sn**	**09 09 59.8**	**+0.8**
	baz=164						
HGSD	**Ruisui**	**0.88**	**61**	P	**Pn**	**09 09 46.6**	**0.0**
	baz=62						
HGSD				S	**Sn**	**09 09 59.5**	**+0.3**
	baz=62						
WDGT	**Dungji**	**0.88**	**283**	*i* P	**Pb**	**09 09 45.0**	**-0.8**
	baz=283						
WDGT				*i* S	**Sb**	**09 09 57.3**	**-0.1**
	baz=283						
LDUT	**Ludao**	**0.90**	**116**	P	**Pn**	**09 09 46.1**	**-0.8**
	baz=103						
LDUT				S	**Sn**	**09 10 00.5**	**+0.7**
	baz=103						
EGFH	**Guangfu**	**0.97**	**52**	P	**Pn**	**09 09 47.5**	**-0.5**
	baz=62						
EGFH				S	**Sn**	**09 10 02.0**	**+0.3**
	baz=62						
WARBT	**Fenglin Townsh**	**0.98**	**48**	P	**Pb**	**09 09 47.4**	**0.0**
	baz=50						
WARBT				*e*S	**Sn**	**09 10 02.3**	**+0.5**
	baz=50						
WPL	**Puli Township**	**1.00**	**19**	P	**Pb**	**09 09 47.7**	**-0.1**
	baz=22						
WPL				S	**Sn**	**09 10 03.7**	**+1.3**
	baz=22						
WCHH	**Zhanghua**	**1.01**	**358**	P	**Pn**	**09 09 49.2**	**+0.7**
	baz=1.0						
WCHH				S	**Sn**	**09 10 03.9**	**+1.3**
	baz=1.0						
DPDB	**Guoxing**	**1.01**	**18**	P	**Pb**	**09 09 47.8**	**-0.3**
	baz=20						
DPDB				S	**Sn**	**09 10 04.6**	**+1.8**
	baz=20						
WCS	**Beigang Elemen**	**1.03**	**16**	P	**Pn**	**09 09 48.4**	**-0.4**
	baz=19						
WCS				S	**Sn**	**09 10 04.1**	**+1.0**
	baz=19						
OWD	**Renai**	**1.04**	**31**	P	**Pn**	**09 09 48.4**	**-0.5**
	baz=34						
OWD				S	**Sn**	**09 10 04.3**	**+0.8**
	baz=34						
PHUB	**P'eng-hu**	**1.04**	**296**	P	**Pg**	**09 09 46.7**	**-1.9**
	baz=296						
PHUB				S	**Sg**	**09 10 00.6**	**-1.6**
	baz=296						
WUSB	**Renai**	**1.04**	**27**	P	**Pb**	**09 09 48.3**	**-0.3**
	baz=30						
WUSB				S	**Sn**	**09 10 04.2**	**+0.6**
	baz=30						
HEN	**Hengchun**	**1.06**	**173**	*i* P	**Pn**	**09 09 49.4**	**+0.2**
	baz=157						
HEN				*i* S	**Sn**	**09 10 06.5**	**+2.7**
	baz=157						
SMST	**Manzhou Township**	**1.06**	**168**	*e*P	**Pn**	**09 09 51.1**	**+1.9**
	baz=165						
SMST				S	**Sn**	**09 10 06.4**	**+2.5**
	baz=165						
ESL	**Shilin**	**1.07**	**46**	*i* P	**Pn**	**09 09 49.6**	**+0.2**
	baz=48						
ESL				*i* S	**Sn**	**09 10 05.2**	**+1.0**
	baz=48						
PNG	**Penghu**	**1.08**	**298**	*i* P	**Pg**	**09 09 47.6**	**-1.8**
	baz=299						
PNG				*i* S	**Sb**	**09 10 02.5**	**-0.5**
	baz=299						
VCHM	**Qimei**	**1.08**	**278**	P	**Pg**	**09 09 47.8**	**-1.6**
	baz=277						
VCHM				S	**Sn**	**09 10 03.4**	**-0.9**
	baz=277						
TCU	**Taichung**	**1.08**	**4**	*i* P	**Pn**	**09 09 48.9**	**-0.6**
	baz=8.0						
TCU				S	**Sn**	**09 10 05.8**	**+1.5**
	baz=8.0						
CHGB	**Renai**	**1.13**	**28**	P	**Pn**	**09 09 50.1**	**-0.2**
	baz=31						
CHGB				S	**Sn**	**09 10 07.9**	**+2.1**
	baz=31						
TWK1	**Hengchun**	**1.13**	**170**	⇑*i*P	**Pn**	**09 09 49.9**	**-0.2**
	baz=167						
TWK1				S	**Sn**	**09 10 07.6**	**+2.0**
	baz=167						
TWKBT	**Hengchun**	**1.14**	**170**	P	**Pn**	**09 09 49.8**	**-0.4**
	baz=167						
TWKBT				S	**Sn**	**09 10 07.4**	**+1.8**
	baz=167						
SHUL	**Shoufeng**	**1.15**	**51**	P	**Pn**	**09 09 50.8**	**+0.5**
	baz=41						
SHUL				*e*S	**Sn**	**09 10 07.9**	**+2.0**
	baz=41						
TSEB	**Hengchuen, Pin**	**1.19**	**166**	*e*P	**Pn**	**09 09 50.9**	**-0.1**
	baz=165						
TSEB				S	**Sn**	**09 10 10.1**	**+3.1**
	baz=165						
LXIB	**Xiulin Townshi**	**1.22**	**38**	P	**Pg**	**09 09 51.5**	**-0.5**
	baz=29						
LXIB				S	**Sn**	**09 10 09.6**	**+1.8**
	baz=29						
ETM	**Tongmen**	**1.22**	**42**	P	**Pg**	**09 09 51.3**	**-0.8**
	baz=56						
ETM				S	**Sn**	**09 10 08.5**	**+0.8**
	baz=56						
WHF	**Hehuan Shan**	**1.24**	**30**	*i* P	**Pn**	**09 09 52.6**	**+0.5**
	baz=33						
WHF				S	**Sn**	**09 10 11.4**	**+2.5**
	baz=33						
WHP	**Taichung City**	**1.25**	**15**	P	**Pg**	**09 09 52.2**	**-0.5**
	baz=18						
WHP				*i* S	**Sn**	**09 10 11.3**	**+2.6**
	baz=18						
WDJ	**Dajia District**	**1.28**	**2**	P	**Pg**	**09 09 52.5**	**-0.7**
	baz=5.0						
WDJ				*i* S	**Sn**	**09 10 11.5**	**+2.3**
	baz=5.0						
TWQ1	**Liyutan**	**1.29**	**7**	*i* P	**Pg**	**09 09 52.5**	**-0.9**
	baz=11						
TWQ1				*i* S	**Sn**	**09 10 11.7**	**+2.2**
	baz=11						
TDCB	**Techi**	**1.29**	**24**	P	**Pg**	**09 09 53.0**	**-0.5**
	baz=37						
TDCB				S	**Sn**	**09 10 11.1**	**+1.3**
	baz=37						
TWT	**Tachien**	**1.30**	**24**	*i* P	**Pg**	**09 09 53.3**	**-0.3**
	baz=26						
TWT				*e*S	**Sn**	**09 10 11.6**	**+1.6**
	baz=26						
HWA	**Hwalien**	**1.30**	**45**	P	**Pg**	**09 09 54.5**	**+0.9**
	baz=47						
HWA				*i* S	**Sn**	**09 10 13.1**	**+3.3**
	baz=47						
FUSS	**Fushou**	**1.32**	**27**	P	**Pg**	**09 09 53.6**	**-0.4**
	baz=29						
FUSS				*e*S	**Sn**	**09 10 12.7**	**+2.1**
	baz=29						
LAY	**Lan-yu**	**1.35**	**139**	P	**Pg**	**09 09 53.8**	**-0.8**
	baz=138						
LAY				*i* S	**Sg**	**09 10 12.9**	**+0.7**
	baz=138						
NSY	**Sanyi**	**1.35**	**7**	*i* P	**Pg**	**09 09 53.8**	**-0.9**
	baz=358						
NSY				*i* S	**Sg**	**09 10 14.2**	**+1.9**
	baz=358						
TWD	**Chiawan**	**1.37**	**42**	*i* P	**Pg**	**09 09 54.1**	**-0.8**
	baz=44						
TWD				*i* S	**Sg**	**09 10 13.9**	**+1.2**
	baz=44						
LYUB	**Lan-yu**	**1.40**	**139**	P	**Pn**	**09 09 52.4**	**-1.4**
	baz=138						
LYUB				S	**Sb**	**09 10 11.8**	**-0.6**
	baz=138						
ETLH	**Xiulin Townshi**	**1.40**	**35**	P	**Pg**	**09 09 54.8**	**-0.7**
	baz=38						
ETLH				S	**Sg**	**09 10 14.6**	**+0.9**
	baz=38						
NACB	**Ninganchiao**	**1.44**	**40**	P	**Pb**	**09 09 54.7**	**-0.5**
	baz=41						
NACB				S	**Sg**	**09 10 15.0**	**+0.1**
	baz=41						
ETL	**Fush Village**	**1.44**	**41**	*e*P	**Pg**	**09 09 56.1**	**-0.3**
	baz=42						
ETL				*e*S	**Sg**	**09 10 15.9**	**+0.8**
	baz=42						
NMLH	**Miaoli**	**1.48**	**7**	P	**Pb**	**09 09 55.5**	**-0.5**
	baz=10.0						
NMLH				S	**Sg**	**09 10 18.2**	**+2.0**
	baz=10.0						
NNSB	**Datong**	**1.54**	**28**	P	**Pb**	**09 09 56.9**	**-0.2**
	baz=30						
NNSB				S	**Sg**	**09 10 19.7**	**+1.5**
	baz=30						
NNS	**Nan Shan**	**1.54**	**27**	P	**Pg**	**09 09 57.8**	**-0.6**
	baz=30						
NNS				*e*S	**Sg**	**09 10 18.8**	**+0.4**
	baz=30						
NSTT	**Nanjuang**	**1.60**	**13**	*i* P	**Pn**	**09 09 56.7**	**+0.1**
	baz=16						
NSTT				*i* S	**Sg**	**09 10 20.2**	**0.0**
	baz=16						
LIOB	**Emei**	**1.62**	**14**	P	**Pn**	**09 09 57.2**	**+0.3**
	baz=17						
LIOB				S	**Sg**	**09 10 21.0**	**+0.2**
	baz=17						
NFF	**Wufeng Townshi**	**1.63**	**17**	P	**Pb**	**09 09 57.5**	**-1.2**
	baz=3.0						
NFF				S	**Sg**	**09 10 21.3**	**0.0**
	baz=3.0						
LATG	**Datong**	**1.70**	**30**	P	**Pb**	**09 09 59.3**	**-0.4**
	baz=32						
LATG				S	**Sg**	**09 10 23.4**	**+0.1**
	baz=32						
ENA	**Nanau**	**1.72**	**38**	P	**Pg**	**09 10 00.4**	**-1.2**
	baz=54						
ENA				*e*S	**Sg**	**09 10 24.8**	**+0.8**
	baz=54						
NDT	**Datong Townshi**	**1.75**	**29**	P	**Pb**	**09 10 00.3**	**-0.2**
	baz=31						
NDT				*e*S	**Sg**	**09 10 24.7**	**-0.2**
	baz=31						
NSK	**Sanguang**	**1.75**	**23**	*i* P	**Pb**	**09 09 59.8**	**-0.9**
	baz=9.0						
NSK				S	**Sg**	**09 10 24.7**	**-0.3**
	baz=9.0						
YHNB	**Yeheng**	**1.75**	**24**	*i* P	**Pn**	**09 09 59.2**	**+0.5**
	baz=9.0						
YHNB				S	**Sg**	**09 10 23.9**	**-1.1**
	baz=9.0						
EWUT	**Wuta**	**1.75**	**38**	P	**Pb**	**09 10 00.8**	**+0.2**
	baz=54						
EWUT				S	**Sg**	**09 10 24.6**	**-0.4**
	baz=54						
ENTT	**Nioudou**	**1.80**	**29**	*i* P	**Pb**	**09 10 01.6**	**+0.1**
	baz=32						
ENTT				*i* S	**Sg**	**09 10 27.2**	**+0.5**
	baz=32						
NDS	**Dongshan**	**1.87**	**33**	*e*P	**Pb**	**09 10 02.9**	**+0.3**
	baz=53						
NDS				*e*S	**Sg**	**09 10 27.6**	**-1.2**
	baz=53						
NWLT	**Wulai**	**1.90**	**26**	P	**Pb**	**09 10 03.3**	**+0.2**
	baz=28						
NWLT				*e*S	**Sg**	**09 10 28.1**	**-1.6**
	baz=28						
EOS4	**EOS4**	**1.90**	**56**	*e*P	**Pb**	**09 10 01.7**	**-1.2**
	baz=72						
EOS4				S	**Sb**	**09 10 26.9**	**+0.4**
	baz=72						
FUSB	**Fushanzhiwuyua**	**1.92**	**28**	P	**Pb**	**09 10 02.4**	**-1.1**
	baz=30						
FUSB				S	**Sg**	**09 10 28.6**	**-1.8**
	baz=30						
TWC	**Suao**	**1.92**	**37**	*i* P	**Pb**	**09 10 03.8**	**+0.3**
	baz=52						
TWC				*e*S	**Sg**	**09 10 29.9**	**-0.5**
	baz=52						
TWE	**Neicheng**	**1.92**	**31**	*i* P	**Pb**	**09 10 03.3**	**-0.2**
	baz=33						
TWE				S	**Sg**	**09 10 31.3**	**+0.9**
	baz=33						
EOS3	**EOS3**	**2.00**	**52**	*e*P	**Pb**	**09 10 03.8**	**-0.8**
	baz=52						
EOS3				*e*S	**Sb**	**09 10 30.8**	**+1.4**
	baz=52						
VWUC	**VWUC**	**2.19**	**332**	P	**Pn**	**09 10 03.7**	**-1.0**
	baz=337						
VWUC				*e*S	**Sn**	**09 10 32.8**	**+1.2**
	baz=337						
TIPB	**Shuangxi**	**2.21**	**30**	P	**Pn**	**09 10 05.9**	**+0.9**
	baz=15						
TIPB				*e*S	**Sb**	**09 10 36.0**	**+0.3**
	baz=15						
TWB1	**Santiao Chiao**	**2.32**	**33**	P	**Pb**	**09 10 08.4**	**-1.9**
	baz=34						
TWB1				*e*S	**Sb**	**09 10 40.3**	**+1.4**
	baz=34						
SXI1	**Grass Mountain**	**2.34**	**30**	P	**Pb**	**09 10 09.8**	**-0.8**
	baz=15						
SXI1				*e*S	**Sb**	**09 10 39.1**	**-0.3**
	baz=15						
PTMZ	**Houxiangcun**	**2.38**	**326**	*e*P	**Pn**	**09 10 08.4**	**+1.1**
	baz=332						
PTMZ				*e*S	**Sn**	**09 10 36.8**	**+0.3**
	baz=332						
KNM	**Kinmen**	**2.39**	**305**	*e*P	**Pb**	**09 10 09.2**	**-2.4**
	baz=308						
KNMB	**Chin-men Tao**	**2.45**	**305**	P	**Pn**	**09 10 08.5**	**+0.2**
	baz=311						
KNMB				*e*S	**Sb**	**09 10 40.4**	**-2.3**
	baz=311						
JYNG	**Yonagunijimaku**	**2.56**	**57**	*e*P	**Pb**	**09 10 12.3**	**-2.1**
YOJ	**Yonaguni jima**	**2.62**	**57**	*e*P	**Pb**	**09 10 12.8**	**-2.6**
ZPLA	**Ao Xicun**	**2.75**	**289**	*e*P	**Pn**	**09 10 11.8**	**-0.6**
	baz=287						

NEIC ***03*** *09:16:48.4±1.0, 55.°98N±0.°09×150.°1W±0.°1, h10km±7km, ML3.8/42, ML3.6(AEIC), Error ellipse: s-maj=12.4km s-min=8.6km az=170.0*

IDC ***03*** *09:16:50.0±1.7, 56.°01N×149.°80W, h0km, mb3.4/4, mbtmp3.5/8, ML3.3/4, Error ellipse: s-maj=34.5km s-min=19.7km az=49.0*

AEIC ***03*** *09:16:52.9±0.9, 55.°99N±0.°09×150.°1W±0.°1, h10km±7km, Error ellipse: s-maj=12.5km s-min=8.5km az=171.0*

ISC 03 09:16:49.0±0.8**, 56.°11N**±0.°07×**150.°06W**±0.°05**, h10**km**, n232,** σ**1§24**/241**, mb3.4**/4**, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.10**	**303**		**Pn**	**09 17 23.5**	**-0.6**
OHAK				Sn	**Sn**	**09 17 47.7**	**-2.6**
OHAK				IAML		09 17 48.6	
	comp=N,266nm,0.7s						
OHAK	**Old Harbor**	**2.10**	**303**	P	**Pn**	**09 17 23.5**	**-0.6**
	baz=124						
OHAK				S	**Sn**	**09 17 47.7**	**-2.6**
	baz=124						
KDAK	**Kodiak Island**	**2.17**	**322**		**Pn**	**09 17 25.5**	**+0.3**
KDAK	**Kodiak Island**	**2.17**	**322**	Pn	**Pn**	**09 17 25.5**	**+0.3**
	comp=N,17nm,0.3s,baz=144,slow=6.2,SNR=475						
KDAK				Sn	**Sn**	**09 17 50.5**	**-1.5**
	comp=N,21nm,0.3s,baz=36,slow=22,SNR=41						
	comp=N,45nm,0.3s						
SYI	**Shuyak Island**	**2.80**	**334**	Pn	**Pn**	**09 17 34.2**	**+0.4**
SYI				IAML		09 18 08.8	

	comp=E,208nm,0.4s								
Q20K	Shuyak Island	2.80	334		P		Pn	09 17 34.5	+0.7
	baz=154								
Q20K					S		Sn	09 18 07.3	-0.4
	baz=154								
Q19K	Cape Douglas,	3.42	327		Pn		Pn	09 17 43.5	+1.1
Q19K	Cape Douglas,	3.42	327		P		Pn	09 17 43.1	+0.8
	baz=146								
CNPM	China Poot	3.48	350		Pn		Pn	09 17 43.4	+0.2
CNPM					Sn		Sn	09 18 23.9	-0.5
CNPM					IAML			09 18 25.9	
	comp=E,85nm,0.7s								
CNPM					IAML			09 18 26.0	
	comp=N,96nm,0.5s								
KAKN	Katmai Knife C	3.49	311				Pn	09 17 44.1	+0.7
ACHA	Angle Creek He	3.55	308				Pn	09 17 44.9	+0.7
ANCK	Angle Creek	3.62	307				Pn	09 17 45.9	+0.7
HOM	Homer	3.65	347		Pn		Pn	09 17 46.0	+0.5
HOM					IAML			09 18 32.0	
	comp=E,263nm,1.3s								
HOM					IAML			09 18 38.5	
	comp=N,268nm,1.1s								
HOM	Homer	3.65	347		S		Sn	09 18 29.7	+1.1
	baz=167								
BRSE	Bradley Lake S	3.66	355				Pn	09 17 45.5	-0.1
BRSE							Sn	09 18 27.2	-1.5
BRSE	Bradley Lake S	3.66	355		P		Pn	09 17 45.5	-0.1
	baz=175								
BRSE					S		Sn	09 18 27.2	-1.5
	baz=175								
BRLK	Bradley Lake	3.69	354		Pn		Pn	09 17 45.9	-0.2
PLK3	Peulik 3	3.75	297				Pn	09 17 47.0	+0.1
CNTC	Contact Creek	3.83	307				Pn	09 17 48.6	+0.6
Q17K	Contact Creek	3.83	307		P		Pn	09 17 48.6	+0.5
	baz=124								
MID	Middleton Isla	3.88	29		Pn		Pn	09 17 48.9	+0.4
MID					IAML			09 18 52.6	
	comp=E,116nm,1.7s								
MID					IAML			09 19 58.8	
	comp=N,89nm,1.6s								
MID	Middleton Isla	3.88	29		P		Pn	09 17 48.9	+0.4
P19K	Oil Pt	3.93	336		Pn		Pn	09 17 50.9	+1.5
P19K					IAML			09 18 40.3	
	comp=N,232nm,0.4s								
PLK1	Peulik 1	3.96	298				Pn	09 17 49.8	0.0
SEW	Seward	4.01	4				Pn	09 17 50.2	-0.3
SEW	Seward	4.01	4		P		Pn	09 17 50.2	-0.3
	baz=185								
P23K	Montague Islan	4.14	19				Pn	09 17 52.3	0.0
P23K							Sn	09 18 38.6	-2.1
P23K	Montague Islan	4.14	19		P		Pn	09 17 52.3	0.0
	baz=201								
P23K					S		Sn	09 18 38.6	-2.1
	baz=201								
O20K	Slope Mountain	4.20	342				Pn	09 17 53.6	+0.4
P18K	Big Mountain,	4.30	322				Pn	09 17 54.9	+0.5
P18K	Big Mountain,	4.30	322		P		Pn	09 17 54.5	+0.1
	baz=139								
P18K					S		Sn	09 18 41.7	-2.8
	baz=139								
O22K	Cooper Landing	4.38	2				Pn	09 17 56.2	+0.7
O22K	Cooper Landing	4.38	2		P		Pn	09 17 56.5	+0.9
	baz=183								
Q16K	King Salmon	4.39	308				Pn	09 17 55.5	-0.2
Q16K	King Salmon	4.39	308		P		Pn	09 17 55.5	-0.2
	baz=125								
SLKM	Skilak Lake	4.41	359				Pn	09 17 55.5	-0.4
RSO	Redoubt South	4.59	343				Pn	09 17 59.1	+0.5
P17K	Kvichak River	4.61	315				Pn	09 17 59.3	+0.7
P17K	Kvichak River	4.61	315		P		Pn	09 17 59.3	+0.7
	baz=131								
O18K	Koktuh Hills	4.64	326				Pn	09 17 59.7	+0.6
O18K					IAML			09 18 55.6	
	comp=N,64nm,0.8s								
O18K					IAML			09 19 07.9	
	comp=E,54nm,0.8s								
O18K	Koktuh Hills	4.64	326		P		Pn	09 17 59.3	+0.1
	baz=143								
CHGN	Chignik	4.67	276				Pn	09 17 58.0	-1.4
CHGN					IAML			09 18 50.2	
	comp=N,71nm,0.5s								
CHGN					IAML			09 19 49.6	
	comp=E,63nm,1.9s								
CHGN	Chignik	4.67	276		P		Pn	09 17 58.0	-1.4
	baz=91								
O19K	Port Alsworth	4.67	333		Pn		Pn	09 17 60.0	+0.5
O19K	Port Alsworth	4.67	333		P		Pn	09 18 00.2	+0.7
	baz=150								
HIN	Hinchinbrook I	4.69	22				Pn	09 18 00.6	+0.8
HIN					IAML			09 18 54.4	
	comp=E,55nm,0.7s								
HIN					IAML			09 18 56.6	
	comp=N,48nm,0.6s								
KAIM	Kayak Island	4.86	36		Pn		Pn	09 18 02.9	+0.8
KAIM					IAML			09 19 02.7	
	comp=E,98nm,0.4s								
KAIM	Kayak Island	4.86	36		P		Pn	09 18 02.9	+0.8
	baz=220								
EYAK	Cordova Ski Ar	4.99	25				Pn	09 18 05.0	+1.1
EYAK	Cordova Ski Ar	4.99	25		P		Pn	09 18 04.8	+0.9
RC01	Rabbit Creek A	4.99	2		Pn		Pn	09 18 04.3	+0.4
RC01					IAML			09 19 00.9	
	comp=N,29nm,0.5s								
RC01					IAML			09 19 02.9	
	comp=E,36nm,0.6s								
RC01	Rabbit Creek A	4.99	2		P		Pn	09 18 04.2	+0.3
	baz=182								
RAGM	Ragged Mountai	5.14	31				Pn	09 18 07.4	+1.4
RAGM					IAML			09 19 17.6	
	comp=E,56nm,0.8s								
P16K	Nushagak River	5.17	308				Pn	09 18 06.8	+0.5
P16K	Nushagak River	5.17	308		P		Pn	09 18 06.8	+0.5
	baz=122								
SUCK	Suckling Hills	5.18	37				Pn	09 18 07.8	+1.3
SUCK					IAML			09 19 06.3	
	comp=N,77nm,0.4s								
SUCK					IAML			09 19 09.7	
	comp=E,50nm,1.1s								
HMT	Hamilton	5.23	34				Pn	09 18 08.5	+1.3
HMT					IAML			09 19 13.8	
	comp=N,93nm,0.4s								
NICHA	Nichawak Mount	5.24	35				Pn	09 18 08.5	+1.1
O17K	Koliganek Bris	5.24	317				Pn	09 18 07.4	+0.1
O17K	Koliganek Bris	5.24	317		P		Pn	09 18 07.4	+0.1
	baz=133								
N19K	Bonanza Creek	5.25	336				Pn	09 18 08.1	+0.5
GOAT	Goat Mountain	5.29	30				Pn	09 18 09.1	+1.1
S14K	Fog Glacier	5.30	276		P		Pn	09 18 06.8	-1.5
	baz=89								
SUA	Susitna One	5.38	356				Pn	09 18 09.3	0.0
KNK	Knik Glacier	5.38	8		Pn		Pn	09 18 09.7	+0.4
BGLC	Bering Glacier	5.39	39				Pn	09 18 10.8	+1.5
BGLC	Bering Glacier	5.39	39		P		Pn	09 18 10.8	+1.5
	baz=224								
BERG	Berg Lake	5.45	35				Pn	09 18 11.0	+0.8
STLK	Strandline Lak	5.48	351				Pn	09 18 10.6	-0.1
GRIN	Grindle Hills	5.49	38				Pn	09 18 12.1	+1.3
DIV	Divide	5.51	22		Pn		Pn	09 18 12.3	+1.3
N18K	Kilae Creek	5.51	329		Pn		Pn	09 18 11.2	+0.2
PMR	Palmer	5.52	5		Pn		Pn	09 18 12.1	+1.0
PMR	Palmer	5.52	5		P		Pn	09 18 12.5	+1.4
O16K	Kokwok River B	5.53	312		Pn		Pn	09 18 12.0	+0.7
O16K	Kokwok River B	5.53	312		P		Pn	09 18 11.0	-0.2
	baz=127								
SNH	Sunshine Point	5.59	40				Pn	09 18 13.3	+1.2
GHO	Glory Hole Cre	5.71	5				Pn	09 18 14.8	+1.0
SVW2	Sparrevohn	5.77	332		Pn		Pn	09 18 15.5	+0.9
SVW2	Sparrevohn	5.77	332		P		Pn	09 18 15.1	+0.5
WAX	Waxell Ridge	5.78	38				Pn	09 18 15.6	+0.9
SML	Sawmill	5.78	8		Pn		Pn	09 18 16.0	+1.2
SML	Sawmill	5.78	8		P		Pn	09 18 15.8	+1.0
	baz=190								
N17K	Nushagak Hills	5.80	323		Pn		Pn	09 18 15.4	+0.4
KLU	Klutina	5.81	20				Pn	09 18 16.3	+1.1
KLU	Klutina	5.81	20		P		Pn	09 18 15.9	+0.7
	baz=203								
BARK	Barkley Ridge	5.87	40				Pn	09 18 17.1	+1.0
CRQM	Cirque	5.91	35				Pn	09 18 17.8	+1.2
SCM	Sheep Creek Mo	5.91	13				Pn	09 18 17.7	+1.1
SCM	Sheep Creek Mo	5.91	13		P		Pn	09 18 17.8	+1.3
	baz=195								
CRQE	Cirque	5.92	35		P		Pn	09 18 17.7	+1.0
	baz=221								
MESA	MESA	5.92	43				Pn	09 18 18.1	+1.3
MESA	MESA	5.92	43		P		Pn	09 18 17.3	+0.5
	baz=229								
SKT	Skwentna	5.93	353		Pn		Pn	09 18 17.3	+0.5
SDPT	Sand Point	5.94	267		Pn		Pn	09 18 15.7	-1.1
SDPT	Sand Point	5.94	267		P		Pn	09 18 15.9	-0.9
SDPT	Sand Point	5.94	267		P		Pn	09 18 15.5	-1.4
	baz=80								
TGL	Tana Glacier	6.00	36				Pn	09 18 19.0	+1.1
ISLE	Juniper Island	6.06	39				Pn	09 18 19.9	+1.1
BAGL	Bagley Icefiel	6.07	40				Pn	09 18 19.8	+1.1
O15K	Ungalikthiuk R	6.07	304				Pn	09 18 19.1	+0.4
O15K	Ungalikthiuk R	6.07	304		P		Pn	09 18 19.1	+0.4
	baz=117								
VRDI	Verde Repeater	6.18	31				Pn	09 18 21.6	+1.2
N25K	Chitina, Valde	6.19	25				Pn	09 18 22.1	+1.6
N25K	Chitina, Valde	6.19	25		P		Pn	09 18 21.7	+1.2
	baz=209								
GLB	Gilahina Butte	6.25	29		Pn		Pn	09 18 22.5	+1.3
KIAG	Kiagna River	6.29	37				Pn	09 18 22.8	+0.9
M24K	Tolsona, Glenn	6.33	17				Pn	09 18 23.9	+1.6
M24K	Tolsona, Glenn	6.33	17		P		Pn	09 18 23.5	+1.1
	baz=200								
SAMH	Samovar Hills	6.35	47				Pn	09 18 24.2	+1.6
GRNC	Granite Creek	6.36	40				Pn	09 18 23.9	+1.0
TABL	Table Mountain	6.40	44				Pn	09 18 24.6	+1.2
MCARA	McCarthy VSAT	6.43	32				Pn	09 18 25.0	+1.4
MCARA	McCarthy VSAT	6.43	32		P		Pn	09 18 24.7	+1.1
	baz=217								
PTPK	Patty Peak	6.45	35				Pn	09 18 25.2	+1.2
M17K	Holitna River	6.54	327				Pn	09 18 25.7	+0.5
PCA	Pinnacle	6.55	48				Pn	09 18 26.6	+1.2
PINM	Pinnacle	6.55	48		P		Pn	09 18 26.6	+1.2
	baz=236								
WASW	Wrangell South	6.57	25				Pn	09 18 27.1	+1.2
WAT6	Susitna Watana	6.59	9				Pn	09 18 27.0	+0.9
WAT6	Susitna Watana	6.59	9		P		Pn	09 18 27.0	+0.9
	baz=192								
BARN	Barnard Glacie	6.62	38				Pn	09 18 27.7	+1.2
CTG	Chitna Glacier	6.67	40		P		Pn	09 18 27.9	+0.9
	baz=226								
CTGM	Chitina Glacie	6.67	40		Pn		Pn	09 18 28.2	+1.1
N15K	Kwethluk River	6.68	312				Pn	09 18 28.7	+1.5
N15K	Kwethluk River	6.68	312		P		Pn	09 18 28.2	+1.0
	baz=124								
LOGN	Logan Glacier	6.70	41				Pn	09 18 28.5	+1.1
PNL	Peninsula	6.71	54				Pn	09 18 28.5	+1.0
PNL	Peninsula	6.71	54		P		Pn	09 18 29.0	+1.5
PNL	Peninsula	6.71	54		P		Pn	09 18 28.5	+1.0
	baz=242								
BCPM	Bancas Point	6.74	51				Pn	09 18 29.4	+1.5
M16K	Timber Creek	6.77	320				Pn	09 18 29.4	+1.2
M16K	Timber Creek	6.77	320		P		Pn	09 18 29.1	+0.8
	baz=134								
PN7A	Pavlof North-7	6.77	269				Pn	09 18 27.1	-1.3
O14K	Tigyukauivet M	6.78	302		Pn		Pn	09 18 28.7	+0.3
HARP	HAARP	6.79	20				Pn	09 18 30.0	+1.4
HARP	HAARP	6.79	20		P		Pn	09 18 30.0	+1.4
	baz=204								
DHY	Denali Highway	7.11	10				Pn	09 18 34.5	+1.4
DHY	Denali Highway	7.11	10		P		Pn	09 18 33.9	+0.7
	baz=192								
N14K	Kuskokwak Cree	7.25	307				Pn	09 18 35.4	+0.5
N14K	Kuskokwak Cree	7.25	307		P		Pn	09 18 35.4	+0.5
	baz=118								
O29M	Mount Kennedy	7.38	51				Pn	09 18 38.5	+1.7
O29M	Mount Kennedy	7.38	51		P		Pn	09 18 38.3	+1.6
	baz=240								
L16K	Owhat River	7.43	323		Pn		Pn	09 18 38.3	+1.0
P29M	Windy Craggy	7.46	57				Pn	09 18 38.5	+0.7
P29M	Windy Craggy	7.46	57		P		Pn	09 18 38.7	+0.9
	baz=246								
KTH	Kantishna Hill	7.48	357		Pn		Pn	09 18 40.1	+2.1
M27K	Edge Creek, AK	7.53	30				Pn	09 18 41.0	+2.1
M27K	Edge Creek, AK	7.53	30		P		Pn	09 18 40.6	+1.7
	baz=217								
K20K	Telida	7.54	346		Pn		Pn	09 18 38.9	0.0
MENT	Mentasta	7.56	23		P		Pn	09 18 41.3	+2.1
S31K	Pelican	7.77	70		Pn		Pn	09 18 41.2	-0.8
S31K	Pelican	7.77	70		P		Pn	09 18 41.1	-0.8
	baz=261								
M14K	Bethel	7.78	312				Pn	09 18 42.6	+0.5
ISLZ	Isanotski Laza	7.89	266				Pn	09 18 42.0	-1.7
ISNN	Isanotski Nort	7.90	266				Pn	09 18 42.8	-1.0
P30M	Million Dollar	8.01	55				Pn	09 18 47.2	+1.8
P30M	Million Dollar	8.01	55		P		Pn	09 18 47.2	+1.8
	baz=245								
BPAW	Bear Paw Mtn.	8.03	357		Pn		Pn	09 18 46.5	+0.9
HYT	Haines Junctio	8.10	49		Pn		Pn	09 18 47.8	+1.2
L27K	Beaver Creek,	8.12	28		Pn		Pn	09 18 48.3	+1.5
BCAR	Beaver Creek A	8.13	28		Pn		Pn	09 18 48.8	+1.7
SIT	Sitka	8.19	77		Pn		Pn	09 18 45.9	-1.9
SIT	Sitka	8.19	77		P		Pn	09 18 45.9	-1.9
M13K	Dall Lake	8.22	307		Pn		Pn	09 18 49.2	+1.1
J19K	Poorman	8.38	343		Pn		Pn	09 18 50.8	+0.5
L14K	Kuka Creek	8.39	314				Pn	09 18 51.6	+1.1
L14K	Kuka Creek	8.39	314		P		Pn	09 18 50.8	+0.3
	baz=124								
WRH	Wood River Hil	8.44	6		Pn		Pn	09 18 52.8	+1.6
SCRK	Sand Creek	8.45	19		Pn		Pn	09 18 52.6	+1.2
HDA	Harding Lake	8.46	9				Pn	09 18 52.8	+1.3
SKAG	Skagway	8.55	61		Pn		Pn	09 18 53.9	+1.2
SKAG	Skagway	8.55	61		P		Pn	09 18 54.5	+1.8
BESE	Bessie Mountai	8.59	67				Pn	09 18 53.6	+0.3
N30M	Aishikik Lake	8.60	46				Pn	09 18 54.6	+1.2
N30M	Aishikik Lake	8.60	46		P		Pn	09 18 54.6	+1.2
	baz=237								
S32K	Killisnoo	8.61	75		Pn		Pn	09 18 53.4	-0.1
S32K	Killisnoo	8.61	75		P		Pn	09 18 52.7	-0.8
	baz=267								
CCB	Clear Creek Bu	8.63	6		Pn		Pn	09 18 55.2	+1.4
M29M	Somme Creek	8.68	38				Pn	09 18 56.7	+2.1
M29M	Somme Creek	8.68	38		P		Pn	09 18 56.3	+1.7
	baz=228								
O30N	Mendenhall	8.68	52				Pn	09 18 56.3	+1.7
O30N	Mendenhall	8.68	52		P		Pn	09 18 55.3	+0.8
	baz=243								
JIS	Juneau Island	8.78	69		P		Pn	09 18 56.5	+0.6
IL31		8.82	9				Pn	09 18 57.7	+1.3
ILAR	Eielson Array	8.82	9		Pn		Pn	09 18 57.7	+1.3
	comp=N,0.3nm,0.3s,baz=194,slow=13,SNR=26								
ILAR					Sn		Sn	09 20 32.6	-3.3
	comp=N,0.3nm,0.3s,baz=206,slow=23,SNR=8.0								
	comp=N,1.3nm,0.5s								
J25K	Salcha River,	8.84	13		Pn		Pn	09 18 58.0	+1.3
COLA	College	8.86	6		P		Pn	09 18 58.0	+1.2
MDM	Murphy Dome	8.92	5		Pn		Pn	09 18 57.8	0.0
MLY	Manley	8.95	358		Pn		Pn	09 18 59.2	+0.9
J26L	Joseph Creek	9.01	18				Pn	09 18 59.7	+0.7
I23K	Minto, Yukon-K	9.07	2		Pn		Pn	09 19 00.1	+0.4
I21K	Tanana	9.14	355		Pn		Pn	09 19 02.1	+1.3
WHY	Whitehorse	9.17	54		Pn		Pn	09 19 02.9	+1.5
L29M	L29M	9.25	36				Pn	09 19 04.1	+1.8
L29M	L29M	9.25	36		P		Pn	09 19 04.0	+1.8
	baz=226								
M30M	Minto, Yukon	9.36	41				Pn	09 19 05.3	+1.5
M30M	Minto, Yukon	9.36	41		P		Pn	09 19 04.9	+1.1
	baz=232								
P32M	Atlin	9.38	61				Pn	09 19 04.9	+0.7
P32M	Atlin	9.38	61		P		Pn	09 19 04.8	+0.7
	baz=255								
U33K	Whale Pass	9.47	83				Pn	09 19 02.7	-2.5
U33K	Whale Pass	9.47	83		P		Pn	09 19 03.2	-2.1
	baz=276								
J14K	Nanvaranak Lak	9.55	320		Pn		Pn	09 19 08.2	+1.9
CRAG	Craig	9.56	87		P		Pn	09 19 05.1	-1.5
CRAG	Craig	9.56	87		P		Pn	09 19 04.3	-2.3
	baz=280								
H21K	Melozitna Rive	9.67	353				Pn	09 19 08.0	0.0
PRP	Porcupine Dome	9.69	11		Pn		Pn	09 19 09.6	+1.2
UNV	Unalaska Valle	9.72	263		P		Pn	09 19 06.3	-2.4
H18K	Honhosa River	9.93	339		Pn		Pn	09 19 12.6	+1.0
P33M	Teslin, Yukon	9.98	59		Pn		Pn	09 19 12.9	+0.5
IMAR	Indian Mountai	10.06	351		Pn		Pn	09 19 14.2	+0.8
FARO	Faro, Yukon	10.52	48		Pn		Pn	09 19 21.8	+2.1
I28M	Miner Creek	10.57	24		Pn		Pn	09 19 22.5	+2.0
FYU	Fort Yukon	10.74	10		Pn		Pn	09 19 23.6	+1.1
DLBC	Dease Lake	11.09	70		Sn		Sn	09 21 27.4	-4.0
	comp=N,0.1nm,0.3s,baz=190,slow=27,SNR=5.7								
F20K	Avaraart Lake	11.29	349		Pn		Pn	09 19 31.1	+1.0
ANM	Nome	11.34	325		Pn		Pn	09 19 31.2	+0.4
F24K	Squaw Lake	11.49	4		Pn		Pn	09 19 34.1	+1.1
H29M	Whitestone	11.57	24		Pn		Pn	09 19 33.9	-0.2
BMAR	Burnt Mountain	11.64	11		Pn		Pn	09 19 36.4	+1.4
E25K	Arctic Village	12.23	8		Pn		Pn	09 19 43.5	+0.5
G31M	Satah River	13.14	28		Pn		Pn	09 19 57.9	+2.4
F31M	Tsiigehtchic	13.67	27		Pn		Pn	09 20 04.0	+1.4
C23K	Itkillik River	13.78	359		Pn		Pn	09 20 02.9	-1.2
INK	Inuvik	14.38	25		Pn		Pn	09 20 13.8	+1.5
INK	Inuvik	14.38	25		Pn		Pn	09 20 14.4	+2.1
	comp=N,0.1nm,0.3s,baz=216,slow=15,SNR=5.1								
	comp=N,2.1nm,0.8s								
YKA	Yellowknife Ar	19.00	56		P		P	09 21 10.2	-0.2
YKA	Yellowknife Ar	19.00	56		P		P	09 21 11.8	+1.4
	comp=N,0.1nm,0.3s,baz=265,slow=9.9,SNR=11								
	comp=N,0.4nm,0.7s								
NEW	Newport	21.50	97		P		P	09 21 38.7	+1.0
	comp=N,1.4nm,0.7s,baz=315,slow=7.1,SNR=4.3								
	comp=N,1.4nm,0.7s								
PDAR	Pinedale Array	29.06	100		P		P	09 22 50.0	+0.5
	comp=N,0.3nm,0.5s,baz=302,slow=5.2,SNR=3.8								
	comp=N,0.3nm,0.5s								
TXAR	Lajitas Array	42.18	110		P		P	09 24 42.8	+1.0
	comp=N,0.5nm,0.8s,baz=324,slow=6.5,SNR=5.8								
	comp=N,0.5nm,0.8s								
MKAR	Makanchi Array	68.48	324		P		P	09 27 55.6	+4.6
	comp=N,0.1nm,0.4s,baz=36,slow=8.1,SNR=4.0								
	comp=N,0.1nm,0.4s								

*KRSC **03** 09:26:08.0± 1.1, 54°.50N× 160°.63E, h141km± 14km, Ml4.2, Felt [III-IV] at kordon Kronoki.*
*MOS **03** 09:26:09.2± 0.6, 54°.55N× 160°.44E, h143km, mb4.1/11, Error ellipse: s-maj=11.3km s-min=4.1km az=77.0*
*IDC **03** 09:26:10.8± 1.1, 54°.59N× 160°.23E, h145km± 12km, mb3.7/12, mbtmp4.1/15, MS3.3/2, Error ellipse: s-maj=20.4km s-min=11.5km az=129.0*
*NEIC **03** 09:26:10.3± 0.8, 54°.6N± 0°.1× 160°.3E± 0°.2, h135km± 6km, mb4.1/42, Error ellipse: s-maj=20.1km s-min=5.9km az=136.0*

ISC 03 09:26:10.2± 0.6, 54°.50N± 0°.03× 160°.58E± 0°.04, h138km± 5km, n181, σ1°.03/234, mb4.1/44, 2C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
					Op	ISC	h m s		ISC
TUMD	Tumrok D	0.71	352	eP		Pn	09 26 30.7		-0.7
TUMD				eS		Sn	09 26 46.5		-1.1
KII	Karymskiy	0.81	235	PN		Pn	09 26 31.8		-0.4
KII	Karymskiy	0.81	235	eP		Pn	09 26 31.8		-0.4
TUMR	Tumrok	0.82	342	PN		Pn	09 26 32.3		-0.1
TUMR				S		Sn	09 26 48.3		-1.0
TUMR	Tumrok	0.82	342	eP		Pn	09 26 32.3		-0.1
TUMR				eS		Sn	09 26 48.3		-1.0
KMNR	Kamenistaya	1.27	351	PN		Pn	09 26 36.4		0.0
KMNR				S		Sn	09 26 56.0		-0.6
KMNR	Kamenistaya	1.27	351	eP		Pn	09 26 36.4		0.0
KMNR				eS		Sn	09 26 56.0		-0.6
BZP	Bezymyannyi-Pe	1.42	359	eP		Pn	09 26 37.7		-0.3
BZP				eS		Sn	09 26 57.7		-1.5
BZMR	Bezymyannaya	1.44	358	PN		Pn	09 26 38.2		0.0
BZMR				S		Sn	09 26 58.6		-1.1
BZMR	Bezymyannaya	1.44	358	eP		Pn	09 26 38.2		0.0
BZMR				eS		Sn	09 26 58.6		-1.1
SPN	Mys Shipunski	1.44	193	PN		Pn	09 26 37.3		-0.9
SPN				S		Sn	09 26 57.6		-1.9
SPN	Mys Shipunski	1.44	193	eP		Pn	09 26 37.3		-0.9
SPN				eS		Sn	09 26 57.6		-1.9
KIRR	Kirishev	1.46	355	PN		Pn	09 26 38.3		-0.2
KIRR				S		Sn	09 26 58.7		-1.5
KIRR	Kirishev	1.46	355	eP		Pn	09 26 38.3		-0.2
KIRR				eS		Sn	09 26 58.7		-1.5
BZWR	Bezymyannyi-We	1.47	358	PN		Pn	09 26 38.4		-0.2
BZWR				S		Sn	09 26 58.7		-1.6
BZWR	Bezymyannyi-We	1.47	358	eP		Pn	09 26 38.4		-0.2
BZWR				eS		Sn	09 26 58.7		-1.6
KPT	Kopyto	1.48	352	PN		Pn	09 26 38.2		-0.5
KPT				S		Sn	09 26 58.8		-1.7
KPT	Kopyto	1.48	352	eP		Pn	09 26 38.2		-0.5
KPT				eS		Sn	09 26 58.8		-1.7
NLC	Nalytchevo	1.52	209	PN		Pn	09 26 38.6		-0.3
NLC				S		Sn	09 27 00.2		-0.7
NLC	Nalytchevo	1.52	209	eP		Pn	09 26

KRMR				eS		Sn	09 27 14.6	-0.9	
RUS	**Russkaya**	**2.41**	**212**	PN		Pn	09 26 48.7	-0.8	
RUS				S		Sn	09 27 17.7	-2.1	
RUS	**Russkaya**	**2.41**	**212**	eP		Pn	09 26 48.7	-0.8	
RUS				eS		Sn	09 27 17.7	-2.1	
GRL	**Gorelyy**	**2.46**	**219**	PN		Pn	09 26 50.3	0.0	
GRL				S		Sn	09 27 19.7	-1.4	
GRL	**Gorelyy**	**2.46**	**219**	eP		Pn	09 26 50.3	0.0	
GRL				eS		Sn	09 27 19.7	-1.4	
MTVR	**Mutnovka**	**2.48**	**216**	PN		Pn	09 26 50.3	-0.2	
MTVR				S		Sn	09 27 20.3	-1.2	
MTVR	**Mutnovka**	**2.48**	**216**	eP		Pn	09 26 50.3	-0.2	
MTVR				eS		Sn	09 27 20.3	-1.2	
APC	**Apacha**	**2.58**	**234**	PN		Pn	09 26 52.0	+0.4	
APC				S		Sn	09 27 23.2	-0.2	
APC	**Apacha**	**2.58**	**234**	eP		Pn	09 26 52.0	+0.4	
APC				eS		Sn	09 27 23.2	-0.2	
ASAK	**Asacha**	**2.66**	**218**	PN		Pn	09 26 52.8	+0.1	
ASAK				S		Sn	09 27 24.6	-0.9	
ASAK	**Asacha**	**2.66**	**218**	eP		Pn	09 26 52.8	+0.1	
ASAK				eS		Sn	09 27 24.6	-0.9	
KDTR	**Khodutka, Kamc**	**3.09**	**210**	PN		Pn	09 26 56.9	-1.2	
KDTR				S		Sn	09 27 31.4	-3.8	
KDTR	**Khodutka, Kamc**	**3.09**	**210**	eP		Pn	09 26 56.9	-1.2	
KDTR				eS		Sn	09 27 31.4	-3.8	
BKI	**Bering**	**3.19**	**75**	eS		Sn	09 27 34.8	-2.8	
TIGL	**Tigil**	**3.44**	**343**	eP		Pn	09 27 01.6	-1.0	
PAU	**Pauzhetka**	**3.80**	**218**	PN		Pn	09 27 08.4	+1.0	
PAU	**Pauzhetka**	**3.80**	**218**	eP		Pn	09 27 08.4	+1.0	
PALN	**Palana**	**4.61**	**356**	PN		Pn	09 27 15.6	-2.5	
PALN	**Palana**	**4.61**	**356**	eP		Pn	09 27 15.6	-2.5	
SKR	**Severo-Kuril's**	**4.69**	**217**	ePN		Pn	09 27 18.7	-0.5	
SKR				eS		Sn	09 28 09.1	-3.8	
SKR				pmax	pmax				
	comp=Z,213nm,0.9s								
SKR				smax	smax				
	comp=E,324nm,0.8s								
SKR				smax	smax				
	comp=N,521nm,0.9s								
SKR				MLR	MLR				
	comp=Z,1μm,16.0s								
SKR	**Severo-Kuril's**	**4.69**	**217**	eP		Pn	09 27 18.5	-0.7	
MA2	**Magadan**	**7.38**	**318**			Pn	09 27 52.6	-2.4	
MA2	**Magadan**	**7.38**	**318**	P		Pn	09 27 55.0	-0.1	
	comp=Z,5.1nm,0.5s,baz=129,slow=12,SNR=12								
SEY	**Seymchan**	**9.46**	**337**	*i* PN		Pn	09 28 21.4	-1.5	
SEY				pmax	pmax				
	comp=Z,3.0nm,1.2s								
TYV	**Tymovskoe**	**11.47**	**259**	ePN		Pn	09 28 50.6	+1.0	
TYV				pmax	pmax				
	comp=Z,5.0nm,1.0s								
TYV				pmax	pmax				
	comp=Z,100nm,3.8s								
YSS	**Yuzh-Sakhalins**	**13.56**	**243**	*i* P		Pn	09 29 16.5	-0.2	
YSS				pmax	pmax				
	comp=Z,11nm,1.0s								
BILL	**Bilibino**	**13.85**	**9**	*i* P		Pn	09 29 20.3	0.0	
BILL				pmax	pmax				
	comp=Z,2.0nm,1.1s								
JKA	**Kamikawa-asahi**	**15.62**	**236**	P		Pn	09 29 42.2	-0.5	
ASAJ	**Asahikawa**	**15.62**	**236**	P		Pn	09 29 42.2	-0.4	
ASAJ				pmax	pmax				
	comp=Z,76nm,1.5s								
ASAJ	**Asahikawa**	**15.62**	**236**	P		P	09 29 44.2	+0.3	
	comp=Z,13nm,0.7s,baz=78,slow=12,SNR=4.9								
YAK	**Yakutsk**	**17.77**	**308**	*i* P		P	09 30 06.9	-0.5	
YAK				pmax	pmax				
	comp=Z,4.0nm,0.8s								
KLR	**Kul'dur**	**18.49**	**265**	P		P	09 30 13.4	-2.0	
	comp=Z,2.1nm,1.0s,baz=52,slow=13,SNR=4.7								
TIXI	**Tiksi**	**21.93**	**334**	*i* P		P	09 30 50.5	-1.6	
TIXI				pmax	pmax				
	comp=Z,7.0nm,1.8s								
L16K	**Owhat River**	**22.00**	**55**	P		P	09 30 53.6	+0.8	
L16K				IAmb	IAmb		09 31 21.4		
	comp=Z,5.3nm,0.6s								
H17K	**Granite Mounta**	**22.09**	**46**	P		P	09 30 54.5	+0.7	
MDJ	**Mudanjiang**	**22.23**	**256**	P		P	09 30 56.4	+1.0	
MDJ				pmax	pmax				
	comp=Z,4.0nm,0.8s								
MDJ				pmax	pmax				
	comp=Z,260nm,5.1s								
E18K	**Tukpahlearik C**	**22.37**	**39**	P		P	09 30 57.4	+0.9	
E18K				IAmb	IAmb		09 31 24.3		
	comp=Z,7.9nm,1.4s								
H18K	**Honhosa River**	**22.77**	**46**	P		P	09 31 01.6	+1.1	
G18K	**Tagagawik**	**22.77**	**44**	P		P	09 31 01.3	+0.9	
G18K				IAmb	IAmb		09 31 02.0		
	comp=Z,6.3nm,0.9s								
M17K	**Holitna River**	**22.97**	**56**	P		P	09 31 03.9	+1.6	
M17K				IAmb	IAmb		09 31 04.7		
	comp=Z,19nm,1.2s								
C19K	**Lookout Ridge**	**23.24**	**36**	P		P	09 31 05.2	+0.4	
C19K				IAmb	IAmb		09 31 06.4		
	comp=Z,4.8nm,0.8s								
F19K	**Shaleruckik Mo**	**23.30**	**42**	P		P	09 31 05.1	-0.2	
D19K	**Kuna River**	**23.57**	**37**	P		P	09 31 08.0	+0.2	
D19K				IAmb	IAmb		09 31 09.2		
	comp=Z,5.3nm,1.0s								
H19K	**Roundabout Mou**	**23.62**	**45**	P		P	09 31 09.0	+0.8	
TTA	**Tatalina**	**23.63**	**52**	P		P	09 31 09.1	+0.7	
TTA				IAmb	IAmb		09 31 09.6		
	comp=Z,4.6nm,1.1s								
TTA	**Tatalina**	**23.63**	**52**	P		P	09 31 09.1	+0.7	
TTA				pmax	pmax				
	comp=Z,5.0nm,1.1s								
E19K	**Redstone River**	**23.64**	**40**	P		P	09 31 08.8	+0.5	
MJA0	**Matsu Arr-Jizo**	**23.65**	**230**	eP		P	09 31 08.1	-0.7	
MJA0				pmax	pmax				
	comp=Z,3.0nm,0.6s								
MJB9	**Matsu-Tunnel**	**23.66**	**230**	P		P	09 31 08.8	0.0	
MAJO	**Matsushiro**	**23.66**	**230**	P		P	09 31 08.8	-0.1	
MAJO	**Matsushiro**	**23.66**	**230**	P		P	09 31 08.8	-0.1	
MAJO				pmax	pmax				
	comp=Z,12nm,0.7s								
MJAR	**Matsushiro Arr**	**23.66**	**230**	P		P	09 31 08.1	-0.8	
	comp=Z,2.3nm,0.6s,baz=15,slow=9.1,SNR=10								
	comp=Z,2.3nm,0.6s								
IMAR	**Indian Mountai**	**24.78**	**44**	P		P	09 31 18.6	-0.1	
JGF	**Kuroka**	**24.83**	**230**	P		P	09 31 18.7	-0.7	
JGF				IAmb	IAmb		09 31 22.2		
	comp=Z,3.0nm,0.6s								
H21K	**Melozitna River**	**25.14**	**45**	P		P	09 31 22.6	+0.6	
CAST	**Castle Rocks**	**25.41**	**50**	P		P	09 31 25.6	+1.1	
I21K	**Tanana**	**25.46**	**46**	P		P	09 31 25.7	+0.9	
I21K				IAmb	IAmb		09 31 49.5		
	comp=Z,8.4nm,1.4s								
MLY	**Manley**	**25.98**	**47**	P		P	09 31 30.3	+0.7	
WRH	**Wood River Hil**	**27.13**	**48**	P		P	09 31 40.8	+1.0	
WRH				IAmb	IAmb		09 31 41.2		
	comp=Z,3.2nm,0.7s								
CCB	**Clear Creek Bu**	**27.24**	**47**	P		P	09 31 41.5	+0.6	
CCB				IAmb	IAmb		09 31 41.7		
	comp=Z,2.2nm,0.7s								
ILAR	**Eielson Array**	**27.63**	**47**	P		P	09 31 44.6	+0.3	
ILAR	**Eielson Array**	**27.63**	**47**	P		P	09 31 44.5	+0.1	
	comp=Z,1.5nm,0.7s,baz=268,slow=9.7,SNR=31								
	comp=Z,1.5nm,0.7s								
SCM	**Sheep Creek Mo**	**27.74**	**54**	P		P	09 31 46.2	+0.8	
SCM	**Sheep Creek Mo**	**27.74**	**54**	P		P	09 31 46.2	+0.8	
SCM				pmax	pmax				
	comp=Z,14nm,1.2s								
PRP	**Porcupine Dome**	**28.16**	**46**	P		P	09 31 50.1	+0.9	
PRP				IAmb	IAmb		09 31 50.5		
	comp=Z,5.3nm,0.9s								
BMAR	**Burnt Mountain**	**28.48**	**41**	P		P	09 31 53.0	+1.1	
L27K	**Beaver Creek,**	**30.06**	**50**	IAmb	IAmb		09 32 07.8		
	comp=Z,5.3nm,1.2s								
M27K	**Edge Creek, AK**	**30.17**	**52**	IAmb	IAmb		09 32 10.1		
	comp=Z,5.7nm,1.1s								
DAWY	**Dawson**	**30.95**	**48**	P		P	09 32 14.7	+1.0	
HYT	**Haines Junctio**	**32.58**	**53**	P		P	09 32 29.9	+1.8	
HYT				IAmb	IAmb		09 32 45.8		
	comp=Z,3.7nm,1.2s								
INK	**Inuvik**	**32.58**	**39**	P		P	09 32 28.4	+0.6	
INK				IAmb	IAmb		09 32 30.0		
	comp=Z,2.8nm,0.6s								
INK	**Inuvik**	**32.58**	**39**	P		P	09 32 28.4	+0.6	
INK				pmax	pmax				
	comp=Z,3.0nm,0.6s								
HHC	**Hu-ho-hao-te**	**34.97**	**268**	eP		P	09 32 46.5	-2.5	
HHC				pmax	pmax				
	comp=Z,11nm,0.8s								
HHC				pmax	pmax				

	comp=Z,120nm,5.6s								
H11N2	**WAKE ISLAND Hy**	**35.04**	**170**	T		T	10 10 26.5		
	baz=355,slow=76,SNR=18								
H11N3	**WAKE ISLAND Hy**	**35.06**	**170**	T		T	10 10 10.4		
	baz=355,slow=76,SNR=7.5								
H11N1	**WAKE ISLAND Hy**	**35.06**	**170**	T		T	10 10 28.7		
	baz=355,slow=76,SNR=10								
C36M	**Paulatuk**	**35.73**	**36**	P		P	09 32 55.4	+0.5	
C36M				IAmb	IAmb		09 33 03.6		
	comp=Z,7.2nm,1.3s								
H11S1	**WAKE ISLAND Hy**	**36.23**	**170**	T		T	10 11 43.9		
	baz=352								
H11S3	**WAKE ISLAND Hy**	**36.24**	**170**	T		T	10 11 45.6		
	baz=352								
H11S2	**WAKE ISLAND Hy**	**36.25**	**170**	T		T	10 11 44.5		
	baz=352								
RES	**Resolute Bay**	**41.91**	**23**	P		P	09 33 46.7	+0.4	
RES	**Resolute Bay**	**41.91**	**23**	P		P	09 33 46.7	+0.4	
YKA	**Yellowknife Ar**	**41.94**	**44**	P		P	09 33 47.3	+0.7	
	comp=Z,1.1nm,0.8s,baz=299,slow=8.4,SNR=14								
	comp=Z,1.1nm,0.8s								
BRLDA	**Berland Lookou**	**45.24**	**55**	P		P	09 34 15.0	+1.6	
SPITS	**Spitsbergen Ar**	**45.79**	**350**	P		P	09 34 16.4	-0.8	
	comp=Z,8.8nm,1.0s,baz=60,slow=16,SNR=5.7								
	comp=Z,8.8nm,1.0s								
WMQ	**Urumqi**	**46.79**	**288**	eP		P	09 34 28.0	+2.4	
KURK	**Kurchatov**	**47.24**	**301**	P		P	09 34 28.0	-0.9	
EDM	**Edmonton**	**47.70**	**54**	P		P	09 34 33.4	+1.0	
EDM				IAmb	IAmb		09 34 34.0		
	comp=Z,3.9nm,0.6s								
EDM	**Edmonton**	**47.70**	**54**	P		P	09 34 33.4	+1.0	
EDM				pmax	pmax				
	comp=Z,4.0nm,0.6s								
BRVK	**Borovoye**	**49.77**	**308**	*i* P		P	09 34 47.7	-0.5	
BRVK				pmax	pmax				
	comp=Z,1.0nm,1.1s								
PZH	**PanZhiHua**	**50.88**	**261**	P		P	09 34 59.6	+2.6	
PZH				pmax	pmax				
	comp=Z,10.0nm,0.3s								
PZH				pmax	pmax				
	comp=Z,100nm,4.1s								
FCC	**Fort Churchill**	**52.20**	**39**	P		P	09 35 06.4	+0.2	
FCC				IAmb	IAmb		09 35 30.2		
	comp=Z,4.1nm,1.4s								
FCC	**Fort Churchill**	**52.20**	**39**	P		P	09 35 06.4	+0.2	
FCC				pmax	pmax				
	comp=Z,4.0nm,1.5s								
SUMG	**Summit**	**52.53**	**7**	P		P	09 35 08.7	-0.2	
SUMG	**Summit**	**52.53**	**7**	P		P	09 35 08.7	-0.2	
SUMG				pmax	pmax				
	comp=Z,5.0nm,0.9s								
ARU	**Arti**	**52.56**	**317**	*i* P		P	09 35 07.4	-1.5	
ARU				pmax	pmax				
	comp=Z,4.0nm,1.3s								
NVAR	**Mina Array Bea**	**55.00**	**71**	P		P	09 35 28.7	+1.5	
	comp=Z,2.0nm,0.8s,baz=293,slow=7.3,SNR=8.7								
	comp=Z,2.0nm,0.8s								
PDAR	**Pinedale Array**	**56.59**	**62**	P		P	09 35 40.0	+1.5	
PDAR	**Pinedale Array**	**56.59**	**62**	P		P	09 35 39.7	+1.2	
	comp=Z,1.2nm,0.6s,baz=313,slow=2.8,SNR=11								
	comp=Z,1.2nm,0.6s								
ULM	**Lac du Bonnet**	**57.65**	**48**	P		P	09 35 45.9	+0.4	
ULM	**Lac du Bonnet**	**57.65**	**48**	eP		P	09 35 46.3	+0.8	
ULM				pmax	pmax				
	comp=Z,1.0nm,0.5s								
ULM	**Lac du Bonnet**	**57.65**	**48**	P		P	09 35 45.6	+0.1	
	comp=Z,1.1nm,0.4s,baz=330,slow=7.7,SNR=4.3								
	comp=Z,1.1nm,0.4s								
RSSD	**Black Hills**	**58.39**	**57**	P		P	09 35 52.4	+1.3	
RSSD	**Black Hills**	**58.39**	**57**	P		P	09 35 52.4	+1.3	
RSSD				pmax	pmax				
	comp=Z,5.0nm,0.7s								
FINES	**FINESS Array B**	**58.94**	**336**	eP		P	09 35 52.6	-1.7	
FINES				pmax	pmax				
	comp=Z,1.0nm,0.9s								
FINES	**FINESS Array B**	**58.94**	**336**	P		P	09 35 52.3	-2.0	
	comp=Z,2.4nm,1.1s,baz=27,slow=8.3,SNR=5.9								
	comp=Z,2.4nm,1.1s								
OBN	**Obninsk**	**61.49**	**327**	*i* P		P	09 36 10.7	-0.9	
OBN				pmax	pmax				
	comp=Z,3.0nm,0.7s								
ECSD	**EROS Data Cent**	**62.23**	**53**	P		P	09 36 17.4	+0.5	
SCHQ	**Schefferville**	**64.27**	**28**	P		P	09 36 29.4	-0.7	
SCHQ	**Schefferville**	**64.27**	**28**	P		P	09 36 29.3	-0.8	
	comp=Z,1.3nm,0.6s,baz=323,slow=10,SNR=5.1								
	comp=Z,1.3nm,0.6s								
TX31	**Lajitas Ar. Si**	**69.83**	**68**	P		P	09 37 07.2	+1.5	
TX31				IAmb	IAmb		09 37 07.7		
	comp=Z,4.4nm,0.9s								
TXAR	**Lajitas Array**	**69.83**	**68**	P		P	09 37 06.8	+1.1	
	comp=Z,2.7nm,0.7s,baz=300,slow=4.6,SNR=35								
	comp=Z,2.7nm,0.7s								
CLL	**Collm**	**71.14**	**339**	eP		P	09 37 14.0	+0.8	
BRG	**Berggiesshubel**	**71.35**	**338**	eP		P	09 36 57.9	-17	
BRG				Amp			09 36 59.8		
	comp=Z,4.1nm,1.0s								
MTN	**Manton Dam**	**71.58**	**210**	P		P	09 37 16.3	+0.2	
LEM	**Lembang**	**75.35**	**235**	LR		LR	10 14 12.2		
	comp=Z,55nm,18.1s,baz=185,slow=38								
WB0	**Warramunga Arr**	**77.30**	**205**	P		P	09 37 49.0	-0.1	
WB0				IAmb	IAmb		09 37 51.0		
	comp=Z,5.2nm,1.3s								
WB2	**Warramunga Arr**	**77.48**	**205**	P		P	09 37 49.8	-0.3	
WB2				IAmb	IAmb		09 38 09.6		
	comp=Z,3.5nm,1.1s								
WRA	**Warramunga Arr**	**77.48**	**205**	eP		P	09 37 50.0	-0.2	
WRA				pmax	pmax				
	comp=Z,1.0nm,0.5s								
WRA	**Warramunga Arr**	**77.48**	**205**	P		P	09 37 49.9	-0.2	
	comp=Z,0.9nm,0.5s,baz=19,slow=6.0,SNR=14								
	comp=Z,0.9nm,0.5s								
ASAR	**Alice Springs**	**81.16**	**205**	P		P	09 38 10.8	+0.7	
ASAR	**Alice Springs**	**81.16**	**205**	P		P	09 38 10.2	+0.2	
	comp=Z,0.7nm,0.5s,baz=18,slow=5.0,SNR=12								
	comp=Z,0.7nm,0.5s								

*IDC **03** 09:27:14.6±0.9, 43.°04N×138.°11E, h256km±13km, mb3.2/7, mbtmp3.6/12, Error ellipse: s-maj=17.5km s-min=15.8km az=22.0*
*JMA **03** 09:27:16.6±0.3, 43°N±1.°×13°8E±.°, h247km, MV3.1/37, EASTERN SEA OF JAPAN*
ISC 03 09:27:14.0±0.8, **42.°96N**±0.°07×**138.°19E**±0.°07, **h250**km, **n35, σ1§74/39, mb3.5/7, Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JOSM	**Okushiri--Mats**	**1.29**	**132**	*e*P		**Pn**	**09 27 52.7**	**+1.8**
JHST	**Hiyamasetana**	**1.35**	**113**	*e*P		**Pn**	**09 27 53.2**	**+2.0**
JSH	**Shimam**	**1.40**	**102**	P		**Pn**	**09 27 53.5**	**+1.9**
JSK	**Shakotan**	**1.72**	**76**	*e*P		**Pn**	**09 27 55.8**	**+1.8**
JYM2	**Yakumo 2**	**1.81**	**117**	P		**Pn**	**09 27 57.1**	**+2.2**
JOMM	**Oshimamatsumae**	**1.96**	**136**	*e*P		**Pn**	**09 27 58.3**	**+2.1**
JEW	**Eniwo**	**2.40**	**92**	P		**Pn**	**09 28 02.7**	**+2.5**
JOT	**Ohata**	**2.64**	**126**	P		**Pn**	**09 28 04.3**	**+1.6**
JSS	**Shosan**	**3.02**	**60**	*e*P		**Pn**	**09 28 09.1**	**+2.4**
JRBN	**Rebuntou**	**3.22**	**39**	*e*P		**Pn**	**09 28 09.7**	**+0.9**
ASAJ	**Asahikawa**	**3.41**	**69**	P		**Pn**	**09 28 12.6**	**+1.7**
	5.1nm,0.4s,baz=228,slow=12,SNR=8.3							
ASAJ					S	**S**	**09 28 57.9**	**+1.9**
	21nm,1.0s,baz=207,slow=18,SNR=6.4							
JNBK	**Urakawa-nobuka**	**3.43**	**100**	P		**Pn**	**09 28 12.6**	**+1.4**
JKK2	**Kamakawa 2**	**3.44**	**73**	*e*P		**Pn**	**09 28 13.7**	**+2.4**
JKK2				*e*S		**S**	**09 28 58.2**	**+1.4**
JWK2	**Keihoku**	**3.56**	**47**	P		**Pn**	**09 28 14.9**	**+2.3**
JANG	**Nango**	**3.58**	**135**	*e*P		**Pn**	**09 28 13.6**	**+0.5**
JSE	**Soyaes**	**3.75**	**56**	*e*P		**Pn**	**09 28 16.4**	**+1.6**
JCH	**Churui**	**3.82**	**93**	*e*P		**Pn**	**09 28 15.9**	**+0.2**
JCH				*e*S		**S**	**09 29 02.0**	**-2.6**
JAR	**Ashorobuto**	**4.09**	**83**	P		**Pn**	**09 28 20.0**	**+1.1**
JAR				*e*S		**S**	**09 29 09.8**	**-0.6**
JOM	**Ohasama**	**4.19**	**145**	*e*P		**Pn**	**09 28 21.4**	**+1.2**
JTKR	**Abashiri--Toko**	**4.28**	**74**	*e*P		**Pn**	**09 28 23.5**	**+2.5**
JYK	**Kaneyama**	**4.36**	**157**	*e*P		**Pn**	**09 28 24.2**	**+2.2**
JMK	**Ichinoseki**	**4.61**	**149**	*e*P		**Pn**	**09 28 26.0**	**+0.9**
USRK	**Ussuriysk Ar.**	**4.68**	**288**	P		Pn	09 28 25.1	-0.7
	2.6nm,0.3s,baz=95,slow=11,SNR=12							
JAK	**Akkeshi**	**4.77**	**87**	*e*P		**Pn**	**09 28 27.0**	**0.0**
JAK				*e*S		**S**	**09 29 21.9**	**-3.1**
MJAR	**Matsushiro Arr**	**6.41**	**180**	P		**Pn**	**09 28 49.6**	**+2.3**
	0.6nm,0.3s,baz=360,slow=11,SNR=4.3							
KLR	**Kul'dur**	**7.71**	**327**	P		**Pn**	**09 29 02.6**	**-0.9**
	0.5nm,0.3s,baz=147,slow=16,SNR=3.1							
KSRS	**Korea Array**	**9.59**	**238**	P		**Pn**	**09 29 28.7**	**+1.3**
	0.9nm,0.7s,baz=41,slow=15,SNR=3.6							
SONM	**Songino Array**	**22.76**	**293**	P		**P**	**09 31 53.8**	**-1.1**
	0.6nm,0.5s,baz=70,slow=8.2,SNR=4.2							
	0.6nm,0.5s							
ZALV	**Zalesovo Beam**	**36.24**	**307**	P		**P**	**09 33 52.0**	**-1.1**
ZALV	**Zalesovo Beam**	**36.24**	**307**	P		**P**	**09 33 52.0**	**-1.1**
	1.0nm,0.3s,baz=86,slow=8.4,SNR=6.9							
	1.0nm,0.3s							
MKAR	**Makanchi Array**	**39.09**	**296**	P		**P**	**09 34 16.2**	**-0.9**
	0.7nm,0.7s,baz=78,slow=10,SNR=7.2							
	0.7nm,0.7s							
KURBB	**Kurchatov Arra**	**40.57**	**302**	P		**P**	**09 34 28.0**	**-1.1**
	0.9nm,0.5s,baz=78,slow=9.1,SNR=13							
	0.9nm,0.5s							
BVAR	**Borovoye Array**	**44.88**	**308**	P		**P**	**09 35 03.1**	**-0.4**
	2.0nm,0.4s,baz=74,slow=9.5,SNR=20							
	2.0nm,0.4s							
FINES	**FINESS Array B**	**62.44**	**330**	P		**P**	**09 37 09.5**	**-0.7**
	1.7nm,1.0s,baz=72,slow=8.9,SNR=1.8							
	1.7nm,1.0s							
WRA	**Warramunga Arr**	**62.69**	**184**	P		**P**	**09 37 12.5**	**+0.1**
	0.1nm,0.4s,baz=0.9,slow=7.1,SNR=4.9							
	0.1nm,0.4s							

*IDC **03** 09:32:14.3±1.1, 39.°72N×144.°82E, h0km, mb3.8/12, mbtmp3.8/16, ML3.3/4, MS2.9/1, Error ellipse: s-maj=26.8km s-min=20.9km az=94.0*
*NIED **03** 09:32:18.9, 39.°90N×144.°47E, h44km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=1.02; $M_{\theta\theta}$=0.67; $M_{\phi\phi}$=1.69; $M_{r\theta}$=1.56; $M_{\theta\phi}$=0.44; $M_{\phi r}$=2.22; Fault plane solution: $M_0$3.10000×10^{14} NP1:ϕ_s35.00000°, δ79.00000°, λ-73.00000°. NP2:ϕ_s157.00000°, δ21.00000°, λ-146.00000°.*
*JMA **03** 09:32:18.9±0.2, 39.°9N±0.°8×14.°4E±.°, h44km, MV4.1/33, FAR E OFF NORTH HONSHU*
ISC 03 09:32:19.9±0.9, **39.°83N**±0.°06×**144.°61E**±0.°07, **h34**km, **n35, σ1§60/51, mb3.8/12, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JTH	**Tanohata**	**2.11**	**274**	*i* P		**Pn**	**09 32 51.0**	**-1.8**
JTH				*e*S		**Sn**	**09 33 15.3**	**-2.6**
MIYJ	**Miyakonagasawa**	**2.16**	**264**	*i* P		**Pn**	**09 32 52.3**	**-1.3**
MIYJ				S		**Sn**	**09 33 16.7**	**-2.5**
JKEN	**Kujiedanarisaw**	**2.25**	**280**	*i* P		**Pn**	**09 32 53.0**	**-1.8**
JKEN				S		**Sn**	**09 33 18.4**	**-3.0**
JANG	**Nango**	**2.43**	**284**	P		**Pn**	**09 32 55.7**	**-1.5**
JANG				S		**Sn**	**09 33 22.6**	**-3.2**
JOM	**Ohasama**	**2.58**	**263**	*i* P		**Pn**	**09 32 58.6**	**-0.6**
JOM				S		**Sn**	**09 33 27.9**	**-1.6**
JMK	**Ichinoseki**	**2.77**	**253**	*i* P		**Pn**	**09 33 00.8**	**-1.0**
JMK				S		**Sn**	**09 33 32.0**	**-2.0**
JNBK	**Urakawa-nobuka**	**2.82**	**331**	P		**Pn**	**09 33 02.1**	**-0.4**
JNBK				S		**Sn**	**09 33 34.0**	**-1.3**
JCH	**Churui**	**2.93**	**342**	P		**Pn**	**09 33 02.9**	**-1.2**
JCH				S		**Sn**	**09 33 35.7**	**-2.5**
JOT	**Ohata**	**3.12**	**301**	P		**Pn**	**09 33 06.1**	**-0.5**
JOT				S		**Sn**	**09 33 40.9**	**-1.8**
JAK	**Akkeshi**	**3.16**	**1**	P		**Pn**	**09 33 05.8**	**-1.5**
JAK				S		**Sn**	**09 33 41.8**	**-2.0**
JYK	**Kaneyama**	**3.41**	**256**	P		**Pn**	**09 33 10.2**	**-0.6**
JYK				S		**Sn**	**09 33 49.0**	**-1.0**
JAR	**Ashorobuto**	**3.52**	**350**	*i* P		**Pn**	**09 33 10.6**	**-1.6**
JAR				S		**Sn**	**09 33 49.5**	**-3.1**
NEM2	**Nemuro 2**	**3.63**	**13**	P		**Pn**	**09 33 11.2**	**-2.5**
NEM2				S		**Sn**	**09 33 51.2**	**-4.1**
JEW	**Eniwo**	**3.83**	**323**	P		**Pn**	**09 33 15.6**	**-0.8**
JEW				*e*S		**Sn**	**09 33 59.3**	**-1.0**
JTKR	**Abashiri--Toko**	**4.17**	**353**	P		**Pn**	**09 33 20.6**	**-0.5**
JHR	**Hokuryu**	**4.46**	**332**	P		**Pn**	**09 33 26.7**	**+1.6**
JHR				*e*S		**Sn**	**09 34 16.1**	**+0.3**
JOSM	**

of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRY	**Ryogami san**	**0.17**	**308**	*i* P	**Pn**	**09 52 09.5**	**+0.1**
JRY				S	**Sn**	**09 52 23.0**	**+0.8**
JHU	**Hanno**	**0.19**	**109**	*i* P	**Pn**	**09 52 09.4**	**-0.1**
JHU				S	**Sn**	**09 52 22.6**	**+0.5**
JYN	**Shimob**	**0.59**	**226**	*i* P	**Pn**	**09 52 11.1**	**-0.4**
JYN				S	**Sn**	**09 52 26.6**	**+0.9**
JAG	**Ashikaga**	**0.60**	**31**	*i* P	**Pn**	**09 52 11.1**	**-0.4**
JAG				S	**Sn**	**09 52 25.0**	**-0.6**
JOD2	**Odawara 2**	**0.65**	**178**	*i* P	**Pn**	**09 52 11.4**	**-0.4**
JOD2				S	**Sn**	**09 52 26.3**	**0.0**
MJAR	**Matsushiro Arr**	**0.94**	**313**	Pg	**Pn**	**09 52 13.4**	**-0.9**
	1.8nm,0.3s,baz=243,slow=24,SNR=18						
MJAR				Lg	Lg	09 52 29.5	
	1.6nm,0.3s,baz=28,slow=18,SNR=8.2						
MAT	**Matsushiro**	**0.94**	**312**	*i* P	**Pn**	**09 52 13.7**	**-0.5**
MAT				S	**Sn**	**09 52 29.9**	**-0.7**
JNS	**Sasagawa**	**1.91**	**6**	P	**Pn**	**09 52 24.8**	**-0.3**
JYTA	**Yamagatataniai**	**1.92**	**261**	P	**Pn**	**09 52 25.2**	**+0.1**
JYTA				*e*S	**Sn**	**09 52 50.8**	**+0.8**
JOTO	**OTAMA OYAMA**	**1.94**	**31**	P	**Pn**	**09 52 25.5**	**+0.1**
JOTO				S	**Sn**	**09 52 51.5**	**+1.1**
BSO1	**Boso 1**	**2.01**	**128**	P	**Pn**	**09 52 25.3**	**-0.4**
JHJ	**Hachijo jima 2**	**2.85**	**168**	Pn	**Pn**	**09 52 37.0**	**0.0**
	5.8nm,0.3s,baz=306,slow=23,SNR=6.2						
JHJ				Sn	**Sn**	**09 53 10.7**	**-0.5**
	4.6nm,0.3s,baz=270,slow=23,SNR=1.1						
	13nm,0.3s						
SONM	**Songino Array**	**26.88**	**306**	LR	LR	10 07 32.6	
	comp=Z,44nm,20.1s,baz=272,slow=35						
MKAR	**Makanchi Array**	**43.12**	**303**	P	P	09 59 54.0	+13
	0.7nm,0.7s,baz=96,slow=9.2,SNR=6.9						
	0.7nm,0.7s						
BVAR	**Borovoye Array**	**49.93**	**313**	P	P	10 00 45.6	+12
	1.2nm,0.7s,baz=97,slow=3.6,SNR=3.6						
	1.2nm,0.7s						
ILAR	**Eielson Array**	**51.45**	**32**	P	P	10 00 58.8	+14
	0.4nm,0.7s,baz=266,slow=4.8,SNR=14						
	0.4nm,0.7s						

*IDC **03** 09:52:45.7±1.1,23°.20S×115°.60W,h0km,mb3.8/4, mbtmp3.8/4,MS3.8/17, Error ellipse: s-maj=51.6km s-min=36.2km az=52.0*

ISC 03 09:52:46.7±1.3,23°.3S±0°.3×115°.7W±0°.3,h10km,n36, σ0s73/11,mb3.9/4,MS3.9/16,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.92**	**125**	LR	LR	09 56 09.3	
	comp=Z,755nm,19.1s,baz=307,slow=30						
PPT	**Papeete**	**32.21**	**274**	LR	LR	10 09 00.8	
	comp=Z,219nm,20.7s,baz=98,slow=30						
H03N2	**Juan Fernandez**	**33.74**	**116**	T	T	10 34 22.9	
	baz=283,slow=75,SNR=28						
H03N3	**Juan Fernandez**	**33.75**	**116**	T	T	10 34 24.1	
	baz=283,slow=75,SNR=35						
H03N1	**Juan Fernandez**	**33.76**	**116**	T	T	10 34 20.0	
	baz=283,slow=75,SNR=45						
NNA	**Nana**	**38.58**	**80**	LR	LR	10 11 44.3	
	comp=Z,167nm,18.5s,baz=244,slow=30						
ATAH	**Atahualpa**	**39.25**	**72**	LR	LR	10 12 17.7	
	comp=Z,185nm,18.2s,baz=238,slow=30						
RAR	**Rarotonga**	**40.73**	**264**	LR	LR	10 13 08.5	
	comp=Z,171nm,20.0s,baz=118,slow=30						
PLCA	**Paso Flores**	**41.55**	**126**	LR	LR	10 13 07.7	
	comp=Z,206nm,20.2s,baz=260,slow=29						
LVC	**Limon Verde**	**42.94**	**99**	LR	LR	10 13 39.2	
	comp=Z,98nm,20.5s,baz=234,slow=29						
JTS	**Las Juntas de**	**44.93**	**45**	LR	LR	10 15 32.3	
	comp=Z,23nm,18.9s,baz=108,slow=30						
SIV	**San Ignacio**	**51.71**	**92**	LR	LR	10 18 58.7	
	comp=Z,59nm,20.1s,baz=262,slow=30						
CPUP	**Villa Florida**	**52.69**	**106**	P	**P**	**10 02 01.8**	**+0.2**
	1.4nm,0.7s,baz=272,slow=6.6,SNR=4.3						
CPUP				LR	LR	10 20 01.9	
	comp=Z,79nm,19.3s,baz=222,slow=31						
	1.4nm,0.7s						
SDV	**Santo Domingo**	**54.45**	**59**	LR	LR	10 20 17.1	
	comp=Z,93nm,19.5s,baz=279,slow=30						
NVAR	**Mina Array Bea**	**61.43**	**358**	P	**P**	**10 03 04.5**	**+1.0**
	1.5nm,0.8s,baz=187,slow=10,SNR=7.8						
	1.5nm,0.8s						
RPZ	**Rata Peaks**	**62.43**	**232**	LR	LR	10 25 16.0	
	comp=Z,113nm,18.7s,baz=119,slow=31						
PDAR	**Pinedale Array**	**65.96**	**5**	P	**P**	**10 03 32.0**	**-1.3**
	0.4nm,0.7s,baz=151,slow=9.5,SNR=4.8						
	0.4nm,0.7s						
MDP	**Montagnes des**	**67.64**	**74**	LR	LR	10 29 29.9	
	comp=Z,111nm,18.9s,baz=207,slow=33						
DZM	**Mont Dzumac**	**70.96**	**254**	LR	LR	10 29 46.5	
	comp=Z,87nm,19.1s,baz=176,slow=31						
YKA	**Yellowknife Ar**	**85.48**	**1**	P	**P**	**10 05 24.7**	**+0.5**
	0.8nm,1.0s,baz=176,slow=5.0,SNR=11						
	0.8nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**86.36**	**292**	T	T	11 41 39.9	
	baz=116,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy**	**86.37**	**292**	T	T	11 41 41.0	
	baz=116,slow=75,SNR=27						
H11S3	**WAKE ISLAND Hy**	**86.38**	**292**	T	T	11 41 41.4	
	baz=116,slow=75,SNR=26						
KDAK	**Kodiak Island**	**86.44**	**341**	LR	LR	10 37 59.2	
	comp=Z,60nm,18.4s,baz=170,slow=31						
H11N3	**WAKE ISLAND Hy**	**86.72**	**293**	T	T	11 42 11.5	
	baz=115,slow=74						
H11N1	**WAKE ISLAND Hy**	**86.73**	**293**	T	T	11 42 15.7	
	baz=115						
H11N2	**WAKE ISLAND Hy**	**86.73**	**293**	T	T	11 42 10.8	
	baz=115,slow=74						
CTA	**Charters Tower**	**89.25**	**249**	LR	LR	10 41 12.7	
	comp=Z,39nm,18.6s,baz=88,slow=32						
PMG	**Port Moresby**	**92.81**	**259**	LR	LR	10 40 10.0	
	comp=Z,52nm,19.9s,baz=86,slow=31						
AKASG	**Malin Array Be**	**141.43**	**36**	PKP	**PKPdf**	**10 12 17.8**	**+0.1**
	0.5nm,0.6s,baz=294,slow=1.3,SNR=2.1						
ZALV	**Zalesovo Beam**	**145.70**	**338**	PKPbc	**PKPab**	**10 12 25.5**	**-0.3**
	0.7nm,0.6s,baz=90,slow=2.9,SNR=3.2						
CMAR	**Chiang Mai Arr**	**147.33**	**268**	PKPbc	**PKPbc**	**10 12 31.5**	**+0.2**
	1.2nm,0.7s,baz=112,slow=1.0,SNR=12						
BRTR	**Keskin Array B**	**149.34**	**50**	PKPbc	**PKPbc**	**10 12 36.1**	**-0.1**
	2.0nm,0.8s,baz=300,slow=2.4,SNR=6.4						
BVAR	**Borovoye Array**	**149.94**	**353**	PKPbc	**PKiKP**	**10 12 37.2**	**-0.8**
	1.2nm,0.5s,baz=340,slow=3.1,SNR=7.8						
KURBB	**Kurchatov Arra**	**150.54**	**341**	PKPbc	**PKiKP**	**10 12 38.5**	**-0.7**
	1.0nm,0.7s,baz=25,slow=1.9,SNR=10						
MKAR	**Makanchi Array**	**152.43**	**333**	PKPbc	**PKiKP**	**10 12 43.5**	**+0.1**
	0.7nm,0.6s,baz=46,slow=1.7,SNR=10						

ISC 03 10:08:40.8±2.2,1°.17N×126°.07E,h0km,mb3.2/3, mbtmp3.2/3,Error ellipse: s-maj=205.0km s-min=27.1km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.49**	**159**	P	P	10 13 42.1	-0.1
	0.8nm,0.6s,baz=338,slow=11,SNR=6.0						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**25.84**	**163**	P	P	10 14 14.2	0.0
	0.2nm,0.5s,baz=345,slow=11,SNR=6.3						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**59.29**	**326**	P	P	10 18 44.5	0.0
	0.1nm,0.3s,baz=121,slow=7.6,SNR=4.2						
	0.1nm,0.3s						

*ISN **03** 10:18:02.0±0.6,34°.66N×45°.75E,h10km±999km,ML3.2*
*TEH **03** 10:18:03.6,34°.69N×45°.78E,h11km±34km,ML3.1*

ISC 03 10:18:04.0±1.3,34°.68N±0°.04×45°.75E±0°.04,h2km±12km, n17,σ0s74/23,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.22**	**218**	Pg	**Pg**	**10 18 08.4**	**+0.3**
IDHR	**Dehrash**	**0.52**	**87**	Pg	**Pg**	**10 18 13.6**	**-0.4**
IDHR				Sg	**Sg**	**10 18 21.8**	**+0.9**
IGHG	**Ghaleghazi**	**0.76**	**117**	Pg	**Pg**	**10 18 18.3**	**-0.2**
IGHG				Sg	**Sg**	**10 18 29.0**	**+0.6**
ILIN	**Lien**	**1.02**	**76**	Pg	**Pg**	**10 18 23.3**	**-0.4**
ILBA	**Ilam Banvizeh**	**1.12**	**160**	Pg	**Pb**	**10 18 25.1**	**-0.9**
ILBA				Sg	**Sn**	**10 18 42.5**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.14**	**110**	Pg	**Pg**	**10 18 26.0**	**+0.2**
SDS1	**Sardasht. Az.**	**1.48**	**352**	Pg	**Pg**	**10 18 32.6**	**+0.1**
IBDR	**Badra**	**1.57**	**175**	*e*Pn	**Pb**	**10 18 33.0**	**-0.8**
IBDR				*e*Sn	**Sg**	**10 18 55.0**	**+0.6**
IBDR				AML	AML	10 19 00.7	
	comp=E,380nm,0.6s						
IBDR				AML	AML	10 19 08.6	
	comp=N,207nm,0.3s						
IBZA	**Bozab**	**1.75**	**96**	Pg	**Pb**	**10 18 36.5**	**-0.6**
BHD	**Baghdad**	**1.81**	**219**	*e*Pn	**Pn**	**10 18 36.0**	**-0.1**
BHD				*e*Sn	**Sb**	**10 19 01.0**	**+0.1**
BHD				AML	AML	10 19 08.6	
	comp=E,406nm,0.5s						
IKFM	**Kafar-mosalman**	**2.08**	**123**	Pn	**Pb**	**10 18 40.8**	**-1.8**
MAHB	**Mahabad**	**2.08**	**359**	Pn	**Pn**	**10 18 39.8**	**-0.4**
IDOB	**Doab**	**2.20**	**113**	Pn	**Pn**	**10 18 42.3**	**+0.6**
RAFI	**Al-Rafai**	**2.96**	**174**	*e*Pn	**Pn**	**10 18 52.0**	**0.0**
RAFI				*e*Sn	**Sn**	**10 19 29.0**	**+0.9**
ISHB	**Shabestar**	**3.60**	**358**	Pn	**Pn**	**10 19 01.7**	**+0.7**
QAMS	**Qamsar**	**4.77**	**100**	Pn	**Pn**	**10 19 18.5**	**+1.3**
ZNGN	**Zangian**	**4.97**	**119**	Pn	**Pn**	**10 19 20.2**	**+0.2**

*NOU **03** 10:22:25.6,37°.29S×178°.76E,h129km,MLv4.3/9, Off E. Coast of N. Island, N.Z.*
*WEL **03** 10:22:34.8±0.7,37°.5S±5°×17°.8E±°,h29km±4km,M3.6/32, ML3.9/31,MLv3.6/32,Error ellipse: s-maj=0.0km s-min=0.0km az=37.0*

ISC 03 10:22:34.3±1.6,37°.38S±0°.05×177°.82E±0°.04,h15km±11km, n127,σ1s44/134,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.38**	**185**	P	**Pn**	**10 22 45.6**	**+0.3**
HAZ				S	**Sn**	**10 22 54.3**	**+1.9**
MXZ	**Matakaoa Point**	**0.43**	**116**	P	**Pn**	**10 22 45.7**	**-0.3**
MXZ	**Matakaoa Point**	**0.43**	**116**	P	**Pn**	**10 22 45.6**	**-0.3**
WIZ	**White Island**	**0.53**	**253**	P	**Pn**	**10 22 46.9**	**-0.4**
WIZ				S	**Sn**	**10 22 56.5**	**+0.6**
WSRZ	**White Island S**	**0.53**	**254**	P	**Pn**	**10 22 47.3**	**-0.1**
WSRZ				S	**Sn**	**10 22 56.8**	**+0.7**
PKGZ	**Pakihiroa**	**0.55**	**159**	P	**Pn**	**10 22 47.9**	**+0.2**
RUGZ	**Raukumara Rang**	**0.60**	**191**	P	**Pn**	**10 22 48.0**	**-0.5**
WMGZ	**Waiomatatini S**	**0.65**	**133**	P	**Pn**	**10 22 49.9**	**+1.0**
WMGZ				S	**Sn**	**10 23 02.5**	**+3.6**
PUZ	**Puketiti**	**0.78**	**154**	P	**Pn**	**10 22 51.1**	**+0.3**
TWGZ	**Tauwhareparae**	**0.81**	**171**	P	**Pn**	**10 22 52.2**	**+0.9**
TWGZ				S	**Sn**	**10 23 07.7**	**+4.6**
WHRZ	**Whale Island**	**0.83**	**234**	P	**Pg**	**10 22 51.3**	**+1.0**
WHRZ				S	**Sg**	**10 23 03.8**	**+2.5**
MWZ	**Matawai**	**0.98**	**194**	P	**Pg**	**10 22 53.2**	**-0.2**
URZ	**Urewera**	**1.05**	**212**	P	**Pb**	**10 22 53.8**	**-0.3**
URZ	**Urewera**	**1.05**	**212**	P	**Pb**	**10 22 53.9**	**-0.3**
TKGZ	**Te Karaka**	**1.06**	**179**	P	**Pg**	**10 22 55.3**	**+0.4**
MARZ	**Manawahe**	**1.09**	**236**	P	**Pn**	**10 22 54.4**	**-0.7**
EDRZ	**Edgecumbe**	**1.13**	**229**	P	**Pb**	**10 22 55.1**	**-0.4**
CNGZ	**Carnagh Statio**	**1.15**	**165**	P	**Pg**	**10 22 56.0**	**-0.5**
RAGZ	**Rawiri**	**1.16**	**196**	P	**Pg**	**10 22 56.4**	**-0.4**
MYRZ	**Mayor Island**	**1.26**	**274**	P	**Pb**	**10 22 57.7**	**-0.1**
TGRZ	**Tauranga**	**1.29**	**254**	P	**Pn**	**10 22 56.7**	**-1.0**
LIRZ	**Lichensteins R**	**1.30**	**241**	P	**Pn**	**10 22 57.7**	**-0.3**
MKRZ	**Makatiti**	**1.32**	**234**	P	**Pb**	**10 22 59.0**	**+0.2**
RIGZ	**Rimuhau**	**1.33**	**182**	P	**Pb**	**10 22 58.3**	**-0.6**
TARZ	**Mount Tarawera**	**1.35**	**230**	P	**Pb**	**10 22 59.4**	**0.0**
OMRZ	**Omania**	**1.36**	**237**	P	**Pn**	**10 22 58.5**	**-0.3**
MUGZ	**Murupara**	**1.38**	**217**	P	**Pn**	**10 22 58.8**	**-0.6**
RTZ	**Ruatuna**	**1.41**	**208**	P	**Pn**	**10 22 58.8**	**-0.7**
KARZ	**Kaharoa**	**1.41**	**242**	P	**Pn**	**10 22 58.7**	**-0.7**
RRRZ	**Republican Roa**	**1.41**	**227**	P	**Pn**	**10 22 59.1**	**-0.4**
SNGZ	**Shannon Statio**	**1.46**	**195**	P	**Pb**	**10 23 00.5**	**-0.6**
HLRZ	**Highlands Stat**	**1.46**	**233**	P	**Pn**	**10 22 60.0**	**-0.2**
NGRZ	**Ngongotaha**	**1.48**	**240**	P	**Pn**	**10 23 00.3**	**-0.2**
UTU	**Utuhina**	**1.52**	**238**	P	**Pb**	**10 23 01.9**	**-0.3**
PRGZ	**Paritu Road**	**1.55**	**178**	P	**Pb**	**10 23 01.0**	**-1.7**
HSRZ	**Hossack Road**	**1.56**	**233**	P	**Pb**	**10 23 01.7**	**-1.2**
HRRZ	**Handcock Road**	**1.58**	**230**	P	**Pb**	**10 23 02.3**	**-1.0**
PRRZ	**Plateau Road**	**1.59**	**225**	P	**Pn**	**10 23 01.7**	**-0.2**
RAHZ	**Arahi**	**1.65**	**200**	P	**Pb**	**10 23 03.1**	**-1.2**
KNZ	**Kokohu**	**1.65**	**184**	P	**Pn**	**10 23 01.7**	**-1.0**
ALRZ	**Allen Road**	**1.66**	**224**	P	**Pn**	**10 23 03.1**	**+0.1**
MTHZ	**Maungataniwha**	**1.67**	**207**	P	**Pn**	**10 23 02.7**	**-0.3**
GRRZ	**Galatos Road**	**1.67**	**234**	P	**Pn**	**10 23 03.0**	**0.0**
GRRZ				S	**Sn**	**10 23 25.2**	**+1.1**
WPRZ	**Whakapapatarin**	**1.74**	**228**	P	**Pn**	**10 23 04.2**	**+0.2**
WHHZ	**Waihua**	**1.76**	**195**	P	**Pb**	**10 23 04.3**	**-2.0**
MHGZ	**Mahia Peninsul**	**1.78**	**178**	P	**Pn**	**10 23 03.8**	**-0.7**
MRHZ	**Matea Rd**	**1.83**	**217**	P	**Pn**	**10 23 05.2**	**-0.1**
THQ2	**Tauhara North**	**1.84**	**225**	P	**Pn**	**10 23 07.4**	**-0.2**
TOZ	**Tahuroa Road**	**1.88**	**258**	P	**Pn**	**10 23 04.7**	**-1.2**
NMHZ	**Naumai**	**1.90**	**205**	P	**Pb**	**10 23 06.7**	**-2.0**
KUTZ	**Kaahu Road**	**1.93**	**234**	P	**Pn**	**10 23 06.5**	**-0.1**
ARHZ	**Aropaoanui**	**1.99**	**199**	P	**Pn**	**10 23 07.3**	**-0.2**
HATZ	**Hinemaiaia**	**2.04**	**221**	P	**Pn**	**10 23 08.5**	**+0.4**
TLZ	**Tolley Road**	**2.04**	**242**	P	**Pn**	**10 23 07.4**	**-0.8**
BKZ	**Black Stump Fm**	**2.07**	**210**	P	**Pn**	**10 23 08.3**	**-0.3**
BKZ	**Black Stump Fm**	**2.07**	**210**	P	**Pn**	**10 23 08.3**	**-0.3**
WATZ	**Wairara**	**2.12**	**230**	P	**Pn**	**10 23 09.4**	**+0.2**
MKAZ	**Moumakai**	**2.14**	**276**	P	**Pn**	**10 23 08.2**	**-1.3**
RATZ	**Rangitukua**	**2.20**	**227**	P	**Pn**	**10 23 11.0**	**+0.7**
GRZ	**Great Barrier**	**2.20**	**300**	P	**Pn**	**10 23 08.4**	**-2.0**
RITZ	**Rihia Road**	**2.22**	**224**	P	**Pn**	**10 23 10.4**	**+0.7**
WIAZ	**Waiheke Island**	**2.23**	**284**	P	**Pn**	**10 23 09.3**	**-1.4**
MCHZ	**McNeill Hill**	**2.25**	**203**	P	**Pn**	**10 23 10.4**	**-0.6**
KATZ	**Kakaramea**	**2.31**	**226**	P	**Pn**	**10 23 13.3**	**+1.3**
KWHZ	**Kaweka Forest**	**2.32**	**208**	P	**Pn**	**10 23 11.3**	**-0.8**
ETAZ	**East Tamaki Re**	**2.35**	**279**	P	**Pn**	**10 23 11.3**	**-1.0**
CKHZ	**Cape Kidnapper**	**2.35**	**194**	P	**Pn**	**10 23 11.1**	**-1.3**
TMVZ	**Te Maari**	**2.41**	**223**	P	**Pn**	**10 23 13.5**	**+0.2**
NTVZ	**North Tongarir**	**2.41**	**224**	P	**Pn**	**10 23 13.7**	**+0.4**
MBAZ	**Motutapu North**	**2.42**	**284**	P	**Pn**	**10 23 12.1**	**-1.1**
ETVZ	**East Tongariro**	**2.42**	**223**	P	**Pn**	**10 23 13.3**	**-0.2**
KRVZ	**Karewarewa**	**2.43**	**224**	P	**Pn**	**10 23 14.1**	**+0.6**
OTVZ	**Oturere**	**2.46**	**223**	P	**Pn**	**10 23 14.0**	**-0.1**
NNVZ	**North Ngauruho**	**2.47**	**224**	P	**Pn**	**10 23 14.7**	**+0.5**
WTVZ	**West Tongariro**	**2.47**	**225**	P	**Pn**	**10 23 14.7**	**+0.6**
SNVZ	**South Ngauruho**	**2.49**	**223**	P	**Pn**	**10 23 14.7**	**+0.2**
NGZ	**Ngauruhoe**	**2.51**	**224**	P	**Pn**	**10 23 15.0**	**+0.3**
EPAZ	**Eden Park BICE**	**2.51**	**281**	P	**Pn**	**10 23 13.9**	**-0.7**
ABAZ	**Army Bay**	**2.52**	**287**	P	**Pn**	**10 23 13.7**	**-1.0**
BHHZ	**Black Hill Sta**	**2.52**	**213**	P	**Pn**	**10 23 14.3**	**-0.5**
HBAZ	**Herne Bay Bore**	**2.53**	**281**	P	**Pn**	**10 23 14.1**	**-0.6**
KAHZ	**Kahuranaki**	**2.53**	**197**	P	**Pn**	**10 23 13.5**	**-1.4**
TWVZ	**Taurewa**	**2.53**	**227**	P	**Pn**	**10 23 15.4**	**+0.5**
KRHZ	**Kereru**	**2.54**	**206**	P	**Pn**	**10 23 13.5**	**-1.5**
TUVZ	**Tukino**	**2.54**	**221**	P	**Pn**	**10 23 15.2**	**0.0**
AWAZ	**Awhitu Peninsu**	**2.56**	**276**	P	**Pn**	**10 23 14.5**	**-0.7**
COVZ	**Chateau Observ**	**2.56**	**224**	P	**Pn**	**10 23 15.7**	**+0.3**
FWVZ	**Far West T-bar**	**2.59**	**223**	P	**Pn**	**10 23 15.8**	**0.0**
WHVZ	**Whangaehu Hut**	**2.59**	**222**	P	**Pn**	**10 23 15.8**	**-0.1**
MAVZ	**Matarangi**	**2.59**	**223**	P	**Pn**	**10 23 15.9**	**-0.1**
MOVZ	**Moawhango**	**2.60**	**218**	P	**Pn**	**10 23 15.1**	**-0.8**
HIZ	**Hauiti**	**2.61**	**243**	P	**Pn**	**10 23 15.9**	**0.0**
HIZ	**Hauiti**	**2.61**	**243**	P	**Pn**	**10 23 14.3**	**-1.6**
WNVZ	**Wahianoa**	**2.62**	**221**	P	**Pn**	**10 23 16.0**	**-0.3**
TRVZ	**Turoa**	**2.62**	**222**	P	**Pn**	**10 23 16.2**	**-0.2**
WTAZ	**Waiatarua**	**2.63**	**279**	P	**Pn**	**10 23 15.7**	**-0.6**
RVAZ	**Riverhead Bore**	**2.66**	**282**	P	**Pn**	**10 23 15.8**	**-0.9**
MTVZ	**Mangateitei**	**2.73**	**222**	P	**Pn**	**10 23 17.3**	**-0.3**
PKVZ	**Pokaka**	**2.73**	**225**	P	**Pn**	**10 23 18.0**	**+0.4**
PXZ	**Pawanui**	**2.76**	**196**	P	**Pn**	**10 23 15.5**	**-2.4**
PNHZ	**Pukenui**	**2.83**	**206**	P	**Pn**	**10 23 16.9**	**-2.2**
WPHZ	**Waipukurau**	**2.90**	**201**	P	**Pn**	**10 23 17.5**	**-2.4**
VRZ	**Vera Road**	**2.98**	**233**	P	**Pn**	**10 23 21.7**	**+0.7**
PRHZ	**Porangahau**	**3.03**	**197**	P	**Pn**	**10 23 19.1**	**-2.7**
TSZ	**Takapari Road**	**3.05**	**208**	P	**Pn**	**10 23 19.5**	**-2.5**
WCZ	**Waipu Caves**	**3.14**	**296**	P	**Pn**	**10 23 21.7**	**-1.6**
DVHZ	**Dannevirke**	**3.19**	**203**	P	**Pn**	**10 23 20.8**	**-3.2**
WAZ	**Wanganui**	**3.25**	**222**	P	**Pn**	**10 23 24.7**	**-0.2**
ANWZ	**Angora Road**	**3.25**	**198**	P	**Pn**	**10 23 21.9**	**-2.9**
DREZ	**Durham Road**	**3.38**	**236**	P	**Pn**	**10 23 28.4**	**+1.9**
LREZ	**Lake Rotokare**	**3.40**	**231**	P	**Pn**	**10 23 27.5**	**+0.8**
POWZ	**Post Office Ro**	**3.41**	**207**	P	**Pn**	**10 23 25.0**	**-2.0**
OHWZ	**Ohakea**	**3.44**	**214**	P	**Pn**	**10 23 25.9**	**-1.4**
PREZ	**Palmer Road**	**3.48**	**235**	P	**Pn**	**10 23 30.3**	**+2.3**
NEZ	**North Egmont**	**3.49**	**236**	P	**Pn**	**10 23 29.6**	**+1.5**
PRWZ	**Pori Road**	**3.49**	**204**	P	**Pn**	**10 23 25.1**	**-3.0**
PKE	**Pukeiti**	**3.52**	**238**	P	**Pn**	**10 23 30.8**	**+2.3**
BFZ	**Birch Farm**	**3.52**	**200**	P	**Pn**	**10 23 25.3**	**-3.2**
KHEZ	**Kahui Hut**	**3.55**	**236**	P	**Pn**	**10 23 30.0**	**+1.0**
KHEZ	**Kahui Hut**	**3.55**	**236**	P	**Pn**	**10 23 31.0**	**+2.0**
NBEZ	**Newall Road No**	**3.64**	**238**	P	**Pb**	**10 23 34.9**	**-3.4**
NMEZ	**Namu Road**	**3.71**	**235**	P	**Pn**	**10 23 32.7**	**+1.7**
OUZ	**Omahuta**	**4.03**	**301**	P	**Pn**	**10 23 34.1**	**-1.4**
OUZ	**Omahuta**	**4.03**	**301**	P	**Pn**	**10 23 34.2**	**-1.4**
SNZO	**South Karori**	**4.61**	**211**	P	**Pn**	**10 23 38.7**	**-4.7**
KHZ	**Kahutara**	**6.01**	**212**	P	**Pn**	**10 23 58.0**	**-4.7**
CTZ	**Chatham Island**	**7.63**	**148**	P	**Pn**	**10 24 22.0**	**-2.9**

*SOME **03** 10:23:28.3,43°.38N×69°.41E*
*NNC **03** 10:23:29.4±0.8,43°.62N×69°.70E,h0km,mb3.8,mpv3.2, Error ellipse: s-maj=4.9km s-min=4.3km az=126.0, Suspected Mining explosion.*

ISC 03 10:23:28.2±1.4,43°.71N±0°.05×69°.87E±0°.08,h0km,n13, σ0s80/16,3C-2D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.68**	**182**	P	**Pn**	**10 23 44.5**	**-0.6**
	4.4nm,0.7s						
BRLS				S	**Sn**	**10 23 56.1**	**-0.3**
	25nm,0.2s						
KK31	**Karatay Array**	**0.77**	**142**	⇑P	**Pb**	**10 23 44.6**	**+0.2**
	2.4nm,0.4s,baz=328,slow=17,SNR=206						
KK31				S	**Sb**	**10 23 55.7**	**+0.4**
	23nm,0.5s,baz=307,slow=28,SNR=136						
IUG	**luzhnay**	**1.56**	**176**	P	**Pg**	**10 23 58.1**	**-0.1**
	33nm,0.3s						
IUG				S	**Sg**	**10 24 19.6**	**+1.1**
	81nm,0.5s						
MRKS	**Merke**	**2.64**	**110**	Pg	**Pg**	**10 24 19.4**	**+0.7**
	3.8nm,0.6s						
MRKS				Lg	Lg	10 24 56.4	
	9.6nm,0.3s						
BTLS	**Baital**	**3.28**	**65**	Pg	**Pg**	**10 24 32.1**	**+1.2**
	14nm,0.5s						
BTLS				Lg	Lg	10 25 18.0	
	4.4nm,0.4s						
CHMS	**Chumysh**	**3.63**	**100**	⇑Pg	**Pg**	**10 24 36.3**	**-1.4**
	3.0nm,0.5s						
CHMS				⇓Lg	Lg	10 25 28.8	
	6.8nm,0.7s						
TKM2	**Tokmak 2**	**4.25**	**99**	⇑Pg	**Pg**	**10 24 48.3**	**-1.3**
	2.9nm,0.7s						
TKM2				⇓Lg	Lg	10 25 48.1	
	7.7nm,0.9s						
DGS	**Degeres**	**4.32**	**94**	Pg	**Pg**	**10 24 51.2**	**+0.2**
	4.2nm,0.6s						
DGS				Lg	Lg	10 25 51.0	
	5.4nm,0.8s						
KUU	**Kurty**	**4.69**	**86**	Pg	**Pg**	**10 24 57.6**	**-0.3**
	3.3nm,0.5s						
KUU				Lg	Lg	10 26 01.7	
	6.9nm,0.6s						
MTBS	**Maitube**	**4.81**	**95**	Pg	**Pg**	**10 25 00.3**	**-0.1**
	1.5nm,0.2s						
MTBS				Lg	Lg

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.62**	**128**	Pn	**Pn**	**10 43 55.9**	**+0.5**
	1.8nm,0.3s,baz=332,slow=6.6,SNR=4.8						
PMG				Sn	**Sn**	**10 44 47.3**	**-0.5**
	0.4nm,0.3s,baz=322,slow=6.0,SNR=3.9						
	9.6nm,0.7s						
WRA	**Warramunga Arr**	**15.99**	**213**	Pn	**Pn**	**10 46 28.7**	**-1.7**
	0.3nm,0.3s,baz=23,slow=14,SNR=14						
WRA				Lg	Lg	10 51 17.7	
	0.1nm,0.3s,baz=37,slow=31,SNR=2.4						
ASAR	**Alice Springs**	**19.34**	**207**	P	**Pn**	**10 47 13.3**	**+1.6**
	6.1nm,0.9s,baz=37,slow=9.7,SNR=46						
ASAR				Lg	Lg	10 53 05.1	
	baz=19,slow=32,SNR=4.3						
MKAR	**Makanchi Array**	**75.72**	**322**	P	**P**	**10 54 30.2**	**0.0**
	0.8nm,0.9s,baz=111,slow=6.6,SNR=6.1						
	0.8nm,0.9s						
BVAR	**Borovoye Array**	**85.17**	**325**	P	**P**	**10 55 21.3**	**+0.6**
	0.7nm,0.5s,baz=110,slow=8.5,SNR=5.0						
	0.7nm,0.5s						
ILAR	**Eielson Array**	**87.39**	**24**	P	**P**	**10 55 30.4**	**-0.9**
	0.6nm,0.9s,baz=252,slow=5.1,SNR=4.0						
	0.6nm,0.9s						

*IDC **03** 10:58:08.0±1.1,5°.85S×142°.84E, h0km, mb3.9/4, mbtmp3.9/6, ML1.8/1, Error ellipse: s-maj=35.4km s-min=23.4km az=76.0*

ISC 03 10:58:13.2±0.9, 6°.0S±0°.1×142°.66E±0°.09, h35km, n13, σ1§12/14, mb4.0/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**1.61**	**298**	P	**Pn**	**10 58 39.3**	**0.0**
PMG	**Port Moresby**	**5.58**	**127**	P	**Pn**	**10 59 34.1**	**+0.2**
PMG	**Port Moresby**	**5.58**	**127**	P	**Pn**	**10 59 34.2**	**+0.3**
PMG	**Port Moresby**	**5.58**	**127**	Pn	**Pn**	**10 59 33.6**	**-0.3**
	1.8nm,0.3s,baz=108,slow=20,SNR=9.2						
PMG				Sn	**Sn**	**11 00 36.5**	**-0.3**
	5.1nm,0.3s,baz=221,slow=18,SNR=9.6						
	6.3nm,0.3s						
KDU	**Kakadu**	**12.03**	**236**	P	**Pn**	**11 01 01.6**	**-0.7**
WRA	**Warramunga Arr**	**16.03**	**210**	Pn	**Pn**	**11 01 53.7**	**-2.4**
	0.3nm,0.3s,baz=28,slow=13,SNR=14						
WRA				Sn	Sn	11 04 44.0	-8.9
	0.3nm,0.3s,baz=34,slow=25,SNR=5.1						
WRA				Lg	Lg	11 06 44.6	
	0.2nm,0.3s,baz=33,slow=31,SNR=3.1						
ASAR	**Alice Springs**	**19.46**	**205**	P	**P**	**11 02 38.9**	**+1.8**
	3.6nm,0.6s,baz=32,slow=10.0,SNR=42						
ASAR				S	S	11 06 05.2	-10
	0.7nm,0.7s,baz=24,slow=27,SNR=4.6						
ASAR				Lg	Lg	11 08 33.5	
	0.2nm,0.3s,baz=34,slow=35,SNR=4.1						
OOD	**Oodnadatta**	**22.64**	**196**	P	**P**	**11 03 12.6**	**+1.2**
WRKA	**Warakurna**	**23.39**	**215**	P	**P**	**11 03 19.3**	**+0.2**
MKAR	**Makanchi Array**	**74.80**	**322**	P	**P**	**11 09 50.5**	**+0.5**
	0.3nm,0.7s,baz=101,slow=5.9,SNR=3.0						
	0.3nm,0.7s						
QSPA	**South Pole Qui**	**83.95**	**180**	P	**P**	**11 10 40.3**	**+0.7**
	1.4nm,0.9s,baz=290,slow=1.3,SNR=6.3						
	1.4nm,0.9s						
BVAR	**Borovoye Array**	**84.27**	**325**	P	**P**	**11 10 41.5**	**+0.2**
	1.2nm,0.5s,baz=115,slow=6.5,SNR=5.1						
	1.2nm,0.5s						
ILAR	**Eielson Array**	**87.22**	**24**	P	**P**	**11 10 54.6**	**-1.1**
	0.6nm,0.7s,baz=266,slow=4.7,SNR=12						
	0.6nm,0.7s						

IDC 03 11:07:08.4±2.0, 5°.70S×141°.56E, h0km, mb3.6/1, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=182.8km s-min=33.9km az=113.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.80**	**206**	Pn	Pn	11 10 51.1	-1.3
	0.1nm,0.3s,baz=27,slow=14,SNR=5.0						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**19.32**	**202**	P	Pn	11 11 36.0	-0.3
	0.2nm,0.3s,baz=32,slow=9.9,SNR=14						
	1.8nm,0.7s						
ILAR	**Eielson Array**	**87.38**	**24**	P	P	11 19 57.1	-0.1
	0.3nm,0.8s,baz=262,slow=5.4,SNR=4.3						
	0.3nm,0.8s						

*IDC **03** 11:11:52.4±1.0, 38°.80N×109°.55E, h0km, mb3.6/7, mbtmp3.7/8, ML3.4/1, Error ellipse: s-maj=36.0km s-min=18.1km az=64.0*

ISC 03 11:11:57.3±1.1, 39°.0N±0°.1×109°.5E±0°.2, h35km, n8, σ1§99/9, mb3.6/7, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.16**	**347**	Pn	**Pn**	**11 14 07.9**	**+0.9**
	0.4nm,0.3s,baz=166,slow=14,SNR=20						
SONM				Sn	**Sn**	**11 15 45.4**	**-3.5**
	0.2nm,0.3s,baz=156,slow=25,SNR=4.2						
	1.6nm,0.4s						
MKAR	**Makanchi Array**	**21.32**	**300**	P	**P**	**11 16 41.7**	**+0.6**
	1.9nm,1.0s,baz=102,slow=11,SNR=10						
	1.9nm,1.0s						
CMAR	**Chiang Mai Arr**	**22.37**	**207**	P	**P**	**11 16 51.0**	**-1.4**
	1.5nm,0.7s,baz=16,slow=8.6,SNR=13						
	1.5nm,0.7s						
ZALV	**Zalesovo Beam**	**22.49**	**320**	P	**P**	**11 16 55.8**	**+2.3**
	1.1nm,0.7s,baz=132,slow=8.8,SNR=4.9						
	1.1nm,0.7s						
KURBB	**Kurchatov Arra**	**24.67**	**308**	P	**P**	**11 17 16.1**	**+1.4**
	2.3nm,0.2s,baz=109,slow=9.6,SNR=5.3						
	2.3nm,0.2s						
WRA	**Warramunga Arr**	**63.05**	**154**	P	**P**	**11 22 20.4**	**-0.6**
	0.9nm,0.8s,baz=343,slow=7.2,SNR=5.4						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**66.36**	**156**	P	**P**	**11 22 42.1**	**-0.5**
	0.8nm,0.7s,baz=348,slow=6.3,SNR=8.1						
	0.8nm,0.7s						
YKA	**Yellowknife Ar**	**72.89**	**20**	P	**P**	**11 23 23.1**	**+0.8**
	0.1nm,0.7s,baz=332,slow=6.0,SNR=2.9						
	0.1nm,0.7s						

*IDC **03** 11:13:58.7±0.8, 35°.64S×105°.14W, h0km, mb4.0/7, mbtmp3.9/7, MS4.3/40, Error ellipse: s-maj=44.7km s-min=24.4km az=75.0*

*GCMT **03** 11:14:04.0±0.2, 35°.43S±0°.01×104°.88W±0°.01, h18km, MW5.1/134, Moment Tensor Solution. s82,c115; s134,c219; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.09±.12; Mθθ=1.42±.11; Mφφ=2.51±.11; Mrθ=0.42±.23; Mrφ=-5.10±.09; Mθφ=0.77±.22; Best double couple: M=5.51900×10¹⁶ NP1=φ1 91.00000°, δ86.00000°, λ6.00000°. NP2=φ2 100.00000°, δ84.00000°, λ176.00000°. Principal axes: T 6.1160, Plg7.0000°, Azm56.0000°; N -1.1930, Plg83.0000°, Azm224.0000°; P -4.9230, Plg1.0000°, Azm325.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 03 11:14:00.1±0.9, 35°.6S±0°.2×104°.7W±0°.2, h10km, n74, σ1§07/31, mb4.0/6, MS4.4/39, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**9.34**	**334**	LR	LR	11 18 46.5	
	comp=Z,2μm,21.1s,baz=132,slow=31						
H03S2	**Juan Fernandez**	**21.23**	**93**	T	T	11 41 03.0	
	baz=258,slow=75,SNR=9.5						
H03S1	**Juan Fernandez**	**21.24**	**93**	T	T	11 41 01.8	
	baz=258,slow=75,SNR=8.4						
H03S3	**Juan Fernandez**	**21.24**	**93**	T	T	11 41 00.7	
	baz=258,slow=75,SNR=7.8						
H03N2	**Juan Fernandez**	**21.31**	**92**	T	T	11 41 06.2	
	baz=248,slow=72,SNR=6.9						
H03N3	**Juan Fernandez**	**21.31**	**92**	T	T	11 41 08.7	
	baz=248,slow=72,SNR=10						
H03N1	**Juan Fernandez**	**21.32**	**92**	T	T	11 41 10.5	
	baz=248,slow=72,SNR=11						
PLCA	**Paso Flores**	**27.21**	**111**	P	**P**	**11 19 47.0**	**+2.9**
	2.2nm,1.0s,baz=262,slow=10,SNR=4.7						
	2.2nm,1.0s						
PLCA	**Paso Flores**	**27.21**	**111**	*eP*	**P**	**11 19 44.6**	**+0.5**
LVC	**Limon Verde**	**33.64**	**77**	LR	LR	11 30 41.4	
	comp=Z,937nm,21.7s,baz=250,slow=30						
NNA	**Nana**	**34.44**	**54**	LR	LR	11 31 16.2	
	comp=Z,2μm,20.3s,baz=236,slow=30						
ATAH	**Atahualpa**	**37.19**	**47**	LR	LR	11 32 37.4	
	comp=Z,667nm,19.6s,baz=232,slow=30						
PMSA	**Palmer Station**	**37.94**	**153**	LR	LR	11 32 55.8	
	comp=Z,658nm,18.5s,baz=290,slow=30						
CZSB	**Cruzeiro do Su**	**40.31**	**54**	*eP*	**P**	**11 21 38.0**	**+0.2**
ITQB	**Itaqui**	**40.58**	**96**	*eP*	**P**	**11 21 38.9**	**-1.0**
CPUP	**Villa Florida**	**41.31**	**91**	LR	LR	11 36 04.0	
	comp=Z,252nm,18.6s,baz=250,slow=32						
RODS	**Rosario do Sul**	**41.49**	**97**	*eP*	**P**	**11 21 45.6**	**-1.9**
PLTB	**Pedras Altas**	**42.29**	**100**	*eP*	**P**	**11 21 52.5**	**-1.5**
BBSD	**Serra de San D**	**43.12**	**77**	*eP*	**P**	**11 22 01.1**	**+0.3**
BBRB	**Robore, Bolivi**	**43.16**	**79**	*eP*	**P**	**11 22 01.7**	**+0.6**
OTAV	**Otavalo**	**43.23**	**40**	*eP*	**P**	**11 22 02.4**	**+0.2**
ETMB	**Extrema**	**43.36**	**63**	*eP*	**P**	**11 22 02.6**	**-0.2**
SIV	**San Ignacio**	**43.43**	**75**	LR	LR	11 36 57.6	
	comp=Z,334nm,21.5s,baz=260,slow=32						
ANTJ	**Antonio Joao (**	**44.33**	**86**	*eP*	**P**	**11 22 11.5**	**+0.9**
PTLB	**Pontes e Lacer**	**45.27**	**76**	*eP*	**P**	**11 22 18.6**	**+0.7**
VILB	**Vilhena**	**45.90**	**72**	*eP*	**P**	**11 22 24.2**	**+1.1**
SAML	**Samuel**	**46.16**	**65**	*eP*	**P**	**11 22 25.1**	**0.0**
SALV	**Santo Antonio**	**47.75**	**79**	*eP*	**P**	**11 22 37.9**	**+0.4**
ROSC	**El Rosal**	**49.30**	**42**	LR	LR	11 40 05.9	
	comp=Z,711nm,18.4s,baz=236,slow=32						
JTS	**Las Juntas de**	**49.30**	**26**	LR	LR	11 38 43.2	
	comp=Z,561nm,18.3s,baz=194,slow=30						
PDRB	**Porto dos Gac**	**49.40**	**73**	*eP*	**P**	**11 22 50.0**	**-0.3**
RAR	**Rarotonga**	**49.94**	**271**	LR	LR	11 39 29.0	
	comp=Z,55nm,19.3s,baz=149,slow=31						
ARAG	**Araguaiana, MT**	**50.97**	**81**	*eP*	**P**	**11 23 02.5**	**+0.4**
CMIG	**Matias Romero**	**53.22**	**12**	LR	LR	11 39 30.1	
	comp=Z,164nm,19.5s,baz=187,slow=29						
NPGB	**Novo Progresso**	**53.28**	**70**	*eP*	**P**	**11 23 19.1**	**-0.3**
SNDB	**Serra Nova Dou**	**53.48**	**78**	*eP*	**P**	**11 23 21.1**	**+0.3**
BDFB	**Brasilia**	**54.07**	**84**	LR	LR	11 45 00.2	
	comp=Z,328nm,18.1s,baz=296,slow=34						
QSPA	**South Pole Qui**	**54.60**	**180**	P	**P**	**11 23 29.0**	**+0.5**
	1.6nm,0.8s,baz=106,slow=3.0,SNR=5.3						
QSPA				LR	LR	11 46 01.2	
	comp=Z,143nm,18.4s,baz=110,slow=35						
	1.6nm,0.8s						
SDV	**Santo Domingo**	**54.67**	**43**	LR	LR	11 43 27.0	
	comp=Z,215nm,21.1s,baz=232,slow=32						
ITTB	**Itaituba**	**54.72**	**67**	*eP*	**P**	**11 23 28.3**	**-1.6**
BOAV	**Boa Vista**	**55.94**	**57**	*eP*	**P**	**11 23 37.6**	**-1.0**
VNDA	**Vanda**	**56.29**	**195**	LR	LR	11 42 23.7	
	comp=Z,60nm,19.3s,baz=104,slow=30						
PCRV	**Puerto La Cruz**	**59.17**	**48**	LR	LR	11 47 01.3	
	comp=Z,569nm,20.5s,slow=33						
SNAA	**Sanae**	**60.20**	**159**	LR	LR	11 47 20.0	
	comp=Z,307nm,18.0s,baz=200,slow=33						
URZ	**Urewera**	**60.76**	**242**	LR	LR	11 43 38.8	
	comp=Z,376nm,21.7s,baz=133,slow=30						
RPZ	**Rata Peaks**	**62.73**	**234**	LR	LR	11 45 15.0	
	comp=Z,337nm,20.2s,baz=108,slow=30						
MDP	**Montagnes des**	**63.37**	**61**	LR	LR	11 49 22.8	
	comp=Z,869nm,18.1s,baz=259,slow=33						
TXAR	**Lajitas Array**	**64.60**	**1**	P	**P**	**11 24 37.9**	**+0.2**
	0.5nm,0.7s,baz=185,slow=8.8,SNR=5.9						
TXAR				LR	LR	11 46 17.8	
	comp=Z,78nm,21.5s,baz=164,slow=30						
	0.5nm,0.7s						
PFO	**Pinyon Flats O**	**69.73**	**350**	LR	LR	11 47 35.6	
	comp=Z,106nm,19.3s,baz=180,slow=29						
ANMO	**Albuquerque**	**70.20**	**358**	LR	LR	11 50 50.2	
	comp=Z,122nm,18.1s,baz=234,slow=32						
TKL	**Tuckaleechee C**	**73.53**	**18**	LR	LR	11 54 12.8	
	comp=Z,126nm,20.3s,baz=199,slow=33						
NVAR	**Mina Array Bea**	**74.73**	**349**	P	**P**	**11 25 40.7**	**+0.5**
	3.2nm,1.1s,baz=178,slow=8.8,SNR=8.9						
NVAR				LR	LR	11 50 22.9	
	comp=Z,116nm,20.5s,baz=163,slow=29						
	3.2nm,1.1s						
ELK	**Elko**	**76.59**	**352**	LR	LR	11 52 09.6	
	comp=Z,121nm,20.6s,baz=170,slow=30						
DZM	**Mont Dzumac**	**76.62**	**252**	LR	LR	11 52 01.2	
	comp=Z,111nm,19.4s,baz=111,slow=30						
MAW	**Mawson**	**76.68**	**175**	LR	LR	11 58 15.2	
	comp=Z,198nm,18.5s,baz=200,slow=35						
PDAR	**Pinedale Array**	**78.12**	**356**	P	**P**	**11 25 59.8**	**+0.5**
	0.7nm,0.7s,baz=160,slow=4.5,SNR=5.9						
	0.7nm,0.7s						
YBH	**Yreka Blue Hor**	**78.72**	**346**	LR	LR	11 53 34.2	
	comp=Z,85nm,18.2s,baz=171,slow=30						
SADO	**Sadowa**	**83.28**	**18**	LR	LR	11 57 24.2	
	comp=Z,175nm,20.5s,baz=229,slow=31						
NEW	**Newport**	**84.23**	**352**	LR	LR	11 59 09.5	
	comp=Z,95nm,18.9s,baz=144,slow=32						
ULM	**Lac du Bonnet**	**85.83**	**6**	P	**P**	**11 26 40.5**	**+1.2**
	0.9nm,0.6s,baz=209,slow=6.6,SNR=2.2						
	0.9nm,0.6s						
STKA	**Stephens Creek**	**88.53**	**231**	LR	LR	11 58 33.6	
	comp=Z,226nm,21.0s,baz=196,slow=30						
HNR	**Honiara**	**88.91**	**259**	LR	LR	11 59 27.6	
	comp=Z,560nm,19.0s,baz=230,slow=31						
CTA	**Charters Tower**	**93.00**	**243**	LR	LR	12 03 37.1	
	comp=Z,162nm,19.1s,baz=108,slow=32						
SUR	**Sutherland**	**95.25**	**156**	LR	LR	12 01 52.4	
	comp=Z,122nm,21.7s,baz=222,slow=30						
SCHQ	**Schefferville**	**95.76**	**21**	LR	LR	12 06 10.6	
	comp=Z,173nm,21.1s,baz=220,slow=33						
BBTS	**Babate**	**96.91**	**77**	LR	LR	12 05 50.6	
	comp=Z,125nm,21.4s,baz=143,slow=32						
YKA	**Yellowknife Ar**	**98.08**	**355**	P	Pdif	11 27 37.2	+1.0
	0.2nm,0.8s,baz=179,slow=3.1,SNR=2.3						
YKA				LR	LR	12 05 37.3	
	comp=Z,150nm,19.7s,baz=268,slow=32						
	0.2nm,0.8s						
PMG	**Port Moresby**	**99.01**	**252**	LR	LR	12 06 18.8	
	comp=Z,70nm,18.9s,baz=117,slow=32						
ASAR	**Alice Springs**	**99.10**	**232**	LR	LR	12 08 25.2	
	comp=Z,237nm,18.1s,baz=163,slow=33						
BRTR	**Keskin Array B**	**146.96**	**70**	PKPbc	**PKPbc**	**11 33 43.4**	**+0.4**
	2.6nm,1.1s,baz=182,slow=3.5,SNR=6.0						
CMAR	**Chiang Mai Arr**	**153.01**	**237**	PKPbc	**PKPbc**	**11 33 58.1**	**-0.1**
	0.8nm,0.8s,baz=200,slow=1.1,SNR=4.8						
SONM	**Songino Array**	**153.97**	**308**	PKPbc	**PKPbc**	**11 33 57.1**	**-2.6**
	0.8nm,0.8s,baz=108,slow=3.4,SNR=5.5						
ZALV	**Zalesovo Beam**	**160.49**	**343**	PKP	**PKPdf**	**11 33 58.9**	**-0.6**
	0.6nm,0.6s,baz=318,slow=1.9,SNR=2.0						
BVAR	**Borovoye Array**	**162.24**	**10**	PKP	**PKPdf**	**11 34 01.2**	**-0.1**
	0.6nm,0.7s,baz=14,slow=3.8,SNR=3.7						

*NEIC **03** 11:22:01.9±1.3, 51°.5N±0°.3×171°.7E±0°.1, h19km±9km, mb3.9/32, Error ellipse: s-maj=44.8km s-min=12.9km az=182.0*

*IDC **03** 11:22:02.1±5.5, 52°.07N×171°.54E, h0km, mb3.4/3, mbtmp3.4/4, ML2.8/1, Error ellipse: s-maj=148.8km s-min=20.9km az=172.0*

ISC 03 11:22:01.3±1.7, 51°.7N±0°.2×171°.49E±0°.07, h10km, n51, σ1§45/46, mb3.9/15, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**1.91**	**56**	Pn	**Pn**	**11 22 32.8**	**-1.1**
	54nm,0.3s,baz=241,slow=19,SNR=37						
SHEM				Sn	**Sn**	**11 22 54.5**	**-3.4**
	84nm,0.3s,baz=278,slow=23,SNR=31						
KIWB	**Kanaga Island**	**7.05**	**84**	Pn	Pn	11 23 40.0	-4.6
PEA0B	**Petropavlovsk-**	**8.55**	**285**	Pn	**Pn**	**11 24 06.4**	**+1.3**
PETK	**Petropavlovsk-**	**8.55**	**285**	Pn	**Pn**	**11 24 06.0**	**+0.9**
PETK	**Petropavlovsk-**	**8.55**	**285**	Pn	**Pn**	**11 24 06.1**	**+1.0**
	0.6nm,0.3s,baz=93,slow=19,SNR=36						
PETK				Sn	**Sn**	**11 25 37.5**	**-4.1**
	0.5nm,0.3s,baz=127,slow=17,SNR=2.4						
	3.4nm,0.9s						
ATKA	**Atka Island**	**8.86**	**81**	Pn	**Pn**	**11 24 07.5**	**-1.7**
L14K	**Kuka Creek**	**17.10**	**46**	P	**Pn**	**11 26 02.9**	**+2.8**
L14K				IAmb	IAmb	11 26 39.9	
	comp=Z,12nm,1.4s						
M14K	**Bethel**	**17.21**	**48**	P	**Pn**	**11 26 04.1**	**+2.6**
J16K	**Anvik River**	**18.78**	**41**	P	**Pn**	**11 26 24.9**	**+4.2**
J16K				IAmb	IAmb	11 26 29.8	
	comp=Z,11nm,1.5s						
H17K	**Granite Mounta**	**19.80**	**37**	P	**P**	**11 26 32.1**	**+0.6**
F17K	**Baldwin Pennin**	**20.11**	**32**	P	**P**	**11 26 34.8**	**0.0**
F17K				IAmb	IAmb	11 27 11.7	
	comp=Z,9.7nm,1.5s						
J18K	**Innoko River**	**20.46**	**43**	P	**P**	**11 26 38.4**	**-0.4**
J18K				IAmb	IAmb	11 26 52.5	
	comp=Z,6.0nm,1.3s						
H18K	**Honhosa River**	**20.48**	**37**	P	**P**	**11 26 38.4**	**-0.5**
G18K	**Tagagawik**	**20.72**	**35**	P	**P**	**11 26 42.0**	**+0.5**
OHAK	**Old Harbor**	**21.04**	**61**	P	**P**	**11 26 43.6**	**-1.4**
J19K	**Poorman**	**21.10**	**42**	P	**P**	**11 26 44.5**	**-1.2**
IMAR	**Indian Mountai**	**22.57**	**37**	P	**P**	**11 27 01.6**	**+0.2**
I23K	**Minto, Yukon-K**	**24.03**	**41**	P	**P**	**11 27 15.9**	**-0.1**
I23K				IAmb	IAmb	11 27 50.4	
	comp=Z,3.8nm,1.4s						
G23K	**Bananza Creek**	**24.23**	**37**	P	**P**	**11 27 18.0**	**0.0**
SCM	**Sheep Creek Mo**	**24.32**	**49**	P	**P**	**11 27 18.1**	**-0.8**
IL31		**24.96**	**42**	P	**P**	**11 27 24.1**	**-0.4**
IL31				IAmb	IAmb	11 27 42.5	
	comp=Z,4.1nm,1.4s						
ILAR	**Eielson Array**	**24.96**	**42**	P	**P**	**11 27 23.9**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=252,slow=7.9,SNR=16						
	comp=Z,0.5nm,0.5s						
C23K	**Itkillik River**	**25.25**	**30**	P	**P**	**11 27 26.3**	**-0.8**
C23K				IAmb	IAmb	11 27 31.0	
	comp=Z,3.1nm,0.8s						
J25K	**Salcha River,**	**25.58**	**43**	P	**P**	**11 27 28.3**	**-1.9**
J25K				IAmb	IAmb	11 28 00.5	
	comp=Z,3.3nm,1.3s						
GLB	**Gilahina Butte**	**25.97**	**51**	P	**P**	**11 27 32.9**	**-0.9**
GLB				IAmb	IAmb	11 28 15.8	
	comp=Z,6.3nm,1.3s						
BERG	**Berg Lake**	**26.02**	**53**	P	**P**	**11 27 33.9**	**-0.3**
SCRK	**Sand Creek**	**26.08**	**45**	P	**P**	**11 27 34.8**	**-0.1**
SCRK				IAmb	IAmb	11 28 01.6	
	comp=Z,3.6nm,1.2s						
CRQM	**Cirque**	**26.29**	**52**	P	**P**	**11 27 37.3**	**+0.4**
J26L	**Joseph Creek**	**26.33**	**44**	P	**P**	**11 27 36.4**	**-0.7**
MCARA	**McCarthy VSAT**	**26.35**	**51**	P	**P**	**11 27 38.3**	**+1.1**
MCARA				IAmb	IAmb	11 27 59.1	
	comp=Z,5.2nm,1.0s						
D25K	**Kavik River**	**26.41**	**32**	P	**P**	**11 27 37.8**	**0.0**
BMAR	**Burnt Mountain**	**26.48**	**37**	P	**P**	**11 27 38.9**	**+0.6**
K27K	**Chicken**	**26.92**	**45**	P	**P**	**11 27 42.4**	**0.0**
K27K				IAmb	IAmb	11 28 00.9	
	comp=Z,3.4nm,1.4s						
GRNC	**Granite Creek**	**26.97**	**52**	P	**P**	**11 27 42.1**	**-0.9**
GRNC				IAmb	IAmb	11 27 44.5	
	comp=Z,5.6nm,1.0s						
BCAR	**Beaver Creek A**	**26.99**	**47**	P	**P**	**11 27 40.9**	**-2.0**
BARN	**Barnard Glacie**	**27.01**	**51**	P	**P**	**11 27 44.5**	**+1.1**
BARN				IAmb	IAmb	11 27 46.6	
	comp=Z,2.6nm,0.7s						
CTGM	**Chitina Glacie**	**27.17**	**52**	P	**P**	**11 27 44.5**	**-0.2**
LOGN	**Logan Glacier**	**27.34**	**52**	P	**P**	**11 27 46.7**	**+0.4**
EGAK	**Eagle**	**27.39**	**43**	P	**P**	**11 27 45.7**	**-0.7**
EGAK				IAmb	IAmb	11 27 46.6	
	comp=Z,2.3nm,0.7s						
I28M	**Miner Creek**	**27.97**	**42**	P	**P**	**11 27 52.0**	**+0.2**
I28M				IAmb	IAmb	11 27 54.5	
	comp=Z,1.4nm,0.8s						
DAWY	**Dawson**	**28.11**	**45**	P	**P**	**11 27 52.8**	**-0.2**
H29M	**Whitestone**	**28.69**	**40**	P	**P**	**11 27 58.3**	**+0.2**
G31M	**Satah River**	**30.38**	**39**	P	**P**	**11 28 13.0**	**+0.1**
H11N2	**WAKE ISLAND Hy**	**32.10**	**188**	T	T	12 02 43.4	
	baz=5.5,slow=76,SNR=3.7						
H11N3	**WAKE ISLAND Hy**	**32.11**	**188**	T	T	12 02 42.2	
	baz=5.5,slow=76,SNR=4.5						
H11N1	**WAKE ISLAND Hy**	**32.12**	**188**	T	T	12 02 45.5	
	baz=5.5,slow=76,SNR=4.5						
H11S1	**WAKE ISLAND Hy**	**33.33**	**188**	T	T	12 04 14.7	
	baz=5.4,slow=76,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**33.34**	**188**	T	T	12 04 16.7	
	baz=5.4,slow=76,SNR=4.7						
H11S2	**WAKE ISLAND Hy**	**33.35**	**188**	T	T	12 04 15.6	
	baz=5.4,slow=76,SNR=6.4						
YKA	**Yellowknife Ar**	**39.35**	**45**	P	**P**	**11 29 31.3**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=288,slow=8.0,SNR=5.3						
	comp=Z,0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**54.35**	**308**	P	**P**	**11 31 28.0**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=52,slow=7.4,SNR=4.2						
	comp=Z,0.3nm,0.4s						

*IDC **03** 11:25:32.5±2.2, 23°.17N×44°.88W, h0km, mb3.5/6, mbtmp3.5/6, MS3.7/2, Error ellipse: s-maj=75.7km s-min=26.5km az=12.0*

ISC 03 11:25:35.7±1.9, 23°.1N±0°.5×44°.9W±0°.2, h21km, n12, σ0§42/6, mb3.6/6, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**42.79**	**132**	T	T	12 19 04.3	
	baz=316,slow=75,SNR=149						
H10N3	**ASCENSION HYDR**	**42.79**	**132**	T	T	12 19 03.2	
	baz=316,slow=75,SNR=186						
H10N1	**ASCENSION HYDR**	**42.81**	**132**	T	T	12 19 06.6	
	baz=316,slow=75,SNR=162						
H10S3	**ASCENSION HYDR**	**43.49**	**134**	T	T	12 19 59.9	
	baz=266,slow=74,SNR=98						
H10S2	**ASCENSION HYDR**	**43.51**	**134**	T	T	12 19 56.1	
	baz=314,slow=74,SNR=3.8						
TORD	**Torodi

	baz=250							
ENA				*e*S		**Sb**	**11 48 07.4**	**-0.5**
	baz=250							
FUSB	**Fushanzhiwuyua**	**0.87**	**264**	P		**Pb**	**11 47 57.2**	**-0.1**
	baz=276							
FUSB				*e*S		**Sn**	**11 48 09.4**	**-0.1**
	baz=276							
EAHA	**Aohua**	**0.90**	**234**	P		**Pb**	**11 47 57.5**	**-0.3**
	baz=236							
ENTT	**Nioudou**	**0.91**	**256**	P		**Pb**	**11 47 58.3**	**+0.3**
	baz=257							
YM08	**YM08**	**0.92**	**291**	*e*P		**Pn**	**11 47 58.3**	**+0.1**
	baz=292							
YM01	**YM01**	**0.92**	**288**	*e*P		**Pn**	**11 47 58.6**	**+0.4**
	baz=289							
YM01				*e*S		**Sb**	**11 48 10.5**	**+0.4**
	baz=289							
NWLT	**Wulai**	**0.94**	**265**	P		**Pn**	**11 47 58.7**	**+0.2**
	baz=266							
TATO	**Taipei**	**0.96**	**277**	P		**Pn**	**11 47 57.0**	**-1.7**
NDT	**Datong Townshi**	**0.97**	**255**	P		**Pb**	**11 47 59.0**	**0.0**
	baz=256							
LATG	**Datong**	**0.97**	**251**	P		**Pb**	**11 47 59.2**	**0.0**
	baz=252							
YHNB	**Yeheng**	**1.07**	**260**	P		**Pb**	**11 48 00.9**	**+0.1**
YHNB	**Yeheng**	**1.07**	**260**	P		**Pn**	**11 48 00.6**	**+0.3**
	baz=261							
ETL	**Fush Village**	**1.09**	**230**	*e*P		**Pb**	**11 48 01.0**	**0.0**
	baz=231							
NACB	**Ninganchiao**	**1.10**	**232**	*e*P		**Pn**	**11 48 00.7**	**0.0**
	baz=241							
NACB				*e*S		**Sn**	**11 48 14.0**	**-0.9**
	baz=241							
NNSB	**Datong**	**1.14**	**248**	*e*P		**Pb**	**11 48 02.0**	**+0.1**
	baz=249							
NNS	**Nan Shan**	**1.14**	**249**	*e*P		**Pb**	**11 48 02.0**	**0.0**
	baz=261							
NNS				*e*S		**Sb**	**11 48 17.5**	**+1.0**
	baz=261							
TWD	**Chiawan**	**1.16**	**228**	*e*P		**Pb**	**11 48 02.2**	**-0.1**
	baz=229							
ETLH	**Xiulin Townshi**	**1.16**	**236**	*e*P		**Pb**	**11 48 02.3**	**-0.1**
	baz=244							
ETLH				*e*S		**Sb**	**11 48 17.5**	**+0.4**
	baz=244							
NFF	**Wufeng Townshi**	**1.31**	**260**	*e*P		**Pb**	**11 48 04.5**	**-0.3**
	baz=261							
LXIB	**Xiulin Townshi**	**1.32**	**231**	*e*P		**Pb**	**11 48 05.1**	**-0.1**
	baz=232							
LXIB				*e*S		**Sb**	**11 48 25.0**	**+3.3**
	baz=232							
WHF	**Hehuan Shan**	**1.36**	**239**	*e*P		**Pb**	**11 48 06.1**	**+0.2**
	baz=239							
HATJ	**Hateruma jima**	**1.41**	**124**	*e*S		**Sb**	**11 48 24.7**	**+0.8**
JKRS	**Kuro-shima**	**1.48**	**115**	*e*P		**Pb**	**11 48 07.6**	**-0.1**
JKRS				*e*S		**Sn**	**11 48 25.2**	**+0.9**
JIJ	**Ishigaki jima**	**1.54**	**108**	*e*P		**Pb**	**11 48 08.6**	**-0.2**
JIJ				S		**Sb**	**11 48 28.3**	**+0.4**
SSLB	**Suanglung**	**1.80**	**234**	P		**Pb**	**11 48 14.1**	**+1.0**
YULB	**Yu-li**	**1.85**	**218**	P		**Pb**	**11 48 16.6**	**+2.6**
TPUB	**Ta-pu**	**2.33**	**229**	P		**Pb**	**11 48 22.7**	**+0.4**

*CATAC **03** 11:52:17.3±0.7, 13°.36N×91°.41W, h194^{km}±13^{km}, ML3.6*
ISC 03 11:52:06.3±3.4, 13°.11N±0°.09×92°.1W±0°.1, h13^{km}±24^{km}, n27, σ2^{s}93/41, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**1.47**	**16**	*i* P	**Pn**	**11 52 33.5**	**+0.9**
RTAL				IAML		11 52 34.2	
	comp=Z,550nm,1.0s						
RTAL				*i* S	**Sn**	**11 52 48.9**	**-2.8**
GUNB	**GUNB**	**2.27**	**49**	*i* P	**Pb**	**11 52 47.5**	**+0.1**
GUNB				IAML		11 52 49.8	
	comp=Z,210nm,1.0s						
GUNB				*i* S	**Sb**	**11 53 15.8**	**+0.3**
HUEH	**Huehuetenango**	**2.28**	**15**	*i* P	**Pn**	**11 52 45.5**	**+1.6**
HUEH				IAML		11 52 47.8	
	comp=Z,800nm,1.0s						
QUIS	**Sacapulas**	**2.39**	**24**	*i* P	**Pb**	**11 52 48.1**	**-1.2**
QUIS				IAML		11 52 49.2	
	comp=Z,560nm,1.0s						
QUIS				*i* S	**Sn**	**11 53 14.9**	**+0.3**
NUBE	**Las Nubes**	**2.40**	**71**	*i* P	**Pb**	**11 52 49.9**	**+0.3**
NUBE				IAML		11 52 53.0	
	comp=Z,120nm,1.0s						
NUBE				*i* S	**Sb**	**11 53 20.2**	**+0.9**
NUBE	**Las Nubes**	**2.40**	**71**	*i* P	**Pb**	**11 52 49.4**	**-0.2**
NUBE				IAML		11 52 53.0	
	comp=Z,120nm,1.0s						
NUBE				*i* S	**Sb**	**11 53 19.4**	**+0.1**
LOAL	**Lomas de Alarc**	**2.44**	**68**	*i* P	**Pb**	**11 52 50.5**	**+0.4**
LOAL				IAML		11 53 04.1	
	comp=Z,2μm,1.0s						
LOAL				*i* S	**Sb**	**11 53 19.9**	**-0.2**
JAYA	**Jayaque - finc**	**2.65**	**78**	*i* P	**Pb**	**11 52 53.6**	**-0.2**
JAYA				*i* S	**Sb**	**11 53 26.7**	**+0.3**
JAYA				IAML		11 53 34.6	
	comp=Z,380nm,1.0s						
PMON	**Piamonte**	**2.79**	**77**	*i* P	**Pb**	**11 52 56.3**	**+0.1**
PMON				IAML		11 52 57.5	
	comp=Z,190nm,1.0s						
PMON				*i* S	**Sb**	**11 53 28.0**	**-2.3**
MTO3	**Montecristo**	**2.97**	**64**	*i* P	**Pb**	**11 52 57.6**	**-1.7**
MTO3				IAML		11 52 59.4	
	comp=Z,62nm,1.0s						
MTO3				*i* S	**Sn**	**11 53 30.4**	**+1.4**
ESQI	**Esquipulas**	**3.06**	**61**	*i* P	**Pb**	**11 52 59.0**	**-1.7**
ESQI				*i* S	**Sn**	**11 53 30.4**	**-0.7**
ESQI				IAML		11 54 39.1	
	comp=Z,80nm,1.0s						
SCLA	**Alcaldia de Sa**	**3.35**	**79**	*i* P	**Pb**	**11 53 02.1**	**-3.5**
SCLA				IAML		11 53 09.3	
	comp=Z,38nm,1.0s						
SCLA				*i* S	**Sn**	**11 53 38.1**	**-0.1**
PACA	**Pacayal**	**3.71**	**84**	*i* P	**Pb**	**11 53 10.9**	**-0.9**
PACA				*i* S	**Sn**	**11 53 50.7**	**+3.5**
PACA				IAML		11 54 05.6	
	comp=Z,630nm,1.0s						
LCND	**La Caada**	**4.12**	**87**	*i* P	**Pb**	**11 53 14.9**	**-3.9**
LCND				IAML		11 53 15.9	
	comp=Z,130nm,1.0s						
LCND				*i* S	**Sn**	**11 53 51.8**	**-5.4**
CNCH	**Conchagua**	**4.17**	**87**	*i* P	**Pb**	**11 53 15.4**	**-4.4**
CNCH				*i* S	**Sn**	**11 53 58.6**	**0.0**
CNCH				IAML		11 54 12.2	
	comp=Z,200nm,1.0s						
CSGN	**Cosiguina Volc**	**4.44**	**91**	*i* P	Pb	11 53 19.5	-4.8
CSGN				IAML		11 53 21.5	
	comp=Z,260nm,1.0s						
CSGN	**Cosiguina Volc**	**4.44**	**91**	*i* P	**Pn**	**11 53 16.0**	**+2.4**
CSGN				IAML		11 53 21.5	
	comp=Z,260nm,1.0s						
CRIN	**San Cristobal**	**4.95**	**94**	*i* P	Pb	11 53 26.9	-6.2
CRIN				*i* S	**Sn**	**11 54 16.2**	**-1.7**
CRIN				IAML		11 54 53.4	
	comp=Z,250nm,1.0s						
PKGN	**Cerro Pekin**	**5.03**	**94**	*i* P	Pn	11 53 27.3	+5.7
PKGN				IAmb	IAmb	11 53 33.9	
	comp=Z,68nm,0.5s						
PKGN				*i* S	**Sn**	**11 54 18.8**	**-0.8**
PKGN				IAML		11 54 21.9	
	comp=Z,260nm,1.0s						
PKGN				IVmB_BB		11 54 22.0	
	comp=Z,30μm,1.0s						
PKGN	**Cerro Pekin**	**5.03**	**94**	*i* P	Pn	11 53 26.9	+5.3
PKGN				IAML		11 54 21.9	
	comp=Z,260nm,1.0s						
PKGN				*i* S	**Sn**	**11 54 22.3**	**+2.7**
HERN	**Volcan Telica**	**5.18**	**95**	*i* P	Pn	11 53 28.9	+5.2
HERN				IVmB_BB		11 53 30.8	
	comp=Z,1μm,1.0s						
HERN				IAML		11 53 31.2	
	comp=Z,74nm,1.0s						
HERN				*i* S	**Sn**	**11 54 22.5**	**-0.9**
HERN	**Volcan Telica**	**5.18**	**95**	*i* P	**Pn**	**11 53 27.8**	**+4.1**
HERN				IAML		11 53 31.2	
	comp=Z,74nm,1.0s						
HERN				*i* S	**Sn**	**11 54 20.0**	**-3.4**
TELN	**Telica**	**5.18**	**95**	*i* P	Pn	11 53 24.6	+0.9
TELN				*i* S	Sn	11 54 05.6	-18
TELN				IAML		11 54 11.3	
	comp=Z,29nm,1.0s						
YUSH	**Yuscaran**	**5.20**	**80**	*i* P	Pn	11 53 29.7	+5.7
YUSH				*i* S	**Sn**	**11 54 22.7**	**-1.2**
MACN	**El Madrono**	**5.34**	**96**	*i* P	Pn	11 53 31.0	+5.1
MACN				IAML		11 53 34.9	
	comp=Z,34nm,1.0s						
MACN				IVmB_BB		11 53 53.2	
	comp=Z,2μm,1.0s						
MACN				*i* S	**Sn**	**11 54 26.2**	**-1.3**
MOMN	**Momotombo**	**5.48**	**97**	*i* P	**Pn**	**11 53 32.1**	**+4.2**
MOMN				IAmb	IAmb	11 53 35.5	
	comp=Z,1.5nm,0.9s						
MOMN				IAML		11 53 35.7	
	comp=Z,3.2nm,1.0s						
MOMN				*i* S	**Sn**	**11 54 27.4**	**-3.5**
LIMN	**Finca el Limon**	**5.60**	**90**	*i* P	Pn	11 53 35.2	+5.7
LIMN				IAmb	IAmb	11 53 36.0	
	comp=Z,19nm,0.6s						
LIMN				IAML		11 53 36.7	
	comp=Z,41nm,1.0s						
LIMN				*i* S	**Sn**	**11 54 31.3**	**-2.6**

IDC 03 11:54:42.0±5.3, 47°.08S×126°.03E, h0^{km}, mb4.0/3, mbtmp4.0/3, MS3.7/4, Error ellipse: s-maj=129.8km s-min=53.4km az=139.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**15.10**	**320**	T	T	12 15 13.4	
	baz=148,slow=74,SNR=27						
H01W2	**Cape Leeuwin H**	**15.10**	**319**	T	T	12 15 13.1	
	baz=148,slow=74,SNR=46						
H01W3	**Cape Leeuwin H**	**15.12**	**319**	T	T	12 15 14.7	
	baz=148,slow=74,SNR=30						
ASAR	**Alice Springs**	**24.20**	**18**	P	P	12 00 01.6	+1.3
	3.5nm,0.8s,baz=191,slow=9.5,SNR=40 3.5nm,0.8s						
WRA	**Warramunga Arr**	**27.91**	**17**	P	P	12 00 32.0	-1.8
	0.7nm,0.9s,baz=189,slow=8.7,SNR=3.7 0.7nm,0.9s						
QSPA	**South Pole Qui**	**43.04**	**180**	LR	LR	12 18 21.5	
	comp=Z,148nm,18.9s,baz=240,slow=33						
PALK	**Pallekele**	**67.37**	**310**	LR	LR	12 30 49.2	
	comp=Z,84nm,19.1s,baz=282,slow=32						
CMAR	**Chiang Mai Arr**	**69.65**	**333**	P	P	12 05 53.3	+0.1
	1.2nm,0.3s,baz=171,slow=5.2,SNR=7.1						
CMAR				LR	LR	12 40 22.9	
	comp=Z,22nm,18.5s,baz=205,slow=39 1.2nm,0.3s						
KLR	**Kul'dur**	**96.06**	**4**	LR	LR	12 52 35.4	
	comp=Z,30nm,19.4s,baz=28,slow=36						

*MEX **03** 12:13:03.9±1.2, 13°.18N×92°.59W, h16^{km}±73^{km}, MD3.9*
*IDC **03** 12:13:03.5±2.7, 13°.57N×92°.11W, h0^{km}, mb3.6/3, mbtmp3.5/5, ML3.6/2, MS2.6/1, Error ellipse: s-maj=129.6km s-min=29.0km az=48.0*
*GCG **03** 12:13:07.5±0.7, 13°.54N×92°.23W, h15^{km}±78^{km}, MD3.7*
*CATAC **03** 12:13:12.9±0.4, 13°.67N×91°.77W, h64^{km}±11^{km}, MB5.4, ML4.0*
ISC 03 12:13:05.8±0.9, 13°.28N±0°.06×92°.24W±0°.04, h37^{km}, n61, σ2^{s}93/109, mb3.6/3, 1D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**1.21**	**33**	*i* P	**Pn**	**12 13 28.1**	**+1.9**
RTAL	**Retalhuleu**	**1.34**	**23**	*e*P	**Pn**	**12 13 28.0**	**-0.1**
RTAL				*e*S	**Sn**	**12 13 46.8**	**+2.1**
RTAL	**Retalhuleu**	**1.34**	**23**	IAML		12 13 28.5	
	comp=Z,1μm,1.0s						
RTAL				*i* P	**Pn**	**12 13 29.1**	**+1.0**
RTAL				*i* S	**Sn**	**12 13 43.0**	**-1.7**
STG3	**Santiaguito 3,**	**1.56**	**24**	*i* P	**Pn**	**12 13 31.2**	**0.0**
STG3				*i* S	**Sn**	**12 13 50.0**	**-0.3**
THIG		**1.62**	**359**	*i* P	**Pn**	**12 13 30.9**	**-0.9**
THIG				*e*S	**Sn**	**12 13 51.1**	**-0.3**
SMSP	**San Marcos**	**1.74**	**15**	*e*P	**Pn**	**12 13 33.1**	**-0.7**
SMSP				*e*S	**Sn**	**12 13 53.3**	**-1.6**
SMSP	**San Marcos**	**1.74**	**15**	*i* P	**Pn**	**12 13 34.5**	**+0.7**
SMSP				IAML		12 13 35.9	
	comp=Z,2μm,1.0s						
SMSP				*i* S	**Sn**	**12 13 52.8**	**-2.1**
FUG	**Fuego 3**	**1.79**	**49**	*i* P	**Pn**	**12 13 35.6**	**+1.3**
CHUJ	**Union Juarez**	**1.81**	**4**	*e*P	**Pn**	**12 13 32.7**	**-2.0**
CHUJ				*e*S	**Sn**	**12 13 54.5**	**-2.0**
PATR	**El Naranjo**	**1.83**	**0**	*e*P	**Pn**	**12 13 32.9**	**-2.0**
PATR				*i* S	**Sn**	**12 13 55.1**	**-1.8**
PAVE	**Pavencul**	**1.90**	**2**	*e*P	**Pn**	**12 13 34.2**	**-1.8**
PAVE				*i* S	**Sn**	**12 13 57.8**	**-1.0**
CHTG	**Tecpan**	**1.91**	**39**	*i* P	**Pn**	**12 13 35.1**	**-1.0**
CHTG				*i* S	**Sn**	**12 13 52.0**	**-7.0**
CHTG				IAML		12 14 08.0	
	comp=Z,2μm,1.0s						
PCG	**Pacaya**	**1.93**	**55**	*i* P	**Pn**	**12 13 38.0**	**+1.7**
GUMI	**Mixco**	**2.07**	**49**	*i* P	**Pn**	**12 13 37.4**	**-0.8**
GUMI				*i* S	**Sn**	**12 13 56.3**	**-6.6**
GUMI				IAML		12 14 11.9	
	comp=Z,3μm,1.0s						
HUEH	**Huehuetenango**	**2.15**	**19**	*e*P	**Pn**	**12 13 40.0**	**+0.7**
HUEH				*i* S	**Sn**	**12 14 07.8**	**+3.0**
HUEH	**Huehuetenango**	**2.15**	**19**	*i* P	**Pn**	**12 13 40.1**	**+0.8**
HUEH				IAML		12 13 42.8	
	comp=Z,1μm,1.0s						
HUEH				*i* S	**Sn**	**12 14 00.3**	**-4.5**
NBG	**Las Nubes**	**2.25**	**54**	*i* P	**Pn**	**12 13 43.4**	**+2.7**
NBG				*i* S	**Sn**	**12 14 10.2**	**+2.8**
GUNB	**GUNB**	**2.26**	**54**	*i* P	**Pn**	**12 13 39.9**	**-0.9**
GUNB				IAML		12 13 44.2	
	comp=Z,430nm,1.0s						
GUNB				*i* S	**Sn**	**12 14 00.5**	**-7.1**
QUIS	**Sacapulas**	**2.29**	**29**	*i* P	**Pn**	**12 13 40.5**	**-0.6**
QUIS				IAML		12 13 43.5	
	comp=Z,1μm,1.0s						
QUIS				*i* S	**Sn**	**12 14 03.1**	**-5.0**
NUBE	**Las Nubes**	**2.47**	**75**	*i* P	**Pn**	**12 13 44.1**	**+0.5**
NUBE				*i* S	**Sn**	**12 14 06.8**	**-5.8**
NUBE				IAML		12 14 20.9	
	comp=Z,220nm,1.0s						
LOAL	**Lomas de Alarc**	**2.49**	**73**	*i* P	**Pn**	**12 13 43.9**	**0.0**
LOAL				*i* S	**Sn**	**12 14 08.3**	**-4.8**
LOAL				IAML		12 14 17.8	
	comp=Z,2μm,1.0s						
PCIG		**2.59**	**339**	*i* P	**Pn**	**12 13 43.1**	**-2.1**
PCIG				*i* S	**Sn**	**12 14 11.0**	**-4.4**
JUAM	**Asuncion Mita**	**2.67**	**67**	*i* P	**Pn**	**12 13 46.2**	**-0.2**
JUAM				*i* S	**Sn**	**12 14 11.5**	**-6.1**
JUAM				IAML		12 15 09.4	
	comp=Z,410nm,1.0s						
JAYA	**Jayaque - finc**	**2.74**	**82**	*i* P	**Pn**	**12 13 48.6**	**+1.2**
JAYA				*i* S	**Sn**	**12 14 15.7**	**-3.6**
JAYA				IAML		12 14 28.7	
	comp=Z,1μm,1.0s						
PMON	**Piamonte**	**2.88**	**81**	*i* P	**Pn**	**12 13 50.4**	**+1.2**
PMON				IAML		12 13 53.8	
	comp=Z,490nm,1.0s						
PMON				*i* S	**Sn**	**12 14 18.3**	**-4.3**
CCIG	**Comitan**	**2.99**	**2**	*e*P	**Pn**	**12 13 52.7**	**+1.9**
CCIG				*e*S	**Sn**	**12 14 28.0**	**+2.6**
CCIG	**Comitan**	**2.99**	**2**	*i* P	**Pn**	**12 13 53.0**	**+2.2**
CCIG				IAML		12 13 54.0	
	comp=Z,330nm,1.0s						
CCIG				*i* S	**Sn**	**12 14 24.1**	**-1.4**
PANCS	**Alcalda de**	**2.99**	**83**	*i* P	**Pn**	**12 13 51.3**	**+0.5**
PANCS				IAML		12 13 57.7	
	comp=Z,2μm,1.0s						
PANCS				*i* S	**Sn**	**12 14 21.6**	**-3.9**
LOMA	**Loma Larga**	**3.00**	**83**	*i* P	**Pn**	**12 13 52.2**	**+1.2**
LOMA				IAML		12 13 53.9	
	comp=Z,380nm,1.0s						
LOMA				*i* S	**Sn**	**12 14 21.7**	**-4.2**
MTO3	**Montecristo**	**3.01**	**68**	*i* P	**Pn**	**12 13 50.8**	**-0.3**
MTO3				IAML		12 13 53.7	
	comp=Z,110nm,1.0s						
MTO3				*i* S	**Sn**	**12 14 20.3**	**-5.7**
ESQI	**Esquipulas**	**3.09**	**65**	*i* P	**Pn**	**12 13 51.3**	**-0.8**
ESQI				*i* S	**Sn**	**12 14 21.3**	**-6.5**
ESQI				IAML		12 14 25.9	
	comp=Z,270nm,1.0s						
SJTE	**Alcalda de S**	**3.16**	**84**	*i* P	**Pn**	**12 13 54.2**	**+1.1**
SJTE				IAML		12 13 55.8	
	comp=Z,320nm,1.0s						
SJTE				*i* S	**Sn**	**12 14 26.2**	**-3.4**
PAVA	**Las Pavas**	**3.24**	**82**	*i* P	**Pn**	**12 13 54.4**	**+0.2**
PAVA				IAML		12 13 57.4	
	comp=Z,530nm,1.0s						
PAVA				*i* S	**Sn**	**12 14 27.6**	**-4.0**
COEG	**Centro de Oper**	**3.28**	**84**	*i* P	**Pn**	**12 13 55.2**	**+0.4**
COEG				*i* S	**Sn**	**12 14 28.7**	**-3.9**
COEG				IAML		12 14 43.2	
	comp=Z,220nm,1.0s						
CARR	**Arriaga**	**3.37**	**331**	*e*P	**Pn**	**12 13 54.8**	**-1.1**
CARR				*e*S	**Sn**	**12 14 29.3**	**-5.2**
SCLA	**Alcaldia de Sa**	**3.44**	**83**	*i* P	**Pn**	**12 13 58.0**	**+1.1**
SCLA				IAML		12 14 12.3	
	comp=Z,120nm,1.0s						
SCLA				*i* S	**Sn**	**12 14 32.6**	**-3.9**
TGIG		**3.58**	**346**	*e*P	**Pn**	**12 13 58.8**	**-0.1**
TGIG				*e*S	**Sn**	**12 14 38.0**	**-1.9**
PQSS	**Presa 15 de Se**	**3.59**	**84**	*i* P	**Pn**	**12 14 00.4**	**+1.4**
PQSS				*i* S	**Sn**	**12 14 36.4**	**-3.8**
PQSS				IAML		12 14 50.8	
	comp=Z,99nm,1.0s						
PACA	**Pacayal**	**3.81**	**87**	*i* P	**Pn**	**12 14 02.9**	**+0.8**
PACA				*i* S	**Sn**	**12 14 42.6**	**-3.2**
PACA				IAML		12 14 59.8	
	comp=Z,2μm,1.0s						
NILT	**Santiago Nilte**	**4.00**	**325**	*e*S	**Sn**	**12 14 45.9**	**-4.2**
LCND	**La Caada**	**4.23**	**89**	*i* P	**Pn**	**12 14 09.7**	**+1.9**
LCND				IAML		12 14 10.2	
	comp=Z,270nm,1.0s						
LCND				*i* S	**Sn**	**12 14 52.7**	**-3.3**
CNCH	**Conchagua**	**4.29**	**90**	*i* P	**Pn**	**12 14 09.9**	**+1.3**
CNCH				IAML		12 14 11.5	
	comp=Z,500nm,1.0s						
CNCH				*i* S	**Sn**	**12 14 54.3**	**-3.2**
IZABA	**Izabal, Puerto**	**4.30**	**55**	*i* P	**Pn**	**12 14 07.7**	**-0.9**
IZABA				IAML		12 14 20.1	
	comp=Z,2.2nm,1.0s						
AMPH	**Amapala**	**4.46**	**89**	*i* P	**Pn**	**12 14 12.0**	**+1.1**
AMPH				*i* S	**Sn**	**12 14 59.0**	**-2.5**
HUIG	**Huatulco**	**4.49**	**304**	*e*P	**Pn**	**12 14 07.3**	**-4.0**
HUIG				*e*S	Sn	12 14 50.8	-12
CSGN	**Cosiguina Volc**	**4.57**	**93**	*i* P	**Pn**	**12 14 13.8**	**+1.3**
CSGN				IAML		12 14 16.3	
	comp=Z,670nm,1.0s						
CMIG	**Matias Romero**	**4.57**	**326**	Pn	**Pn**	**12 14 10.9**	**-1.5**
	comp=Z,1.3nm,0.3s,baz=151,slow=9.3,SNR=12						
CMIG				Sn	**Sn**	**12 15 03.2**	**-1.0**
	comp=Z,3.0nm,0.3s,baz=110,slow=17,SNR=2.7						
CMIG				Lg	Lg	12 15 23.2	
	comp=Z,2.7nm,0.3s,baz=67,slow=22,SNR=6.1						
CMIG				LR	LR	12 15 41.7	
	comp=Z,68nm,19.5s,baz=149,slow=36 comp=Z,3.4nm,0.3s						
CMIG	**Matias Romero**	**4.57**	**326**	*e*P	**Pn**	**12 14 09.0**	**-3.4**
CMIG				*e*S	**Sn**	**12 14 57.0**	**-7.3**
CRIN	**San Cristobal**	**5.09**	**96**	*i* P	**Pn**	**12 14 20.8**	**+1.2**
CRIN				IAML		12 14 28.1	
	comp=Z,740nm,1.0s						
CRIN				*i* S	**Sn**	**12 15 14.4**	**-2.8**
HERN	**Volcan Telica**	**5.31**	**97**	*i* P	**Pn**	**12 14 23.6**	**+0.9**
HERN				IAML		12 14 25.2	
	comp=Z,150nm,1.0s						
HERN				*i* S	**Sn**	**12 15 20.4**	**-2.3**
TELN	**Telica**	**5.31**	**97**	*i* P	**Pn**	**12 14 23.4**	**+0.7**
TELN				IAML		12 14 27.5	
	comp=Z,11nm,1.0s						
TELN				*i* S	**Sn**	**12 15 21.1**	**-1.7**
PACN	**Al O del Volca**	**5.37**	**98**	*i* P	**Pn**	**12 14 24.3**	**+0.9**
PACN				IAML		12 14 26.7	
	comp=Z,220nm,1.0s						
PACN				*i* S	**Sn**	**12 15 21.7**	**-2.2**
ROCN	**Rota Cerro Neg**	**5.41**	**97**	*i* P	**Pn**	**12 14 25.7**	**+1.7**
ROCN				IAML		12 14 27.9	
	comp=Z,110nm,1.0s						
ROCN				IVmB_BB		12 14 51.7	
	comp=Z,4μm,1.0s						
ROCN				*i* S	**Sn**	**12 15 23.2**	**-1.8**
ILCN	**San Idelfonso**	**5.44**	**97**	*i* P	**Pn**	**12 14 25.8**	**+1.4**
ILCN				IAML		12 14 26.8	
	comp=Z,55nm,1.0s						
ILCN				*i* S	**Sn**	**12 15 23.3**	**-2.6**
NEUV	**Arroyo Zacate**	**5.59**	**323**	*e*P	**Pn**	**12 14 22.0**	**-4.4**
NEUV				*e*S	**Sn**	**12 15 23.1**	**-6.3**
TXAR	**Lajitas Array**	**19.18**	**328**	P	**Pn**	**12 17 28.2**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=150,slow=11,SNR=8.8 comp=Z,0.7nm,0.8s						
NVAR	**Mina Array Bea**	**34.09**	**322**	P	**P**	**12 19 49.3**	**+2.1**
	comp=Z,0.5nm,0.7s,baz=137,slow=7.7,SNR=4.4 comp=Z,0.5nm,0.7s						
YKA	**Yellowknife Ar**	**51.67**	**347**	P	**P**	**12 22 10.2**	**+1.5**
	comp=Z,1.1nm,0.9s,baz=145,slow=8.0,SNR=14 comp=Z,1.1nm,0.9s						
ILAR	**Eielson Array**	**63.41**	**337**	P	**P**	**12 23 32.9**	**+1.5**
	comp=Z,0.5nm,0.9s,baz=127,slow=6.9,SNR=5.9 comp=Z,0.5nm,0.9s						
XAN	**Xi'an**	**128.81**	**337**	⇓P	**Pdif**	**12 28 56.3**	**+0.5**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**146.59**	**340**	PKPbc	**PKPab**	**12 32 45.8**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=336,slow=4.2,SNR=2.6						

*IDC **03** 12:20:02.0±0.7, 6°.22S×151°.57E, h0^{km}, mb4.3/12, mbtmp4.3/13, ML2.5/1, MS3.4/9, Error ellipse: s-maj=26.9km s-min=16.6km az=113.0*
*NEIC **03** 12:20:02.5±2.2, 6°.45S±0°.07×151°.77E±0°.08, h3^{km}±2^{km}, mb4.6/37, Error ellipse: s-maj=11.9km s-min=9.5km az=115.0*
*DJA **03** 12:20:06.6±1.3, 6°.S±4°×15°.2E±°, h30^{km}±13^{km}, M4.7/12, mB4.8/1, mb4.5/12, MLv4.7/3, Mw(mB)4.1/1*
ISC 03 12:20:06.6±0.6, 6°.39S±0°.07×151°.71E±0°.09, h30^{km}, n87, σ1^{s}51/82, mb4.5/35, MS3.7/7, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.23**	**12**		**Pn**	**12 20 40.4**	**-1.2**
RABL	**Rabaul**	**2.23**	**12**	P	**Pn**	**12 20 40.4**	**-1.2

	comp=Z,21nm,0.8s,baz=52,slow=9.2,SNR=127						
	comp=Z,21nm,0.8s						
KNRA	**Kununurra**	**24.31 246**	P	**P**	**12 25 20.1 -1.7**		
KNRA	**Kununurra**	**24.31 246**	P	**P**	**12 25 20.6 -1.2**		
NLAI	**Namlea**	**24.71 276**	P	**P**	**12 25 27.2 +1.7**		
	comp=Z,13nm,1.0s						
OOD	**Oodnadatta**	**26.16 214**	P	**P**	**12 25 38.2 -0.2**		
STKA	**Stephens Creek**	**27.06 199**	P	**P**	**12 25 47.2 +0.7**		
STKA	**Stephens Creek**	**27.06 199**	P	**P**	**12 25 48.8 +2.3**		
	comp=Z,6.4nm,0.6s,baz=8.2,slow=8.1,SNR=12						
	comp=Z,6.4nm,0.6s						
LCRK	**Leigh Creek**	**27.08 206**	P	**P**	**12 25 46.5 -0.2**		
FITZ	**Fitzroy Crossi**	**27.96 243**	P	**P**	**12 25 53.6 -1.1**		
MULG	**Mulgathing**	**28.99 213**	P	**P**	**12 26 02.7 -1.0**		
WRKA	**Warakurna**	**29.09 228**	P	**P**	**12 26 03.5 -1.3**		
DAV	**Davao City (W)**	**29.30 297**	LR	LR	12 38 16.1		
	comp=Z,22nm,18.4s,baz=118,slow=38						
EDFI	**Ende, Flores**	**29.84 264**	P	**P**	**12 26 09.1 -2.5**		
	comp=Z,14nm,1.1s						
FORT	**Forrest**	**32.88 219**	P	**P**	**12 26 36.5 -1.5**		
FORT	**Forrest**	**32.88 219**	P	**P**	**12 26 37.2 -0.8**		
PLAI	**Plampang**	**33.71 264**	P	**P**	**12 26 42.7 -2.8**		
MEEK	**Meekatharra**	**37.38 234**	P	**P**	**12 27 16.4 -0.6**		
MJAR	**Matsushiro Arr**	**44.54 344**	PcP	**PcP**	**12 29 58.5 -0.2**		
	comp=Z,0.4nm,0.6s,baz=150,slow=4.0,SNR=4.2						
MJAR			LR	LR	12 46 03.5		
	comp=Z,41nm,18.7s,baz=178,slow=35						
NJ2	**Nanjing**	**49.41 323**	*e*P	**P**	**12 28 55.2 +1.4**		
NJ2			pmax	pmax			
	comp=Z,8.0nm,0.5s						
MDJ	**Mudanjiang**	**54.53 341**	P	**P**	**12 29 32.6 +0.8**		
MDJ			pmax	pmax			
	comp=Z,6.0nm,1.1s						
MDJ			pmax	pmax			
	comp=Z,230nm,6.3s						
BNX	**BinXian**	**56.26 340** ⇓	P	**P**	**12 29 46.1 +1.9**		
BNX			pmax	pmax			
	comp=Z,7.0nm,1.5s						
BNX			pmax	pmax			
	comp=Z,240nm,4.3s						
CMAR	**Chiang Mai Arr**	**57.58 296**	P	**P**	**12 29 53.6 -0.5**		
	comp=Z,0.4nm,0.3s,baz=103,slow=4.7,SNR=4.0						
CMAR			PcP	**PcP**	**12 30 47.1 -0.2**		
	comp=Z,0.3nm,0.3s,baz=131,slow=4.7,SNR=4.1						
	comp=Z,0.4nm,0.3s						
PZH	**PanZhiHua**	**58.41 306**	P	**P**	**12 30 02.1 +2.2**		
PZH			pmax	pmax			
	comp=Z,10.0nm,0.7s						
PZH			pmax	pmax			
	comp=Z,130nm,5.2s						
HHC	**Hu-ho-hao-te**	**59.71 326**	*e*P	**P**	**12 30 10.9 +2.2**		
HHC			pmax	pmax			
	comp=Z,8.0nm,0.7s						
HHC			LR	LR			
	comp=N,130nm,15.3s						
HHC			LR	LR			
	comp=E,200nm,16.0s						
HHC			LR	LR			
	comp=Z,120nm,16.8s						
CASY	**Casey**	**66.19 197**	P	P	12 30 40.5 -11		
SONM	**Songino Array**	**67.09 329**	P	**P**	**12 30 56.2 -1.2**		
SONM			IAmb	IAmb	12 31 11.9		
	comp=Z,4.2nm,1.5s						
SONM	**Songino Array**	**67.09 329**	P	**P**	**12 30 56.4 -1.0**		
	comp=Z,1.0nm,0.6s,baz=147,slow=4.5,SNR=9.4						
SONM			LR	LR	12 59 08.1		
	comp=Z,47nm,21.9s,baz=164,slow=35						
	comp=Z,1.0nm,0.6s						
PALK	**Pallekele**	**72.12 280**	LR	LR	13 06 54.3		
	comp=Z,43nm,18.8s,baz=53,slow=39						
WMQ	**Urumqi**	**76.17 318**	*e*P	**P**	**12 31 56.5 +4.4**		
L14K	**Kuka Creek**	**76.21 21**	P	**P**	**12 31 52.6 +0.9**		
J14K	**Nanvaranak Lak**	**76.89 19**	P	**P**	**12 31 56.4 +0.8**		
ANM	**Nome**	**77.61 18**	P	**P**	**12 32 00.5 +0.8**		
ANM			IAmb	IAmb	12 32 01.7		
	comp=Z,6.6nm,0.9s						
G16K	**Koyuk River**	**79.11 18**	P	**P**	**12 32 08.2 +0.3**		
G16K			IAmb	IAmb	12 32 09.9		
	comp=Z,5.7nm,0.8s						
H17K	**Granite Mounta**	**79.56 19**	P	**P**	**12 32 10.3 -0.1**		
CNPM	**China Poot**	**79.61 26**	P	**P**	**12 32 11.3 +0.6**		
J18K	**Innoko River**	**79.71 21**	P	**P**	**12 32 11.5 +0.3**		
F17K	**Baldwin Pennin**	**80.16 17**	P	**P**	**12 32 14.0 +0.5**		
F17K			IAmb	IAmb	12 32 15.6		
	comp=Z,7.7nm,0.9s						
G18K	**Tagagawik**	**80.59 18**	P	**P**	**12 32 16.3 +0.4**		
G18K			IAmb	IAmb	12 32 17.1		
	comp=Z,4.2nm,0.9s						
K20K	**Telida**	**80.60 22**	P	**P**	**12 32 17.0 +0.9**		
K20K			IAmb	IAmb	12 32 31.5		
	comp=Z,4.3nm,0.8s						
MKAR	**Makanchi Array**	**80.81 319**	P	**P**	**12 32 16.4 -1.1**		
	comp=Z,0.3nm,0.4s,baz=91,slow=8.9,SNR=4.9						
	comp=Z,0.3nm,0.4s						
E18K	**Tukpahlearik C**	**81.00 17**	P	**P**	**12 32 18.3 +0.2**		
CAST	**Castle Rocks**	**81.38 22**	P	**P**	**12 32 19.2 -1.0**		
CAST			IAmb	IAmb	12 32 25.1		
	comp=Z,3.6nm,0.8s						
ZALV	**Zalesovo Beam**	**81.87 327**	P	**P**	**12 32 21.4 -1.6**		
	comp=Z,1.7nm,0.7s,baz=108,slow=5.0,SNR=8.9						
	comp=Z,1.7nm,0.7s						
E19K	**Redstone River**	**82.02 18**	P	**P**	**12 32 23.7 +0.2**		
QSPA	**South Pole Qui**	**83.58 180**	P	**P**	**12 32 31.7 -0.1**		
QSPA			IAmb	IAmb	12 32 44.5		
	comp=Z,5.7nm,1.2s						
QSPA	**South Pole Qui**	**83.58 180**	P	**P**	**12 32 32.2 +0.3**		
	comp=Z,2.1nm,0.7s,baz=233,slow=1.6,SNR=17						
	comp=Z,2.1nm,0.7s						
CCB	**Clear Creek Bu**	**83.63 22**	P	**P**	**12 32 31.0 -0.8**		
CCB			IAmb	IAmb	12 32 45.0		
	comp=Z,5.0nm,1.0s						
IL31		**84.03 22**	P	**P**	**12 32 33.0 -0.9**		
ILAR	**Eielson Array**	**84.03 22**	P	**P**	**12 32 33.0 -1.0**		
ILAR	**Eielson Array**	**84.03 22**	P	**P**	**12 32 33.2 -0.7**		
	comp=Z,2.8nm,0.6s,baz=248,slow=5.1,SNR=93						
	comp=Z,2.8nm,0.6s						
D22K	**Ayikyak River**	**84.24 17**	P	**P**	**12 32 36.2 +1.3**		
KURBB	**Kurchatov Arra**	**84.38 322**	P	**P**	**12 32 34.9 -1.1**		
	comp=Z,0.4nm,0.2s,baz=113,slow=3.7,SNR=7.2						
	comp=Z,0.4nm,0.2s						
F24K	**Squaw Lake**	**85.03 20**	P	**P**	**12 32 39.5 +0.6**		
F24K			IAmb	IAmb	12 32 41.1		
	comp=Z,6.2nm,1.1s						
HYT	**Haines Junctio**	**86.34 28**	P	**P**	**12 32 46.9 +1.2**		
HYT			IAmb	IAmb	12 32 49.0		
	comp=Z,5.3nm,0.7s						
I28M	**Miner Creek**	**86.98 23**	P	**P**	**12 32 48.6 -0.1**		
I28M			IAmb	IAmb	12 33 28.6		
	comp=Z,7.4nm,1.5s						
KKAR	**Karatay Array**	**87.93 314**	P	**P**	**12 32 52.2 -1.5**		
J30M	**Hart River**	**88.10 24**	P	**P**	**12 32 55.1 +0.9**		
J30M			IAmb	IAmb	12 32 57.2		
	comp=Z,3.3nm,0.8s						
YBH	**Yreka Blue Hor**	**90.92 48**	LR	LR	13 10 04.5		
	comp=Z,41nm,18.1s,baz=134,slow=33						
NVAR	**Mina Array Bea**	**93.92 52**	P	**P**	**12 33 23.3 +1.4**		
	comp=Z,1.3nm,0.8s,baz=250,slow=7.3,SNR=8.2						
	comp=Z,1.3nm,0.8s						
YKA	**Yellowknife Ar**	**97.33 28**	P	**P**	**12 33 36.9 +0.3**		
	comp=Z,0.3nm,0.6s,baz=272,slow=4.8,SNR=12						
	comp=Z,0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**149.71 285**	PKPbc	**PKPbc**	**12 39 53.6 -0.9**		
	comp=Z,4.0nm,0.6s,baz=60,slow=3.6,SNR=28						
BDFB	**Brasilia**	**150.66 138**	PKPbc	**PKPbc**	**12 39 57.3 +0.3**		
	comp=Z,6.6nm,0.7s,baz=182,slow=2.4,SNR=9.5						

*MOS **03** 12:30:07.8±0.7,54.°09N×169.°14E, h12km, mb4.1/1, Error ellipse: s-maj=13.7km s-min=7.8km az=6.8*
*IDC **03** 12:30:10.5±1.1,54.°42N×168.°97E, h0km, mb3.8/11, mbtmp3.9/13, ML3.6/2, MS2.9/1, Error ellipse: s-maj=33.5km s-min=15.5km az=180.0*
*KRSC **03** 12:30:13.1±1.4,54.°05N×168.°31E, h7km±28km, Ml4.4*
*NEIC **03** 12:30:13.7±2.3,53.°9N±0.°3×169.°03E±0.°07, h31km±7km, mb4.0/17, Error ellipse: s-maj=39.6km s-min=5.5km az=184.0*

ISC 03 12:30:13.1±0.7, 54.°10N±0.°09×168.°99E±0.°05, h25km, n90, σ1§39/95, mb3.9/15, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.07**	**304**	PN		**Pn**		**12 30 44.2**	**-2.0**
BKI	**Bering**	**2.07**	**304**	*e*P		**Pn**		**12 30 44.2**	**-2.0**
BKI				eS		**Sn**		**12 31 07.6**	**-3.6**
SHEM	**Shemya Is, Ala**	**3.35**	**112**	Pn		**Pn**		**12 31 04.7**	**+0.9**
SHEM						Sn		**12 31 42.0**	**-0.8**
	12nm,0.3s,baz=117,slow=3.6,SNR=7.1								
	13nm,0.3s,baz=284,slow=23,SNR=1.6								
	51nm,0.4s								
TUMD	**Tumrok D**	**5.11**	**286**	*e*P		**Pn**		**12 31 29.2**	**+1.3**
TUMD				*e*S		**Sn**		**12 32 23.7**	**-2.3**
BZGR	**Bezymyannyi-Gr**	**5.11**	**294**	PN		**Pn**		**12 31 30.0**	**+1.9**
BZGR	**Bezymyannyi-Gr**	**5.11**	**294**	*e*P		**Pn**		**12 31 30.0**	**+1.9**
BZP	**Bezymyannyi-Pe**	**5.19**	**294**	*e*P		**Pn**		**12 31 28.9**	**-0.3**
BZMR	**Bezymyannaya**	**5.22**	**294**	PN		**Pn**		**12 31 32.0**	**+2.3**
BZMR	**Bezymyannaya**	**5.22**	**294**	*e*P		**Pn**		**12 31 32.0**	**+2.3**
TUMR	**Tumrok**	**5.26**	**287**	PN		**Pn**		**12 31 29.2**	**-1.0**
TUMR	**Tumrok**	**5.26**	**287**	*e*P		**Pn**		**12 31 32.0**	**+1.8**
KRSR	**Krestovskiy**	**5.27**	**297**	PN		**Pn**		**12 31 31.4**	**+1.1**
KRSR	**Krestovskiy**	**5.27**	**297**	*e*P		**Pn**		**12 31 31.4**	**+1.1**
KRSR				*e*S		**Sn**		**12 32 29.9**	**-0.4**
KIRR	**Kirishev**	**5.31**	**294**	PN		**Pn**		**12 31 32.6**	**+1.8**
KIRR	**Kirishev**	**5.31**	**294**	*e*P		**Pn**		**12 31 32.6**	**+1.8**
KMNR	**Kamenistaya**	**5.31**	**292**	PN		**Pn**		**12 31 33.9**	**+3.1**
KMNR	**Kamenistaya**	**5.31**	**292**	*e*P		**Pn**		**12 31 33.9**	**+3.1**
KMNR				*e*S		**Sn**		**12 32 31.9**	**+0.7**
SRDR	**Sredinnyy**	**5.75**	**296**	*e*S		**Sn**		**12 32 43.0**	**+1.0**
SMAR	**Somma**	**6.11**	**266**	PN		**Pn**		**12 31 42.6**	**+0.7**
SMAR	**Somma**	**6.11**	**266**	*e*P		**Pn**		**12 31 42.6**	**+0.7**
KRER	**Koryakskii**	**6.13**	**267**	PN		**Pn**		**12 31 43.2**	**+1.0**
KRER	**Koryakskii**	**6.13**	**267**	*e*P		**Pn**		**12 31 43.2**	**+1.0**
AVH	**Avacha**	**6.15**	**266**	PN		**Pn**		**12 31 43.4**	**+1.1**
AVH	**Avacha**	**6.15**	**266**	*e*P		**Pn**		**12 31 43.4**	**+1.1**
KRX	**Arik**	**6.18**	**267**	PN		**Pn**		**12 31 43.6**	**+0.8**
KRX	**Arik**	**6.18**	**267**	*e*P		**Pn**		**12 31 43.6**	**+0.8**
KRX				*e*S		**Sn**		**12 32 50.2**	**-2.5**
DALK	**Dalny**	**6.19**	**264**	PN		**Pn**		**12 31 43.6**	**+0.8**
DALK	**Dalny**	**6.19**	**264**	*e*P		**Pn**		**12 31 43.6**	**+0.8**
DALK				*e*S		**Sn**		**12 32 51.1**	**-1.5**
KOK	**Koryaka**	**6.20**	**267**	PN		**Pn**		**12 31 43.8**	**+0.8**
KOK	**Koryaka**	**6.20**	**267**	*e*P		**Pn**		**12 31 43.8**	**+0.8**
KOK				*e*S		**Sn**		**12 32 51.1**	**-2.0**
PET	**Petropavlovsk**	**6.25**	**264**	Pn		**Pn**		**12 31 44.1**	**+0.5**
PET				Sn		**Sn**		**12 32 52.5**	**-1.7**
PET	**Petropavlovsk**	**6.25**	**264**	*e*PN		**Pn**		**12 31 45.1**	**+1.5**
PET				pmax	pmax				
	comp=Z,22nm,0.5s								
PET	**Petropavlovsk**	**6.25**	**264**	*e*P		**Pn**		**12 31 44.5**	**+0.9**
PET				*e*S		**Sn**		**12 32 53.0**	**-1.2**
RUS	**Russkaya**	**6.50**	**259**	PN		**Pn**		**12 31 47.9**	**+0.9**
RUS	**Russkaya**	**6.50**	**259**	*e*P		**Pn**		**12 31 47.9**	**+0.9**
GNL	**Ganaly**	**6.54**	**271**	PN		**Pn**		**12 31 49.4**	**+1.7**
GNL	**Ganaly**	**6.54**	**271**	*e*P		**Pn**		**12 31 49.4**	**+1.7**
KRMR	**Karymshinskiy**	**6.61**	**263**	PN		**Pn**		**12 31 49.7**	**+1.2**
KRMR	**Karymshinskiy**	**6.61**	**263**	*e*P		**Pn**		**12 31 49.7**	**+1.2**
MTVR	**Mutnovka**	**6.68**	**260**	PN		**Pn**		**12 31 50.6**	**+1.0**
MTVR	**Mutnovka**	**6.68**	**260**	*e*P		**Pn**		**12 31 50.6**	**+1.0**
GRL	**Gorelyy**	**6.72**	**261**	PN		**Pn**		**12 31 51.7**	**+1.6**
GRL	**Gorelyy**	**6.72**	**261**	*e*P		**Pn**		**12 31 51.7**	**+1.6**
PEA0B	**Petropavlovsk-**	**6.79**	**266**	Pn		**Pn**		**12 31 52.8**	**+1.7**
PEA0B				Sn		**Sn**		**12 33 06.2**	**-1.3**
PETK	**Petropavlovsk-**	**6.79**	**266**	Pn		**Pn**		**12 31 51.5**	**+0.5**
PETK	**Petropavlovsk-**	**6.79**	**266**	PN		**Pn**		**12 31 51.5**	**+0.5**
PETK	**Petropavlovsk-**	**6.79**	**266**	Pn		**Pn**		**12 31 52.1**	**+1.0**
	comp=Z,3.2nm,0.3s,baz=77,slow=18,SNR=260								
PETK				Sn		**Sn**		**12 33 07.1**	**-0.4**
	comp=Z,3.7nm,0.3s,baz=264,slow=26,SNR=9.0								
PETK				LR	LR			12 34 22.4	
	comp=Z,98nm,20.3s,baz=73,slow=37								
	comp=Z,5.1nm,0.4s								
ASAK	**Asacha**	**6.87**	**260**	PN		**Pn**		**12 31 53.5**	**+1.3**
ASAK	**Asacha**	**6.87**	**260**	*e*P		**Pn**		**12 31 53.5**	**+1.3**
ADK	**Adak**	**8.93**	**99**	Pn		**Pn**		**12 32 19.7**	**-0.6**
ADK	**Adak**	**8.93**	**99**	PN		**Pn**		**12 32 19.7**	**-0.6**
L14K	**Kuka Creek**	**16.67**	**53**			**P**		**12 34 06.7**	**-0.2**
L14K				IAmb	IAmb			12 34 15.3	
	comp=Z,18nm,1.4s								
M14K	**Bethel**	**16.90**	**55**			**P**		**12 34 09.6**	**+0.2**
K15K	**Wolf Creek Mou**	**17.43**	**50**			**P**		**12 34 16.2**	**+0.9**
K15K				IAmb	IAmb			12 34 39.2	
	comp=Z,18nm,1.4s								
N15K	**Kwethluk River**	**17.73**	**58**			**P**		**12 34 20.2**	**+1.6**
L16K	**Owhat River**	**18.25**	**53**	P		**P**		**12 34 28.2**	**+3.9**
L16K				IAmb	IAmb			12 34 44.7	
	comp=Z,13nm,1.5s								
H17K	**Granite Mounta**	**18.92**	**43**	P		**Pn**		**12 34 32.8**	**+0.4**
G18K	**Tagagawik**	**19.75**	**41**	P		**Pn**		**12 34 41.7**	**-0.6**
J18K	**Innoko River**	**19.85**	**48**	P		**P**		**12 34 42.5**	**+0.7**
J18K				IAmb	IAmb			12 34 44.0	
	comp=Z,8.4nm,0.9s								
TTA	**Tatalina**	**20.06**	**50**	P		**P**		**12 34 45.0**	**+0.8**
TTA				IAmb	IAmb			12 34 46.4	
	comp=Z,8.1nm,1.0s								
TTA	**Tatalina**	**20.06**	**50**	P		**P**		**12 34 45.0**	**+0.8**
TTA				pmax	pmax				
	comp=Z,8.0nm,1.0s								
C18K	**Utukok River**	**20.09**	**32**	P		Pn		12 34 46.6	+0.2
J19K	**Poorman**	**20.44**	**47**	P		**P**		**12 34 48.5**	**+0.3**
L19K	**White Mountain**	**20.48**	**52**	P		**P**		**12 34 50.0**	**+1.3**
D19K	**Kuna River**	**21.00**	**34**	P		**P**		**12 34 55.4**	**+1.0**
D19K				IAmb	IAmb			12 35 09.2	
	comp=Z,8.0nm,1.1s								
M20K	**Styx River**	**21.26**	**53**	P		**P**		**12 34 56.0**	**-1.2**
M20K				IAmb	IAmb			12 35 19.4	
	comp=Z,6.0nm,1.1s								
IMAR	**Indian Mountai**	**21.69**	**42**	P		**P**		**12 35 00.9**	**-0.8**
CCB	**Clear Creek Bu**	**23.90**	**47**	P		**P**		**12 35 24.1**	**-0.3**
CCB				IAmb	IAmb			12 35 25.7	
	comp=Z,4.6nm,1.1s								
ILAR	**Eielson Array**	**24.31**	**46**	P		**P**		**12 35 27.1**	**-1.1**
	comp=Z,1.3nm,0.9s,baz=258,slow=7.3,SNR=4.4								
	comp=Z,1.3nm,0.9s								
PRP	**Porcupine Dome**	**24.95**	**45**	P		**P**		**12 35 33.5**	**-0.7**
PRP				IAmb	IAmb			12 35 35.8	
	comp=Z,4.6nm,1.0s								
BMAR	**Burnt Mountain**	**25.55**	**40**	P		**P**		**12 35 39.2**	**-0.3**
DAWY	**Dawson**	**27.55**	**48**	P		**P**		**12 35 57.1**	**-0.5**
H11N2	**WAKE ISLAND Hy**	**34.34**	**183**	T		T		13 14 05.4	
	baz=1.1,slow=76,SNR=1465								
H11N3	**WAKE ISLAND Hy**	**34.36**	**183**	T		T		13 14 06.4	
	baz=1.1,slow=76,SNR=1310								
H11N1	**WAKE ISLAND Hy**	**34.36**	**183**	T		T		13 14 06.7	
	baz=1.1,slow=76,SNR=1577								
H11S1	**WAKE ISLAND Hy**	**35.57**	**184**	T		T		13 15 14.9	
	baz=1.5,slow=76,SNR=286								
H11S3	**WAKE ISLAND Hy**	**35.58**	**184**	T		T		13 15 15.9	
	baz=1.5,slow=76,SNR=87								
H11S2	**WAKE ISLAND Hy**	**35.58**	**184**	T		T		13 15 06.4	
	baz=1.5,slow=76,SNR=233								
YKA	**Yellowknife Ar**	**36.74**	**46**	P		**P**		**12 37 34.8**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=297,slow=8.1,SNR=3.5								
	comp=Z,0.2nm,0.7s								
SONM	**Songino Array**	**38.75**	**287**	P		**P**		**12 37 36.0**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=63,slow=7.7,SNR=10								
	comp=Z,0.9nm,0.6s								
SPITS	**Spitsbergen Ar**	**46.93**	**353**	P		**P**		**12 38 39.5**	**-1.3**
	comp=Z,6.7nm,0.8s,baz=325,slow=11,SNR=11								
	comp=Z,6.7nm,0.8s								
KURK	**Kurchatov**	**51.58**	**306**	P		**P**		**12 39 16.6**	**-0.1**
KURBB	**Kurchatov Arra**	**51.68**	**306**	P		**P**		**12 39 16.6**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=53,slow=7.7,SNR=14								
	comp=Z,1.4nm,0.6s								
PDAR	**Pinedale Array**	**52.33**	**67**	P		**P**		**12 39 23.3**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=329,slow=5.2,SNR=4.9								
	comp=Z,0.7nm,0.9s								
MKAR	**Makanchi Array**	**52.37**	**300**	P		**P**		**12 39 21.7**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=49,slow=6.3,SNR=8.7								
	comp=Z,0.9nm,0.7s								
BVAR	**Borovoye Array**	**53.78**	**312**	P		**P**		**12 39 32.5**	**-0.5**
	comp=Z,4.0nm,0.6s,baz=46,slow=7.7,SNR=18								
	comp=Z,4.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**63.57**	**265**	P		**P**		**12 40 43.6**	**+2.1**
	comp=Z,0.3nm,0.4s,baz=26,slow=7.9,SNR=4.8								
	comp=Z,0.3nm,0.4s								
NB2	**NORSAR Subarra**	**63.86**	**348**	P		**P**		**12 40 41.7**	**-1.2**
	comp=Z,3.5nm,0.9s,baz=14,slow=6.9								
NOA	**NORSAR Array B**	**63.86**	**348**	P		**P**		**12 40 42.1**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=16,slow=6.7,SNR=5.8								
	comp=Z,1.5nm,0.8s								
TXAR	**Lajitas Array**	**65.31**	**74**	P		**P**		**12 40 53.8**	**+0.8**
	comp=Z,1.0nm,0.9s,baz=296,slow=4.1,SNR=8.1								
	comp=Z,1.0nm,0.9s								

*IDC **03** 12:33:40.9±5.2,20.°57S×178.°67W, h578km±55km, mb3.3/9, mbtmp4.2/10, Error ellipse: s-maj=34.4km s-min=20.9km az=84.0*

ISC 03 12:33:42.4±1.0, 20.°6S±0.°2×178.°8W±0.°2, h600km, n17, σ1§18/16, mb3.8/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.87**	**261**	P		**P**		**12 36 40.4**	**+0.2**
	5.8nm,0.6s,baz=297,slow=23,SNR=9.2								
CTA	**Charters Tower**	**32.77**	**265**	P		**P**		**12 39 28.6**	**+0.7**
	1.6nm,0.4s,baz=78,slow=11,SNR=2.0								
	1.6nm,0.4s								
ASAR	**Alice Springs**	**43.80**	**257**	P		**P**		**12 40 57.1**	**+0.2**
	3.1nm,0.7s,baz=94,slow=7.5,SNR=36								
ASAR				S		**S**		**12 46 43.1**	**-2.4**
	1.2nm,0.9s,baz=85,slow=14,SNR=8.0								
	3.1nm,0.7s								
WRA	**Warramunga Arr**	**43.88**	**262**	P		**P**		**12 40 57.4**	**-0.2**
	1.0nm,0.3s,baz=97,slow=7.6,SNR=40								
	1.0nm,0.3s								
QSPA	**South Pole Qui**	**69.48**	**180**	P		**P**		**12 43 52.3**	**+0.6**
	1.1nm,0.6s,baz=213,slow=0.9,SNR=9.5								
	1.1nm,0.6s								
MJAR	**Matsushiro Arr**	**69.86**	**324**	P		**P**		**12 43 54.2**	**0.0**
	1.2nm,0.6s,baz=160,slow=5.2,SNR=5.7								
	1.2nm,0.6s								
ASAJ	**Asahikawa**	**73.46**	**332**	P		**P**		**12 44 16.4**	**+1.5**
	13nm,1.3s,baz=278,slow=3.2,SNR=5.7								
	13nm,1.3s								
PETK	**Petropavlovsk-**	**76.17**	**346**	P		**P**		**12 44 30.0**	**+0.2**
	2.4nm,0.7s,baz=239,slow=12,SNR=4.7								
	2.4nm,0.7s								
ILAR	**Eielson Array**	**88.56**	**13**	P		**P**		**12 45 31.3**	**-0.5**
	0.4nm,0.4s,baz=216,slow=5.2,SNR=9.3								
	0.4nm,0.4s								
CMAR	**Chiang Mai Arr**	**89.47**	**290**	P		**P**		**12 45 39.0**	**+1.9**
	0.6nm,0.5s,baz=153,slow=3.4,SNR=6.8								
	0.6nm,0.5s								
BVAR	**Borovoye Array**	**118.69**	**320**	PKP		**PKiKP**		**12 51 22.3**	**-0.8**
	1.4nm,0.3s,baz=113,slow=2.7,SNR=11								
FINES	**FINESS Array B**	**135.65**	**343**	PKP		**PKiKP**		**12 51 55.2**	**-1.6**
	3.6nm,1.1s,baz=96,slow=1.9,SNR=4.8								
HFS	**Hagfors**	**139.51**	**350**	PKhKP		PKPpre		12 51 53.8	
	0.7nm,0.3s,baz=67,slow=5.0,SNR=14								
AKASG	**Malin Array Be**	**142.74**	**330**	PKhKP		PKPpre		12 52 05.0	
	2.0nm,0.3s,baz=42,slow=4.2,SNR=21								
EKA	**Eskdalemuir Ar**	**145.15**	**4**	PKPbc		**PKPab**		**12 52 13.4**	**-1.1**
	0.5nm,0.5s,baz=29,slow=1.6,SNR=1.3								
BRTR	**Keskin Array B**	**146.37**	**312**	PKPbc		**PKPbc**		**12 52 17.1**	**-0.4**
	0.8nm,0.5s,baz=136,slow=4.8,SNR=5.3								
MMAI	**Mount Meron Ar**	**147.24**	**299**	PKPbc		**PKiKP**		**12 52 20.6**	**-0.9**
	2.1nm,0.4s,baz=70,slow=5.4,SNR=8.8								

*IDC **03** 12:38:02.1±1.1,6.°21S×143.°38E, h0km, mb4.0/8, mbtmp4.0/10, ML1.4/1, Error ellipse: s-maj=36.6km s-min=23.3km az=68.0*

ISC 03 12:38:06.8±0.8, 6.°4S±0.°1×143.°2E±0.°1, h35km, n11, σ1§16/12, mb4.0/8, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.97**	**128**	Pn		**Pn**		**12 39 18.3**	**-0.7**
	1.0nm,0.3s,baz=321,slow=19,SNR=2.2								
PMG						Sn		**12 40 16.7**	**+1.5**
	1.3nm,0.3s,baz=273,slow=20,SNR=

comp=Z,4μm,1.0s
CRUN **El Crucero** **0.75** **77** *i* P Pn 13 17 40.6 -0.1
CRUN IAML 13 18 02.8
comp=Z,13nm,1.0s
CNGA **Al SSO del Vol** **0.76** **27** *i* P Pb 13 17 40.8 0.0
CNGA *i* S Sn 13 17 52.0 +0.7
CNGA IAML 13 17 54.2
comp=Z,9μm,1.0s
BC84 **Volcan Momotom** **0.77** **41** *i* P Pb 13 17 41.0 +0.2
BC84 *i* S Sn 13 17 52.2 +0.9
BC84 IAML 13 17 56.2
comp=Z,7μm,1.0s
ROCN **Rota Cerro Neg** **0.77** **23** *i* P Pb 13 17 41.1 +0.2
ROCN *i* S Sn 13 17 52.3 +0.9
ROCN IAML 13 17 54.6
comp=Z,6μm,1.0s
CNGN **Cerro Negro** **0.77** **27** *i* P Pb 13 17 40.9 0.0
CNGN *i* S Sn 13 17 52.0 +0.6
CNGN IAML 13 17 56.7
comp=Z,8μm,1.0s
MOMN **Momotombo** **0.78** **40** *i* P Pn 13 17 41.0 0.0
MOMN *i* S Sn 13 17 51.9 +0.2
MOMN IAML 13 17 56.1
comp=Z,210nm,1.0s
TEL3 **Telica 3** **0.78** **15** *i* P Pn 13 17 41.1 0.0
TEL3 IAML 13 18 07.9
comp=Z,4μm,1.0s
ABCN **Banco Central** **0.79** **67** *i* P Pb 13 17 41.5 +0.3
ABCN *i* S Sn 13 17 52.9 +1.0
ABCN IAML 13 17 57.5
comp=Z,10μm,1.0s
RE6B4 **Centro civico** **0.80** **67** *i* P Pn 13 17 41.3 0.0
RE6B4 IAML 13 17 59.6
comp=Z,7μm,1.0s
APYN **Apoyeque** **0.80** **58** *i* P Pn 13 17 41.4 +0.1
APYN *i* S Sn 13 17 53.2 +0.9
APYN IAML 13 17 54.5
comp=Z,9μm,1.0s
APQ2 **Apoyeque** **0.81** **61** *i* P Pb 13 17 41.6 +0.1
APQ2 *i* S Sn 13 17 52.3 0.0
APQ2 IAML 13 17 57.8
comp=Z,7μm,1.0s
PLRN **Geotermica Pol** **0.82** **20** *i* P Pn 13 17 41.4 -0.1
PLRN *i* S Sn 13 17 53.0 +0.4
PLRN IAML 13 17 53.7
comp=Z,7μm,1.0s
RB28C **Hialeah** **0.82** **68** *i* P Pb 13 17 41.9 +0.2
RB28C IAML 13 17 59.3
comp=Z,5μm,1.0s
TELN **Telica** **0.82** **15** *i* P Pn 13 17 41.5 -0.1
TELN *i* S Sn 13 17 53.3 +0.5
TELN IAML 13 17 55.5
comp=Z,570nm,1.0s
UNAN **Cigeo UNAN** **0.82** **68** *i* P Pb 13 17 41.8 0.0
UNAN *i* S Sn 13 17 54.0 +1.3
UNAN IAML 13 17 57.7
comp=Z,20μm,1.0s
HERN **Volcan Telica** **0.82** **15** *i* P Pn 13 17 41.6 -0.1
HERN *i* S Sn 13 17 53.3 +0.4
HERN IAML 13 17 54.8
comp=Z,5μm,1.0s
ENAN **Enatrel Managu** **0.83** **69** *i* P Pn 13 17 41.7 0.0
ENAN *i* S Sn 13 17 53.6 +0.7
ENAN IAML 13 17 57.5
comp=Z,11μm,1.0s
TISN **Laguna Tiscapa** **0.83** **67** *i* P Pb 13 17 42.0 0.0
TISN IAML 13 17 59.2
comp=Z,490nm,1.0s
ALLN **Telcor Managua** **0.83** **66** *i* P Pn 13 17 41.8 +0.1
ALLN *i* S Sb 13 17 52.3 -0.6
ALLN IAML 13 17 56.9
comp=Z,11μm,1.0s
MOM2 **El Cardon** **0.83** **42** *i* P Pn 13 17 41.8 +0.1
MOM2 *i* S Sn 13 17 54.4 +1.4
MOM2 IAML 13 17 56.0
comp=Z,4μm,1.0s
ILCN **San Idelfonso** **0.84** **24** *i* P Pb 13 17 42.0 0.0
ILCN *i* S Sn 13 17 53.8 +0.7
ILCN IAML 13 17 54.8
comp=Z,3μm,1.0s
R8CCA **La Lomita** **0.84** **69** *i* P Pb 13 17 42.1 0.0
R8CCA IAML 13 17 55.9
comp=Z,7μm,1.0s
R0529 **La Mascota** **0.85** **69** *i* P Pb 13 17 42.3 0.0
R0529 IAML 13 17 56.6
comp=Z,6μm,1.0s
R4DEC **Barrio San Lui** **0.85** **67** *i* P Pn 13 17 41.7 -0.3
R4DEC IAML 13 17 56.5
comp=Z,5μm,1.0s
R1628 **Naciones Unida** **0.86** **70** *i* P Pb 13 17 42.3 -0.1
R1628 IAML 13 17 56.2
comp=Z,8μm,1.0s
PKGN **Cerro Pekin** **0.86** **5** *i* P Pn 13 17 42.0 -0.1
PKGN *i* S Sn 13 17 54.2 +0.6
PKGN IAML 13 18 00.5
comp=Z,10μm,1.0s
R1E40 **Villa Flor Nor** **0.87** **69** *i* P Pb 13 17 42.6 0.0
R1E40 IAML 13 17 56.1
comp=Z,7μm,1.0s
R45A8 **Distro VI** **0.88** **68** *i* P Pn 13 17 42.5 +0.2
R45A8 IAML 13 17 55.8
comp=Z,6μm,1.0s
RB213 **Mirador 2 Volc** **0.88** **79** *i* P Pn 13 17 42.0 -0.4
RB213 IAML 13 17 48.7
comp=Z,4μm,1.0s
MAS3 **Al N del Volca** **0.88** **76** *i* P Pn 13 17 42.3 -0.1
MAS3 IAML 13 17 42.8
comp=Z,7μm,1.0s
MAS3 *i* S Sb 13 17 54.6 +0.3
CRIN **San Cristobal** **0.89** **0** *i* P Pn 13 17 42.6 +0.1
CRIN *i* S Sb 13 17 55.5 +1.1
CRIN IAML 13 18 00.4
comp=Z,13μm,1.0s
R1F03 **Distro VII** **0.89** **70** *i* P Pn 13 17 42.5 +0.1
R1F03 IAML 13 18 01.7
comp=Z,5μm,1.0s
MASN **Masaya** **0.90** **79** *i* P Pn 13 17 42.5 -0.1
MASN *i* S Sb 13 17 55.5 +0.8
MASN IAML 13 17 59.3
comp=Z,1μm,1.0s
WILN **Americas 2** **0.91** **67** *i* P Pn 13 17 43.0 +0.2
WILN *i* S Sb 13 17 56.1 +1.0
WILN IAML 13 18 00.1
comp=Z,4μm,1.0s
BC87 **San Francisco** **1.02** **47** *i* P Pn 13 17 43.5 -0.7
BC87 *i* S Sb 13 17 58.5 +0.4
BC87 IAML 13 17 59.6
comp=Z,9μm,1.0s
BRAN **Las Pilas** **1.13** **37** *i* P Pn 13 17 41.7 -4.2
BRAN *i* S Sn 13 17 53.0 -7.4
BRAN IAML 13 17 53.9
comp=Z,9μm,1.0s
CSGN **Cosiguina Volc** **1.26** **337** *i* P Pn 13 17 47.7 0.0
CSGN IAML 13 18 05.5
comp=Z,13μm,1.0s
JAPN **Al SSO del Vol** **1.37** **102** *i* P Pn 13 17 49.4 +0.3
JAPN IAML 13 18 16.6
comp=Z,2μm,1.0s
MORN **Al O del Volca** **1.40** **101** *i* P Pn 13 17 49.3 -0.2
MORN IAML 13 18 14.9
comp=Z,5μm,1.0s
LIMN **Finca el Limon** **1.41** **28** *i* P Pn 13 17 49.7 -0.1
LIMN IAML 13 18 08.5
comp=Z,640nm,1.0s
CONN **Concepcion** **1.42** **100** *i* P Pn 13 17 49.4 -0.4
CONN *i* S Sn 13 18 07.8 +0.4
CONN IAML 13 18 17.3
comp=Z,11μm,1.0s
OMEN **Al SSO del Vol** **1.43** **102** *i* P Pn 13 17 49.4 -0.5
OMEN *i* S Sn 13 18 08.0 +0.4
OMEN IAML 13 18 14.0
comp=Z,3μm,1.0s
BOAB **BOACO BROADBAN** **1.50** **65** *i* P Pn 13 17 50.8 0.0
BOAB IAML 13 18 13.0
comp=Z,510nm,1.0s
MATN **Matagalpa** **1.56** **45** *i* P Pn 13 17 52.0 +0.1
MATN *i* S Sn 13 18 12.1 +0.9
MATN IAML 13 18 15.4
comp=Z,560nm,1.0s
CNCH **Conchagua** **1.65** **332** *i* P Pn 13 17 52.6 -0.4
CNCH *i* S Sn 13 18 13.6 +0.4
CNCH IAML 13 18 16.6
comp=Z,3μm,1.0s
LCND **La Caada** **1.70** **331** *i* P Pn 13 17 53.7 0.0
LCND *i* S Sn 13 18 14.6 +0.2
LCND IAML 13 18 17.2
comp=Z,1μm,1.0s
PACA **Pacayal** **2.06** **323** *i* P Pn 13 17 58.6 -0.2
PACA *i* S Sn 13 18 24.2 +0.6
PACA IAML 13 18 25.9
comp=Z,4μm,1.0s

HEL ***03*** *13:20:46.1±0.2, 68.°10N×33.°31E, h0km, ML1.8, Explosion*
KOLA ***03*** *13:20:46.2, 68.°04N×33.°57E, h0km, ML2.1, Error ellipse: s-maj=7.3km s-min=2.5km az=100.0, Murmansk region, Olenegorsk district*
IDC ***03*** *13:20:47.9±2.0, 68.°14N×33.°14E, h0km, mbtmp3.4/3, ML2.0/2, Error ellipse: s-maj=22.1km s-min=10.9km az=73.0*

ISC 03 13:20:45.3±0.8, 68.°09N±0.°02×33.°36E±0.°04, h0km, n33, σ1s07/56, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.50**	**196**	P		**Pg**		**13 20 54.5**	**-0.4**
APA0				S		**Sg**		**13 21 01.0**	**-0.4**
APA	**Apatity**	**0.52**	**178**	P		**Pg**		**13 20 55.0**	**-0.3**
APA				S		**Sg**		**13 21 02.1**	**+0.2**
LVZ	**Lovozero**	**0.52**	**111**	PG		**Pg**		**13 20 55.9**	**+0.6**
LVZ				SG		**Sg**		**13 21 01.1**	**-0.9**
TERR	**Teriberka**	**1.29**	**29**	P		**Pg**		**13 21 09.1**	**-0.9**
TERR				S		**Sg**		**13 21 26.0**	**-0.7**
VRF	**Varrio**	**1.46**	**258**	PG		**Pn**		**13 21 11.9**	**-1.0**
VRF				MSG				13 21 29.4	
	comp=Z,8.0nm,0.2s								
VRF				SG		**Sg**		**13 21 30.9**	**-1.2**
PRVG	**Vayda Guba**	**1.72**	**346**	P		**Pb**		**13 21 18.4**	**+0.6**
PRVG				S		**Sb**		**13 21 40.3**	**+0.4**
RAJF	**Raja-Jooseppi**	**1.92**	**284**	PG		**Pn**		**13 21 19.6**	**+0.4**
RAJF				SG		**Sn**		**13 21 44.0**	**0.0**
OLKF	**Oulanka, Finla**	**2.35**	**223**	PB		**Pn**		**13 21 26.1**	**+1.0**
OLKF				MSG				13 21 55.3	
	comp=Z,3.6nm,0.2s								
OLKF				SG		**Sb**		**13 21 57.8**	**-0.2**
KU6	**Riekki**	**2.48**	**215**	PB		**Pn**		**13 21 28.5**	**+1.6**
KU6				MSG				13 21 59.2	
	comp=Z,2.5nm,0.2s								
KU6				SG		**Sb**		**13 22 01.8**	**+0.2**
VADS	**Vadso**	**2.50**	**327**	P		**Pn**		**13 21 27.7**	**+0.6**
VADS				S		**Sb**		**13 22 01.6**	**-0.6**
KMNF	**Kaamanen**	**2.56**	**298**	PN		**Pn**		**13 21 28.8**	**+0.7**
KMNF				SN		**Sn**		**13 21 59.8**	**-0.1**
SGF	**Sodankyl**	**2.68**	**259**	PN		**Pn**		**13 21 30.1**	**+0.4**
SGF				SB		**Sn**		**13 22 02.7**	**0.0**
MSF	**Maaselka**	**2.77**	**220**	PN		**Pn**		**13 21 32.3**	**+1.4**
MSF				SB		**Sb**		**13 22 09.1**	**-0.9**
KEV	**Kevo**	**2.84**	**309**	PN		**Pn**		**13 21 32.8**	**+0.9**
KEV				SB		**Sn**		**13 22 08.4**	**+1.6**
KEV				MSG				13 22 09.3	
	comp=Z,4.3nm,0.2s								
ARA0	**ARCESS Array S** baz=116	**3.20**	**301**	PN		**Pn**		**13 21 37.2**	**+0.4**
ARA0				SN		**Sn**		**13 22 16.9**	**+1.3**
ARCES	**ARCESS Array B**	**3.20**	**301**	P		**Pn**		**13 21 37.2**	**+0.4**
ARCES	**ARCESS Array B**	**3.20**	**301**	Pn		**Pn**		**13 21 37.3**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=117,slow=14,SNR=37								
ARCES				Pg		**Pb**		**13 21 44.4**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=120,slow=17,SNR=9.7								
ARCES				Sn		**Sn**		**13 22 15.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=119,slow=23,SNR=5.4								
ARCES				Lg		Lg		13 22 23.2	
	comp=Z,0.7nm,0.3s,baz=112,slow=36,SNR=3.3								
	comp=Z,1.5nm,0.4s								
RNF	**Rovaniemi**	**3.21**	**246**	PN		**Pn**		**13 21 37.1**	**+0.2**
RNF				SN		**Sn**		**13 22 15.8**	**0.0**
RANF	**Ranua** baz=43	**3.31**	**234**	PN		**Pn**		**13 21 38.5**	**+0.2**
HEF	**Hetta**	**3.63**	**280**	PN		**Pn**		**13 21 42.3**	**-0.4**
HEF				SN		**Sn**		**13 22 24.8**	**-1.3**
KLF	**Kolari**	**3.69**	**261**	PN		**Pn**		**13 21 44.1**	**+0.6**
KLF				SN		**Sn**		**13 22 27.9**	**+0.3**
KTK1	**Kautokeino**	**3.83**	**289**	PN		**Pn**		**13 21 45.8**	**+0.3**
KTK1				SN		**Sn**		**13 22 30.4**	**-0.7**
TOF	**Tornio**	**4.07**	**245**	PG		**Pb**		**13 21 58.8**	**+1.1**
TOF				SN		**Sn**		**13 22 34.7**	**-2.2**
RMF	**Romuvaara** baz=19	**4.13**	**201**	PN		**Pn**		**13 21 50.3**	**+0.8**
OUL	**Oulu**	**4.24**	**228**	PG		**Pb**		**13 22 02.2**	**+1.6**
LANU	**Lannavaara**	**4.26**	**275**	PN		**Pn**		**13 21 53.7**	**+2.2**
LANU				SG		**Sb**		**13 22 54.8**	**+1.8**
KALU	**Kalix**	**4.52**	**245**	SN		**Sn**		**13 22 46.3**	**-1.7**
OBF4	**Vikkela, Lumij**	**4.66**	**229**	PN		**Pn**		**13 21 56.9**	**0.0**
KIF	**Kilpisjarvi**	**4.70**	**287**	PN		**Pn**		**13 21 57.4**	**0.0**
KIF				SN		**Sn**		**13 22 51.0**	**-1.5**
FINES	**FINESS Array B**	**7.36**	**208**	Pn		**Pn**		**13 22 34.2**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=36,slow=10,SNR=3.5								
FINES				Sn		**Sn**		**13 23 55.0**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=28,slow=22,SNR=5.1								
FINES				Lg		Lg		13 24 26.6	
	comp=Z,0.1nm,0.3s,baz=24,slow=31,SNR=2.0								
	comp=Z,0.7nm,0.8s								
SPITS	**Spitsbergen Ar**	**11.19**	**342**	Pn		**Pn**		**13 23 24.0**	**-2.2**
	comp=Z,9.7nm,1.0s,baz=149,slow=17,SNR=1.9								
I43RU	**DUBNA INFRASON** baz=355,slow=335,SNR=1.2	**1.54**	**169**	I		I		14 30 00.0	
NOA	**NORSAR Array B** baz=17,slow=16,SNR=1.9	**11.79**	**244**	Lg		Lg		13 26 58.6	

ISU 03 13:31:32.6, 40.°14N×70.°57E, h19km, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MINT	**Mingtut**	**0.45**	**43**	P			Pb	13 31 42.1	+0.1
MINT				S			Sb	13 31 49.0	+0.6
CHMI	**Chimion**	**0.74**	**80**	P			Pb	13 31 47.0	+0.1
CHMI				S			Sg	13 31 57.7	+0.6
FRG	**Fergana**	**0.96**	**75**	P			Pb	13 31 50.8	+0.2
FRG				S			Sn	13 32 04.3	+0.1
CHMG	**Chimgan**	**1.47**	**343**	P			Pb	13 31 59.8	+0.3
CHMG				S			Sg	13 32 20.2	-0.1
TSTA	**Tashata**	**1.52**	**73**	P			Pb	13 32 00.6	+0.4
TSTA				S			Sg	13 32 21.5	-0.3
CHRV	**Charvak**	**1.57**	**343**	P			Pb	13 32 01.5	+0.4
CHRV				S			Sg	13 32 23.1	-0.3
BXML	**Bakhmal**	**2.00**	**258**	P			Pg	13 32 11.8	+0.6
BXML				S			Sg	13 32 41.6	+4.4

SOME ***03*** *13:32:09.5, 40.°08N×70.°57E, h20km*
KRNET ***03*** *13:32:09.4±0.1, 40.°13N×70.°59E, h24km, mb2.5*
NNC ***03*** *13:32:11.4±2.2, 40.°21N×70.°64E, h0km, mb3.2, mpv3.4, Error ellipse: s-maj=16.1km s-min=8.4km az=22.0*

ISC 03 13:32:08.4±1.1, 40.°19N±0.°03×70.°63E±0.°03, h18km±4km, n26, σ1s39/44, 15C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BTK	**Batken** baz=12	**0.20**	**134**	⇑*e*	P		**Pb**	**13 32 14.2**	**+1.0**
BTK				⇑*e*	S		**Sb**	**13 32 17.3**	**+1.0**
DRK	**Karamyk** baz=24	**1.15**	**128**	⇓*e*	P		**Pb**	**13 32 30.5**	**+0.6**
DRK				⇓*e*	S		**Sg**	**13 32 45.9**	**+0.2**
GAR	**Garm** baz=91	**1.22**	**192**	⇓*e*	P		**Pn**	**13 32 31.0**	**+0.4**
GAR				⇓*e*	S		**Sb**	**13 32 46.1**	**-0.3**
TRKS	**Terek-Say** baz=18	**1.39**	**16**	⇑*e*	P		**Pg**	**13 32 35.4**	**+0.2**
TRKS				⇑*e*	S		**Sg**	**13 32 54.3**	**+0.9**
OHH	**Osh** baz=76	**1.68**	**78**	⇑*e*	P		**Pg**	**13 32 40.2**	**-0.5**
OHH				⇑*e*	S		**Sg**	**13 33 03.2**	**+0.7**
ARK	**Arkit** baz=32	**1.89**	**32**	⇓*e*	P		**Pg**	**13 32 44.2**	**-0.6**
ARK				⇓*e*	S		**Sg**	**13 33 09.3**	**-0.1**
CHGR	**Chuyangaron** baz=17	**1.91**	**217**	⇑*e*	P		**Pb**	**13 32 42.3**	**-0.5**
CHGR				⇑*e*	S		**Sb**	**13 33 06.2**	**-0.2**
IUG	**luzhnay**	**2.00**	**347**	*e*	P		**Pg**	**13 32 47.9**	**+1.0**
	30nm,0.2s								
IUG				*e*	S		**Sg**	**13 33 15.8**	**+2.9**
	80nm,0.2s								
IUG	**luzhnay**	**2.00**	**347**	Pg			**Pg**	**13 32 47.9**	**+1.0**
	30nm,0.2s								
IUG				Lg			Lg	13 33 15.8	
	80nm,0.2s								
SFK	**Sufi-Kurgan** baz=92	**2.21**	**94**	⇑*e*	P		**Pb**	**13 32 47.8**	**-0.1**
SFK				⇑*e*	S		**Sb**	**13 33 16.8**	**+1.8**
	baz=92								
CHM	**Chimkent**	**2.26**	**340**	*e*	P		**Pg**	**13 32 51.3**	**-0.5**
	78nm,0.1s								
CHM				*e*	S		**Sg**	**13 33 21.6**	**+0.4**
	185nm,0.2s								
MNAS	**Manas** baz=31	**2.69**	**31**	⇑*e*	P		**Pb**	**13 32 55.3**	**-0.8**
MNAS				⇑*e*	S		**Sb**	**13 33 28.5**	**-0.3**
	baz=31								
DZA	**Taraz**	**2.75**	**11**	*e*	P		**Pg**	**13 33 00.3**	**-0.7**
	48nm,0.1s								
DZA				*e*	S		**Sg**	**13 33 37.2**	**+0.5**
	71nm,0.2s								
DZA	**Taraz**	**2.75**	**11**	Pg			**Pg**	**13 33 00.4**	**-0.7**
	48nm,0.1s								
DZA				Lg			Lg	13 33 37.2	
	71nm,0.2s								
BRLS	**Borolday**	**2.90**	**348**	*e*	P		**Pb**	**13 32 60.0**	**+0.4**
	1.1nm,0.1s								
BRLS				*e*	S		**Sb**	**13 33 36.3**	**+1.7**
	6.6nm,0.2s								
BRLS	**Borolday**	**2.90**	**348**	Pg			**Pb**	**13 32 60.0**	**+0.4**
	1.1nm,0.1s								
BRLS				Lg			Lg	13 33 36.3	
	6.6nm,0.2s								
KK31	**Karatay Array**	**2.91**	**358**	Pg			**Pg**	**13 33 04.2**	**0.0**
	0.5nm,0.3s,baz=181,slow=17,SNR=15								
KK31				⇑Lg			Lg	13 33 43.1	
	2.1nm,0.3s,baz=176,slow=15,SNR=13								
KKAR	**Karatay Array** baz=59	**2.91**	**358**	⇑*e*	P		**Pb**	**13 32 58.1**	**-1.6**
KKAR				⇑*e*	S		**Sb**	**13 33 33.4**	**-1.6**
	baz=59								
MRKS	**Merke**	**3.21**	**37**	*e*	P		**Pg**	**13 33 09.0**	**-0.9**
	2.3nm,0.3s								
MRKS				*e*	S		**Sg**	**13 33 52.1**	**+0.7**
	4.3nm,0.3s								
MRKS	**Merke**	**3.21**	**37**	Pg			**Pg**	**13 33 09.0**	**-0.9**
	2.3nm,0.3s								
MRKS				Lg			Lg	13 33 52.1	
	4.3nm,0.3s								
KST	**Kastek**	**4.91**	**53**	*e*	P		**Pg**	**13 33 40.1**	**-2.2**
	1.0nm,0.1s								
KST				*e*	S		**Sg**	**13 34 45.1**	**-0.7**
	1.5nm,0.2s								
KST	**Kastek**	**4.91**	**53**	Pg			**Pg**	**13 33 40.1**	**-2.2**
	1.0nm,0.1s								
KST				Lg			Lg	13 34 45.1	
	1.5nm,0.2s								
DGS	**Degeres**	**4.91**	**50**	*e*	P		**Pg**	**13 33 40.8**	**-1.5**
	0.8nm,0.3s								
DGS				*e*	S		**Sg**	**13 34 46.3**	**+0.5**
	1.8nm,0.6s								
DGS	**Degeres**	**4.91**	**50**	Pg			**Pg**	**13 33 40.8**	**-1.5**
	0.8nm,0.3s								
DGS				Lg			Lg	13 34 46.3	
	1.8nm,0.6s								
KTBS	**Karatobe**	**5.72**	**50**	*e*	P		**Pg**	**13 33 58.7**	**+0.9**
	0.3nm,0.2s								
KTBS				*e*	S		**Sg**	**13 35 17.3**	**+5.4**
	1.6nm,0.3s								
KTBS	**Karatobe**	**5.72**	**50**	Pg			**Pg**	**13 33 58.7**	**+0.9**
	0.3nm,0.2s								
KTBS				Lg			Lg	13 35 17.3	
	1.6nm,0.3s								

JMA 03 13:33:37.7±0.1, 24.°2N±0.°4×123.°8E±0.°5, h18km±1km, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.15**	**316**	*e*	S		Sg	13 33 44.9	+0.1
JKRS	**Kuro-shima**	**0.15**	**86**	P			Pg	13 33 41.9	-0.1
JKRS				S			Sg	13 33 45.0	+0.2
HATJ	**Hateruma jima**	**0.17**	**192**	P			Pg	13 33 42.1	-0.1
HATJ				*e*	S		Sg	13 33 45.4	+0.1
JIJ	**Ishigaki jima**	**0.30**	**63**	P			Pg	13 33 44.2	-0.2
JIJ				S			Sg	13 33 48.6	-0.3
JISG	**Ishigakijimahi**	**0.56**	**50**	P			Pg	13 33 48.7	-0.2

TAP 03 13:33:47.2, 23.°80N×121.°74E, h21km, ML2.9, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHUL	**Shoufeng** baz=265	**0.16**	**266**	*i* P			Pb	13 33 52.3	-0.8
SHUL				*i* S			Sb	13 33 56.6	-0.7
	baz=265								
HWA	**Hwalien** baz=331	**0.21**	**326**	*i* P			Pb	13 33 52.9	-0.3
HWA				*i* S			Sb	13 33 57.9	+0.6
	baz=331								
ESL	**Shilin** baz=267	**0.28**	**273**	*i* P			Pb	13 33 53.4	-0.3
ESL				*i* S			Sb	13 33 57.6	-0.5
	baz=267								
ETM	**Tongmen** baz=308	**0.28**	**307**	*i* P			Pb	13 33 53.4	-0.3
ETM				*i* S			Sb	13 33 58.1	0.0
	baz=308								
TWD	**Chiawan** baz=339	**0.31**	**336**	*i* P			Pb	13 33 54.0	0.0
TWD				*i* S			Sb	13 33 58.1	-0.6
	baz=339								
EGFH	**Guangfu** baz=243	**0.31**	**246**	*i* P			Pb	13 33 54.2	+0.2
EGFH				*i* S			Sb	13 33 59.5	+0.7
	baz=243								
WARBT	**Fenglin Townsh** baz=250	**0.33**	**256**	*i* P			Pb	13 33 54.2	-0.2
WARBT				*i* S			Sb	13 33 59.4	+0.1
	baz=250								
LXIB	**Xiulin Townshi** baz=308	**0.37**	**307**	*i* P			Pb	13 33 55.0	-0.1
LXIB				S			Sb	13 34 00.7	+0.2
	baz=308								
ETL	**Fush Village** baz=347	**0.37**	**344**	*i* P			Pb	13 33 54.9	-0.2
ETL				*i* S			Sb	13 34 00.8	+0.4
	baz=347								
NACB	**Ninganchiao** baz=344	**0.40**	**341**	*i* P			Pb	13 33 55.2	-0.2
NACB				*i* S			Sb	13 34 01.5	+0.5
	baz=344								
HGSD	**Ruisui** baz=213	**0.42**	**223**	*e*S			Sn	13 34 05.5	+0.5
EHYH	**Wanrong** baz=239	**0.47**	**230**	*i* P			Pb	13 33 57.0	+0.3
EHYH				*i* S			Sb	13 34 04.3	+1.1
	baz=239								
ETLH	**Xiulin Townshi** baz=332	**0.47**	**330**	*i* P			Pb	13 33 56.6	-0.2
ETLH				*i* S			Sb	13 34 03.3	0.0
	baz=332								
EHY	**Hungye** baz=245	**0.48**	**233**	*i* P			Pb	13 33 57.1	+0.2
EHY				*i* S			Sb	13 34 03.9	+0.4
	baz=245								
EAHA	**Aohua** baz=360	**0.53**	**0**	*i* P			Pb	13 33 57.6	-0.2
EAHA				*i* S			Sb	13 34 06.1	+1.0
	baz=360								
OWD	**Renai** baz=294	**0.54**	**287**	*i* P			Pb	13 33 57.9	-0.2
OWD				*i* S			Sb	13 34 06.2	+0.7
	baz=294								
ECBN	**Changbin** baz=206	**0.55**	**209**	*i* S			Sb	13 34 06.0	+0.4
VWDT	**VWDT** baz=265	**0.55**	**265**	*i* P			Pb	13 33 58.4	+0.2
VWDT				*i* S			Sb	13 34 06.4	+0.8
	baz=265								
WHF	**Hehuan Shan** baz=310	**0.55**	**309**	*i* P			Pb	13 33 58.4	-0.2
WHF				*i* S			Sb	13 34 07.2	+0.9

baz=310
YULB Yu-li **0.57 225** S Sb 13 34 07.0 +0.7
baz=239
CHGB Renai **0.58 297** *i* P Pb 13 33 58.7 -0.1
baz=305
CHGB *i* S Sb 13 34 07.6 +0.8
baz=305
EYUL Yuli **0.59 221** *e*S Sn 13 34 10.4 +1.1
baz=234
WUSB Renai **0.60 289** *i* P Pb 13 33 59.2 0.0
baz=296
WUSB *i* S Sb 13 34 07.2 -0.1
baz=296
TWF1 Yuli **0.60 222** *i* P Pb 13 33 58.9 -0.2
baz=234
TWF1 *i* S Sb 13 34 07.8 +0.6
baz=234
EOS4 EOS4 **0.62 59** *i* P Pb 13 33 59.1 -0.1
baz=73
EOS4 *i* S Sb 13 34 07.9 +0.5
baz=73
ENA Nanau **0.63 0** *i* P Pb 13 33 59.5 0.0
baz=4.0
ENA *i* S Sb 13 34 08.6 +0.6
baz=4.0
FUSS Fushou **0.64 315** *i* P Pb 13 33 59.8 -0.1
baz=316
FUSS *i* S Sb 13 34 08.5 0.0
baz=316
EWUT Wuta **0.65 3** *i* P Pb 13 33 59.8 -0.1
baz=354
EWUT *i* S Sb 13 34 09.6 +1.1
baz=354
CHKH Chenggong **0.68 207** P Pn 13 34 01.6 +0.1
baz=188
CHKH *i* S Sb 13 34 09.3 -0.1
baz=188
TWT Tachien **0.68 312** *i* P Pb 13 34 00.4 -0.2
baz=311
TWT *i* S Sn 13 34 11.3 -0.6
baz=311
TDCB Techi **0.70 311** *i* P Pb 13 34 01.0 +0.2
baz=312
TDCB *i* S Sb 13 34 10.7 +0.7
baz=312
NNSB Datong **0.71 333** *i* P Pb 13 34 00.9 -0.1
baz=326
NNSB *i* S Sb 13 34 10.5 +0.2
baz=326
SSLB Suanglung **0.72 269** *i* P Pb 13 34 00.7 -0.4
baz=268
SSLB *i* S Sb 13 34 10.3 -0.2
baz=268
NNS Nan Shan **0.72 333** *i* P Pb 13 34 01.2 +0.1
baz=326
NNS *i* S Sb 13 34 11.4 +0.8
baz=326
FULB Fuli **0.72 214** *e*P Pn 13 34 02.5 +0.3
baz=227
FULB S Sn 13 34 13.3 +0.7
baz=227
LATG Datong **0.76 345** *i* P Pb 13 34 01.9 +0.1
baz=338
LATG *i* S Sn 13 34 13.0 -0.7
baz=338
SMLT Sun Moon Lake **0.77 276** *i* P Pb 13 34 02.0 +0.1
baz=276
SMLT *i* S Sb 13 34 12.8 +0.8
baz=276
CHKT Chengkung **0.77 206** *i* P Pn 13 34 03.8 +0.9
baz=186
CHKT *i* S Sb 13 34 10.4 -1.6
baz=186
ESAO Su ao **0.78 7** *i* P Pn 13 34 03.1 +0.1
baz=360
ESAO *i* S Sn 13 34 13.5 -0.5
baz=360
WCS Beigang Elemen **0.80 289** *i* P Pb 13 34 02.5 +0.1
baz=289
WCS S Sb 13 34 13.6 +0.8
baz=289
EHD Haiduan **0.81 217** P Pn 13 34 04.1 +0.7
baz=227
EHD S Sn 13 34 14.4 -0.3
baz=227
TYC Yuchr **0.81 278** *i* P Pb 13 34 02.6 0.0
baz=283
TYC *i* S Sb 13 34 13.8 +0.7
baz=283
TWC Suao **0.81 7** *i* P Pn 13 34 03.1 -0.3
baz=1.0
TWC *i* S Sn 13 34 15.6 +0.8
baz=1.0
WHYT Xinyi Township **0.81 263** *i* P Pb 13 34 03.0 +0.3
baz=262
WHYT *i* S Sb 13 34 13.6 +0.3
baz=262
NDT Datong Townshi **0.83 346** *i* P Pb 13 34 03.0 +0.1
baz=341
NDT *i* S Sn 13 34 14.4 -0.8
baz=341
NDS Dongshan **0.83 359** *i* P Pb 13 34 03.2 +0.2
baz=2.0
NDS *i* S Sn 13 34 15.8 +0.5
baz=2.0
ECS Chishang **0.84 214** *e*P Pn 13 34 04.0 +0.1
baz=225
ECS S Sn 13 34 16.9 +1.2
baz=225
ENTT Nioudou **0.85 350** *i* P Pb 13 34 03.5 +0.2
baz=344
ENTT S Sn 13 34 15.4 -0.4
baz=344
WHP Taichung City **0.87 304** P Pn 13 34 04.5 +0.3
baz=304
WHP *i* S Sn 13 34 16.8 +0.5
baz=304
ELDTW Lidau **0.90 228** *i* P Pb 13 34 03.5 -0.6
baz=223
ELDTW S Sn 13 34 17.0 -0.1
baz=223
ALS Alishan **0.90 252** *i* P Pn 13 34 04.6 -0.3
baz=249
ALS *i* S Sb 13 34 16.6 +0.7
baz=249
TWE Neicheng **0.92 356** *i* P Pb 13 34 04.6 +0.1
baz=1.0
TWE *i* S Sn 13 34 17.3 -0.2
baz=1.0
WJS Zhushan **0.92 272** *i* P Pn 13 34 05.7 +0.7
baz=272
WJS *i* S Sn 13 34 19.3 +1.7
baz=272
YHNB Yeheng **0.93 339** *i* P Pb 13 34 04.7 +0.1
baz=343
YHNB *i* S Sb 13 34 17.2 +0.6
baz=343
NSK Sanguang **0.94 339** *i* P Pb 13 34 04.8 0.0
baz=342
NSK *i* S Sb 13 34 17.5 +0.6
baz=342
FUSB Fushanzhiwuyua **0.97 352** *i* P Pn 13 34 05.7 +0.1
baz=356
FUSB *i* S Sn 13 34 19.6 +0.8
baz=356
WNT Mingjian **0.97 275** *i* P Pn 13 34 06.3 +0.8
baz=274
WNT *i* S Sn 13 34 20.4 +1.8
baz=274
NWLT Wulai **1.00 348** *i* P Pb 13 34 05.9 0.0
baz=339
NWLT *i* S Sn 13 34 19.1 -0.3
baz=339
NFF Wufeng Townshi **1.00 326** *i* P Pn 13 34 06.4 +0.3
baz=328
NFF *i* S Sn 13 34 22.0 +2.3
baz=328
TCU Taichung **1.03 290** *i* P Pn 13 34 07.2 +0.8
baz=290
TCU *i* S Sn 13 34 22.9 +2.7
baz=290
TWQ1 Liyutan **1.04 302** *i* P Pn 13 34 07.7 +1.2
baz=303
TWQ1 *i* S Sn 13 34 22.0 +1.6
baz=303
EGS **1.06 10** *i* P Pb 13 34 09.6 +2.8
baz=29
EGS *e*S Sn 13 34 24.7 +3.9
baz=29

NSTT Nanjuang **1.07 321** *i* P Pb 13 34 07.5 +0.5
baz=304
NSTT *i* S Sn 13 34 22.1 +0.9
baz=304
LIOB Emei **1.07 322** *i* P Pb 13 34 07.7 +0.7
baz=324
LIOB *i* S Sn 13 34 22.5 +1.2
baz=324
STYH Taoyuan **1.08 235** P Pn 13 34 06.9 -0.2
baz=231
STYH *i* S Sb 13 34 21.0 +0.2
baz=231
WGK Gukeng **1.08 264** P Pb 13 34 08.1 +0.9
baz=262
WGK *i* S Sn 13 34 24.0 +2.6
baz=262
NSY Sanyi **1.08 305** P Pb 13 34 08.8 +1.5
baz=306
NSY S Sn 13 34 24.5 +3.0
baz=306
WCKO Fanlu **1.10 251** *i* P Pb 13 34 08.5 +1.0
baz=248
WCKO *i* S Sn 13 34 23.3 +1.5
baz=248
WDLH Douliu **1.10 265** *i* P Pb 13 34 08.5 +0.9
baz=263
WDLH *i* S Sn 13 34 24.0 +2.0
baz=263
TPUB Ta-pu **1.13 244** *i* P Pb 13 34 08.5 +0.4
baz=232
TPUB *i* S Sn 13 34 24.4 +1.7
baz=232
NMLH Miaoli **1.13 311** P Pb 13 34 08.8 +0.7
baz=312
NMLH S Sn 13 34 25.0 +2.2
baz=312
CHN4 Tsaushan **1.14 247** *i* P Pb 13 34 09.0 +0.8
baz=234
CHN4 *i* S Sn 13 34 24.9 +2.0
baz=234
WDJ Dajia District **1.14 299** *i* P Pb 13 34 09.6 +1.3
baz=299
WDJ *i* S Sn 13 34 25.3 +2.4
baz=299
LDUT Ludao **1.15 192** *i* S Sb 13 34 18.5 -4.2
baz=178
TWG Pinlang **1.15 212** *e*S Sn 13 34 24.0 +0.9
baz=206
WTP Ta-pu **1.17 242** *i* P Pb 13 34 09.2 +0.5
baz=238
WTP *i* S Sn 13 34 25.2 +1.6
baz=238
TIPB Shuangxi **1.17 4** *i* P Pb 13 34 09.4 +0.6
baz=355
TIPB *i* S Sn 13 34 25.6 +1.8
baz=355
CHN2 Minshiung **1.19 257** S Sn 13 34 26.7 +2.6
baz=255
TWB1 Santiao Chiao **1.23 11** *i* P Pb 13 34 10.6 +0.9
baz=38
TWB1 S Sb 13 34 26.2 +1.1
baz=38
WTK Tuku **1.24 265** *i* P Pb 13 34 10.3 +0.4
baz=263
WTK *i* S Sb 13 34 27.6 +2.2
baz=263
WRL Guolierlin Hig **1.25 275** *i* P Pb 13 34 10.6 +0.5
baz=274
WRL *i* S Sb 13 34 27.8 +2.1
baz=274
TWK Hsinying **1.26 245** *i* P Pb 13 34 10.9 +0.5
baz=241
TWK *i* S Sb 13 34 28.8 +2.7
baz=241
CHN1 Nanshi **1.27 241** *i* P Pb 13 34 10.9 +0.6
baz=237
CHN1 *i* S Sb 13 34 28.3 +2.1
baz=237
NCUH Zhongli **1.27 337** S Sb 13 34 29.3 +3.0
baz=342
NWF Wu-fen Shan **1.27 2** P Pb 13 34 11.4 +1.0
baz=351
NWF S Sb 13 34 27.5 +1.2
baz=351
WFSB Wu-fen Shan **1.27 2** P Pb 13 34 11.3 +0.9
baz=351
WFSB *i* S Sb 13 34 28.7 +2.4
baz=351
SNST Tainan City **1.27 243** *i* P Pb 13 34 10.9 +0.4
baz=239
SNST *i* S Sb 13 34 28.2 +1.8
baz=239
SGST Jiashian **1.28 236** *i* P Pb 13 34 10.7 +0.1
baz=232
SGST *i* S Sb 13 34 28.4 +1.8
baz=232
SLGT Liugui **1.28 232** *i* P Pb 13 34 10.8 +0.1
baz=227
SLGT *i* S Sb 13 34 29.0 +2.3
baz=227
SXI1 Grass Mountain **1.30 6** *i* P Pb 13 34 11.1 +0.1
baz=355
SXI1 S Sb 13 34 29.1 +1.9
baz=355
TWS1 Kuangyinshan **1.33 347** *e*S Sb 13 34 31.7 +3.7
baz=353
WTCT Ta-ch'eng **1.33 273** *e*P Pb 13 34 11.8 +0.3
baz=273
YM01 YM01 **1.35 354** *i* P Pb 13 34 12.3 +0.4
baz=360
YM01 S Sb 13 34 29.2 +0.4
baz=360
ICHU Yijhu **1.41 252** P Pb 13 34 12.7 -0.1
baz=248
ICHU S Sb 13 34 31.6 +1.4
baz=248
WSL Shuilin Townsh **1.41 259** *i* S Sb 13 34 32.8 +2.5
baz=257
SSD Sandimen **1.46 224** *i* P Pb 13 34 13.8 +0.1
baz=217
SSD *i* S Sb 13 34 33.9 +2.1
baz=217
SCST Cishan **1.46 232** *i* P Pb 13 34 14.8 +1.2
baz=243
SCST *i* S Sb 13 34 34.7 +3.0
baz=243
CHN8 Yiju **1.47 252** *i* S Sb 13 34 33.9 +1.8
baz=248
TSMG Majia **1.48 223** *i* P Pb 13 34 14.2 +0.2
baz=200
TSMG S Sb 13 34 34.6 +2.3
baz=200
SHHT Tainan City **1.49 239** *e*S Sb 13 34 34.5 +1.9
baz=254
MASBT Mashibuluo **1.56 221** *i* P Pb 13 34 15.0 -0.3
baz=202
MASBT *i* S Sb 13 34 35.4 +0.8
baz=202
EAST Anshuo **1.63 210** *e*P Pn 13 34 15.1 +0.4
baz=205
WDGT Dungji **1.98 255** *i* P Pn 13 34 20.1 +0.6
baz=250
WDGT *i* S Sn 13 34 43.9 +0.2
baz=250
PHUB P'eng-hu **2.00 262** *i* P Pn 13 34 20.6 +0.8
baz=242
PHUB *i* S Sn 13 34 45.6 +1.3
baz=242
PNG Penghu **2.01 264** *i* P Pn 13 34 20.5 +0.6
baz=242
PNG *i* S Sn 13 34 45.9 +1.5
baz=242
VCHM Qimei **2.20 255** *e*P Pn 13 34 22.5 0.0
baz=250
VCHM *i* S Sn 13 34 49.6 +0.6
baz=250
VWUC VWUC **2.40 300** *i* P Pn 13 34 25.1 -0.1
baz=300
VWUC *i* S Sn 13 34 53.5 -0.5
baz=300
KNM Kinmen **3.08 282** P Pn 13 34 36.8 +2.2
baz=281

*TEH **03** 13:38:47.1,34°.38N×45°.64E,h8km±47km, ML3.6*
*ISN **03** 13:38:48.3±1.1,34°.38N×45°.67E,h38km±6km, ML3.6*
ISC 03 13:38:47.4±1.1,**34°.37N**±0°.04×**45°.66E**±0°.04,**h10**km±10km,
n20,σ1$**03**/25,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.15**	**337**	Pg	**Pg**	**13 38 50.5**	**-0.3**
IDHR	**Dehrash**	**0.69**	**61**	Pg	**Pg**	**13 39 00.2**	**-0.5**
IDHR				Sg	**Sb**	**13 39 10.9**	**-0.3**
IGHG	**Ghaleghazi**	**0.75**	**93**	Pg	**Pb**	**13 39 02.2**	**-0.5**
IGHG				Sg	**Sn**	**13 39 14.6**	**-1.2**
ILBA	**Ilam Banvizeh**	**0.87**	**148**	Pg	**Pg**	**13 39 04.3**	**+0.1**
KCHF	**Cheshme Sefid,**	**1.15**	**94**	Pg	**Pb**	**13 39 08.8**	**-0.6**
ILIN	**Lien**	**1.21**	**63**	Pg	**Pb**	**13 39 09.9**	**-0.6**
IBDR	**Badra**	**1.27**	**170**	*e*Pg	**Pg**	**13 39 12.0**	**+0.1**
IBDR				*e*Sg	**Sg**	**13 39 29.0**	**+0.6**
IBDR				AML	AML	13 39 35.7	
	comp=E,2μm,0.4s						
IBDR				AML	AML	13 39 42.6	
	comp=N,1μm,0.5s						
BHD	**Baghdad**	**1.53**	**225**	*e*Pn	**Pn**	**13 39 15.5**	**+0.8**
BHD				*e*Sn	**Sn**	**13 39 34.0**	**-0.5**
BHD				AML	AML	13 39 47.9	
	comp=E,1μm,0.8s						
SDS1	**Sardasht. Az.**	**1.78**	**356**	Pg	**Pb**	**13 39 21.0**	**+0.8**
IBZA	**Bozab**	**1.82**	**86**	Pn	**Pb**	**13 39 21.1**	**+0.1**
IKFM	**Kafar-mosalman**	**2.00**	**114**	Pn	**Pb**	**13 39 23.3**	**-0.6**
IDOB	**Doab**	**2.17**	**105**	Pn	**Pb**	**13 39 25.7**	**-1.2**
MAHB	**Mahabad**	**2.39**	**1**	Pn	**Pb**	**13 39 29.1**	**-1.5**
RAFI	**Al-Rafai**	**2.67**	**172**	*e*Pn	**Pn**	**13 39 30.0**	**-0.3**
RAFI				*e*Sn	**Sn**	**13 40 02.0**	**-0.6**
RAFI				AML	AML	13 40 33.0	
	comp=N,218nm,0.6s						
RAFI				AML	AML	13 40 35.8	
	comp=E,268nm,0.2s						
IPIR	**Pirpir**	**4.68**	**110**	Pn	**Pn**	**13 39 59.7**	**+1.3**
JHBN	**Jahan bin**	**4.70**	**116**	Pn	**Pn**	**13 39 59.8**	**+1.1**
ZNGN	**Zangian**	**4.90**	**116**	Pn	**Pn**	**13 40 02.3**	**+0.9**
KRSH	**Karshahi**	**5.38**	**92**	Pn	**Pn**	**13 40 10.0**	**+2.1**
ISFB	**Sefidab**	**5.45**	**88**	Pn	**Pn**	**13 40 10.1**	**+1.4**
IZEF	**Zefreh**	**5.75**	**103**	Pn	**Pn**	**13 40 14.5**	**+1.4**

AUST 03 14:01:12.8±6.3,**17°.60S**×**120°.59E,h10**km,**Error ellipse: s-maj=62.1km s-min=29.7km az=140.0,Northwest of Australia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**4.83**	**97**	P	Pn	14 02 23.6	-2.0
FITZ				S	Sn	14 03 20.6	-1.0
	baz=5.0						
KNRA	**Kununurra**	**8.06**	**77**	del		14 03 03.4	
KNRA				S	Sn	14 04 28.4	-13
	baz=7.9						
MEEK	**Meekatharra**	**9.18**	**191**	P	Pn	14 03 27.9	+2.5
MEEK	baz=9.2			S	Sn	14 05 12.9	+4.1
	baz=9.2						
WRKA	**Warakurna**	**10.31**	**137**	P	Pn	14 03 42.0	+1.2
WRKA	baz=10			S	Sn	14 05 39.8	+3.3
	baz=10						
KDU	**Kakadu**	**12.46**	**69**	del		14 04 00.4	
KDU	baz=12			S	Sn	14 06 11.5	-18
	baz=12						
WB2	**Warramunga Arr**	**13.24**	**102**	P	Pn	14 04 17.3	-3.6
	baz=14						
BLDU	**Ballidu**	**13.43**	**195**	P	Pn	14 04 24.1	+0.6
BLDU	baz=14			S	Sn	14 06 50.4	-2.5
	baz=14						
KLBR	**Kellerberrin**	**14.17**	**190**	S	Sn	14 07 06.1	-4.8
FORT	**Forrest**	**14.77**	**154**	P	Pn	14 04 39.6	-2.2
	baz=15						

*IDC **03** 14:30:38.9±0.9,6°.20S×143°.15E,h0km,mb3.8/8, mbtmp3.9/10,ML1.4/1,Error ellipse: s-maj=39.9km s-min=19.1km az=71.0*
ISC 03 14:30:44.4±0.8,**6°.49S**±0°.08×**142°.91E**±0°.07,**h35**km,**n18,** σ2$**46**/21,**mb3.7**/8,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**2.07**	**306**	P	**Pn**	**14 31 16.9**	**+0.2**
PMG	**Port Moresby**	**5.11**	**125**	Pn	**Pn**	**14 31 58.4**	**-0.1**
	0.9nm,0.3s,baz=268,slow=12,SNR=2.8						
PMG				Sn	**Sn**	**14 32 56.3**	**0.0**
	0.4nm,0.3s,baz=273,slow=24,SNR=1.8 5.4nm,0.5s						
KDU	**Kakadu**	**11.99**	**238**	P	**Pn**	**14 33 33.2**	**+0.3**
MTN	**Manton Dam**	**13.21**	**241**	P	**Pn**	**14 33 49.7**	**+0.1**
WRA	**Warramunga Arr**	**15.75**	**211**	Pn	**Pn**	**14 34 23.0**	**-0.7**
	0.2nm,0.3s,baz=30,slow=13,SNR=9.8						
WRA				Sn	**Sn**	**14 37 11.9**	**-5.5**
	0.1nm,0.3s,baz=26,slow=24,SNR=2.3						
WRA				Lg	Lg	14 39 02.4	
	0.1nm,0.3s,baz=36,slow=28,SNR=3.0						
KNRA	**Kununurra**	**16.61**	**235**	P	**Pn**	**14 34 35.9**	**+1.3**
ASAR	**Alice Springs**	**19.15**	**206**	P	**Pn**	**14 35 08.2**	**+2.3**
	12nm,0.8s,baz=28,slow=12,SNR=149						
ASAR				S	**Sn**	**14 38 34.1**	**-5.6**
	0.6nm,0.8s,baz=20,slow=26,SNR=2.6						
ASAR				Lg	Lg	14 40 50.1	
	baz=31,slow=32,SNR=2.8						
FITZ	**Fitzroy Crossi**	**20.42**	**234**	P	**P**	**14 35 20.2**	**+1.5**
OOD	**Oodnadatta**	**22.27**	**197**	P	**P**	**14 35 42.7**	**+4.2**
WRKA	**Warakurna**	**23.15**	**216**	P	**P**	**14 35 50.4**	**+2.5**
STKA	**Stephens Creek**	**25.29**	**183**	P	**P**	**14 36 10.0**	**+2.4**
	1.7nm,0.9s,baz=329,slow=12,SNR=2.8 1.7nm,0.9s						
SONM	**Songino Array**	**62.93**	**333**	P	**P**	**14 41 06.3**	**-1.0**
	0.2nm,0.5s,baz=116,slow=6.6,SNR=2.3 0.2nm,0.5s						
MKAR	**Makanchi Array**	**75.32**	**322**	P	**P**	**14 42 24.0**	**-0.2**
	0.6nm,0.7s,baz=99,slow=8.1,SNR=7.0 0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**77.30**	**329**	P	**P**	**14 42 34.0**	**-1.2**
	0.2nm,0.3s,baz=111,slow=8.0,SNR=1.6 0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**79.21**	**324**	P	**P**	**14 42 45.9**	**+0.1**
	0.4nm,0.8s,baz=101,slow=4.8,SNR=2.0 0.4nm,0.8s						
QSPA	**South Pole Qui**	**83.48**	**180**	P	**P**	**14 43 09.2**	**+0.8**
	1.5nm,1.0s,baz=315,slow=1.4,SNR=9.4 1.5nm,1.0s						
BVAR	**Borovoye Array**	**84.79**	**325**	P	**P**	**14 43 14.7**	**-0.4**
	2.5nm,0.8s,baz=114,slow=6.6,SNR=11 2.5nm,0.8s						
ILAR	**Eielson Array**	**87.55**	**24**	P	**P**	**14 43 26.1**	**-2.3**
	0.5nm,0.9s,baz=264,slow=5.3,SNR=1.7 0.5nm,0.9s						

*IDC **03** 14:33:15.2±0.7,55°.38N×157°.71W,h0km,mb4.0/21, mbtmp4.0/24,ML3.7/3,MS3.4/7,Error ellipse: s-maj=17.9km s-min=12.0km az=161.0*
*AEIC **03** 14:33:19.5±2.1,55°.31N±0°.04×157°.28W±0°.08,h26km±7km, ML3.8,mb3.9/8(NEIC),ML3.9/40(NEIC),Error ellipse: s-maj=7.1km s-min=6.1km az=68.0*
*NEIC **03** 14:33:20.1±1.9,55°.37N±0°.04×157°.47W±0°.09, h29km±10km,Error ellipse: s-maj=7.2km s-min=6.0km az=98.0*
ISC 03 14:33:19.4±1.5,**55°.39N**±0°.05×**157°.38W**±0°.04,**h30**km±9km, **n256,**σ1$**26**/265,**mb4.0**/23,**MS3.4**/5,**Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHGN	**Chignik**	**1.08**	**328**		**Pn**	**14 33 38.5**	**0.0**
CHGN					**Sb**	**14 33 53.2**	**0.0**
CHGN	**Chignik**	**1.08**	**328**	IAML		14 33 55.0	
	comp=E,2μm,0.5s						
CHGN				IAML		14 33 57.8	
	comp=N,3μm,0.4s						
CHGN	**Chignik**	**1.08**	**328**	P	**Pn**	**14 33 38.5**	**0.0**
	baz=147						
CHGN				S	**Sb**	**14 33 53.2**	**0.0**
	baz=147						
VNSG	**Veniaminof 6**	**1.21**	**308**		**Pb**	**14 33 41.2**	**-0.6**
VNSG					**Sb**	**14 33 56.4**	**-0.6**
VNHG	**Veniaminof 1**	**1.30**	**310**		**Pb**	**14 33 43.0**	**-0.3**
CHNA	**Chernabura Isl**	**1.39**	**247**	P	**Pn**	**14 33 41.9**	**-0.8**
	baz=69						

CNBA **Chernabura Isl** 1.39 246 Pn 14 33 41.4 -1.4
CNBA IAML 14 34 07.7
comp=N,2µm,0.7s
CNBA IAML 14 34 09.2
comp=E,1µm,0.7s
VNWF Veniaminof 8 1.45 303 Pb 14 33 44.8 -1.0
ANPB Aniakchak Plen 1.50 341 Pn 14 33 45.5 +1.2
S14K Fog Glacier 1.52 307 P Pb 14 33 46.1 -0.8
baz=126
VNFG Fog Glacier, M 1.52 307 Pb 14 33 46.1 -0.8
VNFG Sb 14 34 09.4 +3.6
ANNW Aniakchak Nort 1.64 344 Pn 14 33 47.7 +1.4
SDPT Sand Point 1.77 270 Pn Pn 14 33 47.8 -0.1
SDPT Sand Point 1.77 270 Sn 14 34 09.3 0.0
SDPT Sb 14 34 12.9 +0.1
SDPT Sand Point 1.77 270 IAML 14 34 21.1
comp=N,2µm,0.8s
SDPT IAML 14 34 21.9
comp=E,1µm,0.7s
SDPT Sand Point 1.77 270 P Pn 14 33 47.9 0.0
SDPT Sand Point 1.77 270 P Pn 14 33 47.5 -0.3
baz=90
SDPT S Sn 14 34 09.4 0.0
baz=90
R16K Pilot Point 2.18 357 Pn 14 33 54.6 +1.0
R16K Sn 14 34 19.9 +0.3
R16K Sb 14 34 27.3 +2.5
R16K Pilot Point 2.18 357 IAML 14 34 52.2
comp=N,793nm,0.7s
R16K Pilot Point 2.18 357 P Pn 14 33 54.6 +1.0
baz=176
R16K S Sn 14 34 19.9 +0.3
baz=176
PLK1 Peulik 1 2.45 10 Pn 14 33 58.0 +0.7
PS1A Pavlof South-1 2.48 272 Pn 14 33 57.7 -0.1
PN7A Pavlof North-7 2.63 273 Pn 14 33 60.0 +0.1
OHAK Old Harbor 2.93 50 Pn 14 34 04.0 +0.2
OHAK Sn 14 34 36.4 -1.6
OHAK Old Harbor 2.93 50 IAML 14 35 06.0
comp=N,277nm,0.8s
OHAK Old Harbor 2.93 50 P Pn 14 34 04.0 +0.2
baz=231
OHAK S Sn 14 34 36.4 -1.6
baz=231
Q17K Contact Creek 2.99 15 P Pn 14 34 05.9 +1.0
baz=195
Q17K S Sn 14 34 39.6 -0.2
baz=195
CNTC Contact Creek 2.99 15 Pn 14 34 05.9 +1.0
CNTC Sn 14 34 39.6 -0.2
ANCK Angle Creek 3.00 20 Pn 14 34 05.8 +0.9
ACHA Angle Creek He 3.04 21 Pn 14 34 06.6 +1.0
KAKN Katmai Knife C 3.18 23 Pn 14 34 08.0 +0.6
KELA Mount Kelaz 3.18 16 Pn 14 34 08.6 +1.1
Q16K King Salmon 3.32 7 Pn 14 34 09.6 +0.4
Q16K Sn 14 34 47.7 +0.2
Q16K Sb 14 34 55.6 -1.7
Q16K King Salmon 3.32 7 P Pn 14 34 09.6 +0.4
baz=186
Q16K S Sn 14 34 47.7 +0.2
baz=186
FALS False Pass 3.51 264 Pn 14 34 11.7 -0.1
FALS False Pass 3.51 264 P Pn 14 34 12.2 +0.4
FALS False Pass 3.51 264 P Pn 14 34 11.7 -0.1
baz=80
KDAK Kodiak Island 3.58 46 Pn Pn 14 34 14.6 +1.8
KDAK IAML 14 35 28.4
comp=N,237nm,1.5s
KDAK Kodiak Island 3.58 46 Pn Pn 14 34 12.7 0.0
comp=N,1.2nm,0.3s,baz=214,slow=5.3,SNR=44
KDAK Pg Pb 14 34 22.1 +0.3
comp=N,18nm,0.3s,baz=278,slow=10,SNR=14
KDAK Sn Sn 14 34 51.5 -2.4
comp=N,1.7nm,0.3s,baz=252,slow=19,SNR=1.6
KDAK Lg Lg 14 35 15.0
comp=N,6.6nm,0.3s,baz=329,slow=19,SNR=5.9
comp=N,7.1nm,0.3s
P16K Nushagak River 3.66 355 P Pn 14 34 15.2 +1.3
baz=174
ISLZ Isanotski Laza 3.70 262 Pn 14 34 14.5 0.0
ISNN Isanotski Nort 3.71 264 Pn 14 34 15.3 +0.6
P17K Kvichak River 3.85 7 Pn 14 34 17.4 +0.9
P17K Kvichak River 3.85 7 P Pn 14 34 17.4 +0.9
baz=187
O15K Ungalikthiuk R 4.02 342 P Pn 14 34 20.0 +1.1
baz=159
Q19K Cape Douglas, 4.09 28 Pn 14 34 21.7 +1.8
P18K Big Mountain, 4.17 15 Pn 14 34 22.3 +1.2
P18K Big Mountain, 4.17 15 P Pn 14 34 21.9 +0.9
baz=196
SYI Shuyak Island 4.22 38 Pn 14 34 22.7 +1.0
SYI IAML 14 35 43.0
comp=E,107nm,0.8s
O16K Kokwok River B 4.23 355 Pn 14 34 23.1 +1.4
O16K Kokwok River B 4.23 355 P Pn 14 34 23.1 +1.4
baz=174
WESE West Dahl East 4.26 260 Pn 14 34 22.2 0.0
O17K Koliganek Bris 4.39 2 Pn 14 34 25.1 +1.1
O17K Koliganek Bris 4.39 2 P Pn 14 34 25.1 +1.1
baz=181
O14K Tigyukauivet M 4.40 333 Pn 14 34 25.4 +1.3
O14K Tigyukauivet M 4.40 333 IAML 14 35 46.8
comp=E,81nm,0.8s
O14K IAML 14 35 58.9
comp=N,100nm,1.2s
O14K Tigyukauivet M 4.40 333 P Pn 14 34 25.4 +1.3
baz=150
O18K Koktuh Hills 4.62 14 Pn 14 34 28.6 +1.4
O18K Koktuh Hills 4.62 14 P Pn 14 34 27.8 +0.6
baz=195
P19K Oil Pt 4.82 26 Pn Pn 14 34 32.7 +2.8
P19K IAML 14 36 03.7
comp=N,97nm,1.1s
P19K IAML 14 36 12.2
comp=E,89nm,1.0s
N15K Kwethluk River 5.00 344 Pn 14 34 33.6 +1.2
N15K Kwethluk River 5.00 344 P Pn 14 34 33.6 +1.2
baz=162
AKUT Akutan 5.02 259 Pn Pn 14 34 32.4 -0.2
AKUT Akutan 5.02 259 P Pn 14 34 32.6 0.0
comp=E,224nm,1.6s
O19K Port Alsworth 5.08 18 Pn 14 34 34.5 +1.0
O19K IAML 14 36 01.6
comp=N,99nm,0.4s
O19K Port Alsworth 5.08 18 P Pn 14 34 34.6 +1.1
baz=199
N14K Kuskokwak Cree 5.09 335 Pn 14 34 35.1 +1.6
N14K Kuskokwak Cree 5.09 335 P Pn 14 34 35.2 +1.6
baz=151
ILSW Iliamna Southw 5.13 25 Pn 14 34 34.8 +0.5
ILSW Iliamna Southw 5.13 25 IAML 14 35 49.0
comp=E,50nm,1.1s
N16K Nishlik Lake 5.15 352 Pn 14 34 35.7 +1.3
N16K Nishlik Lake 5.15 352 P Pn 14 34 35.7 +1.3
baz=171
N17K Nushagak Hills 5.15 1 Pn 14 34 35.2 +0.9
N17K Nushagak Hills 5.15 1 IAML 14 36 11.3
comp=N,51nm,1.7s
N17K IAML 14 36 13.8
comp=E,59nm,1.0s
N17K Nushagak Hills 5.15 1 P Pn 14 34 35.2 +0.9
baz=181
CNPM China Poot 5.31 36 Pn Pn 14 34 37.2 +0.6
CNPM IAML 14 36 22.8
comp=N,57nm,1.0s
CNPM IAML 14 36 28.2
comp=E,66nm,1.2s
O20K Slope Mountain 5.35 27 Pn 14 34 38.1 +1.0
O20K Slope Mountain 5.35 27 P Pn 14 34 38.1 +1.0
baz=210
N18K Kilae Creek 5.36 8 Pn 14 34 38.3 +1.0
N18K Kilae Creek 5.36 8 P Pn 14 34 38.3 +1.0
baz=188
UNV Unalaska Valle 5.52 257 Pn 14 34 38.6 -0.9
UNV Unalaska Valle 5.52 257 P Pn 14 34 38.9 -0.6
UNV Unalaska Valle 5.52 257 P Pn 14 34 38.6 -0.9
baz=71
M15K Kasigluk River 5.60 343 Pn 14 34 41.9 +1.4
M15K Kasigluk River 5.60 343 P Pn 14 34 41.9 +1.4
baz=160
BRLK Bradley Lake 5.60 36 Pn 14 34 40.3 -0.3
RED Redoubt Volcan 5.61 24 Pn 14 34 41.5 +0.8
MNAT Makushin Natee 5.61 258 Pn 14 34 39.7 -1.0
BRSE Bradley Lake S 5.64 37 Pn 14 34 40.8 -0.3
BRSE Bradley Lake S 5.64 37 P Pn 14 34 40.8 -0.3
baz=221
RDSO Redoubt South 5.64 24 Pn 14 34 42.4 +1.1
N19K Bonanza Creek 5.65 15 Pn 14 34 42.5 +1.2
N19K Bonanza Creek 5.65 15 P Pn 14 34 42.5 +1.2
baz=196
RSO Redoubt South 5.65 24 Pn 14 34 43.5 +2.0
RDWB Redoubt West 5.65 23 Pn 14 34 42.2 +0.8
MSW Makushin Switc 5.65 259 Pn 14 34 40.6 -0.7
NCT North Crescent 5.70 23 Pn 14 34 43.0 +1.0
M16K Timber Creek 5.71 352 Pn 14 34 43.2 +1.2
M16K Timber Creek 5.71 352 P Pn 14 34 43.2 +1.2
baz=170
MAPS Pakushin South 5.78 258 Pn 14 34 42.1 -1.0
DFR Drift River 5.78 24 Pn 14 34 43.9 +0.8
SVW2 Sparrevohn 5.80 9 Pn 14 34 44.2 +0.9
SVW2 Sparrevohn 5.80 9 P Pn 14 34 44.4 +1.1
RDT Redoubt 5.83 25 Pn 14 34 44.5 +0.7
M14K Bethel 5.89 338 Pn 14 34 45.8 +1.2
M14K Bethel 5.89 338 P Pn 14 34 46.0 +1.4
baz=154
M13K Dall Lake 5.95 330 Pn Pn 14 34 47.3 +2.0
M13K Dall Lake 5.95 330 P Pn 14 34 46.6 +1.3
baz=145
M17K Holitna River 6.03 360 Pn Pn 14 34 47.7 +1.3
M17K Holitna River 6.03 360 P Pn 14 34 47.5 +1.1
baz=179
M18K Stony River 6.17 7 Pn 14 34 49.7 +1.3
M18K Stony River 6.17 7 P Pn 14 34 49.7 +1.3
baz=188
CAPN Captain Cook N 6.32 29 Pn Pn 14 34 51.9 +1.5
SLKM Skilak Lake 6.39 34 Pn 14 34 51.5 +0.1
L16K Owhat River 6.43 351 Pn 14 34 53.8 +1.9
L16K Owhat River 6.43 351 P Pn 14 34 52.7 +0.8
baz=169
O22K Cooper Landing 6.53 35 Pn 14 34 55.7 +2.4
L14K Kuka Creek 6.58 337 Pn 14 34 55.2 +1.3
L14K Kuka Creek 6.58 337 P Pn 14 34 55.3 +1.3
baz=152
L15K Ungalak Mounta 6.66 343 Pn 14 34 55.8 +0.8
L15K Ungalak Mounta 6.66 343 P Pn 14 34 55.8 +0.8
baz=159
L17K Donlin 6.78 356 Pn 14 34 57.5 +0.8
L17K Donlin 6.78 356 P Pn 14 34 57.5 +0.8
baz=175
STLK Strandline Lak 6.78 23 Pn 14 34 57.5 +0.7
L18K Granite Mounta 6.86 3 Pn 14 34 58.6 +0.8
L18K Granite Mounta 6.86 3 P Pn 14 34 58.6 +0.8
baz=183
M11K Mekoryuk 6.86 320 P Pn 14 34 59.1 +1.3
baz=133
M20K Styx River 6.87 17 Pn 14 35 00.1 +2.0
L19K White Mountain 6.93 10 Pn 14 34 59.9 +1.0
L19K White Mountain 6.93 10 P Pn 14 34 59.9 +1.0
baz=191
RC01 Rabbit Creek A 6.99 32 Pn 14 35 00.0 +0.4
RC01 Rabbit Creek A 6.99 32 P Pn 14 34 59.9 +0.2
baz=218
SUA Susitna One 7.01 27 Pn 14 35 00.7 +0.7
SUA Susitna One 7.01 27 P Pn 14 35 00.1 +0.1
baz=212
P23K Montague Islan 7.06 45 Pn 14 35 00.2 -0.4
P23K Montague Islan 7.06 45 P Pn 14 35 00.2 -0.4
baz=233
K15K Wolf Creek Mou 7.25 344 Pn Pn 14 35 05.1 +2.0
K15K Wolf Creek Mou 7.25 344 P Pn 14 35 04.4 +1.3
baz=161
SKT Skwentna 7.27 22 Pn 14 35 04.5 +1.0
SKT Skwentna 7.27 22 P Pn 14 35 04.3 +0.8
baz=207
L20K Farewell, AK 7.33 13 Pn 14 35 05.4 +1.1
L20K Farewell, AK 7.33 13 P Pn 14 35 05.4 +1.1
baz=195
K17K Iditarod 7.36 357 Pn Pn 14 35 05.9 +1.2
K17K Iditarod 7.36 357 P Pn 14 35 05.9 +1.2
baz=176
M22K Willow 7.42 28 Pn 14 35 07.1 +1.7
M22K Willow 7.42 28 P Pn 14 35 05.5 +0.1
baz=213
PMR Palmer 7.57 31 Pn 14 35 08.4 +0.9
TTA Tatalina 7.59 5 Pn 14 35 09.0 +1.1
TTA Tatalina 7.59 5 P Pn 14 35 08.8 +0.8
KNK Knik Glacier 7.64 34 Pn 14 35 10.4 +1.9
KNK Knik Glacier 7.64 34 P Pn 14 35 08.5 0.0
baz=221
HIN Hinchinbrook I 7.66 45 Pn 14 35 09.9 +1.0
GHO Glory Hole Cre 7.77 31 Pn 14 35 10.9 +0.6
CUT Chulitna 7.93 25 Pn 14 35 13.4 +0.9
SML Sawmill 7.97 33 Pn Pn 14 35 14.0 +0.8
J14K Nanvaranak Lak 8.03 339 P Pn 14 35 15.1 +1.2
baz=154
EYAK Cordova Ski Ar 8.05 45 Pn 14 35 14.1 -0.1
EYAK Cordova Ski Ar 8.05 45 P Pn 14 35 14.8 +0.6
EYAK Cordova Ski Ar 8.05 45 P Pn 14 35 14.1 -0.1
baz=234
J17K VABM Dome 8.07 355 Pn 14 35 15.1 +0.6
J17K VABM Dome 8.07 355 P Pn 14 35 15.1 +0.6
baz=173
J16K Anvik River 8.08 350 Pn 14 35 15.2 +0.7
J16K Anvik River 8.08 350 P Pn 14 35 15.2 +0.7
baz=167
J18K Innoko River 8.10 2 P Pn 14 35 15.8 +0.9
baz=182
K20K Telida 8.16 11 Pn Pn 14 35 17.5 +1.7
K20K Telida 8.16 11 P Pn 14 35 16.4 +0.7
baz=193
KAIM Kayak Island 8.30 52 Pn Pn 14 35 20.4 +2.8
SCM Sheep Creek Mo 8.31 35 Pn 14 35 18.1 +0.3
SCM Sheep Creek Mo 8.31 35 P Pn 14 35 18.1 +0.3
baz=223
RAGM Ragged Mountai 8.41 48 Pn 14 35 20.4 +1.3
CAST Castle Rocks 8.49 16 Pn 14 35 21.1 +1.0
CAST Castle Rocks 8.49 16 P Pn 14 35 21.1 +1.0
baz=200
HMT Hamilton 8.56 49 Pn 14 35 22.8 +1.5
KLU Klutina 8.56 40 Pn 14 35 21.8 +0.6
KLU Klutina 8.56 40 P Pn 14 35 20.7 -0.5
baz=229
I17K Unalakleet 8.68 350 Pn Pn 14 35 25.1 +2.3
I17K Unalakleet 8.68 350 P Pn 14 35 23.4 +0.6
baz=167
KTH Kantishna Hill 8.81 19 Pn 14 35 25.3 +0.6
TRF Thorofare Moun 8.85 21 Pn 14 35 25.7 +0.5
M24K Tolsona, Glenn 8.89 36 Pn Pn 14 35 27.3 +1.6
M24K Tolsona, Glenn 8.89 36 P Pn 14 35 25.4 -0.3
baz=225
GRIN Grindle Hills 8.95 51 Pn 14 35 27.1 +0.6
J20K Nowinta River 8.96 9 Pn 14 35 27.7 +1.1
J20K Nowinta River 8.96 9 P Pn 14 35 27.7 +1.1
baz=192
RND Reindeer 9.13 25 Pn 14 35 30.2 +1.2
BPAW Bear Paw Mtn. 9.30 18 Pn 14 35 32.5 +1.1
GLB Gilahina Butte 9.34 44 Pn Pn 14 35 31.8 -0.1
ISLE Juniper Island 9.53 51 Pn 14 35 36.6 +2.1
H16K Elim 9.58 347 Pn 14 35 36.5 +1.4
H16K Elim 9.58 347 P Pn 14 35 36.5 +1.4
baz=163
H17K Granite Mounta 9.66 354 Pn 14 35 38.7 +2.6
GRNC Granite Creek 9.85 51 Pn 14 35 41.0 +2.1
TABL Table Mountain 10.00 53 Pn 14 35 42.9 +1.9
ANM Nome 10.02 340 Pn Pn 14 35 42.6 +1.5
BARN Barnard Glacie 10.04 49 Pn 14 35 43.2 +1.7
NEA2 Nenana 10.11 21 Pn 14 35 41.7 -0.7
CTGM Chitina Glacie 10.13 50 Pn Pn 14 35 44.6 +1.8
I21K Tanana 10.17 13 Pn 14 35 45.0 +1.8
MLY Manley 10.21 16 Pn 14 35 43.0 -0.8
WRH Wood River Hil 10.21 23 Pn 14 35 44.2 +0.4
LOGN Logan Glacier 10.22 51 Pn 14 35 46.0 +1.9
MENT Mentasta 10.29 37 Pn 14 35 46.0 +1.1
CCB Clear Creek Bu 10.43 23 Pn 14 35 46.8 +0.1
RIDG Independent Ri 10.49 32 Pn 14 35 48.4 +0.8
I23K Minto, Yukon-K 10.55 19 Pn 14 35 46.9 -1.4
G18K Tagagawik 10.55 357 Pn Pn 14 35 50.4 +2.0
MDM Murphy Dome 10.61 22 Pn 14 35 47.4 -1.8
IL31 10.75 25 Pn Pn 14 35 50.1 -0.9
ILAR Eielson Array 10.75 25 Pn Pn 14 35 50.9 -0.2
ILAR Eielson Array 10.75 25 Pn Pn 14 35 47.6 -3.5
comp=E,0.4nm,0.3s,baz=212,slow=13,SNR=23
ILAR Sn Sn 14 37 43.2 -7.0
comp=E,0.1nm,0.3s,baz=200,slow=17,SNR=1.3
ILAR LR LR 14 40 43.2
comp=E,94nm,20.1s,baz=208,slow=41
comp=E,0.7nm,0.4s
IMAR Indian Mountai 10.77 8 Pn 14 35 51.9 +0.6
SCRK Sand Creek 10.92 33 Pn Pn 14 35 54.7 +1.1
F19K Shaleruckik Mo 11.48 359 Pn 14 36 03.2 +2.2
PRP Porcupine Dome 11.69 25 Pn Pn 14 36 02.3 -1.8
S31K Pelican 11.90 69 Pn Pn 14 36 06.8 0.0
M29M Somme Creek 12.03 46 Pn Pn 14 36 08.2 -0.5
E18K Tukpahlearik C 12.16 354 Pn Pn 14 36 13.2 +2.8
BMAR Burnt Mountain 13.50 22 Pn Pn 14 36 26.4 -2.2
F28M Old Crow 14.75 27 Pn Pn 14 36 44.4 -1.2
H31M Peel River 15.28 38 IAmb IAmb 14 37 13.8
comp=Z,20nm,1.4s
G30M tAoh Zraii Nji 15.35 32 IAmb IAmb 14 37 08.7
comp=Z,4.6nm,0.7s
G31M Satah River 15.92 34 Pn Pn 14 37 01.1 +0.2
G31M IAmb IAmb 14 37 12.8
comp=Z,13nm,1.4s
F31M Tsiigehtchic 16.39 33 Pn 14 37 07.1 +0.1
F31M IAmb IAmb 14 37 47.5
comp=Z,12nm,1.4s
INK Inuvik 16.98 31 Pn 14 37 14.2 -0.1
INK Inuvik 16.98 31 Pn Pn 14 37 14.4 +0.1
comp=Z,0.9nm,0.3s,baz=196,slow=9.6,SNR=23
INK Sn Sn 14 40 26.2 +4.4
comp=Z,0.1nm,0.3s,baz=183,slow=21,SNR=1.6
INK LR LR 14 44 14.2
comp=Z,121nm,21.3s,baz=16,slow=39
comp=Z,2.8nm,0.4s
C36M Paulatuk 20.45 34 P P 14 37 54.3 +0.4
A36M Sachs Harbour 21.44 27 P P 14 38 04.2 -0.4
YKA Yellowknife Ar 22.81 54 P P 14 38 20.9 +1.6
comp=Z,0.1nm,0.6s,baz=303,slow=6.8,SNR=3.6
PETK Petropavlovsk- 26.00 284 P P 14 38 49.2 -0.1
PETK Petropavlovsk- 26.00 284 P P 14 38 48.3 -1.0
comp=Z,7.1nm,0.8s,baz=76,slow=12,SNR=14
PETK LR LR 14 48 14.4
comp=Z,38nm,20.1s,baz=138,slow=35
comp=Z,7.1nm,0.8s
NVAR Mina Array Bea 31.11 107 P P 14 39 37.5 +2.3
comp=Z,0.7nm,0.7s,baz=303,slow=8.9,SNR=6.1
comp=Z,0.7nm,0.7s
PDAR Pinedale Array 33.10 92 P P 14 39 53.5 +0.8
comp=Z,0.3nm,0.7s,baz=297,slow=6.5,SNR=4.0
comp=Z,0.3nm,0.7s
KLR Kul'dur 42.03 292 LR LR 14 59 17.3
comp=Z,25nm,18.5s,baz=68,slow=37
TXAR Lajitas Array 45.97 102 P P 14 41 41.3 +1.6
comp=Z,0.8nm,0.7s,baz=314,slow=6.1,SNR=9.1
TXAR LR LR 14 59 30.4
comp=Z,42nm,18.3s,baz=26,slow=34
comp=Z,0.8nm,0.7s
SPITS Spitsbergen Ar 46.63 2 P P 14 41 44.2 -0.1
comp=Z,4.1nm,0.8s,baz=60,slow=5.1,SNR=5.3
comp=Z,4.1nm,0.8s
MJAR Matsushiro Arr 46.74 274 P P 14 41 44.0 -1.5
comp=Z,0.4nm,0.5s,baz=50,slow=14,SNR=2.3
comp=Z,0.4nm,0.5s
SCHQ Schefferville 48.19 51 LR LR 15 02 39.4
comp=Z,127nm,20.2s,baz=214,slow=36
KSRS Korea Array 51.89 283 P P 14 42 25.2 +0.4
comp=Z,1.5nm,0.7s,baz=42,slow=7.1,SNR=7.6
comp=Z,1.5nm,0.7s
ARCES ARCESS Array B 55.36 359 P P 14 42 49.1 -0.8
comp=Z,3.6nm,0.9s,baz=18,slow=8.2,SNR=3.9
comp=Z,3.6nm,0.9s
SONM Songino Array 55.58 306 P P 14 42 51.5 -0.4
comp=Z,0.9nm,0.7s,baz=48,slow=6.4,SNR=6.6
comp=Z,0.9nm,0.7s
ZALV Zalesovo Beam 59.66 323 P P 14 43 19.7 -0.6
comp=Z,0.8nm,0.7s,baz=47,slow=6.5,SNR=4.2
comp=Z,0.8nm,0.7s
FINES FINESS Array B 63.47 358 P P 14 43 45.5 -0.4
comp=Z,2.1nm,0.8s,baz=32,slow=7.5,SNR=9.2
comp=Z,2.1nm,0.8s
NB2 NORSAR Subarra 63.56 6 P P 14 43 47.2 +0.7
comp=Z,1.7nm,0.9s,baz=352,slow=6.5
NOA NORSAR Array B 63.56 6 P P 14 43 45.7 -0.8
comp=Z,0.6nm,0.7s,baz=352,slow=6.6,SNR=2.5
comp=Z,0.6nm,0.7s
KURBB Kurchatov Arra 64.57 324 P P 14 43 53.6 +0.3
comp=Z,1.3nm,0.8s,baz=26,slow=6.3,SNR=6.3
comp=Z,1.3nm,0.8s
HFS Hagfors 64.60 5 P P 14 43 53.4 +0.1
comp=Z,2.3nm,0.8s,baz=46,slow=11,SNR=3.0
comp=Z,2.3nm,0.8s
BVAR Borovoye Array 64.98 330 P P 14 43 56.2 +0.3
comp=Z,1.1nm,0.5s,baz=27,slow=4.7,SNR=5.1
comp=Z,1.1nm,0.5s
MKAR Makanchi Array 66.50 320 P P 14 44 05.4 -0.4
comp=Z,1.0nm,0.7s,baz=47,slow=6.0,SNR=11
MKAR LR LR 15 15 36.4
comp=Z,38nm,19.9s,baz=59,slow=38
comp=Z,1.0nm,0.7s
EKA Eskdalemuir Ar 67.64 16 P P 14 44 12.0 -0.9
comp=Z,1.9nm,0.8s,baz=339,slow=5.3,SNR=1.5
comp=Z,1.9nm,0.8s
AKASG Malin Array Be 74.13 356 P P 14 44 52.0 -0.4
comp=Z,1.4nm,0.5s,baz=5.1,slow=5.7,SNR=4.2
GERES GERESS Array B 75.86 6 P P 14 45 04.6 +2.1
comp=Z,0.3nm,0.5s,baz=34,slow=7.1,SNR=1.5
comp=Z,0.3nm,0.5s
GEYT Alibeck 82.22 332 P P 14 45 37.4 0.0
comp=Z,2.4nm,0.8s,baz=32,slow=7.1,SNR=3.1
comp=Z,2.4nm,0.8s
CMAR Chiang Mai Arr 82.50 292 P P 14 45 38.6 -0.5
comp=Z,1.7nm,0.8s,baz=15,slow=5.4,SNR=15
comp=Z,1.7nm,0.8s
BRTR Keskin Array B 84.78 351 P P 14 45 51.2 +0.5
comp=Z,0.8nm,0.9s,baz=7.6,slow=4.4,SNR=2.4
comp=Z,0.8nm,0.9s
VNDA Vanda 135.04 192 PKP PKiKP 14 52 35.8 +0.6
comp=Z,1.5nm,0.7s,baz=101,slow=4.5,SNR=5.2
QSPA South Pole Qui 145.18 180 PKPbc PKPbc 14 52 51.5 -0.6
comp=Z,1.5nm,1.0s,baz=100,slow=5.0,SNR=2.3

GUC 03 14:33:24.0±0.7, 21°59S×68°39W, h127km±3km, ML3.5, 7C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.82**	**255**	⇑*i*P		Pn		14 33 45.2	0.0
PB09				*e*S		Sn		14 34 01.4	+0.3
LVC	**Limon Verde**	**1.12**	**205**	*e*P		Pn		14 33 47.8	-0.5
LVC				*i* S		Sn		14 34 06.2	-0.5
LVC				IAML				14 34 08.5	
	842nm,0.3s								
PB01	**IPOC Station P**	**1.16**	**298**	⇑*i*P		Pn		14 33 47.7	-0.6
PB01				*e*S		Sn		14 34 06.0	-0.6
PB01				IAML				14 34 07.9	
	comp=E,1µm,0.2s								
AF01	**San Pedro de A**	**1.37**	**172**	*e*P		Pn		14 33 50.7	-0.1
AF01				*e*S		Sn		14 34 13.2	+2.1
PB07	**IPOC Station P**	**1.40**	**264**	⇑*i*P		Pn		14 33 50.3	-0.6
PB07				*e*S		Sn		14 34 10.4	-1.0
PB07				IAML				14 34 11.9	
	comp=N,776nm,0.3s								
PB02	**IPOC Station P**	**1.43**	**281**	⇑*i*P		Pn		14 33 50.6	-0.6
PB02				*e*S		Sn		14 34 10.9	-0.9
PB02				IAML				14 34 12.6	
	comp=E,2µm,0.3s								
PB06	**IPOC Station P**	**1.56**	**224**	⇑*i*P		Pn		14 33 52.4	-0.4
PB06				*e*S		Sn		14 34 14.2	-0.5
PB06				IAML				14 34 15.4	
	comp=E,363nm,0.4s								
PB08	**IPOC Station P**	**1.61**	**334**	⇑*i*P		Pn		14 33 53.7	+0.1
PB08				*e*S		Sn		14 34 15.9	-0.1
PB08				IAML				14 34 18.7	
	comp=E,324nm,0.3s								
PB04	**IPOC Station P**	**1.79**	**245**	⇑*i*P		Pn		14 33 54.7	-0.8
PB04				*e*S		Sn		14 34 18.2	-1.2
PB04				IAML				14 34 23.3	
	comp=N,247nm,0.2s								
PATCX	**Punta Patache**	**1.81**	**295**	*e*P		Pn		14 33 55.1	-0.5
PATCX				*e*S		Sn		14 34 18.7	-1.0
PB15	**IPOC Station P**	**1.90**	**212**	*e*P		Pn		14 33 57.0	+0.2
PB15				*e*S		Sn		14 34 21.9	+0.2
TA01	**Diego Aracena**	**1.96**	**301**	*e*P		Pn		14 33 56.2	-1.0
TA01				*i* S		Sn		14 34 21.1	-1.6
GO01	**Chusmiza**	**2.05**	**338**	*e*P		Pn		14 33 58.6	-0.4
GO01				*e*S		Sn		14 34 25.1	-0.6
GO01				IAML				14 34 28.8	
	comp=N,628nm,0.1s								
TA02	**Huaiquique**	**2.09**	**309**	*e*S		Sn		14 34 24.0	-1.6
TA02				IAML				14 34 27.6	
	comp=N,728nm,0.1s								
PB11	**IPOC Station P**	**2.17**	**327**	*e*P		Pn		14 33 59.1	-1.0
PB11				*e*S		Sn		14 34 26.3	-1.4
PB11				IAML				14 34 28.7	
	comp=E,673nm,0.4s								

PX02	**IPOC Station P**	**3.12**	**327**	*e*S		Sn	14 34 45.6	-3.7
PB16	**IPOC Station P**	**3.40**	**342**	*e*P		Pn	14 34 15.9	-0.5
PB16				*e*S		Sn	14 34 55.1	-1.6
PB16				IAML			14 35 05.7	
	comp=E,35nm,0.6s							
PB12	**IPOC Station P**	**3.48**	**328**	*e*P		Pn	14 34 14.6	-2.2
PB12				*e*S		Sn	14 34 53.5	-4.2
PB14	**IPOC Station P**	**3.55**	**211**	*e*P		Pn	14 34 21.8	+3.9
PB14				*e*S		Sn	14 34 57.1	-2.6
GO02	**Mina Guanaco**	**3.72**	**197**	*e*P		Pn	14 34 19.6	-0.7
GO02				*e*S		Sn	14 35 02.3	-1.6
AC01	**Pan de Azucar**	**4.97**	**204**	*e*P		Pn	14 34 34.2	-2.4

*IDC **03** 14:33:27.7±1.3, 13°.90N×91°.66W, h0km, mb4.1/9, mbtmp4.1/12, ML3.8/3, MS3.6/5, Error ellipse: s-maj=39.1km s-min=18.1km az=36.0*
*GCG **03** 14:33:28.5±2.0, 13°.61N×92°.45W, h34km±781km, MD4.2*
*CATAC **03** 14:33:29.9±0.8, 13°.73N×92°.12W, h2km±5km, ML4.4*
*NEIC **03** 14:33:37.3±2.3, 14°.16N±0°.06×91°.72W±0°.10, h62km±6km, mb4.4/46, Error ellipse: s-maj=15.1km s-min=6.4km az=61.0*

ISC 03 14:33:34.0±1.5, 13°.89N±0°.08×92°.02W±0°.08, h44km±13km, n117, σ1s64/124, mb4.4/27, MS3.5/5, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.60**	**47**	*i* P		**Pn**	**14 33 48.3**	**+2.0**
RTAL	**Retalhuleu**	**0.70**	**27**	P	Pn	**Pn**	**14 33 47.7**	**0.0**
RTAL						**Sn**	**14 33 55.5**	**-2.0**
RTAL	**Retalhuleu**	**0.70**	**27**	*i* P		**Pn**	**14 33 47.8**	**+0.1**
RTAL				*i* S		**Sn**	**14 33 58.9**	**+1.4**
RTAL				IAML			14 34 05.2	
	comp=Z,4μm,1.0s							
STG3	**Santiaguito 3,**	**0.93**	**28**	*i* P		**Pn**	**14 33 51.1**	**+0.3**
SMSP	**San Marcos**	**1.10**	**12**	*i* P		**Pn**	**14 33 52.9**	**-0.4**
SMSP				*i* S		**Sn**	**14 34 06.5**	**-1.0**
SMSP				IAML			14 34 13.2	
	comp=Z,16μm,1.0s							
FUG	**Fuego 3**	**1.27**	**64**	*i* P		**Pn**	**14 33 56.5**	**+1.0**
FUG				*i* S		Sn	14 34 20.4	+8.9
CHTG	**Tecpan**	**1.33**	**49**	*i* P		**Pn**	**14 33 57.4**	**+1.1**
CHTG				*i* S		Sn	14 34 17.4	+4.4
CHTG				IAML			14 34 20.9	
	comp=Z,6μm,1.0s							
PCG	**Pacaya**	**1.46**	**70**	*i* P		**Pn**	**14 33 59.7**	**+1.6**
PCG				*i* S		Sn	14 34 23.9	+7.7
HUEH	**Huehuetenango**	**1.50**	**19**			**Pn**	**14 33 59.7**	**+0.9**
HUEH	**Huehuetenango**	**1.50**	**19**	*i* P		**Pn**	**14 33 59.6**	**+0.9**
HUEH				IAML			14 34 05.1	
	comp=Z,4μm,1.0s							
HUEH				*i* S		**Sn**	**14 34 21.2**	**+3.9**
GUMI	**Mixco**	**1.55**	**61**	*i* P		**Pn**	**14 34 00.5**	**+1.1**
GUMI				*i* S		Sn	14 34 24.0	+5.6
GUMI				IAML			14 34 31.1	
	comp=Z,6μm,1.0s							
GCG4	**OSOP**	**1.60**	**64**	*i* P		**Pn**	**14 34 01.2**	**+1.2**
GCG4				*i* S		Sn	14 34 24.8	+5.2
GCG4				IAML			14 34 27.0	
	comp=Z,4μm,1.0s							
QUIS	**Sacapulas**	**1.66**	**33**	*i* P		**Pn**	**14 34 01.8**	**+1.0**
QUIS				IAML			14 34 04.2	
	comp=Z,3μm,1.0s							
QUIS				*i* S		Sn	14 34 26.3	+5.4
NBG	**Las Nubes**	**1.77**	**67**	*i* P		**Pn**	**14 34 05.3**	**+2.9**
NBG				*i* S		Sn	14 34 32.1	+8.4
GUNB	**GUNB**	**1.77**	**66**	*i* P		**Pn**	**14 34 03.7**	**+1.3**
GUNB				*i* S		Sn	14 34 30.0	+6.1
GUNB				IAML			14 34 32.2	
	comp=Z,2μm,1.0s							
NUBE	**Las Nubes**	**2.18**	**89**	*i* P		**Pn**	**14 34 07.5**	**-0.4**
NUBE				*i* S		**Sn**	**14 34 34.6**	**+0.9**
NUBE				IAML			14 34 39.9	
	comp=Z,1μm,1.0s							
AVCB	**Coban**	**2.21**	**45**	*i* P		**Pn**	**14 34 11.3**	**+2.9**
AVCB				IAML			14 34 55.1	
	comp=Z,8μm,1.0s							
JUAM	**Asuncion Mita**	**2.29**	**79**	*i* P		**Pn**	**14 34 10.6**	**+1.3**
JUAM				*i* S		**Sn**	**14 34 40.1**	**+3.8**
JUAM				IAML			14 34 43.2	
	comp=Z,850nm,1.0s							
CCIG	**Comitan**	**2.38**	**357**			**Pn**	**14 34 13.0**	**+2.3**
CCIG	**Comitan**	**2.38**	**357**	*i* P		**Pn**	**14 34 12.6**	**+1.9**
CCIG				IAML			14 34 48.9	
	comp=Z,830nm,1.0s							
JAYA	**Jayaque - finc**	**2.51**	**95**	*i* P		**Pn**	**14 34 11.9**	**-0.6**
JAYA				*i* S		**Sn**	**14 34 42.5**	**+0.5**
JAYA				IAML			14 34 56.3	
	comp=Z,2μm,1.0s							
MRL	**Marmol**	**2.55**	**62**	*i* P		Pn	14 34 16.2	+3.0
MRL				*i* S		Sn	14 34 53.5	+10
MTO3	**Montecristo**	**2.63**	**79**			**Pn**	**14 34 15.1**	**+0.9**
MTO3	**Montecristo**	**2.63**	**79**	*i* P		**Pn**	**14 34 14.9**	**+0.7**
MTO3				*i* S		Sn	14 34 51.0	+6.0
MTO3				IAML			14 34 57.7	
	comp=Z,390nm,1.0s							
PMON	**Piamonte**	**2.63**	**94**	*i* P		**Pn**	**14 34 14.7**	**+0.5**
PMON				*i* S		**Sn**	**14 34 47.1**	**+2.1**
PMON				IAML			14 35 00.6	
	comp=Z,1μm,1.0s							
ESQI	**Esquipulas**	**2.68**	**75**			**Pn**	**14 34 16.2**	**+1.4**
ESQI	**Esquipulas**	**2.68**	**75**	*i* P		**Pn**	**14 34 16.0**	**+1.2**
ESQI				IAML			14 35 06.2	
	comp=Z,610nm,1.0s							
PAVA	**Las Pavas**	**3.00**	**93**	*i* P		**Pn**	**14 34 19.9**	**+0.7**
PAVA				IAML			14 35 23.0	
	comp=Z,600nm,1.0s							
COEG	**Centro de Oper**	**3.06**	**95**	*i* P		**Pn**	**14 34 20.7**	**+0.7**
COEG				*i* S		**Sn**	**14 34 58.5**	**+3.0**
COEG				IAML			14 35 10.9	
	comp=Z,380nm,1.0s							
SCLA	**Alcaldia de Sa**	**3.20**	**93**	*i* P		**Pn**	**14 34 22.6**	**+0.7**
SCLA				IAML			14 34 28.4	
	comp=Z,140nm,1.0s							
PACA	**Pacayal**	**3.62**	**96**	*i* P		**Pn**	**14 34 29.1**	**+1.4**
PACA				*i* S		**Sn**	**14 35 15.4**	**+6.2**
PACA				IAML			14 35 37.3	
	comp=Z,1μm,1.0s							
PETF	**Flores**	**3.66**	**34**	Pn		**Pn**	**14 34 27.8**	**-0.2**
PETF	**Flores**	**3.66**	**34**	*i* P		**Pn**	**14 34 30.4**	**+2.3**
PETF				IAML			14 34 58.3	
	comp=Z,270nm,1.0s							
CNCH	**Conchagua**	**4.12**	**98**	*i* P		**Pn**	**14 34 34.8**	**+0.3**
CNCH				*i* S		**Sn**	**14 35 26.5**	**+5.0**
CNCH				IAML			14 35 51.3	
	comp=Z,480nm,1.0s							
CMIG	**Matias Romero**	**4.21**	**319**	Pn		**Pn**	**14 34 34.7**	**-1.1**
	comp=Z,6.4nm,0.3s,baz=141,slow=12,SNR=12							
CMIG					Sn	**Sn**	**14 35 23.7**	**0.0**
	comp=Z,15nm,0.3s,baz=84,slow=19,SNR=5.7							
CMIG					Lg	Lg	14 35 38.1	
	comp=Z,36nm,0.3s,baz=112,slow=19,SNR=6.3							
	comp=Z,11nm,0.4s							
CRIN	**San Cristobal**	**4.98**	**103**	Pn		**Pn**	**14 34 47.3**	**+0.9**
MATN	**Matagalpa**	**6.01**	**98**	Pn		**Pn**	**14 34 59.3**	**-1.2**
BOAB	**BOACO BROADBAN**	**6.35**	**102**			**Pn**	**14 35 05.3**	**+0.2**
HZTE	**Horizontes, Gu**	**7.03**	**116**	Pn		**Pn**	**14 35 15.7**	**+1.2**
TEIG	**Tepich**	**7.25**	**29**			**Pn**	**14 35 19.3**	**+1.9**
ORTG	**Ortega, Santa**	**7.31**	**118**			**Pn**	**14 35 18.9**	**+0.5**
DUNO	**Dulce Nombre,**	**7.42**	**120**			**Pn**	**14 35 21.1**	**+1.3**
JTS	**Las Juntas de**	**7.78**	**117**	Pn		**Pn**	14 35 19.3	-5.5
	comp=Z,0.8nm,0.3s,baz=248,slow=23,SNR=1.6							
JTS					Sn	**Sn**	**14 36 46.7**	**-5.0**
	baz=305,slow=21							
JTS					Lg	Lg	14 37 24.3	
	comp=Z,0.5nm,0.3s,baz=286,slow=18,SNR=1.2							
	comp=Z,2.2nm,0.3s							
RIMA	**Rio Macho**	**8.97**	**116**			**Pn**	**14 35 42.3**	**+1.0**
SRBA	**San Rafael, Bu**	**9.66**	**118**	Pn		**Pn**	**14 35 50.3**	**-0.4**
DRK0	**Durika**	**9.75**	**117**	Pn		**Pn**	**14 35 53.8**	**+1.9**
KVTX	**Kingsville**	**14.65**	**339**	Pn		**Pn**	**14 36 57.8**	**-0.7**
833A	**Chaparral WMA,**	**15.91**	**336**	Pn		**Pn**	**14 37 14.4**	**-0.6**
553A	**Crawfordville**	**17.67**	**22**			**P**	**14 37 37.5**	**+0.1**
BRDY	**Brady**	**18.46**	**341**	P		**P**	**14 37 45.0**	**-1.2**
SAND	**Sanderson**	**18.51**	**331**	P		**P**	**14 37 47.2**	**+0.4**
TXAR	**Lajitas Array**	**18.78**	**327**	P		**P**	**14 37 50.4**	**+0.7**
TXAR	**Lajitas Array**	**18.78**	**327**	P		**Pn**	**14 37 52.4**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=152,slow=9.8,SNR=25							
	comp=Z,3.6nm,0.9s							
TX31	**Lajitas Ar. Si**	**18.78**	**327**	P		**P**	**14 37 48.0**	**-1.8**
H06E1	**SOCORRO T-PHAS**	**18.78**	**288**	T		T	14 56 59.6	
	SNR=59							
OZNA	**Ozona**	**18.91**	**335**	P		**P**	**14 37 49.3**	**-1.8**
FW16	**Waxahatchie**	**19.04**	**347**	P		**P**	**14 37 49.9**	**-2.5**
FW16				IAmb		IAmb	14 38 24.0	
	comp=Z,23nm,0.7s							
SALI	**Salinas**	**19.36**	**145**	P		**P**	**14 37 51.4**	**-4.7**
SALI				IAmb		IAmb	14 38 24.0	
	comp=Z,31nm,1.0s							
Z47A	**Carrollton**	**19.56**	**10**	P		**P**	**14 37 56.5**	**-1.6**
Z47A				IAmb		IAmb	14 38 01.7	
	comp=Z,16nm,0.9s							
255A	**Hazlehurst**	**19.97**	**24**	P		**P**	**14 37 59.3**	**-3.3**
POST	**Post**	**20.95**	**337**	P		**P**	**14 38 12.1**	**-1.3**
POST				IAmb		IAmb	14 38 15.5	
	comp=Z,15nm,1.1s							
SMWD	**Samnorwood**	**22.39**	**342**	P		**P**	**14 38 28.4**	**-0.3**
SMWD				IAmb		IAmb	14 38 32.1	
	comp=Z,21nm,0.8s							
AMTX	**Amarillo**	**22.65**	**339**	P		**P**	**14 38 32.1**	**+0.6**
AMTX				IAmb		IAmb	14 38 34.0	
	comp=Z,11nm,0.6s							
TKL	**Tuckaleechee C**	**22.91**	**17**	P		**P**	**14 38 33.7**	**-0.4**
	comp=Z,6.6nm,1.0s,baz=183,slow=10,SNR=4.3							
TKL					LR	LR	14 49 09.2	
	comp=Z,92nm,18.3s,baz=176,slow=41							
	comp=Z,6.6nm,1.0s							
121A	**Cookes Peak, D**	**23.49**	**325**	P		**P**	**14 38 41.1**	**+1.0**
121A				IAmb		IAmb	14 38 44.7	
	comp=Z,8.5nm,0.9s							
319A	**Douglas**	**23.54**	**321**	P		**P**	**14 38 39.1**	**-1.4**
S44A	**Carbondale**	**23.83**	**5**	P		**P**	**14 38 40.5**	**-2.6**
S44A				IAmb		IAmb	14 38 44.1	
	comp=Z,18nm,0.8s							
SIUC	**Southern Illin**	**23.86**	**6**	P		**P**	**14 38 42.7**	**-0.5**
SIUC				IAmb		IAmb	14 38 44.2	
	comp=Z,16nm,0.8s							
ANMO	**Albuquerque**	**24.69**	**331**	P		**P**	**14 38 53.2**	**+2.1**
PCRV	**Puerto La Cruz**	**27.03**	**95**	LR		LR	14 50 56.3	
	comp=Z,37nm,18.5s,slow=39							
ELK	**Elko**	**33.57**	**327**	P		**P**	**14 40 11.6**	**+1.4**
NVAR	**Mina Array Bea**	**33.74**	**321**	P		**P**	**14 40 14.6**	**+2.9**
	comp=Z,1.6nm,0.7s,baz=130,slow=8.2,SNR=10							
NVAR					PcP	**PcP**	**14 42 50.4**	**-0.1**
	comp=Z,0.2nm,0.8s,baz=120,slow=6.6,SNR=2.2							
	comp=Z,1.6nm,0.7s							
J08A	**Circle Bar Ran**	**37.12**	**327**	P		**P**	**14 40 41.6**	**+1.0**
J08A				IAmb		IAmb	14 40 44.7	
	comp=Z,3.9nm,0.6s							
PLID	**Pearl Lake**	**37.16**	**332**	P		**P**	**14 40 41.1**	**+0.2**
PLID				IAmb		IAmb	14 40 43.4	
	comp=Z,7.8nm,1.4s							
F10A	**Beach Ranch, E**	**38.40**	**331**	P		**P**	**14 40 51.9**	**+0.6**
F10A				IAmb		IAmb	14 40 55.3	
	comp=Z,4.5nm,0.8s							
RPN	**Rapa Nui**	**44.10**	**202**	LR		LR	14 56 19.2	
	comp=Z,47nm,18.2s,baz=88,slow=31							
SCHQ	**Schefferville**	**45.33**	**20**	P		**P**	**14 41 46.0**	**-1.7**
	comp=Z,3.0nm,0.9s,baz=253,slow=17,SNR=3.6							
	comp=Z,3.0nm,0.9s							
YKA	**Yellowknife Ar**	**51.13**	**347**	P		**P**	**14 42 32.2**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=149,slow=7.4,SNR=25							
YKA					PcP	**PcP**	**14 43 48.2**	**+1.0**
	comp=Z,0.7nm,1.0s,baz=146,slow=4.1,SNR=6.4							
	comp=Z,1.4nm,0.8s							
DLBC	**Dease Lake**	**52.74**	**336**	P		**P**	**14 42 44.5**	**+0.2**
	comp=Z,2.5nm,0.9s,baz=135,slow=4.2,SNR=4.6							
	comp=Z,2.5nm,0.9s							
M29M	**Somme Creek**	**58.51**	**337**	P		**P**	**14 43 26.2**	**+0.5**
SFJD	**Kangerlussuaq**	**59.62**	**18**	LR		LR	15 10 40.3	
	comp=Z,66nm,18.1s,baz=199,slow=38							
BCAR	**Beaver Creek A**	**60.13**	**336**	P		**P**	**14 43 38.0**	**+1.2**
L27K	**Beaver Creek,**	**60.14**	**336**	P		**P**	**14 43 37.2**	**+0.3**
L27K				IAmb		IAmb	14 43 39.7	
	comp=Z,5.7nm,1.2s							
INK	**Inuvik**	**60.54**	**344**	P		**P**	**14 43 39.3**	**-0.1**
INK				IAmb		IAmb	14 43 48.3	
	comp=Z,6.3nm,1.4s							
INK	**Inuvik**	**60.54**	**344**	P		**P**	**14 43 39.1**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=122,slow=5.5,SNR=6.7							
	comp=Z,1.6nm,0.8s							
RES	**Resolute Bay**	**60.81**	**359**	LR		LR	15 14 05.8	
	comp=Z,142nm,19.8s,baz=5.5,slow=40							
F28M	**Old Crow**	**61.97**	**341**	P		**P**	**14 43 50.4**	**+1.2**
ILAR	**Eielson Array**	**62.93**	**337**	P		**P**	**14 43 55.5**	**-0.1**
ILAR	**Eielson Array**	**62.93**	**337**	P		**P**	**14 43 56.2**	**+0.6**
	comp=Z,2.4nm,1.1s,baz=142,slow=4.5,SNR=12							
	comp=Z,2.4nm,1.1s							
BMAR	**Burnt Mountain**	**63.39**	**340**	P		**P**	**14 43 59.9**	**+1.2**
I23K	**Minto, Yukon-K**	**64.04**	**337**	P		**P**	**14 44 03.8**	**+0.9**
MLY	**Manley**	**64.53**	**336**	P		**P**	**14 44 06.5**	**+0.2**
MLY				IAmb		IAmb	14 44 08.9	
	comp=Z,5.7nm,1.2s							
P18K	**Big Mountain,**	**64.60**	**330**	P		**P**	**14 44 08.8**	**+2.0**
O18K	**Koktuh Hills**	**64.72**	**330**	P		**P**	**14 44 08.8**	**+1.3**
D25K	**Kavik River**	**64.91**	**341**	P		**P**	**14 44 09.1**	**+0.5**
D25K				IAmb		IAmb	14 44 11.6	
	comp=Z,5.5nm,0.9s							
TTA	**Tatalina**	**65.99**	**333**	P		**P**	**14 44 16.1**	**+0.4**
TTA				IAmb		IAmb	14 44 27.9	
	comp=Z,8.9nm,1.5s							
IMAR	**Indian Mountai**	**66.05**	**337**	P		**P**	**14 44 14.7**	**-1.3**
G21K	**Allakaket**	**66.15**	**337**	P		**P**	**14 44 16.1**	**-0.5**
G21K				IAmb		IAmb	14 44 29.9	
	comp=Z,4.0nm,1.1s							
F21K	**Alatna River**	**66.40**	**338**	P		**P**	**14 44 18.4**	**+0.2**
C23K	**Itkillik River**	**66.47**	**341**	P		**P**	**14 44 17.6**	**-1.0**
C23K				IAmb		IAmb	14 44 21.8	
	comp=Z,8.3nm,1.1s							
F20K	**Avaraart Lake**	**67.16**	**338**	P		**P**	**14 44 22.9**	**-0.1**
G19K	**Purcell Mounta**	**67.39**	**336**	P		**P**	**14 44 23.6**	**-1.0**
G19K				IAmb		IAmb	14 44 29.1	
	comp=Z,4.0nm,1.2s							
H18K	**Honhosa River**	**67.61**	**335**	P		**P**	**14 44 26.7**	**+0.7**
E19K	**Redstone River**	**67.85**	**338**	P		**P**	**14 44 27.7**	**+0.3**
G18K	**Tagagawik**	**67.93**	**336**	P		**P**	**14 44 27.2**	**-0.7**
J16K	**Anvik River**	**68.09**	**333**	P		**P**	**14 44 28.2**	**-0.8**
J16K				IAmb		IAmb	14 44 47.7	
	comp=Z,6.0nm,1.4s							
K15K	**Wolf Creek Mou**	**68.30**	**332**	P		**P**	**14 44 30.4**	**+0.1**
D19K	**Kuna River**	**68.48**	**339**	P		**P**	**14 44 30.5**	**-0.9**
D19K				IAmb		IAmb	14 44 48.7	
	comp=Z,4.1nm,1.1s							
AKUT	**Akutan**	**69.34**	**323**	P		**P**	**14 44 36.6**	**-0.3**
F15K	**North Star Dit**	**70.30**	**335**	P		**P**	**14 44 43.4**	**+0.8**
F15K				IAmb		IAmb	14 45 16.1	
	comp=Z,4.3nm,1.3s							
EKA	**Eskdalemuir Ar**	**78.06**	**36**	P		**P**	**14 45 26.3**	**-1.7**
	comp=Z,1.4nm,0.6s,baz=262,slow=5.2,SNR=6.3							
	comp=Z,1.4nm,0.6s							
SPITS	**Spitsbergen Ar**	**80.20**	**11**	P		**P**	**14 45 38.9**	**-0.4**
	comp=Z,5.5nm,0.9s,baz=258,slow=3.9,SNR=4.1							
	comp=Z,5.5nm,0.9s							
NJ2	**Nanjing**	**125.58**	**328**	*e*P		**PKiKP**	**14 52 32.7**	**+1.2**
NJ2	**Nanjing**	**125.58**	**328**	pmax		pmax		
	comp=Z,7.0nm,0.5s							
WRA	**Warramunga Arr**	**135.35**	**256**	PKP		**PKPdf**	**14 52 50.1**	**+0.2**
	comp=Z,3.9nm,0.9s,baz=89,slow=2.2,SNR=2.0							
ASAR	**Alice Springs**	**135.61**	**250**	PKP		**PKPdf**	**14 52 51.1**	**+0.8**
	comp=Z,0.3nm,0.9s,baz=81,slow=2.7,SNR=1.9							
CMAR	**Chiang Mai Arr**	**146.09**	**341**	PKPbc		**PKPab**	**14 53 11.2**	**+0.5**
	comp=Z,3.7nm,0.9s,baz=343,slow=3.9,SNR=21							

TAP 03 14:38:07.2, 21°.29N×120°.98E, h22km±1km, ML2.4, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin**	**0.61**	**353**	P		Pb	14 38 19.5	+0.3
	baz=349							
TSEB					*e*S	Sn	14 38 30.5	+0.9
	baz=349							
TWKBT	**Hengchun**	**0.66**	**346**	*i* P		Pb	14 38 20.4	+0.3
	baz=346							
TWKBT					S	Sb	14 38 29.6	+0.7
	baz=346							
TWK1	**Hengchun**	**0.67**	**346**	P		Pb	14 38 20.5	+0.4
	baz=347							
TWK1					S	Sb	14 38 29.9	+0.9
	baz=347							
SMST	**Manzhou Townsh**	**0.74**	**350**	P		Pn	14 38 22.1	-0.1
	baz=350							
SMST					S	Sn	14 38 32.4	-0.4
	baz=350							
HEN	**Hengchun**	**0.74**	**342**	*e*P		Pb	14 38 21.6	+0.2
	baz=351							
HEN				*e*S		Sb	14 38 32.0	+0.8
	baz=351							
LYUB	**Lan-yu**	**0.90**	**38**	*i* P		Pb	14 38 24.1	0.0
	baz=38							
LYUB				*i* S		Sn	14 38 36.7	-0.1
	baz=38							
SLIU	**Shizi**	**0.93**	**350**	*e*P		Pn	14 38 25.5	+0.5
	baz=350							
TAW	**Tawu**	**1.06**	**356**	*e*S		Sn	14 38 43.9	+3.1
	baz=10.0							
EAST	**Anshuo**	**1.09**	**354**	P		Pb	14 38 29.3	+1.9
	baz=354							
EAST				*i* S		Sn	14 38 43.5	+1.9
	baz=354							
SCZT	**Fangliau**	**1.12**	**343**	*e*P		Pb	14 38 27.8	-0.1
	baz=343							
LDUT	**Ludao**	**1.45**	**18**	*e*S		Sn	14 38 50.5	+0.2
	baz=18							
TWGBT	**Beinan**	**1.52**	**3**	*e*S		Sb	14 38 53.5	0.0
	baz=4.0							
TWG	**Pinlang**	**1.52**	**3**	*e*S		Sb	14 38 53.7	+0.1
	baz=4.0							
TWM1	**Shoushan**	**1.61**	**341**	*e*P		Pb	14 38 37.5	+1.3
	baz=342							

*IDC **03** 14:38:32.1±0.8, 24°.27N×123°.55E, h0km, mb3.5/8, mbtmp3.5/10, ML2.5/2, Error ellipse: s-maj=30.0km s-min=20.0km az=72.0*
*NIED **03** 14:38:34.8, 24°.25N×123°.82E, h13km, MW3.7, Moment Tensor Solution. s2 Moment tensor: Scale 10^14^Nm; Mrr=3.62; Mθθ=2.38; Mφφ=1.24; Mrθ=0.10; Mrφ=-1.36; Mθφ=-0.19; Fault plane solution: Mo3.46000×10^14^ NP1: φs=305.00000°, δ=47.00000°, λ=-88.00000°. NP2: φs=122.00000°, δ=43.00000°, λ=-92.00000°.*
*JMA **03** 14:38:34.8±0.1, 24°.3N±0°.2×123°.8E±0°.2, h13km, MV3.3/10, NEAR ISHIGAKIJIMA ISLAND*
JMA Felt II J1 at NEAR ISHIGAKIJIMA ISLAND.

ISC 03 14:38:34.3±0.8, 24°.26N±0°.04×123°.75E±0°.03, h16km±5km, n31, σ1s06/36, mb3.4/8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.08**	**347**	*i* P		**Pg**	**14 38 38.1**	**+0.6**
IRIF					S	**Sg**	**14 38 40.7**	**+1.1**
HATJ	**Hateruma jima**	**0.20**	**166**	P		**Pg**	**14 38 39.0**	**-0.1**
HATJ					S	**Sg**	**14 38 42.6**	**+0.3**
JKRS	**Kuro-shima**	**0.24**	**94**	*i* P		**Pg**	**14 38 39.0**	**-0.6**
JKRS					S	**Sg**	**14 38 42.0**	**-1.3**
JIJ	**Ishigaki jima**	**0.38**	**73**	*i* P		**Pg**	**14 38 41.2**	**-0.8**
JIJ					S	**Sg**	**14 38 46.0**	**-1.3**
JISG	**Ishigakijimahi**	**0.61**	**57**	*i* P		**Pg**	**14 38 45.7**	**-0.6**
JISG					S	**Sg**	**14 38 54.1**	**-0.3**
YOJ	**Yonaguni jima**	**0.70**	**287**	P		**Pn**	**14 38 50.1**	**+0.4**
YOJ	**Yonaguni jima**	**0.70**	**287**	*i* P		**Pn**	**14 38 49.7**	**0.0**
YOJ					S	**Sn**	**14 39 00.1**	**-0.1**
JYNG	**Yonagunijimaku**	**0.76**	**285**	*i* P		**Pn**	**14 38 50.6**	**+0.2**
JYNG					S	**Sn**	**14 39 01.6**	**0.0**
JTJ	**Tarama**	**0.95**	**66**	*i* P		**Pb**	**14 38 51.9**	**-0.5**
JTJ					S	**Sb**	**14 39 04.6**	**-0.2**
NACB	**Ninganchiao**	**1.97**	**268**	P		**Pb**	**14 39 09.1**	**-0.7**
TATO	**Taipei**	**2.18**	**290**	P		**Pb**	**14 39 12.3**	**-1.1**
YHNB	**Yeheng**	**2.20**	**281**	P		**Pb**	**14 39 12.8**	**-1.1**
YULB	**Yu-li**	**2.40**	**250**	P		**Pn**	**14 39 14.3**	**+1.2**
SSLB	**Suanglung**	**2.60**	**260**	P		**Pb**	**14 39 18.5**	**-2.1**
TWGBT	**Beinan**	**2.84**	**240**	P		**Pn**	**14 39 19.8**	**+0.8**
JOW	**Kunigami**	**4.83**	**57**	Pn		**Pn**	**14 39 47.0**	**+0.6**
	0.4nm,0.3s,baz=202,slow=19,SNR=2.4							
JOW					Sn	**Sn**	**14 40 44.1**	**+2.2**
	0.5nm,0.3s,baz=285,slow=25,SNR=1.4							
	17nm,1.0s							
MJAR	**Matsushiro Arr**	**17.45**	**42**	P		**P**	**14 42 37.8**	**-0.5**
	baz=224,slow=20,SNR=2.4							
	0.3nm,0.5s							
MKAR	**Makanchi Array**	**39.93**	**315**	P		**P**	**14 46 07.6**	**-0.2**
	0.2nm,0.4s,baz=93,slow=8.6,SNR=4.2							
MKAR					PcP	**PcP**	**14 48 11.3**	**-1.8**
	0.1nm,0.6s,baz=132,slow=4.3,SNR=1.7							
	0.2nm,0.4s							
H11N1	**WAKE ISLAND Hy**	**40.14**	**88**	T		T	15 28 52.9	
	baz=283							
H11N2	**WAKE ISLAND Hy**	**40.15**	**88**	T		T	15 28 54.4	
	baz=283

H11S2	**WAKE ISLAND Hy** baz=315	**28.48 124**	T	T	15 18 07.3		
MKAR	**Makanchi Array** 0.3nm,0.8s,baz=88,slow=8.2,SNR=2.5 0.3nm,0.8s	**44.52 302**	P	**P**	**14 50 19.4**	**+1.2**
KURBB	**Kurchatov Arra** 0.3nm,0.6s,baz=85,slow=7.9,SNR=3.1 0.3nm,0.6s	**46.37 308**	P	**P**	**14 50 34.6**	**+1.9**
WRA	**Warramunga Arr** 0.2nm,0.8s,baz=3.8,slow=7.5,SNR=1.1 0.2nm,0.8s	**57.24 189**	P	**P**	**14 51 53.3**	**-0.8**

TAP 03 14:45:21.0, 24.33N×122.08E, h16km±1km, ML1.6, B, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2** baz=57	**0.17**	**58**	*i* P	Pb	14 45 26.7	+0.9
EOS2				*i* S	Sb	14 45 31.5	+2.6
EOS3	**EOS3** baz=100	**0.23**	**101**	*i* P	Pb	14 45 26.8	+0.1
EOS3				*i* S	Sb	14 45 31.9	+1.4
EWUT	**Wuta** baz=293	**0.29**	**293**	P	Pb	14 45 28.0	0.0
EOS4	**EOS4** baz=133	**0.30**	**133**	*i* P	Pg	14 45 27.2	-0.1
EOS4				S	Sg	14 45 31.9	+0.5
EAHA	**Aohua** baz=270	**0.31**	**270**	S	Sn	14 45 36.9	-0.2
ENA	**Nanau** baz=288	**0.32**	**288**	*i* P	Pb	14 45 28.1	-0.3
ENA				*i* S	Sb	14 45 33.5	+0.1
ESAO	**Su ao** baz=319	**0.32**	**319**	P	Pb	14 45 28.3	-0.2
TWC	**Suao** baz=324	**0.35**	**324**	*i* P	Pb	14 45 28.6	-0.2
TWC				*i* S	Sb	14 45 34.2	0.0
ETL	**Fush Village** baz=247	**0.45**	**248**	P	Pg	14 45 30.0	0.0
ETL				S	Sb	14 45 38.7	+1.7
NDS	**Dongshan** baz=312	**0.45**	**313**	*e*S	Sb	14 45 38.0	+0.9
NACB	**Ninganchiao** baz=250	**0.47**	**251**	*i* P	Pb	14 45 30.8	-0.1
NACB				*i* S	Sb	14 45 39.2	+1.7
TWD	**Chiawan** baz=240	**0.50**	**241**	*i* P	Pb	14 45 31.6	0.0
TWD				*i* S	Sg	14 45 35.9	-1.9
ILA	**Ilan** baz=326	**0.53**	**326**	S	Sg	14 45 36.9	-1.7
EGS		**0.53**	**346**	P	Pg	14 45 30.6	-0.9
EGS	baz=346			S	Sg	14 45 38.5	-0.2
TWE	**Neicheng** baz=317	**0.54**	**316**	P	Pg	14 45 30.6	-1.1
TWE				S	Sb	14 45 40.0	+0.2
LATG	**Datong** baz=292	**0.54**	**292**	*i* P	Pb	14 45 32.2	0.0
LATG				S	Sb	14 45 41.4	+1.5
ETLH	**Xiulin Townshi** baz=257	**0.56**	**257**	*i* P	Pb	14 45 32.3	-0.2
ETLH				*i* S	Sb	14 45 41.8	+1.6
ENTT	**Nioudou** baz=303	**0.56**	**304**	*i* P	Pb	14 45 32.7	+0.2
ENTT				S	Sb	14 45 41.7	+1.4
NDT	**Datong Townshi** baz=298	**0.58**	**298**	*i* P	Pb	14 45 33.5	+0.6
NDT				*i* S	Sb	14 45 41.8	+0.9
FUSB	**Fushanzhiwuyua** baz=314	**0.62**	**314**	*i* P	Pb	14 45 33.7	+0.2
FUSB				*i* S	Sb	14 45 42.8	+0.7
NNSB	**Datong** baz=278	**0.64**	**279**	*i* P	Pb	14 45 33.9	0.0
NNSB				*i* S	Sb	14 45 44.0	+1.3
ETM	**Tongmen** baz=235	**0.64**	**236**	*e*S	Sb	14 45 43.0	+0.3
NNS	**Nan Shan** baz=279	**0.65**	**280**	*i* P	Pb	14 45 34.4	+0.3
NNS				*i* S	Sg	14 45 42.3	-0.2
LXIB	**Xiulin Townshi** baz=243	**0.68**	**243**	*i* P	Pg	14 45 33.8	-0.6
LXIB				*i* S	Sg	14 45 42.7	-0.7
TIPB	**Shuangxi** baz=340	**0.68**	**341**	*i* P	Pb	14 45 34.8	+0.3
TIPB				*i* S	Sb	14 45 44.2	+0.4
TWB1	**Santiao Chiao** baz=353	**0.68**	**353**	P	Pn	14 45 35.5	-0.6
TWB1				S	Sb	14 45 44.4	+0.6
NWLT	**Wulai** baz=310	**0.69**	**311**	*i* P	Pb	14 45 35.1	+0.4
NWLT				S	Sb	14 45 44.5	+0.5
SHUL	**Shoufeng** baz=221	**0.71**	**221**	*e*P	Pn	14 45 36.7	+0.2
SHUL				*i* S	Sn	14 45 47.8	+0.6
YHNB	**Yeheng** baz=298	**0.72**	**298**	*i* P	Pb	14 45 35.8	+0.5
YHNB				*i* S	Sb	14 45 45.7	+0.7
NSK	**Sanguang** baz=297	**0.74**	**298**	*i* P	Pb	14 45 35.7	+0.1
NSK				*i* S	Sb	14 45 46.7	+1.1
WHF	**Hehuan Shan** baz=255	**0.76**	**256**	P	Pg	14 45 36.1	+0.1
WHF				*i* S	Sb	14 45 47.3	+0.8
FUSS	**Fushou** baz=263	**0.76**	**264**	*i* P	Pg	14 45 35.9	-0.1
FUSS				*i* S	Sb	14 45 47.4	+1.0
ESL	**Shilin** baz=228	**0.78**	**229**	*e*P	Pg	14 45 35.0	-1.3
ESL				S	Sn	14 45 49.5	+0.7
SXI1	**Grass Mountain** baz=346	**0.78**	**347**	*i* P	Pg	14 45 36.2	-0.2
SXI1				*i* S	Sb	14 45 47.6	+0.8
CHGB	**Renai** baz=252	**0.86**	**252**	*i* P	Pb	14 45 36.9	-1.0
CHGB				*i* S	Sg	14 45 49.6	+0.3
WARBT	**Fenglin Townsh** baz=226	**0.88**	**226**	*i* P	Pb	14 45 35.7	-2.2
WARBT				*i* S	Sb	14 45 48.3	-1.1
EGFH	**Guangfu** baz=222	**0.89**	**222**	S	Sb	14 45 47.5	-2.2
OWD	**Renai** baz=245	**0.90**	**246**	S	Sb	14 45 49.8	-0.5
NFF	**Wufeng Townshi** baz=289	**0.92**	**289**	P	Pn	14 45 39.3	-0.2
NFF				S	Sn	14 45 52.1	-0.4
WUSB	**Renai** baz=249	**0.94**	**249**	*i* P	Pb	14 45 38.8	-0.2
WUSB				*i* S	Sb	14 45 51.4	+0.1
LIOB	**Emei** baz=288	**1.01**	**288**	*i* P	Pn	14 45 41.0	+0.3
LIOB				S	Sn	14 45 55.5	+0.7
NSTT	**Nanjuang** baz=287	**1.02**	**287**	*e*S	Sn	14 45 56.6	+1.8
VWDT	**VWDT** baz=236	**1.03**	**236**	*e*P	Pb	14 45 40.6	+0.1
VWDT				*e*S	Sb	14 45 52.8	-1.0
WHP	**Taichung City** baz=267	**1.03**	**267**	*i* P	Pg	14 45 41.4	+0.4
WHP				*i* S	Sn	14 45 55.4	+0.2
WCS	**Beigang Elemen** baz=255	**1.10**	**256**	*e*S	Sg	14 45 56.4	-0.2
SSLB	**Suanglung** baz=242	**1.16**	**242**	*e*S	Sn	14 45 57.9	-0.3
YULB	**Yu-li** baz=217	**1.17**	**218**	*e*S	Sb	14 45 56.7	-1.3
WHYT	**Xinyi Township** baz=240	**1.28**	**241**	*i* S	Sg	14 46 04.1	+1.6
WJS	**Zhushan** baz=247	**1.33**	**248**	*i* S	Sg	14 46 05.6	+1.6
ALS	**Alishan** baz=234	**1.42**	**235**	*e*S	Sg	14 46 07.5	+0.6
WCKO	**Fanlu** baz=236	**1.61**	**237**	S	Sb	14 46 10.7	+0.1
TPUB	**Ta-pu** baz=232	**1.67**	**233**	*e*P	Pb	14 45 51.1	-0.4
TPUB				*e*S	Sb	14 46 12.3	-0.1

JMA 03 14:46:04.0±0.2, 24.2N±0.4×123.8E±0.5, h17km±1km, MV0.8/8, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.12**	**322**	*e*P	Pg	14 46 07.7	0.0
IRIF				*e*S	Sb	14 46 10.1	-0.1
JKRS	**Kuro-shima**	**0.18**	**92**	P	Pg	14 46 08.6	0.0
JKRS				*e*S	Sb	14 46 12.1	-0.1
HATJ	**Hateruma jima**	**0.19**	**181**	P	Pg	14 46 08.5	-0.2
HATJ				S	Sg	14 46 11.8	+0.1
JIJ	**Ishigaki jima**	**0.33**	**69**	*e*P	Pg	14 46 10.7	-0.3
JIJ				*e*S	Sg	14 46 15.3	-0.4
JISG	**Ishigakijimahi**	**0.57**	**53**	S	Sb	14 46 24.1	+0.7
JTJ	**Tarama**	**0.91**	**64**	*e*S	Sn	14 46 34.1	-0.5

*TAP **03** 14:50:47.8, 24.82N×122.48E, h21km±1km, ML2.6, D*
*JMA **03** 14:50:48.4±0.1, 24.8N±0.6×122.5E±0.2, h21km, NW OFF ISHIGAKIJIMA IS*

ISC 03 14:50:47.2±1.2, 24.80N±0.03×122.50E±0.03, h10km±10km, n47, σ0.38/90, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2** baz=213	**0.45**	**212**	*i* P	**Pb**	**14 50 57.3**	**+0.1**
EOS2				*i* S	**Sb**	**14 51 04.2**	**+0.2**
TWB1	**Santiao Chiao** baz=294	**0.50**	**294**	*i* P	**Pg**	**14 50 57.5**	**+0.4**
TWB1				*i* S	**Sg**	**14 51 04.1**	**+0.3**
EGS		**0.52**	**275**	*i* P	**Pb**	**14 50 58.0**	**-0.4**
EGS	baz=265			*i* S	**Sb**	**14 51 06.1**	**+0.2**
JYNG	**Yonagunijimaku** baz=197	**0.54**	**131**	P	**Pb**	**14 50 58.9**	**+0.1**
JYNG				*e*S	**Sb**	**14 51 06.5**	**0.0**
EOS3	**EOS3** baz=197	**0.54**	**198**	*i* P	**Pb**	**14 50 59.0**	**+0.2**
EOS3				*i* S	**Sb**	**14 51 06.9**	**+0.4**
YOJ	**Yonaguni jima** baz=116	**0.58**	**126**	*i* P	**Pb**	**14 50 59.7**	**+0.2**
YOJ				*i* S	**Sb**	**14 51 07.5**	**-0.3**
YOJ	**Yonaguni jima**	**0.58**	**126**	P	**Pb**	**14 50 59.6**	**+0.2**
YOJ				S	**Sb**	**14 51 07.4**	**-0.3**
TWC	**Suao** baz=257	**0.62**	**252**	*i* P	**Pb**	**14 50 60.0**	**-0.2**
TWC				S	**Sb**	**14 51 09.0**	**+0.1**
TIPB	**Shuangxi** baz=294	**0.63**	**285**	*i* P	**Pb**	**14 51 00.2**	**-0.2**
TIPB				*i* S	**Sb**	**14 51 08.9**	**-0.5**
SXI1	**Grass Mountain** baz=297	**0.63**	**297**	*i* P	**Pb**	**14 51 00.6**	**+0.1**
SXI1				*i* S	**Sb**	**14 51 09.0**	**-0.4**
ESAO	**Su ao** baz=248	**0.64**	**249**	*i* P	**Pg**	**14 50 59.9**	**+0.4**
ESAO				*i* S	**Sg**	**14 51 08.3**	**+0.4**
NWF	**Wu-fen Shan** baz=292	**0.70**	**292**	*i* P	**Pb**	**14 51 01.6**	**0.0**
NWF				*i* S	**Sg**	**14 51 10.7**	**+0.7**
WFSB	**Wu-fen Shan** baz=292	**0.70**	**292**	*i* P	**Pb**	**14 51 01.6**	**0.0**
WFSB				*i* S	**Sb**	**14 51 10.7**	**-0.6**
NDS	**Dongshan** baz=256	**0.73**	**257**	*i* P	**Pb**	**14 51 02.2**	**+0.1**
NDS				*i* S	**Sb**	**14 51 12.3**	**+0.2**
TNOU	**National Taiwa** baz=297	**0.74**	**298**	*i* P	**Pb**	**14 51 02.0**	**-0.2**
TNOU				S	**Sg**	**14 51 11.4**	**+0.1**
EWUT	**Wuta** baz=250	**0.74**	**241**	*i* P	**Pg**	**14 51 01.9**	**+0.3**
EWUT				*i* S	**Sg**	**14 51 11.5**	**+0.2**
TWE	**Neicheng** baz=263	**0.76**	**264**	*i* P	**Pg**	**14 51 01.8**	**-0.1**
TWE				*i* S	**Sg**	**14 51 12.4**	**+0.6**
ENA	**Nanau** baz=251	**0.78**	**242**	*i* P	**Pg**	**14 51 02.7**	**+0.3**
ENA				*i* S	**Sg**	**14 51 11.8**	**-0.8**
FUSB	**Fushanzhiwuyua** baz=266	**0.83**	**267**	*i* P	**Pg**	**14 51 03.4**	**+0.1**
FUSB				*i* S	**Sg**	**14 51 14.4**	**+0.3**
EAHA	**Aohua** baz=247	**0.84**	**236**	*i* P	**Pg**	**14 51 03.6**	**+0.2**
EAHA				*i* S	**Sg**	**14 51 13.9**	**-0.3**
ENTT	**Nioudou** baz=246	**0.86**	**259**	*i* P	**Pb**	**14 51 04.3**	**0.0**
ENTT				*i* S	**Sb**	**14 51 15.8**	**-0.1**
NWLT	**Wulai** baz=268	**0.90**	**269**	*i* P	**Pb**	**14 51 05.0**	**0.0**
NWLT				*i* S	**Sg**	**14 51 16.4**	**-0.1**
YM01	**YM01** baz=292	**0.91**	**292**	*i* P	**Pg**	**14 51 04.7**	**0.0**
YM01				*i* S	**Sg**	**14 51 16.7**	**+0.1**
YM08	**YM08** baz=295	**0.91**	**295**	*i* P	**Pg**	**14 51 04.4**	**-0.4**
YM08				*i* S	**Sg**	**14 51 16.2**	**-0.4**
NDT	**Datong Townshi** baz=246	**0.92**	**258**	*i* P	**Pb**	**14 51 05.2**	**-0.1**
NDT				*i* S	**Sg**	**14 51 16.8**	**-0.1**
LATG	**Datong** baz=253	**0.92**	**253**	*i* P	**Pg**	**14 51 05.1**	**+0.1**
LATG				*i* S	**Sg**	**14 51 17.4**	**+0.3**
TWY	**Chenhua** baz=289	**0.94**	**300**	P	**Pn**	**14 51 06.5**	**0.0**
TWY				*i* S	**Sb**	**14 51 18.4**	**+0.3**
ETL	**Fush Village** baz=239	**1.02**	**231**	P	**Pg**	**14 51 07.0**	**+0.1**
ETL				*e*S	**Sb**	**14 51 20.7**	**+0.1**
YHNB	**Yeheng** baz=262	**1.03**	**263**	*i* P	**Pb**	**14 51 07.2**	**0.0**
YHNB				*i* S	**Sg**	**14 51 20.5**	**+0.1**
NACB	**Ninganchiao** baz=241	**1.03**	**233**	*i* P	**Pg**	**14 51 07.0**	**-0.2**
NACB				*i* S	**Sg**	**14 51 19.8**	**-0.8**
NSK	**Sanguang** baz=262	**1.04**	**263**	*i* P	**Pg**	**14 51 07.2**	**-0.1**
NSK				*i* S	**Sg**	**14 51 19.9**	**-1.0**
NNSB	**Datong** baz=249	**1.08**	**250**	*i* P	**Pg**	**14 51 07.9**	**-0.2**
NNSB				*i* S	**Sg**	**14 51 21.9**	**-0.2**
NNS	**Nan Shan** baz=250	**1.08**	**251**	*i* P	**Pg**	**14 51 08.2**	**0.0**
NNS				*i* S	**Sg**	**14 51 21.9**	**-0.4**
TWD	**Chiawan** baz=234	**1.09**	**229**	*i* P	**Pg**	**14 51 08.0**	**-0.2**
TWD				*i* S	**Sg**	**14 51 22.1**	**-0.4**
ETLH	**Xiulin Townshi** baz=246	**1.10**	**237**	*i* P	**Pg**	**14 51 08.3**	**-0.1**
ETLH				*i* S	**Sg**	**14 51 21.6**	**-1.1**
LXIB	**Xiulin Townshi** baz=216	**1.26**	**232**	*i* P	**Pb**	**14 51 11.3**	**+0.2**
LXIB				*i* S	**Sn**	**14 51 29.1**	**+1.0**
NFF	**Wufeng Townshi** baz=262	**1.27**	**262**	*i* P	**Pn**	**14 51 10.8**	**-0.2**
NFF				*i* S	**Sg**	**14 51 28.1**	**+0.1**
WHF	**Hehuan Shan** baz=247	**1.30**	**240**	*i* P	**Pg**	**14 51 12.3**	**0.0**
WHF				*i* S	**Sb**	**14 51 28.5**	**-0.4**
LIOB	**Emei** baz=263	**1.36**	**264**	*i* P	**Pn**	**14 51 12.0**	**-0.3**
CHGB	**Renai** baz=246	**1.42**	**239**	*i* P	**Pg**	**14 51 14.2**	**-0.2**
CHGB				*i* S	**Sg**	**14 51 33.1**	**+0.2**
OWD	**Renai** baz=241	**1.47**	**235**	P	**Pb**	**14 51 15.1**	**+0.3**
OWD				S	**Sb**	**14 51 34.2**	**+0.6**
WUSB	**Renai** baz=243	**1.50**	**238**	*i* P	**Pb**	**14 51 15.6**	**+0.4**
WUSB				*i* S	**Sg**	**14 51 35.8**	**+0.4**
WHP	**Taichung City** baz=250	**1.51**	**250**	*i* P	**Pg**	**14 51 16.8**	**+0.6**
WHP				S	**Sg**	**14 51 35.6**	**-0.2**
VWDT	**VWDT** baz=215	**1.62**	**230**	*i* P	**Pb**	**14 51 17.6**	**+0.3**
VWDT				*i* S	**Sb**	**14 51 37.5**	**-0.2**
SMLT	**Sun Moon Lake** baz=221	**1.72**	**238**	*i* P	**Pg**	**14 51 19.7**	**-0.6**
TYC	**Yuchr** baz=223	**1.74**	**239**	*i* P	**Pg**	**14 51 20.4**	**-0.4**
TWF1	**Yuli** baz=205	**1.81**	**217**	*e*P	**Pn**	**14 51 17.7**	**-0.8**

*IDC **03** 14:58:07.9±0.6, 10.99S×163.97E, h0km, mb4.4/19, mbtmp4.4/22, ML2.1/1, MS3.9/34, Error ellipse: s-maj=18.6km s-min=15.0km az=117.0*
*NOU **03** 14:58:09.9, 10.49S×164.28E, h50km, mb4.9/36, Santa Cruz Islands Region*
*GCMT **03** 14:58:13.0±0.3, 10.89S±0.02×163.83E±0.02, h27km±1km, MW4.9/83, Moment Tensor Solution. s21,c27; s83,c113; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.26±.14; $M_{\theta\theta}$-1.75±.11; $M_{\phi\phi}$1.49±.10; $M_{r\theta}$0.14±.19; $M_{\theta\phi}$1.99±.09; $M_{\phi r}$-1.85±.22; Best double couple: M_o3.16300×10^{16} NP1:ϕ_s159.00000°,δ83.00000°,λ146.00000°. NP2: ϕ_s254.00000°,δ56.00000°,λ8.00000°. Principal axes: T 3.3220, Plg29.0000°, Azm111.0000°; N -0.3190, Plg55.0000°, Azm329.0000°; P -3.0030, Plg18.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **03** 14:58:13.0±2.1, 10.84S±0.09×163.8E±0.1, h36km±7km, mb4.7/66 Error ellipse: s-maj=15.0km s-min=12.4km az=70.0*

ISC 03 14:58:12.0±0.4, 10.96S±0.05×163.90E±0.06, h29km, n184, σ1.66/158, mb4.7/65, MS4.0/34, 2C-5D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.17**	**291**	Pn	**Pn**	**14 59 13.7**	**0.0**
HNR	**Honiara**	**4.17**	**291**	P	**Pn**	**14 59 14.8**	**+1.1**
HNR	**Honiara** 4μm,0.3s,baz=138,slow=4.1,SNR=61	**4.17**	**291**	Pn	**Pn**	**14 59 14.3**	**+0.6**
HNR	3μm,0.3s,baz=38,slow=22,SNR=7.1			Sn	**Sn**	**15 00 05.1**	**+3.6**
HNR	comp=Z,72μm,18.4s,baz=128,slow=41			LR	LR	15 01 00.8	
KOUNC	**Koumac, New Ca**	**9.55**	**178**	Pn	**Pn**	**15 00 28.0**	**+0.4**
KOUNC	**Koumac, New Ca**	**9.55**	**178**	P	**Pn**	**15 00 29.5**	**+1.9**
LIFNC	**LIFOU**	**10.28**	**162**	P	**Pn**	**15 00 39.1**	**+1.5**
DZM	**Mont Dzumac**	**11.32**	**168**		**Pn**	**15 00 53.8**	**+1.9**
DZM	**Mont Dzumac**	**11.32**	**168**	P	**Pn**	**15 00 54.6**	**+2.7**
DZM	**Mont Dzumac** 8.5nm,0.7s,baz=20,slow=9.6,SNR=82	**11.32**	**168**	Pn	**Pn**	**15 00 52.3**	**+0.3**
DZM	1.4nm,0.3s,baz=324,slow=19,SNR=2.1			Sn	**Sn**	**15 02 54.2**	**-3.4**
DZM	comp=Z,679nm,18.8s,baz=4.0,slow=35			LR	LR	15 04 37.6	
ONTNC	**Ouen Toro**	**11.55**	**168**	Pn	**Pn**	**15 00 57.6**	**+2.6**
OUENC	**Ouen Island, N**	**11.74**	**166**	Pn	**Pn**	**15 00 58.6**	**+1.0**
OUENC	**Ouen Island, N**	**11.74**	**166**	P	**Pn**	**15 00 59.8**	**+2.2**
PINNC	**Pines Island,**	**12.08**	**164**		**Pn**	**15 01 01.5**	**-0.7**
PINNC	**Pines Island,**	**12.08**	**164**	P	**Pn**	**15 01 04.3**	**+2.1**
RABL	**Rabaul**	**13.43**	**299**	Pn	**Pn**	**15 01 21.2**	**+0.4**
PMG	**Port Moresby**	**16.55**	**274**	Pn	**Pn**	**15 01 59.8**	**-2.3**
PMG	**Port Moresby** 0.2nm,0.3s,baz=58,slow=11,SNR=4.4	**16.55**	**274**	Pn	**P**	**15 02 03.5**	**-1.0**
PMG	comp=Z,982nm,19.6s,baz=122,slow=37 9.1nm,1.0s			LR	LR	15 08 17.6	
RK1H	**Rockhampton Ha**	**17.78**	**224**	P	**P**	**15 02 21.2**	**+3.2**
TV1H	**Townsville Har**	**18.45**	**241**	P	**Pn**	**15 02 27.9**	**+2.2**
PATS	**Pohnpei**	**18.53**	**342**	P	**P**	**15 02 21.8**	**-4.5**
MANU	**Manus Island**	**18.64**	**297**	P	**P**	**15 02 25.7**	**-1.9**
MANU	comp=Z,91nm,1.1s			IAmb	IAmb	15 02 32.5	
EIDS	**Eidsvold**	**18.78**	**219**	Pn	**Pn**	**15 02 32.4**	**+2.6**
EIDS	comp=Z,29nm,0.8s			IAmb	IAmb	15 02 33.8	
EIDS	**Eidsvold**	**18.78**	**219**	P	**Pn**	**15 02 32.3**	**+2.6**
CTA	**Charters Tower**	**19.25**	**240**	P	**Pn**	**15 02 36.5**	**+1.0**
CTA	**Charters Tower** comp=Z,27nm,0.7s,baz=68,slow=11,SNR=38	**19.25**	**240**	P	**Pn**	**15 02 36.1**	**+0.6**
CTA	comp=Z,391nm,18.3s,baz=60,slow=36			LR	LR	15 09 42.6	
CTAO	**Charters Tower**	**19.25**	**240**		**P**	**15 02 35.0**	**+0.6**
CTAO	comp=Z,40nm,0.9s			IAmb	IAmb	15 02 44.2	
CTAO	**Charters Tower**	**19.25**	**240**	P	**Pn**	**15 02 36.5**	**+1.0**
MTSU	**Mount Surprise**	**20.24**	**247**	P	Pn	15 02 46.8	-0.4
COEN	**Coen**	**20.45**	**259**	P	**P**	**15 02 47.0**	**-0.4**
COEN	comp=Z,38nm,1.0s			IAmb	IAmb	15 02 49.9	
COEN	**Coen** comp=Z,40nm,1.2s	**20.45**	**259**	P	**P**	**15 02 48.5**	**+1.1**
ARMA	**Armidale**	**22.47**	**209**	P	**P**	**15 03 08.5**	**-0.7**
ARMA	comp=Z,43nm,1.1s			IAmb	IAmb	15 03 13.1	
ARMA	**Armidale**	**22.47**	**209**	P	**P**	**15 03 11.6**	**+2.4**
QLP	**Quilpie**	**24.19**	**227**	P	**P**	**15 03 27.7**	**+1.5**
RAO	**Raoul Island** comp=Z,172nm,18.0s,baz=304,slow=35	**24.89**	**140**	LR	LR	15 12 25.6	
QIS	**Mount Isa**	**25.22**	**245**	P	**P**	**15 03 35.4**	**-0.2**
CMSA	**Cobar Meteorol**	**26.51**	**217**	P	**P**	**15 03 48.1**	**+0.9**
INKA	**Innaminka**	**27.41**	**229**	P	**P**	**15 03 56.4**	**+1.2**
CAN	**Canberra**	**27.78**	**207**	P	**P**	**15 03 57.3**	**-1.2**
CAN	comp=Z,24nm,1.4s			IAmb	IAmb	15 04 02.6	
STKA	**Stephens Creek**	**29.28**	**221**	P	**P**	**15 04 10.7**	**-1.2**
STKA	**Stephens Creek** comp=Z,17nm,0.9s,baz=33,slow=10,SNR=28	**29.28**	**221**	P	**P**	**15 04 12.8**	**+0.9**
STKA				LR	LR	15 15 11.6	

comp=Z,598nm,18.3s,baz=33,slow=35
comp=Z,17nm,0.9s
H11S2 WAKE ISLAND Hy 29.39 5 T T 15 35 22.0
baz=188,slow=76,SNR=18
H11S3 WAKE ISLAND Hy 29.39 5 T T 15 35 26.3
baz=188,slow=76,SNR=16
H11S1 WAKE ISLAND Hy 29.41 5 T T 15 35 23.4
baz=188,slow=76,SNR=14
WR0 Warramunga Arr 29.63 249 P **P** **15 04 11.7 -3.5**
WR0 IAmb IAmb 15 04 14.7
comp=Z,9.6nm,0.7s
WB0 Warramunga Arr 29.73 249 P **P** **15 04 14.4 -1.6**
WRAB Tennant Creek 29.80 249 P **P** **15 04 13.5 -3.2**
WRAB IAmb IAmb 15 04 17.4
comp=Z,27nm,1.2s
WB2 Warramunga Arr 29.80 249 P **P** **15 04 15.1 -1.6**
WB2 IAmb IAmb 15 04 16.3
comp=Z,13nm,0.7s
WRA Warramunga Arr 29.81 249 P **P** **15 04 14.0 -2.8**
WRA Warramunga Arr 29.81 249 P **P** **15 04 15.9 -0.9**
comp=Z,13nm,0.5s,baz=80,slow=9.1,SNR=140
WRA S **S** **15 09 06.3 -5.6**
comp=Z,3.1nm,1.1s,baz=78,slow=15,SNR=5.8
comp=Z,13nm,0.5s
H11N1 WAKE ISLAND Hy 30.62 6 T T 15 36 24.8
baz=184,slow=76,SNR=12
H11N3 WAKE ISLAND Hy 30.63 6 T T 15 36 26.2
baz=184,slow=76,SNR=11
H11N2 WAKE ISLAND Hy 30.64 6 T T 15 36 29.1
baz=184,slow=76,SNR=6.8
LCRK Leigh Creek 30.74 227 P **P** **15 04 25.7 +0.9**
KDU Kakadu 30.80 264 P **P** **15 04 23.7 -1.8**
AS01 Alice Springs 31.18 242 P **P** **15 04 27.9 -0.9**
AS31 Alice Springs 31.22 242 P **P** **15 04 27.6 -1.6**
ASAR Alice Springs 31.22 242 P **P** **15 04 27.3 -1.9**
ASAR Alice Springs 31.22 242 P **P** **15 04 27.9 -1.3**
comp=Z,4.4nm,0.6s,baz=62,slow=10,SNR=123
ASAR PcP **PcP** **15 07 25.3 +1.7**
comp=Z,0.6nm,0.7s,baz=92,slow=2.5,SNR=1.6
ASAR LR LR 15 16 48.6
comp=Z,275nm,18.2s,baz=70,slow=36
comp=Z,4.4nm,0.6s
TOO Toolangi 31.24 209 P **P** **15 04 28.2 -1.0**
TOO IAmb IAmb 15 04 32.8
comp=Z,18nm,1.1s
TOO Toolangi 31.24 209 P **P** **15 04 30.7 +1.5**
HTT Hallett 32.01 222 P **P** **15 04 37.5 +1.5**
MTN Manton Dam 32.10 263 P **P** **15 04 37.0 0.0**
MTN Manton Dam 32.10 263 P **P** **15 04 36.8 -0.2**
comp=Z,23nm,1.6s
RPZ Rata Peaks 33.22 171 LR LR 15 16 02.9
comp=Z,214nm,20.6s,baz=344,slow=32
BBOO Buckleboo 33.58 225 P **P** **15 04 49.9 +0.1**
BBOO Buckleboo 33.58 225 P **P** **15 04 50.8 +1.1**
MULG Mulgathing 33.73 231 P **P** **15 04 50.9 -0.2**
KNRA Kununurra 34.48 258 P **P** **15 04 56.3 -1.4**
KNRA Kununurra 34.48 258 P **P** **15 04 56.7 -1.0**
RAR Rarotonga 36.29 111 LR LR 15 17 03.1
comp=Z,174nm,21.9s,baz=300,slow=31
WRKA Warakurna 36.51 243 P **P** **15 05 14.6 -0.5**
LBMI Labuha 37.58 283 P **P** **15 05 23.4 -0.9**
comp=Z,100nm,0.9s
FITZ Fitzroy Crossi 37.65 255 P **P** **15 05 23.6 -1.2**
FITZ IAmb IAmb 15 05 24.3
comp=Z,4.6nm,0.6s
FITZ Fitzroy Crossi 37.65 255 P **P** **15 05 23.7 -1.2**
FORT Forrest 38.62 234 P **P** **15 05 32.5 -0.4**
FORT Forrest 38.62 234 P **P** **15 05 34.8 +1.9**
SANI Sanana 38.65 281 P **P** **15 05 32.6 -0.7**
comp=Z,9.5nm,0.8s,comp=Z,579nm
JCJ Chichijima 43.30 331 LR LR 15 25 18.7
comp=Z,108nm,18.4s,baz=108,slow=38
PSA00 Pilbara Seismi 43.45 250 P **P** **15 06 10.9 -1.9**
MBWA Marble Bar 43.51 251 P **P** **15 06 11.2 -2.0**
MBWA IAmb IAmb 15 06 17.5
comp=Z,14nm,0.9s
MBWA Marble Bar 43.51 251 P **P** **15 06 12.9 -0.4**
MEEK Meekatharra 45.36 243 P **P** **15 06 26.8 -1.3**
PLAI Plampang 45.45 268 P **P** **15 06 28.2 -0.7**
PPT Papeete 45.48 104 LR LR 15 23 01.6
comp=Z,218nm,19.8s,baz=281,slow=33
NWAO Narrogin (SRO) 48.01 235 LR LR 15 26 43.7
comp=Z,307nm,20.2s,baz=105,slow=36
MORW Morawa 48.08 241 P **P** **15 06 48.0 -1.3**
MORW Morawa 48.08 241 P **P** **15 06 49.7 +0.4**
comp=Z,25nm,1.5s
JOW Kunigami 51.06 318 LR LR 15 29 33.0
comp=Z,85nm,18.3s,baz=146,slow=37
INU Inuyama 52.61 332 P **P** **15 07 22.6 -0.7**
JGF Kuroka 52.66 333 P **P** 15 07 18.6 -5.2
JGF IAmb IAmb 15 07 43.1
comp=Z,6.5nm,0.8s
UGM Wanagama 52.68 268 P **P** **15 07 22.1 -2.3**
MJAR Matsushiro Arr 53.08 334 P **P** **15 07 28.3 +1.5**
comp=Z,1.6nm,0.3s,baz=170,slow=7.8,SNR=7.0
comp=Z,1.6nm,0.3s
JNU Nakatsue 53.96 326 LR LR 15 28 18.8
comp=Z,25nm,19.3s,baz=131,slow=34
TPUB Ta-pu 54.33 309 P **P** **15 07 33.1 -3.1**
SSLB Suanglung 54.35 310 P **P** **15 07 34.5 -1.9**
SSLB IAmb IAmb 15 07 40.7
comp=Z,13nm,0.9s
KSRS Korea Array 58.79 327 P **P** **15 08 09.2 +1.5**
comp=Z,2.6nm,0.9s,baz=143,slow=7.7,SNR=7.7
KSRS LR LR 15 30 37.1
comp=Z,69nm,19.5s,baz=135,slow=33
comp=Z,2.6nm,0.9s
KSAR Wonju Array Be 58.81 327 P **P** **15 08 06.0 -1.8**
NJ2 Nanjing 60.69 316 *e*P **P** **15 08 20.7 -0.2**
NJ2 pP **sP** **15 08 31.6 -0.2**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
QIZ Qiongzhong 61.04 299 P **P** **15 08 23.4 -0.1**
QIZ S **S** **15 16 42.0 +1.1**
QIZ LR LR
comp=N,97nm,9.4s
QIZ LR LR
comp=E,70nm,10.8s
QIZ LR LR
comp=Z,160nm,17.6s
USA0B Ussuriysk Arra 62.07 335 P **P** **15 08 29.3 -0.7**
USRK Ussuriysk Ar. 62.07 335 P **P** **15 08 28.2 -1.8**
USRK Ussuriysk Ar. 62.07 335 P **P** **15 08 32.6 +2.6**
comp=Z,6.7nm,0.9s,baz=135,slow=5.8,SNR=7.9
comp=Z,6.7nm,0.9s
GULI GuiLin 63.37 305 ⇑P **P** **15 08 39.3 +0.2**
GULI pmax pmax
comp=Z,10.0nm,1.3s
MDJ Mudanjiang 63.44 333 P **P** **15 08 41.5 +2.4**
MDJ pmax pmax
comp=Z,13nm,1.7s
MDJ pmax pmax
comp=Z,290nm,3.9s
PEA0B Petropavlovsk- 64.03 356 P **P** **15 08 41.1 -1.7**
PETK Petropavlovsk- 64.03 356 P **P** **15 08 45.1 +2.3**
comp=Z,3.5nm,0.9s,baz=262,slow=11,SNR=2.0
PETK LR LR 15 31 00.7
comp=Z,118nm,21.2s,baz=160,slow=31
comp=Z,3.5nm,0.9s
CN2 Changchun 64.75 330 P **P** **15 08 51.5 +3.8**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
BNX BinXian 65.28 333 ⇓P **P** **15 08 54.7 +3.5**
BNX pmax pmax
comp=Z,8.0nm,1.2s
BNX pmax pmax
comp=Z,210nm,4.4s
KLR Kul'dur 66.27 338 LR LR 15 34 30.9
comp=Z,40nm,21.7s,baz=154,slow=33
VNDA Vanda 66.56 180 P **P** **15 09 00.1 +1.2**
comp=Z,2.1nm,0.9s,baz=349,slow=6.6,SNR=3.6
comp=Z,2.1nm,0.9s
HNS HongShan 66.61 319 ⇑P **P** **15 09 04.3 +4.4**
HNS pmax pmax
comp=Z,11nm,1.2s
XAN Xi'an 68.73 313 ⇓P P 15 09 06.9 -6.5
XAN pP pP 15 09 15.5 -5.9
XAN pmax pmax
comp=Z,4.0nm,0.5s
HEH HeiHe 68.77 336 *e*P **P** **15 09 14.8 +1.6**
HEH pmax pmax
comp=Z,2.0nm,0.6s
PHRA Phrae 69.28 295 P **P** **15 09 15.6 -1.4**
KMI Kunming 69.53 302 ⇓P **P** **15 09 19.9 +1.1**
KMI pmax pmax
comp=Z,7.0nm,1.1s
KMI LR LR
comp=N,100nm,18.3s
KMI LR LR
comp=E,140nm,19.5s
KMI LR LR
comp=Z,150nm,19.7s
CRAI Chiangrai 69.74 296 P **P** **15 09 18.9 -1.0**
XLT XiLinHaoTe 69.74 325 *e*P **P** **15 09 22.0 +2.5**
XLT pmax pmax
comp=Z,6.0nm,0.9s
XLT pmax pmax
comp=Z,160nm,6.3s
CMAR Chiang Mai Arr 70.42 294 P **P** **15 09 22.3 -1.8**
CMAR Chiang Mai Ar 70.42 294 P **P** **15 09 24.6 +0.5**
comp=Z,2.4nm,0.9s,baz=116,slow=4.1,SNR=15
comp=Z,2.4nm,0.9s
HHC Hu-ho-hao-te 70.60 320 *e*P **P** **15 09 26.6 +1.8**
HHC pmax pmax
comp=Z,8.0nm,0.9s
HHC pmax pmax
comp=Z,110nm,6.1s
HHC LR LR
comp=N,130nm,15.3s
HHC LR LR
comp=E,100nm,16.0s
HHC LR LR
comp=Z,190nm,16.0s
PZH PanZhiHua 70.90 303 P **P** **15 09 31.6 +4.6**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,120nm,4.8s
MA2 Magadan 71.08 353 LR LR 15 35 50.5
comp=Z,56nm,21.1s,baz=123,slow=32
KDAK Kodiak Island 77.17 22 LR LR 15 45 13.6
comp=Z,82nm,18.4s,baz=239,slow=37
SONM Songino Array 77.53 324 P **P** **15 10 05.1 -0.2**
SONM Songino Array 77.53 324 P **P** **15 10 06.4 +1.2**
comp=Z,2.5nm,0.7s,baz=153,slow=6.9,SNR=14
SONM LR LR 15 43 31.8
comp=Z,37nm,20.0s,baz=68,slow=35
comp=Z,2.5nm,0.7s
GTA Gaotai 77.69 315 *e*P **P** **15 10 07.5 +1.2**
GTA pP pP 15 10 13.7 -0.4
GTA pmax pmax
comp=Z,2.0nm,1.2s
QSPA South Pole Qui 79.05 180 P **P** **15 10 14.7 +1.3**
QSPA IAmb IAmb 15 10 32.5
comp=Z,6.4nm,1.0s
QSPA South Pole Qui 79.05 180 P **P** **15 10 14.2 +0.9**
comp=Z,1.7nm,0.7s,baz=6.4,slow=4.0,SNR=4.1
comp=Z,1.7nm,0.7s
L18K Granite Mounta 79.13 18 P **P** **15 10 14.4 +0.8**
L18K IAmb IAmb 15 10 19.8
comp=Z,15nm,1.4s
J17K VABM Dome 79.38 16 P **P** **15 10 15.4 +0.5**
J17K IAmb IAmb 15 10 42.0
comp=Z,12nm,1.2s
L19K White Mountain 79.65 18 P **P** **15 10 17.4 +0.9**
L19K IAmb IAmb 15 10 33.2
comp=Z,7.3nm,1.1s
F15K North Star Dit 79.94 13 P **P** **15 10 16.6 -1.4**
M20K Styx River 79.97 19 P **P** **15 10 16.3 -2.0**
M20K IAmb IAmb 15 10 22.4
comp=Z,11nm,1.5s
F17K Baldwin Pennin 81.32 13 P **P** **15 10 26.1 +0.8**
J20K Nowinta River 81.37 17 P **P** **15 10 26.4 +0.7**
CAST Castle Rocks 81.43 18 P **P** **15 10 25.2 -0.8**
CAST IAmb IAmb 15 10 29.1
comp=Z,7.9nm,1.2s
G19K Purcell Mounta 82.08 15 P **P** **15 10 29.9 +0.6**
RPN Rapa Nui 82.25 116 LR LR 15 40 02.9
comp=Z,81nm,19.8s,baz=24,slow=31
E18K Tukpahlearik C 82.27 13 P **P** **15 10 30.8 +0.5**
E18K IAmb IAmb 15 10 52.1
comp=Z,7.4nm,1.3s
BERG Berg Lake 82.32 23 P **P** **15 10 30.9 +0.1**
BERG IAmb IAmb 15 10 43.2
comp=Z,11nm,1.0s
F19K Shaleruckik Mo 82.45 14 P **P** **15 10 31.1 -0.1**
F19K IAmb IAmb 15 10 41.5
comp=Z,6.8nm,1.3s
WAX Waxell Ridge 82.69 24 P **P** **15 10 32.5 -0.2**
WAX IAmb IAmb 15 10 45.6
comp=Z,18nm,1.4s
IMAR Indian Mountai 82.84 16 P **P** **15 10 33.1 -0.2**
GLB Gilahina Butte 82.94 23 P **P** **15 10 32.9 -1.1**
GLB IAmb IAmb 15 10 58.2
comp=Z,11nm,1.3s
VRDI Verde Repeater 82.94 23 P **P** **15 10 34.2 +0.1**
E19K Redstone River 83.08 14 P **P** **15 10 34.6 +0.1**
E19K IAmb IAmb 15 11 04.7
comp=Z,8.8nm,1.4s
F20K Avaraart Lake 83.13 15 P **P** **15 10 34.5 -0.2**
BARN Barnard Glacie 83.53 23 P **P** **15 10 36.5 -0.7**
CTGM Chitina Glacie 83.60 24 P **P** **15 10 36.9 -0.6**
CTGM IAmb IAmb 15 10 39.3
comp=Z,12nm,1.1s
CCB Clear Creek Bu 83.64 19 P **P** **15 10 36.8 -0.6**
IL31 84.01 19 P **P** **15 10 38.3 -1.0**
IL31 IAmb IAmb 15 11 02.3
comp=Z,4.5nm,1.1s
ILAR Eielson Array 84.01 19 P **P** **15 10 37.6 -1.8**
ILAR Eielson Array 84.01 19 P **P** **15 10 38.8 -0.6**
comp=Z,0.9nm,0.7s,baz=244,slow=5.0,SNR=20
ILAR LR LR 15 41 59.3
comp=Z,58nm,19.9s,baz=246,slow=31
comp=Z,0.9nm,0.7s
M27K Edge Creek, AK 84.22 22 P **P** **15 10 40.4 -0.3**
M27K IAmb IAmb 15 10 42.9
comp=Z,13nm,1.3s
J25K Salcha River, 84.40 20 P **P** **15 10 40.8 -0.6**
J25K IAmb IAmb 15 11 00.0
comp=Z,4.7nm,0.9s
SCRK Sand Creek 84.46 20 P **P** **15 10 41.4 -0.4**
SCRK IAmb IAmb 15 10 43.7
comp=Z,4.1nm,1.1s
L27K Beaver Creek, 84.66 22 IAmb IAmb 15 10 44.8
comp=Z,12nm,1.5s
BCAR Beaver Creek A 84.68 22 P **P** **15 10 42.6 -0.2**
PALK Pallekele 84.74 278 LR LR 15 51 34.6
comp=Z,50nm,19.6s,baz=224,slow=38
YBH Yreka Blue Hor 85.13 46 LR LR 15 40 22.3
comp=Z,65nm,21.6s,baz=230,slow=30
BBB Bella Bella 85.54 35 LR LR 15 49 18.8
comp=Z,40nm,18.1s,baz=272,slow=36
DAWY Dawson 86.14 22 P **P** **15 10 50.5 +0.4**
DAWY IAmb IAmb 15 10 52.8
comp=Z,5.9nm,1.2s
J05D Fort Rock, OR 86.67 45 P **P** **15 10 52.1 -1.2**
DLBC Dease Lake 87.20 29 LR LR 15 42 15.8
comp=Z,123nm,20.3s,baz=276,slow=30
NVAR Mina Array Bea 87.36 50 P **P** **15 10 57.0 +0.2**
comp=Z,3.1nm,1.0s,baz=232,slow=7.1,SNR=12
NVAR LR LR 15 43 47.7
comp=Z,108nm,18.4s,baz=268,slow=31
comp=Z,3.1nm,1.0s
PFO Pinyon Flats O 87.52 55 LR LR 15 48 11.2
comp=Z,36nm,18.1s,baz=200,slow=34
WMQ Urumqi 87.75 315 *e*P P 15 11 03.2 +4.8
WMQ pmax pmax
comp=Z,15nm,0.7s
F10A Beach Ranch, E 90.19 43 P **P** **15 11 09.6 -0.3**
ELK Elko 90.25 49 LR LR 15 42 50.5
comp=Z,55nm,21.4s,baz=260,slow=30
INK Inuvik 90.41 19 LR LR 15 46 35.3
comp=Z,92nm,19.8s,baz=150,slow=32
LPIG La Paz 90.62 66 LR LR 15 44 59.6
comp=Z,46nm,18.8s,baz=218,slow=31
NEW Newport 90.86 41 LR LR 15 46 58.8
comp=Z,35nm,18.6s,baz=156,slow=32
MKAR Makanchi Array 92.22 317 P **P** **15 11 19.4 +0.2**
MKAR Makanchi Array 92.22 317 P **P** **15 11 18.8 -0.4**
comp=Z,1.3nm,0.7s,baz=99,slow=6.1,SNR=10
comp=Z,1.3nm,0.7s
ZALV Zalesovo Beam 92.42 324 P **P** **15 11 19.4 -0.6**
comp=Z,0.6nm,0.6s,baz=93,slow=5.8,SNR=2.7
comp=Z,0.6nm,0.6s
ELIB Princess Elisa 93.27 191 *d*P **P** **15 11 21.3 -2.5**
ELIB *d*x x 15 11 28.6
PDAR Pinedale Array 94.83 48 P **P** **15 11 31.1 -0.5**
comp=Z,1.1nm,1.0s,baz=266,slow=3.9,SNR=5.0
PDAR LR LR 15 54 11.3
comp=Z,49nm,18.0s,baz=262,slow=36
comp=Z,1.1nm,1.0s
KURBB Kurchatov Arra 95.45 320 P **P** **15 11 34.1 +0.2**
comp=Z,0.4nm,0.8s,baz=116,slow=4.2,SNR=2.9
comp=Z,0.4nm,0.8s
YKA Yellowknife Ar 95.73 27 P **P** **15 11 33.7 -1.2**
comp=Z,1.4nm,0.9s,baz=257,slow=4.7,SNR=14
YKA LR LR 15 57 20.1
comp=Z,84nm,18.2s,baz=291,slow=37
comp=Z,1.4nm,0.9s
ANMO Albuquerque 95.90 56 LR LR 15 47 21.7
comp=Z,43nm,18.6s,baz=54,slow=31
TXAR Lajitas Array 97.38 62 P **P** **15 11 42.7 -0.7**
comp=Z,0.1nm,0.5s,baz=220,slow=6.8,SNR=1.6
comp=Z,0.1nm,0.5s
KEST Kesra 146.22 321 PKPbc **PKPab** **15 17 51.7 +0.7**
comp=Z,5.7nm,1.0s,baz=101,slow=5.2,SNR=3.9
ESDC Sonseca Array 149.43 341 PKPbc **PKiKP** **15 18 00.6 +0.7**
comp=Z,0.5nm,0.6s,baz=17,slow=4.3,SNR=1.5
TORD Torodi Ar. Bea 162.46 279 PKP **PKPdf** **15 18 13.5 +1.4**
comp=Z,0.4nm,0.8s,baz=11,slow=1.5,SNR=2.5
TORD PKPab **PKPab** **15 19 00.1 +0.2**
comp=Z,1.0nm,1.1s,baz=66,slow=5.0,SNR=4.5

RSNC 03 14:58:19.9±0.0, 7°N±2°×7°3W±°, h145km±4km, mb3.8, mB5.2, ML3.0, Mw(mB)4.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.26**	**191**	P	Pn	14 58 38.7	-1.4
BARC				S	Sn	14 58 54.4	-1.0
PAMC	**Pamplona, Colo**	**0.65**	**41**	P	Pn	14 58 41.5	-0.6
PAMC				S	Sn	14 58 58.6	-0.4
RUSC	**La Rusia**	**0.95**	**177**	P	Pn	14 58 42.6	-1.8
RUSC				S	Sn	14 59 01.3	-1.7
PTBC	**PUERTO BERRIO,**	**1.35**	**257**	P	Pn	14 58 45.3	-2.3
PTBC				S	Sn	14 59 06.4	-2.3
TAMC	**Tame, Arauca**	**1.39**	**107**	P	Pn	14 58 47.0	-1.0
TAMC				S	Sn	14 59 08.8	-0.6
OCAC	**Ocana**	**1.39**	**352**	P	Pn	14 58 46.8	-1.4
OCAC				S	Sn	14 59 08.4	-1.4
SPBC	**San Pablo de B**	**1.51**	**218**	P	Pn	14 58 47.5	-1.9
SPBC				S	Sn	14 59 10.1	-1.8
NORC	**Norcasia**	**2.15**	**234**	P	Pn	14 58 54.4	-2.2
NORC				S	Sn	14 59 23.3	-1.5
ROSC	**El Rosal**	**2.32**	**211**	P	Pn	14 58 58.6	-0.4
ROSC				S	Sn	14 59 29.2	+0.2
HELC	**Santa Helena**	**2.47**	**255**	P	Pn	14 59 00.3	-0.5
HELC				S	Sn	14 59 31.2	-1.0
UREC	**San Jos de Ur**	**2.55**	**291**	P	Pn	14 58 58.5	-2.9
UREC				S	Sn	14 59 29.3	-4.0
GUY2C	**Guyana, Caldas**	**2.75**	**234**	P	Pn	14 59 02.8	-1.6
GUY2C				S	Sn	14 59 41.1	+2.5
VILC	**Villavicencio,**	**2.78**	**192**	P	Pn	14 59 02.5	-1.9
VILC				S	Sn	14 59 36.7	-2.1
PTGC	**Puerto Gaitan,**	**2.81**	**159**	P	Pn	14 59 01.9	-2.9
PTGC				S	Sn	14 59 35.8	-3.6
LL6C	**La Loma 6 Bece**	**2.87**	**357**	P	Pn	14 59 03.2	-2.3
LL6C				S	Sn	14 59 39.2	-1.5
CBOC	**Ciudad Bolivar**	**3.03**	**251**	P	Pn	14 59 06.4	-1.2
CBOC				S	Sn	14 59 43.9	-0.5
DBBC	**Dabeiba**	**3.06**	**273**	P	Pn	14 59 06.3	-1.7
DBBC				S	Sn	14 59 42.2	-2.9
ARGC	**Ariguani, Magd**	**3.19**	**340**	P	Pn	14 59 09.0	-0.5
ARGC				S	Sn	14 59 47.8	-0.1
ORTC	**Ortega, Tolima**	**3.60**	**216**	P	Pn	14 59 12.9	-2.0
ORTC				S	Sn	14 59 55.5	-2.0
SJCC	**San Jacinto, C**	**3.64**	**326**	P	Pn	14 59 12.8	-2.7
SJCC				S	Sn	14 59 53.9	-4.6
PLMC	**San Jos del P**	**3.68**	**239**	P	Pn	14 59 14.0	-2.0
PLMC				S	Sn	14 59 56.8	-2.7
CRJC	**Cerrejon, Guaj**	**4.15**	**3**	P	Pn	14 59 19.1	-3.0
CRJC				S	Sn	15 00 05.9	-4.6
YOYC	**Yotoco, Valle**	**4.28**	**229**	P	Pn	14 59 21.1	-2.8
SMRC	**Santa Marta, M**	**4.42**	**346**	P	Pn	14 59 23.5	-2.1
SMRC				S	Sn	15 00 11.9	-4.8
URIC	**Uribia, Colomb**	**4.95**	**13**	P	Pn	14 59 29.2	-3.4
URIC				S	Sn	15 00 25.6	-3.7
JAMC	**Jamundi, Valle** 5.3nm,0.4s	**5.05**	**225**	P	Pn	14 59 31.8	-2.3
GARC	**Garzon, Huila**	**5.20**	**207**	P	Pn	14 59 31.6	-4.5
POPC	**Popayan, Colom** 3.4nm,0.5s	**5.55**	**220**	P	Pn	14 59 38.6	-2.2

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*IDC **03** 14:58:20.8±0.9, 62°.07N×17°.65E, h0km, mbtmp2.5/4, ML1.5/4, Error ellipse: s-maj=15.3km s-min=5.9km az=159.0*
*NAO **03** 14:58:21.0±3.2, 62°.36N×17°.55E, h2km±22km, ML1.6*
*HEL **03** 14:58:21.7±0.0, 62°.14N×17°.87E, h5km, ML2.0, ML1.6(UPP), Confirmed Earthquake*
*UPP **03** 14:58:21.6±0.1, 62°.15N×17°.82E, h9km±3km, ML1.6, Confirmed Earthquake*
*BER **03** 14:58:22.6±2.9, 62°.15N×17°.89E, h15km, ML1.6, ML1.6(UPP), Confirmed Earthquake*

ISC 03 14:58:21.1±1.1, 62°.16N±0°.02×17°.84E±0°.02, h3km±9km, n63, σ1°28/119, 5C-11D, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARNU	**Arnoeviken**	**0.51**	**205**	⇓P	**Pg**	**14 58 30.9**	**0.0**
ARNU				S	**Sg**	**14 58 37.4**	**-0.2**
ARNU	**Arnoeviken**	**0.51**	**205**	⇓P	**Pg**	**14 58 30.9**	**0.0**
ARNU				S	**Sg**	**14 58 37.4**	**-0.2**
ARNU	**Arnoeviken**	**0.51**	**205**	*i* P	**Pg**	**14 58 31.0**	**0.0**
ARNU				*i* S	**Sg**	**14 58 37.3**	**-0.2**
HEMU	**Hemsoen**	**0.53**	**10**	⇑P	**Pg**	**14 58 31.8**	**+0.5**
HEMU				S	**Sg**	**14 58 38.8**	**+0.6**
HEMU	**Hemsoen**	**0.53**	**10**	⇑P	**Pg**	**14 58 31.8**	**+0.5**
HEMU				S	**Sg**	**14 58 38.8**	**+0.6**
HEMU	**Hemsoen**	**0.53**	**10**	*i* P	**Pg**	**14 58 31.7**	**+0.5**
HEMU				*i* S	**Sg**	**14 58 38.5**	**+0.3**
HUDU	**Hudiksvall**	**0.54**	**219**	⇓P	**Pg**	**14 58 31.4**	**0.0**
HUDU				S	**Sg**	**14 58 38.2**	**-0.3**
HUDU	**Hudiksvall**	**0.54**	**219**	⇓P	**Pg**	**14 58 31.4**	**0.0**
HUDU				S	**Sg**	**14 58 38.2**	**-0.3**
HUDU	**Hudiksvall**	**0.54**	**219**	⇓*i* P	**Pg**	**14 58 31.4**	**0.0**
HUDU				*i* S	**Sg**	**14 58 38.2**	**-0.3**
HASU	**Hassela**	**0.58**	**270**	⇑P	**Pg**	**14 58 32.1**	**0.0**
HASU				S	**Sg**	**14 58 39.4**	**-0.2**
HASU	**Hassela**	**0.58**	**270**	⇑P	**Pg**	**14 58 32.1**	**0.0**
HASU				S	**Sg**	**14 58 39.4**	**-0.2**
HASU	**Hassela**	**0.58**	**270**	⇑*i* P	**Pg**	**14 58 32.1**	**0.0**
HASU				*i* S	**Sg**	**14 58 39.4**	**-0.2**
SOLU	**Sollefteaa**	**1.13**	**346**	P	**Pn**	**14 58 42.3**	**-1.5**
SOLU				S	**Sb**	**14 58 56.9**	**-1.4**
SOLU	**Sollefteaa**	**1.13**	**346**	P	**Pn**	**14 58 42.3**	**-1.5**
SOLU				S	**Sb**	**14 58 56.9**	**-1.4**
SOLU	**Sollefteaa**	**1.13**	**346**	*e*P	**Pn**	**14 58 42.3**	**-1.5**
SOLU				*e*S	**Sb**	**14 58 56.9**	**-1.4**
ROTU	**Roteberg**	**1.21**	**233**	⇓P	**Pn**	**14 58 43.4**	**-1.5**
ROTU				S	**Sb**	**14 58 58.6**	**-2.1**
ROTU	**Roteberg**	**1.21**	**233**	⇓P	**Pn**	**14 58 43.4**	**-1.5**
ROTU				S	**Sb**	**14 58 58.6**	**-2.1**
ROTU	**Roteberg**	**1.21**	**233**	⇓*e*P	**Pn**	**14 58 43.4**	**-1.5**
ROTU				*e*S	**Sb**	**14 58 58.6**	**-2.1**
IGGU	**Iggoen**	**1.31**	**191**	⇓P	**Pn**	**14 58 45.1**	**-1.1**
IGGU				S	**Sb**	**14 59 01.4**	**-2.0**
IGGU	**Iggoen**	**1.31**	**191**	⇓P	**Pn**	**14 58 45.1**	**-1.1**
IGGU				S	**Sb**	**14 59 01.4**	**-2.0**
IGGU	**Iggoen**	**1.31**	**191**	⇓*e*P	**Pn**	**14 58 45.1**	**-1.1**
IGGU				*e*S	**Sb**	**14 59 01.4**	**-2.0**
HUSU	**Husum**	**1.35**	**27**	P	**Pn**	**14 58 45.5**	**-1.2**
HUSU				S	**Sn**	**14 59 03.4**	**-1.8**
HUSU	**Husum**	**1.35**	**27**	P	**Pn**	**14 58 45.5**	**-1.2**
HUSU				S	**Sn**	**14 59 03.4**	**-1.8**
HUSU	**Husum**	**1.35**	**27**	*e*P	**Pn**	**14 58 45.4**	**-1.3**
HUSU				*e*S	**Sn**	**14 59 03.1**	**-2.1**
BREU	**Bredtraesk**	**1.77**	**11**	P	**Pn**	**14 58 53.3**	**+0.7**
BREU				S	**Sb**	**14 59 16.7**	**-0.1**
BREU	**Bredtraesk**	**1.77**	**11**	P	**Pn**	**14 58 53.3**	**+0.7**
BREU				S	**Sb**	**14 59 16.7**	**-0.1**
BREU	**Bredtraesk**	**1.77**	**11**	*e*PN	**Pn**	**14 58 53.3**	**+0.7**
BREU				*e*SG	**Sb**	**14 59 16.7**	**-0.1**
FORU	**Forsmark**	**1.78**	**175**	P	**Pn**	**14 58 53.1**	**+0.4**
FORU				S	**Sn**	**14 59 15.8**	**0.0**
FORU	**Forsmark**	**1.78**	**175**	P	**Pn**	**14 58 53.1**	**+0.4**
FORU				S	**Sn**	**14 59 15.8**	**0.0**
FORU	**Forsmark**	**1.78**	**175**	*e*PG	**Pn**	**14 58 53.1**	**+0.4**
FORU				*e*SG	**Sn**	**14 59 15.8**	**0.0**
KPF	**Kankaanpaa**	**2.02**	**97**	*e*PG	**Pb**	**14 58 57.5**	**-0.9**
KPF				*e*SG	**Sb**	**14 59 23.1**	**-0.8**
KPF				MSG		14 59 24.5	

	comp=Z,5.5nm,0.1s							
UMAU	**Umeaa**	**2.16**	**35**	*e*PB		**Pn**	**14 58 58.8**	**+0.9**
UMAU				*e*SB		**Sb**	**14 59 27.5**	**-0.5**
RAF	**Rauma**	**2.19**	**119**	*e*P		**Pn**	**14 58 59.1**	**+0.8**
RAF	**Rauma**	**2.19**	**119**	*e*PB		**Pn**	**14 58 59.5**	**+1.1**
RAF				*e*SB		**Sb**	**14 59 27.6**	**-1.2**
RAF				MSG			14 59 31.7	
	comp=Z,7.4nm,0.1s							
AAL	**Aland**	**2.24**	**151**	*e*PB		**Pn**	**14 59 00.0**	**+1.0**
AAL				*e*SG		**Sb**	**14 59 29.4**	**-0.8**
VAF	**Ylistaro**	**2.41**	**66**	*e*PB		**Pn**	**14 59 03.7**	**-1.2**
VAF				*e*SG		**Sb**	**14 59 35.1**	**+0.1**
VAF				MSG			14 59 36.0	
	comp=Z,7.7nm,0.1s							
NRTU	**Norrtaelje**	**2.52**	**171**	*e*P		**Pn**	**14 59 02.6**	**-0.2**
NRTU				*e*S		**Sn**	**14 59 33.4**	**-0.5**
NRTU				*e*SB		**Sb**	**14 59 37.0**	**-1.2**
HFC2	**Hagfors New Ar**	**2.86**	**227**	*e*P		**Pn**	**14 59 08.3**	**+0.9**
HFC2				*e*S		**Sn**	**14 59 43.4**	**+1.1**
HFS	**Hagfors**	**2.86**	**227**	Pn		**Pn**	**14 59 08.2**	**+0.7**
	baz=38,slow=14							
HFS				Sn		**Sn**	**14 59 42.8**	**+0.4**
	baz=51,slow=28							
HFS	**Hagfors**	**2.86**	**227**	Pn		**Pn**	**14 59 08.3**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=45,slow=13,SNR=11							
HFS				Pg		**Pb**	**14 59 12.5**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=44,slow=17,SNR=9.4							
HFS				Lg		Lg	14 59 44.4	
	comp=Z,0.8nm,0.3s,baz=42,slow=28,SNR=11							
	comp=Z,1.0nm,0.3s							
HFS	**Hagfors**	**2.86**	**227**	Pn		**Pn**	**14 59 08.2**	**+0.7**
	baz=38,slow=14							
HFS				Sn		**Sn**	**14 59 42.8**	**+0.4**
	baz=51,slow=28							
NC602	**NORSAR Array S**	**3.34**	**248**	IAML			15 00 06.1	
	comp=Z,2.5nm,0.5s							
NRA0	**NORESS Array S**	**3.34**	**248**	Pn		**Pn**	**14 59 14.2**	**0.0**
	baz=54,slow=16							
NRA0				Pg		**Pb**	**14 59 21.5**	**+0.5**
	baz=54,slow=18							
NRA0				Sn		**Sn**	**14 59 54.7**	**+0.3**
	baz=75,slow=18							
NRA0				Sg		**Sb**	**15 00 03.7**	**+1.8**
	baz=57,slow=28							
NRA0	**NORESS Array S**	**3.34**	**248**	Pn		**Pn**	**14 59 14.2**	**0.0**
	baz=54,slow=16							
NRA0				Pg		**Pb**	**14 59 21.5**	**+0.5**
	baz=54,slow=18							
NRA0				Sn		**Sn**	**14 59 54.7**	**+0.3**
	baz=75,slow=18							
NRA0				Lg		Lg	15 00 03.7	
	baz=57,slow=28							
NB2	**NORSAR Subarra**	**3.36**	**253**	Pn		**Pn**	**14 59 14.4**	**0.0**
	baz=66,slow=14							
NB2				Pg		**Pb**	**14 59 22.3**	**+1.1**
	baz=68,slow=18							
NB2				Sn		**Sn**	**14 59 54.9**	**+0.1**
NB2				Sg		**Sb**	**15 00 05.3**	**+2.9**
	baz=66,slow=37							
NB2	**NORSAR Subarra**	**3.36**	**253**	Pn		**Pn**	**14 59 14.4**	**0.0**
	baz=66,slow=14							
NB2				Pg		**Pb**	**14 59 22.3**	**+1.1**
	baz=68,slow=18							
NB2				Sn		**Sn**	**14 59 54.9**	**+0.1**
NB2				Lg		Lg	15 00 05.3	
	baz=66,slow=37							
NOA	**NORSAR Array B**	**3.36**	**253**	Pn		**Pn**	**14 59 13.1**	**-1.4**
	baz=64,slow=17,SNR=1.6							
NOA				Lg		Lg	15 00 03.8	
	comp=Z,0.1nm,0.3s,baz=66,slow=17,SNR=11							
	comp=Z,0.1nm,0.3s							
NSS	**Namsos**	**3.56**	**315**	*e*P		**Pn**	**14 59 19.9**	**+2.8**
NSS				*e*S		**Sn**	**14 59 57.9**	**-1.8**
NSS				IAML			15 00 13.5	
	comp=Z,3.5nm,0.5s							
NSS	**Namsos**	**3.56**	**315**	*e*SG		**Sb**	**15 00 12.2**	**+4.0**
MEF	**Metsahovi**	**3.72**	**119**	*e*P		**Pn**	**14 59 20.4**	**+1.0**
FIA0	**FINESS Array S**	**3.97**	**97**	Pn		**Pn**	**14 59 24.6**	**+1.7**
	baz=286,slow=14							
FIA0				Sn		**Sn**	**15 00 11.5**	**+1.6**
	baz=281,slow=22							
FIA0				Sg		**Sb**	**15 00 23.8**	**+3.7**
	baz=292,slow=28							
FIA0	**FINESS Array S**	**3.97**	**97**	Pn		**Pn**	**14 59 24.6**	**+1.7**
	baz=286,slow=14							
FIA0				Sn		**Sn**	**15 00 11.5**	**+1.6**
	baz=281,slow=22							
FIA0				Lg		Lg	15 00 23.8	
	baz=292,slow=28							
FINES	**FINESS Array B**	**3.97**	**97**	Pn		**Pn**	**14 59 24.4**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=286,slow=12,SNR=12							
FINES				Pg		**Pb**	**14 59 31.9**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=290,slow=13,SNR=10							
FINES				Sn		**Sn**	**15 00 11.6**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=284,slow=21,SNR=7.8							
FINES				Lg		Lg	15 00 23.8	
	comp=Z,0.7nm,0.3s,baz=295,slow=27,SNR=11							
	comp=Z,0.3nm,0.4s							
DOMB	**Dombas**	**4.13**	**272**	*e*Pg		**Pb**	**14 59 33.0**	**-1.3**
DOMB				*e*Sg		**Sb**	**15 00 25.9**	**+1.4**
DOMB				IAML			15 00 31.2	
	comp=Z,3.5nm,0.5s							
MOR8	**Moi Rana**	**4.30**	**341**	*e*P		**Pn**	**14 59 26.8**	**-0.5**
MOR8				IAML			15 00 38.1	
	comp=Z,2.8nm,0.4s							
MTSE	**Matsula**	**4.54**	**137**	*e*P		Pn	14 59 35.0	+4.4
SKAR	**Skarslia**	**4.81**	**256**	*e*Sg		**Sb**	**15 00 47.9**	**+3.6**
SKAR				IAML			15 00 50.8	
	comp=Z,2.4nm,0.5s							
SLIT	**Slitere, Latvi**	**5.06**	**152**	*e*P		**Pb**	**14 59 48.4**	**-1.8**
AKN	**Aaknes**	**5.08**	**275**	Pn		**Pn**	**14 59 37.3**	**-0.8**
AKN	**Aaknes**	**5.08**	**275**	Pn		**Pn**	**14 59 37.3**	**-0.8**
ARA0	**ARCESS Array S**	**8.04**	**20**	Pn		**Pn**	**15 00 17.2**	**-1.4**
	baz=207,slow=16							
ARA0	**ARCESS Array S**	**8.04**	**20**	Pn		**Pn**	**15 00 17.2**	**-1.4**
	baz=207,slow=16							
ARCES	**ARCESS Array B**	**8.04**	**20**	Pn		**Pn**	**15 00 16.1**	**-2.5**
	baz=204,slow=14,SNR=1.2							
ARCES				Sn		Sn	15 01 40.1	-10
	baz=203,slow=35,SNR=1.3							
ARCES				Lg		Lg	15 02 30.7	
	comp=Z,0.2nm,0.3s,baz=182,slow=26,SNR=6.2							
	comp=Z,1.3nm,0.8s							

NIED ***03*** *15:05:58.9, 36.91N×143.71E, h67km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=2.15; $M_{\theta\theta}$=0.99; $M_{\phi\phi}$=1.16; $M_{r\theta}$=0.61; $M_{\theta\phi}$=1.07; $M_{\phi r}$=0.83; Fault plane solution: M_o=2.39000×10^{14} NP1: ϕ_s=220.00000°, δ=58.00000°, λ=-93.00000°. NP2:ϕ_s=45.00000°, δ=32.00000°, λ=-85.00000°.*

JMA 03 15:05:58.9±0.3, 36.9N±0.8×14.4E±.°, h67km, MV3.8/30, FAR E OFF CENTRAL HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.26**	**309**	*i* P	Pn	15 06 34.7	+0.7
JIKH				*e*S	Sn	15 07 01.3	+0.5
JFK	**Kawauchi**	**2.31**	**282**	P	Pn	15 06 35.5	+0.8
JFK				S	Sn	15 07 02.8	+0.7
ONAJ	**Iwakimizuishiy**	**2.34**	**276**	P	Pn	15 06 35.9	+0.8
ONAJ				S	Sn	15 07 03.4	+0.6
JMST	**Minamisoumatoc**	**2.39**	**291**	*e*P	Pn	15 06 36.4	+0.7
JMST				S	Sn	15 07 04.9	+0.9
JIO	**Ouri**	**2.42**	**310**	P	Pn	15 06 37.1	+0.9
JIO				*e*S	Sn	15 07 04.5	-0.2
JOTO	**OTAMA OYAMA**	**2.77**	**285**	P	Pn	15 06 42.8	+1.8
JOTO				*e*S	Sn	15 07 15.5	+2.2
JMK	**Ichinoseki**	**2.83**	**317**	P	Pn	15 06 42.8	+1.0
BSO1	**Boso 1**	**3.16**	**225**	*e*P	Pn	15 06 45.4	-0.4
BSO1				*e*S	Sn	15 07 21.8	-0.2
JOM	**Ohasama**	**3.19**	**324**	P	Pn	15 06 47.6	+1.0
JOM				S	Sn	15 07 23.8	+0.4
JYK	**Kaneyama**	**3.32**	**308**	P	Pn	15 06 50.1	+1.7
JYK				*e*S	Sn	15 07 28.6	+2.0
JAG	**Ashikaga**	**3.45**	**263**	*i* P	Pn	15 06 51.5	+1.2
JAG				S	Sn	15 07 29.8	-0.2
JRY	**Ryogami san**	**3.98**	**258**	P	Pn	15 06 58.3	+0.9
JRY				S	Sn	15 07 42.2	-0.5
JOD2	**Odawara 2**	**4.09**	**248**	P	Pn	15 06 59.6	+0.7
JOD2				S	Sn	15 07 45.4	-0.1
JOT	**Ohata**	**4.92**	**336**	P	Pn	15 07 11.4	+1.1
JCH	**Churui**	**5.70**	**357**	*e*P	Pn	15 07 19.8	-1.2
JCH				*e*S	Sn	15 08 20.2	-4.7
NEM2	**Nemuro 2**	**6.63**	**13**	*e*S	Sn	15 08 38.8	-8.9

TAP 03 15:08:11.7, 24.28N×121.80E, h18km, ML1.2, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAHA	**Aohua**	**0.07**	**314**	*i* S	Sg	15 08 18.5	+1.0
	baz=314						
ENA	**Nanau**	**0.16**	**341**	*i* S	Sg	15 08 20.1	+1.0
	baz=343						
EWUT	**Wuta**	**0.17**	**354**	*i* P	Pg	15 08 16.4	+0.3
	baz=354						
EWUT				*i* S	Sg	15 08 20.1	+0.8
	baz=354						
ETL	**Fush Village**	**0.20**	**233**	*e*P	Pg	15 08 16.9	+0.3
	baz=233						
ETL				*i* S	Sg	15 08 21.3	+1.3
	baz=233						
NACB	**Ninganchiao**	**0.21**	**241**	*i* P	Pg	15 08 17.4	+0.6
	baz=240						
NACB				*i* S	Sg	15 08 21.3	+1.0
	baz=240						
TWD	**Chiawan**	**0.27**	**223**	*i* P	Pb	15 08 18.3	+0.4
	baz=221						
TWD				*i* S	Sb	15 08 22.9	+0.8
	baz=221						
ETLH	**Xiulin Townshi**	**0.30**	**256**	*i* P	Pb	15 08 18.6	+0.1
	baz=256						
ETLH				*i* S	Sb	15 08 23.8	+0.8
	baz=256						
TWC	**Suao**	**0.33**	**8**	*e*S	Sb	15 08 24.4	+0.2
	baz=9.0						
LATG	**Datong**	**0.36**	**316**	*i* P	Pb	15 08 19.9	+0.3
	baz=316						
LATG				*i* S	Sb	15 08 25.8	+0.9
	baz=316						
NDS	**Dongshan**	**0.36**	**348**	S	Sb	15 08 26.0	+1.0
	baz=348						
NNSB	**Datong**	**0.41**	**292**	*i* P	Pb	15 08 20.7	+0.2
	baz=291						
NNSB				*i* S	Sb	15 08 27.1	+0.8
	baz=291						
NDT	**Datong Townshi**	**0.41**	**321**	*i* P	Pb	15 08 21.0	+0.5
	baz=321						
NDT				*i* S	Sb	15 08 27.5	+1.0
	baz=321						
ENTT	**Nioudou**	**0.42**	**330**	*i* P	Pb	15 08 21.1	+0.5
	baz=330						
ENTT				*i* S	Sb	15 08 27.8	+1.1
	baz=330						
NNS	**Nan Shan**	**0.42**	**293**	*i* P	Pb	15 08 21.1	+0.4
	baz=292						
NNS				*i* S	Sb	15 08 27.6	+0.8
	baz=292						
LXIB	**Xiulin Townshi**	**0.43**	**234**	*i* P	Pb	15 08 21.3	+0.4
	baz=233						
LXIB				*i* S	Sb	15 08 27.7	+0.6
	baz=233						
TWE	**Neicheng**	**0.46**	**345**	*e*S	Sb	15 08 28.9	+1.2
	baz=346						
WHF	**Hehuan Shan**	**0.50**	**255**	*i* S	Sb	15 08 30.1	+0.7
	baz=254						
FUSS	**Fushou**	**0.51**	**267**	*i* P	Pb	15 08 22.2	+0.1
	baz=266						
FUSS				*i* S	Sb	15 08 30.1	+0.8
	baz=266						
FUSB	**Fushanzhiwuyua**	**0.52**	**338**	*i* S	Sb	15 08 30.2	+0.8
	baz=338						
YHNB	**Yeheng**	**0.55**	**316**	*i* P	Pb	15 08 23.0	+0.2
	baz=315						
YHNB				*i* S	Sb	15 08 31.4	+1.2
	baz=315						
NSK	**Sanguang**	**0.56**	**315**	*i* P	Pb	15 08 23.8	+0.7
	baz=315						
NSK				*i* S	Sb	15 08 31.8	+1.1
	baz=315						
NWLT	**Wulai**	**0.56**	**332**	*i* S	Sb	15 08 31.6	+0.9
	baz=331						
CHGB	**Renai**	**0.61**	**249**	*i* P	Pb	15 08 24.3	+0.4
	baz=249						
CHGB				*i* S	Sb	15 08 33.0	+0.9
	baz=249						
WARBT	**Fenglin Townsh**	**0.67**	**214**	*i* P	Pg	15 08 25.1	+0.2
	baz=213						
WARBT				*i* S	Sn	15 08 36.9	+0.5
	baz=213						
WUSB	**Renai**	**0.68**	**245**	*i* S	Sg	15 08 35.3	+0.9
	baz=245						
TIPB	**Shuangxi**	**0.69**	**2**	*i* S	Sg	15 08 35.0	+0.5
	baz=2.0						
WHP	**Taichung City**	**0.78**	**270**	*i* S	Sn	15 08 39.3	+0.3
	baz=269						
VWDT	**VWDT**	**0.80**	**229**	*e*P	Pg	15 08 27.5	+0.3
	baz=228						

JMA 03 15:08:30.8±0.2, 24.3N±0.3×123.8E±0.4, h15km±1km, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.11**	**321**	P	Pg	15 08 34.1	-0.1
IRIF				S	Sb	15 08 36.8	-0.3
JKRS	**Kuro-shima**	**0.18**	**93**	P	Pg	15 08 35.2	0.0
JKRS				S	Sg	15 08 38.4	+0.3
HATJ	**Hateruma jima**	**0.19**	**180**	P	Pg	15 08 35.2	-0.1
HATJ				*e*S	Sg	15 08 38.5	+0.1
JIJ	**Ishigaki jima**	**0.33**	**69**	P	Pg	15 08 37.4	-0.2
JIJ				S	Sg	15 08 42.0	-0.3
JISG	**Ishigakijimahi**	**0.57**	**54**	P	Pg	15 08 42.2	+0.2
JISG				*e*S	Sg	15 08 49.6	0.0

IDC ***03*** *15:08:33.8±1.1, 5.67S×142.52E, h0km, mb3.7/5, mbtmp3.8/8, ML4.1/2, Error ellipse: s-maj=38.9km s-min=23.0km az=91.0*

ISC 03 15:08:39.1±0.9, 6.05S±0.09×142.30E±0.10, h35km, n8, σ2.59/11, mb3.7/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.86**	**125**	Pn	**Pn**	**15 10 03.3**	**-0.2**
	2.5nm,0.3s,baz=347,slow=15,SNR=1.7						
PMG				Sn	**Sn**	**15 11 08.1**	**-1.4**
	1.3nm,0.3s,baz=309,slow=9.4,SNR=3.7						
WRA	**Warramunga Arr**	**15.83**	**209**	Pn	**P**	**15 12 22.4**	**-0.6**
	0.7nm,0.3s,baz=29,slow=13,SNR=9.2						
WRA				Sn	**Sn**	**15 15 10.9**	**-3.1**
	0.2nm,0.3s,baz=28,slow=23,SNR=1.3						
WRA				Lg	Lg	15 17 09.4	
	0.3nm,0.3s,baz=34,slow=26,SNR=7.5						
	2.3nm,0.5s						
ASAR	**Alice Springs**	**19.29**	**204**	P	**Pn**	**15 13 06.3**	**+3.9**
	0.8nm,0.3s,baz=34,slow=10.0,SNR=21						
ASAR				S	**S**	**15 16 34.9**	**-2.9**
	0.4nm,0.4s,baz=18,slow=28,SNR=1.8						
ASAR				Lg	Lg	15 18 54.5	
	0.1nm,0.3s,baz=22,slow=30,SNR=4.1						
	7.2nm,0.7s						
VNDA	**Vanda**	**72.18**	**176**	P	**P**	**15 20 02.8**	**+2.9**
	0.6nm,0.7s,baz=36,slow=12,SNR=1.3						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**74.60**	**322**	P	**P**	**15 20 12.8**	**-2.0**
	0.1nm,0.5s,baz=133,slow=6.9,SNR=1.6						
	0.1nm,0.5s						
QSPA	**South Pole Qui**	**83.92**	**180**	P	**P**	**15 21 06.7**	**+1.3**
	2.3nm,1.0s,baz=0.0,slow=2.0,SNR=8.2						
	2.3nm,1.0s						
BVAR	**Borovoye Array**	**84.08**	**325**	P	**P**	**15 21 07.1**	**+0.8**
	0.6nm,0.8s,baz=90,slow=7.2,SNR=2.4						
	0.6nm,0.8s						
ILAR	**Eielson Array**	**87.39**	**24**	P	**P**	**15 21 20.6**	**-1.9**
	0.4nm,0.8s,baz=246,slow=4.6,SNR=4.7						
	0.4nm,0.8s						

DJA ***03*** *15:09:08.2±0.4, 11.S±4×11.1E±.°, h10km, M4.3/13, mb4.3/7, mB4.8/1, MLv4.3/13, Mw(mB)4.1/1*
IDC ***03*** *15:09:12.4±3.7, 9.51S×112.63E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=165.7km s-min=29.5km az=45.0*

ISC 03 15:09:08.5±1.7, 11.1S±0.2×111.13E±0.10, h10km, n16, σ0.68/15, mb3.7/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**3.10**	**12**	P	**Pn**	**15 09 56.8**	**-0.7**
UGM	**Wanagama**	**3.20**	**349**	P	**Pn**	**15 09 58.5**	**-0.3**
GMJI	**Gumukmas**	**3.60**	**40**	P	**Pn**	**15 10 04.4**	**+0.1**
JAGI	**Jajag, Banyuwa**	**3.94**	**49**	P	**Pn**	**15 10 09.7**	**+0.6**
SMRI	**Semarang**	**4.06**	**350**	P	**Pn**	**15 10 11.3**	**+0.7**
CMJI	**Cimerak**	**4.21**	**321**	P	**Pn**	**15 10 13.0**	**+0.3**
KPJI	**Karang Pucung**	**4.30**	**330**	P	**Pn**	**15 10 14.6**	**+0.6**
GRJI	**Gresik**	**4.34**	**18**	P	**Pn**	**15 10 14.8**	**+0.2**
SRBI	**Singaraja**	**5.00**	**54**	P	**Pn**	**15 10 25.1**	**+1.4**
	23nm,0.5s,1µm0.3nm						
TWSI	**Taiwang, Sumb**	**6.12**	**68**	P	**Pn**	**15 10 39.3**	**+0.2**
	13nm,0.6s,0.1nm						
PLAI	**Plampang**	**6.92**	**72**	P	**Pn**	**15 10 49.6**	**-0.4**
	14nm,0.8s,0.1nm						
WRA	**Warramunga Arr**	**24.01**	**114**	P	**P**	**15 14 22.9**	**-0.9**
	1.2nm,0.7s,baz=286,slow=12,SNR=4.5						
	1.2nm,0.7s						
SONM	**Songino Array**	**58.80**	**356**	P	P	15 19 00.4	-6.6
	0.4nm,0.8s,baz=156,slow=7.9,SNR=1.9						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**63.12**	**338**	P	**P**	**15 19 36.9**	**+0.5**
	0.3nm,0.6s,baz=140,slow=7.7,SNR=4.6						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**67.69**	**338**	P	**P**	**15 20 06.0**	**+0.2**
	0.3nm,0.6s,baz=149,slow=5.4,SNR=2.6						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**68.52**	**344**	P	**P**	**15 20 10.4**	**-0.5**
	0.8nm,0.5s,baz=160,slow=4.6,SNR=4.3						
	0.8nm,0.5s						

IDC ***03*** *15:19:55.6±1.4, 55.17N×157.79W, h0km, mb3.7/5, mbtmp3.5/7, ML2.9/2, Error ellipse: s-maj=32.4km s-min=22.0km az=11.0*
AEIC ***03*** *15:20:00.3±2.3, 55.29N±0.03×157.21W±0.09, h3km±7km, Error ellipse: s-maj=8.0km s-min=2.4km az=115.0*
NEIC ***03*** *15:20:00.7±1.8, 55.30N±0.06×157.33W±0.09, h35km±46km, ML3.5/36, ML3.4(AEIC), Error ellipse: s-maj=9.2km s-min=6.6km az=138.0*

ISC 03 15:19:58.0±1.9, 55.37N±0.07×157.35W±0.05, h12km±11km, n190, σ1.19/184, mb3.8/5, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**1.11**	**328**		**Pg**	**15 20 18.9**	**-0.5**
CHGN					**Sg**	**15 20 33.4**	**-0.4**
CHGN	**Chignik**	**1.11**	**328**	P	**Pg**	**15 20 18.9**	**-0.5**
	baz=146						
CHGN				S	**Sg**	**15 20 33.4**	**-0.4**
	baz=146						
VNSG	**Veniaminof 6**	**1.24**	**308**		**Pg**	**15 20 21.5**	**-0.3**
VNSG					**Sg**	**15 20 38.1**	**+0.2**
VNHG	**Veniaminof 1**	**1.33**	**311**		**Pn**	**15 20 23.3**	**+0.7**
CHNA	**Chernabura Isl**	**1.40**	**248**	P	**Pn**	**15 20 22.2**	**-1.1**
	baz=70						
CNBA	**Chernabura Isl**	**1.40**	**248**		**Pn**	**15 20 23.2**	**-0.2**
CNBA				IAML		15 20 47.8	
	comp=N,710nm,0.7s						
CNBA				IAML		15 20 48.9	
	comp=E,595nm,0.9s						
VNSS	**Veniaminof 8**	**1.47**	**307**		**Pn**	**15 20 25.3**	**+0.8**
VNSS					**Sn**	**15 20 44.7**	**+1.0**
VNWF	**Veniaminof 8**	**1.48**	**303**		**Pn**	**15 20 25.4**	**+0.9**
ANPB	**Aniakchak Plen**	**1.53**	**340**		**Pn**	**15 20 25.6**	**+0.3**
S14K	**Fog Glacier**	**1.54**	**307**	P	**Pn**	**15 20 26.6**	**+1.2**
	baz=126						
VNFG	**Fog Glacier, M**	**1.54**	**307**		**Pn**	**15 20 26.6**	**+1.2**
VNFG	**Fog Glacier, M**	**1.54**	**307**		**Pn**	**15 20 26.7**	**+1.2**
VNFG	**Fog Glacier, M**	**1.54**	**307**	P	**Pn**	**15 20 26.7**	**+1.2**
	baz=126						
ANNW	**Aniakchak Nort**	**1.67**	**344**		**Pn**	**15 20 27.5**	**+0.3**
SDPT	**Sand Point**	**1.79**	**271**		**Pn**	**15 20 28.0**	**-0.7**
SDPT	**Sand Point**	**1.79**	**271**		**Sn**	**15 20 50.4**	**-0.9**
SDPT	**Sand Point**	**1.79**	**271**	IAML		15 21 01.3	
	comp=N,589nm,0.8s						
SDPT				IAML		15 21 04.3	
	comp=E,570nm,1.6s						
SDPT	**Sand Point**	**1.79**	**271**	P	**Pn**	**15 20 28.1**	**-0.5**
	baz=91						
SDPT				S	**Sn**	**15 20 50.4**	**-0.9**
	baz=91						
R16K	**Pilot Point**	**2.21**	**357**		**Pn**	**15 20 34.7**	**+0.2**
R16K	**Pilot Point**	**2.21**	**357**	IAML		15 21 33.3	
	comp=E,426nm,1.1s						
R16K				IAML		15 21 42.8	
	comp=N,389nm,4.3s						
R16K	**Pilot Point**	**2.21**	**357**	P	**Pn**	**15 20 34.7**	**+0.2**
	baz=175						
PS1A	**Pavlof South-1**	**2.50**	**273**		**Pn**	**15 20 38.2**	**-0.4**
PS1A					**Sn**	**15 21 07.2**	**-1.9**
PVV	**Pavlof Volcano**	**2.53**	**272**		**Pn**	**15 20 38.4**	**-0.5**
PN7A	**Pavlof North-7**	**2.65**	**273**		**Pn**	**15 20 40.4**	**-0.3**
OHAK	**Old Harbor**	**2.93**	**49**		**Pn**	**15 20 44.1**	**-0.3**
OHAK	**Old Harbor**	**2.93**	**49**	P	**Pn**	**15 20 44.1**	**-0.3**
	baz=230						
Q17K	**Contact Creek**	**3.01**	**15**	P	**Pn**	**15 20 46.3**	**+0.6**
	baz=194						
CNTC	**Contact Creek**	**3.01**	**15**		**Pn**	**15 20 46.3**	**+0.6**
ANCK	**Angle Creek**	**3.02**	**19**		**Pn**	**15 20 46.1**	**+0.4**
ANCK					Sn	15 21 18.0	-3.7
KDAK	**Kodiak Island**	**3.58**	**46**	Pn	**Pn**	**15 20 53.9**	**+0.6**
KDAK				IAML		15 22 12.2	
	comp=N,93nm,1.5s						
KDAK	**Kodiak Island**	**3.58**	**46**	Pn	**Pn**	**15 20 53.1**	**-0.2**
	comp=N,0.6nm,0.3s,baz=220,slow=6.8,SNR=25						
KDAK				Sn	**Sn**	**15 21 31.9**	**-3.5**
	comp=N,1.5nm,0.3s,baz=280,slow=22,SNR=1.2						
	comp=N,2.6nm,0.4s						
P16K	**Nushagak River**	**3.69**	**355**		**Pn**	**15 20 56.0**	**+1.2**
P16K	**Nushagak River**	**3.69**	**355**	P	**Pn**	**15 20 56.0**	**+1.2**
	baz=173						
ISLZ	**Isanotski Laza**	**3.71**	**263**		**Pn**	**15 20 54.8**	**-0.4**
ISLZ					**Sn**	**15 21 37.2**	**-1.8**
ISNN	**Isanotski Nort**	**3.73**	**264**		**Pn**	**15 20 55.5**	**0.0**
O15K	**Ungalikthiuk R**	**4.05**	**342**		**Pn**	**15 21 00.0**	**+0.3**
O15K					**Sn**	**15 21 45.7**	**-1.3**
O15K	**Ungalikthiuk R**	**4.05**	**342**	P	**Pn**	**15 21 00.0**	**+0.3**
	baz=159

N17K				IAML		15 22 32.0		
	comp=N,25nm,3.9s							
N17K				IAML		15 22 50.8		
	comp=E,29nm,3.4s							
N17K	**Nushagak Hills**	**5.17**	**1**	P	**Pn**	**15 21 15.7**	**+0.5**	
	baz=180							
N16K	**Nishlik Lake**	**5.17**	**352**		**Pn**	**15 21 15.8**	**+0.5**	
N16K	**Nishlik Lake**	**5.17**	**352**	P	**Pn**	**15 21 15.8**	**+0.5**	
	baz=170							
CNPM	**China Poot**	**5.32**	**36**		**Pn**	**15 21 16.7**	**-0.5**	
CNPM	**China Poot**	**5.32**	**36**	IAML		15 23 09.8		
	comp=N,37nm,2.3s							
CNPM				IAML		15 23 26.0		
	comp=E,33nm,2.9s							
O20K	**Slope Mountain**	**5.36**	**26**		**Pn**	**15 21 19.3**	**+1.4**	
O20K	**Slope Mountain**	**5.36**	**26**	P	**Pn**	**15 21 19.3**	**+1.4**	
	baz=209							
N18K	**Kilae Creek**	**5.38**	**8**	Pn	**Pn**	**15 21 18.9**	**+0.8**	
N18K	**Kilae Creek**	**5.38**	**8**	P	**Pn**	**15 21 18.5**	**+0.4**	
	baz=188							
BRLK	**Bradley Lake**	**5.61**	**36**		Pn	15 21 20.6	-0.7	
M15K	**Kasigluk River**	**5.63**	**343**		**Pn**	**15 21 21.6**	**+0.2**	
M15K	**Kasigluk River**	**5.63**	**343**	P	**Pn**	**15 21 21.6**	**+0.2**	
	baz=160							
BRSE	**Bradley Lake S**	**5.64**	**36**		**Pn**	**15 21 21.4**	**-0.3**	
BRSE	**Bradley Lake S**	**5.64**	**36**	P	**Pn**	**15 21 21.4**	**-0.3**	
	baz=221							
RSO	**Redoubt South**	**5.66**	**24**		**Pn**	**15 21 26.1**	**+4.0**	
N19K	**Bonanza Creek**	**5.67**	**14**	Pn	**Pn**	**15 21 22.7**	**+0.6**	
M16K	**Timber Creek**	**5.73**	**352**		**Pn**	**15 21 24.0**	**+1.1**	
M16K	**Timber Creek**	**5.73**	**352**	P	**Pn**	**15 21 22.9**	**0.0**	
	baz=170							
DFR	**Drift River**	**5.79**	**23**		**Pn**	**15 21 24.4**	**+0.6**	
SVW2	**Sparrevohn**	**5.82**	**9**		**Pn**	**15 21 24.9**	**+0.8**	
RDT	**Redoubt**	**5.84**	**25**		**Pn**	**15 21 24.9**	**+0.5**	
M14K	**Bethel**	**5.92**	**338**		**Pn**	**15 21 25.8**	**+0.3**	
M14K	**Bethel**	**5.92**	**338**	P	**Pn**	**15 21 25.8**	**+0.3**	
	baz=153							
M13K	**Dall Lake**	**5.98**	**330**		**Pn**	**15 21 26.0**	**-0.3**	
M13K	**Dall Lake**	**5.98**	**330**	P	**Pn**	**15 21 26.9**	**+0.6**	
	baz=145							
M17K	**Holitna River**	**6.05**	**360**		**Pn**	**15 21 28.0**	**+0.8**	
M17K	**Holitna River**	**6.05**	**360**	P	**Pn**	**15 21 27.7**	**+0.5**	
	baz=179							
L16K	**Owhat River**	**6.46**	**351**		**Pn**	**15 21 34.7**	**+1.9**	
L16K	**Owhat River**	**6.46**	**351**	P	**Pn**	**15 21 33.1**	**+0.3**	
	baz=169							
L14K	**Kuka Creek**	**6.61**	**337**		**Pn**	**15 21 35.4**	**+0.5**	
L14K	**Kuka Creek**	**6.61**	**337**	P	**Pn**	**15 21 35.2**	**+0.3**	
	baz=152							
L15K	**Ungalak Mounta**	**6.69**	**343**		**Pn**	**15 21 36.1**	**+0.1**	
L15K	**Ungalak Mounta**	**6.69**	**343**	P	**Pn**	**15 21 36.1**	**+0.1**	
	baz=159							
L17K	**Donlin**	**6.80**	**356**		**Pn**	**15 21 37.9**	**+0.4**	
L17K	**Donlin**	**6.80**	**356**	P	**Pn**	**15 21 37.9**	**+0.4**	
	baz=175							
L18K	**Granite Mounta**	**6.88**	**3**		**Pn**	**15 21 39.1**	**+0.5**	
M20K	**Styx River**	**6.89**	**17**	Pn	**Pn**	**15 21 40.6**	**+1.7**	
L19K	**White Mountain**	**6.95**	**10**	Pn	**Pn**	**15 21 40.9**	**+1.2**	
L19K	**White Mountain**	**6.95**	**10**	P	**Pn**	**15 21 40.2**	**+0.5**	
	baz=191							
RC01	**Rabbit Creek A**	**7.00**	**32**	Pn	**Pn**	**15 21 41.7**	**+1.5**	
SUA	**Susitna One**	**7.02**	**27**		**Pn**	**15 21 40.9**	**+0.1**	
SUA	**Susitna One**	**7.02**	**27**	P	**Pn**	**15 21 41.1**	**+0.4**	
	baz=212							
P23K	**Montague Islan**	**7.07**	**45**		**Pn**	**15 21 40.5**	**-0.6**	
P23K	**Montague Islan**	**7.07**	**45**	P	**Pn**	**15 21 40.5**	**-0.6**	
	baz=232							
K15K	**Wolf Creek Mou**	**7.27**	**344**	Pn	**Pn**	**15 21 45.6**	**+1.6**	
SKT	**Skwentna**	**7.29**	**22**		**Pn**	**15 21 43.9**	**-0.3**	
SKT	**Skwentna**	**7.29**	**22**	P	**Pn**	**15 21 43.9**	**-0.3**	
	baz=206							
L20K	**Farewell, AK**	**7.35**	**13**		Pn	15 21 44.7	-0.4	
L20K	**Farewell, AK**	**7.35**	**13**	P	Pn	15 21 44.7	-0.4	
	baz=195							
K17K	**Iditarod**	**7.39**	**357**		**Pn**	**15 21 45.6**	**0.0**	
K17K	**Iditarod**	**7.39**	**357**	P	**Pn**	**15 21 45.6**	**0.0**	
	baz=175							
TTA	**Tatalina**	**7.62**	**5**	Pn	**Pn**	**15 21 49.2**	**+0.4**	
KNK	**Knik Glacier**	**7.65**	**34**	Pn	**Pn**	**15 21 50.8**	**+1.6**	
HIN	**Hinchinbrook I**	**7.67**	**44**		**Pn**	**15 21 49.0**	**-0.4**	
GHO	**Glory Hole Cre**	**7.78**	**31**	Pn	**Pn**	**15 21 51.5**	**+0.4**	
SML	**Sawmill**	**7.99**	**32**	Pn	**Pn**	**15 21 54.7**	**+0.9**	
EYAK	**Cordova Ski Ar**	**8.06**	**45**		**Pn**	**15 21 54.2**	**-0.6**	
EYAK	**Cordova Ski Ar**	**8.06**	**45**	P	**Pn**	**15 21 54.2**	**-0.6**	
	baz=234							
J14K	**Nanvaranak Lak**	**8.06**	**339**		**Pn**	**15 21 55.2**	**+0.5**	
J14K	**Nanvaranak Lak**	**8.06**	**339**	P	**Pn**	**15 21 55.2**	**+0.5**	
	baz=154							
J17K	**VABM Dome**	**8.10**	**354**		**Pn**	**15 21 55.2**	**-0.1**	
J16K	**Anvik River**	**8.11**	**350**		**Pn**	**15 21 56.1**	**+0.6**	
J16K	**Anvik River**	**8.11**	**350**	P	**Pn**	**15 21 56.1**	**+0.6**	
	baz=166							
J18K	**Innoko River**	**8.13**	**2**		**Pn**	**15 21 56.7**	**+1.0**	
K20K	**Telida**	**8.18**	**10**	Pn	**Pn**	**15 21 58.5**	**+2.0**	
SCM	**Sheep Creek Mo**	**8.32**	**35**	Pn	**Pn**	**15 22 00.1**	**+1.6**	
RAGM	**Ragged Mountai**	**8.41**	**48**	Pn	**Pn**	**15 22 00.7**	**+1.0**	
CAST	**Castle Rocks**	**8.51**	**16**		**Pn**	**15 22 01.3**	**+0.4**	
HMT	**Hamilton**	**8.57**	**49**	Pn	**Pn**	**15 22 02.3**	**+0.5**	
KLU	**Klutina**	**8.57**	**40**		Pn	15 22 00.9	-1.0	
KLU	**Klutina**	**8.57**	**40**	P	Pn	15 22 00.9	-1.0	
	baz=229							
SUCK	**Suckling Hills**	**8.65**	**51**	Pn	**Pn**	**15 22 03.5**	**+0.6**	
J19K	**Poorman**	**8.70**	**5**		**Pn**	**15 22 07.0**	**+3.5**	
I17K	**Unalakleet**	**8.71**	**350**	Pn	Pn	15 22 01.5	-2.2	
KTH	**Kantishna Hill**	**8.83**	**19**	Pn	**Pn**	**15 22 06.4**	**+1.0**	
BERG	**Berg Lake**	**8.84**	**50**	Pn	**Pn**	**15 22 06.5**	**+1.1**	
TRF	**Thorofare Moun**	**8.86**	**21**	Pn	**Pn**	**15 22 07.3**	**+1.4**	
BGLC	**Bering Glacier**	**8.89**	**52**		Pn	15 22 04.7	-1.5	
BGLC	**Bering Glacier**	**8.89**	**52**	P	Pn	15 22 04.7	-1.5	
	baz=243							
M24K	**Tolsona, Glenn**	**8.90**	**36**	Pn	**Pn**	**15 22 08.6**	**+2.2**	
J20K	**Nowinta River**	**8.98**	**9**	Pn	**Pn**	**15 22 08.6**	**+1.2**	
SNH	**Sunshine Point**	**9.12**	**52**	Pn	**Pn**	**15 22 11.1**	**+1.7**	
RND	**Reindeer**	**9.14**	**25**	Pn	**Pn**	**15 22 11.2**	**+1.5**	
WAX	**Waxell Ridge**	**9.24**	**51**	Pn	**Pn**	**15 22 11.3**	**+0.4**	
CRQM	**Cirque**	**9.26**	**49**	Pn	**Pn**	**15 22 12.8**	**+1.4**	
BPAW	**Bear Paw Mtn.**	**9.32**	**17**	Pn	**Pn**	**15 22 13.8**	**+1.7**	
GLB	**Gilahina Butte**	**9.34**	**44**	Pn	**Pn**	**15 22 13.5**	**+1.1**	
TGL	**Tana Glacier**	**9.39**	**49**	Pn	**Pn**	**15 22 13.3**	**+0.2**	
ISLE	**Juniper Island**	**9.53**	**51**	Pn	**Pn**	**15 22 17.6**	**+2.5**	
H16K	**Elim**	**9.61**	**347**		**Pn**	**15 22 16.8**	**+0.7**	
H16K	**Elim**	**9.61**	**347**	P	**Pn**	**15 22 16.7**	**+0.7**	
	baz=163							
H17K	**Granite Mounta**	**9.68**	**354**		**Pn**	**15 22 18.9**	**+1.9**	
H17K	**Granite Mounta**	**9.68**	**354**	P	**Pn**	**15 22 17.0**	**0.0**	
	baz=171							
H18K	**Honhosa River**	**9.83**	**357**		**Pn**	**15 22 19.3**	**+0.3**	
H18K	**Honhosa River**	**9.83**	**357**	P	**Pn**	**15 22 19.3**	**+0.3**	
	baz=176							
GRNC	**Granite Creek**	**9.85**	**51**	Pn	**Pn**	**15 22 20.4**	**+0.9**	
TABL	**Table Mountain**	**10.00**	**53**	Pn	**Pn**	**15 22 22.4**	**+0.9**	
ANM	**Nome**	**10.05**	**340**		**Pn**	**15 22 22.6**	**+0.5**	
ANM	**Nome**	**10.05**	**340**	P	**Pn**	**15 22 22.6**	**+0.5**	
	baz=153							
H19K	**Roundabout Mou**	**10.20**	**2**	Pn	**Pn**	**15 22 25.9**	**+1.9**	
WRH	**Wood River Hil**	**10.23**	**23**	Pn	**Pn**	**15 22 25.4**	**+0.9**	
G16K	**Koyuk River**	**10.35**	**348**	Pn	**Pn**	**15 22 28.3**	**+2.1**	
HDA	**Harding Lake**	**10.45**	**26**	Pn	**Pn**	**15 22 28.1**	**+0.6**	
H21K	**Melozitna Rive**	**10.56**	**10**	Pn	**Pn**	**15 22 29.8**	**+0.8**	
I23K	**Minto, Yukon-K**	**10.57**	**19**	Pn	**Pn**	**15 22 30.2**	**+1.1**	
G18K	**Tagagawik**	**10.58**	**357**	Pn	**Pn**	**15 22 30.4**	**+1.1**	
MDM	**Murphy Dome**	**10.62**	**21**	Pn	**Pn**	**15 22 30.3**	**+0.4**	
IL31		**10.76**	**25**	Pn	**Pn**	**15 22 32.0**	**+0.2**	
ILAR	**Eielson Array**	**10.76**	**25**	Pn	**Pn**	**15 22 31.8**	**0.0**	
ILAR	**Eielson Array**	**10.76**	**25**	Pn	Pn	15 22 29.8	-2.0	
	comp=E,0.1nm,0.3s,baz=214,slow=13,SNR=7.0							
ILAR					Sn	Sn	15 24 21.6	-10
	baz=323,slow=34							
	comp=E,0.3nm,0.4s							
IMAR	**Indian Mountai**	**10.79**	**8**	Pn	**Pn**	**15 22 33.0**	**+0.8**	
G19K	**Purcell Mounta**	**10.81**	**1**	Pn	**Pn**	**15 22 34.9**	**+2.4**	
F15K	**North Star Dit**	**10.97**	**344**	Pn	**Pn**	**15 22 36.4**	**+1.8**	
J25K	**Salcha River,**	**11.02**	**28**	Pn	**Pn**	**15 22 35.3**	**0.0**	
BCAR	**Beaver Creek A**	**11.07**	**40**	Pn	**Pn**	**15 22 37.3**	**+1.3**	
O29M	**Mount Kennedy**	**11.14**	**56**	Pn	**Pn**	**15 22 38.2**	**+1.1**	
P29M	**Windy Craggy**	**11.37**	**60**	Pn	**Pn**	**15 22 41.1**	**+1.1**	
F19K	**Shaleruckik Mo**	**11.51**	**359**	Pn	**Pn**	**15 22 45.3**	**+3.4**	
F20K	**Avaraart Lake**	**11.75**	**3**	Pn	**Pn**	**15 22 48.9**	**+3.7**	
M29M	**Somme Creek**	**12.03**	**46**	Pn	**Pn**	**15 22 50.3**	**+1.1**	
E19K	**Redstone River**	**12.13**	**0**	Pn	**Pn**	**15 22 53.7**	**+3.2**	
E18K	**Tukpahlearik C**	**12.19**	**354**	Pn	**Pn**	**15 22 54.2**	**+2.9**	
INK	**Inuvik**	**16.99**	**31**	P	**Pn**	**15 23 55.0**	**-0.2**	

	comp=E,1.3nm,0.6s,baz=277,slow=8.8,SNR=4.6							
PETK	**Petropavlovsk-**	**26.02**	**284**	P	**P**	**15 25 28.1**	**-2.6**	
	comp=E,3.4nm,0.8s,baz=80,slow=13,SNR=6.0							
	comp=E,3.4nm,0.8s							
NVAR	**Mina Array Bea**	**31.08**	**107**	P	**P**	**15 26 17.3**	**+1.2**	
	comp=E,0.3nm,0.5s,baz=307,slow=7.6,SNR=2.9							
	comp=E,0.3nm,0.5s							
H11S1	**WAKE ISLAND Hy**	**45.77**	**231**	T	T	16 17 02.9		
	baz=29							
H11S2	**WAKE ISLAND Hy**	**45.78**	**231**	T	T	16 17 09.4		
	baz=29							
H11S3	**WAKE ISLAND Hy**	**45.78**	**231**	T	T	16 17 06.1		
	baz=29							
TXAR	**Lajitas Array**	**45.94**	**102**	P	**P**	**15 28 21.8**	**+1.1**	
	comp=E,0.4nm,0.6s,baz=298,slow=5.6,SNR=6.2							
	comp=E,0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**64.60**	**324**	P	P	15 30 34.2	-0.6	
	comp=E,0.6nm,0.8s,baz=39,slow=4.9,SNR=3.5							
	comp=E,0.6nm,0.8s							
BVAR	**Borovoye Array**	**65.01**	**330**	P	**P**	**15 30 37.4**	**-0.1**	
	comp=E,0.4nm,0.6s,baz=40,slow=5.6,SNR=2.6							
	comp=E,0.4nm,0.6s							

*SJA **03** 15:37:43.5±0.6,21°.91S×67°.32W,h203km±4km,ML3.5, MW3.4*
*VAO **03** 15:37:45.0±0.5,21°.77S×67°.41W,h186km±9km,mb4.0*
*SCB **03** 15:37:46.2±1.5,22°.02S×67°.36W,h169km±12km,ML3.6/4, MW3.8,Error ellipse: s-maj=8.1km s-min=3.8km az=0.0*

ISC 03 15:37:44.7±0.8,21°.94S±0°.04×67°.39W±0°.04,h197km±8km, n62,σ1§26/93,14C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
					Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.56**	**244**	*eP*	**Pn**	**15 38 19.6**	**+0.5**	
LVC				*eS*	**Sn**	**15 38 46.0**	**+0.4**	
LVC	**Limon Verde**	**1.56**	**244**	⇑*iP*	**Pn**	**15 38 19.2**	**+0.2**	
LVC				*i* S	**Sn**	**15 38 44.6**	**-1.1**	
LVC				IAML		15 38 46.6		
	378nm,0.3s							
LVC	**Limon Verde**	**1.56**	**244**	*eP*	**Pn**	**15 38 19.5**	**+0.5**	
LVC				*eS*	**Sn**	**15 38 44.9**	**-0.7**	
PB09	**IPOC Station P**	**1.73**	**274**	*eP*	**Pn**	**15 38 20.9**	**+0.5**	
PB09	**IPOC Station P**	**1.73**	**274**	⇑*iP*	**Pn**	**15 38 21.3**	**+0.9**	
PB09				*i* S	**Sn**	**15 38 48.4**	**+0.3**	
PB09	**IPOC Station P**	**1.73**	**274**	Pg	**Pn**	**15 38 21.5**	**+1.1**	
YJA	**Yavi**	**1.75**	**98**	*eP*	**Pn**	**15 38 21.5**	**+0.6**	
YJA				*eS*	**Sn**	**15 38 47.6**	**-1.4**	
MOCB	**Mochara**	**1.77**	**67**	Pg	**Pn**	**15 38 21.3**	**+0.2**	
MOCB				Sg	**Sn**	**15 38 47.4**	**-1.9**	
MOCB				IAML		15 38 48.9		
	417nm,0.4s							
PB01	**IPOC Station P**	**2.15**	**294**	*eP*	**Pn**	**15 38 24.9**	**+0.3**	
PB01				*eS*	**Sn**	**15 38 55.3**	**-0.3**	
PB01				IAML		15 38 55.9		
	comp=Z,187nm,0.2s							
PB01	**IPOC Station P**	**2.15**	**294**	⇑*iP*	**Pn**	**15 38 25.0**	**+0.3**	
PB01				*i* S	**Sn**	**15 38 54.8**	**-0.9**	
PB01				IAML		15 38 55.9		
	comp=N,437nm,0.3s							
PB01	**IPOC Station P**	**2.15**	**294**	Pg	**Pn**	**15 38 25.2**	**+0.6**	
PB01				Sg	**Sn**	**15 38 54.9**	**-0.8**	
PB01				IAML		15 38 55.8		
	comp=N,391nm,0.3s							
PB06	**IPOC Station P**	**2.16**	**249**	*eP*	**Pn**	**15 38 25.4**	**+0.6**	
PB06				*eS*	**Sn**	**15 38 56.0**	**-0.1**	
PB06				IAML		15 38 57.5		
	comp=Z,113nm,0.4s							
PB06	**IPOC Station P**	**2.16**	**249**	⇑*iP*	**Pn**	**15 38 25.1**	**+0.3**	
PB06				*i* S	**Sn**	**15 38 54.5**	**-1.5**	
PB06				IAML		15 38 57.1		
	comp=E,321nm,0.1s							
PB15	**IPOC Station P**	**2.30**	**236**	*eP*	**Pn**	**15 38 27.0**	**+0.6**	
PB15				*eS*	**Sn**	**15 38 58.9**	**0.0**	
PB15	**IPOC Station P**	**2.30**	**236**	⇑*iP*	**Pn**	**15 38 27.0**	**+0.6**	
PB15				*i* S	**Sn**	**15 38 58.2**	**-0.7**	
PB15	**IPOC Station P**	**2.30**	**236**	Pg	**Pn**	**15 38 27.1**	**+0.7**	
PB07	**IPOC Station P**	**2.33**	**275**	*eP*	**Pn**	**15 38 26.9**	**+0.2**	
PB07				IAML		15 39 02.0		
	comp=Z,108nm,0.5s							
PB07	**IPOC Station P**	**2.33**	**275**	⇑*iP*	**Pn**	**15 38 26.9**	**+0.2**	
PB07				*i* S	**Sn**	**15 38 57.6**	**-1.7**	
PB07				IAML		15 38 59.0		
	comp=N,211nm,0.3s							
PB02	**IPOC Station P**	**2.42**	**284**	*eP*	**Pn**	**15 38 27.8**	**+0.3**	
PB02				IAML		15 39 04.2		
	comp=Z,174nm,0.4s							
PB02	**IPOC Station P**	**2.42**	**284**	⇑*iP*	**Pn**	**15 38 27.8**	**+0.3**	
PB02				*i* S	**Sn**	**15 38 59.4**	**-1.5**	
PB02				IAML		15 39 00.0		
	comp=N,189nm,0.2s							
PB02	**IPOC Station P**	**2.42**	**284**	Pg	**Pn**	**15 38 28.0**	**+0.5**	
PB02				Sg	**Sn**	**15 38 59.7**	**-1.2**	
PB02				IAML		15 39 02.8		
	comp=N,157nm,0.3s							
PB08	**IPOC Station P**	**2.44**	**317**	*eP*	**Pn**	**15 38 29.5**	**+1.4**	
PB08				*eS*	**Sn**	**15 39 03.0**	**+1.2**	
PB08				IAML		15 39 03.6		
	comp=Z,95nm,0.8s							
PB08	**IPOC Station P**	**2.44**	**317**	⇑*iP*	**Pn**	**15 38 29.4**	**+1.4**	
PB08				*i* S	**Sn**	**15 39 01.9**	**+0.1**	
PB08				IAML		15 39 06.6		
	comp=N,162nm,0.3s							
PB08	**IPOC Station P**	**2.44**	**317**	Pg	**Pn**	**15 38 29.7**	**+1.6**	
PB08				Sg	**Sn**	**15 39 02.7**	**+0.9**	
PB08				IAML		15 39 06.6		
	comp=N,130nm,0.4s							
PB04	**IPOC Station P**	**2.59**	**261**	*eP*	**Pn**	**15 38 29.9**	**+0.4**	
PB04				*eS*	**Sn**	**15 39 03.1**	**-1.4**	
PB04				IAML		15 39 05.4		
	comp=Z,116nm,0.2s							
PB04	**IPOC Station P**	**2.59**	**261**	⇑*iP*	**Pn**	**15 38 29.7**	**+0.2**	
PB04				*i* S	**Sn**	**15 39 02.6**	**-1.9**	
PB04				IAML		15 39 08.7		
	comp=N,170nm,0.3s							
PATCX	**Punta Patache**	**2.81**	**293**	⇑*iP*	**Pn**	**15 38 32.1**	**+0.1**	
PATCX				*i* S	**Sn**	**15 39 06.7**	**-2.2**	
PATCX				IAML		15 39 08.8		
	comp=N,231nm,0.2s							
GO01	**Chusmiza**	**2.82**	**323**	*eP*	**Pn**	**15 38 33.7**	**+1.1**	
GO01	**Chusmiza**	**2.82**	**323**	⇑*iP*	**Pn**	**15 38 33.5**	**+0.9**	
GO01				*i* S	**Sn**	**15 39 10.7**	**+0.8**	
GO01	**Chusmiza**	**2.82**	**323**	Pg	**Pn**	**15 38 33.9**	**+1.3**	
HMBC	**Humberstone**	**2.86**	**305**	⇑*iP*	**Pn**	**15 38 32.5**	**-0.2**	
HMBC				*i* S	**Sn**	**15 39 07.7**	**-2.4**	
TA01	**Diego Aracena**	**2.94**	**297**	*eP*	**Pn**	**15 38 33.4**	**-0.1**	
TA01				*eS*	**Sn**	**15 39 09.8**	**-1.8**	
TA01				IAML		15 39 10.5		
	comp=Z,75nm,0.7s							
TA01	**Diego Aracena**	**2.94**	**297**	⇑*iP*	**Pn**	**15 38 33.2**	**-0.3**	
TA01				*i* S	**Sn**	**15 39 08.9**	**-2.7**	
PB11	**IPOC Station P**	**3.03**	**315**	*eP*	**Pn**	**15 38 34.9**	**+0.1**	
PB11				*eS*	**Sn**	**15 39 12.5**	**-1.3**	
PB11				IAML		15 39 13.4		
	comp=Z,181nm,0.2s							
PB11	**IPOC Station P**	**3.03**	**315**	⇑*iP*	**Pn**	**15 38 34.8**	**0.0**	
PB11				*i* S	**Sn**	**15 39 12.4**	**-1.5**	
TA02	**Huaiquique**	**3.05**	**302**	*eP*	**Pn**	**15 38 34.7**	**-0.1**	
TA02				IAML		15 39 17.2		
	comp=Z,202nm,0.1s							
SOEO	**Opoqueri**	**3.39**	**352**	Pg	**Pn**	**15 38 41.0**	**+1.6**	
GO02	**Mina Guanaco**	**3.79**	**212**	*eP*	**Pn**	**15 38 44.4**	**+0.3**	
GO02				*eS*	**Sn**	**15 39 29.5**	**-1.1**	
GO02	**Mina Guanaco**	**3.79**	**212**	⇓*iP*	**Pn**	**15 38 44.6**	**+0.6**	
GO02				*eS*	**Sn**	**15 39 28.4**	**-2.2**	
SOET	**ToroToro**	**4.08**	**22**	Pg	**Pn**	**15 38 48.7**	**+0.9**	
PB16	**IPOC Station P**	**4.10**	**331**	*eP*	**Pn**	**15 38 49.1**	**+0.8**	
PB16				IAML		15 39 41.6		
	comp=Z,46nm,0.4s							
PB16	**IPOC Station P**	**4.10**	**331**	Pg	**Pn**	**15 38 50.0**	**+1.7**	
PB12	**IPOC Station P**	**4.31**	**320**	*eP*	**Pn**	**15 38 49.5**	**-0.9**	
PB12				*eS*	**Sn**	**15 39 39.8**	**-2.2**	
PB12				IAML		15 39 40.9		
	comp=Z,57nm,0.3s							
SOEJ	**Jacaque**	**5.00**	**351**	Pg	**Pn**	**15 39 02.6**	**+3.1**	
AC01	**Pan de Azucar**	**5.12**	**214**	*eP*	**Pn**	**15 38 59.8**	**-0.6**	
AC01				IAML		15 40 00.0		
	comp=Z,29nm,0.1s							
AC02	**Maricunga**	**5.12**	**198**	*eP*	**Pn**	**15 39 01.5**	**+0.4**	
BBOE	**La Paz, Chanca**	**5.13**	**354**	Pg	**Pn**	**15 39 04.1**	**+2.8**	
AHML	**Horco Molle**	**5.17**	**159**	*eP*	**Pn**	**15 39 04.4**	**+3.1**	
AHML				IAML		15 40 09.6		
	comp=Z,26nm,2.3s							

BBOD	**La Paz, Gloria**	**5.40**	**348**	Pg	**Pn**	**15 39 07.2**	**+2.5**	
LPAZ	**La Paz**	**5.67**	**353**	Pg	**Pn**	**15 39 10.3**	**+2.1**	
BBSD	**Serra de San D**	**7.95**	**55**	Pn	**Pn**	**15 39 35.3**	**-2.1**	
BBSD	**Serra de San D**	**7.95**	**55**	*eP*	**Pn**	**15 39 35.2**	**-2.1**	
BBRB	**Robore, Bolivi**	**8.00**	**64**	*eP*	**Pn**	**15 39 38.2**	**+0.2**	
SIV	**San Ignacio**	**8.41**	**46**	Pn	**Pn**	**15 39 41.2**	**-2.2**	
PTLB	**Pontes e Lacer**	**10.14**	**52**	*eP*	**Pn**	**15 40 05.4**	**-0.4**	
VILB	**Vilhena**	**11.26**	**39**	*eP*	**Pn**	**15 40 20.0**	**-0.4**	
RODS	**Rosario do Sul**	**13.77**	**130**	*eP*	**P**	**15 40 54.1**	**0.0**	
FRTB	**Fartura**	**16.51**	**98**	*eP*	**Pn**	**15 41 26.6**	**+1.1**	
SNDB	**Serra Nova Dou**	**18.29**	**60**	*eP*	**P**	**15 41 44.9**	**+0.9**	
IPMB	**Ipameri, GO**	**18.45**	**81**	*eP*	**P**	**15 41 47.2**	**+1.5**	
JANB	**Januaria**	**22.91**	**77**	*eP*	**P**	**15 42 32.1**	**+0.3**	
GDU01	**Guandu, BA**	**27.67**	**78**	*eP*	**P**	**15 43 15.0**	**+0.4**	

*IDC **03** 15:49:12.0±0.7,6°.05S×143°.04E,h0km,mb4.2/13, mbtmp4.2/16,ML2.6/2,MS3.3/4,Error ellipse: s-maj=28.4km s-min=13.4km az=77.0*
*NEIC **03** 15:49:12.6±2.5,6°.29S±0°.09×142°.97E±0°.08,h10km±1km, mb4.7/74, Error ellipse: s-maj=16.0km s-min=13.2km az=29.0*
*DJA **03** 15:49:17.4±1.8,6°.3S±3°×14°.3E±°,h16km±15km,M4.8/19, mB5.4/2,mb4.5/19,MLv5.0/6,Mw(mB)4.9/2*

ISC 03 15:49:13.6±0.5,6°.23S±0°.06×142°.95E±0°.06,h10km,n129, σ1§54/96,mb4.6/53,MS3.4/3,2C,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
					Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.97**	**299**	P	**Pn**	**15 49 49.2**	**+2.2**	
MMPI	**Merauke**	**3.38**	**229**	P	**Pn**	**15 50 08.5**	**+2.1**	
MMPI				S	**Sn**	**15 50 49.2**	**+2.7**	
GENI	**Genyem**	**4.56**	**322**	P	**Pn**	**15 50 23.5**	**+0.9**	
PMG	**Port Moresby**	**5.23**	**127**		Pn	15 50 29.0	-2.9	
PMG	**Port Moresby**	**5.23**	**127**	P	**Pn**	**15 50 34.2**	**+2.4**	
PMG	**Port Moresby**	**5.23**	**127**	P	**Pn**	**15 50 34.3**	**+2.4**	
PMG	**Port Moresby**	**5.23**	**127**	Pn	**Pn**	**15 50 33.7**	**+1.8**	
	3.1nm,0.3s,baz=5.1,slow=2.7,SNR=19							
PMG					Sn	**Sn**	**15 51 33.2**	**+1.0**
	8.6nm,0.3s,baz=225,slow=22,SNR=11							
	14nm,0.4s							
SMPI	**Sarmi**	**5.97**	**315**	P	**Pn**	**15 50 42.0**	**-0.1**	
	46nm,1.8s,0.3nm							
COEN	**Coen**	**7.68**	**178**	P	Pn	15 51 11.3	+5.7	
FAKI	**Fak Fak**	**11.16**	**287**	Pn	**Pn**	**15 51 52.2**	**-1.2**	
FAKI	**Fak Fak**	**11.16**	**287**	P	**Pn**	**15 51 51.8**	**-1.5**	
FAKI	**Fak Fak

	comp=Z,12nm,0.9s								
HHC					pmax	pmax			
	comp=Z,98nm,4.9s								
KLR	**Kul'dur**	**56.09**	**351**		LR	LR	16 20 53.4		
	comp=Z,28nm,18.6s,baz=78,slow=34								
PETK	**Petropavlovsk-**	**60.43**	**10**		P	**P**	**15 59 23.6**	**+0.4**	
	comp=Z,2.0nm,0.7s,baz=174,slow=14,SNR=1.7								
	comp=Z,2.0nm,0.7s								
SONM	**Songino Array**	**62.72**	**333**		P	**P**	**15 59 39.0**	**+0.1**	
	comp=Z,0.6nm,0.5s,baz=146,slow=6.3,SNR=5.1								
	comp=Z,0.6nm,0.5s								
PPT2	**Papeete2**	**66.69**	**106**		eLR	LR	16 20 11.8		
	comp=Z,92nm,24.0s								
PPT2					eLR	LR	16 20 19.2		
	comp=Z,34nm,23.2s								
WMQ	**Urumqi**	**70.38**	**321**		eP	**P**	**16 00 28.7**	**+0.7**	
WMQ					PcP	PcP	16 00 44.4	-5.1	
VNDA	**Vanda**	**71.95**	**176**		P	**P**	**16 00 36.4**	**-0.3**	
VNDA					IAmb	IAmb	16 00 49.7		
	comp=Z,7.8nm,1.4s								
VNDA	**Vanda**	**71.95**	**176**		P	**P**	**16 00 38.1**	**+1.3**	
	comp=Z,1.3nm,0.9s,baz=29,slow=8.1,SNR=2.1								
	comp=Z,1.3nm,0.9s								
MK31	**Makanchi Array**	**75.15**	**322**		P	**P**	**16 00 54.8**	**-1.4**	
MKAR	**Makanchi Array**	**75.15**	**322**		P	**P**	**16 00 55.5**	**-0.7**	
MKAR	**Makanchi Array**	**75.15**	**322**		P	**P**	**16 00 56.1**	**-0.1**	
	comp=Z,1.6nm,0.4s,baz=94,slow=8.7,SNR=33								
	comp=Z,1.6nm,0.4s								
MAKZ	**Makanchi**	**75.35**	**322**		P	**P**	**16 00 55.8**	**-1.5**	
MAKZ					IAmb	IAmb	16 00 57.7		
	comp=Z,3.6nm,0.5s								
KSH	**Kashi**	**76.56**	**313**		P	**P**	**16 01 05.1**	**+0.6**	
KSH					pmax	pmax			
	comp=Z,2.0nm,0.9s								
KSH					LR	LR			
	comp=N,260nm,17.1s								
KSH					LR	LR			
	comp=E,230nm,10.4s								
ZALV	**Zalesovo Beam**	**77.10**	**329**		P	P	16 01 05.4	-1.7	
	comp=E,1.2nm,0.6s,baz=127,slow=4.0,SNR=6.8								
	comp=E,1.2nm,0.6s								
KURK	**Kurchatov**	**79.02**	**324**		P	**P**	**16 01 16.5**	**-1.3**	
KURK					IAmb	IAmb	16 01 19.0		
	comp=Z,8.0nm,1.4s								
KURBB	**Kurchatov Arra**	**79.03**	**324**		P	**P**	**16 01 17.3**	**-0.6**	
	comp=Z,2.5nm,0.9s,baz=120,slow=4.9,SNR=13								
	comp=Z,2.5nm,0.9s								
M14K	**Bethel**	**79.31**	**24**		P	**P**	**16 01 18.9**	**-0.2**	
L14K	**Kuka Creek**	**79.36**	**23**		P	**P**	**16 01 19.4**	**0.0**	
L14K					IAmb	IAmb	16 01 20.4		
	comp=Z,5.0nm,0.7s								
ANM	**Nome**	**80.28**	**20**		P	**P**	**16 01 24.5**	**+0.2**	
O16K	**Kokwok River B**	**80.33**	**26**		P	**P**	**16 01 24.5**	**-0.2**	
K15K	**Wolf Creek Mou**	**80.35**	**23**		P	**P**	**16 01 24.0**	**-0.7**	
K15K					IAmb	IAmb	16 01 58.0		
	comp=Z,12nm,1.4s								
MAW	**Mawson**	**80.49**	**203**		P	**P**	**16 01 24.3**	**-1.2**	
M16K	**Timber Creek**	**80.70**	**25**		P	**P**	**16 01 26.3**	**-0.4**	
M16K					IAmb	IAmb	16 01 27.7		
	comp=Z,9.5nm,1.1s								
L16K	**Owhat River**	**80.85**	**24**		P	**P**	**16 01 27.2**	**-0.2**	
L16K					IAmb	IAmb	16 01 28.3		
	comp=Z,3.3nm,0.7s								
N17K	**Nushagak Hills**	**81.20**	**26**		P	**P**	**16 01 28.1**	**-1.2**	
F15K	**North Star Dit**	**81.22**	**19**		P	P	16 01 27.4	-1.9	
F15K					IAmb	IAmb	16 01 30.1		
	comp=Z,8.0nm,1.4s								
J16K	**Anvik River**	**81.25**	**22**		P	**P**	**16 01 29.8**	**+0.2**	
KKAR	**Karatay Array**	**81.59**	**315**		P	P	16 01 29.2	-2.6	
O18K	**Koktuh Hills**	**81.74**	**27**		P	**P**	**16 01 30.9**	**-1.4**	
G16K	**Koyuk River**	**81.80**	**20**		P	**P**	**16 01 32.5**	**+0.1**	
G18K	**Tagagawik**	**83.36**	**21**		P	**P**	**16 01 40.5**	**-0.1**	
G18K					IAmb	IAmb	16 02 04.0		
	comp=Z,9.0nm,1.4s								
J19K	**Poorman**	**83.53**	**23**		P	**P**	**16 01 41.1**	**-0.4**	
J19K					IAmb	IAmb	16 01 52.3		
	comp=Z,4.6nm,1.3s								
QSPA	**South Pole Qui**	**83.73**	**180**		P	**P**	**16 01 41.3**	**-1.4**	
QSPA	**South Pole Qui**	**83.73**	**180**		P	**P**	**16 01 43.1**	**+0.4**	
	comp=Z,2.2nm,0.7s,baz=191,slow=0.3,SNR=20								
	comp=Z,2.2nm,0.7s								
F19K	**Shaleruckik Mo**	**84.15**	**20**		P	P	16 01 41.6	-3.0	
BVAR	**Borovoye Array**	**84.61**	**325**		P	**P**	**16 01 47.3**	**+0.1**	
	comp=Z,14nm,0.8s,baz=110,slow=6.6,SNR=73								
	comp=Z,14nm,0.8s								
E19K	**Redstone River**	**84.65**	**20**		P	**P**	**16 01 46.4**	**-0.8**	
E19K					IAmb	IAmb	16 01 48.4		
	comp=Z,3.7nm,0.8s								
CAST	**Castle Rocks**	**84.67**	**24**		P	**P**	**16 01 46.3**	**-1.1**	
CAST					IAmb	IAmb	16 01 47.5		
	comp=Z,3.1nm,0.8s								
BRVK	**Borovoye**	**84.68**	**325**		P	**P**	**16 01 46.5**	**-1.1**	
RC01	**Rabbit Creek A**	**84.72**	**27**		P	P	16 01 45.3	-2.4	
C19K	**Lookout Ridge**	**84.77**	**18**		P	**P**	**16 01 47.5**	**-0.3**	
C19K					IAmb	IAmb	16 01 50.2		
	comp=Z,5.5nm,0.8s								
D19K	**Kuna River**	**84.90**	**18**		P	**P**	**16 01 47.8**	**-0.6**	
D19K					IAmb	IAmb	16 01 49.3		
	comp=Z,3.2nm,0.9s								
F20K	**Avaraart Lake**	**84.96**	**20**		P	**P**	**16 01 48.4**	**-0.2**	
IMAR	**Indian Mountai**	**85.16**	**22**		P	**P**	**16 01 48.8**	**-1.0**	
KTH	**Kantishna Hill**	**85.20**	**24**		P	P	16 01 47.0	-3.1	
KTH					IAmb	IAmb	16 01 52.2		
	comp=Z,10nm,1.4s								
GHO	**Glory Hole Cre**	**85.34**	**26**		P	**P**	**16 01 50.0**	**-0.8**	
GHO					IAmb	IAmb	16 01 55.1		
	comp=Z,8.4nm,1.1s								
H21K	**Melozitna Rive**	**85.36**	**22**		P	**P**	**16 01 50.0**	**-0.8**	
H21K					IAmb	IAmb	16 02 17.9		
	comp=Z,5.5nm,1.4s								
KNK	**Knik Glacier**	**85.42**	**27**		P	P	16 01 49.3	-1.8	
KNK					IAmb	IAmb	16 02 01.9		
	comp=Z,6.6nm,0.9s								
TRF	**Thorofare Moun**	**85.42**	**24**		P	P	16 01 49.0	-2.3	
TRF					IAmb	IAmb	16 02 16.9		
	comp=Z,8.7nm,1.4s								
G21K	**Allakaket**	**85.49**	**21**		P	P	16 01 49.1	-2.3	
G21K					IAmb	IAmb	16 02 11.0		
	comp=Z,5.8nm,1.4s								
SML	**Sawmill**	**85.62**	**26**		P	P	16 01 50.1	-2.1	
SML					IAmb	IAmb	16 02 03.1		
	comp=Z,7.1nm,0.8s								
MLY	**Manley**	**85.88**	**23**		P	P	16 01 51.7	-1.7	
MLY					IAmb	IAmb	16 01 54.0		
	comp=Z,5.6nm,1.0s								
RND	**Reindeer**	**86.00**	**25**		P	P	16 01 51.2	-2.8	
RND					IAmb	IAmb	16 01 53.5		
	comp=Z,4.8nm,0.7s								
I23K	**Minto, Yukon-K**	**86.46**	**23**		P	P	16 01 54.1	-2.0	
DHY	**Denali Highway**	**86.49**	**25**		P	**P**	**16 01 56.1**	**-0.5**	
DHY					IAmb	IAmb	16 01 56.7		
	comp=Z,5.1nm,1.0s								
D22K	**Ayikyak River**	**86.83**	**19**		IAmb	IAmb	16 01 59.9		
	comp=Z,2.6nm,0.8s								
G23K	**Bananza Creek**	**86.83**	**22**		IAmb	IAmb	16 01 59.1		
	comp=Z,3.1nm,0.8s								
CCB	**Clear Creek Bu**	**86.89**	**24**		IAmb	IAmb	16 01 57.7		
	comp=Z,4.1nm,0.8s								
IL31		**87.30**	**24**		IAmb	IAmb	16 01 59.4		
	comp=Z,5.6nm,0.8s								
ILAR	**Eielson Array**	**87.30**	**24**		P	P	16 01 58.6	-1.7	
	comp=Z,3.2nm,0.8s,baz=256,slow=4.7,SNR=62								
	comp=Z,3.2nm,0.8s								
J26L	**Joseph Creek**	**88.56**	**25**		IAmb	IAmb	16 02 17.9		
	comp=Z,6.0nm,1.3s								
M27K	**Edge Creek, AK**	**88.67**	**27**		IAmb	IAmb	16 02 11.4		
	comp=Z,6.1nm,1.2s								
J29N	**Klondike Camp**	**90.79**	**25**		IAmb	IAmb	16 02 27.6		
	comp=Z,9.9nm,1.4s								
LTY	**Liberty**	**98.87**	**43**		P	P	16 02 50.2	-4.0	
TORD	**Torodi Ar. Bea**	**141.23**	**283**		PKhKP	PKPpre	16 08 38.9		
	comp=Z,0.3nm,0.6s,baz=66,slow=3.6,SNR=2.6								
DBIC	**Dimbokro**	**148.01**	**273**		PKPbc	**PKPdf**	**16 09 00.5**	**+3.1**	
	comp=Z,3.9nm,0.7s,baz=81,slow=3.6,SNR=4.5								

*IDC **03** 15:58:35.0±4.5, 6.°25S×147.°69E, h57km±39km, mb3.4/5, mbtmp3.7/6, ML3.0/2, MS3.7/1, Error ellipse: s-maj=47.7km s-min=27.7km az=99.0*

ISC 03 15:58:34.2±1.1, 6.2S±0.°1×147.°6E±0.°3, h50km, n9, σ0.°84/10, mb3.6/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.25**	**188**	P	**Pn**	**15 59 23.7**	**+1.0**
	15nm,0.3s,baz=338,slow=7.7,SNR=34						
PMG				S	**Sn**	**15 59 59.8**	**-0.5**
	89nm,0.4s,baz=39,slow=17,SNR=6.2						
WRA	**Warramunga Arr**	**18.81**	**222**	P	**P**	**16 02 49.5**	**-0.3**
	0.2nm,0.3s,baz=52,slow=11,SNR=6.9						
WRA				PcP	**PcP**	**16 07 14.1**	**-1.5**
	0.4nm,0.6s,baz=40,slow=1.8,SNR=2.7						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**21.83**	**216**	P	**P**	**16 03 22.6**	**0.0**
	1.2nm,0.5s,baz=52,slow=8.3,SNR=17						
	1.2nm,0.5s						
DZM	**Mont Dzumac**	**24.11**	**133**	LR	LR	16 12 12.8	
	comp=Z,149nm,18.2s,baz=150,slow=34						
STKA	**Stephens Creek**	**26.19**	**192**	P	**P**	**16 04 03.8**	**-0.5**
	1.9nm,0.5s,baz=348,slow=12,SNR=3.6						
	1.9nm,0.5s						
MKAR	**Makanchi Array**	**78.01**	**320**	P	**P**	**16 10 27.7**	**+0.2**
	0.1nm,0.3s,baz=99,slow=6.0,SNR=6.7						
	0.1nm,0.3s						
QSPA	**South Pole Qui**	**83.81**	**180**	P	**P**	**16 10 58.0**	**-0.1**
	1.2nm,1.0s,baz=295,slow=0.2,SNR=5.1						
	1.2nm,1.0s						
ILAR	**Eielson Array**	**85.39**	**23**	P	**P**	**16 11 05.9**	**-0.1**
	0.1nm,0.3s,baz=243,slow=4.8,SNR=12						
	0.1nm,0.3s						
TORD	**Torodi Ar. Bea**	**145.72**	**284**	PKPbc	**PKPdf**	**16 18 09.3**	**+1.0**
	2.1nm,0.6s,baz=72,slow=4.4,SNR=16						

*IDC **03** 16:08:21.4±1.7, 22.°40S×173.°03E, h0km, mb3.7/4, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=46.8km s-min=33.1km az=13.0*

ISC 03 16:08:26.8±1.3, 22.°5S±0.°3×172.°9E±0.°1, h32km, n6, σ0.°90/7, mb3.7/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.01**	**273**	Pn	**Pn**	**16 09 54.5**	**+1.0**
	0.6nm,0.3s,baz=147,slow=15,SNR=24						
DZM				Sn	**Sn**	**16 11 00.5**	**-0.8**
	baz=62,slow=17						
	5.0nm,0.7s						
ASAR	**Alice Springs**	**35.84**	**260**	P	**P**	**16 15 24.2**	**+0.5**
	1.3nm,0.9s,baz=82,slow=9.3,SNR=13						
	1.3nm,0.9s						
WRA	**Warramunga Arr**	**35.98**	**267**	P	**P**	**16 15 24.3**	**-0.7**
	0.4nm,0.7s,baz=98,slow=8.5,SNR=5.8						
	0.4nm,0.7s						
QSPA	**South Pole Qui**	**67.59**	**180**	P	**P**	**16 19 20.3**	**+0.2**
	1.8nm,0.9s,baz=44,slow=2.0,SNR=5.1						
	1.8nm,0.9s						
ILAR	**Eielson Array**	**92.33**	**16**	P	**P**	**16 21 33.4**	**0.0**
	0.1nm,0.7s,baz=210,slow=5.2,SNR=1.2						
	0.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**167.51**	**223**	PKPab	**PKPab**	**16 29 35.1**	**-0.9**
	0.5nm,0.9s,baz=160,slow=2.0,SNR=3.1						

*IDC **03** 16:19:14.4±18.0, 16.°53S×174.°74W, h213km±168km, mb3.3/7, mbtmp3.9/7, Error ellipse: s-maj=36.9km s-min=25.5km az=99.0*

ISC 03 16:19:13.0±1.0, 16.°5S±0.°2×174.°7W±0.°3, h200km, n8, σ0.°76/8, mb3.4/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**48.34**	**258**	P	**P**	**16 27 34.6**	**-0.2**
	0.3nm,0.4s,baz=96,slow=7.5,SNR=11						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**48.55**	**253**	P	**P**	**16 27 36.5**	**+0.1**
	1.0nm,0.5s,baz=89,slow=7.7,SNR=37						
	1.0nm,0.5s						
PETK	**Petropavlovsk-**	**73.30**	**343**	P	**P**	**16 30 22.5**	**+0.2**
	4.9nm,0.9s,baz=107,slow=9.0,SNR=6.6						
	4.9nm,0.9s						
QSPA	**South Pole Qui**	**73.54**	**180**	P	**P**	**16 30 23.8**	**-0.1**
	1.7nm,0.8s,baz=51,slow=2.9,SNR=7.4						
	1.7nm,0.8s						
NVAR	**Mina Array Bea**	**76.01**	**42**	P	**P**	**16 30 39.6**	**+1.0**
	0.5nm,0.8s,baz=234,slow=7.7,SNR=3.8						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**83.78**	**12**	P	**P**	**16 31 18.7**	**-0.6**
	0.4nm,0.5s,baz=228,slow=5.7,SNR=5.2						
	0.4nm,0.5s						
PDAR	**Pinedale Array**	**83.95**	**42**	P	**P**	**16 31 20.1**	**-0.9**
	0.2nm,0.5s,baz=207,slow=5.8,SNR=2.2						
	0.2nm,0.5s						
BRTR	**Keskin Array B**	**146.17**	**319**	PKPbc	**PKPdf**	**16 38 29.6**	**+0.8**
	0.5nm,0.6s,baz=94,slow=3.7,SNR=3.8						

TAP 03 16:28:33.9, 23.°80N×121.°72E, h17km, ML1.6, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHUL	**Shoufeng**	**0.14**	**264**	*i* P	Pb	16 28 38.5	+0.4
	baz=272						
SHUL				*i* S	Sb	16 28 42.1	+1.2
	baz=272						
HWA	**Hwalien**	**0.20**	**330**	*i* P	Pb	16 28 39.2	0.0
	baz=331						
HWA				*i* S	Sb	16 28 44.0	+1.3
	baz=331						
ESL	**Shilin**	**0.26**	**272**	*i* P	Pg	16 28 39.6	-0.2
	baz=272						
ESL				*i* S	Sb	16 28 44.1	-0.2
	baz=272						
ETM	**Tongmen**	**0.26**	**308**	*i* P	Pg	16 28 39.8	0.0
	baz=308						
ETM				*i* S	Sb	16 28 44.2	-0.2
	baz=308						
EGFH	**Guangfu**	**0.30**	**243**	*i* P	Pg	16 28 40.5	+0.1
	baz=243						
EGFH				*i* S	Sb	16 28 46.7	+1.3
	baz=243						
TWD	**Chiawan**	**0.30**	**338**	*i* P	Pg	16 28 40.1	-0.3
	baz=340						
TWD				*i* S	Sb	16 28 45.7	+0.3
	baz=340						
WARBT	**Fenglin Townsh**	**0.31**	**254**	*i* P	Pg	16 28 40.4	-0.3
	baz=246						
WARBT				*i* S	Sg	16 28 45.6	+0.3
	baz=246						
LXIB	**Xiulin Townshi**	**0.35**	**308**	*i* P	Pg	16 28 41.4	-0.1
	baz=307						
LXIB				*i* S	Sb	16 28 47.3	+0.1
	baz=307						
ETL	**Fush Village**	**0.36**	**347**	*i* P	Pg	16 28 41.4	-0.2
	baz=346						
ETL				*i* S	Sb	16 28 47.4	0.0
	baz=346						
NACB	**Ninganchiao**	**0.39**	**343**	*i* P	Pg	16 28 41.5	-0.4
	baz=350						
NACB				*i* S	Sb	16 28 47.8	-0.2
	baz=350						
HGSD	**Ruisui**	**0.41**	**221**	*i* P	Pb	16 28 42.8	+0.1
	baz=213						
HGSD				*i* S	Sb	16 28 50.4	+1.7
	baz=213						
ETLH	**Xiulin Townshi**	**0.46**	**332**	*i* P	Pg	16 28 42.9	-0.3
	baz=330						
ETLH				*i* S	Sg	16 28 49.7	+0.2
	baz=330						
EHY	**Hungye**	**0.47**	**231**	*i* P	Pg	16 28 43.2	-0.2
	baz=237						
EHY				*i* S	Sb	16 28 50.7	+0.4
	baz=237						
OWD	**Renai**	**0.52**	**287**	*i* P	Pg	16 28 44.4	0.0
	baz=286						
OWD				*i* S	Sb	16 28 52.5	+0.6
	baz=286						
VWDT	**VWDT**	**0.53**	**265**	*i* P	Pb	16 28 44.6	-0.1
	baz=264						
VWDT				*i* S	Sb	16 28 52.8	+0.7
	baz=264						
WHF	**Hehuan Shan**	**0.54**	**310**	*i* P	Pg	16 28 44.8	0.0
	baz=299						
WHF				*i* S	Sg	16 28 52.3	+0.2
	baz=299						
ECBN	**Changbin**	**0.54**	**207**	*e*S	Sg	16 28 52.2	+0.2
	baz=204						
CHGB	**Renai**	**0.56**	**297**	*i* P	Pg	16 28 45.1	-0.1
	baz=297						
CHGB				*i* S	Sb	16 28 54.1	+1.0
	baz=297						
YULB	**Yu-li**	**0.56**	**223**	*i* P	Pg	16 28 45.0	-0.1
	baz=228						
YULB				*i* S	Sb	16 28 53.1	+0.1
	baz=228						
WUSB	**Renai**	**0.58**	**289**	*i* P	Pg	16 28 45.6	0.0
	baz=289						
WUSB				*i* S	Sb	16 28 53.7	0.0
	baz=289						
EYUL	**Yuli**	**0.58**	**219**	*i* P	Pg	16 28 45.3	-0.2
	baz=210						
EYUL				*i* S	Sb	16 28 54.1	+0.5
	baz=210						
TWF1	**Yuli**	**0.59**	**221**	*i* P	Pg	16 28 45.4	-0.3
	baz=211						
TWF1				*i* S	Sg	16 28 53.7	+0.1
	baz=211						
ENA	**Nanau**	**0.62**	**2**	*e*P	Pb	16 28 46.6	+0.2
	baz=359						
ENA				S	Sb	16 28 55.1	+0.3
	baz=359						
EWUT	**Wuta**	**0.64**	**5**	*i* P	Pg	16 28 46.2	-0.4
	baz=359						
EWUT				*i* S	Sb	16 28 55.9	+0.5
	baz=359						
NNSB	**Datong**	**0.69**	**334**	*i* P	Pg	16 28 47.3	-0.4
	baz=334						
NNSB				*i* S	Sb	16 28 57.1	+0.1
	baz=334						
SSLB	**Suanglung**	**0.70**	**269**	*i* P	Pb	16 28 46.1	-1.6
	baz=269						
SSLB				*i* S	Sg	16 28 56.6	-0.4
	baz=269						
NNS	**Nan Shan**	**0.71**	**334**	*i* P	Pg	16 28 47.3	-0.6
	baz=334						
NNS				*i* S	Sb	16 28 57.7	+0.3
	baz=334						
FULB	**Fuli**	**0.72**	**213**	*i* P	Pg	16 28 48.2	+0.2
	baz=205						
FULB				*i* S	Sn	16 28 58.8	-1.1
	baz=205						
LATG	**Datong**	**0.75**	**347**	*i* P	Pb	16 28 48.4	-0.2
	baz=334						
LATG				*i* S	Sg	16 28 59.0	+0.4
	baz=334						
SMLT	**Sun Moon Lake**	**0.75**	**276**	*i* P	Pb	16 28 48.3	-0.3
	baz=276						
SMLT				*i* S	Sg	16 28 58.9	+0.2
	baz=276						
WCS	**Beigang Elemen**	**0.78**	**289**	*i* P	Pb	16 28 48.9	-0.1
	baz=288						
WCS				*e*S	Sg	16 29 00.2	+0.7
	baz=288						
WHYT	**Xinyi Township**	**0.80**	**263**	P	Pb	16 28 49.3	0.0
	baz=262						
WHYT				S	Sb	16 28 59.9	0.0
	baz=262						
EHD	**Haiduan**	**0.80**	**216**	P	Pb	16 28 48.3	-1.1
	baz=229						
EHD				S	Sg	16 29 00.9	+0.6
	baz=229						
NDT	**Datong Townshi**	**0.82**	**347**	*i* P	Pg	16 28 49.9	0.0
	baz=336						
NDT				*i* S	Sg	16 29 01.5	+0.8
	baz=336						
ENTT	**Nioudou**	**0.84**	**351**	*i* P	Pb	16 28 50.0	-0.2
	baz=351						
ENTT				*i* S	Sn	16 29 02.6	-0.5
	baz=351						
WHP	**Taichung City**	**0.85**	**304**	*i* P	Pn	16 28 51.3	+0.1
	baz=303						
WHP				S	Sn	16 29 03.0	-0.2
	baz=303						
ALS	**Alishan**	**0.89**	**251**	*i* P	Pb	16 28 50.9	-0.1
	baz=251						
ALS				*i* S	Sg	16 29 03.4	+0.5
	baz=251						
ELDTW	**Lidau**	**0.89**	**227**	P	Pb	16 28 49.0	-1.9
	baz=226						
ELDTW				*i* S	Sg	16 29 03.3	+0.4
	baz=226						
WJS	**Zhushan**	**0.91**	**271**	*e*P	Pg	16 28 51.4	-0.1
	baz=271						
WJS				*e*S	Sn	16 29 07.6	+3.1
	baz=271						
YHNB	**Yeheng**	**0.92**	**340**	*i* P	Pb	16 28 51.0	-0.5
	baz=338						
YHNB				*i* S	Sg	16 29 03.9	0.0
	baz=338						
NSK	**Sanguang**	**0.93**	**339**	*e*P	Pb	16 28 51.2	-0.4
	baz=338						
NSK				*e*S	Sg	16 29 04.5	+0.2
	baz=338						
FUSB	**Fushanzhiwuyua**	**0.96**	**353**	*i* P	Pn	16 28 52.9	+0.2
	baz=345						
FUSB				*i* S	Sn	16 29 05.8	-0.2
	baz=345						
NWLT	**Wulai**	**0.99**	**349**	*i* P	Pb	16 28 52.7	+0.1
	baz=335						
NWLT				*i* S	Sg	16 29 06.2	0.0
	baz=335						
NFF	**Wufeng Townshi**	**0.99**	**327**	*e*P	Pg	16 28 54.5	+1.3
	baz=325						
NFF				*e*S	Sn	16 29 07.7	+0.9
	baz=325						
TWQ1	**Liyutan**	**1.02**	**302**	*e*P	Pg	16 28 54.6	+0.8
	baz=311						
TWQ1				*e*S	Sn	16 29 10.2	+2.8
	baz=311						
LONT	**Longtian**	**1.04**	**211**	*e*S	Sb	16 29 07.3	+0.4
	baz=207						
NSTT	**Nanjuang**	**1.05**	**322**	*e*S	Sg	16 29 09.1	+0.9
	baz=320						
STYH	**Taoyuan**	**1.07**	**234**	*e*P	Pb	16 28 53.1	-0.9
	baz=235						
STYH				*e*S	Sg	16 29 08.6	-0.1
	baz=235						
WCKO	**Fanlu**	**1.08**	**251**	*i* P	Pg	16 28 55.2	+0.2
	baz=251						
WCKO				S	Sg	16 29 09.8	+0.7
	baz=251						
TPUB	**Ta-pu**	**1.11**	**244**	*i* P	Pn	16 28 55.0	+0.3
	baz=244						
TPUB				*i* S	Sg	16 29 10.7	+0.5
	baz=244						
CHN4	**Tsaushan**	**1.12**	**247**	*i* P	Pg	16 28 55.7	0.0
	baz=247						
CHN4				*i* S	Sg	16 29 11.9	+1.5
	baz=247						
WTP	**Ta-pu**	**1.15**	**241**	*i* P	Pg	16 28 56.5	+0.2
	baz=242						
WTP				*i* S	Sg	16 29 12.3	+0.9
	baz=242						
TIPB	**Shuangxi**	**1.17**	**5**	*e*P	Pb	16 28 56.0	+0.3
	baz=7.0						
TIPB				*e*S	Sg	16 29 14.4	+2.5
	baz=7.0						
TWK	**Hsinying**	**1.25**	**245**	*e*P	Pb	16 28 57.0	0.0
	baz=245						
TWK				*e*S	Sg	16 29 15.1	+0.7
	baz=245						
CHN1	**Nanshi**	**1.25**	**241**	*e*S	Sg	16 29 15.8	+1.3
	baz=241			

s-maj=25.9km s-min=12.4km az=77.0
*BJI **03** 16:29:13.0±0.0,6˚.10S×142˚.50E,h10km,mb4.6/56, mB5.2/23,Ms4.9/3,Ms7 4.6/4*
*NEIC **03** 16:29:14.0±2.4,6˚.22S±0˚.08×142˚.55E±0˚.07,h10km±1km, mb4.9/116,Error ellipse: s-maj=12.9km s-min=12.2km az=207.0*
*DJA **03** 16:29:15.9±0.2,6˚S±3˚×14˚2E±˚,h10km,M4.8/32, mb4.7/32,mB5.1/12,MLv5.6/6,Mw(mB)4.5/12, MwMwp4.9/2,Mwp5.2/2*
*GCMT **03** 16:29:17.0±0.3,6˚.05S±0˚.02×142˚.37E±0˚.03,h20km±1km, MW4.9/83,Moment Tensor Solution. s16,c19; s83,c115; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.28±.21; Mθθ-2.31±.12; Mφφ0.02±.12; Mrθ0.21±.16; Mθφ0.90±.07; Mφr-1.63±.31; Best double couple: Mo2.94000×10¹⁶ NP1:φs135.00000°,δ60.00000°,λ121.00000°. NP2: φs265.00000°,δ42.00000°,λ49.00000°. Principal axes: T 3.1450, Plg62.0000°, Azm95.0000°; N -0.4120, Plg26.0000°, Azm298.0000°; P -2.7360, Plg10.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 16:29:16.3±0.4,6˚21S±0˚.05×142˚54E±0˚.05,h28km,n198, σ1§65/134,mb4.9/88,MS3.8/28,6C-7D,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPI	**Merauke**	**3.10**	**224**	P	**Pn**	**16 30 06.7**	**+3.4**
GENI	**Genyem**	**4.30**	**327**	P	**Pn**	**16 30 20.0**	**+0.1**
PMG	**Port Moresby**	**5.57**	**125**	Pn	**Pn**	**16 30 37.8**	**+0.5**
PMG	**Port Moresby**	**5.57**	**125**	Pn	**Pn**	**16 30 37.5**	**+0.2**
	25nm,0.3s,baz=353,slow=7.4,SNR=93						
PMG				Sn	**Sn**	**16 31 41.2**	**+0.8**
	89nm,0.3s,baz=58,slow=23,SNR=30						
PMG				LR	LR	16 33 48.0	
	comp=Z,2μm,18.3s,baz=252,slow=50						
	95nm,0.4s						
SMPI	**Sarmi**	**5.67**	**318**	P	**Pn**	**16 30 38.4**	**-0.3**
	192nm,1.6s,4μm1.3nm						
MANU	**Manus Island**	**6.35**	**49**	Pn	**Pn**	**16 30 49.2**	**+1.2**
COEN	**Coen**	**7.72**	**175**	Pn	**Pn**	**16 31 04.6**	**-2.3**
RABL	**Rabaul**	**9.79**	**79**	Pn	**Pn**	**16 31 34.9**	**-0.5**
FAKI	**Fak Fak**	**10.77**	**287**	Pn	**Pn**	**16 31 48.9**	**+0.2**
FAKI	**Fak Fak**	**10.77**	**287**	P	**Pn**	**16 31 47.6**	**-1.1**
FAKI	**Fak Fak**	**10.77**	**287**	P	**Pn**	**16 31 47.1**	**-1.6**
	34nm,1.0s						
SAUI	**Saumlaki**	**11.29**	**260**	Pn	**Pn**	**16 31 56.4**	**+0.5**
SAUI	**Saumlaki**	**11.29**	**260**	P	**Pn**	**16 31 57.9**	**+2.0**
SAUI	**Saumlaki**	**11.29**	**260**	P	**Pn**	**16 31 56.3**	**+0.4**
	445nm,0.8s,6μm						
KDU	**Kakadu**	**11.83**	**236**	P	**Pn**	**16 32 04.5**	**+1.3**
SWI	**Sorong**	**12.45**	**295**	P	**Pn**	**16 32 09.5**	**-2.2**
	30nm,0.8s						
BNDI	**Bandanaira**	**12.69**	**277**	P	**Pn**	**16 32 15.1**	**+0.1**
	151nm,1.1s						
MTN	**Manton Dam**	**13.03**	**239**	Pn	**Pn**	**16 32 20.0**	**+0.3**
MTN	**Manton Dam**	**13.03**	**239**	P	**Pn**	**16 32 20.1**	**+0.3**
DRS	**Darwin Rock St**	**13.04**	**241**	P	**Pn**	**16 32 21.1**	**+1.3**
CTA	**Charters Tower**	**14.26**	**166**	Pn	**Pn**	**16 32 38.8**	**+2.4**
	0.1nm,0.3s,baz=354,slow=23,SNR=18						
CTA				Lg	Lg	16 36 49.5	
	0.3nm,0.3s,baz=50,slow=15,SNR=4.7						
CTA				LR	LR	16 37 52.8	
	comp=Z,370nm,20.1s,baz=351,slow=36						
	2.1nm,0.8s						
CTAO	**Charters Tower**	**14.26**	**166**		**Pn**	**16 32 35.0**	**-1.4**
WB0	**Warramunga Arr**	**15.63**	**210**	Pn	**Pn**	**16 32 55.1**	**+0.3**
NLAI	**Namlea**	**15.67**	**280**	P	**Pn**	**16 32 54.9**	**-0.3**
	20nm,0.9s						
WR0	**Warramunga Arr**	**15.72**	**209**		**Pn**	**16 32 56.2**	**+0.3**
WR0				IAmb	IAmb	16 33 03.3	
	comp=Z,35nm,0.6s						
WRAB	**Tennant Creek**	**15.79**	**210**	Pn	**Pn**	**16 32 57.0**	**+0.1**
WB2	**Warramunga Arr**	**15.80**	**209**	Pn	**Pn**	**16 32 57.9**	**+1.0**
WRA	**Warramunga Arr**	**15.80**	**210**	Pn	**Pn**	**16 32 56.9**	**-0.1**
WRA	**Warramunga Arr**	**15.80**	**210**	Pn	**Pn**	**16 32 55.7**	**-1.3**
	comp=Z,4.0nm,0.3s,baz=30,slow=13,SNR=69						
WRA				Sn	**Sn**	**16 35 46.1**	**-5.3**
	comp=Z,1.5nm,0.3s,baz=27,slow=22,SNR=4.5						
WRA				Lg	Lg	16 37 44.8	
	comp=Z,1.3nm,0.3s,baz=31,slow=26,SNR=7.3						
LBMI	**Labuha**	**16.00**	**290**	P	**Pn**	**16 32 57.3**	**-2.2**
	comp=Z,57nm,1.1s,comp=Z,1μm						
KNRA	**Kununurra**	**16.46**	**234**	Pn	**Pn**	**16 33 05.7**	**+0.3**
SANI	**Sanana**	**17.02**	**283**	P	**Pn**	**16 33 10.4**	**-2.0**
	comp=Z,16nm,0.7s,comp=Z,5μm						
HNR	**Honiara**	**17.54**	**102**		**Pn**	**16 33 15.9**	**-3.0**
HNR				IAmb	IAmb	16 33 28.0	
	comp=Z,255nm,1.5s						
SOEI	**Soe**	**18.43**	**258**		**Pn**	**16 33 31.0**	**+0.9**
SOEI				IAmb	IAmb	16 33 38.1	
	comp=Z,62nm,0.7s						
SOEI	**Soe**	**18.43**	**258**	P	**Pn**	**16 33 32.7**	**+2.6**
SOEI	**Soe**	**18.43**	**258**	P	**Pn**	**16 33 31.5**	**+1.4**
	comp=Z,123nm,0.9s,comp=Z,1μm						
BATI	**Baumata**	**19.10**	**257**	LR	LR	16 42 28.8	
	comp=Z,570nm,21.1s,baz=90,slow=41						
AS31	**Alice Springs**	**19.24**	**205**		**P**	**16 33 40.1**	**+1.5**
ASAR	**Alice Springs**	**19.24**	**205**		**Pn**	**16 33 41.0**	**+1.4**
ASAR	**Alice Springs**	**19.24**	**205**	P	**Pn**	**16 33 42.1**	**+2.5**
	comp=Z,42nm,0.6s,baz=32,slow=9.4,SNR=432						
ASAR				S	**S**	**16 37 07.9**	**-7.1**
	comp=Z,4.3nm,0.6s,baz=18,slow=28,SNR=2.2						
ASAR				Lg	Lg	16 39 34.3	
	comp=Z,0.3nm,0.3s,baz=15,slow=29,SNR=3.1						
ASAR				LR	LR	16 41 17.2	
	comp=Z,707nm,21.0s,baz=34,slow=37						
BBSI	**Bau Bau**	**19.88**	**271**	P	**Pn**	**16 33 47.7**	**+0.4**
	comp=Z,22nm,1.2s						
MMRI	**Maumere**	**20.27**	**262**	P	**P**	**16 33 51.1**	**+1.2**
	comp=Z,35nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.29**	**233**	P	Pn	16 33 52.7	+0.6
EIDS	**Eidsvold**	**20.73**	**158**		**P**	**16 33 54.8**	**0.0**
EDFI	**Ende, Flores**	**20.82**	**262**	P	**P**	**16 33 56.0**	**0.0**
	comp=Z,31nm,1.1s,comp=Z,471nm						
BKSI	**Bulukumba**	**22.32**	**271**	P	**P**	**16 34 12.9**	**+0.9**
	comp=Z,41nm,0.8s,comp=Z,628nm						
KAPI	**Kappang**	**22.71**	**272**	P	**P**	**16 34 14.5**	**-1.6**
TTSI	**Tana Toraja**	**22.86**	**277**	P	**P**	**16 34 19.4**	**+1.7**
	comp=Z,12nm,1.5s						
TOLI2	**Tolitoli**	**22.91**	**288**	P	**P**	**16 34 17.3**	**-0.9**
TOLI2	**Tolitoli**	**22.91**	**288**	P	**P**	**16 34 18.9**	**+0.7**
PLAI	**Plampang**	**24.68**	**262**	P	**P**	**16 34 35.4**	**+0.2**
KOUNC	**Koumac, New Ca**	**25.46**	**126**	P	**P**	**16 34 41.7**	**-0.4**
KOUNC				IAmb	IAmb	16 34 45.8	
	comp=Z,34nm,1.2s						
STKA	**Stephens Creek**	**25.55**	**182**	P	**P**	**16 34 44.4**	**+1.6**
STKA	**Stephens Creek**	**25.55**	**182**	P	**P**	**16 34 44.0**	**+1.2**
	comp=Z,4.2nm,0.7s,baz=342,slow=7.9,SNR=10						
STKA				LR	LR	16 45 16.3	
	comp=Z,373nm,18.5s,baz=348,slow=37						
	comp=Z,4.2nm,0.7s						
MBWA	**Marble Bar**	**26.62**	**234**	P	**P**	**16 34 53.0**	**+0.4**
MBWA	**Marble Bar**	**26.62**	**234**	P	**P**	**16 34 57.3**	**+4.7**
PSA00	**Pilbara Seismi**	**26.74**	**233**	P	**P**	**16 34 58.1**	**+4.4**
DZM	**Mont Dzumac**	**27.96**	**127**	*e*LR	LR	16 42 16.8	
	comp=Z,328nm,27.7s						
OUENC	**Ouen Island, N**	**28.45**	**127**	P	**P**	**16 35 09.2**	**+0.2**
KKM	**Kota Kinabalu**	**28.96**	**294**	P	**P**	**16 35 11.6**	**-2.1**
KKM				IAmb	IAmb	16 35 14.7	
	comp=Z,24nm,1.2s						
JCJ	**Chichijima**	**33.11**	**359**	LR	LR	16 47 35.8	
	comp=Z,94nm,21.8s,baz=109,slow=34						
LEM	**Lembang**	**34.70**	**267**	LR	LR	16 53 06.0	
	comp=Z,109nm,19.8s,baz=108,slow=41						
NWAO	**Narrogin (SRO)**	**35.51**	**218**	LR	LR	16 50 17.2	
	comp=Z,272nm,21.9s,baz=167,slow=35						
JOW	**Kunigami**	**35.64**	**338**	LR	LR	16 47 59.4	
	comp=Z,118nm,20.0s,baz=16,slow=32						
JHJ	**Hachijo jima 2**	**39.20**	**356**	LR	LR	16 50 23.3	
	comp=Z,136nm,20.1s,baz=94,slow=33						
MJAR	**Matsushiro Arr**	**42.72**	**355**	P	**P**	**16 37 08.9**	**-2.1**
	comp=Z,2.3nm,0.8s,baz=170,slow=10,SNR=11						
	comp=Z,2.3nm,0.8s						
NJ2	**Nanjing**	**44.24**	**331**	*e*P	**P**	**16 37 25.6**	**+2.3**
NJ2				pP	**pP**	**16 37 31.0**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GULI	**GuiLin**	**44.26**	**316**	⇑P	**P**	**16 37 23.7**	**+0.1**
GULI				pmax	pmax		
	comp=Z,10.0nm,1.2s						
RPSI	**Rantau Prapat**	**44.44**	**280**	P	**P**	**16 37 24.8**	**-0.5**
URZ	**Urewera**	**44.70**	**141**	LR	LR	16 56 01.7	
	comp=Z,221nm,18.3s,baz=102,slow=36						
RPZ	**Rata Peaks**	**44.97**	**151**	LR	LR	16 54 47.1	
	comp=Z,283nm,19.2s,baz=310,slow=34						
WHN	**Wuhan**	**45.44**	**325**	⇓P	**P**	**16 37 34.7**	**+1.8**
KSAR	**Wonju Array Be**	**45.53**	**344**		**P**	**16 37 32.1**	**-1.4**
KSRS	**Korea Array**	**45.53**	**344**	P	**P**	**16 37 33.0**	**-0.4**
	comp=Z,3.4nm,1.0s,baz=161,slow=9.0,SNR=9.2						
KSRS				LR	LR	16 54 15.6	
	comp=Z,51nm,20.2s,baz=150,slow=33						
	comp=Z,3.4nm,1.0s						
JTM	**Tenmabayashi**	**46.79**	**358**	P	**P**	**16 37 42.5**	**-0.8**
ENH	**Enshi**	**48.16**	**321**		**P**	**16 37 53.0**	**-1.3**
ENH				IAmb	IAmb	16 38 10.0	
	comp=Z,7.9nm,0.9s						
PHRA	**Phrae**	**48.41**	**301**	P	**P**	**16 37 55.5**	**-0.8**
CRAI	**Chiangrai**	**49.08**	**303**	P	**P**	**16 38 01.1**	**-0.3**
CM31	**Chiang Mai Arr**	**49.49**	**301**	P	**P**	**16 38 04.3**	**-0.3**
CMAR	**Chiang Mai Arr**	**49.49**	**301**	P	**P**	**16 38 03.4**	**-1.3**
CMAR	**Chiang Mai Arr**	**49.49**	**301**	P	**P**	**16 38 05.3**	**+0.7**
	comp=Z,3.4nm,0.7s,baz=125,slow=6.2,SNR=35						
	comp=Z,3.4nm,0.7s						
LYN	**LuoYang**	**49.50**	**327**	*e*P	**P**	**16 38 08.5**	**+4.1**
LYN				pmax	pmax		
	comp=Z,32nm,0.5s						
CHTO	**Chiang Mai**	**49.64**	**301**	P	**P**	**16 38 05.5**	**-0.3**
KMI	**Kunming**	**49.68**	**310**	⇑P	**P**	**16 38 07.6**	**+1.3**
KMI				pmax	pmax		
	comp=Z,18nm,1.0s						
ASAJ	**Asahikawa**	**50.09**	**0**	LR	LR	17 00 09.6	
	comp=Z,18nm,19.8s,baz=172,slow=37						
HNS	**HongShan**	**50.57**	**331**	⇑P	**P**	**16 38 12.0**	**-0.5**
HNS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
USA0B	**Ussuriysk Arra**	**51.07**	**350**	IAmb	IAmb	16 38 22.9	
	comp=Z,23nm,1.3s						
USRK	**Ussuriysk Ar.**	**51.07**	**350**		**P**	**16 38 15.1**	**-1.1**
USRK	**Ussuriysk Ar.**	**51.07**	**350**	P	**P**	**16 38 15.4**	**-0.8**
	comp=Z,4.3nm,0.7s,baz=175,slow=8.7,SNR=12						
	comp=Z,4.3nm,0.7s						
XAN	**Xi'an**	**51.13**	**324**	⇓P	**P**	**16 38 17.0**	**+0.2**
XAN				pP	pP	16 38 21.0	-4.5
XAN				pmax	pmax		
	comp=Z,13nm,1.3s						
PZH	**PanZhiHua**	**51.19**	**311**	P	**P**	**16 38 20.9**	**+3.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
MDJ	**Mudanjiang**	**51.92**	**348**	P	**P**	**16 38 24.7**	**+2.2**
MDJ				pmax	pmax		
	comp=Z,11nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,130nm,3.7s						
BJI	**Beijing**	**52.05**	**334**	P	**P**	**16 38 23.8**	**+0.3**
BJI				pmax	pmax		
	comp=Z,4.0nm,1.7s						
BJI				pmax	pmax		
	comp=Z,34nm,3.5s						
CN2	**Changchun**	**52.12**	**344**	P	**P**	**16 38 20.8**	**-3.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CD2	**Chengdu**	**52.33**	**317**	*e*P	**P**	**16 38 27.0**	**+1.1**
TNCH	**TengChong**	**52.89**	**308**	P	**P**	**16 38 31.3**	**+1.0**
TNCH				pP	pP	16 38 35.6	-3.4
TNCH				pmax	pmax		
	comp=Z,19nm,1.9s						
TNCH				pmax	pmax		
	comp=Z,120nm,6.1s						
BNX	**BinXian**	**53.46**	**347**	⇓P	**P**	**16 38 32.7**	**-1.2**
BNX				pmax	pmax		
	comp=Z,13nm,1.3s						
BNX				pmax	pmax		
	comp=Z,95nm,3.1s						
HHC	**Hu-ho-hao-te**	**54.79**	**331**	*e*P	**P**	**16 38 46.2**	**+2.4**
HHC				pmax	pmax		
	comp=Z,31nm,0.8s						
HHC				pmax	pmax		
	comp=Z,120nm,6.0s						
BTO	**Baotou**	**55.35**	**330**	*e*P	**P**	**16 38 51.4**	**+3.5**
BTO				pP	**pP**	**16 38 55.1**	**-1.5**
BTO				sP	**sP**	**16 38 58.4**	**-1.8**
BTO				S	S	16 46 38.8	+8.3
BTO				pmax	pmax		
	comp=Z,15nm,0.5s						
BTO				pmax	pmax		
	comp=Z,360nm,6.0s						
BTO				LR	LR		
	comp=Z,240nm,10.3s						
BTO				LR	LR		
	comp=Z,200nm,5.4s						
BTO				LR	LR		
	comp=Z,220nm,4.3s						
LZH	**Lanzhou**	**55.56**	**322**	⇓P	**P**	**16 38 50.8**	**+1.2**
LZH				pP	pP	16 38 55.1	-3.2
LZH				pmax	pmax		
	comp=Z,17nm,1.5s						
KLR	**Kul'dur**	**56.01**	**351**	LR	LR	17 00 34.9	
	comp=Z,46nm,19.1s,baz=176,slow=34						
RAR	**Rarotonga**	**57.69**	**111**	LR	LR	17 03 38.6	
	comp=Z,47nm,18.4s,baz=274,slow=36						
HEH	**HeiHe**	**57.75**	**349**	*e*P	**P**	**16 39 03.2**	**-1.4**
HEH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GTA	**Gaotai**	**60.14**	**323**	*e*P	**P**	**16 39 22.2**	**+0.6**
GTA				pP	pP	16 39 26.5	-4.0
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
PETK	**Petropavlovsk-**	**60.48**	**10**	P	**P**	**16 39 22.5**	**-1.0**
	comp=Z,9.8nm,1.0s,baz=193,slow=5.9,SNR=9.2						
PETK				LR	LR	17 04 29.1	
	comp=Z,26nm,20.1s,baz=193,slow=35						
	comp=Z,9.8nm,1.0s						
GOMU	**GeErMu**	**61.46**	**317**	P	**P**	**16 39 31.7**	**+0.7**
GOMU				pP	pP	16 39 35.4	-4.4
GOMU				sP	sP	16 39 37.2	-6.0
GOMU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	**Songino Array**	**62.52**	**333**	P	**P**	**16 39 36.8**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=158,slow=8.5,SNR=6.6						
SONM				LR	LR	17 05 13.5	
	comp=Z,87nm,21.7s,baz=142,slow=35						
	comp=Z,0.4nm,0.5s						
MA2	**Magadan**	**65.91**	**5**	LR	LR	17 06 00.1	
	comp=Z,24nm,21.5s,baz=132,slow=34						
PPT	**Papeete**	**67.09**	**106**	LR	LR	17 06 49.4	
	comp=Z,46nm,18.1s,baz=243,slow=34						
PPT2	**Papeete2**	**67.09**	**106**	*e*LQ	LQ	16 57 40.9	
	comp=Z,400nm,30.8s						
PPT2				*e*LR	LR	17 00 27.1	
	comp=Z,113nm,28.2s						
PPT2				*e*LR	LR	17 00 29.7	
	comp=Z,108nm,31.0s						
TBI	**Tubuai**	**67.38**	**113**	*e*LR	LR	17 00 28.1	
	comp=Z,839nm,29.0s						
TBI				*e*LR	LR	17 00 31.0	
	comp=Z,476nm,24.5s						
YAK	**Yakutsk**	**68.77**	**354**	LR	LR	17 10 18.7	
	comp=Z,46nm,19.0s,baz=115,slow=36						
WMQ	**Urumqi**	**70.11**	**321**	⇑*i*P	**P**	**16 40 26.6**	**+0.4**
VNDA	**Vanda**	**72.00**	**176**	P	**P**	**16 40 36.6**	**-0.4**
VNDA	**Vanda**	**72.00**	**176**	P	**P**	**16 40 38.9**	**+1.9**
	comp=Z,2.2nm,1.0s,baz=310,slow=7.0,SNR=2.5						
VNDA				LR	LR	17 11 49.9	
	comp=Z,118nm,18.8s,baz=342,slow=35						
	comp=Z,2.2nm,1.0s						
MKAR	**Makanchi Array**	**74.88**	**322**	P	**P**	**16 40 54.4**	**-0.1**
MKAR	**Makanchi Array**	**74.88**	**322**	P	**P**	**16 40 54.9**	**+0.4**
	comp=Z,3.7nm,0.9s,baz=108,slow=7.8,SNR=32						
	comp=Z,3.7nm,0.9s						
MAKZ	**Makanchi**	**75.08**	**322**	P	**P**	**16 40 55.8**	**+0.2**
PRZ	**Przheval'sk**	**75.61**	**317**	P	**P**	**16 40 59.1**	**+0.1**
PRZ				IAmb	IAmb	16 41 01.9	
	comp=Z,24nm,1.4s						
TARG	**Taragay, Kyrgy**	**75.74**	**316**	P	**P**	**16 40 59.1**	**-1.0**
KSH	**Kashi**	**76.25**	**313**	P	**P**	**16 41 04.5**	**+1.8**
KSH				pP	pP	16 41 08.2	-3.5
KSH				pmax	pmax		
	comp=Z,7.0nm,1.1s						
NIL	**Nilore**	**76.47**	**307**	P	**P**	**16 41 02.9**	**-1.0**
ZALV	**Zalesovo Beam**	**76.87**	**329**	P	**P**	**16 41 04.8**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=98,slow=4.5,SNR=8.6						
ZALV				LR	LR	17 14 56.3	
	comp=Z,33nm,20.4s,baz=74,slow=36						
	comp=Z,1.2nm,0.5s						
TIXI	**Tiksi**	**78.23**	**356**	LR	LR	17 17 24.4	
	comp=Z,48nm,18.2s,baz=218,slow=37						
AAK	**Ala-Archa**	**78.36**	**316**	P	**P**	**16 41 14.4**	**-0.1**
AAK	**Ala-Archa**	**78.36**	**316**	LR	LR	17 20 22.0	
	comp=Z,26nm,18.4s,baz=171,slow=39						
KURK	**Kurchatov**	**78.76**	**324**	P	**P**	**16 41 15.9**	**-0.4**
KURK				IAmb	IAmb	16 41 17.4	
	comp=Z,11nm,1.2s						
KURBB	**Kurchatov Arra**	**78.78**	**324**	P	**P**	**16 41 16.1**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=115,slow=4.6,SNR=15						
	comp=Z,1.3nm,0.5s						
M14K	**Bethel**	**79.46**	**24**	P	**P**	**16 41 19.5**	**-0.4**
L14K	**Kuka Creek**	**79.50**	**24**	IAmb	IAmb	16 41 20.5	
	comp=Z,17nm,1.2s						
GAR	**Garm**	**80.26**	**311**	P	**P**	**16 41 24.1**	**-0.8**
GAR				IAmb	IAmb	16 41 26.4	
	comp=Z,12nm,1.0s						
SIMJ	**Simiganj**	**81.15**	**311**	P	**P**	**16 41 29.2**	**-0.5**
SIMJ				IAmb	IAmb	16 41 31.2	
	comp=Z,6.4nm,0.7s						
KK31	**Karatay Array**	**81.29**	**315**	P	**P**	**16 41 29.7**	**-0.4**
F15K	**North Star Dit**	**81.33**	**19**	IAmb	IAmb	16 41 37.5	
	comp=Z,10nm,1.1s						
J16K	**Anvik River**	**81.39**	**23**	IAmb	IAmb	16 41 39.5	
	comp=Z,34nm,1.8s						
I17K	**Unalakleet**	**81.68**	**22**	IAmb	IAmb	16 41 39.8	
	comp=Z,12nm,1.1s						
G16K	**Koyuk River**	**81.92**	**20**	IAmb	IAmb	16 41 41.0	
	comp=Z,9.4nm,1.0s						
KDAK	**Kodiak Island**	**82.22**	**29**	LR	LR	17 10 51.2	
	comp=Z,83nm,20.6s,baz=265,slow=30						
H17K	**Granite Mounta**	**82.53**	**21**	IAmb	IAmb	16 41 44.4	
	comp=Z,7.8nm,1.0s						
N19K	**Bonanza Creek**	**82.66**	**26**	IAmb	IAmb	16 41 44.9	
	comp=Z,17nm,1.1s						
F17K	**Baldwin Pennin**	**82.89**	**20**	IAmb	IAmb	16 41 53.6	
	comp=Z,9.9nm,1.2s						
G18K	**Tagagawik**	**83.48**	**21**	IAmb	IAmb	16 41 48.1	
	comp=Z,6.9nm,1.1s						
J19K	**Poorman**	**83.66**	**23**	IAmb	IAmb	16 41 42.3	
	comp=Z,12nm,1.3s						
QSPA	**South Pole Qui**	**83.76**	**180**	P	**P**	**16 41 44.0**	**+1.3**
QSPA	**South Pole Qui**	**83.76**	**180**	P	**P**	**16 41 43.7**	**+1.0**
	comp=Z,13nm,0.9s,baz=280,slow=0.2,SNR=44						
	comp=Z,13nm,0.9s						
G19K	**Purcell Mounta**	**84.16**	**21**	IAmb	IAmb	16 42 32.0	
	comp=Z,13nm,1.2s						
F19K	**Shaleruckik Mo**	**84.27**	**20**	IAmb	IAmb	16 42 31.4	
	comp=Z,12nm,1.6s						
BVAR	**Borovoye Array**	**84.35**	**325**	P	**P**	**16 41 46.1**	**+0.3**
	comp=Z,10nm,0.9s						
	comp=Z,10nm,0.9s						
BRVK	**Borovoye**	**84.42**	**325**	P	**P**	**16 41 45.7**	**-0.5**
E19K	**Redstone River**	**84.77**	**20**	IAmb	IAmb	16 42 03.3	
	comp=Z,8.4nm,0.9s						
C19K	**Lookout Ridge**	**84.87**	**18**	IAmb	IAmb	16 41 57.1	
	comp=Z,11nm,1.1s						
PMR	**Palmer**	**85.34**	**26**	P	**P**	**16 41 50.9**	**+0.3**
PMR				IAmb	IAmb	16 42 01.4	
	comp=Z,5.7nm,0.9s						
KNK	**Knik Glacier**	**85.58**	**27**	IAmb	IAmb	16 41 59.7	
	comp=Z,15nm,1.0s						
SML	**Sawmill**	**85.78**	**26**	P	**P**	**16 41 51.7**	**-1.1**
SML				IAmb	IAmb	16 42 13.3	
	comp=Z,14nm,0.9s						
MLY	**Manley**	**86.02**	**23**	IAmb	IAmb	16 42 01.5	
	comp=Z,7.4nm,1.0s						
NEA2	**Nenana**	**86.50**	**24**	IAmb	IAmb	16 42 03.1	
	comp=Z,7.4nm,1.2s						
DHY	**Denali Highway**	**86.65**	**25**	P	**P**	**16 41 56.0**	**-1.3**
DHY				IAmb	IAmb	16 42 04.0	
	comp=Z,7.1nm,0.8s						
WRH	**Wood River Hil**	**86.85**	**24**	IAmb	IAmb	16 41 56.7	
	comp=Z,8.2nm,1.1s						
CCB	**Clear Creek Bu**	**87.03**	**24**	IAmb	IAmb	16 41 58.2	
	comp=Z,5.4nm,0.7s						
IL31		**87.44**	**24**	IAmb	IAmb	16 41 59.5	
	comp=Z,5.7nm,0.9s						
ILAR	**Eielson Array**	**87.44**	**24**	P	**P**	**16 41 58.6**	**-2.2**
	comp=Z,4.0nm,0.8s,baz=259,slow=4.7,SNR=40						
ILAR				LR	LR	17 17 31.2	
	comp=Z,56nm,19.7s,baz=211,slow=33						
	comp=Z,4.0nm,0.8s						
GLB	**Gilahina Butte**	**87.69**	**27**	IAmb	IAmb	16 42 09.8	
	comp=Z,7.2nm,1.0s						
CRQM	**Cirque**	**87.81**	**28**	IAmb	IAmb	16 42 16.5	
	comp=Z,9.4nm,0.9s						
G24K	**Hadweenzic Riv**	**87.89**	**22**	IAmb	IAmb	16 42 11.3	
	comp=Z,9.1nm,1.1s						
RIDG	**Independent Ri**	**87.94**	**25**	IAmb	IAmb	16 42 10.7	
	comp=Z,10nm,1.1s						
J25K	**Salcha River,**	**88.00**	**24**	IAmb	IAmb	16 42 10.6	
	comp=Z,9.6nm,1.1s						
F24K	**Squaw Lake**	**88.04**	**21**	IAmb	IAmb	16 42 11.8	
	comp=Z,14nm,1.4s						
SCRK	**Sand Creek**	**88.38**	**25**	IAmb	IAmb	16 42 09.7	
	comp=Z,9.1nm,1.3s						
BARN	**Barnard Glacie**	**88.58**	**28**	IAmb	IAmb	16 42 11.4	
	comp=Z,6.7nm,0.7s						
J26L	**Joseph Creek**	**88.71**	**25**	IAmb	IAmb	16 42 14.3	
	comp=Z,9.3nm,1.1s

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TINO	**Tinogasta**	**0.75**	**258**	*eP*	**Pn**	**16 41 11.0**	**+1.6**
TINO				*eS*	**Sn**	**16 41 29.7**	**+0.4**
ACLC	**CERRO LA CRUZ**	**1.53**	**187**	*eP*	**Pn**	**16 41 17.1**	**+1.4**
VCA	**Vinchina**	**1.54**	**237**	*eP*	**Pn**	**16 41 17.5**	**+1.7**
VCA				*eS*	**Sn**	**16 41 43.5**	**+2.8**
VCA				IAML		16 41 45.3	
	comp=Z,4μm,0.8s						
AHML	**Horco Molle**	**1.67**	**48**	*eP*	**Pn**	**16 41 17.9**	**+0.7**
AHML				*eS*	**Sn**	**16 41 42.9**	**-0.1**
GUSE	**Guasayan**	**1.67**	**90**	*eP*	**Pn**	**16 41 17.7**	**+0.7**
FSA	**Cafayete**	**1.91**	**21**	*eP*	**Pn**	**16 41 21.1**	**+1.9**
AC02	**Maricunga**	**2.38**	**296**	*P*	**Pn**	**16 41 27.2**	**+1.9**
AC02	**Maricunga**	**2.38**	**296**	*eP*	**Pn**	**16 41 27.8**	**+2.5**
AC02				IAML		16 42 35.1	
	comp=Z,769nm,0.9s						
AC02	**Maricunga**	**2.38**	**296**	⇓*iP*	**Pn**	**16 41 27.1**	**+1.9**
AC02				*i S*	**Sn**	**16 42 04.2**	**+6.8**
AC02				IAML		16 42 11.2	
	comp=N,417nm,0.2s						
APLL	**PUNTA DE LOS L**	**2.49**	**176**	*eP*	**Pn**	**16 41 27.1**	**+1.1**
APLL				*eS*	**Sn**	**16 41 59.3**	**+0.2**
AVFE	**Valle Fertil**	**2.81**	**193**	*eP*	**Pn**	**16 41 30.8**	**+0.8**
AVFE				*eS*	**Sn**	**16 42 06.2**	**+0.1**
AVFE				IAML		16 42 09.7	
	comp=Z,498nm,0.4s						
GO03	**Copiap**	**3.12**	**275**		**Pn**	**16 41 34.6**	**+1.0**
GO03				Sn	**Sn**	**16 42 11.3**	**-1.1**
GO03	**Copiap**	**3.12**	**275**	*eP*	**Pn**	**16 41 34.6**	**+1.0**
GO03				*eS*	**Sn**	**16 42 11.8**	**-0.7**
GO03	**Copiap**	**3.12**	**275**	⇓*iP*	**Pn**	**16 41 34.4**	**+0.8**
GO03				*i S*	**Sn**	**16 42 11.4**	**-1.1**
GO03				IAML		16 42 12.1	
	comp=N,2μm,0.5s						
ACHE	**Chepes**	**3.25**	**179**	*eP*	**Pn**	**16 41 36.5**	**+1.3**
AC05	**El Transito**	**3.25**	**253**		**Pn**	**16 41 36.8**	**+1.5**
AC05	**El Transito**	**3.25**	**253**	*eP*	**Pn**	**16 41 36.8**	**+1.5**
AC05				*eS*	**Sn**	**16 42 16.6**	**+0.9**
AC05				IAML		16 42 17.2	
	comp=Z,616nm,0.3s						
AC05	**El Transito**	**3.25**	**253**	⇑*iP*	**Pn**	**16 41 36.8**	**+1.5**
AC05				*i S*	**Sn**	**16 42 16.2**	**+0.6**
AC05				IAML		16 42 17.1	
	comp=N,2μm,0.6s						
SLA	**San Lorenzo**	**3.36**	**19**	*eP*	**Pn**	**16 41 38.6**	**+1.9**
CO01	**Juntas del Tor**	**3.59**	**234**		**Pn**	**16 41 41.7**	**+2.0**
CO01	**Juntas del Tor**	**3.59**	**234**	⇑*iP*	**Pn**	**16 41 41.9**	**+2.1**
DOCA	**Reserva Natura**	**3.66**	**213**	*eP*	**Pn**	**16 41 41.4**	**+0.7**
DOCA				*eS*	**Sn**	**16 42 25.0**	**-0.2**
DOCA				IAML		16 43 24.0	
	comp=Z,947nm,0.7s						
LCO	**Las Campanas**	**3.66**	**252**		**Pn**	**16 41 41.2**	**+0.6**
LCO	**Las Campanas**	**3.66**	**252**	*eP*	**Pn**	**16 41 41.4**	**+0.8**
LCO				*eS*	**Sn**	**16 42 25.2**	**+0.2**
LCO	**Las Campanas**	**3.66**	**252**	⇑*iP*	**Pn**	**16 41 41.2**	**+0.6**
GO02	**Mina Guanaco**	**3.74**	**316**		**Pn**	**16 41 43.5**	**+1.8**
GO02	**Mina Guanaco**	**3.74**	**316**	*eP*	**Pn**	**16 41 43.6**	**+1.8**
GO02	**Mina Guanaco**	**3.74**	**316**	⇓*iP*	**Pn**	**16 41 43.5**	**+1.8**
AC04	**Llanos de Chal**	**3.84**	**265**		**Pn**	**16 41 42.9**	**+0.2**
AC04	**Llanos de Chal**	**3.84**	**265**	*eP*	**Pn**	**16 41 42.8**	**+0.2**
AC01	**Pan de Azucar**	**3.86**	**296**		**Pn**	**16 41 43.2**	**+0.2**
AC01	**Pan de Azucar**	**3.86**	**296**	*eP*	**Pn**	**16 41 43.1**	**+0.1**
TCA	**Tanti**	**3.89**	**152**	*eP*	**Pn**	**16 41 44.0**	**+0.7**
TCA				*eS*	**Sn**	**16 42 28.9**	**-1.3**
TCA				IAML		16 42 29.4	
	comp=Z,280nm,1.1s						
SJA	**San Juan**	**3.94**	**203**	*eP*	**Pn**	**16 41 45.3**	**+1.3**
SJA				*eS*	**Sn**	**16 42 32.3**	**+1.1**
SJA				IAML		16 42 32.7	
	comp=Z,293nm,1.3s						
GO04	**Tololo Observa**	**4.21**	**237**	Pn	**Pn**	**16 41 48.3**	**+0.6**
GO04	**Tololo Observa**	**4.21**	**237**	*eP*	**Pn**	**16 41 48.0**	**+0.4**
GO04				*eS*	**Sn**	**16 42 38.4**	**+0.8**
GO04	**Tololo Observa**	**4.21**	**237**	*eP*	**Pn**	**16 41 47.9**	**+0.2**
CO05	**La Serena**	**4.43**	**242**		**Pn**	**16 41 49.5**	**-0.6**
CO05	**La Serena**	**4.43**	**242**	*eP*	**Pn**	**16 41 49.8**	**-0.3**
RTLS	**Leoncito**	**4.47**	**209**	*eP*	**Pn**	**16 41 52.0**	**+1.1**
RTLS				IAML		16 42 46.3	
	comp=Z,394nm,0.2s						
CO03	**El Pedregal**	**4.52**	**229**		**Pn**	**16 41 51.6**	**+0.2**
CO03	**El Pedregal**	**4.52**	**229**	*eP*	**Pn**	**16 41 51.9**	**+0.5**
PB14	**IPOC Station P**	**4.64**	**314**		**Pn**	**16 41 53.7**	**+0.5**
PB14	**IPOC Station P**	**4.64**	**314**	*eP*	**Pn**	**16 41 53.7**	**+0.5**
CO02	**Combarbal**	**4.96**	**227**		**Pn**	**16 41 56.9**	**-0.3**
CO02	**Combarbal**	**4.96**	**227**	⇑*iP*	**Pn**	**16 41 56.9**	**-0.3**
ASAL	**Salagasta**	**5.01**	**201**	*eP*	**Pn**	**16 41 58.5**	**+0.7**
CO06	**Fray Jorge**	**5.09**	**236**		**Pn**	**16 41 57.5**	**-1.2**
CO06	**Fray Jorge**	**5.09**	**236**	*eP*	**Pn**	**16 41 57.3**	**-1.4**
ARCO	**CERRO ARCO**	**5.27**	**201**	*eP*	**Pn**	**16 42 02.1**	**+0.9**
ARCO				IAML		16 43 04.6	
	comp=Z,148nm,0.5s						
PB15	**IPOC Station P**	**5.29**	**332**		**Pn**	**16 42 02.1**	**+0.6**
PB15	**IPOC Station P**	**5.29**	**332**	*eP*	**Pn**	**16 42 02.2**	**+0.6**
PB15				IAML		16 43 09.9	
	comp=Z,251nm,0.2s						
LVC	**Limon Verde**	**5.63**	**339**		**Pn**	**16 42 06.8**	**+0.6**
LVC	**Limon Verde**	**5.63**	**339**	P	**Pn**	**16 42 07.0**	**+0.8**
	comp=Z,25nm,0.3s,baz=146,slow=11,SNR=58						
LVC				S	**Sn**	**16 43 08.5**	**-2.4**
	comp=Z,90nm,0.5s,baz=257,slow=21,SNR=37						
LVC	**Limon Verde**	**5.63**	**339**	*eP*	**Pn**	**16 42 06.9**	**+0.8**
LVC				*eS*	**Sn**	**16 43 08.2**	**-2.7**
PB06	**IPOC Station P**	**5.78**	**333**		**Pn**	**16 42 08.3**	**+0.3**
VA03	**San Esteban**	**5.86**	**213**		**Pn**	**16 42 09.0**	**+0.2**
VA06	**Catapilco**	**6.09**	**219**	Pn	**Pn**	**16 42 10.3**	**-1.5**
MT16	**CCHEN**	**6.40**	**210**		**Pn**	**16 42 15.2**	**-0.6**
MT05	**Renca**	**6.46**	**211**	Pn	**Pn**	**16 42 17.1**	**+0.4**
PB09	**IPOC Station P**	**6.49**	**339**		**Pn**	**16 42 17.7**	**+0.4**
MT02	**Curacav**	**6.55**	**214**		**Pn**	**16 42 16.6**	**-1.3**
VA01	**Torpederas**	**6.63**	**219**	Pn	**Pn**	**16 42 15.7**	**-3.1**
MT09	**Talagante**	**6.90**	**211**	Pn	**Pn**	**16 42 21.6**	**-1.0**
VA05	**Santo Domingo**	**7.10**	**215**		**Pn**	**16 42 23.1**	**-2.0**
TA01	**Diego Aracena**	**7.95**	**336**		**Pn**	**16 42 34.4**	**-2.0**
PB08	**IPOC Station P**	**8.04**	**344**		**Pn**	**16 42 37.0**	**-0.9**
GO05	**Huala**	**8.36**	**211**	Pn	**Pn**	**16 42 39.0**	**-2.7**
GO01	**Chusmiza**	**8.50**	**344**		**Pn**	**16 42 42.8**	**-1.4**
PB11	**IPOC Station P**	**8.54**	**341**		**Pn**	**16 42 41.8**	**-2.5**
PSAL	**Palomas, Salto**	**8.56**	**114**	*eP*	**Pn**	**16 42 44.2**	**-0.2**
PB12	**IPOC Station P**	**9.82**	**340**	Pn	**Pn**	**16 42 58.3**	**-2.8**
PB16	**IPOC Station P**	**9.86**	**344**		**Pn**	**16 43 02.4**	**+0.3**
TBOT	**Tacuaremb**	**10.11**	**114**	*eP*	**Pn**	**16 43 04.4**	**-0.3**
BI05	**Punta Hualpn**	**10.37**	**210**	Pn	**Pn**	**16 43 05.3**	**-2.6**
RODS	**Rosario do Sul**	**10.38**	**106**	*eP*	**Pn**	**16 43 06.9**	**-1.4**
TRQA	**Tornquist**	**10.88**	**160**		**Pn**	**16 43 14.5**	**-0.2**
BBRB	**Robore, Bolivi**	**11.51**	**35**	*eP*	**Pn**	**16 43 21.7**	**-1.3**
LPAZ	**La Paz**	**11.63**	**353**		**Pn**	**16 43 25.3**	**+0.2**
AMBA	**Amambai (Brazi**	**11.71**	**63**	*eP*	**Pn**	**16 43 27.3**	**+1.6**
PLTB	**Pedras Altas**	**12.03**	**112**		**Pn**	**16 43 28.1**	**-1.6**
BBSD	**Serra de San D**	**12.07**	**29**	*eP*	**Pn**	**16 43 29.8**	**-0.5**
GO06	**Curarrehue**	**12.29**	**197**	Pn	**Pn**	**16 43 30.4**	**-2.6**
AQDB	**Aquidauana**	**12.49**	**56**	P	**P**	**16 43 41.0**	**+0.6**
AQDB	**Aquidauana**	**12.49**	**56**	*eP*	**Pn**	**16 43 35.5**	**-0.1**
SIV	**San Ignacio**	**12.96**	**25**	P	**Pn**	**16 43 41.0**	**-0.7**
	comp=Z,5.4nm,0.7s,baz=209,slow=12,SNR=32						
ITAB	**Concordia**	**12.97**	**90**	P	**P**	**16 43 46.9**	**+1.2**
PLCA	**Paso Flores**	**13.18**	**193**		**Pn**	**16 43 43.6**	**-0.6**
PLCA	**Paso Flores**	**13.18**	**193**	P	**P**	**16 43 46.0**	**-1.9**
	comp=Z,1.2nm,0.4s,baz=12,slow=15,SNR=3.2						
PTGB	**Pitanga**	**13.54**	**80**	*eP*	**P**	**16 43 51.5**	**-0.5**
TRCB	**Terra Rica**	**13.72**	**71**		**Pn**	**16 43 51.1**	**-0.2**
TRCB	**Terra Rica**	**13.72**	**71**	*eP*	**Pn**	**16 43 51.8**	**+0.6**
PTLB	**Pontes e Lacer**	**14.26**	**91**	*eP*	**Pn**	**16 43 58.3**	**+0.4**
LDASE	**Londrina, Braz**	**14.78**	**76**	*eP*	**Pn**	**16 44 04.8**	**+0.5**
PCMB	**Pacaembu**	**15.39**	**69**	*eP*	**P**	**16 44 13.8**	**+1.3**
SALV	**Santo Antonio**	**15.72**	**43**	*eP*	**Pn**	**16 44 15.4**	**-0.5**
LL07	**Hotel Espejo d**	**15.87**	**198**		**Pn**	**16 44 13.6**	**-3.7**
VILB	**Vilhena**	**16.08**	**24**		**P**	**16 44 18.7**	**-1.5**
VILB				IAmb	IAmb	16 44 20.6	
	comp=Z,42nm,0.6s						
VILB	**Vilhena**	**16.08**	**24**	*eP*	**P**	**16 44 19.9**	**-0.3**
FRTB	**Fartura**	**16.14**	**78**	*eP*	**Pn**	**16 44 21.6**	**+0.7**
ITRB	**Iturama**	**17.05**	**65**	*eP*	**Pn**	**16 44 31.9**	**0.0**
ETMB	**Extrema**	**18.00**	**2**	P	**P**	**16 44 39.3**	**-2.0**
ETMB	**Extrema**	**18.00**	**2**	*eP*	**P**	**16 44 41.8**	**+0.5**
ARAG	**Araguaiana, MT**	**18.40**	**52**	*eP*	**P**	**16 44 45.9**	**+0.2**
SAML	**Samuel**	**19.15**	**11**	P	**P**	**16 44 53.5**	**-0.3**
SAML				IAmb	IAmb	16 44 56.0	
	comp=Z,12nm,0.7s						
SAML	**Samuel**	**19.15**	**11**	*eP*	**P**	**16 44 54.0**	**+0.2**
IPMB	**Ipameri, GO**	**19.69**	**64**	*eP*	**P**	**16 44 59.5**	**-0.1**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO08	**Villa O'Higgin**	**21.02**	**191**	*P*	**P**	**16 45 13.8**	**+0.4**
GO08				IAmb	IAmb	16 45 19.2	
	comp=Z,14nm,0.8s						
BDFB	**Brasilia**	**21.21**	**59**	*P*	**P**	**16 45 13.0**	**-2.9**
	comp=Z,2.8nm,0.5s,baz=224,slow=12,SNR=4.4						
	comp=Z,2.8nm,0.5s						
DIAM	**Diamantina, MG**	**23.24**	**71**	*eP*	**P**	**16 45 36.9**	**+1.3**
TEFE	**Tefe**	**24.34**	**5**	*eP*	**P**	**16 45 45.8**	**+0.3**
JANB	**Januaria**	**24.42**	**63**	*eP*	**P**	**16 45 45.3**	**-0.9**
EFI	**East Falkland**	**24.62**	**167**	*P*	**P**	**16 45 46.7**	**-1.0**
EFI				IAmb	IAmb	16 45 51.1	
	comp=Z,28nm,0.8s						
SMTB	**Santa Maria do**	**26.18**	**47**	*eP*	**P**	**16 46 03.1**	**+1.0**
GDU01	**Guandu, BA**	**28.96**	**66**	*eP*	**P**	**16 46 27.6**	**+0.8**
BOAV	**Boa Vista**	**30.71**	**12**	*P*	**P**	**16 46 41.9**	**-0.4**
BOAV				IAmb	IAmb	16 46 44.2	
	comp=Z,10.0nm,0.8s						
BOAV	**Boa Vista**	**30.71**	**12**	*eP*	**P**	**16 46 43.2**	**+1.0**
HOPE	**Hope Point**	**34.37**	**148**	*P*	**P**	**16 47 13.3**	**-0.3**
BAUV	**El Baul**	**36.65**	**358**	*P*	**P**	**16 47 32.9**	**-0.6**
GRGR	**Grenville**	**40.10**	**8**	*P*	**P**	**16 48 01.6**	**-0.7**
FDF	**Fort de France**	**42.73**	**8**	*P*	**P**	**16 48 22.9**	**-0.7**
FDF				IAmb	IAmb	16 48 38.5	
	comp=Z,20nm,0.9s						
MLPR	**Magueyes Islan**	**45.60**	**360**	*P*	**P**	**16 48 44.0**	**-2.4**
MLPR				IAmb	IAmb	16 49 02.1	
	comp=Z,18nm,0.9s						
OBIP	**Obispado Ponce**	**45.68**	**0**	*P*	**P**	**16 48 45.0**	**-2.0**
OBIP				IAmb	IAmb	16 49 02.5	
	comp=Z,18nm,0.9s						
CELP	**Cerrillos**	**45.71**	**0**	*P*	**P**	**16 48 46.2**	**-1.0**
CELP				IAmb	IAmb	16 49 03.7	
	comp=Z,30nm,1.1s						
SNAA	**Sanae**	**55.61**	**160**	*P*	**P**	**16 50 01.8**	**+1.0**
QSPA	**South Pole Qui**	**62.31**	**180**	*P*	**P**	**16 50 49.5**	**+2.4**
QSPA	**South Pole Qui**	**62.31**	**180**	*P*	**P**	**16 50 49.7**	**+2.6**
	comp=Z,4.4nm,0.7s,baz=172,slow=1.4,SNR=33						
QSPA				*pP*	**pP**	**16 51 28.0**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=265,slow=22,SNR=1.6						
	comp=Z,4.4nm,0.7s						
TXAR	**Lajitas Array**	**67.00**	**325**	*P*	**P**	**16 51 19.9**	**+2.1**
	comp=Z,0.6nm,0.7s,baz=143,slow=7.0,SNR=5.3						
	comp=Z,0.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**77.78**	**68**	*P*	**P**	**16 52 21.8**	**0.0**
	comp=Z,1.7nm,0.7s,baz=271,slow=4.8,SNR=9.1						
TORD				*pP*	**pP**	**16 53 03.7**	**-1.4**
	comp=Z,0.7nm,1.0s,baz=236,slow=1.9,SNR=1.5						
	comp=Z,1.7nm,0.7s						
BOSA	**Boshof**	**78.77**	**116**	*P*	**P**	**16 52 27.4**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=230,slow=5.0,SNR=3.2						
	comp=Z,2.4nm,0.8s						
PDAR	**Pinedale Array**	**80.62**	**330**	*P*	**P**	**16 52 38.5**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=129,slow=6.8,SNR=6.7						
	comp=Z,0.5nm,0.6s						
ASAR	**Alice Springs**	**125.00**	**203**	PKP	**PKiKP**	**16 59 24.9**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=130,slow=1.8,SNR=5.9						
ASAR				pPKP	**pPKPdf**	**17 00 09.0**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=127,slow=1.2,SNR=3.0						
WRA	**Warramunga Arr**	**128.25**	**206**	PKP	**PKiKP**	**16 59 31.0**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=157,slow=1.9,SNR=6.3						
WRA				pPKP	**pPKPdf**	**17 00 16.0**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=176,slow=1.9,SNR=3.2						
KURBB	**Kurchatov Arra**	**145.30**	**40**	PKPbc	**PKPab**	**17 00 01.4**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=300,slow=3.6,SNR=17						
ZALV	**Zalesovo Beam**	**146.67**	**31**	PKPbc	**PKPbc**	**17 00 04.3**	**+0.1**
	comp=Z,2.0nm,0.4s,baz=295,slow=3.5,SNR=14						

*SNET **03** 16:47:41.5±1.2, 12°.72N×88°.47W, h22km±5km, ML3.3*
*CATAC **03** 16:47:42.1±0.4, 12°.77N×88°.45W, h26km±3km, ML3.7*
ISC 03 16:47:42.4±1.2, 12°.82N±0°.04×88°.42W±0°.02, h23km±13km, n89, σ1°00/147, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALJI	**Alcalde de J**	**0.52**	**344**	*eP*	Pb	**16 47 46.5**	**-6.5**
ALJI				*eS*	**Sb**	**16 47 56.3**	**-3.8**
LCY	**Lacayo**	**0.61**	**12**	*eP*	**Pn**	**16 47 56.1**	**+0.4**
LCY				*eS*	**Sn**	**16 48 06.0**	**+1.2**
VSM	**San Miguel**	**0.62**	**13**	*eP*	**Pn**	**16 47 56.2**	**+0.2**
RANC	**El Ranchito**	**0.62**	**12**	*iP*	**Pn**	**16 47 56.2**	**+0.3**
RANC				IAML		16 47 56.4	
	comp=Z,3μm,1.0s						
RANC				*i S*	**Sn**	**16 48 07.4**	**+2.2**
BLLM	**Bellamira**	**0.64**	**16**	*eP*	**Pn**	**16 47 56.1**	**0.0**
PACA	**Pacayal**	**0.65**	**8**	*eP*	**Pn**	**16 47 56.4**	**0.0**
PACA	**Pacayal**	**0.65**	**8**	*iP*	**Pn**	**16 47 56.3**	**0.0**
PACA				*i S*	**Sn**	**16 48 08.1**	**+2.2**
PACA				IAML		16 48 15.5	
	comp=Z,12μm,1.0s						
TECA	**Tecapa**	**0.67**	**353**	*eP*	**Pn**	**16 47 56.6**	**0.0**
TECA				*eS*	**Sn**	**16 48 08.0**	**+1.5**
CNRM	**Centro Naciona**	**0.69**	**21**	IAML		16 47 56.4	
	comp=Z,7μm,1.0s						
CNRM				*iP*	**Pb**	**16 47 56.5**	**+0.7**
CNRM				*i S*	**Sn**	**16 48 07.3**	**+0.5**
LCND	**La Caada**	**0.71**	**47**	*eP*	**Pb**	**16 47 56.6**	**+0.5**
LCND	**La Caada**	**0.71**	**47**	*iP*	**Pb**	**16 47 56.6**	**+0.5**
LCND				IAML		16 47 57.3	
	comp=Z,2μm,1.0s						
LCND				*i S*	**Sn**	**16 48 08.7**	**+1.5**
CNCH	**Conchagua**	**0.73**	**52**	*eP*	**Pb**	**16 47 57.0**	**+0.6**
CNCH	**Conchagua**	**0.73**	**52**	*iP*	**Pb**	**16 47 57.1**	**+0.6**
CNCH				IAML		16 47 57.3	
	comp=Z,4μm,1.0s						
CNCH				*i S*	**Sn**	**16 48 09.3**	**+1.5**
TECO	**Alcaldia de Te**	**0.79**	**334**	*eP*	**Pb**	**16 47 58.0**	**+0.4**
TECO	**Alcaldia de Te**	**0.79**	**334**	*iP*	**Pb**	**16 47 57.9**	**+0.4**
TECO				*i S*	**Sn**	**16 48 10.2**	**+0.9**
TECO				IAML		16 48 13.3	
	comp=Z,1μm,1.0s						
PQSS	**Presa 15 de Se**	**0.81**	**350**	*eP*	**Pb**	**16 47 57.7**	**0.0**
PQSS	**Presa 15 de Se**	**0.81**	**350**	*iP*	**Pb**	**16 47 57.8**	**0.0**
PQSS				IAML		16 47 58.1	
	comp=Z,3μm,1.0s						
PQSS				*i S*	**Sn**	**16 48 10.4**	**+0.8**
CSGN	**Cosiguina Volc**	**0.85**	**80**	*iP*	**Pb**	**16 47 58.8**	**+0.2**
CSGN				IAML		16 48 19.6	
	comp=Z,5μm,1.0s						
AMPH	**Amapala**	**0.87**	**58**	*eP*	**Pn**	**16 47 58.3**	**-0.9**
AMPH	**Amapala**	**0.87**	**58**	*iP*	**Pn**	**16 47 58.6**	**-0.6**
AMPH				*i S*	**Sb**	**16 48 11.5**	**+1.3**
SNVI	**San Vicente**	**0.88**	**333**	*eP*	**Pn**	**16 47 59.2**	**-0.4**
SNVI				*eS*	**Sn**	**16 48 12.5**	**+0.7**
UESV	**Universidad de**	**0.88**	**336**	*iP*	**Pn**	**16 47 58.9**	**-0.5**
UESV				*i S*	**Sn**	**16 48 12.4**	**+0.8**
UESV				IAML		16 48 15.2	
	comp=Z,3μm,1.0s						
COEG	**Centro de Oper**	**0.91**	**331**	*eP*	**Pn**	**16 47 59.5**	**-0.4**
COEG				IAML		16 48 21.9	
	comp=Z,1μm,0.3s						
COEG	**Centro de Oper**	**0.91**	**331**	*iP*	**Pn**	**16 47 59.6**	**-0.2**
COEG				*i S*	**Sn**	**16 48 12.9**	**+0.6**
COEG				IAML		16 48 21.6	
	comp=Z,1μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.92**	**341**	*eP*	**Pn**	**16 47 59.3**	**-0.8**
SCLA				IAML		16 48 21.5	
	comp=Z,228nm,0.5s						
SCLA	**Alcaldia de Sa**	**0.92**	**341**	*iP*	**Pn**	**16 47 59.2**	**-0.8**
SCLA				*i S*	**Sn**	**16 48 13.3**	**+0.7**
SCLA				IAML		16 48 18.2	
	comp=Z,600nm,1.0s						
SJTE	**Alcalde de S**	**0.97**	**324**	*eP*	**Pn**	**16 48 00.3**	**-0.3**
SJTE	**Alcalde de S**	**0.97**	**324**	*iP*	**Pn**	**16 47 59.8**	**-0.9**
SJTE				*i S*	**Sn**	**16 48 14.4**	**+0.6**
SJTE				IAML		16 48 17.7	
	comp=Z,1μm,1.0s						
LFRS	**El Faro**	**1.01**	**322**	*eP*	**Pn**	**16 48 01.1**	**-0.1**
LFRS				*eS*	**Sn**	**16 48 15.9**	**+1.1**
PAVA	**Las Pavas**	**1.02**	**330**	*eP*	**Pn**	**16 48 00.5**	**-0.9**
PAVA				IAML		16 48 22.6	
	comp=Z,889nm,0.4s						
PAVA	**Las Pavas**	**1.02**	**330**	*iP*	**Pn**	**16 48 00.5**	**-0.9**
PAVA				*i S*	**Sb**	**16 48 15.2**	**+0.8**
PAVA				IAML		16 48 22.1	
	comp=Z,2μm,1.0s						
PANCS	**Alcalda de**	**1.08**	**317**	*iP*	**Pn**	**16 48 01.7**	**-0.4**
PANCS				*i S*	**Sb**	**16 48 16.9**	**+0.8**
PANCS				IAML		16 48 20.1	
	comp=Z,2μm,1.0s						
LOMA	**Loma Larga**	**1.09**	**318**	*eP*	**Pn**	**16 48 02.2**	**-0.2**
LOMA	**Loma Larga**	**1.09**	**318**	*iP*	**Pn**	**16 48 02.4**	**0.0**
LOMA				*i S*	**Sb**	**16 48 17.7**	**+1.0**
LOMA				IAML		16 48 20.4	
	comp=Z,2μm,1.0s						
LALI	**Alcalda de L**	**1.10**	**307**	*eP*	**Pb**	**16 48 02.4**	**-0.3**
LALI	**Alcalda de L**	**1.10**	**307**	*iP*	**Pb**	**16 48 02.6**	**-0.1**
LALI				*i S*	**Sb**	**16 48 18.1**	**+1.5**
LALI				IAML		16 48 21.4	
	comp=Z,400nm,1.0s						
UDBS	**Universidad Do**	**1.14**	**321**	*iP*	**Pb**	**16 48 03.4**	**-0.1**
UDBS				*i S*	**Sb**	**16 48 18.6**	**+0.7**
UDBS				IAML		16 48 21.7	
	comp=Z,1μm,1.0s						
UTEC	**Universidad Te**	**1.16**	**319**	*iP*	**Pn**	**16 48 02.8**	**-0.4**
UTEC				*i S*	**Sb**	**16 48 19.1**	**+0.7**
UTEC				IAML		16 48 24.6	
	comp=Z,1μm,1.0s						
SNET	**Serv Nac Est T**	**1.17**	**318**	*eP*	**Pn**	**16 48 03.3**	**0.0**
SNET				IAML		16 48 21.9	
	comp=Z,1μm,0.3s						
SNET	**Serv Nac Est T**	**1.17**	**318**	*iP*	**Pn**	**16 48 03.1**	**-0.3**
SNET				*i S*	**Sb**	**16 48 19.2**	**+0.5**
SNET				IAML		16 48 21.7	
	comp=Z,3μm,1.0s						
SEMO	**Seminario San**	**1.17**	**318**	*iP*	**Pn**	**16 48 02.9**	**-0.6**
SEMO				*i S*	**Sb**	**16 48 19.3**	**+0.4**
SEMO				IAML		16 48 21.9	
	comp=Z,4μm,1.0s						
UEES	**Universidad Ev**	**1.19**	**318**	*iP*	**Pn**	**16 48 03.1**	**-0.6**
UEES				*i S*	**Sb**	**16 48 19.9**	**+0.5**
UEES				IAML		16 48 28.0	
	comp=Z,900nm,1.0s						
PIC2	**El Picacho**	**1.23**	**318**	*eP*	**Pn**	**16 48 04.4**	**+0.1**
BOQS	**Boqueron**	**1.23**	**317**	*eP*	**Pb**	**16 48 04.8**	**-0.4**
BOQS				*eS*	**Sb**	**16 48 23.1**	**+2.3**
PMON	**Piamonte**	**1.24**	**316**	*iP*	**Pn**	**16 48 04.3**	**-0.1**
PMON				*i S*	**Sb**	**16 48 21.3**	**+0.5**
PMON				IAML		16 48 25.9	
	comp=Z,3μm,1.0s						
JAYA	**Jayaque - finc**	**1.30**	**310**	*eP*	**Pn**	**16 48 04.9**	**-0.3**
JAYA	**Jayaque - finc**	**1.30**	**310**	*iP*	**Pn**	**16 48 05.2**	**0.0**
JAYA				*i S*	**Sn**	**16 48 22.0**	**0.0**
JAYA				IAML		16 48 24.3	
	comp=Z,6μm,1.0s						
QUEZ	**Alcaldia de Qu**	**1.30**	**321**	*iP*	**Pn**	**16 48 04.9**	**-0.3**
QUEZ				*i S*	**Sb**	**16 48 22.7**	**+0.1**
QUEZ				IAML		16 48 30.0	
	comp=Z,3μm,1.0s						
CRIN	**San Cristobal**	**1.34**	**95**	*iP*	**Pn**	**16 48 06.2**	**+0.4**
CRIN				*i S*	**Sb**	**16 48 25.1**	**+1.3**
CRIN				IAML		16 48 30.4	
	comp=Z,2μm,1.0s						
CEDA

MATN	**Matagalpa**	**2.44**	**87**	*i* P	**Pn**	**16 48 19.3**	**-1.5**
MATN				*i* S	**Sn**	**16 48 48.5**	**-1.5**
MATN				IAML		16 48 58.4	
	comp=Z,33nm,1.0s						
NADN	**Granada**	**2.57**	**114**	*i* S	**Sn**	**16 48 53.7**	**+0.6**
GUNB	**GUNB**	**2.57**	**314**	*i* P	**Pn**	**16 48 21.4**	**-1.5**
GUNB				IAML		16 49 07.1	
	comp=Z,140nm,1.0s						
BOAB	**BOACO BROADBAN**	**2.71**	**98**	*i* P	**Pn**	**16 48 22.8**	**-1.8**
BOAB				IAML		16 48 37.8	
	comp=Z,44nm,1.0s						
BOAB				*i* S	**Sn**	**16 48 58.4**	**+1.7**
ORTG	**Ortega, Santa**	**3.79**	**130**	*i* P	**Pn**	**16 48 40.4**	**+0.9**
ORTG				*i* S	**Sn**	**16 49 23.2**	**-0.3**
ORTG				IAML		16 49 35.9	
	comp=Z,43nm,1.0s						

*SOME **03** 16:56:40.0, 40.95N×83.35E, h10km*
*NNC **03** 16:56:43.1±1.5, 41.09N×83.34E, h1km±7km, mb3.8, mpv3.6, Error ellipse: s-maj=10.2km s-min=7.2km az=158.0*

ISC 03 16:56:43.9±2.2, 41.15N±0.10×83.29E±0.07, h10km, n42, σ2.971/57, 15C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**3.17**	**318**	*eP*	**Pb**	**16 57 42.0**	**+1.7**
	21nm,0.1s						
KTMS				*eS*	**Sg**	**16 58 26.3**	**+0.8**
	27nm,0.2s						
KTMS	**Ketmen**	**3.17**	**318**	Pg	**Pb**	**16 57 41.0**	**+0.7**
	21nm,0.1s						
KTMS				Lg	Lg	16 58 26.3	
	27nm,0.2s						
SHLS	**Shalkode**	**3.48**	**307**	*eP*	**Pb**	**16 57 43.1**	**-2.5**
	12nm,0.1s						
SHLS				*eS*	**Sb**	**16 58 28.9**	**+0.8**
	138nm,0.3s						
SHLS	**Shalkode**	**3.48**	**307**	Pg	**Pb**	**16 57 43.1**	**-2.5**
	12nm,0.1s						
SHLS				Lg	Lg	16 58 28.8	
	138nm,0.3s						
PDGK	**Podgornoye**	**3.57**	**309**	Pg	**Pb**	**16 57 47.1**	**0.0**
	3.4nm,0.4s						
PDGK				Lg	Lg	16 58 35.3	
	26nm,0.5s						
PDGK	**Podgornoye**	**3.57**	**309**	⇑Pn	**Pn**	**16 57 41.0**	**+1.6**
	3.3nm,0.4s						
PDGK				⇓Pg	**Pg**	**16 57 50.3**	**-1.8**
	8.8nm,0.5s						
PDGK				⇑Lg	Lg	16 58 37.4	
	53nm,0.7s						
UZB	**Uzynbulak**	**3.75**	**304**	*eP*	**Pb**	**16 57 52.3**	**+2.0**
	4.7nm,0.2s						
UZB				*eS*	**Sg**	**16 58 44.1**	**-0.2**
	61nm,0.3s						
UZB	**Uzynbulak**	**3.75**	**304**	Pg	**Pb**	**16 57 52.3**	**+2.0**
	4.7nm,0.2s						
UZB				Lg	Lg	16 58 44.1	
	61nm,0.3s						
DJR	**Jarkent**	**4.10**	**322**	*eP*	**Pg**	**16 58 00.5**	**-1.8**
	13nm,0.3s						
DJR				*eS*	**Sg**	**16 58 58.2**	**+2.8**
	20nm,0.5s						
DJR	**Jarkent**	**4.10**	**322**	Pg	**Pg**	**16 58 00.5**	**-1.8**
	13nm,0.3s						
DJR				Lg	Lg	16 58 58.2	
	20nm,0.5s						
SATY	**Saty**	**4.11**	**299**	*eP*	**Pb**	**16 57 59.3**	**+3.0**
	3.9nm,0.2s						
SATY				*eS*	**Sg**	**16 58 56.4**	**+0.7**
	52nm,0.3s						
SATY	**Saty**	**4.11**	**299**	Pg	**Pb**	**16 57 59.3**	**+3.0**
	3.9nm,0.2s						
SATY				Lg	Lg	16 58 56.4	
	52nm,0.3s						
KNOS	**Konyrlen**	**4.41**	**318**	Pg	**Pg**	**16 58 05.6**	**-2.8**
	12nm,0.3s						
KNOS				Lg	Lg	16 59 07.3	
	27nm,0.8s						
KURS	**Kuram**	**4.46**	**303**	*eP*	**Pb**	**16 58 05.1**	**+2.8**
	3.7nm,0.5s						
KURS				*eS*	**Sg**	**16 59 05.8**	**-1.2**
	21nm,0.8s						
KAPS	**Kapalarasan**	**5.04**	**327**	*eP*	**Pb**	**16 58 16.1**	**+4.0**
	5.4nm,0.5s						
KAPS				*eS*	**Sg**	**16 59 24.6**	**-0.9**
	7.6nm,0.5s						
KOTS	**Kotyrbulak**	**5.04**	**296**	*eP*	**Pb**	**16 58 14.6**	**+2.4**
	4.6nm,0.3s						
KOTS				*eS*	**Sg**	**16 59 22.5**	**-3.2**
	28nm,0.4s						
KOTS	**Kotyrbulak**	**5.04**	**296**	Pg	**Pb**	**16 58 14.6**	**+2.4**
	4.6nm,0.3s						
KOTS				Lg	Lg	16 59 22.5	
	28nm,0.4s						
MDOK	**Medeo**	**5.06**	**296**	*eP*	**Pb**	**16 58 16.0**	**+3.4**
	1.5nm,0.2s						
MDOK				*eS*	**Sg**	**16 59 25.0**	**-1.2**
	14nm,0.5s						
MDOK	**Medeo**	**5.06**	**296**	Pn	**Pn**	**16 58 00.5**	**+0.6**
	1.0nm,0.4s						
MDOK				⇓Pg	**Pb**	**16 58 16.6**	**+4.1**
	4.3nm,0.6s						
MDOK				⇑Lg	Lg	16 59 25.0	
	37nm,0.8s						
ARXS	**Arharly**	**5.06**	**309**	*eP*	**Pb**	**16 58 15.6**	**+3.1**
	2.8nm,0.4s						
ARXS				*eS*	**Sg**	**16 59 24.2**	**-2.0**
	16nm,0.3s						
ARXS	**Arharly**	**5.06**	**309**	Pg	**Pb**	**16 58 15.6**	**+3.1**
	2.8nm,0.4s						
ARXS				Lg	Lg	16 59 24.2	
	16nm,0.3s						
TNSS	**Tian-Shan**	**5.08**	**294**	*eP*	**Pg**	**16 58 17.8**	**-3.5**
	1.4nm,0.2s						
TNSS				*eS*	**Sg**	**16 59 28.3**	**+1.2**
	13nm,0.5s						
TNSS	**Tian-Shan**	**5.08**	**294**	Pg	**Pg**	**16 58 17.8**	**-3.5**
	1.4nm,0.2s						
TNSS				Lg	Lg	16 59 28.3	
	13nm,0.5s						
MTBS	**Maitube**	**5.47**	**294**	*eP*	**Pb**	**16 58 23.2**	**+3.7**
	1.1nm,0.2s						
MTBS				*eS*	**Sg**	**16 59 37.4**	**-2.1**
	13nm,0.5s						
KTBS	**Karatobe**	**5.52**	**300**	*eP*	**Pg**	**16 58 25.3**	**-4.2**
	1.6nm,0.6s						
KTBS				*eS*	**Sg**	**16 59 41.3**	**+0.3**
	27nm,1.0s						
KTBS	**Karatobe**	**5.52**	**300**	Pg	**Pg**	**16 58 25.3**	**-4.2**
	1.6nm,0.6s						
KTBS				Lg	Lg	16 59 41.3	
	27nm,1.0s						
MK31	**Makanchi Array**	**5.69**	**353**	⇑Pn	**Pn**	**16 58 09.0**	**+0.5**
	0.1nm,0.2s,baz=170,slow=12,SNR=13						
MK31				⇑Pg	**Pb**	**16 58 26.3**	**+3.0**
	2.4nm,0.6s,baz=174,slow=15,SNR=9.6						
MK31				⇑Lg	Lg	16 59 45.3	
	7.5nm,0.6s,baz=162,slow=27,SNR=3.7						
MAKZ	**Makanchi**	**5.74**	**351**	⇑Pn	**Pn**	**16 58 09.8**	**+0.7**
	1.4nm,0.8s						
MAKZ				⇑Pg	**Pb**	**16 58 27.7**	**+3.7**
	2.1nm,0.6s						
MAKZ				⇑Lg	Lg	16 59 48.3	
	11nm,1.1s						
KST	**Kastek**	**5.77**	**292**	*eP*	**Pg**	**16 58 30.6**	**-3.8**
	2.7nm,0.1s						
KST				*eS*	**Sg**	**16 59 49.7**	**+0.6**
	27nm,0.6s						
KUU	**Kurty**	**5.82**	**300**	*eP*	Pb	16 58 30.5	+5.1
	2.6nm,0.2s						
KUU				*eS*	**Sg**	**16 59 49.8**	**-1.0**
	11nm,0.3s						
KUU	**Kurty**	**5.82**	**300**	Pg	Pb	16 58 30.5	+5.1
	2.6nm,0.2s						
KUU				Lg	Lg	16 59 49.8	
	11nm,0.3s						
DGS	**Degeres**	**5.96**	**293**	*eP*	**Pb**	**16 58 32.6**	**+4.6**
	1.8nm,0.3s						
DGS				*eS*	**Sg**	**16 59 53.9**	**-1.4**
	12nm,0.4s						
DGS	**Degeres**	**5.96**	**293**	Pg	**Pb**	**16 58 32.6**	**+4.6**
	1.8nm,0.3s						
DGS				Lg	Lg	16 59 53.9	
	12nm,0.4s						

TKM2	**Tokmak 2**	**6.00**	**290**	⇑Pn	**Pn**	**16 58 14.0**	**+1.2**
	2.3nm,1.0s						
TKM2				⇑Pg	**Pg**	**16 58 34.9**	**-3.8**
	4.5nm,0.9s						
TKM2				⇑Lg	Lg	16 59 56.8	
	23nm,1.0s						
ZSN	**Zaisan**	**6.40**	**10**	*eP*	**Pg**	**16 58 41.8**	**-4.6**
	2.2nm,0.4s						
ZSN				*eS*	**Sg**	**17 00 09.6**	**+0.2**
	19nm,0.7s						
ZSN	**Zaisan**	**6.40**	**10**	Pg	**Pg**	**16 58 41.8**	**-4.6**
	2.2nm,0.4s						
ZSN				Lg	Lg	17 00 09.6	
	19nm,0.7s						
CHMS	**Chumysh**	**6.62**	**289**	⇑Lg	Lg	17 00 15.9	
	9.1nm,0.8s						
MRKS	**Merke**	**7.67**	**285**	*eP*	Pg	16 59 04.9	-5.8
	1.1nm,0.3s						
MRKS				*eS*	**Sg**	**17 00 49.0**	**-0.9**
	2.4nm,0.5s						
MRKS	**Merke**	**7.67**	**285**	Pg	Pg	16 59 04.9	-5.8
	1.1nm,0.3s						
MRKS				Lg	Lg	17 00 49.0	
	2.4nm,0.5s						
KK31	**Karatay Array**	**9.69**	**286**	⇑Lg	Lg	17 01 52.3	
	1.3nm,0.7s,baz=91,slow=24,SNR=4.3						
KURBB	**Kurchatov Arra**	**10.04**	**342**	⇓Lg	Lg	17 02 03.3	
	8.7nm,0.9s						
KURK	**Kurchatov**	**10.11**	**343**	⇑Lg	Lg	17 02 05.4	
	7.7nm,1.3s						

IDC 03 16:58:22.4±11.0, 31.22S×179.10W, h230km±117km, mb2.9/2, mbtmp3.6/3, Error ellipse: s-maj=107.7km s-min=43.5km az=2.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.68**	**203**	P	Pn	17 00 11.9	+0.5
	9.7nm,0.9s,baz=81,slow=4.2,SNR=1.7						
URZ				S	S	17 01 38.7	-0.2
	5.7nm,0.4s,baz=307,slow=21,SNR=14						
ASAR	**Alice Springs**	**42.13**	**268**	P	P	17 05 52.8	+0.2
	0.1nm,0.4s,baz=105,slow=7.4,SNR=8.6						
	0.1nm,0.4s						
WRA	**Warramunga Arr**	**43.20**	**274**	P	P	17 06 00.7	-0.4
	0.3nm,0.3s,baz=111,slow=8.1,SNR=20						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**145.58**	**339**	PKPbc	PKPdf	17 17 32.2	-0.2
	1.8nm,0.7s,baz=60,slow=3.4,SNR=7.9						

JMA 03 16:59:58.2±0.1, 24.2N±0.3×123.8E±0.3, h13km±1km, MV1.2/9, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.13**	**315**	P	Pg	17 00 01.6	0.0
IRIF				S	Sg	17 00 04.5	+0.4
JKRS	**Kuro-shima**	**0.16**	**91**	P	Pg	17 00 02.2	+0.2
JKRS				S	Sg	17 00 04.9	+0.2
HATJ	**Hateruma jima**	**0.18**	**188**	P	Pg	17 00 02.2	-0.2
HATJ				S	Sg	17 00 05.5	+0.3
JIJ	**Ishigaki jima**	**0.31**	**67**	P	Pg	17 00 04.4	-0.2
JIJ				S	Sg	17 00 08.9	0.0
JISG	**Ishigakijimahi**	**0.56**	**52**	P	Pg	17 00 09.1	0.0
JISG				S	Sg	17 00 17.0	+0.5
YOJ	**Yonaguni jima**	**0.78**	**287**	*eS*	Sg	17 00 22.8	-0.8
JTJ	**Tarama**	**0.89**	**63**	P	Pg	17 00 15.3	0.0
JTJ				*eS*	Sb	17 00 27.2	0.0

TAP 03 16:59:59.6, 24.66N×122.46E, h76km, ML2.1, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.54**	**111**	P	Pn	17 00 13.6	+0.2
	baz=116						
YOJ				S	Sn	17 00 23.8	+0.3
	baz=116						
YOJ	**Yonaguni jima**	**0.54**	**111**	P	Pn	17 00 13.4	+0.1
EOS4	**EOS4**	**0.55**	**193**	*eP*	Pn	17 00 13.1	+0.1
	baz=198						
TIPB	**Shuangxi**	**0.65**	**299**	*eP*	Pn	17 00 14.7	+0.2
	baz=296						
LATG	**Datong**	**0.85**	**262**	*eP*	Pn	17 00 17.8	+1.0
	baz=254						
NDT	**Datong Townshi**	**0.86**	**266**	*eP*	Pn	17 00 18.3	+1.5
	baz=262						
ESL	**Shilin**	**1.26**	**228**	*eP*	Pn	17 00 21.1	-0.5
	baz=221						
CHGB	**Renai**	**1.31**	**243**	P	Pn	17 00 22.9	+0.4
	baz=236						
WUSB	**Renai**	**1.39**	**242**	*eP*	Pn	17 00 23.9	+0.4
	baz=235						

DJA 03 17:01:12.6±0.5, 3.7N±5.7×12.7E±*, h57km±29km, M3.9/10, mb4.1/6, mB4.9/1, MLv3.7/10, Mw(mB)4.2/1, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.86**	**299**	P	Pn	17 01 42.4	+0.2
SGSI				S	Sn	17 02 05.1	+0.4
TNTI	**Ternate**	**2.01**	**174**	P	Pn	17 01 44.5	+0.2
TNTI				S	Sn	17 02 08.5	+0.2
KMSI	**Cibinong**	**3.87**	**235**	P	Pn	17 02 09.7	0.0
GTOI	**Gorontalo**	**4.68**	**243**	P	Pn	17 02 21.6	+0.9
SANI	**Sanana**	**4.95**	**194**	P	Pn	17 02 24.7	+0.2
MRSI	**Marisa**	**5.71**	**246**	P	Pn	17 02 36.7	+1.8
LUWI	**Luwuk**	**5.82**	**229**	P	Pn	17 02 36.4	+0.1
	39nm,0.8s,984nm0.1nm						
FAKI	**Fak Fak**	**7.61**	**138**	P	Pn	17 03 01.2	+0.2

*IDC **03** 17:05:14.6±1.0, 48.84N×153.32E, h0km, mb3.4/7, mbtmp3.4/8, ML1.5/1, Error ellipse: s-maj=33.5km s-min=23.5km az=136.0*

ISC 03 17:05:19.9±1.0, 48.9N±0.2×153.3E±0.2, h35km, n14, σ0.942/8, mb3.3/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**5.07**	**32**	Pn	**Pn**	**17 06 33.6**	**+0.2**
	0.1nm,0.3s,baz=194,slow=10.0,SNR=1.7						
	2.4nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**31.07**	**155**	T	T	17 43 48.5	
	baz=342,slow=74						
H11N1	**WAKE ISLAND Hy**	**31.09**	**155**	T	T	17 43 49.4	
	baz=342						
H11N3	**WAKE ISLAND Hy**	**31.09**	**155**	T	T	17 43 49.0	
	baz=342,slow=74						
H11S1	**WAKE ISLAND Hy**	**32.18**	**156**	T	T	17 45 09.4	
	baz=343,slow=76,SNR=51						
H11S3	**WAKE ISLAND Hy**	**32.19**	**156**	T	T	17 45 10.1	
	baz=343,slow=76,SNR=96						
H11S2	**WAKE ISLAND Hy**	**32.20**	**156**	T	T	17 45 10.7	
	baz=343,slow=76,SNR=44						
MKAR	**Makanchi Array**	**46.10**	**296**	P	**P**	**17 13 40.4**	**+0.1**
	0.3nm,0.7s,baz=66,slow=6.9,SNR=4.3						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**46.40**	**302**	P	**P**	**17 13 42.5**	**-0.2**
	0.5nm,0.3s,baz=66,slow=8.6,SNR=2.5						
	0.5nm,0.3s						
YKA	**Yellowknife Ar**	**49.16**	**38**	P	**P**	**17 14 03.7**	**-0.1**
	0.2nm,0.9s,baz=301,slow=7.8,SNR=2.1						
	0.2nm,0.9s						
PDAR	**Pinedale Array**	**63.41**	**55**	P	**P**	**17 15 45.7**	**-0.3**
	0.2nm,0.6s,baz=348,slow=4.0,SNR=2.5						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**70.56**	**199**	P	**P**	**17 16 30.8**	**-0.5**
	0.4nm,0.7s,baz=16,slow=6.2,SNR=3.1						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**74.26**	**198**	P	**P**	**17 16 54.0**	**+0.7**
	0.3nm,0.9s,baz=14,slow=6.0,SNR=4.5						
	0.3nm,0.9s						
TXAR	**Lajitas Array**	**76.35**	**61**	P	**P**	**17 17 05.6**	**+0.1**
	0.2nm,0.6s,baz=323,slow=3.9,SNR=3.9						
	0.2nm,0.6s						

TAP 03 17:06:22.4, 24.24N×121.79E, h15km, ML1.2, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETL	**Fush Village**	**0.17**	**242**	*i* P	Pg	17 06 26.3	-0.4
	baz=241						
ETL				*i* S	Sg	17 06 30.0	+0.4
	baz=241						
ENA	**Nanau**	**0.19**	**346**	*i* S	Sg	17 06 30.1	+0.1
	baz=348						
NACB	**Ninganchiao**	**0.19**	**250**	*i* P	Pg	17 06 26.4	-0.5
	baz=249						
NACB				*i* S	Sg	17 06 30.1	+0.1
	baz=249						
EWUT	**Wuta**	**0.20**	**356**	*i* P	Pg	17 06 27.0	-0.1
	baz=356						
EWUT				*i* S	Sg	17 06 30.4	+0.1
	baz=356						
TWD	**Chiawan**	**0.24**	**228**	P	Pg	17 06 27.5	-0.1
	baz=226						
TWD				*i* S	Sg	17 06 31.6	+0.3
	baz=226						
ETLH	**Xiulin Townshi**	**0.28**	**263**	*i* P	Pg	17 06 27.9	-0.6
	baz=263						
ETLH				*i* S	Sg	17 06 32.4	-0.3
	baz=263						
LATG	**Datong**	**0.38**	**320**	*i* P	Pg	17 06 29.9	-0.3
	baz=320						
LATG				*i* S	Sg	17 06 35.5	-0.1
	baz=320						
LXIB	**Xiulin Townshi**	**0.41**	**238**	*i* S	Sg	17 06 35.4	-1.0
	baz=237						
NNSB	**Datong**	**0.42**	**297**	*i* P	Pg	17 06 30.5	-0.3
	baz=296						
NNSB				*i* S	Sg	17 06 36.8	+0.1
	baz=296						
NNS	**Nan Shan**	**0.43**	**297**	*i* P	Pg	17 06 30.6	-0.5
	baz=297						
NNS				*i* S	Sg	17 06 37.2	+0.2
	baz=297						
NDT	**Datong Townshi**	**0.44**	**325**	*eP*	Pb	17 06 32.9	+1.1
	baz=324						
NDT				*i* S	Sg	17 06 37.6	+0.4
	baz=324						
ENTT	**Nioudou**	**0.45**	**333**	*i* P	Pg	17 06 31.1	-0.3
	baz=333						
ENTT				*i* S	Sg	17 06 37.8	+0.3
	baz=333						
WHF	**Hehuan Shan**	**0.49**	**259**	*eS*	Sg	17 06 38.7	-0.3
	baz=258						
SHUL	**Shoufeng**	**0.50**	**205**	*i* S	Sb	17 06 40.9	+1.0
	baz=204						
FUSB	**Fushanzhiwuyua**	**0.55**	**340**	*i* S	Sg	17 06 40.6	-0.1
	baz=340						
YHNB	**Yeheng**	**0.57**	**318**	*i* S	Sg	17 06 41.0	-0.4
	baz=318						
NSK	**Sanguang**	**0.59**	**318**	*i* S	Sg	17 06 41.5	-0.4
	baz=317						
CHGB	**Renai**	**0.59**	**252**	*i* P	Pb	17 06 35.2	+0.7
	baz=252						
CHGB				*i* S	Sg	17 06 41.9	-0.2
	baz=252						
NWLT	**Wulai**	**0.59**	**334**	*i* S	Sg	17 06 40.4	-1.7
	baz=333						
WARBT	**Fenglin Townsh**	**0.64**	**216**	P	Pg	17 06 32.0	-3.0
	baz=215						
WARBT				S	Sg	17 06 43.2	-0.2
	baz=215						
WUSB	**Renai**	**0.66**	**248**	*eP*	Pb	17 06 35.9	+0.2
	baz=248						
WUSB				*i* S	Sg	17 06 44.0	-0.3
	baz=248						
NFF	**Wufeng Townshi**	**0.73**	**302**	S	Sg	17 06 45.9	-0.4
	baz=302						
TIPB	**Shuangxi**	**0.73**	**2**	S	Sg	17 06 45.9	-0.4
	baz=2.0						
WHP	**Taichung City**	**0.77**	**273**	*eS*	Sg	17 06 47.7	0.0
	baz=272						
WFSB	**Wu-fen Shan**	**0.83**	**359**	*eS*	Sb	17 06 49.0	-0.3
	baz=359						

JMA 03 17:07:13.5±0.2, 24.2N±0.4×123.8E±0.4, h19km±1km, MV1.2/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.11**	**322**	P	Pg	17 07 17.4	-0.1
IRIF				*eS*	Sg	17 07 20.1	+0.1
JKRS	**Kuro-shima**	**0.18**	**92**	P	Pg	17 07 18.1	-0.2
JKRS				*eS*	Sg	17 07 21.5	-0.1
HATJ	**Hateruma jima**	**0.19**	**181**	P	Pg	17 07 18.1	-0.2
JIJ	**Ishigaki jima**	**0.33**	**69**	*eP*	Pg	17 07 20.6	0.0
JIJ				*eS*	Sg	17 07 25.1	-0.3
JISG	**Ishigakijimahi**	**0.57**	**53**	P	Pb	17 07 24.2	-0.6

TAP 03 17:14:36.0, 24.27N×121.76E, h13km, ML1.2, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EAHA	**Aohua**	**0.06**	**342**	*i* P	Pg	17 14 39.4	+0.8
	baz=341						
EAHA				*i* S	Sg	17 14 41.1	+0.7
	baz=341						
ENA	**Nanau**	**0.16**	**353**	*i* P	Pb	17 14 40.9	0.0
	baz=355						
ENA				*i* S	Sb	17 14 43.5	-0.7
	baz=355						
ETL	**Fush Village**	**0.17**	**229**	*i* P	Pb	17 14 40.7	-0.3
	baz=229						
ETL				*i* S	Sg	17 14 43.4	+0.8
	baz=229						
EWUT	**Wuta**	**0.18**	**5**	*i* P	Pb	17 14 41.2	0.0
	baz=4.0						
EWUT				*i* S	Sb	17 14 43.9	-0.7
	baz=4.0						
NACB	**Ninganchiao**	**0.18**	**238**	*i* P	Pb	17 14 40.8	-0.4
	baz=238						
NACB				*i* S	Sg	17 14 43.6	+0.7
	baz=238						
TWD	**Chiawan**	**0.24**	**219**	*i* P	Pb	17 14 41.8	-0.5
	baz=217						
TWD				*i* S	Sg	17 14 44.9	+0.4
	baz=217						
ETLH	**Xiulin Townshi**	**0.26**	**257**	*i* P	Pg	17 14 41.6	0.0
	baz=256						
ETLH				*i* S	Sg	17 14 46.2	+0.8
	baz=256						
ESAO	**Su ao**	**0.32**	**14**	P	Pb	17 14 43.5	0.0
	baz=13						
ESAO				*i* S	Sg	17 14 47.4	+0.6
	baz=13						
HWA	**Hwalien**	**0.32**	**206**	*i* S	Sb	17 14 49.9	+1.2
	baz=204						
LATG	**Datong**	**0.34**	**321**	*i* P	Pb	17 14 44.3	+0.2
	baz=321						
LATG				*i* S	Sb	17 14 49.2	-0.3
	baz=321						
NDS	**Dongshan**	**0.37**	**354**	*i* S	Sb	17 14 50.0	-0.1
	baz=353						
NNSB	**Datong**	**0.38**	**295**	*i* P	Pb	17 14 44.8	+0.1
	baz=294						
NNSB				*i* S	Sb	17 14 50.0	-0.5
	baz=294						
NNS	**Nan Shan**	**0.39**	**296**	*i* P	Pb	17 14 45.2	+0.2
	baz=295						
NNS				*i* S	Sb	17 14 50.6	-0.4
	baz=295						
LXIB	**Xiulin Townshi**	**0.40**	**232**	*i* S	Sb	17 14 50.9	-0.3
	baz=232						
NDT	**Datong Townshi**	**0.40**	**326**	*i* P	Pb	17 14 45.6	+0.6
	baz=325						
NDT				*i* S	Sb	17 14 51.4	+0.2
	baz=325						
ENTT	**Nioudou**	**0.41**	**334**	*i* P	Pb	17 14 45.7	+0.5
	baz=335						
ENTT				*i* S	Sb	17 14 51.5	+0.1
	baz=335						
EOS2	**EOS2**	**0.46**	**71**	*i* S	Sg	17 14 50.7	-0.3
	baz=70						
WHF	**Hehuan Shan**	**0.47**	**255**	P	Pn	17 14 47.8	-1.0
	baz=254						
WHF				*i* S	Sb	17 14 52.9	-0.5
	baz=254						
FUSB	**Fushanzhiwuyua**	**0.51**	**342**	*i* S	Sb	17 14 53.9	-0.6
	baz=342						
YHNB	**Yeheng**	**0.53**	**319**	*i* P	Pb	17 14 48.0	+0.7
	baz=318						
YHNB				*i* S	Sb	17 14 54.9	0.0
	baz=318						

NSK	**Sanguang**	**0.55**	**318**	*e*P		Pn	17 14 50.2	+0.5
	baz=318								
NSK				*i* S		Sb	17 14 55.7	+0.3
	baz=318								
NWLT	**Wulai**	**0.56**	**335**	*i* P		Pb	17 14 48.5	+0.8
	baz=335								
NWLT				*i* S		Sb	17 14 55.5	-0.1
	baz=335								
CHGB	**Renai**	**0.57**	**249**	S		Sb	17 14 57.3	+1.0
	baz=248								
WARBT	**Fenglin Townsh**	**0.65**	**212**	*e*S		Sb	17 14 58.7	+0.6
	baz=212								
WUSB	**Renai**	**0.65**	**245**	*i* S		Sb	17 14 59.0	+0.7
	baz=244								
TIPB	**Shuangxi**	**0.70**	**5**	*i* P		Pg	17 14 49.2	-0.5
	baz=4.0								
TIPB				*i* S		Sg	17 14 59.3	+0.3
	baz=4.0								
WHP	**Taichung City**	**0.74**	**271**	S		Sn	17 15 02.4	-1.2
	baz=270								

JMA 03 17:15:04.0±0.1, 24°3N±0°2×123°8E±0°2, h18km±1km, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.11**	**315**	P	Pg	17 15 07.8	0.0
IRIF				S	Sg	17 15 10.3	0.0
JKRS	**Kuro-shima**	**0.18**	**96**	P	Pg	17 15 08.6	0.0
JKRS				S	Sg	17 15 11.8	0.0
HATJ	**Hateruma jima**	**0.20**	**182**	P	Pb	17 15 08.8	0.0
HATJ				S	Sg	17 15 12.1	-0.1
JIJ	**Ishigaki jima**	**0.32**	**70**	S	Sg	17 15 15.2	-0.3

*IDC **03** 17:15:05.1±0.9, 6°.15S×143°.45E, h0km, mb3.9/7, mbtmp4.0/9, ML2.0/1, MS3.3/2, Error ellipse: s-maj=33.7km s-min=19.8km az=68.0*

*NEIC **03** 17:15:06.8±2.5, 6°.11S±0°.08×143°.26E±0°.09, h10km±1km, mb4.4/29, Error ellipse: s-maj=17.3km s-min=12.4km az=234.0*

ISC 03 17:15:06.3±0.5, 6°.16S±0°.07×143°.27E±0°.07, h10km, n61, σ1s79/61, mb4.4/21, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**2.22**	**293**	P	**Pg**	**17 15 50.0**	**+1.0**
GENI	**Genyem**	**4.71**	**319**	P	**Pb**	**17 16 25.2**	**-3.8**
PMG	**Port Moresby**	**5.02**	**130**	Pn	**Pn**	**17 16 22.2**	**+0.4**
PMG				Sn	**Sn**	**17 17 17.2**	**-2.7**
PMG	**Port Moresby**	**5.02**	**130**	P	**Pn**	**17 16 23.4**	**+1.6**
PMG	**Port Moresby**	**5.02**	**130**	P	**Pn**	**17 16 23.7**	**+1.9**
PMG	**Port Moresby**	**5.02**	**130**	Pn	**Pn**	**17 16 22.2**	**+0.4**
	4.0nm,0.3s,baz=15,slow=6.5,SNR=17						
PMG				Sn	**Sn**	**17 17 16.5**	**-3.4**
	3.4nm,0.3s,baz=42,slow=23,SNR=8.6						
	9.7nm,0.4s						
COEN	**Coen**	**7.75**	**181**	Pn	**Pn**	**17 17 00.3**	**+1.1**
FAKI	**Fak Fak**	**11.45**	**286**	Pn	**Pn**	**17 17 50.4**	**+0.4**
SAUI	**Saumlaki**	**12.02**	**261**	Pn	**Pn**	**17 17 56.2**	**-1.6**
MTN	**Manton Dam**	**13.69**	**240**		**Pn**	**17 18 17.7**	**-2.9**
CTA	**Charters Tower**	**14.14**	**168**	Lg	Lg	17 22 34.0	
	0.1nm,0.3s,baz=311,slow=19,SNR=1.4						
CTA				LR	LR	17 23 47.8	
	comp=Z,96nm,18.8s,baz=283,slow=37						
QIS	**Mount Isa**	**14.75**	**194**	P	**P**	**17 18 43.1**	**+1.9**
WRG	**Warramunga Arr**	**16.13**	**211**		**Pn**	**17 18 50.0**	**-3.2**
WRAB	**Tennant Creek**	**16.21**	**212**		**Pn**	**17 18 52.1**	**-2.2**
WB2	**Warramunga Arr**	**16.21**	**212**	Pn	**Pn**	**17 18 51.9**	**-2.5**
WRA	**Warramunga Arr**	**16.22**	**212**	Pn	**Pn**	**17 18 51.8**	**-2.6**
	0.6nm,0.3s,baz=30,slow=13,SNR=25						
WRA				Sn	Sn	17 21 40.0	-15
	0.2nm,0.3s,baz=33,slow=23,SNR=1.2						
WRA				Lg	Lg	17 23 39.8	
	0.3nm,0.3s,baz=31,slow=29,SNR=5.1						
KNRA	**Kununurra**	**17.09**	**235**	Pn	**Pn**	**17 19 03.0**	**-2.4**
SOEI	**Soe**	**19.16**	**258**		**P**	**17 19 29.9**	**-0.3**
SOEI				IAmb	IAmb	17 19 39.2	
	comp=Z,13nm,0.6s						
SOEI	**Soe**	**19.16**	**258**	P	**Pn**	**17 19 36.9**	**+5.8**
AS31	**Alice Springs**	**19.60**	**206**		**P**	**17 19 35.5**	**+0.6**
AS31				IAmb	IAmb	17 19 38.6	
	comp=Z,6.2nm,0.7s						
ASAR	**Alice Springs**	**19.60**	**206**		**Pn**	**17 19 36.8**	**+0.5**
ASAR	**Alice Springs**	**19.60**	**206**	P	**Pn**	**17 19 36.6**	**+0.3**
	comp=Z,20nm,0.7s,baz=33,slow=10,SNR=237						
ASAR				S	S	17 23 04.9	-11
	comp=Z,0.2nm,0.5s,baz=58,slow=34,SNR=1.8						
ASAR				Lg	Lg	17 25 29.1	
	baz=230,slow=19,SNR=2.3						
EIDS	**Eidsvold**	**20.51**	**159**	P	**P**	**17 19 44.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**20.90**	**234**	P	**P**	**17 19 47.5**	**-1.6**
KAPI	**Kappang**	**23.44**	**272**	P	**P**	**17 20 13.1**	**-2.9**
KAPI				IAmb	IAmb	17 20 19.8	
	comp=Z,7.8nm,0.8s						
TOLI2	**Tolitoli**	**23.59**	**287**	P	**P**	**17 20 15.7**	**-1.8**
TOLI2				IAmb	IAmb	17 20 19.5	
	comp=Z,5.7nm,0.9s						
STKA	**Stephens Creek**	**25.63**	**183**	LR	LR	17 31 40.0	
	comp=Z,70nm,18.5s,baz=21,slow=39						
PSA00	**Pilbara Seismi**	**27.36**	**234**	P	**P**	**17 20 49.9**	**-1.9**
PSA00				IAmb	IAmb	17 21 00.5	
	comp=Z,3.3nm,1.0s						
MLZ	**Mavora Lakes**	**44.63**	**155**	P	**P**	**17 23 18.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**50.09**	**300**	P	**P**	**17 24 03.6**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=119,slow=6.1,SNR=4.0						
	comp=Z,0.3nm,0.6s						
PZH	**PanZhiHua**	**51.71**	**311**	P	**P**	**17 24 14.8**	**+0.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,150nm,5.0s						
HHC	**Hu-ho-hao-te**	**55.09**	**331**	*e*P	**P**	**17 24 39.8**	**+1.0**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,33nm,4.7s						
WMQ	**Urumqi**	**70.53**	**321**	*e*P	**P**	**17 26 23.9**	**+2.3**
AKUT	**Akutan**	**73.60**	**28**	P	**P**	**17 26 37.1**	**-2.5**
MK31	**Makanchi Array**	**75.29**	**322**	P	**P**	**17 26 47.6**	**-2.1**
MKAR	**Makanchi Array**	**75.29**	**322**	P	**P**	**17 26 48.0**	**-1.7**
MKAR	**Makanchi Array**	**75.29**	**322**	P	**P**	**17 26 51.2**	**+1.5**
	comp=Z,1.6nm,0.8s,baz=105,slow=6.9,SNR=16						
	comp=Z,1.6nm,0.8s						
ZALV	**Zalesovo Beam**	**77.20**	**329**	P	**P**	**17 27 00.7**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=120,slow=5.8,SNR=3.6						
	comp=Z,0.6nm,0.6s						
O14K	**Tigyukauivet M**	**78.57**	**26**	P	**P**	**17 27 06.9**	**-0.9**
KURBB	**Kurchatov Arra**	**79.16**	**324**	P	**P**	**17 27 11.9**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=114,slow=4.4,SNR=5.0						
	comp=Z,0.6nm,0.8s						
L14K	**Kuka Creek**	**79.16**	**23**	P	**P**	**17 27 12.3**	**+1.2**
L14K				IAmb	IAmb	17 27 52.6	
	comp=Z,9.7nm,1.4s						
K15K	**Wolf Creek Mou**	**80.15**	**23**	P	**P**	**17 27 17.3**	**+0.8**
K15K				IAmb	IAmb	17 27 18.9	
	comp=Z,4.9nm,1.1s						
L16K	**Owhat River**	**80.65**	**24**		**P**	**17 27 20.4**	**+1.3**
L16K				IAmb	IAmb	17 27 40.7	
	comp=Z,4.3nm,1.4s						
MAW	**Mawson**	**80.68**	**203**	P	**P**	**17 27 20.9**	**+1.7**
J16K	**Anvik River**	**81.06**	**22**	P	**P**	**17 27 22.2**	**+0.9**
J16K				IAmb	IAmb	17 28 01.7	
	comp=Z,7.4nm,1.4s						
J17K	**VABM Dome**	**81.70**	**23**	P	**P**	**17 27 25.4**	**+0.7**
J17K				IAmb	IAmb	17 28 09.3	
	comp=Z,5.4nm,1.3s						
F17K	**Baldwin Pennin**	**82.59**	**20**	P	**P**	**17 27 29.4**	**+0.1**
F17K				IAmb	IAmb	17 27 35.5	
	comp=Z,5.8nm,1.4s						
TTA	**Tatalina**	**82.66**	**24**	P	**P**	**17 27 29.6**	**-0.3**
TTA				IAmb	IAmb	17 27 47.3	
	comp=Z,5.3nm,1.5s						
G18K	**Tagagawik**	**83.18**	**21**	P	**P**	**17 27 32.1**	**-0.3**
QSPA	**South Pole Qui**	**83.81**	**180**	P	**P**	**17 27 35.7**	**-0.1**
	comp=Z,2.7nm,0.6s,baz=326,slow=0.2,SNR=24						
	comp=Z,2.7nm,0.6s						
RC01	**Rabbit Creek A**	**84.51**	**27**	P	**P**	**17 27 39.3**	**+0.1**
D19K	**Kuna River**	**84.73**	**18**	P	**P**	**17 27 41.5**	**+1.2**
BVAR	**Borovoye Array**	**84.73**	**325**	P	**P**	**17 27 41.7**	**+1.1**
	comp=Z,1.7nm,0.8s						
	comp=Z,1.7nm,0.8s						
IMAR	**Indian Mountai**	**84.97**	**21**	P	**P**	**17 27 41.6**	**+0.1**
MLY	**Manley**	**85.69**	**23**	P	**P**	**17 27 46.2**	**+1.1**
MLY				IAmb	IAmb	17 28 00.9	
	comp=Z,2.7nm,1.2s						
DHY	**Denali Highway**	**86.29**	**25**	P	**P**	**17 27 48.4**	**+0.1**
DHY				IAmb	IAmb	17 28 06.9	
	comp=Z,5.1nm,1.4s						
ILAR	**Eielson Array**	**87.10**	**24**	P	**P**	**17 27 52.1**	**0.0**
ILAR	**Eielson Array**	**87.10**	**24**	P	**P**	**17 27 51.9**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=257,slow=4.3,SNR=5.4						
	comp=Z,0.4nm,0.7s						
C23K	**Itkillik River**	**87.73**	**18**	P	**P**	**17 27 55.3**	**+0.3**
BMAR	**Burnt Mountain**	**88.89**	**22**	P	**P**	**17 28 01.4**	**+0.8**
DBIC	**Dimbokro**	**148.33**	**273**	PKPbc	**PKPbc**	**17 34 55.2**	**+1.1**
	comp=Z,5.9nm,0.9s,baz=101,slow=1.8,SNR=5.4						

TAP 03 17:20:34.1, 24°46N×121°84E, h9km, ML2.8, 11C-7D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.06**	**259**	P	Pg	17 20 36.1	+0.1
	baz=259						
EWUT				S	Sg	17 20 38.8	+1.6
	baz=259						
ENA	**Nanau**	**0.09**	**252**	⇓*i* P	Pg	17 20 36.6	+0.2
	baz=250						
ENA				*i* S	Sg	17 20 39.7	+1.6
	baz=250						
ESAO	**Su ao**	**0.12**	**3**	⇑P	Pg	17 20 37.1	+0.3
	baz=2.0						
ESAO				*e*S	Sg	17 20 38.8	0.0
	baz=2.0						
TWC	**Suao**	**0.15**	**4**	⇑*i* P	Pg	17 20 37.8	+0.4
	baz=7.0						
TWC				*i* S	Sg	17 20 40.0	+0.3
	baz=7.0						
EAHA	**Aohua**	**0.15**	**215**	P	Pg	17 20 37.7	+0.3
	baz=216						
EAHA				S	Sg	17 20 40.1	+0.4
	baz=216						
EHP	**Heping Village**	**0.17**	**211**	*e*P	Pg	17 20 38.7	+1.0
	baz=209						
EHP				*e*S	Sg	17 20 41.3	+1.2
	baz=209						
NDS	**Dongshan**	**0.21**	**328**	⇑P	Pg	17 20 39.0	+0.6
	baz=328						
NDS				*e*S	Sg	17 20 42.2	+0.9
	baz=328						
LATG	**Datong**	**0.29**	**286**	⇑P	Pg	17 20 40.4	+0.4
	baz=285						
LATG				S	Sg	17 20 45.3	+1.4
	baz=285						
TWE	**Neicheng**	**0.31**	**330**	⇑*i* P	Pg	17 20 40.8	+0.6
	baz=331						
TWE				*e*S	Sg	17 20 44.8	+0.5
	baz=331						
ENTT	**Nioudou**	**0.31**	**307**	⇑*i* P	Pg	17 20 40.8	+0.6
	baz=307						
ENTT				S	Sb	17 20 46.6	-0.4
	baz=307						
ILA	**Ilan**	**0.32**	**345**	*i* P	Pb	17 20 41.3	-0.7
	baz=342						
ILA				*e*S	Sg	17 20 44.8	+0.1
	baz=342						
NDT	**Datong Townshi**	**0.33**	**296**	⇑P	Pg	17 20 41.3	+0.7
	baz=296						
NDT				S	Sg	17 20 45.8	+0.8
	baz=296						
ETL	**Fush Village**	**0.35**	**213**	P	Pg	17 20 41.4	+0.3
	baz=214						
ETL				S	Sg	17 20 46.7	+0.9
	baz=214						
NACB	**Ninganchiao**	**0.36**	**218**	⇓P	Pg	17 20 41.3	+0.2
	baz=218						
NACB				*e*S	Sg	17 20 46.9	+1.1
	baz=218						
EOS2	**EOS2**	**0.36**	**96**	*e*P	Pb	17 20 42.6	-0.1
	baz=93						
EOS2				*e*S	Sb	17 20 48.4	0.0
	baz=93						
FUSB	**Fushanzhiwuyua**	**0.38**	**323**	⇑P	Pg	17 20 42.3	+0.7
	baz=312						
FUSB				S	Sb	17 20 49.2	+0.1
	baz=312						
EGS		**0.40**	**13**	*e*P	Pb	17 20 43.6	+0.3
	baz=22						
EGS				*e*S	Sb	17 20 49.9	+0.3
	baz=22						
ETLH	**Xiulin Townshi**	**0.41**	**233**	⇓P	Pg	17 20 42.3	+0.1
	baz=233						
ETLH				S	Sb	17 20 49.1	-0.9
	baz=233						
NNSB	**Datong**	**0.41**	**266**	P	Pg	17 20 42.6	+0.3
	baz=266						
NNSB				S	Sg	17 20 47.9	+0.2
	baz=266						
NNSH	**Datong**	**0.41**	**266**	*i* P	Pg	17 20 42.8	+0.5
	baz=266						
NNSH				*i* S	Sg	17 20 48.0	+0.2
	baz=266						
NNS	**Nan Shan**	**0.42**	**268**	*i* P	Pg	17 20 42.8	+0.3
	baz=267						
NNS				*i* S	Sg	17 20 48.2	+0.1
	baz=267						
TWD	**Chiawan**	**0.43**	**210**	P	Pg	17 20 42.8	+0.2
	baz=210						
TWD				*e*S	Sb	17 20 49.5	-1.1
	baz=210						
NWLT	**Wulai**	**0.44**	**316**	P	Pg	17 20 43.4	+0.7
	baz=306						
NWLT				S	Sg	17 20 49.5	+1.0
	baz=306						
EOS3	**EOS3**	**0.47**	**111**	*e*P	Pb	17 20 44.4	-0.1
	baz=114						
EOS3				*e*S	Sb	17 20 51.9	+0.4
	baz=114						
YHNB	**Yeheng**	**0.47**	**297**	⇑P	Pb	17 20 44.0	-0.7
	baz=296						
YHNB				S	Sb	17 20 51.7	-0.1
	baz=296						
NSK	**Sanguang**	**0.49**	**297**	⇑*i* P	Pg	17 20 44.3	+0.6
	baz=296						
NSK				*i* S	Sg	17 20 50.5	+0.5
	baz=296						
TIPB	**Shuangxi**	**0.51**	**359**	P	Pb	17 20 44.9	-0.5
	baz=359						
TIPB				S	Sb	17 20 52.3	-0.7
	baz=359						
HWA	**Hwalien**	**0.52**	**204**	*i* P	Pb	17 20 45.1	-0.4
	baz=214						
HWA				S	Sb	17 20 53.7	+0.6
	baz=214						
EOS4	**EOS4**	**0.55**	**127**	*e*P	Pb	17 20 45.6	-0.2
	baz=116						
EOS4				*e*S	Sb	17 20 55.3	+1.6
	baz=116						
TWB1	**Santiao Chiao**	**0.57**	**14**	*i* P	Pb	17 20 46.1	-0.2
	baz=16						
TWB1				*i* S	Sg	17 20 52.4	-0.1
	baz=16						
TWA	**Mucha**	**0.57**	**336**	P	Pb	17 20 46.0	-0.3
	baz=337						
TWA				S	Sb	17 20 54.5	-0.1
	baz=337						
ETM	**Tongmen**	**0.58**	**213**	P	Pg	17 20 45.3	0.0
	baz=213						
ETM				S	Sg	17 20 53.7	+0.8
	baz=213						
LXIB	**Xiulin Townshi**	**0.58**	**222**	⇓P	Pg	17 20 45.4	0.0
	baz=222						
LXIB				S	Sb	17 20 55.4	+0.4
	baz=222						
TATO	**Taipei**	**0.61**	**329**	P	Pb	17 20 46.9	-0.1
	baz=328						
TATO				S	Sg	17 20 54.5	+0.7
	baz=328						
WHF	**Hehuan Shan**	**0.61**	**239**	*i* P	Pg	17 20 46.2	+0.3
	baz=239						
WHF				S	Sb	17 20 55.0	-1.0
	baz=239						
NWF	**Wu-fen Shan**	**0.61**	**355**	*i* P	Pb	17 20 47.6	+0.4
	baz=345						
NWF				*i* S	Sb	17 20 55.3	-0.7
	baz=345						
WFSB	**Wu-fen Shan**	**0.61**	**355**	P	Pb	17 20 47.4	+0.3
	baz=345						
WFSB				S	Sb	17 20 55.4	-0.4
	baz=345						
NHY	**Taipei**	**0.63**	**337**	*e*P	Pb	17 20 47.9	+0.5
	baz=337						
NHY				*e*S	Sb	17 20 55.8	-0.5
	baz=337						
SXI1	**Grass Mountain**	**0.64**	**3**	P	Pb	17 20 47.7	+0.2
	baz=11						
SXI1				S	Sb	17 20 56.2	-0.4
	baz=11						
TWT	**Tachien**	**0.64**	**252**	*i* P	Pb	17 20 47.6	0.0
	baz=251						
TWT				*i* S	Sb	17 20 55.8	-0.9
	baz=251						
TDCB	**Techi**	**0.65**	**252**	P	Pb	17 20 48.0	+0.2
	baz=252						
TDCB				S	Sg	17 20 56.1	+0.9
	baz=252						
TAP	**Taipei**	**0.65**	**333**	P	Pb	17 20 48.0	+0.3
	baz=321						
TAP				S	Sb	17 20 57.4	+0.4
	baz=321						
NFF	**Wufeng Townshi**	**0.68**	**285**	P	Pb	17 20 48.0	-0.2
	baz=285						
NFF				S	Sg	17 20 56.8	+0.7
	baz=285						
TNOU	**National Taiwa**	**0.69**	**355**	P	Pb	17 20 48.9	+0.5
	baz=346						
TNOU				S	Sg	17 20 57.1	+0.5
	baz=346						
SHUL	**Shoufeng**	**0.71**	**201**	P	Pb	17 20 48.7	0.0
	baz=207						
SHUL				*e*S	Sb	17 20 59.7	+1.1
	baz=207						
CHGB	**Renai**	**0.72**	**237**	⇓P	Pg	17 20 48.3	+0.2
	baz=237						
CHGB				*e*S	Sb	17 20 58.7	-0.5
	baz=237						
YM01	**YM01**	**0.73**	**341**	P	Pb	17 20 49.4	+0.4
	baz=341						
YM01				*e*S	Sb	17 20 59.6	+0.4
	baz=341						
NTY	**Taoyuan**	**0.73**	**318**	*e*P	Pn	17 20 50.0	-0.7
	baz=327						
NTY				*e*S	Sb	17 21 00.6	+1.4
	baz=327						
NJD	**Zhudong**	**0.74**	**292**	P	Pn	17 20 50.0	-0.7
	baz=283						
NJD				S	Sn	17 21 01.0	-1.1
	baz=283						
ESL	**Shilin**	**0.74**	**210**	⇓*i* P	Pg	17 20 48.2	-0.1
	baz=220						
ESL				*e*S	Sg	17 20 58.3	+0.3
	baz=220						
TWS1	**Kuangyinshan**	**0.75**	**329**	*i* P	Pn	17 20 50.2	-0.7
	baz=329						
TWS1				*e*S	Sb	17 21 00.7	+1.1
	baz=329						
YM08	**YM08**	**0.76**	**343**	P	Pb	17 20 49.8	+0.1
	baz=333						
YM08				*e*S	Sb	17 21 00.0	-0.1
	baz=333						
NSTT	**Nanjuang**	**0.78**	**283**	*i* P	Pb	17 20 50.0	+0.1
	baz=282						
NSTT				*i* S	Sb	17 21 00.4	-0.3
	baz=282						
ANP	**Anpu**	**0.78**	**338**	*i* P	Pb	17 20 50.1	+0.1
	baz=339						
ANP				*e*S	Sb	17 21 00.1	-0.6
	baz=339						
NCUH	**Zhongli**	**0.78**	**311**	*i* P	Pn	17 20 50.9	-0.5
	baz=310						
NCUH				*i* S	Sn	17 21 03.3	+0.1
	baz=310						
OWD	**Renai**	**0.78**	**231**	P	Pg	17 20 49.3	+0.1
	baz=223						
OWD				S	Sb	17 21 00.2	-0.7
	baz=223						
NTST	**Danshui**	**0.79**	**334**	*i* P	Pn	17 20 51.4	-0.1
	baz=333						
NTST				*e*S	Sb	17 21 01.7	+0.9
	baz=333						
WUSB	**Renai**	**0.80**	**235**	P	Pg	17 20 49.9	+0.3
	baz=235						
WUSB				S	Sb	17 21 01.3	-0.1
	baz=235						
WHP	**Taichung City**	**0.83**	**258**	P	Pn	17 20 51.7	-0.5
	baz=258						
WHP				S	Sg	17 21 01.4	+0.5
	baz=258						
WARBT	**Fenglin Townsh**	**0.84**	**209**	⇑P	Pg	17 20 50.1	-0.2
	baz=219						
WARBT				S	Sg	17 21 01.9	+0.5
	baz=219						
SBCB	**Hsinchu**	**0.84**	**294**	P	Pn	17 20 52.8	+0.6
	baz=285						
SBCB				*e*S	Sn	17 21 05.2	+0.4
	baz=285						
TWY	**Chenhua**	**0.84**	**345**	*i* P	Pn	17 20 51.7	-0.5
	baz=346						
TWY				*e*S	Sb	17 21 03.0	+0.5
	baz=346						
HSN	**Hsinchu**	**0.86**	**294**	*e*P	Pg	17 20 50.4	-0.3
	baz=288						
HSN				*e*S	Sb	17 21 03.9	+1.0
	baz=288						
EGFH	**Guangfu**	**0.87**	**206**	P	Pg	17 20 50.8	0.0
	baz=215						
EGFH				S	Sb	17 21 03.5	+0.4
	baz=215						
NHW	**Xinwu Township**	**0.90**	**308**	*e*P	Pn	17 20 53.0	0.0
	baz=307						
NHW				*e*S	Sn	17 21 05.8	-0.5
	baz=307						
NJN	**Zhunan**	**0.91**	**285**	*e*P	Pn	17 20 53.7	+0.6
	baz=274						
NJN				*e*S	Sn	17 21 06.2	-0.2
	baz=274						
WPL	**Puli Township**	**0.92**	**241**	P	Pb	17 20 52.5	+0.3
	baz=241						
WPL				S	Sg	17 21 03.7	0.0
	baz=241						
WCS	**Beigang Elemen**	**0.93**	**245**	P	Pb	17 20 52.6	+0.1
	baz=235						
WCS				S	Sb	17 21 05.4	+0.4
	baz=235						
VWDT	**VWDT**	**0.94**	**222**	P	Pg	17 20 52.3	0.0
	baz=214						
VWDT				S	Sb	17 21 05.1	-0.2
	baz=214						
NMLH	**Miaoli**	**0.96**	**275**	*i* P	Pn	17 20 54.7	+0.9
	baz=274						
NMLH				S	Sn	17 21 07.0	-0.6
	baz=274						
TWQ1	**Liyutan**	**0.98**	**264**	*i* P	Pn	17 20 55.4	+1.4
	baz=263						
TWQ1				S	Sn	17 21 08.3	+0.2
	baz=263						
NSY	**Sanyi**	**0.98**	**268**	*i* P	Pn	17 20 55.0	+0.9
	baz=267						
NSY				*i* S	Sn	17 21 08.7	+0.5
	baz=267						
SMLT	**Sun Moon Lake**	**1.03**	**237**	*e*P	Pb	17 20 54.5	+0.3
	baz=236						
SMLT				*e*S	Sb	17 21 08.2	+0.3
	baz=236						
HGSD	**Ruisui**	**1.03**	**202**	P	Pb	17 20 54.1	-0.1
	baz=216						
HGSD				S	Sn	17 21 09.9	+0.5
	baz=216						
SSLB	**Suanglung**	**1.05**	**231**	⇓P	Pg	17 20 54.2	-0.1
	baz=231						
SSLB				S	Sg	17 21 07.6	-0.2
	baz=231						
TYC	**Yuchr**	**1.05**	**239**	*i* P	Pb	17 20 54.7	+0.2
	baz=238						
TYC				*i* S	Sb	17 21 08.4	0.0
	baz=238						
EHY	**Hungye**	**1.06**	**207**	*i* P	Pg	17 20 53.9	-0.6
	baz=218						
EHY				S	Sb	17 21 09.0	+0.4
	baz=218						
YOJ	**Yonaguni jima**	**1.07**	**89**	P	Pg	17 20 54.7	0.0
	baz=89						
YOJ				S	Sb	17 21 08.9	0.0
	baz=89						
WDJ	**Dajia District**	**1.10**	**265**	P	Pn	17 20 58.0	+2.3
	baz=264						
WDJ				S	Sn	17 21 12.1	+1.1
	baz=264						

TCU	**Taichung** baz=254	**1.10 254**	P	Pn	17 20 56.6	+0.9
TCU	baz=254		*e*S	Sn	17 21 12.4	+1.3
YULB	**Yu-li** baz=216	**1.17 205**	P	Pb	17 20 56.2	-0.3
YULB	baz=216		*e*S	Sn	17 21 12.4	-0.4
WHYT	**Xinyi Township** baz=230	**1.18 230**	P	Pn	17 20 56.8	0.0
WHYT	baz=230		*e*S	Sg	17 21 12.0	0.0
PCYT	**Pengchaiyu** baz=12	**1.19 10**	*e*P	Pn	17 20 57.8	+0.8
PCYT	baz=12		*e*S	Sn	17 21 13.3	0.0
WJS	**Zhushan** baz=238	**1.19 238**	*i* P	Pn	17 20 58.5	+1.4
WJS	baz=238		*e*S	Sn	17 21 14.8	+1.4
WNT	**Mingjian** baz=236	**1.20 242**	*i* P	Pg	17 20 59.0	+1.8
WNT	baz=236		*i* S	Sn	17 21 16.7	+3.1
EYUL	**Yuli** baz=219	**1.20 203**	*i* P	Pg	17 20 57.4	+0.3
EYUL	baz=219		*e*S	Sg	17 21 13.0	+0.2
TWF1	**Yuli** baz=214	**1.21 204**	*i* P	Pb	17 20 56.9	-0.3
TWF1	baz=214		*e*S	Sb	17 21 12.5	-0.3
WCHH	**Zhanghua** baz=252	**1.23 252**	*e*P	Pg	17 20 58.1	+0.5
WCHH	baz=252		S	Sn	17 21 15.4	+1.2
CHKH	**Chenggong** baz=216	**1.32 198**	*e*P	Pg	17 20 59.7	+0.2
CHKH	baz=216		S	Sg	17 21 18.7	+2.0
ALS	**Alishan** baz=209	**1.33 225**	*i* P	Pg	17 20 59.7	0.0
ALS	baz=209		*e*S	Sn	17 21 20.1	+2.9
FULB	**Fuli** baz=218	**1.35 202**	P	Pb	17 20 59.5	-0.1
FULB	baz=218		*e*S	Sg	17 21 18.9	+1.4
WGK	**Gukeng** baz=251	**1.40 237**	*i* P	Pg	17 21 02.3	+1.4
WGK	baz=251		*i* S	Sg	17 21 22.1	+3.1
WDLH	**Douliu** baz=251	**1.41 238**	*i* P	Pg	17 21 02.0	+0.8
WDLH	baz=251		*i* S	Sg	17 21 22.7	+3.2
EHD	**Haiduan** baz=217	**1.42 204**	P	Pb	17 21 00.7	-0.2
EHD	baz=217		S	Sg	17 21 19.7	-0.2
WRL	**Guolierlin Hig** baz=248	**1.44 248**	P	Pg	17 21 02.6	+0.7
WRL	baz=248		S	Sg	17 21 22.1	+1.6
ELDTW	**Lidau** baz=211	**1.47 211**	*i* P	Pb	17 21 01.6	-0.1
ELDTW	baz=211		*e*S	Sn	17 21 20.1	-0.2
WCKO	**Fanlu** baz=214	**1.52 228**	P	Pg	17 21 03.8	+0.6
WCKO	baz=214		S	Sg	17 21 24.8	+1.9
WTK	**Tuku** baz=256	**1.53 240**	*i* P	Pg	17 21 04.2	+0.8
WTK	baz=256		*i* S	Sg	17 21 25.4	+2.1
CHN4	**Tsaushan** baz=212	**1.58 226**	*i* P	Pg	17 21 05.0	+0.5
CHN4	baz=212		S	Sg	17 21 26.8	+1.8
TPUB	**Ta-pu** baz=212	**1.59 224**	P	Pg	17 21 05.0	+0.3
TPUB	baz=212		S	Sg	17 21 26.0	+0.6
STYH	**Taoyuan** baz=207	**1.61 217**	P	Pb	17 21 04.4	+0.4
STYH	baz=207		S	Sg	17 21 25.9	+0.1
WTP	**Ta-pu** baz=212	**1.65 223**	*i* P	Pg	17 21 05.7	+0.1
WTP	baz=212		S	Sg	17 21 28.3	+1.3
LONT	**Longtian** baz=203	**1.67 203**	*i* P	Pb	17 21 05.2	0.0
LONT	baz=203		*e*S	Sn	17 21 25.4	+0.1
TWK	**Hsinying** baz=211	**1.71 226**	*i* P	Pg	17 21 07.4	+0.5
TWK	baz=211		S	Sg	17 21 30.1	+1.0
SNST	**Tainan City** baz=211	**1.74 225**	P	Pg	17 21 08.2	+0.8
SNST	baz=211		S	Sg	17 21 31.3	+1.3
WSL	**Shuilin Townsh** baz=252	**1.74 238**	*e*P	Pg	17 21 07.0	-0.5
WSL	baz=252		*e*S	Sg	17 21 29.7	-0.4
CHN1	**Nanshi** baz=210	**1.74 224**	*i* P	Pg	17 21 08.1	+0.6
CHN1	baz=210		S	Sg	17 21 31.5	+1.3
TWG	**Pinlang** baz=204	**1.77 203**	*e*P	Pn	17 21 05.8	+0.8
TWG	baz=204		*e*S	Sn	17 21 28.0	+0.2
TWGBT	**Beinan** baz=204	**1.77 203**	*e*P	Pn	17 21 04.9	-0.1
TWGBT	baz=204		*e*S	Sn	17 21 27.6	-0.1
SGST	**Jiashian** baz=221	**1.79 220**	*i* P	Pb	17 21 07.2	+0.1
SGST	baz=221		*i* S	Sg	17 21 32.8	+1.3
ICHU	**Yijhu** baz=247	**1.79 233**	*i* P	Pg	17 21 08.6	0.0
ICHU	baz=247		*i* S	Sg	17 21 33.5	+1.7
SLGT	**Liugui** baz=217	**1.82 217**	P	Pb	17 21 08.0	+0.4
SLGT	baz=217		S	Sg	17 21 32.6	0.0
CHN8	**Yiju** baz=248	**1.85 234**	*e*P	Pb	17 21 08.7	+0.5
CHN8	baz=248		S	Sg	17 21 34.3	+0.6
SCST	**Cishan** baz=219	**1.99 219**	*e*P	Pb	17 21 11.1	+0.5
SCST	baz=219		*e*S	Sg	17 21 38.1	0.0
SSD	**Sandimen** baz=214	**2.03 213**	*i* P	Pb	17 21 12.1	+0.9
SSD	baz=214		*e*S	Sb	17 21 37.3	+0.7
TSMG	**Majia** baz=213	**2.06 212**	*i* P	Pb	17 21 12.1	+0.4
TSMG	baz=213		*e*S	Sb	17 21 38.2	+0.8
MASBT	**Mashibuluo** baz=212	**2.14 211**	P	Pb	17 21 13.4	+0.3
MASBT	baz=212		*e*S	Sb	17 21 41.2	+1.4
VWUC	**VWUC** baz=284	**2.24 284**	P	Pn	17 21 11.7	+0.4
VWUC	baz=284		S	Sn	17 21 39.7	+0.5
EAST	**Anshuo** baz=192	**2.25 204**	*e*P	Pn	17 21 12.3	+0.6
EAST	baz=192		*e*S	Sn	17 21 40.5	+0.8
PNG	**Penghu** baz=263	**2.27 247**	P	Pb	17 21 14.5	-0.8
PNG	baz=263		S	Sn	17 21 41.5	+1.6
PHUB	**P'eng-hu** baz=261	**2.27 246**	P	Pn	17 21 13.2	+1.3
PHUB	baz=261		*e*S	Sn	17 21 40.7	+0.6
TAWH	**Dawu Township** baz=190	**2.28 203**	*e*P	Pn	17 21 12.8	+0.8
TAWH	baz=190		*e*S	Sn	17 21 41.6	+1.4
SCZT	**Fangliau** baz=210	**2.36 209**	*i* P	Pb	17 21 16.2	-0.6
SCZT	baz=210		*e*S	Sb	17 21 46.1	+0.1
MATB	**Ma-tsu** baz=314	**2.40 315**	P	Pn	17 21 14.8	+1.1
MATB	baz=314		*e*S	Sb	17 21 45.7	-1.7
VCHM	**Qimei** baz=241	**2.53 241**	P	Pn	17 21 16.6	+1.2
VCHM	baz=241		S	Sb	17 21 50.1	-0.9
PTMZ	**Houxiangcun** baz=283	**2.54 284**	P	Pn	17 21 16.9	+1.3
PTMZ	baz=283		S	Sn	17 21 47.7	+1.1
LYJJ	**Jianjiangzhen** baz=318	**2.81 318**	*e*P	Pb	17 21 22.5	-1.9
LYJJ	baz=318		*e*S	Sn	17 21 54.5	+1.3
XPSS	**Dashiqiu** baz=330	**2.88 329**	*e*P	Pn	17 21 20.2	+0.1
XPSS	baz=330		*e*S	Sn	17 21 55.1	+0.1
MHZQ	**Yeshan** baz=302	**3.02 303**	*e*P	Pn	17 21 24.8	+2.6
MHZQ	baz=302		*e*S	Sn	17 22 00.1	+1.5
KNMB	**Chin-men Tao** baz=270	**3.14 271**	*e*P	Pn	17 21 24.1	+0.3
KNMB	baz=270		*e*S	Sn	17 22 02.8	+1.3

JMA 03 17:20:41.3±0.2,**24°.3N**±0°.4×**123°.8E**±0°.5,**h18**km±1km,
MV0.9/9,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.10**	**329**	P	Pg	17 20 44.9	0.0
IRIF				*e*S	Sg	17 20 47.3	0.0
HATJ	**Hateruma jima**	**0.19**	**175**	P	Pg	17 20 46.0	-0.1
HATJ				*e*S	Sg	17 20 49.4	+0.1
JKRS	**Kuro-shima**	**0.20**	**93**	P	Pg	17 20 46.0	-0.2
JKRS				*e*S	Sg	17 20 49.5	-0.1
JIJ	**Ishigaki jima**	**0.34**	**71**	*e*S	Sg	17 20 53.1	-0.5
JISG	**Ishigakijimahi**	**0.58**	**55**	P	Pb	17 20 53.0	0.0
JISG				*e*S	Sb	17 21 01.0	0.0
JYNG	**Yonagunijimaku**	**0.79**	**285**	*e*S	Sb	17 21 06.8	-0.2
JTJ	**Tarama**	**0.92**	**65**	*e*S	Sg	17 21 11.5	+0.1

*TEH **03** 17:27:15.4,38°.65N×49°.44E,h14km±57km,ML3.1*
*AZER **03** 17:27:15.4,38°.66N×49°.44E,h20km,ml2.9*
ISC 03 17:27:17.0±1.4,**38°.69N**±0°.04×**49°.44E**±0°.04,**h17**km±10km,
n34,σ0°85/54,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKRN	**Lenkeran, Azer**	**0.52**	**272**	P	**Pg**	**17 27 27.4**	**0.0**
LKRN				S	**Sb**	**17 27 36.5**	**+1.7**
ASTR	**Astara**	**0.53**	**256**	P	**Pg**	**17 27 27.7**	**+0.2**
ASTR				S	**Sn**	**17 27 37.3**	**-0.8**
LRK	**Lerik**	**0.86**	**267**	P	**Pb**	**17 27 33.1**	**-0.5**
LRK				S	**Sn**	**17 27 46.4**	**-0.3**
YRD	**Yardimli**	**0.96**	**284**	P	**Pb**	**17 27 34.6**	**-0.8**
YRD				S	**Sg**	**17 27 49.0**	**+0.6**
GLBA	**Clilabad**	**0.98**	**304**	P	**Pb**	**17 27 35.2**	**-0.4**
GLBA				S	**Sn**	**17 27 50.0**	**+0.5**
CSN1	**Caspian**	**1.16**	**194**	Pg	**Pn**	**17 27 36.9**	**-1.5**
GRMI	**Germi**	**1.22**	**276**	Pg	**Pn**	**17 27 38.5**	**-0.7**
ISRB	**Sarab**	**1.64**	**239**	Pg	**Pn**	**17 27 45.5**	**+0.2**
BLQ	**Beylaqan**	**1.79**	**306**	Pn	**Pn**	**17 27 47.3**	**+0.3**
BLQ				Sn	**Sb**	**17 28 10.6**	**-0.8**
QRD	**Qoradiz**	**1.82**	**296**	Pn	**Pn**	**17 27 47.0**	**-0.5**
QRD				Sn	**Sb**	**17 28 12.2**	**-0.1**
IHRS	**Heris**	**1.92**	**260**	Pn	**Pn**	**17 27 49.4**	**+0.4**
JIR1	**Jirandeh**	**2.00**	**172**	Pn	**Pn**	**17 27 49.5**	**-0.6**
ZRD	**Zardab**	**2.09**	**320**	Pn	**Pn**	**17 27 50.5**	**-0.6**
ZRD				Sn	**Sb**	**17 28 18.6**	**-1.4**
PQL	**Pirkuli**	**2.19**	**343**	Pn	**Pn**	**17 27 53.1**	**+0.4**
PQL				Sn	**Sb**	**17 28 22.4**	**-0.8**
AGDM	**Agdam**	**2.29**	**309**	Pn	**Pn**	**17 27 53.9**	**-0.1**
AGDM				Sn	**Sn**	**17 28 22.8**	**+0.9**
IML	**Ismayilli**	**2.31**	**336**	Pn	**Pn**	**17 27 54.0**	**-0.3**
IML				Sn	**Sn**	**17 28 23.1**	**+0.7**
BRDA	**Brd**	**2.35**	**313**	Pn	**Pn**	**17 27 55.1**	**+0.4**
BRDA				Sn	**Sn**	**17 28 24.5**	**+1.3**
SIZA	**Siyzn**	**2.42**	**350**	Pn	**Pn**	**17 27 56.1**	**+0.3**
QBL	**Gabala**	**2.57**	**332**	Sn	**Sn**	**17 28 30.5**	**+1.8**
XNQ	**Khinaliq**	**2.67**	**338**	Pn	**Pn**	**17 28 01.0**	**+1.6**
XNQ				Sn	**Sb**	**17 28 34.9**	**-2.1**
ORD	**Ordubad**	**2.70**	**276**	Pn	**Pn**	**17 28 00.1**	**+0.3**
ORD				Sn	**Sn**	**17 28 33.0**	**+0.9**
MZPU	**Pul - Mazandar**	**2.81**	**142**	Pn	**Pn**	**17 28 01.7**	**+0.3**
IMRD	**Marand**	**2.92**	**272**	Pn	**Pn**	**17 28 03.9**	**+1.0**
ISHB	**Shabestar**	**3.03**	**263**	Pn	**Pn**	**17 28 05.9**	**+1.6**
SEKA	**Sheki**	**3.05**	**326**	Pn	**Pn**	**17 28 03.8**	**-0.6**
SEKA				Sn	**Sn**	**17 28 40.5**	**0.0**
GANJ	**Ganja**	**3.10**	**310**	Pn	**Pn**	**17 28 04.4**	**-0.7**
GANJ				Sn	**Sn**	**17 28 41.7**	**0.0**
SBZ	**Shahbuz**	**3.11**	**284**	Pn	**Pn**	**17 28 06.2**	**+0.9**
SBZ				Sn	**Sn**	**17 28 42.9**	**+0.8**
NAX	**Nakhchivan**	**3.12**	**280**	Pn	**Pn**	**17 28 06.0**	**+0.6**
NAX				Sn	**Sn**	**17 28 42.0**	**-0.2**
IPRN	**Peran**	**3.36**	**136**	Pn	**Pn**	**17 28 09.4**	**+0.6**
GDB	**GEDABAY**	**3.49**	**307**	Pn	**Pn**	**17 28 10.4**	**-0.2**
GDB				Sn	**Sn**	**17 28 52.2**	**+0.6**
ZKTA	**Zakatala**	**3.65**	**325**	Pn	**Pn**	**17 28 13.0**	**+0.4**
ZKTA				Sn	**Sn**	**17 28 55.0**	**-0.3**
IALA	**Alasht**	**3.74**	**133**	Pn	**Pn**	**17 28 14.3**	**+0.2**
IGLO	**Ghaloghah**	**4.11**	**121**	Pn	**Pn**	**17 28 20.1**	**+0.9**
ISFR	**Sfrayin**	**6.96**	**101**	Pn	**Pn**	**17 28 58.5**	**+0.1**

*TEH **03** 17:31:34.0,38°.67N×49°.51E,h14km±67km,ML3.0*
*AZER **03** 17:31:35.4,38°.79N×49°.34E,h9km,ml2.9*
ISC 03 17:31:33.6±1.6,**38°.74N**±0°.04×**49°.58E**±0°.05,**h4**km±11km,
n30,σ0°99/51,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKRN	**Lenkeran, Azer**	**0.63**	**267**	P	**Pb**	**17 31 46.5**	**-0.6**
LKRN				S	**Sg**	**17 31 54.6**	**+0.8**
ASTR	**Astara**	**0.64**	**254**	P	**Pb**	**17 31 46.9**	**-0.5**
ASTR				S	**Sb**	**17 31 56.4**	**-0.3**
GAS1	**Astara - Iran**	**0.68**	**239**	Pg	**Pg**	**17 31 46.8**	**+0.1**
LRK	**Lerik**	**0.97**	**265**	P	**Pg**	**17 31 52.4**	**+0.1**
LRK				S	**Sg**	**17 32 05.5**	**+0.5**
GLBA	**Clilabad**	**1.05**	**299**	P	**Pb**	**17 31 54.4**	**+0.1**
GLBA				S	**Sb**	**17 32 09.1**	**+0.6**
YRD	**Yardimli**	**1.06**	**280**	P	**Pg**	**17 31 53.8**	**-0.1**
YRD				S	**Sg**	**17 32 08.2**	**+0.5**
GRMI	**Germi**	**1.32**	**273**	Pg	**Pg**	**17 31 57.8**	**-1.1**
LHJ2	**Lahijan - Gila**	**1.62**	**166**	Pg	**Pn**	**17 32 03.1**	**+0.2**
ISRB	**Sarab**	**1.76**	**239**	Pg	**Pn**	**17 32 04.7**	**-0.4**
BLQ	**Beylaqan**	**1.85**	**303**	Pn	**Pn**	**17 32 06.1**	**+0.1**
BLQ				Sn	**Sn**	**17 32 29.9**	**-0.1**
QRD	**Qoradiz**	**1.90**	**293**	Pn	**Pn**	**17 32 06.8**	**0.0**
QRD				Sn	**Sn**	**17 32 30.9**	**-0.3**
IHRS	**Heris**	**2.04**	**259**	Pn	**Pn**	**17 32 08.8**	**0.0**
JIR1	**Jirandeh**	**2.04**	**175**	Pn	**Pn**	**17 32 08.7**	**-0.1**
ZRD	**Zardab**	**2.12**	**317**	Pn	**Pn**	**17 32 10.4**	**+0.5**
ZRD				Sn	**Sb**	**17 32 38.8**	**-0.5**
PQL	**Pirkuli**	**2.18**	**340**	Pn	**Pn**	**17 32 12.1**	**+1.3**
PQL				Sn	**Sn**	**17 32 38.2**	**-0.2**
AGDM	**Agdam**	**2.35**	**306**	Pn	**Pn**	**17 32 13.0**	**0.0**
AGDM				Sn	**Sn**	**17 32 41.9**	**-0.4**
BRDA	**Brd**	**2.40**	**310**	Pn	**Pn**	**17 32 13.9**	**+0.3**
BRDA				Sn	**Sn**	**17 32 44.7**	**+1.3**
KLST	**Kelardasht - M**	**2.51**	**152**	Pn	**Pn**	**17 32 16.0**	**+0.5**
QBL	**Gabala**	**2.58**	**329**	Pn	**Pn**	**17 32 16.2**	**+0.1**
QBL				Sn	**Sn**	**17 32 48.8**	**+0.8**
XNQ	**Khinaliq**	**2.67**	**336**	Pn	**Pb**	**17 32 20.5**	**-1.6**
XNQ				Sn	**Sn**	**17 32 52.6**	**+2.1**
MZPU	**Pul - Mazandar**	**2.79**	**145**	Pn	**Pn**	**17 32 19.9**	**+0.7**
ORD	**Ordubad**	**2.81**	**275**	Pn	**Pn**	**17 32 19.9**	**+0.5**
ORD				Sn	**Sn**	**17 32 52.1**	**-1.5**
IMRD	**Marand**	**3.03**	**271**	Pn	**Pn**	**17 32 23.1**	**+0.6**
SEKA	**Sheki**	**3.07**	**324**	Pn	**Pn**	**17 32 23.0**	**+0.1**
SEKA				Sn	**Sn**	**17 33 00.8**	**+0.7**
GANJ	**Ganja**	**3.15**	**308**	Pn	**Pn**	**17 32 23.8**	**-0.2**
GANJ				Sn	**Sn**	**17 33 00.7**	**-1.4**
SBZ	**Shahbuz**	**3.20**	**283**	Pn	**Pn**	**17 32 25.6**	**+0.8**
SBZ				Sn	**Sn**	**17 33 04.5**	**+1.0**
NAX	**Nakhchivan**	**3.21**	**279**	Pn	**Pn**	**17 32 27.8**	**+2.9**
NAX				Sn	**Sn**	**17 33 05.6**	**+1.9**
GDB	**GEDABAY**	**3.55**	**305**	Pn	**Pn**	**17 32 29.8**	**+0.2**
GDB				Sn	**Sn**	**17 33 10.4**	**-1.7**
ZKTA	**Zakatala**	**3.67**	**323**	Pn	**Pn**	**17 32 32.3**	**+1.1**
ZKTA				Sn	**Sn**	**17 33 13.1**	**-1.9**
QZX	**Qazax, Azerbai**	**3.98**	**307**	Pn	**Pn**	**17 32 36.6**	**+1.2**
QZX				Sn	**Sn**	**17 33 21.5**	**-1.0**

*BJI **03** 17:35:50.3±0.0,24°.22N×121°.85E,h9km,mb4.3/61,*
mB4.8/37,ML4.9/11,Ms4.6/71,Ms7 4.5/69
*ASIES **03** 17:35:51.9,24°.18N×121°.71E,h10km,ML4.9,Mw4.5,*
Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm;
M_{rr}5.65; $M_{\theta\theta}$-5.87; $M_{\phi\phi}$0.22; $M_{r\theta}$2.73; $M_{\theta\phi}$-2.44; $M_{\phi r}$-1.58;
Fault plane solution: M_o7.01009×10^{22} NP1:ϕ_s91.37000°,
δ58.03000°,λ115.26000°. NP2:ϕ_s229.67000°,δ39.90000°,
λ55.65000°. Principal axes: T Plg66.4830°,
Azm50.4900°; N Plg21.2190°, Azm257.3380°; P
Plg9.6710°, Azm163.5450°;
*NEIC **03** 17:35:51.5±2.3,24°.21N±0°.06×121°.70E±0°.03,h10km±4km,*
mb4.9/206,Mwr4.6/20 Error ellipse: s-maj=8.9km
s-min=3.7km az=178.0,Moment Tensor Solution.
Moment tensor: Scale 10^{15}Nm; M_{rr}8.54; $M_{\theta\theta}$-7.44;
$M_{\phi\phi}$-1.10; $M_{r\theta}$1.90; $M_{\theta\phi}$-2.86; $M_{\phi r}$1.29; Fault plane
solution: M_o8.84000×10^{15} NP1:ϕ_s252.39000°,δ37.75000°,
λ95.37000°. NP2:ϕ_s65.61000°,δ52.45000°,λ85.85000°.
Principal axes: T 8.8593, Plg82.0000°, Azm314.0000°; N
-0.0303, Plg3.0000°, Azm68.0000°; P -8.8291, Plg7.0000°,
Azm159.0000°;
*NEIC **03** 17:35:51.5,24°.21N×121°.70E,h10km*
*TAP **03** 17:35:51.9,24°.18N×121°.71E,h10km,ML4.9,B*
*JMA **03** 17:35:52.0±0.1,24°.1N±0°.3×121°.7E±0°.7,h14km,MD4.8/19,*
MW4.5/19,TAIWAN REGION
*NIED **03** 17:35:52.0,24°.13N×121°.66E,h14km,MW4.5,Moment*
Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm;
M_{rr}4.37; $M_{\theta\theta}$-4.54; $M_{\phi\phi}$0.18; $M_{r\theta}$2.46; $M_{\theta\phi}$-3.18; $M_{\phi r}$-2.59;
Fault plane solution: M_o6.53000×10^{15} NP1:ϕ_s93.00000°,
δ60.00000°,λ130.00000°. NP2:ϕ_s214.00000°,δ49.00000°,
λ42.00000°.
*PPT **03** 17:35:53.3±0.3,24°.21N×121°.66E,h10km,mb4.8/12,*
MLv4.7/6 Error ellipse: s-maj=0.0km s-min=0.0km az=0.0
*IDC **03** 17:35:56.1±2.0,24°.23N×121°.80E,h45km±18km,mb4.0/27,*
mbtmp4.3/31,ML3.6/3,MS3.8/36,Error ellipse:
s-maj=14.1km s-min=11.8km az=61.0
ISC 03 17:35:52.1±0.5,**24°.18N**±0°.01×**121°.73E**±0°.01,**h14**km±2km,
n700,σ1°39/820,mb4.8/137,**MS4.0**/37,**32C-34D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ETL	**Fush Village** baz=257	**0.10**	**261**	⇑P	**Pg**	**17 35 54.6**	**-0.7**
ETL	baz=257			S	**Sg**	**17 35 56.4**	**-1.1**
NACB	**Ninganchiao**	**0.12**	**270**		**Pg**	**17 35 53.7**	**-1.9**
NACB				Sg	**Sg**	**17 35 56.5**	**-1.5**
NACB	**Ninganchiao**	**0.12**	**270**	P	**Pg**	**17 35 54.7**	**-0.9**
NACB	**Ninganchiao** baz=268	**0.12**	**270**	⇑P	**Pg**	**17 35 54.9**	**-0.8**
NACB	baz=268			S	**Sg**	**17 35 56.7**	**-1.3**
EHP	**Heping Village** baz=13	**0.14**	**4**	⇓P	**Pg**	**17 35 55.4**	**-0.4**
EHP	baz=13			S	**Sg**	**17 35 57.8**	**-0.4**
EAHA	**Aohua** baz=8.0	**0.15**	**3**	⇓P	**Pg**	**17 35 55.6**	**-0.4**
EAHA	baz=8.0			S	**Sg**	**17 35 58.2**	**-0.4**
TWD	**Chiawan** baz=227	**0.16**	**233**	⇑*i*P	**Pg**	**17 35 55.4**	**-0.7**
TWD	baz=227			*i* S	**Sg**	**17 35 58.0**	**-0.7**
HWA	**Hwalien** baz=207	**0.23**	**210**	⇑*i*P	**Pg**	**17 35 57.3**	**+0.1**
HWA	baz=207			S	**Sb**	**17 36 02.5**	**+0.5**
ETLH	**Xiulin Townshi** baz=278	**0.23**	**278**	*e*P	**Pg**	**17 35 56.7**	**-0.6**
ENA	**Nanau** baz=6.0	**0.25**	**2**	*i* P	**Pg**	**17 35 57.4**	**-0.2**
EWUT	**Wuta** baz=12	**0.27**	**9**	*e*P	**Pg**	**17 35 57.7**	**-0.2**
ETM	**Tongmen** baz=216	**0.30**	**226**	⇑P	**Pg**	**17 35 57.9**	**-0.6**
ETM	baz=216			S	**Sg**	**17 36 01.9**	**-0.8**
LXIB	**Xiulin Townshi** baz=241	**0.33**	**242**	⇑P	**Pg**	**17 35 58.2**	**-0.8**
LXIB	baz=241			S	**Sg**	**17 36 03.4**	**-0.2**
LATG	**Datong** baz=334	**0.41**	**333**	⇓P	**Pg**	**17 36 00.2**	**-0.2**
LATG	baz=334			S	**Sg**	**17 36 05.8**	**-0.1**
NNSB	**Datong** baz=309	**0.41**	**309**	⇓P	**Pg**	**17 36 00.1**	**-0.2**
NNSB	baz=309			S	**Sg**	**17 36 05.4**	**-0.6**
NNSH	**Datong** baz=309	**0.41**	**309**	⇓*i*P	**Pg**	**17 36 00.1**	**-0.2**
NNSH	baz=309			*i* S	**Sg**	**17 36 05.6**	**-0.4**
ESAO	**Su ao** baz=16	**0.41**	**14**	⇓P	**Pg**	**17 36 00.3**	**-0.1**
ESAO	baz=16			S	**Sg**	**17 36 06.0**	**0.0**
SHUL	**Shoufeng** baz=208	**0.41**	**202**	⇑P	**Pg**	**17 36 01.0**	**+0.5**
SHUL	baz=208			*e*S	**Sb**	**17 36 08.0**	**+0.6**
NNS	**Nan Shan** baz=310	**0.42**	**309**	*e*P	**Pg**	**17 36 00.3**	**-0.3**
NNS	baz=310			S	**Sg**	**17 36 05.9**	**-0.5**
WHF	**Hehuan Shan** baz=266	**0.43**	**266**	*i* P	**Pg**	**17 36 00.5**	**-0.4**
WHF	baz=266			*i* S	**Sg**	**17 36 06.1**	**-0.7**
TWC	**Suao** baz=10.0	**0.45**	**14**	⇓*i*P	**Pg**	**17 36 01.0**	**0.0**
TWC	baz=10.0			*i* S	**Sg**	**17 36 06.2**	**-0.8**
ESL	**Shilin** baz=216	**0.45**	**217**	⇑*i*P	**Pg**	**17 36 00.5**	**-0.6**
ESL	baz=216			*i* S	**Sb**	**17 36 08.0**	**-0.4**
FUSS	**Fushou** baz=280	**0.45**	**279**	⇑P	**Pg**	**17 36 01.1**	**-0.1**
FUSS	baz=280			S	**Sg**	**17 36 06.7**	**-0.7**
NDS	**Dongshan** baz=359	**0.46**	**358**	⇓P	**Pg**	**17 36 01.4**	**+0.1**
NDS	baz=359			S	**Sg**	**17 36 07.5**	**+0.1**
NDT	**Datong Townshi** baz=336	**0.47**	**335**	⇓P	**Pb**	**17 36 01.7**	**-0.6**
NDT	baz=336			S	**Sg**	**17 36 08.0**	**+0.2**
ENTT	**Nioudou** baz=343	**0.49**	**342**	⇓*i*P	**Pg**	**17 36 01.9**	**+0.1**
ENTT	baz=343			*i* S	**Sb**	**17 36 08.8**	**-0.7**
TWT	**Tachien** baz=278	**0.51**	**279**	⇑*i*P	**Pg**	**17 36 02.6**	**+0.2**
TWT	baz=278			*i* S	**Sg**	**17 36 09.2**	**-0.1**
EOS2	**EOS2** baz=53	**0.52**	**62**	*e*P	**Pn**	**17 36 04.1**	**-0.9**
EOS2	baz=53			*e*S	**Sn**	**17 36 13.3**	**-0.2**
CHGB	**Renai** baz=249	**0.52**	**257**	⇑P	**Pg**	**17 36 02.3**	**-0.3**

CHGB S Sg 17 36 08.9 -0.6
baz=249
TDCB Techi 0.53 279 ⇑P Pg 17 36 02.6 0.0
TDCB S Sg 17 36 09.0 -0.8
baz=279
TWE Neicheng 0.55 354 ⇓*i*P Pb 17 36 03.1 -0.5
TWE *i*S Sb 17 36 10.6 -0.6
baz=356
OWD Renai 0.55 247 ⇑P Pg 17 36 02.6 -0.5
OWD *e*S Sg 17 36 10.7 +0.2
baz=246
WARBT Fenglin Townsh 0.55 215 ⇑P Pg 17 36 02.3 -0.7
WARBT *e*S Sb 17 36 12.6 +1.1
baz=223
EGFH Guangfu 0.58 209 ⇑P Pg 17 36 03.1 -0.4
EGFH *e*S Sg 17 36 11.5 +0.4
baz=217
ILA Ilan 0.59 1 ⇓*i*P Pb 17 36 04.0 -0.2
ILA S Sb 17 36 12.8 +0.3
baz=3.0
WUSB Renai 0.59 252 ⇑P Pg 17 36 03.5 -0.3
WUSB S Sg 17 36 10.7 -1.0
baz=244
YHNB Yeheng 0.59 327 Pg 17 36 02.6 -1.1
YHNB Sg 17 36 11.3 -0.4
YHNB Yeheng 0.59 327 P Pb 17 36 04.0 -0.3
YHNB Yeheng 0.59 327 ⇓P Pb 17 36 03.8 -0.5
baz=327
YHNB S Sg 17 36 11.7 +0.1
baz=327
FUSB Fushanzhiwuyua 0.60 347 ⇓P Pb 17 36 04.0 -0.5
FUSB S Sb 17 36 12.3 -0.4
baz=348
NSK Sanguang 0.60 326 ⇓*i*P Pg 17 36 03.9 -0.1
NSK *i*S Sg 17 36 11.9 -0.2
baz=327
NWLT Wulai 0.64 341 ⇓P Pb 17 36 04.7 -0.4
NWLT S Sg 17 36 13.0 -0.1
baz=341
NTC Toucheng 0.68 8 *i*P Pb 17 36 05.7 -0.1
NTC S Sb 17 36 15.2 +0.1
baz=8.0
VWDT VWDT 0.68 232 ⇑P Pg 17 36 05.1 -0.4
VWDT *e*S Sb 17 36 15.7 +0.6
baz=232
EGS 0.69 15 ⇓*i*P Pb 17 36 05.9 -0.1
baz=23
EGS *e*S Sb 17 36 15.6 +0.2
baz=23
NFF Wufeng Townshi 0.72 309 P Pg 17 36 06.1 -0.1
baz=310
NFF S Sg 17 36 15.1 -0.6
baz=310
WHP Taichung City 0.72 278 P Pb 17 36 06.7 +0.1
baz=278
WHP S Sg 17 36 15.9 +0.1
baz=278
WPL Puli Township 0.73 257 P Pg 17 36 06.2 -0.1
baz=249
WPL S Sg 17 36 15.1 -0.7
baz=249
HGSD Ruisui 0.74 203 P Pb 17 36 06.9 +0.2
baz=217
HGSD *e*S Sn 17 36 19.8 +0.7
baz=217
DPDB Guoxing 0.75 259 ⇑*i*P Pg 17 36 06.7 0.0
baz=251
DPDB *i*S Sg 17 36 15.9 -0.7
baz=251
WCS Beigang Elemen 0.76 261 P Pg 17 36 06.7 -0.2
baz=253
WCS S Sg 17 36 16.6 -0.3
baz=253
EHY Hungye 0.76 209 *i*P Pg 17 36 06.3 -0.7
baz=220
EHY *e*S Sg 17 36 17.5 +0.4
baz=220
EHYH Wanrong 0.77 208 P Pg 17 36 06.4 -0.6
baz=218
EHYH *e*S Sb 17 36 17.7 +0.2
baz=218
TIPB Shuangxi 0.80 6 ⇓P Pb 17 36 07.6 -0.3
baz=357
TIPB S Sg 17 36 17.9 -0.3
baz=357
NSTT Nanjuang 0.81 304 ⇓*i*P Pb 17 36 07.8 -0.1
baz=305
NSTT *i*S Sb 17 36 18.6 -0.1
baz=305
SSLB Suanglung 0.81 242 Pg Pg 17 36 06.7 -1.1
SSLB Sg 17 36 16.6 -1.9
SSLB Suanglung 0.81 242 P Pg 17 36 07.1 -0.8
SSLB Suanglung 0.81 242 ⇑P Pg 17 36 07.3 -0.6
baz=251
SSLB *e*S Sg 17 36 17.0 -1.5
baz=251
NJD Zhudong 0.81 314 P Pn 17 36 08.5 -0.6
baz=314
NJD S Sn 17 36 20.5 -0.5
baz=314
TWA Mucha 0.81 351 *i*P Pb 17 36 07.8 -0.2
TWA *e*S Sn 17 36 19.8 -1.3
baz=351
SMLT Sun Moon Lake 0.81 249 ⇑*i*P Pg 17 36 07.6 -0.4
baz=249
SMLT *i*S Sg 17 36 18.8 +0.1
baz=249
TATO Taipei 0.83 345 Pg 17 36 08.0 -0.2
TATO Sg 17 36 18.4 -0.7
TATO Taipei 0.83 345 P Pb 17 36 08.1 -0.2
TATO Taipei 0.83 345 P Pg 17 36 08.0 -0.2
baz=344
TATO *e*S Sn 17 36 20.1 -1.3
baz=344
TYC Yuchr 0.84 252 *i*P Pb 17 36 08.0 -0.6
baz=242
TYC S Sg 17 36 19.0 -0.6
baz=242
BACT New Taipei Cit 0.86 342 P Pn 17 36 09.3 -0.5
baz=342
BACT S Sn 17 36 20.9 -1.3
baz=342
TWB1 Santiao Chiao 0.86 16 *i*P Pg 17 36 08.7 -0.2
baz=9.0
TWB1 *i*S Sb 17 36 19.7 -0.6
baz=9.0
NHY Taipei 0.87 350 P Pn 17 36 09.6 -0.4
baz=350
NHY *e*S Sn 17 36 22.1 -0.4
baz=350
YULB Yu-li 0.88 207 Pb 17 36 07.7 -1.4
YULB Yu-li 0.88 207 P Pb 17 36 08.3 -0.8
YULB Yu-li 0.88 207 P Pb 17 36 07.9 -1.2
baz=219
YULB *e*S Sg 17 36 21.1 +0.6
baz=219
HSN1 Hsinchu 0.89 313 P Pn 17 36 10.0 -0.1
baz=313
HSN1 S Sn 17 36 22.4 -0.4
baz=313
TAP Taipei 0.89 347 *i*P Pn 17 36 09.6 -0.6
baz=347
TAP S Sn 17 36 21.6 -1.1
baz=347
ECBN Changbin 0.89 197 P Pg 17 36 09.5 +0.1
baz=189
ECBN *e*S Sn 17 36 22.6 -0.4
baz=189
TWQ1 Liyutan 0.89 281 *i*P Pn 17 36 10.0 -0.2
baz=281
TWQ1 S Sg 17 36 21.5 +0.4
baz=281
NWF Wu-fen Shan 0.89 3 ⇓*i*P Pg 17 36 09.6 +0.1
baz=354
NWF *e*S Sn 17 36 24.2 +1.1
baz=354
WFSB Wu-fen Shan 0.89 3 ⇓P Pg 17 36 09.6 +0.1
baz=354
WFSB *e*S Sg 17 36 21.2 0.0
baz=354
EYUL Yuli 0.91 205 *i*P Pb 17 36 09.3 -0.3
baz=218
EYUL *e*S Sn 17 36 23.1 -0.2
baz=218
NTY Taoyuan 0.91 334 P Pn 17 36 10.9 +0.4
baz=335
NTY *e*S Sn 17 36 23.9 +0.5
baz=335
TWF1 Yuli 0.91 206 *i*P Pb 17 36 08.6 -1.1
baz=217
TWF1 *e*S Sg 17 36 22.0 +0.3
baz=217
NSY Sanyi 0.92 285 *i*P Pn 17 36 10.8 +0.2
baz=285
NSY *i*S Sn 17 36 24.0 +0.4
baz=285
SBCB Hsinchu 0.92 312 ⇓P Pn 17 36 10.6 0.0
baz=312
SBCB *e*S Sn 17 36 24.8 +1.2
baz=312
SXI1 Grass Mountain 0.93 8 ⇓P Pg 17 36 10.1 0.0
baz=347
SXI1 *e*S Sn 17 36 25.3 +1.4
baz=347
NMLH Miaoli 0.93 293 *i*P Pn 17 36 11.0 +0.2
baz=293
NMLH S Sn 17 36 23.4 -0.5
baz=293
NCUH Zhongli 0.93 328 *i*P Pn 17 36 10.7 -0.1
baz=327
NCUH *i*S Sn 17 36 24.6 +0.6
baz=327
HSN Hsinchu 0.93 312 *i*P Pn 17 36 10.7 -0.1
baz=315
HSN *i*S Sn 17 36 23.9 -0.1
baz=315
NJN Zhunan 0.93 303 P Pn 17 36 10.8 0.0
baz=303
NJN *e*S Sn 17 36 26.1 +2.1
baz=303
WHYT Xinyi Township 0.93 240 P Pb 17 36 09.6 -0.6
baz=246
WHYT *e*S Sb 17 36 22.3 -0.1
baz=246
WWF Wufeng 0.95 262 P Pn 17 36 11.8 +0.8
baz=257
WWF S Sn 17 36 26.1 +1.6
baz=257
TCU Taichung 0.96 269 *i*P Pn 17 36 12.2 +1.0
baz=269
TCU *i*S Sn 17 36 25.2 +0.5
baz=269
TWS1 Kuangyinshan 0.96 343 ⇓*i*P Pn 17 36 11.4 +0.2
baz=351
TWS1 S Sn 17 36 25.4 +0.6
baz=351
TNOU National Taiwa 0.97 2 ⇓P Pg 17 36 10.8 -0.1
baz=2.0
TNOU S Sn 17 36 26.2 +1.3
baz=2.0
YM01 YM01 0.98 351 ⇓P Pn 17 36 11.3 -0.2
baz=336
YM01 *e*S Sn 17 36 24.8 -0.4
baz=336
WJS Zhushan 0.98 249 *i*P Pn 17 36 11.8 +0.4
baz=245
WJS *i*S Sn 17 36 25.3 +0.1
baz=245
WNT1 Nantou City 1.00 255 P Pn 17 36 12.2 +0.5
baz=250
WNT1 S Sn 17 36 27.2 +1.6
baz=250
WNT Mingjian 1.00 253 ⇑*i*P Pn 17 36 12.2 +0.5
baz=248
WNT *i*S Sn 17 36 26.3 +0.6
baz=248
WDJ Dajia District 1.01 280 P Pn 17 36 12.9 +1.0
baz=280
WDJ S Sn 17 36 26.9 +1.0
baz=280
YM08 YM08 1.02 353 ⇓P Pg 17 36 11.5 -0.3
baz=337
YM08 *e*S Sn 17 36 26.1 0.0
baz=337
NTST Danshui 1.02 345 *i*P Pn 17 36 12.3 +0.3
baz=354
NTST S Sn 17 36 26.7 +0.6
baz=354
ANP Anpu 1.02 349 ⇓*i*P Pn 17 36 11.9 -0.3
baz=349
ANP *e*S Sn 17 36 25.8 -0.6
baz=349
CHKH Chenggong 1.03 198 P Pb 17 36 11.1 -0.6
baz=186
CHKH S Sn 17 36 28.2 +1.9
baz=186
NWRT Kuosheng 1.03 356 P Pn 17 36 12.6 +0.5
baz=347
NWRT *e*S Sn 17 36 27.5 +1.3
baz=347
NHW Xinwu Township 1.04 323 *i*P Pn 17 36 12.5 +0.3
baz=323
NHW S Sn 17 36 28.2 +1.7
baz=323
FULB Fuli 1.05 203 P Pb 17 36 12.1 -0.1
baz=219
FULB *e*S Sn 17 36 27.5 +0.6
baz=219
WYL Yuanlin Townsh 1.07 259 P Pg 17 36 14.0 +1.1
baz=259
WYL S Sn 17 36 29.3 +1.8
baz=259
ALS Alishan 1.08 232 ⇑*i*P Pb 17 36 12.5 -0.2
baz=233
ALS S Sn 17 36 28.6 +0.7
baz=233
WCHH Zhanghua 1.08 265 *i*P Pg 17 36 14.0 +1.0
baz=265
WCHH S Sn 17 36 29.1 +1.7
baz=265
TWY Chenhua 1.10 354 *i*P Pg 17 36 13.6 +0.2
baz=353
TWY *e*S Sn 17 36 29.0 +0.9
baz=353
NSM Shimen 1.12 353 P Pg 17 36 14.6 +0.9
baz=343
NSM *e*S Sn 17 36 33.6 +5.1
baz=343
CHKT Chengkung 1.12 197 *i*P Pb 17 36 12.3 -1.0
baz=180
CHKT S Sg 17 36 30.6 +2.1
baz=180
EHD Haiduan 1.13 205 P Pb 17 36 12.3 -1.1
baz=208
EHD S Sn 17 36 28.8 -0.1
baz=208
JYNG Yonagunijimaku 1.14 76 P Pg 17 36 14.2 +0.1
JYNG *e*S Sg 17 36 30.4 +1.4
JYNG Yonagunijimaku 1.14 76 A A 17 36 14.2
comp=E,21nm,2.7s,comp=N,32nm,3.2s
ECS Chishang 1.17 204 P Pn 17 36 14.0 -0.2
baz=219
ECS *e*S Sg 17 36 32.1 +2.0
baz=219
WGK Gukeng 1.18 246 ⇑*i*P Pg 17 36 15.0 +0.2
baz=246
WGK S Sg 17 36 31.9 +1.8
baz=246
ELDTW Lidau 1.18 214 *i*P Pn 17 36 12.9 -1.4
baz=216
ELDTW S Sn 17 36 30.2 0.0
baz=216
WDLH Douliu 1.19 246 *i*P Pg 17 36 15.3 +0.1
baz=247
WDLH *i*S Sg 17 36 32.4 +1.6
baz=247
YOJ Yonaguni jima 1.20 76 Pg 17 36 15.0 -0.2
YOJ Sg 17 36 32.5 +1.5
YOJ Yonaguni jima 1.20 76 P Pg 17 36 15.2 -0.1
YOJ Yonaguni jima 1.20 76 ⇑P Pg 17 36 15.0 -0.2
baz=89
YOJ S Sg 17 36 32.7 +1.7
baz=89
YOJ Yonaguni jima 1.20 76 P Pg 17 36 15.1 -0.2
YOJ *e*S Sg 17 36 32.7 +1.7
YOJ Yonaguni jima 1.20 76 A A 17 36 15.1
comp=E,23nm,1.6s,comp=N,21nm,1.8s
WCKO Fanlu 1.27 235 P Pg 17 36 16.7 +0.1
baz=236
WCKO S Sg 17 36 34.8 +1.8
baz=236
WRL Guolierlin Hig 1.27 258 P Pg 17 36 16.4 -0.2
baz=259
WRL S Sg 17 36 33.4 +0.3
baz=259
CHN2 Minshiung 1.32 241 P Pg 17 36 18.4 +0.9
baz=242
CHN2 S Sg 17 36 37.0 +2.4
baz=242
WTK Tuku 1.32 249 *i*P Pg 17 36 17.5 -0.1
baz=250
WTK *i*S Sg 17 36 35.3 +0.5
baz=250
CHN4 Tsaushan 1.33 232 *i*P Pg 17 36 17.8 +0.1
baz=222
CHN4 S Sg 17 36 37.0 +2.0
baz=222
STYH Taoyuan 1.33 221 P Pb 17 36 16.9 0.0
baz=224
STYH S Sg 17 36 36.2 +1.2
baz=224
TPUB Ta-pu 1.33 229 Pb 17 36 16.9 0.0
TPUB Sn Sg 17 36 35.4 +0.2
TPUB Ta-pu 1.33 229 P Pb 17 36 17.4 +0.5
baz=220
TPUB S Sg 17 36 36.4 +1.2
baz=220
STYT Tauyuan 1.35 222 *i*P Pb 17 36 17.1 -0.1
baz=224
STYT S Sg 17 36 36.8 +1.1
baz=224
WTCT Ta-ch'eng 1.36 257 *i*P Pg 17 36 18.5 +0.1
baz=258
WTCT *i*S Sg 17 36 36.8 +0.7
baz=258
CHY Chiayi 1.37 241 *i*P Pg 17 36 19.1 +0.6
baz=242
CHY S Sg 17 36 37.9 +1.4
baz=242
LONT Longtian 1.38 204 *i*P Pn 17 36 16.2 -0.8
baz=207
LONT *e*S Sg 17 36 36.9 +0.2
baz=207
WTP Ta-pu 1.38 228 *i*P Pb 17 36 18.1 +0.4
baz=219
WTP *e*S Sg 17 36 37.7 +1.0
baz=219
TWK Hsinying 1.46 232 ⇓*i*P Pb 17 36 19.6 +0.6
baz=234
TWK S Sg 17 36 39.9 +0.8
baz=234
SNST Tainan City 1.48 230 P Pb 17 36 19.9 +0.6
baz=233
SNST S Sg 17 36 40.9 +1.1
baz=233
TWG Pinlang 1.48 204 Pn 17 36 16.1 -2.2
TWG Pinlang 1.48 204 *i*P Pn 17 36 16.3 -2.0
baz=208
TWG S Sb 17 36 38.2 +0.2
baz=208
TWGBT Beinan 1.48 204 P Pn 17 36 16.7 -1.6
baz=208
TWGBT *e*S Sb 17 36 38.2 +0.2
baz=208
CHN1 Nanshi 1.48 228 *i*P Pb 17 36 20.0 +0.6
baz=231
CHN1 *i*S Sg 17 36 40.3 +0.5
baz=231
PCYT Pengchaiyu 1.48 12 *i*P Pb 17 36 19.2 -0.2
baz=352
PCYT *e*S Sg 17 36 40.6 +0.7
baz=352
WSF Szhu 1.48 249 ⇓*i*P Pb 17 36 19.7 +0.3
baz=251
WSF *i*S Sg 17 36 40.2 +0.3
baz=251
TTN Taitung 1.51 201 *i*P Pb 17 36 20.2 +0.2
baz=205
TTN *e*S Sg 17 36 40.6 -0.3
baz=205
LDUT Ludao 1.51 189 *i*P Pn 17 36 16.8 -2.0
baz=181
LDUT S Sn 17 36 37.5 -0.8
baz=181
SGST Jiashian 1.51 224 ⇓*i*P Pn 17 36 19.1 +0.3
baz=226
SGST *i*S Sg 17 36 42.4 +1.4
baz=226
WSL Shuilin Townsh 1.52 245 P Pg 17 36 21.1 -0.3
baz=246
WSL S Sg 17 36 42.0 +0.8
baz=246
SLGT Liugui 1.54 220 P Pb 17 36 20.4 -0.1
baz=224
SLGT S Sg 17 36 42.6 +0.8
baz=224
ICHU Yijhu 1.56 239 *i*P Pg 17 36 21.5 -0.6
baz=241
ICHU *i*S Sg 17 36 43.2 +0.9
baz=241
CHN8 Yiju 1.62 240 *i*P Pb 17 36 22.0 +0.2
baz=227
CHN8 *i*S Sg 17 36 44.8 +0.5
baz=227
CHN3 Shinhua 1.66 229 *i*P Pg 17 36 23.4 -0.7
baz=234
CHN3 S Sg 17 36 46.8 +1.1
baz=234
SSHA Shanhua 1.68 232 P Pb 17 36 23.4 +0.6
baz=236
SSHA S Sg 17 36 46.8 +0.5
baz=236
SHHT Tainan City 1.71 228 P Pb 17 36 24.1 +0.7
baz=233
SHHT *e*S Sg 17 36 48.6 +1.3
baz=233
SCST Cishan 1.71 222 *i*P Pb 17 36 23.8 +0.4
baz=227
SCST S Sg 17 36 48.9 +1.6
baz=227
ECL Taimali 1.73 205 P Pn 17 36 21.5 -0.2
baz=194
ECL *e*S Sn 17 36 43.6 +0.1
baz=194
SCLT Jiali 1.73 235 *i*P Pb 17 36 23.6 0.0
baz=238
SCLT *i*S Sg 17 36 47.4 -0.4
baz=238
SSD Sandimen 1.74 216 *i*P Pb 17 36 23.4 -0.5
baz=236
SSD *i*S Sg 17 36 47.9 -0.4
baz=236
TSMG Majia 1.77 215 *i*P Pb 17 36 24.1 -0.3
baz=221
TSMG *i*S Sb 17 36 47.8 +1.3
baz=221
TAI1 Yung-k'ang 1.78 231 *i*P Pb 17 36 25.3 +0.7
baz=236
TAI1 *e*S Sg 17 36 48.4 -1.1
baz=236
TWM1 Shoushan 1.80 222 *i*P Pb 17 36 25.7 +0.7
baz=226
TWM1 *e*S Sg 17 36 50.5 +0.2
baz=226
TSCK Chigu Township 1.82 236 P Pb 17 36 24.5 -0.8
baz=241
TSCK *i*S Sb 17 36 48.9 +1.0
baz=241
IRIF Iriomote-Funau 1.83 85 P Pn 17 36 23.6 +0.5
IRIF S Sb 17 36 47.9 -0.3
IRIF Iriomote-Funau 1.83 85 A A 17 36 23.6
comp=E,13nm,3.4s,comp=N,27nm,2.4s
SGLT Jiouru 1.84 219 *i*P Pb 17 36 26.2 +0.7
baz=225
SGLT *i*S Sg 17 36 52.0 +0.7
baz=225
MASBT Mashibuluo 1.85 213 P Pb 17 36 24.8 -1.0
baz=220
MASBT S Sg 17 36 50.6 -1.2
baz=220
HATJ Hateruma jima 1.90 93 P Pn 17 36 25.2 +1.1

HATJ Hateruma jima 1.90 93 A A 17 36 25.2
comp=E,30nm,3.2s,comp=N,26nm,2.9s
SNJT Kaohsiung City 1.91 222 P **Pb** **17 36 26.4 -0.4**
baz=229
SNJT S **Sg** **17 36 54.7 +1.1**
baz=229
EAST Anshuo 1.96 205 *i* P **Pn** **17 36 24.2 -0.7**
baz=196
EAST *e*S **Sn** **17 36 50.3 +0.9**
baz=196
TAW Tawu 1.96 203 *i* P **Pb** **17 36 27.1 -0.6**
baz=195
TAW *e*S **Sn** **17 36 50.8 +1.4**
baz=195
TAWH Dawu Township 1.98 203 P **Pb** **17 36 27.1 -0.9**
baz=195
TAWH S **Sn** **17 36 50.8 +0.9**
baz=195
WSSB Gushan 2.04 222 P **Pb** **17 36 28.0 -1.0**
baz=229
WSSB *e*S **Sg** **17 36 56.2 -1.5**
baz=229
SCZT Fangliau 2.06 210 *i* P **Pb** **17 36 28.5 -0.9**
baz=217
SCZT S **Sg** **17 36 57.1 -1.5**
baz=217
KAU Kaohsiung 2.07 220 *e*P **Pb** **17 36 30.2 +0.8**
baz=243
KAU *e*S **Sb** **17 36 56.9 +2.0**
baz=243
JKRS Kuro-shima 2.08 88 P **Pn** **17 36 27.8 +1.2**
JKRS *e*S **Sb** **17 36 54.3 -1.1**
JKRS Kuro-shima 2.08 88 A A 17 36 27.8
comp=E,25nm,2.2s,comp=N,30nm,5.1s
PNG Penghu 2.08 254 *i* P **Pn** **17 36 27.4 +0.8**
baz=255
PNG *i* S **Sb** **17 36 55.0 -0.4**
baz=255
PHUB P'eng-hu 2.08 252 P **Pn** **17 36 27.1 +0.5**
baz=254
PHUB S **Sb** **17 36 54.3 -1.2**
baz=254
WDGT Dungji 2.11 245 *i* P **Pb** **17 36 28.5 -1.6**
baz=234
WDGT *i* S **Sb** **17 36 55.2 -0.9**
baz=234
LAY Lan-yu 2.13 185 *i* P **Pn** **17 36 25.6 -1.7**
baz=178
LAY *e*S **Sn** **17 36 53.4 -0.3**
baz=178
LYUB Lan-yu 2.17 184 P **Pn** **17 36 24.8 -3.0**
baz=178
LYUB *e*S **Sn** **17 36 55.0 +0.6**
baz=178
JIJ Ishigaki jima 2.21 85 P **Pn** **17 36 28.6 +0.2**
JIJ *e*S **Sn** **17 36 56.1 +0.6**
JIJ Ishigaki jima 2.21 85 A A 17 36 28.6
comp=E,5.0nm,1.9s,comp=N,6.0nm,4.6s
VWUC VWUC 2.23 292 P **Pn** **17 36 28.1 -0.6**
baz=291
VWUC *e*S **Sb** **17 36 57.6 -2.1**
baz=291
SMST Manzhou Townsh 2.30 201 P **Pb** **17 36 31.9 -1.4**
baz=196
SMST *e*S **Sn** **17 36 59.3 +1.7**
baz=196
VCHM Qimei 2.32 246 P **Pn** **17 36 30.8 +0.9**
baz=236
VCHM S **Sb** **17 37 00.2 -2.1**
baz=236
HEN Hengchun 2.34 203 *i* P **Pb** **17 36 32.6 -1.6**
baz=192
HEN *e*S **Sb** **17 37 02.9 -0.1**
baz=192
TWK1 Hengchun 2.38 201 *i* P **Pn** **17 36 31.7 +1.0**
baz=197
TWK1 *e*S **Sb** **17 37 02.4 -1.6**
baz=197
TWKBT Hengchun 2.38 201 P **Pn** **17 36 30.9 +0.2**
baz=197
TWKBT *e*S **Sb** **17 37 02.9 -1.1**
baz=197
JISG Ishigakijimahi 2.39 80 P **Pn** **17 36 31.1 +0.3**
JISG *e*S **Sn** **17 37 01.2 +1.3**
JISG Ishigakijimahi 2.39 80 A A 17 36 31.1
comp=E,6.0nm,0.8s,comp=N,7.0nm,0.6s
TSEB Hengchuen, Pin 2.39 199 *i* P **Pb** **17 36 33.1 -1.8**
baz=204
TSEB S **Sb** **17 37 03.1 -1.2**
baz=204
PTMZ Houxiangcun 2.53 290 P **Pn** **17 36 32.9 +0.2**
baz=289
PTMZ S **Sn** **17 37 03.2 -0.1**
baz=289
MATB Ma-tsu 2.55 321 P **Pn** **17 36 32.5 -0.6**
baz=318
MATB *e*S **Sn** **17 37 04.4 +0.6**
baz=318
JTJ Tarama 2.75 80 *i* P **Pn** **17 36 36.8 +1.1**
JTJ *e*S **Sb** **17 37 11.5 -3.0**
JTJ Tarama 2.75 80 A A 17 36 36.8
comp=E,13nm,2.0s,comp=N,9.0nm,3.6s
QZH Quanzhou 2.96 286 ⇓*i* Pn **Pn** **17 36 38.0 -0.7**
QZH Sn **Sn** **17 37 12.4 -1.6**
QZH smax smax
comp=N,1μm,0.9s
QZH smax smax
comp=N,1μm,1.1s
QZH LR LR
comp=N,7μm,9.8s
QZH LR LR
comp=N,5μm,9.1s
QZH LR LR
comp=N,5μm,10.8s
LYJJ Jianjiangzhen 2.96 323 P **Pn** **17 36 38.3 -0.4**
baz=320
LYJJ *e*S **Sn** **17 37 16.7 +2.7**
baz=320
KNM Kinmen 3.02 275 *i* P **Pn** **17 36 41.5 +2.1**
baz=274
KNM *e*S **Sb** **17 37 19.1 -3.3**
baz=274
KNMB Chin-men Tao 3.06 276 Pn **Pn** **17 36 38.9 -1.2**
KNMB Chin-men Tao 3.06 276 P **Pn** **17 36 40.4 +0.3**
baz=275
KNMB *e*S **Sn** **17 37 18.9 +2.3**
baz=275
XPSS Dashiqiu 3.08 333 P **Pn** **17 36 39.5 -0.8**
baz=331
XPSS *e*S **Sn** **17 37 19.2 +2.4**
baz=331
MHZQ Yeshan 3.11 309 P **Pn** **17 36 40.6 -0.2**
baz=306
MHZQ S **Sn** **17 37 18.8 +1.1**
baz=306
JIRB Irabujima 3.20 78 *e*P **Pn** **17 36 43.0 +1.0**
JIRB *e*S **Sn** **17 37 21.6 +1.6**
JIRB Irabujima 3.20 78 A A 17 36 43.0
comp=E,5.0nm,3.7s,comp=N,8.0nm,3.9s
JIKM Ikemajima 3.29 76 *e*P **Pn** **17 36 44.5 +1.3**
JIKM *e*S **Sn** **17 37 24.4 +2.3**
JMJ Miyako jima 2 3.31 78 P **Pn** **17 36 44.7 +1.2**
JMJ2 Miyako jima3 3.33 80 *e*P **Pn** **17 36 45.7 +2.0**
JMJ2 Miyako jima3 3.33 80 A A 17 36 45.7
comp=E,11nm,4.5s,comp=N,12nm,3.3s
JOGS Gusukube 3.40 79 P **Pn** **17 36 47.3 +2.5**
JOGS *e*S **Sn** **17 37 27.5 +2.6**
JOGS Gusukube 3.40 79 A A 17 36 47.3
comp=E,11nm,3.8s,comp=N,13nm,2.6s
AXDP Jialang 3.50 283 P **Pn** **17 36 46.1 0.0**
baz=281
AXDP *e*S **Sn** **17 37 29.5 +2.2**
baz=281
ZPLA Ao Xicun 3.65 267 P **Pn** **17 36 49.0 +0.8**
baz=265
ZPLA S **Sn** **17 37 31.2 +0.2**
baz=265
DSXP Dongshan 3.97 264 *i* P **Pn** **17 36 53.2 +0.7**
baz=263
DSXP *e*S **Sn** **17 37 39.3 +0.5**
baz=263
SXFK Yanhouchang 4.31 302 P **Pn** **17 36 57.4 +0.1**
baz=299
SXFK *e*S **Sn** **17 37 48.0 +0.6**
baz=299
JOW Kunigami 6.48 65 **Pn** **17 37 26.7 -0.4**
JOW Kunigami 6.48 65 P **Pn** **17 37 27.0 0.0**
comp=N,5.2nm,0.3s,baz=175,slow=11,SNR=23
JOW S **Sn** **17 38 41.7 +0.9**
comp=N,23nm,0.6s,baz=213,slow=29,SNR=1.1
comp=N,22nm,0.5s
SSE Sheshan 6.91 356 Pn **Pn** **17 37 33.4 +0.4**
SSE Sn **Sn** **17 38 54.6 +3.2**
SSE smax smax
comp=N,100nm,1.0s
SSE smax smax
comp=N,130nm,1.1s
SSE LR LR
comp=N,600nm,10.0s
SSE LR LR
comp=N,490nm,9.7s
HKPS Hong Kong Po S 7.23 256 **Pn** **17 37 34.9 -2.5**
GZH Guangzhou 7.77 264 Pn **Pn** **17 37 41.2 -3.6**
GZH Sn **Sn** **17 39 08.6 -3.9**
GZH smax smax
comp=N,350nm,1.0s
GZH smax smax
comp=N,280nm,1.0s
NJ2 Nanjing 8.25 343 ⇑P **Pn** **17 37 50.9 -0.4**
NJ2 pP **Pn** **17 37 54.0 +2.7**
NJ2 S **Sn** **17 39 23.6 -0.7**
NJ2 sS **Sn** **17 39 30.0 +5.7**
NJ2 pmax pmax
comp=N,31nm,0.7s
NJ2 smax smax
comp=N,330nm,1.0s
NJ2 smax smax
comp=N,270nm,1.1s
NJ2 LR LR
comp=N,2μm,7.6s
NJ2 LR LR
comp=N,1μm,5.8s
NJ2 LR LR
comp=N,2μm,11.2s
JMZ Minamidaito 2 8.77 77 Pn **Pn** **17 37 55.8 -2.7**
CNSH ChangSha 8.85 299 ⇑P **Pn** **17 38 01.6 +1.9**
CNSH S **Sn** **17 39 47.2 +7.9**
CNSH smax smax
comp=N,550nm,1.4s
CNSH smax smax
comp=N,570nm,1.1s
WHN Wuhan 9.12 316 ⇑P **Pn** **17 38 02.8 -0.6**
WHN sP 17 38 10.3
WHN S **Sn** **17 39 47.5 +1.6**
WHN pmax pmax
comp=N,64nm,0.6s
WHN LR LR
comp=N,8μm,9.1s
WHN LR LR
comp=N,5μm,6.7s
WHN LR LR
comp=N,10μm,9.9s
TGY Tagaytay City 10.05 184 LR LR 17 42 51.9
comp=N,85nm,19.8s,baz=316,slow=41
GULI GuiLin 10.39 278 ⇑P **Pn** **17 38 21.3 +0.5**
GULI S **Sn** **17 40 13.6 -3.5**
GULI pmax pmax
comp=N,10.0nm,0.9s
GULI LR LR
comp=N,1μm,8.8s
GULI LR LR
comp=N,2μm,9.8s
GULI LR LR
comp=N,3μm,10.3s
JNU Nakatsue 11.99 40 **Pn** **17 38 41.5 -1.2**
JNU Nakatsue 11.99 40 P **Pn** **17 38 42.6 -0.1**
comp=N,10nm,1.1s,baz=333,slow=16,SNR=2.4
JNU LR LR 17 44 07.3
comp=N,413nm,18.8s,baz=157,slow=41
QIZ Qiongzhong 12.18 247 P **Pn** **17 38 46.0 +0.7**
QIZ S **Sn** **17 41 04.3 +3.3**
QIZ LR LR
comp=N,780nm,15.9s
QIZ LR LR
comp=N,540nm,10.0s
QIZ LR LR
comp=N,430nm,16.2s
ENH Enshi 12.47 302 Pn **Pn** **17 38 49.4 +0.2**
TJN Taejon 13.10 20 Pn **Pn** **17 38 57.2 -0.5**
GYA Guiyang 13.82 283 P **Pn** **17 39 08.8 +1.1**
GYA S **Sn** **17 41 43.0 +1.9**
GYA pmax pmax
comp=N,9.0nm,0.9s
GYA LR LR
comp=N,810nm,8.2s
GYA LR LR
comp=N,520nm,5.6s
GYA LR LR
comp=N,2μm,9.4s
INCN Inchon 13.91 16 Pn **Pn** **17 39 06.2 -2.7**
KSAR Wonju Array Be 14.24 20 Pn **Pn** **17 39 14.4 +1.1**
KSRS Korea Array 14.26 20 P **Pn** **17 39 15.2 +1.6**
comp=N,0.6nm,0.3s,baz=205,slow=14,SNR=15
KSRS LR LR 17 45 16.9
comp=N,260nm,18.6s,baz=200,slow=40
comp=N,3.9nm,0.9s
JMN Monobe 14.26 45 Pn **Pn** **17 39 15.3 +1.6**
KS19 Wonju Array Si 14.29 20 Pn **Pn** **17 39 15.1 +1.1**
HNS HongShan 14.49 337 *e*P **P** **17 39 20.6 -2.8**
HNS PP **PnPn** **17 39 33.1 +8.3**
HNS eS **Sn** **17 42 04.4 +7.2**
HNS LR LR
comp=N,1μm,12.7s
HNS LR LR
comp=N,1μm,11.1s
HNS LR LR
comp=N,2μm,13.5s
XAN Xi'an 14.88 314 ⇑P **Pn** **17 39 23.0 +0.8**
XAN pP P 17 39 26.4 -1.5
XAN sP 17 39 29.9
XAN pmax pmax
comp=N,10.0nm,0.9s
XAN LR LR
comp=N,2μm,4.3s
XAN LR LR
comp=N,2μm,4.0s
XAN LR LR
comp=N,3μm,10.1s
TIY Taiyuan 15.66 332 ⇑P **P** **17 39 40.2 +3.6**
TIY PP **sP** **17 39 45.9 +3.7**
TIY S **S** **17 42 37.6 -3.4**
TIY SS SnSn 17 42 57.6 +19
TIY pmax pmax
comp=Z,14nm,0.5s
TIY LR LR
comp=N,1μm,11.0s
TIY LR LR
comp=E,690nm,9.6s
TIY LR LR
comp=Z,1μm,12.6s
BJI Beijing 16.50 345 P **P** **17 39 48.2 +2.5**
BJI S **Sn** **17 42 50.0 +4.0**
BJI pmax pmax
comp=Z,5.0nm,1.0s
BJI pmax pmax
comp=Z,86nm,5.6s
BJI LR LR
comp=Z,310nm,12.3s
BJI LR LR
comp=Z,140nm,12.5s
BJI LR LR
comp=Z,370nm,12.5s
SLVN Son La 16.68 264 P **Pn** **17 39 45.0 -0.7**
KMI Kunming 17.29 277 ⇑P **P** **17 39 56.3 +1.4**
KMI pmax pmax
comp=Z,5.0nm,1.1s
KMI LR LR
comp=Z,370nm,6.5s
KMI LR LR
comp=Z,2μm,9.2s
KMI LR LR
comp=Z,2μm,11.9s
INU Inuyama 17.30 46 P **Pn** **17 39 53.4 +0.2**
DAV Davao City (W) 17.40 167 LR LR 17 46 08.0
comp=Z,187nm,21.5s,baz=352,slow=35
SNY Shenyang 17.67 5 ⇓P **P** **17 40 01.2 +2.5**
SNY S **S** **17 43 18.0 -3.7**
SNY pmax pmax
comp=Z,13nm,1.9s
SNY pmax pmax
comp=Z,380nm,4.6s
SNY LR LR
comp=Z,220nm,15.6s
SNY LR LR
comp=Z,370nm,10.8s
SNY LR LR
comp=Z,2μm,12.1s
JGF Kuroka 17.67 46 P **Pn** **17 39 57.7 -0.2**
JHJ Hachijo jima 2 18.16 57 LR LR 17 46 56.5
comp=Z,172nm,19.4s,baz=284,slow=36
JHJ2 Mitsune 18.18 57 **Pn** **17 40 01.3 -2.8**
PZH PanZhiHua 18.22 282 P **P** **17 40 07.1 +2.1**
PZH sP **sP** **17 40 11.4 -0.1**
PZH S **S** **17 43 31.5 -1.8**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,150nm,5.4s
PZH LR LR
comp=Z,420nm,6.2s
PZH LR LR
comp=Z,450nm,7.6s
PZH LR LR
comp=Z,1μm,11.8s
JCJ Chichijima 18.67 77 P **P** **17 40 06.5 -3.4**
JCJ Chichijima 18.67 77 LR LR 17 46 23.8
comp=Z,232nm,19.2s,baz=274,slow=34
HHC Hu-ho-hao-te 18.68 335 *e*P **Pn** **17 40 10.3 -0.1**
HHC S **Sn** **17 43 35.4 -3.7**
HHC SS **SnSn** **17 43 57.4 +4.2**
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,330nm,4.5s
HHC LR LR
comp=Z,690nm,9.9s
HHC LR LR
comp=Z,430nm,9.9s
HHC LR LR
comp=Z,720nm,10.8s
MJB9 Matsu-Tunnel 18.78 45 P **P** **17 40 08.2 -2.8**
MJAR Matsushiro Arr 18.78 45 P **P** **17 40 09.1 -1.9**
baz=232,slow=9.0,SNR=9.5
MJAR LR LR 17 47 59.9
comp=Z,192nm,20.4s,baz=230,slow=39
comp=Z,2.4nm,0.9s
KKM Kota Kinabalu 18.79 197 P **P** **17 40 07.5 -3.8**
BTO Baotou 19.11 332 *e*P **Pn** **17 40 19.0 +3.5**
BTO pP **sP** **17 40 22.7 +2.4**
BTO sP pP 17 40 26.6 +7.8
BTO PP **PnPn** **17 40 32.6 +4.4**
BTO SS **SnSn** **17 44 16.6 +13**
BTO pmax pmax
comp=Z,14nm,0.7s
BTO pmax pmax
comp=Z,500nm,4.7s
BTO LR LR
comp=Z,3μm,10.1s
BTO LR LR
comp=Z,710nm,9.9s
BTO LR LR
comp=Z,4μm,10.8s
LZH Lanzhou 19.46 312 ⇓P **Pn** **17 40 23.6 +3.7**
LZH sP sP 17 40 32.6 +8.3
LZH pmax pmax
comp=Z,22nm,1.5s
LZH LR LR
comp=Z,490nm,10.0s
LZH LR LR
comp=Z,870nm,10.7s
LZH LR LR
comp=Z,2μm,10.0s
CN2 Changchun 19.81 8 P **Pn** **17 40 23.1 -0.7**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=Z,1μm,13.0s
CN2 LR LR
comp=Z,900nm,13.0s
CN2 LR LR
comp=Z,1μm,13.0s
CRAI Chiangrai 20.16 263 P **P** **17 40 23.7 -2.5**
XLT XiLinHaoTe 20.21 348 *e*P Pn 17 40 28.6 0.0
XLT pP sP 17 40 32.6 -0.3
XLT sS sS 17 44 21.6 +1.8
XLT pmax pmax
comp=Z,14nm,0.9s
XLT pmax pmax
comp=Z,140nm,5.2s
XLT LR LR
comp=Z,56nm,14.2s
XLT LR LR
comp=Z,370nm,14.0s
XLT LR LR
comp=Z,700nm,13.0s
SGSI Sangihe 20.70 169 P Pn 17 40 36.1 +1.7
PHRA Phrae 20.80 258 P **P** **17 40 32.1 -1.0**
TNCH TengChong 21.12 277 P **P** **17 40 39.2 +2.4**
TNCH pP pP 17 40 41.7 +0.5
TNCH S **S** **17 44 29.1 -2.5**
TNCH pmax pmax
comp=Z,27nm,2.2s
TNCH pmax pmax
comp=Z,160nm,5.1s
TNCH LR LR
comp=Z,410nm,14.1s
TNCH LR LR
comp=Z,1μm,15.9s
TNCH LR LR
comp=Z,1μm,18.1s
JMM Marumori 21.23 46 P **P** **17 40 36.0 -1.6**
MDJ Mudanjiang 21.38 16 P **P** **17 40 40.6 +1.5**
MDJ pP pP 17 40 43.2 +0.4
MDJ sP pwP 17 40 44.8 +2.0
MDJ PP **PnPn** **17 40 59.1 -0.1**
MDJ S **S** **17 44 39.3 +3.3**
MDJ SS **SnSn** **17 45 03.7 +4.6**
MDJ PcS **PcS** **17 48 21.8 +1.0**
MDJ ScS **ScS** **17 52 03.1 -0.1**
MDJ pmax pmax
comp=Z,9.0nm,0.8s
MDJ pmax pmax
comp=Z,350nm,3.8s
MDJ LR LR
comp=Z,780nm,13.7s
MDJ LR LR
comp=Z,1μm,12.8s
MDJ LR LR
comp=Z,1μm,17.1s
MDJ Mudanjiang 21.38 16 P **P** **17 40 38.6 -0.5**
USA0B Ussuriysk Arra 21.67 20 P **P** **17 40 42.0 -0.3**
USRK Ussuriysk Ar. 21.67 20 P **P** **17 40 40.2 -2.0**
USRK Ussuriysk Ar. 21.67 20 P **P** **17 40 43.7 +1.4**
comp=Z,9.1nm,0.8s,baz=207,slow=10.0,SNR=14
USRK LR LR 17 49 47.7
comp=Z,195nm,19.2s,baz=191,slow=38
comp=Z,9.1nm,0.8s
CHTO Chiang Mai 21.85 260 P **P** **17 40 45.5 +1.0**
CM31 Chiang Mai Arr 21.97 259 P **P** **17 40 46.0 +0.3**
CMAR Chiang Mai Arr 21.97 259 P **P** **17 40 45.8 +0.1**
CMAR Chiang Mai Arr 21.97 259 P **P** **17 40 47.0 +1.3**
comp=Z,2.7nm,0.9s,baz=65,slow=7.8,SNR=20
CMAR LR LR 17 50 52.7
comp=Z,66nm,19.9s,baz=75,slow=41
comp=Z,2.7nm,0.9s
BNX BinXian 22.00 11 ⇑P **P** **17 40 44.3 -1.5**
BNX pmax pmax
comp=Z,5.0nm,1.1s
BNX pmax pmax
comp=Z,260nm,4.4s
TOLI2 Tolitoli 22.95 182 P **P** **17 40 56.3 +0.2**
SBUM Sibu 23.47 204 P **P** **17 41 01.1 -0.4**
KMSI Cibinong 23.56 174 P **P** **17 41 06.1 +3.8**
comp=Z,84nm,1.1s
GTA Gaotai 23.95 315 P **P** **17 41 06.5 +0.5**
GTA pP sP 17 41 11.8 -0.2
GTA sS sS 17 45 34.3 +4.3
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA LR LR
comp=Z,460nm,8.8s
GTA LR LR
comp=Z,710nm,11.9s
GTA LR LR
comp=Z,880nm,12.3s
LUWI Luwuk 25.09 178 P **P** **17 41 21.2 +4.8**
comp=Z,46nm,0.8s,comp=Z,1μm
MTKI Muara Teweh, K 25.83 196 P **P** **17 41 25.6 +2.4**
comp=Z,27nm,1.0s,comp=Z,3μm

STKI **Sintang** 25.95 204 P P 17 41 25.9 +1.6
GOMU **GeErMu** 26.08 304 P P 17 41 26.2 +0.4
GOMU pP sP 17 41 32.2 +0.5
GOMU sP pP 17 41 33.4 +3.5
GOMU S S 17 46 00.8 +3.9
GOMU sS sS 17 46 09.8 +4.7
GOMU pmax pmax
comp=Z,2.0nm,1.1s
GOMU LR LR
comp=Z,800nm,15.7s
GOMU LR LR
comp=Z,230nm,16.1s
GOMU LR LR
comp=Z,290nm,14.5s
ASAJ **Asahikawa** 26.21 36 LR LR 17 52 41.9
comp=Z,326nm,18.7s,baz=236,slow=38
JKA **Kamikawa-asahi** 26.21 36 P P 17 41 24.7 -1.7
JKA IAmb IAmb 17 41 51.1
comp=Z,49nm,1.3s
KLR **Kul'dur** 26.22 15 P P 17 41 26.1 -0.3
comp=Z,9.9nm,0.9s,baz=224,slow=7.6,SNR=21
KLR PcP PcP 17 44 52.6 -0.3
comp=Z,2.0nm,0.6s,baz=198,slow=2.4,SNR=5.3
KLR LR LR 17 52 41.6
comp=Z,249nm,18.8s,baz=198,slow=38
comp=Z,9.9nm,0.9s
ULN **Ulaanbaatar** 26.36 337 P P 17 41 27.0 -1.0
HEH **HeiHe** 26.41 8 eP P 17 41 28.2 +0.1
HEH pmax pmax
comp=Z,12nm,1.3s
HEH pmax pmax
comp=Z,170nm,6.9s
HEH LR LR
comp=Z,320nm,14.9s
HEH LR LR
comp=Z,620nm,14.2s
HEH LR LR
comp=Z,1μm,14.7s
SWI **Sorong** 26.55 158 P P 17 41 33.9 +4.2
comp=Z,10nm,0.8s
SONM **Songino Array** 26.57 337 P P 17 41 29.7 -0.1
SONM **Songino Array** 26.57 337 P P 17 41 29.9 +0.1
comp=Z,6.2nm,0.9s,baz=154,slow=8.9,SNR=38
SONM LR LR 17 53 10.3
comp=Z,387nm,19.2s,baz=162,slow=39
comp=Z,6.2nm,0.9s
NLAI **Namlea** 27.75 168 P P 17 41 43.5 +3.1
comp=Z,21nm,1.0s
LHMI **Lhok Sumawe** 30.38 236 P P 17 42 01.8 -2.1
PWJI **Pagerwojo** 33.44 198 P P 17 42 33.1 +2.4
comp=Z,26nm,1.0s
KASI **Kota Agung** 33.97 212 P P 17 42 39.8 +4.5
comp=Z,18nm,1.3s
WMQ **Urumqi** 34.02 314 eP P 17 42 34.6 -1.1
WMQ LR LR
comp=Z,310nm,8.5s
WMQ LR LR
comp=Z,660nm,12.9s
WMQ LR LR
comp=Z,150nm,10.3s
MTN **Manton Dam** 37.92 165 P P 17 43 07.9 -1.3
MTN IAmb IAmb 17 43 16.7
comp=Z,35nm,1.4s
YAK **Yakutsk** 38.23 6 P P 17 43 09.4 -1.8
YAK IAmb IAmb 17 43 22.1
comp=Z,13nm,0.8s
YAK **Yakutsk** 38.23 6 P P 17 43 09.9 -1.3
comp=Z,8.2nm,0.8s,baz=112,slow=22,SNR=5.7
YAK LR LR 18 00 28.1
comp=Z,178nm,19.3s,baz=147,slow=39
comp=Z,8.2nm,0.8s
MK31 **Makanchi Array** 38.69 316 P P 17 43 15.0 -0.5
MKAR **Makanchi Array** 38.69 316 P P 17 43 15.5 -0.1
MKAR **Makanchi Array** 38.69 316 P P 17 43 15.9 +0.4
comp=Z,5.2nm,0.8s,baz=110,slow=9.6,SNR=51
MKAR PcP PcP 17 45 25.6 -1.7
comp=Z,0.5nm,0.7s,baz=95,slow=4.8,SNR=1.5
MKAR ScP S 17 49 11.2 -0.7
comp=Z,0.7nm,1.1s,baz=90,slow=6.1,SNR=2.4
comp=Z,5.2nm,0.8s
MAKZ **Makanchi** 38.90 316 P P 17 43 17.1 -0.2
PETK **Petropavlovsk-** 39.60 34 LR LR 18 00 06.9
comp=Z,146nm,18.8s,baz=231,slow=37
KNRA **Kununurra** 40.20 169 P P 17 43 27.3 -0.9
KNRA IAmb IAmb 17 43 32.8
comp=Z,54nm,1.4s
ZAA0 **Zalesovo Array** 40.52 327 P P 17 43 30.6 0.0
ZALV **Zalesovo Beam** 40.52 327 P P 17 43 30.0 -0.6
ZALV **Zalesovo Beam** 40.52 327 P P 17 43 29.5 -1.1
comp=Z,8.4nm,0.7s,baz=114,slow=7.6,SNR=18
comp=Z,8.4nm,0.7s
MA2 **Magadan** 40.80 22 P P 17 43 31.6 -1.3
MA2 **Magadan** 40.80 22 LR LR 18 01 39.0
comp=Z,179nm,18.6s,baz=230,slow=38
RABL **Rabaul** 40.90 130 P P 17 43 34.1 -0.1
KSH **Kashi** 41.32 303 P P 17 43 40.9 +3.3
KSH pmax pmax
comp=Z,3.0nm,1.1s
KSH LR LR
comp=Z,370nm,12.6s
NRN **Naryn** 41.60 306 P P 17 43 40.0 0.0
PMG **Port Moresby** 41.60 140 P P 17 43 39.7 -0.2
PMG **Port Moresby** 41.60 140 P P 17 43 39.8 -0.1
comp=Z,4.2nm,0.8s,baz=353,slow=7.4,SNR=2.0
comp=Z,4.2nm,0.8s
H11N1 **WAKE ISLAND Hy** 41.99 87 T T 18 29 01.9
baz=283,slow=74,SNR=6.4
H11N2 **WAKE ISLAND Hy** 41.99 87 T T 18 29 03.3
baz=283,slow=74,SNR=7.1
H11N3 **WAKE ISLAND Hy** 42.00 87 T T 18 29 01.6
baz=283,slow=74,SNR=7.7
KURK **Kurchatov** 42.42 320 P P 17 43 46.0 -0.2
KURBB **Kurchatov Arra** 42.44 320 P P 17 43 46.2 -0.1
comp=Z,2.1nm,0.8s,baz=112,slow=7.9,SNR=14
comp=Z,2.1nm,0.8s
PALK **Pallekele** 42.72 254 LR LR 18 02 57.1
comp=Z,54nm,19.0s,baz=195,slow=38
AAK **Ala-Archa** 42.91 307 P P 17 43 50.4 -0.2
NIL **Nilore** 43.15 294 P P 17 43 52.4 -0.1
COEN **Coen** 43.30 149 P P 17 43 53.9 +0.2
COCO **West Island** 43.57 217 P P 17 43 56.2 +0.4
SEY **Seymchan** 43.82 20 P P 17 43 57.2 -0.1
comp=Z,1.0nm,0.5s,baz=147,slow=22,SNR=4.6
comp=Z,1.0nm,0.5s
ARSB **Arslanbob** 43.83 305 P P 17 43 57.6 -0.3
DRK **Karamyk** 44.53 302 P P 17 44 03.3 -0.5
MBWA **Marble Bar** 45.10 183 P P 17 44 08.2 +0.2
MBWA IAmb IAmb 17 44 35.5
comp=Z,21nm,1.4s
BTK **Batken** 45.33 303 P P 17 44 10.1 +0.2
WB0 **Warramunga Arr** 45.38 163 P P 17 44 10.1 -0.3
WB0 IAmb IAmb 17 44 33.4
comp=Z,17nm,1.4s
PSA00 **Pilbara Seismi** 45.51 182 P P 17 44 10.1 -1.1
PSA00 IAmb IAmb 17 44 18.2
comp=Z,13nm,0.9s
WRAB **Tennant Creek** 45.53 163 P P 17 44 11.0 -0.5
WRAB IAmb IAmb 17 44 15.6
comp=Z,12nm,1.2s
WRA **Warramunga Arr** 45.54 163 P P 17 44 10.2 -1.4
WRA **Warramunga Arr** 45.54 163 P P 17 44 11.2 -0.3
comp=Z,3.2nm,0.8s,baz=346,slow=8.8,SNR=13
comp=Z,3.2nm,0.8s
WR0 **Warramunga Arr** 45.61 163 P P 17 44 11.3 -0.8
WR0 IAmb IAmb 17 44 28.5
comp=Z,7.5nm,0.8s
GAR **Garm** 45.65 302 P P 17 44 11.5 -1.0
GAR IAmb IAmb 17 44 25.8
comp=Z,13nm,1.1s
KK31 **Karatay Array** 45.87 307 P P 17 44 14.4 +0.4
KKAR **Karatay Array** 45.87 307 P P 17 44 14.2 +0.1
KKAR **Karatay Array** 45.87 307 P P 17 44 14.7 +0.6
KKAR IAmb IAmb 17 44 27.2
comp=Z,5.1nm,1.3s
CHGR **Chuyangaron** 46.53 301 P P 17 44 18.8 -0.7
CHGR IAmb IAmb 17 45 00.3
comp=Z,8.5nm,0.9s
KBL **Kabul** 46.62 295 P P 17 44 20.1 -0.2
KBL IAmb IAmb 17 44 29.7
comp=Z,16nm,1.1s
SIMJ **Simiganj** 46.65 301 P P 17 44 20.5 +0.1
GIRL **Giralia** 47.10 189 P P 17 44 23.8 0.0
TIXI **Tiksi** 47.68 3 P P 17 44 25.5 -2.2
TIXI **Tiksi** 47.68 3 P P 17 44 25.8 -1.9
comp=Z,14nm,0.8s,baz=172,slow=4.3,SNR=54
TIXI PcP PcP 17 45 55.5 -1.4
comp=Z,0.7nm,0.3s,baz=257,slow=1.5,SNR=0.8
TIXI LR LR 18 06 22.4
comp=Z,231nm,20.1s,baz=198,slow=38
comp=Z,14nm,0.8s
BVAR **Borovoye Array** 48.00 321 P P 17 44 30.6 +0.1
comp=Z,2.2nm,0.5s,baz=109,slow=7.9,SNR=15
BVAR PcP PcP 17 45 58.1 -0.4
comp=Z,1.4nm,0.7s,baz=108,slow=3.6,SNR=2.6
comp=Z,2.2nm,0.5s
BRVK **Borovoye** 48.07 321 P P 17 44 30.8 -0.3
BRVK IAmb IAmb 17 44 40.4
comp=Z,6.4nm,0.9s
SHEM **Shemya Is, Ala** 48.52 40 LR LR 18 03 34.0
comp=Z,53nm,21.8s,baz=182,slow=34
AS31 **Alice Springs** 49.00 165 P P 17 44 37.5 -1.0
ASAR **Alice Springs** 49.00 165 P P 17 44 37.0 -1.5
ASAR **Alice Springs** 49.00 165 P P 17 44 38.7 +0.2
comp=Z,2.3nm,0.8s,baz=340,slow=7.8,SNR=22
comp=Z,2.3nm,0.8s
CTA **Charters Tower** 50.06 149 LR LR 18 04 07.8
comp=Z,55nm,21.2s,baz=282,slow=34
HNR **Honiara** 50.08 127 LR LR 18 04 33.9
comp=Z,449nm,19.5s,baz=197,slow=34
BILL **Bilibino** 51.52 20 P P 17 44 56.2 -0.9
ABKAR **Akbulak array** 53.80 314 P P 17 45 13.3 -1.0
ABKAR **Akbulak array** 53.80 314 P P 17 45 14.2 0.0
GEYT **Alibeck** 55.23 300 P P 17 45 23.9 -1.0
GEYT IAmb IAmb 17 45 33.9
comp=Z,10nm,1.1s
GEYT **Alibeck** 55.23 300 P P 17 45 26.4 +1.5
comp=Z,4.1nm,1.0s,baz=72,slow=7.2,SNR=4.5
comp=Z,4.1nm,1.0s
ARU **Arti** 55.42 323 P P 17 45 24.5 -1.3
GAMB **Gambell** 58.25 29 P P 17 45 44.9 -0.9
BBOO **Buckleboo** 58.29 166 P P 17 45 45.8 -0.6
STKA **Stephens Creek** 58.88 160 P P 17 45 49.6 -1.0
STKA **Stephens Creek** 58.88 160 P P 17 45 50.4 -0.2
comp=Z,2.1nm,0.7s,baz=326,slow=14,SNR=4.2
comp=Z,2.1nm,0.7s
TNA **Tin City** 60.12 27 P P 17 45 57.6 -1.2
baz=263
M11K **Mekoryuk** 60.45 33 P P 17 45 59.7 -1.4
baz=267
F14K **Arctic Creek** 60.77 27 P P 17 46 02.9 -0.3
baz=264
ANM **Nome** 61.10 28 P P 17 46 05.4 -0.1
ANM IAmb IAmb 17 46 06.7
comp=Z,9.0nm,1.1s
ANM **Nome** 61.10 28 P P 17 46 04.7 -0.8
baz=266
C16K **Lisburne Hills** 61.46 24 IAmb IAmb 17 46 08.7
comp=Z,18nm,1.4s
C16K **Lisburne Hills** 61.46 24 P P 17 46 07.3 -0.5
baz=264
F15K **North Star Dit** 61.49 27 IAmb IAmb 17 46 09.8
comp=Z,14nm,1.2s
F15K **North Star Dit** 61.49 27 P P 17 46 07.6 -0.5
baz=266
G15K **Niukluk** 61.70 28 P P 17 46 08.6 -0.9
baz=267
J14K **Nanvaranak Lak** 61.81 30 P P 17 46 10.3 +0.1
J14K **Nanvaranak Lak** 61.81 30 P P 17 46 08.8 -1.5
baz=268
FALS **False Pass** 61.95 39 P P 17 46 09.9 -1.4
baz=273
L14K **Kuka Creek** 62.20 32 P P 17 46 12.2 -0.7
baz=270
D17K **Noatak River** 62.26 25 P P 17 46 12.9 -0.3
baz=266
C17K **DeLong Mountai** 62.28 24 P P 17 46 13.0 -0.3
baz=266
G16K **Koyuk River** 62.43 27 IAmb IAmb 17 46 15.3
comp=Z,8.8nm,1.1s
G16K **Koyuk River** 62.43 27 P P 17 46 13.1 -1.2
baz=268
H16K **Elim** 62.45 28 P P 17 46 13.9 -0.7
baz=268,SNR=6.7
M14K **Bethel** 62.55 33 P P 17 46 14.9 -0.3
M14K IAmb IAmb 17 46 29.4
comp=Z,13nm,1.2s
M14K **Bethel** 62.55 33 P P 17 46 14.7 -0.6
baz=271
K15K **Wolf Creek Mou** 62.74 31 P P 17 46 16.1 -0.5
baz=270
B18K **Kokolik River** 62.84 23 P P 17 46 16.7 -0.3
baz=266
F17K **Baldwin Pennin** 62.91 26 IAmb IAmb 17 46 26.1
comp=Z,13nm,1.4s
F17K **Baldwin Pennin** 62.91 26 P P 17 46 17.3 -0.3
baz=268
C18K **Utukok River** 63.02 24 P P 17 46 17.5 -0.9
baz=267
I17K **Unalakleet** 63.12 29 P P 17 46 18.9 0.0
I17K **Unalakleet** 63.12 29 P P 17 46 18.5 -0.5
baz=270
G17K **Kiwalik Mounta** 63.14 27 P P 17 46 18.7 -0.5
baz=270
J16K **Anvik River** 63.16 30 P P 17 46 19.2 -0.2
baz=271
M15K **Kasigluk River** 63.18 33 P P 17 46 19.1 -0.4
baz=272
E18K **Tukpahlearik C** 63.19 25 IAmb IAmb 17 46 20.6
comp=Z,7.4nm,0.9s
E18K **Tukpahlearik C** 63.19 25 P P 17 46 19.7 +0.2
baz=269
DZM **Mont Dzumac** 63.26 133 LR LR 18 11 23.7
comp=Z,48nm,18.7s,baz=260,slow=34
H17K **Granite Mounta** 63.45 28 P P 17 46 21.7 +0.5
baz=270
N15K **Kwethluk River** 63.50 33 P P 17 46 21.2 -0.4
baz=273
F18K **Selawik** 63.55 26 P P 17 46 21.7 -0.1
baz=270,SNR=11
C19K **Lookout Ridge** 63.61 23 IAmb IAmb 17 46 23.5
comp=Z,7.6nm,1.0s
C19K **Lookout Ridge** 63.61 23 P P 17 46 22.2 0.0
baz=269
O15K **Ungalikthiuk R** 63.69 34 P P 17 46 21.8 -1.0
baz=273
L16K **Owhat River** 63.73 31 P P 17 46 22.8 -0.3
baz=272
J17K **VABM Dome** 63.85 30 P P 17 46 23.8 -0.1
J17K **VABM Dome** 63.85 30 P P 17 46 23.3 -0.5
baz=272
G18K **Tagagawik** 63.97 27 IAmb IAmb 17 46 25.3
comp=Z,6.7nm,0.9s
G18K **Tagagawik** 63.97 27 P P 17 46 24.3 -0.3
baz=271
M16K **Timber Creek** 64.01 32 P P 17 46 24.2 -0.8
baz=273
S14K **Fog Glacier** 64.04 37 P P 17 46 23.6 -1.7
baz=275
H18K **Honhosa River** 64.10 28 IAmb IAmb 17 46 26.5
comp=Z,6.3nm,1.0s
H18K **Honhosa River** 64.10 28 P P 17 46 25.0 -0.5
baz=272
N16K **Nishlik Lake** 64.14 33 P P 17 46 25.7 -0.1
baz=274
D19K **Kuna River** 64.14 24 P P 17 46 25.2 -0.5
baz=270
K17K **Iditarod** 64.23 30 IAmb IAmb 17 46 27.9
comp=Z,11nm,0.9s
K17K **Iditarod** 64.23 30 P P 17 46 25.2 -1.2
baz=273
L17K **Donlin** 64.27 31 P P 17 46 25.9 -0.8
baz=273
F19K **Shaleruckik Mo** 64.30 26 P P 17 46 26.1 -0.7
F19K IAmb IAmb 17 46 27.4
comp=Z,7.0nm,1.3s
F19K **Shaleruckik Mo** 64.30 26 P P 17 46 26.0 -0.7
baz=272
E19K **Redstone River** 64.49 25 IAmb IAmb 17 46 29.0
comp=Z,7.1nm,0.9s
E19K **Redstone River** 64.49 25 P P 17 46 27.0 -1.1
baz=272
G19K **Purcell Mounta** 64.60 26 IAmb IAmb 17 46 29.6
comp=Z,8.5nm,1.3s
G19K **Purcell Mounta** 64.60 26 P P 17 46 28.0 -0.7
baz=272
P16K **Nushagak River** 64.64 34 P P 17 46 28.1 -1.0
baz=275
A21K **Barrow** 64.64 21 P P 17 46 27.9 -1.0
baz=270
D20K **Etivluk River** 64.69 24 P P 17 46 28.7 -0.6
baz=272
M17K **Holitna River** 64.72 32 P P 17 46 29.1 -0.6
baz=274
GCSA **Galena City Sc** 64.75 28 P P 17 46 29.5 -0.2
baz=273
E20K **Nigu River** 64.86 24 P P 17 46 30.2 -0.3
baz=272
H19K **Roundabout Mou** 64.89 27 P P 17 46 30.4 -0.2
baz=273
J18K **Innoko River** 64.91 29 P P 17 46 30.4 -0.4
baz=274
L18K **Granite Mounta** 65.01 31 P P 17 46 30.4 -1.1
baz=275
O17K **Koliganek Bris** 65.03 33 P P 17 46 31.1 -0.5
baz=276
F20K **Avaraart Lake** 65.10 25 P P 17 46 30.7 -1.3
baz=273
GNI **Garni** 65.22 305 LR LR 18 21 03.9
comp=Z,23nm,18.8s,baz=88,slow=42
TTA **Tatalina** 65.27 30 P P 17 46 32.5 -0.7
TTA IAmb IAmb 17 46 34.3
comp=Z,4.7nm,0.8s
TTA **Tatalina** 65.27 30 P P 17 46 32.1 -1.1
baz=275
C21K **Knifeblade Rid** 65.33 23 P P 17 46 33.2 -0.3
baz=273
J19K **Poorman** 65.35 29 P P 17 46 33.6 -0.1
baz=275
P17K **Kvichak River** 65.42 34 P P 17 46 33.8 -0.3
baz=276
M18K **Stony River** 65.49 32 P P 17 46 33.7 -0.9
baz=276
H20K **Anotleneega Mo** 65.55 27 P P 17 46 34.7 -0.2
baz=275,SNR=5.3
I20K **Naaghedeneel** 65.78 28 P P 17 46 35.0 -1.4
baz=275
Q17K **Contact Creek** 65.81 35 P P 17 46 36.3 -0.6
baz=277
L19K **White Mountain** 65.87 31 P P 17 46 36.6 -0.5
baz=276
KBZ **Khabaz** 65.88 309 P P 17 46 38.2 +0.9
comp=Z,1.9nm,0.7s,baz=107,slow=5.1,SNR=5.2
KBZ LR LR 18 19 38.9
comp=Z,54nm,18.1s,baz=50,slow=40
comp=Z,1.9nm,0.7s
LHI **Lord Howe Isla** 65.90 145 P P 17 46 36.4 -1.2
F21K **Alatna River** 65.96 25 IAmb IAmb 17 46 38.9
comp=Z,5.8nm,1.1s
F21K **Alatna River** 65.96 25 P P 17 46 36.8 -0.8
baz=275
IMAR **Indian Mountai** 65.97 26 P P 17 46 36.6 -1.0
O18K **Koktuh Hills** 65.97 33 P P 17 46 36.5 -1.3
baz=277
J20K **Nowinta River** 65.98 28 IAmb IAmb 17 46 39.3
comp=Z,8.9nm,0.9s
J20K **Nowinta River** 65.98 28 P P 17 46 36.9 -0.8
baz=276
G21K **Allakaket** 66.01 26 IAmb IAmb 17 46 39.1
comp=Z,8.6nm,0.9s
G21K **Allakaket** 66.01 26 P P 17 46 36.4 -1.6
baz=276
P18K **Big Mountain,** 66.01 34 P P 17 46 36.3 -1.8
baz=277
K20K **Telida** 66.10 29 IAmb IAmb 17 47 10.7
comp=Z,11nm,1.2s
K20K **Telida** 66.10 29 P P 17 46 37.5 -1.0
baz=276
D22K **Ayivlyak River** 66.11 23 P P 17 46 37.5 -1.0
baz=275
N19K **Bonanza Creek** 66.21 32 P P 17 46 39.0 -0.4
baz=277
L20K **Farewell, AK** 66.29 30 P P 17 46 38.5 -1.3
baz=277
O19K **Port Alsworth** 66.37 33 P P 17 46 39.6 -0.7
baz=278
H21K **Melozitna Rive** 66.39 27 IAmb IAmb 17 46 41.8
comp=Z,9.0nm,0.8s
H21K **Melozitna Rive** 66.39 27 P P 17 46 39.8 -0.6
baz=276
M20K **Styx River** 66.71 31 IAmb IAmb 17 46 44.1
comp=Z,5.6nm,0.9s
M20K **Styx River** 66.71 31 P P 17 46 42.0 -0.6
baz=278
C23K **Itkillik River** 66.74 22 IAmb IAmb 17 46 44.0
comp=Z,12nm,1.1s
C23K **Itkillik River** 66.74 22 P P 17 46 41.9 -0.6
baz=277
I21K **Tanana** 66.79 27 IAmb IAmb 17 46 44.5
comp=Z,7.4nm,0.8s
I21K **Tanana** 66.79 27 P P 17 46 42.3 -0.5
baz=278
CHUM **Lake Minchumin** 66.81 29 P P 17 46 42.6 -0.4
baz=278,SNR=5.7
Q19K **Cape Douglas,** 66.89 34 P P 17 46 42.7 -1.0
baz=279
H22K **Ishtalitna Cre** 66.94 26 P P 17 46 44.0 +0.1
baz=278
CAST **Castle Rocks** 66.98 29 P P 17 46 43.7 -0.5
CAST IAmb IAmb 17 46 51.1
comp=Z,6.7nm,0.9s
CAST **Castle Rocks** 66.98 29 P P 17 46 44.1 0.0
baz=278,SNR=9.4
PPLA **Purkeypile** 67.01 30 P P 17 46 44.0 -0.5
baz=278
COLD **Coldfoot** 67.23 25 P P 17 46 45.5 -0.1
baz=278
N20K **Mount Spurr** 67.25 32 P P 17 46 45.8 -0.2
baz=279
MLY **Manley** 67.33 27 P P 17 46 45.4 -1.0
MLY IAmb IAmb 17 46 47.6
comp=Z,7.4nm,0.9s
MLY **Manley** 67.33 27 P P 17 46 46.2 -0.2
baz=279,SNR=9.0
OHAK **Old Harbor** 67.34 36 P P 17 46 45.6 -0.9
baz=280
BPAW **Bear Paw Mtn.** 67.36 28 P P 17 46 44.5 -2.1
BPAW IAmb IAmb 17 46 47.7
comp=Z,7.0nm,0.8s
BPAW **Bear Paw Mtn.** 67.36 28 P P 17 46 45.8 -0.8
baz=279
G23K **Bananza Creek** 67.37 26 IAmb IAmb 17 46 47.8
comp=Z,11nm,1.1s
G23K **Bananza Creek** 67.37 26 P P 17 46 46.0 -0.6
baz=279
C24K **Franklin Bluff** 67.41 22 P P 17 46 46.0 -0.7
baz=278
D24K **Happy Valley** 67.45 23 P P 17 46 46.3 -0.7
baz=279
KTH **Kantishna Hill** 67.48 29 P P 17 46 46.5 -0.9
KTH IAmb IAmb 17 46 50.1
comp=Z,10nm,1.2s
Q20K **Shuyak Island** 67.58 34 P P 17 46 46.7 -1.3
baz=280
KDAK **Kodiak Island** 67.62 35 P P 17 46 47.3 -1.0
baz=280
TRF **Thorofare Moun** 67.77 29 P P 17 46 48.7 -0.7
baz=280
CAPN **Captain Cook N** 67.83 32 P P 17 46 48.5 -1.0
baz=280
I23K **Minto, Yukon-K** 67.89 27 IAmb IAmb 17 46 53.0
comp=Z,8.5nm,1.1s
I23K **Minto, Yukon-K** 67.89 27 P P 17 46 49.4 -0.4
baz=280,SNR=6.4
SUA **Susitna One** 67.90 31 P P 17 46 49.7 -0.5
baz=280,SNR=13
CUT **Chulitna** 67.96 30 P P 17 46 49.1 -1.2
baz=280
F24K **Squaw Lake** 68.06 24 P P 17 46 50.3 -0.7
F24K **Squaw Lake** 68.06 24 P P 17 46 50.5 -0.5
baz=280,SNR=20
NEA2 **Nenana** 68.11 28 P P 17 46 50.8 -0.5
NEA2 **Nenana** 68.11 28 P P 17 46 50.5 -0.7
baz=280,SNR=8.3
M22K **Willow** 68.15 31 P P 17 46 49.8 -1.6
M22K **Willow** 68.15 31 P P 17 46 50.8 -0.7
baz=280
BRSE **Bradley Lake S** 68.22 33 P P 17 46 51.5 -0.5
baz=281
D25K **Kavik River** 68.29 22 IAmb IAmb 17 46 53.7
comp=Z,10.0nm,0.9s
D25K **Kavik River** 68.29 22 P P 17 46 51.9 -0.5
baz=281
MCK **McKinley** 68.32 29 P P 17 46 52.1 -0.5
baz=281,SNR=5.7
G24K **Hadweenzic Riv** 68.37 25 IAmb IAmb 17 46 54.8
comp=Z,9.1nm,0.9s
G24K **Hadweenzic Riv** 68.37 25 P P 17 46 52.4 -0.5
baz=281
H24K **Noodor Dome** 68.37 26 P P 17 46 51.4 -1.6
baz=281
RC01 **Rabbit Creek A** 68.45 31 P P 17 46 52.6 -0.8
baz=281

WRH	**Wood River Hil**	**68.54**	**28**	IAmb	IAmb	17 46 57.9	
	comp=Z,8.7nm,1.2s						
COLA	**College**	**68.57**	**27**	P	**P**	**17 46 53.7**	**-0.3**
	baz=281						
PMR	**Palmer**	**68.64**	**31**	IAmb	IAmb	17 47 06.3	
	comp=Z,8.8nm,1.1s						
PMR	**Palmer**	**68.64**	**31**	P	**P**	**17 46 53.8**	**-0.8**
	baz=281						
WAT1	**Susitna Watana**	**68.66**	**30**	P	**P**	**17 46 54.1**	**-0.7**
	baz=281						
C26K	**Camden Bay**	**68.67**	**22**	P	**P**	**17 46 53.9**	**-0.7**
	baz=282						
POKR	**Poker Plat Res**	**68.69**	**27**	P	**P**	**17 46 54.2**	**-0.7**
POKR				IAmb	IAmb	17 46 56.5	
	comp=Z,8.1nm,0.9s						
POKR	**Poker Plat Res**	**68.69**	**27**	P	**P**	**17 46 54.1**	**-0.8**
	baz=282						
SEW	**Seward**	**68.78**	**32**	P	**P**	**17 46 55.0**	**-0.5**
	baz=282						
E25K	**Arctic Village**	**68.81**	**24**	IAmb	IAmb	17 46 57.5	
	comp=Z,10nm,1.3s						
E25K	**Arctic Village**	**68.81**	**24**	P	**P**	**17 46 55.3**	**-0.4**
	baz=282,SNR=7.3						
G25K	**Bearman Lake**	**68.89**	**25**	P	**P**	**17 46 55.4**	**-0.6**
	baz=282						
F25K	**Christian Rive**	**68.89**	**24**	P	**P**	**17 46 55.2**	**-1.0**
	baz=282						
SML	**Sawmill**	**68.97**	**31**	P	**P**	**17 46 55.0**	**-1.7**
	baz=282						
ILAR	**Eielson Array**	**68.99**	**27**	P	**P**	**17 46 55.0**	**-1.7**
	comp=Z,0.7nm,0.6s,baz=294,slow=8.2,SNR=17						
ILAR				LR	LR	18 18 45.8	
	comp=Z,33nm,20.2s,baz=30,slow=37						
	comp=Z,0.7nm,0.6s						
KNK	**Knik Glacier**	**68.99**	**31**	P	**P**	**17 46 55.8**	**-1.1**
	baz=282						
HDA	**Harding Lake**	**69.04**	**28**	IAmb	IAmb	17 46 56.6	
	comp=Z,6.7nm,1.0s						
HDA	**Harding Lake**	**69.04**	**28**	P	**P**	**17 46 56.0**	**-1.1**
	baz=282						
WAT6	**Susitna Watana**	**69.08**	**30**	P	**P**	**17 46 55.8**	**-1.7**
	baz=282						
DHY	**Denali Highway**	**69.14**	**29**	P	**P**	**17 46 56.1**	**-1.8**
DHY	**Denali Highway**	**69.14**	**29**	P	**P**	**17 46 56.0**	**-1.9**
	baz=282						
M23K	**Glacier View**	**69.25**	**31**	P	**P**	**17 46 56.3**	**-2.1**
	baz=282						
BMAR	**Burnt Mountain**	**69.33**	**24**	P	**P**	**17 46 58.7**	**-0.2**
PRP	**Porcupine Dome**	**69.39**	**26**	P	**P**	**17 46 58.2**	**-1.2**
PRP				IAmb	IAmb	17 47 00.3	
	comp=Z,8.2nm,1.1s						
PRP	**Porcupine Dome**	**69.39**	**26**	P	**P**	**17 46 57.6**	**-1.8**
	baz=283						
SCM	**Sheep Creek Mo**	**69.43**	**30**	P	**P**	**17 46 57.8**	**-1.9**
	baz=283						
F26K	**Sheenjek River**	**69.43**	**24**	P	**P**	**17 46 58.3**	**-1.2**
	baz=283						
SPITS	**Spitsbergen Ar**	**69.60**	**348**	LR	LR	18 21 17.0	
	comp=Z,65nm,19.6s,baz=25,slow=39						
J25K	**Salcha River,**	**69.66**	**27**	P	**P**	**17 46 58.8**	**-2.2**
	baz=284						
K24K	**Donnelly Dome**	**69.68**	**28**	P	**P**	**17 46 59.8**	**-1.2**
	baz=283,SNR=5.0						
ARCES	**ARCESS Array B**	**69.73**	**338**	LR	LR	18 21 16.0	
	comp=Z,39nm,18.5s,baz=70,slow=39						
G26K	**Porcupine Rive**	**69.74**	**25**	P	**P**	**17 47 00.3**	**-1.0**
	baz=284						
P23K	**Montague Islan**	**69.81**	**32**	P	**P**	**17 47 00.7**	**-1.2**
	baz=283						
M24K	**Tolsona, Glenn**	**69.90**	**30**	P	**P**	**17 47 00.9**	**-1.6**
	baz=284						
PAX	**Paxson**	**70.01**	**29**	P	**P**	**17 47 01.5**	**-1.7**
	baz=284,SNR=7.1						
RIDG	**Independent Ri**	**70.09**	**28**	IAmb	IAmb	17 47 07.4	
	comp=Z,14nm,1.2s						
RIDG	**Independent Ri**	**70.09**	**28**	P	**P**	**17 47 01.9**	**-1.7**
	baz=284,SNR=5.5						
KLU	**Klutina**	**70.16**	**31**	IAmb	IAmb	17 47 06.3	
	comp=Z,5.4nm,0.7s						
KLU	**Klutina**	**70.16**	**31**	P	**P**	**17 47 02.9**	**-1.2**
	baz=284						
SCRK	**Sand Creek**	**70.40**	**28**	P	**P**	**17 47 03.3**	**-2.3**
SCRK				IAmb	IAmb	17 47 07.3	
	comp=Z,8.7nm,1.1s						
SCRK	**Sand Creek**	**70.40**	**28**	P	**P**	**17 47 04.6**	**-1.0**
	baz=285,SNR=6.4						
J26L	**Joseph Creek**	**70.45**	**27**	IAmb	IAmb	17 47 10.0	
	comp=Z,8.2nm,1.1s						
J26L	**Joseph Creek**	**70.45**	**27**	P	**P**	**17 47 03.8**	**-2.1**
	baz=285						
EYAK	**Cordova Ski Ar**	**70.48**	**32**	P	**P**	**17 47 04.8**	**-1.2**
	baz=285						
N25K	**Chitina, Valde**	**70.75**	**30**	IAmb	IAmb	17 47 10.7	
	comp=Z,17nm,1.4s						
N25K	**Chitina, Valde**	**70.75**	**30**	P	**P**	**17 47 06.7**	**-1.0**
	baz=285						
MENT	**Mentasta**	**70.79**	**29**	IAmb	IAmb	17 47 14.7	
	comp=Z,8.0nm,0.9s						
H27K	**Steamboat Moun**	**70.80**	**25**	P	**P**	**17 47 07.0**	**-0.9**
	baz=286						
BMRM	**Bremner River**	**70.91**	**31**	P	**P**	**17 47 07.6**	**-1.1**
	baz=285						
D28M	**Stokes Point**	**70.91**	**22**	P	**P**	**17 47 07.7**	**-0.8**
	baz=288						
I27K	**Kandik River**	**70.94**	**26**	P	**P**	**17 47 07.8**	**-1.0**
	baz=286						
F28M	**Old Crow**	**71.03**	**24**	IAmb	IAmb	17 47 10.3	
	comp=Z,13nm,1.1s						
F28M	**Old Crow**	**71.03**	**24**	P	**P**	**17 47 08.5**	**-0.7**
	baz=287,SNR=9.4						
GLB	**Gilahina Butte**	**71.15**	**30**	P	**P**	**17 47 09.0**	**-1.2**
K27K	**Chicken**	**71.20**	**28**	IAmb	IAmb	17 47 13.4	
	comp=Z,8.0nm,0.9s						
K27K	**Chicken**	**71.20**	**28**	P	**P**	**17 47 09.7**	**-0.6**
	baz=286						
M26K	**Nabesna, AK**	**71.26**	**29**	P	**P**	**17 47 10.1**	**-0.7**
	baz=286						
KAIM	**Kayak Island**	**71.28**	**32**	P	**P**	**17 47 10.0**	**-0.9**
	baz=286						
VRDI	**Verde Repeater**	**71.38**	**31**	IAmb	IAmb	17 47 12.2	
	comp=Z,11nm,1.2s						
E29M	**Blow River**	**71.50**	**23**	IAmb	IAmb	17 47 12.9	
	comp=Z,7.3nm,1.1s						
E29M	**Blow River**	**71.50**	**23**	P	**P**	**17 47 11.3**	**-0.7**
	baz=289,SNR=5.6						
MCARA	**McCarthy VSAT**	**71.53**	**30**	P	**P**	**17 47 11.1**	**-1.3**
MCARA	**McCarthy VSAT**	**71.53**	**30**	P	**P**	**17 47 11.7**	**-0.7**
	baz=287						
L27K	**Beaver Creek,**	**71.59**	**28**	IAmb	IAmb	17 47 16.0	
	comp=Z,12nm,0.9s						
L27K	**Beaver Creek,**	**71.59**	**28**	P	**P**	**17 47 11.9**	**-0.8**
	baz=287						
I28M	**Miner Creek**	**71.66**	**26**	IAmb	IAmb	17 47 14.4	
	comp=Z,12nm,1.2s						
I28M	**Miner Creek**	**71.66**	**26**	P	**P**	**17 47 12.9**	**-0.3**
	baz=288						
CRQM	**Cirque**	**71.66**	**31**	P	**P**	**17 47 12.7**	**-0.7**
CRQM				IAmb	IAmb	17 47 17.0	
	comp=Z,13nm,1.1s						
CRQE	**Cirque**	**71.68**	**31**	P	**P**	**17 47 12.1**	**-1.4**
	baz=287						
FINES	**FINESS Array B**	**71.70**	**330**	P	**P**	**17 47 12.9**	**-0.5**
	comp=Z,4.6nm,0.9s,baz=50,slow=6.0,SNR=13						
FINES				LR	LR	18 21 40.0	
	comp=Z,156nm,18.6s,baz=70,slow=38						
	comp=Z,4.6nm,0.9s						
M27K	**Edge Creek, AK**	**71.77**	**29**	P	**P**	**17 47 13.1**	**-0.8**
	baz=287						
BGLC	**Bering Glacier**	**71.77**	**32**	P	**P**	**17 47 12.3**	**-1.5**
	baz=287						
TGL	**Tana Glacier**	**71.81**	**31**	P	**P**	**17 47 12.9**	**-1.2**
TGL				IAmb	IAmb	17 47 14.5	
	comp=Z,8.3nm,1.0s						
WAX	**Waxell Ridge**	**71.88**	**31**	IAmb	IAmb	17 47 17.3	
	comp=Z,8.9nm,0.7s						
H29M	**Whitestone**	**72.03**	**25**	IAmb	IAmb	17 47 17.4	
	comp=Z,10nm,1.1s						
H29M	**Whitestone**	**72.03**	**25**	P	**P**	**17 47 15.1**	**-0.2**
	baz=289						
ISLE	**Juniper Island**	**72.08**	**31**	IAmb	IAmb	17 47 21.1	
	comp=Z,9.3nm,1.0s						
BVCY	**Beaver Creek**	**72.21**	**29**	P	**P**	**17 47 16.4**	**0.0**
	baz=288						
BARN	**Barnard Glacie**	**72.26**	**30**	IAmb	IAmb	17 47 19.8	
	comp=Z,7.3nm,0.8s						
DAWY	**Dawson**	**72.31**	**27**	P	**P**	**17 47 15.8**	**-1.2**
DAWY				IAmb	IAmb	17 47 17.7	
	comp=Z,14nm,1.2s						
DAWY	**Dawson**	**72.31**	**27**	P	**P**	**17 47 16.5**	**-0.6**
	baz=289,SNR=8.1						
MESA	**MESA**	**72.39**	**31**	P	**P**	**17 47 16.8**	**-1.0**
	baz=288						
CTG	**Chitna Glacier**	**72.44**	**31**	P	**P**	**17 47 16.8**	**-1.2**
	baz=288,SNR=8.6						
CTGM	**Chitina Glacie**	**72.44**	**31**	P	**P**	**17 47 16.7**	**-1.3**
F30M	**Barrier River**	**72.51**	**23**	P	**P**	**17 47 17.0**	**-1.1**
	baz=291,SNR=10						
G30M	**tAoh Zraii Nji**	**72.58**	**24**	P	**P**	**17 47 17.2**	**-1.4**
	baz=291						
YUK3	**Moose Creek**	**72.59**	**30**	P	**P**	**17 47 17.7**	**-1.3**
	baz=289						
EPYK	**Eagle Plains**	**72.60**	**24**	P	**P**	**17 47 17.6**	**-1.1**
	baz=290						
LOGN	**Logan Glacier**	**72.64**	**31**	P	**P**	**17 47 18.3**	**-0.9**
LOGN				IAmb	IAmb	17 47 23.8	
	comp=Z,10.0nm,0.9s						
J29N	**Klondike Camp**	**72.67**	**27**	P	**P**	**17 47 18.8**	**-0.4**
J29N				IAmb	IAmb	17 47 24.6	
	comp=Z,10nm,0.6s						
TABL	**Table Mountain**	**72.69**	**31**	IAmb	IAmb	17 47 22.0	
	comp=Z,13nm,1.1s						
INK	**Inuvik**	**73.04**	**22**	IAmb	IAmb	17 47 21.3	
	comp=Z,10nm,0.9s						
INK	**Inuvik**	**73.04**	**22**	P	**P**	**17 47 20.4**	**-0.8**
	baz=293,SNR=9.5						
YUK8	**Steele Glacier**	**73.06**	**30**	P	**P**	**17 47 20.1**	**-1.7**
	baz=289						
I30M	**Mount Dempster**	**73.14**	**26**	IAmb	IAmb	17 47 25.0	
	comp=Z,16nm,1.1s						
I30M	**Mount Dempster**	**73.14**	**26**	P	**P**	**17 47 20.2**	**-1.8**
	baz=291						
L29M	**L29M**	**73.17**	**28**	P	**P**	**17 47 21.5**	**-0.6**
L29M	**L29M**	**73.17**	**28**	P	**P**	**17 47 21.0**	**-1.2**
	baz=290,SNR=12						
K29M	**Barlow Dome**	**73.17**	**27**	IAmb	IAmb	17 47 25.8	
	comp=Z,14nm,1.2s						
K29M	**Barlow Dome**	**73.17**	**27**	P	**P**	**17 47 20.8**	**-1.5**
	baz=290						
AKASG	**Malin Array Be**	**73.21**	**318**	P	**P**	**17 47 21.4**	**-1.1**
	comp=Z,2.4nm,0.8s,baz=59,slow=5.9,SNR=14						
	comp=Z,2.4nm,0.8s						
PINM	**Pinnacle**	**73.22**	**31**	P	**P**	**17 47 21.4**	**-1.2**
	baz=289						
M29M	**Somme Creek**	**73.25**	**29**	IAmb	IAmb	17 47 26.1	
	comp=Z,8.9nm,0.8s						
M29M	**Somme Creek**	**73.25**	**29**	P	**P**	**17 47 21.3**	**-1.5**
	baz=290						
F31M	**Tsiigehtchic**	**73.30**	**23**	P	**P**	**17 47 21.9**	**-0.9**
	baz=293,SNR=15						
G31M	**Satah River**	**73.31**	**24**	IAmb	IAmb	17 47 22.0	
	comp=Z,6.5nm,0.8s						
G31M	**Satah River**	**73.31**	**24**	P	**P**	**17 47 21.9**	**-0.9**
	baz=292,SNR=5.4						
J30M	**Hart River**	**73.39**	**26**	P	**P**	**17 47 23.2**	**-0.3**
	baz=291						
YUK4	**Talbot Arm**	**73.55**	**30**	P	**P**	**17 47 23.8**	**-0.9**
	baz=290						
BR131	**Keskin Array S**	**73.58**	**307**	P	**P**	**17 47 23.4**	**-1.8**
BR131				IAmb	IAmb	17 47 51.8	
	comp=Z,12nm,1.2s						
BRTR	**Keskin Array B**	**73.58**	**307**	P	**P**	**17 47 25.1**	**-0.1**
	comp=Z,2.1nm,0.9s,baz=99,slow=4.6,SNR=8.8						
	comp=Z,2.1nm,0.9s						
H31M	**Peel River**	**73.71**	**25**	IAmb	IAmb	17 47 24.9	
	comp=Z,6.3nm,0.8s						
H31M	**Peel River**	**73.71**	**25**	P	**P**	**17 47 23.7**	**-1.6**
	baz=293						
PNL	**Peninsula**	**73.78**	**31**	P	**P**	**17 47 24.7**	**-1.1**
	baz=290						
YUK6	**Outpost Mounta**	**73.82**	**30**	P	**P**	**17 47 25.2**	**-1.1**
	baz=291						
M30M	**Minto, Yukon**	**73.93**	**28**	IAmb	IAmb	17 47 29.9	
	comp=Z,18nm,1.1s						
M30M	**Minto, Yukon**	**73.93**	**28**	P	**P**	**17 47 26.1**	**-0.5**
	baz=291,SNR=14						
O29M	**Mount Kennedy**	**73.94**	**31**	P	**P**	**17 47 26.5**	**-0.4**
	baz=291						
A36M	**Sachs Harbour**	**73.98**	**17**	IAmb	IAmb	17 47 26.1	
	comp=Z,8.5nm,0.8s						
N30M	**Aishikik Lake**	**74.21**	**29**	IAmb	IAmb	17 47 31.6	
	comp=Z,9.0nm,1.0s						
N30M	**Aishikik Lake**	**74.21**	**29**	P	**P**	**17 47 27.9**	**-0.4**
	baz=292						
HYT	**Haines Junctio**	**74.25**	**30**	IAmb	IAmb	17 47 31.8	
	comp=Z,18nm,1.2s						
HYT	**Haines Junctio**	**74.25**	**30**	P	**P**	**17 47 28.3**	**-0.4**
	baz=291,SNR=8.2						
MMAI	**Mount Meron Ar**	**74.34**	**299**	LR	LR	18 26 59.6	
	comp=Z,42nm,18.3s,baz=44,slow=41						
P29M	**Windy Craggy**	**74.58**	**31**	IAmb	IAmb	17 47 33.8	
	comp=Z,9.9nm,0.8s						
P29M	**Windy Craggy**	**74.58**	**31**	P	**P**	**17 47 29.9**	**-0.5**
	baz=291						
PABE	**Paberze**	**74.65**	**324**	P	**P**	**17 47 29.9**	**-1.0**
P30M	**Million Dollar**	**74.76**	**31**	P	**P**	**17 47 31.3**	**-0.2**
	baz=292						
O30N	**Mendenhall**	**74.92**	**30**	IAmb	IAmb	17 47 35.4	
	comp=Z,10nm,1.0s						
O30N	**Mendenhall**	**74.92**	**30**	P	**P**	**17 47 32.2**	**-0.2**
	baz=292						
M31M	**Drury Creek, Y**	**75.11**	**28**	IAmb	IAmb	17 47 34.9	
	comp=Z,16nm,1.4s						
M31M	**Drury Creek, Y**	**75.11**	**28**	P	**P**	**17 47 33.2**	**-0.2**
	baz=294,SNR=6.3						
PLBC	**Pleasant Camp**	**75.29**	**31**	P	**P**	**17 47 34.3**	**-0.2**
	baz=293						
WHY	**Whitehorse**	**75.51**	**30**	IAmb	IAmb	17 47 38.4	
	comp=Z,8.0nm,0.9s						
WHY	**Whitehorse**	**75.51**	**30**	P	**P**	**17 47 35.3**	**-0.6**
	baz=294,SNR=8.9						
FARO	**Faro, Yukon**	**75.54**	**28**	IAmb	IAmb	17 47 38.5	
	comp=Z,11nm,0.9s						
FARO	**Faro, Yukon**	**75.54**	**28**	P	**P**	**17 47 34.7**	**-1.3**
	baz=294,SNR=13						
SUW	**Suwalki**	**75.61**	**323**	P	**P**	**17 47 35.8**	**-0.7**
C36M	**Paulatuk**	**75.64**	**20**	P	**P**	**17 47 35.1**	**-1.2**
	baz=301,SNR=12						
SKAG	**Skagway**	**75.78**	**31**	P	**P**	**17 47 36.7**	**-0.6**
	baz=293						
S31K	**Pelican**	**75.93**	**33**	P	**P**	**17 47 37.8**	**-0.5**
	baz=293						
MMPY	**Sheldon Lake,**	**76.25**	**27**	IAmb	IAmb	17 47 43.2	
	comp=Z,12nm,1.5s						
MMPY	**Sheldon Lake,**	**76.25**	**27**	P	**P**	**17 47 40.3**	**+0.2**
	baz=296						
P32M	**Atlin**	**76.48**	**30**	P	**P**	**17 47 41.3**	**-0.1**
	baz=295						
P33M	**Teslin, Yukon**	**76.62**	**30**	P	**P**	**17 47 40.9**	**-1.3**
P33M				IAmb	IAmb	17 47 46.2	
	comp=Z,6.6nm,0.9s						
P33M	**Teslin, Yukon**	**76.62**	**30**	P	**P**	**17 47 42.6**	**+0.3**
	baz=295						
SIT	**Sitka**	**76.74**	**33**	P	**P**	**17 47 42.7**	**-0.1**
	baz=294						
S32K	**Killisnoo**	**76.95**	**33**	P	**P**	**17 47 44.2**	**+0.2**
	baz=294						
MLR	**Muntele Rosu**	**77.02**	**314**	LR	LR	18 24 20.8	
	comp=Z,60nm,18.4s,baz=74,slow=38						
Q32M	**Nakina River**	**77.42**	**31**	P	**P**	**17 47 46.3**	**-0.6**
	baz=296						
HFS	**Hagfors**	**77.82**	**331**	P	**P**	**17 47 47.9**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=78,slow=8.1,SNR=1.9						
HFS				LR	LR	18 24 00.9	
	comp=Z,128nm,18.3s,baz=66,slow=37						
	comp=Z,1.2nm,0.7s						
R33M	**Jennings River**	**77.82**	**30**	IAmb	IAmb	17 47 50.6	
	comp=Z,18nm,1.4s						
R33M	**Jennings River**	**77.82**	**30**	P	**P**	**17 47 48.8**	**-0.2**
	baz=297						
TGTN	**Hyland Airport**	**78.01**	**27**	P	**P**	**17 47 49.7**	**-0.3**
	baz=299						
S34M	**Telegraph Cree**	**78.42**	**31**	P	**P**	**17 47 52.3**	**+0.1**
	baz=297,SNR=18						
NB2	**NORSAR Subarra**	**78.47**	**332**	P	**P**	**17 47 51.3**	**-1.2**
	comp=Z,2.2nm,0.9s,baz=60,slow=5.9						
NOA	**NORSAR Array B**	**78.47**	**332**	P	**P**	**17 47 51.3**	**-1.2**
	comp=Z,1.2nm,0.8s,baz=63,slow=5.4,SNR=5.0						
NOA				LR	LR	18 25 19.8	
	comp=Z,72nm,20.2s,baz=50,slow=38						
	comp=Z,1.2nm,0.8s						
WRAK	**Wrangell Islan**	**78.50**	**33**	P	**P**	**17 47 53.1**	**+0.4**
	baz=296						
DLBC	**Dease Lake**	**78.70**	**31**	IAmb	IAmb	17 47 57.8	
	comp=Z,13nm,1.4s						
DLBC	**Dease Lake**	**78.70**	**31**	P	**P**	**17 47 54.0**	**+0.1**
	baz=298						
JMIC	**Jan Mayen**	**78.97**	**345**	LR	LR	18 25 28.3	
	comp=Z,55nm,20.3s,baz=296,slow=38						
OJC	**Ojcow**	**79.00**	**320**	P	**P**	**17 47 54.7**	**-0.9**
VYHS	**Vyhne**	**80.30**	**319**	*e*P	**P**	**17 48 02.9**	**+0.2**
KOTAN	**Kotaneelee Air**	**80.50**	**28**	P	**P**	**17 48 04.1**	**+0.5**
	baz=302						
CLL	**Colim**	**82.36**	**323**	*i* P	**P**	**17 48 13.2**	**-0.3**
YKA	**Yellowknife Ar**	**82.78**	**23**	P	**P**	**17 48 14.6**	**-0.9**
	comp=Z,5.7nm,0.8s,baz=313,slow=5.0,SNR=94						
YKA				LR	LR	18 28 33.6	
	comp=Z,74nm,18.3s,baz=273,slow=38						
	comp=Z,5.7nm,0.8s						
GERES	**GERESS Array B**	**83.17**	**321**	P	**P**	**17 48 17.0**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=30,slow=8.1,SNR=3.2						
	comp=Z,0.5nm,0.7s						
DAVOX	**Davos/Dischmat**	**86.43**	**320**	LR	LR	18 32 20.9	
	comp=Z,111nm,18.8s,baz=30,slow=39						
BORG	**Borgarnes**	**86.86**	**345**	LR	LR	18 30 08.8	
	comp=Z,54nm,19.7s,baz=10,slow=38						
EDM	**Edmonton**	**89.37**	**30**	IAmb	IAmb	17 48 52.5	
	comp=Z,7.6nm,0.9s						
LTY	**Liberty**	**89.43**	**37**	IAmb	IAmb	17 48 49.8	
	comp=Z,5.0nm,0.6s						
MXC	**Moxie City**	**90.04**	**38**	P	**P**	**17 48 51.4**	**-0.2**
D08A	**Wollman Farm,**	**90.51**	**37**	IAmb	IAmb	17 48 55.3	
	comp=Z,7.2nm,0.8s						
HAWA	**Hanford**	**90.57**	**37**	IAmb	IAmb	17 48 55.8	
	comp=Z,5.9nm,0.8s						
NEW	**Newport**	**90.72**	**35**	P	**P**	**17 48 54.9**	**+0.2**
NEW				IAmb	IAmb	17 48 56.3	
	comp=Z,6.0nm,0.8s						
NEW	**Newport**	**90.72**	**35**	P	**P**	**17 48 55.3**	**+0.6**
	baz=309						
FRB	**Frobisher Bay**	**92.00**	**5**	LR	LR	18 32 56.1	
	comp=Z,65nm,20.3s,baz=318,slow=37						
BMO	**Blue Mountains**	**92.75**	**38**	IAmb	IAmb	17 49 05.6	
	comp=Z,3.7nm,0.9s						
PAHR	**Pah Rah Range**	**94.66**	**43**	P	**P**	**17 49 11.4**	**-1.8**
PAHR				IAmb	IAmb	17 49 16.5	
	comp=Z,6.8nm,1.3s						
HLID	**Hailey**	**95.18**	**37**	P	**P**	**17 49 15.9**	**+0.4**
	baz=311						
BOZ	**Bozeman (W)**	**95.32**	**34**	P	**P**	**17 49 16.3**	**+0.2**
	baz=313						
KVN	**Kaiserville**	**95.85**	**43**	P	**P**	**17 49 18.3**	**-0.4**
KVN				IAmb	IAmb	17 49 21.8	
	comp=Z,5.3nm,1.2s						
PPT2	**Papeete2**	**95.88**	**107**	*e*LR	LR	18 20 18.0	
	comp=Z,61nm,22.8s						
PPT2				*e*LR	LR	18 20 20.4	
	comp=Z,96nm,26.0s						
NVAR	**Mina Array Bea**	**96.10**	**43**	P	**P**	**17 49 19.5**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=288,slow=4.6,SNR=6.5						
	comp=Z,1.4nm,0.9s						
RLMT	**Red Lodge**	**96.85**	**34**	P	**P**	**17 49 22.8**	**-0.3**
	baz=314						
PDAR	**Pinedale Array**	**98.34**	**36**	P	Pdif	17 49 30.6	+0.7
	comp=Z,0.3nm,0.6s,baz=248,slow=1.0,SNR=2.3						
	comp=Z,0.3nm,0.6s						
LBNH	**Lisbon**	**110.78**	**10**	P	**PKiKP**	**17 54 25.0**	**+0.3**
	baz=347						
L61B	**Northampton**	**112.39**	**11**	P	**PKiKP**	**17 54 27.9**	**0.0**
	baz=346						
ROSC	**El Rosal**	**147.19**	**31**	PKPbc	**PKPbc**	**17 55 35.9**	**-0.4**
	comp=Z,9.1nm,0.4s,baz=44,slow=6.0,SNR=7.0						

MEX 03 17:43:01.0±0.4, 18°34'N×99°95'W, h55km±4km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.38**	**261**	*i* P		Pn 17 43 09.8	-1.5
ARIG				*e*S		Sn 17 43 17.2	-1.6
PLIG	**Platanillo**	**0.43**	**84**	*e*P		Pn 17 43 10.3	-1.6
PLIG				*e*S		Sn 17 43 17.8	-2.0
MEIG	**Mezcala**	**0.52**	**143**	*e*P		Pn 17 43 11.4	-1.6
MEIG				*i* S		Sn 17 43 19.6	-1.9
YAIG	**Yautepec**	**0.98**	**58**	*e*P		Pn 17 43 17.4	-1.4
YAIG				*e*S		Sn 17 43 30.2	-1.8
CAIG	**El Cayaco**	**1.32**	**193**	*e*P		Pn 17 43 21.2	-2.0
CAIG				*i* S		Sn 17 43 38.3	-1.5
DAIG	**Los Arroyos**	**1.35**	**168**	*e*P		Pn 17 43 22.1	-1.4
DAIG				*e*S		Sn 17 43 38.3	-2.1
TLIG	**Tlapa**	**1.53**	**120**	*e*P		Pn 17 43 21.9	-4.3
TLIG				*e*S		Sn 17 43 43.8	-1.3
FTIG	**Fresnillo de T**	**1.78**	**104**	*e*P		Pn 17 43 29.1	-0.5
FTIG				*e*S		Sn 17 43 49.1	-2.1
HLIG	**Huajuapan de L**	**2.11**	**104**	*e*P		Pn 17 43 33.7	-0.4
HLIG				*e*S		Sn 17 43 57.0	-2.2
TXIG	**Tlaxiaco**	**2.35**	**117**	*e*S		Sn 17 44 03.0	-2.2

MEX 03 17:43:15.9±0.5, 16°10N×97°80W, h20km±47km, MD3.4, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.43**	**313**	*i* P		Pb 17 43 22.6	-2.2
PNIG				*e*S		Sb 17 43 28.4	-2.4
PEIG	**Puerto Escondi**	**0.63**	**99**	*e*P		Pb 17 43 26.1	-2.2
PEIG				*e*S		Sb 17 43 35.4	-1.5
YOIG	**Yosondua**	**0.79**	**18**	*e*P		Pb 17 43 28.6	-2.5
YOIG				*e*S		Sb 17 43 38.7	-2.8
TXIG	**Tlaxiaco**	**1.15**	**1**	*e*P		Pn 17 43 34.3	-2.8
TXIG				*e*S		Sb 17 43 47.7	-4.1
TXIG	**Tlaxiaco**	**1.15**	**1**	*e*P		Pn 17 43 34.4	-2.7

*IDC **03** 17:57:34.8±3.9, 22°.73N×11°.86W, h0km, mb3.5/3, mbtmp3.6/5, ML3.6/2, Error ellipse: s-maj=120.1km s-min=33.3km az=82.0*

ISC 03 17:57:36.2±2.6, 22°.7N±0°.2×11°.9W±0°.5, h10km, n6, σ0s42/6, mb3.6/3, Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**16.00**	**124**	Pn		**Pn 18 01 21.4**	**-0.2**
	0.1nm,0.3s,baz=316,slow=12,SNR=3.5						
	0.4nm,0.4s						
DBIC	**Dimbokro**	**17.31**	**156**	P		**Pn 18 01 38.3**	**+0.2**
	0.5nm,0.3s,baz=327

STKA	**Stephens Creek**	**35.85**	**154**	P		**P**	**18 07 45.0**	**-0.5**
	1.3nm,0.5s,baz=328,slow=7.1,SNR=6.6							
	1.3nm,0.5s							
MKAR	**Makanchi Array**	**59.08**	**328**	P		**P**	**18 10 42.3**	**-2.8**
	0.2nm,0.5s,baz=124,slow=8.4,SNR=4.1							
	0.2nm,0.5s							

*IDC **03** 18:06:02.3±1.3,5°.69S×142°.69E, h0km, mb3.5/3, mbtmp3.6/5, ML1.6/1, MS3.9/1, Error ellipse: s-maj=42.6km s-min=27.5km az=62.0*

ISC 03 18:06:07.2±1.0, 5°.9S±0°.1×142°.6E±0°.1, h35km, n7, σ1§44/7, mb3.4/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.75**	**128**	Pn	**Pn**	**18 07 30.1**	**0.0**
	1.0nm,0.3s,baz=350,slow=6.1,SNR=2.8						
PMG				Sn	**Sn**	**18 08 35.0**	**+0.1**
	1.0nm,0.3s,baz=240,slow=20,SNR=1.8						
	3.3nm,0.4s						
WRA	**Warramunga Arr**	**16.11**	**209**	Pn	**Pn**	**18 09 49.2**	**-1.9**
	0.3nm,0.3s,baz=34,slow=12,SNR=12						
WRA				Lg	Lg	18 14 36.1	
	baz=21,slow=26						
ASAR	**Alice Springs**	**19.55**	**204**	P	**P**	**18 10 34.1**	**+2.0**
	2.5nm,0.7s,baz=30,slow=11,SNR=53						
DAV	**Davao City (W)**	**21.27**	**307**	LR	LR	18 18 30.8	
	comp=Z,299nm,19.6s,baz=175,slow=35						
MKAR	**Makanchi Array**	**74.63**	**322**	P	**P**	**18 17 43.4**	**+0.4**
	0.2nm,0.8s,baz=97,slow=6.2,SNR=2.0						
	0.2nm,0.8s						
BVAR	**Borovoye Array**	**84.09**	**325**	P	**P**	**18 18 34.5**	**+0.1**
	0.7nm,0.8s,baz=108,slow=4.7,SNR=3.3						
	0.7nm,0.8s						
ILAR	**Eielson Array**	**87.13**	**24**	P	**P**	**18 18 48.6**	**-0.6**
	0.2nm,0.8s,baz=268,slow=4.5,SNR=4.0						
	0.2nm,0.8s						

*IDC **03** 18:07:45.1±29.0, 17°.53S×178°.92W, h536km±335km, mb3.2/6, mbtmp4.1/6, Error ellipse: s-maj=122.7km s-min=35.9km az=82.0*

ISC 03 18:07:45.3±1.5, 17°.5S±0°.3×179°.0W±0°.2, h539km, n6, σ0§40/6, mb3.8/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.00**	**260**	P	**P**	**18 13 36.1**	**0.0**
	4.3nm,1.0s,baz=102,slow=9.3,SNR=1.8						
	4.3nm,1.0s						
STKA	**Stephens Creek**	**38.37**	**241**	P	**P**	**18 14 20.9**	**+0.4**
	1.7nm,0.5s,baz=83,slow=7.9,SNR=6.3						
	1.7nm,0.5s						
WRA	**Warramunga Arr**	**44.19**	**259**	P	**P**	**18 15 06.3**	**-0.5**
	1.5nm,0.6s,baz=96,slow=7.7,SNR=2.2						
	1.5nm,0.6s						
ASAR	**Alice Springs**	**44.40**	**254**	P	**P**	**18 15 08.5**	**+0.1**
	6.2nm,0.5s,baz=90,slow=8.2,SNR=29						
	6.2nm,0.5s						
QSPA	**South Pole Qui**	**72.55**	**180**	P	**P**	**18 18 17.4**	**-0.2**
	0.6nm,0.5s,baz=284,slow=2.5,SNR=8.2						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**85.61**	**13**	P	**P**	**18 19 26.5**	**+0.1**
	0.3nm,0.8s,baz=230,slow=4.7,SNR=1.9						
	0.3nm,0.8s						

*DJA **03** 18:08:47.8±1.6, 2°.N±3°.×12°.7E±°, h28km±16km, M4.5/14, mb4.7/7, mB4.9/4, MLv4.5/14, Mw(mB)4.2/4*

*IDC **03** 18:08:47.5±2.5, 1°.78N×127°.69E, h102km±24km, mb3.8/11, mbtmp4.1/12, Error ellipse: s-maj=54.7km s-min=11.1km az=70.0*

*NEIC **03** 18:08:48.0±2.4, 1°.78N±0°.05×127°.34E±0°.03, h101km±7km, mb4.4/35, Error ellipse: s-maj=8.1km s-min=3.9km az=167.0*

ISC 03 18:08:48.3±0.4, 1°.73N±0°.04×127°.32E±0°.06, h100km, n74, σ1§78/84, mb4.3/31, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.95**	**177**	Pn	**Pn**	**18 09 08.6**	**+0.3**
TNTI				Sn	**Sn**	**18 09 24.4**	**+1.2**
TNTI	**Ternate**	**0.95**	**177**	P	**Pn**	**18 09 08.4**	**+0.2**
TNTI				S	**Sn**	**18 09 22.6**	**-0.6**
LBMI	**Labuha**	**2.36**	**176**	P	**Pn**	**18 09 26.8**	**+1.2**
SGSI	**Sangihe**	**2.64**	**317**	P	**Pn**	**18 09 27.8**	**-1.5**
SGSI				S	**Sn**	**18 09 58.0**	**-2.8**
KMSI	**Cibinong**	**3.53**	**251**	P	**Pn**	**18 09 42.1**	**+0.9**
SANI	**Sanana**	**3.98**	**200**	P	**Pn**	**18 09 46.8**	**-0.5**
GTOI	**Gorontalo**	**4.45**	**256**	P	**Pn**	**18 09 55.3**	**+1.8**
SWI	**Sorong**	**4.71**	**123**	P	**Pn**	**18 09 57.5**	**+0.5**
NLAI	**Namlea**	**4.94**	**183**	P	**Pn**	**18 10 01.2**	**+1.0**
LUWI	**Luwuk**	**5.32**	**239**	Pn	**Pn**	**18 10 07.0**	**+1.7**
LUWI				Sn	**Sn**	**18 11 05.5**	**+0.1**
LUWI	**Luwuk**	**5.32**	**239**	P	**Pn**	**18 10 07.0**	**+1.7**
	55nm,0.8s,1µm1.5nm						
DAV	**Davao City (W)**	**5.58**	**342**	Pn	**Pn**	**18 10 07.0**	**-1.9**
DAV				Sn	**Sn**	**18 11 10.2**	**-1.7**
DAV	**Davao City (W)**	**5.58**	**342**	P	**Pn**	**18 10 09.9**	**+1.0**
	74nm,0.4s,baz=256,slow=8.3,SNR=1.8						
DAV				S	**Sn**	**18 11 13.2**	**+1.4**
	127nm,0.4s,baz=114,slow=20,SNR=1.3						
TOLI2	**Tolitoli**	**6.57**	**265**	Pn	**Pn**	**18 10 22.1**	**-0.3**
TOLI2					**Sn**	**18 11 33.8**	**-2.0**
FAKI	**Fak Fak**	**6.75**	**133**		**Pn**	**18 10 26.1**	**+1.2**
FAKI	**Fak Fak**	**6.75**	**133**	P	**Pn**	**18 10 26.4**	**+1.6**
	26nm,0.9s,0.2nm						
BBSI	**Bau Bau**	**8.60**	**213**	P	**Pn**	**18 10 51.7**	**+1.7**
	17nm,1.1s						
TTSI	**Tana Toraja**	**8.87**	**238**	P	**Pn**	**18 10 53.8**	**+0.1**
	35nm,0.7s						
KAPI	**Kappang**	**10.10**	**228**	Pn	**Pn**	**18 11 11.8**	**+1.4**
SOEI	**Soe**	**11.81**	**195**	Pn	**Pn**	**18 11 34.7**	**+1.1**
KKM	**Kota Kinabalu**	**11.88**	**291**		**Pn**	**18 11 34.9**	**+0.4**
SBUM	**Sibu**	**15.11**	**273**	P	**P**	**18 12 19.3**	**0.0**
SBUM				IAmb	IAmb	18 12 21.7	
	comp=Z,7.1nm,0.6s						
JAGI	**Jajag, Banyuwa**	**16.59**	**232**	P	**P**	**18 12 35.9**	**+0.2**
JAGI				IAmb	IAmb	18 12 50.8	
	comp=Z,35nm,1.4s						
KNRA	**Kununurra**	**17.35**	**175**	P	**P**	**18 12 41.5**	**-2.7**
UGM	**Wanagama**	**19.30**	**240**	P	**P**	**18 13 04.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**19.77**	**185**	P	**P**	**18 13 10.0**	**-0.6**
YULB	**Yu-li**	**22.31**	**345**	P	**P**	**18 13 35.8**	**-1.9**
YULB				IAmb	IAmb	18 13 36.3	
	comp=Z,36nm,1.4s						
TPUB	**Ta-pu**	**22.40**	**344**	P	**P**	**18 13 36.8**	**-1.9**
TPUB				IAmb	IAmb	18 13 44.1	
	comp=Z,28nm,1.3s						
WB0	**Warramunga Arr**	**22.46**	**162**	P	**P**	**18 13 37.7**	**-1.7**
WB0				IAmb	IAmb	18 13 39.2	
	comp=Z,15nm,0.6s						
WRAB	**Tennant Creek**	**22.61**	**163**	P	**P**	**18 13 39.5**	**-1.3**
WRAB				IAmb	IAmb	18 13 40.5	
	comp=Z,16nm,0.5s						
WRA	**Warramunga Arr**	**22.61**	**163**	P	**P**	**18 13 38.8**	**-2.1**
WRA	**Warramunga Arr**	**22.61**	**163**	P	**P**	**18 13 39.5**	**-1.4**
	comp=Z,12nm,0.5s,baz=340,slow=11,SNR=27						
	comp=Z,12nm,0.5s						
WB2	**Warramunga Arr**	**22.61**	**163**	P	**P**	**18 13 39.5**	**-1.4**
WB2				IAmb	IAmb	18 13 47.7	
	comp=Z,12nm,0.8s						
WR0	**Warramunga Arr**	**22.69**	**162**	P	**P**	**18 13 40.0**	**-1.6**
WR0				IAmb	IAmb	18 13 41.7	
	comp=Z,8.3nm,0.7s						
SSLB	**Suanglung**	**22.78**	**345**	P	**P**	**18 13 40.5**	**-2.1**
SSLB				IAmb	IAmb	18 13 44.3	
	comp=Z,9.3nm,0.8s						
NACB	**Ninganchiao**	**22.99**	**347**	P	**P**	**18 13 43.9**	**-0.7**
NACB				IAmb	IAmb	18 13 47.9	
	comp=Z,18nm,1.0s						
YHNB	**Yeheng**	**23.52**	**346**	P	**P**	**18 13 49.0**	**-0.6**
YHNB				IAmb	IAmb	18 13 57.7	
	comp=Z,24nm,1.2s						
MBWA	**Marble Bar**	**23.93**	**198**	P	**P**	**18 13 52.3**	**-0.9**
MBWA				IAmb	IAmb	18 14 35.8	
	comp=Z,13nm,1.1s						
QIZ	**Qiongzhong**	**24.27**	**316**	P	**P**	**18 13 57.1**	**+0.8**
QIZ				IAmb	IAmb	18 13 59.5	
	comp=Z,37nm,1.4s						
PSA00	**Pilbara Seismi**	**24.29**	**197**	P	**P**	**18 13 56.2**	**-0.2**
PSA00				IAmb	IAmb	18 13 57.0	
	comp=Z,9.9nm,0.9s						
PSA00	**Pilbara Seismi**	**24.29**	**197**	P	**P**	**18 13 55.8**	**-0.6**
PSA00				IAmb	IAmb	18 13 56.9	
	comp=Z,5.3nm,1.1s						
XMIS	**Christmas Isla**	**24.74**	**240**	P	**P**	**18 14 00.4**	**-0.3**
XMIS				IAmb	IAmb	18 14 30.9	
	comp=Z,38nm,1.1s						
AS31	**Alice Springs**	**26.04**	**166**	P	**P**	**18 14 09.5**	**-2.9**
ASAR	**Alice Springs**	**26.04**	**166**	P	**P**	**18 14 10.1**	**-2.3**
ASAR	**Alice Springs**	**26.04**	**166**	P	**P**	**18 14 10.3**	**-2.1**
	comp=Z,1.7nm,0.3s,baz=346,slow=8.2,SNR=20						
ASAR				PcP	**PcP**	**18 17 36.8**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=1.9,slow=2.8,SNR=0.9						
	comp=Z,1.7nm,0.3s						
FORT	**Forrest**	**32.34**	**179**	P	**P**	**18 15 06.8**	**-1.3**
MORW	**Morawa**	**32.47**	**199**	P	**P**	**18 15 08.3**	**-1.0**
PZH	**PanZhiHua**	**34.79**	**317**	P	**P**	**18 15 30.4**	**+0.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
BBOO	**Buckleboo**	**35.33**	**167**	P	**P**	**18 15 32.7**	**-1.3**
LYN	**LuoYang**	**35.47**	**339**	eP	**P**	**18 15 37.6**	**+2.4**
LYN				pmax	pmax		
	comp=Z,21nm,0.5s						
STKA	**Stephens Creek**	**36.06**	**159**	P	**P**	**18 15 39.8**	**-0.5**
STKA	**Stephens Creek**	**36.06**	**159**	P	**P**	**18 15 39.6**	**-0.7**
	comp=Z,4.2nm,0.5s,baz=347,slow=7.0,SNR=11						
	comp=Z,4.2nm,0.5s						
MJAR	**Matsushiro Arr**	**36.08**	**15**	P	**P**	**18 15 38.1**	**-2.2**
	comp=Z,0.7nm,0.6s,baz=195,slow=8.7,SNR=4.3						
	comp=Z,0.7nm,0.6s						
ARMA	**Armidale**	**39.48**	**146**	P	**P**	**18 16 10.6**	**+1.3**
ARMA				IAmb	IAmb	18 16 14.4	
	comp=Z,17nm,1.3s						
HHC	**Hu-ho-hao-te**	**41.47**	**342**	eP	**P**	**18 16 26.8**	**+1.3**
HHC				pmax	pmax		
	comp=Z,28nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,5.1s						
LSA	**Lhasa**	**44.21**	**313**	P	**P**	**18 16 48.2**	**0.0**
LSA				IAmb	IAmb	18 16 50.7	
	comp=Z,2.7nm,0.5s						
PINNC	**Pines Island,**	**45.99**	**124**	P	**P**	**18 17 00.2**	**-1.6**
SONM	**Songino Array**	**49.37**	**342**	P	**P**	**18 17 26.4**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=157,slow=7.9,SNR=3.9						
	comp=Z,0.4nm,0.6s						
WMQ	**Urumqi**	**54.70**	**326**	eP	**P**	**18 18 08.7**	**+1.5**
WMQ				PcP	**PcP**	**18 19 16.0**	**+7.2**
WMQ				PcS	**PcS**	**18 23 16.1**	**+7.5**
WMQ				pmax	pmax		
	comp=Z,19nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,95nm,4.3s						
MK31	**Makanchi Array**	**59.53**	**326**	P	**P**	**18 18 41.2**	**0.0**
MKAR	**Makanchi Array**	**59.53**	**326**	P	**P**	**18 18 40.9**	**-0.3**
MKAR	**Makanchi Array**	**59.53**	**326**	P	**P**	**18 18 41.5**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=118,slow=7.8,SNR=25						
	comp=Z,1.1nm,0.5s						
LBZ	**Lake Benmore**	**59.71**	**146**	P	**P**	**18 18 41.4**	**-1.0**
MAKZ	**Makanchi**	**59.71**	**326**	P	**P**	**18 18 39.8**	**-2.7**
MAKZ				IAmb	IAmb	18 18 44.8	
	comp=Z,1.5nm,0.6s						
ZALV	**Zalesovo Beam**	**62.63**	**333**	P	**P**	**18 19 01.6**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=121,slow=10,SNR=1.8						
	comp=Z,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**63.73**	**328**	P	**P**	**18 19 09.4**	**+0.1**
	comp=Z,4.6nm,0.8s,baz=129,slow=6.2,SNR=40						
	comp=Z,4.6nm,0.8s						
KURK	**Kurchatov**	**63.74**	**328**	P	**P**	**18 19 09.9**	**+0.5**
BVAR	**Borovoye Array**	**69.31**	**327**	P	**P**	**18 19 46.0**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=133,slow=6.3,SNR=6.4						
	comp=Z,0.5nm,0.4s						
VNDA	**Vanda**	**81.38**	**173**	P	**P**	**18 20 51.9**	**-1.5**
VNDA	**Vanda**	**81.38**	**173**	P	**P**	**18 20 52.5**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=318,slow=7.4,SNR=5.6						
	comp=Z,1.3nm,0.7s						
H19K	**Roundabout Mou**	**82.74**	**24**	P	**P**	**18 21 01.4**	**+0.6**
IMAR	**Indian Mountai**	**83.92**	**24**	P	**P**	**18 21 07.1**	**+0.2**
QSPA	**South Pole Qui**	**91.65**	**180**	P	**P**	**18 21 43.3**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=270,slow=1.0,SNR=9.5						
	comp=Z,0.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**124.08**	**287**	PKP	**PKPdf**	**18 27 35.1**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=80,slow=1.5,SNR=4.1						

*NEIC **03** 18:10:57.2±0.9, 19°.442N±0°.008×155°.613W±0°.006, h11km±3km, Error ellipse: s-maj=1.3km s-min=0.7km az=197.0*

HVO 03 18:10:57.2±1.0, 19°.424N±0°.008×155°.613W±0°.004, h-0km±7km, ML3.1/35, ML3.2/50(NEIC), Error ellipse: s-maj=1.2km s-min=0.6km az=178.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWH	**Moku'aweowe**	**0.06**	**14**		Pg	18 10 59.2	+0.7
MLOA	**Mauna Loa Obse**	**0.12**	**17**		Pg	18 11 00.3	+0.8
MLOA				IAML		18 11 03.4	
	comp=N,13µm,0.5s						
MLOA	**Mauna Loa Obse**	**0.12**	**17**		Sg	18 11 02.5	+1.5
ALEP	**Alea Permanent**	**0.12**	**346**		Pg	18 11 00.4	+0.9
ALEP					Sg	18 11 02.7	+1.6
KHU	**Kahuku**	**0.18**	**181**		Pg	18 11 01.2	+0.6
KHU					Sg	18 11 04.0	+1.2
KHU				IAML		18 11 04.6	
	comp=E,5µm,0.5s						
KHU				IAML		18 11 06.8	
	comp=N,6µm,0.6s						
HMH	**Humu'ula Sheep**	**0.22**	**35**		Pg	18 11 02.0	+0.7
HMH					Sg	18 11 05.0	+0.8
HMH				IAML		18 11 06.1	
	comp=N,3µm,0.5s						
MLH	**Mauna Loa**	**0.23**	**72**		Pg	18 11 02.3	+0.8
MLH				IAML		18 11 06.8	
	comp=N,6µm,0.7s						
MLH				IAML		18 11 07.2	
	comp=E,3µm,0.6s						
HTC	**Hot Caves**	**0.28**	**132**		Pg	18 11 02.9	+0.4
CPH	**Captain Cook**	**0.29**	**283**		Pg	18 11 03.9	+1.0
UWE	**Uwekahuna**	**0.30**	**90**		Pg	18 11 03.5	+0.5
SDHHI	**Sand Hill**	**0.30**	**96**		Pg	18 11 03.5	+0.4
SDHHI				IAML		18 11 10.8	
	comp=E,4µm,0.4s						
OBL	**Observatory Le**	**0.31**	**91**		Pg	18 11 03.5	+0.4
KHLU	**Kahalu`u**	**0.31**	**302**		Pg	18 11 04.2	+1.0
KHLU	**Kahalu`u**	**0.31**	**302**		Sb	18 11 10.1	-1.4
NPH	**North Pit**	**0.31**	**92**	Pg	Pg	18 11 03.1	-0.1
HLP	**Hilina Pali**	**0.32**	**114**		Pg	18 11 03.7	+0.4
HLP				IAML		18 11 11.0	
	comp=N,3µm,0.7s						
HLP	**Hilina Pali**	**0.32**	**114**		Sg	18 11 08.6	+1.3
UWB	**Uwekahuna B**	**0.32**	**90**		Pg	18 11 03.6	+0.3
UWB					Sg	18 11 06.9	-0.5
RSD	**Rainshed**	**0.32**	**83**		Pg	18 11 03.8	+0.4
RSD				Sg	Sg	18 11 08.4	+0.9
RSD				IAML		18 11 14.1	
	comp=N,3µm,0.6s						
RIM	**Rim**	**0.32**	**95**		Pg	18 11 03.6	+0.2
RIM				IAML		18 11 14.7	
	comp=E,4µm,0.7s						
RIM				IAML		18 11 14.8	
	comp=N,4µm,0.5s						
SBLHI	**Steaming Bluff**	**0.33**	**89**		Pg	18 11 03.7	+0.2
SBLHI				Sg	Sg	18 11 08.1	+0.4
SBLHI				IAML		18 11 14.8	
	comp=N,4µm,0.4s						
KKO	**Keanakako`i**	**0.33**	**94**		Pg	18 11 03.8	+0.3
KKO				IAML		18 11 14.4	
	comp=E,3µm,0.7s						
HATHI	**Halema'uma'u T**	**0.33**	**90**		Pg	18 11 03.8	+0.2
HATHI				Sg	Sg	18 11 08.8	+0.9
HATHI				IAML		18 11 13.2	
	comp=N,3µm,0.6s						
BYL	**Byron's Ledge**	**0.33**	**92**		Pg	18 11 03.6	0.0
BYL				Sg	Sg	18 11 08.4	+0.5
BYL				IAML		18 11 14.1	
	comp=E,3µm,0.9s						
BYL				IAML		18 11 14.7	
	comp=N,3µm,0.7s						
HUH	**Hualalai**	**0.33**	**321**		Pg	18 11 04.9	+1.3
HUH				Sg	Sg	18 11 08.2	+0.2
HUH				IAML		18 11 12.3	
	comp=N,3µm,0.3s						
HUH				IAML		18 11 14.0	
	comp=E,3µm,0.4s						
POHA	**Pohakuloa**	**0.34**	**13**		Pg	18 11 04.3	+0.5
POHA				IAML		18 11 15.6	
	comp=E,4µm,0.7s						
POHA				IAML		18 11 15.8	
	comp=E,2µm,0.3s						
PUH	**Pauahi**	**0.38**	**97**		Pg	18 11 04.5	0.0
PUH				Sg	Sg	18 11 09.4	0.0
PUH				IAML		18 11 11.6	
	comp=E,2µm,0.5s						
KNHH	**Kane Nui o Ham**	**0.42**	**96**		Pg	18 11 05.2	-0.1
STCH	**Steam Cracks**	**0.46**	**95**		Pg	18 11 06.3	+0.2
STCH					Sg	18 11 13.2	+1.1
STCH	**Steam Cracks**	**0.46**	**95**	IAML		18 11 13.9	
	comp=N,1µm,0.5s						
STCH				IAML		18 11 14.6	
	comp=E,2µm,0.5s						
NPOC	**North of Pu'u**	**0.48**	**94**		Pg	18 11 06.5	+0.1
NPOC					Sg	18 11 13.7	+1.2
NPOC	**North of Pu'u**	**0.48**	**94**	IAML		18 11 14.3	
	comp=N,2µm,0.6s						
NPOC				IAML		18 11 14.3	
	comp=E,2µm,0.6s						
JCUZ	**Jacuzzi**	**0.48**	**95**		Pg	18 11 06.6	+0.1
JCUZ				IAML		18 11 14.8	
	comp=E,1µm,1.0s						
JCUZ	**Jacuzzi**	**0.48**	**95**		Sg	18 11 13.7	+0.9
JOKA	**Jonika Flow**	**0.57**	**89**		Pg	18 11 07.8	-0.5
JOKA					Sg	18 11 15.9	+0.2
HPAH	**Hawaii Prepara**	**0.61**	**353**		Pg	18 11 08.5	-0.4
HPAH					Sg	18 11 16.9	+0.1
HPAH	**Hawaii Prepara**	**0.61**	**353**	IAML		18 11 30.2	
	comp=E,1µm,0.8s						
MHA	**Mahukona**	**0.81**	**340**		Pg	18 11 11.8	-1.0
MHA					Sg	18 11 22.1	-1.1
MHA	**Mahukona**	**0.81**	**340**	Pg	Pg	18 11 11.2	-1.5
HLK	**Haleakala**	**1.46**	**336**	Pn	Pn	18 11 22.7	-2.4

*DJA **03** 18:12:53.4±0.2, 1°.N±3°.×12°.6E±°, h10km, M4.5/19, mb4.8/17, mB4.9/8, MLv4.6/19, Mw(mB)4.2/8, MwMwp4.4/2, Mwp4.8/2*

*NEIC **03** 18:12:55.1±1.8, 0°.58N±0°.07×126°.19E±0°.04, h37km±6km, mb4.7/156, Error ellipse: s-maj=10.0km s-min=6.1km az=169.0*

*IDC **03** 18:12:55.6±2.9, 0°.45N×126°.02E, h48km±27km, mb4.2/22, mbtmp4.4/23, ML4.6/1, MS3.5/16, Error ellipse: s-maj=19.6km s-min=8.2km az=68.0*

ISC 03 18:12:55.5±0.8, 0°.52N±0°.04×126°.18E±0°.04, h45km±8km, n302, σ1§19/304, mb4.7/105, MS3.6/19, 2D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.21**	**78**		**Pn**	**18 13 15.3**	**-0.8**
TNTI				Sn	**Sn**	**18 13 30.0**	**-1.3**
TNTI	**Ternate**	**1.21**	**78**	P	**Pn**	**18 13 15.7**	**-0.3**
TNTI	**Ternate**	**1.21**	**78**	P	**Pn**	**18 13 15.2**	**-0.8**
TNTI				S	**Sn**	**18 13 31.4**	**+0.1**
LBMI	**Labuha**	**1.75**	**131**	P	**Pn**	**18 13 23.0**	**-0.5**
KMSI	**Cibinong**	**2.20**	**271**	P	**Pn**	**18 13 29.0**	**-0.6**
SANI	**Sanana**	**2.56**	**184**	P	**Pn**	**18 13 34.6**	**0.0**
SANI	**Sanana**	**2.56**	**184**	P	**Pn**	**18 13 34.2**	**-0.4**
GTOI	**Gorontalo**	**3.17**	**272**	P	**Pn**	**18 13 45.4**	**+2.4**
SGSI	**Sangihe**	**3.21**	**348**	P	**Pn**	**18 13 44.3**	**+0.8**
LUWI	**Luwuk**	**3.75**	**245**	Pn	**Pn**	**18 13 51.9**	**+1.0**
LUWI				Sn	**Sn**	**18 14 33.8**	**0.0**
LUWI	**Luwuk**	**3.75**	**245**	P	**Pn**	**18 13 53.1**	**+2.2**
LUWI	**Luwuk**	**3.75**	**245**	P	**Pn**	**18 13 52.7**	**+1.8**
NLAI	**Namlea**	**3.85**	**166**	P	**Pn**	**18 13 53.6**	**+1.3**
MRSI	**Marisa**	**4.24**	**269**	P	**Pn**	**18 13 58.3**	**+0.6**
SWI	**Sorong**	**5.26**	**105**	P	**Pn**	**18 14 13.4**	**+1.7**
	57nm,0.6s,0.2nm						
TOLI2	**Tolitoli**	**5.43**	**276**	Pn	**Pn**	**18 14 13.1**	**-0.9**
BNDI	**Bandanaira**	**6.24**	**143**	P	**Pn**	**18 14 27.1**	**+1.9**
BNDI	**Bandanaira**	**6.24**	**143**	P	**Pn**	**18 14 26.9**	**+1.7**
	227nm,0.9s,0.9nm						
MPSI	**Mapaga**	**6.29**	**268**	P	**Pn**	**18 14 26.3**	**+0.5**
	44nm,0.7s,713nm2µm0.2nm						
FAKI	**Fak Fak**	**6.96**	**119**		**Pn**	**18 14 35.4**	**+0.3**
FAKI	**Fak Fak**	**6.96**	**119**	P	**Pn**	**18 14 35.7**	**+0.6**
FAKI	**Fak Fak**	**6.96**	**119**	P	**Pn**	**18 14 36.1**	**+1.0**
	38nm,0.8s,0.1nm						
BBSI	**Bau Bau**	**6.98**	**211**	P	**Pn**	**18 14 37.5**	**+2.3**
	93nm,0.8s,688nm0.3nm						
TTSI	**Tana Toraja**	**7.28**	**241**	P	**Pn**	**18 14 40.6**	**+1.2**
	89nm,0.6s,1µm0.4nm						
BKSI	**Bulukumba**	**8.39**	**226**	P	**Pn**	**18 14 55.9**	**+1.3**
	66nm,0.6s,586nm						
KAPI	**Kappang**	**8.46**	**229**	Pn	**Pn**	**18 14 56.6**	**+1.0**
KAPI	**Kappang**	**8.46**	**229**	P	**Pn**	**18 14 57.9**	**+2.3**
SAUI	**Saumlaki**	**9.87**	**149**	Pn	**Pn**	**18 15 12.4**	**-2.5**
MMRI	**Maumere**	**9.91**	**203**	Pn	**Pn**	**18 15 14.9**	**-0.6**
MMRI	**Maumere**	**9.91**	**203**	P	**Pn**	**18 15 18.0**	**+2.5**
SOEI	**Soe**	**10.39**	**191**	Pn	**Pn**	**18 15 21.9**	**-0.2**
SOEI	**Soe**	**10.39**	**191**	P	**Pn**	**18 15 24.3**	**+2.2**
	73nm,0.9s						
KKM	**Kota Kinabalu**	**11.36**	**299**	Pn	**Pn**	**18 15 32.1**	**-3.3**
KKM	**Kota Kinabalu**	**11.36**	**299**	P	**Pn**	**18 15 37.4**	**+2.0**
PLAI	**Plampang**	**12.51**	**222**	P	**Pn**	**18 15 52.8**	**+1.8**
PLAI	**Plampang**	**12.51**	**222**	P	Pn	18 15 55.0	+4.0
TWSI	**Taliwang, Sumb**	**13.06**	**225**	P	**Pn**	**18 16 01.2**	**+2.7**
	22nm,0.8s						
DRS	**Darwin Rock St**	**13.70**	**160

XMIS Christmas Isla 23.16 241 P **P** **18 17 56.8 -1.6**
XMIS IAmb IAmb 18 17 57.3
comp=Z,29nm,0.7s
YULB Yu-li 23.22 349 P **P** **18 17 54.7 -4.1**
YULB IAmb IAmb 18 18 03.9
comp=Z,32nm,1.5s
YULB Yu-li 23.22 349 P **P** **18 18 00.0 +1.1**
TPUB Ta-pu 23.27 347 P **P** **18 17 55.8 -3.5**
TPUB IAmb IAmb 18 18 02.7
comp=Z,18nm,0.7s
TPUB Ta-pu 23.27 347 P **P** **18 18 00.1 +0.7**
SSLB Suanglung 23.68 348 P **P** **18 18 00.2 -3.0**
SSLB Suanglung 23.68 348 P **P** **18 18 04.7 +1.5**
MNAI Manna 23.71 258 P **P** **18 18 02.0 -1.6**
QIZ Qiongzhong 24.39 320 P **P** **18 18 11.7 +1.8**
QIZ S **S** **18 22 30.9 +4.2**
QIZ LR LR
comp=N,94nm,9.2s
QIZ LR LR
comp=E,130nm,7.8s
QIZ LR LR
comp=Z,150nm,18.6s
YHNB Yeheng 24.45 349 P **P** **18 18 08.2 -2.2**
YHNB IAmb IAmb 18 18 23.5
comp=Z,22nm,1.2s
YHNB Yeheng 24.45 349 P **P** **18 18 12.0 +1.6**
QIS Mount Isa 24.73 149 P **P** **18 18 14.0 +1.1**
AS31 Alice Springs 25.19 163 P **P** **18 18 17.4 +0.3**
ASAR Alice Springs 25.19 163 P **P** **18 18 17.1 +0.1**
comp=Z,9.4nm,0.3s,baz=346,slow=12,SNR=153
ASAR PcP **PcP** **18 21 50.4 +0.2**
comp=Z,1.1nm,0.8s,baz=352,slow=2.2,SNR=4.8
ASAR S **S** **18 22 39.8 +0.4**
comp=Z,0.6nm,0.7s,baz=343,slow=15,SNR=2.2
ASAR LR LR 18 30 16.1
comp=Z,57nm,18.1s,baz=2.5,slow=41
comp=Z,9.4nm,0.3s
AS01 Alice Springs 25.20 163 P **P** **18 18 18.6 +1.4**
WRKA Warakurna 25.49 176 P **P** **18 18 20.7 +0.9**
MTSU Mount Surprise 25.73 137 P **P** **18 18 23.0 +1.0**
GIRL Giralia 25.80 206 P **P** **18 18 22.0 -0.6**
KULM Kulim 25.93 281 P **P** **18 18 22.6 -1.3**
JOW Kunigami 26.23 4 P **P** **18 18 28.3 +1.9**
JOW IAmb IAmb 18 18 44.9
comp=Z,29nm,1.1s
JOW Kunigami 26.23 4 P **P** **18 18 27.3 +0.8**
RABL Rabaul 26.38 100 P **P** **18 18 28.3 +0.3**
RABL Rabaul 26.38 100 P **P** **18 18 28.7 +0.7**
MEEK Meekatharra 27.97 195 P **P** **18 18 42.9 +0.8**
CTA Charters Tower 28.40 137 P **P** **18 18 46.2 +0.3**
comp=Z,2.5nm,0.7s,baz=341,slow=11,SNR=2.4
comp=Z,2.5nm,0.7s
CTAO Charters Tower 28.40 137 P **P** **18 18 46.0 0.0**
CTAO Charters Tower 28.40 137 P **P** **18 18 46.8 +0.8**
GSI Gunungsitoli 28.61 272 P **P** **18 18 47.1 -0.9**
GSI IAmb IAmb 18 19 29.3
comp=Z,18nm,1.1s
OOD Oodnadatta 29.60 163 P **P** **18 18 58.0 +1.5**
SRDT SRDT 30.08 298 P **P** **18 19 00.8 -0.2**
JCJ Chichijima 30.57 29 LR LR 18 29 58.6
comp=Z,34nm,19.6s,baz=142,slow=33
MORW Morawa 30.98 197 P **P** **18 19 08.6 -0.1**
MORW IAmb IAmb 18 19 49.6
comp=Z,30nm,1.4s
FORT Forrest 31.18 177 P **P** **18 19 10.6 +0.1**
FORT Forrest 31.18 177 P **P** **18 19 11.2 +0.7**
INKA Innaminka 31.39 155 P **P** **18 19 13.4 +1.1**
MULG Mulgathing 31.54 167 P **P** **18 19 14.5 +0.9**
CRAI Chiangrai 31.95 309 P **P** **18 19 16.5 -0.9**
KMBL Kambalda 31.98 187 P **P** **18 19 19.0 +1.5**
NJ2 Nanjing 32.11 348 *e*P **P** **18 19 20.4 +1.8**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
CMAR Chiang Mai Arr 32.14 305 P **P** **18 19 17.6 -1.5**
comp=Z,0.7nm,0.9s,baz=129,slow=7.4,SNR=6.8
CMAR PcP **PcP** **18 22 06.6 -1.0**
comp=Z,0.9nm,0.7s,baz=242,slow=1.9,SNR=6.6
CMAR LR LR 18 31 55.2
comp=Z,36nm,21.4s,baz=110,slow=36
comp=Z,0.7nm,0.9s
BLDU Ballidu 32.25 195 P **P** **18 19 20.6 +0.7**
CHTO Chiang Mai 32.32 306 P **P** **18 19 20.9 +0.2**
JNU Nakatsue 32.73 7 P **P** **18 19 25.6 +1.6**
JNU Nakatsue 32.73 7 LR LR 18 34 57.1
comp=Z,26nm,19.4s,baz=168,slow=40
LCRK Leigh Creek 32.86 161 P **P** **18 19 25.8 +0.6**
ENH Enshi 33.57 333 P **P** **18 19 30.1 -1.4**
ENH IAmb IAmb 18 19 32.7
comp=Z,4.2nm,0.6s
JMN Monobe 33.81 12 P **P** **18 19 32.7 -0.8**
JMN Monobe 33.81 12 P **P** **18 19 34.5 +1.0**
NWAO Narrogin (SRO) 34.33 193 P **P** **18 19 36.8 -1.1**
BBOO Buckleboo 34.44 165 P **P** **18 19 38.2 -0.7**
BBOO IAmb IAmb 18 19 55.6
comp=Z,29nm,1.4s
BBOO Buckleboo 34.44 165 P **P** **18 19 39.5 +0.5**
PZH PanZhiHua 34.93 320 P **P** **18 19 45.4 +1.9**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,5.4s
HNR Honiara 35.04 107 P **P** **18 19 43.9 -0.5**
HNR Honiara 35.04 107 P **P** **18 19 44.8 +0.4**
comp=Z,438nm,0.7s,baz=201,slow=6.4,SNR=3.9
HNR LR LR 18 35 34.6
comp=Z,895nm,21.3s,baz=138,slow=39
EIDS Eidsvold 35.25 139 P **P** **18 19 44.6 -1.4**
EIDS IAmb IAmb 18 19 48.2
comp=Z,12nm,1.4s
STKA Stephens Creek 35.38 157 P **P** **18 19 46.9 -0.1**
STKA Stephens Creek 35.38 157 P **P** **18 19 47.7 +0.7**
STKA Stephens Creek 35.38 157 P **P** **18 19 47.3 +0.3**
comp=Z,7.6nm,0.3s,baz=324,slow=9.6,SNR=95
comp=Z,7.6nm,0.3s
HTT Hallett 35.84 162 P **P** **18 19 52.6 +1.5**
INU Inuyama 36.09 15 P **P** **18 19 52.7 -0.4**
INU Inuyama 36.09 15 P **P** **18 19 54.3 +1.2**
TNCH TengChong 36.17 314 P **P** **18 19 55.1 +0.9**
TNCH pmax pmax
comp=Z,5.0nm,0.8s
JGF Kuroka 36.42 15 P **P** **18 19 55.6 -0.3**
JGF Kuroka 36.42 15 P **P** **18 19 57.5 +1.6**
KSRS Korea Array 36.78 2 P **P** **18 20 00.2 +1.3**
comp=Z,1.8nm,0.6s,baz=179,slow=10.0,SNR=15
comp=Z,1.8nm,0.6s
KS19 Wonju Array Si 36.83 2 P **P** **18 19 59.4 0.0**
KS19 IAmb IAmb 18 20 33.0
comp=Z,19nm,1.4s
CMSA Cobar Meteorol 36.86 152 P **P** **18 20 00.1 +0.4**
XAN Xi'an 37.06 336 ⇓P **P** **18 20 00.5 -0.9**
XAN pmax pmax
comp=Z,11nm,0.8s
MAJO Matsushiro 37.53 16 P **P** **18 20 05.3 -0.1**
MAJO IAmb IAmb 18 20 06.0
comp=Z,9.9nm,0.6s
MAJO Matsushiro 37.53 16 P **P** **18 20 05.4 0.0**
MJAR Matsushiro Arr 37.53 16 P **P** **18 20 05.1 -0.2**
comp=Z,4.9nm,0.6s,baz=191,slow=9.0,SNR=56
MJAR LR LR 18 37 30.1
comp=Z,16nm,18.2s,baz=208,slow=39
comp=Z,4.9nm,0.6s
MJB9 Matsu-Tunnel 37.53 16 P **P** **18 20 05.6 +0.2**
MJB9 IAmb IAmb 18 20 07.0
comp=Z,9.6nm,0.6s
JSD Sado 38.95 15 P **P** **18 20 17.1 -0.1**
JSD IAmb IAmb 18 20 38.6
comp=Z,25nm,1.2s
JSD Sado 38.95 15 P **P** **18 20 18.0 +0.7**
ARMA Armidale 39.16 144 P **P** **18 20 20.1 +0.9**
ARMA IAmb IAmb 18 20 21.8
comp=Z,16nm,1.4s
ARMA Armidale 39.16 144 P **P** **18 20 20.3 +1.0**
JMM Marumori 39.52 18 P **P** **18 20 22.6 +0.6**
JMM Marumori 39.52 18 P **P** **18 20 24.3 +2.3**
ARPS Mount Arapiles 39.85 160 P **P** **18 20 24.9 +0.1**
BJT Baijiatuan 40.35 348 P **P** **18 20 29.0 +0.1**
BJT IAmb IAmb 18 20 31.7
comp=Z,5.9nm,0.6s
YNG Young 40.42 151 P **P** **18 20 30.6 +1.0**
CAN Canberra 41.54 151 P **P** **18 20 39.2 +0.3**
CAN IAmb IAmb 18 21 04.4
comp=Z,40nm,1.5s
CNB Canberra Magne 41.71 151 P **P** **18 20 41.0 +0.8**
TOO Toolangi 41.90 157 P **P** **18 20 42.5 +0.8**
TOO IAmb IAmb 18 20 49.2
comp=Z,15nm,1.1s
TOO Toolangi 41.90 157 P **P** **18 20 43.1 +1.4**
HHC Hu-ho-hao-te 42.27 343 *e*P **P** **18 20 46.5 +1.7**
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,180nm,5.4s
JTM Tenmabayashi 42.29 17 P **P** **18 20 46.0 +1.2**
JTM IAmb IAmb 18 21 05.1
comp=Z,32nm,1.3s
JTM Tenmabayashi 42.29 17 P **P** **18 20 45.8 +1.0**
USRK Ussuriysk Ar. 43.79 6 P **P** **18 20 57.4 +0.5**
USRK Ussuriysk Ar. 43.79 6 P **P** **18 20 58.1 +1.3**
comp=Z,2.4nm,0.5s,baz=182,slow=8.1,SNR=14
comp=Z,2.4nm,0.5s
MDJ Mudanjiang 44.01 4 P **P** **18 21 00.6 +2.0**
MDJ pmax pmax
comp=Z,11nm,1.8s
MDJ pmax pmax
comp=Z,210nm,6.5s
LSA Lhasa 44.20 314 P **P** **18 21 00.2 -0.8**
BNX BinXian 45.04 1 ⇓P **P** **18 21 09.0 +2.2**
BNX pmax pmax
comp=Z,3.0nm,0.9s
BNX pmax pmax
comp=Z,140nm,5.4s
DZM Mont Dzumac 45.22 122 *e*LR LR 18 33 54.9
comp=Z,151nm,24.8s
GTA Gaotai 45.59 331 *e*P **P** **18 21 11.2 -0.3**
GTA pP pP 18 21 15.3 -8.0
GTA pmax pmax
comp=Z,2.0nm,0.6s
JKA Kamikawa-asahi 45.80 16 P **P** **18 21 14.0 +1.1**
JKA PcP **PcP** **18 22 49.6 -0.2**
PALK Pallekele 45.84 280 LR LR 18 41 08.1
comp=Z,67nm,21.0s,baz=206,slow=37
HEH HeiHe 49.55 1 *e*P **P** **18 21 42.9 +1.0**
HEH pmax pmax
comp=Z,4.0nm,0.5s
SONM Songino Array 50.16 343 P **P** **18 21 45.8 -0.9**
SONM Songino Array 50.16 343 P **P** **18 21 46.9 +0.2**
comp=Z,1.6nm,0.5s,baz=159,slow=7.9,SNR=14
SONM LR LR 18 45 33.4
comp=Z,55nm,18.1s,baz=172,slow=39
comp=Z,1.6nm,0.5s
FUNA Funafuti 53.58 101 P **P** **18 22 12.4 -0.2**
WMQ Urumqi 55.05 327 *e*P **P** **18 22 25.2 +2.3**
WMQ pmax pmax
comp=Z,10.0nm,1.1s
WMQ LR LR
comp=Z,99nm,24.3s
PEA0B Petropavlovsk- 58.59 22 P **P** **18 22 48.5 +0.7**
PEA0B PcP **PcP** **18 23 37.9 +0.3**
PETK Petropavlovsk- 58.59 22 P **P** **18 22 47.8 +0.1**
PETK PcP **PcP** **18 23 38.3 +0.7**
PETK Petropavlovsk- 58.59 22 P **P** **18 22 48.6 +0.9**
comp=Z,5.7nm,0.6s,baz=180,slow=3.7,SNR=27
comp=Z,5.7nm,0.6s
PRZ Przheval'sk 59.79 321 P **P** **18 22 56.6 +0.1**
MK31 Makanchi Array 59.89 327 P **P** **18 22 56.1 -0.7**
MK31 PcP **PcP** **18 23 42.4 -0.5**
MKAR Makanchi Array 59.89 327 P **P** **18 22 56.1 -0.8**
MKAR PcP **PcP** **18 23 42.4 -0.5**
MKAR Makanchi Array 59.89 327 P **P** **18 22 56.3 -0.6**
comp=Z,3.1nm,0.3s,baz=121,slow=7.9,SNR=87
MKAR PcP **PcP** **18 23 43.2 +0.3**
comp=Z,2.2nm,0.5s,baz=119,slow=4.4,SNR=5.7
comp=Z,3.1nm,0.3s
KSH Kashi 59.95 317 P **P** **18 23 00.8 +3.3**
TUWZ Tuamarina 60.03 140 P **P** **18 22 57.9 0.0**
MAKZ Makanchi 60.07 326 P **P** **18 22 57.4 -0.7**
MAKZ IAmb IAmb 18 22 59.4
comp=Z,4.1nm,0.6s
MAKZ PcP **PcP** **18 23 43.1 -0.6**
TCW Tory Channel 60.14 140 P **P** **18 22 58.4 -0.2**
RTZ Ruatahuna 60.69 136 P **P** **18 23 02.2 -0.4**
NRN Naryn 60.83 319 P **P** **18 23 02.2 -1.5**
BFZ Birch Farm 61.17 138 P **P** **18 23 05.9 +0.3**
YAK Yakutsk 61.41 2 P **P** **18 23 05.8 -1.0**
YAK Yakutsk 61.41 2 LR LR 18 53 16.4
comp=Z,31nm,18.1s,baz=146,slow=39
MA2 Magadan 61.93 14 P **P** **18 23 10.4 0.0**
AAK Ala-Archa 62.38 319 P **P** **18 23 13.5 -0.6**
ARSB Arslanbob 62.80 317 P **P** **18 23 15.9 -0.9**
ZAA0 Zalesovo Array 63.20 334 P **P** **18 23 17.6 -1.4**
ZALV Zalesovo Beam 63.20 334 P **P** **18 23 17.7 -1.3**
comp=Z,1.1nm,0.4s,baz=131,slow=5.3,SNR=9.5
comp=Z,1.1nm,0.4s
GAR Garm 63.71 314 P **P** **18 23 21.7 -1.2**
GAR IAmb IAmb 18 23 26.4
comp=Z,14nm,1.2s
BTK Batken 63.77 315 P **P** **18 23 22.8 -0.4**
BTK IAmb IAmb 18 23 28.5
comp=Z,3.5nm,0.7s
KURBB Kurchatov Arra 64.15 328 P **P** **18 23 24.9 -0.5**
comp=Z,4.0nm,0.6s,baz=126,slow=6.1,SNR=47
comp=Z,4.0nm,0.6s
KURK Kurchatov 64.15 329 P **P** **18 23 24.2 -1.1**
SIMJ Simiganj 64.53 313 P **P** **18 23 27.1 -1.2**
KK31 Karatay Array 65.22 318 P **P** **18 23 31.5 -1.0**
KKAR Karatay Array 65.22 318 P **P** **18 23 31.3 -1.2**
KKAR Karatay Array 65.22 318 P **P** **18 23 31.8 -0.7**
CASY Casey 67.59 187 P **P** **18 23 47.7 +0.5**
BVAR Borovoye Array 69.71 328 P **P** **18 24 00.0 -0.7**
comp=Z,1.0nm,0.3s,baz=122,slow=7.4,SNR=15
BVAR LR LR 18 55 25.1
comp=Z,44nm,21.9s,baz=107,slow=37
comp=Z,1.0nm,0.3s
BRVK Borovoye 69.78 328 P **P** **18 24 00.4 -0.7**
BRVK IAmb IAmb 18 24 04.4
comp=Z,7.7nm,1.2s
TIXI Tiksi 71.03 1 P **P** **18 24 07.8 -0.6**
TIXI IAmb IAmb 18 24 09.2
comp=Z,3.4nm,0.7s
TIXI Tiksi 71.03 1 LR LR 18 58 49.5
comp=Z,14nm,18.1s,baz=202,slow=39
ATKA Atka Island 71.44 34 P **P** **18 24 09.9 -1.3**
BILL Bilibino 72.77 15 P **P** **18 24 19.5 +0.7**
ABKAR Akbulak array 74.28 321 P **P** **18 24 27.0 -1.1**
AKTO Aktyubinsk 75.83 322 LR LR 18 59 28.1
comp=Z,38nm,20.2s,baz=220,slow=37
AKUT Akutan 76.86 34 P **P** **18 24 43.5 +0.8**
ARU Arti 77.35 328 P **P** **18 24 44.9 -0.6**
ARU IAmb IAmb 18 24 46.0
comp=Z,6.4nm,0.7s
HLK Haleakala 78.19 69 P **P** **18 24 49.5 -1.7**
M13K Dall Lake 79.99 28 P **P** **18 25 01.6 +1.8**
SDPT Sand Point 80.14 34 P **P** **18 25 01.8 +0.9**
VNDA Vanda 80.34 173 P **P** **18 25 02.0 +0.5**
VNDA IAmb IAmb 18 25 43.0
comp=Z,12nm,1.5s
VNDA Vanda 80.34 173 P **P** **18 25 01.1 -0.3**
comp=Z,2.0nm,0.6s,baz=317,slow=6.2,SNR=13
VNDA LR LR 19 02 30.8
comp=Z,88nm,18.2s,baz=227,slow=37
comp=Z,2.0nm,0.6s
ANM Nome 80.40 24 P **P** **18 25 01.5 -0.6**
ANM IAmb IAmb 18 25 12.0
comp=Z,8.2nm,1.5s
L14K Kuka Creek 80.57 28 P **P** **18 25 04.5 +1.5**
L14K IAmb IAmb 18 25 05.5
comp=Z,3.9nm,0.8s
J14K Nanvaranak Lak 80.59 26 P **P** **18 25 05.0 +1.9**
J14K IAmb IAmb 18 25 10.8
comp=Z,11nm,1.4s
M14K Bethel 80.75 28 P **P** **18 25 05.0 +1.0**
M14K IAmb IAmb 18 25 07.9
comp=Z,10nm,0.8s
F15K North Star Dit 81.06 23 P **P** **18 25 07.1 +1.5**
RAYN Ar Rayn 81.24 294 P **P** **18 25 06.8 -0.7**
SBA Scott Base 81.26 172 P **P** **18 25 07.7 +1.3**
SBA IAmb IAmb 18 25 41.1
comp=Z,25nm,1.5s
K15K Wolf Creek Mou 81.36 27 P **P** **18 25 07.5 +0.3**
N15K Kwethluk River 81.49 29 P **P** **18 25 08.9 +1.0**
N15K IAmb IAmb 18 25 11.4
comp=Z,7.8nm,1.0s
C16K Lisburne Hills 81.66 20 P **P** **18 25 08.7 0.0**
G16K Koyuk River 81.87 24 P **P** **18 25 10.8 +1.0**
J16K Anvik River 82.03 26 P **P** **18 25 11.7 +0.9**
J16K IAmb IAmb 18 25 13.7
comp=Z,6.3nm,0.8s
I17K Unalakleet 82.15 25 P **P** **18 25 12.7 +1.4**
I17K IAmb IAmb 18 25 14.6
comp=Z,15nm,1.4s
L16K Owhat River 82.15 28 P **P** **18 25 12.8 +1.4**
M16K Timber Creek 82.23 28 P **P** **18 25 13.2 +1.4**
M16K IAmb IAmb 18 25 54.4
comp=Z,19nm,1.5s
O16K Kokwok River B 82.34 30 P **P** **18 25 13.7 +1.2**
O16K IAmb IAmb 18 25 27.7
comp=Z,15nm,1.4s
F17K Baldwin Pennin 82.60 23 P **P** **18 25 14.4 +0.8**
F17K IAmb IAmb 18 25 16.7
comp=Z,5.3nm,0.7s
J17K VABM Dome 82.73 26 P **P** **18 25 15.4 +1.0**
H17K Granite Mounta 82.75 24 P **P** **18 25 15.4 +0.9**
K17K Iditarod 82.92 27 P **P** **18 25 16.6 +1.3**
N17K Nushagak Hills 82.98 29 P **P** **18 25 16.6 +0.9**
N17K IAmb IAmb 18 25 58.9
comp=Z,13nm,1.5s
E18K Tukpahlearik C 83.11 22 P **P** **18 25 17.6 +1.4**
C18K Utukok River 83.23 21 P **P** **18 25 17.9 +0.9**
C18K IAmb IAmb 18 25 19.6
comp=Z,7.4nm,0.7s
H18K Honhosa River 83.43 24 P **P** **18 25 18.3 +0.3**
H18K IAmb IAmb 18 25 20.5
comp=Z,4.5nm,0.8s
G18K Tagagawik 83.49 24 P **P** **18 25 18.3 +0.1**
G18K IAmb IAmb 18 25 20.5
comp=Z,4.3nm,0.8s
L18K Granite Mounta 83.55 27 P **P** **18 25 19.8 +1.1**
N18K Kilae Creek 83.64 29 P **P** **18 25 20.4 +1.2**
N18K IAmb IAmb 18 25 50.0
comp=Z,12nm,1.3s
P18K Big Mountain, 83.74 30 P **P** **18 25 19.3 -0.4**
P18K IAmb IAmb 18 25 47.3
comp=Z,18nm,1.4s
J18K Innoko River 83.78 26 P **P** **18 25 19.7 -0.1**
J18K IAmb IAmb 18 25 24.8
comp=Z,13nm,1.4s
O18K Koktuh Hills 83.83 30 P **P** **18 25 21.1 +1.0**
SVW2 Sparrevohn 83.86 29 P **P** **18 25 20.9 +0.7**
SVW2 IAmb IAmb 18 25 23.7
comp=Z,5.0nm,0.6s
C19K Lookout Ridge 83.92 20 P **P** **18 25 21.3 +0.8**
TTA Tatalina 83.99 27 P **P** **18 25 21.5 +0.5**
TTA IAmb IAmb 18 25 23.6
comp=Z,3.8nm,0.6s
F19K Shaleruckik Mo 84.05 23 P **P** **18 25 21.6 +0.5**
G19K Purcell Mounta 84.17 23 P **P** **18 25 22.6 +0.8**
G19K IAmb IAmb 18 25 24.4
comp=Z,8.9nm,0.8s
ONI Oni 84.28 313 P **P** **18 25 22.9 0.0**
ONI IAmb IAmb 18 25 39.3
comp=Z,9.0nm,1.3s
H19K Roundabout Mou 84.30 24 P **P** **18 25 23.0 +0.6**
H19K IAmb IAmb 18 25 32.6
comp=Z,8.8nm,1.2s
N19K Bonanza Creek 84.34 29 P **P** **18 25 23.1 +0.2**
J19K Poorman 84.36 26 P **P** **18 25 23.7 +0.9**
J19K IAmb IAmb 18 25 55.0
comp=Z,7.5nm,1.4s
L19K White Mountain 84.39 28 P **P** **18 25 23.1 +0.1**
L19K IAmb IAmb 18 25 38.1
comp=Z,14nm,1.5s
Q19K Cape Douglas, 84.47 31 P **P** **18 25 24.3 +0.8**
PPT2 Papeete2 84.67 108 *e*LR LR 18 52 13.7
comp=Z,38nm,24.0s
KBZ Khabaz 84.78 314 P **P** **18 25 24.1 -1.2**
comp=Z,1.9nm,0.8s,baz=90,slow=2.0,SNR=1.8
comp=Z,1.9nm,0.8s
ILSW Iliamna Southw 84.88 30 P **P** **18 25 25.2 -0.4**
ILSW IAmb IAmb 18 25 28.3
comp=Z,13nm,1.2s
KDAK Kodiak Island 84.88 32 P **P** **18 25 26.2 +0.8**
J20K Nowinta River 85.03 26 P **P** **18 25 26.2 +0.1**
IMAR Indian Mountai 85.48 24 P **P** **18 25 29.1 +0.7**
B21K Ikpikpuk River 85.75 20 P **P** **18 25 29.3 -0.3**
H21K Melozitna Rive 85.81 24 P **P** **18 25 31.0 +1.0**
H21K IAmb IAmb 18 25 45.4
comp=Z,5.3nm,1.4s
CAST Castle Rocks 85.83 27 P **P** **18 25 30.2 0.0**
BRLK Bradley Lake 85.98 30 P **P** **18 25 31.6 +0.7**
SUA Susitna One 86.22 29 P **P** **18 25 32.4 +0.1**
SUA IAmb IAmb 18 26 01.2
comp=Z,10.0nm,1.3s
BPAW Bear Paw Mtn. 86.39 26 P **P** **18 25 32.8 -0.1**
MLY Manley 86.60 25 P **P** **18 25 33.7 -0.2**
MLY IAmb IAmb 18 25 36.3
comp=Z,5.2nm,1.3s
RC01 Rabbit Creek A 86.67 29 P **P** **18 25 34.4 0.0**
RC01 IAmb IAmb 18 26 03.5
comp=Z,14nm,1.4s
G23K Bananza Creek 87.06 23 P **P** **18 25 36.1 -0.1**
G23K IAmb IAmb 18 25 41.4
comp=Z,11nm,1.5s
C23K Itkillik River 87.16 20 P **P** **18 25 37.0 +0.5**
C23K IAmb IAmb 18 25 42.9
comp=Z,5.9nm,0.8s
I23K Minto, Yukon-K 87.19 25 P **P** **18 25 36.7 0.0**
I23K IAmb IAmb 18 25 38.3
comp=Z,4.8nm,0.8s
RND Reindeer 87.27 27 P **P** **18 25 36.3 -1.0**
RND IAmb IAmb 18 25 48.4
comp=Z,8.2nm,1.4s
D24K Happy Valley 87.72 21 P **P** **18 25 38.3 -0.9**
D24K IAmb IAmb 18 25 42.8
comp=Z,3.2nm,0.7s
CCB Clear Creek Bu 87.81 25 P **P** **18 25 38.6 -1.1**
CCB IAmb IAmb 18 26 02.7
comp=Z,4.6nm,1.5s
H24K Noodor Dome 87.86 24 P **P** **18 25 40.7 +0.7**
ILAR Eielson Array 88.22 25 P **P** **18 25 40.6 -1.0**
comp=Z,0.7nm,0.5s,baz=245,slow=5.0,SNR=23
comp=Z,0.7nm,0.5s
J25K Salcha River, 88.86 26 P **P** **18 25 44.2 -0.6**
J25K IAmb IAmb 18 26 17.3
comp=Z,4.6nm,1.4s
BMAR Burnt Mountain 89.23 23 P **P** **18 25 47.7 +1.2**
J26L Joseph Creek 89.64 26 P **P** **18 25 48.3 -0.2**
J26L IAmb IAmb 18 25 49.5
comp=Z,2.7nm,0.7s
L27K Beaver Creek, 90.44 27 P **P** **18 25 52.5 +0.2**
L27K IAmb IAmb 18 25 55.8
comp=Z,7.6nm,1.5s
QSPA South Pole Qui 90.45 180 P **P** **18 25 52.3 +0.1**
comp=Z,3.0nm,0.6s,baz=290,slow=1.4,SNR=25
comp=Z,3.0nm,0.6s
CTGM Chitina Glacie 90.76 29 P **P** **18 25 54.3 +0.4**
CTGM IAmb IAmb 18 26 14.6
comp=Z,5.8nm,1.3s
I28M Miner Creek 91.15 25 P **P** **18 25 55.8 +0.3**
I28M IAmb IAmb 18 25 58.2
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 91.63 310 P **P** **18 25 57.6 -0.7**
comp=Z,0.5nm,0.6s,baz=134,slow=5.1,SNR=4.3
comp=Z,0.5nm,0.6s
ARCES ARCESS Array B 93.25 340 P **P** **18 26 04.0 -1.0**
comp=Z,3.4nm,0.9s,baz=82,slow=3.6,SNR=6.5
comp=Z,3.4nm,0.9s
TAOE Nuku Hiva Isla 93.71 99 *e*LR LR 18 56 23.7
comp=Z,199nm,25.8s
FINES FINESS Array B 94.38 332 P **P** **18 26 11.5 +1.2**
comp=Z,1.2nm,0.8s,baz=52,slow=7.2,SNR=5.6
FINES LR LR 19 10 50.6
comp=Z,38nm,19.5s,baz=42,slow=37
comp=Z,1.2nm,0.8s
FARO Faro, Yukon 94.42 28 P **P** **18 26 10.7 +0.1**
MBAR Mbarara 95.45 269 LR LR 19 09 01.9
comp=Z,43nm,18.8s,baz=255,slow=35
C36M Paulatuk 96.39 20 P **P** **18 26 19.2 -0.1**
MLR Muntele Rosu 96.81 316 LR LR 19 14 24.5
comp=Z,54nm,21.8s,baz=255,slow=38
BOSA Boshof 99.84 241 LR LR 19 10 53.2
comp=Z,53nm,18.1s,baz=180,slow=35
YKA Yellowknife Ar 102.62 25 Pdiff **Pdif** **18 26 47.5 +0.2**
comp=Z,0.2nm,0.6s,baz=296,slow=4.4,SNR=4.5
PDAR Pinedale Array 114.10 42 PKiKP PKPdf 18 31 30.6 +0.1
comp=Z,0.2nm,0.6s,baz=270,slow=0.3,SNR=2.4
TORD Torodi Ar. Bea 123.33 286 PKP **PKPdf** **18 31 48.6 -0.1**
comp=Z,1.7nm,0.7s,baz=54,slow=2.7,SNR=11
TORD PKKPbc **PKKPbc** **18 41 38.0 -0.2**
comp=Z,0.6nm,0.7s,baz=304,slow=3.5,SNR=4.1
TXAR Lajitas Array 123.96 54 PKP **PKPdf** **18 31 50.2 +0.5**
comp=Z,0.5nm,0.7s,baz=259,slow=0.5,SNR=4.1

IDC 03 18:16:40.6±2.0, 5°73'S×142°86'E, h0km, mb3.5/1,

mbtmp3.7/4, ML3.1/1, Error ellipse: s-maj=37.0km s-min=27.1km az=116.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.61**	**131**	Pn	Pn	18 18 07.0	+1.6
	4.0nm,0.5s,baz=330,slow=12,SNR=5.6						
PMG				Sn	Sn	18 19 10.9	+0.3
	0.1nm,0.3s,baz=202,slow=19,SNR=1.2						
WRA	**Warramunga Arr**	**16.38**	**210**	Pn	Pn	18 20 32.0	-0.2
	0.1nm,0.3s,baz=31,slow=12,SNR=3.5						
WRA				Sn	Sn	18 23 17.3	-17
	0.2nm,0.3s,baz=42,slow=23,SNR=2.4						
WRA				Lg	Lg	18 25 21.0	
	0.2nm,0.3s,baz=37,slow=32,SNR=5.8						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**19.81**	**205**	P	P	18 21 12.7	-0.3
	3.1nm,0.6s,baz=32,slow=10,SNR=10						
ASAR				Lg	Lg	18 27 10.3	
	baz=25,slow=31,SNR=4.5						
ILAR	**Eielson Array**	**86.87**	**24**	P	P	18 29 26.7	-0.3
	0.2nm,0.7s,baz=260,slow=5.4,SNR=2.1						
	0.2nm,0.7s						

WEL 03 18:16:53.2±1.0, 33°S±10°×18°0W±2°4, h124km±41km, M4.0/7, mB4.6/2, MLv4.0/7, Mw(mB)3.8/2, Error ellipse: s-maj=0.0km s-min=0.0km az=112.8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.22**	**19**	P	Pn	18 17 56.0	+0.3
GLKZ				S	Sn	18 18 43.8	-0.4
WMGZ	**Waiomatatini S**	**4.85**	**200**	P	Pn	18 18 04.9	+0.8
WMGZ				S	Sn	18 18 57.8	-1.4
HAZ	**Te Kaha**	**5.00**	**205**	P	Pn	18 18 08.1	+2.0
HAZ				S	Sn	18 19 05.2	+2.4
PKGZ	**Pakihiroa**	**5.01**	**202**	P	Pn	18 18 05.9	-0.5
PKGZ				S	Sn	18 19 01.0	-2.4
PUZ	**Puketiti**	**5.13**	**200**	P	Pn	18 18 07.5	-0.4
PUZ				S	Sn	18 19 05.2	-0.9
RUGZ	**Raukumara Rang**	**5.22**	**205**	P	Pn	18 18 09.1	-0.1
RUGZ				S	Sn	18 19 11.5	+3.1
TWGZ	**Tauwhareparae**	**5.31**	**202**	P	Pn	18 18 10.7	+0.3
TWGZ				S	Sn	18 19 13.0	+2.6
CNGZ	**Carnagh Statio**	**5.53**	**199**	P	Pn	18 18 13.8	+0.6
KWHZ	**Kaweka Forest**	**6.97**	**207**	P	Pn	18 18 31.6	-1.1
KWHZ				S	Sn	18 19 50.5	0.0
TMVZ	**Te Maari**	**7.00**	**212**	P	Pn	18 18 35.8	+2.5
TMVZ				S	Sn	18 19 51.1	-0.4
ETVZ	**East Tongariro**	**7.02**	**212**	P	Pn	18 18 34.8	+1.4
ETVZ				S	Sn	18 19 51.7	-0.1
OTVZ	**Oturere**	**7.06**	**212**	P	Pn	18 18 33.8	-0.2
OTVZ				S	Sn	18 19 53.3	+0.4
BHHZ	**Black Hill Sta**	**7.16**	**209**	P	Pn	18 18 33.3	-2.1
BHHZ				S	Sn	18 19 53.3	-2.0
WNVZ	**Wahianoa**	**7.22**	**212**	P	Pn	18 18 35.1	-1.2
WNVZ				S	Sn	18 19 57.1	+0.3

IDC 03 18:38:52.5±1.9, 0°53N×123°82E, h0km, mb3.3/3, mbtmp3.3/3, MS3.3/1, Error ellipse: s-maj=191.7km s-min=27.4km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.81**	**154**	P	P	18 43 56.1	-1.0
	0.8nm,0.4s,baz=331,slow=11,SNR=10						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**25.97**	**158**	P	P	18 44 27.8	+0.8
	0.3nm,0.4s,baz=335,slow=9.2,SNR=18						
	0.3nm,0.4s						
KLR	**Kul'dur**	**48.99**	**7**	LR	LR	19 11 48.1	
	comp=Z,27nm,18.4s,baz=74,slow=40						
MKAR	**Makanchi Array**	**58.60**	**328**	P	P	18 48 51.2	-0.1
	0.1nm,0.6s,baz=120,slow=8.8,SNR=1.4						
	0.1nm,0.6s						

IDC 03 18:42:59.5±2.1, 6°14S×142°85E, h0km, mb3.5/2, mbtmp3.7/3, ML4.0/1, MS2.7/1, Error ellipse: s-maj=87.9km s-min=31.0km az=108.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.02**	**210**	Pn	Pn	18 46 41.8	-4.5
	0.3nm,0.3s,baz=31,slow=13,SNR=30						
WRA				Sn	Sn	18 49 28.2	-17
	0.1nm,0.3s,baz=52,slow=26,SNR=2.4						
WRA				Lg	Lg	18 51 26.1	
	0.1nm,0.3s,baz=32,slow=27,SNR=4.7						
ASAR	**Alice Springs**	**19.44**	**205**	P	P	18 47 27.2	-0.4
	0.5nm,0.3s,baz=32,slow=9.7,SNR=46						
ASAR				S	Sn	18 50 56.2	-11
	0.4nm,0.7s,baz=21,slow=27,SNR=5.5						
ASAR				Lg	Lg	18 53 18.0	
	baz=22,slow=27,SNR=3.0						
	5.2nm,0.8s						
KSRS	**Korea Array**	**45.55**	**343**	LR	LR	19 09 45.1	
	comp=Z,8.1nm,19.1s,baz=35,slow=35						
MKAR	**Makanchi Array**	**75.02**	**322**	P	P	18 54 44.1	+1.1
	0.3nm,0.8s,baz=120,slow=5.5,SNR=2.6						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**87.25**	**24**	P	P	18 55 46.6	-1.0
	0.3nm,0.6s,baz=261,slow=5.4,SNR=2.2						
	0.3nm,0.6s						

*IDC **03** 18:48:54.8±2.7, 52°11N×160°87E, h0km, mb3.6/5, mbtmp3.6/7, ML2.9/2, Error ellipse: s-maj=51.9km s-min=39.1km az=4.0*
*KRSC **03** 18:48:58.4±1.1, 52°15N×160°88E, h43km±17km, Ml3.7*
ISC 03 18:48:59.9±1.8, 52°1N±0°2×160°9E±0°2, h36km±6km, n26, σ0°74/28, mb3.8/5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.15**	**333**	*eS*	**Sn**	**18 49 31.9**	**-2.1**
NLC	**Nalytchevo**	**1.45**	**320**	*eP*	**Pn**	**18 49 23.4**	**-0.1**
NLC				*eS*	**Sn**	**18 49 41.2**	**0.0**
RUS	**Russkaya**	**1.51**	**285**	*eP*	**Pn**	**18 49 23.7**	**-0.6**
RUS				*eS*	**Sn**	**18 49 41.9**	**-0.8**
DALK	**Dalny**	**1.62**	**307**	*eP*	**Pn**	**18 49 25.5**	**-0.4**
PET	**Petropavlovsk**	**1.67**	**306**	*eP*	**Pn**	**18 49 26.5**	**+0.1**
PET				*eS*	**Sn**	**18 49 46.6**	**+0.1**
MTVR	**Mutnovka**	**1.72**	**285**	*eP*	**Pn**	**18 49 27.0**	**-0.3**
MTVR				*eS*	**Sn**	**18 49 48.2**	**+0.2**
AVH	**Avacha**	**1.77**	**313**	*eP*	**Pn**	**18 49 28.2**	**+0.2**
GRL	**Gorelyy**	**1.80**	**286**	*eP*	**Pn**	**18 49 28.8**	**+0.4**
KOK	**Koryaka**	**1.84**	**312**	*eP*	**Pn**	**18 49 29.0**	**+0.1**
KRMR	**Karymshinskiy**	**1.85**	**295**	*eP*	**Pn**	**18 49 28.8**	**-0.3**
ASAK	**Asacha**	**1.87**	**281**	*eP*	**Pn**	**18 49 29.5**	**+0.1**
KRX	**Arik**	**1.88**	**314**	*eP*	**Pn**	**18 49 29.5**	**0.0**
PETK	**Petropavlovsk-**	**2.21**	**299**	Pn	**Pn**	**18 49 33.3**	**-0.6**
	9.1nm,0.3s,baz=113,slow=16,SNR=135						
PETK				Sn	**Sn**	**18 50 01.2**	**+1.2**
	7.7nm,0.3s,baz=279,slow=12,SNR=4.1						
	15nm,0.4s						
GNL	**Ganaly**	**2.42**	**313**	*eP*	**Pn**	**18 49 38.2**	**+1.3**
APC	**Apacha**	**2.44**	**292**	*eP*	**Pn**	**18 49 38.0**	**+0.9**
TUMD	**Tumrok D**	**3.15**	**355**	*eS*	**Sn**	**18 50 22.7**	**-0.4**
TUMR	**Tumrok**	**3.24**	**352**	*eP*	**Pn**	**18 49 49.2**	**+0.9**
SEY	**Seymchan**	**11.79**	**341**	Pn	**Pn**	**18 51 45.4**	**+0.1**
	0.2nm,0.3s,baz=159,slow=24,SNR=1.9						
	0.6nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**32.62**	**169**	T	T	19 30 01.7	
	baz=353						
H11N3	**WAKE ISLAND Hy**	**32.64**	**169**	T	T	19 30 01.7	
	baz=353						
H11N1	**WAKE ISLAND Hy**	**32.64**	**169**	T	T	19 30 01.7	
	baz=353						
MKAR	**Makanchi Array**	**49.05**	**297**	P	**P**	**18 57 42.7**	**-0.3**
	0.1nm,0.4s,baz=57,slow=9.4,SNR=1.3						
	0.1nm,0.4s						
BVAR	**Borovoye Array**	**51.41**	**309**	P	**P**	**18 57 59.7**	**-1.1**
	0.6nm,0.5s,baz=68,slow=8.7,SNR=5.1						
	0.6nm,0.5s						
FINES	**FINESS Array B**	**61.25**	**337**	P	**P**	**18 59 11.4**	**+0.8**
	0.9nm,0.7s,baz=39,slow=9.0,SNR=5.5						
	0.9nm,0.7s						
HFS	**Hagfors**	**65.07**	**343**	P	**P**	**18 59 36.6**	**+0.6**
	1.2nm,0.8s,baz=35,slow=5.3,SNR=4.7						
	1.2nm,0.8s						
AKASG	**Malin Array Be**	**69.74**	**330**	P	**P**	**19 00 05.8**	**+0.1**

0.3nm,0.4s,baz=29,slow=6.8,SNR=2.7
0.3nm,0.4s

*IDC **03** 18:53:22.8±0.9, 18°.05N×76°.69W, h0km, mb3.8/9, mbtmp4.0/12, ML4.1/3, MS3.6/2, Error ellipse: s-maj=25.3km s-min=22.4km az=37.0*
*OSPL **03** 18:53:23.1±2.5, 18°.22N×77°.14W, h31km±335km, ML3.5*
*NEIC **03** 18:53:24.5±2.1, 18°.18N±0°.02×76°.62W±0°.07, h14km±5km, mb4.0/12, Error ellipse: s-maj=9.3km s-min=2.1km az=78.0*
*JSN **03** 18:53:25.2±0.8, 18°.12N×76°.59W, h15km±25km, MD4.1*
*SSNC **03** 18:53:26.0±0.8, 18°.21N×76°.66W, h4km±4km, MD3.2, ML3.9, MW3.5*
ISC 03 18:53:24.5±1.3, 18°.23N±0°.06×76°.64W±0°.05, h10km±9km, n83, σ1°41/94, mb4.0/14, 2C-1D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	**Greenwich**	**0.18**	**208**	*i P*	**Pg**	**18 53 29.0**	**+0.6**
STH	**Stony Hill**	**0.22**	**226**	*i P*	**Pg**	**18 53 30.0**	**+0.9**
STH	**Stony Hill**	**0.22**	**226**	*eP*	**Pg**	**18 53 30.0**	**+0.9**
STH				*eS*	**Sg**	**18 53 33.2**	**+0.9**
HOJ	**Hope**	**0.25**	**205**	*eP*	**Pg**	**18 53 29.2**	**-0.4**
CHIV	**Chivirico**	**1.75**	**7**	*eP*	**Pn**	**18 53 54.8**	**-0.1**
CHIV				*i S*	**Sn**	**18 54 14.4**	**-2.8**
CHIV				IAML		18 54 17.8	
	comp=E,479nm,0.1s						
CHIV				IAML		18 54 18.2	
	comp=N,506nm,0.1s						
PILO	**Pilon**	**1.82**	**337**	*eP*	**Pn**	**18 53 55.6**	**-0.3**
PILO				*i S*	**Sn**	**18 54 17.4**	**-1.6**
PILO				IAML		18 54 19.4	
	comp=N,3μm,0.3s						
PILO				IAML		18 54 19.5	
	comp=E,2μm,0.3s						
LMGC	**Las Mercedes**	**1.85**	**349**	*eP*	**Pn**	**18 53 56.0**	**-0.3**
MARVS	**Santiago de Cu**	**1.89**	**22**	*eP*	**Pn**	**18 53 57.0**	**+0.1**
MARVS				*eS*	**Sn**	**18 54 19.0**	**-1.8**
MARVS				IAML		18 54 21.9	
	comp=E,2μm,0.2s						
MARVS				IAML		18 54 22.0	
	comp=N,3μm,0.2s						
RCC	**Rio Carpintero**	**1.97**	**27**	*eP*	**Pn**	**18 53 58.0**	**+0.1**
RCC				*eP*	**Pn**	**18 53 58.0**	**+0.1**
RCC				*i S*	**Sn**	**18 54 21.1**	**-1.5**
RCC				IAML		18 54 24.0	
	comp=N,281nm,0.2s						
RCC				IAML		18 54 24.7	
	comp=E,506nm,0.2s						
GTBY	**Guantanamo Bay**	**2.22**	**40**	Pn	**Pn**	**18 54 01.8**	**+0.4**
GTBY				Sn	**Sn**	**18 54 27.3**	**-1.6**
GTBY	**Guantanamo Bay**	**2.22**	**40**	*i P*	**Pn**	**18 54 01.8**	**+0.4**
GTBY				*i S*	**Sn**	**18 54 28.0**	**-0.9**
GTBY	**Guantanamo Bay**	**2.22**	**40**	*eP*	**Pn**	**18 54 01.8**	**+0.4**
GTBY				*i S*	**Sn**	**18 54 27.6**	**-1.3**
GTBY	**Guantanamo Bay**	**2.22**	**40**	*i P*	**Pn**	**18 54 01.8**	**+0.4**
GTBY				*eS*	**Sn**	**18 54 27.5**	**-1.4**
GTBY				IAML		18 54 32.4	
	comp=Z,216nm,0.5s						
PINC	**Pinares de May**	**2.38**	**20**	*eP*	**Pn**	**18 54 03.6**	**0.0**
SABCS	**La Quijada**	**2.46**	**30**	*eP*	**Pn**	**18 54 04.9**	**+0.2**
SABCS				*i S*	**Sn**	**18 54 33.8**	**-1.2**
HLGC	**Holguin**	**2.70**	**12**	*eP*	**Pn**	**18 54 09.5**	**+1.4**
HLGC				*i S*	**Sn**	**18 54 40.1**	**-0.7**
HLGC				IAML		18 54 44.8	
	comp=E,697nm,0.3s						
HLGC				IAML		18 54 45.2	
	comp=N,635nm,0.5s						
NMDO	**Nuevo Mundo**	**2.79**	**34**	Pn	**Pn**	**18 54 09.2**	**-0.1**
NMDO	**Nuevo Mundo**	**2.79**	**34**	*eP*	**Pn**	**18 54 09.2**	**-0.1**
NMDO				*i S*	**Sn**	**18 54 39.1**	**-4.0**
NMDO				IAML		18 54 49.9	
	comp=E,448nm,0.4s						
NMDO				IAML		18 54 50.4	
	comp=N,244nm,0.2s						
MOAC	**Moa**	**2.89**	**33**	*eP*	**Pn**	**18 54 10.8**	**+0.3**
MOAC				*i S*	**Sn**	**18 54 46.3**	**+0.9**
MOAC				IAML		18 54 51.4	
	comp=E,993nm,0.4s						
MOAC				IAML		18 54 51.6	
	comp=N,867nm,0.5s						
MASC	**Masc**	**2.98**	**49**	*eP*	**Pn**	**18 54 12.2**	**+0.3**
MASC				*i S*	**Sn**	**18 54 46.8**	**-1.0**
MASC				IAML		18 54 52.9	
	comp=N,53nm,0.2s						
MASC				IAML		18 54 53.7	
	comp=E,78nm,0.2s						
MASC	**Masc**	**2.98**	**49**	*i P*	**Pn**	**18 54 12.1**	**+0.2**
MASC				IAML		18 54 55.7	
	comp=Z,125nm,0.4s						
CCCC	**Cccc**	**3.14**	**340**	*eP*	Pn	18 54 02.3	-12
CCCC				*i S*	Sn	18 54 33.7	-18
CCCC				IAML		18 54 43.4	
	comp=N,50nm,0.4s						
CCCC				IAML		18 54 43.4	
	comp=E,165nm,0.3s						
PAPH	**Port-au-Prince**	**4.13**	**85**	Pn	**Pn**	**18 54 28.2**	**+0.5**
FSCY	**Frank Sound, G**	**4.44**	**285**		Pn	18 54 18.4	-13
LOPE2	**Hotel El Peder**	**4.66**	**92**	*i P*	**Pn**	**18 54 35.2**	**+0.2**
PODR	**Polo**	**5.09**	**90**	*i P*	**Pn**	**18 54 41.8**	**+0.7**
PODR				*eS*	**Sn**	**18 55 42.1**	**+2.0**
SDDR	**Presa de Saban**	**5.13**	**81**	Pn	**Pn**	**18 54 41.0**	**-0.4**
SDDR	**Presa de Saban**	**5.13**	**81**	*i P*	**Pn**	**18 54 42.1**	**+0.6**
CAMR	**Camarioca**	**6.53**	**318**	Pn	**Pn**	**18 54 59.6**	**-1.1**
SOR	**Soroa**	**7.50**	**308**	Pn	**Pn**	**18 55 13.2**	**-0.7**
PCDR	**Punta Cana, DR**	**7.85**	**87**	Pn	**Pn**	**18 55 17.4**	**-1.4**
AUA1	**Aruba**	**8.56**	**131**	Pn	**Pn**	**18 55 27.6**	**-0.9**
061Z	**Ochoppi**	**8.56**	**333**	Pn	**Pn**	**18 55 27.5**	**-1.1**
CRPR	**Cabo Rojo, PR**	**9.06**	**90**		**Pn**	**18 55 34.1**	**-1.4**
MLPR	**Magueyes Islan**	**9.13**	**90**		**Pn**	**18 55 34.4**	**-2.0**
AOPR	**Arecibo Observ**	**9.39**	**88**	Pn	**Pn**	**18 55 39.0**	**-0.9**
UUPR	**Utuado, UPR, P**	**9.43**	**88**		**Pn**	**18 55 39.4**	**-1.1**
BCIP	**Isla Barro Col**	**9.53**	**199**	Pn	**Pn**	**18 55 40.3**	**-1.6**
OBIP	**Obispado Ponce**	**9.54**	**90**	Pn	Pn	18 55 39.6	-2.4
HATO	**Hato, Curacao**	**9.55**	**128**	Pn	**Pn**	**18 55 40.4**	**-1.7**
CELP	**Cerrillos**	**9.56**	**89**	Pn	**Pn**	**18 55 40.8**	**-1.5**
IGPR	**InterUniversit**	**10.02**	**90**	Pn	**Pn**	**18 55 47.0**	**-1.6**
HUMP	**Col San Antoni**	**10.26**	**89**	Pn	**Pn**	**18 55 50.6**	**-1.2**
BOAB	**BOACO BROADBAN**	**10.43**	**238**	Pn	**Pn**	**18 55 52.6**	**-1.6**
SDV	**Santo Domingo**	**10.97**	**147**	Pn	**Pn**	**18 55 59.4**	**-2.4**
SDV	**Santo Domingo**	**10.97**	**147**	Pn	**Pn**	**18 55 59.9**	**-1.9**
	comp=E,5.3nm,0.3s,baz=341,slow=7.1,SNR=24						
SDV				Sn	Sn	18 57 54.6	-10
	comp=E,2.0nm,0.3s,baz=8.7,slow=23,SNR=5.8						
	comp=E,27nm,0.5s						
DRK0	**Durika**	**10.98**	**217**	Pn	**Pn**	**18 56 00.3**	**-1.7**
SRBA	**San Rafael, Bu**	**11.07**	**217**	Pn	**Pn**	**18 56 00.4**	**-2.8**
TEIG	**Tepich**	**11.17**	**282**	Pn	**Pn**	**18 56 03.6**	**-0.8**
JTS	**Las Juntas de**	**11.28**	**227**	Pn	**Pn**	**18 56 05.3**	**-0.6**
JTS	**Las Juntas de**	**11.28**	**227**	Pn	**Pn**	**18 56 04.7**	**-1.2**
	comp=E,1.4nm,0.3s,baz=97,slow=22,SNR=6.3						
	comp=E,3.6nm,0.4s						
HZTE	**Horizontes, Gu**	**11.45**	**230**	Pn	**Pn**	**18 56 08.0**	**-0.2**
BAUV	**El Baul**	**12.45**	**137**	Pn	**Pn**	**18 56 19.7**	**-2.2**
ROSC	**El Rosal**	**13.50**	**170**	Sn	Sn	18 58 57.9	-9.2
	comp=E,1.0nm,0.3s,baz=139,slow=19,SNR=1.5						
PCRV	**Puerto La Cruz**	**14.12**	**123**	Pn	**Pn**	**18 56 44.8**	**+0.1**
	comp=E,2.0nm,0.3s,baz=293,slow=5.3,SNR=11						
PCRV				Sn	Sn	18 59 14.7	-7.0
	comp=E,0.6nm,0.3s,baz=198,slow=9.6,SNR=1.4						
	comp=E,4.2nm,0.3s						
GDHS	**Morne Mazeau,**	**14.34**	**96**	Pn	Pn	18 56 45.1	-2.7
OTAV	**Otavalo**	**17.97**	**186**		**Pn**	**18 57 33.2**	**-1.8**
BRDY	**Brady**	**24.05**	**307**	P	**P**	**18 58 39.7**	**-0.3**
BRDY				IAmb	IAmb	18 58 42.4	
	comp=Z,3.4nm,0.7s						
S39A	**Bolivar**	**24.28**	**326**	P	**P**	**18 58 43.1**	**+1.1**
JCT	**Junction City**	**24.31**	**304**	P	**P**	**18 58 42.8**	**+0.3**
JCT				IAmb	IAmb	18 58 45.0	
	comp=Z,3.1nm,0.6s						
DRIO	**Del Rio**	**24.55**	**301**	P	**P**	**18 58 43.8**	**-0.9**
DELO	**Deloro Mine**	**26.22**	**358**	P	**P**	**18 58 58.5**	**-1.0**
TX31	**Lajitas Ar. Si**	**27.02**	**299**	P	**P**	**18 59 05.6**	**-1.5**
TXAR	**Lajitas Array**	**27.02**	**299**	P	**P**	**18 59 04.8**	**-2.3**
TXAR	**Lajitas Array**	**27.02**	**299**	P	**P**	**18 59 08.3**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=114,slow=9.0,SNR=8.8						
	comp=Z,0.8nm,0.8s						
NNA	**Nana**	**30.03**	**180**	LR	LR	19 15 27.0	
	comp=Z,64nm,19.1s,baz=347,slow=44						
SAML	**Samuel**	**30.10**	**153**	P	P	18 59 30.3	-4.1
SAML				IAmb	IAmb	18 59 38.3	
	comp=Z,1.2nm,0.6s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDAR	**Pinedale Array**	**37.07**	**318**	P	**P**	**19 00 35.2**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=126,slow=9.1,SNR=2.7						
PDAR				PcP	**PcP**	**19 02 55.7**	**0.0**
	comp=Z,0.2nm,0.4s,baz=114,slow=4.4,SNR=4.9						
	comp=Z,0.2nm,0.4s						
NV11	**Mina Array Sit**	**41.29**	**308**	P	**P**	**19 01 10.7**	**+0.3**
NV11				IAmb	IAmb	19 01 26.0	
	comp=Z,5.2nm,1.3s						
NVAR	**Mina Array Bea**	**41.40**	**308**	P	**P**	**19 01 12.4**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=114,slow=7.9,SNR=9.6						
NVAR				PcP	**PcP**	**19 03 10.1**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=142,slow=4.6,SNR=4.3						
	comp=Z,1.0nm,0.8s						
FCC	**Fort Churchill**	**42.45**	**347**	P	**P**	**19 01 19.3**	**0.0**
YKA	**Yellowknife Ar**	**51.44**	**339**	P	**P**	**19 02 29.8**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=129,slow=7.9,SNR=9.4						
	comp=Z,0.8nm,0.9s						
RES	**Resolute Bay**	**57.34**	**354**	P	**P**	**19 03 12.1**	**-0.3**
RES				IAmb	IAmb	19 03 14.1	
	comp=Z,1.5nm,0.7s						
PLCA	**Paso Flores**	**58.93**	**175**	LR	LR	19 30 19.2	
	comp=Z,95nm,18.4s,baz=29,slow=38						
BCAR	**Beaver Creek A**	**62.69**	**332**	P	**P**	**19 03 49.5**	**+0.2**
BCAR				PcP	**PcP**	**19 04 25.5**	**-2.6**
E29M	**Blow River**	**62.73**	**339**	P	**P**	**19 03 50.0**	**+0.5**
ILAR	**Eielson Array**	**65.25**	**334**	P	**P**	**19 04 06.6**	**+0.5**
	comp=Z,0.4nm,1.1s,baz=80,slow=5.1,SNR=2.3						
	comp=Z,0.4nm,1.1s						
SPITS	**Spitsbergen Ar**	**72.90**	**12**	P	**P**	**19 04 54.8**	**+1.4**
	comp=Z,8.0nm,0.9s,baz=241,slow=1.5,SNR=5.9						
	comp=Z,8.0nm,0.9s						
NOA	**NORSAR Array B**	**73.20**	**31**	P	**P**	**19 04 57.5**	**+2.0**
	comp=Z,0.7nm,0.9s,baz=279,slow=5.8,SNR=2.1						
	comp=Z,0.7nm,0.9s						
ARCES	**ARCESS Array B**	**77.25**	**21**	P	**P**	**19 05 19.5**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=297,slow=4.0,SNR=9.1						
	comp=Z,1.2nm,0.7s						
FINES	**FINESS Array B**	**80.08**	**28**	P	**P**	**19 05 35.7**	**+1.3**
	comp=Z,1.6nm,0.7s,baz=284,slow=5.6,SNR=6.0						
	comp=Z,1.6nm,0.7s						
WRA	**Warramunga Arr**	**150.69**	**262**	PKPbc	**PKPdf**	**19 13 16.5**	**+4.2**
	comp=Z,1.5nm,0.9s,baz=86,slow=1.9,SNR=9.2						
ASAR	**Alice Springs**	**151.00**	**254**	PKPbc	**PKPdf**	**19 13 17.1**	**+4.4**
	comp=Z,0.7nm,0.5s,baz=94,slow=2.7,SNR=13						

*IDC **03** 19:08:08.2±0.8, 6°.80N×73°.03W, h151km±14km, mb2.8/2, mbtmp3.4/4, MS2.5/1, Error ellipse: s-maj=49.8km s-min=7.5km az=132.0*
*RSNC **03** 19:08:11.4±0.0, 7°N±1°×7°3W±°, h138km±4km, mb3.6, mB4.7, ML3.1, Mw(mB)4.0*
ISC 03 19:08:08.3±0.9, 6°83N±0°03×73°11W±0°04, h152km±6km, n36, σ1°37/65, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**197**	P	**Pn**	**19 08 29.5**	**+0.3**
BARC				S	**Sn**	**19 08 44.2**	**-1.0**
PAMC	**Pamplona, Colo**	**0.65**	**39**	P	**Pn**	**19 08 32.4**	**+1.1**
PAMC				S	**Sn**	**19 08 49.4**	**+0.6**
RUSC	**La Rusia**	**0.93**	**178**	P	**Pn**	**19 08 33.5**	**+0.2**
RUSC				S	**Sn**	**19 08 51.5**	**-0.8**
PTBC	**PUERTO BERRIO,**	**1.37**	**258**	P	**Pn**	**19 08 36.1**	**-0.5**
PTBC				S	**Sn**	**19 08 57.1**	**-1.2**
TAMC	**Tame, Arauca**	**1.37**	**107**	P	**Pn**	**19 08 37.9**	**+1.2**
TAMC				S	**Sn**	**19 08 59.2**	**+0.8**
OCAC	**Ocana**	**1.42**	**352**	P	**Pn**	**19 08 37.9**	**+0.6**
OCAC				S	**Sn**	**19 08 59.4**	**-0.2**
SPBC	**San Pablo de B**	**1.51**	**219**	P	**Pn**	**19 08 38.5**	**+0.3**
SPBC				S	**Sn**	**19 09 00.2**	**-0.9**
NORC	**Norcasia**	**2.15**	**234**	P	**Pn**	**19 08 45.6**	**+0.2**
NORC				S	**Sn**	**19 09 14.0**	**+0.1**
ROSC	**El Rosal**	**2.31**	**211**	P	**Pn**	**19 08 49.4**	**+1.7**
	25nm,0.3s,baz=310,slow=22,SNR=17						
ROSC				S	**Sn**	**19 09 18.2**	**+0.3**
	92nm,0.3s,baz=122,slow=19,SNR=15						
ROSC	**El Rosal**	**2.31**	**211**	P	**Pn**	**19 08 49.5**	**+1.9**
ROSC				S	**Sn**	**19 09 18.6**	**+0.7**
CVER	**Cruz Verde, Cu**	**2.48**	**203**	P	**Pn**	**19 08 51.2**	**+1.4**
CVER				S	**Sn**	**19 09 22.3**	**+0.5**
HELC	**Santa Helena**	**2.48**	**255**	P	**Pn**	**19 08 51.1**	**+1.4**
HELC				S	**Sn**	**19 09 20.9**	**-0.6**
UREC	**San Jos de Ur**	**2.57**	**291**	P	**Pn**	**19 08 50.2**	**-0.2**
UREC				S	**Sn**	**19 09 20.9**	**-2.0**
GUY2C	**Guyana, Caldas**	**2.75**	**235**	P	**Pn**	**19 08 54.3**	**+1.2**
GUY2C				S	**Sn**	**19 09 29.0**	**+1.4**
VILC	**

GYE3	**Ecuador-Guayaq**	**0.64**	**348**	P		**Pb**	**19 09 31.0**	**-0.8**
AGUAY	**Guayaquil**	**0.75**	**346**	P		**Pb**	**19 09 33.0**	**-0.7**
ARNL	**Arenillas**	**0.81**	**202**	P		**Pg**	**19 09 33.5**	**-0.7**
ARNL				Sg		**Sg**	**19 09 44.2**	**-0.6**
ARNL	**Arenillas**	**0.81**	**202**	P		**Pg**	**19 09 33.0**	**-1.2**
ARNL				S		**Sg**	**19 09 43.0**	**-1.8**
ACUE	**Ecuador-Cuenca**	**0.82**	**99**	P		**Pg**	**19 09 33.0**	**-1.4**
AZOG	**Ecuador-Azogue**	**0.92**	**88**	P		**Pb**	**19 09 36.0**	**-0.8**
ALIBE	**La Libertad**	**1.21**	**297**	P		**Pg**	**19 09 43.0**	**+1.3**
SALI	**Salinas**	**1.36**	**296**	Pn		**Pg**	**19 09 44.4**	**-0.3**
SALI	**Salinas**	**1.36**	**296**	P		**Pg**	**19 09 44.0**	**-0.7**
CHSH	**Refugio Sur-Vo**	**1.57**	**35**	Pn		**Pb**	**19 09 47.2**	**-0.8**
CHSH	**Refugio Sur-Vo**	**1.57**	**35**	P		**Pb**	**19 09 47.0**	**-1.0**
SANGA	**Volcan Sangay**	**1.58**	**62**	P		**Pb**	**19 09 47.0**	**-1.1**
AMCR	**Ecuador-Macara**	**1.58**	**187**	P		**Pn**	**19 09 46.0**	**-0.7**
MCRA	**Macar, Loja**	**1.58**	**187**			**Pn**	**19 09 46.3**	**-0.5**
MCRA				Sn		**Sn**	**19 10 05.3**	**-2.0**
MCRA	**Macar, Loja**	**1.58**	**187**	P		**Pn**	**19 09 45.0**	**-1.7**
TAMH	**Tambohuasha Ch**	**1.58**	**39**	P		**Pb**	**19 09 47.0**	**-1.2**
TAMH				S		**Sg**	**19 10 10.0**	**+0.4**
PORT	**Chimborazo Vol**	**1.65**	**37**	P		**Pb**	**19 09 48.0**	**-1.4**
IGUA	**Igualata**	**1.71**	**41**	P		**Pg**	**19 09 50.0**	**-1.5**
AQUE	**Quevedo**	**1.75**	**9**	P		**Pb**	**19 09 49.0**	**-1.8**
BMAS	**Trigal station**	**1.81**	**45**	P		**Pg**	**19 09 52.0**	**-1.4**
ARRY	**Arrayan**	**1.83**	**46**	P		**Pb**	**19 09 51.0**	**-1.3**
TUYU	**Q. Yuibug Volc**	**1.83**	**45**	P		**Pb**	**19 09 52.0**	**-0.4**
BBIL	**Ulba Tungurahu**	**1.84**	**44**	P		**Pg**	**19 09 53.0**	**-1.0**
JUI6	**Juive**	**1.88**	**44**	P		**Pg**	**19 09 53.0**	**-1.6**
POND	**Pondoa**	**1.89**	**44**	P		**Pb**	**19 09 53.0**	**-0.4**
BULB	**Ulba Tungurahu**	**1.91**	**45**	P		**Pb**	**19 09 53.0**	**-0.7**
BRUN	**Tungurahua Vol**	**1.91**	**45**	P		**Pb**	**19 09 53.0**	**-0.7**
PECV	**Mancha de Ca P**	**2.02**	**352**	P		**Pb**	**19 09 53.0**	**-2.3**
ELAR	**El Aromo**	**2.03**	**328**	P		**Pb**	**19 09 53.0**	**-2.5**
ELAR				S		**Sb**	**19 10 20.0**	**-0.8**
ZUMB	**Zumba**	**2.15**	**163**	P		**Pb**	**19 09 56.0**	**-1.8**
PUYO	**Puyo, Santa Ro**	**2.17**	**54**	P		**Pg**	**19 09 59.0**	**-1.1**
PIS1	**Pisayambo**	**2.20**	**39**	P		**Pb**	**19 09 57.0**	**-1.8**
PIS1				Pg		**Pb**	**19 09 57.0**	**-1.8**
TAIS	**Taisha**	**2.30**	**80**	P		**Pg**	**19 10 01.0**	**-1.7**
ILLI	**Illinizas Sur**	**2.31**	**27**	P		**Pb**	**19 09 59.0**	**-1.6**
PIAT	**Ana Tenorio**	**2.33**	**40**	P		**Pb**	**19 10 01.0**	**+0.1**
SRAM	**San Ramn-Vol**	**2.35**	**31**	P		**Pb**	**19 10 00.0**	**-1.3**
PAST	**Pastocalle**	**2.37**	**28**	P		**Pb**	**19 10 01.0**	**-0.5**
BRRN	**Barrancas-Volc**	**2.37**	**33**	P		**Pb**	**19 10 01.0**	**-0.7**
VCES	**Cotopaxi**	**2.41**	**35**	P		**Pb**	**19 10 01.0**	**-1.3**
SLOR	**San Lorenzo -**	**2.41**	**32**			**Pb**	**19 10 00.8**	**-1.5**
SLOR	**San Lorenzo -**	**2.41**	**32**	P		**Pb**	**19 10 01.0**	**-1.2**
FLF1	**Flavio Alfaro-**	**2.42**	**358**	P		**Pn**	**19 09 58.0**	**-0.2**
BMOR	**Cotopaxi Volca**	**2.43**	**33**	P		**Pb**	**19 10 01.0**	**-1.6**
CAMI	**Rancho Maria**	**2.45**	**31**	P		**Pb**	**19 10 02.0**	**-0.9**
BNAS	**Cotopaxi Volca**	**2.46**	**32**	P		**Pb**	**19 10 02.0**	**-1.3**
SUCR	**Mariscal Sucre**	**2.48**	**31**	P		**Pb**	**19 10 03.0**	**-0.6**
BREF	**Cotopaxi Volca**	**2.49**	**32**	P		**Pg**	**19 10 04.0**	**-2.3**
NAS2	**Nasa**	**2.49**	**31**	P		**Pb**	**19 10 04.0**	**+0.2**
BTAM	**Cotopaxi Volca**	**2.51**	**33**	P		**Pb**	**19 10 03.0**	**-1.0**
TAMB	**Tambo**	**2.51**	**34**	P		**Pb**	**19 10 03.0**	**-1.0**
BVC2	**Cotopaxi Volca**	**2.51**	**33**	P		**Pb**	**19 10 02.0**	**-2.1**
VC1	**Cotopaxi 1**	**2.53**	**33**	P		**Pb**	**19 10 03.0**	**-1.4**
PITA	**Cotopaxi Volc**	**2.59**	**31**	P		**Pb**	**19 10 04.0**	**-1.3**
TOMA	**Boca Toma-Volc**	**2.64**	**30**	P		**Pb**	**19 10 05.0**	**-1.1**
MAG1	**Magdalena**	**2.70**	**360**	P		**Pn**	**19 10 02.0**	**0.0**
ANTM	**Antisana-La Mi**	**2.72**	**35**	P		**Pb**	**19 10 07.0**	**-0.6**
ANTG	**Antisana-Guama**	**2.73**	**34**	P		**Pb**	**19 10 07.0**	**-0.8**
ANTS	**Antisana-Sarah**	**2.78**	**35**	P		**Pg**	**19 10 10.0**	**-1.9**
HPAL	**Hacienda Las P**	**2.79**	**24**	P		**Pb**	**19 10 06.0**	**-2.7**
GGPT	**Toaza - Volcan**	**2.79**	**24**	P		**Pb**	**19 10 06.0**	**-2.8**
JUA2	**San Juan 2**	**2.81**	**24**	P		**Pb**	**19 10 07.0**	**-2.1**
ANTI	**Antisana**	**2.82**	**35**	P		**Pb**	**19 10 08.0**	**-1.4**
GGPC	**Guagua Pichinc**	**2.84**	**24**	P		**Pb**	**19 10 07.0**	**-2.8**
TERV	**Terraza Guagua**	**2.84**	**24**	P		**Pb**	**19 10 07.0**	**-2.8**
PINO	**Pino**	**2.86**	**24**	P		**Pb**	**19 10 07.0**	**-3.0**
YANA	**Yana**	**2.91**	**24**	P		**Pb**	**19 10 08.0**	**-2.8**
PULU	**Pululahua**	**3.06**	**24**	Pn		**Pb**	**19 10 09.6**	**-3.8**
PULU	**Pululahua**	**3.06**	**24**	P		**Pn**	**19 10 09.0**	**+1.6**
PAC1	**Pacto, Paraso**	**3.19**	**18**	P		**Pn**	**19 10 09.8**	**+0.9**
PAC1				S		**Sn**	**19 10 49.0**	**+2.0**
PAC1	**Pacto, Paraso**	**3.19**	**18**	P		**Pn**	**19 10 09.0**	**+0.1**
OTAV	**Otavalo**	**3.28**	**24**			**Pb**	**19 10 12.9**	**-4.3**
OTAV	**Otavalo**	**3.28**	**24**	P		**Pb**	**19 10 13.1**	**-4.1**
OTAV				S		**Sb**	**19 10 53.5**	**-3.9**
OTAV	**Otavalo**	**3.28**	**24**	P		**Pb**	**19 10 13.0**	**-4.1**
OTAV	**Otavalo**	**3.28**	**24**	*eP*		**Pb**	**19 10 13.1**	**-4.1**
CAYR	**Refugio Cayamb**	**3.29**	**32**	P		**Pb**	**19 10 17.0**	**-0.5**
ANGU	**Angureal**	**3.32**	**32**	P		**Pb**	**19 10 15.0**	**-2.9**
CAYA	**Cayambe**	**3.35**	**32**	P		**Pb**	**19 10 18.0**	**-0.4**
CUSE	**Cuicocha Este**	**3.36**	**24**	P		**Pb**	**19 10 14.8**	**-3.7**
CUSE				S		**Sb**	**19 10 57.7**	**-2.0**
CUSE	**Cuicocha Este**	**3.36**	**24**	P		**Pb**	**19 10 14.0**	**-4.5**
CUIC	**Cuicocha-Domo**	**3.38**	**25**	P		**Pn**	**19 10 14.0**	**+2.3**
COTA	**Cotacachi**	**3.42**	**25**	P		**Pb**	**19 10 18.0**	**-1.5**
IMBA	**Imbabura, San**	**3.42**	**27**			**Pb**	**19 10 15.2**	**-4.4**
IMBA	**Imbabura, San**	**3.42**	**27**	P		**Pb**	**19 10 19.0**	**-0.6**
URCU	**Urcuqui**	**3.54**	**25**	P		**Pb**	**19 10 18.0**	**-3.6**
CASC	**Dorado de Casc**	**3.79**	**40**	P		**Pb**	**19 10 22.0**	**-3.6**
LITE1	**Lita**	**3.83**	**22**	P		**Pn**	**19 10 20.0**	**+2.3**
RVRD	**Rio Verde**	**3.85**	**6**	P		**Pn**	**19 10 18.0**	**+0.2**
BONI	**La Bonita**	**3.92**	**35**	P		**Pb**	**19 10 25.0**	**-3.0**
LNGL	**El Angel-Carch**	**3.92**	**27**	P		**Pb**	**19 10 28.0**	**-0.2**
CHL1	**Volc¡n Chiles**	**4.00**	**27**	P		**Pb**	**19 10 26.0**	**-3.4**
CHMA	**Chilma**	**4.01**	**25**	P		**Pn**	**19 10 23.0**	**+2.7**
ECEN	**Cerro Negro**	**4.01**	**27**	P		**Pb**	**19 10 26.0**	**-3.7**
ATAH	**Atahualpa**	**4.53**	**162**	Pn		Pn	19 10 32.2	+4.6
	5.0nm,0.3s,baz=12,slow=8.8,SNR=24							
ATAH				Sn		**Sb**	**19 11 32.5**	**-0.8**
	5.9nm,0.3s,baz=252,slow=20,SNR=1.4							
ATAH				LR		LR	19 12 42.2	
	comp=Z,201nm,22.0s,baz=340,slow=42							
	13nm,0.4s							
GCUF	**Volcan Galeras**	**4.67**	**31**	P		Pn	19 10 33.7	+4.2
	91nm,0.9s							
GCUF				S		**Sb**	**19 11 40.2**	**+2.9**
	91nm,0.9s							
CRUC	**La Cruz**	**5.16**	**33**	P		Pb	19 10 41.9	-7.3
BBAC	**Balboa, Cauca**	**5.40**	**28**	P		Pn	19 10 43.8	+4.4
	43nm,0.8s							
BBAC				S		**Sn**	**19 11 46.5**	**+4.7**
	43nm,0.8s							
BBAC	**Balboa, Cauca**	**5.40**	**28**	P		**Pn**	**19 10 43.0**	**+3.6**
PTLC	**Puerto Leguiza**	**5.77**	**59**	P		Pn	19 10 48.7	+4.3
	65nm,0.8s							
PTLC				S		**Sb**	**19 12 09.0**	**+0.3**
	65nm,0.8s							
GR1C	**Gorgona, Isla**	**5.97**	**16**	P		**Pn**	**19 10 45.3**	**-1.7**
GR1C				S		**Sn**	**19 11 58.2**	**+2.7**
FLOC	**Florencia**	**5.98**	**44**	S		**Sg**	**19 12 25.3**	**-5.4**
	14nm,0.6s,647nm							
GARC	**Garzon, Huila**	**6.53**	**41**	P		**Pg**	**19 11 21.2**	**-2.6**
GARC				S		**Sg**	**19 12 44.6**	**-3.9**
JAMC	**Jamundi, Valle**	**6.72**	**27**	P		Pn	19 11 02.2	+4.7
	30nm,0.9s							
CZSB	**Cruzeiro do Su**	**8.58**	**125**			**Pn**	**19 11 22.6**	**-0.2**
CZSB	**Cruzeiro do Su**	**8.58**	**125**	P		**Pn**	**19 11 23.6**	**+0.7**
CZSB				S		**Sn**	**19 12 57.0**	**-2.8**
CZSB	**Cruzeiro do Su**	**8.58**	**125**	*eP*		**Pn**	**19 11 23.5**	**+0.7**
ROSC	**El Rosal**	**9.33**	**36**	LR		LR	19 15 23.1	
	comp=Z,459nm,20.2s,baz=224,slow=42							
ETMB	**Extrema**	**15.17**	**118**	*eP*		**Pn**	**19 12 53.8**	**+0.8**
SAML	**Samuel**	**17.59**	**111**	P		**P**	**19 13 24.7**	**-0.3**
SAML	**Samuel**	**17.59**	**111**	P		**P**	**19 13 26.1**	**+1.1**
SAML	**Samuel**	**17.59**	**111**	*eP*		**P**	**19 13 25.9**	**+0.8**
PB16	**IPOC Station P**	**18.43**	**148**	P		**Pn**	**19 13 35.6**	**+0.7**
PCRV	**Puerto La Cruz**	**19.82**	**49**	LR		LR	19 21 43.9	
	comp=Z,120nm,20.8s,slow=39							
PB07	**IPOC Station P**	**21.14**	**154**	P		**P**	**19 14 05.4**	**+1.4**
PB07				IAmb		IAmb	19 14 06.8	
	comp=Z,26nm,1.4s							
PTLB	**Pontes e Lacer**	**23.91**	**123**	P		**P**	**19 14 33.4**	**+0.6**
PTLB				IAmb		IAmb	19 14 39.3	
	comp=Z,2.6nm,0.7s							
PTLB	**Pontes e Lacer**	**23.91**	**123**	*eP*		**P**	**19 14 34.0**	**+1.3**
NPGB	**Novo Progresso**	**24.68**	**101**	*eP*		**P**	**19 14 42.1**	**+2.1**
CMIG	**Matias Romero**	**24.75**	**323**	LR		LR	19 22 32.7	
	comp=Z,49nm,18.5s,baz=188,slow=32							
BBRB	**Robore, Bolivi**	**24.89**	**130**	*eP*		**P**	**19 14 43.3**	**+1.5**
MALB	**Monte Alegre**	**25.50**	**88**	*eP*		**P**	**19 14 49.8**	**+2.5**
BBLB	**La Banda, Boli**	**25.89**	**129**	*eP*		**P**	**19 14 54.5**	**+3.6**
NBRS	**Nobres**	**26.31**	**117**	*eP*		**P**	**19 14 56.0**	**+1.3**
MURT	**Porto Murtinho**	**28.57**	**133**	*eP*		**P**	**19 15 15.7**	**+0.8**
AQDB	**Aquidauana**	**29.32**	**129**	*eP*		**P**	**19 15 22.7**	**+1.1**
TXAR	**Lajitas Array**	**39.30**	**326**	P		**P**	**19 16 48.2**	**+0.2**
	comp=Z,0.1nm,0.6s,baz=138,slow=5.6,SNR=1.9							
TXAR				PcP		**PcP**	**19 18 58.4**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=134,slow=5.4,SNR=6.5							
	comp=Z,0.1nm,0.6s							
ANMO	**Albuquerque**	**45.12**	**329**	P		**P**	**19 17 37.3**	**+1.8**
ANMO				IAmb		IAmb	19 17 43.5	
	comp=Z,5.4nm,1.1s							
X16A	**Lo Mia Camp, P**	**47.50**	**324**	P		**P**	**19 17 54.8**	**+0.6**
X16A				IAmb		IAmb	19 17 57.7	
	comp=Z,2.3nm,0.7s							
PDAR	**Pinedale Array**	**52.72**	**333**	P		**P**	**19 18 34.8**	**+1.0**
PDAR	**Pinedale Array**	**52.72**	**333**	P		**P**	**19 18 33.9**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=134,slow=12,SNR=2.3							
	comp=Z,0.3nm,0.7s							
NVAR	**Mina Array Bea**	**54.29**	**323**	P		**P**	**19 18 47.0**	**+1.7**
	comp=Z,0.6nm,0.7s,baz=137,slow=7.3,SNR=6.6							
	comp=Z,0.6nm,0.7s							
YKA	**Yellowknife Ar**	**70.25**	**344**	P		**P**	**19 20 31.1**	**-0.6**
	comp=Z,0.8nm,1.0s,baz=133,slow=6.2,SNR=8.7							
	comp=Z,0.8nm,1.0s							
A36M	**Sachs Harbour**	**80.10**	**347**	P		**P**	**19 21 28.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**82.33**	**76**	P		**P**	**19 21 38.9**	**-2.4**
	comp=Z,1.2nm,1.2s,baz=280,slow=5.8,SNR=3.6							
	comp=Z,1.2nm,1.2s							
ILAR	**Eielson Array**	**82.95**	**337**	P		**P**	**19 21 43.6**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=138,slow=4.1,SNR=7.0							
	comp=Z,0.8nm,0.9s							
IMAR	**Indian Mountai**	**86.06**	**337**	P		**P**	**19 21 59.6**	**+0.4**
B21K	**Ikpikpuk River**	**87.35**	**340**	P		**P**	**19 22 06.4**	**+1.0**
ZALV	**Zalesovo Beam**	**127.45**	**11**	PKP		**PKiKP**	**19 28 24.2**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=336,slow=3.2,SNR=4.9							
KURBB	**Kurchatov Arra**	**128.93**	**18**	PKP		**PKiKP**	**19 28 28.1**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=354,slow=2.1,SNR=1.9							
MKAR	**Makanchi Array**	**133.47**	**17**	PKP		**PKPdf**	**19 28 34.8**	**-0.6**
	comp=Z,0.2nm,0.8s,baz=28,slow=1.2,SNR=1.8							

*NEIC **03** 19:14:51.8±1.9, 20.°9S±0.°1×178.°23W±0.°09, h525km±8km, mb4.2/12, Error ellipse: s-maj=21.4km s-min=9.6km az=157.0*
*IDC **03** 19:14:55.1±3.5, 20.°93S×178.°61W, h563km±39km, mb3.0/11, mbtmp4.0/13, Error ellipse: s-maj=21.2km s-min=18.7km az=83.0*

ISC 03 19:14:56.2±0.6, 21.°0S±0.°1×178.°6W±0.°1, h579km, n50, σ0°93/49, mb3.7/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**12.46**	**265**	P	**P**		**19 17 39.2**	**-0.4**
LIFNC	**LIFOU**	**13.22**	**268**	P	**P**		**19 17 46.4**	**-1.1**
DZM	**Mont Dzumac**	**13.95**	**263**	P	**P**		**19 17 54.1**	**-0.9**
DZM	**Mont Dzumac**	**13.95**	**263**	P	**P**		**19 17 54.3**	**-0.7**
	1.6nm,0.5s,baz=110,slow=18,SNR=1.7							
URZ	**Urewera**	**17.63**	**191**	P	**P**		**19 18 28.0**	**-1.2**
	3.8nm,0.4s,baz=12,slow=2.4,SNR=9.7							
TCW	**Tory Channel**	**21.07**	**195**	P	**P**		**19 18 59.5**	**-0.8**
NNZ	**Nelson**	**21.30**	**197**	P	**P**		**19 19 01.0**	**-1.4**
CTA	**Charters Tower**	**32.87**	**265**	P	**P**		**19 20 44.3**	**+0.5**
	1.2nm,0.4s,baz=74,slow=15,SNR=1.8							
	1.2nm,0.4s							
CTAO	**Charters Tower**	**32.87**	**265**	P	**P**		**19 20 44.1**	**+0.3**
CTAO				IAmb	IAmb		19 20 50.1	
	comp=Z,11nm,1.4s							
STKA	**Stephens Creek**	**37.07**	**245**	P	**P**		**19 21 17.6**	**-0.8**
	comp=Z,1.9nm,1.0s,baz=76,slow=4.2,SNR=1.5							
	comp=Z,1.9nm,1.0s							
AS31	**Alice Springs**	**43.85**	**257**	P	**P**		**19 22 12.8**	**+0.3**
ASAR	**Alice Springs**	**43.85**	**257**	P	**P**		**19 22 12.7**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=93,slow=7.3,SNR=15							
ASAR				PcP		**PcP**	**19 23 46.2**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=89,slow=4.0,SNR=4.3							
	comp=Z,0.9nm,0.8s							
WB0	**Warramunga Arr**	**43.95**	**263**	P	**P**		**19 22 12.9**	**-0.3**
WRA	**Warramunga Arr**	**43.97**	**263**	P	**P**		**19 22 13.1**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=97,slow=7.4,SNR=4.6							
WRA				PcP		**PcP**	**19 23 46.4**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=100,slow=3.1,SNR=2.6							
	comp=Z,0.3nm,0.3s							
SOEI	**Soe**	**55.94**	**272**	P	**P**		**19 23 44.4**	**+3.4**
SOEI				IAmb	IAmb		19 24 12.1	
	comp=Z,11nm,1.0s							
SBA	**Scott Base**	**57.37**	**184**	P	**P**		**19 23 50.9**	**+1.3**
VNDA	**Vanda**	**57.40**	**185**	P	**P**		**19 23 50.4**	**+0.6**
QSPA	**South Pole Qui**	**69.11**	**180**	P	**P**		**19 25 05.3**	**+0.3**
QSPA				IAmb	IAmb		19 25 09.3	
	comp=Z,8.1nm,1.4s							
QSPA	**South Pole Qui**	**69.11**	**180**	P	**P**		**19 25 05.8**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=39,slow=0.5,SNR=14							
	comp=Z,2.1nm,0.7s							
MJAR	**Matsushiro Arr**	**70.24**	**324**	P	**P**		**19 25 11.8**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=157,slow=4.7,SNR=6.0							
	comp=Z,0.6nm,0.6s							
TPUB	**Ta-pu**	**73.75**	**303**	P	**P**		**19 25 32.5**	**0.0**
TPUB				IAmb	IAmb		19 25 40.2	
	comp=Z,12nm,1.1s							
PETK	**Petropavlovsk-**	**76.57**	**346**	P	**P**		**19 25 48.2**	**+0.6**
PETK	**Petropavlovsk-**	**76.57**	**346**	P	**P**		**19 25 47.3**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=103,slow=7.6,SNR=4.4							
	comp=Z,1.6nm,0.7s							
NVAR	**Mina Array Bea**	**81.76**	**44**	P	**P**		**19 26 16.4**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=226,slow=7.6,SNR=1.0							
	comp=Z,1.0nm,0.7s							
P18K	**Big Mountain,**	**82.34**	**12**	P	**P**		**19 26 17.8**	**0.0**
P18K				IAmb	IAmb		19 26 18.8	
	comp=Z,7.2nm,1.1s							
O18K	**Koktuh Hills**	**82.77**	**12**	P	**P**		**19 26 19.7**	**-0.1**
TXAR	**Lajitas Array**	**87.79**	**58**	P	**P**		**19 26 46.4**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=232,slow=6.7,SNR=4.5							
	comp=Z,0.4nm,0.8s							
IMAR	**Indian Mountai**	**88.71**	**10**	P	**P**		**19 26 48.3**	**+0.1**
ILAR	**Eielson Array**	**88.89**	**13**	P	**P**		**19 26 49.0**	**-0.1**
ILAR	**Eielson Array**	**88.89**	**13**	P	**P**		**19 26 48.8**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=217,slow=4.9,SNR=12							
	comp=Z,0.5nm,0.6s							
PDAR	**Pinedale Array**	**89.69**	**43**	P	**P**		**19 26 53.5**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=213,slow=3.5,SNR=7.8							
	comp=Z,0.7nm,0.6s							
SMCO	**Snowmass**	**89.71**	**48**	P	**P**		**19 26 52.5**	**-1.5**
SMCO				IAmb	IAmb		19 26 54.2	
	comp=Z,3.4nm,0.8s							
BVAR	**Bovoye Array**	**119.06**	**320**	PKP	**PKPdf**		**19 32 39.0**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=99,slow=1.7,SNR=6.0							
ARCES	**ARCESS Array B**	**129.27**	**349**	PKP	**PKPdf**		**19 32 58.8**	**0.0**
	comp=Z,3.8nm,0.9s,baz=66,slow=1.5,SNR=5.2							
FINES	**FINESS Array B**	**136.05**	**343**	PKhKP	PKPpre		19 33 03.3	
	comp=Z,0.4nm,0.6s,baz=355,slow=18,SNR=1.4							
FINES				PKP	**PKPdf**		**19 33 10.8**	**-0.8**
	comp=Z,1.7nm,1.1s,baz=86,slow=2.7,SNR=4.7							
NOA	**NORSAR Array B**	**139.37**	**353**	PKhKP	PKPpre		19 33 12.2	
	comp=Z,0.7nm,1.0s,baz=35,slow=3.8,SNR=1.9							
HFS	**Hagfors**	**139.90**	**350**	PKhKP	PKPpre		19 33 12.6	
	comp=Z,0.8nm,0.4s,baz=64,slow=3.4,SNR=10							
AKASG	**Malin Array Be**	**143.13**	**330**	PKP	**PKPdf**		**19 33 22.7**	**-2.1**
	comp=Z,2.2nm,0.4s,baz=42,slow=4.2,SNR=23							
AKBB	**Malin Array Si**	**143.13**	**330**	PKPdf	**PKPdf**		**19 33 22.9**	**-1.8**
KIEV	**Kiev**	**143.15**	**330**	PKPdf	PKPbc		19 33 22.9	-0.3
ARPR	**Arapgir-MALATY**	**143.57**	**308**	PKPbc	**PKPdf**		**19 33 26.4**	**+0.3**
BR131	**Keskin Array S**	**146.72**	**311**	PKPbc	**PKPbc**		**19 33 34.2**	**0.0**
BRTR	**Keskin Array B**	**146.72**	**311**	PKPbc	**PKPbc**		**19 33 34.6**	**+0.4**
BRTR	**Keskin Array B**	**146.72**	**311**	PKPbc	**PKPbc**		**19 33 34.2**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=147,slow=5.8,SNR=5.1							
BUR08	**Bucovina Ar. S**	**147.16**	**330**	PKPbc	**PKiKP**		**19 33 36.4**	**-0.5**
BURAR	**Bucovina Array**	**147.18**	**330**	PKPbc	**PKiKP**		**19 33 36.5**	**-0.4**
MMAI	**Mount Meron Ar**	**147.54**	**299**	PKPbc	**PKiKP**		**19 33 37.6**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=81,slow=5.2,SNR=9.3							
GERES	**GERESS Array B**	**150.48**	**343**	PKPbc	**PKPbc**		**19 33 42.4**	**-0.8**
GERES	**GERESS Array B**	**150.48**	**343**	PKPbc	**PKPbc**		**19 33 42.1**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=35,slow=4.9,SNR=4.9							
RDO	**Rodhopi**	**151.30**	**320**	PKPbc	**PKPbc**		**19 33 44.9**	**-0.2**

IDC 03 19:18:17.1±1.5, 6.°29S×142.°99E, h0km, mb3.6/2, mbtmp3.6/4, ML1.2/1, Error ellipse: s-maj=44.9km s-min=33.7km az=79.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.16**	**127**	Pn	Pn		19 19 35.1	-0.6
	0.6nm,0.3s,baz=45,slow=3.9,SNR=4.9							
PMG				Sn	Sn		19 20 31.5	-4.5
	1.6nm,0.3s,baz=237,slow=20,SNR=7.0							
	5.9nm,0.6s							
WRA	**Warramunga Arr**	**15.96**	**211**	Pn	Pn		19 21 58.6	-4.6
	0.1nm,0.3s,baz=37,slow=13,SNR=2.9							
WRA				Lg	Lg		19 26 42.8	
	baz=30,slow=24							
ASAR	**Alice Springs**	**19.36**	**206**	P	P		19 22 44.7	+0.2
	2.2nm,0.9s,baz=30,slow=12,SNR=14							
MKAR	**Makanchi Array**	**75.22**	**322**	P		P	19 30 02.2	+0.4
	0.4nm,0.8s,baz=116,slow=6.7,SNR=2.9							
	0.4nm,0.8s							
ILAR	**Eielson Array**	**87.34**	**24**	P		P	19 31 05.5	-0.2
	0.5nm,0.8s,baz=265,slow=6.0,SNR=4.8							
	0.5nm,0.8s							

*IDC **03** 19:32:41.6±1.9, 0.°84N×98.°80E, h0km, mb3.7/8, mbtmp3.7/9, ML4.1/1, Error ellipse: s-maj=71.2km s-min=18.2km az=61.0*
*DJA **03** 19:32:53.3±0.3, 1.°N±2.°×9.°9E±.°, h64km±7km, M4.1/16, mb4.4/3, MLv4.0/16*

ISC 03 19:32:50.5±0.8, 1.°06N±0.°06×98.°76E±0.°07, h50km, n25, σ2°47/22, mb3.7/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**1.21**	**282**	P		**Pn**	**19 33 13.7**	**+2.6**
PBSI	**Pulau Batu**	**1.21**	**203**	P		**Pn**	**19 33 12.8**	**+1.7**
PBSI				S		**Sn**	**19 33 28.9**	**+2.6**
BKNI	**Bangkinang**	**2.40**	**108**	P		**Pn**	**19 33 30.4**	**+3.1**
SISI	**Saibi**	**2.40**	**172**	P		**Pn**	**19 33 28.7**	**+1.4**
PDSI	**Padang**	**2.60**	**139**	P		**Pn**	**19 33 33.2**	**+3.1**

NSK					*e*S	Sb	19 53 44.5	-0.7	
	baz=319								
NWLT	**Wulai**	**0.61**	**335**		*e*P	Pb	19 53 36.3	-0.4	
	baz=334								
NWLT					*e*S	Sb	19 53 44.7	-0.7	
	baz=334								
OWD	**Renai**	**0.62**	**245**		*e*P	Pb	19 53 37.2	+0.1	
	baz=245								
WARBT	**Fenglin Townsh**	**0.63**	**216**		*e*P	Pg	19 53 36.3	+0.2	
	baz=224								
WARBT					*e*S	Sb	19 53 46.0	+0.1	
	baz=224								
EGFH	**Guangfu**	**0.65**	**211**		*e*P	Pg	19 53 36.8	+0.3	
	baz=218								
EGFH					*e*S	Sb	19 53 47.7	+1.2	
	baz=218								
WUSB	**Renai**	**0.66**	**249**		*e*P	Pg	19 53 37.1	+0.4	
	baz=243								
WUSB					*e*S	Sb	19 53 47.2	+0.2	
	baz=243								
TIPB	**Shuangxi**	**0.74**	**2**		*e*P	Pg	19 53 38.4	0.0	
	baz=11								
VWDT	**VWDT**	**0.76**	**232**		*e*P	Pb	19 53 39.6	+0.3	
	baz=239								
WHP	**Taichung City**	**0.77**	**274**		*e*P	Pn	19 53 40.5	-0.6	
	baz=274								
WHP					*e*S	Sb	19 53 50.5	+0.3	
	baz=274								
HGSD	**Ruisui**	**0.80**	**205**		*e*P	Pb	19 53 40.2	+0.2	
	baz=193								
NSTT	**Nanjuang**	**0.83**	**299**		*e*P	Pb	19 53 40.8	+0.4	
	baz=293								
SXI1	**Grass Mountain**	**0.87**	**5**		*e*P	Pn	19 53 42.2	-0.2	
	baz=12								
SSLB	**Suanglung**	**0.88**	**241**		*e*P	Pg	19 53 40.6	-0.3	
	baz=242								
YM01	**YM01**	**0.94**	**348**		*e*P	Pb	19 53 42.7	+0.2	
	baz=347								
YULB	**Yu-li**	**0.94**	**209**		*e*P	Pg	19 53 41.4	-0.8	
	baz=221								
YULB					*e*S	Sb	19 53 55.8	+0.7	
	baz=221								

JMA 03 19:53:59.1±0.2,**24°.3N**±0°.4×**123°.8E**±0°.5,**h16**km±1km,
MV0.8/7,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.13**	**313**	P	Pg	19 54 02.8	-0.1
IRIF				*e*S	Sb	19 54 05.6	-0.3
JKRS	**Kuro-shima**	**0.16**	**94**	*i* P	Pg	19 54 03.2	0.0
JKRS				*e*S	Sg	19 54 06.5	+0.4
HATJ	**Hateruma jima**	**0.19**	**187**	*i* P	Pg	19 54 03.6	-0.1
HATJ				S	Sg	19 54 07.3	+0.2
JIJ	**Ishigaki jima**	**0.31**	**68**	P	Pg	19 54 09.3	-0.3
JIJ				S	Sg	19 54 09.7	-0.4
JISG	**Ishigakijimahi**	**0.55**	**52**	P	Pg	19 54 10.1	+0.1
JISG				S	Sb	19 54 18.5	+0.4
JTJ	**Tarama**	**0.88**	**64**	*e*S	Sg	19 54 28.5	+0.5

*AFAD **03** 20:22:43.7±0.0,39°.64N×44°.80E,h7km±4km,ML2.7*
*NSSP **03** 20:22:45.2,39°.60N×44°.62E,h6km,Ms3.0*
*ISK **03** 20:22:46.9,39°.65N×44°.53E,h3km,ML2.6/15*
*TEH **03** 20:22:46.1,39°.55N×44°.64E,h6km±52km,ML3.0*
*AZER **03** 20:22:46.1,39°.58N×44°.62E,h19km,ml3.1*
ISC 03 20:22:47.4±1.1,**39°.60N**±0°.02×**44°.60E**±0°.02,**h4**km±9km,
n79,σ1s38/131,**5C-9D,Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HYR	**Heyderabad**	**0.23**	**58**	P	**Pg**	**20 22 52.7**	**+0.8**
HYR				S	**Sg**	**20 22 57.1**	**+2.2**
MAKU	**Maku**	**0.25**	**165**	Pg	**Pg**	**20 22 50.3**	**-2.0**
NRKZ	**NAREK**	**0.40**	**7**	⇓*i*P	**Pg**	**20 22 55.2**	**-0.1**
NRKZ				⇓*i*S	**Sg**	**20 23 01.8**	**+1.3**
TASB	**TASBURUN-IGDIR**	**0.47**	**324**	Pg	**Pg**	**20 22 55.6**	**-1.0**
TASB				Sg	**Sg**	**20 23 01.8**	**-0.9**
TASB	**TASBURUN-IGDIR**	**0.47**	**324**	Pg	**Pg**	**20 22 55.7**	**-0.9**
GNI	**Garni**	**0.56**	**11**	⇓*i*P	**Pg**	**20 22 58.3**	**0.0**
GNI				⇑*i*S	**Sg**	**20 23 07.6**	**+2.1**
GNI	**Garni**	**0.56**	**11**	Pg	**Pg**	**20 22 58.2**	**0.0**
METS	**Metsamor**	**0.68**	**324**	⇑*i*P	**Pg**	**20 22 58.9**	**-1.6**
METS				⇓*i*S	**Sg**	**20 23 08.0**	**-1.3**
KAPZ	**Kaputan**	**0.73**	**6**	⇓*i*P	**Pg**	**20 23 00.9**	**-0.5**
KAPZ				⇑*i*S	**Sg**	**20 23 11.8**	**+0.9**
SBZ	**Shahbuz**	**0.77**	**105**	P	**Pg**	**20 23 02.1**	**0.0**
SBZ				S	**Sb**	**20 23 14.3**	**+0.1**
VNNZ	**Vanand**	**0.78**	**310**	⇓*i*P	**Pg**	**20 23 01.0**	**-1.4**
VNNZ				⇑*i*S	**Sg**	**20 23 12.4**	**-0.1**
ARUZ	**Aruch**	**0.79**	**331**	⇑*i*P	**Pg**	**20 23 01.2**	**-1.3**
ARUZ				⇓*i*S	**Sg**	**20 23 12.3**	**-0.5**
NAX	**Nakhchivan**	**0.81**	**121**	P	**Pg**	**20 23 02.7**	**-0.3**
NAX				S	**Sb**	**20 23 14.5**	**-1.1**
AMBZ	**Amberd**	**0.83**	**342**	⇓*i*P	**Pg**	**20 23 02.5**	**-0.9**
AMBZ				⇓*i*S	**Sg**	**20 23 14.3**	**+0.2**
VMUR	**Van-Muradiye**	**1.00**	**233**	P	**Pg**	**20 23 04.9**	**-1.7**
VMUR				*i* AML	AML	20 23 26.0	
	comp=N,222nm,0.7s						
VMUR				*i* AML	AML	20 23 27.0	
	comp=E,259nm,0.5s						
IMRD	**Marand**	**1.23**	**135**	Pg	**Pb**	**20 23 08.5**	**-2.9**
AGRB	**Hanur-Agry**	**1.24**	**269**	Pn	**Pn**	**20 23 09.3**	**-2.4**
AGRB				Sn	**Sb**	**20 23 27.6**	**-0.4**
AGRB	**Hanur-Agry**	**1.24**	**269**	Pg	**Pn**	**20 23 10.0**	**-1.7**
DIGO	**Kars**	**1.24**	**311**	P	**Pn**	**20 23 09.0**	**-2.8**
DIGO				S	**Sn**	**20 23 31.4**	**+2.2**
DIGO				*i* AML	AML	20 23 33.0	
	comp=E,384nm,1.1s						
DIGO				*i* AML	AML	20 23 35.0	
	comp=N,347nm,0.6s						
ORD	**Ordubad**	**1.27**	**121**	P	**Pn**	**20 23 10.5**	**-1.6**
ORD				S	**Sg**	**20 23 28.5**	**+0.1**
EAK	**Akyaka**	**1.33**	**325**	P	**Pn**	**20 23 11.1**	**-1.8**
EAK				S	**Sb**	**20 23 30.6**	**+0.2**
EAK				*i* AML	AML	20 23 34.0	
	comp=N,319nm,0.5s						
EAK				*i* AML	AML	20 23 40.0	
	comp=E,210nm,0.8s						
VANB	**Van**	**1.37**	**224**	Pn	**Pb**	**20 23 14.0**	**+0.3**
VANB				Sn	**Sg**	**20 23 34.9**	**+3.4**
TVAN	**Van**	**1.41**	**221**	P	**Pn**	**20 23 13.9**	**-0.3**
TVAN				S	**Sg**	**20 23 35.1**	**+2.3**
TVAN				*i* AML	AML	20 23 41.0	
	comp=N,132nm,1.0s						
TVAN				*i* AML	AML	20 23 41.0	
	comp=E,115nm,0.5s						
GDB	**GEDABAY**	**1.43**	**38**	Pn	**Pn**	**20 23 13.8**	**-0.5**
GDB				Sn	**Sb**	**20 23 33.4**	**0.0**
ISHB	**Shabestar**	**1.54**	**148**	Pg	**Pn**	**20 23 12.9**	**-2.9**
KARS	**Kars**	**1.55**	**312**	Pn	**Pn**	**20 23 14.9**	**-1.1**
KARS				Sn	**Sn**	**20 23 35.4**	**-1.3**
QZX	**Qazax, Azerbai**	**1.57**	**22**	Pn	**Pn**	**20 23 15.8**	**-0.4**
QZX				Sn	**Sn**	**20 23 36.8**	**-0.2**
EATA	**Eleskirt**	**1.65**	**280**	P	**Pn**	**20 23 17.3**	**-0.1**
EATA				*i* AML	AML	20 23 43.0	
	comp=N,66nm,0.7s						
EATA				S	**Sg**	**20 23 43.4**	**+3.1**
EATA				*i* AML	AML	20 23 52.0	
	comp=E,60nm,0.5s						
MLAZ	**Malazgirt-MUS**	**1.65**	**255**	Pn	**Pn**	**20 23 17.1**	**-0.3**
MLAZ	**Malazgirt-MUS**	**1.65**	**255**	Pg	**Pn**	**20 23 17.0**	**-0.3**
GANJ	**Ganja**	**1.69**	**51**	Pn	**Pn**	**20 23 17.9**	**+0.2**
GANJ				Sn	**Sb**	**20 23 40.7**	**+0.1**
DMNI	**Dmanisi**	**1.76**	**350**	P	**Pn**	**20 23 18.1**	**-0.6**
DMNI				S	**Sn**	**20 23 41.3**	**-0.4**
GEVA	**Gevas**	**1.76**	**224**	P	**Pn**	**20 23 18.4**	**-0.4**
GEVA				*i* AML	AML	20 23 54.0	
	comp=N,27nm,0.5s						
GEVA				*i* AML	AML	20 23 57.0	
	comp=E,26nm,0.8s						
AKDM	**Akdamar-Van**	**1.79**	**225**	Pn	**Pn**	**20 23 19.6**	**+0.4**
AKDM	**Akdamar-Van**	**1.79**	**225**	Pg	**Pn**	**20 23 19.9**	**+0.7**
ITBZ	**Tabriz**	**1.82**	**138**	Pg	**Pn**	**20 23 18.6**	**-1.1**
BGD	**Bogdanovka**	**1.83**	**336**	P	**Pn**	**20 23 19.6**	**-0.2**
BGD				S	**Sb**	**20 23 45.3**	**+0.3**
DGRG	**David-gareji**	**1.94**	**17**	P	**Pb**	**20 23 22.8**	**-0.7**
DGRG				S	**Sg**	**20 23 50.3**	**+0.5**
SENK	**Senkaya-Erzuru**	**1.97**	**300**	Pn	**Pn**	**20 23 21.1**	**-0.7**
TRLG	**Trialeti**	**1.98**	**349**	P	**Pn**	**20 23 21.8**	**0.0**
TRLG				S	**Sb**	**20 23 48.3**	**-0.8**
AKH	**Akhalkalaki**	**2.00**	**335**	P	**Pn**	**20 23 22.7**	**+0.6**
AGDM	**Agdam**	**2.00**	**74**	Pn	**Pn**	**20 23 21.4**	**-0.6**
AGDM				Sn	**Sb**	**20 23 49.1**	**-0.5**
BRDA	**Brd**	**2.09**	**71**	Pn	**Pn**	**20 23 22.8**	**-0.5**
BRDA				Sn	**Sn**	**20 23 49.1**	**-0.6**
BRNG	**Burnasheti**	**2.11**	**344**	P	**Pn**	**20 23 24.7**	**+1.1**
BRNG				S	**Sb**	**20 23 53.5**	**+0.6**
QRD	**Qoradiz**	**2.11**	**93**	Pn	**Pn**	**20 23 24.2**	**+0.7**
QRD				Sn	**Sn**	**20 23 50.4**	**+0.2**
VSHL	**Vashlovani**	**2.13**	**40**	P	**Pb**	**20 23 27.7**	**+1.0**
VSHL				S	**Sg**	**20 23 59.3**	**+3.4**
KOPR	**Koprukoy-ERZUR**	**2.15**	**281**	Pn	**Pn**	**20 23 23.9**	**-0.3**
HAKT	**HAKKARI**	**2.15**	**199**	P	**Pn**	**20 23 24.6**	**+0.3**
HAKT				S	**Sg**	**20 23 57.9**	**+1.3**
HAKT				*i* AML	AML	20 24 00.0	
	comp=N,30nm,0.8s						
HAKT				*i* AML	AML	20 24 02.0	
	comp=E,34nm,0.8s						
IAZR	**Azarshahr**	**2.20**	**150**	Pn	**Pn**	**20 23 24.8**	**-0.2**
MNGR	**Mingechevir, A**	**2.24**	**58**	Pn	**Pn**	**20 23 26.2**	**+0.9**
MNGR				Sn	**Sb**	**20 23 54.6**	**-1.9**
GURO	**Guroymak-BITLI**	**2.25**	**243**	Pn	**Pn**	**20 23 25.4**	**-0.2**
BLQ	**Beylaqan**	**2.29**	**86**	Pn	**Pn**	**20 23 26.6**	**+0.6**
BLQ				Sn	**Sn**	**20 23 54.9**	**+0.3**
IHRS	**Heris**	**2.29**	**123**	Pn	**Pn**	**20 23 26.4**	**+0.1**
ZRD	**Zardab**	**2.47**	**73**	Pn	**Pn**	**20 23 29.7**	**+1.3**
ZRD				Sn	**Sn**	**20 23 59.4**	**+0.4**
CUKT	**Cukurca**	**2.47**	**199**	Pn	**Pn**	**20 23 30.2**	**+1.6**
VRTB	**Varto-Mus**	**2.47**	**261**	Pn	**Pn**	**20 23 29.1**	**+0.5**
VRTB	**Varto-Mus**	**2.47**	**261**	P	**Pn**	**20 23 30.5**	**+1.9**
VRTB				*i* AML	AML	20 24 13.0	
	comp=E,60nm,0.8s						
VRTB				S	**Sg**	**20 24 13.2**	**+6.3**
VRTB				*i* AML	AML	20 24 33.0	
	comp=N,52nm,1.3s						
ABS	**Abastumani**	**2.55**	**328**	P	**Pn**	**20 23 31.9**	**+2.2**
ABS				S	**Sn**	**20 24 02.9**	**+1.7**
ZKTA	**Zakatala**	**2.56**	**36**	Pn	**Pn**	**20 23 28.8**	**-0.8**
ZKTA				Sn	**Sb**	**20 24 03.1**	**-2.5**
SEKA	**Sheki**	**2.56**	**50**	Pn	**Pn**	**20 23 30.5**	**+0.8**
SEKA				Sn	**Sb**	**20 24 03.8**	**-1.9**
LGD	**Lagodekhi**	**2.56**	**29**	P	**Pb**	**20 23 34.7**	**+0.8**
LGD				S	**Sg**	**20 24 10.1**	**+0.4**
ALIG	**Mtskhetisjvari**	**2.60**	**344**	P	**Pb**	**20 23 33.3**	**-1.5**
ALIG				S	**Sb**	**20 24 07.6**	**+0.5**
GRMI	**Germi**	**2.68**	**106**	Pn	**Pn**	**20 23 32.2**	**+0.8**
CHRG	**Chargali**	**2.74**	**5**	P	**Pb**	**20 23 35.4**	**-1.6**
CHRG				S	**Sb**	**20 24 12.3**	**+1.2**
QBL	**Gabala**	**2.82**	**60**	Pn	**Pn**	**20 23 34.2**	**+0.9**
QBL				Sn	**Sn**	**20 24 09.3**	**+1.5**
YRD	**Yardimli**	**2.91**	**102**	Pn	**Pn**	**20 23 35.5**	**+0.8**
YRD				Sn	**Sn**	**20 24 11.5**	**+1.3**
BCA	**Borcka**	**2.92**	**310**	Pn	**Pn**	**20 23 34.6**	**-0.1**
GLBA	**Clilabad**	**2.96**	**96**	Pn	**Pn**	**20 23 34.9**	**-0.3**
GLBA				Sn	**Sb**	**20 24 13.7**	**-3.5**
ISRB	**Sarab**	**2.98**	**125**	Pn	**Pn**	**20 23 36.1**	**+0.4**
SVAN	**Silvan-Diyarba**	**3.02**	**242**	Pn	**Pn**	**20 23 36.7**	**+0.6**
LRK	**Lerik**	**3.06**	**107**	Pn	**Pn**	**20 23 37.4**	**+0.6**
LRK				Sn	**Sn**	**20 24 14.3**	**+0.4**
MTEO	**Meteo**	**3.08**	**359**	P	**Pb**	**20 23 42.1**	**-1.0**
MTEO				S	**Sg**	**20 24 25.5**	**-0.9**
SHTL	**Shatili**	**3.08**	**8**	P	**Pb**	**20 23 40.8**	**-2.1**
SHTL				S	**Sb**	**20 24 22.2**	**+1.2**
BNGB	**Bingl**	**3.10**	**260**	Pn	**Pn**	**20 23 37.6**	**+0.4**
ONI	**Oni**	**3.11**	**344**	Pn	**Pn**	**20 23 37.5**	**+0.2**
ONI	**Oni**	**3.11**	**344**	P	**Pb**	**20 23 42.3**	**-1.0**
ONI				S	**Sb**	**20 24 22.8**	**+1.1**
XNQ	**Khinaliq**	**3.13**	**59**	Pn	**Pn**	**20 23 37.0**	**-0.7**
XNQ				Sn	**Sn**	**20 24 17.0**	**+1.4**
PQL	**Pirkuli**	**3.28**	**67**	Pn	**Pn**	**20 23 40.1**	**+0.3**
PQL				Sn	**Sn**	**20 24 19.5**	**+0.1**
ASTR	**Astara**	**3.42**	**106**	Pn	**Pn**	**20 23 42.8**	**+1.3**
ASTR				Sn	**Sn**	**20 24 23.9**	**+1.3**

*KRNET **03** 20:25:26.6±0.1,40°.32N×73°.23E,h14km,mb3.6*
*SOME **03** 20:25:26.9,40°.45N×73°.30E,h0km*
*ISU **03** 20:25:28.5,40°.40N×73°.19E,h29km*
*IDC **03** 20:25:29.9±4.1,40°.74N×73°.01E,h0km,mb4.3/1,*
mbtmp3.3/4,ML2.5/3,MS3.2/1,Error ellipse: s-maj=62.8km
s-min=29.5km az=155.0
*NNC **03** 20:25:30.2±0.8,40°.52N×73°.24E,h0km,mb4.2,mpv3.9,*
Error ellipse: s-maj=7.3km s-min=3.1km az=175.0
ISC 03 20:25:28.1±0.7,**40°.31N**±0°.02×**73°.20E**±0°.02,**h10**km,**n108,**
σ2s29/169,**30C-35D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**0.38**	**304**	⇑*i*P	**Pg**	**20 25 34.4**	**-1.3**
	baz=1.0						
OHH				⇑*i*S	**Sg**	**20 25 40.4**	**-0.3**
	baz=1.0						
SFK	**Sufi-Kurgan**	**0.38**	**142**	⇑*i*P	**Pg**	**20 25 33.9**	**-1.8**
	baz=45						
SFK				⇑*i*S	**Sg**	**20 25 39.2**	**-1.6**
	baz=45						
TSTA	**Tashata**	**0.61**	**296**	P	**Pb**	**20 25 40.4**	**-0.5**
TSTA				S	**Sb**	**20 25 48.9**	**-0.7**
ARSB	**Arslanbob**	**1.02**	**351**	⇓*i*P	**Pg**	**20 25 46.0**	**-1.8**
	baz=49						
ARSB				⇓*i*S	**Sg**	**20 26 01.0**	**-0.1**
	baz=49						
FRG	**Fergana**	**1.08**	**274**	P	**Pn**	**20 25 49.0**	**-0.4**
FRG				S	**Sn**	**20 26 04.9**	**+0.4**
CHMI	**Chimion**	**1.28**	**269**	P	**Pg**	**20 25 52.7**	**0.0**
CHMI				S	**Sn**	**20 26 11.3**	**+1.9**
NAM	**Namangan**	**1.35**	**301**	P	**Pb**	**20 25 53.1**	**-0.5**
NAM				S	**Sg**	**20 26 12.1**	**+0.4**
DRK	**Karamyk**	**1.36**	**233**	⇓*i*P	**Pn**	**20 25 52.7**	**-0.7**
	baz=33						
DRK				⇓*i*S	**Sg**	**20 26 11.9**	**0.0**
	baz=33						
KSNS	**Kasansay**	**1.53**	**304**	P	**Pb**	**20 25 56.0**	**-0.6**
KSNS				S	**Sg**	**20 26 17.2**	**-0.1**
MINT	**Mingtut**	**1.71**	**276**	P	**Pb**	**20 25 59.5**	**-0.1**
MINT				S	**Sg**	**20 26 23.1**	**+0.2**
ARK	**Arkit**	**1.75**	**328**	⇓*i*P	**Pb**	**20 25 59.5**	**-1.0**
	baz=28						
ARK				⇓*i*S	**Sg**	**20 26 23.6**	**-0.9**
	baz=28						
ARLS	**Aral**	**1.76**	**28**	⇓*i*P	**Pn**	**20 25 59.0**	**+0.1**
	baz=28						
ARLS				⇓*i*S	**Sb**	**20 26 22.8**	**-0.1**
	baz=28						
BTK	**Batken**	**1.84**	**263**	⇑*i*P	**Pb**	**20 26 01.2**	**-0.7**
	baz=63						
BTK				⇑*i*S	**Sg**	**20 26 26.6**	**-0.7**
	baz=63						
CHDK	**Chadak**	**1.97**	**290**	P	**Pb**	**20 26 03.2**	**-1.0**
CHDK				S	**Sg**	**20 26 30.0**	**-1.6**
TRKS	**Terek-Say**	**1.98**	**309**	⇑*i*P	**Pn**	**20 26 02.6**	**+0.8**
	baz=7.0						
TRKS				⇑*i*S	**Sb**	**20 26 28.8**	**-0.3**
	baz=7.0						
UCH	**Uchtor**	**2.15**	**27**	P	**Pb**	**20 26 06.1**	**-1.4**
	SNR=90						
UCH	**Uchtor**	**2.15**	**27**	⇓*i*P	**Pn**	**20 26 05.7**	**+1.2**
	baz=26						
UCH				⇓*i*S	**Sb**	**20 26 34.3**	**-0.1**
	baz=26						
MNAS	**Manas**	**2.23**	**347**	⇓*i*P	**Pb**	**20 26 06.9**	**-1.8**
	baz=46						
MNAS				⇓*i*S	**Sb**	**20 26 36.2**	**-0.2**
	baz=46						
EKS2	**Erkin-Say**	**2.39**	**10**	P	**Pb**	**20 26 09.3**	**-2.0**
	SNR=67						
EKS2	**Erkin-Say**	**2.39**	**10**	⇑*i*P	**Pn**	**20 26 08.7**	**+1.3**
	baz=10.0						
EKS2				⇑*i*S	**Sb**	**20 26 39.6**	**-1.2**
	baz=10.0						
NRN	**Naryn**	**2.40**	**61**	⇑*i*P	**Pn**	**20 26 08.4**	**+0.6**
	baz=61						
NRN				⇑*i*S	**Sn**	**20 26 39.0**	**+1.6**
	baz=61						
MRKS	**Merke**	**2.43**	**0**	*e*P	**Pb**	**20 26 11.1**	**-0.9**
	159nm,0.2s						
MRKS				*e*S	**Sb**	**20 26 43.2**	**+1.2**
	302nm,0.3s						
MRKS	**Merke**	**2.43**	**0**	Pg	**Pb**	**20 26 11.1**	**-0.9**
	159nm,0.2s						
MRKS				Lg	Lg	20 26 43.2	
	302nm,0.3s						
AAK	**Ala-Archa**	**2.52**	**22**	P	**Pn**	**20 26 11.3**	**+2.0**
	SNR=81						
AAK	**Ala-Archa**	**2.52**	**22**	⇑*i*P	**Pn**	**20 26 10.6**	**+1.4**
	baz=22						
AAK				⇑*i*S	**Sb**	**20 26 42.7**	**-1.9**
	baz=22						
GAR	**Garm**	**2.58**	**240**	⇓*i*P	**Pb**	**20 26 12.0**	**-2.6**
	baz=41						
GAR				⇓*i*S	**Sb**	**20 26 45.2**	**-1.2**
	baz=41						
PSK	**Pskem**	**2.67**	**308**	P	**Pn**	**20 26 12.8**	**+1.4**
PSK				S	**Sb**	**20 26 47.8**	**-1.3**
KBK	**Karagaybulak**	**2.69**	**29**	P	**Pb**	**20 26 14.8**	**-1.5**
	SNR=8.5						
KBK	**Karagaybulak**	**2.69**	**29**	⇓*i*P	**Pn**	**20 26 12.9**	**+1.3**
	baz=28						
KBK				⇓*i*S	**Sn**	**20 26 46.7**	**+2.5**
	baz=28						
CHMG	**Chimgan**	**2.71**	**298**	P	**Pn**	**20 26 13.5**	**+1.6**
CHMG				S	**Sb**	**20 26 49.0**	**-1.2**
FRU1	**Bishkek**	**2.72**	**23**	⇓*i*P	**Pn**	**20 26 13.5**	**+1.6**
	baz=22						
FRU1				⇓*i*S	**Sb**	**20 26 47.7**	**-2.5**
	baz=22						
CHRV	**Charvak**	**2.79**	**299**	P	**Pn**	**20 26 14.6**	**+1.7**
CHRV				S	**Sb**	**20 26 51.1**	**-1.3**
CHMS	**Chumysh**	**2.92**	**23**	P	**Pn**	**20 26 16.9**	**+2.2**
	SNR=20						
CHMS	**Chumysh**	**2.92**	**23**	⇑Pn	**Pn**	**20 26 16.7**	**+2.0**
	20nm,0.7s						
CHMS				⇑Lg	Lg	20 26 56.0	
	37nm,0.6s						
CHMS	**Chumysh**	**2.92**	**23**	⇑*i*P	**Pn**	**20 26 16.1**	**+1.4**
	baz=22						
CHMS				⇑*i*S	**Sn**	**20 26 52.4**	**+2.5**
	baz=22						
DZA	**Taraz**	**2.93**	**332**	*e*P	**Pb**	**20 26 20.8**	**+0.3**
	69nm,0.2s						
DZA				*e*S	**Sg**	**20 26 59.6**	**-2.7**
	332nm,0.2s						
DZA	**Taraz**	**2.93**	**332**	Pg	**Pb**	**20 26 20.8**	**+0.3**
	69nm,0.2s						
DZA				Lg	Lg	20 26 59.6	
	332nm,0.2s						
ULHL	**Ulahol**	**3.00**	**49**	P	**Pb**	**20 26 21.9**	**+0.2**
	SNR=14						
ULHL	**Ulahol**	**3.00**	**49**	⇓*i*P	**Pn**	**20 26 17.1**	**+1.2**
	baz=49						
ULHL				⇓*i*S	**Sn**	**20 26 54.2**	**+2.2**
	baz=49						
TGS	**TashGRES**	**3.00**	**293**	P	**Pb**	**20 26 19.2**	**-2.5**
TGS				S	**Sb**	**20 26 59.8**	**+1.4**
IUG	**Iuzhnay**	**3.01**	**309**	*e*P	**Pb**	**20 26 22.9**	**+1.0**
	117nm,0.2s						
IUG				*e*S	**Sg**	**20 27 03.0**	**-1.8**
	204nm,0.6s						
IUG	**Iuzhnay**	**3.01**	**309**	Pg	**Pb**	**20 26 22.9**	**+1.0**
	117nm,0.2s						
IUG				Lg	Lg	20 27 03.0	
	204nm,0.6s						
USP	**Ospenovka**	**3.11**	**18**	P	**Pn**	**20 26 19.2**	**+2.0**
	SNR=43						
USP	**Ospenovka**	**3.11**	**18**	⇓*i*P	**Pn**	**20 26 18.7**	**+1.5**
	baz=17						
USP				⇓*i*S	**Sn**	**20 26 56.7**	**+2.2**
	baz=17						
KUMR	**Kumaryk**	**3.13**	**288**	P	**Pn**	**20 26 19.5**	**+2.0**
KUMR				S	**Sb**	**20 27 00.3**	**-1.8**
TKM2	**Tokmak 2**	**3.17**	**34**	P	**Pb**	**20 26 23.8**	**-0.8**
	SNR=8.0						
TKM2	**Tokmak 2**	**3.17**	**34**	⇑Pn	**Pn**	**20 26 19.2**	**+1.0**
	13nm,0.5s						
TKM2				⇓Lg	Lg	20 27 05.0	
	39nm,0.6s						
TKM2	**Tokmak 2**	**3.17**	**34**	⇑*i*P	**Pn**	**20 26 19.5**	**+1.3**
	baz=33						
TKM2				⇑*i*S	**Sn**	**20 26 58.2**	**+2.1**
	baz=33						
YNGY	**Yangiyul**	**3.26**	**285**	P	**Pn**	**20 26 21.5**	**+2.2**
YNGY				S	**Sb**	**20 27 04.0**	**-1.9**
CHM	**Chimkent**	**3.37**	**308**	*e*P	**Pg**	**20 26 30.5**	**-2.1**
	24nm,0.1s						
CHM				*e*S	**Sg**	**20 27 16.5**	**+0.2**
	439nm,0.5s						
KST	**Kastek**	**3.42**	**36**	*e*P	**Pb**	**20 26 29.2**	**+0.3**
	17nm,0.2s						
KST				*e*S	**Sb**	**20 27 14.2**	**+3.5**
	35nm,0.3s						
KST	**Kastek**	**3.42**	**36**	Pg	**Pb**	**20 26 29.2**	**+0.3**
	17nm,0.2s						
KST				Lg	Lg	20 27 14.2	
	35nm,0.3s						
KK31	**Karatay Array**	**3.44**	**325**	⇓Pn	**Pn**	**20 26 23.0**	**+1.3**
	0.5nm,0.2s,baz=125,slow=12,SNR=226						
KK31				Pg	**Pb**	**20 26 29.3**	**+0.2**
	7.1nm,0.3s,baz=130,slow=15,SNR=32						
KK31				⇓Lg	Lg	20 27 11.7	
	20nm,0.4s,baz=153,slow=30,SNR=5.0						
KKAR	**Karatay Array**	**3.44**	**325**	⇑*i*P	**Pn**	**20 26 23.6**	**+1.8**
	baz=25						
KKAR				⇑*i*S	**Sn**	**20 27 05.3**	**+2.7**
	baz=25						
DGS	**

MDOK	**Medeo**	**4.05**	**44**	⇑Pn		**Pn**	**20 26 33.3**	**+3.0**
	8.7nm,0.7s							
MDOK				Pg		**Pb**	**20 26 40.7**	**+1.1**
	9.0nm,0.2s							
MDOK				Lg		Lg	20 27 33.5	
	56nm,0.5s							
MDOK				⇑Lg		Lg	20 27 34.4	
	87nm,0.9s							
KOTS	**Kotyrbulak**	**4.13**	**44**	*e*P		**Pb**	**20 26 42.3**	**+1.2**
	13nm,0.5s							
KOTS				*e*S		**Sg**	**20 27 36.6**	**-4.2**
	94nm,0.6s							
KOTS	**Kotyrbulak**	**4.13**	**44**	Pg		**Pb**	**20 26 42.3**	**+1.2**
	13nm,0.5s							
KOTS				Lg		Lg	20 27 36.6	
	94nm,0.6s							
ANVS	**Anan'yevo**	**4.16**	**52**	⇑*i*P		**Pn**	**20 26 33.3**	**+1.4**
	baz=52							
ANVS				⇑*i*S		**Sn**	**20 27 22.0**	**+1.3**
	baz=52							
KUU	**Kurty**	**4.27**	**32**	*e*P		**Pb**	**20 26 44.1**	**+0.8**
	11nm,0.3s							
KUU				*e*S		**Sb**	**20 27 39.3**	**+4.3**
	38nm,0.6s							
KUU	**Kurty**	**4.27**	**32**	Pg		**Pb**	**20 26 44.1**	**+0.8**
	11nm,0.3s							
KUU				Lg		Lg	20 27 39.3	
	38nm,0.6s							
KTBS	**Karatobe**	**4.27**	**36**	*e*P		**Pb**	**20 26 44.4**	**+1.0**
	6.1nm,0.2s							
KTBS				*e*S		**Sb**	**20 27 40.1**	**+5.1**
	38nm,0.3s							
KTBS	**Karatobe**	**4.27**	**36**	Pg		**Pb**	**20 26 44.4**	**+1.0**
	6.1nm,0.2s							
KTBS				Lg		Lg	20 27 40.1	
	38nm,0.3s							
PRZ	**Przheval'sk**	**4.47**	**59**	⇓*e*P		**Pn**	**20 26 37.7**	**+1.6**
	baz=59							
PRZ				⇓*i*S		**Sn**	**20 27 29.7**	**+1.4**
	baz=59							
CHKK	**Chushkaly**	**4.52**	**37**	*e*P		**Pb**	**20 26 49.3**	**+1.7**
	3.4nm,0.2s							
CHKK				*e*S		**Sg**	**20 27 48.6**	**-4.8**
	20nm,0.3s							
CHKK	**Chushkaly**	**4.52**	**37**	Pg		**Pb**	**20 26 49.3**	**+1.7**
	3.4nm,0.2s							
CHKK				Lg		Lg	20 27 48.6	
	20nm,0.3s							
BTLS	**Baital**	**4.77**	**7**	*e*P		**Pb**	**20 26 52.7**	**+1.0**
	5.1nm,0.2s							
BTLS				*e*S		**Sb**	**20 27 54.5**	**+5.4**
	25nm,0.4s							
BTLS	**Baital**	**4.77**	**7**	Pg		**Pb**	**20 26 52.7**	**+1.0**
	5.1nm,0.2s							
BTLS				Lg		Lg	20 27 54.5	
	25nm,0.4s							
SATY	**Saty**	**4.77**	**53**	*e*P		**Pb**	**20 26 53.2**	**+1.4**
	3.0nm,0.5s							
SATY				*e*S		**Sb**	**20 27 55.0**	**+5.7**
	27nm,0.4s							
SATY	**Saty**	**4.77**	**53**	Pg		**Pb**	**20 26 53.2**	**+1.4**
	3.0nm,0.5s							
SATY				Lg		Lg	20 27 55.0	
	27nm,0.4s							
KURS	**Kuram**	**4.88**	**48**	*e*P		**Pb**	**20 26 54.4**	**+0.7**
	3.1nm,0.8s							
KURS				*e*S		**Sb**	**20 27 57.5**	**+5.0**
	13nm,0.6s							
KURS	**Kuram**	**4.88**	**48**	Pg		**Pb**	**20 26 54.4**	**+0.7**
	3.1nm,0.8s							
KURS				Lg		Lg	20 27 57.5	
	13nm,0.6s							
AGL	**Agalyk**	**4.92**	**263**	P		**Pn**	**20 26 45.8**	**+3.6**
AGL				S		**Sb**	**20 27 50.5**	**-3.2**
ARXS	**Arharly**	**5.19**	**40**	*e*P		**Pb**	**20 27 01.2**	**+2.2**
	12nm,0.4s							
ARXS				*e*S		**Sg**	**20 28 08.9**	**-6.0**
	22nm,0.4s							
ARXS	**Arharly**	**5.19**	**40**	Pg		**Pb**	**20 27 01.2**	**+2.2**
	12nm,0.4s							
ARXS				Lg		Lg	20 28 08.9	
	22nm,0.4s							
UZB	**Uzynbulak**	**5.20**	**55**	*e*P		**Pb**	**20 27 01.2**	**+2.1**
	6.1nm,0.2s							
UZB				*e*S		**Sg**	**20 28 09.1**	**-5.8**
	21nm,0.4s							
UZB	**Uzynbulak**	**5.20**	**55**	Pg		**Pb**	**20 27 01.2**	**+2.1**
	6.1nm,0.2s							
UZB				Lg		Lg	20 28 09.1	
	21nm,0.4s							
PDGK	**Podgornoye**	**5.58**	**55**	Pg		**Pb**	**20 27 07.6**	**+1.9**
	1.9nm,0.4s							
PDGK				Lg		Lg	20 28 19.9	
	5.4nm,0.7s							
PDGK	**Podgornoye**	**5.58**	**55**	⇓Pg		**Pg**	**20 27 12.5**	**-2.5**
	6.4nm,1.1s							
PDGK				⇓Lg		Lg	20 28 25.0	
	21nm,1.0s							
KNOS	**Konyrlen**	**6.00**	**46**	Pg		**Pb**	**20 27 15.9**	**+3.1**
	3.8nm,0.3s							
KNOS				Lg		Lg	20 28 34.0	
	9.6nm,0.6s							
DJR	**Jarkent**	**6.32**	**48**	*e*P		**Pb**	**20 27 21.2**	**+2.9**
	1.1nm,0.2s							
DJR				*e*S		**Sg**	**20 28 43.2**	**-7.8**
	10nm,0.6s							
DJR	**Jarkent**	**6.32**	**48**	Pg		**Pb**	**20 27 21.2**	**+2.9**
	1.1nm,0.2s							
DJR				Lg		Lg	20 28 43.2	
	10nm,0.6s							
KAPS	**Kapalarasan**	**6.72**	**40**	*e*P		**Pb**	**20 27 29.3**	**+4.3**
	1.6nm,0.3s							
KAPS				*e*S		**Sg**	**20 28 56.9**	**-6.9**
	6.7nm,0.4s							
KAPS	**Kapalarasan**	**6.72**	**40**	Pg		**Pb**	**20 27 29.3**	**+4.3**
	1.6nm,0.3s							
KAPS				Lg		Lg	20 28 56.9	
	6.7nm,0.4s							
OTUK	**Ortayu**	**7.95**	**356**	⇓Lg		Lg	20 29 33.2	
	12nm,0.7s							
MK31	**Makanchi Array**	**9.24**	**43**	⇓Lg		Lg	20 30 21.0	
	1.0nm,0.6s							
MKAR	**Makanchi Array**	**9.24**	**43**	Pn		**Pn**	**20 27 42.7**	**+1.3**
	baz=228,slow=14,SNR=4.0							
MKAR				Lg		Lg	20 30 17.1	
	0.1nm,0.3s,baz=246,slow=28,SNR=4.3							
	0.3nm,0.8s							
KURBB	**Kurchatov Arra**	**10.96**	**18**	Pn		**Pn**	**20 28 01.8**	**-3.1**
	baz=211,slow=12,SNR=2.1							
KURBB				Lg		Lg	20 31 08.6	
	baz=343,slow=13,SNR=4.5							
	0.1nm,0.4s							
KURK	**Kurchatov**	**11.07**	**18**	⇑Lg		Lg	20 31 13.2	
	8.6nm,1.3s							
ZALV	**Zalesovo Beam**	**15.73**	**26**	Pn		**Pn**	**20 29 08.1**	**-1.5**
	0.1nm,0.3s,baz=228,slow=13,SNR=2.0							
	0.4nm,0.5s							
ARCES	**ARCESS Array B**	**38.34**	**335**	P		**P**	**20 32 48.5**	**-0.3**
	4.5nm,1.0s,baz=102,slow=8.4,SNR=5.4							
	4.5nm,1.0s							
JOW	**Kunigami**	**47.12**	**89**	LR		LR	20 55 51.1	
	comp=Z,28nm,19.5s,baz=330,slow=38							

SJA 03 20:28:13.9±0.7, 31°25S×68°33W, h104km±2km, ML3.4, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
RTLL	**Cerro Villicun**	**0.15**	**239**	*e*P	Pn	20 28 29.0		+0.4
RTLL				*e*S	Sn	20 28 40.0		+0.5
RTLL				IAML		20 28 41.5		
	comp=Z,1μm,0.4s							
SJA	**San Juan**	**0.34**	**216**	*e*P	Pn	20 28 30.1		+0.9
SJA				*e*S	Sn	20 28 41.7		+1.0
SJA				IAML		20 28 44.1		
	comp=Z,710nm,0.1s							
DOCA	**Reserva Natura**	**0.72**	**295**	*e*P	Pn	20 28 32.6		+0.3
DOCA				*e*S	Sn	20 28 46.9		+0.9
DOCA				IAML		20 28 47.5		
	comp=Z,2μm,0.2s							
AVFE	**Valle Fertil**	**0.95**	**52**	*e*P	Pn	20 28 35.1		+0.9
AVFE				IAML		20 28 51.6		
	comp=Z,454nm,0.5s							
RTLS	**Leoncito**	**0.99**	**236**	*e*P	Pn	20 28 35.9		+1.1
RTLS				*e*S	Sn	20 28 52.8		+2.2
RTLS				IAML		20 28 53.8		
	comp=Z,1μm,0.2s							

ASAL	**Salagasta**	**1.40**	**198**	*e*P		Pn	20 28 40.3	+1.0
ASAL				*e*S		Sn	20 29 00.3	+1.8
ACHE	**Chepes**	**1.43**	**87**	*e*P		Pn	20 28 40.7	+1.0
ACHE				*e*S		Sn	20 29 00.9	+1.7
ARCO	**CERRO ARCO**	**1.67**	**198**	*e*P		Pn	20 28 43.7	+1.1
ARCO				IAML			20 29 32.5	
	comp=Z,228nm,0.0s							
APLL	**PUNTA DE LOS L**	**1.77**	**62**	*e*P		Pn	20 28 44.9	+1.1
APLL				*e*S		Sn	20 29 07.9	+1.4
AAGR	**Agrelo**	**1.88**	**193**	*e*P		Pn	20 28 46.3	+1.1
AAGR				IAML			20 29 11.7	
	comp=Z,153nm,0.2s							
CO01	**Juntas del Tor**	**1.98**	**309**	*e*P		Pn	20 28 48.2	+1.5
CO01				*e*S		Sn	20 29 13.3	+1.6
CO01				IAML			20 29 14.5	
	comp=Z,183nm,0.3s							
CO03	**El Pedregal**	**2.07**	**281**	*e*P		Pn	20 28 48.6	+1.0
CO03				*e*S		Sn	20 29 15.6	+2.2
CO03				IAML			20 29 15.9	
	comp=Z,292nm,0.9s							
ACLC	**CERRO LA CRUZ**	**2.17**	**33**	*e*P		Pn	20 28 50.0	+0.9
ACLC				*e*S		Sn	20 29 17.2	+1.2
ACLC				IAML			20 29 18.0	
	comp=Z,176nm,0.3s							
AVIZ	**Vizcacheras**	**2.22**	**184**	*e*P		Pn	20 28 50.6	+1.1
CO02	**Combarbal**	**2.29**	**271**	*e*P		Pn	20 28 51.3	+0.8
CO02				IAML			20 29 21.7	
	comp=Z,507nm,0.3s							
GO04	**Tololo Observa**	**2.39**	**296**	*e*P		Pn	20 28 53.0	+1.2
GO04				*e*S		Sn	20 29 22.4	+1.5
VA03	**San Esteban**	**2.42**	**231**	*e*P		Pn	20 28 53.5	+1.4
VA03				IAML			20 29 28.3	
	comp=Z,92nm,0.2s							
VCA	**Vinchina**	**2.51**	**2**	*e*P		Pn	20 28 54.7	+1.3
VCA				*e*S		Sn	20 29 26.5	+2.7
VCA				IAML			20 29 29.8	
	comp=Z,175nm,0.4s							
PEL	**Peldehue**	**2.75**	**226**	*e*P		Pn	20 28 57.7	+1.2
ROC1	**El Roble**	**2.86**	**232**	*e*P		Pn	20 28 58.0	-0.1
ROC1				*e*S		Sn	20 29 32.5	+0.4
MT03	**Universidad Ad**	**2.90**	**219**	*e*P		Pn	20 28 59.9	+1.4
MT03				*e*S		Sn	20 29 36.1	+3.3
MT03				IAML			20 29 36.5	
	comp=Z,65nm,0.2s							
MT05	**Renca**	**2.95**	**223**	*e*P		Pn	20 28 59.6	+0.5
MT05				IAML			20 29 42.1	
	comp=Z,57nm,0.3s							
LCO	**Las Campanas**	**3.04**	**317**	*e*P		Pn	20 29 00.3	-0.2
LCO				*e*P			20 29 00.5	
LCO				*e*S		Sn	20 29 37.1	+0.8
LCO				IAML			20 29 38.3	
	comp=Z,386nm,0.3s							
MT02	**Curacav**	**3.11**	**229**	*e*P		Pn	20 29 00.8	-0.4
BO01	**Tunca**	**3.90**	**216**	*e*P		Pn	20 29 10.9	-0.9
BO02	**Sierra Bellavi**	**4.09**	**210**	*e*P		Pn	20 29 15.4	+1.0
BO02				IAML			20 30 05.5	
	comp=Z,27nm,0.2s							

IDC 03 20:43:59.4±1.7, 6°23S×129°34E, h0km, mb3.9/2, mbtmp3.9/4, ML3.9/2, Error ellipse: s-maj=120.2km s-min=28.3km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
WRA	**Warramunga Arr**	**14.48**	**161**	Pn	Pn	20 47 25.2		-0.6
	0.6nm,0.3s,baz=340,slow=13,SNR=25							
WRA				Sn	Sn	20 49 53.8		-13
	0.4nm,0.3s,baz=347,slow=18,SNR=4.0							
	0.7nm,0.3s							
ASAR	**Alice Springs**	**17.89**	**166**	P	Pn	20 48 10.2		+0.3
	0.6nm,0.3s,baz=344,slow=8.8,SNR=45							
ASAR				S	Sn	20 51 16.2		-14
	0.3nm,0.6s,baz=353,slow=27,SNR=1.6							
	3.7nm,0.7s							
SONM	**Songino Array**	**57.50**	**342**	P	P	20 53 50.3		-0.2
	0.2nm,0.3s,baz=163,slow=6.7,SNR=2.9							
	0.2nm,0.3s							
MKAR	**Makanchi Array**	**67.22**	**327**	P	P	20 54 55.7		+0.1
	1.3nm,0.4s,baz=118,slow=6.8,SNR=28							
	1.3nm,0.4s							

*IDC **03** 20:51:56.9±1.0, 5°91S×142°67E, h0km, mb3.8/7, mbtmp3.8/9, ML1.3/1, MS3.8/1, Error ellipse: s-maj=42.6km s-min=23.3km az=77.0*

ISC 03 20:52:00.7±0.8, 6°0S±0°1×142°6E±0°1, h28km, n10, σ1§20/11, mb3.7/7, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
PMG	**Port Moresby**	**5.62**	**127**	Pn	**Pn**	**20 53 23.5**		**+0.9**
	0.6nm,0.3s,baz=0.0,slow=2.0,SNR=1.8							
PMG				Sn	**Sn**	**20 54 25.2**		**-1.1**
	0.8nm,0.3s,baz=227,slow=19,SNR=2.2							
	2.9nm,0.3s							
WRA	**Warramunga Arr**	**16.00**	**209**	Pn	**Pn**	**20 55 41.9**		**-2.1**
	0.1nm,0.3s,baz=28,slow=13,SNR=3.3							
WRA				LR	LR	21 01 44.6		
	comp=Z,391nm,20.8s,baz=324,slow=36							
ASAR	**Alice Springs**	**19.44**	**205**	P	**P**	**20 56 26.8**		**+1.5**
	1.6nm,0.6s,baz=34,slow=9.6,SNR=19							
MJAR	**Matsushiro Arr**	**42.54**	**355**	P	**P**	**20 59 53.1**		**-0.9**
	1.2nm,0.9s,baz=191,slow=9.3,SNR=2.4							
	1.2nm,0.9s							
MKAR	**Makanchi Array**	**74.77**	**322**	P	**P**	**21 03 39.0**		**+0.7**
	0.7nm,0.8s,baz=111,slow=6.8,SNR=6.9							
	0.7nm,0.8s							
ZALV	**Zalesovo Beam**	**76.74**	**329**	P	**P**	**21 03 49.6**		**+0.2**
	0.3nm,0.4s,baz=112,slow=11,SNR=2.5							
	0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**78.66**	**324**	P	**P**	**21 04 00.8**		**+0.6**
	0.4nm,0.7s,baz=115,slow=4.7,SNR=2.0							
	0.4nm,0.7s							
QSPA	**South Pole Qui**	**83.95**	**180**	P	**P**	**21 04 28.6**		**+0.5**
	0.9nm,0.8s,baz=298,slow=2.0,SNR=5.3							
	0.9nm,0.8s							
BVAR	**Borovoye Array**	**84.24**	**325**	P	**P**	**21 04 30.4**		**+0.7**
	1.8nm,0.7s,baz=111,slow=6.5,SNR=9.6							
	1.8nm,0.7s							
ILAR	**Eielson Array**	**87.24**	**24**	P	**P**	**21 04 44.0**		**-0.4**
	0.5nm,0.7s,baz=270,slow=4.3,SNR=5.8							
	0.5nm,0.7s							

*IDC **03** 20:53:40.1±1.1, 6°30S×143°31E, h0km, mb3.9/4, mbtmp4.0/6, ML1.8/1, MS2.9/2, Error ellipse: s-maj=36.2km s-min=23.6km az=70.0*

ISC 03 20:53:45.2±0.9, 6°6S±0°1×143°1E±0°1, h35km, n8, σ1§93/9, mb4.0/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
PMG	**Port Moresby**	**4.92**	**125**	Pn	**Pn**	**20 54 56.9**		**+0.2**
	2.4nm,0.3s,baz=226,slow=3.6,SNR=5.5							
PMG				Sn	**Sn**	**20 55 52.0**		**-0.4**
	4.2nm,0.3s,baz=114,slow=20,SNR=1.9							
PMG				LR	LR	20 57 32.3		
	comp=Z,70nm,21.1s,baz=293,slow=47							
	12nm,0.5s							
CTA	**Charters Tower**	**13.79**	**167**	Lg	Lg	21 00 59.9		
	0.1nm,0.3s,baz=65,slow=19,SNR=2.1							
CTA				LR	LR	21 02 53.9		
	comp=Z,78nm,18.6s,baz=325,slow=40							
WRA	**Warramunga Arr**	**15.78**	**212**	Pn	**Pn**	**20 57 23.4**		**-1.5**
	0.7nm,0.3s,baz=30,slow=13,SNR=12							
WRA				Sn	**Sn**	**21 00 16.6**		**-2.2**
	0.1nm,0.3s,baz=29,slow=26,SNR=1.7							
WRA				Lg	Lg	21 02 08.1		
	baz=25,slow=26							
ASAR	**Alice Springs**	**19.16**	**206**	P	**P**	**20 58 08.8**		**+2.9**
	3.8nm,0.8s,baz=31,slow=11,SNR=12							
ASAR				Lg	Lg	21 04 00.3		
	baz=28,slow=32							
MKAR	**Makanchi Array**	**75.49**	**322**	P	**P**	**21 05 26.2**		**+0.2**
	1.2nm,1.0s,baz=105,slow=5.5,SNR=8.9							
	1.2nm,1.0s							
QSPA	**South Pole Qui**	**83.41**	**180**	P	**P**	**21 06 10.2**		**+1.3**
	2.1nm,1.1s,baz=342,slow=5.6,SNR=2.6							
	2.1nm,1.1s							
BVAR	**Borovoye Array**	**84.96**	**325**	P	**P**	**21 06 17.4**		**+0.6**
	0.7nm,0.5s,baz=95,slow=8.0,SNR=5.6							
	0.7nm,0.5s							
ILAR	**Eielson Array**	**87.54**	**24**	P	**P**	**21 06 27.2**		**-2.1**
	0.3nm,0.8s,baz=249,slow=6.7,SNR=2.6							
	0.3nm,0.8s							

*IDC **03** 21:03:47.7±1.1, 52°22N×170°81W, h0km, mb3.5/8, mbtmp3.5/10, ML2.8/2, MS3.2/6, Error ellipse: s-maj=36.0km s-min=17.9km az=174.0*
*AEIC **03** 21:03:53.8±2.5, 52°13N±0°10×170°68W±0°09, h33km±7km, Error ellipse: s-maj=15.2km s-min=5.2km az=156.0*
*NEIC **03** 21:03:54.1±2.8, 52°17N±0°10×170°67W±0°10, h39km±15km, mb3.8/21, ML3.8/8, ML3.4(AEIC), Error ellipse: s-maj=15.9km s-min=5.4km az=152.0*

ISC 03 21:03:53.8±1.4, 52°2N±0°1×170°73W±0°05, h45km±12km, n86, σ1§23/85, mb3.7/11, MS3.1/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
CLES	**Cleveland East**	**0.84**	**37**		**Pn**	**21 04 08.4**		**-0.8**
CLES					**Sn**	**21 04 19.8**		**-0.7**
CLCO	**Concord Point,**	**0.88**	**44**		**Pn**	**21 04 08.6**		**-1.2**
CLCO					**Sn**	**21 04 19.7**		**-1.8**
NIKH	**Nikolski High**	**1.41**	**54**		**Pn**	**21 04 15.3**		**-1.6**
NIKH	**Nikolski High**	**1.41**	**54**		**Sn**	**21 04 31.5**		**-2.8**
OKCE	**Okmok Cone E**	**2.01**	**50**		**Pn**	**21 04 25.3**		**0.0**
OKCE					**Sn**	**21 04 49.8**		**+0.5**
OKNC	**Okmok New Cone**	**2.05**	**49**		**Pn**	**21 04 26.1**		**+0.3**
OKNC					**Sn**	**21 04 50.9**		**+0.8**
KOFP	**Korovin Flat P**	**2.07**	**275**		**Pn**	**21 04 26.0**		**-0.1**
OKER	**Okmok East Rim**	**2.08**	**50**		**Pn**	**21 04 26.1**		**-0.2**
OKFG	**Magazine Ridge**	**2.12**	**53**		**Pn**	**21 04 26.4**		**-0.4**
OKFG					**Sn**	**21 04 52.5**		**+0.6**
ATKA	**Atka Island**	**2.13**	**273**		**Pn**	**21 04 26.2**		**-0.6**
ATKA					**Sn**	**21 04 52.5**		**+0.3**
MAPS	**Pakushin South**	**2.83**	**53**		**Pn**	**21 04 36.1**		**-0.3**
MAPS					**Sn**	**21 05 09.2**		**0.0**
MGOD	**Makushin Gods**	**2.85**	**53**		**Pn**	**21 04 37.3**		**+0.5**
MSW	**Makushin Switc**	**2.96**	**52**		**Pn**	**21 04 38.4**		**+0.1**
MNAT	**Makushin Natee**	**3.00**	**53**		**Pn**	**21 04 38.7**		**0.0**
UNV	**Unalaska Valle**	**3.06**	**55**		**Pn**	**21 04 39.5**		**-0.1**
UNV	**Unalaska Valle**	**3.06**	**55**		**Sn**	**21 05 15.4**		**+0.5**
GSTR	**Great Sitkin T**	**3.29**	**271**	Pn	**Pn**	**21 04 43.2**		**+0.4**
GSTD	**Great Sitkin T**	**3.34**	**270**		**Sn**	**21 05 22.3**		**+0.4**
ZRO	**Akutan Zero**	**3.46**	**54**		**Pn**	**21 04 46.3**		**+1.2**
AKBBA	**Akutan Broad B**	**3.48**	**54**		**Pn**	**21 04 46.5**		**+1.0**
AKUT	**Akutan**	**3.58**	**54**		**Pn**	**21 04 47.3**		**+0.5**
AKUT				IAML		21 05 45.7		
	comp=E,188nm,3.3s							
AKUT				IAML		21 06 05.7		
	comp=N,165nm,3.7s							
ADK	**Adak**	**3.69**	**268**		**Pn**	**21 04 48.1**		**-0.1**
ADK	**Adak**	**3.69**	**268**	IAML		21 05 43.8		
	comp=N,148nm,0.8s							
ADK				IAML		21 05 45.8		
	comp=N,120nm,0.8s							
KIWB	**Kanaga Island**	**3.98**	**268**	Pn	**Pn**	**21 04 53.0**		**+0.8**
SPIA	**Saint Paul Isl**	**5.04**	**3**	Pn	**Pn**	**21 05 08.0**		**+1.3**
CNBA	**Chernabura Isl**	**7.16**	**64**	Pn	**Pn**	**21 05 36.1**		**+0.3**
O14K	**Tigyukauivet M**	**8.89**	**33**	Pn	**Pn**	**21 06 00.9**		**+1.4**
M13K	**Dall Lake**	**9.23**	**23**	Pn	**Pn**	**21 06 05.3**		**+1.1**
SHEM	**Shemya Is, Ala**	**9.29**	**280**	Pn	**Pn**	**21 06 02.7**		**-2.2**
	comp=N,7.8nm,0.3s,baz=90,slow=20,SNR=4.4							
SHEM				LR	LR	21 08 52.7		
	comp=N,108nm,18.1s,baz=203,slow=33							
M14K	**Bethel**	**9.88**	**26**	Pn	**Pn**	**21 06 14.3**		**+1.3**
N15K	**Kwethluk River**	**9.97**	**32**	Pn	**Pn**	**21 06 15.7**		**+1.4**
O16K	**Kokwok River B**	**10.28**	**39**	Pn	**Pn**	**21 06 19.9**		**+1.5**
J14K	**Nanvaranak Lak**	**11.29**	**17**	Pn	**Pn**	**21 06 31.6**		**-0.7**
K15K	**Wolf Creek Mou**	**11.31**	**22**	Pn	**Pn**	**21 06 33.4**		**+0.9**
P18K	**Big Mountain,**	**11.33**	**44**	Pn	**Pn**	**21 06 34.4**		**+1.5**
L16K	**Owhat River**	**11.36**	**28**		**Pn**	**21 06 34.4**		**+1.2**
KDAK	**Kodiak Island**	**11.84**	**54**	Pn	**Pn**	**21 06 37.7**		**-2.0**
KDAK	**Kodiak Island**	**11.84**	**54**	Pn	**Pn**	**21 06 37.1**		**-2.6**
	comp=N,0.2nm,0.3s,baz=240,slow=8.1,SNR=8.6							
K17K	**Iditarod**	**12.50**	**27**	Pn	**Pn**	**21 06 50.5**		**+1.7**
TNA	**Tin City**	**13.52**	**5**	Pn	**Pn**	**21 07 02.4**		**-0.2**
F15K	**North Star Dit**	**13.94**	**10**	Pn	**Pn**	**21 07 09.3**		**+0.9**
G16K	**Koyuk River**	**13.95**	**15**	Pn	**Pn**	**21 07 07.5**		**-0.9**
K20K	**Telida**	**14.26**	**32**	Pn	**Pn**	**21 07 14.1**		**+1.4**
J20K	**Nowinta River**	**14.82**	**29**	Pn	**Pn**	**21 07 22.0**		**+1.9**
TRF	**Thorofare Moun**	**15.62**	**36**	Pn	**Pn**	**21 07 31.3**		**+0.7**
TRF				IAmb	IAmb	21 07 47.8		
	comp=Z,5.2nm,1.1s							
HIN	**Hinchinbrook I**	**15.70**	**49**	Pn	**Pn**	**21 07 28.7**		**-2.9**
SCM	**Sheep Creek Mo**	**15.92**	**43**	Pn	**Pn**	**21 07 31.7**		**-2.8**
IMAR	**Indian Mountai**	**16.29**	**25**		**P**	**21 07 41.5**		**0.0**
KLU	**Klutina**	**16.38**	**46**	Pn	**Pn**	**21 07 37.0**		**-3.3**
RAGM	**Ragged Mountai**	**16.55**	**50**	Pn	**Pn**	**21 07 42.4**		**-0.1**
RAGM				IAmb	IAmb	21 07 45.2		
	comp=Z,13nm,1.3s							
HMT	**Hamilton**	**16.73**	**50**	Pn	**Pn**	**21 07 42.7**		**-2.0**
HMT				IAmb	IAmb	21 07 47.8		
	comp=Z,7.2nm,1.2s							
I23K	**Minto, Yukon-K**	**16.99**	**32**	Pn	**Pn**	**21 07 46.6**		**-1.2**
I23K				IAmb	IAmb	21 07 59.7		
	comp=Z,9.0nm,1.4s							
BERG	**Berg Lake**	**17.02**	**50**	Pn	**Pn**	**21 07 47.0**		**-1.3**
BERG				IAmb	IAmb	21 08 02.6		
	comp=Z,20nm,1.5s							
C18K	**Utukok River**	**17.16**	**12**		**P**	**21 07 51.9**		**+0.7**
D19K	**Kuna River**	**17.47**	**16**		**Pn**	**21 07 54.9**		**+1.0**
ILAR	**Eielson Array**	**17.60**	**35**	Pn	**Pn**	**21 07 53.6**		**-1.8**

DZM	**Mont Dzumac**	**76.56**	**202**	LR	LR	21 43 16.9
	comp=Z,85nm,20.0s,baz=236,slow=31					
ASAR	**Alice Springs**	**89.62**	**229**	P	**P**	**21 16 46.5 0.0**
	comp=Z,0.4nm,0.9s,baz=24,slow=4.7,SNR=4.7					
	comp=Z,0.4nm,0.9s					

*TAP **03** 21:16:25.6,24.60N×122.69E,h99km,ML3.4,C*
*JMA **03** 21:16:25.9±0.1,25.1N×122.7E±0.4,h98km±1km,*
MV2.2/17,NW OFF ISHIGAKIJIMA IS
ISC 03 21:16:25.8±1.3**,24.56N**±0.04×**122.67E**±0.02**,h100**km±7km**,**n123**,**σ0.96**/222**,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.27**	**114**	P			**Pn**	**21 16 40.3**	**+0.1**
JYNG				S			**Sn**	**21 16 50.9**	**0.0**
YOJ	**Yonaguni jima**	**0.32**	**108**	P			**Pn**	**21 16 40.7**	**+0.3**
YOJ	**Yonaguni jima**	**0.32**	**108**	P			**Pn**	**21 16 40.3**	**-0.1**
	baz=119								
YOJ				S			**Sn**	**21 16 51.1**	**-0.3**
	baz=119								
YOJ	**Yonaguni jima**	**0.32**	**108**	P			**Pn**	**21 16 40.5**	**+0.1**
YOJ				eS			**Sn**	**21 16 51.1**	**-0.3**
EOS3	**EOS3**	**0.42**	**230**	eP			**Pn**	**21 16 41.5**	**+0.7**
	baz=238								
EOS3				eS			**Sn**	**21 16 53.6**	**+1.5**
	baz=238								
EOS2	**EOS2**	**0.43**	**251**	eP			**Pn**	**21 16 41.6**	**+0.7**
	baz=255								
EOS2				eS			**Sn**	**21 16 53.4**	**+1.2**
	baz=255								
EOS4	**EOS4**	**0.55**	**217**	eP			**Pn**	**21 16 41.9**	**+0.5**
	baz=220								
EOS4				eS			**Sn**	**21 16 54.1**	**+0.9**
	baz=220								
TWC	**Suao**	**0.75**	**274**	P			**Pn**	**21 16 43.5**	**-0.2**
	baz=270								
TWC				eS			**Sn**	**21 16 55.9**	**-1.2**
	baz=270								
ESAO	**Su ao**	**0.76**	**271**	eP			**Pn**	**21 16 43.9**	**+0.2**
	baz=270								
ESAO				eS			**Sn**	**21 16 56.0**	**-1.1**
	baz=270								
TWB1	**Santiao Chiao**	**0.77**	**306**	P			**Pn**	**21 16 43.8**	**0.0**
	baz=300								
TWB1				eS			**Sn**	**21 16 56.2**	**-1.1**
	baz=300								
EWUT	**Wuta**	**0.82**	**262**	eP			**Pn**	**21 16 45.2**	**+0.8**
	baz=255								
EWUT				eS			**Sn**	**21 16 58.2**	**-0.1**
	baz=255								
ENA	**Nanau**	**0.86**	**261**	eP			**Pn**	**21 16 45.8**	**+1.1**
	baz=255								
ENA				eS			**Sn**	**21 16 59.0**	**+0.1**
	baz=255								
ILA	**Ilan**	**0.87**	**284**	eP			**Pn**	**21 16 44.9**	**+0.2**
	baz=275								
ILA				eS			**Sn**	**21 16 58.9**	**-0.1**
	baz=275								
TIPB	**Shuangxi**	**0.87**	**298**	eP			**Pn**	**21 16 45.0**	**+0.1**
	baz=291								
TIPB				eS			**Sn**	**21 16 57.9**	**-1.3**
	baz=291								
NDS	**Dongshan**	**0.88**	**275**	eP			**Pn**	**21 16 45.2**	**+0.4**
	baz=272								
NDS				eS			**Sn**	**21 16 58.3**	**-0.9**
	baz=272								
EAHA	**Aohua**	**0.88**	**255**	eP			**Pn**	**21 16 46.4**	**+1.5**
	baz=247								
EAHA				eS			**Sn**	**21 16 59.4**	**+0.1**
	baz=247								
SXI1	**Grass Mountain**	**0.90**	**306**	eP			**Pn**	**21 16 45.4**	**+0.2**
	baz=296								
SXI1				eS			**Sn**	**21 16 59.6**	**-0.2**
	baz=296								
TWE	**Neicheng**	**0.93**	**280**	eP			**Pn**	**21 16 45.5**	**+0.1**
	baz=275								
TWE				eS			**Sn**	**21 16 59.5**	**-0.7**
	baz=275								
NWF	**Wu-fen Shan**	**0.96**	**302**	eP			**Pn**	**21 16 46.2**	**+0.4**
	baz=292								
NWF				eS			**Sn**	**21 17 01.0**	**+0.1**
	baz=292								
WFSB	**Wu-fen Shan**	**0.96**	**302**	eP			**Pn**	**21 16 46.0**	**+0.3**
	baz=292								
WFSB				eS			**Sn**	**21 17 00.5**	**-0.2**
	baz=292								
IRIF	**Iriomote-Funau**	**0.99**	**103**	P			**Pn**	**21 16 46.3**	**+0.3**
IRIF				S			**Sn**	**21 17 01.4**	**+0.1**
TNOU	**National Taiwa**	**1.01**	**306**	eP			**Pn**	**21 16 46.4**	**+0.1**
	baz=303								
FUSB	**Fushanzhiwuyua**	**1.01**	**282**	eP			**Pn**	**21 16 46.5**	**+0.2**
	baz=285								
FUSB				eS			**Sn**	**21 17 01.7**	**-0.2**
	baz=285								
ENTT	**Nioudou**	**1.01**	**275**	eP			**Pn**	**21 16 47.3**	**+1.0**
	baz=268								
ENTT				eS			**Sn**	**21 17 02.2**	**+0.4**
	baz=268								
ETL	**Fush Village**	**1.04**	**248**	eP			**Pn**	**21 16 46.2**	**-0.4**
	baz=238								
ETL				eS			**Sn**	**21 17 01.5**	**-0.9**
	baz=238								
LATG	**Datong**	**1.04**	**269**	eP			**Pn**	**21 16 47.0**	**+0.3**
	baz=266								
LATG				eS			**Sn**	**21 17 02.4**	**-0.3**
	baz=266								
NACB	**Ninganchiao**	**1.06**	**249**	P			**Pn**	**21 16 46.7**	**-0.1**
NACB	**Ninganchiao**	**1.06**	**249**	eP			**Pn**	**21 16 46.5**	**-0.3**
	baz=240								
NACB				eS			**Sn**	**21 17 01.8**	**-0.9**
	baz=240								
NDT	**Datong Townshi**	**1.06**	**272**	eP			**Pn**	**21 16 47.6**	**+0.7**
	baz=269								
NDT				eS			**Sn**	**21 17 03.0**	**+0.3**
	baz=269								
NWLT	**Wulai**	**1.09**	**282**	eP			**Pn**	**21 16 47.4**	**+0.3**
	baz=286								
NWLT				eS			**Sn**	**21 17 02.2**	**-1.1**
	baz=286								
TWD	**Chiawan**	**1.09**	**244**	eP			**Pn**	**21 16 46.7**	**-0.5**
	baz=235								
TWD				eS			**Sn**	**21 17 02.1**	**-1.2**
	baz=235								
HWA	**Hwalien**	**1.14**	**239**	eP			**Pn**	**21 16 47.6**	**-0.1**
	baz=237								
HWA				eS			**Sn**	**21 17 04.5**	**+0.3**
	baz=237								
ETLH	**Xiulin Townshi**	**1.14**	**252**	eP			**Pn**	**21 16 47.5**	**-0.3**
	baz=250								
ETLH				eS			**Sn**	**21 17 03.6**	**-0.9**
	baz=250								
HATJ	**Hateruma jima**	**1.15**	**116**	S			**Sn**	**21 17 04.7**	**+0.2**
TATO	**Taipei**	**1.15**	**291**	P			**Pn**	**21 16 47.3**	**-0.6**
YM01	**YM01**	**1.16**	**300**	eP			**Pn**	**21 16 48.4**	**+0.4**
	baz=289								
YM01				eS			**Sn**	**21 17 04.1**	**-0.7**
	baz=289								
YM08	**YM08**	**1.17**	**303**	eP			**Pn**	**21 16 47.8**	**-0.2**
	baz=294								
NNSB	**Datong**	**1.18**	**264**	eP			**Pn**	**21 16 48.7**	**+0.3**
	baz=254								
NNSB				eS			**Sn**	**21 17 04.5**	**-0.9**
	baz=254								
YHNB	**Yeheng**	**1.19**	**275**	P			**Pn**	**21 16 49.2**	**+0.8**
YHNB	**Yeheng**	**1.19**	**275**	eP			**Pn**	**21 16 48.8**	**+0.5**
	baz=266								
YHNB				eS			**Sn**	**21 17 05.0**	**-0.4**
	baz=266								
NNS	**Nan Shan**	**1.19**	**264**	eP			**Pn**	**21 16 48.7**	**+0.3**
	baz=255								
NNS				eS			**Sn**	**21 17 05.1**	**-0.5**
	baz=255								
NSK	**Sanguang**	**1.20**	**276**	eP			**Pn**	**21 16 49.0**	**+0.5**
	baz=266								
NSK				eS			**Sn**	**21 17 05.2**	**-0.5**
	baz=266								
ETM	**Tongmen**	**1.23**	**241**	eP			**Pn**	**21 16 48.5**	**-0.3**
	baz=234								
ETM				eS			**Sn**	**21 17 05.3**	**-0.9**
	baz=234								
JKRS	**Kuro-shima**	**1.26**	**105**	P			**Pn**	**21 16 49.8**	**+0.7**
JKRS				S			**Sn**	**21 17 07.3**	**+0.5**
TWS1	**Kuangyinshan**	**1.26**	**295**	eP			**Pn**	**21 16 49.2**	**+0.1**
	baz=287								
TWS1				eS			**Sn**	**21 17 06.4**	**-0.4**
	baz=287								
NTST	**Danshui**	**1.26**	**299**	eP			**Pn**	**21 16 49.6**	**+0.5**
	baz=289								
NTST				eS			**Sn**	**21 17 06.3**	**-0.6**
	baz=289								
LXIB	**Xiulin Townshi**	**1.27**	**245**	eP			**Pn**	**21 16 48.9**	**-0.6**
	baz=243								
LXIB				eS			**Sn**	**21 17 05.9**	**-1.4**
	baz=243								
SHUL	**Shoufeng**	**1.27**	**233**	eP			**Pn**	**21 16 49.3**	**0.0**
	baz=238								
SHUL				eS			**Sn**	**21 17 07.1**	**0.0**
	baz=238								
FUSS	**Fushou**	**1.34**	**257**	eP			**Pn**	**21 16 51.0**	**+0.6**
	baz=250								
FUSS				eS			**Sn**	**21 17 08.5**	**-0.4**
	baz=250								
WHF	**Hehuan Shan**	**1.35**	**252**	eP			**Pn**	**21 16 50.8**	**+0.2**
	baz=250								
WHF				eS			**Sn**	**21 17 08.4**	**-1.0**
	baz=250								
JIJ	**Ishigaki jima**	**1.35**	**98**	P			**Pn**	**21 16 50.5**	**+0.3**
JIJ				S			**Sn**	**21 17 08.1**	**-0.6**
ESL	**Shilin**	**1.36**	**237**	eP			**Pn**	**21 16 49.9**	**-0.4**
	baz=234								
ESL				eS			**Sn**	**21 17 07.3**	**-1.5**
	baz=234								
TWT	**Tachien**	**1.40**	**258**	eP			**Pn**	**21 16 52.4**	**+1.4**
	baz=255								
TWT				eS			**Sn**	**21 17 10.0**	**-0.1**
	baz=255								
NCUH	**Zhongli**	**1.41**	**287**	eP			**Pn**	**21 16 50.6**	**-0.3**
	baz=276								
NCUH				eS			**Sn**	**21 17 09.8**	**-0.2**
	baz=276								
TDCB	**Techi**	**1.42**	**258**	eP			**Pn**	**21 16 51.8**	**+0.7**
	baz=255								
TDCB				eS			**Sn**	**21 17 09.9**	**-0.4**
	baz=255								
NFF	**Wufeng Townshi**	**1.42**	**273**	eP			**Pn**	**21 16 51.4**	**+0.3**
	baz=271								
NFF				eS			**Sn**	**21 17 09.8**	**-0.5**
	baz=271								
EGFH	**Guangfu**	**1.45**	**232**	eP			**Pn**	**21 16 51.3**	**-0.1**
	baz=230								
EGFH				eS			**Sn**	**21 17 09.0**	**-1.7**
	baz=230								
WARBT	**Fenglin Townsh**	**1.45**	**235**	eP			**Pn**	**21 16 50.9**	**-0.5**
	baz=239								
WARBT				eS			**Sn**	**21 17 09.1**	**-1.7**
	baz=239								
CHGB	**Renai**	**1.46**	**250**	eP			**Pn**	**21 16 52.2**	**+0.5**
	baz=241								
CHGB				eS			**Sn**	**21 17 10.4**	**-1.0**
	baz=241								
JISG	**Ishigakijimahi**	**1.49**	**89**	P			**Pn**	**21 16 52.3**	**+0.4**
JISG				S			**Sn**	**21 17 10.7**	**-1.0**
OWD	**Renai**	**1.50**	**246**	eP			**Pn**	**21 16 52.3**	**+0.2**
	baz=239								
OWD				eS			**Sn**	**21 17 10.7**	**-1.4**
	baz=239								
NSTT	**Nanjuang**	**1.52**	**273**	eP			**Pn**	**21 16 52.8**	**+0.5**
	baz=270								
NSTT				eS			**Sn**	**21 17 11.9**	**-0.5**
	baz=270								
WUSB	**Renai**	**1.53**	**249**	eP			**Pn**	**21 16 52.8**	**+0.3**
	baz=241								
WUSB				eS			**Sn**	**21 17 12.3**	**-0.5**
	baz=241								
SBCB	**Hsinchu**	**1.55**	**279**	eS			**Sn**	**21 17 12.9**	**-0.2**
	baz=276								
HGSD	**Ruisui**	**1.56**	**227**	eP			**Pn**	**21 16 52.4**	**-0.4**
	baz=224								
HGSD				eS			**Sn**	**21 17 12.6**	**-0.7**
	baz=224								
WHP	**Taichung City**	**1.60**	**260**	eP			**Pn**	**21 16 55.4**	**+2.0**
	baz=256								
WHP				eS			**Sn**	**21 17 14.8**	**+0.5**
	baz=256								
EHYH	**Wanrong**	**1.61**	**229**	eP			**Pn**	**21 16 53.5**	**+0.1**
	baz=234								
EHYH				eS			**Sn**	**21 17 13.2**	**-1.2**
	baz=234								
VWDT	**VWDT**	**1.61**	**240**	eP			**Pn**	**21 16 53.8**	**+0.4**
	baz=233								
VWDT				eS			**Sn**	**21 17 13.5**	**-0.9**
	baz=233								
EHY	**Hungye**	**1.62**	**230**	eP			**Pn**	**21 16 52.9**	**-0.7**
	baz=227								
EHY				eS			**Sn**	**21 17 12.8**	**-1.9**
	baz=227								
ECBN	**Changbin**	**1.67**	**222**	eP			**Pn**	**21 16 54.6**	**+0.5**
	baz=215								
ECBN				eS			**Sn**	**21 17 14.8**	**-0.9**
	baz=215								
WCS	**Beigang Elemen**	**1.69**	**253**	eP			**Pn**	**21 16 54.7**	**+0.4**
	baz=257								
WCS				eS			**Sn**	**21 17 16.7**	**+0.6**
	baz=257								
NMLH	**Miaoli**	**1.71**	**270**	eP			**Pn**	**21 16 54.8**	**+0.1**
	baz=258								
NMLH				eS			**Sn**	**21 17 17.4**	**+0.7**
	baz=258								
YULB	**Yu-li**	**1.71**	**228**	P			**Pn**	**21 16 54.4**	**-0.3**
YULB	**Yu-li**	**1.71**	**228**	eP			**Pn**	**21 16 54.2**	**-0.5**
	baz=232								
YULB				eS			**Sn**	**21 17 15.1**	**-1.6**
	baz=232								
EYUL	**Yuli**	**1.73**	**226**	eP			**Pn**	**21 16 55.3**	**+0.4**
	baz=232								
EYUL				eS			**Sn**	**21 17 17.1**	**0.0**
	baz=232								
TWF1	**Yuli**	**1.74**	**227**	eP			**Pn**	**21 16 54.3**	**-0.8**
	baz=232								
TWF1				eS			**Sn**	**21 17 15.6**	**-1.8**
	baz=232								
TWQ1	**Liyutan**	**1.75**	**263**	eP			**Pn**	**21 16 57.5**	**+2.5**
	baz=261								
TWQ1				eS			**Sn**	**21 17 17.2**	**-0.3**
	baz=261								
NSY	**Sanyi**	**1.75**	**266**	eS			**Sn**	**21 17 18.0**	**+0.5**
	baz=263								
SSLB	**Suanglung**	**1.75**	**244**	P			**Pn**	**21 16 55.7**	**+0.5**
SSLB	**Suanglung**	**1.75**	**244**	eP			**Pn**	**21 16 55.6**	**+0.4**
	baz=238								
SSLB				eS			**Sn**	**21 17 17.4**	**-0.2**
	baz=238								
SMLT	**Sun Moon Lake**	**1.75**	**248**	eP			**Pn**	**21 16 56.2**	**+0.9**
	baz=239								
SMLT				eS			**Sn**	**21 17 19.5**	**+1.7**
	baz=239								
TYC	**Yuchr**	**1.78**	**249**	eP			**Pn**	**21 16 57.0**	**+1.5**
	baz=241								
TYC				eS			**Sn**	**21 17 20.1**	**+1.9**
	baz=241								
CHKH	**Chenggong**	**1.80**	**221**	eP			**Pn**	**21 16 55.2**	**-0.6**
	baz=214								
JTJ	**Tarama**	**1.85**	**87**	eS			**Sn**	**21 17 19.6**	**-0.1**
FULB	**Fuli**	**1.85**	**223**	eP			**Pn**	**21 16 56.4**	**-0.1**
	baz=215								
FULB				eS			**Sn**	**21 17 19.9**	**0.0**
	baz=215								
WDJ	**Dajia District**	**1.87**	**264**	eS			**Sn**	**21 17 20.2**	**+0.1**
	baz=262								
TCU	**Taichung**	**1.87**	**258**	eP			**Pn**	**21 16 57.5**	**+0.8**
	baz=265								
TCU				eS			**Sn**	**21 17 21.4**	**+1.2**
	baz=265								
WHYT	**Xinyi Township**	**1.87**	**243**	eP			**Pn**	**21 16 58.1**	**+1.4**
	baz=239								
WHYT				eS			**Sn**	**21 17 20.2**	**-0.1**
	baz=239								
CHKT	**Chengkung**	**1.89**	**220**	eP			**Pn**	**21 16 56.3**	**-0.6**
	baz=214								
CHKT				eS			**Sn**	**21 17 18.6**	**-2.0**
	baz=214								
WJS	**Zhushan**	**1.92**	**248**	eP			**Pn**	**21 16 58.7**	**+1.3**
	baz=239								
WJS				eS			**Sn**	**21 17 22.7**	**+1.2**
	baz=239								
EHD	**Haiduan**	**1.94**	**224**	eP			**Pn**	**21 16 57.1**	**-0.5**
	baz=229								
EHD				eS			**Sn**	**21 17 20.3**	**-1.6**
	baz=229								
ECS	**Chishang**	**1.98**	**223**	eP			**Pn**	**21 16 58.4**	**+0.3**
	baz=230								
ALS	**Alishan**	**2.00**	**239**	eP			**Pn**	**21 16 59.6**	**+0.9**
	baz=231								
ALS				eS			**Sn**	**21 17 24.8**	**+1.1**
	baz=231								
ELDTW	**Lidau**	**2.04**	**228**	eP			**Pn**	**21 16 58.7**	**-0.3**
	baz=226								
ELDTW				eS			**Sn**	**21 17 22.9**	**-1.4**
	baz=226								
WGK	**Gukeng**	**2.12**	**246**	eP			**Pn**	**21 17 00.3**	**+0.4**
	baz=255								
WDLH	**Douliu**	**2.14**	**246**	eP			**Pn**	**21 17 01.4**	**+1.3**
	baz=255								
WDLH				eS			**Sn**	**21 17 28.7**	**+2.4**
	baz=255								
LONT	**Longtian**	**2.17**	**221**	eP			**Pn**	**21 17 00.4**	**-0.2**
	baz=219								
LONT				eS			**Sn**	**21 17 26.7**	**-0.5**
	baz=219								
LDUT	**Ludao**	**2.18**	**211**	eP			**Pn**	**21 17 00.1**	**-0.6**
	baz=206								
LDUT				eS			**Sn**	**21 17 26.6**	**-0.8**
	baz=206								
WRL	**Guolierlin Hig**	**2.20**	**253**	eP			**Pn**	**21 17 01.5**	**+0.6**
	baz=260								
WRL				eS			**Sn**	**21 17 27.1**	**-0.7**
	baz=260								
WCKO	**Fanlu**	**2.20**	**240**	eP			**Pn**	**21 17 02.3**	**+1.3**
	baz=237								
WCKO				eS			**Sn**	**21 17 29.6**	**+1.7**
	baz=237								
STYH	**Taoyuan**	**2.22**	**232**	eP			**Pn**	**21 17 02.1**	**+0.9**
	baz=227								
STYH				eS			**Sn**	**21 17 28.4**	**0.0**
	baz=227								
CHN4	**Tsaushan**	**2.25**	**238**	eP			**Pn**	**21 17 03.2**	**+1.5**
	baz=235								
CHN4				eS			**Sn**	**21 17 30.8**	**+1.7**
	baz=235								
TPUB	**Ta-pu**	**2.25**	**237**	P			**Pn**	**21 17 03.0**	**+1.3**
TPUB	**Ta-pu**	**2.25**	**237**	eP			**Pn**	**21 17 03.5**	**+1.8**
	baz=235								
TPUB				eS			**Sn**	**21 17 31.4**	**+2.2**
	baz=235								
WTK	**Tuku**	**2.26**	**248**	eP			**Pn**	**21 17 02.4**	**+0.7**
	baz=245								
WTK				eS			**Sn**	**21 17 30.1**	**+0.9**
	baz=245								
TWGBT	**Beinan**	**2.27**	**220**	P			**Pn**	**21 17 01.5**	**-0.4**
TWGBT	**Beinan**	**2.27**	**220**	eP			**Pn**	**21 17 01.4**	**-0.4**
	baz=218								
TWGBT				eS			**Sn**	**21 17 28.4**	**-1.1**
	baz=218								
TWG	**Pinlang**	**2.27**	**221**	eP			**Pn**	**21 17 01.4**	**-0.5**
	baz=218								
TWG				eS			**Sn**	**21 17 28.2**	**-1.3**
	baz=218								
JIRB	**Irabujima**	**2.29**	**83**	S			**Sn**	**21 17 29.2**	**-0.7**
WTP	**Ta-pu**	**2.30**	**236**	eP			**Pn**	**21 17 03.9**	**+1.6**
	baz=233								
WTP				eS			**Sn**	**21 17 31.5**	**+1.3**
	baz=233								
JIKM	**Ikemajima**	**2.37**	**81**	S			**Sn**	**21 17 32.4**	**+0.7**
TWK	**Hsinying**	**2.38**	**238**	eP			**Pn**	**21 17 04.7**	**+1.3**
	baz=235								
TWK				eS			**Sn**	**21 17 33.7**	**+1.5**
	baz=235								
CHN1	**Nanshi**	**2.40**	**236**	eP			**Pn**	**21 17 05.2**	**+1.7**
	baz=233								
CHN1				eS			**Sn**	**21 17 33.7**	**+1.2**
	baz=233								
SNST	**Tainan City**	**2.40**	**237**	eP			**Pn**	**21 17 04.9**	**+1.4**
	baz=234								
SNST				eS			**Sn**	**21 17 34.3**	**+1.8**
	baz=234								
SGST	**Jiashian**	**2.42**	**233**	eP			**Pn**	**21 17 04.5**	**+0.7**
	baz=239								
SGST				eS			**Sn**	**21 17 34.0**	**+1.0**
	baz=239								
SLGT	**Liugui**	**2.43**	**230**	eP			**Pn**	**21 17 05.8**	**+1.9**
	baz=234								
SLGT				eS			**Sn**	**21 17 35.4**	**+2.2**
	baz=234								
ECL	**Taimali**	**2.51**	**219**	eP			**Pn**	**21 17 03.9**	**-1.1**
	baz=217								
SSD	**Sandimen**	**2.60**	**226**	eP			**Pn**	**21 17 07.4**	**+1.2**
	baz=224								
MASBT	**Mashibuluo**	**2.70**	**224**	eP			**Pn**	**21 17 08.5**	**+1.0**
	baz=233								
MASBT				eS			**Sn**	**21 17 40.5**	**+0.9**
	baz=233								
LYUB	**Lan-yu**	**2.74**	**202**	eP			**Pn**	**21 17 06.8**	**-1.3**
	baz=200								
SCZT	**Fangliau**	**2.88**	**221**	eP			**Pn**	**21 17 11.7**	**+1.7**
	baz=214								
VWUC	**VWUC**	**2.96**	**279**	eP			**Pn**	**21 17 10.5**	**-0.5**
	baz=277								
VWUC				eS			**Sn**	**21 17 43.3**	**-2.5**
	baz=277								
PHUB	**P'eng-hu**	**3.02**	**250**	eP			**Pn**	**21 17 10.1**	**-1.7**
	baz=248								
PHUB				eS			**Sn**	**21 17 44.3**	**-3.0**
	baz=248								

*TAP **03** 21:19:54.9,25.03N×122.61E,h147km,ML3.7,D*
*JMA **03** 21:19:55.3±0.2,25.2N×122.6E±0.6,h146km±2km,*
MV2.7/19,NW OFF ISHIGAKIJIMA IS
ISC 03 21:19:54.5±1.5**,24.99N**±0.05×**122.57E**±0.03**,h152**km±8km**,**n121**,**σ0.86**/216**,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.53**	**273**	*i* P			**Pn**	**21 20 16.6**	**+0.3**
	baz=268								
TWB1				eS			**Sn**	**21 20 32.6**	**-0.2**
	baz=268								
JYNG	**Yonagunijimaku**	**0.63**	**147**	P			**Pn**	**21 20 17.0**	**+0.1**
JYNG				S			**Sn**	**21 20 33.7**	**-0.1**
SXI1	**Grass Mountain**	**0.64**	**280**	P			**Pn**	**21 20 17.1**	**+0.1**
	baz=281								
SXI1				S			**Sn**	**21 20 33.8**	**-0.3**
	baz=281								
EOS2	**EOS2**	**0.64**	**209**	eP			**Pn**	**21 20 17.4**	**+0.7**
	baz=208								
EOS2				eS			**Sn**	**21 20 34.8**	**+1.1**
	baz=208								
YOJ	**Yonaguni jima**	**0.66**	**142**	P			**Pn**	**21 20 17.0**	**0.0**
YOJ	**Yonaguni jima**	**0.66**	**142**	*i* P			**Pn**	**21 20 16.9**	**0.0**
	baz=154								
YOJ				S			**Sn**	**21 20 33.5**	**-0.6**
	baz=154								
YOJ	**Yonaguni jima**	**0.66**	**142**	P			**Pn**	**21 20 17.3**	**+0.3**
YOJ				eS			**Sn**	**21 20 33.8**	**-0.3**
TIPB	**Shuangxi**	**0.68**	**269**	eP			**Pn**	**21 20 17.3**	**+0.1**
	baz=265								
TIPB				eS			**Sn**	**21 20 33.7**	**-0.7**
	baz=265								
NWF	**Wu-fen Shan**	**0.72**	**277**	eP			**Pn**	**21 20 17.7**	**+0.2**
	baz=265								
NWF				eS			**Sn**	**21 20 35.0**	**0.0**
	baz=265								
WFSB	**Wu-fen Shan**	**0.72**	**277**	eP			**Pn**	**21 20 17.9**	**+0.5**
	baz=265								
WFSB				eS			**Sn**	**21 20 34.1**	**-0.7**
	baz=265								
EOS3	**EOS3**	**0.73**	**198**	eP			**Pn**	**21 20 18.2**	**+0.9**
	baz=205								
EOS3				eS			**Sn**	**21 20 35.5**	**+0.7**
	baz=205								
TNOU	**National Taiwa**	**0.74**	**283**	eP			**Pn**	**21 20 17.8**	**+0.3**
	baz=272								
TWC	**Suao**	**0.76**	**240**	eP

	baz=204							
TWA	**Mucha**	**0.90**	**270**	S	**Sn**	**21 20 36.9**	**-0.2**	
	baz=258							
EWUT	**Wuta**	**0.90**	**233**	*e*P	**Pn**	**21 20 19.2**	**+0.5**	
	baz=228							
EWUT				*e*S	**Sn**	**21 20 36.6**	**-0.5**	
	baz=228							
YM08	**YM08**	**0.91**	**283**	*e*P	**Pn**	**21 20 19.0**	**+0.2**	
	baz=273							
YM08				*e*S	**Sn**	**21 20 36.6**	**-0.8**	
	baz=273							
FUSB	**Fushanzhiwuyua**	**0.92**	**256**	*e*P	**Pn**	**21 20 19.1**	**+0.2**	
	baz=261							
FUSB				*e*S	**Sn**	**21 20 36.6**	**-0.9**	
	baz=261							
YM01	**YM01**	**0.92**	**280**	P	**Pn**	**21 20 19.1**	**+0.2**	
	baz=270							
YM01				S	**Sn**	**21 20 37.2**	**-0.3**	
	baz=270							
TWY	**Chenhua**	**0.93**	**288**	*e*P	**Pn**	**21 20 18.9**	**0.0**	
	baz=290							
TWY				*i* S	**Sn**	**21 20 38.0**	**+0.5**	
	baz=290							
ENA	**Nanau**	**0.94**	**234**	*e*P	**Pn**	**21 20 19.7**	**+0.7**	
	baz=228							
ENA				*e*S	**Sn**	**21 20 37.3**	**-0.4**	
	baz=228							
ENTT	**Nioudou**	**0.97**	**250**	*e*P	**Pn**	**21 20 20.6**	**+1.3**	
	baz=247							
ENTT				S	**Sn**	**21 20 39.2**	**+0.9**	
	baz=247							
TATO	**Taipei**	**0.98**	**270**	P	**Pn**	**21 20 19.6**	**+0.3**	
NWLT	**Wulai**	**0.99**	**258**	*e*P	**Pn**	**21 20 19.7**	**+0.2**	
	baz=262							
NWLT				*e*S	**Sn**	**21 20 38.6**	**+0.1**	
	baz=262							
EAHA	**Aohua**	**1.00**	**229**	*e*P	**Pn**	**21 20 19.6**	**+0.1**	
	baz=229							
EAHA				*e*S	**Sn**	**21 20 37.4**	**-1.2**	
	baz=229							
NDT	**Datong Townshi**	**1.03**	**249**	*e*P	**Pn**	**21 20 20.7**	**+0.9**	
	baz=251							
NDT				S	**Sn**	**21 20 39.8**	**+0.7**	
	baz=251							
LATG	**Datong**	**1.05**	**245**	P	**Pn**	**21 20 21.0**	**+0.9**	
	baz=238							
LATG				S	**Sn**	**21 20 39.4**	**-0.2**	
	baz=238							
TWS1	**Kuangyinshan**	**1.05**	**277**	*e*P	**Pn**	**21 20 20.1**	**+0.2**	
	baz=268							
TWS1				*e*S	**Sn**	**21 20 39.4**	**0.0**	
	baz=268							
YHNB	**Yeheng**	**1.13**	**254**	P	**Pn**	**21 20 21.3**	**+0.5**	
YHNB	**Yeheng**	**1.13**	**254**	*e*P	**Pn**	**21 20 21.3**	**+0.5**	
	baz=252							
YHNB				*e*S	**Sn**	**21 20 40.1**	**-0.6**	
	baz=252							
NSK	**Sanguang**	**1.14**	**255**	*e*P	**Pn**	**21 20 21.5**	**+0.7**	
	baz=253							
NSK				*e*S	**Sn**	**21 20 40.1**	**-0.8**	
	baz=253							
ETL	**Fush Village**	**1.19**	**227**	*e*P	**Pn**	**21 20 21.6**	**+0.3**	
	baz=222							
ETL				*e*S	**Sn**	**21 20 40.5**	**-1.2**	
	baz=222							
NACB	**Ninganchiao**	**1.20**	**228**	*e*P	**Pn**	**21 20 21.6**	**+0.3**	
	baz=223							
NACB				*e*S	**Sn**	**21 20 40.7**	**-1.1**	
	baz=223							
NNSB	**Datong**	**1.21**	**243**	P	**Pn**	**21 20 22.5**	**+1.0**	
	baz=236							
NNSB				*e*S	**Sn**	**21 20 41.8**	**-0.4**	
	baz=236							
NNS	**Nan Shan**	**1.22**	**244**	*e*P	**Pn**	**21 20 22.3**	**+0.7**	
	baz=236							
NNS				*e*S	**Sn**	**21 20 42.1**	**-0.2**	
	baz=236							
IRIF	**Iriomote-Funau**	**1.24**	**121**	P	**Pn**	**21 20 21.8**	**+0.2**	
IRIF				*e*S	**Sn**	**21 20 41.9**	**-0.5**	
NCU	**National Centr**	**1.25**	**270**	*i* S	**Sn**	**21 20 43.1**	**+0.4**	
	baz=271							
NCUH	**Zhongli**	**1.26**	**269**	*e*P	**Pn**	**21 20 22.0**	**+0.2**	
	baz=271							
NCUH				*e*S	**Sn**	**21 20 42.5**	**-0.2**	
	baz=271							
ETLH	**Xiulin Townshi**	**1.26**	**232**	*e*P	**Pn**	**21 20 22.0**	**0.0**	
	baz=236							
ETLH				*e*S	**Sn**	**21 20 41.6**	**-1.3**	
	baz=236							
TWD	**Chiawan**	**1.27**	**225**	*e*P	**Pn**	**21 20 22.4**	**+0.5**	
	baz=222							
TWD				*e*S	**Sn**	**21 20 42.4**	**-0.4**	
	baz=222							
HWA	**Hwalien**	**1.33**	**221**	*e*P	**Pn**	**21 20 23.2**	**+0.6**	
	baz=214							
HWA				*e*S	**Sn**	**21 20 44.0**	**-0.1**	
	baz=214							
NFF	**Wufeng Townshi**	**1.37**	**255**	*e*P	**Pn**	**21 20 23.0**	**+0.1**	
	baz=254							
NFF				*e*S	**Sn**	**21 20 43.8**	**-0.9**	
	baz=254							
ETM	**Tongmen**	**1.41**	**224**	*e*P	**Pn**	**21 20 23.3**	**-0.1**	
	baz=224							
ETM				*e*S	**Sn**	**21 20 44.3**	**-1.2**	
	baz=224							
LXIB	**Xiulin Townshi**	**1.43**	**228**	*e*P	**Pn**	**21 20 23.6**	**-0.1**	
	baz=227							
LXIB				*e*S	**Sn**	**21 20 45.1**	**-0.8**	
	baz=227							
SBCB	**Hsinchu**	**1.45**	**263**	*e*P	**Pn**	**21 20 24.4**	**+0.7**	
	baz=261							
SBCB				*e*S	**Sn**	**21 20 45.8**	**-0.3**	
	baz=261							
WHF	**Hehuan Shan**	**1.45**	**235**	*e*P	**Pn**	**21 20 25.3**	**+1.0**	
	baz=232							
WHF				*e*S	**Sn**	**21 20 47.0**	**0.0**	
	baz=232							
HATJ	**Hateruma jima**	**1.46**	**129**	*e*P	**Pn**	**21 20 24.9**	**+1.1**	
HATJ				S	**Sn**	**21 20 46.4**	**+0.2**	
TWT	**Tachien**	**1.46**	**240**	*e*S	**Sn**	**21 20 47.5**	**+0.9**	
	baz=235							
HSN	**Hsinchu**	**1.46**	**263**	*e*S	**Sn**	**21 20 45.3**	**-1.0**	
	baz=254							
NSTT	**Nanjuang**	**1.47**	**256**	*e*P	**Pn**	**21 20 24.5**	**+0.6**	
	baz=249							
NSTT				*e*S	**Sn**	**21 20 45.8**	**-0.6**	
	baz=249							
TDCB	**Techi**	**1.48**	**241**	*e*P	**Pn**	**21 20 25.4**	**+1.2**	
	baz=235							
TDCB				*e*S	**Sn**	**21 20 46.7**	**-0.2**	
	baz=235							
SHUL	**Shoufeng**	**1.50**	**218**	*e*P	**Pn**	**21 20 24.6**	**+0.3**	
	baz=211							
SHUL				*e*S	**Sn**	**21 20 46.8**	**-0.3**	
	baz=211							
JKRS	**Kuro-shima**	**1.51**	**119**	P	**Pn**	**21 20 25.1**	**+0.8**	
JKRS				S	**Sn**	**21 20 46.8**	**-0.3**	
ESL	**Shilin**	**1.56**	**222**	*e*P	**Pn**	**21 20 24.7**	**-0.2**	
	baz=227							
ESL				*e*S	**Sn**	**21 20 46.3**	**-1.9**	
	baz=227							
JIJ	**Ishigaki jima**	**1.56**	**113**	*i* P	**Pn**	**21 20 25.2**	**+0.3**	
JIJ				S	**Sn**	**21 20 46.8**	**-1.3**	
CHGB	**Renai**	**1.57**	**234**	*e*P	**Pn**	**21 20 26.3**	**+1.0**	
	baz=239							
CHGB				*e*S	**Sn**	**21 20 48.1**	**-0.7**	
	baz=239							
JISG	**Ishigakijimahi**	**1.63**	**104**	P	**Pn**	**21 20 25.9**	**+0.3**	
JISG				S	**Sn**	**21 20 48.4**	**-1.0**	
OWD	**Renai**	**1.63**	**231**	*e*P	**Pn**	**21 20 26.5**	**+0.7**	
	baz=226							
OWD				*e*S	**Sn**	**21 20 49.6**	**-0.2**	
	baz=226							
WHP	**Taichung City**	**1.64**	**245**	*e*P	**Pn**	**21 20 27.1**	**+1.2**	
	baz=251							
WHP				*e*S	**Sn**	**21 20 50.1**	**+0.3**	
	baz=251							
WUSB	**Renai**	**1.65**	**234**	*e*P	**Pn**	**21 20 27.1**	**+1.0**	
	baz=237							
WUSB				*e*S	**Sn**	**21 20 49.7**	**-0.5**	
	baz=237							
WARBT	**Fenglin Townsh**	**1.66**	**221**	*e*P	**Pn**	**21 20 25.6**	**-0.4**	
	baz=225							
WARBT				*e*S	**Sn**	**21 20 47.8**	**-2.3**	
	baz=225							
EGFH	**Guangfu**	**1.68**	**219**	*e*S	**Sn**	**21 20 49.1**	**-1.3**	
	baz=213							
NMLH	**Miaoli**	**1.68**	**255**	*e*P	**Pn**	**21 20 26.4**	**+0.2**	
	baz=253							
NMLH				*e*S	**Sn**	**21 20 49.3**	**-1.1**	
	baz=253							
NSY	**Sanyi**	**1.74**	**251**	*e*S	**Sn**	**21 20 51.7**	**+0.1**	
	baz=250							
TWQ1	**Liyutan**	**1.75**	**249**	*e*P	**Pn**	**21 20 28.0**	**+1.0**	
	baz=248							
TWQ1				*e*S	**Sn**	**21 20 51.0**	**-1.0**	
	baz=248							
WCS	**Beigang Elemen**	**1.77**	**239**	*e*P	**Pn**	**21 20 28.5**	**+1.3**	
	baz=238							
WCS				*e*S	**Sn**	**21 20 52.5**	**+0.2**	
	baz=238							
VWDT	**VWDT**	**1.79**	**227**	*e*P	**Pn**	**21 20 28.2**	**+0.8**	
	baz=223							
VWDT				*e*S	**Sn**	**21 20 52.1**	**-0.5**	
	baz=223							
HGSD	**Ruisui**	**1.82**	**215**	*e*P	**Pn**	**21 20 27.9**	**+0.1**	
	baz=212							
HGSD				*e*S	**Sn**	**21 20 53.3**	**0.0**	
	baz=212							
EHY	**Hungye**	**1.86**	**218**	*e*P	**Pn**	**21 20 28.2**	**0.0**	
	baz=218							
EHY				*e*S	**Sn**	**21 20 52.9**	**-1.2**	
	baz=218							
WDJ	**Dajia District**	**1.87**	**251**	*e*S	**Sn**	**21 20 53.5**	**-0.6**	
	baz=249							
SMLT	**Sun Moon Lake**	**1.88**	**235**	*e*P	**Pn**	**21 20 30.2**	**+1.7**	
	baz=238							
SMLT				*e*S	**Sn**	**21 20 55.8**	**+1.2**	
	baz=238							
SSLB	**Suanglung**	**1.90**	**231**	P	**Pn**	**21 20 30.0**	**+1.4**	
SSLB	**Suanglung**	**1.90**	**231**	*e*P	**Pn**	**21 20 30.1**	**+1.4**	
	baz=226							
SSLB				*e*S	**Sn**	**21 20 55.0**	**+0.2**	
	baz=226							
TYC	**Yuchr**	**1.90**	**236**	*e*P	**Pn**	**21 20 30.0**	**+1.4**	
	baz=243							
TYC				*e*S	**Sn**	**21 20 55.4**	**+0.6**	
	baz=243							
TCU	**Taichung**	**1.92**	**245**	*e*S	**Sn**	**21 20 55.9**	**+0.7**	
	baz=250							
YULB	**Yu-li**	**1.97**	**216**	P	**Pn**	**21 20 29.6**	**+0.2**	
YULB	**Yu-li**	**1.97**	**216**	*e*P	**Pn**	**21 20 29.3**	**-0.2**	
	baz=223							
YULB				*e*S	**Sn**	**21 20 54.6**	**-1.7**	
	baz=223							
JTJ	**Tarama**	**1.97**	**100**	P	**Pn**	**21 20 30.1**	**+0.7**	
JTJ				S	**Sn**	**21 20 55.5**	**-0.7**	
EYUL	**Yuli**	**1.99**	**215**	*e*P	**Pn**	**21 20 30.1**	**+0.4**	
	baz=222							
EYUL				*e*S	**Sn**	**21 20 57.7**	**+1.0**	
	baz=222							
TWF1	**Yuli**	**2.00**	**216**	*e*P	**Pn**	**21 20 30.1**	**+0.2**	
	baz=222							
TWF1				*e*S	**Sn**	**21 20 55.5**	**-1.5**	
	baz=222							
WHYT	**Xinyi Township**	**2.02**	**231**	*e*P	**Pn**	**21 20 31.4**	**+1.2**	
	baz=223							
WHYT				*e*S	**Sn**	**21 20 59.0**	**+1.5**	
	baz=223							
WJS	**Zhushan**	**2.04**	**236**	*e*P	**Pn**	**21 20 31.1**	**+0.9**	
	baz=235							
WJS				*e*S	**Sn**	**21 20 58.7**	**+0.9**	
	baz=235							
CHKH	**Chenggong**	**2.08**	**211**	*e*P	**Pn**	**21 20 30.9**	**+0.1**	
	baz=211							
CHKH				*e*S	**Sn**	**21 20 56.8**	**-1.9**	
	baz=211							
FULB	**Fuli**	**2.13**	**213**	*e*P	**Pn**	**21 20 31.8**	**+0.5**	
	baz=220							
FULB				*e*S	**Sn**	**21 21 00.3**	**+0.7**	
	baz=220							
CHKT	**Chengkung**	**2.18**	**211**	*e*P	**Pn**	**21 20 32.0**	**+0.1**	
	baz=205							
CHKT				*e*S	**Sn**	**21 20 59.4**	**-1.2**	
	baz=205							
ALS	**Alishan**	**2.18**	**228**	*e*P	**Pn**	**21 20 33.7**	**+1.5**	
	baz=222							
ALS				*e*S	**Sn**	**21 21 02.7**	**+1.6**	
	baz=222							
EHD	**Haiduan**	**2.21**	**215**	*e*P	**Pn**	**21 20 32.5**	**+0.1**	
	baz=215							
EHD				*e*S	**Sn**	**21 21 01.0**	**-0.4**	
	baz=215							
WDLH	**Douliu**	**2.26**	**236**	*e*P	**Pn**	**21 20 33.8**	**+0.9**	
	baz=235							
WDLH				*e*S	**Sn**	**21 21 02.4**	**+0.1**	
	baz=235							
WRL	**Guolierlin Hig**	**2.27**	**242**	*e*P	**Pn**	**21 20 33.5**	**+0.6**	
	baz=241							
WRL				*e*S	**Sn**	**21 21 01.5**	**-1.1**	
	baz=241							
ELDTW	**Lidau**	**2.28**	**219**	*e*P	**Pn**	**21 20 33.4**	**+0.1**	
	baz=213							
ELDTW				*e*S	**Sn**	**21 21 02.5**	**-0.6**	
	baz=213							
WCKO	**Fanlu**	**2.36**	**230**	*e*P	**Pn**	**21 20 35.5**	**+1.4**	
	baz=229							
WCKO				*e*S	**Sn**	**21 21 06.0**	**+1.3**	
	baz=229							
JIRB	**Irabujima**	**2.37**	**93**	S	**Sn**	**21 21 04.8**	**+0.2**	
WTK	**Tuku**	**2.37**	**237**	*e*P	**Pn**	**21 20 34.8**	**+0.6**	
	baz=237							
WTK				*e*S	**Sn**	**21 21 04.6**	**-0.2**	
	baz=237							
CHN4	**Tsaushan**	**2.43**	**228**	*e*P	**Pn**	**21 20 35.9**	**+0.9**	
	baz=236							
CHN4				*e*S	**Sn**	**21 21 06.0**	**0.0**	
	baz=236							
JIKM	**Ikemajima**	**2.43**	**91**	S	**Sn**	**21 21 06.7**	**+0.7**	
STYH	**Taoyuan**	**2.44**	**223**	*e*P	**Pn**	**21 20 36.2**	**+1.1**	
	baz=222							
STYH				*e*S	**Sn**	**21 21 07.6**	**+1.4**	
	baz=222							
TPUB	**Ta-pu**	**2.44**	**227**	P	**Pn**	**21 20 36.1**	**+1.0**	
TPUB	**Ta-pu**	**2.44**	**227**	*e*P	**Pn**	**21 20 35.8**	**+0.7**	
	baz=235							
TPUB				*e*S	**Sn**	**21 21 06.8**	**+0.5**	
	baz=235							
LONT	**Longtian**	**2.45**	**213**	*e*P	**Pn**	**21 20 34.8**	**-0.5**	
	baz=213							
LONT				*e*S	**Sn**	**21 21 06.1**	**-0.5**	
	baz=213							
WTP	**Ta-pu**	**2.49**	**226**	*e*P	**Pn**	**21 20 36.7**	**+1.0**	
	baz=235							
WTP				*e*S	**Sn**	**21 21 07.9**	**+0.5**	
	baz=235							
LDUT	**Ludao**	**2.51**	**204**	*e*P	**Pn**	**21 20 35.5**	**-0.4**	
	baz=207							
LDUT				*e*S	**Sn**	**21 21 06.2**	**-1.6**	
	baz=207							
JMJ2	**Miyako jima3**	**2.52**	**95**	S	**Sn**	**21 21 07.9**	**0.0**	
TWGBT	**Beinan**	**2.55**	**213**	P	**Pn**	**21 20 36.2**	**-0.2**	
TWGBT	**Beinan**	**2.55**	**213**	*e*P	**Pn**	**21 20 35.0**	**-1.5**	
	baz=213							
TWGBT				*e*S	**Sn**	**21 21 06.8**	**-1.9**	
	baz=213							
TWG	**Pinlang**	**2.55**	**213**	*e*P	**Pn**	**21 20 36.1**	**-0.4**	
	baz=213							
TWG				*e*S	**Sn**	**21 21 07.7**	**-1.1**	
	baz=213							
TWK	**Hsinying**	**2.56**	**228**	*e*P	**Pn**	**21 20 37.2**	**+0.7**	
	baz=235							
TWK				*e*S	**Sn**	**21 21 09.4**	**+0.4**	
	baz=235							
SNST	**Tainan City**	**2.58**	**228**	*e*P	**Pn**	**21 20 37.9**	**+1.1**	
	baz=234							
SNST				*e*S	**Sn**	**21 21 09.3**	**-0.1**	
	baz=234							
JOGS	**Gusukube**	**2.59**	**94**	S	**Sn**	**21 21 09.6**	**+0.2**	
CHN1	**Nanshi**	**2.59**	**227**	*e*P	**Pn**	**21 20 37.1**	**+0.2**	
	baz=234							
CHN1				*e*S	**Sn**	**21 21 10.3**	**+0.7**	
	baz=234							
SGST	**Jiashian**	**2.62**	**224**	*e*P	**Pn**	**21 20 37.9**	**+0.5**	
	baz=224							
SGST				*e*S	**Sn**	**21 21 09.7**	**-0.7**	
	baz=224							
MATB	**Ma-tsu**	**2.64**	**297**	*e*P	**Pn**	**21 20 36.3**	**-1.1**	
	baz=293							
SLGT	**Liugui**	**2.65**	**222**	*e*P	**Pn**	**21 20 38.6**	**+0.9**	
	baz=228							
SLGT				*e*S	**Sn**	**21 21 12.2**	**+1.3**	
	baz=228							
ECL	**Taimali**	**2.80**	**212**	*e*P	**Pn**	**21 20 39.4**	**-0.1**	
	baz=208							
ECL				*e*S	**Sn**	**21 21 12.4**	**-1.9**	
	baz=208							
SCST	**Cishan**	**2.82**	**223**	*e*P	**Pn**	**21 20 41.5**	**+1.7**	
	baz=232							
MASBT	**Mashibuluo**	**2.96**	**217**	*e*P	**Pn**	**21 20 42.6**	**+1.2**	
	baz=217							
MASBT				*e*S	**Sn**	**21 21 18.5**	**+0.8**	
	baz=217							
PHUB	**P'eng-hu**	**3.10**	**242**	*e*P	**Pn**	**21 20 42.8**	**-0.5**	
	baz=242							
PHUB				*e*S	**Sn**	**21 21 18.4**	**-2.6**	
	baz=242							

JMA 03 21:21:03.4±0.1, 24°2.2N±0.1 × 123°8.8E±0.3, h16km±1km, MV1.2/10, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.15**	**323**	P	Pg	21 21 07.2	-0.1
IRIF				*e*S	Sb	21 21 10.3	-0.4
HATJ	**Hateruma jima**	**0.16**	**187**	*i* P	Pg	21 21 07.3	-0.2
HATJ				*e*S	Sg	21 21 10.4	+0.2
JKRS	**Kuro-shima**	**0.17**	**83**	P	Pg	21 21 07.6	+0.1
JKRS				*e*S	Sb	21 21 11.0	-0.3
JIJ	**Ishigaki jima**	**0.32**	**63**	P	Pg	21 21 09.8	-0.3
JIJ				*e*S	Sg	21 21 14.6	-0.2
JISG	**Ishigakijimahi**	**0.58**	**50**	P	Pg	21 21 14.6	-0.1
JISG				*e*S	Sb	21 21 22.9	-0.1
YOJ	**Yonaguni jima**	**0.78**	**288**	*e*P	Pb	21 21 18.7	+0.1
JYNG	**Yonagunijimaku**	**0.84**	**286**	*e*P	Pb	21 21 18.9	-0.6
JTJ	**Tarama**	**0.90**	**62**	*e*P	Pb	21 21 20.7	0.0
JTJ				*e*S	Sn	21 21 34.0	-0.2

TAP 03 21:21:30.3, 24°39N × 121°.68E, h7km±1km, ML0.8, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.07**	**54**	P	Pg	21 21 32.1	0.0
	baz=58						
ENA				S	Sg	21 21 33.5	+0.1
	baz=58						
EWUT	**Wuta**	**0.10**	**57**	*i* P	Pg	21 21 32.6	0.0
	baz=57						
EWUT				*i* S	Sg	21 21 34.4	+0.1
	baz=57						
LATG	**Datong**	**0.20**	**316**	*e*P	Pg	21 21 34.6	+0.1
	baz=315						
LATG				*e*S	Sg	21 21 37.4	+0.1
	baz=315						

*IDC **03** 21:25:45.4±1.3, 60°.64S × 26°.88W, h0km, mb4.3/2, mbtmp4.3/3, ML3.9/1, MS3.7/1, Error ellipse: s-maj=58.6km s-min=34.8km az=44.0*
*NEIC **03** 21:25:46.3±1.1, 60°.6S±0°.1 × 26°.7W±0°.3, h10km±1km, mb4.6/21, Error ellipse: s-maj=23.9km s-min=19.1km az=222.0*

ISC 03 21:25:46.1±0.6, 60°.60S±0°.10 × 26°.7W±0°.1, h10km, n36, σ0s91/35, mb4.5/13, 1C-6D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**12.57**	**151**	⇓P	**Pn**	**21 28 43.9**	**-0.7**
	comp=Z,20nm,0.4s						
VNA3	**Neumayer Olymp**	**12.68**	**154**	⇓P	**Pn**	**21 28 45.1**	**-1.1**
	comp=Z,15nm,0.7s						
VNA3				⇑S	Sn	21 30 51.9	-15
	comp=Z,0.3nm,0.2s						
VNA2	**Neumayer--Watz**	**12.96**	**151**	⇓P	**Pn**	**21 28 48.3**	**-1.7**
	comp=Z,2.9nm,0.4s,baz=310,slow=16						
ESPZ	**Base Esperanza**	**14.41**	**246**	Pn	**Pn**	**21 29 09.0**	**-0.8**
SNAA	**Sanae**	**14.57**	**149**	Pn	**Pn**	**21 29 10.6**	**-1.4**
SNAA	**Sanae**	**14.57**	**149**	⇓P	**Pn**	**21 29 10.3**	**-1.7**
	comp=Z,65nm,0.5s						
SNAA				⇓S	Sn	21 31 36.6	-17
	comp=Z,4.5nm,0.3s						
SNAA	**Sanae**	**14.57**	**149**	Pn	**Pn**	**21 29 10.9**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=318,slow=16,SNR=11						
SNAA				Sn	Sn	21 31 41.8	-12
	comp=Z,0.1nm,0.3s,baz=223,slow=21,SNR=1.3						
	comp=Z,2.9nm,0.5s						
TROLL	**Troll, Antarti**	**16.16**	**147**	⇓P	**Pn**	**21 29 34.2**	**+1.2**
	comp=Z,104nm,0.5s						
QSPA	**South Pole Qui**	**29.64**	**180**	P	**P**	**21 31 51.8**	**+0.5**
TRQA	**Tornquist**	**31.57**	**300**	P	**P**	**21 32 08.0**	**-0.4**
PLTB	**Pedras Altas**	**33.84**	**316**	P	**P**	**21 32 27.8**	**-0.6**
PLTB				IAmb	IAmb	21 32 45.6	
	comp=Z,5.1nm,0.8s						
ITAB	**Concordia**	**37.55**	**321**	P	**P**	**21 32 59.7**	**-0.5**
ITAB				IAmb	IAmb	21 33 29.0	
	comp=Z,11nm,1.3s						
MT09	**Talagante**	**39.13**	**293**	P	**P**	**21 33 14.1**	**+0.4**
MT09				IAmb	IAmb	21 33 16.0	
	comp=Z,11nm,1.0s						
MT02	**Curacav**	**39.63**	**293**	P	**P**	**21 33 17.4**	**-0.2**
VA03	**San Esteban**	**39.78**	**294**	P	**P**	**21 33 19.1**	**+0.1**
VA03				IAmb	IAmb	21 33 21.7	
	comp=Z,13nm,0.8s						
CPUP	**Villa Florida**	**40.10**	**315**	P	**P**	**21 33 22.0**	**+0.4**
	comp=Z,1.7nm,0.4s,baz=157,slow=9.8,SNR=8.1						
	comp=Z,1.7nm,0.4s						
CO01	**Juntas del Tor**	**41.95**	**297**	P	**P**	**21 33 37.8**	**+0.6**
CO01				IAmb	IAmb	21 33 40.0	
	comp=Z,6.5nm,0.8s						
VNDA	**Vanda**	**42.03**	**183**	P	**P**	**21 33 38.8**	**+1.9**
AC05	**El Transito**	**43.02**	**298**	P	**P**	**21 33 45.6**	**0.0**
LCO	**Las Campanas**	**43.05**	**297**	P	**P**	**21 33 46.3**	**+0.2**
LCO				IAmb	IAmb	21 34 06.6	
	comp=Z,13nm,1.1s						
GO02	**Mina Guanaco**	**45.93**	**301**	P	**P**	**21 34 09.1**	**0.0**
PB14	**IPOC Station P**	**46.74**	**300**	P	**P**	**21 34 15.1**	**-0.5**
PB14				IAmb	IAmb	21 34 16.4	
	comp=Z,8.1nm,0.9s						
BOSA	**Boshof**	**47.04**	**71**	P	**P**	**21 34 16.5**	**-1.1**
PB07	**IPOC Station P**	**49.09**	**303**	P	**P**	**21 34 34.1**	**+0.5**
PB01	**IPOC Station P**	**49.54**	**304**	P	**P**	**21 34 37.0**	**0.0**
GO01	**Chusmiza**	**50.65**	**305**	P	**P**	**21 34 45.8**	**0.0**
GO01				IAmb	IAmb	21 34 55.8	
	comp=Z,5.5nm,0.7s						
RCBR	**Riachuelo**	**55.09**	**349**	LR	LR	21 54 58.9	
	comp=Z,64nm,19.2s,baz=188,slow=32						
ETMB	**Extrema**	**58.49**	**313**	P	**P**	**21 35 42.1**	**-0.1**
ETMB				IAmb	IAmb	21 35 51.5	
	comp=Z,5.5nm,0.8s						
BOAV	**Boa Vista**	**68.06**	**323**	P	**P**	**21 36 44.4**	**-1.3**
BOAV				IAmb	IAmb	21 36 44.7	
	comp=Z,7.6nm,1.3s						
TOA0	**Torodi Ar. Sit**	**76.93**	**28**	P	**P**	**21 37 39.1**	**+0.7**
TOA0				IAmb	IAmb	21 37 40.1	
	comp=Z,2.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**76.93**	**28**	P	**P**	**21 37 38.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**76.93**	**28**	P	**P**	**21 37 39.5**	**+1.2**
	comp=Z,2.5nm,0.7s,baz=197,slow=5.7,SNR=15						
	comp=Z,2.5nm,0.7s						
FINES	**FINESS Array B**	**128.28**	**29**	PKP	**PKiKP**	**21 44

KBL Kabul 2.42 217 Pn Pn 21 27 47.0 +0.6
KBL Kabul 2.42 217 PN Pn 21 27 47.0 +0.6
CHGR Chuyangaron 2.52 329 Pn 21 27 48.0 +0.6
CHGR Chuyangaron 2.52 329 PN Pn 21 27 48.0 +0.6
GAR Garm 2.53 351 Pn 21 27 48.4 +0.8
SIMJ Simiganj 2.59 327 Pn 21 27 49.0 +0.7
DRK Karamyk 3.08 14 Pn 21 27 56.2 +1.5
NIL Nilore 3.48 144 Pn Pn 21 28 00.4 +1.0
NIL Nilore 3.48 144 PN Pn 21 28 00.4 +1.0
BTK Batken 3.56 0 Pn Pn 21 28 02.2 +1.7
BTK Batken 3.56 0 PN Pn 21 28 02.2 +1.7
KSH Kashi 5.07 52 Pn Pn 21 28 16.9 -3.5
KSH Sn Sn 21 29 07.7 -11
KSH smax smax
comp=N,310nm,0.9s
KSH smax smax
comp=E,290nm,0.6s
ARSB Arslanbob 5.11 19 Pn Pn 21 28 20.8 -0.1
ARSB Arslanbob 5.11 19 PN Pn 21 28 20.8 -0.1
THN Thein Dam 5.73 134 eP Pn 21 28 28.7 -0.3
THN eS Sn 21 29 31.1 -2.9
THN IAML 21 29 34.2
comp=E,71nm,0.3s
THN IAML 21 29 34.8
comp=N,78nm,0.4s
DHRM DHARAMSHALA 6.21 131 eP Pn 21 28 35.0 -0.6
DHRM eS Sn 21 29 42.2 -3.6
DHRM IAML 21 29 44.4
comp=N,191nm,0.4s
DHRM IAML 21 29 45.1
comp=E,226nm,0.2s
NRN Naryn 6.38 38 Pn Pn 21 28 36.8 -1.1
NRN Naryn 6.38 38 PN Pn 21 28 36.8 -1.1
UCH Uchtor 6.40 25 P Pn 21 28 38.7 +0.3
SNR=33
EKS2 Erkin-Say 6.57 20 P Pn 21 28 41.8 +1.5
SNR=8.6
KK31 Karatay Array 6.60 358 Pn Pn 21 28 41.2 +0.6
KK31 Karatay Array 6.60 358 PN Pn 21 28 41.2 +0.6
KK31 Karatay Array 6.60 358 ⇓P Pn 21 28 40.8 +0.1
comp=E,16nm,0.3s,baz=186,slow=14,SNR=515
KK31 ⇑S Sn 21 29 52.8 -2.0
comp=E,39nm,0.7s,baz=187,slow=17,SNR=15
KKAR Karatay Array 6.60 358 Pn Pn 21 28 41.1 +0.4
KKAR Karatay Array 6.60 358 Pn 21 28 41.0 +0.4
KKAR Karatay Array 6.60 358 PN Pn 21 28 41.1 +0.4
AAK Ala-Archa 6.76 24 P Pn 21 28 43.4 +0.5
SNR=29
AAK Ala-Archa 6.76 24 ceP Pn 21 28 43.3 +0.5
AAK pmax pmax
comp=Z,17nm,0.8s
AAK Ala-Archa 6.76 24 P Pn 21 28 43.4 +0.5
comp=Z,14nm,0.5s,baz=213,slow=6.8,SNR=71
AAK S Sn 21 29 55.6 -3.3
comp=Z,16nm,0.7s,baz=15,slow=17,SNR=4.1
BHK Bhakra 6.88 136 ex x 21 28 56.6
BHK eS Sn 21 29 58.3 -3.4
KBK Karagaybulak 6.93 26 P Pn 21 28 46.2 +1.0
SNR=9.4
FRU1 Bishkek 6.96 24 21 28 45.7 +0.2
FRU1 Bishkek 6.96 24 PN Pn 21 28 45.7 +0.2
CHMS Chumysh 7.17 24 P Pn 21 28 48.5 +0.3
SNR=20
CHMS Chumysh 7.17 24 PN Pn 21 28 48.0 -0.2
CHMS Chumysh 7.17 24 ⇑P Pn 21 28 48.0 -0.2
comp=Z,10.0nm,0.6s
CHMS ⇑S Sn 21 30 07.6 -0.9
comp=Z,32nm,0.8s
HRA Herat 7.30 256 Pn Pn 21 28 50.2 +0.1
USP Ospenovka 7.33 22 P Pn 21 28 51.2 +0.8
SNR=15
TKM2 Tokmak 2 7.40 28 P Pn 21 28 52.2 +0.7
SNR=10.0
TKM2 Tokmak 2 7.40 28 PN Pn 21 28 50.4 -1.1
TKM2 Tokmak 2 7.40 28 ⇓P Pn 21 28 50.4 -1.1
comp=Z,15nm,0.6s
TKM2 ⇑S Sn 21 30 11.9 -2.4
comp=Z,13nm,1.0s
SMLA Simla 7.53 134 eP Pn 21 28 51.4 -1.6
SMLA eS Sn 21 30 11.2 -5.8
SMLA IAML 21 30 16.1
comp=E,64nm,0.4s
SMLA IAML 21 30 17.3
comp=N,71nm,0.4s
TARG Taragay, Kyrgy 7.54 44 Pn 21 28 53.8 +0.2
TARG Taragay, Kyrgy 7.54 44 PN Pn 21 28 53.8 +0.2
MDOK Medeo 8.21 34 PN Pn 21 29 03.5 +1.3
MDOK Medeo 8.21 34 ⇓P Pn 21 29 03.5 +1.3
comp=N,7.4nm,0.6s
PRZ Przheval'sk 8.38 42 Pn Pn 21 29 03.9 -0.6
PRZ Przheval'sk 8.38 42 PN Pn 21 29 03.9 -0.6
KHET Khetri 9.40 152 eP Pn 21 29 15.8 -2.2
KHET eS Sn 21 30 52.7 -10
KUDL Kundal 9.61 148 eP Pn 21 29 19.2 -1.6
GEYT Alibeck 10.22 282 P Pn 21 29 28.1 -0.9
comp=N,0.9nm,0.4s,baz=115,slow=6.8,SNR=6.5
GEYT S Sn 21 31 19.4 -2.6
comp=N,3.8nm,0.5s,baz=186,slow=27,SNR=7.1
LGTI Lohaghat 10.59 129 eP Pn 21 29 30.9 -2.8
LGTI eS Sn 21 31 20.9 -10
JHNI Jhansi 12.83 147 eP Pn 21 30 00.4 -2.6
MAKZ Makanchi 13.25 35 Pn Pn 21 30 07.9 -0.3
MAKZ Makanchi 13.25 35 P Pn 21 30 07.9 -0.3
MK31 Makanchi Array 13.39 36 Pn Pn 21 30 11.0 +1.1
MK31 Makanchi Array 13.39 36 ceP Pn 21 30 11.5 +1.5
MK31 Makanchi Array 13.39 36 P Pn 21 30 10.1 +0.1
comp=N,1.0nm,0.6s,baz=222,slow=13,SNR=13
MKAR Makanchi Array 13.39 36 P Pn 21 30 10.6 +0.6
comp=N,1.5nm,0.7s,baz=223,slow=16,SNR=18
WMQ Urumqi 14.83 55 ⇓iP Pn 21 30 27.3 -0.9
WMQ pmax pmax
comp=Z,25nm,1.3s
AB31 Akbulak array 15.01 332 P Pn 21 30 29.4 -0.9
AB31 S Sn 21 33 08.1 -8.9
AB31 Akbulak array 15.01 332 P Pn 21 30 29.4 -0.9
comp=Z,1.8nm,0.5s,baz=145,slow=12,SNR=77
AB31 S Sn 21 33 08.1 -8.9
comp=Z,3.8nm,0.6s,baz=150,slow=23,SNR=10
ABKAR Akbulak array 15.01 332 Pn Pn 21 30 30.1 -0.2
ABKAR IAmb IAmb 21 30 35.3
comp=Z,3.7nm,0.5s
ABKAR Akbulak array 15.01 332 Pn Pn 21 30 29.7 -0.7
KURBB Kurchatov Arra 15.18 19 P Pn 21 30 30.6 -1.8
comp=Z,2.5nm,0.9s,baz=212,slow=10,SNR=5.9
KURK Kurchatov 15.29 19 Pn Pn 21 30 32.2 -1.4
KURK Kurchatov 15.29 19 iP Pn 21 30 33.8 +0.1
KURK pmax pmax
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 16.53 359 P Pn 21 30 49.0 +0.1
comp=Z,1.2nm,0.4s,baz=176,slow=12,SNR=16
BVAR S S 21 33 49.4 -3.0
comp=Z,0.9nm,0.5s,baz=170,slow=25,SNR=4.2
BRVK Borovoye 16.57 359 P Pn 21 30 49.6 +0.3
BRVK Borovoye 16.57 359 iP Pn 21 30 49.6 +0.3
BRVK pmax pmax
comp=Z,9.0nm,1.6s
AKTO Aktyubinsk 16.71 330 P Pn 21 30 52.3 +1.2
comp=Z,7.7nm,0.7s,baz=142,slow=9.9,SNR=20
AKTO S S 21 33 52.3 -4.3
comp=Z,2.1nm,0.5s,baz=144,slow=17,SNR=2.3
AKTO Aktyubinsk 16.71 330 ⇓P Pn 21 30 51.3 +0.2
comp=Z,5.4nm,0.8s
DGZ Jazzator, Alta 17.88 37 iP P 21 31 03.3 -0.6
DGZ pmax pmax
comp=Z,2.0nm,0.6s
ZAA0 Zalesovo Array 19.98 25 P P 21 31 27.3 +0.8
ZAA0 IAmb IAmb 21 31 28.2
comp=Z,7.8nm,0.6s
ZALV Zalesovo Beam 19.98 25 P P 21 31 27.2 +0.8
ZALV Zalesovo Beam 19.98 25 P P 21 31 27.4 +1.0
comp=Z,8.7nm,0.5s,baz=221,slow=10,SNR=63
comp=Z,8.7nm,0.5s
GNI Garni 20.75 288 P P 21 31 35.8 +0.8
comp=Z,2.7nm,0.7s,baz=114,slow=20,SNR=1.9
comp=Z,2.7nm,0.7s
ARU Arti 21.59 341 P P 21 31 43.9 +0.3
ARU Arti 21.59 341 c iP P 21 31 45.8 +2.2
ARU 21 32 19.1
ARU S S 21 35 37.5 +4.5
ARU pmax pmax
comp=Z,8.0nm,1.6s
ARU Arti 21.59 341 P P 21 31 45.7 +2.2
comp=Z,1.4nm,0.4s,baz=162,slow=6.4,SNR=7.2
comp=Z,1.4nm,0.4s
KBZ Khabaz 22.46 297 iP P 21 31 51.6 -0.9
KBZ pmax pmax
comp=Z,3.0nm,1.1s
KIV Kislovodsk 22.65 298 eP P 21 31 54.9 +0.5
KIV pmax pmax
comp=Z,5.0nm,1.1s
BELG Belogornoye 22.80 321 iP P 21 31 56.2 +0.7
BELG pmax pmax
comp=Z,2.0nm,0.9s
PZH PanZhiHua 28.09 102 P P 21 32 45.1 +1.4
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,5.7s
BRTR Keskin Array B 29.29 288 P P 21 32 55.0 +0.7
BRTR Keskin Array B 29.29 288 P P 21 32 55.0 +0.7
comp=Z,0.3nm,0.6s,baz=101,slow=11,SNR=2.1
comp=Z,0.3nm,0.6s
OBN Obninsk 29.84 319 iP P 21 32 58.6 -0.1
OBN pmax pmax
comp=Z,3.0nm,0.9s
HHC Hu-ho-hao-te 31.91 70 eP P 21 33 19.6 +2.3
HHC pmax pmax
comp=Z,8.0nm,0.8s
HHC pmax pmax
comp=Z,88nm,4.9s
AKASG Malin Array Be 32.83 309 P P 21 33 27.0 +2.0
AKASG Malin Array Be 32.83 309 P P 21 33 27.0 +2.0
comp=Z,0.2nm,0.3s,baz=82,slow=7.4,SNR=5.0
comp=Z,0.2nm,0.3s
AKBB Malin Array Si 32.83 309 ceP P 21 33 21.6 -3.4
AKBB pmax pmax
comp=Z,5.0nm,1.1s
LYN LuoYang 33.78 81 eP P 21 33 35.6 +2.2
LYN pmax pmax
comp=Z,9.0nm,0.4s
BURAR Bucovina Array 35.16 303 P P 21 33 46.9 +1.6
BURAR Bucovina Array 35.16 303 P P 21 33 46.9 +1.6
BUR08 Bucovina Ar. S 35.17 303 P P 21 33 47.0 +1.6
BUR08 IAmb IAmb 21 34 11.7
comp=Z,5.6nm,1.4s
FIA1 FINESS Array S 37.40 326 P P 21 34 05.3 +1.4
FINES FINESS Array B 37.40 326 P P 21 34 05.6 +1.6
FINES FINESS Array B 37.40 326 ceP P 21 34 06.4 +2.4
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 37.40 326 P P 21 34 06.3 +2.3
comp=Z,0.9nm,0.4s,baz=119,slow=8.4,SNR=16
comp=Z,0.9nm,0.4s
ARCES ARCESS Array B 41.09 338 P P 21 34 36.7 +2.2
ARCES ARCESS Array B 41.09 338 P P 21 34 36.7 +2.2
ARCES pmax pmax
comp=Z,14nm,1.3s
ARCES ARCESS Array B 41.09 338 P P 21 34 37.0 +2.6
comp=Z,1.3nm,0.4s,baz=113,slow=7.9,SNR=14
comp=Z,1.3nm,0.4s
HFS Hagfors 42.98 322 P P 21 34 51.7 +1.9
comp=Z,2.3nm,0.5s,baz=104,slow=12,SNR=17
comp=Z,2.3nm,0.5s
CLL Collm 43.07 309 eP P 21 34 51.0 +0.2
CLL Collm 43.07 309 eP P 21 34 51.0 +0.2
NC405 NORSAR Array S 44.06 323 P P 21 34 59.9 +1.3
NORES NORESS Array B 44.10 323 P P 21 35 00.3 +1.4
NB2 NORSAR Subarra 44.29 323 P P 21 35 01.6 +1.2
NB2 NORSAR Subarra 44.29 323 P P 21 35 02.0 +1.6
comp=Z,2.3nm,0.6s,baz=100,slow=7.9
NOA NORSAR Array B 44.29 323 P P 21 35 01.8 +1.3
comp=Z,1.3nm,0.5s,baz=98,slow=7.7,SNR=10
comp=Z,1.3nm,0.5s
KLR Kul'dur 45.27 54 iP P 21 35 09.1 +0.8
KLR pmax pmax
comp=Z,12nm,2.3s
TIXI Tiksi 45.84 22 P P 21 35 13.2 +0.8
TIXI IAmb IAmb 21 35 14.9
comp=Z,4.4nm,1.4s
TIXI Tiksi 45.84 22 ceP P 21 35 13.1 +0.7
BILL Bilibino 58.68 26 iP P 21 36 48.6 +1.5
BILL pmax pmax
comp=Z,1.0nm,1.0s
TOA0 Torodi Ar. Sit 65.56 269 P P 21 37 32.8 -1.0
TORD Torodi Ar. Bea 65.56 269 P P 21 37 32.8 -1.0
TORD IAmb IAmb 21 37 40.1
comp=Z,2.4nm,0.8s
TORD Torodi Ar. Bea 65.56 269 P P 21 37 32.5 -1.3
comp=Z,0.7nm,0.6s,baz=46,slow=6.2,SNR=6.8
comp=Z,0.7nm,0.6s
C18K Utukok River 68.32 18 P P 21 37 51.7 +1.2
C18K IAmb IAmb 21 38 20.7
comp=Z,3.5nm,1.4s
C19K Lookout Ridge 68.38 17 P P 21 37 52.0 +1.2
C19K IAmb IAmb 21 37 56.8
comp=Z,1.8nm,0.8s
IMAR Indian Mountai 72.22 18 P P 21 38 15.1 +0.9
BMAR Burnt Mountain 72.98 14 P P 21 38 20.8 +2.1
J19K Poorman 73.34 19 P P 21 38 21.6 +0.8
J19K IAmb IAmb 21 38 41.1
comp=Z,2.3nm,1.2s
C36M Paulatuk 73.90 5 P P 21 38 25.0 +1.1
C36M IAmb IAmb 21 38 25.8
comp=Z,6.7nm,1.2s
ILAR Eielson Array 74.83 16 P P 21 38 30.5 +1.1
comp=Z,0.3nm,0.8s,baz=306,slow=4.9,SNR=2.5
comp=Z,0.3nm,0.8s
I30M Mount Dempster 76.41 11 P P 21 38 40.0 +1.4
I30M IAmb IAmb 21 38 43.2
comp=Z,3.3nm,1.4s
BOSA Boshof 77.64 220 P P 21 38 46.3 +0.4
comp=Z,5.5nm,1.2s,baz=45,slow=7.1,SNR=2.0
comp=Z,5.5nm,1.2s
YKA Yellowknife Ar 81.26 3 iP P 21 39 07.4 +2.6
YKA Yellowknife Ar 81.26 3 P P 21 39 05.3 +0.4
comp=Z,0.4nm,0.6s,baz=350,slow=5.6,SNR=7.5
comp=Z,0.4nm,0.6s
WRA Warramunga Arr 82.12 122 iP P 21 39 09.3 -0.7
WRA Warramunga Arr 82.12 122 P P 21 39 09.4 -0.6
comp=Z,0.5nm,0.5s,baz=325,slow=4.9,SNR=6.9
comp=Z,0.5nm,0.5s
WB2 Warramunga Arr 82.13 122 P P 21 39 09.6 -0.5
WR0 Warramunga Arr 82.27 122 P P 21 39 09.6 -1.2
ASAR Alice Springs 84.38 125 P P 21 39 21.1 -0.5
comp=Z,1.3nm,0.8s,baz=309,slow=4.6,SNR=4.2
comp=Z,1.3nm,0.8s

*IDC **03** 21:27:07.7±0.9, 6.36S×143.16E, h0km, mb4.0/8, mbtmp4.0/10, ML1.7/1, MS3.7/25, Error ellipse: s-maj=26.2km s-min=13.3km az=98.0*
*NEIC **03** 21:27:10±1.1, 6.40S±0.9×143.0E±0.1, h10km±1km, mb4.4/24, Error ellipse: s-maj=17.2km s-min=15.7km az=63.0*
ISC 03 21:27:09.5±0.6, 6°40S±0.7×143°03E±0.7, h10km, n69, σ1°39/46, mb4.3/18, MS3.6/22, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
TABU	Tabubil	2.12	302	P	Pn	21 27 45.7	+0.6
PMG	Port Moresby	5.07	126		Pn	21 28 25.0	-0.6
PMG	Port Moresby	5.07	126	P	Pn	21 28 27.6	+2.0
PMG	Port Moresby	5.07	126	P	Pn	21 28 27.7	+2.1
PMG	Port Moresby	5.07	126	Pn	Pn	21 28 25.6	0.0
	2.0nm,0.3s,baz=323,slow=9.5,SNR=5.0						
PMG				Sn	Sn	21 29 22.6	-1.6
	4.6nm,0.3s,baz=347,slow=19,SNR=9.0						
	6.9nm,0.4s						
COEN	Coen	7.51	179	Pn	Pn	21 29 00.4	+1.2
COEN	Coen	7.51	179	P	Pn	21 29 02.4	+3.1
SAUI	Saumlaki	11.74	262	Pn	Pn	21 29 57.2	-0.1
CTA	Charters Tower	13.96	167	LR	LR	21 35 42.4	
	comp=Z,290nm,18.4s,baz=346,slow=37						
WB0	Warramunga Arr	15.72	211	Pn	Pn	21 30 49.8	-1.4
WRA	Warramunga Arr	15.89	211	Pn	Pn	21 30 50.6	-2.9
WRA	Warramunga Arr	15.89	211	Pn	Pn	21 30 49.1	-4.4
	0.3nm,0.3s,baz=32,slow=12,SNR=16						
WRA				Sn	Sn	21 33 39.3	-11
	0.1nm,0.3s,baz=30,slow=24,SNR=2.9						
WRA				Lg	Lg	21 35 32.7	
	0.3nm,0.3s,baz=36,slow=28,SNR=7.1						
KNRA	Kununurra	16.75	235	Pn	Pn	21 31 00.9	-3.6
KNRA				IAmb	IAmb	21 31 28.1	
	comp=Z,47nm,1.3s						
KNRA	Kununurra	16.75	235	P	Pn	21 31 01.9	-2.6
SOEI	Soe	18.87	259		P	21 31 30.0	-0.3
SOEI				IAmb	IAmb	21 31 36.7	
	comp=Z,31nm,1.1s						
AS31	Alice Springs	19.28	206		P	21 31 34.8	+0.1
ASAR	Alice Springs	19.28	206	P	P	21 31 35.2	+0.6
ASAR	Alice Springs	19.28	206	P	P	21 31 34.5	-0.1
	comp=Z,2.4nm,0.5s,baz=31,slow=11,SNR=45						
ASAR				S	S	21 35 15.3	+2.2
	comp=Z,0.8nm,0.8s,baz=16,slow=27,SNR=2.9						
ASAR				Lg	Lg	21 37 23.8	
	comp=Z,0.1nm,0.3s,baz=14,slow=32,SNR=4.8						
ASAR				LR	LR	21 39 35.5	
	comp=Z,913nm,18.1s,baz=31,slow=39						
BATI	Baumata	19.53	258	LR	LR	21 40 58.9	
	comp=Z,478nm,19.3s,baz=91,slow=42						
FITZ	Fitzroy Crossi	20.56	234	P	P	21 31 48.2	-0.5
LUWI	Luwuk	20.90	284	P	P	21 31 52.6	+0.3
DAV	Davao City (W)	21.96	307	LR	LR	21 41 21.4	
	comp=Z,36nm,20.4s,baz=324,slow=39						
KAPI	Kappang	23.20	272	P	P	21 32 16.6	-0.2
KAPI				IAmb	IAmb	21 32 30.3	
	comp=Z,13nm,1.1s						
STKA	Stephens Creek	25.38	183	P	P	21 32 36.7	-0.4
	comp=Z,1.1nm,0.3s,baz=315,slow=10.0,SNR=1.7						
STKA				LR	LR	21 42 57.6	
	comp=Z,184nm,20.2s,baz=9.2,slow=37						
	comp=Z,1.1nm,0.3s						
JCJ	Chichijima	33.31	359	LR	LR	21 44 33.2	
	comp=Z,55nm,20.7s,baz=112,slow=31						
LEM	Lembang	35.17	267	LR	LR	21 51 48.2	
	comp=Z,43nm,20.2s,baz=130,slow=42						
NWAO	Narrogin (SRO)	35.66	219	LR	LR	21 49 49.7	
	comp=Z,249nm,21.8s,baz=96,slow=38						
JOW	Kunigami	36.00	337	LR	LR	21 46 17.9	
	comp=Z,58nm,20.5s,baz=114,slow=32						
JHJ	Hachijo jima 2	39.42	356	LR	LR	21 47 52.1	
	comp=Z,83nm,21.6s,baz=230,slow=32						
JNU	Nakatsue	40.96	344	LR	LR	21 48 32.5	
	comp=Z,37nm,21.5s,baz=137,slow=31						
MJAR	Matsushiro Arr	42.95	354	LR	LR	21 51 22.6	
	comp=Z,36nm,20.7s,baz=145,slow=34						
URZ	Urmera	44.25	141	LR	LR	21 52 24.8	
	comp=Z,64nm,18.3s,baz=303,slow=34						
RPZ	Rata Peaks	44.57	151	LR	LR	21 53 24.2	
	comp=Z,121nm,18.5s,baz=271,slow=35						
KSRS	Korea Array	45.85	343	LR	LR	21 51 48.2	
	comp=Z,27nm,22.0s,baz=130,slow=32						
CMAR	Chiang Mai Arr	50.00	300	P	P	21 36 05.3	+0.8
	comp=Z,0.9nm,0.6s,baz=113,slow=6.1,SNR=4.8						
	comp=Z,0.9nm,0.6s						
USRK	Ussuriysk Ar.	51.34	350	LR	LR	21 55 54.8	
	comp=Z,40nm,19.8s,baz=196,slow=34						
SONM	Songino Array	62.90	333	P	P	21 37 36.6	+0.5
SONM	Songino Array	62.90	333	P	P	21 37 36.4	+0.3
	comp=Z,0.8nm,0.7s,baz=148,slow=8.5,SNR=6.9						
	comp=Z,0.8nm,0.7s						
SHEM	Shemya Is, Ala	64.55	20	LR	LR	22 01 59.7	
	comp=Z,76nm,19.3s,baz=298,slow=32						
YAK	Yakutsk	69.01	353	LR	LR	22 07 02.8	
	comp=Z,35nm,19.3s,baz=162,slow=35						
VNDA	Vanda	71.78	176	LR	LR	22 07 55.0	
	comp=Z,102nm,18.0s,baz=318,slow=34						
MK31	Makanchi Array	75.33	322	P	P	21 38 53.0	-0.1
MK31				IAmb	IAmb	21 38 56.8	
	comp=Z,2.5nm,1.3s						
MKAR	Makanchi Array	75.33	322	P	P	21 38 53.0	-0.2
MKAR	Makanchi Array	75.33	322	P	P	21 38 53.3	+0.1
	comp=Z,0.9nm,0.7s,baz=112,slow=6.4,SNR=11						
	comp=Z,0.9nm,0.7s						
ZALV	Zalesovo Beam	77.28	329	P	P	21 39 02.8	-1.3
ZALV	Zalesovo Beam	77.28	329	P	P	21 39 03.3	-0.8
	comp=Z,1.0nm,0.6s,baz=109,slow=6.4,SNR=5.4						
	comp=Z,1.0nm,0.6s						
KURBB	Kurchatov Arra	79.21	324	P	P	21 39 14.9	+0.1
	comp=Z,1.3nm,1.0s,baz=112,slow=4.3,SNR=6.0						
	comp=Z,1.3nm,1.0s						
M14K	Bethel	79.43	24	P	P	21 39 16.7	+1.0
MAW	Mawson	80.36	203	LR	LR	22 12 22.4	
	comp=Z,121nm,18.4s,baz=227,slow=34						
K17K	Iditarod	81.96	23	P	P	21 39 29.9	+0.6
K17K				IAmb	IAmb	21 39 31.8	
	comp=Z,5.3nm,1.1s						
KDAK	Kodiak Island	82.15	29	LR	LR	22 08 54.5	
	comp=Z,79nm,20.7s,baz=255,slow=31						
F17K	Baldwin Pennin	82.90	20	P	P	21 39 34.4	+0.3
F17K				IAmb	IAmb	21 39 38.3	
	comp=Z,2.1nm,1.1s						
QSPA	South Pole Qui	83.57	180	P	P	21 39 37.9	0.0
QSPA				IAmb	IAmb	21 39 57.1	
	comp=Z,6.1nm,1.4s						
QSPA	South Pole Qui	83.57	180	LR	LR	22 16 10.6	
	comp=Z,194nm,19.0s,baz=13,slow=35						
H19K	Roundabout Mou	84.08	21	P	P	21 39 40.7	+0.5
G19K	Purcell Mounta	84.17	21	P	P	21 39 41.5	+0.8
G19K				IAmb	IAmb	21 39 53.5	
	comp=Z,2.5nm,1.3s						
E19K	Redstone River	84.78	20	P	P	21 39 44.4	+0.6
E19K				IAmb	IAmb	21 39 53.8	
	comp=Z,4.8nm,1.3s						
BVAR	Borovoye Array	84.79	325	P	P	21 39 44.5	+0.3
	comp=Z,3.7nm,0.7s,baz=111,slow=7.9,SNR=26						
	comp=Z,3.7nm,0.7s						
BRVK	Borovoye	84.86	325	P	P	21 39 44.3	-0.1
BRVK				IAmb	IAmb	21 39 54.6	
	comp=Z,3.2nm,0.8s						
IMAR	Indian Mountai	85.28	22	P	P	21 39 46.5	+0.2
SML	Sawmill	85.73	26	P	P	21 39 48.4	-0.3
DHY	Denali Highway	86.61	25	P	P	21 39 53.1	0.0
DHY				IAmb	IAmb	21 40 16.9	
	comp=Z,3.5nm,1.0s						
D22K	Ayikyak River	86.96	19	P	P	21 39 55.3	+0.7
ILAR	Eielson Array	87.42	24	P	P	21 39 55.8	-1.1
	comp=Z,1.1nm,0.7s,baz=249,slow=5.1,SNR=11						
	comp=Z,1.1nm,0.7s						
C23K	Itkillik River	88.03	19	P	P	21 40 00.3	+0.6
BARN	Barnard Glacie	88.52	28	P	P	21 40 02.3	-0.2
BARN				IAmb	IAmb	21 40 04.0	
	comp=Z,2.6nm,0.8s						
INK	Inuvik	93.47	22	LR	LR	22 15 47.1	
	comp=Z,58nm,21.4s,baz=177,slow=31						
BBB	Bella Bella	94.31	38	LR	LR	22 19 45.2	
	comp=Z,61nm,18.6s,baz=304,slow=34						
YBH	Yreka Blue Hor	97.39	49	LR	LR	22 17 01.1	
	comp=Z,80nm,20.6s,baz=322,slow=31						

*SOME **03** 21:54:34.1, 39.10N×73.27E, h5km*
*NNC **03** 21:54:40.8±4.0, 38.66N×73.85E, h77km±64km, mb2.9, mpv3.2, Error ellipse: s-maj=48.1km s-min=19.1km az=21.0*
*IDC **03** 21:54:52.4±6.2, 39.53N×74.87E, h147km±53km, mb3.1/1, mbtmp3.4/6, Error ellipse: s-maj=64.6km s-min=39.9km az=170.0*
ISC 03 21:54:35.4±2.1, 39°2N±0.1×73°37E±0.0, h10km, n15, σ2°22/20, 1C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
AAK	Ala-Archa	3.58	13	P	Pb	21 55 40.8	+1.9
	1.7nm,0.3s,baz=159,slow=8.0,SNR=16						
AAK				S	Sb	21 56 19.7	-2.8
	2.4nm,0.4s,baz=164,slow=7.3,SNR=5.2						
MRKS	Merke	3.58	358	eP	Pg	21 55 42.3	-1.8
	22nm,0.3s						
MRKS				eS	Sg	21 56 31.6	+1.1
	38nm,0.4s						
IUG	Iuzhnay	3.92	321	eP	Pg	21 55 47.3	-3.2
	21nm,0.2s						
IUG				eS	Sg	21 56 40.2	-1.1
	26nm,0.1s						
CHMS	Chumysh	3.98	15	⇓P	Pb	21 55 45.1	-0.5
	1.5nm,0.3s						
DZA	Taraz	4.04	338	eP	Pg	21 55 49.6	-3.1
	16nm,0.1s						
DZA				eS	Sg	21 56 44.1	-0.9
	65nm,0.2s						
TKM2	Tokmak 2	4.12	23	⇑P	Pb	21 55 45.9	-2.3
	1.8nm,0.6s						
DGS	Degeres	4.46	23	eP	Pg	21 55 58.9	-2.0
	1.4nm,0.3s						
DGS				eS	Sg	21 56 59.9	+1.2
	3.3nm,0.6s						
KK31	Karatay Array	4.49	332	P	Pb	21 55 55.0	+0.6
	1.4nm,0.3s,baz=127,slow=12,SNR=68						
KK31				S	Sb	21 56 52.9	+4.3
	4.2nm,0.3s,baz=134,slow=19,SNR=12						
MKAR	Makanchi Array	10.04	38	P	Pn	21 57 01.1	+1.4
	0.6nm,0.7s,baz=207,slow=15,SNR=8.3						
KURBB	Kurchatov Arra	12.03	16	P	Pn	21 57 29.2	+2.4
	0.4nm,0.7s,baz=198,slow=12,SNR=4.1						
AB31	Akbulak array	13.93	321	P	P	21 58 01.6	+0.6
	0.4nm,0.6s,baz=132,slow=14,SNR=7.3						

BVA0	Borovoye Array	14.02	353	P		P	21 58 04.1	+2.1
	0.2nm,0.8s,baz=165,slow=7.2,SNR=9.0							
BVAR	Borovoye Array	14.02	353	P		P	21 58 02.8	+0.8
	1.5nm,0.6s,baz=157,slow=8.6,SNR=10.0							
ZALV	Zalesovo Beam	16.72	24	P		Pn	21 58 27.7	-1.9
	1.0nm,0.6s,baz=211,slow=12,SNR=6.7							
TORD	Torodi Ar. Bea	67.65	269	P		P	22 05 41.1	+8.2
	0.4nm,0.8s,baz=63,slow=6.4,SNR=2.6							
	0.4nm,0.8s							

*IDC **03** 21:56:02.9±4.9, 33°.87N×46°.45E, h0km, mb3.7/8, mbtmp3.7/9, ML3.7/1, MS3.6/4, Error ellipse: s-maj=97.8km s-min=29.3km az=8.0*
*ISN **03** 21:56:05.2±0.8, 34°.20N×46°.72E, h8km±4km, ML3.3*
*TEH **03** 21:56:06.0, 34°.20N×46°.65E, h8km±50km, ML3.3*
ISC 03 21:56:06.3±1.5, 34°.17N±0°.04×46°.66E±0°.03, h5km±11km, n31, σ1s00/30, mb3.6/8, MS3.6/4, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGHG	Ghaleghazi	0.17	335	Pg	Pg	21 56 09.7	0.0
KCHF	Cheshme Sefid,	0.34	72	Pg	Pg	21 56 12.5	-0.4
IDHR	Dehrash	0.57	337	Pg	Pg	21 56 16.4	-0.8
ILBA	Ilam Banvizeh	0.66	214	Pg	Pg	21 56 18.9	-0.1
ILIN	Lien	0.79	19	Pg	Pg	21 56 21.0	-0.4
KGS1	Ghasr-e-Shirin	0.94	291	Pg	Pg	21 56 24.6	+0.2
IBZA	Bozab	1.04	73	Pg	Pg	21 56 26.2	-0.1
IKFM	Kafar-mosalman	1.19	123	Pg	Pn	21 56 29.2	-0.3
IBDR	Badra	1.22	210	*e*Pg	Pn	21 56 30.0	-0.1
IBDR				*e*Sg	Sb	21 56 47.0	+1.0
IBDR				AML	AML	21 56 54.1	
	comp=E,821nm,0.6s						
IBDR				AML	AML	21 56 54.1	
	comp=N,1μm,0.7s						
IDOB	Doab	1.32	107	Pg	Pn	21 56 32.0	+0.4
BHD	Baghdad	2.10	245	*e*Pn	Pn	21 56 43.0	+0.9
BHD				*e*Sn	Sb	21 57 11.0	-0.2
BHD				AML	AML	21 57 20.9	
	comp=E,277nm,0.4s						
SDS1	Sardasht. Az.	2.19	334	Pn	Pn	21 56 44.9	+1.3
RAFI	Al-Rafai	2.49	191	*e*Pn	Pn	21 56 48.0	+0.5
RAFI				*e*Sn	Sn	21 57 20.0	+1.8
RAFI				AML	AML	21 57 37.5	
	comp=N,94nm,0.7s						
RAFI				AML	AML	21 57 43.9	
	comp=E,107nm,0.3s						
IRAZ	Razeghan	2.96	65	Pn	Pn	21 56 55.1	+0.9
ISHB	Shabestar	4.18	349	Pn	Pn	21 57 12.8	+1.8
IVRN	Varamin	4.26	77	Pn	Pn	21 57 13.5	+1.5
KRSH	Karshahi	4.55	91	Pn	Pn	21 57 17.8	+1.7
IDMV	Damavand	4.64	71	Pn	Pn	21 57 18.8	+1.5
BELG	Belogornoye	18.23	2	P	P	22 00 20.6	+0.4
	comp=E,0.3nm,0.3s,baz=195,slow=19,SNR=3.8						
	comp=E,5.3nm,0.7s						
BVAR	Borovoye Array	25.30	35	P	P	22 01 34.2	+0.5
	comp=E,1.2nm,0.7s,baz=246,slow=7.2,SNR=6.6						
	comp=E,1.2nm,0.7s						
KURBB	Kurchatov Arra	28.42	45	P	P	22 02 01.8	+0.1
	comp=E,0.4nm,0.6s,baz=252,slow=9.1,SNR=4.2						
	comp=E,0.4nm,0.6s						
MKAR	Makanchi Array	29.63	54	P	P	22 02 12.9	+0.3
	comp=E,0.4nm,0.8s,baz=254,slow=8.3,SNR=4.2						
	comp=E,0.4nm,0.8s						
ZALV	Zalesovo Beam	33.25	42	P	P	22 02 44.4	+0.1
	comp=E,0.6nm,0.6s,baz=250,slow=7.2,SNR=3.6						
	comp=E,0.6nm,0.6s						
HFS	Hagfors	33.67	331	P	P	22 02 46.9	-1.0
	comp=E,1.4nm,0.5s,baz=124,slow=7.7,SNR=12						
	comp=E,1.4nm,0.5s						
NOA	NORSAR Array B	35.20	351	P	P	22 02 59.6	-1.5
	comp=E,0.4nm,0.9s,baz=126,slow=8.6,SNR=1.3						
	comp=E,0.4nm,0.9s						
ARCES	ARCESS Array B	37.31	348	P	P	22 03 18.5	-0.6
	comp=E,2.9nm,0.9s,baz=144,slow=7.8,SNR=1.9						
	comp=E,2.9nm,0.9s						
LSZ	Lusaka	52.23	203	LR	LR	22 29 24.3	
	comp=E,28nm,20.4s,baz=171,slow=39						
TSUM	Tsumeb	59.87	212	LR	LR	22 31 52.4	
	comp=E,50nm,18.6s,baz=145,slow=36						
JOW	Kunigami	68.96	71	LR	LR	22 40 19.8	
	comp=E,68nm,18.3s,baz=324,slow=38						
INK	Inuvik	77.83	0	LR	LR	22 52 07.7	
	comp=E,24nm,18.1s,baz=182,slow=43						
YKA	Yellowknife Ar	82.49	351	P	P	22 08 28.4	-1.2
	comp=E,0.1nm,0.6s,baz=13,slow=5.8,SNR=2.6						
	comp=E,0.1nm,0.6s						

*IDC **03** 22:00:03.7±1.5, 16°.99S×128°.64E, h0km, mb3.4/2, mbtmp3.5/5, ML3.6/3, Error ellipse: s-maj=43.8km s-min=16.7km az=47.0*
*NOU **03** 22:00:04.7, 16°.79S×128°.78E, h0km, mb4.1/17, Western Australia*
*AUST **03** 22:00:04.6±0.7, 16°.77S×128°.82E, h10km, Error ellipse: s-maj=9.5km s-min=6.8km az=105.0*
ISC 03 22:00:05.0±0.6, 16°.78S±0°.04×128°.85E±0°.05, h10km, n35, σ1s31/44, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KNRA	Kununurra	1.10	355	P	Pb	22 00 25.8	-0.2
	baz=1.1,SNR=98						
KNRA				S	Sg	22 00 40.4	0.0
	baz=1.1						
KNRA	Kununurra	1.10	355	P	Pb	22 00 26.0	-0.1
FITZ	Fitzroy Crossi	3.34	246	P	Pn	22 00 57.8	+0.5
	baz=3.3,SNR=20						
FITZ				S	Sn	22 01 36.6	-0.4
	baz=3.3						
FITZ	Fitzroy Crossi	3.34	246	P	Pn	22 00 58.0	+0.7
MTN	Manton Dam	4.49	30	P	Pn	22 01 13.4	+0.3
	baz=4.5,SNR=10						
MTN				S	Sn	22 02 05.0	-0.4
	baz=4.5						
MTN	Manton Dam	4.49	30	P	Pn	22 01 14.6	+1.5
DRS	Darwin Rock St	4.75	25	P	Pn	22 01 17.8	+1.1
KDU	Kakadu	5.37	41	P	Pn	22 01 25.8	+0.6
	baz=5.4,SNR=25						
KDU				S	Sn	22 02 24.5	-2.5
	baz=5.4						
KDU	Kakadu	5.37	41	P	Pn	22 01 26.5	+1.3
WRA	Warramunga Arr	6.09	122	Pn	Pn	22 01 36.3	+1.2
	1.3nm,0.3s,baz=302,slow=14,SNR=60						
WRA				Sn	Sn	22 02 45.5	+0.6
	4.2nm,0.3s,baz=294,slow=22,SNR=10.0						
WRA				Lg	Lg	22 03 17.8	
	3.7nm,0.3s,baz=295,slow=25,SNR=5.9						
	1.2nm,0.3s						
WB2	Warramunga Arr	6.10	122	P	Pn	22 01 36.3	+1.1
	baz=6.1						
WB2				S	Sn	22 02 45.8	+0.7
	baz=6.1						
WRKA	Warakurna	8.24	184	P	Pn	22 02 05.2	+0.5
	baz=8.3,SNR=10						
WRKA				S	Sn	22 03 33.3	-4.5
	baz=8.3						
WRKA	Warakurna	8.24	184	P	Pn	22 02 05.5	+0.9
ASPA	Alice Springs	8.33	146	P	Pn	22 02 08.0	+2.1
	baz=8.4						
ASPA				S	Sn	22 03 38.8	-1.4
	baz=8.4						
ASAR	Alice Springs	8.33	146	Pn	Pn	22 02 07.3	+1.3
	0.6nm,0.3s,baz=319,slow=11,SNR=40						
ASAR				Sn	Sn	22 03 40.1	-0.1
	0.7nm,0.3s,baz=319,slow=22,SNR=4.6						
ASAR				Lg	Lg	22 04 25.6	
	0.5nm,0.3s,baz=325,slow=32,SNR=3.9						
	0.9nm,0.3s						
AS01	Alice Springs	8.36	146	P	Pn	22 02 08.1	+1.8
MBWA	Marble Bar	9.67	242	P	Pn	22 02 22.9	-1.4
PSA00	Pilbara Seismi	9.76	239	P	Pn	22 02 24.8	-0.7
QIS	Mount Isa	10.86	112	P	Pn	22 02 41.3	+0.7
	baz=11,SNR=3.1						
QIS	Mount Isa	10.86	112	P	Pn	22 02 41.6	+1.0
OOD	Oodnadatta	12.65	151	P	Pn	22 03 05.3	+0.1
	baz=13,SNR=4.2						
OOD	Oodnadatta	12.65	151	P	Pn	22 03 05.2	+0.1
MEEK	Meekatharra	13.66	222	P	Pn	22 03 17.0	-1.9
	baz=14						
MEEK	Meekatharra	13.66	222	P	Pn	22 03 18.7	-0.2
FORT	Forrest	13.96	183	P	Pn	22 03 23.1	+0.2
	baz=14						
FORT	Forrest	13.96	183	P	Pn	22 03 24.3	+1.4
COEN	Coen	14.09	80	P	Pn	22 03 22.9	-2.0
	baz=14,SNR=3.9						
FAKI	Fak Fak	14.17	14	P	Pn	22 03 27.2	+1.3
MULG	Mulgathing	14.26	161	P	Pn	22 03 25.5	-1.6
	baz=14						
GIRL	Giralia	14.95	245	P	Pn	22 03 36.2	-0.3
INKA	Innaminka	15.49	137	P	Pn	22 03 45.2	+1.6
KMBL	Kambalda	15.85	202	P	Pn	22 03 48.7	+0.4
	18nm,1.9s						
STKA	Stephens Creek	18.97	145	P	P	22 04 27.2	+0.7
	0.2nm,0.3s,baz=323,slow=11,SNR=3.0						
	0.9nm,0.5s						
MKAR	Makanchi Array	75.87	329	P	P	22 11 52.4	+0.8
	0.2nm,0.5s,baz=139,slow=6.8,SNR=2.9						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	80.30	330	P	P	22 12 16.4	+0.3
	0.3nm,0.8s,baz=146,slow=4.2,SNR=3.2						
	0.3nm,0.8s						

IDC 03 22:08:22.9±8.3, 6°.01S×141°.62E, h0km, mb3.5/2, mbtmp3.5/4, ML3.2/2, MS2.6/1, Error ellipse: s-maj=321.6km s-min=33.4km az=95.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	6.44	122	LR	LR	22 12 29.5	
	comp=Z,46nm,20.3s,baz=248,slow=38						
WRA	Warramunga Arr	15.55	206	Pn	Pn	22 12 02.9	-0.9
	0.1nm,0.3s,baz=30,slow=13,SNR=3.1						
	0.6nm,0.9s						
ASAR	Alice Springs	19.06	202	P	P	22 12 47.4	+0.3
	0.4nm,0.3s,baz=31,slow=11,SNR=31						
	2.3nm,0.6s						
MKAR	Makanchi Array	74.16	322	P	P	22 20 01.1	-0.4
	0.2nm,0.7s,baz=108,slow=4.7,SNR=2.4						
	0.2nm,0.7s						
BVAR	Borovoye Array	83.66	325	P	P	22 20 53.9	+0.4
	0.4nm,0.6s,baz=90,slow=4.5,SNR=2.0						
	0.4nm,0.6s						

*IDC **03** 22:19:37.0±1.3, 5°.87S×142°.78E, h0km, mb3.5/3, mbtmp3.6/5, ML1.5/1, Error ellipse: s-maj=37.2km s-min=26.0km az=72.0*
ISC 03 22:19:41.5±1.0, 6°.2S±0°.1×142°.5E±0°.1, h35km, n6, σ2s20/8, mb3.6/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	5.59	125	Pn	Pn	22 21 01.7	-0.5
	1.0nm,0.3s,baz=302,slow=19,SNR=1.6						
PMG				Sn	Sn	22 22 06.0	+0.8
	2.7nm,0.3s,baz=226,slow=23,SNR=7.2						
	3.0nm,0.3s						
WRA	Warramunga Arr	15.78	209	Pn	P	22 23 22.3	-2.4
	0.2nm,0.3s,baz=29,slow=14,SNR=12						
WRA				Sn	Sn	22 26 13.6	-1.4
	0.2nm,0.3s,baz=36,slow=24,SNR=4.2						
WRA				Lg	Lg	22 28 10.2	
	0.2nm,0.3s,baz=27,slow=30,SNR=4.9						
ASAR	Alice Springs	19.22	205	P	Pn	22 24 07.4	+3.5
	2.6nm,0.5s,baz=31,slow=9.7,SNR=30						
ASAR				Lg	Lg	22 30 03.3	
	baz=22,slow=30,SNR=4.6						
MKAR	Makanchi Array	74.87	322	P	P	22 31 19.8	+1.2
	0.2nm,0.6s,baz=124,slow=5.6,SNR=2.2						
	0.2nm,0.6s						
BVAR	Borovoye Array	84.34	325	P	P	22 32 09.9	0.0
	0.5nm,0.7s,baz=123,slow=5.3,SNR=3.7						
	0.5nm,0.7s						
ILAR	Eielson Array	87.47	24	P	P	22 32 23.9	-1.2
	0.3nm,0.8s,baz=256,slow=3.6,SNR=2.5						
	0.3nm,0.8s						

TRN 03 22:31:40.2, 17°.73N×62°.49W, h42km, MD3.5, South-East of St. Barthelemy., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANBD	Bethesda, Anti	0.97	134	*e*P	Pn	22 31 58.0	+0.7
ANBD				*e*S	Sn	22 32 12.3	+2.5
MBFL	Flemmings, Mon	1.01	165	*e*P	Pn	22 31 59.0	+1.1
MBFL				*e*S	Sn	22 32 13.4	+2.5
ABD	La Joyeuse, An	1.57	142	*e*P	Pn	22 32 07.3	+1.7
TBG	Guadaloupe-3	2.03	156	*e*P	Pn	22 32 14.4	+2.4
TBG				*e*S	Sn	22 32 37.9	+1.8
MPOM	Morne Pois Mar	3.62	154	*e*P	Pn	22 32 35.1	+1.4
MPOM				*e*S	Sn	22 33 16.1	+0.8

*IDC **03** 22:37:57.6±3.2, 18°.25S×176°.52W, h0km, mb4.0/4, mbtmp3.9/4, Error ellipse: s-maj=108.7km s-min=38.8km az=136.0*
ISC 03 22:38:02.1±2.6, 18°.3S±0°.5×176°.4W±0°.5, h35km, n7, σ0s67/7, mb3.9/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	46.42	260	P	P	22 46 25.1	-0.7
	0.2nm,0.3s,baz=95,slow=7.0,SNR=13						
	0.2nm,0.3s						
ASAR	Alice Springs	46.50	255	P	P	22 46 27.1	+0.7
	1.7nm,0.4s,baz=90,slow=7.8,SNR=39						
	1.7nm,0.4s						
MJAR	Matsushiro Arr	69.39	322	P	P	22 49 06.7	+0.1
	1.0nm,0.6s,baz=166,slow=5.8,SNR=5.2						
	1.0nm,0.6s						
SONM	Songino Array	95.11	319	P	P	22 51 22.0	+0.3
	0.3nm,0.9s,baz=90,slow=4.3,SNR=1.9						
	0.3nm,0.9s						
BRTR	Keskin Array B	146.41	316	PKPbc	PKPdf	22 57 39.0	+0.4
	0.7nm,0.8s,baz=81,slow=1.3,SNR=3.9						
MMAI	Mount Meron Ar	147.96	303	PKPbc	PKPbc	22 57 43.6	-0.7
	0.3nm,0.4s,baz=71,slow=4.9,SNR=4.7						
GERES	GERESS Array B	148.47	347	PKPbc	PKiKP	22 57 46.5	-0.3
	0.5nm,0.5s,baz=64,slow=2.3,SNR=3.5						

*IDC **03** 22:43:24.4±1.2, 6°.29S×143°.34E, h0km, mb3.6/4, mbtmp3.5/6, ML1.1/1, Error ellipse: s-maj=42.8km s-min=26.7km az=60.0*
ISC 03 22:43:25.6±1.0, 6°.5S±0°.1×143°.1E±0°.1, h10km, n7, σ2s44/8, mb3.6/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	4.95	126	Pn	Pn	22 44 37.3	-2.8
	0.5nm,0.3s,baz=304,slow=15,SNR=1.6						
PMG				Sn	Sn	22 45 40.6	+3.1
	1.9nm,0.3s,baz=252,slow=20,SNR=2.4						
	2.2nm,0.3s						
WRA	Warramunga Arr	15.87	212	Pn	Pn	22 47 07.1	-2.1
	0.1nm,0.3s,baz=30,slow=13,SNR=2.3						
ASAR	Alice Springs	19.25	206	P	Pn	22 47 53.9	+2.5
	0.6nm,0.5s,baz=31,slow=11,SNR=12						
MKAR	Makanchi Array	75.44	322	P	P	22 55 10.4	+0.5
	0.3nm,0.7s,baz=108,slow=4.7,SNR=3.0						
	0.3nm,0.7s						
ZALV	Zalesovo Beam	77.39	329	P	P	22 55 20.5	-0.2
	0.3nm,0.4s,baz=126,slow=3.7,SNR=1.9						
	0.3nm,0.4s						
BVAR	Borovoye Array	84.89	325	P	P	22 56 01.5	+0.8
	0.6nm,0.8s,baz=119,slow=5.1,SNR=3.2						
	0.6nm,0.8s						
ILAR	Eielson Array	87.45	24	P	P	22 56 12.8	-0.3
	0.2nm,0.7s,baz=248,slow=4.8,SNR=2.2						
	0.2nm,0.7s						

*IDC **03** 23:00:56.9±0.6, 6°.37S×143°.75E, h0km, mb4.5/11, mbtmp4.5/13, ML2.9/2, MS3.7/24, Error ellipse: s-maj=29.5km s-min=13.7km az=78.0*
*NEIC **03** 23:00:59.7±1.9, 6°.45S±0°.04×143°.36E±0°.07, h10km±1km, mb4.9/53, Error ellipse: s-maj=12.7km s-min=5.5km az=101.0*
*DJA **03** 23:01:06.6±0.4, 7°.3S±3°×14°.3E±°, h68km±5km, M4.8/31, mB5.2/11, mb4.8/31, MLv5.3/5, Mw(mB)4.6/11*
ISC 03 23:00:58.7±0.4, 6°.49S±0°.05×143°.51E±0°.05, h10km, n178, σ1s71/156, mb4.8/53, MS3.6/26, 8C-1D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TABU	Tabubil	2.58	298	P	Pn	23 01 41.0	+0.4
MMPI	Merauke	3.67	237	P	Pn	23 01 59.6	+4.0
PMG	Port Moresby	4.63	129	Pn	Pn	23 02 10.7	+1.9
PMG	Port Moresby	4.63	129	Pn	Pn	23 02 07.2	-1.6
	16nm,0.3s,baz=35,slow=4.1,SNR=26						
PMG				Sn	Sn	23 03 00.5	-2.2
	7.1nm,0.3s,baz=310,slow=11,SNR=3.9						
	33nm,0.3s						
GENI	Genyem	5.11	319	P	Pn	23 02 21.3	+6.0
	226nm,1.0s,4μm2.1nm						
MANU	Manus Island	5.85	41	Pn	Pn	23 02 28.6	+3.0
SMPI	Sarmi	6.55	313	P	Pn	23 02 40.2	+5.1
	109nm,1.1s,0.6nm						
COEN	Coen	7.43	183	Pn	Pn	23 02 50.7	+3.4
COEN	Coen	7.43	183	P	Pn	23 02 50.8	+3.5
RABL	Rabaul	8.91	76	Pn	Pn	23 03 11.7	+4.0
FAKI	Fak Fak	11.77	287	Pn	Pn	23 03 45.5	-1.3
FAKI	Fak Fak	11.77	287	P	Pn	23 03 45.8	-1.0
FAKI	Fak Fak	11.77	287	P	Pn	23 03 51.5	+4.7
	34nm,0.7s						
SAUI	Saumlaki	12.21	262	Pn	Pn	23 03 52.0	-0.8
SAUI	Saumlaki	12.21	262	P	Pn	23 03 53.4	+0.6
KDU	Kakadu	12.50	240	P	Pn	23 03 55.9	-0.9
SWI	Sorong	13.44	294	P	Pn	23 04 13.4	+3.8
	23nm,0.6s						
MTN	Manton Dam	13.74	242	Pn	Pn	23 04 12.4	-1.3
MTN	Manton Dam	13.74	242	P	Pn	23 04 12.6	-1.1
DRS	Darwin Rock St	13.77	244	P	Pn	23 04 13.2	-0.9
CTA	Charters Tower	13.78	169	Pn	Pn	23 04 16.8	+2.5
	0.1nm,0.3s,baz=36,slow=23,SNR=1.3						
CTA				Lg	Lg	23 08 07.7	
	0.3nm,0.3s,baz=62,slow=23,SNR=2.1						
CTA				LR	LR	23 10 03.5	
	comp=Z,766nm,18.7s,baz=6.0,slow=40						
	1.7nm,0.7s						
CTAO	Charters Tower	13.78	169	Pn	Pn	23 04 16.6	+2.3
QIS	Mount Isa	14.49	195	P	Pn	23 04 25.8	+1.8
WB0	Warramunga Arr	15.90	213		Pn	23 04 42.1	-0.6
WRA	Warramunga Arr	16.07	213	Pn	Pn	23 04 43.3	-1.7
WRA	Warramunga Arr	16.07	213	Pn	Pn	23 04 44.2	-0.7
	1.3nm,0.3s,baz=30,slow=13,SNR=32						
WRA				Sn	Sn	23 07 40.5	-2.9
	1.2nm,0.3s,baz=27,slow=24,SNR=5.3						
WRA				Lg	Lg	23 09 24.8	
	0.5nm,0.3s,baz=38,slow=28,SNR=2.5						
LBMI	Labuha	17.00	289	P	P	23 04 59.7	+1.1
	49nm,1.0s						
KNRA	Kununurra	17.10	237		Pn	23 04 57.1	-0.9
KNRA				IAmb	IAmb	23 05 05.5	
	comp=Z,58nm,0.7s						
KNRA	Kununurra	17.10	237	P	Pn	23 04 57.3	-0.7
SANI	Sanana	18.02	283	P	Pn	23 05 10.2	+0.7
	comp=Z,35nm,0.9s						
SOEI	Soe	19.32	259	P	P	23 05 23.3	-1.1
SOEI				IAmb	IAmb	23 05 39.8	
	comp=Z,70nm,0.8s						
SOEI	Soe	19.32	259	P	P	23 05 23.4	-1.1
SOEI	Soe	19.32	259	P	P	23 05 25.3	+0.9
	comp=Z,92nm,0.9s,comp=Z,1μm						
AS31	Alice Springs	19.42	207	P	Pn	23 05 27.6	+1.2
ASAR	Alice Springs	19.42	207	P	Pn	23 05 28.2	+1.7
ASAR	Alice Springs	19.42	207	P	Pn	23 05 28.4	+1.9
	comp=Z,112nm,0.7s,baz=35,slow=9.5,SNR=973						
ASAR				S	S	23 08 57.9	-7.2
	comp=Z,3.3nm,0.5s,baz=16,slow=27,SNR=1.9						
ASAR				Lg	Lg	23 11 15.0	
	baz=18,slow=29						
QLP	Quilpie	20.00	178	P	Pn	23 05 34.9	+1.6
EIDS	Eidsvold	20.12	160	P	Pn	23 05 35.0	+0.2
KMSI	Cibinong	20.72	289	P	Pn	23 05 42.2	+0.4
	comp=Z,165nm,1.0s,comp=Z,5μm						
BBSI	Bau Bau	20.85	272	P	P	23 05 44.3	+3.4
FITZ	Fitzroy Crossi	20.90	235	P	P	23 05 41.2	-0.3
FITZ	Fitzroy Crossi	20.90	235	P	P	23 05 42.0	+0.5
MMRI	Maumere	21.20	263	P	P	23 05 44.1	-0.6
MMRI				IAmb	IAmb	23 05 49.5	
	comp=Z,36nm,0.9s						
MMRI	Maumere	21.20	263	P	P	23 05 44.4	-0.3
	comp=Z,48nm,1.0s						
INKA	Innaminka	21.30	187	P	P	23 05 48.6	+2.9
LUWI	Luwuk	21.38	284	P	P	23 05 46.6	0.0
LUWI				IAmb	IAmb	23 06 22.9	
	comp=Z,93nm,1.3s						
LUWI	Luwuk	21.38	284	P	P	23 05 49.1	+2.4
	comp=Z,58nm,1.0s						
EDFI	Ende, Flores	21.74	263	P	P	23 05 50.7	0.0
	comp=Z,26nm,1.0s						
DAV	Davao City (W)	22.39	307	LR	LR	23 13 40.4	
	comp=Z,58nm,21.7s,baz=132,slow=34						
OOD	Oodnadatta	22.45	198	P	P	23 06 00.0	+1.9
MRSI	Marisa	22.61	287	P	P	23 06 01.4	+1.5
	comp=Z,28nm,1.1s						
BASI	Baing, Sumba	22.99	259	P	P	23 06 05.2	+1.4
	comp=Z,76nm,0.9s,comp=Z,2μm						
BKSI	Bulukumba	23.29	272	P	P	23 06 07.3	+0.3
	comp=Z,27nm,1.1s,comp=Z,403nm						
WRKA	Warakurna	23.50	217	P	P	23 06 09.1	+0.1
KAPI	Kappang	23.68	272	P	P	23 06 10.6	-0.3
TTSI	Tana Toraja	23.85	277	P	P	23 06 13.8	+1.3
	comp=Z,22nm,1.2s						
TOLI2	Tolitoli	23.91	288	P	P	23 06 11.8	-1.2
TOLI2				IAmb	IAmb	23 06 14.2	
	comp=Z,28nm,0.8s						
TOLI2	Tolitoli	23.91	288	P	P	23 06 12.7	-0.3
LCRK	Leigh Creek	24.35	191	P	P	23 06 17.4	+0.5
ARMA	Armidale	25.00	163	P	P	23 06 24.1	+1.1
MULG	Mulgathing	25.29	199	P	P	23 06 25.6	+0.2
STKA	Stephens Creek	25.32	184	P	P	23 06 25.9	+0.1
STKA	Stephens Creek	25.32	184	P	P	23 06 26.1	+0.3
	comp=Z,5.3nm,0.8s,baz=346,slow=13,SNR=8.8						
STKA				LR	LR	23 17 53.2	
	comp=Z,418nm,18.9s,baz=16,slow=40						
	comp=Z,5.3nm,0.8s						
PLAI	Plampang	25.61	263	P	P	23 06 26.8	-1.7
PLAI	Plampang	25.61	263	P	P	23 06 26.9	-1.6
	comp=Z,59nm,0.7s,comp=Z,621nm						
DZM	Mont Dzumac	27.02	127	*e*S	S	23 11 22.9	+3.6
	comp=Z,72nm,22.3s						
DZM				*e*LR	LR	23 13 33.6	
	comp=Z,200nm,23.2s						
BBOO	Buckleboo	27.09	194	P	P	23 06 43.3	+1.6
BBOO				IAmb	IAmb	23 06 58.7	
	comp=Z,22nm,1.1s						
BBOO	Buckleboo	27.09	194	P	P	23 06 43.8	+2.0
HTT	Hallett

ALRZ Allen Road 43.59 142 P P 23 09 09.6 +6.4
THZ Tophouse 43.77 148 P **P** **23 09 06.9 +2.3**
THZ IAmb IAmb 23 09 44.2
comp=Z,42nm,1.5s
RTZ Ruatahuna 44.02 142 P **P** **23 09 08.4 +1.7**
RTZ IAmb IAmb 23 09 10.6
comp=Z,20nm,0.9s
RTZ Ruatahuna 44.02 142 P **P** **23 09 08.8 +2.1**
MTHZ Maungataniwha 44.08 142 P **P** **23 09 09.6 +2.4**
RPZ Rata Peaks 44.26 151 LR LR 23 29 04.9
comp=Z,135nm,18.0s,baz=277,slow=38
PKGZ Pakihiroa 44.27 140 P P 23 09 11.5 +2.8
TWGZ Tauwhareparae 44.38 140 P **P** **23 09 12.0 +2.4**
WMGZ Waiomatatini S 44.45 140 P **P** **23 09 08.3 -1.8**
PUZ Puketiti 44.49 140 P **P** **23 09 12.5 +2.1**
RIGZ Rimuhau 44.56 141 P **P** **23 09 12.4 +1.5**
CNGZ Carnagh Statio 44.71 141 P **P** **23 09 14.5 +2.4**
RPSI Rantau Prapat 45.44 280 P **P** **23 09 17.6 -0.7**
RPSI IAmb IAmb 23 09 18.6
comp=Z,10nm,0.6s
KSRS Korea Array 46.07 343 P **P** **23 09 23.2 +0.4**
comp=Z,7.8nm,0.9s,baz=164,slow=9.2,SNR=25
KSRS PcP **PcP** **23 10 59.2 +0.1**
comp=Z,1.6nm,0.8s,baz=167,slow=4.4,SNR=4.6
KSRS LR LR 23 27 39.0
comp=Z,53nm,18.6s,baz=195,slow=35
comp=Z,7.8nm,0.9s
KSAR Wonju Array Be 46.07 343 P **P** **23 09 22.3 -0.6**
WHN Wuhan 46.22 324 ⇑P **P** **23 09 25.5 +1.3**
GSI Gunungsitoli 46.50 278 P **P** **23 09 24.4 -2.3**
JTM Tenmabayashi 47.09 357 P **P** **23 09 30.6 -0.2**
GYA Guiyang 48.46 314 P **P** **23 09 43.4 +1.5**
GYA pmax pmax
comp=Z,13nm,1.0s
ENH Enshi 48.99 320 P **P** **23 09 45.2 -0.6**
ENH IAmb IAmb 23 09 46.9
comp=Z,12nm,0.8s
PHRA Phrae 49.38 301 P **P** **23 09 47.9 -1.0**
CRAI Chiangrai 50.03 303 P **P** **23 09 53.5 -0.4**
CRAI IAmb IAmb 23 09 55.8
comp=Z,11nm,1.1s
ASAJ Asahikawa 50.38 359 LR LR 23 32 25.9
comp=Z,30nm,20.7s,baz=160,slow=38
CM31 Chiang Mai Arr 50.46 300 P **P** **23 09 56.9 -0.2**
CM31 IAmb IAmb 23 09 58.9
comp=Z,20nm,1.4s
CMAR Chiang Mai Arr 50.46 300 P **P** **23 09 56.6 -0.5**
CMAR Chiang Mai Arr 50.46 300 P **P** **23 09 57.4 +0.3**
comp=Z,2.1nm,0.5s,baz=127,slow=5.9,SNR=20
comp=Z,2.1nm,0.5s
KMI Kunming 50.60 310 ⇑P **P** **23 09 59.7 +1.4**
KMI pmax pmax
comp=Z,14nm,1.3s
CHTO Chiang Mai 50.61 301 P **P** **23 09 58.0 -0.3**
HNS HongShan 51.28 331 ⇑P **P** **23 10 02.6 -0.3**
HNS pmax pmax
comp=Z,10.0nm,0.7s
USA0B Ussuriysk Arra 51.51 349 P **P** **23 10 04.3 -0.3**
USA0B IAmb IAmb 23 10 05.3
comp=Z,12nm,0.8s
USRK Ussuriysk Ar. 51.51 349 P **P** **23 10 04.4 -0.2**
USRK Ussuriysk Ar. 51.51 349 P **P** **23 10 03.8 -0.8**
comp=Z,6.6nm,0.7s,baz=186,slow=8.2,SNR=12
USRK LR LR 23 29 57.5
comp=Z,62nm,21.3s,baz=149,slow=34
comp=Z,6.6nm,0.7s
XAN Xi'an 51.92 323 ⇓P **P** **23 10 08.0 +0.1**
XAN pmax pmax
comp=Z,18nm,1.4s
PZH PanZhiHua 52.10 311 P **P** **23 10 11.8 +2.3**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,120nm,5.0s
MDJ Mudanjiang 52.39 347 P **P** **23 10 13.0 +1.9**
MDJ pP sP 23 10 15.8 -0.2
MDJ sP pP 23 10 17.5 +2.8
MDJ PP **PP** **23 12 11.8 +1.8**
MDJ PcS **PcS** **23 15 23.6 +3.4**
MDJ S **S** **23 17 38.2 +1.2**
MDJ Mudanjiang 52.39 347 SS **SS** **23 21 17.3 +2.1**
MDJ pmax pmax
comp=Z,7.0nm,0.9s
MDJ pmax pmax
comp=Z,200nm,4.6s
MDJ LR LR
comp=N,320nm,16.8s
MDJ LR LR
comp=E,290nm,17.2s
MDJ LR LR
comp=Z,400nm,11.4s
BJI Beijing 52.72 334 P **P** **23 10 13.4 -0.2**
BJI pmax pmax
comp=Z,3.0nm,0.8s
BJI pmax pmax
comp=Z,30nm,3.7s
CD2 Chengdu 53.18 317 *e*P **P** **23 10 19.0 +1.7**
BNX BinXian 53.95 346 ⇑P **P** **23 10 21.7 -0.9**
BNX pmax pmax
comp=Z,25nm,0.8s
BNX pmax pmax
comp=Z,180nm,3.5s
HHC Hu-ho-hao-te 55.49 331 *e*P P 23 10 37.6 +3.6
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,69nm,5.0s
HHC LR LR
comp=N,150nm,14.5s
HHC LR LR
comp=E,160nm,15.3s
HHC LR LR
comp=Z,110nm,16.8s
XLT XiLinHaoTe 55.94 336 *e*P P 23 10 42.6 +5.4
XLT pmax pmax
comp=Z,5.0nm,0.8s
XLT pmax pmax
comp=Z,170nm,4.5s
LZH Lanzhou 56.37 322 ⇑P **P** **23 10 41.6 +1.1**
LZH sP sP 23 10 48.5 +3.1
LZH PP **PP** **23 12 41.3 -4.9**
LZH pmax pmax
comp=Z,20nm,1.4s
RAR Rarotonga 56.69 111 LR LR 23 33 10.8
comp=Z,24nm,19.5s,baz=144,slow=34
HEH HeiHe 58.21 348 *e*P **P** **23 10 50.0 -3.0**
HEH pmax pmax
comp=Z,3.0nm,0.8s
PETK Petropavlovsk- 60.58 10 P **P** **23 11 09.2 -0.2**
comp=Z,3.3nm,0.7s,baz=197,slow=8.9,SNR=2.2
PETK LR LR 23 37 13.5
comp=Z,57nm,19.5s,baz=132,slow=36
comp=Z,3.3nm,0.7s
SONM Songino Array 63.20 333 LR LR 23 39 17.9
comp=Z,36nm,19.4s,baz=136,slow=36
CASY Casey 63.91 194 P **P** **23 11 32.0 +0.5**
SHEM Shemya Is, Ala 64.46 20 LR LR 23 35 56.0
comp=Z,166nm,19.7s,baz=156,slow=33
PPT2 Papeete2 66.08 106 *e*LR LR 23 31 38.3
comp=Z,101nm,25.2s
PPT2 *e*LR LR 23 31 52.2
comp=Z,84nm,23.8s
WMQ Urumqi 70.93 321 *e*P **P** **23 12 16.4 0.0**
WMQ pmax pmax
comp=Z,45nm,1.3s
VNDA Vanda 71.66 176 P **P** **23 12 20.9 +0.8**
comp=Z,2.3nm,0.9s,baz=318,slow=6.6,SNR=11
VNDA LR LR 23 43 10.3
comp=Z,97nm,19.3s,baz=314,slow=35
comp=Z,2.3nm,0.9s
MKAR Makanchi Array 75.69 322 P **P** **23 12 44.9 +0.4**
comp=Z,9.4nm,0.9s,baz=117,slow=8.3,SNR=2.9
comp=Z,9.4nm,0.9s
ZALV Zalesovo Beam 77.60 329 P **P** **23 12 53.8 -1.2**
comp=Z,1.9nm,0.5s,baz=124,slow=7.2,SNR=3.2
ZALV LR LR 23 50 22.5
comp=Z,19nm,18.0s,baz=84,slow=38
comp=Z,1.9nm,0.5s
L14K Kuka Creek 79.36 23 **P** **23 13 05.4 +0.8**
L14K IAmb IAmb 23 13 06.1
comp=Z,8.9nm,0.7s
MAW Mawson 80.47 203 LR LR 23 43 55.0
comp=Z,121nm,21.5s,baz=208,slow=32
L16K Owhat River 80.85 24 P **P** **23 13 13.0 +0.4**
L16K IAmb IAmb 23 13 22.4
comp=Z,30nm,1.8s

J16K Anvik River 81.27 22 **P** **23 13 15.5 +0.7**
J16K IAmb IAmb 23 13 16.2
comp=Z,7.4nm,0.8s
I17K Unalakleet 81.57 22 **P** **23 13 17.1 +0.7**
I17K IAmb IAmb 23 13 18.3
comp=Z,7.8nm,0.9s
G16K Koyuk River 81.84 20 **P** **23 13 18.1 +0.3**
QSPA South Pole Qui 83.48 180 P **P** **23 13 26.7 +0.1**
QSPA South Pole Qui 83.48 180 P **P** **23 13 26.7 +0.1**
comp=Z,15nm,0.9s,baz=322,slow=1.0,SNR=50
QSPA LR LR 23 50 46.1
comp=Z,218nm,18.7s,baz=17,slow=36
comp=Z,15nm,0.9s
CAST Castle Rocks 84.67 24 P **P** **23 13 32.0 -0.5**
CAST IAmb IAmb 23 13 32.7
comp=Z,5.3nm,0.8s
C19K Lookout Ridge 84.84 18 **P** **23 13 33.8 +0.5**
IMAR Indian Mountai 85.19 21 P **P** **23 13 34.8 -0.2**
KTH Kantishna Hill 85.20 24 P **P** **23 13 33.8 -1.4**
KTH IAmb IAmb 23 13 45.5
comp=Z,9.5nm,1.1s
BPAW Bear Paw Mtn. 85.40 24 P **P** **23 13 35.5 -0.6**
BPAW IAmb IAmb 23 13 45.6
comp=Z,20nm,1.6s
MLY Manley 85.89 23 **P** **23 13 38.2 -0.4**
MLY IAmb IAmb 23 13 39.3
comp=Z,17nm,1.5s
G23K Bananza Creek 86.86 21 **P** **23 13 43.1 -0.2**
G23K IAmb IAmb 23 13 44.5
comp=Z,4.7nm,0.8s
CCB Clear Creek Bu 86.89 24 **P** **23 13 41.8 -1.7**
ILAR Eielson Array 87.30 24 **P** **23 13 44.5 -1.0**
ILAR Eielson Array 87.30 24 P **P** **23 13 43.8 -1.7**
comp=Z,4.0nm,1.0s,baz=253,slow=4.9,SNR=19
comp=Z,4.0nm,1.0s
VRDI Verde Repeater 87.59 28 P **P** **23 13 47.0 -0.2**
BARN Barnard Glacie 88.37 28 **P** **23 13 51.1 +0.3**
BCAR Beaver Creek A 88.89 26 **P** **23 13 53.6 +0.5**
BMAR Burnt Mountain 89.11 22 **P** **23 13 54.6 +0.6**
DAWY Dawson 90.19 25 **P** **23 13 59.5 +0.3**
ARU Arti 92.56 326 LR LR 23 57 07.0
comp=Z,22nm,20.8s,baz=36,slow=36
KIRV Kirov 97.63 328 LR LR 00 00 39.5
comp=Z,34nm,19.9s,baz=41,slow=37
TXAR Lajitas Array 113.03 61 PKiKP **PKiKP** **23 19 34.7 -2.4**
comp=Z,0.4nm,0.7s,baz=254,slow=0.7,SNR=4.0
PLCA Paso Flores 123.55 149 PKP **PKiKP** **23 19 56.4 -0.8**
comp=Z,1.3nm,0.7s,baz=195,slow=5.9,SNR=3.9
EKA Eskdalemuir Ar 124.51 338 PKP **PKiKP** **23 19 57.8 -0.7**
comp=Z,1.0nm,0.6s,baz=353,slow=2.3,SNR=1.4
CPUP Villa Florida 141.62 149 PKP **PKiKP** **23 20 31.4 -2.7**
comp=Z,2.2nm,0.7s,baz=101,slow=2.2,SNR=6.4
TORD Torodi Ar. Bea 141.83 283 PKiKP PKPpre 23 20 26.1
comp=Z,1.3nm,0.6s,baz=66,slow=3.9,SNR=5.7
KIC Kosan Boka 148.45 272 ⇑*i*PKP1 **PKiKP** **23 20 47.0 -1.4**
comp=Z,20nm,0.6s
DBIC Dimbokro 148.58 272 PKPbc **PKiKP** **23 20 47.4 -1.3**
comp=Z,17nm,0.8s,baz=94,slow=2.3,SNR=20
LIC Lamto 148.73 271 ⇑*i*PKP1 **PKiKP** **23 20 47.6 -1.4**
comp=Z,48nm,0.7s
TIC Toumodi 148.74 272 ⇑*i*PKP1 **PKiKP** **23 20 47.7 -1.3**
comp=Z,18nm,0.4s

IDC ***03*** *23:05:40.6±0.5, 39.51N×74.00E, h0km, mb4.4/32, mbtmp4.4/39, ML3.4/6, MS3.7/34, Error ellipse: s-maj=9.8km s-min=8.9km az=144.0*
BJI ***03*** *23:05:40.2±0.0, 39.64N×73.79E, h13km, mb4.7/49, mB4.9/23, ML4.5/5, Ms4.2/29, Ms7 3.9/30*
KRNET ***03*** *23:05:41.2±0.1, 39.63N×73.95E, h13km, mb5.1*
MOS ***03*** *23:05:41.0±1.0, 39.49N×73.92E, h12km, mb4.9/41, Error ellipse: s-maj=4.2km s-min=2.9km az=88.8*
SOME ***03*** *23:05:47.1, 40.03N×73.85E, h5km, MS4.3*
NEIC ***03*** *23:05:47.6±1.3, 39.64N±0.05×73.96E±0.07, h48km±2km, mb4.8/102, Error ellipse: s-maj=7.7km s-min=6.8km az=127.0*
NNC ***03*** *23:05:48.4±1.0, 40.07N×73.89E, h0km, mb5.2, mpv4.9, Error ellipse: s-maj=8.4km s-min=4.1km az=175.0*
ISC 03 23:05:42.9±0.6, 39.59N±0.02×73.90E±0.02, h14km±3km, n809, σ1§60/881, mb4.7/142, MS3.7/40, 86C-62D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.52**	**325**	*i*	PG		**Pg**	**23 05 51.4**	**-1.9**
SFK				*i*	S		**Sg**	**23 05 59.1**	**-1.2**
SFK	**Sufi-Kurgan**	**0.52**	**325**	⇓	*i*P		**Pg**	**23 05 51.4**	**-1.9**
baz=19									
SFK				⇓	*i*S		**Sg**	**23 05 59.1**	**-1.2**
baz=19									
OHH	**Osh**	**1.27**	**318**	⇓	*i*PG		**Pn**	**23 06 05.3**	**-1.0**
OHH					*i* S		**Sb**	**23 06 22.9**	**0.0**
OHH	**Osh**	**1.27**	**318**	⇓	*i*P		**Pn**	**23 06 05.3**	**-1.0**
baz=16									
OHH				⇓	*i*S		**Sb**	**23 06 22.9**	**0.0**
baz=16									
KSH	**Kashi**	**1.60**	**92**	Pg			Pn	23 06 06.6	-4.4
KSH				Sg			Sn	23 06 19.8	-12
KSH				smax			smax		
comp=N,6μm,0.8s									
KSH				smax			smax		
comp=E,6μm,0.8s									
DRK	**Karamyk**	**1.63**	**267**				**Pb**	**23 06 12.6**	**-0.3**
DRK					Sn		**Sg**	**23 06 35.3**	**0.0**
DRK	**Karamyk**	**1.63**	**267**	⇑	*i*P		**Pb**	**23 06 12.5**	**-0.3**
baz=66									
DRK				⇑	*i*S		**Sg**	**23 06 35.3**	**0.0**
baz=66									
ARSB	**Arslanbob**	**1.87**	**338**				**Pn**	**23 06 15.9**	**+1.3**
ARSB	**Arslanbob**	**1.87**	**338**		PN		**Pn**	**23 06 16.0**	**+1.3**
ARSB	**Arslanbob**	**1.87**	**338**	⇓	*i*P		**Pn**	**23 06 15.9**	**+1.3**
baz=37									
ARSB				⇓	*i*S		**Sb**	**23 06 41.0**	**+0.7**
baz=37									
ARLS	**Aral**	**2.29**	**8**	*e*	PN		**Pn**	**23 06 21.9**	**+1.4**
ARLS				*i*	S		**Sb**	**23 06 51.3**	**-1.2**
ARLS	**Aral**	**2.29**	**8**	⇑	*e*P		**Pn**	**23 06 21.9**	**+1.4**
baz=7.0									
ARLS				⇑	*i*S		**Sb**	**23 06 51.3**	**-1.2**
baz=7.0									
BTK	**Batken**	**2.42**	**282**		Pn		**Pb**	**23 06 24.9**	**-1.3**
BTK	**Batken**	**2.42**	**282**		PN		**Pb**	**23 06 24.9**	**-1.3**
BTK	**Batken**	**2.42**	**282**	⇓	*i*P		**Pn**	**23 06 24.4**	**+2.3**
baz=81									
BTK				⇓	*i*S		**Sb**	**23 06 56.0**	**0.0**
baz=81									
NRN	**Naryn**	**2.44**	**40**		Pn		**Pn**	**23 06 24.4**	**+1.7**
NRN	**Naryn**	**2.44**	**40**		PN		**Pn**	**23 06 24.4**	**+1.7**
NRN	**Naryn**	**2.44**	**40**	⇑	*i*P		**Pn**	**23 06 23.6**	**+0.9**
baz=40									
NRN				⇑	*i*S		**Sn**	**23 06 54.5**	**+2.0**
baz=40									
ARK	**Arkit**	**2.65**	**327**	⇓	*i*PN		**Pn**	**23 06 27.3**	**+1.9**
ARK				*i*	S		**Sb**	**23 07 01.0**	**-1.8**
ARK	**Arkit**	**2.65**	**327**	⇓	*i*P		**Pn**	**23 06 27.3**	**+1.9**
baz=26									
ARK				⇓	*i*S		**Sb**	**23 07 01.0**	**-1.8**
baz=26									
UCH	**Uchtor**	**2.68**	**10**		P		**Pn**	**23 06 28.6**	**+2.5**
SNR=1113									
UCH	**Uchtor**	**2.68**	**10**	*e*	PN		**Pn**	**23 06 27.3**	**+1.2**
UCH	**Uchtor**	**2.68**	**10**	⇓	*e*P		**Pn**	**23 06 27.3**	**+1.2**
baz=9.0									
UCH				⇓	*i*S		**Sn**	**23 07 01.0**	**+2.5**
baz=9.0									
GAR	**Garm**	**2.84**	**259**				**Pb**	**23 06 31.5**	**-2.0**
GAR	**Garm**	**2.84**	**259**	*i*	PN		**Pn**	**23 06 30.7**	**+2.7**
GAR				*i*	S		**Sb**	**23 07 06.4**	**-1.8**
GAR	**Garm**	**2.84**	**259**	⇑	*i*P		**Pn**	**23 06 30.7**	**+2.7**
baz=59									
GAR				⇑	*i*S		**Sb**	**23 07 06.4**	**-1.8**
baz=59									
TRKS	**Terek-Say**	**2.86**	**314**	⇓	*e*PN		**Pn**	**23 06 29.4**	**+1.1**
TRKS				*i*	S		**Sn**	**23 07 04.6**	**+2.0**
TRKS	**Terek-Say**	**2.86**	**314**	⇓	*e*P		**Pn**	**23 06 29.4**	**+1.1**
baz=12									
TRKS				⇓	*i*S		**Sn**	**23 07 04.6**	**+2.0**
baz=12									
EKS2	**Erkin-Say**	**3.07**	**358**		P		**Pb**	**23 06 34.9**	**-2.5**
SNR=63									
EKS2	**Erkin-Say**	**3.07**	**358**	*e*	PN		**Pn**	**23 06 32.6**	**+1.4**
EKS2	**Erkin-Say**	**3.07**	**358**	⇓	*e*P		**Pn**	**23 06 32.6**	**+1.4**
baz=58									
EKS2				⇓	*i*S		**Sn**	**23 07 10.3**	**+2.5**
baz=58									
AAK	**Ala-Archa**	**3.08**	**8**		P		**Pn**	**23 06 34.2**	**+2.9**
SNR=341									
AAK	**Ala-Archa**	**3.08**	**8**				**Pn**	**23 06 33.6**	**+2.3**
AAK	**Ala-Archa**	**3.08**	**8**	*e*	PN		**Pn**	**23 06 34.1**	**+2.8**
AAK					pmax	pmax			
comp=Z,251nm,0.8s									
AAK	**Ala-Archa**	**3.08**	**8**		Pn		**Pn**	**23 06 34.3**	**+3.0**
comp=Z,22nm,0.3s,baz=187,slow=10.0,SNR=294									
AAK					Sn		**Sb**	**23 07 14.5**	**-0.6**
comp=Z,61nm,0.3s,baz=64,slow=20,SNR=11									
AAK					LR		LR	23 07 56.2	
comp=Z,2μm,21.0s,baz=224,slow=43									
comp=Z,258nm,0.5s									
AAK	**Ala-Archa**	**3.08**	**8**	⇑	*i*P		**Pn**	**23 06 32.8**	**+1.5**
baz=8.0									
AAK				⇑	*i*S		**Sn**	**23 07 10.5**	**+2.5**
baz=8.0									
MNAS	**Manas**	**3.08**	**340**	*e*	PN		**Pn**	**23 06 33.2**	**+1.9**
MNAS	**Manas**	**3.08**	**340**	⇑	*i*P		**Pn**	**23 06 33.2**	**+1.9**
baz=40									
MNAS				⇑	*i*S		**Sn**	**23 07 11.1**	**+3.0**
baz=40									
KBK	**Karagaybulak**	**3.17**	**14**		P		**Pn**	**23 06 35.6**	**+3.0**
SNR=336									
KBK	**Karagaybulak**	**3.17**	**14**	*e*	PN		**Pn**	**23 06 34.0**	**+1.5**
KBK				*i*	S		**Sn**	**23 07 12.6**	**+2.4**
KBK	**Karagaybulak**	**3.17**	**14**	⇑	*e*P		**Pn**	**23 06 34.0**	**+1.5**
baz=14									
KBK				⇑	*i*S		**Sn**	**23 07 12.6**	**+2.4**
baz=14									
ULHL	**Ulahol**	**3.19**	**33**		P		**Pn**	**23 06 35.9**	**+3.0**
SNR=34									
ULHL	**Ulahol**	**3.19**	**33**	*i*	PN		**Pn**	**23 06 34.3**	**+1.4**
ULHL				*i*	S		**Sn**	**23 07 13.1**	**+2.2**
ULHL	**Ulahol**	**3.19**	**33**	⇓	*i*P		**Pn**	**23 06 34.3**	**+1.4**
baz=33									
ULHL				⇓	*i*S		**Sn**	**23 07 13.1**	**+2.2**
baz=33									
MRKS	**Merke**	**3.20**	**351**	*e*	P		**Pb**	**23 06 37.8**	**-1.8**
comp=Z,363nm,0.6s									
MRKS				*e*	S		**Sn**	**23 07 13.8**	**+3.1**
comp=Z,2μm,0.4s									
MRKS	**Merke**	**3.20**	**351**		Pg		**Pb**	**23 06 37.7**	**-1.8**
comp=Z,363nm,0.6s									
MRKS					Lg		Lg	23 07 13.8	
comp=Z,2μm,0.4s									
FRU1	**Bishkek**	**3.27**	**9**				**Pn**	**23 06 36.2**	**+2.4**
FRU1	**Bishkek**	**3.27**	**9**		PN		**Pn**	**23 06 36.2**	**+2.4**
FRU1	**Bishkek**	**3.27**	**9**	⇑	*i*P		**Pn**	**23 06 35.7**	**+1.9**
baz=9.0									
FRU1				⇑	*i*S		**Sn**	**23 07 15.3**	**+2.8**
baz=9.0									
CHMS	**Chumysh**	**3.47**	**10**		P		**Pn**	**23 06 39.4**	**+2.9**
SNR=62									
CHMS	**Chumysh**	**3.47**	**10**	*e*	PN		**Pn**	**23 06 38.0**	**+1.5**
CHMS				*i*	S		**Sn**	**23 07 19.4**	**+2.0**
CHMS	**Chumysh**	**3.47**	**10**	⇓	Pn		**Pn**	**23 06 37.9**	**+1.3**
comp=Z,390nm,0.8s									
CHMS					Pg		Pg	23 06 59.1	+10
comp=Z,475nm,0.3s									
CHMS				⇓	Lg		Lg	23 07 24.8	
comp=Z,1μm,0.8s									
CHMS					Lg		Lg	23 07 50.3	
comp=Z,2μm,0.4s									
CHMS	**Chumysh**	**3.47**	**10**	⇓	*e*P		**Pn**	**23 06 38.0**	**+1.5**
baz=10.0									
CHMS				⇓	*i*S		**Sn**	**23 07 19.4**	**+2.0**
baz=10.0									
KDJ	**Kajisay**	**3.56**	**43**	*e*	PN		**Pn**	**23 06 39.4**	**+1.5**
KDJ				*i*	S		**Sn**	**23 07 21.6**	**+1.8**
KDJ	**Kajisay**	**3.56**	**43**	⇓	*e*P		**Pn**	**23 06 39.4**	**+1.5**
baz=44									
KDJ				⇓	*i*S		**Sn**	**23 07 21.6**	**+1.8**
baz=44									
TKM2	**Tokmak 2**	**3.57**	**20**		P		**Pn**	**23 06 40.9**	**+2.8**
SNR=49									
TKM2	**Tokmak 2**	**3.57**	**20**	*e*	PN		**Pn**	**23 06 39.6**	**+1.5**
TKM2	**Tokmak 2**	**3.57**	**20**	⇑	Pn		**Pn**	**23 06 39.1**	**+1.1**
comp=Z,305nm,0.7s									
TKM2				⇓	Lg		Lg	23 07 28.2	
comp=Z,1μm,1.4s									
TKM2	**Tokmak 2**	**3.57**	**20**	⇑	*e*P		**Pn**	**23 06 39.6**	**+1.5**
baz=20									
TKM2				⇑	*i*S		**Sn**	**23 07 22.0**	**+1.9**
baz=20									
TARG	**Taragay, Kyrgy**	**3.66**	**53**				**Pn**	**23 06 42.1**	**+2.6**
TARG	**Taragay, Kyrgy**	**3.66**	**53**		PN		**Pn**	**23 06 42.1**	**+2.6**
USP	**Ospenovka**	**3.71**	**7**		P		**Pn**	**23 06 42.2**	**+2.4**
SNR=58									
USP	**Ospenovka**	**3.71**	**7**	*e*	PN		**Pn**	**23 06 41.5**	**+1.7**
USP	**Ospenovka**	**3.71**	**7**	⇑	*e*P		**Pn**	**23 06 41.5**	**+1.7**
baz=6.0									
USP				⇑	*i*S		**Sn**	**23 07 25.2**	**+1.9**
baz=6.0									
KST	**Kastek**	**3.79**	**24**	*e*	P		**Pb**	**23 06 48.4**	**-1.2**
comp=Z,152nm,0.5s									
KST				*e*	S		**Sb**	**23 07 32.1**	**-3.3**
comp=Z,1μm,0.8s									
KST	**Kastek**	**3.79**	**24**		Pg		**Pb**	**23 06 48.4**	**-1.2**
comp=Z,317nm,1.1s									
KST					Lg		Lg	23 07 32.1	
comp=Z,1μm,0.8s									
CHGR	**Chuyangaron**	**3.80**	**257**				**Pn**	**23 06 44.2**	**+3.0**
CHGR	**Chuyangaron**	**3.80**	**257**		PN		**Pn**	**23 06 44.2**	**+3.0**
CHGR	**Chuyangaron**	**3.80**	**257**	⇓	*e*P		**Pn**	**23 06 44.0**	**+2.8**
baz=57									
CHGR				⇓	*i*S		**Sn**	**23 07 29.8**	**+4.1**
baz=57									
DZA	**Taraz**	**3.83**	**330**	*e*	PN		**Pn**	**23 06 43.4**	**+2.0**
DZA	**Taraz**	**3.83**	**330**	*e*	P		**Pn**	**23 06 43.4**	**+2.0**
baz=329									
DZA	**Taraz**	**3.83**	**330**	*e*	P		**Pb**	**23 06 49.5**	**-0.8**
comp=Z,701nm,0.3s									
DZA				*e*	S		**Sb**	**23 07 33.8**	**-2.7**
comp=Z,2μm,0.8s									
DZA	**Taraz**	**3.83**	**330**		Pg		**Pb**	**23 06 49.5**	**-0.8**
comp=Z,790nm,0.8s									
DZA					Lg		Lg	23 07 33.8	
comp=Z,2μm,0.8s									
IUG	**luzhnay**	**3.89**	**312**	*e*	PN		**Pn**	**23 06 44.8**	**+2.4**
IUG	**luzhnay**	**3.89**	**312**	*e*	P		**Pn**	**23 06 44.8**	**+2.4**
baz=311									
IUG	**luzhnay**	**3.89**	**312**	*e*	P		**Pb**	**23 06 52.0**	**+0.7**
comp=Z,1μm,0.3s									
IUG				*e*	S		**Sb**	**23 07 38.1**	**-0.2**
comp=Z,2μm,0.4s									
IUG	**luzhnay**	**3.89**	**312**		Pg		**Pb**	**23 06 52.0**	**+0.7**
comp=Z,2μm,0.5s									
IUG					Lg		Lg	23 07 38.1	
comp=Z,2μm,0.4s									
SGDS	**Sogindy**	**3.90**	**8**	*e*	PN		**Pn**	**23 06 43.5**	**+1.0**
SGDS	**Sogindy**	**3.90**	**8**	*e*	P		**Pn**	**23 06 43.6**	**+1.0**
baz=7.7									
DGS	**Degeres**	**3.91**	**20**	*e*	P		**Pb**	**23 06 51.2**	**-0.5**
comp=Z,149nm,0.3s									
DGS				*e*	S		**Sb**	**23 07 36.5**	**-2.5**
comp=Z,557nm,0.9s									
DGS	**Degeres**	**3.91**	**20**		Pg		**Pb**	**23 06 51.2**	**-0.5**
comp=Z,431nm,0.7s									
DGS					Lg		Lg	23 07 36.6	
comp=Z,557nm,0.9s									
SIMJ	**Simiganj**	**3.92**	**258**				**Pn**	**23 06 45.5**	**+2.8**
IZV	**Izvestkoviy**	**4.01**	**30**	*e*	P		**Pb**	**23 06 53.6**	**+0.2**
comp=Z,154nm,0.4s									
IZV				*e*	S		**Sb**	**23 07 40.9**	**-0.8**
comp=Z,694nm,0.8s									
IZV	**Izvestkoviy**	**4.01**	**30**		Pg		**Pb**	**23 06 53.6**	**+0.2**
comp=Z,239nm,0.7s									
IZV					Lg		Lg	23 07 40.9	
comp=Z,694nm,0.8s									
MTBS	**Maitube**	**4.02**	**27**	*e*	P		**Pb**	**23 06 52.5**	**-1.0**
comp=Z,118nm,0.7s									
MTBS				*e*	S		**Sb**	**23 07 38.6**	**-3.5**
comp=Z,396nm,0.5s									
MTBS	**Maitube**	**4.02**	**27**		Pg		**Pb**	**23 06 53.2**	**-0.3**
comp=Z,118nm,0.7s									
MTBS					Lg		Lg	23 07 40.2	
comp=Z,265nm,0.6s									
TNSS	**Tian-Shan**	**4.14**	**33**	*e*	PN		**Pn**	**23 06 48.2**	**+2.1**
TNSS	**Tian-Shan**	**4.14**	**33**	*

comp=Z,286nm,0.5s
TNSS Lg Lg 23 07 45.6
comp=Z,227nm,0.6s
KASK Kaskelen 4.17 29 ⇑Pg Pb 23 06 59.0 +2.9
KASK ⇑Lg Lg 23 07 49.7
CHM Chimkent 4.25 311 eP Pb 23 06 59.1 +1.7
comp=Z,176nm,0.1s
CHM eS Sb 23 07 50.3 +1.8
comp=Z,1μm,0.1s
AAA Alma-Ata 4.27 31 ePN Pn 23 06 50.8 +3.2
AAA Alma-Ata 4.27 31 eP Pn 23 06 49.9 +2.4
baz=32
AAA Alma-Ata 4.27 31 eP Pb 23 06 58.7 +0.9
comp=Z,176nm,0.4s
AAA eS Sb 23 07 49.8 +0.6
comp=Z,1μm,1.0s
AAA Alma-Ata 4.27 31 Pg Pb 23 06 58.7 +0.9
comp=Z,333nm,0.7s
AAA Lg Lg 23 07 49.8
comp=Z,1μm,1.0s
ANVS Anan'yevo 4.28 40 *i* PN Pn 23 06 49.4 +1.7
ANVS *i* S Sn **23 07 39.1 +1.6**
ANVS Anan'yevo 4.28 40 ⇑*i* P Pn 23 06 49.4 +1.7
baz=40
ANVS ⇑*i* S Sn **23 07 39.1 +1.6**
baz=40
MDOK Medeo 4.29 33 ePN Pn 23 06 50.1 +2.3
MDOK Medeo 4.29 33 eP Pn 23 06 50.2 +2.3
baz=33
MDOK Medeo 4.29 33 eP Pb 23 06 58.9 +0.8
comp=Z,155nm,0.3s
MDOK eS Sb 23 07 50.0 +0.2
comp=Z,670nm,1.0s
MDOK Medeo 4.29 33 ⇑Pn Pn 23 06 50.0 +2.1
comp=Z,274nm,0.8s
MDOK Pg Pb 23 06 58.9 +0.8
comp=Z,205nm,0.7s
MDOK Lg Lg 23 07 50.0
comp=Z,670nm,1.0s
MDOK ⇓Lg Lg 23 07 54.4
comp=Z,1μm,1.0s
KNDC Almaty 4.30 31 PN Pn 23 06 48.6 +0.7
KNDC Almaty 4.30 31 ⇑Pn Pn 23 06 48.7 +0.7
comp=Z,1μm,0.8s
KNDC ⇓Lg Lg 23 07 52.6
comp=Z,1μm,1.1s
KK31 Karatay Array 4.34 325 Pn 23 06 50.2 +1.7
KK31 Karatay Array 4.34 325 PN Pn 23 06 50.2 +1.7
KK31 Karatay Array 4.34 325 ⇑Pn Pn 23 06 50.3 +1.9
comp=Z,43nm,0.6s,baz=128,slow=12,SNR=2925
KK31 ⇑Pg Pb **23 07 01.5 +2.6**
comp=Z,218nm,0.7s,baz=145,slow=16,SNR=19
KK31 ⇓Sn Sn **23 07 41.1 +2.2**
comp=Z,189nm,0.5s,baz=146,slow=26,SNR=5.5
KK31 ⇓Lg Lg 23 07 55.9
comp=Z,108nm,0.3s,baz=143,slow=31,SNR=4.6
KKAR Karatay Array 4.34 325 Pn 23 06 49.4 +0.9
KKAR Karatay Array 4.34 325 Pn 23 06 50.1 +1.6
KKAR Karatay Array 4.34 325 ePN Pn 23 06 50.7 +2.2
KKAR Karatay Array 4.34 325 ⇓*i* P Pn 23 06 50.7 +2.2
baz=24
KKAR ⇓*i* S Sn **23 07 41.3 +2.4**
baz=24
KOTS Kotyrbulak 4.37 33 eP Pb 23 07 00.5 +1.0
comp=Z,199nm,0.5s
KOTS eS Sb **23 07 52.8 +0.6**
comp=Z,1μm,1.0s
KOTS Kotyrbulak 4.37 33 Pg Pb 23 07 00.5 +1.0
comp=Z,338nm,0.7s
KOTS Lg Lg 23 07 52.8
comp=Z,1μm,1.0s
PRZ Przheval'sk 4.47 48 Pn Pn 23 06 53.1 +2.7
PRZ Przheval'sk 4.47 48 PN Pn 23 06 53.1 +2.7
PRZ Przheval'sk 4.47 48 ⇓*e*P Pn 23 06 52.2 +1.8
baz=48
PRZ ⇓*i* S Sn **23 07 43.6 +1.3**
baz=48
BRLS Borolday 4.60 320 ePN Pn 23 06 53.2 +1.1
BRLS Borolday 4.60 320 eP Pn 23 06 53.2 +1.1
baz=315
BRLS Borolday 4.60 320 eP Pb 23 07 03.6 +0.1
comp=Z,125nm,0.4s
BRLS eS Sb **23 07 58.1 -0.7**
comp=Z,350nm,0.5s
BRLS Borolday 4.60 320 Pg Pb 23 07 03.6 +0.1
comp=Z,196nm,0.9s
BRLS Lg Lg 23 07 58.1
comp=Z,707nm,1.1s
KTBS Karatobe 4.62 26 eP Pb 23 07 05.2 +1.5
comp=Z,294nm,0.7s
KTBS eS Sb **23 08 00.9 +1.7**
comp=Z,639nm,0.9s
KTBS Karatobe 4.62 26 Pg Pb 23 07 05.2 +1.5
comp=Z,294nm,0.7s
KTBS Lg Lg 23 08 00.9
comp=Z,639nm,0.9s
KUU Kurty 4.67 22 ePN Pn 23 06 55.0 +2.0
KUU Kurty 4.67 22 eP Pn 23 06 55.0 +2.0
baz=22
KUU Kurty 4.67 22 eP Pb 23 07 05.0 +0.4
comp=Z,172nm,0.5s
KUU eS Sb **23 08 00.8 0.0**
comp=Z,561nm,1.1s
KUU Kurty 4.67 22 Pg Pb 23 07 05.0 +0.4
comp=Z,219nm,1.1s
KUU Lg Lg 23 08 00.8
comp=Z,561nm,1.1s
CHKK Chushkaly 4.85 27 ePN Pn 23 06 57.2 +1.8
CHKK Chushkaly 4.85 27 eP Pn 23 06 57.3 +1.8
baz=28
CHKK Chushkaly 4.85 27 eP Pb 23 07 09.2 +1.5
comp=Z,138nm,1.0s
CHKK eS Sb **23 08 07.9 +2.1**
comp=Z,378nm,0.8s
CHKK Chushkaly 4.85 27 Pg Pb 23 07 09.2 +1.5
comp=Z,138nm,1.0s
CHKK Lg Lg 23 08 07.9
comp=Z,378nm,0.8s
SATY Saty 4.85 43 ePN Pn 23 06 57.6 +2.0
SATY Saty 4.85 43 eP Pn 23 06 57.7 +2.0
baz=44
SATY Saty 4.85 43 eP Pb 23 07 10.1 +2.3
comp=Z,197nm,0.4s
SATY eS Sb **23 08 09.3 +3.3**
comp=Z,600nm,0.6s
SATY Saty 4.85 43 Pg Pb 23 07 10.1 +2.3
comp=Z,410nm,1.1s
SATY Lg Lg 23 08 09.3
comp=Z,792nm,1.1s
ZHN Zhinishke 4.94 42 ePN Pn 23 06 59.1 +2.2
ZHN Zhinishke 4.94 42 eP Pn 23 06 59.1 +2.2
baz=43
ZHN Zhinishke 4.94 42 eP Pb 23 07 11.6 +2.3
comp=Z,109nm,0.4s
ZHN eS Sb **23 08 11.8 +3.1**
comp=Z,180nm,0.5s
ZHN Zhinishke 4.94 42 Pg Pb 23 07 11.6 +2.3
comp=Z,148nm,1.2s
ZHN Lg Lg 23 08 11.8
comp=Z,357nm,0.9s
KURS Kuram 5.05 38 eP Pb 23 07 13.6 +2.6
comp=Z,116nm,0.3s
KURS eS Sb **23 08 15.3 +3.8**
comp=Z,391nm,1.5s
KURS Kuram 5.05 38 Pg Pb 23 07 13.6 +2.6
comp=Z,278nm,1.5s
KURS Lg Lg 23 08 15.4
comp=Z,391nm,1.5s
UZB Uzynbulak 5.24 46 ePN Pn 23 07 03.0 +2.0
UZB Uzynbulak 5.24 46 eP Pn 23 07 03.1 +2.0
baz=46
UZB Uzynbulak 5.24 46 eP Pb 23 07 17.7 +3.3
comp=Z,253nm,1.0s
UZB eS Sb **23 08 22.6 +5.2**
comp=Z,305nm,0.5s
UZB Uzynbulak 5.24 46 Pg Pb 23 07 17.7 +3.3
comp=Z,253nm,1.0s
UZB Lg Lg 23 08 22.6
comp=Z,308nm,1.0s
BTLS Baital 5.45 1 ePN Pn 23 07 05.9 +2.2
BTLS Baital 5.45 1 eP Pn 23 07 05.9 +2.2
baz=0.9
BTLS Baital 5.45 1 eP Pb 23 07 19.5 +1.6
comp=Z,141nm,0.3s
BTLS eS Sb **23 08 25.4 +2.2**
comp=Z,116nm,3.5s
BTLS Baital 5.45 1 Pg Pb 23 07 19.5 +1.6
comp=Z,143nm,0.7s
BTLS Lg Lg 23 08 25.4
comp=Z,189nm,0.8s
ARXS Arharly 5.47 31 ePN Pn 23 07 06.3 +2.2
ARXS Arharly 5.47 31 eP Pb 23 07 20.9 +2.6
comp=Z,140nm,0.3s
ARXS eS Sb **23 08 28.2 +4.4**
comp=Z,571nm,0.5s
ARXS Arharly 5.47 31 Pg Pb 23 07 20.9 +2.6
comp=Z,185nm,0.7s
ARXS Lg Lg 23 08 28.2
comp=Z,639nm,1.3s
SHLS Shalkode 5.50 48 ePN Pn 23 07 09.9 +5.4
SHLS Shalkode 5.50 48 eP Pn 23 07 10.0 +5.5
baz=50
SHLS Shalkode 5.50 48 eP Pg 23 07 30.0 +1.9
comp=Z,375nm,0.8s
SHLS eS Sg **23 08 43.7 +4.3**
comp=Z,426nm,1.0s
SHLS Shalkode 5.50 48 Pg Pg 23 07 30.0 +1.9
comp=Z,375nm,0.8s
SHLS Lg Lg 23 08 43.7
comp=Z,426nm,1.0s
PDGK Podgornoye 5.62 47 PN Pn 23 07 08.0 +1.8
PDGK PG Pb **23 07 24.2 +3.3**
PDGK Podgornoye 5.62 47 Pg Pg 23 07 26.8 -3.8
comp=Z,95nm,1.0s
PDGK Lg Lg 23 08 37.8
comp=Z,239nm,0.9s
PDGK Podgornoye 5.62 47 ⇑Pn Pn 23 07 08.0 +1.8
comp=Z,58nm,0.7s
PDGK ⇑Pg Pb **23 07 24.2 +3.3**
comp=Z,254nm,0.9s
PDGK ⇓Lg Lg 23 08 37.3
comp=Z,826nm,1.0s
BLB Baldybastay 5.66 36 Pg Pg 23 07 27.3 -3.8
comp=Z,229nm,0.7s
BLB Lg Lg 23 08 39.1
comp=Z,185nm,1.0s
NIL Nilore 5.95 185 Pn Pn 23 07 14.7 +4.1
NIL Nilore 5.95 185 PN Pn 23 07 14.7 +4.1
KNOS Konyrlen 6.18 38 Pg Pg 23 07 37.3 -3.9
comp=Z,195nm,0.9s
KNOS Lg Lg 23 08 55.9
comp=Z,269nm,1.3s
KTMS Ketmen 6.19 49 eP Pg 23 07 38.3 -3.1
comp=Z,32nm,0.5s
KTMS eS Sg **23 08 57.2 -4.3**
comp=Z,63nm,0.9s
KTMS Ketmen 6.19 49 Pg Pg 23 07 38.3 -3.1
comp=Z,32nm,0.5s
KTMS Lg Lg 23 08 57.2
comp=Z,63nm,0.9s
KBL Kabul 6.36 219 Pn Pn 23 07 20.8 +4.4
KBL Kabul 6.36 219 PN Pn 23 07 20.8 +4.4
TDK Taldyqorghan 6.36 30 ePN Pn 23 07 18.2 +2.0
TDK Taldyqorghan 6.36 30 eP Pn 23 07 18.2 +2.0
baz=31
TDK Taldyqorghan 6.36 30 eP Pb 23 07 39.6 +6.3
comp=Z,190nm,0.3s
TDK eS Sg **23 09 00.0 -6.9**
comp=Z,445nm,0.5s
TDK Taldyqorghan 6.36 30 Pg Pb 23 07 39.6 +6.3
comp=Z,344nm,0.7s
TDK Lg Lg 23 09 00.0
comp=Z,773nm,1.2s
DJR Jarkent 6.46 41 eP Pg 23 07 42.8 -3.7
comp=Z,44nm,0.4s
DJR eS Sg **23 09 05.1 -5.0**
comp=Z,167nm,0.7s
DJR Jarkent 6.46 41 Pg Pg 23 07 42.8 -3.7
comp=Z,80nm,0.7s
DJR Lg Lg 23 09 05.1
comp=Z,167nm,0.7s
KAPS Kapalarasan 6.98 34 eP Pg 23 07 51.5 -5.0
comp=Z,64nm,1.4s
KAPS eS Sg **23 09 20.4 -6.3**
comp=Z,161nm,1.0s
KAPS Kapalarasan 6.98 34 Pg Pg 23 07 51.4 -5.0
comp=Z,64nm,1.4s
KAPS Lg Lg 23 09 20.4
comp=Z,161nm,1.0s
THN Thein Dam 7.29 168 eP Pn 23 07 32.2 +3.2
THN *ex* x 23 08 40.0
DHRM DHARAMSHALA 7.58 164 eP Pn 23 07 35.6 +2.5
DHRM eS Sn **23 08 53.4 -5.5**
DHRM *ex* Sn **23 08 59.0 +0.1**
DHRM IAML 23 09 09.1
comp=N,546nm,0.9s
DHRM IAML 23 09 20.9
comp=E,259nm,1.3s
BHK Bhakra 8.41 165 eP Pn 23 07 47.7 +3.4
BHK eS Sn **23 09 10.9 -8.2**
BHK *ex* x 23 09 19.2
OTUK Ortayu 8.73 353 P Pn 23 07 49.3 +0.6
OTUK Ortayu 8.73 353 Pg Pg 23 08 21.9 -7.9
comp=E,9.6nm,0.7s
OTUK Lg Lg 23 10 12.7
comp=E,46nm,0.9s
OTUK Ortayu 8.73 353 ⇓Pn Pn 23 07 49.3 +0.6
comp=E,38nm,1.0s
OTUK ⇓Lg Lg 23 10 09.2
comp=E,302nm,0.8s
SMLA Simla 8.85 161 eP Pn 23 07 51.5 +1.1
SMLA *ex* x 23 09 19.8
SMLA IAML 23 09 36.6
comp=E,272nm,0.8s
SMLA IAML 23 09 37.4
comp=N,278nm,1.1s
MAKZ Makanchi 9.32 37 Pn Pn 23 07 59.0 +2.2
MAKZ Makanchi 9.32 37 P Pn 23 07 59.0 +2.2
MAKZ Makanchi 9.32 37 ⇓Pn Pn 23 07 57.1 +0.4
comp=N,10nm,0.8s
MAKZ ⇓Pg 23 08 31.1
comp=N,16nm,0.9s
MAKZ ⇓Lg Lg 23 10 33.8
comp=N,167nm,1.6s
MK31 Makanchi Array 9.45 38 Pn Pn 23 08 00.9 +2.3
MK31 Makanchi Array 9.45 38 *i* P Pn 23 08 00.4 +1.8
MK31 Makanchi Array 9.45 38 Pn Pn 23 08 00.7 +2.1
comp=N,16nm,0.8s,baz=211,slow=11,SNR=103
MK31 ⇑Pg 23 08 34.1
comp=N,21nm,0.8s,baz=224,slow=15,SNR=5.6
MK31 ⇓Lg Lg 23 10 38.4
comp=N,222nm,1.9s,baz=225,slow=26,SNR=3.9
MKAR Makanchi Array 9.45 38 eP Pn 23 08 01.4 +2.8
MKAR Makanchi Array 9.45 38 Pn Pn 23 08 00.6 +1.9
comp=N,0.3nm,0.3s,baz=210,slow=14,SNR=42
MKAR Lg Lg 23 10 42.1
comp=N,0.8nm,0.3s,baz=225,slow=26,SNR=3.9
MKAR LR LR 23 11 44.7
comp=N,514nm,18.8s,baz=232,slow=38
comp=N,7.4nm,0.8s
DDI Dehra Dun 9.85 159 *ex* x 23 07 48.7
BRZS Berezniki 10.43 356 eP Pn 23 08 11.7 -0.3
BRZS Berezniki 10.43 356 Pg Pn 23 08 53.7 +42
comp=N,15nm,0.9s
BRZS Lg Lg 23 11 07.2
comp=N,91nm,1.2s
HRA Herat 10.67 245 Pn **Pn 23 08 16.3 +0.8**
WMQ Urumqi 11.15 63 ⇑*i* P Pn 23 08 21.6 -0.3
WMQ PP **PnPn 23 08 29.7 +0.2**
WMQ pmax pmax
comp=N,22nm,1.1s
WMQ pmax pmax
comp=N,66nm,3.7s
WMQ LR LR
comp=N,1μm,6.9s
WMQ LR LR
comp=N,870nm,4.7s
WMQ LR LR
comp=N,210nm,10.7s
ZSN Zaisan 11.18 42 eP Pn 23 08 24.4 +2.2
ZSN Zaisan 11.18 42 eP Pn 23 08 24.4 +2.2
baz=42
ZSN Zaisan 11.18 42 Pg Pn 23 09 05.3 +43
comp=N,14nm,1.1s
ZSN Lg Lg 23 11 27.2
comp=N,102nm,2.2s
NDI New Delhi 11.22 165 eP Pn 23 08 23.8 +1.0
LGTI Lohaghat 11.38 151 *ex* Pn **23 08 24.7 -0.3**
LGTI *ex* x 23 10 20.3
KURBB Kurchatov Arra 11.51 15 Pn **Pn 23 08 26.4 -0.3**
comp=N,0.1nm,0.3s,baz=204,slow=12,SNR=9.9
KURBB Lg Lg 23 11 44.1
comp=N,0.3nm,0.3s,baz=192,slow=26,SNR=3.2
KURBB LR LR 23 12 57.6
comp=N,772nm,19.1s,baz=218,slow=38
comp=N,0.6nm,0.3s
KURBB Kurchatov Arra 11.51 15 ⇓Lg Lg 23 11 42.3
comp=N,241nm,0.8s
KURK Kurchatov 11.61 15 Pn Pn 23 08 28.9 +0.8
KURK Kurchatov 11.61 15 *i* P Pn 23 08 29.5 +1.4
KURK Kurchatov 11.61 15 ⇑Pn Pn 23 08 30.1 +2.0
comp=N,14nm,1.2s
KURK ⇓Lg Lg 23 11 42.9
comp=N,380nm,1.7s
KUDL Kundal 11.61 169 eP Pn 23 08 27.5 -0.8
KUDL *ex* x 23 10 26.6
SEM Semipalatinsk 11.71 20 Pg Pn 23 09 17.6 +48
comp=N,6.6nm,0.1s
SEM Lg Lg 23 11 47.7
comp=N,33nm,1.1s
GEYT Alibeck 12.43 267 Pn 23 08 38.4 -1.1
GEYT Alibeck 12.43 267 Pn Pn 23 08 39.4 -0.1
comp=N,22nm,0.6s,baz=92,slow=7.3,SNR=37
AJM Ajmer 13.09 177 eP Pn 23 08 44.3 -4.1
AJM eS Sn 23 11 00.8 -13
BVA0 Borovoye Array 13.66 351 P Pn 23 08 54.8 -1.2
BVA0 Borovoye Array 13.66 351 ⇑Pn Pn 23 08 53.5 -2.5
comp=N,23nm,0.8s
BVA0 Pn Pn **23 08 54.8 -1.2**
comp=N,26nm,0.6s,baz=164,slow=13,SNR=73
BVA0 ⇑Lg Lg 23 12 50.7
comp=N,75nm,1.4s,baz=162,slow=11,SNR=8.3
BVAR Borovoye Array 13.66 351 Pn Pn 23 08 54.9 -1.1
comp=N,0.3nm,0.3s,baz=162,slow=13,SNR=38
BVAR Lg Lg 23 12 48.0
comp=N,0.1nm,0.3s,baz=170,slow=26,SNR=2.3
BVAR LR LR 23 14 24.5
comp=N,440nm,19.9s,baz=180,slow=38
comp=N,14nm,0.7s
BRVK Borovoye 13.70 351 Pn Pn 23 08 54.6 -2.1
BRVK Borovoye 13.70 351 *c*eP Pn 23 08 55.8 -0.8
BRVK pmax pmax
comp=Z,21nm,0.8s
BRVK Borovoye 13.70 351 ⇑Lg Lg 23 12 50.8
comp=Z,116nm,1.3s
AB31 Akbulak array 13.87 319 P Pn 23 08 57.9 -1.0
AB31 S Sn **23 11 36.7 +4.1**
AB31 Akbulak array 13.87 319 Pn Pn 23 08 57.9 -1.0
comp=Z,22nm,0.7s,baz=127,slow=13,SNR=238
AB31 ⇑Sn Sn **23 11 36.7 +4.1**
comp=Z,7.8nm,0.5s,baz=124,slow=22,SNR=4.6
ABKAR Akbulak array 13.87 319 Pn Pn 23 08 57.0 -1.9
ABKAR Akbulak array 13.87 319 Pn Pn 23 08 57.3 -1.7
DCZ Jazzator, Alta 13.94 39 *i* P Pn 23 09 01.8 +1.7
JHNI Jhansi 14.61 163 eP Pn 23 09 06.1 -3.1
AKTO Aktyubinsk 15.58 319 P Pn 23 09 21.0 -1.0
AKTO Aktyubinsk 15.58 319 ⇑Pn Pn 23 09 21.0 -1.0
comp=Z,27nm,0.9s
ZAA0 Zalesovo Array 16.17 24 Pn Pn 23 09 29.1 -0.5
ZAA0 IAmb IAmb 23 09 38.2
comp=Z,110nm,1.8s
ZAA0 Zalesovo Array 16.17 24 ⇓Pn Pn 23 09 29.2 -0.3
comp=Z,5.8nm,1.2s
ZALV Zalesovo Beam 16.17 24 Pn Pn 23 09 28.9 -0.6
ZALV Zalesovo Beam 16.17 24 Pn Pn 23 09 29.4 -0.2
comp=Z,0.7nm,0.3s,baz=204,slow=11,SNR=23
ZALV Lg Lg 23 14 06.9
comp=Z,0.2nm,0.3s,baz=211,slow=25,SNR=2.9
ZALV LR LR 23 15 56.8
comp=Z,317nm,19.4s,baz=220,slow=38
comp=Z,13nm,0.7s
GOMU GeErMu 16.85 95 P Pn 23 09 35.6 -3.1
GOMU pP P 23 09 40.5 -0.3
GOMU pmax pmax
comp=Z,6.0nm,1.1s
GOMU LR LR
comp=Z,220nm,10.6s
GOMU LR LR
comp=Z,320nm,11.6s
GOMU LR LR
comp=Z,360nm,11.8s
LSA Lhasa 17.26 120 Pn 23 09 43.4 -0.6
LSA Lhasa 17.26 120 P Pn 23 09 43.4 -0.6
LSA pmax pmax
comp=Z,11nm,0.7s
SVE Sverdlovsk 19.32 338 eP Pn 23 10 09.1 +0.6
SVE eS Sn **23 13 40.8 -4.0**
SVE pmax pmax
comp=Z,21nm,0.9s
LKRN Lenkeran, Azer 19.49 275 P P 23 10 10.0 +0.6
ARU Arti 19.65 334 P P 23 10 11.3 +0.3
ARU Arti 19.65 334 *c* *i*P P 23 10 12.0 +0.9
ARU S Sn **23 13 53.0 +0.2**
ARU pmax pmax
comp=Z,31nm,1.0s
ARU Arti 19.65 334 P Pn 23 10 12.6 +0.1
baz=141,slow=7.8,SNR=22
ARU LR LR 23 18 15.3
comp=Z,275nm,21.4s,baz=138,slow=38
comp=Z,20nm,0.8s
GTA Gaotai 19.98 82 ⇑P P 23 10 16.3 +1.3
GTA pmax pmax
comp=Z,54nm,1.0s
GTA LR LR
comp=Z,200nm,10.0s
GTA LR LR
comp=Z,170nm,12.7s
GTA LR LR
comp=Z,220nm,10.4s
MAK Makhachkala 20.09 288 *d* iP P 23 10 16.1 +0.1
MAK *e**SP sP 23 10 32.7 +10
MAK eS **S 23 14 01.2 -0.1**
MAK pmax pmax
comp=Z,140nm,0.9s
MAK MLR MLR
comp=Z,68nm,11.0s
SEKA Sheki 20.38 283 P P 23 10 18.7 -0.5
SHL Shillong 20.57 127 eP P 23 10 20.4 -1.1
SHL IVmB_BB 23 10 31.9
comp=Z,180nm,1.0s
WSAR Wadi Sarin 20.82 223 P P 23 10 24.2 +0.2
comp=Z,13nm,0.9s,baz=34,slow=1.5,SNR=8.1
comp=Z,13nm,0.9s
UOSS Minazif 20.85 231 P P 23 10 24.2 -0.1
GANJ Ganja 21.09 282 P P 23 10 27.1 +0.2
GROC Groznyy 21.35 289 eP P 23 10 31.3 +1.7
GROC eS **S 23 14 27.1 +0.9**
NAX Nakhchivan 21.93 278 P P 23 10 36.3 +0.4
BELG Belogornoye 22.15 314 *i* P P 23 10 38.1 0.0
BELG pmax pmax
comp=Z,13nm,0.9s
BELG Belogornoye 22.15 314 P P 23 10 38.6 +0.5
comp=Z,73nm,0.9s,baz=168,slow=2.6,SNR=21
BELG LR LR 23 20 15.2
comp=Z,225nm,18.0s,baz=128,slow=39
comp=Z,73nm,0.9s
MOY Mondy 22.33 48 eP P 23 10 41.6 +1.5
MOY pmax pmax
comp=Z,69nm,1.7s
GNI Garni 22.35 281 P P 23 10 41.9 +1.4
GNI IAmb IAmb 23 11 01.5
comp=Z,77nm,1.1s
GNI Garni 22.35 281 *i* P P 23 10 42.7 +2.2
GNI Garni 22.35 281 P P 23 10 43.1 +2.5
comp=Z,13nm,0.8s,baz=359,slow=8.1,SNR=9.5
GNI LR LR 23 20 45.6
comp=Z,42nm,19.4s,baz=98,slow=40
comp=Z,13nm,0.8s
ONI Oni 23.08 287 P P 23 10 50.4 +2.2
ONI Oni 23.08 287 P P 23 10 50.4 +2.2
ONI pmax pmax
comp=Z,152nm,1.8s
ZAK Zakamensk 23.27 53 eP P 23 10 50.2 +0.2
ZAK pmax pmax
comp=Z,21nm,1.0s
GOF Gofitskoye 23.38 294 *c*eP P 23 10 59.7 +8.7
KBZ Khabaz 23.45 290 *i* P P 23 10 52.9 +1.1
KBZ pmax pmax
comp=Z,19nm,1.0s
KBZ Khabaz 23.45 290 P P 23 10 54.1 +2.3
comp=Z,4.2nm,0.9s,baz=160,slow=4.8,SNR=7.3
KBZ LR LR 23 21 29.5
comp=Z,76nm,20.1s,baz=88,slow=40
comp=Z,4.2nm,0.9s
KIV Kislovodsk 23.61 291 P P 23 10 54.4 +1.0
KIV IAmb IAmb 23 11 18.5
comp=Z,40nm,0.9s
KIV Kislovodsk 23.61 291 eP P 23 10 53.7 +0.3
KIV eS **S 23 15 05.2 -2.2**
KIV pmax pmax

KIV MLR MLR
comp=Z,20nm,1.0s
comp=Z,47nm,14.0s
LZH Lanzhou 23.85 89 ⇓P **P 23 10 57.7 +1.8**
LZH pmax pmax
comp=Z,35nm,1.4s
LZH LR LR
comp=Z,510nm,12.7s
LZH LR LR
comp=Z,210nm,10.3s
LZH LR LR
comp=Z,230nm,10.3s
IRK Irkutsk 24.43 49 *e*P **P 23 11 01.3 +0.4**
IRK pmax pmax
comp=Z,35nm,3.8s
KIRV Kirov 24.63 329 *ce*P **P 23 11 03.3 +0.7**
KIRV Kirov 24.63 329 P **P 23 11 03.9 +1.3**
comp=Z,11nm,0.5s,baz=134,slow=9.8,SNR=6.0
KIRV LR LR 23 21 23.4
comp=Z,573nm,18.1s,baz=129,slow=38
comp=Z,11nm,0.5s
GURO Guroymak-BITLI 24.70 278 P **P 23 11 04.3 +0.6**
SONM Songino Array 24.75 60 P **P 23 11 03.8 -0.3**
SONM IAmb IAmb 23 11 06.3
comp=Z,16nm,0.8s
SONM Songino Array 24.75 60 P **P 23 11 04.7 +0.6**
comp=Z,15nm,0.9s,baz=261,slow=11,SNR=111
SONM LR LR 23 21 36.0
comp=Z,269nm,19.4s,baz=246,slow=39
comp=Z,15nm,0.9s
ULN Ulaanbaatar 25.19 60 P **P 23 11 07.9 -0.2**
ULN IAmb IAmb 23 11 12.0
comp=Z,27nm,1.1s
ULN Ulaanbaatar 25.19 60 *ce*P **P 23 11 08.6 +0.5**
ULN pmax pmax
comp=Z,25nm,1.0s
VRH Novokhopyorsk 25.20 308 *e*P **P 23 11 08.8 +0.9**
VRH pmax pmax
comp=Z,10.0nm,0.6s
TNCH TengChong 25.27 118 *e*P **P 23 11 11.9 +3.0**
TNCH S **S 23 15 32.3 -2.1**
TNCH pmax pmax
comp=Z,29nm,1.3s
TNCH pmax pmax
comp=Z,87nm,5.8s
TNCH LR LR
comp=Z,140nm,15.9s
TNCH LR LR
comp=Z,140nm,18.1s
TNCH LR LR
comp=Z,140nm,20.8s
SOC Sochi 25.77 290 *e*P **P 23 11 12.6 -0.5**
SOC *e* 23 11 51.8
SOC *e*S **S 23 15 38.9 -2.9**
SOC *e*SS **SnSn 23 16 47.2 +10**
SOC MLR MLR
comp=Z,102nm,20.0s
PZH PanZhiHua 26.62 111 P **P 23 11 23.6 +2.5**
PZH S **S 23 15 55.2 -0.5**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,4.3s
PZH LR LR
comp=Z,190nm,12.4s
PZH LR LR
comp=Z,120nm,13.3s
PZH LR LR
comp=Z,110nm,11.8s
VORD Divnogorie 26.63 307 *e*P **P 23 11 20.3 -0.6**
VORD pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 26.76 307 *e*P **P 23 11 21.1 -0.9**
VSR pmax pmax
comp=Z,10.0nm,1.1s
VORR Voronezh 26.84 308 P **P 23 11 23.9 +1.2**
VORR pmax pmax
comp=Z,12nm,0.6s
LPSR Galich'ya Gora 27.23 310 *e*P **P 23 11 27.2 +1.0**
LPSR pmax pmax
comp=Z,40nm,1.3s
XAN Xi'an 28.46 90 ⇑P **P 23 11 37.8 +0.3**
XAN pP sP 23 11 49.6 +4.7
XAN pmax pmax
comp=Z,18nm,1.1s
HHC Hu-ho-hao-te 28.65 75 *e*P **P 23 11 42.5 +3.3**
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,92nm,5.3s
HHC LR LR
comp=Z,180nm,15.3s
HHC LR LR
comp=Z,220nm,14.5s
HHC LR LR
comp=Z,190nm,14.1s
RAYN Ar Rayn 28.86 245 P **P 23 11 41.5 +0.4**
RAYN Ar Rayn 28.86 245 P **P 23 11 41.5 +0.4**
RAYN pmax pmax
comp=Z,28nm,2.0s
OBN Obninsk 29.25 315 *i*P **P 23 11 44.3 +0.1**
OBN pmax pmax
comp=Z,7.0nm,1.0s
OBN MLR MLR
comp=Z,156nm,18.0s
OBN Obninsk 29.25 315 LR LR 23 24 14.2
comp=Z,166nm,20.7s,baz=48,slow=38
KOD Kodaikanal 29.40 173 *ex* **P 23 11 46.3 +0.1**
CRAI Chiangrai 29.80 123 P **P 23 11 49.2 -0.3**
KLMR Klimovskoe 30.04 326 *e*P **P 23 11 49.1 -2.1**
KLMR pmax pmax
comp=Z,33nm,1.4s
CMAR Chiang Mai Arr 30.20 127 *e*P **P 23 11 52.4 -0.6**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 30.20 127 P **P 23 11 51.7 -1.3**
comp=Z,1.1nm,0.3s,baz=313,slow=9.1,SNR=8.3
CMAR PcP **PcP 23 14 54.8 +0.9**
comp=Z,0.9nm,0.3s,baz=320,slow=4.0,SNR=1.6
CMAR LR LR 23 26 05.6
comp=Z,35nm,18.1s,baz=300,slow=41
comp=Z,1.1nm,0.3s
ENH Enshi 30.46 97 P **P 23 11 54.4 -0.8**
ENH IAmb IAmb 23 11 58.0
comp=Z,10nm,0.8s
ENH Enshi 30.46 97 P **P 23 11 56.5 +1.3**
BR131 Keskin Array S 30.82 283 P **P 23 11 59.0 +0.6**
BR131 Keskin Array S 30.82 283 *i*P **P 23 11 58.9 +0.5**
BRTR Keskin Array B 30.82 283 P **P 23 11 59.2 +0.8**
BRTR Keskin Array B 30.82 283 *e*P **P 23 12 00.4 +2.0**
BRTR pmax pmax
comp=Z,7.0nm,0.9s
BRTR Keskin Array B 30.82 283 P **P 23 12 00.5 +2.0**
comp=Z,6.4nm,0.9s,baz=92,slow=5.1,SNR=25
comp=Z,6.4nm,0.9s
PHRA Phrae 30.97 125 P **P 23 11 58.8 -1.0**
LYN LuoYang 31.02 87 ⇓P **P 23 12 01.8 +1.7**
LYN PP **PnPn 23 13 04.7 +3.6**
LYN pmax pmax
comp=Z,26nm,0.8s
SLVN Son La 31.41 117 P **P 23 12 03.7 0.0**
BOD Bodaibo 31.52 41 *e*P **P 23 12 00.0 -4.2**
BOD pmax pmax
comp=Z,20nm,1.2s
MMAI Mount Meron Ar 31.53 270 P **P 23 12 06.0 +1.3**
comp=Z,0.3nm,0.4s,baz=60,slow=9.1,SNR=4.4
MMAI PcP **PcP 23 14 58.2 +0.9**
comp=Z,1.5nm,0.6s,baz=79,slow=4.3,SNR=7.7
MMAI LR LR 23 27 07.4
comp=Z,41nm,18.3s,baz=58,slow=41
comp=Z,0.3nm,0.4s
HNS HongShan 31.82 81 ⇑P **P 23 12 08.1 +1.0**
HNS *e*S **S 23 17 17.7 +0.6**
HNS pmax pmax
comp=Z,14nm,1.1s
HNS LR LR
comp=Z,350nm,15.5s
HNS LR LR
comp=Z,160nm,15.9s
HNS LR LR
comp=Z,170nm,16.7s
GHAJ Ghor Haditha 32.11 267 P **P 23 12 10.9 +1.2**
GHAJ IAmb IAmb 23 12 14.7
comp=Z,7.5nm,0.8s
BJT Baijiatuau 32.26 75 P **P 23 12 11.9 +1.0**
AKASG Malin Array Be 32.94 305 *e*P **P 23 12 17.5 +0.8**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 32.94 305 P **P 23 12 17.3 +0.5**
comp=Z,0.5nm,0.3s,baz=80,slow=7.3,SNR=15
AKASG LR LR 23 27 39.9
comp=Z,139nm,18.1s,baz=57,slow=40
comp=Z,0.5nm,0.3s
AKBB Malin Array Si 32.94 305 P **P 23 12 15.8 -0.9**
AKBB IAmb IAmb 23 12 25.5
comp=Z,7.7nm,0.7s
AKBB Malin Array Si 32.94 305 *ce*P **P 23 12 17.3 +0.6**
AKBB pmax pmax
comp=Z,7.0nm,1.1s
KIEV Kiev 32.95 305 ⇑P **P 23 12 16.6 -0.2**
KIEV Kiev 32.95 305 P **P 23 12 16.2 -0.6**
KIEV IAmb IAmb 23 12 25.5
comp=Z,6.8nm,0.7s
KIEV Kiev 32.95 305 P **P 23 12 16.6 -0.2**
SORM Soroca 33.51 300 ⇑P **P 23 12 22.3 +0.5**
SORM Soroca 33.51 300 ⇑P **P 23 12 22.3 +0.5**
GULI GuiLin 33.67 104 ⇑P **P 23 12 23.6 +0.2**
GULI pmax pmax
comp=Z,20nm,0.8s
TPGR Topolog 33.74 294 ⇑P **P 23 12 26.2 +2.3**
PUL Pulkovo 33.83 321 *i*P **P 23 12 22.7 -1.7**
PUL pmax pmax
comp=Z,66nm,0.5s
VLDR Vladesti 33.87 296 ⇓P **P 23 12 26.2 +1.3**
CFR Carcaliu 33.90 295 ⇓P **P 23 12 26.3 +1.1**
CFR Carcaliu 33.90 295 ⇓P **P 23 12 26.3 +1.1**
MNK Minsk 34.05 311 *i*P **P 23 12 24.4 -2.0**
comp=E,8.0nm,0.9s
MNK *i*P **P 23 12 24.4 -2.0**
comp=N,8.0nm,0.8s
MNK *i*P **P 23 12 24.4 -2.0**
comp=Z,4.0nm,0.8s,baz=96
MNK *i*pP **sP 23 12 37.4 +3.6**
MNK *i*PP PP 23 13 55.6 +12
MNK *i*S **S 23 17 46.4 -4.9**
MNK *i*sS sS 23 18 09.0 +9.0
MNK *i*SS **SS 23 20 23.6 +5.2**
MNK *i*LQ LQ 23 23 44.6
MNK *i*LR LR 23 26 19.7
MNK *i*LRM MLR 23 27 34.1
comp=E,131nm,19.9s
MNK *i*LRM MLR 23 27 41.8
comp=N,390nm,18.6s
MNK *i*LRM MLR 23 29 22.4
comp=Z,136nm,16.9s
MNK Minsk 34.05 311 *i*P **P 23 12 24.3 -2.0**
MNK *i* 23 13 55.5
MNK *i*S **S 23 17 46.4 -4.9**
MNK *i*SS **SS 23 20 23.5 +5.2**
MNK pmax pmax
comp=Z,4.0nm,0.9s
MNK pmax pmax
comp=N,8.0nm,0.9s
MNK pmax pmax
comp=E,8.0nm,0.9s
MNK MLR MLR
comp=E,131nm,20.0s
MNK MLR MLR
comp=N,390nm,19.0s
MNK MLR MLR
comp=Z,136nm,17.0s
VALR Valaam 34.06 324 *i*P **P 23 12 26.4 0.0**
VALR pmax pmax
comp=Z,13nm,1.3s
WHN Wuhan 34.08 93 P **P 23 12 28.2 +1.3**
WHN sP **pP 23 12 32.5 +0.3**
WHN pmax pmax
comp=Z,62nm,1.2s
WHN LR LR
comp=Z,490nm,14.5s
ODBI Odobesti 34.59 296 ⇓P **P 23 12 33.1 +2.0**
NACGM Naroch 34.73 312 *e*P **P 23 12 32.2 0.0**
comp=Z,11nm,0.9s,baz=96
HORU Horodok 34.74 302 P **P 23 12 33.3 +0.8**
TESR Tescani 34.79 297 ⇑P **P 23 12 34.0 +1.1**
SPBR Spulber 34.80 296 ⇓P **P 23 12 34.1 +1.1**
VRI Vrincioaia 34.80 296 ⇑P **P 23 12 35.4 +2.3**
VRI Vrincioaia 34.80 296 ⇑P **P 23 12 35.4 +2.3**
PLOR Plostina 34.86 296 ⇑P **P 23 12 36.0 +2.4**
PLOR Plostina 34.86 296 ⇑P **P 23 12 36.0 +2.4**
NEHR Nehoiu 35.16 295 ⇑P **P 23 12 39.5 +3.3**
COVR Voineasa-Covas 35.17 296 ⇑P **P 23 12 39.3 +3.0**
TURR Turia 35.27 297 ⇑P **P 23 12 39.3 +2.1**
VSU Vasula 35.30 318 *i*P **P 23 12 37.6 +0.5**
VSU pmax pmax
comp=Z,7.0nm,0.9s
MLR Muntele Rosu 35.40 296 ⇓P **P 23 12 41.2 +2.9**
MLR Muntele Rosu 35.40 296 P **P 23 12 39.6 +1.3**
MLR IAmb IAmb 23 12 47.6
comp=Z,18nm,1.0s
MLR Muntele Rosu 35.40 296 ⇓P **P 23 12 41.2 +2.9**
MLR Muntele Rosu 35.40 296 LR LR 23 28 35.0
comp=Z,88nm,18.6s,baz=40,slow=39
LVZ Lovozero 35.52 336 P **P 23 12 39.4 +0.5**
LVZ Lovozero 35.52 336 P **P 23 12 39.4 +0.5**
LVZ pmax pmax
comp=Z,182nm,2.0s
BURAR Bucovina Array 35.65 299 ⇓P **P 23 12 43.3 +2.8**
BURAR Bucovina Array 35.65 299 P **P 23 12 41.2 +0.8**
BURAR Bucovina Array 35.65 299 ⇓P **P 23 12 43.3 +2.8**
BUR08 Bucovina Ar. S 35.66 299 P **P 23 12 40.3 -0.2**
DOPR Dopca 35.72 296 ⇑P **P 23 12 43.5 +2.5**
ELND Elena 35.87 291 ⇑P **P 23 12 45.1 +2.8**
VOIR 36.03 296 ⇑P **P 23 12 46.3 +2.6**
VOIR 36.03 296 ⇑P **P 23 12 46.3 +2.6**
HUMR Humele 36.22 294 ⇓P **P 23 12 46.4 +1.1**
FIA1 FINESS Array S 36.30 323 P **P 23 12 46.1 +0.4**
FINES FINESS Array B 36.30 323 P **P 23 12 46.3 +0.6**
FINES FINESS Array B 36.30 323 P **P 23 12 46.5 +0.8**
comp=Z,4.3nm,0.4s,baz=112,slow=9.7,SNR=131
FINES LR LR 23 28 18.1
comp=Z,208nm,21.9s,baz=104,slow=37
comp=Z,4.3nm,0.4s
ARR Arges 36.33 296 ⇑P **P 23 12 48.3 +2.1**
UBPT Khong Chiam 36.71 122 P **P 23 12 48.9 -0.8**
NJ2 Nanjing 36.91 87 *e*P **P 23 12 52.3 +1.1**
NJ2 pmax pmax
comp=Z,15nm,0.8s
LOT Lotru 36.92 296 ⇑P **P 23 12 53.5 +2.2**
KWP Kalwaria Pacla 37.14 303 P **P 23 12 52.7 -0.4**
KWP Kalwaria Pacla 37.14 303 P **P 23 12 52.7 -0.4**
MARR Marisel-Cluj 37.18 298 ⇑P **P 23 12 55.4 +1.9**
GZR Gura Zlata 37.61 296 ⇑P **P 23 12 59.7 +2.5**
HERR Herculane 37.96 295 ⇑P **P 23 13 00.9 +0.9**
SURR Surduc 38.01 297 ⇑P **P 23 13 02.7 +2.3**
BLKB Belogradchik 38.02 293 ⇑P **P 23 13 02.5 +1.9**
ZEA Zeya 38.32 50 *e*P **P 23 13 04.3 +1.4**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
BZS Buzias 38.38 297 ⇑P **P 23 13 05.6 +2.1**
BZS Buzias 38.38 297 ⇑P **P 23 13 05.6 +2.1**
MDVR Moldovita 38.47 295 ⇓P **P 23 13 05.4 +1.1**
HEH HeiHe 38.59 56 *e*P **P 23 13 05.4 +0.2**
HEH pmax pmax
comp=Z,43nm,0.9s
NIE Niedzica 38.73 303 *e*P **P 23 13 08.2 +1.7**
NIE Niedzica 38.73 303 P **P 23 13 08.5 +2.0**
IDI Anoyia 38.77 280 P **P 23 13 07.3 +0.3**
IDI IAmb IAmb 23 13 43.2
comp=Z,34nm,1.4s
OJC Ojcow 38.97 304 *e*P **P 23 13 09.5 +1.1**
OJC Ojcow 38.97 304 P **P 23 13 08.6 +0.2**
OJC Ojcow 38.97 304 P **P 23 13 08.6 +0.2**
OJC pmax pmax
comp=Z,5.0nm,0.7s
ARCES ARCESS Array B 39.23 335 P **P 23 13 10.9 +0.5**
ARCES ARCESS Array B 39.23 335 P **P 23 13 10.5 +0.1**
comp=Z,7.0nm,0.5s,baz=104,slow=7.2,SNR=33
ARCES LR LR 23 29 10.9
comp=Z,68nm,19.0s,baz=134,slow=36
comp=Z,7.0nm,0.5s
LANS Liptovska Anna 39.30 303 *e*P **P 23 13 13.2 +1.9**
LANS Liptovska Anna 39.30 303 *e*P **P 23 13 13.2 +1.9**
VYHS Vyhne 39.80 302 *e*P **P 23 13 15.4 0.0**
VYHS Vyhne 39.80 302 *e*P **P 23 13 15.4 0.0**
YAK Yakutsk 40.13 37 P **P 23 13 16.2 -1.7**
YAK Yakutsk 40.13 37 *e*P **P 23 13 17.7 -0.2**
YAK *e**PP **pP 23 13 21.2 -2.1**
YAK *e*S **S 23 19 24.2 +0.6**
YAK *e**SS **pS 23 19 28.5 -1.0**
YAK *e*SSS SSS 23 22 46.7
YAK pmax pmax
comp=Z,13nm,1.3s
YAK smax smax
comp=E,27nm,1.7s
YAK smax smax
comp=N,26nm,2.6s
YAK MLR MLR
comp=Z,76nm,15.0s
YAK MLR MLR
comp=E,84nm,13.0s
YAK MLR MLR
comp=N,51nm,13.0s
YAK Yakutsk 40.13 37 LR LR 23 30 50.2
comp=N,65nm,21.7s,baz=167,slow=38
MORH Mrgy, Hungar 40.31 298 ⇑P **P 23 13 21.0 +1.4**
MAUC Maruska 40.34 303 *e*P P 23 13 27.2 +7.3
MORC Moravsky Berou 40.46 304 ⇑P **P 23 13 22.1 +1.2**
MORC Moravsky Berou 40.46 304 P **P 23 13 20.9 0.0**
MORC IAmb IAmb 23 13 44.4
comp=Z,19nm,1.8s
MORC Moravsky Berou 40.46 304 *e*P **P 23 13 21.4 +0.5**
MORC Moravsky Berou 40.46 304 ⇑P **P 23 13 22.1 +1.2**
JAVC Velka Javorina 40.51 302 *e*P **P 23 13 23.3 +2.0**
MODS Modra-Piesok 40.84 302 *e*P **P 23 13 25.7 +1.6**
MODS Modra-Piesok 40.84 302 *e*P **P 23 13 25.7 +1.6**
MODS *e* 23 36 30.7
KRLC Kraliky 40.91 304 *e*P **P 23 13 25.6 +1.0**
MDJ Mudanjiang 40.95 64 P **P 23 13 26.7 +1.8**
MDJ pmax pmax
comp=Z,4.0nm,1.0s
MDJ pmax pmax
comp=Z,150nm,4.9s
BLEU Blekinge 41.00 314 *i*P **P 23 13 24.2 -1.0**
KSP Ksiaz 41.12 306 *e*P P 23 13 21.2 -5.0
VRAC Vranov 41.14 303 *e*P **P 23 13 26.9 +0.4**
VRAC Vranov 41.14 303 LR LR 23 33 01.8
comp=Z,75nm,19.4s,baz=87,slow=40
DPC Dobruska-Polom 41.17 305 *e*P **P 23 13 28.0 +1.3**
CHVC Chvalec 41.30 305 *e*P **P 23 13 29.1 +1.3**
KRUC Moravsky 41.31 303 *e*P **P 23 13 28.2 +0.3**
KLR Kul'dur 41.51 57 *ce*P **P 23 13 28.8 -0.7**
KLR pmax pmax
comp=Z,9.0nm,1.0s
KSAR Wonju Array Be 41.77 75 P **P 23 13 30.8 -0.9**
KSAR Wonju Array Be 41.77 75 P **P 23 13 30.8 -0.9**
KSRS Korea Array 41.79 75 P **P 23 13 31.6 -0.2**
comp=Z,4.7nm,0.9s,baz=283,slow=6.8,SNR=12
comp=Z,4.7nm,0.9s
CONA Conrad Observa 41.85 301 *i*P **P 23 13 34.3 +1.8**
comp=Z,12nm,1.5s
TIXI Tiksi 42.05 23 P **P 23 13 33.1 -0.5**
TIXI IAmb IAmb 23 13 36.4
comp=Z,18nm,0.7s
TIXI Tiksi 42.05 23 *ce*P **P 23 13 32.5 -1.1**
TIXI pmax pmax
comp=Z,16nm,0.6s
TIXI Tiksi 42.05 23 LR LR 23 31 57.4
comp=Z,152nm,20.3s,baz=221,slow=38
TIXI Tiksi 42.05 23 P **P 23 13 33.5 -0.1**
DEL Delary 42.08 314 *i*P **P 23 13 33.0 -1.0**
HFS Hagfors 42.13 320 P **P 23 13 34.9 +0.5**
comp=Z,5.7nm,0.5s,baz=98,slow=11,SNR=45
HFS LR LR 23 31 50.2
comp=Z,159nm,21.1s,baz=94,slow=37
comp=Z,5.7nm,0.5s
PVCC Panska Ves 42.25 305 *e*P **P 23 13 36.9 +1.4**
PRU Pruhonice 42.35 304 *e*P **P 23 13 38.0 +1.6**
LUNU Lund 42.36 313 *i*P **P 23 13 35.6 -0.7**
SSLB Suanglung 42.54 97 P **P 23 13 38.0 -0.2**
SSLB IAmb IAmb 23 13 42.0
comp=Z,57nm,1.7s
BRG Berggiesshubel 42.59 306 *e*P **P 23 13 39.6 +1.2**
BRG Amp 23 13 42.0
comp=Z,4.4nm,0.6s
BRG Amp 23 33 16.0
comp=Z,0.3nm,16.7s
BRG Berggiesshubel 42.59 306 *e*P **P 23 13 39.5 +1.2**
BRG pmax pmax
comp=Z,4.0nm,0.6s
BRG MLR MLR
comp=Z,349nm,16.7s
BORU Boraas 42.63 316 *i*P **P 23 13 38.0 -0.5**
IPM Ipoh 42.70 138 P **P 23 13 37.3 -2.3**
USRK Ussuriysk Ar. 42.71 64 P **P 23 13 39.1 -0.2**
comp=Z,1.9nm,0.7s,baz=271,slow=8.4,SNR=2.6
comp=Z,1.9nm,0.7s
GEC2 GERESS Array S 43.10 303 P **P 23 13 42.9 +0.4**
GERES GERESS Array B 43.10 303 P **P 23 13 43.6 +1.1**
GERES GERESS Array B 43.10 303 P **P 23 13 44.0 +1.5**
comp=Z,3.0nm,0.7s,baz=58,slow=10,SNR=15
GERES LR LR 23 32 38.0
comp=Z,77nm,18.5s,baz=72,slow=37
comp=Z,3.0nm,0.7s
PSI Prapat 43.10 142 P **P 23 13 41.7 -1.2**
PSI pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 43.11 307 P **P 23 13 42.4 -0.1**
CLL IAmb IAmb 23 14 44.9
comp=Z,34nm,1.9s
CLL Collm 43.11 307 *e*P **P 23 13 42.0 -0.5**
CLL Collm 43.11 307 *e*P **P 23 13 42.0 -0.5**
CLL *e*PP **PP 23 15 23.0 +0.5**
CLL AMS AMS 23 33 00.0
comp=Z,100nm,21.6s
NC405 NORSAR Array S 43.12 321 P **P 23 13 42.2 -0.2**
NC405 IAmb IAmb 23 13 47.1
comp=Z,24nm,1.2s
KHC Kasperske Hory 43.12 303 P **P 23 13 43.0 +0.3**
KHC IAmb IAmb 23 13 48.5
comp=Z,20nm,1.6s
KHC Kasperske Hory 43.12 303 *ce*P **P 23 13 44.5 +1.8**
KHC pmax pmax
comp=Z,7.0nm,1.0s
KHC Kasperske Hory 43.12 303 *e*P **P 23 13 43.1 +0.4**
RPSI Rantau Prapat 43.19 142 P **P 23 13 41.7 -1.7**
NC602 NORSAR Array S 43.20 321 P **P 23 13 42.5 -0.6**
NC602 IAmb IAmb 23 13 48.8
comp=Z,17nm,1.1s
NORES NORESS Array B 43.20 321 P **P 23 13 44.0 +0.9**
NB2 NORSAR Subarra 43.36 321 P **P 23 13 44.5 +0.1**
comp=Z,7.5nm,0.8s,baz=92,slow=8.6
NOA NORSAR Array B 43.36 321 P **P 23 13 44.8 +0.3**
comp=Z,6.2nm,0.9s,baz=101,slow=7.3,SNR=22
NOA LR LR 23 32 37.7
comp=Z,153nm,20.3s,baz=90,slow=37
comp=Z,6.2nm,0.9s
STRU Stroemstad 43.41 318 *i*P **P 23 13 42.2 -2.6**
SABO M.te Sabotino 43.79 299 P **P 23 13 48.3 +0.2**
SABO IAmb IAmb 23 13 58.6
comp=Z,456nm,1.9s
GSI Gunungsitoli 43.79 145 P **P 23 13 48.2 -0.1**
GSI IAmb IAmb 23 13 49.5
comp=Z,27nm,0.9s
LESA Schwarzleotal 44.06 301 *e*P **P 23 13 51.5 +1.2**
comp=Z,8.0nm,1.1s
KONO Kongsberg 44.20 319 P **P 23 13 51.1 0.0**
KONO Kongsberg 44.20 319 P **P 23 13 51.1 0.0**
KONO pmax pmax
comp=Z,69nm,1.6s
WTTA Wattenberg 44.79 301 *e*P **P 23 13 57.1 +0.8**
comp=Z,17nm,1.0s
WATA Walderalm 44.81 301 *e*P **P 23 13 56.8 +0.4**
comp=Z,2.8nm,0.7s
NRCA Norcia 44.98 295 P **P 23 13 58.2 +0.5**
SPITS Spitsbergen Ar 45.04 346 P **P 23 13 56.9 -0.8**
comp=Z,9.1nm,0.9s,baz=59,slow=12,SNR=2.6
SPITS LR LR 23 35 18.1
comp=Z,129nm,19.6s,baz=79,slow=39
comp=Z,9.1nm,0.9s
SQTA Sankt Quirin 45.08 301 *e*P **P 23 13 59.2 +0.6**
comp=Z,4.6nm,1.4s
RETA Reutte 45.31 302 *e*P **P 23 14 01.5 +1.2**
comp=Z,9.7nm,1.4s
JNU Nakatsue 45.69 80 P **P 23 14 03.1 -0.3**
FUORN Ofenpass-Fuorn 45.86 301 P **P 23 14 04.9 0.0**
FUORN IAmb IAmb 23 14 45.0
comp=Z,17nm,1.5s
DAVA Damuels 45.94 302 *i*P **P 23 14 06.3 +0.9**
comp=Z,11nm,1.0s
DAVOX Davos/Dischmat 46.08 301 LR LR 23 34 00.7
comp=Z,74nm,20.8s,baz=79,slow=37
KBS Kingsbay 46.13 346 P **P 23 14 06.7 +0.4**
KBS Kingsbay 46.13 346 P **P 23 14 06.7 +0.4**
KBS pmax pmax

comp=Z,35nm,1.2s
KBS **Kingsbay** 46.13 346 P P 23 14 08.2 +1.9
JOW **Kunigami** 46.59 89 P P 23 14 10.0 -0.6
JOW **Kunigami** 46.59 89 P P 23 14 09.3 -1.2
comp=Z,9.6nm,1.0s,baz=284,slow=22,SNR=5.3
comp=Z,9.6nm,1.0s
BFO **Black Forest** 46.69 303 P P 23 14 13.5 +2.4
PDSI **Padang** 47.07 142 P P 23 14 13.3 -1.1
comp=Z,31nm,0.9s
SENIN **Lac Senin/Sane** 47.90 301 P P 23 14 21.0 +0.2
YSS **Yuzh-Sakhalins** 49.21 58 *ce* P P 23 14 31.3 +0.8
YSS pmax pmax
comp=Z,22nm,1.3s
JMBI **JAMBI** 49.25 139 P P 23 14 32.2 +1.0
JGF **Kuroka** 49.52 73 P P 23 14 32.7 -0.4
JGF IAmb IAmb 23 14 33.9
comp=Z,6.2nm,0.9s
MJB9 **Matsu-Tunnel** 49.75 72 P P 23 14 34.2 -0.6
MJB9 IAmb IAmb 23 14 38.6
comp=Z,7.5nm,0.8s
MAJO **Matsushiro** 49.75 72 *i* P P 23 14 34.5 -0.4
MAJO pmax pmax
comp=Z,9.0nm,0.9s
MAJO **Matsushiro** 49.75 72 P P 23 14 33.8 -1.1
MJAR **Matsushiro Arr** 49.76 72 P P 23 14 34.4 -0.5
comp=Z,8.5nm,1.0s,baz=294,slow=8.8,SNR=14
comp=Z,8.5nm,1.0s
MJA0 **Matsu Arr-Jizo** 49.78 72 *e* P P 23 14 34.6 -0.6
MJA0 pmax pmax
comp=Z,7.0nm,0.9s
LODK **Lodwar** 50.13 234 P P 23 14 38.2 +0.2
LODK IAmb IAmb 23 14 42.8
comp=Z,7.2nm,1.1s
KEST **Kesra** 50.27 287 P P 23 14 39.6 +0.7
comp=Z,2.7nm,0.8s,baz=20,slow=2.4,SNR=4.6
KEST LR LR 23 41 34.7
comp=Z,69nm,18.8s,baz=332,slow=43
comp=Z,2.7nm,0.8s
SEY **Seymchan** 50.58 35 *i* P P 23 14 40.8 +0.1
SEY pmax pmax
comp=Z,2.0nm,0.9s
KKM **Kota Kinabalu** 50.60 120 P P 23 14 42.3 +0.7
PMBI **Palembang** 50.93 139 P P 23 14 44.4 +0.5
comp=Z,180nm,0.5s
PPBI **Pangkal Pinang** 50.99 137 P P 23 14 44.6 +0.2
comp=Z,15nm,0.6s
NOR **Nord** 51.20 349 *i* P P 23 14 44.7 -0.5
NOR IAmb IAmb 23 14 49.8
comp=Z,3.4nm,0.8s
EKA **Eskdalemuir Ar** 51.70 315 P P 23 14 49.6 +0.4
comp=Z,2.1nm,0.7s,baz=90,slow=8.8,SNR=4.2
comp=Z,2.1nm,0.7s
STKI **Sintang** 52.18 129 P P 23 14 54.7 +1.4
comp=Z,16nm,0.5s
BILL **Bilibino** 54.83 27 *e* P P 23 15 12.7 +0.6
BILL pmax pmax
comp=Z,18nm,2.5s
MBAR **Mbarara** 56.15 235 LR LR 23 40 38.8
comp=Z,54nm,18.5s,baz=38,slow=37
MBAR **Mbarara** 56.15 235 P P 23 15 23.1 +0.6
BORG **Borgarnes** 57.10 329 LR LR 23 39 46.3
comp=Z,88nm,18.6s,baz=64,slow=36
MPSI **Mapaga** 57.28 121 P P 23 15 31.6 +1.3
comp=Z,14nm,1.3s
ESDC **Sonseca Array** 58.06 297 P P 23 15 35.8 +0.1
ESDC **Sonseca Array** 58.06 297 P P 23 15 35.5 -0.1
comp=Z,1.8nm,0.7s,baz=51,slow=7.5,SNR=12
ESDC LR LR 23 41 38.0
comp=Z,50nm,18.6s,baz=120,slow=37
comp=Z,1.8nm,0.7s
NEEM **North Greenlan** 58.50 348 *i* P P 23 15 36.8 -1.7
NEEM IAmb IAmb 23 15 39.8
comp=Z,8.8nm,0.5s
MRSI **Marisa** 58.54 119 P P 23 15 40.1 +0.9
comp=Z,29nm,0.7s,comp=Z,1µm
SUMG **Summit** 58.89 341 P P 23 15 41.9 +0.6
SUMG IAmb IAmb 23 17 11.2
comp=Z,7.3nm,1.1s
SUMG **Summit** 58.89 341 P P 23 15 41.9 +0.6
SUMG pmax pmax
comp=Z,7.0nm,1.1s
TAM **Tamanrasset** 59.52 275 P P 23 15 46.3 +0.2
TAM IAmb IAmb 23 16 19.3
comp=Z,14nm,2.0s
TAM **Tamanrasset** 59.52 275 P P 23 15 46.3 +0.2
TAM pmax pmax
comp=Z,14nm,2.0s
TTSI **Tana Toraja** 59.78 124 P P 23 15 49.1 +1.4
comp=Z,9.2nm,1.0s
ICESG **Greenland Ices** 61.21 338 *i* P P 23 15 54.9 -2.3
ICESG IAmb IAmb 23 16 08.3
comp=Z,5.8nm,0.9s
TNTI **Ternate** 62.07 115 P P 23 16 02.8 -0.5
SANI **Sanana** 63.13 118 P P 23 16 10.4 0.0
comp=Z,18nm,1.1s
A21K **Barrow** 63.73 16 P P 23 16 13.7 +0.1
baz=318
C16K **Lisburne Hills** 63.77 21 P P 23 16 13.6 -0.3
C16K IAmb IAmb 23 16 14.7
comp=Z,5.0nm,0.8s
C16K **Lisburne Hills** 63.77 21 P P 23 16 13.2 -0.7
baz=312
B18K **Kokolik River** 63.95 19 P P 23 16 15.1 0.0
baz=315
C17K **DeLong Mountai** 64.22 20 P P 23 16 16.6 -0.3
baz=314
C18K **Utukok River** 64.62 19 P P 23 16 19.8 +0.2
baz=316
C19K **Lookout Ridge** 64.69 19 P P 23 16 20.2 +0.2
C19K IAmb IAmb 23 16 21.3
comp=Z,4.1nm,0.7s
C19K **Lookout Ridge** 64.69 19 P P 23 16 20.3 +0.3
baz=317
GAMB **Gambell** 64.73 27 P P 23 16 20.3 0.0
baz=309
D17K **Noatak River** 64.79 21 P P 23 16 20.7 +0.1
baz=314
DY2G **Dye2** 64.82 337 *i* P P 23 16 19.0 -2.1
DY2G IAmb IAmb 23 16 44.8
comp=Z,4.7nm,0.0s
TNA **Tin City** 64.83 24 P P 23 16 20.9 +0.1
baz=311
F14K **Arctic Creek** 65.38 23 P P 23 16 24.9 +0.4
baz=312
B21K **Ikpikpuk River** 65.47 17 P P 23 16 24.9 0.0
B21K IAmb IAmb 23 16 28.4
comp=Z,7.6nm,0.8s
B21K **Ikpikpuk River** 65.47 17 P P 23 16 25.1 +0.2
baz=320
D19K **Kuna River** 65.50 19 P P 23 16 25.2 -0.1
baz=318
E18K **Tukpahlearik C** 65.66 20 P P 23 16 26.2 -0.1
baz=316
D20K **Etivluk River** 65.70 18 P P 23 16 26.6 0.0
baz=319
F15K **North Star Dit** 65.73 23 P P 23 16 27.1 +0.4
baz=314
RES **Resolute Bay** 65.77 357 P P 23 16 26.6 -0.2
RES IAmb IAmb 23 16 55.2
comp=Z,13nm,1.8s
RES **Resolute Bay** 65.77 357 P P 23 16 26.6 -0.2
RES pmax pmax
comp=Z,13nm,1.8s
C21K **Knifeblade Rid** 65.79 17 P P 23 16 27.5 +0.4
baz=320
SWI **Sorong** 65.97 113 P P 23 16 29.3 +0.3
comp=Z,23nm,1.3s
E20K **Nigu River** 66.16 18 P P 23 16 29.7 +0.2
baz=320
C23K **Itkillik River** 66.16 15 P P 23 16 29.7 +0.3
baz=324
F17K **Baldwin Pennin** 66.19 21 P P 23 16 29.8 +0.2
F17K IAmb IAmb 23 16 33.1
comp=Z,7.9nm,0.8s
F17K **Baldwin Pennin** 66.19 21 P P 23 16 30.0 +0.3
baz=316
VOI **Vohitsoka** 66.21 208 P P 23 16 30.2 -0.3
ANM **Nome** 66.30 24 P P 23 16 30.8 +0.4
ANM IAmb IAmb 23 16 34.2
comp=Z,5.0nm,0.8s
ANM **Nome** 66.30 24 P P 23 16 30.8 +0.4
ANM pmax pmax
comp=Z,5.0nm,0.8s
ANM **Nome** 66.30 24 P P 23 16 30.7 +0.3
baz=314
G15K **Niukluk** 66.41 23 P P 23 16 31.3 +0.2
baz=314
D22K **Ayikyak River** 66.48 17 P P 23 16 31.6 +0.1
baz=322
E19K **Redstone River** 66.51 19 P P 23 16 31.6 -0.1
baz=319
F18K **Selawik** 66.52 21 P P 23 16 31.4 -0.2
baz=317
G16K **Koyuk River** 66.63 22 P P 23 16 32.7 +0.2
baz=316
C24K **Franklin Bluff** 66.64 15 P P 23 16 32.5 +0.1
baz=325
F19K **Shaleruckik Mo** 66.84 20 P P 23 16 32.9 -0.8
baz=319
D23K **Nanushuk River** 66.85 16 P P 23 16 33.7 -0.1
baz=324
G17K **Kiwalik Mounta** 67.05 22 P P 23 16 35.0 -0.2
baz=317
D24K **Happy Valley** 67.08 15 P P 23 16 35.0 -0.3
baz=325
C26K **Camden Bay** 67.19 14 P P 23 16 36.5 +0.5
baz=328
F20K **Avaraart Lake** 67.20 19 P P 23 16 35.4 -0.6
baz=320
H16K **Elim** 67.21 23 P P 23 16 36.1 -0.1
baz=316
G18K **Tagagawik** 67.31 21 P P 23 16 36.3 -0.6
baz=318
D25K **Kavik River** 67.42 14 P P 23 16 37.7 +0.2
baz=327
G19K **Purcell Mounta** 67.54 20 P P 23 16 38.2 -0.1
baz=320
F21K **Alatna River** 67.61 18 P P 23 16 38.7 0.0
baz=322
H17K **Granite Mounta** 67.67 22 P P 23 16 39.0 -0.1
baz=318
E23K **Chandalar** 67.82 16 P P 23 16 40.2 +0.1
baz=325
A36M **Sachs Harbour** 67.91 6 P P 23 16 40.8 +0.4
baz=344,SNR=9.6
H18K **Honhosa River** 67.95 21 P P 23 16 40.7 -0.2
baz=319
TOA0 **Torodi Ar. Sit** 68.07 269 P P 23 16 42.0 -0.4
TOA0 IAmb IAmb 23 16 51.8
comp=Z,6.5nm,0.8s
TORD **Torodi Ar. Bea** 68.07 269 P P 23 16 41.9 -0.5
TORD **Torodi Ar. Bea** 68.07 269 P P 23 16 41.8 -0.5
comp=Z,2.5nm,0.4s,baz=41,slow=6.7,SNR=24
comp=Z,2.5nm,0.4s
FAKI **Fak Fak** 68.11 114 P P 23 16 42.6 0.0
FAKI IAmb IAmb 23 16 59.3
comp=Z,22nm,1.1s
J14K **Nanvaranak Lak** 68.16 25 P P 23 16 42.3 +0.2
baz=315
G21K **Allakaket** 68.17 19 P P 23 16 41.9 -0.3
baz=322
H19K **Roundabout Mou** 68.19 20 P P 23 16 42.4 +0.1
baz=320
I17K **Unalakleet** 68.22 23 P P 23 16 42.9 +0.4
baz=317
COLD **Coldfoot** 68.37 17 P P 23 16 43.6 +0.1
baz=325
IMAR **Indian Mountai** 68.53 19 P P 23 16 43.7 -0.8
E25K **Arctic Village** 68.60 15 P P 23 16 44.8 -0.2
baz=328
H20K **Anotleneega Mo** 68.63 20 P P 23 16 45.1 0.0
baz=321
F24K **Squaw Lake** 68.64 16 P P 23 16 45.5 +0.3
baz=326
GCSA **Galena City Sc** 68.67 21 P P 23 16 45.4 +0.1
baz=320
J16K **Anvik River** 68.69 23 P P 23 16 45.8 +0.2
baz=318,SNR=6.3
D28M **Stokes Point** 68.76 12 P P 23 16 46.3 +0.5
baz=333
G23K **Bananza Creek** 68.83 17 P P 23 16 46.9 +0.5
baz=325
M11K **Mekoryuk** 68.93 27 P P 23 16 46.3 -0.7
baz=314
H21K **Melozitna Rive** 69.03 19 P P 23 16 47.7 +0.1
baz=323
F25K **Christian Rive** 69.04 15 P P 23 16 47.6 -0.1
baz=328
K15K **Wolf Creek Mou** 69.14 24 P P 23 16 48.3 0.0
baz=317
H22K **Ishtalitna Cre** 69.19 18 P P 23 16 48.7 +0.1
baz=324
LSZ **Lusaka** 69.23 228 P P 23 16 50.1 +0.5
LSZ **Lusaka** 69.23 228 P P 23 16 50.1 +0.5
LSZ pmax pmax
comp=Z,5.0nm,1.0s
LSZ **Lusaka** 69.23 228 LR LR 23 47 20.2
comp=Z,65nm,18.5s,baz=132,slow=36
LSZ **Lusaka** 69.23 228 P P 23 16 50.4 +0.7
F26K **Sheenjek River** 69.25 15 P P 23 16 49.1 +0.2
baz=329
I20K **Naaghedeneel** 69.28 20 P P 23 16 49.2 0.0
baz=322
BMAR **Burnt Mountain** 69.39 15 P P 23 16 49.7 -0.1
G24K **Hadweenzic Riv** 69.41 16 P P 23 16 50.3 +0.3
baz=327
L14K **Kuka Creek** 69.46 25 P P 23 16 50.6 +0.3
baz=316
SPIA **Saint Paul Isl** 69.59 32 P P 23 16 51.0 -0.1
baz=312
J19K **Poorman** 69.60 21 P P 23 16 51.4 +0.2
baz=321
L15K **Ungalak Mounta** 69.60 25 P P 23 16 51.3 +0.1
baz=317
I21K **Tanana** 69.61 19 P P 23 16 51.3 +0.1
baz=324
G25K **Bearman Lake** 69.65 16 P P 23 16 51.4 0.0
baz=328
J18K **Innoko River** 69.71 22 P P 23 16 51.8 0.0
baz=320
E29M **Blow River** 69.74 12 P P 23 16 52.0 +0.1
baz=334
K17K **Iditarod** 69.82 23 P P 23 16 52.6 +0.1
baz=319
J20K **Nowinta River** 69.86 20 P P 23 16 53.0 +0.2
baz=322
M13K **Dall Lake** 69.91 26 P P 23 16 53.2 +0.2
baz=316
G26K **Porcupine Rive** 69.96 15 P P 23 16 53.3 0.0
baz=330
MLY **Manley** 70.05 18 P P 23 16 53.5 -0.4
MLY **Manley** 70.05 18 P P 23 16 54.0 0.0
baz=325
H24K **Noodor Dome** 70.05 17 P P 23 16 54.0 0.0
baz=327
F28M **Old Crow** 70.11 13 P P 23 16 54.3 0.0
baz=333
M14K **Bethel** 70.13 26 P P 23 16 54.7 +0.3
baz=317
L16K **Owhat River** 70.22 24 P P 23 16 55.1 +0.1
baz=319
P08K **Saint George I** 70.26 32 P P 23 16 54.8 -0.5
baz=313
L17K **Donlin** 70.26 23 P P 23 16 55.7 +0.5
baz=320
I23K **Minto, Yukon-K** 70.28 18 P P 23 16 55.2 -0.1
baz=326
TTA **Tatalina** 70.32 22 P P 23 16 55.6 -0.1
baz=321
INK **Inuvik** 70.48 10 P P 23 16 56.1 -0.3
INK IAmb IAmb 23 16 59.9
comp=Z,23nm,1.6s
INK **Inuvik** 70.48 10 P P 23 16 56.1 -0.3
INK pmax pmax
comp=Z,23nm,1.6s
INK **Inuvik** 70.48 10 P P 23 16 56.4 0.0
baz=338
INK **Inuvik** 70.48 10 LR LR 23 51 27.5
comp=Z,90nm,21.3s,baz=335,slow=39
K20K **Telida** 70.53 21 P P 23 16 57.0 +0.1
baz=322
C36M **Paulatuk** 70.57 7 P P 23 16 56.6 -0.4
baz=345,SNR=9.0
CHUM **Lake Minchumin** 70.58 20 P P 23 16 57.0 -0.1
baz=324
M15K **Kasigluk River** 70.59 25 P P 23 16 57.0 -0.3
baz=318
L18K **Granite Mounta** 70.68 23 P P 23 16 57.7 -0.1
baz=321
MDM **Murphy Dome** 70.70 18 P P 23 16 57.6 -0.4
BPAW **Bear Paw Mtn.** 70.75 19 P P 23 16 57.7 -0.5
baz=325
POKR **Poker Plat Res** 70.76 17 P P 23 16 58.2 -0.1
baz=327,SNR=6.0
F30M **Barrier River** 70.79 12 P P 23 16 58.5 +0.2
baz=336
NEA2 **Nenana** 70.81 18 P P 23 16 58.4 -0.2
baz=326
N14K **Kuskokwak Cree** 70.83 26 P P 23 16 58.8 +0.1
baz=318
PRP **Porcupine Dome** 70.84 16 P P 23 16 59.2 +0.3
PRP **Porcupine Dome** 70.84 16 P P 23 16 58.8 -0.1
baz=329
COLA **College** 70.86 18 P P 23 16 58.8 -0.1
M16K **Timber Creek** 70.90 24 P P 23 16 59.1 -0.1
baz=319
CAST **Castle Rocks** 71.02 20 P P 23 17 00.0 +0.2
baz=324
H27K **Steamboat Moun** 71.03 14 P P 23 16 59.9 -0.1
baz=332
SAUI **Saumlaki** 71.05 118 P P 23 17 00.4 -0.2
M17K **Holitna River** 71.09 23 P P 23 17 00.7 +0.4
baz=320
ILAR **Eielson Array** 71.17 17 P P 23 16 59.7 -1.1
ILAR **Eielson Array** 71.17 17 P P 23 17 00.0 -0.8
comp=Z,5.0nm,0.8s,baz=322,slow=5.2,SNR=32
comp=Z,5.0nm,0.8s
N15K **Kwethluk River** 71.18 25 P P 23 17 01.5 +0.6
baz=319
KTH **Kantishna Hill** 71.21 19 P P 23 17 00.2 -0.9
KTH IAmb IAmb 23 17 03.9
comp=Z,8.6nm,0.9s
L19K **White Mountain** 71.25 22 P P 23 17 01.6 +0.3
baz=322
F31M **Tsiigehtchic** 71.25 11 P P 23 17 01.3 +0.1
baz=338,SNR=5.2
L20K **Farewell, AK** 71.29 21 P P 23 17 01.7 +0.1
baz=323
G30M **tAoh Zraii Nji** 71.30 12 P P 23 17 01.6 +0.1
baz=336
N16K **Nishlik Lake** 71.38 25 P P 23 17 02.3 +0.2
baz=320
PPLA **Purkeypile** 71.41 20 P P 23 17 02.4 0.0
baz=324
TRF **Thorofare Moun** 71.46 19 P P 23 17 02.8 +0.1
baz=325
HDA **Harding Lake** 71.47 17 P P 23 17 02.3 -0.3
baz=328
O14K **Tigyukauivet M** 71.47 26 P P 23 17 03.2 +0.6
baz=318
M18K **Stony River** 71.51 23 P P 23 17 03.4 +0.6
baz=322
MCK **McKinley** 71.56 19 P P 23 17 03.3 +0.1
baz=326
I27K **Kandik River** 71.57 15 P P 23 17 03.1 -0.1
baz=332
H29M **Whitestone** 71.63 13 P P 23 17 03.9 +0.4
baz=334,SNR=7.9
J25K **Salcha River,** 71.65 17 P P 23 17 03.0 -0.7
baz=329
G31M **Satah River** 71.65 11 P P 23 17 03.1 -0.5
baz=337
N17K **Nushagak Hills** 71.84 24 P P 23 17 05.0 +0.1
baz=321
RND **Reindeer** 71.86 19 P P 23 17 04.3 -0.7
RND IAmb IAmb 23 19 13.3
comp=Z,14nm,1.4s
RND **Reindeer** 71.86 19 P P 23 17 04.3 -0.7
RND pmax pmax
comp=Z,14nm,1.4s
M20K **Styx River** 71.98 21 P P 23 17 05.0 -0.7
baz=324
O15K **Ungalikthiuk R** 72.02 26 P P 23 17 06.2 +0.2
baz=319
I28M **Miner Creek** 72.03 14 P P 23 17 06.0 -0.1
baz=333,SNR=8.9
N18K **Kilae Creek** 72.12 23 P P 23 17 06.8 +0.2
baz=322
J26L **Joseph Creek** 72.14 16 P P 23 17 06.7 -0.1
baz=330
K24K **Donnelly Dome** 72.25 17 P P 23 17 06.7 -0.6
baz=329,SNR=6.6
O16K **Kokwok River B** 72.28 25 P P 23 17 07.6 +0.1
baz=320
SKT **Skwentna** 72.34 21 P P 23 17 07.3 -0.5
baz=325
EGAK **Eagle** 72.40 15 P P 23 17 07.9 -0.2
baz=332
WAT1 **Susitna Watana** 72.42 19 P P 23 17 07.2 -1.1
baz=327
O17K **Koliganek Bris** 72.46 24 P P 23 17 08.9 +0.3
baz=321
DHY **Denali Highway** 72.50 18 P P 23 17 08.5 -0.5
baz=328
SCRK **Sand Creek** 72.51 16 P P 23 17 08.2 -0.8
SCRK IAmb IAmb 23 17 11.8
comp=Z,8.1nm,1.1s
SCRK **Sand Creek** 72.51 16 P P 23 17 09.0 0.0
baz=330,SNR=6.5
RIDG **Independent Ri** 72.52 17 P P 23 17 08.1 -0.9
RIDG IAmb IAmb 23 17 08.9
comp=Z,7.2nm,0.7s
RIDG **Independent Ri** 72.52 17 P P 23 17 08.3 -0.7
baz=330,SNR=5.1
H31M **Peel River** 72.68 12 P P 23 17 09.1 -0.7
baz=338
P16K **Nushagak River** 72.75 25 P P 23 17 10.3 0.0
baz=320
WAT6 **Susitna Watana** 72.83 19 P P 23 17 10.4 -0.5
baz=328
K27K **Chicken** 72.87 16 P P 23 17 10.9 -0.1
baz=332
I30M **Mount Dempster** 72.88 13 P P 23 17 10.8 -0.4
baz=336
M22K **Willow** 72.91 20 P P 23 17 10.9 -0.2
baz=326
SUA **Susitna One** 72.98 21 P P 23 17 10.8 -1.0
SUA IAmb IAmb 23 19 32.9
comp=Z,42nm,1.8s
SUA **Susitna One** 72.98 21 P P 23 17 10.8 -1.0
baz=325
O19K **Port Alsworth** 72.99 23 P P 23 17 11.4 -0.2
baz=323
O18K **Koktuh Hills** 72.99 24 P P 23 17 12.2 +0.5
baz=322
PAX **Paxson** 73.04 18 P P 23 17 11.5 -0.7
baz=329
P17K **Kvichak River** 73.12 24 P P 23 17 12.4 -0.1
baz=322
PMR **Palmer** 73.31 20 P P 23 17 12.7 -0.8
baz=327
SML **Sawmill** 73.33 19 P P 23 17 12.8 -1.0
SML IAmb IAmb 23 17 16.3
comp=Z,20nm,0.8s
SML **Sawmill** 73.33 19 P P 23 17 13.7 -0.1
baz=327
P18K **Big Mountain,** 73.35 24 P P 23 17 13.9 0.0
baz=322
DAWY **Dawson** 73.38 15 P P 23 17 13.3 -0.7
DAWY IAmb IAmb 23 17 18.0
comp=Z,12nm,1.5s
DAWY **Dawson** 73.38 15 P P 23 17 13.3 -0.7
baz=334
UNV **Unalaska Valle** 73.43 33 P P 23 17 14.1 -0.3
baz=316
CAPN **Captain Cook N** 73.44 21 P P 23 17 14.5 +0.2
baz=325
Q16K **King Salmon** 73.46 25 P P 23 17 14.4 -0.1
baz=322
J30M **Hart River** 73.48 13 P P 23 17 14.5 -0.2
J30M **Hart River** 73.48 13 P P 23 17 14.4 -0.4
baz=336
M23K **Glacier View** 73.50 19 P P 23 17 14.5 -0.2
baz=328,SNR=6.9
RC01 **Rabbit Creek A** 73.56 20 P P 23 17 14.9 -0.2
baz=326
SCM **Sheep Creek Mo** 73.57 19 P P 23 17 14.6 -0.6
SCM IAmb IAmb 23 17 17.7
comp=Z,21nm,1.0s
SCM **Sheep Creek Mo** 73.57 19 P P 23 17 14.6 -0.6
SCM pmax pmax
comp=Z,21nm,1.0s
SCM **Sheep Creek Mo** 73.57 19 P P 23 17 15.0 -0.2
baz=328,SNR=5.9
HARP **HAARP** 73.61 18 P P 23 17 16.0 +0.6
baz=330,SNR=5.6
M24K **Tolsona, Glenn** 73.62 18 P P 23 17 15.4 0.0
baz=329
KNK **Knik Glacier** 73.63 20 P P 23 17 15.5 0.0
baz=327
L27K **Beaver Creek,** 73.78 16 P P 23 17 16.5 +0.1
baz=332
BCAR **Beaver Creek A** 73.79 16 P P 23 17 16.1 -0.4

K29M	**Barlow Dome**	**73.94**	**14**	P		**P**	**23 17 17.5**	**+0.1**
	baz=335							
FALS	**False Pass**	**73.94**	**30**	P		**P**	**23 17 16.5**	**-0.9**
	baz=318							
R16K	**Pilot Point**	**74.02**	**26**	P		**P**	**23 17 17.3**	**-0.4**
	baz=321							
Q17K	**Contact Creek**	**74.03**	**25**	P		**P**	**23 17 18.1**	**+0.1**
	baz=322							
MBWA	**Marble Bar**	**74.05**	**136**	P		**P**	**23 17 18.0**	**-0.4**
O22K	**Cooper Landing**	**74.07**	**21**	P		**P**	**23 17 17.0**	**-1.1**
	baz=326							
M26K	**Nabesna, AK**	**74.11**	**17**	P		**P**	**23 17 18.1**	**-0.3**
	baz=331							
KLU	**Klutina**	**74.21**	**19**	P		**P**	**23 17 19.0**	**0.0**
	baz=329							
S14K	**Fog Glacier**	**74.32**	**28**	P		**P**	**23 17 20.0**	**+0.3**
	baz=320							
M27K	**Edge Creek, AK**	**74.39**	**16**	P		**P**	**23 17 20.3**	**+0.2**
	baz=332							
BRSE	**Bradley Lake S**	**74.41**	**22**	P		**P**	**23 17 20.4**	**+0.4**
	baz=326							
N25K	**Chitina, Valde**	**74.43**	**18**	P		**P**	**23 17 20.5**	**+0.3**
	baz=330							
PSA00	**Pilbara Seismi**	**74.45**	**136**	P		**P**	**23 17 20.8**	**0.0**
PSA00				IAmb	IAmb		23 17 21.5	
	comp=Z,14nm,0.9s							
PSA00	**Pilbara Seismi**	**74.45**	**136**	P		**P**	**23 17 20.3**	**-0.4**
PSA00				IAmb	IAmb		23 17 21.5	
	comp=Z,7.2nm,0.8s							
MAYO	**Mayo, Yukon**	**74.46**	**13**	P		**P**	**23 17 20.6**	**+0.3**
	baz=336							
SEW	**Seward**	**74.47**	**21**	P		**P**	**23 17 20.8**	**+0.4**
	baz=327							
L29M	**L29M**	**74.49**	**14**	P		**P**	**23 17 20.7**	**+0.2**
	baz=335							
BVCY	**Beaver Creek**	**74.56**	**16**	P		**P**	**23 17 21.2**	**+0.2**
	baz=333							
SDPT	**Sand Point**	**74.70**	**29**	P		**P**	**23 17 22.1**	**+0.4**
	baz=319							
CHGN	**Chignik**	**74.72**	**27**	P		**P**	**23 17 22.2**	**+0.4**
	baz=321							
FITZ	**Fitzroy Crossi**	**74.98**	**129**	P		**P**	**23 17 23.1**	**-0.7**
FITZ				IAmb	IAmb		23 18 59.2	
	comp=Z,16nm,1.9s							
BMRM	**Bremner River**	**74.98**	**18**	P		**P**	**23 17 23.6**	**+0.2**
	baz=330							
MCARA	**McCarthy VSAT**	**75.00**	**17**	P		**P**	**23 17 23.9**	**+0.5**
	baz=331							
M29M	**Somme Creek**	**75.03**	**15**	P		**P**	**23 17 24.0**	**+0.2**
	baz=335							
KNRA	**Kununurra**	**75.05**	**125**	P		**P**	**23 17 24.0**	**-0.3**
EYAK	**Cordova Ski Ar**	**75.06**	**19**	P		**P**	**23 17 23.8**	**0.0**
	baz=329							
P23K	**Montague Islan**	**75.11**	**20**	P		**P**	**23 17 24.0**	**-0.1**
	baz=328							
YUK3	**Moose Creek**	**75.22**	**16**	P		**P**	**23 17 24.6**	**-0.4**
	baz=333							
M30M	**Minto, Yukon**	**75.23**	**14**	P		**P**	**23 17 24.7**	**-0.2**
	baz=336							
KDAK	**Kodiak Island**	**75.47**	**24**	P		**P**	**23 17 26.5**	**+0.3**
KDAK	**Kodiak Island**	**75.47**	**24**	P		**P**	**23 17 26.5**	**+0.3**
KDAK				pmax	pmax			
	comp=Z,155nm,1.8s							
CRQE	**Cirque**	**75.53**	**18**	P		**P**	**23 17 26.4**	**-0.3**
	baz=331							
OHAK	**Old Harbor**	**75.70**	**24**	P		**P**	**23 17 27.4**	**-0.1**
	baz=324							
CTG	**Chitna Glacier**	**75.75**	**17**	P		**P**	**23 17 27.8**	**-0.2**
	baz=333							
CTGM	**Chitina Glacie**	**75.75**	**17**	P		**P**	**23 17 27.6**	**-0.3**
CTGM				IAmb	IAmb		23 17 37.8	
	comp=Z,33nm,2.0s							
YUK8	**Steele Glacier**	**75.81**	**16**	P		**P**	**23 17 27.9**	**-0.6**
	baz=334							
KAIM	**Kayak Island**	**75.94**	**19**	P		**P**	**23 17 28.6**	**-0.2**
	baz=330							
SII	**Sitkinak Islan**	**75.95**	**25**	P		**P**	**23 17 28.9**	**-0.1**
	baz=324							
YUK4	**Talbot Arm**	**75.99**	**16**	P		**P**	**23 17 28.9**	**-0.5**
	baz=335							
M31M	**Drury Creek, Y**	**76.02**	**13**	P		**P**	**23 17 29.4**	**+0.1**
	baz=338							
N30M	**Aishikik Lake**	**76.20**	**15**	P		**P**	**23 17 30.7**	**+0.2**
	baz=336							
MESA	**MESA**	**76.31**	**18**	P		**P**	**23 17 31.0**	**-0.2**
	baz=332							
YUK6	**Outpost Mounta**	**76.41**	**16**	P		**P**	**23 17 32.1**	**+0.3**
	baz=335							
WRGLY	**Wrigley**	**76.59**	**8**	P		**P**	**23 17 33.1**	**+0.6**
	baz=346							
HYT	**Haines Junctio**	**76.70**	**15**	P		**P**	**23 17 33.2**	**-0.1**
HYT				IAmb	IAmb		23 17 34.6	
	comp=Z,8.3nm,0.7s							
HYT	**Haines Junctio**	**76.70**	**15**	P		**P**	**23 17 33.8**	**+0.5**
	baz=336							
PINM	**Pinnacle**	**76.77**	**17**	P		**P**	**23 17 34.4**	**+0.7**
	baz=334							
O29M	**Mount Kennedy**	**76.95**	**16**	P		**P**	**23 17 35.5**	**+0.7**
	baz=335							
O30N	**Mendenhall**	**77.03**	**15**	P		**P**	**23 17 35.1**	**0.0**
	baz=337							
DBIC	**Dimbokro**	**77.12**	**268**	P		**P**	**23 17 36.3**	**+0.1**
DBIC				IAmb	IAmb		23 17 38.4	
	comp=Z,9.2nm,1.0s							
DBIC	**Dimbokro**	**77.12**	**268**	P		**P**	**23 17 36.3**	**+0.1**
DBIC				pmax	pmax			
	comp=Z,9.0nm,1.0s							
DBIC	**Dimbokro**	**77.12**	**268**	P		**P**	**23 17 36.1**	**-0.2**
	comp=Z,6.5nm,0.9s,baz=50,slow=4.6,SNR=6.8							
	comp=Z,6.5nm,0.9s							
KIC	**Kosan Boka**	**77.22**	**268**	⇑*e*PKP1		**P**	**23 17 36.8**	**-0.1**
	comp=Z,14nm,0.7s							
N32M	**Quiet Lake**	**77.23**	**13**	P		**P**	**23 17 36.0**	**-0.2**
	baz=339							
TIC	**Toumodi**	**77.26**	**268**	⇑*e*PKP1		**P**	**23 17 36.6**	**-0.5**
	comp=Z,2.9nm,0.3s							
PNL	**Peninsula**	**77.35**	**17**	P		**P**	**23 17 37.0**	**+0.2**
	baz=334							
WHY	**Whitehorse**	**77.36**	**14**	P		**P**	**23 17 37.1**	**+0.1**
	baz=338							
P30M	**Million Dollar**	**77.45**	**15**	P		**P**	**23 17 38.1**	**+0.6**
	baz=336							
LIC	**Lamto**	**77.53**	**268**	⇑*i*PKP1		**P**	**23 17 37.4**	**-1.2**
	comp=Z,9.0nm,0.4s							
TGTN	**Hyland Airport**	**77.64**	**11**	P		**P**	**23 17 39.1**	**+0.6**
	baz=343							
P29M	**Windy Craggy**	**77.74**	**16**	P		**P**	**23 17 39.1**	**+0.1**
	baz=336							
YKA	**Yellowknife Ar**	**78.04**	**4**	P		**P**	**23 17 40.4**	**-0.2**
	comp=Z,5.1nm,0.8s,baz=349,slow=5.8,SNR=51							
	comp=Z,5.1nm,0.8s							
P33M	**Teslin, Yukon**	**78.16**	**13**	P		**P**	**23 17 41.4**	**0.0**
	baz=339							
PLBC	**Pleasant Camp**	**78.18**	**15**	P		**P**	**23 17 41.8**	**+0.3**
	baz=337							
SKAG	**Skagway**	**78.39**	**15**	P		**P**	**23 17 42.9**	**+0.4**
	baz=337							
LBTB	**Lobatse**	**78.49**	**224**	P		**P**	**23 17 44.2**	**+0.5**
LBTB	**Lobatse**	**78.49**	**224**	P		**P**	**23 17 44.2**	**+0.5**
LBTB				pmax	pmax			
	comp=Z,55nm,1.9s							
MORW	**Morawa**	**78.77**	**143**	P		**P**	**23 17 44.3**	**-0.7**
WTLY	**Watson Lake, Y**	**78.91**	**11**	P		**P**	**23 17 45.4**	**-0.1**
	baz=342							
R33M	**Jennings River**	**79.25**	**13**	P		**P**	**23 17 47.5**	**0.0**
	baz=341							
Q32M	**Nakina River**	**79.43**	**13**	P		**P**	**23 17 48.3**	**-0.3**
	baz=340							
FLDN	**Fort Liard**	**79.51**	**9**	P		**P**	**23 17 48.7**	**0.0**
	baz=346							
KOTAN	**Kotaneelee Air**	**79.54**	**9**	P		**P**	**23 17 48.9**	**-0.1**
	baz=346							
R32K	**Eaglecrest**	**79.65**	**15**	P		**P**	**23 17 49.8**	**+0.3**
	baz=338							
SCHQ	**Schefferville**	**80.12**	**338**	P		**P**	**23 17 52.0**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=7.1,slow=8.1,SNR=2.3							
	comp=Z,2.1nm,0.8s							
DLBC	**Dease Lake**	**80.31**	**12**	P		**P**	**23 17 53.2**	**0.0**
	baz=342							
SIT	**Sitka**	**80.61**	**16**	P		**P**	**23 17 54.5**	**-0.2**
	baz=338							
S34M	**Telegraph Cree**	**80.62**	**13**	P		**P**	**23 17 55.0**	**+0.2**
	baz=341							
FCC	**Fort Churchill**	**81.50**	**354**	P		**P**	**23 17 59.7**	**+0.3**
FCC				IAmb	IAmb		23 18 09.2	
	comp=Z,16nm,1.6s							
FCC	**Fort Churchill**	**81.50**	**354**	P		**P**	**23 17 59.7**	**+0.3**
FCC				pmax	pmax			

	comp=Z,16nm,1.7s							
BOSA	**Boshof**	**81.57**	**222**	P		**P**	**23 18 01.1**	**+0.9**
	comp=Z,2.1nm,0.8s,baz=69,slow=8.6,SNR=2.3							
	comp=Z,2.1nm,0.8s							
WB0	**Warramunga Arr**	**81.66**	**124**	P		**P**	**23 18 00.1**	**-0.7**
WB0				IAmb	IAmb		23 18 01.2	
	comp=Z,30nm,1.6s							
WRA	**Warramunga Arr**	**81.75**	**124**	P		**P**	**23 18 00.7**	**-0.6**
WRA	**Warramunga Arr**	**81.75**	**124**	P		**P**	**23 18 00.8**	**-0.6**
	comp=Z,4.2nm,0.6s,baz=327,slow=5.1,SNR=37							
	comp=Z,4.2nm,0.6s							
U33K	**Whale Pass**	**81.94**	**15**	P		**P**	**23 18 01.0**	**-0.8**
	baz=339							
AS31	**Alice Springs**	**84.21**	**127**	P		**P**	**23 18 13.3**	**-0.7**
ASAR	**Alice Springs**	**84.21**	**127**	P		**P**	**23 18 13.4**	**-0.6**
ASAR	**Alice Springs**	**84.21**	**127**	P		**P**	**23 18 13.4**	**-0.6**
ASAR	**Alice Springs**	**84.21**	**127**	P		**P**	**23 18 13.3**	**-0.7**
	comp=Z,9nm,0.7s,baz=315,slow=4.9,SNR=31							
	comp=Z,2.9nm,0.7s							
FORT	**Forrest**	**86.20**	**136**	P		**P**	**23 18 23.7**	**0.0**
SUR	**Sutherland**	**86.88**	**223**	LR		LR	23 59 16.5	
	comp=Z,47nm,18.1s,baz=164,slow=37							
EYMN	**Ely**	**91.89**	**350**	P		**P**	**23 18 49.7**	**-1.0**
	baz=11							
NEW	**Newport**	**91.98**	**7**	P		**P**	**23 18 50.9**	**-0.2**
	baz=352							
AGMN	**Agassiz Nation**	**92.02**	**353**	P		**P**	**23 18 51.1**	**-0.2**
	baz=7.8							
HRV	**Adam Dziewonsk**	**92.49**	**335**	P		**P**	**23 18 53.5**	**0.0**
	baz=26							
EGMT	**Eagleton**	**92.71**	**2**	P		**P**	**23 18 54.5**	**-0.1**
	baz=357							
OVMT	**Ovando**	**93.51**	**5**	P		**P**	**23 18 57.5**	**-0.8**
LAO	**LASA Array**	**94.11**	**0**	P		**P**	**23 19 01.2**	**+0.3**
	baz=360							
STKA	**Stephens Creek**	**94.82**	**128**	LR		LR	00 10 41.0	
	comp=Z,19nm,19.9s,baz=213,slow=41							
PDAR	**Pinedale Array**	**97.97**	**3**	P		Pdif	23 19 20.2	+1.3
	comp=Z,0.2nm,0.6s,baz=15,slow=3.8,SNR=1.9							
	comp=Z,0.2nm,0.6s							
SFIN	**Lafayette**	**98.54**	**345**	P		**P**	**23 19 20.9**	**-0.2**
	baz=15							
WCI	**Wyandotte Cave**	**100.45**	**344**	P		**Pdif**	**23 19 28.5**	**-1.2**
	baz=15							
SDCO	**Great Sand Dun**	**103.04**	**360**	P		**Pdif**	**23 19 39.9**	**-1.7**
	baz=4							
ISA	**Isabella, Lake**	**104.26**	**10**	P		**Pdif**	**23 19 46.2**	**-0.6**
	baz=350							
TUL3	**Leonard**	**104.28**	**351**	P		**Pdif**	**23 19 45.5**	**-1.2**
	baz=8.1							
MIAR	**Mount Ida**	**105.33**	**349**	P		**Pdif**	**23 19 51.7**	**+0.3**
	baz=9.9							
WMOK	**Wichita Mounta**	**105.73**	**354**	P		**PKiKP**	**23 24 05.8**	**-0.2**
	baz=5.8							
BBRC	**Big Bear Solar**	**105.84**	**9**	P		**PKiKP**	**23 24 07.3**	**+0.7**
	baz=351							
IRM	**Iron Mountain**	**106.15**	**8**	P		**PKiKP**	**23 24 08.2**	**+1.3**
	baz=353							
FMP	**Fort Macarthur**	**106.20**	**11**	P		**PKiKP**	**23 24 07.3**	**+0.4**
	baz=350							
BELC	**Belle Mtn. Jos**	**106.21**	**9**	P		**PKiKP**	**23 24 07.3**	**+0.2**
	baz=352							
SNCC	**San Nicolas Is**	**106.47**	**12**	P		**PKiKP**	**23 24 08.0**	**+0.6**
	baz=349							
DWPF	**Disney Wildern**	**108.83**	**337**	P		**PKiKP**	**23 24 12.3**	**+0.3**
	baz=20							
MNTX	**Cornudas Mount**	**109.07**	**359**	P		**PKiKP**	**23 24 13.0**	**+0.6**
	baz=0.5							
QSPA	**South Pole Qui**	**129.37**	**180**	PKP		**PKPdf**	**23 24 48.8**	**-1.1**
	comp=Z,1.4nm,1.0s,baz=264,slow=4.8,SNR=9.0							
CPUP	**Villa Florida**	**137.48**	**273**	PKP		**PKPdf**	**23 25 06.0**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=60,slow=2.6,SNR=5.3							
PLCA	**Paso Flores**	**152.92**	**256**	PKPbc		**PKiKP**	**23 25 39.9**	**+0.2**
	comp=Z,4.1nm,0.8s,baz=32,slow=1.8,SNR=14							

*IDC **03** 23:18:11.3±1.0, 6°.42S×143°.33E, h0km, mb3.8/5, mbtmp3.8/7, ML1.1/1, MS3.0/2, Error ellipse: s-maj=36.0km s-min=22.0km az=72.0*

ISC 03 23:18:16.4±0.8, 6°.6S±0°.1×143°.2E±0°.1, h35km, n10, σ2s28/9, mb3.7/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.83**	**126**			Pn	**Pn**	**23 19 24.3**	**-2.3**
	0.6nm,0.3s,baz=239,slow=11,SNR=1.5								
PMG						Sn	**Sn**	**23 20 23.9**	**+2.6**
	2.3nm,0.3s,baz=263,slow=18,SNR=2.4								
	2.2nm,0.3s								
CTA	**Charters Tower**	**13.75**	**168**	LR		LR	LR	23 27 07.9	
	comp=Z,38nm,20.9s,baz=233,slow=39								
WRA	**Warramunga Arr**	**15.82**	**212**	Pn		Pn	**Pn**	**23 21 53.9**	**-2.8**
	0.2nm,0.3s,baz=29,slow=13,SNR=9.7								
WRA				Lg		Lg	Lg	23 26 36.9	
	0.1nm,0.3s,baz=33,slow=26,SNR=5.3								
ASAR	**Alice Springs**	**19.20**	**207**	P		P	**P**	**23 22 39.6**	**+2.3**
	1.8nm,0.5s,baz=29,slow=11,SNR=29								
ASAR				Lg		Lg	Lg	23 28 26.4	
	baz=22,slow=29,SNR=2.3								
LEM	**Lembang**	**35.33**	**267**	LR		LR	LR	23 41 35.4	
	comp=Z,39nm,18.5s,baz=334,slow=40								
SONM	**Songino Array**	**63.13**	**333**	P		P	**P**	**23 28 42.2**	**+1.4**
	0.2nm,0.5s,baz=150,slow=6.1,SNR=2.4								
	0.2nm,0.5s								
MKAR	**Makanchi Array**	**75.57**	**322**	P		P	**P**	**23 29 57.2**	**-0.4**
	0.6nm,0.8s,baz=111,slow=6.6,SNR=6.3								
	0.6nm,0.8s								
QSPA	**South Pole Qui**	**83.39**	**180**	P		P	**P**	**23 30 41.2**	**+1.3**
	2.6nm,1.1s,baz=292,slow=1.7,SNR=5.8								
	2.6nm,1.1s								
BVAR	**Bovoye Array**	**85.03**	**325**	P		P	**P**	**23 30 48.6**	**+0.4**
	1.4nm,0.7s,baz=105,slow=6.8,SNR=10								
	1.4nm,0.7s								
ILAR	**Eielson Array**	**87.52**	**24**	P		P	**P**	**23 30 58.8**	**-1.4**
	0.4nm,0.8s,baz=258,slow=4.5,SNR=2.4								
	0.4nm,0.8s								

*IDC **03** 23:25:00.9±1.5, 10°.25N×84°.14W, h78km±33km, mb3.5/6, mbtmp3.9/8, MS3.9/1, Error ellipse: s-maj=97.5km s-min=25.6km az=21.0*

*UCR **03** 23:25:02.6±0.8, 10°.24N×84°.28W, h88km±4km, MW4.2, MB4.2(NEIC)*

*CATAC **03** 23:25:02.8±0.2, 10°.22N×84°.25W, h77km±3km, ML3.9*

*NEIC **03** 23:25:02.7±0.9, 10°.19N±0°.03×84°.24W±0°.03, h89km±5km, mb4.2/2, Error ellipse: s-maj=4.5km s-min=3.0km az=142.0*

ISC 03 23:25:02.1±0.7, 10°.21N±0°.03×84°.27W±0°.03, h91km±4km, n103, σ0s83/142, mb3.7/7, 13C-13D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPMI	**Catarata Coope**	**0.13**	**304**	⇑*i*P		P	**Pn**	**23 25 15.4**	**0.0**
CPMI				*i*		S	**Sn**	**23 25 25.6**	**+0.4**
CPMI						IAML		23 25 28.0	
	comp=Z,4μm,1.0s								
TCS1	**Tacares**	**0.17**	**190**	⇑*i*P		P	**Pn**	**23 25 15.2**	**-0.1**
TCS1				*i*		S	**Sn**	**23 25 25.6**	**+0.5**
TCS1						IAML		23 25 26.7	
	comp=Z,72μm,1.0s								
SRA1	**San Ramn**	**0.24**	**240**	*e*P		P	**Pn**	**23 25 15.4**	**-0.2**
ITAL	**Pital**	**0.24**	**359**	*e*P		P	**Pn**	**23 25 15.6**	**+0.1**
HDC	**Heredia**	**0.26**	**143**				**Pn**	**23 25 15.6**	**-0.1**
HDC						Sn	**Sn**	**23 25 25.7**	**0.0**
HDC	**Heredia**	**0.26**	**143**	*e*P		P	**Pn**	**23 25 15.7**	**-0.1**
HDC				*e*		S	**Sn**	**23 25 25.8**	**0.0**
HDC	**Heredia**	**0.26**	**143**	⇑*i*P		P	**Pn**	**23 25 15.6**	**-0.1**
HDC				*i*		S	**Sn**	**23 25 25.8**	**0.0**
HDC						IAML		23 25 31.6	
	comp=Z,5μm,1.0s								
HDC3	**Heredia 3**	**0.26**	**143**	⇑*i*P		P	**Pn**	**23 25 15.6**	**-0.1**
HDC3				*i*		S	**Sn**	**23 25 25.7**	**-0.1**
HDC3						IAML		23 25 31.6	
	comp=Z,6μm,1.0s								
SANTA	**Santa Ana**	**0.28**	**163**	*e*P		P	**Pn**	**23 25 15.7**	**-0.2**
SJS3	**Mercedes San J**	**0.34**	**141**	*e*P		P	**Pn**	**23 25 16.2**	**+0.1**
SARA	**Sarapiqu**	**0.34**	**45**	*e*P		P	**Pn**	**23 25 16.1**	**+0.2**
CORON	**Coronado**	**0.35**	**132**	*e*P		P	**Pn**	**23 25 17.4**	**+1.1**
RIFO	**Rio Frio, Sara**	**0.36**	**72**	⇑*i*P		P	**Pn**	**23 25 16.1**	**+0.1**
RIFO				*i*		S	**Sn**	**23 25 26.7**	**+0.3**
RIFO						IAML		23 25 36.2	
	comp=Z,4μm,1.0s								
AMPA	**Desamparados**	**0.37**	**147**	*e*P		P	**Pn**	**23 25 16.0**	**-0.3**
AMPA				*e*		S	**Sn**	**23 25 26.7**	**-0.1**
SOCE	**Pocosol**	**0.39**	**297**				**Pn**	**23 25 16.7**	**+0.4**
SOCE						Sn	**Sn**	**23 25 27.3**	**+0.5**
SOCE	**Pocosol**	**0.39**	**297**	⇑*i*P		P	**Pn**	**23 25 16.5**	**+0.3**
SOCE				*i*		S	**Sn**	**23 25 27.3**	**+0.5**
SOCE						IAML		23 25 29.2	
	comp=Z,11μm,1.0s								
OCM	**Ochomogo**	**0.43**	**136**	⇑*i*P		P	**Pn**	**23 25 16.5**	**-0.3**
OCM				*i*		S	**Sn**	**23 25 27.3**	**-0.4**
OCM						IAML		23 25 30.8	
	comp=Z,6μm,1.0s								
ARZA	**Esparza**	**0.45**	**241**	*e*P		P	**Pn**	**23 25 17.6**	**+0.9**
ARZA				*e*		S	**Sn**	**23 25 28.6**	**+1.2**
VICA	**Volcano Irazu**	**0.47**	**118**	*e*P		P	**Pn**	**23 25 17.8**	**+0.5**
ARE1	**Arenal 1**	**0.51**	**300**				**Pn**	**23 25 17.8**	**+0.7**
ARE1						Sn	**Sn**	**23 25 29.8**	**+1.5**
RAFA	**San Farael, Vo**	**0.51**	**119**	*e*P		P	**Pn**	**23 25 18.2**	**+0.7**
COVE	**Coope Vega, Sa**	**0.53**	**346**	Pn		P	**Pn**	**23 25 17.4**	**+0.2**
COVE	**Coope Vega, Sa**	**0.53**	**346**	*e*P		P	**Pn**	**23 25 17.4**	**+0.2**
COVE	**Coope Vega, Sa**	**0.53**	**346**	⇓*i*P		P	**Pn**	**23 25 17.4**	**+0.2**
COVE						IAML		23 25 17.8	
	comp=Z,3μm,1.0s								
LCR2	**La Lucha 2**	**0.53**	**151**				**Pn**	**23 25 17.4**	**-0.1**
LCR2						Sn	**Sn**	**23 25 28.8**	**-0.1**
LCR2	**La Lucha 2**	**0.53**	**151**	*e*P		P	**Pn**	**23 25 17.3**	**-0.2**
LCR2	**La Lucha 2**	**0.53**	**151**	⇑*i*P		P	**Pn**	**23 25 17.3**	**-0.2**
LCR2				*i*		S	**Sn**	**23 25 28.8**	**-0.1**
LCR2						IAML		23 25 29.7	
	comp=Z,8μm,1.0s								
VTUN	**Crater Central**	**0.53**	**110**	⇓*i*P		P	**Pn**	**23 25 18.0**	**+0.3**
VTUN				*i*		S	**Sn**	**23 25 29.3**	**0.0**
VTUN						IAML		23 25 33.8	
	comp=Z,5μm,1.0s								
VTR0	**Volcan Turrial**	**0.54**	**111**	*e*P		P	**Pn**	**23 25 18.1**	**+0.3**
VTR0				*e*		S	**Sn**	**23 25 29.6**	**+0.2**
ABE2	**San Pablo**	**0.54**	**157**	*e*P		P	**Pn**	**23 25 17.5**	**-0.2**
ABE2				*e*		S	**Sn**	**23 25 29.4**	**+0.2**
REPA	**Paraso**	**0.55**	**134**	*e*P		P	**Pn**	**23 25 18.8**	**+1.2**
CARI	**Cariari**	**0.55**	**73**	*e*P		P	**Pn**	**23 25 19.0**	**+1.6**
CARI				*e*		S	**Sn**	**23 25 31.2**	**+2.4**
VTCV	**VTCV, Calle Va**	**0.58**	**113**	⇓*i*P		P	**Pn**	**23 25 18.3**	**+0.4**
VTCV				*i*		S	**Sn**	**23 25 31.2**	**+1.6**
VTCV						IAML		23 25 33.1	
	comp=Z,7μm,1.0s								
RIMA	**Rio Macho**	**0.59**	**138**				**Pn**	**23 25 18.0**	**0.0**
VERB	**Verbena**	**0.62**	**115**	*e*P		P	**Pn**	**23 25 18.7**	**+0.5**
JACO	**JACO, Garabito**	**0.66**	**215**				**Pn**	**23 25 18.8**	**+0.3**
JACO	**JACO, Garabito**	**0.66**	**215**	*e*P		P	**Pn**	**23 25 18.7**	**+0.3**
JACO	**JACO, Garabito**	**0.66**	**215**	⇑*i*P		P	**Pn**	**23 25 18.6**	**+0.2**
JACO						IAML		23 25 19.8	
	comp=Z,7μm,1.0s								
JACO				*i*		S	**Sn**	**23 25 31.7**	**+1.1**
JTS	**Las Juntas de**	**0.68**	**277**	P		P	**Pn**	**23 25 18.7**	**+0.2**
	comp=Z,526nm,0.2s,baz=320,slow=5.8,SNR=965								
JTS						S	**Sn**	**23 25 30.8**	**0.0**
	comp=Z,2μm,0.3s,baz=332,slow=22,SNR=33								
JTS						LR	LR	23 25 48.1	
	comp=Z,170nm,21.4s,baz=112,slow=59								
JTS	**Las Juntas de**	**0.68**	**277**	*e*P		P	**Pn**	**23 25 18.8**	**+0.2**
RITA	**Parrita**	**0.68**	**185**	*e*P		P	**Pn**	**23 25 19.2**	**+0.6**
LCOCO	**El Coco**	**0.71**	**100**	*e*P		P	**Pn**	**23 25 19.4**	**+0.5**
LCOCO				*e*		S	**Sn**	**23 25 32.5**	**+1.1**
LAFE	**Finca La Fe, P**	**0.75**	**238**	*e*P		P	**Pn**	**23 25 20.1**	**+0.9**
LAFE	**Finca La Fe, P**	**0.75**	**238**	⇑*i*P		P	**Pn**	**23 25 20.0**	**+0.8**
LAFE				*i*		S	**Sn**	**23 25 34.2**	**+2.2**
LAFE						IAML		23 25 36.7	
	comp=Z,130nm,1.0s								
LLNJ	**Naranjito**	**0.75**	**167**	*e*P		P	**Pn**	**23 25 19.4**	**+0.2**
CDM	**Cerro de Muert**	**0.82**	**142**	⇑*i*P		P	**Pn**	**23 25 20.2**	**-0.2**
CDM				*i*		S	**Sn**	**23 25 34.0**	**-0.1**
CDM						IAML		23 25 35.4	
	comp=Z,7μm,1.0s								
LCHIL	**Los Chiles**	**0.93**	**332**	*e*P		P	**Pn**	**23 25 21.8**	**+0.6**
PEZE	**Perez Zeledon,**	**1.01**	**144**				**Pn**	**23 25 22.3**	**+0.2**
PEZE	**Perez Zeledon,**	**1.01**	**144**	*e*P		P	**Pn**	**23 25 22.4**	**+0.2**
PEZE	**Perez Zeledon,**	**1.01**	**144**	⇑*i*P		P	**Pn**	**23 25 22.2**	**+0.2**
PEZE				*i*		S	**Sn**	**23 25 37.1**	**+0.1**
PEZE						IAML		23 25 40.6	
	comp=Z,5μm,1.0s								
CBL1	**Cabuya**	**1

BCIP	**Isla Barro Col**	**4.49**	**103**	Pn		**Pn**	**23 26 07.8**	**0.0**
CMIG	**Matias Romero**	**12.38**	**305**	P		**Pn**	**23 27 55.2**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=141,slow=9.3,SNR=7.5							
CMIG				S		**Sn**	**23 30 08.3**	**-2.9**
	comp=Z,0.6nm,0.3s,baz=151,slow=15,SNR=1.5							
SDV	**Santo Domingo**	**13.51**	**94**			**Pn**	**23 28 11.1**	**+0.8**
SDV	**Santo Domingo**	**13.51**	**94**	P		**Pn**	**23 28 08.0**	**-2.3**
	comp=Z,2.0nm,0.2s,baz=281,slow=8.4,SNR=1.3							
BAUV	**El Baul**	**16.05**	**93**	Pn		**Pn**	**23 28 42.5**	**-0.2**
BAUV				IAmb		IAmb	23 28 45.8	
	comp=Z,18nm,1.3s							
HODGE	**Hodges**	**23.98**	**4**	P		**P**	**23 30 09.2**	**+1.0**
HODGE				IAmb		IAmb	23 30 24.0	
	comp=Z,22nm,1.5s							
TXAR	**Lajitas Array**	**26.29**	**319**	P		**P**	**23 30 28.9**	**-0.5**
TXAR	**Lajitas Array**	**26.29**	**319**	P		**P**	**23 30 30.6**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=135,slow=12,SNR=6.7							
	comp=Z,0.6nm,0.8s							
M55A	**Ridgway**	**31.51**	**8**	P		**P**	**23 31 17.2**	**+1.8**
NVAR	**Mina Array Bea**	**41.44**	**318**	LR		LR	23 53 39.2	
	comp=Z,149nm,19.6s,baz=282,slow=42							
SCHQ	**Schefferville**	**46.61**	**14**	P		**P**	**23 33 20.6**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=228,slow=8.3,SNR=5.8							
	comp=Z,1.2nm,0.7s							
YKA	**Yellowknife Ar**	**56.61**	**344**	P		**P**	**23 34 35.0**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=138,slow=6.9,SNR=4.0							
	comp=Z,0.2nm,0.6s							
ESDC	**Sonseca Array**	**76.12**	**52**	P		**P**	**23 36 40.5**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=281,slow=5.7,SNR=4.9							
	comp=Z,1.1nm,0.9s							
NOA	**NORSAR Array B**	**83.80**	**29**	P		**P**	**23 37 21.4**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=299,slow=3.7,SNR=1.6							
	comp=Z,0.8nm,0.8s							
HFS	**Hagfors**	**85.17**	**30**	P		**P**	**23 37 26.4**	**-1.7**
	comp=Z,1.4nm,0.6s,baz=299,slow=1.5,SNR=6.8							
	comp=Z,1.4nm,0.6s							

*IDC **03** 23:35:08.1±1.2,33°.52N×46°.85E, h0km, mb3.9/14, mbtmp3.9/18, ML3.7/3, MS3.0/3, Error ellipse: s-maj=26.5km s-min=15.2km az=174.0*
*TEH **03** 23:35:08.9, 33°.55N×46°.85E, h8km±62km, ML3.5*
*ISN **03** 23:35:09.0±1.1, 33°.60N×46°.83E, h11km±5km, ML3.3*
*OMAN **03** 23:35:17.4±1.5, 33°.07N×47°.25E, h10km, mb4.0/22, ms3.6/1, Error ellipse: s-maj=24.5km s-min=11.5km az=31.0*
*DSN **03** 23:35:20.0±1.4, 32°.67N×47°.11E, h10km, Error ellipse: s-maj=20.0km s-min=10.7km az=17.0*

ISC 03 23:35:10.1±0.5, 33°.52N±0°.04×46°.86E±0°.03, h17km, n102, σ2s25/125, mb3.9/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.55**	**281**	Pg		**Pg**	**23 35 19.8**	**-1.3**
KCHF	**Cheshme Sefid,**	**0.77**	**11**	Pg		**Pg**	**23 35 22.9**	**-2.3**
IKFM	**Kafar-mosalman**	**0.83**	**90**	Pg		**Pb**	**23 35 25.5**	**-0.5**
IGHG	**Ghaleghazi**	**0.84**	**343**	Pg		**Pb**	**23 35 24.3**	**-2.1**
IBDR	**Badra**	**0.88**	**242**	*e*Pg		**Pb**	**23 35 27.0**	**+0.1**
IBDR				*e*Sg		**Sb**	**23 35 38.5**	**+0.1**
IBDR				AML		AML	23 35 48.2	
	comp=E,811nm,0.7s							
IBDR				AML		AML	23 35 50.1	
	comp=N,717nm,0.8s							
IDOB	**Doab**	**1.13**	**76**	Pg		**Pb**	**23 35 31.4**	**-0.1**
IDOB				Sg		**Sb**	**23 35 47.3**	**+1.3**
IDHR	**Dehrash**	**1.24**	**342**	Pg		**Pn**	**23 35 31.4**	**-1.5**
IBZA	**Bozab**	**1.26**	**41**	Pg		**Pn**	**23 35 32.9**	**-0.3**
ILIN	**Lien**	**1.40**	**4**	Pg		**Pn**	**23 35 35.1**	**0.0**
KGS1	**Ghasr-e-Shirin**	**1.44**	**313**	Pg		**Pn**	**23 35 36.5**	**+1.0**
RAFI	**Al-Rafai**	**1.90**	**199**	*e*Pn		**Pn**	**23 35 44.0**	**+2.2**
RAFI				*e*Sn		**Sb**	**23 36 10.0**	**+2.2**
RAFI				AML		AML	23 36 23.5	
	comp=E,345nm,0.6s							
RAFI				AML		AML	23 36 29.5	
	comp=N,268nm,0.3s							
BHD	**Baghdad**	**2.09**	**264**	*e*Pn		**Pn**	**23 35 45.0**	**+0.7**
BHD				*e*Sn		**Sn**	**23 36 12.5**	**+2.6**
BHD				AML		AML	23 36 27.2	
	comp=E,451nm,0.6s							
HAGD	**Aghdareh**	**2.29**	**55**	Pn		**Pn**	**23 35 50.0**	**+2.6**
SDS1	**Sardasht. Az.**	**2.85**	**337**	Pn		**Pn**	**23 35 57.6**	**+2.6**
MAHB	**Mahabad**	**3.37**	**344**	Pn		**Pn**	**23 36 04.1**	**+2.0**
JHBN	**Jahan bin**	**3.45**	**111**	Pn		**Pn**	**23 36 05.7**	**+2.3**
IPIR	**Pirpir**	**3.49**	**103**	Pn		**Pn**	**23 36 06.2**	**+2.3**
ZNGN	**Zangian**	**3.65**	**112**	Pn		**Pn**	**23 36 07.8**	**+1.7**
IQOM	**Qom**	**3.73**	**68**	Pn		**Pn**	**23 36 09.0**	**+1.8**
QAMS	**Qamsar**	**3.79**	**86**	Pn		**Pn**	**23 36 11.0**	**+2.9**
IMHD	**Mahdasht**	**3.81**	**54**	Pn		**Pn**	**23 36 10.1**	**+1.9**
JIR1	**Jirandeh**	**3.99**	**36**	Pn		**Pn**	**23 36 12.8**	**+2.1**
IBRJ	**Brojen**	**4.05**	**112**	Pn		**Pn**	**23 36 14.0**	**+2.4**
IVRN	**Varamin**	**4.29**	**69**	Pn		**Pn**	**23 36 16.6**	**+1.8**
ISRB	**Sarab**	**4.34**	**8**	Pn		**Pn**	**23 36 17.6**	**+2.0**
KRSH	**Karshahi**	**4.42**	**83**	Pn		**Pn**	**23 36 18.6**	**+2.0**
IGAR	**Gharneh**	**4.50**	**103**	Pn		**Pn**	**23 36 20.0**	**+2.3**
KLST	**Kelardasht - M**	**4.56**	**48**	Pn		**Pn**	**23 36 19.9**	**+1.2**
KLNJ	**Kolanjah**	**4.73**	**121**	Pn		**Pn**	**23 36 23.0**	**+1.9**
IDMV	**Damavand**	**4.74**	**63**	Pn		**Pn**	**23 36 22.7**	**+1.7**
MZPU	**Pul - Mazandar**	**4.84**	**52**	Pn		**Pn**	**23 36 24.6**	**+2.2**
IRAM	**Ramesheh**	**4.96**	**109**	Pn		**Pn**	**23 36 25.8**	**+1.7**
IFIR	**Firoozkooh**	**5.30**	**65**	Pn		**Pn**	**23 36 30.7**	**+1.8**
GRMI	**Germi**	**5.34**	**9**	Pn		**Pn**	**23 36 31.2**	**+2.0**
DSBU	**Dashti - Bushe**	**6.38**	**143**	Pn		**Pn**	**23 36 45.9**	**+2.4**
IGLO	**Ghaloghah**	**6.45**	**61**	Pn		**Pn**	**23 36 46.4**	**+1.9**
ASF	**Jabal al Asfar**	**8.49**	**264**	LR		LR	23 40 31.3	
	comp=E,87nm,20.0s,baz=153,slow=38							
SMRA	**Abu-Samra**	**9.41**	**157**	P		**Pn**	**23 37 25.0**	**+0.1**
TRNA	**Turayna**	**9.55**	**155**	P		**Pn**	**23 37 28.4**	**+1.6**
	SNR=5.5							
TRNA				S		**Sn**	**23 39 09.7**	**-4.0**
MMAI	**Mount Meron Ar**	**9.60**	**270**	Pn		**Pn**	**23 37 27.5**	**-0.2**
	baz=78,slow=15							
RAYN	**Ar Rayn**	**10.04**	**187**	*i* P		**Pn**	**23 37 33.3**	**-0.3**
	SNR=10							
SLWR	**Sila**	**10.33**	**155**	P		**Pn**	**23 37 35.8**	**-1.7**
EIL	**Elat**	**10.85**	**252**	Pn		**Pn**	**23 37 45.7**	**+1.0**
	comp=E,0.1nm,0.3s,baz=68,slow=13,SNR=2.0							
EIL				LR		LR	23 42 20.9	
	comp=E,32nm,18.6s,baz=4.0,slow=40							
	comp=E,1.0nm,0.5s							
GHWR	**Ruwais**	**10.89**	**149**	P		**Pn**	**23 37 47.5**	**+2.3**
GHWR				S		**Sn**	**23 39 42.3**	**-4.3**
SHME	**Shamm**	**10.97**	**130**	P		**Pn**	**23 37 48.0**	**+1.6**
SHME				S		**Sn**	**23 39 46.3**	**-2.4**
AJN	**Ajban**	**11.41**	**139**	P		**Pn**	**23 37 53.9**	**+1.5**
AJN	**Ajban**	**11.41**	**139**	P		**Pn**	**23 37 54.2**	**+1.9**
AJN				S		**Sn**	**23 39 55.0**	**-4.5**
NAZ	**Nazwa, Dubai**	**11.46**	**136**	*i* P		**Pn**	**23 37 54.1**	**+1.0**
	SNR=9.4							
NAZ	**Nazwa, Dubai**	**11.46**	**136**	P		**Pn**	**23 37 54.4**	**+1.3**
	SNR=9.4							
NAZ				S		**Sn**	**23 39 58.9**	**-1.8**
MZWR	**Madinat Zayed**	**11.51**	**146**	P		**Pn**	**23 37 55.7**	**+2.0**
MZWR				S		**Sn**	**23 39 57.6**	**-4.4**
ASUD	**Al Ashush, Dub**	**11.55**	**138**	P		**Pn**	**23 37 55.3**	**+1.0**
ASUD	**Al Ashush, Dub**	**11.55**	**138**	P		**Pn**	**23 37 56.2**	**+1.9**
	SNR=6.7							
ASUD				S		**Sn**	**23 40 01.1**	**-1.8**
FAQ	**Al Faqa, Dubai**	**11.61**	**137**	P		**Pn**	**23 37 55.3**	**+0.2**
FAQ	**Al Faqa, Dubai**	**11.61**	**137**	P		**Pn**	**23 37 56.4**	**+1.4**
FAQ				S		**Sn**	**23 40 02.0**	**-2.3**
MDH	**Madha**	**11.61**	**132**	P		**Pn**	**23 37 54.9**	**-0.2**
MDH	**Madha**	**11.61**	**132**	P		**Pn**	**23 37 55.8**	**+0.7**
MDH				S		**Sn**	**23 39 59.3**	**-5.0**
UOSS	**Minazif**	**11.81**	**134**	*i* P		**Pn**	**23 37 58.6**	**+0.7**
	SNR=8.7							
UOSS	**Minazif**	**11.81**	**134**	P		**Pn**	**23 37 59.3**	**+1.4**
UOSS				S		**Sn**	**23 40 04.4**	**-4.9**
HATD	**Hatta, Dubai**	**11.86**	**135**	P		**Pn**	**23 37 59.5**	**+1.0**
HATD	**Hatta, Dubai**	**11.86**	**135**	P		**Pn**	**23 37 59.9**	**+1.4**
	SNR=5.6							
HATD				S		**Sn**	**23 40 06.4**	**-4.1**
ASHO	**Ashiyiah**	**11.92**	**135**	*i* P		**Pn**	**23 37 60.0**	**+0.6**
	SNR=16							
ASHO				S		**Sn**	**23 40 06.4**	**-5.8**
ASHO	**Ashiyiah**	**11.92**	**135**	P		**Pn**	**23 38 00.2**	**+0.7**
	SNR=16							
ASHO				S		**Sn**	**23 40 08.7**	**-3.4**
MZR	**Muzera**	**11.99**	**149**	P		**Pn**	**23 38 02.4**	**+2.0**
MZR				S		**Sn**	**23 40 11.8**	**-1.9**
ALNE	**Al Ain**	**12.23**	**138**	*i* P		**Pn**	**23 38 04.1**	**+0.5**
	SNR=8.6							
ALNE	**Al Ain**	**12.23**	**138**	P		**Pn**	**23 38 04.6**	**+0.9**
	SNR=8.2							
ALNE				S		**Sn**	**23 40 18.1**	**-1.5**
JASK	**Jask - Hormozg**	**12.23**	**126**	P		**Pn**	**23 38 03.3**	**-0.3**
JASK				S		**Sn**	**23 40 17.8**	**-1.8**
BRTR	**Keskin Array B**	**12.29**	**304**	Pn		Pn	23 38 09.9	+5.5
	comp=E,0.5nm,0.7s,baz=124,slow=11,SNR=0.8							
SOHO	**SOHO**	**12.62**	**135**	*i* P		**Pn**	**23 38 08.4**	**-0.5**
	SNR=9.8							
SOHO	**SOHO**	**12.62**	**135**	P		**Pn**	**23 38 09.1**	**+0.2**
SOHO				S		**Sn**	**23 40 23.9**	**-5.2**
UMZA	**Um Al Zommool**	**13.02**	**144**	P		**Pn**	**23 38 15.0**	**+0.7**
UMZA				S		**Sn**	**23 40 32.8**	**-6.0**
ARQ	**Araqi**	**13.23**	**138**	P		**Pn**	**23 38 17.6**	**+0.3**
	SNR=19							
ARQ				S		**Sn**	**23 40 39.0**	**-5.1**
HOQ	**Hoqain**	**13.50**	**135**	P		**Pn**	**23 38 22.1**	**+1.2**
BSY	**Bisya**	**14.08**	**137**	P		**Pn**	**23 38 28.3**	**-0.6**
	SNR=10							
BSY				S		**Sn**	**23 40 59.7**	**-5.1**
SMDO	**Samad**	**14.34**	**134**	P		**Pn**	**23 38 32.3**	**-0.2**
SMDO				S		**Sn**	**23 41 04.6**	**-6.6**
WSAR	**Wadi Sarin**	**14.56**	**132**	Pn		**Pn**	**23 38 33.8**	**-1.7**
	comp=E,1.3nm,0.3s,baz=343,slow=9.3,SNR=12							
	comp=E,4.0nm,0.4s							
JMDO	**Jabal Madar**	**14.89**	**135**	P		**Pn**	**23 38 39.5**	**-0.5**
WBK	**Wadi Bani Khal**	**15.23**	**132**	S		**Sn**	**23 41 28.4**	**-4.5**
JLN	**Jalan Bani Buh**	**15.85**	**132**	P		**Pn**	**23 38 51.1**	**-1.4**
MHTO	**MHTO**	**15.91**	**139**	P		**Pn**	**23 38 52.0**	**-1.3**
	SNR=9.2							
DOK	**Doka**	**16.21**	**155**	P		**Pn**	**23 38 55.1**	**-2.0**
	SNR=11							
DQM	**DQM**	**16.55**	**142**	P		**Pn**	**23 39 00.3**	**-1.2**
DQM				P		**Pn**	**23 39 00.3**	**-1.2**
WHFO	**Wadi Hawf**	**16.73**	**157**	P		**Pn**	**23 39 01.5**	**-2.4**
	SNR=9.7							
ABTO	**Aybut**	**17.11**	**159**	P		**Pn**	**23 39 07.0**	**-1.6**
	SNR=7.4							
RBK	**Rabkut**	**17.27**	**156**	P		**Pn**	**23 39 09.9**	**-0.7**
SHAO	**Shalim**	**17.32**	**151**	P		**Pn**	**23 39 10.0**	**-1.3**
	SNR=8.8							
DMTO	**DMTO**	**17.34**	**153**	P		**Pn**	**23 39 10.0**	**-1.4**
	SNR=11							
BELG	**Belogornoye**	**18.87**	**1**	P		**P**	**23 39 28.5**	**-0.9**
	comp=E,0.2nm,0.3s,baz=300,slow=14,SNR=2.4							
	comp=E,4.0nm,0.8s							
MLR	**Muntele Rosu**	**20.01**	**313**	P		**P**	**23 39 42.4**	**+0.3**
	comp=E,2.2nm,0.9s,baz=30,slow=8.1,SNR=2.5							
	comp=E,2.2nm,0.9s							
AKASG	**Malin Array Be**	**21.49**	**328**	P		**P**	**23 39 57.7**	**-0.1**
	comp=E,1.4nm,0.7s,baz=139,slow=10,SNR=5.6							
	comp=E,1.4nm,0.7s							
BVAR	**Borovoye Array**	**25.75**	**34**	P		**P**	**23 40 41.0**	**+1.3**
	comp=E,2.2nm,0.7s,baz=224,slow=8.4,SNR=16							
	comp=E,2.2nm,0.7s							
KURBB	**Kurchatov Arra**	**28.77**	**44**	P		**P**	**23 41 08.0**	**+1.2**
	comp=E,1.0nm,0.2s,baz=250,slow=9.1,SNR=4.3							
	comp=E,1.0nm,0.2s							
GERES	**GERESS Array B**	**28.99**	**312**	P		**P**	**23 41 10.3**	**+1.3**
	comp=E,0.2nm,0.3s,baz=134,slow=3.9,SNR=3.7							
	comp=E,0.2nm,0.3s							
MKAR	**Makanchi Array**	**29.88**	**53**	P		**P**	**23 41 18.3**	**+1.5**
	comp=E,0.7nm,0.7s,baz=248,slow=7.0,SNR=10							
	comp=E,0.7nm,0.7s							
FINES	**FINESS Array B**	**30.98**	**341**	P		**P**	**23 41 26.9**	**+0.7**
	comp=E,0.8nm,0.7s,baz=153,slow=10,SNR=2.2							
	comp=E,0.8nm,0.7s							
ZALV	**Zalesovo Beam**	**33.62**	**41**	P		**P**	**23 41 49.5**	**0.0**
	comp=E,0.7nm,0.7s,baz=272,slow=12,SNR=3.9							
	comp=E,0.7nm,0.7s							
HFS	**Hagfors**	**34.32**	**331**	P		**P**	**23 41 55.7**	**+0.2**
	comp=E,3.8nm,0.7s,baz=140,slow=7.2,SNR=9.8							
	comp=E,3.8nm,0.7s							
NOA	**NORSAR Array B**	**35.84**	**331**	P		**P**	**23 42 07.7**	**-1.0**
	comp=E,0.4nm,0.6s,baz=124,slow=8.5,SNR=3.4							
	comp=E,0.4nm,0.6s							
TORD	**Torodi Ar. Bea**	**45.73**	**255**	P		**P**	**23 43 31.4**	**+0.7**
	comp=E,1.5nm,0.9s,baz=54,slow=9.6,SNR=8.1							
	comp=E,1.5nm,0.9s							
JMIC	**Jan Mayen**	**47.55**	**339**	LR		LR	00 03 21.1	
	comp=E,59nm,19.1s,baz=18,slow=36							
KSRS	**Korea Array**	**64.14**	**61**	P		**P**	**23 45 43.6**	**-0.1**
	comp=E,1.8nm,0.6s,baz=286,slow=6.8,SNR=9.6							
	comp=E,1.8nm,0.6s							
SEY	**Seymchan**	**67.26**	**29**	P		**P**	**23 46 04.8**	**+1.4**
	comp=E,2.6nm,0.6s,baz=274,slow=10,SNR=9.8							
	comp=E,2.6nm,0.6s							
SCHQ	**Schefferville**	**75.28**	**327**	P		**P**	**23 46 52.3**	**+0.3**
	comp=E,2.7nm,1.0s,baz=42,slow=8.3,SNR=4.7							
	comp=E,2.7nm,1.0s							

*IDC **03** 23:35:27.9±2.9, 5°.96S×142°.52E, h0km, mb4.0/3, mbtmp3.9/4, ML3.8/1, MS3.3/2, Error ellipse: s-maj=133.1km s-min=27.0km az=85.0*

ISC 03 23:35:29.3±1.2, 6°.3S±0°.1×142°.4E±0°.1, h10km, n7, σ2s55/8, mb4.0/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.64**	**123**	Sn		**Sn**	**23 37 56.8**	**-1.3**
	0.9nm,0.3s,baz=239,slow=4.4,SNR=3.2							
PMG				LR		LR	23 39 12.9	
	comp=Z,47nm,18.4s,baz=270,slow=39							
WRA	**Warramunga Arr**	**15.66**	**209**	Pn		**Pn**	**23 39 10.2**	**0.0**
	0.3nm,0.3s,baz=27,slow=13,SNR=18							
WRA				Sn		**Sn**	**23 42 02.5**	**-1.5**
	0.2nm,0.3s,baz=40,slow=24,SNR=4.6							
WRA				Lg		Lg	23 43 56.7	
	0.2nm,0.3s,baz=40,slow=25,SNR=5.2							
HNR	**Honiara**	**17.66**	**101**	LR		LR	23 45 21.1	
	comp=Z,631nm,18.4s,baz=312,slow=34							
ASAR	**Alice Springs**	**19.10**	**204**	P		**Pn**	**23 39 56.0**	**+2.7**
	0.3nm,0.3s,baz=34,slow=10,SNR=15							
ASAR				Sn		**Sn**	**23 43 24.6**	**-2.9**
	0.1nm,0.3s,baz=25,slow=25,SNR=1.3							
ASAR				Lg		Lg	23 45 46.2	
	baz=17,slow=27,SNR=2.9							
	1.6nm,0.6s							
STKA	**Stephens Creek**	**25.46**	**182**	P		**P**	**23 41 01.0**	**+3.4**
	1.6nm,0.5s,baz=344,slow=7.4,SNR=4.3							
	1.6nm,0.5s							
MKAR	**Makanchi Array**	**74.86**	**322**	P		**P**	**23 47 09.5**	**-0.8**
	0.9nm,0.9s,baz=120,slow=6.4,SNR=7.3							
	0.9nm,0.9s							
BVAR	**Borovoye Array**	**84.34**	**325**	P		**P**	**23 48 01.0**	**-0.7**
	1.4nm,0.8s,baz=116,slow=6.8,SNR=8.4							
	1.4nm,0.8s							

*IDC **03** 23:51:33.3±2.0, 54°.50N×35°.24W, h0km, mb3.6/7, mbtmp3.6/8, ML2.3/1, MS3.2/6, Error ellipse: s-maj=67.9km s-min=23.5km az=174.0*

ISC 03 23:51:34.6±1.7, 54°.5N±0°.4×35°.3W±0°.1, h10km, n15, σ0s82/9, mb3.7/7, MS3.0/5, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BORG	**Borgarnes**	**12.44**	**29**	LR		LR	23 58 15.4	
	comp=Z,104nm,18.2s,baz=223,slow=32							
SCHQ	**Schefferville**	**18.18**	**284**	P		**Pn**	**23 55 45.5**	**-1.4**
	0.1nm,0.3s,baz=84,slow=13,SNR=2.3							
	2.0nm,0.8s							
NOA	**NORSAR Array B**	**25.19**	**56**	LR		LR	00 05 09.3	
	comp=Z,220nm,20.9s,baz=40,slow=32							
ESDC	**Sonseca Array**	**25.70**	**112**	LR		LR	00 03 55.0	
	comp=Z,48nm,19.8s,baz=284,slow=29							
DAVOX	**Davos/Dischmat**	**29.23**	**86**	LR		LR	00 07 43.3	
	comp=Z,87nm,18.3s,baz=350,slow=33							
GERES	**GERESS Array B**	**30.39**	**80**	LR		LR	00 07 59.8	
	comp=Z,35nm,21.1s,baz=350,slow=32							
YKA	**Yellowknife Ar**	**39.69**	**314**	P		**P**	**23 59 07.3**	**+0.9**
	0.5nm,0.8s,baz=60,slow=8.9,SNR=3.8							
	0.5nm,0.8s							
BRTR	**Keskin Array B**	**47.25**	**79**	P		**P**	**00 00 07.8**	**0.0**
	0.8nm,0.8s,baz=309,slow=5.9,SNR=4.6							
	0.8nm,0.8s							
MMAI	**Mount Meron Ar**	**52.95**	**83**	LR		LR	00 23 34.1	
	comp=Z,40nm,18.0s,baz=174,slow=36							
TXAR	**Lajitas Array**	**54.30**	**272**	P		**P**	**00 01 01.8**	**+0.8**
	0.3nm,0.9s,baz=83,slow=9.2,SNR=1.9							
	0.3nm,0.9s							
ZALV	**Zalesovo Beam**	**61.18**	**36**	P		**P**	**00 01 49.1**	**+0.2**
	0.2nm,0.3s,baz=327,slow=7.4,SNR=1.8							
	0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**61.58**	**41**	P		**P**	**00 01 51.7**	**+0.1**
	0.8nm,0.8s,baz=321,slow=7.4,SNR=6.8							
	0.8nm,0.8s							
MKAR	**Makanchi Array**	**66.14**	**42**	P		**P**	**00 02 21.9**	**+0.1**
	0.6nm,0.8s,baz=339,slow=6.5,SNR=5.4							
	0.6nm,0.8s							
SONM	**Songino Array**	**73.04**	**26**	P		**P**	**00 03 04.1**	**-0.4**
	0.5nm,0.8s,baz=337,slow=6.3,SNR=3.7							
	0.5nm,0.8s							
ASAR	**Alice Springs**	**148.17**	**19**	PKPbc		**PKPbc**	**00 11 19.8**	**-0.7**
	1.0nm,0.6s,baz=355,slow=2.5,SNR=13							

*IDC **03** 23:54:16.7±0.8, 34°.48N×25°.09E, h0km, mb3.9/15, mbtmp3.9/18, ML3.5/4, MS3.6/5, Error ellipse: s-maj=17.8km s-min=15.9km az=172.0*
*NEIC **03** 23:54:18.8±2.1, 34°.26N±0°.07×24°.97E±0°.06, h17km±6km, mb4.0/14, Error ellipse: s-maj=10.1km s-min=7.0km az=198.0*
*ATH **03** 23:54:19.6, 34°.29N×25°.18E, h5km±1km, ML3.4/13, Error ellipse: s-maj=2.6km s-min=1.3km az=8.0*
*ISK **03** 23:54:20.2, 34°.38N×25°.08E, h15km, ML3.4/8*
*THE **03** 23:54:21.6, 34°.32N×25°.11E, h24km±2km, ML3.3/3, Error ellipse: s-maj=2.6km s-min=0.9km az=161.0*
*GII **03** 23:54:27.1±0.4, 34°.113N±0°.002×25°.711E±0°.001, h60km, Md3.3/3, confirmed*
*NAO **03** 23:55:12.6, 39°.71N×23°.24E, h33km, mb3.4*

ISC 03 23:54:19.5±1.5, 34°.25N±0°.06×25°.19E±0°.04, h26km±10km, n187, σ1s85/203, mb4.0/17, MS4.2/3, Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TMBK	**Timbaki Herakl**	**0.90**	**337**	P		**Pn**	**23 54 35.6**	**-0.7**
TMBK				S		**Sb**	**23 54 47.5**	**-0.4**
TMBK	**Timbaki Herakl**	**0.90**	**337**	P		**Pn**	**23 54 35.7**	**-0.7**
TMBK				S		**Sb**	**23 54 47.7**	**-0.3**
KSTL	**Kastelli Herak**	**1.06**	**355**	P		**Pn**	**23 54 37.3**	**-1.3**
KSTL				S		**Sn**	**23 54 49.7**	**-2.8**
KSTL	**Kastelli Herak**	**1.06**	**355**	P		**Pn**	**23 54 37.4**	**-1.3**
KSTL				S		**Sn**	**23 54 49.9**	**-2.6**
KSTL				AML		AML	23 54 53.1	
	comp=N,4613μm,0.3s							
KSTL				AML		AML	23 54 53.3	
	comp=E,3524μm,0.4s							
IACM	**Heraklion**	**1.06**	**355**	P		**Pb**	**23 54 38.8**	**-0.4**
IDI	**Anoyia**	**1.07**	**347**	Pg		**Pn**	**23 54 38.5**	**-0.3**
IDI				Sg		**Sb**	**23 54 51.8**	**-1.2**
IDI	**Anoyia**	**1.07**	**347**			**Pn**	**23 54 38.3**	**-0.5**
IDI				Sn		**Sb**	**23 54 52.8**	**-0.2**
IDI	**Anoyia**	**1.07**	**347**	P		**Pn**	**23 54 38.1**	**-0.7**
IDI				S		**Sb**	**23 54 51.6**	**-1.4**
	comp=E,1μm,0.4s							
IDI	**Anoyia**	**1.07**	**347**	P		**Pn**	**23 54 38.4**	**-0.5**
IDI				S		**Sb**	**23 54 52.2**	**-0.8**
IDI				AML		AML	23 54 55.5	
	comp=E,3730μm,0.4s							
IDI				AML		AML	23 54 58.8	
	comp=N,2961μm,0.5s							
GVD	**Gavdhos**	**1.09**	**303**	Pg		**Pn**	**23 54 38.8**	**-0.2**
GVD				Sg		**Sn**	**23 54 51.9**	**-1.3**
GVD	**Gavdhos**	**1.09**	**303**	P		**Pn**	**23 54 38.6**	**-0.4**
GVD	**Gavdhos**	**1.09**	**303**	P		**Pn**	**23 54 39.0**	**0.0**
GVD				S		**Sn**	**23 54 54.1**	**+0.9**
GVD				AML		AML	23 54 59.3	
	comp=N,8337μm,0.3s							
GVD				AML		AML	23 55 02.8	
	comp=E,6492μm,0.4s							
GVDS	**Gavdos**	**1.09**	**303**	Pg		**Pn**	**23 54 39.3**	**+0.3**
GVDS	**Gavdos**	**1.09**	**303**	P		**Pn**	**23 54 39.0**	**0.0**
GVDS				S		**Sn**	**23 54 52.5**	**-0.7**
	comp=E,2μm,0.3s							

ALN	Alexandroupoli	6.67	6	Pn		Pn		23 55 56.2	+0.5
CSS	Mathiatis	6.75	82	Pn		Pn		23 55 57.4	+0.6
CSS	Mathiatis	6.75	82	P		Pn		23 55 57.6	+0.7
SRN	Sarande	6.99	325	P		Pn		23 56 00.8	+0.7
OFRI	`Ofer	8.34	98	P		Pn		23 56 19.9	+1.1
OFRI	`Ofer	8.34	98	S		Sn		23 57 47.6	-4.6
HNTI	Hanita	8.40	95	P		Pn		23 56 20.5	+1.0
KZIT	Kziot	8.45	111	P		Pn		23 56 20.5	+0.3
KZIT	Kziot	8.45	111	P		Pn		23 56 20.5	+0.3
KZIT	Kziot	8.45	111	S		Sn		23 57 50.1	-4.6
SLTI	Sal'it	8.49	101	P		Pn		23 56 21.2	+0.5
SLTI	Sal'it	8.49	101	P		Pn		23 56 21.1	+0.3
MMA0	Mount Meron ar	8.60	95	P		Pn		23 56 22.9	+0.5
MMA0B	Mount Meron ar	8.60	95	P		Pn		23 56 23.1	+0.7
MMA0B	Mount Meron ar	8.60	95	S		Sn		23 57 54.9	-3.7
MMAI	Mount Meron Ar	8.60	95	Pn		Pn		23 56 24.4	+2.0
	comp=E,2.1nm,0.3s,baz=268,slow=12,SNR=19								
MMAI				Sn		Sn		23 57 51.2	-7.4
	comp=E,6.9nm,0.3s,baz=276,slow=23,SNR=6.2								
	comp=E,0.8nm,0.3s								
AMAZ	Amatzia	8.61	106	P		Pn		23 56 24.7	+2.3
AMAZ	Amatzia	8.61	106	P		Pn		23 56 23.7	+1.2
BR131	Keskin Array S	8.69	49	Pn		Pn		23 56 25.6	+2.0
BRTR	Keskin Array B	8.69	49	Pn		Pn		23 56 24.9	+1.3
	comp=E,0.1nm,0.3s,baz=224,slow=14,SNR=2.9								
BRTR				Sn		Sn		23 58 02.6	+1.8
	comp=E,0.1nm,0.3s,baz=210,slow=26,SNR=1.3								
BRTR				LR		LR		00 00 39.1	
	comp=E,97nm,18.3s,baz=178,slow=44								
MMLI	Mount Malkishu	8.75	99	P		Pn		23 56 24.3	0.0
MMLI	Mount Malkishu	8.75	99	S		Sn		23 57 56.8	-5.3
GEM	Giv'at Ha'Em	8.78	94	P		Pn		23 56 27.4	+2.6
GEM	Giv'at Ha'Em	8.78	94	P		Pn		23 56 25.9	+1.2
GEM	Giv'at Ha'Em	8.78	94	S		Sn		23 57 58.6	-4.3
YTIR	Yattir	8.83	106	P		Pn		23 56 27.0	+1.5
NATI	Neve Ativ	8.83	93	P		Pn		23 56 26.9	+1.5
NATI	Neve Ativ	8.83	93	P		Pn		23 56 26.5	+1.1
NATI	Neve Ativ	8.83	93	S		Sn		23 58 01.2	-2.9
HMDT	Nahal Hemdat	8.88	100	P		Pn		23 56 27.8	+1.7
HMDT	Nahal Hemdat	8.88	100	P		Pn		23 56 26.9	+0.8
HMDT	Nahal Hemdat	8.88	100	S		Sn		23 58 01.8	-3.4
UJAP	Al Uja	8.91	102	P		Pn		23 56 27.8	+1.3
UJAP	Al Uja	8.91	102	P		Pn		23 56 27.7	+1.2
KSHT	Keshet	8.95	95	P		Pn		23 56 27.8	+0.8
KSHT	Keshet	8.95	95	S		Sn		23 58 03.2	-3.7
DSI	Dead Sea	8.97	105	P		Pn		23 56 28.5	+1.2
DSI	Dead Sea	8.97	105	S		Sn		23 58 03.9	-3.6
DSI	Dead Sea	8.97	105	P		Pn		23 56 28.2	+0.8
BALJ	Balqa	9.02	101	Pn		Pn		23 56 29.9	+1.9
MDBI	Mazsada	9.04	106	P		Pn		23 56 29.5	+1.2
MSBI	Mazada	9.04	106	P		Pn		23 56 29.6	+1.3
MSBI	Mazada	9.04	106	P		Pn		23 56 29.2	+0.9
MSBI	Mazada	9.04	106	S		Sn		23 58 04.5	-4.7
KRMI	Paran Flat	9.06	114	S		Sn		23 58 04.9	-5.0
KRMI	Paran Flat	9.06	114	P		Pn		23 56 29.4	+0.7
PRNI	Paran	9.17	112	P		Pn		23 56 31.5	+1.4
PRNI	Paran	9.17	112	S		Sn		23 58 08.1	-4.2
PRNI	Paran	9.17	112	P		Pn		23 56 31.2	+1.1
LISJ	El Lisan	9.17	106	P		Pn		23 56 31.2	+1.2
ZFRI	Zfri	9.21	111	P		Pn		23 56 31.5	+0.9
ZFRI	Zfri	9.21	111	P		Pn		23 56 31.6	+1.0
GHAJ	Ghor Haditha	9.21	106			Pn		23 56 32.0	+1.4
GHAJ	Ghor Haditha	9.21	106	P		Pn		23 56 32.0	+1.4
GHAJ	Ghor Haditha	9.21	106	P		Pn		23 56 31.8	+1.2
GHAJ	Ghor Haditha	9.21	106	S		Sn		23 58 08.8	-4.6
HRFI	Mount Harif	9.34	114	P		Pn		23 56 33.5	+1.0
HRFI	Mount Harif	9.34	114	S		Sn		23 58 12.1	-4.5
KARJ	KARJ	9.35	107	P		Pn		23 56 29.8	-2.7
MBRI	Mt Berech	9.37	116	P		Pn		23 56 33.6	+0.7
MBRI	Mt Berech	9.37	116	P		Pn		23 56 34.0	+1.2
MBRI	Mt Berech	9.37	116	S		Sn		23 58 13.1	-4.3
EIL	Elat	9.46	116	Pn		Pn		23 56 35.5	+1.4
	comp=E,2.7nm,0.3s,baz=240,slow=5.8,SNR=27								
EIL				Sn		Sn		23 58 16.1	-3.5
	comp=E,2.6nm,0.3s,baz=306,slow=23,SNR=7.2								
	comp=E,4.9nm,0.3s								
EIL	Elat	9.46	116	P		Pn		23 56 34.9	+0.8
EIL	Elat	9.46	116	P		Pn		23 56 35.1	+1.0
EIL	Elat	9.46	116	S		Sn		23 58 15.2	-4.3
AQBJ	Aqaba	9.50	116	P		Pn		23 56 35.8	+1.1
BNN	Bunyan	9.72	59	Pn		Pn		23 56 40.2	+2.4
ASF	Jabal al Asfar	10.02	99	Pn		Pn		23 56 42.7	+0.9
	comp=E,0.2nm,0.3s,baz=333,slow=16,SNR=2.6								
ASF				Sn		Sn		23 58 30.6	-2.8
	comp=E,0.8nm,0.3s,baz=332,slow=19,SNR=3.9								
	comp=E,0.7nm,0.3s								
MLR	Muntele Rosu	11.24	3	LR		LR		00 01 40.2	
	comp=E,74nm,21.2s,baz=114,slow=40								
BUR08	Bucovina Ar. S	13.38	0	Pn		Pn		23 57 29.3	+1.6
SOKA	Soboth	14.61	331	*i* P		P		23 57 50.4	-0.2
	comp=E,1.8nm,0.7s								
OBKA	Obir	14.67	330	*i* P		P		23 57 51.7	+0.4
	comp=E,1.9nm,0.7s								
RONA	Rosalia, Austr	15.01	336	*i* P		P		23 57 55.9	+0.9
	comp=E,1.7nm,0.5s								
CIMO	Cimolais	15.46	325	Pn		Pn		23 57 55.9	+0.2
CIMO				IAmb		IAmb		23 58 12.7	
	comp=Z,15nm,1.5s								
KBA	Koelnbreinsper	15.63	329	*e*P		P		23 58 01.7	-0.3
	comp=Z,3.5nm,0.8s								
CTI	Castel Tesino	15.66	323	Pn		Pn		23 57 57.5	-0.9
CTI				IAmb		IAmb		23 58 10.0	
	comp=Z,16nm,1.4s								
ABTA	Abfaltersbach	15.75	326	*i* P		P		23 58 04.5	+1.3
	comp=Z,2.2nm,0.5s								
MOA	Molln	15.87	332	*i* P		P		23 58 05.0	+0.5
	comp=Z,1.3nm,0.4s								
LESA	Schwarzleotal	16.19	328	*i* P		P		23 58 09.2	+1.1
	comp=Z,3.0nm,0.5s								
VRAC	Vranov	16.34	340	Pn		Pn		23 58 01.1	-5.9
	comp=Z,0.1nm,0.3s,baz=174,slow=8.4,SNR=1.5								
WTTA	Wattenberg	16.54	326	*i* P		P		23 58 15.0	+2.9
	comp=Z,3.4nm,0.7s								
WATA	Walderalm	16.62	326	*i* P		P		23 58 13.4	+0.5
	comp=Z,3.4nm,0.6s								
KBZ	Khabaz	16.68	50	Pn		P		23 58 16.4	+3.0
	comp=Z,0.1nm,0.3s,baz=224,slow=5.9,SNR=4.1								
AKASG	Malin Array Be	16.70	9	Pn		Pn		23 58 10.0	-1.6
AKASG	Malin Array Be	16.70	9	Pn		P		23 58 12.6	-1.1
	comp=Z,3.4nm,0.3s,baz=200,slow=11,SNR=14								
AKBB	Malin Array Si	16.70	9			Pn		23 58 11.5	0.0
AKBB				IAmb		IAmb		23 58 14.4	
	comp=Z,9.9nm,0.7s								
SQTA	Sankt Quirin	16.71	325	*i* P		P		23 58 15.6	+1.7
	comp=Z,1.2nm,0.5s								
FUORN	Ofenpass-Fuorn	16.75	322			P		23 58 13.8	-0.7
FETA	Feichten	16.80	324	*i* P		P		23 58 17.9	+2.9
	comp=Z,1.8nm,0.7s								
MOTA	Moosalm	16.84	325	*i* P		P		23 58 18.2	+2.7
	comp=Z,0.5nm,0.4s								
GEC2	GERESS Array S	16.90	333			Pn		23 58 13.3	-0.9
GEC2				IAmb		IAmb		23 58 18.2	
	comp=Z,3.5nm,0.8s								
GERES	GERESS Array B	16.90	333	Pn		Pn		23 58 12.9	-1.3
GERES	GERESS Array B	16.90	333	Pn		P		23 58 16.4	+0.4
	comp=Z,0.5nm,0.3s,baz=136,slow=10,SNR=14								
RETA	Reutte	17.11	325	*i* P		P		23 58 21.6	+3.4
	comp=Z,1.0nm,0.3s								
KHC	Kasperske Hory	17.18	333	Pn		Pn		23 58 16.2	-1.4
SENIN	Lac Senin/Sane	18.19	317	P		Pn		23 58 28.5	-1.8
RAYN	Ar Rayn	20.71	116	P		Pn		23 59 00.4	0.0
RAYN				IAmb		IAmb		23 59 05.0	
	comp=Z,2.2nm,0.9s								
ESDC	Sonseca Array	23.86	292	P		P		23 59 32.2	+1.4
	comp=Z,0.7nm,0.9s,baz=91,slow=8.4,SNR=4.8								
	comp=Z,0.7nm,0.9s								
HFS	Hagfors	26.97	347	P		P		23 59 58.5	-0.1
	comp=Z,0.8nm,0.4s,baz=129,slow=12,SNR=6.1								
	comp=Z,0.8nm,0.4s								
FINES	FINESS Array B	27.22	1	P		P		23 59 59.0	-1.9
	comp=Z,0.6nm,0.3s,baz=163,slow=10,SNR=16								
	comp=Z,0.6nm,0.3s								
FIA1	FINESS Array S	27.22	1	P		P		23 59 59.1	-1.7
NAO01	NORSAR Array S	28.18	345	P		P		00 00 08.7	-0.9
NAO01				IAmb		IAmb		00 00 31.2	
	comp=Z,7.4nm,1.1s								
NB2	NORSAR Subarra	28.29	346	P		P		00 00 09.7	-0.8
	comp=Z,1.1nm,0.6s,baz=155,slow=10								
NOA	NORSAR Array B	28.29	346	P		P		00 00 08.8	-1.8
	comp=Z,0.2nm,0.4s,baz=147,slow=9.6,SNR=6.7								
	comp=Z,0.2nm,0.4s								
EKA	Eskdalemuir Ar	28.80	326	P		P		00 00 13.1	-2.0
	comp=E,5.2nm,1.0s,baz=119,slow=8.9,SNR=3.6								
	comp=E,5.2nm,1.0s								
ABKAR	Akbulak array	29.64	49	P		P		00 00 24.8	+2.1
TOA0	Torodi Ar. Sit	29.93	231	P		P		00 00 26.7	+1.2
TORD	Torodi Ar. Bea	29.93	231	P		P		00 00 26.2	+0.8
TORD				IAmb		IAmb		00 00 27.5	
	comp=Z,1.2nm,0.6s								
TORD	Torodi Ar. Bea	29.93	231	P		P		00 00 27.2	+1.7
	comp=Z,3.3nm,0.4s,baz=33,slow=8.8,SNR=80								
	comp=Z,3.3nm,0.4s								
ARU	Arti	31.77	35	P		P		00 00 41.8	+0.5
ARU				IAmb		IAmb		00 01 00.1	
	comp=Z,1.8nm,0.7s								
ARCES	ARCESS Array B	35.34	0	P		P		00 01 10.7	-1.5
	comp=Z,1.4nm,0.8s,baz=184,slow=9.3,SNR=11								
	comp=Z,1.4nm,0.8s								
KURBB	Kurchatov Arra	41.68	50	P		P		00 02 07.0	+1.3
	comp=Z,0.6nm,0.4s,baz=275,slow=8.6,SNR=7.5								
	comp=Z,0.6nm,0.4s								
SPITS	Spitsbergen Ar	44.20	357	P		P		00 02 25.3	-0.5
	comp=Z,5.3nm,0.8s,baz=153,slow=9.7,SNR=8.9								
	comp=Z,5.3nm,0.8s								
MKAR	Makanchi Array	44.26	56	P		P		00 02 27.6	+0.9
	comp=Z,0.6nm,0.6s,baz=285,slow=6.2,SNR=6.5								
	comp=Z,0.6nm,0.6s								
ZALV	Zalesovo Beam	45.62	46	P		P		00 02 37.8	+0.4
	comp=Z,1.7nm,0.4s,baz=268,slow=7.9,SNR=12								
	comp=Z,1.7nm,0.4s								
TSUM	Tsumeb	53.64	189	LR		LR		00 29 03.1	
	comp=Z,89nm,18.4s,baz=152,slow=39								
SONM	Songino Array	60.04	50	P		P		00 04 25.8	+1.7
	comp=Z,0.4nm,0.5s,baz=291,slow=5.8,SNR=5.0								
	comp=Z,0.4nm,0.5s								
BOSA	Boshof	62.52	180	P		P		00 04 42.1	+1.2
BOSA	Boshof	62.52	180	P		P		00 04 43.7	+2.8
	comp=Z,1.2nm,0.8s,baz=9.1,slow=12,SNR=1.2								
	comp=Z,1.2nm,0.8s								
SEY	Seymchan	74.39	22	LR		LR		00 40 39.9	
	comp=Z,106nm,19.1s,baz=72,slow=38								
MA2	Magadan	76.29	25	LR		LR		00 41 12.6	
	comp=Z,140nm,18.3s,baz=87,slow=37								
USRK	Ussuriysk Ar.	77.47	45	P		P		00 06 11.8	-0.7
	comp=Z,0.8nm,0.4s,baz=292,slow=4.7,SNR=2.5								
	comp=Z,0.8nm,0.4s								
YKA	Yellowknife Ar	78.32	342	P		P		00 06 16.7	-0.3
	comp=Z,0.1nm,0.3s,baz=27,slow=5.4,SNR=1.7								
	comp=Z,0.1nm,0.3s								

*IDC **04** 00:05:17.4±1.6,56°.26N×149°.33W,h0km,mb3.6/6,*
mbtmp3.6/10,ML3.2/4,MS3.5/9,Error ellipse:
s-maj=40.9km s-min=20.9km az=14.0
*NEIC **04** 00:05:18.0±1.3,56°.20N±0°.08×149°.5W±0°.1,h20km±3km,*
mb4.1/2,ML3.8/42,ML3.7(AEIC),Error ellipse:
s-maj=11.7km s-min=7.9km az=166.0
*AEIC **04** 00:05:21.7±1.5,56°.26N±0°.07×149°.4W±0°.1,h8km±6km,*
Error ellipse: s-maj=11.2km s-min=7.7km az=162.0
ISC 04 00:05:17.3±4.1,56°.32N±0°.08×149°.48W±0°.06,h8km±29km,
n262,σ1°04/260,mb3.7/7,MS3.2/5,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	Kodiak Island	2.24	312	Pn	Pn	00 05 55.4	+0.7
KDAK				Sn	Sn	00 06 21.5	-1.0
KDAK	Kodiak Island	2.24	312	Pn	Pn	00 05 56.0	+1.3
	3.5nm,0.3s,baz=97,slow=5.3,SNR=2.6						
KDAK				Sn	Sn	00 06 21.4	-1.1
	9.0nm,0.3s,baz=180,slow=20,SNR=3.1						
	9.1nm,0.3s						
OHAK	Old Harbor	2.28	295		Pn	00 05 55.0	-0.2
OHAK					Sn	00 06 21.5	-2.1
OHAK	Old Harbor	2.28	295	P	Pn	00 05 54.9	-0.3
	baz=114						
OHAK				S	Sn	00 06 21.7	-1.8
	baz=114						
SII	Sitkinak Islan	2.62	277		Pn	00 05 58.8	-1.1
SII					Sn	00 06 29.9	-2.1
SII				IAML		00 06 49.8	
	comp=N,239nm,1.2s						
SII	Sitkinak Islan	2.62	277	P	Pn	00 05 58.9	-1.1
	baz=96						
SII				S	Sn	00 06 29.9	-2.1
	baz=96						
CNPM	China Poot	3.35	344	Pn	Pn	00 06 10.1	+0.1
CNPM				Sn	Sn	00 06 49.1	-0.8
BRSE	Bradley Lake S	3.50	349		Pn	00 06 11.9	0.0
BRSE	Bradley Lake S	3.50	349	P	Pn	00 06 11.9	0.0
	baz=169						
BRLK	Bradley Lake	3.53	348	Pn	Pn	00 06 12.5	0.0
BRLK				IAML		00 07 02.7	
	comp=N,121nm,1.0s						
BRLK				IAML		00 07 08.4	
	comp=E,108nm,1.0s						
MID	Middleton Isla	3.54	27	Pn	Pn	00 06 12.5	0.0
MID				IAML		00 06 52.6	
	comp=N,248nm,0.8s						
MID				IAML		00 07 25.9	
	comp=E,162nm,1.2s						
MID	Middleton Isla	3.54	27	P	Pn	00 06 12.5	0.0
KAKN	Katmai Knife C	3.62	306		Pn	00 06 15.1	+1.4
ANCK	Angle Creek	3.77	302		Pn	00 06 17.5	+1.7
KAHC	Katmai Hardscr	3.79	310		Pn	00 06 17.7	+1.6
KAHC	Katmai Hardscr	3.79	310	P	Pn	00 06 17.7	+1.6
	baz=127						
SEW	Seward	3.79	0		Pn	00 06 15.7	-0.3
SEW	Seward	3.79	0	P	Pn	00 06 16.0	0.0
	baz=180						
P23K	Montague Islan	3.85	16		Pn	00 06 16.5	-0.3
P23K					Sn	00 06 59.8	-2.4
P23K	Montague Islan	3.85	16	P	Pn	00 06 17.0	+0.2
	baz=197						
P23K				S	Sn	00 06 59.8	-2.4
	baz=197						
CNTC	Contact Creek	3.98	302		Pn	00 06 20.1	+1.3
Q17K	Contact Creek	3.98	302	P	Pn	00 06 20.1	+1.3
	baz=118						
O20K	Slope Mountain	4.12	338		Pn	00 06 21.3	+0.7
O20K	Slope Mountain	4.12	338	P	Pn	00 06 21.3	+0.7
	baz=155						
ILSW	Iliamna Southw	4.16	334		Pn	00 06 21.4	+0.3
ILSW				IAML		00 07 18.9	
	comp=N,76nm,0.7s						
ILSW				IAML		00 07 23.2	
	comp=E,93nm,0.9s						
O22K	Cooper Landing	4.18	358		Pn	00 06 21.3	+0.1
O22K	Cooper Landing	4.18	358	P	Pn	00 06 21.5	+0.2
	baz=178						
SLKM	Skilak Lake	4.22	355		Pn	00 06 22.2	+0.3
P18K	Big Mountain,	4.35	317		Pn	00 06 24.1	+0.3
P18K	Big Mountain,	4.35	317	P	Pn	00 06 24.3	+0.6
	baz=134						
HIN	Hinchinbrook I	4.38	20		Pn	00 06 24.6	+0.5
HIN				IAML		00 07 22.6	
	comp=N,232nm,0.6s						
HIN				IAML		00 07 23.9	
	comp=E,168nm,0.6s						
RED	Redoubt Volcan	4.46	339		Pn	00 06 25.0	-0.2
RDSO	Redoubt South	4.49	339		Pn	00 06 25.3	-0.4
RSO	Redoubt South	4.50	339		Pn	00 06 26.1	+0.2
KAIM	Kayak Island	4.50	34	Pn	Pn	00 06 26.5	+0.7
KAIM	Kayak Island	4.50	34	P	Pn	00 06 25.8	+0.1
	baz=218						
RDT	Redoubt	4.54	341		Pn	00 06 25.9	-0.3
RDWB	Redoubt West	4.54	338		Pn	00 06 26.3	-0.1
DFR	Drift River	4.60	340		Pn	00 06 27.1	-0.2
O19K	Port Alsworth	4.65	329	P	Pn	00 06 27.8	0.0
	baz=145						
O18K	Koktuh Hills	4.67	322		Pn	00 06 28.6	+0.5
O18K				IAML		00 07 22.9	
	comp=N,49nm,0.9s						
O18K				IAML		00 07 31.8	
	comp=E,46nm,1.1s						
O18K	Koktuh Hills	4.67	322	P	Pn	00 06 28.8	+0.7
	baz=138						
EYAK	Cordova Ski Ar	4.67	23		Pn	00 06 28.6	+0.6
EYAK	Cordova Ski Ar	4.67	23	P	Pn	00 06 28.8	+0.8
EYAK	Cordova Ski Ar	4.67	23	P	Pn	00 06 28.4	+0.3
	baz=206						
P17K	Kvichak River	4.71	311		Pn	00 06 30.0	+1.4
P17K	Kvichak River	4.71	311	P	Pn	00 06 30.0	+1.4
	baz=126						
RC01	Rabbit Creek A	4.79	358	Pn	Pn	00 06 30.1	+0.4
RC01				IAML		00 07 31.4	
	comp=N,70nm,0.6s						
RC01				IAML		00 07 41.0	
	comp=E,67nm,0.7s						
RC01	Rabbit Creek A	4.79	358	P	Pn	00 06 30.0	+0.4
	baz=178						
RAGM	Ragged Mountai	4.80	30		Pn	00 06 30.5	+0.6
SUCK	Suckling Hills	4.82	36		Pn	00 06 30.7	+0.6
SUCK				IAML		00 07 34.2	
	comp=E,197nm,1.3s						
FIS	Fire Island	4.85	356		Pn	00 06 31.1	+0.6
FIS				IAML		00 07 35.9	
	comp=N,140nm,0.6s						
FIS				IAML		00 08 17.3	
	comp=E,143nm,2.9s						
HMT	Hamilton	4.88	32		Pn	00 06 31.8	+0.9
NICHA	Nichawak Mount	4.89	34		Pn	00 06 31.2	+0.2
GOAT	Goat Mountain	4.95	28		Pn	00 06 32.5	+0.6
BGLC	Bering Glacier	5.02	38		Pn	00 06 33.0	+0.2
BGLC	Bering Glacier	5.02	38	P	Pn	00 06 33.0	+0.2
	baz=222						
N20K	Mount Spurr	5.10	345	P	Pn	00 06 33.9	-0.1
	baz=163						
SPCR	Spurr Chakacha	5.10	345		Pn	00 06 33.9	-0.1
GRIN	Grindle Hills	5.13	37		Pn	00 06 35.2	+0.8
KNK	Knik Glacier	5.14	5		Pn	00 06 34.8	+0.3
KNK				IAML		00 07 44.9	
	comp=N,54nm,1.0s						
KNK				IAML		00 07 46.8	
	comp=E,66nm,0.7s						
KNK	Knik Glacier	5.14	5	P	Pn	00 06 35.0	+0.5
	baz=186						
SPCP	Crater Peak Br	5.15	345		Pn	00 06 35.9	+1.0
SPCG	Spurr Capps Gl	5.16	346		Pn	00 06 35.5	+0.6
SUA	Susitna One	5.20	353		Pn	00 06 35.2	-0.2
SUA				IAML		00 07 40.7	
	comp=E,35nm,2.4s						
SUA				IAML		00 08 12.7	
	comp=N,38nm,1.0s						
SUA	Susitna One	5.20	353	P	Pn	00 06 35.5	+0.1
	baz=172						
N19K	Bonanza Creek	5.21	332		Pn	00 06 35.8	+0.1
N19K				IAML		00 08 15.3	
	comp=E,31nm,2.8s						
N19K	Bonanza Creek	5.21	332	P	Pn	00 06 35.7	+0.1
	baz=148						
SNH	Sunshine Point	5.22	39		Pn	00 06 35.9	+0.2
SNH				IAML		00 07 59.7	
	comp=N,83nm,1.2s						
KHIT	Khitrov Hills	5.28	36		Pn	00 06 36.8	+0.3
PMR	Palmer	5.29	2		Pn	00 06 37.1	+0.6
PMR	Palmer	5.29	2	P	Pn	00 06 38.2	+1.6
PMR	Palmer	5.29	2	P	Pn	00 06 37.8	+1.3
	baz=182						
BMRM	Bremner River	5.31	27		Pn	00 06 37.5	+0.6
BMRM	Bremner River	5.31	27	P	Pn	00 06 37.3	+0.5
	baz=210						
P16K	Nushagak River	5.32	304		Pn	00 06 37.7	+0.8
P16K	Nushagak River	5.32	304	P	Pn	00 06 37.7	+0.8
	baz=118						
O17K	Koliganek Bris	5.32	314		Pn	00 06 38.0	+1.0
O17K	Koliganek Bris	5.32	314	P	Pn	00 06 38.0	+1.0
	baz=128						
SPNN	North Nagishla	5.33	343		Pn	00 06 37.8	+0.6
STLK	Strandline Lak	5.34	348		Pn	00 06 37.6	+0.3
WAX	Waxell Ridge	5.41	37		Pn	00 06 38.3	0.0
GHO	Glory Hole Cre	5.48	3		Pn	00 06 40.5	+1.3
BARK	Barkley Ridge	5.50	39		Pn	00 06 40.0	+0.4
KLU	Klutina	5.50	18		Pn	00 06 40.7	+1.1
KLU	Klutina	5.50	18	P	Pn	00 06 40.5	+0.9
	baz=201						
N18K	Kilae Creek	5.51	325		Pn	00 06 39.9	+0.3
N18K	Kilae Creek	5.51	325	P	Pn	00 06 40.1	+0.4
	baz=140						
SML	Sawmill	5.54	6	Pn	Pn	00 06 40.5	+0.6
MESA	MESA	5.55	43		Pn	00 06 41.1	+0.8
MESA	MESA	5.55	43	P	Pn	00 06 40.7	+0.5
	baz=228						
CRQM	Cirque	5.55	34		Pn	00 06 40.4	+0.1
CRQE	Cirque	5.56	34	P	Pn	00 06 40.7	+0.3
	baz=219						
O16K	Kokwok River B	5.64	309		Pn	00 06 42.4	+1.1
O16K	Kokwok River B	5.64	309	P	Pn	00 06 42.6	+1.2
	baz=123						
TGL	Tana Glacier	5.65	35		Pn	00 06 41.7	+0.1
ISLE	Juniper Island	5.70	38		Pn	00 06 42.6	+0.3
BAGL	Bagley Icefiel	5.71	40		Pn	00 06 43.2	+0.9
SVW2	Sparrevohn	5.75	329	Pn	Pn	00 06 42.5	-0.4
SVW2	Sparrevoh

	baz=168							
KTH	Kantishna Hill	7.29	355			Pn	00 07 05.0	+0.9
M15K	Kasigluk River	7.33	311			Pn	00 07 05.7	+1.2
M15K	Kasigluk River	7.33	311	P		Pn	00 07 05.7	+1.2
	baz=122							
L17K	Donlin	7.38	326			Pn	00 07 06.1	+1.0
L17K	Donlin	7.38	326	P		Pn	00 07 06.1	+1.0
	baz=139							
S31K	Pelican	7.39	72			Pn	00 07 03.5	-1.9
L16K	Owhat River	7.47	320			Pn	00 07 06.8	+0.4
L16K	Owhat River	7.47	320	P		Pn	00 07 07.5	+1.1
	baz=132							
YUK4	Talbot Arm	7.54	44	P		Pn	00 07 07.8	+0.1
	baz=232							
P30M	Million Dollar	7.63	55			Pn	00 07 09.9	+1.2
P30M	Million Dollar	7.63	55	P		Pn	00 07 09.4	+0.7
	baz=245							
HYT	Haines Junctio	7.71	49	Pn		Pn	00 07 10.5	+0.6
RIDG	Independent Ri	7.79	15			Pn	00 07 11.4	+0.4
RIDG	Independent Ri	7.79	15	P		Pn	00 07 11.6	+0.6
	baz=199							
BCAR	Beaver Creek A	7.80	27	Pn		Pn	00 07 12.2	+1.1
K17K	Iditarod	7.82	329	P		Pn	00 07 11.1	-0.2
	baz=142							
SIT	Sitka	7.83	79	Pn		Pn	00 07 08.0	-3.4
SIT	Sitka	7.83	79	P		Pn	00 07 09.0	-2.4
BPAW	Bear Paw Mtn.	7.84	355			Pn	00 07 11.4	-0.2
BPAW	Bear Paw Mtn.	7.84	355	P		Pn	00 07 11.8	+0.2
	baz=174							
J18K	Innoko River	8.03	336			Pn	00 07 13.9	-0.3
SCRK	Sand Creek	8.15	17			Pn	00 07 16.2	+0.3
SKAG	Skagway	8.17	61	Pn		Pn	00 07 16.1	+0.1
SKAG	Skagway	8.17	61	P		Pn	00 07 17.0	+1.0
WRH	Wood River Hil	8.21	4			Pn	00 07 18.2	+1.7
N30M	Aishikik Lake	8.22	46			Pn	00 07 17.1	+0.2
ISLZ	Isanotski Laza	8.23	265			Pn	00 07 15.6	-1.4
S32K	Killisnoo	8.24	76	Pn		Pn	00 07 14.9	-2.1
O30N	Mendenhall	8.30	52	Pn		Pn	00 07 18.4	+0.6
NEA2	Nenana	8.30	1			Pn	00 07 17.8	-0.1
M29M	Somme Creek	8.32	38			Pn	00 07 18.7	+0.5
R32K	Eaglecrest	8.34	70	Pn		Pn	00 07 17.5	-0.8
JIS	Juneau Island	8.41	70	Pn		Pn	00 07 18.6	-0.6
JIS	Juneau Island	8.41	70	P		Pn	00 07 19.0	-0.3
L14K	Kuka Creek	8.49	312			Pn	00 07 22.4	+2.0
IL31		8.57	7			Pn	00 07 23.3	+1.8
ILAR	Eielson Array	8.57	7	Pn		Pn	00 07 23.0	+1.4
ILAR	Eielson Array	8.57	7	Pn		Pn	00 07 23.9	+2.2
	comp=N,0.3nm,0.3s,baz=191,slow=14,SNR=18							
ILAR				Sn		Sn	00 08 54.0	-4.4
	comp=N,0.2nm,0.3s,baz=209,slow=18,SNR=4.2							
ILAR				LR		LR	00 10 52.0	
	comp=N,233nm,18.1s,baz=156,slow=39							
COLA	College	8.62	5	P		Pn	00 07 24.7	+2.5
MDM	Murphy Dome	8.69	4			Pn	00 07 24.1	+0.9
J26L	Joseph Creek	8.71	17			Pn	00 07 24.1	+0.6
MLY	Manley	8.76	356			Pn	00 07 25.1	+0.8
MLY	Manley	8.76	356	P		Pn	00 07 23.9	-0.3
	baz=175							
WHY	Whitehorse	8.79	54			Pn	00 07 25.1	+0.4
I23K	Minto, Yukon-K	8.86	0			Pn	00 07 26.4	+1.0
L29M	L29M	8.89	35			Pn	00 07 26.7	+0.7
I21K	Tanana	8.97	353			Pn	00 07 27.7	+0.7
I21K	Tanana	8.97	353	P		Pn	00 07 28.0	+1.0
	baz=171							
M30M	Minto, Yukon	8.99	41			Pn	00 07 27.4	0.0
P32M	Atlin	8.99	62			Pn	00 07 27.5	+0.1
P32M	Atlin	8.99	62	P		Pn	00 07 27.4	0.0
	baz=255							
U33K	Whale Pass	9.12	84	Pn		Pn	00 07 26.7	-2.3
CRAG	Craig	9.23	88	Pn		Pn	00 07 27.9	-2.7
CRAG	Craig	9.23	88	P		Pn	00 07 29.5	-1.1
PRP	Porcupine Dome	9.43	10			Pn	00 07 34.2	+0.8
AKUT	Akutan	9.56	264	Pn		Pn	00 07 34.3	-0.9
H24K	Noodor Dome	9.58	4			Pn	00 07 36.7	+1.3
Q32M	Nakina River	9.60	67	Pn		Pn	00 07 35.5	-0.3
P33M	Teslin, Yukon	9.60	59	Pn		Pn	00 07 35.9	+0.2
J14K	Nanvaranak Lak	9.61	318	Pn		Pn	00 07 36.1	+0.4
M31M	Drury Creek, Y	9.70	46			Pn	00 07 37.9	+0.8
N32M	Quiet Lake	9.79	54			Pn	00 07 39.0	+0.7
IMAR	Indian Mountai	9.91	350			Pn	00 07 40.5	+0.7
UNV	Unalaska Valle	10.07	263	P		Pn	00 07 41.7	-0.4
S34M	Telegraph Cree	10.10	73	Pn		Pn	00 07 40.9	-1.6
R33M	Jennings River	10.33	65			Pn	00 07 45.5	-0.2
G21K	Allakaket	10.41	351			Pn	00 07 47.5	+0.8
G23K	Bananza Creek	10.43	359	Pn		Pn	00 07 47.4	+0.3
DLBC	Dease Lake	10.71	71			Pn	00 07 49.7	-1.2
DLBC	Dease Lake	10.71	71	Pn		Pn	00 07 50.5	-0.4
	comp=N,0.5nm,0.3s,baz=274,slow=15,SNR=10							
DLBC				LR		LR	00 11 26.0	
	comp=N,441nm,19.1s,baz=294,slow=35							
	comp=N,1.4nm,0.4s							
F21K	Alatna River	11.10	352			Pn	00 07 56.9	+0.7
F20K	Avaraart Lake	11.16	347			Pn	00 07 57.4	+0.5
MMPY	Sheldon Lake,	11.18	48	Pn		Pn	00 07 57.9	+0.5
ANM	Nome	11.36	323	Pn		Pn	00 07 59.8	+0.1
BMAR	Burnt Mountain	11.38	10	Pn		Pn	00 08 00.8	+0.8
E19K	Redstone River	11.74	345			Pn	00 08 06.3	+1.3
E25K	Arctic Village	11.98	7	Pn		Pn	00 08 07.8	-0.4
BBB	Bella Bella	13.14	99	LR		LR	00 12 06.9	
	comp=N,193nm,20.9s,baz=279,slow=31							
C23K	Itkillik River	13.58	358	Pn		Pn	00 08 31.8	+1.9
INK	Inuvik	14.06	25	Pn		Pn	00 08 37.9	+1.4
INK	Inuvik	14.06	25	Pn		Pn	00 08 38.8	+2.4
	baz=220,slow=10,SNR=4.4							
	comp=N,2.6nm,1.0s							
YKA	Yellowknife Ar	18.61	56	P		Pn	00 09 35.4	+0.4
YKA	Yellowknife Ar	18.61	56	P		Pn	00 09 37.0	+2.0
	baz=266,slow=11,SNR=26							
YKA				LR		LR	00 16 50.6	
	comp=N,197nm,18.5s,baz=296,slow=37							
	comp=N,4.5nm,1.1s							
A36M	Sachs Harbour	18.69	23	P		Pn	00 09 36.1	+0.3
A36M				IAmb		IAmb	00 10 00.2	
	comp=Z,11nm,0.8s							
NEW	Newport	21.20	99	LR		LR	00 16 49.7	
	comp=Z,105nm,19.8s,baz=294,slow=33							
SHEM	Shemya Is, Ala	21.28	276	LR		LR	00 18 22.2	
	comp=Z,175nm,18.5s,baz=208,slow=37							
ELK	Elko	27.14	110	LR		LR	00 20 43.4	
	comp=Z,42nm,18.3s,baz=78,slow=34							
NVAR	Mina Array Bea	27.33	118	P		P	00 11 03.4	+0.7
	comp=Z,0.7nm,1.0s,baz=300,slow=13,SNR=2.8							
	comp=Z,0.7nm,1.0s							
PETK	Petropavlovsk-	30.06	286	LR		LR	00 25 03.0	
	comp=Z,45nm,18.2s,baz=73,slow=39							
ULM	Lac du Bonnet	31.90	78	LR		LR	00 23 50.3	
	comp=Z,189nm,18.8s,baz=288,slow=35							
H11N2	WAKE ISLAND Hy	48.81	240	T		T	01 06 41.1	
	baz=30,slow=76,SNR=5.5							
H11N3	WAKE ISLAND Hy	48.81	240	T		T	01 06 41.9	
	baz=30,slow=76,SNR=5.9							
H11N1	WAKE ISLAND Hy	48.83	240	T		T	01 06 44.1	
	baz=30,slow=76,SNR=4.0							
H11S1	WAKE ISLAND Hy	49.95	239	T		T	01 08 46.5	
	baz=29,slow=76,SNR=8.6							
H11S2	WAKE ISLAND Hy	49.96	239	T		T	01 08 43.0	
	baz=29,slow=76,SNR=7.9							
H11S3	WAKE ISLAND Hy	49.97	239	T		T	01 08 47.9	
	baz=29,slow=76,SNR=8.1							
SONM	Songino Array	58.53	310	P		P	00 15 16.5	+2.5
	comp=Z,0.7nm,0.8s,baz=39,slow=7.4,SNR=4.8							
	comp=Z,0.7nm,0.8s							
ZALV	Zalesovo Beam	61.47	327	P		P	00 15 35.9	+2.0
	comp=Z,0.2nm,0.4s,baz=36,slow=7.5,SNR=3.5							
	comp=Z,0.2nm,0.4s							
FINES	FINESS Array B	62.52	2	P		P	00 15 39.9	-0.9
FINES	FINESS Array B	62.52	2	P		P	00 15 42.4	+1.6
	comp=Z,0.7nm,0.7s,baz=19,slow=8.8,SNR=4.7							
	comp=Z,0.7nm,0.7s							
KURK	Kurchatov	66.14	329	P		P	00 16 03.9	-0.8
KURK				IAmb		IAmb	00 16 14.1	
	comp=Z,1.6nm,1.1s							
KURBB	Kurchatov Arra	66.25	329	P		P	00 16 07.1	+1.7
	comp=Z,0.3nm,0.8s,baz=30,slow=6.8,SNR=2.9							
	comp=Z,0.3nm,0.8s							
MKAR	Makanchi Array	68.50	325	P		P	00 16 19.6	-0.2
MKAR	Makanchi Array	68.50	325	P		P	00 16 21.0	+1.3
	comp=Z,0.4nm,0.7s,baz=38,slow=5.6,SNR=4.7							
	comp=Z,0.4nm,0.7s							

*IDC **04** 00:07:03.7±5.2,32.°30S×179.°65E,h302km±41km, mb2.9/3, mbtmp3.8/5, Error ellipse: s-maj=54.1km s-min=24.3km az=48.0*

*WEL **04** 00:07:09.1±0.5,33.°5S×18.°0E±1.°9,h231km±17km, M4.1/25, mB4.7/15, ML4.8/33, MLv4.7/25, Mw(mB)3.9/15, Error ellipse: s-maj=0.0km s-min=0.0km az=112.9*

ISC 04 00:07:04.0±1.1,32.°34S±0.°09×179.°6E±0.°2,h300km,n53, σ2§24/73,mb3.1/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	Green Lake	3.76	36	S	S	00 08 56.9	-1.7
WMGZ	Waiomatatini S	5.55	189	P	Pn	00 08 31.6	+3.8
WMGZ				S	S	00 09 36.2	+0.9
HAZ	Te Kaha	5.60	195	P	Pn	00 08 31.0	+2.5
HAZ				S	S	00 09 35.7	-0.7
PKGZ	Pakihiroa	5.67	192	P	Pn	00 08 31.2	+1.9
PUZ	Puketiti	5.82	190	P	Pn	00 08 32.1	+1.1
PUZ				S	S	00 09 39.8	-1.4
RUGZ	Raukumara Rang	5.82	195	P	Pn	00 08 33.6	+2.4
RUGZ				S	S	00 09 39.3	-2.2
TWGZ	Tauwhareparae	5.96	192	P	Pn	00 08 36.7	+3.9
TWGZ				S	S	00 09 45.2	+0.7
MWZ	Matawai	6.21	195	P	Pn	00 08 36.6	+0.9
CNGZ	Carnagh Statio	6.23	190	P	Pn	00 08 37.0	+1.0
URZ	Urewera	6.24	198	P	Pn	00 08 38.2	+2.1
	9.5nm,0.3s,baz=5.4,slow=3.9,SNR=39						
URZ				S	S	00 09 50.0	-0.3
	32nm,0.3s,baz=165,slow=23,SNR=16						
URZ	Urewera	6.24	198	P	Pn	00 08 38.1	+2.1
URZ				S	S	00 09 49.0	-1.2
TKGZ	Te Karaka	6.24	192	P	Pn	00 08 38.9	+2.7
TKGZ				S	S	00 09 48.6	-1.8
RIGZ	Rimuhau	6.52	192	P	Pn	00 08 42.0	+2.5
RIGZ				S	S	00 09 55.4	-1.2
MUGZ	Murupara	6.53	200	P	Pn	00 08 40.2	+0.5
MUGZ				S	S	00 09 58.1	+1.3
RTZ	Ruatahuna	6.61	198	P	Pn	00 08 43.1	+2.5
RTZ				S	S	00 09 55.3	-3.2
SNGZ	Shannon Statio	6.68	195	P	Pn	00 08 42.4	+1.1
SNGZ				S	S	00 09 58.7	-1.4
ALRZ	Allen Road	6.74	202	P	Pn	00 08 46.0	+3.9
TLZ	Tolley Road	6.82	208	P	Pn	00 08 49.1	+6.9
KNZ	Kokohu	6.84	192	P	Pn	00 08 45.2	+1.9
RAHZ	Arahi	6.86	196	P	Pn	00 08 46.5	+2.9
RAHZ				S	S	00 10 01.0	-3.2
MHGZ	Mahia Peninsul	6.93	191	P	Pn	00 08 47.7	+3.2
WHHZ	Waihua	6.98	195	P	Pn	00 08 47.3	+2.2
WHHZ				S	S	00 10 05.1	-1.6
NMHZ	Naumai	7.10	198	P	Pn	00 08 48.9	+2.3
RATZ	Rangitukua	7.20	204	P	Pn	00 08 51.5	+3.6
ARHZ	Aropaoanui	7.21	196	P	Pn	00 08 50.8	+2.9
ARHZ				S	S	00 10 09.0	-2.9
BKZ	Black Stump Fm	7.25	199	P	Pn	00 08 50.5	+2.1
BKZ				S	S	00 10 11.3	-1.6
HIZ	Hauiti	7.26	211	P	Pn	00 08 54.7	+6.3
NTVZ	North Tongarir	7.45	204	P	Pn	00 08 53.9	+3.0
TMVZ	Te Maari	7.45	204	P	Pn	00 08 53.9	+3.0
MCHZ	McNeill Hill	7.46	197	P	Pn	00 08 52.6	+1.7
MCHZ				S	S	00 10 15.1	-2.3
ETVZ	East Tongariro	7.47	204	P	Pn	00 08 53.4	+2.3
NNVZ	North Ngauruho	7.50	204	P	Pn	00 08 54.4	+2.9
OTVZ	Oturere	7.51	204	P	Pn	00 08 54.0	+2.3
OTVZ				S	S	00 10 19.3	+0.5
KWHZ	Kaweka Forest	7.51	199	P	Pn	00 08 53.3	+1.7
KWHZ				S	S	00 10 16.4	-2.3
SNVZ	South Ngauruho	7.54	204	P	Pn	00 08 54.5	+2.5
NGZ	Ngauruhoe	7.54	204	P	Pn	00 08 55.0	+2.9
TUVZ	Tukino	7.61	204	P	Pn	00 08 55.0	+2.2
FWVZ	Far West T-bar	7.63	204	P	Pn	00 08 54.6	+1.5
MAVZ	Matarangi	7.64	204	P	Pn	00 08 55.8	+2.5
WHVZ	Whangaehu Hut	7.64	204	P	Pn	00 08 55.4	+2.1
TRVZ	Turoa	7.67	204	P	Pn	00 08 56.0	+2.4
WNVZ	Wahianoa	7.68	204	P	Pn	00 08 55.5	+1.8
WNVZ				S	S	00 10 22.5	0.0
MOVZ	Moawhango	7.70	203	P	Pn	00 08 55.0	+1.1
MOVZ				S	S	00 10 19.0	-3.9
KRHZ	Kereru	7.73	199	P	Pn	00 08 54.9	+0.6
KRHZ				S	S	00 10 18.8	-4.7
KAHZ	Kahuranaki	7.75	195	P	Pn	00 08 55.6	+1.1
MTVZ	Mangateitei	7.77	204	P	Pn	00 08 57.2	+2.4
PXZ	Pawanui	7.98	195	P	Pn	00 08 58.8	+1.6
PNHZ	Pukenui	8.03	199	P	Pn	00 08 57.8	-0.1
RPZ	Rata Peaks	13.18	208	P	Pn	00 09 59.6	-1.0
	5.6nm,0.4s,baz=35,slow=3.0,SNR=8.1						
ASAR	Alice Springs	40.97	270	P	P	00 14 18.8	+0.4
	0.1nm,0.3s,baz=110,slow=7.9,SNR=2.4						
	0.1nm,0.3s						
WRA	Warramunga Arr	42.14	276	P	P	00 14 28.0	+0.1
	0.4nm,0.3s,baz=115,slow=7.8,SNR=21						
	0.4nm,0.3s						
QSPA	South Pole Qui	57.77	180	P	P	00 16 24.2	+0.1
	0.4nm,0.5s,baz=24,slow=12,SNR=7.6						
	0.4nm,0.5s						
FINES	FINESS Array B	146.19	337	PKPbc	PKPdf	00 26 06.4	-0.4
	1.9nm,1.0s,baz=46,slow=5.5,SNR=6.1						

TAP 04 00:08:14.1,24.°49N×122.°15E,h25km±1km,ML1.9,C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EOS2	EOS2	0.10	135	P	Pn	00 08 19.5	-0.5
	baz=134						
EOS2				eS	Sb	00 08 22.6	+1.0
	baz=134						
EOS3	EOS3	0.25	144	eP	Pb	00 08 20.1	-0.2
	baz=143						
EOS3				eS	Sb	00 08 23.9	-0.6
	baz=143						
ESAO	Su ao	0.29	287	eP	Pn	00 08 22.1	-0.8
	baz=286						
ESAO				eS	Sb	00 08 26.4	+0.7
	baz=286						
TWC	Suao	0.30	293	eP	Pb	00 08 19.6	-1.6
	baz=293						
TWC				eS	Sb	00 08 26.9	+1.0
	baz=293						
EWUT	Wuta	0.34	263	eS	Sb	00 08 27.1	+0.1
	baz=262						
ENA	Nanau	0.38	261	eP	Pn	00 08 23.4	-0.6
	baz=260						
ENA				eS	Sb	00 08 29.1	+1.1
	baz=260						
EGS		0.41	330	eP	Pb	00 08 23.5	+0.7
	baz=331						
EGS				eS	Sn	00 08 30.6	-0.6
	baz=331						
EAHA	Aohua	0.41	247	eS	Sn	00 08 30.6	-0.7
	baz=247						
TWE	Neicheng	0.50	298	eS	Sb	00 08 31.9	+0.7
	baz=297						
ENTT	Nioudou	0.56	286	eS	Sn	00 08 34.1	-0.8
	baz=285						
TIPB	Shuangxi	0.56	328	eS	Sb	00 08 31.5	-1.6
	baz=328						
LATG	Datong	0.57	275	eP	Pn	00 08 26.4	-0.4
	baz=274						
LATG				eS	Sn	00 08 34.6	-0.9
	baz=274						
FUSB	Fushanzhiwuyua	0.58	298	S	Sb	00 08 34.5	+0.9
	baz=297						
NDT	Datong Townshi	0.59	281	eS	Sn	00 08 36.2	+0.4
	baz=280						
NACB	Ninganchiao	0.60	238	eS	Sn	00 08 35.3	-0.7
	baz=238						
NWLT	Wulai	0.66	296	S	Sb	00 08 36.1	+0.3
	baz=295						
ETLH	Xiulin Townshi	0.68	245	eS	Sn	00 08 37.5	-0.4
	baz=245						
YHNB	Yeheng	0.73	284	S	Sn	00 08 39.2	-0.1
	baz=284						
NSK	Sanguang	0.75	284	S	Sn	00 08 39.2	-0.5
	baz=284						
WHF	Hehuan Shan	0.88	247	S	Sn	00 08 43.2	-0.3
	baz=246						

JMA 04 00:08:20.1±0.1,24.°2N±0.°3×123.°8E±0.°3,h14km±1km, MV1.6/9,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRIF	Iriomote-Funau	0.15	322	P	Pg	00 08 23.8	-0.1
IRIF				eS	Sg	00 08 26.8	+0.4
HATJ	Hateruma jima	0.16	189	*i* P	Pg	00 08 23.9	-0.2
HATJ				eS	Sg	00 08 27.0	+0.3
JKRS	Kuro-shima	0.16	83	*i* P	Pg	00 08 24.2	+0.1
JKRS				eS	Sg	00 08 27.2	+0.4
JIJ	Ishigaki jima	0.32	63	P	Pg	00 08 26.5	-0.2
JIJ				eS	Sg	00 08 31.2	0.0
JISG	Ishigakijimahi	0.57	50	P	Pg	00 08 31.2	-0.1
JISG				eS	Sg	00 08 39.2	+0.2
YOJ	Yonaguni jima	0.79	288	eP	Pg	00 08 35.2	-0.1
JYNG	Yonagunijimaku	0.84	286	eP	Pg	00 08 36.1	-0.3
JYNG				eS	Sb	00 08 48.2	+0.7

*IDC **04** 00:20:35.5±0.9,56.°38N×149.°43W,h0km,mb4.2/17, mbtmp4.2/20,ML3.9/3,MS3.8/43,Error ellipse: s-maj=24.0km s-min=17.0km az=6.0*

*NEIC **04** 00:20:35.2±1.5,56.°23N±0.°07×149.°43W±0.°09,h10km±4km, mb4.5/45,ML4.3/54,ML4.1(AEIC),Error ellipse: s-maj=9.9km s-min=7.2km az=174.0*

*GCMT **04** 00:20:38.2±0.4,56.°32N±0.°02×149.°54W±0.°04,h24km±1km, MW4.9/74,Moment Tensor Solution. s14,c14; s74,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.08±.13; $M_{\theta\theta}$-0.42±.11; $M_{\phi\phi}$0.34±.11; $M_{r\theta}$1.49±.26; $M_{\theta\phi}$2.08±.09; $M_{\phi r}$0.46±.25; Best double couple: $M_0$2.61800×10^{16} NP1:ϕ_s85.00000°,δ86.00000°,λ35.00000°. NP2: ϕ_s352.00000°,δ55.00000°,λ175.00000°. Principal axes: T 2.7530, Plg27.0000°, Azm315.0000°; N -0.2690, Plg54.0000°, Azm91.0000°; P -2.4840, Plg21.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*AEIC **04** 00:20:40.9±1.7,56.°35N±0.°07×149.°42W±0.°09,h12km±4km Error ellipse: s-maj=9.6km s-min=6.9km az=176.0*

ISC 04 00:20:34.7±3.4,56.°32N±0.°06×149.°41W±0.°04,h1km±22km, n474,σ1§02/448,mb4.5/47,MS3.8/38,1C,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	Kodiak Island	2.27	312	Pn	Pn	00 21 13.0	-0.2
KDAK				Sn	Sn	00 21 40.1	-1.7
KDAK	Kodiak Island	2.27	312	LR	LR	00 22 14.7	
	comp=Z,3μm,21.3s,baz=162,slow=45						
OHAK	Old Harbor	2.32	295		Pn	00 21 12.9	-1.0
OHAK					Sn	00 21 39.5	-3.5
OHAK	Old Harbor	2.32	295	P	Pn	00 21 12.8	-1.0
	baz=113						
OHAK				S	Sn	00 21 39.2	-3.8
	baz=113						
SII	Sitkinak Islan	2.66	277		Pn	00 21 17.4	-1.3
SII					Sn	00 21 47.9	-3.7
SII				IAML		00 21 48.4	
	comp=E,1μm,1.0s						
SII				IAML		00 21 53.9	
	comp=N,1μm,0.9s						
SII	Sitkinak Islan	2.66	277	P	Pn	00 21 17.9	-0.8
	baz=95						
SII				S	Sn	00 21 47.9	-3.7
	baz=95						
CNPM	China Poot	3.36	344	Pn	Pn	00 21 27.9	-0.3
CNPM				Sn	Sn	00 22 05.9	-2.8
CNPM				IAML		00 22 10.2	
	comp=E,379nm,0.8s						
BRSE	Bradley Lake S	3.51	349		Pn	00 21 29.9	-0.3
BRSE	Bradley Lake S	3.51	349	P	Pn	00 21 29.9	-0.3
	baz=168						
BRSE				S	Sn	00 22 09.3	-3.0
	baz=168						
MID	Middleton Isla	3.52	26	Pn	Pn	00 21 29.9	-0.5
MID	Middleton Isla	3.52	26	P	Pn	00 21 30.1	-0.3
BRLK	Bradley Lake	3.54	348	Pn	Pn	00 21 30.3	-0.4
BRLK					Sn	00 22 11.1	-2.2
BRLK				IAML		00 22 16.8	
	comp=E,414nm,0.5s						
KAKN	Katmai Knife C	3.65	305		Pn	00 21 32.8	+0.5
KCE	Katmai Mt Cerb	3.68	304		Pn	00 21 33.3	+0.6
ACHA	Angle Creek He	3.73	303		Pn	00 21 33.7	+0.4
AUL	Augustine Lava	3.75	327		Pn	00 21 34.0	+0.4
SEW	Seward	3.80	360		Pn	00 21 33.6	-0.5
SEW	Seward	3.80	360	P	Pn	00 21 33.7	-0.5
	baz=180						
SEW				S	Sn	00 22 15.7	-3.7
	baz=180						
ANCK	Angle Creek	3.81	302		Pn	00 21 35.1	+0.7
KAHC	Katmai Hardscr	3.82	310		Pn	00 21 35.4	+0.8
KAHC	Katmai Hardscr	3.82	310	P	Pn	00 21 35.4	+0.8
	baz=126						
P23K	Montague Islan	3.84	15		Pn	00 21 34.6	-0.2
P23K	Montague Islan	3.84	15	P	Pn	00 21 34.6	-0.2
	baz=197						
P23K				S	Sn	00 22 17.1	-3.4
	baz=197						
PLK3	Peulik 3	4.00	293		Pn	00 21 36.8	-0.1
CNTC	Contact Creek	4.02	302		Pn	00 21 37.8	+0.5
Q17K	Contact Creek	4.02	302	P	Pn	00 21 37.8	+0.5
	baz=117						
KELA	Mount Kelaz	4.03	304		Pn	00 21 38.0	+0.4
O20K	Slope Mountain	4.14	337		Pn	00 21 38.7	-0.3
O20K	Slope Mountain	4.14	337	P	Pn	00 21 38.7	-0.3
	baz=155						
ILSW	Iliamna Southw	4.17	333		Pn	00 21 39.0	-0.4
ILSW				IAML		00 22 30.1	
	comp=E,293nm,0.8s						
ILSW				IAML		00 22 37.4	
	comp=N,263nm,0.8s						
O22K	Cooper Landing	4.18	358		Pn	00 21 38.8	-0.6
O22K	Cooper Landing	4.18	358	P	Pn	00 21 39.3	-0.1
	baz=178

baz=178
SUCK **Suckling Hills** 4.80 36 Pn 00 21 48.3 +0.3
SUCK IAML 00 22 54.7
comp=N,274nm,1.4s
SUCK IAML 00 23 00.2
comp=E,197nm,1.3s
HMT **Hamilton** 4.86 32 Pn 00 21 49.2 +0.4
FIS **Fire Island** 4.86 355 Pn 00 21 49.3 +0.5
FIS IAML 00 22 53.4
comp=E,319nm,0.5s
NICHA **Nichawak Mount** 4.87 34 Pn 00 21 49.3 +0.4
ANNW **Aniakchak Nort** 4.91 281 Pn 00 21 50.2 +0.7
GOAT **Goat Mountain** 4.93 28 Pn 00 21 50.0 +0.1
BGLC **Bering Glacier** 5.00 38 Pn 00 21 51.1 +0.4
BGLC **Bering Glacier** 5.00 38 P Pn 00 21 51.1 +0.4
baz=222
CHGN **Chignik** 5.02 274 Pn 00 21 50.9 0.0
CHGN IAML 00 22 50.8
comp=E,233nm,0.7s
CHGN IAML 00 22 53.1
comp=N,242nm,0.8s
CHGN **Chignik** 5.02 274 P Pn 00 21 51.6 +0.7
baz=87
BERG **Berg Lake** 5.07 34 Pn 00 21 51.7 0.0
BERG IAML 00 22 58.7
comp=E,279nm,0.6s
GRIN **Grindle Hills** 5.11 36 Pn 00 21 52.6 +0.4
N20K **Mount Spurr** 5.11 345 P Pn 00 21 51.4 -0.9
baz=163
SPCN **Chakachatna No** 5.13 345 Pn 00 21 52.1 -0.5
KNK **Knik Glacier** 5.13 5 Pn 00 21 52.6 0.0
KNK IAML 00 22 56.7
comp=N,115nm,0.6s
KNK IAML 00 22 58.9
comp=E,146nm,0.7s
KNK **Knik Glacier** 5.13 5 P Pn 00 21 52.6 0.0
baz=186
SPCP **Crater Peak Br** 5.16 345 Pn 00 21 52.5 -0.6
SPCG **Spurr Capps Gl** 5.17 346 Pn 00 21 52.8 -0.4
DIV **Divide** 5.18 20 Pn 00 21 53.5 +0.2
SPBG **Spurr Blockage** 5.19 344 Pn 00 21 53.0 -0.4
SNH **Sunshine Point** 5.20 39 Pn 00 21 53.6 +0.1
SNH IAML 00 22 59.4
comp=E,186nm,1.1s
SNH IAML 00 23 32.8
comp=N,142nm,1.1s
SUA **Susitna One** 5.21 353 Pn 00 21 53.2 -0.5
SUA IAML 00 23 02.1
comp=E,106nm,0.7s
SUA IAML 00 23 13.0
comp=N,116nm,1.1s
SUA **Susitna One** 5.21 353 P Pn 00 21 53.0 -0.7
baz=172
N19K **Bonanza Creek** 5.23 332 Pn 00 21 53.5 -0.5
N19K **Bonanza Creek** 5.23 332 P Pn 00 21 53.4 -0.5
baz=148
KHIT **Khitrov Hills** 5.25 36 Pn 00 21 54.1 -0.1
CYK **Cape Yakataga** 5.26 41 Pn 00 21 53.9 -0.3
PMR **Palmer** 5.29 1 Pn Pn 00 21 55.1 +0.4
PMR IAML 00 23 00.6
comp=E,108nm,0.7s
PMR IAML 00 23 02.0
comp=N,110nm,0.7s
PMR **Palmer** 5.29 1 P Pn 00 21 55.9 +1.2
PMR **Palmer** 5.29 1 P Pn 00 21 55.0 +0.4
baz=182
BMRM **Bremner River** 5.29 26 Pn 00 21 55.0 +0.2
BMRM **Bremner River** 5.29 26 P Pn 00 21 54.8 0.0
baz=210
SPNN **North Nagishla** 5.34 343 Pn 00 21 55.4 -0.2
STLK **Strandline Lak** 5.35 347 Pn 00 21 55.3 -0.3
P16K **Nushagak River** 5.35 304 Pn 00 21 56.1 +0.6
P16K **Nushagak River** 5.35 304 P Pn 00 21 56.1 +0.6
baz=118
O17K **Koliganek Bris** 5.35 313 Pn 00 21 55.5 -0.1
O17K **Koliganek Bris** 5.35 313 P Pn 00 21 55.5 -0.1
baz=128
WAX **Waxell Ridge** 5.39 37 Pn 00 21 56.1 0.0
GHO **Glory Hole Cre** 5.48 2 Pn 00 21 58.0 +0.7
BARK **Barkley Ridge** 5.48 39 Pn 00 21 57.1 -0.3
KLU **Klutina** 5.49 18 Pn 00 21 58.0 +0.4
KLU **Klutina** 5.49 18 P Pn 00 21 57.7 +0.1
baz=200
MESA **MESA** 5.52 42 Pn 00 21 58.1 +0.1
MESA **MESA** 5.52 42 P Pn 00 21 57.9 -0.1
baz=228
CRQM **Cirque** 5.53 34 Pn 00 21 58.1 -0.1
SML **Sawmill** 5.53 5 Pn 00 21 58.7 +0.6
SML **Sawmill** 5.53 5 P Pn 00 21 58.6 +0.6
baz=186
N18K **Kilae Creek** 5.54 325 Pn 00 21 57.6 -0.6
N18K **Kilae Creek** 5.54 325 P Pn 00 21 57.5 -0.6
baz=140
CRQE **Cirque** 5.54 34 P Pn 00 21 58.3 0.0
baz=219
M23K **Glacier View** 5.56 8 Pn 00 21 59.3 +0.8
M23K **Glacier View** 5.56 8 P Pn 00 21 59.3 +0.8
baz=190
TGL **Tana Glacier** 5.63 35 Pn 00 21 59.6 +0.2
SCM **Sheep Creek Mo** 5.63 10 Pn 00 22 00.3 +0.8
SCM **Sheep Creek Mo** 5.63 10 P Pn 00 22 00.1 +0.6
baz=192
S14K **Fog Glacier** 5.65 274 P Pn 00 21 59.7 0.0
baz=86
VNFG **Fog Glacier, M** 5.65 274 Pn 00 21 59.9 +0.1
O16K **Kokwok River B** 5.67 309 Pn 00 22 00.5 +0.6
O16K **Kokwok River B** 5.67 309 P Pn 00 22 00.4 +0.6
baz=122
ISLE **Juniper Island** 5.67 38 Pn 00 22 00.2 +0.1
BAGL **Bagley Icefiel** 5.68 40 Pn 00 22 00.1 0.0
SVW2 **Sparrevohn** 5.77 329 Pn Pn 00 22 00.5 -0.8
SVW2 **Sparrevohn** 5.77 329 P Pn 00 22 00.9 -0.4
SKT **Skwentna** 5.78 350 Pn Pn 00 22 01.3 -0.2
SKT **Skwentna** 5.78 350 P Pn 00 22 01.4 -0.1
baz=168
VRDI **Verde Repeater** 5.81 30 Pn 00 22 02.2 +0.1
N25K **Chitina, Valde** 5.86 23 Pn 00 22 03.2 +0.6
N25K **Chitina, Valde** 5.86 23 P Pn 00 22 03.0 +0.4
baz=207
N17K **Nushagak Hills** 5.87 319 Pn 00 22 02.5 -0.2
N17K **Nushagak Hills** 5.87 319 P Pn 00 22 02.3 -0.4
baz=133
GLB **Gilahina Butte** 5.90 27 Pn 00 22 03.3 +0.2
M20K **Styx River** 5.90 343 Pn 00 22 02.7 -0.5
M20K **Styx River** 5.90 343 P Pn 00 22 02.6 -0.5
baz=160
KIAG **Kiagna River** 5.90 36 Pn 00 22 03.0 -0.3
SAMH **Samovar Hills** 5.95 46 Pn 00 22 04.3 +0.5
CHNA **Chernabura Isl** 5.97 260 P Pn 00 22 02.9 -1.1
baz=72
CNBA **Chernabura Isl** 5.97 260 Pn Pn 00 22 02.9 -1.1
GRNC **Granite Creek** 5.97 39 Pn Pn 00 22 04.5 +0.3
TABL **Table Mountain** 6.00 43 Pn 00 22 05.0 +0.4
M24K **Tolsona, Glenn** 6.04 15 Pn 00 22 06.4 +1.3
M24K **Tolsona, Glenn** 6.04 15 P Pn 00 22 06.1 +1.1
baz=197
MCARA **McCarthy VSAT** 6.06 30 P Pn 00 22 05.7 +0.4
baz=216
YKU2 **Yakutat** 6.10 54 Pn Pn 00 22 05.9 +0.2
YKU2 **Yakutat** 6.10 54 P Pn 00 22 06.5 +0.8
CUT **Chulitna** 6.12 356 Pn 00 22 07.3 +1.2
PCA **Pinnacle** 6.14 48 Pn 00 22 06.6 +0.2
PINM **Pinnacle** 6.14 48 P Pn 00 22 06.7 +0.2
baz=235
M18K **Stony River** 6.16 330 Pn 00 22 05.9 -0.7
M18K **Stony River** 6.16 330 P Pn 00 22 05.9 -0.7
baz=145
BARN **Barnard Glacie** 6.24 37 Pn 00 22 08.3 +0.4
WACK **Wrangell Chich** 6.25 23 Pn 00 22 08.3 +0.2
O15K **Ungalikthiuk R** 6.27 302 Pn 00 22 08.4 +0.3
O15K **Ungalikthiuk R** 6.27 302 P Pn 00 22 08.4 +0.3
baz=114
CTG **Chitna Glacier** 6.28 39 P Pn 00 22 08.6 +0.2
baz=225
CTGM **Chitina Glacie** 6.28 39 Pn 00 22 08.6 +0.2
PNL **Peninsula** 6.29 54 Pn 00 22 08.8 +0.3
PNL **Peninsula** 6.29 54 P Pn 00 22 09.0 +0.5
PNL **Peninsula** 6.29 54 P Pn 00 22 08.8 +0.3
baz=242
LOGN **Logan Glacier** 6.30 41 Pn 00 22 08.8 +0.1
SDPT **Sand Point** 6.31 266 Pn 00 22 08.3 -0.4
SDPT **Sand Point** 6.31 266 P Pn 00 22 08.6 -0.1
SDPT **Sand Point** 6.31 266 P Pn 00 22 08.4 -0.3
baz=77
BCPM **Bancas Point** 6.33 51 Pn 00 22 09.3 +0.4
WAT6 **Susitna Watana** 6.34 7 Pn 00 22 09.7 +0.5
WAT6 **Susitna Watana** 6.34 7 P Pn 00 22 09.7 +0.5
baz=188
N16K **Nishlik Lake** 6.45 314 Pn 00 22 10.8 +0.2
N16K **Nishlik Lake** 6.45 314 P Pn 00 22 10.8 +0.2
baz=127
HARP **HAARP** 6.47 18 Pn 00 22 11.5 +0.5
HARP **HAARP** 6.47 18 P Pn 00 22 11.5 +0.5
baz=201
L19K **White Mountain** 6.51 337 Pn 00 22 10.6 -0.9
L19K **White Mountain** 6.51 337 P Pn 00 22 10.5 -0.9
baz=153
WAT7 **Susitna Watana** 6.54 2 Pn 00 22 12.7 +0.7
WAT1 **Susitna Watana** 6.55 3 Pn 00 22 12.6 +0.7
WAT1 **Susitna Watana** 6.55 3 P Pn 00 22 12.6 +0.7
baz=184
M17K **Holitna River** 6.58 324 Pn 00 22 12.3 -0.1
M17K **Holitna River** 6.58 324 P Pn 00 22 12.2 -0.2
baz=138
L20K **Farewell, AK** 6.59 342 Pn 00 22 11.5 -1.0
L20K **Farewell, AK** 6.59 342 P Pn 00 22 11.5 -1.0
baz=158
N15K **Kwethluk River** 6.83 309 Pn 00 22 16.9 +1.1
N15K **Kwethluk River** 6.83 309 P Pn 00 22 16.6 +0.7
baz=120
DHY **Denali Highway** 6.86 8 Pn Pn 00 22 17.8 +1.5
DHY **Denali Highway** 6.86 8 P Pn 00 22 17.2 +0.9
baz=190
M16K **Timber Creek** 6.86 317 Pn Pn 00 22 16.5 +0.3
M16K **Timber Creek** 6.86 317 P Pn 00 22 16.5 +0.3
baz=130
M26K **Nabesna, AK** 6.92 26 P Pn 00 22 17.7 +0.6
baz=211
O29M **Mount Kennedy** 6.96 51 P Pn 00 22 18.4 +0.6
baz=239
PAX **Paxson** 6.96 15 P Pn 00 22 18.3 +0.6
baz=198
O14K **Tigyukauivet M** 6.99 300 Pn Pn 00 22 18.4 +0.4
O14K **Tigyukauivet M** 6.99 300 P Pn 00 22 18.6 +0.7
baz=110
L18K **Granite Mounta** 6.99 331 Pn 00 22 17.2 -0.9
L18K **Granite Mounta** 6.99 331 P Pn 00 22 17.3 -0.7
baz=145
PS1A **Pavlof South-1** 7.00 268 Pn 00 22 17.8 -0.4
P29M **Windy Craggy** 7.04 57 Pn 00 22 18.6 -0.1
P29M **Windy Craggy** 7.04 57 P Pn 00 22 18.4 -0.3
baz=246
RND **Reindeer** 7.12 2 Pn 00 22 20.6 +0.8
PN7A **Pavlof North-7** 7.14 268 Pn 00 22 19.9 -0.3
TRF **Thorofare Moun** 7.17 357 Pn 00 22 21.9 +1.2
TRF **Thorofare Moun** 7.17 357 P Pn 00 22 21.1 +0.4
baz=176
M27K **Edge Creek, AK** 7.17 29 P Pn 00 22 21.2 +0.6
baz=216
MENT **Mentasta** 7.24 21 Pn 00 22 22.6 +1.2
MENT **Mentasta** 7.24 21 P Pn 00 22 23.5 +2.1
CAST **Castle Rocks** 7.25 350 Pn Pn 00 22 22.2 +0.6
CAST **Castle Rocks** 7.25 350 P Pn 00 22 21.9 +0.3
baz=168
YUK7 **Dusty Glacier** 7.26 50 Pn 00 22 22.8 +0.8
M15K **Kasigluk River** 7.36 311 Pn 00 22 23.3 +0.3
M15K **Kasigluk River** 7.36 311 P Pn 00 22 23.3 +0.3
baz=122
S31K **Pelican** 7.36 72 Pn 00 22 20.9 -2.1
YUK6 **Outpost Mounta** 7.39 47 Pn 00 22 24.5 +0.8
YUK6 **Outpost Mounta** 7.39 47 P Pn 00 22 24.5 +0.8
baz=236
L17K **Donlin** 7.40 326 Pn 00 22 23.5 -0.1
L17K **Donlin** 7.40 326 P Pn 00 22 23.5 -0.1
baz=138
TTA **Tatalina** 7.42 336 Pn Pn 00 22 23.0 -1.1
N14K **Kuskokwak Cree** 7.44 304 Pn 00 22 24.6 +0.6
N14K **Kuskokwak Cree** 7.44 304 P Pn 00 22 24.7 +0.6
baz=114
K20K **Telida** 7.44 344 Pn 00 22 23.4 -0.8
K20K **Telida** 7.44 344 P Pn 00 22 23.7 -0.5
baz=160
MCK **McKinley** 7.44 2 Pn 00 22 25.2 +0.9
MCK **McKinley** 7.44 2 P Pn 00 22 24.8 +0.6
baz=182
L16K **Owhat River** 7.49 320 Pn Pn 00 22 24.9 0.0
L16K **Owhat River** 7.49 320 P Pn 00 22 24.6 -0.2
baz=132
BVCY **Beaver Creek** 7.51 32 Pn 00 22 26.0 +0.9
BVCY **Beaver Creek** 7.51 32 P Pn 00 22 26.0 +0.9
baz=219
P30M **Million Dollar** 7.59 55 Pn 00 22 27.1 +0.7
P30M **Million Dollar** 7.59 55 P Pn 00 22 26.6 +0.2
baz=245
HYT **Haines Junctio** 7.68 49 Pn Pn 00 22 28.2 +0.5
L27K **Beaver Creek,** 7.77 26 Pn 00 22 29.2 +0.5
L27K **Beaver Creek,** 7.77 26 P Pn 00 22 29.4 +0.7
baz=213
BCAR **Beaver Creek A** 7.78 26 Pn Pn 00 22 29.9 +1.0
RIDG **Independent Ri** 7.79 15 P Pn 00 22 29.5 +0.5
baz=199
SIT **Sitka** 7.79 79 Pn 00 22 25.9 -3.1
SIT **Sitka** 7.79 79 P Pn 00 22 26.5 -2.5
K17K **Iditarod** 7.84 329 P Pn 00 22 28.8 -0.9
baz=141
BPAW **Bear Paw Mtn.** 7.85 355 P Pn 00 22 29.1 -0.7
baz=174
BWN **Browne** 7.88 360 Pn Pn 00 22 31.2 +1.0
M14K **Bethel** 7.92 309 Pn 00 22 32.0 +1.2
M14K **Bethel** 7.92 309 P Pn 00 22 31.7 +0.9
baz=119
FALS **False Pass** 8.07 265 P Pn 00 22 32.7 -0.1
SKAG **Skagway** 8.13 61 Pn Pn 00 22 33.6 -0.1
SKAG **Skagway** 8.13 61 P Pn 00 22 34.5 +0.8
SCRK **Sand Creek** 8.14 17 Pn 00 22 34.1 +0.2
SCRK **Sand Creek** 8.14 17 P Pn 00 22 34.3 +0.4
baz=202
BESE **Bessie Mountai** 8.17 68 Pn 00 22 33.2 -1.0
N30M **Aishikik Lake** 8.19 46 P Pn 00 22 34.8 +0.2
baz=236
S32K **Killisnoo** 8.20 76 Pn Pn 00 22 32.5 -2.1
WRH **Wood River Hil** 8.21 4 Pn 00 22 34.5 -0.2
J20K **Nowinta River** 8.23 345 Pn 00 22 34.3 -0.6
J20K **Nowinta River** 8.23 345 P Pn 00 22 34.4 -0.6
baz=162
O30N **Mendenhall** 8.27 52 Pn 00 22 35.7 +0.2
O30N **Mendenhall** 8.27 52 P Pn 00 22 35.5 -0.1
baz=243
ISNN **Isanotski Nort** 8.28 266 Pn 00 22 35.5 -0.3
M29M **Somme Creek** 8.29 38 Pn 00 22 36.7 +0.7
M29M **Somme Creek** 8.29 38 P Pn 00 22 36.5 +0.5
baz=227
J19K **Poorman** 8.30 341 Pn 00 22 34.8 -1.1
R32K **Eaglecrest** 8.30 70 Pn 00 22 35.2 -0.8
NEA2 **Nenana** 8.30 1 Pn 00 22 36.7 +0.7
NEA2 **Nenana** 8.30 1 P Pn 00 22 36.3 +0.3
baz=181
JIS **Juneau Island** 8.37 70 Pn Pn 00 22 35.8 -1.1
JIS **Juneau Island** 8.37 70 P Pn 00 22 36.4 -0.5
CCB **Clear Creek Bu** 8.39 5 Pn 00 22 38.4 +1.2
M13K **Dall Lake** 8.39 305 Pn Pn 00 22 38.0 +0.8
L14K **Kuka Creek** 8.52 312 Pn 00 22 39.9 +0.9
K27K **Chicken** 8.55 22 Pn 00 22 40.2 +0.8
J25K **Salcha River,** 8.56 12 Pn Pn 00 22 40.6 +1.1
IL31 8.57 7 Pn 00 22 40.1 +0.5
ILAR **Eielson Array** 8.57 7 Pn 00 22 40.7 +1.0
ILAR **Eielson Array** 8.57 7 Pn Pn 00 22 41.7 +2.0
comp=N,0.8nm,0.3s,baz=185,slow=13,SNR=32
ILAR Sn Sn 00 24 12.0 -4.8
comp=N,1.5nm,0.3s,baz=190,slow=24,SNR=6.3
ILAR LR LR 00 26 12.3
comp=N,461nm,19.9s,baz=232,slow=40
K15K **Wolf Creek Mou** 8.61 319 Pn Pn 00 22 40.6 +0.4
COLA **College** 8.62 4 Pn 00 22 41.2 +0.9
COLA **College** 8.62 4 P Pn 00 22 42.3 +2.0
MDM **Murphy Dome** 8.69 3 Pn 00 22 42.1 +0.8
J26L **Joseph Creek** 8.70 17 Pn Pn 00 22 42.1 +0.6
WHY **Whitehorse** 8.76 54 Pn Pn 00 22 42.3 -0.1
MLY **Manley** 8.77 356 Pn 00 22 42.9 +0.5
MLY **Manley** 8.77 356 P Pn 00 22 42.5 +0.1
baz=175
I23K **Minto, Yukon-K** 8.86 0 Pn 00 22 44.2 +0.6
I23K **Minto, Yukon-K** 8.86 0 P Pn 00 22 43.8 +0.2
baz=180
L29M **L29M** 8.87 35 Pn Pn 00 22 44.6 +0.8
POKR **Poker Plat Res** 8.88 5 Pn 00 22 45.0 +1.0
POKR **Poker Plat Res** 8.88 5 P Pn 00 22 44.7 +0.8
baz=187
P32M **Atlin** 8.96 62 Pn Pn 00 22 45.0 -0.1
P32M **Atlin** 8.96 62 P Pn 00 22 45.0 -0.1
baz=255
J16K **Anvik River** 8.97 326 P Pn 00 22 45.1 0.0
baz=136
M30M **Minto, Yukon** 8.97 40 Pn 00 22 45.8 +0.7
M30M **Minto, Yukon** 8.97 40 P Pn 00 22 45.1 0.0
baz=231
I21K **Tanana** 8.98 353 P Pn 00 22 45.6 +0.3
baz=171
U33K **Whale Pass** 9.08 85 Pn Pn 00 22 44.3 -2.3
CRAG **Craig** 9.19 89 Pn Pn 00 22 46.1 -2.1
CRAG **Craig** 9.19 89 P Pn 00 22 46.6 -1.6
DAWY **Dawson** 9.22 29 Pn Pn 00 22 49.3 +0.6
EGAK **Eagle** 9.40 22 Pn Pn 00 22 51.9 +0.9
PRP **Porcupine Dome** 9.42 10 P Pn 00 22 51.2 -0.3
baz=193
I17K **Unalakleet** 9.44 328 Pn 00 22 50.8 -0.7
Q32M **Nakina River** 9.56 67 Pn 00 22 53.4 -0.1
P33M **Teslin, Yukon** 9.56 59 Pn 00 22 53.4 0.0
P33M **Teslin, Yukon** 9.56 59 P Pn 00 22 53.5 +0.1
baz=253
K29M **Barlow Dome** 9.59 33 Pn Pn 00 22 54.2 +0.5
AKUT **Akutan** 9.60 264 Pn Pn 00 22 51.9 -1.9
AKUT **Akutan** 9.60 264 P Pn 00 22 53.1 -0.7
M31M **Drury Creek, Y** 9.68 46 Pn 00 22 55.6 +0.8
AKBBA **Akutan Broad B** 9.70 264 Pn 00 22 54.3 -0.9
N32M **Quiet Lake** 9.76 54 Pn 00 22 56.0 0.0
H19K **Roundabout Mou** 9.85 343 Pn 00 22 56.9 -0.2
H18K **Honhosa River** 9.88 337 Pn 00 22 56.6 -0.9
IMAR **Indian Mountai** 9.92 350 Pn Pn 00 22 58.5 +0.4
V35K **Ketchikan** 10.06 88 Pn Pn 00 22 58.3 -1.8
S34M **Telegraph Cree** 10.06 73 Pn Pn 00 22 58.9 -1.3
UNV **Unalaska Valle** 10.11 263 P Pn 00 22 59.9 -0.8
I28M **Miner Creek** 10.24 23 Pn 00 23 04.2 +1.5
R33M **Jennings River** 10.29 65 Pn Pn 00 23 03.0 -0.4
G23K **Bananza Creek** 10.43 359 Pn Pn 00 23 05.2 0.0
G24K **Hadweenzic Riv** 10.46 4 Pn Pn 00 23 06.7 +1.2
FYU **Fort Yukon** 10.47 9 Pn Pn 00 23 06.5 +0.8
G19K **Purcell Mounta** 10.52 343 Pn 00 23 06.5 +0.2
DLBC **Dease Lake** 10.67 70 Pn Pn 00 23 07.9 -0.6
DLBC **Dease Lake** 10.67 70 Pn Pn 00 23 08.8 +0.3
comp=N,2.2nm,0.3s,baz=254,slow=11,SNR=27
DLBC LR LR 00 26 34.4
comp=N,446nm,18.6s,baz=272,slow=34
comp=N,4.6nm,0.4s
G16K **Koyuk River** 11.05 331 Pn Pn 00 23 13.5 -0.1
F19K **Shaleruckik Mo** 11.26 343 Pn Pn 00 23 16.4 -0.1
F24K **Squaw Lake** 11.26 3 Pn Pn 00 23 17.7 +1.1
BMAR **Burnt Mountain** 11.38 9 Pn Pn 00 23 18.6 +0.5
ANM **Nome** 11.39 323 Pn Pn 00 23 18.1 -0.1
F17K **Baldwin Pennin** 11.61 336 Pn Pn 00 23 21.8 +0.6
E19K **Redstone River** 11.76 345 Pn 00 23 24.1 +0.9
H31M **Peel River** 11.95 31 Pn Pn 00 23 27.7 +1.8
E25K **Arctic Village** 11.98 7 Pn Pn 00 23 27.2 +0.9
F28M **Old Crow** 12.17 18 Pn Pn 00 23 29.7 +0.8
E18K **Tukpahlearik C** 12.30 339 Pn 00 23 30.6 0.0
G31M **Satah River** 12.79 28 Pn Pn 00 23 37.6 +0.3
D19K **Kuna River** 12.85 345 Pn 00 23 38.9 +0.7
D24K **Happy Valley** 12.89 1 Pn 00 23 39.8 +1.2
BBB **Bella Bella** 13.10 99 LR LR 00 27 33.5
comp=N,570nm,20.0s,baz=295,slow=32
E29M **Blow River** 13.20 19 Pn 00 23 44.4 +1.4
F31M **Tsiigehtchic** 13.32 27 Pn Pn 00 23 45.3 +0.8
B21K **Ikpikpuk River** 13.55 352 Pn 00 23 46.8 -0.9
C16K **Lisburne Hills** 14.03 335 Pn 00 23 54.9 +0.7
INK **Inuvik** 14.04 25 Pn Pn 00 23 55.4 +1.1
INK **Inuvik** 14.04 25 Pn Pn 00 23 56.8 +2.4
comp=N,0.3nm,0.3s,baz=221,slow=13,SNR=10.0
INK LR LR 00 29 50.2
comp=N,410nm,18.1s,baz=187,slow=40
comp=N,2.3nm,0.6s
FLDN **Fort Liard** 14.15 63 Pn Pn 00 23 56.6 +0.7
WRGLY **Wrigley** 14.70 51 Pn Pn 00 24 04.5 +1.1
ATKA **Atka Island** 15.02 265 Pn Pn 00 24 07.8 -0.1
ADK **Adak** 16.55 266 Pn Pn 00 24 26.9 -0.7
C36M **Paulatuk** 17.25 31 Pn Pn 00 24 35.7 -0.6
HILA **High Level** 17.48 69 Pn Pn 00 24 39.0 -0.4
B04A **Port Angeles** 17.82 107 P Pn 00 24 43.0 -0.6
B04A IAmb IAmb 00 24 52.3
comp=Z,36nm,1.2s
YKA **Yellowknife Ar** 18.58 56 P 00 24 52.2 -0.5
YKA **Yellowknife Ar** 18.58 56 P Pn 00 24 54.2 +1.4
comp=Z,0.1nm,0.3s,baz=266,slow=11,SNR=40
YKA LR LR 00 31 48.8
comp=Z,354nm,19.2s,baz=294,slow=36
comp=Z,6.8nm,1.1s
A36M **Sachs Harbour** 18.68 23 P P 00 24 53.9 +0.2
A36M IAmb IAmb 00 24 59.6
comp=Z,30nm,0.8s
LTY **Liberty** 19.82 105 P P 00 25 05.3 -1.3
LTY IAmb IAmb 00 25 19.3
comp=Z,41nm,1.4s
MXC **Moxie City** 20.45 106 P P 00 25 13.1 -0.2
MXC IAmb IAmb 00 25 27.4
comp=Z,45nm,1.4s
E07A **Sunnyside** 20.70 106 P P 00 25 15.4 -0.6
C09A **Chrisman Ranch** 20.80 101 P P 00 25 15.6 -1.5
EDM **Edmonton** 20.88 83 P P 00 25 17.4 -0.4
EDM IAmb IAmb 00 25 50.7
comp=Z,31nm,1.4s
D08A **Wollman Farm,** 20.89 103 P P 00 25 17.2 -0.9
HAWA **Hanford** 20.97 106 P P 00 25 17.8 -1.1
NEW **Newport** 21.16 99 LR LR 00 32 28.1
comp=Z,203nm,19.7s,baz=299,slow=34
I04A **Tendick Farm,** 21.22 115 P P 00 25 19.5 -2.2
SHEM **Shemya Is, Ala** 21.32 276 LR LR 00 33 32.9
comp=Z,186nm,20.9s,baz=210,slow=36
HUMO **Hull Mountain** 21.82 118 P P 00 25 27.5 -0.6
HUMO IAmb IAmb 00 25 36.5
comp=Z,28nm,1.1s
J05D **Fort Rock, OR** 22.18 114 P P 00 25 31.4 -0.7
J05D IAmb IAmb 00 25 42.8
comp=Z,27nm,1.0s
YBH **Yreka Blue Hor** 22.59 119 LR LR 00 32 11.1
comp=Z,535nm,20.6s,baz=321,slow=31
BILL **Bilibino** 23.17 318 P P 00 25 42.0 -0.2
BILL IAmb IAmb 00 25 46.6
comp=Z,14nm,1.1s
OVMT **Ovando** 24.13 97 P P 00 25 51.1 -0.9
ORV **Oroville** 24.86 121 P 00 25 57.6 -0.9
AFDM **Forest Hills D** 25.59 121 P 00 26 04.6 -0.5
AFDM IAmb IAmb 00 26 16.5
comp=Z,14nm,1.4s
PNTR **Pine Nut** 26.14 119 P P 00 26 08.7 -1.7
KVN **Kaiserville** 26.91 117 P P 00 26 15.0 -2.2
ELK **Elko** 27.11 111 LR LR 00 35 06.2
comp=Z,210nm,20.9s,baz=310,slow=32
NVAR **Mina Array Bea** 27.29 118 P P 00 26 18.6 -2.1
NVAR **Mina Array Bea** 27.29 118 P P 00 26 22.9 +2.2
comp=Z,2.2nm,0.9s,baz=309,slow=9.1,SNR=14
NVAR LR LR 00 35 18.3
comp=Z,354nm,18.6s,baz=296,slow=32
comp=Z,2.2nm,0.9s
RES **Resolute Bay** 27.56 28 LR LR 00 37 53.7
comp=Z,332nm,18.1s,baz=278,slow=38
PDAR **Pinedale Array** 28.74 101 LR LR 00 36 25.8
comp=Z,104nm,20.4s,baz=304,slow=33
FCC **Fort Churchill** 29.08 62 P P 00 26 36.8 +0.6
FCC IAmb IAmb 00 26 40.3
comp=Z,8.0nm,1.1s
PETK **Petropavlovsk-** 30.10 287 P P 00 26 46.6 +1.4
comp=Z,5.6nm,0.9s,baz=60,slow=12,SNR=2.2
PETK LR LR 00 39 15.0
comp=Z,144nm,19.3s,baz=79,slow=37
comp=Z,5.6nm,0.9s
PFO **Pinyon Flats O** 32.04 121 LR LR 00 37 27.0
comp=Z,302nm,19.8s,baz=348,slow=32
Y14A **Wickenburg** 33.46 117 P P 00 27 13.4 -1.6
Y14A IAmb IAmb 00 27 25.5
comp=Z,4.1nm,0.9s
ANMO **Albuquerque** 36.05 108 LR LR 00 42 48.9
comp=Z,126nm,18.1s,baz=50,slow=37
FRB **Frobisher Bay** 38.45 45 LR LR 00 43 58.1
comp=Z,524nm,18.4s,baz=299,slow=36
YAK **Yakutsk** 39.30 313 LR LR 00 44 44.7
comp=Z,149nm,19.5s,baz=83,slow=37
TXAR **Lajitas Array** 41.90 111 LR LR 00 44 49.1
comp=Z,111nm,18.9s,baz=250,slow=35
LPIG **La Paz** 42.92 122 LR LR 00 43 55.7
comp=Z,106nm,19.5s,baz=352,slow=33
SUMG **Summit** 42.96 24 P P 00 28 35.2 +0.2
SUMG IAmb IAmb 00 28 38.9
comp=Z,9.0nm,1.0s

SFJD	**Kangerlussuaq**	**43.10**	**35**	*i* P		P		00 28 45.0	+9.3
SFJD	**Kangerlussuaq**	**43.10**	**35**	LR		LR		00 46 29.0	
	comp=Z,162nm,20.6s,baz=316,slow=36								
SCHQ	**Schefferville**	**44.03**	**56**	LR		LR		00 47 08.5	
	comp=Z,163nm,18.8s,baz=303,slow=36								
TKL	**Tuckaleechee C**	**48.00**	**87**	LR		LR		00 49 29.4	
	comp=Z,294nm,18.4s,baz=330,slow=36								
H11N2	**WAKE ISLAND Hy**	**48.84**	**240**	T		T		01 21 58.2	
	baz=30,slow=76,SNR=13								
H11N3	**WAKE ISLAND Hy**	**48.85**	**240**	T		T		01 22 01.7	
	baz=30,slow=76,SNR=16								
H11N1	**WAKE ISLAND Hy**	**48.86**	**240**	T		T		01 22 02.4	
	baz=30,slow=76,SNR=12								
H11S1	**WAKE ISLAND Hy**	**49.98**	**239**	T		T		01 24 09.4	
	baz=29,SNR=23								
H11S2	**WAKE ISLAND Hy**	**50.00**	**239**	T		T		01 23 30.6	
	baz=29,slow=74,SNR=20								
H11S3	**WAKE ISLAND Hy**	**50.00**	**239**	T		T		01 23 37.2	
	baz=29,slow=74,SNR=22								
BORG	**Borgarnes**	**52.94**	**25**	LR		LR		00 53 43.2	
	comp=Z,129nm,18.4s,baz=331,slow=38								
ARCES	**ARCESS Array B**	**54.40**	**2**	P		**P**		**00 30 02.1**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=356,slow=11,SNR=4.9								
	comp=Z,1.5nm,0.7s								
KSRS	**Korea Array**	**55.98**	**288**	P		**P**		**00 30 15.9**	**+1.6**
	comp=Z,0.8nm,0.6s,baz=43,slow=8.3,SNR=4.1								
	comp=Z,0.8nm,0.6s								
ULN	**Ulaanbaatar**	**58.26**	**310**	P		**P**		**00 30 30.2**	**-0.3**
SONM	**Songino Array**	**58.56**	**310**	P		**P**		**00 30 32.8**	**+0.2**
SONM				IAmb		IAmb		00 30 37.1	
	comp=Z,5.0nm,1.0s								
SONM	**Songino Array**	**58.56**	**310**	P		**P**		**00 30 34.1**	**+1.5**
	comp=Z,3.2nm,0.8s,baz=41,slow=6.7,SNR=24								
	comp=Z,3.2nm,0.8s								
ZAA0	**Zalesovo Array**	**61.49**	**327**	P		**P**		**00 30 52.3**	**-0.2**
ZAA0				IAmb		IAmb		00 30 56.2	
	comp=Z,2.3nm,0.7s								
ZALV	**Zalesovo Beam**	**61.49**	**327**	P		**P**		**00 30 53.0**	**+0.6**
ZALV	**Zalesovo Beam**	**61.49**	**327**	P		**P**		**00 30 53.4**	**+0.9**
	comp=Z,2.1nm,0.6s,baz=26,slow=6.7,SNR=13								
ZALV				LR		LR		01 00 37.1	
	comp=Z,64nm,18.9s,baz=18,slow=39								
	comp=Z,2.1nm,0.6s								
HHC	**Hu-ho-hao-te**	**61.66**	**302**	*e*P		**P**		**00 30 55.0**	**+1.1**
HHC				pP		pwP		00 30 59.6	+0.6
HHC				pmax		pmax			
	comp=Z,7.0nm,0.6s								
HHC				pmax		pmax			
	comp=Z,78nm,5.1s								
NB2	**NORSAR Subarra**	**61.99**	**11**	P		**P**		**00 30 57.7**	**+2.0**
	comp=Z,8.6nm,1.2s,baz=348,slow=6.9								
NOA	**NORSAR Array B**	**61.99**	**11**	P		**P**		**00 30 56.2**	**+0.5**
	comp=Z,2.8nm,1.0s,baz=348,slow=6.7,SNR=6.1								
NOA				LR		LR		01 00 13.1	
	comp=Z,26nm,18.1s,baz=335,slow=38								
	comp=Z,2.8nm,1.0s								
FIA1	**FINESS Array S**	**62.52**	**2**	P		**P**		**00 30 59.9**	**+0.7**
FINES	**FINESS Array B**	**62.52**	**2**	P		**P**		**00 31 00.0**	**+0.8**
FINES	**FINESS Array B**	**62.52**	**2**	P		**P**		**00 31 00.2**	**+1.0**
	comp=Z,1.9nm,0.6s,baz=4.3,slow=8.4,SNR=16								
	comp=Z,1.9nm,0.6s								
HFS	**Hagfors**	**63.12**	**9**	P		**P**		**00 31 04.1**	**+0.8**
	comp=Z,2.5nm,0.9s,baz=346,slow=5.2,SNR=4.4								
HFS				LR		LR		01 00 49.7	
	comp=Z,33nm,18.2s,baz=340,slow=38								
	comp=Z,2.5nm,0.9s								
KIRV	**Kirov**	**64.46**	**349**	LR		LR		01 03 29.8	
	comp=Z,50nm,18.8s,baz=354,slow=40								
MATN	**Matagalpa**	**64.71**	**105**	P		**P**		**00 31 14.5**	**+0.1**
NJ2	**Nanjing**	**64.90**	**290**	*e*P		**P**		**00 31 14.1**	**-1.2**
NJ2				pmax		pmax			
	comp=Z,4.0nm,0.5s								
NJ2				pmax		pmax			
	comp=Z,130nm,4.2s								
ARU	**Arti**	**65.35**	**343**	P		**P**		**00 31 18.2**	**+0.3**
ARU				IAmb		IAmb		00 32 01.0	
	comp=Z,4.0nm,0.8s								
ARU	**Arti**	**65.35**	**343**	LR		LR		01 04 08.0	
	comp=Z,64nm,18.0s,baz=9.0,slow=40								
KURK	**Kurchatov**	**66.16**	**329**	P		**P**		**00 31 23.3**	**0.0**
KURK				IAmb		IAmb		00 31 52.1	
	comp=Z,3.2nm,1.1s								
BVAR	**Borovoye Array**	**66.22**	**335**	P		**P**		**00 31 22.3**	**-1.3**
	comp=Z,1.5nm,0.7s,baz=66,slow=11,SNR=5.0								
BVAR				LR		LR		01 03 48.1	
	comp=Z,119nm,19.3s,baz=25,slow=39								
	comp=Z,1.5nm,0.7s								
KURBB	**Kurchatov Arra**	**66.27**	**329**	P		**P**		**00 31 24.5**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=27,slow=6.5,SNR=9.9								
KURBB				LR		LR		01 04 50.5	
	comp=Z,106nm,18.1s,baz=174,slow=40								
	comp=Z,1.4nm,0.8s								
XAN	**Xi'an**	**68.34**	**299**	⇑P		**P**		**00 31 37.8**	**+0.4**
XAN				pmax		pmax			
	comp=Z,5.0nm,1.1s								
MK31	**Makanchi Array**	**68.53**	**325**	P		**P**		**00 31 38.4**	**+0.1**
MK31				IAmb		IAmb		00 31 48.5	
	comp=Z,3.0nm,1.1s								
MKAR	**Makanchi Array**	**68.53**	**325**	P		**P**		**00 31 38.6**	**+0.3**
MKAR	**Makanchi Array**	**68.53**	**325**	P		**P**		**00 31 38.9**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=30,slow=5.8,SNR=29								
	comp=Z,1.3nm,0.5s								
MAKZ	**Makanchi**	**68.61**	**325**	P		**P**		**00 31 38.6**	**-0.3**
MAKZ				IAmb		IAmb		00 31 48.7	
	comp=Z,6.6nm,1.3s								
BELG	**Belogornoye**	**70.75**	**349**	LR		LR		01 06 52.0	
	comp=Z,66nm,18.6s,baz=338,slow=39								
AKTO	**Aktyubinsk**	**71.21**	**342**	LR		LR		01 08 46.0	
	comp=Z,53nm,18.3s,baz=299,slow=41								
ABKAR	**Akbulak array**	**71.99**	**340**	P		**P**		**00 31 59.8**	**+0.3**
DPC	**Dobruska-Polom**	**73.04**	**10**	*e*P		**P**		**00 32 07.5**	**+1.7**
AKASG	**Malin Array Be**	**73.34**	**1**	P		**P**		**00 32 07.2**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=1.3,slow=6.2,SNR=6.4								
AKASG				LR		LR		01 04 25.8	
	comp=Z,34nm,21.3s,baz=340,slow=36								
	comp=Z,2.5nm,0.7s								
KRLC	**Kraliky**	**73.35**	**9**	*e*P		**P**		**00 32 09.1**	**+1.5**
MORC	**Moravsky Berou**	**73.72**	**9**	*e*P		**P**		**00 32 07.1**	**-2.7**
KHC	**Kasperske Hory**	**73.97**	**12**	*e*P		**P**		**00 32 14.4**	**+3.2**
VRAC	**Vranov**	**74.10**	**9**	*e*P		**P**		**00 32 13.8**	**+1.8**
VRAC	**Vranov**	**74.10**	**9**	LR		LR		01 04 59.0	
	comp=Z,36nm,20.1s,baz=341,slow=36								
MAUC	**Maruska**	**74.15**	**9**	*e*P		**P**		**00 32 15.6**	**+3.3**
GERES	**GERESS Array B**	**74.26**	**12**	P		**P**		**00 32 13.4**	**+0.4**
GERES	**GERESS Array B**	**74.26**	**12**	P		**P**		**00 32 14.2**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=8.9,slow=7.0,SNR=6.6								
GERES				LR		LR		01 08 17.3	
	comp=Z,42nm,18.7s,baz=336,slow=39								
	comp=Z,1.1nm,0.6s								
KRUC	**Moravsky**	**74.32**	**10**	*e*P		**P**		**00 32 14.8**	**+1.5**
LANS	**Liptovska Anna**	**74.49**	**8**	*e*P		**P**		**00 32 16.9**	**+2.6**
JAVC	**Velka Javorina**	**74.64**	**9**	*e*P		**P**		**00 32 15.5**	**+0.3**
AAK	**Ala-Archa**	**74.68**	**328**	P		**P**		**00 32 15.6**	**-0.1**
AAK				IAmb		IAmb		00 32 26.0	
	comp=Z,6.6nm,1.4s								
KOLS	**Kolonicke sedl**	**74.89**	**6**	*e*P		P		00 32 21.9	+5.3
MODS	**Modra-Piesok**	**75.09**	**9**	*e*P		**P**		**00 32 21.1**	**+3.4**
VYHS	**Vyhne**	**75.10**	**8**	*e*P		**P**		**00 32 19.7**	**+1.9**
KK31	**Karatay Array**	**75.38**	**331**	P		**P**		**00 32 18.9**	**-0.6**
KKAR	**Karatay Array**	**75.38**	**331**	P		**P**		**00 32 18.1**	**-1.4**
KKAR	**Karatay Array**	**75.38**	**331**	P		**P**		**00 32 19.0**	**-0.5**
KKAR				IAmb		IAmb		00 32 23.1	
	comp=Z,1.6nm,0.8s								
BIOA	**Bad Ischl, Aus**	**75.39**	**12**	*i* pP		**P**		**00 32 19.6**	**+0.1**
	comp=Z,0.5nm,0.3s								
CONA	**Conrad Observa**	**75.39**	**10**	*i* P		**P**		**00 32 18.1**	**-1.5**
	comp=Z,0.8nm,0.4s								
WATA	**Walderalm**	**75.50**	**13**	*i* pP		**P**		**00 32 20.5**	**+0.3**
	comp=Z,1.5nm,0.6s								
SQTA	**Sankt Quirin**	**75.56**	**14**	*i* P		**P**		**00 32 18.9**	**-1.7**
	comp=Z,1.2nm,0.5s								
WTTA	**Wattenberg**	**75.57**	**13**	*i* P		**P**		**00 32 18.6**	**-2.1**
	comp=Z,2.6nm,0.7s								
FETA	**Feichten**	**75.69**	**14**	*i* pP		**P**		**00 32 20.4**	**-1.0**
	comp=Z,1.3nm,0.6s								
DAVOX	**Davos/Dischmat**	**75.81**	**15**	LR		LR		01 10 34.3	
	comp=Z,31nm,18.6s,baz=272,slow=40								
ABTA	**Abfaltersbach**	**76.19**	**13**	*e*pP		**P**		**00 32 23.9**	**-0.2**
	comp=Z,0.4nm,0.4s								
BUR08	**Bucovina Ar. S**	**76.31**	**4**	P		**P**		**00 32 25.8**	**+0.9**
BUR08				IAmb		IAmb		00 32 26.7	
	comp=Z,3.8nm,1.1s								
BURAR	**Bucovina Array**	**76.34**	**4**	P		**P**		**00 32 25.2**	**+0.2**
SOKA	**Soboth**	**76.55**	**11**	*i* pP		**P**		**00 32 25.7**	**-0.5**
	comp=Z,14nm,1.9s								
OBKA	**Obir**	**76.66**	**11**	*i* pP		**P**		**00 32 27.2**	**+0.3**
	comp=Z,2.6nm,0.7s								
KSH	**Kashi**	**77.08**	**326**	P		P		00 32 35.5	+6.1
KSH				pmax		pmax			
	comp=Z,3.0nm,0.9s								
HNR	**Honiara**	**77.68**	**231**	LR		LR		00 59 16.2	
	comp=Z,2μm,19.9s,baz=342,slow=30								
RAR	**Rarotonga**	**77.72**	**190**	LR		LR		00 59 50.3	
	comp=Z,58nm,20.5s,baz=293,slow=30								
PZH	**PanZhiHua**	**78.04**	**300**	P		**P**		**00 32 35.3**	**+0.4**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.4s								
PZH				pmax		pmax			
	comp=Z,130nm,5.5s								
BTK	**Batken**	**78.12**	**330**	P		**P**		**00 32 34.8**	**-0.4**
BTK				IAmb		IAmb		00 32 44.7	
	comp=Z,5.7nm,1.1s								
DRK	**Karamyk**	**78.38**	**329**	P		**P**		**00 32 36.1**	**-0.7**
DRK				IAmb		IAmb		00 32 41.1	
	comp=Z,4.1nm,0.8s								
MLR	**Muntele Rosu**	**78.49**	**3**	LR		LR		01 08 21.4	
	comp=Z,43nm,19.9s,baz=34,slow=36								
GAR	**Garm**	**79.25**	**330**	P		**P**		**00 32 40.4**	**-1.0**
CHGR	**Chuyangaron**	**79.89**	**330**	P		**P**		**00 32 44.8**	**-0.1**
SIMJ	**Simíganj**	**79.93**	**330**	P		**P**		**00 32 44.7**	**-0.4**
ESDC	**Sonseca Array**	**79.98**	**26**	P		**P**		**00 32 47.5**	**+2.1**
	comp=Z,1.6nm,0.9s,baz=327,slow=5.0,SNR=5.1								
ESDC				LR		LR		01 08 50.7	
	comp=Z,78nm,18.3s,baz=323,slow=36								
	comp=Z,1.6nm,0.9s								
BRTR	**Keskin Array B**	**84.29**	**358**	P		**P**		**00 33 10.2**	**+2.3**
	comp=Z,0.7nm,0.8s,baz=12,slow=7.4,SNR=3.7								
BRTR				LR		LR		01 14 31.5	
	comp=Z,35nm,18.4s,baz=354,slow=38								
	comp=Z,0.7nm,0.8s								
CMAR	**Chiang Mai Arr**	**86.20**	**298**	P		**P**		**00 33 18.7**	**+1.0**
	comp=Z,1.0nm,0.3s,baz=17,slow=3.3,SNR=5.5								
	comp=Z,1.0nm,0.3s								
DZM	**Mont Dzumac**	**86.53**	**220**	LR		LR		01 04 25.8	
	comp=Z,93nm,20.7s,baz=164,slow=30								
KEST	**Kesra**	**86.54**	**17**	LR		LR		01 14 26.1	
	comp=Z,29nm,18.9s,baz=254,slow=37								
QSPA	**South Pole Qui**	**146.11**	**180**	PKPbc		**PKPab**		**00 40 14.4**	**-1.2**
	comp=Z,2.3nm,0.8s,baz=156,slow=1.4,SNR=9.0								
BOSA	**Boshof**	**152.05**	**10**	PKPbc		**PKPbc**		**00 40 30.4**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=342,slow=7.0,SNR=1.5								

*IDC **04** 00:28:24.3±1.4, 14°.50S×179°.42W, h0km, mb4.0/11, mbtmp4.0/11, Error ellipse: s-maj=57.2km s-min=21.1km az=144.0*
*NEIC **04** 00:28:25.8±2.0, 14°.33S±0°.09×179°.49W±0°.07, h10km±1km, mb4.7/14, Error ellipse: s-maj=14.8km s-min=11.7km az=166.0*
ISC 04 00:28:25.9±0.6, **14°.38S**±0°.09×**179°.46W**±0°.09, **h10**km, **n49, σ2s31/49, mb4.3**/18, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.11**	**215**		**Pn**	**00 29 27.6**	**-1.3**
FUNA	**Funafuti**	**5.96**	**347**	Pn	**Pn**	**00 29 51.2**	**-3.1**
AFI	**Afiamalu**	**7.46**	**87**	Pn	**Pn**	**00 30 12.6**	**-2.5**
NIUE	**Niue**	**10.25**	**118**	Pn	**Pn**	**00 30 52.0**	**-1.3**
DZM	**Mont Dzumac**	**15.42**	**238**		**Pn**	**00 32 02.8**	**-1.0**
DZM				IAmb	IAmb	00 32 13.3	
	comp=Z,16nm,1.0s						
DZM	**Mont Dzumac**	**15.42**	**238**	Pn	**P**	**00 32 10.8**	**+2.4**
	comp=Z,0.4nm,0.3s,baz=68,slow=19,SNR=8.3						
ONTNC	**Ouen Toro**	**15.52**	**237**	Pn	**Pn**	**00 32 04.1**	**-0.8**
HNR	**Honiara**	**20.74**	**281**	P	**P**	**00 33 05.5**	**-1.5**
STKA	**Stephens Creek**	**39.57**	**237**	P	**P**	**00 35 56.5**	**-1.0**
STKA	**Stephens Creek**	**39.57**	**237**	P	**P**	**00 35 56.4**	**-1.1**
	comp=Z,1.9nm,0.8s,baz=61,slow=12,SNR=3.1						
	comp=Z,1.9nm,0.8s						
WB0	**Warramunga Arr**	**44.34**	**256**	P	**P**	**00 36 36.6**	**-0.1**
WB0				IAmb	IAmb	00 36 55.8	
	comp=Z,6.8nm,1.4s						
WRA	**Warramunga Arr**	**44.39**	**256**	P	**P**	**00 36 38.0**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=92,slow=8.4,SNR=4.8						
	comp=Z,0.7nm,0.9s						
AS31	**Alice Springs**	**44.88**	**251**	P	**P**	**00 36 39.8**	**-1.3**
ASAR	**Alice Springs**	**44.88**	**251**	P	**P**	**00 36 39.2**	**-1.9**
ASAR	**Alice Springs**	**44.88**	**251**	P	**P**	**00 36 40.2**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=83,slow=8.5,SNR=11						
	comp=Z,0.7nm,0.6s						
MJAR	**Matsushiro Arr**	**64.49**	**323**	P	**P**	**00 39 02.2**	**-0.8**
	comp=Z,1.1nm,0.9s,baz=153,slow=8.4,SNR=2.5						
	comp=Z,1.1nm,0.9s						
PETK	**Petropavlovsk-**	**70.03**	**346**	P	**P**	**00 39 38.4**	**+0.7**
	comp=Z,6.8nm,1.1s,baz=165,slow=12,SNR=2.9						
	comp=Z,6.8nm,1.1s						
N15K	**Kwethluk River**	**75.91**	**10**	P	**P**	**00 40 13.2**	**+0.8**
N15K				IAmb	IAmb	00 40 22.1	
	comp=Z,19nm,1.5s						
P18K	**Big Mountain,**	**76.10**	**12**	P	**P**	**00 40 14.0**	**+0.4**
NVAR	**Mina Array Bea**	**77.61**	**45**	P	**P**	**00 40 22.0**	**-0.8**
NVAR	**Mina Array Bea**	**77.61**	**45**	P	**P**	**00 40 23.0**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=230,slow=9.3,SNR=5.2						
	comp=Z,1.1nm,0.8s						
J05D	**Fort Rock, OR**	**78.22**	**39**		**P**	**00 40 26.0**	**-0.1**
J05D				IAmb	IAmb	00 40 33.5	
	comp=Z,17nm,1.4s						
K20K	**Telida**	**79.95**	**11**	P	**P**	**00 40 35.1**	**+0.2**
K20K				IAmb	IAmb	00 40 42.0	
	comp=Z,9.4nm,1.0s						
M27K	**Edge Creek, AK**	**81.96**	**17**	P	**P**	**00 40 46.3**	**+0.5**
M27K				IAmb	IAmb	00 40 55.5	
	comp=Z,13nm,1.3s						
IMAR	**Indian Mountai**	**82.40**	**10**	P	**P**	**00 40 47.0**	**-0.9**
ILAR	**Eielson Array**	**82.70**	**13**	P	**P**	**00 40 50.1**	**+0.7**
	comp=Z,2.0nm,0.9s,baz=231,slow=6.4,SNR=13						
	comp=Z,2.0nm,0.9s						
DAWY	**Dawson**	**84.00**	**17**		**P**	**00 40 56.4**	**+0.2**
DAWY				IAmb	IAmb	00 41 02.6	
	comp=Z,4.9nm,0.9s						
EGAK	**Eagle**	**84.09**	**15**	P	**P**	**00 40 57.5**	**+0.9**
BMAR	**Burnt Mountain**	**85.45**	**13**	P	**P**	**00 41 02.3**	**-1.2**
PDAR	**Pinedale Array**	**85.51**	**44**	P	**P**	**00 41 04.8**	**+0.2**
	comp=Z,0.9nm,1.0s,baz=206,slow=3.7,SNR=4.0						
	comp=Z,0.9nm,1.0s						
CMAR	**Chiang Mai Arr**	**86.75**	**290**	P	**P**	**00 41 11.7**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=106,slow=3.2,SNR=1.2						
	comp=Z,0.8nm,0.3s						
ULN	**Ulaanbaatar**	**89.83**	**320**	P	**P**	**00 41 24.6**	**-0.5**
ULN				IAmb	IAmb	00 41 32.7	
	comp=Z,6.3nm,1.0s						
SONM	**Songino Array**	**90.23**	**320**	P	**P**	**00 41 28.5**	**+1.6**
	comp=Z,1.2nm,0.9s,baz=117,slow=3.7,SNR=9.2						
	comp=Z,1.2nm,0.9s						
YKA	**Yellowknife Ar**	**91.57**	**25**	P	**P**	**00 41 33.7**	**+1.1**
	comp=Z,0.2nm,0.7s,baz=251,slow=5.1,SNR=2.3						
	comp=Z,0.2nm,0.7s						
CONA	**Conrad Observa**	**144.21**	**342**	*e*PKiKP	**PKiKP**	**00 48 08.7**	**+2.8**
	comp=Z,6.8nm,1.2s						
MOA	**Molln**	**144.73**	**344**	*e*PKiKP	**PKiKP**	**00 48 11.3**	**+4.4**
	comp=Z,9.2nm,1.2s						
ARSA	**Arzberg**	**144.92**	**342**	*e*PKiKP	**PKiKP**	**00 48 12.3**	**+5.0**
	comp=Z,18nm,2.1s						
SOKA	**Soboth**	**145.59**	**342**	*e*PKiKP	**PKiKP**	**00 48 12.4**	**+3.6**
	comp=Z,7.0nm,1.0s						
KBA	**Koelnbreinsper**	**145.69**	**344**	*e*PKiKP	**PKiKP**	**00 48 13.1**	**+4.0**
	comp=Z,11nm,1.4s						
WATA	**Walderalm**	**145.88**	**347**	*e*PKiKP	**PKiKP**	**00 48 14.0**	**+4.6**
	comp=Z,7.4nm,1.2s						
OBKA	**Obir**	**145.88**	**343**	*e*PKP	**PKiKP**	**00 48 10.5**	**+1.1**
	comp=Z,16nm,1.7s						
RETA	**Reutte**	**145.91**	**348**	*e*PKiKP	**PKiKP**	**00 48 14.3**	**+4.9**
	comp=Z,14nm,1.3s						
WTTA	**Wattenberg**	**145.93**	**346**	*e*PKP	**PKiKP**	**00 48 11.6**	**+2.0**
	comp=Z,8.5nm,1.1s						
MOTA	**Moosalm**	**145.97**	**347**	*e*PKP	**PKPab**	**00 48 07.7**	**+1.1**
	comp=Z,16nm,2.0s						
MYKA	**Terra Mystica**	**146.02**	**344**	*e*PKiKP	**PKiKP**	**00 48 13.5**	**+3.8**
	comp=Z,13nm,1.3s						
SQTA	**Sankt Quirin**	**146.07**	**347**	*e*PKP	**PKiKP**	**00 48 11.9**	**+2.1**
	comp=Z,9.1nm,1.2s						
PRED	**Cave del Predi**	**146.22**	**344**	PKPbc	**PKPbc**	**00 48 06.8**	**-0.1**
DAVA	**Damuels**	**146.28**	**349**	*e*PKiKP	**PKiKP**	**00 48 15.4**	**+5.2**
	comp=Z,13nm,1.2s						
FETA	**Feichten**	**146.36**	**347**	*e*PKiKP	**PKiKP**	**00 48 14.8**	**+4.3**
	comp=Z,4.2nm,1.2s						

*IDC **04** 00:30:15.1±1.1, 14°.41S×179°.60W, h0km, mb4.4/15, mbtmp4.4/15, MS4.4/16, Error ellipse: s-maj=37.5km s-min=18.4km az=147.0*
*BJI **04** 00:30:15.0±0.0, 14°.60S×179°.30W, h10km, mb4.8/25, mB5.2/16, Ms4.9/12, Ms7 4.7/13*
*NEIC **04** 00:30:16.4±1.4, 14°.54S±0°.09×179°.37W±0°.08, h10km±1km, mb5.0/51, Error ellipse: s-maj=16.4km s-min=12.3km az=156.0*
*GCMT **04** 00:30:20.4±0.2, 14°.32S±0°.01×179°.40W±0°.01, h14km, MW5.2/130, Moment Tensor Solution. s73,c103; s130,c208; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.38±.15; Mθθ1.31±.14; Mϕϕ1.06±.14; Mrθ-0.05±.27; Mθϕ6.71±.13; Mϕr-0.89±.28; Best double couple: M:6.78900×10^16 NP1:ϕs1.00000°, δ85.00000°, λ-170.00000°. NP2:ϕs270.00000°, δ80.00000°, λ-5.00000°. Principal axes: T 7.9380, Plg4.0000°, Azm135.0000°; N -2.3090, Plg79.0000°, Azm27.0000°; P -5.6400, Plg11.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 04 00:30:15.9±0.4, **14°.59S**±0°.08×**179°.39W**±0°.06, **h10**km, **n193, σ1s08/186, mb4.9/45, MS4.5/19, 3D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.98**	**218**	Pn	**Pn**	**00 31 18.1**	**+1.1**
AFI	**Afiamalu**	**7.42**	**86**	Pn	**Pn**	**00 32 03.8**	**-0.5**
NIUE	**Niue**	**10.10**	**118**	Pn	**Pn**	**00 32 41.1**	**+0.1**
RAO	**Raoul Island**	**14.66**	**175**	LR	LR	00 37 33.1	
	comp=Z,2μm,18.4s,baz=349,slow=30						
PINNC	**Pines Island,**	**14.80**	**235**	Pn	**Pn**	**00 33 45.5**	**+0.1**
OUENC	**Ouen Island, N**	**15.20**	**237**	Pn	**Pn**	**00 33 51.2**	**+0.5**
DZM	**Mont Dzumac**	**15.36**	**239**		**Pn**	**00 33 52.9**	**-0.1**
DZM	**Mont Dzumac**	**15.36**	**239**	*e*Pn	**P**	**00 33 56.5**	**-1.2**
	112nm,1.2s						
DZM				*e*LR	LR	00 37 36.8	
	4μm,25.6s						
DZM	**Mont Dzumac**	**15.36**	**239**	Pn	**P**	**00 33 57.8**	**+0.1**
	0.3nm,0.3s,baz=73,slow=15,SNR=11						
DZM				LR	LR	00 38 45.6	
	comp=Z,3μm,21.2s,baz=69,slow=33						
ONTNC	**Ouen Toro**	**15.46**	**238**		**Pn**	**00 33 55.0**	**+0.8**
KOUNC	**Koumac, New Ca**	**16.65**	**247**		**Pn**	**00 34 09.0**	**-0.5**
TARA	**Tarawa**	**17.57**	**334**	Pn	**Pn**	**00 34 19.9**	**-1.2**
TARA				IAmb	IAmb	00 34 23.2	
	comp=Z,216nm,1.4s						
RAR	**Rarotonga**	**19.79**	**112**	LR	LR	00 40 43.8	
	comp=Z,1μm,20.5s,baz=297,slow=31						
HNR	**Honiara**	**20.84**	**282**	P	**P**	**00 34 58.0**	**0.0**
URZ	**Urewera**	**23.78**	**187**	LR	LR	00 44 02.8	
	comp=Z,1μm,18.2s,baz=102,slow=35						
PPT	**Papeete**	**28.79**	**100**	LR	LR	00 45 00.2	
	comp=Z,348nm,20.2s,baz=270,slow=30						
PPT2	**Papeete2**	**28.79**	**100**	*e*P	**P**	**00 36 10.3**	**-4.0**
	comp=Z,31nm,24.8s						
PPT2				*e*LQ	LQ	00 42 19.9	
	comp=Z,3μm,42.8s						
PPT2				*e*LR	LR	00 43 30.8	
	comp=Z,855nm,25.2s						
PPT2				*e*LR	LR	00 43 35.3	
	comp=Z,586nm,27.5s						
TBI	**Tubuai**	**29.57**	**112**	*e*LQ	LQ	00 42 49.7	
	comp=Z,10μm,25.5s						
TBI				*e*LR	LR	00 43 55.0	
	comp=Z,11μm,27.8s						
TBI				*e*LR	LR	00 43 57.3	
	comp=Z,3μm,26.5s						
RPZ	**Rata Peaks**	**30.16**	**194**	LR	LR	00 48 35.4	
	comp=Z,860nm,18.8s,baz=360,slow=36						
PMG	**Port Moresby**	**33.10**

baz=203
J18K Innoko River 79.77 10 P P 00 42 24.5 +0.7
baz=202
K20K Telida 80.14 11 P P 00 42 26.1 +0.2
K20K IAmb IAmb 00 42 38.0
comp=Z,19nm,1.1s
K20K Telida 80.14 11 P P 00 42 26.6 +0.7
baz=205
G15K Niukluk 80.19 7 P P 00 42 26.8 +0.7
baz=195
SEY Seymchan 80.35 347 LR LR 01 20 10.0
comp=Z,124nm,18.0s,baz=154,slow=37
F14K Arctic Creek 80.43 5 P P 00 42 28.3 +1.0
baz=193
TUC Tucson 80.45 53 P P 00 42 28.1 -0.2
HNS HongShan 80.59 313 *e*P **P 00 42 29.6 +0.8**
HNS *e*S **S 00 52 35.9 -0.2**
HNS SKS **SKSac 00 52 45.7 -1.6**
HNS LR LR
comp=Z,240nm,23.9s
HNS LR LR
comp=Z,310nm,20.7s
HNS LR LR
comp=Z,340nm,25.0s
G16K Koyuk River 80.78 7 P P 00 42 28.8 -0.3
G16K IAmb IAmb 00 42 38.6
comp=Z,40nm,1.9s
G16K Koyuk River 80.78 7 P P 00 42 29.5 +0.3
baz=197
F15K North Star Dit 80.82 6 P P 00 42 29.4 0.0
F15K IAmb IAmb 00 42 42.8
comp=Z,19nm,1.4s
GLB Gilahina Butte 80.86 16 P P 00 42 29.4 -0.4
GLB IAmb IAmb 00 42 38.3
comp=Z,8.8nm,0.8s
J20K Nowinta River 80.88 11 P P 00 42 30.5 +0.7
baz=205
CHUM Lake Minchumin 80.96 12 P P 00 42 30.0 -0.2
baz=206
LYN LuoYang 81.01 309 ⇓P **P 00 42 32.3 +1.1**
LYN pmax pmax
comp=Z,13nm,0.9s
G17K Kiwalik Mounta 81.09 8 P P 00 42 30.5 -0.4
baz=198
MCK McKinley 81.53 13 P P 00 42 33.4 0.0
baz=210
ENH Enshi 81.63 304 P P 00 42 34.1 -0.5
G18K Tagagawik 81.74 8 P P 00 42 34.4 +0.1
baz=200
M26K Nabesna, AK 81.87 16 P P 00 42 34.8 -0.3
M26K IAmb IAmb 00 42 40.5
comp=Z,15nm,1.1s
M26K Nabesna, AK 81.87 16 P P 00 42 35.2 +0.1
baz=215
P30M Million Dollar 81.89 20 P P 00 42 36.2 +0.9
baz=221
F17K Baldwin Pennin 81.92 7 P P 00 42 35.8 +0.7
baz=198
YUK3 Moose Creek 82.08 18 P P 00 42 37.0 +0.5
baz=218
M27K Edge Creek, AK 82.14 17 P P 00 42 37.3 +0.6
baz=216
I21K Tanana 82.19 11 P P 00 42 37.2 +0.5
baz=207
G19K Purcell Mounta 82.20 9 P P 00 42 36.9 +0.2
G19K IAmb IAmb 00 42 45.4
comp=Z,16nm,1.3s
G19K Purcell Mounta 82.20 9 P P 00 42 37.3 +0.5
baz=202
MLY Manley 82.30 12 P P 00 42 37.1 -0.3
baz=208
WRH Wood River Hil 82.36 13 P P 00 42 37.2 -0.4
S34M Telegraph Cree 82.39 24 P P 00 42 39.2 +1.3
baz=227
BVCY Beaver Creek 82.47 17 P P 00 42 39.0 +0.8
baz=217
RIDG Independent Ri 82.50 15 P P 00 42 40.8 +2.4
baz=214
P32M Atlin 82.61 22 P P 00 42 40.4 +1.3
baz=224
RPSI Rantau Prapat 82.63 275 P P 00 42 39.6 -0.6
RPSI IAmb IAmb 00 42 51.9
comp=Z,18nm,1.4s
O30N Mendenhall 82.66 20 P P 00 42 40.2 +0.9
baz=222
F19K Shaleruckik Mo 82.75 8 P P 00 42 39.8 +0.2
baz=201
MDM Murphy Dome 82.75 13 P P 00 42 39.5 -0.2
MDM IAmb IAmb 00 42 46.7
comp=Z,14nm,1.3s
HLID Hailey 82.77 42 P P 00 42 40.8 +0.3
HLID Hailey 82.77 42 P P 00 42 41.3 +0.8
baz=242
IL31 82.89 13 P P 00 42 39.3 -1.0
IL31 IAmb IAmb 00 42 52.8
comp=Z,24nm,1.4s
ILAR Eielson Array 82.89 13 P P 00 42 39.5 -0.8
comp=Z,2.0nm,0.8s,baz=236,slow=6.1,SNR=12
ILAR LR LR 01 13 37.0
comp=Z,99nm,21.9s,baz=237,slow=31
comp=Z,2.0nm,0.8s
SCRK Sand Creek 82.91 15 P P 00 42 40.5 -0.2
baz=214
D17K Noatak River 82.92 6 P P 00 42 41.5 +1.1
baz=196
E18K Tukpahlearik C 82.93 7 P P 00 42 41.2 +0.6
baz=198
POKR Poker Plat Res 83.06 13 P P 00 42 40.4 -0.9
POKR IAmb IAmb 00 42 52.8
comp=Z,13nm,1.1s
POKR Poker Plat Res 83.06 13 P P 00 42 41.1 -0.2
baz=211
J25K Salcha River, 83.10 14 P P 00 42 41.5 -0.1
baz=213
G21K Allakaket 83.12 10 P P 00 42 42.4 +0.8
baz=205
F20K Avaraart Lake 83.25 9 P P 00 42 43.2 +1.1
baz=203
C16K Lisburne Hills 83.26 5 P P 00 42 43.0 +0.9
baz=194
E19K Redstone River 83.41 8 P P 00 42 43.2 +0.2
E19K Redstone River 83.41 8 P P 00 42 43.9 +0.9
baz=202
K27K Chicken 83.44 16 P P 00 42 44.0 +0.8
baz=216
J26L Joseph Creek 83.44 15 P P 00 42 44.0 +0.6
baz=215
C17K DeLong Mountai 83.66 6 P P 00 42 44.9 +0.7
baz=196
F21K Alatna River 83.77 10 P P 00 42 44.7 -0.2
F21K IAmb IAmb 00 42 56.1
comp=Z,8.2nm,1.1s
M30M Minto, Yukon 83.79 18 P P 00 42 45.4 +0.2
baz=221
L29M L29M 83.80 18 P P 00 42 45.2 +0.1
L29M IAmb IAmb 00 42 53.8
comp=Z,12nm,1.0s
L29M L29M 83.80 18 P P 00 42 46.2 +1.1
baz=220
PRP Porcupine Dome 83.83 14 P P 00 42 46.0 +0.6
baz=213
G23K Bananza Creek 83.92 11 P P 00 42 46.7 +1.0
baz=208
N32M Quiet Lake 83.94 21 P P 00 42 46.1 +0.2
baz=225
C18K Utukok River 84.03 7 P P 00 42 46.3 +0.1
baz=198
DAWY Dawson 84.18 17 P P 00 42 46.8 -0.3
DAWY IAmb IAmb 00 42 57.0
comp=Z,11nm,1.2s
DAWY Dawson 84.18 17 P P 00 42 47.4 +0.3
baz=219
D19K Kuna River 84.26 8 P P 00 42 48.2 +0.8
baz=201
EGAK Eagle 84.28 15 P P 00 42 47.1 -0.4
EGAK Eagle 84.28 15 P P 00 42 47.3 -0.2
baz=217
HHC Hu-ho-hao-te 84.28 315 *e*P **P 00 42 49.5 +1.3**
HHC sP pwP 00 42 57.0 +3.2
HHC SKS **SKSac 00 53 06.9 -5.2**
HHC *e*S **SKKSac 00 53 16.9 -0.6**
HHC sS ScS 00 53 28.1 +2.1
HHC SS **SS 00 58 43.0 -1.1**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,86nm,4.5s
HHC LR LR
comp=Z,160nm,16.0s
HHC LR LR
comp=Z,230nm,16.0s
HHC LR LR
comp=Z,300nm,18.6s
E20K Nigu River 84.30 8 P P 00 42 47.7 +0.1
baz=202
COLD Coldfoot 84.35 11 P P 00 42 48.5 +0.7
baz=208
K29M Barlow Dome 84.54 17 P P 00 42 49.3 +0.3
baz=220
C19K Lookout Ridge 84.65 7 P P 00 42 50.0 +0.6
baz=199
D20K Etivluk River 84.67 8 P P 00 42 50.0 +0.5
baz=202
ANMO Albuquerque 84.80 52 P P 00 42 52.6 +1.5
baz=248
I27K Kandik River 84.83 15 P P 00 42 50.3 -0.1
baz=216
TX31 Lajitas Ar. Si 85.04 58 P P 00 42 52.5 +0.2
TX31 IAmb IAmb 00 43 30.4
comp=Z,15nm,1.4s
TXAR Lajitas Array 85.04 58 P P 00 42 52.5 +0.2
TXAR Lajitas Array 85.04 58 P P 00 42 53.9 +1.6
comp=Z,2.2nm,1.0s,baz=210,slow=5.2,SNR=4.3
comp=Z,2.2nm,1.0s
F24K Squaw Lake 85.04 12 P P 00 42 52.3 +1.0
baz=210
E23K Chandalar 85.19 11 P P 00 42 52.5 +0.3
baz=209
C21K Knifeblade Rid 85.33 9 P P 00 42 53.3 +0.5
baz=204
H27K Steamboat Moun 85.35 14 P P 00 42 53.9 +1.0
baz=217
D22K Ayikyak River 85.40 9 P P 00 42 54.3 +1.2
baz=206
G26K Porcupine Rive 85.42 13 P P 00 42 54.0 +0.9
baz=214
BW06 Boulder Array 85.61 44 P P 00 42 56.0 +0.9
baz=246
PDAR Pinedale Array 85.61 44 P P 00 42 54.6 -0.4
PDAR Pinedale Array 85.61 44 P P 00 42 55.5 +0.4
comp=Z,3.5nm,1.1s,baz=179,slow=2.1,SNR=7.5
comp=Z,3.5nm,1.1s
BMAR Burnt Mountain 85.64 13 P P 00 42 55.0 +0.7
PHRA Phrae 85.72 290 P P 00 42 55.8 0.0
I30M Mount Dempster 85.91 17 P P 00 42 56.1 +0.2
baz=221
CRAI Chiangrai 86.09 292 P P 00 42 57.6 0.0
CRAI IAmb IAmb 00 43 00.4
comp=Z,11nm,1.5s
H29M Whitestone 86.13 15 P P 00 42 57.1 +0.4
H29M IAmb IAmb 00 43 12.3
comp=Z,15nm,1.4s
CD2 Chengdu 86.48 303 *e*P **P 00 43 00.0 +0.6**
PZH PanZhiHua 86.76 298 P P 00 43 02.9 +2.0
PZH S **S 00 53 38.7 -0.4**
PZH pmax pmax
comp=Z,10.0nm,0.3s
PZH pmax pmax
comp=Z,120nm,5.7s
PZH LR LR
comp=Z,190nm,22.6s
PZH LR LR
comp=Z,170nm,23.5s
PZH LR LR
comp=Z,250nm,22.1s
CMAR Chiang Mai Arr 86.88 290 P P 00 43 02.0 +0.5
CMAR Chiang Mai Arr 86.88 290 P P 00 43 00.9 -0.6
comp=Z,2.8nm,0.3s,baz=101,slow=2.8,SNR=8.8
comp=Z,2.8nm,0.3s
G30M tAoh Zraii Nji 87.27 16 P P 00 43 04.0 +1.6
baz=222
LZH Lanzhou 88.12 308 ⇓P **P 00 43 09.1 +1.8**
LZH pP pwP 00 43 16.4 +3.5
LZH pmax pmax
comp=Z,16nm,1.4s
LZH LR LR
comp=Z,110nm,11.0s
LZH LR LR
comp=Z,170nm,10.3s
LZH LR LR
comp=Z,160nm,11.7s
INK Inuvik 88.95 15 LR LR 01 17 50.2
comp=Z,105nm,20.0s,baz=36,slow=32
ULN Ulaanbaatar 90.03 320 P P 00 43 16.0 0.0
ULN IAmb IAmb 00 43 17.6
comp=Z,16nm,1.2s
SONM Songino Array 90.43 320 P P 00 43 17.6 -0.3
SONM IAmb IAmb 00 43 19.3
comp=Z,9.6nm,1.3s
SONM Songino Array 90.43 320 P P 00 43 16.4 -1.5
comp=Z,3.8nm,1.1s,baz=111,slow=3.4,SNR=13
comp=Z,3.8nm,1.1s
YKA Yellowknife Ar 91.73 25 P P 00 43 25.0 +1.6
comp=Z,1.1nm,1.1s,baz=245,slow=4.5,SNR=5.0
comp=Z,1.1nm,1.1s
SNAA Sanae 93.92 179 P P 00 43 32.5 -1.1
TEIG Tepich 95.95 71 LR LR 01 20 38.4
comp=Z,2μm,18.3s,baz=17,slow=32
WMQ Urumqi 102.02 312 *e*P **Pdif 00 44 12.8 +2.3**
WMQ LR LR
comp=Z,390nm,22.7s
CRVS Cervenica-Dubn 141.72 338 *e*PKP **PKiKP 00 49 51.2 +0.6**
MMAI Mount Meron Ar 143.49 306 PKP **PKPdf 00 49 51.4 -0.1**
comp=Z,0.3nm,0.3s,baz=90,slow=2.9,SNR=5.2
MODS Modra-Piesok 143.60 341 *e*PKP **PKiKP 00 49 54.6 +0.1**
KHC Kasperske Hory 143.94 345 *e*PKP **PKiKP 00 49 55.5 +0.3**
GERES GERESS Array B 144.18 345 PKP **PKiKP 00 49 56.6 +0.8**
comp=Z,0.5nm,0.7s,baz=29,slow=4.5,SNR=3.9
CONA Conrad Observa 144.43 342 *e*pPKiKP **PKiKP 00 49 59.4 +3.0**
comp=Z,7.8nm,1.3s
RONA Rosalia, Austr 144.50 342 *e*pPKiKP **PKiKP 00 49 59.6 +3.2**
comp=Z,9.6nm,1.6s
MOA Molln 144.95 344 *e*PKP **PKPdf 00 49 54.2 +0.7**
comp=Z,9.7nm,1.2s
ARSA Arzberg 145.14 342 *e*PKiKP **PKiKP 00 49 59.5 +1.8**
comp=Z,12nm,1.7s
LESA Schwarzleotal 145.75 345 *e*pPKP **PKPab 00 49 56.7 +1.0**
comp=Z,9.9nm,1.4s
BFO Black Forest 145.75 351 PKPdf **PKPdf 00 49 55.1 +0.3**
SOKA Soboth 145.80 342 *i* PKP **PKPbc 00 49 55.9 +0.4**
comp=Z,14nm,1.2s
KBA Koelnbreinsper 145.91 344 *e*pPKP pPKPdf 00 49 58.1 +0.1
comp=Z,12nm,1.1s
WATA Walderalm 146.09 347 *e*pPKP **PKiKP 00 49 59.6 -0.2**
comp=Z,16nm,1.3s
OBKA Obir 146.10 343 *e*PKiKP **PKiKP 00 50 00.4 +0.6**
comp=Z,18nm,1.2s
RETA Reutte 146.13 348 *e*PKP **PKPbc 00 49 57.1 +0.6**
comp=Z,19nm,1.1s
WTTA Wattenberg 146.15 346 *e*pPKP **PKiKP 00 49 59.8 -0.1**
comp=Z,16nm,1.1s
MOTA Moosalm 146.19 347 *i* pPKiKP **PKiKP 00 50 04.6 +4.6**
comp=Z,38nm,1.9s
MYKA Terra Mystica 146.24 344 *i* pPKP pPKPdf 00 49 58.6 +0.2
comp=Z,38nm,1.8s
SQTA Sankt Quirin 146.28 347 *e*PKP **PKPab 00 49 57.9 +0.2**
comp=Z,12nm,1.1s
ABTA Abfaltersbach 146.42 345 *e*pPKP pPKPdf 00 49 59.4 +0.6
comp=Z,9.5nm,0.9s
PRED Cave del Predi 146.43 344 PKPdf 00 49 56.3 +0.2
DAVA Damuels 146.49 349 *e*PKP **PKPbc 00 49 57.9 +0.2**
comp=Z,14nm,1.3s
FETA Feichten 146.58 347 *e*pPKiKP **PKiKP 00 50 04.5 +3.7**
comp=Z,15nm,1.4s
STAL STALIGIAL 146.83 345 PKPdf 00 49 57.6 +0.8
FUORN Ofenpass-Fuorn 147.06 348 PKPdf 00 49 57.7 +0.3

IDC 04 00:36:43.1±2.1,5°97S×143°06E,h0km,mb3.4/2, mbtmp3.5/3,ML3.7/1,Error ellipse: s-maj=96.3km s-min=37.3km az=107.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.31**	**130**	Sn	Sn	00 39 09.5	+3.9
	0.9nm,0.3s,baz=233,slow=22,SNR=1.6						
WRA	**Warramunga Arr**	**16.27**	**211**	Pn	Pn	00 40 28.6	-4.6
	0.1nm,0.3s,baz=30,slow=14,SNR=1.6						
WRA				Sn	Sn	00 43 16.8	-18
	0.1nm,0.3s,baz=145,slow=15,SNR=1.9						
WRA				Lg	Lg	00 45 12.2	
	baz=37,slow=26						
ASAR	**Alice Springs**	**19.68**	**206**	P	P	00 41 13.9	-0.1
	0.2nm,0.3s,baz=31,slow=11,SNR=16						
	1.9nm,0.8s						
MKAR	**Makanchi Array**	**75.01**	**322**	P	P	00 48 26.8	+0.3
	0.2nm,0.7s,baz=98,slow=6.4,SNR=1.9						
	0.2nm,0.7s						
ILAR	**Eielson Array**	**87.01**	**24**	P	P	00 49 29.9	-0.3
	0.2nm,0.6s,baz=256,slow=5.4,SNR=1.9						
	0.2nm,0.6s						

NEIC ***04*** *00:39:58.4±0.8,56°.3N±0°.1×149°.5W±0°.1,h21km±10km, ML3.1/34,ML3.1(AEIC),Error ellipse: s-maj=16.7km s-min=8.7km az=171.0*

AEIC 04 00:40:00.7±0.9,56°.3N±0°.1×149°.4W±0°.1,h7km±8km,Error ellipse: s-maj=16.4km s-min=8.5km az=170.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.31**	**313**		Pn	00 40 34.5	-4.5
KDAK					Sn	00 41 00.7	-7.0
OHAK	**Old Harbor**	**2.33**	**296**		Pn	00 40 34.4	-5.0
OHAK					Sn	00 41 00.7	-7.7
OHAK	**Old Harbor**	**2.33**	**296**	P	Pn	00 40 34.3	-5.2
	baz=112						
OHAK				S	Sn	00 41 00.7	-7.7
	baz=112						
SII	**Sitkinak Islan**	**2.66**	**279**		Pn	00 40 39.3	-4.6
SII				IAML		00 41 40.3	
	comp=E,141nm,1.5s						
SII				IAML		00 42 12.6	
	comp=N,95nm,1.4s						
SII	**Sitkinak Islan**	**2.66**	**279**	P	Pn	00 40 39.2	-4.7
	baz=94						
CNPM	**China Poot**	**3.42**	**344**		Pn	00 40 49.5	-4.9
CNPM					Sn	00 41 29.0	-6.1
CNPM				IAML		00 41 32.4	
	comp=E,26nm,0.8s						
BRSE	**Bradley Lake S**	**3.56**	**349**		Pn	00 40 51.2	-5.2
BRSE	**Bradley Lake S**	**3.56**	**349**	P	Pn	00 40 51.2	-5.2
	baz=168						
BRLK	**Bradley Lake**	**3.60**	**348**		Pn	00 40 51.8	-5.2
BRLK					Sn	00 41 32.3	-7.4
BRLK				IAML		00 41 36.9	
	comp=E,30nm,0.5s						
ANCK	**Angle Creek**	**3.83**	**303**		Pn	00 40 56.5	-3.6
P23K	**Montague Islan**	**3.90**	**15**		Pn	00 40 56.1	-4.9
P23K	**Montague Islan**	**3.90**	**15**	P	Pn	00 40 56.1	-4.9
	baz=197						
CNTC	**Contact Creek**	**4.04**	**303**		Pn	00 40 58.4	-4.6
Q17K	**Contact Creek**	**4.04**	**303**	P	Pn	00 40 58.4	-4.6
	baz=117						
O20K	**Slope Mountain**	**4.19**	**338**		Pn	00 41 00.2	-4.8
O20K	**Slope Mountain**	**4.19**	**338**	P	Pn	00 41 00.2	-4.8
	baz=155						
ILSW	**Iliamna Southw**	**4.22**	**334**		Pn	00 41 01.0	-4.5
ILSW				IAML		00 41 51.0	
	comp=N,22nm,0.7s						
ILSW				IAML		00 41 51.5	
	comp=E,22nm,0.7s						
SLKM	**Skilak Lake**	**4.29**	**355**		Pn	00 41 01.3	-5.0
P18K	**Big Mountain,**	**4.42**	**318**		Pn	00 41 03.6	-4.5
P18K				IAML		00 43 09.4	
	comp=N,11nm,1.4s						
P18K	**Big Mountain,**	**4.42**	**318**	P	Pn	00 41 03.0	-5.1
	baz=133						
HIN	**Hinchinbrook I**	**4.43**	**19**		Pn	00 41 03.5	-4.8
HIN				IAML		00 43 57.4	
	comp=E,19nm,1.1s						
KAIM	**Kayak Island**	**4.54**	**34**		Pn	00 41 05.0	-4.8
KAIM				IAML		00 42 01.6	
	comp=E,28nm,1.5s						
KAIM	**Kayak Island**	**4.54**	**34**	P	Pn	00 41 05.0	-4.8
	baz=218						
RDT	**Redoubt**	**4.60**	**341**		Pn	00 41 05.4	-5.3
O18K	**Koktuh Hills**	**4.74**	**322**		Pn	00 41 08.0	-4.5
O18K				IAML		00 42 05.5	
	comp=N,11nm,1.0s						
O18K				IAML		00 42 15.4	
	comp=E,11nm,1.2s						
O18K	**Koktuh Hills**	**4.74**	**322**	P	Pn	00 41 07.4	-5.1
	baz=137						
P17K	**Kvichak River**	**4.77**	**311**		Pn	00 41 09.0	-3.9
P17K	**Kvichak River**	**4.77**	**311**	P	Pn	00 41 09.0	-3.9
	baz=125						
RAGM	**Ragged Mountai**	**4.84**	**29**		Pn	00 41 09.3	-4.6
SUCK	**Suckling Hills**	**4.86**	**36**		Pn	00 41 09.8	-4.4
HMT	**Hamilton**	**4.92**	**32**		Pn	00 41 10.7	-4.3
NICHA	**Nichawak Mount**	**4.92**	**34**		Pn	00 41 10.6	-4.5
GOAT	**Goat Mountain**	**4.99**	**28**		Pn	00 41 11.6	-4.4
BGLC	**Bering Glacier**	**5.06**	**37**		Pn	00 41 13.0	-3.8
BGLC	**Bering Glacier**	**5.06**	**37**	P	Pn	00 41 13.0	-3.8
	baz=223						
BERG	**Berg Lake**	**5.13**	**34**		Pn	00 41 13.3	-4.6
GRIN	**Grindle Hills**	**5.17**	**36**		Pn	00 41 13.9	-4.5
CKL	**Chakachamna La**	**5.18**	**344**		Pn	00 41 13.8	-4.9
SNH	**Sunshine Point**	**5.25**	**39**		Pn	00 41 15.0	-4.6
SNH				IAML		00 42 26.2	
	comp=E,10nm,1.1s						
SNH				IAML		00 42 53.4	
	comp=N,12nm,1.1s						
SUA	**Susitna One**	**5.27**	**353**		Pn	00 41 14.3	-5.5
SUA				IAML		00 42 17.6	
	comp=N,6.8nm,1.4s						
SUA				IAML		00 42 24.4	
	comp=E,7.3nm,1.4s						
SUA	**Susitna One**	**5.27**	**353**	P	Pn	00 41 15.0	-4.9
	baz=172						
N19K	**Bonanza Creek**	**5.28**	**332**		Pn	00 41 15.1	-4.9
N19K				IAML		00 42 27.8	
	comp=E,6.4nm,1.4s						
N19K	**Bonanza Creek**	**5.28**	**332**	P	Pn	00 41 15.0	-5.0
	baz=148						
KHIT	**Khitrov Hills**	**5.31**	**35**		Pn	00 41 15.8	-4.7
BMRM	**Bremner River**	**5.36**	**26**		Pn	00 41 16.6	-4.4
BMRM	**Bremner River**	**5.36**	**26**	P	Pn	00 41 16.4	-4.6
	baz=210						
P16K	**Nushagak River**	**5.37**	**305**		Pn	00 41 17.7	-3.5
P16K	**Nushagak River**	**5.37**	**305**	P	Pn	00 41 17.7	-3.5
	baz=117						
O17K	**Koliganek Bris**	**5.39**	**314**		Pn	00 41 16.9	-4.5
O17K	**Koliganek Bris**	**5.39**	**314**	P	Pn	00 41 16.9	-4.5
	baz=127						
SPNN	**North Nagishla**	**5.40**	**343**		Pn	00 41 17.0	-4.8
WAX	**Waxell Ridge**	**5.45**	**37**		Pn	00 41 17.4	-4.9
BARK	**Barkley Ridge**	**5.54**	**38**		Pn	00 41 18.9	-4.6
GHO	**Glory Hole Cre**	**5.54**	**3**		Pn	00 41 19.0	-4.6
KLU	**Klutina**	**5.56**	**18**		Pn	00 41 19.4	-4.4
KLU	**Klutina**	**5.56**	**18**	P	Pn	00 41 19.3	-4.5
	baz=201						
MESA	**MESA**	**5.58**	**42**	P	Pn	00 41 19.5	-4.6
	baz=229						
N18K	**Kilae Creek**	**5.58**	**325**		Pn	00 41 19.0	-5.1
N18K	**Kilae Creek**	**5.58**	**325**	P	Pn	00 41 19.3	-4.8
	baz=140						
CRQM	**Cirque**	**5.59**	**34**		Pn	00 41 19.8	-4.5
CRQE	**Cirque**	**5.60**	**34**	P	Pn	00 41 19.9	-4.6
	baz=219						
TGL	**Tana Glacier**	**5.69**	**35**		Pn	00 41 21.1	-4.5
O16K	**Kokwok River B**	**5.70**	**310**		Pn	00 41 21.9	-3.8
O16K	**Kokwok River B**	**5.70**	**310**	P	Pn	00 41 22.0	-3.7
	baz=122						
ISLE	**Juniper Island**	**5.73**	**38**		Pn	00 41 21.5	-4.7
BAGL	**Bagley Icefiel**	**5.74**	**39**		Pn	00 41 21.9	-4.3
SKT	**Skwentna**	**5.84**	**350**	Pn	Pn	00 41 22.8	-4.9
VRDI	**Verde Repeater**	**5.88**	**29**		Pn	00 41 23.8	-4.5
N17K	**Nushagak Hills**	**5.91**	**320**		Pn	00 41 23.9	-4.7
N17K	**Nushagak Hills**	**5.91**	**320**	P	Pn	00 41 23.9	-4.6
	baz=133						
N25K	**Chitina, Valde**	**5.92**	**23**		Pn	00 41 24.6	-4.1
N25K	**Chitina, Valde**	**5.92**	**23**	P	Pn	00 41 24.5	-4.3
	baz=207						
GLB	**Gilahina Butte**	**5.96**	**27**		Pn	00 41 25.2	-4.2
KIAG	**Kiagna River**	**5.96**	**35**		Pn	00 41 24.8	-4.6
GRNC	**Granite Creek**	**6.03**	**39**		Pn	00 41 26.0	-4.4
TABL	**Table Mountain**	**6.05**	**43**		Pn	00 41 26.3	-4.4
MCARA	**McCarthy VSAT**	**6.12**	**30**		Pn	00 41 27.7	-3.8
MCARA	**McCarthy VSAT**	**6.12**	**30**	P	Pn	00 41 27.6	-3.9
	baz=216						
PTPK	**Patty Peak**	**6.13**	**33**		Pn	00 41 27.5	-4.3
PCA	**Pinnacle**	**6.19**	**48**		Pn	00 41 28.6	-4.0
PINM	**Pinnacle**	**6.20**	**48**	P	Pn	00 41 28.6	-4.0
	baz=236						
M18K	**Stony River**	**6.21**	**330**		Pn	00 41 27.5	-5.1
M18K	**Stony River**	**6.21**	**330**	P	Pn	00 41 27.5	-5.1
	baz=145						

BARN	**Barnard Glacie**	**6.29**	**37**			Pn	00 41 29.7	-4.3
WASW	**Wrangell South**	**6.30**	**23**			Pn	00 41 30.1	-4.0
CTG	**Chitna Glacier**	**6.33**	**38**	P		Pn	00 41 30.1	-4.5
	baz=226							
CTGM	**Chitina Glacie**	**6.34**	**39**			Pn	00 41 30.2	-4.4
PNL	**Peninsula**	**6.34**	**53**			Pn	00 41 30.0	-4.5
PNL	**Peninsula**	**6.34**	**53**	P		Pn	00 41 30.0	-4.5
	baz=242							
LOGN	**Logan Glacier**	**6.36**	**40**			Pn	00 41 30.5	-4.4
BCPM	**Bancas Point**	**6.38**	**50**			Pn	00 41 30.9	-4.1
N16K	**Nishlik Lake**	**6.48**	**315**			Pn	00 41 32.6	-3.8
N16K	**Nishlik Lake**	**6.48**	**315**	P		Pn	00 41 32.6	-3.8
	baz=126							
HARP	**HAARP**	**6.54**	**18**			Pn	00 41 33.7	-3.5
HARP	**HAARP**	**6.54**	**18**	P		Pn	00 41 33.7	-3.5
	baz=202							
L19K	**White Mountain**	**6.56**	**337**	Pn		Pn	00 41 32.4	-5.2
M17K	**Holitna River**	**6.62**	**324**			Pn	00 41 33.7	-4.6
M17K	**Holitna River**	**6.62**	**324**	P		Pn	00 41 33.9	-4.4
	baz=138							
N15K	**Kwethluk River**	**6.86**	**309**			Pn	00 41 38.6	-3.0
N15K	**Kwethluk River**	**6.86**	**309**	P		Pn	00 41 38.4	-3.2
	baz=120							
M16K	**Timber Creek**	**6.89**	**318**			Pn	00 41 37.9	-4.2
M16K	**Timber Creek**	**6.89**	**318**	P		Pn	00 41 38.1	-4.0
	baz=130							
O14K	**Tigyukauivet M**	**7.01**	**300**	Pn		Pn	00 41 39.9	-3.7
O29M	**Mount Kennedy**	**7.01**	**50**			Pn	00 41 40.0	-3.8
O29M	**Mount Kennedy**	**7.01**	**50**	P		Pn	00 41 39.8	-4.0
	baz=240							
P29M	**Windy Craggy**	**7.08**	**57**			Pn	00 41 40.0	-4.7
P29M	**Windy Craggy**	**7.08**	**57**	P		Pn	00 41 39.6	-5.1
	baz=247							
RND	**Reindeer**	**7.18**	**2**			Pn	00 41 42.4	-3.7
M27K	**Edge Creek, AK**	**7.23**	**29**			Pn	00 41 43.4	-3.5
M27K	**Edge Creek, AK**	**7.23**	**29**	P		Pn	00 41 43.2	-3.7
	baz=216							
S31K	**Pelican**	**7.39**	**71**	Pn		Pn	00 41 42.8	-6.1
L16K	**Owhat River**	**7.53**	**321**	Pn		Pn	00 41 46.1	-4.7
BCAR	**Beaver Creek A**	**7.85**	**26**	Pn		Pn	00 41 50.6	-4.5
K17K	**Iditarod**	**7.89**	**329**	Pn		Pn	00 41 50.3	-5.4
SKAG	**Skagway**	**8.18**	**61**	Pn		Pn	00 41 55.0	-4.6

*TEH **04** 00:41:04.6, 34°.23N×46°.68E, h10km±51km, ML2.8*
*ISN **04** 00:41:05.5±1.2, 34°.25N×46°.66E, h15km±7km, ML2.9*
ISC 04 00:41:05.1±1.1**, 34°27**N±0°.05×**46°68**E±0°.04**, h14**km±12km**, n10**, σ1⁰20/14, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.11**	**305**	Pg	**Pb**	**00 41 08.4**	**-0.8**
KCHF	**Cheshme Sefid,**	**0.30**	**88**	Pg	**Pg**	**00 41 10.8**	**-0.6**
KCHF				Sg	**Sg**	**00 41 16.2**	**+0.5**
IDHR	**Dehrash**	**0.50**	**331**	Pg	**Pg**	**00 41 14.8**	**-0.2**
ILIN	**Lien**	**0.69**	**20**	Pg	**Pg**	**00 41 18.8**	**+0.1**
KGS1	**Ghasr-e-Shirin**	**0.93**	**285**	Pg	**Pb**	**00 41 23.1**	**0.0**
IBZA	**Bozab**	**1.00**	**78**	Pg	**Pb**	**00 41 24.6**	**+0.3**
IBDR	**Badra**	**1.31**	**209**	*e*Pg	**Pb**	**00 41 30.0**	**+0.5**
IBDR				*e*Sg	**Sn**	**00 41 46.0**	**-0.2**
IBDR				AML	AML	00 41 52.6	
	comp=E,249nm,0.5s						
IBDR				AML	AML	00 41 52.6	
	comp=N,283nm,0.5s						
IDOB	**Doab**	**1.33**	**111**	Pg	**Pn**	**00 41 29.7**	**+0.3**
BHD	**Baghdad**	**2.16**	**243**	*e*Pn	**Pn**	**00 41 42.0**	**+1.4**
BHD				*e*Sn	**Sb**	**00 42 09.5**	**-1.0**
BHD				AML	AML	00 42 10.6	
	comp=E,116nm,0.4s						
RAFI	**Al-Rafai**	**2.58**	**191**	*e*Pn	**Pn**	**00 41 48.0**	**+1.6**
RAFI				*e*Sn	**Sb**	**00 42 20.0**	**-2.6**

*TEH **04** 00:41:53.2, 33°.69N×45°.74E, h10km±148km, ML2.9*
*ISN **04** 00:41:53.4±1.1, 33°.67N×45°.74E, h10km±6km, ML2.8*
ISC 04 00:41:53.8±1.0**, 33°66**N±0°.04×**45°79**E±0°.05**, h19**km**, n8, σ0⁰80/12, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.35**	**95**	Pg	**Pg**	**00 42 01.3**	**0.0**
ILBA				Sg	**Sb**	**00 42 07.2**	**+0.4**
IBDR	**Badra**	**0.56**	**168**	*e*Pg	**Pb**	**00 42 05.0**	**+0.1**
IBDR				*e*Sg	**Sg**	**00 42 13.0**	**+0.5**
KGS1	**Ghasr-e-Shirin**	**0.86**	**349**	Pg	**Pb**	**00 42 09.0**	**-1.2**
IDHR	**Dehrash**	**1.15**	**25**	Pg	**Pg**	**00 42 15.2**	**0.0**
KCHF	**Cheshme Sefid,**	**1.21**	**59**	Pg	**Pg**	**00 42 17.6**	**+0.3**
BHD	**Baghdad**	**1.24**	**252**	*e*Pg	**Pb**	**00 42 17.0**	**+0.4**
BHD				*e*Sg	**Sn**	**00 42 33.0**	**+0.7**
ILIN	**Lien**	**1.59**	**37**	Pg	**Pb**	**00 42 23.3**	**+0.5**
RAFI	**Al-Rafai**	**1.95**	**172**	*e*Pn	**Pb**	**00 42 28.0**	**-0.7**
RAFI				*e*Sn	**Sg**	**00 42 55.0**	**-1.6**
RAFI				AML	AML	00 42 58.9	
	comp=N,120nm,0.1s						
RAFI				AML	AML	00 43 07.2	
	comp=E,81nm,0.3s						

*TRN **04** 00:47:22.6, 18°.18N×64°.28W, h97km, MD3.8*
*NEIC **04** 00:47:25.6±2.4, 18°.5N±0°.2×64°.32W±0°.03, h35km±2km, ML2.4/18, Md3.5/5(RSPR), Error ellipse: s-maj=33.8km s-min=5.0km az=182.0*
*RSPR **04** 00:47:25.2, 18°.41N×64°.36W, h101km±5km, MD3.5/5*
ISC 04 00:47:23.6±2.4**, 18°2**N±0°.3×**64°29**W±0°.05**, h104**km±25km**, n28, σ0⁰66/41, 10C-1D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRT	**St. Maarten**	**1.16**	**95**	*e*S	**Sn**	**00 48 02.9**	**-0.1**
SMRT	**St. Maarten**	**1.16**	**95**		**Pn**	**00 47 46.4**	**+0.3**
SMRT					**Sn**	**00 48 03.0**	**-0.1**
SMRT				IAML		00 48 03.3	
	comp=N,166nm,0.2s						
SMRT	**St. Maarten**	**1.16**	**95**	*e*S	**Sn**	**00 48 02.9**	**-0.1**
HUMP	**Col San Antoni**	**1.49**	**270**⇑	*e*P	**Pn**	**00 47 50.5**	**+0.6**
HUMP	**Col San Antoni**	**1.49**	**270**		**Pn**	**00 47 50.4**	**+0.5**
HUMP					**Sn**	**00 48 09.9**	**+0.1**
HUMP				IAML		00 48 10.9	
	comp=N,38nm,0.2s						
HUMP				IAML		00 48 13.3	
	comp=E,38nm,0.2s						
HUMP	**Col San Antoni**	**1.49**	**270**⇑	*e*P	**Pn**	**00 47 50.5**	**+0.6**
HUMP				*e*S	**Sn**	**00 48 10.2**	**+0.4**
GCPR	**Guaynabo City**	**1.71**	**275**	*e*S	**Sn**	**00 48 14.1**	**-0.8**
GCPR	**Guaynabo City**	**1.71**	**275**	Pn	**Pn**	**00 47 52.4**	**-0.3**
GCPR					**Sn**	**00 48 12.9**	**-1.9**
IGPR	**InterUniversit**	**1.74**	**264**	Pn	**Pn**	**00 47 52.7**	**-0.3**
IGPR				IAML		00 48 19.8	
	comp=N,43nm,0.3s						
IGPR				IAML		00 48 21.9	
	comp=E,51nm,0.2s						
CELP	**Cerrillos**	**2.18**	**268**⇑	*e*P	**Pn**	**00 47 59.1**	**+0.5**
CELP	**Cerrillos**	**2.18**	**268**		**Pn**	**00 47 58.5**	**-0.2**
CELP					**Sn**	**00 48 25.5**	**0.0**
CELP	**Cerrillos**	**2.18**	**268**⇑	*e*P	**Pn**	**00 47 59.1**	**+0.5**
CELP				*e*S	**Sn**	**00 48 25.6**	**+0.1**
UUPR	**Utuado, UPR, P**	**2.31**	**273**⇓	*e*P	**Pn**	**00 48 00.9**	**+0.6**
UUPR	**Utuado, UPR, P**	**2.31**	**273**	*e*S	**Sn**	**00 48 29.0**	**+0.3**
UUPR	**Utuado, UPR, P**	**2.31**	**273**		**Pn**	**00 48 01.0**	**+0.6**
UUPR					**Sn**	**00 48 27.4**	**-1.2**
AOPR	**Arecibo Observ**	**2.35**	**275**⇑	*e*P	**Pn**	**00 48 01.5**	**+0.6**
AOPR	**Arecibo Observ**	**2.35**	**275**		**Pn**	**00 48 00.9**	**0.0**
AOPR					**Sn**	**00 48 28.4**	**-1.1**
AOPR				IAML		00 48 31.2	
	comp=N,46nm,0.3s						
AOPR	**Arecibo Observ**	**2.35**	**275**⇑	*e*P	**Pn**	**00 48 01.5**	**+0.6**
AOPR	**Arecibo Observ**	**2.35**	**275**	*e*P	**Pn**	**00 48 01.8**	**+0.9**
AOPR				*e*S	**Sn**	**00 48 27.9**	**-1.6**
AOPR				*e*S		00 48 28.7	
MBFL	**Flemmings, Mon**	**2.42**	**125**	x	x	00 48 17.3	
MLPR	**Magueyes Islan**	**2.63**	**266**	Pn	**Pn**	**00 48 04.6**	**+0.1**
MLPR				IAML		00 48 40.7	
	comp=E,12nm,2.8s						
MLPR				IAML		00 49 52.3	
	comp=N,14nm,5.0s						
ANBD	**Bethesda, Anti**	**2.65**	**114**	*e*P	**Pn**	**00 48 04.7**	**0.0**
ANBD				*e*S	**Sn**	**00 48 35.8**	**-0.5**
LSP	**Las Mesas**	**2.66**	**271**⇑	*e*P	**Pn**	**00 48 05.5**	**+0.5**
LSP	**Las Mesas**	**2.66**	**271**		**Pn**	**00 48 05.5**	**+0.5**
LSP					**Sn**	**00 48 37.3**	**+0.5**
LSP	**Las Mesas**	**2.66**	**271**⇑	*e*P	**Pn**	**00 48 05.5**	**+0.5**
LSP				*e*S	**Sn**	**00 48 37.3**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.69**	**267**⇑	*e*P	**Pn**	**00 48 05.6**	**+0.3**
CRPR	**Cabo Rojo, PR**	**2.69**	**267**		**Pn**	**00 48 05.3**	**0.0**
CRPR					**Sn**	**00 48 36.8**	**-0.5**
CRPR				IAML		00 49 23.0	
	comp=E,12nm,3.9s						
CRPR				IAML		00 49 23.6	
	comp=N,14nm,4.9s						
CRPR	**Cabo Rojo, PR**	**2.69**	**267**⇑	*e*P	**Pn**	**00 48 05.6**	**+0.3**
CRPR				*e*S	**Sn**	**00 48 37.8**	**+0.4**

*IDC **04** 00:57:22.3±1.6, 56°.36N×149°.42W, h0km, mb3.6/8, mbtmp3.6/12, ML3.0/4, Error ellipse: s-maj=39.3km s-min=19.1km az=18.0*
*NEIC **04** 00:57:22.7±1.5, 56°.19N±0°.08×149°.38W±0°.09, h20km±6km, mb4.1/4, ML3.8/50, ML3.5(AEIC), Error ellipse: s-maj=11.4km s-min=6.3km az=162.0*
*AEIC **04** 00:57:27.2±1.3, 56°.30N±0°.07×149°.42W±0°.08, h12km±5km, Error ellipse: s-maj=10.9km s-min=5.9km az=160.0*
ISC 04 00:57:22.6±0.7**, 56°33N**±0°.07×**149°42W**±0°.05**, h10**km**, n310, σ0⁰98/313, mb3.8/9, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.26**	**311**		**Pn**	**00 58 00.1**	**+0.1**
KDAK	**Kodiak Island**	**2.26**	**311**		**Sn**	**00 58 25.8**	**-2.1**
KDAK	**Kodiak Island**	**2.26**	**311**	Pn	**Pn**	**00 58 00.1**	**+0.1**
	4.4nm,0.3s,baz=136,slow=4.5,SNR=256						
KDAK				Sn	**Sn**	**00 58 26.3**	**-1.7**
	16nm,0.3s,baz=338,slow=23,SNR=27 12nm,0.3s						
OHAK	**Old Harbor**	**2.31**	**294**		**Pn**	**00 58 00.1**	**-0.6**
OHAK					**Sn**	**00 58 26.1**	**-3.1**
OHAK	**Old Harbor**	**2.31**	**294**	P	**Pn**	**00 58 00.1**	**-0.6**
	baz=114						
OHAK				S	**Sn**	**00 58 26.2**	**-2.9**
	baz=114						
SII	**Sitkinak Islan**	**2.66**	**277**		**Pn**	**00 58 04.5**	**-1.0**
SII					**Sn**	**00 58 34.7**	**-3.0**
SII				IAML		00 58 52.4	
	comp=N,219nm,1.8s						
SII				IAML		00 59 03.4	
	comp=E,247nm,2.7s						
SII	**Sitkinak Islan**	**2.66**	**277**	S	**Sn**	**00 58 34.8**	**-3.0**
	baz=96						
CNPM	**China Poot**	**3.35**	**344**	Pn	**Pn**	**00 58 15.0**	**0.0**
CNPM					**Sn**	**00 58 53.9**	**-1.0**
BRSE	**Bradley Lake S**	**3.50**	**349**		**Pn**	**00 58 16.7**	**-0.3**
BRSE					**Sn**	**00 58 56.8**	**-1.6**
BRSE	**Bradley Lake S**	**3.50**	**349**	P	**Pn**	**00 58 16.7**	**-0.3**
	baz=168						
BRSE				S	**Sn**	**00 58 56.8**	**-1.6**
	baz=168						
MID	**Middleton Isla**	**3.52**	**27**	Pn	**Pn**	**00 58 16.9**	**-0.3**
MID					**Sn**	**00 58 56.5**	**-2.4**
MID				IAML		00 58 56.6	
	comp=N,121nm,0.9s						
MID				IAML		00 59 04.6	
	comp=E,109nm,0.7s						
MID	**Middleton Isla**	**3.52**	**27**	P	**Pn**	**00 58 17.1**	**-0.1**
BRLK	**Bradley Lake**	**3.53**	**348**	Pn	**Pn**	**00 58 17.2**	**-0.3**
BRLK				IAML		00 59 04.5	
	comp=E,99nm,0.6s						
KAKN	**Katmai Knife C**	**3.64**	**305**		**Pn**	**00 58 19.8**	**+0.8**
KCE	**Katmai Mt Cerb**	**3.67**	**304**		**Pn**	**00 58 21.2**	**+1.8**
ACHA	**Angle Creek He**	**3.72**	**303**		**Pn**	**00 58 21.0**	**+0.9**
SEW	**Seward**	**3.79**	**360**		**Pn**	**00 58 20.6**	**-0.4**
SEW	**Seward**	**3.79**	**360**	P	**Pn**	**00 58 20.6**	**-0.4**
	baz=179						
ANCK	**Angle Creek**	**3.80**	**302**		**Pn**	**00 58 21.9**	**+0.8**
KAHC	**Katmai Hardscr**	**3.81**	**310**		**Pn**	**00 58 22.6**	**+1.2**
KAHC	**Katmai Hardscr**	**3.81**	**310**	P	**Pn**	**00 58 22.6**	**+1.2**
	baz=127						
P23K	**Montague Islan**	**3.83**	**15**		**Pn**	**00 58 21.4**	**-0.2**
P23K	**Montague Islan**	**3.83**	**15**	P	**Pn**	**00 58 21.4**	**-0.2**
	baz=196						
CNTC	**Contact Creek**	**4.01**	**302**		**Pn**	**00 58 25.0**	**+0.9**
Q17K	**Contact Creek**	**4.01**	**302**	P	**Pn**	**00 58 25.0**	**+0.9**
	baz=118						
KELA	**Mount Kelaz**	**4.02**	**304**		**Pn**	**00 58 25.2**	**+0.9**
O20K	**Slope Mountain**	**4.13**	**337**		**Pn**	**00 58 26.1**	**+0.4**
O20K	**Slope Mountain**	**4.13**	**337**	P	**Pn**	**00 58 26.1**	**+0.4**
	baz=155						
ILSW	**Iliamna Southw**	**4.16**	**333**		**Pn**	**00 58 26.3**	**0.0**
ILSW				IAML		00 59 15.8	
	comp=N,84nm,1.0s						
ILSW				IAML		00 59 16.9	
	comp=E,72nm,0.7s						
O22K	**Cooper Landing**	**4.17**	**358**	Pn	**Pn**	**00 58 26.1**	**-0.1**
O22K				IAML		00 59 25.2	
	comp=N,201nm,0.7s						
O22K				IAML		00 59 26.4	
	comp=E,193nm,0.7s						
O22K	**Cooper Landing**	**4.17**	**358**	P	**Pn**	**00 58 26.2**	**0.0**
	baz=177						
SLKM	**Skilak Lake**	**4.21**	**355**		**Pn**	**00 58 26.7**	**-0.2**
HIN	**Hinchinbrook I**	**4.36**	**19**		**Pn**	**00 58 29.1**	**+0.2**
HIN				IAML		00 59 27.1	
	comp=N,104nm,0.8s						
HIN				IAML		00 59 28.5	
	comp=E,113nm,0.7s						
P18K	**Big Mountain,**	**4.37**	**317**		**Pn**	**00 58 29.2**	**+0.2**
P18K	**Big Mountain,**	**4.37**	**317**	P	**Pn**	**00 58 28.9**	**-0.1**
	baz=133						
KAIM	**Kayak Island**	**4.48**	**34**	Pn	**Pn**	**00 58 30.6**	**+0.2**
KAIM	**Kayak Island**	**4.48**	**34**	P	**Pn**	**00 58 30.7**	**+0.2**
	baz=217						
RDSO	**Redoubt South**	**4.49**	**338**		**Pn**	**00 58 30.1**	**-0.7**
RSO	**Redoubt South**	**4.50**	**338**		**Pn**	**00 58 30.6**	**-0.4**
RDT	**Redoubt**	**4.54**	**341**		**Pn**	**00 58 30.6**	**-0.7**
RDWB	**Redoubt West**	**4.54**	**338**		**Pn**	**00 58 30.8**	**-0.7**
CAPN	**Captain Cook N**	**4.55**	**349**	Pn	**Pn**	**00 58 32.2**	**+0.8**
CAPN	**Captain Cook N**	**4.55**	**349**	P	**Pn**	**00 58 32.3**	**+0.9**
	baz=168						
DFR	**Drift River**	**4.61**	**339**		**Pn**	**00 58 32.0**	**-0.3**
NCT	**North Crescent**	**4.63**	**338**		**Pn**	**00 58 32.2**	**-0.5**
EYAK	**Cordova Ski Ar**	**4.65**	**23**		**Pn**	**00 58 33.2**	**+0.5**
EYAK	**Cordova Ski Ar**	**4.65**	**23**	P	**Pn**	**00 58 33.3**	**+0.5**
EYAK	**Cordova Ski Ar**	**4.65**	**23**	P	**Pn**	**00 58 33.0**	**+0.2**
	baz=205						
O19K	**Port Ailsworth**	**4.66**	**328**		**Pn**	**00 58 32.8**	**-0.2**
O19K	**Port Ailsworth**	**4.66**	**328**	P	**Pn**	**00 58 32.8**	**-0.2**
	baz=145						
O18K	**Koktuh Hills**	**4.68**	**321**	Pn	**Pn**	**00 58 33.7**	**+0.4**
O18K				IAML		00 59 40.9	
	comp=N,52nm,0.8s						
O18K	**Koktuh Hills**	**4.68**	**321**	P	**Pn**	**00 58 33.5**	**+0.2**
	baz=137						
P17K	**Kvichak River**	**4.73**	**310**		**Pn**	**00 58 34.8**	**+0.9**
P17K	**Kvichak River**	**4.73**	**310**	P	**Pn**	**00 58 34.8**	**+0.9**
	baz=126						
RAGM	**Ragged Mountai**	**4.78**	**30**		**Pn**	**00 58 34.9**	**+0.3**
RC01	**Rabbit Creek A**	**4.78**	**358**		**Pn**	**00 58 34.6**	**0.0**
RC01				IAML		00 59 31.7	
	comp=N,48nm,0.5s						
RC01				IAML		00 59 37.2	
	comp=E,53nm,0.6s						
RC01	**Rabbit Creek A**	**4.78**	**358**	P	**Pn**	**00 58 34.7**	**+0.1**
	baz=178						
SUCK	**Suckling Hills**	**4.79**	**36**		**Pn**	**00 58 35.2**	**+0.4**
SUCK				IAML		00 59 36.5	
	comp=N,95nm,0.7s						
SUCK				IAML		00 59 42.6	
	comp=E,74nm,1.1s						
FIS	**Fire Island**	**4.85**	**355**	Pn	**Pn**	**00 58 36.2**	**+0.7**
FIS				IAML		00 59 41.0	
	comp=N,87nm,2.1s						
FIS				IAML		00 59 51.7	
	comp=E,90nm,2.5s						
HMT	**Hamilton**	**4.85**	**32**		**Pn**	**00 58 36.0**	**+0.4**
NICHA	**Nichawak Mount**	**4.86**	**34**		**Pn**	**00 58 36.4**	**+0.6**
GOAT	**Goat Mountain**	**4.92**	**28**		**Pn**	**00 58 37.2**	**+0.5**
BGLC	**Bering Glacier**	**5.00**	**38**		**Pn**	**00 58 38.0**	**+0.5**
BGLC	**Bering Glacier**	**5.00**	**38**	P	**Pn**	**00 58 38.0**	**+0.5**
	baz=222						
CHGN	**Chignik**	**5.01**	**273**		**Pn**	**00 58 37.1**	**-0.6**
CHGN				IAML		01 00 05.0	
	comp=E,83nm,0.1s						
CHGN				IAML		01 00 50.5	
	comp=N,69nm,3.2s						
CHGN	**Chignik**	**5.01**	**273**	P	**Pn**	**00 58 37.8**	**+0.1**
	baz=88						
BERG	**Berg Lake**	**5.07**	**34**		**Pn**	**00 58 38.7**	**+0.2**
N20K	**Mount Spurr**	**5.10**	**345**	P	**Pn**	**00 58 38.7**	**-0.4**
	baz=162						
SPCR	**Spurr Chakacha**	**5.10**	**345**		**Pn**	**00 58 38.7**	**-0.4**
GRIN	**Grindle Hills**	**5.10**	**37**		**Pn**	**00 58 39.6**	**+0.5**
KNK	**Knik Glacier**	**5.13**	**5**		**Pn**	**00 58 39.8**	**+0.4**
KNK				IAML		00 59 47.4	
	comp=E,34nm,0.6s						
KNK				IAML		00 59 55.4	
	comp=N,30nm,0.6s						
KNK	**Knik Glacier**	**5.13**	**5**	P	**Pn**	**00 58 39.4**	**0.0**
	baz=186						
SPCG	**Spurr Capps Gl**	**5.16**	**346**		**Pn**	**00 58 40.2**	**+0.2**
DIV	**Divide**	**5.18**	**20**		**Pn**	**00 58 40.4**	**+0.3**
SNH	**Sunshine Point**	**5.19**	**39**		**Pn**	**00 58 40.6**	**+0.3**
SNH				IAML		00 59 46.4	
	comp=E,65nm,0.8s						
SNH				IAML		00 59 55.1	
	comp=N,43nm,0.8s						
SUA	**Susitna One**	**5.20**	**353**		**Pn**	**00 58 40.2**	**-0.2**
SUA				IAML		00 59 53.6	
	comp=N,29nm,3.4s						
SUA				IAML		01 00 12.4	
	comp=E,30nm,4.3s						
SUA	**Susitna One**	**5.20**	**353**	P	**Pn**	**00 58 40.3**	**-0.2**
	baz=172						
N19K	**Bonanza Creek**	**5.22**	**332**		**Pn**	**00 58 40.2**	**-0.5**
N19K	**Bonanza Creek**	**5.22**	**332**	P	**Pn**	**00 58 40.4**	**-0.3**
	baz=148						
KHIT	**Khitrov Hills**	**5.25**	**36**		**Pn**	**00 58 41.4**	**+0.2**
PMR	**Palmer**	**5.28**	**1**		**Pn**	**00 58 41.3**	**-0.2**
PMR	**Palmer**	**5.28**	**1**	P	**Pn**	**00 58 42.2**	**+0.7**
PMR	**Palmer**	**5.28**	**1**	P	**Pn**	**00 58 42.1**	**+0.7**
	baz=182						
BMRM	**Bremner River**	**5.29**	**26**		**Pn**	**00 58 42.1**	**+0.4**
BMRM	**Bremner River**	**5.29**	**26**	P	**Pn**	**00 58 42.0**	**+0.4**
	baz=210						
P16K	**Nushagak River**	**5.34**	**304**		**Pn**	**00 58 43.3**	**+1.1**
P16K	**Nushagak River**	**5.34**	**304**	P	**Pn**	**00 58 43.3**	**+1.1**
	baz=118						
O17K	**Koliganek Bris**	**5.34**	**313**		**Pn**	**00 58 42.9**	**+0.6**
O17K	**Koliganek Bris**	**5.34**	**313**	P	**Pn**	**00 58 42.9**	**+0.6**
	baz=128						
WAX	**Waxell Ridge**	**5.38**	**37**		**Pn**	**00 58 43.1**	**+0.1**
GHO	**Glory Hole Cre**	**5.47**	**2**		**Pn**	**00 58 45.0**	**+0.9**
BARK	**Barkley Ridge**	**5.47**	**39**		**Pn**	**00 58 44.5**	**+0.2**
KLU	**Klutina**	**5.49**	**18**		**Pn**	**00 58 45.0**	**+0.6**
KLU	**Klutina**	**5.49**	**18**	P	**Pn**	**00 58 45.0**	**+0.6**
	baz=200						
MESA	**MESA**	**5.52**	**43**	Pn	**Pn**	**00 58 45.2**	**+0.3**
MESA	**MESA**	**5.52**	**43**	P	**Pn**	**00 58 45.0**	**+0.1**
	baz=228						
CRQM	**Cirque**	**5.53**	**34**		**Pn**	**00 58 45.1**	**+0.1**
SML	**Sawmill**	**5.53**	**5**		**Pn**	**00 58 45.5**	**+0.6**
SML	**Sawmill**	**5.53**	**5**	P	**Pn**	**00 58 45.4**	**+0.6**
	baz=186						
N18K	**Kilae Creek**	**5.53**	**325**		**Pn**	**00 58 44.8**	**-0.1**
N18K	**Kilae Creek**	**5.53**	**325**	P	**Pn**	**00 58 44.8**	**-0.1**
	baz=140						
CRQE	**Cirque**	**5.54**	**34**	P	**Pn**	**00 58 45.1**	**0.0**
	baz=218						
M23K	**Glacier View**	**5.55**	**8**		**Pn**	**00 58 46.2**	**+0.9**
M23K	**Glacier View**	**5.55**	**8**	P	**Pn**	**00 58 46.2**	**+0.9**
	baz=189						
TGL	**Tana Glacier**	**5.62**	**35**		**Pn**	**00 58 46.5**	**+0.3**
SCM	**Sheep Creek Mo**	**5.63**	**10**		**Pn**	**00 58 47.3**	**+1.0**
SCM	**Sheep Creek Mo**	**5.63**	**10**	P	**Pn**	**00 58 47.3**	**+1.0**
	baz=192						
S14K	**Fog Glacier**	**5.64**	**274**	P	**Pn**	**00 58 47.2**	**+0.7**
	baz=87						
VNFG	**Fog Glacier, M**	**5.64**	**274**		**Pn**	**00 58 46.6**	**0.0**
O16K	**Kokwok River B**	**5.66**	**309**		**Pn**	**00 58 47.6**	**+1.0**
O16K	**Kokwok River B**	**5.66**	**309**	P	**Pn**	**00 58 47.4**	**+0.7**
	baz=122						
ISLE	**Juniper Island**	**5.67**	**38**		**Pn**	**00 58 47.1**	**+0.1**
BAGL	**Bagley Icefiel**	**5.68**	**40**		**Pn**	**00 58 47.4**	**+0.5**
SVW2	**Sparrevohn**	**5.76**	**329**	Pn	**Pn**	**00 58 47.5**	**-0.6**
SVW2	**Sparrevohn**	**5.76**	**329**	P	**Pn**	**00 58 48.3**	**+0.2**
SKT	**Skwentna**	**5.77**	**350**	Pn	**Pn**	**00 58 48.5**	**+0.2**
SKT	**Skwentna**	**5.77**	**350**	P	**Pn**	**00 58 48.3**	**0.0**
	baz=168						
VRDI	**Verde Repeater**	**5.81**	**30**		**Pn**	**00 58 49.3**	**+0.4**
N25K	**Chitina, Valde**	**5.85**	**23**		**Pn**	**00 58 49.9**	**+0.6**
N25K	**Chitina, Valde**	**5.85**	**23**	P	**Pn**	**00 58 49.7**	**+0.3**
	baz=207						
N17K	**Nushagak Hills**	**5.86**	**319**		**Pn**	**00 58 49.1**	**-0.4**
N17K	**Nushagak Hills**	**5.86**	**319**	P	**Pn**	**00 58 49.7**	**+0.3**
	baz=133						
M20K	**Styx River**	**5.89**	**343**		**Pn**	**00 58 49.3**	**-0.7**
M20K	**Styx River**	**5.89**	**343**	P	**P

O14K	Tigyukauivet M	6.98	300			Pn	00 59 05.9	+1.2
O14K	Tigyukauivet M	6.98	300	P		Pn	00 59 05.6	+0.8
	baz=111							
P29M	Windy Craggy	7.04	57			Pn	00 59 05.4	-0.2
P29M	Windy Craggy	7.04	57	P		Pn	00 59 05.6	0.0
	baz=246							
RND	Reindeer	7.11	2			Pn	00 59 07.5	+0.8
PN7A	Pavlof North-7	7.14	268			Pn	00 59 07.0	0.0
TRF	Thorofare Moun	7.16	357			Pn	00 59 08.1	+0.6
TRF	Thorofare Moun	7.16	357	P		Pn	00 59 08.2	+0.8
	baz=176							
M27K	Edge Creek, AK	7.17	29			Pn	00 59 09.1	+1.6
MENT	Mentasta	7.23	21	P		Pn	00 59 10.1	+1.9
CAST	Castle Rocks	7.24	350			Pn	00 59 09.0	+0.7
CAST	Castle Rocks	7.24	350	P		Pn	00 59 09.3	+0.9
	baz=168							
KTH	Kantishna Hill	7.29	355			Pn	00 59 09.6	+0.5
M15K	Kasigluk River	7.34	311			Pn	00 59 10.8	+1.0
M15K	Kasigluk River	7.34	311	P		Pn	00 59 10.8	+1.0
	baz=122							
S31K	Pelican	7.36	72			Pn	00 59 07.7	-2.3
L17K	Donlin	7.39	326			Pn	00 59 10.8	+0.4
L17K	Donlin	7.39	326	P		Pn	00 59 10.8	+0.4
	baz=138							
N14K	Kuskokwak Cree	7.43	304			Pn	00 59 11.9	+1.1
N14K	Kuskokwak Cree	7.43	304	P		Pn	00 59 12.0	+1.1
	baz=114							
K20K	Telida	7.43	344			Pn	00 59 10.3	-0.6
K20K	Telida	7.43	344	P		Pn	00 59 10.9	-0.1
	baz=160							
L16K	Owhat River	7.48	320			Pn	00 59 12.0	+0.3
L16K	Owhat River	7.48	320	P		Pn	00 59 12.4	+0.7
	baz=132							
P30M	Million Dollar	7.59	55			Pn	00 59 13.7	+0.4
P30M	Million Dollar	7.59	55	P		Pn	00 59 13.6	+0.4
	baz=244							
HYT	Haines Junctio	7.68	49	Pn		Pn	00 59 15.3	+0.7
L27K	Beaver Creek,	7.76	26			Pn	00 59 16.2	+0.6
BCAR	Beaver Creek A	7.78	27	Pn		Pn	00 59 16.1	+0.4
RIDG	Independent Ri	7.78	15			Pn	00 59 16.2	+0.4
RIDG	Independent Ri	7.78	15	P		Pn	00 59 16.4	+0.7
	baz=199							
SIT	Sitka	7.80	79	Pn		Pn	00 59 12.6	-3.3
SIT	Sitka	7.80	79	P		Pn	00 59 13.6	-2.3
BPAW	Bear Paw Mtn.	7.84	355			Pn	00 59 15.6	-1.0
BPAW	Bear Paw Mtn.	7.84	355	P		Pn	00 59 16.1	-0.4
	baz=174							
BWN	Browne	7.87	360			Pn	00 59 18.5	+1.6
M14K	Bethel	7.92	309			Pn	00 59 18.4	+0.8
FALS	False Pass	8.07	265			Pn	00 59 18.0	-1.7
FALS	False Pass	8.07	265	P		Pn	00 59 19.8	+0.1
FALS	False Pass	8.07	265	P		Pn	00 59 19.6	-0.1
	baz=75							
SKAG	Skagway	8.13	61	Pn		Pn	00 59 20.6	+0.1
SKAG	Skagway	8.13	61	P		Pn	00 59 21.1	+0.5
SCRK	Sand Creek	8.13	17			Pn	00 59 21.1	+0.4
BESE	Bessie Mountai	8.17	68			Pn	00 59 20.3	-0.9
N30M	Aishikik Lake	8.19	46	P		Pn	00 59 22.2	+0.7
	baz=236							
WRH	Wood River Hil	8.20	4			Pn	00 59 21.7	+0.2
HDA	Harding Lake	8.20	8			Pn	00 59 23.6	+2.0
S32K	Killisnoo	8.21	76	Pn		Pn	00 59 19.4	-2.1
L15K	Ungalak Mounta	8.21	316			Pn	00 59 22.9	+1.2
L15K	Ungalak Mounta	8.21	316	P		Pn	00 59 22.9	+1.2
	baz=126							
J20K	Nowinta River	8.22	345			Pn	00 59 21.5	-0.2
J20K	Nowinta River	8.22	345	P		Pn	00 59 21.6	-0.2
	baz=161							
O30N	Mendenhall	8.27	52	Pn		Pn	00 59 23.2	+0.8
ISLZ	Isanotski Laza	8.27	265			Pn	00 59 22.0	-0.5
M29M	Somme Creek	8.29	38			Pn	00 59 23.9	+1.0
M29M	Somme Creek	8.29	38	P		Pn	00 59 23.6	+0.7
	baz=226							
NEA2	Nenana	8.29	1			Pn	00 59 22.9	0.0
R32K	Eaglecrest	8.30	70	Pn		Pn	00 59 22.1	-0.8
JIS	Juneau Island	8.37	70	Pn		Pn	00 59 22.1	-1.7
JIS	Juneau Island	8.37	70	P		Pn	00 59 23.7	-0.1
CCB	Clear Creek Bu	8.38	5			Pn	00 59 24.4	+0.4
M13K	Dall Lake	8.38	305	Pn		Pn	00 59 23.2	-0.8
L14K	Kuka Creek	8.51	312			Pn	00 59 26.8	+1.0
K27K	Chicken	8.54	22	Pn		Pn	00 59 27.0	+0.9
J25K	Salcha River,	8.55	12			Pn	00 59 26.2	-0.2
IL31		8.56	7			Pn	00 59 27.4	+1.0
ILAR	Eielson Array	8.56	7	Pn		Pn	00 59 27.6	+1.1
ILAR	Eielson Array	8.56	7	Pn		Pn	00 59 27.1	+0.7
	comp=E,0.5nm,0.3s,baz=188,slow=13,SNR=26							
ILAR				Sn		Sn	01 00 57.6	-5.4
	baz=183,slow=16							
COLA	College	8.61	4	P		Pn	00 59 29.5	+2.4
MDM	Murphy Dome	8.68	3			Pn	00 59 28.6	+0.5
J26L	Joseph Creek	8.69	17			Pn	00 59 28.5	+0.2
MLY	Manley	8.76	356			Pn	00 59 29.0	-0.2
MLY	Manley	8.76	356	P		Pn	00 59 29.7	+0.5
	baz=175							
WHY	Whitehorse	8.76	54			Pn	00 59 29.4	+0.1
I23K	Minto, Yukon-K	8.85	0			Pn	00 59 31.2	+0.8
I23K	Minto, Yukon-K	8.85	0	P		Pn	00 59 31.0	+0.6
	baz=180							
P32M	Atlin	8.96	62			Pn	00 59 31.9	-0.1
P32M	Atlin	8.96	62	P		Pn	00 59 32.4	+0.4
	baz=255							
I21K	Tanana	8.97	353			Pn	00 59 32.1	+0.1
I21K	Tanana	8.97	353	P		Pn	00 59 32.5	+0.5
	baz=171							
U33K	Whale Pass	9.08	85	Pn		Pn	00 59 31.0	-2.6
CRAG	Craig	9.20	89	Pn		Pn	00 59 32.3	-2.9
CRAG	Craig	9.20	89	P		Pn	00 59 33.6	-1.5
DAWY	Dawson	9.22	29			Pn	00 59 36.4	+0.9
EGAK	Eagle	9.39	22	Pn		Pn	00 59 39.1	+1.3
PRP	Porcupine Dome	9.41	10			Pn	00 59 38.3	+0.1
PRP	Porcupine Dome	9.41	10	P		Pn	00 59 38.6	+0.3
	baz=193							
Q32M	Nakina River	9.56	67	Pn		Pn	00 59 40.1	-0.2
P33M	Teslin, Yukon	9.56	59			Pn	00 59 39.1	-1.1
P33M	Teslin, Yukon	9.56	59	P		Pn	00 59 40.5	+0.2
	baz=252							
AKUT	Akutan	9.60	264	Pn		Pn	00 59 39.5	-1.2
AKUT	Akutan	9.60	264	P		Pn	00 59 39.9	-0.7
N32M	Quiet Lake	9.76	54	Pn		Pn	00 59 43.7	+0.8
IMAR	Indian Mountai	9.91	350	Pn		Pn	00 59 45.0	+0.1
S34M	Telegraph Cree	10.07	73	Pn		Pn	00 59 46.4	-0.7
UNV	Unalaska Valle	10.11	263	P		Pn	00 59 47.3	-0.3
R33M	Jennings River	10.29	65			Pn	00 59 50.2	-0.1
G21K	Allakaket	10.41	351			Pn	00 59 51.3	-0.4
G23K	Bananza Creek	10.43	359	Pn		Pn	00 59 52.1	+0.1
G24K	Hadweenzic Riv	10.45	4	Pn		Pn	00 59 52.8	+0.5
J30M	Hart River	10.47	33	Pn		Pn	00 59 53.9	+1.1
DLBC	Dease Lake	10.67	71	Pn		Pn	00 59 54.8	-0.7
DLBC	Dease Lake	10.67	71	Pn		Pn	00 59 56.5	+1.1
	comp=E,0.4nm,0.3s,baz=257,slow=13,SNR=5.1							
	comp=E,0.7nm,0.3s							
F21K	Alatna River	11.10	352			Pn	01 00 01.5	+0.3
BMAR	Burnt Mountain	11.37	10	Pn		Pn	01 00 05.5	+0.6
ANM	Nome	11.38	323	Pn		Pn	01 00 05.3	+0.3
E19K	Redstone River	11.75	345	Pn		Pn	01 00 11.0	+1.0
E25K	Arctic Village	11.97	7	Pn		Pn	01 00 13.5	+0.4
C23K	Itkillik River	13.57	358	Pn		Pn	01 00 36.0	+1.1
INK	Inuvik	14.04	25	Pn		Pn	01 00 41.4	+0.2
INK	Inuvik	14.04	25	Pn		Pn	01 00 43.4	+2.2
	comp=E,0.1nm,0.3s,baz=228,slow=12,SNR=4.9							
	comp=E,1.4nm,0.8s							
YKA	Yellowknife Ar	18.58	56	P		Pn	01 01 41.9	+2.3
	baz=260,slow=11,SNR=5.7							
	comp=E,0.6nm,1.0s							
A36M	Sachs Harbour	18.67	23	P		P	01 01 40.7	+0.4
A36M				IAmb		IAmb	01 01 45.1	
	comp=Z,12nm,0.8s							
HUMO	Hull Mountain	21.82	118	P		P	01 02 11.4	-3.4
HUMO				IAmb		IAmb	01 02 17.7	
	comp=Z,8.5nm,1.2s							
NVAR	Mina Array Bea	27.30	118	P		P	01 03 08.9	+1.5
	comp=Z,0.3nm,0.6s,baz=310,slow=12,SNR=1.8							
	comp=Z,0.3nm,0.6s							
H11N2	WAKE ISLAND Hy	48.84	240	T		T	01 59 19.1	
	baz=30,slow=76,SNR=8.8							
H11N3	WAKE ISLAND Hy	48.84	240	T		T	01 58 50.7	
	baz=30,slow=76,SNR=7.7							
H11N1	WAKE ISLAND Hy	48.86	240	T		T	01 58 47.7	
	baz=30,slow=76,SNR=7.2							
H11S1	WAKE ISLAND Hy	49.98	239	T		T	02 00 43.5	
	baz=29,slow=76,SNR=15							
H11S2	WAKE ISLAND Hy	49.99	239	T		T	02 00 48.2	
	baz=29,slow=76,SNR=14							
H11S3	WAKE ISLAND Hy	50.00	239	T		T	02 00 45.8	
	baz=29,slow=76,SNR=14							
SONM	Songino Array	58.55	310	P		P	01 07 22.1	+3.0
	comp=Z,0.4nm,0.6s,baz=48,slow=6.4,SNR=2.6							
	comp=Z,0.4nm,0.6s							
ZALV	Zalesovo Beam	61.48	327	P		P	01 07 39.8	+0.9
	comp=Z,0.5nm,0.7s,baz=35,slow=6.0,SNR=2.5							
	comp=Z,0.5nm,0.7s							
NOA	NORSAR Array B	61.98	11	P		P	01 07 41.7	-0.6
	comp=Z,0.7nm,0.9s,baz=349,slow=6.8,SNR=2.4							
	comp=Z,0.7nm,0.9s							
FIA1	FINESS Array S	62.51	2	P		P	01 07 46.0	+0.3
FINES	FINESS Array B	62.52	2	P		P	01 07 45.3	-0.4
FINES	FINESS Array B	62.52	2	P		P	01 07 47.1	+1.4
	comp=Z,6.4nm,1.2s,baz=358,slow=10,SNR=9.4							
	comp=Z,6.4nm,1.2s							
BVAR	Borovoye Array	66.21	335	P		P	01 08 10.4	+0.3
	comp=Z,0.4nm,0.7s,baz=0.0,slow=5.8,SNR=2.5							
	comp=Z,0.4nm,0.7s							
KURBB	Kurchatov Arra	66.26	329	P		P	01 08 11.6	+1.1
	comp=Z,0.2nm,0.6s,baz=24,slow=6.2,SNR=2.6							
	comp=Z,0.2nm,0.6s							
MK31	Makanchi Array	68.51	325	P		P	01 08 24.6	-0.2
MKAR	Makanchi Array	68.51	325	P		P	01 08 25.0	+0.1
MKAR	Makanchi Array	68.51	325	P		P	01 08 25.1	+0.3
	comp=Z,0.2nm,0.4s,baz=31,slow=6.7,SNR=6.9							
	comp=Z,0.2nm,0.4s							

DJA 04 01:32:27.6±0.3, 8°S±4°×117°E±°, h10km, M4.0/9, mb4.7/1, MLv3.7/9, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWSI	Taliwang, Sumb	1.02	200	P		Pg	01 32 46.3	-1.1
PLAI	Plampang	1.18	153	P		Pb	01 32 49.4	-0.7
SRBI	Singaraja	2.03	261	P		Pn	01 33 01.3	-0.6
IGBI	Denpasar	2.32	243	P		Pn	01 33 07.4	+1.5
JAGI	Jajag, Banyuwa	3.13	257	P		Pn	01 33 17.1	0.0
KMMI	Kalianget	3.32	282	P		Pn	01 33 20.4	+0.7
GMJI	Gumukmas	3.79	262	P		Pn	01 33 26.1	0.0
BWJI	Bawean	4.93	292	P		Pn	01 33 41.8	0.0
NGJI	Ngawi	5.74	274	P		Pn	01 33 52.6	-0.4

ISU 04 01:47:03.0, 40.35N×63.84E, h30km, Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BUXR	Bukhara	0.72	147	P		Pn	01 47 17.3	+0.1
BUXR				S		Sn	01 47 27.6	+0.4
AGL	Agalyk	2.48	109	P		Pb	01 47 45.3	-1.7
AGL				S		Sb	01 48 18.7	+1.6
SAM	Samarkand	2.49	105	P		Pb	01 47 45.4	-1.6
SAM				S		Sb	01 48 18.9	+1.6
PKMR	Pachkamar	2.67	132	P		Pb	01 47 48.1	-2.1
PKMR				S		Sb	01 48 23.6	+1.0
DZI	Dzhizak	3.06	93	P		Pb	01 47 53.4	-3.3
DZI				S		Sb	01 48 33.7	+0.1
BXML	Bakhmal	3.29	100	P		Pn	01 47 53.5	+0.9
BXML				S		Sn	01 48 34.0	+3.3
BAYS	Baysun	3.38	128	P		Pb	01 47 58.0	-4.2
BAYS				S		Sb	01 48 42.2	-0.6
YNGY	Yangiyul	4.02	77	P		Pn	01 48 07.1	+4.6
YNGY				S		Sb	01 48 59.9	-1.3
TGS	TashGRES	4.44	74	P		Pn	01 48 11.2	+2.9
TGS				S		Sb	01 49 07.8	-5.4
CHRV	Charvak	4.80	72	P		Pn	01 48 18.4	+5.1
CHRV				S		Sb	01 49 21.6	-2.2
CHMG	Chimgan	4.82	74	P		Pn	01 48 18.7	+5.0
CHMG				S		Sb	01 49 22.3	-2.2
PSK	Pskem	5.18	70	P		Pn	01 48 23.9	+5.3
PSK				S		Sb	01 49 32.2	-2.5
CHMI	Chimion	5.87	88	P		Pn	01 48 33.8	+5.8
CHMI				S		Sb	01 49 51.3	-3.3
FRG	Fergana	6.07	87	P		Pn	01 48 36.6	+5.9
FRG				S		Sb	01 49 56.7	-3.4

*MOS **04** 01:47:22.0±0.8, 40.40N×63.90E, h10km, mb4.2/6, Error ellipse: s-maj=8.3km s-min=7.4km az=141.3*
*IDC **04** 01:47:22.4±0.9, 40.32N×63.80E, h0km, mb3.6/9, mbtmp3.7/18, ML3.3/9, MS3.6/2, Error ellipse: s-maj=16.8km s-min=10.5km az=167.0*
*NNC **04** 01:47:24.8±4.1, 40.61N×63.86E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=36.3km s-min=19.9km az=17.0*
*NEIC **04** 01:47:25.7±1.2, 40.44N±0.08×63.8E±0.1, h28km±9km, mb4.0/11, Error ellipse: s-maj=11.4km s-min=10.8km az=214.0*

ISC 04 01:47:23.7±0.5, 40.46N±0.06×63.84E±0.05, h11km, n89, σ1.9 66/100, mb3.9/18, 9C-7D, Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIMJ	Simiganj	4.38	113	Pn		Pn	01 48 31.8	+1.5
CHGR	Chuyangaron	4.49	112	Pn		Pn	01 48 32.1	+0.4
CHGR	Chuyangaron	4.49	112	PN		Pn	01 48 32.1	+0.4
GEYT	Alibeck	5.11	242	Pn		Pn	01 48 40.4	+0.1
	8.7nm,0.3s,baz=66,slow=8.6,SNR=44							
GEYT				Sn		Sn	01 49 38.7	-0.6
	9.0nm,0.3s,baz=68,slow=33,SNR=3.2							
	25nm,0.5s							
GAR	Garm	5.20	104			Pn	01 48 41.7	+0.1
BTK	Batken	5.35	92			Pn	01 48 43.8	+0.2
BTK	Batken	5.35	92	PN		Pn	01 48 43.8	+0.2
KK31	Karatay Array	5.64	60	Pn		Pn	01 48 48.2	+0.6
KK31	Karatay Array	5.64	60	PN		Pn	01 48 48.1	+0.6
KK31	Karatay Array	5.64	60	⇓Pn		Pn	01 48 48.1	+0.6
	0.6nm,0.2s,baz=244,slow=15,SNR=5.6							
KK31				⇑Pg		Pg	01 49 10.1	-1.6
	2.7nm,0.3s,baz=246,slow=18,SNR=8.1							
KK31				⇑Lg		Lg	01 50 23.9	
	22nm,0.6s,baz=240,slow=29,SNR=5.1							
KKAR	Karatay Array	5.64	60	Pn		Pn	01 48 47.8	+0.3
KKAR	Karatay Array	5.64	60	Pn		Pn	01 48 48.1	+0.6
KKAR	Karatay Array	5.64	60	PN		Pn	01 48 48.1	+0.6
HRA	Herat	6.19	192			Pn	01 48 55.4	+0.1
ARSB	Arslanbob	6.98	80			Pn	01 49 06.2	+0.2
ARSB	Arslanbob	6.98	80	PN		Pn	01 49 06.2	+0.2
KBL	Kabul	7.21	143			Pn	01 49 08.7	-0.5
KBL	Kabul	7.21	143	PN		Pn	01 49 08.7	-0.5
AAK	Ala-Archa	8.28	71	Pn		Pn	01 49 24.6	+0.7
AAK	Ala-Archa	8.28	71	*i* Pn		Pn	01 49 24.8	+1.0
AAK	Ala-Archa	8.28	71	Pn		Pn	01 49 23.8	0.0
	1.4nm,0.3s,baz=228,slow=4.3,SNR=22							
AAK				Lg		Lg	01 51 42.1	
	0.7nm,0.3s,baz=295,slow=12,SNR=1.9							
	5.4nm,0.5s							
AB31	Akbulak array	9.22	344	⇑Pn		Pn	01 49 38.3	+1.8
	0.3nm,0.3s,baz=158,slow=13,SNR=7.2							
AB31				⇑Lg		Lg	01 52 17.8	
	4.5nm,0.5s							
ABKAR	Akbulak array	9.22	344	Pn		Pn	01 49 37.7	+1.2
ABKAR	Akbulak array	9.22	344			Pn	01 49 37.7	+1.2
NRN	Naryn	9.25	80	Pn		Pn	01 49 37.2	-0.2
NRN	Naryn	9.25	80	P		Pn	01 49 37.2	-0.2
OTUK	Ortayu	9.87	35	P		Pn	01 49 46.1	+0.5
OTUK				S		Sn	01 51 34.5	-1.8
OTUK	Ortayu	9.87	35	⇑Pn		Pn	01 49 46.0	+0.5
	5.5nm,0.6s							
OTUK				⇓Sn		Sn	01 51 34.5	-1.8
	4.0nm,0.6s							
OTUK				⇑Lg		Lg	01 52 40.2	
	25nm,1.1s							
AKTO	Aktyubinsk	10.78	340	Pn		Pn	01 49 58.9	+1.0
	0.9nm,0.3s,baz=149,slow=8.4,SNR=11							
AKTO				Sn		Sn	01 51 54.4	-4.0
	0.4nm,0.3s,baz=90,slow=20,SNR=2.3							
AKTO				Lg		Lg	01 53 01.8	
	0.3nm,0.3s,baz=321,slow=22,SNR=1.4							
	1.5nm,0.3s							
AKTO	Aktyubinsk	10.78	340	⇓Pn		Pn	01 49 59.8	+2.0
	0.5nm,0.3s							
AKTO				⇓Sn		Sn	01 51 58.0	-0.4
	2.6nm,0.6s							
AKTO				⇓Lg		Lg	01 53 09.7	
	6.4nm,0.8s							
BVA0	Borovoye Array	13.34	17	P		Pn	01 50 29.6	-3.2
BVA0				S		Sn	01 53 03.8	+2.8
BVA0	Borovoye Array	13.34	17	⇓Pn		Pn	01 50 29.6	-3.2
	2.5nm,0.7s,baz=193,slow=12,SNR=6.6							
BVA0				⇑Sn		Sn	01 53 03.1	+2.1
	3.9nm,0.7s,baz=192,slow=27,SNR=3.8							
BVAR	Borovoye Array	13.34	17	Pn		Pn	01 50 30.5	-2.3
	0.1nm,0.3s,baz=186,slow=12,SNR=10							
BVAR				Sn		Sn	01 52 53.6	-7.4
	0.1nm,0.3s,baz=198,slow=14,SNR=3.1							
BVAR				Lg		Lg	01 54 26.2	
	baz=212,slow=27							
	0.7nm,0.3s							
BRVK	Borovoye	13.35	17			Pn	01 50 32.2	-0.7
BRVK	Borovoye	13.35	17	*i* P		Pn	01 50 31.9	-1.0
KURBB	Kurchatov Arra	14.44	40	Pn		Pn	01 50 45.1	-2.7
	baz=240,slow=13,SNR=2.4							
KURBB				Lg		Lg	01 54 47.4	
	baz=221,slow=29,SNR=4.4							
	0.2nm,0.4s							
KURK	Kurchatov	14.54	40	*i* P		Pn	01 50 49.7	+0.4
KURK				pmax		pmax		
	comp=Z,1.0nm,0.8s							
MAKZ	Makanchi	14.57	58			Pn	01 50 46.9	-2.8
MAKZ				P		P	01 50 57.6	+1.3
MK31	Makanchi Array	14.77	59			Pn	01 50 51.6	-0.8
MK31				P		P	01 50 59.6	+1.1
MK31	Makanchi Array	14.77	59	*i* P		Pn	01 50 52.3	-0.2
MK31	Makanchi Array	14.77	59	⇑Pn		Pn	01 50 51.2	-1.2
	comp=Z,1.4nm,0.5s,baz=245,slow=13,SNR=9.6							
MK31				⇑Lg		Lg	01 55 20.3	
	comp=Z,4.2nm,0.9s,baz=274,slow=30,SNR=3.9							
MKAR	Makanchi Array	14.77	59			Pn	01 50 52.0	-0.5
MKAR				P		P	01 51 00.1	+1.6
MKAR	Makanchi Array	14.77	59	*e*P		Pn	01 50 51.2	-1.3
MKAR	Makanchi Array	14.77	59	Pn		Pn	01 50 50.5	-2.0
	comp=Z,0.4nm,0.3s,baz=248,slow=16,SNR=25							
	comp=Z,1.0nm,0.5s							
ONI	Oni	15.42	285	P		P	01 51 08.2	+2.4
ONI				IAmb		IAmb	01 51 44.9	
	comp=Z,19nm,1.5s							
ONI	Oni	15.42	285	P		P	01 51 08.2	+2.4
ONI				pmax		pmax		
	comp=Z,19nm,1.5s							
KBZ	Khabaz	15.88	289	Pn		Pn	01 51 04.5	-2.5
	comp=Z,0.1nm,0.3s,baz=131,slow=11,SNR=2.5							
	comp=Z,2.8nm,0.9s							
KIV	Kislovodsk	16.05	290	Pn		Pn	01 51 08.7	-0.7
KIV				IAmb		IAmb	01 51 20.2	
	comp=Z,11nm,1.1s							
KIV	Kislovodsk	16.05	290	*e*P		Pn	01 51 09.7	+0.3
KIV				pmax		pmax		
	comp=Z,8.0nm,1.1s							
ARU	Arti	16.35	350			P	01 51 15.7	-0.2
ARU	Arti	16.35	350	*d* iP		P	01 51 15.5	-0.4
ARU				S		Sn	01 54 19.1	+4.8
ARU				pmax		pmax		
	comp=Z,6.0nm,1.7s							
ARU	Arti	16.35	350	Pn		Pn	01 51 12.2	-0.9
	comp=Z,0.3nm,0.3s,baz=172,slow=14,SNR=2.2							
	comp=Z,0.7nm,0.3s							
DGZ	Jazzator, Alta	18.98	53	*i* P		Pn	01 51 45.9	0.0
DGZ				pmax		pmax		
	comp=Z,4.0nm,1.5s							
ZAA0	Zalesovo Array	19.52	39	P		P	01 51 50.5	-0.4
ZALV	Zalesovo Beam	19.52	39	P		P	01 51 51.2	+0.3
ZALV	Zalesovo Beam	19.52	39	*e*P		Pn	01 51 51.8	-0.4
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ZALV	Zalesovo Beam	19.52	39	P		P	01 51 50.9	0.0
	comp=Z,0.5nm,0.3s,baz=237,slow=11,SNR=8.3							
	comp=Z,1.4nm,0.4s							
KIRV	Kirov	20.34	338	LR		LR	02 00 23.2	
	comp=Z,80nm,18.8s,baz=190,slow=38							
BNN	Bunyan	21.58	275	P		P	01 52 12.4	-1.1
RAYN	Ar Rayn	22.88	228	P		P	01 52 26.4	-0.9
RAYN				IAmb		IAmb	01 52 48.2	
	comp=Z,4.2nm,1.5s							
RAYN	Ar Rayn	22.88	228	P		P	01 52 26.4	-0.9
RAYN				pmax		pmax		
	comp=Z,4.0nm,1.5s							
BR131	Keskin Array S	23.07	278	P		P	01 52 28.1	-1.2
BR131				IAmb		IAmb	01 52 56.6	
	comp=Z,6.3nm,1.4s							
BR131	Keskin Array S	23.07	278	P		P	01 52 28.1	-1.2
BR131				pmax		pmax		
	comp=Z,6.0nm,1.4s							
BRTR	Keskin Array B	23.07	278	P		P	01 52 28.0	-1.2
BRTR	Keskin Array B	23.07	278	P		P	01 52 29.8	+0.5
	comp=Z,8.8nm,1.0s,baz=105,slow=3.3,SNR=2.2							
	comp=Z,0.8nm,1.0s							
OBN	Obninsk	23.26	318	*e*P		P	01 52 32.8	+1.9
OBN				pmax		pmax		

EHP	**Heping Village** baz=222	**0.15 225**	P	Pb	01 50 16.8	+0.2
EHP	baz=222		*e*S	Sb	01 50 21.3	+0.9
ESAO	**Su ao** baz=355	**0.16 355** ⇓	*i*P	Pb	01 50 16.8	+0.2
ESAO	baz=355		*i* S	Sb	01 50 20.6	+0.1
TWC	**Suao**	**0.19 358** ⇓	*i*P	Pb	01 50 17.3	+0.3
TWC			*i* S	Sb	01 50 21.4	+0.4
NDS	**Dongshan** baz=328	**0.25 329**	*i* P	Pb	01 50 18.1	+0.4
NDS	baz=328		*i* S	Sb	01 50 23.2	+1.0
LATG	**Datong** baz=290	**0.32 291** ⇓	*i*P	Pb	01 50 19.2	+0.3
LATG	baz=290		*i* S	Sb	01 50 24.6	+0.5
ETL	**Fush Village** baz=223	**0.34 220**	*i* P	Pb	01 50 19.4	+0.4
ETL	baz=223		*i* S	Sb	01 50 25.2	+0.9
EOS2	**EOS2** baz=90	**0.34 90**	P	Pn	01 50 19.9	-0.2
NACB	**Ninganchiao** baz=228	**0.34 225**	*i* P	Pb	01 50 19.2	+0.1
NACB	baz=228		*i* S	Sb	01 50 25.1	+0.7
ENTT	**Nioudou** baz=309	**0.34 310**	*i* P	Pb	01 50 19.4	+0.3
ENTT	baz=309		*i* S	Sb	01 50 25.4	+0.9
TWE	**Neicheng** baz=336	**0.35 330** ⇓	*i*P	Pb	01 50 19.4	+0.4
TWE	baz=336		*i* S	Sb	01 50 25.4	+0.9
NDT	**Datong Townshi** baz=300	**0.36 300**	*i* P	Pb	01 50 19.8	+0.4
NDT	baz=300		*i* S	Sb	01 50 25.8	+0.9
ETLH	**Xiulin Townshi** baz=244	**0.40 238**	*i* P	Pb	01 50 20.2	+0.2
ETLH	baz=244		S	Sn	01 50 27.0	-0.9
TWD	**Chiawan** baz=218	**0.41 215**	*i* P	Pb	01 50 20.3	+0.2
TWD	baz=218		S	Sn	01 50 27.7	-0.2
FUSB	**Fushanzhiwuyua** baz=324	**0.42 324** ⇓	*i*P	Pb	01 50 20.6	+0.3
FUSB	baz=324		S	Sb	01 50 27.1	+0.6
EGS	baz=10.0	**0.43 9**	*e*P	Pb	01 50 20.9	+0.5
EGS	baz=10.0		S	Sn	01 50 27.6	-0.8
NNSB	**Datong** baz=274	**0.43 271**	*i* P	Pb	01 50 20.9	+0.4
NNSB	baz=274		*i* S	Sb	01 50 27.3	+0.5
EOS3	**EOS3** baz=104	**0.44 107**	P	Pn	01 50 21.3	-0.1
NNS	**Nan Shan** baz=272	**0.44 273**	*i* P	Pb	01 50 21.0	+0.3
NNS	baz=272		*i* S	Sb	01 50 27.6	+0.5
NWLT	**Wulai** baz=317	**0.48 318**	*i* P	Pb	01 50 21.4	+0.2
NWLT	baz=317		*i* S	Sb	01 50 28.8	+0.8
HWA	**Hwalien** baz=207	**0.50 208**	P	Pn	01 50 22.0	-0.3
HWA	baz=207		S	Sn	01 50 31.4	+1.4
YHNB	**Yeheng** baz=299	**0.51 300**	*i* P	Pb	01 50 22.0	+0.4
YHNB	baz=299		*i* S	Sb	01 50 29.2	+0.5
EOS4	**EOS4** baz=126	**0.51 125**	*i* P	Pn	01 50 22.2	-0.1
EOS4	baz=126		*e*S	Sn	01 50 30.4	+0.4
NSK	**Sanguang** baz=299	**0.52 299**	*i* P	Pb	01 50 22.3	+0.4
NSK	baz=299		*i* S	Sb	01 50 29.7	+0.5
TIPB	**Shuangxi** baz=359	**0.55 357**	*i* P	Pb	01 50 22.8	+0.4
TIPB	baz=359		*i* S	Sb	01 50 30.4	+0.4
ETM	**Tongmen** baz=224	**0.56 217**	*i* P	Pb	01 50 22.7	+0.2
ETM	baz=224		S	Sn	01 50 31.5	-0.1
LXIB	**Xiulin Townshi** baz=226	**0.57 226**	*i* P	Pb	01 50 22.6	-0.1
LXIB	baz=226		*i* S	Sn	01 50 32.0	+0.1
TWB1	**Santiao Chiao** baz=9.0	**0.60 11**	*i* P	Pn	01 50 23.5	-0.2
TWB1	baz=9.0		*i* S	Sb	01 50 31.6	+0.4
WHF	**Hehuan Shan** baz=250	**0.61 243**	*i* P	Pn	01 50 24.0	-0.3
WHF	baz=250		*i* S	Sn	01 50 32.9	-0.4
TWT	**Tachien** baz=255	**0.64 255**	P	Pn	01 50 25.2	+0.6
TWT	baz=255		*e*S	Sn	01 50 34.5	+0.6
NWF	**Wu-fen Shan** baz=347	**0.65 354**	*i* P	Pn	01 50 24.8	+0.2
NWF	baz=347		*i* S	Sn	01 50 33.9	-0.2
WFSB	**Wu-fen Shan** baz=347	**0.65 354**	*i* P	Pn	01 50 24.8	+0.2
WFSB	baz=347		*i* S	Sn	01 50 33.9	0.0
TDCB	**Techi** baz=255	**0.66 256**	P	Pn	01 50 24.6	-0.2
TDCB	baz=255		*e*S	Sn	01 50 34.5	+0.2
SXI1	**Grass Mountain** baz=1.0	**0.67 1**	*i* P	Pn	01 50 25.0	+0.2
SXI1	baz=1.0		S	Sn	01 50 34.5	0.0
SHUL	**Shoufeng** baz=195	**0.68 203**	*i* P	Pn	01 50 25.2	+0.3
SHUL	baz=195		*i* S	Sn	01 50 36.3	+1.7
NFF	**Wufeng Townshi** baz=289	**0.71 288**	*i* P	Pn	01 50 25.4	+0.1
NFF	baz=289		*i* S	Sn	01 50 35.6	+0.3
ESL	**Shilin** baz=225	**0.72 213**	P	Pb	01 50 24.5	-0.6
ESL	baz=225		*e*S	Sn	01 50 35.5	0.0
CHGB	**Renai** baz=240	**0.72 240**	*i* P	Pn	01 50 25.7	+0.1
CHGB	baz=240		*i* S	Sn	01 50 36.1	+0.3
TNOU	**National Taiwa** baz=351	**0.73 354**	P	Pn	01 50 26.1	+0.5
TNOU	baz=351		*e*S	Sn	01 50 36.0	+0.2
YM01	**YM01** baz=340	**0.77 340**	*i* P	Pn	01 50 27.1	+0.9
YM01	baz=340		S	Sn	01 50 37.5	+0.6
OWD	**Renai** baz=233	**0.78 234**	*i* P	Pn	01 50 26.5	+0.2
OWD	baz=233		S	Sn	01 50 38.0	+0.9
WUSB	**Renai** baz=230	**0.80 238**	*i* P	Pn	01 50 26.9	+0.3
WUSB	baz=230		*e*S	Sn	01 50 38.7	+1.1
NSTT	**Nanjuang** baz=285	**0.81 285**	*i* P	Pn	01 50 27.8	+1.2
NSTT	baz=285		S	Sn	01 50 38.6	+0.9
WARBT	**Fenglin Townsh** baz=223	**0.82 212**	P	Pb	01 50 25.8	-1.1
WARBT	baz=223		*e*S	Sn	01 50 38.5	+0.4
EGFH	**Guangfu** baz=221	**0.84 208**	*e*P	Pb	01 50 28.0	+0.8
EGFH	baz=221		*e*S	Sb	01 50 38.2	0.0
WHP	**Taichung City** baz=260	**0.84 261**	*i* P	Pb	01 50 28.8	+1.6
WHP	baz=260		S	Sn	01 50 40.3	+1.6
SBCB	**Hsinchu** baz=294	**0.88 295**	P	Pb	01 50 27.8	0.0
SBCB	baz=294		*e*S	Sn	01 50 42.6	+3.2
VWDT	**VWDT** baz=215	**0.93 225**	*i* P	Pb	01 50 28.8	+0.2
VWDT	baz=215		S	Sn	01 50 41.7	+1.0
WCS	**Beigang Elemen** baz=247	**0.94 248**	P	Pb	01 50 29.2	+0.5
WCS	baz=247		S	Sn	01 50 42.5	+1.6
NMLH	**Miaoli** baz=276	**0.98 277**	P	Pb	01 50 30.5	+1.0
NMLH	baz=276		*e*S	Sb	01 50 44.9	+2.8
TWQ1	**Liyutan** baz=265	**0.99 266**	P	Pb	01 50 31.4	+1.7
TWQ1	baz=265		*e*S	Sb	01 50 45.0	+2.6
NSY	**Sanyi** baz=269	**1.00 270**	*e*P	Pb	01 50 31.4	+1.6
NSY	baz=269		*e*S	Sb	01 50 45.3	+2.7
HGSD	**Ruisui** baz=217	**1.00 203**	P	Pb	01 50 32.6	+2.7
HGSD	baz=217		*e*S	Sb	01 50 45.9	+3.1
SMLT	**Sun Moon Lake** baz=245	**1.02 239**	*i* P	Pb	01 50 30.8	+0.4
SMLT	baz=245		S	Sb	01 50 45.9	+2.5
EHY	**Hungye** baz=220	**1.03 208**	P	Pb	01 50 30.9	+0.5
EHY	baz=220		*e*S	Sb	01 50 44.3	+0.7
SSLB	**Suanglung** baz=225	**1.04 233**	*i* P	Pb	01 50 30.4	-0.1
SSLB	baz=225		S	Sb	01 50 44.4	+0.6
TYC	**Yuchr** baz=240	**1.05 241**	P	Pb	01 50 30.9	+0.3
TYC	baz=240		S	Sb	01 50 46.1	+2.2
YOJ	**Yonaguni jima** baz=80	**1.05 87**	S	Sb	01 50 43.9	-0.2
YULB	**Yu-li** baz=207	**1.14 207**	P	Pn	01 50 31.2	-0.1
YULB	baz=207		*e*S	Sb	01 50 47.7	+1.0
WHYT	**Xinyi Township** baz=228	**1.17 232**	P	Pb	01 50 32.9	+0.2
WHYT	baz=228		*e*S	Sb	01 50 49.9	+2.5
WJS	**Zhushan** baz=225	**1.19 240**	P	Pb	01 50 33.7	+0.6
WJS	baz=225		S	Sb	01 50 51.9	+3.8
WNT	**Mingjian** baz=242	**1.20 244**	P	Pb	01 50 34.5	+1.3
WNT	baz=242		*e*S	Sb	01 50 51.8	+3.5
CHKH	**Chenggong** baz=212	**1.29 199**	*e*P	Pb	01 50 35.9	+1.1
CHKH	baz=212		*e*S	Sb	01 50 52.0	+1.0
FULB	**Fuli** baz=215	**1.32 203**	*e*P	Pb	01 50 34.8	-0.5
FULB	baz=215		*e*S	Sb	01 50 54.0	+2.2
ALS	**Alishan** baz=215	**1.32 227**	P	Pb	01 50 36.2	+0.8
ALS	baz=215		*e*S	Sb	01 50 54.4	+2.2
EHD	**Haiduan** baz=205	**1.40 205**	*e*P	Pn	01 50 35.5	+0.7
EHD	baz=205		*e*S	Sn	01 50 52.8	+0.4
WDLH	**Douliu** baz=226	**1.41 239**	*e*P	Pb	01 50 36.2	-0.6
WDLH	baz=226		*e*S	Sb	01 50 56.5	+2.2
ELDTW	**Lidau** baz=200	**1.45 212**	P	Pb	01 50 37.2	-0.2
ELDTW	baz=200		*e*S	Sb	01 50 54.7	-0.9
WRL	**Guolierlin Hig** baz=263	**1.45 249**	P	Pn	01 50 36.0	+0.6
WRL	baz=263		*e*S	Sb	01 50 56.2	+0.7
WCKO	**Fanlu** baz=217	**1.51 230**	*e*S	Sb	01 50 59.2	+2.0
WTK	**Tuku** baz=240	**1.53 242**	P	Pb	01 50 37.7	-1.1
WTK	baz=240		S	Sb	01 51 00.0	+2.3
TPUB	**Ta-pu** baz=215	**1.58 226**	P	Pb	01 50 40.0	+0.2
TPUB	baz=215		*e*S	Sb	01 51 00.8	+1.4
WTP	**Ta-pu** baz=223	**1.63 225**	P	Pb	01 50 39.5	-1.1
WTP	baz=223		*e*S	Sb	01 51 03.2	+2.4
TWK	**Hsinying** baz=226	**1.70 228**	P	Pb	01 50 41.1	-0.6
TWK	baz=226		*e*S	Sb	01 51 04.9	+2.1
CHN1	**Nanshi** baz=223	**1.73 225**	*e*P	Pb	01 50 41.2	-1.0
CHN1	baz=223		*e*S	Sb	01 51 05.0	+1.4
ICHU	**Yijhu** baz=218	**1.79 234**	*e*P	Pn	01 50 41.5	+1.3
ICHU	baz=218		*e*S	Sb	01 51 06.0	+0.7
SLGT	**Liugui** baz=217	**1.80 218**	P	Pb	01 50 43.3	-0.2
SLGT	baz=217		*e*S	Sb	01 51 05.7	+0.1
TSMG	**Majia** baz=226	**2.04 213**	*e*P	Pn	01 50 44.8	+1.3
TSMG	baz=226		*e*S	Sb	01 51 11.1	-1.3
PNG	**Penghu** baz=246	**2.27 249**	*e*S	Sn	01 51 15.3	+1.5
PHUB	**P'eng-hu** baz=245	**2.28 247**	P	Pn	01 50 46.9	0.0
PHUB	baz=245		S	Sn	01 51 14.4	+0.4
WDGT	**Dungji** baz=238	**2.32 241**	*e*P	Pn	01 50 48.6	+1.1
WDGT	baz=238		*e*S	Sn	01 51 16.7	+1.6
VCHM	**Qimei** baz=240	**2.53 242**	*e*P	Pn	01 50 50.5	+0.2
VCHM	baz=240		*e*S	Sn	01 51 21.0	+0.8

JMA 04 01:50:19.0±0.3,24°N±1°×12°4E±°,h11km,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.32**	**152**	P	Pg	01 50 25.6	+0.3
HATJ				*e*S	Sg	01 50 29.0	-0.6
JKRS	**Kuro-shima**	**0.35**	**107**	P	Pg	01 50 25.7	-0.3
JKRS				S	Sg	01 50 29.2	-1.3
JIJ	**Ishigaki jima**	**0.46**	**87**	P	Pg	01 50 28.2	+0.3
JIJ				S	Sg	01 50 32.4	-1.5
YOJ	**Yonaguni jima**	**0.59**	**282**	P	Pg	01 50 30.6	+0.1
YOJ	**Yonaguni jima** baz=80	**0.59**	**282**	*i* P	Pg	01 50 30.6	+0.1
JYNG	**Yonagunijimaku**	**0.65**	**280**	P	Pg	01 50 30.1	-1.5
JISG	**Ishigakijimahi**	**0.66**	**68**	P	Pb	01 50 32.5	+0.1
JISG				*e*S	Sg	01 50 40.9	+0.6

IDC 04 02:01:26.6±2.5,3°48N×128°00E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=174.0km

s-min=28.8km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=345,slow=11,SNR=2.9 0.2nm,0.4s	**24.09**	**165**	P	P	02 06 43.5	-0.6
ASAR	**Alice Springs** 0.4nm,0.5s,baz=354,slow=7.8,SNR=11 0.4nm,0.5s	**27.59**	**168**	P	P	02 07 16.2	+0.5
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=110,slow=7.6,SNR=1.6 0.1nm,0.5s	**58.48**	**325**	P	P	02 11 24.3	-0.3

TAP ***04*** *02:32:18.6,23°.92N×121°.79E,h3km,ML3.3,C*
JMA ***04*** *02:32:19.5±0.2,23°.9N±0°.4×12°2E±°,h0km,MV2.8/11, TAIWAN REGION*

ISC 04 02:32:20.1±1.0,23°91N±0°01×121°78E±0°02,h8km±7km, n130,σ1822/249,14C-1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien** baz=281	**0.17**	**292** ⇓	*i*P	**Pg**	**02 32 23.3**	**-0.4**
HWA	baz=281			*i* S	**Sg**	**02 32 27.3**	**+1.2**
SHUL	**Shoufeng** baz=238	**0.23**	**239**	P	**Pg**	**02 32 25.0**	**+0.2**
SHUL	baz=238			S	**Sg**	**02 32 29.6**	**+1.7**
TWD	**Chiawan** baz=298	**0.24**	**315** ⇑	*i*P	**Pg**	**02 32 24.4**	**-0.5**
TWD	baz=298			*i* S	**Sg**	**02 32 29.0**	**+0.9**
ETM	**Tongmen** baz=270	**0.27**	**282**	P	**Pg**	**02 32 24.8**	**-0.6**
ETM	baz=270			*e*S	**Sb**	**02 32 29.8**	**-2.2**
ETL	**Fush Village** baz=314	**0.29**	**330**	P	**Pb**	**02 32 25.6**	**-1.9**
ETL	baz=314			S	**Sb**	**02 32 30.7**	**-1.9**
NACB	**Ninganchiao**	**0.31**	**327**	P	**Pg**	**02 32 25.6**	**-0.6**
NACB	**Ninganchiao** baz=311	**0.31**	**327** ⇑	P	**Pg**	**02 32 25.6**	**-0.6**
NACB	baz=311			S	**Sb**	**02 32 31.5**	**-1.8**
ESL	**Shilin** baz=260	**0.33**	**253** ⇑	*i*P	**Pg**	**02 32 25.9**	**-0.7**
ESL	baz=260			*i* S	**Sg**	**02 32 31.4**	**+0.4**
LXIB	**Xiulin Townshi** baz=286	**0.35**	**288** ⇑	P	**Pg**	**02 32 26.2**	**-0.9**
LXIB	baz=286			*e*S	**Sb**	**02 32 34.4**	**-0.2**
ETLH	**Xiulin Townshi** baz=315	**0.40**	**317**	P	**Pg**	**02 32 27.4**	**-0.6**
ETLH	baz=315			S	**Sb**	**02 32 34.4**	**-1.5**
EGFH	**Guangfu** baz=231	**0.40**	**234**	P	**Pb**	**02 32 28.2**	**-1.3**
EGFH	baz=231			*e*S	**Sb**	**02 32 35.1**	**-0.7**
WARBT	**Fenglin Townsh** baz=240	**0.41**	**242** ⇑	P	**Pg**	**02 32 27.5**	**-0.6**
WARBT	baz=240			*e*S	**Sb**	**02 32 34.3**	**-1.7**
EAHA	**Aohua** baz=354	**0.42**	**355**	P	**Pb**	**02 32 28.1**	**-1.6**
EAHA	baz=354			*e*S	**Sb**	**02 32 36.2**	**-0.1**
ENA	**Nanau** baz=357	**0.52**	**356**	*i* P	**Pb**	**02 32 30.3**	**-1.1**
ENA	baz=357			*i* S	**Sb**	**02 32 39.0**	**-0.1**
WHF	**Hehuan Shan** baz=294	**0.53**	**296**	*i* P	**Pg**	**02 32 29.6**	**-0.8**
WHF	baz=294			S	**Sb**	**02 32 38.2**	**-1.6**
HGSD	**Ruisui** baz=216	**0.53**	**218**	P	**Pb**	**02 32 30.9**	**-0.8**
HGSD	baz=216			*e*S	**Sb**	**02 32 38.2**	**-1.2**
EWUT	**Wuta**	**0.53**	**360**	P	**Pb**	**02 32 30.9**	**-0.8**
EWUT				S	**Sb**	**02 32 40.7**	**+1.1**
OWD	**Renai** baz=272	**0.56**	**275**	P	**Pg**	**02 32 30.4**	**-0.4**
OWD	baz=272			S	**Sb**	**02 32 39.4**	**-1.0**
CHGB	**Renai** baz=283	**0.57**	**285**	*e*P	**Pg**	**02 32 30.8**	**-0.4**
CHGB	baz=283			*e*S	**Sb**	**02 32 39.3**	**-1.7**
EHYH	**Wanrong** baz=223	**0.58**	**224**	P	**Pg**	**02 32 30.5**	**-0.7**
EHYH	baz=223			*e*S	**Sg**	**02 32 39.1**	**+0.3**
EHY	**Hungye** baz=225	**0.58**	**226**	*i* P	**Pb**	**02 32 31.4**	**-1.2**
EHY	baz=225			*e*S	**Sb**	**02 32 40.8**	**-0.2**
FUSS	**Fushou** baz=303	**0.59**	**304**	P	**Pb**	**02 32 31.3**	**-1.6**
FUSS	baz=303			*e*S	**Sb**	**02 32 40.5**	**-1.2**
VWDT	**VWDT** baz=266	**0.61**	**255** ⇑	P	**Pg**	**02 32 31.5**	**-0.3**
VWDT	baz=266			*e*S	**Sb**	**02 32 40.1**	**-1.5**
WUSB	**Renai** baz=276	**0.61**	**278** ⇑	P	**Pg**	**02 32 31.3**	**-0.6**
WUSB	baz=276			*e*S	**Sb**	**02 32 42.5**	**+0.5**
NNSB	**Datong** baz=324	**0.63**	**325** ⇑	P	**Pb**	**02 32 31.9**	**-1.6**
NNSB	baz=324			S	**Sb**	**02 32 41.5**	**-1.0**
NNSH	**Datong** baz=323	**0.63**	**325**	*i* P	**Pb**	**02 32 32.3**	**-1.2**
NNSH	baz=323			*i* S	**Sb**	**02 32 41.5**	**-1.0**
NNS	**Nan Shan** baz=324	**0.65**	**325** ⇑	*i*P	**Pb**	**02 32 32.1**	**-1.6**
NNS	baz=324			S	**Sb**	**02 32 42.6**	**-0.3**
TWT	**Tachien** baz=299	**0.65**	**302**	*i* P	**Pb**	**02 32 32.4**	**-1.4**
TWT	baz=299			S	**Sb**	**02 32 44.0**	**+0.9**
LATG	**Datong** baz=323	**0.66**	**340** ⇑	P	**Pb**	**02 32 32.7**	**-1.4**
LATG	baz=323			S	**Sb**	**02 32 43.7**	**+0.3**
TDCB	**Techi** baz=300	**0.66**	**301**	P	**Pb**	**02 32 32.5**	**-1.5**
TDCB	baz=300			*e*S	**Sb**	**02 32 42.9**	**-0.6**
ECBN	**Changbin** baz=206	**0.67**	**207**	P	**Pb**	**02 32 33.5**	**-0.4**
ECBN	baz=206			S	**Sb**	**02 32 45.0**	**+1.7**
ESAO	**Su ao** baz=355	**0.67**	**5**	P	**Pb**	**02 32 33.0**	**-0.9**
ESAO	baz=355			S	**Sn**	**02 32 45.0**	**-1.5**
YULB	**Yu-li**	**0.68**	**221**	P	**Pb**	**02 32 33.2**	**-1.0**
YULB	**Yu-li** baz=237	**0.68**	**221**	P	**Pg**	**02 32 32.9**	**-0.3**
YULB	baz=237			*e*S	**Sb**	**02 32 43.5**	**-0.3**
TWC	**Suao** baz=356	**0.70**	**5**	*i* P	**Pb**	**02 32 34.1**	**-0.4**
TWC	baz=356			*i* S	**Sn**	**02 32 46.4**	**-0.9**
EYUL	**Yuli** baz=238	**0.70**	**217**	*i* P	**Pb**	**02 32 34.9**	**+0.3**
EYUL	baz=238			*e*S	**Sb**	**02 32 45.8**	**+1.4**
TWF1	**Yuli** baz=239	**0.71**	**219**	*i* P	**Pb**	**02 32 33.6**	**-1.2**
TWF1	baz=239			*e*S	**Sb**	**02 32 44.6**	**-0.1**
NDS	**Dongshan** baz=355	**0.72**	**355**	P	**Pb**	**02 32 34.1**	**-0.9**
NDS	baz=355			S	**Sn**	**02 32 46.6**	**-1.3**
NDT	**Datong Townshi** baz=327	**0.73**	**340**	P	**Pb**	**02 32 34.4**	**-0.7**

NDT				S		Sb	02 32 45.8	+0.5
	baz=327							
ENTT	**Nioudou**	**0.75**	**345**⇑	*i* P		**Pb**	**02 32 34.5**	**-0.9**
ENTT	baz=332			*i* S		**Sb**	**02 32 46.3**	**+0.4**
SSLB	**Suanglung**	**0.77**	**261**	P		**Pg**	**02 32 34.3**	**-0.6**
SSLB	**Suanglung**	**0.77**	**261**	P		**Pg**	**02 32 34.4**	**-0.4**
SSLB	baz=259			S		**Sb**	**02 32 45.3**	**-1.0**
DPDB	**Guoxing**	**0.79**	**279**	P		**Pg**	**02 32 33.7**	**-1.6**
DPDB	baz=277			*e*S		**Sb**	**02 32 46.7**	**-0.4**
CHKH	**Chenggong**	**0.80**	**206**	P		**Pb**	**02 32 35.3**	**-0.9**
CHKH	baz=205			*e*S		**Sb**	**02 32 48.2**	**+1.1**
SMLT	**Sun Moon Lake**	**0.81**	**268**	*i* P		**Pg**	**02 32 35.1**	**-0.5**
SMLT	baz=266			S		**Sb**	**02 32 47.5**	**-0.1**
WCS	**Beigang Elemen**	**0.81**	**281**	P		**Pb**	**02 32 35.3**	**-1.1**
WCS	baz=279			*e*S		**Sb**	**02 32 48.1**	**+0.6**
TWE	**Neicheng**	**0.81**	**353**⇑	*i*P		**Pb**	**02 32 36.0**	**-0.5**
TWE	baz=354			S		**Sn**	**02 32 50.1**	**-0.1**
FULB	**Fuli**	**0.84**	**212**	P		**Pb**	**02 32 36.4**	**-0.5**
FULB	baz=231			*e*S		**Sn**	**02 32 49.9**	**-0.9**
YHNB	**Yeheng**	**0.84**	**334**	P		**Pb**	**02 32 36.3**	**-0.7**
YHNB	**Yeheng**	**0.84**	**334**	⇑P		**Pb**	**02 32 36.1**	**-0.9**
YHNB	baz=334			*e*S		**Sn**	**02 32 49.4**	**-1.6**
TYC	**Yuchr**	**0.85**	**270**	*i* P		**Pg**	**02 32 35.5**	**-0.9**
TYC	baz=268			S		**Sb**	**02 32 49.1**	**+0.5**
WHP	**Taichung City**	**0.85**	**296**	P		**Pb**	**02 32 36.2**	**-0.9**
WHP	baz=285			S		**Sn**	**02 32 50.0**	**-1.1**
NSK	**Sanguang**	**0.85**	**333**⇑	*i*P		**Pb**	**02 32 36.3**	**-0.9**
NSK	baz=333			*i* S		**Sn**	**02 32 49.8**	**-1.5**
FUSB	**Fushanzhiwuyua**	**0.86**	**348**	P		**Pb**	**02 32 36.8**	**-0.6**
FUSB	baz=337			*e*S		**Sn**	**02 32 51.0**	**-0.6**
WHYT	**Xinyi Township**	**0.88**	**256**	P		**Pb**	**02 32 36.8**	**-0.8**
WHYT	baz=264			S		**Sb**	**02 32 49.9**	**+0.4**
CHKT	**Chengkung**	**0.89**	**205**	*i* P		**Pg**	**02 32 36.9**	**-0.3**
CHKT	baz=180			S		**Sb**	**02 32 50.3**	**+0.4**
NWLT	**Wulai**	**0.90**	**344**	P		**Pb**	**02 32 37.5**	**-0.4**
NWLT	baz=329			S		**Sn**	**02 32 50.9**	**-1.5**
EHD	**Haiduan**	**0.92**	**215**	P		**Pg**	**02 32 37.4**	**-0.5**
EHD	baz=231			*e*S		**Sb**	**02 32 50.4**	**-0.4**
EGS		**0.94**	**8**	*i* P		**Pn**	**02 32 38.8**	**-0.8**
EGS	baz=359			*e*S		**Sn**	**02 32 52.9**	**-0.4**
NFF	**Wufeng Townshi**	**0.94**	**320**	P		**Pb**	**02 32 38.0**	**-0.7**
NFF	baz=309			S		**Sn**	**02 32 52.8**	**-0.6**
ECS	**Chishang**	**0.96**	**213**	*e*P		**Pg**	**02 32 37.8**	**-0.7**
ECS	baz=230			*e*S		**Sn**	**02 32 54.1**	**+0.3**
WJS	**Zhushan**	**0.97**	**265**	*i* P		**Pn**	**02 32 39.5**	**-0.5**
WJS	baz=272			S		**Sn**	**02 32 54.8**	**+0.8**
ALS	**Alishan**	**0.98**	**246**	*i* P		**Pb**	**02 32 38.6**	**-0.9**
ALS	baz=244			S		**Sn**	**02 32 54.0**	**-0.7**
ELDTW	**Lidau**	**1.00**	**224**	*i* P		**Pg**	**02 32 37.8**	**-1.6**
ELDTW	baz=222			*e*S		**Sb**	**02 32 53.2**	**-0.1**
WNT	**Mingjian**	**1.00**	**268**	P		**Pb**	**02 32 39.1**	**-0.6**
WNT	baz=276			*i* S		**Sn**	**02 32 55.7**	**+0.8**
NSTT	**Nanjuang**	**1.01**	**315**	*i* P		**Pb**	**02 32 39.4**	**-0.5**
NSTT	baz=315			*i* S		**Sn**	**02 32 55.2**	**+0.1**
TIPB	**Shuangxi**	**1.06**	**2**	P		**Pn**	**02 32 40.8**	**-0.5**
TIPB	baz=352			S		**Sn**	**02 32 57.2**	**+1.0**
NSY	**Sanyi**	**1.06**	**299**	*i* P		**Pn**	**02 32 40.5**	**-0.8**
NSY	baz=297			*e*S		**Sn**	**02 32 56.6**	**+0.4**
TATO	**Taipei**	**1.09**	**346**	P		**Pn**	**02 32 41.5**	**-0.2**
TATO	**Taipei**	**1.09**	**346**	P		**Pb**	**02 32 40.8**	**-0.5**
TATO	baz=334			*e*S		**Sn**	**02 32 57.6**	**+0.5**
NMLH	**Miaoli**	**1.10**	**305**	*i* P		**Pn**	**02 32 42.8**	**+1.0**
NMLH	baz=303			*e*S		**Sn**	**02 32 58.8**	**+1.6**
TWB1	**Santiao Chiao**	**1.11**	**10**	*i* P		**Pn**	**02 32 42.2**	**+0.3**
TWB1	baz=15			*i* S		**Sn**	**02 32 59.7**	**+2.2**
WDJ	**Dajia District**	**1.13**	**293**	*e*P		**Pn**	**02 32 41.8**	**-0.5**
WDJ	baz=291			*e*S		**Sn**	**02 32 59.8**	**+1.9**
WGK	**Gukeng**	**1.14**	**259**	*e*P		**Pn**	**02 32 42.7**	**+0.3**
WGK	baz=255			*e*S		**Sn**	**02 32 59.8**	**+1.7**
TAP	**Taipei**	**1.15**	**347**	*e*P		**Pn**	**02 32 43.1**	**+0.5**
TAP	baz=351			*e*S		**Sn**	**02 33 00.7**	**+2.2**
NWF	**Wu-fen Shan**	**1.16**	**360**	*i* P		**Pn**	**02 32 43.2**	**+0.5**
NWF	baz=351			*e*S		**Sn**	**02 33 00.3**	**+1.6**
WFSB	**Wu-fen Shan**	**1.16**	**360**	P		**Pn**	**02 32 43.2**	**+0.6**
WFSB	baz=352			S		**Sn**	**02 32 59.0**	**+0.4**
WDLH	**Douliu**	**1.16**	**259**	*i* P		**Pn**	**02 32 42.9**	**+0.3**
WDLH	baz=255			*e*S		**Sn**	**02 33 01.0**	**+2.3**
LONT	**Longtian**	**1.17**	**211**	*e*P		**Pg**	**02 32 39.5**	**-2.9**
WCKO	**Fanlu**	**1.18**	**247**	P		**Pn**	**02 32 42.4**	**-0.5**
WCKO	baz=243			S		**Sn**	**02 33 00.5**	**+1.4**
STYH	**Taoyuan**	**1.18**	**232**	P		**Pb**	**02 32 42.2**	**-0.5**
STYH	baz=219			*e*S		**Sb**	**02 32 58.4**	**+0.2**
SXI1	**Grass Mountain**	**1.18**	**4**	P		**Pn**	**02 32 43.3**	**+0.3**
SXI1	baz=344			S		**Sn**	**02 33 03.4**	**+4.0**
NCUH	**Zhongli**	**1.19**	**333**	*e*P		**Pn**	**02 32 44.0**	**+1.0**
NCUH	baz=333			S		**Sn**	**02 33 02.2**	**+2.9**
JYNG	**Yonagunijimaku**	**1.19**	**63**	P		**Pb**	**02 32 42.4**	**-0.6**
TPUB	**Ta-pu**	**1.22**	**240**	P		**Pn**	**02 32 43.5**	**0.0**
TPUB	baz=237			*e*S		**Sn**	**02 33 01.3**	**+1.1**
CHN4	**Tsaushan**	**1.22**	**243**	*i* P		**Pn**	**02 32 43.4**	**-0.1**
CHN4	baz=225			S		**Sn**	**02 33 01.6**	**+1.4**
TWS1	**Kuangyinshan**	**1.23**	**344**	P		**Pn**	**02 32 45.3**	**+1.7**
TWS1	baz=347			S		**Sn**	**02 33 03.2**	**+2.8**
TNOU	**National Taiwa**	**1.23**	**360**	P		**Pn**	**02 32 44.5**	**+0.9**
TNOU	baz=342			*e*S		**Sn**	**02 33 02.6**	**+2.1**
YM01	**YM01**	**1.25**	**351**	P		**Pn**	**02 32 44.5**	**+0.6**
YM01	baz=333			*e*S		**Sn**	**02 33 02.6**	**+1.7**
YOJ	**Yonaguni jima**	**1.25**	**64**	P		**Pn**	**02 32 45.5**	**+1.6**
YOJ	**Yonaguni jima**	**1.25**	**64**	P		**Pb**	**02 32 43.4**	**-0.5**
YOJ	baz=67			*e*S		**Sb**	**02 33 00.0**	**-0.2**
YOJ	**Yonaguni jima**	**1.25**	**64**	P		**Pn**	**02 32 43.7**	**-0.2**
WTP	**Ta-pu**	**1.26**	**239**	*i* P		**Pn**	**02 32 43.7**	**-0.3**
WTP	baz=235			*e*S		**Sn**	**02 33 02.8**	**+1.6**
LDUT	**Ludao**	**1.27**	**193**	*i* P		**Pg**	**02 32 41.7**	**-2.7**
LDUT	baz=177			*e*S		**Sg**	**02 32 59.4**	**-1.4**
TWGBT	**Beinan**	**1.27**	**211**	P		**Pn**	**02 32 44.4**	**+0.3**
TWGBT	**Beinan**	**1.27**	**211**	P		**Pg**	**02 32 41.4**	**-2.9**
TWGBT	baz=208			*e*S		**Sb**	**02 33 01.0**	**+0.4**
TWG	**Pinlang**	**1.27**	**211**	*i* P		**Pg**	**02 32 41.8**	**-2.6**
TWG	baz=208			*e*S		**Sg**	**02 32 59.7**	**-1.1**
YM08	**YM08**	**1.28**	**352**	P		**Pn**	**02 32 45.0**	**+0.6**
YM08	baz=335			S		**Sn**	**02 33 02.8**	**+1.0**
NTST	**Danshui**	**1.28**	**346**	*e*P		**Pn**	**02 32 45.3**	**+1.0**
NTST	baz=349			*e*S		**Sn**	**02 33 05.1**	**+3.3**
WRL	**Guolierlin Hig**	**1.28**	**270**	P		**Pn**	**02 32 45.0**	**+0.6**
WRL	baz=267			*e*S		**Sn**	**02 33 03.3**	**+1.5**
WTK	**Tuku**	**1.29**	**260**	P		**Pn**	**02 32 45.0**	**+0.5**
WTK	baz=256			*e*S		**Sn**	**02 33 04.4**	**+2.4**
TWK	**Hsinying**	**1.35**	**242**	*i* P		**Pb**	**02 32 45.5**	**-0.2**
TWK	baz=237			*i* S		**Sn**	**02 33 06.1**	**+2.6**
CHN1	**Nanshi**	**1.36**	**238**	*i* P		**Pb**	**02 32 46.0**	**+0.2**
CHN1	baz=234			S		**Sn**	**02 33 05.6**	**+1.9**
SNST	**Tainan City**	**1.36**	**240**	P		**Pn**	**02 32 45.0**	**-0.4**
SNST	baz=236			*e*S		**Sn**	**02 33 06.1**	**+2.3**
TWY	**Chenhua**	**1.37**	**353**	*e*P		**Pb**	**02 32 46.7**	**+0.8**
TWY	baz=336			*e*S		**Sn**	**02 33 06.3**	**+2.4**
SGST	**Jiashian**	**1.38**	**233**	*i* P		**Pn**	**02 32 45.3**	**-0.3**
SGST	baz=230			S		**Sn**	**02 33 07.4**	**+3.3**
SLGT	**Liugui**	**1.39**	**229**	P		**Pn**	**02 32 45.5**	**-0.2**
SLGT	baz=226			S		**Sn**	**02 33 05.7**	**+1.4**
ICHU	**Yijhu**	**1.48**	**249**	P		**Pg**	**02 32 48.8**	**+0.3**
ICHU	baz=243			*e*S		**Sn**	**02 33 08.7**	**+2.0**
ECL	**Taimali**	**1.51**	**210**	P		**Pn**	**02 32 45.5**	**-2.0**
ECL	baz=207			*e*S		**Sn**	**02 33 06.7**	**-0.7**
SCST	**Cishan**	**1.56**	**229**	P		**Pg**	**02 32 50.4**	**+0.4**
SCST	baz=226			*e*S		**Sg**	**02 33 12.9**	**+2.6**
SSD	**Sandimen**	**1.57**	**223**	*i* P		**Pb**	**02 32 48.8**	**-0.6**
SSD	baz=219			*e*S		**Sg**	**02 33 12.5**	**+2.0**
TSMG	**Majia**	**1.59**	**221**	*i* P		**Pn**	**02 32 48.4**	**-0.1**
TSMG	baz=219			S		**Sg**	**02 33 12.9**	**+1.7**
TWM1	**Shoushan**	**1.65**	**229**	*e*P		**Pg**	**02 32 52.4**	**+0.6**
TWM1	baz=226			*e*S		**Sg**	**02 33 15.2**	**+2.0**
MASBT	**Mashibuluo**	**1.67**	**219**	P		**Pn**	**02 32 49.9**	**+0.3**
MASBT	baz=201			S		**Sg**	**02 33 13.6**	**-0.2**
PCYT	**Pengchaiyu**	**1.73**	**9**	P		**Pn**	**02 32 50.6**	**0.0**
PCYT	baz=18			*e*S		**Sg**	**02 33 16.7**	**+0.9**
TSCK	**Chigu Township**	**1.73**	**244**	*e*P		**Pg**	**02 32 52.3**	**-1.0**
TSCK	baz=238			*e*S		**Sg**	**02 33 16.5**	**+0.8**
EAST	**Anshuo**	**1.75**	**210**	*i* P		**Pn**	**02 32 51.0**	**+0.3**
EAST	baz=207			*e*S		**Sb**	**02 33 14.2**	**-0.3**
SCZT	**Fangliau**	**1.87**	**215**	P		**Pb**	**02 32 53.2**	**-1.3**
SCZT	baz=197			*e*S		**Sb**	**02 33 18.4**	**+0.5**
WDGT	**Dungji**	**2.05**	**252**	*i* P		**Pn**	**02 32 55.3**	**+0.4**
WDGT	baz=244			*e*S		**Sb**	**02 33 22.9**	**-0.4**
JKRS	**Kuro-shima**	**2.06**	**80**	P		**Pn**	**02 32 55.7**	**+0.7**
PHUB	**P'eng-hu**	**2.06**	**259**	P		**Pn**	**02 32 53.8**	**-1.2**
PHUB	baz=251			S		**Sb**	**02 33 23.5**	**-0.1**
PNG	**Penghu**	**2.07**	**261**	*i* P		**Pn**	**02 32 54.5**	**-0.7**
PNG	baz=252			S		**Sb**	**02 33 23.2**	**-0.6**
TWK1	**Hengchun**	**2.15**	**205**	*e*P		**Pn**	**02 32 56.9**	**+0.6**
TWK1	baz=189			*e*S		**Sn**	**02 33 24.0**	**+0.7**
JIJ	**Ishigaki jima**	**2.20**	**78**	*e*P		**Pn**	**02 32 56.8**	**-0.2**
JIJ				*e*S		**Sn**	**02 33 24.7**	**+0.3**
VCHM	**Qimei**	**2.27**	**253**	*e*P		**Pn**	**02 32 57.9**	**0.0**
VCHM	baz=244			*e*S		**Sb**	**02 33 28.2**	**-1.3**
VWUC	**VWUC**	**2.38**	**297**	*e*P		**Pb**	**02 33 01.3**	**-1.9**
VWUC	baz=289			*e*S		**Sb**	**02 33 31.5**	**-1.3**
JISG	**Ishigakijimahi**	**2.41**	**73**	*e*P		**Pn**	**02 32 59.7**	**0.0**
JISG				*e*S		**Sn**	**02 33 30.2**	**+0.8**
PTMZ	**Houxiangcun**	**2.67**	**295**	P		**Pn**	**02 33 04.3**	**+0.8**
PTMZ	baz=287			*e*S		**Sn**	**02 33 38.0**	**+2.0**
MATB	**Ma-tsu**	**2.78**	**324**	P		**Pn**	**02 33 06.9**	**+1.9**
MATB	baz=300			*e*S		**Sb**	**02 33 42.4**	**-2.0**
XPSS	**Dashiqiu**	**3.33**	**335**	P		**Pn**	**02 33 12.4**	**-0.1**
XPSS	baz=327			*e*S		**Sn**	**02 33 55.0**	**+2.6**

*IDC **04** 02:41:04.2±0.8, 6°13S×143°36E, h0km, mb4.0/8, mbtmp4.0/10, ML1.3/1, MS3.2/2, Error ellipse: s-maj=38.0km s-min=18.6km az=73.0*

ISC 04 02:41:09.1±0.8, 6°3S±0°1×143°3E±0°1, h35km, n12, σ1§79/12, mb4.0/8, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.96**	**129**	Pn	**Pn**	**02 42 19.2**	**-2.0**
	0.7nm,0.3s,baz=352,slow=5.6,SNR=1.7						
PMG				Sn	**Sn**	**02 43 18.3**	**+1.0**
	9.9nm,0.3s,baz=230,slow=22,SNR=11						
	2.4nm,0.4s						
CTA	**Charters Tower**	**14.05**	**168**	LR	LR	02 50 14.9	
	comp=Z,131nm,19.7s,baz=48,slow=39						
WRA	**Warramunga Arr**	**16.13**	**212**	Pn	**Pn**	**02 44 50.4**	**-3.0**
	0.9nm,0.3s,baz=30,slow=13,SNR=50						
WRA				Sn	Sn	02 47 39.6	-12
	0.4nm,0.3s,baz=42,slow=22,SNR=6.4						
WRA				Lg	Lg	02 49 31.7	
	0.3nm,0.3s,baz=22,slow=29,SNR=4.6						
ASAR	**Alice Springs**	**19.51**	**207**	P	**P**	**02 45 34.0**	**+0.4**
	9.4nm,0.8s,baz=32,slow=9.9,SNR=68						
ASAR				Sn	S	02 49 01.7	-10
	0.1nm,0.3s,baz=16,slow=28,SNR=3.3						
ASAR				Lg	Lg	02 51 21.9	
	0.1nm,0.3s,baz=94,slow=35,SNR=2.3						
STKA	**Stephens Creek**	**25.53**	**183**	P	**P**	**02 46 36.6**	**+2.0**
	1.5nm,0.9s,baz=9.5,slow=6.1,SNR=2.0						
STKA				LR	LR	02 59 14.6	
	comp=Z,43nm,18.3s,baz=19,slow=42						
	1.5nm,0.9s						
KSRS	**Korea Array**	**45.79**	**343**	P	**P**	**02 49 25.4**	**-2.0**
	1.0nm,0.8s,baz=161,slow=8.1,SNR=1.8						
	1.0nm,0.8s						
MKAR	**Makanchi Array**	**75.37**	**322**	P	**P**	**02 52 49.6**	**+0.4**
	1.7nm,0.8s,baz=111,slow=6.7,SNR=20						
	1.7nm,0.8s						
ZALV	**Zalesovo Beam**	**77.29**	**329**	P	**P**	**02 53 00.5**	**+0.6**
	0.3nm,0.4s,baz=190,slow=4.4,SNR=1.6						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**79.24**	**324**	P	**P**	**02 53 09.9**	**-0.8**
	0.9nm,0.8s,baz=105,slow=4.7,SNR=5.9						
	0.9nm,0.8s						
QSPA	**South Pole Qui**	**83.71**	**180**	P	**P**	**02 53 36.1**	**+1.8**
	1.0nm,0.6s,baz=360,slow=0.6,SNR=6.0						
	1.0nm,0.6s						
BVAR	**Borovoye Array**	**84.81**	**325**	P	**P**	**02 53 41.5**	**+1.5**
	4.0nm,0.8s,baz=111,slow=6.7,SNR=26						
	4.0nm,0.8s						
ILAR	**Eielson Array**	**87.20**	**24**	P	**P**	**02 53 51.9**	**+0.3**
	1.2nm,0.8s,baz=239,slow=5.9,SNR=10						
	1.2nm,0.8s						

*SJA **04** 02:42:20.3±0.5, 24°13S×67°00W, h210km±3km, ML3.7, MW3.7*

*GUC **04** 02:42:22.3±0.5, 24°09S×67°41W, h240km±5km, ML4.1*

*IDC **04** 02:42:33.1±13.0, 24°36S×66°27W, h278km±110km, mb3.2/2, mbtmp3.7/4, Error ellipse: s-maj=148.2km s-min=23.5km az=117.0*

ISC 04 02:42:21.6±0.8, 24°13S±0°04×67°08W±0°04, h202km±7km, n40, σ1§13/59, 3C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.55**	**113**	*e*P	**Pn**	**02 42 55.6**	**-0.4**
SLA				*e*S	**Sn**	**02 43 21.3**	**-1.5**
AF01	**San Pedro de A**	**1.55**	**319**	*e*S	**Sn**	**02 43 25.5**	**+2.3**
AF01				IAML		02 43 26.9	
	comp=E,286nm,0.2s						
FSA	**Cafayete**	**2.21**	**153**	*e*P	**Pn**	**02 43 02.2**	**-0.3**
LVC	**Limon Verde**	**2.27**	**312**	*e*P	**Pn**	**02 43 03.7**	**+0.2**
LVC				*e*S	**Sn**	**02 43 35.9**	**-0.1**
LVC				IAML		02 43 36.6	
	comp=Z,133nm,0.9s						
LVC	**Limon Verde**	**2.27**	**312**	*e*P	**Pn**	**02 43 04.0**	**+0.5**
LVC				*e*S	**Sn**	**02 43 36.4**	**+0.3**
LVC				IAML		02 43 36.9	
	comp=Z,1μm,0.4s						
PB15	**IPOC Station P**	**2.38**	**292**	*e*P	**Pn**	**02 43 04.9**	**+0.3**
PB15				*e*S	**Sn**	**02 43 37.9**	**0.0**
PB15	**IPOC Station P**	**2.38**	**292**	*e*P	**Pn**	**02 43 05.1**	**+0.6**
PB15				*e*S	**Sn**	**02 43 37.5**	**-0.5**
YJA	**Yavi**	**2.42**	**37**	*e*P	**Pn**	**02 43 05.0**	**-0.2**
YJA				*e*S	**Sn**	**02 43 38.1**	**-1.1**
GO02	**Mina Guanaco**	**2.51**	**245**	*e*P	**Pn**	**02 43 06.3**	**+0.3**
GO02				*e*S	**Sn**	**02 43 40.6**	**0.0**
GO02	**Mina Guanaco**	**2.51**	**245**	*e*P	**Pn**	**02 43 06.5**	**+0.5**
GO02				*e*S	**Sn**	**02 43 40.8**	**+0.2**
GO02				IAML		02 43 41.4	
	comp=E,706nm,0.2s						
PB06	**IPOC Station P**	**2.70**	**301**	*e*P	**Pn**	**02 43 08.4**	**+0.3**
PB06				*e*S	**Sn**	**02 43 43.7**	**-0.5**
PB06				IAML		02 43 47.6	
	comp=Z,357nm,0.4s						
PB06	**IPOC Station P**	**2.70**	**301**⇑	*e*P	**Pn**	**02 43 08.5**	**+0.4**
PB06				*e*S	**Sn**	**02 43 43.0**	**-1.3**
PB06				IAML		02 43 46.5	
	comp=N,489nm,0.1s						
PB09	**IPOC Station P**	**3.07**	**319**	*e*P	**Pn**	**02 43 12.9**	**+0.6**
PB09				IAML		02 43 58.3	
	comp=Z,99nm,0.4s						
PB09	**IPOC Station P**	**3.07**	**319**⇑	*e*P	**Pn**	**02 43 13.0**	**+0.7**
PB09				*e*S	**Sn**	**02 43 51.8**	**-0.2**
AHML	**Horco Molle**	**3.07**	**150**	*e*P	Pn	02 42 54.1	-18
PB14	**IPOC Station P**	**3.08**	**260**	*e*P	**Pn**	**02 43 12.9**	**+0.4**
PB14				*e*S	**Sn**	**02 43 51.0**	**-1.3**
PB14				IAML		02 43 53.7	
	comp=Z,129nm,0.6s						
PB14	**IPOC Station P**	**3.08**	**260**⇑	*e*P	**Pn**	**02 43 12.3**	**-0.2**
PB14				*e*S	**Sn**	**02 43 50.2**	**-2.1**
PB14				IAML		02 43 51.1	
	comp=E,145nm,0.3s						
AC02	**Maricunga**	**3.27**	**214**	*e*P	**Pn**	**02 43 15.4**	**+0.4**
PB04	**IPOC Station P**	**3.35**	**302**	*e*P	**Pn**	**02 43 15.9**	**+0.2**
PB04				*e*S	**Sn**	**02 43 57.3**	**-0.7**
PB04				IAML		02 44 04.6	
	comp=Z,170nm,0.2s						
PB04	**IPOC Station P**	**3.35**	**302**	*e*P	**Pn**	**02 43 14.9**	**-0.8**
PB04				*e*S	**Sn**	**02 43 55.2**	**-2.8**
PB07	**IPOC Station P**	**3.53**	**312**	*e*P	**Pn**	**02 43 17.9**	**0.0**
PB07				*e*S	**Sn**	**02 43 59.5**	**-2.5**
PB07				IAML		02 44 02.4	
	comp=Z,191nm,0.4s						
PB07	**IPOC Station P**	**3.53**	**312**	*e*P	**Pn**	**02 43 17.1**	**-0.8**
PB07				*e*S	**Sn**	**02 43 59.2**	**-2.7**
AC01	**Pan de Azucar**	**3.77**	**237**	*e*P	**Pn**	**02 43 19.7**	**-0.9**
AC01				IAML		02 44 07.9	
	comp=Z,85nm,0.5s						
PB01	**IPOC Station P**	**3.80**	**324**	*e*P	**Pn**	**02 43 20.7**	**-0.4**
PB01				*e*S	**Sn**	**02 44 06.1**	**-1.6**
PB01				IAML		02 44 07.8	
	comp=Z,84nm,0.1s						
PB01	**IPOC Station P**	**3.80**	**324**	*e*P	**Pn**	**02 43 20.7**	**-0.4**
PB02	**IPOC Station P**	**3.82**	**317**	*e*P	**Pn**	**02 43 20.9**	**-0.5**
PATCX	**Punta Patache**	**4.36**	**319**	*e*P	**Pn**	**02 43 28.0**	**-0.1**
GO03	**Copiap**	**4.47**	**219**	*e*P	**Pn**	**02 43 28.8**	**-0.6**
GO03				*e*S	**Sn**	**02 44 20.7**	**-2.1**
TA01	**Diego Aracena**	**4.57**	**320**	*e*P	**Pn**	**02 43 29.9**	**-0.7**
TA01				IAML		02 44 31.2	
	comp=Z,37nm,0.3s						
GO01	**Chusmiza**	**4.86**	**336**	*e*P	**Pn**	**02 43 34.9**	**+0.1**
GO01				*e*S	**Sn**	**02 44 32.2**	**-0.2**
PB11	**IPOC Station P**	**4.97**	**331**	*e*P	**Pn**	**02 43 34.4**	**-1.4**
PB11				*e*S	**Sn**	**02 44 31.6**	**-2.7**
PB11				IAML		02 44 34.1	
	comp=Z,50nm,0.2s						
ACLC	**CERRO LA CRUZ**	**5.27**	**179**	*e*P	**Pn**	**02 43 39.3**	**-0.4**
AC04	**Llanos de Chal**	**5.42**	**221**	*e*P	**Pn**	**02 43 40.0**	**-1.4**
AC04				IAML		02 44 48.7	
	comp=Z,27nm,0.7s						
CPUP	**Villa Florida**	**9.09**	**106**	P	Pn	02 44 31.9	+2.9
	comp=Z,0.7nm,0.5s,baz=278,slow=14,SNR=3.6						
BDFB	**Brasilia**	**19.80**	**68**	P	**P**	**02 46 36.0**	**-0.9**
	comp=Z,2.3nm,0.8s,baz=231,slow=12,SNR=3.9						
QSPA	**South Pole Qui**	**66.07**	**180**	P	**P**	**02 52 48.7**	**+2.0**
	comp=Z,0.7nm,0.5s,baz=148,slow=2.4,SNR=16						
	comp=Z,0.7nm,0.5s						
TORD	**Torodi Ar. Bea**	**76.68**	**69**	P	**P**	**02 53 51.3**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=247,slow=3.7,SNR=2.2						
	comp=Z,0.4nm,0.6s						
WRA	**Warramunga Arr**	**131.48**	**207**	PKP	**PKiKP**	**03 01 12.9**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=158,slow=1.5,SNR=2.0						

ZALV	**Zalesovo Beam**	**143.54**	**28**	PKP	**PKPdf**	**03 01 32.1**	**+0.3**		
	comp=Z,0.4nm,0.5s,baz=307,slow=5.0,SNR=1.9								
MKAR	**Makanchi Array**	**146.67**	**40**	PKPbc	**PKiKP**	**03 01 41.2**	**-0.7**		
	comp=Z,0.8nm,0.7s,baz=298,slow=3.4,SNR=8.8								

WEL 04 02:43:45.4±0.4, 42°S±3°×17°4E±°, h15km±3km, M3.4/12, ML3.6/12, MLv3.4/12, Error ellipse: s-maj=0.0km s-min=0.0km az=163.7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.03**	**123**	P			Pg	02 43 48.5	+0.4
CMWZ				S			Sg	02 43 51.6	+1.6
SDNS	**Seddon**	**0.08**	**333**	P			Pg	02 43 49.9	+1.4
WDFS	**Ward Fire Stat**	**0.10**	**201**	P			Pg	02 43 49.1	+0.4
WDFS				S			Sg	02 43 52.1	+1.3
SEDS	**Seddon Fire St**	**0.10**	**307**	P			Pb	02 43 49.6	+0.5
SEDS				S			Sb	02 43 53.0	+1.4
BSWZ	**Blackbirch Sta**	**0.23**	**275**	P			Pb	02 43 51.5	+0.1
BSWZ				S			Sb	02 43 56.1	+0.8
TUWZ	**Tuamarina**	**0.36**	**329**	P			Pb	02 43 53.7	+0.3
TUWZ				S			Sb	02 43 59.8	+1.1
TCW	**Tory Channel**	**0.53**	**7**	P			Pb	02 43 56.2	-0.1
TCW				S			Sb	02 44 03.9	+0.1
BHW	**Baring Head**	**0.61**	**58**	P			Pg	02 43 57.4	+0.1
BHW				S			Sn	02 44 07.6	-1.4
WEL	**Wellington**	**0.63**	**44**	P			Pg	02 43 57.8	+0.1
WEL				S			Sn	02 44 09.4	-0.1
NNZ	**Nelson**	**0.80**	**310**	P			Pb	02 44 01.4	+0.5
NNZ				S			Sn	02 44 13.3	-0.3
PLWZ	**Palliser**	**0.82**	**79**	P			Pg	02 44 00.6	-0.7
KHZ	**Kahutara**	**0.83**	**215**	P			Pg	02 44 01.7	+0.1
KHZ				S			Sn	02 44 14.5	-0.1
CAW	**Cannon Point**	**0.91**	**47**	P			Pb	02 44 02.6	-0.3
CAW				S			Sn	02 44 16.2	-0.3
DUWZ	**D'Urville Isla**	**0.95**	**348**	P			Pb	02 44 03.8	0.0
THZ	**Tophouse**	**0.96**	**268**	P			Pn	02 44 04.2	-0.1
PAWZ	**Paruwai Farm**	**1.00**	**70**	P			Pb	02 44 03.2	-1.2
KIW	**Kapiti Island**	**1.03**	**32**	P			Pb	02 44 04.7	-0.2
MRNZ	**Matariki Terra**	**1.12**	**287**	P			Pg	02 44 07.3	+0.3
MTW	**Mount Morrison**	**1.15**	**60**	P			Pn	02 44 05.4	-1.5
TKNZ	**Takaka Hill**	**1.16**	**307**	P			Pg	02 44 07.7	-0.1
TRWZ	**Traveller**	**1.18**	**74**	P			Pn	02 44 05.3	-2.0
OGWZ	**Otaki Gorge**	**1.18**	**39**	P			Pn	02 44 06.8	-0.5
HOWZ	**Holdsworth Sta**	**1.30**	**51**	P			Pn	02 44 07.8	-1.3
TMWZ	**Te Maipa**	**1.43**	**64**	P			Pn	02 44 08.9	-1.9
GVZ	**Greta Valley S**	**1.50**	**214**	P			Pn	02 44 10.6	-1.2
MRZ	**Mangatainoka R**	**1.50**	**45**	P			Pn	02 44 10.7	-1.1
TIWZ	**Tintock**	**1.60**	**54**	P			Pn	02 44 11.9	-1.2
LTZ	**Lake Taylor**	**1.77**	**233**	P			Pn	02 44 14.8	-0.6
DSZ	**Denniston Nort**	**1.78**	**269**	P			Pb	02 44 17.4	-0.3
PRWZ	**Pori Road**	**1.79**	**49**	P			Pn	02 44 14.5	-1.2
POWZ	**Post Office Ro**	**1.80**	**42**	P			Pn	02 44 15.4	-0.5
BFZ	**Birch Farm**	**1.88**	**57**	P			Pn	02 44 15.0	-1.9
WAZ	**Wanganui**	**2.07**	**17**	P			Pb	02 44 22.6	0.0
DVHZ	**Dannevirke**	**2.08**	**47**	P			Pn	02 44 17.9	-1.7
ANWZ	**Angora Road**	**2.15**	**54**	P			Pn	02 44 19.8	-0.8
TSZ	**Takapari Road**	**2.15**	**39**	P			Pn	02 44 20.1	-0.6
OXZ	**Oxford**	**2.25**	**224**	P			Pb	02 44 25.9	+0.2
INZ	**Inchbonnie**	**2.26**	**243**	P			Pn	02 44 22.6	+0.4
LREZ	**Lake Rotokare**	**2.28**	**4**	P			Pb	02 44 25.9	-0.3
NMEZ	**Namu Road**	**2.33**	**354**	P			Pb	02 44 28.5	+1.4
AKCZ	**Akaroa Harbour**	**2.33**	**203**	P			Pn	02 44 20.9	-2.3
PNHZ	**Pukenui**	**2.38**	**41**	P			Pn	02 44 22.3	-1.5
WPHZ	**Waipukurau**	**2.39**	**46**	P			Pg	02 44 29.9	-1.3
PREZ	**Palmer Road**	**2.39**	**360**	P			Pb	02 44 28.2	+0.1
KHEZ	**Kahui Hut**	**2.44**	**357**	P			Pb	02 44 28.8	-0.2
NEZ	**North Egmont**	**2.46**	**358**	P			Pb	02 44 28.9	-0.5
NBEZ	**Newall Road No**	**2.48**	**354**	P			Pb	02 44 29.8	+0.3
PKE	**Pukeiti**	**2.54**	**357**	P			Pb	02 44 29.2	-1.5
MTVZ	**Mangateitei**	**2.54**	**23**	P			Pb	02 44 31.1	+0.3
MOVZ	**Moawhango**	**2.61**	**28**	P			Pb	02 44 31.0	-0.9
WNVZ	**Wahianoa**	**2.63**	**25**	P			Pn	02 44 34.1	+0.8
VRZ	**Vera Road**	**2.64**	**10**	P			Pn	02 44 30.8	-1.6
TRVZ	**Turoa**	**2.65**	**24**	P			Pb	02 44 30.3	-2.3
BHHZ	**Black Hill Sta**	**2.66**	**33**	P			Pn	02 44 28.6	+0.9
KRHZ	**Kereru**	**2.67**	**39**	P			Pn	02 44 26.8	-1.1
WHVZ	**Whangaehu Hut**	**2.67**	**24**	P			Pb	02 44 32.7	-0.3
MAVZ	**Matarangi**	**2.68**	**24**	P			Pb	02 44 32.4	-0.8
FWVZ	**Far West T-bar**	**2.69**	**23**	P			Pb	02 44 33.1	-0.3
TUVZ	**Tukino**	**2.71**	**25**	P			Pb	02 44 32.0	-1.6
COVZ	**Chateau Observ**	**2.74**	**23**	P			Pb	02 44 33.5	-0.5
NGZ	**Ngauruhoe**	**2.77**	**23**	P			Pb	02 44 32.7	-2.0
SNVZ	**South Ngauruho**	**2.78**	**24**	P			Pb	02 44 34.4	-0.4
OTVZ	**Oturere**	**2.81**	**24**	P			Pn	02 44 30.6	+0.7
KAHZ	**Kahuranaki**	**2.82**	**47**	P			Pb	02 44 35.7	+0.3
NNVZ	**North Ngauruho**	**2.82**	**23**	P			Pb	02 44 35.0	-0.5
TWVZ	**Taurewa**	**2.83**	**20**	P			Pb	02 44 33.3	-2.3
WTVZ	**West Tongariro**	**2.83**	**23**	P			Pb	02 44 34.9	-0.8
ETVZ	**East Tongariro**	**2.84**	**25**	P			Pb	02 44 34.9	-1.1
KRVZ	**Karewarewa**	**2.86**	**23**	P			Pb	02 44 36.4	+0.2
TMVZ	**Te Maari**	**2.86**	**24**	P			Pb	02 44 34.4	-1.8
KWHZ	**Kaweka Forest**	**2.87**	**37**	P			Pb	02 44 37.8	+1.5
NTVZ	**North Tongariro**	**2.87**	**24**	P			Pn	02 44 31.5	+0.8
WVZ	**Waitaha Valley**	**2.88**	**241**	P			Pb	02 44 35.4	-1.1
KATZ	**Kakaramea**	**2.99**	**23**	P			Pb	02 44 38.7	+0.3
RPZ	**Rata Peaks**	**3.04**	**228**	P			Pn	02 44 31.4	-1.5
BKZ	**Black Stump Fm**	**3.11**	**35**	P			Pb	02 44 40.6	+0.2
RATZ	**Rangitukua**	**3.11**	**23**	P			Pb	02 44 38.7	-1.7
WATZ	**Wairara**	**3.25**	**22**	P			Pb	02 44 43.8	+1.1
HIZ	**Hauiti**	**3.26**	**9**	P			Pn	02 44 39.3	+3.4
MRHZ	**Matea Rd**	**3.36**	**31**	P			Pn	02 44 40.0	+2.6
TMZ	**Timaru**	**3.53**	**220**	P			Pn	02 44 38.2	-1.4
TLZ	**Tolley Road**	**3.56**	**17**	P			Pn	02 44 43.9	+3.9
ODZ	**Otahua Downs**	**4.20**	**217**	P			Pn	02 44 47.2	-1.6
MKAZ	**Moumakai**	**4.69**	**10**	P			Pn	02 44 58.5	+3.0

*CATAC **04** 03:06:56.4±0.3, 8°.51N×83°.33W, h4km±2km, ML3.8*
*UCR **04** 03:06:56.4±1.0, 8°.49N×83°.32W, h11km±1km, MW4.3, Fault plane solution: NP1:φs77.33000°, δ76.00000°, λ43.22000°.*
*UPA **04** 03:06:58.5±1.6, 8°.49N×83°.16W, h14km±4km, MW3.7*

ISC 04 03:06:56.0±0.9, 8°.49N±0°.03×83°.31W±0°.02, h14km±4km, n59, σ1°23/80, 8C-12D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PTJ1	**Puerto Jimnez**	**0.04**	**12**	*eP*			**Pg**	**03 06 58.5**	**-0.3**
PTJ1				*eS*			**Sg**	**03 07 00.9**	**+0.4**
JIME	**Puerto Jimenez**	**0.05**	**343**	*eP*			**Pg**	**03 06 58.5**	**-0.3**
JIME				*eS*			**Sg**	**03 07 00.9**	**+0.4**
PIRO	**Carate, Puerto**	**0.09**	**196**	*eP*			**Pg**	**03 06 59.2**	**+0.1**
PIRO	**Carate, Puerto**	**0.09**	**196**	*iP*			**Pg**	**03 06 59.1**	**-0.1**
PIRO				IAML				03 07 05.1	
	comp=Z,66μm,1.0s								
FITO	**Golfito**	**0.20**	**50**	*eP*			**Pg**	**03 07 00.5**	**-0.2**
FITO				*eS*			**Sg**	**03 07 04.2**	**+0.3**
EDAD	**Golfito**	**0.21**	**42**	*eP*			**Pg**	**03 07 00.7**	**-0.2**
EDAD				*eS*			**Sg**	**03 07 04.1**	**-0.1**
PLAN	**Los Planes de**	**0.41**	**296**	*iP*			**Pg**	**03 07 04.4**	**+0.2**
PLAN				IAML				03 07 19.5	
	comp=Z,8μm,1.0s								
CDITO	**Canoas**	**0.44**	**80**	*iP*			**Pg**	**03 07 05.1**	**+0.2**
CDITO				*eS*			**Sg**	**03 07 09.7**	**-1.2**
CDITO	**Canoas**	**0.44**	**80**	*eP*			**Pg**	**03 07 05.0**	**+0.2**
CDITO				*eS*			**Sb**	**03 07 12.3**	**+0.3**
CDITO	**Canoas**	**0.44**	**80**	*iP*			**Pg**	**03 07 05.0**	**+0.2**
CDITO				*iS*			**Sb**	**03 07 12.4**	**+0.3**
CDITO				IAML				03 07 17.9	
	comp=Z,5μm,1.0s								
EDPN	**Palmar Norte**	**0.49**	**343**	*eP*			**Pg**	**03 07 05.2**	**-0.5**
PTPM	**Petroterminale**	**0.52**	**124**	*eP*			**Pg**	**03 07 06.8**	**+0.6**
PTPM				*eS*			**Sg**	**03 07 09.3**	**-3.9**
EDP2	**Potrero Grande**	**0.54**	**14**	*eP*			**Pg**	**03 07 06.6**	**-0.1**
MLIR3	**Monte Lirio, C**	**0.57**	**58**	*iP*			**Pg**	**03 07 08.0**	**+0.7**
MLIR3				*eS*			**Sg**	**03 07 15.8**	**+1.0**
POTG	**Potrero Grande**	**0.59**	**19**	*eP*			**Pg**	**03 07 07.4**	**-0.2**
POTG				*eS*			**Sb**	**03 07 16.6**	**+0.3**
POTG	**Potrero Grande**	**0.59**	**19**	*iP*			**Pg**	**03 07 07.3**	**-0.3**
POTG				*iS*			**Sg**	**03 07 16.4**	**+0.9**
POTG				IAML				03 07 20.7	
	comp=Z,12μm,1.0s								
BRU2	**Volcan**	**0.68**	**64**	*eP*			**Pg**	**03 07 09.6**	**+0.2**
BRU2				*eS*			**Sg**	**03 07 18.7**	**+0.2**
BRU2	**Volcan**	**0.68**	**64**	*eP*			**Pg**	**03 07 09.4**	**0.0**
OCHAL	**Ojochal**	**0.69**	**331**	*iP*			**Pg**	**03 07 08.6**	**-0.9**
OCHAL				IAML				03 07 23.9	
	comp=Z,29nm,1.0s								

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BC3P	**Paso Ancho**	**0.76**	**65**	*eP*			**Pg**	**03 07 10.8**	**-0.1**
BC3P				*eS*			**Sg**	**03 07 21.2**	**+0.1**
DRK0	**Durika**	**0.77**	**5**	*eP*			**Pg**	**03 07 10.1**	**-0.9**
BCO2	**Palmira**	**0.81**	**74**	*iP*			**Pg**	**03 07 11.7**	**0.0**
BCO2				*eS*			**Sb**	**03 07 23.4**	**+0.7**
PTAR3	**Potrerillos Ar**	**0.83**	**76**	*eP*			**Pg**	**03 07 12.1**	**-0.1**
PTAR3				*eS*			**Sg**	**03 07 19.9**	**-3.3**
DVD	**David**	**0.85**	**94**	*iP*			**Pg**	**03 07 13.1**	**+0.5**
DVD				*eS*			**Sg**	**03 07 22.0**	**-1.9**
PEZE	**Perez Zeledon,**	**0.95**	**338**	*eP*			**Pg**	**03 07 14.0**	**-0.6**
PEZE	**Perez Zeledon,**	**0.95**	**338**	*iS*			**Sg**	**03 07 27.3**	**+0.2**
CDM	**Cerro de Muert**	**1.14**	**337**	*eP*			**Pb**	**03 07 17.0**	**-0.9**
CDM	**Cerro de Muert**	**1.14**	**337**	*iP*			**Pb**	**03 07 16.9**	**-0.9**
CDM				*iS*			**Sg**	**03 07 33.0**	**-0.2**
CDM				IAML				03 07 35.8	
	comp=Z,2μm,1.0s								
CHGR2	**Aguacate**	**1.23**	**69**	*eS*			**Sb**	**03 07 31.8**	**-3.1**
CNI2	**El Empalme, Bo**	**1.24**	**42**	*eP*			**Pn**	**03 07 19.3**	**+0.3**
CNI2				*eS*			**Sb**	**03 07 32.4**	**-2.8**
LLNJ	**Naranjito**	**1.25**	**321**	*eP*			**Pn**	**03 07 18.2**	**-0.8**
ABE2	**San Pablo**	**1.41**	**329**	*eP*			**Pn**	**03 07 21.7**	**+0.3**
LCR2	**La Lucha 2**	**1.42**	**331**	*eP*			**Pn**	**03 07 21.1**	**-0.5**
LCR2	**La Lucha 2**	**1.42**	**331**	*iP*			**Pn**	**03 07 21.1**	**-0.5**
LCR2				*iS*			**Sn**	**03 07 41.0**	**+0.9**
LCR2				IAML				03 07 42.5	
	comp=Z,680nm,1.0s								
REPA	**Paraso**	**1.44**	**337**	*eP*			**Pn**	**03 07 22.8**	**+1.1**
OCM	**Ochomogo**	**1.53**	**335**	*iP*			**Pn**	**03 07 23.4**	**+0.2**
OCM				IAML				03 07 46.8	
	comp=Z,790nm,1.0s								
VTCV	**VTCV, Calle Va**	**1.54**	**345**	*eP*			**Pn**	**03 07 23.6**	**+0.4**
VTCV	**VTCV, Calle Va**	**1.54**	**345**	*iP*			**Pn**	**03 07 23.7**	**+0.5**
VTCV				IAML				03 07 54.9	
	comp=Z,2μm,1.0s								
CVTV	**Tajo**	**1.56**	**344**	*eP*			**Pn**	**03 07 24.2**	**+0.5**
VICA	**Volcano Irazu**	**1.57**	**340**	*eP*			**Pn**	**03 07 24.6**	**+0.7**
VTR0	**Volcan Turrial**	**1.58**	**344**	*eP*			**Pn**	**03 07 24.5**	**+0.5**
CVTR	**Volcan Turrial**	**1.58**	**344**	*eP*			**Pn**	**03 07 24.4**	**+0.5**
VTUN	**Crater Central**	**1.58**	**344**	*iP*			**Pn**	**03 07 24.6**	**+0.6**
VTUN				IAML				03 07 55.2	
	comp=Z,740nm,1.0s								
LCOCO	**El Coco**	**1.60**	**351**	*eP*			**Pn**	**03 07 24.9**	**+1.0**
HDC3	**Heredia 3**	**1.69**	**332**	*iP*			**Pn**	**03 07 26.8**	**+1.5**
HDC3				IAML				03 07 54.3	
	comp=Z,1μm,1.0s								
JACO	**JACO, Garabito**	**1.77**	**311**	*iP*			**Pn**	**03 07 25.5**	**-0.7**
JACO				IAML				03 07 58.9	
	comp=Z,300nm,1.0s								
TCS1	**Tacares**	**1.82**	**328**	*iP*			**Pn**	**03 07 28.6**	**+1.6**
TCS1				IAML				03 07 56.2	
	comp=Z,13μm,1.0s								
RIFO	**Rio Frio, Sara**	**1.91**	**342**	*iP*			**Pn**	**03 07 29.3**	**+1.1**
RIFO				IAML				03 08 02.5	
	comp=Z,660nm,1.0s								
LAFE	**Finca La Fe, P**	**2.05**	**310**	*iP*			**Pb**	**03 07 33.0**	**0.0**
LAFE				IAML				03 08 12.1	
	comp=Z,1.8nm,1.0s								
CPMI	**Catarata Coope**	**2.07**	**329**	*iP*			**Pb**	**03 07 33.0**	**-0.5**
CPMI				IAML				03 08 09.0	
	comp=Z,390nm,1.0s								
SOCE	**Pocosol**	**2.28**	**326**	*iP*			**Pn**	**03 07 35.4**	**+2.1**
SOCE				IAML				03 07 38.2	
	comp=Z,710nm,1.0s								
JTS	**Las Juntas de**	**2.41**	**318**	*eP*			**Pb**	**03 07 37.9**	**-1.3**
JTS				*eS*			**Sn**	**03 08 06.4**	**+2.0**
JTS	**Las Juntas de**	**2.41**	**318**	*iP*			**Pn**	**03 07 37.7**	**+2.6**
INDI	**Punta indio, G**	**2.56**	**302**	*iP*			**Pn**	**03 07 37.0**	**-0.1**
INDI				IAML				03 08 29.9	
	comp=Z,250nm,1.0s								
SAJU	**San Juanillo,**	**2.84**	**304**	*iP*			**Pn**	**03 07 41.6**	**+0.7**
SAJU				IAML				03 08 41.5	
	comp=Z,120nm,1.0s								
AZU	**Azuero**	**3.09**	**103**	*eP*			**Pn**	**03 07 47.4**	**+3.0**
AZU				*eS*			**Sb**	**03 08 26.1**	**-2.2**
HZTE	**Horizontes, Gu**	**3.15**	**315**	*iP*			**Pn**	**03 07 48.2**	**+2.9**
HZTE				IAML				03 08 47.3	
	comp=Z,130nm,1.0s								
BCIP	**Isla Barro Col**	**3.50**	**79**	*eP*			**Pn**	**03 07 52.2**	**+2.2**
BLUN	**Bluefields**	**3.52**	**353**	*iP*			**Pn**	**03 07 51.0**	**+0.7**
BLUN				IAML				03 10 08.8	
	comp=Z,220nm,1.0s								

*MOS **04** 03:10:35.8±1.0, 0°.43S×123°.06E, h47km, mb5.2/59, Error ellipse: s-maj=10.0km s-min=4.7km az=116.7*
*IDC **04** 03:10:36.6±1.6, 0°.28S×123°.36E, h52km±13km, mb4.3/26, mbtmp4.5/27, ML4.8/1, MS4.0/46, Error ellipse: s-maj=18.4km s-min=10.8km az=67.0*
*GCMT **04** 03:10:38.7±0.1, 0°.50S±0°.01×123°.21E±0°.01, h49km±1km, MW5.2/124, Moment Tensor Solution. s89,c115; s124,c220; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr0.21±.02; Mθθ0.59±.01; Mφφ-0.79±.01; Mrθ0.37±.01; Mθφ-0.12±.01; Mφr-0.00±.02; Best double couple: M0.81400×10^17 NP1:φs46.00000°, δ70.00000°, λ156.00000°. NP2:φs144.00000°, δ67.00000°, λ22.00000°. Principal axes: T 0.8200, Plg31.0000°, Azm4.0000°; N -0.0130, Plg59.0000°, Azm189.0000°; P -0.8080, Plg2.0000°, Azm95.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **04** 03:10:39.6±3.0, 0°.66S±0°.05×123°.14E±0°.05, h49km±4km, mb5.3/224 Error ellipse: s-maj=7.7km s-min=6.3km az=131.0*
*DJA **04** 03:10:39.6±0.1, 1°.5S±1°×12°.3E±°, h48km±2km, M5.4/102, mb5.5/102, mB5.8/73, MLv5.9/24, Mw5.2/33, Mw(mB)5.4/73, MwMwp4.9/14, Mwp5.2/14*

ISC 04 03:10:40.2±0.4, 0°.65S±0°.03×123°.13E±0°.04, h65km±3km, h66km: pP-P, n1053, σ1°68/988, mb5.2/221, 38C-8D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.53**	**222**				**Pn**	**03 10 50.2**	**-2.6**
LUWI							**Sn**	**03 10 58.8**	**-3.3**
LUWI	**Luwuk**	**0.53**	**222**	P			**Pn**	**03 10 50.9**	**-1.9**
GTOI	**Gorontalo**	**1.28**	**355**	P			**Pn**	**03 11 02.4**	**+0.3**
KMSI	**Cibinong**	**1.48**	**35**	P			**Pn**	**03 11 03.2**	**-1.6**
MRSI	**Marisa**	**1.63**	**313**	P			**Pn**	**03 11 05.7**	**-1.0**
TOLI2	**Tolitoli**	**2.93**	**307**	Pn			**Pn**	**03 11 24.7**	**+0.4**
TOLI2				Sn			**Sn**	**03 11 57.6**	**-0.8**
TOLI2	**Tolitoli**	**2.93**	**307**	P			**Pn**	**03 11 25.5**	**+1.2**
SANI	**Sanana**	**3.18**	**116**	P			**Pn**	**03 11 25.0**	**-2.8**
SANI	**Sanana**	**3.18**	**116**	P			**Pn**	**03 11 24.8**	**-3.0**
TTSI	**Tana Toraja**	**4.08**	**234**	P			**Pn**	**03 11 40.4**	**+0.4**
LBMI	**Labuha**	**4.37**	**90**	P			**Pn**	**03 11 41.8**	**-2.3**
TNTI	**Ternate**	**4.47**	**72**	Pn			**Pn**	**03 11 44.4**	**-1.0**
TNTI				Sn			**Sn**	**03 12 35.0**	**-1.1**
TNTI	**Ternate**	**4.47**	**72**	P			**Pn**	**03 11 45.7**	**+0.3**
TNTI	**Ternate**	**4.47**	**72**	P			**Pn**	**03 11 44.0**	**-1.4**
NLAI	**Namlea**	**4.73**	**123**	P			**Pn**	**03 11 48.4**	**-0.6**
BBSI	**Bau Bau**	**4.84**	**187**	P			**Pn**	**03 11 50.5**	**0.0**
SGSI	**Sangihe**	**4.93**	**29**	P			**Pn**	**03 11 51.4**	**-0.3**
KAPI	**Kappang**	**5.49**	**218**	Pn			**Pn**	**03 11 59.9**	**+0.4**
KAPI				Sn			**Sn**	**03 13 00.1**	**-1.2**
KAPI	**Kappang**	**5.49**	**218**	P			**Pn**	**03 12 00.8**	**+1.3**
KAPI	**Kappang**	**5.49**	**218**	*c*	*i*	P	**Pn**	**03 11 59.5**	**0.0**
BKSI	**Bulukumba**	**5.53**	**213**	P			**Pn**	**03 12 00.1**	**+0.2**
	720nm,0.8s,7μm3.6nm								
SMKI	**Samarinda**	**5.92**	**272**	P			**Pn**	**03 12 06.8**	**+1.4**
	2μm,1.1s,22μm								
BKB	**Balikpapan**	**6.26**	**264**	Pn			**Pn**	**03 12 10.4**	**+0.4**
BKB	**Balikpapan**	**6.26**	**264**	P			**Pn**	**03 12 11.8**	**+1.8**
BKB	**Balikpapan**	**6.26**	**264**	P			**Pn**	**03 12 11.2**	**+1.2**
	3μm,0.9s,32μm10μm11nm								
BNDI	**Bandanaira**	**7.79**	**120**	P			**Pn**	**03 12 31.5**	**+0.7**
BNDI	**Bandanaira**	**7.79**	**120**	P			**Pn**	**03 12 29.5**	**-1.3**
	2μm,0.8s,17μm6.3nm								
MMRI	**Maumere**	**7.99**	**186**				**Pn**	**03 12 32.3**	**-1.3**
MMRI	**Maumere**	**7.99**	**186**	P			**Pn**	**03 12 33.7**	**+0.1**
MMRI	**Maumere**	**7.99**	**186**	P			**Pn**	**03 12 34.1**	**+0.5**
	758nm,0.9s,8μm3μm								
DAV	**Davao City (W)**	**8.05**	**18**				**Pn**	**03 12 37.2**	**+2.8**
DAV	**Davao City (W)**	**8.05**	**18**	P			**Pn**	**03 12 32.6**	**-1.8**
	506nm,0.6s,baz=254,slow=20,SNR=2.9								
DAV				S			Sn	03 13 51.2	-13
	281nm,0.5s,baz=290,slow=17,SNR=0.9								
DAV	**Davao City (W)**	**8.05**	**18**	*eP*			**Pn**	**03 12 37.0**	**+2.6**
SWI	**Sorong**	**8.13**	**92**	P			**Pn**	**03 12 34.4**	**-1.2**
SWI				pmax			pmax		
	comp=Z,261nm,0.8s								

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SWI	**Sorong**	**8.13**	**92**	P			**Pn**	**03 12 34.1**	**-1.5**
	comp=Z,262nm,0.8s,comp=Z,4μmcomp=Z,4μmcomp=Z,1.3nm								
EDFI	**Ende, Flores**	**8.18**	**190**	P			**Pn**	**03 12 35.5**	**-0.8**
	comp=Z,406nm,1.2s,comp=Z,5μmcomp=Z,3μm								
MTKI	**Muara Teweh, K**	**8.24**	**268**	P			**Pn**	**03 12 38.9**	**+1.8**
	comp=Z,654nm,0.8s,comp=Z,5μm								
SOEI	**Soe**	**9.12**	**173**	Pn			**Pn**	**03 12 51.2**	**+2.1**
SOEI	**Soe**	**9.12**	**173**	P			**Pn**	**03 12 51.8**	**+2.6**
SOEI	**Soe**	**9.12**	**173**	P			**Pn**	**03 12 51.0**	**+1.8**
	comp=Z,777nm,1.4s,comp=Z,9μmcomp=Z,4μm								
FAKI	**Fak Fak**	**9.39**	**104**	Pn			**Pn**	**03 12 49.4**	**-3.4**
FAKI	**Fak Fak**	**9.39**	**104**	P			**Pn**	**03 12 49.8**	**-3.1**
FAKI	**Fak Fak**	**9.39**	**104**	P			**Pn**	**03 12 49.7**	**-3.1**
	comp=Z,302nm,0.8s,comp=Z,3μmcomp=Z,3μm								
KKM	**Kota Kinabalu**	**9.58**	**314**				**Pn**	**03 12 58.5**	**+3.0**
KKM	**Kota Kinabalu**	**9.58**	**314**	P			**Pn**	**03 12 59.2**	**+3.7**
PLAI	**Plampang**	**9.72**	**213**	P			**Pn**	**03 12 58.3**	**+1.0**
PLAI	**Plampang**	**9.72**	**213**	P			**Pn**	**03 12 57.8**	**+0.5**
	comp=Z,90nm,0.8s,comp=Z,1μmcomp=Z,2μm								
BASI	**Baing, Sumba**	**9.84**	**195**	P			**Pn**	**03 13 00.5**	**+1.5**
	comp=Z,1μm,1.0s,comp=Z,19μm								
TWSI	**Taliwang, Sumb**	**10.16**	**218**	P			**Pn**	**03 13 04.2**	**+0.8**
	comp=Z,54nm,0.8s,comp=Z,674nm								
SRBI	**Singaraja**	**10.81**	**227**	P			**Pn**	**03 13 12.8**	**+0.6**
	comp=Z,109nm,0.6s,comp=Z,1μm								
SAUI	**Saumlaki**	**10.93**	**132**				**Pn**	**03 13 14.0**	**+0.2**
SAUI	**Saumlaki**	**10.93**	**132**	P			**Pn**	**03 13 13.6**	**-0.2**
SAUI	**Saumlaki**	**10.93**	**132**	P			**Pn**	**03 13 13.2**	**-0.6**
	comp=Z,512nm,1.4s,comp=Z,8μm								
KMMI	**Kalianget**	**11.13**	**235**	P			**Pn**	**03 13 19.2**	**+2.6**
	comp=Z,117nm,1.4s,comp=Z,2μm								
SBUM	**Sibu**	**11.33**	**286**	Pn			**Pn**	**03 13 20.3**	**+

PPSI Pulau Pagai 23.20 265 P **P** **03 15 44.5 +2.7**
comp=Z,422nm,1.5s,comp=Z,5µm
KULM Kulim 23.21 285 P **P** **03 15 41.4 -0.5**
KULM IAmb IAmb 03 16 07.9
comp=Z,109nm,0.9s
TWGBT Beinan 23.41 355 P **P** **03 15 46.2 +2.6**
TWG Pinlang 23.41 355 IAmb IAmb 03 15 57.5
comp=Z,64nm,0.8s
QIZ Qiongzhong 23.51 327 P **P** **03 15 46.6 +2.0**
QIZ pmax pmax
comp=Z,41nm,1.5s
QIZ pmax pmax
comp=Z,370nm,3.5s
QIZ LR LR
comp=Z,330nm,14.7s
QIZ LR LR
comp=Z,370nm,17.2s
QIZ LR LR
comp=Z,390nm,15.5s
QIZ Qiongzhong 23.51 327 P **P** **03 15 47.3 +2.7**
GIRL Giralia 23.51 201 P **P** **03 15 46.2 +1.6**
baz=24,SNR=3.0
UBPT Khong Chiam 23.56 313 IAmb IAmb 03 16 11.0
comp=Z,124nm,1.0s
UBPT Khong Chiam 23.56 313 P **P** **03 15 47.1 +2.0**
SKLT Songkhla 23.76 289 P **P** **03 15 50.2 +3.3**
COEN Coen 23.84 125 P **P** **03 15 47.4 -0.3**
baz=24,SNR=33
COEN Coen 23.84 125 IAmb IAmb 03 16 14.4
comp=Z,79nm,0.9s
COEN Coen 23.84 125 P **P** **03 15 47.8 +0.2**
TPUB Ta-pu 23.93 354 P **P** **03 15 48.1 -0.2**
TPUB Ta-pu 23.93 354 P **P** **03 15 49.1 +0.8**
YULB Yu-li 23.96 356 IAmb IAmb 03 16 07.5
comp=Z,118nm,1.0s
YULB Yu-li 23.96 356 P **P** **03 15 48.7 +0.1**
SISI Saibi 24.05 268 P **P** **03 15 50.1 +0.6**
comp=Z,259nm,0.9s,comp=Z,3µm
MANU Manus Island 24.27 94 P **P** **03 15 52.1 +0.6**
MANU Manus Island 24.27 94 P **P** **03 15 53.7 +2.1**
comp=Z,137nm,1.3s
SSLB Suanglung 24.38 355 P **P** **03 15 52.4 0.0**
SSLB Suanglung 24.38 355 P **P** **03 15 53.5 +1.0**
HKPS Hong Kong Po S 24.41 340 P **P** **03 15 53.4 +0.7**
HKPS IAmb IAmb 03 15 58.4
comp=Z,158nm,1.0s
HKPS Hong Kong Po S 24.41 340 P **P** **03 15 54.1 +1.4**
RPSI Rantau Prapat 24.43 278 P **P** **03 15 53.6 +0.6**
RPSI IAmb IAmb 03 16 19.1
comp=Z,97nm,0.9s
PSI Prapat 24.44 278 P **P** **03 15 55.9 +2.7**
PSI Prapat 24.44 278 P **P** **03 15 53.6 +0.4**
PSI pmax pmax
comp=Z,97nm,0.9s
NACB Ninganchiao 24.72 357 P **P** **03 15 55.7 +0.2**
NACB IAmb IAmb 03 16 12.0
comp=Z,82nm,1.1s
NACB Ninganchiao 24.72 357 P **P** **03 15 59.5 +4.0**
WRKA Warakurna 24.76 169 P **P** **03 15 56.3 +0.5**
baz=25,SNR=30
WRKA Warakurna 24.76 169 P **P** **03 15 56.8 +0.9**
PBSI Pulau Batu 24.86 271 P **P** **03 15 58.9 +2.0**
comp=Z,231nm,1.8s,comp=Z,3µm
YOJ Yonaguni jima 24.96 360 P **P** **03 15 59.1 +1.4**
YOJ Yonaguni jima 24.96 360 P **P** **03 15 59.1 +1.4**
YOJ pmax pmax
comp=Z,245nm,1.2s
AS31 Alice Springs 25.16 156 P **P** **03 16 00.0 +0.5**
ASAR Alice Springs 25.16 156 P **P** **03 15 59.9 +0.3**
ASAR Alice Springs 25.16 156 P **P** **03 16 00.3 +0.8**
comp=Z,6.4nm,0.6s,baz=346,slow=16,SNR=82
ASAR PcP **PcP** **03 19 29.8 -2.5**
comp=Z,4.0nm,0.5s,baz=342,slow=2.1,SNR=6.3
ASAR ScP **ScP** **03 23 06.7 +0.7**
comp=Z,1.0nm,0.6s,baz=350,slow=3.1,SNR=3.1
ASAR LR LR 03 27 22.7
comp=Z,459nm,18.7s,baz=340,slow=40
comp=Z,6.4nm,0.6s
AS01 Alice Springs 25.18 156 P **P** **03 16 01.1 +1.4**
comp=Z,188nm,0.9s
SRIT Nakonsritamara 25.18 292 IAmb IAmb 03 16 12.2
comp=Z,71nm,0.9s
SRIT Nakonsritamara 25.18 292 P **P** **03 16 02.1 +2.3**
comp=Z,73nm,0.8s
YHNB Yeheng 25.23 356 P **P** **03 16 01.3 +1.1**
SURA Surathani 25.36 293 P **P** **03 16 03.6 +2.2**
comp=Z,69nm,1.0s
KNMB Chin-men Tao 25.38 350 P **P** **03 16 02.9 +1.4**
KNMB IAmb IAmb 03 16 07.0
comp=Z,93nm,1.1s
PMG Port Moresby 25.45 111 P **P** **03 16 02.0 -0.2**
PMG IAmb IAmb 03 16 24.1
comp=Z,80nm,0.8s
PMG Port Moresby 25.45 111 P **P** **03 16 03.6 +1.3**
PMG Port Moresby 25.45 111 P **P** **03 16 03.3 +1.0**
PMG Port Moresby 25.45 111 *de*P **P** **03 16 02.6 +0.3**
PMG pmax pmax
comp=Z,98nm,1.7s
PMG Port Moresby 25.45 111 P **P** **03 15 59.3 -2.9**
comp=Z,38nm,0.7s,baz=311,slow=2.8,SNR=20
PMG LR LR 03 27 43.5
comp=Z,496nm,21.7s,baz=288,slow=40
comp=Z,38nm,0.7s
QIS Mount Isa 25.51 142 P **P** **03 16 03.3 +0.4**
baz=26,SNR=15
QIS Mount Isa 25.51 142 P **P** **03 16 03.2 +0.4**
TATO Taipei 25.52 357 P **P** **03 16 02.2 -0.6**
TATO IAmb IAmb 03 16 22.5
comp=Z,124nm,1.1s
TATO Taipei 25.52 357 P **P** **03 16 06.5 +3.7**
comp=Z,132nm,1.3s
GSI Gunungsitoli 25.63 274 P **P** **03 16 04.0 +0.1**
GSI Gunungsitoli 25.63 274 P **P** **03 16 07.0 +3.1**
comp=Z,288nm,1.2s,comp=Z,2µm
KCSI Kotacane, Aceh 25.68 279 P **P** **03 16 08.4 +4.0**
comp=Z,128nm,0.9s,comp=Z,4µm
QZH Quanzhou 25.82 351 ⇑*i*P **P** **03 16 06.8 +1.4**
QZH S **S** **03 20 36.0 +5.6**
QZH pmax pmax
comp=Z,100nm,0.9s
QZH pmax pmax
comp=Z,370nm,7.0s
QZH LR LR
comp=Z,490nm,15.1s
QZH LR LR
comp=Z,340nm,16.8s
QZH LR LR
comp=Z,700nm,20.6s
MEEK Meekatharra 26.20 189 P **P** **03 16 09.8 +0.8**
baz=26,SNR=9.4
MEEK Meekatharra 26.20 189 P **P** **03 16 09.5 +0.5**
NAYO Nakonayok 26.21 305 P **P** **03 16 10.6 +1.4**
LHMI Lhok Sumawe 26.79 283 P **P** **03 16 17.7 +3.3**
LHMI Lhok Sumawe 26.79 283 P **P** **03 16 15.7 +1.3**
comp=Z,156nm,0.8s,comp=Z,2µm
SNSI Sinabang, Aceh 26.97 277 P **P** **03 16 18.9 +2.9**
comp=Z,111nm,1.1s
NONG Nongkai 27.06 314 P **P** **03 16 17.3 +0.5**
comp=Z,114nm,0.8s
MTSU Mount Surprise 27.12 131 P **P** **03 16 18.6 +1.3**
baz=27,SNR=5.9
MTSU Mount Surprise 27.12 131 P **P** **03 16 19.1 +1.8**
MLSI Meulaboh, Aceh 27.15 281 P **P** **03 16 21.2 +3.6**
comp=Z,144nm,0.9s,comp=Z,5µm
JOW Kunigami 27.77 10 P **P** **03 16 25.2 +2.3**
JOW Kunigami 27.77 10 P **P** **03 16 24.8 +1.8**
JOW Kunigami 27.77 10 P **P** **03 16 21.3 -1.7**
comp=Z,11nm,0.8s,baz=186,slow=10,SNR=6.0
JOW LR LR 03 29 36.5
comp=Z,237nm,19.0s,baz=184,slow=42
SRDT SRDT 28.05 303 P **P** **03 16 27.6 +1.9**
comp=Z,94nm,1.1s
GULI GuiLin 28.59 335 ⇓P **P** **03 16 31.7 +1.4**
GULI S **S** **03 21 13.3 -0.9**
GULI pmax pmax
comp=Z,20nm,0.9s
GULI LR LR
comp=Z,220nm,11.4s
GULI LR LR
comp=Z,250nm,13.0s
GULI LR LR
comp=Z,390nm,14.6s
SLVN Son La 28.81 320 IAmb IAmb 03 16 40.1
comp=Z,55nm,1.0s
MORW Morawa 29.06 193 P **P** **03 16 33.1 -1.4**
baz=29,SNR=5.2
MORW Morawa 29.06 193 P **P** **03 16 36.0 +1.5**
MORW Morawa 29.06 193 P **P** **03 16 38.3 +3.8**
RABL Rabaul 29.22 97 P **P** **03 16 36.3 +0.2**
RABL Rabaul 29.22 97 P **P** **03 16 37.6 +1.5**
PHRA Phrae 29.47 311 P **P** **03 16 39.3 +1.1**
OOD Oodnadatta 29.56 157 P **P** **03 16 42.6 +3.7**
TV1H Townsville Har 29.67 130 P **P** **03 16 41.9 +1.9**
CTA Charters Tower 29.75 132 LR LR 03 31 42.8
comp=Z,258nm,19.3s,baz=328,slow=42
CTAO Charters Tower 29.75 132 P **P** **03 16 41.8 +1.0**
CTAO IAmb IAmb 03 16 55.0
comp=Z,50nm,1.1s
CTAO Charters Tower 29.75 132 P **P** **03 16 42.0 +1.2**
CTAO Charters Tower 29.75 132 P **P** **03 16 41.8 +1.0**
CTAO pmax pmax
comp=Z,50nm,1.1s
CNSH ChangSha 30.29 342 ⇑P **P** **03 16 45.8 +0.5**
CNSH S **S** **03 21 42.3 +1.5**
CNSH pmax pmax
comp=Z,5.0nm,0.5s
CNSH LR LR
comp=Z,460nm,11.6s
CNSH LR LR
comp=Z,520nm,26.1s
CNSH LR LR
comp=Z,320nm,23.3s
AUAYR Ayr State High 30.33 130 P **P** **03 16 47.5 +1.7**
FORT Forrest 30.33 172 P **P** **03 16 46.1 +0.4**
FORT IAmb IAmb 03 17 00.7
comp=Z,43nm,0.8s
FORT Forrest 30.33 172 P **P** **03 16 48.5 +2.8**
BLDU Ballidu 30.42 191 P **P** **03 16 45.7 -0.8**
baz=31,SNR=9.4
BLDU Ballidu 30.42 191 P **P** **03 16 49.4 +2.9**
CM31 Chiang Mai Arr 30.43 310 P **P** **03 16 47.6 +0.9**
CM31 IAmb IAmb 03 17 08.9
comp=Z,83nm,1.1s
CMAR Chiang Mai Arr 30.43 310 P **P** **03 16 47.2 +0.5**
comp=Z,11nm,0.7s,baz=138,slow=7.2,SNR=72
CMAR PcP **PcP** **03 19 42.5 -2.7**
comp=Z,5.3nm,0.6s,baz=175,slow=2.1,SNR=3.9
CMAR ScP **ScP** **03 23 21.7 -0.5**
comp=Z,2.4nm,0.3s,baz=172,slow=2.9,SNR=4.7
CMAR LR LR 03 29 41.3
comp=Z,553nm,21.9s,baz=130,slow=38
CRAI Chiangrai 30.45 314 IAmb IAmb 03 17 09.8
comp=Z,47nm,1.0s
KMBL Kambalda 30.57 182 P **P** **03 16 47.8 0.0**
baz=31,SNR=4.8
KMBL Kambalda 30.57 182 P **P** **03 16 48.6 +0.7**
CHTO Chiang Mai 30.64 310 P **P** **03 16 49.7 +1.1**
CHTO Chiang Mai 30.64 310 P **P** **03 16 49.9 +1.3**
CHTO Chiang Mai 30.64 310 P **P** **03 16 49.7 +1.1**
CHTO pmax pmax
comp=Z,138nm,1.0s
CHTO Chiang Mai 30.64 310 P **P** **03 16 49.6 +1.1**
KLBR Kellerberrin 31.19 189 P **P** **03 16 51.2 -2.1**
baz=31,SNR=6.6
KLBR Kellerberrin 31.19 189 P **P** **03 16 55.4 +2.1**
MULG Mulgathing 31.25 162 P **P** **03 16 54.5 +0.7**
GYA Guiyang 31.28 331 ⇑*i*P **P** **03 16 55.8 +1.5**
GYA sP pP 03 17 11.8 +1.9
GYA S **S** **03 21 58.9 +2.3**
GYA pmax pmax
comp=Z,37nm,1.0s
GYA pmax pmax
comp=Z,170nm,3.6s
GYA LR LR
comp=Z,310nm,18.8s
INKA Innaminka 31.80 149 P **P** **03 17 00.1 +1.5**
MUN Mundaring 31.84 191 P **P** **03 17 01.5 +2.5**
baz=32,SNR=4.1
WHN Wuhan 32.12 346 ⇓*i*P P 03 17 07.1 +5.6
WHN sP sP 03 17 26.7 +2.1
WHN PcP **PcP** **03 19 53.9 +4.5**
WHN pmax pmax
comp=Z,46nm,0.7s
WHN LR LR
comp=Z,920nm,13.8s
WHN LR LR
comp=Z,630nm,11.8s
WHN LR LR
comp=Z,2µm,19.0s
KMI Kunming 32.34 324 ⇑P **P** **03 17 05.1 +1.4**
KMI S **S** **03 22 14.9 +1.5**
KMI pmax pmax
comp=Z,32nm,0.9s
KMI LR LR
comp=Z,450nm,13.8s
KMI LR LR
comp=Z,290nm,14.7s
KMI LR LR
comp=Z,490nm,28.3s
NWAO Narrogin (SRO) 32.59 189 P **P** **03 17 08.0 +2.5**
baz=33,SNR=5.4
NWAO P **P** **03 17 08.0 +2.5**
baz=33,SNR=5.4
NWAO Narrogin (SRO) 32.59 189 P **P** **03 17 05.5 0.0**
NWAO Narrogin (SRO) 32.59 189 P **P** **03 17 08.0 +2.5**
NWAO Narrogin (SRO) 32.59 189 P **P** **03 17 07.6 +2.1**
NWAO Narrogin (SRO) 32.59 189 P **P** **03 17 05.5 0.0**
NWAO pmax pmax
comp=Z,28nm,0.9s
NWAO Narrogin (SRO) 32.59 189 LR LR 03 31 05.0
comp=Z,228nm,20.3s,baz=16,slow=37
NJ2 Nanjing 32.77 353 *e*P **P** **03 17 10.6 +3.5**
NJ2 pmax pmax
comp=Z,15nm,0.9s
NJ2 pmax pmax
comp=Z,210nm,3.6s
QLP Quilpie 32.82 143 P **P** **03 17 08.5 +0.8**
baz=33,SNR=6.2
QLP Quilpie 32.82 143 P **P** **03 17 09.4 +1.7**
LCRK Leigh Creek 32.92 156 P **P** **03 17 11.0 +2.5**
JCJ Chichijima 33.12 32 P **P** **03 17 10.6 +0.3**
JCJ Chichijima 33.12 32 P **P** **03 17 13.4 +3.1**
comp=Z,281nm,0.8s
JCJ Chichijima 33.12 32 P P 03 17 03.4 -6.9
comp=Z,82nm,0.4s,baz=230,slow=4.9,SNR=16
JCJ LR LR 03 28 55.5
comp=Z,150nm,20.1s,baz=235,slow=34
ENH Enshi 33.38 338 P **P** **03 17 13.4 +0.9**
ENH Enshi 33.38 338 P **P** **03 17 13.2 +0.7**
PZH PanZhiHua 33.97 324 P **P** **03 17 18.5 +0.7**
PZH S **S** **03 22 40.9 +2.5**
PZH pmax pmax
comp=Z,90nm,0.9s
PZH pmax pmax
comp=Z,180nm,5.7s
PZH LR LR
comp=Z,280nm,18.0s
PZH LR LR
comp=Z,280nm,18.0s
PZH LR LR
comp=Z,350nm,19.6s
BBOO Buckleboo 34.23 160 P **P** **03 17 20.7 +0.8**
baz=34,SNR=7.3
BBOO Buckleboo 34.23 160 P **P** **03 17 19.9 +0.1**
BBOO Buckleboo 34.23 160 P **P** **03 17 22.4 +2.6**
RKGY Rocky Gully 34.27 189 P **P** **03 17 20.1 0.0**
baz=34,SNR=7.8
RKGY Rocky Gully 34.27 189 P **P** **03 17 23.4 +3.2**
JNU Nakatsue 34.38 12 P P 03 17 14.9 -6.2
comp=Z,2.4nm,0.7s,baz=207,slow=9.0,SNR=2.4
comp=Z,2.4nm,0.7s
MND Mandalay 34.67 312 P **P** **03 17 24.5 +0.8**
comp=Z,76nm,1.1s
TNCH TengChong 34.91 319 *e*P **P** **03 17 30.6 +4.5**
TNCH sP pP 03 17 45.5 +3.5
TNCH S **S** **03 22 59.7 +6.5**
TNCH pmax pmax
comp=Z,74nm,0.7s
TNCH LR LR
comp=Z,260nm,14.6s
TNCH LR LR
comp=Z,370nm,19.0s
TNCH LR LR
comp=Z,650nm,32.7s
WHYH Whyalla 34.96 159 P **P** **03 17 27.4 +1.3**
STKA Stephens Creek 35.63 152 P **P** **03 17 32.9 +1.0**
baz=36,SNR=5.1
STKA Stephens Creek 35.63 152 P **P** **03 17 33.3 +1.4**
STKA Stephens Creek 35.63 152 P **P** **03 17 31.3 -0.6**
comp=Z,4.4nm,0.8s,baz=334,slow=7.8,SNR=7.4
STKA LR LR 03 33 46.4
comp=Z,271nm,21.0s,baz=331,slow=39
comp=Z,4.4nm,0.8s
JMN Monobe 35.66 15 P **P** **03 17 33.4 +1.2**
JMN IAmb IAmb 03 17 48.4
comp=Z,51nm,0.9s
JMN Monobe 35.66 15 P **P** **03 17 34.9 +2.7**
HTT Hallett 35.83 157 P **P** **03 17 34.7 +1.1**
baz=36,SNR=7.5
HTT Hallett 35.83 157 P **P** **03 17 35.4 +1.8**
CD2 Chengdu 36.39 331 P **P** **03 17 38.7 +0.3**
CD2 S **S** **03 23 17.1 +1.8**
LYN LuoYang 36.41 345 ⇑P **P** **03 17 41.2 +2.7**
LYN pP pP 03 17 57.2 +2.9
LYN PP **PP** **03 19 08.6 +6.0**
LYN S **S** **03 23 18.6 +3.1**
LYN pmax pmax
comp=Z,63nm,1.1s
LYN pmax pmax
comp=Z,190nm,6.2s
LYN LR LR
comp=Z,410nm,11.3s
LYN LR LR
comp=Z,400nm,15.5s
LYN LR LR
comp=Z,810nm,19.6s
EIDS Eidsvold 36.50 135 P **P** **03 17 38.7 -0.7**
baz=37,SNR=3.8
EIDS Eidsvold 36.50 135 P **P** **03 17 39.0 -0.4**
EIDS Eidsvold 36.50 135 P **P** **03 17 41.5 +2.1**
XAN Xi'an 37.00 340 P **P** **03 17 43.5 -0.1**
XAN PP **PnPn** **03 19 10.4 +0.5**
XAN S **S** **03 23 22.7 -1.8**
XAN pmax pmax
comp=Z,36nm,1.2s
XAN pmax pmax
comp=Z,180nm,3.8s
XAN LR LR
comp=Z,210nm,6.1s
XAN LR LR
comp=Z,870nm,17.7s
XAN LR LR
comp=Z,780nm,20.3s
XAN Xi'an 37.00 340 P **P** **03 17 43.6 0.0**
JHJ Hachijo jima 2 37.08 24 LR LR 03 33 12.5
comp=Z,174nm,20.5s,baz=88,slow=37
AULRC Lightning Ridg 37.15 143 P **P** **03 17 47.0 +2.1**
CMSA Cobar Meteorol 37.41 147 P **P** **03 17 48.6 +1.5**
baz=38,SNR=9.5
CMSA Cobar Meteorol 37.41 147 P **P** **03 17 49.5 +2.4**
INU Inuyama 38.09 19 P **P** **03 17 53.6 +0.9**
INU IAmb IAmb 03 18 07.7
comp=Z,31nm,0.9s
INU Inuyama 38.09 19 P **P** **03 17 54.5 +1.8**
INU Inuyama 38.09 19 P **P** **03 17 50.5 -2.2**
KSAR Wonju Array Be 38.16 6 P **P** **03 17 54.1 +0.9**
KSAR Wonju Array Be 38.16 6 P **P** **03 17 54.1 +0.9**
KSRS Korea Array 38.17 6 P **P** **03 17 48.6 -4.8**
comp=Z,0.9nm,0.8s,baz=235,slow=4.3,SNR=2.8
KSRS ScP **ScP** **03 23 47.1 -2.1**
comp=Z,2.1nm,1.0s,baz=171,slow=2.2,SNR=5.4
KSRS LR LR 03 36 07.6
comp=Z,104nm,18.5s,baz=180,slow=40
comp=Z,0.9nm,0.8s
JGF Kuroka 38.43 19 P **P** **03 17 57.9 +2.3**
HNS HongShan 38.65 349 ⇓P **P** **03 17 58.6 +1.2**
HNS *e*S **S** **03 23 48.2 -1.2**
HNS pmax pmax
comp=Z,18nm,1.4s
HNS LR LR
comp=Z,390nm,13.1s
HNS LR LR
comp=Z,400nm,23.0s
TIY Taiyuan 39.43 347 ⇑P P 03 18 09.6 +5.6
TIY PP **PP** **03 19 37.9 +2.2**
TIY S **S** **03 24 05.1 +3.8**
TIY pmax pmax
comp=Z,20nm,0.6s
TIY LR LR
comp=Z,210nm,10.4s
TIY LR LR
comp=Z,190nm,5.7s
TIY LR LR
comp=Z,280nm,10.2s
MAJO Matsushiro 39.57 19 P **P** **03 18 04.2 -0.9**
MAJO IAmb IAmb 03 18 07.7
comp=Z,33nm,0.9s
MAJO Matsushiro 39.57 19 P **P** **03 18 06.0 +0.9**
MAJO Matsushiro 39.57 19 *i*P **P** **03 18 02.7 -2.4**
MAJO pmax pmax
comp=Z,38nm,0.9s
MJAR Matsushiro Arr 39.57 19 P P 03 17 59.6 -5.5
comp=Z,4.8nm,0.9s,baz=190,slow=8.9,SNR=13
MJAR ScP **ScP** **03 23 53.1 -1.7**
comp=Z,4.7nm,1.1s,baz=216,slow=5.5,SNR=5.1
MJAR LR LR 03 32 34.4
comp=Z,428nm,21.1s,baz=208,slow=34
comp=Z,4.8nm,0.9s
AUDCS Dubbo College 39.57 145 P **P** **03 18 07.1 +1.9**
MJB9 Matsu-Tunnel 39.57 19 IAmb IAmb 03 18 07.7
comp=Z,32nm,0.9s
ARPS Mount Arapiles 39.90 156 P **P** **03 18 09.8 +2.0**
baz=40,SNR=6.0
ARPS Mount Arapiles 39.90 156 P **P** **03 18 10.9 +3.1**
AUPHS Peel High Scho 40.11 142 P **P** **03 18 11.9 +2.2**
ARMA Armidale 40.11 140 P **P** **03 18 12.2 +2.3**
baz=40,SNR=6.3
ARMA Armidale 40.11 140 P **P** **03 18 11.4 +1.5**
ARMA IAmb IAmb 03 18 20.9
comp=Z,40nm,0.7s
ARMA Armidale 40.11 140 P **P** **03 18 12.3 +2.4**
LZH Lanzhou 40.72 336 ⇓P **P** **03 18 16.2 +1.4**
LZH sP pP 03 18 33.7 +2.8
LZH S **S** **03 24 19.7 -1.1**
LZH pmax pmax
comp=Z,32nm,1.6s
LZH LR LR
comp=Z,330nm,12.7s
LZH LR LR
comp=Z,240nm,13.1s
LZH LR LR
comp=Z,360nm,12.4s
BJT Baijiatuau 40.97 352 P **P** **03 18 17.9 +1.3**
BJT Baijiatuau 40.97 352 P **P** **03 18 18.2 +1.6**
YNG Young 40.98 147 P **P** **03 18 19.4 +2.5**
baz=41,SNR=6.0
YNG Young 40.98 147 P **P** **03 18 18.9 +2.0**
BJI Beijing 40.99 352 P **P** **03 18 19.8 +3.0**
BJI pP **pP** **03 18 29.7 -3.1**
BJI pmax pmax
comp=Z,8.0nm,1.0s
BRAT Ballarat 41.43 155 P **P** **03 18 22.8 +2.4**
JMM Marumori 41.65 21 P **P** **03 18 23.1 +0.9**
JMM IAmb IAmb 03 18 31.8
comp=Z,37nm,0.7s
JMM Marumori 41.65 21 P **P** **03 18 25.5 +3.3**
MGCD Mangrove Creek 41.72 144 P **P** **03 18 25.2 +2.3**
baz=42,SNR=4.1
CAN Canberra 42.08 148 P **P** **03 18 26.6 +0.7**
CAN IAmb IAmb 03 18 41.0
comp=Z,44nm,0.9s
CAN Canberra 42.08 148 P **P** **03 18 27.9 +2.0**
CAN Canberra 42.08 148 P **P** **03 18 26.6 +0.7**
CAN pmax pmax
comp=Z,44nm,0.9s
TOO Toolangi 42.13 153 P **P** **03 18 28.1 +1.9**
baz=42,SNR=5.8
TOO Toolangi 42.13 153 P **P** **03 18 28.4 +2.2**
TOO IAmb IAmb 03 18 41.7
comp=Z,59nm,1.2s
TOO Toolangi 42.13 153 P **P** **03 18 28.8 +2.5**
TOO Toolangi 42.13 153 P **P** **03 18 28.5 +2.2**
TOO pmax pmax
comp=Z,59nm,1.2s
CNB Canberra Magne 42.27 147 P **P** **03 18 29.1 +1.6**
SNY Shenyang 42.28 0 ⇑P P 03 18 33.7 +6.4
SNY pmax pmax
comp=Z,9.0nm,0.6s
SNY LR LR
comp=Z,240nm,15.4s
SNY LR LR
comp=Z,210nm,13.7s
SNY LR LR
comp=Z,380nm,15.2s
HHC Hu-ho-hao-te 42.62 347 *e*P **P** **03 18 33.8 +3.5**
HHC sP pP 03 18 47.4 +1.1

HHC eS S 03 24 58.8 +10
HHC sS sS 03 25 10.4 -6.0
HHC SS **SS** **03 27 58.1 -3.0**
HHC pmax pmax
comp=Z,7.0nm,0.8s
HHC pmax pmax
comp=Z,140nm,4.5s
HHC LR LR
comp=Z,240nm,13.3s
HHC LR LR
comp=Z,140nm,12.0s
HHC LR LR
comp=Z,260nm,14.9s
BTO Baotou 42.76 345 *e*P **P** **03 18 34.8 +3.4**
BTO pP **pP** **03 18 50.0 +2.6**
BTO sP **sP** **03 18 57.8 +3.0**
BTO S **S** **03 24 57.5 +6.8**
BTO pmax pmax
comp=Z,16nm,0.6s
BTO pmax pmax
comp=Z,280nm,4.3s
BTO LR LR
comp=Z,490nm,6.8s
BTO LR LR
comp=Z,250nm,4.9s
BTO LR LR
comp=Z,550nm,13.5s
LSA Lhasa 42.91 317 IAmb IAmb 03 18 53.5
comp=Z,64nm,0.7s
LSA Lhasa 42.91 317 P **P** **03 18 34.5 +1.3**
JTM Tenmabayashi 44.35 20 P **P** **03 18 43.8 -0.2**
JTM IAmb IAmb 03 18 59.1
comp=Z,82nm,1.1s
JTM Tenmabayashi 44.35 20 P **P** **03 18 46.3 +2.3**
GOMU GeErMu 45.13 327 P **P** **03 18 52.0 +1.2**
GOMU pmax pmax
comp=Z,9.0nm,1.3s
GOMU LR LR
comp=Z,180nm,18.8s
GOMU LR LR
comp=Z,300nm,19.0s
GOMU LR LR
comp=Z,250nm,17.8s
GTA Gaotai 45.23 334 *e*P **P** **03 18 51.0 -0.2**
GTA ScP **ScP** **03 24 17.6 0.0**
GTA pmax pmax
comp=Z,29nm,1.4s
GTA LR LR
comp=Z,200nm,19.5s
GTA LR LR
comp=Z,170nm,17.5s
GTA LR LR
comp=Z,270nm,21.1s
USA0B Ussuriysk Arra 45.35 9 P **P** **03 18 53.1 +1.2**
USA0B Ussuriysk Arra 45.35 9 *i* P **P** **03 18 50.9 -1.0**
USRK Ussuriysk Ar. 45.35 9 P **P** **03 18 52.6 +0.8**
USRK Ussuriysk Ar. 45.35 9 P **P** **03 18 52.6 +0.8**
USRK Ussuriysk Ar. 45.35 9 P P 03 18 46.2 -5.7
comp=Z,0.8nm,0.3s,baz=189,slow=24,SNR=3.5
USRK LR LR 03 37 45.4
comp=Z,77nm,21.9s,baz=180,slow=36
comp=Z,0.8nm,0.3s
MDJ Mudanjiang 45.43 6 P **P** **03 18 54.7 +2.1**
MDJ sP pP 03 19 10.3 +1.7
MDJ PcP **PcP** **03 20 31.4 +0.6**
MDJ S **S** **03 25 33.1 +3.9**
MDJ sS sS 03 25 50.5 -6.7
MDJ pmax pmax
comp=Z,20nm,1.0s
MDJ pmax pmax
comp=Z,220nm,3.5s
MDJ LR LR
comp=Z,220nm,14.3s
MDJ LR LR
comp=Z,330nm,15.2s
MDJ LR LR
comp=Z,260nm,16.5s
MDJ Mudanjiang 45.43 6 IAmb IAmb 03 19 03.4
comp=Z,27nm,0.8s
MDJ Mudanjiang 45.43 6 P **P** **03 18 55.4 +2.8**
comp=Z,35nm,0.9s
BNX BinXian 46.34 4 ⇑P **P** **03 18 59.5 -0.2**
BNX pmax pmax
comp=Z,7.0nm,1.1s
BNX pmax pmax
comp=Z,120nm,4.5s
NOUC Port Laguerre 47.12 120 P **P** **03 19 07.6 +1.4**
DZM Mont Dzumac 47.23 120 P **P** **03 19 09.0 +1.8**
DZM Mont Dzumac 47.23 120 P **P** **03 19 08.4 +1.3**
ASAJ Asahikawa 47.84 19 P **P** **03 19 13.1 +1.7**
ASAJ pmax pmax
comp=Z,41nm,0.8s
ASAJ Asahikawa 47.84 19 LR LR 03 37 03.7
comp=Z,256nm,21.7s,baz=180,slow=34
JKA Kamikawa-asahi 47.84 19 P **P** **03 19 13.1 +1.7**
JKA IAmb IAmb 03 19 29.0
comp=Z,41nm,0.8s
PINNC Pines Island, 48.29 120 P **P** **03 19 17.7 +2.5**
HIA Hailar 49.81 357 P **P** **03 19 29.8 +3.4**
comp=Z,23nm,0.9s
KLR Kul'dur 50.24 7 *ce*P **P** **03 19 26.8 -2.8**
KLR pmax pmax
comp=Z,16nm,1.7s
KLR Kul'dur 50.24 7 LR LR 03 40 37.3
comp=Z,129nm,21.7s,baz=210,slow=36
ULN Ulaanbaatar 50.31 346 P **P** **03 19 29.4 -1.1**
ULN Ulaanbaatar 50.31 346 *ce*P **P** **03 19 27.7 -2.7**
ULN pmax pmax
comp=Z,19nm,1.7s
ULN Ulaanbaatar 50.31 346 P **P** **03 19 29.7 -0.7**
YSS Yuzh-Sakhalins 50.43 17 P **P** **03 19 34.3 +3.2**
YSS Yuzh-Sakhalins 50.43 17 *e*P **P** **03 19 31.4 +0.3**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,400nm,16.0s
SONM Songino Array 50.44 345 P **P** **03 19 29.8 -1.6**
SONM Songino Array 50.44 345 P **P** **03 19 29.8 -1.6**
SONM pmax pmax
comp=Z,15nm,0.7s
SONM Songino Array 50.44 345 P **P** **03 19 26.9 -4.4**
comp=Z,5.7nm,0.8s,baz=160,slow=8.3,SNR=39
SONM PcP **PcP** **03 20 46.6 -2.2**
comp=Z,2.2nm,0.4s,baz=170,slow=3.5,SNR=4.2
SONM ScP **ScP** **03 24 35.7 -3.7**
comp=Z,0.3nm,0.5s,baz=157,slow=7.3,SNR=2.1
SONM LR LR 03 42 42.2
comp=Z,190nm,19.7s,baz=170,slow=38
comp=Z,5.7nm,0.8s
HEH HeiHe 50.84 4 *e*P **P** **03 19 31.7 -2.5**
HEH pmax pmax
comp=Z,28nm,0.9s
HEH LR LR
comp=Z,300nm,14.8s
HEH LR LR
comp=Z,210nm,13.8s
HEH LR LR
comp=Z,340nm,16.7s
UGL Uglegorsk 52.16 16 *e*P P 03 19 48.9 +4.9
UGL pmax pmax
comp=Z,120nm,1.1s
UGL pmax pmax
comp=Z,790nm,4.0s
GRNR Gornyy 52.46 11 ⇑ *i* P **P** **03 19 43.1 -3.2**
GRNR pmax pmax
comp=N,5.0nm,0.9s
GRNR pmax pmax
comp=Z,9.0nm,0.9s
TYV Tymovskoe 53.95 15 *e*P **P** **03 20 01.1 +4.0**
TYV pmax pmax
comp=Z,400nm,5.2s
TYV pmax pmax
comp=Z,12nm,0.8s
ZEA Zeya 54.31 3 *e*P **P** **03 20 04.0 +4.3**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
WMQ Urumqi 54.41 329 *e*P **P** **03 20 01.7 +0.9**
WMQ pmax pmax
comp=Z,25nm,1.1s
WMQ LR LR
comp=Z,230nm,21.1s
IRK Irkutsk 55.04 346 *e*P **P** **03 20 03.4 -1.7**
IRK pmax pmax
comp=Z,43nm,3.2s
MOY Mondy 55.38 343 *e*P **P** **03 20 09.3 +1.6**
MOY pmax pmax
comp=Z,52nm,2.0s
WUS Wushi 57.57 322 P **P** **03 20 23.5 0.0**
NIL Nilore 57.91 311 P **P** **03 20 24.6 -1.2**
NIL IAmb IAmb 03 20 44.7
comp=Z,30nm,0.8s
NIL Nilore 57.91 311 P **P** **03 20 24.6 -1.2**
NIL pmax pmax
comp=Z,30nm,0.8s
NIL Nilore 57.91 311 P **P** **03 20 25.7 -0.1**
ZSN Zaisan 58.36 330 *e*P **P** **03 20 27.1 -1.6**
ZSN Zaisan 58.36 330 *e*P **P** **03 20 27.1 -1.6**
baz=330
SHLS Shalkode 58.56 324 *e*P **P** **03 20 27.3 -3.0**
SHLS pmax pmax
comp=Z,19nm,0.9s
SHLS Shalkode 58.56 324 *e*P **P** **03 20 27.3 -3.0**
comp=Z,18nm,0.9s,baz=324
PDGK Podgornoye 58.64 324 P **P** **03 20 29.3 -1.6**
BOD Bodaibo 58.74 354 *e*P **P** **03 20 29.1 -2.1**
BOD pmax pmax
comp=Z,36nm,1.1s
KSH Kashi 58.74 318 P **P** **03 20 33.2 +1.5**
KSH pP pP 03 20 46.5 -2.3
KSH pmax pmax
comp=Z,20nm,0.9s
TARG Taragay, Kyrgy 58.75 321 IAmb IAmb 03 21 00.1
comp=Z,34nm,1.2s
DGZ Jazzator, Alta 58.75 334 *i* P **P** **03 20 29.8 -1.8**
DGZ pmax pmax
comp=Z,33nm,0.8s
UZB Uzynbulak 58.81 323 *e*P **P** **03 20 31.0 -1.1**
UZB pmax pmax
comp=Z,9.0nm,1.0s
UZB Uzynbulak 58.81 323 *e*P **P** **03 20 31.0 -1.1**
comp=Z,8.8nm,1.0s,baz=323
DCZ Deep Cove 59.07 145 P **P** **03 20 33.4 -0.2**
SATY Saty 59.13 323 *e*P **P** **03 20 32.9 -1.4**
SATY pmax pmax
comp=Z,10.0nm,0.6s
SATY Saty 59.13 323 *e*P **P** **03 20 33.0 -1.4**
comp=Z,10nm,0.6s,baz=323
ZHN Zhinishke 59.18 323 *e*P **P** **03 20 33.2 -1.4**
ZHN pmax pmax
comp=Z,9.0nm,0.8s
ZHN Zhinishke 59.18 323 *e*P **P** **03 20 33.3 -1.4**
comp=Z,8.6nm,0.8s,baz=323
KPKS Kokpek 59.20 324 *e*P **P** **03 20 33.4 -1.3**
KPKS pmax pmax
comp=Z,14nm,1.0s
KPKS Kokpek 59.20 324 *e*P **P** **03 20 33.5 -1.3**
comp=Z,14nm,1.0s,baz=324
MK31 Makanchi Array 59.23 328 P **P** **03 20 33.5 -1.3**
MK31 IAmb IAmb 03 20 41.7
comp=Z,26nm,0.8s
MK31 Makanchi Array 59.23 328 *ce*P **P** **03 20 32.6 -2.2**
MKAR Makanchi Array 59.23 328 P **P** **03 20 33.5 -1.3**
MKAR Makanchi Array 59.23 328 *ce*P **P** **03 20 33.5 -1.3**
MKAR pmax pmax
comp=Z,5.0nm,0.4s
MKAR Makanchi Array 59.23 328 P **P** **03 20 30.8 -4.0**
comp=Z,5.0nm,0.4s,baz=126,slow=8.1,SNR=102
MKAR ScP **ScP** **03 25 15.2 -2.6**
comp=Z,2.4nm,0.9s,baz=139,slow=5.1,SNR=4.2
MKAR LR LR 03 46 59.2
comp=Z,188nm,20.6s,baz=126,slow=37
MKAR PKP2bc 03 50 16.3
comp=Z,0.5nm,0.8s,baz=300,slow=2.7,SNR=3.9
comp=Z,5.0nm,0.4s
JCZ Jackson Bay 59.23 143 P **P** **03 20 36.7 +1.7**
MAKZ Makanchi 59.40 328 P **P** **03 20 34.4 -1.6**
MAKZ IAmb IAmb 03 20 42.8
comp=Z,24nm,0.8s
MAKZ Makanchi 59.40 328 P **P** **03 20 34.4 -1.6**
MAKZ pmax pmax
comp=Z,24nm,0.8s
MAKZ Makanchi 59.40 328 P **P** **03 20 34.7 -1.3**
MLZ Mavora Lakes 59.57 145 P **P** **03 20 36.2 -0.9**
TNSS Tian-Shan 60.00 322 *e*P **P** **03 20 39.4 -1.2**
TNSS Tian-Shan 60.00 322 *e*P **P** **03 20 39.5 -1.2**
baz=322
MDOK Medeo 60.01 323 *e*P **P** **03 20 39.1 -1.3**
MDOK Medeo 60.01 323 *e*P **P** **03 20 39.2 -1.3**
baz=322
AAA Alma-Ata 60.12 322 *e*P **P** **03 20 40.0 -1.0**
AAA pmax pmax
comp=Z,10.0nm,0.6s
AAA Alma-Ata 60.12 322 *e*P **P** **03 20 40.1 -1.0**
comp=Z,9.7nm,0.6s,baz=322
TDK Taldyqorghan 60.26 325 *e*P **P** **03 20 41.0 -0.9**
TDK pmax pmax
comp=Z,18nm,1.4s
TDK Taldyqorghan 60.26 325 *e*P **P** **03 20 41.1 -0.9**
comp=Z,18nm,1.4s,baz=325
BOOM Boomskoye usch 60.33 321 P **P** **03 20 41.7 -0.9**
BOOM IAmb IAmb 03 21 05.7
comp=Z,19nm,1.0s
BOOM Boomskoye usch 60.33 321 P **P** **03 20 41.7 -0.9**
BOOM pmax pmax
comp=Z,19nm,1.0s
RPZ Rata Peaks 60.42 142 P **P** **03 20 44.1 +1.1**
RPZ Rata Peaks 60.42 142 LR LR 03 47 23.9
comp=Z,262nm,19.9s,baz=297,slow=36
CHKK Chushkaly 60.43 323 *e*P **P** **03 20 41.2 -1.9**
CHKK Chushkaly 60.43 323 *e*P **P** **03 20 41.2 -1.9**
baz=323
TOZ Tahuroa Road 60.60 134 P **P** **03 20 45.6 +1.3**
TOZ IAmb IAmb 03 21 03.1
comp=Z,33nm,1.0s
PETK Petropavlovsk- 60.83 23 P **P** **03 20 44.4 -1.2**
PETK Petropavlovsk- 60.83 23 P **P** **03 20 44.4 -1.2**
PETK Petropavlovsk- 60.83 23 P P 03 20 40.4 -5.2
comp=Z,12nm,1.0s,baz=216,slow=2.5,SNR=2.6
PETK LR LR 03 44 34.2
comp=Z,84nm,21.9s,baz=215,slow=34
comp=Z,12nm,1.0s
KUU Kurty 60.84 323 *e*P **P** **03 20 44.1 -1.8**
KUU Kurty 60.84 323 *e*P **P** **03 20 44.1 -1.8**
baz=323
TUWZ Tuamarina 61.15 138 P **P** **03 20 48.0 0.0**
AAK Ala-Archa 61.31 321 P **P** **03 20 48.3 -1.0**
AAK IAmb IAmb 03 21 17.2
comp=Z,14nm,0.8s
AAK Ala-Archa 61.31 321 *i* P **P** **03 20 47.4 -1.9**
AAK pmax pmax
comp=Z,13nm,1.0s
AAK Ala-Archa 61.31 321 LR LR 03 51 35.2
comp=Z,73nm,18.1s,baz=109,slow=40
AAK Ala-Archa 61.31 321 P **P** **03 20 49.0 -0.3**
KBL Kabul 61.46 310 P **P** **03 20 48.9 -1.6**
KBL Kabul 61.46 310 P **P** **03 20 48.9 -1.6**
KBL pmax pmax
comp=Z,44nm,0.8s
DRK Karamyk 61.55 317 P **P** **03 20 49.9 -1.2**
SGDS Sogindy 61.65 322 *e*P **P** **03 20 49.6 -1.9**
SGDS Sogindy 61.65 322 *e*P **P** **03 20 49.6 -1.9**
baz=322
URZ Urewera 61.98 134 LR LR 03 49 40.6
comp=Z,96nm,19.8s,baz=108,slow=38
RTZ Ruatahuna 62.03 134 P **P** **03 20 55.0 +0.9**
BTK Batken 62.48 317 IAmb IAmb 03 21 18.8
comp=Z,34nm,1.1s
BTK Batken 62.48 317 P **P** **03 20 56.7 -0.4**
SEM Semipalatinsk 62.60 331 *e*P **P** **03 20 56.6 -1.2**
SEM Semipalatinsk 62.60 331 *e*P **P** **03 20 56.6 -1.2**
baz=331
YAK Yakutsk 62.71 3 P **P** **03 20 56.1 -1.9**
YAK Yakutsk 62.71 3 *e*P **P** **03 20 55.7 -2.3**
YAK *e**PP **pP** **03 21 13.3 -1.8**
YAK *e* 03 21 33.9
YAK *e*S **S** **03 29 21.3 -0.3**
YAK *e**SS **sS** **03 29 46.2 -4.1**
YAK *e* 03 30 43.2
YAK eSS **SS** **03 33 22.8 -4.6**
YAK pmax pmax
comp=Z,42nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK smax smax
comp=E,118nm,4.1s
YAK smax smax
comp=N,26nm,2.3s
YAK Yakutsk 62.71 3 LR LR 03 47 12.2
comp=N,85nm,21.6s,baz=164,slow=35
BTLS Baital 62.84 323 *e*P **P** **03 20 57.4 -1.9**
BTLS pmax pmax
comp=Z,6.0nm,0.9s
BTLS Baital 62.84 323 *e*P **P** **03 20 57.5 -1.9**
comp=Z,5.9nm,0.9s,baz=323
ZAA0 Zalesovo Array 62.95 336 P **P** **03 20 57.2 -2.6**
ZAA0 IAmb IAmb 03 21 06.0
comp=Z,24nm,1.1s
ZALV Zalesovo Beam 62.95 336 P **P** **03 20 57.0 -2.8**
ZALV Zalesovo Beam 62.95 336 *i* P **P** **03 20 57.5 -2.3**
ZALV pmax pmax
comp=Z,3.0nm,0.8s
ZALV Zalesovo Beam 62.95 336 P **P** **03 20 56.1 -3.8**
comp=Z,1.6nm,0.5s,baz=112,slow=4.0,SNR=17
ZALV PKP2bc 03 50 05.5
comp=Z,0.3nm,0.3s,baz=338,slow=4.8,SNR=2.3
comp=Z,1.6nm,0.5s
SIMJ Simiganj 63.14 315 P **P** **03 20 60.0 -1.6**
DZA Taraz 63.46 320 *e*P **P** **03 21 02.5 -0.9**
DZA Taraz 63.46 320 *e*P **P** **03 21 02.5 -0.9**
baz=320
KURBB Kurchatov Arra 63.59 330 P **P** **03 21 01.0 -3.1**
comp=Z,6.7nm,0.8s,baz=129,slow=6.2,SNR=34
KURBB PKP2bc 03 50 02.7
comp=Z,0.8nm,0.9s,baz=292,slow=3.2,SNR=4.3
comp=Z,6.7nm,0.8s
KURK Kurchatov 63.60 330 *ce*P **P** **03 21 02.5 -1.6**
KURK pmax pmax
comp=Z,20nm,1.0s
KURK Kurchatov 63.60 330 P **P** **03 21 02.2 -1.9**
MA2 Magadan 63.82 15 P **P** **03 21 03.4 -2.0**
MA2 Magadan 63.82 15 *ce*P **P** **03 21 04.2 -1.3**
MA2 pmax pmax
comp=Z,28nm,0.8s
MA2 Magadan 63.82 15 LR LR 03 52 33.7
comp=Z,55nm,18.0s,baz=168,slow=40
MA2 Magadan 63.82 15 P **P** **03 21 04.8 -0.7**
IUG Iuzhnay 63.96 319 *e*P **P** **03 21 04.9 -2.0**
IUG pmax pmax
comp=Z,16nm,1.1s
IUG Iuzhnay 63.96 319 *e*P **P** **03 21 04.9 -2.0**
comp=Z,16nm,1.1s,baz=319
KK31 Karatay Array 64.09 320 *i* P **P** **03 21 06.1 -1.5**
KKAR Karatay Array 64.09 320 P **P** **03 21 05.3 -2.3**
KKAR Karatay Array 64.09 320 P **P** **03 21 05.3 -2.3**
BRLS Borolday 64.49 319 *e*P **P** **03 21 08.0 -2.2**
BRLS Borolday 64.49 319 *e*P **P** **03 21 08.1 -2.2**
baz=319
OTUK Ortayu 65.53 325 P **P** **03 21 14.0 -2.9**
BRZS Berezniki 66.27 327 *e*P **P** **03 21 19.7 -1.8**
BRZS Berezniki 66.27 327 *e*P **P** **03 21 19.8 -1.8**
baz=327
HRA Herat 66.67 308 P **P** **03 21 23.8 -0.9**
WSAR Wadi Sarin 66.95 296 LR LR 03 51 11.5
comp=Z,160nm,21.9s,baz=115,slow=36
SEY Seymchan 67.10 14 *ce*P **P** **03 21 26.0 -0.5**
SEY pmax pmax
comp=Z,21nm,1.7s
SEY Seymchan 67.10 14 LR LR 03 50 07.9
comp=Z,60nm,21.6s,baz=213,slow=36
BVA0 Borovoye Array 69.10 329 *i* P **P** **03 21 36.9 -2.4**
BVAR Borovoye Array 69.10 329 P **P** **03 21 36.3 -3.0**
comp=Z,2.3nm,0.5s,baz=133,slow=7.5,SNR=20
comp=Z,2.3nm,0.5s
BRVK Borovoye 69.17 329 P **P** **03 21 37.5 -2.2**
BRVK Borovoye 69.17 329 *ce*P **P** **03 21 38.0 -1.7**
BRVK pmax pmax
comp=Z,16nm,1.3s
BRVK Borovoye 69.17 329 P **P** **03 21 37.9 -1.9**
GEYT Alibeck 70.91 311 P **P** **03 21 48.6 -2.1**
comp=Z,12nm,1.2s,baz=164,slow=6.0,SNR=8.6
comp=Z,12nm,1.2s
TIXI Tiksi 72.27 2 P **P** **03 21 54.5 -3.7**
TIXI IAmb IAmb 03 22 06.5
comp=Z,36nm,1.0s
TIXI Tiksi 72.27 2 *ce*P **P** **03 21 55.5 -2.7**
TIXI pmax pmax
comp=Z,29nm,1.3s
TIXI Tiksi 72.27 2 LR LR 03 55 34.7
comp=Z,83nm,21.6s,baz=204,slow=38
AB31 Akbulak array 73.32 322 *i* P **P** **03 22 07.5 +2.6**
ABKAR Akbulak array 73.32 322 P **P** **03 22 02.1 -2.8**
ATKA Atka Island 74.12 35 P **P** **03 22 11.4 +1.9**
BILL Bilibino 74.69 15 P **P** **03 22 11.2 -1.3**
BILL Bilibino 74.69 15 *i* P **P** **03 22 10.8 -1.7**
BILL pmax pmax
comp=Z,9.0nm,0.8s
AKTO Aktyubinsk 74.90 323 P **P** **03 22 11.5 -2.6**
AKTO Aktyubinsk 74.90 323 LR LR 03 58 20.9
comp=Z,128nm,21.9s,baz=24,slow=38
SVE Sverdlovsk 75.85 330 ⇑ *e*P **P** **03 22 17.4 -1.9**
SVE pmax pmax
comp=Z,33nm,1.2s
ARU Arti 76.75 329 P **P** **03 22 21.0 -3.5**
ARU Arti 76.75 329 *c* P **P** **03 22 21.7 -2.8**
ARU 03 25 11.1
ARU S **S** **03 32 08.0 +1.6**
ARU SS **SS** **03 36 59.3 -4.2**
ARU pmax pmax
comp=Z,12nm,1.1s
NIKH Nikolski High 77.44 35 P **P** **03 22 29.2 +0.8**
baz=252
SPIA Saint Paul Isl 78.07 31 P **P** **03 22 32.3 +0.5**
baz=250
P08K Saint George I 78.24 31 P **P** **03 22 33.6 +0.9**
baz=250
MAW Mawson 78.44 200 LR LR 03 56 18.6
comp=Z,126nm,18.0s,baz=48,slow=35
RAYN Ar Rayn 78.92 294 P **P** **03 22 36.2 -1.1**
RAYN pmax pmax
comp=Z,9.0nm,0.8s
UNV Unalaska Valle 79.05 35 P **P** **03 22 37.2 0.0**
baz=254
AKUT Akutan 79.54 34 P **P** **03 22 42.9 +3.0**
VNDA Vanda 79.59 172 P **P** **03 22 41.7 +1.9**
VNDA Vanda 79.59 172 P **P** **03 22 41.7 +1.9**
VNDA pmax pmax
comp=Z,12nm,0.9s
VNDA Vanda 79.59 172 P **P** **03 22 39.6 -0.2**
comp=Z,2.1nm,0.7s,baz=326,slow=6.7,SNR=14
VNDA LR LR 03 56 52.3
comp=Z,183nm,20.4s,baz=332,slow=35
comp=Z,2.1nm,0.7s
GAMB Gambell 79.83 24 P **P** **03 22 41.6 +0.3**
baz=247
FALS False Pass 81.05 34 P **P** **03 22 48.0 -0.1**
baz=256
M11K Mekoryuk 81.10 28 P **P** **03 22 48.5 +0.4**
baz=253
GROC Groznyy 81.22 314 *e*P **P** **03 22 46.5 -2.7**
GNI Garni 81.54 311 *i* P **P** **03 22 49.5 -1.7**
GNI pmax pmax
comp=Z,16nm,1.3s
GNI Garni 81.54 311 LR LR 04 06 09.6
comp=Z,41nm,19.2s,baz=94,slow=41
BELG Belogornoye 81.69 323 *i* P **P** **03 22 50.2 -1.3**
BELG pmax pmax
comp=Z,3.0nm,0.9s
TNA Tin City 82.00 23 P **P** **03 22 53.6 +0.8**
baz=250
KIRV Kirov 82.11 329 *ce*P **P** **03 22 51.7 -1.8**
M13K Dall Lake 82.47 29 P **P** **03 22 55.4 0.0**
baz=255
F14K Arctic Creek 82.60 23 P **P** **03 22 57.2 +1.2**
baz=252
ANM Nome 82.71 24 P **P** **03 22 55.8 -0.8**
ANM Nome 82.71 24 P **P** **03 22 55.8 -0.8**
ANM pmax pmax
comp=Z,10.0nm,0.8s
ANM Nome 82.71 24 P **P** **03 22 57.4 +0.8**
baz=253,SNR=5.8
SDPT Sand Point 82.81 34 P **P** **03 22 57.2 -0.1**
SDPT Sand Point 82.81 34 P **P** **03 22 58.0 +0.7**
baz=258
J14K Nanvaranak Lak 82.98 26 IAmb IAmb 03 23 15.1
comp=Z,32nm,1.1s
J14K Nanvaranak Lak 82.98 26 P **P** **03 22 59.0 +1.0**
baz=255
L14K Kuka Creek 83.02 28 P **P** **03 22 59.3 +1.1**
baz=256
N14K Kuskokwak Cree 83.16 29 P **P** **03 22 59.0 +0.1**
baz=257
CHNA Chernabura Isl 83.21 35 P **P** **03 22 59.7 +0.3**
baz=259
O14K Tigyukauivet M 83.22 30 P **P** **03 22 59.8 +0.5**
baz=257

M14K **Bethel** 83.22 29 P P 03 22 59.4 +0.2
baz=256
F15K **North Star Dit** 83.33 23 IAmb IAmb 03 23 10.5
comp=Z,20nm,0.8s
F15K **North Star Dit** 83.33 23 P P 03 23 00.2 +0.4
baz=253
G15K **Niukluk** 83.38 24 P P 03 23 00.4 +0.4
baz=254
KBZ **Khabaz** 83.38 314 *ce*P P 03 22 58.0 -2.5
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KBZ **Khabaz** 83.38 314 P P 03 22 57.7 -2.8
comp=Z,5.7nm,1.1s,baz=165,slow=11,SNR=3.7
KBZ LR LR 04 05 03.8
comp=Z,58nm,21.9s,baz=76,slow=39
comp=Z,5.7nm,1.1s
GURO **Guroymak-BITLI** 83.43 309 P P 03 22 59.7 -1.4
GURO IAmb IAmb 03 23 09.5
comp=Z,28nm,1.1s
S14K **Fog Glacier** 83.51 33 P P 03 23 00.7 -0.2
baz=259
KIV **Kislovodsk** 83.56 314 *e*P P 03 23 00.0 -1.6
KIV pmax pmax
comp=Z,7.0nm,1.1s
L15K **Ungalak Mounta** 83.66 28 P P 03 23 01.7 +0.2
baz=257
K15K **Wolf Creek Mou** 83.78 27 P P 03 23 02.5 +0.4
baz=257
M15K **Kasigluk River** 83.82 29 P P 03 23 02.5 +0.2
baz=258,SNR=7.6
C16K **Lisburne Hills** 83.83 21 IAmb IAmb 03 23 28.9
comp=Z,35nm,1.0s
C16K **Lisburne Hills** 83.83 21 P P 03 23 01.9 -0.3
baz=252
O15K **Ungalikthiuk R** 83.93 30 P P 03 23 02.7 -0.3
baz=258
N15K **Kwethluk River** 84.00 29 P P 03 23 03.1 -0.2
baz=258,SNR=7.2
H16K **Elim** 84.03 25 P P 03 23 03.5 +0.2
baz=256,SNR=38
CHGN **Chignik** 84.13 33 P P 03 23 03.4 -0.7
baz=260
G16K **Koyuk River** 84.17 24 P P 03 23 03.4 -0.7
G16K **Koyuk River** 84.17 24 P P 03 23 04.2 +0.1
baz=256
J16K **Anvik River** 84.42 26 IAmb IAmb 03 23 16.4
comp=Z,36nm,0.9s
J16K **Anvik River** 84.42 26 P P 03 23 06.0 +0.6
baz=257,SNR=10
D17K **Noatak River** 84.48 22 P P 03 23 06.0 +0.4
baz=255
I17K **Unalakleet** 84.51 26 IAmb IAmb 03 23 16.9
comp=Z,24nm,0.9s
I17K **Unalakleet** 84.51 26 P P 03 23 06.5 +0.7
baz=257,SNR=8.6
L16K **Owhat River** 84.60 28 IAmb IAmb 03 23 17.0
comp=Z,25nm,0.8s
L16K **Owhat River** 84.60 28 P P 03 23 06.4 +0.1
baz=259
C17K **DeLong Mountai** 84.65 21 P P 03 23 06.3 -0.1
baz=254,SNR=12
N16K **Nishlik Lake** 84.70 29 P P 03 23 06.2 -0.6
baz=259
M16K **Timber Creek** 84.71 29 IAmb IAmb 03 23 17.6
comp=Z,27nm,0.8s
M16K **Timber Creek** 84.71 29 P P 03 23 07.0 +0.1
baz=259
R16K **Pilot Point** 84.80 32 P P 03 23 07.5 +0.2
baz=261
P16K **Nushagak River** 84.83 31 P P 03 23 08.1 +0.6
baz=260,SNR=8.0
F17K **Baldwin Pennin** 84.86 23 P P 03 23 07.8 +0.3
baz=256
O16K **Kokwok River B** 84.88 30 P P 03 23 07.6 -0.1
baz=260,SNR=7.4
G17K **Kiwalik Mounta** 84.89 24 P P 03 23 08.0 +0.3
baz=257
H17K **Granite Mounta** 85.07 25 IAmb IAmb 03 23 19.9
comp=Z,16nm,0.6s
H17K **Granite Mounta** 85.07 25 P P 03 23 08.7 +0.1
baz=258
VRH **Novokhopyorsk** 85.11 321 *e*P P 03 23 06.2 -2.9
VRH pmax pmax
comp=Z,17nm,1.4s
L17K **Donlin** 85.23 28 P P 03 23 08.8 -0.7
baz=260
K17K **Iditarod** 85.33 27 IAmb IAmb 03 23 21.7
comp=Z,22nm,0.9s
K17K **Iditarod** 85.33 27 P P 03 23 09.9 -0.1
baz=260
E18K **Tukpahlearik C** 85.34 22 P P 03 23 09.5 -0.4
E18K IAmb IAmb 03 23 21.3
comp=Z,21nm,0.8s
E18K **Tukpahlearik C** 85.34 22 P P 03 23 09.5 -0.4
baz=257
B18K **Kokolik River** 85.36 20 P P 03 23 10.1 +0.1
baz=256
C18K **Utukok River** 85.40 21 IAmb IAmb 03 23 20.7
comp=Z,15nm,0.8s
C18K **Utukok River** 85.40 21 P P 03 23 10.6 +0.3
baz=256
O17K **Koliganek Bris** 85.41 30 P P 03 23 10.5 +0.2
baz=261
Q16K **King Salmon** 85.46 31 P P 03 23 09.7 -1.0
baz=261
M17K **Holitna River** 85.50 28 P P 03 23 10.5 -0.4
baz=260
F18K **Selawik** 85.52 23 P P 03 23 10.9 +0.2
baz=258
P17K **Kvichak River** 85.65 31 P P 03 23 11.3 -0.3
baz=261
H18K **Honhosa River** 85.76 25 P P 03 23 10.9 -1.1
baz=259
G18K **Tagagawik** 85.78 24 P P 03 23 11.7 -0.4
baz=259
Q17K **Contact Creek** 85.80 32 P P 03 23 11.6 -0.9
baz=262
L18K **Granite Mounta** 85.99 28 IAmb IAmb 03 23 29.9
comp=Z,18nm,1.0s
L18K **Granite Mounta** 85.99 28 P P 03 23 12.6 -0.6
baz=261
C19K **Lookout Ridge** 86.07 21 IAmb IAmb 03 23 24.8
comp=Z,28nm,0.8s
C19K **Lookout Ridge** 86.07 21 P P 03 23 13.2 -0.4
baz=258,SNR=14
N18K **Kilae Creek** 86.14 29 P P 03 23 13.1 -0.9
baz=262
J18K **Innoko River** 86.17 26 P P 03 23 13.3 -0.8
baz=261
M18K **Stony River** 86.28 28 P P 03 23 14.0 -0.7
baz=262
O18K **Koktuh Hills** 86.36 30 P P 03 23 14.1 -1.0
baz=262
TTA **Tatalina** 86.41 27 P P 03 23 14.7 -0.7
baz=262
G19K **Purcell Mounta** 86.45 24 P P 03 23 14.9 -0.5
baz=260,SNR=12
D19K **Kuna River** 86.48 21 IAmb IAmb 03 23 25.4
comp=Z,11nm,0.7s
D19K **Kuna River** 86.48 21 P P 03 23 15.0 -0.6
baz=259
SII **Sitkinak Islan** 86.50 33 P P 03 23 15.2 -0.7
baz=264
VORD **Divnogorie** 86.61 321 *e*P P 03 23 12.9 -3.6
VORD pmax pmax
comp=Z,30nm,0.7s
H19K **Roundabout Mou** 86.61 24 P P 03 23 15.5 -0.7
baz=261
E19K **Redstone River** 86.62 22 IAmb IAmb 03 23 27.2
comp=Z,18nm,0.9s
E19K **Redstone River** 86.62 22 P P 03 23 16.1 -0.1
baz=260,SNR=14
VSR **Storozhevoye** 86.71 321 *e*P P 03 23 12.9 -4.1
VSR pmax pmax
comp=Z,20nm,0.9s
VORR **Voronezh** 86.72 322 *e*P P 03 23 14.8 -2.2
VORR pmax pmax
comp=Z,21nm,1.3s
J19K **Poorman** 86.73 26 P P 03 23 16.4 -0.5
baz=262
L19K **White Mountain** 86.83 28 P P 03 23 16.6 -0.8
baz=263
N19K **Bonanza Creek** 86.84 29 IAmb IAmb 03 23 33.2
comp=Z,36nm,1.1s
N19K **Bonanza Creek** 86.84 29 P P 03 23 16.9 -0.7
baz=263
LPSR **Galich'ya Gora** 86.98 323 *e*P P 03 23 14.5 -3.8
LPSR pmax pmax
comp=Z,20nm,1.0s
OHAK **Old Harbor** 87.06 33 P P 03 23 17.3 -1.2
baz=264
D20K **Etivluk River** 87.06 21 P P 03 23 17.2 -1.2
baz=261
GAZ **Gaziantep** 87.13 307 IAmb IAmb 03 23 27.7
comp=Z,31nm,1.1s
F20K **Avarart Lake** 87.13 23 P P 03 23 18.1 -0.6
baz=262
E20K **Nigu River** 87.14 22 P P 03 23 18.6 -0.2
baz=261
ASF **Jabal al Asfar** 87.15 302 P P 03 23 17.8 -1.9
comp=Z,4.6nm,0.7s,baz=162,slow=3.3,SNR=8.9
comp=Z,4.6nm,0.7s
H20K **Anotleneega Mo** 87.25 24 P P 03 23 19.1 -0.2
baz=262
L20K **Farewell, AK** 87.32 27 P P 03 23 18.3 -1.5
baz=264
I20K **Naaghedeneel** 87.33 25 P P 03 23 19.2 -0.5
baz=263
K20K **Telida** 87.34 27 P P 03 23 19.9 0.0
K20K **Telida** 87.34 27 P P 03 23 19.2 -0.6
baz=263
J20K **Nowinta River** 87.40 26 P P 03 23 20.1 0.0
baz=263
KLMR **Klimovskoe** 87.44 331 *e*P P 03 23 15.0 -5.3
KLMR 03 26 38.2
KLMR pmax pmax
comp=Z,17nm,0.7s
A21K **Barrow** 87.48 19 P P 03 23 19.6 -0.7
baz=260
KDAK **Kodiak Island** 87.49 32 P P 03 23 19.9 -0.7
baz=265
KDAK **Kodiak Island** 87.49 32 LR LR 03 57 35.6
comp=Z,100nm,21.6s,baz=262,slow=32
M20K **Styx River** 87.61 28 IAmb IAmb 03 23 36.6
comp=Z,23nm,1.2s
M20K **Styx River** 87.61 28 P P 03 23 21.0 -0.2
baz=264
O20K **Slope Mountain** 87.68 30 P P 03 23 21.4 -0.2
baz=265
C21K **Knifeblade Rid** 87.78 21 P P 03 23 22.1 +0.3
baz=262
B21K **Ikpikpuk River** 87.90 20 IAmb IAmb 03 23 34.0
comp=Z,13nm,0.8s
B21K **Ikpikpuk River** 87.90 20 P P 03 23 21.8 -0.6
baz=262
G21K **Allakaket** 87.94 23 P P 03 23 22.2 -0.5
baz=264
E21K **Killik River** 87.98 22 P P 03 23 22.5 -0.3
baz=263
N20K **Mount Spurr** 87.98 29 P P 03 23 21.9 -1.1
baz=265
F21K **Alatna River** 88.02 23 P P 03 23 23.1 +0.1
baz=264
H21K **Melozitna Rive** 88.13 24 P P 03 23 23.6 +0.1
baz=264
PPLA **Purkeypile** 88.14 27 P P 03 23 22.9 -1.0
baz=265
CHUM **Lake Minchumin** 88.17 26 P P 03 23 23.7 0.0
baz=265
CAST **Castle Rocks** 88.23 27 P P 03 23 23.8 -0.3
baz=263
GHAJ **Ghost Haditha** 88.25 301 IAmb IAmb 03 23 38.5
comp=Z,16nm,1.1s
SKT **Skwentna** 88.37 28 P P 03 23 23.1 -1.6
baz=266
I21K **Tanana** 88.43 25 IAmb IAmb 03 23 41.0
comp=Z,15nm,1.0s
I21K **Tanana** 88.43 25 P P 03 23 23.8 -1.2
baz=265
MMAI **Mount Meron Ar** 88.44 303 P P 03 23 23.8 -2.0
comp=Z,4.6nm,0.9s,baz=83,slow=6.9,SNR=11
MMAI LR LR 04 06 58.8
comp=Z,86nm,21.8s,baz=87,slow=38
comp=Z,4.6nm,0.9s
CAPN **Captain Cook N** 88.46 29 P P 03 23 23.6 -1.6
baz=266
D22K **Ayikyak River** 88.50 21 P P 03 23 27.1 +1.8
D22K **Ayikyak River** 88.50 21 P P 03 23 24.8 -0.4
baz=264
OBN **Obninsk** 88.55 325 *e*P P 03 23 23.6 -2.1
OBN *e* 03 26 55.1
OBN pmax pmax
comp=Z,17nm,1.7s
OBN MLR MLR
comp=Z,93nm,20.0s
BRSE **Bradley Lake S** 88.60 30 P P 03 23 24.2 -1.7
baz=266
SUA **Susitna One** 88.70 29 P P 03 23 25.2 -1.3
baz=266
EIL **Elat** 88.73 300 LR LR 04 05 58.7
comp=Z,58nm,20.9s,baz=99,slow=37
H22K **Ishtalitna Cre** 88.74 24 P P 03 23 25.8 -0.6
baz=266
BPAW **Bear Paw Mtn.** 88.77 26 P P 03 23 25.8 -0.8
baz=266
MLY **Manley** 88.94 25 IAmb IAmb 03 23 43.0
comp=Z,17nm,1.0s
MLY **Manley** 88.94 25 P P 03 23 25.8 -1.6
baz=266,SNR=6.1
CUT **Chulina** 88.99 28 P P 03 23 26.2 -1.4
baz=267
M22K **Willow** 89.02 28 P P 03 23 26.8 -1.0
baz=267
TRF **Thorofare Moun** 89.04 27 P P 03 23 27.0 -1.1
baz=267
O22K **Cooper Landing** 89.15 30 P P 03 23 27.0 -1.4
baz=267
RC01 **Rabbit Creek A** 89.17 29 IAmb IAmb 03 23 44.9
comp=Z,7.4nm,0.6s
RC01 **Rabbit Creek A** 89.17 29 P P 03 23 27.2 -1.3
baz=267
D23K **Nanushuk River** 89.23 21 P P 03 23 28.0 -0.7
baz=266
SEW **Seward** 89.26 30 P P 03 23 27.8 -1.2
baz=267
QSPA **South Pole Qui** 89.29 180 P P 03 23 30.0 +0.8
QSPA **South Pole Qui** 89.29 180 LR LR 04 05 22.7
comp=Z,172nm,18.3s,baz=349,slow=37
COLD **Coldfoot** 89.30 23 P P 03 23 28.3 -0.7
baz=267,SNR=7.7
C23K **Itkillik River** 89.31 20 IAmb IAmb 03 23 41.5
comp=Z,12nm,0.8s
C23K **Itkillik River** 89.31 20 P P 03 23 28.1 -0.8
baz=266
G23K **Bananza Creek** 89.34 23 IAmb IAmb 03 23 40.0
comp=Z,13nm,0.8s
G23K **Bananza Creek** 89.34 23 P P 03 23 28.3 -1.0
baz=267,SNR=7.4
PMR **Palmer** 89.48 29 P P 03 23 28.6 -1.4
baz=268
I23K **Minto, Yukon-K** 89.53 25 IAmb IAmb 03 23 46.0
comp=Z,31nm,1.1s
I23K **Minto, Yukon-K** 89.53 25 P P 03 23 28.2 -1.9
baz=268,SNR=8.5
E23K **Chandalar** 89.56 22 P P 03 23 28.6 -1.7
baz=267
NEA2 **Nenana** 89.63 26 P P 03 23 29.2 -1.5
baz=268
MCK **McKinley** 89.66 26 P P 03 23 29.8 -0.9
baz=268
WAT1 **Susitna Watana** 89.80 27 P P 03 23 30.2 -1.3
baz=268
KNK **Knik Glacier** 89.80 29 IAmb IAmb 03 23 46.9
comp=Z,18nm,0.8s
KNK **Knik Glacier** 89.80 29 P P 03 23 30.7 -0.8
baz=268
SML **Sawmill** 89.87 28 IAmb IAmb 03 23 41.4
comp=Z,16nm,0.8s
SML **Sawmill** 89.87 28 P P 03 23 31.1 -0.8
baz=268
D24K **Happy Valley** 89.90 21 P P 03 23 31.1 -0.7
baz=268
C24K **Franklin Bluff** 89.97 20 P P 03 23 31.3 -0.7
baz=268
BRTR **Keskin Array B** 90.02 310 *ce*P P 03 23 30.1 -3.1
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR **Keskin Array B** 90.02 310 P P 03 23 29.8 -3.4
comp=Z,2.3nm,0.9s,baz=141,slow=5.9,SNR=13
BRTR PP PP 03 27 02.1 -4.9
comp=Z,1.5nm,1.1s,baz=157,slow=6.7,SNR=2.8
comp=Z,2.3nm,0.9s
M23K **Glacier View** 90.16 28 P P 03 23 31.7 -1.5
baz=269
WAT6 **Susitna Watana** 90.17 28 P P 03 23 32.3 -1.1
baz=269
H24K **Noodor Dome** 90.17 24 P P 03 23 31.4 -1.8
H24K **Noodor Dome** 90.17 24 P P 03 23 32.7 -0.5
baz=269
F24K **Squaw Lake** 90.20 23 P P 03 23 32.5 -0.8
baz=269
P23K **Montague Islan** 90.29 30 P P 03 23 32.8 -1.0
baz=269
DHY **Denali Highway** 90.34 27 IAmb IAmb 03 23 43.7
comp=Z,10nm,0.7s
DHY **Denali Highway** 90.34 27 P P 03 23 33.2 -0.9
baz=269
POKR **Poker Plat Res** 90.34 25 P P 03 23 32.8 -1.1
baz=269
SCM **Sheep Creek Mo** 90.35 28 IAmb IAmb 03 23 57.5
comp=Z,10nm,0.8s
SCM **Sheep Creek Mo** 90.35 28 P P 03 23 33.5 -0.6
baz=269
G24K **Hadweenzic Riv** 90.35 23 IAmb IAmb 03 23 44.0
comp=Z,9.8nm,0.8s
G24K **Hadweenzic Riv** 90.35 23 P P 03 23 33.3 -0.7
baz=269
HDA **Harding Lake** 90.55 26 P P 03 23 33.6 -1.3
baz=270
ILAR **Eielson Array** 90.57 25 P P 03 23 32.0 -3.0
comp=Z,0.4nm,0.5s,baz=267,slow=4.4,SNR=9.4
ILAR LR LR 03 59 18.2
comp=Z,76nm,21.9s,baz=260,slow=32
comp=Z,0.4nm,0.5s
D25K **Kavik River** 90.78 21 P P 03 23 35.2 -0.8
baz=270
M24K **Tolsona, Glenn** 90.89 28 P P 03 23 35.8 -0.8
baz=270
G25K **Bearman Lake** 90.90 23 P P 03 23 35.7 -0.7
baz=270
KLU **Klutina** 91.02 29 P P 03 23 37.6 +0.3
KLU IAmb IAmb 03 23 52.8
comp=Z,8.6nm,0.8s
KLU **Klutina** 91.02 29 P P 03 23 35.6 -1.7
baz=270
K24K **Donnelly Dome** 91.06 26 P P 03 23 36.2 -1.1
baz=271
F25K **Christian Rive** 91.06 23 P P 03 23 36.9 -0.4
baz=271
E25K **Arctic Village** 91.08 22 P P 03 23 37.0 -0.3
baz=271
EYAK **Cordova Ski Ar** 91.11 30 P P 03 23 36.7 -0.9
baz=271
PRP **Porcupine Dome** 91.15 25 P P 03 23 37.1 -0.8
baz=271
PAX **Paxson** 91.21 27 P P 03 23 37.4 -0.8
baz=271
J25K **Salcha River,** 91.23 26 P P 03 23 36.7 -1.5
baz=271
C26K **Camden Bay** 91.28 20 P P 03 23 37.3 -0.9
baz=272
HARP **HAARP** 91.37 28 P P 03 23 37.4 -1.4
baz=271
RIDG **Independent Ri** 91.48 26 IAmb IAmb 03 23 54.0
comp=Z,9.2nm,0.8s
RIDG **Independent Ri** 91.48 26 P P 03 23 38.5 -0.8
baz=272
F26K **Sheenjek River** 91.64 22 P P 03 23 38.9 -1.0
baz=272
N25K **Chitina, Valde** 91.65 29 IAmb IAmb 03 23 57.0
comp=Z,7.1nm,0.8s
N25K **Chitina, Valde** 91.65 29 P P 03 23 39.2 -1.0
baz=272
BMRM **Bremner River** 91.67 29 P P 03 23 39.2 -1.0
baz=272
KAIM **Kayak Island** 91.79 30 P P 03 23 39.5 -1.3
baz=272
G26K **Porcupine Rive** 91.81 23 P P 03 23 40.2 -0.4
baz=273
SCRK **Sand Creek** 91.85 26 P P 03 23 40.1 -1.0
baz=272,SNR=5.9
HMT **Hamilton** 91.86 30 P P 03 23 40.2 -0.9
HMT IAmb IAmb 03 23 57.8
comp=Z,26nm,1.4s
J26L **Joseph Creek** 92.01 26 IAmb IAmb 03 23 57.7
comp=Z,12nm,1.2s
J26L **Joseph Creek** 92.01 26 P P 03 23 41.2 -0.6
baz=273
MENT **Mentasta** 92.01 27 P P 03 23 40.9 -0.9
GLB **Gilahina Butte** 92.03 29 IAmb IAmb 03 24 02.1
comp=Z,12nm,1.1s
BERG **Berg Lake** 92.13 30 IAmb IAmb 03 23 59.3
comp=Z,18nm,1.2s
BGLC **Bering Glacier** 92.35 30 P P 03 23 42.3 -1.0
baz=273
M26K **Nabesna, AK** 92.37 28 P P 03 23 42.1 -1.3
baz=273
MBAR **Mbarara** 92.38 269 LR LR 04 03 58.1
comp=Z,142nm,19.4s,baz=56,slow=35
CRQM **Cirque** 92.39 29 IAmb IAmb 03 24 01.3
comp=Z,14nm,0.9s
CRQE **Cirque** 92.42 29 P P 03 23 43.5 -0.3
baz=273
MCARA **McCarthy VSAT** 92.42 29 IAmb IAmb 03 24 05.4
comp=Z,9.9nm,0.8s
MCARA **McCarthy VSAT** 92.42 29 P P 03 23 43.7 +0.1
baz=273
TGL **Tana Glacier** 92.54 29 P P 03 23 43.4 -0.9
TGL IAmb IAmb 03 23 55.3
comp=Z,12nm,0.8s
SNH **Sunshine Point** 92.57 30 IAmb IAmb 03 24 00.4
comp=Z,15nm,0.8s
K27K **Chicken** 92.69 26 IAmb IAmb 03 24 01.6
comp=Z,20nm,1.1s
K27K **Chicken** 92.69 26 P P 03 23 44.9 +0.1
baz=274
H27K **Steamboat Moun** 92.75 24 P P 03 23 45.3 +0.1
baz=275
I27K **Kandik River** 92.77 24 P P 03 23 45.1 -0.1
baz=274
ISLE **Juniper Island** 92.79 29 IAmb IAmb 03 24 01.8
comp=Z,12nm,0.8s
L27K **Beaver Creek,** 92.87 27 IAmb IAmb 03 24 01.6
comp=Z,13nm,0.9s
L27K **Beaver Creek,** 92.87 27 P P 03 23 45.7 -0.1
baz=274
M27K **Edge Creek, AK** 92.90 28 P P 03 23 45.9 -0.1
baz=274
AKASG **Malin Array Be** 92.98 321 *ce*P P 03 23 44.0 -2.4
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG **Malin Array Be** 92.98 321 P P 03 23 43.1 -3.3
comp=Z,0.2nm,0.3s,baz=79,slow=3.7,SNR=8.4
AKASG LR LR 04 11 35.4
comp=Z,60nm,19.2s,baz=49,slow=39
comp=Z,0.2nm,0.3s
AKBB **Malin Array Si** 92.98 321 *i* P P 03 23 45.0 -1.4
AKBB pmax pmax
comp=Z,11nm,1.4s
MESA **MESA** 93.02 30 P P 03 23 46.4 -0.2
baz=274
EGAK **Eagle** 93.03 25 P P 03 23 46.0 -0.3
baz=275
CTG **Chitna Glacier** 93.26 29 P P 03 23 47.5 -0.1
baz=274,SNR=12
F28M **Old Crow** 93.27 22 IAmb IAmb 03 24 13.2
comp=Z,11nm,1.0s
F28M **Old Crow** 93.27 22 P P 03 23 46.9 -0.5
baz=276
ARCES **ARCESS Array B** 93.28 340 P P 03 23 44.9 -2.6
comp=Z,2.8nm,0.8s,baz=88,slow=6.1,SNR=9.6
ARCES LR LR 04 10 36.7
comp=Z,65nm,19.6s,baz=98,slow=39
comp=Z,2.8nm,0.8s
BVCY **Beaver Creek** 93.36 28 P P 03 23 47.2 -0.8
baz=275,SNR=6.0
I28M **Miner Creek** 93.48 25 P P 03 23 47.7 -0.8
I28M **Miner Creek** 93.48 25 P P 03 23 47.8 -0.8
baz=276
D28M **Stokes Point** 93.48 21 P P 03 23 48.6 +0.3
baz=277
MNK **Minsk** 93.58 324 *i* P P 03 23 46.2 -2.9
MNK *i* 03 27 31.2
MNK *i* PPP PPP 03 29 31.0
MNK *i* S **SKSac** **03 34 17.7 -0.3**
MNK *i* SS **SS** **03 41 11.2 +0.2**
MNK *i* SSS SSS 03 44 52.1
MNK pmax pmax
comp=E,6.0nm,1.0s
MNK pmax pmax
comp=Z,17nm,1.0s
MNK pmax pmax
comp=N,10.0nm,0.9s
YUK3 **Moose Creek** 93.61 28 P P 03 23 48.6 -0.8

baz=275
SORM **Soroca** 93.68 318 ⇑P P 03 23 46.3 -3.4
SORM **Soroca** 93.68 318 ⇑P P 03 23 46.3 -3.4
DAWY **Dawson** 93.86 26 IAmb IAmb 03 24 06.2
comp=Z,10nm,0.9s
DAWY **Dawson** 93.86 26 P P 03 23 49.9 -0.4
baz=276,SNR=8.5
PINM **Pinnacle** 93.87 30 P P 03 23 49.5 -0.9
baz=275
VSU **Vasula** 93.90 328 *ce*P P 03 23 48.6 -1.9
VSU pmax pmax
comp=Z,8.0nm,1.0s
E29M **Blow River** 93.91 22 P P 03 23 49.6 -0.7
baz=278
FINES **FINESS Array B** 93.95 331 *ce*P P 03 23 50.0 -0.6
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES **FINESS Array B** 93.95 331 P P 03 23 46.9 -3.8
comp=Z,1.2nm,0.9s,baz=75,slow=4.8,SNR=8.0
FINES PP PP 03 27 29.4 -7.6
comp=Z,2.0nm,1.0s,baz=73,slow=4.8,SNR=2.8
comp=Z,1.2nm,0.9s
YUK8 **Steele Glacier** 93.99 29 P P 03 23 50.0 -1.2
baz=276,SNR=6.9
H29M **Whitestone** 94.03 24 IAmb IAmb 03 24 12.6
comp=Z,28nm,1.4s
H29M **Whitestone** 94.03 24 P P 03 23 50.7 -0.2
baz=278
SPITS **Spitsbergen Ar** 94.04 349 P P 03 23 47.6 -3.2
comp=Z,11nm,0.8s,baz=94,slow=7.6,SNR=24
SPITS LR LR 04 11 09.9
comp=Z,117nm,20.1s,baz=16,slow=39
comp=Z,11nm,0.8s
PNL **Peninsula** 94.34 30 P P 03 23 52.1 -0.4
baz=276
M29M **Somme Creek** 94.47 27 IAmb IAmb 03 24 09.7
comp=Z,17nm,0.8s
M29M **Somme Creek** 94.47 27 P P 03 23 52.7 -0.5
baz=277
YUK4 **Talbot Arm** 94.52 29 P P 03 23 53.3 -0.2
baz=277
L29M **L29M** 94.54 27 P P 03 23 52.6 -0.8
baz=278
LSZ **Lusaka** 94.60 255 LR LR 04 02 05.5
comp=Z,218nm,21.5s,baz=120,slow=32
EPYK **Eagle Plains** 94.66 23 IAmb IAmb 03 24 19.7
comp=Z,18nm,1.1s
EPYK **Eagle Plains** 94.66 23 P P 03 23 53.3 -0.6
baz=279
O29M **Mount Kennedy** 94.68 30 IAmb IAmb 03 24 08.4
comp=Z,9.5nm,1.1s
O29M **Mount Kennedy** 94.68 30 P P 03 23 53.1 -1.1
baz=277
YUK6 **Outpost Mounta** 94.70 29 P P 03 23 52.9 -1.6
baz=277
K29M **Barlow Dome** 94.71 26 IAmb IAmb 03 24 04.4
comp=Z,8.9nm,0.7s
K29M **Barlow Dome** 94.71 26 P P 03 23 52.9 -1.4
baz=278
G30M **tAoh Zraii Nji** 94.76 23 IAmb IAmb 03 24 12.4
comp=Z,9.8nm,0.9s
G30M **tAoh Zraii Nji** 94.76 23 P P 03 23 53.4 -1.0
baz=280
F30M **Barrier River** 94.82 22 P P 03 23 53.4 -1.1
baz=280
SPBR **Spulber** 94.92 316 ⇑P P 03 23 56.3 +0.8
VRI **Vrincioaia** 94.93 316 ⇑P P 03 24 01.9 +6.3
VRI **Vrincioaia** 94.93 316 ⇑P P 03 24 01.9 +6.3
TESR **Tescani** 94.94 316 ⇑P P 03 23 53.3 -2.3
I30M **Mount Dempster** 94.99 25 IAmb IAmb 03 24 10.9
comp=Z,10nm,0.8s
I30M **Mount Dempster** 94.99 25 P P 03 23 54.1 -1.5
baz=279
J30M **Hart River** 95.11 25 IAmb IAmb 03 24 18.1
comp=Z,18nm,1.2s
J30M **Hart River** 95.11 25 P P 03 23 55.2 -0.9
baz=279
HYT **Haines Junctio** 95.14 29 P P 03 23 55.2 -1.1
HYT IAmb IAmb 03 24 12.5
comp=Z,13nm,0.7s
HYT **Haines Junctio** 95.14 29 P P 03 23 55.4 -0.9
baz=278,SNR=6.7
P29M **Windy Craggy** 95.18 30 P P 03 23 54.9 -1.5
baz=278
M30M **Minto, Yukon** 95.22 27 IAmb IAmb 03 24 13.0
comp=Z,17nm,1.1s
M30M **Minto, Yukon** 95.22 27 P P 03 23 55.2 -1.3
baz=279,SNR=11
N30M **Aishikik Lake** 95.25 28 IAmb IAmb 03 24 13.2
comp=Z,16nm,0.9s
N30M **Aishikik Lake** 95.25 28 P P 03 23 55.7 -1.0
baz=278,SNR=8.5
MAYO **Mayo, Yukon** 95.46 26 P P 03 23 56.3 -1.3
baz=280
P30M **Million Dollar** 95.50 30 P P 03 23 57.4 -0.5
baz=278
MLR **Muntele Rosu** 95.51 315 ⇑P P 03 24 03.9 +5.6
MLR **Muntele Rosu** 95.51 315 ⇑P P 03 24 03.9 +5.6
MLR **Muntele Rosu** 95.51 315 LR LR 04 11 39.9
comp=Z,55nm,21.5s,baz=64,slow=38
INK **Inuvik** 95.52 21 P P 03 23 56.6 -1.1
baz=282
INK **Inuvik** 95.52 21 LR LR 04 07 02.4
comp=Z,48nm,21.7s,baz=12,slow=36
G31M **Satah River** 95.53 23 IAmb IAmb 03 24 06.8
comp=Z,9.1nm,0.8s
G31M **Satah River** 95.53 23 P P 03 23 56.5 -1.2
baz=281
F31M **Tsiigehtchic** 95.62 22 P P 03 23 57.4 -0.8
baz=282
BURAR **Bucovina Array** 95.82 318 ⇓P P 03 23 57.7 -2.0
BURAR **Bucovina Array** 95.82 318 ⇓P P 03 23 57.7 -2.0
BUR08 **Bucovina Ar. S** 95.83 318 IAmb IAmb 03 24 20.1
comp=Z,8.4nm,1.1s
O30N **Mendenhall** 95.83 29 IAmb IAmb 03 24 15.1
comp=Z,12nm,1.1s
O30N **Mendenhall** 95.83 29 P P 03 23 59.0 -0.4
baz=279,SNR=6.0
PLBC **Pleasant Camp** 95.90 30 P P 03 23 59.3 -0.3
baz=279
S31K **Pelican** 96.19 32 P P 03 24 00.1 -0.9
baz=279
M31M **Drury Creek, Y** 96.39 27 P P 03 24 01.0 -0.8
baz=281
SKAG **Skagway** 96.42 30 P P 03 24 01.5 -0.4
baz=280
WHY **Whitehorse** 96.44 29 P P 03 24 02.0 -0.2
baz=280,SNR=7.0
BOSA **Boshof** 96.61 241 LR LR 04 01 33.3
comp=Z,125nm,21.9s,baz=112,slow=32
SIT **Sitka** 96.82 33 P P 03 24 03.8 0.0
baz=279
FARO **Faro, Yukon** 96.86 27 P P 03 24 03.7 -0.3
baz=282
R32K **Eaglecrest** 97.04 31 P P 03 24 04.3 -0.5
baz=280
S32K **Killisnoo** 97.15 32 P Pdif 03 24 05.7 +0.3
baz=280
A36M **Sachs Harbour** 97.20 17 IAmb IAmb 03 24 38.1
comp=Z,7.0nm,0.8s
A36M **Sachs Harbour** 97.20 17 P P 03 24 05.1 -0.1
baz=290
N32M **Quiet Lake** 97.20 28 P P 03 24 04.7 -0.8
N32M **Quiet Lake** 97.20 28 P P 03 24 04.8 -0.8
baz=282
P32M **Atlin** 97.21 30 P P 03 24 05.3 -0.4
baz=281
MARR **Marisel-Cluj** 97.34 317 ⇑P P 03 24 05.8 -0.8
P33M **Teslin, Yukon** 97.53 29 P P 03 24 06.8 -0.3
baz=282
KOLS **Kolonicke sedl** 97.62 319 *e*P Pdif 03 24 09.6 +1.8
KOLS **Kolonicke sedl** 97.62 319 *e*PDIFF Pdif 03 24 09.6 +1.8
Q32M **Nakina River** 98.06 30 P P 03 24 08.6 -1.1
baz=282
CRVS **Cervenica-Dubn** 98.16 319 *e*P P 03 24 09.1 -1.0
CRVS **Cervenica-Dubn** 98.16 319 *e*PDIFF P 03 24 09.1 -1.0
U33K **Whale Pass** 98.19 33 P P 03 24 09.8 -0.1
baz=281
CRAG **Craig** 98.31 34 P P 03 24 09.7 -0.9
baz=281
C36M **Paulatuk** 98.51 19 IAmb IAmb 03 24 20.1
comp=Z,5.9nm,0.7s
C36M **Paulatuk** 98.51 19 P P 03 24 09.9 -1.2
baz=291
WRAK **Wrangell Islan** 98.55 33 P P 03 24 10.9 -0.7
baz=282
R33M **Jennings River** 98.62 30 P P 03 24 11.9 -0.2
baz=283
S34M **Telegraph Cree** 98.88 31 P P 03 24 12.4 -0.6
baz=283
V35K **Ketchikan** 99.18 34 P Pdif 03 24 14.1 -0.3
baz=282
DLBC **Dease Lake** 99.32 31 P Pdif 03 24 14.7 -0.4
baz=284
DLBC **Dease Lake** 99.32 31 LR LR 04 03 54.8
comp=Z,18nm,20.2s,baz=288,slow=32
TGTN **Hyland Airport** 99.36 27 P Pdif 03 24 14.9 -0.3
baz=286
WTLY **Watson Lake, Y** 99.50 29 P Pdif 03 24 16.0 +0.1
baz=286
HFS **Hagfors** 100.15 331 P Pdif 03 24 15.0 -3.7
comp=Z,1.2nm,0.9s,baz=66,slow=4.4,SNR=4.4
HFS LR LR 04 11 46.3
comp=Z,60nm,21.2s,baz=76,slow=37
comp=Z,1.2nm,0.9s
SOKA **Soboth** 102.83 318 *e*pPKiKP PP 03 29 05.9 +20
comp=Z,0.4nm,0.3s
CLL **Collm** 102.99 323 *e*P Pdif 03 24 30.0 -1.5
GERES **GERESS Array B** 103.19 320 Pdiff Pdif 03 24 26.5 -6.1
comp=Z,0.1nm,0.3s,baz=77,slow=5.2,SNR=1.6
GERES PKiKP PP 03 28 47.5 -0.6
comp=Z,0.1nm,0.3s,baz=141,slow=3.4,SNR=3.6
KBA **Koelnbreinsper** 103.86 319 *e*PKiKP PKiKP 03 28 57.6 +4.3
comp=Z,2.2nm,1.1s
WTTA **Wattenberg** 104.94 319 *i* pPKiKP PP 03 29 10.2 +9.0
comp=Z,7.1nm,1.0s
YKA **Yellowknife Ar** 104.94 24 Pdiff Pdif 03 24 35.6 -4.3
comp=Z,0.1nm,0.3s,baz=242,slow=7.5,SNR=2.0
YKA PKiKP PKiKP 03 28 50.7 -3.8
comp=Z,0.2nm,0.5s,baz=312,slow=2.2,SNR=2.6
YKA PKKPbc PKKPbc 03 40 21.4 -3.4
comp=Z,0.2nm,0.7s,baz=98,slow=2.8,SNR=4.2
WATA **Walderalm** 104.96 319 *i* pPKiKP PP 03 29 09.8 +8.4
comp=Z,2.5nm,1.4s
MOTA **Moosalm** 105.26 319 *e*PP PP 03 29 07.0 +3.4
comp=Z,1.8nm,0.7s
RETA **Reutte** 105.45 319 *ep*PKiKP PP 03 29 11.9 +7.0
comp=Z,0.3nm,0.3s
FETA **Feichten** 105.60 319 *e*PP PP 03 29 06.9 +0.8
comp=Z,1.6nm,0.8s
DAVA **Damuels** 106.08 319 *e*PP PP 03 29 15.7 +6.1
comp=Z,1.4nm,0.6s
PKM **Mcpherson Peak** 112.35 52 P PKiKP 03 29 08.9 -0.7
baz=286
NVAR **Mina Array Bea** 112.49 48 Pdiff Pdif 03 25 12.3 -2.1
comp=Z,0.1nm,0.5s,baz=248,slow=14,SNR=2.8
NVAR PKiKP PKiKP 03 29 06.2 -3.5
comp=Z,0.1nm,0.5s,baz=309,slow=2.3,SNR=1.3
SBC **Santa Barbara** 112.55 53 P PKiKP 03 29 09.0 -0.6
baz=286
ISA **Isabella, Lake** 113.19 51 P PKiKP 03 29 10.3 -0.6
baz=287
CWC **Cottonwood Cre** 113.26 50 P PKiKP 03 29 11.6 +0.4
baz=288
HLID **Hailey** 113.44 42 P PKiKP 03 29 11.8 +0.5
baz=293
EDW2 **Edwards Air Fo** 113.79 52 P PKiKP 03 29 12.4 +0.3
baz=287
MPMC **Manual Prospec** 113.83 51 P PKiKP 03 29 12.6 +0.2
baz=288
LRMC **Laurel Mtn Rad** 113.86 51 P PKiKP 03 29 12.7 +0.3
baz=287
CIS **Catalina Islan** 113.87 54 P PKiKP 03 29 12.6 +0.3
baz=286
SCI2 **San Clemente I** 113.88 54 P PKiKP 03 29 12.8 +0.5
baz=286
FMP **Fort Macarthur** 113.88 53 P PKiKP 03 29 12.7 +0.5
baz=286
FURC **Furnace Creek,** 114.19 50 P PKiKP 03 29 12.8 +0.1
baz=288
BFSC **Mount Baldy Ra** 114.24 52 P PKiKP 03 29 13.6 +0.5
baz=287
BOZ **Bozeman (W)** 114.40 39 P PKPdf 03 29 13.0 -0.1
baz=296
EGMT **Eagleton** 114.42 36 P PKiKP 03 29 12.9 -0.1
baz=299
R11B **Troy Canyon, C** 114.53 48 P PKiKP 03 29 14.0 +0.4
baz=290
GSC **Goldstone, Bar** 114.59 51 P PKiKP 03 29 14.3 +0.6
baz=288
MURC **Murrieta** 114.80 53 P PKPdf 03 29 15.5 +1.4
baz=287
BBRC **Big Bear Solar** 114.82 52 P PKPdf 03 29 15.4 +1.0
baz=287
SHOC **Shoshone, Teco** 114.82 50 P PKPdf 03 29 15.4 +1.4
baz=289
TPFO **Pinon Flats** 115.38 53 P PKPdf 03 29 16.5 +1.2
baz=287
H17A **Grant Village** 115.60 40 P PKPdf 03 29 16.9 +1.3
baz=297
MONP2 **Monument Peak** 115.62 54 P PKPdf 03 29 16.8 +0.9
baz=287
BELC **Belle Mtn. Jos** 115.63 52 P PKPdf 03 29 17.1 +1.3
baz=288
GMRC **Granite Mounta** 115.65 51 P PKPdf 03 29 16.8 +0.9
baz=288
TPAW **Teton Pass** 115.76 41 PKiKP 03 29 15.1 -0.8
DUG **Dugway, Tooele** 115.86 45 P PKPdf 03 29 17.0 +0.9
baz=288
SNOW **Snow King Moun** 115.90 41 PKPdf PKPdf 03 29 16.8 +0.6
IKP **In-Ko-Pah, Jac** 115.94 54 P PKiKP 03 29 17.1 +0.7
baz=287
V12A **Nelson** 115.97 50 PKPdf PKiKP 03 29 17.4 +1.1
RLMT **Red Lodge** 116.10 39 P PKiKP 03 29 17.3 +0.9
baz=298
BC3 **Big Chuckawall** 116.17 52 P PKiKP 03 29 17.7 +0.9
baz=288
IRM **Iron Mountain** 116.25 52 P PKiKP 03 29 18.0 +1.2
baz=289
PDMCI **Parker Dam,Lak** 116.99 51 P PKiKP 03 29 19.2 +1.0
baz=289
BW06 **Boulder Array** 117.00 41 P PKiKP 03 29 19.2 +0.9
baz=297
PDAR **Pinedale Array** 117.00 41 PKP PKPdf 03 29 14.3 -4.0
comp=Z,0.2nm,0.4s,baz=284,slow=3.6,SNR=4.5
PDAR PKKPbc PKKPbc 03 39 46.4 +1.3
comp=Z,0.5nm,0.5s,baz=129,slow=7.0,SNR=5.0
LAO **LASA Array** 117.16 36 P PKiKP 03 29 19.4 +1.1
baz=302
LAO **LASA Array** 117.16 36 P PKiKP 03 29 18.5 +0.2
baz=302
DGMT **Dagmar** 117.35 33 P PKiKP 03 29 19.7 +1.2
baz=304
DGMT **Dagmar** 117.35 33 P PKiKP 03 29 18.8 +0.2
baz=304
ESDC **Sonseca Array** 118.20 316 PKP PKPdf 03 29 19.2 -1.2
comp=Z,0.7nm,0.9s,baz=45,slow=1.8,SNR=4.6
WUAZ **Wupatki** 118.69 49 P PKiKP 03 29 22.3 +0.6
baz=292
214A **Organ Pipe Nat** 118.81 53 P PKiKP 03 29 22.5 +0.6
baz=289
K22A **Casper** 119.03 40 P PKPdf 03 29 22.1 0.0
baz=299
K22A **Casper** 119.03 40 P PKPdf 03 29 21.9 -0.2
baz=299
O20A **White River Ci** 119.06 43 P PKPdf 03 29 22.2 -0.1
baz=297
RSSD **Black Hills** 119.83 38 PKPdf PKPdf 03 29 22.4 -1.3
RSSD **Black Hills** 119.83 38 PKIKP PKPdf 03 29 22.4 -1.3
RSSD **Black Hills** 119.83 38 P PKPdf 03 29 23.4 -0.3
baz=302
RSSD **Black Hills** 119.83 38 P PKPdf 03 29 22.8 -0.9
baz=302
W18A **Petrified Fore** 120.09 49 P PKiKP 03 29 24.7 +0.2
baz=293
MVCO **Mesa Verde** 120.15 46 PKPdf PKiKP 03 29 24.8 +0.2
MVCO **Mesa Verde** 120.15 46 P PKPdf 03 29 24.6 0.0
baz=295
MDND **Maddock** 120.20 32 P PKPdf 03 29 23.8 -0.2
baz=308
MDND **Maddock** 120.20 32 P PKPdf 03 29 23.6 -0.4
baz=308
N23A **Red Feather La** 120.26 42 P PKiKP 03 29 25.1 +0.3
baz=299
TUC **Tucson** 120.31 52 P PKiKP 03 29 25.0 +0.1
baz=291
ULM **Lac du Bonnet** 120.50 28 PKP PKPdf 03 29 21.8 -2.6
comp=Z,3.9nm,0.6s,baz=306,slow=4.1,SNR=11
TOA0 **Torodi Ar. Sit** 120.70 285 PKPdf PKPdf 03 29 24.9 -1.0
TORD **Torodi Ar. Bea** 120.70 285 PKP PKPdf 03 29 24.1 -1.7
comp=Z,1.8nm,0.6s,baz=37,slow=2.2,SNR=16
TORD PKKPbc PKKPab 03 39 34.4 +2.4
comp=Z,1.1nm,1.1s,baz=286,slow=2.9,SNR=3.0
ISCO **Idaho Springs** 121.01 43 P PKiKP 03 29 26.6 +0.3
baz=299
ISCO **Idaho Springs** 121.01 43 P PKiKP 03 29 26.3 0.0
baz=299
SDCO **Great Sand Dun** 122.06 45 P PKiKP 03 29 29.1 +0.6
baz=298
SDCO **Great Sand Dun** 122.06 45 P PKiKP 03 29 28.5 +0.1
baz=298
121A **Cookes Peak, D** 122.58 51 P PKiKP 03 29 29.9 +0.4
baz=293
121A **Cookes Peak, D** 122.58 51 P PKiKP 03 29 30.3 +0.9
baz=293
ANMO **Albuquerque** 122.61 48 PKPdf PKPdf 03 29 29.0 -0.3
ANMO **Albuquerque** 122.61 48 PKIKP PKPdf 03 29 29.0 -0.3
ANMO **Albuquerque** 122.61 48 P PKiKP 03 29 29.8 +0.3
baz=295
ANMO **Albuquerque** 122.61 48 P PKiKP 03 29 29.7 +0.3
baz=295
Y22D **IRIS PASSCAL I** 122.63 49 P PKiKP 03 29 29.6 +0.1
baz=295
Y22F **Passcal Instru** 122.63 49 P PKiKP 03 29 29.6 +0.1
baz=295
SUSD **Miller** 122.64 35 P PKiKP 03 29 29.5 +0.4
baz=307
Y22A **Socorro** 122.65 49 P PKiKP 03 29 29.9 +0.3
baz=294
OGNE **Ogallala** 122.78 40 P PKiKP 03 29 29.6 +0.1
baz=303
T25A **Trinidad** 123.11 45 P PKPdf 03 29 30.3 +0.1
baz=298,SNR=5.3
F33A **5 Mile Ranch,** 123.23 32 P PKiKP 03 29 30.2 +0.1
baz=311
K30B **Basset** 123.31 37 P PKPdf 03 29 29.6 -0.6
baz=306
KSCO **Kaye Shedlock'** 123.41 42 P PKPdf 03 29 30.7 +0.1
baz=301
EYMN **Ely** 124.16 27 P PKiKP 03 29 32.1 +0.2
baz=317
EYMN **Ely** 124.16 27 P PKPdf 03 29 30.7 -0.9
baz=317
ECSD **EROS Data Cent** 124.41 34 PKPdf PKPdf 03 29 31.4 -0.9
F36A **Milaca** 124.65 30 P PKPdf 03 29 31.8 -0.8
baz=314
MNTX **Cornudas Mount** 124.79 51 P PKiKP 03 29 33.6 0.0
baz=294
MNTX **Cornudas Mount** 124.79 51 P PKPdf 03 29 33.4 +0.1
baz=294
BGNE **Belgrade** 124.94 37 P PKiKP 03 29 33.6 -0.1
baz=306
BGNE **Belgrade** 124.94 37 P PKPdf 03 29 33.1 -0.3
baz=306
E38A **The Farm, Brul** 125.10 29 P PKPdf 03 29 33.1 -0.4
baz=316
SCHQ **Schefferville** 125.38 7 PKP PKPdf 03 29 32.0 -1.7
comp=Z,4.7nm,0.5s,baz=279,slow=2.2,SNR=17
CBKS **Cedar Bluff** 125.42 41 P PKiKP 03 29 35.0 +0.3
baz=304
SPMN **Marine on St.** 125.46 31 PKPdf PKPdf 03 29 33.4 -0.8
SPMN **Marine on St.** 125.46 31 P PKPdf 03 29 34.0 -0.2
baz=314
SPMN **Marine on St.** 125.46 31 P PKPdf 03 29 33.9 -0.2
baz=314
MSTX **Muleshoe** 125.77 47 P PKPdf 03 29 35.0 -0.2
baz=298
MSTX **Muleshoe** 125.77 47 P PKPdf 03 29 35.2 0.0
baz=298
I37B **Waseca** 125.98 32 P PKPdf 03 29 34.6 -0.6
baz=313
D41A **Chassel** 126.15 26 P PKPdf 03 29 34.8 -0.6
baz=320
R32A **Long Quarter,** 126.31 41 P PKiKP 03 29 36.5 0.0
baz=304
COWI **Conover** 126.61 28 P PKPdf 03 29 36.3 0.0
baz=318
G40A **Rib Lake** 126.72 29 P PKPdf 03 29 36.6 -0.1
baz=317
MNHN **Monahans** 126.97 50 PKPdf PKPdf 03 29 37.2 -0.4
TX31 **Lajitas Ar. Si** 127.10 53 P PKiKP 03 29 38.8 +0.3
baz=294
TXAR **Lajitas Array** 127.10 53 PKP PKPdf 03 29 34.3 -3.6
comp=Z,1.5nm,1.0s,baz=211,slow=1.5,SNR=8.8
KSU1 **Kansas State U** 127.25 39 P PKPdf 03 29 37.8 +0.1
baz=307,SNR=6.2
KSU1 **Kansas State U** 127.25 39 P PKPdf 03 29 37.9 +0.1
baz=307
E43A **Lone Tree Farm** 127.37 26 P PKPdf 03 29 37.4 -0.4
baz=321
DBIC **Dimbokro** 127.78 278 PKP PKPdf 03 29 38.0 -1.5
comp=Z,2.0nm,0.6s,baz=37,slow=0.9,SNR=4.8
SAND **Sanderson** 128.06 52 PKPdf PKPdf 03 29 39.5 -0.1
WMOK **Wichita Mounta** 128.26 44 P PKPdf 03 29 39.6 -0.3
baz=302
JFWS **Jewell Farm** 128.39 31 P PKPdf 03 29 40.1 +0.2
baz=316,SNR=5.8
JFWS **Jewell Farm** 128.39 31 P PKPdf 03 29 39.0 -0.9
baz=316
E46A **Sault Ste Mari** 128.51 24 P PKPdf 03 29 40.1 +0.1
baz=324
T35B **Sooner Cattle** 128.60 41 P PKiKP 03 29 41.3 +0.2
baz=305
ABTX **Abilene, Hawle** 128.71 47 P PKPdf 03 29 40.3 -0.6
baz=300
P38A **Dawn** 128.80 36 P PKPdf 03 29 40.6 -0.2
baz=310
WTFS **Witchita Falls** 128.99 45 PKPdf PKiKP 03 29 41.9 -0.1
GLMI **Grayling** 129.62 25 P PKPdf 03 29 42.2 +0.1
baz=323
JCT **Junction City** 129.62 50 P PKPdf 03 29 42.3 -0.3
baz=298
TUL3 **Leonard** 129.65 41 P PKPdf 03 29 42.2 -0.2
baz=305
TUL3 **Leonard** 129.65 41 P PKiKP 03 29 43.4 +0.2
baz=305
P40A **Paris** 129.73 35 P PKPdf 03 29 42.2 -0.3
baz=312
L44A **Lake County Fo** 130.12 30 P PKPdf 03 29 43.2 0.0
baz=318
S39A **Bolivar** 130.16 38 P PKPdf 03 29 42.8 -0.6
baz=309
U38A **Gravette** 130.26 40 P PKPdf 03 29 43.0 -0.6
baz=307
R40A **Maddies Statio** 130.41 37 P PKPdf 03 29 43.2 -0.6
baz=311
HDIL **Hopedale** 130.57 33 P PKPdf 03 29 43.8 -0.3
baz=315
WHTX **Lake Whitney,** 130.63 47 P PKPdf 03 29 44.5 +0.1
baz=301
833A **Chaparral WMA,** 130.92 52 P PKiKP 03 29 46.1 +0.2
baz=297
435B **Jarrell** 131.15 48 P PKiKP 03 29 46.4 +0.1
baz=300
CCM **Cathedral Cave** 131.18 36 PKPdf PKPdf 03 29 45.4 +0.1
CCM **Cathedral Cave** 131.18 36 PKIKP PKPdf 03 29 45.4 +0.1
CCM **Cathedral Cave** 131.18 36 P PKiKP 03 29 46.2 0.0
baz=312
CCM **Cathedral Cave** 131.18 36 P PKPdf 03 29 45.0 -0.3
baz=312
U40A **Yellville** 131.28 39 P PKPdf 03 29 45.4 -0.2
baz=309
U40A P PKPdf 03 29 45.4 -0.2
baz=309
SFIN **Lafayette** 131.86 31 P PKiKP 03 29 47.2 -0.3
baz=318
MIAR **Mount Ida** 131.92 42 P PKiKP 03 29 47.5 -0.3
baz=307
L48A **N Adams** 131.97 28 P PKPdf 03 29 45.9 -0.8
baz=322
L48A P PKPdf 03 29 45.9 -0.8
baz=322
AAM **Ann Arbor** 132.05 27 P PKiKP 03 29 47.6 -0.3
baz=323
NATX **Nacogdoches** 132.77 45 P PKiKP 03 29 49.2 -0.4
baz=304
O48B **Farmland** 132.93 30 P PKPdf 03 29 49.1 +0.6
baz=320
O49A **Covington** 133.38 29 PKPdf PKPdf 03 29 48.4 -1.0
LONY **Lake Ozonia** 133.48 17 P PKiKP 03 29 50.1 -0.6
baz=335
P49A **Miami Univ. Ec** 133.70 30 P PKiKP 03 29 50.8 -0.5
baz=320
ERPA **Erie** 133.77 24 P PKPdf 03 29 50.5 +0.5
baz=327
WCI **Wyandotte Cave** 133.86 32 P PKiKP 03 29 51.3 -0.3
baz=317
ACSO **Alum Creek Sta** 134.00 28 P PKiKP 03 29 51.2 -0.6
baz=322
M53A **WI Miller and** 134.05 25 P PKPdf 03 29 51.1 +0.5
baz=326
PKME **Peaks-Kenny Pk** 134.23 12 P PKPdf 03 29 51.4 +0.6
baz=343
WVT **Waverly** 134.49 36 PKPdf PKPdf 03 29 51.6 0.0

WVT	Waverly	134.49	36	PKIKP	PKPdf	03 29 51.6	0.0
WVT	Waverly baz=314	134.49	36	P	PKPdf	03 29 52.0	+0.5
LBNH	Lisbon baz=339	134.58	15	P	PKiKP	03 29 52.5	-0.4
OXF	Oxford baz=311	134.62	39	P	PKiKP	03 29 52.7	-0.6
O53A	New Philadelph baz=325	134.79	26	P	PKPdf	03 29 52.7	+0.6
P52A	Corning baz=323	134.87	28	P	PKiKP	03 29 53.1	-0.6
BINY	Binghamton baz=332	135.20	20	P	PKiKP	03 29 53.8	-0.5
VBMS	Vicksburg baz=308	135.36	42	P	PKiKP	03 29 54.5	-0.3
SSPA	Standing Stone baz=329	135.86	23	P	PKiKP	03 29 55.2	-0.4
MCWV	Mont Chateau baz=326	135.88	26	P	PKiKP	03 29 55.5	-0.2
L61B	Northampton baz=337	136.02	17	P	PKiKP	03 29 55.5	-0.4
HRV	Adam Dziewonsk baz=338	136.29	16	P	PKiKP	03 29 56.7	+0.2
TZTN	Tazewell baz=319	136.57	32	P	PKPdf	03 29 56.3	+0.8
PAL	Palisades baz=335	136.96	19	P	PKiKP	03 29 57.6	-0.2
LRAL	Lakeview Retre baz=313	137.10	38	P	PKPdf	03 29 57.2	+0.7
M65A	Busby, Falmout baz=339	137.41	15	P	PKPdf	03 29 57.7	+0.9
CBN	Corbin Frederi baz=328	138.14	24	P	PKPdf	03 29 59.0	+0.7
BRAL	Brewton baz=311	138.31	40	P	PKPdf	03 29 59.3	+0.5
KMSC	Kings Mountain baz=321	138.79	31	P	PKiKP	03 30 01.0	-0.8
GOGA	Godfrey baz=317	138.94	35	P	PKiKP	03 30 01.0	-1.1
TIGA	Tifton baz=315	140.29	37	P	PKPdf	03 30 02.7	+0.2
CNNC	Cliffs of the baz=326	140.40	27	P	PKPdf	03 30 03.5	+1.0
NHSC	New Hope baz=321	140.98	32	P	PKPdf	03 30 04.4	+0.8
TRQA	Tornquist	141.20	174	PKPdf	PKiKP	03 30 08.3	+1.6
TRQA	Tornquist	141.20	174	PKIKP	PKiKP	03 30 08.3	+1.6
MT13	San Alfonso	143.54	161	PKPdf	PKPdf	03 30 07.7	-0.7
DWPF	Disney Wildern baz=315	143.96	39	P	PKPdf	03 30 09.8	+0.8
PLTB	Pedras Altas	147.62	185		PKPbc	03 30 18.8	+0.9
PLTB	Pedras Altas	147.62	185	*e*P	PKPdf	03 30 16.2	+0.9
TBOT	Tacuaremb	147.83	181	*e*P	PKPdf	03 30 15.9	+0.3
PSAL	Palomas, Salto	148.44	179	*e*P	PKPdf	03 30 17.0	+0.5
BOAB	BOACO BROADBAND	149.13	67	PKPdf	PKPdf	03 30 17.0	-1.1
BOAB				PKPbc	PKPbc	03 30 22.6	+0.3
RODS	Rosario do Sul	149.13	183	*e*P	PKPdf	03 30 19.4	+1.6
ITQB	Itaqui	149.85	180	*e*P	PKPdf	03 30 19.8	+0.9
MECA	Mercedes	150.20	178	*e*P	PKPdf	03 30 19.4	0.0
JTS	Las Juntas de	150.48	70	PKPbc	PKPbc	03 30 25.5	-0.2
JTS	Las Juntas de	150.48	70	PKIKP	PKPbc	03 30 25.5	-0.2
RIMA	Rio Macho	151.66	70	PKPbc	PKPbc	03 30 28.1	-0.5
PEZE	Perez Zeledon,	151.95	71	PKPbc	PKiKP	03 30 29.4	-0.1
PMNB	Patos De Minas	158.35	208	*e*P	PKPdf	03 30 32.1	+0.9
OTAV	Otavalo	158.42	91	*e*P	PKPdf	03 30 33.0	+1.1
NBTA	Tacaratu-PE	158.90	242	*e*P	PKPdf	03 30 33.3	+1.4
AQDB	Aquidauana	158.97	183	*e*P	PKPdf	03 30 32.5	+0.8
BDQN	Bodoquena, MS	159.03	180	*e*P	PKPdf	03 30 32.8	+0.9
IPMB	Ipameri, GO	159.62	204	*e*P	PKPdf	03 30 33.3	+0.7
LPAZ	La Paz	159.83	147	PKIKP	PKPdf	03 30 33.6	0.0
BBSD	Serra de San D	161.90	168	*e*P	PKPdf	03 30 35.1	+0.1
SDV	Santo Domingo	164.04	59	PKPdf	PKPdf	03 30 34.9	-2.6
SAML	Samuel	168.58	147	PKPdf	PKPdf	03 30 41.3	+0.5
SAML	Samuel	168.58	147	PKIKP	PKPdf	03 30 41.3	+0.5
BOAV	Boa Vista	175.96	65	PKPdf	PKPdf	03 30 43.5	-0.6

ISN ***04*** *03:14:48.8±0.9, 33°.76N×46°.04E, h11km±4km, ML2.7*
TEH ***04*** *03:14:58.7, 33°.77N×46°.04E, h10km±68km, ML2.8*
ISC 04 03:14:53.6±0.9, 33°.62N±0°.04×45.78E±0°.04, h19km, n12, σ1°68/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	Ilam Banvizeh	0.36	89	Pg	Pn	03 15 03.4	-0.5
IBDR	Badra	0.53	166	*e*Pg	Pb	03 15 02.0	-2.2
IBDR				*e*Sg	Sb	03 15 10.5	-0.8
IGHG	Ghaleghazi	0.96	43	Pg	Pn	03 15 13.3	+1.0
IDHR	Dehrash	1.19	25	Pg	Pg	03 15 17.2	+0.6
BHD	Baghdad	1.22	254	*e*Pn	Pg	03 15 17.0	-0.3
BHD				*e*Sn	Sg	03 15 37.5	+4.2
KCHF	Cheshme Sefid,	1.23	58	Pg	Pg	03 15 18.1	+0.5
ILIN	Lien	1.62	37	Pg	Pg	03 15 25.5	+0.6
IKFM	Kafar-mosalman	1.73	93	Pg	Pg	03 15 27.7	+0.8
RAFI	Al-Rafai	1.91	171	*e*Pn	Pn	03 15 25.0	-0.2
RAFI				*e*Sn	Sn	03 15 51.0	+2.3
IBZA	Bozab	1.92	63	Pg	Pg	03 15 30.2	-0.5
IDOB	Doab	2.00	85	Pg	Pg	03 15 31.5	-0.6
IKRK	Kirkuk	2.14	327	*e*Pn	Pn	03 15 26.0	-2.3
IKRK				*e*Sn	Sn	03 15 54.5	+0.2
IKRK	comp=E,78nm,0.4s			AML	AML	03 16 03.1	
IKRK	comp=N,73nm,0.5s			AML	AML	03 16 10.2	

WEL 04 03:20:56.3, 38°S±10°×177°E±2°, h102km±19km, M2.3/15, ML2.2/8, MLv2.3/15, Error ellipse: s-maj=0.0km s-min=0.0km az=118.4, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	Manawahe	0.04	262	P	Pn	03 21 11.1	+0.7
OMRZ	Omania	0.31	246	P	Pn	03 21 12.3	+1.1
URZ	Urewera	0.41	133	P	Pn	03 21 11.9	+0.2
MUGZ	Murupara	0.50	176	P	Pn	03 21 13.2	+1.0
RTZ	Ruatahuna	0.67	163	P	Pn	03 21 14.7	+1.0
MWZ	Matawai	0.72	120	P	Pn	03 21 13.4	-0.7
RUGZ	Raukumara Rang	0.75	89	P	Pn	03 21 14.0	-0.5
HAZ	Te Kaha	0.86	75	P	Pn	03 21 14.7	-0.7
MTHZ	Maungataniwha	0.88	174	P	Pn	03 21 16.4	+0.8
MRHZ	Matea Rd	0.89	196	P	Pn	03 21 16.0	+0.2
SNGZ	Shannon Statio	0.93	149	P	Pn	03 21 20.6	+4.4
TKGZ	Te Karaka	0.99	118	P	Pn	03 21 17.6	+0.8
TLZ	Tolley Road	1.00	249	P	Pn	03 21 16.5	-0.4
TWGZ	Tauwhareparae	1.01	102	P	Pn	03 21 14.0	-3.0
PKGZ	Pakihiroa	1.07	86	P	Pn	03 21 17.5	-0.1
RIGZ	Rimuhau	1.09	132	P	Pn	03 21 18.7	+0.8
BKZ	Black Stump Fm	1.20	189	P	Pn	03 21 18.7	-0.5
CNGZ	Carnagh Statio	1.27	114	P	Pn	03 21 20.7	+0.8
KNZ	Kokohu	1.28	145	P	Pn	03 21 20.1	+0.1
WMGZ	Waiomatatini S	1.34	84	P	Pn	03 21 19.9	-0.8
NTVZ	North Tongarir	1.39	216	P	Pn	03 21 20.9	-0.6
OTVZ	Oturere	1.45	215	P	Pn	03 21 21.4	-0.8
KWHZ	Kaweka Forest	1.46	189	P	Pn	03 21 21.6	-0.6
MHGZ	Mahia Peninsul	1.49	142	P	Pn	03 21 22.6	+0.1
MKAZ	Moumakai	1.52	305	P	Pn	03 21 20.1	-2.7
BHHZ	Black Hill Sta	1.60	199	P	Pn	03 21 22.4	-1.5
CKHZ	Cape Kidnapper	1.70	171	P	Pn	03 21 24.5	-0.6
KAHZ	Kahuranaki	1.82	176	P	Pn	03 21 25.7	-0.9

DJA 04 03:24:15.4±0.8, 1°S±3°×12°3E±°, h23km±8km, M3.9/13, mb3.8/3, mB6.4/1, MLv3.9/13, Mw(mB)6.2/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.55	219	P	Pn	03 24 27.4	-0.5
GTOI	Gorontalo	1.24	355	P	Pb	03 24 38.6	+0.4
KMSI	Cibinong	1.46	36	P	Pn	03 24 39.6	-0.7
MRSI	Marisa	1.60	312	P	Pn	03 24 42.0	-0.3
SANI	Sanana	3.20	117	P	Pn	03 25 04.8	+0.4
TTSI	Tana Toraja	4.09	234	P	Pn	03 25 16.7	+0.1
LBMI	Labuha	4.38	90	P	Pn	03 25 20.6	0.0
NLAI	Namlea	4.76	123	P	Pn	03 25 25.4	-0.4
BKSI	Bulukumba 5.3nm,0.6s,0.1nm	5.56	213	P	Pn	03 25 37.4	+0.7
EDFI	Ende, Flores	8.21	190	P	Pn	03 26 13.0	-0.3

JMA 04 03:26:57.7±0.8, 24°N±4°×12°4E±°, h17km, MV1.6/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.29	64	*e*P	Pg	03 27 03.9	-0.1
HATJ				*e*S	Sg	03 27 08.2	-0.2
JKRS	Kuro-shima	0.55	55	*e*P	Pb	03 27 08.9	0.0
JIJ	Ishigaki jima	0.72	53	*e*P	Pb	03 27 10.8	-1.0
JYNG	Yonagunijimaku	0.74	315	*e*P	Pb	03 27 11.6	-0.5
JYNG				S	Sb	03 27 21.8	-0.1
JISG	Ishigakijimahi	0.98	48	*e*S	Sb	03 27 28.4	-0.5

TAP 04 03:27:37.0, 24°.15N×121°.67E, h4km±1km, ML1.3, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	Fush Village baz=277	0.05	279	P	Pg	03 27 37.9	-0.2
ETL	baz=277			S	Sg	03 27 38.9	0.0
NACB	Ninganchiao baz=286	0.07	287	P	Pg	03 27 38.4	-0.2
NACB	baz=286			S	Sg	03 27 39.7	0.0
TWD	Chiawan baz=221	0.10	224	*i* P	Pg	03 27 39.0	0.0
TWD	baz=221			*i* S	Sg	03 27 40.3	0.0
ETLH	Xiulin Townshi baz=287	0.18	287	*i* P	Pg	03 27 40.7	+0.1
ETLH	baz=287			*i* S	Sg	03 27 43.2	+0.2
LXIB	Xiulin Townshi baz=241	0.27	241	P	Pg	03 27 42.0	-0.2
LXIB	baz=241			S	Sg	03 27 45.9	+0.1

IDC ***04*** *03:31:49.5±1.7, 0°.66N×98°.51E, h0km, mb3.9/9, mbtmp3.9/10, ML4.2/1, Error ellipse: s-maj=79.3km s-min=20.7km az=55.0*
DJA ***04*** *03:32:01.7±0.4, 1°.1N±3°×9°.9E±°, h71km±8km, M3.8/13, mb3.8/1, mB5.0/1, MLv3.9/13, Mw(mB)4.3/1*
ISC 04 03:31:59.9±0.8, 0°.99N±0°.07×98°.73E±0°.07, h65km, n24, σ1°69/18, mb4.0/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	Pulau Batu	1.13	203	P	Pn	03 32 22.0	+2.2
GSI	Gunungsitoli	1.19	285	P	Pn	03 32 22.7	+2.1
SISI	Saibi	2.33	171	P	Pn	03 32 37.2	+1.3
BKNI	Bangkinang	2.40	106	P	Pn	03 32 39.4	+2.5
PDSI	Padang	2.56	137	P	Pn	03 32 41.6	+2.5
KCSI	Kotacane, Aceh	2.69	339	P	Pn	03 32 42.5	+1.7
SNSI	Sinabang, Aceh	2.78	300	P	Pn	03 32 43.7	+1.6
PPSI	Pulau Pagai	3.94	161	P	Pn	03 32 59.6	+1.7
CMAR	Chiang Mai Arr 0.3nm,0.3s,baz=189,slow=11,SNR=1.4 0.9nm,0.3s	17.36	1	P	Pn	03 35 57.7	-0.2
H08S2	Diego Garcia H baz=73,slow=76,SNR=9.0	27.54	251	T	T	04 05 15.7	
H08S3	Diego Garcia H baz=73,slow=76,SNR=16	27.54	251	T	T	04 05 12.6	
H08S1	Diego Carcia H baz=73,slow=76,SNR=7.5	27.55	251	T	T	04 05 13.6	
WRA	Warramunga Arr 0.5nm,0.7s,baz=301,slow=8.9,SNR=4.8 0.5nm,0.7s	40.63	123	P	P	03 39 31.1	-2.7
ASAR	Alice Springs 0.3nm,0.7s,baz=308,slow=9.0,SNR=3.1 0.3nm,0.7s	42.06	128	P	P	03 39 43.8	-1.8
SONM	Songino Array 1.0nm,0.6s,baz=189,slow=10.0,SNR=6.9 1.0nm,0.6s	47.13	7	P	P	03 40 26.1	+0.4
MKAR	Makanchi Array 1.3nm,0.6s,baz=155,slow=7.8,SNR=17 1.3nm,0.6s	47.83	345	P	P	03 40 31.2	+0.2
KURBB	Kurchatov Arra 0.7nm,0.6s,baz=163,slow=6.8,SNR=7.3 0.7nm,0.6s	52.34	344	P	P	03 41 05.0	0.0
ZALV	Zalesovo Beam 1.0nm,0.4s,baz=178,slow=5.1,SNR=7.1 1.0nm,0.4s	54.02	350	P	P	03 41 17.4	+0.1
BVAR	Borovoye Array 0.8nm,0.5s,baz=135,slow=9.3,SNR=5.6 0.8nm,0.5s	56.96	340	P	P	03 41 38.0	-0.5
H04N2	CROZET ISLANDS baz=54,slow=75,SNR=5.8	62.47	215	T	T	04 49 09.6	
H04N1	CROZET ISLANDS baz=54,slow=75,SNR=5.8	62.48	215	T	T	04 49 09.8	
H04N3	CROZET ISLANDS baz=54,slow=75,SNR=6.3	62.49	215	T	T	04 49 07.4	
FINES	FINESS Array B 2.1nm,1.0s,baz=104,slow=6.1,SNR=5.2 2.1nm,1.0s	80.89	332	P	P	03 44 06.2	-0.5
ARCES	ARCESS Array B 5.9nm,1.1s,baz=68,slow=5.9,SNR=2.0 5.9nm,1.1s	83.25	340	P	P	03 44 18.7	-0.2

NOU ***04*** *03:37:25.6, 10°.59S×166°.81E, h77km, mb4.9/30, Santa Cruz Islands*
IDC ***04*** *03:37:36.0±0.6, 11°.52S×166°.45E, h113km±5km, mb3.9/15, mbtmp4.3/17, MS3.2/2, Error ellipse: s-maj=14.5km s-min=12.9km az=128.0*
NEIC ***04*** *03:37:38.9±1.7, 11°.53S±0°.09×166°.5E±0°.1, h134km±8km, mb4.7/62, Error ellipse: s-maj=15.7km s-min=11.6km az=61.0*
ISC 04 03:37:36.2±0.5, 11°.51S±0°.05×166°.53E±0°.07, h113km±4km, h113km:pP-P, n160, σ1°16/166, mb4.6/55, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.80	287	Pn	Pn	03 39 15.8	+2.4
HNR				Sn	Sn	03 40 30.8	+1.4
HNR	Honiara 4μm,1.0s,baz=148,slow=5.9,SNR=2.8	6.80	287	P	Pn	03 39 12.0	-1.4
HNR	2μm,0.7s,baz=93,slow=8.2,SNR=1.6			S	Sn	03 40 26.5	-2.9
LIFNC	LIFOU	9.24	176	Pn	Pn	03 39 45.2	-1.2
LIFNC	LIFOU	9.24	176	P	Pn	03 39 47.0	+0.5
KOUNC	Koumac, New Ca	9.24	193	Pn	Pn	03 39 49.3	+2.8
KOUNC				Sn	Sn	03 41 28.9	+0.2
KOUNC	Koumac, New Ca	9.24	193	P	Pn	03 39 49.7	+3.2
MARNC	Mare, Loyalty	10.02	172	Pn	Pn	03 39 55.1	-1.9
MARNC	Mare, Loyalty	10.02	172	P	Pn	03 39 57.7	+0.7
DZM	Mont Dzumac	10.50	180	Pn	Pn	03 40 05.0	+1.3
DZM	Mont Dzumac	10.50	180	P	Pn	03 40 04.8	+1.1
DZM	Mont Dzumac 54nm,1.0s	10.50	180	*e*Pn	Pn	03 40 05.5	+1.8
DZM	39nm,0.9s			*e*Sn	Sn	03 41 58.9	-0.5
DZM	Mont Dzumac 39nm,0.3s,baz=334,slow=12,SNR=177	10.50	180	P	Pn	03 40 04.2	+0.5
DZM	17nm,0.7s,baz=314,slow=24,SNR=1.8			S	Sn	03 41 55.5	-3.9
ONTNC	Ouen Toro	10.74	180	Pn	Pn	03 40 08.5	+1.7
ONTNC	Ouen Toro	10.74	180	P	Pn	03 40 09.6	+2.8
OUENC	Ouen Island, N	10.85	178		Pn	03 40 10.4	+2.1
OUENC	Ouen Island, N	10.85	178	P	Pn	03 40 10.3	+2.0
PINNC	Pines Island,	11.07	176		Pn	03 40 13.3	+2.0
PINNC	Pines Island,	11.07	176	P	Pn	03 40 13.5	+2.2
MSVF	Nonsavu	12.74	120	P	P	03 40 42.0	+1.9
PMG	Port Moresby	19.16	274	P	P	03 41 51.0	0.0
PMG	comp=Z,31nm,1.1s			lAmb	lAmb	03 41 53.1	
PMG	Port Moresby comp=Z,16nm,0.8s,baz=148,slow=3.0,SNR=7.3	19.16	274	P	P	03 41 48.6	-2.4
EIDS	Eidsvold	20.09	225	P	P	03 42 01.3	+0.4
EIDS	comp=Z,21nm,0.7s			lAmb	lAmb	03 42 03.4	
EIDS	Eidsvold	20.09	225	P	Pn	03 42 03.3	-0.5
MANU	Manus Island	21.21	295	P	P	03 42 13.0	0.0
MANU	comp=Z,24nm,0.8s			lAmb	lAmb	03 42 14.6	
CTA	Charters Tower comp=Z,3.1nm,0.5s,baz=79,slow=12,SNR=5.5 comp=Z,3.1nm,0.5s	21.27	244	P	P	03 42 12.5	-1.3
CTAO	Charters Tower	21.27	244	P	P	03 42 15.3	+1.6
AFI	Afiamalu comp=Z,48nm,1.1s	21.29	99	P	P	03 42 04.6	-9.4
ARMA	Armidale	23.35	214	P	P	03 42 34.6	-0.1
ARMA	comp=Z,46nm,1.4s			lAmb	lAmb	03 42 36.6	
ARMA	Armidale	23.35	214	P	P	03 42 36.0	+1.3
MGCD	Mangrove Creek comp=Z,18nm,1.3s	25.81	211	P	P	03 42 57.5	+0.6
MKAZ	Moumakai	26.64	164	P	P	03 43 05.8	+1.6
TOZ	Tahuroa Road	27.32	164	P	P	03 43 11.3	+0.9
TOZ	comp=Z,18nm,1.3s			lAmb	lAmb	03 43 35.3	
CMSA	Cobar Meteorol	27.70	221	P	P	03 43 14.0	+0.1
HIZ	Hauiti	27.90	166	P	P	03 43 17.1	+1.6
HIZ	comp=Z,28nm,0.9s			lAmb	lAmb	03 43 17.4	
HAZ	Te Kaha	28.01	161	P	P	03 43 18.1	+1.6
RUGZ	Raukumara Rang	28.17	161	P	P	03 43 18.5	+0.4
URZ	Urewera comp=Z,20nm,1.7s	28.27	162	P	P	03 43 19.1	+0.3
URZ	Urewera	28.27	162	P	P	03 43 18.1	-0.6
WMGZ	Waiomatatini S	28.28	160	P	P	03 43 20.7	+1.8
CNB	Canberra Magne	28.36	211	P	P	03 43 20.5	+0.7
MUGZ	Murupara	28.37	163	P	P	03 43 19.2	-0.5
TWGZ	Tauwhareparae	28.46	161	P	P	03 43 20.1	-0.5
MWZ	Matawai	28.46	162	P	P	03 43 20.7	+0.1
KATZ	Kakaramea	28.54	165	P	P	03 43 23.3	+2.0
CAN	Canberra	28.55	211	P	P	03 43 21.3	-0.1
CAN	comp=Z,32nm,1.4s			lAmb	lAmb	03 43 22.0	
CAN	Canberra	28.55	211	P	P	03 43 21.8	+0.4
RTZ	Ruatahuna	28.56	163	P	P	03 43 21.4	-0.1
RTZ	comp=Z,21nm,0.8s			lAmb	lAmb	03 43 23.0	
TWVZ	Taurewa	28.57	165	P	P	03 43 22.9	+1.4
WTVZ	West Tongariro	28.65	165	P	P	03 43 24.6	+2.3
ETVZ	East Tongariro	28.70	165	P	P	03 43 24.7	+1.9
RIGZ	Rimuhau	28.88	162	P	P	03 43 24.3	+0.1
BKZ	Black Stump Fm	28.93	164	P	P	03 43 24.7	-0.1
BKZ	Black Stump Fm	28.93	164	P	P	03 43 25.8	+1.1
H11S2	WAKE ISLAND Hy baz=181,slow=76,SNR=16	29.81	0	T	T	04 14 13.1	
H11S3	WAKE ISLAND Hy baz=181,slow=76,SNR=11	29.82	0	T	T	04 14 12.9	
H11S1	WAKE ISLAND Hy baz=181,slow=76,SNR=6.2	29.83	0	T	T	04 14 14.4	
TKNZ	Takaka Hill	29.95	170	P	P	03 43 34.6	+0.9
MRZ	Mangatainoka R	30.11	166	P	P	03 43 34.5	-0.6
MRZ	comp=Z,16nm,0.7s			lAmb	lAmb	03 43 36.1	
NNZ	Nelson	30.20	170	P	P	03 43 36.5	+0.7
NNZ	comp=Z,31nm,1.2s			lAmb	lAmb	03 43 53.6	
MRNZ	Matariki Terra	30.27	171	P	P	03 43 37.3	+0.8
BFZ	Birch Farm	30.29	165	P	P	03 43 35.9	-0.8
BFZ	Birch Farm	30.29	165	P	P	03 43 37.2	+0.5
TCW	Tory Channel	30.36	168	P	P	03 43 36.9	-0.4
DSZ	Denniston Nort	30.47	172	P	P	03 43 40.4	+2.1
TUWZ	Tuamarina	30.50	169	P	P	03 43 37.8	-0.8
SNZO	South Karori	30.54	168	P	P	03 43 37.9	-1.0
SNZO	South Karori comp=Z,46nm,1.1s	30.54	168	P	P	03 43 38.2	-0.6
STKA	Stephens Creek	30.64	225	P	P	03 43 40.1	+0.2
STKA	Stephens Creek	30.64	225	P	P	03 43 40.3	+0.4
STKA	Stephens Creek comp=Z,6.2nm,0.8s,baz=40,slow=9.6,SNR=13	30.64	225	P	P	03 43 39.9	-0.1
STKA	comp=Z,1.4nm,0.7s,baz=27,slow=6.8,SNR=3.0 comp=Z,6.2nm,0.8s			PcP	PcP	03 46 34.6	-1.0
THZ	Tophouse comp=Z,26nm,0.9s	30.65	171	lAmb	lAmb	03 43 42.9	
BHW	Baring Head	30.67	168	P	P	03 43 39.3	-0.7
BHW	comp=Z,26nm,1.0s			lAmb	lAmb	03 43 39.7	
PLWZ	Palliser	30.90	167	P	P	03 43 41.5	-0.6
H11N1	WAKE ISLAND Hy baz=182,slow=76,SNR=9.0	31.03	1	T	T	04 15 44.1	
H11N3	WAKE ISLAND Hy baz=182,slow=76,SNR=4.2	31.04	1	T	T	04 15 44.9	
H11N2	WAKE ISLAND Hy baz=182,slow=76,SNR=6.8	31.05	1	T	T	04 15 45.5	
INZ	Inchbonnie	31.39	173	P	P	03 43 46.4	+0.1
KHZ	Kahutara	31.39	170	P	P	03 43 45.9	-0.4
KHZ	Kahutara comp=Z,35nm,0.8s	31.39	170	P	P	03 43 46.5	+0.2
LTZ	Lake Taylor	31.55	172	P	P	03 43 48.2	+0.4
LTZ	comp=Z,12nm,0.7s			lAmb	lAmb	03 43 48.3	
GVZ	Greta Valley S	31.84	171	P	P	03 43 50.0	-0.3
WR0	Warramunga Arr	31.87	251	P	P	03 43 49.6	-1.3
WB0	Warramunga Arr comp=Z,4.5nm,0.7s	31.97	251	P	P	03 43 51.3	-0.5
WB0				lAmb	lAmb	03 43 54.1	
FOZ	Fox Glacier	32.03	175	P	P	03 43 52.7	+0.8
WB2	Warramunga Arr	32.04	251	P	P	03 43 51.9	-0.5
WB2	comp=Z,7.7nm,1.1s			lAmb	lAmb	03 43 54.7	
WRA	Warramunga Arr	32.05	251	P	P	03 43 51.5	-1.0
WRA	Warramunga Arr comp=Z,1.9nm,0.7s,baz=85,slow=9.0,SNR=15	32.05	251	P	P	03 43 51.9	-0.6
WRA	comp=Z,0.3nm,0.7s,baz=81,slow=3.3,SNR=6.5			PcP	PcP	03 46 39.2	-0.4
WRA	comp=Z,3.8nm,1.3s,baz=84,slow=2.6,SNR=4.4 comp=Z,1.9nm,0.7s			ScP	ScP	03 50 13.0	+0.1
OXZ	Oxford	32.05	172	P	P	03 43 52.7	+0.5
TOO	Toolangi	32.08	212	P	P	03 43 52.6	0.0
TOO	comp=Z,13nm,0.6s			lAmb	lAmb	03 43 53.8	
TOO	Toolangi	32.08	212	P	P	03 43 53.0	+0.5
RPZ	Rata Peaks	32.32	174	P	P	03 43 55.3	+0.8
RPZ	Rata Peaks comp=Z,54nm,1.1s	32.32	174	P	P	03 43 54.9	+0.4
MQZ	McQueen's Vall	32.51	172	P	P	03 43 56.7	+0.6
LBZ	Lake Benmore	32.91	175	P	P	03 43 59.8	+0.2
LBZ	comp=Z,13nm,0.9s			lAmb	lAmb	03 44 03.4	
AS01	Alice Springs comp=Z,6.0nm,0.8s	33.24	244	P	P	03 44 01.9	-0.9
WKZ	Wanaka	33.27	177	P	P	03 44 03.2	+0.4
AS31	Alice Springs	33.28	244	P	P	03 44 02.2	-0.9
ASAR	Alice Springs	33.28	244	P	P	03 44 01.8	-1.4
ASAR	Alice Springs comp=Z,3.6nm,0.7s,baz=70,slow=9.4,SNR=48	33.28	244	P	P	03 44 01.3	-1.9
ASAR	comp=Z,2.3nm,0.7s,baz=73,slow=9.2,SNR=6.5			pP	pP	03 44 28.2	+2.4
ASAR	comp=Z,1.8nm,0.7s,baz=78,slow=2.7,SNR=12			PcP	PcP	03 46 42.7	-0.3
ASAR	comp=Z,0.7nm,0.9s,baz=98,slow=2.3,SNR=4.6			ScP	ScP	03 50 16.6	-0.5
ASAR	comp=Z,36nm,19.9s,baz=278,slow=33			LR	LR	03 56 05.6	
HTT	comp=Z,3.6nm,0.7s Hallett comp=Z,19nm,0.9s	33.38	225	P	P	03 44 03.8	-0.1
ODZ	Otahua Downs	33.60	175	P	P	03 44 06.3	+0.7
RAR	R

comp=Z,2.7nm,0.9s,baz=168,slow=8.1,SNR=4.8
KSRS Korea Array 60.70 325 P **P 03 47 35.3 -0.4**
comp=Z,0.6nm,0.7s,baz=140,slow=6.6,SNR=2.4
KSRS pP **pP 03 48 03.0 +0.2**
comp=Z,0.8nm,0.7s,baz=128,slow=7.7,SNR=3.0
comp=Z,0.6nm,0.7s
NJ2 Nanjing 62.89 315 *e*P **P 03 47 53.3 +2.8**
NJ2 pP **sP 03 48 29.0 -0.9**
NJ2 sP PcP 03 48 45.3 +18
NJ2 pmax pmax
comp=Z,14nm,0.5s
NJ2 pmax pmax
comp=Z,260nm,4.0s
VNDA Vanda 66.04 181 P **P 03 48 10.1 -0.3**
VNDA IAmb IAmb 03 48 12.0
comp=Z,4.8nm,0.8s
VNDA Vanda 66.04 181 P **P 03 48 09.9 -0.4**
comp=Z,4.2nm,0.7s,baz=346,slow=7.5,SNR=37
comp=Z,4.2nm,0.7s
CASY Casey 66.23 201 P **P 03 48 10.8 -0.9**
SBA Scott Base 66.33 180 P **P 03 48 13.5 +1.3**
SBA IAmb IAmb 03 48 14.1
comp=Z,16nm,0.8s
CN2 Changchun 66.54 329 *e*P **P 03 48 15.5 +1.5**
CN2 PcP **PcP 03 48 43.2 +0.7**
CN2 *es*P sP 03 49 05.0 +11
CN2 *e*S **S 03 56 54.8 -1.0**
CN2 *es*S SKSac 03 57 53.6 -6.3
HHC Hu-ho-hao-te 72.68 319 *e*P **P 03 48 52.7 +0.7**
HHC sP sP 03 49 46.9 +15
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,120nm,4.3s
CMAR Chiang Mai Arr 73.00 293 P **P 03 48 54.7 +0.5**
comp=Z,1.4nm,0.3s,baz=126,slow=4.6,SNR=4.6
comp=Z,1.4nm,0.3s
PZH PanZhiHua 73.37 302 P **P 03 48 58.4 +2.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.7s
P18K Big Mountain, 77.08 19 P **P 03 49 15.9 -0.8**
P18K IAmb IAmb 03 49 17.3
comp=Z,12nm,1.1s
K15K Wolf Creek Mou 77.67 15 P **P 03 49 20.8 +0.9**
K15K IAmb IAmb 03 49 25.1
comp=Z,9.2nm,1.4s
QSPA South Pole Qui 78.50 180 P **P 03 49 24.2 -0.5**
QSPA IAmb IAmb 03 49 25.4
comp=Z,21nm,1.1s
QSPA South Pole Qui 78.50 180 P **P 03 49 23.6 -1.2**
comp=Z,12nm,0.9s,baz=22,slow=2.8,SNR=48
comp=Z,12nm,0.9s
L18K Granite Mounta 78.89 17 P **P 03 49 27.7 +1.0**
L18K IAmb IAmb 03 49 35.6
comp=Z,9.1nm,1.5s
L19K White Mountain 79.39 17 P **P 03 49 30.6 +1.2**
SONM Songino Array 79.50 324 P **P 03 49 30.6 +0.2**
comp=Z,0.3nm,0.4s,baz=139,slow=6.8,SNR=2.7
SONM pP **pP 03 49 58.6 -0.3**
comp=Z,1.9nm,0.9s,baz=136,slow=6.0,SNR=7.1
comp=Z,0.3nm,0.4s
TTA Tatalina 79.65 16 P **P 03 49 31.8 +0.9**
J18K Innoko River 79.89 16 P **P 03 49 33.3 +1.3**
RC01 Rabbit Creek A 80.16 20 P **P 03 49 32.5 -1.1**
RC01 IAmb IAmb 03 49 58.9
comp=Z,8.2nm,1.2s
F17K Baldwin Pennin 81.27 13 P **P 03 49 39.9 +0.5**
M24K Tolsona, Glenn 82.09 20 P **P 03 49 45.1 +1.3**
M24K IAmb IAmb 03 50 00.2
comp=Z,11nm,1.3s
N25K Chitina, Valde 82.30 21 P **P 03 49 44.7 -0.3**
VRDI Verde Repeater 82.46 22 P **P 03 49 44.9 -1.1**
IMAR Indian Mountai 82.67 15 P **P 03 49 46.2 -0.5**
E19K Redstone River 83.00 13 P **P 03 49 48.7 +0.3**
D19K Kuna River 83.66 12 P **P 03 49 51.5 -0.3**
ILAR Eielson Array 83.71 18 P **P 03 49 52.4 +0.3**
ILAR Eielson Array 83.71 18 P **P 03 49 51.7 -0.4**
comp=Z,0.5nm,0.7s,baz=250,slow=4.8,SNR=14
ILAR pP **pP 03 50 20.0 -1.0**
comp=Z,0.7nm,0.7s,baz=250,slow=4.5,SNR=4.7
comp=Z,0.5nm,0.7s
J25K Salcha River, 84.07 19 P **P 03 49 53.9 -0.1**
BCAR Beaver Creek A 84.25 21 P **P 03 49 55.0 0.0**
NVAR Mina Array Bea 85.74 50 P **P 03 50 03.4 +0.3**
comp=Z,0.5nm,0.7s,baz=234,slow=8.1,SNR=6.6
NVAR pP **pwP 03 50 33.7 -0.5**
comp=Z,1.5nm,0.9s,baz=232,slow=7.3,SNR=7.5
comp=Z,0.5nm,0.7s
WMQ Urumqi 89.97 315 *e*P **P 03 50 24.2 +1.2**
ZALV Zalesovo Beam 94.38 324 P **P 03 50 42.5 -0.5**
comp=Z,0.5nm,0.4s,baz=17,slow=1.5,SNR=1.6
comp=Z,0.5nm,0.4s
MK31 Makanchi Array 94.39 317 P **P 03 50 43.1 -0.2**
MK31 IAmb IAmb 03 50 43.9
comp=Z,2.1nm,0.8s
MKAR Makanchi Array 94.39 317 P **P 03 50 43.1 -0.2**
comp=Z,2.3nm,0.6s,baz=91,slow=6.8,SNR=22
MKAR pP **pP 03 51 11.6 -0.9**
comp=Z,0.9nm,0.6s,baz=89,slow=5.4,SNR=3.3
comp=Z,2.3nm,0.6s
YKA Yellowknife Ar 95.03 27 P **P 03 50 44.8 -1.0**
comp=Z,0.1nm,0.6s,baz=262,slow=4.6,SNR=2.2
comp=Z,0.1nm,0.6s
ARCES ARCESS Array B 116.98 346 PKP **PKPdf 03 56 06.2 -1.0**
comp=Z,5.0nm,1.1s,baz=83,slow=2.3,SNR=5.5
FINES FINESS Array B 122.48 339 PKP **PKPdf 03 56 17.0 -0.9**
comp=Z,0.9nm,0.7s,baz=27,slow=8.8,SNR=4.0
BOSA Boshof 125.30 222 PKP **PKiKP 03 56 24.7 -0.2**
comp=Z,1.4nm,0.8s,baz=193,slow=1.5,SNR=4.0
KEST Kesra 148.25 323 PKPbc **PKPbc 03 57 08.3 -1.3**
comp=Z,3.4nm,1.0s,baz=66,slow=4.0,SNR=4.9
ESDC Sonseca Array 150.71 345 PKPbc **PKPbc 03 57 15.4 -0.2**
comp=Z,0.8nm,0.8s,baz=36,slow=2.8,SNR=4.3

*IDC **04** 03:48:14.1±2.6,3.°93N×123.°55E,h0km,mb3.5/3, mbtmp3.5/3,Error ellipse: s-maj=359.1km s-min=28.7km az=63.0*
*DJA **04** 03:48:54.8±0.7,1.°5S±3.°×12.°3E±.°,h13km±6km,M4.0/11, mb4.1/3,MLv4.0/11*
ISC 04 03:48:54.4±1.0,**0.°63S**±0.°07×**123.°25E**±0.°08,**h10**km,**n12, σ1§04/11,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.63**	**229**	P	**Pb**	**03 49 07.6**	**+0.2**
GTOI	**Gorontalo**	**1.28**	**349**	P	**Pg**	**03 49 19.9**	**+0.9**
KMSI	**Cibinong**	**1.40**	**31**	P	**Pn**	**03 49 19.8**	**-0.3**
SANI	**Sanana**	**3.08**	**117**	P	**Pn**	**03 49 42.7**	**-0.4**
TTSI	**Tana Toraja**	**4.18**	**235**	P	**Pn**	**03 49 57.7**	**-0.6**
LBMI	**Labuha**	**4.25**	**90**	P	**Pn**	**03 49 59.5**	**+0.2**
NLAI	**Namlea**	**4.64**	**124**	P	**Pn**	**03 50 06.2**	**+1.6**
BKSI	**Bulukumba**	**5.61**	**214**	P	**Pn**	**03 50 18.3**	**+0.4**
FAKI	**Fak Fak**	**9.28**	**104**	P	**Pn**	**03 51 08.4**	**0.0**
WRA	**Warramunga Arr**	**22.05**	**151**	P	**P**	**03 53 48.9**	**-0.6**
	1.4nm,0.8s,baz=335,slow=9.6,SNR=8.3						
	1.4nm,0.8s						
ASAR	**Alice Springs**	**25.12**	**156**	P	**P**	**03 54 17.7**	**-2.0**
	0.3nm,0.4s,baz=342,slow=12,SNR=8.5						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**59.28**	**328**				
	0.2nm,0.6s						

*DSN **04** 03:55:59.1±1.8,27.°71N×57.°67E,h10km,ML3.0/7,Error ellipse: s-maj=34.3km s-min=17.5km az=113.0*
*TEH **04** 03:56:03.8,27.°76N×55.°64E,h22km±43km,ML3.3*
ISC 04 03:56:03.1±0.9,**27.°68N**±0.°05×**55.°64E**±0.°05,**h15**km,**n29, σ1§07/31,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**0.55**	**120**	Pg	**Pb**	**03 56 14.7**	**+0.2**
GENO				Sg	**Sn**	**03 56 24.9**	**-0.7**
IBND	**Bandar-abas**	**0.83**	**106**	Pg	**Pn**	**03 56 20.0**	**-0.3**
LAR1	**LAR**	**1.12**	**270**	Pg	**Pg**	**03 56 25.5**	**+0.8**
SHME	**Shamm**	**1.68**	**164**	P	**Pb**	**03 56 34.1**	**+0.3**
BANOM	**Banah**	**1.84**	**161**	P	**Pb**	**03 56 35.9**	**-0.7**
KHNJ	**Kahnooj**	**1.85**	**81**	Pn	**Pb**	**03 56 35.4**	**-1.3**
NGRK	**Negar Kerman**	**2.18**	**26**	Pn	**Pn**	**03 56 39.0**	**-0.2**
MDH	**Madha**	**2.44**	**166**	P	**Pn**	**03 56 43.1**	**+0.7**
TVBK	**TV Kerman**	**2.50**	**23**	Pn	**Pn**	**03 56 44.4**	**+0.8**
NAZ	**Nazwa, Dubai**	**2.68**	**179**	P	**Pb**	**03 56 49.5**	**-1.2**
CHMN	**Cheshme madani**	**2.75**	**37**	Pn	**Pn**	**03 56 47.8**	**+0.9**
UOSS	**Minazif**	**2.77**	**169**	P	**Pn**	**03 56 48.2**	**+1.3**
HATD	**Hatta, Dubai**	**2.87**	**171**	P	**Pn**	**03 56 50.5**	**+2.1**
KBAM	**BAM**	**2.88**	**59**	Pn	**Pn**	**03 56 50.0**	**+1.5**
ASHO	**Ashiyiah**	**3.00**	**173**	P	**Pn**	**03 56 52.6**	**+2.4**
ASHO				S	**Sb**	**03 57 32.3**	**-0.6**
IMEH	**Mehriz**	**3.81**	**347**	Pn	**Pn**	**03 57 01.5**	**0.0**
IBAF	**Bafgh**	**3.90**	**359**	Pn	**Pn**	**03 57 03.0**	**+0.4**
ISAD	**Sadrabad**	**4.55**	**339**	Pn	**Pn**	**03 57 12.4**	**+0.7**
CHBR	**Chabahar**	**4.81**	**114**	Pn	**Pn**	**03 57 16.5**	**+1.6**
KLNJ	**Kolanjah**	**4.85**	**314**	Pn	**Pn**	**03 57 16.6**	**+0.8**
IRAM	**Ramesheh**	**5.00**	**326**	Pn	**Pn**	**03 57 18.2**	**+0.4**
BSRN	**Basiran**	**5.24**	**35**	Pn	**Pn**	**03 57 21.7**	**+0.6**
NGCH	**Negor - Chabah**	**5.44**	**114**	Pn	**Pn**	**03 57 25.9**	**+2.2**
IKOO	**Kooshah**	**5.56**	**31**	Pn	**Pn**	**03 57 26.4**	**+0.9**
ITEG	**Tejag**	**5.86**	**27**	Pn	**Pn**	**03 57 30.1**	**+0.6**
ZNGN	**Zangian**	**6.07**	**318**	Pn	**Pn**	**03 57 33.0**	**+0.4**
TNSJ	**Nastanj**	**6.32**	**7**	Pn	**Pn**	**03 57 36.1**	**+0.2**
ISFB	**Sefidab**	**7.26**	**337**	Pn	**Pn**	**03 57 48.9**	**+0.1**
SHAO	**Shalim**	**9.61**	**180**	P	**Pn**	**03 58 20.2**	**-0.7**

*IDC **04** 04:12:29.8±1.4,19.°00S×69.°23W,h0km,mb3.6/2, mbtmp3.6/5,ML3.8/3,Error ellipse: s-maj=40.2km s-min=32.5km az=71.0*
*GUC **04** 04:12:42.8±0.5,19.°62S×69.°25W,h101km±2km,ML3.4*
*SJA **04** 04:12:42.0±0.7,19.°66S×69.°34W,h101km±2km,ML3.6, MW3.6*
ISC 04 04:12:41.9±0.8,**19.°63S**±0.°03×**69.°32W**±0.°05,**h104**km±5km, **n38,σ1§26/62,7C,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.13**	**107**	*e*P	**Pn**	**04 12 57.2**	**+0.2**
GO01				*e*S	**Sn**	**04 13 08.9**	**+0.5**
GO01				*e*S		04 13 09.0	
GO01				IAML		04 13 09.1	
	comp=Z,2μm,0.1s						
GO01	**Chusmiza**	**0.13**	**107**	*e*P	**Pn**	**04 12 57.2**	**+0.2**
GO01				*e*S	**Sn**	**04 13 08.8**	**+0.4**
PB11	**IPOC Station P**	**0.34**	**248**	*e*P	**Pn**	**04 12 57.5**	**+0.1**
PB11				*e*S	**Sn**	**04 13 09.0**	**0.0**
PB11				IAML		04 13 10.2	
	comp=Z,1μm,0.2s						
PB11	**IPOC Station P**	**0.34**	**248**	*e*P	**Pn**	**04 12 57.5**	**+0.1**
PB11				*e*S	**Sn**	**04 13 09.8**	**+0.8**
PB08	**IPOC Station P**	**0.53**	**163**	*e*P	**Pn**	**04 12 59.0**	**+0.2**
PB08				*e*S	**Sn**	**04 13 12.0**	**+0.5**
PB08				IAML		04 13 12.8	
	comp=Z,2μm,0.2s						
PB08	**IPOC Station P**	**0.53**	**163**	*e*P	**Pn**	**04 12 59.2**	**+0.3**
PB08				*e*S	**Sn**	**04 13 11.8**	**+0.3**
HMBC	**Humberstone**	**0.83**	**219**	*e*P	**Pn**	**04 13 01.5**	**+0.4**
HMBC				*e*S	**Sn**	**04 13 16.3**	**+0.7**
HMBC				IAML		04 13 16.3	
	comp=N,1μm,0.6s						
TA02	**Huaiquique**	**0.99**	**230**	*e*P	**Pn**	**04 13 02.9**	**+0.4**
TA02				*e*S	**Sn**	**04 13 19.3**	**+1.2**
TA02				IAML		04 13 21.8	
	comp=Z,972nm,0.1s						
TA02	**Huaiquique**	**0.99**	**230**	*e*P	**Pn**	**04 13 03.1**	**+0.5**
TA02				*e*S	**Sn**	**04 13 19.0**	**+0.9**
TA01	**Diego Aracena**	**1.23**	**221**	*e*P	**Pn**	**04 13 05.5**	**+0.3**
TA01				*e*S	**Sn**	**04 13 23.4**	**+0.6**
TA01	**Diego Aracena**	**1.23**	**221↑**	*e*P	**Pn**	**04 13 05.5**	**+0.3**
TA01				*e*S	**Sn**	**04 13 23.3**	**+0.6**
TA01				IAML		04 13 28.3	
	comp=E,374nm,0.3s						
PB16	**IPOC Station P**	**1.30**	**352**	*e*P	**Pn**	**04 13 02.4**	**-4.3**
PB16				*e*P		04 13 08.0	
PB16				*e*S	**Sn**	**04 13 27.8**	**+2.5**
PB16				IAML		04 13 28.8	
	comp=Z,780nm,0.8s						
PB16	**IPOC Station P**	**1.30**	**352↑**	*e*P	**Pn**	**04 13 07.9**	**+1.2**
PB16				*e*S	**Sn**	**04 13 26.9**	**+1.7**
PB16				IAML		04 13 28.5	
	comp=N,1μm,0.5s						
PB12	**IPOC Station P**	**1.39**	**317**	*e*P	**Pn**	**04 13 07.4**	**+0.2**
PB12				*e*S	**Sn**	**04 13 27.7**	**+1.4**
PB12				*e*S		04 13 27.8	
PB12				IAML		04 13 33.0	
	comp=Z,319nm,0.2s						
PB12	**IPOC Station P**	**1.39**	**317↑**	*e*P	**Pn**	**04 13 07.2**	**+0.1**
PB12				*e*S	**Sn**	**04 13 27.2**	**+0.9**
PB12				IAML		04 13 34.8	
	comp=N,967nm,0.3s						
PB01	**IPOC Station P**	**1.41**	**186**	*e*P	Pn	04 13 02.4	-5.1
PB01				*e*P		04 13 07.9	
PB01				*e*S	**Sn**	**04 13 27.8**	**+1.0**
PB01				IAML		04 13 29.9	
	comp=Z,1μm,0.2s						
PB01	**IPOC Station P**	**1.41**	**186↑**	*e*P	**Pn**	**04 13 07.9**	**+0.4**
PB01				*e*S	**Sn**	**04 13 27.3**	**+0.5**
PATCX	**Punta Patache**	**1.42**	**213↑**	*e*P	**Pn**	**04 13 07.8**	**+0.3**
PATCX				*e*S	**Sn**	**04 13 28.1**	**+1.2**
PATCX				IAML		04 13 36.3	
	comp=E,348nm,0.3s						
PB02	**IPOC Station P**	**1.76**	**198**	*e*P	**Pn**	**04 13 12.3**	**+0.5**
PB02				*e*S	**Sn**	**04 13 36.6**	**+2.2**
PB02				IAML		04 13 42.4	
	comp=Z,626nm,0.2s						
PB02	**IPOC Station P**	**1.76**	**198**	*e*P	**Pn**	**04 13 12.2**	**+0.4**
PB02				IAML		04 13 45.6	
	comp=E,706nm,0.2s						
PB07	**IPOC Station P**	**2.15**	**194↑**	*e*P	**Pn**	**04 13 17.5**	**+0.7**
PB07				*e*S	**Sn**	**04 13 44.1**	**+0.7**
PB07				IAML		04 13 48.5	
	comp=E,380nm,0.5s						
PB09	**IPOC Station P**	**2.15**	**178**	*e*P	**Pn**	**04 13 17.3**	**+0.5**
PB09				*e*S	**Sn**	**04 13 45.4**	**+1.9**
PB09				IAML		04 13 49.5	
	comp=Z,288nm,0.4s						
PB09	**IPOC Station P**	**2.15**	**178**	*e*P	**Pn**	**04 13 17.6**	**+0.8**
PB09				*e*S	**Sn**	**04 13 45.4**	**+1.9**
PB09				IAML		04 13 49.3	
	comp=E,374nm,0.6s						
PB04	**IPOC Station P**	**2.80**	**196**	*e*P	**Pn**	**04 13 26.3**	**+1.0**
PB04				*e*S	Sn	04 13 46.9	-12
PB04				IAML		04 14 13.8	
	comp=Z,162nm,0.5s						
PB04	**IPOC Station P**	**2.80**	**196**	*e*P	**Pn**	**04 13 26.2**	**+1.0**
LVC	**Limon Verde**	**2.99**	**173**	*e*P	**Pn**	**04 13 28.9**	**+0.9**
LVC				*e*S	**Sn**	**04 14 04.0**	**+0.6**
LVC				IAML		04 14 12.2	
	comp=Z,101nm,0.5s						
LVC	**Limon Verde**	**2.99**	**173**	Pn	**Pn**	**04 13 28.2**	**+0.3**
	comp=Z,19nm,0.3s,baz=10,slow=8.6,SNR=83						
LVC				Sn	**Sn**	**04 14 04.0**	**+0.6**
	comp=Z,24nm,0.3s,baz=4.5,slow=12,SNR=6.3						
	comp=Z,43nm,0.3s						
PB06	**IPOC Station P**	**3.07**	**184**	*e*P	**Pn**	**04 13 29.8**	**+0.9**
PB06				*e*S	**Sn**	**04 14 02.9**	**-2.1**
PB06				*e*S		04 14 04.4	
PB06				IAML		04 14 14.4	
	comp=Z,153nm,0.7s						
PB06	**IPOC Station P**	**3.07**	**184↑**	*e*P	**Pn**	**04 13 29.7**	**+0.9**
LPAZ	**La Paz**	**3.51**	**19**	*e*P	**Pn**	**04 13 38.1**	**+2.9**
LPAZ				*e*S	Sn	04 14 02.4	-14
PB15	**IPOC Station P**	**3.56**	**182**	*e*P	**Pn**	**04 13 37.8**	**+2.3**
PB15				*e*S	**Sn**	**04 14 16.1**	**-0.8**
PB15				IAML		04 14 21.6	
	comp=Z,314nm,0.2s						
YJA	**Yavi**	**4.37**	**126**	*e*P	**Pn**	**04 13 49.1**	**+2.5**
SIV	**San Ignacio**	**8.65**	**67**	Pn	Pn	04 14 33.7	-11
	baz=284,slow=14,SNR=5.0						
	comp=Z,0.2nm,0.3s						
CPUP	**Villa Florida**	**12.90**	**123**	Pn	**Pn**	**04 15 39.2**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=306,slow=9.9,SNR=3.8						
	comp=Z,0.9nm,0.5s						
TORD	**Torodi Ar. Bea**	**77.10**	**71**	P	**P**	**04 24 22.9**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=232,slow=7.1,SNR=1.6						
	comp=Z,0.3nm,0.5s						
YKA	**Yellowknife Ar**	**89.31**	**341**	P	**P**	**04 25 26.1**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=131,slow=4.4,SNR=10						
	comp=Z,0.4nm,0.8s						
WRA	**Warramunga Arr**	**134.34**	**212**	PKP	**PKiKP**	**04 31 49.8**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=160,slow=2.1,SNR=2.3						
SONM	**Songino Array**	**151.65**	**6**	PKPbc	**PKPbc**	**04 32 23.7**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=333,slow=1.6,SNR=2.8						

NNC 04 04:30:56.9±1.9,**42.°58N**×**85.°47E,h0km,mb3.8,mpv3.5,**

4C-4D,Error ellipse: s-maj=15.1km s-min=9.8km az=144.0,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.85**	**285**	Pg	Pb	04 32 06.3	+0.5
	1.2nm,0.1s						
KTMS				Lg	Lg	04 32 59.9	
	17nm,0.2s						
PDGK	**Podgornoye**	**4.45**	**282**	Pg	Pb	04 32 17.2	+1.2
	0.7nm,0.3s						
PDGK				Lg	Lg	04 33 19.6	
	12nm,0.6s						
PDGK	**Podgornoye**	**4.45**	**282**	⇑Pn	Pn	04 32 05.8	0.0
	4.0nm,0.6s						
PDGK				⇑Lg	Lg	04 33 21.0	
	13nm,0.5s						
DJR	**Jarkent**	**4.49**	**295**	Pg	Pb	04 32 17.0	+0.4
	1.2nm,0.2s						
DJR				Lg	Lg	04 33 18.1	
	8.2nm,0.4s						
UZB	**Uzynbulak**	**4.77**	**279**	Pg	Pb	04 32 23.8	+2.3
	5.2nm,0.4s						
UZB				Lg	Lg	04 33 30.8	
	40nm,0.7s						
MK31	**Makanchi Array**	**4.78**	**333**	⇑Pn	Pn	04 32 10.4	+0.1
	1.0nm,0.4s,baz=154,slow=14,SNR=4.5						
MK31				⇓Lg	Lg	04 33 28.7	
	4.2nm,0.3s,baz=144,slow=29,SNR=11						
ZSN	**Zaisan**	**4.89**	**355**	Pg	Pb	04 32 25.4	+2.0
	3.4nm,0.3s						
ZSN				Lg	Lg	04 33 33.2	
	8.4nm,0.8s						
MAKZ	**Makanchi**	**4.91**	**331**	⇓Pn	Pn	04 32 15.1	+3.1
	1.4nm,0.5s						
MAKZ				⇓Lg	Lg	04 33 32.5	
	11nm,0.8s						
KNOS	**Konyrlen**	**4.91**	**293**	Pg	Pb	04 32 25.7	+1.9
	5.1nm,0.2s						
KNOS				Lg	Lg	04 33 33.2	
	7.8nm,0.4s						
SATY	**Saty**	**5.21**	**278**	Pg	Pb	04 32 32.8	+3.7
	0.8nm,0.1s						
SATY				Lg	Lg	04 33 45.3	
	11nm,0.5s						
ARXS	**Arharly**	**5.80**	**289**	Pg	Pb	04 32 42.2	+3.2
	6.6nm,0.2s						
ARXS				Lg	Lg	04 34 01.1	
	12nm,0.4s						
KOTS	**Kotyrbulak**	**6.17**	**279**	Pg	Pb	04 32 49.6	+4.2
	2.2nm,0.5s						
KOTS				Lg	Lg	04 34 13.9	
	11nm,0.6s						
TNSS	**Tian-Shan**	**6.28**	**277**	Pg	Pb	04 32 51.8	+4.4
	1.2nm,0.5s						
TNSS				Lg	Lg	04 34 18.1	
	2.1nm,0.6s						
KURBB	**Kurchatov Arra**	**9.35**	**332**	⇓Lg	Lg	04 35 56.0	
	6.6nm,0.6s						
KURK	**Kurchatov**	**9.40**	**332**	⇑Lg	Lg	04 35 53.7	
	5.7nm,0.7s						

*SOME **04** 04:42:59.6,38.°65N×76.°32E,h10km*
*NNC **04** 04:43:01.3±3.9,38.°69N×76.°11E,h0km,mb3.8,mpv3.4, Error ellipse: s-maj=27.5km s-min=19.5km az=152.0*
ISC 04 04:43:07.4±4.3,**38.°0N**±0.°2×**76.°4E**±0.°1,**h10**km,**n19, σ1§48/24,1C-2D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**4.93**	**353**	⇓Pg	Pn	04 44 17.7	-4.1
	2.6nm,0.4s						
TKM2				⇓Lg	Lg	04 45 14.0	
	5.2nm,0.6s						
TNSS	**Tian-Shan**	**5.02**	**4**	*e*P	**Pn**	**04 44 21.1**	**-2.1**
	4.2nm,0.2s						
TNSS				*e*S	**Sn**	**04 45 19.8**	**-1.7**
	3.2nm,0.2s						
TNSS	**Tian-Shan**	**5.02**	**4**	Pg	**Pn**	**04 44 21.2**	**-2.0**
	3.9nm,0.4s						
TNSS				Lg	Lg	04 45 19.8	
	4.1nm,0.5s						
KST	**Kastek**	**5.03**	**356**	*e*P	Pn	04 44 20.3	-2.7
	4.8nm,0.2s						
KST				*e*S	**Sn**	**04 45 18.5**	**-2.7**
	5.1nm,0.2s						
KST	**Kastek**	**5.03**	**356**	Pg	Pn	04 44 20.3	-2.7
	4.8nm,0.5s						
KST				Lg	Lg	04 45 18.5	
	5.1nm,0.6s						
MTBS	**Maitube**	**5.10**	**360**	*e*P	**Pn**	**04 44 22.6**	**-1.4**
	2.1nm,0.1s						
MTBS				*e*S	**Sn**	**04 45 22.4**	**-0.6**
	4.8nm,0.3s						
MTBS	**Maitube**	**5.10**	**360**	Pg	**Pn**	**04 44 22.7**	**-1.3**
	2.3nm,0.4s						
MTBS				Lg	Lg	04 45 22.4	
	4.8nm,0.3s						
MDOK	**Medeo**	**5.15**	**5**	*e*P	**Pn**	**04 44 23.6**	**-1.2**
	4.9nm,0.2s						
MDOK				*e*S	**Sn**	**04 45 24.1**	**-0.3**
	8.6nm,0.5s						
MDOK	**Medeo**	**5.15**	**5**	Pg	**Pn**	**04 44 23.6**	**-1.2**
	4.8nm,0.5s						
MDOK				Lg	Lg	04 45 24.1	
	7.7nm,0.6s						
KOTS	**Kotyrbulak**	**5.23**	**5**	*e*P	**Pn**	**04 44 25.5**	**-0.3**
	4.7nm,0.4s						
KOTS				*e*S	**Sn**	**04 45 27.1**	**+0.9**
	16nm,0.4s						
KOTS	**Kotyrbulak**	**5.23**	**5**	Pg	**Pn**	**04 44 25.2**	**-0.6**
	4.7nm,0.4s						
KOTS				Lg	Lg	04 45 27.1	
	16nm,0.4s						
DGS	**Degeres**	**5.24**	**355**	*e*P	**Pn**	**04 44 25.7**	**-0.2**
	4.8nm,0.6s						
DGS				*e*S	**Sn**	**04 45 27.6**	**+1.3**
	7.1nm,0.5s						
DGS	**Degeres**	**5.24**	**355**	Pg	**Pn**	**04 44 24.7**	**-1.2**
	4.8nm,0.6s						
DGS				Lg	Lg	04 45 26.7	
	7.1nm,0.5s						
SATY	**Saty**	**5.25**	**16**	*e*P	**Pn**	**04 44 26.7**	**+0.6**
	3.3nm,0.4s						
SATY				*e*S	**Sn**	**04 45 29.3**	**+2.7**
	5.1nm,0.3s						
SATY	**Saty**	**5.25**	**16**	Pg	**Pn**	**04 44 26.8**	**+0.8**
	3.3nm,0.4s						
SATY				Lg	Lg	04 45 29.3	
	3.8nm,0.5s						
MRKS	**Merke**	**5.31**	**334**	*e*P	**Pn**	**04 44 26.8**	**-0.2**
	2.5nm,0.4s						
MRKS				*e*S	**Sn**	**04 45 29.5**	**+1.3**
	4.3nm,0.3s						
MRKS	**Merke**	**5.31**	**334**	Pg	**Pn**	**04 44 27.0**	**+0.1**
	2.5nm,0.7s						
MRKS				Lg	Lg	04 45 29.5	
	4.5nm,0.7s						
KRBS	**Karabastau**	**5.69**	**354**	*e*P	**Pn**	**04 44 33.0**	**+0.8**
	2.8nm,0.2s						
KRBS				*e*S	**Sn**	**04 45 40.1**	**+2.5**
	3.1nm,0.4s						
KK31	**Karatay Array**	**6.79**	**320**	Pn	Pn	04 44 36.4	-11
	0.2nm,0.3s,baz=142,slow=14,SNR=6.2

8.0nm,0.6s,148nm0.1nm
LUWI Luwuk 7.11 236 P **Pn 04 45 41.7 -0.7**
WRA Warramunga Arr 23.48 166 P **P 04 48 49.2 -0.5**
1.0nm,0.7s,baz=349,slow=10,SNR=20
WRA PcP **PcP 04 52 29.5 +0.6**
0.3nm,0.4s,baz=12,slow=8.5,SNR=4.6
1.0nm,0.7s
ASAR Alice Springs 27.00 169 P **P 04 49 21.6 +0.2**
1.2nm,0.4s,baz=356,slow=8.0,SNR=36
ASAR pP **pwP 04 50 09.2 0.0**
1.0nm,0.8s,baz=349,slow=11,SNR=4.6
ASAR ScP **ScP 04 55 54.8 -0.4**
0.3nm,0.6s,baz=344,slow=2.3,SNR=6.3
1.2nm,0.4s
JNU Nakatsue 30.04 4 P **P 04 49 47.0 -1.1**
4.0nm,0.8s,baz=211,slow=12,SNR=1.8
4.0nm,0.8s
CMAR Chiang Mai Arr 32.88 300 P **P 04 50 12.9 -0.4**
0.7nm,0.3s,baz=125,slow=8.9,SNR=7.2
0.7nm,0.3s
KSRS Korea Array 34.29 359 P **P 04 50 25.4 +0.3**
2.2nm,0.6s,baz=177,slow=9.6,SNR=14
2.2nm,0.6s
MJAR Matsushiro Arr 34.52 14 P **P 04 50 26.0 -1.1**
2.6nm,0.4s,baz=186,slow=9.6,SNR=15
2.6nm,0.4s
STKA Stephens Creek 36.81 161 P **P 04 50 47.0 +0.4**
1.2nm,0.5s,baz=344,slow=10,SNR=4.3
1.2nm,0.5s
SONM Songino Array 48.61 340 P **P 04 52 20.7 -0.4**
1.0nm,0.7s,baz=151,slow=8.2,SNR=7.1
SONM pP **pP 04 53 12.0 +2.3**
0.6nm,0.6s,baz=131,slow=6.6,SNR=4.2
1.0nm,0.7s
MKAR Makanchi Array 59.24 325 P **P 04 53 38.3 +0.5**
1.3nm,0.5s,baz=120,slow=8.7,SNR=5.0
MKAR PcP **PcP 04 54 23.8 +0.2**
0.5nm,0.7s,baz=78,slow=3.0,SNR=3.2
1.3nm,0.5s
ZALV Zalesovo Beam 62.10 332 P **P 04 53 56.4 -0.5**
0.9nm,0.4s,baz=111,slow=8.1,SNR=6.2
0.9nm,0.4s
SEY Seymchan 62.33 12 P **P 04 53 58.3 +0.1**
1.1nm,0.5s,baz=234,slow=7.2,SNR=5.9
1.1nm,0.5s
KURBB Kurchatov Arra 63.38 327 P **P 04 54 05.4 0.0**
1.8nm,0.4s,baz=125,slow=6.3,SNR=9.0
KURBB sP **sP 04 55 23.9 +1.6**
1.3nm,0.5s,baz=96,slow=6.9,SNR=2.6
1.8nm,0.4s
BVAR Borovoye Array 68.97 327 P **P 04 54 40.7 -0.1**
1.7nm,0.4s,baz=83,slow=5.5,SNR=17
BVAR sP **sP 04 55 58.0 -0.5**
0.6nm,0.3s,baz=99,slow=8.2,SNR=3.5
1.7nm,0.4s
KDAK Kodiak Island 81.49 32 P **P 04 55 52.5 +0.6**
7.0nm,0.8s,baz=249,slow=8.6,SNR=2.3
7.0nm,0.8s
ARCES ARCESS Array B 91.78 340 P **P 04 56 40.9 -1.0**
1.9nm,0.8s,baz=85,slow=5.5,SNR=5.8
1.9nm,0.8s
FINES FINESS Array B 93.37 332 P **P 04 56 48.0 -1.2**
0.8nm,0.9s,baz=40,slow=7.2,SNR=1.4
0.8nm,0.9s
TORD Torodi Ar. Bea 124.95 288 PKP **PKPdf 05 02 34.0 -0.2**
0.2nm,0.4s,baz=87,slow=1.9,SNR=1.7

*SOME **04** 04:48:39.2, 43˚.55N × 82˚.68E, h15km*
*NNC **04** 04:48:40.2± 1.3, 43˚.65N × 82˚.60E, h0km, mb3.8, mpv3.6,*
Error ellipse: s-maj=11.0km s-min=5.1km az=136.0
ISC 04 04:48:39.3±1.5, **43˚.56N**±0˚.06 × **82˚.52E**±0˚.06, **h10**km, **n37,**
σ2s 06/52, **4C-3D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.65**	**267**	*eP*	**Pg**	**04 49 10.8**	**-0.1**
	18nm,0.2s						
KTMS				*eS*	**Sg**	**04 49 33.9**	**+1.5**
	105nm,0.3s						
KTMS	**Ketmen**	**1.65**	**267**	P	**Pg**	**04 49 10.8**	**-0.1**
	18nm,0.2s						
KTMS				S	**Sg**	**04 49 33.9**	**+1.5**
	105nm,0.3s						
DJR	**Jarkent**	**2.18**	**292**	*eP*	**Pg**	**04 49 19.8**	**-1.3**
	18nm,0.2s						
DJR				*eS*	**Sg**	**04 49 49.1**	**-0.3**
	212nm,0.3s						
DJR	**Jarkent**	**2.18**	**292**	Pg	**Pg**	**04 49 19.8**	**-1.3**
	18nm,0.2s						
DJR				Lg	Lg	04 49 49.1	
	212nm,0.3s						
PDGK	**Podgornoye**	**2.29**	**265**	Pg	**Pb**	**04 49 21.1**	**+0.4**
	14nm,0.3s						
PDGK				Lg	Lg	04 49 52.3	
	40nm,0.3s						
PDGK	**Podgornoye**	**2.29**	**265**	⇑Pg	**Pb**	**04 49 21.2**	**+0.4**
	7.5nm,0.3s						
PDGK				⇓Lg	Lg	04 49 52.8	
	34nm,0.3s						
SHLS	**Shalkode**	**2.34**	**261**	*eP*	**Pn**	**04 49 18.5**	**+0.6**
	50nm,0.2s						
SHLS				*eS*	**Sn**	**04 49 47.0**	**+0.3**
	373nm,0.4s						
KNOS	**Konyrlen**	**2.61**	**289**	Pg	**Pb**	**04 49 26.4**	**+0.2**
	30nm,0.1s						
KNOS				Lg	Lg	04 50 02.0	
	92nm,0.4s						
UZB	**Uzynbulak**	**2.65**	**262**	*eP*	**Pg**	**04 49 28.4**	**-1.7**
	7.9nm,0.2s						
UZB				*eS*	**Sg**	**04 50 04.0**	**-0.6**
	45nm,0.4s						
UZB	**Uzynbulak**	**2.65**	**262**	Pg	**Pb**	**04 49 28.2**	**+1.3**
	7.9nm,0.2s						
UZB				Lg	Lg	04 50 04.0	
	45nm,0.4s						
KAPS	**Kapalarasan**	**2.90**	**308**	*eP*	**Pg**	**04 49 33.5**	**-1.4**
	4.4nm,0.1s						
KAPS				*eS*	**Sg**	**04 50 12.8**	**+0.3**
	35nm,0.2s						
KAPS	**Kapalarasan**	**2.90**	**308**	Pg	**Pg**	**04 49 33.5**	**-1.4**
	7.3nm,0.3s						
KAPS				Lg	Lg	04 50 12.8	
	35nm,0.2s						
SATY	**Saty**	**3.11**	**262**	*eP*	**Pb**	**04 49 36.7**	**+1.9**
	3.8nm,0.1s						
SATY				*eS*	**Sg**	**04 50 18.2**	**-1.1**
	44nm,0.1s						
SATY	**Saty**	**3.11**	**262**	Pg	**Pb**	**04 49 36.7**	**+1.9**
	3.8nm,0.1s						
SATY				Lg	Lg	04 50 18.2	
	39nm,0.3s						
KURS	**Kuram**	**3.23**	**270**	*eP*	**Pg**	**04 49 39.0**	**-2.2**
	2.4nm,0.3s						
KURS				*eS*	**Sg**	**04 50 22.2**	**-0.9**
	16nm,0.5s						
KURS	**Kuram**	**3.23**	**270**	Pg	**Pg**	**04 49 39.0**	**-2.2**
	2.4nm,0.3s						
KURS				Lg	Lg	04 50 22.2	
	16nm,0.5s						
MK31	**Makanchi Array**	**3.24**	**356**	⇓Pg	**Pb**	**04 49 37.5**	**+0.6**
	1.6nm,0.3s,baz=160,slow=17,SNR=22						
MK31				Lg	Lg	04 50 16.8	
	3.2nm,0.2s,baz=172,slow=27,SNR=14						
MAKZ	**Makanchi**	**3.28**	**352**	⇓Pg	**Pg**	**04 49 41.2**	**-0.8**
	2.3nm,0.5s						
MAKZ				⇑Lg	Lg	04 50 17.9	
	3.5nm,0.3s						
TDK	**Taldyqorghan**	**3.35**	**297**	*eP*	**Pg**	**04 49 40.8**	**-2.7**
	28nm,0.1s						
TDK				*eS*	**Sg**	**04 50 25.3**	**-1.6**
	56nm,0.3s						
TDK	**Taldyqorghan**	**3.35**	**297**	Pg	**Pg**	**04 49 40.8**	**-2.7**
	28nm,0.4s						
TDK				Lg	Lg	04 50 25.3	
	56nm,0.3s						
ARXS	**Arharly**	**3.52**	**282**	*eP*	**Pb**	**04 49 42.5**	**+0.7**
	6.8nm,0.1s						
ARXS				*eS*	**Sb**	**04 50 28.0**	**+3.4**
	45nm,0.2s						
KOTS	**Kotyrbulak**	**4.03**	**267**	*eP*	**Pb**	**04 49 52.9**	**+2.6**
	6.4nm,0.4s						
KOTS				*eS*	**Sg**	**04 50 45.9**	**-2.6**
	41nm,0.5s						
KOTS	**Kotyrbulak**	**4.03**	**267**	Pg	**Pb**	**04 49 52.9**	**+2.6**
	6.4nm,0.4s						
KOTS				Lg	Lg	04 50 45.9	
	41nm,0.5s						
MDOK	**Medeo**	**4.08**	**266**	*eP*	**Pg**	**04 49 55.6**	**-1.8**
	2.4nm,0.1s						
MDOK				*eS*	**Sg**	**04 50 50.6**	**+0.3**
	19nm,0.5s						
MDOK	**Medeo**	**4.08**	**266**	Pg	**Pg**	**04 49 55.6**	**-1.8**
	3.2nm,0.4s						
MDOK				Lg	Lg	04 50 50.6	
	19nm,0.5s						
TNSS	**Tian-Shan**	**4.17**	**265**	*eP*	**Pg**	**04 49 56.6**	**-2.6**
	2.4nm,0.3s						
TNSS				*eS*	**Sg**	**04 50 52.6**	**-0.6**
	6.2nm,0.4s						
TNSS	**Tian-Shan**	**4.17**	**265**	Pg	**Pg**	**04 49 56.6**	**-2.6**
	2.4nm,0.3s						
TNSS				Lg	Lg	04 50 52.7	
	6.7nm,0.5s						
ZSN	**Zaisan**	**4.20**	**21**	*eP*	**Pb**	**04 49 53.0**	**-0.3**
	5.4nm,0.2s						
ZSN				*eS*	**Sb**	**04 50 46.6**	**+2.6**
	12nm,0.3s						
ZSN	**Zaisan**	**4.20**	**21**	Pg	**Pb**	**04 49 53.0**	**-0.3**
	5.4nm,0.4s						
ZSN				Lg	Lg	04 50 46.6	
	12nm,0.5s						
MTBS	**Maitube**	**4.53**	**267**	*eP*	**Pg**	**04 50 02.5**	**-3.6**
	2.3nm,0.3s						
MTBS				*eS*	**Sg**	**04 51 02.5**	**-2.4**
	13nm,0.5s						
MTBS	**Maitube**	**4.53**	**267**	Pg	**Pg**	**04 50 02.5**	**-3.6**
	2.3nm,0.3s						
MTBS				Lg	Lg	04 51 02.5	
	13nm,0.5s						
KUU	**Kurty**	**4.56**	**276**	*eP*	**Pb**	**04 50 01.9**	**+2.5**
	1.8nm,0.1s						
KUU				*eS*	**Sg**	**04 51 01.8**	**-3.9**
	16nm,0.3s						
KUU	**Kurty**	**4.56**	**276**	Pg	**Pb**	**04 50 00.5**	**+1.1**
	1.8nm,0.1s						
KUU				Lg	Lg	04 50 59.1	
	16nm,0.3s						
KST	**Kastek**	**4.88**	**266**	*eP*	**Pg**	**04 50 08.8**	**-4.0**
	1.9nm,0.3s						
KST				*eS*	**Sg**	**04 51 13.3**	**-2.8**
	10nm,0.3s						
KST	**Kastek**	**4.88**	**266**	Pg	**Pg**	**04 50 08.8**	**-4.0**
	1.9nm,0.3s						
KST				Lg	Lg	04 51 13.3	
	10.0nm,0.4s						
KURBB	**Kurchatov Arra**	**7.59**	**340**	⇑Lg	Lg	04 52 37.9	
	5.6nm,0.6s						
KURK	**Kurchatov**	**7.66**	**341**	⇑Lg	Lg	04 52 35.6	
	5.6nm,0.8s						

*IDC **04** 04:54:46.8± 0.8, 6˚.27S × 143˚.03E, h0km, mb4.0/10,*
mbtmp4.0/13, ML4.1/2, Error ellipse: s-maj=35.2km
s-min=16.7km az=87.0
ISC 04 04:54:51.7±0.7, **6˚.37S**±0˚.07 × **143˚.05E**±0˚.08, **h35**km, **n25,**
σ2s 02/25, **mb3.9**/11, **New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**2.12**	**301**	P	**Pn**	**04 55 24.5**	**-0.3**
PMG	**Port Moresby**	**5.07**	**127**	Pn	**Pn**	**04 56 06.1**	**+0.9**
	13nm,0.6s,baz=328,slow=11,SNR=3.5						
PMG				Sn	**Sn**	**04 56 58.8**	**-3.7**
	1.8nm,0.3s,baz=234,slow=17,SNR=3.3						
ALOT	**Alotau**	**8.31**	**119**	P	Pn	04 57 06.9	+17
KDU	**Kakadu**	**12.18**	**238**	P	**Pn**	**04 57 41.0**	**-1.8**
QIS	**Mount Isa**	**14.50**	**193**	P	**Pn**	**04 58 15.7**	**+1.2**
WRA	**Warramunga Arr**	**15.93**	**211**	Pn	**Pn**	**04 58 31.3**	**-2.1**
	0.6nm,0.3s,baz=30,slow=13,SNR=26						
WRA				Sn	Sn	05 01 18.1	-11
	0.2nm,0.3s,baz=26,slow=22,SNR=1.7						
WRA				Lg	Lg	05 03 10.9	
	0.2nm,0.3s,baz=304,slow=38,SNR=2.1						
	45nm,0.5s						
KNRA	**Kununurra**	**16.79**	**235**	P	**Pn**	**04 58 41.7**	**-2.6**
AS01	**Alice Springs**	**19.30**	**206**	P	**Pn**	**04 59 16.2**	**+1.1**
	16nm,0.8s						
ASAR	**Alice Springs**	**19.32**	**206**	P	**Pn**	**04 59 16.1**	**+0.7**
	0.9nm,0.3s,baz=34,slow=10,SNR=58						
ASAR				S	**S**	**05 02 46.7**	**-4.3**
	0.9nm,0.7s,baz=18,slow=26,SNR=2.4						
ASAR				Lg	Lg	05 04 55.0	
	baz=21,slow=32,SNR=2.3						
	4.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.60**	**234**	P	**P**	**04 59 28.8**	**+0.8**
OOD	**Oodnadatta**	**22.43**	**197**	P	**P**	**04 59 50.5**	**+2.9**
WRKA	**Warakurna**	**23.33**	**216**	P	**P**	**04 59 58.3**	**+1.3**
PLAI	**Plampang**	**25.17**	**263**	P	**P**	**05 00 14.4**	**+0.3**
MULG	**Mulgathing**	**25.25**	**198**	P	**P**	**05 00 19.1**	**+4.5**
STKA	**Stephens Creek**	**25.42**	**183**	P	**P**	**05 00 17.1**	**+0.9**
	0.6nm,0.3s,baz=347,slow=14,SNR=1.6						
	0.6nm,0.3s						
NTLH	**Newcastle Hard**	**27.60**	**164**	P	P	05 00 44.4	+8.6
	45nm,1.0s						
MJAR	**Matsushiro Arr**	**42.92**	**354**	P	**P**	**05 02 45.2**	**-2.0**
	0.9nm,0.8s,baz=168,slow=8.6,SNR=1.6						
	0.9nm,0.8s						
KSRS	**Korea Array**	**45.83**	**343**	P	**P**	**05 03 10.0**	**-0.3**
	1.1nm,0.7s,baz=159,slow=9.8,SNR=5.1						
	1.1nm,0.7s						
SONM	**Songino Array**	**62.88**	**333**	P	**P**	**05 05 15.2**	**+0.8**
	0.3nm,0.5s,baz=138,slow=7.3,SNR=2.6						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**75.32**	**322**	P	**P**	**05 06 32.0**	**+0.5**
	1.8nm,0.8s,baz=98,slow=7.8,SNR=14						
	1.8nm,0.8s						
ZALV	**Zalesovo Beam**	**77.27**	**329**	P	**P**	**05 06 41.5**	**-0.8**
	0.6nm,0.5s,baz=125,slow=5.1,SNR=3.2						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**79.20**	**324**	P	**P**	**05 06 52.9**	**-0.2**
	0.5nm,0.5s,baz=23,slow=3.0,SNR=4.8						
	0.5nm,0.5s						
QSPA	**South Pole Qui**	**83.60**	**180**	P	**P**	**05 07 17.3**	**+1.0**
	1.0nm,0.7s,baz=277,slow=1.6,SNR=10						
	1.0nm,0.7s						
BVAR	**Borovoye Array**	**84.77**	**325**	P	**P**	**05 07 23.5**	**+1.2**
	5.1nm,0.6s,baz=112,slow=6.4,SNR=33						
	5.1nm,0.6s						
ILAR	**Eielson Array**	**87.38**	**24**	P	**P**	**05 07 34.7**	**-0.2**
	1.0nm,0.7s,baz=255,slow=5.1,SNR=16						
	1.0nm,0.7s						

*IDC **04** 05:01:19.5± 1.8, 13˚.04N × 88˚.93W, h48km± 15km, mb3.9/16,*
mbtmp4.1/18, ML3.5/2, MS3.7/33, Error ellipse:
s-maj=21.6km s-min=15.4km az=60.0
*GCG **04** 05:01:23.9± 0.4, 13˚.16N × 89˚.33W, h96km± 37km, MD4.4*
*SNET **04** 05:01:24.8± 1.1, 13˚.17N × 89˚.41W, h54km, ML5.0*
*CATAC **04** 05:01:24.1± 0.7, 13˚.10N × 89˚.40W, h29km± 5km, ML4.9*
*RSNC **04** 05:01:25.7± 0.7, 13˚N ± 5˚ × 8˚.9W ± ˚, h0km, mb4.7, mB5.5,*
ML4.1, Mw(mB)4.9
*UCR **04** 05:01:25.7± 2.8, 13˚.28N × 89˚.30W, h70km, MW4.2,*
MB4.5(NEIC)
*NEIC **04** 05:01:26.2± 1.8, 13˚.28N ± 0˚.06 × 89˚.30W ± 0˚.07, h70km ± 6km,*
mb4.5/140, Error ellipse: s-maj=10.3km s-min=7.2km
az=57.0
ISC 04 05:01:24.6±0.5, **13˚.27N**±0˚.04 × **89˚.32W**±0˚.04, **h69**km ± 4km,
n582, **σ1s 27**/537, **mb4.5**/72, **6C-27D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.22**	**0**	*eP*	**Pn**	**05 01 34.5**	**-0.8**
LALI	**Alcalda de L**	**0.22**	**0**	⇓*iP*	**Pn**	**05 01 34.3**	**-1.0**
LALI				IAML		05 01 34.9	
	comp=Z,37μm,1.0s						
LALI				*i* S	**Sn**	**05 01 42.7**	**-0.3**
PANCS	**Alcalda de**	**0.37**	**22**	*i* P	**Pn**	**05 01 36.2**	**-0.2**
PANCS				*i* S	**Sn**	**05 01 45.3**	**+0.4**
PANCS				IAML		05 01 47.4	
	comp=Z,89μm,1.0s						
LOMA	**Loma Larga**	**0.41**	**21**	⇓*iP*	**Pn**	**05 01 36.6**	**-0.1**
LOMA				*i* S	**Sn**	**05 01 45.9**	**+0.4**
LOMA				IAML		05 01 48.0	
	comp=Z,73μm,1.0s						
JAYA	**Jayaque - finc**	**0.41**	**342**	⇓*iP*	**Pn**	**05 01 36.1**	**-0.7**
JAYA				*eS*	**Sn**	**05 01 45.5**	**-0.1**
JAYA	**Jayaque - finc**	**0.41**	**342**	⇓*iP*	**Pn**	**05 01 36.0**	**-0.7**
JAYA				*i* S	**Sn**	**05 01 45.3**	**-0.3**
JAYA				IAML		05 01 45.9	
	comp=Z,110μm,1.0s						
SNET	**Serv Nac Est T**	**0.43**	**12**		**Pn**	**05 01 36.6**	**-0.2**
SNET					**Sn**	**05 01 46.1**	**+0.3**
SNET	**Serv Nac Est T**	**0.43**	**12**	⇓*iP*	**Pn**	**05 01 36.7**	**-0.2**
SNET				*i* S	**Sn**	**05 01 46.4**	**+0.6**
SNET				IAML		05 01 49.2	
	comp=Z,190μm,1.0s						
PMON	**Piamonte**	**0.45**	**1**	⇓*iP*	**Pn**	**05 01 36.9**	**-0.1**
PMON				*i* S	**Sn**	**05 01 46.5**	**+0.4**
PMON				IAML		05 01 50.3	
	comp=Z,89μm,1.0s						
SEMO	**Seminario San**	**0.45**	**12**	*i* P	**Pn**	**05 01 36.9**	**-0.1**
SEMO				IAML		05 01 49.5	
	comp=Z,160μm,1.0s						
UTEC	**Universidad Te**	**0.45**	**15**	⇓*iP*	**Pn**	**05 01 37.1**	**+0.1**
UTEC				IAML		05 01 48.7	
	comp=Z,68μm,1.0s						
UEES	**Universidad Ev**	**0.46**	**10**	⇓*iP*	**Pn**	**05 01 37.1**	**0.0**
UEES				IAML		05 01 49.9	
	comp=Z,72μm,1.0s						
SJTE	**Alcalda de S**	**0.46**	**41**	⇓*iP*	**Pn**	**05 01 37.2**	**0.0**
SJTE				IAML		05 01 48.9	
	comp=Z,54μm,1.0s						
BOQS	**Boqueron**	**0.47**	**5**	⇓*iP*	**Pn**	**05 01 37.5**	**+0.2**
AEIL	**Aeropuerto Ilo**	**0.47**	**25**	*i* P	**Pn**	**05 01 38.0**	**+0.8**
AEIL				*eS*	**Sn**	**05 01 48.5**	**+2.1**
UDBS	**Universidad Do**	**0.48**	**20**	*i* P	**Pn**	**05 01 37.6**	**+0.3**
UDBS				IAML		05 01 49.0	
	comp=Z,60μm,1.0s						
CEDA	**San Andres**	**0.54**	**352**	*eP*	**Pn**	**05 01 38.0**	**+0.1**
CEDA				*eS*	**Sn**	**05 01 48.5**	**+1.0**
CEDA	**San Andres**	**0.54**	**352**	⇓*iP*	**Pn**	**05 01 37.9**	**+0.1**
CEDA				IAML		05 01 52.7	
	comp=Z,340μm,1.0s						
LBRS	**Las Brisas**	**0.54**	**30**	⇑*iP*	**Pn**	**05 01 39.1**	**+1.1**
COEG	**Centro de Oper**	**0.56**	**51**	*eP*	**Pn**	**05 01 38.4**	**+0.4**
COEG				*eS*	**Sn**	**05 01 49.1**	**+1.3**
COEG	**Centro de Oper**	**0.56**	**51**	⇓*iP*	**Pn**	**05 01 38.2**	**+0.2**
COEG				IAML		05 01 51.0	
	comp=Z,31μm,1.0s						
QUEZ	**Alcaldia de Qu**	**0.57**	**5**	⇓*iP*	**Pn**	**05 01 38.7**	**+0.6**
QUEZ				IAML		05 02 01.3	
	comp=Z,170μm,1.0s						
PAVA	**Las Pavas**	**0.58**	**40**	⇓*iP*	**Pn**	**05 01 39.0**	**+0.7**
PAVA				IAML		05 01 52.0	
	comp=Z,170μm,1.0s						
TECO	**Alcaldia de Te**	**0.59**	**63**	⇓*iP*	**Pn**	**05 01 38.3**	**0.0**
TECO				IAML		05 01 50.2	
	comp=Z,23μm,1.0s						
CEVE	**Cerro Verde**	**0.63**	**332**	*i* P	**Pn**	**05 01 38.9**	**-0.1**
CEVE				*eS*	**Sn**	**05 01 50.3**	**+0.7**
CEVE	**Cerro Verde**	**0.63**	**332**	⇓*iP*	**Pn**	**05 01 38.8**	**-0.2**
CEVE				IAML		05 01 51.2	
	comp=Z,100μm,1.0s						
UESV	**Universidad de**	**0.64**	**55**	*i* P	**Pn**	**05 01 39.3**	**+0.5**
UESV				IAML		05 01 54.2	
	comp=Z,27μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.72**	**53**	⇓*iP*	**Pn**	**05 01 40.7**	**+0.9**
SCLA				IAML		05 02 03.6	
	comp=Z,12μm,1.0s						
UNIC	**Universidad Ca**	**0.74**	**343**	*i* P	**Pn**	**05 01 40.4**	**+0.3**
UNIC				IAML		05 01 54.2	
	comp=Z,15μm,1.0s						
NUBE	**Las Nubes**	**0.77**	**325**	⇓*iP*	**Pn**	**05 01 40.0**	**-0.5**
NUBE				IAML		05 01 53.1	
	comp=Z,35μm,1.0s						
PQSS	**Presa 15 de Se**	**0.82**	**64**	⇑*iP*	**Pn**	**05 01 41.8**	**+0.9**
PQSS				IAML		05 01 58.9	
	comp=Z,16μm,1.0s						
LOAL	**Lomas de Alarc**	**0.85**	**329**	*i* P	**Pn**	**05 01 41.7**	**+0.3**
LOAL				IAML		05 01 58.6	
	comp=Z,65μm,1.0s						
PACA	**Pacayal**	**0.99**	**78**	*i* P	**Pn**	**05 01 44.3**	**+1.2**
PACA				IAML		05 02 00.6	
	comp=Z,160μm,1.0s						
RANC	**El Ranchito**	**1.02**	**80**	*i* P	**Pn**	**05 01 44.6**	**+1.1**
RANC				IAML		05 02 05.3	
	comp=Z,23μm,1.0s						
JUCU	**Jucuar¡n**	**1.05**	**91**	*eP*	**Pn**	**05 01 44.0**	**+0.3**
JUCU				*eS*	**Sn**	**05 01 59.4**	**+1.4**
JUCU	**Jucuar¡n**	**1.05**	**91**	⇓*iP*	**Pn**	**05 01 43.9**	**+0.2**
JUCU				IAML		05 02 01.5	
	comp=Z,20μm,1.0s						
BLLM	**Bellamira**	**1.07**	**80**	*i* P	**Pn**	**05 01 45.4**	**+1.3**
JUAM	**Asuncion Mita**	**1.13**	**341**	⇓*iP*	**Pn**	**05 01 45.2**	**+0.4**
JUAM				IAML		05 02 03.5	
	comp=Z,20μm,1.0s						
MTO3	**Montecristo**	**1.13**	**358**		**Pn**	**05 01 45.7**	**+0.8**
MTO3					**Sn**	**05 02 01.1**	**+1.1**
MTO3	**Montecristo**	**1.13**	**358**	⇑*iP*	**Pn**	**05 01 45.7**	**+0.8**
MTO3				IAML		05 02 02.5	
	comp=Z,18μm,1.0s						
CNRM	**Centro Naciona**	**1.14**	**79**	*i* P	**Pn**	**05 01 46.3**	**+1.4**
CNRM				IAML		05 02 16.8	
	comp=Z,82μm,1.0s						
ESQI	**Esquipulas**	**1.29**	**359**		**Pn**	**05 01 48.2**	**+1.2**
ESQI	**Esquipulas**	**1.29**	**359**	⇑*iP*	**Pn**	**05 01 48.1**	**+1.2**
ESQI				IAML		05 02 06.9	
	comp=Z,23μm,1.0s						
LCND	**La Caada**	**1.40**	**88**	⇓*iP*	**Pn**	**05 01 49.4**	**+1.2**
LCND				IAML		05 02 10.2	
	comp=Z,17μm,1.0s						
CNCH	**Conchagua**	**1.45**	**89**	*eP*	**Pn**	**05 01 50.3**	**+1.3**
CNCH				*eS*	**Sn**	**05 02 10.1**	**+2.7**
CNCH	**Conchagua**	**1.45**	**89**	⇓*iP*	**Pn**	**05 01 49.8**	**+0.8**
CNCH				IAML		05 02 15.4	
	comp=Z,26μm,1.0s						
NBG	**Las Nubes**	**1.65**	**323**	*eP*	**Pn**	**05 01 54.2**	**+2.4**
GUNB	**GUNB**	**1.65**	**323**	⇑*iP*	**Pn**	**05 01 51.6**	**-0.3**
GUNB				IAML		05 02 16.6	
	comp=Z,4μm,1.0s						
PCG	**Pacaya**	**1.68**	**312**	*eP*	**Pn**	**05 01 53.9**	**+1.7**
CSGN	**Cosiguina Volc**	**1.74**	**99**	*i* P	**Pn**	**05 01 53.1**	**+0.2**
CSGN				IAML		05 02 24.6	
	comp=Z,23μm,1.0s						
GCG4	**OSOP**	**1.76**	**318**	*i* P	**Pn**	**05 01 53.9**	**+0.6**
GCG4				IAML		05 02 14.2	
	comp=Z,4μm,1.0s						
POTN	**Potosi Cosigui**	**1.79**	**98**	*i* P	**Pn**	**05 01 53.4**	**0.0**
POTN				IAML		05 02 27.2	
	comp=Z,2μm,1.0s						
MRL	**Marmol**	**1.84**	**349**	*eP*	**Pn**	**05 01 56.6**	**+2.2**
GUMI	**Mixco**	**1.85**	**317**	*i* P	**Pn**	**05 01 55.6**	**+1.2**
GUMI				IAML		05 02 25.0	
	comp=Z,4μm,1.0s						
FUG	**Fuego 3**	**1.89**	**309**	*eP*	**Pn**	**05 01 56.5**	**+1.6**
APG	**El Apazote**	**2.05**	**327**	LR	LR	05 03 03.2	
	comp=Z,74nm,20.9s,baz=58,slow=42						
TGUH	**Tegucigalpa,Un**	**2.14**	**68**		**Pn**	**05 01 59.5**	**+1.2**
TGUH	**Tegucigalpa,Un**	**2.14**	**68**	P	**Pn**	**05 01 59.8**	**+1.5**
CHTG	**Tecpan**	**2.19**	**313**	*i* P	**Pn**	**05 02 00.8**	**+1.6**
C

CNGN Cerro Negro 2.67 106 *i* P **Pn 05 02 06.0 +0.6**
CNGN IAML 05 02 55.9
comp=Z,3μm,1.0s
MACN El Madrono 2.70 107 *i* P **Pn 05 02 06.0 +0.2**
MACN IAML 05 02 47.3
comp=Z,1μm,1.0s
MOMN Momotombo 2.84 107 *i* P **Pn 05 02 07.8 0.0**
MOMN IAML 05 02 50.6
comp=Z,79nm,1.0s
COPN Copaltepe 2.87 112 *i* P **Pn 05 02 07.7 -0.4**
COPN IAML 05 02 47.2
comp=Z,3μm,1.0s
MOM2 El Cardon 2.89 106 *i* P **Pn 05 02 09.0 +0.7**
MOM2 IAML 05 02 52.2
comp=Z,2μm,1.0s
HUEH Huehuetenango 2.94 314 Pn **Pn 05 02 10.4 +1.2**
RB28C Hialeah 3.18 111 *i* P **Pn 05 02 14.0 +1.7**
RB28C IAML 05 02 57.6
comp=Z,2μm,1.0s
TISN Laguna Tiscapa 3.18 110 *i* P **Pn 05 02 12.6 +0.3**
TISN IAML 05 03 01.6
comp=Z,130nm,1.0s
MATN Matagalpa 3.33 95 Pn 05 02 15.4 +1.0
BOAB BOACO BROADBAN 3.66 102 Pn **Pn 05 02 19.2 +0.4**
PETF Flores 3.67 352 Pn **Pn 05 02 21.3 +2.3**
CCIG Comitan 4.05 318 Pn 05 02 27.0 +2.6
HZTE Horizontes, Gu 4.44 124 Pn 05 02 30.9 +1.4
HZTE Horizontes, Gu 4.44 124 *eP* **Pn 05 02 31.1 +1.6**
ORTG Ortega, Santa 4.76 127 Pn 05 02 35.3 +1.4
ORTG Ortega, Santa 4.76 127 *eP* **Pn 05 02 35.1 +1.2**
VMAR Armenia, Volca 4.78 120 *eP* **Pn 05 02 36.4 +2.1**
DUNO Dulce Nombre, 4.91 130 Pn 05 02 37.5 +1.6
DUNO Dulce Nombre, 4.91 130 *eP* **Pn 05 02 37.2 +1.3**
ESPN Las Esperanzas 5.01 102 Pn 05 02 37.9 +0.5
INDI Punta indio, G 5.04 132 *eP* **Pn 05 02 39.0 +1.2**
INDI *eS* **Sn 05 03 30.8 -3.9**
JTS Las Juntas de 5.20 124 Pn **Pn 05 02 41.7 +1.8**
JTS Las Juntas de 5.20 124 P **Pn 05 02 41.1 +1.2**
comp=Z,39nm,0.5s,baz=300,slow=19,SNR=30
JTS S **Sn 05 03 35.9 -2.7**
comp=Z,43nm,0.6s,baz=292,slow=19,SNR=1.4
JTS Las Juntas de 5.20 124 *eP* **Pn 05 02 41.6 +1.6**
JTS Las Juntas de 5.20 124 P **Pn 05 02 41.1 +1.2**
comp=Z,194nm,0.7s,comp=Z,2μm
ARE1 Arenal 1 5.30 121 Pn 05 02 43.9 +2.6
SOCE Pocosol 5.42 121 Pn 05 02 44.7 +1.7
SOCE Pocosol 5.42 121 *eP* **Pn 05 02 45.4 +2.4**
COVE Coope Vega, Sa 5.44 117 Pn 05 02 43.9 +0.7
LAFE Finca La Fe, P 5.52 128 *eP* **Pn 05 02 45.8 +1.5**
CBL1 Cabuya 5.53 131 *eP* **Pn 05 02 45.5 +1.2**
SRA1 San Ramn 5.70 123 *eP* **Pn 05 02 50.0 +3.1**
JACO JACO, Garabito 5.81 128 Pn 05 02 49.9 +1.7
JACO JACO, Garabito 5.81 128 *eP* **Pn 05 02 50.3 +2.1**
HDC Heredia 6.05 122 Pn **Pn 05 02 52.2 +0.6**
HDC Heredia 6.05 122 *eP* **Pn 05 02 52.3 +0.7**
RITA Parrita 6.15 127 *eP* **Pn 05 02 56.1 +3.3**
ABE2 San Pablo 6.26 124 *eP* **Pn 05 02 57.4 +2.8**
LCR2 La Lucha 2 6.28 123 Pn 05 02 56.7 +1.8
LCR2 La Lucha 2 6.28 123 *eP* **Pn 05 02 57.2 +2.4**
VICA Volcano Irazu 6.28 121 *eP* **Pn 05 02 58.1 +3.0**
RAFA San Farael, Vo 6.32 121 *eP* **Pn 05 02 58.7 +3.2**
LLNJ Naranjito 6.36 126 *eP* **Pn 05 02 59.1 +3.3**
VERB Verbena 6.42 120 *eP* **Pn 05 03 00.4 +3.6**
CMIG Matias Romero 6.58 306 P **Pn 05 02 59.0 +0.2**
comp=Z,3.0nm,0.3s,baz=150,slow=9.0,SNR=28
CMIG S **Sn 05 04 12.8 +0.4**
comp=Z,93nm,0.8s,baz=251,slow=21,SNR=8.9
comp=Z,16nm,0.5s
PEZE Perez Zeledon, 6.75 124 Pn 05 03 03.7 +2.5
PEZE Perez Zeledon, 6.75 124 *eP* **Pn 05 03 04.4 +3.2**
TEIG Tepich 6.99 8 Pn **Pn 05 03 07.2 +2.8**
TEIG Tepich 6.99 8 LR LR 05 06 22.6
comp=Z,4μm,21.2s,baz=354,slow=42
TEIG Tepich 6.99 8 P Pn 05 03 08.3 +3.9
comp=Z,788nm,0.6s,comp=Z,10μm
DRK0 Durika 7.17 123 Pn 05 03 07.9 +0.9
EDPN Palmar Norte 7.17 126 *eP* **Pn 05 03 09.8 +3.0**
PRVC Isla de Provid 7.75 88 P **Pn 05 03 18.2 +3.4**
comp=Z,113nm,0.9s
CDITO Canoas 7.86 126 Pn 05 03 17.6 +1.3
BRU2 Volcan 7.88 124 Pn 05 03 18.1 +1.4
TLIG Tlapa 9.88 297 Pn 05 03 45.6 +1.5
SOR Soroa 11.21 31 Pn **Pn 05 04 05.0 +2.9**
JRQG Juriquilla Cam 12.95 306 Pn **Pn 05 04 25.9 -0.1**
PAYG Puerto Ayora 13.88 184 Pn 05 04 40.0 +1.8
PAYG Puerto Ayora 13.88 184 P **P 05 04 46.0 +1.7**
ZAIG Zacatecas 15.74 309 Pn 05 05 03.7 +1.3
BBAC Balboa, Cauca 16.36 132 P **P 05 05 15.4 +3.4**
comp=Z,71nm,1.0s,comp=Z,3μm
POPC Popayan, Colom 16.43 129 P **P 05 05 14.4 +1.6**
comp=Z,41nm,0.9s
DWPF Disney Wildern 16.50 25 P **P 05 05 12.6 -0.6**
baz=208
TULM Tulcn-Chalpat 16.91 137 Pn 05 05 18.1 +0.7
TULM IAmb IAmb 05 05 44.5
comp=Z,31nm,1.1s
PULU Pululahua 16.97 140 P **Pn 05 05 19.5 +1.4**
ROSC El Rosal 17.01 118 P **Pn 05 05 17.4 -1.1**
ROSC El Rosal 17.01 118 P **Pn 05 05 18.5 0.0**
comp=Z,2.3nm,0.5s,baz=307,slow=20,SNR=1.6
833A Chaparral WMA, 17.68 329 P **P 05 05 27.9 +1.7**
833A IAmb IAmb 05 05 50.2
comp=Z,31nm,1.2s
833A Chaparral WMA, 17.68 329 P **P 05 05 27.3 +1.0**
baz=146,SNR=6.8
441A DeRidder 17.76 349 P 05 05 29.7 +2.6
BRAL Brewton 17.94 6 P **Pn 05 05 30.3 +0.9**
baz=187
CHSH Refugio Sur-Vo 17.96 144 P **P 05 05 31.8 +1.7**
COHC Cochancay 18.55 147 P **P 05 05 35.3 -0.6**
352A Blakely 18.57 12 P **Pn 05 05 38.2 +1.2**
352A IAmb IAmb 05 05 42.2
comp=Z,35nm,0.8s
HNDO Hondo 18.63 332 P **Pn 05 05 37.6 -0.2**
HNDO IAmb IAmb 05 05 41.8
comp=Z,31nm,0.7s
TIGA Tifton 18.84 15 P **Pn 05 05 39.7 -0.6**
TIGA Tifton 18.84 15 P **Pn 05 05 40.3 0.0**
baz=197,SNR=8.9
SDV Santo Domingo 18.85 101 P **P 05 05 37.0 -2.4**
SDV Santo Domingo 18.85 101 P P 05 05 32.5 -6.9
comp=Z,0.5nm,0.3s,baz=337,slow=22,SNR=1.8
comp=Z,1.1nm,0.3s
MACC Macarena, Meta 18.88 125 P **Pn 05 05 42.3 +1.4**
VBMS Vicksburg 18.90 357 P **Pn 05 05 41.8 +0.9**
VBMS Vicksburg 18.90 357 P **Pn 05 05 41.1 +0.2**
baz=176,SNR=6.8
435B Jarrell 19.03 338 P **Pn 05 05 42.2 -0.3**
435B IAmb IAmb 05 05 55.1
comp=Z,24nm,0.9s
435B Jarrell 19.03 338 P **Pn 05 05 43.2 +0.7**
baz=155
NATX Nacogdoches 19.05 346 P **Pn 05 05 42.9 +0.1**
NATX Nacogdoches 19.05 346 P **Pn 05 05 42.3 -0.4**
baz=164,SNR=5.1
146A Union 19.28 1 IAmb IAmb 05 05 57.2
comp=Z,33nm,0.8s
143A Socs Landing, 19.44 355 IAmb IAmb 05 06 01.5
comp=Z,26nm,0.7s
237A Washetta, Mont 19.58 343 P **Pn 05 05 49.3 +0.4**
255A Hazlehurst 19.61 18 P **Pn 05 05 49.3 0.0**
255A IAmb IAmb 05 05 52.5
comp=Z,37nm,0.8s
JCT Junction City 19.68 332 P **Pn 05 05 49.5 -0.7**
JCT Junction City 19.68 332 P **Pn 05 05 49.7 -0.5**
baz=148,SNR=10.0
152A Waverly Hall 19.77 12 IAmb IAmb 05 06 13.7
comp=Z,16nm,0.7s
LRAL Lakeview Retre 19.79 6 P **Pn 05 05 51.1 -0.4**
LRAL Lakeview Retre 19.79 6 P **Pn 05 05 51.5 +0.1**
baz=187
BRDY Brady 20.03 335 P **Pn 05 05 53.2 -1.1**
BRDY IAmb IAmb 05 05 55.2
comp=Z,41nm,0.9s
WHTX Lake Whitney, 20.08 340 P **P 05 05 53.3 +0.8**
WHTX Lake Whitney, 20.08 340 P **Pn 05 05 53.5 -1.3**
baz=156,SNR=13
Y49A Blount Mountai 20.67 7 IAmb IAmb 05 06 03.0
comp=Z,18nm,0.7s
GOGA Godfrey 20.75 14 P Pn 05 06 00.8 -2.0
baz=196
TXAR Lajitas Array 20.80 322 P **P 05 06 01.9 +1.4**
comp=Z,3.9nm,0.6s,baz=137,slow=8.8,SNR=41
TXAR PcP **PcP 05 10 04.7 -2.4**
comp=Z,0.3nm,0.7s,baz=98,slow=6.4,SNR=1.7
TXAR ScP **ScP 05 13 39.6 +1.6**
comp=Z,0.3nm,0.8s,baz=152,slow=4.1,SNR=1.8
TXAR LR LR 05 14 34.0
comp=Z,58nm,19.1s,baz=103,slow=37
comp=Z,3.9nm,0.6s
FW07 Weatherford 20.84 340 IAmb IAmb 05 06 03.9
comp=Z,25nm,0.9s
FW06 Azle 21.01 340 IAmb IAmb 05 06 22.5
comp=Z,16nm,0.7s
OXF Oxford 21.15 360 P **P 05 06 05.7 +1.7**
OXF Oxford 21.15 360 P **P 05 06 04.9 +0.8**
baz=180
Z35A Perchaven, San 21.24 341 IAmb IAmb 05 06 45.5
comp=Z,19nm,0.8s
BAUV El Baul 21.32 99 P **P 05 06 04.8 -1.2**
NHSC New Hope 21.44 21 P **P 05 06 08.0 +0.9**
baz=205
FPAL Fort Paine 21.45 8 P **P 05 06 08.7 +1.5**
FPAL IAmb IAmb 05 06 13.6
comp=Z,20nm,1.1s
ABTX Abilene, Hawle 21.46 336 P **P 05 06 08.6 +1.2**
ABTX IAmb IAmb 05 06 23.0
comp=Z,16nm,0.9s
ABTX Abilene, Hawle 21.46 336 P **P 05 06 08.9 +1.6**
baz=152,SNR=5.7
MIAR Mount Ida 21.54 350 IAmb IAmb 05 06 17.5
comp=Z,17nm,1.0s
MIAR Mount Ida 21.54 350 P **P 05 06 09.8 +1.7**
baz=169
UALR University of 21.59 353 IAmb IAmb 05 06 28.9
comp=Z,21nm,1.0s
WHAR Wooly Hollow 22.09 354 IAmb IAmb 05 06 52.3
comp=Z,29nm,1.2s
SLBS Sierra La Lagu 22.11 301 P **P 05 06 17.1 +2.7**
W50A Signal Mountai 22.14 9 P **P 05 06 15.3 +0.6**
W50A IAmb IAmb 05 06 43.3
comp=Z,17nm,1.0s
APMT Aspermont 22.27 336 IAmb IAmb 05 06 42.1
comp=Z,11nm,0.8s
V48A Smith Brothers 22.49 5 IAmb IAmb 05 06 23.4
comp=Z,14nm,0.9s
LPIG La Paz 22.58 302 LR LR 05 14 31.0
comp=Z,130nm,19.4s,baz=111,slow=34
POST Post 22.63 333 IAmb IAmb 05 06 24.2
comp=Z,30nm,0.9s
LCAR Lake Charles 22.77 356 IAmb IAmb 05 06 59.6
comp=Z,28nm,1.4s
WVT Waverly 22.81 3 P **P 05 06 22.3 +0.6**
WVT Waverly 22.81 3 P **P 05 06 23.4 +1.8**
baz=184
TKL Tuckaleechee C 22.85 12 P **P 05 06 22.4 +0.2**
TKL IAmb IAmb 05 06 57.3
comp=Z,18nm,1.1s
TKL Tuckaleechee C 22.85 12 P **P 05 06 20.5 -1.6**
comp=Z,4.9nm,0.8s,baz=191,slow=17,SNR=2.6
TKL LR LR 05 15 37.7
comp=Z,250nm,20.7s,baz=178,slow=37
comp=Z,4.9nm,0.8s
CLTN Cedars of Leba 22.89 6 P **P 05 06 23.7 +1.2**
DKNS Dickens 22.89 334 IAmb IAmb 05 06 26.7
comp=Z,17nm,0.9s
KMSC Kings Mountain 22.95 17 P **P 05 06 24.1 +0.9**
KMSC IAmb IAmb 05 06 55.0
comp=Z,23nm,1.1s
KMSC Kings Mountain 22.95 17 P **P 05 06 24.3 +1.2**
baz=200
ATAH Atahualpa 22.99 151 LR LR 05 12 52.6
comp=Z,85nm,18.6s,baz=327,slow=31
WMOK Wichita Mounta 23.03 340 P **P 05 06 23.2 -0.8**
WMOK IAmb IAmb 05 06 38.6
comp=Z,17nm,1.1s
WMOK Wichita Mounta 23.03 340 P **P 05 06 24.8 +0.8**
baz=156,SNR=7.0
V53A Saluda 23.07 14 P **P 05 06 25.6 +1.2**
V53A IAmb IAmb 05 06 37.1
comp=Z,19nm,1.1s
TUL3 Leonard 23.29 347 P **P 05 06 28.0 +1.6**
baz=164
PBMO Poplar Bluff 23.44 358 P **P 05 06 28.8 +1.0**
PBMO IAmb IAmb 05 06 31.4
comp=Z,25nm,0.9s
MNTX Cornudas Mount 23.54 324 P **P 05 06 30.2 +1.4**
baz=138,SNR=5.8
OK052 Battle Ridge R 23.61 345 P **P 05 06 29.7 +0.3**
OK052 IAmb IAmb 05 06 32.3
comp=Z,17nm,0.9s
SMWD Samnorwood 23.88 337 P **P 05 06 32.9 +1.0**
MSTX Muleshoe 23.96 332 IAmb IAmb 05 06 36.6
comp=Z,12nm,0.8s
MSTX Muleshoe 23.96 332 P **P 05 06 33.8 +1.1**
baz=146
S39A Bolivar 24.59 352 IAmb IAmb 05 06 41.7
comp=Z,12nm,0.7s
CCM Cathedral Cave 24.75 356 P **P 05 06 40.5 +0.9**
CCM IAmb IAmb 05 06 57.9
comp=Z,16nm,0.9s
CCM Cathedral Cave 24.75 356 P **P 05 06 40.6 +0.9**
baz=176
WCI Wyandotte Cave 25.01 6 P **P 05 06 42.4 +0.3**
WCI IAmb IAmb 05 06 59.0
comp=Z,18nm,0.9s
WCI Wyandotte Cave 25.01 6 P **P 05 06 43.5 +1.5**
baz=187
121A Cookes Peak, D 25.56 322 P **P 05 06 48.3 +1.0**
baz=134
Y22D IRIS PASSCAL I 26.17 325 P **P 05 06 52.8 0.0**
baz=138
Y22F Passcal Instru 26.17 325 P **P 05 06 52.5 -0.2**
baz=138
P40A Paris 26.27 355 IAmb IAmb 05 07 12.0
comp=Z,9.1nm,0.8s
P38A Dawn 26.52 353 IAmb IAmb 05 07 13.4
comp=Z,17nm,1.3s
ANMO Albuquerque 26.57 327 P **P 05 06 57.9 +1.4**
baz=140
ANMO Albuquerque 26.57 327 LR LR 05 19 16.5
comp=Z,89nm,19.5s,baz=189,slow=40
P52A Corning 27.02 12 P **P 05 07 01.4 +1.2**
baz=195
CBKS Cedar Bluff 27.07 342 P **P 05 07 02.5 +1.8**
baz=157
SFIN Lafayette 27.08 4 P **P 05 07 01.7 +1.0**
baz=185
O48B Parkland 27.14 7 P **P 05 07 02.2 +0.9**
baz=189
TUC Tucson 27.30 318 P **P 05 07 04.4 +1.5**
baz=129
T25A Trinidad 27.34 333 P **P 05 07 05.2 +1.9**
baz=147
ACSO Alum Creek Sta 27.43 11 P **P 05 07 06.1 +2.2**
baz=193
MCWV Mont Chateau 27.59 16 P **P 05 07 07.5 +2.2**
baz=200
O53A New Philadelph 27.81 13 P **P 05 07 09.0 +1.8**
baz=197
NNA Nana 27.98 153 LR LR 05 16 31.4
comp=Z,86nm,18.0s,baz=336,slow=33
KSCO Kaye Shedlock' 28.22 338 P **P 05 07 13.2 +2.2**
baz=152
SDCO Great Sand Dun 28.33 332 P **P 05 07 14.3 +2.0**
baz=145
214A Organ Pipe Nat 28.46 315 P **P 05 07 15.2 +2.0**
baz=126
L44A Lake County Fo 28.83 2 P **P 05 07 17.7 +1.4**
baz=183
SSPA Standing Stone 29.05 18 P **P 05 07 19.7 +1.4**
baz=203
M53A WI Miller and 29.07 13 P **P 05 07 20.1 +1.7**
baz=197
Q24A Divide 29.18 334 P **P 05 07 21.1 +1.2**
baz=147
AAM An Arbor 29.35 9 P **P 05 07 21.7 +0.9**
baz=191
MVCO Mesa Verde 29.37 328 P **P 05 07 22.9 +1.5**
baz=139
JFWS Jewell Farm 29.55 359 P **P 05 07 24.4 +1.7**
baz=178
ERPA Erie 29.87 14 P **P 05 07 27.5 +2.0**
baz=198
ISCO Idaho Springs 30.08 334 P **P 05 07 28.8 +1.0**
baz=147
BOAV Boa Vista 30.46 108 P **P 05 07 29.2 -1.9**
BOAV Boa Vista 30.46 108 *eP* P 05 07 25.4 -5.7
I42A Draeger Farm, 30.52 1 IAmb IAmb 05 07 37.0
comp=Z,20nm,1.2s
PDMCI Parker Dam,Lak 30.74 317 P **P 05 07 34.8 +1.4**
baz=127
PAL Palisades 30.75 23 P **P 05 07 34.3 +1.1**
baz=210
BINY Binghamton 31.07 19 P **P 05 07 37.0 +0.9**
baz=206
N23A Red Feather La 31.13 335 P **P 05 07 38.3 +1.3**
baz=147
IKP In-Ko-Pah, Jac 31.17 313 P **P 05 07 38.5 +1.4**
baz=122
BC3 Big Chuckawall 31.25 315 P **P 05 07 39.1 +1.1**
baz=124
IRM Iron Mountain 31.33 316 P **P 05 07 40.0 +1.4**
baz=125
O20A White River Ci 31.51 332 IAmb IAmb 05 07 45.0
comp=Z,14nm,1.1s
O20A White River Ci 31.51 332 P **P 05 07 42.3 +2.0**
baz=143,SNR=5.4
GLMI Grayling 31.71 6 P **P 05 07 43.7 +2.0**
baz=189
P17A Butcher Ranch, 32.23 328 IAmb IAmb 05 07 50.6
comp=Z,7.0nm,1.0s
RWWY Rawlins 32.32 335 IAmb IAmb 05 07 50.7
comp=Z,9.6nm,0.8s
ETMB Extrema 32.44 134 P **P 05 07 49.5 +1.0**
ETMB Extrema 32.44 134 *eP* **P 05 07 49.4 +1.0**
MURC Murrieta 32.44 313 P **P 05 07 49.4 +1.0**
baz=122
HEC Hector Ludlow 32.52 316 P **P 05 07 49.8 +0.8**
baz=125
M65A Busby, Falmout 32.55 27 P **P 05 07 49.8 +0.8**
baz=215
SADO Sadowa 32.58 14 P **P 05 07 46.3 -3.0**
comp=Z,5.3nm,0.9s,baz=213,slow=7.3,SNR=5.8
SADO LR LR 05 21 16.0
comp=Z,278nm,18.3s,baz=199,slow=37
comp=Z,5.3nm,0.9s
BBRC Big Bear Solar 32.60 315 P **P 05 07 50.7 +0.7**
baz=123
K22A Casper 32.85 336 P **P 05 07 53.1 +1.2**
baz=148
GSC Goldstone, Bar 33.10 316 P **P 05 07 55.6 +1.5**
baz=125
BFSC Mount Baldy Ra 33.10 314 P **P 05 07 55.3 +1.0**
baz=122
CIS Catalina Islan 33.21 312 P **P 05 07 56.5 +1.5**
baz=120
RSSD Black Hills 33.24 341 P **P 05 07 57.0 +1.7**
JIR01 Jirau 33.26 132 *eP* **P 05 07 55.0 -0.6**
E46A Sault Ste Mari 33.27 6 P **P 05 07 54.6 -0.7**
E46A IAmb IAmb 05 08 12.8
comp=Z,13nm,1.4s
E38A The Farm, Brul 33.29 357 P **P 05 07 54.8 -0.7**
E38A IAmb IAmb 05 08 26.9
comp=Z,12nm,1.0s
EDW2 Edwards Air Fo 33.68 315 P **P 05 08 00.5 +1.3**
baz=123
D41A Chassel 33.70 1 P **P 05 07 58.9 -0.1**
D41A IAmb IAmb 05 08 00.5
comp=Z,7.9nm,0.7s
LRMC Laurel Mtn Rad 33.80 316 P **P 05 08 01.2 +0.9**
baz=124
FURC Furnace Creek, 33.81 318 P **P 05 08 00.8 +0.6**
baz=126
SNCC San Nicolas Is 33.95 311 P **P 05 08 02.3 +0.9**
baz=119
MPMC Manual Prospec 33.99 317 P **P 05 08 02.5 +0.5**
baz=125
OSI Osito Audit: C 34.05 314 P **P 05 08 03.3 +1.0**
baz=122
SAML Samuel 34.07 129 P **P 05 08 03.0 +0.3**
SAML IAmb IAmb 05 08 19.5
comp=Z,8.2nm,0.8s
SAML Samuel 34.07 129 *eP* **P 05 08 02.4 -0.3**
PD31 Pinedale Array 34.21 333 P **P 05 08 04.6 +0.8**
PDAR Pinedale Array 34.21 333 P **P 05 08 04.6 +0.8**
PDAR Pinedale Array 34.21 333 P **P 05 08 04.0 +0.1**
comp=Z,0.9nm,0.6s,baz=132,slow=11,SNR=12
PDAR PcP **PcP 05 10 37.2 -2.0**
comp=Z,0.8nm,0.7s,baz=134,slow=5.7,SNR=5.6
PDAR ScP **ScP 05 14 18.4 0.0**
comp=Z,0.8nm,0.9s,baz=122,slow=6.7,SNR=5.1
PDAR LR LR 05 23 36.6
comp=Z,88nm,18.2s,baz=98,slow=39
comp=Z,0.9nm,0.6s
BW06 Boulder Array 34.21 333 P **P 05 08 05.4 +1.6**
baz=143
HWUT Hardware Ranch 34.24 330 P **P 05 08 05.2 +1.1**
ISA Isabella, Lake 34.44 315 P **P 05 08 07.2 +1.6**
baz=123
GRAC Grapevine Rang 34.45 318 P **P 05 08 08.3 +2.5**
baz=126
EYMN Ely 34.62 357 P **P 05 08 05.9 -1.1**
EYMN IAmb IAmb 05 08 08.1
comp=Z,6.6nm,0.7s
EYMN Ely 34.62 357 P **P 05 08 09.3 +2.2**
baz=176
SBC Santa Barbara 34.66 313 P **P 05 08 09.1 +1.5**
baz=120
AHID Auburn Hatcher 34.91 331 IAmb IAmb 05 08 14.0
comp=Z,7.0nm,0.8s
VES Vestal, Richgr 34.95 315 P **P 05 08 12.2 +2.2**
baz=122
HVU Hansel Valley 34.97 329 IAmb IAmb 05 08 17.4
comp=Z,4.0nm,0.8s
LOHW Long Hollow 35.34 333 IAmb IAmb 05 08 17.7
comp=Z,6.7nm,0.9s
AGMN Agassiz Nation 35.35 352 IAmb IAmb 05 08 14.8
comp=Z,6.8nm,0.7s
AGMN Agassiz Nation 35.35 352 P **P 05 08 16.3 +3.0**
baz=169
TPAW Teton Pass 35.40 332 IAmb IAmb 05 08 20.8
comp=Z,7.0nm,1.0s
MDND Maddock 35.53 348 P **P 05 08 15.8 +0.9**
baz=163,SNR=8.7
ELK Elko 35.55 325 LR LR 05 25 28.1
comp=Z,69nm,21.2s,baz=116,slow=40
FLWY Flagg Ranch 35.76 333 IAmb IAmb 05 08 22.2
comp=Z,3.5nm,0.6s
MLAC Mammoth, Mammo 35.77 318 P **P 05 08 17.8 +0.4**
baz=125
NV11 Mina Array Sit 35.80 320 P **P 05 08 18.6 +1.0**
NVAR Mina Array Bea 35.90 320 P **P 05 08 17.7 -0.7**
NVAR Mina Array Bea 35.90 320 P **P 05 08 19.7 +1.3**
comp=Z,0.9nm,0.5s,baz=132,slow=8.5,SNR=15
NVAR PcP **PcP 05 10 43.2 -1.1**
comp=Z,2.5nm,0.8s,baz=142,slow=3.8,SNR=12
NVAR ScP **ScP 05 14 25.1 +0.6**
comp=Z,1.5nm,0.8s,baz=133,slow=4.8,SNR=12
comp=Z,0.9nm,0.5s
H17A Grant Village 35.95 334 P **P 05 08 20.3 +1.4**
baz=143
RLMT Red Lodge 36.00 336 IAmb IAmb 05 08 22.5
comp=Z,7.7nm,1.1s
RLMT Red Lodge 36.00 336 P **P 05 08 19.9 +0.7**
baz=146,SNR=6.6
YMP Mirror Lake Pl 36.05 334 IAmb IAmb 05 08 35.9
comp=Z,7.9nm,0.7s
YFT Old Faithful 36.11 334 IAmb IAmb 05 08 26.0
comp=Z,6.6nm,1.1s
LAO LASA Array 36.23 340 IAmb IAmb 05 08 26.6
comp=Z,7.9nm,0.8s
LAO LASA Array 36.23 340 P **P 05 08 22.5 +1.6**
baz=151
YHL Hebgen Lake 36.58 334 P **P 05 08 26.3 +2.1**
YHL IAmb IAmb 05 08 29.3
comp=Z,3.6nm,0.7s
PB16 IPOC Station P 36.98 148 P **P 05 08 30.0 +1.8**
PB16 IAmb IAmb 05 08 31.6
comp=Z,5.2nm,0.9s
MDP Montagnes des 37.07 99 LR LR 05 24 51.0
comp=Z,114nm,18.1s,baz=258,slow=38
HLID Hailey 37.10 329 P **P 05 08 28.9 +0.3**
HLID Hailey 37.10 329 P **P 05 08 29.8 +1.3**
baz=137
DGMT Dagmar 37.21 344 P **P 05 08 29.9 +0.7**
DGMT Dagmar 37.21 344 P **P 05 08 28.9 -0.3**
baz=156,SNR=17
ULM Lac du Bonnet 37.27 353 IAmb IAmb 05 08 31.2
comp=Z,5.4nm,0.5s
ULM Lac du Bonnet 37.27 353 P **P 05 08 28.3 -1.3**
comp=Z,3.9nm,0.4s,baz=166,slow=9.5,SNR=14
ULM ScP **ScP 05 14 28.3 -0.8**
comp=Z,1.3nm,0.5s,baz=201,slow=4.7,SNR=5.4
ULM LR LR 05 25 11.0
comp=Z,140nm,20.3s,baz=131,slow=38
comp=Z,3.9nm,0.4s
BOZ Bozeman (W) 37.36 334 P **P 05 08 32.0 +1.3**
BOZ Bozeman (W) 37.36 334 P **P 05 08 32.0 +1.3**
baz=142

EGMT **Eagleton** 38.60 338 P P 05 08 42.3 +1.3
EGMT **Eagleton** 38.60 338 P P 05 08 41.2 +0.2
baz=147,SNR=6.3
VILB **Vilhena** 38.88 131 eP P 05 08 44.5 +0.9
F10A **Beach Ranch, E** 40.23 330 P P 05 08 55.5 +0.9
F10A IAmb IAmb 05 08 59.0
comp=Z,7.0nm,1.1s
SIV **San Ignacio** 40.31 135 LR LR 05 24 45.0
comp=Z,108nm,18.8s,baz=296,slow=35
YBH **Yreka Blue Hor** 40.56 321 LR LR 05 27 57.3
comp=Z,92nm,18.7s,baz=138,slow=39
PDRB **Porto dos Gac** 40.70 126 eP P 05 08 57.6 -1.1
LVC **Limon Verde** 40.88 151 LR LR 05 24 34.6
comp=Z,82nm,20.5s,baz=306,slow=34
BBSD **Serra de San D** 41.47 136 eP P 05 09 06.1 +1.1
C09A **Chrisman Ranch** 42.03 331 IAmb IAmb 05 09 14.3
comp=Z,3.7nm,0.5s
EDM **Edmonton** 44.20 339 P P 05 09 26.6 -0.1
RPN **Rapa Nui** 44.60 206 LR LR 05 23 05.8
comp=Z,113nm,21.7s,baz=40,slow=29
SCHQ **Schefferville** 45.05 18 P P 05 09 32.0 -1.4
SCHQ IAmb IAmb 05 09 33.8
comp=Z,14nm,1.1s
SCHQ **Schefferville** 45.05 18 P P 05 09 31.6 -1.9
comp=Z,7.9nm,0.9s,baz=222,slow=6.8,SNR=18
comp=Z,7.9nm,0.9s
FCC **Fort Churchill** 45.55 357 P P 05 09 36.6 -0.6
BDQN **Bodoquena, MS** 46.35 136 eP P 05 09 43.9 -0.1
MURT **Porto Murtinho** 46.62 138 eP P 05 09 46.6 +0.4
RVDE **Rio Verde (Bra** 46.66 133 eP P 05 09 47.0 +0.4
ARAG **Araguaiana, MT** 46.96 127 eP P 05 09 47.8 -1.1
AQDB **Aquidauana** 47.09 135 P P 05 09 50.8 +1.0
AQDB **Aquidauana** 47.09 135 eP P 05 09 50.6 +0.7
DVLD **Doverlandia** 47.23 128 eP P 05 09 50.6 -0.4
H03N2 **Juan Fernandez** 47.49 168 T T 06 00 22.7
baz=347,slow=76,SNR=4.1
H03N1 **Juan Fernandez** 47.49 168 T T 06 00 25.3
baz=347,slow=76,SNR=6.6
H03N3 **Juan Fernandez** 47.51 168 T T 06 00 26.3
baz=347,slow=76,SNR=6.3
ANTJ **Antonio Joao (** 47.92 137 eP P 05 09 56.6 +0.3
MT09 **Talagante** 49.94 160 P P 05 10 12.4 +0.8
MT09 IAmb IAmb 05 10 31.5
comp=Z,7.5nm,0.8s
BDFB **Brasilia** 49.94 124 P P 05 10 10.4 -1.6
comp=Z,3.1nm,1.0s,baz=288,slow=4.1,SNR=3.8
CPUP **Villa Florida** 50.17 142 P P 05 10 07.5 -6.0
comp=Z,0.7nm,0.5s,baz=359,slow=8.0,SNR=2.0
comp=Z,0.7nm,0.5s
CPUP **Villa Florida** 50.17 142 eP P 05 10 16.1 +2.7
ITRB **Iturama** 50.44 130 eP P 05 10 15.1 -0.5
SDBA **SAO DESIDERIO** 50.90 118 eP P 05 10 14.6 -4.5
PCMB **Pacaembu** 50.96 132 eP P 05 10 19.1 -0.3
IPMB **Ipameri, GO** 51.08 126 eP P 05 10 19.3 -1.2
MECA **Mercedes** 51.91 145 eP P 05 10 28.8 +2.4
YKA **Yellowknife Ar** 52.36 345 P P 05 10 28.4 -0.9
comp=Z,9.5nm,0.9s,baz=144,slow=7.5,SNR=63
comp=Z,9.5nm,0.9s
FRB **Frobisher Bay** 52.48 11 LR LR 05 32 34.8
comp=Z,166nm,19.9s,baz=241,slow=36
JANB **Januaria** 52.69 121 eP P 05 10 30.9 -1.6
ITQB **Itaqui** 53.07 144 P P 05 10 35.0 0.0
DLBC **Dease Lake** 54.40 335 IAmb IAmb 05 10 45.9
comp=Z,6.5nm,1.2s
DLBC **Dease Lake** 54.40 335 P P 05 10 45.0 +0.6
baz=129
WTLY **Watson Lake, Y** 54.99 337 P P 05 10 49.8 +1.2
baz=131
WRGLY **Wrigley** 55.37 342 P P 05 10 53.1 +1.9
baz=138
R33M **Jennings River** 55.38 336 P P 05 10 52.0 +0.4
baz=128
TGTN **Hyland Airport** 55.74 339 P P 05 10 54.2 +0.2
baz=132
S32K **Killisnoo** 55.79 332 P P 05 10 54.9 +0.6
baz=123
SIT **Sitka** 55.91 332 P P 05 10 56.2 +1.1
baz=122
PLCA **Paso Flores** 56.47 163 P P 05 10 52.6 -6.8
PLCA LR LR 05 30 08.6
comp=Z,1.4nm,0.7s,baz=353,slow=13,SNR=3.2
comp=Z,60nm,19.8s,baz=341,slow=31
comp=Z,1.4nm,0.7s
P32M **Atlin** 56.62 335 P P 05 11 01.6 +1.3
baz=125
P33M **Teslin, Yukon** 56.62 336 P P 05 11 01.5 +1.2
baz=127
S31K **Pelican** 56.81 332 P P 05 11 02.0 +0.4
baz=122
SKAG **Skagway** 57.22 334 P P 05 11 04.1 -0.3
baz=124
N32M **Quiet Lake** 57.29 337 P P 05 11 04.9 -0.1
baz=127
PLBC **Pleasant Camp** 57.66 334 P P 05 11 08.4 +0.8
baz=122
WHY **Whitehorse** 57.71 335 P P 05 11 07.6 -0.5
baz=125
FARO **Faro, Yukon** 58.04 337 P P 05 11 10.9 +0.7
baz=127
RIB01 **Linhares ES** 58.05 123 eP P 05 11 09.7 -1.3
O30N **Mendenhall** 58.27 335 P P 05 11 12.5 +0.6
baz=124
P30M **Million Dollar** 58.27 334 P P 05 11 13.0 +1.0
baz=122
CAM01 **Campos-RJ** 58.33 126 eP P 05 11 11.5 -1.4
P29M **Windy Craggy** 58.35 333 P P 05 11 14.1 +1.6
baz=121
M31M **Drury Creek, Y** 58.41 337 P P 05 11 14.6 +1.7
baz=126
HYT **Haines Junctio** 58.88 335 P P 05 11 17.1 +0.9
baz=122
N30M **Aishikik Lake** 59.05 336 P P 05 11 18.2 +0.8
baz=123
O29M **Mount Kennedy** 59.06 334 P P 05 11 18.1 +0.6
baz=121
SFJD **Kangerlussuaq** 59.45 17 LR LR 05 37 49.2
comp=Z,52nm,18.3s,baz=200,slow=37
M30M **Minto, Yukon** 59.55 337 P P 05 11 21.5 +0.7
baz=124
YUK4 **Talbot Arm** 59.62 335 P P 05 11 22.1 +0.7
baz=121
PINM **Pinnacle** 59.68 333 P P 05 11 22.6 +0.9
baz=119
YUK8 **Steele Glacier** 60.06 335 P P 05 11 25.4 +0.9
baz=120
M29M **Somme Creek** 60.13 336 P P 05 11 24.6 -0.2
M29M IAmb IAmb 05 11 26.9
comp=Z,3.3nm,0.8s
M29M **Somme Creek** 60.13 336 P P 05 11 25.5 +0.7
baz=122
L29M **L29M** 60.35 337 P P 05 11 27.2 +1.0
baz=122
J30M **Hart River** 60.51 339 P P 05 11 28.5 +1.1
baz=125
K29M **Barlow Dome** 60.53 338 P P 05 11 28.4 +0.9
baz=124
CTG **Chitna Glacier** 60.57 334 P P 05 11 27.8 -0.1
baz=118
YUK3 **Moose Creek** 60.59 335 P P 05 11 27.9 -0.2
baz=120
I30M **Mount Dempster** 60.90 339 P P 05 11 30.2 +0.1
baz=125
BGLC **Bering Glacier** 61.04 332 P P 05 11 31.8 +1.0
baz=116
BVCY **Beaver Creek** 61.07 335 P P 05 11 30.6 -0.5
baz=119
CRQE **Cirque** 61.23 333 P P 05 11 32.0 -0.3
baz=116
G31M **Satah River** 61.24 341 IAmb IAmb 05 11 34.3
comp=Z,4.4nm,0.8s
G31M **Satah River** 61.24 341 P P 05 11 32.2 +0.1
baz=128
F31M **Tsiigehtchic** 61.40 342 P P 05 11 33.3 +0.1
baz=129
RES **Resolute Bay** 61.49 358 P P 05 11 32.6 -1.1
RES IAmb IAmb 05 11 36.0
comp=Z,9.8nm,1.5s
EPYK **Eagle Plains** 61.68 340 P P 05 11 35.3 +0.1
baz=126
L27K **Beaver Creek,** 61.78 336 P P 05 11 36.6 +0.7
baz=119
G30M **tAoh Zraii Nji** 61.88 341 P P 05 11 37.3 +0.7
baz=126
INK **Inuvik** 61.89 343 P P 05 11 36.6 +0.2
baz=130
INK **Inuvik** 61.89 343 LR LR 05 41 18.3
comp=Z,107nm,19.4s,baz=6.0,slow=39

F30M **Barrier River** 62.13 342 P P 05 11 38.7 +0.6
baz=127
H29M **Whitestone** 62.15 340 P P 05 11 38.9 +0.7
baz=124
I28M **Miner Creek** 62.27 339 P P 05 11 40.0 +0.7
baz=122
K27K **Chicken** 62.34 337 P P 05 11 40.2 +0.6
baz=119
EGAK **Eagle** 62.37 338 P P 05 11 40.0 +0.3
baz=120
A36M **Sachs Harbour** 62.48 348 P P 05 11 40.8 +0.4
baz=140
P23K **Montague Islan** 62.88 331 P P 05 11 43.5 +0.3
baz=112
I27K **Kandik River** 62.95 338 P P 05 11 44.6 +0.9
baz=120
SCRK **Sand Creek** 63.06 336 P P 05 11 45.0 +0.4
baz=117
J26L **Joseph Creek** 63.14 337 P P 05 11 44.9 -0.1
baz=118
E29M **Blow River** 63.23 342 P P 05 11 45.7 +0.3
baz=125
H27K **Steamboat Moun** 63.24 339 P P 05 11 46.0 +0.4
baz=120
RIDG **Independent Ri** 63.30 336 P P 05 11 46.4 +0.4
baz=116
F28M **Old Crow** 63.41 341 IAmb IAmb 05 11 49.3
comp=Z,8.2nm,0.9s
F28M **Old Crow** 63.41 341 P P 05 11 47.4 +0.8
baz=123
SEW **Seward** 63.88 331 P P 05 11 50.4 +0.7
baz=110
J25K **Salcha River,** 63.89 337 P P 05 11 49.3 -0.6
baz=116
D28M **Stokes Point** 64.02 343 P P 05 11 50.9 +0.3
baz=125
O22K **Cooper Landing** 64.14 331 P P 05 11 51.6 +0.2
baz=110
PRP **Porcupine Dome** 64.34 337 P P 05 11 53.5 +0.6
baz=116
BRSE **Bradley Lake S** 64.37 330 P P 05 11 53.5 +0.4
baz=108
G26K **Porcupine Rive** 64.38 339 P P 05 11 53.6 +0.6
baz=118
HDA **Hardinz Lake** 64.42 336 P P 05 11 54.2 +0.9
baz=114
WAT1 **Susitna Watana** 64.45 334 P P 05 11 54.3 +0.7
baz=112
ILAR **Eielson Array** 64.54 336 P P 05 11 52.7 -1.4
comp=Z,2.2nm,1.0s,baz=113,slow=4.4,SNR=16
comp=Z,2.2nm,1.0s
KDAK **Kodiak Island** 64.71 328 P P 05 11 54.9 -0.4
baz=106
M22K **Wilow** 64.75 333 P P 05 11 55.2 -0.2
baz=110
F26K **Sheenjek River** 64.86 340 P P 05 11 56.3 +0.2
baz=118
POKR **Poker Plat Res** 64.90 337 P P 05 11 57.9 +1.5
baz=114
OHAK **Old Harbor** 64.93 327 P P 05 11 58.1 +1.4
baz=105
SUA **Susitna One** 64.94 332 P P 05 11 57.7 +0.8
baz=109
G25K **Bearman Lake** 65.11 339 P P 05 11 58.7 +1.0
baz=116
F25K **Christian Rive** 65.32 339 P P 05 12 00.0 +0.9
baz=117
H24K **Noodor Dome** 65.36 337 P P 05 12 00.6 +1.1
baz=114
O20K **Slope Mountain** 65.38 330 P P 05 12 00.3 +0.6
baz=107
TRF **Thorofare Moun** 65.42 334 P P 05 12 00.4 +0.4
baz=111
SKT **Skwentna** 65.46 333 P P 05 12 01.1 +0.9
baz=109
N20K **Mount Spurr** 65.52 332 P P 05 12 01.1 +0.5
baz=108
E25K **Arctic Village** 65.53 340 P P 05 12 01.7 +1.2
baz=117
G24K **Hadweenzic Riv** 65.57 338 P P 05 12 01.9 +1.2
baz=115
I23K **Mio, Yukon-K** 65.66 336 P P 05 12 02.4 +1.1
baz=112
BPAW **Bear Paw Mtn.** 65.93 335 P P 05 12 03.6 +0.5
baz=110
PPLA **Purkeypile** 66.04 334 P P 05 12 04.8 +0.8
baz=108
F24K **Squaw Lake** 66.06 339 P P 05 12 04.6 +0.7
baz=115
M20K **Styx River** 66.15 332 P P 05 12 05.0 +0.3
baz=107
MLY **Manley** 66.16 336 P P 05 12 04.8 +0.2
baz=111
CAST **Castle Rocks** 66.17 334 P P 05 12 05.5 +0.8
baz=109
C26K **Camden Bay** 66.17 342 P P 05 12 05.5 +1.0
baz=119
O19K **Port Alsworth** 66.23 330 P P 05 12 05.6 +0.6
baz=105
D25K **Kavik River** 66.34 341 P P 05 12 06.1 +0.4
baz=117
CHUM **Lake Minchumin** 66.41 335 P P 05 12 06.2 +0.1
baz=109
P18K **Big Mountain,** 66.47 329 P P 05 12 06.5 -0.2
baz=104
N19K **Bonanza Creek** 66.47 331 P P 05 12 06.2 -0.6
baz=106
G23K **Bananza Creek** 66.51 338 P P 05 12 07.3 +0.5
baz=112
O18K **Koktuh Hills** 66.57 330 P P 05 12 07.4 +0.1
baz=104
L20K **Farewell, AK** 66.66 333 P P 05 12 07.1 -0.7
baz=107
I21K **Tanana** 66.71 336 P P 05 12 07.3 -0.7
baz=110
H22K **Ishtalitna Cre** 66.72 337 P P 05 12 08.2 +0.1
baz=110
COLD **Coldfoot** 66.77 338 P P 05 12 08.2 -0.2
baz=112
E23K **Chandalar** 66.88 339 P P 05 12 08.4 -0.8
baz=113
PPT **Papeete** 66.89 244 P P 05 12 10.1 +0.1
comp=Z,27nm,1.0s,baz=131,slow=9.3,SNR=1.4
PPT LR LR 05 33 03.3
comp=Z,98nm,19.1s,baz=74,slow=28
K20K **Telida** 67.00 334 P P 05 12 08.9 -1.0
baz=107
P17K **Kvichak River** 67.02 329 P P 05 12 09.8 -0.3
baz=103
D24K **Happy Valley** 67.06 340 P P 05 12 09.3 -0.9
baz=114
N18K **Kilae Creek** 67.11 331 P P 05 12 09.8 -0.8
baz=104
H21K **Melozitna Rive** 67.19 336 P P 05 12 10.6 -0.5
baz=109
C24K **Franklin Bluff** 67.26 341 P P 05 12 10.8 -0.6
baz=115
J20K **Nowinta River** 67.27 335 P P 05 12 11.1 -0.5
baz=107
M18K **Stony River** 67.28 332 P P 05 12 11.7 0.0
baz=104
O17K **Koliganek Bris** 67.48 330 P P 05 12 12.6 -0.4
baz=103
I20K **Naaghedeneel** 67.59 335 P P 05 12 13.4 -0.2
baz=107
D23K **Nanushuk River** 67.60 340 P P 05 12 13.5 -0.1
baz=112
N17K **Nushagak Hills** 67.69 330 P P 05 12 13.9 -0.4
baz=103
G21K **Allakaket** 67.74 337 P P 05 12 13.9 -0.6
baz=109
J19K **Poorman** 67.84 334 P P 05 12 14.2 -1.0
baz=106
L18K **Granite Mounta** 67.85 332 P P 05 12 15.0 -0.3
baz=104
C23K **Itkillik River** 67.91 341 IAmb IAmb 05 12 18.6
comp=Z,5.5nm,1.0s
C23K **Itkillik River** 67.91 341 P P 05 12 15.4 -0.2
baz=113
O16K **Kokwok River B** 67.94 329 P P 05 12 15.7 -0.2
baz=102
H20K **Anotleneega Mo** 67.96 336 P P 05 12 15.9 0.0
baz=107
F21K **Alatna River** 67.96 338 P P 05 12 16.4 +0.4
F21K IAmb IAmb 05 12 19.1
comp=Z,3.8nm,0.7s
F21K **Alatna River** 67.96 338 P P 05 12 15.3 -0.6
baz=109

S14K **Fog Glacier** 68.11 326 P P 05 12 16.1 -1.0
baz=99
J18K **Innoko River** 68.17 333 P P 05 12 16.9 -0.4
baz=104
D22K **Ayikyak River** 68.24 340 P P 05 12 17.5 -0.1
baz=110
N16K **Nishlik Lake** 68.45 330 P P 05 12 19.3 +0.2
baz=101
SDPT **Sand Point** 68.48 324 P P 05 12 18.9 -0.4
baz=98
E21K **Killik River** 68.53 339 P P 05 12 19.0 -0.6
baz=109
GCSA **Galena City Sc** 68.57 335 P P 05 12 19.2 -0.5
baz=105
L17K **Donlin** 68.57 332 P P 05 12 18.6 -1.2
baz=102
H19K **Roundabout Mou** 68.60 336 P P 05 12 19.7 -0.1
baz=106
M16K **Timber Creek** 68.65 331 P P 05 12 20.2 -0.1
baz=101
K17K **Iditarod** 68.70 333 P P 05 12 20.1 -0.4
baz=103
O15K **Ungalikthiuk R** 68.73 329 P P 05 12 20.2 -0.6
baz=100
F20K **Avaraart Lake** 68.74 337 P P 05 12 20.4 -0.3
baz=107
G19K **Purcell Mounta** 69.01 336 P P 05 12 22.7 +0.2
baz=105
L16K **Owhat River** 69.03 331 P P 05 12 22.9 +0.3
baz=101
N15K **Kwethluk River** 69.03 330 P P 05 12 23.4 +0.6
baz=100
C21K **Knifeblade Rid** 69.05 340 P P 05 12 23.3 +0.7
baz=108
E20K **Nigu River** 69.26 339 P P 05 12 24.9 +0.8
baz=107
H18K **Honhosa River** 69.28 335 P P 05 12 25.0 +0.8
baz=104
E19K **Redstone River** 69.42 338 P P 05 12 25.7 +0.7
baz=106
M15K **Kasigluk River** 69.42 330 P P 05 12 25.8 +0.8
baz=100
F19K **Shaleruckim Mo** 69.46 337 P P 05 12 25.9 +0.7
baz=105
D20K **Etivluk River** 69.54 339 P P 05 12 25.8 +0.1
baz=106
G18K **Tagagawik** 69.57 336 P P 05 12 26.7 +0.7
baz=104
N14K **Kuskokwak Cree** 69.78 329 P P 05 12 27.2 -0.1
baz=99
J16K **Anvik River** 69.84 333 P P 05 12 28.3 +0.7
baz=101
H17K **Granite Mounta** 69.87 335 P P 05 12 26.9 -0.9
baz=102
L15K **Ungalak Mounta** 69.96 331 P P 05 12 28.9 +0.5
baz=99
I17K **Unalakleet** 70.00 333 P P 05 12 29.5 +0.9
baz=101
D19K **Kuna River** 70.01 339 P P 05 12 29.2 +0.5
baz=105
M14K **Bethel** 70.04 330 P P 05 12 30.1 +1.2
baz=99
K15K **Wolf Creek Mou** 70.09 332 P P 05 12 30.7 +1.6
baz=100
FALS **False Pass** 70.11 324 P P 05 12 30.6 +1.3
baz=95
G17K **Kiwalik Mounta** 70.29 335 P P 05 12 30.9 +0.5
baz=102
A21K **Barrow** 70.31 342 P P 05 12 30.1 -0.2
baz=107
L14K **Kuka Creek** 70.48 331 P P 05 12 32.2 +0.7
baz=98
E18K **Tukpahlearik C** 70.67 337 P P 05 12 33.0 +0.3
baz=102
M13K **Dall Lake** 70.68 330 P P 05 12 33.2 +0.5
baz=97
C19K **Lookout Ridge** 70.68 339 P P 05 12 34.1 +1.3
baz=104
F17K **Baldwin Pennin** 70.72 336 P P 05 12 34.3 +1.4
baz=101
H16K **Elim** 70.79 334 P P 05 12 34.5 +1.1
baz=100
G16K **Koyuk River** 70.97 335 P P 05 12 35.6 +1.1
baz=100
J14K **Nanvaranak Lak** 71.08 332 P P 05 12 36.8 +1.6
baz=98
C18K **Utukok River** 71.15 338 P P 05 12 36.2 +0.6
baz=102
B18K **Kokolik River** 71.51 339 P P 05 12 37.8 +0.1
baz=102
G15K **Niuklik** 71.61 334 P P 05 12 39.5 +1.1
baz=98
D17K **Noatak River** 71.66 337 P P 05 12 39.5 +0.9
baz=100
C17K **DeLong Mountai** 71.83 338 P P 05 12 39.8 +0.1
baz=100
UNV **Unalaska Valle** 71.84 323 P P 05 12 40.2 +0.2
baz=92
F15K **North Star Dit** 71.96 335 P P 05 12 41.5 +1.0
baz=98
M11K **Mekoryuk** 72.08 329 P P 05 12 42.3 +1.1
baz=95
ANM **Nome** 72.12 334 P P 05 12 43.0 +1.6
baz=97
C16K **Lisburne Hills** 72.59 338 P P 05 12 45.2 +1.1
baz=98
P08K **Saint George I** 73.66 325 P P 05 12 51.0 +0.4
baz=91
SPIA **Saint Paul Isl** 74.05 326 P P 05 12 52.6 -0.2
baz=90
JMIC **Jan Mayen** 74.55 20 LR LR 05 45 06.9
comp=Z,35nm,20.0s,baz=284,slow=35
GAMB **Gambell** 74.83 333 P P 05 12 57.4 +0.1
baz=91
RAR **Rarotonga** 77.17 244 LR LR 05 38 57.8
comp=Z,29nm,19.5s,baz=112,slow=29
ESDC **Sonseca Array** 78.12 52 P P 05 13 12.7 -3.8
comp=Z,0.4nm,0.8s,baz=285,slow=5.2,SNR=1.7
ESDC LR LR 05 41 41.2
comp=Z,48nm,18.7s,baz=207,slow=31
comp=Z,0.4nm,0.8s
MDT **Midelt** 78.55 59 LR LR 05 45 08.2
comp=Z,40nm,18.4s,baz=343,slow=34
SPITS **Spitsbergen Ar** 80.28 12 P P 05 13 26.2 -1.3
comp=Z,7.0nm,0.9s,baz=264,slow=1.4,SNR=8.5
comp=Z,7.0nm,0.9s
NOA **NORSAR Array B** 83.54 29 P P 05 13 43.2 -1.8
comp=Z,0.3nm,0.6s,baz=286,slow=4.9,SNR=1.8
NOA LR LR 05 46 54.4
comp=Z,23nm,21.5s,baz=285,slow=33
comp=Z,0.3nm,0.6s
HFS **Hagfors** 84.97 29 LR LR 05 47 13.2
comp=Z,37nm,21.9s,baz=260,slow=32
ARCES **ARCESS Array B** 86.01 19 P P 05 13 55.1 -2.0
comp=Z,3.7nm,1.0s,baz=297,slow=3.8,SNR=4.3
comp=Z,3.7nm,1.0s
TORD **Torodi Ar. Bea** 88.01 77 P P 05 14 04.5 -3.5
comp=Z,0.3nm,0.6s,baz=303,slow=5.5,SNR=1.9
comp=Z,0.3nm,0.6s
FINES **FINESS Array B** 90.04 26 LR LR 05 54 50.5
comp=Z,24nm,19.2s,baz=283,slow=36
TIXI **Tiksi** 91.50 349 LR LR 06 00 48.6
comp=Z,36nm,18.9s,baz=22,slow=39
VAE **Valguarnera** 92.62 51 LR LR 05 49 43.3
comp=Z,71nm,20.6s,baz=326,slow=31
MA2 **Magadan** 92.91 334 LR LR 06 03 04.5
comp=Z,58nm,18.7s,baz=104,slow=40
AKASG **Malin Array Be** 96.89 34 LR LR 05 57 13.9
comp=Z,20nm,19.4s,baz=226,slow=35
YAK **Yakutsk** 98.95 343 LR LR 06 08 55.3
comp=Z,31nm,18.6s,baz=40,slow=41
ELIB **Princess Elisa** 109.49 162 dPKiKP PKiKP 05 19 48.0 +1.2
ELIB dpPKiKP pPKiKP 05 20 05.8 -0.8
SONM **Songino Array** 117.58 348 PKP PKPdf 05 20 00.0 -3.0
comp=Z,0.4nm,0.5s,baz=0.5,slow=2.0,SNR=4.9
MKAR **Makanchi Array** 119.75 7 PKP PKPdf 05 20 03.6 -3.4
comp=Z,0.2nm,0.4s,baz=276,slow=4.4,SNR=4.6
MAW **Mawson** 122.73 168 PKP PKPdf 05 20 08.8 -3.1
comp=Z,3.4nm,0.3s,baz=233,slow=11,SNR=1.6
WRA **Warramunga Arr** 137.73 255 PKhKP PKPpre 05 20 34.6
comp=Z,0.3nm,0.8s,baz=180,slow=27,SNR=4.5
WRA PKP PKPdf 05 20 40.9 -1.0
comp=Z,1.4nm,0.7s,baz=88,slow=1.6,SNR=11
WRA SKPbc SKPbc 05 24 12.1 +2.3
comp=Z,1.5nm,0.8s,baz=88,slow=3.5,SNR=11
ASAR **Alice Springs** 137.86 249 PKhKP PKPpre 05 20 33.5
comp=Z,0.4nm,0.9s,baz=114,slow=4.1,SNR=3.0
ASAR PKP PKPdf 05 20 38.7 -3.3
comp=Z,0.6nm,0.7s,baz=103,slow=2.2,SNR=4.9

ASAR				SKPbc	**SKPbc**	**05 24 12.8**	**+2.7**
	comp=Z,1.4nm,1.0s,baz=81,slow=1.9,SNR=7.2								
CMAR	**Chiang Mai Arr**	**147.44**	**345**	PKPbc	**PKPdf**	**05 20 59.6**	**+0.5**
	comp=Z,2.5nm,0.6s,baz=330,slow=3.6,SNR=15								

WEL 04 05:41:54.6±1.2,36°S±21″×17°8E±2″0, h176km±33km, M3.4/7, ML3.5/11, MLv3.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=135.9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.86**	**176**	P	Pn	05 42 29.8	0.0
HAZ	**Te Kaha**	**2.07**	**188**	P	Pn	05 42 32.1	0.0
WMGZ	**Waiomatatini S**	**2.12**	**174**	P	Pn	05 42 32.9	+0.2
WMGZ				S	Sn	05 43 02.2	-0.3
PKGZ	**Pakihiroa**	**2.18**	**182**	P	Pn	05 42 33.6	+0.1
PKGZ				S	Sn	05 43 03.7	-0.1
RUGZ	**Raukumara Rang**	**2.29**	**189**	P	Pn	05 42 34.3	-0.4
RUGZ				S	Sn	05 43 05.3	-0.8
PUZ	**Puketiti**	**2.36**	**178**	P	Pn	05 42 35.4	-0.1
TWGZ	**Tauwhareparae**	**2.47**	**183**	P	Pn	05 42 37.3	+0.6
TWGZ				S	Sn	05 43 10.2	+0.5
MWZ	**Matawai**	**2.67**	**191**	P	Pn	05 42 39.3	+0.1
MWZ				S	Sn	05 43 14.9	+1.0
URZ	**Urewera**	**2.68**	**198**	P	Pn	05 42 39.4	+0.2
URZ				S	Sn	05 43 15.6	+1.6
CNGZ	**Carnagh Statio**	**2.77**	**179**	P	Pn	05 42 40.4	+0.1
CNGZ				S	Sn	05 43 17.2	+1.2
MUGZ	**Murupara**	**2.98**	**201**	P	Pn	05 42 43.2	+0.4
MUGZ				S	Sn	05 43 20.8	+0.3
RIGZ	**Rimuhau**	**3.01**	**186**	P	Pn	05 42 42.4	-0.8
RIGZ				S	Sn	05 43 20.6	-0.6
RAHZ	**Arahi**	**3.31**	**195**	P	Pn	05 42 46.6	-0.4
KNZ	**Kokohu**	**3.33**	**186**	P	Pn	05 42 45.8	-1.3
MRHZ	**Matea Rd**	**3.42**	**203**	P	Pn	05 42 47.7	-0.5
NMHZ	**Naumai**	**3.55**	**197**	P	Pn	05 42 49.8	-0.1
ETVZ	**East Tongariro**	**3.94**	**209**	P	Pn	05 42 54.5	-0.4
KWHZ	**Kaweka Forest**	**3.96**	**200**	P	Pn	05 42 54.2	-0.8
OTVZ	**Oturere**	**3.98**	**209**	P	Pn	05 42 55.0	-0.4
SNVZ	**South Ngauruho**	**4.01**	**209**	P	Pn	05 42 55.5	-0.3
BHHZ	**Black Hill Sta**	**4.12**	**203**	P	Pn	05 42 56.1	-1.1
KRHZ	**Kereru**	**4.18**	**199**	P	Pn	05 42 56.2	-1.6
KAHZ	**Kahuranaki**	**4.21**	**194**	P	Pn	05 42 56.6	-1.6
PNHZ	**Pukenui**	**4.48**	**200**	P	Pn	05 42 59.6	-2.1
MRZ	**Mangatainoka R**	**5.35**	**201**	P	Pn	05 43 09.5	-3.4

IDC 04 05:43:54.5±9.3, 4°95N×95°78E, h0km, mb3.6/3, mbtmp3.6/3, MS3.1/1, Error ellipse: s-maj=487.4km s-min=30.5km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**37.87**	**51**	LR	LR	06 05 38.5	
	comp=Z,29nm,21.4s,baz=352,slow=34						
MKAR	**Makanchi Array**	**43.28**	**346**	P	P	05 51 57.8	-0.1
	0.1nm,0.3s,baz=162,slow=8.9,SNR=1.3 0.1nm,0.3s						
WRA	**Warramunga Arr**	**45.26**	**124**	P	P	05 52 14.1	-0.1
	0.5nm,0.3s,baz=304,slow=7.7,SNR=22 0.5nm,0.3s						
ASAR	**Alice Springs**	**46.81**	**129**	P	P	05 52 26.2	-0.2
	1.6nm,0.7s,baz=303,slow=7.5,SNR=28 1.6nm,0.7s						
H04N2	**CROZET ISLANDS**	**64.11**	**212**	T	T	07 03 08.7	
	baz=50,slow=75,SNR=5.8						
H04N1	**CROZET ISLANDS**	**64.12**	**212**	T	T	07 03 01.3	
	baz=50,slow=75,SNR=5.3						
H04N3	**CROZET ISLANDS**	**64.13**	**212**	T	T	07 03 00.1	
	baz=50,slow=75,SNR=6.1						

*VAO **04** 06:16:15.6±0.5,5.71°S×81.01°W, h10km, mb4.6*
*NEIC **04** 06:16:19.5±1.4,5.76°S±0.06°×80.93°W±0.09, h30km±5km, mb4.5/22, Error ellipse: s-maj=13.6km s-min=8.8km az=71.0*
*IGQ **04** 06:16:21±1.8,6°S±21″×8°1W±1″2, h10km*
*IDC **04** 06:16:23.2±2.8,5.72°S×80.95W, h61km±25km, mb3.7/13, mbtmp4.0/16, ML3.5/2, MS3.9/25, Error ellipse: s-maj=26.2km s-min=13.9km az=66.0*
ISC 04 06:16:19.7±0.5,5.75°S±0.05°×81.04°W±0.06, h35km, n149, σ1°69/125, mb4.3/20, MS3.9/22, 4C, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCRA	**Macar, Loja**	**1.75**	**38**	Pn	**Pn**	**06 16 48.1**	**+0.4**
MCRA	**Macar, Loja**	**1.75**	**38**	P	**Pn**	**06 16 48.0**	**+0.4**
MCRA				S	**Sn**	**06 17 14.0**	**+5.2**
ARNL	**Arenillas**	**2.40**	**24**	Pn	**Pn**	**06 16 56.7**	**+0.2**
ARNL	**Arenillas**	**2.40**	**24**	P	**Pn**	**06 16 56.0**	**-0.5**
ISPG	**Isla Puna-Puer**	**2.90**	**17**	P	Pn	06 17 11.0	+7.5
ATAH	**Atahualpa**	**2.97**	**118**	P	**Pn**	**06 17 06.8**	**+2.0**
	9.1nm,0.3s,baz=305,slow=11,SNR=35						
ATAH				S	**Sn**	**06 17 42.5**	**+3.2**
	596nm,1.1s,baz=2.3,slow=13,SNR=5.9 142nm,0.7s						
SALI	**Salinas**	**3.54**	**1**		**Pn**	**06 17 12.4**	**+0.1**
SALI				Sn	**Sn**	**06 17 50.3**	**-2.7**
COHC	**Cochancay**	**3.72**	**29**		**Pn**	**06 17 15.9**	**+1.1**
MILO	**Milagro-Astudi**	**3.76**	**23**	P	**Pn**	**06 17 17.0**	**+1.8**
ELAR	**El Aromo**	**4.68**	**3**	P	**Pn**	**06 17 28.0**	**+0.1**
TAMH	**Tambohuasha Ch**	**4.75**	**28**	P	**Pn**	**06 17 30.0**	**+0.6**
CHSH	**Refugio Sur-Vo**	**4.75**	**27**		**Pn**	**06 17 29.6**	**+0.1**
PORT	**Chimborazo Vol**	**4.83**	**28**	P	**Pn**	**06 17 31.0**	**+0.5**
BMAS	**Trigal station**	**4.94**	**31**	P	**Pn**	**06 17 33.0**	**+1.2**
BRUN	**Tungurahua Vol**	**5.04**	**31**	P	**Pn**	**06 17 36.0**	**+2.9**
PUYO	**Puyo, Santa Ro**	**5.20**	**36**	P	**Pn**	**06 17 36.0**	**+0.9**
PIS1	**Pisayambo**	**5.36**	**30**	P	**Pn**	**06 17 39.0**	**+1.2**
FLF1	**Flavio Alfaro-**	**5.49**	**13**	P	**Pn**	**06 17 41.0**	**+1.9**
VCES	**Cotopaxi**	**5.59**	**28**	P	**Pn**	**06 17 43.0**	**+2.1**
SLOR	**San Lorenzo -**	**5.60**	**27**		**Pn**	**06 17 39.5**	**-1.5**
BNAS	**Cotopaxi Volca**	**5.66**	**27**	P	**Pn**	**06 17 46.0**	**+4.1**
BREF	**Cotopaxi Volca**	**5.68**	**27**	P	Pn	06 17 50.0	+7.8
BTAM	**Cotopaxi Volca**	**5.69**	**28**	P	**Pn**	**06 17 45.0**	**+2.6**
BVC2	**Cotopaxi Volca**	**5.70**	**27**	P	**Pn**	**06 17 45.0**	**+2.5**
ANTG	**Antisana-Guama**	**5.91**	**28**	P	**Pn**	**06 17 49.0**	**+3.6**
ANTS	**Antisana-Sarah**	**5.96**	**29**	P	**Pn**	**06 17 48.0**	**+2.0**
GGPT	**Toaza - Volcan**	**6.00**	**24**	P	**Pn**	**06 17 48.0**	**+1.5**
GGPC	**Guagua Pichinc**	**6.05**	**24**	P	**Pn**	**06 17 49.0**	**+1.7**
TERV	**Terraza Guagua**	**6.05**	**24**	P	**Pn**	**06 17 49.0**	**+1.7**
PULU	**Pululahua**	**6.27**	**24**		**Pn**	**06 17 50.1**	**-0.1**
PULU	**Pululahua**	**6.27**	**24**	P	**Pn**	**06 17 52.0**	**+1.8**
PAC1	**Pacto, Paraso**	**6.39**	**21**	P	**Pn**	**06 17 52.0**	**+0.4**
OTAV	**Otavalo**	**6.49**	**24**	Pn	**Pn**	**06 17 52.5**	**-0.7**
OTAV	**Otavalo**	**6.49**	**24**	P	**Pn**	**06 17 54.0**	**+0.8**
OTAV	**Otavalo**	**6.49**	**24**	*eP*	**Pn**	**06 17 50.4**	**-2.8**
ANGU	**Angureal**	**6.51**	**28**	P	**Pn**	**06 17 55.0**	**+1.4**
CAYA	**Cayambe**	**6.54**	**28**	P	**Pn**	**06 17 56.0**	**+2.0**
CUSE	**Cuicocha Este**	**6.57**	**24**	P	**Pn**	**06 17 51.0**	**-3.3**
COTA	**Cotacachi**	**6.62**	**24**	P	**Pn**	**06 17 58.0**	**+2.9**
IMBA	**Imbabura, San**	**6.63**	**25**		**Pn**	**06 17 53.6**	**-1.5**
URCU	**Urcuqui**	**6.75**	**24**	P	**Pn**	**06 17 59.0**	**+2.2**
CASC	**Dorado de Casc**	**6.92**	**32**	P	**Pn**	**06 18 03.0**	**+4.1**
BONI	**La Bonita**	**7.09**	**30**	P	**Pn**	**06 18 03.0**	**+1.7**
CHL1	**Volc¡n Chiles**	**7.20**	**26**	P	Pn	06 18 09.0	+5.9
TULM	**Tulcn-Chalpat**	**7.20**	**27**		**Pn**	**06 18 00.9**	**-2.1**
CMBC	**Cumbal**	**7.38**	**26**	P	**Pn**	**06 18 09.0**	**+3.5**
NNA	**Nana**	**7.45**	**146**		**Pn**	**06 18 05.2**	**-0.9**
NNA	**Nana**	**7.45**	**146**	P	**Pn**	**06 18 09.0**	**+2.9**
	0.9nm,0.3s,baz=338,slow=11,SNR=6.0						
NNA				S	**Sn**	**06 19 33.4**	**+3.9**
	16nm,0.7s,baz=225,slow=9.3,SNR=1.6						
NNA				LR	LR	06 20 48.3	
	comp=Z,323nm,18.6s,baz=289,slow=36 4.4nm,0.4s						
CZSB	**Cruzeiro do Su**	**8.51**	**104**	Pn	**Pn**	**06 18 19.8**	**-0.8**
CZSB	**Cruzeiro do Su**	**8.51**	**104**	*eP*	**Pn**	**06 18 19.7**	**-0.8**
PAYG	**Puerto Ayora**	**10.52**	**298**	Pn	**Pn**	**06 18 49.2**	**+1.1**
TBTG	**Tabatinga, AM**	**11.20**	**83**	Pn	**Pn**	**06 18 55.5**	**-2.0**
ROSC	**El Rosal**	**12.48**	**33**	LR	LR	06 25 20.0	
	comp=Z,248nm,21.7s,baz=228,slow=43						
ETMB	**Extrema**	**15.23**	**106**	Pn	**Pn**	**06 19 50.1**	**-2.3**
ETMB				IAmb	IAmb	06 19 57.5	
	comp=Z,32nm,1.0s						
ETMB	**Extrema**	**15.23**	**106**	*eP*	**Pn**	**06 19 47.9**	**-4.5**
ETMB				*eS*	**Sn**	**06 22 40.9**	**+0.8**
JTS	**Las Juntas de**	**16.41**	**346**	LR	LR	06 25 15.1	
	comp=Z,203nm,19.5s,baz=159,slow=32						
LPAZ	**La Paz**	**16.42**	**131**		**Pn**	**06 20 07.3**	**-0.9**
TEFE	**Tefe**	**16.50**	**83**	*eP*	**Pn**	**06 20 08.4**	**-0.3**
PB16	**IPOC Station P**	**16.82**	**139**		**Pn**	**06 20 11.8**	**-1.4**
SDV	**Santo Domingo**	**17.86**	**36**	P	**Pn**	**06 20 24.5**	**-1.3**
SDV	**Santo Domingo**	**17.86**	**36**	P	**Pn**	**06 20 25.8**	**0.0**
	comp=Z,4.9nm,0.7s,baz=217,slow=10,SNR=5.5						
SDV				LR	LR	06 28 22.9	
	comp=Z,558nm,18.8s,baz=223,slow=40						
SAML	**Samuel**	**17.99**	**101**		**Pn**	**06 20 24.9**	**-2.3**
SAML	**Samuel**	**17.99**	**101**	*eP*	**Pn**	**06 20 25.7**	**-1.6**
TA01	**Diego Aracena**	**18.11**	**145**	P	**P**	**06 20 28.2**	**-0.6**
TA01				IAmb	IAmb	06 20 45.2	
	comp=Z,54nm,1.4s						
BAUV	**El Baul**	**19.52**	**42**	P	**P**	**06 20 42.8**	**-1.5**
BAUV				IAmb	IAmb	06 21 05.2	
	comp=Z,26nm,1.0s						
LVC	**Limon Verde**	**20.45**	**146**	P	**P**	**06 20 53.0**	**-1.7**
LVC	**Limon Verde**	**20.45**	**146**	P	Pn	06 20 57.7	+0.7
	comp=Z,4.5nm,0.8s,baz=327,slow=12,SNR=3.6						
LVC				LR	LR	06 29 52.9	
	comp=Z,278nm,18.8s,baz=308,slow=40 comp=Z,4.5nm,0.8s						
MACA	**Manacapuru-AM**	**20.46**	**84**	P	**P**	**06 20 53.1**	**-1.4**
MACA	**Manacapuru-AM**	**20.46**	**84**	*eP*	**P**	**06 20 53.2**	**-1.4**
AUA1	**Aruba**	**21.20**	**31**	P	**P**	**06 21 01.9**	**-0.5**
VILB	**Vilhena**	**21.76**	**111**	P	**P**	**06 21 07.1**	**-1.5**
VILB				IAmb	IAmb	06 21 19.4	
	comp=Z,26nm,1.0s						
VILB	**Vilhena**	**21.76**	**111**	*eP*	**P**	**06 21 08.1**	**-0.5**
BOAV	**Boa Vista**	**22.03**	**69**	P	**P**	**06 21 09.2**	**-2.2**
BOAV				IAmb	IAmb	06 21 24.2	
	comp=Z,28nm,1.4s						
BOAV	**Boa Vista**	**22.03**	**69**	*eP*	**P**	**06 21 09.6**	**-1.9**
SIV	**San Ignacio**	**22.07**	**119**	P	**P**	**06 21 11.5**	**-0.4**
	comp=Z,6.4nm,1.0s,baz=290,slow=9.4,SNR=18						
SIV				LR	LR	06 30 38.4	
	comp=Z,683nm,18.5s,baz=300,slow=39 comp=Z,6.4nm,1.0s						
GO02	**Mina Guanaco**	**22.20**	**152**	P	**P**	**06 21 10.8**	**-2.7**
PCRV	**Puerto La Cruz**	**22.75**	**46**	P	**P**	**06 21 19.7**	**+0.5**
	comp=Z,10.0nm,0.8s,baz=197,slow=6.4,SNR=5.9						
PCRV				LR	LR	06 31 13.2	
	comp=Z,374nm,19.3s,slow=39 comp=Z,10.0nm,0.8s						
BBSD	**Serra de San D**	**22.99**	**121**	*eP*	**P**	**06 21 19.1**	**-2.6**
PTLB	**Pontes e Lacer**	**23.56**	**116**	P	**P**	**06 21 26.3**	**-1.0**
PTLB				IAmb	IAmb	06 21 37.4	
	comp=Z,18nm,1.3s						
PTLB	**Pontes e Lacer**	**23.56**	**116**	*eP*	**P**	**06 21 27.4**	**+0.1**
AC02	**Maricunga**	**23.84**	**153**	P	**P**	**06 21 30.0**	**-0.4**
AC02				IAmb	IAmb	06 21 41.7	
	comp=Z,13nm,1.1s						
BBRB	**Robore, Bolivi**	**24.17**	**123**	*eP*	**P**	**06 21 31.8**	**-1.2**
PDRB	**Porto dos Gac**	**24.72**	**105**	*eP*	**P**	**06 21 37.4**	**-0.7**
ITTB	**Itaituba**	**25.25**	**88**	*eP*	**P**	**06 21 42.0**	**-0.8**
NPGB	**Novo Progresso**	**25.55**	**94**	*eP*	**P**	**06 21 44.5**	**-1.2**
CMIG	**Matias Romero**	**26.50**	**329**	LR	LR	06 30 08.9	
	comp=Z,160nm,21.9s,baz=161,slow=31						
SALV	**Santo Antonio**	**26.83**	**114**	*eP*	**P**	**06 21 56.8**	**-0.3**
H03N2	**Juan Fernandez**	**27.62**	**176**	T	T	06 50 33.9	
	baz=355,slow=75,SNR=39						
H03N1	**Juan Fernandez**	**27.62**	**176**	T	T	06 50 34.4	
	baz=355,slow=75,SNR=59						
H03N3	**Juan Fernandez**	**27.63**	**176**	T	T	06 50 34.4	
	baz=355,slow=75,SNR=58						
MURT	**Porto Murtinho**	**27.65**	**127**	*eP*	**P**	**06 22 04.0**	**-0.3**
BDQN	**Bodoquena, MS**	**27.74**	**124**	*eP*	**P**	**06 22 04.8**	**-0.5**
AQDB	**Aquidauana**	**28.62**	**123**	P	**P**	**06 22 11.7**	**-1.4**
AQDB				IAmb	IAmb	06 22 22.4	
	comp=Z,11nm,1.4s						
AQDB	**Aquidauana**	**28.62**	**123**	*eP*	**P**	**06 22 12.4**	**-0.7**
SNDB	**Serra Nova Dou**	**30.02**	**104**	*eP*	**P**	**06 22 25.2**	**-0.4**
ARAG	**Araguaiana, MT**	**30.33**	**111**	*eP*	**P**	**06 22 26.7**	**-1.6**
MDP	**Montagnes des**	**30.34**	**70**	LR	LR	06 35 07.9	
	comp=Z,430nm,19.2s,baz=266,slow=37						
AMBA	**Amambai (Brazi**	**30.38**	**127**	*eP*	**P**	**06 22 28.5**	**-0.2**
CPUP	**Villa Florida**	**30.51**	**135**	P	**P**	**06 22 29.2**	**-0.6**
CPUP				IAmb	IAmb	06 22 31.0	
	comp=Z,9.7nm,1.4s						
CPUP	**Villa Florida**	**30.51**	**135**	P	**P**	**06 22 30.1**	**+0.3**
	comp=Z,3.7nm,1.1s,baz=327,slow=10,SNR=3.4						
CPUP				LR	LR	06 36 51.6	
	comp=Z,17nm,19.2s,baz=316,slow=40 comp=Z,3.7nm,1.1s						
PTGB	**Pitanga**	**33.59**	**127**	*eP*	**P**	**06 22 56.2**	**-0.7**
LDASE	**Londrina, Braz**	**33.73**	**124**	*eP*	**P**	**06 22 57.6**	**-0.5**
UNIS	**Unistalda (Bra**	**33.77**	**136**	*eP*	**P**	**06 22 58.4**	**0.0**
BDFB	**Brasilia**	**33.86**	**110**	LR	LR	06 37 37.5	
	comp=Z,525nm,21.1s,baz=313,slow=38						
IPMB	**Ipameri, GO**	**34.28**	**114**	*eP*	**P**	**06 23 01.6**	**-1.4**
RPN	**Rapa Nui**	**34.31**	**229**	LR	LR	06 32 57.7	
	comp=Z,260nm,19.4s,baz=92,slow=29						
RODS	**Rosario do Sul**	**34.49**	**138**	*eP*	**P**	**06 23 04.6**	**0.0**
PLTB	**Pedras Altas**	**36.45**	**139**	P	**P**	**06 23 21.5**	**+0.1**
PLTB				IAmb	IAmb	06 23 31.0	
	comp=Z,10nm,1.0s						
TRQA	**Tornquist**	**36.53**	**154**	P	**P**	**06 23 21.8**	**-0.3**
JANB	**Januaria**	**37.24**	**107**	*eP*	**P**	**06 23 27.7**	**-0.7**
DIAM	**Diamantina, MG**	**38.52**	**112**	*eP*	**P**	**06 23 38.2**	**-1.1**
TXAR	**Lajitas Array**	**41.11**	**329**	P	**P**	**06 24 02.2**	**+1.6**
	comp=Z,0.4nm,0.9s,baz=140,slow=13,SNR=3.8						
TXAR				LR	LR	06 40 45.4	
	comp=Z,44nm,19.1s,baz=71,slow=36 comp=Z,0.4nm,0.9s						
TKL	**Tuckaleechee C**	**41.27**	**357**	LR	LR	06 40 26.9	
	comp=Z,127nm,20.2s,baz=154,slow=35						
GDU01	**Guandu, BA**	**41.58**	**104**	*eP*	**P**	**06 24 03.8**	**-0.8**
CMC01	**Camacan, BA**	**41.85**	**107**	*eP*	**P**	**06 24 06.1**	**-0.7**
RCBR	**Riachuelo**	**44.90**	**92**	LR	LR	06 44 43.0	
	comp=Z,204nm,18.6s,baz=264,slow=38						
PDAR	**Pinda Array**	**54.80**	**335**	P	**P**	**06 25 46.8**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=130,slow=8.4,SNR=6.1						
PDAR				LR	LR	06 49 07.0	
	comp=Z,102nm,18.2s,baz=106,slow=36 comp=Z,0.6nm,0.7s						
ELK	**Elko**	**55.91**	**329**	LR	LR	06 48 11.2	
	comp=Z,124nm,18.8s,baz=104,slow=34						
NVAR	**Mina Array Bea**	**55.92**	**325**	P	**P**	**06 25 56.3**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=151,slow=5.9,SNR=3.7 comp=Z,0.3nm,0.7s						
ULM	**Lac du Bonnet**	**57.24**	**349**	P	**P**	**06 26 03.8**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=121,slow=5.0,SNR=4.6 comp=Z,2.6nm,0.8s						
NEW	**Newport**	**62.40**	**334**	LR	LR	06 53 50.2	
	comp=Z,70nm,18.3s,baz=92,slow=36						
FRB	**Frobisher Bay**	**69.95**	**6**	LR	LR	06 58 18.5	
	comp=Z,40nm,20.0s,baz=242,slow=36						
YKA	**Yellowknife A**	**72.74**	**344**	P	**P**	**06 27 44.1**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=138,slow=5.1,SNR=10 comp=Z,0.6nm,0.9s						
SFJD	**Kangerlussuaq**	**75.78**	**12**	LR	LR	07 01 22.6	
	comp=Z,28nm,21.3s,baz=193,slow=36						
DBIC	**Dimbokro**	**77.03**	**82**	LR	LR	07 01 11.5	
	comp=Z,202nm,18.4s,baz=259,slow=35						
VNA3	**Neumayer Olymp**	**78.64**	**162**	⇑P	**P**	**06 28 17.9**	**+0.2**
	comp=Z,6.7nm,0.8s						
VNA1	**Neumayer~Stat**	**78.92**	**161**	⇑P	**P**	**06 28 20.5**	**+1.2**
	comp=Z,14nm,0.9s						
SNAA	**Sanae**	**80.86**	**162**	P	**P**	**06 28 29.9**	**+0.1**
SNAA				IAmb	IAmb	06 28 31.0	
	comp=Z,5.9nm,0.9s						
SNAA	**Sanae**	**80.86**	**162**	⇑P	**P**	**06 28 30.0**	**+0.1**
	comp=Z,117nm,0.9s						
SNAA	**Sanae**	**80.86**	**162**	P	**P**	**06 28 29.8**	**0.0**
	comp=Z,4.8nm,0.9s,baz=271,slow=4.1,SNR=5.4 comp=Z,4.8nm,0.9s						
TROLL	**Troll, Antarti**	**82.57**	**162**	⇑P	**P**	**06 28 38.1**	**-0.8**
	comp=Z,143nm,0.8s						
EGAK	**Eagle**	**82.97**	**338**	P	**P**	**06 28 42.0**	**+1.1**
ESDC	**Sonseca Array**	**83.78**	**49**	P	**P**	**06 28 46.7**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=269,slow=6.2,SNR=4.4						
ESDC				LR	LR	07 03 20.6	
	comp=Z,34nm,18.3s,baz=257,slow=34 comp=Z,0.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**84.26**	**76**	P	**P**	**06 28 47.0**	**-1.6**
TORD				IAmb	IAmb	06 28 49.2	
	comp=Z,2.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**84.26**	**76**	P	**P**	**06 28 48.7**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=290,slow=3.9,SNR=11						
TORD				LR	LR	07 05 55.1	
	comp=Z,159nm,18.7s,baz=300,slow=35 comp=Z,1.4nm,0.6s						
QSPA	**South Pole Qui**	**84.33**	**180**	P	**P**	**06 28 49.0**	**+0.9**
QSPA	**South Pole Qui**	**84.33**	**180**	P	**P**	**06 28 48.5**	**+0.4**
	comp=Z,4.1nm,0.9s,baz=168,slow=3.3,SNR=6.9 comp=Z,4.1nm,0.9s						
DAVOX	**Davos/Dischmat**	**94.78**	**44**	LR	LR	07 08 34.0	
	comp=Z,36nm,19.8s,baz=272,slow=33						
TSUM	**Tsumeb**	**96.23**	**110**	LR	LR	07 11 48.3	
	comp=Z,103nm,18.2s,baz=271,slow=35						
SUR	**Sutherland**	**96.88**	**123**	LR	LR	07 09 36.4	
	comp=Z,47nm,18.2s,baz=228,slow=33						
H11N3	**WAKE ISLAND Hyl**	**12.66**	**289**	T	T	08 37 12.7	
	baz=89,slow=75,SNR=21						
H11N2	**WAKE ISLAND Hyl**	**12.67**	**289**	T	T	08 37 13.4	
	baz=89,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hyl**	**12.68**	**289**	T	T	08 37 13.7	
	baz=89,slow=75,SNR=18						
H11S2	**WAKE ISLAND Hyl**	**12.89**	**288**	T	T	08 37 26.6	
	baz=89,slow=75,SNR=35						
H11S1	**WAKE ISLAND Hyl**	**12.90**	**288**	T	T	08 37 27.3	
	baz=89,slow=75,SNR=26						
H11S3	**WAKE ISLAND Hyl**	**12.91**	**288**	T	T	08 37 24.7	
	baz=89,slow=75,SNR=28						
KURBB	**Kurchatov Arra**	**132.12**	**17**	PKP	**PKPdf**	**06 35 30.6**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=338,slow=2.0,SNR=1.7						
ASAR	**Alice Springs**	**135.08**	**228**	PKP	**PKPdf**	**06 35 36.6**	**+0.2**
	comp=Z,0.3nm,0.9s,baz=132,slow=1.4,SNR=4.4						
WRA	**Warramunga Arr**	**136.84**	**233**	PKP	**PKPdf**	**06 35 39.8**	**+0.2**
	comp=Z,0.8nm,1.0s,baz=112,slow=2.2,SNR=5.2						

*IDC **04** 06:32:19.5±0.8,21°.76N×121°.72E, h0km, mb4.1/22, mbtmp4.1/24, ML3.7/2, MS3.6/19, Error ellipse: s-maj=22.1km s-min=17.2km az=65.0*
*ASIES **04** 06:32:20.5,21°.90N×121°.76E, h24km, ML4.4, Mw4.2, Moment Tensor Solution. Moment tensor: Scale 10²²Nm; Mrr2.28; Mθθ0.28; Mϕϕ-2.57; Mrθ-0.54; Mθϕ-0.31; Mϕr-0.57; Fault plane solution: Mo2.58227×10²² NP1: ϕs198.22000°, δ53.46000°, λ105.27000°. NP2: ϕs353.57000°, δ39.19000°, λ70.43000°. Principal axes: T Plg75.7080°, Azm157.2010°; N Plg12.2200°, Azm8.9740°; P Plg7.2990°, Azm277.3850°.*
*NEIC **04** 06:32:20.9±1.4,21.96N±0.05×121.79E±0.08, h10km±1km, mb4.4/34 Error ellipse: s-maj=12.0km s-min=7.6km az=100.0*
*TAP **04** 06:32:20.5,21°.90N×121°.76E, h24km, ML4.4, D*
*NIED **04** 06:32:22.7,22°.11N×121°.78E, h19km, MW4.4, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr-3.77; Mθθ2.19; Mϕϕ1.58; Mrθ3.68; Mθϕ-0.27; Mϕr-1.45; Fault plane solution: Mo4.98000×10¹⁵ NP1: ϕs291.00000°, δ71.00000°, λ-90.00000°. NP2: ϕs111.00000°, δ19.00000°, λ-90.00000°.*
*JMA **04** 06:32:22.7±0.2,22°.1N±0.7×121°.8E±0°.3, h19km, MV4.2/16, TAIWAN REGION*
ISC 04 06:32:20.7±1.1, 22°.01N±0°.03×121°.81E±0°.02, h8km±6km, n263, σ1°52/405, mb4.3/39, MS3.6/18, 10C-5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	**Lan-yu**	**0.21**	**268**	⇑P	**Pg**	**06 32 26.4**	**+1.5**
	baz=309						
LYUB				*i* S	**Sg**	**06 32 29.9**	**+2.2**
	baz=309						
LAY	**Lan-yu**	**0.24**	**277**	⇑*i*P	**Pg**	**06 32 26.1**	**+0.6**
	baz=307						
LAY				*i* S	**Sg**	**06 32 29.6**	**+0.9**
	baz=307						
LDUT	**Ludao**	**0.73**	**335**	P	**Pb**	**06 32 35.3**	**-0.4**
	baz=350						
LDUT				*e*S	**Sn**	**06 32 46.5**	**-2.3**
	baz=350						
TSEB	**Hengchuen, Pin**	**0.85**	**263**	⇓*i*P	**Pg**	**06 32 36.9**	**-0.1**
	baz=282						
TSEB				*i* S	**Sg**	**06 32 48.1**	**+0.1**
	baz=282						
SMST	**Manzhou Townsh**	**0.90**	**271**	P	**Pg**

baz=289
TWP S Sb 06 33 04.5 -0.1
baz=289
ELDTW Lidau 1.38 328 *i* P Pn 06 32 46.2 -0.2
baz=322
ELDTW *e*S Sb 06 33 03.8 -1.0
baz=322
TSPT Pingtung City 1.38 299 *e*P Pb 06 32 46.9 +0.1
baz=309
TSPT *e*S Sn 06 33 04.6 -0.2
baz=309
EYUL Yuli 1.41 341 P Pn 06 32 46.2 -0.5
baz=352
EYUL S Sg 06 33 05.8 -0.1
baz=352
SGLT Jiouru 1.41 301 P Pn 06 32 45.1 -1.7
baz=305
SGLT S Sg 06 33 05.8 -0.3
baz=305
TWF1 Yuli 1.42 341 *i* P Pn 06 32 45.4 -1.4
baz=329
TWF1 S Sg 06 33 05.9 -0.4
baz=329
SLGT Liugui 1.45 313 P Pb 06 32 48.2 +0.2
baz=317
SLGT S Sg 06 33 06.7 -0.8
baz=317
YULB Yu-li 1.45 341 Pn 06 32 46.6 -0.7
YULB Yu-li 1.45 341 P 06 32 47.3 -0.1
YULB Yu-li 1.45 341 ⇑P Pn 06 32 46.4 -1.0
baz=328
YULB *e*S Sg 06 33 07.5 0.0
baz=328
KAU Kaohsiung 1.50 292 P Pb 06 32 48.9 +0.2
baz=297
KAU S Sg 06 33 09.1 +0.3
baz=297
SCST Cishan 1.50 306 P Pg 06 32 49.5 +0.2
baz=310
SCST *e*S Sg 06 33 08.6 -0.2
baz=310
STYH Taoyuan 1.50 321 P Pg 06 32 48.9 -0.5
baz=324
STYH S Sb 06 33 07.1 -0.8
baz=324
STYT Tauyuan 1.50 320 *i* P Pg 06 32 49.4 -0.2
baz=324
STYT *e*S Sb 06 33 07.5 -0.7
baz=324
TWM1 Shoushan 1.52 303 *i* P Pg 06 32 49.9 +0.1
baz=307
TWM1 *e*S Sg 06 33 09.9 +0.5
baz=307
HGSD Ruisui 1.52 347 P Pn 06 32 47.1 -1.1
baz=358
HGSD *e*S Sg 06 33 08.0 -1.5
baz=358
EHYH Wanrong 1.54 344 P Pn 06 32 48.5 0.0
baz=330
EHYH S Sg 06 33 09.4 -0.7
baz=330
SNJT Kaohsiung City 1.55 299 P Pg 06 32 50.6 +0.2
baz=303
SNJT *e*S Sg 06 33 11.6 +1.1
baz=303
EHY Hungye 1.55 343 *i* P Pn 06 32 47.9 -0.9
baz=330
EHY S Sg 06 33 11.8 +1.1
baz=330
SGST Jiashian 1.56 314 *i* P Pb 06 32 49.2 -0.6
baz=318
SGST *i* S Sg 06 33 11.4 +0.7
baz=318
WSSB Gushan 1.56 294 P Pg 06 32 51.2 +0.6
baz=298
WSSB *e*S Sg 06 33 10.5 -0.4
baz=298
WTP Ta-pu 1.65 318 *i* P Pb 06 32 51.3 -0.1
baz=322
WTP *i* S Sg 06 33 14.6 +0.8
baz=322
CHN1 Nanshi 1.66 315 *i* P Pb 06 32 51.9 +0.2
baz=318
CHN1 S Sg 06 33 14.0 -0.2
baz=318
TPUB Ta-pu 1.68 320 Pn Pb 06 32 51.4 -0.6
TPUB Ta-pu 1.68 320 P Pb 06 32 52.3 +0.3
TPUB Ta-pu 1.68 320 P Pb 06 32 51.5 -0.5
baz=323
TPUB S Sg 06 33 15.0 +0.2
baz=323
SHHT Tainan City 1.68 307 P Pg 06 32 53.2 +0.2
baz=311
SHHT S Sg 06 33 15.2 +0.4
baz=311
EGFH Guangfu 1.69 348 P Pn 06 32 49.7 -0.9
baz=334
EGFH *e*S Sg 06 33 13.3 -1.7
baz=334
CHN3 Shinhua 1.70 309 *i* P Pg 06 32 53.6 +0.2
baz=312
CHN3 *e*S Sg 06 33 15.8 +0.3
baz=312
SNST Tainan City 1.71 315 P Pb 06 32 52.0 -0.4
baz=319
SNST S Sg 06 33 14.5 -1.1
baz=319
CHN4 Tsaushan 1.74 320 *i* P Pb 06 32 52.5 -0.5
baz=323
CHN4 *i* S Sg 06 33 16.8 0.0
baz=323
WARBT Fenglin Townsh 1.74 347 P Pn 06 32 50.6 -0.7
baz=335
WARBT *e*S Sb 06 33 14.5 -0.6
baz=335
TWK Hsinying 1.75 316 *i* P Pb 06 32 53.0 -0.1
baz=320
TWK S Sg 06 33 15.2 -1.6
baz=320
ALS Alishan 1.76 328 *i* P Pb 06 32 52.5 -0.9
baz=331
ALS S Sg 06 33 16.7 -0.5
baz=331
TAI Tainan 1.78 304 *e*P Pg 06 32 57.6 +2.7
baz=307
TAI *e*S Sg 06 33 17.1 -0.9
baz=307
SHUL Shoufeng 1.78 353 P Pn 06 32 51.4 -0.5
baz=354
SHUL S Sb 06 33 14.6 -1.6
baz=354
SSHA Shanhua 1.80 309 *e*P Pn 06 32 52.9 +0.9
baz=312
SSHA *e*S Sg 06 33 17.1 -1.3
baz=312
WCKO Fanlu 1.80 322 P Pb 06 32 53.5 -0.5
baz=325
WCKO S Sg 06 33 19.0 +0.3
baz=325
ESL Shilin 1.83 349 P Pn 06 32 52.2 -0.3
baz=337
ESL S Sb 06 33 15.5 -2.1
baz=337
VWDT VWDT 1.84 341 P Pn 06 32 52.7 0.0
baz=354
VWDT *e*S Sb 06 33 17.4 -0.5
baz=354
SCLT Jiali 1.89 308 *e*P Pb 06 32 55.2 -0.2
baz=312
SCLT *i* S Sb 06 33 19.5 +0.3
baz=312
WHYT Xinyi Township 1.89 333 P Pb 06 32 54.6 -1.0
baz=319
WHYT S Sg 06 33 20.3 -1.3
baz=319
SSLB Suanglung 1.94 336 Pn Pn 06 32 54.5 +0.5
SSLB Suanglung 1.94 336 P Pb 06 32 55.4 -0.9
SSLB Suanglung 1.94 336 P Pn 06 32 54.5 +0.5
baz=350
SSLB *e*S Sg 06 33 20.9 -2.1
baz=350
ICHU Yijhu 1.95 314 P Pb 06 32 55.5 -1.0
baz=317
ICHU *e*S Sb 06 33 20.4 -0.6
baz=317
TSCK Chigu Township 1.95 306 P Pn 06 32 55.2 +1.0
baz=295
TSCK S Sb 06 33 21.0 -0.1
baz=295
HWA Hwalien 1.97 355 *e*P Pb 06 32 55.6 -1.2
baz=8.0
HWA *e*S Sb 06 33 19.9 -1.6
baz=8.0
ETM Tongmen 1.97 352 P Pn 06 32 53.5 -0.9
baz=339
ETM *e*S Sb 06 33 20.2 -1.4
baz=339
CHN8 Yiju 1.98 312 *e*P Pb 06 32 56.0 -1.0
baz=316
CHN8 *e*S Sb 06 33 20.4 -1.6
baz=316
OWD Renai 2.02 343 P Pn 06 32 55.1 -0.2
baz=353
OWD *e*S Sb 06 33 22.6 -0.6
baz=353
WGK Gukeng 2.02 326 *e*P Pn 06 32 55.1 -0.1
baz=328
WGK S Sb 06 33 23.3 +0.1
baz=328
LXIB Xiulin Townshi 2.03 350 P Pn 06 32 54.9 -0.6
baz=358
LXIB S Sb 06 33 21.4 -2.2
baz=358
WDLH Douliu 2.04 325 P Pb 06 32 57.6 -0.4
baz=328
WDLH S Sb 06 33 22.8 -0.8
baz=328
SMLT Sun Moon Lake 2.04 336 *i* P Pb 06 32 57.4 -0.8
baz=348
SMLT *i* S Sg 06 33 25.0 -1.4
baz=348
WJS Zhushan 2.06 331 P Pb 06 32 57.7 -0.6
baz=318
WJS S Sg 06 33 25.5 -1.4
baz=318
TWD Chiawan 2.07 355 *i* P Pn 06 32 55.5 -0.3
baz=7.0
TWD S Sb 06 33 22.2 -2.2
baz=7.0
WUSB Renai 2.07 342 ⇑P Pn 06 32 56.5 +0.5
baz=352
WUSB S Sb 06 33 24.1 -0.5
baz=352
TYC Yuchr 2.08 335 ⇓*i* P Pb 06 32 58.2 -0.5
baz=322
TYC *i* S Sg 06 33 26.3 -1.2
baz=322
WSL Shuilin Townsh 2.10 316 *e*P Pn 06 32 56.5 +0.4
baz=319
WSL S Sb 06 33 23.1 -2.1
baz=319
WTK Tuku 2.12 322 P Pn 06 32 57.1 +0.6
baz=325
WTK S Sb 06 33 24.9 -1.1
baz=325
CHGB Renai 2.12 344 P Pn 06 32 56.8 0.0
baz=346
CHGB *e*S Sg 06 33 26.4 -2.5
baz=346
WNT Mingjian 2.13 331 *i* P Pb 06 32 59.4 -0.1
baz=317
WNT *i* S Sg 06 33 27.2 -1.9
baz=317
ETL Fush Village 2.15 356 *e*P Pn 06 32 58.0 +1.1
baz=7.0
ETL *e*S Sn 06 33 23.2 -0.6
baz=7.0
EOS4 EOS4 2.15 13 *e*P Pn 06 32 57.1 +0.5
baz=22
EOS4 S Sn 06 33 23.3 -0.1
baz=22
WNT1 Nantou City 2.15 331 *e*P Pb 06 32 59.7 -0.3
baz=318
WNT1 S Sg 06 33 29.1 -0.9
baz=318
NACB Ninganchiao 2.16 355 Pn 06 32 56.9 -0.2
NACB Ninganchiao 2.16 355 P Pn 06 32 57.0 -0.1
NACB Ninganchiao 2.16 355 P Pn 06 32 56.3 -0.8
baz=6.0
NACB S Sn 06 33 23.4 -0.7
baz=6.0
WHF Hehuan Shan 2.18 347 *i* P Pn 06 32 58.2 +0.5
baz=358
WHF *e*S Sb 06 33 26.1 -2.1
baz=358
WSF Szhu 2.18 318 *e*P Pn 06 32 56.9 -0.5
baz=321
WSF *e*S Sn 06 33 24.8 +0.2
baz=321
WCS Beigang Elemen 2.20 338 P Pb 06 32 58.9 -1.8
baz=324
WCS S Sb 06 33 28.0 -0.2
baz=324
ETLH Xiulin Townshi 2.21 352 P Pn 06 32 57.7 0.0
baz=4.0
ETLH *e*S Sb 06 33 27.4 -1.1
baz=4.0
FUSS Fushou 2.29 347 P Pn 06 33 00.1 +1.1
baz=356
FUSS S Sb 06 33 28.7 -2.2
baz=356
WRL Guolierlin Hig 2.30 325 P Pn 06 33 00.0 +1.1
baz=327
WRL S Sb 06 33 29.2 -1.8
baz=327
TWT Tachien 2.31 346 *i* P Pn 06 33 00.6 +1.4
baz=354
TWT *i* S Sb 06 33 29.8 -1.7
baz=354
EAHA Aohua 2.31 358 P Pn 06 33 00.4 +1.3
baz=10.0
EAHA *e*S Sb 06 33 29.8 -1.6
baz=10.0
TDCB Techi 2.31 345 P Pn 06 33 00.0 +0.8
baz=347
TDCB *e*S Sb 06 33 28.9 -2.7
baz=347
EOS3 EOS3 2.31 12 *e*P Pn 06 33 00.2 +1.2
baz=10.0
EOS3 *e*S Sn 06 33 28.1 +0.5
baz=10.0
WCHH Zhanghua 2.36 331 *e*P Pn 06 33 01.1 +1.3
baz=318
WCHH *e*S Sb 06 33 30.8 -2.0
baz=318
TCU Taichung 2.37 334 P Pb 06 33 02.4 -1.2
baz=323
TCU S Sb 06 33 32.1 -1.0
baz=323
WHP Taichung City 2.39 341 P Pb 06 33 03.9 -0.2
baz=352
WHP S Sb 06 33 32.6 -1.3
baz=352
ENA Nanau 2.41 359 *i* P Pn 06 33 00.6 +0.2
baz=10.0
ENA *e*S Sn 06 33 29.8 -0.4
baz=10.0
EWUT Wuta 2.42 359 P Pn 06 33 01.1 +0.4
baz=10.0
EWUT S Sn 06 33 30.2 -0.4
baz=10.0
EOS2 EOS2 2.43 9 *e*P Pn 06 33 01.5 +0.8
baz=8.0
EOS2 S Sn 06 33 31.1 +0.6
baz=8.0
NNSB Datong 2.44 351 P Pn 06 33 02.1 +1.1
baz=2.0
NNSB *e*S Sb 06 33 32.5 -2.8
baz=2.0
NNS Nan Shan 2.45 351 P Pb 06 33 03.2 -1.9
baz=2.0
NNS *e*S Sb 06 33 32.5 -3.1
baz=2.0
VCHM Qimei 2.50 299 P Pn 06 33 00.6 -1.1
baz=301
VCHM S Sn 06 33 30.5 -1.9
baz=301
TWQ1 Liyutan 2.51 338 ⇓*i* P Pb 06 33 05.0 -1.1
baz=323
TWQ1 *i* S Sb 06 33 37.8 +0.5
baz=323
LATG Datong 2.53 354 P Pn 06 33 03.2 +1.0
baz=6.0
LATG *e*S Sb 06 33 35.1 -2.6
baz=6.0
PHUB P'eng-hu 2.55 306 P Pn 06 33 01.6 -0.8
baz=297
PHUB S Sn 06 33 32.6 -1.0
baz=297
ESAO Su ao 2.55 1 P Pn 06 33 03.6 +1.2
baz=2.0
ESAO S Sn 06 33 34.6 +0.9
baz=2.0
WDJ Dajia District 2.56 335 *e*P Pb 06 33 05.5 -1.5
baz=322
WDJ S Sb 06 33 37.8 -0.9
baz=322
NSY Sanyi 2.58 338 *i* P Pb 06 33 05.9 -1.3
baz=325
NSY *i* S Sb 06 33 39.3 +0.1
baz=325
TWC Suao 2.59 1 *i* P Pn 06 33 04.6 +1.7
baz=2.0
TWC *i* S Sn 06 33 35.5 +0.9
baz=2.0
PNG Penghu 2.59 307 *i* P Pn 06 33 02.4 -0.5
baz=309
PNG *i* S Sn 06 33 33.3 -1.4
baz=309
NDT Datong Townshi 2.59 354 P Pn 06 33 04.7 +1.7
baz=355
NDT S Sb 06 33 37.0 -2.6
baz=355
NDS Dongshan 2.61 358 *e*P Pb 06 33 05.7 -2.1
baz=8.0
NDS *e*S Sn 06 33 35.5 +0.2
baz=8.0
ENTT Nioudou 2.63 355 *i* P Pn 06 33 04.7 +1.2
baz=8.0
ENTT S Sn 06 33 36.7 +1.1
baz=8.0
JYNG Yonagunijimaku 2.65 23 P Pn 06 33 05.0 +1.3
JYNG S Sn 06 33 36.0 -0.1
YHNB Yeheng 2.68 352 Pn Pn 06 33 05.0 +0.7
YHNB Yeheng 2.68 352 P Pn 06 33 05.9 +1.7
YHNB Yeheng 2.68 352 P Pn 06 33 05.5 +1.2
baz=5.0
YHNB S Sb 06 33 38.5 -3.5
baz=5.0
YOJ Yonaguni jima 2.68 24 Pn 06 33 04.7 +0.5
YOJ Yonaguni jima 2.68 24 P Pn 06 33 05.6 +1.4
YOJ Yonaguni jima 2.68 24 P Pn 06 33 05.5 +1.4
baz=24
YOJ S Sn 06 33 36.7 -0.2
baz=24
YOJ Yonaguni jima 2.68 24 P Pn 06 33 05.5 +1.4
YOJ S Sn 06 33 36.7 -0.2
NMLH Miaoli 2.68 340 P Pb 06 33 07.8 -1.3
baz=328
NMLH S Sb 06 33 41.4 -0.8
baz=328
NFF Wufeng Townshi 2.69 346 P Pb 06 33 06.8 -2.3
baz=328
NFF S Sb 06 33 41.6 -0.7
baz=328
NSK Sanguang 2.69 351 *i* P Pn 06 33 05.6 +1.3
baz=5.0
NSK *i* S Sb 06 33 40.3 -2.0
baz=5.0
TWE Neicheng 2.70 357 *i* P Pb 06 33 06.7 -2.7
baz=7.0
TWE *e*S Sb 06 33 39.0 -3.7
baz=7.0
NSTT Nanjuang 2.71 344 *i* P Pb 06 33 07.0 -2.5
baz=329
NSTT *i* S Sb 06 33 42.2 -0.7
baz=329
FUSB Fushanzhiwuyua 2.74 356 P Pn 06 33 06.2 +1.0
baz=7.0
FUSB *e*S Sb 06 33 40.3 -3.7
baz=7.0
HATJ Hateruma jima 2.75 42 P Pn 06 33 06.2 +1.1
HATJ S Sn 06 33 39.1 +0.6
NWLT Wulai 2.77 354 P Pn 06 33 07.5 +2.1
baz=6.0
NWLT S Sb 06 33 42.2 -2.4
baz=6.0
EGS 2.82 2 *i* P Pn 06 33 07.6 +1.5
baz=14
EGS *e*S Sb 06 33 42.2 -4.0
baz=14
TIPB Shuangxi 2.95 0 P Pn 06 33 10.2 +2.2
baz=11
TIPB S Sn 06 33 45.0 +1.4
baz=11
NHDH Xindian Distri 2.95 355 *e*P Pb 06 33 10.8 -2.7
baz=7.0
NHDH S Sb 06 33 45.5 -4.4
baz=7.0
TATO Taipei 2.97 354 Pn Pn 06 33 08.2 +0.1
TATO Taipei 2.97 354 P Pn 06 33 08.2 +0.1
TWB1 Santiao Chiao 2.99 3 *i* P Pn 06 33 09.3 +0.9
baz=13
TWB1 *e*S Sb 06 33 46.6 -4.4
baz=13
NCUH Zhongli 3.00 349 *e*P Pb 06 33 12.9 -1.5
baz=332
NCUH *e*S Sb 06 33 49.8 -1.4
baz=332
JKRS Kuro-shima 3.00 42 P Pn 06 33 10.1 +1.5
JKRS S Sn 06 33 45.1 +0.2
NWF Wu-fen Shan 3.05 360 *i* P Pb 06 33 12.3 -2.9
NWF *i* S Sb 06 33 48.7 -4.0
WFSB Wu-fen Shan 3.05 360 P Pn 06 33 11.8 +2.6
WFSB S Sb 06 33 49.2 -3.4
SXI1 Grass Mountain 3.07 1 P Pn 06 33 11.2 +1.6
baz=10.0
SXI1 S Sb 06 33 50.5 -2.8
baz=10.0
TWS1 Kuangyinshan 3.10 353 *e*P Pb 06 33 15.2 -0.9
baz=4.0
TWS1 S Sb 06 33 51.3 -2.8
baz=4.0
YM01 YM01 3.13 356 P Pb 06 33 13.8 -2.9
baz=357
YM01 *e*S Sn 06 33 48.5 +0.4
baz=357
YM08 YM08 3.17 356 P Pn 06 33 13.7 +2.7
baz=357
YM08 *e*S Sb 06 33 51.5 -4.7
baz=357
JIJ Ishigaki jima 3.18 42 P Pn 06 33 12.1 +1.1
JIJ S Sn 06 33 48.8 -0.4
JISG Ishigakijimahi 3.45 41 P Pn 06 33 16.0 +1.3
JISG *e*S Sn 06 33 56.1 +0.3
PCYT Pengchaiyu 3.61 4 *e*P Pn 06 33 19.2 +2.2
baz=5.0
VWUC VWUC 3.67 324 P Pn 06 33 17.9 0.0
baz=325
VWUC S Sn 06 34 01.5 +0.1
baz=325
JTJ Tarama 3.73 45 P Pn 06 33 20.1 +1.4
JTJ S Sn 06 34 03.5 +0.6
PTMZ Houxiangcun 3.90 321 *e*P Pn 06 33 21.5 +0.6
baz=322
PTMZ S Sn 06 34 05.3 -1.6
baz=322
KNM Kinmen 3.92 308 *i* P Pn 06 33 22.8 +1.6
baz=308
KNM *i* S Sn 06 34 09.4 +1.9
baz=308
KNMB Chin-men Tao 3.98 308 Pn Pn 06 33 22.3 +0.2
KNMB Chin-men Tao 3.98 308 P Pn 06 33 22.2 +0.1
baz=309
KNMB S Sn 06 34 07.4 -1.6
baz=309
JIRB Irabujima 4.17 47 *e*P Pn 06 33 26.3 +1.5
JIRB *e*S Sn 06 34 14.1 +0.3
ZPLA Ao Xicun 4.20 298 P Pn 06 33 24.0 -1.1
baz=299
ZPLA S Sn 06 34 11.9 -2.5
baz=299
JMJ2 Miyako jima3 4.22 49 P Pn 06 33 26.7 +1.3
JMJ2 S Sn 06 34 15.7 +0.6
DSXP Dongshan 4.38 294 P Pn 06 33 26.8 -0.8
baz=294
DSXP S Sn 06 34 17.3 -1.5
baz=294
MATB Ma-tsu 4.46 338 P Pn 06 33 29.0 +0.3
baz=327
MATB S Sn 06 34 20.6 -0.2
baz=327
AXDP Jialang 4.55 310 P Pn 06 33 29.6 -0.3

baz=310
AXDP S Sn 06 34 22.0 -1.0
baz=310
MHZQ Yeshan 4.80 329 P Pn 06 33 33.1 -0.2
baz=329
MHZQ S Sn 06 34 28.1 -1.1
baz=329
LYJJ Jianjiangzhen 4.89 338 P Pn 06 33 35.6 +1.0
baz=327
LYJJ *e*S Sn 06 34 31.1 -0.4
baz=327
XPSS Dashiqiu 5.11 344 P Pn 06 33 38.5 +0.8
baz=331
HKPS Hong Kong Po S 7.11 274 Pn Pn 06 34 04.6 -0.5
JOW Kunigami 7.60 50 Pn Pn 06 34 11.2 -0.6
JOW Kunigami 7.60 50 Pn Pn 06 34 12.8 +1.0
2.3nm,0.3s,baz=183,slow=13,SNR=8.8
JOW Sn Sn 06 35 35.2 -3.1
0.5nm,0.3s,baz=129,slow=28,SNR=1.3
3.8nm,0.3s
TGY Tagaytay City 7.91 186 LR LR 06 37 56.8
comp=Z,314nm,19.5s,baz=343,slow=44
JNU Nakatsue 13.67 34 LR LR 06 40 51.3
comp=Z,163nm,21.7s,baz=183,slow=37
LYN LuoYang 14.95 329 *e*P P 06 36 03.8 +5.8
LYN pmax pmax
comp=Z,22nm,0.8s
KSRS Korea Array 16.27 18 Pn **P** **06 36 11.7 -1.0**
comp=Z,0.3nm,0.3s,baz=200,slow=13,SNR=11
KSRS LR LR 06 43 16.8
comp=Z,173nm,18.5s,baz=195,slow=40
comp=Z,3.6nm,0.7s
HNS HongShan 16.52 340 ⇓P **P** **06 36 18.7 +3.2**
HNS *e*S **S** **06 39 23.5 -4.9**
HNS pmax pmax
comp=Z,6.0nm,0.7s
HNS LR LR
comp=N,360nm,11.1s
HNS LR LR
comp=Z,300nm,15.2s
SLVN Son La 16.66 271 Pn **Pn** **06 36 13.4 -1.3**
KMI Kunming 17.75 284 ⇑P **P** **06 36 32.4 +2.9**
KMI pmax pmax
comp=Z,12nm,1.2s
KMI LR LR
comp=N,280nm,20.5s
KMI LR LR
comp=E,190nm,15.3s
KMI LR LR
comp=Z,160nm,12.5s
MJAR Matsushiro Arr 20.31 41 P Pn 06 37 00.7 +1.5
comp=Z,3.7nm,0.9s,baz=235,slow=9.8,SNR=8.8
MJAR LR LR 06 45 12.8
comp=Z,75nm,20.3s,baz=224,slow=38
comp=Z,3.7nm,0.9s
HHC Hu-ho-hao-te 20.69 338 *e*P Pn 06 37 04.4 +0.7
HHC pP pwP 06 37 11.7 +4.4
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,97nm,4.0s
HHC LR LR
comp=N,220nm,14.9s
HHC LR LR
comp=E,320nm,15.3s
HHC LR LR
comp=Z,230nm,12.8s
TOLI2 Tolitoli 20.80 183 P **P** **06 36 59.9 -2.7**
TOLI2 IAmb IAmb 06 37 06.1
comp=Z,11nm,0.8s
BTO Baotou 21.06 334 *e*P 06 37 09.2
BTO pP pwP 06 37 13.2 +1.9
BTO sP sP 06 37 15.6 +8.6
BTO PP **PnPn** **06 37 32.3 +8.0**
BTO S Sn 06 41 08.4 +2.2
BTO SS SnSn 06 41 38.7 +17
BTO pmax pmax
comp=Z,15nm,0.6s
BTO pmax pmax
comp=Z,270nm,4.1s
BTO LR LR
comp=N,720nm,7.6s
BTO LR LR
comp=E,500nm,13.5s
BTO LR LR
comp=Z,700nm,11.8s
SBUM Sibu 21.56 207 P **P** **06 37 09.7 -1.1**
CHTO Chiang Mai 21.66 266 P **P** **06 37 11.2 -0.8**
CMAR Chiang Mai Arr 21.74 265 P **P** **06 37 10.1 -2.7**
CMAR Chiang Mai Arr 21.74 265 P **P** **06 37 14.3 +1.5**
comp=Z,1.9nm,0.3s,baz=73,slow=9.5,SNR=8.0
CMAR LR LR 06 46 45.7
comp=Z,88nm,18.9s,baz=85,slow=40
LUWI Luwuk 22.93 178 P **P** **06 37 23.8 -1.7**
MDJ Mudanjiang 23.44 14 P **P** **06 37 30.0 -0.5**
MDJ IAmb IAmb 06 37 55.9
comp=Z,29nm,1.5s
BKB Balikpapan 23.62 192 P **P** **06 37 27.5 -5.0**
USRK Ussuriysk Ar. 23.68 18 P **P** **06 37 35.9 +3.1**
comp=Z,4.7nm,0.8s,baz=190,slow=7.2,SNR=6.3
USRK LR LR 06 46 38.8
comp=Z,120nm,20.1s,baz=197,slow=36
comp=Z,4.7nm,0.8s
JTM Tenmabayashi 24.82 37 P **P** **06 37 43.1 -0.3**
KAPI Kappang 26.93 185 P **P** **06 38 01.2 -1.5**
KAPI IAmb IAmb 06 38 07.6
comp=Z,14nm,1.1s
ASAJ Asahikawa 27.95 33 LR LR 06 48 24.2
comp=Z,122nm,21.1s,baz=157,slow=34
KLR Kul'dur 28.29 14 LR LR 06 50 14.2
comp=Z,136nm,19.4s,baz=214,slow=38
ULN Ulaanbaatar 28.39 339 P **P** **06 38 15.2 -0.5**
HEH HeiHe 28.53 8 *e*P P 06 38 23.3 +6.6
HEH pmax pmax
comp=Z,6.0nm,1.0s
SONM Songino Array 28.59 338 P **P** **06 38 15.9 -1.5**
SONM Songino Array 28.59 338 P **P** **06 38 17.7 +0.3**
comp=Z,1.6nm,0.9s,baz=160,slow=9.4,SNR=8.1
SONM LR LR 06 50 52.6
comp=Z,216nm,18.4s,baz=156,slow=39
comp=Z,1.6nm,0.9s
RPSI Rantau Prapat 29.38 232 P **P** **06 38 22.5 -2.1**
RPSI IAmb IAmb 06 38 27.8
comp=Z,6.8nm,1.2s
SMRI Semarang 30.95 202 P **P** **06 38 37.6 -0.9**
WMQ Urumqi 35.59 316 *e*P **P** **06 39 20.8 +2.0**
WMQ pmax pmax
comp=Z,14nm,0.7s
KNRA Kununurra 38.07 169 P **P** **06 39 39.6 -0.4**
MK31 Makanchi Array 40.31 317 P **P** **06 39 58.7 +0.1**
MKAR Makanchi Array 40.31 317 P **P** **06 39 58.1 -0.4**
MKAR Makanchi Array 40.31 317 P **P** **06 39 59.3 +0.7**
comp=Z,1.8nm,0.6s,baz=114,slow=9.4,SNR=19
MKAR ScP **ScP** **06 45 53.3 +1.4**
comp=Z,0.2nm,0.5s,baz=116,slow=3.4,SNR=2.2
MKAR LR LR 06 57 15.1
comp=Z,48nm,19.6s,baz=53,slow=37
comp=Z,1.8nm,0.6s
YAK Yakutsk 40.36 6 LR LR 06 57 08.8
comp=Z,57nm,18.0s,baz=120,slow=37
MAKZ Makanchi 40.51 317 P **P** **06 39 59.0 -1.2**
MAKZ IAmb IAmb 06 40 08.7
comp=Z,14nm,1.5s
PETK Petropavlovsk- 41.37 32 LR LR 06 57 22.1
comp=Z,50nm,20.9s,baz=151,slow=36
H11N1 WAKE ISLAND Hy 42.08 85 T T 07 25 16.0
baz=282,slow=75,SNR=124
H11N2 WAKE ISLAND Hy 42.08 85 T T 07 25 15.5
baz=282,slow=75,SNR=154
H11N3 WAKE ISLAND Hy 42.09 85 T T 07 25 23.8
baz=282,slow=75,SNR=157
H11S3 WAKE ISLAND Hy 42.14 86 T T 07 25 17.6
baz=283,slow=75,SNR=318
H11S1 WAKE ISLAND Hy 42.15 86 T T 07 25 18.3
baz=283,slow=75,SNR=356
H11S2 WAKE ISLAND Hy 42.16 86 T T 07 25 18.9
baz=283,slow=75,SNR=436
ZAA0 Zalesovo Array 42.38 328 P **P** **06 40 14.0 -1.5**
ZALV Zalesovo Beam 42.38 328 P **P** **06 40 15.1 -0.4**
ZALV Zalesovo Beam 42.38 328 P **P** **06 40 15.8 +0.3**
comp=Z,2.0nm,0.5s,baz=114,slow=7.5,SNR=12
ZALV LR LR 06 59 19.7
comp=Z,51nm,18.1s,baz=77,slow=38
comp=Z,2.0nm,0.5s
MA2 Magadan 42.78 21 LR LR 06 59 07.4
comp=Z,87nm,18.7s,baz=220,slow=37
WRA Warramunga Arr 43.46 163 P **P** **06 40 21.5 -3.0**
comp=Z,0.4nm,0.5s,baz=344,slow=8.7,SNR=4.1
comp=Z,0.4nm,0.5s
WB2 Warramunga Arr 43.46 163 P **P** **06 40 23.5 -1.1**
WB2 IAmb IAmb 06 40 34.3
comp=Z,6.3nm,1.4s
WR0 Warramunga Arr 43.53 162 P **P** **06 40 22.8 -2.3**
WR0 IAmb IAmb 06 40 35.6
comp=Z,3.3nm,0.8s
NIL Nilore 44.12 296 P **P** **06 40 28.7 -1.2**
NIL IAmb IAmb 06 40 37.7
comp=Z,5.6nm,0.9s
KURK Kurchatov 44.13 321 P **P** **06 40 29.8 +0.2**
KURK IAmb IAmb 06 40 37.9
comp=Z,11nm,1.4s
KURBB Kurchatov Arra 44.14 321 P **P** **06 40 30.8 +1.0**
comp=Z,2.3nm,0.6s,baz=116,slow=7.7,SNR=18
comp=Z,2.3nm,0.6s
GAR Garm 46.86 303 P **P** **06 40 51.1 -0.6**
GAR IAmb IAmb 06 41 01.9
comp=Z,4.7nm,0.9s
ASAR Alice Springs 46.90 165 P **P** **06 40 50.6 -1.3**
comp=Z,0.4nm,0.5s,baz=347,slow=8.2,SNR=12
comp=Z,0.4nm,0.5s
KKAR Karatay Array 47.26 309 P **P** **06 40 53.4 -1.2**
BVAR Borovoye Array 49.72 322 P **P** **06 41 14.5 +1.1**
comp=Z,1.9nm,0.5s,baz=92,slow=8.7,SNR=17
BVAR PcP **PcP** **06 42 32.6 -1.8**
comp=Z,0.3nm,0.4s,baz=111,slow=5.1,SNR=1.5
comp=Z,1.9nm,0.5s
BRVK Borovoye 49.79 322 P **P** **06 41 14.3 +0.4**
BRVK IAmb IAmb 06 41 23.3
comp=Z,2.8nm,0.7s
TIXI Tiksi 49.82 3 LR LR 07 04 26.3
comp=Z,120nm,18.1s,baz=204,slow=38
FORT Forrest 52.83 173 P **P** **06 41 35.3 -1.5**
ABKAR Akbulak array 55.37 315 P **P** **06 41 54.8 -0.5**
BBOO Buckleboo 56.19 166 P **P** **06 42 00.4 -0.8**
GEYT Alibeck 56.40 302 P **P** **06 42 04.6 +1.6**
comp=Z,1.1nm,0.6s,baz=57,slow=5.3,SNR=2.1
comp=Z,1.1nm,0.6s
ARU Arti 57.19 324 P **P** **06 42 07.8 -0.3**
ARU IAmb IAmb 06 42 14.2
comp=Z,3.0nm,0.6s
ARU Arti 57.19 324 P **P** **06 42 08.9 +0.8**
comp=Z,2.5nm,0.4s,baz=103,slow=11,SNR=5.1
comp=Z,2.5nm,0.4s
E18K Tukpahlearik C 65.12 25 P **P** **06 43 02.4 +0.6**
E18K IAmb IAmb 06 43 11.5
comp=Z,6.8nm,1.4s
C19K Lookout Ridge 65.57 23 P **P** **06 43 06.7 +1.9**
C19K IAmb IAmb 06 43 13.8
comp=Z,3.3nm,1.1s
TTA Tatalina 67.10 29 P **P** **06 43 14.7 +0.1**
TTA IAmb IAmb 06 43 20.7
comp=Z,2.7nm,1.2s
KBZ Khabaz 67.29 310 P **P** **06 43 16.5 +0.4**
comp=Z,4.6nm,1.0s,baz=87,slow=7.4,SNR=3.1
comp=Z,4.6nm,1.0s
H21K Melozitna Rive 68.28 26 P **P** **06 43 21.8 -0.2**
H21K IAmb IAmb 06 43 30.0
comp=Z,3.4nm,1.0s
KDAK Kodiak Island 69.35 35 LR LR 07 15 15.2
comp=Z,82nm,19.4s,baz=160,slow=37
ILAR Eielson Array 70.88 27 P **P** **06 43 38.9 +0.8**
comp=Z,0.3nm,0.8s,baz=300,slow=4.1,SNR=2.6
comp=Z,0.3nm,0.8s
SPITS Spitsbergen Ar 71.72 348 P **P** **06 43 45.3 +2.4**
comp=Z,1.6nm,0.7s,baz=101,slow=7.5,SNR=7.2
comp=Z,1.6nm,0.7s
ARCES ARCESS Array B 71.76 338 P **P** **06 43 44.6 +1.3**
comp=Z,2.5nm,0.7s,baz=64,slow=7.1,SNR=1.6
comp=Z,2.5nm,0.7s
FINES FINESS Array B 73.61 330 P **P** **06 43 56.4 +2.0**
comp=Z,1.4nm,0.7s,baz=57,slow=5.3,SNR=7.6
comp=Z,1.4nm,0.7s
AKASG Malin Array Be 74.87 319 P **P** **06 44 02.5 +0.6**
comp=Z,1.3nm,0.6s,baz=60,slow=6.1,SNR=7.3
comp=Z,1.3nm,0.6s
BRTR Keskin Array B 74.92 307 P **P** **06 44 02.8 +0.1**
comp=Z,6.1nm,1.3s,baz=83,slow=6.1,SNR=5.4
comp=Z,6.1nm,1.3s
HFS Hagfors 79.73 331 P **P** **06 44 31.2 +2.1**
comp=Z,2.0nm,0.7s,baz=93,slow=8.8,SNR=7.9
HFS LR LR 07 23 08.4
comp=Z,72nm,18.9s,baz=37,slow=38
comp=Z,2.0nm,0.7s
NB2 NORSAR Subarra 80.41 332 P **P** **06 44 34.9 +2.2**
comp=Z,0.8nm,0.6s,baz=62,slow=5.6
NOA NORSAR Array B 80.41 332 P **P** **06 44 34.8 +2.0**
comp=Z,0.5nm,0.5s,baz=60,slow=7.2,SNR=5.4
NOA LR LR 07 24 14.3
comp=Z,49nm,19.1s,baz=65,slow=39
comp=Z,0.5nm,0.5s
VYHS Vyhne 81.97 319 *e*P **P** **06 44 45.3 +4.0**
YKA Yellowknife Ar 84.74 23 P **P** **06 44 57.3 +2.1**
comp=Z,0.6nm,0.8s,baz=313,slow=4.8,SNR=8.7
comp=Z,0.6nm,0.8s
GERES GERESS Array B 84.88 321 P **P** **06 44 57.9 +1.5**
comp=Z,1.3nm,0.8s,baz=45,slow=5.7,SNR=5.5
GERES LR LR 07 24 26.3
comp=Z,75nm,18.4s,baz=278,slow=37
comp=Z,1.3nm,0.8s
ELIB Princess Elisa 113.37 200 *d*PP **PP** **06 51 48.1 -1.5**

*IDC **04** 06:40:45.6±1.1,5.°88S×142.°97E,h0km,mb4.1/5,*
mbtmp4.1/6,ML4.1/1,MS2.9/1,Error ellipse: s-maj=61.1km
s-min=23.5km az=88.0
ISC 04 06:40:53.3±1.4,6.°2S±0.°1×141.°9E±0.°4,h35km,n8,σ2s05/8,
mb4.0/5,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**14.45**	**164**	LR	LR	06 49 10.9	
	comp=Z,50nm,18.9s,baz=268,slow=35						
WRA	**Warramunga Arr**	**15.55**	**208**	Pn	**P**	**06 44 32.6**	**-1.4**
	0.3nm,0.3s,baz=28,slow=13,SNR=14						
WRA				Sn	**Sn**	**06 47 21.3**	**0.0**
	0.5nm,0.3s,baz=34,slow=23,SNR=4.9						
ASAR	**Alice Springs**	**19.03**	**203**	P	**Pn**	**06 45 17.1**	**+3.7**
	0.5nm,0.3s,baz=31,slow=12,SNR=41						
ASAR				S	**Sn**	**06 48 43.5**	**-2.1**
	1.0nm,0.9s,baz=21,slow=26,SNR=4.5						
	4.7nm,0.8s						
STKA	**Stephens Creek**	**25.57**	**181**	P	**P**	**06 46 19.0**	**-0.1**
	1.5nm,0.7s,baz=350,slow=12,SNR=2.9						
	1.5nm,0.7s						
MKAR	**Makanchi Array**	**74.49**	**322**	P	**P**	**06 52 28.5**	**+0.2**
	0.7nm,0.8s,baz=112,slow=6.1,SNR=7.5						
	0.7nm,0.8s						
QSPA	**South Pole Qui**	**83.79**	**180**	P	**P**	**06 53 18.4**	**-0.6**
	2.5nm,0.6s,baz=330,slow=1.9,SNR=20						
	2.5nm,0.6s						
BVAR	**Borovoye Array**	**83.98**	**325**	P	**P**	**06 53 19.5**	**-0.4**
	2.8nm,0.8s,baz=106,slow=5.3,SNR=14						
	2.8nm,0.8s						
ILAR	**Eielson Array**	**87.66**	**24**	P	P	06 53 32.2	-5.6
	0.7nm,0.7s,baz=261,slow=4.8,SNR=8.1						
	0.7nm,0.7s						

*CATAC **04** 06:41:26.9±0.4,8.°48N×83.°31W,h7km±3km,ML3.0*
*UCR **04** 06:41:26.9±0.9,8.°48N×83.°31W,h11km±1km,MW3.6*
ISC 04 06:41:26.8±1.0,8.°49N±0.°05×83.°31W±0.°03,h13km±5km,
n31,σ0.°54/39,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTJ1	**Puerto Jimnez**	**0.05**	**10**	*e*P	**Pg**	**06 41 29.1**	**-0.3**
PTJ1				*e*S	**Sg**	**06 41 31.6**	**+0.4**
JIME	**Puerto Jimenez**	**0.05**	**344**	*e*P	**Pg**	**06 41 29.2**	**-0.3**
JIME				*e*S	**Sg**	**06 41 31.6**	**+0.4**
PIRO	**Carate, Puerto**	**0.09**	**197**	*e*P	**Pg**	**06 41 29.6**	**-0.1**
PIRO	**Carate, Puerto**	**0.09**	**197**	*i*P	**Pg**	**06 41 29.6**	**-0.1**
PIRO				IAML		06 41 36.1	
	comp=Z,14μm,1.0s						
FITO	**Golfito**	**0.21**	**49**	*e*P	**Pg**	**06 41 31.2**	**-0.3**
FITO				*e*S	**Sg**	**06 41 34.6**	**+0.1**
EDAD	**Golfito**	**0.22**	**41**	*e*P	**Pg**	**06 41 31.4**	**-0.3**
PLAN	**Los Planes de**	**0.41**	**296**	*i*P	**Pg**	**06 41 35.4**	**+0.4**
PLAN				*i*S	**Sb**	**06 41 42.2**	**+0.2**
PLAN				IAML		06 41 46.2	
	comp=Z,3μm,1.0s						
CDITO	**Canoas**	**0.44**	**79**	*i*P	**Pb**	**06 41 36.3**	**-0.2**
CDITO				*i*S	**Sb**	**06 41 43.1**	**+0.1**
CDITO				IAML		06 41 52.1	
	comp=Z,810nm,1.0s						
EDPN	**Palmar Norte**	**0.49**	**343**	*e*P	**Pg**	**06 41 36.2**	**-0.4**
EDP2	**Potrero Grande**	**0.54**	**14**	*e*P	**Pg**	**06 41 37.5**	**0.0**
EDBA	**Buenos Aires**	**0.67**	**3**	*e*P	**Pg**	**06 41 39.6**	**-0.3**
BURE	**Buenos Aires**	**0.68**	**358**	*e*P	**Pg**	**06 41 40.0**	**-0.2**
BRU2	**Volcan**	**0.68**	**64**	*i*P	**Pg**	**06 41 40.2**	**0.0**
BRU2				*i*S	**Sb**	**06 41 50.4**	**+0.3**
BRU2				IAML		06 41 52.5	
	comp=Z,480nm,1.0s						
OCHAL	**Ojochal**	**0.69**	**331**	*i*P	**Pg**	**06 41 39.4**	**-0.9**
OCHAL				*i*S	**Sb**	**06 41 50.9**	**+0.7**
OCHAL				IAML		06 41 52.9	
	comp=Z,6.5nm,1.0s						
PEZE	**Perez Zeledon,**	**0.96**	**338**	*e*P	**Pb**	**06 41 44.6**	**-0.8**
CDM	**Cerro de Muert**	**1.15**	**337**	*e*P	**Pn**	**06 41 47.8**	**-1.2**
CDM	**Cerro de Muert**	**1.15**	**337**	*i*P	**Pn**	**06 41 48.4**	**-0.6**
CDM				*i*S	**Sg**	**06 42 05.3**	**+1.2**
CDM				IAML		06 42 07.3	
	comp=Z,300nm,1.0s						
RIMA	**Rio Macho**	**1.38**	**337**	*e*P	**Pn**	**06 41 51.3**	**-0.7**
RIMA	**Rio Macho**	**1.38**	**337**	*i*P	**Pn**	**06 41 51.3**	**-0.7**
RIMA				IAML		06 42 14.0	
	comp=Z,130nm,1.0s						
LCR2	**La Lucha 2**	**1.42**	**331**	*e*P	**Pn**	**06 41 51.9**	**-0.6**
LCR2	**La Lucha 2**	**1.42**	**331**	*i*P	**Pn**	**06 41 52.6**	**+0.1**
LCR2				IAML		06 42 14.4	
	comp=Z,210nm,1.0s						
REPA	**Paraso**	**1.44**	**338**	*e*P	**Pb**	**06 41 54.0**	**+0.4**
VERB	**Verbena**	**1.50**	**345**	*e*P	**Pn**	**06 41 53.5**	**0.0**
PCAYA	**Pacayas**	**1.50**	**341**	*e*P	**Pn**	**06 41 54.0**	**+0.3**
OCM	**Ochomogo**	**1.54**	**335**	*i*P	**Pn**	**06 41 54.7**	**+0.6**
OCM				IAML		06 42 17.3	
	comp=Z,160nm,1.0s						
VTCV	**VTCV, Calle Va**	**1.54**	**345**	*e*P	**Pn**	**06 41 54.6**	**+0.4**
VTCV	**VTCV, Calle Va**	**1.54**	**345**	*i*P	**Pn**	**06 41 54.6**	**+0.4**
VTCV				IAML		06 42 20.1	
	comp=Z,360nm,1.0s						
CVTV	**Tajo**	**1.57**	**344**	*e*P	**Pn**	**06 41 54.9**	**+0.2**
ICR3	**Volcano Irazu**	**1.57**	**341**	*e*P	**Pn**	**06 41 55.2**	**+0.4**
HDC3	**Heredia 3**	**1.70**	**332**	*i*P	**Pn**	**06 41 57.1**	**+0.8**
HDC3				IAML		06 42 25.1	
	comp=Z,390nm,1.0s						
JACO	**JACO, Garabito**	**1.77**	**311**	*i*P	**Pb**	**06 41 58.4**	**-0.8**
JACO				IAML		06 42 33.3	
	comp=Z,84nm,1.0s						

DJA 04 06:46:34.2±0.3,8.°S±4.°×107.°5E±.°,h10km,M4.2/14,mb4.4/4,
MLv4.0/14,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKJI	**Sukabumi**	**1.26**	**67**	P	Pn	06 46 55.4	-2.5
CNJI	**Cibinong**	**1.74**	**84**	P	Pn	06 47 02.5	-1.9
TNG	**Tangerang**	**1.82**	**43**	P	Pn	06 47 05.6	+0.1
TNG				P	Pb	06 47 05.8	-1.8
KASI	**Kota Agung**	**2.15**	**336**	P	Pn	06 47 10.4	+0.2
LEM	**Lembang**	**2.31**	**73**	P	Pn	06 47 13.4	+0.9
LWLI	**Liwa**	**2.80**	**332**	P	Pn	06 47 19.3	+0.1
CMJI	**Cimerak**	**3.04**	**96**	P	Pn	06 47 22.9	+0.5
KPJI	**Karang Pucung**	**3.52**	**88**	P	Pn	06 47 29.4	+0.5
MNAI	**Manna**	**3.95**	**322**	P	Pn	06 47 34.6	-0.3
UGM	**Wanagama**	**5.10**	**95**	P	Pn	06 47 51.5	+0.7
	42nm,1.2s,0.6nm						
PWJI	**Pagerwojo**	**6.38**	**95**	P	Pn	06 48 09.7	+1.4
	31nm,0.6s,0.2nm						
JAGI	**Jajag, Banyuwa**	**8.73**	**97**	P	Pn	06 48 41.8	+1.1
	18nm,0.9s						
PLAI	**Plampang**	**12.33**	**97**	P	Pn	06 49 29.3	-0.7

*IDC **04** 06:50:00.8±1.0,38.°34N×70.°00E,h0km,mb3.6/9,*
mbtmp3.7/15,ML3.4/6,MS3.3/2,Error ellipse:
s-maj=16.7km s-min=12.4km az=160.0
*MOS **04** 06:50:02.9±1.3,38.°68N×69.°86E,h16km,mb4.1/5,Error*
ellipse: s-maj=8.2km s-min=4.8km az=67.1
*NEIC **04** 06:50:04.3±2.0,38.°75N±0.°05×69.°84E±0.°05,h10km±2km,*
mb4.0/5,Error ellipse: s-maj=9.2km s-min=5.7km
az=326.0
*NNC **04** 06:50:07.4±4.2,39.°02N×69.°69E,h0km,mb4.2,mpv4.0,*
Error ellipse: s-maj=33.2km s-min=23.0km az=12.0
*SOME **04** 06:50:08.8,39.°17N×69.°92E,h15km*
ISC 04 06:50:03.9±0.5,38.°75N±0.°04×70.°01E±0.°03,h10km,n121,
σ2s26/129,mb3.9/15,9C-6D,Afghanistan-Tajikistan
border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**0.35**	**43**		**Pg**	**06 50 11.9**	**+0.9**
CHGR	**Chuyangaron**	**0.67**	**263**		**Pg**	**06 50 14.8**	**-2.1**
CHGR				Sg	**Sg**	**06 50 23.7**	**-2.0**
CHGR	**Chuyangaron**	**0.67**	**263**	PG	**Pg**	**06 50 14.8**	**-2.1**
CHGR						06 50 23.7	
SIMJ	**Simiganj**	**0.79**	**264**		**Pg**	**06 50 17.2**	**-1.9**
SIMJ				Sg	**Sg**	**06 50 27.9**	**-1.6**
BTK	**Batken**	**1.45**	**25**	Pn	**Pb**	**06 50 32.2**	**+1.1**
BTK	**Batken**	**1.45**	**25**	PN	**Pb**	**06 50 32.2**	**+1.1**
DRK	**Karamyk**	**1.57**	**62**		**Pb**	**06 50 34.5**	**+1.1**
IUG	**Iuzhnay**	**3.40**	**0**	*e*P	**Pb**	**06 51 04.5**	**+0.2**
IUG	63nm,0.2s			*e*S	**Sb**	**06 51 45.0**	**-0.7**
	263nm,0.4s						
IUG	**Iuzhnay**	**3.40**	**0**	Pg	**Pb**	**06 51 04.5**	**+0.2**
	63nm,0.2s						
IUG				Lg	Lg	06 51 45.0	
	263nm,0.4s						
ARSB	**Arslanbob**	**3.44**	**41**	Pn	**Pn**	**06 50 59.8**	**+2.1**
ARSB	**Arslanbob**	**3.44**	**41**	PN	**Pn**	**06 50 59.8**	**+2.1**
CHM	**Chimkent**	**3.58**	**355**	*e*P	**Pb**	**06 51 07.8**	**+0.5**
	69nm,0.2s						
CHM				*e*S	**Sb**	**06 51 50.6**	**-0.3**
	301nm,0.3s						
DZA	**Taraz**	**4.26**	**13**	*e*P	**Pb**	**06 51 17.6**	**-1.4**
	135nm,0.3s						
DZA				*e*S	**Sb**	**06 52 07.7**	**-2.8**
	210nm,0.4s						
KBL	**Kabul**	**4.27**	**191**	Pn	**Pn**	**06 51 09.1**	**-0.1**
KBL	**Kabul**	**4.27**	**191**	PN	**Pn**	**06 51 09.1**	**-0.1**
BRLS	**Borolday**	**4.28**	**358**	*e*P	**Pn**	**06 51 13.6**	**+4.4**
	5.7nm,0.3s						
BRLS				*e*S	**Sn**	**06 52 00.1**	**+0.9**
	44nm,0.2s						
BRLS	**Borolday**	**4.28**	**358**	Pg	**Pn**	**06 51 12.9**	**+3.7**
	22nm,0.5s						
BRLS				Lg	Lg	06 52 00.1	
	123nm,0.5s						
KK31	**Karatay Array**	**4.37**	**5**		**Pn**	**06 51 10.8**	**+0.4**
KK31	**Karatay Array**	**4.37**	**5**	*e*PN	**Pn**	**06 51 14.1**	**+3.7**
KK31						06 51 29.1	
KK31	**Karatay Array**	**4.37**	**5**	Pn	**Pn**	**06 51 14.1**	**+3.7**
	2.0nm,0.3s,baz=196,slow=14,SNR=62						
KK31				⇓Pg	**Pg**	**06 51 29.1**	**+1.5**
	8.2nm,0.4s,baz=190,slow=17,SNR=9.7						
KK31				⇓Lg	Lg	06 52 23.6	
	54nm,0.6s,baz=192,slow=26,SNR=6.1						
KKAR	**Karatay Array**	**4.37**	**5**		**Pn**	**06 51 11.0**	**+0.6**
KKAR	**Karatay Array**	**4.37**	**5**	PN	**Pn**	**06 51 11.0**	**+0.6**
KSH	**Kashi**	**4.70**	**79**	Pn	**Pn**	**06 51 13.4**	**-1.7**
KSH				Sn	**Sb**	**06 52 25.0**	**+1.7**
KSH				smax	smax		
	comp=N,160nm,0.8s						
KSH				smax	smax		
	comp=E,130nm,1.0s						
EKS2	**Erkin-Say**	**4.85**	**35**	P	Pn	06 51 23.4	+6.3
	SNR=21						
UCH	**Uchtor**	**4.89**	**43**	P	**Pn**	**06 51 21.9**	**+4.0**
	SNR=34						
AAK	**Ala-Archa**	**5.17**	**40**	P	Pn	06 51 27.7	+6.1
	SNR=12						
AAK	**Ala-Archa**	**5.17**	**40**	Pn	**Pn**	**06 51 23.9**	**+2.4**
AAK	**Ala-Archa**	**5.17**	**40**	*ce*PN	**Pn**	**06 51 23.1**	**+1.6**
AAK				pmax	pmax		
	comp=Z,18nm,0.6s						
AAK	**Ala-Archa**	**5.17**	**40**	Pn	**Pn**	**06 51 25.2**	**+3.6**
	comp=Z,5.8nm,0.3s,baz=227,slow=6.0,SNR=48						
AAK				Sn	**Sb**	**06 52 31.4**	**-5.3**
	comp=Z,2.2nm,0.3s,baz=299,slow=19,SNR=1.9						
	comp=Z,23nm,0.4s						
NRN	**Naryn**	**5.32**	**58**	Pn	**Pn**	**06 51 24.7**	**+0.9**
NRN	**Naryn**	**5.32**	**58**	PN	**Pn**	**06 51 24.7**	**+0.9**
FRU1	**Bishkek**	**5.37**	**39**	Pn	**Pn**	**06 51 25.5**	**+1.4**
FRU1	**Bishkek**	**5.37**	**39**	PN	**Pn**	**06 51 25.5**	**+1.4**
KBK	**Karagaybulak**	**5.42**	**42**	P	**Pn**	**06 51 29.4**	**+4.5**
	SNR=8.2						
CHMS	**Chumysh**	**5.56**	**39**	P	Pn	06 51 32.2	+5.4

SNR=10
USP Ospenovka 5.65 36 P Pn 06 51 33.6 +5.6
SNR=6.5
NIL Nilore 5.72 152 Pn **Pn** **06 51 31.0 +2.0**
NIL Nilore 5.72 152 PN **Pn** **06 51 31.0 +2.0**
BOOM Boomskoye usch 5.86 48 Pn **Pn** **06 51 33.2 +2.3**
BOOM Boomskoye usch 5.86 48 PN **Pn** **06 51 33.3 +2.3**
ULHL Ulahol 5.90 52 P **Pn** **06 51 34.6 +3.1**
SNR=12
TKM2 Tokmak 2 5.95 44 P **Pn** **06 51 35.8 +3.6**
SNR=28
TKM2 Tokmak 2 5.95 44 *i* PN **Pn** **06 51 34.6 +2.4**
TKM2 pmax pmax
comp=Z,20nm,0.6s
TKM2 Tokmak 2 5.95 44 ⇑Pn **Pn** **06 51 34.7 +2.4**
TKM2 ⇓Sn Sn 06 52 49.8 +9.3
comp=Z,39nm,0.8s
KST Kastek 6.23 45 *eP* **Pg** **06 51 59.4 -3.8**
comp=Z,11nm,0.7s
KST *eS* **Sg** **06 53 19.3 -4.5**
comp=Z,30nm,0.3s
KST Kastek 6.23 45 Pg **Pg** **06 51 59.4 -3.8**
comp=Z,11nm,0.7s
KST Lg Lg 06 53 19.3
comp=Z,19nm,0.8s
KRBS Karabastau 6.53 39 *eP* **Pg** **06 52 06.4 -2.6**
comp=Z,12nm,0.6s
KRBS *eS* **Sg** **06 53 30.6 -3.0**
comp=Z,12nm,0.9s
KRBS Karabastau 6.53 39 Pg **Pg** **06 52 06.4 -2.6**
comp=Z,12nm,0.6s
KRBS Lg Lg 06 53 30.6
comp=Z,12nm,0.9s
MTBS Maitube 6.54 46 *eP* **Pg** **06 52 05.5 -3.6**
comp=Z,11nm,0.9s
MTBS *eS* **Sg** **06 53 29.4 -4.5**
comp=Z,13nm,0.3s
MTBS Maitube 6.54 46 Pg **Pg** **06 52 05.6 -3.6**
comp=Z,11nm,0.9s
MTBS Lg Lg 06 53 29.4
comp=Z,13nm,0.7s
TARG Taragay, Kyrgy 6.67 61 **Pn** **06 51 43.1 +0.8**
TARG Taragay, Kyrgy 6.67 61 PN **Pn** **06 51 43.1 +0.8**
TNSS Tian-Shan 6.78 49 *eP* Pg 06 52 09.8 -4.0
comp=Z,6.7nm,0.6s
TNSS *eS* **Sg** **06 53 36.9 -4.7**
comp=Z,6.3nm,0.7s
TNSS Tian-Shan 6.78 49 Pg Pg 06 52 09.8 -4.0
comp=Z,6.7nm,0.6s
TNSS Lg Lg 06 53 36.9
comp=Z,6.3nm,0.7s
MDOK Medeo 6.92 48 PN **Pn** **06 51 49.6 +4.1**
MDOK Medeo 6.92 48 ⇓Pn **Pn** **06 51 49.7 +4.1**
comp=Z,9.7nm,0.7s
MDOK ⇑Lg Lg 06 53 49.7
comp=Z,23nm,0.9s
KUU Kurty 7.01 41 *eP* **Pg** **06 52 15.9 -2.2**
comp=Z,11nm,0.8s
KUU *eS* **Sg** **06 53 47.2 -1.6**
comp=Z,14nm,0.8s
KUU Kurty 7.01 41 Pg **Pg** **06 52 15.9 -2.2**
comp=Z,11nm,0.8s
KUU Lg Lg 06 53 47.2
comp=Z,14nm,0.8s
PRZ Przheval'sk 7.39 57 Pn **Pn** **06 51 54.1 +2.0**
PRZ Przheval'sk 7.39 57 P **Pn** **06 51 54.1 +2.0**
PDGK Podgornoye 8.50 54 P **Pn** **06 52 08.9 +1.7**
PDGK Podgornoye 8.50 54 ⇓Pn **Pn** **06 52 09.0 +1.7**
comp=Z,7.6nm,1.4s
GEYT Alibeck 9.38 269 Pn **Pn** **06 52 15.9 -3.3**
GEYT Alibeck 9.38 269 Pn **Pn** **06 52 16.9 -2.3**
comp=Z,0.8nm,0.3s,baz=94,slow=11,SNR=7.6
GEYT Sn **Sn** **06 54 01.9 -2.8**
comp=Z,1.4nm,0.3s,baz=93,slow=25,SNR=4.8
comp=Z,1.4nm,0.3s
GYA0B ALIBECK ARRAY 9.38 269 Pn **Pn** **06 52 15.4 -3.7**
MK31 Makanchi Array 12.08 44 Pn **Pn** **06 52 56.1 0.0**
MK31 Makanchi Array 12.08 44 *ceP* **Pn** **06 52 57.3 +1.2**
MKAR Makanchi Array 12.08 44 Pn **Pn** **06 52 56.1 0.0**
MKAR Makanchi Array 12.08 44 *eP* **Pn** **06 52 59.3 +3.2**
MKAR Makanchi Array 12.08 44 Pn **Pn** **06 52 58.5 +2.4**
comp=Z,0.1nm,0.3s,baz=228,slow=15,SNR=12
comp=Z,1.9nm,0.8s
AB31 Akbulak array 12.75 329 P **Pn** **06 53 03.9 -1.2**
AB31 *e* 06 55 21.8
AB31 Akbulak array 12.75 329 P **Pn** **06 53 03.9 -1.2**
comp=Z,1.3nm,0.4s,baz=161,slow=11,SNR=86
ABKAR Akbulak array 12.75 329 Pn **Pn** **06 53 04.1 -1.0**
KURBB Kurchatov Arra 13.32 24 Pn **Pn** **06 53 13.3 +0.4**
comp=Z,0.1nm,0.3s,baz=213,slow=12,SNR=3.6
KURBB Lg Lg 06 57 07.3
baz=234,slow=34,SNR=5.2
comp=Z,0.4nm,0.5s
KURK Kurchatov 13.43 24 *i* P **Pn** **06 53 17.9 +3.5**
KURK pmax pmax
comp=Z,2.0nm,0.8s
WMQ Urumqi 14.23 63 *eP* **Pn** **06 53 29.8 +4.3**
WMQ pmax pmax
comp=Z,19nm,0.7s
BVA0 Borovoye Array 14.28 1 P **Pn** **06 53 23.5 -2.6**
BVA0 Borovoye Array 14.28 1 P **Pn** **06 53 23.5 -2.6**
comp=Z,0.2nm,0.8s,baz=120,slow=5.2,SNR=11
BVAR Borovoye Array 14.28 1 Pn **Pn** **06 53 26.4 +0.3**
baz=164,slow=12,SNR=10
comp=Z,1.1nm,0.5s
BRVK Borovoye 14.32 1 Pn **Pn** **06 53 25.7 -0.8**
BRVK Borovoye 14.32 1 *ceP* **Pn** **06 53 25.6 -1.0**
BRVK pmax pmax
comp=Z,5.0nm,1.7s
AKTO Aktyubinsk 14.45 328 P **Pn** **06 53 30.2 +1.8**
AKTO Aktyubinsk 14.45 328 Pn **Pn** **06 53 29.4 +0.9**
comp=Z,0.3nm,0.3s,baz=145,slow=12,SNR=2.6
AKTO Sn **Sn** **06 56 06.5 -2.1**
comp=Z,0.3nm,0.3s,baz=132,slow=16,SNR=4.5
comp=Z,1.0nm,0.3s
AKTO Aktyubinsk 14.45 328 ⇑P **Pn** **06 53 30.3 +1.8**
comp=Z,7.1nm,0.8s
DGZ Jazzator, Alta 16.57 43 *i* P **Pn** **06 53 56.5 +0.1**
ZAA0 Zalesovo Array 18.26 29 **Pn** **06 54 17.1 -0.1**
ZALV Zalesovo Beam 18.26 29 **Pn** **06 54 16.9 -0.4**
ZALV Zalesovo Beam 18.26 29 *eP* **P** **06 54 19.5 +2.1**
ZALV Zalesovo Beam 18.26 29 P **Pn** **06 54 17.1 -0.2**
comp=Z,2.7nm,0.6s,baz=220,slow=12,SNR=15
ARU Arti 19.25 340 *d* *i* P **Pn** **06 54 31.9 +2.6**
ARU pmax pmax
comp=Z,6.0nm,1.1s
LSA Lhasa 19.64 111 P **P** **06 54 34.2 +1.0**
LSA IAmb IAmb 06 54 40.6
comp=Z,3.6nm,0.7s
LSA Lhasa 19.64 111 P **P** **06 54 34.2 +1.0**
LSA pmax pmax
comp=Z,4.0nm,0.7s
GOMU GeErMu 19.84 90 P **P** **06 54 34.7 -0.6**
GOMU pP pP 06 54 39.0 +0.1
GOMU sP sP 06 54 40.2 -0.3
GOMU pmax pmax
comp=Z,2.0nm,0.8s
ONI Oni 20.47 289 P **P** **06 54 41.1 -0.7**
ONI IAmb IAmb 06 54 52.5
comp=Z,9.3nm,1.1s
ONI Oni 20.47 289 P **P** **06 54 41.1 -0.7**
ONI pmax pmax
comp=Z,9.0nm,1.1s
BELG Belogornoye 20.66 319 *i* P **P** **06 54 44.0 +0.3**
BELG pmax pmax
comp=Z,2.0nm,0.9s
KBZ Khabaz 20.94 292 LR LR 07 04 37.1
comp=Z,61nm,18.2s,baz=186,slow=42
SONM Songino Array 27.78 59 *eP* **P** **06 55 54.9 +1.9**
SONM pmax pmax
comp=Z,1.0nm,1.1s
SONM Songino Array 27.78 59 P **P** **06 55 52.8 -0.2**
comp=Z,0.4nm,0.5s,baz=255,slow=9.2,SNR=4.5
comp=Z,0.4nm,0.5s
PZH PanZhiHua 29.24 105 P **P** **06 56 09.2 +3.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,130nm,5.3s
AKASG Malin Array Be 30.95 306 P **P** **06 56 21.7 +0.8**
comp=Z,0.3nm,0.4s,baz=79,slow=7.4,SNR=4.8
comp=Z,0.3nm,0.4s
AKBB Malin Array Si 30.95 306 *ce*P **P** **06 56 23.5 +2.5**
AKBB pmax pmax
comp=Z,3.0nm,1.0s

HHC Hu-ho-hao-te 31.79 73 *eP* **P** **06 56 30.2 +1.6**
HHC pP sP 06 56 34.6 +0.9
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,120nm,5.0s
FINES FINESS Array B 35.19 325 *eP* **P** **06 57 01.7 +3.9**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 35.19 325 P **P** **06 56 58.7 +0.9**
comp=Z,0.5nm,0.4s,baz=107,slow=9.0,SNR=6.0
comp=Z,0.5nm,0.4s
HFS Hagfors 40.83 320 P **P** **06 57 46.0 +0.6**
HFS Hagfors 40.83 320 P **P** **06 57 46.0 +0.6**
comp=Z,1.1nm,0.4s,baz=103,slow=11,SNR=9.1
comp=Z,1.1nm,0.4s
NC303 NORSAR Array S 42.06 322 P **P** **06 57 56.1 +0.6**
NC303 IAmb IAmb 06 58 23.3
comp=Z,5.0nm,1.1s
NB2 NORSAR Subarra 42.12 322 P **P** **06 57 55.5 -0.6**
comp=Z,3.3nm,1.0s,baz=95,slow=8.6
NOA NORSAR Array B 42.12 322 P **P** **06 57 56.1 0.0**
comp=Z,0.7nm,0.8s,baz=109,slow=8.0,SNR=4.6
comp=Z,0.7nm,0.8s
TIXI Tiksi 44.00 23 P **P** **06 58 11.6 +0.6**
TIXI Tiksi 44.00 23 *ce*P **P** **06 58 10.9 -0.1**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
MJAR Matsushiro Arr 52.89 70 LR LR 07 21 17.2
comp=Z,41nm,19.6s,baz=64,slow=35
MA2 Magadan 53.10 39 *ce*P **P** **06 59 21.6 +0.4**
MA2 pmax pmax
comp=Z,21nm,2.0s
ESDC Sonseca Array 55.74 296 P **P** **06 59 40.5 -0.3**
comp=Z,0.3nm,0.8s,baz=64,slow=6.7,SNR=1.4
comp=Z,0.3nm,0.8s
YKA Yellowknife Ar 79.04 2 *eP* **P** **07 02 08.0 +0.2**
YKA Yellowknife Ar 79.04 2 P **P** **07 02 08.4 +0.6**
comp=Z,0.2nm,0.7s,baz=349,slow=5.8,SNR=6.1
comp=Z,0.2nm,0.7s
WRA Warramunga Arr 83.84 121 P **P** **07 02 32.0 -1.9**
WRA Warramunga Arr 83.84 121 P **P** **07 02 32.0 -1.9**
comp=Z,0.9nm,0.9s,baz=325,slow=4.9,SNR=4.8
comp=Z,0.9nm,0.9s
ASAR Alice Springs 86.18 124 *eP* **P** **07 02 44.1 -1.5**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 86.18 124 P **P** **07 02 43.8 -1.8**
comp=Z,0.6nm,0.8s,baz=323,slow=5.8,SNR=5.9
comp=Z,0.6nm,0.8s

*IDC **04** 06:54:05.4±4.2, 5°.47S×142°.73E, h0km, mb3.3/1, mbtmp3.1/3, ML3.1/2, Error ellipse: s-maj=132.3km s-min=38.1km az=93.0, New Guinea*

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.54**	**209**	Pn	Pn		06 57 57.7	-1.3
	0.1nm,0.3s,baz=31,slow=12,SNR=2.4							
	0.4nm,0.7s							
ASAR	**Alice Springs**	**19.99**	**204**	P	P		06 58 40.4	+0.7
	0.1nm,0.3s,baz=29,slow=11,SNR=3.4							
	0.3nm,0.7s							
MKAR	**Makanchi Array**	**74.42**	**322**	P	P		07 05 45.5	0.0
	0.2nm,0.8s,baz=120,slow=7.6,SNR=2.4							
	0.2nm,0.8s							

*IDC **04** 07:17:53.9±13.0, 19°.98S×179°.23W, h618km±107km, mb2.5/3, mbtmp3.6/4, Error ellipse: s-maj=243.9km s-min=52.6km az=140.0*
ISC 04 07:17:51.2±3.4, 20°.3±1°×179°.0W±0°.6, h600km, n8, σ1s72/7, mb3.1/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.68**	**260**	P	**P**		**07 20 46.4**	**-0.6**
	4.0nm,0.7s,baz=132,slow=15,SNR=2.4							
ASAR	**Alice Springs**	**43.64**	**257**	P	**P**		**07 25 05.0**	**+0.6**
	0.3nm,0.5s,baz=91,slow=8.4,SNR=5.4							
	0.3nm,0.5s							
WRA	**Warramunga Arr**	**43.68**	**262**	P	**P**		**07 25 05.3**	**+0.6**
	0.1nm,0.3s,baz=97,slow=7.4,SNR=6.6							
	0.1nm,0.3s							
ILAR	**Eielson Array**	**88.25**	**13**	P	**P**		**07 29 39.5**	**+0.3**
	0.4nm,0.8s,baz=217,slow=5.0,SNR=4.2							
	0.4nm,0.8s							
BVAR	**Borovoye Array**	**118.24**	**320**	PKP	**PKPdf**		**07 35 30.6**	**-0.3**
	0.4nm,0.3s,baz=93,slow=2.9,SNR=5.1							
HFS	**Hagfors**	**139.10**	**350**	PKhKP	PKPpre		07 36 04.1	
	0.9nm,0.7s,baz=57,slow=4.0,SNR=6.1							
AKASG	**Malin Array Be**	**142.29**	**331**	PKP	**PKPdf**		**07 36 13.6**	**-2.6**
	1.2nm,0.4s,baz=45,slow=4.0,SNR=13							
BRTR	**Keskin Array B**	**145.93**	**312**	PKPbc	**PKPdf**		**07 36 25.0**	**+2.0**
	0.4nm,0.6s,baz=141,slow=3.9,SNR=2.4							

TRN 04 07:56:44.6, 17°.52N×62°.53W, h167km, MD3.6, North-east of St. Kitts., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MBFL	**Flemmings, Mon**	**0.82**	**158**	*eP*	Pn		07 57 10.6	+0.9
ANBD	**Bethesda, Anti**	**0.86**	**122**	*eP*	Pn		07 57 11.8	+1.8
ANBD				*eS*	Sn		07 57 30.3	+0.8
ABD	**La Joyeuse, An**	**1.44**	**136**	*eP*	Pn		07 57 15.3	+0.4
ABD				*eS*	Sn		07 57 38.4	+0.3
SVN	**Savane Anatole**	**2.96**	**154**	*eP*	Pn		07 57 33.8	+1.5
MPOM	**Morne Pois Mar**	**3.45**	**152**	*eP*	Pn		07 57 38.5	+0.1
MPOM				*eS*	Sn		07 58 19.8	-0.3

IDC 04 07:57:00.5±1.5, 6°.15S×143°.74E, h0km, mb3.3/2, mbtmp3.5/4, ML1.8/1, Error ellipse: s-maj=43.2km s-min=28.7km az=63.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.69**	**134**	Pn	Pn		07 58 12.8	+0.2
	2.7nm,0.3s,baz=301,slow=12,SNR=6.2							
PMG				Sn	Sn		07 59 07.1	-0.6
	0.9nm,0.3s,baz=306,slow=19,SNR=1.7							
	7.3nm,0.3s							
WRA	**Warramunga Arr**	**16.47**	**213**	Pn	Pn		08 00 49.1	-4.1
	0.2nm,0.3s,baz=30,slow=14,SNR=10							
WRA				Sn	Sn		08 03 44.0	-13
	0.1nm,0.3s,baz=37,slow=22,SNR=1.8							
ASAR	**Alice Springs**	**19.82**	**207**	P	P		08 01 33.0	+0.1
	2.0nm,0.7s,baz=35,slow=9.6,SNR=28							
MKAR	**Makanchi Array**	**75.57**	**321**	P	P		08 08 47.2	0.0
	0.1nm,0.6s,baz=101,slow=7.5,SNR=1.6							
	0.1nm,0.6s							
ILAR	**Eielson Array**	**86.91**	**24**	P	P		08 09 47.1	0.0
	0.3nm,0.8s,baz=241,slow=6.8,SNR=1.7							
	0.3nm,0.8s							

*IDC **04** 08:10:39.6±1.2, 6°.26S×143°.11E, h0km, mb4.1/3, mbtmp4.1/6, ML4.1/2, Error ellipse: s-maj=33.5km s-min=21.8km az=82.0*
ISC 04 08:10:44.5±1.1, 6°.6S±0°.1×142°.95E±0°.10, h35km, n6, σ1s76/9, mb4.0/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.05**	**125**	Pn	**Pn**		**08 11 57.1**	**-0.6**
	5.3nm,0.3s,baz=262,slow=9.0,SNR=2.9							
PMG				Sn	**Sn**		**08 12 55.3**	**+0.5**
	6.0nm,0.3s,baz=235,slow=22,SNR=3.9							
WRA	**Warramunga Arr**	**15.72**	**211**	Pn	**P**		**08 14 24.9**	**-2.2**
	0.7nm,0.3s,baz=30,slow=13,SNR=26							
WRA				Sn	**Sn**		**08 17 16.3**	**-0.5**
	0.2nm,0.3s,baz=42,slow=22,SNR=4.1							
WRA				Lg	Lg		08 19 08.8	
	0.1nm,0.3s,baz=34,slow=28,SNR=2.3							
	1.7nm,0.4s							
ASAR	**Alice Springs**	**19.11**	**206**	P	**Pn**		**08 15 09.1**	**+3.5**
	0.5nm,0.3s,baz=32,slow=10,SNR=55							
ASAR				S	**S**		**08 18 38.9**	**-0.7**
	0.6nm,0.7s,baz=21,slow=27,SNR=2.1							
ASAR				Lg	Lg		08 20 57.2	
	baz=21,slow=31,SNR=2.7							
	6.5nm,0.8s							
MKAR	**Makanchi Array**	**75.39**	**322**	P	**P**		**08 22 24.7**	**0.0**
	1.1nm,0.7s,baz=106,slow=7.1,SNR=15							
	1.1nm,0.7s							
KURBB	**Kurchatov Arra**	**79.28**	**324**	P	**P**		**08 22 45.9**	**-0.4**
	0.7nm,0.7s,baz=111,slow=4.7,SNR=5.3							
	0.7nm,0.7s							
BVAR	**Borovoye Array**	**84.86**	**325**	P	**P**		**08 23 15.8**	**+0.3**
	2.8nm,0.7s,baz=104,slow=6.3,SNR=18							
	2.8nm,0.7s							

*IDC **04** 08:15:39.5±5.7, 14°.88N×92°.78W, h0km, mb3.6/3, mbtmp3.5/5, ML3.5/2, Error ellipse: s-maj=170.3km s-min=50.0km az=33.0*
*MEX **04** 08:15:40.6±0.9, 14°.48N×93°.36W, h26km±64km, MD4.3*
*GCG **04** 08:15:43.1±0.6, 14°.86N×93°.07W, h38km±999km, MD3.8*
ISC 04 08:15:37.5±2.4, 14°.41N±0°.06×93°.32W±0°.03, h11km±15km, n37, σ2s68/63, mb3.5/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
THIG		**1.13**	**64**	*eP*		**Pb**	**08 15 58.1**	**-1.0**
THIG				*eS*		**Sb**	**08 16 11.8**	**-2.1**
PATR	**El Naranjo**	**1.26**	**56**	*eP*		**Pn**	**08 15 59.9**	**-1.4**
PATR				*i* S		**Sb**	**08 16 14.6**	**-3.2**
PCIG		**1.29**	**4**	*eP*		**Pn**	**08 16 00.5**	**-1.0**
PCIG				*i* S		**Sb**	**08 16 14.8**	**-3.6**
PAVE	**Pavencul**	**1.35**	**55**	*eP*		**Pn**	**08 16 01.4**	**-1.1**
PAVE				*i* S		**Sb**	**08 16 17.7**	**-2.6**
CHUJ	**Union Juarez**	**1.35**	**60**	*eP*		**Pn**	**08 16 01.5**	**-1.1**
CHUJ				*i* S		**Sb**	**08 16 18.0**	**-2.4**
RTAL	**Retalhuleu**	**1.57**	**86**	*i* P		**Pn**	**08 16 04.7**	**-0.7**
RTAL				*i* S		**Sn**	**08 16 23.5**	**-2.4**
SMSP	**San Marcos**	**1.59**	**69**	*eP*		**Pn**	**08 16 05.1**	**-0.8**
SMSP				*i* S		**Sn**	**08 16 24.6**	**-1.9**
SULM	**Suchitepequez,**	**1.70**	**93**	*eP*		**Pb**	**08 16 08.2**	**-0.6**
STG3	**Santiaguito 3,**	**1.72**	**80**	*eP*		**Pn**	**08 16 07.6**	**0.0**
CARR	**Arriaga**	**1.91**	**343**	*i* P		**Pn**	**08 16 11.1**	**+1.0**
CARR				*i* S		**Sb**	**08 16 35.7**	**-0.7**
HUEH	**Huehuetenango**	**1.97**	**63**	*eP*		**Pn**	**08 16 11.9**	**+0.8**
HUEH				*i* S		**Sg**	**08 16 40.6**	**-0.5**
CCIG	**Comitan**	**2.18**	**31**	*i* P		**Pb**	**08 16 16.4**	**-0.7**
CCIG				*i* S		**Sn**	**08 16 41.4**	**+0.4**
TGIG		**2.36**	**5**	*eP*		**Pn**	**08 16 18.4**	**+2.1**
TGIG				*i* S		**Sn**	**08 16 41.5**	**-3.8**
FUG	**Fuego 3**	**2.40**	**89**	*eP*		**Pn**	**08 16 17.4**	**+0.4**
FUG				*eS*		**Sn**	**08 16 44.7**	**-1.6**
NILT	**Santiago Nilte**	**2.48**	**330**	*eP*		**Pn**	**08 16 19.9**	**+2.0**
NILT				*i* S		**Sn**	**08 16 48.7**	**+0.5**
PCG	**Pacaya**	**2.62**	**90**	*eP*		**Pn**	**08 16 21.7**	**+1.6**
HUIG	**Huatulco**	**3.02**	**297**	*eP*		**Pn**	**08 16 24.4**	**-0.9**
HUIG				*i* S		**Sn**	**08 16 57.2**	**-4.2**
CMIG	**Matias Romero**	**3.06**	**331**	Pn		**Pn**	**08 16 27.6**	**+1.7**
	7.3nm,0.3s,baz=163,slow=13,SNR=85							
CMIG				Sn		**Sn**	**08 17 04.4**	**+1.9**
	11nm,0.3s,baz=186,slow=22,SNR=9.4							
	16nm,0.3s							
CMIG	**Matias Romero**	**3.06**	**331**	*eP*		**Pn**	**08 16 27.2**	**+1.3**
CMIG				*eS*		**Sn**	**08 17 02.0**	**-0.6**
PEIG	**Puerto Escondi**	**4.02**	**294**	*eP*		**Pn**	**08 16 38.6**	**-0.5**
PEIG				*i* S		**Sn**	**08 17 21.7**	**-4.5**
NEUV	**Arroyo Zacate**	**4.06**	**324**	*eP*		**Pn**	**08 16 40.1**	**+0.5**
NEUV				*eS*		**Sn**	**08 17 25.5**	**-1.7**
PETF	**Flores**	**4.15**	**53**	*eP*		**Pn**	**08 16 42.5**	**+1.6**
VHO	**Vista Hermosa**	**4.22**	**309**	*eP*		**Pn**	**08 16 45.5**	**+3.4**
VHO				*eS*		**Sn**	**08 17 28.6**	**-2.8**
YOIG	**Yosondua**	**4.75**	**301**	*eP*		**Pn**	**08 16 49.1**	**-0.2**
YOIG				*eS*		**Sn**	**08 17 40.7**	**-3.8**
SCIG	**Sabancuy**	**4.97**	**24**	*i* P		**Pn**	**08 16 54.2**	**+2.1**
SCIG				*eS*		**Sn**	**08 17 46.9**	**-2.7**
PNIG	**Pinotepa**	**5.04**	**294**	*eP*		**Pn**	**08 16 54.1**	**+1.0**
PNIG				*i* S		**Sn**	**08 17 44.9**	**-6.5**
TXIG	**Tlaxiaco**	**5.13**	**304**	*eP*		**Pn**	**08 16 55.8**	**+1.1**
TXIG				*i* S		**Sn**	**08 17 53.0**	**-1.1**
TOIG	**Toxpalan**	**5.14**	**316**	*eP*		**Pn**	**08 16 51.4**	**-3.2**
TOIG				*eS*		Sn	08 17 44.1	-10
HLIG	**Huajuapan de L**	**5.49**	**309**	*eP*		**Pn**	**08 17 03.0**	**+3.5**
HLIG				*eS*		**Sn**	**08 18 02.6**	**-0.2**
TPIG	**Tehuac#an**	**5.56**	**316**	*eP*		Pn	08 16 53.0	-7.5
TPIG				*eS*		**Sn**	**08 17 57.3**	**-7.2**
FTIG	**Fresnillo de T**	**5.79**	**308**	*eP*		**Pn**	**08 17 03.7**	**+0.2**
FTIG				*eS*		**Sn**	**08 18 02.8**	**-7.2**
JAUV	**Jalcomulco**	**5.95**	**326**	*eP*		**Pn**	**08 17 05.8**	**+0.1**
JAUV				*i* S		**Sn**	**08 18 09.4**	**-4.5**
PPM	**Popocatepetl**	**6.88**	**313**	*eP*		Pn	08 17 13.6	-5.2
PPM				*eS*		**Sn**	**08 18 33.5**	**-3.9**
TXAR	**Lajitas Array**	**17.67**	**329**	P		**P**	**08 19 47.7**	**+2.9**
	baz=148,slow=14,SNR=8.9							
	0.9nm,0.9s							
NVAR	**Mina Array Bea**	**32.56**	**322**	P		**P**	**08 22 12.6**	**+3.5**
	0.5nm,0.7s,baz=132,slow=9.1,SNR=5.7							
	0.5nm,0.7s							
YKA	**Yellowknife Ar**	**50.34**	**347**	P		**P**	**08 24 34.9**	**+0.7**
	1.2nm,0.7s,baz=154,slow=7.3,SNR=5.9							
	1.2nm,0.7s							
ILAR	**Eielson Array**	**61.96**	**337**	P		**P**	**08 25 59.3**	**+2.0**
	0.3nm,0.8s,baz=130,slow=6.8,SNR=1.8							
	0.3nm,0.8s							

*MOS **04** 08:16:25.1±0.9, 52°.42N×170°.62W, h46km, mb5.1/72, MS4.2/6, Error ellipse: s-maj=7.3km s-min=4.5km az=87.9*
*AEIC **04** 08:16:26.9±3.5, 52°.22N±0°.10×170°.48W±0°.08, h26km±4km, Error ellipse: s-maj=15.2km s-min=4.8km az=159.0*
*IDC **04** 08:16:26.9±1.4, 52°.46N×170°.67W, h48km±12km, mb4.5/36, mbtmp4.7/40, ML4.3/4, MS4.1/71, Error ellipse: s-maj=12.9km s-min=8.6km az=168.0*
*NEIC **04** 08:16:27.9±2.0, 52°.42N±0°.09×170°.59W±0°.08, h55km±6km, mb4.9/519, ML4.9/8, ML4.7(AEIC), Error ellipse: s-maj=13.9km s-min=5.4km az=158.0*
*GCMT **04** 08:16:27.9±0.2, 52°.25N±0°.02×170°.34W±0°.02, h48km±1km, MW5.0/103, Moment Tensor Solution. s80,c102; s103,c151; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.85±.15; $M_{\theta\theta}$-3.56±.12; $M_{\phi\phi}$-0.29±.12; $M_{r\theta}$1.20±.11; $M_{\theta\phi}$-1.98±.07; $M_{\phi r}$1.14±.09; Best double couple: M_o4.49500×10^{16} NP1:ϕs57.00000°, δ56.00000°, λ81.00000°. NP2:ϕs254.00000°, δ35.00000°, λ104.00000°. Principal axes: T 4.2090, Plg77.0000°, Azm296.0000°; N 0.5700, Plg8.0000°, Azm62.0000°; P -4.7810, Plg10.0000°, Azm154.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **04** 08:16:27.3±0.0, 52°.66N×170°.99W, h60km, mb5.0/60, mB5.1/30, Ms4.7/29, Ms7 4.4/33*
ISC 04 08:16:27.7±0.4, 52°.43N±0°.05×170°.59W±0°.03, h56km±2km, h56km:pP-P, n1288, σ1s95/1118, mb4.9/368, MS4.1/81, 47C-14D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CLES	**Cleveland East**	**0.58**	**47**			**Pn**	**08 16 39.5**	**-0.7**
CLES					Sn	**Sn**	**08 16 50.0**	**+0.6**
CLCO	**Concord Point,**	**0.64**	**55**			**Pn**	**08 16 39.8**	**-1.1**
CLCO						**Sn**	**08 16 50.2**	**-0.4**
NIKH	**Nikolski High**	**1.19**	**62**			**Sn**	**08 17 02.2**	**-1.1**
NIKH	**Nikolski High**	**1.19**	**62**		Pn	**Pn**	**08 16 46.5**	**-1.5**
NIKH	**Nikolski High**	**1.19**	**62**		P	**Pn**	**08 16 46.5**	**-1.5**
	baz=233,SNR=108							
OKWE	**Okmok W'ng Wal**	**1.77**	**53**			**Pn**	**08 16 56.2**	**+0.3**
OKCE	**Okmok Cone E**	**1.78**	**55**			**Pn**	**08 16 56.1**	**+0.1**
OKCE						**Sn**	**08 17 18.1**	**+0.5**
OKNC	**Okmok New Cone**	**1.82**	**54**			**Pn**	**08 16 56.9**	**+0.3**
OKER	**Okmok East Rim**	**1.85**	**55**			**Pn**	**08 16 57.2**	**+0.2**
OKFG	**Magazine Ridge**	**1.90**	**58**			**Pn**	**08 16 57.4**	**-0.3**
OKFG						**Sn**	**08 17 20.6**	**+0.1**
KOFP	**Korovin Flat P**	**2.15**	**267**			**Pn**	**08 17 01.7**	**+0.5**
KOKL	**Mount Kliuchef**	**2.21**	**269**			**Pn**	**08 17 03.1**	**+1.1**
ATKA	**Atka Island**	**2.22**	**266**		Pn

AKBBA **Akutan Broad B** 3.26 57 Pn Pn 08 17 17.5 +1.2
AKLV **Akutan Long Va** 3.28 56 Pn 08 17 17.8 +1.2
AKGG **Akutan Green G** 3.28 55 Pn 08 17 18.1 +1.6
AHB **Akutan Harbor** 3.33 58 Pn 08 17 18.7 +1.4
AKUT **Akutan** 3.36 57 Pn Pn 08 17 19.0 +1.4
AKUT IAML 08 18 14.7
comp=E,2µm,0.9s
AKUT **Akutan** 3.36 57 P Pn 08 17 19.4 +1.8
GSTR **Great Sitkin T** 3.38 267 Pn 08 17 18.8 +0.9
GSMY **Great Sitkin M** 3.38 266 Pn 08 17 18.4 +0.5
AKSA **Akutan Strait** 3.40 58 Pn 08 17 19.1 +1.0
GSCK **Great Sitkin C** 3.45 265 Pn 08 17 19.2 +0.4
ADK **Adak** 3.79 264 Pn Pn 08 17 23.9 +0.4
ADK IAML 08 18 20.7
comp=E,3µm,0.8s
ADK IAML 08 18 21.6
comp=E,4µm,0.7s
ADK **Adak** 3.79 264 P Pn 08 17 24.1 +0.6
ADK **Adak** 3.79 264 P Pn 08 17 23.9 +0.4
KIRH **Kanaga Island** 4.04 265 Pn 08 17 28.3 +1.4
WECS **Westdahl Cape** 4.06 56 Pn 08 17 28.6 +1.3
KIWB **Kanaga Island** 4.08 265 Pn Pn 08 17 28.3 +0.8
KICM **Kanaga Island** 4.10 266 Pn 08 17 28.9 +1.3
WEBT **Westdahl Beart** 4.11 56 Pn 08 17 29.3 +1.5
P08K **Saint George I** 4.23 8 Pn 08 17 31.2 +1.8
P08K **Saint George I** 4.23 8 P Pn 08 17 28.1 -1.4
baz=187
TAFP **Tanaga Falls P** 4.58 266 Pn 08 17 35.5 +1.1
TASE **Tanaga Southea** 4.62 266 Pn 08 17 36.2 +1.2
ISLZ **Isanotski Laza** 4.70 58 Pn 08 17 36.8 +0.7
SPIA **Saint Paul Isl** 4.77 2 P Pn 08 17 39.4 +2.6
SPIA **Saint Paul Isl** 4.77 2 P Pn 08 17 36.2 -0.6
baz=182,SNR=5.9
FALS **False Pass** 4.92 57 Pn 08 17 40.0 +1.2
FALS **False Pass** 4.92 57 P Pn 08 17 41.5 +2.7
comp=E,329nm,0.6s
FALS **False Pass** 4.92 57 P Pn 08 17 39.8 +0.9
baz=241,SNR=11
GAEA **Gareloi East** 5.07 266 Pn 08 17 43.8 +2.8
CEPE **Semis' Perret** 6.02 269 Pn 08 17 55.8 +1.8
PS1A **Pavlof South-1** 6.03 57 Pn 08 17 56.6 +2.5
CEAP **Semis' Anvil P** 6.06 270 Pn 08 17 56.8 +2.3
CESW **Semis' Southwe** 6.08 269 Pn 08 17 56.6 +1.8
AMKA **Amchitka** 6.34 264 Pn Pn 08 17 59.8 +1.4
SDPT **Sand Point** 6.66 60 Pn 08 18 03.5 +0.8
SDPT **Sand Point** 6.66 60 P Pn 08 18 04.4 +1.7
SDPT **Sand Point** 6.66 60 P Pn 08 18 03.0 +0.3
baz=246
LSPA **Little Sitkin** 6.68 270 Pn 08 18 05.3 +2.3
LSSE **Little Sitkin** 6.69 270 Pn 08 18 05.8 +2.7
CNBA **Chernabura Isl** 6.97 66 Pn Pn 08 18 06.3 -0.7
CHNA **Chernabura Isl** 6.97 65 P Pn 08 18 07.6 +0.6
baz=252
S14K **Fog Glacier** 7.52 55 P Pn 08 18 15.5 +0.9
baz=242
VNFG **Fog Glacier, M** 7.52 55 Pn 08 18 16.9 +2.3
CHGN **Chignik** 8.10 57 P Pn 08 18 23.3 +0.8
baz=245
M11K **Mekoryuk** 8.34 15 Pn 08 18 28.9 +3.2
M11K **Mekoryuk** 8.34 15 P Pn 08 18 25.5 -0.2
baz=198,SNR=7.7
O14K **Tigyukauivet M** 8.62 34 Pn 08 18 32.2 +2.7
O14K **Tigyukauivet M** 8.62 34 P Pn 08 18 30.6 +1.1
baz=220
M13K **Dall Lake** 8.95 24 Pn 08 18 37.1 +3.1
M13K **Dall Lake** 8.95 24 P Pn 08 18 34.9 +0.9
baz=209,SNR=10
N14K **Kuskokwak Cree** 9.00 30 Pn 08 18 37.7 +2.9
N14K **Kuskokwak Cree** 9.00 30 P Pn 08 18 36.1 +1.4
baz=216,SNR=34
O15K **Ungalikthiuk R** 9.08 38 Pn 08 18 38.6 +2.8
O15K **Ungalikthiuk R** 9.08 38 P Pn 08 18 37.8 +2.0
baz=225
SHEM **Shemya Is, Ala** 9.33 278 P Pn 08 18 39.8 +0.5
comp=E,11nm,0.3s,baz=77,slow=18,SNR=4.4
SHEM LR LR 08 22 06.3
comp=E,823nm,20.0s,baz=118,slow=37
comp=E,39nm,0.4s
M14K **Bethel** 9.60 26 Pn Pn 08 18 46.0 +3.1
M14K **Bethel** 9.60 26 P Pn 08 18 44.8 +1.9
baz=212,SNR=23
N15K **Kwethluk River** 9.70 33 Pn 08 18 47.7 +3.4
N15K **Kwethluk River** 9.70 33 P Pn 08 18 44.6 +0.3
baz=220,SNR=23
P16K **Nushagak River** 9.70 42 Pn 08 18 47.1 +2.8
P16K **Nushagak River** 9.70 42 P Pn 08 18 45.2 +0.9
baz=231,SNR=12
M15K **Kasigluk River** 9.92 29 P Pn 08 18 48.4 +1.2
baz=217,SNR=34
L14K **Kuka Creek** 9.92 23 P Pn 08 18 47.9 +0.6
baz=208
O16K **Kokwok River B** 10.02 39 P Pn 08 18 49.6 +1.0
baz=228,SNR=20
Q16K **King Salmon** 10.07 46 P Pn 08 18 50.0 +0.8
baz=236
Q17K **Contact Creek** 10.20 49 P Pn 08 18 51.8 +0.5
baz=240
N16K **Nishlik Lake** 10.37 34 P Pn 08 18 52.6 -0.9
baz=223
SII **Sitkinak Islan** 10.40 60 P Pn 08 18 54.4 +0.6
baz=252
P17K **Kvichak River** 10.45 44 P Pn 08 18 56.1 +1.6
baz=235,SNR=16
L15K **Ungalak Mounta** 10.51 24 P Pn 08 18 56.0 +0.8
baz=211
O17K **Koliganek Bris** 10.52 40 P Pn 08 18 56.4 +0.9
baz=230,SNR=12
M16K **Timber Creek** 10.71 32 P Pn 08 18 59.0 +0.9
baz=221,SNR=13
N17K **Nushagak Hills** 10.97 37 P Pn 08 19 02.9 +1.2
baz=227,SNR=22
J14K **Nanvaranak Lak** 11.01 17 P Pn 08 19 02.5 +0.4
baz=202
K15K **Wolf Creek Mou** 11.02 23 P Pn 08 19 01.3 -1.1
baz=210,SNR=21
OHAK **Old Harbor** 11.07 57 P Pn 08 19 03.1 +0.1
baz=250
P18K **Big Mountain,** 11.07 45 Pn Pn 08 19 06.3 +3.2
P18K **Big Mountain,** 11.07 45 P Pn 08 19 02.8 -0.3
baz=237,SNR=11
L16K **Owhat River** 11.08 29 Pn Pn 08 19 05.7 +2.5
L16K **Owhat River** 11.08 29 P Pn 08 19 03.1 0.0
baz=217,SNR=57
O18K **Koktuh Hills** 11.34 43 Pn Pn 08 19 09.6 +2.9
O18K **Koktuh Hills** 11.34 43 P Pn 08 19 06.6 -0.1
baz=235,SNR=6.8
GAMB **Gambell** 11.40 358 P Pn 08 19 06.3 -1.2
baz=176
M17K **Holitna River** 11.49 33 P Pn 08 19 07.8 -1.0
baz=224
N18K **Kilae Creek** 11.56 39 P Pn 08 19 09.2 -0.5
baz=230
KDAK **Kodiak Island** 11.61 55 Pn Pn 08 19 09.1 -1.3
KDAK **Kodiak Island** 11.61 55 *i* P Pn 08 19 09.7 -0.7
KDAK **Kodiak Island** 11.61 55 P Pn 08 19 09.7 -0.7
baz=249
KDAK **Kodiak Island** 11.61 55 P Pn 08 19 09.3 -1.0
comp=E,0.8nm,0.3s,baz=244,slow=5.0,SNR=32
KDAK S Sn 08 21 18.3 0.0
comp=E,4.6nm,0.5s,baz=151,slow=19,SNR=1.1
comp=E,11nm,0.3s
L17K **Donlin** 11.76 29 P Pn 08 19 11.2 -1.2
baz=219
O19K **Port Alsworth** 11.90 43 P Pn 08 19 13.7 -0.6
baz=235
SVW2 **Sparrevohn** 11.94 37 Pn Pn 08 19 18.1 +3.2
SVW2 **Sparrevohn** 11.94 37 P Pn 08 19 17.6 +2.7
J16K **Anvik River** 12.10 22 P Pn 08 19 15.9 -1.1
baz=210,SNR=21
M18K **Stony River** 12.11 36 P Pn 08 19 16.7 -0.5
baz=227
N19K **Bonanza Creek** 12.19 40 P Pn 08 19 18.0 -0.4
baz=233
K17K **Iditarod** 12.22 28 Pn Pn 08 19 21.4 +2.8
K17K **Iditarod** 12.22 28 P Pn 08 19 18.0 -0.6
baz=217,SNR=16
ILSW **Iliamna Southw** 12.29 45 Pn Pn 08 19 21.9 +2.2
L18K **Granite Mounta** 12.33 32 P Pn 08 19 19.6 -0.6
baz=223,SNR=35
ANM **Nome** 12.47 10 Pn Pn 08 19 24.9 +2.8
ANM **Nome** 12.47 10 P Pn 08 19 24.9 +2.8
ANM **Nome** 12.47 10 P Pn 08 19 21.0 -1.0
baz=194,SNR=27
O20K **Slope Mountain** 12.56 45 P Pn 08 19 23.5 0.0
baz=239

I17K **Unalakleet** 12.60 20 P Pn 08 19 24.0 +0.1
baz=208,SNR=7.5
L19K **White Mountain** 12.92 35 P Pn 08 19 28.4 +0.2
baz=227
CNPM **China Poot** 12.93 49 Pn Pn 08 19 27.4 -1.0
H16K **Elim** 12.98 16 P Pn 08 19 29.1 +0.1
baz=203,SNR=19
G15K **Niukluk** 13.05 12 P Pn 08 19 28.7 -1.2
baz=198,SNR=23
TTA **Tatalina** 13.06 31 P Pn 08 19 33.0 +2.7
TTA **Tatalina** 13.06 31 P Pn 08 19 29.4 -0.8
baz=222,SNR=21
TNA **Tin City** 13.25 5 P Pn 08 19 32.1 -0.5
baz=187,SNR=15
BRSE **Bradley Lake S** 13.25 49 P Pn 08 19 32.3 -0.4
baz=244
J18K **Innoko River** 13.26 28 P Pn 08 19 32.0 -0.8
baz=219,SNR=16
F14K **Arctic Creek** 13.27 8 P Pn 08 19 31.2 -1.7
baz=191,SNR=12
N20K **Mount Spurr** 13.32 42 P Pn 08 19 33.1 -0.7
baz=236
M20K **Styx River** 13.35 38 P Pn 08 19 34.0 -0.2
baz=232
L20K **Farewell, AK** 13.46 35 P Pn 08 19 34.6 -1.0
baz=228
CAPN **Captain Cook N** 13.54 44 P Pn 08 19 36.3 -0.2
baz=240
F15K **North Star Dit** 13.66 10 P Pn 08 19 37.3 -1.0
baz=195
G16K **Koyuk River** 13.67 15 P Pn 08 19 37.6 -0.7
baz=201
H17K **Granite Mounta** 13.69 19 P Pn 08 19 38.2 -0.5
baz=208,SNR=18
J19K **Poorman** 13.97 28 P Pn 08 19 41.3 -1.2
baz=220
K20K **Teller** 13.99 32 P Pn 08 19 42.3 -0.4
baz=225
SEW **Seward** 13.99 48 P Pn 08 19 42.1 -0.6
baz=245
SKT **Skwentna** 14.02 40 P Pn 08 19 43.1 -0.1
baz=235
O22K **Cooper Landing** 14.03 47 P Pn 08 19 42.8 -0.4
baz=243
G17K **Kiwalik Mounta** 14.05 17 P Pn 08 19 42.3 -1.2
baz=205,SNR=20
SUA **Susitna One** 14.06 42 P Pn 08 19 43.1 -0.6
baz=238
H18K **Honhosa River** 14.21 21 P Pn 08 19 44.2 -1.4
baz=211
GCSA **Galena City Sc** 14.22 24 P Pn 08 19 45.1 -0.7
baz=216,SNR=15
RC01 **Rabbit Creek A** 14.30 44 P Pn 08 19 46.3 -0.5
baz=241
PPLA **Purkeypile** 14.32 36 P Pn 08 19 47.1 -0.2
baz=231
M22K **Willow** 14.46 42 P Pn 08 19 48.8 -0.2
baz=238
J20K **Nowinta River** 14.55 30 P Pn 08 19 49.2 -0.9
baz=223,SNR=19
CAST **Castle Rocks** 14.70 34 P Pn 08 19 51.1 -0.9
baz=229,SNR=16
CUT **Chulitna** 14.75 39 P Pn 08 19 52.1 -0.6
baz=236
G18K **Tagagawik** 14.79 19 P Pn 08 19 52.1 -1.1
baz=209,SNR=22
PMR **Palmer** 14.79 43 Pn 08 19 53.5 +0.3
PMR **Palmer** 14.79 43 P Pn 08 19 55.1 +1.9
PMR **Palmer** 14.79 43 P Pn 08 19 53.5 +0.3
PMR **Palmer** 14.79 43 P Pn 08 19 52.8 -0.5
baz=241
F17K **Baldwin Pennin** 14.81 15 P Pn 08 19 52.6 -0.9
baz=202
P23K **Montague Islan** 14.90 50 P Pn 08 19 53.6 -1.0
baz=243
I20K **Naaghedeneel** 14.91 28 P Pn 08 19 53.3 -1.4
baz=221
CHUM **Lake Minchumin** 14.92 33 P Pn 08 19 54.4 -0.5
baz=228
GHO **Glory Hole Cre** 14.97 43 Pn 08 19 54.5 -1.1
H19K **Roundabout Mou** 14.97 23 P Pn 08 19 54.3 -1.1
baz=215
KNK **Knik Glacier** 14.99 44 Pn 08 19 54.6 -1.3
KNK **Knik Glacier** 14.99 44 P Pn 08 19 55.5 -0.4
baz=242
KTH **Kantishna Hill** 15.19 35 P P 08 20 00.8 -1.5
KTH IAmb IAmb 08 20 28.3
comp=Z,55nm,1.1s
F18K **Selawik** 15.22 17 P Pn 08 19 57.7 -1.1
baz=206,SNR=21
SML **Sawmill** 15.23 43 Pn 08 19 58.0 -1.0
SML **Sawmill** 15.23 43 P Pn 08 19 57.0 -2.0
SML pmax pmax
comp=Z,23nm,0.9s
SML **Sawmill** 15.23 43 P Pn 08 19 58.1 -0.9
baz=241,SNR=6.1
G19K **Purcell Mounta** 15.33 21 P Pn 08 19 59.0 -1.2
baz=212,SNR=9.0
H20K **Anotleneega Mo** 15.33 25 P Pn 08 19 59.7 -0.5
baz=218
TRF **Thorofare Moun** 15.35 36 Pn 08 20 02.2 +1.6
TRF IAmb IAmb 08 20 24.0
comp=Z,70nm,1.4s
TRF **Thorofare Moun** 15.35 36 P Pn 08 20 00.1 -0.5
baz=233,SNR=6.5
M23K **Glacier View** 15.48 44 P Pn 08 20 01.5 -0.6
baz=242,SNR=16
BPAW **Bear Paw Mtn.** 15.51 33 P P 08 20 05.3 -0.6
BPAW **Bear Paw Mtn.** 15.51 33 P Pn 08 20 02.2 -0.2
baz=230,SNR=18
WAT1 **Susitna Watana** 15.65 40 P Pn 08 20 03.4 -0.9
baz=238
SCM **Sheep Creek Mo** 15.67 44 Pn 08 20 02.1 -2.5
SCM IAmb IAmb 08 20 21.0
comp=Z,40nm,0.8s
SCM **Sheep Creek Mo** 15.67 44 P Pn 08 20 02.1 -2.5
SCM pmax pmax
comp=Z,40nm,0.8s
SCM **Sheep Creek Mo** 15.67 44 P Pn 08 20 04.5 -0.1
baz=243,SNR=8.7
D17K **Noatak River** 15.75 11 P Pn 08 20 05.4 -0.2
baz=197,SNR=42
F19K **Shaleruckik Mo** 15.78 19 P Pn 08 20 05.0 -0.9
baz=210,SNR=24
E18K **Tukpahlearik C** 15.82 14 IAmb IAmb 08 20 25.9
comp=Z,54nm,1.2s
E18K **Tukpahlearik C** 15.82 14 P Pn 08 20 05.7 -0.7
baz=202,SNR=31
WAT6 **Susitna Watana** 15.85 41 P Pn 08 20 06.3 -0.7
baz=240
RND **Reindeer** 15.85 38 Pn 08 20 06.6 -0.3
RND **Reindeer** 15.85 38 P Pn 08 20 06.6 -0.3
RND pmax pmax
comp=Z,18nm,1.0s
EYAK **Cordova Ski Ar** 15.87 49 P Pn 08 20 06.4 -0.6
baz=259
I21K **Tanana** 15.92 29 P Pn 08 20 07.6 0.0
baz=225,SNR=28
MCK **McKinley** 16.00 37 P Pn 08 20 08.9 +0.1
baz=234
H21K **Melozitna River** 16.02 27 P Pn 08 20 08.9 -0.1
baz=222,SNR=9.1
BWN **Browne** 16.07 35 IAmb IAmb 08 20 31.2
comp=Z,508nm,1.3s
C16K **Lisburne Hills** 16.10 7 IAmb IAmb 08 20 28.9
comp=Z,80nm,1.4s
C16K **Lisburne Hills** 16.10 7 P Pn 08 20 08.8 -1.2
baz=191,SNR=31
KLU **Klutina** 16.13 46 Pn 08 20 07.4 -3.2
KLU **Klutina** 16.13 46 P Pn 08 20 08.8 -1.7
baz=246,SNR=9.2
MLY **Manley** 16.20 31 P P 08 20 13.4 -0.2
MLY **Manley** 16.20 31 P Pn 08 20 10.4 -0.9
baz=228,SNR=31
DHY **Denali Highway** 16.24 40 P Pn 08 20 12.8 +0.9
DHY **Denali Highway** 16.24 40 P Pn 08 20 11.5 -0.4
baz=239
M24K **Tolsona, Glenn** 16.28 44 Pn 08 20 11.1 -1.2
M24K IAmb IAmb 08 20 30.3
comp=Z,33nm,0.7s
M24K **Tolsona, Glenn** 16.28 44 P Pn 08 20 11.6 -0.7
baz=244
KAIM **Kayak Island** 16.31 52 P Pn 08 20 10.7 -1.9
baz=253
RAGM **Ragged Mountai** 16.32 51 Pn 08 20 11.8 -1.0
F20K **Avaraart Lake** 16.39 21 P Pn 08 20 13.1 -0.6
baz=213,SNR=11

E19K **Redstone River** 16.43 18 P Pn 08 20 13.4 -0.7
baz=210,SNR=18
NEA2 **Nenana** 16.47 34 P Pn 08 20 13.6 -1.0
baz=232
G21K **Allakaket** 16.49 25 P Pn 08 20 14.2 -0.7
baz=219
C17K **DeLong Mountai** 16.49 10 P Pn 08 20 13.4 -1.5
baz=196,SNR=14
BMRM **Bremner River** 16.54 49 P Pn 08 20 15.0 -0.5
baz=250
H22K **Ishtalitna Cre** 16.60 28 P Pn 08 20 16.1 -0.2
baz=224,SNR=18
I23K **Minto, Yukon-K** 16.72 32 P P 08 20 19.0 -0.2
I23K IAmb IAmb 08 20 39.5
comp=Z,189nm,1.5s
I23K **Minto, Yukon-K** 16.72 32 P Pn 08 20 16.7 -1.0
baz=230,SNR=13
WRH **Wood River Hil** 16.74 35 Pn 08 20 17.6 -0.3
N25K **Chitina, Valde** 16.76 47 P Pn 08 20 18.0 -0.4
baz=248
HARP **HAARP** 16.83 44 P Pn 08 20 19.5 +0.3
baz=245
C18K **Utukok River** 16.88 12 IAmb IAmb 08 20 38.6
comp=Z,74nm,1.1s
C18K **Utukok River** 16.88 12 P Pn 08 20 19.0 -0.8
baz=200
BGLC **Bering Glacier** 16.91 52 P Pn 08 20 19.8 -0.3
baz=254
PAX **Paxson** 16.95 42 P Pn 08 20 20.6 -0.1
baz=242
F21K **Alatna River** 17.05 23 P Pn 08 20 20.9 -0.9
baz=217
COLA **College** 17.06 34 P Pn 08 20 21.6 -0.3
COLA **College** 17.06 34 P P 08 20 23.9 +1.0
COLA **College** 17.06 34 *i* P Pn 08 20 21.1 -0.8
COLA pmax pmax
comp=Z,30nm,1.3s
COLA **College** 17.06 34 P Pn 08 20 22.0 +0.1
baz=233
GLB **Gilahina Butte** 17.06 48 P Pn 08 20 19.6 -2.4
HDA **Harding Lake** 17.11 36 P Pn 08 20 22.0 -0.6
HDA **Harding Lake** 17.11 36 P Pn 08 20 22.3 -0.3
baz=236
SNH **Sunshine Point** 17.14 52 IAmb IAmb 08 20 44.3
comp=Z,113nm,1.4s
VRDI **Verde Repeater** 17.15 48 P Pn 08 20 21.6 -1.8
CRQM **Cirque** 17.15 50 P Pn 08 20 21.9 -1.4
CRQE **Cirque** 17.17 50 P Pn 08 20 22.3 -1.2
baz=253
D19K **Kuna River** 17.19 16 IAmb IAmb 08 20 37.2
comp=Z,100nm,1.3s
D19K **Kuna River** 17.19 16 P Pn 08 20 22.1 -1.5
baz=206
WAX **Waxell Ridge** 17.20 51 IAmb IAmb 08 20 47.3
comp=Z,30nm,0.7s
K24K **Donnelly Dome** 17.23 39 P Pn 08 20 22.8 -1.3
baz=240
TGL **Tana Glacier** 17.30 50 P Pn 08 20 23.9 -1.2
E20K **Nigu River** 17.32 18 P Pn 08 20 23.9 -1.4
baz=210
ILAR **Eielson Array** 17.33 35 P Pn 08 20 23.9 -1.4
comp=Z,0.3nm,0.3s,baz=235,slow=10,SNR=23
ILAR S Sn 08 23 37.7 +0.6
comp=Z,0.4nm,0.8s,baz=268,slow=4.1,SNR=0.9
ILAR PcP PcP 08 25 04.8 +0.4
comp=Z,1.9nm,0.6s,baz=267,slow=3.6,SNR=12
ILAR LR LR 08 27 48.9
comp=Z,394nm,18.7s,baz=222,slow=39
ILAR ScP ScP 08 28 35.1 +0.8
comp=Z,1.3nm,1.0s,baz=258,slow=3.7,SNR=6.7
comp=Z,0.7nm,0.5s
POKR **Poker Plat Res** 17.34 34 P Pn 08 20 23.7 -1.8
baz=233
MCARA **McCarthy VSAT** 17.40 48 P Pn 08 20 24.6 -1.6
MCARA **McCarthy VSAT** 17.40 48 P Pn 08 20 24.5 -1.6
baz=251,SNR=12
B18K **Kokolik River** 17.49 10 P Pn 08 20 24.9 -2.4
baz=198,SNR=18
C19K **Lookout Ridge** 17.52 13 IAmb IAmb 08 20 49.9
comp=Z,71nm,1.4s
C19K **Lookout Ridge** 17.52 13 P Pn 08 20 25.5 -2.2
baz=202,SNR=17
RIDG **Independent Ri** 17.56 40 P Pn 08 20 26.8 -1.4
baz=241
G23K **Bananza Creek** 17.57 28 P Pn 08 20 26.4 -1.9
baz=225,SNR=9.2
MESA **MESA** 17.57 53 IAmb IAmb 08 20 53.6
comp=Z,38nm,0.9s
MESA **MESA** 17.57 53 P Pn 08 20 26.6 -1.9
baz=256
H24K **Noodor Dome** 17.64 32 P P 08 20 30.5 +1.1
baz=231
D20K **Etivluk River** 17.64 17 P Pn 08 20 27.8 -1.3
baz=209
MENT **Mentasta** 17.66 43 P Pn 08 20 28.6 -0.8
M26K **Nabesna, AK** 17.76 45 P P 08 20 30.8 0.0
baz=248
J25K **Salcha River,** 17.80 37 P P 08 20 32.2 +0.9
baz=238
GRNC **Granite Creek** 17.80 51 P Pn 08 20 30.6 -0.7
COLD **Coldfoot** 17.89 26 P P 08 20 32.7 +0.6
baz=224
E21K **Killik River** 17.92 20 P Pn 08 20 33.3 +0.7
baz=214
SCRK **Sand Creek** 18.01 40 P Pn 08 20 33.7 0.0
baz=242
CTG **Chitna Glacier** 18.06 50 P Pn 08 20 35.6 +1.2
baz=254,SNR=15
CTGM **Chitina Glacie** 18.06 50 P P 08 20 33.5 -0.8
PRP **Porcupine Dome** 18.23 34 P Pn 08 20 36.5 0.0
baz=235
M27K **Edge Creek, AK** 18.23 46 P P 08 20 34.5 -1.7
baz=250,SNR=9.0
G24K **Hadweenzic Riv** 18.31 30 IAmb IAmb 08 20 51.1
comp=Z,59nm,1.2s
G24K **Hadweenzic Riv** 18.31 30 P Pn 08 20 37.4 +0.1
baz=229,SNR=12
C21K **Knifeblade Rid** 18.36 18 P Pn 08 20 39.0 +1.1
baz=212
PINM **Pinnacle** 18.38 53 P Pn 08 20 38.7 +0.5
baz=258,SNR=10
J26L **Joseph Creek** 18.42 39 P P 08 20 36.8 -1.2
baz=241,SNR=18
L27K **Beaver Creek,** 18.50 44 P Pn 08 20 39.9 +0.2
baz=248
BCAR **Beaver Creek A** 18.52 44 P P 08 20 38.6 -0.6
D22K **Ayikyak River** 18.56 21 IAmb IAmb 08 21 03.8
comp=Z,69nm,1.3s
D22K **Ayikyak River** 18.56 21 P P 08 20 39.8 +0.3
baz=216,SNR=25
PET **Petropavlovsk** 18.57 284 P Pn 08 20 40.9 +0.3
PET IAmb IAmb 08 20 53.6
comp=Z,133nm,1.5s
PET **Petropavlovsk** 18.57 284 P Pn 08 20 40.8 +0.3
E23K **Chanalelar** 18.65 25 P Pn 08 20 41.2 -0.2
baz=223,SNR=13
YUK3 **Moose Creek** 18.68 48 P Pn 08 20 42.0 -0.1
baz=253,SNR=11
BVCY **Beaver Creek** 18.70 46 P Pn 08 20 42.5 +0.5
baz=251
PNL **Peninsula** 18.73 55 P P 08 20 41.3 -0.2
PNL **Peninsula** 18.73 55 P P 08 20 40.5 -1.0
baz=260,SNR=10
F24K **Squaw Lake** 18.73 28 P Pn 08 20 42.4 0.0
baz=227
G25K **Bearman Lake** 18.78 31 P Pn 08 20 43.3 +0.5
baz=232,SNR=6.9
K27K **Chicken** 18.79 41 P Pn 08 20 43.8 +0.7
baz=245,SNR=7.0
B21K **Ikpikpuk River** 18.79 17 P Pn 08 20 43.6 +0.6
baz=211
YUK8 **Steele Glacier** 18.88 50 P P 08 20 43.2 -0.1
baz=255
FYU **Fort Yukon** 18.93 32 IAmb IAmb 08 21 05.4
comp=Z,83nm,1.4s
D23K **Nanushuk River** 19.07 22 P Pn 08 20 46.3 -0.1
baz=219
PEA0B **Petropavlovsk-** 19.12 285 P Pn 08 20 46.7 -0.4
PEA0B IAmb IAmb 08 20 48.5
comp=Z,46nm,0.7s
PEA0B **Petropavlovsk-** 19.12 285 *i* P Pn 08 20 46.9 -0.2
PETK **Petropavlovsk-** 19.12 285 P Pn 08 20 46.5 -0.6
PETK **Petropavlovsk-** 19.12 285 P Pn 08 20 46.5 -0.6
PETK **Petropavlovsk-** 19.12 285 P P 08 20 46.4 +0.6
comp=Z,10nm,0.3s,baz=84,slow=13,SNR=180
PETK PcP PcP 08 25 07.7 +0.1
comp=Z,5.3nm,0.8s,baz=100,slow=5.0,SNR=3.3

PETK LR LR 08 28 22.5
comp=Z,296nm,20.1s,baz=88,slow=38
comp=Z,27nm,0.5s
BILL Bilibino 19.21 333 P **Pn** **08 20 47.6 -0.4**
BILL IAmb IAmb 08 21 04.7
comp=Z,91nm,1.4s
BILL Bilibino 19.21 333⇑ *ce*P **Pn** **08 20 48.5 +0.5**
BILL pmax pmax
comp=Z,38nm,1.2s
O29M Mount Kennedy 19.24 53 IAmb IAmb 08 20 52.2
comp=Z,83nm,1.4s
O29M Mount Kennedy 19.24 53 P **Pn** **08 20 48.6 0.0**
baz=260,SNR=34
YUK4 Talbot Arm 19.41 50 P **Pn** **08 20 51.2 +0.5**
baz=256,SNR=18
F25K Christian Rive 19.43 29 P **P** **08 20 48.0 -1.2**
baz=230
YUK6 Outpost Mounta 19.46 51 P **Pn** **08 20 50.8 -0.5**
baz=258,SNR=24
EGAK Eagle 19.47 39 P **P** **08 20 49.9 +0.5**
EGAK Eagle 19.47 39 P **P** **08 20 48.4 -1.0**
baz=244,SNR=11
P29M Windy Craggy 19.56 55 IAmb IAmb 08 20 56.1
comp=Z,81nm,0.8s
P29M Windy Craggy 19.56 55 P **Pn** **08 20 52.8 +0.6**
baz=262
G26K Porcupine Rive 19.62 32 P **P** **08 20 51.6 +0.5**
baz=235
D24K Happy Valley 19.65 23 P **Pn** **08 20 52.6 -0.6**
baz=222
I27K Kandik River 19.67 37 P **Pn** **08 20 53.0 -0.6**
baz=241
C23K Itkillik River 19.77 21 IAmb IAmb 08 21 12.6
comp=Z,69nm,1.1s
C23K Itkillik River 19.77 21 P **Pn** **08 20 54.5 -0.1**
baz=218,SNR=22
M29M Somme Creek 19.77 47 P **P** **08 20 53.5 +0.6**
baz=254,SNR=6.3
E25K Arctic Village 19.79 28 P **Pn** **08 20 54.3 -0.6**
baz=229,SNR=5.5
HYT Haines Junctio 19.86 52 IAmb IAmb 08 20 57.6
comp=Z,70nm,0.7s
HYT Haines Junctio 19.86 52 *e*P **Pn** **08 20 55.1 -0.7**
baz=259,SNR=119
DAWY Dawson 19.89 42 P **P** **08 20 54.2 +0.1**
DAWY Dawson 19.89 42 P **P** **08 20 54.6 +0.5**
baz=248,SNR=5.5
F26K Sheenjek River 19.95 30 P **Pn** **08 20 56.7 -0.1**
baz=233,SNR=7.4
A21K Barrow 19.97 13 P **P** **08 20 54.4 -0.4**
baz=205
P30M Million Dollar 20.01 54 P Pn 08 20 57.3 -0.4
baz=262,SNR=49
C24K Franklin Bluff 20.10 22 P **P** **08 20 55.2 -1.1**
baz=221
L29M L29M 20.11 45 P **P** **08 20 55.2 -1.3**
baz=252
N30M Aishikik Lake 20.17 50 P **P** **08 20 57.8 +0.6**
baz=258,SNR=11
I28M Miner Creek 20.22 38 IAmb IAmb 08 21 06.0
comp=Z,23nm,0.8s
I28M Miner Creek 20.22 38 P **P** **08 20 58.6 +0.9**
baz=244
S31K Pelican 20.22 60 P Pn 08 20 59.5 -0.5
S31K IAmb IAmb 08 21 00.3
comp=Z,36nm,0.8s
S31K Pelican 20.22 60 P **P** **08 20 58.8 +1.1**
baz=268,SNR=25
PLBC Pleasant Camp 20.24 56 P Pn 08 20 59.1 -1.1
baz=264,SNR=7.0
D25K Kavik River 20.38 25 P **P** **08 20 59.2 -0.2**
baz=226
R31K City Hall, Gus 20.50 59 P **P** **08 21 00.9 +0.3**
baz=268
O30N Mendenhall 20.53 52 P Pn 08 21 02.9 -0.8
baz=261,SNR=19
M30M Minto, Yukon 20.55 47 P **P** **08 21 02.0 +0.7**
M30M Minto, Yukon 20.55 47 P Pn 08 21 02.7 -1.3
baz=255
K29M Barlow Dome 20.59 43 P **P** **08 21 01.6 -0.1**
baz=251
SIT Sitka 20.72 63 P **P** **08 21 04.5 +1.4**
SIT Sitka 20.72 63 P **P** **08 21 04.5 +1.4**
SIT pmax pmax
comp=Z,14nm,0.8s
SIT Sitka 20.72 63 P **P** **08 21 01.8 -1.2**
baz=272
SKAG Skagway 20.76 56 P Pn 08 21 05.0 -1.4
SKAG IAmb IAmb 08 21 06.0
comp=Z,40nm,0.8s
SKAG Skagway 20.76 56 P Pn 08 21 05.1 -1.3
SKAG Skagway 20.76 56 P Pn 08 21 05.3 -1.1
baz=265,SNR=43
WHY Whitehorse 21.11 53 P **P** **08 21 08.3 +0.9**
WHY Whitehorse 21.11 53 P **P** **08 21 05.8 -1.6**
baz=262,SNR=8.6
S32K Killisnoo 21.11 62 IAmb IAmb 08 21 41.2
comp=Z,55nm,1.3s
S32K Killisnoo 21.11 62 P **P** **08 21 06.8 -0.5**
baz=271
H29M Whitestone 21.14 37 IAmb IAmb 08 21 24.2
comp=Z,44nm,1.0s
H29M Whitestone 21.14 37 P **P** **08 21 07.0 -0.5**
baz=244,SNR=19
R32K Eaglecrest 21.14 60 P **P** **08 21 08.1 +0.6**
R32K Eaglecrest 21.14 60 P **P** **08 21 07.8 +0.2**
baz=269
C26K Camden Bay 21.17 24 P **P** **08 21 07.5 -0.2**
baz=227
MAYO Mayo, Yukon 21.21 45 P **P** **08 21 07.5 -0.8**
baz=254
F28M Old Crow 21.26 33 P **P** **08 21 11.9 +3.1**
F28M Old Crow 21.26 33 P **P** **08 21 08.2 -0.7**
baz=239,SNR=7.7
J30M Hart River 21.32 42 P **P** **08 21 09.3 -0.3**
baz=251
I30M Mount Dempster 21.51 40 P **P** **08 21 09.2 -2.5**
baz=249
M31M Drury Creek, Y 21.57 49 P **P** **08 21 12.5 +0.4**
baz=259
P32M Atlin 21.59 56 P **P** **08 21 12.3 -0.1**
baz=266,SNR=9.0
EPYK Eagle Plains 21.81 37 P **P** **08 21 13.2 -1.5**
EPYK IAmb IAmb 08 21 39.6
comp=Z,42nm,1.1s
EPYK Eagle Plains 21.81 37 P **P** **08 21 12.6 -2.1**
baz=246,SNR=10
U33K Whale Pass 22.01 65 P **P** **08 21 15.9 -1.0**
baz=276
T33K Petersburg 22.03 64 P **P** **08 21 16.1 -1.0**
baz=274
N32M Quiet Lake 22.04 52 IAmb IAmb 08 21 37.3
comp=Z,38nm,0.8s
N32M Quiet Lake 22.04 52 P **P** **08 21 15.7 -1.5**
baz=263
FARO Faro, Yukon 22.06 49 P **P** **08 21 16.1 -1.3**
baz=260
SEY Seymchan 22.08 313 *ce*P **P** **08 21 18.6 +1.0**
SEY pmax pmax
comp=Z,28nm,1.7s
SEY Seymchan 22.08 313 P **P** **08 21 17.9 +0.3**
comp=Z,9.1nm,0.7s,baz=104,slow=11,SNR=37
SEY LR LR 08 29 54.0
comp=Z,785nm,19.4s,baz=115,slow=37
comp=Z,9.1nm,0.7s
P33M Teslin, Yukon 22.08 54 P **P** **08 21 18.2 +0.4**
P33M IAmb IAmb 08 21 40.8
comp=Z,29nm,1.1s
P33M Teslin, Yukon 22.08 54 P **P** **08 21 15.7 -2.1**
baz=266,SNR=11
CRAG Craig 22.08 67 P **P** **08 21 18.7 +1.0**
CRAG IAmb IAmb 08 21 41.8
comp=Z,49nm,1.4s
CRAG Craig 22.08 67 P **P** **08 21 19.3 +1.6**
CRAG Craig 22.08 67 P **P** **08 21 15.9 -1.7**
baz=277
G30M tAoh Zraii Nji 22.23 36 IAmb IAmb 08 21 44.2
comp=Z,21nm,0.9s
G30M tAoh Zraii Nji 22.23 36 P **P** **08 21 17.0 -2.2**
baz=246,SNR=7.0
E29M Blow River 22.30 32 P **P** **08 21 19.0 -0.9**
baz=240
Q32M Nakina River 22.32 58 IAmb IAmb 08 21 25.1
comp=Z,38nm,0.8s
Q32M Nakina River 22.32 58 P **P** **08 21 19.8 -0.6**
baz=269,SNR=26
WRAK Wrangell Islan 22.40 64 P **P** **08 21 20.3 -0.8**
baz=275

MA2 Magadan 22.49 304 P **P** **08 21 24.8 +2.8**
MA2 Magadan 22.49 304 *ce*P **P** **08 21 23.5 +1.5**
MA2 pmax pmax
comp=Z,26nm,1.0s
MA2 Magadan 22.49 304 LR LR 08 29 22.1
comp=Z,318nm,21.2s,baz=96,slow=35
D28M Stokes Point 22.52 29 P **P** **08 21 20.8 -1.5**
baz=237
F30M Barrier River 22.65 35 P **P** **08 21 21.1 -2.5**
baz=245
G31M Satah River 22.92 37 IAmb IAmb 08 21 49.4
comp=Z,28nm,1.1s
G31M Satah River 22.92 37 P **P** **08 21 25.6 -0.9**
baz=248,SNR=6.7
S34M Telegraph Cree 22.94 60 P **P** **08 21 26.2 -0.6**
baz=273,SNR=12
V35K Ketchikan 22.95 67 P **P**
V35K IAmb IAmb 08 21 30.3
comp=Z,63nm,1.4s
V35K Ketchikan 22.95 67 P **P** **08 21 26.4 -0.5**
baz=278,SNR=6.0
R33M Jennings River 22.99 57 IAmb IAmb 08 21 31.9
comp=Z,66nm,1.3s
R33M Jennings River 22.99 57 P **P** **08 21 27.4 0.0**
baz=269
F31M Tsiigehtchic 23.30 36 P **P** **08 21 29.8 -0.4**
baz=248,SNR=7.3
DLBC Dease Lake 23.50 59 IAmb IAmb 08 21 36.2
comp=Z,94nm,1.2s
DLBC Dease Lake 23.50 59 P **P** **08 21 32.0 -0.3**
baz=272,SNR=47
DLBC Dease Lake 23.50 59 LR LR 08 29 31.3
comp=Z,287nm,21.2s,baz=284,slow=33
INK Inuvik 23.71 34 P **P** **08 21 34.0 0.0**
INK pmax pmax
comp=Z,20nm,0.8s
INK Inuvik 23.71 34 P **P** **08 21 33.1 -0.9**
baz=246,SNR=16
INK Inuvik 23.71 34 LR LR 08 31 59.2
comp=Z,361nm,18.6s,baz=208,slow=39
U35K Hyder 23.76 65 P **P** **08 21 33.6 -0.9**
baz=278
WTLY Watson Lake, Y 24.09 55 IAmb IAmb 08 21 40.4
comp=Z,24nm,0.9s
WTLY Watson Lake, Y 24.09 55 P **P** **08 21 37.8 +0.2**
baz=270,SNR=23
TGTN Hyland Airport 24.38 51 P **P** **08 21 39.3 -0.9**
baz=267,SNR=30
BBB Bella Bella 25.71 73 LR LR 08 30 13.9
comp=Z,216nm,18.9s,baz=287,slow=32
KOTAN Kotaneelee Air 26.46 55 P **P** **08 21 58.7 -0.4**
baz=274,SNR=16
WRGLY Wrigley 26.68 48 IAmb IAmb 08 22 03.6
comp=Z,16nm,1.0s
WRGLY Wrigley 26.68 48 P **P** **08 22 01.9 +0.9**
baz=268,SNR=7.0
FLDN Fort Liard 26.74 54 IAmb IAmb 08 22 05.2
comp=Z,35nm,1.1s
FLDN Fort Liard 26.74 54 P **P** **08 22 02.0 +0.5**
baz=274
C36M Paulatuk 27.30 34 P **P** **08 22 06.3 -0.1**
C36M Paulatuk 27.30 34 P **P** **08 22 06.3 -0.1**
baz=255
A36M Sachs Harbour 27.72 28 P **P** **08 22 10.7 +0.5**
A36M Sachs Harbour 27.72 28 P **P** **08 22 10.9 +0.7**
baz=249,SNR=7.4
B04A Port Angeles 30.00 79 IAmb IAmb 08 22 34.4
comp=Z,37nm,0.9s
NLWA Neilton Lookou 30.09 81 P **P** **08 22 30.9 -0.6**
NLWA IAmb IAmb 08 22 34.9
comp=Z,19nm,1.1s
YSS Yuzh-Sakhalins 30.24 278 *e*P **P** **08 22 32.2 -0.6**
YSS pmax pmax
comp=Z,20nm,1.2s
YSS MLR MLR
comp=Z,400nm,16.0s
HILA High Level 30.25 57 P **P** **08 22 34.1 +1.3**
WISH Wishkah 30.27 81 P **P** **08 22 33.4 +0.4**
WISH IAmb IAmb 08 22 36.9
comp=Z,40nm,1.4s
GNW Green Mountain 30.64 80 IAmb IAmb 08 22 39.7
comp=Z,10nm,0.9s
E03A Lebam 30.66 82 P **P** **08 22 36.8 +0.3**
E03A IAmb IAmb 08 22 39.8
comp=Z,26nm,1.0s
YKA Yellowknife Ar 30.77 49 P **P** **08 22 37.0 -0.3**
YKA Yellowknife Ar 30.77 49 P **P** **08 22 37.8 +0.5**
comp=Z,3.6nm,0.9s,baz=276,slow=8.5,SNR=33
YKA PcP **PcP** **08 25 34.0 +0.7**
comp=Z,3.0nm,0.9s,baz=293,slow=2.3,SNR=8.0
YKA ScP **ScP** **08 29 12.2 +1.3**
comp=Z,0.8nm,0.7s,baz=288,slow=3.1,SNR=7.7
YKA LR LR 08 35 14.1
comp=Z,416nm,20.1s,baz=289,slow=37
comp=Z,3.6nm,0.9s
YKAB2 New Yellowknif 30.78 49 P **P** **08 22 37.3 0.0**
BRLDA Berland Lookou 31.24 65 IAmb IAmb 08 22 44.0
comp=Z,14nm,0.9s
D05A Enumclaw 31.31 80 IAmb IAmb 08 22 46.6
comp=Z,42nm,1.1s
LON Longmire 31.63 81 IAmb IAmb 08 22 48.6
comp=Z,9.5nm,0.9s
ASAJ Asahikawa 31.76 274 LR LR 08 35 00.1
comp=Z,268nm,21.1s,baz=137,slow=35
LTY Liberty 32.08 79 IAmb IAmb 08 22 57.8
comp=Z,15nm,1.5s
TIXI Tiksi 32.30 329 *ce*P **P** **08 22 52.3 +1.7**
TIXI pmax pmax
comp=Z,7.0nm,2.5s
TIXI Tiksi 32.30 329 LR LR 08 36 21.9
comp=Z,308nm,21.9s,baz=73,slow=37
GRNR Gornyy 32.35 289⇑ *i*P **P** **08 22 49.9 -1.4**
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR MLR MLR
comp=E,180nm,13.0s
GRNR MLR MLR
comp=Z,250nm,16.0s
B08A Colville Reser 32.37 76 IAmb IAmb 08 22 54.2
comp=Z,9.9nm,0.8s
HOOD Mount Hood Mea 32.43 83 IAmb IAmb 08 22 58.8
comp=Z,18nm,0.9s
H04A Detroit Lake 32.43 84 IAmb IAmb 08 22 55.1
comp=Z,13nm,0.9s
ERM Erimo 32.57 270 P **P** **08 22 54.2 +0.9**
ERM Erimo 32.57 270 *ce*P **P** **08 22 54.8 +1.5**
ERM pmax pmax
comp=Z,35nm,0.8s
JEM Erimo 32.57 270 P **P** **08 22 54.2 +0.9**
YAK Yakutsk 32.57 311 *e*P **P** **08 22 53.0 -0.1**
YAK *e**PP **pP** **08 23 06.8 -0.3**
YAK *e* 08 24 07.8
YAK *e* 08 25 38.5
YAK *e*S **S** **08 28 03.8 -0.4**
YAK *e*SS **SnSn** **08 30 05.2 +2.7**
YAK *e* 08 33 18.1
YAK pmax pmax
comp=Z,27nm,1.0s
YAK pmax pmax
comp=E,14nm,1.2s
YAK pmax pmax
comp=Z,135nm,3.5s
YAK pmax pmax
comp=N,96nm,4.9s
YAK pmax pmax
comp=E,115nm,4.7s
YAK smax smax
comp=N,155nm,4.7s
YAK smax smax
comp=E,112nm,3.6s
YAK MLR MLR
comp=Z,470nm,16.0s
YAK MLR MLR
comp=E,328nm,17.0s
YAK Yakutsk 32.57 311 LR LR 08 35 55.8
comp=E,534nm,21.2s,baz=89,slow=36
MXC Moxie City 32.63 80 IAmb IAmb 08 22 59.0
comp=Z,14nm,1.3s
E07A Sunnyside 32.90 80 IAmb IAmb 08 23 24.1
comp=Z,10nm,1.2s
I05D Terrebonne, OR 33.13 84 IAmb IAmb 08 23 01.3
comp=Z,12nm,0.8s
D08A Wollman Farm, 33.22 78 IAmb IAmb 08 23 01.3
comp=Z,7.2nm,0.8s
C09A Chrisman Ranch 33.25 77 IAmb IAmb 08 23 01.6
comp=Z,10nm,0.8s
E08A Dider Farm, El 33.41 79 IAmb IAmb 08 23 03.2
comp=Z,11nm,1.2s
PINE Pine Mountain 33.66 85 IAmb IAmb 08 23 09.7
comp=Z,17nm,1.1s
NEW Newport 33.72 75 P **P** **08 23 04.8 +1.4**
NEW pmax pmax
comp=Z,26nm,0.8s
NEW Newport 33.72 75 P **P** **08 23 04.1 +0.7**
baz=297,SNR=34
NEW Newport 33.72 75 LR LR 08 33 58.9
comp=Z,184nm,20.9s,baz=294,slow=31
YBH Yreka Blue Hor 33.73 89 LR LR 08 33 40.6
comp=Z,237nm,21.1s,baz=304,slow=31
J05D Fort Rock, OR 33.76 86 P **P** **08 23 06.5 +2.6**
J05D IAmb IAmb 08 23 08.1
comp=Z,10nm,1.1s
EDM Edmonton 33.81 65 P **P** **08 23 05.3 +1.3**
EDM IAmb IAmb 08 23 06.2
comp=Z,25nm,0.8s
EDM Edmonton 33.81 65 P **P** **08 23 05.3 +1.3**
EDM pmax pmax
comp=Z,25nm,0.8s
E09A Wood Farm, Sta 33.95 79 IAmb IAmb 08 23 07.6
comp=Z,23nm,1.3s
G08A Pilot Rock 34.08 81 P **P** **08 23 07.5 +0.9**
K05A Summer Lake 34.28 86 P **P** **08 23 11.0 +2.6**
K05A IAmb IAmb 08 23 35.9
comp=Z,14nm,0.9s
I07A Izee 34.38 83 P **P** **08 23 11.2 +2.0**
I07A IAmb IAmb 08 23 12.1
comp=Z,15nm,0.9s
F10A Beach Ranch, E 34.77 79 IAmb IAmb 08 23 25.6
comp=Z,5.9nm,0.8s
J08A Circle Bar Ran 35.40 84 IAmb IAmb 08 23 21.2
comp=Z,20nm,1.0s
KLR Kul'dur 35.73 288 *ce*P **P** **08 23 19.8 -0.8**
KLR pmax pmax
comp=Z,32nm,1.7s
KLR Kul'dur 35.73 288 LR LR 08 37 53.8
comp=Z,270nm,20.9s,baz=58,slow=36
WVOR Wild Horse Val 35.82 85 IAmb IAmb 08 23 24.4
comp=Z,14nm,0.9s
WVOR Wild Horse Val 35.82 85 P **P** **08 23 23.8 +2.2**
PLID Pearl Lake 35.97 79 P **P** **08 23 22.6 -0.4**
ZEA Zeya 36.31 297 *e*P **P** **08 23 25.2 -0.3**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
JMM Marumori 36.52 266 P **P** **08 23 27.0 -0.5**
JMM Marumori 36.52 266 P **P** **08 23 27.4 0.0**
RES Resolute Bay 36.64 26 P **P** **08 23 28.1 0.0**
RES Resolute Bay 36.64 26 P **P** **08 23 28.1 0.0**
RES pmax pmax
comp=Z,7.0nm,1.3s
RES Resolute Bay 36.64 26 LR LR 08 43 49.3
comp=Z,239nm,18.1s,baz=247,slow=45
PAHR Pah Rah Range 36.97 89 IAmb IAmb 08 23 58.1
comp=Z,12nm,1.0s
MFID Camas Ranch 36.98 82 P **P** **08 23 31.7 +0.3**
MFID IAmb IAmb 08 23 33.6
comp=Z,11nm,0.9s
H11N2 WAKE ISLAND Hy 37.04 217 T T 09 02 47.1
baz=22,slow=75,SNR=245
H11N3 WAKE ISLAND Hy 37.05 217 T T 09 02 49.3
baz=22,slow=75,SNR=289
H11N1 WAKE ISLAND Hy 37.06 217 T T 09 02 46.5
baz=22,slow=75,SNR=308
PNTR Pine Nut 37.21 90 IAmb IAmb 08 23 38.1
comp=Z,12nm,0.7s
YERR Yerington 37.49 90 IAmb IAmb 08 24 03.4
comp=Z,12nm,1.0s
WAKR Walker 37.67 91 IAmb IAmb 08 23 41.6
comp=Z,4.6nm,0.6s
HEH HeiHe 37.74 292 *e*P **P** **08 23 36.5 -1.2**
HEH pmax pmax
comp=Z,49nm,0.8s
HEH LR LR
comp=Z,220nm,17.6s
HEH LR LR
comp=Z,500nm,16.7s
HEH LR LR
comp=Z,590nm,19.7s
HLID Hailey 37.75 81 IAmb IAmb 08 23 40.4
comp=Z,6.7nm,0.9s
HLID Hailey 37.75 81 P **P** **08 23 37.6 -0.5**
baz=304,SNR=13
EUNU Eureka 37.88 16 IAmb IAmb 08 23 42.4
comp=Z,9.9nm,1.3s
JSD Sado 37.96 269 P **P** **08 23 39.8 +0.1**
USRK Ussuriysk Ar. 38.15 281 P **P** **08 23 39.1 -2.0**
USRK Ussuriysk Ar. 38.15 281 P **P** **08 23 39.8 -1.3**
comp=Z,4.8nm,0.6s,baz=53,slow=9.8,SNR=9.9
USRK PcP **PcP** **08 25 55.5 +0.6**
comp=Z,8.0nm,0.7s,baz=72,slow=3.4,SNR=15
comp=Z,4.8nm,0.6s
RYN Ryan 38.16 90 IAmb IAmb 08 24 08.1
comp=Z,12nm,1.1s
EGMT Eagleton 38.16 72 IAmb IAmb 08 23 43.9
comp=Z,26nm,0.8s
EGMT Eagleton 38.16 72 P **P** **08 23 40.0 -1.4**
baz=300,SNR=22
H11S1 WAKE ISLAND Hy 38.23 216 T T 09 04 27.8
baz=23,slow=76,SNR=3439
H11S2 WAKE ISLAND Hy 38.25 216 T T 09 04 19.0
baz=23,slow=76,SNR=3136
H11S3 WAKE ISLAND Hy 38.25 216 T T 09 04 21.3
baz=23,slow=76,SNR=2905
BOZ Bozeman (W) 38.31 76 IAmb IAmb 08 23 44.6
comp=Z,9.7nm,0.8s
BOZ Bozeman (W) 38.31 76 P **P** **08 23 41.4 -1.4**
baz=302,SNR=16
LHV Little Huntoon 38.40 90 IAmb IAmb 08 24 12.0
comp=Z,14nm,1.2s
NVAR Mina Array Bea 38.41 90 P **P** **08 23 45.0 +1.3**
comp=Z,4.1nm,0.8s,baz=296,slow=8.0,SNR=34
NVAR PcP **PcP** **08 25 56.9 +0.9**
comp=Z,2.5nm,0.8s,baz=272,slow=2.8,SNR=6.4
NVAR ScP **ScP** **08 29 40.0 +1.0**
comp=Z,2.6nm,1.0s,baz=282,slow=4.3,SNR=14
NVAR LR LR 08 36 46.1
comp=Z,85nm,22.0s,baz=315,slow=32
comp=Z,4.1nm,0.8s
MDPB Devils Postpil 38.44 92 IAmb IAmb 08 23 50.7
comp=Z,14nm,1.3s
MLAC Mammoth, Mammo 38.59 91 P **P** **08 23 46.0 +0.8**
baz=309
Q09A Carvers 38.85 89 IAmb IAmb 08 23 53.3
comp=Z,15nm,0.7s
ELK Elko 38.88 85 IAmb IAmb 08 23 50.0
comp=Z,7.8nm,0.8s
ELK Elko 38.88 85 P **P** **08 23 48.8 +1.2**
MAJO Matsushiro 38.95 267 P **P** **08 23 48.7 +0.7**
MAJO Matsushiro 38.95 267 P **P** **08 23 48.7 +0.7**
MAJO Matsushiro 38.95 267 *i* P **P** **08 23 47.8 -0.2**
MAJO pmax pmax
comp=Z,53nm,0.9s
MAJO Matsushiro 38.95 267 P **P** **08 23 48.3 +0.3**
MAJO PcP **PcP** **08 25 58.0 +0.5**
MJAR Matsushiro Arr 38.95 267 P **P** **08 23 48.0 0.0**
comp=Z,14nm,0.8s,baz=42,slow=7.5,SNR=40
MJAR PcP **PcP** **08 25 57.9 +0.4**
comp=Z,8.5nm,0.9s,baz=64,slow=2.0,SNR=14
MJAR LR LR 08 37 58.9
comp=Z,271nm,21.5s,baz=50,slow=33
comp=Z,14nm,0.8s
MJB9 Matsu-Tunnel 38.95 267 P **P** **08 23 48.6 +0.6**
YHL Hebgen Lake 38.98 77 P **P** **08 23 49.7 +1.2**
YHL IAmb IAmb 08 23 50.6
comp=Z,14nm,0.9s
VOG Valley Oaks Go 39.10 94 P **P** **08 23 49.1 -0.2**
baz=311
TIN Tinemaha, Big 39.33 92 P **P** **08 23 52.0 +0.7**
baz=310
FFC Flin Flon 39.33 58 P **P** **08 23 51.8 +0.9**
FFC IAmb IAmb 08 23 52.1
comp=Z,7.9nm,0.8s
FFC Flin Flon 39.33 58 P **P** **08 23 51.8 +0.9**
FFC pmax pmax
comp=Z,8.0nm,0.8s
FFC Flin Flon 39.33 58 P **P** **08 23 51.6 +0.7**
FFC PcP **PcP** **08 25 59.2 +0.9**
MDJ Mudanjiang 39.35 283 P **P** **08 23 50.3 -0.9**
MDJ pmax pmax
comp=Z,9.0nm,1.0s
MDJ pmax pmax
comp=Z,100nm,3.5s
YNR Norris Junctio 39.36 77 IAmb IAmb 08 23 54.3
comp=Z,21nm,0.9s
SMMC Simmler 39.39 95 P **P** **08 23 52.0 +0.3**

baz=312
YFT Old Faithful 39.41 77 lAmb lAmb 08 23 55.0
comp=Z,7.2nm,0.8s
MSHR Mys Shultsa 39.56 280 *ce*P **P 08 23 54.7 +1.7**
MSHR pmax pmax
comp=Z,134nm,1.7s
H17A Grant Village 39.59 77 lAmb lAmb 08 24 02.3
comp=Z,17nm,1.1s
H17A Grant Village 39.59 77 P **P 08 23 53.1 -0.5**
baz=303,SNR=14
VES Vestal, Richgr 39.60 94 P **P 08 23 53.7 +0.4**
baz=311
LKWY Lake 39.61 77 lAmb lAmb 08 23 57.0
comp=Z,16nm,0.8s
YMP Mirror Lake Pl 39.65 76 lAmb lAmb 08 24 05.8
comp=Z,16nm,1.1s
FLWY Flagg Ranch 39.70 77 lAmb lAmb 08 23 57.1
comp=Z,16nm,1.1s
HVU Hansel Valley 39.76 82 lAmb lAmb 08 23 57.2
comp=Z,12nm,0.8s
PKM Mcpherson Peak 39.78 96 P **P 08 23 54.6 -0.6**
baz=312
CWC Cottonwood Cre 39.82 92 P **P 08 23 56.4 +1.0**
baz=310
GRAC Grapevine Rang 39.90 91 lAmb lAmb 08 24 27.0
comp=Z,14nm,1.2s
GRAC Grapevine Rang 39.90 91 P **P 08 23 55.9 -0.1**
baz=310
RLMT Red Lodge 39.97 75 lAmb lAmb 08 23 59.6
comp=Z,23nm,1.0s
RLMT Red Lodge 39.97 75 P **P 08 23 56.5 -0.2**
baz=303,SNR=26
SNOW Snow King Moun 40.01 78 lAmb lAmb 08 24 00.4
comp=Z,14nm,1.3s
BNX BinXian 40.03 286 ⇓P **P 08 23 55.6 -1.3**
BNX pmax pmax
comp=Z,27nm,1.1s
BNX pmax pmax
comp=Z,180nm,3.3s
JGF Kuroka 40.09 266 P **P 08 23 57.6 +0.1**
JGF lAmb lAmb 08 23 59.5
comp=Z,23nm,0.7s
JGF Kuroka 40.09 266 P **P 08 23 58.4 +0.9**
BGU Big Grassy Mou 40.11 83 lAmb lAmb 08 24 03.9
comp=Z,8.8nm,0.9s
R11B Troy Canyon, C 40.13 88 P **P 08 23 59.3 +1.3**
baz=309,SNR=13
Q12A Willow Creek R 40.16 87 lAmb lAmb 08 24 20.8
comp=Z,13nm,1.1s
AHID Auburn Hatcher 40.20 79 lAmb lAmb 08 24 00.9
comp=Z,14nm,1.1s
JHJ Hachijo jima 2 40.29 261 LR LR 08 37 14.8
comp=Z,132nm,20.5s,baz=68,slow=31
MPMC Manual Prospec 40.43 92 P **P 08 24 01.7 +1.2**
baz=311
INU Inuyama 40.46 266 P **P 08 24 00.2 -0.3**
INU lAmb lAmb 08 24 01.3
comp=Z,14nm,0.9s
S11A Rachel 40.47 89 lAmb lAmb 08 24 30.9
comp=Z,12nm,1.0s
FURC Furnace Creek, 40.55 91 P **P 08 24 03.3 +2.1**
baz=310,SNR=6.6
ALE Alert 40.66 11 P **P 08 24 02.5 +0.8**
ALE pP **pP 08 24 15.3 -0.7**
ALE sP **sP 08 24 21.5 -1.0**
ALE PcP **PcP 08 26 02.9 +0.7**
DUG Dugway, Tooele 40.68 84 lAmb lAmb 08 24 04.9
comp=Z,16nm,1.0s
DUG Dugway, Tooele 40.68 84 P **P 08 24 04.4 +1.9**
DUG pmax pmax
comp=Z,18nm,1.6s
DUG Dugway, Tooele 40.68 84 P **P 08 24 01.6 -0.9**
baz=307,SNR=17
EDW2 Edwards Air Fo 40.90 94 P **P 08 24 03.5 -0.8**
baz=312
LAO LASA Array 40.91 71 lAmb lAmb 08 24 06.0
comp=Z,13nm,0.8s
LAO LASA Array 40.91 71 P **P 08 24 02.5 -1.7**
baz=302
LAO LASA Array 40.91 71 P **P 08 24 05.8 +1.6**
baz=303
PRN Pahroc Range 41.05 89 lAmb lAmb 08 24 36.2
comp=Z,14nm,0.9s
DGMT Dagmar 41.13 68 lAmb lAmb 08 24 07.8
comp=Z,26nm,1.2s
DGMT Dagmar 41.13 68 P **P 08 24 06.8 +0.9**
baz=301,SNR=6.4
DGMT Dagmar 41.13 68 P **P 08 24 06.2 +0.3**
baz=302,SNR=6.4
BW06 Boulder Array 41.13 78 P **P 08 24 04.8 -1.5**
baz=305,SNR=31
PD31 Pinedale Array 41.13 78 lAmb lAmb 08 24 08.2
comp=Z,20nm,0.9s
PDAR Pinedale Array 41.13 78 P **P 08 24 07.4 +1.1**
PDAR Pinedale Array 41.13 78 P **P 08 24 07.1 +0.8**
comp=Z,18nm,0.9s,baz=309,slow=4.3,SNR=112
PDAR PcP **PcP 08 26 04.7 0.0**
comp=Z,1.0nm,0.6s,baz=292,slow=4.8,SNR=1.7
PDAR ScP **ScP 08 29 50.3 +0.9**
comp=Z,0.5nm,0.8s,baz=265,slow=4.5,SNR=2.9
PDAR LR LR 08 39 17.4
comp=Z,126nm,19.8s,baz=320,slow=33
comp=Z,18nm,0.9s
SHOC Shoshone, Teco 41.28 91 P **P 08 24 08.0 +0.7**
baz=311,SNR=6.2
NLU North Lily Min 41.28 84 P **P 08 24 08.9 +1.4**
NLU lAmb lAmb 08 24 09.7
comp=Z,12nm,0.8s
GSC Goldstone, Bar 41.35 93 lAmb lAmb 08 24 10.3
comp=Z,10nm,0.8s
GSC Goldstone, Bar 41.35 93 P **P 08 24 09.4 +1.4**
baz=311,SNR=9.2
BOD Bodaibo 41.37 308 *eP* **P 08 24 06.8 -1.0**
BOD pmax pmax
comp=Z,22nm,1.0s
FCC Fort Churchill 41.48 50 P **P 08 24 09.5 +0.9**
FCC lAmb lAmb 08 24 10.3
comp=Z,34nm,1.0s
FCC Fort Churchill 41.48 50 P **P 08 24 09.5 +0.9**
FCC pmax pmax
comp=Z,35nm,1.0s
FMP Fort Macarthur 41.50 96 P **P 08 24 09.0 -0.1**
baz=313
MPU Maple Canyon 41.51 83 P **P 08 24 11.0 +1.7**
BFSC Mount Baldy Ra 41.54 94 P **P 08 24 09.5 -0.1**
baz=312
HEC Hector,Ludlow 41.95 93 P **P 08 24 14.1 +1.2**
baz=312
ELS Elsinore Mount 42.08 95 P **P 08 24 15.3 +1.4**
ELS lAmb lAmb 08 24 21.9
comp=Z,24nm,1.5s
MURC Murrieta 42.25 95 P **P 08 24 16.5 +1.2**
baz=313
CN2 Changchun 42.27 285 *eP* P 08 24 24.2 +8.9
CN2 *ep*P pP 08 24 29.5 -0.2
P17A Butcher Ranch, 42.39 83 lAmb lAmb 08 24 18.8
comp=Z,13nm,0.8s
GMRC Granite Mounta 42.39 92 P **P 08 24 18.0 +1.5**
baz=312
MTPU Mount Pierson 42.40 86 lAmb lAmb 08 24 28.5
comp=Z,10nm,0.8s
RDMU Red Mountain 42.42 81 lAmb lAmb 08 24 19.1
comp=Z,26nm,0.9s
Q16A Castle Valley 42.47 84 lAmb lAmb 08 24 19.8
comp=Z,18nm,1.0s
HIA Hailar 42.55 295 P **P 08 24 16.7 -0.8**
HIA lAmb lAmb 08 24 18.8
comp=Z,28nm,1.3s
HIA Hailar 42.55 295 P **P 08 24 16.7 -0.8**
HIA pmax pmax
comp=Z,28nm,1.3s
P18A Preston Nutter 42.59 83 lAmb lAmb 08 24 26.1
comp=Z,17nm,0.9s
KNB Kanab 42.67 87 P **P 08 24 18.6 -0.2**
KNB Kanab 42.67 87 P **P 08 24 18.6 -0.2**
KNB pmax pmax
comp=Z,7.0nm,0.9s
PFO Pinyon Flats O 42.69 94 P **P 08 24 20.2 +1.2**
baz=313
PFO Pinyon Flats O 42.69 94 LR LR 08 38 30.9
comp=Z,285nm,19.2s,baz=282,slow=31
TPFO Pinon Flats 42.70 94 P **P 08 24 20.0 +1.0**
baz=313
BELC Belle Mtn. Jos 42.71 93 P **P 08 24 20.1 +0.9**
baz=312
SRU San Rafael Swe 42.74 83 lAmb lAmb 08 24 22.4
comp=Z,19nm,0.8s

109C Camp Elliot, M 42.79 95 P **P 08 24 21.3 +1.6**
baz=313
K22A Casper 43.01 77 lAmb lAmb 08 24 22.8
comp=Z,14nm,0.8s
K22A Casper 43.01 77 P **P 08 24 22.2 +0.8**
baz=306,SNR=8.5
K22A Casper 43.01 77 P **P 08 24 21.8 +0.3**
baz=306,SNR=8.5
NEE2 Needles Airpor 43.04 91 P **P 08 24 22.9 +1.3**
baz=312
IRM Iron Mountain 43.13 92 P **P 08 24 23.9 +1.5**
baz=312,SNR=5.7
RWWY Rawlins 43.17 78 lAmb lAmb 08 24 23.7
comp=Z,12nm,0.9s
JCJ Chichijima 43.20 253 P **P 08 24 23.1 +0.1**
JCJ Chichijima 43.20 253 LR LR 08 39 19.6
comp=Z,97nm,21.7s,baz=118,slow=32
MONP2 Monument Peak 43.21 95 P **P 08 24 24.2 +1.0**
baz=313
BC3 Big Chuckawall 43.28 93 P **P 08 24 24.5 +0.8**
baz=313
HMU Henry Mountain 43.35 85 lAmb lAmb 08 24 26.7
comp=Z,27nm,0.8s
U15A North Rim 43.37 88 lAmb lAmb 08 24 27.2
comp=Z,11nm,0.7s
O20A White River Ci 43.49 81 lAmb lAmb 08 24 27.2
comp=Z,42nm,0.9s
O20A White River Ci 43.49 81 P **P 08 24 25.7 +0.2**
baz=308,SNR=21
IKP In-Ko-Pah, Jac 43.56 95 P **P 08 24 26.9 +0.9**
baz=314
RSSD Black Hills 43.62 73 P **P 08 24 27.0 +0.5**
RSSD lAmb lAmb 08 24 34.2
comp=Z,7.9nm,0.7s
RSSD Black Hills 43.62 73 P **P 08 24 27.0 +0.5**
RSSD pmax pmax
comp=Z,8.0nm,0.7s
RSSD Black Hills 43.62 73 P **P 08 24 25.9 -0.6**
baz=305
RSSD Black Hills 43.62 73 P **P 08 24 27.2 +0.7**
baz=306,SNR=7.2
RSSD Black Hills 43.62 73 P **P 08 24 27.0 +0.5**
RSSD pP **pP 08 24 40.2 -0.7**
RSSD PcP **PcP 08 26 13.4 +0.5**
PDMCI Parker Dam,Lak 43.64 92 P **P 08 24 26.7 +0.3**
baz=312,SNR=8.4
BLYC Blythe 43.78 92 lAmb lAmb 08 24 29.7
comp=Z,10nm,0.8s
MDND Maddock 44.05 66 P **P 08 24 29.2 -0.5**
baz=303,SNR=8.6
MDND Maddock 44.05 66 P **P 08 24 30.6 +0.9**
baz=304,SNR=8.6
E28A Huff 44.15 68 lAmb lAmb 08 24 32.4
comp=Z,35nm,1.1s
E28A Huff 44.15 68 P **P 08 24 31.6 +1.1**
baz=305
N23A Red Feather La 44.41 78 lAmb lAmb 08 24 34.9
comp=Z,16nm,1.1s
N23A Red Feather La 44.41 78 P **P 08 24 32.7 -0.2**
baz=308,SNR=8.0
WUAZ Wupatki 44.53 88 P **P 08 24 35.1 +1.3**
baz=311
SNY Shenyang 44.55 284 ⇑P **P 08 24 33.8 +0.2**
SNY pmax pmax
comp=Z,20nm,1.0s
SNY LR LR
comp=Z,230nm,14.9s
SNY LR LR
comp=Z,210nm,13.0s
SNY LR LR
comp=Z,210nm,17.5s
KSRS Korea Array 44.65 276 P **P 08 24 35.0 +0.5**
comp=Z,9.8nm,0.7s,baz=52,slow=7.6,SNR=44
KSRS PcP **PcP 08 26 16.8 +0.6**
comp=Z,2.6nm,0.7s,baz=69,slow=3.7,SNR=5.9
KSRS LR LR 08 42 04.3
comp=Z,103nm,21.1s,baz=60,slow=34
comp=Z,9.8nm,0.7s
KS19 Wonju Array Si 44.66 276 P **P 08 24 34.4 -0.2**
KS19 lAmb lAmb 08 24 36.7
comp=Z,11nm,0.8s
KSAR Wonju Array Be 44.68 276 P **P 08 24 34.4 -0.3**
KSAR Wonju Array Be 44.68 276 P **P 08 24 34.4 -0.3**
ULM Lac du Bonnet 44.78 62 P **P 08 24 35.6 +0.2**
ULM lAmb lAmb 08 24 36.8
comp=Z,27nm,1.2s
ULM Lac du Bonnet 44.78 62 *i* P **P 08 24 35.6 +0.2**
ULM Lac du Bonnet 44.78 62 P **P 08 24 35.2 -0.2**
comp=Z,12nm,0.9s,baz=288,slow=7.9,SNR=19
ULM PcP **PcP 08 26 16.8 +0.3**
comp=Z,4.2nm,0.5s,baz=315,slow=5.9,SNR=4.6
ULM LR LR 08 45 40.8
comp=Z,162nm,18.7s,baz=288,slow=39
comp=Z,12nm,0.9s
113A Mohawk Valley, 44.91 93 P **P 08 24 35.9 -0.7**
NEEM North Greenlan 45.14 16 *i* P **P 08 24 37.7 -0.5**
NEEM lAmb lAmb 08 24 39.3
comp=Z,25nm,0.6s
MVCO Mesa Verde 45.18 84 P **P 08 24 39.8 +0.8**
baz=310,SNR=5.3
X16A Lo Mia Camp, P 45.22 89 lAmb lAmb 08 24 42.0
comp=Z,7.6nm,0.9s
ISCO Idaho Springs 45.29 79 P **P 08 24 40.4 +0.5**
ISCO Idaho Springs 45.29 79 P **P 08 24 40.4 +0.5**
ISCO pmax pmax
comp=Z,4.0nm,1.0s
ISCO Idaho Springs 45.29 79 P **P 08 24 40.6 +0.7**
baz=308,SNR=8.9
ISCO Idaho Springs 45.29 79 P **P 08 24 40.5 +0.6**
baz=309,SNR=8.9
NOR Nord 45.48 5 *i* P **P 08 24 40.0 -0.6**
NOR lAmb lAmb 08 24 42.2
comp=Z,5.7nm,0.8s
TJN Taejon 45.69 275 P **P 08 24 42.0 -0.7**
TJN Taejon 45.69 275 P **P 08 24 43.4 +0.7**
TJN Taejon 45.69 275 *ce*P **P 08 24 41.9 -0.8**
JNU Nakatsue 45.71 269 P **P 08 24 43.7 +0.7**
JNU Nakatsue 45.71 269 LR LR 08 42 38.5
comp=Z,38nm,21.9s,baz=67,slow=34
W18A Petrified Fore 45.80 87 lAmb lAmb 08 24 46.1
comp=Z,15nm,1.1s
W18A Petrified Fore 45.80 87 P **P 08 24 45.0 +1.1**
baz=312
AGMN Agassiz Nation 45.88 64 P **P 08 24 44.2 +0.1**
baz=304,SNR=17
AGMN Agassiz Nation 45.88 64 P **P 08 24 43.9 -0.2**
baz=305,SNR=17
214A Organ Pipe Nat 46.06 93 lAmb lAmb 08 24 47.8
comp=Z,10nm,0.9s
214A Organ Pipe Nat 46.06 93 P **P 08 24 47.1 +1.4**
baz=314,SNR=6.1
X18A Snowflake 46.06 88 lAmb lAmb 08 24 48.5
comp=Z,16nm,1.5s
Q24A Divide 46.09 80 P **P 08 24 47.5 +1.2**
baz=309
SUSD Miller 46.38 70 P **P 08 24 48.5 +0.4**
baz=306
SUSD Miller 46.38 70 P **P 08 24 48.9 +0.8**
baz=307
SDCO Great Sand Dun 46.66 81 lAmb lAmb 08 24 52.8
comp=Z,12nm,0.9s
SDCO Great Sand Dun 46.66 81 P **P 08 24 52.2 +1.5**
baz=310,SNR=11
SDCO Great Sand Dun 46.66 81 P **P 08 24 51.9 +1.2**
baz=310,SNR=11
OGNE Ogallala 46.71 76 P **P 08 24 51.8 +1.0**
baz=308
B35A Bob, Littlefor 47.01 63 lAmb lAmb 08 24 53.8
comp=Z,24nm,0.8s
B35A Bob, Littlefor 47.01 63 P **P 08 24 53.0 0.0**
baz=306,SNR=14
TUC Tucson 47.05 91 P **P 08 24 54.4 +0.8**
TUC lAmb lAmb 08 24 55.9
comp=Z,10nm,0.8s
TUC Tucson 47.05 91 P **P 08 24 54.4 +0.8**
TUC pmax pmax
comp=Z,10.0nm,0.9s
TUC Tucson 47.05 91 P **P 08 24 55.0 +1.4**
baz=314
TUC Tucson 47.05 91 P **P 08 24 54.8 +1.2**
TUC PcP **PcP 08 26 25.5 +0.7**
F33A 5 Mile Ranch, 47.07 67 lAmb lAmb 08 24 54.1
comp=Z,19nm,1.1s
F33A 5 Mile Ranch, 47.07 67 P **P 08 24 52.8 -0.7**
baz=307
K30B Basset 47.07 72 P **P 08 24 54.4 +0.8**
baz=308,SNR=7.6

KSCO Kaye Shedlock' 47.58 78 P **P 08 24 58.0 +0.3**
baz=310,SNR=9.3
KSCO Kaye Shedlock' 47.58 78 P **P 08 24 58.9 +1.2**
baz=310,SNR=9.3
T25A Trinidad 47.71 81 P **P 08 24 59.6 +0.8**
baz=311,SNR=13
ANMO Albuquerque 47.91 85 P **P 08 25 00.7 +0.3**
ANMO lAmb lAmb 08 25 06.1
comp=Z,12nm,1.3s
ANMO Albuquerque 47.91 85 P **P 08 25 00.7 +0.3**
ANMO pmax pmax
comp=Z,12nm,1.3s
ANMO Albuquerque 47.91 85 P **P 08 25 01.3 +0.9**
baz=312
ANMO Albuquerque 47.91 85 P **P 08 25 01.3 +0.9**
baz=312,SNR=14
ANMO Albuquerque 47.91 85 LR LR 08 42 56.5
comp=Z,193nm,19.9s,baz=47,slow=33
ANMO Albuquerque 47.91 85 P **P 08 25 01.3 +0.9**
ANMO PcP **PcP 08 26 29.6 +1.5**
ECSD EROS Data Cent 48.16 69 lAmb lAmb 08 25 02.4
comp=Z,21nm,1.2s
Y22D IRIS PASSCAL I 48.22 86 P **P 08 25 03.8 +1.1**
baz=312
Y22D IRIS PASSCAL I 48.22 86 P **P 08 25 04.8 +2.2**
baz=313
Y22F Passcal Instru 48.22 86 P **P 08 25 03.8 +1.1**
baz=312
Y22A Socorro 48.28 86 P **P 08 25 04.9 +1.7**
baz=313,SNR=19
EYMN Ely 48.46 62 P **P 08 25 04.6 +0.4**
baz=306,SNR=10
EYMN Ely 48.46 62 P **P 08 25 04.4 +0.2**
baz=307,SNR=10
F36A Milaca 48.60 65 lAmb lAmb 08 25 06.0
comp=Z,10nm,0.8s
F36A Milaca 48.60 65 P **P 08 25 05.1 -0.2**
baz=308,SNR=6.7
BGNE Belgrade 48.71 73 P **P 08 25 06.1 -0.2**
baz=309
BGNE Belgrade 48.71 73 P **P 08 25 06.6 +0.3**
baz=309
121A Cookes Peak, D 48.74 88 lAmb lAmb 08 25 08.9
comp=Z,12nm,0.8s
121A Cookes Peak, D 48.74 88 P **P 08 25 08.5 +1.8**
baz=313,SNR=6.3
121A Cookes Peak, D 48.74 88 P **P 08 25 08.3 +1.5**
baz=314,SNR=6.3
KBS Kingsbay 48.90 359 *ce*P **P 08 25 09.6 +2.5**
KBS pmax pmax
comp=Z,19nm,1.0s
KBS Kingsbay 48.90 359 *e*P **P 08 25 08.3 +1.2**
KBS lAmb lAmb 08 25 09.1
comp=Z,21nm,0.9s
KBS Kingsbay 48.90 359 *i* P **P 08 25 07.6 +0.5**
E38A The Farm, Brul 49.24 63 P **P 08 25 09.9 -0.2**
baz=308,SNR=14
FRB Frobisher Bay 49.37 35 P **P 08 25 10.9 +0.1**
FRB pmax pmax
comp=Z,19nm,0.8s
SPMN Marine on St. 49.39 65 lAmb lAmb 08 25 11.8
comp=Z,8.8nm,0.8s
SPMN Marine on St. 49.39 65 P **P 08 25 11.2 -0.2**
baz=308
CBKS Cedar Bluff 49.43 76 P **P 08 25 12.8 +1.1**
baz=310
CBKS Cedar Bluff 49.43 76 P **P 08 25 12.6 +0.9**
baz=311
SPA0 Spitsbergen Ar 49.59 358 *e*P **P 08 25 12.9 +0.4**
SPITS Spitsbergen Ar 49.59 358 P **P 08 25 12.5 0.0**
comp=Z,6.9nm,0.5s,baz=344,slow=3.7,SNR=35
SPITS PcP **PcP 08 26 33.4 +0.2**
comp=Z,9.0nm,0.5s,baz=43,slow=2.6,SNR=13
SPITS LR LR 08 47 24.1
comp=Z,207nm,19.3s,baz=336,slow=38
comp=Z,6.9nm,0.5s
SPB2 Spitsbergen Ar 49.59 358 P **P 08 25 12.3 -0.2**
BRBB Barentsburg B 49.71 359 *e*P **P 08 25 13.3 0.0**
I37B Waseca 49.81 67 P **P 08 25 14.7 +0.2**
baz=309
BJI Beijing 50.04 286 P **P 08 25 16.4 +0.1**
BJI sP **sP 08 25 38.8 +1.4**
BJI PcP **PcP 08 26 35.9 +0.5**
BJI pmax pmax
comp=Z,7.0nm,0.6s
BJI LR LR
comp=Z,130nm,16.8s
BJI LR LR
comp=Z,93nm,17.4s
BJI LR LR
comp=Z,140nm,18.0s
EPT El Paso 50.05 88 lAmb lAmb 08 25 18.5
comp=Z,16nm,0.8s
BJT Baijiatuao 50.06 286 lAmb lAmb 08 25 17.4
comp=Z,11nm,0.6s
BJT Baijiatuao 50.06 286 P **P 08 25 16.5 0.0**
BJT Baijiatuao 50.06 286 P **P 08 25 16.8 +0.3**
ULN Ulaanbaatar 50.26 300 P **P 08 25 17.5 -0.6**
ULN lAmb lAmb 08 25 19.0
comp=Z,7.7nm,0.8s
ULN Ulaanbaatar 50.26 300 *ce*P **P 08 25 18.2 +0.1**
ULN pmax pmax
comp=Z,7.0nm,0.7s
ULN Ulaanbaatar 50.26 300 P **P 08 25 18.2 +0.1**
ULN PcP **PcP 08 26 36.5 +0.2**
N35A Tabor 50.52 72 P **P 08 25 20.2 +0.3**
baz=310,SNR=6.6
D41A Chassel 50.58 61 lAmb lAmb 08 25 22.2
comp=Z,25nm,1.1s
D41A Chassel 50.58 61 P **P 08 25 20.4 +0.1**
baz=308,SNR=5.8
SONM Songino Array 50.62 300 P **P 08 25 21.5 +0.7**
SONM lAmb lAmb 08 25 22.9
comp=Z,19nm,1.4s
SONM Songino Array 50.62 300 P **P 08 25 21.5 +0.7**
SONM pmax pmax
comp=Z,19nm,1.4s
SONM Songino Array 50.62 300 P **P 08 25 20.9 +0.1**
comp=Z,4.1nm,0.6s,baz=57,slow=6.2,SNR=35
SONM PcP **PcP 08 26 37.7 +0.1**
comp=Z,5.0nm,0.7s,baz=71,slow=1.4,SNR=9.4
SONM ScP **ScP 08 30 30.0 +1.4**
comp=Z,2.2nm,1.1s,baz=73,slow=2.6,SNR=5.6
comp=Z,4.1nm,0.6s
MNTX Cornudas Mount 50.78 87 P **P 08 25 23.4 +1.3**
baz=314,SNR=20
HSPB Hornsund (broa 50.79 358 *e*P **P 08 25 21.6 +0.2**
G40A Rib Lake 50.81 64 lAmb lAmb 08 25 22.9
comp=Z,20nm,1.0s
G40A Rib Lake 50.81 64 P **P 08 25 21.8 -0.3**
baz=309,SNR=6.7
MSTX Muleshoe 50.82 83 P **P 08 25 23.4 +0.9**
baz=313,SNR=8.4
MSTX Muleshoe 50.82 83 P **P 08 25 22.9 +0.5**
baz=313,SNR=8.4
AMTX Amarillo 50.86 81 P **P 08 25 22.2 -0.5**
AMTX lAmb lAmb 08 25 24.3
comp=Z,13nm,0.9s
AMTX Amarillo 50.86 81 P **P 08 25 21.7 -1.0**
baz=312
COWI Conover 50.87 63 lAmb lAmb 08 25 29.7
comp=Z,15nm,1.2s
SUMG Summit 50.95 17 P **P 08 25 23.3 +0.1**
SUMG lAmb lAmb 08 25 25.0
comp=Z,32nm,1.3s
SUMG Summit 50.95 17 P **P 08 25 23.3 +0.1**
SUMG pmax pmax
comp=Z,32nm,1.3s
SUMG Summit 50.95 17 *i* P **P 08 25 22.1 -1.1**
SUMG lAmb lAmb 08 25 24.7
comp=Z,29nm,1.3s
HOPEN Hopen 50.95 355 *e*P **P 08 25 23.4 +0.7**
HOPEN lAmb lAmb 08 25 23.7
comp=Z,20nm,1.0s
MOY Mondy 51.02 307 *e*P **P 08 25 24.4 +0.7**
KSU1 Kansas State U 51.09 74 lAmb lAmb 08 25 24.9
comp=Z,19nm,1.0s
KSU1 Kansas State U 51.09 74 P **P 08 25 23.0 -1.3**
baz=311
KSU1 Kansas State U 51.09 74 P **P 08 25 24.1 -0.2**
baz=311
SCIA State Center 51.25 69 P **P 08 25 25.5 +0.1**
baz=310
I40A Norwalk 51.45 66 P **P 08 25 26.7 -0.2**
baz=310
U32A Winter Ranch, 51.47 78 P **P 08 25 27.8 +0.7**
baz=312

F42A **Maple Grove Fa** 51.63 62 P P 08 25 28.6 +0.4
baz=310,SNR=5.6
OK032 **Salt Plains WL** 51.66 77 IAmb IAmb 08 25 29.5
comp=Z,20nm,0.9s
VHRN **Van Horn** 51.66 88 IAmb IAmb 08 25 31.1
comp=Z,15nm,0.9s
JOW **Kunigami** 51.75 265 IAmb IAmb 08 25 30.9
comp=Z,26nm,1.1s
JOW **Kunigami** 51.75 265 LR LR 08 48 37.7
comp=Z,44nm,18.6s,baz=344,slow=37
E43A **Lone Tree Farm** 51.85 61 P P 08 25 30.0 +0.2
baz=310,SNR=11
PECS **Pecos** 51.94 86 IAmb IAmb 08 25 33.8
comp=Z,4.7nm,0.7s
N38A **Joes South For** 51.96 70 P P 08 25 30.4 -0.3
baz=311
HHC **Hu-ho-hao-te** 52.20 290 *e*P P 08 25 33.2 +0.6
HHC pP pP 08 25 47.9 +0.4
HHC sP sP 08 25 57.9 +4.1
HHC *e*S S 08 32 53.7 +0.6
HHC sS sS 08 33 19.8 +1.8
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,73nm,4.4s
HHC LR LR
comp=Z,210nm,16.9s
HHC LR LR
comp=Z,180nm,16.9s
HHC LR LR
comp=Z,270nm,19.2s
ODSA **Odessa** 52.22 85 IAmb IAmb 08 25 34.1
comp=Z,11nm,0.8s
JFWS **Jewell Farm** 52.28 66 IAmb IAmb 08 25 33.2
comp=Z,22nm,1.1s
JFWS **Jewell Farm** 52.28 66 P P 08 25 32.1 -1.0
baz=310
JFWS **Jewell Farm** 52.28 66 P P 08 25 32.3 -0.8
baz=310
L40A **Anamosa** 52.28 68 P P 08 25 32.6 -0.5
baz=311
I42A **Draeger Farm,** 52.39 65 IAmb IAmb 08 25 34.2
comp=Z,16nm,0.8s
I42A **Draeger Farm,** 52.39 65 P P 08 25 33.6 -0.3
baz=310
P38A **Dawn** 52.55 71 P P 08 25 34.5 -0.6
baz=312,SNR=13
SN07 **Snyder 07** 52.56 83 IAmb IAmb 08 25 36.2
comp=Z,10nm,0.8s
T35B **Sooner Cadet** 52.60 76 P P 08 25 34.9 -0.7
baz=312,SNR=6.4
HNS **HongShan** 52.64 285 ⇑P P 08 25 36.4 +0.6
HNS sP sP 08 25 59.5 +2.7
HNS PcP PcP 08 26 45.7 +0.6
HNS *e*S S 08 32 59.5 +0.6
HNS pmax pmax
comp=Z,75nm,0.8s
HNS pmax pmax
comp=Z,230nm,5.4s
HNS LR LR
comp=Z,160nm,19.1s
HNS LR LR
comp=Z,330nm,22.3s
HNS LR LR
comp=Z,350nm,24.5s
SFJD **Kangerlussuaq** 52.65 25 P P 08 25 35.0 -0.4
SFJD IAmb IAmb 08 25 36.8
comp=Z,30nm,1.4s
SFJD **Kangerlussuaq** 52.65 25 P P 08 25 35.0 -0.4
SFJD pmax pmax
comp=Z,30nm,1.5s
SFJD **Kangerlussuaq** 52.65 25 *i*P P 08 25 34.2 -1.2
SFJD IAmb IAmb 08 25 37.2
comp=Z,49nm,1.7s
WMOK **Wichita Mounta** 52.71 80 P P 08 25 36.3 -0.1
WMOK **Wichita Mounta** 52.71 80 P P 08 25 37.0 +0.6
baz=313,SNR=24
ALPN **Alpine** 52.78 87 IAmb IAmb 08 25 38.4
comp=Z,11nm,0.7s
APMT **Aspermont** 52.87 82 IAmb IAmb 08 25 38.9
comp=Z,18nm,1.1s
SGCY **Sterling City** 53.23 84 IAmb IAmb 08 25 41.5
comp=Z,22nm,0.9s
BTO **Baotou** 53.24 291 *e*P P 08 25 41.0 +0.7
BTO pP pP 08 25 56.3 +1.1
BTO sP sP 08 26 03.1 +1.6
BTO PP PP 08 27 44.6 +4.0
BTO S S 08 33 07.3 0.0
BTO SS SS 08 36 44.0 -3.0
BTO pmax pmax
comp=Z,99nm,0.8s
BTO pmax pmax
comp=Z,470nm,4.9s
BTO LR LR
comp=Z,270nm,4.5s
BTO LR LR
comp=Z,240nm,6.5s
BTO LR LR
comp=Z,770nm,16.4s
LPIG **La Paz** 53.24 98 LR LR 08 43 05.3
comp=Z,110nm,21.4s,baz=294,slow=30
E46A **Sault Ste Mari** 53.29 60 P P 08 25 40.6 +0.2
baz=310,SNR=5.8
N41A **Harden Midland** 53.38 69 P P 08 25 40.5 -0.7
baz=312
G45A **Suttons Bay** 53.43 62 IAmb IAmb 08 25 42.3
comp=Z,20nm,1.0s
P40A **Paris** 53.47 71 P P 08 25 41.1 -0.8
baz=312,SNR=24
TX31 **Lajitas Ar. Si** 53.49 88 IAmb IAmb 08 25 44.0
comp=Z,18nm,0.8s
TX31 **Lajitas Ar. Si** 53.49 88 P P 08 25 42.9 +0.6
baz=316,SNR=39
TXAR **Lajitas Array** 53.49 88 P P 08 25 43.0 +0.6
TXAR **Lajitas Array** 53.49 88 P P 08 25 43.0 +0.6
comp=Z,14nm,0.7s,baz=296,slow=5.3,SNR=166
TXAR ScP ScP 08 30 41.8 +0.5
comp=Z,0.8nm,1.0s,baz=169,slow=1.3,SNR=4.4
TXAR LR LR 08 45 57.0
comp=Z,120nm,20.1s,baz=326,slow=33
comp=Z,14nm,0.7s
WTFS **Witchita Falls** 53.56 80 IAmb IAmb 08 25 43.9
comp=Z,14nm,0.8s
ICESG **Greenland Ices** 53.57 20 *i*P P 08 25 41.7 -1.0
ICESG IAmb IAmb 08 25 43.7
comp=Z,18nm,1.2s
ABTX **Abilene, Hawle** 53.64 82 IAmb IAmb 08 25 44.9
comp=Z,30nm,1.2s
ABTX **Abilene, Hawle** 53.64 82 P P 08 25 42.2 -1.1
baz=314
ABTX **Abilene, Hawle** 53.64 82 P P 08 25 43.4 +0.1
baz=314
TUL3 **Leonard** 53.70 76 IAmb IAmb 08 25 44.5
comp=Z,20nm,0.9s
TUL3 **Leonard** 53.70 76 P P 08 25 43.7 0.0
baz=313,SNR=7.7
NJ2 **Nanjing** 53.80 277 *e*P P 08 25 44.2 -0.2
NJ2 pP pP 08 25 58.0 -1.1
NJ2 sP sP 08 26 04.1 -1.4
NJ2 pmax pmax
comp=Z,17nm,0.5s
NJ2 pmax pmax
comp=Z,140nm,4.1s
OZNA **Ozona** 53.92 85 IAmb IAmb 08 25 46.5
comp=Z,11nm,0.8s
S39A **Bolivar** 53.96 73 IAmb IAmb 08 25 44.6
comp=Z,8.8nm,0.8s
SAND **Sanderson** 54.00 86 IAmb IAmb 08 25 46.6
comp=Z,5.3nm,0.7s
L44A **Lake County Fo** 54.07 66 P P 08 25 46.0 -0.2
baz=311
GLMI **Grayling** 54.13 61 P P 08 25 45.7 -0.9
baz=311
DY2G **Dye2** 54.17 24 *i*P P 08 25 45.2 -1.7
DY2G IAmb IAmb 08 25 47.8
comp=Z,4.7nm,0.5s
R40A **Maddies Statio** 54.17 72 IAmb IAmb 08 25 46.4
comp=Z,12nm,0.6s
R40A **Maddies Statio** 54.17 72 P P 08 25 45.6 -1.5
baz=312,SNR=7.0
U38A **Gravette** 54.18 75 IAmb IAmb 08 25 47.3
comp=Z,14nm,1.0s
U38A **Gravette** 54.18 75 P P 08 25 46.3 -0.8
baz=313,SNR=5.8
HDIL **Hopedale** 54.37 68 P P 08 25 47.5 -0.9
baz=312,SNR=5.6
HDIL **Hopedale** 54.37 68 P P 08 25 48.2 -0.2
baz=312,SNR=5.6
HHAR **Hobbs** 54.55 75 IAmb IAmb 08 25 49.3
comp=Z,11nm,1.0s
P43A **Skaggs, Pawnee** 54.85 69 P P 08 25 51.1 -0.8
baz=312,SNR=5.8
X37A **Clayton** 54.86 77 P P 08 25 52.5 +0.4
baz=314,SNR=12
CCM **Cathedral Cave** 54.92 71 P P 08 25 51.3 -1.2
CCM IAmb IAmb 08 25 52.2
comp=Z,8.9nm,0.9s
CCM **Cathedral Cave** 54.92 71 P P 08 25 51.3 -1.2
CCM pmax pmax
comp=Z,9.0nm,1.0s
CCM **Cathedral Cave** 54.92 71 P P 08 25 51.6 -0.9
baz=312
CCM **Cathedral Cave** 54.92 71 P P 08 25 51.3 -1.2
CCM pP pP 08 26 04.9 -2.4
CCM PcP PcP 08 26 54.0 +0.2
MGMO **Mountain Grove** 54.94 73 IAmb IAmb 08 25 52.5
comp=Z,23nm,1.1s
BRDY **Brady** 54.97 83 P P 08 25 52.7 -0.2
BRDY IAmb IAmb 08 25 54.0
comp=Z,14nm,0.9s
JCT **Junction City** 55.05 84 IAmb IAmb 08 25 54.4
comp=Z,14nm,0.8s
JCT **Junction City** 55.05 84 P P 08 25 53.8 +0.2
baz=315,SNR=7.9
JCT **Junction City** 55.05 84 P P 08 25 53.4 -0.1
baz=315,SNR=7.9
L46A **Eue Claire** 55.08 65 P P 08 25 52.8 -0.7
baz=312
L46A P P 08 25 52.8 -0.7
baz=312
O44A **Mansfield** 55.10 68 P P 08 25 53.1 -0.7
baz=312
U40A **Yellville** 55.14 74 P P 08 25 53.0 -1.0
baz=313,SNR=8.0
U40A P P 08 25 53.0 -1.0
baz=313,SNR=8.0
DRIO **Del Rio** 55.30 86 IAmb IAmb 08 25 55.6
comp=Z,11nm,0.8s
SCO **Scoresbysund** 55.33 12 *i*P P 08 25 53.7 -1.2
SCO IAmb IAmb 08 25 56.2
comp=Z,12nm,0.4s
WHTX **Lake Whitney,** 55.41 81 P P 08 25 56.2 +0.2
baz=314,SNR=11
WHTX **Lake Whitney,** 55.41 81 P P 08 25 57.0 +0.9
baz=315,SNR=11
FVM **French Village** 55.45 71 IAmb IAmb 08 25 56.4
comp=Z,21nm,1.1s
FVM **French Village** 55.45 71 P P 08 25 55.1 -1.2
baz=313,SNR=5.8
Q44A **Meyer Farm, Va** 55.63 69 P P 08 25 57.1 -0.4
baz=313
SFIN **Lafayette** 55.73 67 P P 08 25 58.3 +0.1
baz=312,SNR=5.3
SFIN **Lafayette** 55.73 67 P P 08 25 58.0 -0.3
baz=313,SNR=5.3
SCHQ **Schefferville** 55.91 43 P P 08 25 59.0 -0.3
SCHQ **Schefferville** 55.91 43 P P 08 25 59.1 -0.2
comp=Z,31nm,0.9s,baz=328,slow=8.0,SNR=28
SCHQ LR LR 08 52 31.9
comp=Z,276nm,19.4s,baz=322,slow=39
comp=Z,31nm,0.9s
LYN **LuoYang** 55.91 284 ⇑P P 08 25 59.9 +0.3
LYN pmax pmax
comp=Z,42nm,0.7s
LYN pmax pmax
comp=Z,130nm,5.2s
LYN LR LR
comp=Z,160nm,18.2s
LYN LR LR
comp=Z,230nm,19.6s
LYN LR LR
comp=Z,340nm,23.1s
MIAR **Mount Ida** 55.96 76 P P 08 25 58.9 -1.0
MIAR **Mount Ida** 55.96 76 P P 08 26 00.1 +0.2
baz=314,SNR=16
MIAR **Mount Ida** 55.96 76 P P 08 25 59.4 -0.5
baz=314,SNR=16
Z38A **Mt. Pleasant** 56.01 78 P P 08 26 00.2 -0.1
baz=315
HNDO **Hondo** 56.04 84 P P 08 26 00.0 -0.6
HNDO IAmb IAmb 08 26 00.8
comp=Z,4.8nm,0.7s
N47A **Urbana** 56.17 65 P P 08 26 00.5 -0.9
baz=313
N47A P P 08 26 00.5 -0.9
baz=313
435B **Jarrell** 56.18 82 IAmb IAmb 08 26 03.2
comp=Z,20nm,0.9s
435B **Jarrell** 56.18 82 P P 08 26 02.6 +1.0
baz=315
435B **Jarrell** 56.18 82 P P 08 26 02.3 +0.7
baz=315,SNR=6.2
JMIC **Jan Mayen** 56.23 7 LR LR 08 51 12.2
comp=Z,150nm,18.8s,baz=20,slow=37
PBMO **Poplar Bluff** 56.27 72 IAmb IAmb 08 26 02.1
comp=Z,17nm,1.0s
OLIL **Olney** 56.27 69 P P 08 26 01.8 -0.4
baz=313
S44A **Carbondale** 56.32 70 P P 08 26 01.8 -0.8
baz=314
SIUC **Southern Illin** 56.33 70 IAmb IAmb 08 26 02.6
comp=Z,13nm,0.7s
AAM **Ann Arbor** 56.33 63 P P 08 26 01.4 -1.1
baz=313
X40A **Basin Creek Fa** 56.44 76 IAmb IAmb 08 26 03.1
comp=Z,10nm,1.0s
YOJ **Yonaguni jima** 56.70 268 P P 08 26 04.2 -1.1
HAMF **Hammerfest** 56.81 354 *e*P P 08 26 05.5 0.0
833A **Chaparral WMA,** 56.83 86 P P 08 26 06.1 -0.1
baz=316,SNR=5.8
833A **Chaparral WMA,** 56.83 86 P P 08 26 06.6 +0.4
baz=316,SNR=5.8
BLO **Bloomington** 56.87 67 IAmb IAmb 08 26 07.3
comp=Z,26nm,1.2s
ZAA0 **Zalesovo Array** 56.87 317 P P 08 26 06.8 +0.6
ZALV **Zalesovo Beam** 56.87 317 P P 08 26 06.7 +0.6
ZALV **Zalesovo Beam** 56.87 317 P P 08 26 05.6 -0.6
comp=Z,1.0nm,0.4s,baz=32,slow=8.5,SNR=7.7
ZALV PcP PcP 08 27 01.2 +0.2
comp=Z,4.5nm,0.7s,baz=33,slow=3.5,SNR=10
ZALV LR LR 08 51 08.4
comp=Z,211nm,21.9s,baz=60,slow=37
comp=Z,1.0nm,0.4s
O48B **Farmland** 56.90 66 P P 08 26 06.1 -0.5
baz=313
O48B **Farmland** 56.90 66 P P 08 26 05.6 -0.9
baz=313
VADS **Vadso** 56.91 352 *e*P P 08 26 06.5 +0.3
SADO **Sadowa** 57.06 58 LR LR 08 51 48.2
comp=Z,218nm,18.4s,baz=329,slow=37
NATX **Naogdoches** 57.26 79 P P 08 26 08.9 -0.3
baz=315
P48A **Milroy** 57.29 66 IAmb IAmb 08 26 08.9
comp=Z,16nm,0.8s
P48A **Milroy** 57.29 66 P P 08 26 08.8 -0.6
baz=314,SNR=5.0
P48A P P 08 26 08.8 -0.6
baz=314,SNR=5.0
CCAR **Cane Creek** 57.47 75 P P 08 26 11.5 +0.9
baz=315
YHNB **Yeheng** 57.55 269 P P 08 26 11.7 +0.3
P49A **Miami Univ. Ec** 57.64 66 P P 08 26 11.0 -0.8
baz=314
P49A **Miami Univ. Ec** 57.64 66 P P 08 26 10.9 -0.8
baz=314
WCI **Wyandotte Cave** 57.65 68 P P 08 26 11.0 -0.9
WCI IAmb IAmb 08 26 12.4
comp=Z,18nm,0.8s
WCI **Wyandotte Cave** 57.65 68 P P 08 26 11.0 -0.9
WCI pmax pmax
comp=Z,18nm,0.9s
WCI **Wyandotte Cave** 57.65 68 P P 08 26 10.7 -1.2
baz=314
ARA0 **ARCESS Array S** 57.78 353 *e*P P 08 26 12.1 -0.2
ARA0 IAmb IAmb 08 26 13.9
comp=Z,25nm,1.3s
ARCES **ARCESS Array B** 57.78 353 P P 08 26 11.9 -0.5
comp=Z,6.1nm,0.6s,baz=14,slow=5.8,SNR=35
ARCES PcP PcP 08 27 04.5 +0.1
comp=Z,9.1nm,0.7s,baz=16,slow=4.8,SNR=8.6
ARCES LR LR 08 50 56.7
comp=Z,262nm,21.8s,baz=5.5,slow=36
comp=Z,6.1nm,0.6s
HKT **Hockley** 57.83 82 P P 08 26 13.3 +0.2
HKT IAmb IAmb 08 26 18.7
comp=Z,26nm,1.4s
HKT **Hockley** 57.83 82 *i*P P 08 26 13.0 -0.2
HKT pmax pmax
comp=Z,10.0nm,1.0s
HKT **Hockley** 57.83 82 P P 08 26 14.0 +0.9
HKT pP pP 08 26 29.2 +1.0
T47A **Sharon Grove** 58.05 70 P P 08 26 14.3 -0.4
T47A **Sharon Grove** 58.05 70 P P 08 26 14.6 -0.1
baz=314,SNR=7.9
TRO **Tromso** 58.06 356 *e*P P 08 26 14.6 +0.4
TRO IAmb IAmb 08 26 14.7
comp=Z,19nm,0.5s
JETT **Jettan, Norway** 58.06 355 *e*P P 08 26 14.8 +0.4
ACSO **Alum Creek Sta** 58.12 64 P P 08 26 13.1 -2.1
baz=314
WVT **Waverly** 58.23 71 P P 08 26 15.6 -0.4
WVT IAmb IAmb 08 26 28.1
comp=Z,18nm,1.4s
WVT **Waverly** 58.23 71 P P 08 26 15.6 -0.4
WVT pmax pmax
comp=Z,19nm,1.4s
WVT **Waverly** 58.23 71 P P 08 26 16.2 +0.3
baz=314
WVT **Waverly** 58.23 71 P P 08 26 15.8 -0.2
XAN **Xi'an** 58.36 286 ⇑P P 08 26 16.9 -0.1
XAN pP pP 08 26 33.4 +1.4
XAN pmax pmax
comp=Z,28nm,0.9s
ERPA **Erie** 58.44 61 P P 08 26 16.2 -1.1
baz=314
OXF **Oxford** 58.44 73 P P 08 26 15.4 -2.0
baz=315
KTK1 **Kautokeino** 58.45 354 *e*P P 08 26 16.5 -0.5
SSLB **Suanglung** 58.46 269 P P 08 26 17.8 0.0
M53A **WI Miller and** 58.54 62 P P 08 26 16.2 -1.9
baz=314
YULB **Yu-li** 58.54 268 IAmb IAmb 08 26 20.5
comp=Z,16nm,0.8s
ALLY **Alegheny Colle** 58.68 61 P P 08 26 19.3 +0.2
baz=314,SNR=6.6
R50A **Paris** 58.73 67 IAmb IAmb 08 26 19.7
comp=Z,18nm,1.0s
DGZ **Jazzator, Alta** 58.75 312 *i*P P 08 26 19.7 +0.1
DGZ pmax pmax
comp=Z,7.0nm,1.5s
O52A **Adamsville** 58.83 64 P P 08 26 19.8 -0.3
baz=314,SNR=5.1
O52A P P 08 26 19.8 -0.3
baz=314,SNR=5.1
ZAIG **Zacatecas** 58.95 93 IAmb IAmb 08 26 30.9
comp=Z,4.5nm,1.0s
P52A **Corning** 59.00 64 P P 08 26 19.8 -1.5
baz=314
QZH **Quanzhou** 59.05 271 ⇑*i*P P 08 26 22.3 +0.5
QZH pmax pmax
comp=Z,64nm,1.0s
O53A **New Philadelph** 59.08 63 P P 08 26 20.0 -1.8
baz=314
CLTN **Cedars of Leba** 59.12 70 IAmb IAmb 08 26 23.1
comp=Z,19nm,1.0s
U49A **Red Boiling Sp** 59.14 69 IAmb IAmb 08 26 22.4
comp=Z,12nm,0.8s
U49A **Red Boiling Sp** 59.14 69 P P 08 26 21.8 -0.5
baz=315
T50A **Nancy** 59.32 68 IAmb IAmb 08 26 23.8
comp=Z,11nm,0.8s
T50A **Nancy** 59.32 68 P P 08 26 23.1 -0.4
baz=315
T50A P P 08 26 23.1 -0.4
baz=315
VBMS **Vicksburg** 59.41 76 P P 08 26 25.0 +0.8
baz=315
VBMS **Vicksburg** 59.41 76 P P 08 26 24.8 +0.6
baz=316
LONY **Lake Ozonia** 59.49 56 P P 08 26 24.4 -0.3
baz=315
M55A **Ridgway** 59.55 61 P P 08 26 25.1 +0.1
baz=315,SNR=5.7
M55A P P 08 26 25.1 +0.1
baz=315,SNR=5.7
O54A **Avella** 59.58 63 P P 08 26 25.1 -0.2
baz=315
O54A P P 08 26 25.1 -0.2
baz=315
LOF **Lofoten** 59.72 358 *e*P P 08 26 25.8 0.0
GTA **Gaotai** 59.78 296 ⇑P P 08 26 26.3 -0.6
GTA pP pP 08 26 42.8 +0.9
GTA pmax pmax
comp=Z,11nm,1.0s
X48A **Hartselle** 59.86 72 P P 08 26 26.5 -0.8
baz=316,SNR=5.3
LZH **Lanzhou** 59.87 291 *e*P P 08 26 27.5 0.0
LZH pP pP 08 26 39.4 -3.2
LZH sP sP 08 26 47.1 -1.8
LZH pmax pmax
comp=Z,33nm,1.5s
LZH LR LR
comp=Z,220nm,12.7s
LZH LR LR
comp=Z,130nm,12.4s
LZH LR LR
comp=Z,250nm,12.4s
STEI **Steigen** 59.89 357 *e*P P 08 26 26.8 -0.1
146A **Union** 59.97 75 P P 08 26 28.5 +0.4
baz=316,SNR=9.4
Z47A **Carrollton** 60.16 73 P P 08 26 28.9 -0.4
baz=316,SNR=7.9
MCWV **Mont Chateau** 60.24 63 P P 08 26 29.7 -0.1
baz=315
MCWV **Mont Chateau** 60.24 63 P P 08 26 30.0 +0.1
baz=315
TZTN **Tazewell** 60.39 68 P P 08 26 31.3 +0.4
baz=315
FAUS **Fauske** 60.43 357 *e*P P 08 26 30.5 -0.2
BINY **Binghamton** 60.49 58 P P 08 26 30.9 -0.7
baz=315
SSPA **Standing Stone** 60.60 61 P P 08 26 30.1 -2.1
baz=315
SSPA **Standing Stone** 60.60 61 P P 08 26 32.6 +0.4
ENH **Enshi** 60.71 282 IAmb IAmb 08 26 34.0
comp=Z,14nm,0.8s
BORG **Borgarnes** 60.77 15 *i*P P 08 26 33.3 +0.3
BORG **Borgarnes** 60.77 15 LR LR 08 55 55.4
comp=Z,91nm,19.2s,baz=330,slow=39
TKL **Tuckaleechee C** 60.89 69 LR LR 08 50 54.8
comp=Z,202nm,20.6s,baz=354,slow=34
LRAL **Lakeview Retre** 60.90 73 IAmb IAmb 08 26 34.3
comp=Z,18nm,1.1s
LRAL **Lakeview Retre** 60.90 73 P P 08 26 33.4 -1.0
baz=316
N58A **Sunbury** 61.08 60 P P 08 26 34.6 -0.9
LBNH **Lisbon** 61.10 54 P P 08 26 32.5 -3.1
baz=316
KONS **Konsvik** 61.37 358 *e*P P 08 26 36.9 -0.2
STOK **Stokkvaagen** 61.54 358 *e*P P 08 26 38.2 +0.1
PKME **Peaks-Kenny Pk** 61.64 52 P P 08 26 36.7 -2.6
baz=317
BLA **Blacksburg** 61.67 65 P P 08 26 37.8 -1.8
baz=316,SNR=6.3
BLA **Blacksburg** 61.67 65 P P 08 26 39.3 -0.3
baz=316,SNR=6.3
MOR8 **Moi Rana** 61.67 358 *e*P P 08 26 38.0 -1.1
MOR8 IAmb IAmb 08 26 38.4
comp=Z,13nm,0.7s
BATG **Bathurst New B** 61.68 48 P P 08 26 39.9 +0.4
KURK **Kurchatov** 61.83 318 P P 08 26 40.1 -0.3
KURK IAmb IAmb 08 26 41.5
comp=Z,6.7nm,0.8s
KURK **Kurchatov** 61.83 318 *ce*P P 08 26 40.8 +0.4
KURK pmax pmax
comp=Z,5.0nm,0.6s
KURBB **Kurchatov Arra** 61.94 318 P P 08 26 40.6 -0.5
comp=Z,4.6nm,0.8s,baz=44,slow=7.1,SNR=34
comp=Z,4.6nm,0.8s
L61B **Northampton** 62.02 56 P P 08 26 40.3 -1.4
baz=316
250A **Grady** 62.09 73 P P 08 26 42.0 -0.5
baz=317,SNR=8.6
BRAL **Brewton** 62.21 74 P P 08 26 41.6 -1.7
baz=316
U56A **King** 62.31 66 IAmb IAmb 08 26 45.0
comp=Z,20nm,1.0s
PAL **Palisades** 62.43 58 P P 08 26 43.6 -0.9
baz=317
HRV **Adam Dziewonsk** 62.54 55 P P 08 26 44.1 -1.2
baz=317

CBN **Corbin Frederi** 62.62 62 P P 08 26 44.6 -1.3
baz=316
KMSC **Kings Mountain** 62.65 67 P P 08 26 45.5 -0.6
baz=316
GOGA **Godfrey** 62.68 70 P P 08 26 45.6 -0.7
baz=316
WMQ **Urumqi** 62.90 307 eP P 08 26 48.2 +0.4
WMQ pmax pmax
comp=Z,15nm,0.9s
BVAR **Borovoye Array** 63.22 324 P P 08 26 49.6 0.0
comp=Z,11nm,0.5s,baz=50,slow=6.4,SNR=73
BVAR PcP PcP 08 27 26.1 -0.5
comp=Z,5.6nm,0.5s,baz=56,slow=5.2,SNR=6.9
BVAR LR LR 08 57 29.5
comp=Z,418nm,18.0s,baz=33,slow=39
comp=Z,11nm,0.5s
MK31 **Makanchi Array** 63.22 313 P P 08 26 48.7 -1.1
MK31 **Makanchi Array** 63.22 313 ceP P 08 26 49.7 -0.1
MKAR **Makanchi Array** 63.22 313 P P 08 26 48.6 -1.2
MKAR **Makanchi Array** 63.22 313 P P 08 26 49.1 -0.7
comp=Z,1.7nm,0.5s,baz=49,slow=6.7,SNR=30
comp=Z,1.7nm,0.5s
BRVK **Borovoye** 63.23 324 P P 08 26 49.3 -0.4
BRVK IAmb IAmb 08 26 51.4
comp=Z,10.0nm,0.9s
BRVK **Borovoye** 63.23 324 ceP P 08 26 49.8 +0.1
BRVK pmax pmax
comp=Z,12nm,1.0s
BRVK **Borovoye** 63.23 324 P P 08 26 49.5 -0.2
BRVK pP pP 08 27 04.7 -0.3
BRVK PcP PcP 08 27 26.4 -0.2
JSC **Jenkinsville** 63.31 68 P P 08 26 50.5 0.0
baz=317,SNR=5.7
MAKZ **Makanchi** 63.35 313 P P 08 26 49.6 -1.0
MAKZ **Makanchi** 63.35 313 P P 08 26 49.6 -1.0
MAKZ pmax pmax
comp=Z,4.0nm,1.1s
NSS **Namsos** 63.36 359 eP P 08 26 50.0 -0.3
DRLN **Deer Lake** 63.90 42 P P 08 26 54.4 +0.2
TIGA **Tifton** 64.04 72 P P 08 26 53.6 -1.7
baz=317
ARU **Arti** 64.22 332 P P 08 26 55.5 -0.7
ARU IAmb IAmb 08 26 58.2
comp=Z,9.7nm,1.0s
ARU **Arti** 64.22 332 c iP P 08 26 55.1 -1.1
ARU *PP pP 08 27 09.5 -2.0
ARU 08 27 29.1
ARU 08 29 14.1
ARU S S 08 35 29.6 +0.6
ARU SS SS 08 39 36.1 -2.0
ARU pmax pmax
comp=Z,12nm,1.1s
ARU **Arti** 64.22 332 LR LR 08 58 52.0
comp=Z,202nm,19.8s,baz=17,slow=40
CNNC **Cliffs of the** 64.50 65 P P 08 26 55.3 -3.0
baz=317
KLMR **Klimovskoe** 64.53 344 eP P 08 26 55.3 -2.8
KLMR pmax pmax
comp=Z,19nm,1.7s
TBLU **Trondheim** 64.66 360 eP P 08 26 58.0 -0.9
KIRV **Kirov** 64.67 338 ceP P 08 27 00.8 +1.8
KIRV **Kirov** 64.67 338 LR LR 08 57 49.2
comp=Z,208nm,21.4s,baz=28,slow=38
NHSC **New Hope** 64.78 68 P P 08 26 57.8 -2.3
baz=317
GOMU **GeErMu** 64.84 297 P P 08 27 00.6 -0.4
GOMU PcP PcP 08 27 35.5 +1.5
GOMU pmax pmax
comp=Z,11nm,1.1s
GOMU LR LR
comp=Z,250nm,19.4s
GOMU LR LR
comp=Z,230nm,16.7s
GOMU LR LR
comp=Z,400nm,18.6s
GYA **Guiyang** 65.19 282 ⇓ iP P 08 27 03.6 +0.5
GYA pmax pmax
comp=Z,42nm,1.3s
MOL **Molde** 65.34 1 eP P 08 27 03.3 0.0
FIA1 **FINESS Array S** 65.70 351 P P 08 27 05.4 -0.3
FIA1 IAmb IAmb 08 27 05.7
comp=Z,17nm,0.9s
FINES **FINESS Array B** 65.70 351 P P 08 27 05.3 -0.4
comp=Z,5.7nm,0.6s,baz=4.5,slow=8.6,SNR=41
FINES PcP PcP 08 27 36.8 +0.2
comp=Z,2.8nm,0.5s,baz=58,slow=4.7,SNR=5.7
FINES LR LR 08 56 10.2
comp=Z,209nm,22.0s,baz=16,slow=36
comp=Z,5.7nm,0.6s
AKN **Aaknes** 65.73 1 eP P 08 27 06.3 +0.4
TGY **Tagaytay City** 65.83 262 LR LR 08 54 40.2
comp=Z,62nm,18.6s,baz=159,slow=35
DOMB **Dombas** 65.88 0 eP P 08 27 06.5 -0.4
FOO **Floro** 66.27 eP P 08 27 09.3 0.0
RAF **Rauma** 66.47 353 eP P 08 27 10.6 0.0
HNR **Honiara** 66.59 212 LR LR 08 50 16.3
comp=Z,825nm,19.8s,baz=66,slow=30
NC204 **NORSAR Array S** 66.64 359 IAmb IAmb 08 27 12.2
comp=Z,7.9nm,0.6s
HYA **Hoyanger** 66.73 2 eP P 08 27 11.0 -1.2
NB2 **NORSAR Subarra** 66.88 359 P P 08 27 13.2 -0.1
comp=Z,4.8nm,0.5s,baz=1.7,slow=6.9
NB2 **NORSAR Subarra** 66.88 359 P P 08 27 13.2 -0.1
baz=1.7,slow=6.9
NOA **NORSAR Array B** 66.88 359 P P 08 27 13.4 +0.2
comp=Z,3.8nm,0.6s,baz=1.4,slow=6.4,SNR=47
NOA LR LR 08 55 23.8
comp=Z,89nm,21.8s,baz=5.0,slow=35
comp=Z,3.8nm,0.6s
MEF **Metsahovi** 67.06 352 eP P 08 27 14.5 +0.1
NC602 **NORSAR Array S** 67.18 359 eP P 08 27 15.0 -0.1
NORES **NORESS Array B** 67.18 359 P P 08 27 18.6 +3.5
SKAR **Skarslia** 67.24 1 eP P 08 27 15.6 0.0
BER **Bergen** 67.50 2 eP P 08 27 17.4 +0.3
HFS **Hagfors** 67.74 358 P P 08 27 18.4 -0.3
comp=Z,18nm,0.4s,baz=360,slow=3.3,SNR=193
HFS LR LR 08 58 00.5
comp=Z,87nm,18.6s,baz=358,slow=37
comp=Z,18nm,0.4s
DWPF **Disney Wildern** 67.76 73 P P 08 27 17.4 -1.9
baz=318
CMIG **Matias Romero** 67.94 90 LR LR 08 54 47.2
comp=Z,135nm,20.0s,baz=305,slow=34
ODD1 **Odda** 67.99 2 eP P 08 27 20.4 0.0
PZH **PanZhiHua** 68.08 285 P P 08 27 22.1 +0.6
PZH pmax pmax
comp=Z,30nm,0.6s
PZH pmax pmax
comp=Z,160nm,5.8s
KONO **Kongsberg** 68.28 360 eP P 08 27 22.6 +0.5
BLS5 **Blasjo** 68.48 2 eP P 08 27 23.3 0.0
KMI **Kunming** 68.53 283 ⇑P P 08 27 24.9 +0.5
KMI pmax pmax
comp=Z,18nm,0.8s
KMI LR LR
comp=Z,230nm,24.4s
KMI LR LR
comp=Z,190nm,20.9s
KMI LR LR
comp=Z,220nm,37.1s
VSU **Vasula** 68.58 350 ceP P 08 27 24.5 +0.6
VSU pmax pmax
comp=Z,28nm,0.7s
MTSE **Matsula** 68.60 352 eP P 08 27 24.3 +0.2
SMPI **Sarmi** 68.88 236 P P 08 27 26.8 +0.4
comp=Z,30nm,1.2s
STRU **Stroemstad** 68.89 359 eP P 08 27 23.3 -2.6
BOOM **Boomskoye usch** 69.41 314 IAmb IAmb 08 27 31.1
comp=Z,5.3nm,0.6s
BOOM **Boomskoye usch** 69.41 314 P P 08 27 29.3 -0.3
SNART **Snartemo** 69.58 1 eP P 08 27 30.8 +0.7
AKTO **Aktyubinsk** 69.58 329 LR LR 09 00 37.2
comp=Z,160nm,19.8s,baz=42,slow=38
TEIG **Tepich** 69.60 83 LR LR 08 57 54.6
comp=Z,666nm,19.6s,baz=176,slow=36
SLIT **Slitere, Latvi** 69.80 353 eP P 08 27 31.6 +0.2
TJOU **Tjoern** 69.89 359 i P P 08 27 31.0 -1.0
AAK **Ala-Archa** 69.93 315 P P 08 27 32.7 -0.1
AAK **Ala-Archa** 69.93 315 ceP P 08 27 33.9 +1.1
AAK pmax pmax
comp=Z,8.0nm,1.7s
AAK **Ala-Archa** 69.93 315 P P 08 27 32.8 0.0
ABKAR **Akbulak array** 69.99 327 P P 08 27 32.8 0.0
BORU **Boraas** 70.27 358 i P P 08 27 32.8 -1.5
OBN **Obninsk** 70.49 344 ⇓ eP P 08 27 35.5 -0.2
OBN pmax pmax
comp=Z,20nm,1.7s
OBN MLR MLR
comp=Z,230nm,22.0s
OBN **Obninsk** 70.49 344 LR LR 09 02 31.2
comp=Z,241nm,19.4s,baz=358,slow=39
BELG **Belogornoye** 70.74 336 i P P 08 27 37.5 +0.2
BELG pmax pmax
comp=Z,5.0nm,1.0s
BELG **Belogornoye** 70.74 336 LR LR 09 00 55.7
comp=Z,229nm,21.3s,baz=347,slow=38
PETF **Flores** 71.15 87 P P 08 27 40.2 -0.1
PETF IAmb IAmb 08 27 41.5
comp=Z,10nm,0.8s
KK31 **Karatay Array** 71.24 317 P P 08 27 39.9 -0.7
KK31 **Karatay Array** 71.24 317 P P 08 27 39.9 -0.7
KK31 pmax pmax
comp=Z,7.0nm,1.3s
KKAR **Karatay Array** 71.24 317 P P 08 27 39.9 -0.7
KKAR **Karatay Array** 71.24 317 P P 08 27 39.8 -0.8
KKAR **Karatay Array** 71.24 317 P P 08 27 39.9 -0.7
KKAR pmax pmax
comp=Z,7.0nm,1.3s
VSVD **Vaisvydziai** 71.30 351 eP P 08 27 40.9 +0.3
PMG **Port Moresby** 71.40 224 ceP P 08 27 42.2 +0.4
PMG pmax pmax
comp=Z,12nm,1.7s
PMG **Port Moresby** 71.40 224 P P 08 27 41.1 -0.6
comp=Z,10nm,0.9s,baz=9.6,slow=4.5,SNR=4.1
PMG LR LR 08 56 22.0
comp=Z,68nm,18.6s,baz=24,slow=34
comp=Z,10nm,0.9s
DEL **Delary** 71.41 357 i P P 08 27 41.0 -0.3
PBUR **Paburge** 71.42 353 eP P 08 27 41.7 +0.3
BLEU **Blekinge** 71.51 356 i P P 08 27 40.0 -1.9
LSA **Lhasa** 71.75 295 P P 08 27 44.2 -0.2
LSA IAmb IAmb 08 27 46.5
comp=Z,20nm,0.8s
LSA **Lhasa** 71.75 295 P P 08 27 44.2 -0.2
LSA pmax pmax
comp=Z,20nm,0.8s
LSA **Lhasa** 71.75 295 P P 08 27 45.6 +1.2
PABE **Paberze** 71.76 351 eP P 08 27 43.7 +0.3
KSH **Kashi** 71.78 312 P P 08 27 47.0 +3.0
KSH pmax pmax
comp=Z,9.0nm,0.7s
BJUU **Bjuv** 71.83 358 i P P 08 27 40.6 -3.2
SWI **Sorong** 71.86 243 P P 08 27 44.1 -0.5
comp=Z,37nm,0.9s
PPT **Papeete** 72.05 159 LR LR 08 53 07.4
comp=Z,74nm,21.3s,baz=342,slow=30
EKA **Eskdalemuir Ar** 72.11 8 P P 08 27 45.4 -0.1
comp=Z,2.2nm,0.4s,baz=348,slow=4.5,SNR=31
comp=Z,2.2nm,0.4s
MNK **Minsk** 72.34 349 i P P 08 27 41.5 -5.4
MNK i *PP pP 08 27 57.2 -5.3
MNK i S S 08 37 00.8 -4.7
MNK i SSS SSS 08 45 00.6
MNK pmax pmax
comp=N,33nm,0.8s
MNK pmax pmax
comp=E,7.0nm,1.0s
MNK pmax pmax
comp=Z,20nm,1.0s
MNK MLR MLR
comp=Z,207nm,16.0s
MNK MLR MLR
comp=E,166nm,15.0s
BSD **Bornholm Skovb** 72.73 357 i P P 08 27 47.8 -1.4
BSD IAmb IAmb 08 27 59.0
comp=Z,16nm,1.0s
SUW **Suwalki** 73.31 352 eP P 08 27 53.8 +1.1
BTK **Batken** 73.63 315 IAmb IAmb 08 27 56.2
comp=Z,7.4nm,1.1s
BTK **Batken** 73.63 315 P P 08 27 54.6 -0.3
UBPT **Khong Chiam** 74.37 275 P P 08 27 59.6 +0.1
GKP **Gorka Klasztor** 74.47 355 eP P 08 28 00.1 +0.6
GAR **Garm** 74.72 315 IAmb IAmb 08 28 02.6
comp=Z,35nm,1.3s
RUE **Ruedersdorf** 75.40 357 eP P 08 28 06.7 +1.9
NRDL **Niedersach Rie** 75.45 360 eP P 08 28 06.3 +1.2
comp=Z,14nm,1.1s,baz=1.2,slow=5.9
CHGR **Chuyangaron** 75.51 316 IAmb IAmb 08 28 06.9
comp=Z,19nm,0.8s
SIMJ **Simiganj** 75.57 316 P P 08 28 05.7 -0.6
SIMJ IAmb IAmb 08 28 07.2
comp=Z,8.6nm,0.8s
CHTO **Chiang Mai** 75.60 282 P P 08 28 06.6 +0.1
CHTO IAmb IAmb 08 28 07.2
comp=Z,11nm,0.7s
CHTO **Chiang Mai** 75.60 282 P P 08 28 06.6 +0.1
CHTO pmax pmax
comp=Z,11nm,0.7s
IBBN **Ibbenburen** 75.63 1 eP P 08 28 06.8 +0.6
comp=Z,40nm,1.3s,baz=1.2,slow=5.9
CM31 **Chiang Mai Arr** 75.87 282 P P 08 28 08.8 +0.7
CMAR **Chiang Mai Arr** 75.87 282 P P 08 28 08.8 +0.7
CMAR **Chiang Mai Arr** 75.87 282 i P P 08 28 08.8 +0.7
CMAR pmax pmax
comp=Z,22nm,0.9s
CMAR **Chiang Mai Arr** 75.87 282 P P 08 28 08.6 +0.5
comp=Z,20nm,0.9s,baz=27,slow=6.5,SNR=79
CMAR LR LR 09 05 30.1
comp=Z,72nm,18.8s,baz=40,slow=39
comp=Z,20nm,0.9s
AKASG **Malin Array Be** 75.89 347 P P 08 28 06.7 -1.0
comp=Z,3.8nm,0.6s,baz=14,slow=5.5,SNR=21
AKASG LR LR 09 03 08.0
comp=Z,205nm,21.9s,baz=40,slow=37
comp=Z,3.8nm,0.6s
AKBB **Malin Array Si** 75.89 347 IAmb IAmb 08 28 08.0
comp=Z,7.9nm,0.7s
AKBB **Malin Array Si** 75.89 347 ceP P 08 28 06.4 -1.3
AKBB pmax pmax
comp=Z,8.0nm,0.6s
KIEV **Kiev** 75.90 347 ⇓P P 08 28 06.8 -0.9
KIEV **Kiev** 75.90 347 P P 08 28 06.7 -1.1
KIEV IAmb IAmb 08 28 08.0
comp=Z,7.2nm,0.7s
KIEV **Kiev** 75.90 347 ⇓P P 08 28 06.8 -0.9
CLZ **Clausthal** 76.10 359 eP P 08 28 09.1 +0.1
comp=Z,10nm,1.0s,baz=1.2,slow=5.9
CLL **Collm** 76.60 358 IAmb IAmb 08 28 12.9
comp=Z,6.3nm,0.7s
CLL **Collm** 76.60 358 ⇑ iP P 08 28 11.1 -0.6
CLL i *SP sP 08 28 34.2 +0.6
CLL pmax pmax
comp=Z,13nm,1.1s
CLL **Collm** 76.60 358 ⇑ iP P 08 28 11.1 -0.6
comp=Z,13nm,1.1s
CLL i PcP PcP 08 28 22.5 -0.5
CLL i sP sP 08 28 34.2 +0.6
CLL ePP PP 08 31 01.0 -2.6
CLL eSx Sx 08 38 12.0
CLL eSS SS 08 42 48.0 +0.2
CLL **Collm** 76.60 358 eP P 08 28 10.9 -0.8
comp=Z,11nm,1.1s,baz=1.2,slow=5.9
MATN **Matagalpa** 76.63 86 P P 08 28 12.4 -0.1
MATN IAmb IAmb 08 28 13.5
comp=Z,6.3nm,0.7s
LUWI **Luwuk** 76.79 251 P P 08 28 12.1 -1.2
DZM **Mont Dzumac** 76.84 202 LR LR 08 57 01.2
comp=Z,98nm,19.0s,baz=32,slow=32
KSP **Ksiaz** 76.94 356 P P 08 28 13.6 -0.1
BRG **Berggiesshubel** 77.00 357 eP P 08 28 14.3 +0.3
BRG Amp 08 28 15.7
comp=Z,8.8nm,0.9s
BRG **Berggiesshubel** 77.00 357 Amp 09 07 37.8
comp=Z,7.2nm,1.2s
BRG **Berggiesshubel** 77.00 357 eP P 08 28 14.3 +0.3
BRG 08 28 32.9
BRG pmax pmax
comp=Z,9.0nm,0.9s
BRG **Berggiesshubel** 77.00 357 eP P 08 28 13.9 -0.1
comp=Z,8.8nm,0.9s,baz=1.2,slow=5.9
BRG **Berggiesshubel** 77.00 357 P P 08 28 33.0 +19
BRG **Berggiesshubel** 77.00 357 Amp 08 28 35.6
comp=Z,2.9nm,0.9s
BRG **Berggiesshubel** 77.00 357 eRg Rg 08 51 18.5
BRG **Berggiesshubel** 77.00 357 Amp 08 51 20.2
comp=Z,7.6nm,1.1s
BRG **Berggiesshubel** 77.00 357 eRg Rg 09 07 31.0
OSTC **Ostas** 77.23 356 eP P 08 28 15.9 +0.6
HSKC **Hora Svate Kat** 77.29 357 eP P 08 28 16.1 +0.5
MOX **Moxa** 77.29 359 eP P 08 28 15.9 +0.3
comp=Z,9.9nm,0.9s,baz=1.2,slow=5.9
UPC **Upice** 77.29 356 eP P 08 28 16.2 +0.6
MEM **Membach** 77.30 2 dP P 08 28 15.8 +0.2
BTNL **Ternell** 77.33 2 dP P 08 28 16.7 +0.9
RICC **Richard** 77.33 357 eP P 08 28 16.8 +1.0
OJC **Ojcow** 77.35 353 eP P 08 28 15.7 -0.3
OJC **Ojcow** 77.35 353 IAmb IAmb 08 28 16.8
comp=Z,16nm,1.3s
OJC **Ojcow** 77.35 353 P P 08 28 15.6 -0.4
LVV **L'vov** 77.38 350 eP P 08 28 16.2 +0.1
DPC **Dobruska-Polom** 77.43 355 P P 08 28 16.8 +0.3
DPC **Dobruska-Polom** 77.43 355 eP P 08 28 17.1 +0.6
BCLA **Clavier** 77.47 3 dP P 08 28 17.7 +1.1
comp=Z,8.1nm,1.2s
BGES **Gesves** 77.50 3 dP P 08 28 17.2 +0.4
BMRD **Maredsous** 77.57 3 dP P 08 28 17.9 +0.7
comp=Z,12nm,0.9s
KRLC **Kraliky** 77.68 355 eP P 08 28 18.6 +0.7
KWP **Kalwaria Pacla** 77.69 351 IAmb IAmb 08 28 20.8
comp=Z,25nm,1.0s
KWP **Kalwaria Pacla** 77.69 351 P P 08 28 17.8 -0.1
RCHB **Rochefort** 77.73 3 dP P 08 28 18.3 +0.2
comp=Z,8.2nm,1.0s
DOU **Dourbes** 77.77 3 dP P 08 28 18.3 0.0
NIL **Nilore** 77.83 310 P P 08 28 19.3 +0.4
NIL IAmb IAmb 08 28 20.3
comp=Z,14nm,0.7s
NIL **Nilore** 77.83 310 P P 08 28 19.3 +0.4
PRU **Pruhonice** 77.87 357 eP P 08 28 19.4 +0.6
GOPC **GO Pecny, Ondr** 77.94 356 eP P 08 28 19.7 +0.5
MORC **Moravsky Berou** 77.94 355 ⇑P P 08 28 19.8 +0.5
MORC **Moravsky Berou** 77.94 355 IAmb IAmb 08 28 20.9
comp=Z,9.7nm,1.2s
MORC **Moravsky Berou** 77.94 355 eP P 08 28 19.4 +0.1
MORC **Moravsky Berou** 77.94 355 P P 08 28 19.8 +0.5
STHS **Stebnicka Huta** 78.04 352 eP P 08 28 19.5 -0.3
STHS **Stebnicka Huta** 78.04 352 eP P 08 28 19.5 -0.3
NIE **Niedzica** 78.11 353 P P 08 28 20.4 +0.1
ROTZ **Rotzenmuhle** 78.16 358 eP P 08 28 20.8 +0.4
comp=Z,1.8nm,1.2s,baz=1.2,slow=5.9
ESPN **Las Esperanzas** 78.19 85 P P 08 28 21.8 +0.7
ESPN IAmb IAmb 08 28 22.2
comp=Z,8.3nm,0.8s
GRA1 **Grafenberg Arr** 78.25 359 IAmb IAmb 08 28 23.2
comp=Z,23nm,1.0s
GRF **Grafenberg Arr** 78.25 359 eP P 08 28 22.2 +1.2
comp=Z,25nm,1.2s,baz=1.2,slow=5.9
GRFO **Grafenberg** 78.25 359 P P 08 28 22.1 +1.1
GRFO IAmb IAmb 08 28 23.2
comp=Z,25nm,1.1s
GRFO **Grafenberg** 78.25 359 P P 08 28 22.1 +1.1
GRFO pmax pmax
comp=Z,25nm,1.1s
MAUC **Maruska** 78.33 354 eP P 08 28 22.1 +0.6
KOLS **Kolonicke sedl** 78.43 351 eP P 08 28 23.1 +1.1
KOLS pmax pmax
comp=Z,7.0nm,1.1s
KOLS **Kolonicke sedl** 78.43 351 eP P 08 28 23.0 +1.1
LANS **Liptovska Anna** 78.44 353 eP P 08 28 23.2 +1.1
LANS pmax pmax
comp=Z,10.0nm,1.1s
LANS **Liptovska Anna** 78.44 353 eP P 08 28 23.2 +1.1
VRAC **Vranov** 78.46 355 ⇑P P 08 28 22.8 +0.7
VRAC **Vranov** 78.46 355 eP P 08 28 22.8 +0.7
VRAC **Vranov** 78.46 355 P P 08 28 22.8 +0.7
VRAC **Vranov** 78.46 355 LR LR 09 02 37.2
comp=Z,93nm,21.8s,baz=358,slow=35
SORM **Soroca** 78.52 347 ⇓P P 08 28 21.9 -0.5
SORM **Soroca** 78.52 347 P P 08 28 21.9 -0.5
CRVS **Cervenica-Dubn** 78.53 352 eP P 08 28 23.7 +1.2
CRVS **Cervenica-Dubn** 78.53 352 eP P 08 28 23.7 +1.2
KRUC **Moravsky** 78.72 355 eP P 08 28 23.9 +0.4
KHC **Kasperske Hory** 78.76 357 IAmb IAmb 08 28 26.0
comp=Z,14nm,1.1s
KHC **Kasperske Hory** 78.76 357 ceP P 08 28 25.1 +1.3
KHC pmax pmax
comp=Z,49nm,1.7s
KHC **Kasperske Hory** 78.76 357 eP P 08 28 24.4 +0.6
WET **Wettzell** 78.77 358 eP P 08 28 24.4 +0.5
comp=Z,20nm,1.5s,baz=1.2,slow=5.9
JAVC **Velka Javorina** 78.85 354 eP P 08 28 25.7 +1.4
ORTG **Ortega, Santa** 78.91 87 IAmb IAmb 08 28 26.4
comp=Z,18nm,0.9s
SRDT **SRDT** 78.95 279 P P 08 28 25.8 +0.5
GEC2 **GERESS Array S** 79.04 357 IAmb IAmb 08 28 26.5
comp=Z,9.6nm,1.1s
GEC2 **GERESS Array S** 79.04 357 eP P 08 28 24.9 -0.5
comp=Z,11nm,1.1s,baz=1.2,slow=5.9
GERES **GERESS Array B** 79.04 357 P P 08 28 26.0 +0.5
GERES **GERESS Array B** 79.04 357 P P 08 28 26.0 +0.5
GERES **GERESS Array B** 79.04 357 P P 08 28 25.3 -0.2
comp=Z,4.5nm,0.9s,baz=15,slow=6.9,SNR=20
comp=Z,4.5nm,0.9s
CKRC **Cesky Krumlov** 79.05 357 eP P 08 28 25.6 +0.2
VYHS **Vyhne** 79.14 354 eP P 08 28 26.5 +0.6
VYHS pmax pmax
comp=Z,11nm,1.1s
VYHS **Vyhne** 79.14 354 eP P 08 28 26.5 +0.6
SGMF **Saint Gilles** 79.18 8 eP P 08 28 26.4 +0.3
SGMF pmax pmax
comp=Z,250nm,2.1s
GRR **Gorron** 79.18 7 eP P 08 28 25.8 -0.3
GRR pmax pmax
comp=Z,72nm,1.5s
SMOL **Smolenice** 79.21 355 eP P 08 28 27.5 +1.3
SMOL pmax pmax
comp=Z,11nm,1.3s
MODS **Modra-Piesok** 79.36 355 eP P 08 28 28.2 +1.1
MODS pmax pmax
comp=Z,40nm,1.2s
MODS **Modra-Piesok** 79.36 355 eP P 08 28 28.2 +1.1
BUR08 **Bucovina Ar. S** 79.40 349 P P 08 28 27.4 0.0
BUR08 IAmb IAmb 08 28 29.0
comp=Z,10nm,1.1s
BURAR **Bucovina Array** 79.43 349 ⇑P P 08 28 27.7 +0.1
BURAR **Bucovina Array** 79.43 349 IAmb IAmb 08 28 28.9
comp=Z,5.5nm,0.8s
BURAR **Bucovina Array** 79.43 349 ⇑P P 08 28 27.7 +0.1
CDF **Champ du Feu** 79.52 1 eP P 08 28 28.0 -0.1
CDF pmax pmax
comp=Z,5.0nm,0.8s
ZST **Bratislava** 79.54 355 eP P 08 28 29.5 +1.4
ZST pmax pmax
comp=Z,69nm,1.2s
ZST **Bratislava** 79.54 355 eP P 08 28 29.5 +1.4
PSZ **Piszkesteto** 79.63 353 IAmb IAmb 08 28 30.8
comp=Z,25nm,1.5s
ECH **Echery** 79.72 2 IAmb IAmb 08 28 30.7
comp=Z,14nm,1.0s
KVAR **Kislovodsk Arr** 79.80 336 LR LR 09 06 55.1
comp=Z,166nm,22.0s,baz=288,slow=38
CONA **Conrad Observa** 79.87 356 i P P 08 28 31.0 +1.0
comp=Z,16nm,1.0s
HAU **Haudompre** 79.91 2 eP P 08 28 30.1 0.0
HAU pmax pmax
comp=Z,11nm,0.9s
JACO **JACO, Garabito** 79.94 87 IAmb IAmb 08 28 33.0
comp=Z,26nm,0.9s
KBZ **Khabaz** 79.96 336 P P 08 28 30.7 +0.4
comp=Z,2.0nm,0.8s,baz=43,slow=4.4,SNR=2.3
KBZ LR LR 09 09 48.7
comp=Z,107nm,18.7s,baz=3.5,slow=40
comp=Z,2.0nm,0.8s
MOA **Molln** 80.02 357 eP P 08 28 31.5 +0.8
comp=Z,6.6nm,1.1s
ARCR **ARCALIA** 80.05 350 ⇑P P 08 28 31.1 +0.3
RONA **Rosalia, Austr** 80.08 355 i P P 08 28 32.1 +1.0
comp=Z,9.6nm,1.2s,SNR=6.1
HINF **Hinteralfeld** 80.11 2 eP P 08 28 31.0 -0.2
HINF pmax pmax
comp=Z,5.0nm,0.6s
TTSI **Tana Toraja** 80.12 252 P P 08 28 31.2 -0.4
comp=Z,10nm,0.7s
BIOA **Bad Ischl, Aus** 80.20 357 eP P 08 28 32.7 +1.0
comp=Z,14nm,1.1s,SNR=4.1
RETA **Reutte** 80.46 359 P P 08 28 34.2 +1.1
comp=Z,6.9nm,0.9s,SNR=4.2
LESA **Schwarzleotal** 80.49 358 i P P 08 28 34.5 +1.1
comp=Z,4.7nm,0.9s
GEYT **Alibeck** 80.54 323 P P 08 28 33.6 0.0
comp=Z,2.5nm,0.7s,baz=78,slow=11,SNR=5.4
comp=Z,2.5nm,0.7s
ARSA **Arzberg** 80.56 356 i P P 08 28 34.8 +1.2
comp=Z,8.6nm,1.0s
LOR **Lormes** 80.57 4 eP P 08 28 33.6 -0.1

LOR pmax pmax
comp=Z,8.0nm,0.7s
MARR Marisel-Cluj 80.58 350 ⇑P **P 08 28 33.7 -0.1**
MOTA Moosalm 80.60 359 *eP* **P 08 28 34.6 +0.6**
comp=Z,20nm,1.2s,SNR=6.5
WATA Walderalm 80.60 359 *i* P **P 08 28 34.7 +0.7**
comp=Z,24nm,1.4s,SNR=5.5
DAVA Damuels 80.67 360 *i* P **P 08 28 35.5 +1.2**
comp=Z,8.6nm,1.3s
WTTA Wattenberg 80.67 358 *i* P **P 08 28 35.5 +1.1**
comp=Z,12nm,0.9s,SNR=6.3
SQTA Sankt Quirin 80.72 359 *eP* **P 08 28 35.6 +1.0**
comp=Z,16nm,0.8s,SNR=9.4
SSF Saint Saulge 80.76 4 *eP* **P 08 28 34.7 0.0**
SSF pmax pmax
comp=Z,11nm,0.6s
KBA Koelnbreinsper 80.82 357 *i* P **P 08 28 36.4 +1.3**
comp=Z,29nm,0.9s,SNR=8.8
KBA Koelnbreinsper 80.82 357 P **P 08 28 35.9 +0.7**
FETA Feichten 80.93 359 *i* P **P 08 28 37.0 +1.3**
comp=Z,25nm,1.1s
MFF Saint Martin d 81.01 7 *eP* **P 08 28 36.0 0.0**
MFF pmax pmax
comp=Z,88nm,1.7s
AVF Avril sur Loir 81.03 4 *eP* **P 08 28 35.9 -0.2**
AVF pmax pmax
comp=Z,11nm,0.7s
DOPR Dopca 81.03 349 ⇑P **P 08 28 36.0 -0.1**
COVR Voineasa-Covas 81.05 348 ⇑P **P 08 28 37.0 +0.7**
SIRR Siria 81.12 351 ⇑P **P 08 28 36.7 +0.1**
SOKA Soboth 81.16 356 *i* P **P 08 28 37.4 +0.6**
comp=Z,14nm,1.0s,SNR=10
ABTA Abfaltersbach 81.17 358 *eP* **P 08 28 37.6 +0.7**
comp=Z,20nm,1.3s,SNR=7.2
SMF Signal de Mont 81.19 4 *eP* **P 08 28 36.9 -0.1**
SMF pmax pmax
comp=Z,39nm,1.2s
MYKA Terra Mystica 81.26 357 *i* P **P 08 28 38.6 +1.2**
comp=Z,10nm,1.2s
CABF La Chapelle 81.30 2 *eP* **P 08 28 38.1 +0.4**
CABF pmax pmax
comp=Z,15nm,0.9s
FUORN Ofenpass-Fuorn 81.33 359 P **P 08 28 38.5 +0.5**
FUORN IAmb IAmb 08 28 40.5
comp=Z,24nm,1.4s
OBKA Obir 81.35 356 *eP* **P 08 28 38.9 +1.0**
comp=Z,6.9nm,0.7s,SNR=7.0
CTA Charters Tower 81.38 221 P **P 08 28 37.6 -0.6**
comp=Z,8.7nm,0.9s,baz=77,slow=1.7,SNR=7.9
CTA LR LR 08 59 45.5
comp=Z,86nm,20.4s,baz=76,slow=32
comp=Z,8.7nm,0.9s
CTAO Charters Tower 81.38 221 P **P 08 28 37.5 -0.6**
MLR Muntele Rosu 81.43 348 ⇑P **P 08 28 38.0 -0.4**
MLR Muntele Rosu 81.43 348 P **P 08 28 40.8 +2.4**
MLR Muntele Rosu 81.43 348 LR LR 09 08 09.7
comp=Z,266nm,20.7s,baz=354,slow=38
TCF Toulx Ste Croi 81.47 5 *eP* **P 08 28 38.2 -0.3**
TCF pmax pmax
comp=Z,93nm,1.9s
TUE Stuetta 81.48 0 IAmb IAmb 08 28 41.0
comp=Z,13nm,1.0s
SURR Surduc 81.59 351 ⇑P **P 08 28 39.1 +0.1**
VOIR 81.59 349 ⇑P **P 08 28 39.2 0.0**
VOIR 81.59 349 P **P 08 28 39.2 0.0**
BZS Buzias 81.78 351 ⇑P **P 08 28 39.8 -0.2**
BZS Buzias 81.78 351 P **P 08 28 39.8 -0.2**
BKSI Bulukumba 81.79 250 P **P 08 28 40.1 -0.4**
comp=Z,22nm,0.8s
SALO Salr 82.33 359 IAmb IAmb 08 28 44.3
comp=Z,22nm,0.9s
FRGS Fruska Gora 82.39 353 ⇑P **P 08 28 43.3 0.0**
RJF Les Rejaudoux 82.41 6 *eP* **P 08 28 43.1 -0.3**
RJF pmax pmax
comp=Z,28nm,1.4s
HERR Herculane 82.43 351 ⇑P **P 08 28 43.1 -0.4**
MDVR Moldovita 82.59 351 ⇑P **P 08 28 43.1 -1.3**
LFF La Frestale 82.73 6 *eP* **P 08 28 45.1 +0.1**
LFF pmax pmax
comp=Z,43nm,1.3s
CAF Calviac 82.82 5 *eP* **P 08 28 48.6 +3.0**
CAF pmax pmax
comp=Z,28nm,1.4s
GNI Garni 82.83 333 LR LR 09 11 53.2
comp=Z,54nm,18.9s,baz=3.5,slow=40
BNI Bardonecchia 82.87 2 P **P 08 28 47.3 +1.3**
BNI IAmb IAmb 08 28 49.1
comp=Z,12nm,0.8s
BNI Bardonecchia 82.87 2 P **P 08 28 47.3 +1.3**
BNI pmax pmax
comp=Z,12nm,0.9s
ORIF Oris-en-Rattie 82.99 3 *eP* **P 08 28 47.2 +0.7**
ORIF pmax pmax
comp=Z,14nm,1.2s
VIVF Saint-Julien-l 83.01 3 *eP* **P 08 28 46.9 +0.3**
VIVF pmax pmax
comp=Z,14nm,1.2s
SRIT Nakonsritamara 83.14 275 P **P 08 28 47.5 -0.1**
PLVB Pleven 83.67 349 ⇑P **P 08 28 49.3 -0.6**
EDFI Ende, Flores 83.68 247 P **P 08 28 47.6 -2.8**
comp=Z,11nm,1.4s
CELP Cerrillos 84.10 68 IAmb IAmb 08 28 54.1
comp=Z,14nm,0.9s
SJPF Ste Jean 84.40 8 *eP* **P 08 28 55.0 +1.3**
SJPF pmax pmax
comp=Z,22nm,1.4s
MTLF Montolieu 84.41 5 *eP* **P 08 28 54.1 +0.4**
MTLF pmax pmax
comp=Z,21nm,1.0s
OSSC Osservatorio P 84.42 359 IAmb IAmb 08 28 55.0
comp=Z,20nm,1.0s
EPF Esparros 84.60 7 *eP* **P 08 28 54.3 -0.4**
EPF pmax pmax
comp=Z,16nm,1.2s
ETSF Etsaut 84.66 7 *eP* **P 08 28 55.5 +0.4**
ETSF pmax pmax
comp=Z,6.0nm,0.8s
NRCA Norcia 85.06 357 IAmb IAmb 08 29 01.7
comp=Z,16nm,0.8s
KULM Kulim 85.09 272 IAmb IAmb 08 28 59.2
comp=Z,23nm,1.3s
PGF Pioggiola 85.40 0 *eP* **P 08 28 59.0 +0.2**
PGF pmax pmax
comp=Z,54nm,1.2s
ARPR Arapgir-MALATY 85.44 338 IAmb IAmb 08 29 02.1
comp=Z,18nm,1.2s
IPM Ipoh 85.49 271 IAmb IAmb 08 29 00.3
comp=Z,12nm,0.8s
KNRA Kununurra 85.59 237 P **P 08 29 00.2 +0.4**
BR131 Keskin Array S 85.84 341 IAmb IAmb 08 29 05.6
comp=Z,7.7nm,1.4s
BR131 Keskin Array S 85.84 341 *i* P **P 08 29 01.9 +0.8**
BRTR Keskin Array B 85.84 341 *i* P **P 08 29 01.2 +0.1**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 85.84 341 P **P 08 29 00.8 -0.3**
comp=Z,1.7nm,0.8s,baz=40,slow=2.6,SNR=8.7
BRTR LR LR 09 10 59.1
comp=Z,90nm,21.8s,baz=7.5,slow=38
comp=Z,1.7nm,0.8s
PLAI Plampang 85.97 250 P **P 08 28 59.4 -2.4**
comp=Z,15nm,0.6s
WB0 Warramunga Arr 86.28 231 IAmb IAmb 08 29 02.6
comp=Z,4.9nm,0.9s
WRA Warramunga Arr 86.45 231 P **P 08 29 03.0 -1.0**
comp=Z,3.0nm,0.8s,baz=35,slow=6.1,SNR=24
comp=Z,3.0nm,0.8s
ESDC Sonseca Array 87.54 10 P **P 08 29 09.1 -0.2**
comp=Z,7.0nm,0.9s,baz=351,slow=4.5
comp=Z,7.0nm,0.9s
ISP Isparta 88.26 343 *ceP* **P 08 29 12.9 +0.1**
ISP pmax pmax
comp=Z,17nm,2.5s
SDV Santo Domingo 89.05 77 P **P 08 29 16.9 0.0**
SDV Santo Domingo 89.05 77 P **P 08 29 17.5 +0.6**
comp=Z,16nm,0.7s,baz=315,slow=2.9,SNR=26
SDV LR LR 09 10 18.1
comp=Z,67nm,18.9s,baz=298,slow=36
comp=Z,16nm,0.7s
SDV Santo Domingo 89.05 77 *eP* **P 08 29 17.5 +0.6**
FITZ Fitzroy Crossi 89.23 239 P **P 08 29 17.7 +0.4**
AS01 Alice Springs 89.84 229 P **P 08 29 20.0 -0.1**
AS31 Alice Springs 89.86 229 P **P 08 29 20.0 -0.2**
AS31 IAmb IAmb 08 29 20.8
comp=Z,2.6nm,0.8s
ASAR Alice Springs 89.86 229 P **P 08 29 20.2 0.0**
ASAR Alice Springs 89.86 229 P **P 08 29 20.0 -0.2**
comp=Z,11nm,0.8s,baz=28,slow=4.9,SNR=91
comp=Z,11nm,0.8s
ROSC El Rosal 90.02 82 P **P 08 29 22.0 +0.3**
comp=Z,8.1nm,0.6s,baz=121,slow=4.3,SNR=7.9
comp=Z,8.1nm,0.6s
URZ Urewera 90.94 190 LR LR 09 03 27.2
comp=Z,138nm,20.6s,baz=120,slow=31
OTAV Otavalo 91.12 88 P **P 08 29 27.0 +0.1**
OTAV IAmb IAmb 08 29 28.9
comp=Z,4.3nm,0.8s
OTAV Otavalo 91.12 88 P **P 08 29 27.9 +0.9**
OTAV Otavalo 91.12 88 *eP* **P 08 29 27.8 +0.9**
MMAI Mount Meron Ar 91.93 338 P **P 08 29 29.9 -0.1**
comp=Z,0.5nm,0.3s,baz=22,slow=5.4,SNR=5.5
MMAI LR LR 09 14 46.5
comp=Z,62nm,21.0s,baz=337,slow=38
comp=Z,0.5nm,0.3s
WSAR Wadi Sarin 93.31 316 LR LR 09 17 21.0
comp=Z,129nm,19.8s,baz=55,slow=39
WRKA Warakurna 93.69 233 P **P 08 29 37.4 -0.5**
STKA Stephens Creek 93.76 219 *i* P **P 08 29 36.8 -1.2**
STKA Stephens Creek 93.76 219 P **P 08 29 37.6 -0.4**
comp=Z,5.7nm,1.1s,baz=357,slow=7.6,SNR=5.2
STKA LR LR 09 07 01.5
comp=Z,119nm,19.3s,baz=25,slow=32
comp=Z,5.7nm,1.1s
MDT Midelt 94.24 12 LR LR 09 15 36.2
comp=Z,53nm,18.6s,baz=347,slow=38
EIL Elat 95.25 338 LR LR 09 19 23.3
comp=Z,37nm,18.0s,baz=64,slow=40
PALK Pallekele 95.47 289 P **P 08 29 46.1 -0.3**
PALK Pallekele 95.47 289 P **P 08 29 46.6 +0.1**
RPN Rapa Nui 95.52 128 LR LR 09 03 03.2
comp=Z,72nm,18.9s,baz=348,slow=29
RPZ Rata Peaks 97.06 193 LR LR 09 06 27.8
comp=Z,137nm,21.8s,baz=356,slow=31
RAYN Ar Rayn 98.07 327 P **P 08 29 57.1 -1.0**
RAYN IAmb IAmb 08 29 58.6
comp=Z,4.6nm,0.8s
RAYN Ar Rayn 98.07 327 P **P 08 29 57.1 -1.0**
RAYN pmax pmax
comp=Z,5.0nm,0.9s
TORD Torodi Ar. Bea 114.36 8 PKP **PKiKP 08 35 00.1 -1.1**
comp=Z,0.5nm,0.6s,baz=345,slow=2.9,SNR=3.6
TORD PKKPbc **PKKPbc 08 45 38.4 -0.1**
comp=Z,0.8nm,0.6s,baz=149,slow=2.0,SNR=4.7
TORD PKKPab **PKKPab 08 45 45.6 -4.2**
comp=Z,1.5nm,0.7s,baz=178,slow=3.0,SNR=9.7
H03N2 Juan Fernandez 116.64 111 T T 10 42 20.8
baz=318,slow=77,SNR=93
H03N1 Juan Fernandez 116.66 111 T T 10 42 35.2
baz=318,slow=77,SNR=115
H03N3 Juan Fernandez 116.66 111 T T 10 42 33.2
baz=318,slow=77,SNR=87
BDQN Bodoquena, MS 120.44 84 *eP* **PKiKP 08 35 14.2 +1.5**
BDFB Brasilia 121.97 73 PKP **PKPdf 08 35 15.3 -0.5**
comp=Z,2.0nm,0.8s,baz=230,slow=7.9,SNR=4.2
ANTJ Antonio Joao (122.07 85 *eP* **PKiKP 08 35 17.3 +1.4**
AMBA Amambai (Brazi 123.38 85 *eP* **PKiKP 08 35 20.2 +1.8**
NBLA Lagarto - SE 123.94 60 *eP* **PKiKP 08 35 21.3 +1.5**
CPUP Villa Florida 124.46 89 PKP **PKPdf 08 35 20.0 -0.1**
comp=Z,2.9nm,0.7s,baz=318,slow=3.3,SNR=9.6
LDASE Londrina, Braz 126.08 82 *eP* **PKiKP 08 35 24.8 +1.0**
PLCA Paso Flores 126.51 111 PKP **PKPdf 08 35 23.8 0.0**
comp=Z,3.3nm,0.8s,baz=301,slow=4.2,SNR=12
SJMB Sao Joao De Ma 128.35 69 *eP* **PKiKP 08 35 28.6 +0.1**
ALGR Alto Alegre (B 128.87 88 *eP* **PKiKP 08 35 29.8 +0.5**
CPSB Cacapava Do Su 129.76 90 *eP* **PKiKP 08 35 31.2 +0.3**
QSPA South Pole Qui 142.19 180 PKhKP PKPpre 08 35 45.7
comp=Z,2.3nm,0.6s,baz=314,slow=0.7,SNR=22
MAW Mawson 150.45 219 PKPbc **PKPbc 08 36 11.2 0.0**
comp=Z,31nm,1.0s,baz=122,slow=3.6,SNR=7.3
BOSA Boshof 153.46 328 PKPbc **PKPbc 08 36 19.2 -0.3**
comp=Z,1.8nm,0.5s,baz=22,slow=3.4,SNR=3.3

*CATAC **04** 08:32:36.0±1.2, 13°.88N×91°.37W, h42km±20km, ML3.2*
*GCG **04** 08:32:40.5±0.3, 14°.34N×91°.31W, h62km±9km, MD3.4*
ISC 04 08:32:40.3±2.2, 14°.2N±0°.1×91°.37W±0°.09, h61km, n8, σ1§40/12, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SULM	**Suchitepequez,**	**0.23**	**305**	*eP*	**Pn**	**08 32 50.5**	**+0.5**
RTAL	**Retalhuleu**	**0.47**	**318**	*i* P	**Pn**	**08 32 51.0**	**-1.1**
RTAL				*i* S	**Sn**	**08 33 01.0**	**+0.4**
RTAL				IAML		08 33 10.7	
	comp=Z,680nm,1.0s						
STG3	**Santiaguito 3,**	**0.57**	**340**	*eP*	**Pn**	**08 32 52.8**	**-0.5**
STG3				*eS*	**Sn**	**08 33 02.5**	**-0.3**
FUG	**Fuego 3**	**0.58**	**62**	*eP*	**Pn**	**08 32 52.9**	**-0.5**
QUIS	**Sacapulas**	**1.15**	**14**	*i* P	**Pn**	**08 32 59.3**	**-1.1**
QUIS				IAML		08 33 01.4	
	comp=Z,470nm,1.0s						
QUIS				*i* S	**Sn**	**08 33 18.0**	**+2.6**
HUEH	**Huehuetenango**	**1.15**	**354**	*i* P	**Pn**	**08 32 59.3**	**-1.2**
HUEH				IAML		08 32 59.6	
	comp=Z,570nm,1.0s						
HUEH				*i* S	**Sn**	**08 33 17.5**	**+1.9**
CCIG	**Comitan**	**2.23**	**341**	*i* P	**Pn**	**08 33 14.3**	**-0.7**
CCIG				IAML		08 34 07.8	
	comp=Z,36nm,1.0s						
PETF	**Flores**	**3.09**	**28**	*i* P	**Pn**	**08 33 25.4**	**-1.3**
PETF				IAML		08 34 13.0	
	comp=Z,25nm,1.0s						

*IDC **04** 08:41:49.2±1.9, 6°.93S×129°.27E, h0km, mb3.6/2,*
mbtmp3.7/4, ML3.8/2, Error ellipse: s-maj=111.3km
s-min=28.2km az=65.0
ISC 04 08:42:05.0±1.2, 7°.5S±0°.1×129°.1E±0°.1, h150km, n18, σ1§79/18, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRS	**Darwin Rock St**	**5.22**	**161**	P	**Pn**	**08 43 21.1**	**-0.3**
SOEI	**Soe**	**5.33**	**244**	P	**Pn**	**08 43 23.8**	**+0.9**
KDU	**Kakadu**	**6.13**	**148**	P	**Pn**	**08 43 32.3**	**-1.2**
KNRA	**Kununurra**	**8.16**	**183**	P	**Pn**	**08 43 59.2**	**-1.4**
FITZ	**Fitzroy Crossi**	**11.10**	**198**	P	**Pn**	**08 44 37.7**	**-1.8**
PLAI	**Plampang**	**11.33**	**262**	P	**Pn**	**08 44 42.5**	**-0.2**
WRA	**Warramunga Arr**	**13.38**	**158**	Pn	**Pn**	**08 45 05.5**	**-3.6**
	0.5nm,0.3s,baz=339,slow=12,SNR=18						
WRA				Sn	Sn	08 47 26.1	-11
	1.2nm,0.3s,baz=335,slow=22,SNR=17						
	0.1nm,0.4s						
COEN	**Coen**	**15.21**	**116**	P	**P**	**08 45 33.5**	**-0.2**
QIS	**Mount Isa**	**16.48**	**143**	P	**Pn**	**08 45 49.0**	**+1.2**
ASAR	**Alice Springs**	**16.73**	**165**	P	**Pn**	**08 45 51.2**	**+0.4**
	0.4nm,0.3s,baz=342,slow=11,SNR=41						
	1.7nm,0.6s						
AS01	**Alice Springs**	**16.75**	**165**	P	**Pn**	**08 45 51.6**	**+0.6**
WRKA	**Warakurna**	**17.48**	**183**	P	**Pn**	**08 45 59.8**	**0.0**
OOD	**Oodnadatta**	**21.14**	**164**	P	**P**	**08 46 38.9**	**+0.7**
MULG	**Mulgathing**	**23.15**	**169**	P	**P**	**08 46 59.3**	**+1.1**
XMI	**Christmas Isla**	**23.35**	**261**	P	**P**	**08 46 58.8**	**-1.5**
LCRK	**Leigh Creek**	**24.39**	**161**	P	**P**	**08 47 10.9**	**+1.5**
STKA	**Stephens Creek**	**26.91**	**156**	P	**P**	**08 47 36.6**	**+4.4**
	0.8nm,0.4s,baz=354,slow=9.2,SNR=6.1						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**68.16**	**327**	P	**P**	**08 52 48.8**	**-0.3**
	0.1nm,0.5s,baz=112,slow=6.4,SNR=1.6						
	0.1nm,0.5s						

IDC 04 08:44:11.8±1.5, 6°.11S×143°.57E, h0km, mb3.5/2,
mbtmp3.7/5, ML3.9/2, Error ellipse: s-maj=31.2km
s-min=17.2km az=111.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.83**	**133**	Pn	Pn	08 45 26.4	+0.5
	6.9nm,0.3s,baz=7.1,slow=5.2,SNR=8.0						
PMG				Sn	Sn	08 46 20.9	-1.7
	3.0nm,0.3s,baz=228,slow=20,SNR=7.8						
WRA	**Warramunga Arr**	**16.41**	**212**	Pn	Pn	08 48 03.5	-0.3
	0.5nm,0.3s,baz=36,slow=13,SNR=2.7						
WRA				Sn	Sn	08 50 51.0	-16
	0.2nm,0.3s,baz=27,slow=24,SNR=1.7						
WRA				Lg	Lg	08 52 51.7	
	0.1nm,0.3s,baz=30,slow=30,SNR=3.3						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**19.77**	**207**	P	P	08 48 43.8	0.0
	0.2nm,0.3s,baz=36,slow=9.7,SNR=26						
ASAR				S	Sn	08 52 28.5	+0.3
	0.4nm,0.7s,baz=36,slow=21,SNR=2.7						
	3.3nm,0.8s						
MKAR	**Makanchi Array**	**75.44**	**321**	P	P	08 55 58.0	+0.2
	0.3nm,0.8s,baz=102,slow=6.1,SNR=2.4						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**86.94**	**24**	P	P	08 56 58.5	-0.1
	0.5nm,0.9s,baz=260,slow=5.4,SNR=3.0						
	0.5nm,0.9s						

*IDC **04** 08:49:40.6±2.9, 3°.19S×127°.53E, h0km, mb3.5/3,*
mbtmp3.7/4, ML3.8/1, MS2.4/1, Error ellipse:
s-maj=356.0km s-min=25.2km az=67.0
*DJA **04** 08:49:43.2±1.9, 3°.S±4°×12°9E±°, h19km±18km, M3.9/12,*
mb4.3/3, MLv3.6/12
ISC 04 08:49:44.0±1.0, 2°.55S±0°.08×128°.79E±0°.07, h35km, n15,
σ1§80/14, mb3.7/3, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**1.82**	**248**	P	**Pn**	**08 50 14.0**	**+1.2**
BNDI	**Bandanaira**	**2.25**	**150**	P	**Pn**	**08 50 19.0**	**+0.1**
LBMI	**Labuha**	**2.29**	**326**	P	**Pn**	**08 50 20.5**	**+1.1**
SANI	**Sanana**	**2.84**	**280**	P	**Pn**	**08 50 27.5**	**+0.6**
SWI	**Sorong**	**2.99**	**56**	P	**Pn**	**08 50 31.0**	**+2.0**
FAKI	**Fak Fak**	**3.48**	**96**	P	**Pn**	**08 50 35.9**	**+0.2**
TNTI	**Ternate**	**3.59**	**337**	P	**Pn**	**08 50 35.0**	**-2.3**
GTOI	**Gorontalo**	**6.58**	**299**	P	**Pn**	**08 51 21.8**	**+3.4**
	7.6nm,1.2s,0.0nm						
SGSI	**Sangihe**	**7.00**	**332**	P	**Pn**	**08 51 23.7**	**-0.4**
	237nm,0.7s,1.4nm						
EDFI	**Ende, Flores**	**9.37**	**229**	P	**Pn**	**08 51 57.2**	**+0.5**
WRA	**Warramunga Arr**	**18.12**	**163**	P	**Pn**	**08 53 50.3**	**-2.8**
	0.3nm,0.3s,baz=333,slow=13,SNR=8.4						
	2.5nm,0.8s						
ASAR	**Alice Springs**	**21.57**	**167**	P	**P**	**08 54 29.4**	**-1.3**
	3.0nm,0.6s,baz=350,slow=12,SNR=24						
	3.0nm,0.6s						
KSRS	**Korea Array**	**39.81**	**359**	LR	LR	09 17 14.3	
	comp=Z,4.8nm,19.1s,baz=40,slow=41						
MKAR	**Makanchi Array**	**63.87**	**326**	P	**P**	**09 00 13.9**	**+0.6**
	0.2nm,0.6s,baz=145,slow=5.3,SNR=2.3						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**68.11**	**328**	P	**P**	**09 00 41.7**	**+1.4**
	0.6nm,0.9s,baz=143,slow=7.9,SNR=3.1						
	0.6nm,0.9s						

*IDC **04** 09:09:43.4±1.2, 7°.21S×105°.22E, h0km, mb3.7/7,*
mbtmp3.7/8, ML3.9/1, MS2.8/1, Error ellipse: s-maj=41.5km
s-min=18.0km az=37.0
*DJA **04** 09:09:44.8±0.3, 7°.S±3°×10°5E±°, h10km, M4.1/14, mb4.3/2,*
MLv4.0/14
ISC 04 09:09:45.3±1.0, 7°.31S±0°.09×105°.37E±0°.07, h10km, n32,
σ1§35/20, mb3.7/7, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**0.77**	**25**	P	**Pg**	**09 09 58.8**	**-1.3**
SKJI	**Sukabumi**	**1.22**	**76**	P	Pn	09 10 06.7	-1.7
SBJI	**Serang**	**1.41**	**33**	P	**Pn**	**09 10 09.6**	**-1.4**
DBJI	**Dramaga**	**1.56**	**61**	P	**Pn**	**09 10 13.1**	**-0.1**
TNG	**Tangerang**	**1.70**	**48**	P	**Pn**	**09 10 16.5**	**+1.4**
CNJI	**Cibinong**	**1.75**	**90**	P	Pn	09 10 13.7	-2.0
KASI	**Kota Agung**	**1.98**	**334**	P	**Pn**	**09 10 19.7**	**+0.8**
LEM	**Lembang**	**2.28**	**78**	Pn	**Pn**	**09 10 25.3**	**+2.0**
	30nm,0.3s,baz=191,slow=10,SNR=20						
LEM				Sn	**Sn**	**09 10 54.5**	**+3.0**
	35nm,0.3s,baz=236,slow=20,SNR=8.9						
LEM				LR	LR	09 11 30.7	
	comp=Z,210nm,21.2s,baz=323,slow=45						
	120nm,0.4s						
LEM	**Lembang**	**2.28**	**78**	P	**Pn**	**09 10 22.7**	**-0.6**
JCJI	**Jatiwangi**	**2.99**	**74**	P	**Pn**	**09 10 31.4**	**-1.5**
CMJI	**Cimerak**	**3.09**	**99**	P	**Pn**	**09 10 33.1**	**-1.1**
KPJI	**Karang Pucung**	**3.53**	**91**	P	**Pn**	**09 10 38.8**	**-1.5**
MNAI	**Manna**	**3.79**	**321**	P	**Pn**	**09 10 44.8**	**+0.9**
UGM	**Wanagama**	**5.14**	**97**	P	**Pn**	**09 11 01.6**	**-0.9**
	50nm,1.3s,0.4nm						
PWJI	**Pagerwojo**	**6.42**	**97**	P	**Pn**	**09 11 20.3**	**+0.3**
H01W3	**Cape Leeuwin H**	**28.60**	**165**	T	T	09 45 57.9	
	baz=344,slow=76,SNR=16						
H01W1	**Cape Leeuwin H**	**28.61**	**165**	T	T	09 45 58.8	
	baz=344,slow=76,SNR=6.8						
H01W2	**Cape Leeuwin H**	**28.61**	**165**	T	T	09 45 58.9	
	baz=344,slow=76,SNR=18						
WRA	**Warramunga Arr**	**30.76**	**117**	P	**P**	**09 16 01.7**	**+0.5**
	0.4nm,0.6s,baz=301,slow=9.1,SNR=6.2						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**31.84**	**124**	P	**P**	**09 16 11.5**	**+0.7**
	0.5nm,0.8s,baz=304,slow=7.4,SNR=4.9						
	0.5nm,0.8s						
H08S2	**Diego Garcia H**	**32.59**	**267**	T	T	09 50 31.9	
	baz=91,slow=76,SNR=31						
H08S3	**Diego Garcia H**	**32.60**	**267**	T	T	09 50 29.9	
	baz=91,slow=76,SNR=40						
H08S1	**Diego Carcia H**	**32.61**	**267**	T	T	09 50 34.5	
	baz=91,slow=76,SNR=32						
STKA	**Stephens Creek**	**41.65**	**131**	P	**P**	**09 17 35.0**	**+0.8**
	1.6nm,0.5s,baz=296,slow=5.6,SNR=5.1						
	1.6nm,0.5s						
MKAR	**Makanchi Array**	**57.65**	**341**	P	P	09 19 33.3	-2.5
	0.2nm,0.6s,baz=143,slow=8.9,SNR=3.5						
	0.2nm,0.6s						
H04N2	**CROZET ISLANDS**	**59.98**	**220**	T	T	10 25 11.1	
	baz=65,slow=75,SNR=28						
H04N1	**CROZET ISLANDS**	**59.99**	**220**	T	T	10 25 11.4	
	baz=65,slow=75,SNR=15						
H04N3	**CROZET ISLANDS**	**59.99**	**220**	T	T	10 25 09.9	
	baz=65,slow=75,SNR=18						
ZALV	**Zalesovo Beam**	**63.45**	**347**	P	P	09 20 13.4	-1.8
	0.6nm,0.4s,baz=163,slow=5.6,SNR=3.0						
	0.6nm,0.4s						
BVAR	**Borovoye Array**	**67.03**	**338**	P	**P**	**09 20 37.1**	**-1.5**
	0.6nm,0.5s,baz=141,slow=8.1,SNR=5.5						
	0.6nm,0.5s						
BRTR	**Keskin Array B**	**80.83**	**312**	P	**P**	**09 21 59.5**	**-0.3**
	0.7nm,0.8s,baz=90,slow=5.8,SNR=4.0						
	0.7nm,0.8s						
TXAR	**Lajitas Array**	**144.98**	**48**	PKPbc	**PKPab**	**09 29 23.4**	**+0.4**
	0.3nm,0.6s,baz=286,slow=0.7,SNR=6.4						

*DJA **04** 09:17:50.8±0.6, 7°N±6°×12°4E±°, h10km, M4.8/10, mB5.4/7,*
mb4.7/10, MLv4.9/6, Mw(mB)4.8/7
*NEIC **04** 09:18:02.2±2.2, 5°.89N±0°.09×124°.5E±0°.1, h78km±10km,*
mb4.2/12, Error ellipse: s-maj=20.4km s-min=5.0km
az=129.0
*IDC **04** 09:18:04.3±3.2, 5°.93N×124°.65E, h95km±31km, mb3.5/8,*
mbtmp3.9/8, MS3.5/1, Error ellipse: s-maj=46.9km
s-min=14.1km az=73.0
ISC 04 09:18:00.1±0.6, 5°.87N±0°.06×124°.33E±0°.09, h54km, n36,
σ1§74/36, mb4.0/14, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.72**	**46**	Pn	**Pn**	**09 18 28.0**	**+0.3**
DAV				Sn	**Sn**	**09 18 51.4**	**+2.9**
DAV	**Davao City (W)**	**1.72**	**46**	P	**Pn**	**09 18 28.3**	**+0.7**
	145nm,0.4s,baz=264,slow=5.1,SNR=5.0						
DAV				S	**Sn**	**09 18 49.4**	**+0.9**
	257nm,0.3s,baz=250,slow=20,SNR=10						
DAV	**Davao City (W)**	**1.72**	**46**	eP	**Pn**	**09 18 28.0**	**+0.3**
SGSI	**Sangihe**	**2.48**	**151**	P	**Pn**	**09 18 38.3**	**+0.3**
GTOI	**Gorontalo**	**5.37**	**194**	P	**Pn**	**09 19 19.6**	**+2.0**
	57nm,0.6s,752nm0.2nm						
MRSI	**Marisa**	**5.87**	**204**	P	**Pn**	**09 19 28.5**	**+4.0**
TOLI2	**Tolitoli**	**5.91**	**217**		**Pn**	**09 19 27.2**	**+2.2**
LUWI	**Luwuk**	**7.04**	**193**		**Pn**	**09 19 45.3**	**+4.7**
LUWI	**Luwuk**	**7.04**	**193**	P	Pn	09 19 45.4	+4.8
	56nm,1.0s,4μm0.5nm						
SANI	**Sanana**	**8.04**	**168**	P	**Pn**	**09 19 56.7**	**+2.4**
	17nm,0.8s						
NLAI	**Namlea**	**9.46**	**163**	P	**Pn**	**09 20 16.5**	**+2.7**
	35nm,0.8s,4μm						
BKB	**Balikpapan**	**10.26**	**227**	P	**Pn**	**09 20 25.3**	**+0.6**
	49nm,0.5s

comp=Z,2.6nm,0.8s
WRAB Tennant Creek 27.47 159 P **P** 09 23 39.4 -1.9
WRAB IAmb IAmb 09 23 46.6
comp=Z,4.0nm,0.5s
WRA Warramunga Arr 27.48 159 P **P** 09 23 40.0 -1.5
WRA Warramunga Arr 27.48 159 P **P** 09 23 41.3 -0.1
comp=Z,1.1nm,0.6s,baz=334,slow=10,SNR=18
comp=Z,1.1nm,0.6s
WB2 Warramunga Arr 27.48 159 P **P** 09 23 41.4 -0.1
WB2 IAmb IAmb 09 23 53.4
comp=Z,9.3nm,1.2s
WR0 Warramunga Arr 27.56 159 P **P** 09 23 40.1 -2.1
WR0 IAmb IAmb 09 24 18.5
comp=Z,6.9nm,1.4s
ASAR Alice Springs 30.81 163 P **P** 09 24 11.1 +0.1
comp=Z,0.3nm,0.4s,baz=339,slow=7.1,SNR=12
comp=Z,0.3nm,0.4s
BBOO Buckleboo 40.05 165 P **P** 09 25 30.7 +0.6
STKA Stephens Creek 40.99 157 P **P** 09 25 37.5 -0.4
STKA Stephens Creek 40.99 157 P **P** 09 25 37.5 -0.4
comp=Z,2.0nm,0.8s,baz=338,slow=13,SNR=4.4
comp=Z,2.0nm,0.8s
SONM Songino Array 44.54 343 LR LR 09 48 45.5
comp=Z,51nm,18.8s,baz=140,slow=41
MKAR Makanchi Array 54.45 326 P **P** 09 27 22.8 +0.7
MKAR Makanchi Array 54.45 326 P **P** 09 27 23.4 +1.4
comp=Z,0.7nm,0.5s,baz=125,slow=8.1,SNR=11
comp=Z,0.7nm,0.5s
KURBB Kurchatov Arra 58.66 328 P **P** 09 27 52.4 +0.6
comp=Z,0.6nm,0.4s,baz=130,slow=5.9,SNR=7.4
comp=Z,0.6nm,0.4s
BVAR Borovoye Array 64.23 327 P **P** 09 28 30.1 +0.7
comp=Z,0.8nm,0.7s,baz=297,slow=0.3,SNR=4.5
comp=Z,0.8nm,0.7s
ABKAR Akbulak array 68.99 321 P **P** 09 28 59.4 -0.4
ILAR Eielson Array 84.21 26 P **P** 09 30 23.8 -1.7
comp=Z,0.2nm,0.5s,baz=239,slow=6.2,SNR=7.2
comp=Z,0.2nm,0.5s
BMAR Burnt Mountain 85.04 23 P **P** 09 30 29.1 -0.6
VNDA Vanda 85.84 172 P **P** 09 30 32.0 -1.4
VNDA IAmb IAmb 09 30 39.1
comp=Z,6.8nm,1.4s
FINES FINESS Array B 88.83 332 P **P** 09 30 47.0 -1.1
comp=Z,1.7nm,0.8s,baz=81,slow=8.6,SNR=4.3
comp=Z,1.7nm,0.8s
QSPA South Pole Qui 95.76 180 P **P** 09 31 17.8 -2.4

IDC 04 09:25:33.2±3.0, 20°07'S×167°63'E, h0km, mb3.9/4, mbtmp3.9/4, MS4.5/1, Error ellipse: s-maj=127.0km s-min=32.2km az=144.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**26.12**	**238**	P	P	09 31 09.6	+0.6
	1.3nm,0.7s,baz=47,slow=7.2,SNR=3.3						
	1.3nm,0.7s						
WRA	**Warramunga Arr**	**31.25**	**264**	P	P	09 31 54.3	-0.6
	0.2nm,0.8s,baz=95,slow=7.2,SNR=5.4						
WRA				LR	LR	09 44 31.3	
	comp=Z,836nm,21.0s,baz=290,slow=36						
	0.2nm,0.8s						
ASAR	**Alice Springs**	**31.46**	**257**	P	P	09 31 56.7	-0.1
	3.8nm,0.5s,baz=91,slow=8.2,SNR=44						
	3.8nm,0.5s						
ILAR	**Eielson Array**	**91.48**	**18**	P	P	09 38 41.0	0.0
	0.9nm,0.8s,baz=232,slow=6.4,SNR=15						
	0.9nm,0.8s						

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*IDC **04** 09:36:00.1±1.0, 31°57'N×138°30'E, h378km±8km, mb3.2/14, mbtmp3.8/18, Error ellipse: s-maj=20.3km s-min=18.7km az=70.0*
*JMA **04** 09:36:01.6±0.4, 32°N±4'×13°8'E±', h385km, MV3.5/21, NEAR TORISHIMA IS*
ISC 04 09:35:59.3±0.7, 31°48'N±0°07'×138°42'E±0°08, h381km, n32, σ1$ 43/36, mb3.5/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**1.50**	**49**	*eP*	**Pn**	**09 36 53.1**	**+2.6**
JHCJ	**Hachijojimakas**	**1.97**	**36**	*eP*	**Pn**	**09 36 54.8**	**+1.6**
JHJ	**Hachijo jima 2**	**2.00**	**35**	P	**Pn**	**09 36 54.7**	**+1.3**
	55nm,0.3s,baz=328,slow=21,SNR=105						
JHJ				S	**S**	**09 37 37.9**	**+0.8**
	78nm,0.3s,baz=80,slow=23,SNR=6.3						
JHJ2	**Mitsune**	**2.01**	**36**	*eP*	**Pn**	**09 36 55.1**	**+1.6**
TTO2	**TONANKAI O.B.S**	**2.53**	**333**	*eP*	**Pn**	**09 36 58.9**	**+2.1**
JMKN	**Mikurajimanish**	**2.60**	**22**	*eP*	**Pn**	**09 36 58.5**	**+0.8**
JIE	**Ise**	**3.24**	**334**	*eP*	**Pn**	**09 37 04.4**	**+1.4**
JTNC	**Tanabenakahech**	**3.32**	**315**	P	**Pn**	**09 37 04.5**	**+0.7**
JWY	**Kouya**	**3.62**	**320**	P	**Pn**	**09 37 07.8**	**+1.2**
BSO1	**Boso 1**	**3.82**	**34**	*eP*	**Pn**	**09 37 07.8**	**0.0**
BSO1				*eS*	**S**	**09 38 00.7**	**-2.7**
JAI	**Aioi**	**4.06**	**306**	P	**Pn**	**09 37 11.6**	**+0.8**
JRY	**Ryogami san**	**4.54**	**5**	*eP*	**Pn**	**09 37 16.6**	**+1.0**
JRY				*eS*	**S**	**09 38 14.7**	**-2.7**
JTO	**Tosashimizu**	**4.96**	**288**	*eP*	**Pn**	**09 37 20.7**	**+0.8**
MJAR	**Matsushiro Arr**	**5.05**	**358**	P	**Pn**	**09 37 20.8**	**0.0**
	2.7nm,0.4s,baz=177,slow=11,SNR=21						
MJAR				S	**S**	**09 38 24.6**	**-2.4**
	0.6nm,0.3s,baz=309,slow=26,SNR=1.6						
CBIJ	**Chichi jima**	**5.47**	**142**	*eP*	**Pn**	**09 37 25.0**	**-0.6**
CBIJ				*eS*	**S**	**09 38 32.1**	**-3.4**
JCJ	**Chichijima**	**5.47**	**142**	P	Pn	09 37 21.5	-4.0
	36nm,0.5s,baz=9.9,slow=18,SNR=17						
JCJ				S	S	09 38 28.9	-6.7
	60nm,0.4s,baz=272,slow=22,SNR=13						
JNU	**Nakatsue**	**6.59**	**286**	P	**Pn**	**09 37 36.3**	**-1.6**
	5.1nm,0.8s,baz=116,slow=10,SNR=2.2						
KSRS	**Korea Array**	**10.51**	**307**	P	**Pn**	**09 38 23.6**	**+0.5**
	1.4nm,0.8s,baz=118,slow=11,SNR=5.8						
SONM	**Songino Array**	**29.30**	**313**	P	**P**	**09 41 28.3**	**0.0**
	0.5nm,0.5s,baz=119,slow=8.6,SNR=4.1						
	0.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**37.86**	**259**	P	**P**	**09 42 40.2**	**-1.4**
	1.1nm,0.4s,baz=59,slow=18,SNR=2.0						
	1.1nm,0.4s						
ZALV	**Zalesovo Beam**	**44.04**	**317**	P	**P**	**09 43 30.4**	**-0.3**
	0.4nm,0.3s,baz=92,slow=7.4,SNR=1.9						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**45.19**	**306**	P	**P**	**09 43 39.9**	**0.0**
	0.7nm,0.7s,baz=94,slow=8.6,SNR=10						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**47.65**	**312**	P	**P**	**09 43 58.7**	**0.0**
	0.9nm,0.4s,baz=105,slow=6.0,SNR=7.0						
	0.9nm,0.4s						
WRA	**Warramunga Arr**	**51.28**	**185**	P	**P**	**09 44 27.7**	**+1.6**
	0.1nm,0.3s,baz=360,slow=7.6,SNR=2.1						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**52.61**	**315**	P	**P**	**09 44 35.4**	**0.0**
	2.0nm,0.4s,baz=108,slow=7.5,SNR=16						
	2.0nm,0.4s						
ARCES	**ARCESS Array B**	**68.31**	**340**	P	**P**	**09 46 20.1**	**0.0**
	3.4nm,0.9s,baz=79,slow=9.3,SNR=2.6						
	3.4nm,0.9s						
YKA	**Yellowknife Ar**	**69.85**	**28**	P	**P**	**09 46 29.7**	**+0.2**
	0.1nm,0.6s,baz=296,slow=6.2,SNR=4.1						
	0.1nm,0.6s						
FINES	**FINESS Array B**	**72.56**	**332**	P	**P**	**09 46 46.3**	**+0.7**
	0.5nm,0.4s,baz=73,slow=4.3,SNR=14						
	0.5nm,0.4s						
KBZ	**Khabaz**	**72.64**	**311**	P	**P**	**09 46 47.0**	**+0.6**
	3.4nm,0.9s,baz=96,slow=3.3,SNR=4.2						
	3.4nm,0.9s						
AKASG	**Malin Array Be**	**77.15**	**322**	P	**P**	**09 47 12.2**	**+0.4**
	0.6nm,0.3s,baz=51,slow=5.2,SNR=8.0						
	0.6nm,0.3s						
NOA	**NORSAR Array B**	**78.31**	**337**	P	**P**	**09 47 17.9**	**-0.2**
	1.1nm,1.1s,baz=31,slow=19,SNR=1.0						
	1.1nm,1.1s						
BRTR	**Keskin Array B**	**80.64**	**311**	P	**P**	**09 47 32.2**	**+1.3**
	0.9nm,0.9s,baz=95,slow=7.2,SNR=3.9						
	0.9nm,0.9s						

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*RSNC **04** 09:36:45.6±0.0, 9°N±1°×7°1W±', h4km±2km, M2.3, mb3.4, ML2.2*
*FUNV **04** 09:36:45.9, 8°48N×71°39W, h5km, MW3.1*
ISC 04 09:36:44.4±1.4, 8°49N±0°03×71°36W±0°03, h8km±11km, n21, σ1$ 39/40, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOCV	**Socops**	**0.54**	**112**	*eP*	**Pb**	**09 36 56.2**	**0.0**
SOCV				*eS*	**Sb**	**09 37 04.1**	**0.0**
SDV	**Santo Domingo**	**0.82**	**61**	P	**Pg**	**09 37 00.5**	**+0.2**
SDV				S	**Sg**	**09 37 12.1**	**+1.1**
CAPV	**Capacho**	**1.13**	**237**	*eP*	**Pb**	**09 37 03.8**	**-2.5**
CAPV				*eS*	**Sn**	**09 37 22.1**	**-0.4**
PAMC	**Pamplona, Colo**	**1.75**	**229**	P	**Pn**	**09 37 15.9**	**+0.4**
PAMC				S	**Sb**	**09 37 39.7**	**+0.4**
MCQV	**Machiques**	**1.94**	**323**	*eP*	**Pn**	**09 37 18.6**	**+1.0**
MCQV				*eS*	**Sn**	**09 37 43.5**	**+1.3**
OCAC	**Ocana**	**1.95**	**263**	P	**Pn**	**09 37 17.2**	**-0.8**
OCAC				S	**Sn**	**09 37 42.9**	**+0.1**
SANV	**Sanarito**	**2.06**	**61**	*eP*	**Pb**	**09 37 22.3**	**+0.1**
SANV				*eS*	**Sb**	**09 37 47.3**	**-0.8**
TAMC	**Tame, Arauca**	**2.08**	**192**	P	**Pn**	**09 37 20.9**	**+1.2**
TAMC				S	**Sg**	**09 37 51.4**	**-0.1**
TEPV	**Terepaima**	**2.59**	**55**	*eP*	**Pn**	**09 37 29.1**	**+2.3**
TEPV				*eS*	**Sn**	**09 37 59.6**	**+1.1**
BARC	**Barichara**	**2.61**	**224**	P	**Pb**	**09 37 31.7**	**+0.1**
BARC				S	**Sb**	**09 38 05.6**	**+1.7**
SIQV	**Siquisique**	**2.64**	**35**	*eP*	**Pn**	**09 37 29.2**	**+1.9**
SIQV				*eS*	**Sn**	**09 38 00.3**	**+0.8**
CRJC	**Cerrejon, Guaj**	**2.93**	**329**	P	**Pn**	**09 37 31.1**	**-0.2**
CRJC				S	**Sn**	**09 38 05.0**	**-1.7**
RUSC	**La Rusia**	**3.09**	**214**	P	**Pn**	**09 37 34.6**	**+0.6**
RUSC				S	**Sn**	**09 38 12.4**	**+1.0**
BAUV	**El Baul**	**3.31**	**82**	*eP*	**Pn**	**09 37 37.3**	**+0.8**
BAUV				*eS*	**Sn**	**09 38 16.0**	**-0.1**
PTBC	**PUERTO BERRIO,**	**3.63**	**238**	P	**Pn**	**09 37 41.0**	**+0.1**
BENV	**Beln**	**3.99**	**68**	*eP*	**Pn**	**09 37 47.7**	**+1.7**
BENV				*eS*	**Sn**	**09 38 32.3**	**-0.7**
SJCC	**San Jacinto, C**	**4.02**	**291**	P	**Pn**	**09 37 46.5**	**+0.1**
SJCC				S	**Sn**	**09 38 34.2**	**+0.5**
PTGC	**Puerto Gaitan,**	**4.33**	**190**	P	**Pn**	**09 37 51.1**	**+0.5**
PTGC				S	**Sn**	**09 38 42.7**	**+1.4**
TACV	**Tcata**	**4.58**	**69**	*eP*	**Pn**	**09 37 54.7**	**+0.6**
TACV				*eS*	**Sn**	**09 38 45.9**	**-1.6**
CACV	**CAICARA DEL OR**	**4.86**	**101**	*eP*	**Pb**	**09 38 06.4**	**-3.5**
CACV				*eS*	**Sb**	**09 39 05.5**	**-3.1**
GUY2C	**Guyana, Caldas**	**5.13**	**231**	P	**Pn**	**09 38 04.6**	**+2.6**

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*IDC **04** 09:47:18.2±1.8, 6°17S×142°73E, h0km, mb3.8/3, mbtmp3.6/5, ML3.3/2, Error ellipse: s-maj=69.3km s-min=23.6km az=109.0*
ISC 04 09:47:22.6±1.0, 6°2S±0°1×142°6E±0°1, h28km, n6, σ1$ 38/6, mb3.8/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.49**	**125**	Sn	**Sn**	**09 49 45.0**	**+0.2**
	0.9nm,0.3s,baz=227,slow=8.7,SNR=2.0						
WRA	**Warramunga Arr**	**15.82**	**210**	Pn	**Pn**	**09 51 02.0**	**-1.6**
	0.1nm,0.3s,baz=27,slow=13,SNR=7.3						
WRA				Lg	Lg	09 55 43.9	
	0.1nm,0.3s,baz=36,slow=27,SNR=3.0						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**19.25**	**205**	P	**P**	**09 51 46.5**	**+1.6**
	0.2nm,0.3s,baz=34,slow=9.7,SNR=16						
ASAR				Lg	Lg	09 57 33.1	
	baz=20,slow=24,SNR=4.2						
	1.0nm,0.7s						
MKAR	**Makanchi Array**	**74.95**	**322**	P	**P**	**09 59 01.6**	**+0.4**
	0.4nm,0.7s,baz=116,slow=6.6,SNR=4.6						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**84.42**	**325**	P	**P**	**09 59 52.8**	**+0.3**
	1.2nm,0.8s,baz=289,slow=4.4,SNR=4.6						
	1.2nm,0.8s						
ILAR	**Eielson Array**	**87.44**	**24**	P	**P**	**10 00 06.4**	**-0.8**
	0.4nm,0.7s,baz=258,slow=5.0,SNR=5.4						
	0.4nm,0.7s						

IDC 04 09:49:00.5±3.2, 0°80S×137°25E, h0km, mb3.2/2, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=121.7km s-min=31.0km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.24**	**188**	P	P	09 53 26.2	-0.3
	0.2nm,0.3s,baz=11,slow=12,SNR=6.2						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**22.96**	**188**	P	P	09 54 07.1	+0.3
	0.4nm,0.5s,baz=17,slow=12,SNR=5.2						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**67.40**	**322**	P	P	09 59 57.8	-0.1
	0.1nm,0.5s,baz=117,slow=5.0,SNR=1.5						
	0.1nm,0.5s						

IDC 04 09:58:36.5±5.1, 16°16S×175°81W, h0km, mb4.3/3, mbtmp4.3/3, Error ellipse: s-maj=169.1km s-min=101.6km az=154.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.65**	**240**	P	P	10 06 26.9	+0.1
	1.3nm,0.5s,baz=83,slow=8.1,SNR=5.6						
	1.3nm,0.5s						
WRA	**Warramunga Arr**	**47.41**	**258**	P	P	10 07 12.9	-0.2
	0.9nm,0.4s,baz=92,slow=8.1,SNR=36						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**47.67**	**253**	P	P	10 07 14.9	-0.2
	9.0nm,0.6s,baz=89,slow=8.4,SNR=229						
ASAR				PcP	PcP	10 08 44.4	-0.3
	0.7nm,1.1s,baz=103,slow=3.8,SNR=4.2						
	9.0nm,0.6s						

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*IDC **04** 09:58:36.0±1.1, 31°36N×72°08E, h0km, mb3.6/7, mbtmp3.7/10, ML3.7/3, Error ellipse: s-maj=28.9km s-min=20.3km az=70.0*
ISC 04 09:58:41.6±1.1, 31°5N±0°1×72°2E±0°2, h35km, n10, σ1$ 66/11, mb3.6/7, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**11.26**	**9**	Pn	**Pn**	**10 01 22.8**	**+2.6**
	2.5nm,0.3s,baz=159,slow=4.2,SNR=20						
AAK				Sn	**Sn**	**10 03 22.2**	**-2.6**
	0.3nm,0.3s,baz=351,slow=23,SNR=2.3						
	5.2nm,0.3s						
MKAR	**Makanchi Array**	**17.13**	**24**	P	**Pn**	**10 02 37.7**	**-0.4**
	0.1nm,0.3s,baz=195,slow=13,SNR=14						
	1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**19.67**	**12**	P	**P**	**10 03 07.0**	**-0.4**
	0.1nm,0.3s,baz=204,slow=10,SNR=6.5						
	1.0nm,0.7s						
BVAR	**Borovoye Array**	**21.55**	**357**	P	**P**	**10 03 27.8**	**+0.1**
	0.8nm,0.4s						
	0.8nm,0.4s						
AKTO	**Aktyubinsk**	**21.68**	**335**	P	**P**	**10 03 30.1**	**+0.9**
	1.8nm,0.7s,baz=109,slow=6.3,SNR=5.7						
	1.8nm,0.7s						
ZALV	**Zalesovo Beam**	**24.19**	**18**	P	**P**	**10 03 55.5**	**+0.9**
	0.8nm,0.4s,baz=204,slow=11,SNR=4.3						
	0.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**27.40**	**112**	P	**P**	**10 04 22.7**	**-1.3**
	0.9nm,0.3s,baz=6.2,slow=27,SNR=1.8						
	0.9nm,0.3s						
TORD	**Torodi Ar. Bea**	**66.74**	**272**	P	**P**	**10 09 28.2**	**-1.5**
	0.9nm,0.6s,baz=52,slow=6.6,SNR=7.3						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**78.49**	**122**	P	**P**	**10 10 39.7**	**+0.2**
	0.2nm,0.6s,baz=320,slow=5.4,SNR=1.8						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**80.56**	**125**	P	**P**	**10 10 52.1**	**+1.5**
	0.3nm,0.8s,baz=311,slow=5.1,SNR=4.3						
	0.3nm,0.8s						

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*ISK **04** 10:04:35.9, 35°91N×31°51E, h12km, ML3.3/33*
*AFAD **04** 10:04:36.7±0.0, 36°01N×31°46E, h28km±2km, ML3.1*
*IDC **04** 10:04:37.6±3.0, 35°95N×31°26E, h61km±26km, mb3.3/4, mbtmp3.5/8, ML3.5/4, Error ellipse: s-maj=34.2km s-min=13.5km az=79.0*
*NIC **04** 10:04:38.1, 35°63N×31°33E, h35km±75km, Ml3.2/9*
*GII **04** 10:04:40.2±0.7, 35°754N±0°005×31°498E±0°002, h30km, Md2.6/1, Mws3.1/3, confirmed*
ISC 04 10:04:37.6±1.0, 35°89N±0°03×31°47E±0°03, h48km±13km, n87, σ1$ 70/110, mb3.4/4, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZI	**Gazipasa**	**0.77**	**63**	P	**Pn**	**10 04 51.8**	**-0.3**
GAZI				S	**Sn**	**10 05 01.7**	**-1.1**
GAZI				*i* AML	AML	10 05 03.0	
	comp=N,2μm,0.5s						
GAZI				*i* AML	AML	10 05 03.0	
	comp=E,2μm,0.4s						
ALAN	**Alanya-ANTALYA**	**0.80**	**34**	Pg	**Pn**	**10 04 51.8**	**-0.9**
ALAN				Sg	**Sn**	**10 05 02.0**	**-1.6**
KEPZ	**Antalya-Kepez**	**1.01**	**6**	P	**Pn**	**10 04 55.1**	**-0.4**
KEPZ				S	**Sn**	**10 05 06.6**	**-2.1**
KEPZ				*i* AML	AML	10 05 09.0	
	comp=N,932nm,0.7s						
KEPZ				*i* AML	AML	10 05 09.0	
	comp=E,717nm,0.8s						
KEMT	**Kemer-ANTALYA**	**1.02**	**314**	Pg	**Pn**	**10 04 56.3**	**+0.7**
KEMT				Sg	**Sn**	**10 05 11.2**	**+2.4**
AKMS	**Akamas**	**1.12**	**141**	P	**Pn**	**10 04 58.3**	**+1.4**
AKMS				S	**Sn**	**10 05 13.9**	**+2.6**
AKMS				AML	AML	10 05 22.9	
	2.4nm,0.4s						
AKMS				AML	AML	10 05 24.4	
	1.9nm,0.7s						
ALFC	**Alefka**	**1.18**	**128**	P	**Pn**	**10 04 58.0**	**+0.2**
ALFC				S	**Sn**	**10 05 12.5**	**-0.2**
ALFC				AML	AML	10 05 17.1	
	1.7nm,0.2s						
ALFC				AML	AML	10 05 21.2	
	1.6nm,0.2s						
ANTB	**Antalya**	**1.20**	**327**	Pn	**Pn**	**10 04 59.3**	**+1.3**
BOZY	**Bozyazi-Mersin**	**1.24**	**80**	Pn	**Pn**	**10 04 58.9**	**+0.4**
HDMB	**Hadim**	**1.35**	**37**	Pn	**Pn**	**10 05 00.6**	**+0.4**
TEKE	**Tekeli-Mersin**	**1.36**	**79**	Pn	**Pn**	**10 05 00.8**	**+0.7**
TEKE				Sn	**Sn**	**10 05 19.2**	**+2.2**
AKDN	**Akdeniz- Kıbrı**	**1.36**	**115**	Pn	**Pn**	**10 05 00.8**	**+0.7**
LEF	**Lefka**	**1.39**	**123**	Pn	**Pn**	**10 05 00.8**	**+0.2**
LEF	**Lefka**	**1.39**	**123**	P	**Pn**	**10 05 02.5**	**+1.9**
LEF				S	**Sn**	**10 05 17.2**	**-0.6**
KORT	**Korkueli**	**1.43**	**321**	P	**Pn**	**10 05 00.8**	**-0.4**
KORT				S	**Sn**	**10 05 25.4**	**+6.5**
KORT				*i* AML	AML	10 05 28.0	
	comp=N,247nm,0.5s						
KORT				*i* AML	AML	10 05 28.0	
	comp=E,294nm,0.5s						
NATA	**Nata**	**1.43**	**141**	P	Pn	10 05 05.3	+4.2
NATA				AML	AML	10 05 37.1	
	4.5nm,0.8s						
NATA				AML	AML	10 05 37.8	
	3.8nm,0.7s						
TROD	**Troodos**	**1.48**	**129**	P	**Pn**	**10 05 02.8**	**+0.8**
TROD				S	**Sn**	**10 05 20.1**	**-0.2**
TROD				AML	AML	10 05 33.8	
	0.7nm,0.4s						
TROD				AML	AML	10 05 33.8	
	0.5nm,0.5s						
ELL	**Elmali**	**1.52**	**305**	Pn	**Pn**	**10 05 03.5**	**+1.0**
ELL	**Elmali**	**1.52**	**305**	P	**Pn**	**10 05 04.9**	**+2.4**
ELL				S	**Sn**	**10 05 25.2**	**+4.0**
SEYD	**Seydisehir-KON**	**1.54**	**11**	Pn	**Pn**	**10 05 03.3**	**+0.6**
AKAS	**Kas**	**1.55**	**283**	P	**Pn**	**10 05 04.1**	**+1.3**
AKAS				*i* AML	AML	10 05 37.0	
	comp=E,291nm,0.5s						
AKAS				*i* AML	AML	10 05 38.0	
	comp=N,420nm,0.5s						
KSL	**Kastellorizon**	**1.55**	**280**	P	**Pn**	**10 05 02.7**	**0.0**
KSL				S	**Sn**	**10 05 21.1**	**-0.6**
BUCA	**Burdur, Bucak-**	**1.61**	**333**	P	**Pn**	**10 05 04.9**	**+1.3**
BUCA				*i* AML	AML	10 05 33.0	
	comp=N,122nm,0.5s						
BUCA				*i* AML	AML	10 05 33.0	
	comp=E,193nm,0.7s						
OREN	**Orenkoy-Mersin**	**1.64**	**78**	Pn	**Pn**	**10 05 05.5**	**+1.5**
TEVE	**Tevekalti-Mers**	**1.69**	**71**	Pn	**Pn**	**10 05 05.7**	**+1.0**
AKK1	**Akkuyu-Mersin**	**1.70**	**81**	Pn	**Pn**	**10 05 05.9**	**+1.2**
AKK2	**Akkuyu-Mersin**	**1.70**	**81**	Pn	**Pn**	**10 05 05.8**	**+1.0**
AKKU	**Akkuyu-Mersin**	**1.71**	**80**	Pn	**Pn**	**10 05 05.8**	**+0.9**
BCK	**Bucak**	**1.72**	**336**	Pn	**Pn**	**10 05 06.4**	**+1.3**
ATHAL	**Athalassa**	**1.74**	**115**	P	**Pn**	**10 05 05.4**	**0.0**
ATHAL				S	**Sn**	**10 05 27.7**	**+1.3**
ATHAL				AML	AML	10 05 42.9	
	1.5nm,0.4s						
ATHAL				AML	AML	10 05 43.3	
	1.2nm,0.9s						
CSS	**Mathiatis**	**1.78**	**121**	Pn	**Pn**	**10 05 05.9**	**0.0**
CSS	**Mathiatis**	**1.78**	**121**	P	**Pn**	**10 05 06.0**	**0.0**
CSS				S	**Sn**	**10 05 27.0**	**-0.4**
CSS				AML	AML	10 05 39.8	
	0.5nm,0.5s						
CSS				AML	AML	10 05 44.4	
	0.5nm,0.7s						
CSS	**Mathiatis**	**1.78**	**121**	P	**Pn**	**10 05 05.9**	**0.0**
YESI	**Yesilovacik-Me**	**1.79**	**80**	Pn	**Pn**	**10 05 06.9**	**+0.9**
LFK	**Lefkose**	**1.79**	**109**	Pn	**Pn**	**10 05 07.1**	**+1.0**
TISA	**Tisan-Mersin**	**1.81**	**81**	Pn	**Pn**	**10 05 07.4**	**+1.1**
ASGA	**Asgata**	**1.83**	**127**	P	**Pn**	**10 05 08.8**	**+2.3**
ASGA				S	**Sn**	**10 05 32.2**	**+3.7**
ASGA				AML	AML	10 05 44.7	
	0.6nm,0.7s						
ASGA				AML	AML	10 05 46.6	
	0.8nm,0.5s						
IKL	**Isikli**	**1.83**	**78**	Pn	**Pn**	**10 05 07.8**	**+1.3**
KARG	**Kargicak-Mersi**	**1.84**	**80**	Pn	**Pn**	**10 05 08.0**	**+1.3**
AKIN	**Akıncılar- Kıb**	**1.85**	**118**	Pn	**Pn**	**10 05 06.9**	**0.0**
MVOU	**Mavrovouni**	**1.97**	**116**	P	**Pn**	**10 05 08.2**	**-0.3**
MVOU				AML	AML	10 05 41.7	
	0.5nm,0.6s						
MVOU				AML	AML	10 05 43.5	
	0.6nm,0.4s						
KMER	**Konya-Meram**	**2.01**	**21**	P	**Pn**	**10 05 11.5**	**+2.4**
KMER				S	**Sn**	**10 05 34.5**	**+1.4**
KMER				*i* AML	AML	10 05 40.0	
	comp=E,220nm,0.7s						
KMER				*i* AML	AML	10 05 42.0	
	comp=N,156nm,0.6s						
CAME	**Cameli-Denizli**	**2.04**	**302**	Pn	**Pn**	**10 05 11.2**	**+1.6**
GOLH	**Golhisar**	**2.04**	**312**	P	Pn	10 05 13.1	+3.6
GOLH				S	**Sn**	**10 05 37.7**	**+3.8**
GOLH				*i* AML	AML	10 05 42.0	
	comp=N,153nm,0.4s						
GOLH				*i* AML	AML	10 05 49.0	
	comp=E,166nm,0.5s						
SILI	**Silifke-Mersin**	**

	comp=E,42nm,0.3s						
ARG	**Arkhangelos**	**2.73**	**278**	P	**Pn**	**10 05 18.7**	**-0.2**
ARG				S	**Sn**	**10 05 49.5**	**-1.1**
CHBY	**Cihanbeyli**	**2.91**	**22**	Pn	**Pn**	**10 05 22.5**	**+0.9**
KARP	**Karpathos**	**3.52**	**266**	P	**Pn**	**10 05 29.8**	**0.0**
KARP				S	**Sn**	**10 06 08.9**	**-1.4**
BRTR	**Keskin Array B**	**4.19**	**24**	P	**Pn**	**10 05 40.0**	**+0.8**
	1.4nm,0.3s,baz=192,slow=16,SNR=45						
BRTR				S	**Sn**	**10 06 27.9**	**+1.0**
	4.5nm,0.5s,baz=218,slow=26,SNR=7.4						
	2.8nm,0.4s						
MMAI	**Mount Meron Ar**	**4.34**	**130**	P	**Pn**	**10 05 43.4**	**+2.4**
	7.1nm,0.3s,baz=314,slow=15,SNR=11						
MMAI				S	**Sn**	**10 06 29.5**	**-0.9**
	3.2nm,0.2s,baz=300,slow=29,SNR=6.2						
	4.0nm,0.3s						
GEM	**Giv'at Ha'Em**	**4.37**	**127**	S	**Sn**	**10 06 32.1**	**+0.9**
GEM	**Giv'at Ha'Em**	**4.37**	**127**	P	**Pn**	**10 05 43.7**	**+2.2**
NATI	**Neve Ativ**	**4.39**	**125**	S	**Sn**	**10 06 32.6**	**+1.1**
NATI	**Neve Ativ**	**4.39**	**125**	P	**Pn**	**10 05 43.8**	**+2.1**
KSHT	**Keshet**	**4.62**	**128**	S	**Sn**	**10 06 39.1**	**+1.9**
KSHT	**Keshet**	**4.62**	**128**	P	**Pn**	**10 05 47.1**	**+2.2**
HMDT	**Nahal Hemdat**	**4.95**	**136**	P	**Pn**	**10 05 51.0**	**+1.6**
DSI	**Dead Sea**	**5.40**	**142**	P	**Pn**	**10 05 57.7**	**+2.1**
DSI	**Dead Sea**	**5.40**	**142**	S	**Sn**	**10 06 57.6**	**+1.1**
MSBI	**Mazada**	**5.60**	**144**	P	**Pn**	**10 06 00.3**	**+2.0**
ASF	**Jabal al Asfar**	**5.84**	**128**	P	Pn	10 06 05.3	+3.7
	1.2nm,0.3s,baz=334,slow=4.0,SNR=4.0						
ASF				S	**Sn**	**10 07 10.8**	**+3.5**
	1.8nm,0.3s,baz=151,slow=5.5,SNR=1.4						
	1.8nm,0.3s						
PRNI	**Paran**	**6.27**	**151**	P	**Pn**	**10 06 08.8**	**+1.2**
KRMI	**Paran Flat**	**6.38**	**154**	P	**Pn**	**10 06 11.3**	**+2.3**
KRMI	**Paran Flat**	**6.38**	**154**	S	**Sn**	**10 07 19.9**	**-0.6**
MBRI	**Mt Berech**	**6.74**	**154**	P	**Pn**	**10 06 15.8**	**+1.8**
EIL	**Elat**	**6.86**	**154**	P	**Pn**	**10 06 17.3**	**+1.7**
	0.5nm,0.3s,baz=37,slow=13,SNR=2.9						
EIL				S	**Sn**	**10 07 29.4**	**-3.0**
	3.6nm,0.5s,baz=80,slow=15,SNR=2.2						
	2.7nm,0.5s						
EIL	**Elat**	**6.86**	**154**	S	**Sn**	**10 07 32.7**	**+0.3**
EIL	**Elat**	**6.86**	**154**	P	**Pn**	**10 06 17.4**	**+1.7**
AKASG	**Malin Array Be**	**14.89**	**354**	P	**P**	**10 08 08.2**	**-1.5**
	1.8nm,0.6s,baz=174,slow=11,SNR=8.6						
FINES	**FINESS Array B**	**25.80**	**354**	P	**P**	**10 10 01.1**	**-2.7**
	0.3nm,0.3s,baz=160,slow=10,SNR=8.4						
	0.3nm,0.3s						
ARCES	**ARCESS Array B**	**33.86**	**356**	P	**P**	**10 11 13.3**	**-1.8**
	1.5nm,0.9s,baz=170,slow=7.2,SNR=6.5						
	1.5nm,0.9s						
KURBB	**Kurchatov Arra**	**36.65**	**51**	P	**P**	**10 11 39.7**	**+0.4**
	0.2nm,0.4s,baz=268,slow=8.9,SNR=2.5						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**39.05**	**58**	P	**P**	**10 11 59.2**	**-0.6**
	0.4nm,0.6s,baz=273,slow=7.1,SNR=5.0						
	0.4nm,0.6s						

*IDC **04** 10:18:45.9±1.0, 60˚.2S×47˚.4W±0˚.3, **h10**km, **n18**, σ**1**§**06**/10, **mb4.0**/3, **MS3.7**/3, **2D**, **Scotia Sea***

ISC 04 10:18:48.3±1.0, 60˚.2S±0˚.2×47˚.4W±0˚.3, h10km, n18, σ1§06/10, mb4.0/3, MS3.7/3, 2D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**20.87**	**141**	⇓P	**P**	**10 23 31.5**	**+1.4**
SNAA	**Sanae**	**20.87**	**141**	P	**P**	**10 23 29.4**	**-0.7**
	8.1nm,1.0s,baz=274,slow=12,SNR=7.3						
	8.1nm,1.0s						
TROLL	**Troll, Antarti**	**22.58**	**142**	⇓P	**P**	**10 23 48.9**	**+0.4**
	comp=Z,366nm,1.3s						
PLCA	**Paso Flores**	**24.20**	**313**	P	**P**	**10 24 05.5**	**+0.7**
	comp=Z,2.7nm,0.9s,baz=179,slow=7.8,SNR=3.6						
	comp=Z,2.7nm,0.9s						
QSPA	**South Pole Qui**	**30.06**	**180**	P	**P**	**10 24 56.8**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=176,slow=1.8,SNR=11						
	comp=Z,2.6nm,0.8s						
LVC	**Limon Verde**	**40.48**	**328**	LR	LR	10 43 13.0	
	comp=Z,69nm,18.8s,baz=268,slow=36						
MAW	**Mawson**	**42.80**	**148**	LR	LR	10 43 31.7	
	comp=Z,108nm,18.5s,baz=245,slow=35						
SIV	**San Ignacio**	**45.24**	**341**	LR	LR	10 49 30.3	
	comp=Z,76nm,18.2s,baz=313,slow=41						
H10S2	**ASCENSION HYDR**	**56.67**	**40**	T	T	11 30 32.2	
	baz=199						
H10S3	**ASCENSION HYDR**	**56.67**	**40**	T	T	11 30 32.0	
	baz=21						
H10N3	**ASCENSION HYDR**	**57.77**	**39**	T	T	11 31 34.3	
	baz=199						
H10N1	**ASCENSION HYDR**	**57.77**	**39**	T	T	11 31 39.4	
	baz=199						
H10N2	**ASCENSION HYDR**	**57.78**	**39**	T	T	11 31 52.4	
	baz=199						
TORD	**Torodi Ar. Bea**	**82.92**	**48**	P	**P**	**10 31 12.4**	**-0.6**
	comp=Z,1.1nm,0.9s,baz=216,slow=4.5,SNR=5.4						
	comp=Z,1.1nm,0.9s						
ILAR	**Eielson Array**	**144.89**	**313**	PKP	**PKPab**	**10 38 22.1**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=138,slow=2.1,SNR=15						
BVAR	**Borovoye Array**	**146.19**	**74**	PKPbc	**PKPdf**	**10 38 25.6**	**-0.8**
	comp=Z,3.8nm,0.9s,baz=224,slow=8.3,SNR=9.7						
MKAR	**Makanchi Array**	**148.04**	**92**	PKPbc	**PKPdf**	**10 38 30.2**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=217,slow=1.9,SNR=12						
KURBB	**Kurchatov Arra**	**148.69**	**83**	PKPbc	**PKPdf**	**10 38 32.1**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=239,slow=3.9,SNR=4.4						

*IDC **04** 10:38:42.3±0.9, 2˚.74N×128˚.08E, h0km, mb3.7/9, mbtmp3.7/9, Error ellipse: s-maj=61.4km s-min=17.5km az=75.0*

*DJA **04** 10:39:08.2±1.8, 3˚N±12˚×12˚8E±1˚3, h145km±19km, M4.0/8, mb4.1/5, MLv4.0/8*

ISC 04 10:39:04.0±1.0, 2.7N±0˚.1×128˚.1E±0˚.2, h200km, n15, σ1§65/13, mb3.5/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.04**	**202**	P	**Pn**	**10 39 41.3**	**-1.6**
SGSI	**Sangihe**	**2.78**	**291**	P	**Pn**	**10 39 49.9**	**-1.2**
LBMI	**Labuha**	**3.35**	**191**	P	**Pn**	**10 39 57.1**	**-0.8**
SANI	**Sanana**	**5.16**	**205**	P	**Pn**	**10 40 18.3**	**-2.2**
GTOI	**Gorontalo**	**5.50**	**248**	P	**Pn**	**10 40 26.1**	**+1.2**
	6.1nm,0.6s,0.0nm						
NLAI	**Nanlea**	**5.96**	**190**	P	**Pn**	**10 40 34.4**	**+3.6**
	63nm,0.4s,0.3nm						
WRA	**Warramunga Arr**	**23.29**	**165**	P	**P**	**10 43 53.4**	**-0.8**
	1.3nm,0.6s,baz=345,slow=10,SNR=5.9						
	1.3nm,0.6s						
ASAR	**Alice Springs**	**26.78**	**168**	P	**P**	**10 44 24.7**	**-0.9**
	0.2nm,0.4s,baz=2.3,slow=9.2,SNR=1.9						
	0.2nm,0.4s						
MJAR	**Matsushiro Arr**	**34.96**	**14**	P	P	10 45 34.6	-2.5
	0.5nm,0.4s,baz=189,slow=9.4,SNR=1.5						
	0.5nm,0.4s						
STKA	**Stephens Creek**	**36.67**	**161**	P	**P**	**10 45 51.0**	**-0.6**
	0.6nm,0.4s,baz=337,slow=15,SNR=3.0						
	0.6nm,0.4s						
USRK	**Ussuriysk Ar.**	**41.49**	**4**	P	P	10 46 31.6	+0.2
	1.5nm,0.8s,baz=216,slow=14,SNR=2.3						
	1.5nm,0.8s						
SONM	**Songino Array**	**48.74**	**341**	P	**P**	**10 47 29.4**	**+0.8**
	0.3nm,0.5s,baz=144,slow=7.1,SNR=3.3						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**59.21**	**325**	P	**P**	**10 48 45.2**	**+1.0**
	0.3nm,0.4s,baz=108,slow=9.1,SNR=5.7						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**63.38**	**327**	P	**P**	**10 49 12.4**	**+0.4**
	1.0nm,0.2s,baz=132,slow=5.7,SNR=2.3						
	1.0nm,0.2s						
BVAR	**Borovoye Array**	**68.96**	**327**	P	**P**	**10 49 47.7**	**+0.2**
	0.2nm,0.5s,baz=130,slow=6.2,SNR=2.5						
	0.2nm,0.5s						

*BJI **04** 10:48:04.9±0.0, 18˚.03N×95˚.92E, h5km, mb4.7/61, mB5.0/38, ML4.8/3, Ms4.6/51, Ms7 4.2/52*

*IDC **04** 10:48:07.8±0.4, 18˚.33N×96˚.12E, h0km, mb4.6/33, mbtmp4.6/35, ML4.5/2, MS3.9/39, Error ellipse: s-maj=13.1km s-min=9.8km az=15.0*

*DJA **04** 10:48:10.2±0.5, 18˚N±3˚×9˚6E±˚, h11km±3km, M5.3/27, mB5.5/6, mb4.8/27, MLv5.8/5, Mw(mB)5.0/6*

*NEIC **04** 10:48:10.2±1.5, 18˚.42N±0˚.07×96˚.16E±0˚.07, h10km±1km, mb4.9/115, Error ellipse: s-maj=13.8km s-min=9.5km az=216.0*

*NDI **04** 10:48:11.8, 18˚.18N×95˚.88E, h10km, mb5.1, mb5.1, mb4.9(NEIC)*

ISC 04 10:48:10.4±0.6, 18˚.30N±0˚.04×96˚.09E±0˚.04, h14km±3km, n410, σ1§48/428, mb4.8/139, MS3.9/48, 26C-4D, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**2.72**	**86**		**Pn**	**10 48 51.5**	**-2.1**
CMAR	**Chiang Mai Arr**	**2.72**	**86**	Pn	**Pn**	**10 48 51.6**	**-2.0**
CMAR	**Chiang Mai Arr**	**2.72**	**86**	Pn	**Pn**	**10 48 52.1**	**-1.5**
	5.8nm,0.3s,baz=263,slow=14,SNR=121						
CMAR				Pg	**Pb**	**10 48 58.0**	**-0.8**
	50nm,0.3s,baz=262,slow=18,SNR=123						
CMAR				Lg	Lg	10 49 32.3	
	81nm,0.3s,baz=268,slow=17,SNR=2.4						
CMAR				LR	LR	10 50 06.9	
	comp=Z,3μm,20.4s,baz=260,slow=44						
	18nm,0.5s						
CHTO	**Chiang Mai**	**2.76**	**79**	Pn	**Pn**	**10 48 52.8**	**-1.4**
CHTO	**Chiang Mai**	**2.76**	**79**	P	**Pb**	**10 48 58.8**	**-0.7**
CHTO	**Chiang Mai**	**2.76**	**79**	P	**Pb**	**10 48 59.9**	**+0.4**
MND	**Mandalay**	**3.69**	**0**	Pn	**Pn**	**10 49 05.9**	**-1.2**
PHRA	**Phrae**	**3.94**	**87**		**Pn**	**10 49 09.6**	**-0.9**
CRAI	**Chiangrai**	**4.48**	**64**	Pn	**Pn**	**10 49 16.6**	**-1.2**
SAIH	**SAIHA**	**5.08**	**326**	*e*P	**Pn**	**10 49 28.6**	**+2.4**
SAIH				*e*S	**Sn**	**10 50 25.7**	**+1.0**
DGPR	**DIGLIPUR**	**5.93**	**211**	*e*P	**Pn**	**10 49 37.9**	**+0.1**
BRDH	**Bariadhala**	**6.02**	**317**	Pn	**Pn**	**10 49 38.7**	**-0.4**
	79nm,0.3s,baz=270,slow=16,SNR=2.4						
	164nm,0.3s						
AZL	**Aizawl**	**6.27**	**330**	*e*P	**Pn**	**10 49 44.7**	**+2.2**
BELO	**BELONIA**	**6.56**	**319**	*e*P	**Pn**	**10 49 48.9**	**+2.4**
NONG	**Nongkai**	**6.71**	**91**	P	**Pn**	**10 49 51.9**	**+3.3**
IMP	**Imphal**	**6.79**	**343**	*e*P	**Pn**	**10 49 52.6**	**+2.9**
TNCH	**TengChong**	**7.06**	**18**	Pn	**Pn**	**10 49 52.8**	**-0.7**
TNCH				Sn	**Sn**	**10 51 16.3**	**+2.5**
TNCH				Sg	**Sg**	**10 51 53.8**	**-3.4**
TNCH				smax	smax		
	comp=N,2μm,1.8s						
TNCH				smax	smax		
	comp=E,2μm,1.6s						
TNCH				LR	LR		
	comp=E,5μm,3.7s						
TNCH				LR	LR		
	comp=Z,980nm,5.5s						
KOHI	**KOHIMA**	**7.61**	**346**	*e*P	**Pn**	**10 50 04.4**	**+3.5**
KOHI				*ex*	x	10 51 35.5	
MOKO	**MOKOCHONG**	**8.11**	**350**	*e*P	**Pn**	**10 50 12.2**	**+4.4**
SHL	**Shillong**	**8.21**	**332**	*e*P	**Pn**	**10 50 08.4**	**-0.9**
SHL				*ex*	x	10 51 38.7	
GUWA	**GUWAHATI**	**8.84**	**333**	*ex*	x	10 50 17.1	
KMI	**Kunming**	**9.18**	**41**	⇑P	Pn	10 50 28.2	+5.6
KMI				S	**Sn**	**10 52 08.1**	**+2.2**
KMI				smax	smax		
	comp=N,110nm,1.4s						
KMI				smax	smax		
	comp=E,140nm,1.2s						
KMI				LR	LR		
	comp=N,940nm,5.3s						
KMI				LR	LR		
	comp=E,1μm,8.0s						
KMI				LR	LR		
	comp=Z,1μm,14.2s						
UBPT	**Khong Chiam**	**9.48**	**107**	Pn	**Pn**	**10 50 27.9**	**+1.4**
UBPT	**Khong Chiam**	**9.48**	**107**	P	**Pn**	**10 50 28.3**	**+1.8**
PZH	**PanZhiHua**	**9.69**	**32**	P	Pn	10 50 35.0	+5.5
PZH				S	**Sn**	**10 52 17.5**	**-0.8**
PZH				pmax	pmax		
	comp=Z,30nm,1.4s						
PZH				pmax	pmax		
	comp=Z,90nm,4.9s						
PZH				LR	LR		
	comp=N,880nm,4.9s						
PZH				LR	LR		
	comp=E,980nm,5.0s						
PZH				LR	LR		
	comp=Z,720nm,5.7s						
BOK	**Bokaro**	**10.98**	**302**	*e*P	**Pn**	**10 50 46.8**	**-0.3**
LSA	**Lhasa**	**12.21**	**339**	Pn	**Pn**	**10 51 03.6**	**-0.6**
GYA	**Guiyang**	**12.71**	**48**	⇑*i*P	Pn	10 51 05.6	-5.2
GYA				S	**Sn**	**10 53 27.4**	**-4.8**
GYA				pmax	pmax		
	comp=Z,23nm,0.7s						
GYA				LR	LR		
	comp=N,340nm,4.1s						
GYA				LR	LR		
	comp=E,550nm,4.4s						
GYA				LR	LR		
	comp=Z,380nm,5.2s						
QIZ	**Qiongzhong**	**13.06**	**85**	P	**Pn**	**10 51 14.9**	**-0.7**
QIZ				S	**Sn**	**10 53 40.8**	**+0.1**
QIZ				LR	LR		
	comp=Z,2μm,13.3s						
QIZ				LR	LR		
	comp=Z,650nm,8.2s						
QIZ				LR	LR		
	comp=Z,610nm,14.7s						
CD2	**Chengdu**	**14.35**	**28**	P	**Pn**	**10 51 33.0**	**-0.2**
CD2				S	**Sn**	**10 54 11.4**	**-0.9**
CD2				pmax	pmax		
	comp=Z,30nm,0.6s						
CD2				LR	LR		
	comp=Z,2μm,8.6s						
CD2				LR	LR		
	comp=Z,2μm,10.9s						
CD2				LR	LR		
	comp=Z,1μm,10.1s						
IPM	**Ipoh**	**14.56**	**160**	P	**P**	**10 51 40.9**	**-1.8**
IPM	**Ipoh**	**14.56**	**160**	P	**P**	**10 51 41.7**	**-1.0**
KCSI	**Kotacane, Aceh**	**14.78**	**173**	P	**Pn**	**10 51 38.3**	**-0.9**
	comp=Z,49nm,1.0s						
GULI	**GuiLin**	**14.97**	**60**	P	**P**	**10 51 46.1**	**-1.0**
GULI				S	**Sn**	**10 54 34.6**	**+7.4**
GULI				pmax	pmax		
	comp=Z,10.0nm,1.5s						
GULI				LR	LR		
	comp=Z,1μm,6.1s						
GULI				LR	LR		
	comp=Z,760nm,5.9s						
GULI				LR	LR		
	comp=Z,1μm,8.1s						
PSI	**Prapat**	**15.66**	**169**	P	**P**	**10 51 57.3**	**+2.4**
RPSI	**Rantau Prapat**	**15.76**	**170**	P	**P**	**10 51 56.3**	**+0.4**
ENH	**Enshi**	**17.04**	**43**	P	**P**	**10 52 10.1**	**0.0**
ENH	**Enshi**	**17.04**	**43**	P	**P**	**10 52 11.2**	**+1.1**
GOMU	**GeErMu**	**17.86**	**357**	P	**Pn**	**10 52 18.1**	**-0.7**
GOMU				pP	pP	10 52 22.5	-1.1
GOMU				sP	sP	10 52 26.6	+1.1
GOMU				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GOMU				LR	LR		
	comp=Z,150nm,17.5s						
GOMU				LR	LR		
	comp=Z,650nm,16.3s						
GOMU				LR	LR		
	comp=Z,190nm,15.9s						
MYKOM	**Kota Tinggi**	**18.09**	**154**	P	**P**	**10 52 24.0**	**+2.2**
LGTI	**Lohaghat**	**18.22**	**310**	*e*P	**P**	**10 52 23.8**	**+0.7**
PTH	**Pithoragarh**	**18.30**	**311**	*e*P	**Pn**	**10 52 24.2**	**0.0**
CNSH	**ChangSha**	**18.32**	**54**	⇑P	**Pn**	**10 52 20.5**	**-3.6**
CNSH				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CNSH				LR	LR		
	comp=Z,720nm,6.2s						
CNSH				LR	LR		
	comp=Z,740nm,10.8s						
CNSH				LR	LR		
	comp=Z,870nm,7.6s						
PALK	**Pallekele**	**18.56**	**236**	P	**Pn**	**10 52 34.0**	**+6.7**
PALK	**Pallekele**	**18.56**	**236**	P	**Pn**	**10 52 32.3**	**+5.0**
PALK				P	**Pn**	**10 52 32.3**	**+5.0**
LZH	**Lanzhou**	**19.00**	**20**	*e*P	**Pn**	**10 52 34.5**	**+2.0**
LZH				sP	sP	10 52 43.1	+5.3
LZH				S	**S**	**10 56 12.6**	**+5.3**
LZH				pmax	pmax		
	comp=Z,29nm,1.4s						
LZH				pmax	pmax		
	comp=Z,360nm,4.6s						
LZH				LR	LR		
	comp=Z,1μm,9.3s						
LZH				LR	LR		
	comp=Z,710nm,9.6s						
LZH				LR	LR		
	comp=Z,820nm,10.3s						
XAN	**Xi'an**	**19.42**	**34**	⇓P	**P**	**10 52 36.8**	**+0.5**
XAN				pP	pP	10 52 40.1	-0.3
XAN				sP	sP	10 52 44.3	+2.0
XAN				S	**S**	**10 56 19.2**	**+3.6**
XAN				pmax	pmax		
	comp=Z,18nm,0.9s						
XAN				pmax	pmax		
	comp=Z,290nm,5.6s						
XAN				LR	LR		
	comp=Z,1μm,11.0s						
XAN				LR	LR		
	comp=Z,2μm,12.1s						
XAN				LR	LR		
	comp=Z,810nm,14.5s						
KOD	**Kodaikanal**	**19.73**	**249**	*ex*	x	10 52 43.2	
NDI	**New Delhi**	**20.13**	**304**	*e*P	**P**	**10 52 44.6**	**+0.6**
DDI	**Dehra Dun**	**20.29**	**309**	IAmb	IAmb	10 52 48.0	
	comp=Z,92nm,0.9s						
KUDL	**Kundal**	**20.48**	**302**	*e*P	**P**	**10 52 48.0**	**+0.2**
WHN	**Wuhan**	**20.58**	**50**	⇑*i*P	Pn	10 52 52.7	+1.5
WHN				sP	sP	10 52 58.1	+3.2
WHN				S	Sn	10 56 42.3	-0.8
WHN				pmax	pmax		
	comp=Z,80nm,0.9s						
WHN				LR	LR		
	comp=Z,1μm,4.7s						
WHN				LR	LR		
	comp=Z,890nm,4.6s						
WHN				LR	LR		
	comp=Z,1μm,12.8s						
KAD	**Karad**	**20.88**	**271**	*e*P	Pn	10 52 54.1	-0.8
POO	**Poona**	**21.10**	**274**	*e*P	**P**	**10 52 56.2**	**+1.5**
POO				IVmB	BB	10 53 00.1	
	comp=Z,523nm,3.6s						
GTA	**Gaotai**	**21.28**	**8**	⇑P	**P**	**10 52 57.4**	**+0.9**
GTA				pP	pP	10 53 02.7	+2.0
GTA				PcP	**PcP**	**10 57 01.9**	**+0.8**
GTA				pmax	pmax		
	comp=Z,28nm,1.0s						
GTA				LR	LR		
	comp=Z,300nm,9.6s						
GTA				LR	LR		
	comp=Z,240nm,11.6s						
GTA				LR	LR		
	comp=Z,250nm,14.7s						
SMLA	**Simla**	**21.37**	**310**	*e*P	**P**	**10 52 57.6**	**+0.2**
AJM	**Ajmer**	**21.41**	**296**	*e*P	**P**	**10 52 58.5**	**+0.5**
LYN	**LuoYang**	**21.79**	**39**	⇑P	**P**	**10 53 02.9**	**+1.0**
LYN				S	**S**	**10 57 06.7**	**+4.1**
LYN				pmax	pmax		
	comp=Z,49nm,0.9s						
LYN				pmax	pmax		
	comp=Z,280nm,5.3s						
LYN				LR	LR		
	comp=Z,1μm,13.7s						
LYN				LR	LR		
	comp=Z,920nm,15.5s						
LYN				LR	LR		
	comp=Z,2μm,16.8s						
QZH	**Quanzhou**	**21.92**	**69**	P	**P**	**10 53 06.6**	**+3.2**
QZH				S	Sn	10 57 12.5	-3.0
QZH				LR	LR		
	comp=Z,550nm,4.9s						
QZH				LR	LR		
	comp=Z,860nm,5.9s						
QZH				LR	LR		
	comp=Z,740nm,10.4s						
SBUM	**Sibu**	**22.32**	**133**	P	**P**	**10 53 08.8**	**+0.9**
DHRM	**DHARAMSHALA**	**22.59**	**312**	*e*P	**P**	**10 53 09.3**	**-1.5**
DHRM				IVmB	BB	10 53 11.7	
	comp=Z,575nm,1.2s						
THN	**Thein Dam**	**23.11**	**311**	*e*P	**P**	**10 53 15.1**	**-0.8**
TPUB	**Ta-pu**	**23.46**	**74**	P	**P**	**10 53 20.8**	**+1.2**
TPUB				IAmb	IAmb	10 53 24.8	
	comp=Z,44nm,1.0s						
TPUB	**Ta-pu**	**23.46**	**74**	P	**P**	**10 53 22.0**	**+2.4**
TWG	**Pinlang**	**23.81**	**75**	P	**P**	**10 53 23.5**	**+0.5**
TWG				IAmb	IAmb	10 53 28.8	
	comp=Z,65nm,1.3s						
TWGBT	**Beinan**	**23.82**	**75**	P	**P**	**10 53 26.6**	**+3.5**
SSLB	**Suanglung**	**23.82**	**72**	P	**P**	**10 53 22.9**	**-0.2**
SSLB				IAmb	IAmb	10 53 28.2	
	comp=Z,58nm,1.4s						
SSLB	**Suanglung**	**23.82**	**72**	P	**P**	**10 53 26.4**	**+3.2**
	comp=Z,30nm,1.3s						
TIY	**Taiyuan**	**24.06**	**33**	*e*P	**P**	**10 53 26.4**	**+1.1**
TIY				S	**S**	**10 57 45.5**	**+3.2**
TIY				pmax	pmax		
	comp=Z,38nm,0.8s						
TIY				LR	LR		
	comp=Z,570nm,10.2s						
TIY				LR	LR		
	comp=Z,630nm,12.4s						
TIY				LR	LR		
	comp=Z,340nm,10.6s						
YULB	**Yu-li**	**24.08**	**74**	P	**P**	**10 53 26.2**	**+0.6**
YULB				IAmb	IAmb	10 53 31.1	
	comp=Z,38nm,1.0s						
YULB	**Yu-li**	**24.08**	**74**	P	**P**	**10 53 27.7**	**+2.1**
TGY	**Tagaytay City**	**24.22**	**96**	LR	LR	11 03 50.1	
	comp=Z,114nm,20.5s,baz=128,slow=39						
NACB	**Ninganchiao**	**24.46**	**72**	P	**P**	**10 53 33.6**	**+4.5**
TATO	**Taipei**	**24.50**	**70**	P	**P**	**10 53 32.8**	**+3.4**
NJ2	**Nanjing**	**24.67**	**52**	*e*P	**P**	**10 53 30.1**	**-0.7**
NJ2				pP	**pP**	**10 53 33.3**	**-1.9**
NJ2				sP	**sP**	**10 53 36.0**	**-1.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,220nm,4.6s						
NJ2				LR	LR		
	comp=Z,1μm,15.6s						
NJ2				LR	LR		
	comp=Z,1μm,14.7s						
NJ2				LR	LR		
	comp=Z,980nm,20.3s						
HNS	**HongShan**	**25.07**	**37**	⇑P	**P**	**10 53 35.8**	**+1.4**
HNS				*e*S	**S**	**10 57 56.5**	**-1.9**
HNS				pmax	pmax		
	comp=Z,65nm,1.1s						
HNS				LR	LR		
	comp=Z,780nm,13.9s						
HNS				LR	LR		
	comp=Z,770nm,14.7s						
HNS				LR	LR		
	comp=Z,420nm,21.2s						
BTO	**Baotou**	**25.25**	**25**	*e*P	**P**	**10 53 37.3**	**+1.1**
BTO				pP	**pP**	**10 53 40.1**	**-0.5**
BTO				sP	**sP**	**10 53 43.5**	**+1.1**
BTO				PP	**PnPn**	**10 54 15.5**	**+4.9**
BTO				S	**S**	**10 58 05.2**	**+3.7**
BTO				pmax	pmax		
	comp=Z,170nm,1.0s						
BTO				pmax	pmax		
	comp=Z,170nm,3.9s						
BTO				LR	LR		
	comp=Z,1μm,10.5s						
BTO				LR	LR		
	comp=Z,800nm,9.9s						
BTO				LR	LR		
	comp=Z,1μm,12.4s						
NIL	**Nilore**	**25.51**	**311**	P	**P**	**10 53 37.5**	**-0.9**
NIL	**Nilore**	**25.51**	**311**	P	**P**	**10 53 38.4**	**-0.1**
HHC	**Hu-ho-hao-te**	**26.11**	**27**	*e*P

BJT Baijiatuau 27.73 35 P **P** 10 54 01.6 +3.2
BJI Beijing 27.75 34 P **P** 10 54 00.2 +1.7
BJI sP **sP** 10 54 06.8 +2.0
BJI S **S** 10 58 38.0 -2.6
BJI pmax pmax
comp=Z,5.0nm,1.6s
BJI pmax pmax
comp=Z,97nm,4.3s
BJI LR LR
comp=Z,230nm,14.3s
BJI LR LR
comp=Z,240nm,14.6s
BJI LR LR
comp=Z,140nm,17.4s
TARG Taragay, Kyrgy 28.09 330 P **P** 10 54 02.0 0.0
TARG IAmb IAmb 10 54 32.1
comp=Z,18nm,0.8s
SHLS Shalkode 28.49 334 *eP* **P** 10 54 03.2 -2.1
baz=334
UZB Uzynbulak 28.67 333 *eP* **P** 10 54 05.7 -1.3
baz=333
NRN Naryn 28.75 328 P **P** 10 54 07.7 -0.2
SATY Saty 28.86 333 *eP* **P** 10 54 07.9 -0.7
baz=332
ZHN Zhinishke 28.94 333 *eP* **P** 10 54 08.4 -0.9
baz=333
KBL Kabul 28.99 309 P **P** 10 54 11.1 +1.1
KBL IAmb IAmb 10 54 13.9
comp=Z,19nm,0.8s
KBL Kabul 28.99 309 P **P** 10 54 10.2 +0.2
SNR=13
KBL P **P** 10 54 10.2 +0.2
SNR=13
KPKS Kokpek 29.07 333 *eP* **P** 10 54 09.6 -0.8
comp=Z,7.8nm,0.8s,baz=333
ULHL Ulahol 29.24 329 P **P** 10 54 15.2 +3.1
SNR=6.1
TNSS Tian-Shan 29.50 331 *eP* **P** 10 54 13.4 -1.2
baz=331
MDOK Medeo 29.55 331 *eP* **P** 10 54 14.1 -0.7
baz=331
AAA Alma-Ata 29.65 331 *eP* **P** 10 54 14.7 -0.8
comp=Z,7.3nm,0.4s,baz=331
DRK Karamyk 29.79 320 P **P** 10 54 16.3 -0.8
DRK IAmb IAmb 10 54 17.7
comp=Z,17nm,0.7s
TKM2 Tokmak 2 30.06 329 P **P** 10 54 19.4 +0.1
SNR=9.0
CHKK Chushkaly 30.12 332 *eP* **P** 10 54 18.4 -1.3
baz=332
KBK Karagaybulak 30.18 328 P **P** 10 54 21.4 +1.0
SNR=5.5
ARSB Arslanbob 30.29 324 P **P** 10 54 20.8 -0.6
AAK Ala-Archa 30.40 328 P **P** 10 54 22.9 +0.6
SNR=9.5
AAK Ala-Archa 30.40 328 P **P** 10 54 22.4 +0.1
AAK Ala-Archa 30.40 328 P **P** 10 54 22.8 +0.5
AAK P **P** 10 54 22.8 +0.5
GAR Garm 30.43 318 P **P** 10 54 22.4 -0.2
GAR IAmb IAmb 10 54 25.0
comp=Z,32nm,1.1s
TDK Taldyqorghan 30.44 335 *eP* **P** 10 54 21.3 -1.2
comp=Z,4.0nm,0.5s,baz=335
KUU Kurty 30.45 331 *eP* **P** 10 54 21.3 -1.2
comp=Z,6.2nm,0.8s,baz=331
ZSN Zaisan 30.49 345 *eP* **P** 10 54 22.1 -0.7
comp=Z,6.6nm,1.1s,baz=345
MK31 Makanchi Array 30.60 341 P **P** 10 54 23.3 -0.6
MKAR Makanchi Array 30.60 341 P **P** 10 54 23.5 -0.3
MKAR Makanchi Array 30.60 341 P **P** 10 54 23.7 -0.2
comp=Z,6.6nm,0.6s,baz=151,slow=9.2,SNR=116
MKAR PcP **PcP** 10 57 20.7 -1.5
comp=Z,1.1nm,0.7s,baz=115,slow=2.1,SNR=3.6
comp=Z,6.6nm,0.6s
SONM Songino Array 30.64 14 P **P** 10 54 24.5 +0.2
SONM Songino Array 30.64 14 P **P** 10 54 24.2 -0.1
comp=Z,3.8nm,0.9s,baz=203,slow=9.4,SNR=12
SONM LR LR 11 08 08.9
comp=Z,481nm,20.0s,baz=182,slow=39
comp=Z,3.8nm,0.9s
MAKZ Makanchi 30.71 341 P **P** 10 54 24.1 -0.8
BTK Batken 30.74 320 P **P** 10 54 25.2 -0.1
BTK IAmb IAmb 10 55 16.8
comp=Z,7.9nm,0.6s
EKS2 Erkin-Say 30.79 327 P **P** 10 54 26.1 +0.5
SNR=7.4
DAV Davao City (W) 30.81 107 LR LR 11 06 39.5
comp=Z,166nm,20.3s,baz=324,slow=36
ULN Ulaanbaatar 30.82 14 P **P** 10 54 26.1 +0.2
JOW Kunigami 30.84 68 LR LR 11 07 59.1
comp=Z,158nm,18.2s,baz=72,slow=39
USP Ospenovka 30.85 328 P **P** 10 54 26.7 +0.5
SNR=9.3
CHGR Chuyangaron 30.98 316 P **P** 10 54 26.6 -0.7
SIMJ Simiganj 31.08 316 P **P** 10 54 27.7 -0.6
SIMJ IAmb IAmb 10 54 31.0
comp=Z,28nm,1.1s
BTLS Baital 32.38 330 *eP* **P** 10 54 38.3 -1.2
baz=330
IUG Iuzhnay 32.50 323 *eP* **P** 10 54 39.5 -1.2
comp=Z,9.7nm,1.0s,baz=322
KKAR Karatay Array 32.84 324 P **P** 10 54 42.7 -0.9
KKAR PcP **PcP** 10 57 27.9 -0.4
KAPI Kappang 32.89 133 P **P** 10 54 43.9 -0.3
BRLS Borolday 33.17 324 *eP* **P** 10 54 44.7 -1.9
baz=323
KSRS Korea Array 33.76 49 P **P** 10 54 50.1 -1.6
comp=Z,2.6nm,0.9s,baz=238,slow=8.5,SNR=7.2
KSRS LR LR 11 10 17.0
comp=Z,494nm,18.2s,baz=235,slow=39
comp=Z,2.6nm,0.9s
SEM Semipalatinsk 34.44 342 *eP* **P** 10 54 57.1 -0.6
baz=342
JNU Nakatsue 34.46 58 LR LR 11 09 24.2
comp=Z,189nm,20.7s,baz=243,slow=37
JLN Jalan Bani Buh 34.57 283 P **P** 10 55 00.7 +1.8
SNR=8.5
JLN P **P** 10 55 00.7 +1.8
SNR=8.5
WBK Wadi Bani Khal 34.98 283 P **P** 10 55 03.7 +1.3
WBK P **P** 10 55 03.7 +1.3
KURBB Kurchatov Arra 35.16 341 P **P** 10 55 03.2 -0.4
comp=Z,12nm,0.6s,baz=150,slow=8.6,SNR=85
KURBB PcP **PcP** 10 57 34.4 -0.3
comp=Z,2.4nm,0.6s,baz=160,slow=2.5,SNR=8.8
comp=Z,12nm,0.6s
KURK Kurchatov 35.21 341 P **P** 10 55 02.9 -1.1
KURK IAmb IAmb 10 55 06.5
comp=Z,18nm,0.9s
KURK Kurchatov 35.21 341 P **P** 10 55 03.7 -0.3
WSAR Wadi Sarin 35.30 285 LR LR 11 09 22.3
comp=Z,82nm,21.4s,baz=96,slow=36
BIDO Bidbid 35.77 285 P **P** 10 55 10.7 +1.5
JMDO Jabal Madar 35.78 283 P **P** 10 55 10.7 +1.3
JMDO P **P** 10 55 10.7 +1.3
SMDO Samad 35.83 284 P **P** 10 55 10.7 +0.8
SNR=6.5
SMDO P **P** 10 55 10.7 +0.8
SNR=6.5
MHTO MHTO 35.95 281 P **P** 10 55 11.7 +0.9
MHTO P **P** 10 55 11.7 +0.9
HIA Hailar 36.30 26 P **P** 10 55 14.5 +1.0
HIA Hailar 36.30 26 P **P** 10 55 15.4 +1.9
DQM DQM 36.41 279 P **P** 10 55 15.8 +1.2
HOQ Hoqain 36.52 285 P **P** 10 55 17.6 +2.0
BSY Bisya 36.62 284 P **P** 10 55 18.3 +1.9
BSY P **P** 10 55 18.3 +1.9
ZAA0 Zalesovo Array 36.63 349 P **P** 10 55 16.1 0.0
ZALV Zalesovo Beam 36.63 349 P **P** 10 55 15.9 -0.2
comp=Z,25nm,0.8s,baz=170,slow=8.8,SNR=108
ZALV PcP **PcP** 10 57 37.6 -1.4
comp=Z,1.0nm,0.7s,baz=116,slow=3.4,SNR=2.5
ZALV LR LR 11 13 22.3
comp=Z,56nm,19.5s,baz=182,slow=41
comp=Z,25nm,0.8s
BRZS Berezniki 36.75 335 *eP* **P** 10 55 16.2 -1.1
baz=334
EDFI Ende, Flores 36.90 135 P **P** 10 55 16.8 -2.2
comp=Z,9.0nm,1.3s
JMN Monobe 37.04 58 P **P** 10 55 20.0 0.0
JMN IAmb IAmb 10 55 26.0
comp=Z,39nm,1.0s
MMRI Maumere 37.19 134 P P 10 55 25.9 +4.6
SOHO SOHO 37.24 286 P **P** 10 55 23.3 +1.6
SOHO P **P** 10 55 23.3 +1.6
MDH Madha 37.49 288 P **P** 10 55 24.6 +0.7
MDH P **P** 10 55 24.6 +0.7
UOSS Minazif 37.56 287 P **P** 10 55 26.1 +1.6
UOSS Minazif 37.56 287 P **P** 10 55 26.2 +1.7
UOSS P **P** 10 55 26.2 +1.7
ASHO Ashiyiah 37.68 287 P **P** 10 55 27.3 +1.7
SNR=15
BNX BinXian 37.70 37 ⇓P **P** 10 55 25.6 +0.2
BNX pmax pmax
comp=Z,15nm,0.9s
BNX pmax pmax
comp=Z,180nm,3.6s
ASUD Al Ashush, Dub 38.34 287 P **P** 10 55 33.2 +2.1
SHAO Shalim 38.39 276 P **P** 10 55 33.0 +1.4
GEYT Alibeck 38.44 308 P **P** 10 55 32.4 +0.6
GEYT Alibeck 38.44 308 P **P** 10 55 32.9 +1.1
comp=Z,37nm,0.9s,baz=134,slow=8.3,SNR=34
GEYT PcP **PcP** 10 57 44.2 -0.8
comp=Z,3.4nm,0.8s,baz=101,slow=15,SNR=2.8
GEYT LR LR 11 14 57.0
comp=Z,87nm,20.6s,baz=150,slow=42
comp=Z,37nm,0.9s
GYA0B ALIBECK ARRAY 38.44 308 P **P** 10 55 32.5 +0.8
UMZA Um Al Zommool 38.50 284 P **P** 10 55 33.6 +1.2
UMZA P **P** 10 55 33.6 +1.2
AJN Ajban 38.66 287 P **P** 10 55 34.8 +1.1
AJN P **P** 10 55 34.8 +1.1
DMTO DMTO 39.07 276 P **P** 10 55 38.3 +1.0
SOEI Soe 39.38 133 P **P** 10 55 38.8 -1.2
SOEI IAmb IAmb 10 55 54.6
comp=Z,35nm,1.0s
SOEI Soe 39.38 133 P **P** 10 55 43.1 +3.1
SOEI Soe 39.38 133 P **P** 10 55 38.8 -1.2
comp=Z,41nm,1.2s
USRK Ussuriysk Ar. 39.61 41 P **P** 10 55 41.3 -0.1
comp=Z,5.9nm,0.9s,baz=256,slow=5.8,SNR=5.2
USRK LR LR 11 14 36.5
comp=Z,168nm,19.5s,baz=231,slow=40
comp=Z,5.9nm,0.9s
DOK Doka 39.73 277 P **P** 10 55 43.6 +0.8
DOK P **P** 10 55 43.6 +0.8
INU Inuyama 39.96 57 P **P** 10 55 43.3 -1.2
INU Inuyama 39.96 57 P **P** 10 55 48.0 +3.6
BVAR Borovoye Array 40.02 336 P **P** 10 55 43.8 -0.9
comp=Z,3.4nm,0.6s,baz=134,slow=9.6,SNR=24
BVAR PcP **PcP** 10 57 49.5 -0.1
comp=Z,2.9nm,0.7s,baz=143,slow=4.5,SNR=6.9
BVAR LR LR 11 14 26.5
comp=Z,106nm,21.6s,baz=130,slow=40
comp=Z,3.4nm,0.6s
BRVK Borovoye 40.08 336 P **P** 10 55 44.0 -1.2
BRVK Borovoye 40.08 336 P **P** 10 55 44.7 -0.5
JGF Kuroka 40.29 56 P **P** 10 55 47.3 0.0
JGF Kuroka 40.29 56 P P 10 55 51.5 +4.2
HEH HeiHe 40.51 31 *eP* **P** 10 55 48.8 0.0
HEH pmax pmax
comp=Z,9.0nm,1.1s
HEH pmax pmax
comp=Z,250nm,5.1s
JRN Qarnain Island 40.60 287 P **P** 10 55 52.0 +2.1
MJB9 Matsu-Tunnel 41.19 55 P **P** 10 55 54.7 +0.1
MAJO Matsushiro 41.19 55 P **P** 10 55 54.6 0.0
MAJO Matsushiro 41.19 55 P **P** 10 55 57.4 +2.7
MJAR Matsushiro Arr 41.19 55 P **P** 10 55 55.6 +0.9
comp=Z,14nm,1.1s,baz=264,slow=8.6,SNR=21
MJAR LR LR 11 15 02.4
comp=Z,153nm,18.3s,baz=231,slow=39
comp=Z,14nm,1.1s
JHJ Hachijo jima 2 41.74 61 LR LR 11 15 12.0
comp=Z,96nm,18.4s,baz=64,slow=39
TRNA Turayna 42.09 287 P **P** 10 56 02.7 +0.6
KLR Kul'dur 42.12 35 LR LR 11 16 12.6
comp=Z,250nm,18.1s,baz=230,slow=40
ABKAR Akbulak array 42.40 325 P **P** 10 56 04.1 -0.2
ABKAR IAmb IAmb 10 56 05.1
comp=Z,23nm,0.7s
SAKB Bahrain 42.71 289 P **P** 10 56 07.8 +0.6
AKTO Aktyubinsk 44.09 325 LR LR 11 15 50.7
comp=Z,64nm,19.4s,baz=160,slow=38
ASAJ Asahikawa 46.57 46 LR LR 11 16 50.9
comp=Z,92nm,18.3s,baz=106,slow=37
ARU Arti 47.30 333 P **P** 10 56 42.5 -0.8
ARU Arti 47.30 333 LR LR 11 20 28.1
comp=Z,82nm,19.1s,baz=127,slow=41
RAYN Ar Rayn 47.35 285 P **P** 10 56 43.7 -0.5
RAYN IAmb IAmb 10 56 45.1
comp=Z,7.7nm,0.9s
RAYN Ar Rayn 47.35 285 P **P** 10 56 44.7 +0.5
GNI Garni 49.05 308 P **P** 10 56 58.5 +1.2
YAK Yakutsk 49.58 20 P **P** 10 56 59.6 -1.1
YAK Yakutsk 49.58 20 LR LR 11 19 57.6
comp=Z,170nm,18.8s,baz=268,slow=38
KARS Kars 50.39 308 P **P** 10 57 08.4 +0.9
ONI Oni 50.49 310 P **P** 10 57 09.2 +1.2
ONI IAmb IAmb 10 57 21.2
comp=Z,18nm,1.0s
GURO Guroymak-BITLI 50.88 305 P **P** 10 57 12.9 +1.7
KBZ Khabaz 51.12 312 P **P** 10 57 13.3 +0.6
comp=Z,8.7nm,0.8s,baz=128,slow=7.4,SNR=11
comp=Z,8.7nm,0.8s
KIV Kislovodsk 51.32 312 P **P** 10 57 15.0 +0.7
KIV Kislovodsk 51.32 312 P **P** 10 57 14.9 +0.6
KIRV Kirov 52.60 331 LR LR 11 24 03.7
comp=Z,94nm,18.6s,baz=128,slow=41
WB0 Warramunga Arr 53.33 133 P **P** 10 57 28.8 -0.7
WB0 IAmb IAmb 10 57 31.9
comp=Z,13nm,0.9s
WRA Warramunga Arr 53.41 134 P **P** 10 57 29.3 -0.7
WRA Warramunga Arr 53.41 134 P **P** 10 57 29.4 -0.7
comp=Z,9.8nm,0.8s,baz=320,slow=7.3,SNR=63
comp=Z,9.8nm,0.8s
WRAB Tennant Creek 53.42 133 P **P** 10 57 29.9 -0.2
WRAB IAmb IAmb 10 57 32.6
comp=Z,20nm,1.0s
WB2 Warramunga Arr 53.42 133 P **P** 10 57 29.2 -1.0
WB2 IAmb IAmb 10 57 32.6
comp=Z,20nm,1.1s
WR0 Warramunga Arr 53.57 133 P **P** 10 57 30.4 -0.7
WR0 IAmb IAmb 10 57 31.5
comp=Z,12nm,0.9s
ARPR Arapgir-MALATY 53.80 305 P **P** 10 57 33.9 +1.0
GAZ Gaziantep 54.55 303 P **P** 10 57 37.8 -0.4
GAZ IAmb IAmb 10 57 41.5
comp=Z,13nm,0.8s
NWAO Narrogin (SRO) 54.81 158 LR LR 11 24 33.0
comp=Z,54nm,18.1s,baz=206,slow=40
AS31 Alice Springs 55.70 137 P **P** 10 57 46.6 -0.1
ASAR Alice Springs 55.70 137 P **P** 10 57 46.2 -0.4
comp=Z,6.2nm,0.8s,baz=318,slow=6.8,SNR=67
comp=Z,6.2nm,0.8s
BALJ Balqa 55.75 297 P **P** 10 57 47.4 +0.4
BALJ IAmb IAmb 10 57 50.2
comp=Z,11nm,0.8s
MMAI Mount Meron Ar 55.94 298 P **P** 10 57 48.6 +0.3
comp=Z,0.7nm,0.2s,baz=91,slow=9.1,SNR=6.8
MMAI LR LR 11 29 23.5
comp=Z,65nm,18.1s,baz=68,slow=44
comp=Z,0.7nm,0.2s
EIL Elat 56.44 294 LR LR 11 26 31.5
comp=Z,44nm,18.9s,baz=67,slow=41
TIXI Tiksi 56.70 12 P **P** 10 57 51.9 -1.1
TIXI IAmb IAmb 10 57 59.6
comp=Z,10nm,1.0s
TIXI Tiksi 56.70 12 LR LR 11 24 31.4
comp=Z,172nm,18.7s,baz=210,slow=38
MA2 Magadan 56.75 30 P **P** 10 57 53.0 -0.6
MA2 IAmb IAmb 10 57 54.6
comp=Z,12nm,0.8s
MA2 Magadan 56.75 30 LR LR 11 23 01.1
comp=Z,74nm,18.2s,baz=287,slow=37
BR131 Keskin Array S 57.48 306 P **P** 10 57 59.0 -0.3
BRTR Keskin Array B 57.48 306 P **P** 10 57 58.5 -0.8
comp=Z,5.7nm,1.0s,baz=120,slow=7.2,SNR=19
BRTR LR LR 11 28 58.3
comp=Z,99nm,18.4s,baz=160,slow=43
comp=Z,5.7nm,1.0s
CSS Mathiatis 57.64 300 P **P** 10 58 00.2 -0.1
CSS IAmb IAmb 10 58 04.0
comp=Z,11nm,0.8s
ANTO Ankara 58.13 306 P **P** 10 58 04.2 +0.4
PETK Petropavlovsk- 58.58 38 P **P** 10 58 06.1 -0.4
comp=Z,3.2nm,0.8s,baz=249,slow=10,SNR=1.8
PETK LR LR 11 26 25.6
comp=Z,208nm,18.5s,baz=258,slow=39
comp=Z,3.2nm,0.8s
SEY Seymchan 58.75 26 LR LR 11 25 48.1
comp=Z,124nm,18.4s,baz=297,slow=38
ELL Elmali 60.39 302 P **P** 10 58 19.5 -0.1
LODK Lodwar 61.17 264 P **P** 10 58 25.6 +0.5
LODK IAmb IAmb 10 58 28.7
comp=Z,8.8nm,1.2s
AKASG Malin Array Be 61.42 318 P **P** 10 58 24.8 -1.4
comp=Z,2.5nm,0.6s,baz=83,slow=6.3,SNR=24
AKASG LR LR 11 29 30.8
comp=Z,86nm,18.9s,baz=26,slow=40
comp=Z,2.5nm,0.6s
AKBB Malin Array Si 61.42 318 P **P** 10 58 24.9 -1.3
KIEV Kiev 61.44 318 ⇑P **P** 10 58 25.5 -0.7
KIEV Kiev 61.44 318 P **P** 10 58 24.9 -1.3
CFR Carcaliu 61.77 312 ⇑P **P** 10 58 28.7 +0.1
SORM Soroca 61.78 315 ⇑P **P** 10 58 28.2 -0.4
SPBR Spulber 62.77 313 ⇑P **P** 10 58 35.5 +0.2
VRI Vrincioaia 62.79 313 ⇓P **P** 10 58 35.6 +0.1
PLOR Plostina 62.84 313 ⇑P **P** 10 58 36.4 +0.6
TESR Tescani 62.86 313 ⇑P **P** 10 58 35.6 -0.3
ISR Istrita 62.90 312 ⇑P **P** 10 58 36.7 +0.4
COVR Voineasa-Covas 63.15 313 ⇑P **P** 10 58 37.7 -0.2
MLR Muntele Rosu 63.33 312 ⇑P **P** 10 58 39.7 +0.5
MLR Muntele Rosu 63.33 312 P **P** 10 58 39.1 -0.1
RDO Rodhopi 63.67 307 P **P** 10 58 41.0 -0.4
DOPR Dopca 63.72 313 ⇑P **P** 10 58 42.0 +0.3
BURAR Bucovina Array 63.86 315 ⇑P **P** 10 58 42.6 -0.1
BURAR Bucovina Array 63.86 315 P **P** 10 58 42.3 -0.3
BURAR IAmb IAmb 10 58 46.9
comp=Z,4.9nm,0.7s
BUR08 Bucovina Ar. S 63.88 315 P **P** 10 58 42.0 -0.8
BUR08 IAmb IAmb 10 58 45.5
comp=Z,9.5nm,1.0s
IDI Anoyia 64.53 301 P **P** 10 58 46.5 -0.7
FINES FINESS Array B 64.54 330 P **P** 10 58 46.1 -0.6
FINES FINESS Array B 64.54 330 P **P** 10 58 46.2 -0.5
comp=Z,9.0nm,0.7s,baz=100,slow=7.8,SNR=26
FINES LR LR 11 31 58.3
comp=Z,85nm,19.0s,baz=168,slow=41
comp=Z,9.0nm,0.7s
PABE Paberze 65.00 323 P **P** 10 58 49.3 -0.5
PABE Paberze 65.00 323 *eP* **P** 10 58 49.6 -0.1
VSVD Vaisvydziai 65.05 324 *eP* **P** 10 58 50.6 +0.5
VADS Vadso 65.06 340 *eP* **P** 10 58 49.4 -0.5
VADS IAmb IAmb 10 58 50.6
comp=Z,54nm,0.9s
MEF Metsahovi 65.20 329 *eP* **P** 10 58 50.6 -0.4
MARR Marisel-Cluj 65.29 314 ⇑P **P** 10 58 52.1 +0.1
MTSE Matsula 65.34 327 *eP* **P** 10 58 52.0 +0.1
SUW Suwalki 65.37 322 P **P** 10 58 51.1 -1.1
SUW Suwalki 65.37 322 *eP* **P** 10 58 52.0 -0.2
BILL Bilibino 65.77 23 P **P** 10 58 53.9 -0.7
BILL IAmb IAmb 10 58 57.3
comp=Z,14nm,1.3s
HERR Herculane 65.83 312 ⇑P **P** 10 58 55.6 +0.2
SURR Surduc 66.00 313 ⇑P **P** 10 58 56.7 +0.2
ARA0 ARCESS Array S 66.22 339 *eP* **P** 10 58 57.5 +0.1
ARA0 IAmb IAmb 10 58 59.8
comp=Z,26nm,1.0s
ARCES ARCESS Array B 66.22 339 P **P** 10 58 57.4 0.0
comp=Z,15nm,0.8s,baz=85,slow=5.5,SNR=27
ARCES LR LR 11 32 54.6
comp=Z,67nm,18.2s,baz=144,slow=41
comp=Z,15nm,0.8s
STKA Stephens Creek 66.27 138 P **P** 10 58 58.1 -0.3
comp=Z,4.1nm,1.0s,baz=328,slow=12,SNR=5.1
comp=Z,4.1nm,1.0s
SIRR Siria 66.31 313 ⇑P **P** 10 58 58.7 +0.2
MDVR Moldovita 66.33 312 ⇑P **P** 10 58 58.9 +0.1
BZS Buzias 66.37 312 ⇑P **P** 10 58 58.7 -0.1
CRVS Cervenica-Dubn 66.37 316 *eP* **P** 10 58 59.4 +0.6
RAF Rauma 66.57 329 *eP* **P** 10 58 58.8 -0.9
FNA Florina 66.84 307 P **P** 10 59 00.8 -1.2
MBAR Mbarara 66.86 261 P **P** 10 59 02.4 -0.3
MBAR Mbarara 66.86 261 P **P** 10 59 02.9 +0.2
comp=Z,5.8nm,0.3s,baz=59,slow=12,SNR=15
MBAR LR LR 11 27 53.8
comp=Z,44nm,19.9s,baz=72,slow=36
comp=Z,5.8nm,0.3s
KTK1 Kautokeino 66.91 338 *eP* **P** 10 59 01.9 0.0
KTK1 IAmb IAmb 10 59 02.3
comp=Z,21nm,0.9s
HAMF Hammerfest 67.04 340 *eP* **P** 10 59 02.7 +0.1
NIE Niedzica 67.12 317 *eP* **P** 10 59 04.3 +0.6
OJC Ojcow 67.42 317 *eP* **P** 10 59 05.4 -0.1
OJC Ojcow 67.42 317 P **P** 10 59 05.2 -0.3
OJC IAmb IAmb 10 59 08.2
comp=Z,9.1nm,0.9s
HOPEN Hopen 67.93 346 *eP* **P** 10 59 08.7 +0.5
JETT Jettan, Norway 67.99 338 *eP* **P** 10 59 08.7 -0.1
VYHS Vyhne 68.13 316 *eP* **P** 10 59 09.5 -0.5
MORH Mrgy, Hungar 68.40 313 ⇓P **P** 10 59 11.7 0.0
SHEM Shemya Is, Ala 68.42 40 LR LR 11 32 04.2
comp=Z,140nm,18.4s,baz=296,slow=39
TRO Tromso 68.51 338 *eP* **P** 10 59 11.5 -0.4
TRO IAmb IAmb 10 59 15.9
comp=Z,96nm,1.6s
MAUC Maruska 68.74 317 *eP* **P** 10 59 14.0 +0.2
JAVC Velka Javorina 68.88 316 *eP* **P** 10 59 15.8 +1.1
EIDS Eidsvold 68.90 127 P **P** 10 59 15.2 +0.1
EIDS IAmb IAmb 10 59 16.5
comp=Z,8.6nm,1.1s
MORC Moravsky Berou 68.90 317 ⇑P **P** 10 59 14.7 -0.1
MORC Moravsky Berou 68.90 317 P **P** 10 59 14.0 -0.9
MORC IAmb IAmb 10 59 17.9
comp=Z,9.8nm,1.4s
MORC Moravsky Berou 68.90 317 *eP* **P** 10 59 13.9 -0.9
MODS Modra-Piesok 69.17 316 *eP* **P** 10 59 16.0 -0.5
VRAC Vranov 69.55 317 *eP* **P** 10 59 18.9 +0.1
VRAC Vranov 69.55 317 LR LR 11 36 34.6
comp=Z,58nm,18.6s,baz=300,slow=42
KSP Ksiaz 69.63 318 *eP* **P** 10 59 19.5 +0.3
DPC Dobruska-Polom 69.64 318 *eP* **P** 10 59 19.8 +0.4
KRUC Moravsky 69.70 316 *eP* **P** 10 59 19.6 -0.1
FAUS Fauske 69.72 336 *eP* **P** 10 59 19.0 -0.5
STEI Steigen 69.75 337 *eP* **P** 10 59 17.7 -1.9
STEI IAmb IAmb 10 59 21.7
comp=Z,76nm,2.0s
CHVC Chvalec 69.80 318 *eP* **P** 10 59 20.3 0.0
RONA Rosalia, Austr 69.88 315 *eP* **P** 10 59 20.5 -0.5
comp=Z,2.2nm,0.7s
MOR8 Moi Rana 70.04 335 IAmb IAmb 10 59 20.1
comp=Z,68nm,1.6s
MOR8 *eP* **P** 10 59 20.5 -1.0
SPA0 Spitsbergen Ar 70.10 348 *eP* **P** 10 59 21.8 +0.1
SPA0 IAmb IAmb 10 59 22.1
comp=Z,51nm,1.2s
SPITS Spitsbergen Ar 70.10 348 P **P** 10 59 21.7 +0.1
comp=Z,16nm,0.9s,baz=107,slow=9.7,SNR=10.0
comp=Z,16nm,0.9s
CONA Conrad Observa 70.15 315 *i* P **P** 10 59 22.7 +0.1
comp=Z,8.6nm,1.4s
LOF Lofoten 70.39 337 *eP* **P** 10 59 22.6 -0.9
ARSA Arzberg 70.45 315 *eP* **P** 10 59 23.6 -0.8
comp=Z,4.1nm,1.0s
HFS Hagfors 70.54 328 P **P** 10 59 24.2 -0.4
comp=Z,7.0nm,0.5s,baz=104,slow=6.1,SNR=34
HFS LR LR 11 33 47.7
comp=Z,94nm,18.4s,baz=87,slow=39
comp=Z,7.0nm,0.5s
KONS Konsvik 70.57 335 *eP* **P** 10 59 24.7 0.0
PRU Pruhonice 70.82 317 *eP* **P** 10 59 27.0 +0.5
SOKA Soboth 70.85 314 *eP* **P** 10 59 26.6 -0.3
comp=Z,2.7nm,0.7s
RUE Ruedersdorf 71.05 320 *eP* **P** 10 59 28.0 +0.1
CKRC Cesky Krumlov 71.09 316 *eP* **P** 10 59 28.1 -0.2
ZVC Zvikov 71.10 317 *eP* **P** 10 59 28.1 -0.2
BRG Berggiesshubel 71.11 318 ⇑*i*P **P** 10 59 28.3 0.0
BRG Amp 10 59 29.3
comp=Z,7.3nm,0.8s
NSS Namsos 71.12 333 *eP* **P** 10 59 28.2 +0.1
OBKA Obir 71.20 314 *eP* **P** 10 59 29.1 0.0
comp=Z,10.0nm,1.2s
MOA Molln 71.23 315 *eP* **P** 10 59 28.9 -0.3
comp=Z,7.6nm,1.1s,SNR=5.7
NC405 NORSAR Array S 71.45 329 P **P** 10 59 29.9 -0.3
NC405 IAmb IAmb 10 59 30.2
comp=Z,12nm,0.8s
GEC2 GERESS Array S 71.49 316 P **P** 10 59 30.7 -0.1
GEC2 IAmb IAmb 10 59 33.6
comp=Z,8.5nm,1.0s
GERES GERESS Array B 71.49 316 P **P** 10 59 30.1 -0.7
GERES GERESS Array B 71.49 316 P **P** 10 59 30.4 -0.4
comp=Z,5.3nm,0.7s,baz=61,slow=8.0,SNR=30
comp=Z,5.3nm,0.7s
KHC Kasperske Hory 71.53 317 *eP* **P** 10 59 30.8 -0.2

NC602	**NORSAR Array S**	**71.56**	**329**	*eP*		**P**		**10 59 30.1**	**-0.8**
CLL	**Collm**	**71.65**	**319**	P		**P**		**10 59 31.0**	**-0.5**
CLL				IAmb		IAmb		10 59 34.3	
	comp=Z,10nm,1.2s								
CLL	**Collm**	**71.65**	**319**	*i* P		**P**		**10 59 31.5**	**0.0**
	comp=Z,11nm,1.3s								
CLL				*e*PP		**PP**		**11 02 08.0**	**-2.4**
CLL				*e*PPPP				11 04 48.0	
BIOA	**Bad Ischl, Aus**	**71.67**	**315**	*i* P		**P**		**10 59 31.3**	**-0.5**
	comp=Z,6.4nm,1.1s								
NB2	**NORSAR Subarra**	**71.70**	**329**	P		**P**		**10 59 30.6**	**-1.1**
	comp=Z,11nm,0.8s,baz=85,slow=6.2								
NB2	**NORSAR Subarra**	**71.70**	**329**	P		**P**		**10 59 30.6**	**-1.1**
	baz=85,slow=6.2								
NOA	**NORSAR Array B**	**71.70**	**329**	P		**P**		**10 59 30.6**	**-1.1**
	comp=Z,7.3nm,0.8s,baz=90,slow=5.8,SNR=26								
NOA				LR		LR		11 35 48.6	
	comp=Z,39nm,18.6s,baz=270,slow=40								
	comp=Z,7.3nm,0.8s								
NC204	**NORSAR Array S**	**71.90**	**330**	P		**P**		**10 59 31.7**	**-1.2**
NC204				IAmb		IAmb		10 59 33.2	
	comp=Z,14nm,0.9s								
KBA	**Koelnbreinsper**	**71.95**	**315**	*i* P		**P**		**10 59 32.8**	**-0.9**
	comp=Z,8.0nm,1.1s								
OSL	**Oslo**	**72.04**	**328**	*e*P		**P**		**10 59 34.0**	**+0.3**
OSL				IAmb		IAmb		10 59 34.1	
	comp=Z,43nm,1.0s								
LESA	**Schwarzleotal**	**72.35**	**315**	*e*P		**P**		**10 59 35.1**	**-0.9**
	comp=Z,4.8nm,0.7s								
ABTA	**Abfaltersbach**	**72.56**	**314**	*e*P		**P**		**10 59 36.0**	**-1.2**
	comp=Z,10nm,1.3s								
DOMB	**Dombas**	**72.63**	**330**	*e*P		**P**		**10 59 37.1**	**-0.2**
DOMB				IAmb		IAmb		10 59 38.2	
	comp=Z,13nm,0.6s								
CIMO	**Cimolais**	**72.67**	**314**	P		**P**		**10 59 36.5**	**-1.3**
CIMO				IAmb		IAmb		10 59 37.4	
	comp=Z,9.1nm,1.0s								
GRA1	**Grafenberg Arr**	**72.99**	**317**	P		**P**		**10 59 39.0**	**-0.6**
WTTA	**Wattenberg**	**73.07**	**315**	*e*P		**P**		**10 59 39.2**	**-1.2**
	comp=Z,8.4nm,1.3s								
WATA	**Walderalm**	**73.10**	**315**	*e*P		**P**		**10 59 39.4**	**-1.1**
	comp=Z,3.5nm,0.8s								
SQTA	**Sankt Quirin**	**73.37**	**315**	*i* P		**P**		**10 59 41.0**	**-1.1**
	comp=Z,5.2nm,0.7s								
MOTA	**Moosalm**	**73.42**	**315**	*e*P		**P**		**10 59 41.6**	**-0.8**
	comp=Z,14nm,1.1s,SNR=6.9								
RETA	**Reutte**	**73.62**	**315**	*e*P		**P**		**10 59 42.9**	**-0.6**
	comp=Z,7.4nm,0.7s								
FETA	**Feichten**	**73.72**	**315**	*e*P		**P**		**10 59 43.2**	**-0.9**
	comp=Z,4.7nm,0.9s,SNR=4.9								
DAVA	**Damuels**	**74.25**	**315**	*e*P		**P**		**10 59 46.2**	**-1.1**
	comp=Z,9.3nm,0.9s								
DAVOX	**Davos/Dischmat**	**74.34**	**315**	LR		LR		11 38 37.0	
	comp=Z,70nm,18.3s,baz=67,slow=41								
LSZ	**Lusaka**	**74.74**	**248**	P		**P**		**10 59 50.5**	**0.0**
LSZ				IAmb		IAmb		10 59 52.1	
	comp=Z,16nm,0.8s								
LSZ	**Lusaka**	**74.74**	**248**	P		**P**		**10 59 50.9**	**+0.4**
	comp=Z,14nm,0.8s,baz=67,slow=6.4,SNR=26								
	comp=Z,14nm,0.8s								
NOR	**Nord**	**75.24**	**352**	*i* P		**P**		**10 59 50.2**	**-2.1**
NOR				IAmb		IAmb		10 59 52.3	
	comp=Z,9.4nm,0.9s								
SENIN	**Lac Senin/Sane**	**76.17**	**315**	P		**P**		**10 59 58.7**	**+0.3**
C16K	**Lisburne Hills**	**76.29**	**22**	P		**P**		**10 59 57.9**	**-0.5**
C16K				IAmb		IAmb		11 00 01.2	
	comp=Z,13nm,1.2s								
KEST	**Kesra**	**76.97**	**304**	P		**P**		**11 00 03.0**	**+0.1**
	comp=Z,11nm,1.0s,baz=16,slow=2.2,SNR=4.5								
	comp=Z,11nm,1.0s								
C18K	**Utukok River**	**77.65**	**21**	P		**P**		**11 00 05.4**	**-0.8**
C19K	**Lookout Ridge**	**78.05**	**21**	P		**P**		**11 00 08.3**	**-0.1**
C19K				IAmb		IAmb		11 00 18.9	
	comp=Z,11nm,1.4s								
G16K	**Koyuk River**	**78.24**	**25**	P		**P**		**11 00 08.7**	**-0.6**
E18K	**Tukpahlearik C**	**78.26**	**23**	P		**P**		**11 00 08.8**	**-0.6**
E18K				IAmb		IAmb		11 00 10.6	
	comp=Z,8.6nm,1.0s								
D19K	**Kuna River**	**78.77**	**21**	P		**P**		**11 00 10.2**	**-2.0**
D19K				IAmb		IAmb		11 00 15.4	
	comp=Z,13nm,1.2s								
H17K	**Granite Mounta**	**79.37**	**25**	P		**P**		**11 00 14.7**	**-0.9**
H17K				IAmb		IAmb		11 00 18.8	
	comp=Z,10nm,1.0s								
J16K	**Anvik River**	**79.65**	**27**	P		**P**		**11 00 15.9**	**-1.3**
J16K				IAmb		IAmb		11 00 18.4	
	comp=Z,9.9nm,0.8s								
EKA	**Eskdalemuir Ar**	**80.27**	**325**	P		**P**		**11 00 20.9**	**+0.2**
	comp=Z,5.5nm,0.7s,baz=83,slow=5.7,SNR=13								
	comp=Z,5.5nm,0.7s								
C23K	**Itkillik River**	**80.65**	**19**	P		**P**		**11 00 21.7**	**-0.7**
C23K				IAmb		IAmb		11 00 23.8	
	comp=Z,19nm,1.1s								
LBTB	**Lobatse**	**80.99**	**240**	P		**P**		**11 00 25.7**	**+0.6**
	comp=Z,4.8nm,0.5s,baz=75,slow=4.9,SNR=7.6								
	comp=Z,4.8nm,0.5s								
D24K	**Happy Valley**	**81.53**	**19**	P		**P**		**11 00 26.7**	**-0.4**
D24K				IAmb		IAmb		11 00 28.4	
	comp=Z,13nm,1.2s								
H21K	**Melozitna Rive**	**81.82**	**23**	P		**P**		**11 00 28.8**	**+0.1**
H21K				IAmb		IAmb		11 00 29.9	
	comp=Z,10nm,1.1s								
I21K	**Tanana**	**82.34**	**23**	P		**P**		**11 00 30.9**	**-0.6**
NEEM	**North Greenlan**	**82.53**	**353**	*i* P		**P**		**11 00 31.4**	**-1.2**
NEEM				IAmb		IAmb		11 00 35.0	
	comp=Z,11nm,0.8s								
BOSA	**Boshof**	**82.79**	**237**			**P**		**11 00 35.0**	**+0.4**
BOSA	**Boshof**	**82.79**	**237**	P		**P**		**11 00 34.6**	**0.0**
BOSA	**Boshof**	**82.79**	**237**	P		**P**		**11 00 34.7**	**+0.1**
	comp=Z,7.9nm,0.8s,baz=61,slow=6.3,SNR=10								
	comp=Z,7.9nm,0.8s								
MLY	**Manley**	**82.88**	**23**	P		**P**		**11 00 33.7**	**-0.7**
MLY				IAmb		IAmb		11 00 35.2	
	comp=Z,6.1nm,0.9s								
E25K	**Arctic Village**	**83.09**	**19**	P		**P**		**11 00 35.2**	**-0.2**
E25K				IAmb		IAmb		11 00 54.7	
	comp=Z,16nm,1.6s								
G24K	**Hadweenzic Riv**	**83.22**	**21**	P		**P**		**11 00 34.9**	**-1.1**
G24K				IAmb		IAmb		11 00 40.2	
	comp=Z,27nm,1.9s								
BMAR	**Burnt Mountain**	**83.78**	**20**	P		**P**		**11 00 39.6**	**+0.7**
MDM	**Murphy Dome**	**83.84**	**23**	P		**P**		**11 00 38.6**	**-0.6**
MDM				IAmb		IAmb		11 00 40.5	
	comp=Z,13nm,1.1s								
IL31		**84.43**	**23**	P		**P**		**11 00 41.2**	**-1.0**
ILAR	**Eielson Array**	**84.43**	**23**	P		**P**		**11 00 40.4**	**-1.9**
	comp=Z,1.9nm,0.9s,baz=304,slow=4.7,SNR=14								
ILAR					PP		**PP**		**11 04 01.6**	**+4.8**
	comp=Z,1.2nm,1.0s,baz=296,slow=7.3,SNR=6.6								
	comp=Z,1.9nm,0.9s								
SUMG	**Summit**	**84.44**	**348**	P		**P**		**11 00 42.0**	**-0.6**
SUMG				IAmb		IAmb		11 00 43.0	
	comp=Z,11nm,0.9s								
SUMG	**Summit**	**84.44**	**348**	*i* P		**P**		**11 00 40.5**	**-2.1**
SUMG				IAmb		IAmb		11 00 43.8	
	comp=Z,9.7nm,0.8s								
IL03	**Eielson Array**	**84.44**	**23**	P		**P**		**11 00 41.9**	**-0.4**
PRP	**Porcupine Dome**	**84.52**	**22**	P		**P**		**11 00 42.3**	**-0.5**
PRP				IAmb		IAmb		11 00 46.6	
	comp=Z,11nm,1.0s								
KDAK	**Kodiak Island**	**85.50**	**30**	LR		LR		11 40 30.4	
	comp=Z,94nm,18.2s,baz=216,slow=37								
A36M	**Sachs Harbour**	**85.71**	**12**	P		**P**		**11 00 47.4**	**-1.2**
KULLO	**Kullorsuaq**	**85.77**	**353**	*i* P		**P**		**11 00 44.8**	**-4.0**
KULLO				IAmb		IAmb		11 00 48.7	
	comp=Z,21nm,1.1s								
SCRK	**Sand Creek**	**85.92**	**23**	P		**P**		**11 00 48.8**	**-1.1**
SCRK				IAmb		IAmb		11 00 52.5	
	comp=Z,10nm,1.2s								
ESDC	**Sonseca Array**	**85.95**	**310**	P		**P**		**11 00 50.1**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=58,slow=5.1,SNR=8.8								
	comp=Z,2.4nm,0.9s								
INK	**Inuvik**	**86.51**	**16**	P		**P**		**11 00 51.2**	**-1.3**
INK				IAmb		IAmb		11 00 55.0	
	comp=Z,8.3nm,1.3s								
INK	**Inuvik**	**86.51**	**16**	LR		LR		11 44 03.6	
	comp=Z,118nm,18.8s,baz=140,slow=39								
KLU	**Klutina**	**86.56**	**25**	P		**P**		**11 00 51.9**	**-1.2**
KLU				IAmb		IAmb		11 00 56.2	
	comp=Z,12nm,1.2s								
BCAR	**Beaver Creek A**	**87.26**	**23**	P		**P**		**11 00 56.3**	**-0.1**
ICESG	**Greenland Ices**	**87.30**	**345**	*i* P		**P**		**11 00 55.0**	**-1.8**
ICESG				IAmb		IAmb		11 00 57.1	
	comp=Z,27nm,1.0s								
CTGM	**Chitina Glacie**	**88.69**	**24**	P		**P**		**11 01 02.8**	**-0.6**
CTGM				IAmb		IAmb		11 01 05.0	
	comp=Z,12nm,1.2s								
TOA0	**Torodi Ar. Sit**	**90.02**	**284**	P		**P**		**11 01 09.8**	**-0.5**
TOA0				IAmb		IAmb		11 04 21.6	
	comp=Z,16nm,1.7s								
TORD	**Torodi Ar. Bea**	**90.02**	**284**	P		**P**		**11 01 09.6**	**-0.6**
TORD				IAmb		IAmb		11 04 21.6	
	comp=Z,13nm,2.0s								
TORD	**Torodi Ar. Bea**	**90.02**	**284**	P		**P**		**11 01 09.8**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=62,slow=6.5,SNR=5.7								
TORD					PP		**PP**		**11 04 42.1**	**-1.2**
	comp=Z,1.6nm,0.9s,baz=53,slow=8.0,SNR=5.5								
	comp=Z,1.0nm,0.7s								
DY2G	**Dye2**	**90.92**	**346**	*i* P		**P**		**11 01 13.3**	**-0.5**
DY2G				IAmb		IAmb		11 01 14.3	
	comp=Z,56nm,1.5s								
SFJD	**Kangerlussuaq**	**91.44**	**348**	*i* P		**P**		**11 01 15.2**	**-0.6**
SFJD				IAmb		IAmb		11 01 16.4	
	comp=Z,11nm,0.9s								
YKA	**Yellowknife Ar**	**95.90**	**14**	P		**P**		**11 01 35.2**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=324,slow=4.0,SNR=9.5								
YKA					PP		**PP**		**11 05 26.3**	**-1.4**
	comp=Z,0.4nm,0.9s,baz=330,slow=7.5,SNR=4.5								
	comp=Z,0.5nm,0.8s								
PDAR	**Pinedale Array**	**114.80**	**21**	PKiKP		**PKiKP**		**11 06 50.1**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=5.7,slow=2.7,SNR=4.4								
NVAR	**Mina Array Bea**	**114.99**	**29**	PKP		PKPdf		11 06 52.0	+0.3
	comp=Z,0.7nm,0.9s,baz=289,slow=5.8,SNR=4.7								
TXAR	**Lajitas Array**	**128.95**	**22**	PKP		**PKPdf**		**11 07 18.6**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=323,slow=0.5,SNR=9.2								
VAO	**Valinhos**	**145.17**	**256**	*e*P		**PKPdf**		**11 07 48.7**	**+0.3**
SPB	**Sao Paulo**	**145.59**	**255**	*e*P		**PKPab**		**11 07 49.4**	**0.0**
BDFB	**Brasilia**	**145.60**	**269**	PKPbc		**PKPbc**		**11 07 49.5**	**0.0**
	comp=Z,12nm,0.8s,baz=90,slow=2.9,SNR=16								
IPMB	**Ipameri, GO**	**146.10**	**265**	*e*P		**PKPdf**		**11 07 50.1**	**0.0**
MALB	**Monte Alegre**	**146.64**	**296**	*e*P		**PKPdf**		**11 07 50.6**	**-0.4**
FRTB	**Fartura**	**147.55**	**255**	*e*P		**PKPdf**		**11 07 53.6**	**+1.2**
CPUP	**Villa Florida**	**154.18**	**247**	PKPbc		**PKPbc**		**11 08 09.3**	**-1.2**
	comp=Z,3.4nm,0.8s,baz=117,slow=2.8,SNR=7.2								
ROSC	**El Rosal**	**155.13**	**337**	PKP		**PKPdf**		**11 08 04.0**	**-0.6**
	comp=Z,6.3nm,0.6s,baz=57,slow=17,SNR=4.1								

*IDC **04** 11:32:24.0±1.0, 38.55S×46.84E, h0km, mb4.1/7, mbtmp4.1/7, MS3.7/12, Error ellipse: s-maj=50.7km s-min=26.6km az=21.0*
ISC 04 11:32:25.6±1.2, 38.6S±0.4×46.9E±0.2, h10km, n32, σ0.9s8/11, mb4.2/6, MS3.7/13, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	**CROZET ISLANDS**	**8.41**	**156**	T	T	11 42 56.4	
	baz=332,slow=76,SNR=1052						
H04N2	**CROZET ISLANDS**	**8.42**	**156**	T	T	11 42 55.4	
	baz=332,slow=76,SNR=973						
H04N3	**CROZET ISLANDS**	**8.42**	**156**	T	T	11 42 57.5	
	baz=332,slow=76,SNR=456						
BOSA	**Boshof**		**20.52**	**292**	P	**P**	**11 37 05.0**	**+0.9**
	2.3nm,0.8s,baz=159,slow=12,SNR=2.7						
	2.3nm,0.8s						
LBTB	**Lobatse**		**22.51**	**301**	LR	LR	11 45 12.0	
	comp=Z,122nm,19.1s,baz=131,slow=34						
LSZ	**Lusaka**		**28.45**	**320**	LR	LR	11 48 47.4	
	comp=Z,183nm,19.1s,baz=152,slow=35						
MAW	**Mawson**		**30.43**	**168**	LR	LR	11 47 40.4	
	comp=Z,149nm,21.9s,baz=321,slow=30						
TSUM	**Tsumeb**		**31.89**	**299**	LR	LR	11 50 56.3	
	comp=Z,116nm,19.3s,baz=148,slow=35						
H08S1	**Diego Garcia H**	**38.48**	**43**	T	T	12 20 52.8	
	baz=213						
H08S2	**Diego Garcia H**	**38.49**	**44**	T	T	12 20 54.2	
	baz=213						
H08S3	**Diego Garcia H**	**38.50**	**43**	T	T	12 20 54.6	
	baz=213						
MBAR	**Mbarara**		**40.59**	**335**	LR	LR	11 55 05.5	
	comp=Z,125nm,20.9s,baz=101,slow=34						
SNAA	**Sanae**		**41.46**	**201**	LR	LR	11 54 47.8	
	comp=Z,115nm,19.0s,baz=28,slow=32						
ATD	**Arta Tunnel**		**49.98**	**355**	LR	LR	11 59 51.6	
	comp=Z,6.5nm,22.0s,baz=72,slow=33						
QSPA	**South Pole Qui**		**51.63**	**180**	LR	LR	12 00 54.8	
	comp=Z,197nm,21.9s,baz=242,slow=33						
H01W2	**Cape Leeuwin H**		**52.94**	**108**	T	T	12 38 11.0	
	baz=244,slow=75,SNR=35						
H01W3	**Cape Leeuwin H**		**52.95**	**108**	T	T	12 38 47.8	
	baz=244,SNR=26						
H01W1	**Cape Leeuwin H**		**52.95**	**108**	T	T	12 38 38.4	
	baz=244,slow=75,SNR=28						
WSAR	**Wadi Sarin**		**62.47**	**12**	LR	LR	12 03 36.6	
	comp=Z,53nm,18.6s,baz=165,slow=30						
DBIC	**Dimbokro**		**65.76**	**301**	LR	LR	12 09 50.7	
	comp=Z,18nm,19.5s,baz=127,slow=34						
EIL	**Elat**		**68.80**	**349**	LR	LR	12 11 50.7	
	comp=Z,38nm,20.1s,baz=248,slow=34						
MMAI	**Mount Meron Ar**		**72.02**	**350**	LR	LR	12 12 59.8	
	comp=Z,56nm,20.9s,baz=156,slow=34						
ASAR	**Alice Springs**		**73.44**	**107**	P	**P**	**11 43 58.8**	**+0.4**
	1.4nm,0.8s,baz=230,slow=5.5,SNR=14						
	1.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**74.81**	**51**	P		**P**	**11 44 07.0**	**+0.7**
	0.7nm,0.3s,baz=224,slow=6.3,SNR=7.0						
CMAR					LR	LR	12 12 17.7	
	comp=Z,52nm,21.9s,baz=120,slow=32						
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**75.93**	**104**	P		**P**	**11 44 13.3**	**+0.5**
	3.6nm,1.0s,baz=229,slow=4.9,SNR=20						
	3.6nm,1.0s						
MKAR	**Makanchi Array**	**90.70**	**23**	P		**P**	**11 45 27.7**	**-0.4**
	0.3nm,0.7s,baz=202,slow=4.8,SNR=3.7						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**93.48**	**14**	P		**P**	**11 45 41.4**	**+0.6**
	1.1nm,0.8s,baz=191,slow=5.3,SNR=3.5						
	1.1nm,0.8s						
ZALV	**Zalesovo Beam**	**97.78**	**22**	P		**P**	**11 46 00.2**	**-0.2**
	0.3nm,0.3s,baz=186,slow=6.7,SNR=3.9						
	0.3nm,0.3s						
ULM	**Lac du Bonnet**	**151.24**	**306**	PKPbc		**PKPbc**	**11 52 17.8**	**-0.9**
	2.6nm,1.0s,baz=97,slow=5.7,SNR=4.0						
ILAR	**Eielson Array**	**152.54**	**13**	PKPbc		**PKPbc**	**11 52 19.1**	**-2.1**
	0.2nm,0.6s,baz=332,slow=3.1,SNR=2.5						
YKA	**Yellowknife Ar**	**153.51**	**341**	PKPbc		**PKPbc**	**11 52 23.1**	**-0.3**
	0.1nm,0.5s,baz=44,slow=2.2,SNR=3.1						
TXAR	**Lajitas Array**	**153.97**	**258**	PKPbc		**PKiKP**	**11 52 26.0**	**+0.4**
	1.9nm,1.0s,baz=142,slow=4.5,SNR=6.6						

*IDC **04** 11:34:33.8±6.9, 14.59N×92.63W, h0km, mb3.6/3, mbtmp3.7/5, ML3.7/2, Error ellipse: s-maj=174.1km s-min=68.1km az=25.0*
*CATAC **04** 11:34:36.4±0.9, 14.28N×93.24W, h10km, ML4.3*
*MEX **04** 11:34:37.1±1.0, 14.42N×93.45W, h15km, MD4.3*
*GCG **04** 11:34:38.7±0.5, 14.77N×93.21W, h46km±94km, MD4.0*
ISC 04 11:34:34.0±1.6, 14.54N±0.06×93.34W±0.03, h5km±10km, n45, σ2.9s04/78, mb3.7/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.11**	**70**	*e*P	**Pn**	**11 34 55.7**	**-0.4**
THIG				*e*S	**Sn**	**11 35 11.6**	**-0.1**
PCIG		**1.17**	**6**	*e*P	**Pn**	**11 34 57.9**	**+0.9**
PCIG				*i* S	**Sn**	**11 35 12.1**	**-1.2**
PATR	**El Naranjo**	**1.22**	**62**	*e*P	**Pn**	**11 34 57.3**	**-0.6**
PATR				*i* S	**Sn**	**11 35 13.8**	**-1.1**
PAVE	**Pavencul**	**1.30**	**60**	*e*P	**Pg**	**11 34 58.8**	**-0.2**
PAVE				*i* S	**Sg**	**11 35 17.2**	**+1.3**
CHUJ	**Union Juarez**	**1.32**	**65**	*e*P	**Pb**	**11 34 58.9**	**-0.4**
CHUJ				*i* S	**Sg**	**11 35 16.3**	**0.0**
SMSP	**San Marcos**	**1.57**	**74**	*i* P	**Pb**	**11 35 03.0**	**-0.7**
SMSP				*i* S	**Sb**	**11 35 22.2**	**-1.8**
RTAL	**Retalhuleu**	**1.60**	**90**	*e*P	**Pn**	**11 35 02.1**	**-0.8**
RTAL				*i* S	**Sn**	**11 35 22.1**	**-1.8**
RTAL	**Retalhuleu**	**1.60**	**90**	*i* P	**Pn**	**11 35 01.4**	**-1.5**
RTAL				*i* S	**Sn**	**11 35 22.5**	**-1.4**
RTAL				IAML		11 35 39.9	
	comp=Z,1μm,1.0s						
STG3	**Santiaguito 3,**	**1.73**	**84**	*e*P	**Pn**	**11 35 04.9**	**+0.1**
STG3				*e*S	**Sn**	**11 35 25.8**	**-1.5**
SULM	**Suchitepequez,**	**1.74**	**97**	*e*P	**Pn**	**11 35 05.3**	**+0.6**
CARR	**Arriaga**	**1.79**	**342**	*e*P	**Pg**	**11 35 08.4**	**+0.1**
CARR				*i* S	**Sg**	**11 35 32.5**	**+1.0**
HUEH	**Huehuetenango**	**1.94**	**66**	*i* P	**Pb**	**11 35 09.5**	**-0.5**
HUEH				*i* S	**Sg**	**11 35 36.8**	**+0.3**
HUEH	**Huehuetenango**	**1.94**	**66**	*i* P	**Pb**	**11 35 09.0**	**-1.0**
HUEH				IAML		11 35 11.1	
	comp=Z,3μm,1.0s						
HUEH				*i* S	**Sg**	**11 35 37.2**	**+0.8**
CCIG	**Comitan**	**2.09**	**34**	*e*P	**Pg**	**11 35 13.9**	**-0.2**
CCIG				*i* S	**Sg**	**11 35 42.5**	**+1.3**
CCIG				IAML		11 35 44.7	
	comp=Z,2μm,1.0s						
TGIG		**2.24**	**5**	*e*P	**Pg**	**11 35 15.7**	**-1.2**
TGIG				*i* S	**Sb**	**11 35 39.5**	**-3.5**
TGBT	**Tuxtla Gutierr**	**2.24**	**6**	*i* P	**Pg**	**11 35 15.5**	**-1.4**
TGBT				*i* S	**Sg**	**11 35 45.6**	**-0.5**
QUIS	**Sacapulas**	**2.30**	**71**	*i* P	**Pb**	**11 35 14.7**	**-1.4**
QUIS				IAML		11 35 15.7	
	comp=Z,2μm,1.0s						
NILT	**Santiago Nilte**	**2.36**	**329**	*i* P	**Pb**	**11 35 17.6**	**+0.6**
NILT				*i* S	**Sb**	**11 35 46.0**	**-0.4**
FUG	**Fuego 3**	**2.42**	**92**	*e*P	**Pn**	**11 35 15.3**	**+0.9**
FUG				*e*S	**Sn**	**11 35 43.4**	**-1.2**
HUIG	**Huatulco**	**2.94**	**295**	*e*P	**Pn**	**11 35 23.1**	**+1.8**
HUIG				*i* S	**Sn**	**11 35 55.1**	**-1.9**
CMIG	**Matias Romero**	**2.94**	**330**	Pn	**Pb**	**11 35 24.8**	**-2.1**
	comp=Z,10nm,0.3s,baz=150,slow=12,SNR=99						
CMIG				Sn	**Sb**	**11 36 01.9**	**-1.2**
	comp=Z,20nm,0.3s,baz=10.0,slow=23,SNR=8.8						
	comp=Z,22nm,0.3s						
CMIG	**Matias Romero**	**2.94**	**330**	*e*P	**Pb**	**11 35 24.7**	**-2.2**
CMIG				*e*S	**Sb**	**11 36 02.1**	**-1.1**
NUBE	**Las Nubes**	**3.51**	**100**	*i* P	**Pn**	**11 35 28.8**	**-0.6**
NUBE				IAML		11 36 24.0	
	comp=Z,200nm,1.0s						
MTO3	**Montecristo**	**3.86**	**92**	*i* P	**Pn**	**11 35 33.3**	**-0.9**
MTO3				IAML		11 36 40.9	
	comp=Z,85nm,1.0s						
JAYA	**Jayaque - finc**	**3.88**	**103**	*i* P	**Pn**	**11 35 33.5**	**-0.9**
JAYA				IAML		11 36 25.2	
	comp=Z,430nm,1.0s						
NEUV	**Arroyo Zacate**	**3.94**	**324**	*e*P	**Pn**	**11 35 38.1**	**+2.9**
NEUV				*e*S	**Sn**	**11 36 17.1**	**-4.8**
PEIG	**Puerto Escondi**	**3.95**	**292**	*e*P	**Pn**	**11 35 38.1**	**+2.8**
PEIG				*i* S	**Sn**	**11 36 19.1**	**-2.9**
PMON	**Piamonte**	**3.99**	**101**	*i* P	**Pn**	**11 35 37.9**	**+2.0**
PMON				*i* S	**Sn**	**11 36 21.3**	**-1.9**
PMON				IAML		11 36 36.2	
	comp=Z,300nm,1.0s						
PETF	**Flores**	**4.10**	**54**	*e*P	**Pn**	**11 35 39.9**	**+2.6**
PETF				*i* S	**Sb**	**11 36 31.7**	**-4.8**
VHO	**Vista Hermosa**	**4.12**	**308**	*e*P	**Pn**	**11 35 40.0**	**+2.2**
VHO				*i* S	**Sn**	**11 36 25.1**	**-1.5**
SJTE	**Alcalda de S**	**4.31**	**102**	*i* P	**Pn**	**11 35 41.2**	**+1.0**
SJTE				IAML		11 36 45.2	
	comp=Z,130nm,1.0s						
PMUV	**Sontecomapan**	**4.34**	**337**	*e*P	**Pn**	**11 35 43.2**	**+2.6**
PMUV				*i* S	**Sn**	**11 36 30.7**	**-0.9**
YOIG	**Yosondua**	**4.66**	**300**	*e*P	**Pn**	**11 35 46.2**	**+1.0**
YOIG				*i* S	**Sn**	**11 36 38.5**	**-1.4**
SCIG	**Sabancuy**	**4.87**	**25**	*e*P	**Pn**	**11 35 51.0**	**+3.1**
SCIG				*i* S	**Sn**	**11 36 47.9**	**+3.3**
TOIG	**Toxpalan**	**5.03**	**315**	*e*P	**Pn**	**11 35 50.9**	**+0.7**
TOIG				*i* S	**Sn**	**11 36 42.3**	**-6.5**
TXIG	**Tlaxiaco**	**5.04**	**303**	*e*P	**Pn**	**11 35 49.1**	**-1.4**
TXIG				*e*S	**Sn**	**11 36 45.0**	**-4.3**
TPIG	**Tehuac#an**	**5.46**	**316**	*e*P	**Pn**	**11 35 57.2**	**+1.1**
TPIG				*e*S	**Sn**	**11 36 59.9**	**+0.4**
JAUV	**Jalcomulco**	**5.83**	**326**	*e*P	**Pn**	**11 36 00.9**	**-0.3**
JAUV				*i* S	**Sn**	**11 37 06.2**	**-2.3**

KOME				*i* Sn	**Sb**	**11 36 41.4**	**+1.2**	
UDBI	**Udbina**	**1.65**	**314**	*e*Pn	**Pn**	**11 36 19.2**	**+0.7**	
A051A	**Mrakovica**	**1.65**	**347**	*e*Pn	**Pn**	**11 36 18.8**	**+0.2**	
A051A				*e*Sn	**Sb**	**11 36 41.4**	**+0.4**	
PRIJ	**Prijedor**	**1.66**	**342**	*e*Sn	**Sb**	**11 36 40.9**	**-0.1**	
DRME	**Dracevica, Mon**	**1.77**	**133** ⇑	*i*Pn	**Pn**	**11 36 21.1**	**+0.9**	
DRME				*e*Sn	**Sn**	**11 36 44.3**	**+1.3**	
DRME	**Dracevica, Mon**	**1.77**	**133** ⇑	*i*Pn	**Pn**	**11 36 21.3**	**+1.1**	
DRME				*i* Sn	**Sb**	**11 36 45.6**	**+1.3**	
DUGI	**Dugi Otok**	**1.82**	**290**	*e*Pn	**Pn**	**11 36 21.5**	**+0.7**	
SJES	**Sjenica**	**1.86**	**93**	*e*Pg	**Pn**	**11 36 22.9**	**+1.4**	
SJES				*e*Sg	**Sb**	**11 36 48.1**	**+1.0**	
SJES	**Sjenica**	**1.86**	**93**	*e*Pn	**Pn**	**11 36 22.5**	**+1.0**	
SJES				*e*Sn	**Sn**	**11 36 46.5**	**+1.1**	
IVA	**Berane**	**1.88**	**105** ⇓	*i*Pn	**Pn**	**11 36 22.8**	**+1.1**	
IVA				*i* Sn	**Sb**	**11 36 48.4**	**+0.9**	
TEKS	**Tekeris**	**1.90**	**52**	*e*Pg	**Pb**	**11 36 24.0**	**-0.1**	
TEKS				*e*Sg	**Sb**	**11 36 49.1**	**+1.0**	
TEKS	**Tekeris**	**1.90**	**52**	*e*Pn	**Pn**	**11 36 23.3**	**+1.3**	
TEKS				*e*Sn	**Sn**	**11 36 46.8**	**+0.6**	
BLJ	**Bijeljina**	**1.92**	**43**	*e*Pn	**Pn**	**11 36 22.5**	**+0.4**	
BLJ				*e*Sn	**Sn**	**11 36 45.4**	**-1.0**	
A251A	**Rujevac**	**1.92**	**335**	*e*Pn	**Pn**	**11 36 22.7**	**+0.6**	
VIRC	**Vir**	**1.93**	**298**	*e*Pn	**Pn**	**11 36 23.4**	**+1.1**	
ULC	**Ulcinj**	**1.96**	**136** ⇓	*i*Pn	**Pn**	**11 36 23.9**	**+1.1**	
ULC				*i* Sn	**Sb**	**11 36 50.4**	**+0.5**	
DIVS	**Divibare**	**1.98**	**69**	*e*Pg	**Pn**	**11 36 22.9**	**-0.3**	
DIVS				*e*Sg	**Sb**	**11 36 50.5**	**0.0**	
IVAS	**Ivanjica**	**1.99**	**84**	*e*Pg	**Pn**	**11 36 23.6**	**+0.4**	
IVAS				*e*Sg	**Sb**	**11 36 50.5**	**-0.2**	
PVY	**Plav**	**2.02**	**113** ⇓	*i*Pn	**Pn**	**11 36 25.6**	**+1.9**	
NVLJ	**Novalja**	**2.18**	**303**	*e*Pn	**Pn**	**11 36 26.2**	**+0.5**	
TRUS	**Trudelj**	**2.31**	**68**	*e*Pn	**Pn**	**11 36 26.6**	**-0.9**	
TRUS				*e*Sg	**Sb**	**11 36 59.9**	**+0.2**	
GRUS	**Gruza**	**2.44**	**77**	*e*Pn	**Pn**	**11 36 29.5**	**+0.2**	
GRUS				*e*Sn	**Sn**	**11 37 00.7**	**+1.4**	
FRGS	**Fruska Gora**	**2.45**	**43** ⇑	P	**Pn**	**11 36 28.1**	**-1.4**	
FRGS				⇓S	**Sn**	**11 36 59.2**	**-0.6**	
FRGS	**Fruska Gora**	**2.45**	**43**	*e*Pn	**Pn**	**11 36 28.2**	**-1.4**	
FRGS				*e*Sn	**Sn**	**11 36 59.6**	**-0.2**	
FRGS	**Fruska Gora**	**2.45**	**43**	*e*Pn	**Pn**	**11 36 30.4**	**+0.9**	
FRGS				*e*Sn	**Sn**	**11 37 00.3**	**+0.5**	
SELS	**Selova**	**2.70**	**93**	*e*Pn	**Pn**	**11 36 33.3**	**+0.4**	
CRES	**Cresnjev**	**2.80**	**331**	*i* Pn	**Pn**	**11 36 35.0**	**+0.7**	
CRES				*e*Sn	**Sn**	**11 37 09.7**	**+1.2**	
CRES				IAML		11 37 17.2		
	comp=Z,42nm,1.0s							
CRES	**Cresnjev**	**2.80**	**331**	*e*Pn	**Pn**	**11 36 35.3**	**+1.0**	
CRES				*e*Sn	**Sn**	**11 37 09.6**	**+1.2**	
GBRS	**Gornja Briga**	**2.84**	**320**	*i* Pn	**Pn**	**11 36 36.9**	**+2.1**	
MORH	**Mrgy, Hungar**	**2.94**	**17**	*e*Pn	**Pn**	**11 36 37.6**	**+1.4**	
MORH				*e*Sn	**Sn**	**11 37 11.7**	**-0.1**	
BEHE	**Becsehely**	**3.10**	**352** ⇑	*i*Pn	**Pn**	**11 36 38.6**	**+0.2**	
CEY	**Cerknica**	**3.17**	**319**	*e*Pn	**Pn**	**11 36 41.0**	**+1.6**	
CEY	**Cerknica**	**3.17**	**319**	*e*Pn	**Pn**	**11 36 41.0**	**+1.6**	
CEY				*e*Sn	**Sn**	**11 37 18.9**	**+1.4**	
SKDS	**Skadanscina**	**3.25**	**312**	*e*Pn	**Pn**	**11 36 41.4**	**+0.9**	
SKDS				*e*Sn	**Sn**	**11 37 20.0**	**+0.5**	
PRVS	**Prvonek**	**3.53**	**103**	*e*Pn	**Pn**	**11 36 45.3**	**+1.0**	
PRVS				*e*Sn	**Sn**	**11 37 25.7**	**-0.6**	
SOKA	**Soboth**	**3.69**	**333**	*i* Pn	**Pn**	**11 36 46.9**	**+0.3**	
	comp=Z,0.6nm,0.3s							
SOKA				*e*Sn	**Sn**	**11 37 31.1**	**+0.7**	
	comp=Z,0.9nm,0.2s							
OBKA	**Obir**	**3.72**	**328**	*e*Pn	**Pn**	**11 36 47.5**	**+0.5**	
	comp=Z,0.3nm,0.1s							
OBKA				*e*Sn	**Sn**	**11 37 32.4**	**+1.2**	
	comp=Z,8.0nm,0.5s							
OBKA	**Obir**	**3.72**	**328**	*e*Pn	**Pn**	**11 36 47.9**	**+0.9**	
OBKA				*e*Sn	**Sn**	**11 37 31.4**	**+0.3**	
BZS	**Buzias**	**3.73**	**52** ⇓	P	**Pn**	**11 36 45.4**	**-1.6**	
BZS				⇑S	**Sn**	**11 37 30.0**	**-1.2**	
ZAPS	**Zavoj**	**3.80**	**90**	*e*Pn	**Pn**	**11 36 49.9**	**+1.8**	
HERR	**Herculane**	**3.88**	**66**	⇓P	**Pn**	**11 36 49.6**	**+0.4**	
ARSA	**Arzberg**	**4.08**	**341**	*i* Pn	**Pn**	**11 36 52.1**	**+0.3**	
	comp=Z,2.0nm,0.3s							
ARSA				*e*Sn	**Sn**	**11 37 39.8**	**-0.1**	
	comp=Z,1.2nm,0.4s							
ARSA	**Arzberg**	**4.08**	**341** ⇑	*i*Pn	**Pn**	**11 36 51.9**	**+0.1**	
MYKA	**Terra Mystica**	**4.20**	**322**	*i* Pn	**Pn**	**11 36 53.6**	**0.0**	
	comp=Z,0.1nm,0.1s							
MYKA				*e*Sn	**Sn**	**11 37 44.3**	**+1.4**	
	comp=Z,2.6nm,0.6s							
GZR	**Gura Zlata**	**4.32**	**61**	⇓P	**Pn**	**11 36 55.2**	**0.0**	
RONA	**Rosalia, Austr**	**4.37**	**350**	*i* Pn	**Pn**	**11 36 56.9**	**+1.0**	
	comp=Z,0.8nm,0.2s							
RONA				*e*Sn	**Sn**	**11 37 46.5**	**-0.6**	
	comp=Z,0.6nm,0.2s							
CONA	**Conrad Observa**	**4.66**	**347**	*i* Pn	**Pn**	**11 37 00.7**	**+0.8**	
	comp=Z,1.3nm,0.4s							
CONA				*e*Sn	**Sn**	**11 37 54.9**	**+0.7**	
	comp=Z,2.1nm,0.5s							
KBA	**Koelnbreinsper**	**4.67**	**323**	*e*Pn	**Pn**	**11 37 00.7**	**+0.5**	
	comp=Z,0.3nm,0.2s							
KBA				*e*Sn	**Sn**	**11 37 56.8**	**+2.1**	
	comp=Z,0.8nm,0.3s							
ABTA	**Abfaltersbach**	**4.83**	**316**	*e*Pn	**Pn**	**11 37 02.7**	**+0.4**	
	comp=Z,0.3nm,0.1s							
ABTA				*e*Sn	**Sn**	**11 38 00.0**	**+1.6**	
	comp=Z,6.2nm,0.7s							
MOA	**Molln**	**4.97**	**335**	*i* Pn	**Pn**	**11 37 05.4**	**+1.3**	
	comp=Z,1.1nm,0.3s							
MOA				*e*Sn	**Sn**	**11 38 01.4**	**-0.4**	
	comp=Z,2.9nm,0.5s							
MODS	**Modra-Piesok**	**4.97**	**359**	*e*PN	**Pn**	**11 37 05.0**	**+0.8**	
MODS				*e*SN	**Sn**	**11 38 00.9**	**-1.0**	
BIOA	**Bad Ischl, Aus**	**5.05**	**330**	*e*Pn	**Pn**	**11 37 05.5**	**+0.3**	
	comp=Z,1.0nm,0.3s							
BIOA				*e*Sn	**Sn**	**11 38 05.4**	**+1.6**	
	comp=Z,1.8nm,0.3s							
VYHS	**Vyhne**	**5.19**	**10**	*e*PN	**Pn**	**11 37 07.5**	**+0.4**	
VYHS				*e*SN	**Sn**	**11 38 07.3**	**+0.1**	
LESA	**Schwarzleotal**	**5.23**	**322**	*i* Pn	**Pn**	**11 37 08.3**	**+0.5**	
	comp=Z,2.7nm,0.6s							
LESA				*e*Sn	**Sn**	**11 38 10.4**	**+2.0**	
	comp=Z,1.7nm,0.4s							
WTTA	**Wattenberg**	**5.62**	**315**	*i* Pn	**Pn**	**11 37 13.7**	**+0.6**	
	comp=Z,1.4nm,0.2s							
WTTA				*e*Sn	**Sn**	**11 38 18.3**	**+0.2**	
	comp=Z,1.8nm,0.5s							
WATA	**Walderalm**	**5.70**	**316**	*i* Pn	**Pn**	**11 37 14.5**	**+0.3**	
	comp=Z,0.8nm,0.2s							
WATA				*e*Sn	**Sn**	**11 38 21.0**	**+1.1**	
	comp=Z,1.9nm,0.5s							
SQTA	**Sankt Quirin**	**5.81**	**313**	*e*Pn	**Pn**	**11 37 16.8**	**+1.0**	
	comp=Z,0.9nm,0.3s							
SQTA				*e*Sn	**Sn**	**11 38 22.1**	**-0.7**	
	comp=Z,2.1nm,0.4s							
CKRC	**Cesky Krumlov**	**5.84**	**339**	*e*SN	**Sn**	**11 38 21.6**	**-1.6**	
MOTA	**Moosalm**	**5.95**	**314**	*e*Pn	**Pn**	**11 37 18.4**	**+0.8**	
	comp=Z,0.2nm,0.1s							
MOTA				*i* Sn	**Sn**	**11 38 25.1**	**-1.0**	
	comp=Z,2.3nm,0.5s							
FETA	**Feichten**	**5.96**	**310**	*e*Pn	**Pn**	**11 37 18.8**	**+1.0**	
	comp=Z,0.2nm,0.2s							
FETA				*e*Sn	**Sn**	**11 38 26.0**	**-0.3**	
	comp=Z,0.6nm,0.5s							
RETA	**Reutte**	**6.22**	**313**	*e*Pn	**Pn**	**11 37 21.0**	**-0.3**	
	comp=Z,0.2nm,0.1s							
RETA				*i* Sn	**Sn**	**11 38 33.5**	**+0.8**	
	comp=Z,1.6nm,0.4s							
KHC	**Kasperske Hory**	**6.32**	**336**	*e*PN	**Pn**	**11 37 24.4**	**+1.7**	
KHC				*e*SN	**Sn**	**11 38 34.2**	**-0.9**	

*MDD **04** 11:35:56.7±0.7, 36°.59N×7°.59W, h20km±3km, mb_Lg2.8/12, Error ellipse: s-maj=5.5km s-min=2.6km az=18.0*
*SFS **04** 11:35:56.5, 36°.55N×7°.59W, h32km, ML2.1/11, ML2.6/9, MLv1.8/11*
*INMG **04** 11:35:57.4±2.0, 36°.58N×7°.61W, h27km±5km, ML1.8, Error ellipse: s-maj=5.9km s-min=3.8km az=58.0*
*IGIL **04** 11:35:58.2, 36°.64N×7°.56W, h21km, ML1.6*

ISC 04 11:35:56.9±2.2, 36°.63N±0°.07×7°.53W±0°.04, h34km±3km, n37, σ0°.82/66, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.69**	**332**	*e*P	**Pn**	**11 36 10.1**	**-0.1**
PBDV				*e*S	**Sb**	**11 36 19.6**	**-0.4**
PBDV				A	A	11 36 20.7	
	17nm,0.1s						
PBDV	**Barranco-do-Ve**	**0.69**	**332**	P	**Pn**	**11 36 09.8**	**-0.4**
PBDV				S	**Sb**	**11 36 19.5**	**-0.4**
PVAQ	**Vaqueiros**	**0.78**	**349** ⇑	*e*P	**Pn**	**11 36 11.8**	**+0.3**
PVAQ				*e*S	**Sb**	**11 36 22.3**	**-0.3**
PVAQ				A	A	11 36 23.2	
	44nm,0.2s						
PVAQ	**Vaqueiros**	**0.78**	**349**	P	**Pn**	**11 36 11.7**	**+0.1**
PVAQ				S	**Sn**	**11 36 22.1**	**+0.1**
ARNO	**Arenosillo**	**0.79**	**54**	S	**Sn**	**11 36 22.9**	**+0.6**
EGRO	**El Granado**	**0.90**	**2**	P	**Pn**	**11 36 13.4**	**+0.2**
EGRO				S	**Sb**	**11 36 25.9**	**0.0**
EGRO	**El Granado**	**0.90**	**2**	P	**Pn**	**11 36 13.7**	**+0.5**
EGRO				S	**Sb**	**11 36 25.8**	**-0.1**
EGRO				*i* Vmb_Lg		11 36 27.0	
PCVE	**Castro Verde**	**1.08**	**338**	*e*P	**Pn**	**11 36 15.9**	**+0.3**
PCVE				*e*S	**Sb**	**11 36 29.9**	**-1.0**
PCVE				A	A	11 36 30.3	
	12nm,0.5s						
PCVE	**Castro Verde**	**1.08**	**338**	P	**Pn**	**11 36 15.8**	**+0.2**
PCVE				S	**Sn**	**11 36 29.3**	**-0.1**
MORF	**Marmelete**	**1.12**	**307**	*e*P	**Pn**	**11 36 15.1**	**-1.1**
MORF				*e*Sg	**Sb**	**11 36 34.8**	**+2.6**
MORF				A	A	11 36 37.6	
	10nm,0.2s						
PTEO	**Sao Teotonio**	**1.32**	**314**	*e*Pn	**Pn**	**11 36 18.5**	**-0.4**
EMIN	**Mina Concepcio**	**1.32**	**31**	S	**Sn**	**11 36 35.4**	**0.0**
EMIN				P	**Pn**	**11 36 19.3**	**+0.3**
EMIN	**Mina Concepcio**	**1.32**	**31**	P	**Pn**	**11 36 19.8**	**+0.8**
EMIN				S	**Sn**	**11 36 35.8**	**+0.4**
MESJ	**Messejana**	**1.32**	**336**	*e*Pn	**Pn**	**11 36 19.3**	**+0.3**
MESJ				*e*Sn	**Sn**	**11 36 35.5**	**0.0**
MESJ				A	A	11 36 40.0	
	7.2nm,0.2s						
MESJ	**Messejana**	**1.32**	**336**	*e*P	**Pn**	**11 36 19.6**	**+0.7**
MESJ				*e*S	**Sn**	**11 36 35.4**	**0.0**
MESJ				IAML		11 36 38.5	
	comp=E,7.4nm,0.1s						
ESPR	**Espera**	**1.37**	**80**	P	**Pn**	**11 36 19.4**	**-0.1**
ESPR				S	**Sn**	**11 36 37.2**	**+0.7**
ESPR	**Espera**	**1.37**	**80**	P	**Pn**	**11 36 19.8**	**+0.2**
ESPR				S	**Sn**	**11 36 37.4**	**+1.0**
ESPR				*i* Vmb_Lg		11 36 38.8	
PBEJ	**Beja**	**1.42**	**349**	*e*Sn	**Sn**	**11 36 38.4**	**+0.7**
PBEJ				A	A	11 36 41.8	
	comp=E,4.1nm,0.1s						
PBAR	**Barrancos**	**1.59**	**14**	*e*Sg	**Sb**	**11 36 45.6**	**+0.1**
PBAR				A	A	11 36 48.6	
	comp=E,3.6nm,0.2s						
PBAR	**Barrancos**	**1.59**	**14**	P	**Pn**	**11 36 23.2**	**+0.6**
PBAR				S	**Sb**	**11 36 44.9**	**-0.6**
PNCL	**Nicolau / Gran**	**1.68**	**332**	*e*Pn	**Pn**	**11 36 24.0**	**+0.2**
PNCL				*e*Sn	**Sn**	**11 36 44.3**	**+0.2**
PNCL				A	A	11 36 46.9	
	comp=E,3.7nm,0.1s						
PNCL	**Nicolau / Gran**	**1.68**	**332**	S	**Sn**	**11 36 43.2**	**-0.9**
PNCL				P	**Pn**	**11 36 23.4**	**-0.4**
EBAD	**Badajoz**	**2.16**	**11**	P	**Pn**	**11 36 30.3**	**-0.1**
EBAD				S	**Sn**	**11 36 56.7**	**+0.6**
EBAD	**Badajoz**	**2.16**	**11**	P	**Pn**	**11 36 30.7**	**+0.3**
EBAD				S	**Sn**	**11 36 56.1**	**0.0**
EBAD				*i* Vmb_Lg		11 37 05.9	
ECAB	**El Cabril**	**2.22**	**49**	P	**Pn**	**11 36 31.1**	**-0.1**
ECAB				S	**Sn**	**11 36 56.2**	**-1.2**
ECAB	**El Cabril**	**2.22**	**49**	P	**Pn**	**11 36 32.0**	**+0.7**
ECAB				S	**Sn**	**11 36 56.5**	**-1.0**
PESTR	**Estremoz**	**2.23**	**359**	*e*Sn	**Sn**	**11 36 58.8**	**+0.9**
EADA	**Adamuz**	**2.81**	**56**	P	**Pn**	**11 36 39.8**	**+0.4**
EADA				S	**Sn**	**11 37 11.2**	**-0.9**
EADA	**Adamuz**	**2.81**	**56**	P	**Pn**	**11 36 40.4**	**+1.0**
EADA				S	**Sn**	**11 37 11.7**	**-0.4**
EADA				*i* Vmb_Lg		11 37 15.1	
EPLA	**Plasencia**	**3.61**	**18**	P	**Pn**	**11 36 51.7**	**+1.2**
EPLA				*i* Vmb_Lg		11 37 29.9	
EPLA				S	**Sn**	**11 37 30.8**	**-1.1**
PSIM	**Granatula de C**	**3.71**	**53**	P	**Pn**	**11 36 52.4**	**+0.7**
PSIM				S	**Sn**	**11 37 34.1**	**-0.1**
EQES	**Quesada**	**3.75**	**70**	P	**Pn**	**11 36 53.1**	**+0.7**
EQES				S	**Sn**	**11 37 35.5**	**+0.2**
EQES				*i* Vmb_Lg		11 37 37.2	
PAB	**San Pablo**	**3.84**	**40**	P	**Pn**	**11 36 54.6**	**+0.9**
PAB				S	**Sn**	**11 37 34.9**	**-2.8**
PAB				*i* Vmb_Lg		11 37 38.6	
ELOR	**Lorca, Murcia**	**4.73**	**76**	S	**Sn**	**11 37 58.3**	**-1.2**
ETOB	**Tobarra**	**5.16**	**65**	P	**Pn**	**11 37 11.5**	**-0.2**
ETOB				S	**Sn**	**11 38 08.1**	**-2.0**
ETOB				*i* Vmb_Lg		11 38 14.1	
ELOB	**Lobios**	**5.24**	**356**	S	**Sn**	**11 38 11.6**	**-0.6**
EVIV	**Cofrentes, Val**	**5.71**	**61**	*i* Vmb_Lg		11 38 21.6	
EVIV				S	**Sn**	**11 38 22.8**	**-0.8**

*BJI **04** 11:44:20.2±0.0, 6°.17S×143°.32E, h4km, mb5.1/73, mB5.2/41, Ms4.7/23, Ms7 4.3/24*
*IDC **04** 11:44:22.2±0.4, 6°.22S×143°.13E, h0km, mb5.1/18, mbtmp5.0/21, ML3.1/2, MS4.2/29, Error ellipse: s-maj=19.5km s-min=10.9km az=68.0*
*MOS **04** 11:44:23.3±0.9, 6°.17S×143°.10E, h16km, mb5.5/49, Error ellipse: s-maj=9.4km s-min=4.9km az=118.1*
*NEIC **04** 11:44:24.2±2.4, 6°.31S±0°.05×143°.07E±0°.06, h10km±1km, mb5.3/119, Mww5.1/15, Error ellipse: s-maj=11.2km s-min=6.8km az=116.0*
*DJA **04** 11:44:26.5±0.3, 6°S±3°×14°3E±°, h18km±2km, M5.0/40, mb5.1/40, mB5.4/29, MLv5.8/6, Mw(mB)4.9/29, MwMwp4.8/3, Mwp5.1/3*
*GCMT **04** 11:44:29.2±0.2, 6°.37S±0°.01×143°.03E±0°.01, h21km, MW5.1/108, Moment Tensor Solution. s81,c121; s108,c178; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr4.22±.14; Mθθ-4.63±.10; Mϕϕ0.40±.09; Mrθ2.33±.16; Mrϕ0.60±.07; Mθϕ-2.33±.20; Best double couple: M≈5.55800×10^16 NP1:ϕ1≈118.00000°, δ64.00000°, λ111.00000°. NP2:ϕ2≈257.00000°, δ33.00000°, λ54.00000°. Principal axes: T 5.6690, Plg65.0000°, Azm64.0000°; N -0.2230, Plg19.0000°, Azm288.0000°; P -5.4470, Plg16.0000°, Azm192.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 11:44:25.1±0.4, 6°.23S±0°.04×143°.08E±0°.04, h16km±2km, h17km:pP-P, n787, σ1§10/791, mb5.3/133, MS4.2/38, 22C-2D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**2.08**	**297**	P	**Pb**	**11 45 01.5**	**-1.0**
MMPI	**Merauke**	**3.48**	**230**	P	**Pn**	**11 45 19.5**	**+1.0**
GENI	**Genyem**	**4.64**	**321**	P	**Pn**	**11 45 38.3**	**+3.8**
GENI	**Genyem**	**4.64**	**321**	P	**Pn**	**11 45 37.1**	**+2.6**
PMG	**Port Moresby**	**5.12**	**128**		**Pn**	**11 45 40.8**	**-0.4**
PMG				Sn	**Sn**	**11 46 36.5**	**-3.5**
PMG	**Port Moresby**	**5.12**	**128**	P	**Pn**	**11 45 40.9**	**-0.3**
PMG	**Port Moresby**	**5.12**	**128**	Pn	**Pn**	**11 45 40.8**	**-0.3**
	16nm,0.3s,baz=327,slow=9.2,SNR=33						
PMG				Sn	**Sn**	11 46 28.9	-11
	12nm,0.3s,baz=211,slow=17,SNR=5.1						
PMG				Lg	Lg	11 47 05.8	
	19nm,0.3s,baz=59,slow=19,SNR=4.0						
	57nm,0.4s						
MANU	**Manus Island**	**5.96**	**46**		**Pn**	**11 45 56.1**	**+3.4**
MANU	**Manus Island**	**5.96**	**46**	P	**Pn**	**11 45 56.9**	**+4.1**
SMPI	**Sarmi**	**6.06**	**314**	P	**Pn**	**11 45 57.1**	**+3.0**
	667nm,0.9s,14µm3.9nm						
BULU	**Kimbe**	**7.23**	**85**	P	**Pn**	**11 46 10.5**	**+0.4**
COEN	**Coen**	**7.68**	**179**	P	**Pn**	**11 46 16.5**	**+0.2**
	baz=7.7,SNR=50						
COEN	**Coen**	**7.68**	**179**	Pn	**Pn**	**11 46 17.0**	**+0.7**
COEN	**Coen**	**7.68**	**179**	P	**Pn**	**11 46 17.1**	**+0.7**
KAVG	**Kavieng**	**8.51**	**65**	P	**Pn**	**11 46 27.8**	**0.0**
RABL	**Rabaul**	**9.27**	**78**	Pn	**Pn**	**11 46 40.2**	**+2.0**
RABL	**Rabaul**	**9.27**	**78**	P	**Pn**	**11 46 41.2**	**+3.0**
FAKI	**Fak Fak**	**11.29**	**286**	Pn	**Pn**	**11 47 06.8**	**+1.0**
FAKI	**Fak Fak**	**11.29**	**286**	P	**Pn**	**11 47 05.9**	**+0.1**
FAKI	**Fak Fak**	**11.29**	**286**	P	**Pn**	**11 47 04.6**	**-1.2**
	75nm,0.8s,1µm						
SAUI	**Saumlaki**	**11.82**	**261**	Pn	**Pn**	**11 47 13.6**	**+0.4**
SAUI	**Saumlaki**	**11.82**	**261**	P	**Pn**	**11 47 14.2**	**+1.1**
SAUI	**Saumlaki**	**11.82**	**261**	P	**Pn**	**11 47 14.0**	**+0.9**
	693nm,0.9s,14µm						
MTSU	**Mount Surprise**	**11.89**	**174**	P	**Pn**	**11 47 15.6**	**+1.5**
	baz=12,SNR=10.0						
MTSU	**Mount Surprise**	**11.89**	**174**	P	**Pn**	**11 47 15.3**	**+1.2**
KDU	**Kakadu**	**12.27**	**238**	P	**Pn**	**11 47 17.2**	**-2.0**
	baz=12,SNR=52						
SWI	**Sorong**	**12.95**	**294**	P	**Pn**	**11 47 27.8**	**-0.7**
SWI				pmax	pmax		
	comp=Z,78nm,1.1s						
SWI	**Sorong**	**12.95**	**294**	P	**Pn**	**11 47 27.9**	**-0.6**
	comp=Z,77nm,1.1s,comp=Z,2µm						
BNDI	**Bandanaira**	**13.23**	**277**	P	**Pn**	**11 47 34.6**	**+2.2**
	comp=Z,366nm,1.2s,comp=Z,13µm						
MTN	**Manton Dam**	**13.49**	**240**	P	**Pn**	**11 47 34.0**	**-1.9**
	baz=14,SNR=65						
MTN	**Manton Dam**	**13.49**	**240**	Pn	**Pn**	**11 47 33.8**	**-2.1**
MTN	**Manton Dam**	**13.49**	**240**	P	**Pn**	**11 47 34.4**	**-1.5**
DRS	**Darwin Rock St**	**13.50**	**242**	P	**Pn**	**11 47 34.9**	**-1.2**
CTA	**Charters Tower**	**14.12**	**168**	P	**Pn**	**11 47 46.9**	**+2.4**
CTA	**Charters Tower**	**14.12**	**168**	Pn	**Pn**	**11 47 44.7**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=1.3,slow=13,SNR=5.3						
CTA				Sn	Sn	11 50 29.5	+8.6
	comp=Z,0.4nm,0.3s,baz=45,slow=17,SNR=1.6						
CTA				Lg	Lg	11 51 51.4	
	comp=Z,0.5nm,0.3s,baz=336,slow=11,SNR=4.0						
CTA				LR	LR	11 53 32.2	
	comp=Z,3µm,19.0s,baz=356,slow=39						
	comp=Z,13nm,1.3s						
CTAO	**Charters Tower**	**14.12**	**168**		**Pn**	**11 47 44.6**	**+0.1**
CTAO	**Charters Tower**	**14.12**	**168**	P	**Pn**	**11 47 46.7**	**+2.2**
CTAO	**Charters Tower**	**14.12**	**168**	P	**Pn**	**11 47 44.6**	**+0.1**
QIS	**Mount Isa**	**14.63**	**193**	P	**Pn**	**11 47 50.8**	**-0.9**
	baz=15,SNR=19						
QIS	**Mount Isa**	**14.63**	**193**	P	**Pn**	**11 47 50.5**	**-1.1**
WB0	**Warramunga Arr**	**15.89**	**211**	Pn	**Pn**	**11 48 05.0**	**-3.1**
WR0	**Warramunga Arr**	**15.97**	**211**		**Pn**	**11 48 06.6**	**-2.7**
WRAB	**Tennant Creek**	**16.05**	**211**		**Pn**	**11 48 07.2**	**-3.0**
WRAB	**Tennant Creek**	**16.05**	**211**	P	**Pn**	**11 48 07.2**	**-3.0**
WRAB				pmax	pmax		
	comp=Z,52nm,1.1s						
WB2	**Warramunga Arr**	**16.05**	**211**	P	**Pn**	**11 48 07.0**	**-3.3**
	baz=16						
WB2	**Warramunga Arr**	**16.05**	**211**	Pn	**Pn**	**11 48 07.7**	**-2.6**
WRA	**Warramunga Arr**	**16.06**	**211**	Pn	**Pn**	**11 48 06.9**	**-3.5**
WRA	**Warramunga Arr**	**16.06**	**211**	P	**Pn**	**11 48 06.9**	**-3.5**
WRA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
WRA	**Warramunga Arr**	**16.06**	**211**	Pn	**Pn**	**11 48 06.7**	**-3.7**
	comp=Z,5.9nm,0.3s,baz=23,slow=13,SNR=185						
WRA				Sn	Sn	11 50 53.3	-15
	comp=Z,2.1nm,0.3s,baz=26,slow=23,SNR=4.5						
WRA				Lg	Lg	11 52 46.1	
	comp=Z,1.9nm,0.3s,baz=33,slow=27,SNR=5.2						
WRA				LR	LR	11 55 08.1	
	comp=Z,3µm,18.3s,baz=24,slow=40						
NLAI	**Namlea**	**16.20**	**280**	P	**P**	**11 48 15.9**	**+0.6**
	comp=Z,36nm,1.1s,comp=Z,6µm						
LBMI	**Labuha**	**16.51**	**289**	P	**P**	**11 48 18.6**	**-0.1**
	comp=Z,74nm,1.1s,comp=Z,2µm						
KNRA	**Kununurra**	**16.89**	**235**	P	**Pn**	**11 48 18.1**	**-2.9**
	baz=17,SNR=80						
KNRA	**Kununurra**	**16.89**	**235**	Pn	**Pn**	**11 48 18.7**	**-2.3**
KNRA				IAmb	IAmb	11 48 28.7	
	comp=Z,148nm,0.9s						
HNR	**Honiara**	**17.01**	**102**	P	**P**	**11 48 24.5**	**+0.3**
HNR				IAmb	IAmb	11 48 26.6	
	comp=Z,442nm,1.3s						
HNR	**Honiara**	**17.01**	**102**	P	**P**	**11 48 25.2**	**+1.0**
HNR	**Honiara**	**17.01**	**102**	Pn	**Pn**	**11 48 23.2**	**+0.8**
	comp=Z,62nm,0.3s,baz=180,slow=5.2,SNR=3

comp=Z,6,4nm,0.9s
AUPHS Peel High Scho 25.80 164 P **P** **11 49 57.2 +1.7**
TWSI Taliwang, Sumb 26.09 263 P **P** **11 49 59.1 +0.8**
comp=Z,24nm,1.1s
MBWA Marble Bar 27.05 234 P **P** **11 50 08.1 +1.2**
WHYH Whyalla 27.16 190 P **P** **11 50 11.6 +3.9**
PSA00 Pilbara Seismi 27.16 234 P **P** **11 50 11.8 +3.9**
BBOO Buckleboo 27.24 193 P **P** **11 50 10.8 +2.3**
baz=27
BBOO Buckleboo 27.24 193 P **P** **11 50 08.5 0.0**
HTT Hallett 27.34 188 P **P** **11 50 11.7 +2.3**
baz=28,SNR=8.2
HTT Hallett 27.34 188 P **P** **11 50 11.2 +1.8**
HTT Hallett 27.34 188 P **P** **11 50 07.5 -1.9**
DZM Mont Dzumac 27.52 127 P **P** **11 50 10.9 -0.4**
DZM Mont Dzumac 27.52 127 P **P** **11 50 13.0 +1.8**
DZM Mont Dzumac 27.52 127 *e*P **P** **11 50 13.4 +2.2**
comp=Z,62nm,35.2s
DZM *e*S **S** **11 54 53.3 +1.4**
comp=Z,337nm,25.6s
DZM *e*LR LR 11 57 15.0
comp=Z,605nm,24.1s
ONTNC Ouen Toro 27.65 128 P **P** **11 50 12.2 0.0**
SRBI Singaraja 27.71 265 P **P** **11 50 12.2 -0.7**
comp=Z,19nm,0.8s
SRBI pP **sP** **11 50 18.6 -1.9**
comp=Z,19nm,0.8s
FORT Forrest 28.20 208 P **P** **11 50 16.3 -0.8**
FORT IAmb IAmb 11 50 50.0
comp=Z,74nm,0.8s
YNG Young 28.36 171 P **P** **11 50 20.6 +2.1**
baz=28
JAGI Jajag, Banyuwa 28.77 264 P **P** **11 50 19.8 -2.6**
JAGI IAmb IAmb 11 50 31.2
comp=Z,131nm,1.9s
JAGI Jajag, Banyuwa 28.77 264 P **P** **11 50 20.6 -1.8**
JAGI Jajag, Banyuwa 28.77 264 P **P** **11 50 19.9 -2.6**
comp=Z,30nm,1.4s
JAGI pP **pP** **11 50 26.0 -1.9**
comp=Z,30nm,1.4s
KKM Kota Kinabalu 29.46 294 P **P** **11 50 28.3 -0.3**
KKM IAmb IAmb 11 50 29.4
comp=Z,33nm,1.0s
TGY Tagaytay City 29.85 313 LR LR 12 03 32.2
comp=Z,219nm,19.9s,baz=110,slow=38
KMBL Kambalda 31.93 216 P **P** **11 50 53.8 +3.7**
BBJI Bungbulang 35.20 266 P **P** **11 51 17.5 -1.4**
LEM Lembang 35.23 267 P **P** **11 51 19.2 -0.1**
comp=Z,7.1nm,0.4s,baz=325,slow=23,SNR=4.2
LEM LR LR 12 10 34.2
comp=Z,253nm,18.6s,baz=58,slow=45
comp=Z,7.1nm,0.4s
NWAO Narrogin (SRO) 35.83 219 LR LR 12 07 45.9
comp=Z,319nm,21.2s,baz=144,slow=39
JOW Kunigami 35.86 337 P **P** **11 51 24.5 +0.1**
JOW IAmb IAmb 11 51 26.0
comp=Z,56nm,1.3s
JOW Kunigami 35.86 337 P **P** **11 51 22.9 -1.4**
comp=Z,30nm,1.1s,baz=150,slow=16,SNR=4.2
JOW LR LR 12 04 00.6
comp=Z,394nm,20.4s,baz=170,slow=33
comp=Z,30nm,1.1s
TPUB Ta-pu 36.65 324 P **P** **11 51 29.7 -1.4**
TPUB IAmb IAmb 11 51 31.1
comp=Z,60nm,1.5s
TPUB Ta-pu 36.65 324 P **P** **11 51 30.6 -0.5**
NACB Ninganchiao 36.77 326 P **P** **11 51 32.2 +0.1**
NACB IAmb IAmb 11 51 40.5
comp=Z,69nm,1.1s
NACB Ninganchiao 36.77 326 P **P** **11 51 32.6 +0.4**
YHNB Yeheng 37.29 326 P **P** **11 51 36.2 -0.4**
YHNB IAmb IAmb 11 51 45.5
comp=Z,35nm,0.9s
YHNB Yeheng 37.29 326 P **P** **11 51 37.5 +0.9**
TATO Taipei 37.47 327 P **P** **11 51 38.1 +0.1**
TATO IAmb IAmb 11 51 39.7
comp=Z,66nm,0.8s
TATO Taipei 37.47 327 P **P** **11 51 39.2 +1.2**
QZH Quanzhou 39.10 323⇑*i*P **P** **11 51 52.4 +0.7**
QZH S **S** **11 57 52.2 +1.4**
QZH LR LR
comp=Z,300nm,21.0s
JMN Monobe 40.69 348 P **P** **11 52 03.4 -1.5**
JMN IAmb IAmb 11 52 06.4
comp=Z,46nm,0.7s
JMN Monobe 40.69 348 P **P** **11 52 05.7 +0.8**
JNU Nakatsue 40.82 344 **P** **11 52 05.4 -0.6**
JNU IAmb IAmb 11 52 06.8
comp=Z,33nm,0.8s
JNU Nakatsue 40.82 344 P **P** **11 52 06.4 +0.4**
JNU Nakatsue 40.82 344 P **P** **11 52 05.6 -0.4**
comp=Z,30nm,0.8s,baz=147,slow=2.9,SNR=16
comp=Z,30nm,0.8s
QIZ Qiongzhong 41.26 308 P **P** **11 52 10.3 +0.5**
QIZ S **S** **11 58 26.0 +2.5**
QIZ LR LR
comp=Z,220nm,21.6s
QIZ LR LR
comp=Z,160nm,21.1s
QIZ LR LR
comp=Z,220nm,19.0s
INU Inuyama 41.75 353 **P** **11 52 12.0 -1.6**
INU Inuyama 41.75 353 P **P** **11 52 13.2 -0.4**
JGF Kuroka 41.96 353 P **P** **11 52 13.5 -1.8**
JGF Kuroka 41.96 353 P **P** **11 52 13.9 -1.4**
BKNI Bangkinang 42.46 277 P **P** **11 52 20.0 +0.2**
MJAR Matsushiro Arr 42.79 354 P **P** **11 52 20.0 -2.0**
comp=Z,13nm,0.9s,baz=181,slow=7.9,SNR=31
MJAR PcP **PcP** **11 54 12.3 -1.0**
comp=Z,6.2nm,0.8s,baz=188,slow=3.6,SNR=5.3
MJAR LR LR 12 08 33.8
comp=Z,240nm,20.7s,baz=142,slow=34
comp=Z,13nm,0.9s
MAJO Matsushiro 42.79 354 P **P** **11 52 20.8 -1.3**
MAJO Matsushiro 42.79 354 P **P** **11 52 21.0 -1.1**
MAJO Matsushiro 42.79 354 P **P** **11 52 20.8 -1.3**
MAJO pmax pmax
comp=Z,27nm,0.9s
MJB9 Matsu-Tunnel 42.80 354 P **P** **11 52 20.9 -1.3**
UBPT Khong Chiam 42.96 300 P **P** **11 52 23.1 -0.7**
UBPT Khong Chiam 42.96 300 P **P** **11 52 24.1 +0.4**
RAO Raoul Island 43.32 127 LR LR 12 08 01.0
comp=Z,302nm,21.5s,baz=326,slow=33
IPM Ipoh 43.32 283 P **P** **11 52 26.7 0.0**
IPM Ipoh 43.32 283 P **P** **11 52 27.8 +1.1**
URZ Urewera 44.35 141 LR LR 12 10 58.9
comp=Z,713nm,18.2s,baz=105,slow=36
NJ2 Nanjing 44.53 330 *e*P **P** **11 52 37.6 +1.5**
NJ2 pP **sP** **11 52 41.4 -2.4**
NJ2 sP **pP** **11 52 42.8 +1.2**
NJ2 pmax pmax
comp=Z,20nm,0.9s
NJ2 pmax pmax
comp=Z,280nm,4.0s
GULI GuiLin 44.65 316 P **P** **11 52 38.9 +1.7**
RPZ Rata Peaks 44.69 151 LR LR 12 09 43.3
comp=Z,542nm,18.5s,baz=304,slow=34
TJN Taejon 44.88 342⇑*e*P **P** **11 52 38.6 -0.2**
RPSI Rantau Prapat 44.97 280 P **P** **11 52 39.2 -0.8**
RPSI IAmb IAmb 11 52 50.5
comp=Z,21nm,1.0s
PSI Prapat 44.99 280 P **P** **11 52 40.4 +0.1**
PSI Prapat 44.99 280 P **P** **11 52 39.2 -1.1**
PSI pmax pmax
comp=Z,21nm,1.0s
KSAR Wonju Array Be 45.71 343 P **P** **11 52 45.7 +0.3**
KSAR Wonju Array Be 45.71 343 P **P** **11 52 45.7 +0.3**
KSRS Korea Array 45.71 343 P **P** **11 52 45.8 +0.4**
comp=Z,30nm,0.8s,baz=165,slow=9.5,SNR=64
KSRS PcP **PcP** **11 54 23.6 +0.4**
comp=Z,4.9nm,0.9s,baz=175,slow=4.4,SNR=3.3
comp=Z,30nm,0.8s
KS19 Wonju Array Si 45.77 343 P **P** **11 52 45.0 -0.8**
KS19 IAmb IAmb 11 52 47.0
comp=Z,24nm,0.8s
WHN Wuhan 45.77 325 P **P** **11 52 47.9 +1.9**
WHN sP **sP** **11 52 54.5 +0.8**
WHN S **S** **11 59 31.9 +2.9**
WHN pmax pmax
comp=Z,54nm,0.9s
WHN LR LR
comp=Z,620nm,17.9s
SRIT Nakonsritamara 45.78 288 P **P** **11 52 46.2 -0.2**
INCN Inchon 46.12 342 P **P** **11 52 49.8 +1.1**
NONG Nongkai 46.22 302 P **P** **11 52 49.7 0.0**

JTM Tenmabayashi 46.82 358 P **P** **11 52 53.0 -1.2**
JTM Tenmabayashi 46.82 358 P **P** **11 52 53.2 -0.9**
GYA Guiyang 47.98 314⇑*i*P **P** **11 53 05.1 +1.5**
GYA pmax pmax
comp=Z,33nm,1.0s
GYA pmax pmax
comp=Z,170nm,5.2s
ENH Enshi 48.52 320 P **P** **11 53 06.7 -0.9**
ENH IAmb IAmb 11 53 09.3
comp=Z,28nm,0.9s
ENH Enshi 48.52 320 P **P** **11 53 08.2 +0.6**
PHRA Phrae 48.88 301 P **P** **11 53 10.8 +0.3**
CRAI Chiangrai 49.54 303 P **P** **11 53 16.0 +0.5**
LYN LuoYang 49.81 327⇑P **P** **11 53 17.6 +0.3**
LYN sP sP 11 53 24.7 -0.4
LYN pmax pmax
comp=Z,62nm,1.0s
LYN pmax pmax
comp=Z,220nm,4.8s
CM31 Chiang Mai Arr 49.96 300 P **P** **11 53 19.2 +0.5**
CM31 IAmb IAmb 11 53 20.8
comp=Z,17nm,0.8s
CMAR Chiang Mai Arr 49.96 300 P **P** **11 53 18.8 0.0**
CMAR Chiang Mai Arr 49.96 300 P **P** **11 53 19.8 +1.0**
comp=Z,11nm,0.7s,baz=116,slow=6.1,SNR=66
comp=Z,11nm,0.7s
KMI Kunming 50.11 310⇑P **P** **11 53 21.9 +1.9**
KMI S **S** **12 00 34.6 +3.3**
KMI pmax pmax
comp=Z,30nm,1.2s
KMI LR LR
comp=Z,220nm,20.2s
KMI LR LR
comp=Z,120nm,22.9s
KMI LR LR
comp=Z,240nm,28.3s
CHTO Chiang Mai 50.11 301 P **P** **11 53 20.2 +0.3**
CHTO Chiang Mai 50.11 301 P **P** **11 53 20.5 +0.6**
CHTO Chiang Mai 50.11 301 P **P** **11 53 20.2 +0.3**
CHTO pmax pmax
comp=Z,14nm,0.8s
ASAJ Asahikawa 50.12 360 LR LR 12 13 56.6
comp=Z,62nm,21.4s,baz=146,slow=35
HNS HongShan 50.85 331⇑P **P** **11 53 25.2 +0.1**
HNS *e*S **S** **12 00 39.0 -1.7**
HNS pmax pmax
comp=Z,23nm,0.7s
HNS LR LR
comp=Z,320nm,15.9s
HNS LR LR
comp=Z,290nm,18.3s
SNY Shenyang 51.04 341⇓P **P** **11 53 26.9 +0.4**
SNY S **S** **12 00 44.3 +1.1**
SNY pmax pmax
comp=Z,20nm,0.5s
SNY LR LR
comp=Z,200nm,16.6s
SNY LR LR
comp=Z,310nm,15.4s
SNY LR LR
comp=Z,230nm,16.8s
USA0B Ussuriysk Arra 51.19 350 P **P** **11 53 27.3 -0.2**
USA0B IAmb IAmb 11 53 28.8
comp=Z,39nm,0.9s
USA0B Ussuriysk Arra 51.19 350 P **P** **11 53 27.3 -0.2**
USA0B pmax pmax
comp=Z,39nm,1.0s
USRK Ussuriysk Ar. 51.19 350 P **P** **11 53 27.4 -0.1**
USRK Ussuriysk Ar. 51.19 350 P **P** **11 53 27.2 -0.3**
comp=Z,29nm,0.9s,baz=172,slow=7.8,SNR=35
USRK PcP **PcP** **11 54 41.7 -1.1**
comp=Z,5.3nm,1.0s,baz=178,slow=4.3,SNR=1.0
comp=Z,29nm,0.9s
XAN Xi'an 51.46 323⇑P **P** **11 53 30.0 +0.1**
XAN pP sP 11 53 34.6 -3.0
XAN sP pP 11 53 36.8 +1.3
XAN S **S** **12 00 49.9 +0.4**
XAN sS pS 12 00 55.6 -0.6
XAN pmax pmax
comp=Z,58nm,1.5s
XAN pmax pmax
comp=Z,170nm,4.4s
PZH PanZhiHua 51.61 311 P **P** **11 53 32.1 +0.9**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,110nm,5.9s
MDJ Mudanjiang 52.05 348 P **P** **11 53 34.2 +0.2**
MDJ pP pP 11 53 37.9 -1.7
MDJ S **S** **12 00 55.9 -1.2**
MDJ sS sS 12 01 07.0 +0.6
MDJ pmax pmax
comp=Z,24nm,1.0s
MDJ pmax pmax
comp=Z,190nm,3.5s
MDJ LR LR
comp=Z,270nm,14.9s
MDJ LR LR
comp=Z,250nm,15.6s
MDJ LR LR
comp=Z,260nm,15.9s
MDJ Mudanjiang 52.05 348 P **P** **11 53 33.8 -0.2**
MDJ IAmb IAmb 11 53 35.2
comp=Z,22nm,1.0s
MDJ Mudanjiang 52.05 348 P **P** **11 53 34.6 +0.6**
TIY Taiyuan 52.22 329 *e*P **P** **11 53 37.2 +1.7**
BJT Baijiatuan 52.29 334 P **P** **11 53 36.0 +0.2**
CN2 Changchun 52.29 344 *e*P **P** **11 53 35.3 -0.5**
CN2 *e*pP pP 11 53 39.8 -1.6
CN2 *e*S **S** **12 00 58.8 -1.6**
CN2 pmax pmax
comp=Z,20nm,1.2s
BJI Beijing 52.30 334 P **P** **11 53 35.9 0.0**
BJI sP **sP** **11 53 43.0 -0.7**
BJI pmax pmax
comp=Z,9.0nm,0.8s
BJI LR LR
comp=Z,130nm,19.4s
BJI LR LR
comp=Z,120nm,18.2s
BJI LR LR
comp=Z,170nm,19.6s
CD2 Chengdu 52.71 317 P **P** **11 53 40.1 +0.9**
CD2 pmax pmax
comp=Z,60nm,0.7s
YSS Yuzh-Sakhalins 52.95 360 *e*P **P** **11 53 40.3 -0.3**
YSS pmax pmax
comp=Z,30nm,1.0s
TNCH TengChong 53.33 307⇑P **P** **11 53 44.3 +0.2**
TNCH pP sP 11 53 48.8 -3.0
TNCH sP pP 11 53 51.6 +1.9
TNCH S **S** **12 01 13.8 -1.8**
TNCH sS sS 12 01 25.9 +1.0
TNCH pmax pmax
comp=Z,36nm,1.3s
TNCH pmax pmax
comp=Z,180nm,4.6s
TNCH LR LR
comp=Z,140nm,4.2s
TNCH LR LR
comp=Z,93nm,5.5s
TNCH LR LR
comp=Z,68nm,8.0s
MND Mandalay 53.89 303 P **P** **11 53 49.1 +1.1**
HHC Hu-ho-hao-te 55.06 331 *e*P **P** **11 53 56.9 +0.6**
HHC pP sP 11 54 02.6 -1.5
HHC S **S** **12 01 39.4 +1.0**
HHC sS sS 12 01 51.4 +3.6
HHC pmax pmax
comp=Z,17nm,0.7s
HHC pmax pmax
comp=Z,140nm,5.6s
HHC LR LR
comp=Z,160nm,14.5s
HHC LR LR
comp=Z,200nm,12.9s
HHC LR LR
comp=Z,190nm,14.1s
UGL Uglegorsk 55.09 359 *e*P **P** **11 53 56.0 -0.1**
UGL pmax pmax
comp=Z,100nm,1.1s
BTO Baotou 55.63 330 *e*P **P** **11 54 02.0 +1.6**
BTO pP **sP** **11 54 06.3 -2.0**
BTO sP **pP** **11 54 08.5 +2.4**
BTO PP **PP** **11 56 07.2 +2.3**

BTO S **S** **12 01 51.6 +5.6**
BTO SS **SS** **12 05 26.2 -5.4**
BTO pmax pmax
comp=Z,26nm,0.6s
BTO pmax pmax
comp=Z,330nm,4.3s
BTO LR LR
comp=Z,370nm,5.0s
BTO LR LR
comp=Z,270nm,6.2s
BTO LR LR
comp=Z,560nm,14.9s
LZH Lanzhou 55.91 322⇑P **P** **11 54 04.2 +1.6**
LZH pP sP 11 54 11.0 +0.6
LZH pmax pmax
comp=Z,63nm,1.4s
LZH LR LR
comp=Z,140nm,14.8s
LZH LR LR
comp=Z,150nm,13.4s
LZH LR LR
comp=Z,170nm,12.7s
KLR Kul'dur 56.11 351⇑*e*P **P** **11 54 03.3 -0.2**
KLR pmax pmax
comp=Z,52nm,1.8s
KLR Kul'dur 56.11 351 LR LR 12 14 02.6
comp=Z,115nm,22.0s,baz=193,slow=32
TYV Tymovskoe 56.87 360 *e*P **P** **11 54 09.2 +0.3**
TYV pmax pmax
comp=Z,100nm,5.6s
TYV pmax pmax
comp=Z,27nm,0.7s
GRNR Gornyy 57.06 355⇑*i*P **P** **11 54 10.5 +0.2**
GRNR pmax pmax
comp=N,6.0nm,1.2s
GRNR pmax pmax
comp=Z,10.0nm,1.2s
RAR Rarotonga 57.18 111 LR LR 12 18 40.0
comp=Z,33nm,18.1s,baz=307,slow=36
HEH HeiHe 57.87 348 *e*P **P** **11 54 15.3 -0.7**
HEH pP **pP** **11 54 19.5 -2.2**
HEH S **S** **12 02 11.8 -3.2**
HEH pmax pmax
comp=Z,23nm,1.0s
HEH pmax pmax
comp=Z,210nm,5.1s
HEH LR LR
comp=Z,210nm,14.0s
HEH LR LR
comp=Z,130nm,14.7s
HEH LR LR
comp=Z,300nm,14.4s
HIA Hailar 58.90 342 P **P** **11 54 23.7 +0.4**
PEA0B Petropavlovsk- 60.40 10 P **P** **11 54 33.6 +0.2**
PEA0B Petropavlovsk- 60.40 10 P **P** **11 54 33.7 +0.2**
PEA0B pmax pmax
comp=Z,81nm,0.9s
PETK Petropavlovsk- 60.40 10 P **P** **11 54 33.6 +0.1**
PETK Petropavlovsk- 60.40 10 P **P** **11 54 33.6 +0.1**
PETK Petropavlovsk- 60.40 10 P **P** **11 54 33.0 -0.5**
comp=Z,68nm,0.9s,baz=190,slow=6.1,SNR=34
PETK LR LR 12 19 45.9
comp=Z,101nm,19.6s,baz=177,slow=35
comp=Z,68nm,0.9s
GTA Gaotai 60.49 322⇑P **P** **11 54 35.7 +1.2**
GTA pP sP 11 54 39.8 -2.6
GTA pmax pmax
comp=Z,22nm,1.0s
ZEA Zeya 61.22 349 *e*P **P** **11 54 39.5 +0.5**
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=N,30nm,1.1s
ZEA pmax pmax
comp=Z,50nm,1.0s
LSA Lhasa 61.30 309 P **P** **11 54 41.1 +0.5**
LSA IAmb IAmb 11 54 43.5
comp=Z,20nm,0.9s
LSA Lhasa 61.30 309 P **P** **11 54 41.2 +0.5**
LSA pmax pmax
comp=Z,20nm,0.9s
GOMU GeErMu 61.84 317 P **P** **11 54 45.0 +0.9**
GOMU pP sP 11 54 49.5 -2.4
GOMU sP pP 11 54 51.5 +1.7
GOMU S S 12 02 58.5 -9.0
GOMU pmax pmax
comp=Z,15nm,1.0s
ULN Ulaanbaatar 62.51 333 P **P** **11 54 48.8 +0.7**
ULN IAmb IAmb 11 54 49.5
comp=Z,13nm,0.8s
ULN Ulaanbaatar 62.51 333 P **P** **11 54 48.8 +0.7**
ULN pmax pmax
comp=Z,13nm,0.9s
SONM Songino Array 62.78 333 P **P** **11 54 50.3 +0.5**
SONM IAmb IAmb 11 54 51.8
comp=Z,31nm,1.5s
SONM Songino Array 62.78 333 P **P** **11 54 50.4 +0.6**
comp=Z,5.4nm,0.8s,baz=157,slow=6.9,SNR=33
SONM LR LR 12 22 30.6
comp=Z,226nm,19.4s,baz=154,slow=36
comp=Z,5.4nm,0.8s
SHEM Shemya Is, Ala 64.37 20 LR LR 12 17 46.0
comp=Z,487nm,21.3s,baz=248,slow=31
AMKA Amchitka 65.25 24 P **P** **11 55 05.6 -0.2**
MA2 Magadan 65.88 4 P **P** **11 55 09.4 -0.3**
MA2 Magadan 65.88 4 P **P** **11 55 10.0 +0.3**
MA2 Magadan 65.88 4⇑*e*P **P** **11 55 10.0 +0.3**
MA2 pmax pmax
comp=Z,98nm,0.9s
PPT Papeete 66.57 106 LR LR 12 20 20.9
comp=Z,105nm,20.9s,baz=266,slow=32
PPT2 Papeete2 66.57 106 *e*P P 11 55 06.1 -9.0
comp=Z,61nm,24.5s
PPT2 *e*S S 12 04 17.1 +11
comp=Z,112nm,26.2s
PPT2 *e*LQ LQ 12 12 41.2
comp=Z,920nm,31.2s
PPT2 *e*LR LR 12 15 17.1
comp=Z,280nm,25.0s
PPT2 *e*LR LR 12 15 22.0
comp=Z,251nm,27.0s
TBI Tubuai 66.87 113 *e*LR LR 12 15 22.9
comp=Z,543nm,23.2s
KIWB Kanaga Island 67.08 26 P **P** **11 55 18.3 +0.7**
ADK Adak 67.31 26 P **P** **11 55 18.7 -0.3**
ADK Adak 67.31 26 P **P** **11 55 20.3 +1.3**
ADK Adak 67.31 26 P **P** **11 55 18.7 -0.3**
ADK pmax pmax
comp=Z,172nm,1.2s
HYB Hyderabad 67.91 292 *e*P **P** **11 55 23.5 0.0**
MOY Mondy 67.97 333 *e*P **P** **11 55 24.0 +0.6**
MOY pmax pmax
comp=Z,44nm,2.9s
BOD Bodaibo 68.04 344 *e*P **P** **11 55 23.4 -0.1**
BOD pmax pmax
comp=Z,17nm,2.3s
YAK Yakutsk 68.85 353 P **P** **11 55 28.3 -0.1**
YAK Yakutsk 68.85 353 *e*P **P** **11 55 28.3 -0.1**
YAK *e**PP **sP** **11 55 39.4 +3.1**
YAK *e* 11 55 52.3
YAK *e* 11 58 01.0
YAK *e*S **S** **12 04 29.9 -1.6**
YAK *e**SS sS 12 04 50.5 +9.4
YAK *e* 12 05 26.5
YAK *e*SS **SS** **12 08 55.6 -1.5**
YAK pmax pmax
comp=Z,23nm,1.0s
YAK pmax pmax
comp=N,12nm,1.2s
YAK pmax pmax
comp=E,2.0nm,1.2s
YAK pmax pmax
comp=Z,156nm,4.7s
YAK smax smax
comp=E,131nm,3.8s
YAK smax smax
comp=N,79nm,3.3s
YAK Yakutsk 68.85 353 LR LR 12 24 13.2
comp=N,117nm,19.2s,baz=129,slow=35
SEY Seymchan 69.33 5⇑*e*P **P** **11 55 30.3 -1.2**
SEY pmax pmax
comp=Z,67nm,1.0s
WMQ Urumqi 70.47 321 *e*P **P** **11 55 39.8 +0.8**
WMQ pP sP 11 55 44.4 -2.5
WMQ pmax pmax
comp=Z,36nm,0.9s

WMQ pmax pmax
comp=Z,180nm,5.3s
NIKH Nikolski High 71.58 28 P P 11 55 44.9 -0.5
baz=231
VNDA Vanda 71.94 176 P P 11 55 47.2 0.0
comp=Z,3.1nm,0.9s,baz=324,slow=6.9,SNR=8.1
VNDA LR LR 12 26 54.9
comp=Z,397nm,18.4s,baz=358,slow=36
comp=Z,3.1nm,0.9s
UNV Unalaska Valle 73.23 28 P P 11 55 55.5 +0.3
baz=233
P08K Saint George I 73.59 25 P P 11 55 57.6 +0.4
baz=230
DGZ Jazzator, Alta 73.61 326⇑ *i*P **P 11 55 58.3 +0.5**
DGZ pmax pmax
comp=Z,42nm,0.8s
SPIA Saint Paul Isl 73.67 24 P P 11 55 58.5 +0.7
baz=229
ZSN Zaisan 73.97 323 *e*P **P 11 55 59.8 +0.1**
ZSN pmax pmax
comp=Z,27nm,1.5s
ZSN Zaisan 73.97 323 *e*P **P 11 55 59.9 +0.1**
comp=Z,27nm,1.5s,baz=323
MK31 Makanchi Array 75.23 322 P P 11 56 07.3 +0.2
MK31 lAmb lAmb 11 56 08.9
comp=Z,38nm,1.0s
MK31 Makanchi Array 75.23 322 *i* P **P 11 56 06.8 -0.3**
MKAR Makanchi Array 75.23 322 P P 11 56 07.0 -0.1
MKAR Makanchi Array 75.23 322 P P 11 56 07.4 +0.3
comp=Z,32nm,0.7s,baz=108,slow=7.1,SNR=160
MKAR LR LR 12 29 12.8
comp=Z,81nm,21.0s,baz=62,slow=36
comp=Z,32nm,0.7s
FALS False Pass 75.29 29 P P 11 56 06.9 -0.2
baz=236
MAKZ Makanchi 75.43 322 P P 11 56 08.9 +0.6
MAKZ Makanchi 75.43 322 P P 11 56 08.9 +0.6
MAKZ pmax pmax
comp=Z,60nm,1.0s
SHLS Shalkode 75.54 317 *e*P **P 11 56 07.5 -1.6**
SHLS Shalkode 75.54 317 *e*P **P 11 56 07.6 -1.6**
baz=318
PDGK Podgornoye 75.58 318 P P 11 56 09.8 +0.4
UZB Uzynbulak 75.83 317 *e*P **P 11 56 10.8 0.0**
UZB pmax pmax
comp=Z,25nm,0.8s
UZB Uzynbulak 75.83 317 *e*P **P 11 56 10.8 0.0**
comp=Z,26nm,0.8s,baz=317
BILL Bilibino 75.89 9 P P 11 56 10.5 +0.1
BILL lAmb lAmb 11 56 11.7
comp=Z,34nm,1.0s
BILL Bilibino 75.89 9⇑ *e*P **P 11 56 09.5 -0.9**
BILL pmax pmax
comp=Z,63nm,1.7s
TARG Taragay, Kyrgy 76.13 316 P P 11 56 13.5 +0.6
TARG lAmb lAmb 11 56 15.1
comp=Z,14nm,0.9s
TARG Taragay, Kyrgy 76.13 316 P P 11 56 13.5 +0.6
TARG pmax pmax
comp=Z,14nm,0.9s
SATY Saty 76.21 317 *e*P **P 11 56 12.9 0.0**
SATY pmax pmax
comp=Z,25nm,1.3s
SATY Saty 76.21 317 *e*P **P 11 56 13.0 0.0**
comp=Z,25nm,1.3s,baz=317
KSH Kashi 76.66 313 P P 11 56 17.5 +1.9
KSH sP PcP 11 56 28.0 +1.0
KSH pmax pmax
comp=Z,33nm,1.0s
NIL Nilore 76.91 306 P P 11 56 17.9 +0.9
NIL Nilore 76.91 306 P P 11 56 17.9 +0.9
NIL pmax pmax
comp=Z,63nm,0.8s
TDK Taldyqorghan 76.96 319 *e*P **P 11 56 17.0 0.0**
TDK pmax pmax
comp=Z,36nm,0.8s
TDK Taldyqorghan 76.96 319 *e*P **P 11 56 17.0 0.0**
comp=Z,36nm,0.8s,baz=319
SDPT Sand Point 76.97 29 P P 11 56 16.7 -0.1
baz=238
ARXS Arharly 77.04 318 *e*P **P 11 56 17.9 +0.4**
CHNA Chernabura Isl 77.14 30 P P 11 56 17.4 -0.3
baz=239
ZAA0 Zalesovo Array 77.17 329 P P 11 56 16.4 -1.5
ZAA0 lAmb lAmb 11 56 18.4
comp=Z,23nm,1.1s
ZALV Zalesovo Beam 77.17 329 P P 11 56 17.1 -0.8
comp=Z,13nm,0.7s,baz=111,slow=5.5,SNR=50
comp=Z,13nm,0.7s
MDOK Medeo 77.17 317 *e*P **P 11 56 17.6 -0.8**
MDOK Medeo 77.17 317 *e*P **P 11 56 17.6 -0.8**
baz=317
NRN Naryn 77.29 315 P P 11 56 19.3 0.0
NRN Naryn 77.29 315 P P 11 56 19.3 0.0
NRN pmax pmax
comp=Z,11nm,1.0s
M11K Mekoryuk 77.35 23 P P 11 56 18.5 -0.2
baz=232
ULHL Ulahol 77.40 316 P P 11 56 20.5 +0.7
SNR=6.6
CHKK Chushkaly 77.47 317 *e*P **P 11 56 19.8 -0.1**
CHKK Chushkaly 77.47 317 *e*P **P 11 56 19.8 -0.1**
baz=317
GAMB Gambell 77.61 19 P P 11 56 20.7 +0.5
baz=226
BOOM Boomskoye usch 77.70 316 P P 11 56 21.9 +0.5
BOOM lAmb lAmb 11 56 23.3
comp=Z,22nm,0.6s
BOOM Boomskoye usch 77.70 316 P P 11 56 21.9 +0.5
BOOM pmax pmax
comp=Z,22nm,0.6s
S14K Fog Glacier 77.91 29 P P 11 56 22.6 +0.4
baz=239
KUU Kurty 77.92 317 *e*P **P 11 56 22.0 -0.4**
KUU pmax pmax
comp=Z,22nm,0.9s
KUU Kurty 77.92 317 *e*P **P 11 56 22.0 -0.4**
comp=Z,22nm,0.9s,baz=317
SEM Semipalatinsk 78.02 324 *e*P **P 11 56 22.8 -0.2**
SEM pmax pmax
comp=Z,27nm,1.5s
SEM Semipalatinsk 78.02 324 *e*P **P 11 56 22.9 -0.2**
comp=Z,27nm,1.5s,baz=324
TKM2 Tokmak 2 78.08 316 P P 11 56 24.4 +0.8
SNR=23
TKM2 Tokmak 2 78.08 316 P P 11 56 23.3 -0.3
TIXI Tiksi 78.29 355 P P 11 56 22.7 -1.1
TIXI Tiksi 78.29 355 P P 11 56 22.7 -1.1
TIXI pmax pmax
comp=Z,12nm,0.9s
TIXI Tiksi 78.29 355 LR LR 12 32 27.0
comp=Z,95nm,18.3s,baz=190,slow=37
KBK Karagaybulak 78.44 316 P P 11 56 26.3 +0.8
SNR=8.2
CHGN Chignik 78.46 29 P P 11 56 26.1 +1.0
baz=240
M13K Dall Lake 78.50 24 P P 11 56 25.6 +0.4
M13K Dall Lake 78.50 24 P P 11 56 26.1 +0.9
baz=235
UCH Uchtor 78.60 315 P P 11 56 28.0 +1.2
SNR=33
CHMS Chumysh 78.69 316 P P 11 56 27.4 +0.6
SNR=9.4
O14K Tigyukauivet M 78.72 26 P P 11 56 26.5 +0.1
O14K Tigyukauivet M 78.72 26 P P 11 56 27.0 +0.6
baz=237
AAK Ala-Archa 78.75 316 P P 11 56 28.0 +0.8
SNR=16
AAK Ala-Archa 78.75 316 P P 11 56 27.2 0.0
AAK lAmb lAmb 11 56 29.2
comp=Z,26nm,1.2s
AAK Ala-Archa 78.75 316 P P 11 56 27.3 0.0
AAK pmax pmax
comp=Z,27nm,1.2s
N14K Kuskokwak Cree 78.91 25 P P 11 56 28.1 +0.7
baz=236
SGDS Sogindy 78.93 316 *e*P **P 11 56 27.6 -0.4**
SGDS Sogindy 78.93 316 *e*P **P 11 56 27.7 -0.4**
baz=316
USP Ospenovka 78.96 316 P P 11 56 28.7 +0.5
SNR=46
KURK Kurchatov 79.09 324 P P 11 56 28.3 -0.4
KURK lAmb lAmb 11 58 14.2
comp=Z,48nm,0.9s
KURK Kurchatov 79.09 324 P P 11 56 28.8 +0.1
KURBB Kurchatov Arra 79.11 324 P P 11 56 28.8 0.0
comp=Z,25nm,0.9s,baz=115,slow=4.7,SNR=72
comp=Z,25nm,0.9s
M14K Bethel 79.26 24 P P 11 56 30.1 +0.8
M14K Bethel 79.26 24 P P 11 56 29.9 +0.6
baz=236,SNR=14
EKS2 Erkin-Say 79.26 315 P P 11 56 30.8 +0.8
SNR=32
O15K Ungalikthiuk R 79.30 26 P P 11 56 29.5 -0.1
baz=238
L14K Kuka Creek 79.30 23 P P 11 56 29.2 -0.4
L14K Kuka Creek 79.30 23 P P 11 56 30.0 +0.5
baz=235,SNR=21
ARSB Arslanbob 79.40 314 P P 11 56 31.1 +0.3
ARSB Arslanbob 79.40 314 P P 11 56 31.1 +0.3
ARSB pmax pmax
comp=Z,17nm,1.4s
R16K Pilot Point 79.50 28 P P 11 56 30.7 0.0
baz=240
N15K Kwethluk River 79.71 25 P P 11 56 32.1 +0.3
N15K lAmb lAmb 11 56 33.8
comp=Z,64nm,1.1s
N15K Kwethluk River 79.71 25 P P 11 56 32.3 +0.5
baz=238
M15K Kasigluk River 79.75 25 P P 11 56 32.5 +0.5
baz=237
J14K Nanvaranak Lak 79.78 22 P P 11 56 33.4 +1.3
J14K lAmb lAmb 11 56 34.6
comp=Z,124nm,1.8s
J14K Nanvaranak Lak 79.78 22 P P 11 56 32.5 +0.4
baz=234
BTLS Baital 79.86 318 *e*P **P 11 56 32.8 -0.1**
BTLS pmax pmax
comp=Z,22nm,0.8s
BTLS Baital 79.86 318 *e*P **P 11 56 32.9 -0.1**
comp=Z,22nm,0.8s,baz=318
L15K Ungalak Mounta 79.97 24 P P 11 56 33.8 +0.6
baz=236,SNR=9.0
TNA Tin City 80.02 19 P P 11 56 33.9 +0.5
baz=230,SNR=14
P16K Nushagak River 80.03 27 P P 11 56 33.7 +0.1
baz=240
ANM Nome 80.23 20 P P 11 56 35.4 +0.8
ANM lAmb lAmb 11 56 36.5
comp=Z,48nm,1.1s
ANM Nome 80.23 20 P P 11 56 35.4 +0.8
ANM pmax pmax
comp=Z,48nm,1.1s
ANM Nome 80.23 20 P P 11 56 35.5 +0.9
baz=232,SNR=18
O16K Kokwok River B 80.27 26 P P 11 56 35.1 +0.2
O16K lAmb lAmb 11 56 36.4
comp=Z,90nm,1.4s
O16K Kokwok River B 80.27 26 P P 11 56 35.3 +0.4
baz=240
K15K Wolf Creek Mou 80.29 23 P P 11 56 35.3 +0.3
K15K lAmb lAmb 11 56 37.0
comp=Z,71nm,1.1s
K15K Wolf Creek Mou 80.29 23 P P 11 56 35.8 +0.8
baz=236
N16K Nishlik Lake 80.43 25 P P 11 56 37.0 +1.2
baz=239,SNR=12
Q16K King Salmon 80.46 27 P P 11 56 36.3 +0.4
baz=241
F14K Arctic Creek 80.47 19 P P 11 56 36.8 +0.9
baz=231
KBL Kabul 80.51 306 P P 11 56 36.2 -0.9
KBL Kabul 80.51 306 P P 11 56 36.2 -0.9
KBL pmax pmax
comp=Z,12nm,0.8s
MAW Mawson 80.54 203 LR LR 12 29 35.6
comp=Z,101nm,21.4s,baz=80,slow=34
Q17K Contact Creek 80.62 28 P P 11 56 37.3 +0.3
baz=242
M16K Timber Creek 80.64 25 P P 11 56 37.4 +0.6
baz=239
SII Sitkinak Islan 80.66 30 P P 11 56 36.8 -0.3
baz=244
GAR Garm 80.68 311 P P 11 56 38.0 +0.2
GAR lAmb lAmb 11 56 39.1
comp=Z,71nm,1.2s
L16K Owhat River 80.79 24 P P 11 56 37.6 -0.1
L16K lAmb lAmb 11 56 39.3
comp=Z,62nm,1.2s
L16K Owhat River 80.79 24 P P 11 56 38.0 +0.4
baz=238,SNR=14
O17K Koliganek Bris 80.80 26 P P 11 56 37.9 +0.2
baz=240
P17K Kvichak River 80.81 27 P P 11 56 38.3 +0.5
baz=241
G15K Niukluk 80.94 20 P P 11 56 38.4 0.0
baz=233
DZA Taraz 81.04 315 *e*P **P 11 56 39.2 -0.2**
DZA pmax pmax
comp=Z,26nm,1.2s
DZA Taraz 81.04 315 *e*P **P 11 56 39.3 -0.2**
comp=Z,26nm,1.2s,baz=315
N17K Nushagak Hills 81.14 26 P P 11 56 39.9 +0.4
baz=240
F15K North Star Dit 81.17 19 P P 11 56 40.3 +0.7
baz=233
J16K Anvik River 81.20 22 P P 11 56 40.6 +0.8
baz=237
H16K Elim 81.36 21 P P 11 56 41.1 +0.5
baz=235,SNR=33
OHAK Old Harbor 81.39 30 P P 11 56 41.8 +0.9
baz=244
P18K Big Mountain, 81.45 27 P P 11 56 41.3 +0.1
baz=242
CHGR Chuyangaron 81.46 310 P P 11 56 41.5 -0.4
CHGR Chuyangaron 81.46 310 P P 11 56 41.5 -0.4
CHGR pmax pmax
comp=Z,87nm,0.9s
M17K Holitna River 81.47 25 P P 11 56 42.6 +1.3
baz=240
L17K Donlin 81.49 24 P P 11 56 42.3 +1.0
baz=239,SNR=11
I17K Unalakleet 81.50 22 P P 11 56 42.2 +0.9
I17K Unalakleet 81.50 22 P P 11 56 42.2 +0.9
baz=237,SNR=21
SIMJ Simiganj 81.58 310 P P 11 56 42.7 +0.1
SIMJ lAmb lAmb 11 56 43.9
comp=Z,51nm,1.1s
O18K Koktuh Hills 81.68 27 P P 11 56 42.2 -0.2
baz=242
KK31 Karatay Array 81.68 315 P P 11 56 42.4 -0.4
KK31 lAmb lAmb 11 56 44.3
comp=Z,53nm,1.5s
KK31 Karatay Array 81.68 315 *i* P **P 11 56 42.5 -0.4**
KKAR Karatay Array 81.68 315 P P 11 56 42.6 -0.2
KKAR lAmb lAmb 11 56 44.3
comp=Z,53nm,1.5s
KKAR Karatay Array 81.68 315 P P 11 56 42.3 -0.5
KKAR Karatay Array 81.68 315 P P 11 56 42.6 -0.2
KKAR pmax pmax
comp=Z,53nm,1.5s
IUG luzhnay 81.75 314 *e*P **P 11 56 43.0 -0.3**
IUG pmax pmax
comp=Z,27nm,1.2s
IUG luzhnay 81.75 314 *e*P **P 11 56 43.0 -0.3**
comp=Z,27nm,1.2s,baz=314
G16K Koyuk River 81.75 20 P P 11 56 42.9 +0.2
baz=235
N18K Kilae Creek 81.77 26 P P 11 56 43.5 +0.6
baz=241
K17K Iditarod 81.78 23 P P 11 56 43.6 +0.7
baz=239
KDAK Kodiak Island 81.97 29 P P 11 56 43.5 -0.5
baz=245
OTUK Ortayu 82.01 320 P P 11 56 44.3 -0.2
SVW2 Sparrevohn 82.10 25 P P 11 56 45.1 +0.4
SVW2 Sparrevohn 82.10 25 P P 11 56 45.8 +1.2
CHM Chimkent 82.11 314 *e*P **P 11 56 44.8 -0.3**
CHM pmax pmax
comp=Z,16nm,1.0s
CHM Chimkent 82.11 314 *e*P **P 11 56 44.8 -0.3**
comp=Z,16nm,1.0s,baz=314
BRLS Boroldav 82.14 315 *e*P **P 11 56 44.8 -0.4**
BRLS Boroldav 82.14 315 *e*P **P 11 56 44.8 -0.4**
baz=315
L18K Granite Mounta 82.18 24 P P 11 56 45.6 +0.6
baz=240
M18K Stony River 82.19 25 P P 11 56 45.8 +0.7
baz=241,SNR=15
O19K Port Alsworth 82.23 27 P P 11 56 44.7 -0.6
O19K lAmb lAmb 11 56 46.6
comp=Z,28nm,1.4s
O19K Port Alsworth 82.23 27 P P 11 56 44.7 -0.6
baz=243
H17K Granite Mounta 82.35 21 P P 11 56 46.3 +0.5
baz=237
BRZS Berezniki 82.36 322 *e*P **P 11 56 45.8 -0.4**
BRZS pmax pmax
comp=Z,15nm,0.9s
BRZS Berezniki 82.36 322 *e*P **P 11 56 45.9 -0.4**
comp=Z,14nm,0.9s,baz=322
G17K Kiwalik Mounta 82.40 20 P P 11 56 46.6 +0.5
baz=236
N19K Bonanza Creek 82.44 26 P P 11 56 46.4 -0.1
baz=243
C16K Lisburne Hills 82.53 17 P P 11 56 46.6 -0.1
baz=232
F17K Baldwin Pennin 82.72 20 P P 11 56 47.9 +0.2
baz=236,SNR=14
J18K Innoko River 82.79 23 P P 11 56 48.2 0.0
baz=240
TTA Tatalina 82.80 24 P P 11 56 48.1 -0.2
TTA lAmb lAmb 11 56 49.9
comp=Z,33nm,1.2s
TTA Tatalina 82.80 24 P P 11 56 49.1 +0.8
TTA Tatalina 82.80 24 P P 11 56 48.2 -0.2
TTA pmax pmax
comp=Z,33nm,1.2s
TTA Tatalina 82.80 24 P P 11 56 48.3 -0.1
baz=241,SNR=13
D17K Noatak River 82.86 18 P P 11 56 48.7 +0.3
baz=234,SNR=36
L19K White Mountain 82.92 25 P P 11 56 49.2 +0.3
baz=242
O20K Slope Mountain 82.94 27 P P 11 56 48.8 -0.3
baz=244
H18K Honhosa River 83.03 21 P P 11 56 49.3 -0.1
baz=239,SNR=13
C17K DeLong Mountai 83.29 17 P P 11 56 50.8 +0.1
baz=234
G18K Tagagawik 83.31 21 P P 11 56 50.9 +0.1
baz=238
F18K Selawik 83.35 20 P P 11 56 50.9 -0.1
baz=237,SNR=8.5
GCSA Galena City Sc 83.36 22 P P 11 56 51.1 +0.1
baz=240,SNR=7.2
L20K Farewell, AK 83.46 25 P P 11 56 52.1 +0.4
baz=243
J19K Poorman 83.47 23 P P 11 56 51.8 +0.1
baz=241,SNR=22
E18K Tukpahlearik C 83.49 19 P P 11 56 51.9 +0.2
baz=236
M20K Styx River 83.51 25 P P 11 56 52.0 0.0
baz=244
BRSE Bradley Lake S 83.66 28 P P 11 56 53.4 +0.7
baz=246
QSPA South Pole Qui 83.74 180 P P 11 56 51.9 -1.4
QSPA lAmb lAmb 11 57 00.3
comp=Z,26nm,1.2s
QSPA South Pole Qui 83.74 180 P P 11 56 52.3 -0.9
comp=Z,12nm,0.9s,baz=355,slow=2.0,SNR=44
QSPA LR LR 12 35 08.2
comp=Z,902nm,18.2s,baz=16,slow=36
comp=Z,12nm,0.9s
K20K Telida 83.78 24 P P 11 56 53.7 +0.4
baz=243
CAPN Captain Cook N 83.89 27 P P 11 56 54.5 +0.6
baz=246
H19K Roundabout Mou 83.91 21 P P 11 56 54.6 +0.8
baz=240
C18K Utukok River 83.99 18 P P 11 56 54.5 +0.2
baz=236,SNR=33
G19K Purcell Mounta 83.99 21 P P 11 56 54.8 +0.5
baz=240
F19K Shaleruckik Mo 84.11 20 P P 11 56 54.8 0.0
baz=239
J20K Nowinta River 84.13 23 P P 11 56 55.5 +0.5
baz=243
SKT Skwentna 84.23 26 P P 11 56 54.0 -1.6
SKT lAmb lAmb 11 56 55.2
comp=Z,34nm,1.4s
SKT Skwentna 84.23 26 P P 11 56 54.4 -1.2
baz=245,SNR=6.6
PPLA Purkeypile 84.34 25 P P 11 56 55.5 -0.8
baz=245,SNR=7.1
SUA Susitna One 84.36 26 P P 11 56 54.4 -2.0
SUA lAmb lAmb 11 56 55.8
comp=Z,34nm,1.2s
SUA Susitna One 84.36 26 P P 11 56 55.0 -1.4
baz=246,SNR=6.5
O22K Cooper Landing 84.42 27 P P 11 56 56.2 -0.3
O22K Cooper Landing 84.42 27 P P 11 56 55.6 -1.0
baz=247
H20K Anotleneega Mo 84.47 22 P P 11 56 56.8 +0.1
baz=242,SNR=24
E19K Redstone River 84.61 20 P P 11 56 57.3 -0.1
baz=240
CAST Castle Rocks 84.61 24 P P 11 56 56.8 -0.8
CAST lAmb lAmb 11 56 58.2
comp=Z,35nm,1.1s
CAST Castle Rocks 84.61 24 P P 11 56 56.9 -0.7
baz=245,SNR=18
RC01 Rabbit Creek A 84.66 27 P P 11 56 56.8 -1.0
RC01 Rabbit Creek A 84.66 27 P P 11 56 56.6 -1.1
baz=247,SNR=14
BVA0 Borovoye Array 84.68 325 P P 11 56 57.4 -0.7
BVAR Borovoye Array 84.68 325 P P 11 56 58.3 +0.2
comp=Z,82nm,0.8s,baz=112,slow=6.7,SNR=212
comp=Z,82nm,0.8s
CHUM Lake Minchumin 84.72 24 P P 11 56 58.1 +0.1
baz=244,SNR=42
C19K Lookout Ridge 84.73 18 P P 11 56 58.5 +0.5
baz=237
M22K Willow 84.75 26 P P 11 56 57.7 -0.5
M22K Willow 84.75 26 P P 11 56 57.3 -0.9
baz=246,SNR=16
BRVK Borovoye 84.75 325 P P 11 56 58.5 +0.1
BRVK Borovoye 84.75 325 P P 11 56 58.5 +0.1
BRVK pmax pmax
comp=Z,73nm,0.9s
D19K Kuna River 84.86 18 P P 11 56 58.8 +0.1
baz=239
F20K Avaraart Lake 84.91 20 P P 11 56 59.4 +0.5
baz=241
CUT Chulitna 84.95 25 P P 11 56 57.8 -1.4
CUT Chulitna 84.95 25 P P 11 56 58.1 -1.1
baz=246
IMAR Indian Mountai 85.11 22 P P 11 56 59.7 -0.3
PMR Palmer 85.12 26 P P 11 56 59.1 -1.0
PMR lAmb lAmb 11 57 00.4
comp=Z,40nm,1.1s
PMR Palmer 85.12 26 P P 11 56 59.5 -0.6
PMR Palmer 85.12 26 P P 11 56 59.1 -1.0
PMR pmax pmax
comp=Z,41nm,1.1s
KTH Kantishna Hill 85.14 24 P P 11 56 59.6 -0.7
GHO Glory Hole Cre 85.28 26 P P 11 56 59.6 -1.4
GHO lAmb lAmb 11 57 01.5
comp=Z,30nm,1.0s
H21K Melozitna Rive 85.31 22 P P 11 57 00.6 -0.4
baz=244
P23K Montague Islan 85.32 28 P P 11 57 00.4 -0.7
baz=249
BPAW Bear Paw Mtn. 85.34 24 P P 11 57 00.2 -1.0
BPAW lAmb lAmb 11 57 01.7
comp=Z,26nm,1.2s
BPAW Bear Paw Mtn. 85.34 24 P P 11 57 00.4 -0.8
baz=246,SNR=11
E20K Nigu River 85.35 19 P P 11 57 01.1 -0.1
baz=240
KNK Knik Glacier 85.35 27 P P 11 57 00.1 -1.2
KNK Knik Glacier 85.35 27 P P 11 57 00.5 -0.8
baz=248,SNR=11
TRF Thorofare Moun 85.36 24 P P 11 56 59.4 -2.0
TRF lAmb lAmb 11 57 01.4
comp=Z,18nm,1.2s
TRF Thorofare Moun 85.36 24 P P 11 57 00.1 -1.3
baz=246,SNR=5.7
I21K Tanana 85.41 23 P P 11 57 01.3 -0.1
baz=245,SNR=19
G21K Allakaket 85.44 21 P P 11 57 01.1 -0.5
baz=243
D20K Etivluk River 85.44 19 P P 11 57 01.9 +0.3
baz=240,SNR=33
SML Sawmill 85.56 26 P P 11 57 01.9 -0.4
baz=248,SNR=13
F21K Alatna River 85.77 20 P P 11 57 02.9 -0.4
baz=243
M23K Glacier View 85.82 26 P P 11 57 03.5 -0.1
baz=249,SNR=6.6

MLY	Manley	85.83	23	P		P		11 57 03.6	0.0	
	baz=246,SNR=22									
WAT1	Susitna Watana	85.84	25	P		P		11 57 03.1	-0.6	
	baz=248									
RND	Reindeer	85.94	25	P		P		11 57 03.2	-1.0	
H22K	Ishtalitna Cre	85.94	22	P		P		11 57 03.7	-0.4	
	baz=245									
BWN	Browne	85.98	24	P		P		11 57 03.7	-0.6	
SCM	Sheep Creek Mo	86.01	26	P		P		11 57 04.6	0.0	
	baz=249,SNR=8.2									
MCK	McKinley	86.03	24	P		P		11 57 03.1	-1.5	
MCK	McKinley	86.03	24	P		P		11 57 03.2	-1.5	
	baz=247,SNR=24									
WAT6	Susitna Watana	86.10	26	P		P		11 57 03.9	-1.3	
	baz=249,SNR=10									
E21K	Killik River	86.16	19	P		P		11 57 05.5	+0.3	
	baz=242									
C21K	Knifeblade Rid	86.24	18	P		P		11 57 05.8	+0.3	
	baz=242									
EYAK	Cordova Ski Ar	86.28	28	P		P		11 57 05.7	-0.2	
	baz=250									
NEA2	Nenana	86.31	24	P		P		11 57 04.6	-1.4	
NEA2				IAmb		IAmb		11 57 06.1		
	comp=Z,37nm,1.2s									
NEA2	Nenana	86.31	24	P		P		11 57 04.8	-1.1	
	baz=247,SNR=14									
I23K	Minto, Yukon-K	86.41	23	P		P		11 57 05.6	-0.7	
	baz=247,SNR=8.6									
DHY	Denali Highway	86.44	25	P		P		11 57 06.2	-0.6	
	baz=249,SNR=28									
B21K	Ikpikpuk River	86.51	18	P		P		11 57 06.8	0.0	
	baz=242									
KLU	Klutina	86.52	27	P		P		11 57 06.9	-0.2	
	baz=250,SNR=13									
M24K	Tolsona, Glenn	86.62	26	P		P		11 57 07.4	-0.2	
	baz=250,SNR=9.0									
KAIM	Kayak Island	86.71	29	P		P		11 57 08.3	+0.3	
	baz=252									
A21K	Barrow	86.75	16	P		P		11 57 07.9	0.0	
	baz=240									
G23K	Bananza Creek	86.78	21	P		P		11 57 08.5	+0.2	
	baz=246									
D22K	Ayikyak River	86.78	19	P		P		11 57 08.6	+0.4	
	baz=244,SNR=23									
COLA	College	86.90	24	P		P		11 57 07.5	-1.3	
COLA	College	86.90	24	i P		P		11 57 07.4	-1.3	
COLA				pmax		pmax				
	comp=Z,37nm,1.0s									
COLA	College	86.90	24	P		P		11 57 07.4	-1.3	
	baz=248									
HMT	Hamilton	86.91	28	P		P		11 57 08.4	-0.7	
COLD	Coldfoot	86.92	21	P		P		11 57 09.3	+0.4	
	baz=246,SNR=20									
BMRM	Bremner River	86.95	28	P		P		11 57 08.8	-0.4	
	baz=252,SNR=14									
HDA	Harding Lake	87.09	24	P		P		11 57 08.1	-1.6	
	baz=249,SNR=8.8									
POKR	Poker Plat Res	87.15	23	P		P		11 57 08.5	-1.5	
	baz=249									
N25K	Chitina, Valde	87.16	27	P		P		11 57 09.8	-0.5	
	baz=252,SNR=10									
HARP	HAARP	87.16	26	P		P		11 57 09.5	-0.7	
	baz=251									
PAX	Paxson	87.21	26	P		P		11 57 10.3	-0.2	
	baz=251,SNR=16									
H24K	Noodor Dome	87.24	23	P		P		11 57 10.4	-0.1	
	baz=248,SNR=12									
ILAR	Eielson Array	87.24	24	P		P		11 57 08.8	-1.8	
	comp=Z,17nm,0.8s,baz=256,slow=5.1,SNR=127									
ILAR				PKKPbc		PKKPdf		12 15 01.0	+2.6	
	comp=Z,0.6nm,0.8s,baz=90,slow=0.9,SNR=5.4									
	comp=Z,17nm,0.8s									
BGLC	Bering Glacier	87.31	29	P		P		11 57 10.9	0.0	
	baz=253									
WSAR	Wadi Satin	87.36	294	LR		LR		12 44 33.8		
	comp=Z,45nm,18.3s,baz=110,slow=41									
K24K	Donnelly Dome	87.36	25	P		P		11 57 10.7	-0.5	
	baz=250,SNR=5.4									
E23K	Chandalar	87.46	20	P		P		11 57 12.0	+0.4	
	baz=247									
D23K	Nanushuk River	87.47	19	P		P		11 57 12.5	+0.9	
	baz=246									
CRQE	Cirque	87.59	28	P		P		11 57 11.7	-0.7	
	baz=253,SNR=18									
G24K	Hadweenzic Riv	87.71	22	P		P		11 57 12.6	-0.2	
	baz=249									
RIDG	Independent Ri	87.73	25	P		P		11 57 12.1	-0.9	
	baz=251									
J25K	Salcha River,	87.80	24	P		P		11 57 12.4	-0.9	
	baz=251									
MCARA	McCarthy VSAT	87.81	28	P		P		11 57 13.1	-0.2	
	baz=253,SNR=5.9									
C23K	Itkillik River	87.86	19	P		P		11 57 13.2	-0.2	
	baz=246									
F24K	Squaw Lake	87.86	21	P		P		11 57 13.9	+0.4	
	baz=248									
ISLE	Juniper Island	87.90	28	P		P		11 57 13.6	-0.4	
MENT	Mentasta	87.96	26	P		P		11 57 14.1	+0.1	
MESA	MESA	87.97	29	P		P		11 57 14.3	0.0	
	baz=254									
PRP	Porcupine Dome	88.04	23	P		P		11 57 15.0	+0.5	
	baz=250									
M26K	Nabesna, AK	88.12	27	P		P		11 57 14.7	-0.1	
	baz=253									
D24K	Happy Valley	88.16	19	P		P		11 57 15.7	+0.9	
	baz=247									
SCRK	Sand Creek	88.17	25	P		P		11 57 14.8	-0.3	
	baz=252,SNR=12									
G25K	Bearman Lake	88.25	22	P		P		11 57 15.8	+0.5	
	baz=250									
C24K	Franklin Bluff	88.42	19	P		P		11 57 16.4	+0.4	
	baz=247									
CTG	Chitna Glacier	88.47	28	P		P		11 57 16.9	+0.3	
	baz=254,SNR=20									
J26L	Joseph Creek	88.51	25	P		P		11 57 16.2	-0.5	
	baz=252									
M27K	Edge Creek, AK	88.61	27	P		P		11 57 17.3	+0.1	
	baz=254									
F25K	Christian Rive	88.70	21	P		P		11 57 18.2	+0.8	
	baz=250									
PINM	Pinnacle	88.76	29	P		P		11 57 18.1	+0.2	
	baz=255,SNR=7.1									
L27K	Beaver Creek,	88.83	26	P		P		11 57 18.4	+0.3	
	baz=254,SNR=26									
BCAR	Beaver Creek A	88.84	26	P		P		11 57 17.9	-0.3	
E25K	Arctic Village	88.90	21	P		P		11 57 19.1	+0.8	
E25K				IAmb		IAmb		11 57 20.4		
	comp=Z,35nm,1.1s									
E25K	Arctic Village	88.90	21	P		P		11 57 18.9	+0.6	
	baz=250,SNR=32									
K27K	Chicken	88.99	25	P		P		11 57 19.6	+0.7	
	baz=254									
BMAR	Burnt Mountain	89.03	22	P		P		11 57 19.6	+0.6	
BCPM	Bancas Point	89.03	29	P		P		11 57 19.1	0.0	
D25K	Kavik River	89.04	20	P		P		11 57 18.9	-0.1	
	baz=250									
PNL	Peninsula	89.08	30	P		P		11 57 20.0	+0.6	
PNL	Peninsula	89.08	30	P		P		11 57 19.5	+0.1	
	baz=256,SNR=9.6									
BVCY	Beaver Creek	89.08	27	P		P		11 57 19.2	-0.1	
	baz=255,SNR=8.1									
YUK3	Moose Creek	89.09	28	P		P		11 57 19.6	-0.1	
	baz=255,SNR=24									
G26K	Porcupine Rive	89.17	22	P		P		11 57 20.3	+0.7	
	baz=252									
F26K	Sheenjek River	89.27	21	P		P		11 57 21.0	+0.9	
	baz=252									
YUK8	Steele Glacier	89.29	28	P		P		11 57 21.1	+0.4	
	baz=256,SNR=9.3									
EGAK	Eagle	89.58	25	P		P		11 57 21.5	-0.1	
EGAK				IAmb		IAmb		11 57 22.7		
	comp=Z,26nm,1.0s									
EGAK	Eagle	89.58	25	P		P		11 57 21.5	-0.1	
	baz=254,SNR=20									
I27K	Kandik River	89.62	24	P		P		11 57 22.1	+0.3	
	baz=254,SNR=43									
O29M	Mount Kennedy	89.63	29	P		P		11 57 22.4	+0.3	
	baz=257									
C26K	Camden Bay	89.72	19	P		P		11 57 22.9	+0.8	
	baz=251									
H27K	Steamboat Moun	89.83	23	P		P		11 57 23.3	+0.6	
	baz=254									
GEYT	Alibeck	89.83	308	P		P		11 57 23.6	+0.2	
	comp=Z,3.4nm,0.8s,baz=68,slow=0.8,SNR=7.9									
GEYT				LR		LR		12 40 42.1		
	comp=Z,60nm,20.7s,baz=138,slow=38									
	comp=Z,3.4nm,0.8s									
YUK4	Talbot Arm	89.83	28	P		P		11 57 23.9	+0.8	
	baz=257,SNR=18									
YUK6	Outpost Mounta	89.88	29	P		P		11 57 23.0	-0.4	
	baz=257									
P29M	Windy Craggy	89.89	30	P		P		11 57 23.4	+0.2	
	baz=258									
DAWY	Dawson	90.14	25	P		P		11 57 24.6	+0.3	
	baz=256,SNR=32									
M29M	Somma Creek	90.17	27	P		P		11 57 24.9	+0.4	
	baz=257									
AB31	Akbulak array	90.21	319	i P		P		11 57 23.6	-1.2	
I28M	Miner Creek	90.25	24	P		P		11 57 25.3	+0.5	
	baz=256									
HYT	Haines Junctio	90.26	29	P		P		11 57 25.6	+0.6	
	baz=258,SNR=10									
S31K	Pelican	90.31	32	P		P		11 57 25.3	+0.3	
	baz=259									
P30M	Million Dollar	90.38	30	P		P		11 57 26.0	+0.5	
	baz=258									
L29M	L29M	90.47	26	P		P		11 57 26.0	+0.1	
	baz=257									
PLBC	Pleasant Camp	90.54	30	P		P		11 57 26.3	+0.1	
	baz=259									
N30M	Aishikik Lake	90.59	28	P		P		11 57 26.3	-0.2	
	baz=258									
SIT	Sitka	90.62	33	P		P		11 57 26.5	0.0	
	baz=260									
F28M	Old Crow	90.82	22	P		P		11 57 27.5	+0.2	
	baz=256									
K29M	Barlow Dome	90.89	26	P		P		11 57 27.9	0.0	
	baz=258									
O30N	Mendenhall	90.93	29	P		P		11 57 27.7	-0.3	
	baz=259,SNR=6.7									
M30M	Minto, Yukon	90.95	27	P		P		11 57 27.9	-0.2	
	baz=258,SNR=12									
SVE	Sverdlovsk	91.04	327	i eP		P		11 57 27.9	-0.7	
SVE				pmax		pmax				
	comp=Z,29nm,1.5s									
SKAG	Skagway	91.06	30	P		P		11 57 29.4	+0.9	
SKAG	Skagway	91.06	30	P		P		11 57 28.2	-0.3	
	baz=260,SNR=9.8									
S32K	Killisnoo	91.10	32	P		P		11 57 28.4	-0.4	
	baz=260									
R32K	Eaglecrest	91.27	32	P		P		11 57 29.4	-0.2	
	baz=260									
WHY	Whitehorse	91.49	29	P		P		11 57 30.3	-0.4	
	baz=259									
J30M	Hart River	91.55	25	P		P		11 57 30.6	-0.3	
	baz=259									
MAYO	Mayo, Yukon	91.55	26	P		P		11 57 31.1	+0.3	
	baz=259,SNR=7.0									
CRAG	Craig	91.57	34	P		P		11 57 30.7	-0.3	
	baz=261									
AKTO	Aktyubinsk	91.62	320	P		P		11 57 29.5	-1.9	
D28M	Stokes Point	91.63	20	P		P		11 57 30.9	-0.1	
	baz=257									
I30M	Mount Dempster	91.66	25	P		P		11 57 31.0	-0.4	
	baz=259,SNR=16									
U33K	Whale Pass	91.67	34	P		P		11 57 31.2	-0.2	
	baz=261									
E29M	Blow River	91.72	21	P		P		11 57 31.3	-0.2	
	baz=258									
EPYK	Eagle Plains	91.75	23	P		P		11 57 31.6	-0.1	
	baz=258,SNR=13									
P32M	Atlin	91.89	30	P		P		11 57 32.3	-0.2	
	baz=261,SNR=6.2									
M31M	Drury Creek, Y	91.98	28	P		P		11 57 32.7	-0.2	
	baz=260,SNR=5.4									
G30M	tAoh Zraii Nji	92.06	23	P		P		11 57 32.7	-0.4	
	baz=259									
ARU	Arti	92.12	326	d i P		P		11 57 32.0	-1.5	
ARU								12 01 11.5		
ARU					S	SKSac		12 08 04.8	-1.2	
ARU					SS	SS		12 14 42.2	-2.6	
ARU					pmax	pmax				
	comp=Z,30nm,1.3s									
ARU	Arti	92.12	326		LR	LR		12 40 42.0		
	comp=Z,81nm,20.2s,baz=88,slow=37									
WRAK	Wrangell Islan	92.14	34	P		P		11 57 33.3	-0.3	
	baz=262									
F30M	Barrier River	92.34	22	P		P		11 57 34.3	-0.1	
	baz=259									
V35K	Ketchikan	92.41	35	P		P		11 57 34.8	0.0	
	baz=263									
P33M	Teslin, Yukon	92.43	30	P		P		11 57 35.0	0.0	
	baz=262,SNR=5.4									
N32M	Quiet Lake	92.44	29	P		P		11 57 35.0	0.0	
	baz=262									
FARO	Faro, Yukon	92.47	28	P		P		11 57 34.8	-0.3	
	baz=261,SNR=11									
Q32M	Nakina River	92.53	31	P		P		11 57 35.4	-0.2	
	baz=262									
H31M	Peel River	92.60	24	P		P		11 57 35.4	-0.2	
	baz=261									
G31M	Satah River	92.81	23	P		P		11 57 36.0	-0.4	
	baz=261									
S34M	Telegraph Cree	92.99	32	P		P		11 57 37.5	0.0	
	baz=263									
F31M	Tsiigehtchic	93.09	23	P		P		11 57 37.2	-0.5	
	baz=261									
R33M	Jennings River	93.25	31	P		P		11 57 38.5	-0.4	
	baz=263									
INK	Inuvik	93.30	22	P		P		11 57 38.2	-0.5	
	baz=262									
U35K	Hyder	93.37	34	P		P		11 57 38.8	-0.5	
	baz=264									
WTLY	Watson Lake, Y	94.42	30	P		P		11 57 43.7	-0.4	
	baz=265,SNR=11									
TGTN	Hyland Airport	94.78	29	P		P		11 57 45.7	-0.1	
	baz=266,SNR=5.7									
A36M	Sachs Harbour	96.40	18	P		P		11 57 52.7	-0.2	
	baz=270									
KOTAN	Kotaneelee Air	96.79	30	P		P		11 57 54.3	-0.6	
	baz=269									
C36M	Paulatuk	96.80	21	P		P		11 57 54.1	-0.6	
	baz=270									
FLDN	Fort Liard	97.08	30	P		P		11 57 55.9	-0.3	
	baz=270									
WRGLY	Wrigley	97.08	27	P		P		11 57 56.0	-0.1	
	baz=270									
BELG	Belogornoye	98.23	322	i P		P		11 58 00.2	-1.3	
BELG				pmax		pmax				
	comp=Z,7.0nm,0.8s									
SMMC	Simmler	99.21	55	P		Pdif		11 58 06.0	-0.4	
	baz=269									
PKM	Mcpherson Peak	99.35	56	P		Pdif		11 58 06.3	-0.9	
	baz=269									
SCZ2	Santa Cruz Isl	99.48	57	P		Pdif		11 58 06.9	-0.8	
	baz=269									
VES	Vestal, Richgr	99.96	55	P		Pdif		11 58 09.4	-0.3	
	baz=269									
ARVC	Arvin	100.16	56	P		Pdif		11 58 10.0	-0.6	
	baz=270									
MLAC	Mammoth, Mammt	100.17	53	P		Pdif		11 58 10.2	-0.7	
	baz=270									
SCI2	San Clemente I	100.37	58	P		Pdif		11 58 11.8	+0.1	
	baz=269									
ISA	Isabella, Lake	100.45	55	P		Pdif		11 58 11.2	-0.8	
	baz=270									
CIS	Catalina Islan	100.49	57	P		Pdif		11 58 11.1	-1.0	
	baz=269									
NVAR	Mina Array Bea	100.59	52	P		Pdif		11 58 13.4	+0.7	
	comp=Z,3.4nm,0.9s,baz=258,slow=5.9,SNR=23									
TIN	Tinemaha, Big	100.65	54	P		Pdif		11 58 12.2	-0.7	
	baz=270									
CWC	Cottonwood Cre	100.77	54	P		Pdif		11 58 12.9	-0.7	
	baz=270									
EDW2	Edwards Air Fo	100.85	56	P		Pdif		11 58 13.2	-0.6	
	baz=270									
LRMC	Laurel Mtn Rad	101.10	55	P		Pdif		11 58 14.0	-1.0	
	baz=270									
BFSC	Mount Baldy Ra	101.12	56	P		Pdif		11 58 15.1	0.0	
	baz=270									
NEW	Newport	101.14	42	P		Pdif		11 58 14.9	+0.1	
	baz=273									
YKA	Yellowknife Ar	101.18	28	P		Pdif		11 58 13.9	-0.5	
	comp=Z,1.0nm,0.9s,baz=280,slow=4.9,SNR=15									
YKA				PKKPbc		PKKPbc		12 14 24.2	-3.1	
	comp=Z,0.5nm,0.9s,baz=100,slow=3.2,SNR=6.3									
MPMC	Manual Prospec	101.25	55	P		Pdif		11 58 15.4	-0.3	
	baz=270									
GRAC	Grapevine Rang	101.34	54	P		Pdif		11 58 15.8	-0.1	
	baz=271									
MURC	Murrieta	101.51	57	P		Pdif		11 58 17.0	+0.3	
	baz=270									
109C	Camp Elliot, M	101.59	58	P		Pdif		11 58 17.2	+0.2	
	baz=270									
FURC	Furnace Creek,	101.75	54	P		Pdif		11 58 17.9	+0.3	
	baz=271									
KIV	Kislovodsk	101.78	313	eP		Pdif		11 58 16.9	-0.8	
KIV				pmax		pmax				
	comp=Z,6.0nm,1.0s									
GSC	Goldstone, Bar	101.82	55	P		Pdif		11 58 17.6	-0.5	
	baz=271									
PFO	Pinyon Flats O	102.12	57	P		Pdif		11 58 19.5	0.0	
	baz=270									
MONP2	Monument Peak	102.16	58	P		Pdif		11 58 19.8	-0.1	
	baz=270									
SHOC	Shoshone, Teco	102.24	55	P		Pdif		11 58 20.3	+0.4	
	baz=271									
IKP	In-Ko-Pah, Jac	102.43	58	P		Pdif		11 58 20.8	0.0	
	baz=270									
BELC	Belle Mtn. Jos	102.50	57	P		Pdif		11 58 21.2	-0.1	
	baz=271									
R11B	Troy Canyon, C	102.72	52	P		Pdif		11 58 21.8	-0.3	
	baz=272									
GMRC	Granite Mounta	102.77	56	P		Pdif		11 58 21.8	-0.6	
	baz=271									
BC3	Big Chuckawall	102.96	57	P		Pdif		11 58 23.2	0.0	
	baz=271									
HLID	Hailey	103.33	47	P		Pdif		11 58 24.3	-0.4	
	baz=274									
WUAZ	Wupatki	106.24	55	P		PKiKP		12 02 48.5	-1.0	
	baz=274									
TUC	Tucson	106.94	58	P		PKiKP		12 02 50.1	-0.7	
	baz=273									
PDAR	Pinedale Array	106.94	47	Pdiff		Pdif		11 58 41.2	+0.3	
	comp=Z,0.7nm,0.8s,baz=251,slow=2.8,SNR=6.4									
O20A	White River Ci	108.26	50	P		PKiKP		12 02 53.0	-0.2	
	baz=277									
MVCO	Mesa Verde	108.41	53	P		PKiKP		12 02 53.3	-0.3	
	baz=276									
K22A	Casper	109.17	47	P		PKiKP		12 02 54.7	-0.1	
	baz=279									
ANMO	Albuquerque	110.30	55	P		PKiKP		12 02 56.8	-0.4	
	baz=277									
ISCO	Idaho Springs	110.31	50	P		PKiKP		12 02 56.8	-0.4	
	baz=279									
Q24A	Divide	110.79	51	P		PKiKP		12 02 57.7	-0.4	
	baz=279									
MNTX	Cornudas Mount	111.56	58	P		PKiKP		12 02 59.2	-0.2	
	baz=276									
TXAR	Lajitas Array	113.28	61	PKiKP		PKiKP		12 03 02.0	-0.8	
	comp=Z,0.7nm,0.9s,baz=169,slow=1.3,SNR=5.3									
ULM	Lac du Bonnet	114.32	37	PKP		PKPdf		12 03 02.3	-1.8	
	comp=Z,0.9nm,0.5s,baz=204,slow=2.2,SNR=3.1									
KOLS	Kolonicke sedl	114.64	321	ePKIKP		PKPdf		12 03 06.4	+1.6	
KOLS	Kolonicke sedl	114.64	321	ePKP		PKPdf		12 03 06.4	+1.6	
NOA	NORSAR Array B	114.65	336	PKP		PKiKP		12 03 03.9	-0.6	
	comp=Z,7.6nm,1.4s,baz=53,slow=1.9,SNR=3.3									
JCT	Junction City	116.46	59	P		PKPdf		12 03 08.2	-0.7	
	baz=279									
WMOK	Wichita Mounta	116.57	54	P		PKPdf		12 03 08.4	-0.5	
	baz=281									
VYHS	Vyhne	116.92	322	ePKIKP		PKiKP		12 03 09.6	+0.4	
VYHS	Vyhne	116.92	322	ePKP		PKiKP		12 03 09.6	+0.4	
MORC	Moravsky Berou	117.18	324			PKPdf		12 03 09.5	-0.2	
MORC	Moravsky Berou	117.18	324	ePKP		PKPdf		12 03 08.8	-0.9	
MORC	Moravsky Berou	117.18	324	PKIKP		PKPdf		12 03 09.5	-0.2	
JAVC	Velka Javorina	117.48	323	ePKP		PKiKP		12 03 11.6	+1.3	
EYMN	Ely	117.86	38	P		PKPdf		12 03 10.1	-0.8	
	baz=294									
MODS	Modra-Piesok	117.92	322	ePKIKP		PKiKP		12 03 12.1	+1.0	
MODS	Modra-Piesok	117.92	322	ePKP		PKiKP		12 03 12.1	+1.0	
SPMN	Marine on St.	118.06	42	P		PKPdf		12 03 11.2	-0.2	
	baz=291									
KRUC	Moravsky	118.16	323	ePKP		PKPdf		12 03 11.4	-0.1	
WHTX	Lake Whitney,	118.19	57	P		PKPdf		12 03 11.5	-0.6	
	baz=281									
TUL3	Leonard	118.70	52	P		PKPdf		12 03 12.5	-0.5	
	baz=284									
RONA	Rosalia, Austr	118.79	322	i PKiKP		PKPdf		12 03 12.9	0.0	
	comp=Z,4.0nm,0.9s									
CONA	Conrad Observa	118.96	322	ePKiKP		PKPdf		12 03 13.1	-0.2	
	comp=Z,2.6nm,0.8s									
CLL	Collm	119.06	327	i PKIKP		PKPdf		12 03 13.1	-0.1	
CLL				pmax		pmax				
	comp=Z,4.0nm,0.7s									
ARSA	Arzberg	119.46	322	ePKiKP		PKPdf		12 03 14.1	0.0	
	comp=Z,3.8nm,1.1s									
HOPE	Hope Point	119.71	180	i PKIKP		PKiKP		12 03 19.3	+4.9	
KHC	Kasperske Hory	119.78	324	ePKIKP		PKiKP		12 03 15.5	+0.7	
KHC				pmax		pmax				
	comp=Z,8.0nm,1.2s									
GERES	GERESS Array B	119.84	324	PKIKP		PKPdf		12 03 15.0	+0.1	
GERES	GERESS Array B	119.84	324	PKP		PKPdf		12 03 15.0	+0.1	
	comp=Z,2.7nm,0.9s,baz=83,slow=3.3,SNR=9.8									
SOKA	Soboth	120.01	321	ePKiKP		PKPdf		12 03 15.2	0.0	
	comp=Z,6.2nm,1.1s									
S39A	Bolivar	120.14	50	PKPdf		PKPdf		12 03 13.7	-2.0	
OBKA	Obir	120.38	321	ePKP		PKPdf		12 03 15.1	-0.9	
	comp=Z,7.8nm,1.4s									
BIOA	Bad Ischl, Aus	120.41	323	ePKP		PKPdf		12 03 15.1	-0.8	
	comp=Z,1.1nm,0.5s									
BORG	Borgarnes	120.54	352	i PKIKP		PKPdf		12 03 12.5	-3.1	
NATX	Nacogdoches	120.56	57	P		PKPdf		12 03 15.6	-1.1	
	baz=282									
JFWS	Jewell Farm	120.62	43	P		PKPdf		12 03 15.7	-0.8	
	baz=292									
MIAR	Mount Ida	120.79	53	P		PKPdf		12 03 16.4	-0.7	
	baz=285									
KBA	Koelnbreinsper	120.87	322	epPKP		PKiKP		12 03 18.9	+1.8	
	comp=Z,3.8nm,0.8s									
LESA	Schwarzleotal	121.11	323	i PKP		PKPdf

GOGA	**Godfrey** baz=292	129.12	52	P		PKPdf	12 03 32.2	-0.8
LONY	**Lake Ozonia** baz=308	129.61	34	P		PKPdf	12 03 33.1	-0.5
SSPA	**Standing Stone** baz=302	129.88	41	P		PKPdf	12 03 33.4	-0.8
KMSC	**Kings Mountain** baz=295	130.07	49	P		PKPdf	12 03 34.5	-0.3
BINY	**Binghamton** baz=305	130.22	38	P		PKPdf	12 03 34.7	-0.1
NHSC	**New Hope** baz=294	131.78	50	P		PKPdf	12 03 37.5	-0.5
PKME	**Peaks-Kenny Pk** baz=314	132.01	31	P		PKPdf	12 03 37.6	-0.5
L61B	**Northampton** baz=309	132.03	36	P		PKPdf	12 03 37.2	-1.0
PAL	**Palisades** baz=306	132.18	38	P		PKPdf	12 03 37.5	-1.0
HRV	**Adam Dziewonsk** baz=310	132.64	35	P		PKPdf	12 03 38.6	-0.8
NNA	**Nana** comp=Z,16nm,1.0s,baz=287,slow=3.1,SNR=6.7	136.37	114	PKP		PKPdf	12 03 47.6	+0.4
ATAH	**Atahualpa** comp=Z,15nm,1.0s,baz=213,slow=1.9,SNR=6.5	136.54	107	PKP		PKiKP	12 03 49.5	-0.2
TORD	**Torodi Ar. Bea** comp=Z,2.5nm,0.8s,baz=74,slow=4.8,SNR=12	141.36	283	PKhKP		PKPpre	12 03 50.2	
CZSB	**Cruzeiro do Su**	141.71	111			PKPdf	12 03 53.4	-3.6
LPAZ	**La Paz**	141.86	126	PKIKP		PKPdf	12 03 54.2	-3.7
CPUP	**Villa Florida** comp=Z,3.1nm,0.8s,baz=206,slow=3.6,SNR=5.7	142.06	149	PKP		PKPdf	12 03 57.7	+0.5
SDDR	**Presa de Saban**	144.23	66	PKPdf		PKPab	12 03 58.0	-1.2
SDV	**Santo Domingo** comp=Z,30nm,0.8s,baz=277,slow=2.9,SNR=14	146.48	83	PKPbc		PKPdf	12 04 05.4	-0.1
ETMB	**Extrema**	146.74	118			PKPdf	12 04 05.3	-0.4
SIV	**San Ignacio** comp=Z,24nm,1.0s,baz=230,slow=3.6,SNR=54	147.45	133	PKPbc		PKPdf	12 04 07.6	+0.8
KIC	**Kosan Boka** comp=Z,49nm,0.8s	148.02	272	⇑*i*PKP1		PKPbc	12 04 11.3	+0.3
DBIC	**Dimbokro**	148.14	273			PKPbc	12 04 10.9	-0.3
DBIC	**Dimbokro** comp=Z,48nm,0.9s,baz=88,slow=2.9,SNR=40	148.14	273	PKPbc		PKPbc	12 04 11.8	+0.5
LIC	**Lamto** comp=Z,125nm,0.7s	148.30	272	⇑*i*PKP1		PKPbc	12 04 12.0	+0.3
TIC	**Toumodi** comp=Z,16nm,0.2s	148.30	273	⇑*i*PKP1		PKPbc	12 04 12.0	+0.3
OBIP	**Obispado Ponce**	148.75	65			PKPdf	12 04 10.1	+1.2
PTLB	**Pontes e Lacer**	149.20	135			PKPdf	12 04 09.6	-0.1
SAML	**Samuel**	149.79	120	PKPdf		PKPdf	12 04 10.1	-0.6
SAML	**Samuel**	149.79	120	PKHKP		PKPpre	12 04 10.1	
VILB	**Vilhena**	150.03	130			PKPdf	12 04 11.3	+0.2

*IDC **04** 11:45:59.0±4.0, 13°.21N×124°.86E, h0km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=88.2km s-min=46.5km az=164.0*

ISC 04 11:46:05.0±3.5, **13°.3N**±0°.6×**124°.8E**±0°.3, **h35km, n14, σ056/8, mb3.9/8, Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 1.4nm,0.7s,baz=95,slow=7.4,SNR=14 1.4nm,0.7s	25.37	285	P		P	11 51 29.0	-0.1
SONM	**Songino Array** 0.4nm,0.6s,baz=151,slow=7.2,SNR=3.8 0.4nm,0.6s	37.69	340	P		P	11 53 17.2	0.0
H11S3	**WAKE ISLAND Hy** baz=266,slow=73,SNR=9.4	40.56	77	T		T	12 36 34.6	
H11S1	**WAKE ISLAND Hy** baz=266,slow=73,SNR=3.5	40.57	77	T		T	12 36 33.0	
H11S2	**WAKE ISLAND Hy** baz=266,slow=73,SNR=5.3	40.58	77	T		T	12 36 33.2	
H11N1	**WAKE ISLAND Hy** baz=266,slow=75,SNR=37	40.79	75	T		T	12 36 42.2	
H11N2	**WAKE ISLAND Hy** baz=266,slow=75,SNR=22	40.79	75	T		T	12 36 47.2	
H11N3	**WAKE ISLAND Hy** baz=266,slow=75,SNR=34	40.80	75	T		T	12 36 47.4	
MKAR	**Makanchi Array** 1.6nm,0.7s,baz=115,slow=8.5,SNR=20 1.6nm,0.7s	48.76	322	P		P	11 54 47.4	+0.9
ZALV	**Zalesovo Beam** 0.7nm,0.7s,baz=119,slow=8.4,SNR=4.1 0.7nm,0.7s	51.29	331	P		P	11 55 04.8	-0.6
KURBB	**Kurchatov Arra** 2.5nm,0.7s,baz=123,slow=7.3,SNR=16 2.5nm,0.7s	52.77	325	P		P	11 55 16.9	+0.3
BVAR	**Borovoye Array** 2.1nm,0.7s,baz=128,slow=9.6,SNR=8.7 2.1nm,0.7s	58.37	325	P		P	11 55 56.2	-0.5
FINES	**FINESS Array B** 1.1nm,0.9s,baz=76,slow=5.9,SNR=1.6 1.1nm,0.9s	82.55	331	P		P	11 58 24.0	-0.1
YKA	**Yellowknife Ar** 0.4nm,0.8s,baz=283,slow=5.1,SNR=2.4 0.4nm,0.8s	91.58	24	P		P	11 59 08.2	+0.1

*IDC **04** 11:46:10.6±2.4, 14°.50N×92°.80W, h0km, mb3.7/4, mbtmp3.7/7, ML3.6/3, MS2.6/1, Error ellipse: s-maj=119.3km s-min=20.7km az=45.0*
*MEX **04** 11:46:12.4±1.0, 14°.28N×93°.50W, h15km, MD4.4*
*CATAC **04** 11:46:13.3±0.8, 14°.21N×93°.22W, h10km, ML4.4*
*GCG **04** 11:46:17.5±0.3, 14°.86N×92°.99W, h88km±22km, MD4.1*

ISC 04 11:46:09.7±1.9, **14°.30N**±0°.06×**93°.40W**±0°.03, **h1km**±12km, **n54, σ269/92, mb3.9/5, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THIG		1.25	61	*i* P		Pg	11 46 33.1	-0.7
THIG				*i* S		Sg	11 46 49.6	-0.3
PATR	**El Naranjo**	1.39	54	*e*P		Pn	11 46 34.6	-2.0
PATR				*i* S		Sb	11 46 53.4	-1.6
PCIG		1.41	7	*e*P		Pn	11 46 35.2	-1.4
PCIG				*i* S		Sb	11 46 51.4	-3.9
CHUJ	**Union Juarez**	1.48	57	*e*P		Pn	11 46 36.0	-1.7
CHUJ				*i* S		Sb	11 46 54.4	-3.2
PAVE	**Pavencul**	1.48	53	*e*P		Pn	11 46 36.0	-1.8
PAVE				*i* S		Sb	11 46 54.6	-2.9
RTAL	**Retalhuleu**	1.66	82	*i* P		Pn	11 46 39.4	-0.7
RTAL				*i* S		Sn	11 46 58.0	-4.2
RTAL	**Retalhuleu**	1.66	82	*i* P		Pn	11 46 39.2	-0.9
RTAL				*i* S		Sn	11 46 59.0	-3.1
RTAL	comp=Z,1μm,1.0s			IAML			11 47 23.6	
SMSP	**San Marcos**	1.70	67	*e*P		Pn	11 46 39.6	-1.2
SMSP				*e*S		Sn	11 46 59.9	-3.6
SMSP	**San Marcos**	1.70	67	*i* P		Pn	11 46 40.1	-0.8
SMSP				*i* S		Sn	11 46 59.8	-3.6
SMSP	comp=Z,4μm,1.0s			IAML			11 47 05.7	
SULM	**Suchitepequez,**	1.77	90	*e*P		Pn	11 46 43.1	+1.5
STG3	**Santiaguito 3,**	1.81	77	*e*P		Pn	11 46 42.5	+0.1
CARR	**Arriaga**	2.00	346	*e*P		Pn	11 46 45.9	+1.2
CARR				*i* S		Sn	11 47 09.8	-0.6
HUEH	**Huehuetenango**	2.09	61	*e*P		Pn	11 46 46.7	+0.6
HUEH				*i* S		Sn	11 47 10.6	-2.5
HUEH	**Huehuetenango**	2.09	61	*i* P		Pn	11 46 46.8	+0.6
HUEH				*i* S		Sn	11 47 14.7	+1.6
HUEH	comp=Z,3μm,1.0s			IAML			11 47 23.3	
CCIG	**Comitan**	2.32	31	*i* P		Pn	11 46 51.1	+1.8
CCIG				*i* S		Sn	11 47 19.5	+1.0
CCIG	**Comitan**	2.32	31	*i* P		Pn	11 46 51.0	+1.8
CCIG				*i* S		Sb	11 47 21.3	-0.4
CCIG	comp=Z,2μm,1.0s			IAML			11 47 22.2	
QUIS	**Sacapulas**	2.44	66	*i* P		Pn	11 46 52.2	+1.3
QUIS	comp=Z,1μm,1.0s			IAML			11 46 53.0	
TGIG		2.48	6	*i* P		Pn	11 46 52.7	+1.3
TGIG				*i* S		Sn	11 47 18.6	-3.7
FUG	**Fuego 3**	2.48	86	*e*P		Pn	11 46 52.1	+0.6
FUG				*e*S		Sn	11 47 19.0	-3.5
TGBT	**Tuxtla Gutierr**	2.48	7	*i* P		Pn	11 46 53.5	+2.2
TGBT				*i* S		Sn	11 47 23.6	+1.3
NILT	**Santiago Nilte**	2.54	333	*i* P		Pn	11 46 54.9	+2.7
NILT				*i* S		Sn	11 47 22.4	-1.5
HUIG	**Huatulco**	3.00	299	*e*P		Pn	11 47 00.6	+2.1
HUIG				*i* S		Sn	11 47 32.0	-3.1
CMIG	**Matias Romero** comp=Z,10nm,0.3s,baz=153,slow=12,SNR=91	3.12	333	Pn		Sn	11 47 02.1	+1.9
CMIG	comp=Z,18nm,0.3s,baz=30,slow=23,SNR=7.2			Sn		Sn	11 47 37.1	-1.1
CMIG	comp=Z,20nm,0.3s,baz=325,slow=9.2,SNR=6.9			Lg		Lg	11 47 51.9	
CMIG	comp=Z,100nm,19.5s,baz=138,slow=40 comp=Z,25nm,0.3s			LR		LR	11 48 21.4	
CMIG	**Matias Romero**	3.12	333	*e*P		Pn	11 47 01.3	+1.1
CMIG				*e*S		Sn	11 47 35.0	-3.3
NUBE	**Las Nubes**	3.53	96	*i* P		Pn	11 47 05.7	-0.2
NUBE				*i* S		Sn	11 47 45.8	-2.7
NUBE	comp=Z,300nm,1.0s			IAML			11 47 59.7	
TUIG	**Tuzandepetl**	3.84	345	*e*P		Pn	11 47 06.6	-3.5
TUIG				*e*S		Sn	11 47 53.2	-2.8
JAYA	**Jayaque - finc**	3.88	99	*i* P		Pn	11 47 10.2	-0.6
JAYA	comp=Z,390nm,1.0s			IAML			11 48 03.0	
PEIG	**Puerto Escondi**	4.00	295	*e*P		Pn	11 47 11.7	-0.5
PEIG				*i* S		Sn	11 47 55.1	-4.7
PMON	**Piamonte**	4.00	98	*i* P		Pn	11 47 11.7	-0.7
PMON				*i* S		Sn	11 47 58.7	-1.4
PMON	comp=Z,310nm,1.0s			IAML			11 48 10.4	
NEUV	**Arroyo Zacate**	4.11	326	*e*P		Pn	11 47 14.8	+1.1
NEUV				*i* S		Sn	11 47 54.4	-8.1
VHO	**Vista Hermosa**	4.24	311	*e*P		Pn	11 47 16.2	+0.5
VHO				*i* S		Sn	11 48 02.3	-3.6
PETF	**Flores**	4.28	52	*e*P		Pn	11 47 17.0	+0.9
PETF	**Flores**	4.28	52	*i* P		Pn	11 47 17.3	+1.2
PETF	comp=Z,290nm,1.0s			IAML			11 47 20.0	
PETF				*i* S		Sn	11 48 08.1	+1.3
PMUV	**Sontecomapan**	4.54	339	*e*P		Pn	11 47 19.4	-0.3
PMUV				*e*S		Sn	11 48 07.5	-5.7
YOIG	**Yosondua**	4.74	303	*e*P		Pn	11 47 23.3	+0.6
YOIG				*e*S		Sn	11 48 14.8	-3.7
SCIG	**Sabancuy**	5.10	24	*e*P		Pn	11 47 28.5	+1.1
SCIG				*i* S		Sn	11 48 24.5	-2.6
TXIG	**Tlaxiaco**	5.13	305	*e*P		Pn	11 47 28.6	+0.6
TXIG				*i* S		Sn	11 48 26.4	-1.7
TOIG	**Toxpalan**	5.17	317	*e*P		Pn	11 47 28.4	0.0
TOIG				*e*S		Sn	11 48 25.1	-3.6
TPIG	**Tehuac#an**	5.59	318	*i* P		Pn	11 47 29.7	-4.6
TPIG				*e*S		Sn	11 48 36.3	-3.1
JAUV	**Jalcomulco**	6.00	328	*e*P		Pn	11 47 40.2	+0.3
JAUV				*i* S		Sn	11 48 45.1	-4.2
CRIG	**Cruz Grande**	6.04	294	*e*P		Pn	11 47 41.5	+1.3
CRIG				*e*S		Sn	11 48 42.6	-7.5
PPM	**Popocatepetl**	6.90	314	*e*P		Pn	11 47 50.7	-1.9
PPM				*e*S		Sn	11 49 07.7	-4.3
PLIG	**Platanillo**	7.14	306	*e*P		Pn	11 47 55.4	-0.1
PLIG				*i* S		Sn	11 49 14.5	-2.8
CAIG	**El Cayaco**	7.16	293	*e*P		Pn	11 47 56.7	+1.0
CAIG				*i* S		Sn	11 49 09.5	-8.3
ARIG	**Puente Sto Nin**	7.76	302	*e*P		Pn	11 48 00.6	-3.4
ARIG				*e*S		Sn	11 49 32.5	0.0
JTS	**Las Juntas de** comp=Z,0.4nm,0.3s,baz=270,slow=20,SNR=5.2	9.16	115	Pn		Pn	11 48 16.1	-7.1
JTS	baz=56,slow=23,SNR=6.8 comp=Z,1.3nm,0.3s			Lg		Lg	11 50 35.1	
H06E1	**SOCORRO T-PHASE** SNR=4.0	17.38	287	T		T	12 08 12.6	
TXAR	**Lajitas Array** comp=Z,0.1nm,0.3s,baz=163,slow=10,SNR=14 comp=Z,2.1nm,0.9s	17.73	329	P		P	11 50 22.8	+3.7
SDV	**Santo Domingo** comp=Z,1.9nm,0.5s,baz=296,slow=11,SNR=1.8	22.93	101	P		P	11 51 16.7	+0.9
PDAR	**Pinedale Array** comp=Z,0.1nm,0.5s,baz=116,slow=12,SNR=1.8 comp=Z,0.1nm,0.5s	31.60	337	P		P	11 52 36.8	+2.3
NVAR	**Mina Array Bea** comp=Z,1.3nm,0.8s,baz=133,slow=7.8,SNR=14 comp=Z,1.3nm,0.8s	32.60	322	P		P	11 52 46.1	+2.8
YKA	**Yellowknife Ar** comp=Z,1.8nm,0.7s,baz=152,slow=7.3,SNR=34	50.43	347	P		P	11 55 09.6	+0.8
YKA	comp=Z,0.2nm,0.7s,baz=156,slow=3.5,SNR=2.6 comp=Z,1.8nm,0.7s			PcP		PcP	11 56 27.8	+0.8
ILAR	**Eielson Array** comp=Z,0.6nm,0.9s,baz=159,slow=4.4,SNR=7.5 comp=Z,0.6nm,0.9s	62.03	337	P		P	11 56 32.7	+1.1
CMAR	**Chiang Mai Arr** comp=Z,0.8nm,0.7s,baz=346,slow=3.4,SNR=7.5	145.25	339	PKPbc		PKPbc	12 05 49.8	-0.1

*IDC **04** 12:07:55.8±1.4, 14°.44N×92°.55W, h0km, mb3.8/8, mbtmp3.9/11, ML3.9/3, MS4.1/2, Error ellipse: s-maj=55.1km s-min=17.2km az=39.0*
*CATAC **04** 12:07:59.7±0.8, 14°.19N×93°.18W, h10km, ML4.6*
*MEX **04** 12:07:59.5±0.6, 14°.24N×93°.40W, h15km, MD4.4*
*GCG **04** 12:08:04.3±0.9, 14°.55N×93°.09W, h33km±999km, MD4.3*

ISC 04 12:07:56.3±1.4, **14°.30N**±0°.04×**93°.25W**±0°.03, **h9km**±8km, **n78, σ2840/122, mb3.9/7, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THIG		1.13	58	*e*P		Pn	12 08 19.4	+1.1
THIG				*i* S		Sn	12 08 33.3	-0.6
PATR	**El Naranjo**	1.27	51	*e*P		Pg	12 08 20.7	-0.2
PATR				*i* S		Sn	12 08 38.7	+0.8
CHUJ	**Union Juarez**	1.36	55	*e*P		Pg	12 08 22.4	0.0
CHUJ				*i* S		Sg	12 08 40.7	+0.6
PAVE	**Pavencul**	1.37	50	*e*P		Pg	12 08 22.4	-0.2
PAVE				*i* S		Sg	12 08 40.9	+0.5
PCIG		1.39	1	*i* P		Pn	12 08 22.0	+0.1
PCIG				*i* S		Sn	12 08 39.6	-0.9
RTAL	**Retalhuleu**	1.52	82	*i* P		Pg	12 08 25.7	+0.1
RTAL				*i* S		Sg	12 08 44.8	-0.7
RTAL	**Retalhuleu**	1.52	82	*i* P		Pg	12 08 25.1	-0.5
RTAL	comp=Z,2μm,1.0s			IAML			12 08 53.8	
SMSP	**San Marcos**	1.57	65	*i* P		Pg	12 08 25.9	-0.7
SMSP				*i* S		Sg	12 08 46.5	-0.5
SMSP	**San Marcos**	1.57	65	*i* P		Pb	12 08 25.8	0.0
SMSP				*i* S		Sg	12 08 45.7	-1.3
SMSP	comp=Z,8μm,1.0s			IAML			12 08 48.6	
SULM	**Suchitepequez,**	1.64	90	*i* P		Pg	12 08 29.0	+1.2
STG3	**Santiaguito 3,**	1.68	76	*i* P		Pg	12 08 28.3	-0.3
STG3				*i* S		Sg	12 08 48.8	-1.6
HUEH	**Huehuetenango**	1.97	59	*i* P		Pb	12 08 32.9	+0.4
HUEH				*i* S		Sg	12 09 01.4	+1.6
HUEH	**Huehuetenango**	1.97	59	*i* P		Pg	12 08 33.2	-1.0
HUEH				*i* S		Sg	12 09 00.7	+0.9
HUEH	comp=Z,6μm,1.0s			IAML			12 09 07.9	
CARR	**Arriaga**	2.04	342	*e*P		Pn	12 08 31.9	+1.1
CARR				*i* S		Sn	12 08 56.6	+0.3
CCIG	**Comitan**	2.24	29	*i* P		Pb	12 08 37.3	+0.2
CCIG				*e*S		Sb	12 09 04.2	-0.8
CCIG	**Comitan**	2.24	29	*i* P		Pb	12 08 37.2	+0.1
CCIG				*i* S		Sg	12 09 06.9	-1.6
CCIG	comp=Z,4μm,1.0s			IAML			12 09 08.4	
QUIS	**Sacapulas**	2.31	65	*i* P		Pb	12 08 38.6	+0.3
QUIS	comp=Z,2μm,1.0s			IAML			12 08 39.3	
QUIS				*i* S		Sg	12 09 08.8	-1.8
FUG	**Fuego 3**	2.34	86	*i* P		Pb	12 08 38.7	-0.1
FUG				*i* S		Sb	12 09 05.9	-2.0
TGBT	**Tuxtla Gutierr**	2.46	4	*i* P		Pb	12 08 39.5	-1.3
TGBT				*i* S		Sb	12 09 09.6	-1.6
TGIG		2.46	3	*e*P		Pb	12 08 39.3	-1.6
TGIG				*e*S		Sn	12 09 06.8	-0.2
NILT	**Santiago Nilte**	2.60	330	*i* P		Pn	12 08 41.1	+2.5
NILT				*i* S		Sn	12 09 11.1	+0.7
NBG	**Las Nubes**	2.83	84	*i* P		Pb	12 08 47.1	-0.1
HUIG	**Huatulco**	3.12	298	*e*P		Pn	12 08 46.0	+0.3
HUIG				*i* S		Sn	12 09 18.7	-4.4
CMIG	**Matias Romero** comp=Z,23nm,0.3s,baz=149,slow=13,SNR=164	3.19	331	Pn		Pn	12 08 49.1	+2.5
CMIG	comp=Z,34nm,0.3s,baz=133,slow=17,SNR=11			Sn		Sn	12 09 24.1	-0.6
CMIG	comp=Z,138nm,19.3s,baz=121,slow=43 comp=Z,51nm,0.3s			LR		LR	12 10 24.0	
CMIG	**Matias Romero**	3.19	331	*e*P		Pn	12 08 48.1	+1.5
CMIG				*i* S		Sn	12 09 25.4	+0.7
NUBE	**Las Nubes**	3.39	96	*i* P		Pn	12 08 52.2	+2.6
NUBE				*i* S		Sn	12 09 30.3	+0.2
NUBE	comp=Z,360nm,1.0s			IAML			12 09 46.1	
MRL	**Marmol**	3.54	77	*i* P		Pb	12 08 57.8	-1.5
VHSA	**Villahermosa**	3.67	5	*i* P		Pn	12 08 54.8	+1.6
VHSA				*i* S		Sb	12 09 42.1	-3.9
CEDA	**San Andres**	3.78	97	*i* P		Pn	12 08 58.6	+3.8
CEDA	comp=Z,2μm,1.0s			IAML			12 09 35.3	
PMON	**Piamonte**	3.87	98	*i* P		Pn	12 08 58.6	+2.5
PMON	comp=Z,310nm,1.0s			IAML			12 10 19.0	
TUIG	**Tuzandepetl**	3.88	343	*i* P		Pn	12 08 59.2	+3.1
PEIG	**Puerto Escondi**	4.12	295	*e*P		Pn	12 08 59.7	+0.2
PEIG				*i* S		Sn	12 09 41.6	-6.3
PETF	**Flores**	4.17	51	*i* P		Pn	12 09 02.7	+2.5
PETF	comp=Z,450nm,1.0s			IAML			12 09 06.3	
PETF				*i* S		Sb	12 09 54.2	-6.2
NEUV	**Arroyo Zacate**	4.18	324	*e*P		Pn	12 09 01.0	+0.6
NEUV				*i* S		Sn	12 09 50.5	+1.1
VHO	**Vista Hermosa**	4.34	310	*e*P		Pn	12 09 07.7	+5.0
VHO				*i* S		Sn	12 09 54.6	+1.1
PMUV	**Sontecomapan**	4.58	337	*e*P		Pn	12 09 05.9	0.0
PMUV				*i* S		Sn	12 09 58.2	-1.2
YOIG	**Yosondua**	4.85	302	*e*P		Pn	12 09 09.5	-0.4
YOIG				*i* S		Sn	12 10 04.3	-2.1
SCIG	**Sabancuy**	5.04	23	*i* P		Pn	12 09 14.4	+2.3
SCIG				*i* S		Sn	12 10 08.9	-1.7
PNIG	**Pinotepa**	5.14	294	*e*P		Pn	12 09 15.9	+2.3
PNIG				*i* S		Sn	12 10 10.6	-2.4
TXIG	**Tlaxiaco**	5.24	305	*e*P		Pn	12 09 15.1	-0.1
TXIG				*i* S		Sn	12 10 10.0	-6.0
TOIG	**Toxpalan**	5.26	316	*e*P		Pn	12 09 18.3	+3.1
TOIG				*i* S		Sn	12 10 10.9	-5.1
HLIG	**Huajuapan de L**	5.61	309	*e*P		Pn	12 09 21.8	+1.6
HLIG				*e*S		Sn	12 10 23.7	-1.1
TPIG	**Tehuac#an**	5.68	317	*e*P		Pn	12 09 21.9	+0.7
TPIG				*e*S		Sn	12 10 25.4	-1.2
FTIG	**Fresnillo de T**	5.90	308	*e*P		Pn	12 09 30.5	+6.4
FTIG				*i* S		Sn	12 10 35.3	+3.3
MGIG	**Malinaltepec**	5.94	300	*e*P		Pn	12 09 15.2	-10
MGIG				*i* S		Sn	12 10 29.8	-3.3
JAUV	**Jalcomulco**	6.07	326	*e*P		Pn	12 09 26.7	+0.3
JAUV				*e*S		Sn	12 10 32.5	-3.6
CRIG	**Cruz Grande**	6.16	294	*e*P		Pn	12 09 31.1	+3.6
CRIG				*i* S		Sn	12 10 31.2	-7.0
LVIG	**Laguna Verde**	6.18	331	*i* P		Pn	12 09 27.9	+0.1
LVIG				*i* S		Sn	12 10 34.4	-4.2
PPM	**Popocatepetl**	7.00	313	*e*P		Pn	12 09 40.6	+1.1
PPM				*i* S		Sn	12 10 52.9	-6.6
PLIG	**Platanillo**	7.25	305	*e*P		Pn	12 09 44.6	+2.0
PLIG				*i* S		Sn	12 11 04.7	-0.4
CAIG	**El Cayaco**	7.29	293	*i* P		Pn	12 09 44.0	+1.0
CAIG				*i* S		Sn	12 11 03.2	-2.7
MPVM	**San Francisco**	7.36	312	*i* P		Pn	12 09 44.2	0.0
MPVM				*i* S		Sn	12 11 10.4	+2.4
TLVM	**San Miguel Top**	7.47	312	*i* P		Pn	12 09 40.0	-5.8
TLVM				*i* S		Sn	12 11 17.2	+6.4
XCVM	**Xochimilco**	7.47	312	*e*P		Pn	12 09 43.7	-2.0
XCVM				*i* S		Sn	12 11 12.1	+1.3
TEIG	**Tepich** comp=Z,2μm,19.0s,baz=344,slow=45	7.57	38	LR		LR	12 13 13.5	
VTVM	**Tizayuca**	7.58	317	*i* S		Sn	12 11 12.1	-1.4
AOVM	**Tlapan**	7.62	311	*e*P		Pn	12 09 49.0	+0.9
AOVM				*i* S		Sn	12 11 13.6	-1.4
ZUVM	**ZUMPANGO**	7.82	315	*i* S		Sn	12 11 22.3	+2.8
ARIG	**Puente Sto Nin**	7.88	301	*i* P		Pn	12 09 56.8	+5.7
ARIG				*i* S		Sn	12 11 18.8	-1.7
TOVM	**TOLUCA**	7.90	310	*e*P		Pn	12 09 59.8	+8.1
TOVM				*i* S		Sn	12 11 25.3	+3.9
DEIG	**Demacu**	8.13	318	*i* P		Pn	12 10 00.1	+5.3
DEIG				*i* S		Sn	12 11 23.8	-3.1
ZIIG	**Zihuatanejo**	8.55	294	*i* P		Pn	12 10 04.0	+3.6
ZIIG				*i* S		Sn	12 11 38.9	+1.8
JTS	**Las Juntas de** comp=Z,0.5nm,0.3s,baz=316,slow=21,SNR=1.8	9.04	115	Pn		Pn	12 10 01.1	-6.0
JTS	comp=Z,0.6nm,0.3s,baz=54,slow=23,SNR=8.4 comp=Z,1.8nm,0.3s			Lg		Lg	12 12 24.8	
H06E1	**SOCORRO T-PHASE** SNR=5.9	17.52	287	T		T	12 29 53.5	
TXAR	**Lajitas Array** comp=Z,0.1nm,0.3s,baz=156,slow=13,SNR=18 comp=Z,2.9nm,0.9s	17.79	329	P		P	12 12 08.1	+2.9
ROSC	**El Rosal** comp=Z,3.6nm,0.3s,baz=230,slow=7.4,SNR=0.9 comp=Z,3.6nm,0.3s	20.88	115	P		P	12 12 33.7	-5.7
PDAR	**Pinedale Array** comp=Z,0.2nm,0.5s,baz=147,slow=5.4,SNR=2.5	31.65	337	P		P	12 14 22.4	+2.2
PDAR	comp=Z,0.1nm,0.6s,baz=141,slow=4.6,SNR=1.5 comp=Z,0.2nm,0.5s			PcP		PcP	12 17 13.7	+1.5
NVAR	**Mina Array Bea** comp=Z,1.8nm,0.8s,baz=134,slow=8.6,SNR=18	32.68	322	P		P	12 14 32.8	+3.6
NVAR	comp=Z,0.2nm,0.6s,baz=149,slow=3.7,SNR=3.8 comp=Z,1.8nm,0.8s			PcP		PcP	12 17 17.1	+2.0
ULM	**Lac du Bonnet** comp=Z,1.0nm,0.6s,baz=162,slow=8.9,SNR=3.3 comp=Z,1.0nm,0.6s	35.91	357	P		P	12 14 57.2	+0.4
SCHQ	**Schefferville** comp=Z,2.3nm,0.9s,baz=206,slow=3.2,SNR=4.8	45.37	21	PcP		PcP	12 17 54.4	+0.1
YKA	**Yellowknife Ar** comp=Z,2.7nm,0.8s,baz=152,slow=7.3,SNR=50	50.46	347	P		P	12 16 55.7	+1.5
YK

H11S1	WAKE ISLAND Hy	27.65	123	T	T	12 55 02.3		
	baz=320							
H11S3	WAKE ISLAND Hy	27.65	123	T	T	12 55 07.1		
	baz=320							
H11S2	WAKE ISLAND Hy	27.66	123	T	T	12 55 03.4		
	baz=320							
SONM	Songino Array	29.00	305	P	P	12 26 14.8	+1.2	
	0.3nm,0.6s,baz=96,slow=9.2,SNR=1.9							
	0.3nm,0.6s							
MKAR	Makanchi Array	45.33	303	P	P	12 28 33.8	+2.1	
	0.4nm,0.7s,baz=81,slow=8.9,SNR=5.8							
	0.4nm,0.7s							

*IDC **04** 12:31:26.6±0.6,56°.16N×149°.24W,h0^{km},mb4.0/30, mbtmp4.0/35,ML3.8/5,MS3.8/4,Error ellipse: s-maj=16.6km s-min=10.7km az=19.0*

*NEIC **04** 12:31:27.6±2.2,56°.14N±0°.07×149°.24W±0°.09,h20^{km}±7^{km}, mb4.2/28,ML4.2/48,ML4.0(AEIC),Error ellipse: s-maj=10.9km s-min=7.3km az=171.0*

*AEIC **04** 12:31:31.7±1.7,56°.23N±0°.07×149°.25W±0°.09,h8^{km}±6^{km}, Error ellipse: s-maj=10.7km s-min=7.0km az=166.0*

ISC 04 12:31:27.7±0.5,56°.25N±0°.07×149°.21W±0°.04,h10^{km}, n443,σ1§19/436,mb4.1/39,MS3.5/3,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	Kodiak Island	2.40	311		Pn	12 32 06.0	-0.9
KDAK					Sn	12 32 33.7	-2.7
KDAK	Kodiak Island	2.40	311	Pn	Pn	12 32 06.2	-0.8
	10nm,0.3s,baz=153,slow=4.7,SNR=211						
KDAK				Sn	Sn	12 32 34.1	-2.3
	47nm,0.3s,baz=173,slow=14,SNR=8.6						
	30nm,0.4s						
OHAK	Old Harbor	2.45	295		Pn	12 32 05.9	-1.7
OHAK					Sn	12 32 33.4	-4.2
OHAK	Old Harbor	2.45	295	IAML		12 32 41.5	
	comp=N,638nm,0.6s						
OHAK	Old Harbor	2.45	295	S	Sn	12 32 34.1	-3.4
	baz=114						
SII	Sitkinak Islan	2.78	278		Pn	12 32 10.4	-1.8
SII					Sn	12 32 42.1	-3.8
SII	Sitkinak Islan	2.78	278	IAML		12 32 50.6	
	comp=E,702nm,0.7s						
SII				IAML		12 32 58.1	
	comp=N,571nm,0.8s						
CNPM	China Poot	3.46	343	Pn	Pn	12 32 21.0	-0.6
CNPM	China Poot	3.46	343		Sn	12 32 58.6	-4.0
MID	Middleton Isla	3.54	25	Pn	Pn	12 32 21.7	-0.9
MID				IAML		12 33 02.7	
	comp=N,360nm,1.0s						
MID				IAML		12 33 08.1	
	comp=E,284nm,1.0s						
MID	Middleton Isla	3.54	25		Sn	12 33 01.8	-2.6
MID	Middleton Isla	3.54	25	P	Pn	12 32 22.0	-0.6
BRSE	Bradley Lake S	3.59	348		Pn	12 32 22.7	-0.7
BRSE	Bradley Lake S	3.59	348	P	Pn	12 32 22.7	-0.7
	baz=167						
BRLK	Bradley Lake	3.63	347	Pn	Pn	12 32 23.2	-0.8
BRLK	Bradley Lake	3.63	347		Sn	12 33 02.6	-4.3
KAKN	Katmai Knife C	3.78	305		Pn	12 32 26.2	+0.2
KAKN					Sn	12 33 06.5	-4.1
KCG	Knife Ck. Glac	3.81	305		Pn	12 32 26.7	+0.3
KCE	Katmai Mt Cerb	3.81	304		Pn	12 32 27.2	+0.8
ACHA	Angle Creek He	3.86	303		Pn	12 32 27.3	+0.2
ACHA					Sn	12 33 09.6	-2.9
SEW	Seward	3.87	358		Pn	12 32 26.1	-1.1
SEW	Seward	3.87	358	P	Pn	12 32 26.1	-1.1
	baz=178						
P23K	Montague Islan	3.88	14		Pn	12 32 26.3	-1.0
P23K	Montague Islan	3.88	14	P	Pn	12 32 26.3	-1.0
	baz=195						
KVTA	Katmai Vly 10	3.93	305		Pn	12 32 28.6	+0.6
ANCK	Angle Creek	3.93	302		Pn	12 32 29.0	+0.9
KAHC	Katmai Hardscr	3.95	310		Pn	12 32 28.8	+0.4
KAHC	Katmai Hardscr	3.95	310	P	Pn	12 32 28.8	+0.4
	baz=126						
PLK3	Peulik 3	4.12	293		Pn	12 32 30.4	-0.2
CNTC	Contact Creek	4.15	302		Pn	12 32 31.2	+0.1
CNTC					Sn	12 33 16.9	-2.8
Q17K	Contact Creek	4.15	302	P	Pn	12 32 31.2	+0.1
	baz=118						
Q17K				S	Sn	12 33 16.9	-2.8
	baz=118						
KELA	Mount Kelaz	4.16	305		Pn	12 32 31.3	+0.1
O20K	Slope Mountain	4.24	336		Pn	12 32 31.8	-0.6
O20K	Slope Mountain	4.24	336	P	Pn	12 32 31.8	-0.6
	baz=154						
O22K	Cooper Landing	4.25	357		Pn	12 32 31.6	-0.8
O22K	Cooper Landing	4.25	357	P	Pn	12 32 31.6	-0.8
	baz=176						
ILSW	Iliamna Southw	4.28	333		Pn	12 32 32.1	-0.9
ILSW	Iliamna Southw	4.28	333	IAML		12 33 24.6	
	comp=N,174nm,0.7s						
ILSW				IAML		12 33 24.7	
	comp=E,146nm,0.7s						
SLKM	Skilak Lake	4.30	353		Pn	12 32 32.2	-1.0
PLK1	Peulik 1	4.33	294		Pn	12 32 33.3	-0.2
HIN	Hinchinbrook I	4.40	18		Pn	12 32 34.0	-0.4
HIN				IAML		12 33 26.7	
	comp=E,317nm,0.6s						
KAIM	Kayak Island	4.48	33	Pn	Pn	12 32 36.0	+0.4
KAIM				IAML		12 33 28.1	
	comp=E,436nm,1.4s						
KAIM	Kayak Island	4.48	33	P	Pn	12 32 35.4	-0.2
	baz=216						
P18K	Big Mountain,	4.50	317		Pn	12 32 34.9	-1.0
P18K	Big Mountain,	4.50	317	P	Pn	12 32 34.9	-1.0
	baz=133						
RED	Redoubt Volcan	4.58	337		Pn	12 32 35.6	-1.5
RDSO	Redoubt South	4.61	338		Pn	12 32 36.0	-1.5
RSO	Redoubt South	4.62	338		Pn	12 32 37.1	-0.5
CAPN	Captain Cook N	4.64	348	Pn	Pn	12 32 38.6	+0.8
RDT	Redoubt	4.65	340		Pn	12 32 36.6	-1.4
RDWB	Redoubt West	4.66	337		Pn	12 32 36.8	-1.4
EYAK	Cordova Ski Ar	4.68	21		Pn	12 32 38.2	-0.1
EYAK	Cordova Ski Ar	4.68	21	P	Pn	12 32 38.1	-0.1
EYAK	Cordova Ski Ar	4.68	21	P	Pn	12 32 38.2	-0.1
	baz=204						
Q16K	King Salmon	4.70	304		Pn	12 32 38.6	+0.1
Q16K	King Salmon	4.70	304	P	Pn	12 32 38.6	+0.1
	baz=119						
DFR	Drift River	4.72	339		Pn	12 32 37.6	-1.4
NCT	North Crescent	4.74	337		Pn	12 32 38.0	-1.3
R16K	Pilot Point	4.77	290		Pn	12 32 39.6	+0.1
R16K	Pilot Point	4.77	290	IAML		12 33 43.9	
	comp=E,180nm,3.2s						
R16K				IAML		12 33 48.1	
	comp=N,169nm,0.8s						
R16K	Pilot Point	4.77	290	P	Pn	12 32 39.7	+0.1
	baz=104						
O19K	Port Alsworth	4.79	328		Pn	12 32 38.8	-1.0
O19K	Port Alsworth	4.79	328	IAML		12 33 34.7	
	comp=N,269nm,0.5s						
O19K	Port Alsworth	4.79	328	P	Pn	12 32 38.8	-1.0
	baz=144						
RAGM	Ragged Mountai	4.79	28		Pn	12 32 37.2	-2.6
SUCK	Suckling Hills	4.79	35		Pn	12 32 39.9	0.0
SUCK	Suckling Hills	4.79	35	IAML		12 33 34.4	
	comp=N,284nm,1.2s						
SUCK				IAML		12 33 39.1	
	comp=E,227nm,1.3s						
O18K	Koktuh Hills	4.81	321		Pn	12 32 39.4	-0.8
O18K	Koktuh Hills	4.81	321	IAML		12 33 35.2	
	comp=N,127nm,0.8s						
O18K	Koktuh Hills	4.81	321	P	Pn	12 32 39.4	-0.8
	baz=137						
HMT	Hamilton	4.86	30		Pn	12 32 41.1	+0.3
RC01	Rabbit Creek A	4.86	357		Pn	12 32 40.0	-0.8
RC01	Rabbit Creek A	4.86	357	IAML		12 33 38.9	
	comp=N,116nm,0.5s						
RC01				IAML		12 33 54.3	
	comp=E,134nm,0.8s						
RC01	Rabbit Creek A	4.86	357	P	Pn	12 32 40.0	-0.8
	baz=177						
NICHA	Nichawak Mount	4.86	33		Pn	12 32 40.7	-0.2
P17K	Kvichak River	4.87	310		Pn	12 32 40.8	-0.1
P17K	Kvichak River	4.87	310	P	Pn	12 32 40.8	-0.1
	baz=125						
FIS	Fire Island	4.94	354		Pn	12 32 42.3	+0.5
FIS				IAML		12 33 51.3	
	comp=E,203nm,0.7s						
FIS				IAML		12 33 59.8	
	comp=N,190nm,3.5s						
GOAT	Goat Mountain	4.94	27		Pn	12 32 42.0	+0.1
BGLC	Bering Glacier	4.99	36		Pn	12 32 43.0	+0.4
BGLC	Bering Glacier	4.99	36	P	Pn	12 32 43.0	+0.4
	baz=221						
ANNW	Aniakchak Nort	5.02	282		Pn	12 32 43.5	+0.3
BERG	Berg Lake	5.07	33		Pn	12 32 43.3	-0.4
BERG	Berg Lake	5.07	33	IAML		12 33 51.6	
	comp=E,253nm,0.9s						
GRIN	Grindle Hills	5.10	35		Pn	12 32 44.3	+0.2
SNH	Sunshine Point	5.18	38		Pn	12 32 45.1	-0.1
SNH				IAML		12 33 47.2	
	comp=E,210nm,1.0s						
SNH				IAML		12 34 25.7	
	comp=N,120nm,1.3s						
KNK	Knik Glacier	5.19	4		Pn	12 32 44.7	-0.7
KNK	Knik Glacier	5.19	4	IAML		12 33 46.7	
	comp=E,113nm,0.7s						
KNK				IAML		12 33 49.3	
	comp=N,91nm,0.7s						
KNK	Knik Glacier	5.19	4	P	Pn	12 32 44.7	-0.7
	baz=185						
N20K	Mount Spurr	5.20	344	P	Pn	12 32 44.4	-1.2
	baz=162						
SPCR	Spurr Chakacha	5.20	344		Pn	12 32 44.4	-1.2
DIV	Divide	5.21	19		Pn	12 32 46.5	+0.8
SPCN	Chakachatna No	5.22	344		Pn	12 32 44.9	-0.9
KHIT	Khitrov Hills	5.25	34		Pn	12 32 45.7	-0.5
SPCP	Crater Peak Br	5.26	344		Pn	12 32 45.9	-0.5
SPCG	Spurr Capps Gl	5.26	345		Pn	12 32 45.7	-0.7
SPBG	Spurr Blockage	5.29	343		Pn	12 32 45.9	-0.8
SUA	Susitna One	5.29	352		Pn	12 32 45.8	-1.0
SUA	Susitna One	5.29	352	P	Pn	12 32 45.8	-1.0
	baz=171						
BMRM	Bremner River	5.31	25		Pn	12 32 46.3	-0.7
BMRM	Bremner River	5.31	25	P	Pn	12 32 46.3	-0.7
	baz=209						
N19K	Bonanza Creek	5.34	331		Pn	12 32 46.4	-1.1
N19K	Bonanza Creek	5.34	331	P	Pn	12 32 46.4	-1.1
	baz=147						
PMR	Palmer	5.36	0		Pn	12 32 46.9	-0.7
PMR	Palmer	5.36	0	P	Pn	12 32 47.6	0.0
PMR	Palmer	5.36	0	P	Pn	12 32 46.9	-0.7
	baz=181						
WAX	Waxell Ridge	5.38	36		Pn	12 32 48.2	+0.2
STLK	Strandline Lak	5.44	347		Pn	12 32 48.2	-0.6
SPNN	North Nagishla	5.44	342		Pn	12 32 48.2	-0.7
BARK	Barkley Ridge	5.46	38		Pn	12 32 49.0	-0.2
P16K	Nushagak River	5.48	304		Pn	12 32 49.3	+0.1
P16K	Nushagak River	5.48	304	P	Pn	12 32 49.3	+0.1
	baz=118						
O17K	Koliganek Bris	5.48	313		Pn	12 32 48.9	-0.3
O17K	Koliganek Bris	5.48	313	P	Pn	12 32 48.9	-0.3
	baz=128						
MESA	MESA	5.50	41		Pn	12 32 49.3	-0.5
MESA	MESA	5.50	41	P	Pn	12 32 50.1	+0.3
	baz=227						
CRQM	Cirque	5.53	33		Pn	12 32 50.0	-0.1
KLU	Klutina	5.53	17		Pn	12 32 50.2	+0.1
KLU	Klutina	5.53	17	P	Pn	12 32 50.1	+0.1
	baz=199						
CRQE	Cirque	5.54	33	P	Pn	12 32 50.0	-0.2
	baz=218						
M22K	Willow	5.54	356		Pn	12 32 50.3	+0.2
M22K	Willow	5.54	356	P	Pn	12 32 49.5	-0.6
	baz=175						
GHO	Glory Hole Cre	5.54	1		Pn	12 32 50.6	+0.4
SML	Sawmill	5.59	4		Pn	12 32 50.8	-0.1
SML	Sawmill	5.59	4	P	Pn	12 32 50.8	-0.1
	baz=185						
TGL	Tana Glacier	5.62	34		Pn	12 32 51.1	-0.2
N18K	Kilae Creek	5.66	325	Pn	Pn	12 32 50.3	-1.5
N18K	Kilae Creek	5.66	325	P	Pn	12 32 50.7	-1.1
	baz=140						
ISLE	Juniper Island	5.66	37		Pn	12 32 51.5	-0.5
BAGL	Bagley Icefiel	5.67	38		Pn	12 32 51.6	-0.2
SCM	Sheep Creek Mo	5.68	9		Pn	12 32 52.4	+0.2
SCM	Sheep Creek Mo	5.68	9	P	Pn	12 32 52.4	+0.2
	baz=191						
S14K	Fog Glacier	5.76	275	P	Pn	12 32 53.1	-0.2
	baz=87						
VNFG	Fog Glacier, M	5.76	275		Pn	12 32 53.1	-0.2
O16K	Kokwok River B	5.80	309		Pn	12 32 53.4	-0.2
O16K	Kokwok River B	5.80	309	P	Pn	12 32 53.4	-0.2
	baz=122						
VRDI	Verde Repeater	5.82	29		Pn	12 32 54.0	-0.2
SKT	Skwentna	5.87	349		Pn	12 32 54.0	-0.7
SKT	Skwentna	5.87	349	P	Pn	12 32 54.0	-0.7
	baz=168						
N25K	Chitina, Valde	5.88	22		Pn	12 32 54.8	-0.1
N25K	Chitina, Valde	5.88	22	P	Pn	12 32 54.8	-0.1
	baz=206						
SVW2	Sparrevohn	5.88	328	Pn	Pn	12 32 54.1	-0.7
SVW2	Sparrevohn	5.88	328	P	Pn	12 32 53.7	-1.2
KIAG	Kiagna River	5.90	35		Pn	12 32 55.1	-0.1
GLB	Gilahina Butte	5.91	26		Pn	12 32 54.8	-0.5
SAMH	Samovar Hills	5.92	45		Pn	12 32 55.5	+0.1
GRNC	Granite Creek	5.96	38		Pn	12 32 55.3	-0.8
TABL	Table Mountain	5.97	42		Pn	12 32 56.4	+0.1
N17K	Nushagak Hills	5.99	319		Pn	12 32 55.4	-0.9
N17K	Nushagak Hills	5.99	319	P	Pn	12 32 55.4	-0.9
	baz=133						
M20K	Styx River	6.00	342		Pn	12 32 55.2	-1.3
M20K	Styx River	6.00	342	P	Pn	12 32 55.2	-1.3
	baz=159						
YKU2	Yakutat	6.05	53	Pn	Pn	12 32 55.3	-1.8
YKU2	Yakutat	6.05	53	P	Pn	12 32 57.5	+0.4
CNBA	Chernabura Isl	6.06	261	Pn	Pn	12 32 55.1	-2.2
MCARA	McCarthy VSAT	6.07	29		Pn	12 32 57.6	+0.2
MCARA	McCarthy VSAT	6.07	29	P	Pn	12 32 57.6	+0.2
	baz=214						
PTPK	Patty Peak	6.07	33		Pn	12 32 57.5	-0.1
M24K	Tolsona, Glenn	6.08	14		Pn	12 32 57.9	+0.3
M24K	Tolsona, Glenn	6.08	14	P	Pn	12 32 57.9	+0.3
	baz=196						
PCA	Pinnacle	6.11	47		Pn	12 32 58.1	+0.1
PINM	Pinnacle	6.11	47	P	Pn	12 32 58.1	0.0
	baz=234						
CUT	Chulitna	6.20	355		Pn	12 32 59.5	+0.4
BARN	Barnard Glacie	6.23	36	Pn	Pn	12 32 59.1	-0.6
PNL	Peninsula	6.25	53		Pn	12 32 59.5	-0.4
PNL	Peninsula	6.25	53	P	Pn	12 32 59.8	-0.1
PNL	Peninsula	6.25	53	P	Pn	12 32 59.5	-0.4
	baz=240						
CTG	Chitna Glacier	6.26	38	P	Pn	12 32 59.8	-0.4
	baz=224						
CTGM	Chitina Glacie	6.27	38		Pn	12 32 59.8	-0.5
M18K	Stony River	6.27	330		Pn	12 32 58.6	-1.5
M18K	Stony River	6.27	330	P	Pn	12 32 58.6	-1.5
	baz=145						
LOGN	Logan Glacier	6.28	40		Pn	12 33 00.1	-0.3
BCPM	Bancas Point	6.29	50		Pn	12 33 00.6	+0.2
WAT6	Susitna Watana	6.39	6		Pn	12 33 01.7	-0.3
WAT6	Susitna Watana	6.39	6	P	Pn	12 33 01.7	-0.3
	baz=187						
O15K	Ungalikthiuk R	6.40	302		Pn	12 33 01.7	-0.2
O15K	Ungalikthiuk R	6.40	302	P	Pn	12 33 01.7	-0.2
	baz=114						
SDPT	Sand Point	6.42	267	Pn	Pn	12 33 00.6	-1.5
SDPT	Sand Point	6.42	267	P	Pn	12 33 00.5	-1.6
HARP	HAARP	6.51	17		Pn	12 33 03.5	+0.1
HARP	HAARP	6.51	17	P	Pn	12 33 03.5	+0.1
	baz=200						
N16K	Nishlik Lake	6.57	314		Pn	12 33 04.1	-0.2
N16K	Nishlik Lake	6.57	314	P	Pn	12 33 04.1	-0.2
	baz=127						
WAT7	Susitna Watana	6.61	1		Pn	12 33 04.8	0.0
L19K	White Mountain	6.61	336		Pn	12 33 03.5	-1.4
L19K	White Mountain	6.61	336	P	Pn	12 33 03.5	-1.4
	baz=152						
L20K	Farewell, AK	6.69	341		Pn	12 33 04.3	-1.6
L20K	Farewell, AK	6.69	341	P	Pn	12 33 04.3	-1.6
	baz=158						
M17K	Holitna River	6.70	324		Pn	12 33 05.3	-0.7
M17K	Holitna River	6.70	324	P	Pn	12 33 05.3	-0.7
	baz=138						
DHY	Denali Highway	6.91	7		Pn	12 33 09.1	+0.1
DHY	Denali Highway	6.91	7	P	Pn	12 33 09.1	+0.1
	baz=189						
O29M	Mount Kennedy	6.92	50		Pn	12 33 09.4	+0.2
O29M	Mount Kennedy	6.92	50	P	Pn	12 33 09.4	+0.2
	baz=238						
M26K	Nabesna, AK	6.94	25		Pn	12 33 09.4	+0.1
M26K	Nabesna, AK	6.94	25	P	Pn	12 33 09.4	+0.1
	baz=210						
N15K	Kwethluk River	6.96	309		Pn	12 33 09.8	+0.2
N15K	Kwethluk River	6.96	309	P	Pn	12 33 09.8	+0.2
	baz=120						
M16K	Timber Creek	6.98	317		Pn	12 33 09.7	-0.2
M16K	Timber Creek	6.98	317	P	Pn	12 33 09.6	-0.2
	baz=130						
P29M	Windy Craggy	6.98	56		Pn	12 33 09.7	-0.3
P29M	Windy Craggy	6.98	56	P	Pn	12 33 09.7	-0.3
	baz=245						
PAX	Paxson	7.00	14		Pn	12 33 10.5	+0.2
PAX	Paxson	7.00	14	P	Pn	12 33 10.5	+0.2
	baz=197						
YUK2	White River	7.03	34		Pn	12 33 11.1	+0.4
L18K	Granite Mounta	7.10	330		Pn	12 33 10.0	-1.6
L18K	Granite Mounta	7.10	330	P	Pn	12 33 10.0	-1.6
	baz=145						
O14K	Tigyukauivet M	7.11	300		Pn	12 33 11.9	+0.2
O14K	Tigyukauivet M	7.11	300	P	Pn	12 33 11.9	+0.2
	baz=111						
YUK3	Moose Creek	7.14	36		Pn	12 33 13.1	+0.7
YUK3	Moose Creek	7.14	36	P	Pn	12 33 13.1	+0.7
	baz=223						
M27K	Edge Creek, AK	7.18	28		Pn	12 33 13.9	+1.2
M27K	Edge Creek, AK	7.18	28	P	Pn	12 33 13.0	+0.3
	baz=214						
RND	Reindeer	7.18	1		Pn	12 33 12.6	-0.1
TRF	Thorofare Moun	7.24	356		Pn	12 33 13.7	0.0
TRF	Thorofare Moun	7.24	356	P	Pn	12 33 13.6	-0.1
	baz=175						
PN7A	Pavlof North-7	7.25	269		Pn	12 33 12.5	-1.1
MENT	Mentasta	7.26	20		Pn	12 33 15.4	+1.7
MENT	Mentasta	7.26	20	P	Pn	12 33 15.5	+1.7
S31K	Pelican	7.28	71		Pn	12 33 11.6	-2.4
CAST	Castle Rocks	7.33	350		Pn	12 33 14.5	-0.2
CAST	Castle Rocks	7.33	350	P	Pn	12 33 14.5	-0.2
	baz=168						
YUK6	Outpost Mounta	7.36	46		Pn	12 33 16.0	+0.7
YUK6	Outpost Mounta	7.36	46	P	Pn	12 33 16.0	+0.7
	baz=234						
KTH	Kantishna Hill	7.38	354		Pn	12 33 15.3	0.0
M15K	Kasigluk River	7.48	311		Pn	12 33 16.8	0.0
M15K	Kasigluk River	7.48	311	P	Pn	12 33 16.7	0.0
	baz=122						
YUK4	Talbot Arm	7.49	43	P	Pn	12 33 19.0	+1.9
	baz=231						
MCK	McKinley	7.51	1		Pn	12 33 16.9	-0.2
MCK	McKinley	7.51	1	P	Pn	12 33 16.9	-0.2
	baz=181						
L17K	Donlin	7.51	325		Pn	12 33 16.1	-1.2
L17K	Donlin	7.51	325	P	Pn	12 33 16.1	-1.2
	baz=138						
TTA	Tatalina	7.53	336		Pn	12 33 16.1	-1.4
TTA	Tatalina	7.53	336	P	Pn	12 33 16.6	-0.9
TTA	Tatalina	7.53	336	P	Pn	12 33 16.1	-1.4
	baz=150						
K20K	Telida	7.54	343		Pn	12 33 16.1	-1.4
K20K	Telida	7.54	343	P	Pn	12 33 16.1	-1.4
	baz=159						
P30M	Million Dollar	7.55	54		Pn	12 33 18.0	+0.3
P30M	Million Dollar	7.55	54	P	Pn	12 33 18.0	+0.3
	baz=244						
N14K	Kuskokwak Cree	7.56	304		Pn	12 33 17.9	0.0
N14K	Kuskokwak Cree	7.56	304	P	Pn	12 33 17.9	0.0
	baz=114						
L16K	Owhat River	7.61	320		Pn	12 33 17.9	-0.6
L16K	Owhat River	7.61	320	P	Pn	12 33 17.9	-0.6
	baz=132						
HYT	Haines Junctio	7.65	48		Pn	12 33 19.2	+0.1
SIT	Sitka	7.70	78		Pn	12 33 16.0	-3.7
SIT	Sitka	7.70	78	P	Pn	12 33 17.1	-2.6
K24K	Donnelly Dome	7.77	11		Pn	12 33 20.7	0.0
K24K	Donnelly Dome	7.77	11	P	Pn	12 33 20.7	0.0
	baz=194						
L27K	Beaver Creek,	7.78	26		Pn	12 33 21.6	+0.6
L27K	Beaver Creek,	7.78	26	P	Pn	12 33 21.6	+0.6
	baz=212						
BCAR	Beaver Creek A	7.80	26		Pn	12 33 22.3	+1.2
CHUM	Lake Minchumin	7.81	350		Pn	12 33 21.2	-0.1
CHUM	Lake Minchumin	7.81	350	P	Pn	12 33 21.2	-0.1
	baz=167						
RIDG	Independent Ri	7.82	14		Pn	12 33 21.6	+0.1
BPAW	Bear Paw Mtn.	7.92	354	Pn	Pn	12 33 22.1	-0.7
BPAW	Bear Paw Mtn.	7.92	354	P	Pn	12 33 21.9	-1.0
	baz=173						
BWN	Browne	7.95	359		Pn	12 33 23.9	+0.8
K17K	Iditarod	7.96	328	Pn	Pn	12 33 22.4	-0.9
K17K	Iditarod	7.96	328	P	Pn	12 33 22.1	-1.2
	baz=141						
M14K	Bethel	8.05	309	Pn	Pn	12 33 26.2	+1.7
SKAG	Skagway	8.07	61		Pn	12 33 24.1	-0.7
SKAG	Skagway	8.07	61	P	Pn	12 33 25.0	+0.2
SKAG	Skagway	8.07	61	P	Pn	12 33 24.1	-0.7
	baz=252						
BESE	Bessie Mountai	8.10	67		Pn	12 33 24.2	-1.1
S32K	Killisnoo	8.12	75		Pn	12 33 22.6	-2.9
J18K	Innoko River	8.16	336		Pn	12 33 24.8	-1.2
J18K	Innoko River	8.16	336	P	Pn	12 33 24.8	-1.2
	baz=150						
N30M	Aishikik Lake	8.16	45		Pn	12 33 25.9	-0.3
N30M	Aishikik Lake	8.16	45	P	Pn	12 33 25.9	-0.3
	baz=235						
SCRK	Sand Creek	8.18	16	Pn	Pn	12 33 27.7	+1.3
FALS	False Pass	8.18	266	P	Pn	12 33 24.6	-1.7
O30N	Mendenhall	8.22	51		Pn	12 33 26.5	-0.4
O30N	Mendenhall	8.22	51	P	Pn	12 33 27.0	0.0
	baz=242						
HDA	Harding Lake	8.26	7		Pn	12 33 28.4	+0.9
WRH	Wood River Hil	8.27	3		Pn	12 33 28.8	+1.3
M29M	Somme Creek	8.28	37		Pn	12 33 28.4	+0.5
M29M

M30M Minto, Yukon 8.95 40 P Pn 12 33 36.8 -0.1
baz=230
I20K Naaghedeneel 8.95 345 Pn 12 33 36.2 -0.7
U33K Whale Pass 8.98 84 Pn 12 33 33.5 -3.8
I21K Tanana 9.06 353 Pn 12 33 37.4 -1.0
I21K Tanana 9.06 353 P Pn 12 33 37.4 -1.0
baz=170
J16K Anvik River 9.08 326 Pn Pn 12 33 38.1 -0.6
CRAG Craig 9.09 88 Pn Pn 12 33 35.4 -3.4
CRAG Craig 9.09 88 P Pn 12 33 35.6 -3.1
DAWY Dawson 9.23 28 Pn 12 33 41.6 +0.8
WRAK Wrangell Islan 9.37 82 Pn Pn 12 33 40.0 -2.6
EGAK Eagle 9.42 22 Pn Pn 12 33 45.1 +1.8
PRP Porcupine Dome 9.47 9 Pn 12 33 44.6 +0.5
PRP Porcupine Dome 9.47 9 P Pn 12 33 43.1 -1.0
baz=193
Q32M Nakina River 9.49 66 Pn 12 33 43.5 -1.0
P33M Teslin, Yukon 9.51 59 Pn 12 33 44.1 -0.5
P33M Teslin, Yukon 9.51 59 P Pn 12 33 44.0 -0.5
baz=252
K29M Barlow Dome 9.59 33 Pn 12 33 46.9 +1.2
H21K Melozitna River 9.60 351 Pn Pn 12 33 44.7 -1.0
H24K Noodor Dome 9.64 3 Pn 12 33 47.0 +0.6
M31M Drury Creek, Y 9.64 46 Pn 12 33 47.4 +1.0
AKUT Akutan 9.70 264 Pn Pn 12 33 44.6 -2.6
AKUT Akutan 9.70 264 P Pn 12 33 45.3 -1.9
N32M Quiet Lake 9.71 53 Pn 12 33 47.9 +0.5
H19K Roundabout Mou 9.94 342 Pn 12 33 51.6 +1.2
V35K Ketchikan 9.96 88 Pn Pn 12 33 47.7 -2.9
H18K Honhosa River 9.98 337 Pn 12 33 50.0 -0.9
S34M Telegraph Cree 9.98 73 Pn 12 33 50.0 -1.0
IMAR Indian Mountai 10.01 349 Pn Pn 12 33 51.9 +0.5
FARO Faro, Yukon 10.08 47 Pn 12 33 52.8 +0.5
H02S1 DAWSON INLET T 10.15 101 T T 12 44 28.8
SNR=244
H17K Granite Mounta 10.16 333 Pn Pn 12 33 53.0 -0.5
H17K Granite Mounta 10.16 333 P Pn 12 33 52.9 -0.5
baz=144
UNV Unalaska Valle 10.21 264 P Pn 12 33 51.2 -2.9
R33M Jenninga River 10.22 65 Pn Pn 12 33 54.1 -0.3
I28M Miner Creek 10.26 22 Pn 12 33 56.0 +1.1
J30M Hart River 10.48 32 Pn Pn 12 33 59.9 +2.0
G21K Allakaket 10.50 351 Pn 12 33 59.2 +1.1
G23K Bananza Creek 10.51 358 Pn 12 33 57.9 -0.3
G24K Hadweenzic Riv 10.52 4 Pn 12 33 59.5 +1.2
FYU Fort Yukon 10.52 9 Pn Pn 12 33 58.7 +0.4
DLBC Dease Lake 10.59 70 Pn 12 33 58.7 -0.7
DLBC Dease Lake 10.59 70 Pn Pn 12 33 59.0 -0.4
comp=N,1.2nm,0.3s,baz=269,slow=4.7,SNR=25
DLBC Sn Sn 12 35 52.1 -5.9
baz=269,slow=25
DLBC LR LR 12 37 32.3
comp=N,333nm,19.6s,baz=282,slow=34
comp=N,4.1nm,0.5s
G18K Tagagawik 10.68 339 Pn 12 34 01.8 +1.2
I30M Mount Dempster 10.95 30 Pn 12 34 07.5 +3.2
F21K Alatna River 11.19 351 Pn 12 34 07.4 -0.2
F20K Avaraart Lake 11.26 347 Pn 12 34 08.2 -0.2
F24K Squaw Lake 11.33 3 Pn Pn 12 34 11.0 +1.6
F19K Shaleruckik Mo 11.36 343 Pn 12 34 09.6 -0.2
BMAR Burnt Mountain 11.43 9 Pn Pn 12 34 11.0 +0.2
ANM Nome 11.51 323 Pn Pn 12 34 11.6 -0.3
NIKH Nikolski High 11.84 262 P Pn 12 34 15.3 -1.2
E25K Arctic Village 12.03 7 Pn Pn 12 34 20.8 +1.8
G31M Satah River 12.80 27 Pn Pn 12 34 31.8 +2.3
F31M Tsiigehtchic 13.33 27 Pn 12 34 38.9 +2.2
INK Inuvik 14.06 24 Pn Pn 12 34 48.1 +1.5
comp=N,0.1nm,0.3s,baz=213,slow=14,SNR=11
comp=N,4.2nm,1.0s
ATKA Atka Island 15.12 265 P Pn 12 34 59.0 -2.2
ADK Adak 16.65 266 P Pn 12 35 19.1 -1.8
BRLDA Berland Lookou 18.21 83 P Pn 12 35 40.5 0.0
YKA Yellowknife Ar 18.53 56 P P 12 35 43.5 -0.5
YKA Yellowknife Ar 18.53 56 P Pn 12 35 45.1 +1.0
comp=N,0.2nm,0.3s,baz=265,slow=9.8,SNR=43
comp=N,2.5nm,0.8s
A36M Sachs Harbour 18.69 23 P Pn 12 35 47.3 +1.3
LTY Liberty 19.70 105 P P 12 35 57.0 0.0
LTY IAmb IAmb 12 36 00.5
comp=Z,19nm,1.4s
MXC Moxie City 20.33 106 P P 12 36 02.4 -1.3
MXC IAmb IAmb 12 36 08.0
comp=Z,8.3nm,1.0s
D08A Wollman Farm, 20.77 103 P P 12 36 08.1 -0.4
D08A IAmb IAmb 12 36 23.0
comp=Z,7.0nm,1.0s
EDM Edmonton 20.78 83 P P 12 36 07.9 -0.7
EDM IAmb IAmb 12 36 10.9
comp=Z,17nm,1.2s
F07A Phinny Hill Vi 20.96 107 P P 12 36 10.6 0.0
F07A IAmb IAmb 12 36 15.5
comp=Z,13nm,0.9s
NEW Newport 21.05 99 P P 12 36 10.4 -1.1
NEW Newport 21.05 99 P P 12 36 11.0 -0.6
comp=Z,2.6nm,0.7s,baz=314,slow=7.1,SNR=7.2
NEW LR LR 12 42 53.3
comp=Z,179nm,19.1s,baz=286,slow=33
comp=Z,2.6nm,0.7s
I04A Tendick Farm, 21.09 115 P P 12 36 11.9 -0.3
DBO Dodson Butte 21.17 117 P P 12 36 12.4 -0.6
DBO IAmb IAmb 12 36 19.1
comp=Z,15nm,1.3s
E09A Wood Farm, Sta 21.52 104 P P 12 36 15.5 -1.2
E09A IAmb IAmb 12 36 20.4
comp=Z,6.0nm,0.8s
HUMO Hull Mountain 21.69 118 P P 12 36 19.0 +0.5
PINE Pine Mountain 21.85 113 P P 12 36 19.8 -0.6
PINE IAmb IAmb 12 36 36.7
comp=Z,11nm,1.1s
G08A Pilot Rock 21.87 107 P P 12 36 20.3 -0.2
J05D Fort Rock, OR 22.06 114 P P 12 36 22.9 +0.3
F10A Beach Ranch, E 22.36 104 P P 12 36 25.8 +0.1
F10A IAmb IAmb 12 36 51.1
comp=Z,9.0nm,1.0s
I07A Izee 22.39 110 P P 12 36 26.7 +0.6
I07A IAmb IAmb 12 36 27.7
comp=Z,7.7nm,0.9s
BMO Blue Mountains 23.04 106 P P 12 36 31.1 -1.8
J08A Circle Bar Ran 23.43 110 P P 12 36 36.7 -0.2
J08A IAmb IAmb 12 36 50.0
comp=Z,8.1nm,1.2s
PLID Pearl Lake 23.59 104 P P 12 36 37.5 -1.1
WVOR Wild Horse Val 24.00 112 P P 12 36 42.8 +0.4
BPMT Black Pine Rid 24.14 99 P P 12 36 43.8 -0.2
MFID Camas Ranch 24.79 107 P P 12 36 47.8 -1.9
MFID IAmb IAmb 12 36 59.3
comp=Z,7.1nm,1.2s
HLID Hailey 25.45 105 P P 12 36 53.2 -2.5
PAHR Pah Rah Range 25.64 118 P P 12 36 53.8 -3.7
NVAR Mina Array Bea 27.16 118 P P 12 37 12.3 +1.0
comp=Z,1.3nm,0.6s,baz=312,slow=9.2,SNR=16
NVAR PcP PcP 12 40 31.5 0.0
comp=Z,0.2nm,0.7s,baz=251,slow=2.8,SNR=3.6
comp=Z,1.3nm,0.6s
R11B Troy Canyon, C 28.59 114 P P 12 37 24.2 +0.2
R11B IAmb IAmb 12 37 25.5
comp=Z,2.7nm,0.8s
PDAR Pinedale Array 28.62 101 P P 12 37 23.9 -0.4
PDAR Pinedale Array 28.62 101 P P 12 37 24.1 -0.2
comp=Z,0.7nm,0.6s,baz=311,slow=4.3,SNR=11
PDAR LR LR 12 49 18.3
comp=Z,115nm,18.4s,baz=286,slow=38
comp=Z,0.7nm,0.6s
FCC Fort Churchill 29.02 62 P P 12 37 28.4 +1.1
PETK Petropavlovsk- 30.22 287 P P 12 37 38.0 -0.1
comp=Z,4.4nm,1.0s,baz=73,slow=14,SNR=5.8
comp=Z,4.4nm,1.0s
LCMT Little Creek M 30.80 113 P P 12 37 41.6 -2.0
ULM Lac du Bonnet 31.77 78 P P 12 37 52.4 +0.6
comp=Z,1.3nm,0.8s,baz=342,slow=14,SNR=2.7
comp=Z,1.3nm,0.8s
YAK Yakutsk 39.43 313 P P 12 38 58.2 +1.0
comp=Z,5.9nm,0.5s,baz=62,slow=4.3,SNR=1.4
comp=Z,5.9nm,0.5s
TXAR Lajitas Array 41.78 111 P P 12 39 18.1 +0.9
comp=Z,0.9nm,0.8s,baz=319,slow=7.0,SNR=9.6
comp=Z,0.9nm,0.8s
ASAJ Asahikawa 43.53 284 P P 12 39 32.2 +1.0
comp=Z,11nm,0.9s,baz=124,slow=12,SNR=2.5
comp=Z,11nm,0.9s
SCHQ Schefferville 43.98 56 P P 12 39 36.2 +1.6
comp=Z,1.2nm,0.7s,baz=288,slow=12,SNR=1.5
comp=Z,1.2nm,0.7s
SPITS Spitsbergen Ar 45.54 4 P P 12 39 48.0 +1.2
comp=Z,7.5nm,1.0s,baz=282,slow=7.2,SNR=1.6
comp=Z,7.5nm,1.0s
KLR Kul'dur 45.88 296 P P 12 39 50.5 +0.6
comp=Z,1.3nm,0.7s,baz=53,slow=10,SNR=4.1
comp=Z,1.3nm,0.7s
H11N2 WAKE ISLAND Hy 48.90 240 T T 13 32 51.8
baz=30,slow=76,SNR=15
H11N3 WAKE ISLAND Hy 48.91 240 T T 13 32 54.8
baz=30,slow=76,SNR=12
H11N1 WAKE ISLAND Hy 48.92 240 T T 13 33 18.7
baz=30,slow=76,SNR=18
USRK Ussuriysk Ar. 49.12 291 P P 12 40 16.0 +0.9
comp=Z,1.2nm,0.7s,baz=76,slow=12,SNR=2.0
comp=Z,1.2nm,0.7s
H11S1 WAKE ISLAND Hy 50.04 239 T T 13 34 55.5
baz=28,slow=76,SNR=20
H11S2 WAKE ISLAND Hy 50.05 239 T T 13 34 51.6
baz=28,slow=76,SNR=16
H11S3 WAKE ISLAND Hy 50.06 239 T T 13 34 44.3
baz=28,slow=76,SNR=17
MJAR Matsushiro Arr 51.21 280 P P 12 40 31.2 +0.1
comp=Z,2.4nm,1.2s,baz=45,slow=7.8,SNR=2.0
comp=Z,2.4nm,1.2s
ARCES ARCESS Array B 54.46 2 P P 12 40 55.7 +1.1
comp=Z,3.9nm,1.0s,baz=13,slow=8.3,SNR=1.6
comp=Z,3.9nm,1.0s
KSRS Korea Array 56.11 288 P P 12 41 07.4 +0.5
comp=Z,0.8nm,0.8s,baz=90,slow=10,SNR=2.1
comp=Z,0.8nm,0.8s
SONM Songino Array 58.69 310 P P 12 41 26.7 +1.5
comp=Z,2.5nm,0.8s,baz=44,slow=6.0,SNR=16
comp=Z,2.5nm,0.8s
ZALV Zalesovo Beam 61.61 327 P P 12 41 46.0 +1.2
comp=Z,1.5nm,0.7s,baz=32,slow=7.1,SNR=7.9
comp=Z,1.5nm,0.7s
NB2 NORSAR Subarra 62.04 11 P P 12 41 43.2 -4.5
comp=Z,4.8nm,1.2s,baz=346,slow=6.9
NOA NORSAR Array B 62.04 11 P P 12 41 48.5 +0.8
comp=Z,0.9nm,0.9s,baz=348,slow=6.5,SNR=3.0
comp=Z,0.9nm,0.9s
FINES FINESS Array B 62.59 3 P P 12 41 52.5 +1.2
comp=Z,1.2nm,0.6s,baz=5.7,slow=7.7,SNR=11
comp=Z,1.2nm,0.6s
HFS Hagfors 63.17 9 P P 12 41 55.6 +0.4
comp=Z,1.8nm,0.8s,baz=5.2,slow=4.8,SNR=2.2
comp=Z,1.8nm,0.8s
EKA Eskdalemuir Ar 65.39 21 P P 12 42 10.3 +0.5
comp=Z,1.1nm,0.8s,baz=331,slow=5.7,SNR=1.6
comp=Z,1.1nm,0.8s
ARU Arti 65.44 343 P P 12 42 11.7 +1.5
comp=Z,1.1nm,0.4s,baz=112,slow=11,SNR=1.7
comp=Z,1.1nm,0.4s
BVAR Borovoye Array 66.33 335 P P 12 42 16.1 +0.1
comp=Z,0.7nm,0.8s,baz=0.0,slow=4.3,SNR=2.4
comp=Z,0.7nm,0.8s
KURBB Kurchatov Arra 66.39 329 P P 12 42 16.9 +0.6
comp=Z,0.5nm,0.6s,baz=30,slow=6.6,SNR=4.5
comp=Z,0.5nm,0.6s
MKAR Makanchi Array 68.64 325 P P 12 42 31.5 +0.8
comp=Z,0.6nm,0.6s,baz=45,slow=7.3,SNR=11
comp=Z,0.6nm,0.6s
AKTO Aktyubinsk 71.31 342 P P 12 42 48.7 +1.7
comp=Z,0.7nm,0.7s,baz=333,slow=4.5,SNR=1.5
comp=Z,0.7nm,0.7s
AKASG Malin Array 73.41 1 P P 12 43 00.7 +1.2
comp=Z,0.9nm,0.6s,baz=355,slow=6.5,SNR=2.7
comp=Z,0.9nm,0.6s
GERES GERESS Array B 74.31 12 P P 12 43 05.9 +1.0
comp=Z,0.3nm,0.6s,baz=325,slow=6.1,SNR=1.9
comp=Z,0.3nm,0.6s
PZH PanZhiHua 78.17 300 P P 12 43 26.2 -1.0
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,80nm,5.1s
ESDC Sonseca Array 80.00 27 P P 12 43 37.8 +0.8
comp=Z,0.3nm,0.6s,baz=342,slow=6.5,SNR=1.7
comp=Z,0.3nm,0.6s
CMAR Chiang Mai Arr 86.33 298 P P 12 44 09.8 -0.1
comp=Z,0.8nm,0.7s,baz=13,slow=5.2,SNR=6.6
comp=Z,0.8nm,0.7s
MDP Montagnes des 89.45 82 LR LR 13 29 24.0
comp=Z,142nm,18.1s,baz=96,slow=39
QSPA South Pole Qui 146.04 180 PKPbc PKPbc 12 51 05.9 -0.3
comp=Z,1.3nm,0.7s,baz=70,slow=1.1,SNR=7.4
BOSA Boshof 152.10 10 PKPbc PKPbc 12 51 22.4 -0.6
comp=Z,1.9nm,0.8s,baz=45,slow=2.9,SNR=1.9
BOSA PKPab PKPab 12 51 33.3 +0.8
comp=Z,2.4nm,0.9s,baz=20,slow=7.3,SNR=4.4

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*BJI **04** 12:39:57.8±0.0, 6.°12S×143.°07E, h18km, mb5.1/81, mB5.3/58, Ms4.7/59, Ms7 4.4/62*
*IDC **04** 12:39:57.8±0.4, 6.°11S×142.°88E, h0km, mb5.0/16, mbtmp5.1/20, ML3.2/2, MS4.5/42, Error ellipse: s-maj=22.7km s-min=11.4km az=71.0*
*MOS **04** 12:39:58.1±0.8, 6.°12S×142.°83E, h12km, mb5.3/43, Error ellipse: s-maj=10.2km s-min=5.1km az=116.2*
*NEIC **04** 12:40:00.2, 6.°13S×142.°29E, h12km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.90; $M_{\theta\theta}$-0.66; $M_{\phi\phi}$-0.24; $M_{r\theta}$0.23; $M_{\theta\phi}$0.49; $M_{\phi r}$-0.73; Fault plane solution: $M_0$1.21000×10^{17} NP1: ϕ_s145.83000°, δ64.97000°, λ110.81000°. NP2: ϕ_s283.90000°, δ32.12000°, λ52.73000°. Principal axes: T 1.2586, Plg64.0000°, Azm91.0000°; N -0.0900, Plg19.0000°, Azm317.0000°; P -1.1686, Plg17.0000°, Azm221.0000°;*
*NEIC **04** 12:40:00.1±1.9, 6.°23S±0.°07×142.°69E±0.°07, h10km±3km, mb5.3/113, Mww5.3/26 Error ellipse: s-maj=10.0km s-min=9.7km az=174.0*
*NEIC **04** 12:40:00.2, 6.°23S×142.°69E, h12km*
*DJA **04** 12:40:01.4±0.8, 6.°S±2.°×14.°3E±.°, h27km±6km, M5.1/64, mB5.5/47, mb5.2/64, MLv5.8/7, Mw(mB)5.0/47, MwMwp5.0/21, Mwp5.3/21*
*GCMT **04** 12:40:02.1±0.1, 6.°28S±0.°01×142.°59E±0.°01, h12km, MW5.3/145, Moment Tensor Solution. s98,c136; s145,c254; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.89±.01; $M_{\theta\theta}$-0.49±.01; $M_{\phi\phi}$-0.40±.01; $M_{r\theta}$0.31±.03; $M_{\theta\phi}$0.49±.01; $M_{\phi r}$-0.52±.03; Best double couple: $M_0$1.09700×10^{17} NP1:ϕ_s142.00000°, δ62.00000°, λ99.00000°. NP2:ϕ_s303.00000°, δ30.00000°, λ73.00000°. Principal axes: T 1.0860, Plg71.0000°, Azm74.0000°; N 0.0210, Plg8.0000°, Azm318.0000°; P -1.1070, Plg16.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 12:40:00.4±0.5, **6.°26S**×0.°04×**142.°68E**×0.°04, **h15**km±2km, **h15**km:**pP-P, n907,** σ1s**38**/918, **mb5.2**/136, **MS4.5**/61, **28C-6D, New Guinea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res	ISC
TABU	**Tabubil**	**1.76**	**304**	P		**Pn**	**12 40 30.9**	**+0.6**	
MMPI	**Merauke**	**3.16**	**226**	P		**Pn**	**12 40 50.9**	**+1.3**	
GENI	**Genyem**	**4.42**	**325**	P		**Pn**	**12 41 07.8**	**+0.8**	
GENI	**Genyem**	**4.42**	**325**	P		**Pn**	**12 41 07.3**	**+0.3**	
PMG	**Port Moresby**	**5.42**	**125**	Pn		**Pn**	**12 41 20.0**	**-0.7**	
PMG	**Port Moresby**	**5.42**	**125**	P		**Pn**	**12 41 20.4**	**-0.3**	
PMG	**Port Moresby**	**5.42**	**125**	P		**Pn**	**12 41 20.5**	**-0.3**	
PMG	**Port Moresby**	**5.42**	**125**	*ce*P		**Pn**	**12 41 19.7**	**-1.0**	
PMG					pmax	pmax			
PMG	**Port Moresby**	**5.42**	**125**	Pn		**Pn**	**12 41 20.3**	**-0.5**	
PMG					Sn	**Sn**	**12 42 22.6**	**-0.3**	
SMPI	**Sarmi**	**5.81**	**317**	P		**Pn**	**12 41 26.9**	**+0.9**	
MANU	**Manus Island**	**6.27**	**48**	Pn		**Pn**	**12 41 34.4**	**+2.0**	
MANU	**Manus Island**	**6.27**	**48**	P		Pn	12 41 35.5	+3.1	
BULU	**Kimbe**	**7.63**	**85**	P		Pn	12 41 53.8	+2.8	
COEN	**Coen**	**7.66**	**176**	P		**Pn**	**12 41 53.2**	**+1.7**	
	baz=7.7,SNR=9.5								
COEN	**Coen**	**7.66**	**176**	Pn		**Pn**	**12 41 54.2**	**+2.7**	
COEN	**Coen**	**7.66**	**176**	P		**Pn**	**12 41 54.8**	**+3.3**	
RABL	**Rabaul**	**9.66**	**78**	Pn		**Pn**	**12 42 19.4**	**+0.5**	
RABL	**Rabaul**	**9.66**	**78**	P		Pn	12 42 23.0	+4.0	
FAKI	**Fak Fak**	**10.92**	**287**	Pn		**Pn**	**12 42 34.9**	**-1.3**	
FAKI	**Fak Fak**	**10.92**	**287**	P		**Pn**	**12 42 35.0**	**-1.2**	
FAKI	**Fak Fak**	**10.92**	**287**	P		**Pn**	**12 42 34.5**	**-1.7**	
	comp=Z,132nm,0.8s,comp=Z,1μmcomp=Z,3μm								
SAUI	**Saumlaki**	**11.43**	**261**	Pn		**Pn**	**12 42 43.7**	**+0.5**	
SAUI	**Saumlaki**	**11.43**	**261**	P		**Pn**	**12 42 44.2**	**+1.1**	
SAUI	**Saumlaki**	**11.43**	**261**	P		**Pn**	**12 42 43.9**	**+0.8**	
	comp=Z,793nm,0.8s,comp=Z,9μm								
MTSU	**Mount Surprise**	**11.91**	**172**	P		**Pn**	**12 42 52.5**	**+2.8**	
	baz=12,SNR=9.9								
MTSU	**Mount Surprise**	**11.91**	**172**	P		**Pn**	**12 42 52.6**	**+2.8**	
KDU	**Kakadu**	**11.92**	**237**	P		**Pn**	**12 42 48.4**	**-1.4**	
	baz=12,SNR=228								
KDU	**Kakadu**	**11.92**	**237**	P		**Pn**	**12 42 48.5**	**-1.4**	
SWI	**Sorong**	**12.60**	**295**	P		**Pn**	**12 42 56.7**	**-2.5**	
SWI					pmax	pmax			
	comp=Z,90nm,0.7s								
SWI	**Sorong**	**12.60**	**295**	P		**Pn**	**12 42 55.6**	**-3.6**	
	comp=Z,90nm,0.7s,comp=Z,2μm								
BNDI	**Bandanaira**	**12.84**	**277**	P		Pn	12 42 58.1	-4.4	
	comp=Z,205nm,0.8s,comp=Z,6μmcomp=Z,3μm								
MTN	**Manton Dam**	**13.13**	**239**	P		Pn	12 43 04.4	-2.1	
	baz=13,SNR=116								
MTN	**Manton Dam**	**13.13**	**239**	Pn		**Pn**	**12 43 04.7**	**-1.7**	
MTN	**Manton Dam**	**13.13**	**239**	P		**Pn**	**12 43 05.0**	**-1.5**	
DRS	**Darwin Rock St**	**13.14**	**241**	P		**Pn**	**12 43 06.1**	**-0.5**	
CTA	**Charters Tower**	**14.18**	**166**	Pn		**Pn**	**12 43 23.1**	**+2.4**	
	comp=Z,0.1nm,0.3s,baz=345,slow=14,SNR=9.2								
CTA					Lg	Lg	12 47 30.4		
	comp=Z,0.9nm,0.3s,baz=60,slow=21,SNR=4.8								
CTA					LR	LR	12 48 20.5		
	comp=Z,3μm,20.0s,baz=352,slow=35								
	comp=Z,7.1nm,1.0s								
CTAO	**Charters Tower**	**14.18**	**166**	Pn		**Pn**	**12 43 23.4**	**+2.7**	
CTAO	**Charters Tower**	**14.18**	**166**	P		**Pn**	**12 43 24.3**	**+3.6**	
CTAO	**Charters Tower**	**14.18**	**166**	P		**Pn**	**12 43 23.4**	**+2.7**	
QIS	**Mount Isa**	**14.52**	**192**	P		**Pn**	**12 43 24.7**	**-0.8**	
	baz=15,SNR=37								
QIS	**Mount Isa**	**14.52**	**192**	P		**Pn**	**12 43 25.3**	**-0.2**	
WR0	**Warramunga Arr**	**15.75**	**209**	Pn		**Pn**	**12 43 40.1**	**-1.7**	
WR0					IAmb	IAmb	12 43 48.1		
	comp=Z,117nm,0.7s								
NLAI	**Namlea**	**15.82**	**280**	P		**Pn**	**12 43 44.1**	**+1.4**	
	comp=Z,33nm,0.7s,comp=Z,3μm								
WRAB	**Tennant Creek**	**15.82**	**210**			**Pn**	**12 43 40.9**	**-1.8**	
WRAB	**Tennant Creek**	**15.82**	**210**	*i* P		**Pn**	**12 43 40.5**	**-2.2**	
WRAB					pmax	pmax			
	comp=Z,73nm,0.7s								
WB2	**Warramunga Arr**	**15.83**	**210**	Pn		**Pn**	**12 43 40.8**	**-2.0**	
WB2					IAmb	IAmb	12 43 48.9		
	comp=Z,87nm,0.6s								
WRA	**Warramunga Arr**	**15.83**	**210**	*i* P		**Pn**	**12 43 40.4**	**-2.5**	
WRA					pmax	pmax			
	comp=Z,8.0nm,0.4s								
WRA	**Warramunga Arr**	**15.83**	**210**	Pn		**Pn**	**12 43 41.0**	**-1.9**	
	comp=Z,4.6nm,0.3s,baz=22,slow=13,SNR=109								
WRA					Sn	**Sn**	**12 46 33.1**	**-5.2**	
	comp=Z,1.9nm,0.3s,baz=31,slow=24,SNR=4.1								
WRA					Lg	Lg	12 48 24.0		
	comp=Z,2.2nm,0.3s,baz=29,slow=28,SNR=6.1								
WRA					LR	LR	12 49 51.6		
	comp=Z,7μm,19.4s,baz=32,slow=37								
WB1	**Warramunga Ar.**	**15.84**	**210**	P		**Pn**	**12 43 41.1**	**-1.9**	
LBMI	**Labuha**	**16.15**	**290**	P		**Pn**	**12 43 45.5**	**-1.5**	
	comp=Z,91nm,1.1s,comp=Z,2μm								
KNRA	**Kununurra**	**16.55**	**234**	P		**Pn**	**12 43 50.1**	**-2.0**	
	baz=16,SNR=118								
KNRA	**Kununurra**	**16.55**	**234**	Pn		**Pn**	**12 43 50.0**	**-2.1**	
KNRA					IAmb	IAmb	12 44 01.2		
	comp=Z,143nm,0.7s								
KNRA	**Kununurra**	**16.55**	**234**	P		**Pn**	**12 43 49.7**	**-2.4**	
TNTI	**Ternate**	**16.81**	**294**	P		**Pn**	**12 43 55.9**	**+0.5**	
TNTI	**Ternate**	**16.81**	**294**	P		**Pn**	**12 43 55.8**	**+0.4**	
	comp=Z,49nm,1.1s,comp=Z,882nmcomp=Z,1μm								
SANI	**Sanana**	**17.17**	**283**	P		**Pn**	**12 43 56.3**	**-3.6**	
SANI	**Sanana**	**17.17**	**283**	P		**Pn**	**12 43 55.7**	**-4.2**	
	comp=Z,66nm,0.9s,comp=Z,1μmcomp=Z,1μm								
HNR	**Honiara**	**17.39**	**102**	P		**Pn**	**12 44 03.5**	**-0.4**	
HNR					IAmb	IAmb	12 44 11.3		
	comp=Z,507nm,1.4s								
HNR	**Honiara**	**17.39**	**102**	P		**P**	**12 44 05.9**	**+2.0**	
HNR	**Honiara**	**17.39**	**102**	P		**Pn**	**12 43 59.4**	**-3.3**	
	comp=Z,240nm,0.4s,baz=263,slow=17,SNR=1.5								
SOEI	**Soe**	**18.56**	**258**	P		**P**	**12 44 17.8**	**+0.8**	
SOEI	**Soe**	**18.56**	**258**	P		**P**	**12 44 18.0**	**+0.9**	
SOEI	**Soe**	**18.56**	**258**	P		**P**	**12 44 17.9**	**+0.9**	
	comp=Z,352nm,0.9s,comp=Z,4μmcomp=Z,4μm								
RK1H	**Rockhampton Ha**	**18.61**	**157**	P		**Pn**	**12 44 19.8**	**+2.2**	
AS01	**Alice Springs**	**19.23**	**205**	P		**P**	**12 44 26.2**	**+2.0**	
AS31	**Alice Springs**	**19.25**	**205**	P		**P**	**12 44 26.0**	**+1.5**	
AS31					IAmb	IAmb	12 44 30.0		
	comp=Z,100nm,0.8s								
ASAR	**Alice Springs**	**19.26**	**205**	P		**P**	**12 44 25.8**	**+1.3**	
ASAR	**Alice Springs**	**19.26**	**205**	P		**P**	**12 44 26.8**	**+2.3**	
	comp=Z,319nm,0.7s,baz=36,slow=9.4,SNR=406								
ASAR					S	**Sn**	**12 47 56.4**	**-4.9**	
	comp=Z,11nm,0.8s,baz=20,slow=25,SNR=4.7								
ASAR					Lg	Lg	12 50 18.6		
	comp=Z,0.6nm,0.3s,baz=18,slow=30,SNR=5.1								
ASAR					LR	LR	12 52 40.2		
	comp=Z,11μm,20.6s,baz=33,slow=39								
KMSI	**Cibinong**	**19.87**	**289**	P		**P**	**12 44 28.2**	**-3.0**	
	comp=Z,261nm,1.2s,comp=Z,5μm								
QLP	**Quilpie**	**20.26**	**176**	P		**P**	**12 44 37.4**	**+2.0**	
	baz=20,SNR=16								
QLP	**Quilpie**	**20.26**	**176**	P		**P**	**12 44 37.4**	**+2.0**	
PATS	**Pohnpei**	**20.31**	**50**	P		Pn	12 44 34.9	-3.1	
PATS	**Pohnpei**	**20.31**	**50**	P		Pn	12 44 35.9	-2.1	
FITZ	**Fitzroy Crossi**	**20.37**	**233**	P		**P**	**12 44 37.2**	**+0.6**	
	baz=20,SNR=102								
MMRI	**Maumere**	**20.41**	**262**	P		**P**	**12 44 35.5**	**-1.5**	
MMRI					IAmb	IAmb	12 44 51.8		
	comp=Z,128nm,1.1s								
MMRI	**Maumere**	**20.41**	**262**	P		**P**	**12 44 37.4**	**+0.3**	
MMRI	**Maumere**	**20.41**	**262**	P		**P**	**12 44 35.6**	**-1.5**	
	comp=Z,87nm,0.9s,comp=Z,3μmcomp=Z,4μm								
LUWI	**Luwuk**	**20.53**	**284**	P		**P**	**12 44 40.0**	**+1.6**	
LUWI	**Luwuk**	**20.53**	**284**	P		**P**	**12 44 38.4**	**0.0**	
	comp=Z,144nm,1.4s,comp=Z,2μmcomp=Z,3μm								
EIDS	**Eidsvold**	**20.63**	**158**	P		**P**	**12 44 41.3**	**+1.9**	
	baz=21,SNR=36								
EIDS	**Eidsvold**	**20.63**	**158**	P		**P**	**12 44 40.4**	**+1.0**	
EIDS	**Eidsvold**	**20.63**	**158**	P		**P**	**12 44 41.4**	**+2.0**	
RMQ	**Roma**	**20.93**	**165**	P		**P**	**12 44 45.5**	**+2.9**	
EDFI	**Ende, Flores**	**20.96**	**262**	P		**P**	**12 44 40.9**	**-2.3**	
	comp=Z,78nm,0.8s,comp=Z,1μmcomp=Z,3μm								
INKA	**Innaminka**	**21.44**	**185**	P		**P**	**12 44 50.2**	**+2.1**	
MRSI	**Marisa**	**21.76**	**287**	P		**P**	**12 44 50.5**	**-1.2**	
	comp=Z,51nm,0.6s,comp=Z,966nm								
BASI	**Baing, Sumba**	**22.23**	**258**	P		P	12 44 50.5	-6.2	
	comp=Z,281nm,0.9s,comp=Z,3μmcomp=Z,3μm								
OOD	**Oodnadatta**	**22.42**	**196**	P		**P**	**12 45 00.3**	**+1.7**	
BKSI	**Bulukumba**	**22.47**	**271**	P		**P**	**12 44 58.7**	**-0.6**	
	comp=Z,101nm,1.1s,comp=Z,2μmcomp=Z,2μm

comp=Z,118nm,1.8s
ARMA Armidale 25.46 162 P **P** **12 45 30.0 +2.0**
STKA Stephens Creek 25.50 182 P **P** **12 45 28.6 +0.4**
baz=26,SNR=14
STKA Stephens Creek 25.50 182 P **P** **12 45 28.7 +0.4**
STKA Stephens Creek 25.50 182 P **P** **12 45 28.5 +0.2**
STKA Stephens Creek 25.50 182 *i* P **P** **12 45 28.5 +0.2**
STKA Stephens Creek 25.50 182 P **P** **12 45 28.6 +0.4**
comp=Z,38nm,0.8s,baz=351,slow=9.0,SNR=32
STKA LR LR 12 56 37.5
comp=Z,4µm,19.8s,baz=359,slow=39
comp=Z,38nm,0.8s
TWSI Taliwang, Sumb 25.70 263 P **P** **12 45 27.7 -2.5**
comp=Z,28nm,0.7s
AUPHS Peel High Scho 25.88 164 P **P** **12 45 33.9 +2.2**
AUDCS Dubbo College 26.43 169 P **P** **12 45 38.0 +1.4**
MBWA Marble Bar 26.71 234 P **P** **12 45 38.4 -0.9**
MBWA Marble Bar 26.71 234 P **P** **12 45 39.6 +0.3**
PSA00 Pilbara Seismi 26.83 233 P **P** **12 45 39.6 -0.7**
PSA00 IAmb IAmb 12 45 45.6
comp=Z,37nm,0.8s
PSA00 Pilbara Seismi 26.83 233 P **P** **12 45 40.6 +0.2**
WHYH Whyalla 27.06 189 P **P** **12 45 44.9 +2.6**
BBOO Buckleboo 27.13 192 P **P** **12 45 43.1 +0.1**
baz=27,SNR=7.1
BBOO Buckleboo 27.13 192 P **P** **12 45 42.2 -0.8**
BBOO Buckleboo 27.13 192 P **P** **12 45 43.4 +0.5**
HTT Hallett 27.26 187 P **P** **12 45 44.6 +0.4**
baz=27,SNR=7.9
HTT Hallett 27.26 187 P **P** **12 45 44.7 +0.5**
SRBI Singaraja 27.31 265 P **P** **12 45 43.9 -0.9**
comp=Z,14nm,1.1s
DZM Mont Dzumac 27.82 127 P **P** **12 45 49.5 +0.2**
DZM Mont Dzumac 27.82 127 P **P** **12 45 52.4 +3.0**
DZM Mont Dzumac 27.82 127 *e*P P 12 45 39.5 -10
comp=Z,89nm,23.6s
DZM *e*LR LR 12 53 06.0
comp=Z,3µm,24.9s
DZM Mont Dzumac 27.82 127 LR LR 12 56 26.7
comp=Z,2µm,21.6s,baz=304,slow=36
ONTNC Ouen Toro 27.95 127 P **P** **12 45 51.3 +1.0**
FORT Forrest 27.99 208 P **P** **12 45 51.4 +0.7**
baz=28,SNR=5.9
FORT Forrest 27.99 208 P **P** **12 45 50.7 +0.1**
FORT IAmb IAmb 12 46 27.2
comp=Z,56nm,0.8s
FORT Forrest 27.99 208 P **P** **12 45 50.8 +0.1**
JAGI Jajag, Banyuwa 28.38 264 P **P** **12 45 52.4 -1.9**
JAGI IAmb IAmb 12 45 54.7
comp=Z,86nm,1.7s
YNG Young 28.39 170 P **P** **12 45 55.7 +1.4**
baz=28,SNR=7.4
YNG Young 28.39 170 P **P** **12 45 56.6 +2.3**
CAN Canberra 29.50 169 P **P** **12 46 04.8 +0.7**
TGY Tagaytay City 29.58 313 LR LR 12 59 58.3
comp=Z,389nm,18.1s,baz=122,slow=40
ARPS Mount Arapiles 30.38 181 P **P** **12 46 12.9 +1.1**
baz=30,SNR=11
ARPS Mount Arapiles 30.38 181 P **P** **12 46 12.3 +0.5**
MEEK Meekatharra 30.60 226 P **P** **12 46 13.6 -0.4**
baz=31,SNR=5.3
BRAT Ballarat 31.16 178 P **P** **12 46 20.3 +1.6**
TOO Toolangi 31.27 176 P **P** **12 46 21.5 +1.8**
baz=31,SNR=4.1
TOO Toolangi 31.27 176 P **P** **12 46 19.9 +0.2**
TOO IAmb IAmb 12 46 24.9
comp=Z,65nm,1.9s
TOO Toolangi 31.27 176 P **P** **12 46 21.7 +2.0**
TOO Toolangi 31.27 176 P **P** **12 46 19.9 +0.2**
TOO pmax pmax
comp=Z,65nm,1.9s
SBUM Sibu 31.62 285 P **P** **12 46 23.8 +0.7**
KMBL Kambalda 31.67 215 P **P** **12 46 23.4 0.0**
baz=32,SNR=8.1
KMBL Kambalda 31.67 215 P **P** **12 46 23.2 -0.2**
GIRL Giralia 31.90 236 P **P** **12 46 25.9 +0.4**
UGM Wanagama 31.95 265 P **P** **12 46 26.4 +0.4**
JCJ Chichijima 33.16 359 LR LR 13 00 29.1
comp=Z,314nm,18.5s,baz=140,slow=37
KPJI Karang Pucung 33.53 266 P **P** **12 46 38.5 -1.3**
comp=Z,57nm,0.8s,comp=Z,1µm
MORW Morawa 33.88 225 P **P** **12 46 42.5 -0.2**
baz=34,SNR=4.8
MORW Morawa 33.88 225 P **P** **12 46 42.4 -0.3**
CMJI Cimerak 34.01 265 P P 12 46 34.9 -9.1
BLDU Ballidu 34.38 222 P **P** **12 46 46.9 -0.1**
baz=34,SNR=5.5
BBJI Bungbulang 34.80 266 P **P** **12 46 49.5 -1.4**
LEM Lembang 34.84 267 LR LR 13 05 09.9
comp=Z,910nm,18.6s,baz=110,slow=43
NWAO Narrogin (SRO) 35.55 218 LR LR 13 02 14.6
comp=Z,5µm,18.4s,baz=46,slow=37
JOW Kunigami 35.74 338 P **P** **12 46 58.4 -0.3**
JOW Kunigami 35.74 338 P **P** **12 46 59.4 +0.7**
JOW Kunigami 35.74 338 LR LR 12 59 45.6
comp=Z,524nm,18.9s,baz=113,slow=33
YULB Yu-li 36.13 325 P **P** **12 47 01.0 -1.1**
TPUB Ta-pu 36.44 324 P **P** **12 47 03.4 -1.4**
TPUB IAmb IAmb 12 47 05.9
comp=Z,32nm,0.9s
TPUB Ta-pu 36.44 324 P **P** **12 47 03.4 -1.4**
NACB Ninganchiao 36.58 327 P **P** **12 47 05.3 -0.7**
NACB IAmb IAmb 12 47 09.2
comp=Z,86nm,1.1s
NACB Ninganchiao 36.58 327 P **P** **12 47 05.9 -0.1**
SSLB Suanglung 36.63 325 P **P** **12 47 05.9 -0.5**
SSLB Suanglung 36.63 325 P **P** **12 47 07.4 +0.9**
PPBI Pangkal Pinang 36.67 275 P P 12 47 12.3 +5.4
XMIS Christmas Isla 36.86 261 P **P** **12 47 08.5 -0.1**
XMIS IAmb IAmb 12 47 18.3
comp=Z,78nm,1.2s
YHNB Yeheng 37.10 327 P **P** **12 47 10.4 0.0**
YHNB IAmb IAmb 12 47 15.8
comp=Z,43nm,0.9s
YHNB Yeheng 37.10 327 P **P** **12 47 10.5 0.0**
TATO Taipei 37.28 327 P **P** **12 47 11.4 -0.5**
TATO Taipei 37.28 327 P **P** **12 47 12.2 +0.3**
KASI Kota Agung 37.99 269 P **P** **12 47 18.3 +0.2**
LWLI Liwa 38.45 270 P **P** **12 47 26.7 +4.5**
KNMB Chin-men Tao 38.64 323 P **P** **12 47 23.4 0.0**
KNMB IAmb IAmb 12 47 25.8
comp=Z,42nm,0.8s
QZH Quanzhou 38.88 324 ⇑*i*P **P** **12 47 25.7 +0.3**
QZH S **S** **12 53 24.5 +1.3**
QZH pmax pmax
comp=Z,47nm,0.8s
QZH pmax pmax
comp=Z,290nm,6.0s
QZH LR LR
comp=Z,300nm,12.7s
QZH LR LR
comp=Z,400nm,15.1s
QZH LR LR
comp=Z,450nm,19.9s
JHJ Hachijo jima 2 39.26 356 LR LR 13 00 42.4
comp=Z,904nm,21.6s,baz=208,slow=32
MYKOM Kota Tinggi 39.59 280 P **P** **12 47 30.1 -1.4**
OUZ Omahuta 40.49 140 P **P** **12 47 41.3 +2.6**
JMN Monobe 40.64 349 P **P** **12 47 38.8 -1.1**
JMN IAmb IAmb 12 47 42.0
comp=Z,60nm,1.1s
JMN Monobe 40.64 349 P **P** **12 47 39.5 -0.5**
JNU Nakatsue 40.74 345 P **P** **12 47 39.9 -0.9**
JNU IAmb IAmb 12 47 42.7
comp=Z,86nm,1.6s
JNU Nakatsue 40.74 345 P **P** **12 47 40.3 -0.5**
JNU Nakatsue 40.74 345 LR LR 13 03 22.8
comp=Z,211nm,19.7s,baz=156,slow=35
JSG Sagara 40.94 354 P **P** **12 47 43.1 +0.7**
QIZ Qiongzhong 40.97 309 P **P** **12 47 42.8 -0.1**
QIZ S **S** **12 53 55.0 +0.3**
QIZ SS **SS** **12 56 59.3 +2.4**
QIZ pmax pmax
comp=Z,21nm,1.2s
QIZ pmax pmax
comp=Z,290nm,4.0s
QIZ LR LR
comp=Z,150nm,12.6s
QIZ LR LR
comp=Z,410nm,15.3s
QIZ LR LR
comp=Z,440nm,15.8s
KRJI Kerinci 41.31 274 P **P** **12 47 44.4 -1.5**
comp=Z,247nm,0.9s,comp=Z,3µm
INU Inuyama 41.73 353 P **P** **12 47 49.1 +0.3**
INU Inuyama 41.73 353 P **P** **12 47 49.7 +0.8**
JGF Kuroka 41.94 354 P **P** **12 47 49.1 -1.5**
JGF Kuroka 41.94 354 P **P** **12 47 48.9 -1.7**
PDSI Padang 42.46 275 P **P** **12 47 51.7 -3.5**
comp=Z,23nm,0.6s
UBPT Khong Chiam 42.63 300 P **P** **12 47 55.6 -0.9**
UBPT Khong Chiam 42.63 300 P **P** **12 47 56.6 0.0**
MJAR Matsushiro Arr 42.78 355 P **P** **12 47 55.6 -1.9**
comp=Z,14nm,1.0s,baz=180,slow=8.6,SNR=24
MJAR PcP **PcP** **12 49 48.0 -0.7**
comp=Z,6.9nm,0.9s,baz=175,slow=3.4,SNR=5.0
MJAR LR LR 13 04 03.2
comp=Z,447nm,21.1s,baz=160,slow=34
comp=Z,14nm,1.0s
MAJO Matsushiro 42.78 355 P **P** **12 47 56.1 -1.3**
MAJO IAmb IAmb 12 47 58.0
comp=Z,57nm,1.4s
MAJO Matsushiro 42.78 355 P **P** **12 47 56.2 -1.3**
MAJO Matsushiro 42.78 355 *i* P **P** **12 47 55.7 -1.8**
MAJO pmax pmax
comp=Z,45nm,1.4s
MJB9 Matsu-Tunnel 42.79 355 P **P** **12 47 55.6 -1.9**
IPM Ipoh 42.94 283 P **P** **12 47 59.2 0.0**
IPM IAmb IAmb 12 48 13.3
comp=Z,58nm,1.4s
IPM Ipoh 42.94 283 P **P** **12 47 59.7 +0.6**
TOZ Tahuroa Road 43.24 141 P **P** **12 48 02.8 +1.6**
TOZ IAmb IAmb 12 48 12.4
comp=Z,61nm,1.5s
RAO Raoul Island 43.62 126 LR LR 13 05 37.8
comp=Z,265nm,18.9s,baz=306,slow=35
JMM Marumori 43.94 358 P **P** **12 48 05.7 -1.0**
JMM IAmb IAmb 12 48 08.0
comp=Z,53nm,1.2s
JMM Marumori 43.94 358 P **P** **12 48 06.4 -0.3**
JCZ Jackson Bay 44.06 153 P **P** **12 48 10.0 +2.1**
NJ2 Nanjing 44.36 331 *e*P **P** **12 48 11.0 +0.8**
NJ2 pP **sP** **12 48 18.7 +1.6**
NJ2 sP pP 12 48 22.8 +7.7
NJ2 pmax pmax
comp=Z,23nm,0.8s
NJ2 pmax pmax
comp=Z,360nm,4.6s
GULI GuiLin 44.40 316 ⇓P **P** **12 48 12.4 +1.7**
GULI S **S** **12 54 46.4 +1.4**
GULI pmax pmax
comp=Z,30nm,1.1s
GULI LR LR
comp=Z,210nm,17.9s
GULI LR LR
comp=Z,280nm,19.0s
GULI LR LR
comp=Z,280nm,22.8s
URZ Urewera 44.57 141 LR LR 13 06 12.6
comp=Z,717nm,20.4s,baz=358,slow=35
RPSI Rantau Prapat 44.59 280 P **P** **12 48 11.6 -0.8**
RPSI IAmb IAmb 12 48 18.1
comp=Z,44nm,1.1s
PSI Prapat 44.61 280 P **P** **12 48 12.5 -0.2**
PSI Prapat 44.61 280 P **P** **12 48 11.6 -1.1**
PSI pmax pmax
comp=Z,44nm,1.1s
CNSH ChangSha 44.69 321 ⇑P **P** **12 48 14.0 +1.1**
CNSH S **S** **12 54 47.7 -1.4**
CNSH pmax pmax
comp=Z,13nm,1.0s
CNSH LR LR
comp=Z,280nm,10.9s
CNSH LR LR
comp=Z,92nm,4.2s
CNSH LR LR
comp=Z,240nm,15.5s
TUWZ Tuamarina 44.73 146 P **P** **12 48 13.4 +0.3**
BKZ Black Stump Fm 44.74 142 P **P** **12 48 14.4 +1.1**
TCW Tory Channel 44.77 146 P **P** **12 48 12.8 -0.6**
TJN Taejon 44.78 342 *ce*P **P** **12 48 13.9 +0.4**
RPZ Rata Peaks 44.86 151 LR LR 13 05 40.2
comp=Z,1µm,19.2s,baz=312,slow=34
WHN Wuhan 45.56 325 ⇑*i*P **P** **12 48 22.3 +2.5**
WHN S **S** **12 55 07.9 +6.2**
WHN pmax pmax
comp=Z,270nm,1.5s
WHN LR LR
comp=Z,1µm,15.7s
KSAR Wonju Array Be 45.62 343 P **P** **12 48 19.7 -0.4**
KSAR Wonju Array Be 45.62 343 P **P** **12 48 19.7 -0.4**
KSRS Korea Array 45.62 344 P **P** **12 48 18.9 -1.2**
comp=Z,25nm,1.1s,baz=161,slow=8.9,SNR=31
KSRS PcP **PcP** **12 49 58.7 +0.3**
comp=Z,5.7nm,0.9s,baz=174,slow=4.1,SNR=5.2
KSRS LR LR 13 04 41.0
comp=Z,281nm,21.8s,baz=150,slow=33
comp=Z,25nm,1.1s
GSI Gunungsitoli 45.66 278 P **P** **12 48 24.9 +4.0**
NONG Nongkai 45.90 303 P **P** **12 48 21.6 -1.1**
JTM Tenmabayashi 46.84 358 P **P** **12 48 28.2 -1.5**
JTM Tenmabayashi 46.84 358 P **P** **12 48 29.2 -0.5**
MLSI Meulaboh, Aceh 47.38 282 P **P** **12 48 35.4 +1.0**
GYA Guiyang 47.72 315 ⇓*i*P **P** **12 48 38.5 +1.5**
GYA S **S** **12 55 35.1 +2.1**
GYA pmax pmax
comp=Z,38nm,1.3s
GYA pmax pmax
comp=Z,390nm,9.4s
GYA LR LR
comp=Z,260nm,15.5s
ENH Enshi 48.29 321 P **P** **12 48 41.7 +0.4**
comp=Z,36nm,1.2s
PHRA Phrae 48.56 301 P **P** **12 48 44.2 +0.7**
CRAI Chiangrai 49.22 303 P **P** **12 48 49.0 +0.5**
LYN LuoYang 49.62 327 ⇑P **P** **12 48 51.6 +0.3**
LYN pP pP 12 48 56.1 -0.2
LYN S **S** **12 56 00.8 +1.5**
LYN pmax pmax
comp=Z,65nm,1.2s
LYN pmax pmax
comp=Z,310nm,4.2s
LYN LR LR
comp=Z,360nm,19.9s
LYN LR LR
comp=Z,270nm,14.8s
LYN LR LR
comp=Z,580nm,16.8s
CM31 Chiang Mai Arr 49.64 301 P **P** **12 48 52.4 +0.7**
CMAR Chiang Mai Arr 49.64 301 *ce*P **P** **12 48 52.9 +1.2**
CMAR pmax pmax
comp=Z,9.0nm,0.7s
CMAR Chiang Mai Arr 49.64 301 P **P** **12 48 52.4 +0.7**
comp=Z,8.9nm,0.7s,baz=123,slow=6.1,SNR=66
CMAR PcP **PcP** **12 50 13.7 +0.5**
comp=Z,2.2nm,0.4s,baz=123,slow=4.4,SNR=2.6
comp=Z,8.9nm,0.7s
CHTO Chiang Mai 49.79 301 P **P** **12 48 52.7 -0.2**
CHTO Chiang Mai 49.79 301 P **P** **12 48 53.7 +0.8**
CHTO Chiang Mai 49.79 301 P **P** **12 48 52.7 -0.2**
CHTO pmax pmax
comp=Z,12nm,0.9s
KMI Kunming 49.82 310 ⇑P **P** **12 48 55.0 +1.7**
KMI S **S** **12 56 06.3 +3.4**
KMI pmax pmax
comp=Z,40nm,1.5s
KMI LR LR
comp=Z,290nm,21.7s
KMI LR LR
comp=Z,200nm,21.9s
KMI LR LR
comp=Z,270nm,24.1s
ASAJ Asahikawa 50.14 360 LR LR 13 13 27.1
comp=Z,124nm,18.8s,baz=188,slow=40
HNS HongShan 50.68 331 ⇑P **P** **12 48 59.2 -0.1**
HNS *e*S **S** **12 56 10.2 -3.7**
HNS pmax pmax
comp=Z,37nm,0.8s
HNS pmax pmax
comp=Z,310nm,6.1s
HNS LR LR
comp=Z,310nm,19.1s
HNS LR LR
comp=Z,250nm,19.1s
HNS LR LR
comp=Z,340nm,20.7s
SNY Shenyang 50.95 342 ⇑P **P** **12 49 00.6 -0.6**
SNY S **S** **12 56 20.5 +3.0**
SNY pmax pmax
comp=Z,13nm,0.6s
SNY LR LR
comp=Z,280nm,20.1s
SNY LR LR
comp=Z,310nm,14.7s
SNY LR LR
comp=Z,320nm,17.3s
USA0B Ussuriysk Arra 51.15 350 P **P** **12 49 02.5 -0.1**
USA0B IAmb IAmb 12 49 05.0
comp=Z,46nm,1.1s
USA0B Ussuriysk Arra 51.15 350 *i* P **P** **12 49 02.8 +0.1**
USRK Ussuriysk Ar. 51.15 350 P **P** **12 49 02.3 -0.4**
USRK Ussuriysk Ar. 51.15 350 P **P** **12 49 02.3 -0.4**
USRK Ussuriysk Ar. 51.15 350 P **P** **12 49 01.4 -1.3**
comp=Z,27nm,0.9s,baz=171,slow=7.8,SNR=20
USRK LR LR 13 07 28.4
comp=Z,322nm,21.4s,baz=160,slow=32
comp=Z,27nm,0.9s
XAN Xi'an 51.25 324 ⇓P **P** **12 49 04.1 +0.4**
XAN sP sP 12 49 13.6 +2.9
XAN S **S** **12 56 22.3 +0.2**
XAN sS sS 12 56 36.0 +5.3
XAN pmax pmax
comp=Z,58nm,1.3s
XAN pmax pmax
comp=Z,410nm,5.5s
PZH PanZhiHua 51.33 311 P **P** **12 49 04.2 -0.4**
PZH PP **PP** **12 51 02.6 +0.8**
PZH S **S** **12 56 22.2 -1.4**
PZH pmax pmax
comp=Z,30nm,1.4s
PZH pmax pmax
comp=Z,130nm,4.9s
PZH LR LR
comp=Z,140nm,15.2s
PZH LR LR
comp=Z,210nm,17.7s
PZH LR LR
comp=Z,170nm,17.7s
MDJ Mudanjiang 52.00 348 P **P** **12 49 08.1 -1.0**
MDJ pP sP 12 49 14.0 -2.3
MDJ ScP **ScP** **12 54 12.0 -5.9**
MDJ S **S** **12 56 35.3 +3.4**
MDJ ScS **ScS** **12 58 56.2 -2.5**
MDJ pmax pmax
comp=Z,11nm,1.2s
MDJ pmax pmax
comp=Z,360nm,5.3s
MDJ LR LR
comp=Z,460nm,17.8s
MDJ LR LR
comp=Z,480nm,16.8s
MDJ LR LR
comp=Z,910nm,20.7s
MDJ Mudanjiang 52.00 348 P **P** **12 49 08.8 -0.3**
BJT Baijiatuau 52.14 334 P **P** **12 49 10.3 +0.1**
BJI Beijing 52.16 334 P **P** **12 49 09.8 -0.5**
BJI sP **sP** **12 49 17.9 +0.7**
BJI PcP **PcP** **12 50 20.7 -1.3**
BJI S **S** **12 56 32.0 -2.2**
BJI pmax pmax
comp=Z,9.0nm,1.2s
BJI pmax pmax
comp=Z,140nm,5.3s
BJI LR LR
comp=Z,210nm,17.3s
BJI LR LR
comp=Z,150nm,16.6s
BJI LR LR
comp=Z,250nm,18.7s
CN2 Changchun 52.21 344 *e*P **P** **12 49 09.9 -0.8**
CN2 *ep*P pP 12 49 14.4 -1.5
CN2 *e*PP **PP** **12 51 09.7 +0.4**
CN2 *e*S **S** **12 56 33.2 -1.7**
CN2 pmax pmax
comp=Z,20nm,1.2s
CD2 Chengdu 52.46 317 P **P** **12 49 13.5 +0.7**
CD2 S **S** **12 56 42.6 +3.7**
CD2 pmax pmax
comp=Z,50nm,0.8s
CD2 LR LR
comp=Z,290nm,13.1s
CD2 LR LR
comp=Z,290nm,10.0s
YSS Yuzh-Sakhalins 52.98 0 *e*P **P** **12 49 16.1 -0.2**
YSS pmax pmax
comp=Z,40nm,0.8s
TNCH TengChong 53.03 308 ⇑P **P** **12 49 18.4 +1.1**
TNCH pP pP 12 49 21.8 -0.6
TNCH sP sP 12 49 25.0 +0.7
TNCH PP **PP** **12 51 18.6 +1.3**
TNCH S **S** **12 56 48.3 +1.1**
TNCH SS **SS** **13 00 26.1 -0.6**
TNCH pmax pmax
comp=Z,36nm,0.9s
TNCH pmax pmax
comp=Z,210nm,3.0s
TNCH LR LR
comp=Z,130nm,9.9s
TNCH LR LR
comp=Z,130nm,11.5s
TNCH LR LR
comp=Z,190nm,19.9s
BNX BinXian 53.54 347 ⇓P **P** **12 49 19.8 -0.6**
BNX PP **PP** **12 51 22.3 +1.0**
BNX S **S** **12 56 55.2 +2.2**
BNX pmax pmax
comp=Z,50nm,1.3s
BNX pmax pmax
comp=Z,330nm,6.2s
BNX LR LR
comp=Z,250nm,14.4s
BNX LR LR
comp=Z,400nm,17.0s
BNX LR LR
comp=Z,430nm,20.2s
MND Mandalay 53.57 303 P **P** **12 49 21.7 +0.6**
HHC Hu-ho-hao-te 54.90 331 *e*P **P** **12 49 31.4 +0.8**
HHC pP sP 12 49 38.8 +1.2
HHC S **S** **12 57 15.9 +4.1**
HHC sS sS 12 57 27.3 +7.0
HHC ScS **ScS** **12 59 12.0 -7.7**
HHC pmax pmax
comp=Z,27nm,0.8s
HHC pmax pmax
comp=Z,190nm,4.6s
HHC LR LR
comp=Z,220nm,17.6s
HHC LR LR
comp=Z,250nm,18.4s
HHC LR LR
comp=Z,420nm,18.8s
BTO Baotou 55.46 330 *e*P **P** **12 49 36.5 +1.8**
BTO pP **sP** **12 49 41.0 -0.6**
BTO sP **pP** **12 49 44.0 +4.3**
BTO PP **PP** **12 51 41.6 +2.8**
BTO S **S** **12 57 24.6 +5.3**
BTO SS **SS** **13 01 05.3 +0.9**
BTO pmax pmax
comp=Z,31nm,1.2s
BTO pmax pmax
comp=Z,320nm,4.5s
BTO LR LR
comp=Z,700nm,12.9s
BTO LR LR
comp=Z,430nm,15.3s
BTO LR LR
comp=Z,1µm,15.3s
LZH Lanzhou 55.69 322 *e*P **P** **12 49 37.2 +0.7**
LZH sP sP 12 49 46.9 +3.4
LZH S **S** **12 57 27.9 +5.3**
LZH pmax pmax
comp=Z,35nm,1.5s
LZH pmax pmax
comp=Z,110nm,5.2s
LZH LR LR
comp=Z,120nm,11.7s
LZH LR LR
comp=Z,160nm,12.4s
LZH LR LR
comp=Z,320nm,13.1s
KLR Kul'dur 56.08 351 *ce*P **P** **12 49 38.2 -0.6**
KLR pmax pmax
comp=Z,27nm,1.3s
KLR Kul'dur 56.08 351 LR LR 13 09 09.0
comp=Z,332nm,21.1s,baz=165,slow=31

RAR Rarotonga 57.54 111 LR LR 13 12 22.5
comp=Z,178nm,21.6s,baz=290,slow=34

HEH HeiHe 57.82 348 *e*P **P** **12 49 50.0 -1.1**
HEH pP **sP** **12 49 56.9 -1.5**
HEH S **S** **12 57 52.0 +2.1**
HEH pmax pmax
comp=Z,21nm,1.0s
HEH pmax pmax
comp=Z,280nm,6.8s
HEH LR LR
comp=Z,510nm,19.2s
HEH LR LR
comp=Z,510nm,18.6s
HEH LR LR
comp=Z,750nm,21.2s

HIA Hailar 58.81 343 P **P** **12 49 59.4 +1.3**
GTA Gaotai 60.27 323 P **P** **12 50 09.4 +0.9**
GTA sP sP 12 50 18.8 +3.3
GTA S **S** **12 58 23.7 +1.3**
GTA pmax pmax
comp=Z,13nm,1.0s
GTA pmax pmax
comp=Z,260nm,6.8s
GTA LR LR
comp=Z,130nm,16.7s
GTA LR LR
comp=Z,160nm,15.9s
GTA LR LR
comp=Z,180nm,15.5s

PEA0B Petropavlovsk- 60.50 10*ce*P **P** **12 50 08.9 -0.7**
PETK Petropavlovsk- 60.50 10 P **P** **12 50 09.8 +0.2**
PETK Petropavlovsk- 60.50 10 P **P** **12 50 09.8 +0.2**
PETK Petropavlovsk- 60.50 10 P **P** **12 50 09.1 -0.6**
comp=Z,33nm,1.1s,baz=195,slow=2.9,SNR=9.3
PETK LR LR 13 16 04.6
comp=Z,160nm,19.4s,baz=194,slow=36
comp=Z,33nm,1.1s

ZEA Zeya 61.18 350 *e*P **P** **12 50 14.2 0.0**
ZEA *e* 12 58 51.8
ZEA pmax pmax
comp=N,20nm,1.1s
ZEA pmax pmax
comp=Z,40nm,1.0s

GOMU GeErMu 61.59 317 P **P** **12 50 19.3 +1.4**
GOMU pP sP 12 50 23.5 -1.4
GOMU sP pP 12 50 27.2 +4.2
GOMU S **S** **12 58 40.2 +0.3**
GOMU ScS **SKKSac** **13 00 09.4 -0.2**
GOMU pmax pmax
comp=Z,16nm,1.2s
GOMU LR LR
comp=Z,180nm,18.2s
GOMU LR LR
comp=Z,190nm,17.5s
GOMU LR LR
comp=Z,310nm,16.5s

ULN Ulaanbaatar 62.36 334 P **P** **12 50 22.6 +0.1**
ULN IAmb IAmb 12 50 25.9
comp=Z,18nm,0.9s
ULN Ulaanbaatar 62.36 334*ce*P **P** **12 50 22.6 +0.1**
ULN pmax pmax
comp=Z,21nm,1.0s

SONM Songino Array 62.63 333 P **P** **12 50 24.4 +0.1**
SONM IAmb IAmb 12 50 27.6
comp=Z,32nm,1.5s
SONM Songino Array 62.63 333 P **P** **12 50 24.4 +0.1**
SONM pmax pmax
comp=Z,32nm,1.5s
SONM Songino Array 62.63 333 P **P** **12 50 24.0 -0.3**
comp=Z,12nm,1.1s,baz=156,slow=6.9,SNR=34
SONM LR LR 13 16 51.1
comp=Z,325nm,20.3s,baz=148,slow=35
comp=Z,12nm,1.1s

CASY Casey 63.92 194 P **P** **12 50 33.1 +0.7**
SHEM Shemya Is, Ala 64.54 21 LR LR 13 13 41.1
comp=Z,808nm,21.4s,baz=273,slow=31

MA2 Magadan 65.94 4 P **P** **12 50 44.6 -1.0**
MA2 IAmb IAmb 12 50 47.6
comp=Z,18nm,0.8s
MA2 Magadan 65.94 4 P **P** **12 50 45.6 0.0**
MA2 Magadan 65.94 4*ce*P **P** **12 50 45.6 0.0**
MA2 pmax pmax
comp=Z,25nm,0.9s
MA2 Magadan 65.94 4 LR LR 13 16 29.2
comp=Z,71nm,21.1s,baz=178,slow=33

IRK Irkutsk 66.83 335 *e*P **P** **12 50 50.5 -0.9**
IRK pmax pmax
comp=Z,35nm,2.9s

PPT Papeete 66.94 106 LR LR 13 18 41.2
comp=Z,93nm,18.9s,baz=269,slow=35
PPT2 Papeete2 66.94 106 *e*S **S** **12 59 50.7 +4.6**
comp=Z,178nm,28.5s
PPT2 *e*SS **SS** **13 03 58.0 -6.8**
comp=Z,132nm,34.8s
PPT2 *e*LQ LQ 13 08 11.9
comp=Z,724nm,29.2s
PPT2 *e*LR LR 13 11 07.3
comp=Z,243nm,24.8s
PPT2 *e*LR LR 13 11 09.7
comp=Z,199nm,24.2s

TBI Tubuai 67.22 113 *e*S **S** **12 59 57.3 +8.0**
comp=Z,1μm,32.8s
TBI *e*LQ LQ 13 08 16.5
comp=Z,3μm,33.8s
TBI *e*LR LR 13 11 08.6
comp=Z,1μm,27.5s

HYB Hyderabad 67.55 292 *e*P **P** **12 50 56.2 -0.5**
MOY Mondy 67.82 333 *e*P **P** **12 50 58.4 +0.5**
MOY pmax pmax
comp=Z,41nm,1.9s

BOD Bodaibo 67.96 344 *e*P **P** **12 50 57.9 -0.6**
BOD pmax pmax
comp=Z,15nm,1.1s

YAK Yakutsk 68.83 353 *e*P **P** **12 51 03.0 -0.8**
YAK *e**PP **sP** **12 51 08.6 -2.6**
YAK *e* 12 51 26.9
YAK *e* 12 53 30.5
YAK *e*S **S** **13 00 07.4 +0.5**
YAK *e* 13 01 00.0
YAK pmax pmax
comp=Z,16nm,1.2s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=N,8.0nm,1.5s
YAK pmax pmax
comp=Z,143nm,4.2s
YAK pmax pmax
comp=N,110nm,4.8s
YAK pmax pmax
comp=E,48nm,4.6s
YAK smax smax
comp=N,96nm,3.3s
YAK smax smax
comp=E,52nm,3.0s

YAK Yakutsk 68.83 353 LR LR 13 19 33.1
comp=E,267nm,20.7s,baz=144,slow=35
SEY Seymchan 69.39 5*ce*P **P** **12 51 06.3 -1.0**
SEY pmax pmax
comp=Z,11nm,1.0s
SEY Seymchan 69.39 5 LR LR 13 18 59.8
comp=Z,195nm,21.5s,baz=212,slow=34

WMQ Urumqi 70.24 321 *e*P **P** **12 51 13.8 +0.8**
WMQ sP sP 12 51 24.1 +4.0
WMQ pmax pmax
comp=Z,32nm,1.3s
WMQ pmax pmax
comp=Z,240nm,5.7s

NIKH Nikolski High 71.80 28 P **P** **12 51 21.7 -0.4**
baz=232
VNDA Vanda 71.94 176 P **P** **12 51 23.1 +0.4**
VNDA Vanda 71.94 176 P **P** **12 51 23.6 +0.9**
comp=Z,3.6nm,0.7s,baz=316,slow=7.4,SNR=13
VNDA LR LR 13 23 16.0
comp=Z,781nm,18.4s,baz=348,slow=36
comp=Z,3.6nm,0.7s

DGZ Jazzator, Alta 73.41 326 *i* P **P** **12 51 32.1 0.0**
DGZ pmax pmax
comp=Z,34nm,1.2s

UNV Unalaska Valle 73.44 29 P **P** **12 51 30.2 -1.7**
baz=233
ZSN Zaisan 73.75 323 *e*P **P** **12 51 34.0 +0.1**
ZSN Zaisan 73.75 323 *e*P **P** **12 51 34.1 +0.1**
baz=323

P08K Saint George I 73.78 25 P **P** **12 51 33.9 0.0**
baz=230

SPIA Saint Paul Isl 73.86 25 P **P** **12 51 33.9 -0.5**
baz=229

MK31 Makanchi Array 75.01 322 P **P** **12 51 41.1 -0.2**
MK31 IAmb IAmb 12 51 44.6
comp=Z,35nm,1.1s
MK31 Makanchi Array 75.01 322 *i* P **P** **12 51 41.3 0.0**
MK31 pmax pmax
comp=Z,44nm,1.1s
MKAR Makanchi Array 75.01 322 P **P** **12 51 41.2 -0.1**
MKAR Makanchi Array 75.01 322 P **P** **12 51 41.7 +0.4**
comp=Z,22nm,0.9s,baz=107,slow=7.0,SNR=127
MKAR LR LR 13 25 54.7
comp=Z,78nm,20.3s,baz=118,slow=37
comp=Z,22nm,0.9s

MAKZ Makanchi 75.21 322 P **P** **12 51 42.3 -0.1**
MAKZ IAmb IAmb 12 51 45.7
comp=Z,45nm,1.1s
MAKZ Makanchi 75.21 322 P **P** **12 51 42.3 -0.1**
MAKZ pmax pmax
comp=Z,45nm,1.1s

SHLS Shalkode 75.29 318 *e*P **P** **12 51 41.5 -1.7**
SHLS Shalkode 75.29 318 *e*P **P** **12 51 41.5 -1.7**
baz=318
PDGK Podgornoye 75.34 318 P **P** **12 51 43.1 -0.3**
FALS False Pass 75.50 29 P **P** **12 51 43.4 -0.5**
baz=236
UZB Uzynbulak 75.58 317 *e*P **P** **12 51 44.6 -0.2**
UZB pmax pmax
comp=Z,27nm,1.0s
UZB Uzynbulak 75.58 317 *e*P **P** **12 51 44.6 -0.2**
comp=Z,27nm,1.0s,baz=317
SATY Saty 75.97 317 *e*P **P** **12 51 47.2 +0.2**
SATY pmax pmax
comp=Z,30nm,1.1s
SATY Saty 75.97 317 *e*P **P** **12 51 47.2 +0.2**
comp=Z,30nm,1.1s,baz=317
BILL Bilibino 75.98 9 P **P** **12 51 46.0 -0.4**
BILL Bilibino 75.98 9‖ *e*P **P** **12 51 45.5 -0.9**
BILL pmax pmax
comp=Z,18nm,1.7s
ZHN Zhinishke 75.99 317 *e*P **P** **12 51 46.9 -0.2**
ZHN Zhinishke 75.99 317 *e*P **P** **12 51 47.0 -0.2**
baz=317
KSH Kashi 76.39 313 P **P** **12 51 51.1 +1.6**
KSH PcP **PcP** **12 52 04.5 +3.2**
KSH S **S** **13 01 36.8 +2.3**
KSH pmax pmax
comp=Z,19nm,1.2s
NIL Nilore 76.61 307 P **P** **12 51 50.8 0.0**
TDK Taldyqorghan 76.72 319 *e*P **P** **12 51 51.1 0.0**
TDK pmax pmax
comp=Z,24nm,1.0s
TDK Taldyqorghan 76.72 319 *e*P **P** **12 51 51.2 0.0**
comp=Z,24nm,1.0s,baz=319
ARXS Arharly 76.80 318 *e*P **P** **12 51 51.8 +0.1**
MDOK Medeo 76.93 317 *e*P **P** **12 51 52.3 -0.2**
MDOK Medeo 76.93 317 *e*P **P** **12 51 52.4 -0.2**
baz=317
ZAA0 Zalesovo Array 76.99 329 P **P** **12 51 51.2 -1.2**
ZAA0 IAmb IAmb 12 51 54.4
comp=Z,21nm,1.1s
ZALV Zalesovo Beam 76.99 329 P **P** **12 51 51.5 -0.9**
ZALV Zalesovo Beam 76.99 329 *i* P P 12 51 45.1 -7.3
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 76.99 329 P **P** **12 51 51.6 -0.8**
comp=Z,10nm,0.8s,baz=113,slow=5.2,SNR=32
ZALV LR LR 13 24 47.9
comp=Z,167nm,21.6s,baz=111,slow=35
comp=Z,10nm,0.8s
NRN Naryn 77.03 315 P **P** **12 51 53.1 -0.3**
NRN Naryn 77.03 315 P **P** **12 51 53.1 -0.3**
NRN pmax pmax
comp=Z,14nm,1.3s
AAA Alma-Ata 77.03 317 *e*P **P** **12 51 53.0 0.0**
AAA pmax pmax
comp=Z,21nm,1.4s
AAA Alma-Ata 77.03 317 *e*P **P** **12 51 53.0 0.0**
comp=Z,21nm,1.4s,baz=317
SDPT Sand Point 77.19 29 P **P** **12 51 52.7 -0.8**
baz=239
CHKK Chushkaly 77.22 317 *e*P **P** **12 51 53.4 -0.5**
CHKK Chushkaly 77.22 317 *e*P **P** **12 51 53.5 -0.5**
baz=317
CHNA Chernabura Isl 77.36 30 P **P** **12 51 53.7 -0.8**
baz=239
M11K Mekoryuk 77.53 23 P **P** **12 51 54.6 -0.6**
baz=232
KUU Kurty 77.67 317 *e*P **P** **12 51 56.0 -0.5**
KUU pmax pmax
comp=Z,20nm,0.8s
KUU Kurty 77.67 317 *e*P **P** **12 51 56.1 -0.5**
comp=Z,20nm,0.8s,baz=317
GAMB Gambell 77.77 19 P **P** **12 51 56.6 +0.1**
baz=227
SEM Semipalatinsk 77.81 325 *e*P **P** **12 51 57.4 0.0**
SEM pmax pmax
comp=Z,19nm,1.2s
SEM Semipalatinsk 77.81 325 *e*P **P** **12 51 57.5 0.0**
comp=Z,19nm,1.2s,baz=324
TKM2 Tokmak 2 77.83 316 P **P** **12 51 58.2 +0.5**
SNR=15
TKM2 Tokmak 2 77.83 316 *i* P **P** **12 51 56.8 -0.9**
TKM2 pmax pmax
comp=Z,12nm,0.9s
S14K Fog Glacier 78.12 29 P **P** **12 51 57.8 -1.1**
baz=239
TIXI Tiksi 78.29 356 P **P** **12 51 57.7 -1.6**
TIXI Tiksi 78.29 356*ce*P **P** **12 51 58.1 -1.2**
TIXI pmax pmax
comp=Z,13nm,2.5s
TIXI Tiksi 78.29 356 LR LR 13 25 37.8
comp=Z,171nm,20.6s,baz=194,slow=35
UCH Uchtor 78.35 315 P **P** **12 52 01.7 +0.9**
SNR=27
CHMS Chumysh 78.44 316 P **P** **12 52 01.5 +0.7**
SNR=8.4
AAK Ala-Archa 78.50 316 P **P** **12 52 01.9 +0.6**
SNR=16
AAK Ala-Archa 78.50 316 P **P** **12 52 01.1 -0.2**
AAK IAmb IAmb 12 52 04.9
comp=Z,30nm,1.4s
AAK Ala-Archa 78.50 316*ce*P **P** **12 52 02.2 +0.9**
AAK pmax pmax
comp=Z,21nm,1.3s
AAK Ala-Archa 78.50 316 P **P** **12 52 01.9 +0.6**
comp=Z,16nm,1.2s,baz=132,slow=8.7,SNR=16
comp=Z,16nm,1.2s
SGDS Sogindy 78.68 316 *e*P **P** **12 52 01.9 -0.2**
SGDS Sogindy 78.68 316 *e*P **P** **12 52 01.9 -0.2**
baz=316
CHGN Chignik 78.68 29 P **P** **12 52 00.3 -1.5**
baz=240
M13K Dall Lake 78.69 24 P **P** **12 52 00.7 -1.0**
baz=235
USP Ospenovka 78.70 316 P **P** **12 52 02.6 +0.3**
SNR=23
KURK Kurchatov 78.89 324 P **P** **12 52 02.7 -0.3**
KURK IAmb IAmb 12 52 05.9
comp=Z,46nm,1.1s
KURK Kurchatov 78.89 324*ce*P **P** **12 52 03.2 +0.2**
KURK pmax pmax
comp=Z,52nm,1.3s
KURBB Kurchatov Arra 78.90 324 P **P** **12 52 03.1 0.0**
comp=Z,31nm,1.1s,baz=113,slow=4.7,SNR=54
comp=Z,31nm,1.1s
O14K Tigyukauivet M 78.91 26 P **P** **12 52 02.5 -0.5**
baz=237
N14K Kuskokwak Cree 79.10 25 P **P** **12 52 02.7 -1.3**
baz=237
ARSB Arslanbob 79.14 314 P **P** **12 52 05.6 +0.8**
ARSB Arslanbob 79.14 314 P **P** **12 52 05.6 +0.8**
ARSB pmax pmax
comp=Z,17nm,1.6s
M14K Bethel 79.45 24 P **P** **12 52 05.7 -0.1**
M14K Bethel 79.45 24 P **P** **12 52 05.3 -0.6**
baz=236
L14K Kuka Creek 79.49 24 P **P** **12 52 05.5 -0.6**
baz=236
O15K Ungalikthiuk R 79.50 26 P **P** **12 52 05.1 -1.1**
baz=238
BTLS Baital 79.61 318 *e*P **P** **12 52 07.2 +0.1**
BTLS pmax pmax
comp=Z,29nm,1.7s
BTLS Baital 79.61 318 *e*P **P** **12 52 07.3 +0.1**
comp=Z,29nm,1.7s,baz=318

R16K Pilot Point 79.71 28 P **P** **12 52 06.1 -1.2**
baz=241
N15K Kwethluk River 79.91 25 P **P** **12 52 06.8 -1.6**
baz=238
M15K Kasigluk River 79.94 25 P **P** **12 52 07.2 -1.3**
baz=237
J14K Nanvaranak Lak 79.96 22 P **P** **12 52 07.9 -0.6**
baz=234
L15K Ungalak Mounta 80.15 24 P **P** **12 52 09.2 -0.5**
baz=237
TNA Tin City 80.17 19 P **P** **12 52 07.8 -1.8**
baz=230
KBL Kabul 80.21 307 P **P** **12 52 10.2 -0.7**
KBL Kabul 80.21 307 P **P** **12 52 10.2 -0.7**
KBL pmax pmax
comp=Z,11nm,0.9s
P16K Nushagak River 80.24 27 P **P** **12 52 08.4 -1.8**
baz=240
BTK Batken 80.33 312 P **P** **12 52 10.7 -0.5**
MAW Mawson 80.36 202 LR LR 13 26 32.4
comp=Z,766nm,18.1s,baz=77,slow=35
ANM Nome 80.39 20 P **P** **12 52 10.9 0.0**
ANM Nome 80.39 20 P **P** **12 52 10.9 0.0**
ANM pmax pmax
comp=Z,24nm,1.1s
ANM Nome 80.39 20 P **P** **12 52 09.8 -1.1**
baz=232,SNR=9.0
GAR Garm 80.40 311 P **P** **12 52 11.7 -0.1**
GAR IAmb IAmb 12 52 14.8
comp=Z,54nm,1.1s
K15K Wolf Creek Mou 80.47 23 P **P** **12 52 09.9 -1.5**
baz=236
O16K Kokwok River B 80.47 26 P **P** **12 52 10.2 -1.2**
baz=240
N16K Nishlik Lake 80.63 25 P **P** **12 52 11.2 -1.1**
baz=239
F14K Arctic Creek 80.63 19 P **P** **12 52 11.1 -1.1**
baz=232
Q16K King Salmon 80.67 27 P **P** **12 52 11.2 -1.3**
baz=241
DZA Taraz 80.79 315 *e*P **P** **12 52 13.3 -0.2**
DZA Taraz 80.79 315 *e*P **P** **12 52 13.4 -0.2**
baz=315
M16K Timber Creek 80.83 25 P **P** **12 52 12.0 -1.4**
baz=239
Q17K Contact Creek 80.83 28 P **P** **12 52 12.0 -1.6**
baz=242
SII Sitkinak Islan 80.88 30 P **P** **12 52 12.1 -1.6**
baz=244
L16K Owhat River 80.98 24 P **P** **12 52 14.3 +0.2**
L16K IAmb IAmb 12 52 16.8
comp=Z,42nm,1.1s
L16K Owhat River 80.98 24 P **P** **12 52 12.8 -1.3**
baz=238
O17K Koliganek Bris 81.00 26 P **P** **12 52 12.9 -1.4**
baz=241
P17K Kvichak River 81.02 27 P **P** **12 52 12.3 -2.1**
baz=242
G15K Niukluk 81.11 20 P **P** **12 52 12.9 -1.8**
baz=234
CHGR Chuyangaron 81.18 311 P **P** **12 52 15.6 -0.3**
CHGR Chuyangaron 81.18 311 P **P** **12 52 15.6 -0.3**
CHGR pmax pmax
comp=Z,51nm,0.9s
SIMJ Simiganj 81.30 311 P **P** **12 52 16.2 -0.3**
SIMJ IAmb IAmb 12 52 19.6
comp=Z,37nm,1.1s
F15K North Star Dit 81.33 19 P **P** **12 52 14.7 -1.3**
baz=233
N17K Nushagak Hills 81.33 26 P **P** **12 52 14.0 -2.1**
baz=241
J16K Anvik River 81.38 22 P **P** **12 52 15.8 -0.4**
baz=237
KK31 Karatay Array 81.42 315 P **P** **12 52 16.9 -0.1**
KK31 IAmb IAmb 12 52 21.0
comp=Z,43nm,1.7s
KK31 Karatay Array 81.42 315 P **P** **12 52 16.9 -0.1**
KK31 pmax pmax
comp=Z,43nm,1.7s
KKAR Karatay Array 81.42 315 P **P** **12 52 16.4 -0.5**
KKAR IAmb IAmb 12 52 21.0
comp=Z,42nm,1.7s
KKAR Karatay Array 81.42 315 P **P** **12 52 16.2 -0.7**
KKAR Karatay Array 81.42 315 P **P** **12 52 16.4 -0.5**
KKAR pmax pmax
comp=Z,42nm,1.7s
IUG Iuzhnay 81.49 314 *e*P **P** **12 52 17.2 -0.2**
IUG pmax pmax
comp=Z,21nm,1.3s
IUG Iuzhnay 81.49 314 *e*P **P** **12 52 17.2 -0.2**
comp=Z,21nm,1.3s,baz=314
H16K Elim 81.53 21 P **P** **12 52 17.2 +0.2**
baz=236,SNR=17
M17K Holitna River 81.66 25 P **P** **12 52 17.9 +0.2**
baz=240
P18K Big Mountain, 81.66 27 P **P** **12 52 17.4 -0.5**
baz=243
I17K Unalakleet 81.67 22 P **P** **12 52 17.9 +0.1**
I17K IAmb IAmb 12 52 21.1
comp=Z,48nm,1.1s
I17K Unalakleet 81.67 22 P **P** **12 52 17.7 0.0**
baz=237,SNR=18
L17K Donlin 81.67 24 P **P** **12 52 17.9 +0.1**
baz=239
OTUK Ortayu 81.78 321 P **P** **12 52 18.2 -0.5**
BRLS Borolday 81.88 315 *e*P **P** **12 52 19.2 -0.1**
BRLS Borolday 81.88 315 *e*P **P** **12 52 19.2 -0.1**
baz=315
O18K Koktuh Hills 81.88 27 P **P** **12 52 18.3 -0.7**
baz=242
G16K Koyuk River 81.92 20 P **P** **12 52 18.8 -0.2**
baz=235
N18K Kilae Creek 81.97 26 P **P** **12 52 19.4 0.0**
baz=242
K17K Iditarod 81.97 24 P **P** **12 52 19.2 -0.1**
baz=239
BRZS Berezniki 82.14 322 *e*P **P** **12 52 20.3 -0.2**
BRZS pmax pmax
comp=Z,18nm,1.5s
BRZS Berezniki 82.14 322 *e*P **P** **12 52 20.4 -0.2**
comp=Z,18nm,1.5s,baz=322
KDAK Kodiak Island 82.19 29 *i* P **P** **12 52 19.4 -1.2**
KDAK pmax pmax
comp=Z,116nm,1.5s
KDAK Kodiak Island 82.19 29 P **P** **12 52 20.5 -0.1**
baz=245
KDAK Kodiak Island 82.19 29 LR LR 13 23 13.4
comp=Z,214nm,22.0s,baz=257,slow=32
SVW2 Sparrevohn 82.30 26 P **P** **12 52 21.1 0.0**
SVW2 IAmb IAmb 12 52 24.2
comp=Z,47nm,1.2s
SVW2 Sparrevohn 82.30 26 P **P** **12 52 21.6 +0.5**
L18K Granite Mounta 82.37 24 P **P** **12 52 21.2 -0.3**
baz=241
M18K Stony River 82.38 25 P **P** **12 52 20.6 -1.0**
baz=242
O19K Port Alsworth 82.44 27 P **P** **12 52 21.5 -0.3**
O19K IAmb IAmb 12 52 23.6
comp=Z,27nm,1.1s
O19K Port Alsworth 82.44 27 P **P** **12 52 21.2 -0.6**
baz=243
H17K Granite Mounta 82.53 21 P **P** **12 52 21.2 -1.0**
baz=238
G17K Kiwalik Mounta 82.57 21 P **P** **12 52 21.7 -0.7**
baz=237
N19K Bonanza Creek 82.64 26 P **P** **12 52 23.1 +0.1**
N19K Bonanza Creek 82.64 26 P **P** **12 52 22.0 -1.0**
baz=243
C16K Lisburne Hills 82.68 17 P **P** **12 52 21.7 -1.2**
baz=232
F17K Baldwin Pennin 82.89 20 P **P** **12 52 23.3 -0.7**
baz=236,SNR=13
J18K Innoko River 82.97 23 P **P** **12 52 24.0 -0.6**
baz=241
TTA Tatalina 82.99 24 P **P** **12 52 24.7 -0.1**
TTA IAmb IAmb 12 52 27.4
comp=Z,26nm,1.3s
TTA Tatalina 82.99 24 P **P** **12 52 24.7 -0.1**
TTA pmax pmax
comp=Z,26nm,1.3s
TTA Tatalina 82.99 24 P **P** **12 52 23.6 -1.2**
baz=241,SNR=12
D17K Noatak River 83.01 18 P **P** **12 52 23.9 -0.8**
baz=234,SNR=24
L19K White Mountain 83.11 25 P **P** **12 52 24.2 -1.1**
baz=243,SNR=18
O20K Slope Mountain 83.15 27 P **P** **12 52 25.0 -0.7**

	baz=245								
H18K	**Honhosa River**	83.20	21	P		P	12 52 23.9		-1.8
	baz=239								
RSO	**Redoubt South**	83.25	27	P		P	12 52 26.2		-0.1
C17K	**DeLong Mountai**	83.44	18	P		P	12 52 26.2		-0.7
	baz=234								
G18K	**Tagagawik**	83.48	21	P		P	12 52 26.2		-0.9
	baz=239								
F18K	**Selawik**	83.51	20	P		P	12 52 26.5		-0.7
	baz=238								
GCSA	**Galena City Sc**	83.54	22	P		P	12 52 27.1		-0.3
	baz=240,SNR=8.1								
CNPM	**China Poot**	83.56	28	P		P	12 52 26.4		-1.3
E18K	**Tukpahlearik C**	83.64	19	P		P	12 52 27.0		-1.0
	baz=237								
J19K	**Poorman**	83.65	23	P		P	12 52 27.0		-1.1
	baz=242,SNR=26								
L20K	**Farewell, AK**	83.65	25	P		P	12 52 27.3		-0.8
	baz=243								
M20K	**Styx River**	83.70	25	P		P	12 52 27.4		-1.1
	baz=244								
QSPA	**South Pole Qui**	83.71	180	P		P	12 52 28.0		-0.6
QSPA				IAmb		IAmb	12 52 31.2		
	comp=Z,23nm,0.8s								
QSPA	**South Pole Qui**	83.71	180	P		P	12 52 28.4		-0.1
	comp=Z,20nm,0.8s,baz=306,slow=1.9,SNR=22								
QSPA				LR		LR	13 30 26.5		
	comp=Z,1µm,18.2s,baz=14,slow=36								
	comp=Z,20nm,0.8s								
N20K	**Mount Spurr**	83.81	26	P		P	12 52 28.1		-0.9
	baz=245								
BRSE	**Bradley Lake S**	83.87	28	P		P	12 52 28.4		-0.9
	baz=246								
K20K	**Telida**	83.97	24	P		P	12 52 28.8		-0.9
	baz=243,SNR=21								
H19K	**Roundabout Mou**	84.08	21	P		P	12 52 29.5		-0.7
	baz=241								
CAPN	**Captain Cook N**	84.10	27	P		P	12 52 29.7		-0.7
	baz=246								
C18K	**Utukok River**	84.14	18	P		P	12 52 29.8		-0.7
	baz=236,SNR=23								
G19K	**Purcell Mounta**	84.16	21	P		P	12 52 29.6		-1.0
	baz=240								
F19K	**Shaleruckik Mo**	84.27	20	P		P	12 52 30.4		-0.8
	baz=239								
J20K	**Nowinta River**	84.31	23	P		P	12 52 31.0		-0.4
	baz=243								
B18K	**Kokolik River**	84.36	17	P		P	12 52 31.0		-0.6
	baz=235								
I20K	**Naaghedeneel**	84.47	23	P		P	12 52 30.7		-1.5
	baz=243								
BVA0	**Borovoye Array**	84.48	325	P		P	12 52 31.7		-0.8
BVAR	**Borovoye Array**	84.48	325	P		P	12 52 32.2		-0.3
	comp=Z,57nm,0.7s,baz=111,slow=6.5,SNR=269								
	comp=Z,57nm,0.7s								
PPLA	**Purkeypile**	84.54	25	P		P	12 52 31.9		-0.9
	baz=245								
BRVK	**Borovoye**	84.55	325	P		P	12 52 32.7		-0.1
BRVK	**Borovoye**	84.55	325	*ce*	P	P	12 52 33.1		+0.2
BRVK				pmax		pmax			
	comp=Z,116nm,1.3s								
SUA	**Susitna One**	84.56	26	P		P	12 52 32.0		-0.9
	baz=246,SNR=9.1								
SEW	**Seward**	84.61	28	P		P	12 52 31.6		-1.4
	baz=248								
O22K	**Cooper Landing**	84.63	27	P		P	12 52 31.8		-1.3
	baz=247								
H20K	**Anotleneega Mo**	84.64	22	P		P	12 52 32.0		-1.1
	baz=242,SNR=17								
E19K	**Redstone River**	84.77	20	P		P	12 52 32.6		-1.1
	baz=240								
CAST	**Castle Rocks**	84.80	24	P		P	12 52 33.3		-0.7
CAST				IAmb		IAmb	12 52 35.8		
	comp=Z,30nm,1.2s								
CAST	**Castle Rocks**	84.80	24	P		P	12 52 32.8		-1.2
	baz=245,SNR=14								
RC01	**Rabbit Creek A**	84.86	27	P		P	12 52 33.1		-1.2
RC01	**Rabbit Creek A**	84.86	27	P		P	12 52 32.3		-2.0
	baz=247,SNR=18								
C19K	**Lookout Ridge**	84.88	18	P		P	12 52 33.1		-1.2
	baz=238								
CHUM	**Lake Minchumin**	84.91	24	P		P	12 52 32.8		-1.6
	baz=245,SNR=43								
M22K	**Willow**	84.95	26	P		P	12 52 33.5		-1.2
M22K	**Willow**	84.95	26	P		P	12 52 32.7		-1.9
	baz=247,SNR=23								
D19K	**Kuna River**	85.01	19	P		P	12 52 33.5		-1.4
	baz=239								
F20K	**Avaraart Lake**	85.08	20	P		P	12 52 34.1		-1.1
	baz=241								
CUT	**Chulitna**	85.14	25	P		P	12 52 33.8		-1.8
	baz=247,SNR=6.8								
IMAR	**Indian Mountai**	85.28	22	P		P	12 52 36.2		-0.1
PMR	**Palmer**	85.32	26	P		P	12 52 35.6		-0.9
PMR	**Palmer**	85.32	26	P		P	12 52 35.6		-0.9
PMR	**Palmer**	85.32	26	P		P	12 52 35.7		-0.9
PMR				pmax		pmax			
	comp=Z,43nm,1.2s								
PMR	**Palmer**	85.32	26	P		P	12 52 34.7		-1.9
	baz=248,SNR=16								
H21K	**Melozitna Rive**	85.48	22	P		P	12 52 35.8		-1.5
	baz=244,SNR=12								
E20K	**Nigu River**	85.51	19	P		P	12 52 35.9		-1.6
	baz=241								
BPAW	**Bear Paw Mtn.**	85.53	24	P		P	12 52 36.2		-1.4
	baz=246,SNR=14								
P23K	**Montague Islan**	85.53	28	P		P	12 52 36.4		-1.3
	baz=249								
TRF	**Thorofare Moun**	85.55	25	P		P	12 52 36.6		-1.3
	baz=247,SNR=7.7								
KNK	**Knik Glacier**	85.56	27	P		P	12 52 37.1		-0.7
KNK	**Knik Glacier**	85.56	27	P		P	12 52 37.2		-0.5
	baz=248,SNR=13								
I21K	**Tanana**	85.59	23	P		P	12 52 38.0		+0.1
I21K				IAmb		IAmb	12 52 40.6		
	comp=Z,32nm,1.2s								
I21K	**Tanana**	85.59	23	P		P	12 52 37.3		-0.5
	baz=245,SNR=20								
D20K	**Etivluk River**	85.60	19	P		P	12 52 37.2		-0.6
	baz=240								
G21K	**Allakaket**	85.61	21	P		P	12 52 37.4		-0.5
	baz=243								
SML	**Sawmill**	85.76	26	P		P	12 52 38.1		-0.7
SML	**Sawmill**	85.76	26	P		P	12 52 38.1		-0.7
SML	**Sawmill**	85.76	26	P		P	12 52 38.4		-0.4
	baz=248,SNR=15								
F21K	**Alatna River**	85.93	21	P		P	12 52 39.2		-0.3
	baz=243								
MLY	**Manley**	86.01	23	P		P	12 52 39.4		-0.6
MLY				IAmb		IAmb	12 52 42.2		
	comp=Z,33nm,1.1s								
MLY	**Manley**	86.01	23	P		P	12 52 39.5		-0.5
	baz=246,SNR=36								
M23K	**Glacier View**	86.02	27	P		P	12 52 39.5		-0.6
	baz=249								
WAT1	**Susitna Watana**	86.04	25	P		P	12 52 38.8		-1.4
	baz=248								
H22K	**Ishtalitna Cre**	86.12	22	P		P	12 52 40.0		-0.5
	baz=246								
RND	**Reindeer**	86.13	25	P		P	12 52 38.2		-2.4
SCM	**Sheep Creek Mo**	86.21	27	P		P	12 52 40.0		-1.1
	baz=249								
MCK	**McKinley**	86.22	24	P		P	12 52 38.9		-2.1
MCK	**McKinley**	86.22	24	P		P	12 52 40.0		-1.0
	baz=248,SNR=22								
WAT6	**Susitna Watana**	86.30	26	P		P	12 52 40.3		-1.3
	baz=249,SNR=8.8								
E21K	**Killik River**	86.32	19	P		P	12 52 40.6		-0.8
	baz=243								
C21K	**Knifeblade Rid**	86.39	19	P		P	12 52 40.9		-0.9
	baz=242								
NEA2	**Nenana**	86.49	24	P		P	12 52 41.3		-1.0
NEA2				IAmb		IAmb	12 52 43.8		
	comp=Z,34nm,1.3s								
NEA2	**Nenana**	86.49	24	P		P	12 52 41.3		-1.0
	baz=248,SNR=8.4								
EYAK	**Cordova Ski Ar**	86.49	28	P		P	12 52 41.2		-1.2
EYAK	**Cordova Ski Ar**	86.49	28	P		P	12 52 41.4		-0.9
	baz=251								
I23K	**Minto, Yukon-K**	86.59	23	P		P	12 52 42.5		-0.3
	baz=247,SNR=7.2								
DHY	**Denali Highway**	86.63	25	P		P	12 52 42.5		-0.7
DHY	**Denali Highway**	86.63	25	P		P	12 52 42.6		-0.7
	baz=249,SNR=22								
B21K	**Ikpikpuk River**	86.66	18	P		P	12 52 42.0		-1.0
	baz=242								
KLU	**Klutina**	86.73	27	P		P	12 52 42.9		-0.7
	baz=251,SNR=10								
M24K	**Tolsona, Glenn**	86.82	26	P		P	12 52 43.8		-0.2
	baz=250								
WRH	**Wood River Hil**	86.84	24	P		P	12 52 42.4		-1.6
A21K	**Barrow**	86.89	16	P		P	12 52 43.8		-0.3
	baz=240,SNR=13								
E22K	**Anaktuvuk Pass**	86.91	20	P		P	12 52 43.5		-0.9
	baz=246								
KAIM	**Kayak Island**	86.92	29	P		P	12 52 43.4		-1.1
	baz=252								
D22K	**Ayikyak River**	86.94	19	P		P	12 52 44.0		-0.5
	baz=244								
G23K	**Bananza Creek**	86.95	22	P		P	12 52 43.8		-0.8
	baz=247								
COLA	**College**	87.08	24	P		P	12 52 43.7		-1.4
COLA	**College**	87.08	24	*i* P		P	12 52 43.7		-1.4
COLA				pmax		pmax			
	comp=Z,21nm,1.3s								
COLA	**College**	87.08	24	P		P	12 52 44.3		-0.8
	baz=249								
COLD	**Coldfoot**	87.09	21	P		P	12 52 44.5		-0.7
	baz=246								
BMRM	**Bremner River**	87.16	28	P		P	12 52 44.7		-1.0
	baz=252,SNR=14								
HDA	**Harding Lake**	87.28	24	P		P	12 52 45.0		-1.1
	baz=250,SNR=13								
POKR	**Poker Flat Res**	87.33	23	P		P	12 52 45.3		-1.1
	baz=249								
N25K	**Chitina, Valde**	87.36	27	P		P	12 52 45.8		-1.0
	baz=252,SNR=6.2								
HARP	**HAARP**	87.36	26	P		P	12 52 45.5		-1.1
	baz=251								
PAX	**Paxson**	87.41	26	P		P	12 52 46.6		-0.4
	baz=251,SNR=9.6								
H24K	**Noodor Dome**	87.42	23	P		P	12 52 46.7		-0.1
	baz=249								
IL31		87.43	24	P		P	12 52 44.8		-2.1
IL31				IAmb		IAmb	12 52 47.5		
	comp=Z,33nm,1.3s								
ILAR	**Eielson Array**	87.43	24	P		P	12 52 44.9		-2.0
ILAR	**Eielson Array**	87.43	24	P		P	12 52 44.9		-2.0
ILAR	**Eielson Array**	87.43	24	P		P	12 52 44.6		-2.2
	comp=Z,10nm,0.8s,baz=257,slow=4.2,SNR=79								
ILAR				LR		LR	13 27 36.1		
	comp=Z,408nm,21.3s,baz=247,slow=33								
	comp=Z,10nm,0.8s								
BGLC	**Bering Glacier**	87.53	29	P		P	12 52 46.8		-0.6
	baz=253								
K24K	**Donnelly Dome**	87.56	25	P		P	12 52 47.3		-0.3
	baz=251,SNR=7.2								
E23K	**Chandalar**	87.63	20	P		P	12 52 47.4		-0.5
	baz=247								
D23K	**Nanushuk River**	87.63	19	P		P	12 52 47.3		-0.5
	baz=246								
GLB	**Gilahina Butte**	87.67	27	P		P	12 52 47.1		-1.1
CRQE	**Cirque**	87.80	28	P		P	12 52 47.8		-1.1
	baz=253,SNR=11								
G24K	**Hadweenzic Riv**	87.89	22	P		P	12 52 48.0		-1.0
	baz=249								
RIDG	**Independent Ri**	87.93	25	P		P	12 52 48.6		-0.8
	baz=252								
J25K	**Salcha River,**	87.99	24	P		P	12 52 48.5		-1.2
J25K	**Salcha River,**	87.99	24	P		P	12 52 48.6		-1.1
	baz=251,SNR=27								
C23K	**Itkillik River**	88.01	19	P		P	12 52 49.2		-0.3
	baz=246								
MCARA	**McCarthy VSAT**	88.02	28	P		P	12 52 49.0		-0.8
	baz=253,SNR=6.5								
F24K	**Squaw Lake**	88.03	21	P		P	12 52 50.0		+0.2
F24K	**Squaw Lake**	88.03	21	P		P	12 52 49.0		-0.8
	baz=249								
MENT	**Mentasta**	88.16	26	P		P	12 52 50.2		-0.3
MESA	**MESA**	88.18	29	P		P	12 52 49.8		-1.1
	baz=254								
PRP	**Porcupine Dome**	88.23	23	P		P	12 52 49.4		-1.4
	baz=251								
D24K	**Happy Valley**	88.32	19	P		P	12 52 50.5		-0.5
	baz=248								
M26K	**Nabesna, AK**	88.32	27	P		P	12 52 50.5		-0.7
	baz=253								
SCRK	**Sand Creek**	88.36	25	P		P	12 52 50.4		-1.1
SCRK				IAmb		IAmb	12 52 53.6		
	comp=Z,14nm,1.2s								
SCRK	**Sand Creek**	88.36	25	P		P	12 52 51.2		-0.3
	baz=252,SNR=7.2								
G25K	**Beaman Lake**	88.42	22	P		P	12 52 51.8		+0.3
	baz=250								
GRNC	**Granite Creek**	88.43	28	P		P	12 52 52.1		+0.1
GRNC				IAmb		IAmb	12 52 54.6		
	comp=Z,26nm,1.0s								
C24K	**Franklin Bluff**	88.58	19	P		P	12 52 52.2		0.0
	baz=248								
CTG	**Chitna Glacier**	88.69	28	P		P	12 52 52.4		-0.7
	baz=255,SNR=22								
J26L	**Joseph Creek**	88.70	25	P		P	12 52 52.4		-0.6
	baz=253								
LOGN	**Logan Glacier**	88.81	28	P		P	12 52 53.9		+0.2
M27K	**Edge Creek, AK**	88.81	27	P		P	12 52 53.2		-0.5
	baz=254								
F25K	**Christian Rive**	88.87	21	P		P	12 52 53.3		-0.4
	baz=251								
PINM	**Pinnacle**	88.98	29	P		P	12 52 53.9		-0.5
	baz=256								
L27K	**Beaver Creek,**	89.03	26	P		P	12 52 54.4		-0.2
	baz=254								
BCAR	**Beaver Creek A**	89.05	26	P		P	12 52 54.3		-0.3
E25K	**Arctic Village**	89.07	21	P		P	12 52 54.7		+0.1
	baz=251								
K27K	**Chicken**	89.18	25	P		P	12 52 55.0		-0.2
	baz=254								
D25K	**Kavik River**	89.20	20	P		P	12 52 55.0		-0.3
	baz=250								
BMAR	**Burnt Mountain**	89.20	22	P		P	12 52 55.8		+0.6
BVCY	**Beaver Creek**	89.28	27	P		P	12 52 54.8		-1.0
	baz=255,SNR=16								
PNL	**Peninsula**	89.30	30	P		P	12 52 55.9		0.0
PNL	**Peninsula**	89.30	30	P		P	12 52 55.5		-0.3
	baz=256,SNR=9.4								
YUK3	**Moose Creek**	89.30	28	P		P	12 52 55.2		-0.9
	baz=256,SNR=22								
G26K	**Porcupine Rive**	89.35	22	P		P	12 52 55.7		-0.2
	baz=252								
F26K	**Sheenjek River**	89.44	21	P		P	12 52 56.3		-0.1
	baz=252								
YUK8	**Slate Glacier**	89.51	28	P		P	12 52 56.4		-0.7
	baz=256,SNR=11								
GEYT	**Alibeck**	89.54	308	P		P	12 52 57.3		-0.2
	comp=Z,6.6nm,1.0s,baz=104,slow=3.1,SNR=10								
	comp=Z,6.6nm,1.0s								
EGAK	**Eagle**	89.77	25	P		P	12 52 57.9		0.0
EGAK				IAmb		IAmb	12 53 00.4		
	comp=Z,34nm,1.2s								
EGAK	**Eagle**	89.77	25	P		P	12 52 57.4		-0.5
	baz=255								
I27K	**Kandik River**	89.80	24	P		P	12 52 57.9		-0.3
	baz=254								
O29M	**Mount Kennedy**	89.85	29	P		P	12 52 57.9		-0.7
	baz=257								
C26K	**Camden Bay**	89.88	19	P		P	12 52 57.7		-0.6
	baz=251								
AB31	**Akbulak array**	89.97	319	*i* P		P	12 52 57.5		-1.7
H27K	**Steamboat Moun**	90.01	23	P		P	12 52 58.6		-0.5
	baz=254								
YUK4	**Talbot Arm**	90.05	28	P		P	12 52 59.1		-0.5
	baz=257,SNR=19								
YUK6	**Outpost Mounta**	90.09	29	P		P	12 52 59.1		-0.7
	baz=257								
P29M	**Windy Craggy**	90.11	30	P		P	12 52 58.7		-0.9
	baz=258,SNR=12								
DAWY	**Dawson**	90.34	25	P		P	12 52 59.7		-1.0
	baz=256,SNR=22								
M29M	**Somme Creek**	90.37	27	P		P	12 53 00.2		-0.8
	baz=257								
I28M	**Miner Creek**	90.44	24	P		P	12 53 00.7		-0.5
	baz=256								
HYT	**Haines Junctio**	90.47	29	P		P	12 53 00.7		-0.8
	baz=258,SNR=13								
S31K	**Pelican**	90.55	32	P		P	12 53 00.9		-0.8
	baz=259								
P30M	**Million Dollar**	90.60	30	P		P	12 53 01.3		-0.6
	baz=259								
L29M	**L29M**	90.67	27	P		P	12 53 01.7		-0.6
	baz=258,SNR=34								
N30M	**Aishikik Lake**	90.80	28	P		P	12 53 02.7		-0.2
	baz=258								
SVE	**Sverdlovsk**	90.85	327	⇑ *e*	P	P	12 53 02.3		-0.8
SVE				pmax		pmax			
	comp=Z,25nm,1.4s								
SIT	**Sitka**	90.86	33	P		P	12 53 02.0		-1.2
	baz=260								
F28M	**Old Crow**	90.99	22	P		P	12 53 02.4		-1.2
	baz=256								
K29M	**Barlow Dome**	91.09	26	P		P	12 53 03.3		-1.0
	baz=258								
O30N	**Mendenhall**	91.14	29	P		P	12 53 03.4		-1.1
	baz=259,SNR=8.7								
M30M	**Minto, Yukon**	91.16	27	P		P	12 53 03.6		-0.9
	baz=259,SNR=12								
H29M	**Whitestone**	91.25	23	P		P	12 53 04.0		-0.8
	baz=257								
SKAG	**Skagway**	91.28	30	P		P	12 53 05.1		0.0
SKAG	**Skagway**	91.28	30	P		P	12 53 04.0		-1.0
	baz=260,SNR=8.5								
S32K	**Killisnoo**	91.33	32	P		P	12 53 05.7		+0.4
	baz=260								
AKTO	**Aktyubinsk**	91.39	320	P		P	12 53 03.5		-2.3
R32K	**Eaglecrest**	91.50	32	P		P	12 53 05.5		-0.6
	baz=261								
JIS	**Juneau Island**	91.57	32	P		P	12 53 07.2		+0.8
WHY	**Whitehorse**	91.71	29	P		P	12 53 06.8		-0.4
	baz=260								
J30M	**Hart River**	91.75	25	P		P	12 53 06.8		-0.6
	baz=259,SNR=16								
MAYO	**Mayo, Yukon**	91.75	26	P		P	12 53 07.0		-0.2
	baz=260								
D28M	**Stokes Point**	91.80	20	P		P	12 53 06.7		-0.6
	baz=257								
CRAG	**Craig**	91.82	35	P		P	12 53 06.5		-1.1
	baz=262								
I30M	**Mount Dempster**	91.85	25	P		P	12 53 06.7		-1.1
	baz=259								
E29M	**Blow River**	91.89	21	P		P	12 53 07.1		-0.6
	baz=258								
ARU	**Arti**	91.92	326	*c i* P		P	12 53 06.6		-1.5
ARU							12 56 47.9		
ARU				S		SKSac	13 03 39.6		-0.9
ARU				SS		SS	13 10 18.0		+0.5
ARU				pmax		pmax			
	comp=Z,34nm,1.0s								
EPYK	**Eagle Plains**	91.93	23	P		P	12 53 07.0		-1.0
	baz=259,SNR=10								
T33K	**Petersburg**	92.11	33	P		P	12 53 08.5		-0.4
	baz=262								
P32M	**Atlin**	92.11	30	P		P	12 53 08.2		-0.8
	baz=261,SNR=5.2								
M31M	**Drury Creek, Y**	92.19	28	P		P	12 53 08.0		-1.3
	baz=261								
G30M	**tAoh Zraii Nji**	92.24	23	P		P	12 53 07.5		-1.9
	baz=259								
WRAK	**Wrangell Islan**	92.39	34	P		P	12 53 08.6		-1.6
	baz=262								
F30M	**Barrier River**	92.52	22	P		P	12 53 09.5		-1.2
	baz=260								
P33M	**Teslin, Yukon**	92.65	30	P		P	12 53 10.6		-1.0
	baz=262								
N32M	**Quiet Lake**	92.65	29	P		P	12 53 10.1		-1.4
	baz=262								
V35K	**Ketchikan**	92.66	35	P		P	12 53 10.1		-1.4
	baz=263								
FARO	**Faro, Yukon**	92.68	28	P		P	12 53 10.3		-1.2
	baz=262								
Q32M	**Nakina River**	92.76	31	P		P	12 53 10.7		-1.5
	baz=263								
H31M	**Peel River**	92.78	24	P		P	12 53 10.7		-1.2
	baz=261								
ELIB	**Princess Elisa**	92.80	196	*d* P		P	12 53 12.1		0.0
	comp=Z,4.7nm,0.8s								
G31M	**Satah River**	92.99	23	P		P	12 53 11.5		-1.2
	baz=261								
S34M	**Telegraph Cree**	93.23	32	P		P	12 53 11.9		-2.2
	baz=264								
F31M	**Tsiigehtchic**	93.27	23	P		P	12 53 11.6		-2.5
	baz=262,SNR=8.6								
INK	**Inuvik**	93.47	22	P		P	12 53 13.2		-1.8
	baz=262,SNR=7.3								
INK	**Inuvik**	93.47	22	LR		LR	13 34 39.1		
	comp=Z,295nm,18.2s,baz=189,slow=35								
R33M	**Jennings River**	93.48	31	P		P	12 53 13.8		-1.7
	baz=264								
DLBC	**Dease Lake**	93.86	32	P		P	12 53 15.5		-1.6
	baz=264								
DLBC	**Dease Lake**	93.86	32	LR		LR	13 28 16.4		
	comp=Z,408nm,21.6s,baz=278,slow=31								
BBB	**Beli Bella**	94.41	38	LR		LR	13 27 07.8		
	comp=Z,307nm,21.1s,baz=270,slow=30								
WTLY	**Watson Lake, Y**	94.64	30	P		P	12 53 19.3		-1.4
	baz=266								
TGTN	**Hyland Airport**	95.00	29	P		P	12 53 21.0		-1.3
	baz=266								
TOAD	**Toad River Com**	96.39	32	P		P	12 53 27.5		-1.1
	baz=268								
A36M	**Sachs Harbour**	96.55	18	P		P	12 53 28.8		-0.2
	baz=270								
C36M	**Paulatuk**	96.97	21	P		P	12 53 30.0		-1.0
	baz=271								
KIRV	**Kirov**	97.01	328	*ce*	P	P	12 53 30.4		-0.9
KIRV	**Kirov**	97.01	328	LR		LR	13 38 30.8		
	comp=Z,212nm,20.7s,baz=90,slow=36								
KOTAN	**Kotaneelee Air**	97.01	30	P		P	12 53 30.9		-0.5
	baz=270								
WRGLY	**Wrigley**	97.29	27	P		P	12 53 31.4		-1.1
	baz=271								
FLDN	**Fort Liard**	97.30	30	P		P	12 53 31.4		-1.3
	baz=270								
YBH	**Yreka Blue Hor**	97.56	49	LR		LR	13 30 11.0		
	comp=Z,835nm,21.2s,baz=312,slow=31								
TROLL	**Troll, Antarti**	97.71	192	⇓ P		P	12 53 34.9		+0.3
	comp=Z,172nm,0.8s								
BELG	**Belogornoye**	98.01	322	*i* P		P	12 53 34.9		-1.1
BELG				pmax		pmax			
	comp=Z,5.0nm,0.9s								
SNAA	**Sanae**	99.00	190	LR		LR	13 38 02.2		
	comp=Z,854nm,19.9s,baz=134,slow=35								
VES	**Vestal, Richgr**	100.30	55	P		Pdif	12 53 45.0		-1.7
	baz=270								
ARVC	**Arvin**	100.50	56	P		Pdif	12 53 46.8		-0.8
	baz=270								
OSI	**Osito Audit: C**	100.59	56	P		Pdif	12 53 46.6		-1.5
	baz=270								
CIS	**Catalina Islan**	100.84	57	P		Pd

EGMT	**Eagleton**	106.36	42	P		PKiKP	12 58 24.1	-0.6	
	baz=279								
WUAZ	**Wupatki**	106.58	55	P		PKiKP	12 58 24.9	-0.7	
	baz=274								
BW06	**Boulder Array**	107.25	47	P		PKiKP	12 58 26.1	-0.6	
	baz=278								
TUC	**Tucson**	107.29	58	P		PKiKP	12 58 26.9	0.0	
	baz=274								
W18A	**Petrified Fore**	107.95	55	P		PKiKP	12 58 27.2	-1.0	
	baz=275								
O20A	**White River Ci**	108.58	50	P		PKiKP	12 58 28.4	-0.9	
	baz=278								
MVCO	**Mesa Verde**	108.74	53	P		PKiKP	12 58 28.4	-1.4	
	baz=276								
LAO	**LASA Array**	108.96	43	P		PKiKP	12 58 29.2	-0.4	
	baz=281								
K22A	**Casper**	109.48	47	P		PKiKP	12 58 29.8	-1.0	
	baz=280								
121A	**Cookes Peak, D**	109.80	58	P		PKiKP	12 58 31.1	-0.6	
	baz=275								
DGMT	**Dagmar**	109.92	41	P		PKiKP	12 58 30.9	-0.4	
	baz=284								
N23A	**Red Feather La**	110.20	49	P		PKiKP	12 58 31.0	-1.4	
	baz=280								
Y22D	**IRIS PASSCAL I**	110.36	56	P		PKiKP	12 58 31.4	-1.3	
	baz=276								
Y22F	**Passcal Instru**	110.36	56	P		PKiKP	12 58 31.5	-1.2	
	baz=276								
ISCO	**Idaho Springs**	110.63	50	P		PKiKP	12 58 32.2	-1.1	
	baz=279								
ANMO	**Albuquerque**	110.64	55	P		PKiKP	12 58 32.2	-1.2	
	baz=277								
RSSD	**Black Hills**	110.98	45	P		PKiKP	12 58 32.1	-1.6	
	baz=282								
SDCO	**Great Sand Dun**	111.03	52	P		PKiKP	12 58 31.9	-2.2	
	baz=279								
Q24A	**Divide**	111.12	51	P		PKiKP	12 58 32.1	-2.1	
	baz=279								
MNTX	**Cornudas Mount**	111.91	58	P		PKiKP	12 58 34.2	-1.3	
	baz=276								
T25A	**Trinidad**	111.98	53	P		PKiKP	12 58 33.4	-2.4	
	baz=279								
OGNE	**Ogallala**	113.10	48	P		PKiKP	12 58 36.6	-1.1	
	baz=282								
MSTX	**Muleshoe**	113.79	56	P		PKiKP	12 58 38.5	-0.7	
	baz=279								
SUSD	**Miller**	114.45	44	P		PKPdf	12 58 39.1	-0.9	
	baz=286								
AGMN	**Agassiz Nation**	115.28	39	P		PKPdf	12 58 41.4	-0.1	
	baz=290								
CBKS	**Cedar Bluff**	115.29	50	P		PKiKP	12 58 41.2	-0.6	
	baz=283								
LANS	**Liptovska Anna**	116.06	322	*e*PKiKP		PKPdf	12 58 43.5	+0.5	
LANS	**Liptovska Anna**	116.06	322	*e*PKP		PKPdf	12 58 43.5	+0.5	
DRIO	**Del Rio**	116.27	60	PKPdf		PKPdf	12 58 42.4	-1.5	
ABTX	**Abilene, Hawle**	116.60	57	P		PKPdf	12 58 44.1	-0.5	
	baz=280								
VYHS	**Vyhne**	116.69	322	*e*PKiKP		PKiKP	12 58 44.9	+0.7	
VYHS	**Vyhne**	116.69	322	*e*PKP		PKiKP	12 58 44.9	+0.7	
JCT	**Junction City**	116.82	59	P		PKPdf	12 58 44.2	-0.9	
	baz=279								
WMOK	**Wichita Mounta**	116.91	54	P		PKPdf	12 58 44.8	-0.3	
	baz=282								
MORC	**Moravsky Berou**	116.97	324	*e*PKP		PKPdf	12 58 44.8	+0.1	
JAVC	**Velka Javorina**	117.26	323	*e*PKP		PKiKP	12 58 47.1	+1.7	
DPC	**Dobruska-Polom**	117.44	324	*e*PKPDF		PKiKP	12 58 48.0	+2.4	
833A	**Chaparral WMA,**	117.49	61	P		PKPdf	12 58 45.6	-0.8	
	baz=278								
KSU1	**Kansas State U**	117.58	49	P		PKPdf	12 58 46.0	-0.2	
	baz=285								
MODS	**Modra-Piesok**	117.70	322	*e*PKiKP		PKiKP	12 58 47.6	+1.4	
MODS	**Modra-Piesok**	117.70	322	*e*PKP		PKiKP	12 58 47.6	+1.4	
VRAC	**Vranov**	117.72	323	*e*PKP		PKiKP	12 58 46.8	+0.6	
KRUC	**Moravsky**	117.94	323	*e*PKP		PKiKP	12 58 47.1	+0.5	
EYMN	**Ely**	118.12	38	P		PKPdf	12 58 46.6	-0.4	
	baz=294								
SPMN	**Marine on St.**	118.34	41	P		PKPdf	12 58 46.9	-0.6	
	baz=292								
WHTX	**Lake Whitney,**	118.53	57	P		PKPdf	12 58 47.8	-0.5	
	baz=281								
RONA	**Rosalia, Austr**	118.57	322	*e*PKiKP		PKPdf	12 58 47.9	0.0	
	comp=Z,2.7nm,0.8s								
435B	**Jarrell**	118.65	58	P		PKPdf	12 58 48.2	-0.3	
	baz=280								
CONA	**Conrad Observa**	118.74	322	*e*PKP		PKPdf	12 58 46.8	-1.5	
	comp=Z,4.2nm,1.6s								
TUL3	**Leonard**	119.03	52	P		PKPdf	12 58 48.5	-0.6	
	baz=284								
ZVC	**Zvikov**	119.08	324	*e*PKPDF		PKiKP	12 58 51.1	+2.3	
SCIA	**State Center**	119.22	45	P		PKPdf	12 58 48.3	-0.9	
	baz=290								
CKRC	**Cesky Krumlov**	119.29	324	*e*PKPDF		PKPdf	12 58 47.4	-1.8	
KHC	**Kasperske Hory**	119.58	324	*e*PKPDF		PKPdf	12 58 47.6	-2.2	
GERES	**GERESS Array B**	119.64	324	PKP		PKPdf	12 58 50.2	+0.2	
	comp=Z,1.5nm,0.7s,baz=42,slow=4.2,SNR=8.0								
SOKA	**Soboth**	119.78	321	*e*PKP		PKPdf	12 58 49.6	-0.7	
	comp=Z,4.0nm,1.1s								
U38A	**Gravette**	119.99	51	PKPdf		PKPdf	12 58 48.9	-2.1	
OBKA	**Obir**	120.16	321	*e*PKP		PKPdf	12 58 48.1	-2.9	
	comp=Z,9.2nm,1.6s								
BIOA	**Bad Ischl, Aus**	120.20	323	*e*PKiKP		PKiKP	12 58 51.3	+0.2	
	comp=Z,3.8nm,1.1s								
S39A	**Bolivar**	120.46	50	PKPdf		PKPdf	12 58 50.1	-1.7	
KBA	**Koelnbreinsper**	120.65	322	*e*PKP		PKPdf	12 58 51.0	-1.1	
	comp=Z,5.2nm,1.4s								
MYKA	**Terra Mystica**	120.67	322	*e*PKP		PKPdf	12 58 49.3	-2.7	
	comp=Z,4.4nm,1.1s								
NATX	**Nacogdoches**	120.91	57	P		PKiKP	12 58 53.0	+0.1	
	baz=283								
JFWS	**Jewell Farm**	120.91	43	P		PKPdf	12 58 52.4	-0.1	
	baz=292								
MIAR	**Mount Ida**	121.13	53	P		PKiKP	12 58 53.4	+0.1	
	baz=285								
ABTA	**Abfaltersbach**	121.31	322	*e*PKP		PKPdf	12 58 52.7	-0.5	
	comp=Z,8.5nm,1.1s								
STAL	**STALIGIAL**	121.41	321	PKPdf		PKPdf	12 58 52.8	-0.6	
MGMO	**Mountain Grove**	121.42	50			PKPdf	12 58 51.8	-1.8	
CIMO	**Cimolais**	121.55	322	PKPdf		PKPdf	12 58 53.1	-0.5	
WTTA	**Wattenberg**	121.60	323	*e*PKP		PKPdf	12 58 51.1	-2.8	
	comp=Z,10nm,1.2s								
WATA	**Walderalm**	121.60	323	*e*PKP		PKPdf	12 58 52.4	-1.5	
	comp=Z,4.8nm,0.8s								
SQTA	**Sankt Quirin**	121.88	323	*e*PKiKP		PKPdf	12 58 54.5	+0.2	
	comp=Z,5.5nm,1.1s								
MOTA	**Moosalm**	121.88	323	*i* PKP		PKPdf	12 58 53.2	-1.2	
	comp=Z,6.9nm,1.2s								
CCM	**Cathedral Cave**	121.91	49	PKPdf		PKPdf	12 58 52.8	-1.8	
CCM	**Cathedral Cave**	121.91	49	PKiKP		PKPdf	12 58 52.8	-1.8	
CCM	**Cathedral Cave**	121.91	49	P		PKiKP	12 58 54.5	-0.2	
	baz=289								
RETA	**Reutte**	122.01	323	*e*PKP		PKPdf	12 58 54.0	-0.5	
	comp=Z,6.7nm,1.4s								
FETA	**Feichten**	122.26	323	*e*PKiKP		PKPdf	12 58 54.9	-0.3	
	comp=Z,3.8nm,1.0s								
HDIL	**Hopedale**	122.46	45	P		PKiKP	12 58 55.7	0.0	
	baz=292								
FVM	**French Village**	122.54	49	PKPdf		PKPdf	12 58 54.5	-1.3	
FVM	**French Village**	122.54	49	PKiKP		PKPdf	12 58 54.5	-1.3	
DAVA	**Damuels**	122.63	324	*e*PKP		PKPdf	12 58 53.4	-2.4	
	comp=Z,6.9nm,1.4s								
L44A	**Lake County Fo**	122.79	43	P		PKiKP	12 58 56.6	+0.3	
	baz=294								
GLMI	**Grayling**	123.77	39	P		PKiKP	12 58 58.5	+0.3	
	baz=299								
EKA	**Eskdalemuir Ar**	123.98	337	PKP		PKPdf	12 58 57.9	-0.1	
	comp=Z,1.1nm,0.8s,baz=45,slow=2.1,SNR=1.3								
SFIN	**Lafayette**	124.08	45	P		PKiKP	12 58 59.1	+0.2	
	baz=294								
PLCA	**Paso Flores**	124.16	150	PKP		PKiKP	12 58 59.9	+0.6	
	comp=Z,1.4nm,0.8s,baz=146,slow=3.4,SNR=2.8								
VBMS	**Vicksburg**	124.21	55	P		PKPdf	12 58 58.8	-0.3	
	baz=286								
OXF	**Oxford**	124.43	52	P		PKPdf	12 58 58.7	-0.8	
	baz=288								
BLO	**Bloomington**	124.96	46			PKPdf	12 58 59.5	-0.9	
BLO	**Bloomington**	124.96	46	PKiKP		PKPdf	12 58 59.5	-0.9	
WVT	**Waverly**	125.12	50	P		PKPdf	12 59 00.1	-0.7	
	baz=290								
T47A	**Sharon Grove**	125.36	49	PKPdf		PKPdf	12 58 59.4	-1.8	
O48B	**Farmland**	125.48	44	P		PKPdf	12 59 01.1	-0.3	
	baz=295								
WCI	**Wyandotte Cave**	125.50	47	P		PKPdf	12 59 01.4	0.0	
	baz=293								
AAM	**Ann Arbor**	125.58	41	P		PKPdf	12 59 01.3	-0.1	
	baz=298								
N49A	**Columbus Grove**	125.86	43			PKPdf	12 59 01.3	-0.7	
O49A	**Covington**	126.07	44			PKPdf	12 59 01.8	-0.7	
SCHQ	**Schefferville**	126.08	21	PKP		PKPdf	12 59 01.9	-0.1	
	comp=Z,5.2nm,0.9s,baz=12,slow=3.0,SNR=5.6								
P49A	**Miami Univ. Ec**	126.09	45	P		PKPdf	12 59 02.3	-0.2	
	baz=295								
CLTN	**Cedars of Leba**	126.27	49	PKPdf		PKPdf	12 59 02.4	-0.5	
LRAL	**Lakeview Retre**	126.81	53	P		PKPdf	12 59 03.3	-0.8	
	baz=289								
ACSO	**Alum Creek Sta**	126.98	43			PKPdf	12 59 04.2	0.0	
ACSO	**Alum Creek Sta**	126.98	43	P		PKiKP	12 59 04.4	-0.4	
	baz=297								
BRAL	**Brewton**	127.34	55	P		PKPdf	12 59 05.0	-0.2	
	baz=288								
P52A	**Corning**	127.84	44			PKPdf	12 59 05.2	-0.6	
P52A	**Corning**	127.84	44	P		PKPdf	12 59 04.8	-1.0	
	baz=298								
M53A	**WI Miller and**	127.94	41	P		PKPdf	12 59 05.7	-0.3	
	baz=300								
ERPA	**Erie**	128.04	40	P		PKPdf	12 59 05.4	-0.7	
	baz=301								
O53A	**New Philadelph**	128.17	42	P		PKPdf	12 59 05.8	-0.7	
	baz=299								
TZTN	**Tazewell**	128.17	48	P		PKPdf	12 59 05.7	-0.9	
	baz=294								
TKL	**Tuckaleechee C**	128.36	49	PKPdf		PKPdf	12 59 06.7	-0.3	
TKL	**Tuckaleechee C**	128.36	49	PKiKP		PKPdf	12 59 06.7	-0.3	
W52A	**Murphy**	128.46	50			PKPdf	12 59 07.0	-0.2	
MCWV	**Mont Chateau**	129.38	42	P		PKPdf	12 59 08.0	-0.8	
	baz=300								
GOGA	**Godfrey**	129.45	51	P		PKPdf	12 59 07.9	-1.2	
	baz=292								
LONY	**Lake Ozonia**	129.85	34	P		PKPdf	12 59 08.7	-0.9	
	baz=308								
BLA	**Blacksburg**	130.14	46	P		PKPdf	12 59 09.1	-1.3	
	baz=297								
SSPA	**Standing Stone**	130.16	40	P		PKPdf	12 59 09.0	-1.3	
	baz=302								
KMSC	**Kings Mountain**	130.39	48	P		PKPdf	12 59 09.6	-1.3	
	baz=295								
BINY	**Binghamton**	130.48	38	P		PKPdf	12 59 09.8	-1.1	
	baz=305								
CBN	**Corbin Frederi**	131.77	43	P		PKPdf	12 59 12.3	-1.0	
	baz=301								
NHSC	**New Hope**	132.10	50	P		PKPdf	12 59 12.7	-1.5	
	baz=294								
PKME	**Peaks-Kenny Pk**	132.24	30	P		PKPdf	12 59 13.4	-0.6	
	baz=315								
L61B	**Northampton**	132.29	35	P		PKPdf	12 59 13.5	-0.7	
	baz=309								
PAL	**Palisades**	132.45	38	P		PKPdf	12 59 13.5	-1.1	
	baz=307								
CNNC	**Cliffs of the**	132.87	47	P		PKPdf	12 59 14.4	-1.1	
	baz=298								
HRV	**Adam Dziewonsk**	132.89	35	P		PKPdf	12 59 14.9	-0.5	
	baz=310								
DWPF	**Disney Wildern**	132.94	57	P		PKPdf	12 59 14.6	-1.2	
	baz=289								
M65A	**Busby, Falmout**	134.02	35	P		PKPdf	12 59 16.5	-1.0	
	baz=311								
MCRA	**Macar, Loja**	136.14	103	PKPdf		PKPdf	12 59 21.0	-1.3	
ATAH	**Atahualpa**	136.91	107	PKP		PKPdf	12 59 24.9	+0.7	
	comp=Z,10nm,0.8s,baz=332,slow=3.1,SNR=6.5								
OTAV	**Otavalo**	138.52	97	*e*P		PKPdf	12 59 26.3	-1.0	
CPSB	**Cacapava Do Su**	140.40	158	*e*P		PKiKP	12 59 33.0	+0.8	
TORD	**Torodi Ar. Bea**	140.98	283	PKhKP		PKPpre	12 59 25.4		
	comp=Z,3.0nm,0.8s,baz=72,slow=4.5,SNR=14								
CZSB	**Cruzeiro do Su**	142.06	111	PKPdf		PKPdf	12 59 28.5	-4.6	
LPAZ	**La Paz**	142.16	127			PKPdf	12 59 30.8	-3.1	
LPAZ	**La Paz**	142.16	127	PKiKP		PKPdf	12 59 30.8	-3.1	
CPUP	**Villa Florida**	142.23	150	PKPdf		PKPdf	12 59 32.0	-1.0	
CPUP	**Villa Florida**	142.23	150	PKiKP		PKPdf	12 59 32.0	-1.0	
CPUP	**Villa Florida**	142.23	150	PKhKP		PKPpre	12 59 28.9		
	comp=Z,2.7nm,0.9s,baz=356,slow=7.4,SNR=4.3								
ROSC	**El Rosal**	143.15	90	PKPdf		PKPbc	12 59 32.5	+0.2	
ROSC	**El Rosal**	143.15	90	PKP		PKPbc	12 59 33.3	+0.9	
	comp=Z,24nm,0.9s,baz=338,slow=1.3,SNR=8.4								
FRBT	**Francisco Belt**	144.49	155	*e*P		PKPdf	12 59 37.9	+0.7	
SDDR	**Presa de Saban**	144.60	66	PKPdf		PKPab	12 59 35.3	-0.7	
TBTG	**Tabatinga, AM**	145.84	107	*e*P		PKPbc	12 59 40.1	-0.1	
PTGB	**Pitanga**	146.02	156	*e*P		PKPbc	12 59 41.1	+0.6	
ANTJ	**Antonio Joao (**	146.47	147	*e*P		PKPbc	12 59 41.9	-0.1	
SDV	**Santo Domingo**	146.88	83	PKPab		PKPdf	12 59 42.4	+0.8	
SDV	**Santo Domingo**	146.88	83	*e*P		PKPbc	12 59 43.1	-0.4	
BBRB	**Robore, Bolivi**	147.03	138	*e*P		PKPbc	12 59 44.0	+0.4	
ETMB	**Extrema**	147.08	119			PKPdf	12 59 41.8	0.0	
ETMB	**Extrema**	147.08	119	*e*P		PKPdf	12 59 42.9	+1.1	
BBSD	**Serra de San D**	147.25	136	*e*P		PKPdf	12 59 43.1	+1.2	
BDQN	**Bodoquena, MS**	147.30	145	*e*P		PKPbc	12 59 44.3	0.0	
TRCB	**Terra Rica**	147.46	153			PKPdf	12 59 43.6	+1.4	
LDASE	**Londrina, Braz**	147.59	156	*e*P		PKPbc	12 59 45.5	+0.4	
KIC	**Kosan Boka**	147.63	272	/*i*PKP1		PKPbc	12 59 46.1	+0.7	
	comp=Z,56nm,0.8s								
SIV	**San Ignacio**	147.72	133	PKPbc		PKPdf	12 59 44.2	+1.4	
	comp=Z,22nm,1.1s,baz=227,slow=2.8,SNR=26								
DBIC	**Dimbokro**	147.75	273	PKPbc		PKPbc	12 59 46.2	+0.5	
	comp=Z,50nm,1.1s,baz=101,slow=3.8,SNR=35								
AQDB	**Aquidauana**	147.87	146			PKPdf	12 59 43.9	+1.0	
AQDB	**Aquidauana**	147.87	146	*e*P		PKPdf	12 59 44.6	+1.7	
LIC	**Lamto**	147.91	272	/*i*PKP1		PKPbc	12 59 46.9	+0.8	
	comp=Z,179nm,0.8s								
TIC	**Toumodi**	147.91	273	/*i*PKP1		PKPbc	12 59 46.8	+0.6	
	comp=Z,10nm,0.2s								
PET01	**Itanhaem-SP**	148.12	163	*e*P		PKPbc	12 59 46.1	-0.2	
FRTB	**Fartura**	148.24	158	*e*P		PKPbc	12 59 46.3	-0.4	
CRPR	**Cabo Rojo, PR**	148.68	65			PKPdf	12 59 45.6	+1.4	
SPB	**Sao Paulo**	148.73	162			PKPdf	12 59 44.9	+0.6	
SPB	**Sao Paulo**	148.73	162	*e*P		PKPdf	12 59 45.7	+1.5	
MLPR	**Magueyes Islan**	148.75	65			PKPdf	12 59 45.5	+1.1	
PCMB	**Pacaembu**	149.11	154	*e*P		PKPdf	12 59 46.7	+1.8	
VAO	**Vao**	149.42	162	*e*P		PKPdf	12 59 47.5	+2.0	
PTLB	**Pontes e Lacer**	149.46	135	*e*P		PKPdf	12 59 46.5	+1.0	
PARB	**Paraibuna**	149.48	165	*e*P		PKPbc	12 59 48.3	-1.7	
RCLB	**Rio Claro- Sao**	149.79	161	*e*P		PKPbc	12 59 49.1	-1.7	
SAML	**Samuel**	150.11	120	*e*P		PKPdf	12 59 48.9	+2.2	
VILB	**Vilhena**	150.31	130	*e*P		PKPdf	12 59 49.8	+2.8	
TEFE	**Tefe**	151.05	109	*e*P		PKPdf	12 59 48.6	+0.4	
ITRB	**Iturama**	151.18	154	*e*P		PKPdf	12 59 50.4	+2.2	
DUB01	**Friburgo-RJ**	151.40	170	*e*P		PKPdf	12 59 51.6	+3.0	
SALV	**Santo Antonio**	151.43	141	*e*P		PKPdf	12 59 51.3	+2.7	
CAM01	**Campos-RJ**	151.76	171	*e*P		PKPdf	12 59 51.6	+2.6	
IPMB	**Ipameri, GO**	153.62	156	*e*P		PKPdf	12 59 52.8	+0.9	
PDRB	**Porto dos Gac**	153.76	133	*e*P		PKPdf	12 59 54.4	+2.2	
BDFB	**Brasilia**	155.79	154	PKP		PKPdf	12 59 53.3	-1.7	
	comp=Z,2.4nm,0.8s,baz=109,slow=8.8,SNR=3.1								
BDFB				PKPab		PKPab	13 00 22.0	+0.7	
	comp=Z,6.0nm,0.8s,baz=183,slow=6.5,SNR=7.4								
BOAV	**Boa Vista**	156.55	98	*e*P		PKPdf	12 59 57.7	+1.7	
NPGB	**Novo Progresso**	157.67	126	*e*P		PKPdf	12 59 59.5	+2.1	
ITTB	**Itaituba**	158.79	119	*e*P		PKPdf	13 00 00.5	+1.7	

IDC 04 12:52:06.8±1.3, 0°25N×123°25E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=98.0km s-min=21.4km az=61.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	22.82	152	P	P		12 57 11.5	-0.1
	0.7nm,0.6s,baz=326,slow=11,SNR=5.5							
	0.7nm,0.6s							
ASAR	**Alice Springs**	25.93	157	P	P		12 57 41.0	0.0
	0.6nm,0.9s,baz=337,slow=9.1,SNR=1.4							
	0.6nm,0.9s							
CMAR	**Chiang Mai Arr**	29.96	309	P	P		12 58 18.3	+1.2
	0.7nm,0.3s,baz=131,slow=6.8,SNR=2.0							
	0.7nm,0.3s							
SONM	**Songino Array**	49.61	345	P	P		13 01 00.1	0.0
	0.3nm,0.5s,baz=155,slow=5.9,SNR=2.7							
	0.3nm,0.5s							
MKAR	**Makanchi Array**	58.53	328	P	P		13 02 04.5	-0.7
	0.5nm,0.6s,baz=120,slow=8.3,SNR=7.9							
	0.5nm,0.6s							

*SJA **04** 12:59:48.5±0.7, 31°18S×68°39W, h106km±3km, ML3.5, MW3.5*

ISC 04 12:59:49.8±1.3, 31°18S±0°03×68°39W±0°03, h103km±9km, n40, σ0°89/60, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	0.17	207	*e*P	P		13 00 04.0	-0.5
RTLL				IAML			13 00 16.8	
	comp=Z,845nm,0.4s							
SJA	**San Juan**	0.38	203	*e*P	Pn		13 00 05.0	-0.3
SJA				IAML			13 00 19.8	

	comp=Z,535nm,0.4s								
DOCA	**Reserva Natura**	0.64	291	*e*P		Pn	13 00 06.9	-0.6	
DOCA				*e*S		Sn	13 00 20.8	+0.1	
DOCA				IAML			13 00 21.6		
	comp=Z,3μm,0.7s								
ACCO	**Cerro Coronel**	0.83	315	*e*P		Pn	13 00 09.0	-0.2	
ACCO				IAML			13 00 25.3		
	comp=Z,739nm,1.1s								
AVFE	**Valle Fertil**	0.95	57	*e*P		Pn	13 00 10.0	-0.1	
AVFE				*e*S		Sn	13 00 25.8	+0.4	
AVFE				IAML			13 00 26.4		
	comp=Z,615nm,0.4s								
RTLS	**Leoncito**	0.99	231	*e*P		Pn	13 00 10.8	0.0	
RTLS				*e*S		Sn	13 00 24.4	-2.1	
RTLS				IAML			13 00 28.9		
	comp=Z,1μm,0.3s								
ACDV	**Cuesta del Vie**	1.19	328	*e*P		Pn	13 00 12.6	-0.2	
ACDV				*e*S		Sn	13 00 30.9	+0.8	
ACDV				IAML			13 00 31.2		
	comp=Z,632nm,0.3s								
AROD	**Rodeo**	1.38	317	*e*P		Pn	13 00 15.1	-0.1	
AROD				*e*S		Sn	13 00 34.9	+0.7	
ASAL	**Salagasta**	1.46	195	*e*P		Pn	13 00 15.7	-0.1	
ASAL				*e*S		Sn	13 00 36.9	+1.4	
ASAL				IAML			13 00 37.4		
	comp=Z,261nm,0.7s								
ACHE	**Chepes**	1.48	90	*e*P		Pn	13 00 16.1	0.0	
ARCO	**CERRO ARCO**	1.72	196	*e*P		Pn	13 00 19.2	0.0	
ARCO				*e*S		Sn	13 00 42.6	+1.1	
ARCO				IAML			13 00 43.3		
	comp=Z,246nm,0.8s								
APLL	**PUNTA DE LOS L**	1.78	64	*e*P		Pn	13 00 19.7	-0.2	
CO01	**Juntas del Tor**	1.90	309	*e*P		Pn	13 00 21.9	+0.4	
CO01				*e*S		Sn	13 00 47.0	+1.3	
CO01				IAML			13 00 47.5		
	comp=Z,224nm,0.3s								
CO01	**Juntas del Tor**	1.90	309	*e*P		Pn	13 00 22.1	+0.6	
CO01				*e*S		Sn	13 00 46.3	+0.6	
CO01				IAML			13 00 47.9		
	comp=N,535nm,0.3s								
AAGR	**Agrelo**	1.94	191	*e*P		Pn	13 00 21.9	+0.1	
AAGR				*e*S		Sn	13 00 46.5	+0.3	
AAGR				IAML			13 00 48.1		
	comp=Z,194nm,0.6s								
CO03	**El Pedregal**	2.01	279	*e*P		Pn	13 00 22.4	-0.3	
CO03				*e*S		Sn	13 00 49.2	+1.4	
CO03				IAML			13 00 51.2		
	comp=Z,243nm,0.5s								
CO03	**El Pedregal**	2.01	279	*e*P		Pn	13 00 22.8	+0.1	
CO03				*e*S		Sn	13 00 47.8	0.0	
CO03				IAML			13 00 50.1		
	comp=N,483nm,0.2s								
ACLC	**CERRO LA CRUZ**	2.15	36	*e*P		Pn	13 00 24.2	-0.4	
ACLC				IAML			13 00 55.5		
	comp=Z,151nm,0.5s								
CO02	**Combarbal**	2.24	269	*e*P		Pn	13 00 25.6	-0.1	
CO02				*e*S		Sn	13 00 53.5	+0.3	
CO02				IAML			13 00 55.4		
	comp=Z,296nm,0.3s								
CO02	**Combarbal**	2.24	269	*e*P		Pn	13 00 25.1	-0.6	
CO02				*e*S	

0.3nm,0.7s,baz=147,slow=6.0,SNR=2.3
0.3nm,0.7s
MKAR Makanchi Array 74.22 321 P P 13 33 51.9 +0.2
0.2nm,0.6s,baz=85,slow=5.5,SNR=2.7
0.2nm,0.6s
KURBB Kurchatov Arra 77.97 323 P P 13 34 13.5 +0.6
0.1nm,0.5s,baz=104,slow=4.9,SNR=1.9
0.1nm,0.5s
BVAR Borovoye Array 83.52 324 P P 13 34 42.8 +0.2
1.0nm,0.7s,baz=101,slow=6.5,SNR=5.8
1.0nm,0.7s
ILAR Eielson Array 84.20 24 P P 13 34 45.4 -0.4
0.3nm,0.7s,baz=231,slow=4.3,SNR=1.8
0.3nm,0.7s
QSPA South Pole Qui 86.34 180 P P 13 34 55.6 -1.1
0.7nm,0.7s,baz=130,slow=16,SNR=1.4
0.7nm,0.7s

JMA 04 13:24:37.1±0.1, 24°2.N±0.3×123°8.E±0.3, h17km±1km, MV0.6/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.14**	**317**	P	Pg	13 24 41.0	0.0
IRIF				S	Sb	13 24 43.9	-0.1
JKRS	**Kuro-shima**	**0.16**	**89**	P	Pg	13 24 41.3	-0.1
JKRS				S	Sb	13 24 44.7	-0.1
HATJ	**Hateruma jima**	**0.18**	**188**	P	Pg	13 24 41.5	-0.1
HATJ				*e*S	Sg	13 24 44.8	+0.2
JIJ	**Ishigaki jima**	**0.31**	**66**	P	Pg	13 24 43.8	0.0
JIJ				S	Sg	13 24 48.0	-0.3
JISG	**Ishigakijimahi**	**0.56**	**51**	P	Pg	13 24 48.1	-0.2
JISG				*e*S	Sb	13 24 56.2	0.0

TAP 04 13:24:58.1, 24°50N×121°89E, h11km, ML1.6, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESAO	**Su ao** baz=328	**0.09**	**327**	*e*P	Pg	13 25 00.7	0.0
ESAO	baz=328			*e*S	Sg	13 25 02.8	+0.2
TWC	**Suao** baz=343	**0.11**	**339**	*i* P	Pg	13 25 01.0	0.0
TWC	baz=343			S	Sg	13 25 03.1	0.0
ENA	**Nanau** baz=239	**0.16**	**242**	*i* P	Pg	13 25 01.9	+0.2
ENA	baz=239			*e*S	Sg	13 25 04.9	+0.7
NDS	**Dongshan** baz=304	**0.21**	**309**	*e*S	Sg	13 25 06.7	+1.1
EAHA	**Aohua** baz=218	**0.22**	**219**	*e*P	Pg	13 25 02.8	0.0
EAHA	baz=218			S	Sg	13 25 06.5	+0.5
TWE	**Neicheng** baz=318	**0.30**	**316**	S	Sg	13 25 09.3	+1.0
EOS2	**EOS2** baz=111	**0.32**	**105**	*i* P	Pg	13 25 03.4	-1.0
EOS2	baz=111			*i* S	Sg	13 25 08.0	-0.7
ENTT	**Nioudou** baz=295	**0.33**	**294**	P	Pb	13 25 05.4	-0.6
ENTT	baz=295			S	Sb	13 25 10.3	-0.9
LATG	**Datong** baz=283	**0.34**	**275**	P	Pg	13 25 05.4	+0.5
EGS	baz=8.0	**0.34**	**6**	*e*P	Pg	13 25 04.6	-0.3
NDT	**Datong Townshi** baz=286	**0.36**	**286**	*e*P	Pb	13 25 06.2	-0.3
NDT	baz=286			*e*S	Sb	13 25 11.9	-0.2
FUSB	**Fushanzhiwuyua** baz=312	**0.38**	**312**	*e*P	Pb	13 25 06.3	-0.5
NACB	**Ninganchiao** baz=219	**0.43**	**220**	*e*S	Sg	13 25 12.7	+0.5
EOS3	**EOS3** baz=124	**0.44**	**119**	*e*P	Pg	13 25 05.7	-1.0
EOS3	baz=124			*e*S	Sg	13 25 11.6	-1.0
NWLT	**Wulai** baz=299	**0.45**	**307**	S	Sg	13 25 13.6	+0.7
TIPB	**Shuangxi** baz=359	**0.47**	**352**	*e*P	Pg	13 25 07.3	0.0
NNSB	**Datong** baz=260	**0.47**	**261**	*e*P	Pg	13 25 07.5	+0.1
ETLH	**Xiulin Townshi** baz=231	**0.48**	**232**	*e*P	Pg	13 25 07.5	0.0
NNS	**Nan Shan** baz=262	**0.48**	**262**	*e*S	Sb	13 25 15.6	-0.1

JMA 04 13:25:09.0±0.2, 24°2.N±0.5×123°8.E±0.5, h17km±1km, MV0.8/8, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.15**	**326**	P	Pg	13 25 13.1	0.0
HATJ	**Hateruma jima**	**0.15**	**186**	*i* P	Pg	13 25 13.1	-0.1
JKRS	**Kuro-shima**	**0.17**	**81**	P	Pg	13 25 13.5	0.0
JKRS				*e*S	Sb	13 25 16.8	-0.1
JIJ	**Ishigaki jima**	**0.33**	**62**	P	Pg	13 25 15.7	-0.3
JIJ				*e*S	Sg	13 25 20.4	-0.3
JISG	**Ishigakijimahi**	**0.58**	**50**	P	Pg	13 25 20.4	-0.1
JISG				*e*S	Sb	13 25 28.6	-0.1
JTJ	**Tarama**	**0.91**	**62**	*e*P	Pb	13 25 26.3	0.0

TAP 04 13:25:35.4, 24°49N×121°80E, h5km±2km, ML1.2, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta** baz=204	**0.04**	**205**	*i* P	Pg	13 25 37.2	+0.6
EWUT	baz=204			*i* S	Sg	13 25 38.4	+0.9
ENA	**Nanau** baz=217	**0.08**	**222**	*i* P	Pg	13 25 37.8	+0.6
ENA	baz=217			*i* S	Sg	13 25 39.2	+0.8
TWC	**Suao** baz=24	**0.13**	**20**	P	Pg	13 25 38.7	+0.6
ENTT	**Nioudou** baz=306	**0.26**	**306**	P	Pb	13 25 42.0	-0.6
ENTT	baz=306			S	Sb	13 25 45.9	-1.6
NDT	**Datong Townshi** baz=294	**0.28**	**294**	*e*S	Sb	13 25 47.2	-1.0

*IDC **04** 13:26:34.5±1.4, 9°.61N×56°.91E, h0km, mb3.7/9, mbtmp3.7/9, Error ellipse: s-maj=37.3km s-min=25.6km az=37.0*

ISC 04 13:26:36.5±1.6, 9°.6N±0°.3×56°.9E±0°.2, h12km, n9, σ0°.43/9, mb3.7/9, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 1.3nm,0.9s,baz=264,slow=10,SNR=9.5 1.3nm,0.9s	**41.61**	**73**	P	**P**	**13 34 25.4**	**+0.6**
MKAR	**Makanchi Array** 1.0nm,0.7s,baz=214,slow=8.6,SNR=13 1.0nm,0.7s	**42.86**	**26**	P	**P**	**13 34 34.4**	**-0.2**
KURBB	**Kurchatov Arra** 0.2nm,0.6s,baz=218,slow=8.4,SNR=2.9 0.2nm,0.6s	**44.59**	**20**	P	**P**	**13 34 48.9**	**+0.5**
ZALV	**Zalesovo Beam** 1.0nm,0.6s,baz=214,slow=8.4,SNR=6.0 1.0nm,0.6s	**49.51**	**21**	P	**P**	**13 35 26.6**	**-0.2**
SONM	**Songino Array** 0.3nm,0.6s,baz=246,slow=6.3,SNR=2.4 0.3nm,0.6s	**56.31**	**38**	P	**P**	**13 36 17.0**	**-0.4**
FINES	**FINESS Array B** 0.9nm,0.8s,baz=133,slow=12,SNR=4.5 0.9nm,0.8s	**56.45**	**343**	P	**P**	**13 36 17.6**	**-0.2**
ESDC	**Sonseca Array** 0.9nm,0.7s,baz=87,slow=5.6,SNR=9.1 0.9nm,0.7s	**61.57**	**310**	P	**P**	**13 36 54.3**	**+0.3**
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=287,slow=4.5,SNR=2.2 0.4nm,0.8s	**81.62**	**112**	P	**P**	**13 38 54.8**	**-0.3**
ASAR	**Alice Springs** 0.5nm,0.8s,baz=282,slow=5.4,SNR=7.1 0.5nm,0.8s	**82.11**	**116**	P	**P**	**13 38 57.5**	**-0.2**

*TRN **04** 13:28:40.4, 11°.20N×62°.30W, h123km, MD2.8, North of the Paria peninsula.*

*FUNV **04** 13:28:40.8, 11°.17N×62°.37W, h111km, MW3.3*

ISC 04 13:28:36.8±1.6, 11°.15N±0°.05×62°.40W±0°.05, h142km±12km, n13, σ1°89/25, 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.78**	**125**	*e*P	**Pn**	**13 29 00.6**	**+1.6**
TCE				*e*S	**Sn**	**13 29 15.3**	**-0.5**
CRUV	**Carupano**	**0.94**	**240**	*i* P	**Pn**	**13 29 01.3**	**+1.0**
CRUV				*e*S	**Sn**	**13 29 16.8**	**-1.4**
TRN	**Trinidad (W)**	**1.10**	**117**	*e*P	**Pn**	**13 29 02.8**	**+1.2**
TRN				*e*S	**Sn**	**13 29 18.6**	**-2.0**
GRFF	**Grenada Fort F**	**1.11**	**36**	*e*P	**Pn**	**13 29 02.6**	**+0.9**
GRFF				*e*S	**Sn**	**13 29 19.5**	**-1.4**
GRGR	**Grenville**	**1.23**	**37**	*e*P	**Pn**	**13 29 03.3**	**+0.4**
GRGR				*e*S	**Sn**	**13 29 21.7**	**-1.2**
GRHS	**Sauteurs**	**1.31**	**35**	*e*P	**Pn**	**13 29 04.5**	**+0.8**
GRHS				*e*S	**Sn**	**13 29 22.6**	**-1.7**
TBH	**Brigand Hill**	**1.47**	**116**	*e*P	**Pn**	**13 29 08.0**	**+2.6**
TBH				*e*S	**Sn**	**13 29 26.4**	**-0.9**
GCMP	**Grenada, Carri**	**1.64**	**36**	*e*P	**Pn**	**13 29 08.6**	**+1.3**
GCMP				*e*S	**Sn**	**13 29 29.5**	**-1.2**
PCRV	**Puerto La Cruz**	**2.40**	**247**	*e*P	**Pn**	**13 29 18.5**	**+2.2**
PCRV				*e*S	**Sn**	**13 29 46.0**	**-0.6**
MERV	**Las Mercedes**	**4.27**	**244**	*e*P	**Pn**	**13 29 43.2**	**+2.8**
MERV				*e*S	**Sn**	**13 30 29.6**	**-0.2**
LUEV	**Luepa**	**5.35**	**170**	*e*P	**Pn**	**13 29 56.2**	**+1.3**
LUEV				*e*S	**Sn**	**13 30 53.6**	**-2.3**
CACV	**CAICARA DEL OR**	**5.41**	**229**	*e*P	**Pn**	**13 29 53.2**	**-2.4**
CACV				*e*S	Sn	13 30 47.3	-10
BAUV	**El Baul**	**5.97**	**249**	*e*P	**Pn**	**13 30 05.8**	**+2.8**
BAUV				*e*S	**Sn**	**13 31 06.9**	**-3.5**

*NEIC **04** 13:34:24.2±1.3, 55°.85N±0°.05×158°.10W±0°.07, h51km±7km, Error ellipse: s-maj=7.3km s-min=5.6km az=158.0*

*IDC **04** 13:34:24.1±3.5, 56°.08N×158°.28W, h51km±28km, mb3.6/18, mbtmp3.9/22, ML4.0/4, Error ellipse: s-maj=26.1km s-min=15.7km az=15.0*

*AEIC **04** 13:34:25.0±1.4, 55°.83N±0°.04×158°.09W±0°.08, h45km±6km, ML3.9, mb4.3/27(NEIC), ML4.1/46(NEIC), Error ellipse: s-maj=6.7km s-min=5.6km az=137.0*

ISC 04 13:34:24.5±0.8, 55°.91N±0°.06×158°.15W±0°.04, h59km±7km, n363, σ0°82/370, mb4.0/30, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**0.41**	**340**		**Pn**	**13 34 34.7**	**-0.7**
CHGN					**Sn**	**13 34 42.8**	**-0.6**
CHGN	**Chignik** baz=159	**0.41**	**340**	P	**Pn**	**13 34 34.7**	**-0.7**
CHGN	baz=159			S	**Sn**	**13 34 42.9**	**-0.5**
VNSG	**Veniaminof 6**	**0.56**	**293**		**Pn**	**13 34 37.1**	**0.0**
VNKR	**Veniaminof 5**	**0.69**	**280**		**Pn**	**13 34 38.6**	**+0.1**
VNWF	**Veniaminof 8**	**0.83**	**287**		**Pn**	**13 34 40.6**	**+0.4**
VNWF					**Sn**	**13 34 52.9**	**+0.9**
S14K	**Fog Glacier** baz=118	**0.87**	**296**	P	**Pn**	**13 34 41.4**	**+0.6**
S14K	baz=118			S	**Sn**	**13 34 54.0**	**+1.1**
VNFG	**Fog Glacier, M**	**0.87**	**296**		**Pn**	**13 34 41.4**	**+0.6**
VNFG					**Sn**	**13 34 54.0**	**+1.1**
ANPB	**Aniakchak Plen**	**0.89**	**356**		**Pn**	**13 34 41.4**	**+0.3**
ANNW	**Aniakchak Nort**	**1.06**	**358**		**Pn**	**13 34 44.0**	**+0.7**
CHNA	**Chernabura Isl** baz=40	**1.36**	**218**	P	**Pn**	**13 34 46.2**	**-1.0**
CNBA	**Chernabura Isl**	**1.37**	**217**		**Pn**	**13 34 45.9**	**-1.4**
SDPT	**Sand Point**	**1.43**	**248**	Pn	**Pn**	**13 34 47.8**	**-0.3**
SDPT	**Sand Point**	**1.43**	**248**		**Sn**	**13 35 06.4**	**+0.4**
SDPT	**Sand Point** comp=N,1μm,0.6s	**1.43**	**248**	IAML		13 35 10.5	
SDPT	comp=E,2μm,0.6s			IAML		13 35 11.8	
SDPT	**Sand Point**	**1.43**	**248**	P	**Pn**	**13 34 48.2**	**0.0**
SDPT	**Sand Point** baz=69	**1.43**	**248**	P	**Pn**	**13 34 48.0**	**-0.1**
SDPT	baz=69			S	**Sn**	**13 35 06.6**	**+0.6**
R16K	**Pilot Point**	**1.69**	**11**		**Pn**	**13 34 51.8**	**+0.2**
R16K					**Sn**	**13 35 12.7**	**+0.6**
R16K	**Pilot Point** comp=E,2μm,0.4s	**1.69**	**11**	IAML		13 35 14.6	
R16K	comp=N,2μm,0.5s			IAML		13 35 15.2	
R16K	**Pilot Point** baz=190	**1.69**	**11**	P	**Pn**	**13 34 51.8**	**+0.2**
R16K	baz=190			S	**Sn**	**13 35 13.1**	**+0.9**
PLK3	**Peulik 3**	**2.06**	**29**		**Pn**	**13 34 57.8**	**+1.1**
PLK1	**Peulik 1**	**2.08**	**24**		**Pn**	**13 34 57.7**	**+0.8**
PS1A	**Pavlof South-1**	**2.09**	**258**		**Pn**	**13 34 56.8**	**-0.3**
PS1A					**Sn**	**13 35 21.9**	**0.0**
PVV	**Pavlof Volcano**	**2.13**	**257**		**Pn**	**13 34 57.6**	**0.0**
PN7A	**Pavlof North-7**	**2.23**	**259**		**Pn**	**13 34 59.5**	**+0.4**
SII	**Sitkinak Islan**	**2.31**	**72**		**Pn**	**13 34 59.9**	**-0.2**
SII	**Sitkinak Islan** comp=N,2μm,0.7s	**2.31**	**72**	IAML		13 35 47.3	
SII	**Sitkinak Islan** baz=253	**2.31**	**72**	P	**Pn**	**13 34 59.9**	**-0.2**
Q17K	**Contact Creek** baz=207	**2.66**	**27**	P	**Pn**	**13 35 05.5**	**+0.5**
CNTC	**Contact Creek**	**2.66**	**27**		**Pn**	**13 35 05.5**	**+0.5**
ANCK	**Angle Creek**	**2.71**	**31**		**Pn**	**13 35 06.2**	**+0.6**
ACHA	**Angle Creek He**	**2.77**	**33**		**Pn**	**13 35 07.3**	**+0.8**
KCE	**Katmai Mt Cerb**	**2.84**	**34**		**Pn**	**13 35 08.6**	**+1.2**
KELA	**Mount Kelaz**	**2.85**	**26**		**Pn**	**13 35 08.3**	**+0.8**
Q16K	**King Salmon**	**2.89**	**16**		**Pn**	**13 35 08.8**	**+0.8**
Q16K	**King Salmon** baz=196	**2.89**	**16**	P	**Pn**	**13 35 08.8**	**+0.8**
KVTA	**Katmai Vly 10**	**2.92**	**31**		**Pn**	**13 35 09.5**	**+1.0**
KAKN	**Katmai Knife C**	**2.92**	**34**		**Pn**	**13 35 09.6**	**+1.0**
OHAK	**Old Harbor**	**3.00**	**62**		**Pn**	**13 35 08.7**	**-0.7**
OHAK	**Old Harbor** baz=244	**3.00**	**62**	P	**Pn**	**13 35 08.7**	**-0.7**
P16K	**Nushagak River**	**3.13**	**2**		**Pn**	**13 35 12.1**	**+0.9**
P16K	**Nushagak River** baz=181	**3.13**	**2**	P	**Pn**	**13 35 12.1**	**+0.9**
FALS	**False Pass**	**3.18**	**253**		**Pn**	**13 35 12.2**	**+0.2**
FALS	**False Pass**	**3.18**	**253**	P	**Pn**	**13 35 12.7**	**+0.7**
FALS	**False Pass** baz=70	**3.18**	**253**	P	**Pn**	**13 35 12.2**	**+0.2**
KAHC	**Katmai Hardscr**	**3.23**	**31**		**Pn**	**13 35 13.4**	**+0.7**
KAHC	**Katmai Hardscr** baz=212	**3.23**	**31**	P	**Pn**	**13 35 13.4**	**+0.7**
ISLZ	**Isanotski Laza**	**3.39**	**252**		**Pn**	**13 35 15.0**	**+0.2**
O15K	**Ungalikthiuk R**	**3.39**	**345**		**Pn**	**13 35 15.3**	**+0.5**
O15K	**Ungalikthiuk R** baz=164	**3.39**	**345**	P	**Pn**	**13 35 15.3**	**+0.5**
P17K	**Kvichak River**	**3.42**	**15**		**Pn**	**13 35 15.9**	**+0.7**
P17K	**Kvichak River** baz=196	**3.42**	**15**	P	**Pn**	**13 35 15.9**	**+0.7**
KDAK	**Kodiak Island**	**3.59**	**56**	Pn	**Pn**	**13 35 17.0**	**-0.5**
KDAK	comp=N,277nm,0.7s			IAML		13 36 18.4	
KDAK	comp=N,382nm,0.7s			IAML		13 36 19.0	
KDAK	**Kodiak Island** comp=N,18nm,0.3s,baz=246,slow=7.3,SNR=201	**3.59**	**56**	P	**Pn**	**13 35 17.0**	**-0.5**
KDAK	comp=N,51nm,0.4s,baz=288,slow=16,SNR=3.9 comp=N,37nm,0.3s			S	**Sn**	**13 35 57.6**	**-0.9**
O16K	**Kokwok River B**	**3.69**	**0**		**Pn**	**13 35 19.2**	**+0.3**
O16K	comp=N,223nm,0.7s			IAML		13 36 15.2	
O16K	**Kokwok River B** baz=180	**3.69**	**0**	P	**Pn**	**13 35 19.2**	**+0.3**
O14K	**Tigyukauivet M**	**3.74**	**335**	Pn	**Pn**	**13 35 20.0**	**+0.4**
O14K	comp=N,325nm,0.9s			IAML		13 36 03.8	
O14K	comp=E,322nm,0.8s			IAML		13 36 04.1	
O14K	**Tigyukauivet M** baz=152	**3.74**	**335**	P	**Pn**	**13 35 20.0**	**+0.4**
P18K	**Big Mountain,** baz=204	**3.83**	**23**	Pn	**Pn**	**13 35 21.2**	**+0.4**
P18K	**Big Mountain,** baz=204	**3.83**	**23**	P	**Pn**	**13 35 21.1**	**+0.3**
O17K	**Koliganek Bris**	**3.91**	**8**		**Pn**	**13 35 22.2**	**+0.2**
O17K	**Koliganek Bris** baz=188	**3.91**	**8**	P	**Pn**	**13 35 22.2**	**+0.2**
WESE	**West Dahl East**	**3.96**	**251**		**Pn**	**13 35 23.2**	**+0.6**
WEBT	**Westdahl Beart**	**4.00**	**253**		**Pn**	**13 35 23.3**	**+0.1**
WECS	**Westdahl Cape**	**4.04**	**253**		**Pn**	**13 35 23.9**	**+0.2**
O18K	**Koktuh Hills**	**4.25**	**20**	Pn	**Pn**	**13 35 27.6**	**+1.0**
O18K	comp=N,150nm,0.9s			IAML		13 36 32.3	
O18K	**Koktuh Hills** baz=202	**4.25**	**20**	P	**Pn**	**13 35 27.6**	**+1.0**
N15K	**Kwethluk River**	**4.39**	**347**		**Pn**	**13 35 29.0**	**+0.5**
N15K	comp=E,238nm,0.4s			IAML		13 36 20.3	
N15K	comp=N,214nm,0.5s			IAML		13 36 20.9	
N15K	**Kwethluk River** baz=165	**4.39**	**347**	P	**Pn**	**13 35 29.3**	**+0.8**
N14K	**Kuskokwak Cree**	**4.44**	**336**		**Pn**	**13 35 29.8**	**+0.7**
N14K	**Kuskokwak Cree** baz=153	**4.44**	**336**	P	**Pn**	**13 35 29.8**	**+0.7**
N16K	**Nishlik Lake**	**4.59**	**356**		**Pn**	**13 35 31.9**	**+0.7**
N16K	**Nishlik Lake** baz=175	**4.59**	**356**	P	**Pn**	**13 35 31.9**	**+0.7**
N17K	**Nushagak Hills**	**4.66**	**6**	Pn	**Pn**	**13 35 32.5**	**+0.3**
N17K	comp=N,122nm,0.6s			IAML		13 36 25.6	
N17K	comp=E,113nm,1.1s			IAML		13 36 53.7	
N17K	**Nushagak Hills** baz=186	**4.66**	**6**	P	**Pn**	**13 35 32.4**	**+0.3**
AKUT	**Akutan**	**4.73**	**251**	Pn	**Pn**	**13 35 32.5**	**-0.6**
AKUT	comp=E,153nm,0.6s			IAML		13 36 43.3	
AKUT	comp=N,224nm,1.0s			IAML		13 36 49.7	
AKUT	**Akutan**	**4.73**	**251**	P	**Pn**	**13 35 33.7**	**+0.6**
O19K	**Port Alsworth**	**4.75**	**24**		**Pn**	**13 35 34.1**	**+0.7**
O19K	**Port Alsworth** baz=206	**4.75**	**24**	P	**Pn**	**13 35 34.1**	**+0.7**
AKLV	**Akutan Long Va**	**4.82**	**252**		**Pn**	**13 35 34.2**	**-0.1**
AKBBA	**Akutan Broad B**	**4.83**	**251**		**Pn**	**13 35 33.8**	**-0.7**
ILSW	**Iliamna Southw**	**4.88**	**31**		**Pn**	**13 35 36.1**	**+0.9**
ILSW	comp=E,103nm,1.2s			IAML		13 36 37.3	
N18K	**Kilae Creek**	**4.93**	**13**	Pn	**Pn**	**13 35 36.6**	**+0.7**
N18K	comp=E,120nm,0.5s			IAML		13 36 32.8	
N18K	comp=N,95nm,0.5s			IAML		13 36 34.8	
N18K	**Kilae Creek** baz=194	**4.93**	**13**	P	**Pn**	**13 35 36.5**	**+0.6**
M15K	**Kasigluk River**	**4.98**	**345**		**Pn**	**13 35 37.0**	**+0.5**
M15K	**Kasigluk River** baz=163	**4.98**	**345**	P	**Pn**	**13 35 37.0**	**+0.5**
M16K	**Timber Creek**	**5.14**	**356**		**Pn**	**13 35 39.6**	**+0.9**
M16K	comp=N,118nm,0.7s			IAML		13 36 39.1	
M16K	comp=E,121nm,0.6s			IAML		13 36 40.3	
M16K	**Timber Creek** baz=175	**5.14**	**356**	P	**Pn**	**13 35 39.7**	**+0.9**
CNPM	**China Poot**	**5.18**	**43**	Pn	**Pn**	**13 35 39.3**	**0.0**
CNPM	comp=E,186nm,0.9s			IAML		13 36 53.0	
UNV	**Unalaska Valle**	**5.25**	**250**		**Pn**	**13 35 39.4**	**-0.8**
UNV	**Unalaska Valle**	**5.25**	**250**	P	**Pn**	**13 35 39.7**	**-0.5**
UNV	**Unalaska Valle** baz=64	**5.25**	**250**	P	**Pn**	**13 35 39.4**	**-0.8**
M14K	**Bethel**	**5.25**	**339**	Pn	**Pn**	**13 35 40.8**	**+0.5**
M14K	comp=E,155nm,0.9s			IAML		13 36 41.6	
M14K	**Bethel** baz=156	**5.25**	**339**	P	**Pn**	**13 35 40.7**	**+0.5**
N19K	**Bonanza Creek**	**5.28**	**20**	Pn	**Pn**	**13 35 42.0**	**+1.2**
N19K	comp=E,67nm,0.8s			IAML		13 37 18.4	
N19K	**Bonanza Creek** baz=202	**5.28**	**20**	P	**Pn**	**13 35 42.1**	**+1.3**
M13K	**Dall Lake**	**5.28**	**331**	Pn	**Pn**	**13 35 41.6**	**+0.9**
M13K	**Dall Lake** baz=146	**5.28**	**331**	P	**Pn**	**13 35 41.8**	**+1.1**
RED	**Redoubt Volcan**	**5.34**	**30**		**Pn**	**13 35 42.1**	**+0.6**
SVW2	**Sparrevohn**	**5.37**	**13**	Pn	**Pn**	**13 35 42.5**	**+0.6**
SVW2	**Sparrevohn**	**5.37**	**13**	P	**Pn**	**13 35 42.3**	**+0.4**
RDWB	**Redoubt West**	**5.38**	**29**		**Pn**	**13 35 42.7**	**+0.6**
RSO	**Redoubt South**	**5.38**	**30**		**Pn**	**13 35 42.9**	**+0.6**
MGOD	**Makushin Gods**	**5.47**	**251**		**Pn**	**13 35 42.4**	**-0.9**
BRLK	**Bradley Lake**	**5.47**	**42**	Pn	**Pn**	**13 35 42.7**	**-0.7**
BRSE	**Bradley Lake S**	**5.51**	**43**		**Pn**	**13 35 43.3**	**-0.5**
BRSE	**Bradley Lake S** baz=228	**5.51**	**43**	P	**Pn**	**13 35 43.3**	**-0.5**
M17K	**Holitna River**	**5.52**	**4**	Pn	**Pn**	**13 35 44.3**	**+0.5**
M17K	**Holitna River** baz=184	**5.52**	**4**	P	**Pn**	**13 35 44.4**	**+0.5**
RDT	**Redoubt**	**5.57**	**31**		**Pn**	**13 35 45.4**	**+0.6**
M18K	**Stony River**	**5.72**	**11**		**Pn**	**13 35 47.1**	**+0.4**
M18K	**Stony River** baz=193	**5.72**	**11**	P	**Pn**	**13 35 47.1**	**+0.4**
L16K	**Owhat River**	**5.86**	**354**	Pn	**Pn**	**13 35 48.9**	**+0.4**
L16K	**Owhat River** baz=172	**5.86**	**354**	P	**Pn**	**13 35 48.7**	**+0.2**
L14K	**Kuka Creek**	**5.94**	**338**	Pn	**Pn**	**13 35 50.0**	**+0.4**
L14K	**Kuka Creek** baz=154	**5.94**	**338**	P	**Pn**	**13 35 49.9**	**+0.4**
L15K	**Ungalak Mounta**	**6.04**	**345**		**Pn**	**13 35 51.1**	**+0.1**
L15K	**Ungalak Mounta** baz=162	**6.04**	**345**	P	**Pn**	**13 35 51.1**	**+0.1**
N20K	**Mount Spurr** baz=212	**6.14**	**28**	P	**Pn**	**13 35 53.0**	**+0.4**
SPCR	**Spurr Chakacha**	**6.14**	**28**		**Pn**	**13 35 53.0**	**+0.4**
M11K	**Mekoryuk**	**6.18**	**320**		**Pn**	**13 35 53.2**	**+0.3**
M11K	**Mekoryuk** baz=133	**6.18**	**320**	P	**Pn**	**13 35 53.2**	**+0.3**
SPCP	**Crater Peak Br**	**6.21**	**28**		**Pn**	**13 35 54.3**	**+0.7**
SLKM	**Skilak Lake**	**6.23**	**39**		**Pn**	**13 35 53.2**	**-0.5**
L17K	**Donlin**	**6.24**	**359**		**Pn**	**13 35 54.1**	**+0.3**
L17K	**Donlin** baz=179	**6.24**	**359**	P	**Pn**	**13 35 54.1**	**+0.3**
SEW	**Seward**	**6.25**	**44**		**Pn**	**13 35 54.1**	**+0.2**
SEW	**Seward** baz=231	**6.25**	**44**	P	**Pn**	**13 35 54.1**	**+0.2**
OKNC	**Okmok New Cone**	**6.28**	**251**		**Pn**	**13 35 54.4**	**0.0**
L18K	**Granite Mounta**	**6.37**	**6**	Pn	**Pn**	**13 35 55.9**	**+0.4**
L18K	**Granite Mounta** baz=187	**6.37**	**6**	P	**Pn**	**13 35 56.0**	**+0.4**
O22K	**Cooper Landing**	**6.39**	**41**		**Pn**	**13 35 56.0**	**+0.2**
STLK	**Strandline Lak**	**6.50**	**28**		**Pn**	**13 35 58.0**	**+0.7**
L19K	**White Mountain**	**6.51**	**14**	Pn	**Pn**	**13 35 58.0**	**+0.4**
L19K	**White Mountain** baz=196	**6.51**	**14**	P	**Pn**	**13 35 58.2**	**+0.6**
M20K	**Styx River**	**6.53**	**21**		**Pn**	**13 35 59.1**	**+1.4**
M20K	**Styx River** baz=205	**6.53**	**21**	P	**Pn**	**13 35 59.1**	**+1.4**
K15K	**Wolf Creek Mou**	**6.63**	**346**	Pn	**Pn**	**13 36 00.0**	**+0.9**
K15K	**Wolf Creek Mou** baz=163	**6.63**	**346**	P	**Pn**	**13 35 59.8**	**+0.6**
SUA	**Susitna One**	**6.77**	**32**	Pn	**Pn**	**13 36 01.6**	**+0.4**
SUA	**Susitna One** baz=217	**6.77**	**32**	P	**Pn**	**13 36 01.5**	**+0.4**
RC01	**Rabbit Creek A**	**6.81**	**37**	Pn	**Pn**	**13 36 01.4**	**-0.2**
RC01	**Rabbit Creek A** baz=223	**6.81**	**37**	P	**Pn**	**13 36 01.4**	**-0.2**
SPIA	**Saint Paul Isl**	**6.81**	**286**	P	**Pn**	**13 36 01.8**	**+0.3**
K17K	**Iditarod**	**6.83**	**359**	Pn	**Pn**	**13 36 02.4**	**+0.6**
K17K	**Iditarod** baz=179	**6.83**	**359**	P	**Pn**	**13 36 02.5**	**+0.7**
NIKH	**Nikolski High**	**6.90**	**249**	P	**Pn**	**13 36 03.5**	**+0.6**
L20K	**Farewell, AK**	**6.94**	**17**		**Pn**	**13 36 04.5**	**+1.1**
L20K	**Farewell, AK** baz=200	**6.94**	**17**	P	**Pn**	**13 36 04.5**	**+1.1**
SKT	**Skwentna**	**6.98**	**27**		**Pn**	**13 36 04.9**	**+1.0**
**

PMR	Palmer	7.37	36	P		Pn	13 36 09.6	+0.3
J14K	Nanvaranak Lak	7.39	340	Pn		Pn	13 36 09.8	+0.3
J14K	Nanvaranak Lak baz=156	7.39	340	P		Pn	13 36 09.7	+0.3
KNK	Knik Glacier	7.47	39	Pn		Pn	13 36 10.1	-0.7
KNK	Knik Glacier baz=226	7.47	39	P		Pn	13 36 09.9	-0.8
J16K	Anvik River	7.50	351	Pn		Pn	13 36 11.5	+0.6
J16K	Anvik River baz=169	7.50	351	P		Pn	13 36 11.6	+0.6
GHO	Glory Hole Cre	7.57	35			Pn	13 36 12.8	+0.7
J18K	Innoko River	7.61	5	Pn		Pn	13 36 12.3	-0.3
J18K	Innoko River baz=186	7.61	5	P		Pn	13 36 12.8	+0.3
HIN	Hinchinbrook I	7.62	49			Pn	13 36 11.8	-1.0
CUT	Chulitna	7.66	29			Pn	13 36 13.6	+0.3
CUT	Chulitna baz=215	7.66	29	P		Pn	13 36 13.5	+0.3
K20K	Telida	7.75	14			Pn	13 36 14.7	+0.3
K20K	Telida baz=197	7.75	14	P		Pn	13 36 14.7	+0.3
SML	Sawmill	7.79	37	Pn		Pn	13 36 15.2	+0.1
SML	Sawmill baz=224	7.79	37	P		Pn	13 36 14.5	-0.6
EYAK	Cordova Ski Ar	8.02	50			Pn	13 36 17.0	-1.1
EYAK	Cordova Ski Ar	8.02	50	P		Pn	13 36 17.0	-1.1
I17K	Unalakleet	8.10	352	Pn		Pn	13 36 19.9	+0.7
I17K	Unalakleet baz=170	8.10	352	P		Pn	13 36 19.7	+0.5
CAST	Castle Rocks	8.13	20	Pn		Pn	13 36 21.1	+1.5
CAST	Castle Rocks baz=204	8.13	20	P		Pn	13 36 20.3	+0.7
SCM	Sheep Creek Mo	8.16	39			Pn	13 36 20.2	+0.1
SCM	Sheep Creek Mo baz=228	8.16	39	P		Pn	13 36 19.6	-0.5
J19K	Poorman	8.21	8	Pn		Pn	13 36 21.2	+0.6
J19K	Poorman baz=190	8.21	8	P		Pn	13 36 21.1	+0.5
KAIM	Kayak Island	8.34	56	Pn		Pn	13 36 23.1	+0.6
WAT7	Susitna Watana	8.40	31			Pn	13 36 22.2	-1.2
KLU	Klutina	8.47	44			Pn	13 36 24.1	-0.2
KLU	Klutina baz=234	8.47	44	P		Pn	13 36 23.3	-1.0
KTH	Kantishna Hill	8.48	22	Pn		Pn	13 36 24.7	+0.2
J20K	Nowinta River	8.53	12	Pn		Pn	13 36 25.2	+0.2
TRF	Thorofare Moun	8.54	24	Pn		Pn	13 36 25.5	+0.2
TRF	Thorofare Moun baz=211	8.54	24	P		Pn	13 36 25.6	+0.2
WAT6	Susitna Watana	8.54	34			Pn	13 36 24.2	-1.2
WAT6	Susitna Watana baz=223	8.54	34	P		Pn	13 36 24.2	-1.2
HMT	Hamilton	8.58	53	Pn		Pn	13 36 25.8	0.0
SUCK	Suckling Hills	8.69	55	Pn		Pn	13 36 28.3	+0.9
M24K	Tolsona, Glenn	8.75	40	Pn		Pn	13 36 28.7	+0.6
BERG	Berg Lake	8.86	54	Pn		Pn	13 36 28.5	-1.1
RND	Reindeer	8.86	28	Pn		Pn	13 36 29.2	-0.4
BPAW	Bear Paw Mtn.	8.96	21			Pn	13 36 30.4	-0.5
H16K	Elim	8.98	349			Pn	13 36 31.6	+0.3
H16K	Elim baz=165	8.98	349	P		Pn	13 36 31.6	+0.3
N25K	Chitina, Valde	9.05	45			Pn	13 36 32.6	+0.2
N25K	Chitina, Valde baz=236	9.05	45	P		Pn	13 36 31.2	-1.2
H17K	Granite Mounta	9.10	355	Pn		Pn	13 36 33.6	+0.8
H17K	Granite Mounta baz=174	9.10	355	P		Pn	13 36 33.1	+0.3
I20K	Naaghedeneel	9.10	10	Pn		Pn	13 36 33.8	+1.0
MCK	McKinley	9.10	27			Pn	13 36 32.4	-0.5
MCK	McKinley baz=214	9.10	27	P		Pn	13 36 32.4	-0.5
SNH	Sunshine Point	9.17	56	Pn		Pn	13 36 34.0	+0.1
CRQM	Cirque	9.26	52			Pn	13 36 34.4	-0.8
H18K	Honhosa River	9.27	359			Pn	13 36 35.9	+0.7
H18K	Honhosa River baz=179	9.27	359	P		Pn	13 36 35.4	+0.2
CRQE	Cirque baz=245	9.28	52	P		Pn	13 36 34.5	-0.9
WACK	Wrangell Chich	9.37	44			Pn	13 36 36.3	-0.6
ANM	Nome	9.38	341	Pn		Pn	13 36 37.4	+0.7
ANM	Nome baz=154	9.38	341	P		Pn	13 36 37.1	+0.4
TGL	Tana Glacier	9.40	53			Pn	13 36 36.5	-0.5
G15K	Niukluk	9.56	345			Pn	13 36 39.4	+0.3
G15K	Niukluk baz=160	9.56	345	P		Pn	13 36 39.4	+0.3
ISLE	Juniper Island	9.56	54			Pn	13 36 38.9	-0.4
PAX	Paxson	9.56	37			Pn	13 36 38.3	-1.0
PAX	Paxson baz=228	9.56	37	P		Pn	13 36 38.3	-1.0
MESA	MESA	9.59	57	Pn		Pn	13 36 39.6	-0.1
MESA	MESA baz=250	9.59	57	P		Pn	13 36 38.4	-1.3
MCARA	McCarthy VSAT	9.59	49			Pn	13 36 39.4	-0.2
BAGL	Bagley Icefiel	9.63	55			Pn	13 36 39.2	-0.8
KIAG	Kiagna River	9.68	52			Pn	13 36 39.8	-1.2
H19K	Roundabout Mou	9.68	4			Pn	13 36 40.6	-0.2
H19K	Roundabout Mou baz=186	9.68	4	P		Pn	13 36 40.6	-0.2
G16K	Koyuk River	9.73	350	Pn		Pn	13 36 42.8	+1.3
G16K	Koyuk River baz=166	9.73	350	P		Pn	13 36 42.3	+0.9
PTPK	Patty Peak	9.74	51			Pn	13 36 40.8	-1.1
H20K	Anotleneega Mo	9.74	8			Pn	13 36 41.6	0.0
H20K	Anotleneega Mo baz=191	9.74	8	P		Pn	13 36 41.6	0.0
I21K	Tanana	9.78	16			Pn	13 36 42.9	+0.8
I21K	Tanana baz=200	9.78	16	P		Pn	13 36 42.1	+0.1
NEA2	Nenana	9.79	24	Pn		Pn	13 36 41.0	-1.3
MLY	Manley	9.84	19	Pn		Pn	13 36 41.9	-1.2
GRNC	Granite Creek	9.87	54			Pn	13 36 42.9	-0.8
WRH	Wood River Hil	9.92	26			Pn	13 36 42.3	-1.8
G18K	Tagagawik	10.02	359			Pn	13 36 46.2	+0.8
BARN	Barnard Glacie	10.04	52	Pn		Pn	13 36 45.7	-0.2
TABL	Table Mountain	10.05	56			Pn	13 36 45.3	-0.8
H21K	Melozitna Rive	10.12	13			Pn	13 36 47.4	+0.7
CCB	Clear Creek Bu	10.14	26	Pn		Pn	13 36 44.7	-2.3
CTGM	Chitina Glacie	10.15	53	Pn		Pn	13 36 46.8	-0.7
MENT	Mentasta	10.16	40			Pn	13 36 47.3	-0.1
HDA	Harding Lake	10.17	29			Pn	13 36 45.0	-2.4
I23K	Minto, Yukon-K	10.21	21			Pn	13 36 48.8	-1.3
LOGN	Logan Glacier	10.25	54			Pn	13 36 48.1	-0.6
G19K	Purcell Mounta	10.28	2	Pn		Pn	13 36 49.3	+0.3
MDM	Murphy Dome	10.30	24			Pn	13 36 47.6	-1.6
COLA	College	10.31	25			Pn	13 36 48.0	-1.4
COLA	College	10.31	25	P		Pn	13 36 48.4	-1.0
F15K	North Star Dit	10.32	345			Pn	13 36 50.9	+1.4
IMAR	Indian Mountai	10.32	10	Pn		Pn	13 36 50.2	+0.6
IL31		10.47	27	Pn		Pn	13 36 49.5	-2.1
ILAR	Eielson Array comp=E,1.0nm,0.3s,baz=218,slow=13,SNR=41	10.47	27	P		Pn	13 36 49.5	-2.1
ILAR	comp=E,2.9nm,0.8s,baz=216,slow=27,SNR=8.0 comp=E,2.5nm,0.4s				S	Sn	13 38 36.4	-11
M27K	Edge Creek, AK	10.54	46	Pn		Pn	13 36 52.6	-0.1
POKR	Poker Plat Res	10.62	25	Pn		Pn	13 36 52.6	-1.0
BCPM	Bancas Point	10.63	60			Pn	13 36 53.7	-0.1
F17K	Baldwin Pennin	10.67	353	Pn		Pn	13 36 54.4	+0.1
PNL	Peninsula	10.68	62	P		Pn	13 36 54.3	-0.2
SCRK	Sand Creek	10.74	35	Pn		Pn	13 36 54.0	-1.3
J25K	Salcha River,	10.77	31	Pn		Pn	13 36 54.0	-1.7
G21K	Allakaket	10.87	10			Pn	13 36 56.6	-0.3
L27K	Beaver Creek,	10.94	42			Pn	13 36 56.9	-1.1
BCAR	Beaver Creek A	10.96	42	Pn		Pn	13 36 57.5	-0.7
F19K	Shaleruckik Mo	10.96	1			Pn	13 36 58.9	+0.7
G23K	Bananza Creek	11.50	16			Pn	13 37 06.5	+0.8
P29M	Windy Craggy	11.50	63			Pn	13 37 05.9	+0.2
F21K	Alatna River	11.56	9			Pn	13 37 07.7	+1.2
E19K	Redstone River	11.59	2			Pn	13 37 08.2	+1.3
E18K	Tukpahlearik C	11.61	355	Pn		Pn	13 37 08.3	+1.3
M29M	Somme Creek	12.00	49	Pn		Pn	13 37 12.2	-0.3
S31K	Pelican	12.13	71			Pn	13 37 13.5	-0.8
EGAK	Eagle	12.19	36	Pn		Pn	13 37 14.6	-0.5
N30M	Aishikik Lake	12.25	54	Pn		Pn	13 37 15.1	-0.8
DAWY	Dawson	12.40	41	Pn		Pn	13 37 16.2	-1.8
L29M	L29M	12.42	46	Pn		Pn	13 37 17.0	-1.2
F24K	Squaw Lake	12.59	18	Pn		Pn	13 37 19.5	-1.1
SIT	Sitka	12.66	75	Pn		Pn	13 37 19.2	-2.1
SIT	Sitka	12.66	75	P		Pn	13 37 20.4	-1.0
SKAG	Skagway	12.69	64			Pn	13 37 21.9	+0.1
SKAG	Skagway	12.69	64	P		Pn	13 37 22.0	+0.1
C18K	Utukok River	12.86	355	Pn		Pn	13 37 25.3	+1.1
I28M	Miner Creek	13.02	35			Pn	13 37 26.3	-0.1
S32K	Killisnoo	13.04	73	Pn		Pn	13 37 27.4	+0.9
WHY	Whitehorse	13.10	59	Pn		Pn	13 37 27.2	-0.3
JIS	Juneau Island	13.12	70	Pn		Pn	13 37 27.7	0.0
JIS	Juneau Island	13.12	70	P		Pn	13 37 27.9	+0.3
BMAR	Burnt Mountain	13.18	23	Pn		Pn	13 37 27.0	-1.6
D22K	Ayikyak River	13.25	9			Pn	13 37 30.6	+1.1
C19K	Lookout Ridge	13.26	358	Pn		Pn	13 37 30.2	+0.6
P32M	Atlin	13.53	64	Pn		Pn	13 37 33.4	+0.2
M31M	Drury Creek, Y	13.70	53	Pn		Pn	13 37 35.4	-0.1
J30M	Hart River	13.81	42	Pn		Pn	13 37 37.1	-0.1
U33K	Whale Pass	13.98	79	Pn		Pn	13 37 38.0	-1.4
P33M	Teslin, Yukon	14.04	62	Pn		Pn	13 37 40.4	+0.2
CRAG	Craig	14.10	81	Pn		Pn	13 37 40.4	-0.5
CRAG	Craig	14.10	81	P		Pn	13 37 40.5	-0.4
I30M	Mount Dempster	14.12	40	Pn		Pn	13 37 41.4	+0.2
FARO	Faro, Yukon	14.17	53	Pn		Pn	13 37 41.1	-0.8
Q32M	Nakina River	14.23	67	Pn		Pn	13 37 42.2	-0.6
EPYK	Eagle Plains	14.63	36	Pn		Pn	13 37 49.5	+1.6
R33M	Jennings River	14.91	65	Pn		Pn	13 37 52.8	+1.2
DLBC	Dease Lake	15.41	69	Pn		Pn	13 37 59.1	+1.2
DLBC	Dease Lake comp=E,0.2nm,0.3s,baz=308,slow=9.2,SNR=7.1 comp=E,1.5nm,0.6s	15.41	69	P		Pn	13 37 59.2	+1.2
E29M	Blow River	15.57	29	Pn		Pn	13 38 01.2	+1.3
INK	Inuvik	16.77	32	Pn		Pn	13 38 14.0	-0.9
INK	Inuvik comp=E,0.4nm,0.3s,baz=245,slow=12,SNR=16 comp=E,1.3nm,0.4s	16.77	32	P		Pn	13 38 13.7	-1.2
WRGLY	Wrigley	18.83	53	P		P	13 38 39.7	+0.7
WRGLY	comp=Z,10nm,0.9s				IAmb	IAmb	13 38 42.7	
C36M	Paulatuk	20.26	35	P		P	13 38 53.7	-0.8
C36M	comp=Z,12nm,1.2s				IAmb	IAmb	13 39 21.2	
A36M	Sachs Harbour	21.17	28	P		P	13 39 02.6	-1.7
A36M	comp=Z,5.2nm,0.8s				IAmb	IAmb	13 39 10.2	
YKA	Yellowknife Ar	22.86	55	P		P	13 39 21.2	-1.3
YKA	Yellowknife Ar comp=Z,0.7nm,0.7s,baz=275,slow=10,SNR=9.9 comp=Z,0.7nm,0.7s	22.86	55	P		P	13 39 22.0	-0.5
PETK	Petropavlovsk- comp=Z,1.2nm,0.5s,baz=78,slow=13,SNR=1.5 comp=Z,1.2nm,0.5s	25.45	282	P		P	13 39 46.3	-0.2
EDM	Edmonton	25.77	77	P		P	13 39 50.5	+1.1
EDM	comp=Z,5.7nm,0.8s				IAmb	IAmb	13 39 51.2	
NEW	Newport	26.02	90	P		P	13 39 53.5	+1.8
NEW	comp=Z,2.4nm,0.8s				IAmb	IAmb	13 39 54.4	
BPMT	Black Pine Rid	29.11	90	P		P	13 40 21.2	+1.6
EGMT	Eagleton	30.29	84	P		P	13 40 31.0	+1.2
EGMT	comp=Z,9.4nm,1.4s				IAmb	IAmb	13 41 07.0	
BOZ	Bozeman (W)	30.63	90	P		P	13 40 34.1	+1.1
YHH	Holmes Hill	31.56	90	P		P	13 40 43.1	+1.9
PD31	Pinedale Array	33.56	92	P		P	13 40 59.9	+1.2
PDAR	Pinedale Array	33.56	92	P		P	13 40 59.9	+1.2
PDAR	Pinedale Array comp=Z,0.9nm,0.6s,baz=307,slow=5.1,SNR=13 comp=Z,0.9nm,0.6s	33.56	92	P		P	13 41 00.2	+1.5
SRU	San Rafael Swe	35.47	98	P		P	13 41 17.0	+1.9
SRU	comp=Z,3.9nm,0.7s				IAmb	IAmb	13 41 35.0	
ULM	Lac du Bonnet comp=Z,1.4nm,0.8s,baz=310,slow=11,SNR=3.3 comp=Z,1.4nm,0.8s	36.70	72	P		P	13 41 26.6	+1.3
EYMN	Ely	40.38	72	P		P	13 41 56.8	+0.5
EYMN	comp=Z,7.1nm,0.8s				IAmb	IAmb	13 41 57.4	
E43A	Lone Tree Farm	43.76	71	P		P	13 42 24.1	+0.4
E43A	comp=Z,7.8nm,1.2s				IAmb	IAmb	13 42 45.1	
SUMG	Summit	45.25	22	P		P	13 42 38.5	+2.8
SUMG	comp=Z,5.8nm,1.2s				IAmb	IAmb	13 43 09.8	
TXAR	Lajitas Array comp=Z,0.3nm,0.7s,baz=312,slow=4.5,SNR=4.1 comp=Z,0.3nm,0.7s	46.50	102	P		P	13 42 46.4	+0.6
NCB	Newcomb	52.06	66	P		P	13 43 27.6	-0.4
Z47A	Carrollton	52.32	85	P		P	13 43 29.6	-0.3
TZTN	Tazewell	52.39	79	P		P	13 43 30.1	-0.3
Y49A	Blount Mountai	52.77	83	P		P	13 43 32.1	-1.1
SONM	Songino Array comp=Z,1.3nm,0.9s,baz=44,slow=6.6,SNR=6.9 comp=Z,1.3nm,0.9s	54.92	305	P		P	13 43 48.3	-0.6
ZALV	Zalesovo Beam comp=Z,0.3nm,0.3s,baz=43,slow=2.8,SNR=3.6 comp=Z,0.3nm,0.3s	58.98	322	P		P	13 44 16.8	-0.5
FINES	FINESS Array B comp=Z,0.8nm,0.7s,baz=358,slow=8.6,SNR=4.9 comp=Z,0.8nm,0.7s	62.94	358	P		P	13 44 42.1	-1.9
NB2	NORSAR Subarra comp=Z,1.5nm,0.7s,baz=354,slow=6.9	63.09	6	P		P	13 44 44.3	-0.8
NOA	NORSAR Array B comp=Z,1.0nm,0.7s,baz=354,slow=6.7,SNR=6.1 comp=Z,1.0nm,0.7s	63.09	6	P		P	13 44 44.2	-0.8
KURBB	Kurchatov Arra comp=Z,1.0nm,0.9s,baz=23,slow=6.1,SNR=7.3 comp=Z,1.0nm,0.9s	63.89	324	P		P	13 44 50.0	-0.5
BVAR	Borovoye Array comp=Z,1.2nm,0.6s,baz=66,slow=5.5,SNR=7.0 comp=Z,1.2nm,0.6s	64.31	330	P		P	13 44 53.0	-0.2
MKAR	Makanchi Array	65.82	319	P		P	13 45 03.0	-0.1
MKAR	Makanchi Array comp=Z,0.6nm,0.8s,baz=40,slow=6.3,SNR=8.2 comp=Z,0.6nm,0.8s	65.82	319	P		P	13 45 02.0	-1.1
EKB	Eskdalemuir	67.25	15	P		P	13 45 12.1	+0.1
EKA	Eskdalemuir Ar comp=Z,2.6nm,0.5s,baz=336,slow=5.1,SNR=16 comp=Z,2.6nm,0.5s	67.25	15	P		P	13 45 12.1	0.0
ESK	Eskdalemuir	67.26	15	P		P	13 45 12.1	0.0
ABKAR	Akbulak array	70.49	335	P		P	13 45 31.8	-0.5
KKAR	Karatay Array	73.12	325	P		P	13 45 49.0	+0.7
AKASG	Malin Array Be	73.58	355	P		P	13 45 49.5	-1.2
AKASG	comp=Z,1.3nm,0.7s				IAmb	IAmb	13 45 50.9	
AKASG	Malin Array Be comp=Z,2.6nm,0.5s,baz=7.5,slow=5.9,SNR=13 comp=Z,2.6nm,0.5s	73.58	355	P		P	13 45 49.6	-1.1
AKBB	Malin Array Si	73.58	355	P		P	13 45 49.2	-1.4
AKBB	comp=Z,4.9nm,0.5s				IAmb	IAmb	13 45 49.9	
KIEV	Kiev	73.58	355	P		P	13 45 49.2	-1.5
KIEV	comp=Z,4.1nm,0.6s				IAmb	IAmb	13 45 49.9	
GERES	GERESS Array B comp=Z,0.6nm,0.6s,baz=26,slow=6.4,SNR=3.4 comp=Z,0.6nm,0.6s	75.39	6	P		P	13 46 01.6	+0.2
BURAR	Bucovina Array	76.80	358	P		P	13 46 09.1	-0.4
FUORN	Ofenpass-Fuorn	77.37	8	P		P	13 46 13.5	+0.6
FUORN	comp=Z,4.3nm,1.2s				IAmb	IAmb	13 46 29.5	
SIMJ	Simiganj	77.62	324	P		P	13 46 13.8	-0.5
SIMJ	comp=Z,4.3nm,0.9s				IAmb	IAmb	13 46 16.6	
CMAR	Chiang Mai Arr comp=Z,0.5nm,0.6s,baz=23,slow=4.9,SNR=2.5 comp=Z,0.5nm,0.6s	81.91	291	P		P	13 46 37.4	-0.2
ESDC	Sonseca Array comp=Z,0.5nm,0.7s,baz=350,slow=6.2,SNR=5.2 comp=Z,0.5nm,0.7s	82.28	20	P		P	13 46 39.6	+0.3
BRTR	Keskin Array B comp=Z,0.9nm,0.8s,baz=46,slow=4.7,SNR=4.5 comp=Z,0.9nm,0.8s	84.20	351	P		P	13 46 49.7	+0.4
QSPA	South Pole Qui comp=Z,2.7nm,0.7s,baz=242,slow=0.6,SNR=10.0	145.69	180	PKPbc		PKPdf	13 53 54.5	-0.1

*IDC **04** 13:36:03.6±0.6,22.95S×175.18W,h0km,mb4.5/18, mbtmp4.4/19,ML4.7/2,MS4.4/24,Error ellipse: s-maj=21.1km s-min=15.6km az=135.0*

*NEIC **04** 13:36:04.1±2.2,23.4S±0.1×174.9W±0.1,h10km±1km, mb4.9/86,Error ellipse: s-maj=23.7km s-min=15.4km az=186.0*

*GCMT **04** 13:36:07.1±0.2,23.24S±0.02×174.53W±0.01,h15km, MW5.0/127,Moment Tensor Solution. s55,c80; s127,c182; Duration: 0 Moment tensor: Scale 1016Nm; Mrr3.36±.14; Mθθ-0.79±.09; Mϕϕ-2.58±.09; Mrθ0.82±.19; Mθϕ-1.09±.06; Mrϕ1.35±.17; Best double couple: Ms3.59200×1016 NP1:ϕs28.00000°,δ58.00000°, λ92.00000°. NP2:ϕs203.00000°,δ32.00000°,λ86.00000°. Principal axes: T 3.7280, Plg77.0000°, Azm305.0000°; N -0.2780, Plg2.0000°, Azm206.0000°; P -3.4570,*

Plg13.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*NOU **04** 13:36:09.8,22.76S×174.34W,h97km,mb4.7/23,Tonga Islands Region*

ISC 04 13:36:04.2±0.4,23.29S±0.07×174.85W±0.07,h10km, n179,σ1.98/134,mb4.9/66,MS4.5/25,9C-1D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue baz=5.6,SNR=50	6.22	49	P	Pn	13 37 28.5	-7.5
NIUE	baz=5.6			S	Sn	13 38 29.4	-18
NIUE	Niue	6.22	49	Pn	Pn	13 37 28.5	-7.5
RAO	Raoul Island 138nm,0.3s,baz=73,slow=19,SNR=5.7	6.55	204	Pn	Pn	13 37 44.4	+3.8
RAO	48nm,0.3s,baz=66,slow=23,SNR=1.8			Sn	Sn	13 38 57.5	+2.3
MSVF	Nonsavu	8.65	308	Pn	Pn	13 38 10.1	+0.6
AFI	Afiamalu	9.77	18		Pn	13 38 17.6	-7.3
AFI	Afiamalu	9.77	18	P	Pn	13 38 17.5	-7.4
RAR	Rarotonga	14.11	84	Pn	Pn	13 39 18.4	-5.8
RAR	Rarotonga	14.11	84	P	Pn	13 39 19.9	-4.3
RAR	Rarotonga 6.4nm,0.3s,baz=264,slow=7.8,SNR=26	14.11	84	Pn	Pn	13 39 19.1	-5.1
RAR	6.4nm,0.3s,baz=111,slow=16,SNR=3.0			Sn	Sn	13 41 41.5	-19
RAR	comp=Z,2μm,20.5s,baz=256,slow=33			LR	LR	13 44 03.7	
URZ	Urewera	16.43	203	P	P	13 40 02.1	+4.5
URZ	Urewera 0.4nm,0.3s,baz=67,slow=7.7,SNR=1.8	16.43	203	Pn	P	13 39 56.5	-1.1
URZ	0.3nm,0.3s,baz=126,slow=3.9,SNR=1.6 6.7nm,0.9s			Sn	Sn	13 42 46.8	-10
DZM	Mont Dzumac	17.31	270	P	P	13 40 07.4	-0.2
DZM	Mont Dzumac	17.31	270	P	P	13 40 10.3	+2.8
DZM	Mont Dzumac 9.1nm,0.8s,baz=107,slow=17,SNR=5.9	17.31	270	P	P	13 40 07.6	0.0
BFZ	Birch Farm	18.90	201	P	P	13 40 23.4	-1.4
BFZ	Birch Farm	18.90	201	P	Pn	13 40 30.0	+4.6
KOUNC	Koumac, New Ca	19.55	274	P	P	13 40 32.3	+0.2
KOUNC	Koumac, New Ca	19.55	274	P	Pn	13 40 35.8	+2.4
TCW	Tory Channel	20.07	205	P	P	13 40 37.0	-0.6
NNZ	Nelson	20.43	206	P	Pn	13 40 41.3	-2.3
NNZ	comp=Z,105nm,1.8s			IAmb	IAmb	13 40 55.9	
CTZ	Chatham Island	20.45	184	P	Pn	13 40 44.5	+0.7
KHZ	Kahutara	21.39	204	P	P	13 40 51.2	-0.6
KHZ	comp=Z,67nm,1.4s			IAmb	IAmb	13 41 02.4	
KHZ	Kahutara comp=Z,46nm,1.7s	21.39	204	P	P	13 40 56.8	+5.0
RPZ	Rata Peaks	23.46	206	P	P	13 41 16.6	+2.8
PPT	Papeete comp=Z,1μm,19.5s,baz=264,slow=31	24.34	81	LR	LR	13 48 55.7	
PPTF	Pamatai, Papee	24.34	81	P	P	13 41 22.9	+0.4
SYZ	Scrubby Hill	26.55	205	P	P	13 41 45.3	+3.2
ARMA	Armidale baz=31	30.66	249	P	P	13 42 20.5	+1.4
ARMA	Armidale	30.66	249	P	P	13 42 17.2	-1.8
EIDS	Eidsvold baz=32	31.07	259	P	P	13 42 23.4	+0.8
MGCD	Mangrove Creek baz=32	31.45	244	P	P	13 42 27.6	+1.7
MILA	Mila baz=34	33.80	238	P	P	13 42 48.0	+1.5
CMSA	Cobar Meteorol baz=36,SNR=6.5	35.83	248	P	P	13 43 03.8	-0.2
CMSA	Cobar Meteorol	35.83	248	P	P	13 43 04.8	+0.8
CTA	Charters Tower	36.21	267	P	P	13 43 07.3	-0.2
CTA	Charters Tower comp=Z,9.8nm,0.6s,baz=99,slow=9.9,SNR=23	36.21	267	P	P	13 43 06.2	-1.3
CTA	comp=Z,332nm,18.6s,baz=100,slow=36 comp=Z,9.8nm,0.6s			LR	LR	13 57 33.0	
CTAO	Charters Tower	36.21	267	P	P	13 43 06.2	-1.3
CTAO	comp=Z,12nm,0.8s			IAmb	IAmb	13 43 11.3	
CTAO	Charters Tower	36.21	267	P	P	13 43 07.0	-0.5
TOO	Toolangi	36.76	238	P	P	13 43 12.5	+0.5
TOO	comp=Z,32nm,1.6s			IAmb	IAmb	13 44 28.2	
MTSU	Mount Surprise baz=39,SNR=12	38.45	270	P	P	13 43 25.5	-0.9
MTSU	Mount Surprise	38.45	270	P	P	13 43 26.5	0.0
PMG	Port Moresby	38.84	284	P	P	13 43 28.2	-1.6
PMG	comp=Z,26nm,0.9s			IAmb	IAmb	13 43 31.4	
PMG	Port Moresby comp=Z,24nm,0.9s,baz=122,slow=5.0,SNR=9.4	38.84	284	P	P	13 43 27.6	-2.2
PMG	comp=Z,328nm,19.8s,baz=127,slow=33 comp=Z,24nm,0.9s			LR	LR	13 56 59.9	
STKA	Stephens Creek	39.33	248	P	P	13 43 32.5	-1.2
STKA	Stephens Creek comp=Z,1.7nm,0.5s,baz=110,slow=9.6,SNR=5.4	39.33	248	P	P	13 43 32.8	-0.9
STKA	comp=Z,817nm,20.5s,baz=75,slow=34 comp=Z,1.7nm,0.5s			LR	LR	13 58 18.4	
INKA	Innaminka	40.16	254	P	P	13 43 42.1	+1.5
HTT	Hallett baz=42,SNR=5.0	41.63	245	P	P	13 43 52.6	-0.1
HTT	Hallett	41.63	245	P	P	13 43 53.5	+0.7
LCRK	Leigh Creek	42.23	250	P	P	13 43 58.3	+0.6
BBOO	Buckleboo	44.02	246	P	P	13 44 10.9	-1.2
OOD	Oodnadatta	44.62	253	P	P	13 44 17.2	+0.2
MULG	Mulgathing	45.83	250	P	P	13 44 26.5	-0.1
AS01	Alice Springs	46.75	259	P	P	13 44 33.2	-0.8
AS31	Alice Springs	46.79	259	P	P	13 44 33.1	-1.1
ASAR	Alice Springs	46.79	259	P	P	13 44 32.8	-1.5
AS

MBWA	**Marble Bar**		**60.13**	**258**	P	**P**	**13 46 10.3**	**-1.9**
MBWA					IAmb	IAmb	13 46 15.9	
	comp=Z,14nm,0.9s							
MORW	**Morawa**		**61.51**	**249**	P	**P**	**13 46 21.3**	**-0.3**
	baz=62,SNR=4.0							
MORW	**Morawa**		**61.51**	**249**	P	**P**	**13 46 20.6**	**-1.0**
JCJ	**Chichijima**		**65.06**	**318**	LR	LR	14 09 35.6	
	comp=Z,237nm,21.7s,baz=115,slow=31							
QSPA	**South Pole Qui**		**66.80**	**180**	P	**P**	**13 46 59.1**	**+3.3**
	comp=Z,5.0nm,1.0s,baz=81,slow=2.0,SNR=8.8							
QSPA					LR	LR	14 11 10.6	
	comp=Z,469nm,21.7s,baz=47,slow=31							
	comp=Z,5.0nm,1.0s							
MJAR	**Matsushiro Arr**		**74.19**	**322**	P	**P**	**13 47 39.1**	**-2.1**
	comp=Z,1.1nm,0.6s,baz=161,slow=5.0,SNR=9.5							
MJAR					LR	LR	14 14 38.6	
	comp=Z,109nm,20.1s,baz=116,slow=31							
	comp=Z,1.1nm,0.6s							
JOW	**Kunigami**		**74.19**	**309**	LR	LR	14 15 26.2	
	comp=Z,126nm,21.5s,baz=208,slow=32							
JNU	**Nakatsue**		**76.30**	**315**	LR	LR	14 16 22.8	
	comp=Z,139nm,21.6s,baz=94,slow=32							
SHEM	**Shemya Is, Ala**		**76.30**	**353**	LR	LR	14 15 49.2	
	comp=Z,353nm,21.6s,baz=134,slow=31							
PMSA	**Palmer Station**		**77.57**	**156**	LR	LR	14 17 24.9	
	comp=Z,215nm,18.2s,baz=297,slow=32							
ASAJ	**Asahikawa**		**77.58**	**330**	LR	LR	14 16 15.2	
	comp=Z,384nm,20.8s,baz=132,slow=31							
LPIG	**La Paz**		**78.37**	**57**	LR	LR	14 15 10.5	
	comp=Z,361nm,19.4s,baz=224,slow=30							
PFO	**Pinyon Flats O**		**79.31**	**46**	LR	LR	14 15 39.9	
	comp=Z,269nm,19.9s,baz=236,slow=30							
CMB	**Columbia Colle**		**79.58**	**41**	P	**P**	**13 48 12.3**	**+0.8**
CMB					IAmb	IAmb	13 48 28.2	
	comp=Z,19nm,1.8s							
PETK	**Petropavlovsk-**		**79.73**	**344**	P	**P**	**13 48 10.9**	**-1.1**
	comp=Z,4.5nm,0.9s,baz=147,slow=2.9,SNR=1.8							
	comp=Z,4.5nm,0.9s							
YBH	**Yreka Blue Hor**		**80.69**	**37**	LR	LR	14 16 55.1	
	comp=Z,257nm,20.1s,baz=188,slow=30							
PNTR	**Pine Nut**		**80.73**	**40**	P	**P**	**13 48 19.0**	**+1.0**
PNTR					IAmb	IAmb	13 48 22.4	
	comp=Z,18nm,1.3s							
KSRS	**Korea Array**		**80.91**	**317**	P	**P**	**13 48 19.1**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=134,slow=7.3,SNR=5.5							
	comp=Z,0.9nm,0.6s							
NVAR	**Mina Array Bea**		**81.10**	**42**	P	**P**	**13 48 20.9**	**+1.0**
	comp=Z,3.9nm,1.0s,baz=220,slow=7.6,SNR=17							
	comp=Z,3.9nm,1.0s							
KVN	**Kaiserville**		**81.61**	**41**	P	**P**	**13 48 23.7**	**+1.1**
J05D	**Fort Rock, OR**		**82.55**	**36**	P	**P**	**13 48 26.9**	**-0.4**
J05D					IAmb	IAmb	13 48 31.4	
	comp=Z,10nm,1.1s							
USRK	**Ussuriysk Ar.**		**82.91**	**325**	P	**P**	**13 48 29.0**	**0.0**
USRK	**Ussuriysk Ar.**		**82.91**	**325**	P	**P**	**13 48 29.2**	**+0.2**
	comp=Z,6.7nm,0.9s,baz=140,slow=3.9,SNR=9.3							
	comp=Z,6.7nm,0.9s							
BMN	**Battle Mountai**		**83.00**	**41**	IAmb	IAmb	13 49 01.2	
	comp=Z,20nm,1.7s							
PINE	**Pine Mountain**		**83.04**	**36**	P	**P**	**13 48 30.2**	**+0.2**
LCMT	**Little Creek M**		**83.43**	**45**	IAmb	IAmb	13 48 37.0	
	comp=Z,7.0nm,1.2s							
WVOR	**Wild Horse Val**		**83.44**	**38**	IAmb	IAmb	13 48 47.6	
	comp=Z,7.7nm,1.1s							
SZCU	**Shurtz Canyon**		**83.87**	**45**	IAmb	IAmb	13 48 50.7	
	comp=Z,8.5nm,1.3s							
NJ2	**Nanjing**		**83.90**	**309**	*e*P	**P**	**13 48 35.1**	**+0.7**
NJ2					pP	**PcP**	**13 48 39.7**	**+1.3**
NJ2					sP	**pwP**	**13 48 42.4**	**-4.4**
NJ2					pmax	pmax		
	comp=Z,8.0nm,0.5s							
NJ2					pmax	pmax		
	comp=Z,300nm,5.9s							
J08A	**Circle Bar Ran**		**84.12**	**38**	IAmb	IAmb	13 48 51.0	
	comp=Z,13nm,1.2s							
ELIB	**Princess Elisa**		**84.19**	**186**	*d*PP	**PP**	**13 51 45.0**	**-4.2**
MTPU	**Mount Pierson**		**84.71**	**45**	IAmb	IAmb	13 48 55.8	
	comp=Z,13nm,1.2s							
TROLL	**Troll, Antarti**		**84.94**	**179**	⇑P	**P**	**13 48 42.0**	**+2.7**
	comp=Z,221nm,0.7s							
G08A	**Pilot Rock**		**85.09**	**36**	IAmb	IAmb	13 48 56.2	
	comp=Z,8.0nm,1.1s							
SNAA	**Sanae**		**85.13**	**177**	⇑P	**P**	**13 48 42.2**	**+2.0**
	comp=Z,63nm,0.9s							
VNA3	**Neumayer Olymp**		**85.16**	**175**	⇑P	**P**	**13 48 42.3**	**+2.1**
	comp=Z,7.4nm,0.7s							
PLCA	**Paso Flores**		**85.24**	**132**	LR	LR	14 18 09.8	
	comp=Z,191nm,21.5s,baz=232,slow=30							
E07A	**Sunnyside**		**85.44**	**35**	IAmb	IAmb	13 48 57.6	
	comp=Z,6.0nm,1.0s							
HAWA	**Hanford**		**85.50**	**35**	IAmb	IAmb	13 48 56.1	
	comp=Z,27nm,1.9s							
L16K	**Owhat River**		**85.60**	**7**	IAmb	IAmb	13 48 57.9	
	comp=Z,1nm,1.4s							
VNA2	**Neumayer--Watz**		**85.63**	**176**	⇑P	**P**	**13 48 45.1**	**+2.5**
	comp=Z,4.8nm,0.8s,baz=183,slow=2.0							
TX31	**Lajitas Ar. Si**		**86.14**	**56**	IAmb	IAmb	13 49 21.6	
	comp=Z,13nm,1.6s							
TXAR	**Lajitas Array**		**86.14**	**56**	P	**P**	**13 48 47.0**	**+1.1**
	comp=Z,2.9nm,1.1s,baz=216,slow=6.2,SNR=14							
TXAR					LR	LR	14 19 36.4	
	comp=Z,114nm,19.5s,baz=206,slow=30							
	comp=Z,2.9nm,1.1s							
BNX	**BinXian**		**86.39**	**324**	⇑P	**P**	**13 48 47.7**	**+1.1**
BNX					pmax	pmax		
	comp=Z,10.0nm,1.1s							
BNX					pmax	pmax		
	comp=Z,110nm,5.7s							
ALPN	**Alpine**		**86.67**	**55**	IAmb	IAmb	13 49 04.0	
	comp=Z,6.0nm,1.1s							
CMIG	**Matias Romero**		**87.80**	**70**	LR	LR	14 19 17.0	
	comp=Z,207nm,19.9s,baz=190,slow=30							
GSI	**Gunungsitoli**		**88.28**	**272**	P	**P**	**13 48 54.3**	**-2.2**
PDAR	**Pinedale Array**		**89.02**	**42**	P	**P**	**13 48 59.6**	**0.0**
	comp=Z,0.6nm,0.9s,baz=141,slow=3.0,SNR=4.0							
	comp=Z,0.6nm,0.9s							
M27K	**Edge Creek, AK**		**89.31**	**15**	IAmb	IAmb	13 49 16.1	
	comp=Z,13nm,1.1s							
O30N	**Mendenhall**		**89.46**	**18**	IAmb	IAmb	13 49 05.5	
	comp=Z,7.9nm,1.2s							
DLBC	**Dease Lake**		**89.50**	**22**	P	**P**	**13 49 01.7**	**+0.4**
	comp=Z,1.6nm,1.0s,baz=192,slow=7.9,SNR=2.9							
	comp=Z,1.6nm,1.0s							
LYN	**LuoYang**		**89.77**	**308**	*e*P	**P**	**13 49 06.0**	**+3.0**
LYN					pmax	pmax		
	comp=Z,12nm,0.9s							
R33M	**Jennings River**		**89.92**	**21**	IAmb	IAmb	13 49 19.3	
	comp=Z,9.4nm,1.4s							
L27K	**Beaver Creek,**		**89.93**	**14**	IAmb	IAmb	13 49 26.2	
	comp=Z,11nm,1.6s							
ENH	**Enshi**		**90.01**	**303**	P	**P**	**13 49 04.1**	**-0.2**
ENH					IAmb	IAmb	13 49 17.4	
	comp=Z,11nm,1.0s							
HDA	**Harding Lake**		**90.07**	**12**	IAmb	IAmb	13 49 06.5	
	comp=Z,7.7nm,1.1s							
G19K	**Purcell Mounta**		**90.17**	**7**	IAmb	IAmb	13 49 19.2	
	comp=Z,8.9nm,1.1s							
ILAR	**Eielson Array**		**90.41**	**12**	P	**P**	**13 49 05.5**	**+0.2**
ILAR	**Eielson Array**		**90.41**	**12**	P	**P**	**13 49 04.9**	**-0.4**
	comp=Z,3.1nm,1.1s,baz=220,slow=4.9,SNR=12							
	comp=Z,3.1nm,1.1s							
J25K	**Salcha River,**		**90.55**	**12**	IAmb	IAmb	13 49 09.8	
	comp=Z,6.5nm,1.2s							
M30M	**Minto, Yukon**		**90.76**	**17**	IAmb	IAmb	13 49 33.6	
	comp=Z,12nm,1.6s							
F19K	**Shaleruckik Mo**		**90.76**	**7**	IAmb	IAmb	13 49 21.6	
	comp=Z,6.2nm,1.0s							
E18K	**Tukpahlearik C**		**91.06**	**5**	IAmb	IAmb	13 49 23.2	
	comp=Z,5.5nm,1.0s							
DAWY	**Dawson**		**91.36**	**15**	P	**P**	**13 49 09.7**	**-0.1**
DAWY					IAmb	IAmb	13 49 12.8	
	comp=Z,6.9nm,1.2s							
E19K	**Redstone River**		**91.42**	**7**	IAmb	IAmb	13 49 13.1	
	comp=Z,9.3nm,1.2s							
EGAK	**Eagle**		**91.57**	**14**	IAmb	IAmb	13 49 14.1	
	comp=Z,7.4nm,1.1s							
K29M	**Barlow Dome**		**91.62**	**16**	P	**P**	**13 49 12.3**	**+1.2**
K29M					IAmb	IAmb	13 49 13.9	
	comp=Z,10nm,1.2s							
XAN	**Xi'an**		**92.14**	**306**	⇑P	**P**	**13 49 15.7**	**+1.6**
XAN					pP	pwP	13 49 26.6	+0.1
XAN					pmax	pmax		
	comp=Z,12nm,0.8s							
NNA	**Nana**		**92.53**	**104**	LR	LR	14 21 48.1	
	comp=Z,418nm,20.0s,baz=219,slow=30							
ATAH	**Atahualpa**		**93.10**	**99**	LR	LR	14 22 23.4	
	comp=Z,225nm,19.9s,baz=321,slow=30							
HHC	**Hu-ho-hao-te**		**93.38**	**313**	*e*P	**P**	**13 49 20.4**	**+0.6**
HHC					pP	PcP	13 49 24.8	+4.5
HHC					sP	pwP	13 49 28.8	-3.3
HHC	**Hu-ho-hao-te**		**93.38**	**313**	*e*S	**S**	**14 00 26.6**	**-1.2**
HHC	**Hu-ho-hao-te**		**93.38**	**313**	sS	sS	14 00 36.3	+8.2
HHC					pmax	pmax		
	comp=Z,11nm,0.8s							
HHC					pmax	pmax		
	comp=Z,94nm,3.9s							
HHC					LR	LR		
	comp=N,120nm,13.2s							
HHC					LR	LR		
	comp=E,140nm,17.3s							
HHC					LR	LR		
	comp=Z,180nm,18.6s							
CMAR	**Chiang Mai Arr**		**93.78**	**288**	P	**P**	**13 49 21.8**	**-0.2**
CMAR	**Chiang Mai Arr**		**93.78**	**288**	P	**P**	**13 49 23.2**	**+1.2**
	comp=Z,4.0nm,0.9s,baz=129,slow=3.0,SNR=18							
	comp=Z,4.0nm,0.9s							
PZH	**PanZhiHua**		**94.58**	**297**	P	**P**	**13 49 27.4**	**+1.7**
PZH					pmax	pmax		
	comp=Z,10.0nm,0.7s							
PZH					pmax	pmax		
	comp=Z,130nm,4.9s							
LVC	**Limon Verde**		**94.77**	**117**	LR	LR	14 23 58.3	
	comp=Z,198nm,19.4s,baz=272,slow=30							
F31M	**Tsiigehtchic**		**95.47**	**15**	IAmb	IAmb	13 49 30.5	
	comp=Z,11nm,1.4s							
YKA	**Yellowknife Ar**		**97.83**	**24**	P	**P**	**13 49 39.6**	**+0.3**
	comp=Z,0.9nm,1.0s,baz=240,slow=4.4,SNR=9.0							
	comp=Z,0.9nm,1.0s							
WMQ	**Urumqi**		**110.95**	**310**	*e*P	**PKiKP**	**13 54 37.6**	**-0.2**
MKAR	**Makanchi Array**		**115.23**	**312**	PKiKP	**PKPdf**	**13 54 44.5**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=119,slow=2.1,SNR=5.2							
KURBB	**Kurchatov Arra**		**118.07**	**316**	PKP	**PKPdf**	**13 54 50.2**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=107,slow=1.7,SNR=2.8							
BVAR	**Borovoye Array**		**123.09**	**319**	PKP	**PKPdf**	**13 54 60.0**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=82,slow=0.9,SNR=5.2							
AKASG	**Malin Array Be**		**146.85**	**332**	PKPbc	**PKPdf**	**13 55 45.4**	**+0.7**
	comp=Z,1.7nm,0.5s,baz=39,slow=3.7,SNR=10							
EKA	**Eskdalemuir Ar**		**147.40**	**9**	PKPbc	**PKiKP**	**13 55 50.5**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=347,slow=2.9,SNR=3.4							
BRTR	**Keskin Array B**		**150.87**	**311**	PKPbc	**PKPbc**	**13 55 56.4**	**-1.0**
	comp=Z,1.8nm,0.9s,baz=158,slow=3.6,SNR=6.9							
KOLS	**Kolonicke sedl**		**151.04**	**336**	*e*PKP	**PKPab**	**13 56 03.9**	**-0.9**
NIE	**Niedzica**		**151.32**	**339**	*e*PKP	**PKPbc**	**13 55 56.4**	**-1.6**
CRVS	**Cervenica-Dubn**		**151.37**	**337**	*e*PKP	**PKPab**	**13 56 08.6**	**+2.5**
CLL	**Collm**		**151.37**	**350**	*e*PKPdf	**PKPdf**	**13 55 52.0**	**+0.1**
CLL					*e*PKPbc	**PKPbc**	**13 55 58.0**	**+0.1**
	comp=Z,7.0nm,1.2s							
CLL					*e*PKPab	**PKPab**	**13 56 06.0**	**0.0**
	comp=Z,6.0nm,0.9s							
CLL					*i* x	x	13 56 11.6	
	comp=Z,18nm,1.1s							
CLL					AMS	AMS	15 22 00.0	
	comp=Z,200nm,21.0s							
OSTC	**Ostas**		**151.44**	**345**⇑	*e*PKP	**PKiKP**	**13 55 59.1**	**+0.4**
OSTC					*e*x	x	13 56 11.7	
DPC	**Dobruska-Polom**		**151.61**	**345**⇑	*e*PKP	**PKiKP**	**13 55 59.4**	**+0.4**
DPC					*e*x	x	13 56 11.7	
BRG	**Berggiesshubel**		**151.63**	**348**	*e*PKP	**PKiKP**	**13 56 00.0**	**+1.1**
BRG					Amp		13 56 02.0	
	comp=Z,3.5nm,0.9s							
BRG	**Berggiesshubel**		**151.63**	**348**	P	**PKPab**	**13 56 12.4**	**+5.3**
BRG					Amp		13 56 13.9	
	comp=Z,6.8nm,0.9s							
MMAI	**Mount Meron Ar**		**151.71**	**297**	PKPbc	**PKPbc**	**13 55 59.4**	**0.0**
	comp=Z,1.3nm,0.2s,baz=154,slow=4.6,SNR=1.9							
MORC	**Moravsky Berou**		**151.83**	**343**	*e*PKP	**PKPbc**	**13 55 59.0**	**-0.1**
VRAC	**Vranov**		**152.51**	**344**	*e*PKP	**PKPbc**	**13 55 59.7**	**-0.9**
JAVC	**Velka Javorina**		**152.62**	**342**	*e*PKP	**PKiKP**	**13 56 01.6**	**+0.4**
KRUC	**Moravsky**		**152.78**	**344**	*e*PKP	**PKPbc**	**13 56 01.3**	**+0.1**
MODS	**Modra-Piesok**		**153.17**	**342**	*e*PKP	**PKiKP**	**13 56 03.7**	**+1.4**
KHC	**Kasperske Hory**		**153.36**	**348**⇑	*e*PKP	**PKiKP**	**13 56 04.1**	**+1.4**
KHC					*e*PKPAB	**sPKPab**	**13 56 15.7**	**+0.7**

*IDC **04** 13:41:02.9±2.0,24°.88N×141°.10E,h134km±20km,mb3.0/6, mbtmp3.4/7,Error ellipse: s-maj=37.1km s-min=18.4km az=95.0*

ISC 04 13:41:04.4±1.0,24°.9N±0°.1×141°.2E±0°.2,h150km,n7, σ0s97/8,mb3.1/6,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.33**	**22**	P	**Pn**	**13 41 42.9**	**-0.5**
	53nm,0.9s,baz=293,slow=20,SNR=1.7						
JCJ				S	**Sn**	**13 42 12.7**	**-0.9**
	40nm,0.3s,baz=301,slow=23,SNR=2.3						
WRA	**Warramunga Arr**	**45.10**	**189**	P	**P**	**13 49 04.9**	**-0.9**
	0.7nm,0.4s,baz=7.9,slow=8.6,SNR=12						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**48.83**	**189**	P	**P**	**13 49 34.5**	**-0.1**
	0.3nm,1.0s,baz=11,slow=10,SNR=1.4						
	0.3nm,1.0s						
MKAR	**Makanchi Array**	**51.20**	**311**	P	**P**	**13 49 52.8**	**+0.4**
	0.2nm,0.7s,baz=92,slow=9.3,SNR=3.2						
	0.2nm,0.7s						
BVAR	**Borovoye Array**	**59.05**	**318**	P	**P**	**13 50 48.0**	**-0.5**
	0.5nm,0.4s,baz=96,slow=8.0,SNR=5.5						
	0.5nm,0.4s						
ILAR	**Eielson Array**	**60.03**	**28**	P	**P**	**13 50 56.6**	**+1.6**
	0.2nm,0.8s,baz=253,slow=6.3,SNR=1.2						
	0.2nm,0.6s						
YKA	**Yellowknife Ar**	**74.46**	**28**	P	**P**	**13 52 26.0**	**+0.1**
	0.2nm,0.7s,baz=301,slow=6.4,SNR=4.3						
	0.2nm,0.7s						

*IDC **04** 13:43:02.0±1.9,33°.22S×178°.45W,h0km,mb4.2/3, mbtmp4.2/4,ML3.8/1,Error ellipse: s-maj=55.9km s-min=38.0km az=147.0*
*NEIC **04** 13:43:04.4±0.7,33°.5S±0°.2×178°.5W±0°.2,h10km±2km, mb4.2/6,Error ellipse: s-maj=27.6km s-min=24.1km az=335.0*

ISC 04 13:43:03.5±1.2,33°.52S±0°.10×178°.3W±0°.1,h10km,n30, σ2s02/24,mb4.2/7,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.88**	**213**	Pn	Pn	13 44 14.8	-2.2
URZ	**Urewera**	**6.00**	**217**	Pn	**Pn**	**13 44 34.5**	**+2.1**
	2.3nm,0.3s,baz=4.9,slow=4.0,SNR=13						
URZ				Sn	**Sn**	**13 45 42.9**	**+1.7**
	6.4nm,0.3s,baz=355,slow=8.1,SNR=8.6						
	8.0nm,0.3s						
RTZ	**Ruatahuna**	**6.34**	**215**	Pn	**Pn**	**13 44 37.5**	**+0.3**
BKZ	**Black Stump Fm**	**7.01**	**215**	Pn	**Pn**	**13 44 47.6**	**+1.2**
TMVZ	**Te Maari**	**7.37**	**219**	P	**Sn**	**13 46 17.0**	**+1.9**
ETVZ	**East Tongariro**	**7.38**	**219**	P	**Sn**	**13 46 16.4**	**+1.0**
HIZ	**Hauiti**	**7.43**	**226**	Pn	**Pn**	**13 44 52.4**	**+0.3**
BHHZ	**Black Hill Sta**	**7.47**	**216**	P	**Sn**	**13 46 19.4**	**+1.9**
PNHZ	**Pukenui**	**7.74**	**213**	P	**Sn**	**13 46 23.4**	**-0.8**
TSZ	**Takapari Road**	**7.97**	**213**	P	**Sn**	**13 46 28.0**	**-1.7**
DVHZ	**Dannevirke**	**8.07**	**211**	P	**Sn**	**13 46 28.7**	**-3.5**
ANWZ	**Angora Road**	**8.08**	**209**	P	**Sn**	**13 46 30.0**	**-2.1**
POWZ	**Post Office Ro**	**8.32**	**213**	P	**Sn**	**13 46 36.0**	**-2.3**
BFZ	**Birch Farm**	**8.36**	**210**	P	**Sn**	**13 46 36.4**	**-2.7**
PRWZ	**Pori Road**	**8.37**	**211**	P	**Sn**	**13 46 36.2**	**-3.2**
PKE	**Pukeiti**	**8.39**	**225**	P	**Sn**	**13 46 43.8**	**+3.8**
CTZ	**Chatham Island**	**10.29**	**173**	Pn	**Pn**	**13 45 33.1**	**+1.9**
CTA	**Charters Tower**	**34.15**	**284**	P	**P**	**13 49 48.6**	**-0.4**
	2.1nm,0.7s,baz=104,slow=10,SNR=2.0						
	2.1nm,0.7s						
AS31	**Alice Springs**	**42.76**	**270**	P	**P**	**13 51 00.5**	**-0.8**
AS31				IAmb	IAmb	13 51 01.4	
	comp=Z,1.3nm,0.6s						
ASAR	**Alice Springs**	**42.76**	**270**	P	**P**	**13 51 00.3**	**-1.1**
ASAR	**Alice Springs**	**42.76**	**270**	P	P	13 50 59.8	-1.6
	comp=Z,3.2nm,0.7s,baz=110,slow=7.4,SNR=40						
	comp=Z,3.2nm,0.7s						
WR0	**Warramunga Arr**	**43.85**	**276**	P	P	13 51 08.7	-1.5
WR0				IAmb	IAmb	13 51 12.2	
	comp=Z,7.6nm,1.4s						
WB2	**Warramunga Arr**	**44.02**	**276**	P	P	13 51 10.1	-1.5
WRAB	**Tennant Creek**	**44.02**	**276**	P	P	13 51 09.9	-1.7
WRAB				IAmb	IAmb	13 51 36.1	
	comp=Z,6.1nm,1.1s						
WRA	**Warramunga Arr**	**44.03**	**276**	P	P	13 51 10.0	-1.6
WRA	**Warramunga Arr**	**44.03**	**276**	P	**P**	**13 51 10.4**	**-1.2**
	comp=Z,1.7nm,0.6s,baz=116,slow=7.7,SNR=29						
	comp=Z,1.7nm,0.6s						
WB0	**Warramunga Arr**	**44.06**	**276**	P	P	13 51 10.5	-1.4
WB0				IAmb	IAmb	13 51 26.0	
	comp=Z,4.1nm,0.9s						
MKAR	**Makanchi Array**	**119.53**	**309**	PKP	**PKPdf**	**14 01 52.0**	**-1.2**
	comp=Z,0.5nm,0.9s,baz=50,slow=1.9,SNR=4.3						
BVAR	**Borovoye Array**	**128.41**	**314**	PKP	**PKPdf**	**14 02 10.3**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=114,slow=1.7,SNR=2.3						
FINES	**FINESS Array B**	**147.95**	**338**	PKPbc	**PKPdf**	**14 02 46.6**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=93,slow=3.8,SNR=9.3						

*NEIC **04** 13:45:05.9±1.1,22°.96S±0°.08×174°.60W±0°.07,h10km±1km, mb4.9/37,Error ellipse: s-maj=16.0km s-min=6.6km az=140.0*
*IDC **04** 13:45:07.4±0.6,23°.01S×175°.13W,h0km,mb4.6/15, mbtmp4.6/16,ML5.1/1,MS4.0/3,Error ellipse: s-maj=22.7km s-min=16.6km az=144.0*
*GCMT **04** 13:45:08.9±0.4,23°.38S±0°.03×174°.64W±0°.03,h20km±1km, MW4.9/92,Moment Tensor Solution. s22,c24; s92,c114; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}2.33±.20; $M_{\theta\theta}$-0.95±.12; $M_{\phi\phi}$-1.38±.12; $M_{r\theta}$0.95±.23; $M_{\theta\phi}$-1.14±.06; $M_{\phi r}$-0.22±.21; Best double couple: M_o2.51100×10¹⁶ NP1:ϕ_s58.00000°,δ53.00000°,λ112.00000°. NP2: ϕ_s203.00000°,δ42.00000°,λ63.00000°. Principal axes: T 2.6520, Plg71.0000°, Azm25.0000°; N -0.2860, Plg18.0000°, Azm224.0000°; P -2.3710, Plg6.0000°, Azm132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NOU **04** 13:45:15.1,22°.68S×174°.30W,h113km,mb4.8/19,Tonga Islands Region*

ISC 04 13:45:07.2±0.4,23°.07S±0°.06×174°.74W±0°.06,h10km, n151,σ2s06/142,mb4.9/42,MS4.0/3,10C-5D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**6.00**	**49**	P	**Pn**	**13 46 33.1**	**-2.9**
	baz=5.5,SNR=9.3						
NIUE				S	Sn	13 47 33.2	-12
	baz=5.5						
NIUE	**Niue**	**6.00**	**49**		**Pn**	**13 46 32.8**	**-3.3**
NIUE	**Niue**	**6.00**	**49**	P	**Pn**	**13 46 33.3**	**-2.7**
RAO	**Raoul Island**	**6.79**	**204**	Pn	**Pn**	**13 46 47.6**	**+0.8**
RAO	**Raoul Island**	**6.79**	**204**	Pn	**Pn**	**13 46 47.9**	**+1.1**
	36nm,0.3s,baz=127,slow=23,SNR=4.6						
RAO					Sn	**Sn**	**13 48 01.3**	**-2.8**
	baz=262,slow=23						
	164nm,0.3s						
DGTI	**Dogotuki**	**8.51**	**321**	P	Pn	13 47 15.6	+5.1
MSVF	**Nonsavu**	**8.59**	**307**	Pn	**Pn**	**13 47 14.4**	**+2.7**
AFI	**Afiamalu**	**9.53**	**18**		**Pn**	**13 47 20.7**	**-3.9**
AFI	**Afiamalu**	**9.53**	**18**	P	**Pn**	**13 47 22.1**	**-2.5**
RAR	**Rarotonga**	**13.99**	**85**	Pn	**Pn**	**13 48 22.2**	**-3.4**
RAR	**Rarotonga**	**13.99**	**85**	P	**Pn**	**13 48 23.7**	**-1.9**
RAR	**Rarotonga**	**13.99**	**85**	Pn	**Pn**	**13 48 23.1**	**-2.4**
	5.9nm,0.3s,baz=265,slow=8.6,SNR=12						
RAR					Sn	Sn	13 50 46.8	-14
	2.6nm,0.3s,baz=62,slow=21,SNR=2.6						
PINNC	**Pines Island,**	**16.43**	**268**	P	**P**	**13 49 01.0**	**+0.3**
URZ	**Urewera**	**16.67**	**203**	Pn	**P**	**13 49 04.5**	**+1.3**
	0.6nm,0.3s,baz=159,slow=3.7,SNR=4.0						
URZ					Sn	Sn	13 51 54.1	-12
	1.0nm,0.3s,baz=307,slow=20,SNR=5.3						
OUENC	**Ouen Island, N**	**17.00**	**269**	Pn	**Pn**	**13 49 04.9**	**-0.3**
RTZ	**Ruatahuna**	**17.04**	**203**	Pn	**Pn**	**13 49 05.9**	**+0.4**
DZM	**Mont Dzumac**	**17.41**	**270**	Pn	**Pn**	**13 49 09.8**	**-0.6**
DZM	**Mont Dzumac**	**17.41**	**270**	P	**P**	**13 49 14.6**	**+3.0**
DZM	**Mont Dzumac**	**17.41**	**270**	P	**P**	**13 49 13.3**	**+1.7**
	25nm,0.8s,baz=86,slow=18,SNR=12						
DZM				LR	LR	13 54 36.1	
	comp=Z,495nm,18.2s,baz=101,slow=33						
HIZ	**Hauiti**	**17.78**	**208**	P	**Pn**	**13 49 15.4**	**+0.7**
BFZ	**Birch Farm**	**19.14**	**201**	P	**P**	**13 49 30.0**	**-0.4**
BFZ				IAmb	IA

comp=Z,20nm,1.3s
VNDA Vanda 55.66 186 P P 13 54 47.8 +4.8
comp=Z,2.3nm,0.9s,baz=336,slow=6.6,SNR=5.6
VNDA LR LR 14 15 40.5
comp=Z,127nm,19.5s,baz=13,slow=33
FITZ Fitzroy Crossi 55.71 263 P **P** **13 54 43.6 -0.6**
baz=56,SNR=13
FITZ Fitzroy Crossi 55.71 263 P **P** **13 54 43.2 -1.0**
FITZ Fitzroy Crossi 55.71 263 P **P** **13 54 43.5 -0.8**
SOEI Soe 59.61 272 P **P** **13 55 10.3 -1.6**
KLBR Kellerberrin 59.75 246 P **P** **13 55 12.0 -0.5**
baz=60,SNR=5.1
MEEK Meekatharra 59.97 252 P **P** **13 55 13.3 -0.8**
baz=60,SNR=4.8
MEEK Meekatharra 59.97 252 P **P** **13 55 14.2 +0.1**
comp=Z,13nm,2.1s
PSA00 Pilbara Seismi 60.06 258 P **P** **13 55 13.6 -1.2**
PSA00 IAmb IAmb 13 55 19.5
comp=Z,9.4nm,1.4s
MBWA Marble Bar 60.27 258 P **P** **13 55 14.9 -1.4**
MBWA IAmb IAmb 13 55 20.8
comp=Z,20nm,1.1s
MORW Morawa 61.68 248 P **P** **13 55 24.9 -0.8**
baz=62,SNR=4.4
MORW Morawa 61.68 248 P **P** **13 55 24.9 -0.8**
QSPA South Pole Qui 67.01 180 P **P** **13 56 02.7 +2.5**
comp=Z,7.3nm,1.0s,baz=59,slow=4.5,SNR=9.2
comp=Z,7.3nm,1.0s
MJAR Matsushiro Arr 74.07 322 P **P** **13 56 43.8 +0.3**
comp=Z,1.8nm,0.6s,baz=157,slow=4.3,SNR=11
comp=Z,1.8nm,0.6s
MAJO Matsushiro 74.08 322 P **P** **13 56 40.4 -3.1**
MAJO IAmb IAmb 13 56 54.1
comp=Z,9.3nm,1.1s
MJB9 Matsu-Tunnel 74.08 322 P **P** **13 56 40.3 -3.2**
MJB9 IAmb IAmb 13 56 54.1
comp=Z,8.7nm,1.1s
TPUB Ta-pu 77.90 302 P **P** **13 57 04.6 -1.1**
PETK Petropavlovsk- 79.55 344 P **P** **13 57 14.7 +0.8**
comp=Z,6.8nm,0.8s,baz=133,slow=6.5,SNR=5.5
comp=Z,6.8nm,0.8s
KSRS Korea Array 80.81 317 P **P** **13 57 22.5 +1.4**
comp=Z,4.0nm,0.9s,baz=132,slow=6.3,SNR=8.2
comp=Z,4.0nm,0.9s
NVAR Mina Array Bea 80.87 42 P **P** **13 57 24.7 +3.0**
comp=Z,3.4nm,0.9s,baz=223,slow=9.1,SNR=18
comp=Z,3.4nm,0.9s
USRK Ussuriysk Ar. 82.79 324 P **P** **13 57 33.2 +1.8**
comp=Z,13nm,0.9s,baz=123,slow=3.1,SNR=18
comp=Z,13nm,0.9s
NJ2 Nanjing 83.84 308 *e*P **P** **13 57 37.3 +0.2**
NJ2 pP **PcP** **13 57 40.8 -0.4**
NJ2 sP **sP** **13 57 42.1 +3.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
NJ2 pmax pmax
comp=Z,170nm,4.7s
ELIB Princess Elisa 84.42 186 *o*x x 13 57 41.1
TROLL Troll, Antarti 85.16 179 ⇑P **P** **13 57 42.1 -1.3**
comp=Z,430nm,1.0s
PLCA Paso Flores 85.31 132 P P 13 57 49.1 +4.4
comp=Z,5.8nm,1.2s,baz=257,slow=5.2,SNR=3.6
comp=Z,5.8nm,1.2s
SNAA Sanae 85.35 177 ⇑P **P** **13 57 46.3 +2.1**
comp=Z,73nm,0.9s
VNA3 Neumayer Olymp 85.37 175 ⇑P **P** **13 57 45.8 +1.5**
comp=Z,8.8nm,0.8s
VNA2 Neumayer--Watz 85.84 176 ⇑P **P** **13 57 49.4 +2.7**
comp=Z,6.4nm,0.7s,baz=193,slow=1.4
TXAR Lajitas Array 85.93 56 P **P** **13 57 50.9 +3.0**
comp=Z,2.4nm,1.0s,baz=216,slow=6.2,SNR=13
comp=Z,2.4nm,1.0s
BNX BinXian 86.27 324 ⇓P **P** **13 57 50.6 +1.6**
BNX pmax pmax
comp=Z,16nm,0.9s
BNX pmax pmax
comp=Z,170nm,3.9s
J18K Innoko River 87.41 8 P **P** **13 57 52.2 -2.0**
J18K IAmb IAmb 13 58 10.3
comp=Z,14nm,1.1s
PDAR Pinedale Array 88.79 42 P **P** **13 58 03.5 +2.0**
comp=Z,1.0nm,1.0s,baz=206,slow=3.9,SNR=5.1
comp=Z,1.0nm,1.0s
LYN LuoYang 89.72 308 ⇓P **P** **13 58 08.2 +2.4**
LYN pmax pmax
comp=Z,19nm,0.8s
ILAR Eielson Array 90.17 12 P **P** **13 58 09.3 +2.1**
comp=Z,2.1nm,1.0s,baz=217,slow=5.1,SNR=11
comp=Z,2.1nm,1.0s
J25K Salcha River, 90.32 12 P **P** **13 58 06.5 -1.5**
J25K IAmb IAmb 13 58 24.0
comp=Z,8.4nm,1.1s
F19K Shaleruckik Mo 90.53 7 P **P** **13 58 07.2 -1.5**
XAN Xi'an 92.09 306 ⇓P **P** **13 58 18.2 +1.3**
XAN pmax pmax
comp=Z,14nm,1.2s
KMI Kunming 93.20 296 ⇓P **P** **13 58 25.4 +3.0**
KMI sP pwP 13 58 37.8 +4.5
KMI pmax pmax
comp=Z,8.0nm,0.8s
HHC Hu-ho-hao-te 93.31 313 *e*P **P** **13 58 21.9 -0.5**
HHC pP PcP 13 58 27.1 +4.1
HHC sP pwP 13 58 30.9 -2.4
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,94nm,4.4s
HHC LR LR
comp=N,120nm,16.7s
HHC LR LR
comp=Z,110nm,15.6s
CMAR Chiang Mai Arr 93.81 288 P **P** **13 58 27.6 +2.5**
comp=Z,4.3nm,0.9s,baz=128,slow=3.2,SNR=30
PZH PanZhiHua 94.57 297 P **P** **13 58 30.4 +1.8**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,6.2s
YKA Yellowknife Ar 97.59 24 P Pdif 13 58 42.8 +1.4
comp=Z,0.7nm,0.9s,baz=235,slow=4.5,SNR=11
comp=Z,0.7nm,0.9s
WMQ Urumqi 110.89 310 *e*P **PKiKP** **14 03 36.9 -3.8**
ZALV Zalesovo Beam 114.39 320 PKiKP **PKiKP** **14 03 47.3 +0.4**
comp=Z,0.3nm,0.4s,baz=191,slow=5.9,SNR=3.7
MKAR Makanchi Array 115.16 312 PKiKP **PKiKP** **14 03 49.1 +0.4**
comp=Z,0.5nm,0.6s,baz=176,slow=0.5,SNR=6.7
KURBB Kurchatov Arra 117.98 316 PKP **PKiKP** **14 03 54.0 +0.1**
comp=Z,0.8nm,0.7s,baz=105,slow=1.9,SNR=9.2
BVAR Borovoye Array 122.99 319 PKP **PKiKP** **14 04 04.4 +0.6**
comp=Z,1.2nm,0.6s,baz=180,slow=0.3,SNR=7.2
NACGM Naroch 144.38 339 *e*P PKPab 14 04 27.4 -14
comp=Z,4.0nm,0.8s,baz=121
AKASG Malin Array Be 146.71 332 PKPbc **PKPab** **14 04 49.5 -0.7**
comp=Z,7.7nm,0.9s,baz=38,slow=3.6,SNR=20
EKA Eskdalemuir Ar 147.17 9 PKPbc **PKiKP** **14 04 51.9 -0.7**
comp=Z,3.0nm,0.9s,baz=337,slow=4.6,SNR=3.1
ASF Jabal al Asfar 150.62 295 PKPbc **PKiKP** **14 05 02.0 +1.3**
comp=Z,4.1nm,0.6s,baz=135,slow=0.1,SNR=7.4
BRTR Keskin Array B 150.80 311 PKPbc **PKiKP** **14 05 01.0 +0.1**
comp=Z,3.3nm,0.8s,baz=132,slow=2.9,SNR=18
KSP Ksiaz 150.97 346 *e*PKP **PKiKP** **14 05 03.1 +2.4**
CLL Collm 151.18 350 *e*PKPdf **PKPdf** **14 04 55.0 +0.4**
CLL *e*PKPbc **PKiKP** **14 05 01.0 0.0**
comp=Z,8.0nm,0.9s
CLL *e*PKPab **PKPab** **14 05 09.0 +0.8**
CLL *i* x x 14 05 14.7
comp=Z,21nm,1.1s
OSTC Ostas 151.26 345⇑ *e*PKP **PKiKP** **14 05 03.0 +1.7**
DPC Dobruska-Polom 151.43 345⇑ *e*PKP **PKiKP** **14 05 03.3 +1.6**
BRG Berggiesshubel 151.43 348 Amp 14 05 04.8
comp=Z,5.3nm,0.9s
BRG Berggiesshubel 151.43 348 Amp 14 05 17.3
comp=Z,7.3nm,0.9s
BRG Berggiesshubel 151.43 348 *e*PKP **PKiKP** **14 05 03.2 +1.7**
BRG Berggiesshubel 151.43 348 P **PKPab** **14 05 16.0 +6.6**
KRLC Kraliky 151.57 344⇑ *e*PKP **PKiKP** **14 05 03.6 +1.6**
KRLC *ex* x 14 05 16.2
PVCC Panska Ves 151.64 347⇑ *e*PKP **PKiKP** **14 05 04.3 +2.3**
MORC Moravsky Berou 151.65 343 *e*PKP **PKiKP** **14 05 02.3 +0.2**
MMAI Mount Meron Ar 151.69 297 PKPbc **PKiKP** **14 05 04.1 +1.3**
comp=Z,1.2nm,0.3s,baz=52,slow=5.4,SNR=9.5
MAUC Maruska 151.94 342⇑ *e*PKP **PKiKP** **14 05 04.6 +1.8**
MAUC *ex* x 14 05 17.6
VRAC Vranov 152.32 344 *e*PKP **PKiKP** **14 05 02.9 -0.6**
EIL Elat 152.65 290 PKPbc **PKiKP** **14 05 05.6 +0.8**
comp=Z,2.3nm,0.7s,baz=64,slow=3.8,SNR=2.6
KHC Kasperske Hory 153.17 348⇑ *e*PKP **PKiKP** **14 05 06.8 +1.5**
KHC *e*PKPAB **sPKPab** **14 05 12.4 -4.5**
CONA Conrad Observa 153.79 344 *e*pPKP pPKPdf 14 05 00.7 +1.9
comp=Z,7.6nm,1.0s
RONA Rosalia, Austr 153.88 343 *e*PKiKP **PKiKP** **14 05 06.4 -0.4**
comp=Z,8.5nm,1.1s
ARSA Arzberg 154.50 344 *e*pPKP pPKPdf 14 05 01.7 +1.8
comp=Z,3.5nm,1.0s
BIOA Bad Ischl, Aus 154.53 347 *e*pPKP **PKPbc** **14 05 03.5 -4.6**
comp=Z,0.1nm,0.3s
LESA Schwarzleotal 154.98 348 *i* PKP **PKPbc** **14 05 06.2 -3.0**
comp=Z,9.3nm,1.1s
SOKA Soboth 155.16 344 *e*pPKP pPKPdf 14 05 04.3 +3.5
comp=Z,6.3nm,1.0s
KBA Koelnbreinsper 155.18 347 *e*PKP **PKPdf** **14 05 06.0 +5.3**
comp=Z,5.5nm,1.1s
RETA Reutte 155.24 351 *i* pPKP pPKPdf 14 05 02.5 +1.6
comp=Z,8.0nm,1.3s
WATA Walderalm 155.26 350 *e*pPKP pPKPdf 14 05 04.8 +3.8
comp=Z,11nm,2.1s
MOTA Moosalm 155.33 350 *e*pPKP pPKPdf 14 05 02.6 +1.4
comp=Z,8.0nm,1.5s
SQTA Sankt Quirin 155.43 350 *e*pPKP pPKPdf 14 05 04.6 +3.4
comp=Z,5.9nm,1.6s
MYKA Terra Mystica 155.54 346 *e*PKP **PKPdf** **14 04 58.5 -2.6**
comp=Z,2.0nm,0.6s
DAVA Damuels 155.55 352 *e*PKP **PKPdf** **14 04 58.2 -3.0**
comp=Z,8.0nm,1.3s
ABTA Abfaltersbach 155.66 348 *e*PKP **PKPdf** **14 04 57.3 -4.0**
comp=Z,7.9nm,1.7s
FETA Feichten 155.70 351 *e*PKP **PKPdf** **14 04 57.5 -4.0**
comp=Z,9.7nm,1.4s
ESDC Sonseca Array 161.69 23 PKPab **PKPab** **14 05 55.4 +1.7**
comp=Z,0.7nm,0.9s,baz=345,slow=3.6,SNR=3.0
TORD Torodi Ar. Bea 169.57 160 PKP **PKPdf** **14 05 16.9 +1.1**
comp=Z,1.0nm,1.0s,baz=271,slow=0.7,SNR=3.6

NEIC 04 13:57:53.0±0.7, **31°.150N**±0°.009×**103°.30W**±0°.02, **h7**km±5km, **mb_Lg2.7**/29, **ML2.7**/50, **Error ellipse: s-maj=2.7km s-min=1.3km az=84.0, Western Texas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNHN	**Monahans**	**0.50**	**67**		Pg	13 58 02.3	-0.3
PECS	**Pecos**	**0.54**	**294**		Pg	13 58 03.5	+0.2
PECS				IAML		13 58 21.4	
	348nm,0.8s						
PECS				IAML		13 58 21.4	
	339nm,0.6s						
ALPN	**Alpine**	**0.83**	**201**		Pg	13 58 08.6	-0.3
ALPN				Sg	Sg	13 58 18.6	-1.0
ODSA	**Odessa**	**1.16**	**33**		Pg	13 58 14.4	-0.9
VHRN	**Van Horn**	**1.49**	**256**		Pn	13 58 20.7	+0.4
VHRN				IAML		13 58 46.4	
	97nm,0.6s						
VHRN				IAML		13 58 48.3	
	133nm,0.5s						
SAND	**Sanderson**	**1.56**	**139**	Pg	Pb	13 58 21.8	-0.5
TX31	**Lajitas Ar. Si**	**1.84**	**190**	Pn	Pb	13 58 26.3	-0.6
TXAR	**Lajitas Array**	**1.84**	**190**		Pb	13 58 26.2	-0.8
OZNA	**Ozona**	**1.88**	**96**	Pn	Pb	13 58 26.9	-0.7
SGCY	**Sterling City**	**2.00**	**67**	Pn	Pb	13 58 28.8	-1.0
POST	**Post**	**2.44**	**38**		Pn	13 58 34.5	+1.2
POST				IAmb_Lg		13 59 15.7	
	comp=Z,46nm,0.7s						
SN05	**Snyder 5**	**2.68**	**49**		Pn	13 58 38.0	+1.4
SN05				IAmb_Lg		13 59 21.9	
	comp=Z,43nm,0.8s						
SN07	**Snyder 07**	**2.81**	**46**		Pn	13 58 38.9	+0.4
MSTX	**Muleshoe**	**2.85**	**9**	Pn	Pn	13 58 39.3	+0.3
MSTX				IAmb_Lg		13 59 21.8	
	comp=Z,16nm,1.0s						
DRIO	**Del Rio**	**2.89**	**126**		Pn	13 58 40.3	+0.9
JCT	**Junction City**	**3.08**	**102**	Pn	Pn	13 58 43.7	+1.6
DKNS	**Dickens**	**3.21**	**38**		Pn	13 58 44.9	+0.9
DKNS				IAmb_Lg		13 59 41.7	
	comp=Z,27nm,0.8s						
ABTX	**Abilene, Hawle**	**3.44**	**64**	IAmb_Lg		13 59 41.7	
	comp=Z,21nm,0.8s						
APMT	**Aspermont**	**3.46**	**50**	Pn	Pn	13 58 48.3	+1.0
APMT				IAmb_Lg		13 59 51.3	
	comp=Z,22nm,0.8s						
BRDY	**Brady**	**3.69**	**87**	Pn	Pn	13 58 51.7	+1.3
HNDO	**Hondo**	**3.83**	**114**		Pn	13 58 53.7	+1.4
HNDO				IAmb_Lg		13 59 57.0	
	comp=Z,26nm,1.1s						
AMTX	**Amarillo**	**3.96**	**20**	IAmb_Lg		14 00 04.8	
	comp=Z,19nm,1.2s						
PLPT	**Palo Pinto**	**4.55**	**67**	Pn	Pn	13 59 02.8	+0.6
PLPT				IAmb_Lg		14 00 28.2	
	comp=Z,15nm,0.9s						
HPIG		**4.68**	**207**	Pn	Pn	13 59 04.4	+0.1
WTFS	**Witchita Falls**	**4.85**	**56**	Pn	Pn	13 59 07.1	+0.7
435B	**Jarrell**	**4.92**	**93**	IAmb_Lg		14 00 41.5	
	comp=Z,13nm,0.7s						
FW07	**Weatherford**	**4.94**	**70**	IAmb_Lg		14 00 42.8	
	comp=Z,16nm,0.8s						
WMOK	**Wichita Mounta**	**5.22**	**46**	Pn	Pn	13 59 12.2	+0.8
WMOK				IAmb_Lg		14 00 50.1	
	comp=Z,7.8nm,0.7s						
RTBA	**Rita Blanca**	**5.29**	**5**	IAmb_Lg		14 00 53.9	
	comp=Z,7.5nm,0.7s						
Z35A	**Perchaven, San**	**5.56**	**65**	Pn	Pn	13 59 16.8	+0.6
Z35A				IAmb_Lg		14 01 00.2	
	comp=Z,15nm,0.9s						

*IDC **04** 13:59:25.2±2.1, 40°.65N×52°.02E, h53km±31km, mb3.7/2, mbtmp3.7/8, ML3.4/6, Error ellipse: s-maj=35.1km s-min=15.6km az=29.0*
*AZER **04** 13:59:27.7, 40°.54N×51°.89E, h60km, ml3.6*
*TEH **04** 13:59:27.9, 40°.43N×51°.97E, h60km, ML3.8*
*DRS **04** 13:59:29.0, 40°.72N×52°.23E, h26km*
ISC 04 13:59:26.4±0.8, **40°.65N**±0°.04×**52°.08E**±0°.05, **h93**km±12km, **n84**, **σ1°87**/133, **3C-2D, Turkmenistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDR	**Nardaran**	**1.59**	**268**	Pg	Pn	13 59 55.5	+2.1
NDR				Sn	Sn	14 00 11.5	-2.5
GOBA	**Gobu**	**1.81**	**263**	Pg	Pn	13 59 58.3	+2.1
GOBA	**Gobu**	**1.81**	**263**	Pg	Pn	13 59 58.4	+2.1
GOBA				Sg	Sn	14 00 22.2	+3.4
GBS	**Qobustan**	**2.39**	**268**	Pn	Pn	14 00 05.6	+1.7
GBS	**Qobustan**	**2.39**	**268**	Pn	Pn	14 00 05.7	+1.7
GBS				Sn	Sn	14 00 33.1	+0.4
ATGJ	**Altiaghaj**	**2.40**	**276**	Pn	Pn	14 00 04.7	+0.7
ATGJ				Sn	Sn	14 00 34.9	+2.1
ALIB	**&Aumlli-Bayram**	**2.45**	**255**	Sn	Sn	14 00 33.1	-0.8
SIZA	**Siyzn**	**2.45**	**281**	Pn	Pn	14 00 06.2	+1.5
SIZA	**Siyzn**	**2.45**	**281**	Pn	Pn	14 00 06.2	+1.5
SIZA				Sn	Sn	14 00 35.5	+1.4
PQL	**Pirkuli**	**2.65**	**274**	Pn	Pn	14 00 08.4	+0.9
PQL				Sn	Sn	14 00 40.4	+1.3
QUBA	**Quba, Azerbaij**	**2.81**	**286**	Pn	Pn	14 00 10.3	+0.9
QUBA				Sn	Sn	14 00 43.0	+0.5
IML	**Ismayilli**	**2.97**	**274**	Pn	Pn	14 00 11.9	+0.4
IML				Sn	Sn	14 00 47.2	+0.9
QSAR	**Qusar**	**3.01**	**288**	Pn	Pn	14 00 12.8	+0.6
QSAR				Sn	Sn	14 00 47.6	+0.2
XNQ	**Khinaliq**	**3.03**	**281**	Pn	Pn	14 00 12.9	+0.3
XNQ	**Khinaliq**	**3.03**	**281**	Pn	Pn	14 00 13.0	+0.3
XNQ				Sn	Sn	14 00 47.4	-0.8
DRN	**Derbent**	**3.14**	**297**	*e*Pn	Pn	14 00 15.4	+1.6
	59nm,1.0s						
DRN				*e*Sn	Sn	14 00 49.6	-0.9
	114nm,0.3s						
GLBA	**Cilalabad**	**3.16**	**245**	Pn	Pn	14 00 14.5	+0.4
GLBA	**Cilalabad**	**3.16**	**245**	Pn	Pn	14 00 14.6	+0.4
GLBA				Sn	Sn	14 00 50.0	-1.0
LKRN	**Lenkeran, Azer**	**3.20**	**234**	Pn	Pn	14 00 15.0	+0.3
LKRN	**Lenkeran, Azer**	**3.20**	**234**	Pn	Pn	14 00 15.0	+0.3
LKRN				Sn	Sn	14 00 50.1	-1.7
QBL	**Gabala**	**3.23**	**277**	Pn	Pn	14 00 15.3	+0.2
QBL				Sn	Sn	14 00 51.2	-1.6
ASTR	**Astara**	**3.29**	**232**	Pn	Pn	14 00 15.6	-0.2
ASTR				Sn	Sn	14 00 51.6	-2.4
GAS1	**Astara - Iran**	**3.37**	**229**	Pn	Pn	14 00 16.6	-0.4
ZRD	**Zardab**	**3.37**	**265**	Pn	Pn	14 00 17.4	+0.4
ZRD				Sn	Sn	14 00 56.6	+0.6
AKT	**Akhty**	**3.39**	**286**	*e*Pn	Pn	14 00 17.4	0.0
	28nm,0.2s						
AKT				*e*Sn	Sn	14 00 54.7	-2.0
	172nm,0.2s						
YRD	**Yardimli**	**3.43**	**241**	Pn	Pn	14 00 16.9	-1.0
YRD				Sn	Sn	14 00 54.4	-3.3
LRK	**Lerik**	**3.51**	**236**	Pn	Pn	14 00 18.8	-0.3
LRK				Sn	Sn	14 00 57.2	-2.5
BLQ	**Beylaqan**	**3.58**	**256**	Pn	Pn	14 00 19.4	-0.5
BLQ				Sn	Sn	14 00 59.1	-2.1
URKR	**Urkarakh**	**3.67**	**296**	*e*Pn	Pn	14 00 21.8	+0.7
	18nm,0.2s						
URKR				*e*Sn	Sn	14 01 01.8	-1.6
	142nm,0.3s						
GRMI	**Germi**	**3.71**	**242**	Pn	Pn	14 00 21.4	-0.4
SEKA	**Sheki**	**3.74**	**280**	Pn	Pn	14 00 22.5	+0.5
SEKA				Sn	Sn	14 01 04.4	-0.7
BRDA	**Brd**	**3.76**	**266**	Pn	Pn	14 00 22.8	+0.7
BRDA				Sn	Sn	14 01 04.5	-0.9
SGKR	**Sergokala**	**3.78**	**300**	*e*Pn	Pn	14 00 23.4	+0.9
	37nm,0.4s						
SGKR				*e*Sn	Sn	14 01 05.3	-0.6
	112nm,0.2s						
MNGR	**Mingechevir, A**	**3.80**	**274**	Pn	Pn	14 00 23.0	+0.3
MNGR				Sn	Sn	14 01 06.7	+0.4
AGDM	**Agdam**	**3.83**	**264**	Pn	Pn	14 00 22.9	-0.4
AGDM				Sn	Sn	14 01 05.8	-1.5
QRD	**Qoradiz**	**3.84**	**254**	Pn	Pn	14 00 23.6	+0.3
QRD				Sn	Sn	14 01 04.6	-2.8
KMKR	**Kumukh**	**4.03**	**293**	*e*Pn	Pn	14 00 26.9	+0.8
	25nm,0.2s						
KMKR				*e*Sn	Sn	14 01 10.9	-1.3
	75nm,0.2s						
GNBR	**Gunib**	**4.22**	**296**	*e*Pn	Pn	14 00 30.0	+1.6
	10.0nm,0.1s						
GNBR				*e*Sn	Sn	14 01 15.8	-0.7
	39nm,0.2s						
ZKTA	**Zakatala**	**4.24**	**285**	Sn	Sn	14 01 16.5	-0.6
IMND	**Minoodasht**	**4.26**	**141**	Pn	Pn	14 00 30.3	+1.2
ARKR	**Arakani**	**4.28**	**299**	*e*Pn	Pn	14 00 30.5	+1.2
	6.0nm,1.1s						
ARKR				*e*Sn	Sn	14 01 16.8	-1.4
	97nm,0.4s						
BUJR	**Buynaksk**	**4.31**	**302**	*e*Pn	Pn	14 00 30.6	+0.9
	32nm,0.3s						
BUJR				*e*Sn	Sn	14 01 17.8	-1.0
	26nm,0.3s						
MRVT	**Maraveh tapeh**	**4.32**	**132**	Pn	Pn	14 00 31.2	+1.4
JIR1	**Jirandeh**	**4.32**	**205**	Pn	Pn	14 00 29.0	-1.0
VSHL	**Vashlovani**	**4.34**	**280**	P	Pn	14 00 30.8	+0.6
VSHL				S	Sn	14 01 17.9	-1.7
IGLO	**Ghaloghah**	**4.36**	**161**	Pn	Pn	14 00 30.9	+0.3
GANJ	**Ganja**	**4.38**	**272**	Pn	Pn	14 00 29.6	-1.1
GANJ				Sn	Sn	14 01 17.4	-3.2
IPRN	**Peran**	**4.40**	**177**	Pn	Pn	14 00 31.2	0.0
XNZR	**Khunzakh**	**4.45**	**297**	*e*Pn	Pn	14 00 33.3	+1.5
	12nm,0.4s						
XNZR				*e*Sn	Sn	14 01 21.7	-0.7
	41nm,0.3s						
UNCR	**Uncukul**	**4.46**	**299**	*e*Pn	Pn	14 00 33.4	+1.6
	14nm,0.3s						
UNCR				*e*Sn	Sn	14 01 22.3	-0.3
	48nm,0.6s						
IHRS	**Heris**	**4.54**	**241**	Pn	Pn	14 00 33.2	+0.2
LGD	**Lagodekhi**	**4.56**	**287**	P	Pn	14 00 33.4	+0.4
LGD				S	Sn	14 01 24.0	-0.8
DBC	**Dubki**	**4.58**	**303**	*e*Pn	Pn	14 00 34.5	+1.1
	6.0nm,0.6s						
DBC				*e*Sn	Sn	14 01 24.0	-1.5
	48nm,0.6s						
IALA	**Alasht**	**4.59**	**173**	Pn	Pn	14 00 34.3	+0.4
GDB	**GEDABAY**	**4.81**	**273**	Pn	Pn	14 00 35.4	-1.2
GDB				Sn	Sn	14 01 28.1	-3.1
ORD	**Ordubad**	**4.99**	**252**	Pn	Pn	14 00 39.8	+0.8
ORD				Sn	Sn	14 01 33.9	-1.7
QZX	**Qazax, Azerbai**	**5.10**	**277**	Pn	Pn	14 00 39.6	-0.8
QZX				Sn	Sn	14 01 33.7	-4.4
DGRG	**David-gareji**	**5.13**	**281**	P	Pn	14 00 41.1	+0.2
DGRG				S	Sn	14 01 38.7	-0.2
SBZ	**Shahbuz**	**5.16**	**258**	Pn	Pn	14 00 42.0	+0.7
SBZ				Sn	Sn	14 01 38.9	-0.9
NAX	**Nakhchivan**	**5.27**	**256**	Pn	Pn	14 00 44.0	+1.2
NAX				Sn	Sn	14 01 38.9	-3.4
IMRD	**Marand**	**5.29**	**251**	Pn	Pn	14 00 43.8	+0.7
GEYT	**Alibeck**	**5.41**	**118**	P	Pn	14 00 45.4	+0.7
	1.2nm,0.3s,baz=305,slow=13,SNR=7.7						
GEYT				S	Sn	14 01 45.7	0.0
	5.7nm,0.4s,baz=284,slow=24,SNR=8.1						
	3.7nm,0.6s						
SHTL	**Shatili**	**5.56**	**293**	P	Pn	14 00 47.2	+0.4
SHTL				S	Sn	14 01 47.2	-2.3
CHRG	**Chargali**	**5.63**	**290**	P	Pn	14 00 47.7	0.0
CHRG				S	Sn	14 01 48.4	-2.7
ISFR	**Sfrayin**	**5.85**	**126**	Pn	Pn	14 00 53.0	+2.1
MTEO	**Meteo**	**6.00**	**292**	P	Pn	14 00 55.0	+1.9
IEMG	**Emamgholi**	**6.05**	**120**	Pn	Pn	14 00 54.6	+1.0
TRLG	**Trialeti**	**6.09**	**281**	P	Pn	14 00 52.6	-1.4
TRLG				S	Sn	14 01 57.8	-4.6
ALIG	**Mtskhetisjvari**	**6.51**	**286**	P	Pn	14 00 59.0	-0.6
IKRD	**Kardeh**	**6.98**	**121**	Pn	Pn	14 01 08.9	+2.7
KBZ	**Khabaz**	**7.48**	**297**	P	Pn	14 01 10.8	-2.0
	0.3nm,0.3s,baz=102,slow=3.8,SNR=16						
KBZ				S	Sn	14 02 28.2	-7.7
	2.6nm,0.3s,baz=294,slow=9.7,SNR=8.8						
	1.1nm,0.2s						
TNSJ	**Nastanj**	**7.58**	**150**	Pn	Pn	14 01 15.5	+1.2
KVAR	**Kislovodsk Arr**	**7.70**	**298**	P	Pn	14 01 15.0	-0.9
	baz=48,slow=23						
KVAR				S	Sn	14 02 34.6	-6.8
	7.5nm,0.3s,baz=203,slow=9.3,SNR=6.6						
	2.3nm,0.5s						
TKDS	**Koohdasht(Taba**	**8.09**	**149**	Pn	Pn	14 01 22.5	+1.2
ITEG	**Tejag**	**9.40**	**143**	Pn	Pn	14 01 41.6	+2.4
AB31	**Akbulak array**	**10.25**	**30**	⇑Pn	Pn	14 01 48.0	-2.3
	0.1nm,0.2s,baz=212,slow=14,SNR=10						
AB31				⇓Sn	Sn	14 03 36.3	-7.0
	0.8nm,0.3s,baz=224,slow=24,SNR=6.5						
AKTO	**Aktyubinsk**	**10.63**	**21**	P	Pn	14 01 53.6	-2.0
	0.5nm,0.3s,baz=212,slow=10,SNR=14						
AKTO				S	Sn	14 03 43.9	-8.8
	2.6nm,0.5s,baz=76,slow=21,SNR=6.9						
	1.4nm,0.2s						
AKTO	**Aktyubinsk**	**10.63**	**21**	⇓Pn	Pn	14 01 52.0	-3.6
	1.0nm,0.6s						
AKTO				⇑Sn	Sn	14 03 45.5	-7.1
	1.5nm,0.5s						
BRTR	**Keskin Array B**	**14.13**	**272**	P	P	14 02 48.5	+1.5
	0.9nm,0.6s,baz=64,slow=10,SNR=5.9						
BVAR	**Borovoye Array**	**17.55**	**39**	P	P	14 03 25.9	+1.2
	baz=227,slow=7.7,SNR=5.4						
BVAR				S	Sn	14 06 30.0	-10
	0.6nm,0.6s,baz=233,slow=22,SNR=5.0						
	0.7nm,0.6s						
AKASG	**Malin Array Be**	**18.80**	**310**	P	P	14 03 39.0	+0.7
	1.0nm,0.3s,baz=115,slow=11,SNR=4.4						
	0.3nm,0.3s					

*SJA **04** 14:06:53.6±0.7,31°.04S×71°.57W,h48km±7km,ML4.1, MW4.1*
*IDC **04** 14:06:54.6±0.6,31°.09S×71°.50W,h64km±5km,mb3.6/6, mbtmp3.8/8,MS4.4/1,Error ellipse: s-maj=28.6km s-min=17.4km az=93.0*
*GUC **04** 14:06:55.8±0.8,31°.04S×71°.36W,h63km±3km,ML4.3*
*NEIC **04** 14:06:55.4±0.8,31°.06S±0°.05×71°.48W±0°.09,h60km±9km, mb4.3/3,Error ellipse: s-maj=11.6km s-min=7.1km az=108.0*

ISC 04 14:06:54.2±0.5,**31°.09S**±0°.03×**71°.51W**±0°.04,**h60**km±4km, **n110**,σ1s**73**/131,**mb4.2**/8,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.42**	**346**			**Pn**	**14 07 07.4**	**+2.0**
CO06	**Fray Jorge**	**0.42**	**346**	*e*P		**Pn**	**14 07 07.3**	**+1.9**
CO06				*i* S		**Sn**	**14 07 16.6**	**+3.0**
CO06				IAML			14 07 18.2	
	comp=E,62μm,0.4s							
CO02	**Combarbal**	**0.46**	**105**			**Pn**	**14 07 06.5**	**+0.6**
CO02	**Combarbal**	**0.46**	**105**	*e*P		**Pn**	**14 07 05.9**	**0.0**
CO02				*e*S		**Sn**	**14 07 14.9**	**+0.5**
CO02				IAML			14 07 16.4	
	comp=Z,14μm,0.3s							
CO02	**Combarbal**	**0.46**	**105**	*e*P		**Pn**	**14 07 06.5**	**+0.6**
CO03	**El Pedregal**	**0.75**	**71**			**Pn**	**14 07 08.7**	**-0.5**
CO03	**El Pedregal**	**0.75**	**71**	*e*P		**Pn**	**14 07 08.7**	**-0.5**
CO03				*e*S		**Sn**	**14 07 19.1**	**-1.0**
CO03				IAML			14 07 19.5	
	comp=Z,13μm,0.2s							
CO03	**El Pedregal**	**0.75**	**71**	*e*P		**Pn**	**14 07 08.9**	**-0.2**
CO03				*i* S		**Sn**	**14 07 18.8**	**-1.4**
CO03				IAML			14 07 19.7	
	comp=E,36μm,0.2s							
GO04	**Tololo Observa**	**1.10**	**34**			**Pn**	**14 07 14.1**	**+0.3**
GO04	**Tololo Observa**	**1.10**	**34**	*e*P		**Pn**	**14 07 14.2**	**+0.3**
GO04				*e*S		**Sn**	**14 07 28.4**	**+0.1**
GO04	**Tololo Observa**	**1.10**	**34**	*e*P		**Pn**	**14 07 14.2**	**+0.4**
GO04				*i* S		**Sn**	**14 07 27.8**	**-0.6**
CO05	**La Serena**	**1.19**	**12**			**Pn**	**14 07 15.6**	**+0.8**
CO05	**La Serena**	**1.19**	**12**	*e*P		**Pn**	**14 07 15.5**	**+0.8**
CO05				*i* S		**Sn**	**14 07 29.6**	**-0.4**
CO05				IAML			14 07 36.5	
	comp=E,7μm,0.3s							
VA06	**Catapilco**	**1.48**	**173**	Pn		**Pn**	**14 07 20.3**	**+1.7**
CO01	**Juntas del Tor**	**1.65**	**48**			**Pn**	**14 07 21.8**	**+0.6**
CO01	**Juntas del Tor**	**1.65**	**48**	*e*P		**Pn**	**14 07 22.1**	**+0.9**
CO01				*e*S		**Sn**	**14 07 41.8**	**+0.3**
CO01				IAML			14 07 43.0	
	comp=Z,4μm,0.1s							
CO01	**Juntas del Tor**	**1.65**	**48**	*e*P		**Pn**	**14 07 21.9**	**+0.7**
CO01				*i* S		**Sn**	**14 07 41.4**	**-0.1**
CO01				IAML			14 07 42.5	
	comp=N,5μm,0.2s							
VA03	**San Esteban**	**1.86**	**154**			**Pn**	**14 07 25.3**	**+1.4**
VA03	**San Esteban**	**1.86**	**154**	*e*P		**Pn**	**14 07 25.6**	**+1.7**
VA03				IAML			14 08 03.1	
	comp=Z,1μm,0.5s							
ROC1	**El Roble**	**1.93**	**167**	*e*P		**Pn**	**14 07 26.7**	**+1.7**
ROC1				*e*S		**Sn**	**14 07 44.7**	**-3.6**
VA01	**Torpederas**	**1.93**	**183**			**Pn**	**14 07 26.2**	**+1.4**
VA01	**Torpederas**	**1.93**	**183**	*e*P		**Pn**	**14 07 26.4**	**+1.6**
AROD	**Rodeo**	**1.98**	**63**	*e*P		**Pn**	**14 07 27.8**	**+2.0**
AROD				*e*S		**Sn**	**14 07 52.4**	**+2.7**
RTLS	**Leoncito**	**2.02**	**111**	*e*P		**Pn**	**14 07 28.6**	**+2.3**
RTLS				*e*S		**Sn**	**14 07 54.4**	**+3.7**
RTLS				IAML			14 07 54.6	
	comp=Z,4μm,0.3s							
DOCA	**Reserva Natura**	**2.09**	**87**	*e*P		**Pn**	**14 07 29.0**	**+1.7**
DOCA				*e*S		**Sn**	**14 07 55.4**	**+3.0**
DOCA				IAML			14 07 58.0	
	comp=Z,3μm,0.3s							
ACCO	**Cerro Coronel**	**2.16**	**77**	*e*P		**Pn**	**14 07 30.3**	**+2.1**
ACCO				IAML			14 08 05.4	
	comp=Z,720nm,1.1s							
PEL	**Peldehue**	**2.17**	**161**	Pn		**Pn**	**14 07 29.5**	**+1.5**
PEL	**Peldehue**	**2.17**	**161**	*e*P		**Pn**	**14 07 30.0**	**+2.0**
LCO	**Las Campanas**	**2.19**	**19**	Pn		**Pn**	**14 07 29.5**	**+1.0**
LCO	**Las Campanas**	**2.19**	**19**	*e*P		**Pn**	**14 07 29.4**	**+1.0**
LCO				*e*S		**Sn**	**14 07 56.1**	**+1.6**
LCO	**Las Campanas**	**2.19**	**19**	*e*P		**Pn**	**14 07 29.2**	**+0.8**
LCO				*i* S		**Sn**	**14 07 54.9**	**+0.4**
MT02	**Curacav**	**2.19**	**172**	Pn		**Pn**	**14 07 29.5**	**+1.2**
MT02	**Curacav**	**2.19**	**172**	*e*P		**Pn**	**14 07 29.6**	**+1.3**
MT02				IAML			14 08 10.5	
	comp=Z,515nm,0.6s							
MT02	**Curacav**	**2.19**	**172**	*e*P		**Pn**	**14 07 29.6**	**+1.3**
MT02				*i* S		**Sn**	**14 07 57.1**	**+2.8**
ACDV	**Cuesta del Vie**	**2.26**	**67**	*e*P		**Pn**	**14 07 31.5**	**+2.2**
ACDV				*e*S		**Sn**	**14 08 00.7**	**+4.6**
ACDV				IAML			14 08 00.8	
	comp=Z,646nm,0.4s							
MT05	**Renca**	**2.39**	**164**			**Pn**	**14 07 32.5**	**+1.4**
MT05	**Renca**	**2.39**	**164**	*e*P		**Pn**	**14 07 33.2**	**+2.1**
MT05				IAML			14 08 24.0	
	comp=Z,807nm,0.3s							
FCH	**Farellones**	**2.46**	**155**	*e*P		**Pn**	**14 07 34.6**	**+2.3**
FCH				*i* S		**Sn**	**14 08 04.0**	**+2.6**
FCH				IAML			14 08 18.9	
	comp=E,615nm,0.1s							
MT16	**CCHEN**	**2.48**	**160**			**Pn**	**14 07 33.9**	**+1.6**
AC05	**El Transito**	**2.49**	**26**			**Pn**	**14 07 33.8**	**+1.3**
AC05	**El Transito**	**2.49**	**26**	*e*P		**Pn**	**14 07 33.6**	**+1.1**
AC05				*e*S		**Sn**	**14 08 03.1**	**+1.3**
AC05				IAML			14 08 03.7	
	comp=Z,653nm,0.2s							
AC05	**El Transito**	**2.49**	**26**	*e*P		**Pn**	**14 07 33.8**	**+1.3**
AC05				*i* S		**Sn**	**14 08 01.9**	**+0.1**
AC05				IAML			14 08 03.8	
	comp=E,2μm,0.2s							
MT03	**Universidad Ad**	**2.55**	**161**			**Pn**	**14 07 34.7**	**+1.5**
MT03	**Universidad Ad**	**2.55**	**161**	*e*P		**Pn**	**14 07 35.3**	**+2.1**
MT03				*e*S		Sn	14 07 53.8	-9.3
MT03				IAML			14 07 54.0	
	comp=Z,940nm,0.5s							
SJA	**San Juan**	**2.56**	**101**	*e*P		**Pn**	**14 07 36.3**	**+2.8**
SJA				IAML			14 08 29.7	
	comp=Z,379nm,0.5s							
VA05	**Santo Domingo**	**2.56**	**182**			**Pn**	**14 07 34.5**	**+1.1**
RTLL	**Cerro Villicun**	**2.62**	**96**	*e*P		**Pn**	**14 07 35.8**	**+1.7**
RTLL				IAML			14 08 32.8	
	comp=Z,522nm,0.3s							
MT09	**Talagante**	**2.72**	**171**			**Pn**	**14 07 37.0**	**+1.4**
ASAL	**Salagasta**	**2.73**	**124**	*e*P		**Pn**	**14 07 38.9**	**+3.2**
ASAL				*e*S		Sn	14 07 59.5	-8.1
ASAL				IAML			14 08 15.4	
	comp=Z,446nm,0.5s							
ARCO	**CERRO ARCO**	**2.81**	**129**	*e*P		**Pn**	**14 07 40.9**	**+4.1**
ARCO				IAML			14 08 37.7	
	comp=Z,343nm,0.8s							
MT13	**San Alfonso**	**2.85**	**159**	Pn		**Pn**	**14 07 39.0**	**+1.7**
AC04	**Llanos de Chal**	**2.90**	**8**	Pn		**Pn**	**14 07 38.5**	**+0.7**
AC04	**Llanos de Chal**	**2.90**	**8**	*e*P		**Pn**	**14 07 38.7**	**+0.7**
AC04				IAML			14 08 28.3	
	comp=Z,492nm,0.7s							
AC04	**Llanos de Chal**	**2.90**	**8**	*e*P		**Pn**	**14 07 38.6**	**+0.7**
LMEL	**Las Melosas**	**2.97**	**158**			**Pn**	**14 07 41.3**	**+2.2**
LMEL	**Las Melosas**	**2.97**	**158**	*e*P		**Pn**	**14 07 41.1**	**+2.1**
LMEL				*i* S		**Sn**	**14 08 15.4**	**+1.8**
BO04	**La Punta**	**2.99**	**165**			**Pn**	**14 07 40.9**	**+1.6**
AAGR	**Agrelo**	**3.03**	**132**	*e*P		**Pn**	**14 07 43.4**	**+3.6**
AAGR				IAML			14 08 46.4	
	comp=Z,309nm,1.1s							
BO01	**Tunca**	**3.32**	**174**	Pn		**Pn**	**14 07 44.4**	**+0.7**
BO01	**Tunca**	**3.32**	**174**	*e*P		**Pn**	**14 07 45.1**	**+1.5**
BO01				IAML			14 08 44.6	
	comp=Z,169nm,0.4s							
GO03	**Copiap**	**3.66**	**18**	Pn		**Pn**	**14 07 49.0**	**+0.7**
GO03	**Copiap**	**3.66**	**18**	*e*P		**Pn**	**14 07 49.5**	**+1.1**
BO02	**Sierra Bellavi**	**3.75**	**171**	Pn		**Pn**	**14 07 51.0**	**+1.4**
BO02	**Sierra Bellavi**	**3.75**	**171**	*e*P		**Pn**	**14 07 51.7**	**+2.1**
BO02				IAML			14 09 00.6	
	comp=Z,227nm,0.3s							
GO05	**Huala**	**3.93**	**185**	Pn		**Pn**	**14 07 52.6**	**+0.5**
ML02	**Panimavida**	**4.67**	**179**			**Pn**	**14 08 02.9**	**+0.8**
AC02	**Maricunga**	**4.72**	**27**	Pn		**Pn**	**14 08 03.7**	**+0.3**
AC02	**Maricunga**	**4.72**	**27**	*e*P		**Pn**	**14 08 03.4**	**0.0**
AC02				IAML			14 09 30.4	
	comp=Z,202nm,0.9s							
AC01	**Pan de Azucar**	**4.99**	**10**	*e*P		**Pn**	**14 08 05.2**	**-1.4**
AC01				IAML			14 09 32.0	
	comp=Z,109nm,0.4s							
BI05	**Punta Hualpn**	**5.82**	**193**	Pn		**Pn**	**14 08 17.9**	**+0.1**
H03N1	**Juan Fernandez**	**6.69**	**248**	P		**Pn**	**14 08 32.3**	**+2.7**
	baz=117,slow=18,SNR=298							
H03N1				T		T	14 15 28.3	
	baz=74,slow=72,SNR=1354							
VA04	**Juan Fernndez**	**6.69**	**246**			**Pn**	**14 08 31.4**	**+1.5**
H03N3	**Juan Fernandez**	**6.71**	**247**	P		**Pn**	**14 08 32.4**	**+2.6**
	baz=117,slow=18,SNR=209							
H03N3				T		T	14 15 27.6	
	baz=74,slow=72,SNR=958							
H03N2	**Juan Fernandez**	**6.71**	**248**	P		**Pn**	**14 08 32.6**	**+2.8**
	baz=117,slow=18,SNR=165							
H03N2				T		T	14 15 28.9	
	baz=74,slow=72,SNR=1055							
H03S3	**Juan Fernandez**	**6.82**	**244**	P		**Pn**	**14 08 33.1**	**+1.8**
	baz=28,slow=19,SNR=29							
H03S3				T		T	14 15 31.6	
	baz=67							
H03S1	**Juan Fernandez**	**6.83**	**244**	P		**Pn**	**14 08 32.9**	**+1.4**
	baz=28,slow=19,SNR=24							
H03S1				T		T	14 15 38.0	
	baz=67							
H03S2	**Juan Fernandez**	**6.84**	**244**	P		**Pn**	**14 08 33.3**	**+1.7**
	baz=28,slow=19,SNR=44							
H03S2				T		T	14 15 43.3	
	baz=67							
LVC	**Limon Verde**	**8.76**	**16**	P		**Pn**	**14 08 55.7**	**-2.8**
	comp=Z,1.4nm,0.3s,baz=196,slow=5.8,SNR=1.8							
LVC				S		**Sn**	**14 10 40.5**	**+4.5**
	comp=Z,6.5nm,0.5s,baz=281,slow=16,SNR=1.4							
PLCA	**Paso Flores**	**9.66**	**176**	P		**Pn**	**14 09 10.6**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=341,slow=14,SNR=6.0							
TRQA	**Tornquist**	**10.49**	**134**			**Pn**	**14 09 20.3**	**-1.5**
TA02	**Huaiquique**	**10.84**	**7**			**Pn**	**14 09 25.3**	**-1.4**
ITQB	**Itaqui**	**12.93**	**88**			**Pn**	**14 09 51.9**	**-3.3**
CPUP	**Villa Florida**	**13.32**	**73**	Pn		**Pn**	**14 09 57.0**	**-3.5**
CPUP	**Villa Florida**	**13.32**	**73**	P		Pn	14 09 56.0	-4.4
	comp=Z,0.7nm,0.4s,baz=201,slow=16,SNR=2.3							
CPUP				S		**Sn**	**14 12 25.4**	**-1.4**
	comp=Z,4.6nm,0.8s,baz=210,slow=14,SNR=1.9							
ITAB	**Concordia**	**17.36**	**82**			**Pn**	**14 10 52.7**	**+0.3**
ITAB				IAmb		IAmb	14 11 09.4	
	comp=Z,24nm,1.4s							
SIV	**San Ignacio**	**17.80**	**35**	P		**Pn**	**14 10 56.8**	**-1.1**
	comp=Z,1.8nm,0.6s,baz=211,slow=6.9,SNR=10							
BDFB	**Brasilia**	**26.41**	**60**	P		**P**	**14 12 25.1**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=234,slow=13,SNR=3.1							
	comp=Z,1.4nm,0.6s							
ROSC	**El Rosal**	**35.83**	**355**	P		**P**	**14 13 51.1**	**+2.6**
	comp=Z,6.9nm,0.4s,baz=103,slow=21,SNR=2.4							
SDV	**Santo Domingo**	**39.75**	**1**	LR		LR	14 30 44.4	
	comp=Z,502nm,20.1s,baz=118,slow=36							
SNAA	**Sanae**	**54.12**	**159**	P		**P**	**14 16 12.6**	**0.0**
	comp=Z,3.0nm,0.7s,baz=7.5,slow=4.2,SNR=3.5							
SNAA				pP		**pP**	**14 16 29.0**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=236,slow=3.6,SNR=1.5							
	comp=Z,3.0nm,0.7s							
QSPA	**South Pole Qui**	**59.14**	**180**	P		**P**	**14 16 49.9**	**+1.5**
QSPA				IAmb		IAmb	14 17 11.9	
	comp=Z,5.9nm,1.4s							
QSPA	**South Pole Qui**	**59.14**	**180**	P		**P**	**14 16 47.9**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=180,slow=3.0,SNR=4.1							
QSPA				pP		**pP**	**14 17 05.7**	**+1.1**
	comp=Z,2.6nm,1.0s,baz=67,slow=15,SNR=3.2							
	comp=Z,1.6nm,0.5s							
TXAR	**Lajitas Array**	**67.43**	**330**	P		**P**	**14 17 43.8**	**+0.3**
	comp=Z,0.2nm,0.8s,baz=155,slow=7.0,SNR=1.8							
TXAR				pP		**pP**	**14 18 00.3**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=150,slow=8.2,SNR=2.9							
	comp=Z,0.2nm,0.8s							
PDAR	**Pinedale Array**	**81.38**	**333**	P		**P**	**14 19 03.9**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=155,slow=3.0,SNR=1.9							
	comp=Z,0.1nm,0.3s							
TOA0	**Torodi Ar. Sit**	**82.80**	**70**	P		**P**	**14 19 12.3**	**0.0**
TOA0				IAmb		IAmb	14 19 13.0	
	comp=Z,2.2nm,0.7s							
TORD	**Torodi Ar. Bea**	**82.80**	**70**	P		**P**	**14 19 12.1**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=288,slow=5.3,SNR=9.2							
TORD				pP		**pP**	**14 19 29.9**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=283,slow=7.6,SNR=2.9							
	comp=Z,1.3nm,0.7s							
ASAR	**Alice Springs**	**120.36**	**207**	PKP		**PKPdf**	**14 25 38.8**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=107,slow=1.4,SNR=5.2							
WRA	**Warramunga Arr**	**123.51**	**209**	PKP		**PKPdf**	**14 25 44.7**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=160,slow=1.7,SNR=12							
WRA				pPKP		**pPKPdf**	**14 26 03.3**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=159,slow=1.6,SNR=2.0							
H11S2	**WAKE ISLAND Hyl**	**26.21**	**271**	T		T	16 44 51.7	
	baz=115,slow=75,SNR=143							
H11S1	**WAKE ISLAND Hyl**	**26.22**	**271**	T		T	16 44 45.8	
	baz=115,slow=75,SNR=177							
H11S3	**WAKE ISLAND Hyl**	**26.23**	**271**	T		T	16 44 46.0	
	baz=115,slow=75,SNR=165							
H11N3	**WAKE ISLAND Hyl**	**26.55**	**272**	T		T	16 45 17.4	
	baz=116,slow=75,SNR=30							
H11N1	**WAKE ISLAND Hyl**	**26.56**	**272**	T		T	16 45 13.6	
	baz=116,slow=75,SNR=14							
H11N2	**WAKE ISLAND Hyl**	**26.57**	**272**	T		T	16 45 18.8	
	baz=116,slow=75,SNR=68							
BVAR	**Borovoye Array**	**144.81**	**40**	PKP		PKPbc	14 26 24.0	+1.0
	comp=Z,1.1nm,0.6s,baz=304,slow=3.5,SNR=8.0							
BVAR				pPKP		pPKPdf	14 26 41.9	+0.1
	comp=Z,0.5nm,0.4s,baz=285,slow=2.4,SNR=3.6							
KURBB	**Kurchatov Arra**	**150.41**	**40**	PKPbc		**PKPbc**	**14 26 39.0**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=303,slow=3.2,SNR=6.2							
ZALV	**Zalesovo Beam**	**151.51**	**30**	PKPbc		**PKPbc**	**14 26 41.1**	**+0.2**
	comp=Z,2.6nm,0.6s,baz=296,slow=3.2,SNR=13							
ZALV				pPKPbc		**pPKPbc**	**14 26 59.8**	**+1.1**
	comp=Z,1.3nm,0.4s,baz=302,slow=5.0,SNR=5.0							
KSH	**Kashi**	**152.28**	**63**	pPKP			14 26 52.9	
KSH	**Kashi**	**152.28**	**63**	PKPbc		**P**	**14 26 43.8**	**+3.2**
MKAR	**Makanchi Array**	**154.45**	**45**	PKPbc		**PKPbc**	**14 26 47.7**	**0.0**
	comp=Z,0.3nm,0.7s,baz=318,slow=2.2,SNR=4.0							
MKAR				PKPab		**PKPab**	**14 27 01.0**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=276,slow=4.0,SNR=5.3							
MKAR				pPKPab		**pPKPab**	**14 27 20.1**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=291,slow=3.8,SNR=4.6							

*UPP **04** 14:18:56.3±0.1,67°.19N×20°.65E,h0km,ML1.9,Confirmed Induced event*
*BER **04** 14:18:56.6±1.4,66°.92N×20°.83E,h0km,ML1.7,Confirmed Induced event*
*HEL **04** 14:18:57.1,67°.16N×20°.78E,h0km,ML1.7,Confirmed Induced event*
*IDC **04** 14:18:58.2±1.2,67°.10N×21°.33E,h0km,mbtmp2.6/3, ML1.7/3,Error ellipse: s-maj=18.9km s-min=9.2km az=104.0*

ISC 04 14:18:56.1±0.7,**67°.19N**±0°.02×**20°.67E**±0°.02,**h0**km,**n37**, σ0s**75**/56,**Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DUNU	**Dundret**	**0.08**	**210**	P		**Pg**	**14 18 58.0**	**+0.3**
DUNU				S		**Sg**	**14 18 59.2**	**+0.5**
DUNU	**Dundret**	**0.08**	**210**	*i* P		**Pg**	**14 18 58.0**	**+0.3**
DUNU				*i* S		**Sg**	**14 18 59.2**	**+0.5**
MASU	**Masugnsbyn**	**0.58**	**62**	P		**Pg**	**14 19 07.5**	**+0.2**
MASU				S		**Sg**	**14 19 15.4**	**+0.7**
MASU	**Masugnsbyn**	**0.58**	**62**	*i* P		**Pg**	**14 19 07.5**	**+0.2**
MASU				*i* S		**Sg**	**14 19 15.4**	**+0.7**
RATU	**Laukkuluspa**	**0.76**	**327**	P		**Pg**	**14 19 10.5**	**-0.2**
RATU				S		**Sg**	**14 19 20.7**	**+0.2**
RATU	**Laukkuluspa**	**0.76**	**327**	*i* P		**Pg**	**14 19 10.5**	**-0.2**
RATU				*i* S		**Sg**	**14 19 20.7**	**+0.2**
KUA	**Kurravaara**	**0.78**	**351**	P		**Pg**	**14 19 10.9**	**-0.2**
KUA	**Kurravaara**	**0.78**	**351**	*i* P		**Pg**	**14 19 10.9**	**-0.2**
SALU	**Saltoluokta**	**0.86**	**284**	P		**Pg**	**14 19 12.4**	**-0.2**
SALU	**Saltoluokta**	**0.86**	**284**	*i* P		**Pg**	**14 19 12.4**	**-0.2**
LANU	**Lannavaara**	**1.00**	**30**	P		**Pg**	**14 19 15.1**	**-0.1**
LANU	**Lannavaara**	**1.00**	**30**	*e*P		**Pg**	**14 19 15.1**	**-0.1**
LANU				*e*S		**Sg**	**14 19 28.4**	**+0.2**
KOVU	**Salmi**	**1.05**	**350**	P		**Pg**	**14 19 16.1**	**-0.2**
KOVU	**Salmi**	**1.05**	**350**	*e*P		**Pg**	**14 19 16.1**	**-0.2**
KLF	**Kolari**	**1.28**	**87**	*e*P		**Pg**	**14 19 19.7**	**-1.0**
HEF	**Hetta**	**1.67**	**41**	*e*P		**Pn**	**14 19 26.4**	**-0.2**
HEF				*e*S		**Sn**	**14 19 48.1**	**-0.5**
HEF				MSG			14 19 52.3	
	comp=Z,2.8nm,0.2s							
KALU	**Kalix**	**1.71**	**140**	P		**Pn**	**14 19 27.1**	**-0.1**
KALU	**Kalix**	**1.71**	**140**	*e*PG		**Pn**	**14 19 27.3**	**+0.1**
KALU				*e*SN		**Sn**	**14 19 50.3**	**+0.5**
SJUU	**Sjulsmark**	**1.73**	**167**	P		**Pn**	**14 19 27.4**	**0.0**
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P		**Pn**	**14 19 27.4**	**0.0**
KIF	**Kilpisjarvi**	**1.82**	**1**	*e*PG		**Pg**	**14 19 31.2**	**+0.2**
KIF				*e*S		**Sb**	**14 19 54.1**	**+0.4**
KIF				MSG			14 19 56.8	
	comp=Z,6.3nm,0.2s							
TOF	**Tornio**	**1.83**	**126**	*e*P		**Pn**	**14 19 29.2**	**+0.3**
TOF				*e*SN		**Sn**	**14 19 53.3**	**+0.6**
TOF				MSG			14 19 56.3	
	comp=Z,5.3nm,0.2s							
KTK1	**Kautokeino**	**2.07**	**27**	*e*P		**Pb**	**14 19 33.6**	**-0.9**
KTK1				*e*S		**Sb**	**14 20 00.9**	**+0.2**
KTK1				IAML			14 20 02.4	
	comp=Z,12nm,0.4s							
KTK1	**Kautokeino**	**2.07**	**27**	*e*PG		**Pb**	**14 19 33.9**	**-0.6**
KTK1				*e*SG		**Sb**	**14 20 00.9**	**+0.2**
FAUS	**Fauske**	**2.10**	**278**	*e*P		**Pb**	**14 19 34.0**	**-1.0**
FAUS				*e*S		**Sn**	**14 19 58.7**	**-0.6**
FAUS				IAML			14 20 07.2	
	comp=Z,12nm,0.5s							
RNF	**Rovaniemi**	**2.19**	**103**	*e*PB		**Pn**	**14 19 35.1**	**+1.5**
RNF				MSG			14 20 06.2	
	comp=Z,3.9nm,0.2s							
STEI	**Steigen**	**2.21**	**292**	*e*PG		**Pb**	**14 19 36.6**	**-0.4**
STEI				*e*SG		**Sb**	**14 20 05.2**	**+0.4**
SGF	**Sodankyl**	**2.28**	**81**	*e*PB		**Pb**	**14 19 37.2**	**-1.0**
SGF				*e*SB		**Sb**	**14 20 06.5**	**-0.4**
SGF				MSG			14 20 11.1	
	comp=Z,4.1nm,0.2s							
JETT	**Jettan, Norway**	**2.38**	**358**	*e*SG		**Sb**	**14 20 09.9**	**+0.2**
TRO	**Tromso**	**2.54**	**346**	*e*SG		**Sg**	**14 20 16.3**	**-1.2**
MOR8	**Moi Rana**	**2.68**	**250**	*e*Pg		**Pn**	**14 19 41.0**	**+0.5**
MOR8				IAML			14 20 18.3	
	comp=Z,5.8nm,0.4s							
ARA0	**ARCESS Array S**	**2.96**	**35**	*e*P		**Pn**	**14 19 45.2**	**+0.9**
ARA0				IAML			14 20 31.0	
	comp=Z,3.3nm,0.6s							
ARA0	**ARCESS Array S**	**2.96**	**35**	*e*P		**Pn**	**14 19 45.1**	**+0.8**
ARCES	**ARCESS Array B**	**2.96**	**35**	Pn		**Pn**	**14 19 45.2**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=214,slow=13,SNR=9.8							
ARCES				Sn		**Sn**	**14 20 22.1**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=210,slow=26,SNR=10							
	comp=Z,0.8nm,0.5s							
UMAU	**Umeaa**	**3.32**	**180**	*e*P		**Pn**	**14 19 49.8**	**+0.6**
UMAU				*e*S		**Sn**	**14 20 28.4**	**-0.9**
FINES	**FINESS Array B**	**6.23**	**155**	Pn		**Pn**	**14 20 29.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=343,slow=18,SNR=3.7							
FINES				Sn		**Sn**	**14 21 38.5**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=340,slow=25,SNR=1.8							
FINES				Lg		Lg	14 22 06.9	
	comp=Z,0.2nm,0.3s,baz=342,slow=27,SNR=2.3							
	comp=Z,0.9nm,0.8s							
NOA	**NORSAR Array B**	**7.42**	**218**	Pn		**Pn**	**14 20 48.0**	**+2.3**
	baz=35,slow=19,SNR=1.2							
NOA				Lg		Lg	14 22 51.3	
	baz=34,slow=13,SNR=1.9							
	comp=Z,0.4nm,0.8s							

*ISK **04** 14:22:47.5,39°.70N×26°.10E,h9km,ML3.0/23*
*THE **04** 14:22:48.3,39°.68N×26°.15E,h10km,ML2.8/9,Error ellipse: s-maj=0.9km s-min=0.4km az=104.0*
*ATH **04** 14:22:48.5,39°.67N×26°.12E,h14km±1km,ML2.7/14,Error ellipse: s-maj=1.8km s-min=0.8km az=241.0*
*AFAD **04** 14:22:48.1±0.0,39°.66N×26°.11E,h7km±4km,ML2.9*

ISC 04 14:22:47.8±0.8,**39°.67N**±0°.01×**26°.15E**±0°.02,**h17**km±5km, **n72**,σ0s**96**/108,**Turkey**

| Code | Station Name | Δ° |

ENEZ				S	Sn	14 23 23.6	+1.3
	comp=E,840nm,0.4s						
EAG2	**Marmaro, Chios**	1.13	182	P	Pg	14 23 08.6	-1.0
EAG2				S	Sn	14 23 24.7	+0.9
KRBG	**Karabiga-Canak**	1.14	50	Pn	Pb	14 23 08.9	-0.1
PSRA	**Psara**	1.22	202	P	Pn	14 23 11.0	+1.0
PSRA				S	Sg	14 23 26.0	-1.3
PSRA				AML	AML	14 23 30.2	
	comp=E,1631µm,0.2s						
PSRA				AML	AML	14 23 33.5	
	comp=N,1607µm,0.2s						
ALN	**Alexandroupoli**	1.23	356	Pn	Pg	14 23 09.9	-1.6
ALN	**Alexandroupoli**	1.23	356	P	Pg	14 23 10.5	-1.0
ALN				S	Sb	14 23 26.8	+0.8
	comp=N,292nm,0.4s						
ALN	**Alexandroupoli**	1.23	356	P	Pg	14 23 10.5	-1.0
ALN				S	Sg	14 23 26.4	-1.1
ALN				AML	AML	14 23 27.8	
	comp=E,662µm,0.5s						
ALN				AML	AML	14 23 28.6	
	comp=N,506µm,0.3s						
GONE	**Gonen-Balikesi**	1.24	72	Pn	Pn	14 23 11.8	+1.5
RKY	**Sarkoy-Tekirda**	1.28	37	Pn	Pn	14 23 11.9	+0.9
CHOS	**Chios island**	1.29	183	P	Pg	14 23 11.3	-1.4
CHOS				S	Sn	14 23 29.2	+1.3
	comp=N,360nm,0.4s						
CHOS	**Chios island**	1.29	183	P	Pg	14 23 11.0	-1.7
CHOS				S	Sg	14 23 27.2	-2.3
CHOS				AML	AML	14 23 34.0	
	comp=E,788µm,0.3s						
CHOS				AML	AML	14 23 34.0	
	comp=N,529µm,0.3s						
BKES	**Balkesir-Mer**	1.37	87	P	Pg	14 23 14.4	+0.1
BKES				S	Sn	14 23 33.5	+3.6
BLKS	**Balkesir-Sus**	1.41	81	P	Pg	14 23 14.4	-0.7
THAS	**Thassos island**	1.44	311	P	Pn	14 23 13.4	+0.3
THAS				AML	AML	14 23 35.1	
	comp=N,123µm,0.3s						
THAS				AML	AML	14 23 39.8	
	comp=E,87µm,0.4s						
MRMT	**Marmara Adasi**	1.45	50	Pn	Pg	14 23 14.4	-1.3
ZEYE	**Izmir, Urla-Ze**	1.46	169	S	Sg	14 23 33.5	-1.4
BLCB	**Balcova**	1.46	151	Pn	Pg	14 23 15.2	-0.8
SKY	**Skiros Island**	1.48	238	P	Pn	14 23 14.2	+0.7
SKY				S	Sg	14 23 34.4	-1.1
	comp=E,275nm,0.4s						
SKY	**Skiros Island**	1.48	238	P	Pn	14 23 14.3	+0.7
SKY				AML	AML	14 23 38.4	
	comp=E,522µm,0.4s						
SKY				AML	AML	14 23 38.8	
	comp=N,582µm,0.4s						
EDC	**Edincik**	1.48	62	Pn	Pg	14 23 14.9	-1.4
AKS	**Akhisar**	1.51	121	Pn	Pg	14 23 15.9	-1.1
RDO	**Rodhopi**	1.54	343	Pn	Pn	14 23 15.1	+0.5
RDO	**Rodhopi**	1.54	343	P	Pn	14 23 15.0	+0.5
RDO				S	Sn	14 23 35.6	+1.4
RDO	**Rodhopi**	1.54	343	P	Pn	14 23 14.9	+0.4
RDO				S	Sn	14 23 33.2	-1.0
RDO				AML	AML	14 23 37.4	
	comp=N,148µm,0.4s						
RDO				AML	AML	14 23 38.7	
	comp=E,108µm,0.4s						
BAND	**Balkesir-Ban**	1.64	65	P	Pg	14 23 17.9	-1.5
KCTX	**Karacabey (Bur**	1.79	70	Pn	Pb	14 23 19.6	-0.6
KAVA	**Kavala**	1.82	317	P	Pn	14 23 18.0	-0.4
KAVA	**Kavala**	1.82	317	P	Pn	14 23 17.9	-0.4
KYMI	**Kymi, Euboea I**	1.90	238	P	Pn	14 23 19.0	-0.5
KYMI				AML	AML	14 23 52.0	
	comp=E,124µm,0.5s						
KYMI				AML	AML	14 23 53.5	
	comp=N,124µm,0.7s						
PAIG	**Paliouri**	1.92	278	P	Pn	14 23 20.3	+0.6
KOKK	**Kokkinochori,**	2.01	305	P	Pn	14 23 20.7	-0.2
SMG	**Samos**	2.03	164	P	Pn	14 23 21.8	+0.5
SMG	**Samos**	2.03	164	P	Pn	14 23 21.7	+0.4
SMG				AML	AML	14 23 56.7	
	comp=N,768µm,0.3s						
SMG				AML	AML	14 23 57.0	
	comp=E,1228µm,0.4s						
IZMR	**zmir-demi**	2.08	137	P	Pb	14 23 24.3	-0.8
IZMR				S	Sg	14 23 54.1	-0.7
EDRB	**Edirne**	2.22	12	P	Pn	14 23 24.3	+0.5
DION	**Dionisos Attik**	2.35	228	P	Pn	14 23 26.6	+0.9
IGD	**Bursa**	2.42	75	P	Pg	14 23 32.8	-1.4
IGD				S	Sg	14 24 04.0	-1.5
NVR	**Nevrokopi**	2.42	315	P	Pn	14 23 27.9	+1.3
NVR				AML	AML	14 24 13.7	
	comp=E,32µm,0.4s						
NVR				AML	AML	14 24 15.3	
	comp=N,34µm,0.6s						
EMET	**Ktahya-Emet**	2.47	96	P	Pg	14 23 36.4	+1.2
APE	**Apeiranthos**	2.65	191	P	Pn	14 23 29.5	-0.3
DOMA	**Ktahya-Doman**	2.73	87	P	Pg	14 23 37.8	-2.5
DOMA				S	Sg	14 24 14.6	-1.1

IDC 04 14:27:42.8±2.4, 5°97.5′S × 130°14.6′E, h0 km, mb3.2/1, mbtmp3.0/3, ML2.9/2, Error ellipse: s-maj=117.2km s-min=33.2km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.47**	**164**	Pn	Pn	14 31 10.9	+1.9
	0.1nm,0.3s,baz=344,slow=11,SNR=6.0						
WRA				Sn	Sn	14 33 38.1	-12
	0.1nm,0.3s,baz=330,slow=23,SNR=1.1						
	0.2nm,0.8s						
ASAR	**Alice Springs**	**17.96**	**169**	P	Pn	14 31 52.8	-1.4
	baz=343,slow=10,SNR=6.2						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**67.45**	**327**	P	P	14 38 40.5	+0.1
	0.1nm,0.5s,baz=124,slow=7.2,SNR=1.9						
	0.1nm,0.5s						

*IDC **04** 14:28:02.8±1.4, 6°21.5′S × 142°.66′E, h0 km, mb3.8/3, mbtmp3.5/6, ML3.4/2, Error ellipse: s-maj=40.9km s-min=25.5km az=62.0*

ISC 04 14:28:04.9±1.1, 6°4.5′S ±0°.1 × 142°4.4′E ±0°.1, h10 km, n6, σ2.9 s 52/8, mb4.0/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.53**	**123**	Pn	Pn	14 29 27.3	0.0
	1.3nm,0.3s,baz=301,slow=18,SNR=1.7						
PMG				Sn	Sn	14 30 30.8	-0.2
	1.0nm,0.3s,baz=310,slow=23,SNR=1.8						
WRA	**Warramunga Arr**	**15.57**	**210**	Pn	Pn	14 31 46.5	+1.9
	0.1nm,0.3s,baz=30,slow=13,SNR=8.9						
WRA				Sn	Sn	14 34 34.0	-3.2
	0.1nm,0.3s,baz=35,slow=22,SNR=1.3						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**19.00**	**205**	P	Pn	14 32 31.0	+3.4
	0.1nm,0.3s,baz=33,slow=10,SNR=15						
	0.4nm,0.5s						
VNDA	**Vanda**	**71.79**	**176**	P	P	14 39 26.7	-0.5
	1.9nm,0.9s,baz=333,slow=4.5,SNR=3.9						
	1.9nm,0.9s						
MKAR	**Makanchi Array**	**74.99**	**322**	P	P	14 39 47.8	+1.3
	0.3nm,0.8s,baz=100,slow=4.8,SNR=3.0						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**84.47**	**325**	P	P	14 40 35.8	-2.1
	0.6nm,0.7s,baz=128,slow=6.6,SNR=4.2						
	0.6nm,0.7s						

*BJI **04** 14:33:16.7±0.0, 6°.06S × 143°.31E, h10 km, mb5.2/93, mB5.5/74, Ms5.2/92, Ms7 5.1/87*
*MOS **04** 14:33:18.8±0.9, 5°.97S × 142°.87E, h8 km, mb5.7/45, MS5.3/12, Error ellipse: s-maj=8.9km s-min=4.7km az=117.0*
*IDC **04** 14:33:19.1±0.4, 5°.94S × 143°.00E, h0 km, mb5.3/22, mbtmp5.4/24, ML3.3/2, MS5.2/36, Error ellipse: s-maj=18.9km s-min=9.3km az=75.0*
*NEIC **04** 14:33:21.2, 6°.08S × 142°.73E, h6 km*
*NEIC **04** 14:33:21.2, 6°.07S × 142°.52E, h12 km, Moment Tensor Solution. Duration: 3s9 Moment tensor: Scale 10^17 Nm; Mrr4.74; Mθθ-2.23; Mφφ-2.51; Mrθ 0.82; Mθφ 2.18; Mφr-1.06; Fault plane solution: M0 4.84000×10^17 NP1: φs138.26000°, δ52.99000°, λ91.72000°. NP2: φs315.40000°, δ37.04000°, λ87.72000°. Principal axes: T 4.9311, Plg82.0000°, Azm57.0000°; N -0.1887, Plg1.0000°, Azm317.0000°; P -4.7424, Plg8.0000°, Azm227.0000°;*
*NEIC **04** 14:33:21.2, 6°.07S × 142°.72E, h12 km*
*NEIC **04** 14:33:21.2±2.2, 6°.07S±0°.07 × 142°.72E±0°.07, h6 km±1 km, mb5.7/304, Ms_20 5.6/794, Mwb5.6/46, Mww5.7/21, Error ellipse: s-maj=11.6km s-min=11.2km az=172.0, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr2.44; Mθθ-0.99; Mφφ-1.44; Mrθ 0.31; Mθφ 1.20; Mφr-1.01; Fault plane solution: M0 2.66000×10^17 NP1: φs148.95000°, δ56.47000°, λ99.59000°. NP2: φs311.94000°, δ34.72000°, λ75.88000°. Principal axes: T 2.6816, Plg76.0000°, Azm89.0000°; N -0.0515, Plg8.0000°, Azm324.0000°; P -2.6301, Plg11.0000°, Azm232.0000°;*
*DJA **04** 14:33:24.1±0.3, 6°S±2°×14°3E±°, h48 km±3km, M5.5/88, mB5.9/71, mb5.4/88, MLv6.2/7, Mw(mB)5.5/71, MwMwp5.4/44, Mwp5.6/44*
*GCMT **04** 14:33:24.2±0.1, 6°.14S±0°.01×142°.78E±0°.01, h12 km, MW5.7/162, Moment Tensor Solution. s133, c220; s162, c342; Duration: 1s7 Moment tensor: Scale 10^17 Nm; Mrr3.75±.03; Mθθ-1.48±.03; Mφφ-2.27±.03; Mrθ 1.58±.09; Mθφ 1.76±.02; Mφr-1.82±.09; Best double couple: M0 4.42800×10^17 NP1: φs140.00000°, δ61.00000°, λ89.00000°. NP2: φs323.00000°, δ29.00000°, λ92.00000°. Principal axes: T 4.4640, Plg73.0000°, Azm47.0000°; N -0.0730, Plg1.0000°, Azm141.0000°; P -4.3910, Plg16.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 14:33:21.3±0.4, 6°.07S±0°.03 × 142°.81E±0°.03, h12 km±2km, n1378, σ1°54/985, mb5.6/267, MS5.6/464, 38C-24D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**1.77**	**297**	P	Pb	14 33 54.1	+0.4
MMPI	**Merauke**	**3.39**	**225**	P	Pn	14 34 16.1	+2.0
GENI	**Genyem**	**4.34**	**323**	P	Pn	14 34 30.0	+2.8
GENI	**Genyem**	**4.34**	**323**	P	Pn	14 34 29.0	+1.8
PMG	**Port Moresby**	**5.44**	**128**	Pn	Pn	14 34 41.7	-0.6
PMG	**Port Moresby**	**5.44**	**128**	*ce* P	Pn	14 34 42.0	-0.3
PMG				pmax	pmax		
	comp=Z,349nm,0.6s						
PMG	**Port Moresby**	**5.44**	**128**	Pn	Pn	14 34 41.8	-0.4
	comp=Z,37nm,0.3s,baz=348,slow=4.1,SNR=147						
PMG				Sn	Sn	14 35 43.2	-1.7
	comp=Z,20nm,0.3s,baz=38,slow=23,SNR=1.4						
	comp=Z,276nm,0.5s						
SMPI	**Sarmi**	**5.76**	**315**	P	Pn	14 34 48.1	+1.5
	comp=Z,1µm,1.3s,comp=Z,19µmcomp=Z,33µmcomp=Z,6.4nm						
MANU	**Manus Island**	**6.05**	**49**	Pn	Pn	14 34 53.7	+3.0
MANU	**Manus Island**	**6.05**	**49**	P	Pn	14 34 53.8	+3.1
BULU	**Kimbe**	**7.49**	**86**	P	Pn	14 35 13.6	+3.2
COEN	**Coen**	**7.85**	**177**	P	Pn	14 35 17.4	+2.0
	baz=7.9,SNR=19						
COEN	**Coen**	**7.85**	**177**	Pn	Pn	14 35 16.7	+1.3
COEN	**Coen**	**7.85**	**177**	P	Pn	14 35 18.6	+3.2
KAVG	**Kavieng**	**8.69**	**67**	P	Pn	14 35 29.9	+2.9
RABL	**Rabaul**	**9.50**	**79**	Pn	Pn	14 35 40.2	+2.1
RABL	**Rabaul**	**9.50**	**79**	P	Pn	14 35 40.5	+2.4
FAKI	**Fak Fak**	**10.98**	**286**	Pn	Pn	14 35 57.9	-0.6
FAKI	**Fak Fak**	**10.98**	**286**	P	Pn	14 35 58.7	+0.3
FAKI	**Fak Fak**	**10.98**	**286**	P	Pn	14 35 56.4	-2.0
	comp=Z,176nm,0.8s,comp=Z,3µmcomp=Z,17µm						
SAUI	**Saumlaki**	**11.58**	**260**	Pn	Pn	14 36 05.1	-1.6
SAUI	**Saumlaki**	**11.58**	**260**	P	Pn	14 36 09.6	+3.0
SAUI	**Saumlaki**	**11.58**	**260**	P	Pn	14 36 07.6	+1.0
	comp=Z,2µm,0.9s,comp=Z,17µmcomp=Z,22µm						
KDU	**Kakadu**	**12.13**	**236**	P	Pn	14 36 13.4	-0.8
	baz=12,SNR=183						
KDU	**Kakadu**	**12.13**	**236**	P	Pn	14 36 14.4	+0.2
SWI	**Sorong**	**12.63**	**294**	P	Pn	14 36 21.0	0.0
SWI				pmax	pmax		
	comp=Z,134nm,0.8s						
SWI	**Sorong**	**12.63**	**294**	P	Pn	14 36 19.2	-1.8
	comp=Z,134nm,0.8s,comp=Z,2µmcomp=Z,10µm						
BNDI	**Bandanaira**	**12.94**	**276**	P	Pn	14 36 28.2	+3.0
BNDI	**Bandanaira**	**12.94**	**276**	P	Pn	14 36 25.2	0.0
	comp=Z,469nm,1.3s,comp=Z,31µmcomp=Z,14µm						
MTN	**Manton Dam**	**13.34**	**239**	P	Pn	14 36 29.4	-1.3
	baz=13,SNR=59						
MTN	**Manton Dam**	**13.34**	**239**	Pn	Pn	14 36 28.7	-2.0
DRS	**Darwin Rock St**	**13.35**	**241**	P	Pn	14 36 31.3	+0.6
TV1H	**Townsville Har**	**13.68**	**164**	P	Pn	14 36 38.8	+3.6
AUAYR	**Ayr State High**	**14.16**	**162**	P	Pn	14 36 45.5	+3.7
CTA	**Charters Tower**	**14.34**	**167**	Pn	Pn	14 36 44.9	+0.6
	comp=Z,0.2nm,0.3s,baz=339,slow=13,SNR=15						
CTA				Sn	Sn	14 39 26.6	+3.3
	baz=259,slow=20						
CTA				Lg	Lg	14 41 00.8	
	comp=Z,0.8nm,0.3s,baz=66,slow=18,SNR=3.8						
CTA				LR	LR	14 42 38.4	
	comp=Z,21µm,19.0s,baz=354,slow=39						
CTAO	**Charters Tower**	**14.34**	**167**	Pn	Pn	14 36 44.4	+0.1
CTAO	**Charters Tower**	**14.34**	**167**	P	Pn	14 36 47.3	+3.0
CTAO	**Charters Tower**	**14.34**	**167**	P	Pn	14 36 44.4	+0.1
QIS	**Mount Isa**	**14.74**	**192**	P	Pn	14 36 49.4	-0.4
	baz=15,SNR=52						
WB0	**Warramunga Arr**	**15.89**	**210**	Pn	Pn	14 37 02.7	-2.3
NLAI	**Namlea**	**15.91**	**279**	P	Pn	14 37 05.6	+0.4
	comp=Z,68nm,1.4s,comp=Z,4µm						
WR0	**Warramunga Arr**	**15.98**	**209**	Pn	Pn	14 37 04.0	-2.2
WRAB	**Tennant Creek**	**16.05**	**210**	Pn	Pn	14 37 04.7	-2.4
WRAB	**Tennant Creek**	**16.05**	**210**	*i* P	Pn	14 37 04.6	-2.5
WRAB				pmax	pmax		
	comp=Z,377nm,1.0s						
WB2	**Warramunga Arr**	**16.06**	**210**	P	Pn	14 37 04.9	-2.3
	baz=16						
WB2	**Warramunga Arr**	**16.06**	**210**	Pn	Pn	14 37 04.9	-2.3
WRA	**Warramunga Arr**	**16.07**	**210**		Pn	14 37 04.6	-2.6
WRA	**Warramunga Arr**	**16.07**	**210**	*i* P	Pn	14 37 05.0	-2.3
WRA				pmax	pmax		
	comp=Z,36nm,0.6s						
WRA	**Warramunga Arr**	**16.07**	**210**	Pn	Pn	14 37 05.1	-2.1
	comp=Z,5.5nm,0.3s,baz=35,slow=13,SNR=99						
WRA				Sn	Sn	14 39 57.9	-7.5
	comp=Z,3.0nm,0.3s,baz=28,slow=22,SNR=4.8						
WRA				Lg	Lg	14 41 52.3	
	comp=Z,2.9nm,0.3s,baz=34,slow=27,SNR=6.3						
WRA				LR	LR	14 44 10.3	
	comp=Z,39µm,18.5s,baz=30,slow=40						
LBMI	**Labuha**	**16.20**	**289**	P	Pn	14 37 08.6	-0.4
	comp=Z,210nm,1.1s,comp=Z,5µm						
KNRA	**Kununurra**	**16.77**	**234**	P	Pn	14 37 15.1	-1.1
	baz=17,SNR=97						
KNRA	**Kununurra**	**16.77**	**234**	Pn	Pn	14 37 14.5	-1.7
KNRA				IAmb	IAmb	14 37 24.1	
	comp=Z,543nm,0.9s						
TNTI	**Ternate**	**16.85**	**293**	P	Pn	14 37 18.6	+1.3
TNTI	**Ternate**	**16.85**	**293**	P	Pn	14 37 16.4	-0.9
	comp=Z,105nm,1.1s,comp=Z,3µmcomp=Z,4µm						
SANI	**Sanana**	**17.25**	**283**	P	Pn	14 37 21.9	-0.3
SANI	**Sanana**	**17.25**	**283**	P	Pn	14 37 19.4	-2.8
	comp=Z,142nm,2.0s,comp=Z,3µmcomp=Z,6µm						
HNR	**Honiara**	**17.30**	**102**	P	P	14 37 25.4	+1.0
HNR	**Honiara**	**17.30**	**102**	P	Pn	14 37 22.1	-0.9
	comp=Z,7µm,0.9s,baz=200,slow=3.5,SNR=40						
HNR				S	Sn	14 40 37.3	+1.7
	comp=Z,387nm,0.6s,baz=258,slow=20,SNR=0.4						
SOEI	**Soe**	**18.73**	**258**	P	P	14 37 39.6	-0.6
SOEI	**Soe**	**18.73**	**258**	P	P	14 37 41.2	+1.0
	comp=Z,446nm,0.8s,comp=Z,11µmcomp=Z,17µm						
RK1H	**Rockhampton Ha**	**18.74**	**158**	P	Pn	14 37 42.3	+1.7
GD1S	**Gladstone Soft**	**19.42**	**156**	P	Pn	14 37 49.9	+1.2
AS01	**Alice Springs**	**19.46**	**205**	P	Pn	14 37 50.4	+1.0
ASAR	**Alice Springs**	**19.49**	**205**	P	Pn	14 37 50.8	+1.2
	comp=Z,340nm,0.8s,baz=37,slow=8.0,SNR=413						
ASAR				S	Sn	14 41 22.2	-6.2
	comp=Z,16nm,1.0s,baz=21,slow=27,SNR=1.6						
ASAR				Lg	Lg	14 43 39.4	
	comp=Z,0.4nm,0.3s,baz=8.8,slow=27,SNR=1.6						
ASAR				LR	LR	14 46 00.7	
	comp=Z,72µm,18.4s,baz=34,slow=39						
ASPA	**Alice Springs**	**19.49**	**205**	P	Pn	14 37 50.6	+1.0
	baz=20						
KMSI	**Cibinong**	**19.92**	**289**	P	P	14 37 51.0	-2.2
	comp=Z,759nm,0.8s,comp=Z,9µmcomp=Z,7µm						
PATS	**Pohnpei**	**20.09**	**51**	P	P	14 37 54.5	-0.5
	baz=20,SNR=7.4						
PATS	**Pohnpei**	**20.09**	**51**	P	P	14 37 54.5	-0.5
PATS				IAMs_20	IAMs_20	14 44 23.4	
	comp=Z,21µm,21.0s						
PATS	**Pohnpei**	**20.09**	**51**	P	P	14 37 54.9	-0.1
BBSI	**Bau Bau**	**20.15**	**271**	P	Pn	14 37 57.5	0.0
	comp=Z,173nm,1.3s,comp=Z,5µmcomp=Z,10µm						
QLP	**Quilpie**	**20.45**	**176**	P	Pn	14 38 00.9	0.0
	baz=21,SNR=181						
QLP	**Quilpie**	**20.45**	**176**	P	Pn	14 38 01.1	+0.2
MMRI	**Maumere**	**20.56**	**262**	P	P	14 37 59.8	-0.4
MMRI				IAmb	IAmb	14 38 13.4	
	comp=Z,964nm,2.0s						
MMRI	**Maumere**	**20.56**	**262**	P	Pn	14 38 02.3	-0.1
MMRI	**Maumere**	**20.56**	**262**	P	P	14 37 59.6	-0.6
	comp=Z,267nm,1.9s,comp=Z,5µmcomp=Z,12µm						
FITZ	**Fitzroy Crossi**	**20.59**	**233**	P	P	14 38 01.2	+0.9
	baz=21,SNR=102						
LUWI	**Luwuk**	**20.61**	**283**	P	P	14 38 00.7	0.0
LUWI				IAmb	IAmb	14 38 08.7	
	comp=Z,236nm,0.8s						
LUWI	**Luwuk**	**20.61**	**283**	P	P	14 38 02.3	+1.6
LUWI	**Luwuk**	**20.61**	**283**	P	Pn	14 38 02.8	-0.1
	comp=Z,499nm,1.0s,comp=Z,6µmcomp=Z,10µm						
EIDS	**Eidsvold**	**20.76**	**158**	P	Pn	14 38 04.1	-0.5
	baz=21,SNR=30						
EIDS	**Eidsvold**	**20.76**	**158**	P	P	14 38 03.0	+0.8
EIDS	**Eidsvold**	**20.76**	**158**	P	Pn	14 38 04.5	-0.1
GTOI	**Gorontalo**	**20.86**	**288**	P	Pn	14 38 07.0	+1.1
	comp=Z,309nm,0.7s,comp=Z,3µm						
RMQ	**Roma**	**21.08**	**165**	P	P	14 38 07.6	+1.9
	baz=21,SNR=6.6						
EDFI	**Ende, Flores**	**21.11**	**261**	P	P	14 38 03.1	-3.1
	comp=Z,203nm,1.2s,comp=Z,3µmcomp=Z,12µm						
DAV	**Davao City (W)**	**21.59**	**307**	P	P	14 38 13.4	+2.2
	comp=Z,97nm,0.3s,baz=123,slow=10,SNR=1.3						
	comp=Z,97nm,0.3s						
DAV	**Davao City (W)**	**21.59**	**307**	*ll e* P	P	14 38 17.0	+5.8
INKA	**Innaminka**	**21.65**	**185**	P	P	14 38 13.7	+2.0
BASI	**Baing, Sumba**	**22.39**	**258**	P	P	14 38 19.7	-0.1
	comp=Z,463nm,1.7s,comp=Z,7µmcomp=Z,12µm						
BKSI	**Bulukumba**	**22.59**	**271**	P	P	14 38 22.4	+0.4
	comp=Z,251nm,1.0s,comp=Z,5µmcomp=Z,8µm						
OOD	**Oodnadatta**	**22.64**	**197**	P	P	14 38 23.8	+1.4
KAPI	**Kappang**	**22.98**	**271**	P	P	14 38 26.1	0.0
KAPI				IAmb	IAmb	14 38 40.4	
	comp=Z,749nm,1.8s						
KAPI	**Kappang**	**22.98**	**271**	P	P	14 38 27.9	+1.8
KAPI	**Kappang**	**22.98**	**271**	*i* P	P	14 38 26.6	+0.5
KAPI				pmax	pmax		
	comp=Z,145nm,0.9s						
TTSI	**Tana Toraja**	**23.11**	**276**	P	P	14 38 27.5	0.0
	comp=Z,125nm,1.9s,comp=Z,5µmcomp=Z,7µm						
TOLI2	**Tolitoli**	**23.12**	**287**	P	P	14 38 27.1	-0.5
TOLI2				IAmb	IAmb	14 38 33.4	
	comp=Z,145nm,0.7s						
TOLI2	**Tolitoli**	**23.12**	**287**	P	P	14 38 28.9	+1.3
WRKA	**Warakurna**	**23.44**	**215**	P	P	14 38 30.3	-0.4
	baz=24,SNR=288						
WRKA	**Warakurna**	**23.44**	**215**	P	P	14 38 31.2	+0.5
MPSI	**Mapaga**	**23.74**	**285**	P	P	14 38 33.7	0.0
	comp=Z,159nm,0.8s,comp=Z,3µmcomp=Z,6µm						
AULRC	**Lightning Ridg**	**23.75**	**169**	P	P	14 38 34.0	+0.4
GC1S	**Gold Coast 1 S**	**24.21**	**156**	P	P	14 38 38.5	+0.6
LERK	**Leigh Creek**	**24.64**	**190**	P	P	14 38 42.4	+0.5
PLAI	**Plampang**	**24.97**	**262**	P	P	14 38 45.0	-0.1
PLAI	**Plampang**	**24.97**	**262**	P	P	14 38 42.8	-2.3
	comp=Z,109nm,0.8s,comp=Z,2µmcomp=Z,4µm						
KOUNC	**Koumac, New Ca**	**25.33**	**127**	P	P	14 38 47.6	-0.6
KOUNC				IAmb	IAmb	14 39 04.0	
	comp=Z,164nm,1.2s						
KOUNC	**Koumac, New Ca**	**25.33**	**127**	P	P	14 38 50.0	+1.8
MULG	**Mulgathing**	**25.46**	**198**	P	P	14 38 50.3	+1.0
CMSA	**Cobar Meteorol**	**25.48**	**174**	P	P	14 38 50.1	+0.5
	baz=26,SNR=29						
CMSA	**Cobar Meteorol**	**25.48**	**174**	P	P	14 38 51.6	+2.1
ARMA	**Armidale**	**25.61**	**162**	P	P	14 38 52.2	+1.4
	baz=26,SNR=5.3						
ARMA	**Armidale**	**25.61**	**162**	IAmb	IAmb	14 38 57.4	
	comp=Z,349nm,2.0s						
ARMA	**Armidale**	**25.61**	**162**	P	P	14 38 52.9	+2.1
STKA	**Stephens Creek**	**25.70**	**182**	P	P	14 38 51.3	-0.3
	baz=26,SNR=54						
STKA	**Stephens Creek**	**25.70**	**182**	P	P	14 38 50.0	-1.6
STKA	**Stephens Creek**	**25.70**	**182**	P	P	14 38 52.2	+0.7
STKA	**Stephens Creek**	**25.70**	**182**	*i* P	P	14 38 50.4	-1.1
STKA	**Stephens Creek**	**25.70**	**182**	P	P	14 38 51.2	-0.3
	comp=Z,28nm,0.6s,baz=349,slow=8.3,SNR=42						
STKA				S	S	14 43 26.0	+5.9
	comp=Z,5.9nm,0.8s,baz=39,slow=15,SNR=1.4						
STKA				Lg	Lg	14 47 00.9	
	comp=Z,0.2nm,0.3s,baz=40,slow=22,SNR=2.1						
STKA				LR	LR	14 50 05.5	
	comp=Z,26µm,18.6s,baz=356,slow=39						
	comp=Z,28nm,0.6s						
TWSI	**Taliwang, Sumb**	**25.85**	**263**	P	P	14 38 50.8	-2.2
	comp=Z,85nm,0.7s,comp=Z,1µmcomp=Z,3µm						
AUPHS	**Peel High Scho**	**26.03**	**164**	P	P	14 38 56.8	+2.3
BKB	**Balikpapan**	**26.29**	**279**	P	P	14 38 55.0	-2.0
BKB				IAmb	IAmb	14 39 07.8	
	comp=Z,203nm,1.0s						
BKB	**Balikpapan**	**26.29**	**279**	P	P	14 38 58.5	+1

comp=Z,255nm,1.1s
ARPS Mount Arapiles 30.57 182 P **P** **14 39 35.2 +0.2**
baz=31,SNR=9.6
ARPS Mount Arapiles 30.57 182 P **P** **14 39 36.1 +1.1**
MEEK Meekatharra 30.83 226 P **P** **14 39 38.5 +1.1**
baz=31,SNR=5.5
MEEK Meekatharra 30.83 226 P **P** **14 39 38.3 +0.9**
PWJI Pagerwojo 30.83 265 P **P** **14 39 33.9 -3.6**
comp=Z,59nm,1.0s
BRAT Ballarat 31.36 178 P **P** **14 39 43.8 +1.9**
TOO Toolangi 31.45 176 P **P** **14 39 44.1 +1.3**
baz=32,SNR=3.6
TOO Toolangi 31.45 176 P **P** **14 39 42.3 -0.5**
TOO IAMs_20 IAMs_20 14 51 48.6
comp=Z,13µm,19.0s
TOO Toolangi 31.45 176 P **P** **14 39 43.3 +0.5**
TOO Toolangi 31.45 176 P **P** **14 39 42.3 -0.5**
TOO pmax pmax
comp=Z,69nm,1.8s
TOO MLR MLR
comp=Z,12µm,19.0s
SBUM Sibu 31.70 285 P **P** **14 39 45.3 +0.1**
STKI Sintang 31.86 280 P **P** **14 39 45.9 -0.8**
comp=Z,46nm,1.2s
KMBL Kambalda 31.91 215 P **P** **14 39 46.4 -0.4**
baz=32,SNR=12
KMBL Kambalda 31.91 215 P **P** **14 39 46.9 0.0**
UGM Wanagama 32.10 265 P **P** **14 39 49.4 +0.6**
UGM Wanagama 32.10 265 P P 14 40 00.0 +11
SMRI Semarang 32.17 266 P **P** **14 39 50.4 +1.0**
SMRI Semarang 32.17 266 P P 14 39 42.5 -6.9
comp=Z,90nm,1.5s
JCJ Chichijima 32.97 359 P **P** **14 39 51.5 -4.6**
comp=Z,68nm,0.8s,baz=257,slow=18,SNR=2.2
JMZ Minamidaito 2 33.63 341 IAMs_20 IAMs_20 14 50 44.2
comp=Z,13µm,22.0s
KPJI Karang Pucung 33.67 266 P **P** **14 40 00.5 -2.0**
comp=Z,100nm,0.8s,comp=Z,2µm
MORW Morawa 34.10 225 P **P** **14 40 07.1 +1.0**
baz=34,SNR=5.4
MORW Morawa 34.10 225 P **P** **14 40 06.3 +0.2**
MORW Morawa 34.10 225 P **P** **14 40 07.6 +1.5**
CMJI Cimerak 34.15 265 P **P** **14 40 04.7 -2.0**
comp=Z,220nm,0.9s,comp=Z,2µm
KLBR Kellerberrin 34.56 220 P **P** **14 40 11.1 +1.0**
baz=35,SNR=4.9
KLBR Kellerberrin 34.56 220 P **P** **14 40 11.3 +1.3**
BLDU Ballidu 34.60 222 P **P** **14 40 11.6 +1.2**
baz=35,SNR=7.2
BBJI Bungbulang 34.94 266 P **P** **14 40 12.6 -1.0**
LEM Lembang 34.98 267 LR LR 14 58 30.1
comp=Z,4µm,19.0s,baz=92,slow=43
LEM Lembang 34.98 267 P P 14 40 09.4 -4.6
comp=Z,74nm,1.0s,comp=Z,1µmcomp=Z,2µm
JOW Kunigami 35.61 337 P **P** **14 40 19.2 +0.1**
JOW IAmb IAmb 14 40 20.7
comp=Z,396nm,2.0s
JOW Kunigami 35.61 337 P **P** **14 40 19.7 +0.7**
JOW Kunigami 35.61 337 P **P** **14 40 17.3 -1.7**
comp=Z,29nm,0.8s,baz=182,slow=5.1,SNR=8.3
JOW LR LR 14 52 06.6
comp=Z,3µm,21.3s,baz=141,slow=32
comp=Z,29nm,0.8s
NWAO Narrogin (SRO) 35.79 218 LR LR 14 55 53.9
comp=Z,29µm,19.0s,baz=34,slow=38
YOJ Yonaguni jima 35.96 328 P **P** **14 40 22.8 +0.7**
SKJI Sukabumi 36.03 266 P **P** **14 40 20.5 -2.4**
comp=Z,192nm,1.4s,comp=Z,2µm
YULB Yu-li 36.04 325 P **P** **14 40 23.3 +0.5**
FUNA Funafuti 36.16 96 P **P** **14 40 21.8 -2.3**
FUNA Funafuti 36.16 96 P **P** **14 40 24.5 +0.5**
MSVF Nonsavu 36.30 112 P **P** **14 40 25.6 +0.3**
MSVF Nonsavu 36.30 112 IAMs_20 IAMs_20 14 54 22.8
comp=Z,8µm,21.0s
MSVF Nonsavu 36.30 112 P **P** **14 40 26.8 +1.5**
MSVF Nonsavu 36.30 112 P **P** **14 40 25.6 +0.3**
MSVF pmax pmax
comp=Z,89nm,1.3s
MSVF MLR MLR
comp=Z,8µm,21.0s
TPUB Ta-pu 36.35 324 P **P** **14 40 25.4 -0.1**
NACB Ninganchiao 36.49 326 IAmb IAmb 14 40 29.0
comp=Z,246nm,1.1s
NACB Ninganchiao 36.49 326 P **P** **14 40 27.2 +0.6**
SSLB Suanglung 36.55 325 P **P** **14 40 27.0 -0.2**
PPBI Pangkal Pinang 36.78 274 P **P** **14 40 30.9 +1.6**
TAU Tasmania Unive 36.91 174 IAMs_20 IAMs_20 14 54 18.0
comp=Z,13µm,19.0s
XMI Christmas Isla 36.98 261 P **P** **14 40 32.1 +1.1**
YHNB Yeheng 37.00 326 IAmb IAmb 14 40 45.4
comp=Z,108nm,0.8s
YHNB Yeheng 37.00 326 P **P** **14 40 32.4 +1.3**
XMIS Christmas Isla 37.02 261 IAmb IAmb 14 40 36.9
comp=Z,133nm,1.2s
XMIS Christmas Isla 37.02 261 P **P** **14 40 32.5 +1.2**
TATO Taipei 37.19 327 P **P** **14 40 31.4 -1.1**
TATO Taipei 37.19 327 P **P** **14 40 33.8 +1.3**
DGTI Dogotuki 37.56 109 P **P** **14 40 36.1 +0.2**
KASI Kota Agung 38.12 269 P P 14 40 32.6 -8.1
DSRI Dabo 38.56 277 P **P** **14 40 41.5 -2.9**
comp=Z,40nm,1.5s,comp=Z,1µmcomp=Z,2µm
KNMB Chin-men Tao 38.56 323 P **P** **14 40 44.4 +0.2**
LWLI Liwa 38.58 270 P **P** **14 40 42.0 -2.7**
comp=Z,170nm,0.9s,comp=Z,5µm
QZH Quanzhou 38.80 324⇑ *i*P **P** **14 40 47.0 +0.8**
QZH S **S** **14 46 46.3 +2.5**
QZH pmax pmax
comp=Z,110nm,0.8s
QZH pmax pmax
comp=Z,610nm,4.5s
QZH LR LR
comp=Z,1µm,19.9s
QZH LR LR
comp=Z,1µm,13.7s
QZH LR LR
comp=Z,2µm,17.9s
TPRI Tanjung Pinang 38.85 279 P P 14 40 52.0 +5.2
JHJ Hachijo jima 2 39.08 356 P **P** **14 40 47.8 -0.6**
comp=Z,144nm,0.9s,baz=199,slow=12,SNR=2.2
JHJ LR LR 14 55 54.3
comp=Z,4µm,20.2s,baz=197,slow=35
comp=Z,144nm,0.9s
JMN Monobe 40.47 348 IAmb IAmb 14 41 01.0
comp=Z,130nm,1.0s
JMN Monobe 40.47 348 P **P** **14 41 00.9 +0.9**
OUZ Omahuta 40.55 140 IAMs_20 IAMs_20 14 57 13.1
comp=Z,8µm,18.0s
JNU Nakatsue 40.59 345 P **P** **14 41 02.0 +1.0**
JNU Nakatsue 40.59 345 P **P** **14 40 59.7 -1.3**
comp=Z,36nm,0.9s,baz=146,slow=4.2,SNR=11
comp=Z,36nm,0.9s
GZH Guangzhou 40.85 316 P **P** **14 41 05.7 +2.4**
GZH S **S** **14 47 19.2 +4.6**
GZH SS **SS** **14 50 15.7 -0.5**
GZH pmax pmax
comp=Z,24nm,0.8s
GZH LR LR
comp=Z,740nm,10.5s
GZH LR LR
comp=Z,310nm,6.0s
QIZ Qiongzhong 40.95 308 P **P** **14 41 04.0 -0.2**
QIZ S **S** **14 47 18.4 +2.2**
QIZ pmax pmax
comp=Z,24nm,1.2s
QIZ pmax pmax
comp=Z,310nm,5.2s
QIZ LR LR
comp=Z,890nm,15.3s
QIZ LR LR
comp=Z,1µm,15.5s
QIZ LR LR
comp=Z,1µm,23.5s
KRJI Kerinci 41.42 274 P **P** **14 41 10.0 +1.7**
INU Inuyama 41.55 353 P **P** **14 41 07.1 -1.8**
INU IAmb IAmb 14 41 10.0
comp=Z,190nm,1.8s
INU Inuyama 41.55 353 P **P** **14 41 08.2 -0.7**
JGF Kuroka 41.76 353 P **P** **14 41 10.4 -0.2**
BKNI Bangkinang 42.18 277 P **P** **14 41 15.9 +1.5**
BKNI Bangkinang 42.18 277 P P 14 41 19.2 +4.8
SSE Sheshan 42.34 332 P **P** **14 41 15.8 +0.4**
SSE S **S** **14 47 35.9 -0.6**
SSE pmax pmax
comp=Z,91nm,1.0s
SSE pmax pmax
comp=Z,370nm,4.3s
SSE LR LR
comp=Z,730nm,18.7s
SSE LR LR
comp=Z,460nm,18.4s
PDSI Padang 42.56 275 P P 14 41 11.6 -6.0
comp=Z,22nm,1.0s,comp=Z,1µm
MJAR Matsushiro Arr 42.60 355 P **P** **14 41 14.4 -3.1**
comp=Z,32nm,1.1s,baz=182,slow=8.9,SNR=48
MJAR PcP **PcP** **14 43 08.9 -0.8**
comp=Z,7.0nm,0.9s,baz=183,slow=2.2,SNR=3.5
MJAR LR LR 14 57 20.1
comp=Z,2µm,21.6s,baz=160,slow=34
comp=Z,32nm,1.1s
MAJO Matsushiro 42.60 355 P **P** **14 41 15.4 -2.0**
MAJO IAmb IAmb 14 41 17.8
comp=Z,224nm,1.7s
MAJO Matsushiro 42.60 355 P **P** **14 41 16.1 -1.4**
MAJO Matsushiro 42.60 355 *i* P **P** **14 41 15.9 -1.6**
MAJO pmax pmax
comp=Z,108nm,1.4s
MJB9 Matsu-Tunnel 42.61 355 IAmb IAmb 14 41 17.8
comp=Z,210nm,1.7s
UBPT Khong Chiam 42.65 300 P **P** **14 41 16.7 -1.4**
UBPT Khong Chiam 42.65 300 P **P** **14 41 18.6 +0.5**
HIZ Hauiti 43.41 143 IAmb IAmb 14 41 37.9
comp=Z,155nm,1.3s
HIZ IAMs_20 IAMs_20 15 00 09.7
comp=Z,5µm,18.0s
KULM Kulim 43.58 284 P **P** **14 41 25.2 -0.5**
RAO Raoul Island 43.63 127 LR LR 14 57 25.2
comp=Z,3µm,22.0s,baz=296,slow=33
JMM Marumori 43.75 358 IAmb IAmb 14 41 27.4
comp=Z,134nm,1.3s
JMM Marumori 43.75 358 P **P** **14 41 26.9 +0.3**
LREZ Lake Rotokare 43.76 144 P **P** **14 41 29.7 +2.9**
JSD Sado 44.08 355 IAmb IAmb 14 41 30.6
comp=Z,80nm,0.9s
JSD Sado 44.08 355 P **P** **14 41 29.4 +0.1**
MRNZ Matariki Terra 44.16 147 P **P** **14 41 31.1 +1.1**
JCZ Jackson Bay 44.18 153 P **P** **14 41 32.0 +1.8**
WTVZ West Tongariro 44.24 143 P **P** **14 41 33.7 +2.9**
NJ2 Nanjing 44.25 330⇑ P **P** **14 41 32.0 +1.2**
NJ2 pmax pmax
comp=Z,77nm,1.4s
NJ2 LR LR
comp=Z,5µm,21.5s
NJ2 LR LR
comp=Z,5µm,20.5s
NJ2 LR LR
comp=Z,2µm,21.6s
NNVZ North Ngauruho 44.27 143 P **P** **14 41 33.8 +2.7**
OTVZ Oturere 44.32 143 P **P** **14 41 33.4 +1.9**
SNVZ South Ngauruho 44.32 143 P **P** **14 41 34.6 +3.1**
ETVZ East Tongariro 44.33 143 P **P** **14 41 35.0 +3.5**
GULI GuiLin 44.35 316⇓ P **P** **14 41 32.4 +0.7**
GULI S **S** **14 48 08.2 +2.2**
GULI pmax pmax
comp=Z,60nm,1.4s
GULI LR LR
comp=Z,890nm,22.8s
GULI LR LR
comp=Z,800nm,21.7s
GULI LR LR
comp=Z,1µm,17.3s
THZ Tophouse 44.49 148 P **P** **14 41 34.9 +2.2**
DCZ Deep Cove 44.59 156 P **P** **14 41 33.8 +0.5**
CNSH ChangSha 44.61 321⇓ P **P** **14 41 35.4 +1.6**
CNSH S **S** **14 48 13.0 +3.2**
CNSH pmax pmax
comp=Z,9.0nm,0.6s
CNSH LR LR
comp=Z,400nm,19.2s
CNSH LR LR
comp=Z,1µm,22.6s
CNSH LR LR
comp=Z,2µm,16.7s
TJN Taejon 44.64 342 IAMs_20 IAMs_20 14 57 19.5
comp=Z,11µm,21.0s
TJN Taejon 44.64 342 P **P** **14 41 33.8 0.0**
TJN Taejon 44.64 342 *ce* P **P** **14 41 32.8 -1.0**
URZ Urewera 44.65 141 LR LR 15 00 50.6
comp=Z,6µm,18.2s,baz=42,slow=37
RPSI Rantau Prapat 44.68 280 P **P** **14 41 34.3 -0.2**
RPSI IAmb IAmb 14 41 54.5
comp=Z,175nm,1.8s
PSI Prapat 44.70 280 P **P** **14 41 35.4 +0.5**
PSI Prapat 44.70 280 P **P** **14 41 34.3 -0.6**
PSI pmax pmax
comp=Z,175nm,1.8s
PSI MLR MLR
comp=Z,1µm,21.0s
RTZ Ruatahuna 44.78 141 IAmb IAmb 14 41 40.2
comp=Z,172nm,1.4s
BKZ Black Stump Fm 44.82 142 IAMs_20 IAMs_20 15 00 15.8
comp=Z,5µm,19.0s
BKZ Black Stump Fm 44.82 142 P **P** **14 41 36.9 +1.5**
TCW Tory Channel 44.86 146 P **P** **14 41 36.3 +0.7**
LTZ Lake Taylor 44.88 149 IAMs_20 IAMs_20 15 01 49.3
comp=Z,6µm,18.0s
MLZ Mavora Lakes 44.91 155 P **P** **14 41 37.0 +1.0**
MLZ IAmb IAmb 14 41 41.5
comp=Z,317nm,2.0s
KWHZ Kaweka Forest 44.94 143 P **P** **14 41 38.5 +2.1**
RPZ Rata Peaks 44.97 151 P **P** **14 41 36.8 +0.3**
RPZ IAmb IAmb 14 41 41.9
comp=Z,60nm,0.9s
RPZ IAMs_20 IAMs_20 14 59 23.3
comp=Z,6µm,20.0s
MXZ Matakaoa Point 45.00 139 IAMs_20 IAMs_20 14 59 15.8
comp=Z,6µm,20.0s
MRZ Mangatainoka R 45.23 145 IAmb IAmb 14 41 49.5
comp=Z,66nm,1.0s
CAW Cannon Point 45.23 145 P **P** **14 41 39.1 +0.6**
KHZ Kahutara 45.28 148 IAMs_20 IAMs_20 14 59 31.9
comp=Z,7µm,20.0s
AFI Afiamalu 45.33 103 P **P** **14 41 40.3 +0.4**
AFI IAmb IAmb 14 41 43.6
comp=Z,171nm,1.4s
AFI Afiamalu 45.33 103 P **P** **14 41 41.3 +1.5**
AFI Afiamalu 45.33 103 P **P** **14 41 40.3 +0.4**
AFI pmax pmax
comp=Z,171nm,1.4s
KSRS Korea Array 45.47 343 P **P** **14 41 40.2 -0.2**
comp=Z,49nm,0.9s,baz=162,slow=9.1,SNR=72
KSRS PcP **PcP** **14 43 20.1 +0.7**
comp=Z,5.1nm,0.9s,baz=180,slow=2.5,SNR=1.4
KSRS LR LR 14 58 11.6
comp=Z,2µm,22.0s,baz=190,slow=33
comp=Z,49nm,0.9s
SRIT Nakonsritamara 45.48 288 P **P** **14 41 41.6 +0.7**
WHN Wuhan 45.48 325⇑ P **P** **14 41 42.4 +1.8**
WHN pP **sP** **14 41 46.7 +0.1**
WHN sP **pP** **14 41 48.8 +3.9**
WHN S **S** **14 48 27.5 +5.3**
WHN SS **SS** **14 51 43.1 -3.0**
WHN pmax pmax
comp=Z,580nm,1.5s
WHN LR LR
comp=Z,1µm,12.3s
WHN LR LR
comp=Z,1µm,12.8s
WHN LR LR
comp=Z,4µm,22.1s
MTW Mount Morrison 45.51 145 P **P** **14 41 40.5 -0.3**
KS19 Wonju Array Si 45.53 343 IAmb IAmb 14 41 42.8
comp=Z,232nm,1.7s
SURA Surathani 45.62 289 P **P** **14 41 43.0 +1.0**
BFZ Birch Farm 45.63 144 IAmb IAmb 14 41 52.5
comp=Z,54nm,0.9s
BFZ Birch Farm 45.63 144 P **P** **14 41 43.6 +1.9**
GSI Gunungsitoli 45.75 278 P **P** **14 41 43.7 +0.6**
GSI Gunungsitoli 45.75 278 P P 14 41 37.2 -5.9
comp=Z,38nm,1.5s,comp=Z,10µm
INCN Inchon 45.88 342 P **P** **14 41 43.3 -0.4**
INCN Inchon 45.88 342 P **P** **14 41 44.3 +0.6**
INCN Inchon 45.88 342 P **P** **14 41 43.3 -0.4**
INCN pmax pmax
comp=Z,261nm,1.5s
INCN MLR MLR
comp=Z,2µm,20.0s
NONG Nongkai 45.90 302 P **P** **14 41 44.5 +0.3**
KCSI Kotacane, Aceh 45.97 281 P **P** **14 41 41.3 -3.6**
comp=Z,25nm,2.1s,comp=Z,1µm
JTM Tenmabayashi 46.65 358 P **P** **14 41 48.9 -0.8**
MLSI Meulaboh, Aceh 47.46 281 P **P** **14 41 53.8 -2.7**
comp=Z,48nm,1.0s
GYA Guiyang 47.67 314⇓ *i*P **P** **14 42 00.3 +2.2**
GYA PP **PP** **14 43 46.2 -3.7**
GYA S **S** **14 48 56.2 +2.1**
GYA pmax pmax
comp=Z,59nm,1.0s
GYA pmax pmax
comp=Z,630nm,6.1s
GYA LR LR
comp=Z,690nm,24.1s
GYA LR LR
comp=Z,630nm,22.8s
GYA LR LR
comp=Z,780nm,22.0s
ENH Enshi 48.22 320 IAmb IAmb 14 42 04.4
comp=Z,164nm,1.7s
ENH Enshi 48.22 320 P **P** **14 42 03.0 +0.8**
DL2 Dalian 48.87 338 P P 14 42 13.7 +6.8
DL2 S S 14 49 23.8 +14
DL2 pmax pmax
comp=Z,61nm,1.9s
DL2 pmax pmax
comp=Z,680nm,9.1s
DL2 LR LR
comp=N,1µm,17.1s
DL2 LR LR
comp=E,1µm,18.6s
DL2 LR LR
comp=Z,2µm,20.2s
CRAI Chiangrai 49.22 303 IAmb IAmb 14 42 12.6
comp=Z,143nm,2.0s
LYN LuoYang 49.52 327⇓ P **P** **14 42 12.5 +0.4**
LYN pP sP 14 42 17.3 -0.8
LYN S **S** **14 49 22.7 +3.0**
LYN sS sS 14 49 27.5 +0.7
LYN pmax pmax
comp=Z,130nm,0.8s
LYN pmax pmax
comp=Z,630nm,7.6s
LYN LR LR
comp=Z,1µm,17.9s
LYN LR LR
comp=Z,900nm,17.9s
LYN LR LR
comp=Z,2µm,18.2s
MSHR Mys Shultsa 49.56 349 *ce* P **P** **14 42 11.7 -0.5**
MSHR pmax pmax
comp=Z,70nm,0.8s
CMAR Chiang Mai Arr 49.65 300 P **P** **14 42 14.0 +0.7**
comp=Z,18nm,0.7s,baz=112,slow=6.6,SNR=25
comp=Z,18nm,0.7s
KMI Kunming 49.80 310⇑ P **P** **14 42 16.1 +1.5**
KMI PcP **PcP** **14 43 37.3 +1.9**
KMI S **S** **14 49 28.9 +4.6**
KMI pmax pmax
comp=Z,47nm,1.2s
KMI pmax pmax
comp=Z,500nm,6.3s
KMI LR LR
comp=Z,390nm,18.0s
KMI LR LR
comp=Z,1µm,20.0s
KMI LR LR
comp=Z,2µm,23.7s
CHTO Chiang Mai 49.80 301 P **P** **14 42 13.9 -0.6**
CHTO Chiang Mai 49.80 301 P **P** **14 42 15.6 +1.2**
CHTO Chiang Mai 49.80 301 P **P** **14 42 13.9 -0.6**
CHTO pmax pmax
comp=Z,24nm,0.8s
ASAJ Asahikawa 49.95 360 P **P** **14 42 14.1 -1.0**
comp=Z,56nm,1.0s,baz=238,slow=14,SNR=12
ASAJ LR LR 15 02 44.2
comp=Z,534nm,21.5s,baz=162,slow=35
comp=Z,56nm,1.0s
HNS HongShan 50.57 331⇑ P **P** **14 42 20.3 +0.4**
HNS *e*S **S** **14 49 32.3 -1.9**
HNS pmax pmax
comp=Z,82nm,1.2s
HNS pmax pmax
comp=Z,530nm,5.8s
HNS LR LR
comp=Z,1µm,19.1s
HNS LR LR
comp=Z,540nm,17.5s
HNS LR LR
comp=Z,2µm,21.2s
SNY Shenyang 50.80 341⇓ P **P** **14 42 21.0 -0.6**
SNY S **S** **14 49 43.0 +5.7**
SNY pmax pmax
comp=Z,34nm,0.8s
SNY LR LR
comp=Z,700nm,14.7s
SNY LR LR
comp=Z,610nm,17.8s
SNY LR LR
comp=Z,1µm,17.5s
USA0B Ussuriysk Arra 50.98 350 IAmb IAmb 14 42 25.4
comp=Z,78nm,0.8s
USA0B Ussuriysk Arra 50.98 350 *i* P **P** **14 42 22.3 -0.6**
USRK Ussuriysk Ar. 50.98 350 P **P** **14 42 22.3 -0.6**
comp=Z,71nm,0.8s,baz=172,slow=7.6,SNR=101
USRK LR LR 15 01 50.5
comp=Z,2µm,20.7s,baz=165,slow=34
comp=Z,71nm,0.8s
XAN Xi'an 51.17 324⇑ P **P** **14 42 24.1 -0.5**
XAN S **S** **14 49 44.4 +1.6**
XAN ScS **ScS** **14 52 10.9 -4.6**
XAN pmax pmax
comp=Z,140nm,1.4s
XAN pmax pmax
comp=Z,850nm,3.6s
XAN LR LR
comp=Z,2µm,20.2s
XAN LR LR
comp=Z,840nm,21.3s
XAN LR LR
comp=Z,2µm,18.5s
PZH PanZhiHua 51.30 311 P **P** **14 42 26.9 +1.1**
PZH sP **sP** **14 42 31.5 -0.3**
PZH PP **PP** **14 44 29.3 +6.4**
PZH S **S** **14 49 48.1 +3.1**
PZH pmax pmax
comp=Z,30nm,0.9s
PZH pmax pmax
comp=Z,540nm,6.7s
PZH LR LR
comp=Z,960nm,21.1s
PZH LR LR
comp=Z,870nm,23.0s
PZH LR LR
comp=Z,1µm,22.6s
MDJ Mudanjiang 51.83 348 P **P** **14 42 29.3 0.0**
MDJ ScP **ScP** **14 47 32.8 -6.3**
MDJ S **S** **14 49 55.2 +3.7**
MDJ pmax pmax
comp=Z,67nm,0.8s
MDJ pmax pmax
comp=Z,600nm,4.8s
MDJ LR LR
comp=Z,2µm,18.8s
MDJ LR LR
comp=Z,690nm,18.6s
MDJ LR LR
comp=Z,3µm,21.5s
MDJ Mudanjiang 51.83 348 P **P** **14 42 29.5 +0.2**
TIY Taiyuan 51.94 329⇑ P **P** **14 42 30.6 +0.3**
TIY S **S** **14 49 47.9 -5.5**
TIY pmax pmax
comp=Z,24nm,0.5s
TIY pmax pmax
comp=Z,400nm,5.7s
TIY LR LR
comp=Z,830nm,23.5s
TIY LR LR
comp=Z,1µm,21.2s
TIY LR LR
comp=Z,1µm,19.6s
BJT Baijiatuau 52.02 334 P **P** **14 42 31.0 +0.2**
BJI Beijing 52.03 334 P **P** **14 42 30.5 -0.4**
BJI S **S** **14 49 52.8 -1.6**
BJI pmax pmax
comp=Z,33nm,1.4s
BJI pmax pmax
comp=Z,240nm,5.7s
BJI LR LR
comp=Z,610nm,20.6s
BJI LR LR

comp=Z,670nm,20.2s
BJI LR LR
comp=Z,1μm,19.7s
CN2 Changchun 52.06 344 *e*P **P 14 42 29.7 -1.3**
CN2 *e*S **S 14 49 52.2 -2.4**
CN2 *es*S sS 14 50 01.9 +0.1
CN2 pmax pmax
comp=Z,40nm,1.3s
CN2 LR LR
comp=Z,450nm,13.0s
CN2 LR LR
comp=Z,440nm,13.0s
CN2 LR LR
comp=Z,590nm,15.0s
CD2 Chengdu 52.40 317 P **P 14 42 35.0 +1.1**
CD2 pP pP 14 42 38.0 -0.2
CD2 S **S 14 50 01.5 +1.6**
CD2 pmax pmax
comp=Z,40nm,0.7s
CD2 pmax pmax
comp=Z,960nm,5.0s
CD2 LR LR
comp=Z,960nm,16.2s
CD2 LR LR
comp=Z,950nm,16.2s
YSS Yuzh-Sakhalins 52.79 360 P **P 14 42 36.1 -0.3**
YSS IAmb IAmb 14 42 39.0
comp=Z,98nm,0.8s
YSS Yuzh-Sakhalins 52.79 360 P **P 14 42 37.2 +0.9**
YSS Yuzh-Sakhalins 52.79 360 *e*P **P 14 42 35.4 -0.9**
YSS *e*S **S 14 50 00.9 -3.5**
YSS *e*SS **SS 14 53 46.8 +3.3**
YSS pmax pmax
comp=Z,130nm,0.8s
BNX BinXian 53.38 347 ⇓P **P 14 42 40.0 -0.7**
BNX pP **pP 14 42 44.7 -0.4**
BNX S **S 14 50 13.3 +0.7**
BNX sS **sS 14 50 19.2 -0.6**
BNX pmax pmax
comp=Z,190nm,1.0s
BNX pmax pmax
comp=Z,650nm,4.8s
BNX LR LR
comp=Z,990nm,19.6s
BNX LR LR
comp=Z,1μm,20.3s
BNX LR LR
comp=Z,2μm,21.6s
MND Mandalay 53.57 303 P **P 14 42 43.7 +1.1**
HHC Hu-ho-hao-te 54.79 331 ⇑*i*P **P 14 42 51.6 +0.3**
HHC sP sP 14 42 59.0 +1.7
HHC S **S 14 50 33.2 +1.1**
HHC sS sS 14 50 39.3 0.0
HHC ScS **ScS 14 52 34.1 -6.6**
HHC pmax pmax
comp=Z,45nm,0.9s
HHC pmax pmax
comp=Z,370nm,6.7s
HHC LR LR
comp=Z,680nm,18.1s
HHC LR LR
comp=Z,740nm,16.2s
HHC LR LR
comp=Z,2μm,19.0s
UGL Uglegorsk 54.92 359 *e*P P 14 42 47.0 -4.8
UGL pmax pmax
comp=Z,120nm,1.0s
XLT XiLinHaoTe 55.28 337 *e*P **P 14 42 54.1 -0.7**
XLT S **S 14 50 39.8 +1.3**
XLT sS sS 14 50 48.2 +2.5
XLT pmax pmax
comp=Z,23nm,0.8s
XLT pmax pmax
comp=Z,380nm,10.2s
XLT LR LR
comp=Z,1μm,18.6s
XLT LR LR
comp=Z,2μm,21.0s
BTO Baotou 55.36 330 *e*P **P 14 42 57.3 +1.9**
BTO pP **sP 14 43 01.6 +0.1**
BTO sP **pP 14 43 04.3 +4.5**
BTO PP **PP 14 45 01.8 +2.5**
BTO S **S 14 50 44.9 +5.2**
BTO SS **SS 14 54 20.1 -4.4**
BTO pmax pmax
comp=Z,84nm,1.3s
BTO pmax pmax
comp=Z,1μm,7.3s
BTO LR LR
comp=Z,3μm,17.5s
BTO LR LR
comp=Z,3μm,19.2s
BTO LR LR
comp=Z,3μm,18.8s
LZH Lanzhou 55.62 322 ⇑P **P 14 42 58.8 +1.4**
LZH pP sP 14 43 03.5 0.0
LZH S **S 14 50 46.8 +3.4**
LZH pmax pmax
comp=Z,16nm,1.5s
LZH pmax pmax
comp=Z,350nm,5.8s
LZH LR LR
comp=Z,620nm,13.1s
LZH LR LR
comp=Z,980nm,13.7s
LZH LR LR
comp=Z,740nm,13.4s
KLR Kul'dur 55.91 351 *ce*P **P 14 42 58.5 -0.5**
KLR pmax pmax
comp=Z,128nm,1.7s
KLR Kul'dur 55.91 351 LR LR 15 02 38.3
comp=Z,1μm,21.8s,baz=165,slow=32
TYV Tymovskoe 56.70 360 *e*P **P 14 43 04.5 -0.1**
TYV *e*S **S 14 50 59.6 +2.7**
TYV pmax pmax
comp=Z,49nm,0.8s
TYV pmax pmax
comp=Z,300nm,3.6s
TYV smax smax
comp=N,300nm,5.0s
TYV smax smax
comp=E,300nm,5.0s
GRNR Gornyy 56.88 355 ⇑*i*P **P 14 43 05.0 -0.9**
GRNR pmax pmax
comp=Z,20nm,1.0s
RAR Rarotonga 57.49 111 P **P 14 43 10.3 -0.6**
comp=Z,42nm,1.1s,baz=264,slow=15,SNR=3.4
RAR LR LR 15 04 38.4
comp=Z,1μm,21.6s,baz=278,slow=33
comp=Z,42nm,1.1s
HEH HeiHe 57.66 348 *e*P **P 14 43 09.6 -1.8**
HEH pP **pP 14 43 11.5 -4.3**
HEH PP **PP 14 45 16.2 -3.3**
HEH pmax pmax
comp=Z,63nm,0.9s
HEH pmax pmax
comp=Z,610nm,6.5s
HEH LR LR
comp=Z,970nm,20.6s
HEH LR LR
comp=Z,960nm,20.0s
HEH LR LR
comp=Z,2μm,20.2s
SKR Severo-Kuril's 57.68 10 *e*P P 14 43 18.2 +6.7
SKR *e*S **S 14 51 18.3 +8.5**
SKR pmax pmax
comp=Z,600nm,4.7s
SKR MLR MLR
comp=Z,1μm,18.0s
SHL Shillong 58.59 305 *e*P **P 14 43 19.6 +0.8**
SHL IAmb IAmb 14 43 22.0
comp=Z,31nm,0.8s
HIA Hailar 58.67 343 P **P 14 43 19.6 +1.0**
NKL Nikolayevsk 59.02 359 *e*P **P 14 43 18.1 -2.7**
NKL *e*S **S 14 51 28.7 +1.5**
NKL pmax pmax
comp=N,153nm,1.0s
NKL pmax pmax
comp=E,152nm,1.0s
NKL pmax pmax
comp=Z,640nm,1.0s
NKL smax smax
comp=E,162nm,2.6s
NKL smax smax
comp=N,172nm,4.7s
GTA Gaotai 60.19 322 P **P 14 43 30.3 +0.8**
GTA pP sP 14 43 40.9 +5.4
GTA S **S 14 51 47.0 +3.8**
GTA pmax pmax
comp=N,35nm,1.4s
GTA pmax pmax
comp=N,430nm,6.8s
GTA LR LR
comp=N,490nm,18.3s
GTA LR LR
comp=N,710nm,19.5s
GTA LR LR
comp=N,830nm,20.7s
PEA0B Petropavlovsk- 60.28 10 IAmb IAmb 14 43 31.3
comp=Z,104nm,1.2s
PEA0B Petropavlovsk- 60.28 10 *ce*P **P 14 43 29.0 -0.6**
PETK Petropavlovsk- 60.28 10 P **P 14 43 29.0 -0.6**
PETK Petropavlovsk- 60.28 10 P **P 14 43 28.9 -0.8**
comp=Z,46nm,0.9s,baz=187,slow=7.5,SNR=24
PETK LR LR 15 09 02.4
comp=Z,680nm,19.4s,baz=189,slow=36
comp=Z,46nm,0.9s
PET Petropavlovsk 60.38 11 *ce*P **P 14 43 29.3 -0.9**
PET pmax pmax
comp=Z,71nm,2.5s
LSA Lhasa 60.99 309 IAmb IAmb 14 43 38.8
comp=Z,147nm,2.0s
ZEA Zeya 61.01 350 *e*P **P 14 43 34.0 -0.5**
ZEA *e*S **S 14 51 56.1 +3.3**
ZEA pmax pmax
comp=Z,20nm,1.6s
ZEA pmax pmax
comp=E,20nm,1.0s
ZEA pmax pmax
comp=N,60nm,1.1s
ZEA pmax pmax
comp=Z,100nm,1.1s
ZEA smax smax
comp=N,400nm,13.7s
GOMU GeErMu 61.54 317 P **P 14 43 39.5 +0.5**
GOMU pP sP 14 43 45.8 +0.7
GOMU sP pP 14 43 50.6 +7.2
GOMU S **S 14 52 07.3 +6.3**
GOMU pmax pmax
comp=N,19nm,1.3s
GOMU LR LR
comp=N,650nm,18.8s
GOMU LR LR
comp=N,420nm,17.6s
GOMU LR LR
comp=N,700nm,20.1s
ULN Ulaanbaatar 62.24 334 P **P 14 43 43.0 -0.2**
ULN Ulaanbaatar 62.24 334 *ce*P **P 14 43 43.6 +0.4**
ULN pmax pmax
comp=Z,61nm,1.3s
SONM Songino Array 62.51 333 IAmb IAmb 14 43 47.1
comp=Z,59nm,1.4s
SONM Songino Array 62.51 333 P **P 14 43 45.0 +0.1**
comp=Z,24nm,1.1s,baz=155,slow=5.6,SNR=69
SONM LR LR 15 11 25.0
comp=Z,2μm,19.2s,baz=146,slow=37
SONM PKPPKP **P'P'df 15 12 50.0 +1.9**
comp=Z,0.9nm,1.0s,baz=252,slow=2.8,SNR=7.9
comp=Z,24nm,1.1s
BOK Bokaro 62.94 300 *e*P **P 14 43 50.9 +2.8**
BOK IAmb IAmb 14 43 54.7
comp=Z,19nm,0.9s
CIT Chita 63.03 340 *e*P **P 14 43 49.2 +1.0**
CIT *e* 14 44 24.6
CIT pmax pmax
comp=Z,165nm,1.9s
JHSG JHARSUGUGA 64.09 298 *e*P **P 14 43 57.5 +1.6**
KIP Kipapa 64.11 63 P **P 14 43 56.2 +0.3**
KIP Kipapa 64.11 63 P **P 14 43 56.9 +1.0**
KIP Kipapa 64.11 63 P **P 14 43 56.6 +0.7**
KIP Kipapa 64.11 63 *ce*P **P 14 43 56.0 +0.1**
KIP pmax pmax
comp=Z,362nm,1.7s
CASY Casey 64.14 194 P **P 14 43 55.8 +0.5**
CASY IAmb IAmb 14 44 05.7
comp=Z,34nm,0.8s
CASY Casey 64.14 194 IAMs_20 IAMs_20 15 10 37.5
comp=Z,5μm,20.0s
MDRS Chennai 64.98 287 IAmb IAmb 14 44 03.7
comp=Z,13nm,0.7s
KHLU Kahalu`u 65.46 65 P **P 14 44 05.1 +0.2**
MA2 Magadan 65.74 4 P **P 14 44 05.0 -0.8**
MA2 IAmb IAmb 14 44 06.6
comp=Z,73nm,0.9s
MA2 Magadan 65.74 4 P **P 14 44 06.0 +0.2**
MA2 Magadan 65.74 4 *ce*P **P 14 44 05.0 -0.8**
MA2 pmax pmax
comp=Z,80nm,0.9s
MA2 Magadan 65.74 4 LR LR 15 10 27.0
comp=Z,415nm,20.3s,baz=188,slow=34
IRK Irkutsk 66.70 335 *e*P **P 14 44 12.4 +0.3**
IRK pmax pmax
comp=Z,88nm,2.1s
PPT Papeete 66.87 106 LR LR 15 09 49.5
comp=Z,959nm,21.9s,baz=266,slow=33
PPT2 Papeete2 66.87 106 *e*P P 14 44 03.9 -10
comp=Z,197nm,23.5s
PPT2 *e*S **S 14 53 09.8 +2.7**
PPT2 comp=Z,886nm,26.5s *e*SS **SS 14 57 20.7 -4.8**
PPT2 comp=Z,701nm,30.0s *e*LQ LQ 15 01 41.2
PPT2 comp=Z,3μm,28.5s *e*LR LR 15 04 22.9
PPT2 comp=Z,3μm,24.2s *e*LR LR 15 04 28.0
PPT2 comp=Z,3μm,25.0s
ALBI Allahabad 66.94 301 *e*P **P 14 44 14.8 +0.6**
ALBI IAmb IAmb 14 44 15.9
comp=Z,581nm,2.1s
TBI Tubuai 67.18 113 *e*P **P 14 44 11.0 -4.8**
comp=Z,583nm,24.2s
TBI *e*S **S 14 53 17.5 +6.9**
TBI comp=Z,2μm,26.2s *e*SS **SS 14 57 35.8 +5.8**
TBI comp=Z,3μm,29.8s *e*LQ LQ 15 01 42.6
TBI comp=Z,18μm,33.5s *e*LR LR 15 04 34.0
TBI comp=Z,2μm,30.0s *e*LR LR 15 04 34.2
TBI comp=Z,12μm,31.8s
ADK Adak 67.28 26 P **P 14 44 16.1 +0.4**
ADK Adak 67.28 26 IAMs_20 IAMs_20 15 08 34.3
comp=Z,4μm,21.0s
ADK Adak 67.28 26 P **P 14 44 16.7 +1.0**
ADK Adak 67.28 26 P **P 14 44 16.2 +0.4**
ADK pmax pmax
comp=Z,304nm,1.5s
HYB Hyderabad 67.60 292 *e*P **P 14 44 18.4 -0.1**
HYB IVmB_BB 14 44 19.1
comp=Z,473nm,2.3s
HYB Hyderabad 67.60 292 *e*P **P 14 44 18.9 +0.3**
MOY Mondy 67.70 333 *e*P **P 14 44 18.9 +0.3**
MOY pmax pmax
comp=Z,103nm,2.4s
BOD Bodaibo 67.81 344 *e*P **P 14 44 18.5 -0.5**
BOD pmax pmax
comp=Z,48nm,1.9s
ATKA Atka Island 68.60 27 IAMs_20 IAMs_20 15 08 50.3
comp=Z,4μm,22.0s
YAK Yakutsk 68.65 353 P **P 14 44 23.3 -0.9**
YAK Yakutsk 68.65 353 *ci*P **P 14 44 23.5 -0.7**
YAK *e* 14 44 47.4
YAK *e* 14 46 51.1
YAK *e*S **S 14 53 26.9 +0.3**
YAK *e* 14 54 22.5
YAK *e*SS **SS 14 57 47.0 -4.4**
YAK pmax pmax
comp=Z,41nm,1.0s
YAK pmax pmax
comp=N,25nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.5s
YAK pmax pmax
comp=Z,76nm,2.5s
YAK pmax pmax
comp=E,53nm,2.7s
YAK smax smax
comp=E,319nm,5.8s
YAK smax smax
comp=N,110nm,2.5s
YAK MLR MLR
comp=Z,741nm,22.0s
YAK MLR MLR
comp=N,472nm,21.0s
YAK MLR MLR
comp=E,343nm,22.0s
YAK Yakutsk 68.65 353 LR LR 15 12 41.9
comp=E,731nm,20.1s,baz=160,slow=34
VAH Vaihoa 68.74 104 *e*P **P 14 44 22.1 -3.6**
comp=E,23μm,27.2s
SEY Seymchan 69.19 5 *ce*P **P 14 44 26.6 -0.9**
SEY pmax pmax
comp=Z,81nm,1.5s
SEY Seymchan 69.19 5 LR LR 15 12 48.1
comp=Z,909nm,20.7s,baz=188,slow=34
LGTI Lohaghat 69.62 304 *e*P **P 14 44 32.1 +1.3**
PTH Pithoragarh 69.67 304 ⇑*i*P **P 14 44 30.9 -0.6**
AKL Akola 69.83 295 *e*P **P 14 44 32.8 +0.4**
KAAM Kaadhehdhoo 69.99 273 IAMs_20 IAMs_20 15 14 17.8
comp=Z,3μm,22.0s
WMQ Urumqi 70.17 321 ⇑P **P 14 44 34.6 +0.5**
WMQ PcP **PcP 14 44 52.7 -3.3**
WMQ pmax pmax
comp=Z,54nm,1.7s
WMQ pmax pmax
comp=Z,460nm,4.9s
WMQ LR LR
comp=Z,900nm,20.1s
WMQ LR LR
comp=Z,570nm,23.9s
WMQ LR LR
comp=Z,680nm,20.9s
NIKH Nikolski High 71.56 28 P **P 14 44 41.6 -0.6**
baz=232
DDI Dehra Dun 71.70 305 IAmb IAmb 14 44 47.8
comp=Z,47nm,1.0s
VNDA Vanda 72.12 176 P **P 14 44 45.8 +0.5**
VNDA IAMs_20 IAMs_20 15 16 26.0
comp=Z,4μm,19.0s
VNDA Vanda 72.12 176 P **P 14 44 45.8 +0.5**
VNDA pmax pmax
comp=Z,17nm,1.0s
VNDA MLR MLR
comp=Z,4μm,19.0s
VNDA Vanda 72.12 176 P **P 14 44 45.1 -0.1**
comp=Z,7.4nm,0.8s,baz=326,slow=6.8,SNR=24
VNDA LR LR 15 16 37.1
comp=Z,4μm,18.5s,baz=348,slow=36
comp=Z,7.4nm,0.8s
POO Poona 72.21 292 *e*P **P 14 44 47.5 +0.6**
POO IAmb IAmb 14 44 49.4
comp=Z,18nm,0.7s
KUDL Kundal 72.34 302 *e*P **P 14 44 47.1 -0.4**
SMLA Simla 72.68 305 *e*P **P 14 44 50.1 +0.7**
SMLA IAmb IAmb 14 44 52.4
comp=Z,22nm,0.5s
SBA Scott Base 72.84 175 IAMs_20 IAMs_20 15 13 44.8
comp=Z,3μm,20.0s
UNV Unalaska Valle 73.21 29 P **P 14 44 52.5 +0.4**
UNV Unalaska Valle 73.21 29 P **P 14 44 51.5 -0.5**
baz=234
DGZ Jazzator, Alta 73.32 326 *i*P **P 14 44 53.3 +0.3**
DGZ pmax pmax
comp=Z,51nm,1.0s
P08K Saint George I 73.55 25 P **P 14 44 53.3 -0.7**
baz=230
SPIA Saint Paul Isl 73.64 25 P **P 14 44 54.1 -0.4**
baz=229
ZSN Zaisan 73.67 323 *e*P **P 14 44 55.1 +0.1**
ZSN Zaisan 73.67 323 *e*P **P 14 44 55.2 +0.1**
baz=323
DHRM DHARAMSHALA 73.73 306 *e*P **P 14 44 55.6 -0.3**
DHRM IAmb IAmb 14 44 58.3
comp=Z,16nm,0.8s
AKUT Akutan 73.73 29 P **P 14 44 55.6 +0.5**
MK31 Makanchi Array 74.93 322 IAmb IAmb 14 45 22.2
comp=Z,115nm,1.6s
MK31 Makanchi Array 74.93 322 *i*P **P 14 45 01.8 -0.6**
MK31 pmax pmax
comp=Z,43nm,1.0s
MKAR Makanchi Array 74.93 322 P **P 14 45 02.4 0.0**
comp=Z,19nm,0.8s,baz=111,slow=6.6,SNR=161
MKAR S **S 14 54 41.3 +1.5**
comp=Z,0.1nm,0.4s,baz=147,slow=3.4,SNR=1.0
comp=Z,19nm,0.8s
MAKZ Makanchi 75.13 322 P **P 14 45 03.3 -0.2**
MAKZ IAmb IAmb 14 45 05.4
comp=Z,179nm,1.7s
MAKZ Makanchi 75.13 322 P **P 14 45 03.3 -0.2**
MAKZ pmax pmax
comp=Z,179nm,1.7s
SHLS Shalkode 75.23 317 *e*P **P 14 45 02.7 -1.6**
SHLS Shalkode 75.23 317 *e*P **P 14 45 02.8 -1.6**
baz=318
FALS False Pass 75.27 29 P **P 14 45 04.6 +0.5**
FALS False Pass 75.27 29 P **P 14 45 03.4 -0.6**
baz=236
PDGK Podgornoye 75.28 318 P **P 14 45 04.1 -0.5**
UZB Uzynbulak 75.53 317 *e*P **P 14 45 06.0 0.0**
UZB Uzynbulak 75.53 317 *e*P **P 14 45 06.0 0.0**
baz=317
BILL Bilibino 75.77 9 P **P 14 45 05.6 -1.1**
BILL IAmb IAmb 14 45 07.8
comp=Z,82nm,1.6s
BILL Bilibino 75.77 9 ⇑*e*P **P 14 45 06.5 -0.2**
BILL pmax pmax
comp=Z,54nm,1.5s
KPKS Kokpek 75.88 318 *e*P **P 14 45 08.2 +0.3**
KPKS Kokpek 75.88 318 *e*P **P 14 45 08.3 +0.3**
baz=318
SATY Saty 75.91 317 *e*P **P 14 45 08.2 0.0**
SATY Saty 75.91 317 *e*P **P 14 45 08.2 0.0**
baz=317
ZHN Zhinishke 75.93 317 *e*P **P 14 45 08.4 +0.1**
ZHN Zhinishke 75.93 317 *e*P **P 14 45 08.4 +0.1**
baz=317
TAOE Nuku Hiva Isla 76.32 98 *e*P **P 14 45 12.5 +1.4**
comp=Z,182nm,23.9s
KSH Kashi 76.35 313 P **P 14 45 12.1 +1.3**
KSH S **S 14 54 56.8 +0.9**
KSH pmax pmax
comp=Z,30nm,1.4s
KSH LR LR
comp=Z,560nm,21.4s
KSH LR LR
comp=Z,690nm,20.8s
KSH LR LR
comp=Z,1μm,24.5s
NIL Nilore 76.60 307 P **P 14 45 11.8 -0.4**
NIL IAmb IAmb 14 45 16.0
comp=Z,88nm,0.8s
NIL Nilore 76.60 307 P **P 14 45 11.8 -0.4**
NIL pmax pmax
comp=Z,87nm,0.9s
TDK Taldyqorghan 76.66 319 *e*P **P 14 45 12.3 +0.1**
TDK pmax pmax
comp=Z,87nm,1.2s
TDK Taldyqorghan 76.66 319 *e*P **P 14 45 12.4 +0.1**
comp=Z,87nm,1.2s,baz=319
MDOK Medeo 76.87 317 *e*P **P 14 45 13.7 0.0**
MDOK Medeo 76.87 317 *e*P **P 14 45 13.7 0.0**
baz=317
ZAA0 Zalesovo Array 76.89 329 IAmb IAmb 14 45 14.0
comp=Z,106nm,1.9s
ZALV Zalesovo Beam 76.89 329 P **P 14 45 12.3 -1.0**
comp=Z,11nm,0.7s,baz=106,slow=5.3,SNR=58
ZALV LR LR 15 18 18.3
comp=Z,544nm,20.9s,baz=119,slow=35
comp=Z,11nm,0.7s
SDPT Sand Point 76.96 29 P **P 14 45 13.8 +0.1**
SDPT Sand Point 76.96 29 P **P 14 45 12.9 -0.8**
baz=239
AAA Alma-Ata 76.98 317 *e*P **P 14 45 13.8 -0.4**
AAA pmax pmax
comp=Z,48nm,1.2s
AAA Alma-Ata 76.98 317 *e*P **P 14 45 13.8 -0.4**
comp=Z,48nm,1.2s,baz=317
CHNA Chernabura Isl 77.13 30 P **P 14 45 14.1 -0.5**
baz=240
CHKK Chushkaly 77.16 317 *e*P **P 14 45 15.0 -0.1**
CHKK Chushkaly 77.16 317 *e*P **P 14 45 15.1 -0.1**
baz=317
M11K Mekoryuk 77.30 23 P **P 14 45 15.8 +0.3**
baz=232
GAMB Gambell 77.54 19 P **P 14 45 17.1 +0.3**
baz=227

KUU	**Kurty**	**77.61**	**317**	*e*P		**P**		**14 45 17.7**	**0.0**	
KUU	comp=Z,83nm,1.6s			pmax		pmax				
KUU	**Kurty**	**77.61**	**317**	*e*P		**P**		**14 45 17.7**	**0.0**	
	comp=Z,83nm,1.6s,baz=317									
SEM	**Semipalatinsk**	**77.73**	**324**	*e*P		**P**		**14 45 17.6**	**-0.8**	
SEM	**Semipalatinsk**	**77.73**	**324**	*e*P		**P**		**14 45 17.6**	**-0.8**	
	baz=324									
TKM2	**Tokmak 2**	**77.78**	**316**	P		**P**		**14 45 19.3**	**+0.5**	
	SNR=22									
TKM2	**Tokmak 2**	**77.78**	**316**	*i* P		**P**		**14 45 18.0**	**-0.9**	
TKM2	comp=Z,48nm,1.6s			pmax		pmax				
S14K	**Fog Glacier**	**77.89**	**29**	P		**P**		**14 45 18.3**	**-0.7**	
	baz=239									
TIXI	**Tiksi**	**78.10**	**356**	P		**P**		**14 45 18.0**	**-1.8**	
TIXI	**Tiksi**	**78.10**	**356**	*ce*P		**P**		**14 45 18.3**	**-1.4**	
TIXI	comp=Z,12nm,0.8s			pmax		pmax				
TIXI	**Tiksi**	**78.10**	**356**	LR		LR		15 21 42.6		
	comp=Z,571nm,19.1s,baz=180,slow=37									
KBK	**Karagaybulak**	**78.14**	**316**	P		**P**		**14 45 20.2**	**-0.6**	
	SNR=7.2									
UCH	**Uchtor**	**78.30**	**315**	P		**P**		**14 45 23.0**	**+1.0**	
	SNR=33									
CHMS	**Chumysh**	**78.39**	**316**	P		**P**		**14 45 22.4**	**+0.3**	
	SNR=11									
AAK	**Ala-Archa**	**78.45**	**316**	P		**P**		**14 45 23.5**	**+1.0**	
	SNR=21									
AAK	**Ala-Archa**	**78.45**	**316**	P		**P**		**14 45 22.1**	**-0.4**	
AAK	**Ala-Archa**	**78.45**	**316**	*ce*P		**P**		**14 45 22.3**	**-0.2**	
AAK	comp=Z,42nm,1.6s			pmax		pmax				
CHGN	**Chignik**	**78.45**	**29**	P		**P**		**14 45 21.0**	**-1.0**	
	baz=240									
M13K	**Dall Lake**	**78.46**	**24**	IAMs_20		IAMs_20		15 14 26.0		
	comp=Z,3µm,22.0s									
M13K	**Dall Lake**	**78.46**	**24**	P		**P**		**14 45 22.4**	**+0.5**	
	baz=235,SNR=10									
SGDS	**Sogindy**	**78.62**	**316**	*e*P		**P**		**14 45 23.2**	**-0.1**	
SGDS	**Sogindy**	**78.62**	**316**	*e*P		**P**		**14 45 23.3**	**-0.1**	
	baz=316									
USP	**Ospenovka**	**78.65**	**316**	P		**P**		**14 45 23.6**	**+0.1**	
	SNR=42									
O14K	**Tigyukauivet M**	**78.68**	**26**	IAmb		IAmb		14 45 25.6		
	comp=Z,69nm,1.0s									
O14K				IAMs_20		IAMs_20		15 14 38.9		
	comp=Z,2µm,22.0s									
O14K	**Tigyukauivet M**	**78.68**	**26**	P		**P**		**14 45 23.3**	**+0.2**	
	baz=237									
KURK	**Kurchatov**	**78.80**	**324**	P		**P**		**14 45 23.6**	**-0.5**	
KURK	comp=Z,110nm,1.4s			IAmb		IAmb		14 45 25.6		
KURK	**Kurchatov**	**78.80**	**324**	*ce*P		**P**		**14 45 23.9**	**-0.1**	
KURK	comp=Z,80nm,1.3s			pmax		pmax				
KURBB	**Kurchatov Arra**	**78.82**	**324**	P		**P**		**14 45 23.6**	**-0.5**	
	comp=Z,22nm,1.0s,baz=117,slow=4.7,SNR=93									
KURBB				PKKPbc		**PKKPbc**		**15 04 22.1**	**+1.6**	
	comp=Z,0.3nm,0.6s,baz=297,slow=3.5,SNR=5.0									
	comp=Z,22nm,1.0s									
N14K	**Kuskokwak Cree**	**78.87**	**25**	P		**P**		**14 45 24.1**	**-0.1**	
	baz=237									
EKS2	**Erkin-Say**	**78.95**	**315**	P		**P**		**14 45 25.8**	**+0.5**	
	SNR=34									
M14K	**Bethel**	**79.22**	**24**	IAmb		IAmb		14 45 28.7		
M14K	comp=Z,110nm,1.1s									
M14K				IAMs_20		IAMs_20		15 15 12.1		
	comp=Z,3µm,21.0s									
M14K	**Bethel**	**79.22**	**24**	P		**P**		**14 45 26.6**	**+0.5**	
	baz=236,SNR=16									
L14K	**Kuka Creek**	**79.26**	**24**	IAmb		IAmb		14 45 28.9		
L14K	comp=Z,75nm,0.9s									
L14K				IAMs_20		IAMs_20		15 14 41.0		
	comp=Z,3µm,22.0s									
L14K	**Kuka Creek**	**79.26**	**24**	P		**P**		**14 45 26.4**	**+0.1**	
	baz=236									
O15K	**Ungalikthiuk R**	**79.27**	**26**	P		**P**		**14 45 26.6**	**+0.2**	
	baz=238									
R16K	**Pilot Point**	**79.48**	**28**	P		**P**		**14 45 27.3**	**-0.2**	
	baz=241									
BTLS	**Baital**	**79.55**	**318**	*e*P		**P**		**14 45 28.3**	**0.0**	
BTLS	**Baital**	**79.55**	**318**	*e*P		**P**		**14 45 28.3**	**0.0**	
	baz=318									
N15K	**Kwethluk River**	**79.68**	**25**	IAmb		IAmb		14 45 31.3		
N15K	comp=Z,91nm,1.1s									
N15K				IAMs_20		IAMs_20		15 15 34.3		
	comp=Z,3µm,22.0s									
N15K	**Kwethluk River**	**79.68**	**25**	P		**P**		**14 45 29.1**	**+0.4**	
	baz=238									
M15K	**Kasigluk River**	**79.71**	**25**	P		**P**		**14 45 28.8**	**0.0**	
	baz=238									
J14K	**Nanvaranak Lak**	**79.73**	**22**	IAmb		IAmb		14 45 32.0		
	comp=Z,246nm,1.9s									
J14K	**Nanvaranak Lak**	**79.73**	**22**	P		**P**		**14 45 29.6**	**+0.8**	
	baz=234,SNR=11									
L15K	**Ungalak Mounta**	**79.92**	**24**	P		**P**		**14 45 29.8**	**-0.1**	
	baz=237									
TNA	**Tin City**	**79.95**	**19**	P		**P**		**14 45 30.2**	**+0.2**	
	baz=230									
P16K	**Nushagak River**	**80.01**	**27**	P		**P**		**14 45 30.1**	**-0.3**	
	baz=240									
ANM	**Nome**	**80.17**	**20**	IAmb		IAmb		14 45 33.1		
ANM	comp=Z,169nm,1.7s									
ANM				IAMs_20		IAMs_20		15 14 34.9		
	comp=Z,3µm,22.0s									
ANM	**Nome**	**80.17**	**20**	P		**P**		**14 45 31.5**	**+0.3**	
	baz=233									
KBL	**Kabul**	**80.20**	**306**	P		**P**		**14 45 31.1**	**-1.2**	
KBL	**Kabul**	**80.20**	**306**	P		**P**		**14 45 31.1**	**-1.2**	
KBL	comp=Z,14nm,0.9s			pmax		pmax				
KBL				MLR		MLR				
	comp=Z,300nm,18.0s									
O16K	**Kokwok River B**	**80.25**	**26**	IAmb		IAmb		14 45 33.9		
O16K	comp=Z,99nm,1.1s									
O16K				IAMs_20		IAMs_20		15 14 55.4		
	comp=Z,3µm,22.0s									
O16K	**Kokwok River B**	**80.25**	**26**	P		**P**		**14 45 31.7**	**0.0**	
	baz=240									
K15K	**Wolf Creek Mou**	**80.25**	**23**	IAMs_20		IAMs_20		15 16 26.2		
	comp=Z,3µm,22.0s									
K15K	**Wolf Creek Mou**	**80.25**	**23**	P		**P**		**14 45 32.0**	**+0.3**	
	baz=236									
GAR	**Garm**	**80.37**	**311**	IAmb		IAmb		14 45 36.9		
	comp=Z,294nm,2.0s									
N16K	**Nishlik Lake**	**80.40**	**25**	P		**P**		**14 45 33.3**	**+0.7**	
	baz=239									
F14K	**Arctic Creek**	**80.41**	**19**	P		**P**		**14 45 32.8**	**+0.3**	
	baz=232									
Q16K	**King Salmon**	**80.44**	**27**	P		**P**		**14 45 31.7**	**-1.0**	
	baz=241									
MAW	**Mawson**	**80.59**	**202**	P		**P**		**14 45 34.5**	**+1.1**	
	comp=Z,33nm,1.2s,baz=89,slow=15,SNR=2.9									
MAW				LR		LR		15 17 41.1		
	comp=Z,3µm,21.9s,baz=76,slow=33									
	comp=Z,33nm,1.2s									
Q17K	**Contact Creek**	**80.60**	**28**	P		**P**		**14 45 33.0**	**-0.9**	
	baz=242,SNR=14									
M16K	**Timber Creek**	**80.60**	**25**	IAmb		IAmb		14 45 36.3		
M16K	comp=Z,100nm,1.1s									
M16K				IAMs_20		IAMs_20		15 16 34.7		
	comp=Z,2µm,20.0s									
M16K	**Timber Creek**	**80.60**	**25**	P		**P**		**14 45 34.0**	**+0.4**	
	baz=239									
SII	**Sitkinak Islan**	**80.65**	**30**	P		**P**		**14 45 34.0**	**+0.1**	
	baz=244									
DZA	**Taraz**	**80.74**	**315**	*e*P		**P**		**14 45 34.7**	**-0.1**	
DZA	**Taraz**	**80.74**	**315**	*e*P		**P**		**14 45 34.8**	**-0.1**	
	baz=315									
L16K	**Owhat River**	**80.75**	**24**	IAmb		IAmb		14 45 36.8		
L16K	comp=Z,71nm,1.0s									
L16K				IAMs_20		IAMs_20		15 15 58.6		
	comp=Z,3µm,22.0s									
L16K	**Owhat River**	**80.75**	**24**	P		**P**		**14 45 34.8**	**+0.4**	
	baz=238,SNR=32									
O17K	**Koliganek Bris**	**80.78**	**26**	P		**P**		**14 45 34.9**	**+0.3**	
	baz=241,SNR=66									
P17K	**Kvichak River**	**80.79**	**27**	P		**P**		**14 45 34.9**	**+0.3**	
	baz=242									
G15K	**Niukluk**	**80.88**	**20**	P		**P**		**14 45 35.2**	**+0.2**	
	baz=234									
F15K	**North Star Dit**	**81.10**	**19**	IAmb		IAmb		14 45 38.0		
F15K	comp=Z,168nm,1.6s									
F15K				IAMs_20		IAMs_20		15 16 21.5		
	comp=Z,3µm,22.0s									
F15K	**North Star Dit**	**81.10**	**19**	P		**P**		**14 45 36.5**	**+0.3**	
	baz=233									
N17K	**Nushagak Hills**	**81.10**	**26**	IAmb		IAmb		14 45 39.2		
N17K	comp=Z,64nm,1.0s									
N17K				IAMs_20		IAMs_20		15 15 11.1		
	comp=Z,2µm,22.0s									
N17K	**Nushagak Hills**	**81.10**	**26**	P		**P**		**14 45 36.5**	**+0.2**	
	baz=241									
J16K	**Anvik River**	**81.15**	**22**	P		**P**		**14 45 36.8**	**+0.3**	
	baz=237									
CHGR	**Chuyangaron**	**81.15**	**311**	IAmb		IAmb		14 45 43.4		
	comp=Z,76nm,1.0s									
CHGR	**Chuyangaron**	**81.15**	**311**	P		**P**		**14 45 36.6**	**-0.6**	
SIMJ	**Simiganj**	**81.26**	**310**	P		**P**		**14 45 36.8**	**-1.0**	
H16K	**Elim**	**81.30**	**21**	P		**P**		**14 45 37.5**	**+0.2**	
	baz=236,SNR=32									
KK31	**Karatay Array**	**81.38**	**315**	*i* P		**P**		**14 45 37.6**	**-0.6**	
OHAK	**Old Harbor**	**81.38**	**30**	P		**P**		**14 45 37.9**	**+0.1**	
	baz=245									
M17K	**Holitna River**	**81.43**	**25**	IAMs_20		IAMs_20		15 17 01.6		
	comp=Z,2µm,21.0s									
M17K	**Holitna River**	**81.43**	**25**	P		**P**		**14 45 38.4**	**+0.3**	
	baz=240,SNR=24									
P18K	**Big Mountain,**	**81.43**	**27**	IAMs_20		IAMs_20		15 15 17.8		
	comp=Z,3µm,22.0s									
P18K	**Big Mountain,**	**81.43**	**27**	P		**P**		**14 45 38.4**	**+0.3**	
	baz=243									
I17K	**Unalakleet**	**81.44**	**22**	IAmb		IAmb		14 45 41.1		
	comp=Z,85nm,1.1s									
I17K	**Unalakleet**	**81.44**	**22**	P		**P**		**14 45 38.8**	**+0.8**	
	baz=237,SNR=21									
IUG	**luzhnay**	**81.44**	**314**	*e*P		**P**		**14 45 38.7**	**0.0**	
IUG	**luzhnay**	**81.44**	**314**	*e*P		**P**		**14 45 38.7**	**0.0**	
	baz=314									
L17K	**Donlin**	**81.44**	**24**	P		**P**		**14 45 38.3**	**+0.3**	
	baz=240									
O18K	**Koktuh Hills**	**81.65**	**27**	IAmb		IAmb		14 45 40.1		
O18K	comp=Z,138nm,1.9s									
O18K				IAMs_20		IAMs_20		15 17 13.7		
	comp=Z,2µm,20.0s									
O18K	**Koktuh Hills**	**81.65**	**27**	P		**P**		**14 45 39.7**	**+0.4**	
	baz=243									
G16K	**Koyuk River**	**81.69**	**20**	IAMs_20		IAMs_20		15 16 06.9		
	comp=Z,3µm,22.0s									
G16K	**Koyuk River**	**81.69**	**20**	P		**P**		**14 45 39.8**	**+0.5**	
	baz=235									
OTUK	**Ortayu**	**81.71**	**320**	P		**P**		**14 45 38.9**	**-1.0**	
N18K	**Kilae Creek**	**81.74**	**26**	IAmb		IAmb		14 45 42.6		
N18K	comp=Z,35nm,0.8s									
N18K				IAMs_20		IAMs_20		15 16 04.8		
	comp=Z,2µm,22.0s									
N18K	**Kilae Creek**	**81.74**	**26**	P		**P**		**14 45 40.4**	**+0.7**	
	baz=242									
K17K	**Iditarod**	**81.74**	**23**	IAmb		IAmb		14 45 42.5		
K17K	comp=Z,85nm,0.9s									
K17K				IAMs_20		IAMs_20		15 17 24.7		
	comp=Z,3µm,21.0s									
K17K	**Iditarod**	**81.74**	**23**	P		**P**		**14 45 40.3**	**+0.7**	
	baz=239									
BRLS	**Boroldoy**	**81.83**	**315**	*e*P		**P**		**14 45 40.6**	**0.0**	
BRLS	**Boroldoy**	**81.83**	**315**	*e*P		**P**		**14 45 40.6**	**0.0**	
	baz=315									
KDAK	**Kodiak Island**	**81.96**	**29**	P		**P**		**14 45 40.7**	**-0.2**	
KDAK	comp=Z,159nm,1.6s			IAmb		IAmb		14 45 57.6		
KDAK	**Kodiak Island**	**81.96**	**29**	P		**P**		**14 45 40.7**	**-0.2**	
KDAK	comp=Z,159nm,1.6s			pmax		pmax				
KDAK	**Kodiak Island**	**81.96**	**29**	P		**P**		**14 45 41.0**	**+0.2**	
	baz=245									
KDAK	**Kodiak Island**	**81.96**	**29**	LR		LR		15 19 44.9		
	comp=Z,783nm,19.6s,baz=255,slow=34									
BRZS	**Berezniki**	**82.07**	**322**	*e*P		**P**		**14 45 41.5**	**-0.1**	
BRZS	**Berezniki**	**82.07**	**322**	*e*P		**P**		**14 45 41.6**	**-0.1**	
	baz=322									
SVW2	**Sparrevohn**	**82.07**	**26**	IAmb		IAmb		14 45 44.1		
SVW2	comp=Z,52nm,1.0s									
SVW2				IAMs_20		IAMs_20		15 18 42.3		
	comp=Z,2µm,21.0s									
SVW2	**Sparrevohn**	**82.07**	**26**	P		**P**		**14 45 41.8**	**+0.4**	
L18K	**Granite Mounta**	**82.14**	**24**	IAMs_20		IAMs_20		15 16 05.4		
	comp=Z,3µm,21.0s									
L18K	**Granite Mounta**	**82.14**	**24**	P		**P**		**14 45 42.2**	**+0.4**	
	baz=241,SNR=26									
M18K	**Stony River**	**82.15**	**25**	P		**P**		**14 45 42.5**	**+0.7**	
	baz=242									
O19K	**Port Alsworth**	**82.20**	**27**	IAmb		IAmb		14 45 42.6		
O19K	comp=Z,160nm,2.0s									
O19K				IAMs_20		IAMs_20		15 17 41.3		
	comp=Z,2µm,21.0s									
O19K	**Port Alsworth**	**82.20**	**27**	P		**P**		**14 45 41.4**	**-0.7**	
	baz=243,SNR=6.9									
H17K	**Granite Mounta**	**82.30**	**21**	IAMs_20		IAMs_20		15 17 11.3		
	comp=Z,2µm,21.0s									
H17K	**Granite Mounta**	**82.30**	**21**	P		**P**		**14 45 43.1**	**+0.6**	
	baz=238									
G17K	**Kiwalik Mounta**	**82.34**	**21**	P		**P**		**14 45 43.3**	**+0.6**	
	baz=237									
N19K	**Bonanza Creek**	**82.41**	**26**	IAMs_20		IAMs_20		15 16 01.6		
	comp=Z,3µm,22.0s									
N19K	**Bonanza Creek**	**82.41**	**26**	P		**P**		**14 45 43.4**	**+0.1**	
	baz=243,SNR=22									
C16K	**Lisburne Hills**	**82.45**	**17**	P		**P**		**14 45 43.4**	**+0.2**	
	baz=232									
ILSW	**Iliamna Southw**	**82.64**	**27**	IAmb		IAmb		14 45 45.5		
ILSW	comp=Z,138nm,1.8s									
ILSW				IAMs_20		IAMs_20		15 17 22.8		
	comp=Z,2µm,20.0s									
F17K	**Baldwin Pennin**	**82.66**	**20**	IAmb		IAmb		14 46 12.4		
F17K	comp=Z,65nm,1.4s									
F17K				IAMs_20		IAMs_20		15 17 09.6		
	comp=Z,3µm,21.0s									
F17K	**Baldwin Pennin**	**82.66**	**20**	P		**P**		**14 45 44.6**	**+0.3**	
	baz=236,SNR=20									
J18K	**Innoko River**	**82.74**	**23**	IAMs_20		IAMs_20		15 18 04.1		
	comp=Z,3µm,21.0s									
J18K	**Innoko River**	**82.74**	**23**	P		**P**		**14 45 44.8**	**-0.1**	
	baz=241									
TTA	**Tatalina**	**82.76**	**24**	IAmb		IAmb		14 45 46.6		
TTA	comp=Z,86nm,1.6s									
TTA				IAMs_20		IAMs_20		15 17 21.8		
	comp=Z,3µm,21.0s									
TTA	**Tatalina**	**82.76**	**24**	P		**P**		**14 45 45.2**	**+0.1**	
D17K	**Noatak River**	**82.79**	**18**	P		**P**		**14 45 45.6**	**+0.6**	
	baz=234									
L19K	**White Mountain**	**82.88**	**25**	IAmb		IAmb		14 45 48.2		
L19K	comp=Z,127nm,1.6s									
L19K				IAMs_20		IAMs_20		15 18 26.8		
	comp=Z,2µm,20.0s									
L19K	**White Mountain**	**82.88**	**25**	P		**P**		**14 45 45.9**	**+0.2**	
	baz=243									
O20K	**Slope Mountain**	**82.92**	**27**	P		**P**		**14 45 45.2**	**-0.8**	
	baz=245									
H18K	**Honhosa River**	**82.97**	**21**	IAmb		IAmb		14 45 48.1		
H18K	comp=Z,107nm,1.7s									
H18K				IAMs_20		IAMs_20		15 16 47.0		
	comp=Z,3µm,22.0s									
H18K	**Honhosa River**	**82.97**	**21**	P		**P**		**14 45 45.6**	**-0.4**	
	baz=239									
C17K	**DeLong Mountai**	**83.22**	**18**	P		**P**		**14 45 47.5**	**+0.3**	
	baz=234									
G18K	**Tagagawik**	**83.25**	**21**	IAMs_20		IAMs_20		15 17 06.2		
	comp=Z,3µm,21.0s									
G18K	**Tagagawik**	**83.25**	**21**	P		**P**		**14 45 47.5**	**0.0**	
	baz=239									
F18K	**Selawik**	**83.28**	**20**	P		**P**		**14 45 47.2**	**-0.3**	
	baz=238									
GCSA	**Galena City Sc**	**83.31**	**22**	P		**P**		**14 45 47.8**	**0.0**	
	baz=240,SNR=29									
CNPM	**China Poot**	**83.33**	**28**	IAmb		IAmb		14 46 02.5		
CNPM	comp=Z,43nm,0.8s									
CNPM				IAMs_20		IAMs_20		15 16 05.9		
	comp=Z,3µm,22.0s									
E18K	**Tukpahlearik C**	**83.42**	**19**	IAMs_20		IAMs_20		15 17 32.7		
	comp=Z,2µm,22.0s									
E18K	**Tukpahlearik C**	**83.42**	**19**	P		**P**		**14 45 48.6**	**+0.3**	
	baz=237									
L20K	**Farewell, AK**	**83.42**	**25**	P		**P**		**14 45 48.9**	**+0.4**	
	baz=244									
J19K	**Poorman**	**83.42**	**23**	IAMs_20		IAMs_20		15 18 57.0		
	comp=Z,2µm,20.0s									
J19K	**Poorman**	**83.42**	**23**	P		**P**		**14 45 48.7**	**+0.3**	
	baz=242									
M20K	**Styx River**	**83.47**	**25**	IAMs_20		IAMs_20		15 20 16.3		
	comp=Z,2µm,20.0s									
M20K	**Styx River**	**83.47**	**25**	P		**P**		**14 45 49.0**	**+0.2**	
	baz=244									
N20K	**Mount Spurr**	**83.58**	**26**	P		**P**		**14 45 48.5**	**-0.9**	
	baz=245,SNR=5.7									
BRLK	**Bradley Lake**	**83.58**	**28**	IAMs_20		IAMs_20		15 17 00.4		
	comp=Z,2µm,22.0s									
BRSE	**Bradley Lake S**	**83.64**	**28**	P		**P**		**14 45 49.2**	**-0.5**	
	baz=247									
K20K	**Telida**	**83.74**	**24**	IAMs_20		IAMs_20		15 17 29.5		
	comp=Z,4µm,22.0s									
K20K	**Telida**	**83.74**	**24**	P		**P**		**14 45 50.2**	**+0.2**	
	baz=243									
H19K	**Roundabout Mou**	**83.85**	**21**	IAMs_20		IAMs_20		15 20 52.3		
	comp=Z,2µm,20.0s									
H19K	**Roundabout Mou**	**83.85**	**21**	P		**P**		**14 45 50.8**	**+0.3**	
	baz=241									
CAPN	**Captain Cook N**	**83.87**	**27**	P		**P**		**14 45 50.0**	**-0.7**	
	baz=246									
QSPA	**South Pole Qui**	**83.90**	**180**	P		**P**		**14 45 50.6**	**-0.5**	
	comp=Z,40nm,0.7s,baz=319,slow=1.1,SNR=90									
QSPA				LR		LR		15 24 22.6		
	comp=Z,8µm,18.2s,baz=14,slow=36									
	comp=Z,40nm,0.7s									
C18K	**Utukok River**	**83.92**	**18**	P		**P**		**14 45 50.6**	**-0.3**	
	baz=236									
G19K	**Purcell Mounta**	**83.93**	**21**	IAMs_20		IAMs_20		15 16 52.5		
	comp=Z,3µm,22.0s									
G19K	**Purcell Mounta**	**83.93**	**21**	P		**P**		**14 45 51.0**	**0.0**	
	baz=240									
F19K	**Shaleruckik Mo**	**84.04**	**20**	IAmb		IAmb		14 45 53.7		
	comp=Z,119nm,1.9s									
F19K				IAMs_20		IAMs_20		15 17 52.0		
	comp=Z,3µm,21.0s									
F19K	**Shaleruckik Mo**	**84.04**	**20**	P		**P**		**14 45 51.3**	**-0.2**	
	baz=240									
J20K	**Nowinta River**	**84.08**	**23**	IAMs_20		IAMs_20		15 18 45.7		
	comp=Z,2µm,21.0s									
J20K	**Nowinta River**	**84.08**	**23**	P		**P**		**14 45 51.6**	**-0.2**	
	baz=243									
B18K	**Kokolik River**	**84.14**	**17**	P		**P**		**14 45 51.5**	**-0.4**	
	baz=235									
SKT	**Skwentna**	**84.20**	**26**	IAmb		IAmb		14 45 52.0		
SKT	comp=Z,83nm,1.7s									
SKT				IAMs_20		IAMs_20		15 18 57.9		
	comp=Z,2µm,20.0s									
SKT	**Skwentna**	**84.20**	**26**	P		**P**		**14 45 50.6**	**-1.8**	
	baz=246,SNR=8.5									
I20K	**Naaghedeneel**	**84.24**	**22**	IAmb		IAmb		14 45 54.2		
	comp=Z,93nm,1.3s									
I20K	**Naaghedeneel**	**84.24**	**22**	P		**P**		**14 45 52.9**	**+0.4**	
	baz=243									
PPLA	**Purkeypile**	**84.31**	**25**	P		**P**		**14 45 52.1**	**-1.0**	
	baz=245,SNR=13									
SUA	**Susitna One**	**84.33**	**26**	IAmb		IAmb		14 45 56.2		
	comp=Z,30nm,0.9s									
SUA				IAMs_20		IAMs_20		15 17 01.4		
	comp=Z,2µm,22.0s									
SUA	**Susitna One**	**84.33**	**26**	P		**P**		**14 45 52.0**	**-1.2**	
	baz=246,SNR=14									
SEW	**Seward**	**84.38**	**28**	P		**P**		**14 45 52.4**	**-0.9**	
	baz=248									
BVA0	**Borovoye Array**	**84.39**	**325**	P		**P**		**14 45 53.0**	**-0.6**	
BVAR	**Borovoye Array**	**84.39**	**325**	P		**P**		**14 45 53.4**	**-0.2**	
	comp=Z,81nm,0.7s,baz=104,slow=6.3,SNR=286									
BVAR				S		**SKSac**		**14 56 14.0**	**-3.2**	
	comp=Z,0.7nm,0.6s,baz=131,slow=5.9,SNR=1.7									
	comp=Z,81nm,0.7s									
O22K	**Cooper Landing**	**84.40**	**27**	IAMs_20		IAMs_20		15 17 04.4		
	comp=Z,3µm,22.0s									
O22K	**Cooper Landing**	**84.40**	**27**	P		**P**		**14 45 52.6**	**-0.8**	
	baz=247									
H20K	**Anotleneega Mo**	**84.41**	**22**	P		**P**		**14 45 53.5**	**+0.1**	
	baz=242									
FIS	**Fire Island**	**84.44**	**27**	IAMs_20		IAMs_20		15 16 51.2		
	comp=Z,4µm,22.0s									
BRVK	**Borovoye**	**84.46**	**325**	P		**P**		**14 45 53.1**	**-0.8**	
BRVK	comp=Z,88nm,0.9s			IAmb		IAmb		14 46 01.8		
BRVK	**Borovoye**	**84.46**	**325**	*ce*P		**P**		**14 45 53.9**	**0.0**	
BRVK	comp=Z,136nm,1.3s			pmax		pmax				
E19K	**Redstone River**	**84.54**	**20**	IAMs_20		IAMs_20		15 18 18.1		
	comp=Z,3µm,22.0s									
E19K	**Redstone River**	**84.54**	**20**	P		**P**		**14 45 53.9**	**-0.2**	
	baz=240									
CAST	**Castle Rocks**	**84.57**	**24**	IAMs_20		IAMs_20		15 18 27.7		
	comp=Z,3µm,21.0s									
CAST	**Castle Rocks**	**84.57**	**24**	P		**P**		**14 45 53.5**	**-0.8**	
	baz=245,SNR=37									
RC01	**Rabbit Creek A**	**84.63**	**27**	IAmb		IAmb		14 45 55.8		
	comp=Z,85nm,1.1s									
RC01	**Rabbit Creek A**	**84.63**	**27**	P		**P**		**14 45 53.9**	**-0.7**	
	baz=247,SNR=17									
C19K	**Lookout Ridge**	**84.65**	**18**	IAmb		IAmb		14 46 01.3		
C19K	comp=Z,67nm,0.9s									
C19K				IAMs_20		IAMs_20		15 18 14.3		
	comp=Z,2µm,21.0s									
C19K	**Lookout Ridge**	**84.65**	**18**	P		**P**		**14 45 54.7**	**+0.1**	
	baz=

baz=244
SML Sawmill 85.53 26 IAmb IAmb 14 46 06.0
comp=Z,69nm,0.8s
SML IAMs_20 IAMs_20 15 17 28.1
comp=Z,2µm,22.0s
SML Sawmill 85.53 26 P P **14 45 58.6 -0.5**
baz=248,SNR=29
F21K Alatna River 85.71 20 IAMs_20 IAMs_20 15 18 10.0
comp=Z,3µm,22.0s
F21K Alatna River 85.71 20 P P **14 45 59.7 -0.2**
baz=243
MLY Manley 85.78 23 IAMs_20 IAMs_20 15 17 12.4
comp=Z,3µm,22.0s
MLY Manley 85.78 23 P P **14 45 59.9 -0.4**
baz=246,SNR=42
M23K Glacier View 85.79 26 P P **14 45 59.4 -1.1**
baz=249,SNR=17
WAT1 Susitna Watana 85.81 25 P P **14 45 59.2 -1.3**
baz=248
H22K Ishtalitna Cre 85.89 22 P P **14 46 00.8 -0.1**
baz=246,SNR=16
RND Reindeer 85.90 25 IAMs_20 IAMs_20 15 19 33.7
comp=Z,3µm,22.0s
RND Reindeer 85.90 25 P P **14 45 59.2 -1.8**
BWN Browne 85.94 24 IAMs_20 IAMs_20 15 19 21.6
comp=Z,3µm,21.0s
SCM Sheep Creek Mo 85.98 27 IAmb IAmb 14 46 08.4
comp=Z,48nm,0.8s
SCM IAMs_20 IAMs_20 15 18 07.1
comp=Z,3µm,22.0s
SCM Sheep Creek Mo 85.98 27 P P **14 46 01.2 -0.3**
baz=249,SNR=16
MCK McKinley 85.99 24 P P **14 45 59.5 -1.9**
MCK McKinley 85.99 24 P P **14 45 59.9 -1.5**
baz=248,SNR=40
WAT6 Susitna Watana 86.07 26 P P **14 46 00.9 -1.0**
baz=249,SNR=15
E21K Killik River 86.10 19 P P **14 46 01.5 -0.3**
baz=243
C21K Knifeblade Rid 86.17 19 P P **14 46 02.4 +0.3**
baz=242
EYAK Cordova Ski Ar 86.26 28 P P **14 46 03.6 +0.9**
EYAK Cordova Ski Ar 86.26 28 P P **14 46 02.3 -0.4**
baz=251
NEA2 Nenana 86.26 24 IAmb IAmb 14 46 02.9
comp=Z,116nm,1.7s
NEA2 IAMs_20 IAMs_20 15 20 12.3
comp=Z,2µm,21.0s
NEA2 Nenana 86.26 24 P P **14 46 01.2 -1.5**
baz=248,SNR=18
I23K Minto, Yukon-K 86.36 23 IAMs_20 IAMs_20 15 20 05.9
comp=Z,3µm,21.0s
I23K Minto, Yukon-K 86.36 23 P P **14 46 02.4 -0.7**
baz=247,SNR=27
DHY Denali Highway 86.40 25 IAmb IAmb 14 46 05.2
comp=Z,51nm,0.8s
DHY IAMs_20 IAMs_20 15 18 32.1
comp=Z,2µm,21.0s
DHY Denali Highway 86.40 25 P P **14 46 03.1 -0.5**
baz=249,SNR=45
B21K Ikpikpuk River 86.44 18 IAMs_20 IAMs_20 15 19 34.2
comp=Z,2µm,21.0s
B21K Ikpikpuk River 86.44 18 P P **14 46 03.7 +0.3**
baz=242
KLU Klutina 86.50 27 IAmb IAmb 14 46 05.2
comp=Z,152nm,1.6s
KLU IAMs_20 IAMs_20 15 18 19.7
comp=Z,3µm,22.0s
KLU Klutina 86.50 27 P P **14 46 03.8 -0.2**
baz=251,SNR=18
M24K Tolsona, Glenn 86.59 26 IAMs_20 IAMs_20 15 19 22.1
comp=Z,2µm,20.0s
M24K Tolsona, Glenn 86.59 26 P P **14 46 03.6 -0.8**
baz=250,SNR=15
WRH Wood River Hil 86.61 24 IAMs_20 IAMs_20 15 21 06.5
comp=Z,2µm,20.0s
A21K Barrow 86.67 16 P P **14 46 04.4 -0.1**
baz=240
E22K Anaktuvuk Pass 86.68 20 IAMs_20 IAMs_20 15 19 02.9
comp=Z,2µm,22.0s
E22K Anaktuvuk Pass 86.68 20 P P **14 46 04.4 -0.3**
baz=245
KAIM Kayak Island 86.69 29 P P **14 46 04.7 -0.2**
baz=252
D22K Ayikyak River 86.72 19 IAMs_20 IAMs_20 15 19 28.8
comp=Z,3µm,22.0s
D22K Ayikyak River 86.72 19 P P **14 46 05.2 +0.4**
baz=244
G23K Bananza Creek 86.72 22 IAmb IAmb 14 46 07.3
comp=Z,27nm,0.8s
G23K IAMs_20 IAMs_20 15 18 53.0
comp=Z,3µm,22.0s
G23K Bananza Creek 86.72 22 P P **14 46 04.6 -0.3**
baz=247
MDM Murphy Dome 86.73 23 IAmb IAmb 14 46 05.1
comp=Z,91nm,1.9s
MDM IAMs_20 IAMs_20 15 20 36.7
comp=Z,2µm,21.0s
CCB Clear Creek Bu 86.79 24 IAmb IAmb 14 46 05.9
comp=Z,41nm,0.9s
CCB IAMs_20 IAMs_20 15 20 38.2
comp=Z,2µm,20.0s
COLA College 86.85 24 P P **14 46 03.7 -1.8**
COLA IAmb IAmb 14 46 06.3
comp=Z,30nm,0.8s
COLA College 86.85 24 IAMs_20 IAMs_20 15 19 57.8
comp=Z,2µm,20.0s
COLA College 86.85 24 P P **14 46 04.3 -1.2**
COLA College 86.85 24 *i* P P **14 46 03.5 -2.0**
COLA pmax pmax
comp=Z,91nm,1.9s
COLA College 86.85 24 P P **14 46 04.1 -1.4**
baz=249
COLD Coldfoot 86.87 21 P P **14 46 05.4 -0.2**
baz=246,SNR=35
BMRM Bremner River 86.93 28 P P **14 46 04.6 -1.5**
baz=252,SNR=17
WSAR Wadi Sarin 87.04 294 LR LR 15 29 19.3
comp=Z,623nm,20.4s,baz=128,slow=39
SUCK Suckling Hills 87.05 29 IAMs_20 IAMs_20 15 18 18.4
comp=Z,2µm,21.0s
HDA Harding Lake 87.05 24 IAMs_20 IAMs_20 15 20 59.2
comp=Z,2µm,21.0s
HDA Harding Lake 87.05 24 P P **14 46 04.8 -1.7**
baz=250,SNR=19
POKR Poker Plat Res 87.11 23 IAMs_20 IAMs_20 15 20 37.6
comp=Z,2µm,21.0s
POKR Poker Plat Res 87.11 23 P P **14 46 05.1 -1.7**
baz=249,SNR=7.3
N25K Chitina, Valde 87.13 27 P P **14 46 06.7 -0.4**
baz=252,SNR=12
HARP HAARP 87.13 26 P P **14 46 06.5 -0.5**
baz=251,SNR=6.5
PAX Paxson 87.18 26 P P **14 46 06.5 -0.8**
baz=251,SNR=15
H24K Noodor Dome 87.19 23 IAMs_20 IAMs_20 15 19 38.5
comp=Z,3µm,22.0s
H24K Noodor Dome 87.19 23 P P **14 46 06.7 -0.6**
baz=249
IL31 87.20 24 IAmb IAmb 14 46 06.6
comp=Z,30nm,0.8s
ILAR Eielson Array 87.20 24 P P **14 46 04.7 -2.6**
comp=Z,20nm,0.8s,baz=256,slow=4.6,SNR=182
ILAR PKKPbc **PKKPdf** **15 03 58.0 +2.6**
comp=Z,0.8nm,0.7s,baz=14,slow=1.2,SNR=11
ILAR LR LR 15 20 41.0
comp=Z,2µm,21.8s,baz=240,slow=33
comp=Z,20nm,0.8s
BGLC Bering Glacier 87.30 29 P P **14 46 07.1 -0.7**
baz=253
K24K Donnelly Dome 87.33 25 P P **14 46 07.5 -0.4**
baz=251,SNR=13
E23K Chandalar 87.40 20 P P **14 46 08.4 +0.1**
baz=247
D23K Nanushuk River 87.41 19 P P **14 46 08.8 +0.6**
baz=246
GLB Gilahina Butte 87.44 27 IAmb IAmb 14 46 10.4
comp=Z,46nm,1.0s
SNH Sunshine Point 87.53 29 IAMs_20 IAMs_20 15 18 33.1
comp=Z,3µm,21.0s
CRQE Cirque 87.57 28 P P **14 46 09.0 -0.3**
baz=253,SNR=22
WAX Waxell Ridge 87.60 29 IAMs_20 IAMs_20 15 19 32.9
comp=Z,2µm,22.0s
G24K Hadweenzic Riv 87.66 22 IAMs_20 IAMs_20 15 20 29.1
comp=Z,2µm,21.0s
G24K Hadweenzic Riv 87.66 22 P P **14 46 09.0 -0.5**
baz=249

RIDG Independent Ri 87.70 25 P P **14 46 08.8 -0.9**
baz=252
J25K Salcha River, 87.76 24 IAMs_20 IAMs_20 15 21 08.9
comp=Z,2µm,21.0s
J25K Salcha River, 87.76 24 P P **14 46 08.9 -1.2**
baz=251,SNR=56
C23K Itkillik River 87.79 19 IAMs_20 IAMs_20 15 20 16.0
comp=Z,3µm,22.0s
C23K Itkillik River 87.79 19 P P **14 46 09.9 -0.1**
baz=246,SNR=107
MCARA McCarthy VSAT 87.79 28 IAmb IAmb 14 46 26.7
comp=Z,44nm,1.2s
MCARA McCarthy VSAT 87.79 28 P P **14 46 10.0 -0.2**
baz=253,SNR=8.6
F24K Squaw Lake 87.81 21 IAMs_20 IAMs_20 15 19 03.8
comp=Z,3µm,22.0s
F24K Squaw Lake 87.81 21 P P **14 46 10.4 +0.2**
baz=249,SNR=68
MENT Mentasta 87.93 26 IAMs_20 IAMs_20 15 22 19.6
comp=Z,2µm,20.0s
MENT Mentasta 87.93 26 P P **14 46 11.0 +0.1**
MESA MESA 87.95 29 IAMs_20 IAMs_20 15 20 29.4
comp=Z,2µm,21.0s
MESA MESA 87.95 29 P P **14 46 10.6 -0.6**
baz=254
PRP Porcupine Dome 88.00 23 IAMs_20 IAMs_20 15 20 42.1
comp=Z,2µm,22.0s
M26K Nabesna, AK 88.09 27 IAMs_20 IAMs_20 15 19 45.6
comp=Z,2µm,22.0s
M26K Nabesna, AK 88.09 27 P P **14 46 10.9 -0.7**
baz=253
D24K Happy Valley 88.10 19 IAMs_20 IAMs_20 15 19 39.5
comp=Z,2µm,22.0s
D24K Happy Valley 88.10 19 P P **14 46 11.8 +0.3**
baz=248
SCRK Sand Creek 88.13 25 IAmb IAmb 14 46 12.9
comp=Z,130nm,1.9s
SCRK IAMs_20 IAMs_20 15 20 52.8
comp=Z,3µm,21.0s
SCRK Sand Creek 88.13 25 P P **14 46 11.5 -0.4**
baz=252,SNR=19
G25K Bearman Lake 88.19 22 P P **14 46 11.9 0.0**
baz=250
C24K Franklin Bluff 88.35 19 P P **14 46 13.1 +0.4**
baz=248,SNR=58
TABL Table Mountain 88.41 29 IAmb IAmb 14 46 15.5
comp=Z,71nm,0.9s
TABL IAMs_20 IAMs_20 15 21 04.4
comp=Z,2µm,21.0s
CTG Chitna Glacier 88.45 28 P P **14 46 13.6 +0.1**
baz=255,SNR=26
FYU Fort Yukon 88.45 22 IAMs_20 IAMs_20 15 19 33.1
comp=Z,3µm,22.0s
J26L Joseph Creek 88.47 25 IAMs_20 IAMs_20 15 21 43.3
comp=Z,2µm,21.0s
J26L Joseph Creek 88.47 25 P P **14 46 13.2 -0.3**
baz=253
M27K Edge Creek, AK 88.58 27 IAMs_20 IAMs_20 15 20 25.8
comp=Z,2µm,21.0s
M27K Edge Creek, AK 88.58 27 P P **14 46 13.9 -0.2**
baz=254
F25K Christian Rive 88.64 21 P P **14 46 14.5 +0.3**
baz=251
PINM Pinnacle 88.75 29 P P **14 46 14.6 -0.2**
baz=256,SNR=9.3
L27K Beaver Creek, 88.80 26 IAMs_20 IAMs_20 15 21 52.1
comp=Z,2µm,20.0s
L27K Beaver Creek, 88.80 26 P P **14 46 14.8 -0.1**
baz=254
E25K Arctic Village 88.84 21 IAMs_20 IAMs_20 15 22 11.3
comp=Z,2µm,20.0s
E25K Arctic Village 88.84 21 P P **14 46 15.4 +0.3**
baz=251,SNR=43
K27K Chicken 88.95 25 IAMs_20 IAMs_20 15 21 39.4
comp=Z,3µm,22.0s
K27K Chicken 88.95 25 P P **14 46 15.9 +0.3**
baz=254
D25K Kavik River 88.97 20 P P **14 46 15.6 -0.1**
baz=250
BCPM Bancas Point 89.02 29 IAMs_20 IAMs_20 15 20 38.5
comp=Z,2µm,22.0s
BVCY Beaver Creek 89.05 27 P P **14 46 15.9 -0.3**
baz=255,SNR=16
PNL Peninsula 89.07 30 P P **14 46 17.2 +0.9**
PNL Peninsula 89.07 30 P P **14 46 16.1 -0.2**
baz=256,SNR=14
YUK3 Moose Creek 89.07 28 P P **14 46 16.3 -0.2**
baz=256,SNR=26
G26K Porcupine Rive 89.12 22 P P **14 46 16.7 +0.3**
baz=252
F26K Sheenjek River 89.22 21 P P **14 46 17.4 +0.6**
baz=252
YUK8 Steele Glacier 89.28 28 P P **14 46 17.2 -0.3**
baz=256,SNR=15
GEYT Alibeck 89.52 308 P P **14 46 17.6 -1.3**
comp=Z,12nm,1.1s,baz=187,slow=1.2,SNR=16
GEYT S **SKSac** **14 56 51.9 +2.4**
comp=Z,1.0nm,0.6s,baz=159,slow=41,SNR=1.5
comp=Z,12nm,1.1s
EGAK Eagle 89.54 25 IAmb IAmb 14 46 19.5
comp=Z,164nm,1.8s
EGAK IAMs_20 IAMs_20 15 22 15.9
comp=Z,2µm,20.0s
EGAK Eagle 89.54 25 P P **14 46 18.1 -0.3**
baz=255,SNR=33
I27K Kandik River 89.58 24 P P **14 46 18.6 0.0**
baz=254
O29M Mount Kennedy 89.61 29 IAMs_20 IAMs_20 15 21 33.0
comp=Z,2µm,22.0s
O29M Mount Kennedy 89.61 29 P P **14 46 19.1 +0.1**
baz=257
C26K Camden Bay 89.65 19 P P **14 46 19.2 +0.5**
baz=251
H27K Steamboat Moun 89.78 23 P P **14 46 19.6 +0.1**
baz=254,SNR=118
YUK4 Talbot Arm 89.81 28 P P **14 46 20.4 +0.5**
baz=257,SNR=31
YUK6 Outpost Mounta 89.86 29 P P **14 46 20.0 -0.3**
baz=255,SNR=8.2
P29M Windy Craggy 89.88 30 IAmb IAmb 14 46 22.6
comp=Z,44nm,0.9s
P29M Windy Craggy 89.88 30 P P **14 46 19.9 -0.2**
baz=258,SNR=22
AB31 Akbulak array 89.91 319 *i* P P **14 46 18.4 -2.0**
DAWY Dawson 90.11 25 IAmb IAmb 14 46 23.4
comp=Z,50nm,1.0s
DAWY IAMs_20 IAMs_20 15 20 58.0
comp=Z,3µm,22.0s
DAWY Dawson 90.11 25 P P **14 46 21.1 0.0**
baz=256,SNR=51
M29M Somme Creek 90.14 27 IAmb IAmb 14 46 23.7
comp=Z,29nm,0.8s
M29M IAMs_20 IAMs_20 15 20 48.1
comp=Z,3µm,22.0s
M29M Somme Creek 90.14 27 P P **14 46 21.3 -0.1**
baz=257
I28M Miner Creek 90.21 24 IAmb IAmb 14 46 23.1
comp=Z,167nm,1.9s
I28M Miner Creek 90.21 24 P P **14 46 21.6 0.0**
baz=256
HYT Haines Junctio 90.24 29 IAmb IAmb 14 46 26.4
comp=Z,35nm,0.9s
HYT IAMs_20 IAMs_20 15 22 04.9
comp=Z,2µm,22.0s
HYT Haines Junctio 90.24 29 P P **14 46 22.0 +0.1**
baz=258,SNR=23
S31K Pelican 90.31 32 IAmb IAmb 14 46 23.6
comp=Z,75nm,1.4s
S31K Pelican 90.31 32 P P **14 46 22.0 -0.1**
baz=259,SNR=8.3
P30M Million Dollar 90.36 30 P P **14 46 22.1 -0.3**
baz=259
L29M L29M 90.44 27 IAmb IAmb 14 46 25.6
comp=Z,40nm,0.8s
L29M L29M 90.44 27 P P **14 46 22.9 +0.2**
baz=258,SNR=51
PLBC Pleasant Camp 90.53 30 P P **14 46 22.6 -0.5**
baz=259
N30M Aishikik Lake 90.57 28 IAmb IAmb 14 46 24.6
comp=Z,106nm,1.9s
N30M Aishikik Lake 90.57 28 P P **14 46 23.2 -0.2**
baz=258
SIT Sitka 90.63 33 IAmb IAmb 14 46 25.3
comp=Z,39nm,1.4s
SIT IAMs_20 IAMs_20 15 20 06.5
comp=Z,2µm,21.0s
SIT Sitka 90.63 33 P P **14 46 24.7 +1.1**
SIT Sitka 90.63 33 P P **14 46 23.3 -0.3**

baz=260
R31K City Hall, Gus 90.65 31 P P **14 46 23.4 -0.2**
baz=260
SVE Sverdlovsk 90.76 327 *e* P P **14 46 23.8 -0.4**
SVE pmax pmax
comp=Z,37nm,1.6s
F28M Old Crow 90.76 22 IAmb IAmb 14 46 25.8
comp=Z,73nm,2.0s
F28M IAMs_20 IAMs_20 15 22 34.1
comp=Z,3µm,22.0s
F28M Old Crow 90.76 22 P P **14 46 23.8 -0.2**
baz=256,SNR=9.2
K29M Barlow Dome 90.86 26 IAMs_20 IAMs_20 15 21 22.0
comp=Z,3µm,22.0s
K29M Barlow Dome 90.86 26 P P **14 46 24.3 -0.4**
baz=258
O30N Mendenhall 90.91 29 IAmb IAmb 14 46 26.4
comp=Z,115nm,1.9s
O30N IAMs_20 IAMs_20 15 21 50.6
comp=Z,2µm,22.0s
O30N Mendenhall 90.91 29 P P **14 46 25.0 +0.1**
baz=259,SNR=9.3
M30M Minto, Yukon 90.93 27 IAmb IAmb 14 46 26.4
comp=Z,62nm,1.8s
M30M IAMs_20 IAMs_20 15 20 25.9
comp=Z,3µm,22.0s
M30M Minto, Yukon 90.93 27 P P **14 46 25.1 +0.2**
baz=259,SNR=18
H29M Whitestone 91.02 23 IAmb IAmb 14 46 47.4
comp=Z,102nm,1.9s
H29M Whitestone 91.02 23 P P **14 46 25.2 0.0**
baz=257
SKAG Skagway 91.05 30 IAmb IAmb 14 46 27.1
comp=Z,70nm,1.6s
SKAG IAMs_20 IAMs_20 15 21 37.4
comp=Z,2µm,22.0s
SKAG Skagway 91.05 30 P P **14 46 26.4 +0.9**
SKAG Skagway 91.05 30 P P **14 46 25.8 +0.3**
baz=260,SNR=12
S32K Killisnoo 91.10 32 IAmb IAmb 14 46 27.2
comp=Z,95nm,1.8s
S32K IAMs_20 IAMs_20 15 20 09.9
comp=Z,2µm,22.0s
S32K Killisnoo 91.10 32 P P **14 46 25.3 -0.4**
baz=261
R32K Eaglecrest 91.27 32 P P **14 46 26.5 -0.1**
baz=261
AKTO Aktyubinsk 91.32 320 P P **14 46 24.6 -2.4**
JIS Juneau Island 91.34 32 IAmb IAmb 14 46 28.2
comp=Z,38nm,1.5s
JIS Juneau Island 91.34 32 P P **14 46 28.4 +1.6**
WHY Whitehorse 91.48 29 IAmb IAmb 14 46 29.0
comp=Z,72nm,1.9s
WHY IAMs_20 IAMs_20 15 22 06.6
comp=Z,2µm,22.0s
WHY Whitehorse 91.48 29 P P **14 46 27.5 -0.1**
baz=260,SNR=10.0
J30M Hart River 91.52 25 IAmb IAmb 14 46 30.1
comp=Z,32nm,0.9s
J30M Hart River 91.52 25 P P **14 46 27.8 0.0**
baz=259,SNR=42
MAYO Mayo, Yukon 91.53 26 IAmb IAmb 14 47 00.9
comp=Z,35nm,0.9s
MAYO IAMs_20 IAMs_20 15 21 21.6
comp=Z,3µm,22.0s
MAYO Mayo, Yukon 91.53 26 P P **14 46 27.6 0.0**
baz=260,SNR=8.0
D28M Stokes Point 91.57 20 P P **14 46 27.9 +0.2**
baz=257
CRAG Craig 91.59 35 IAMs_20 IAMs_20 15 24 23.0
comp=Z,2µm,18.0s
CRAG Craig 91.59 35 P P **14 46 28.0 0.0**
baz=262
I30M Mount Dempster 91.62 25 IAmb IAmb 14 46 29.3
comp=Z,104nm,1.8s
I30M IAMs_20 IAMs_20 15 22 46.8
comp=Z,2µm,22.0s
I30M Mount Dempster 91.62 25 P P **14 46 27.9 -0.3**
baz=259
E29M Blow River 91.67 21 IAMs_20 IAMs_20 15 22 21.7
comp=Z,3µm,22.0s
E29M Blow River 91.67 21 P P **14 46 27.8 -0.4**
baz=258
U33K Whale Pass 91.68 34 IAMs_20 IAMs_20 15 21 02.4
comp=Z,3µm,20.0s
U33K Whale Pass 91.68 34 P P **14 46 28.2 -0.2**
baz=262
EPYK Eagle Plains 91.70 23 P P **14 46 28.0 -0.5**
baz=259,SNR=18
ARU Arti 91.83 326 P P **14 46 27.7 -1.5**
ARU IAmb IAmb 14 46 29.9
comp=Z,41nm,1.3s
ARU Arti 91.83 326 *c i* P P **14 46 27.7 -1.5**
ARU 14 50 08.1
ARU S **SKSac** **14 57 00.6 -1.2**
ARU SS **SS** **15 03 38.6 +0.6**
ARU pmax pmax
comp=Z,34nm,1.1s
ARU MLR MLR
comp=Z,619nm,19.0s
ARU Arti 91.83 326 LR LR 15 28 40.1
comp=Z,626nm,21.0s,baz=112,slow=36
T33K Petersburg 91.88 33 P P **14 46 29.4 +0.1**
baz=262
P32M Atlin 91.88 30 IAmb IAmb 14 46 30.6
comp=Z,44nm,1.6s
P32M IAMs_20 IAMs_20 15 22 43.4
comp=Z,2µm,22.0s
P32M Atlin 91.88 30 P P **14 46 29.4 0.0**
baz=261,SNR=9.1
M31M Drury Creek, Y 91.96 28 IAMs_20 IAMs_20 15 22 10.3
comp=Z,2µm,22.0s
M31M Drury Creek, Y 91.96 28 P P **14 46 29.0 -0.7**
baz=261,SNR=8.3
G30M tAoh Zraii Nji 92.01 23 IAmb IAmb 14 46 30.5
comp=Z,31nm,1.2s
G30M IAMs_20 IAMs_20 15 22 14.1
comp=Z,2µm,22.0s
G30M tAoh Zraii Nji 92.01 23 P P **14 46 29.2 -0.7**
baz=259
WRAK Wrangell Islan 92.15 34 IAmb IAmb 14 46 32.0
comp=Z,95nm,1.7s
WRAK Wrangell Islan 92.15 34 IAMs_20 IAMs_20 15 22 17.8
comp=Z,2µm,19.0s
WRAK Wrangell Islan 92.15 34 P P **14 46 30.6 0.0**
baz=262,SNR=5.8
F30M Barrier River 92.29 22 P P **14 46 30.5 -0.6**
baz=260,SNR=10
P33M Teslin, Yukon 92.42 30 IAMs_20 IAMs_20 15 23 04.6
comp=Z,2µm,21.0s
P33M Teslin, Yukon 92.42 30 P P **14 46 31.1 -0.8**
baz=262,SNR=7.5
N32M Quiet Lake 92.42 29 IAmb IAmb 14 46 33.8
comp=Z,25nm,1.1s
N32M Quiet Lake 92.42 29 P P **14 46 31.4 -0.5**
baz=262
V35K Ketchikan 92.42 35 IAmb IAmb 14 46 33.2
comp=Z,32nm,1.4s
V35K IAMs_20 IAMs_20 15 19 01.1
comp=Z,2µm,22.0s
V35K Ketchikan 92.42 35 P P **14 46 31.4 -0.5**
baz=263
FARO Faro, Yukon 92.45 28 P P **14 46 31.7 -0.3**
baz=262,SNR=16
Q32M Nakina River 92.53 31 P P **14 46 32.4 -0.2**
baz=263
H31M Peel River 92.56 24 IAMs_20 IAMs_20 15 21 22.3
comp=Z,2µm,22.0s
H31M Peel River 92.56 24 P P **14 46 32.0 -0.4**
baz=261
G31M Satah River 92.76 23 IAMs_20 IAMs_20 15 27 33.0
comp=Z,2µm,18.0s
G31M Satah River 92.76 23 P P **14 46 32.7 -0.5**
baz=261,SNR=13
S34M Telegraph Cree 93.00 32 IAmb IAmb 14 46 36.1
comp=Z,38nm,1.6s
S34M IAMs_20 IAMs_20 15 20 45.0
comp=Z,2µm,22.0s
S34M Telegraph Cree 93.00 32 P P **14 46 34.6 +0.1**
baz=264,SNR=8.3
ELIB Princess Elisa 93.03 196 *d* P P **14 46 34.6 -0.1**
comp=Z,11nm,0.9s
ELIB *d* PcP **PcP** **14 46 35.5 +0.2**
F31M Tsiigehtchic 93.04 23 IAmb IAmb 14 46 35.7
comp=Z,41nm,1.6s
F31M IAMs_20 IAMs_20 15 24 25.4
comp=Z,3µm,21.0s
F31M Tsiigehtchic 93.04 23 P P **14 46 33.7 -0.8**

baz=262,SNR=9.0
RUBB Prince Rupert 93.09 36 IAMs_20 IAMs_20 15 20 13.8
comp=Z,2µm,22.0s
INK Inuvik 93.25 22 IAMs_20 IAMs_20 15 23 09.8
comp=Z,2µm,21.0s
INK Inuvik 93.25 22 P P 14 46 35.0 -0.4
baz=262,SNR=6.8
INK Inuvik 93.25 22 LR LR 15 23 42.9
comp=Z,2µm,21.9s,baz=210,slow=32
R33M Jennings River 93.25 31 IAmb IAmb 14 46 37.3
comp=Z,37nm,1.6s
R33M Jennings River 93.25 31 P P 14 46 35.5 -0.4
baz=264,SNR=11
U35K Hyder 93.39 34 IAMs_20 IAMs_20 15 22 33.4
comp=Z,2µm,20.0s
U35K Hyder 93.39 34 P P 14 46 36.3 -0.1
baz=264
DLBC Dease Lake 93.63 32 IAmb IAmb 14 46 38.9
comp=Z,53nm,1.8s
DLBC IAMs_20 IAMs_20 15 20 46.8
comp=Z,2µm,21.0s
DLBC Dease Lake 93.63 32 P P 14 46 37.1 -0.5
baz=264,SNR=9.1
DLBC Dease Lake 93.63 32 LR LR 15 21 42.2
comp=Z,1µm,21.5s,baz=280,slow=31
HOLB Holberg 94.04 40 IAMs_20 IAMs_20 15 31 34.3
comp=Z,1µm,18.0s
WTLY Watson Lake, Y 94.41 30 IAmb IAmb 14 46 43.0
comp=Z,36nm,1.2s
WTLY IAMs_20 IAMs_20 15 24 00.2
comp=Z,2µm,22.0s
WTLY Watson Lake, Y 94.41 30 P P 14 46 40.8 -0.3
baz=266,SNR=21
TGTN Hyland Airport 94.77 29 P P 14 46 42.6 -0.1
baz=266,SNR=9.2
CBB Campbell River 95.78 40 IAMs_20 IAMs_20 15 22 23.2
comp=Z,2µm,21.0s
KMPM Mount Pierce 96.22 50 IAMs_20 IAMs_20 15 25 57.0
comp=Z,2µm,21.0s
A36M Sachs Harbour 96.33 18 IAmb IAmb 14 46 54.5
comp=Z,16nm,0.9s
A36M Sachs Harbour 96.33 18 P P 14 46 48.6 -0.9
baz=270
J01E Myrtle Point 96.48 47 IAMs_20 IAMs_20 15 30 02.6
comp=Z,2µm,19.0s
KHMM Horse Mountain 96.54 50 IAMs_20 IAMs_20 15 22 13.3
comp=Z,2µm,22.0s
KCPM Cahto Peak 96.61 51 IAMs_20 IAMs_20 15 27 48.2
comp=Z,2µm,18.0s
K02D Willamette Mer 96.66 48 IAMs_20 IAMs_20 15 21 52.3
comp=Z,2µm,22.0s
NLWA Neilton Lookou 96.67 43 IAmb IAmb 14 46 54.2
comp=Z,26nm,1.1s
HEBO Mount Hebo 96.68 45 IAMs_20 IAMs_20 15 21 06.7
comp=Z,2µm,22.0s
RADR Rader Ridge 96.69 44 IAMs_20 IAMs_20 15 23 08.7
comp=Z,2µm,22.0s
L02F Cave Junction 96.71 48 IAMs_20 IAMs_20 15 23 59.7
comp=Z,3µm,21.0s
C36M Paulatuk 96.74 21 IAMs_20 IAMs_20 15 25 03.9
comp=Z,2µm,22.0s
C36M Paulatuk 96.74 21 P P 14 46 51.1 -0.3
baz=271
KOTAN Kotaneelee Air 96.78 30 P P 14 46 52.1 +0.2
baz=270,SNR=8.1
F03A Seaside 96.84 45 IAMs_20 IAMs_20 15 22 48.8
comp=Z,2µm,21.0s
E03A Lebam 96.86 44 IAmb IAmb 14 46 54.7
comp=Z,38nm,1.1s
E03A IAMs_20 IAMs_20 15 27 34.1
comp=Z,2µm,19.0s
KIRV Kirov 96.91 328 *ce* P P 14 46 51.6 -0.8
KIRV Kirov 96.91 328 LR LR 15 31 28.6
comp=Z,834nm,21.0s,baz=95,slow=36
B04A Port Angeles 96.93 42 IAMs_20 IAMs_20 15 34 21.1
comp=Z,2µm,18.0s
HOPS Hopland Field 96.97 52 IAMs_20 IAMs_20 15 20 44.0
comp=Z,3µm,22.0s
COR Corvallis 96.98 46 IAMs_20 IAMs_20 15 22 39.7
comp=Z,3µm,22.0s
DBO Dodson Butte 96.98 47 IAMs_20 IAMs_20 15 31 29.9
comp=Z,2µm,18.0s
G03D McMinnville, O 97.03 45 IAMs_20 IAMs_20 15 23 04.9
comp=Z,2µm,21.0s
WRGLY Wrigley 97.06 27 IAMs_20 IAMs_20 15 25 49.9
comp=Z,2µm,22.0s
WRGLY Wrigley 97.06 27 P P 14 46 52.2 -0.8
baz=271
FLDN Fort Liard 97.07 30 P P 14 46 52.9 -0.2
baz=270
MCCM Marconi Confer 97.09 52 IAMs_20 IAMs_20 15 21 31.2
comp=Z,3µm,22.0s
HUMO Hull Mountain 97.18 48 IAmb IAmb 14 46 55.8
comp=Z,32nm,1.4s
HUMO IAMs_20 IAMs_20 15 22 56.1
comp=Z,2µm,22.0s
GDXM Geysers 97.18 52 IAMs_20 IAMs_20 15 21 58.5
comp=Z,3µm,21.0s
BUCK Buck Mountain 97.20 46 IAMs_20 IAMs_20 15 22 57.5
comp=Z,2µm,22.0s
F04D Rainier, OR 97.23 44 IAMs_20 IAMs_20 15 25 22.0
comp=Z,2µm,20.0s
YBH Yreka Blue Hor 97.34 49 IAMs_20 IAMs_20 15 24 16.4
comp=Z,3µm,20.0s
YBH Yreka Blue Hor 97.34 49 LR LR 15 23 04.8
comp=Z,3µm,21.8s,baz=296,slow=31
GNW Green Mountain 97.38 43 P Pdif 14 46 55.1 +0.3
GNW IAmb IAmb 14 46 56.5
comp=Z,31nm,1.4s
H04D Lebanon 97.39 46 IAMs_20 IAMs_20 15 22 40.4
comp=Z,2µm,21.0s
I04A Tendick Farm, 97.61 47 IAmb IAmb 14 47 03.2
comp=Z,27nm,1.3s
I04A IAMs_20 IAMs_20 15 23 19.3
comp=Z,2µm,21.0s
F04A Amboy 97.64 45 IAmb IAmb 14 46 57.9
comp=Z,23nm,1.1s
L04D Klamath Falls 97.65 48 IAMs_20 IAMs_20 15 23 08.7
comp=Z,2µm,22.0s
H04A Detroit Lake 97.78 46 IAmb IAmb 14 46 58.4
comp=Z,23nm,1.2s
H04A IAMs_20 IAMs_20 15 22 53.9
comp=Z,2µm,22.0s
BELG Belogornoye 97.94 322 *i* P P 14 46 55.5 -1.7
BELG pmax pmax
comp=Z,10.0nm,1.0s
MAK Makhachkala 97.98 312 *di* P P 14 46 51.5 -6.1
MAK *e* 14 50 52.0
MAK *e* 14 57 26.1
MAK *e*SS SS 15 05 00.8 -5.4
LON Longmire 98.07 44 IAMs_20 IAMs_20 15 23 40.2
comp=Z,2µm,22.0s
K04D Chiloquin, OR 98.07 48 IAMs_20 IAMs_20 15 24 57.6
comp=Z,2µm,20.0s
HOOD Mount Hood Mea 98.17 45 IAmb IAmb 14 46 59.9
comp=Z,26nm,1.2s
HOOD IAMs_20 IAMs_20 15 27 07.0
comp=Z,2µm,20.0s
ORV Oroville 98.21 51 IAmb IAmb 14 46 59.7
comp=Z,17nm,1.4s
ORV IAMs_20 IAMs_20 15 24 55.6
comp=Z,2µm,22.0s
I05D Terrebonne, OR 98.39 46 IAMs_20 IAMs_20 15 23 45.9
comp=Z,2µm,21.0s
G05A Wamic 98.41 45 IAMs_20 IAMs_20 15 22 22.3
comp=Z,2µm,21.0s
J05D Fort Rock, OR 98.46 47 IAMs_20 IAMs_20 15 23 02.8
comp=Z,2µm,22.0s
AFDM Forest Hills D 98.61 52 IAmb IAmb 14 47 01.8
comp=Z,22nm,1.4s
AFDM IAMs_20 IAMs_20 15 22 32.3
comp=Z,2µm,22.0s
PINE Pine Mountain 98.67 47 IAmb IAmb 14 47 03.3
comp=Z,32nm,1.1s
PINE IAMs_20 IAMs_20 15 24 18.5
comp=Z,2µm,21.0s
K05A Summer Lake 98.70 48 IAmb IAmb 14 47 02.8
comp=Z,41nm,1.4s
K05A IAMs_20 IAMs_20 15 23 43.4
comp=Z,2µm,22.0s
LTY Liberty 98.84 43 IAmb IAmb 14 47 02.6
comp=Z,22nm,1.6s
G06A Carlson Farm, 98.89 45 IAMs_20 IAMs_20 15 24 04.0
comp=Z,2µm,21.0s
CMB Columbia Colle 99.06 53 IAMs_20 IAMs_20 15 22 54.2
comp=Z,2µm,21.0s
RAYN Ar Rayn 99.08 293 P Pdif 14 47 01.8 -1.3
RAYN Ar Rayn 99.08 293 P Pdif 14 47 01.8 -1.3
RAYN pmax pmax
comp=Z,7.0nm,1.2s
RAYN MLR MLR
comp=Z,1µm,21.0s
MXC Moxie City 99.11 44 IAmb IAmb 14 47 04.2
comp=Z,21nm,1.4s
MXC IAMs_20 IAMs_20 15 24 12.7
comp=Z,2µm,21.0s
EMB Emerald Bay 99.29 52 IAMs_20 IAMs_20 15 22 29.2
comp=Z,3µm,22.0s
SMMC Simmler 99.34 55 P Pdif 14 47 03.5 -0.5
baz=269
MPK Martis Peak 99.34 51 IAMs_20 IAMs_20 15 26 11.6
comp=Z,2µm,22.0s
F07A Phinny Hill Vi 99.38 45 IAMs_20 IAMs_20 15 32 13.9
comp=Z,2µm,19.0s
E07A Sunnyside 99.41 44 IAmb IAmb 14 47 05.6
comp=Z,34nm,1.5s
E07A IAMs_20 IAMs_20 15 24 43.8
comp=Z,2µm,19.0s
PKM Mcpherson Peak 99.48 56 P Pdif 14 47 04.7 -0.2
baz=269
HAWA Hanford 99.64 44 IAMs_20 IAMs_20 15 24 38.8
comp=Z,2µm,21.0s
PNTR Pine Nut 99.68 51 IAMs_20 IAMs_20 15 24 18.6
comp=Z,3µm,22.0s
I07A Izee 99.71 46 IAMs_20 IAMs_20 15 24 50.8
comp=Z,2µm,21.0s
WAKR Walker 99.81 52 IAMs_20 IAMs_20 15 23 31.0
comp=Z,2µm,21.0s
PAHR Pah Rah Range 99.84 51 IAMs_20 IAMs_20 15 26 29.9
comp=Z,2µm,21.0s
YERR Yerington 99.96 52 IAMs_20 IAMs_20 15 23 15.0
comp=Z,2µm,21.0s
E08A Dider Farm, El 99.97 44 IAMs_20 IAMs_20 15 24 26.4
comp=Z,2µm,20.0s
G08A Pilot Rock 100.07 45 IAMs_20 IAMs_20 15 23 55.3
comp=Z,2µm,21.0s
VES Vestal, Richgr 100.08 55 P Pdif 14 47 07.5 +0.3
baz=270,SNR=6.1
ARVC Arvin 100.29 56 P Pdif 14 47 08.6 +0.5
baz=270
WVOR Wild Horse Val 100.37 48 IAMs_20 IAMs_20 15 24 34.6
comp=Z,2µm,22.0s
J08A Circle Bar Ran 100.47 47 IAMs_20 IAMs_20 15 24 54.1
comp=Z,2µm,22.0s
SCI2 San Clemente I 100.51 58 P Pdif 14 47 09.2 0.0
baz=270
RYN Ryan 100.52 52 IAMs_20 IAMs_20 15 23 42.0
comp=Z,3µm,22.0s
LHV Little Huntoon 100.54 52 IAMs_20 IAMs_20 15 23 54.5
comp=Z,3µm,22.0s
ISA Isabella, Lake 100.58 55 IAMs_20 IAMs_20 15 23 47.8
comp=Z,3µm,22.0s
ISA Isabella, Lake 100.58 55 P Pdif 14 47 09.5 0.0
baz=270
E09A Wood Farm, Sta 100.59 44 IAMs_20 IAMs_20 15 33 06.1
comp=Z,1µm,19.0s
BRLDA Berland Lookou 100.62 36 IAMs_20 IAMs_20 15 23 48.1
comp=Z,2µm,20.0s
CIS Catalina Islan 100.63 57 P Pdif 14 47 10.1 +0.4
baz=270
NVAR Mina Array Bea 100.70 52 P Pdif 14 47 10.3 +0.1
comp=Z,4.3nm,0.9s,baz=268,slow=5.7,SNR=19
NVAR PP PP 14 51 15.1 -2.5
comp=Z,3.4nm,1.1s,baz=252,slow=8.9,SNR=8.5
CWC Cottonwood Cre 100.90 54 P Pdif 14 47 11.3 +0.3
baz=270
CCAC Calif City Air 100.96 55 IAMs_20 IAMs_20 15 30 59.8
comp=Z,2µm,21.0s
EDW2 Edwards Air Fo 100.98 56 P Pdif 14 47 11.5 +0.2
baz=270
YKAW3 Yellowknife Wh 101.15 27 IAMs_20 IAMs_20 15 27 22.0
comp=Z,3µm,22.0s
YKA Yellowknife Ar 101.16 28 *i* P Pdif 14 47 10.6 -0.8
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 101.16 28 P Pdif 14 47 10.4 -0.9
comp=Z,2.8nm,0.9s,baz=278,slow=4.7,SNR=17
YKA PP PP 14 51 15.8 -4.2
comp=Z,5.2nm,1.2s,baz=275,slow=7.3,SNR=6.8
YKA PKKPbc PKKPbc 15 03 21.1 -3.2
comp=Z,0.5nm,0.7s,baz=102,slow=2.8,SNR=9.5
NEW Newport 101.20 42 P Pdif 14 47 12.3 +0.4
baz=274
YKAW1 Yellowknife Wh 101.22 28 IAMs_20 IAMs_20 15 27 58.9
comp=Z,2µm,22.0s
LRMC Laurel Mtn Rad 101.23 55 P Pdif 14 47 12.5 0.0
baz=271
BFSC Mount Baldy Ra 101.26 56 P Pdif 14 47 12.8 +0.1
baz=270
BMO Blue Mountains 101.26 46 IAMs_20 IAMs_20 15 25 15.7
comp=Z,2µm,22.0s
F10A Beach Ranch, E 101.26 44 IAMs_20 IAMs_20 15 25 41.6
comp=Z,2µm,20.0s
KBZ Khabaz 101.33 313 P Pdif 14 47 13.0 +0.5
KBZ Khabaz 101.33 313 P Pdif 14 47 12.9 +0.5
comp=Z,1.7nm,0.9s,baz=153,slow=2.3,SNR=2.5
MPMC Manual Prospec 101.38 55 P Pdif 14 47 13.8 +0.6
baz=271,SNR=11
MZP Montezuma Peak 101.44 53 IAMs_20 IAMs_20 15 24 10.2
comp=Z,2µm,22.0s
KIV Kislovodsk 101.47 313 *e* P Pdif 14 47 10.6 -2.7
KIV *e* 14 51 20.9
KIV *e*SS SS 15 05 55.1 0.0
KIV pmax pmax
comp=Z,5.0nm,1.1s
Q09A Carvers 101.57 52 IAMs_20 IAMs_20 15 23 25.6
comp=Z,3µm,22.0s
VRH Novokhopyorsk 101.65 321 *e* P Pdif 14 47 11.5 -2.3
VRH pmax pmax
comp=Z,10.0nm,0.9s
KLMR Klimovskoe 101.74 331 *e* P Pdif 14 47 09.7 -4.3
KLMR pmax pmax
comp=Z,26nm,2.1s
KLMR MLR MLR
comp=Z,774nm,16.0s
FURC Furnace Creek, 101.88 54 P Pdif 14 47 15.8 +0.7
baz=271
GSC Goldstone, Bar 101.95 55 IAMs_20 IAMs_20 15 22 20.0
comp=Z,2µm,22.0s
GSC Goldstone, Bar 101.95 55 P Pdif 14 47 16.2 +0.6
baz=271
BAR Barrett 102.09 58 IAMs_20 IAMs_20 15 25 10.1
comp=Z,3µm,20.0s
PLID Pearl Lake 102.17 45 IAMs_20 IAMs_20 15 29 14.9
comp=Z,1µm,19.0s
PFO Pinyon Flats O 102.26 57 IAMs_20 IAMs_20 15 25 18.5
comp=Z,3µm,21.0s
PFO Pinyon Flats O 102.26 57 P Pdif 14 47 16.2 -1.0
baz=271
TPFO Pinon Flats 102.26 57 P Pdif 14 47 17.7 +0.5
baz=271
MONP2 Monument Peak 102.30 58 P Pdif 14 47 17.2 -0.3
baz=271
PMD Palm Desert 102.33 57 IAMs_20 IAMs_20 15 27 41.2
comp=Z,2µm,20.0s
HEC Hector,Ludlow 102.34 56 P Pdif 14 47 16.7 -0.7
baz=271
SHOC Shoshone, Teco 102.36 55 P Pdif 14 47 18.1 +0.7
baz=272
MFID Camas Ranch 102.39 47 IAMs_20 IAMs_20 15 27 28.0
comp=Z,2µm,20.0s
IKP In-Ko-Pah, Jac 102.57 58 P Pdif 14 47 19.2 +0.8
baz=271
BELC Belle Mtn. Jos 102.64 57 P Pdif 14 47 18.8 -0.1
baz=271
TUQ Turquoise Moun 102.66 55 P Pdif 14 47 19.9 +1.0
baz=272
R11B Troy Canyon, C 102.83 52 IAMs_20 IAMs_20 15 27 02.2
comp=Z,2µm,20.0s
R11B Troy Canyon, C 102.83 52 P Pdif 14 47 20.7 +1.1
baz=272,SNR=9.2
VTX Valle De La Tr 102.86 59 IAMs_20 IAMs_20 15 24 29.5
comp=Z,2µm,22.0s
GMRC Granite Mounta 102.90 56 P Pdif 14 47 20.9 +1.0
baz=272
ELK Elko 102.98 50 IAMs_20 IAMs_20 15 28 14.9
comp=Z,1µm,21.0s
BC3 Big Chuckawall 103.10 57 P Pdif 14 47 22.1 +1.3
baz=272
EDM Edmonton 103.11 37 IAMs_20 IAMs_20 15 25 12.0
comp=Z,2µm,22.0s
LPSR Galich'ya Gora 103.22 323 *e* P Pdif 14 47 18.1 -2.6
LPSR pmax pmax
comp=Z,9.0nm,1.0s
SHPR Sheep Range 103.25 54 IAMs_20 IAMs_20 15 25 26.4
comp=Z,2µm,22.0s
CPBX Cerro Prieto 103.25 58 IAMs_20 IAMs_20 15 22 51.8
comp=Z,3µm,22.0s
IRM Iron Mountain 103.34 56 P Pdif 14 47 21.6 -0.2
baz=272
Q12A Willow Creek R 103.39 51 IAMs_20 IAMs_20 15 26 59.9
comp=Z,2µm,21.0s
HLID Hailey 103.41 47 IAMs_20 IAMs_20 15 26 02.9
comp=Z,2µm,22.0s
HLID Hailey 103.41 47 P Pdif 14 47 21.9 -0.2
baz=274,SNR=8.0
V12A Nelson 103.53 55 IAMs_20 IAMs_20 15 24 59.8
comp=Z,2µm,20.0s
NEE2 Needles Airpor 103.75 56 P Pdif 14 47 22.4 -1.2
baz=272
BLYC Blythe 103.87 57 IAMs_20 IAMs_20 15 26 11.0
comp=Z,2µm,18.0s
PDMCI Parker Dam,Lak 104.17 56 P Pdif 14 47 24.8 -0.6
baz=272
PSUT Pine Spring 104.18 52 IAMs_20 IAMs_20 15 27 35.8
comp=Z,2µm,20.0s
OBN Obninsk 104.22 325 ⇓*i* P Pdif 14 47 24.3 -0.8
OBN *i* 14 51 40.7
OBN *e*SS SS 15 06 45.2 +13
OBN pmax pmax
comp=Z,7.0nm,0.9s
OBN pmax pmax
comp=Z,37nm,1.5s
HVU Hansel Valley 104.76 49 IAMs_20 IAMs_20 15 32 04.9
comp=Z,2µm,20.0s
FURI Furi 104.84 278 IAMs_20 IAMs_20 15 32 53.6
comp=Z,2µm,22.0s
PIX Pinacate 104.84 59 IAMs_20 IAMs_20 15 25 48.0
comp=Z,1µm,20.0s
DUG Dugway, Tooele 104.87 50 P Pdif 14 47 28.6 0.0
baz=275
SPUT South Promonto 105.05 49 IAMs_20 IAMs_20 15 32 58.5
comp=Z,2µm,19.0s
KNB Kanab 105.09 53 IAMs_20 IAMs_20 15 26 46.2
comp=Z,2µm,21.0s
Y14A Wickenburg 105.12 57 IAMs_20 IAMs_20 15 26 37.2
comp=Z,2µm,21.0s
BOZ Bozeman (W) 105.19 44 P PKiKP 14 51 44.5 +0.2
baz=277
214A Organ Pipe Nat 105.38 59 IAMs_20 IAMs_20 15 26 39.1
comp=Z,3µm,22.0s
214A Organ Pipe Nat 105.38 59 P PKiKP 14 51 42.8 -2.1
baz=272
NLU North Lily Min 105.45 50 IAMs_20 IAMs_20 15 31 41.3
comp=Z,1µm,19.0s
YHL Hebgen Lake 105.59 45 IAMs_20 IAMs_20 15 28 07.5
comp=Z,2µm,21.0s
HWUT Hardware Ranch 105.68 49 IAMs_20 IAMs_20 15 33 03.2
comp=Z,2µm,20.0s
TCUT Toone Canyon 105.85 49 IAMs_20 IAMs_20 15 33 51.7
comp=Z,2µm,20.0s
AHID Auburn Hatcher 105.90 47 IAMs_20 IAMs_20 15 31 33.8
comp=Z,2µm,19.0s
TPAW Teton Pass 105.92 47 IAMs_20 IAMs_20 15 27 58.3
comp=Z,3µm,22.0s
YNM Yellowstone No 105.95 45 IAMs_20 IAMs_20 15 28 20.9
comp=Z,1µm,21.0s
YNR Norris Junctio 105.97 45 IAMs_20 IAMs_20 15 28 44.4
comp=Z,1µm,21.0s
SRIG Santa Rosalia 106.03 63 IAMs_20 IAMs_20 15 22 23.8
comp=Z,2µm,21.0s
FLWY Flagg Ranch 106.03 46 IAMs_20 IAMs_20 15 26 35.2
comp=Z,2µm,22.0s
MOOW Moose Ponds 106.04 46 IAMs_20 IAMs_20 15 28 27.5
comp=Z,2µm,22.0s
SNOW Snow King Moun 106.07 47 IAMs_20 IAMs_20 15 28 37.3
comp=Z,3µm,21.0s
H17A Grant Village 106.08 46 IAMs_20 IAMs_20 15 32 09.4
comp=Z,2µm,19.0s
H17A Grant Village 106.08 46 P PKiKP 14 51 43.8 -2.3
baz=277
EGMT Eagleton 106.13 42 P PKiKP 14 51 47.0 +1.2
baz=279
LOHW Long Hollow 106.16 46 IAMs_20 IAMs_20 15 28 40.6
comp=Z,2µm,20.0s
YMP Mirror Lake Pl 106.33 45 IAMs_20 IAMs_20 15 32 02.1
comp=Z,1µm,20.0s
WUAZ Wupatki 106.37 55 IAMs_20 IAMs_20 15 31 08.0
comp=Z,2µm,20.0s
WUAZ Wupatki 106.37 55 P PKiKP 14 51 45.4 -1.4
baz=274
X16A Lo Mia Camp, P 106.39 56 IAMs_20 IAMs_20 15 28 11.7
comp=Z,2µm,22.0s
BSUT Blindstream Ca 106.40 50 IAMs_20 IAMs_20 15 30 33.2
comp=Z,1µm,21.0s
P17A Butcher Ranch, 106.52 51 IAMs_20 IAMs_20 15 27 19.7
comp=Z,1µm,22.0s
SRU San Rafael Swe 106.73 51 IAMs_20 IAMs_20 15 27 37.1
comp=Z,2µm,22.0s
P18A Preston Nutter 106.89 51 IAMs_20 IAMs_20 15 27 33.3
comp=Z,2µm,22.0s
RLMT Red Lodge 106.91 45 P PKiKP 14 51 47.7 +0.1
baz=279
BW06 Boulder Array 107.03 47 P PKiKP 14 51 47.9 0.0
baz=278
PDAR Pinedale Array 107.03 47 Pdiff Pdif 14 47 38.2 -0.1
comp=Z,2.6nm,1.1s,baz=251,slow=4.5,SNR=8.9
PDAR PKiKP PKiKP 14 51 47.2 -0.7
comp=Z,0.6nm,0.8s,baz=150,slow=3.3,SNR=4.1
PDAR PP PP 14 52 02.5 -2.2
comp=Z,1.3nm,0.9s,baz=256,slow=6.0,SNR=6.4
TUC Tucson 107.08 58 P PKiKP 14 51 46.7 -1.3
baz=274
HSIG 107.11 62 IAMs_20 IAMs_20 15 27 05.3
comp=Z,2µm,20.0s
SIM Simferopol' 107.47 315 *e* P Pdif 14 47 32.8 -7.1
SIM *e* 14 52 04.6
SIM pmax pmax
comp=Z,41nm,16.0s
X18A Snowflake 107.61 56 IAMs_20 IAMs_20 15 28 51.0
comp=Z,2µm,21.0s
W18A Petrified Fore 107.74 55 IAMs_20 IAMs_20 15 31 01.2
comp=Z,2µm,21.0s
BALJ Balqa 107.74 302 IAMs_20 IAMs_20 15 41 28.8
comp=Z,669nm,22.0s
FINES FINESS Array B 107.88 333 Pdiff Pdif 14 47 39.6 -1.7
comp=Z,2.3nm,1.0s,baz=64,slow=4.4,SNR=4.2
FINES PKiKP PKiKP 14 51 47.6 -0.9
comp=Z,1.6nm,0.7s,baz=95,slow=4.2,SNR=5.8
FINES PP PP 14 52 08.0 -1.9
comp=Z,1.5nm,0.9s,baz=38,slow=7.0,SNR=2.0
O20A White River Ci 108.36 50 P PKiKP 14 51 51.2 +0.8
baz=278
319A Douglas 108.42 59 IAMs_20 IAMs_20 15 28 31.6
comp=Z,2µm,21.0s
MVCO Mesa Verde 108.52 53 P PKiKP 14 51 51.7 +0.9
baz=277
BRTR Keskin Array B 108.58 310 PP PP 14 52 21.9 +5.9
comp=Z,0.5nm,0.7s,baz=64,slow=3.4,SNR=1.7
LAO LASA Array 108.73 43 IAMs_20 IAMs_20 15 42 24.2
comp=Z,1µm,18.0s
LAO LASA Array 108.73 43 P PKiKP 14 51 51.3 +0.6
baz=281
K22A Casper 109.25 47 IAMs_20 IAMs_20 15 35 25.6
comp=Z,1µm,19.0s
FFC Flin Flon 109.34 34 IAMs_20 IAMs_20 15 30 00.4
comp=Z,2µm,21.0s
AKASG Malin Array Be 109.52 322 PP PP 14 52 19.3 -2.9
comp=Z,0.4nm,0.5s,baz=66,slow=6.2,SNR=1.6
121A Cookes Peak, D 109.59 58 IAMs_20 IAMs_20 15 31 00.5
comp=Z,2µm,20.0s
Y22D IRIS PASSCAL I 110.15 56 IAMs_20 IAMs_20 15 29 26.3
comp=Z,2µm,22.0s
Y22D IRIS PASSCAL I 110.15 56 P PKiKP 14 51 52.2 -1.6
baz=276
Y22F Passcal Instru 110.15 56 P PKiKP 14 51 52.5 -1.4
baz=276
ISCO Idaho Springs 110.41 50 IAMs_20 IAMs_20 15 29 43.3
comp=Z,1µm,21.0s
ISCO Idaho Springs 110.41 50 P PKiKP 14 51 55.3 +0.9
baz=279
ANMO Albuquerque 110.43 55 IAMs_20 IAMs_20 15 32 56.5
comp=Z,1µm,21.0s
ANMO Albuquerque 110.43 55 P PKiKP 14 51 54.5 +0.1
baz=277
SORM Soroca 110.72 319 ⇓P PKiKP 14 51 54.1 -0.1
SORM Soroca 110.72 319 ⇓PKiKP PKiKP 14 51 54.1 -0.1
EPT El Paso 110.74 58 IAMs_20 IAMs_20 15 29 35.2
comp=Z,2µm,21.0s
SDCO Great Sand Dun 110.81 52 P PKiKP 14 51 55.0 -0.2
baz=279
Q24A Divide 110.89 51 IAMs_20 IAMs_20 15 30 16.4
comp=Z,2µm,22.0s
BRIGG Briggsdale 111.25 49 IAMs_20 IAMs_20 15 36 32.5

comp=Z,1µm,19.0s
LBTB Lobatse 111.62 240 IAMs_20 IAMs_20 15 34 02.9
comp=Z,2µm,20.0s
MNTX Cornudas Mount 111.70 58 P **PKiKP 14 51 57.7 +1.1**
baz=276
LSZ Lusaka 111.86 251 IAMs_20 IAMs_20 15 38 51.1
comp=Z,2µm,19.0s
MBAR Mbarara 111.88 267 IAMs_20 IAMs_20 15 38 44.1
comp=Z,1µm,21.0s
HPIG 111.90 64 IAMs_20 IAMs_20 15 38 09.4
comp=Z,2µm,20.0s
ELL Elmali 111.92 307 IAMs_20 IAMs_20 15 48 15.3
comp=Z,2µm,20.0s
E28A Huff 112.46 42 IAMs_20 IAMs_20 15 35 51.8
comp=Z,2µm,20.0s
MDND Maddock 112.82 40 P **PKiKP 14 51 58.2 -0.1**
baz=287
KSCO Kaye Shedlock' 112.82 50 IAMs_20 IAMs_20 15 35 08.3
comp=Z,2µm,19.0s
KSCO Kaye Shedlock' 112.82 50 P **PKiKP 14 51 58.0 -0.7**
baz=281
OGNE Ogallala 112.88 48 IAMs_20 IAMs_20 15 34 51.5
comp=Z,1µm,20.0s
BURAR Bucovina Array 112.89 319 ⇑P PKiKP 14 51 46.2 -12
TXAR Lajitas Array 113.44 61 PKiKP **PKiKP 14 51 59.4 -0.8**
comp=Z,2.2nm,1.1s,baz=222,slow=1.7,SNR=8.5
TXAR PP **PP 14 52 46.5 -4.8**
comp=Z,0.1nm,0.5s,baz=260,slow=11,SNR=1.8
TXAR PKKPbc **PKKPbc 15 02 43.6 -1.4**
comp=Z,0.3nm,0.9s,baz=112,slow=5.7,SNR=3.5
TXAR PKKPab **PKKPab 15 02 52.2 +0.5**
comp=Z,0.9nm,0.7s,baz=117,slow=5.8,SNR=7.4
MSTX Muleshoe 113.58 56 IAMs_20 IAMs_20 15 30 30.0
comp=Z,2µm,22.0s
ARR Arges 113.92 317 ⇑P **PKiKP 14 51 54.4 -6.1**
K30B Basset 114.23 46 IAMs_20 IAMs_20 15 33 59.1
comp=Z,2µm,20.0s
AMTX Amarillo 114.32 55 P PKPdf 14 52 00.9 -0.8
baz=280
ULM Lac du Bonnet 114.35 37 IAMs_20 IAMs_20 15 31 49.1
comp=Z,2µm,22.0s
ULM Lac du Bonnet 114.35 37 PKiKP PKPdf 14 51 59.2 -1.9
comp=Z,1.4nm,0.3s,baz=235,slow=4.6,SNR=3.6
NOA NORSAR Array B 114.39 336 PKiKP **PKiKP 14 51 59.4 -1.6**
comp=Z,0.7nm,0.7s,baz=50,slow=1.4,SNR=3.6
AGMN Agassiz Nation 115.05 39 IAMs_20 IAMs_20 15 31 46.9
comp=Z,2µm,20.0s
AGMN Agassiz Nation 115.05 39 P **PKPdf 14 52 03.0 +0.4**
baz=290
CBKS Cedar Bluff 115.07 50 P **PKiKP 14 52 02.0 -0.9**
baz=283
SURR Surduc 115.49 318 ⇓P **PKiKP 14 52 03.6 +0.2**
SIRR Siria 115.62 319 ⇓P **PKiKP 14 52 01.9 -1.8**
BZS Buzias 115.87 318 ⇑P **PKiKP 14 52 04.2 0.0**
BZS Buzias 115.87 318 ⇑PKiKP **PKiKP 14 52 04.2 0.0**
MDVR Moldovita 116.07 317 ⇑P **PKPdf 14 52 04.8 +0.1**
U32A Winter Ranch, 116.17 52 IAMs_20 IAMs_20 15 34 08.3
comp=Z,2µm,20.0s
ABTX Abilene, Hawle 116.39 57 IAMs_20 IAMs_20 15 44 24.4
comp=Z,1µm,18.0s
ABTX Abilene, Hawle 116.39 57 P **PKPdf 14 52 05.6 0.0**
baz=280
OKC Ostrava-Krasne 116.50 323 AMS AMS 15 47 10.0
comp=Z,600nm,18.5s
JCT Junction City 116.61 59 P **PKPdf 14 52 05.3 -0.9**
baz=279
WMOK Wichita Mounta 116.69 54 IAMs_20 IAMs_20 15 35 47.2
comp=Z,1µm,20.0s
WMOK Wichita Mounta 116.69 54 P **PKPdf 14 52 05.7 -0.5**
baz=282
MORC Moravsky Berou 116.88 324 ⇓P **PKPdf 14 52 06.3 +0.2**
MORC Moravsky Berou 116.88 324 *e*PKP **PKPdf 14 52 05.5 -0.6**
MORC Moravsky Berou 116.88 324 ⇓PKIKP **PKPdf 14 52 06.3 +0.2**
JAVC Velka Javorina 117.18 323 *e*PKP **PKiKP 14 52 08.0 +1.3**
KRLC Kraliky 117.20 324 *e*PKPDF **PKiKP 14 52 07.4 +0.7**
833A Chaparral WMA, 117.28 61 IAMs_20 IAMs_20 15 36 04.6
comp=Z,1µm,20.0s
833A Chaparral WMA, 117.28 61 P **PKPdf 14 52 06.6 -0.8**
baz=278
OSTC Ostas 117.32 325 *e*PKPDF **PKiKP 14 52 07.6 +0.7**
DPC Dobruska-Polom 117.35 325 *e*PKPDF **PKiKP 14 52 07.9 +0.9**
DPC AMS AMS 15 42 40.0
comp=Z,700nm,27.4s
KSU1 Kansas State U 117.36 49 IAMs_20 IAMs_20 15 43 15.3
comp=Z,1µm,20.0s
KSU1 Kansas State U 117.36 49 P **PKPdf 14 52 06.7 -0.6**
baz=286
CHVC Chvalec 117.40 325 AMS AMS 15 42 50.0
comp=Z,1µm,28.4s
F36A Milaca 117.41 41 IAMs_20 IAMs_20 15 36 00.5
comp=Z,1µm,19.0s
OK029 Liberty Lake 117.52 53 IAMs_20 IAMs_20 15 33 45.1
comp=Z,2µm,22.0s
FNA Florina 117.53 313 **PKPdf 14 52 07.0 -0.6**
FNA Florina 117.53 313 PKIKP **PKPdf 14 52 07.0 -0.6**
MORH Mrgy, Hungar 117.60 320 ⇓P **PKPdf 14 52 07.3 -0.2**
VRAC Vranov 117.64 323 *e*PKP **PKPdf 14 52 07.1 -0.4**
KRUC Moravsky 117.86 323 *e*PKP **PKPdf 14 52 07.9 0.0**
EYMN Ely 117.89 38 P **PKiKP 14 52 09.7 +1.6**
baz=294
FW07 Weatherford 117.91 56 IAMs_20 IAMs_20 15 34 29.7
comp=Z,1µm,20.0s
OK052 Battle Ridge R 117.99 52 IAMs_20 IAMs_20 15 33 10.5
comp=Z,2µm,22.0s
FW06 Azle 118.05 56 IAMs_20 IAMs_20 15 36 57.3
comp=Z,1µm,21.0s
SPMN Marine on St. 118.11 41 IAMs_20 IAMs_20 15 46 16.1
comp=Z,1µm,19.0s
Z35A Perchaven, San 118.22 55 IAMs_20 IAMs_20 15 34 22.8
comp=Z,1µm,21.0s
PVCC Panska Ves 118.27 325 AMS AMS 15 43 40.0
comp=Z,1µm,24.1s
WHTX Lake Whitney, 118.32 57 IAMs_20 IAMs_20 15 37 29.7
comp=Z,1µm,20.0s
WHTX Lake Whitney, 118.32 57 P **PKPdf 14 52 09.1 -0.3**
baz=281
UNM Universidad Na 118.40 71 IAMs_20 IAMs_20 15 37 30.9
comp=Z,2µm,19.0s
GOPC GO Pecny, Ondr 118.43 325 AMS AMS 15 43 30.0
comp=Z,800nm,17.1s
435B Jarrell 118.44 58 P **PKPdf 14 52 07.5 -2.1**
baz=281
BRG Berggiesshubel 118.47 326 *e*PKP **PKiKP 14 52 09.4 +0.3**
BRG Amp 14 52 12.0
comp=Z,3.6nm,0.9s
BRG Berggiesshubel 118.47 326 *e*PKIKP **PKiKP 14 52 09.3 +0.3**
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG MLR MLR
comp=E,676nm,19.5s
BRG MLR MLR
comp=N,747nm,18.9s
BRG MLR MLR
comp=Z,1µm,20.4s
RONA Rosalia, Austr 118.50 322 *e*PKP **PKPdf 14 52 09.1 -0.2**
comp=Z,2.3nm,0.7s
RICC Richard 118.53 325 AMS AMS 15 43 40.0
comp=Z,1µm,26.4s
PRU Pruhonice 118.54 325 *e*PKPDF **PKiKP 14 52 09.9 +0.7**
PRU AMS AMS 15 43 20.0
comp=Z,900nm,20.5s
PRA Prague 118.56 325 AMS AMS 15 43 40.0
comp=Z,900nm,18.9s
735A Kenedy 118.58 61 IAMs_20 IAMs_20 15 38 40.9
comp=Z,1µm,21.0s
CONA Conrad Observa 118.67 322 *i* PKiKP **PKPdf 14 52 09.9 +0.3**
comp=Z,4.1nm,0.8s
KVTX Kingsville 118.71 62 IAMs_20 IAMs_20 15 43 18.4
comp=Z,1µm,19.0s
CLL Collm 118.78 327 IAMs_20 IAMs_20 15 47 00.1
comp=Z,1µm,19.0s
CLL Collm 118.78 327 *e*P **Pdif 14 48 27.0 -3.0**
CLL *i* 14 52 10.0
CLL pmax pmax
comp=Z,26nm,2.0s
CLL MLR MLR
comp=Z,1µm,19.8s
TUL3 Leonard 118.81 52 IAMs_20 IAMs_20 15 35 52.0
comp=Z,2µm,18.0s
TUL3 Leonard 118.81 52 P **PKPdf 14 52 10.2 +0.1**
baz=284
SCIA State Center 118.99 45 P **PKPdf 14 52 09.5 -0.8**
baz=290
ZVC Zvikov 118.99 324 *e*PKPDF **PKPdf 14 52 09.9 -0.2**
TLIG Tlapa 119.07 73 IAMs_20 IAMs_20 15 35 11.0
comp=Z,2µm,20.0s
ARSA Arzberg 119.16 322 *i* PKP **PKPdf 14 52 10.7 +0.2**
comp=Z,2.7nm,0.9s
CKRC Cesky Krumlov 119.21 324 *e*PKPDF **PKPdf 14 52 10.7 +0.1**
CKRC AMS AMS 15 46 30.0
comp=Z,800nm,23.4s
KHC Kasperske Hory 119.49 324 *c i*PKIKP **PKiKP 14 52 11.8 +0.6**
KHC pmax pmax
comp=Z,19nm,1.3s
KHC Kasperske Hory 119.49 324 *e*PKPDF **PKPdf 14 52 10.1 -1.0**
KHC AMS AMS 15 47 50.0
comp=Z,700nm,18.1s
P38A Dawn 119.50 48 IAMs_20 IAMs_20 15 35 40.6
comp=Z,2µm,18.0s
GEC2 GERESS Array S 119.55 324 PKPdf **PKPdf 14 52 11.0 -0.3**
GERES GERESS Array B 119.55 324 PKP **PKPdf 14 52 10.6 -0.8**
comp=Z,2.1nm,0.7s,baz=64,slow=3.1,SNR=10
NKC Novy Kostel 119.61 326 *e*PKPDF **PKiKP 14 52 11.9 +0.5**
NKC AMS AMS 15 45 10.0
comp=Z,1µm,22.2s
MOA Molln 119.67 323 *i* pPKiKP **PKiKP 14 52 14.8 +3.2**
comp=Z,7.4nm,1.4s
237A Washetta, Mont 119.69 57 IAMs_20 IAMs_20 15 36 06.9
comp=Z,1µm,20.0s
SOKA Soboth 119.71 321 *i* PKP **PKPdf 14 52 11.5 -0.2**
comp=Z,3.2nm,1.0s
U38A Gravette 119.77 51 IAMs_20 IAMs_20 15 36 46.3
comp=Z,2µm,21.0s
LEGS Legarje 119.84 320 *e*PKPdf **PKPdf 14 52 12.0 +0.2**
OBKA Obir 120.08 321 *i* pPKP **PKiKP 14 52 13.6 +1.1**
comp=Z,12nm,1.6s
Z38A Mt. Pleasant 120.09 55 IAMs_20 IAMs_20 15 35 20.2
comp=Z,2µm,21.0s
BIOA Bad Ischl, Aus 120.12 323 *e*PKiKP **PKiKP 14 52 13.2 +0.7**
comp=Z,2.1nm,0.6s
HHAR Hobbs 120.16 51 IAMs_20 IAMs_20 15 35 42.6
comp=Z,2µm,22.0s
VISS Visnje 120.20 320 *e*PKPdf **PKiKP 14 52 12.9 +0.3**
GBAS Gorenja Brezov 120.40 321 *e*PKPdf **PKPdf 14 52 13.0 +0.1**
GRA1 Grafenberg Arr 120.57 326 IAMs_20 IAMs_20 15 45 51.5
comp=Z,987nm,19.0s
GRFO Grafenberg 120.57 326 IAMs_20 IAMs_20 15 45 52.6
comp=Z,1µm,19.0s
KBA Koelnbreinsper 120.57 322 *i* PKP **PKPdf 14 52 12.3 -1.1**
comp=Z,2.0nm,0.8s
MYKA Terra Mystica 120.59 322 *e*PKP **PKPdf 14 52 13.0 -0.4**
comp=Z,2.2nm,0.5s
JFWS Jewell Farm 120.68 43 P **PKPdf 14 52 13.0 -0.6**
baz=293
NATX Nacogdoches 120.70 57 P **PKiKP 14 52 14.9 +0.9**
baz=283
LESA Schwarzleotal 120.82 323 *i* PKP **PKPdf 14 52 13.2 -0.6**
comp=Z,4.3nm,0.7s
F42A Maple Grove Fa 120.90 39 IAMs_20 IAMs_20 15 36 49.8
comp=Z,2µm,22.0s
MIAR Mount Ida 120.91 53 IAMs_20 IAMs_20 15 37 13.7
comp=Z,2µm,20.0s
MIAR Mount Ida 120.91 53 P **PKPdf 14 52 13.5 -0.8**
baz=285
SGRT San Giovanni R 121.21 316 **PKPdf 14 52 14.3 -0.5**
ABTA Abfaltersbach 121.23 322 *i* PKP **PKPdf 14 52 14.0 -0.6**
comp=Z,12nm,1.7s
STAL STALIGIAL 121.33 322 PKPdf **PKPdf 14 52 14.1 -0.7**
L42A Oliver, Polo 121.43 44 IAMs_20 IAMs_20 15 41 08.2
comp=Z,2µm,21.0s
X40A Basin Creek Fa 121.52 53 IAMs_20 IAMs_20 15 38 20.7
comp=Z,1µm,20.0s
WTTA Wattenberg 121.52 323 *i* PKiKP **PKPdf 14 52 15.3 +0.1**
comp=Z,26nm,1.3s
WATA Walderalm 121.52 323 *i* PKP **PKPdf 14 52 14.9 -0.4**
comp=Z,12nm,1.1s
FCAR Ozark Folk Cen 121.68 51 IAMs_20 IAMs_20 15 37 51.9
comp=Z,1µm,20.0s
CCM Cathedral Cave 121.69 49 PKPdf **PKPdf 14 52 14.2 -1.4**
CCM IAMs_20 IAMs_20 15 37 11.7
comp=Z,2µm,21.0s
CCM Cathedral Cave 121.69 49 PKIKP **PKPdf 14 52 14.3 -1.4**
CCM Cathedral Cave 121.69 49 P **PKPdf 14 52 13.9 -1.7**
baz=289
WHAR Wooly Hollow 121.72 52 IAMs_20 IAMs_20 15 36 02.2
comp=Z,2µm,22.0s
SQTA Sankt Quirin 121.80 323 *i* PKP **PKPdf 14 52 14.6 -1.1**
comp=Z,14nm,1.6s
MOTA Moosalm 121.80 323 *i* PKP **PKPdf 14 52 15.5 -0.2**
comp=Z,4.0nm,0.7s
UALR University of 121.83 53 IAMs_20 IAMs_20 15 43 19.9
comp=Z,2µm,20.0s
Z41A Richland Creek 121.86 55 IAMs_20 IAMs_20 15 45 02.1
comp=Z,2µm,18.0s
RETA Reste 121.93 324 *e*PKP **PKPdf 14 52 15.3 -0.6**
comp=Z,8.8nm,1.7s
LL01 San Ignacio de 122.10 150 IAMs_20 IAMs_20 15 55 21.0
comp=Z,2µm,22.0s
FETA Feichten 122.18 323 *i* PKP **PKPdf 14 52 16.4 -0.1**
comp=Z,7.5nm,1.2s
HDIL Hopedale 122.23 45 P **PKPdf 14 52 16.0 -0.6**
baz=292
P43A Skaggs, Pawnee 122.41 46 IAMs_20 IAMs_20 15 42 07.5
comp=Z,2µm,20.0s
CCAR Cane Creek 122.52 53 IAMs_20 IAMs_20 15 36 27.3
comp=Z,2µm,20.0s
DAVA Damuels 122.55 324 *i* PKP **PKPdf 14 52 17.2 0.0**
comp=Z,4.6nm,0.8s
L44A Lake County Fo 122.56 43 P **PKPdf 14 52 17.1 -0.1**
baz=294
NRCA Norcia 122.57 318 **PKPdf 14 52 17.2 -0.1**
FUORN Ofenpass-Fuorn 122.65 323 PKPdf **PKPdf 14 52 17.1 -0.4**
MEM Membach 122.88 329 *d*PKP **PKiKP 14 52 18.3 +0.6**
E46A Sault Ste Mari 122.98 37 PKPdf **PKPdf 14 52 17.4 -0.4**
143A Socs Landing, 123.14 55 IAMs_20 IAMs_20 15 38 11.1
comp=Z,2µm,21.0s
TUE Stuetta 123.28 323 IAMs_20 IAMs_20 15 47 24.4
comp=Z,1µm,20.0s
SIUC Southern Illin 123.31 48 IAMs_20 IAMs_20 15 37 50.7
comp=Z,2µm,22.0s
BCLA Clavier 123.35 329 *d*PKP **PKiKP 14 52 19.7 +1.0**
PEBM Pemiscott Bayo 123.36 50 IAMs_20 IAMs_20 15 37 44.2
comp=Z,2µm,21.0s
GLMI Grayling 123.54 39 P **PKPdf 14 52 19.2 +0.2**
baz=299
RCHB Rochefort 123.55 329 *d*PKP **PKPdf 14 52 19.2 +0.4**
BMRD Maredsous 123.70 329 *d*PKP **PKiKP 14 52 19.7 +0.4**
HALT Halls 123.82 50 IAMs_20 IAMs_20 15 38 08.5
comp=Z,2µm,22.0s
SFIN Lafayette 123.85 45 P **PKPdf 14 52 17.7 -2.0**
baz=294
EKA Eskdalemuir Ar 123.85 337 PKP **PKPdf 14 52 19.5 +0.2**
comp=Z,1.8nm,0.6s,baz=54,slow=4.3,SNR=4.7
VBMS Vicksburg 124.00 55 IAMs_20 IAMs_20 15 38 35.6
comp=Z,2µm,22.0s
VBMS Vicksburg 124.00 55 P **PKPdf 14 52 19.6 -0.6**
baz=286
J47A Sunmer 124.15 41 IAMs_20 IAMs_20 15 43 05.9
comp=Z,2µm,21.0s
OXF Oxford 124.22 52 IAMs_20 IAMs_20 15 45 53.1
comp=Z,1µm,20.0s
OXF Oxford 124.22 52 P **PKPdf 14 52 20.8 +0.2**
baz=288
PLCA Paso Flores 124.26 150 **PKiKP 14 52 21.1 +0.1**
PLCA Paso Flores 124.26 150 PKIKP **PKiKP 14 52 21.1 +0.1**
PLCA Paso Flores 124.26 150 PKP **PKiKP 14 52 21.9 +0.9**
comp=Z,3.0nm,0.7s,baz=273,slow=3.5,SNR=5.1
PLCA Paso Flores 124.26 150 *e*P **PKiKP 14 52 21.2 +0.3**
WVT Waverly 124.90 50 **PKPdf 14 52 21.4 -0.5**
WVT Waverly 124.90 50 PKIKP **PKPdf 14 52 21.4 -0.5**
WVT Waverly 124.90 50 P **PKPdf 14 52 22.1 +0.2**
baz=290
146A Union 125.06 54 IAMs_20 IAMs_20 15 43 37.8
comp=Z,2µm,19.0s
T47A Sharon Grove 125.14 49 IAMs_20 IAMs_20 15 42 31.2
comp=Z,2µm,20.0s
O48B Farmland 125.25 44 P **PKiKP 14 52 23.8 +1.0**
baz=295
WCI Wyandotte Cave 125.27 47 **PKPdf 14 52 22.2 -0.3**
WCI Wyandotte Cave 125.27 47 PKIKP **PKPdf 14 52 22.2 -0.3**
WCI MLR MLR
comp=Z,2µm,19.0s
WCI Wyandotte Cave 125.27 47 P **PKiKP 14 52 23.0 +0.2**
baz=293
AAM Ann Arbor 125.35 41 P **PKPdf 14 52 21.8 -0.7**
baz=298
Z47A Carrollton 125.68 53 IAMs_20 IAMs_20 15 39 26.1
comp=Z,1µm,21.0s
O49A Covington 125.85 44 IAMs_20 IAMs_20 15 45 17.2
comp=Z,2µm,22.0s
SCHQ Schefferville 125.85 21 PKP **PKPdf 14 52 22.7 -0.4**
comp=Z,4.5nm,0.7s,baz=264,slow=9.2,SNR=4.4
P49A Miami Univ. Ec 125.86 45 P **PKPdf 14 52 23.1 -0.5**
baz=295
X48A Hartselle 126.08 51 IAMs_20 IAMs_20 15 42 18.4
comp=Z,1µm,19.0s
U49A Red Boiling Sp 126.31 49 IAMs_20 IAMs_20 15 47 27.0
comp=Z,2µm,19.0s
PAYG Puerto Ayora 126.58 95 IAMs_20 IAMs_20 15 44 22.1
comp=Z,1µm,19.0s
LRAL Lakeview Retre 126.59 53 IAMs_20 IAMs_20 15 38 20.0
comp=Z,2µm,21.0s
LRAL Lakeview Retre 126.59 53 P **PKPdf 14 52 24.8 -0.4**
baz=289
ACSO Alum Creek Sta 126.75 43 P **PKPdf 14 52 24.8 -0.5**
baz=297
BRAL Brewton 127.13 55 P **PKPdf 14 52 25.6 -0.7**
baz=288
FPAL Fort Paine 127.16 51 IAMs_20 IAMs_20 15 39 16.9
comp=Z,2µm,22.0s
250A Grady 127.51 54 IAMs_20 IAMs_20 15 43 18.6
comp=Z,1µm,20.0s
P52A Corning 127.61 44 P **PKiKP 14 52 27.7 +0.2**
baz=298,SNR=6.8
M53A WI Miller and 127.71 41 P **PKPdf 14 52 26.1 -1.0**
baz=300
X51A Calhoun 127.73 50 IAMs_20 IAMs_20 15 40 08.0
comp=Z,2µm,22.0s
ERPA Erie 127.81 40 P **PKPdf 14 52 27.3 0.0**
baz=301
Z51A Franklin 127.93 52 IAMs_20 IAMs_20 15 43 36.5
comp=Z,2µm,19.0s
O53A New Philadelph 127.94 42 P **PKPdf 14 52 27.5 0.0**
baz=299
TZTN Tazewell 127.95 48 P **PKPdf 14 52 27.6 -0.1**
baz=294
KEST Kesra 128.14 311 PKP **PKPdf 14 52 28.2 0.0**
comp=Z,17nm,1.3s,baz=100,slow=6.1,SNR=3.5
TEIG Tepich 128.51 69 IAMs_20 IAMs_20 15 45 23.8
comp=Z,1µm,20.0s
152A Waverly Hall 128.52 53 IAMs_20 IAMs_20 15 41 49.1
comp=Z,2µm,20.0s
352A Blakely 128.75 54 IAMs_20 IAMs_20 15 47 57.5
comp=Z,1µm,20.0s
MCWV Mont Chateau 129.15 42 P **PKPdf 14 52 29.8 -0.1**
baz=300
GOGA Godfrey 129.23 51 P **PKPdf 14 52 30.6 +0.4**
baz=292
LONY Lake Ozonia 129.62 34 P **PKPdf 14 52 30.7 0.0**
baz=309
154A Montrose 129.81 52 IAMs_20 IAMs_20 15 43 58.2
comp=Z,2µm,21.0s
TIGA Tifton 129.84 54 IAMs_20 IAMs_20 15 47 06.3
comp=Z,1µm,20.0s
TIGA Tifton 129.84 54 P **PKPdf 14 52 31.2 -0.2**
baz=290
BLA Blacksburg 129.92 45 P **PKPdf 14 52 31.0 -0.4**
baz=298
SSPA Standing Stone 129.93 40 P **PKPdf 14 52 31.3 0.0**
baz=302
KMSC Kings Mountain 130.16 48 P **PKPdf 14 52 31.8 -0.2**
baz=295
BINY Binghamton 130.25 38 P **PKPdf 14 52 31.9 -0.1**
baz=306
GO04 Tololo Observa 131.66 140 IAMs_20 IAMs_20 15 57 01.5
comp=Z,919nm,21.0s
257A Skidaway Islan 131.68 52 IAMs_20 IAMs_20 15 42 40.7
comp=Z,2µm,20.0s
WUPA West Chester U 131.78 40 IAMs_20 IAMs_20 15 43 56.6
comp=Z,1µm,21.0s
NHSC New Hope 131.88 50 IAMs_20 IAMs_20 15 41 48.9
comp=Z,2µm,22.0s
PKME Peaks-Kenny Pk 132.01 30 P **PKPdf 14 52 34.3 -0.8**
baz=315
L61B Northampton 132.06 35 P **PKPdf 14 52 34.2 -1.1**
baz=309
PAL Palisades 132.22 38 P **PKPdf 14 52 34.8 -0.8**
baz=307
CNNC Cliffs of the 132.64 47 P **PKPdf 14 52 37.2 +0.6**
baz=298
HRV Adam Dziewonsk 132.66 35 P **PKPdf 14 52 35.8 -0.6**
baz=310
SOR Soroa 132.85 65 IAMs_20 IAMs_20 15 43 01.1
comp=Z,1µm,20.0s
Y60A Bolivia 132.97 48 IAMs_20 IAMs_20 15 50 51.5
comp=Z,2µm,20.0s
COVE Coope Vega, Sa 133.10 81 IAMs_20 IAMs_20 15 39 19.1
comp=Z,2µm,22.0s
PEZE Perez Zeledon, 133.84 83 IAMs_20 IAMs_20 15 40 20.7
comp=Z,2µm,22.0s
SRBA San Rafael, Bu 134.16 83 IAMs_20 IAMs_20 15 38 33.1
comp=Z,2µm,22.0s
CDITO Canoas 134.64 84 IAMs_20 IAMs_20 15 44 04.9
comp=Z,2µm,20.0s
BRU2 Volcan 134.82 84 IAMs_20 IAMs_20 15 44 28.8
comp=Z,1µm,20.0s
ES19 SONSECA Array 135.08 323 IAMs_20 IAMs_20 15 54 58.9
comp=Z,1µm,20.0s
ESDC Sonseca Array 135.14 323 PKP **PKPdf 14 52 42.0 +0.7**
comp=Z,0.4nm,0.3s,baz=8.8,slow=1.8,SNR=3.1
ESDC PP **PP 14 55 17.0 +1.0**
comp=Z,1.1nm,1.0s,baz=23,slow=7.0,SNR=2.4
ES05 SONSECA Array 135.14 323 IAMs_20 IAMs_20 15 54 34.4
comp=Z,957nm,20.0s
MCRA Macar, Loja 136.06 103 PKPdf **PKPdf 14 52 42.5 -1.2**
ARNL Arenillas 136.13 101 IAMs_20 IAMs_20 15 46 20.0
comp=Z,872nm,20.0s
NNA Nana 136.68 114 IAMs_20 IAMs_20 16 00 32.3
comp=Z,799nm,19.0s
BCIP Isla Barro Col 137.63 83 IAMs_20 IAMs_20 15 46 52.3
comp=Z,1µm,20.0s
CHSH Refugio Sur-Vo 137.71 99 IAMs_20 IAMs_20 15 44 10.1
comp=Z,816nm,20.0s
TA01 Diego Aracena 138.15 130 IAMs_20 IAMs_20 15 40 56.1
comp=Z,1µm,19.0s
PSAL Palomas, Salto 138.22 153 *e*P **PKPdf 14 52 46.4 -0.7**
IMBA Imbabura, San 138.67 96 IAMs_20 IAMs_20 15 50 22.6
comp=Z,853nm,18.0s
PLTB Pedras Altas 139.25 158 *e*P **PKPdf 14 52 48.8 -0.3**
RODS Rosario do Sul 139.89 155 *e*P **PKPdf 14 52 50.1 -0.2**
TORD Torodi Ar. Bea 141.06 283 IAMs_20 IAMs_20 15 56 39.3
comp=Z,1µm,22.0s
TORD Torodi Ar. Bea 141.06 283 PKhKP PKPpre 14 52 46.3
comp=Z,3.4nm,0.8s,baz=65,slow=4.2,SNR=17
LPAZ La Paz 142.18 126 PKPpre 14 52 48.4
LPAZ La Paz 142.18 126 PKHKP PKPpre 14 52 48.4
CPUP Villa Florida 142.33 150 PKP **PKPdf 14 52 55.6 +0.9**
comp=Z,14nm,1.3s,baz=214,slow=2.0,SNR=7.3
ROSC El Rosal 143.02 90 IAMs_20 IAMs_20 15 55 15.1
comp=Z,1µm,19.0s
ROSC El Rosal 143.02 90 PKP **PKPdf 14 52 53.9 -2.9**
comp=Z,20nm,0.7s,baz=358,slow=2.3,SNR=10
SDV Santo Domingo 146.73 83 PKPdf **PKPdf 14 53 02.2 -0.7**
SDV IAMs_20 IAMs_20 15 49 44.2
comp=Z,1µm,20.0s
ETMB Extrema 147.06 118 PKPdf **PKPdf 14 53 02.3 -0.9**
KIC Kosan Boka 147.75 272 ⇑*i*PKIKP **PKPbc 14 53 08.2 +1.0**
comp=Z,65nm,0.8s
DBIC Dimbokro 147.87 273 PKPbc **PKPbc 14 53 07.0 -0.5**
DBIC Dimbokro 147.87 273 PKP2 **PKPbc 14 53 07.0 -0.5**
DBIC Dimbokro 147.87 273 PKPbc **PKPbc 14 53 07.7 +0.1**
comp=Z,48nm,1.1s,baz=88,slow=3.8,SNR=27
AQDB Aquidauana 147.96 146 PKPdf **PKPdf 14 53 04.5 -0.1**
LIC Lamto 148.03 272 ⇓*i*PKIKP **PKPbc 14 53 08.4 +0.4**
comp=Z,176nm,1.0s
TIC Toumodi 148.03 273 ⇓*i*PKIKP **PKPbc 14 53 08.4 +0.4**
comp=Z,20nm,0.3s
HATO Hato, Curacao 148.07 77 IAMs_20 IAMs_20 15 48 04.7
comp=Z,1µm,22.0s
OBIP Obispado Ponce 148.93 65 PKPdf **PKPdf 14 53 05.9 -0.3**
CELP Cerrillos 148.94 65 **PKPbc 14 53 09.3 -0.9**
BAUV El Baul 149.28 83 PKPdf **PKPdf 14 53 05.8 -1.0**
GCPR Guaynabo City 149.31 64 **PKPbc 14 53 09.9 -1.2**
PTLB Pontes e Lacer 149.51 135 **PKPbc 14 53 11.7 0.0**
BIM Bigot 155.07 68 IAMs_20 IAMs_20 15 53 00.5
comp=Z,1µm,19.0s
BDFB Brasilia 155.91 154 PKP **PKPdf 14 53 14.7 -2.0**
comp=Z,3.8nm,0.9s,baz=197,slow=20,SNR=5.2
BDFB PKPab **PKPab 14 53 41.3 -2.0**
comp=Z,3.6nm,0.6s,baz=55,slow=6.7,SNR=3.9

*IDC **04** 14:42:05.4±4.5, 15°.64S×176°.29W, h0km, mb4.4/4, mbtmp4.4/4, Error ellipse: s-maj=123.8km s-min=44.7km az=24.0*
*NEIC **04** 14:42:10.5±0.7, 15°.59S±0°.10×176°.3W±0°.2, h35km±2km, mb4.8/11, Error ellipse: s-maj=37.7km s-min=7.9km az=112.0*
ISC 04 14:42:10.4±1.6, 15°.6S±0°.2×176°.4W±0°.3, h35km, n16, σ0s.53/17, mb4.7/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRZ	**Mangatainoka R**	**25.93**	**194**	P	**P**	**14 47 39.3**	**0.0**
MRZ				IAmb	IAmb	14 48 14.3	
	comp=Z,28nm,1.4s						
SNZO	**South Karori**	**26.75**	**195**	P	**P**	**14 47 46.3**	**-0.5**
THZ	**Tophouse**	**27.66**	**197**	P	**P**	**14 47 55.5**	**+0.4**
INZ	**Inchbonnie**	**28.98**	**199**	P	**P**	**14 48 06.3**	**-0.3**
WKZ	**Wanaka**	**31.64**	**200**	P	**P**	**14 48 29.6**	**-0.6**
WHZ	**Wether Hill Ro**	**32.94**	**200**	P	**P**	**14 48 41.5**	**0.0**
TOO	**Toolangi**	**40.14**	**230**	P	**P**	**14 49 42.5**	**-0.6**
STKA	**Stephens Creek**	**41.46**	**239**	P	**P**	**14 49 54.0**	**0.0**
STKA	**Stephens Creek**	**41.46**	**239**	P	**P**	**14 49 54.0**	**0.0**
	comp=Z,19nm,1.1s,baz=76,slow=12,SNR=1.1 comp=Z,19nm,1.1s						
WRA	**Warramunga Arr**	**47.01**	**257**	P	**P**	**14 50 39.7**	**+1.1**
	comp=Z,0.7nm,0.4s,baz=93,slow=7.4,SNR=11 comp=Z,0.7nm,0.4s						
AS31	**Alice Springs**	**47.33**	**252**	P	**P**	**14 50 41.5**	**+0.4**
AS31				IAmb	IAmb	14 52 10.8	
	comp=Z,18nm,1.5s						
ASAR	**Alice Springs**	**47.33**	**252**	P	**P**	**14 50 41.7**	**+0.6**
	comp=Z,7.6nm,0.5s,baz=89,slow=8.0,SNR=57						
ASAR				PcP	**PcP**	**14 52 11.7**	**-0.1**
	comp=Z,1.6nm,1.0s,baz=96,slow=3.9,SNR=1.3 comp=Z,7.6nm,0.5s						
PSA00	**Pilbara Seismi**	**60.40**	**254**	P	**P**	**14 52 16.0**	**-0.7**
PETK	**Petropavlovsk-**	**71.99**	**344**	P	**P**	**14 53 30.1**	**-0.2**
QSPA	**South Pole Qui**	**74.44**	**180**	P	**P**	**14 53 45.2**	**+0.3**
QSPA				IAmb	IAmb	14 54 52.5	
	comp=Z,29nm,1.8s						
QSPA	**South Pole Qui**	**74.44**	**180**	P	**P**	**14 53 45.5**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=117,slow=6.8,SNR=6.0 comp=Z,1.3nm,0.8s						

*IDC **04** 14:47:04.0±1.1,0.°48N×127.°11E,h0km,mb3.7/5, mbtmp3.8/5,Error ellipse: s-maj=63.2km s-min=20.5km az=74.0*
*NEIC **04** 14:47:19.5±1.5,0.°30N±0.°09×127.°15E±0.°08,h136km±4km, mb4.6/12,Error ellipse: s-maj=13.7km s-min=10.7km az=141.0*
*DJA **04** 14:47:20.1±0.3,0.°N±4.°×12.°7E±.°,h126km±6km,M4.2/13, mb3.9/2,MLv4.4/13*
ISC 04 14:47:19.1±0.7,0.°27N±0.°05×127.°13E±0.°07,h150km,n33, σ1§61/36,mb4.3/11,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.55**	**26**		**Pn**	**14 47 39.5**	**-1.2**
TNTI	**Ternate**	**0.55**	**26**	P	**Pn**	**14 47 39.6**	**-1.2**
TNTI				S	**Sn**	**14 47 52.3**	**-4.9**
LBMI	**Labuha**	**0.98**	**158**	P	**Pn**	**14 47 43.7**	**-0.1**
LBMI				S	**Sn**	**14 48 00.9**	**-1.7**
SANI	**Sanana**	**2.58**	**206**	P	**Pn**	**14 48 01.1**	**-0.1**
SANI				S	**Sn**	**14 48 30.5**	**-3.2**
KMSI	**Cibinong**	**3.16**	**275**	P	**Pn**	**14 48 09.0**	**+0.4**
NLAI	**Namlea**	**3.49**	**181**	P	**Pn**	**14 48 13.8**	**+1.0**
SGSI	**Sangihe**	**3.75**	**335**	P	**Pn**	**14 48 15.4**	**-0.8**
SWI	**Sorong**	**4.28**	**105**	P	**Pn**	**14 48 23.4**	**+0.3**
LUWI	**Luwuk**	**4.55**	**253**	Pn	**Pn**	**14 48 26.9**	**+0.2**
LUWI	**Luwuk**	**4.55**	**253**	P	**Pn**	**14 48 26.8**	**+0.2**
BNDI	**Bandanaira**	**5.51**	**150**	P	**Pn**	**14 48 38.1**	**-1.3**
FAKI	**Fak Fak**	**6.02**	**122**	Pn	**Pn**	**14 48 48.1**	**+2.0**
FAKI	**Fak Fak**	**6.02**	**122**	P	**Pn**	**14 48 46.9**	**+0.7**
TOLI2	**Tolitoli**	**6.40**	**277**	Pn	**Pn**	**14 48 51.8**	**+0.6**
TTSI	**Tana Toraja**	**8.02**	**246**	P	**Pn**	**14 49 10.8**	**-2.0**
MTN	**Manton Dam**	**13.62**	**163**	Pn	**Pn**	**14 50 25.2**	**-1.1**
UGM	**Wanagama**	**18.45**	**243**	P	**P**	**14 51 21.0**	**-2.5**
WB0	**Warramunga Arr**	**21.15**	**161**	P	**P**	**14 51 53.2**	**+0.6**
WRAB	**Tennant Creek**	**21.29**	**161**	P	**P**	**14 51 54.8**	**+0.8**
WRAB				IAmb	IAmb	14 52 25.3	
	comp=Z,38nm,1.4s						
WRA	**Warramunga Arr**	**21.30**	**161**	P	**P**	**14 51 55.1**	**+1.0**
	comp=Z,2.4nm,0.4s,baz=340,slow=11,SNR=36 comp=Z,2.4nm,0.4s						
WB2	**Warramunga Arr**	**21.30**	**161**	P	**P**	**14 51 55.2**	**+1.0**
WB2				IAmb	IAmb	14 52 34.9	
	comp=Z,46nm,1.2s						
WR0	**Warramunga Arr**	**21.38**	**161**	P	**P**	**14 51 55.8**	**+0.8**
WR0				IAmb	IAmb	14 52 25.9	
	comp=Z,49nm,1.4s						
AS31	**Alice Springs**	**24.69**	**165**	P	**P**	**14 52 28.2**	**+1.8**
ASAR	**Alice Springs**	**24.69**	**165**	P	**P**	**14 52 28.5**	**+2.1**
	comp=Z,1.0nm,0.5s,baz=343,slow=11,SNR=13 comp=Z,1.0nm,0.5s						
JMN	**Monobe**	**33.88**	**10**	P	**P**	**14 53 46.8**	**-0.8**
MAJO	**Matsushiro**	**37.52**	**15**	P	**P**	**14 54 18.2**	**-0.5**
MAJO				IAmb	IAmb	14 54 19.0	
	comp=Z,12nm,1.4s						
MJAR	**Matsushiro Arr**	**37.52**	**15**	P	**P**	**14 54 18.2**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=194,slow=9.0,SNR=5.3 comp=Z,0.5nm,0.4s						
MJB9	**Matsu-Tunnel**	**37.52**	**15**	P	**P**	**14 54 18.2**	**-0.5**
MJB9				IAmb	IAmb	14 54 19.0	
	comp=Z,13nm,1.4s						
MK31	**Makanchi Array**	**60.62**	**326**	P	**P**	**14 57 15.9**	**+1.8**
MKAR	**Makanchi Array**	**60.62**	**326**	P	**P**	**14 57 15.8**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=115,slow=8.1,SNR=6.0 comp=Z,0.2nm,0.3s						
GAR	**Garm**	**64.57**	**314**	P	**P**	**14 57 42.5**	**+1.9**
GAR				IAmb	IAmb	14 58 22.9	
	comp=Z,5.1nm,1.2s						
KURBB	**Kurchatov Arra**	**64.86**	**328**	P	**P**	**14 57 43.4**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=116,slow=6.5,SNR=2.2 comp=Z,0.3nm,0.3s						
F15K	**North Star Dit**	**80.92**	**23**	P	**P**	**14 59 17.9**	**+1.5**

IDC 04 15:06:50.7±1.5,5.°67S×142.°38E,h0km,mb3.7/2, mbtmp3.5/5,ML3.4/2,Error ellipse: s-maj=46.4km s-min=31.6km az=95.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.02**	**128**	Pn	Pn	15 08 21.3	+0.3
	3.3nm,0.6s,baz=38,slow=20,SNR=1.4						
WRA	**Warramunga Arr**	**16.21**	**209**	Pn	Pn	15 10 37.8	-2.1
	0.1nm,0.3s,baz=28,slow=14,SNR=2.7						
WRA				Sn	Sn	15 13 29.2	-11
	baz=36,slow=25,SNR=2.3 0.2nm,0.4s						
ASAR	**Alice Springs**	**19.67**	**204**	P	Pn	15 11 22.2	-0.6
	0.2nm,0.3s,baz=29,slow=13,SNR=16 1.5nm,0.8s						
BVAR	**Borovoye Array**	**83.82**	**325**	P	P	15 19 22.4	+0.4
	0.4nm,0.6s,baz=104,slow=6.1,SNR=2.1 0.4nm,0.6s						
ILAR	**Eielson Array**	**87.01**	**24**	P	P	15 19 37.2	-0.5
	0.4nm,0.9s,baz=256,slow=3.6,SNR=2.5 0.4nm,0.9s						

IDC 04 15:09:38.9±3.1,15.°42S×174.°29W,h0km,mb4.0/5, mbtmp4.0/5,Error ellipse: s-maj=164.1km s-min=25.5km az=147.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.80**	**257**	P	P	15 16 57.9	+0.6
	2.1nm,0.9s,baz=100,slow=6.1,SNR=3.6 2.1nm,0.9s						
WRA	**Warramunga Arr**	**49.00**	**257**	P	P	15 18 27.0	-0.8
	0.6nm,0.5s,baz=92,slow=7.1,SNR=12 0.6nm,0.5s						
ASAR	**Alice Springs**	**49.29**	**252**	P	P	15 18 30.1	+0.1
	9.9nm,0.5s,baz=88,slow=7.8,SNR=150 9.9nm,0.5s						
ILAR	**Eielson Array**	**82.63**	**11**	P	P	15 22 03.5	-0.1
	0.2nm,0.5s,baz=210,slow=5.1,SNR=7.9 0.2nm,0.5s						
PDAR	**Pinedale Array**	**82.85**	**42**	P	P	15 22 05.9	+0.2
	0.4nm,0.5s,baz=169,slow=1.8,SNR=5.2 0.4nm,0.5s						

*IDC **04** 15:09:51.2±3.4,0.°16N×130.°70E,h0km,mb3.5/4, mbtmp3.5/4,Error ellipse: s-maj=255.4km s-min=23.6km az=72.0*
*DJA **04** 15:09:54.9±0.7,0.°S±8.°×13.°0E±.°,h11km±7km,M3.6/6, mb4.1/1,MLv3.4/6*
ISC 04 15:09:57.5±1.0,0.°1S±0.°1×130.°03E±0.°06,h35km,n9, σ1§49/13,mb3.7/3,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.43**	**121**	P	**Pn**	**15 10 20.3**	**-0.7**
SWI				S	**Sn**	**15 10 39.7**	**+1.1**
LBMI	**Labuha**	**2.58**	**259**	P	**Pn**	**15 10 35.9**	**-0.9**
LBMI				S	**Sn**	**15 11 09.5**	**+2.5**
TNTI	**Ternate**	**2.81**	**288**	P	**Pn**	**15 10 38.4**	**-1.6**
TNTI				S	**Sn**	**15 11 14.9**	**+2.3**
FAKI	**Fak Fak**	**3.55**	**141**	P	**Pn**	**15 10 50.2**	**0.0**
FAKI				S	**Sn**	**15 11 31.2**	**+0.2**
SANI	**Sanana**	**4.47**	**245**	P	**Pn**	**15 11 01.0**	**-1.8**
WRA	**Warramunga Arr**	**20.14**	**168**	P	**P**	**15 14 27.7**	**-1.1**
	0.4nm,0.5s,baz=351,slow=11,SNR=2.9 0.4nm,0.5s						
ASAR	**Alice Springs**	**23.70**	**171**	P	**P**	**15 15 07.3**	**+1.0**
	0.8nm,0.5s,baz=358,slow=9.2,SNR=23 0.8nm,0.5s						
MKAR	**Makanchi Array**	**62.58**	**325**	P	**P**	**15 20 17.9**	**-0.3**
	0.4nm,0.6s,baz=113,slow=8.5,SNR=6.0 0.4nm,0.6s						
BVAR	**Borovoye Array**	**72.33**	**327**	P	**P**	**15 21 20.0**	**+0.3**
	0.7nm,0.7s,baz=116,slow=9.8,SNR=4.0 0.7nm,0.7s						

*IDC **04** 15:15:19.4±1.1,5.°78S×143.°05E,h0km,mb3.8/6, mbtmp3.8/8,ML1.3/1,Error ellipse: s-maj=36.8km s-min=23.9km az=61.0*
ISC 04 15:15:24.3±0.8,6.°0S±0.°1×142.°9E±0.°1,h35km,n9, σ1§59/10,mb3.8/6,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.45**	**129**	Pn	**Pn**	**15 16 43.4**	**+0.4**
	0.6nm,0.3s,baz=308,slow=12,SNR=2.4						
PMG				Sn	**Sn**	**15 17 44.9**	**+0.3**
	0.4nm,0.3s,baz=324,slow=14,SNR=1.6 7.7nm,0.8s						
WRA	**Warramunga Arr**	**16.20**	**210**	Pn	**Pn**	**15 19 06.7**	**-2.7**
	0.1nm,0.3s,baz=29,slow=14,SNR=3.1						
WRA				Sn	Sn	15 21 58.8	-9.3
	0.1nm,0.3s,baz=35,slow=28,SNR=1.7						
WRA				Lg	Lg	15 23 55.5	
	baz=24,slow=27,SNR=3.3						
ASAR	**Alice Springs**	**19.62**	**205**	P	**P**	**15 19 51.1**	**+1.1**
	3.2nm,0.6s,baz=32,slow=10,SNR=26						
ASAR				Lg	Lg	15 25 41.6	
	baz=29,slow=31,SNR=2.4						
MJAR	**Matsushiro Arr**	**42.50**	**354**	P	**P**	**15 23 14.3**	**-2.0**
	0.5nm,0.7s,baz=172,slow=6.5,SNR=1.2 0.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**49.66**	**300**	P	**P**	**15 24 14.7**	**+1.7**
	0.6nm,0.6s,baz=113,slow=6.3,SNR=5.2 0.6nm,0.6s						
MKAR	**Makanchi Array**	**74.89**	**322**	P	**P**	**15 27 02.3**	**+0.7**
	0.6nm,0.7s,baz=106,slow=7.7,SNR=9.7 0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**78.77**	**324**	P	**P**	**15 27 22.5**	**-0.8**
	0.4nm,0.3s,baz=116,slow=4.5,SNR=5.4 0.4nm,0.3s						
BVAR	**Borovoye Array**	**84.34**	**325**	P	**P**	**15 27 53.6**	**+0.8**
	2.7nm,0.8s,baz=109,slow=5.6,SNR=11 2.7nm,0.8s						
ILAR	**Eielson Array**	**87.07**	**24**	P	**P**	**15 28 05.5**	**-0.6**
	0.5nm,0.8s,baz=240,slow=5.8,SNR=5.0 0.5nm,0.8s						

*VAO **04** 15:36:11.6±0.4,31.°36S×71.°73W,h10km,mb4.7*
*SJA **04** 15:36:22.8±0.7,30.°87S×71.°33W,h54km±4km,ML4.6, MW4.6*
*GUC **04** 15:36:23.2±0.7,30.°87S×71.°17W,h58km±2km,ML4.7*
*IDC **04** 15:36:23.5±0.5,30.°87S×71.°10W,h58km±3km,mb4.2/11, mbtmp4.4/15,Error ellipse: s-maj=18.7km s-min=12.8km az=81.0*
*NEIC **04** 15:36:24.3±1.4,30.°89S±0.°05×71.°26W±0.°09,h60km±5km, mb4.7/49,Error ellipse: s-maj=11.4km s-min=6.8km az=101.0*
ISC 04 15:36:23.0±0.4,30.°86S±0.°02×71.°23W±0.°04,h56km±3km, h56km:pP-P,n246,σ1§84/266,mb4.7/33,5C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.39**	**150**		**Pn**	**15 36 34.8**	**+1.0**
CO02	**Combarbal**	**0.39**	**150**	*eP*	**Pn**	**15 36 34.6**	**+0.8**
CO02				*eS*	**Sn**	**15 36 43.4**	**+1.9**
CO02	**Combarbal**	**0.39**	**150**	*eP*	**Pn**	**15 36 35.0**	**+1.2**
CO02				*i* S	**Sn**	**15 36 42.9**	**+1.4**
CO06	**Fray Jorge**	**0.40**	**298**		**Pn**	**15 36 35.3**	**+1.7**
CO06	**Fray Jorge**	**0.40**	**298**	*eP*	**Pn**	**15 36 35.4**	**+1.8**
CO06				*i* S	**Sn**	**15 36 44.0**	**+2.7**
CO06				IAML		15 36 47.3	
	comp=E,81µm,0.2s						
CO03	**El Pedregal**	**0.47**	**87**		**Pn**	**15 36 35.6**	**+1.1**
CO03	**El Pedregal**	**0.47**	**87**	*eP*	**Pn**	**15 36 35.5**	**+1.0**
CO03				*eS*	**Sn**	**15 36 44.5**	**+1.7**
CO03	**El Pedregal**	**0.47**	**87**	*eP*	**Pn**	**15 36 35.3**	**+0.9**
CO03				*i* S	**Sn**	**15 36 43.9**	**+1.1**
CO03				IAML		15 36 45.2	
	comp=N,116µm,0.3s						
GO04	**Tololo Observa**	**0.78**	**29**		**Pn**	**15 36 39.9**	**+1.5**
GO04	**Tololo Observa**	**0.78**	**29**	*eP*	**Pn**	**15 36 39.7**	**+1.4**
GO04				*eS*	**Sn**	**15 36 52.5**	**+3.0**
GO04	**Tololo Observa**	**0.78**	**29**	*eP*	**Pn**	**15 36 39.6**	**+1.2**
GO04				*i* S	**Sn**	**15 36 51.6**	**+2.1**
GO04				IAML		15 36 54.0	
	comp=E,107µm,0.5s						
CO05	**La Serena**	**0.94**	**360**		**Pn**	**15 36 41.4**	**+1.3**
CO05	**La Serena**	**0.94**	**360**	*eP*	**Pn**	**15 36 41.5**	**+1.3**
CO05				*i* S	**Sn**	**15 36 54.8**	**+2.0**
CO05				IAML		15 36 56.4	
	comp=E,16µm,0.8s						
CO01	**Juntas del Tor**	**1.32**	**48**		**Pn**	**15 36 47.0**	**+1.5**
CO01	**Juntas del Tor**	**1.32**	**48**	*eP*	**Pn**	**15 36 47.6**	**+2.2**
CO01				*eS*	**Sn**	**15 37 04.9**	**+2.7**
CO01				IAML		15 37 05.2	
	comp=Z,6µm,0.5s						
CO01	**Juntas del Tor**	**1.32**	**48**	*eP*	**Pn**	**15 36 47.3**	**+1.8**
CO01				*i* S	**Sn**	**15 37 04.7**	**+2.5**
CO01				IAML		15 37 05.6	
	comp=N,10µm,0.1s						
AROD	**Rodeo**	**1.67**	**66**	*eP*	**Pn**	**15 36 53.5**	**+3.3**
VA06	**Catapilco**	**1.69**	**182**		**Pn**	**15 36 51.7**	**+1.4**
VA06	**Catapilco**	**1.69**	**182**	*eP*	**Pn**	**15 36 51.7**	**+1.4**
VA06				*i* S	**Sn**	**15 37 13.4**	**+2.6**
VA06				IAML		15 37 17.6	
	comp=E,17µm,0.4s						
DOCA	**Reserva Natura**	**1.85**	**93**	*eP*	**Pn**	**15 36 55.4**	**+2.6**
DOCA				*eS*	**Sn**	**15 37 19.2**	**+4.0**
DOCA				IAML		15 37 24.3	
	comp=Z,10µm,0.2s						
ACCO	**Cerro Coronel**	**1.89**	**82**	*eP*	**Pn**	**15 36 56.4**	**+3.2**
RTLS	**Leoncito**	**1.90**	**120**	*eP*	**Pn**	**15 36 56.5**	**+3.1**
RTLS				*eS*	**Sn**	**15 37 21.4**	**+5.0**
RTLS				IAML		15 37 26.0	
	comp=Z,6µm,0.2s						
LCO	**Las Campanas**	**1.90**	**14**		**Pn**	**15 36 55.1**	**+1.8**
LCO	**Las Campanas**	**1.90**	**14**	*eP*	**Pn**	**15 36 55.0**	**+1.7**
LCO				IAML		15 37 26.8	
	comp=Z,12µm,0.2s						
ACDV	**Cuesta del Vie**	**1.95**	**70**	*eP*	**Pn**	**15 36 57.5**	**+3.6**
VA03	**San Esteban**	**1.98**	**163**		**Pn**	**15 36 55.6**	**+1.3**
VA03	**San Esteban**	**1.98**	**163**	*eP*	**Pn**	**15 36 56.2**	**+1.9**
VA03				IAML		15 37 26.5	
	comp=Z,4µm,0.6s						
ROCH	**El Roble**	**2.11**	**175**	*eP*	**Pn**	**15 36 58.5**	**+2.3**
ROCH				*i* S	**Sn**	**15 37 24.7**	**+3.3**
ROCH				IAML		15 37 30.6	
	comp=N,7µm,0.5s						
ROC1	**El Roble**	**2.12**	**175**	*eP*	**Pn**	**15 36 57.3**	**+1.0**
ROC1				*eS*	**Sn**	**15 37 13.9**	**-7.7**
AC05	**El Transito**	**2.18**	**23**		**Pn**	**15 36 59.0**	**+1.9**
VA01	**Torpederas**	**2.18**	**189**		**Pn**	**15 36 57.8**	**+0.9**
VA01	**Torpederas**	**2.18**	**189**	*eP*	**Pn**	**15 36 58.0**	**+1.1**
VA01				IAML		15 37 30.6	
	comp=Z,2µm,0.5s						
VA01	**Torpederas**	**2.18**	**189**	*eP*	**Pn**	**15 36 57.6**	**+0.6**
VA01				*i* S	**Sn**	**15 37 25.9**	**+3.1**
VA01				IAML		15 37 30.8	
	comp=E,3µm,0.3s						
PEL	**Peldehue**	**2.32**	**169**		**Pn**	**15 37 00.4**	**+1.5**
PEL	**Peldehue**	**2.32**	**169**	*eP*	**Pn**	**15 37 00.8**	**+1.8**
PEL	**Peldehue**	**2.32**	**169**	*eP*	**Pn**	**15 37 00.1**	**+1.2**
MT02	**Curacav**	**2.39**	**178**		**Pn**	**15 37 01.0**	**+1.3**
MT02	**Curacav**	**2.39**	**178**	*eP*	**Pn**	**15 37 01.3**	**+1.5**
MT02				IAML		15 37 36.9	
	comp=Z,2µm,0.5s						
MT02	**Curacav**	**2.39**	**178**	*eP*	**Pn**	**15 37 01.1**	**+1.3**
MT02				*i* S	**Sn**	**15 37 29.9**	**+2.0**
RTLL	**Cerro Villicun**	**2.41**	**102**	*eP*	**Pn**	**15 37 02.8**	**+2.7**
RTLL				IAML		15 37 39.3	
	comp=Z,3µm,0.4s						
MT10	**Hacienda Santa**	**2.48**	**166**	*eP*	**Pn**	**15 37 02.7**	**+1.6**
MT10				*i* S	**Sn**	**15 37 33.6**	**+3.4**
MT10				IAML		15 37 39.4	
	comp=E,7µm,0.3s						
MT05	**Renca**	**2.56**	**171**		**Pn**	**15 37 03.3**	**+1.2**
MT05	**Renca**	**2.56**	**171**	*eP*	**Pn**	**15 37 04.0**	**+1.8**
MT05				IAML		15 37 50.5	
	comp=Z,3µm,0.3s						
MT05	**Renca**	**2.56**	**171**	*eP*	**Pn**	**15 37 03.9**	**+1.8**
MT05				*i* S	**Sn**	**15 37 35.3**	**+3.2**
MT05				IAML		15 37 43.7	
	comp=E,8µm,0.5s						
FCH	**Farellones**	**2.58**	**162**	*eP*	**Pn**	**15 37 05.0**	**+2.2**
FCH				*i* S	**Sn**	**15 37 36.9**	**+3.7**
FCH				IAML		15 37 44.0	
	comp=E,3µm,0.4s						
MT14	**Cerro Cal¡n**	**2.59**	**167**	*eP*	**Pn**	**15 37 04.4**	**+1.8**
MT14				*i* S	**Sn**	**15 37 36.2**	**+3.1**
MT14				IAML		15 37 55.6	
	comp=N,5µm,0.6s						
MT16	**CCHEN**	**2.63**	**167**		**Pn**	**15 37 04.5**	**+1.4**
AC04	**Llanos de Chal**	**2.65**	**3**	Pn	**Pn**	**15 37 05.5**	**+2.1**
AC04	**Llanos de Chal**	**2.65**	**3**	*eP*	**Pn**	**15 37 05.5**	**+2.1**
AC04				IAML		15 37 49.3	
	comp=Z,2µm,1.0s						
ASAL	**Salagasta**	**2.67**	**131**	*eP*	**Pn**	**15 37 07.5**	**+3.7**
ASAL				IAML		15 38 02.3	
	comp=Z,2µm,1.0s						
MT03	**Universidad Ad**	**2.69**	**167**		**Pn**	**15 37 05.6**	**+1.5**
MT03	**Universidad Ad**	**2.69**	**167**	*eP*	**Pn**	**15 37 06.1**	**+2.1**
MT03				*eS*	Sn	15 37 23.5	-12
MT03				IAML		15 37 54.0	
	comp=Z,3µm,0.8s						
MT04	**Ro Olivares**	**2.70**	**160**	*eP*	**Pn**	**15 37 07.1**	**+2.9**
MT04				*i* S	**Sn**	**15 37 39.5**	**+3.7**
MT04				IAML		15 37 46.9	
	comp=E,3µm,0.2s						
ARCO	**CERRO ARCO**	**2.78**	**136**	*eP*	Pn	15 37 09.7	+4.4
ARCO				IAML		15 37 53.4	
	comp=Z,2µm,1.6s						
VA05	**Santo Domingo**	**2.81**	**187**		**Pn**	**15 37 06.0**	**+0.6**
MT09	**Talagante**	**2.91**	**176**		**Pn**	**15 37 08.3**	**+1.3**
MT09	**Talagante**	**2.91**	**176**	*eP*	**Pn**	**15 37 08.6**	**+1.6**
MT09				*i* S	**Sn**	**15 37 42.7**	**+1.8**
MT09				IAML		15 37 56.8	
	comp=N,3µm,0.3s						
MT12	**Pirque**	**2.92**	**169**	*eP*	**Pn**	**15 37 08.9**	**+1.8**
MT12				*i* S	**Sn**	**15 37 43.6**	**+2.6**
MT13	**San Alfonso**	**2.98**	**165**		**Pn**	**15 37 10.0**	**+2.0**
MT13	**San Alfonso**	**2.98**	**165**	*eP*	**Pn**	**15 37 10.9**	**+2.9**
MT13				*i* S	**Sn**	**15 37 47.5**	**+4.8**
MT13				IAML		15 37 54.3	
	comp=E,3µm,0.4s						
AAGR	**Agrelo**	**3.01**	**138**	*eP*	**Pn**	**15 37 12.0**	**+3.6**
AAGR				*eS*	Sn	15 37 32.4	-11
AAGR				IAML		15 37 38.1	
	comp=Z,1µm,0.8s						
LMEL	**Las Melosas**	**3.10**	**164**	*eP*	**Pn**	**15 37 12.2**	**+2.5**
LMEL				*i* S	**Sn**	**15 37 49.0**	**+3.4**
LMEL				IAML		15 37 54.9	
	comp=N,3µm,0.2s						
BO04	**La Punta**	**3.16**	**171**		**Pn**	**15 37 11.8**	**+1.4**
BO04	**La Punta**	**3.16**	**171**	*eP*	**Pn**	**15 37 12.1**	**+1.7**
BO04				*i* S	**Sn**	**15 37 48.3**	**+1.4**
BO04				IAML		15 38 01.0	
	comp=E,2µm,0.4s						
AVFE	**Valle Fertil**	**3.26**	**87**	*eP*	**Pn**	**15 37 13.8**	**+2.1**
AVFE				IAML		15 38 00.9	
	comp=Z,1µm,0.3s						
GO03	**Copiap**	**3.37**	**15**	Pn	**Pn**	**15 37 14.7**	**+1.4**
GO03	**Copiap**	**3.37**	**15**	*eP*	**Pn**	**15 37 15.4**	**+2.1**
GO03	**Copiap**	**3.37**	**15**	*eP*	**Pn**	**15 37 15.0**	**+1.7**
GO03				*i* S	**Sn**	**15 37 55.0**	**+2.9**
VCA	**Vinchina**	**3.38**	**52**	*eP*	Pn	15 37 17.8	+4.4
VCA				IAML		15 38 07.9	
	comp=Z,2µm,0.6s						
AVIZ	**Vizcacheras**	**3.48**	**139**	*eP*	**Pn**	**15 37 17.4**	**+2.7**
BO01	**Tunca**	**3.52**	**178**	Pn	**Pn**	**15 37 16.3**	**+1.1**
BO01	**Tunca**	**3.52**	**178**	*eP*	**Pn**	**15 37 16.7**	**+1.4**
BO01				IAML		15 38 08.6	
	comp=Z,580nm,0.9s						
ACHE	**Chepes**	**3.93**	**96**	*eP*	**Pn**	**15 37 23.1**	**+2.0**
BO02	**Sierra Bellavi**	**3.94**	**175**	*eP*	**Pn**	**15 37 23.7**	**+2.7**
BO02				IAML		15 38 24.4	
	comp=Z,1µm,0.9s						
ACLC	**CERRO LA CRUZ**	**3.97**	**70**	*eP*	**Pn**	**15 37 24.2**	**+2.6**
ACLC				*eS*	**Sn**	**15 38 09.8**	**+2.7**
ACLC				IAML		15 38 16.8	
	comp=Z,2µm,0.9s						
APLL	**PUNTA DE LOS L**	**4.08**	**85**	*eP*	**Pn**	**15 37 25.0**	**+2.0**
GO05	**Huala**	**4.18**	**188**	Pn	**Pn**	**15 37 24.1**	**-0.1**
GO05	**Huala**	**4.18**	**188**	*eP*	**Pn**	**15 37 24.4**	**+0.1**
AC02	**Maricunga**	**4.42**	**25**	Pn	**Pn**	**15 37 29.9**	**+1.9**
AC02	**Maricunga**	**4.42**	**25**	*eP*	**Pn**	**15 37 30.1**	**+2.1**
AC02				IAML		15 38 40.1	
	comp=Z,865nm,0.7s						
AC01	**Pan de Azucar**	**4.73**	**7**	*eP*	**Pn**	**15 37 32.0**	**+0.2**
AC01				IAML		15 38 45.1	
	comp=Z,1µm,0.8s						
**H03

SIV	**San Ignacio**	**17.48**	**34**	P	**P**	**15 40 23.0**	**-0.5**
	comp=Z,19nm,0.8s,baz=210,slow=9.4,SNR=81						
CNLB	**Canela**	**17.70**	**90**	*eP*	**Pn**	**15 40 22.9**	**-2.8**
PANT	**Pantanal (Braz**	**17.74**	**52**	*eP*	**P**	**15 40 26.1**	**-0.2**
PTGB	**Pitanga**	**18.02**	**75**	*eP*	**Pn**	**15 40 29.3**	**-0.4**
TRCB	**Terra Rica**	**18.42**	**69**	*eP*	**Pn**	**15 40 34.3**	**-0.2**
RPRD	**Ribas do Rio P**	**18.86**	**61**	*eP*	**Pn**	**15 40 40.5**	**+0.7**
RVDE	**Rio Verde (Bra**	**18.87**	**55**	*eP*	**Pn**	**15 40 39.7**	**-0.2**
PTLB	**Pontes e Lacer**	**18.92**	**39**		**Pn**	**15 40 39.7**	**-0.8**
PTLB	**Pontes e Lacer**	**18.92**	**39**	*eP*	**Pn**	**15 40 39.9**	**-0.6**
VBST	**Vila Bela da S**	**19.24**	**35**	*eP*	**P**	**15 40 42.4**	**-0.4**
TER01	**Tubaro-SC**	**19.34**	**89**	*eP*	**Pn**	**15 40 43.3**	**-2.1**
LDASE	**Londrina, Braz**	**19.37**	**72**	*eP*	**Pn**	**15 40 44.0**	**-1.9**
POCN	**Pocone**	**19.39**	**46**	*eP*	**Pn**	**15 40 45.3**	**-0.7**
PP1B	**Ponte de Pedra**	**19.88**	**52**	*eP*	**Pn**	**15 40 50.1**	**-1.8**
PCMB	**Pacaembu**	**20.12**	**68**	*eP*	**Pn**	**15 40 52.2**	**-2.4**
VILB	**Vilhena**	**20.53**	**32**	P	**P**	**15 40 56.9**	**0.0**
VILB				IAmb	IAmb	15 40 58.3	
	comp=Z,40nm,0.8s						
VILB	**Vilhena**	**20.53**	**32**	*eP*	**P**	**15 40 56.8**	**0.0**
SALV	**Santo Antonio**	**20.58**	**47**	*eP*	**P**	**15 40 57.2**	**-0.2**
FRTB	**Fartura**	**20.67**	**74**	*eP*	**P**	**15 40 58.1**	**-0.3**
ETMB	**Extrema**	**21.45**	**14**	P	**P**	**15 41 07.6**	**+0.8**
ETMB				IAmb	IAmb	15 41 12.0	
	comp=Z,48nm,1.1s						
ETMB	**Extrema**	**21.45**	**14**	*eP*	**P**	**15 41 07.6**	**+0.8**
NBRS	**Nobres**	**21.74**	**44**	*eP*	**P**	**15 41 09.3**	**-0.5**
ITRB	**Iturama**	**21.86**	**64**	*eP*	**P**	**15 41 10.3**	**-0.8**
JIR01	**Jirau**	**22.05**	**17**	*eP*	**P**	**15 41 13.5**	**+0.4**
PET01	**Itanhaem-SP**	**22.20**	**79**	*eP*	**P**	**15 41 13.2**	**-1.5**
SPB	**Sao Paulo**	**22.34**	**77**	P	**P**	**15 41 16.1**	**-0.2**
SPB				IAmb	IAmb	15 41 18.8	
	comp=Z,27nm,0.9s						
SPB	**Sao Paulo**	**22.34**	**77**	*eP*	**P**	**15 41 16.0**	**-0.2**
DVLD	**Doverlandia**	**22.42**	**55**	*eP*	**P**	**15 41 16.1**	**-1.2**
RCLB	**Rio Claro- Sao**	**22.76**	**74**	*eP*	**P**	**15 41 19.2**	**-1.6**
VAO	**Valinhos**	**22.97**	**76**	*eP*	**P**	**15 41 22.1**	**-0.9**
CZSB	**Cruzeiro do Su**	**23.05**	**356**	P	**P**	**15 41 24.8**	**+1.1**
CZSB				IAmb	IAmb	15 41 51.1	
	comp=Z,41nm,1.2s						
CZSB	**Cruzeiro do Su**	**23.05**	**356**	*eP*	**P**	**15 41 22.4**	**-1.4**
SAML	**Samuel**	**23.06**	**21**	P	**P**	**15 41 23.4**	**-0.3**
SAML	**Samuel**	**23.06**	**21**	*eP*	**P**	**15 41 24.2**	**+0.4**
ARAG	**Araguaiana, MT**	**23.30**	**54**	*eP*	**P**	**15 41 24.4**	**-1.8**
PDRB	**Porto dos Gac**	**23.39**	**38**	*eP*	**P**	**15 41 26.9**	**-0.1**
PARB	**Paraibuna**	**23.96**	**78**	*eP*	**P**	**15 41 31.2**	**-1.1**
SLP01	**Ubatuba-SP**	**24.36**	**78**	*eP*	**P**	**15 41 35.0**	**-1.0**
IPMB	**Ipameri, GO**	**24.51**	**64**	*eP*	**P**	**15 41 36.3**	**-1.1**
BSCB	**Bom Sucesso**	**25.69**	**74**	*eP*	**P**	**15 41 47.2**	**-0.8**
BDFB	**Brasilia**	**26.08**	**60**	P	**P**	**15 41 51.0**	**-0.6**
BDFB				IAmb	IAmb	15 41 52.3	
	comp=Z,26nm,0.8s						
BDFB	**Brasilia**	**26.08**	**60**	P	**P**	**15 41 51.1**	**-0.6**
	comp=Z,28nm,0.8s,baz=227,slow=6.8,SNR=44						
	comp=Z,28nm,0.8s						
BDFB	**Brasilia**	**26.08**	**60**	*eP*	**P**	**15 41 51.1**	**-0.5**
SNDB	**Serra Nova Dou**	**26.33**	**49**	*eP*	**P**	**15 41 53.9**	**+0.1**
TBTG	**Tabatinga, AM**	**26.56**	**3**	*eP*	**P**	**15 41 55.1**	**-0.7**
DUB01	**Friburgo-RJ**	**27.21**	**78**	*eP*	**P**	**15 42 01.1**	**-0.7**
CAM01	**Campos-RJ**	**27.92**	**78**	*eP*	**P**	**15 42 07.0**	**-1.0**
DIAM	**Diamantina, MG**	**27.93**	**70**	*eP*	**P**	**15 42 08.0**	**-0.2**
NPGB	**Novo Progresso**	**27.97**	**35**	*eP*	**P**	**15 42 08.7**	**+0.1**
ALF01	**Guarapari-ES**	**29.23**	**77**	*eP*	**P**	**15 42 17.5**	**-2.2**
JANB	**Januaria**	**29.25**	**64**	*eP*	**P**	**15 42 19.3**	**-0.6**
SDBA	**SAO DESIDERIO**	**30.47**	**59**	*eP*	**P**	**15 42 30.4**	**-0.3**
SMTB	**Santa Maria do**	**31.07**	**50**	*eP*	**P**	**15 42 35.9**	**-0.1**
CMC01	**Camacan, BA**	**32.85**	**69**	*eP*	**P**	**15 42 50.7**	**-0.9**
GDU01	**Guandu, BA**	**33.73**	**67**	*eP*	**P**	**15 42 57.8**	**-1.5**
BOAV	**Boa Vista**	**34.61**	**19**	IAmb	IAmb	15 43 07.5	
	comp=Z,13nm,1.2s						
BOAV	**Boa Vista**	**34.61**	**19**	*eP*	**P**	**15 43 05.7**	**-1.1**
NBPN	**Ponto Novo - B**	**34.99**	**62**	*eP*	**P**	**15 43 09.2**	**-0.9**
MCPB	**Macapa, AP**	**35.38**	**35**	*eP*	**P**	**15 43 12.7**	**-0.7**
NBLA	**Lagarto - SE**	**36.75**	**65**	*eP*	**P**	**15 43 24.3**	**-1.0**
NBAN	**Anadia - AL**	**38.73**	**65**	*eP*	**P**	**15 43 40.7**	**-1.3**
MLPR	**Magueyes Islan**	**48.72**	**5**	P	**P**	**15 45 02.0**	**+0.1**
VNA2	**Neumayer--Watz**	**52.65**	**158**	⇑P	**P**	**15 45 31.6**	**+0.6**
	comp=Z,5.2nm,0.6s,baz=288,slow=6.6						
VNA2				⇑pP	**pP**	**15 45 46.6**	**+0.3**
	comp=Z,7.1nm,0.5s,baz=289,slow=7.4						
VNA2				⇓sP	**sP**	**15 45 53.4**	**+0.5**
	comp=Z,5.6nm,0.5s,baz=303,slow=5.9						
SNAA	**Sanae**	**54.24**	**159**	P	**P**	**15 45 42.9**	**+0.2**
SNAA	**Sanae**	**54.24**	**159**	⇓P	**P**	**15 45 43.5**	**+0.7**
	comp=Z,212nm,0.8s						
SNAA	**Sanae**	**54.24**	**159**	P	**P**	**15 45 43.0**	**+0.2**
	comp=Z,9.6nm,0.9s,baz=289,slow=6.2,SNR=9.7						
SNAA				pP	**pP**	**15 45 58.3**	**+0.1**
	comp=Z,9.2nm,0.8s,baz=279,slow=8.3,SNR=5.8						
	comp=Z,9.6nm,0.9s						
TROLL	**Troll, Antarti**	**55.95**	**159**	⇑P	**P**	**15 45 55.6**	**+0.4**
	comp=Z,231nm,0.7s						
TROLL				⇑pP	**pP**	**15 46 11.7**	**+1.1**
TROLL				⇑sP	**sP**	**15 46 17.4**	**+0.3**
QSPA	**South Pole Qui**	**59.37**	**180**	P	**P**	**15 46 20.1**	**+0.9**
QSPA				pP	**pP**	**15 46 34.7**	**-0.1**
	comp=Z,7.6nm,1.0s,baz=161,slow=2.8,SNR=9.3						
	comp=Z,6.5nm,1.0s						
H06E1	**SOCORRO T-PHAS**	**62.38**	**317**	T	T	16 54 25.6	
833A	**Chaparral WMA,**	**64.69**	**333**	P	**P**	**15 46 56.6**	**+1.4**
833A				IAmb	IAmb	15 46 58.7	
	comp=Z,10nm,0.9s						
BRDY	**Brady**	**67.19**	**334**	P	**P**	**15 47 11.9**	**+0.7**
SAND	**Sanderson**	**67.24**	**331**	IAmb	IAmb	15 47 13.9	
	comp=Z,5.9nm,1.1s						
TXAR	**Lajitas Array**	**67.36**	**330**	P	**P**	**15 47 13.4**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=155,slow=9.0,SNR=9.7						
TXAR				pP	**pP**	**15 47 29.7**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=153,slow=7.0,SNR=4.8						
	comp=Z,1.0nm,0.8s						
PLPT	**Palo Pinto**	**68.32**	**336**	P	**P**	**15 47 19.3**	**+1.1**
PLPT				IAmb	IAmb	15 47 20.4	
	comp=Z,6.6nm,0.7s						
LCAR	**Lake Charles**	**69.16**	**343**	IAmb	IAmb	15 47 24.9	
	comp=Z,7.2nm,0.7s						
HHAR	**Hobbs**	**70.11**	**341**	IAmb	IAmb	15 47 31.0	
	comp=Z,9.6nm,0.9s						
TUL3	**Leonard**	**70.31**	**339**	IAmb	IAmb	15 47 32.6	
	comp=Z,9.7nm,0.9s						
MSTX	**Muleshoe**	**71.02**	**333**	IAmb	IAmb	15 47 37.5	
	comp=Z,8.5nm,0.9s						
CCM	**Cathedral Cave**	**71.06**	**343**	P	**P**	**15 47 35.4**	**+0.4**
CCM				IAmb	IAmb	15 47 38.2	
	comp=Z,11nm,1.1s						
S39A	**Bolivar**	**71.26**	**342**	IAmb	IAmb	15 47 38.5	
	comp=Z,7.5nm,0.9s						
DBIC	**Dimbokro**	**73.54**	**72**	P	**P**	**15 47 50.2**	**-0.1**
	comp=Z,6.3nm,0.6s,baz=228,slow=4.3,SNR=11						
	comp=Z,6.3nm,0.6s						
T25A	**Trinidad**	**74.44**	**333**	IAmb	IAmb	15 47 58.5	
	comp=Z,6.4nm,0.9s						
Q24A	**Divide**	**76.31**	**333**	IAmb	IAmb	15 48 10.0	
	comp=Z,8.2nm,1.1s						
ECSD	**EROS Data Cent**	**77.79**	**341**	IAmb	IAmb	15 48 16.1	
	comp=Z,9.7nm,0.9s						
F36A	**Milaca**	**79.00**	**344**	IAmb	IAmb	15 48 21.8	
	comp=Z,5.5nm,0.8s						
P17A	**Butcher Ranch,**	**79.03**	**330**	IAmb	IAmb	15 48 53.9	
	comp=Z,8.4nm,1.5s						
RSSD	**Black Hills**	**80.42**	**337**	P	**P**	**15 48 29.4**	**+0.8**
BOSA	**Boshof**	**80.92**	**118**	P	**P**	**15 48 30.9**	**-0.8**
	comp=Z,1.6nm,0.4s,baz=246,slow=3.9,SNR=6.7						
BOSA				pP	**pP**	**15 48 47.6**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=207,slow=1.0,SNR=2.5						
	comp=Z,1.6nm,0.4s						
PDAR	**Pinedale Array**	**81.29**	**332**	P	**P**	**15 48 33.2**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=131,slow=4.1,SNR=4.2						
	comp=Z,0.6nm,0.9s						
NVAR	**Mina Array Bea**	**81.72**	**324**	P	**P**	**15 48 37.2**	**+1.5**
	comp=Z,1.4nm,0.9s,baz=152,slow=5.8,SNR=8.9						
NVAR				pP	**pP**	**15 48 52.5**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=155,slow=5.4,SNR=4.4						
	comp=Z,1.4nm,0.9s						
AGMN	**Agassiz Nation**	**81.84**	**344**	IAmb	IAmb	15 48 37.2	
	comp=Z,8.5nm,1.1s						
TOA0	**Torodi Ar. Sit**	**82.50**	**70**	P	**P**	**15 48 39.8**	**-0.2**
TORD	**Torodi Ar. Bea**	**82.50**	**70**	P	**P**	**15 48 39.8**	**-0.2**
TORD	**Torodi Ar. Bea**	**82.50**	**70**	P	**P**	**15 48 40.1**	**+0.2**
	comp=Z,9.8nm,0.7s,baz=278,slow=4.2,SNR=60						
	comp=Z,9.8nm,0.7s						
ULM	**Lac du Bonnet**	**83.66**	**344**	IAmb	IAmb	15 48 46.2	
	comp=Z,6.1nm,0.9s						
ULM	**Lac du Bonnet**	**83.66**	**344**	P	**P**	**15 48 45.3**	**+0.2**
	comp=Z,4.3nm,0.8s,baz=173,slow=3.8,SNR=11						
ULM				pP	**pP**	**15 49 01.1**	**-0.1**
	comp=Z,3.9nm,0.9s,baz=164,slow=4.1,SNR=5.1						
	comp=Z,4.3nm,0.8s						
J08A	**Circle Bar Ran**	**85.61**	**328**	IAmb	IAmb	15 48 57.9	
	comp=Z,5.1nm,0.9s						
PINE	**Pine Mountain**	**87.09**	**326**	IAmb	IAmb	15 49 05.4	
	comp=Z,6.7nm,0.9s						
LSZ	**Lusaka**	**90.12**	**108**	P	**P**	**15 49 18.1**	**+0.5**
YKA	**Yellowknife Ar**	**99.31**	**341**	P	**Pdif**	**15 49 58.1**	**-0.2**
	comp=Z,0.3nm,0.9s,baz=133,slow=4.8,SNR=3.7						
YKA				pP	**pP**	**15 50 14.3**	**-0.2**
	comp=Z,0.1nm,0.6s,baz=251,slow=11,SNR=3.2						
	comp=Z,0.3nm,0.9s						
ASAR	**Alice Springs**	**120.67**	**207**	PKP	**PKPdf**	**15 55 07.8**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=167,slow=3.0,SNR=5.9						
ASAR				pPKP	**pPKPdf**	**15 55 25.6**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=126,slow=1.6,SNR=3.4						
WRA	**Warramunga Arr**	**123.83**	**209**	PKP	**PKPdf**	**15 55 14.7**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=160,slow=1.6,SNR=19						
WRA				pPKP	**pPKPdf**	**15 55 31.9**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=155,slow=1.6,SNR=6.5						
H11S2	**WAKE ISLAND Hy**	**126.45**	**271**	T	T	18 14 22.1	
	baz=116,slow=75,SNR=208						
H11S1	**WAKE ISLAND Hy**	**126.46**	**271**	T	T	18 14 24.5	
	baz=116,slow=75,SNR=194						
H11S3	**WAKE ISLAND Hy**	**126.47**	**271**	T	T	18 14 23.2	
	baz=116,slow=75,SNR=185						
H11N3	**WAKE ISLAND Hy**	**126.78**	**272**	T	T	18 14 44.8	
	baz=116,slow=75,SNR=38						
H11N1	**WAKE ISLAND Hy**	**126.80**	**272**	T	T	18 14 47.0	
	baz=116,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hy**	**126.80**	**272**	T	T	18 14 46.5	
	baz=116,slow=75,SNR=96						
BVAR	**Borovoye Array**	**144.49**	**40**	PKP	**PKPdf**	**15 55 52.1**	**-0.5**
	comp=Z,2.0nm,0.5s,baz=295,slow=3.9,SNR=15						
BVAR				pPKP	**pPKPdf**	**15 56 09.1**	**-0.4**
	comp=Z,2.7nm,0.7s,baz=310,slow=2.6,SNR=6.5						
EKS2	**Erkin-Say**	**149.80**	**57**	P	**PKiKP**	**15 56 07.8**	**+0.1**
	SNR=6.0						
KURBB	**Kurchatov Arra**	**150.08**	**40**	PKPbc	**PKiKP**	**15 56 07.6**	**-0.2**
	comp=Z,0.9nm,0.2s,baz=305,slow=3.3,SNR=9.1						
KURBB				pPKPbc	**pPKPbc**	**15 56 24.1**	**+0.3**
	comp=Z,3.5nm,0.9s,baz=302,slow=3.1,SNR=6.6						
USP	**Ospenovka**	**150.19**	**56**	P	**PKiKP**	**15 56 08.4**	**0.0**
	SNR=6.9						
AAK	**Ala-Archa**	**150.32**	**57**	P	**PKiKP**	**15 56 09.6**	**+0.7**
	SNR=7.5						
UCH	**Uchtor**	**150.42**	**58**	P	**PKiKP**	**15 56 09.6**	**+0.1**
	SNR=7.6						
TKM2	**Tokmak 2**	**151.05**	**56**	P	**PKiKP**	**15 56 10.7**	**+0.3**
	SNR=5.2						
ZALV	**Zalesovo Beam**	**151.19**	**30**	PKPbc	**PKPbc**	**15 56 09.7**	**+0.2**
	comp=Z,3.9nm,0.5s,baz=298,slow=3.2,SNR=27						
ZALV				PKPab	**PKPab**	**15 56 16.6**	**-0.9**
	comp=Z,3.5nm,0.7s,baz=302,slow=2.6,SNR=7.6						
ZALV				pPKPbc	**pPKPbc**	**15 56 27.6**	**+1.3**
	comp=Z,9.0nm,0.8s,baz=298,slow=3.2,SNR=11						
KSH	**Kashi**	**151.96**	**63**	PKP	**PKiKP**	**15 56 12.0**	**-0.3**
KSH				pPKP	PKPab	15 56 21.2	-0.2
KSH				sPKP		15 56 28.9	
MKAR	**Makanchi Array**	**154.12**	**45**	PKPbc	**PKiKP**	**15 56 16.5**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=302,slow=2.3,SNR=13						
MKAR				PKPab	**PKPab**	**15 56 29.7**	**-0.4**
	comp=Z,3.2nm,0.9s,baz=287,slow=3.6,SNR=11						
MKAR				pPKPab	**pPKPab**	**15 56 47.9**	**+1.2**
	comp=Z,2.0nm,0.8s,baz=284,slow=4.9,SNR=4.6						
WMQ	**Urumqi**	**158.91**	**46**	*eP*	**PKPdf**	**15 56 15.5**	**+1.0**
HHC	**Hu-ho-hao-te**	**169.78**	**348**	*eP*	**PKPdf**	**15 56 27.8**	**+3.5**
NJ2	**Nanjing**	**171.30**	**280**	*eP*	**PKPdf**	**15 56 25.9**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,11nm,0.8s						

*IDC **04** 15:41:11.7±0.6, 4.°11N×127.°06E, h0km, mb4.1/16, mbtmp4.1/16, MS3.6/3, Error ellipse: s-maj=34.9km s-min=14.7km az=69.0*
*DJA **04** 15:41:15.0±1.0, 4.°7N±10.°×12.°7E±.°, h10km, M4.3/12, mB5.5/2, mb4.5/12, MLv4.3/11, Mw(mB)4.9/2*
*NEIC **04** 15:41:19.7±1.2, 4.°01N±0.°07×126.°91E±0.°07, h52km±8km, mb4.4/25, Error ellipse: s-maj=12.8km s-min=4.9km az=134.0*

ISC 04 15:41:17.5±0.5, 4.°11N±0.°06×127.°00E±0.°08, h36km, n67, σt 1s15/63, mb4.4/27, MS3.6/3, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.53**	**254**	P	**Pn**	**15 41 41.7**	**-0.6**
DAV	**Davao City (W)**	**3.26**	**334**	Pn	Pn	15 42 10.3	+4.2
	42nm,0.3s,baz=160,slow=0.6,SNR=2.0						
DAV				Sn	Sn	15 42 51.7	+8.0
	35nm,0.3s,baz=106,slow=19,SNR=3.7						
TNTI	**Ternate**	**3.34**	**174**	Pn	**Pn**	**15 42 08.1**	**+0.8**
TNTI	**Ternate**	**3.34**	**174**	P	**Pn**	**15 42 08.5**	**+1.3**
KMSI	**Cibinong**	**4.63**	**221**	P	Pn	15 42 38.3	+13
LBMI	**Labuha**	**4.75**	**174**	P	**Pn**	**15 42 26.6**	**0.0**
GTOI	**Gorontalo**	**5.28**	**229**	P	**Pn**	**15 42 35.4**	**+1.6**
	14nm,0.9s,0.1nm						
SANI	**Sanana**	**6.21**	**189**	P	**Pn**	**15 42 46.1**	**-0.5**
	16nm,1.1s,0.1nm						
SWI	**Sorong**	**6.52**	**139**	P	**Pn**	**15 42 51.9**	**+0.9**
	27nm,0.8s,0.1nm						
LUWI	**Luwuk**	**6.64**	**220**	P	**Pn**	**15 42 55.1**	**+2.5**
	108nm,0.9s,1μm0.4nm						
TOLI2	**Tolitoli**	**6.89**	**245**	Pn	**Pn**	**15 42 56.3**	**+0.3**
NLAI	**Namlea**	**7.30**	**179**	P	**Pn**	**15 43 02.6**	**+0.9**
	19nm,0.6s,6μm0.2nm						
FAKI	**Fak Fak**	**8.73**	**143**	P	**Pn**	**15 43 21.9**	**+0.5**
	19nm,1.1s						
TTSI	**Tana Toraja**	**10.10**	**225**	P	Pn	15 43 49.4	+9.3
TGY	**Tagaytay City**	**11.59**	**329**	LR	LR	15 48 31.2	
	comp=Z,374nm,20.6s,baz=116,slow=38						
EDFI	**Ende, Flores**	**13.83**	**203**	P	**Pn**	**15 44 32.8**	**+1.5**
	17nm,0.7s						
SBUM	**Sibu**	**14.85**	**264**	Pn	**Pn**	**15 44 45.5**	**+0.6**
PLAI	**Plampang**	**15.81**	**216**	P	**Pn**	**15 44 58.4**	**+0.9**
	41nm,0.8s						
TWSI	**Taliwang, Sumb**	**16.27**	**218**	P	**P**	**15 45 05.3**	**-0.8**
	47nm,0.8s						
SRBI	**Singaraja**	**16.89**	**224**	P	**P**	**15 45 13.2**	**+0.3**
	28nm,1.0s						
MTN	**Manton Dam**	**17.34**	**166**	Pn	**Pn**	**15 45 14.8**	**-2.1**
MTN				IAmb	IAmb	15 45 32.7	
	comp=Z,33nm,1.4s						
GMJI	**Gumukmas**	**18.28**	**228**	P	**Pn**	**15 45 30.3**	**+1.8**
KNRA	**Kununurra**	**19.74**	**175**	P	**P**	**15 45 44.1**	**-0.2**
KNRA				IAmb	IAmb	15 45 49.8	
	comp=Z,42nm,1.4s						
FITZ	**Fitzroy Crossi**	**22.11**	**183**	P	**P**	**15 46 08.3**	**-1.6**
LEM	**Lembang**	**22.19**	**241**	LR	LR	15 57 14.5	
	comp=Z,194nm,18.5s,baz=26,slow=43						
UBPT	**Khong Chiam**	**23.92**	**299**		**P**	**15 46 26.8**	**-1.5**
UBPT				IAmb	IAmb	15 46 28.5	
	comp=Z,16nm,1.2s						
WB0	**Warramunga Arr**	**24.82**	**163**	P	**P**	**15 46 35.8**	**-0.7**
WB0				IAmb	IAmb	15 46 58.4	
	comp=Z,13nm,0.9s						
WRAB	**Tennant Creek**	**24.96**	**163**	P	**P**	**15 46 37.1**	**-0.7**
WRAB				IAmb	IAmb	15 46 42.4	
	comp=Z,14nm,0.9s						
WRA	**Warramunga Arr**	**24.97**	**163**	P	**P**	**15 46 36.4**	**-1.5**
WRA	**Warramunga Arr**	**24.97**	**163**	P	**P**	**15 46 37.0**	**-0.9**
	comp=Z,7.4nm,0.8s,baz=344,slow=11,SNR=23						
	comp=Z,7.4nm,0.8s						
WB2	**Warramunga Arr**	**24.97**	**163**	P	**P**	**15 46 36.7**	**-1.2**
WB2				IAmb	IAmb	15 46 42.5	
	comp=Z,13nm,0.9s						
ASAR	**Alice Springs**	**28.42**	**167**	P	**P**	**15 47 09.1**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=342,slow=6.8,SNR=13						
ASAR				PcP	**PcP**	**15 50 20.2**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=346,slow=3.0,SNR=1.9						
	comp=Z,0.5nm,0.6s						
PHRA	**Phrae**	**29.82**	**301**	P	**P**	**15 47 22.0**	**+0.6**
CMAR	**Chiang Mai Arr**	**30.91**	**300**	P	**P**	**15 47 30.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**30.91**	**300**	P	**P**	**15 47 31.9**	**+0.8**
	comp=Z,3.0nm,0.8s,baz=114,slow=6.9,SNR=24						
CMAR				LR	LR	15 59 09.5	
	comp=Z,59nm,21.4s,baz=230,slow=35						
	comp=Z,3.0nm,0.8s						
CHTO	**Chiang Mai**	**31.06**	**300**	P	**P**	**15 47 32.7**	**+0.3**
CHTO				IAmb	IAmb	15 47 34.4	
	comp=Z,5.8nm,0.9s						
PZH	**PanZhiHua**	**32.86**	**315**	P	**P**	**15 47 50.1**	**+1.8**
PZH				PKP		15 56 26.5	
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KSRS	**Korea Array**	**33.19**	**1**	P	**P**	**15 47 48.3**	**-2.5**
	comp=Z,1.7nm,0.9s,baz=161,slow=15,SNR=1.4						
	comp=Z,1.7nm,0.9s						
STKA	**Stephens Creek**	**38.39**	**160**	P	**P**	**15 48 35.9**	**+0.4**
STKA	**Stephens Creek**	**38.39**	**160**	P	**P**	**15 48 33.6**	**-1.8**
	comp=Z,1.1nm,0.6s,baz=312,slow=13,SNR=3.2						
	comp=Z,1.1nm,0.6s						
HHC	**Hu-ho-hao-te**	**39.12**	**341**	*eP*	**P**	**15 48 45.6**	**+4.0**
HHC				pP	sP	15 48 58.0	+1.9
HHC				eS	S	15 54 49.3	+10
HHC				sS	sS	15 54 59.4	+4.3
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,5.7s						
HHC				LR	LR		
	comp=N,150nm,12.8s						
HHC				LR	LR		
	comp=E,200nm,11.9s						
HHC				LR	LR		
	comp=Z,160nm,14.1s						
SONM	**Songino Array**	**47.02**	**341**	P	**P**	**15 49 45.4**	**0.0**
	comp=Z,0.4nm,0.4s,baz=163,slow=11,SNR=4.8						
SONM				PcP	**PcP**	**15 51 16.9**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=132,slow=4.1,SNR=1.6						
	comp=Z,0.4nm,0.4s						
PETK	**Petropavlovsk-**	**54.97**	**22**	P	**P**	**15 50 45.7**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=204,slow=3.5,SNR=4.7						
	comp=Z,1.4nm,0.6s						
MK31	**Makanchi Array**	**57.40**	**325**	P	**P**	**15 51 02.2**	**-0.3**
MKAR	**Makanchi Array**	**57.40**	**325**	P	**P**	**15 51 02.6**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=125,slow=8.3,SNR=13						
MKAR				PcP	**PcP**	**15 51 55.0**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=108,slow=3.2,SNR=1.2						
	comp=Z,0.6nm,0.5s						
MAKZ	**Makanchi**	**57.59**	**325**	P	**P**	**15 51 03.4**	**-0.4**
MAKZ				IAmb	IAmb	15 51 20.8	
	comp=Z,4.7nm,1.1s						
YAK	**Yakutsk**	**57.82**	**1**	P	**P**	**15 51 05.3**	**+0.3**
KSH	**Kashi**	**57.97**	**315**	P	P	15 51 11.4	+4.7
ZALV	**Zalesovo Beam**	**60.37**	**333**	P	**P**	**15 51 22.6**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=98,slow=6.1,SNR=4.3						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**61.56**	**327**	P	**P**	**15 51 30.8**	**-0.3**
	comp=Z,1.5nm,0.2s,baz=124,slow=6.3,SNR=17						
	comp=Z,1.5nm,0.2s						
KURK	**Kurchatov**	**61.56**	**327**	P	**P**	**15 51 30.8**	**-0.2**
GAR	**Garm**	**61.87**	**312**	P	**P**	**15 51 33.1**	**-0.4**
BVAR	**Borovoye Array**	**67.15**	**327**	P	**P**	**15 52 07.4**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=126,slow=6.6,SNR=9.3						
	comp=Z,1.9nm,0.8s						
BRVK	**Borovoye**	**67.22**	**327**	P	**P**	**15 52 06.9**	**-1.1**
BRVK				IAmb	IAmb	15 52 21.8	
	comp=Z,4.6nm,0.9s						
TIXI	**Tiksi**	**67.46**	**1**	P	**P**	**15 52

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**1.17**	**68**	P	Pn	16 03 16.2	+0.2
GTOI				S	Sn	16 03 35.7	0.0
LUWI	**Luwuk**	**1.48**	**145**	P	Pn	16 03 21.0	+1.8
LUWI				S	Sn	16 03 40.8	-0.6
MPSI	**Mapaga**	**2.04**	**274**	P	Pn	16 03 27.5	+2.0
KMSI	**Cibinong**	**2.09**	**79**	P	Pn	16 03 27.0	+1.0
KMSI				S	Sn	16 03 54.5	+1.0
SANI	**Sanana**	**4.63**	**119**	P	Pn	16 03 56.8	-1.8
SANI				S	Sn	16 04 46.2	-5.7
SGSI	**Sangihe**	**5.00**	**46**	P	Pn	16 04 03.7	+0.1
LBMI	**Labuha** 9.9nm,1.5s,0.1nm	**5.63**	**98**	P	Pn	16 04 10.3	-1.7
BBSI	**Bau Bau** 21nm,1.2s,0.1nm	**5.68**	**174**	P	Pn	16 04 13.6	+1.0
BKSI	**Bulukumba**	**5.76**	**198**	P	Pn	16 04 14.2	+0.4

*IDC **04** 16:07:49.4±1.5,30˚.06N×87˚.50E,h0km,mb3.8/11, mbtmp3.7/13,ML3.3/2,Error ellipse: s-maj=36.6km s-min=27.6km az=96.0*

ISC 04 16:07:54.4±0.9,30˚.1N±0˚.1×87˚.6E±0˚.2,h35km,n13, σ0s90/13,mb3.7/11,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** baz=335,slow=14,SNR=2.7	**15.54**	**136**	Pn	**Pn**	**16 11 30.5**	**-0.4**
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**17.16**	**348**	P	**Pn**	**16 11 50.3**	**-1.1**
	0.1nm,0.3s,baz=173,slow=11,SNR=7.2						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**21.59**	**344**	P	**P**	**16 12 39.9**	**-1.1**
	0.7nm,0.3s,baz=158,slow=10,SNR=4.5						
	0.7nm,0.3s						
SONM	**Songino Array**	**22.86**	**34**	P	**P**	**16 12 54.5**	**-0.1**
	0.3nm,0.5s,baz=212,slow=11,SNR=3.0						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**26.13**	**336**	P	**P**	**16 13 26.0**	**+1.1**
	0.5nm,0.6s,baz=153,slow=10.0,SNR=4.6						
	0.5nm,0.6s						
BRTR	**Keskin Array B**	**44.68**	**298**	P	**P**	**16 16 03.4**	**-0.6**
	0.3nm,0.5s,baz=113,slow=7.5,SNR=1.5						
	0.3nm,0.5s						
FINES	**FINESS Array B**	**50.48**	**327**	P	**P**	**16 16 48.6**	**+0.1**
	1.6nm,0.8s,baz=81,slow=8.6,SNR=3.1						
	1.6nm,0.8s						
ARCES	**ARCESS Array B**	**52.41**	**337**	P	**P**	**16 17 03.5**	**+0.6**
	5.7nm,1.2s,baz=113,slow=8.6,SNR=3.8						
	5.7nm,1.2s						
HFS	**Hagfors**	**56.46**	**325**	P	**P**	**16 17 32.5**	**0.0**
	1.2nm,0.6s,baz=121,slow=7.1,SNR=4.8						
	1.2nm,0.6s						
SPITS	**Spitsbergen Ar**	**56.91**	**347**	P	**P**	**16 17 36.6**	**+1.2**
	4.4nm,0.9s,baz=89,slow=19,SNR=1.3						
	4.4nm,0.9s						
NOA	**NORSAR Array B**	**57.63**	**326**	P	**P**	**16 17 41.9**	**+1.1**
	0.5nm,0.8s,baz=99,slow=7.7,SNR=2.9						
	0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**80.02**	**279**	P	**P**	**16 19 59.9**	**-0.8**
	0.5nm,0.6s,baz=63,slow=5.0,SNR=2.4						
	0.5nm,0.6s						
BOSA	**Boshof**	**83.34**	**232**	P	**P**	**16 20 18.5**	**+0.5**
	1.9nm,1.0s,baz=32,slow=13,SNR=1.6						
	1.9nm,1.0s						

*IDC **04** 16:08:31.1±5.8,23˚.92N×108˚.94W,h0km,mb3.0/2, mbtmp2.8/5,ML3.4/3,Error ellipse: s-maj=98.7km s-min=26.4km az=156.0*

ISC 04 16:08:35.1±4.3,24˚.0N±0˚.5×109˚.1W±0˚.2,h22km,n10, σ0s59/7,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz** 39nm,0.3s,baz=119,slow=4.7,SNR=46	**1.15**	**274**	Pn	**Pb**	**16 08 55.9**	**-0.4**
LPIG				Sn	**Sb**	**16 09 10.8**	**0.0**
	54nm,0.3s,baz=141,slow=14,SNR=7.5						
H06E1	**SOCORRO T-PHAS** SNR=4.2	**5.51**	**199**	T	T	16 15 46.9	
TXAR	**Lajitas Array**	**7.15**	**41**	Pn	**Pn**	**16 10 17.9**	**-0.5**
	0.1nm,0.3s,baz=212,slow=14,SNR=6.2						
TXAR				Lg	Lg	16 12 10.6	
	0.1nm,0.3s,baz=218,slow=33,SNR=2.8						
	0.1nm,0.3s						
NVAR	**Mina Array Bea**	**16.38**	**333**	Pn	**P**	**16 12 26.2**	**-0.4**
	0.1nm,0.3s,baz=151,slow=11,SNR=1.1						
	0.1nm,0.3s						
PDAR	**Pinedale Array**	**18.69**	**359**	P	**Pn**	**16 12 52.4**	**-0.1**
	baz=161,slow=11,SNR=2.6						
	0.2nm,0.7s						
YKA	**Yellowknife Ar**	**38.63**	**356**	P	**P**	**16 15 56.9**	**+0.5**
	0.1nm,0.4s,baz=168,slow=7.7,SNR=3.2						
	0.1nm,0.4s						
ILAR	**Eielson Array**	**47.52**	**339**	P	**P**	**16 17 09.1**	**+0.8**
	0.2nm,0.6s,baz=131,slow=8.3,SNR=4.1						
	0.2nm,0.6s						
H03N2	**Juan Fernandez** baz=331,slow=77,SNR=3.8	**63.95**	**152**	T	T	17 28 34.2	
H03N1	**Juan Fernandez** baz=331,slow=77,SNR=5.2	**63.95**	**152**	T	T	17 28 32.6	
H03N3	**Juan Fernandez** baz=331,slow=77,SNR=5.0	**63.96**	**152**	T	T	17 28 31.4	

*FUNV **04** 16:09:50.2,11˚.74N×70˚.31W,h10km,MW3.9*
*RSNC **04** 16:09:52.4±0.0,12˚.N±3˚.×7˚.0W±˚,h96km±9km,mb4.4, mB4.8,ML3.6,MLv4.2,Mw(mB)4.1*

ISC 04 16:09:51.9±1.7,11˚.73N±0˚.08×70˚.28W±0˚.04,h76km±25km, n37,σ1s37/54,1C,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIQV	**Siquisique**	**1.17**	**157**	*eP*	**Pn**	**16 10 11.7**	**-1.1**
SIQV				*eS*	**Sn**	**16 10 28.1**	**-0.4**
URIC	**Uribia, Colomb**	**1.68**	**269**	P	**Pn**	**16 10 18.0**	**-1.4**
URIC				S	**Sn**	**16 10 40.0**	**-0.2**
TEPV	**Terepaima**	**2.05**	**149**	*eP*	**Pn**	**16 10 24.9**	**+0.5**
TEPV				*eS*	**Sn**	**16 10 51.0**	**+1.7**
SANV	**Sanarito**	**2.33**	**162**	*eP*	**Pn**	**16 10 27.7**	**-0.5**
SANV				*eS*	**Sn**	**16 10 56.2**	**+0.2**
CRJC	**Cerrejon, Guaj**	**2.65**	**255**	P	**Pn**	**16 10 32.5**	**0.0**
CRJC				S	**Sn**	**16 11 04.7**	**+1.0**
TURV	**Turiamo**	**2.71**	**118**	*eP*	**Pn**	**16 10 32.4**	**-0.8**
TURV				*eS*	**Sn**	**16 11 04.7**	**-0.3**
MCQV	**Machiques**	**2.77**	**233**	*eP*	**Pn**	**16 10 33.6**	**-0.5**
MCQV				*eS*	**Sn**	**16 11 06.4**	**-0.2**
SDV	**Santo Domingo**	**2.85**	**187**	P	**Pn**	**16 10 35.2**	**-0.1**
SDV				S	**Sn**	**16 11 08.3**	**-0.3**
BENV	**Beln**	**3.16**	**123**	*eP*	**Pn**	**16 10 39.3**	**-0.2**
BENV				*eS*	**Sn**	**16 11 16.4**	**+0.2**
SOCV	**Socops**	**3.47**	**189**	*eP*	**Pn**	**16 10 43.9**	**+0.3**
SOCV				*eS*	**Sn**	**16 11 22.3**	**-1.3**
BAUV	**El Baul**	**3.54**	**141**	*eP*	**Pn**	**16 10 45.0**	**+0.5**
BAUV				*eS*	**Sn**	**16 11 23.8**	**-1.3**
LL6C	**La Loma 6 Bece**	**3.54**	**236**	P	**Pn**	**16 10 44.0**	**-0.6**
TACV	**Tcata**	**3.56**	**116**	*eP*	**Pn**	**16 10 44.6**	**-0.2**
FUNV	**FUNVISIS**	**3.63**	**110**	*eP*	**Pn**	**16 10 45.3**	**-0.5**
SMRC	**Santa Marta, M**	**3.91**	**262**	P	**Pn**	**16 10 48.4**	**-1.1**
ARGC	**Ariguani, Magd**	**4.32**	**245**	P	**Pn**	**16 10 54.7**	**-0.4**
ARGC				S	**Sn**	**16 11 45.2**	**+0.9**
CAPV	**Capacho**	**4.33**	**208**	*eP*	**Pn**	**16 10 54.5**	**-1.1**
OCAC	**Ocana**	**4.58**	**221**	P	**Pn**	**16 10 58.1**	**-0.8**
OCAC				P		16 10 58.3	
OCAC				P		16 10 58.4	
OCAC				S	**Sn**	**16 11 49.0**	**-1.9**
MERV	**Las Mercedes**	**4.62**	**122**	*eP*	**Pn**	**16 10 59.9**	**+0.6**
PAMC	**Pamplona, Colo**	**4.97**	**209**	P	**Pn**	**16 11 04.1**	**-0.4**
PAMC				P		16 11 04.4	
PAMC				P		16 11 04.5	
PAMC				S	**Sn**	**16 12 00.5**	**-0.4**
SJCC	**San Jacinto, C** 39nm,1.0s,1µm0.2nm	**5.15**	**250**	P	**Pn**	**16 11 06.6**	**+0.1**
SJCC				S	**Sn**	**16 12 06.0**	**+1.3**
	39nm,1.0s,1µm0.2nm						
TAMC	**Tame, Arauca** 31nm,0.5s	**5.47**	**196**	P	**Pn**	**16 11 11.2**	**+0.3**
TAMC				S	**Sn**	**16 12 09.7**	**-2.8**
	31nm,0.5s						
PCRV	**Puerto La Cruz**	**5.75**	**105**	*eP*	**Pn**	**16 11 15.6**	**+0.9**
BARC	**Barichara** 61nm,1.1s	**5.85**	**210**	P	**Pn**	**16 11 17.8**	**+1.5**
RUSC	**La Rusia**	**6.43**	**206**	P	**Pn**	**16 11 25.2**	**+0.8**
	30nm,0.6s						
RUSC				S	**Sn**	**16 12 33.5**	**-3.1**
	30nm,0.6s						
UREC	**San Jos de Ur** 18nm,0.6s	**6.51**	**233**	P	**Pn**	**16 11 25.7**	**+0.5**
PTBC	**PUERTO BERRIO,** 30nm,0.7s,972nm	**6.60**	**219**	P	**Pn**	**16 11 26.4**	**0.0**
PTBC				S	**Sn**	**16 12 40.8**	**+0.6**
	30nm,0.7s,972nm						
SPBC	**San Pablo de B** 37nm,0.6s,1µm	**7.11**	**212**	P	**Pn**	**16 11 32.7**	**-0.6**
DBBC	**Dabeiba** 15nm,0.6s	**7.49**	**232**	P	**Pn**	**16 11 41.4**	**+2.8**
HELC	**Santa Helena** 24nm,0.5s	**7.56**	**224**	P	**Pn**	**16 11 41.4**	**+1.6**
NORC	**Norcasia** 15nm,0.5s	**7.62**	**217**	P	**Pn**	**16 11 42.5**	**+2.2**
ROSC	**El Rosal** 22nm,0.6s	**7.93**	**211**	P	**Pn**	**16 11 48.2**	**+3.4**
CBOC	**Ciudad Bolivar** 11nm,0.6s	**8.13**	**225**	P	**Pn**	**16 11 48.4**	**+1.1**
GUY2C	**Guyana, Caldas**	**8.19**	**218**	P	**Pn**	**16 11 49.9**	**+1.4**
VILC	**Villavicencio,**	**8.29**	**204**	P	**Pn**	**16 11 49.8**	**+0.3**
PTAC	**Punta Ardita,**	**8.71**	**239**	P	**Pn**	**16 11 59.5**	**+4.3**
PTAC				S	Pn	16 12 00.6	+5.4
ANIL	**Santa Ana**	**8.80**	**216**	P	Pn	16 12 05.7	+9.1

*IDC **04** 16:10:41.6±9.8,17˚.25N×90˚.66W,h0km,mb3.3/2, mbtmp3.2/4,ML3.6/1,Error ellipse: s-maj=169.0km s-min=51.4km az=147.0*
*GCG **04** 16:10:50.5±0.3,16˚.32N×92˚.23W,h98km±37km,MD3.6*
*MEX **04** 16:10:54.2±0.9,15˚.37N×92˚.07W,h184km±6km,MD4.1*

ISC 04 16:10:53.0±1.0,15˚.40N±0˚.06×92˚.13W±0˚.05,h181km±6km, n29,σ1s94/50,Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAVE	**Pavencul**	**0.21**	**194**	*eP*	**Pn**	**16 11 17.2**	**-0.2**
PAVE				*eS*	**Sn**	**16 11 35.2**	**-0.9**
PATR	**El Naranjo**	**0.30**	**201**	*eP*	**Pn**	**16 11 16.9**	**-0.8**
PATR				*eS*	**Sn**	**16 11 35.3**	**-1.2**
CHUJ	**Union Juarez**	**0.30**	**177**	*eP*	**Pn**	**16 11 17.6**	**0.0**
CHUJ				*eS*	**Sn**	**16 11 36.9**	**+0.3**
THIG		**0.51**	**196**	*i P*	**Pn**	**16 11 18.1**	**+0.2**
THIG				*i S*	**Sn**	**16 11 37.6**	**+0.4**
SMSP	**San Marcos**	**0.54**	**142**	*eP*	**Pn**	**16 11 15.9**	**-2.6**
SMSP				*eS*	**Sn**	**16 11 37.7**	**-0.3**
HUEH	**Huehuetenango**	**0.61**	**98**	*eP*	**Pn**	**16 11 18.2**	**-0.5**
HUEH				*i S*	**Sn**	**16 11 36.2**	**-2.1**
STG3	**Santiaguito 3,**	**0.87**	**142**	*i P*	**Pn**	**16 11 20.3**	**+0.1**
STG3				*i S*	**Sn**	**16 11 43.6**	**+2.5**
CCIG	**Comitan**	**0.88**	**359**	*i P*	**Pn**	**16 11 21.2**	**+1.1**
CCIG				*i S*	**Sn**	**16 11 41.6**	**+0.3**
RTAL	**Retalhuleu**	**0.96**	**154**	*eP*	**Pn**	**16 11 19.9**	**-0.7**
RTAL				*i S*	**Sn**	**16 11 40.5**	**-1.5**
PCIG		**1.10**	**286**	*i P*	**Pn**	**16 11 22.7**	**+1.1**
PCIG				*i S*	**Sn**	**16 11 44.1**	**+0.5**
SULM	**Suchitepequez,**	**1.22**	**153**	*i P*	**Pn**	**16 11 23.1**	**+0.6**
FUG	**Fuego 3**	**1.56**	**127**	*i P*	Pn	16 11 29.9	+4.0
FUG				*i S*	**Sn**	**16 11 56.8**	**+5.5**
TGIG		**1.67**	**325**	*eP*	**Pn**	**16 11 27.7**	**+0.9**
TGIG				*eS*	**Sn**	**16 11 53.5**	**+0.4**
CARR	**Arriaga**	**1.92**	**296**	*eP*	**Pn**	**16 11 30.8**	**+1.6**
CARR				*eS*	**Sn**	**16 11 58.3**	**+0.9**
MRL	**Marmol**	**2.38**	**97**	*i P*	**Pn**	**16 11 34.0**	**+0.6**
PETF	**Flores**	**2.64**	**55**	*eP*	**Pn**	**16 11 36.9**	**-0.5**
NILT	**Santiago Nilte**	**2.66**	**296**	*eP*	**Pn**	**16 11 39.5**	**+1.8**
NILT				*eS*	**Sn**	**16 12 12.9**	**+0.5**
CMIG	**Matias Romero** 3.8nm,0.3s,baz=174,slow=10.0,SNR=29	**3.14**	**303**	Pn	**Pn**	**16 11 45.1**	**+1.7**
CMIG				Sn	**Sn**	**16 12 21.0**	**-1.7**
	15nm,0.3s,baz=308,slow=20,SNR=22 10nm,0.4s						
CMIG	**Matias Romero**	**3.14**	**303**	*i P*	**Pn**	**16 11 44.8**	**+1.4**
CMIG				*eS*	**Sn**	**16 12 22.2**	**-0.5**
HUIG	**Huatulco**	**3.86**	**276**	*eP*	**Pn**	**16 11 52.8**	**+0.5**
HUIG				*eS*	**Sn**	**16 12 34.8**	**-3.9**
NEUV	**Arroyo Zacate**	**4.21**	**304**	*eP*	**Pn**	**16 12 00.4**	**+3.5**
NEUV				*eS*	**Sn**	**16 12 42.8**	**-4.1**
VHO	**Vista Hermosa**	**4.73**	**291**	*eP*	**Pn**	**16 12 06.8**	**+3.1**
VHO				*eS*	**Sn**	**16 12 58.1**	**-1.0**
PEIG	**Puerto Escondi**	**4.87**	**278**	*eP*	**Pn**	**16 12 06.5**	**+1.1**
PEIG				*eS*	**Sn**	**16 13 00.6**	**-1.6**
YOIG	**Yosondua**	**5.41**	**286**	*eS*	**Sn**	**16 13 12.7**	**-2.4**
PNIG	**Pinotepa**	**5.86**	**281**	*eP*	**Pn**	**16 12 20.2**	**+2.0**
PNIG				*eS*	**Sn**	**16 13 22.8**	**-2.6**
JAUV	**Jalcomulco**	**5.96**	**312**	*eP*	**Pn**	**16 12 21.0**	**+1.5**
JAUV				*eS*	**Sn**	**16 13 24.8**	**-3.0**
TXAR	**Lajitas Array** 0.1nm,0.5s,baz=142,slow=7.8,SNR=2.3	**17.48**	**324**	Pn	**P**	**16 14 43.0**	**-1.6**
NVAR	**Mina Array Bea** 0.3nm,0.6s,baz=133,slow=9.8,SNR=3.8	**32.52**	**320**	P	**P**	**16 17 09.8**	**+2.7**
	0.3nm,0.6s						
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=138,slow=7.9,SNR=3.7 0.2nm,0.6s	**49.64**	**347**	P	**P**	**16 19 24.0**	**-1.8**

*IDC **04** 16:11:30.0±1.3,5˚.81S×142˚.38E,h0km,mb3.6/3, mbtmp3.5/6,ML3.4/2,Error ellipse: s-maj=43.2km s-min=29.2km az=86.0*

ISC 04 16:11:33.5±1.0,6˚.2S±0˚.1×142˚.3E±0˚.1,h28km,n6,σ2s57/8, mb3.5/3,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 2.7nm,0.4s,baz=310,slow=7.9,SNR=2.1	**5.80**	**124**	Pn	**Pn**	**16 12 58.2**	**+0.4**
PMG				Sn	**Sn**	**16 14 02.4**	**-1.1**
	1.3nm,0.3s,baz=234,slow=15,SNR=2.5						
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=27,slow=13,SNR=7.1	**15.71**	**209**	Pn	**P**	**16 15 15.7**	**-1.2**
WRA				Sn	**Sn**	**16 18 03.6**	**-2.9**
	0.1nm,0.3s,baz=22,slow=22,SNR=6.2 0.4nm,0.5s						
ASAR	**Alice Springs** 0.1nm,0.3s,baz=35,slow=10.0,SNR=11 0.9nm,0.9s	**19.17**	**204**	P	**Pn**	**16 16 00.7**	**+4.6**
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=115,slow=6.5,SNR=2.2 0.2nm,0.6s	**74.69**	**322**	P	**P**	**16 23 10.2**	**-0.5**
BVAR	**Borovoye Array** 1.0nm,0.8s,baz=107,slow=9.7,SNR=4.4 1.0nm,0.8s	**84.17**	**325**	P	**P**	**16 24 01.4**	**-0.7**
ILAR	**Eielson Array** 0.2nm,0.7s,baz=255,slow=5.4,SNR=2.2 0.2nm,0.7s	**87.51**	**24**	P	**P**	**16 24 18.6**	**+0.2**

*VAO **04** 16:16:28.4±0.4,20˚.34S×68˚.43W,h87km±2km,mb5.3*
*SJA **04** 16:16:30.5±0.7,20˚.43S×68˚.71W,h137km±4km,ML5.0, MW4.9*
*NEIC **04** 16:16:31.2±1.5,20˚.42S±0˚.05×68˚.56W±0˚.07,h121km±4km, mb4.9/56,Mww5.1/23,Error ellipse: s-maj=9.4km s-min=6.7km az=77.0*
*NEIC **04** 16:16:31.3,20˚.53S×68˚.59W,h120km,Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 10¹⁶Nm; Mrr-1.03; Mθθ-2.46; Mθφ3.49; Mrθ1.91; Mθφ2.50; Mθr-2.06; Fault plane solution: M0 4.87000×10¹⁶ NP1: φs338.85000°,δ77.80000°,λ-144.89000°. NP2: φs240.40000°,δ55.79000°,λ-14.81000°. Principal axes: T 4.7307, Plg14.0000°, Azm106.0000°; N 0.2805, Plg53.0000°, Azm356.0000°; P -5.0112, Plg33.0000°, Azm205.0000°;*
*NEIC **04** 16:16:31.3,20˚.43S×68˚.59W,h120km*
*GUC **04** 16:16:32.3±0.7,20˚.45S×68˚.65W,h126km±4km,ML5.1*
*IDC **04** 16:16:32.2±0.3,20˚.41S×68˚.48W,h126km±3km,mb4.1/19, mbtmp4.6/22,MS4.1/5,Error ellipse: s-maj=13.2km s-min=6.7km az=91.0*
*SCB **04** 16:16:33.0±1.4,20˚.47S×68˚.66W,h110km±10km,ML5.3/3, Error ellipse: s-maj=6.5km s-min=4.4km az=1.0*
*GCMT **04** 16:16:40.2±0.3,20˚.49S±0˚.01×68˚.56W±0˚.02,h131km±2km, MW5.1/111,Moment Tensor Solution. s27,c32; s111,c162; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.26±.14; Mθθ-0.65±.17; Mθφ1.91±.19; Mrθ2.23±.10; Mθφ5.11±.17; Mθr-1.85±.12; Best double couple: M0 6.10000×10¹⁶ NP1:φs357.00000°,δ70.00000°, λ-157.00000°. NP2:φs259.00000°,δ69.00000°, λ-22.00000°. Principal axes: T 5.9000, Plg1.0000°, Azm128.0000°; N 0.4030, Plg60.0000°, Azm36.0000°; P -6.3000, Plg30.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 16:16:31.0±0.3,20.44S±0.03×68.51W±0.04,h122km±2km, h122km:pP-P,n408,σ1s63/364,mb4.9/54,15C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.67**	**296**		**Pn**	**16 16 51.2**	**+0.5**
PB08				Sn	**Sn**	**16 17 04.7**	**-0.8**
PB08	**IPOC Station P**	**0.67**	**296**	*eP*	**Pn**	**16 16 51.3**	**+0.6**
PB08				*eS*	**Sn**	**16 17 06.9**	**+1.4**
PB08				IAML		16 17 08.8	
	comp=Z,24µm,0.9s						
PB08	**IPOC Station P**	**0.67**	**296**	⇑*iP*	**Pn**	**16 16 51.3**	**+0.6**
PB08				*i* S	**Sn**	**16 17 06.0**	**+0.4**
PB08				IAML		16 17 07.5	
	comp=E,55µm,0.4s						
PB08	**IPOC Station P**	**0.67**	**296**	Pg	**Pn**	**16 16 51.6**	**+0.9**
PB08				Sg	**Sn**	**16 17 05.8**	**+0.2**
PB08				IAML		16 17 07.0	
	comp=E,30µm,0.4s						
GO01	**Chusmiza**	**1.00**	**320**		**Pn**	**16 16 53.9**	**+0.3**
GO01				Sn	**Sn**	**16 17 11.1**	**+0.4**
GO01	**Chusmiza**	**1.00**	**320**	*eP*	**Pn**	**16 16 54.1**	**+0.5**
GO01				*eS*	**Sn**	**16 17 12.1**	**+1.3**
GO01	**Chusmiza**	**1.00**	**320**	*eP*	**Pn**	**16 16 54.2**	**+0.5**
GO01				*i S*	**Sn**	**16 17 11.5**	**+0.7**
GO01				IAML		16 17 12.7	
	comp=E,101µm,0.6s						
GO01	**Chusmiza**	**1.00**	**320**	Pg	**Pn**	**16 16 54.6**	**+0.9**
PB01	**IPOC Station P**	**1.09**	**236**		**Pn**	**16 16 54.3**	**+0.2**
PB01	**IPOC Station P**	**1.09**	**236**	*eP*	**Pn**	**16 16 54.2**	**0.0**
PB01				*eS*	**Sn**	**16 17 11.8**	**0.0**
PB01				IAML		16 17 12.3	
	comp=Z,27µm,0.2s						
PB01	**IPOC Station P**	**1.09**	**236**	⇑*iP*	**Pn**	**16 16 54.2**	**0.0**
PB01				*i* S	**Sn**	**16 17 11.7**	**0.0**
PB01	**IPOC Station P**	**1.09**	**236**	Pg	**Pn**	**16 16 55.0**	**+0.8**
PB01				Sg	**Sn**	**16 17 12.1**	**+0.3**
PB01				IAML		16 17 12.6	
	comp=Z,122µm,0.3s						
PB11	**IPOC Station P**	**1.27**	**302**		**Pn**	**16 16 55.9**	**-0.2**
PB11				Sn	**Sn**	**16 17 13.7**	**-1.4**
PB11	**IPOC Station P**	**1.27**	**302**	*eP*	**Pn**	**16 16 56.1**	**0.0**
PB11				IAML		16 17 18.4	
	comp=Z,13µm,0.6s						
PB11	**IPOC Station P**	**1.27**	**302**	⇑*iP*	**Pn**	**16 16 56.1**	**0.0**
PB11				*i* S	**Sn**	**16 17 14.6**	**-0.5**
PB11				IAML		16 17 16.4	
	comp=E,48µm,0.5s						
PB11	**IPOC Station P**	**1.27**	**302**	Pg	**Pn**	**16 16 56.4**	**+0.3**
HMBC	**Humberstone**	**1.30**	**277**	⇑*iP*	**Pn**	**16 16 55.8**	**-0.6**
HMBC				*i* S	**Sn**	**16 17 14.2**	**-1.5**
HMBC				IAML		16 17 17.9	
	comp=E,53µm,0.8s						
PB09	**IPOC Station P**	**1.52**	**207**		**Pn**	**16 16 60.0**	**+1.1**
PB09	**IPOC Station P**	**1.52**	**207**	*eP*	**Pn**	**16 16 59.8**	**+1.0**
PB09				*eS*	**Sn**	**16 17 22.6**	**+2.5**
PB09				IAML		16 17 25.1	
	comp=Z,10µm,0.4s						
PB09	**IPOC Station P**	**1.52**	**207**	*eP*	**Pn**	**16 16 59.7**	**+0.8**
PB09				*i* S	**Sn**	**16 17 21.0**	**+0.9**
PB09				IAML		16 17 25.0	
	comp=N,12µm,0.4s						
PB09	**IPOC Station P**	**1.52**	**207**	Pg	**Pn**	**16 17 00.2**	**+1.3**
TA02	**Huaiquique**	**1.53**	**276**		**Pn**	**16 16 58.1**	**-0.7**
TA02	**Huaiquique**	**1.53**	**276**	*eP*	**Pn**	**16 16 58.4**	**-0.4**
TA02				IAML		16 17 21.0	
	comp=Z,13µm,0.2s						
TA02	**Huaiquique**	**1.53**	**276**	*i P*	**Pn**	**16 16 58.4**	**-0.4**
TA02				*i* S	**Sn**	**16 17 18.2**	**-1.8**
PB02	**IPOC Station P**	**1.56**	**236**		**Pn**	**16 16 59.3**	**-0.1**
PB02	**IPOC Station P**	**1.56**	**236**	*eP*	**Pn**	**16 16 59.3**	**-0.1**
PB02				*eS*	**Sn**	**16 17 20.9**	**0.0**
PB02				IAML		16 17 25.2	
	comp=Z,32µm,0.3s						
PB02	**IPOC Station P**	**1.56**	**236**	*eP*	**Pn**	**16 16 59.2**	**-0.1**
PB02				*i* S	**Sn**	**16 17 19.9**	**-1.1**
PB02				IAML		16 17 22.7	
	comp=N,56µm,0.6s						
PB02	**IPOC Station P**	**1.56**	**236**	Pg	**Pn**	**16 17 00.0**	**+0.7**
PB02				Sg	**Sn**	**16 17 20.6**	**-0.4**
PB02				IAML		16 17 23.1	
	comp=N,36µm,0.5s						
TA01	**Diego Aracena**	**1.57**	**265**		**Pn**	**16 16 58.4**	**-0.8**
TA01	**Diego Aracena**	**1.57**	**265**	*eP*	**Pn**	**16 16 58.3**	**-1.0**
TA01				IAML		16 17 21.9	
	comp=Z,7µm,0.5s						
TA01	**Diego Aracena**	**1.57**	**265**	⇑*iP*	**Pn**	**16 16 58.5**	**-0.7**
TA01				*i* S	**Sn**	**16 17 18.4**	**-2.5**
TA01				IAML		16 17 19.8	
	comp=N,15µm,0.5s						
PATCX	**Punta Patache**	**1.58**	**256**		**Pn**	**16 16 58.8**	**-0.7**
PATCX	**Punta Patache**	**1.58**	**256**	⇑*iP*	**Pn**	**16 16 59.0**	**-0.6**
PATCX				*i* S	**Sn**	**16 17 19.7**	**-1.6**
PATCX				IAML		16 17 26.8	
	comp=N,19µm,0.6s						
PB07	**IPOC Station P**	**1.81**	**225**		**Pn**	**16 17 02.4**	**0.0**
PB07	**IPOC Station P**	**1.81**	**225**	*eP*	**Pn**	**16 17 02.0**	**-0.4**
PB07				*eS*	**Sn**	**16 17 25.6**	**-0.8**
PB07				IAML		16 17 27.3	
	comp=Z,15µm,0.5s						
PB07	**IPOC Station P**	**1.81**	**225**	⇑*eP*	**Pn**	**16 17 02.2**	**-0.2**
PB07				*i* S	**Sn**	**16 17 25.1**	**-1.4**
PB07				IAML		16 17 27.7	
	comp=E,29µm,0.4s						
SOEO	**Opoqueri**	**1.96**

PB15 IAML 16 17 59.5
comp=Z,14µm,0.4s
PB15 IPOC Station P 2.90 198⇑ *eP* **Pn 16 17 16.5 +0.3**
PB15 *i* S **Sn 16 17 50.3 -0.8**
PB15 IPOC Station P 2.90 198 Pg **Pn 16 17 18.2 +2.0**
PB18 Visviri 2.98 342 *eP* **Pn 16 17 20.3 +2.7**
YJA Yavi 3.29 122 *eP* **Pn 16 17 24.9 +3.4**
SOET ToroToro 3.44 48 Pg **Pn 16 17 27.1 +3.6**
SOEJ Jacaque 3.46 5 Pg **Pn 16 17 27.8 +4.0**
BBOE La Paz, Chanca 3.64 8 Pg **Pn 16 17 30.2 +3.9**
AOVT TarijaAcel 3.72 108 Pg **Pn 16 17 30.5 +3.5**
BBOD La Paz, Gloria 3.78 359 Pg **Pn 16 17 30.8 +3.6**
AOEA Aiquile 3.82 55 Pg **Pn** 16 17 33.2 +4.7
BS00 La Paz 3.94 5 Pg **Pn 16 17 34.1 +3.9**
LPAZ La Paz 4.14 5 Pn **Pn 16 17 35.4 +2.3**
LPAZ La Paz 4.14 5 Pg **Pn 16 17 35.7 +2.6**
PB14 IPOC Station P 4.52 202 Pn 16 17 36.2 -1.6
GO02 Mina Guanaco 4.81 192 Pn 16 17 40.7 -0.9
GO02 Mina Guanaco 4.81 192 *eP* **Pn 16 17 40.9 -0.7**
AC01 Pan de Azucar 6.00 198 Pn 16 17 54.9 -2.6
AC02 Maricunga 6.39 185 Pn **Pn 16 18 02.4 -0.8**
GO03 Copiap 7.30 192 Pn **Pn 16 18 11.7 -3.3**
AC04 Llanos de Chal 8.08 196 Pn Pn 16 18 20.4 -5.0
BBSD Serra de San D 8.15 68 *eP* **Pn 16 18 23.2 -3.3**
SIV San Ignacio 8.34 59 P **Pn 16 18 28.2 -0.9**
comp=Z,50nn,0.4s,baz=247,slow=10.0,SNR=303
SIV S Sn 16 19 51.7 -10
comp=Z,24nm,0.7s,baz=216,slow=12,SNR=3.1
BBRB Robore, Bolivi 8.49 77 *eP* **Pn** 16 18 26.2 -4.9
LCO Las Campanas 8.77 193 Pn Pn 16 18 30.3 -4.7
BBLB La Banda, Boli 9.32 81 *eP* **Pn** 16 18 38.0 -4.3
TICA Tres Isletas 9.53 130 *eP* **Pn 16 18 41.4 -3.6**
CO01 Juntas del Tor 9.61 188 Pn 16 18 42.9 -3.4
VACA Villa Angela C 10.11 137 *eP* **Pn 16 18 49.5 -3.4**
PTLB Pontes e Lacer 10.21 62 Pn **Pn 16 18 52.6 -1.7**
PTLB Pontes e Lacer 10.21 62 *eP* **Pn 16 18 50.6 -3.7**
MURT Porto Murtinho 10.25 99 *eP* **Pn 16 18 50.9 -4.0**
ESFA Espinillo Form 10.29 118 *eP* **Pn 16 18 53.1 -2.2**
CCRS Cacerres, MT, 10.52 74 *eP* **Pn 16 18 54.8 -3.7**
ETMB Extrema 10.79 12 Pn **Pn 16 18 59.6 -2.5**
ETMB Extrema 10.79 12 *eP* Pn 16 18 57.9 -4.2
VILB Vilhena 10.89 48 Pn **Pn 16 19 02.8 -0.8**
VILB Vilhena 10.89 48 *eP* **Pn 16 19 00.1 -3.5**
CO02 Comibarbal 10.93 191 Pn Pn 16 18 58.6 -5.7
BDQN Bodoquena, MS 11.03 92 *eP* **Pn 16 19 03.3 -2.0**
PANT Pantanal (Braz 11.30 85 *eP* **Pn 16 19 05.0 -3.8**
JIR01 Jirau 11.42 19 *eP* **Pn 16 19 07.0 -3.5**
SCCA San Cayetano, 11.48 130 *eP* **Pn 16 19 08.0 -3.3**
NNA Nana 11.60 315 P **Pn 16 19 09.5 -3.4**
comp=Z,12nm,0.3s,baz=155,slow=11,SNR=9.5
NNA S Sn 16 21 11.5 -9.2
comp=Z,8.8nm,0.3s,baz=227,slow=20,SNR=1.7
ANTJ Antonio Joao (11.77 100 *eP* **Pn 16 19 11.5 -3.7**
POCN Pocone 11.80 73 *eP* **Pn 16 19 11.4 -4.1**
CPUP Villa Florida 11.82 122 Pn 16 19 15.4 -0.3
CPUP Villa Florida 11.82 122 P **Pn 16 19 15.6 -0.2**
comp=Z,164nm,0.8s,baz=303,slow=12,SNR=297
CPUP Villa Florida 11.82 122 *eP* **Pn 16 19 12.6 -3.2**
AQDB Aquidauana 12.01 92 Pn 16 19 16.3 -2.0
AQDB Aquidauana 12.01 92 *eP* **Pn 16 19 14.9 -3.4**
VA06 Catapilco 12.33 191 Pn 16 19 16.5 -5.9
SAML Samuel 12.53 25 Pn 16 19 22.1 -3.0
SAML Samuel 12.53 25 *eP* **Pn 16 19 22.3 -2.8**
AMBA Amambai (Brazi 12.81 104 *eP* **Pn 16 19 28.3 -0.5**
RVDE Rio Verde (Bra 12.86 86 *eP* **Pn 16 19 26.4 -3.1**
MECA Mercedes 12.87 135 *eP* **Pn 16 19 28.0 -1.4**
SALV Santo Antonio 12.99 72 *eP* **Pn 16 19 27.7 -3.4**
MT03 Universidad Ad 13.13 187 Pn 16 19 32.0 -0.8
PP1B Ponte de Pedra 13.20 80 *eP* **Pn 16 19 30.5 -3.3**
CZSB Cruzeiro do Su 13.27 342 Pn 16 19 28.7 -6.1
CZSB Cruzeiro do Su 13.27 342 *eP* **Pn 16 19 31.2 -3.5**
NBRS Nobres 13.59 65 *eP* **Pn 16 19 35.9 -2.9**
AZCA Azaras, Argent 13.72 126 *eP* **Pn 16 19 38.8 -1.7**
RPRD Ribas do Rio P 13.88 93 *eP* **Pn 16 19 42.1 -0.5**
MCR1 Marechal Candi 13.97 109 *eP* **Pn 16 19 42.1 -1.5**
ITQB Itaqui 14.15 133 Pn 16 19 45.2 -0.8
ITQB Itaqui 14.15 133 *eP* **Pn 16 19 43.8 -2.2**
PDRB Porto dos Gac 14.32 54 *eP* **Pn 16 19 45.3 -3.0**
PSAL Palomas, Salto 14.44 139 *eP* **Pn 16 19 48.3 -1.4**
UNIS Unistalda (Bra 14.92 128 *eP* **Pn 16 19 54.9 -0.8**
TRCB Terra Rica 14.95 102 P 16 19 56.5 -2.2
TRCB Terra Rica 14.95 102 *eP* **Pn 16 19 55.0 -1.2**
CRSM Crissiumal (Br 14.97 121 *eP* **Pn 16 19 55.6 -0.7**
FRBT Francisco Belt 15.23 114 *eP* **Pn 16 19 58.9 -0.8**
CLDB Colider 15.49 54 *eP* **Pn 16 20 01.0 -2.0**
RODS Rosario do Sul 15.55 132 *eP* **P 16 20 02.7 -2.5**
CHAP Chapeco 15.64 118 *eP* **P 16 20 04.3 -2.1**
PTGB Pitanga 15.78 109 *eP* **P 16 20 06.3 -1.6**
TBOT Tacuaremb 15.89 137 *eP* **P 16 20 07.0 -2.0**
DVLD Doverlandia 15.95 79 *eP* **Pn 16 20 07.7 -1.0**
VA04 Juan Fernndez 16.03 213 Pn **Pn 16 20 05.2 -4.1**
PCMB Pacaembu 16.15 97 *eP* **P 16 20 11.0 -0.9**
TBTG Tabatinga, AM 16.21 355 *eP* **Pn 16 20 09.4 -2.4**
ATAH Atahualpa 16.33 323 P **Pn 16 20 13.3 -0.3**
comp=Z,5.7nm,0.5s,baz=137,slow=11,SNR=8.4
ATAH LR LR 16 27 37.5
comp=Z,213nm,19.3s,baz=95,slow=41
ALGR Alto Alegre (B 16.34 124 *eP* **Pn 16 20 11.5 -1.9**
LDASE Londrina, Braz 16.41 103 *eP* **P 16 20 14.2 -0.6**
ITAB Concordia 16.44 117 P **P 16 20 15.1 +0.1**
ITAB Concordia 16.44 117 *eP* **P 16 20 14.8 -0.3**
ARAG Araguaiana, MT 16.56 76 *eP* **P 16 20 17.4 +0.9**
CPSB Cacapava Do Su 16.83 129 *eP* **P 16 20 18.7 -0.7**
ITRB Iturama 17.07 91 *eP* **Pn 16 20 22.1 -0.3**
TEFE Tefe 17.24 13 *eP* **P 16 20 23.2 -0.9**
PLTB Pedras Altas 17.48 133 *eP* **Pn 16 20 25.6 -1.6**
FRTB Fartura 17.82 103 *eP* **Pn 16 20 30.8 -0.6**
CNLB Canela 18.28 122 *eP* **Pn 16 20 35.2 -1.7**
NPGB Novo Progresso 18.43 46 *eP* **P 16 20 36.5 -0.6**
TRQA Tornquist 18.45 164 P **Pn 16 20 37.1 -1.7**
SNDB Serra Nova Dou 18.54 66 *eP* **P 16 20 37.0 -1.3**
BB19B Bebedouro 18.70 95 *eP* **P 16 20 39.0 -1.1**
MACA Manacapuru-AM 18.79 25 P **P 16 20 40.0 -1.0**
MACA Manacapuru-AM 18.79 25 *eP* **P 16 20 40.1 -1.0**
GO06 Curarrehue 19.25 187 P **Pn 16 20 47.1 -1.2**
IPMB Ipameri, GO 19.33 86 *eP* **P 16 20 46.1 -0.8**
TER01 Tubaro-SC 19.38 118 *eP* **P 16 20 46.6 -0.8**
MCRA Macar, Loja 19.47 324 P 16 20 49.2 +0.8
RCLB Rio Claro- Sao 19.63 100 *eP* **P 16 20 49.5 -0.7**
SPB Sao Paulo 19.79 103 P **P 16 20 51.7 -0.1**
SPB Sao Paulo 19.79 103 *eP* **P 16 20 51.5 -0.4**
PET01 Itanhaem-SP 20.01 105 *eP* **P 16 20 53.1 -1.1**
BDFB Brasilia 20.06 80 P **P 16 20 54.8 -0.1**
comp=Z,24nm,0.8s,baz=265,slow=11,SNR=46
BDFB LR LR 16 30 26.5
comp=Z,607nm,18.1s,baz=312,slow=42
comp=Z,24nm,0.8s
BDFB Brasilia 20.06 80 *eP* **P 16 20 54.9 -0.1**
VAO Valinhos 20.18 101 *eP* **P 16 20 55.0 -1.1**
ITTB Itaituba 20.24 40 *eP* **P 16 20 56.3 -0.4**
PLCA Paso Flores 20.31 184 P Pn 16 20 57.4 -3.1
PLCA Paso Flores 20.31 184 P Pn 16 20 58.6 -1.9
comp=Z,53nn,0.9s,baz=10,slow=13,SNR=76
comp=Z,53nn,0.9s
PLCA Paso Flores 20.31 184 *eP* Pn 16 20 58.1 -2.4
PMNB Patos De Minas 20.89 89 *eP* **P 16 21 02.7 -1.2**
PARB Paraibuna 21.43 102 *eP* **P 16 21 08.6 -1.0**
SLP01 Ubatuba-SP 21.86 102 *eP* **P 16 21 13.4 -0.8**
BSCB Bom Sucesso 22.21 96 *eP* **P 16 21 17.1 -0.6**
OTAV Otavalo 22.73 333 P **P 16 21 23.2 -0.2**
OTAV Otavalo 22.73 333 *eP* **P 16 21 22.1 -1.3**
LL02 Futaleuf 22.86 186 P **P 16 21 23.8 -0.1**
MAN01 Angra dos Reis 22.94 101 *eP* **P 16 21 24.4 -0.5**
MALB Monte Alegre 23.12 39 *eP* **P 16 21 25.0 -1.6**
SMTB Santa Maria do 23.25 63 *eP* **P 16 21 27.3 -0.5**
DIAM Diamantina, MG 23.53 89 *eP* **P 16 21 29.6 -0.9**
JANB Januaria 23.65 81 *eP* **P 16 21 30.2 -1.3**
SDBA SAO DESIDERIO 23.99 74 *eP* **P 16 21 34.4 -0.2**
BOAV Boa Vista 24.00 20 P **P 16 21 34.1 -0.5**
BOAV Boa Vista 24.00 20 *eP* **P 16 21 34.6 0.0**
AY01 Puyuhuapi 24.16 187 P **P 16 21 35.8 +0.1**
DUB01 Friburgo-RJ 24.41 99 *eP* **P 16 21 37.6 -0.7**
CAM01 Campos-RJ 25.08 98 *eP* **P 16 21 43.9 -0.5**
COYC Coyhaique 25.24 186 IAmb IAmb 16 21 47.2
comp=Z,44nm,0.7s
MCPB Macapa, AP 25.64 41 *eP* **P 16 21 49.3 -0.1**
ROSC El Rosal 25.76 347 P **P 16 21 52.0 +1.0**
comp=Z,6.1nm,0.4s,baz=144,slow=12,SNR=2.2
comp=Z,6.1nm,0.4s
SJMB Sao Joao De Ma 25.80 91 *eP* **P 16 21 50.7 -0.2**
ALF01 Guarapari-ES 26.01 95 *eP* **P 16 21 52.6 -0.1**

RIB01 Linhares ES 26.45 92 *eP* **P 16 21 56.4 -0.4**
NAN01 Guarapari, ES 26.93 89 *eP* **P 16 22 00.7 -0.4**
AY03 Cochrane 26.96 186 IAmb IAmb 16 22 02.3
comp=Z,42nm,1.4s
GUA01 Guaratinga, BA 27.47 87 *eP* **P 16 22 05.8 -0.1**
CMC01 Camacan, BA 28.02 84 *eP* **P 16 22 10.3 -0.6**
GDU01 Guandu, BA 28.43 81 *eP* **P 16 22 13.8 -0.7**
NBPN Ponto Novo - B 28.84 75 *eP* **P 16 22 18.2 +0.1**
BAUV El Baul 29.20 1 IAmb IAmb 16 23 09.5
comp=Z,33nm,0.8s
SDV Santo Domingo 29.21 356 *eP* **P 16 22 21.3 -0.2**
MDP Montagnes des 29.79 33 LR LR 16 35 42.1
comp=Z,725nm,18.4s,baz=242,slow=39
NBLA Lagarto - SE 30.98 77 *eP* **P 16 22 35.6 -1.4**
NBMA Muriti-CE 31.59 70 *eP* **P 16 22 41.9 -0.5**
NBPB Pedra_Branca-C 31.75 66 *eP* **P 16 22 43.7 -0.1**
EFI East Falkland 32.23 168 P **P 16 22 48.7 +1.2**
NBAN Anadia - AL 32.85 76 *eP* **P 16 22 53.2 -0.3**
NBLV Livramento - P 33.23 71 *eP* **P 16 22 57.0 +0.3**
HDC Heredia 33.92 332 P **P 16 23 02.9 +0.1**
NBBL Bica de Lurdes 34.26 75 *eP* **P 16 23 05.0 -0.6**
RCBR Riachuelo 34.82 70 *eP* **P 16 23 11.5 +1.1**
RCBR Riachuelo 34.82 70 P **P 16 23 11.1 +0.6**
NBPV Pedro Velho 35.09 71 *eP* **P 16 23 13.7 +0.9**
OBIP Obispado Ponce 38.29 3 P **P 16 23 38.5 -1.2**
CELP Cerrillos 38.32 3 P **P 16 23 39.8 -0.2**
TEIG Tepich 44.80 333 P **P 16 24 34.8 +1.9**
TEIG pP **pP 16 25 03.3 +1.3**
CMIG Matias Romero 45.40 323 P **P 16 24 37.0 -0.5**
comp=Z,1.4nm,0.5s,baz=107,slow=19,SNR=2.1
comp=Z,1.4nm,0.5s
BRAL Brewton 54.31 340 pP pP 16 26 14.3 -0.9
baz=159
GOGA Godfrey 55.42 345 pP pP 16 26 22.6 -0.6
baz=163
LRAL Lakeview Retre 56.03 341 pP pP 16 26 27.7 +0.3
baz=159
KMSC Kings Mountain 56.60 347 pP pP 16 26 31.4 0.0
baz=166
833A Chaparral WMA, 56.92 327 pP pP 16 26 33.4 -0.5
baz=145
TKL Tuckaleechee C 57.63 345 P **P 16 26 07.9 -0.5**
comp=Z,4.1nm,0.9s,baz=117,slow=5.4,SNR=5.6
TKL pP **pP 16 26 38.3 -0.6**
comp=Z,9.5nm,0.8s,baz=161,slow=7.6,SNR=5.0
comp=Z,4.1nm,0.9s
NATX Nacogdoches 57.64 334 P **P 16 26 09.7 +1.3**
baz=151
OXF Oxford 58.15 340 pP pP 16 26 43.2 +0.8
baz=157
JCT Junction City 58.89 328 pP pP 16 26 47.9 0.0
baz=146
WHTX Lake Whitney, 59.05 331 pP pP 16 26 48.8 -0.2
baz=148
WVT Waverly 59.16 342 P **P 16 26 17.9 -1.0**
WVT Waverly 59.16 342 P **P 16 26 18.2 -0.7**
WVT pP **pP 16 26 49.4 -0.2**
WVT PcP **sP 16 27 04.8 +1.4**
MIAR Mount Ida 59.65 336 pP pP 16 26 52.6 -0.4
baz=153
BELA Belgrano 2 59.74 172 P **P 16 26 24.0 +1.5**
TXAR Lajitas Array 59.98 325 pP pP 16 26 54.9 -0.6
comp=Z,0.7nm,0.5s,baz=151,slow=8.7,SNR=4.1
ABTX Abilene, Hawle 60.58 330 pP pP 16 26 58.5 -1.1
baz=146
WCI Wyandotte Cave 60.70 344 pP pP 16 27 00.4 +0.2
baz=161
MCWV Mont Chateau 60.71 350 P **P 16 26 29.9 +0.4**
baz=168
VNA3 Neumayer Olymp 60.96 162 ⇓P **P 16 26 30.9 0.0**
comp=Z,6.5nm,0.8s
P52A Corning 61.10 348 P **P 16 26 32.1 0.0**
baz=166
PAL Palisades 61.33 355 P **P 16 26 34.8 +1.2**
baz=174
O53A New Philadelph 61.52 349 P **P 16 26 35.2 +0.2**
baz=167
VNA2 Neumayer--Watz 61.53 161 ⇓P **P 16 26 36.4 +1.7**
comp=Z,15nm,0.6s,baz=288,slow=7.9
P49A Miami Univ. Ec 61.55 346 pP pP 16 27 05.7 -0.2
baz=163
FVM French Village 61.66 340 P **P 16 26 35.5 -0.5**
TUL3 Leonard 61.71 335 P **P 16 26 36.3 0.0**
baz=151
ACSO Alum Creek Sta 61.84 347 P **P 16 26 36.3 -0.8**
ACSO IAmb IAmb 16 27 10.3
comp=Z,17nm,0.8s
ACSO Alum Creek Sta 61.84 347 P **P 16 26 37.5 +0.4**
baz=165
WMOK Wichita Mounta 61.96 332 pP pP 16 27 08.2 -0.7
baz=148
CCM Cathedral Cave 61.98 340 P **P 16 26 37.0 -1.1**
CCM Cathedral Cave 61.98 340 P **P 16 26 38.0 -0.1**
baz=156
CCM Cathedral Cave 61.98 340 P **P 16 26 38.8 +0.7**
CCM pP **pP 16 27 09.4 +0.4**
CCM sP **sP 16 27 24.7 +2.0**
O48B Farmland 62.34 346 P **P 16 26 40.9 +0.5**
baz=162
S39A Bolivar 62.36 338 IAmb IAmb 16 27 12.8
comp=Z,13nm,0.8s
M53A WI Miller and 62.59 350 P **P 16 26 42.5 +0.5**
baz=167
L61B Northampton 62.69 357 P **P 16 26 43.3 +0.6**
baz=176
MNTX Cornudas Mount 62.74 325 P **P 16 26 42.1 -1.2**
baz=141
SFIN Lafayette 62.93 344 P **P 16 26 44.4 0.0**
baz=160
ERPA Erie 63.14 350 P **P 16 26 46.5 +0.8**
baz=168
SNAA Sanae 63.16 161 P **P 16 26 46.3 +0.7**
SNAA Sanae 63.16 161 P **P 16 26 47.0 +1.4**
comp=Z,5.9nm,0.6s,baz=267,slow=9.7,SNR=8.1
comp=Z,5.9nm,0.6s
MSTX Muleshoe 63.19 328 IAmb IAmb 16 27 34.1
comp=Z,16nm,1.1s
MSTX Muleshoe 63.19 328 P **P 16 26 46.1 -0.2**
baz=144
HDIL Hopedale 63.69 342 pP pP 16 27 21.4 +1.0
baz=158
121A Cookes Peak, D 64.69 324 pP pP 16 27 26.5 -0.8
baz=139
TROLL Trol, Antarti 64.87 161 ⇓P **P 16 26 57.9 +1.0**
comp=Z,276nm,0.6s
LONY Lake Ozonia 64.98 355 P **P 16 26 59.5 +1.8**
baz=174
CBKS Cedar Bluff 65.81 334 pP pP 16 27 34.5 +0.2
baz=148
ANMO Albuquerque 65.82 326 pP pP 16 27 33.9 -0.8
baz=141
ANMO Albuquerque 65.82 326 pP pP 16 27 35.2 +0.4
comp=Z,12nm,0.5s,baz=243,slow=10,SNR=4.6
SCIA State Center 66.11 340 pP pP 16 27 36.7 +0.4
baz=155
JFWS Jewell Farm 66.14 343 pP pP 16 27 36.8 +0.4
baz=158
TUC Tucson 66.24 322 pP pP 16 27 37.1 -0.2
baz=137
T25A Trinidad 66.52 329 pP pP 16 27 38.9 -0.4
baz=143
GLMI Grayling 66.59 348 pP pP 16 27 41.0 +1.8
baz=164
214A Organ Pipe Nat 67.19 320 pP pP 16 27 43.7 +0.4
baz=135
KSCO Kaye Shedlock' 67.21 332 pP pP 16 27 44.4 +0.9
baz=145
BGNE Belgrade 67.39 336 pP pP 16 27 46.0 +1.5
baz=150
LIC Lamto 67.74 74⇑ *i*P **P 16 27 15.5 -0.4**
comp=Z,22nm,0.4s
TIC Toumodi 67.92 74⇑ *i*P **P 16 27 16.8 -0.3**
comp=Z,5.9nm,0.3s
KIC Kosan Boka 68.05 74⇑ *i*P **P 16 27 17.8 -0.1**
comp=Z,41nm,0.5s
DBIC Dimbokro 68.08 74 P **P 16 27 17.8 -0.3**
DBIC Dimbokro 68.08 74 P **P 16 27 18.1 0.0**
comp=Z,33nm,0.7s,baz=233,slow=6.5,SNR=44
DBIC LR LR 16 55 43.0
comp=Z,135nm,20.7s,baz=237,slow=35
comp=Z,33nm,0.7s
DBIC Dimbokro 68.08 74 P **P 16 27 18.0 0.0**
Q24A Divide 68.33 330 P **P 16 27 20.9 +1.4**
baz=143
OGNE Ogallala 68.55 333 pP pP 16 27 53.2 +1.3
baz=146
MVCO Mesa Verde 68.61 327 pP pP 16 27 54.3 +1.6
baz=140
WUAZ Wupatki 68.90 324 pP pP 16 27 55.1 +0.8
baz=137
SPMN Marine on St. 68.99 342 pP pP 16 27 55.8 +1.3
baz=156
ISCO Idaho Springs 69.21 330 P **P 16 27 24.5 -0.5**
baz=143
PDMCI Parker Dam,Lak 69.62 321 pP pP 16 28 00.1 +1.5
baz=134
IKP In-Ko-Pah, Jac 69.69 318 pP pP 16 28 00.3 +1.1
baz=133
QSPA South Pole Qui 69.75 180 P **P 16 27 29.5 +1.8**
comp=Z,6.5nm,0.5s,baz=319,slow=1.4,SNR=135
comp=Z,6.5nm,0.5s
QSPA South Pole Qui 69.75 180 P **P 16 27 29.4 +1.7**
QSPA PcP **PcP 16 27 50.6 +1.0**
BC3 Big Chuckawall 69.97 320 P **P 16 27 30.4 +0.9**
baz=133,SNR=7.3
MONP2 Monument Peak 70.05 318 pP pP 16 28 01.6 0.0
baz=132
IRM Iron Mountain 70.12 320 P **P 16 27 30.7 +0.4**
baz=134,SNR=9.5
BELC Belle Mtn. Jos 70.53 319 pP pP 16 28 05.8 +1.3
baz=133
TPFO Pinon Flats 70.55 319 pP pP 16 28 05.7 +1.2
baz=133
PFO Pinyon Flats O 70.55 319 pP pP 16 28 05.9 +1.3
baz=133
PFO Pinyon Flats O 70.55 319 pP pP 16 28 05.1 +0.6
comp=Z,7.8nm,0.8s,baz=138,slow=5.7,SNR=6.5
O20A White River Ci 70.73 329 P **P 16 27 34.9 +0.8**
baz=141
GMRC Granite Mounta 70.86 320 P **P 16 27 36.0 +1.1**
baz=134,SNR=11
SRU San Rafael Swe 71.09 327 IAmb IAmb 16 28 10.3
comp=Z,49nm,2.0s
EYMN Ely 71.13 344 P **P 16 27 37.5 +1.4**
baz=157
HEC Hector,Ludlow 71.30 320 pP pP 16 28 09.4 +0.3
baz=133
P18A Preston Nutter 71.34 327 IAmb IAmb 16 28 12.6
comp=Z,37nm,1.7s
TUQ Turquoise Moun 71.46 321 pP pP 16 28 10.8 +0.6
baz=133
BFSC Mount Baldy Ra 71.71 319 pP pP 16 28 13.0 +1.4
baz=132
GSC Goldstone, Bar 71.90 320 P **P 16 27 42.5 +1.4**
baz=133,SNR=6.2
RSSD Black Hills 72.01 334 P **P 16 27 42.5 +0.9**
baz=145
BSUT Blindstream Ca 72.28 327 IAmb IAmb 16 28 23.2
comp=Z,39nm,1.9s
EDW2 Edwards Air Fo 72.34 319 pP pP 16 28 16.6 +1.3
baz=132
PSUT Pine Spring 72.45 324 IAmb IAmb 16 28 19.1
comp=Z,31nm,1.5s
LRMC Laurel Mtn Rad 72.55 320 P **P 16 27 46.6 +1.5**
baz=132,SNR=5.9
OSI Osito Audit: C 72.62 318 pP pP 16 28 17.9 +0.8
baz=131
FURC Furnace Creek, 72.72 321 pP pP 16 28 18.3 +0.8
baz=133
WCT Wildcat Mounta 72.81 321 IAmb IAmb 16 28 21.6
comp=Z,27nm,1.3s
MPMC Manual Prospec 72.82 320 P **P 16 27 48.0 +1.3**
baz=132,SNR=5.5
ARVC Arvin 73.02 319 P **P 16 27 49.7 +2.1**
baz=131
DUG Dugway, Tooele 73.08 326 IAmb IAmb 16 28 22.8
comp=Z,30nn,1.6s
DUG Dugway, Tooele 73.08 326 P **P 16 27 50.2 +2.1**
baz=137,SNR=7.0
ISA Isabella, Lake 73.15 319 P **P 16 27 50.1 +1.6**
baz=132,SNR=7.7
R11B Troy Canyon, C 73.28 323 IAmb IAmb 16 28 24.4
comp=Z,28nm,1.6s
R11B Troy Canyon, C 73.28 323 P **P 16 27 51.9 +2.6**
baz=134,SNR=9.8
BW06 Boulder Array 73.38 330 P **P 16 27 52.1 +2.2**
baz=140
PDAR Pinedale Array 73.38 330 P **P 16 27 50.3 +0.4**
comp=Z,0.6nm,0.5s,baz=126,slow=7.5,SNR=6.8
PDAR pP **pP 16 28 21.2 -0.3**
comp=Z,0.8nm,0.6s,baz=122,slow=7.5,SNR=4.7
comp=Z,0.6nm,0.5s
CWC Cottonwood Cre 73.43 320 P **P 16 27 52.4 +2.2**
baz=132
MDND Maddock 73.48 339 pP pP 16 28 23.3 +1.5
baz=150
PKM Mcpherson Peak 73.48 318 pP pP 16 28 22.8 +0.5
baz=130
HWUT Hardware Ranch 73.48 328 IAmb IAmb 16 28 26.1
comp=Z,44nm,1.9s
VES Vestal, Richgr 73.64 319 P **P 16 27 53.2 +1.9**
baz=131,SNR=7.3
SPUT South Promonto 73.71 327 IAmb IAmb 16 28 26.8
comp=Z,29nm,1.4s
SMMC Simmler 73.87 318 pP pP 16 28 25.0 +0.6
baz=130
ULM Lac du Bonnet 74.42 342 P **P 16 27 55.1 -0.3**
comp=Z,1.7nm,0.4s,baz=141,slow=6.3,SNR=6.4
ULM pP **pP 16 28 28.2 +0.9**
comp=Z,8.4nm,0.5s,baz=156,slow=6.0,SNR=12
comp=Z,1.7nm,0.4s
LOHW Long Hollow 74.52 330 IAmb IAmb 16 28 30.8
comp=Z,49nm,2.0s
ELK Elko 74.77 325 P **P 16 27 57.3 -0.7**
comp=Z,0.4nm,0.3s,baz=163,slow=4.9,SNR=3.7
ELK pP **pP 16 28 29.5 -0.3**
comp=Z,1.7nm,0.6s,baz=137,slow=2.7,SNR=5.1
comp=Z,0.4nm,0.3s
NVAR Mina Array Bea 74.89 322 P **P 16 28 00.1 +1.4**
comp=Z,1.5nn,0.9s,baz=142,slow=5.3,SNR=6.6
NVAR pP **pP 16 28 31.2 +0.6**
comp=Z,2.3nm,0.7s,baz=152,slow=6.1,SNR=11
comp=Z,1.5nn,0.9s
FLWY Flagg Ranch 74.92 330 IAmb IAmb 16 28 48.7
comp=Z,30nn,1.2s
SCHQ Schefferville 74.97 1 P **P 16 27 58.6 +0.1**
comp=Z,3.8nn,0.9s,baz=39,slow=17,SNR=2.9
comp=Z,3.8nn,0.9s
LAO LASA Array 74.99 334 pP pP 16 28 32.1 +1.3
baz=144
RLMT Red Lodge 75.06 331 P **P 16 28 01.6 +2.1**
baz=141,SNR=6.5
H17A Grant Village 75.10 330 P **P 16 28 02.3 +2.4**
baz=140
DGMT Dagmar 75.65 336 P **P 16 28 05.1 +2.6**
baz=146
HLID Hailey 76.35 328 IAmb IAmb 16 28 42.9
comp=Z,30nn,1.6s
HLID Hailey 76.35 328 P **P 16 28 08.5 +1.6**
baz=136,SNR=9.4
PAHR Pah Rah Range 76.37 322 IAmb IAmb 16 28 42.1
comp=Z,46nn,1.5s
BOZ Bozeman (W) 76.50 330 P **P 16 28 10.0 +2.3**
baz=139,SNR=7.0
TOA0 Torodi Ar. Sit 76.65 70 P **P 16 28 08.7 -0.3**
TORD Torodi Ar. Bea 76.65 70 P **P 16 28 08.6 -0.4**
TORD IAmb IAmb 16 28 09.8
comp=Z,30nn,0.9s
TORD Torodi Ar. Bea 76.65 70 P **P 16 28 08.9 0.0**
comp=Z,24nn,0.7s,baz=258,slow=5.3,SNR=122
TORD S **S 16 37 39.0 -7.0**
comp=Z,0.7nn,0.7s,baz=249,slow=10,SNR=2.9
comp=Z,24nn,0.7s
ORV Oroville 77.51 321 IAmb IAmb 16 28 48.3
comp=Z,38nn,1.4s
EGMT Eagleton 77.52 333 IAmb IAmb 16 28 48.3
comp=Z,24nn,1.3s
EGMT Eagleton 77.52 333 P **P 16 28 13.9 +0.7**
baz=141
VNDA Vanda 77.96 190 P **P 16 28 17.1 +1.9**
comp=Z,1.9nn,0.7s,baz=119,slow=6.3,SNR=9.1
comp=Z,1.9nn,0.7s
BMO Blue Mountains 78.73 327 IAmb IAmb 16 28 55.6
comp=Z,30nn,1.6s
F10A Beach Ranch, E 79.47 328 IAmb IAmb 16 29 17.7
comp=Z,42nn,1.8s
YBH Yreka Blue Hor 79.61 322 P **P 16 28 24.9 +0.1**
comp=Z,2.8nn,1.0s,baz=360,slow=8.4,SNR=2.9
YBH pP **pP 16 28 57.4 +0.4**
comp=Z,1.4nn,0.6s,baz=150,slow=7.9,SNR=2.2
comp=Z,2.8nn,1.0s
PINE Pine Mountain 79.94 324 IAmb IAmb 16 29 03.0
comp=Z,42nn,1.6s
I05D Terrebonne, OR 80.51 325 IAmb IAmb 16 29 04.9
comp=Z,45nn,1.5s
HAWA Hanford 80.92 327 IAmb IAmb 16 29 07.0

	comp=Z,43nm,1.6s							
NEW	**Newport**	**81.02**	**330**	pP	pP	16 29 03.5	-1.0	
	baz=135							
NEW	**Newport**	**81.02**	**330**	pP	pP	16 29 04.5	0.0	
	comp=Z,2.0nm,0.8s,baz=133,slow=7.6,SNR=2.7							
C09A	**Chrisman Ranch**	**81.25**	**329**	IAmb	IAmb	16 29 10.1		
	comp=Z,16nm,0.8s							
BOSA	**Boshof**	**83.62**	**118**	P	**P**	**16 28 47.1**	**+0.7**	
	comp=Z,1.9nm,0.5s,baz=248,slow=4.5,SNR=12							
	comp=Z,1.9nm,0.5s							
ESDC	**Sonseca Array**	**84.82**	**44**	P	**P**	**16 28 52.3**	**+0.4**	
	comp=Z,1.7nm,0.9s,baz=245,slow=3.6,SNR=6.4							
ESDC				pP	**pP**	**16 29 25.3**	**+0.9**	
	comp=Z,3.8nm,1.0s,baz=244,slow=5.5,SNR=7.2							
ESDC				LR	LR	17 04 29.7		
	comp=Z,112nm,18.8s,baz=260,slow=34							
	comp=Z,1.7nm,0.9s							
YKA	**Yellowknife Ar**	**90.31**	**340**	P	**P**	**16 29 17.4**	**-0.3**	
YKA	**Yellowknife Ar**	**90.31**	**340**	P	**P**	**16 29 18.2**	**+0.5**	
	comp=Z,4.9nm,0.9s,baz=132,slow=4.5,SNR=60							
YKA				pP	**pP**	**16 29 51.5**	**+0.9**	
	comp=Z,17nm,0.8s,baz=135,slow=4.7,SNR=23							
	comp=Z,4.9nm,0.9s							
KOTAN	**Kotaneelee Air**	**92.00**	**336**	pP	pP	16 29 56.3	-2.1	
	baz=129							
V35K	**Ketchikan**	**92.43**	**329**	P	**P**	**16 29 28.6**	**+1.0**	
	baz=123							
DLBC	**Dease Lake**	**93.44**	**332**	pP	pP	16 30 04.1	-1.2	
	baz=124							
DLBC	**Dease Lake**	**93.44**	**332**	pP	pP	16 30 05.2	-0.1	
	comp=Z,2.2nm,0.8s,baz=129,slow=2.3,SNR=4.7							
S34M	**Telegraph Cree**	**93.63**	**332**	pP	pP	16 30 05.4	-0.6	
	baz=124							
WTLY	**Watson Lake, Y**	**93.88**	**334**	pP	pP	16 30 07.0	-0.3	
	baz=125							
K29M	**Barlow Dome**	**99.34**	**335**	pP	pP	16 30 31.5	-0.5	
	baz=118							
I30M	**Mount Dempster**	**99.55**	**337**	pP	pP	16 30 32.5	-0.5	
	baz=118							
A36M	**Sachs Harbour**	**99.78**	**345**	pP	pP	16 30 34.0	+0.3	
	baz=127							
INK	**Inuvik**	**100.08**	**340**	pP	pP	16 30 35.2	+0.2	
	baz=120							
DAWY	**Dawson**	**100.18**	**335**	pP	pP	16 30 35.9	+0.2	
	baz=116							
SEY	**Seymchan**	**129.27**	**337**	PKP	**PKiKP**	**16 35 25.6**	**+0.5**	
	comp=Z,1.5nm,0.7s,baz=74,slow=3.9,SNR=7.3							
SEY				pPKP	**pPKPdf**	**16 35 59.7**	**+1.2**	
	comp=Z,1.9nm,0.8s,baz=90,slow=3.0,SNR=4.0							
ASAR	**Alice Springs**	**131.02**	**208**	PKhKP	PKPpre	16 35 15.4		
	comp=Z,0.1nm,0.5s,baz=127,slow=1.6,SNR=6.0							
ASAR				PKP	**PKiKP**	**16 35 29.4**	**-0.7**	
	comp=Z,1.1nm,0.4s,baz=134,slow=1.7,SNR=33							
ASAR				pPKP	pPKPdf	16 36 03.5	+0.3	
	comp=Z,1.1nm,0.9s,baz=134,slow=2.4,SNR=3.3							
WRA	**Warramunga Arr**	**134.05**	**211**	PKhKP	PKPpre	16 35 22.5		
	comp=Z,0.1nm,0.4s,baz=116,slow=2.2,SNR=9.2							
WRA				PKP	**PKiKP**	**16 35 35.3**	**-0.9**	
	comp=Z,1.3nm,0.5s,baz=153,slow=1.5,SNR=21							
BVAR	**Borovoye Array**	**134.71**	**34**	PKP	**PKiKP**	**16 35 36.2**	**-0.2**	
	comp=Z,0.5nm,0.7s,baz=298,slow=3.2,SNR=3.7							
KURBB	**Kurchatov Arra**	**140.25**	**31**	PKP	**PKPdf**	**16 35 44.7**	**-0.6**	
	comp=Z,0.5nm,0.7s,baz=301,slow=2.4,SNR=5.4							
KURBB				pPKP	**pPKPdf**	**16 36 20.4**	**+1.0**	
	comp=Z,1.0nm,0.9s,baz=302,slow=2.2,SNR=4.5							
ZALV	**Zalesovo Beam**	**140.84**	**25**	PKP	**PKPdf**	**16 35 44.0**	**-2.2**	
	comp=Z,1.1nm,0.6s,baz=318,slow=2.0,SNR=6.1							
ZALV				pPKP	**pPKPdf**	**16 36 20.8**	**+0.4**	
	comp=Z,3.9nm,0.8s,baz=304,slow=2.9,SNR=5.8							
KSH	**Kashi**	**144.14**	**50**	PKP	**PKPdf**	**16 35 51.9**	**-0.8**	
KSH				sPKP		16 36 31.0		
MAKZ	**Makanchi**	**144.38**	**36**	PKPdf	**PKPdf**	**16 35 51.9**	**-0.9**	
MK31	**Makanchi Array**	**144.56**	**35**	PKPdf	**PKPdf**	**16 35 52.5**	**-0.6**	
MKAR	**Makanchi Array**	**144.56**	**35**	PKPdf	**PKPdf**	**16 35 52.5**	**-0.6**	
MKAR	**Makanchi Array**	**144.56**	**35**	PKP	**PKPdf**	**16 35 52.8**	**-0.3**	
	comp=Z,2.8nm,0.8s,baz=311,slow=3.5,SNR=27							
MKAR				pPKP	**pPKPdf**	**16 36 27.5**	**+0.2**	
	comp=Z,2.5nm,0.7s,baz=336,slow=2.7,SNR=5.8							
KLR	**Kul'dur**	**147.02**	**335**	PKPbc	**PKPab**	**16 35 59.6**	**-1.5**	
	comp=Z,1.7nm,0.5s,baz=102,slow=1.6,SNR=10.0							
KLR				pPKPbc	**pPKPdf**	**16 36 32.0**	**+0.7**	
	comp=Z,4.7nm,0.9s,baz=42,slow=3.1,SNR=6.3							
HEH	**HeiHe**	**147.68**	**341**	PKPbc	**PKiKP**	**16 36 02.0**	**-1.1**	
WMQ	**Urumqi**	**149.39**	**35**	*e*P	**PKPdf**	**16 36 01.3**	**0.0**	
WMQ				sPKP		16 36 44.3		
USRK	**Ussuriysk Ar.**	**150.81**	**329**	PKPbc	**PKiKP**	**16 36 10.1**	**+0.4**	
	comp=Z,4.8nm,0.9s,baz=99,slow=2.8,SNR=11							
USRK				pPKPbc	**pPKPbc**	**16 36 43.2**	**0.0**	
	comp=Z,1.6nm,0.6s,baz=18,slow=1.3,SNR=3.4							
MJAR	**Matsushiro Arr**	**151.69**	**310**	PKPbc	**PKiKP**	**16 36 11.9**	**+0.1**	
	comp=Z,1.4nm,0.5s,baz=101,slow=1.1,SNR=7.0							
MJAR				pPKPbc	**pPKPbc**	**16 36 46.3**	**+0.7**	
	comp=Z,3.1nm,0.8s,baz=79,slow=1.4,SNR=6.2							
SONM	**Songino Array**	**152.36**	**7**	PKP	**PKPdf**	**16 36 07.4**	**+1.6**	
	comp=Z,0.4nm,0.5s,baz=58,slow=0.3,SNR=4.7							
SONM				PKPbc	**PKiKP**	**16 36 13.4**	**+0.4**	
	comp=Z,0.9nm,0.4s,baz=302,slow=1.5,SNR=9.0							
SONM				pPKPbc	**pPKPbc**	**16 36 47.9**	**+1.2**	
	comp=Z,2.4nm,0.5s,baz=328,slow=1.6,SNR=7.7							
KSRS	**Korea Array**	**157.82**	**323**	pPKPab	pPKPab	16 37 20.6	+0.8	
	comp=Z,0.9nm,0.5s,baz=44,slow=4.7,SNR=2.5							
GTA	**Gaotai**	**158.59**	**25**	PKP	**PKPdf**	**16 36 16.1**	**+1.6**	
HHC	**Hu-ho-hao-te**	**159.65**	**360**	*e*P	**PKPdf**	**16 36 17.7**	**+2.1**	
BTO	**Baotou**	**159.86**	**3**	*e*PKPbc	**PKPdf**	**16 36 16.4**	**+0.5**	
BTO				pPKP	**pPKPdf**	**16 36 42.9**	**-7.3**	
BTO				sPKP		16 36 52.8		
BTO				PKPab	**PKPab**	**16 36 59.1**	**+3.7**	
BTO				PP	PP	16 40 14.8	-22	
BTO				SKS	SKSdf	16 43 24.2	+14	
LZH	**Lanzhou**	**163.03**	**22**	*e*P	PKPdf	16 36 10.7	-8.7	
LZH				pP	pPKPdf	16 36 21.1	-33	
LZH				pmax	pmax			
	comp=Z,18nm,1.4s							
NJ2	**Nanjing**	**166.68**	**332**	*e*P	**PKPdf**	**16 36 22.7**	**+0.3**	
NJ2				pmax	pmax			
	comp=Z,7.0nm,0.5s							
CD2	**Chengdu**	**167.46**	**32**	PKP	**PKPdf**	**16 36 21.5**	**-1.6**	
CMAR	**Chiang Mai Arr**	**168.00**	**97**	PKP	**PKPdf**	**16 36 25.5**	**+1.7**	
	comp=Z,0.7nm,0.9s,baz=253,slow=1.9,SNR=4.8							
CMAR				PKPab	**PKPab**	**16 37 31.8**	**-0.3**	
	comp=Z,0.4nm,0.7s,baz=264,slow=6.3,SNR=4.5							
PZH	**PanZhiHua**	**169.21**	**54**	PKP	**PKPdf**	**16 36 22.4**	**-2.1**	

IDC 04 16:24:10.2±2.0, 5.47S×142.19E, h0km, mb3.7/2, mbtmp3.5/4, ML3.1/2, Error ellipse: s-maj=100.7km s-min=32.3km az=107.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.29**	**207**	Pn	Pn	16 27 58.4	-2.2
	0.1nm,0.3s,baz=26,slow=14,SNR=2.7						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**19.77**	**203**	P	Pn	16 28 43.0	-0.6
	0.1nm,0.3s,baz=33,slow=9.7,SNR=26						
	1.9nm,0.7s						
BVAR	**Borovoye Array**	**83.55**	**325**	P	P	16 36 40.4	+0.2
	0.9nm,0.9s,baz=122,slow=5.2,SNR=2.3						
	0.9nm,0.9s						
ILAR	**Eielson Array**	**86.91**	**24**	P	P	16 36 56.5	-0.3
	0.2nm,0.8s,baz=250,slow=5.3,SNR=1.7						
	0.2nm,0.8s						

*IDC **04** 16:50:21.5±1.3, 6.35S×143.08E, h0km, mb3.9/3, mbtmp3.9/6, ML3.8/2, Error ellipse: s-maj=40.0km s-min=28.1km az=82.0*

ISC 04 16:50:25.9±1.0, 6.71S±0.10×142.96E±0.10, h35km, n6, σ2s2.1/9, mb3.8/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.94**	**123**	Pn	**Pn**	**16 51 38.4**	**+0.7**
	10nm,0.6s,baz=354,slow=6.0,SNR=8.8						
PMG				Sn	**Sn**	**16 52 32.8**	**-0.9**
	1.1nm,0.3s,baz=66,slow=20,SNR=6.9						
WRA	**Warramunga Arr**	**15.59**	**212**	Pn	**P**	**16 54 05.5**	**-1.6**
	0.4nm,0.3s,baz=28,slow=13,SNR=15						
WRA				Sn	**Sn**	**16 56 54.1**	**-0.9**
	0.2nm,0.3s,baz=34,slow=24,SNR=1.9						
WRA				Lg	Lg	16 58 46.7	
	baz=24,slow=30						
	1.8nm,0.7s						
ASAR	**Alice Springs**	**18.97**	**206**	P	**Pn**	**16 54 49.8**	**+4.4**
	0.3nm,0.3s,baz=35,slow=9.7,SNR=33						
ASAR				S	**S**	**16 58 16.1**	**-2.1**
	0.6nm,1.0s,baz=20,slow=27,SNR=2.2						
ASAR				Lg	Lg	17 00 36.0	
	baz=21,slow=30,SNR=1.3						
	2.5nm,0.8s						
MKAR	**Makanchi Array**	**75.53**	**322**	P	**P**	**17 02 07.0**	**+0.1**
	0.8nm,0.8s,baz=122,slow=6.0,SNR=7.9						
	0.8nm,0.8s						
BVAR	**Borovoye Array**	**85.00**	**325**	P	**P**	**17 02 57.7**	**0.0**
	1.1nm,0.7s,baz=121,slow=7.4,SNR=7.2						
	1.1nm,0.7s						
ILAR	**Eielson Array**	**87.73**	**24**	P	**P**	**17 03 09.8**	**-1.0**
	0.4nm,0.9s,baz=232,slow=4.1,SNR=3.0						
	0.4nm,0.9s						

DJA 04 17:18:30.7±3.0, 2.5S±6.3×13.3E±2.7, h17km±40km, M3.6/7, mb3.8/3, MLv3.5/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.12**	**214**	P	Pn	17 18 51.2	-0.4
SWI	**Sorong**	**1.96**	**305**	P	Pn	17 19 03.5	+0.4
BNDI	**Bandanaira**	**3.89**	**229**	P	Pn	17 19 30.2	+0.4
LBMI	**Labuha**	**5.53**	**284**	P	Pn	17 19 52.6	+0.3
	11nm,0.9s,0.1nm						
NLAI	**Namlea**	**5.90**	**258**	P	Pn	17 19 57.8	+0.4
	12nm,0.8s,0.1nm						
SANI	**Sanana**	**6.88**	**269**	P	Pn	17 20 10.9	+0.1

DJA 04 17:19:56.8±0.3, 10.5S±3.1×107.7E±1.1, h10km, M4.2/14, mb4.4/6, MLv4.1/14, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**2.77**	**37**	P	Pn	17 20 41.8	+0.5
CMJI				S	Sn	17 21 11.9	-3.0
SKJI	**Sukabumi**	**3.01**	**356**	P	Pn	17 20 45.4	+0.8
LEM	**Lembang**	**3.29**	**15**	P	Pn	17 20 49.2	+0.6
KPJI	**Karang Pucung**	**3.42**	**39**	P	Pn	17 20 51.9	+1.7
DBJI	**Dramaga**	**3.45**	**360**	P	Pn	17 20 52.8	+2.1
UGM	**Wanagama**	**4.25**	**61**	P	Pn	17 21 01.6	-0.1
UGM				S	Sn	17 21 45.1	-6.4
KASI	**Kota Agung**	**5.02**	**333**	P	Pn	17 21 12.3	+0.1
	12nm,1.1s,0.2nm						
KASI				S	Sn	17 22 09.0	-1.3
	12nm,1.1s,0.2nm						
PWJI	**Pagerwojo**	**5.35**	**69**	P	Pn	17 21 16.1	-0.6
	23nm,0.5s,0.2nm						
LWLI	**Liwa**	**5.66**	**331**	P	Pn	17 21 22.1	+0.9
	20nm,0.5s,0.3nm						
GRJI	**Gresik**	**6.43**	**62**	P	Pn	17 21 30.5	-1.1
	130nm,1.1s,0.5nm						
MNAI	**Manna**	**6.79**	**326**	P	Pn	17 21 39.2	+2.6
	119nm,1.1s,0.5nm						
JAGI	**Jajag, Banyuwa**	**7.44**	**79**	P	Pn	17 21 44.9	-0.6

*IDC **04** 17:25:20.5±4.4, 37.51N×70.93E, h64km±31km, mb3.6/4, mbtmp3.9/11, ML3.6/7, Error ellipse: s-maj=59.4km s-min=21.8km az=143.0*
*NNC **04** 17:25:23.3±4.9, 37.87N×70.98E, h0km, mb4.3, mpv4.2, Error ellipse: s-maj=50.1km s-min=26.4km az=153.0*

ISC 04 17:25:20.7±1.4, 37.6N±0.1×70.72E±0.08, h50km, n23, σ2s2.8/29, mb4.0/4, 3C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UCH	**Uchtor**	**5.51**	**31**	P	**Pn**	**17 26 42.3**	**+1.8**
	SNR=16						
KK31	**Karatay Array**	**5.55**	**358**	P	**Pn**	**17 26 44.2**	**+3.4**
	17nm,0.4s,baz=176,slow=12,SNR=484						
KK31				⇓S	**Sn**	**17 27 46.6**	**+3.4**
	6.9nm,0.3s,baz=189,slow=23,SNR=6.3						
EKS2	**Erkin-Say**	**5.62**	**24**	P	**Pn**	**17 26 44.2**	**+2.4**
	SNR=18						
AAK	**Ala-Archa**	**5.85**	**28**	P	**Pn**	**17 26 47.3**	**+2.3**
	SNR=16						
AAK	**Ala-Archa**	**5.85**	**28**	P	**Pn**	**17 26 45.5**	**+0.6**
	4.0nm,0.3s,baz=188,slow=5.5,SNR=64						
AAK				S	**Sn**	**17 27 49.5**	**-1.2**
	4.5nm,0.3s,baz=16,slow=19,SNR=2.6						
	6.8nm,0.3s						
KBK	**Karagaybulak**	**6.04**	**31**	P	**Pn**	**17 26 50.4**	**+2.7**
	SNR=14						
CHMS	**Chumysh**	**6.25**	**28**	P	**Pn**	**17 26 52.6**	**+2.2**
	SNR=7.8						
CHMS	**Chumysh**	**6.25**	**28**	⇓P	**Pn**	**17 26 52.2**	**+1.8**
	9.3nm,0.4s						
CHMS				⇑S	**Sn**	**17 28 00.9**	**+0.4**
	13nm,0.6s						
USP	**Ospenovka**	**6.40**	**26**	P	**Pn**	**17 26 54.2**	**+1.8**
	SNR=46						
TKM2	**Tokmak 2**	**6.53**	**33**	P	**Pn**	**17 26 56.5**	**+2.1**
	SNR=17						
TKM2	**Tokmak 2**	**6.53**	**33**	⇑P	**Pn**	**17 26 56.0**	**+1.6**
	9.5nm,0.4s						
TKM2				⇑S	**Sn**	**17 28 07.1**	**-0.6**
	4.2nm,0.8s						
GEYT	**Alibeck**	**9.99**	**276**	P	**Pn**	**17 27 43.1**	**+1.4**
	2.1nm,0.3s,baz=108,slow=11,SNR=26						
GEYT				S	**Sn**	**17 29 31.5**	**-0.8**
	1.6nm,0.3s,baz=140,slow=19,SNR=7.0						
	6.4nm,0.4s						
MKAR	**Makanchi Array**	**12.60**	**39**	P	**Pn**	**17 28 16.4**	**-0.7**
	0.1nm,0.3s,baz=225,slow=14,SNR=26						
	2.1nm,0.8s						
AB31	**Akbulak array**	**14.06**	**330**	P	**Pn**	**17 28 36.9**	**-0.1**
	0.6nm,0.5s,baz=136,slow=12,SNR=14						
KURBB	**Kurchatov Arra**	**14.21**	**21**	P	**Pn**	**17 28 36.3**	**-2.7**
	0.1nm,0.3s,baz=212,slow=12,SNR=6.4						
	0.5nm,0.3s						
BVAR	**Borovoye Array**	**15.48**	**359**	P	**Pn**	**17 28 54.8**	**-0.8**
	0.1nm,0.3s,baz=165,slow=11,SNR=11						
	1.5nm,0.4s						
AKTO	**Aktyubinsk**	**15.77**	**329**	P	**Pn**	**17 28 59.9**	**+0.6**
	0.6nm,0.3s,baz=141,slow=8.3,SNR=5.7						
AKTO				S	**Sn**	**17 31 46.2**	**-6.7**
	0.8nm,0.5s,baz=164,slow=19,SNR=1.7						
	0.4nm,0.3s						
AKTO	**Aktyubinsk**	**15.77**	**329**	⇓P	**P**	**17 29 04.6**	**+2.2**
	1.4nm,0.7s						
ZALV	**Zalesovo Beam**	**19.06**	**26**	P	**P**	**17 29 37.0**	**-1.8**
	0.5nm,0.3s,baz=218,slow=11,SNR=13						
	1.6nm,0.3s						
FINES	**FINESS Array B**	**36.49**	**325**	P	**P**	**17 32 21.0**	**+0.3**
	2.0nm,1.0s,baz=112,slow=15,SNR=2.3						
	2.0nm,1.0s						
ARCES	**ARCESS Array B**	**40.09**	**337**	P	**P**	**17 32 49.3**	**-1.6**
	4.7nm,1.2s,baz=115,slow=8.3,SNR=1.3						
	4.7nm,1.2s						
ESDC	**Sonseca Array**	**56.78**	**297**	P	**P**	**17 34 59.9**	**+0.2**
	0.4nm,0.5s,baz=56,slow=7.4,SNR=5.2						
	0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**65.53**	**268**	P	**P**	**17 35 57.7**	**-1.5**
	0.7nm,0.6s,baz=40,slow=7.2,SNR=3.2						
	0.7nm,0.6s						

*IDC **04** 17:26:33.8±0.9, 6.26S×143.23E, h0km, mb4.0/8, mbtmp4.0/10, ML2.0/1, Error ellipse: s-maj=37.6km s-min=22.0km az=78.0*
*NEIC **04** 17:26:34.9±2.6, 6.44S±0.05×143.04E±0.09, h10km±1km, mb4.1/16, Error ellipse: s-maj=15.5km s-min=6.4km az=67.0*
*DJA **04** 17:26:37.2±0.4, 6.5S±4.1×143.3E±1.1°, h112km±15km, M4.7/7, mB5.3/2, mb4.3/7, MLv4.8/6, Mw(mB)4.7/2*

ISC 04 17:26:37.9±0.6, 6.59S±0.07×143.06E±0.07, h35km, n43, σ1s87/44, mb4.0/12, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMPI	**Merauke**	**3.24**	**235**	P	**Pn**	**17 27 29.3**	**+3.0**
GENI	**Genyem**	**4.91**	**324**	P	**Pn**	**17 27 47.7**	**-1.5**
PMG	**Port Moresby**	**4.93**	**125**		**Pn**	**17 27 50.2**	**+0.7**
PMG	**Port Moresby**	**4.93**	**125**	Pn	**Pn**	**17 27 49.6**	**+0.1**
	3.7nm,0.3s,baz=32,slow=9.4,SNR=17						
PMG				Sn	**Sn**	**17 28 41.3**	**-4.0**
	2.4nm,0.3s,baz=327,slow=11,SNR=3.6						
	7.8nm,0.3s						
MANU	**Manus Island**	**6.23**	**44**		**Pn**	**17 28 07.5**	**0.0**
SMPI	**Sarmi**	**6.30**	**316**	P	**Pn**	**17 28 07.7**	**-0.7**
	39nm,0.9s,0.2nm						
COEN	**Coen**	**7.32**	**179**	Pn	**Pn**	**17 28 25.5**	**+3.1**
FAKI	**Fak Fak**	**11.37**	**288**	Pn	**Pn**	**17 29 17.8**	**-0.2**
FAKI	**Fak Fak**	**11.37**	**288**	P	**Pn**	**17 29 16.6**	**-1.4**
	20nm,0.9s						
MTN	**Manton Dam**	**13.29**	**241**		**Pn**	**17 29 41.3**	**-3.0**
CTA	**Charters Tower**	**13.77**	**167**	Lg	Lg	17 33 58.3	
	0.1nm,0.3s,baz=239,slow=19,SNR=1.7						
WB0	**Warramunga Arr**	**15.57**	**212**	Pn	**Pn**	**17 30 16.2**	**+1.3**
WB0				IAmb	IAmb	17 30 25.7	
	comp=Z,9.7nm,0.8s						
WR0	**Warramunga Arr**	**15.65**	**211**		**Pn**	**17 30 16.2**	**+0.3**
WR0				IAmb	IAmb	17 30 30.6	
	comp=Z,11nm,0.8s						
WRAB	**Tennant Creek**	**15.73**	**212**		**Pn**	**17 30 16.0**	**-1.0**
WB2	**Warramunga Arr**	**15.74**	**212**	Pn	**Pn**	**17 30 16.9**	**-0.1**
WB2				IAmb	IAmb	17 30 32.6	
	comp=Z,9.6nm,0.9s						
WRA	**Warramunga Arr**	**15.74**	**212**	Pn	**Pn**	**17 30 16.4**	**-0.7**
WRA	**Warramunga Arr**	**15.74**	**212**	Pn	**Pn**	**17 30 16.5**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=34,slow=13,SNR=25						
WRA				Sn	**Sn**	**17 33 04.7**	**-6.0**
	baz=22,slow=22						
WRA				Lg	Lg	17 35 02.3	
	comp=Z,0.1nm,0.3s,baz=137,slow=31,SNR=1.0						
KNRA	**Kununurra**	**16.67**	**236**	Pn	**Pn**	**17 30 28.3**	**-0.7**
SOEI	**Soe**	**18.86**	**259**		**Pn**	**17 30 55.7**	**-0.4**
AS31	**Alice Springs**	**19.12**	**206**	Pn	**Pn**	**17 31 01.4**	**+2.4**
ASAR	**Alice Springs**	**19.12**	**206**	P	**Pn**	**17 30 59.4**	**+0.3**
ASAR	**Alice Springs**	**19.12**	**206**	P	**Pn**	**17 31 02.4**	**+3.3**
	comp=Z,6.7nm,0.7s,baz=34,slow=8.9,SNR=58						
ASAR				Lg	Lg	17 36 50.7	
	baz=45,slow=20,SNR=1.9						
FITZ	**Fitzroy Crossi**	**20.48**	**234**		**P**	**17 31 11.9**	**-0.9**
TOLI2	**Tolitoli**	**23.52**	**288**	P	**P**	**17 31 43.3**	**-1.7**
TOLI2				IAmb	IAmb	17 31 47.7	
	comp=Z,5.1nm,0.8s						
PETK	**Petropavlovsk-**	**60.76**	**10**	P	**P**	**17 36 45.7**	**-0.3**
	comp=Z,4.0nm,0.8s,baz=164,slow=6.3,SNR=7.4						
	comp=Z,4.0nm,0.8s						
SONM	**Songino Array**	**63.09**	**333**	P	**P**	**17 37 03.5**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=152,slow=4.9,SNR=3.1						
	comp=Z,0.3nm,0.7s						
VNDA	**Vanda**	**71.59**	**176**	P	**P**	**17 37 55.4**	**+0.3**
MK31	**Makanchi Array**	**75.49**	**322**	P	**P**	**17 38 17.3**	**-1.4**
MK31				IAmb	IAmb	17 38 30.5	
	comp=Z,1.1nm,0.8s						
MKAR	**Makanchi Array**	**75.49**	**322**	P	**P**	**17 38 19.3**	**+0.7**
MKAR	**Makanchi Array**	**75.49**	**322**	P	**P**	**17 38 19.1**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=108,slow=7.2,SNR=14						
	comp=Z,0.9nm,0.6s						
MAKZ	**Makanchi**	**75.69**	**322**	P	**P**	**17 38 19.4**	**-0.4**
MAKZ				IAmb	IAmb	17 38 31.5	
	comp=Z,2.4nm,0.8s						
ZALV	**Zalesovo Beam**	**77.46**	**329**	P	**P**	**17 38 29.4**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=102,slow=5.0,SNR=2.3						
	comp=Z,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**79.38**	**324**	P	**P**	**17 38 39.9**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=117,slow=4.3,SNR=5.3						
	comp=Z,0.3nm,0.3s						
QSPA	**South Pole Qui**	**83.38**	**180**	P	**P**	**17 39 04.1**	**+2.7**
QSPA				IAmb	IAmb	17 39 08.6	
	comp=Z,1.0nm,0.8s						
QSPA	**South Pole Qui**	**83.38**	**180**	P	**P**	**17 39 05.3**	**+4.0**
	comp=Z,0.8nm,0.5s,baz=213,slow=0.3,SNR=8.8						
	comp=Z,0.8nm,0.5s						
BVAR	**Borovoye Array**	**84.96**	**325**	P	**P**	**17 39 09.8**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=101,slow=4.7,SNR=8.0						
	comp=Z,2.1nm,0.7s						
IMAR	**Indian Mountai**	**85.45**	**21**	P	**P**	**17 39 10.8**	**-0.8**
KTH	**Kantishna Hill**	**85.48**	**24**	P	**P**	**17 39 11.6**	**-0.3**
ILAR	**Eielson Array**	**87.58**	**24**	P	**P**	**17 39 22.8**	**+0.7**
ILAR	**Eielson Array**	**87.58**	**24**	P	**P**	**17 39 20.8**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=250,slow=5.2,SNR=7.5						
	comp=Z,0.7nm,0.8s						
BCAR	**Beaver Creek A**	**89.17**	**26**	P	**P**	**17 39 29.7**	**-0.1**
BMAR	**Burnt Mountain**	**89.37**	**22**	P	**P**	**17 39 31.6**	**+1.1**
M29M	**Somme Creek**	**90.50**	**27**	P	**P**	**17 39 34.9**	**-1.1**
M29M				IAmb	IAmb	17 39 42.9	
	comp=Z,1.5nm,0.8s						

*IDC **04** 17:31:39.3±2.2, 18.17S×174.70W, h0km, mb4.3/6, mbtmp4.3/6, Error ellipse: s-maj=84.4km s-min=27.1km az=139.0*

ISC 04 17:31:58.0±2.3, 18.1S±0.4×175.0W±0.4, h150km, n9, σ0s96/9, mb4.0/6, Tonga Islands

| Code

COEN **Coen** **15.71 251** P **P** **17 47 20.7 -2.1**
CTA **Charters Tower** **16.08 226** P **Pn** **17 47 25.0 +1.3**
CTA **Charters Tower** **16.08 226** Pn **Pn** **17 47 22.9 -0.8**
2.1nm,0.3s,baz=51,slow=15,SNR=23
CTA Sn **Sn** **17 50 13.5 -7.7**
0.6nm,0.3s,baz=139,slow=19,SNR=2.0
CTA LR LR 17 53 15.8
comp=Z,566nm,19.5s,baz=36,slow=36
7.0nm,0.4s
CTAO **Charters Tower** **16.08 226** **Pn** **17 47 23.8 +0.1**
CTAO **Charters Tower** **16.08 226** P **Pn** **17 47 25.2 +1.5**
RK1H **Rockhampton Ha** **16.14 207** P **P** **17 47 27.8 +0.4**
MTSU **Mount Surprise** **16.40 235** P **P** **17 47 30.1 -0.3**
baz=16,SNR=19
MTSU **Mount Surprise** **16.40 235** P **P** **17 47 30.6 +0.2**
EIDS **Eidsvold** **17.66 202** P **P** **17 47 44.8 +0.6**
baz=18,SNR=5.7
EIDS **Eidsvold** **17.66 202** P **Pn** **17 47 43.5 0.0**
EIDS **Eidsvold** **17.66 202** P **P** **17 47 47.4 +3.2**
GENI **Genyem** **19.26 288** P **P** **17 48 01.3 -0.7**
SMPI **Sarmi** **20.84 289** P **P** **17 48 18.8 -0.3**
241nm,1.0s,2µm
MSVF **Nonsavu** **20.93 116** P **P** **17 48 17.3 -2.8**
MSVF IAmb IAmb 17 48 34.0
comp=Z,84nm,1.6s
QIS **Mount Isa** **21.46 236** P **P** **17 48 28.1 +2.3**
baz=22,SNR=20
QIS **Mount Isa** **21.46 236** P **P** **17 48 28.3 +2.5**
QLP **Quilpie** **22.01 216** P **P** **17 48 33.5 +1.9**
baz=22,SNR=6.8
QLP **Quilpie** **22.01 216** P **P** **17 48 34.9 +3.3**
ARMA **Armidale** **22.18 196** P **P** **17 48 36.7 +3.2**
baz=22,SNR=8.3
ARMA **Armidale** **22.18 196** P **P** **17 48 30.5 -3.0**
ARMA **Armidale** **22.18 196** P **P** **17 48 36.7 +3.2**
NTLH **Newcastle Hard** **24.52 194** P **P** **17 49 00.5 +3.9**
INKA **Innaminka** **24.97 220** P **P** **17 49 02.6 +1.9**
CMSA **Cobar Meteorol** **25.30 206** P **P** **17 49 06.4 +2.7**
baz=25,SNR=14
CMSA **Cobar Meteorol** **25.30 206** P **P** **17 49 06.2 +2.5**
WR0 **Warramunga Arr** **25.50 242** P **P** **17 49 06.2 +0.6**
WR0 IAmb IAmb 17 49 17.0
comp=Z,25nm,0.9s
WB0 **Warramunga Arr** **25.56 243** P **P** **17 49 06.7 +0.5**
WB0 IAmb IAmb 17 49 14.4
comp=Z,48nm,1.4s
WRAB **Tennant Creek** **25.66 242** P **P** **17 49 07.3 +0.2**
WRAB IAmb IAmb 17 49 18.0
comp=Z,21nm,0.8s
WB2 **Warramunga Arr** **25.66 242** P **P** **17 49 07.4 +0.3**
WB2 IAmb IAmb 17 49 26.0
comp=Z,22nm,0.9s
WRA **Warramunga Arr** **25.67 242** P **P** **17 49 07.4 +0.2**
WRA **Warramunga Arr** **25.67 242** P **P** **17 49 08.0 +0.8**
comp=Z,12nm,0.9s,baz=70,slow=9.3,SNR=80
WRA PcP **PcP** **17 52 38.8 +1.3**
comp=Z,1.2nm,0.9s,baz=72,slow=2.7,SNR=3.0
comp=Z,12nm,0.9s
KDU **Kakadu** **25.73 260** P **P** **17 49 08.8 +0.9**
baz=26,SNR=8.1
KDU **Kakadu** **25.73 260** P **P** **17 49 08.7 +0.9**
YNG **Young** **26.75 199** P **P** **17 49 20.2 +3.3**
baz=27,SNR=5.4
MTN **Manton Dam** **27.05 260** P **P** **17 49 22.5 +2.8**
baz=27,SNR=4.9
STKA **Stephens Creek** **27.56 212** P **P** **17 49 27.0 +2.9**
baz=28,SNR=29
STKA **Stephens Creek** **27.56 212** P **P** **17 49 26.1 +2.0**
STKA **Stephens Creek** **27.56 212** P **P** **17 49 25.3 +1.2**
comp=Z,9.1nm,0.5s,baz=22,slow=12,SNR=23
STKA LR LR 18 00 07.3
comp=Z,538nm,18.7s,baz=30,slow=36
comp=Z,9.1nm,0.5s
AS31 **Alice Springs** **27.58 235** P **P** **17 49 24.1 -0.3**
ASAR **Alice Springs** **27.58 235** P **P** **17 49 22.5 -1.9**
ASAR **Alice Springs** **27.58 235** P **P** **17 49 24.4 0.0**
comp=Z,4.3nm,0.8s,baz=69,slow=8.7,SNR=49
ASAR PcP **PcP** **17 52 43.2 +1.3**
comp=Z,0.6nm,0.7s,baz=64,slow=2.6,SNR=2.0
ASAR LR LR 18 00 13.0
comp=Z,601nm,18.2s,baz=54,slow=36
comp=Z,4.3nm,0.8s
OOD **Oodnadatta** **28.41 226** P **P** **17 49 34.1 +2.4**
comp=Z,25nm,1.1s
LCRK **Leigh Creek** **28.44 219** P **P** **17 49 33.3 +1.3**
KNRA **Kununurra** **29.69 254** P **P** **17 49 44.3 +1.1**
baz=30,SNR=12
KNRA **Kununurra** **29.69 254** P **P** **17 49 44.0 +0.8**
KNRA IAmb IAmb 17 49 52.0
comp=Z,14nm,0.7s
HTT **Hallett** **30.19 214** P **P** **17 49 49.6 +2.1**
baz=30,SNR=3.9
TOO **Toolangi** **30.70 200** P **P** **17 49 54.1 +2.1**
baz=31,SNR=3.7
BBOO **Buckleboo** **31.40 218** P **P** **17 49 59.4 +1.3**
baz=32,SNR=12
BBOO **Buckleboo** **31.40 218** P **P** **17 49 56.5 -1.6**
ARPS **Mount Arapiles** **31.42 206** P **P** **17 50 01.2 +2.9**
baz=32,SNR=6.9
LBMI **Labuha** **31.90 283** P **P** **17 50 04.5 +1.7**
comp=Z,41nm,1.0s
TOZ **Tahuroa Road** **32.44 154** P **P** **17 50 07.9 +0.7**
WRKA **Warakurna** **32.78 237** P **P** **17 50 10.5 0.0**
baz=33,SNR=17
SANI **Sanana** **33.01 280** P **P** **17 50 09.8 -2.7**
comp=Z,24nm,1.0s
FITZ **Fitzroy Crossi** **33.06 251** P **P** **17 50 13.3 +0.4**
baz=33,SNR=8.8
URZ **Urewera** **33.58 153** LR LR 18 01 12.7
comp=Z,570nm,21.6s,baz=104,slow=31
RTZ **Ruatahuna** **33.82 153** P **P** **17 50 19.3 0.0**
BKZ **Black Stump Fm** **34.06 155** P **P** **17 50 22.4 +0.9**
BKZ IAmb IAmb 17 50 36.0
comp=Z,22nm,1.2s
TCW **Tory Channel** **34.96 159** P **P** **17 50 30.3 +1.2**
TUWZ **Tuamarina** **35.03 159** P **P** **17 50 30.1 +0.4**
MMRI **Maumere** **35.75 268** P **P** **17 50 36.4 +0.1**
RPZ **Rata Peaks** **36.23 164** LR LR 18 04 26.3
comp=Z,134nm,21.1s,baz=274,slow=34
DAV **Davao City (W)** **36.45 295** LR LR 18 05 56.2
comp=Z,230nm,18.9s,baz=326,slow=37
KAPI **Kappang** **38.58 273** P **P** **17 51 00.8 +0.5**
TOLI2 **Tolitoli** **38.84 283** P **P** **17 51 02.0 -0.5**
TOLI2 IAmb IAmb 17 51 10.0
comp=Z,19nm,0.8s
PSA00 **Pilbara Seismi** **39.12 247** P **P** **17 51 03.4 -1.3**
MBWA **Marble Bar** **39.13 248** P **P** **17 51 03.7 -1.2**
JCJ **Chichijima** **39.25 337** LR LR 18 06 10.8
comp=Z,142nm,18.0s,baz=126,slow=35
MPSI **Mapaga** **39.49 282** P **P** **17 51 08.5 +0.6**
comp=Z,23nm,0.8s,comp=Z,856nm
PLAI **Plampang** **40.14 267** P **P** **17 51 12.8 -0.6**
comp=Z,47nm,1.1s
KMBL **Kambalda** **40.55 232** P **P** **17 51 17.6 +1.1**
baz=41,SNR=4.5
TWSI **Taliwang, Sumb** **41.03 267** P **P** **17 51 20.4 -0.3**
comp=Z,16nm,0.8s
MEEK **Meekatharra** **41.51 240** P **P** **17 51 25.6 +1.0**
baz=42,SNR=5.9
RAR **Rarotonga** **41.99 112** LR LR 18 05 25.3
comp=Z,293nm,20.0s,baz=292,slow=31
JAGI **Jajag, Banyuwa** **43.74 267** P **P** **17 51 40.6 -2.2**
NWAO **Narrogin (SRO)** **44.79 232** LR LR 18 10 31.4
comp=Z,362nm,20.1s,baz=50,slow=36
STKI **Sintang** **47.62 278** P **P** **17 52 15.7 +2.2**
comp=Z,11nm,0.6s,comp=Z,4µm
KPJI **Karang Pucung** **48.99 268** P **P** **17 52 26.5 +2.4**
comp=Z,15nm,0.9s
MJAR **Matsushiro Arr** **49.19 338** P **P** **17 52 24.7 -0.4**
comp=Z,2.5nm,0.8s,baz=168,slow=8.3,SNR=11
MJAR PcP **PcP** **17 53 48.0 -0.2**
comp=Z,1.8nm,0.7s,baz=158,slow=4.1,SNR=3.5
comp=Z,5nm,0.8s
JNU **Nakatsue** **49.48 329** LR LR 18 14 08.0
comp=Z,28nm,18.2s,baz=140,slow=37
PPT **Papeete** **51.17 105** LR LR 18 09 34.3
comp=Z,185nm,21.6s,baz=260,slow=30
KSRS **Korea Array** **54.38 330** P **P** **17 53 04.0 +0.2**
comp=Z,3.4nm,1.0s,baz=139,slow=6.9,SNR=5.2
comp=Z,3.4nm,1.0s
ASAJ **Asahikawa** **54.84 346** LR LR 18 16 39.7
comp=Z,161nm,19.3s,baz=95,slow=36
QIZ **Qiongzhong** **55.43 301** P **P** **17 53 11.9 +0.1**
QIZ S **S** **18 00 57.5 +2.3**
QIZ LR LR
comp=Z,170nm,19.2s
comp=Z,220nm,21.4s
QIZ LR LR
comp=Z,270nm,25.7s
NJ2 **Nanjing** **55.68 319** *e*P **P** **17 53 14.0 +0.6**
NJ2 pP **pP** **17 53 18.9 -3.0**
NJ2 sP **sP** **17 53 20.1 -5.1**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
NJ2 pmax pmax
comp=Z,120nm,4.9s
USRK **Ussuriysk Ar.** **58.17 338** P **P** **17 53 31.9 +1.1**
comp=Z,1.4nm,0.8s,baz=149,slow=6.1,SNR=2.8
comp=Z,1.4nm,0.8s
CN2 **Changchun** **60.53 333** *e*P **P** **17 53 47.0 -0.1**
CN2 *es*P pP 17 53 53.9 -1.9
CN2 pmax pmax
comp=Z,10.0nm,0.9s
BNX **BinXian** **61.25 336** ⇑P **P** **17 53 52.8 +0.9**
BNX pmax pmax
comp=Z,7.0nm,1.6s
BNX pmax pmax
comp=Z,200nm,3.7s
HNS **HongShan** **61.72 321** *e*P P 17 54 04.6 +9.3
PETK **Petropavlovsk-** **61.93 360** P **P** **17 53 56.8 +0.4**
comp=Z,4.1nm,0.9s,baz=154,slow=6.7,SNR=3.0
PETK LR LR 18 17 27.4
comp=Z,153nm,21.1s,baz=166,slow=33
comp=Z,4.1nm,0.9s
KLR **Kul'dur** **62.59 341** LR LR 18 19 50.6
comp=Z,105nm,20.2s,baz=142,slow=35
XAN **Xi'an** **63.55 315** ⇓P **P** **17 54 08.3 +0.6**
XAN sP pP 17 54 16.2 -0.1
XAN pmax pmax
comp=Z,6.0nm,0.7s
KMI **Kunming** **63.98 304** ⇑P P 17 54 15.0 +4.1
KMI pmax pmax
comp=Z,9.0nm,1.4s
KMI LR LR
comp=Z,130nm,15.4s
KMI LR LR
comp=Z,170nm,15.9s
KMI LR LR
comp=Z,290nm,19.1s
CRAI **Chiangrai** **64.09 298** P **P** **17 54 12.1 +0.7**
CRAI IAmb IAmb 17 54 27.9
comp=Z,14nm,1.2s
CM31 **Chiang Mai Arr** **64.74 295** P **P** **17 54 14.6 -1.1**
CM31 IAmb IAmb 17 54 26.5
comp=Z,9.0nm,0.9s
CMAR **Chiang Mai Arr** **64.74 295** P **P** **17 54 14.8 -1.0**
CMAR **Chiang Mai Arr** **64.74 295** P **P** **17 54 16.4 +0.7**
comp=Z,2.4nm,0.8s,baz=126,slow=4.9,SNR=17
CMAR LR LR 18 19 54.6
comp=Z,68nm,21.9s,baz=145,slow=34
comp=Z,2.4nm,0.8s
CHTO **Chiang Mai** **64.86 296** P **P** **17 54 16.8 +0.3**
HEH **HeiHe** **64.95 339** *e*P **P** **17 54 15.3 -1.1**
HEH pmax pmax
comp=Z,6.0nm,0.8s
HEH pmax pmax
comp=Z,150nm,4.2s
PZH **PanZhiHua** **65.38 305** P **P** **17 54 22.0 +2.1**
PZH S **S** **18 03 06.1 +3.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,6.1s
PZH LR LR
comp=Z,90nm,16.7s
PZH LR LR
comp=Z,110nm,15.5s
PZH LR LR
comp=Z,160nm,19.1s
CD2 **Chengdu** **65.74 310** *e*P **P** **17 54 23.0 +1.0**
HHC **Hu-ho-hao-te** **65.78 323** *e*P **P** **17 54 24.3 +2.2**
HHC sP pP 17 54 30.6 -0.3
HHC *e*S **S** **18 03 13.6 +6.6**
HHC ScS **ScS** **18 04 19.2 +2.9**
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,70nm,4.5s
HHC LR LR
comp=Z,150nm,19.6s
HHC LR LR
comp=Z,140nm,18.2s
BTO **Baotou** **66.56 322** *e*P P 17 54 31.2 +4.0
BTO pP pP 17 54 36.0 +0.1
BTO sP sP 17 54 38.4 -0.8
BTO PP **PP** **17 56 55.1 +0.9**
BTO pmax pmax
comp=Z,8.0nm,0.5s
BTO pmax pmax
comp=Z,150nm,4.3s
BTO LR LR
comp=Z,220nm,4.3s
BTO LR LR
comp=Z,200nm,3.8s
BTO LR LR
comp=Z,230nm,8.5s
TNCH **TengChong** **67.46 302** P **P** **17 54 34.4 +1.1**
TNCH pP pP 17 54 38.9 -3.2
TNCH sP sP 17 54 40.2 -5.3
TNCH PP **PP** **17 57 01.4 -0.9**
TNCH S **S** **18 03 28.5 +0.4**
TNCH sS pS 18 03 36.8 -2.2
TNCH SS **SS** **18 07 49.4 +0.5**
TNCH pmax pmax
comp=Z,5.0nm,1.1s
TNCH pmax pmax
comp=Z,43nm,3.5s
TNCH LR LR
comp=Z,96nm,5.5s
TNCH LR LR
comp=Z,59nm,5.5s
TNCH LR LR
comp=Z,39nm,6.2s
NIKH **Nikolski High** **67.80 21** P **P** **17 54 34.4 -0.2**
baz=215
VNDA **Vanda** **68.45 179** P **P** **17 54 39.5 +1.1**
VNDA **Vanda** **68.45 179** P **P** **17 54 39.4 +0.9**
comp=Z,3.6nm,0.8s,baz=335,slow=7.1,SNR=12
VNDA LR LR 18 20 05.0
comp=Z,64nm,20.4s,baz=353,slow=32
comp=Z,3.6nm,0.8s
UNV **Unalaska Valle** **69.33 21** P **P** **17 54 44.4 +0.2**
baz=217
SPIA **Saint Paul Isl** **70.84 17** P **P** **17 54 54.3 +1.0**
baz=213
GTA **Gaotai** **72.57 316** *e*P **P** **17 55 06.0 +1.6**
GTA sP pP 17 55 12.8 -0.3
GTA pmax pmax
comp=Z,2.0nm,0.9s
GTA LR LR
comp=Z,76nm,16.7s
GTA LR LR
comp=Z,120nm,14.3s
GTA LR LR
comp=Z,140nm,17.9s
ULN **Ulaanbaatar** **72.58 327** P **P** **17 55 03.3 -0.9**
ULN IAmb IAmb 17 55 06.7
comp=Z,14nm,1.1s
CHNA **Chernabura Isl** **72.72 24** P **P** **17 55 05.2 +0.5**
baz=224
SDPT **Sand Point** **72.74 23** P **P** **17 55 04.6 -0.2**
baz=223
SONM **Songino Array** **72.92 326** P **P** **17 55 07.3 +1.1**
SONM IAmb IAmb 17 55 08.9
comp=Z,10nm,0.9s
SONM **Songino Array** **72.92 326** P **P** **17 55 07.0 +0.8**
comp=Z,9.4nm,0.9s,baz=136,slow=5.5,SNR=54
SONM LR LR 18 29 02.8
comp=Z,64nm,18.1s,baz=126,slow=38
comp=Z,9.4nm,0.9s
S14K **Fog Glacier** **73.78 23** P **P** **17 55 10.8 -0.3**
baz=224
CHGN **Chignik** **74.24 23** P **P** **17 55 13.5 0.0**
baz=224
YAK **Yakutsk** **74.32 346** P **P** **17 55 14.0 0.0**
YAK IAmb IAmb 17 55 36.6
comp=Z,11nm,0.8s
YAK **Yakutsk** **74.32 346** LR LR 18 27 36.8
comp=Z,52nm,19.8s,baz=158,slow=36
CHIR **Chirikof Islan** **75.03 25** P **P** **17 55 18.9 +0.7**
baz=227
O14K **Tigyukauivet M** **75.36 20** P **P** **17 55 20.8 +0.7**
baz=221
R16K **Pilot Point** **75.46 23** P **P** **17 55 21.1 +0.4**
baz=225
M13K **Dall Lake** **75.57 18** P **P** **17 55 20.8 -0.4**
baz=219
N14K **Kuskokwak Cree** **75.73 19** P **P** **17 55 21.8 -0.3**
baz=221
O15K **Ungalikthiuk R** **75.80 21** P **P** **17 55 22.7 +0.1**
baz=223
GAMB **Gambell** **76.10 13** P **P** **17 55 25.0 +0.9**
baz=210
SII **Sitkinak Islan** **76.12 25** P **P** **17 55 24.5 0.0**
baz=228
M14K **Bethel** **76.27 19** P **P** **17 55 25.6 +0.4**
baz=220
P16K **Nushagak River** **76.35 22** P **P** **17 55 26.0 +0.4**
baz=224
N15K **Kwethluk River** **76.44 20** P **P** **17 55 26.7 +0.5**
baz=222
L14K **Kuka Creek** **76.50 18** P **P** **17 55 26.4 0.0**
baz=220
Q17K **Contact Creek** **76.59 23** P **P** **17 55 27.7 +0.5**
baz=227
M15K **Kasigluk River** **76.64 19** P **P** **17 55 27.8 +0.6**
baz=222
O16K **Kokwok River B** **76.72 21** P **P** **17 55 28.4 +0.7**
baz=224
OHAK **Old Harbor** **76.93 25** P **P** **17 55 28.9 -0.1**
baz=229
P17K **Kvichak River** **77.03 22** P **P** **17 55 29.0 -0.5**
baz=226
BILL **Bilibino** **77.11 3** P **P** **17 55 28.9 -1.0**
BILL IAmb IAmb 17 55 31.5
comp=Z,14nm,1.0s
N16K **Nishlik Lake** **77.12 20** P **P** **17 55 30.3 +0.3**
baz=224
L15K **Ungalak Mounta** **77.13 18** P **P** **17 55 30.4 +0.4**
baz=221
O17K **Koliganek Bris** **77.20 21** P **P** **17 55 30.6 +0.1**
baz=225
J14K **Nanvaranak Lak** **77.34 17** P **P** **17 55 32.1 +1.0**
baz=218
M16K **Timber Creek** **77.45 20** P **P** **17 55 32.7 +0.9**
baz=223
K15K **Wolf Creek Mou** **77.58 18** P **P** **17 55 33.3 +0.7**
baz=221
KDAK **Kodiak Island** **77.58 24** P **P** **17 55 32.3 -0.3**
baz=230
KDAK **Kodiak Island** **77.58 24** LR LR 18 23 04.3
comp=Z,82nm,19.8s,baz=197,slow=31
P18K **Big Mountain,** **77.62 22** P **P** **17 55 33.5 +0.6**
baz=227
N17K **Nushagak Hills** **77.70 21** P **P** **17 55 34.0 +0.8**
baz=225
L16K **Owhat River** **77.79 19** P **P** **17 55 34.0 +0.2**
baz=223
O18K **Koktuh Hills** **77.94 22** P **P** **17 55 35.0 +0.3**
baz=227
M17K **Holitna River** **78.24 20** P **P** **17 55 37.0 +0.8**
baz=225
N18K **Kilae Creek** **78.27 21** P **P** **17 55 36.9 +0.5**
baz=226
ANM **Nome** **78.29 15** P **P** **17 55 37.2 +0.8**
baz=216
TNA **Tin City** **78.48 14** P **P** **17 55 38.3 +0.8**
baz=214
L17K **Donlin** **78.48 19** P **P** **17 55 39.1 +1.6**
baz=224
O19K **Port Alsworth** **78.50 22** P **P** **17 55 39.2 +1.5**
baz=228
J16K **Anvik River** **78.61 18** P **P** **17 55 39.2 +0.9**
baz=221
F14K **Arctic Creek** **78.79 14** P **P** **17 55 40.3 +1.1**
baz=216
M18K **Stony River** **78.85 21** P **P** **17 55 40.5 +0.9**
baz=226
N19K **Bonanza Creek** **78.86 21** P **P** **17 55 41.0 +1.2**
baz=228
K17K **Iditarod** **78.90 19** P **P** **17 55 40.4 +0.6**
baz=224
G15K **Niukluk** **78.97 15** P **P** **17 55 41.0 +0.8**
baz=218
I17K **Unalakleet** **79.04 17** P **P** **17 55 41.3 +0.7**
baz=221
O20K **Slope Mountain** **79.06 23** P **P** **17 55 41.2 +0.3**
baz=229
L18K **Granite Mounta** **79.07 20** P **P** **17 55 42.0 +1.2**
baz=225
H16K **Elim** **79.18 16** P **P** **17 55 42.8 +1.5**
baz=220
F15K **North Star Dit** **79.39 15** P **P** **17 55 43.9 +1.4**
baz=217
BRSE **Bradley Lake S** **79.57 24** P **P** **17 55 43.7 +0.1**
baz=231
L19K **White Mountain** **79.66 20** IAmb IAmb 17 55 46.3
comp=Z,12nm,1.0s
L19K **White Mountain** **79.66 20** P **P** **17 55 44.8 +0.7**
baz=227
G16K **Koyuk River** **79.73 16** IAmb IAmb 17 55 46.6
comp=Z,14nm,0.9s
G16K **Koyuk River** **79.73 16** P **P** **17 55 45.0 +0.6**
baz=219
TTA **Tatalina** **79.79 19** P **P** **17 55 45.6 +0.7**
baz=226
J18K **Innoko River** **79.94 19** P **P** **17 55 46.4 +0.8**
baz=225
N20K **Mount Spurr** **79.95 22** P **P** **17 55 46.2 +0.5**
baz=230
H17K **Granite Mounta** **80.06 17** P **P** **17 55 47.5 +1.4**
baz=222
M20K **Styx River** **80.06 21** P **P** **17 55 47.3 +0.9**
baz=229
CAPN **Captain Cook N** **80.06 23** P **P** **17 55 47.3 +1.1**
baz=231
L20K **Farewell, AK** **80.20 20** P **P** **17 55 47.6 +0.6**
baz=228
G17K **Kiwalik Mounta** **80.27 16** P **P** **17 55 48.5 +1.2**
baz=221
SEW **Seward** **80.31 24** P **P** **17 55 48.3 +0.8**
baz=232
O22K **Cooper Landing** **80.44 23** P **P** **17 55 49.0 +0.8**
baz=232
H18K **Honhosa River** **80.66 17** P **P** **17 55 50.0 +0.6**
baz=223
SUA **Susitna One** **80.66 22** IAmb IAmb 17 55 59.0
comp=Z,32nm,1.8s
SUA **Susitna One** **80.66 22** P **P** **17 55 50.0 +0.4**
baz=231
J19K **Poorman** **80.66 19** P **P** **17 55 50.0 +0.6**
baz=226
SKT **Skwentna** **80.70 22** P **P** **17 55 50.4 +0.7**
baz=230
K20K **Telida** **80.73 20** IAmb IAmb 17 56 07.0
comp=Z,28nm,1.6s
K20K **Telida** **80.73 20** P **P** **17 55 50.2 +0.3**
baz=228
GCSA **Galena City Sc** **80.80 18** P **P** **17 55 51.2 +1.1**
baz=225
RC01 **Rabbit Creek A** **80.81 23** P **P** **17 55 50.8 +0.5**
baz=232
F17K **Baldwin Pennin** **80.83 15** IAmb IAmb 17 55 51.9
comp=Z,10nm,0.9s
F17K **Baldwin Pennin** **80.83 15** P **P** **17 55 50.7 +0.5**
baz=220,SNR=7.1
QSPA **South Pole Qui** **80.92 180** P **P** **17 55 52.8 +1.7**
comp=Z,12nm,0.8s,baz=9.1,slow=1.2,SNR=47
QSPA LR LR 18 27 16.1
comp=Z,104nm,19.3s,baz=354,slow=32
comp=Z,12nm,0.8s
PPLA **Purkeypile** **81.06 21** P **P** **17 55 52.0 +0.2**
baz=229
P23K **Montague Islan** **81.07 24** P **P** **17 55 52.5 +0.9**
baz=234
G18K **Tagagawik** **81.12 16** P **P** **17 55 52.7 +0.8**
baz=223
J20K **Nowinta River** **81.26 19** IAmb IAmb 17 55 55.0
comp=Z,12nm,1.1s
J20K **Nowinta River** **81.26 19** P **P** **17 55 53.7 +1.2**
baz=227
C16K **Lisburne Hills** **81.29 13** P **P** **17 55 53.8 +1.1**
baz=216
PMR **Palmer** **81.35 23** P **P** **17 55 52.8 -0.2**
baz=232
D17K **Noatak River** **81.35 14** P **P** **17 55 53.7 +0.8**
baz=218
F18K **Selawik** **81.37 16** P **P** **17 55 53.0 -0.1**
baz=222,SNR=11

CUT Chulitna 81.43 22 P P 17 55 53.0 -0.5
baz=231
CAST Castle Rocks 81.44 20 P P 17 55 53.2 -0.4
baz=229
H19K Roundabout Mou 81.49 17 P P 17 55 54.1 +0.3
baz=225
KNK Knik Glacier 81.49 23 P P 17 55 53.8 -0.1
baz=233
GHO Glory Hole Cre 81.53 22 IAmb IAmb 17 55 55.6
comp=Z,12nm,0.9s
I20K Naaghedeneel 81.58 18 P P 17 55 54.8 +0.6
baz=227
CHUM Lake Minchumin 81.67 20 P P 17 55 55.0 +0.3
baz=229
G19K Purcell Mounta 81.74 17 IAmb IAmb 17 55 57.3
comp=Z,16nm,1.1s
G19K Purcell Mounta 81.74 17 P P 17 55 56.0 +0.9
baz=224
E18K Tukpahlearik C 81.74 15 P P 17 55 55.5 +0.5
baz=221
SML Sawmill 81.78 23 P P 17 55 55.6 +0.1
baz=233
KTH Kantishna Hill 81.92 20 IAmb IAmb 17 55 57.5
comp=Z,12nm,1.2s
H20K Anotleneega Mo 81.93 18 P P 17 55 56.6 +0.5
baz=226,SNR=6.5
C17K DeLong Mountai 81.94 13 P P 17 55 56.7 +0.6
baz=218
M23K Glacier View 82.00 23 P P 17 55 57.8 +1.2
baz=234
F19K Shaleruckik Mo 82.05 16 IAmb IAmb 17 55 58.4
comp=Z,9.4nm,0.9s
F19K Shaleruckik Mo 82.05 16 P P 17 55 57.3 +0.6
baz=224
EYAK Cordova Ski Ar 82.06 24 P P 17 55 57.4 +0.5
baz=236
TRF Thorofare Moun 82.08 21 P P 17 55 57.1 0.0
baz=231
SCM Sheep Creek Mo 82.18 23 P P 17 55 57.6 +0.1
baz=234
BPAW Bear Paw Mtn. 82.25 20 IAmb IAmb 17 56 14.3
comp=Z,13nm,1.4s
BPAW Bear Paw Mtn. 82.25 20 P P 17 55 58.4 +0.5
baz=230
KAIM Kayak Island 82.27 25 P P 17 55 58.4 +0.5
baz=237
WAT1 Susitna Watana 82.32 22 P P 17 55 58.7 +0.5
baz=233
WAT6 Susitna Watana 82.47 22 P P 17 55 59.7 +0.5
baz=234
KLU Klutina 82.53 24 P P 17 55 59.6 +0.1
baz=235
C18K Utukok River 82.54 14 P P 17 56 00.1 +0.8
baz=220
RND Reindeer 82.56 21 IAmb IAmb 17 56 15.7
comp=Z,19nm,1.2s
IMAR Indian Mountai 82.61 18 P P 17 56 00.2 +0.5
I21K Tanana 82.62 19 IAmb IAmb 17 56 01.9
comp=Z,11nm,0.9s
I21K Tanana 82.62 19 P P 17 56 00.4 +0.7
baz=229,SNR=7.9
E19K Redstone River 82.65 16 P P 17 56 00.1 +0.3
baz=224
WMQ Urumqi 82.65 316 eP P 17 56 01.7 +1.2
WMQ pP PcP 17 56 06.3 +0.9
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ LR LR
comp=Z,84nm,20.9s
H21K Melozitna Rive 82.68 18 P P 17 55 60.0 -0.1
H21K Melozitna Rive 82.68 18 P P 17 56 00.6 +0.6
baz=228,SNR=5.8
MCK McKinley 82.73 21 P P 17 56 00.3 -0.1
baz=232,SNR=17
BMRM Bremner River 82.76 24 P P 17 56 00.5 -0.1
baz=237
F20K Avaraart Lake 82.77 16 P P 17 56 00.6 +0.2
baz=226
M24K Tolsona, Glenn 82.78 23 P P 17 56 00.9 +0.2
baz=235
DHY Denali Highway 82.89 22 P P 17 56 01.3 -0.1
baz=234
TIXI Tiksi 82.90 351 P P 17 56 01.6 +0.6
TIXI IAmb IAmb 17 56 16.8
comp=Z,28nm,2.0s
TIXI Tiksi 82.90 351 LR LR 18 30 21.4
comp=Z,42nm,21.3s,baz=25,slow=34
MLY Manley 82.93 19 IAmb IAmb 17 56 03.0
comp=Z,11nm,1.0s
MLY Manley 82.93 19 P P 17 56 01.3 -0.1
baz=230,SNR=12
B18K Kokolik River 82.95 13 P P 17 56 02.1 +0.7
baz=220
G21K Allakaket 83.04 17 P P 17 56 02.2 +0.2
baz=228
N25K Chitina, Valde 83.12 24 P P 17 56 02.4 -0.1
baz=236
D19K Kuna River 83.17 15 IAmb IAmb 17 56 04.4
comp=Z,12nm,0.9s
D19K Kuna River 83.17 15 P P 17 56 03.0 +0.4
baz=223
NEA2 Nenana 83.21 20 P P 17 56 03.0 +0.2
baz=232,SNR=12
C19K Lookout Ridge 83.26 14 IAmb IAmb 17 56 05.3
comp=Z,9.6nm,0.9s
C19K Lookout Ridge 83.26 14 P P 17 56 03.3 +0.3
baz=222
CRQE Cirque 83.27 25 P P 17 56 02.6 -0.8
baz=238
H22K Ishtalitna Cre 83.28 19 P P 17 56 02.9 -0.3
baz=230
HARP HAARP 83.34 23 P P 17 56 03.5 0.0
baz=236
MESA MESA 83.45 26 P P 17 56 04.8 +0.4
baz=239
I23K Minto, Yukon-K 83.46 20 P P 17 56 04.6 +0.6
baz=232,SNR=5.1
WRH Wood River Hil 83.48 21 P P 17 56 04.0 -0.2
WRH IAmb IAmb 17 56 05.0
comp=Z,14nm,1.0s
E20K Nigu River 83.50 15 P P 17 56 04.5 +0.2
baz=225
F21K Alatna River 83.53 17 IAmb IAmb 17 56 06.3
comp=Z,9.1nm,1.1s
F21K Alatna River 83.53 17 P P 17 56 04.6 +0.2
baz=228
PAX Paxson 83.54 22 P P 17 56 04.9 +0.2
baz=236
MCARA McCarthy VSAT 83.63 24 P P 17 56 05.5 +0.4
baz=238
CCB Clear Creek Bu 83.68 20 IAmb IAmb 17 56 05.9
comp=Z,10nm,0.9s
D20K Etivluk River 83.71 15 P P 17 56 05.6 +0.3
baz=225
COLA College 83.80 20 P P 17 56 05.3 -0.4
COLA College 83.80 20 P P 17 56 06.5 +0.8
baz=233
MAW Mawson 83.81 203 LR LR 18 29 43.1
comp=Z,95nm,18.4s,baz=163,slow=33
HDA Harding Lake 83.84 21 P P 17 56 06.3 +0.3
baz=234,SNR=7.1
K24K Donnelly Dome 83.90 22 P P 17 56 06.3 -0.1
baz=235
ILAR Eielson Array 84.07 21 P P 17 56 06.9 -0.3
ILAR Eielson Array 84.07 21 P P 17 56 06.7 -0.6
comp=Z,4.9nm,0.9s,baz=262,slow=4.2,SNR=40
comp=Z,4.9nm,0.9s
POKR Poker Plat Res 84.09 20 P P 17 56 07.8 +0.5
baz=234
CTG Chitna Glacier 84.11 25 P P 17 56 07.7 0.0
baz=240
PINM Pinnacle 84.14 26 P P 17 56 07.9 +0.2
baz=241
M26K Nabesna, AK 84.19 24 P P 17 56 08.0 +0.1
baz=238
MENT Mentasta 84.19 23 IAmb IAmb 17 56 28.4
comp=Z,16nm,1.5s
RIDG Independent Ri 84.21 22 P P 17 56 08.3 +0.3
baz=236
E21K Killik River 84.22 16 P P 17 56 07.9 0.0
baz=227
G23K Bananza Creek 84.23 18 IAmb IAmb 17 56 10.2
comp=Z,8.3nm,0.9s
G23K Bananza Creek 84.23 18 P P 17 56 08.4 +0.4
baz=231
PNL Peninsula 84.31 27 P P 17 56 09.0 +0.4
baz=241
H24K Noodor Dome 84.37 19 P P 17 56 10.3 +1.5
baz=233
C21K Knifeblade Rid 84.50 15 P P 17 56 10.0 +0.7
baz=226
COLD Coldfoot 84.50 18 P P 17 56 10.1 +0.8
baz=231
J25K Salcha River, 84.51 21 P P 17 56 09.9 +0.4
J25K Salcha River, 84.51 21 P P 17 56 10.1 +0.5
baz=235,SNR=13
M27K Edge Creek, AK 84.61 24 P P 17 56 11.0 +0.8
baz=239
E22K Anaktuvuk Pass 84.61 17 P P 17 56 10.6 +0.6
baz=229
SCRK Sand Creek 84.66 22 P P 17 56 10.4 0.0
SCRK IAmb IAmb 17 56 12.2
comp=Z,9.8nm,0.9s
SCRK Sand Creek 84.66 22 P P 17 56 11.3 +1.0
baz=237,SNR=11
B21K Ikpikpuk River 84.86 15 P P 17 56 11.8 +0.8
baz=226
D22K Ayikyak River 84.86 16 P P 17 56 11.7 +0.6
baz=228
YUK3 Moose Creek 84.89 25 P P 17 56 11.7 0.0
baz=240
YUK8 Steele Glacier 84.93 25 P P 17 56 11.9 -0.1
baz=241
PRP Porcupine Dome 84.97 20 P P 17 56 12.0 +0.1
baz=235
O29M Mount Kennedy 84.98 26 P P 17 56 12.2 +0.2
baz=242
L27K Beaver Creek, 84.99 23 P P 17 56 12.2 +0.3
baz=239
S31K Pelican 85.00 29 P P 17 56 12.0 0.0
baz=244
G24K Hadweenzic Riv 85.02 19 P P 17 56 12.5 +0.5
baz=233
P29M Windy Craggy 85.04 27 P P 17 56 13.4 +1.2
baz=243
BVCY Beaver Creek 85.04 24 P P 17 56 12.6 +0.4
baz=240
J26L Joseph Creek 85.10 22 P P 17 56 13.2 +0.7
baz=237
E23K Chandalar 85.20 17 P P 17 56 13.7 +0.8
baz=231
H25L Birch Creek 85.31 20 P P 17 56 14.1 +0.8
baz=235
YUK6 Outpost Mounta 85.37 26 P P 17 56 14.6 +0.5
baz=242
F24K Squaw Lake 85.38 18 P P 17 56 14.5 +0.7
baz=233
K27K Chicken 85.40 22 P P 17 56 14.7 +0.8
baz=239
YUK4 Talbot Arm 85.44 26 P P 17 56 15.3 +0.9
baz=242
D23K Nanushuk River 85.47 16 P P 17 56 15.1 +0.9
baz=230
G25K Bearman Lake 85.50 19 P P 17 56 14.8 +0.4
baz=235
A21K Barrow 85.58 13 P P 17 56 15.5 +0.9
baz=224
PLBC Pleasant Camp 85.59 28 P P 17 56 15.2 +0.3
baz=244
S32K Killisnoo 85.59 30 P P 17 56 15.6 +0.7
baz=246
P30M Million Dollar 85.61 27 P P 17 56 15.5 +0.4
baz=244
HYT Haines Junctio 85.69 26 P P 17 56 15.9 +0.3
baz=243,SNR=9.7
U33K Whale Pass 85.78 31 P P 17 56 17.4 +1.5
baz=247
R32K Eaglecrest 85.95 29 P P 17 56 17.3 +0.5
baz=246
M29M Somme Creek 86.03 25 P P 17 56 18.7 +1.5
baz=242
C23K Itkillik River 86.05 16 IAmb IAmb 17 56 19.7
comp=Z,16nm,1.4s
C23K Itkillik River 86.05 16 P P 17 56 17.8 +0.8
baz=230
SKAG Skagway 86.06 28 P P 17 56 18.4 +1.1
baz=245,SNR=7.2
D24K Happy Valley 86.11 17 P P 17 56 18.6 +1.3
baz=232
F25K Christian Rive 86.13 19 P P 17 56 18.5 +1.0
baz=235
EGAK Eagle 86.13 22 IAmb IAmb 17 56 19.8
comp=Z,9.1nm,0.9s
EGAK Eagle 86.13 22 P P 17 56 18.5 +1.0
baz=239,SNR=7.4
N30M Aishikik Lake 86.16 26 P P 17 56 18.3 +0.5
baz=243
V35K Ketchikan 86.27 33 P P 17 56 18.8 +0.4
baz=248
O30N Mendenhall 86.28 27 P P 17 56 19.3 +0.8
baz=244,SNR=9.1
WRAK Wrangell Islan 86.30 31 P P 17 56 19.1 +0.6
baz=248
G26K Porcupine Rive 86.36 20 P P 17 56 20.0 +1.4
baz=237
BMAR Burnt Mountain 86.37 19 P P 17 56 18.7 0.0
I27K Kandik River 86.39 21 P P 17 56 20.5 +1.6
baz=239
DAWY Dawson 86.44 23 P P 17 56 19.0 -0.1
baz=241
E25K Arctic Village 86.45 18 P P 17 56 18.3 -0.8
E25K Arctic Village 86.45 18 P P 17 56 19.3 +0.2
baz=235
L29M L29M 86.48 24 P P 17 56 19.5 +0.1
L29M IAmb IAmb 17 56 22.9
comp=Z,19nm,1.4s
L29M L29M 86.48 24 P P 17 56 19.2 -0.2
baz=242,SNR=8.0
C24K Franklin Bluff 86.49 16 P P 17 56 19.4 +0.2
baz=232
F26K Sheenjek River 86.66 19 P P 17 56 20.0 -0.1
baz=236
H27K Steamboat Moun 86.74 21 P P 17 56 20.4 -0.2
baz=239
WHY Whitehorse 86.78 27 P P 17 56 17.8 -3.1
WHY IAmb IAmb 17 56 23.1
comp=Z,7.6nm,1.0s
WHY Whitehorse 86.78 27 P P 17 56 21.0 0.0
baz=245
M30M Minto, Yukon 86.78 25 P P 17 56 18.1 -2.7
M30M IAmb IAmb 17 56 23.4
comp=Z,11nm,1.2s
M30M Minto, Yukon 86.78 25 P P 17 56 21.1 +0.3
baz=244,SNR=7.4
P32M Atlin 86.87 28 P P 17 56 21.3 0.0
baz=246
D25K Kavik River 86.91 17 P P 17 56 21.6 +0.2
baz=234
I28M Miner Creek 86.91 22 P P 17 56 21.2 -0.3
baz=240
K29M Barlow Dome 87.06 24 IAmb IAmb 17 56 25.0
comp=Z,7.9nm,0.9s
K29M Barlow Dome 87.06 24 P P 17 56 22.2 -0.1
baz=243
BBB Bella Bella 87.15 36 LR LR 18 30 13.6
comp=Z,128nm,18.4s,baz=223,slow=32
MK31 Makanchi Array 87.20 318 P P 17 56 22.2 -1.0
MKAR Makanchi Array 87.20 318 P P 17 56 22.9 -0.3
MKAR Makanchi Array 87.20 318 P P 17 56 23.3 +0.1
comp=Z,1.7nm,0.8s,baz=101,slow=5.8,SNR=18
MKAR LR LR 18 35 22.4
comp=Z,53nm,19.9s,baz=62,slow=36
comp=Z,1.7nm,0.8s
Q32M Nakina River 87.31 29 P P 17 56 23.6 0.0
baz=248
S34M Telegraph Cree 87.47 30 P P 17 56 25.0 +0.8
baz=249
P33M Teslin, Yukon 87.53 28 P P 17 56 25.1 +0.5
baz=247
M31M Drury Creek, Y 87.63 26 P P 17 56 26.1 +1.2
baz=246,SNR=6.9
C26K Camden Bay 87.67 17 P P 17 56 26.0 +1.1
baz=236
YBH Yreka Blue Hor 87.76 47 LR LR 18 32 24.0
comp=Z,65nm,19.4s,baz=301,slow=33
N32M Quiet Lake 87.78 27 P P 17 56 26.0 +0.3
baz=247
ZALV Zalesovo Beam 87.79 325 P P 17 56 24.1 -1.8
comp=Z,1.6nm,0.7s,baz=108,slow=5.6,SNR=8.1
ZALV LR LR 18 35 26.0
comp=Z,53nm,19.9s,baz=45,slow=36
comp=Z,1.6nm,0.7s
H29M Whitestone 87.85 21 P P 17 56 26.4 +0.5
baz=242
J30M Hart River 87.86 23 P P 17 56 26.6 +0.5
baz=244
F28M Old Crow 88.01 20 P P 17 56 27.3 +0.7
F28M IAmb IAmb 17 56 28.8
comp=Z,6.5nm,1.1s
F28M Old Crow 88.01 20 P P 17 56 27.3 +0.7
baz=240
R33M Jennings River 88.09 29 P P 17 56 27.6 +0.3
baz=249
FARO Faro, Yukon 88.09 26 P P 17 56 27.7 +0.6
FARO IAmb IAmb 17 56 29.0
comp=Z,11nm,1.3s
FARO Faro, Yukon 88.09 26 P P 17 56 28.4 +1.3
baz=247,SNR=7.5
I30M Mount Dempster 88.13 23 IAmb IAmb 17 56 29.1
comp=Z,6.3nm,0.9s
I30M Mount Dempster 88.13 23 P P 17 56 28.0 +0.6
baz=244
DLBC Dease Lake 88.20 30 IAmb IAmb 17 56 30.7
comp=Z,6.6nm,1.1s
DLBC Dease Lake 88.20 30 P P 17 56 28.0 +0.2
baz=250
DLBC Dease Lake 88.20 30 LR LR 18 30 48.8
comp=Z,225nm,18.8s,baz=245,slow=32
SNCC San Nicolas Is 88.33 56 P P 17 56 28.4 -0.5
baz=258
SCZ2 Santa Cruz Isl 88.40 55 P P 17 56 28.2 -1.0
baz=258
SBC Santa Barbara 88.42 55 P P 17 56 28.8 -0.5
baz=258
PKM Mcpherson Peak 88.44 54 P P 17 56 28.2 -1.4
baz=258
EPYK Eagle Plains 88.51 21 P P 17 56 29.6 +0.5
baz=243
G30M tAoh Zraii Nji 88.96 21 P P 17 56 31.6 +0.4
baz=244
E29M Blow River 89.03 19 P P 17 56 31.7 +0.3
baz=242
VOG Valley Oaks Go 89.08 53 P P 17 56 32.2 -0.1
baz=258
SCI2 San Clemente I 89.08 57 P P 17 56 32.3 -0.2
baz=259
H31M Peel River 89.14 22 P P 17 56 32.5 +0.5
baz=246
D28M Stokes Point 89.21 18 P P 17 56 32.9 +0.7
baz=242
OSI Osito Audit: C 89.26 55 P P 17 56 33.1 -0.2
baz=259
CIS Catalina Islan 89.27 56 P P 17 56 33.2 -0.2
baz=259
ARVC Arvin 89.28 54 P P 17 56 33.2 -0.1
baz=258
WTLY Watson Lake, Y 89.37 29 P P 17 56 33.5 +0.3
baz=251
F30M Barrier River 89.39 20 P P 17 56 34.1 +0.9
baz=244
FMP Fort Macarthur 89.43 56 P P 17 56 33.3 -0.7
baz=259
DECC Green Verdugo 89.50 55 P P 17 56 34.2 -0.2
baz=259
G31M Satah River 89.63 21 P P 17 56 35.1 +0.9
baz=246
ISA Isabella, Lake 89.67 54 P P 17 56 35.3 +0.1
baz=259
EDW2 Edwards Air Fo 89.90 55 P P 17 56 35.9 -0.4
baz=259
KSH Kashi 89.94 310 P P 17 56 38.7 +2.2
KSH sP pP 17 56 45.6 0.0
KSH pmax pmax
comp=Z,3.0nm,1.3s
F31M Tsiigehtchic 90.03 21 P P 17 56 36.4 +0.3
baz=246
BFSC Mount Baldy Ra 90.05 55 P P 17 56 35.9 -1.2
baz=259
TGTN Hyland Airport 90.08 27 P P 17 56 37.3 +0.8
baz=251
CWC Cottonwood Cre 90.13 53 P P 17 56 37.3 -0.2
baz=259
109C Camp Elliot, M 90.26 57 P P 17 56 38.1 +0.2
baz=260
LRMC Laurel Mtn Rad 90.27 54 P P 17 56 37.8 -0.3
baz=259
NVAR Mina Array Bea 90.34 51 P P 17 56 39.2 +0.7
comp=Z,2.0nm,0.7s,baz=245,slow=7.4,SNR=16
comp=Z,2.0nm,0.7s
NV11 Mina Array Sit 90.46 51 IAmb IAmb 17 56 43.0
comp=Z,7.9nm,1.3s
INK Inuvik 90.46 20 P P 17 56 39.0 +1.0
baz=246
MPMC Manual Prospec 90.53 54 P P 17 56 39.0 -0.4
baz=259
KURBB Kurchatov Arra 90.59 321 P P 17 56 37.7 -1.4
comp=Z,0.5nm,0.7s,baz=110,slow=2.7,SNR=7.1
comp=Z,0.5nm,0.7s
RRX Edison Barstow 90.71 55 P P 17 56 40.0 0.0
baz=260
GRAC Grapevine Rang 90.80 53 P P 17 56 40.4 -0.1
baz=259
PFO Pinyon Flats O 90.92 56 P P 17 56 41.2 +0.1
baz=260
PFO Pinyon Flats O 90.92 56 LR LR 18 29 48.9
comp=Z,274nm,20.6s,baz=273,slow=30
TPFO Pinon Flats 90.92 56 P P 17 56 40.8 -0.4
baz=260
GSC Goldstone, Bar 90.94 55 P P 17 56 40.9 -0.3
baz=260
IKP In-Ko-Pah, Jac 91.04 57 P P 17 56 41.6 -0.1
baz=260
BELC Belle Mtn. Jos 91.36 56 P P 17 56 42.4 -0.9
baz=260
AAK Ala-Archa 91.64 313 P P 17 56 43.5 -0.8
comp=Z,1.6nm,0.8s,baz=178,slow=7.6,SNR=4.8
AAK LR LR 18 37 59.1
comp=Z,57nm,20.5s,baz=62,slow=36
comp=Z,1.6nm,0.8s
KOTAN Kotaneelee Air 91.64 29 P P 17 56 44.0 +0.2
baz=255
TUQ Turquoise Moun 91.67 55 P P 17 56 44.3 -0.4
baz=260
BC3 Big Chuckawall 91.75 56 P P 17 56 44.9 -0.2
baz=260
GMRC Granite Mounta 91.77 55 P P 17 56 45.0 -0.2
baz=260
R11B Troy Canyon, C 92.43 52 P P 17 56 47.3 -0.8
baz=260
WRGLY Wrigley 92.72 26 P P 17 56 48.7 +0.1
baz=255
BELA Belgrano 2 92.89 177 P P 17 56 49.9 +0.6
NEW Newport 93.02 42 LR LR 18 31 59.3
comp=Z,142nm,20.1s,baz=190,slow=31
ELK Elko 93.08 49 LR LR 18 30 35.1
comp=Z,76nm,21.9s,baz=118,slow=30
C36M Paulatuk 94.04 20 P P 17 56 54.8 +0.2
C36M IAmb IAmb 17 56 56.2
comp=Z,5.4nm,0.9s
C36M Paulatuk 94.04 20 P P 17 56 54.6 +0.1
baz=255
HLID Hailey 94.12 47 P P 17 56 54.8 -1.0
baz=262
A36M Sachs Harbour 94.36 18 P P 17 56 56.4 +0.4
A36M IAmb IAmb 17 56 57.9
comp=Z,6.8nm,1.0s
A36M Sachs Harbour 94.36 18 P P 17 56 55.4 -0.6
baz=254
LPIG La Paz 94.79 66 LR LR 18 32 11.0
comp=Z,139nm,19.5s,baz=222,slow=31
WUAZ Wupatki 95.35 55 P P 17 56 60.0 -1.7
baz=263
TUC Tucson 95.44 58 P P 17 56 60.9 -1.1
baz=263
BVAR Borovoye Array 95.99 323 P P 17 57 02.5 -1.3
comp=Z,2.3nm,0.9s,baz=105,slow=9.3,SNR=8.4
BVAR LR LR 18 43 46.6
comp=Z,60nm,18.0s,baz=75,slow=38
comp=Z,2.3nm,0.9s
BOZ Bozeman (W) 96.36 45 P P 17 57 04.6 -1.3
baz=264
YKA Yellowknife Ar 96.57 28 P P 17 57 05.7 -0.5
comp=Z,1.2nm,1.0s,baz=260,slow=4.6,SNR=12
YKA LR LR 18 37 21.0
comp=Z,97nm,18.6s,baz=256,slow=33
comp=Z,1.2nm,1.0s
W18A Petrified Fore 96.64 56 P P 17 57 05.8 -1.7
baz=264
BW06 Boulder Array 97.55 48 P P 17 57 10.0 -1.6
baz=265
PDAR Pinedale Array 97.55 48 P Pdif 17 57 11.5 -0.2
comp=Z,0.5nm,0.3s,baz=251,slow=2.8,SNR=4.0
comp=Z,0.5nm,0.3s
MVCO Mesa Verde 97.85 54 P P 17 57 11.5 -1.5

	baz=265								
EGMT	**Eagleton**	**97.88**	**43**	P		Pdif	17 57 12.2	-0.5	
	baz=265								
RLMT	**Red Lodge**	**97.97**	**46**	P		**P**	**17 57 12.4**	**-1.0**	
	baz=265								
121A	**Cookes Peak, D**	**97.98**	**58**	P		**P**	**17 57 12.4**	**-1.3**	
	baz=264								
Y22D	**IRIS PASSCAL I**	**98.84**	**57**	P		**P**	**17 57 16.6**	**-0.8**	
	baz=265								
Y22F	**Passcal Instru**	**98.84**	**57**	P		**P**	**17 57 16.4**	**-1.0**	
	baz=265								
ANMO	**Albuquerque**	**99.30**	**56**	P		**Pdif**	**17 57 18.1**	**-1.4**	
	baz=266								
ANMO	**Albuquerque**	**99.30**	**56**	LR		LR	18 35 05.2		
	comp=Z,152nm,20.2s,baz=336,slow=31								
K22A	**Casper**	**99.78**	**48**	P		**Pdif**	**17 57 20.1**	**-1.4**	
	baz=267								
MNTX	**Cornudas Mount**	**99.94**	**59**	P		**Pdif**	**17 57 20.7**	**-1.5**	
	baz=266								
N23A	**Red Feather La**	**100.11**	**50**	P		**Pdif**	**17 57 21.3**	**-1.8**	
	baz=267								
LAO	**LASA Array**	**100.19**	**44**	P		**Pdif**	**17 57 22.0**	**-1.0**	
	baz=268								
SDCO	**Great Sand Dun**	**100.27**	**53**	P		**Pdif**	**17 57 22.5**	**-1.4**	
	baz=266								
ISCO	**Idaho Springs**	**100.30**	**51**	P		**Pdif**	**17 57 22.5**	**-1.5**	
	baz=267								
Q24A	**Divide**	**100.61**	**52**	P		**Pdif**	**17 57 23.0**	**-2.4**	
	baz=267								
T25A	**Trinidad**	**101.10**	**54**	P		**Pdif**	**17 57 25.5**	**-2.0**	
	baz=267								
DGMT	**Dagmar**	**101.61**	**42**	P		**Pdif**	**17 57 28.6**	**-0.6**	
	baz=270								
RSSD	**Black Hills**	**101.65**	**47**	P		**Pdif**	**17 57 29.3**	**-0.4**	
	baz=269								
KSCO	**Kaye Shedlock'**	**102.58**	**52**	P		**Pdif**	**17 57 33.3**	**-0.6**	
	baz=269								
OGNE	**Ogallala**	**103.07**	**50**	P		**Pdif**	**17 57 35.5**	**-0.5**	
	baz=269								
AMTX	**Amarillo**	**103.21**	**56**	P		**Pdif**	**17 57 36.0**	**-0.8**	
	baz=268								
JCT	**Junction City**	**104.65**	**61**	P		**Pdif**	**17 57 42.3**	**-1.0**	
	baz=268								
MDND	**Maddock**	**104.69**	**43**	P		**Pdif**	**17 57 43.3**	**+0.4**	
	baz=273								
CBKS	**Cedar Bluff**	**104.83**	**52**	P		**Pdif**	**17 57 43.8**	**0.0**	
	baz=270								
ABTX	**Abilene, Hawle**	**104.85**	**59**	P		**Pdif**	**17 57 43.9**	**-0.1**	
	baz=269								
833A	**Chaparral WMA,**	**104.92**	**63**	P		**Pdif**	**17 57 43.9**	**-0.5**	
	baz=268								
BGNE	**Belgrade**	**106.00**	**50**	P		**PKiKP**	**18 02 02.3**	**+1.1**	
	baz=272								
435B	**Jarrell**	**106.57**	**61**	P		**PKiKP**	**18 02 02.2**	**-0.3**	
	baz=269								
WHTX	**Lake Whitney,**	**106.69**	**59**	P		**PKiKP**	**18 02 01.5**	**-1.1**	
	baz=270								
AGMN	**Agassiz Nation**	**107.16**	**42**	P		**PKiKP**	**18 02 02.6**	**-0.5**	
	baz=276								
KSU1	**Kansas State U**	**107.26**	**52**	P		**PKiKP**	**18 02 03.8**	**+0.3**	
	baz=272								
TUL3	**Leonard**	**108.03**	**55**	P		**PKiKP**	**18 02 04.4**	**-0.7**	
	baz=272								
SPMN	**Marine on St.**	**109.59**	**45**	P		**PKiKP**	**18 02 07.2**	**-0.4**	
	baz=277								
SCIA	**State Center**	**109.65**	**49**	P		**PKiKP**	**18 02 07.7**	**-0.2**	
	baz=276								
MIAR	**Mount Ida**	**109.89**	**57**	P		**PKiKP**	**18 02 08.1**	**-0.5**	
	baz=273								
EYMN	**Ely**	**110.11**	**42**	P		**PKiKP**	**18 02 09.3**	**+0.7**	
	baz=279								
CCM	**Cathedral Cave**	**111.53**	**53**	P		**PKiKP**	**18 02 11.6**	**+0.1**	
	baz=276								
JFWS	**Jewell Farm**	**111.72**	**47**	P		**PKiKP**	**18 02 11.6**	**-0.1**	
	baz=278								
VBMS	**Vicksburg**	**112.57**	**59**	P		**PKiKP**	**18 02 13.3**	**-0.4**	
	baz=274								
HDIL	**Hopedale**	**112.75**	**50**	P		**PKiKP**	**18 02 13.2**	**-0.6**	
	baz=278								
OXF	**Oxford**	**113.33**	**56**	P		**PKiKP**	**18 02 13.8**	**-1.3**	
	baz=275								
SFIN	**Lafayette**	**114.43**	**50**	P		PKPdf	18 02 16.4	-0.6	
	baz=279								
WVT	**Waverly**	**114.44**	**54**	P		PKPdf	18 02 16.5	-0.7	
	baz=277								
GLMI	**Grayling**	**115.38**	**45**	P		**PKiKP**	**18 02 18.0**	**-0.7**	
	baz=283								
WCI	**Wyandotte Cave**	**115.38**	**52**	P		**PKiKP**	**18 02 18.0**	**-0.9**	
	baz=279								
LRAL	**Lakeview Retre**	**115.47**	**58**	P		**PKPdf**	**18 02 18.3**	**-0.9**	
	baz=276								
BRAL	**Brewton**	**115.59**	**60**	P		**PKPdf**	**18 02 18.8**	**-0.7**	
	baz=275								
O48B	**Farmland**	**115.91**	**50**	P		**PKPdf**	**18 02 18.5**	**-1.4**	
	baz=281								
P49A	**Miami Univ. Ec**	**116.38**	**50**	P		**PKPdf**	**18 02 19.9**	**-0.9**	
	baz=280								
AAM	**Ann Arbor**	**116.61**	**47**	P		**PKPdf**	**18 02 20.6**	**-0.6**	
	baz=283								
TZTN	**Tazewell**	**117.81**	**53**	P		**PKPdf**	**18 02 22.9**	**-0.8**	
	baz=280								
P52A	**Corning**	**118.31**	**50**	P		**PKPdf**	**18 02 24.3**	**-0.2**	
	baz=282								
GOGA	**Godfrey**	**118.36**	**57**	P		**PKPdf**	**18 02 24.0**	**-0.8**	
	baz=278								
MCWV	**Mont Chateau**	**120.03**	**49**	P		**PKPdf**	**18 02 26.9**	**-0.9**	
	baz=284								
AKASG	**Malin Array Be**	**121.18**	**325**	PKP		**PKiKP**	**18 02 29.2**	**-0.6**	
	comp=Z,0.9nm,0.6s,baz=68,slow=1.6,SNR=5.1								
BINY	**Binghamton**	**122.13**	**46**	P		**PKiKP**	**18 02 31.8**	**-0.2**	
	baz=289								
LONY	**Lake Ozonia**	**122.27**	**42**	P		**PKPdf**	**18 02 30.9**	**-1.1**	
	baz=291								
MMAI	**Mount Meron Ar**	**122.49**	**303**	PKP		**PKiKP**	**18 02 33.9**	**+0.8**	
	comp=Z,0.1nm,0.3s,baz=54,slow=7.3,SNR=3.7								
NOA	**NORSAR Array B**	**122.74**	**342**	PKP		**PKiKP**	**18 02 32.1**	**-0.5**	
	comp=Z,0.7nm,0.8s,baz=40,slow=1.7,SNR=4.0								
PAL	**Palisades**	**123.99**	**46**	P		**PKPdf**	**18 02 34.2**	**-1.2**	
	baz=290								
LBNH	**Lisbon**	**124.18**	**42**	P		**PKPdf**	**18 02 34.6**	**-1.0**	
	baz=293								
HRV	**Adam Dziewonsk**	**125.10**	**44**	P		**PKPdf**	**18 02 36.2**	**-1.3**	
	baz=292								
PKME	**Peaks-Kenny Pk**	**125.46**	**40**	P		**PKPdf**	**18 02 37.5**	**-0.5**	
	baz=296								
M65A	**Busby, Falmout**	**126.08**	**45**	P		**PKPdf**	**18 02 38.5**	**-0.8**	
	baz=293								
MORC	**Moravsky Berou**	**128.02**	**329**	*e*PKP		**PKPdf**	**18 02 39.2**	**-3.7**	
VRAC	**Vranov**	**128.80**	**329**	*e*PKP		**PKiKP**	**18 02 44.1**	**-0.9**	
KRUC	**Moravsky**	**129.05**	**329**	*e*PKP		**PKPdf**	**18 02 43.4**	**-1.4**	
GERES	**GERESS Array B**	**130.55**	**330**	PKP		**PKiKP**	**18 02 48.4**	**-0.3**	
	comp=Z,0.2nm,0.4s,baz=349,slow=8.0,SNR=3.4								
CPUP	**Villa Florida**	**130.56**	**136**	PKP		**PKiKP**	**18 02 48.9**	**-0.3**	
	comp=Z,2.0nm,0.9s,baz=218,slow=7.5,SNR=3.1								
SDV	**Santo Domingo**	**131.57**	**86**	PKP		**PKPdf**	**18 02 51.0**	**+0.1**	
	comp=Z,2.1nm,0.3s,baz=358,slow=3.1,SNR=4.6								
BDFB	**Brasilia**	**144.10**	**133**	PKPdf		PKPbc	18 03 12.6	+0.9	
BDFB	**Brasilia**	**144.10**	**133**	PKP		**PKPdf**	**18 03 12.7**	**-1.0**	
	comp=Z,6.5nm,0.8s,baz=215,slow=3.8,SNR=10								
ESDC	**Sonseca Array**	**145.70**	**336**	PKPbc		**PKPab**	**18 03 15.6**	**-0.8**	
	comp=Z,5.8nm,0.9s,baz=16,slow=3.3,SNR=16								
TORD	**Torodi Ar. Bea**	**156.82**	**282**	PKP		**PKPdf**	**18 03 32.4**	**-0.8**	
	comp=Z,0.5nm,0.8s,baz=15,slow=3.9,SNR=2.1								
TORD				PKPab		**PKPab**	**18 04 00.4**	**-2.5**	
	comp=Z,1.1nm,0.9s,baz=47,slow=3.5,SNR=5.0								

*TEH **04** 17:48:38.6,31.°95N×55.°83E,h8km±35km, ML4.0*
*IDC **04** 17:48:38.2±2.2,31.°63N×55.°95E,h0km,mb3.6/8, mbtmp3.7/14,ML3.7/6,MS3.1/5,Error ellipse: s-maj=49.1km s-min=18.3km az=160.0*
ISC 04 17:48:41.2±0.6,31.°88N±0.°04×55.°84E±0.°03,h13km,n69, σ1§10/71,mb3.6/9,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IBAF	**Bafgh**	**0.37**	**218**	Pg	**Pg**	**17 48 48.2**	**-0.5**
ZRDN	**Zarand Kerman**	**1.09**	**147**	Pg	**Pb**	**17 49 01.4**	**-0.7**
IMEH	**Mehriz**	**1.15**	**245**	Pg	**Pn**	**17 49 02.7**	**-0.6**
ICHK	**Chekchek**	**1.27**	**287**	Pg	**Pn**	**17 49 03.5**	**-1.3**
ICHK				Sg	**Sb**	**17 49 20.1**	**-1.3**
TPRV	**Parvadeh(Tabas**	**1.35**	**32**	Pg	**Pn**	**17 49 04.8**	**-1.0**
KHGB	**Koh Gabri**	**1.60**	**160**	Pg	**Pg**	**17 49 11.0**	**-0.9**
ISAD	**Sadrabad**	**1.83**	**272**	Pn	**Pn**	**17 49 14.0**	**+1.3**
KRM1	**Kerman Provinc**	**1.84**	**138**	Pn	**Pb**	**17 49 14.7**	**-0.2**
TKDS	**Koohdasht(Taba**	**2.04**	**32**	Pn	**Pn**	**17 49 15.5**	**+0.1**
TVBK	**TV Kerman**	**2.05**	**157**	Pn	**Pb**	**17 49 17.7**	**-0.8**
TNSJ	**Nastanj**	**2.17**	**17**	Pn	**Pn**	**17 49 17.1**	**-0.1**
ANAR	**Anarak**	**2.21**	**307**	Pn	**Pn**	**17 49 18.4**	**+0.7**
NGRK	**Negar Kerman**	**2.36**	**161**	Pn	**Pb**	**17 49 22.1**	**-1.7**
CHMN	**Cheshme madani**	**2.49**	**144**	Pn	**Pb**	**17 49 24.0**	**-2.0**
ITEG	**Tejag**	**2.66**	**67**	Pn	**Pn**	**17 49 24.8**	**+0.8**
IKOO	**Kooshah**	**2.74**	**78**	Pn	**Pn**	**17 49 25.8**	**+0.7**
BSRN	**Basiran**	**2.80**	**87**	Pn	**Pn**	**17 49 26.4**	**+0.6**
IRAM	**Ramesheh**	**2.94**	**269**	Pn	**Pn**	**17 49 29.8**	**+1.9**
AFRZ	**Afriz**	**3.09**	**59**	Pn	**Pn**	**17 49 30.4**	**+0.6**
IZEF	**Zefreh**	**3.13**	**290**	Pn	**Pn**	**17 49 32.0**	**+1.4**
IDAH	**Dahanechah**	**3.52**	**75**	Pn	**Pn**	**17 49 36.7**	**+0.9**
KBAM	**BAM**	**3.55**	**140**	Pn	**Pn**	**17 49 37.6**	**+1.5**
NHDN	**Nehbandan**	**3.63**	**97**	Pn	**Pn**	**17 49 38.3**	**+1.1**
KRSH	**Karshahi**	**3.74**	**305**	Pn	**Pn**	**17 49 39.9**	**+1.1**
IKLH	**Kolahrood**	**3.87**	**293**	Pn	**Pn**	**17 49 42.4**	**+1.7**
ISFB	**Sefidab**	**3.89**	**310**	Pn	**Pn**	**17 49 41.7**	**+0.9**
SHRT	**Shahrakht**	**4.14**	**64**	Pn	**Pn**	**17 49 45.3**	**+1.0**
QAMS	**Qamsar**	**4.17**	**297**	Pn	**Pn**	**17 49 46.1**	**+1.3**
IPIR	**Pirpir**	**4.26**	**282**	Pn	**Pn**	**17 49 48.0**	**+1.9**
TBHD	**Torbat heydari**	**4.52**	**38**	Pn	**Pn**	**17 49 50.1**	**+0.5**
IFIR	**Firoozkooh**	**4.54**	**326**	Pn	**Pn**	**17 49 50.1**	**+0.2**
IVRN	**Varamin**	**4.63**	**313**	Pn	**Pn**	**17 49 52.4**	**+1.4**
SBZV	**Sabzevar**	**4.73**	**18**	Pn	**Pn**	**17 49 53.0**	**+0.6**
IDMV	**Damavand**	**4.86**	**320**	Pn	**Pn**	**17 49 55.7**	**+1.4**
IGLO	**Ghaloghah**	**4.90**	**341**	Pn	**Pn**	**17 49 55.5**	**+0.8**
ZHDN	**Zahedan**	**4.95**	**119**	Pn	**Pn**	**17 49 56.9**	**+1.5**
IQOM	**Qom**	**4.96**	**308**	Pn	**Pn**	**17 49 56.3**	**+0.6**
TBJM	**Torbat-e-JAM**	**5.04**	**47**	Pn	**Pn**	**17 49 56.9**	**+0.2**
IHSB	**Hasanabad**	**5.20**	**314**	Pn	**Pn**	**17 49 59.9**	**+1.2**
IPRN	**Peran**	**5.23**	**327**	Pn	**Pn**	**17 50 00.3**	**+1.1**
IPAY	**Payeh**	**5.25**	**29**	Pn	**Pn**	**17 50 00.5**	**+0.8**
IAKL	**Akhelmad**	**5.29**	**26**	Pn	**Pn**	**17 50 01.1**	**+0.8**
DSBU	**Dashti - Bushe**	**5.29**	**230**	Pn	**Pn**	**17 50 02.2**	**+2.1**
ISFR	**Sfrayin**	**5.46**	**19**	Pn	**Pn**	**17 50 03.4**	**+0.9**
IMYA	**Miami**	**5.68**	**37**	Pn	**Pn**	**17 50 06.1**	**+0.6**
IMHD	**Mahdasht**	**5.74**	**313**	Pn	**Pn**	**17 50 07.5**	**+1.4**
IKRD	**Kardeh**	**5.75**	**31**	Pn	**Pn**	**17 50 08.1**	**+1.6**
MRVT	**Maraveh tapeh**	**5.77**	**2**	Pn	**Pn**	**17 50 07.2**	**+0.6**
IEMG	**Emamgholi**	**5.99**	**22**	Pn	**Pn**	**17 50 10.3**	**+0.6**
IRAZ	**Razeghan**	**6.05**	**307**	Pn	**Pn**	**17 50 11.0**	**+0.4**
GEYT	**Alibeck**	**6.32**	**17**	Pn	**Pn**	**17 50 15.0**	**+0.9**
	1.6nm,0.3s,baz=192,slow=14,SNR=26						
GEYT				Sn	**Sn**	**17 51 24.9**	**-1.2**
	baz=221,slow=11						
GEYT				Lg	Lg	17 51 59.1	
	baz=208,slow=24						
GEYT				LR	LR	17 53 02.6	
	comp=Z,124nm,19.1s,baz=162,slow=40 13nm,0.6s						
SRVN	**Saravan**	**7.25**	**126**	Pn	**Pn**	**17 50 29.4**	**+2.5**
WSAR	**Wadi Sarin**	**8.96**	**163**	Pn	**Pn**	**17 50 49.5**	**-0.9**
	0.1nm,0.3s,baz=102,slow=9.8,SNR=1.8						
WSAR				Sn	Sn	17 52 19.5	-12
	baz=138,slow=22,SNR=1.2						
ASF	**Jabal al Asfar**	**16.07**	**276**	Pn	**Pn**	**17 52 27.3**	**+0.3**
	1.4nm,0.3s,baz=334,slow=3.7,SNR=8.7 3.0nm,0.4s						
MMAI	**Mount Meron Ar**	**17.29**	**279**	P	**Pn**	**17 52 43.9**	**+1.5**
	0.4nm,0.3s,baz=105,slow=17,SNR=4.0 1.1nm,0.7s						
AAK	**Ala-Archa**	**18.28**	**49**	P	**P**	**17 52 54.8**	**-0.1**
	0.1nm,0.3s,baz=151,slow=19,SNR=1.8						
AAK				LR	LR	18 01 27.0	
	comp=Z,60nm,18.5s,baz=74,slow=42 0.6nm,0.4s						
AKTO	**Aktyubinsk**	**18.61**	**4**	P	**Pn**	**17 52 59.0**	**+0.6**
	0.2nm,0.3s,baz=181,slow=12,SNR=7.2						
AKTO				LR	LR	18 02 04.5	
	comp=Z,50nm,18.8s,baz=356,slow=43 2.4nm,0.6s						
BRTR	**Keskin Array B**	**19.60**	**300**	P	**Pn**	**17 53 11.4**	**+0.8**
	0.1nm,0.3s,baz=119,slow=13,SNR=6.8 2.0nm,1.0s						
BVAR	**Borovoye Array**	**23.61**	**22**	P	**P**	**17 53 52.7**	**+1.0**
	2.4nm,0.6s,baz=216,slow=7.7,SNR=11						
BVAR				LR	LR	18 05 22.1	
	comp=Z,53nm,18.8s,baz=0.2,slow=42 2.4nm,0.6s						
ARU	**Arti**	**24.61**	**4**	LR	LR	18 04 55.8	
	comp=Z,65nm,18.2s,baz=253,slow=39						
MKAR	**Makanchi Array**	**25.15**	**46**	P	**P**	**17 54 06.0**	**0.0**
	0.3nm,0.6s,baz=224,slow=7.7,SNR=5.6 0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**25.16**	**35**	P	**P**	**17 54 06.8**	**+0.8**
	0.4nm,0.6s,baz=236,slow=9.3,SNR=4.7 0.4nm,0.6s						
AKASG	**Malin Array Be**	**27.21**	**321**	P	**P**	**17 54 25.2**	**+0.7**
	0.8nm,0.6s,baz=133,slow=8.6,SNR=8.6 0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**30.25**	**35**	P	**P**	**17 54 51.7**	**+0.2**
	0.5nm,0.5s,baz=238,slow=8.3,SNR=2.6 0.5nm,0.5s						
GERES	**GERESS Array B**	**35.77**	**311**	P	**P**	**17 55 41.4**	**+1.4**
	0.8nm,0.8s,baz=98,slow=7.1,SNR=3.2 0.8nm,0.8s						
CLL	**Collm**	**36.80**	**315**	*e*P	**P**	**17 55 48.0**	**-0.6**
CLL				*e*PP	**PP**	**17 57 12.0**	**-0.3**
LYN	**LuoYang**	**46.92**	**71**	*e*P	**P**	**17 57 11.6**	**0.0**
LYN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**52.83**	**262**	P	**P**	**17 57 55.3**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=54,slow=8.8,SNR=2.2 comp=Z,0.5nm,0.7s						
YKA	**Yellowknife Ar**	**85.64**	**356**	P	**P**	**18 01 20.1**	**+0.9**
	comp=Z,0.2nm,0.7s,baz=356,slow=5.6,SNR=4.0 comp=Z,0.2nm,0.7s						

*NNC **04** 18:04:25.6±6.9,37.°37N×71.°30E,h0km,mb3.9,mpv3.8, Error ellipse: s-maj=63.6km s-min=41.1km az=156.0*
ISC 04 18:04:26.5±3.4,37.°1N±0.°2×71.°3E±0.°1,h100km,n10, σ1§02/12,2C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UCH	**Uchtor**	**5.70**	**25**	P	**Pn**	**18 05 49.7**	**+0.6**
	SNR=8.1						
EKS2	**Erkin-Say**	**5.88**	**18**	P	**Pn**	**18 05 52.3**	**+1.1**
	SNR=6.1						
KK31	**Karatay Array**	**6.04**	**354**	P	**Pn**	**18 05 54.5**	**+1.2**
	2.5nm,0.2s,baz=180,slow=12,SNR=183						
KK31				⇑S	**Sn**	**18 07 00.9**	**-0.1**
	1.8nm,0.3s,baz=178,slow=22,SNR=10						
AAK	**Ala-Archa**	**6.06**	**23**	P	**Pn**	**18 05 54.8**	**+1.0**
	SNR=9.3						
CHMS	**Chumysh**	**6.46**	**23**	P	**Pn**	**18 05 59.5**	**+0.4**
	SNR=6.2						
USP	**Ospenovka**	**6.64**	**21**	P	**Pn**	**18 06 02.5**	**+1.0**
	SNR=5.4						
TKM2	**Tokmak 2**	**6.69**	**28**	P	**Pn**	**18 06 02.9**	**+0.6**
	SNR=14						
TKM2	**Tokmak 2**	**6.69**	**28**	⇓P	**Pn**	**18 06 02.3**	**0.0**
	4.8nm,0.6s						
TKM2				⇓S	**Sn**	**18 07 16.5**	**-0.6**
	1.2nm,0.5s						
AB31	**Akbulak array**	**14.70**	**329**	⇓P	**Pn**	**18 07 47.6**	**-1.6**
	0.4nm,0.3s,baz=139,slow=13,SNR=31						
AKTO	**Aktyubinsk**	**16.40**	**329**	⇑P	**P**	**18 08 12.6**	**+0.9**
	0.7nm,0.7s						

*IDC **04** 18:20:05.6±1.1,6.°26S×142.°98E,h0km,mb3.5/5, mbtmp3.6/7,ML1.0/1,Error ellipse: s-maj=40.5km s-min=25.4km az=58.0*
ISC 04 18:20:09.3±0.9,6.°8S±0.°1×142.°6E±0.°1,h35km,n9,σ1§54/9, mb3.4/5,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.23**	**120**	Pn	**Pn**	**18 21 24.7**	**-0.3**
	0.4nm,0.3s,baz=319,slow=19,SNR=1.5						
PMG				Sn	**Sn**	**18 22 25.2**	**+1.1**
	0.3nm,0.3s,baz=19,slow=18,SNR=2.0 3.8nm,0.8s						
CTA	**Charters Tower**	**13.71**	**165**	Lg	Lg	18 27 31.1	
	0.1nm,0.3s,baz=3.5,slow=19,SNR=0.9						
WRA	**Warramunga Arr**	**15.35**	**211**	Pn	**P**	**18 23 45.8**	**-1.9**
	0.1nm,0.3s,baz=30,slow=13,SNR=10						
WRA				Sn	**Sn**	**18 26 33.7**	**+1.3**
	baz=36,slow=22,SNR=1.3						
WRA				Lg	Lg	18 28 29.5	
	0.1nm,0.3s,baz=41,slow=28,SNR=2.2						
ASAR	**Alice Springs**	**18.76**	**206**	P	Pn	18 24 33.1	+7.0
	3.5nm,0.7s,baz=28,slow=10,SNR=48						
ASAR				Lg	Lg	18 30 17.3	
	baz=17,slow=28,SNR=4.1						
SONM	**Songino Array**	**63.04**	**333**	P	**P**	**18 30 33.9**	**+0.9**
	0.2nm,0.7s,baz=134,slow=4.2,SNR=1.5 0.2nm,0.7s						
MKAR	**Makanchi Array**	**75.35**	**322**	P	**P**	**18 31 50.1**	**+0.9**
	0.1nm,0.6s,baz=108,slow=5.4,SNR=1.7 0.1nm,0.6s						
KURBB	**Kurchatov Arra**	**79.26**	**324**	P	**P**	**18 32 12.6**	**+1.6**
	0.1nm,0.7s,baz=103,slow=4.6,SNR=2.3 0.1nm,0.7s						
BVAR	**Borovoye Array**	**84.84**	**325**	P	**P**	**18 32 40.7**	**+0.4**
	1.4nm,0.9s,baz=116,slow=3.4,SNR=8.0 1.4nm,0.9s						
ILAR	**Eielson Array**	**87.93**	**24**	P	**P**	**18 32 53.4**	**-1.8**
	0.6nm,0.9s,baz=249,slow=5.8,SNR=6.3 0.6nm,0.9s						

TAP 04 18:22:47.3,24.°78N×122.°31E,h3km±1km,ML1.6,D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EOS2	**EOS2**	**0.37**	**192**	P	Pb	18 22 55.7	-0.7
	baz=191						
EOS2				S	Sb	18 23 02.3	-0.3
	baz=191						
TWB1	**Santiao Chiao**	**0.37**	**307**	*e*P	Pb	18 22 56.0	-0.6
	baz=307						
TWB1				*e*S	Sb	18 23 01.4	-1.4
	baz=307						
TWC	**Suao**	**0.46**	**248**	*e*S	Sb	18 23 06.7	+1.5
	baz=247						
TIPB	**Shuangxi**	**0.48**	**293**	*e*S	Sb	18 23 06.5	+0.5
	baz=293						
EOS3	**EOS3**	**0.49**	**180**	*e*P	Pb	18 22 58.7	+0.1
	baz=179						
SXI1	**Grass Mountain**	**0.51**	**308**	P	Pb	18 22 59.0	+0.1
	baz=307						
SXI1				S	Sb	18 23 07.1	+0.3
	baz=307						
EWUT	**Wuta**	**0.59**	**236**	*e*S	Sb	18 23 10.5	+1.4
	baz=235						
ENA	**Nanau**	**0.63**	**236**	*e*P	Pb	18 23 01.0	+0.1
	baz=235						
ENA				*e*S	Sb	18 23 11.1	+1.0
	baz=235						
EOS4	**EOS4**	**0.66**	**180**	*e*P	Pb	18 23 01.6	+0.4
	baz=179						
EOS4				*e*S	Sb	18 23 12.0	+1.4
	baz=179						
FUSB	**Fushanzhiwuyua**	**0.66**	**268**	*e*S	Sb	18 23 11.3	+0.1
	baz=268						
EAHA	**Aohua**	**0.69**	**229**	*e*S	Sb	18 23 12.6	+0.6
	baz=229						
ENTT	**Nioudou**	**0.69**	**258**	*e*S	Sb	18 23 13.4	+1.3
	baz=257						
LATG	**Datong**	**0.76**	**251**	*e*P	Pb	18 23 03.2	0.0
	baz=251						
LATG				*e*S	Sb	18 23 15.1	+1.1
	baz=251						
YM01	**YM01**	**0.77**	**298**	*e*S	Sb	18 23 15.7	+1.4
	baz=298						
NACB	**Ninganchiao**	**0.89**	**227**	*e*S	Sn	18 23 19.3	-0.9
	baz=227						
NNSB	**Datong**	**0.92**	**248**	*e*S	Sn	18 23 20.4	-0.6
	baz=247						

JMA 04 18:23:17.5±0.1,24.°2N±0.°3×123.°9E±0.°3,h16km±1km, MV2.9/10,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.14**	**312**	P	Pg	18 23 21.4	-0.1
IRIF				S	Sb	18 23 24.5	-0.2
JKRS	**Kuro-shima**	**0.15**	**91**	P	Pg	18 23 21.7	+0.1
JKRS				S	Sb	18 23 24.8	-0.1
HATJ	**Hateruma jima**	**0.19**	**192**	P	Pg	18 23 21.9	-0.2
HATJ				S	Sg	18 23 25.1	0.0
JIJ	**Ishigaki jima**	**0.30**	**65**	P	Pg	18 23 23.7	-0.2
JIJ				S	Sg	18 23 28.2	0.0
JISG	**Ishigakijimahi**	**0.55**	**51**	*i* P	Pg	18 23 28.2	-0.2
JISG				S	Sb	18 23 36.4	+0.1
YOJ	**Yonaguni jima**	**0.79**	**286**	P	Pg	18 23 33.0	0.0
YOJ				*e*S	Sg	18 23 43.9	+0.3
JYNG	**Yonagunijimaku**	**0.85**	**285**	P	Pb	18 23 33.7	-0.2
JYNG				*e*S	Sg	18 23 45.3	+0.1
JTJ	**Tarama**	**0.88**	**63**	P	Pb	18 23 34.4	+0.1
JTJ				S	Sg	18 23 46.4	+0.3

*RSNC **04** 18:31:50.0±0.0,12.°N±6.°×7.°0W±.°,h117km±7km,M2.7, mB5.7,ML2.6,Mw(mB)5.2*
*FUNV **04** 18:31:53.3,11.°71N×70.°33W,h16km,MW3.1*
ISC 04 18:31:54.2±1.6,11.°73N±0.°06×70.°32W±0.°04,h50km±45km, n17,σ1§12/26,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AUA1	**Aruba**	**0.83**	**21**	P	**Pn**	**18 32 08.2**	**-1.4**
AUA1				S	**Sn**	**18 32 22

PMG				Sn	**Sn**	**18 48 49.1**	**-1.7**
	4.9nm,0.3s,baz=258,slow=20,SNR=6.7						
	3.5nm,0.3s						
COEN	**Coen**	**7.54**	**179**	P	**Pn**	**18 48 29.8**	**+1.3**
FAKI	**Fak Fak**	**11.35**	**287**	P	**Pn**	**18 49 21.0**	**+0.2**
KDU	**Kakadu**	**12.21**	**238**	P	**Pn**	**18 49 30.3**	**-2.3**
MTN	**Manton Dam**	**13.44**	**241**	P	**Pn**	**18 49 47.1**	**-2.3**
DRS	**Darwin Rock St**	**13.46**	**243**	P	**Pn**	**18 49 48.2**	**-1.4**
QIS	**Mount Isa**	**14.50**	**193**	P	**Pn**	**18 50 03.7**	**-0.2**
WRA	**Warramunga Arr**	**15.95**	**211**	Pn	**Pn**	**18 50 19.0**	**-3.9**
	0.9nm,0.3s,baz=28,slow=13,SNR=47						
WRA				Lg	Lg	18 55 04.8	
	baz=31,slow=31						
KNRA	**Kununurra**	**16.83**	**236**	P	**Pn**	**18 50 31.5**	**-2.6**
AS01	**Alice Springs**	**19.32**	**206**	P	**P**	**18 51 04.9**	**+1.6**
ASAR	**Alice Springs**	**19.34**	**206**	P	**P**	**18 51 05.1**	**+1.5**
	7.5nm,0.6s,baz=31,slow=10,SNR=115						
ASAR				Lg	Lg	18 56 52.4	
	0.2nm,0.3s,baz=16,slow=28,SNR=2.4						
OOD	**Oodnadatta**	**22.44**	**197**	P	**P**	**18 51 38.7**	**+1.7**
WRKA	**Warakurna**	**23.36**	**216**	P	**P**	**18 51 46.9**	**+0.3**
GC1S	**Gold Coast 1 S**	**23.81**	**157**	P	**P**	**18 51 53.5**	**+2.7**
MKAR	**Makanchi Array**	**75.35**	**322**	P	**P**	**18 58 21.4**	**+0.4**
	0.3nm,0.8s,baz=122,slow=5.4,SNR=2.6						
	0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**79.23**	**324**	P	**P**	**18 58 43.1**	**+0.5**
	0.1nm,0.2s,baz=134,slow=4.8,SNR=1.9						
	0.1nm,0.2s						
BVAR	**Borovoye Array**	**84.81**	**325**	P	**P**	**18 59 12.3**	**+0.4**
	0.5nm,0.7s,baz=108,slow=4.7,SNR=4.7						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**87.36**	**24**	P	**P**	**18 59 23.2**	**-1.0**
	0.2nm,0.8s,baz=251,slow=5.6,SNR=1.3						
	0.2nm,0.8s						

*IDC **04** 18:48:38.1±0.8,5.70S×142.5E,h0km,mb3.9/10, mbtmp3.9/13,ML3.7/2, Error ellipse: s-maj=36.4km s-min=17.2km az=75.0*

ISC 04 18:48:43.5±0.7,5.7S±0.1×142.5E±0.1,h35km,n14, σ0s81/14,mb3.9/10,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.88**	**129**	Pn	**Pn**	**18 50 08.7**	**+0.5**
	7.7nm,0.5s,baz=263,slow=16,SNR=1.3						
PMG				Sn	**Sn**	**18 51 14.0**	**-0.4**
	2.2nm,0.3s,baz=190,slow=18,SNR=1.8						
CTA	**Charters Tower**	**14.72**	**166**	Lg	Lg	18 56 21.5	
	0.1nm,0.3s,baz=215,slow=19,SNR=1.6						
WRA	**Warramunga Arr**	**16.20**	**209**	Pn	**Pn**	**18 52 27.6**	**-1.0**
	0.2nm,0.3s,baz=28,slow=11,SNR=2.1						
WRA				Lg	Lg	18 57 07.6	
	0.1nm,0.3s,baz=22,slow=36,SNR=1.6						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**19.66**	**204**	P	**P**	**18 53 10.6**	**+1.0**
	0.4nm,0.3s,baz=33,slow=10.0,SNR=7.3						
	3.0nm,0.7s						
KSRS	**Korea Array**	**45.07**	**344**	P	**P**	**18 56 57.2**	**+1.1**
	0.9nm,0.6s,baz=154,slow=8.2,SNR=4.8						
	0.9nm,0.6s						
KLR	**Kul'dur**	**55.54**	**351**	P	**P**	**18 58 15.7**	**+0.5**
	1.7nm,0.7s,baz=200,slow=3.9,SNR=5.7						
	1.7nm,0.7s						
SONM	**Songino Array**	**62.08**	**333**	P	**P**	**18 59 00.8**	**-0.1**
	0.2nm,0.6s,baz=134,slow=8.3,SNR=1.9						
	0.2nm,0.6s						
VNDA	**Vanda**	**72.47**	**176**	P	**P**	**19 00 06.3**	**+0.2**
	1.6nm,0.8s,baz=358,slow=2.9,SNR=5.0						
	1.6nm,0.8s						
MKAR	**Makanchi Array**	**74.49**	**322**	P	**P**	**19 00 18.3**	**-0.2**
	0.8nm,0.6s,baz=112,slow=7.2,SNR=7.9						
	0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**76.45**	**329**	P	**P**	**19 00 28.3**	**-1.2**
	0.4nm,0.6s,baz=114,slow=6.0,SNR=2.0						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**78.37**	**324**	P	**P**	**19 00 40.1**	**-0.3**
	0.5nm,0.8s,baz=112,slow=4.7,SNR=4.1						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	**83.95**	**325**	P	**P**	**19 01 10.0**	**0.0**
	2.1nm,0.8s,baz=116,slow=8.4,SNR=11						
	2.1nm,0.8s						
QSPA	**South Pole Qui**	**84.23**	**180**	P	**P**	**19 01 11.5**	**+0.1**
	1.3nm,0.7s,baz=1.1,slow=2.0,SNR=6.9						
	1.3nm,0.7s						
ILAR	**Eielson Array**	**87.03**	**24**	P	**P**	**19 01 23.9**	**-1.2**
	0.7nm,0.8s,baz=250,slow=5.2,SNR=5.2						
	0.7nm,0.8s						

*IDC **04** 18:53:44.5±1.4,55.43N×157.40W,h0km,mb3.6/10, mbtmp3.6/12,ML3.3/2,MS3.2/1, Error ellipse: s-maj=34.0km s-min=18.3km az=167.0*

*NEIC **04** 18:53:46.5±1.9,55.31N±0.05×157.11W±0.03,h10km±2km, Error ellipse: s-maj=8.2km s-min=3.3km az=188.0*

*AEIC **04** 18:53:49.4±2.2,55.32N±0.05×157.09W±0.07,h37km±9km, ML3.6,mb3.7/6(NEIC),ML3.7/36(NEIC), Error ellipse: s-maj=7.9km s-min=4.5km az=141.0*

ISC 04 18:53:47.3±0.7,55.35N±0.07×157.09W±0.04,h20km, n168,σ1s19/167,mb3.7/11,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIR	**Chirikof Islan**	**0.96**	**60**		**Pb**	**18 54 05.6**	**+0.4**
CHIR					**Sb**	**18 54 18.0**	**+0.6**
CHIR	**Chirikof Islan**	**0.96**	**60**	IAML		18 54 26.2	
	comp=E,2μm,0.4s						
CHIR				IAML		18 54 26.4	
	comp=N,2μm,0.8s						
CHIR	**Chirikof Islan**	**0.96**	**60**	P	**Pb**	**18 54 05.6**	**+0.4**
	baz=240						
CHIR				S	**Sb**	**18 54 18.0**	**+0.6**
	baz=240						
CHGN	**Chignik**	**1.21**	**322**		**Pn**	**18 54 08.7**	**-0.4**
CHGN				IAML		18 54 25.3	
	comp=N,1μm,0.7s						
CHGN				IAML		18 54 26.0	
	comp=E,2μm,0.7s						
CHGN	**Chignik**	**1.21**	**322**		**Sb**	**18 54 25.2**	**+0.5**
CHGN	**Chignik**	**1.21**	**322**	P	**Pn**	**18 54 08.7**	**-0.4**
	baz=142						
CHGN				S	**Sb**	**18 54 25.2**	**+0.5**
	baz=142						
VNSG	**Veniaminof 6**	**1.37**	**305**		**Pn**	**18 54 11.7**	**+0.4**
VNHG	**Veniaminof 1**	**1.46**	**308**		**Pn**	**18 54 13.1**	**+0.5**
CHNA	**Chernabura Isl**	**1.53**	**251**	P	**Pn**	**18 54 13.5**	**+0.1**
	baz=70						
CHNA				S	**Sn**	**18 54 32.2**	**-0.5**
	baz=70						
CNBA	**Chernabura Isl**	**1.53**	**251**		**Pn**	**18 54 13.5**	**+0.1**
CNBA	**Chernabura Isl**	**1.53**	**251**		**Sn**	**18 54 32.2**	**-0.6**
CNBA	**Chernabura Isl**	**1.53**	**251**	IAML		18 54 42.5	
	comp=N,810nm,0.8s						
CNBA				IAML		18 54 48.3	
	comp=E,906nm,1.0s						
ANPB	**Aniakchak Plen**	**1.60**	**336**		**Pn**	**18 54 15.0**	**+0.5**
S14K	**Fog Glacier**	**1.68**	**305**	P	**Pn**	**18 54 16.6**	**+1.1**
	baz=124						
VNFG	**Fog Glacier, M**	**1.68**	**305**		**Pn**	**18 54 16.6**	**+1.1**
ANNW	**Aniakchak Nort**	**1.74**	**339**		**Pn**	**18 54 17.8**	**+1.4**
SDPT	**Sand Point**	**1.93**	**271**		**Pn**	**18 54 19.2**	**+0.2**
SDPT	**Sand Point**	**1.93**	**271**		**Sn**	**18 54 41.6**	**-1.1**
SDPT	**Sand Point**	**1.93**	**271**	P	**Pn**	**18 54 19.4**	**+0.4**
SDPT	**Sand Point**	**1.93**	**271**	P	**Pn**	**18 54 19.1**	**+0.2**
	baz=89						
SDPT				S	**Sn**	**18 54 41.6**	**-1.1**
	baz=89						
SII	**Sitkinak Islan**	**2.04**	**52**		**Pn**	**18 54 20.9**	**+0.4**
SII	**Sitkinak Islan**	**2.04**	**52**	IAML		18 55 13.2	
	comp=E,460nm,0.6s						
SII				IAML		18 55 17.4	
	comp=N,553nm,0.8s						
SII	**Sitkinak Islan**	**2.04**	**52**	P	**Pn**	**18 54 20.9**	**+0.4**
	baz=234						
R16K	**Pilot Point**	**2.24**	**353**		**Pn**	**18 54 23.9**	**+0.7**
R16K	**Pilot Point**	**2.24**	**353**	IAML		18 55 20.9	
	comp=N,452nm,0.8s						
R16K	**Pilot Point**	**2.24**	**353**	P	**Pn**	**18 54 23.9**	**+0.7**
	baz=173						
PS1A	**Pavlof South-1**	**2.66**	**273**		**Pn**	**18 54 29.2**	**+0.3**
PVV	**Pavlof Volcano**	**2.68**	**272**		**Pn**	**18 54 29.4**	**+0.1**
PS4A	**Pavlof South-4**	**2.72**	**272**		**Pn**	**18 54 30.0**	**+0.1**
PS4A					**Sn**	**18 55 01.5**	**-0.6**
HAG	**Hague Volcano**	**2.75**	**271**		**Pn**	**18 54 30.2**	**0.0**
PN7A	**Pavlof North-7**	**2.80**	**274**		**Pn**	**18 54 31.5**	**+0.5**
OHAK	**Old Harbor**	**2.83**	**47**		**Pn**	**18 54 31.6**	**+0.2**
OHAK	**Old Harbor**	**2.83**	**47**	P	**Pn**	**18 54 31.5**	**+0.2**
	baz=230						
ANCK	**Angle Creek**	**2.99**	**16**		**Pn**	**18 54 33.8**	**+0.3**
Q17K	**Contact Creek**	**3.00**	**12**	P	**Pn**	**18 54 34.4**	**+0.7**
	baz=193						
CNTC	**Contact Creek**	**3.00**	**12**		**Pn**	**18 54 34.4**	**+0.7**
KDAK	**Kodiak Island**	**3.49**	**44**		**Pn**	**18 54 40.4**	**0.0**
KDAK				IAML		18 56 01.2	
	comp=N,102nm,1.2s						
KDAK	**Kodiak Island**	**3.49**	**44**	Pn	**Pn**	**18 54 40.0**	**-0.3**
	comp=N,1.2nm,0.3s,baz=222,slow=8.6,SNR=40						
KDAK				Sn	**Sn**	**18 55 17.8**	**-3.2**
	comp=N,5.8nm,0.3s,baz=246,slow=12,SNR=4.4						
KDAK				Lg	Lg	18 55 37.9	
	comp=N,3.9nm,0.3s,baz=17,slow=20,SNR=1.4						
	comp=N,2.8nm,0.3s						
FALS	**False Pass**	**3.67**	**265**		**Pn**	**18 54 43.5**	**+0.7**
FALS	**False Pass**	**3.67**	**265**	P	**Pn**	**18 54 42.6**	**-0.2**
FALS	**False Pass**	**3.67**	**265**	P	**Pn**	**18 54 43.5**	**+0.7**
	baz=80						
P16K	**Nushagak River**	**3.72**	**353**		**Pn**	**18 54 44.5**	**+0.9**
P16K	**Nushagak River**	**3.72**	**353**	P	**Pn**	**18 54 44.5**	**+0.9**
	baz=172						
ISLZ	**Isanotski Laza**	**3.86**	**263**		**Pn**	**18 54 45.9**	**+0.4**
P17K	**Kvichak River**	**3.87**	**5**		**Pn**	**18 54 47.0**	**+1.3**
P17K	**Kvichak River**	**3.87**	**5**	P	**Pn**	**18 54 47.0**	**+1.3**
	baz=186						
ISNN	**Isanotski Nort**	**3.88**	**265**		**Pn**	**18 54 46.7**	**+0.9**
O15K	**Ungalikthiuk R**	**4.11**	**340**		**Pn**	**18 54 49.2**	**+0.3**
O15K	**Ungalikthiuk R**	**4.11**	**340**	P	**Pn**	**18 54 49.2**	**+0.3**
	baz=158						
P18K	**Big Mountain,**	**4.18**	**13**		**Pn**	**18 54 50.6**	**+0.7**
P18K	**Big Mountain,**	**4.18**	**13**	P	**Pn**	**18 54 50.6**	**+0.7**
	baz=195						
O16K	**Kokwok River B**	**4.29**	**353**		**Pn**	**18 54 51.5**	**+0.2**
O16K	**Kokwok River B**	**4.29**	**353**	IAML		18 56 08.9	
	comp=N,49nm,1.0s						
O16K	**Kokwok River B**	**4.29**	**353**	P	**Pn**	**18 54 51.5**	**+0.2**
	baz=172						
WEBT	**Westdahl Beart**	**4.48**	**263**		**Pn**	**18 54 54.6**	**+0.6**
O14K	**Tigyukauivet M**	**4.52**	**332**		**Pn**	**18 54 55.5**	**+1.0**
O14K	**Tigyukauivet M**	**4.52**	**332**	IAML		18 56 26.6	
	comp=E,70nm,1.0s						
O14K				IAML		18 56 27.7	
	comp=N,83nm,0.8s						
O14K	**Tigyukauivet M**	**4.52**	**332**	P	**Pn**	**18 54 55.5**	**+1.0**
	baz=148						
O18K	**Koktuh Hills**	**4.63**	**12**	Pn	**Pn**	**18 54 55.2**	**-0.8**
O18K				IAML		18 56 20.4	
	comp=E,44nm,3.0s						
O18K	**Koktuh Hills**	**4.63**	**12**	P	**Pn**	**18 54 57.3**	**+1.2**
	baz=193						
N15K	**Kwethluk River**	**5.09**	**343**		**Pn**	**18 55 03.7**	**+1.3**
N15K	**Kwethluk River**	**5.09**	**343**	P	**Pn**	**18 55 03.7**	**+1.3**
	baz=160						
ILSW	**Iliamna Southw**	**5.11**	**23**	Pn	**Pn**	**18 55 04.9**	**+2.2**
ILSW				IAML		18 55 48.1	
	comp=N,28nm,2.7s						
AKSA	**Akutan Strait**	**5.13**	**260**		**Pn**	**18 55 03.6**	**+0.7**
AKUT	**Akutan**	**5.17**	**260**	Pn	**Pn**	**18 55 05.2**	**+1.6**
AKUT	**Akutan**	**5.17**	**260**	P	**Pn**	**18 55 03.9**	**+0.4**
N17K	**Nushagak Hills**	**5.19**	**359**		**Pn**	**18 55 04.3**	**+0.6**
N17K				IAML		18 56 45.2	
	comp=E,28nm,1.2s						
N14K	**Kuskokwak Cree**	**5.21**	**334**		**Pn**	**18 55 04.7**	**+0.7**
N14K	**Kuskokwak Cree**	**5.21**	**334**	P	**Pn**	**18 55 04.7**	**+0.7**
	baz=150						
N16K	**Nishlik Lake**	**5.22**	**351**		**Pn**	**18 55 04.7**	**+0.6**
N16K	**Nishlik Lake**	**5.22**	**351**	P	**Pn**	**18 55 04.7**	**+0.6**
	baz=170						
CNPM	**China Poot**	**5.25**	**35**	Pn	**Pn**	**18 55 05.3**	**+0.8**
CNPM				IAML		18 56 48.8	
	comp=N,50nm,3.9s						
CNPM				IAML		18 57 15.2	
	comp=E,48nm,3.4s						
AKLV	**Akutan Long Va**	**5.27**	**261**		**Pn**	**18 55 05.3**	**+0.4**
O20K	**Slope Mountain**	**5.31**	**25**		**Pn**	**18 55 06.5**	**+1.0**
O20K	**Slope Mountain**	**5.31**	**25**	P	**Pn**	**18 55 06.5**	**+1.0**
	baz=209						
N18K	**Kilae Creek**	**5.38**	**6**		**Pn**	**18 55 08.0**	**+1.6**
N18K	**Kilae Creek**	**5.38**	**6**	P	**Pn**	**18 55 07.4**	**+1.0**
	baz=187						
BRLK	**Bradley Lake**	**5.54**	**34**	Pn	**Pn**	**18 55 07.9**	**-0.7**
RSO	**Redoubt South**	**5.62**	**22**		**Pn**	**18 55 12.4**	**+2.5**
N19K	**Bonanza Creek**	**5.65**	**13**	Pn	**Pn**	**18 55 12.9**	**+2.8**
UNV	**Unalaska Valle**	**5.68**	**258**	P	**Pn**	**18 55 10.2**	**-0.2**
M16K	**Timber Creek**	**5.77**	**351**		**Pn**	**18 55 12.5**	**+0.7**
M16K	**Timber Creek**	**5.77**	**351**	P	**Pn**	**18 55 12.5**	**+0.7**
	baz=169						
SVW2	**Sparrevohn**	**5.82**	**7**	Pn	**Pn**	**18 55 13.8**	**+1.4**
M14K	**Bethel**	**6.00**	**336**	Pn	**Pn**	**18 55 15.5**	**+0.7**
M14K	**Bethel**	**6.00**	**336**	P	**Pn**	**18 55 15.4**	**+0.7**
	baz=153						
M17K	**Holitna River**	**6.07**	**358**		**Pn**	**18 55 16.6**	**+0.8**
M17K	**Holitna River**	**6.07**	**358**	P	**Pn**	**18 55 16.6**	**+0.8**
	baz=178						
M13K	**Dall Lake**	**6.07**	**329**		**Pn**	**18 55 16.8**	**+1.0**
M13K	**Dall Lake**	**6.07**	**329**	P	**Pn**	**18 55 16.8**	**+1.0**
	baz=144						
L16K	**Owhat River**	**6.50**	**350**		**Pn**	**18 55 24.6**	**+2.9**
L14K	**Kuka Creek**	**6.69**	**336**		**Pn**	**18 55 24.8**	**+0.5**
L14K	**Kuka Creek**	**6.69**	**336**	P	**Pn**	**18 55 25.1**	**+0.9**
	baz=152						
FIS	**Fire Island**	**6.85**	**29**		**Pn**	**18 55 29.6**	**+3.2**
M20K	**Styx River**	**6.87**	**16**	Pn	**Pn**	**18 55 28.5**	**+1.7**
L18K	**Granite Mounta**	**6.89**	**2**	Pn	**Pn**	**18 55 26.9**	**-0.2**
RC01	**Rabbit Creek A**	**6.94**	**31**	Pn	**Pn**	**18 55 27.2**	**-0.6**
L19K	**White Mountain**	**6.95**	**9**		**Pn**	**18 55 29.4**	**+1.4**
SUA	**Susitna One**	**6.97**	**26**	Pn	**Pn**	**18 55 28.8**	**+0.4**
SKT	**Skwentna**	**7.25**	**21**	Pn	**Pn**	**18 55 31.4**	**-0.6**
K15K	**Wolf Creek Mou**	**7.33**	**344**	Pn	**Pn**	**18 55 34.8**	**+1.6**
K17K	**Iditarod**	**7.42**	**356**		**Pn**	**18 55 34.8**	**+0.6**
HIN	**Hinchinbrook I**	**7.58**	**44**	Pn	**Pn**	**18 55 37.3**	**+0.8**
KNK	**Knik Glacier**	**7.58**	**33**	Pn	**Pn**	**18 55 38.3**	**+1.8**
TTA	**Tatalina**	**7.62**	**4**	Pn	**Pn**	**18 55 39.8**	**+2.6**
GHO	**Glory Hole Cre**	**7.72**	**30**	Pn	**Pn**	**18 55 39.9**	**+1.4**
J14K	**Nanvaranak Lak**	**8.13**	**339**	Pn	**Pn**	**18 55 45.1**	**+1.1**
J18K	**Innoko River**	**8.14**	**1**	Pn	**Pn**	**18 55 45.9**	**+1.6**
J16K	**Anvik River**	**8.16**	**349**	Pn	**Pn**	**18 55 45.4**	**+1.0**
K20K	**Telida**	**8.18**	**10**	Pn	**Pn**	**18 55 45.4**	**+0.7**
KAIM	**Kayak Island**	**8.20**	**51**	Pn	**Pn**	**18 55 45.1**	**+0.1**
SCM	**Sheep Creek Mo**	**8.25**	**34**	Pn	**Pn**	**18 55 46.2**	**+0.4**
HMT	**Hamilton**	**8.47**	**49**	Pn	**Pn**	**18 55 50.1**	**+1.4**
KLU	**Klutina**	**8.49**	**39**	Pn	**Pn**	**18 55 49.7**	**+0.6**
J19K	**Poorman**	**8.70**	**4**	Pn	**Pn**	**18 55 51.4**	**-0.5**
M24K	**Tolsona, Glenn**	**8.83**	**35**	Pn	**Pn**	**18 55 52.7**	**-1.0**
J20K	**Nowinta River**	**8.98**	**8**	Pn	**Pn**	**18 55 56.3**	**+0.7**
N25K	**Chitina, Valde**	**9.05**	**41**	Pn	**Pn**	**18 55 54.5**	**-2.2**
GLB	**Gilahina Butte**	**9.26**	**43**	Pn	**Pn**	**18 55 59.7**	**+0.2**
VRDI	**Verde Repeater**	**9.28**	**45**	Pn	**Pn**	**18 56 01.4**	**+1.5**
ISLE	**Juniper Island**	**9.43**	**50**	Pn	**Pn**	**18 56 02.0**	**0.0**
MCARA	**McCarthy VSAT**	**9.54**	**45**	Pn	**Pn**	**18 56 05.0**	**+1.7**
BWN	**Browne**	**9.64**	**20**	Pn	**Pn**	**18 56 07.5**	**+2.8**
H17K	**Granite Mounta**	**9.72**	**353**	Pn	**Pn**	**18 56 07.8**	**+2.0**
H18K	**Honhosa River**	**9.86**	**357**	Pn	**Pn**	**18 56 08.7**	**+1.1**
BARN	**Barnard Glacie**	**9.94**	**49**	Pn	**Pn**	**18 56 09.6**	**+0.7**
ANM	**Nome**	**10.12**	**339**	Pn	**Pn**	**18 56 13.7**	**+2.4**
I21K	**Tanana**	**10.18**	**12**	Pn	**Pn**	**18 56 13.9**	**+1.8**
WRH	**Wood River Hil**	**10.19**	**23**	Pn	**Pn**	**18 56 13.5**	**+1.3**
MLY	**Manley**	**10.21**	**15**	Pn	**Pn**	**18 56 13.6**	**+1.1**
HDA	**Harding Lake**	**10.40**	**25**		**Pn**	**18 56 15.2**	**+0.1**
G16K	**Koyuk River**	**10.40**	**348**	Pn	**Pn**	**18 56 16.9**	**+1.8**
BCPM	**Bancas Point**	**10.42**	**57**	Pn	**Pn**	**18 56 16.0**	**+0.7**
H21K	**Melozitna Rive**	**10.55**	**10**	Pn	**Pn**	**18 56 16.6**	**-0.6**
ILAR	**Eielson Array**	**10.72**	**24**	Pn	**Pn**	**18 56 17.1**	**-2.4**
	comp=E,0.1nm,0.3s,baz=223,slow=12,SNR=4.0						
ILAR				Sn	Sn	18 58 10.6	-8.1
	baz=208,slow=8.7,SNR=1.3						
J25K	**Salcha River,**	**10.97**	**27**	Pn	**Pn**	**18 56 22.5**	**-0.4**
F15K	**North Star Dit**	**11.03**	**343**	Pn	**Pn**	**18 56 25.5**	**+1.8**
O29M	**Mount Kennedy**	**11.03**	**56**		**Pn**	**18 56 26.0**	**+2.1**
P29M	**Windy Craggy**	**11.25**	**60**	Pn	**Pn**	**18 56 24.4**	**-2.3**
M29M	**Somme Creek**	**11.94**	**46**	Pn	**Pn**	**18 56 34.4**	**-1.8**
E18K	**Tukpahlearik C**	**12.23**	**354**		**Pn**	**18 56 42.2**	**+2.2**
S32K	**Killisnoo**	**12.63**	**71**	Pn	**Pn**	**18 56 44.4**	**-1.2**
I28M	**Miner Creek**	**13.15**	**33**	Pn	**Pn**	**18 56 54.5**	**+1.8**
D19K	**Kuna River**	**13.20**	**358**	Pn	**Pn**	**18 56 55.8**	**+2.4**
P32M	**Atlin**	**13.24**	**62**	Pn	**Pn**	**18 56 55.3**	**+1.3**
C16K	**Lisburne Hills**	**13.52**	**347**	Pn	**Pn**	**18 56 58.5**	**+0.9**
H29M	**Whitestone**	**14.14**	**32**	P	**P**	**18 57 15.6**	**+1.9**
F28M	**Old Crow**	**14.71**	**27**		**P**	**18 57 20.8**	**+0.8**
EPYK	**Eagle Plains**	**14.75**	**33**	P	**P**	**18 57 20.9**	**+0.5**
H31M	**Peel River**	**15.21**	**37**	Pn	**Pn**	**18 57 18.7**	**-2.0**
H31M				IAmb	IAmb	18 57 41.9	
	comp=Z,2.9nm,0.7s						
G31M	**Satah River**	**15.87**	**34**	P	**P**	**18 57 33.0**	**+0.3**
G31M				IAmb	IAmb	18 57 58.4	
	comp=Z,4.8nm,1.1s						
F31M	**Tsiigehtchic**	**16.34**	**33**	Pn	**Pn**	**18 57 34.7**	**-0.4**
INK	**Inuvik**	**16.93**	**31**	P	**Pn**	**18 57 43.6**	**+1.0**
INK				IAmb	IAmb	18 58 04.6	
	comp=Z,3.3nm,0.8s						
INK	**Inuvik**	**16.93**	**31**	Pn	**Pn**	**18 57 43.0**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=248,slow=11,SNR=5.3						
	comp=Z,0.7nm,0.5s						
C36M	**Paulatuk**	**20.39**	**34**	P	**P**	**18 58 21.4**	**-1.0**
C36M				IAmb	IAmb	18 58 38.7	
	comp=Z,8.6nm,1.1s						
A36M	**Sachs Harbour**	**21.40**	**27**	P	**P**	**18 58 32.0**	**-1.3**
YKA	**Yellowknife Ar**	**22.70**	**54**	P	**P**	**18 58 48.3**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=269,slow=9.7,SNR=1.5						
	comp=Z,0.1nm,0.3s						
PETK	**Petropavlovsk-**	**26.17**	**284**	P	**P**	**18 59 19.9**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=59,slow=17,SNR=1.5						
	comp=Z,1.7nm,0.9s						
PFO	**Pinyon Flats O**	**35.51**	**111**	LR	LR	19 11 15.6	
	comp=Z,41nm,21.7s,baz=56,slow=29						
TXAR	**Lajitas Array**	**45.79**	**102**	P	**P**	**19 02 09.2**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=309,slow=6.3,SNR=6.6						
	comp=Z,0.8nm,0.8s						
ARCES	**ARCESS Array B**	**55.41**	**359**	P	**P**	**19 03 18.4**	**-1.0**
	comp=Z,3.4nm,1.0s,baz=24,slow=6.9,SNR=1.5						
	comp=Z,3.4nm,1.0s						
SONM	**Songino Array**	**55.74**	**306**	P	**P**	**19 03 20.3**	**-2.0**
	comp=Z,0.3nm,0.7s,baz=86,slow=4.8,SNR=2.9						
	comp=Z,0.3nm,0.7s						
FINES	**FINESS Array B**	**63.52**	**358**	P	**P**	**19 04 14.7**	**-0.8**
	comp=Z,1.7nm,1.0s,baz=358,slow=8.3,SNR=4.3						
	comp=Z,1.7nm,1.0s						
NB2	**NORSAR Subarra**	**63.59**	**6**	P	P	19 04 25.4	+9.4
	comp=Z,1.7nm,0.8s,baz=354,slow=6.9						
KURBB	**Kurchatov Arra**	**64.70**	**324**	P	**P**	**19 04 23.5**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=26,slow=6.8,SNR=3.2						
	comp=Z,0.4nm,0.8s						
BVAR	**Borovoye Array**	**65.10**	**331**	P	**P**	**19 04 25.4**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=41,slow=9.6,SNR=3.1						
	comp=Z,0.9nm,0.8s						
MKAR	**Makanchi Array**	**66.64**	**320**	P	**P**	**19 04 35.1**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=42,slow=4.4,SNR=2.5						
	comp=Z,0.3nm,0.8s						
AKASG	**Malin Array Be**	**74.19**	**356**	P	**P**	**19 05 21.4**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=6.2,slow=5.9,SNR=2.0						
	comp=Z,0.4nm,0.6s						

*SCB **04** 18:57:31.7±1.3,22.44S×67.55W,h148km±26km,ML3.0/2, MW3.7, Error ellipse: s-maj=8.4km s-min=7.4km az=0.0*

*GUC **04** 18:57:31.8±0.6,22.46S×67.75W,h189km±6km,ML3.1*

ISC 04 18:57:29.9±2.1,22.49S±0.05×67.57W±0.08, h178km±18km,n21,σ0s96/35,2C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.25**	**264**	*e*P	**Pn**	**18 58 00.6**	**+0.7**
LVC				*e*S	**Sn**	**18 58 22.5**	**-0.4**
LVC				IAML		18 58 23.7	
	132nm,0.3s						
PB09	**IPOC Station P**	**1.70**	**294**	*e*P	**Pn**	**18 58 05.0**	**+1.1**
PB09				*e*S

	5.4nm,1.0s							
ASAR	**Alice Springs**	**44.24**	**163**	P	**P**	**19 08 31.5**	**+0.4**
	0.3nm,0.4s,baz=346,slow=7.3,SNR=12							
	0.3nm,0.4s							
ZALV	**Zalesovo Beam**	**44.63**	**330**	P	**P**	**19 08 32.8**	**-1.1**
	0.3nm,0.4s,baz=132,slow=8.6,SNR=1.9							
ZALV				LR	LR	19 28 05.8		
	comp=Z,80nm,19.2s,baz=76,slow=37							
	0.3nm,0.4s							
AAK	**Ala-Archa**	**45.82**	**311**	LR	LR	19 30 31.1		
	comp=Z,82nm,18.3s,baz=90,slow=40							
KURBB	**Kurchatov Arra**	**46.15**	**323**	P	**P**	**19 08 45.9**	**-0.1**
	1.2nm,0.7s,baz=122,slow=7.7,SNR=9.4							
	1.2nm,0.7s							
BVAR	**Borovoye Array**	**51.74**	**323**	P	**P**	**19 09 28.8**	**0.0**
	0.2nm,0.3s,baz=131,slow=5.9,SNR=2.2							
BVAR				PcP	**PcP**	**19 10 41.0**	**-0.6**
	0.4nm,0.6s,baz=129,slow=3.9,SNR=1.6							
	0.2nm,0.3s							
ILAR	**Eielson Array**	**73.68**	**27**	P	**P**	**19 11 54.9**	**+0.2**
	0.4nm,0.8s,baz=272,slow=5.3,SNR=2.6							
	0.4nm,0.8s							
ARCES	**ARCESS Array B**	**74.30**	**339**	P	**P**	**19 11 57.8**	**-0.4**
	3.1nm,0.9s,baz=60,slow=5.3,SNR=3.6							
	3.1nm,0.9s							
YKA	**Yellowknife Ar**	**87.60**	**23**	P	**P**	**19 13 09.3**	**+0.2**
	1.8nm,0.8s,baz=310,slow=4.6,SNR=28							
	1.8nm,0.8s							

*GUC **04** 19:00:39.9±0.7,21.51S×69.71W,h64km±2km,ML3.4*
*SJA **04** 19:00:39.5±0.6,21.49S×69.68W,h64km±2km,ML3.5, MW3.5*

ISC 04 19:00:41.8±1.3,21.49S±0.03×69.70W±0.05,h53km±8km, n28,σ0.99/45,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PB02	**IPOC Station P**	**0.25**	**312**	*eP*	**Pn**		**19 00 50.5**	**-0.5**
PB02				IAML			19 00 59.6	
	comp=Z,3μm,0.2s							
PB02	**IPOC Station P**	**0.25**	**312**	*eP*	**Pn**		**19 00 50.6**	**-0.5**
PB02				*i* S	Sn		19 00 58.6	+1.1
PB02				IAML			19 00 59.4	
	comp=N,3μm,0.2s							
PB07	**IPOC Station P**	**0.29**	**216**	*eP*	**Pn**		**19 00 51.1**	**-0.3**
PB07				*eS*	Sn		19 00 59.3	+1.0
PB07				IAML			19 00 59.5	
	comp=Z,4μm,0.3s							
PB07	**IPOC Station P**	**0.29**	**216**	*eP*	**Pn**		**19 00 50.9**	**-0.5**
PB07				*i* S	**Sn**		**19 00 59.2**	**+0.8**
PB07				IAML			19 00 59.5	
	comp=E,6μm,0.2s							
PB01	**IPOC Station P**	**0.48**	**24**	*eP*	**Pn**		**19 00 52.5**	**-0.7**
PB01				*eS*	**Sn**		**19 01 02.1**	**+0.7**
PB01				IAML			19 01 02.5	
	comp=Z,5μm,0.1s							
PB01	**IPOC Station P**	**0.48**	**24**	*eP*	**Pn**		**19 00 52.6**	**-0.7**
PB01				*i* S	**Sn**		**19 01 02.1**	**+0.7**
PB01				IAML			19 01 02.5	
	comp=E,9μm,0.2s							
PB09	**IPOC Station P**	**0.52**	**126**	*eP*	**Pn**		**19 00 52.9**	**-0.8**
PB09				*eS*	**Sn**		**19 01 02.6**	**+0.2**
PB09				IAML			19 01 03.4	
	comp=Z,4μm,0.4s							
PB09	**IPOC Station P**	**0.52**	**126**	*eP*	**Pn**		**19 00 53.2**	**-0.5**
PB09				*i* S	**Sn**		**19 01 02.6**	**+0.2**
PB09				IAML			19 01 03.7	
	comp=E,5μm,0.3s							
PATCX	**Punta Patache**	**0.79**	**327**	*eP*	**Pn**		**19 00 55.9**	**-1.0**
PATCX				*i* S	**Sn**		**19 01 08.1**	**+0.1**
PB04	**IPOC Station P**	**0.94**	**206**	*eP*	**Pn**		**19 00 57.9**	**-1.1**
PB04				IAML			19 01 16.1	
	comp=Z,975nm,0.2s							
PB04	**IPOC Station P**	**0.94**	**206**	*eP*	**Pn**		**19 00 57.5**	**-1.5**
PB04				*i* S	**Sn**		**19 01 11.1**	**-0.5**
PB04				IAML			19 01 14.6	
	comp=E,1μm,0.2s							
TA01	**Diego Aracena**	**1.02**	**334**	*eP*	**Pn**		**19 00 59.2**	**-0.7**
TA01				IAML			19 01 15.4	
	comp=Z,460nm,0.8s							
TA01				*eS*	**Sn**		**19 01 15.4**	**+2.2**
TA01	**Diego Aracena**	**1.02**	**334**	*eP*	**Pn**		**19 00 58.9**	**-1.1**
TA01				*i* S	**Sn**		**19 01 13.3**	**0.0**
TA01				IAML			19 01 15.6	
	comp=E,1μm,0.4s							
HMBC	**Humberstone**	**1.22**	**352**	*eP*	**Pn**		**19 01 01.6**	**-1.0**
HMBC				*i* S	**Sn**		**19 01 18.7**	**+0.6**
HMBC				IAML			19 01 22.6	
	comp=E,1μm,0.3s							
PB06	**IPOC Station P**	**1.22**	**174**	*eP*	**Pn**		**19 01 01.5**	**-1.2**
PB06				IAML			19 01 19.5	
	comp=Z,860nm,0.3s							
PB06	**IPOC Station P**	**1.22**	**174**	*eP*	**Pn**		**19 01 01.3**	**-1.4**
PB06				*i* S	**Sn**		**19 01 17.6**	**-0.7**
PB06				IAML			19 01 18.3	
	comp=E,836nm,0.3s							
TA02	**Huaiquique**	**1.28**	**341**	*eP*	**Pn**		**19 01 03.3**	**0.0**
TA02				IAML			19 01 22.7	
	comp=Z,514nm,0.4s							
TA02	**Huaiquique**	**1.28**	**341**	*eP*	**Pn**		**19 01 02.5**	**-0.9**
TA02				*i* S	**Sn**		**19 01 19.6**	**+0.2**
LVC	**Limon Verde**	**1.33**	**147**	*eP*	**Pn**		**19 01 04.2**	**-0.3**
PB08	**IPOC Station P**	**1.43**	**21**	*eP*	**Pn**		**19 01 05.1**	**-0.7**
PB08				*eS*	**Sn**		**19 01 23.9**	**+0.1**
PB08				IAML			19 01 26.1	
	comp=Z,417nm,0.3s							
PB08	**IPOC Station P**	**1.43**	**21**	*eP*	**Pn**		**19 01 05.1**	**-0.7**
PB08				*i* S	**Sn**		**19 01 24.2**	**+0.4**
PB08				IAML			19 01 25.3	
	comp=N,1μm,0.3s							
PB11	**IPOC Station P**	**1.72**	**1**	*eP*	**Pn**		**19 01 08.2**	**-1.3**
PB11				*eS*	**Sn**		**19 01 32.4**	**+2.0**
PB11				IAML			19 01 33.0	
	comp=Z,229nm,0.3s							
PB15	**IPOC Station P**	**1.73**	**173**	*eP*	**Pn**		**19 01 09.4**	**-0.3**
PB15				*eS*	**Sn**		**19 01 31.8**	**+1.1**
PB15				IAML			19 01 35.9	
	comp=Z,1μm,0.2s							
PB15	**IPOC Station P**	**1.73**	**173**	*eP*	**Pn**		**19 01 09.2**	**-0.4**
PB15				*i* S	**Sn**		**19 01 30.6**	**-0.1**
GO01	**Chusmiza**	**1.87**	**15**	*eP*	**Pn**		**19 01 11.6**	**-0.3**
PB12	**IPOC Station P**	**2.92**	**348**	*eP*	**Pn**		**19 01 24.1**	**-1.8**
PB12				IAML			19 02 12.6	
	comp=Z,90nm,0.5s							
PB16	**IPOC Station P**	**3.14**	**3**	*eP*	**Pn**		**19 01 29.4**	**+0.1**
PB16				IAML			19 02 24.0	
	comp=Z,53nm,0.9s							
PB14	**IPOC Station P**	**3.19**	**192**	*eP*	**Pn**		**19 01 32.4**	**+2.6**
PB14				IAML			19 02 15.4	
	comp=Z,66nm,0.3s							

TRN 04 19:01:43.7,16.83N×61.03W,h26km,MD3.5,Southf-east of Antigua.,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ABD	**La Joyeuse, An**	**0.56**	**231**	*eP*		Pn	19 01 57.0	+1.0
ABD				*eS*		Sn	19 02 06.5	+1.9
ANBD	**Bethesda, Anti**	**0.74**	**287**	*eP*		Pn	19 01 59.6	+1.1
ANBD				*eS*		Sn	19 02 10.7	+1.9
MBFL	**Flemmings, Mon**	**1.13**	**266**	*eP*		Pb	19 02 06.4	+1.7
MBFL				*eS*		Sb	19 02 21.7	+2.7
TBG	**Guadaloupe-3**	**1.14**	**211**	*eP*		Pb	19 02 06.6	+1.9
TBG				*eS*		Sb	19 02 21.2	+2.2
FDF	**Fort de France**	**2.09**	**183**	*eP*		Pn	19 02 18.2	+1.1
FDF				*eS*		Sn	19 02 43.9	+1.6
MPOM	**Morne Pois Mar**	**2.38**	**176**	*eP*		Pn	19 02 23.0	+2.0
MPOM				*eS*		Sn	19 02 51.8	+2.4

IDC 04 19:06:28.7±3.6,6.04S×141.35E,h0km,mb3.2/1, mbtmp3.4/3,ML3.6/2,Error ellipse: s-maj=111.5km s-min=26.5km az=100.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.41**	**206**	Pn	Pn		19 10 05.8	-1.9
	0.2nm,0.3s,baz=30,slow=13,SNR=12							
WRA					Sn	Sn	19 12 57.6	-1.7
	baz=27,slow=22,SNR=1.7							
WRA					Lg	Lg	19 14 41.7	
	baz=46,slow=25,SNR=2.2							
	0.3nm,0.5s							
ASAR	**Alice Springs**	**18.94**	**201**	P	P		19 10 51.6	+0.2
	0.4nm,0.3s,baz=30,slow=12,SNR=40							
ASAR					Lg	Lg	19 16 32.7	
	baz=21,slow=31,SNR=2.0							
	2.9nm,0.7s							
MKAR	**Makanchi Array**	**74.01**	**322**	P	P	P	19 18 06.5	+0.2
	0.2nm,0.7s,baz=102,slow=6.1,SNR=2.2							
	0.2nm,0.7s							

WEL 04 19:11:09.5±1.2,35.5S±23.3×17.9E±2.4,h248km±28km, M3.6/7,ML3.9/9,MLv3.6/7,Error ellipse: s-maj=0.0km s-min=0.0km az=133.3,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**2.63**	**186**	P	Pn		19 11 58.4	+0.6
WMGZ				S	S		19 12 37.9	+1.7
HAZ	**Te Kaha**	**2.67**	**197**	P	Pn		19 11 58.0	-0.3
HAZ				S	S		19 12 36.9	0.0
PKGZ	**Pakihiroa**	**2.73**	**191**	P	Pn		19 11 59.0	-0.1
PKGZ				S	S		19 12 38.6	+0.2
RUGZ	**Raukumara Rang**	**2.89**	**197**	P	Pn		19 11 59.9	-0.9
RUGZ				S	S		19 12 40.7	-0.6
PUZ	**Puketiti**	**2.89**	**188**	P	Pn		19 12 00.4	-0.2
PUZ				S	S		19 12 41.1	-0.1
TWGZ	**Tauwhareparae**	**3.03**	**191**	P	Pn		19 12 02.5	+0.3
TWGZ				S	S		19 12 44.4	+0.4
MWZ	**Matawai**	**3.27**	**197**	P	Pn		19 12 05.1	+0.2
MWZ				S	S		19 12 49.7	+0.8
CNGZ	**Carnagh Statio**	**3.31**	**187**	P	Pn		19 12 06.2	+1.0
CNGZ				S	S		19 12 52.4	+3.1
URZ	**Urewera**	**3.32**	**203**	P	Pn		19 12 04.6	-0.7
RIGZ	**Rimuhau**	**3.58**	**192**	P	Pn		19 12 07.8	-0.6
RIGZ				S	S		19 12 54.7	-0.4
RTZ	**Ruatahuna**	**3.69**	**202**	P	Pn		19 12 08.9	-0.8
RTZ				S	S		19 12 57.3	0.0
SNGZ	**Shannon Statio**	**3.75**	**197**	P	Pn		19 12 10.2	0.0
SNGZ				S	S		19 12 59.6	+1.1
TLZ	**Tolley Road**	**4.04**	**219**	P	Pn		19 12 15.2	+1.5
NTVZ	**North Tongarir**	**4.60**	**211**	P	Pn		19 12 20.0	-0.4
OTVZ	**Oturere**	**4.66**	**211**	P	Pn		19 12 20.2	-1.0
TWVZ	**Taurewa**	**4.68**	**213**	P	Pn		19 12 21.0	-0.4
SNVZ	**South Ngauruho**	**4.69**	**211**	P	Pn		19 12 20.6	-0.9
NGZ	**Ngauruhoe**	**4.69**	**211**	P	Pn		19 12 21.1	-0.5
TUVZ	**Tukino**	**4.75**	**210**	P	Pn		19 12 21.2	-1.0
FWVZ	**Far West T-bar**	**4.78**	**211**	P	Pn		19 12 21.6	-1.1
BHHZ	**Black Hill Sta**	**4.78**	**206**	P	Pn		19 12 20.9	-1.6
MAVZ	**Matarangi**	**4.79**	**211**	P	Pn		19 12 20.9	-2.0
KAHZ	**Kahuranaki**	**4.82**	**197**	P	Pn		19 12 21.6	-1.4
WNVZ	**Wahianoa**	**4.82**	**210**	P	Pn		19 12 21.8	-1.4
MOVZ	**Moawhango**	**4.83**	**209**	P	Pn		19 12 21.1	-2.0
PKVZ	**Pokaka**	**4.90**	**213**	P	Pn		19 12 23.1	-0.9
PNHZ	**Pukenui**	**5.12**	**202**	P	Pn		19 12 24.4	-2.2
PRHZ	**Porangahau**	**5.33**	**198**	P	Pn		19 12 27.3	-1.9
TSZ	**Takapari Road**	**5.33**	**204**	P	Pn		19 12 27.0	-2.3
DVHZ	**Dannevirke**	**5.48**	**201**	P	Pn		19 12 28.6	-2.5
ANWZ	**Angora Road**	**5.55**	**198**	P	Pn		19 12 30.3	-1.6
POWZ	**Post Office Ro**	**5.69**	**204**	P	Pn		19 12 31.4	-2.3
PRWZ	**Pori Road**	**5.78**	**201**	P	Pn		19 12 32.8	-1.9
BFZ	**Birch Farm**	**5.82**	**199**	P	Pn		19 12 33.1	-2.1
MRZ	**Mangatainoka R**	**6.00**	**204**	P	Pn		19 12 34.2	-3.3
TIWZ	**Tintock**	**6.00**	**201**	P	Pn		19 12 35.1	-2.5
HOWZ	**Holdsworth Sta**	**6.23**	**203**	P	Pn		19 12 37.1	-3.3
OGWZ	**Otaki Gorge**	**6.27**	**206**	P	Pn		19 12 37.8	-3.1
TMWZ	**Te Maipa**	**6.31**	**200**	P	Pn		19 12 39.1	-2.4
MTW	**Mount Morrison**	**6.47**	**202**	P	Pn		19 12 40.1	-3.4
TRWZ	**Traveller**	**6.64**	**200**	P	Pn		19 12 42.6	-2.9

IDC 04 19:14:05.4±7.0,1.96S×144.05E,h0km,mb3.1/4, mbtmp3.2/4,Error ellipse: s-maj=257.2km s-min=28.4km az=94.0,Ninigo Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.23**	**207**	P	P		19 18 40.7	-1.6
	0.3nm,0.7s,baz=30,slow=12,SNR=1.8							
	0.3nm,0.7s							
ASAR	**Alice Springs**	**23.71**	**204**	P	P		19 19 20.1	+0.8
	0.6nm,0.9s,baz=36,slow=8.1,SNR=5.6							
	0.6nm,0.9s							
MKAR	**Makanchi Array**	**72.53**	**321**	P	P		19 25 33.0	-1.4
	0.1nm,0.4s,baz=117,slow=6.8,SNR=6.2							
	0.1nm,0.4s							
KURBB	**Kurchatov Arra**	**76.25**	**323**	P	P		19 25 57.9	+2.0
	0.2nm,0.7s,baz=121,slow=6.2,SNR=3.3							
	0.2nm,0.7s							

*TEH **04** 19:20:35.2,32.65N×47.60E,h10km±64km,ML2.5*
*ISN **04** 19:20:36.1±2.5,32.63N×47.66E,h20km±23km,ML2.5*

ISC 04 19:20:38.0±1.1,32.72N±0.05×47.57E±0.05,h23km,n11, σ1.47/14,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.84**	**16**	Pg	**Pb**		**19 20 52.0**	**-1.9**
IDOB	**Doab**	**1.18**	**25**	Pg	**Pn**		**19 20 58.7**	**-0.7**
IDOB				Sg	**Sb**		**19 21 17.1**	**+2.2**
IBDR	**Badra**	**1.43**	**286**	*e*Pg	**Pn**		**19 21 02.0**	**-0.6**
	baz=108							
IBDR				*e*Sg		**Sb**	**19 21 25.0**	**+3.1**
IBDR				AML	AML		19 21 27.1	
	comp=N,67nm,0.6s							
IBDR				AML	AML		19 21 27.5	
	comp=E,72nm,0.5s							
ILBA	**Ilam Banvizeh**	**1.46**	**309**	Pg	**Pb**		**19 21 03.9**	**-0.6**
RAFI	**Al-Rafai**	**1.58**	**232**	*e*Pn	**Pb**		**19 21 06.0**	**-0.6**
RAFI				*e*Sn	**Sb**		**19 21 26.0**	**-0.1**
IDHR	**Dehrash**	**2.21**	**334**	Pn	**Pb**		**19 21 16.0**	**-1.4**
IPIR	**Pirpir**	**2.80**	**90**	Pn	**Pn**		**19 21 21.9**	**+0.2**
ZNGN	**Zangian**	**2.84**	**101**	Pn	**Pn**		**19 21 22.2**	**-0.1**
QAMS	**Qamsar**	**3.37**	**71**	Pn	**Pn**		**19 21 30.3**	**+0.9**
IKLH	**Kolahrood**	**3.42**	**79**	Pn	**Pn**		**19 21 31.1**	**+0.9**
KLNJ	**Kolanjah**	**3.82**	**115**	Pn	**Pn**		**19 21 35.5**	**-0.3**

IDC 04 19:23:28.4±7.6,6.48S×141.68E,h0km,mb3.1/1, mbtmp3.1/3,ML2.8/2,Error ellipse: s-maj=267.7km s-min=38.4km az=95.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.17**	**207**	Pn	Pn		19 27 03.8	-0.3
	baz=27,slow=13,SNR=2.4							
	0.4nm,0.8s							
ASAR	**Alice Springs**	**18.66**	**203**	P	P		19 27 48.0	0.0
	baz=34,slow=11,SNR=4.7							
	0.3nm,0.7s							
MKAR	**Makanchi Array**	**74.56**	**322**	P	P		19 35 09.3	+0.1
	0.1nm,0.7s,baz=104,slow=6.1,SNR=1.3							
	0.1nm,0.7s							

*IDC **04** 19:48:07.4±1.5,3.57N×82.55W,h0km,mb3.8/6, mbtmp4.0/9,ML4.1/3,MS3.9/11,Error ellipse: s-maj=67.8km s-min=25.9km az=55.0*
*NEIC **04** 19:48:07.1±2.4,3.30N±0.06×83.01W±0.08,h10km±1km, mb4.4/3,Error ellipse: s-maj=13.4km s-min=9.3km az=292.0*
*RSNC **04** 19:48:15.2±0.5,3°N±2°×83°W±°,h40km±14km,mb4.9, mB5.2,ML3.6,MLv4.4,Mw(mB)4.6,MwMwp4.5,Mwp4.9*

ISC 04 19:48:10.4±0.7,3.22N±0.06×82.92W±0.07,h35km,n77, σ2.16/76,mb4.1/8,MS4.0/5,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TUMC	**Tumaco**	**4.42**	**108**	P	**Pn**		**19 49 15.9**	**+0.9**
FLF1	**Flavio Alfaro-**	**4.70**	**139**	P	**Pn**		**19 49 19.2**	**+0.2**
FLF1				S	**Sn**		**19 50 12.8**	**+0.4**
GR1C	**Gorgona, Isla**	**4.75**	**93**	P	**Pn**		**19 49 18.9**	**-0.7**
PAC1	**Pacto, Paraso**	**5.07**	**125**	P	**Pn**		**19 49 24.5**	**+0.4**
CDITO	**Canoas**	**5.31**	**1**		**Pn**		**19 49 25.3**	**-2.1**
OTAV	**Otavalo**	**5.36**	**123**	Pn	**Pn**		**19 49 27.9**	**-0.5**
OTAV	**Otavalo**	**5.36**	**123**	P	**Pn**		**19 49 27.9**	**-0.5**
	26nm,0.6s,603nm0.1nm							
OTAV				S	**Sn**		**19 50 23.9**	**-5.4**
	26nm,0.6s,603nm0.1nm							
CUSE	**Cuicocha Este**	**5.37**	**123**	P	**Pn**		**19 49 29.8**	**+1.3**
	92nm,0.6s,3μm0.8nm							
CUSE				S	**Sn**		**19 50 22.5**	**-6.9**
	92nm,0.6s,3μm0.8nm							

PULU	**Pululahua**	**5.44**	**126**			**Pn**	**19 49 30.8**	**+1.3**
BRU2	**Volcan**	**5.54**	**2**			**Pn**	**19 49 27.8**	**-2.8**
IMBA	**Imbabura, San**	**5.55**	**122**			**Pn**	**19 49 32.7**	**+1.6**
MALC	**Bahia Malaga**	**5.63**	**82**	P		**Pn**	**19 49 33.4**	**+1.7**
SALI	**Salinas**	**5.71**	**160**	Pn		**Pn**	**19 49 31.4**	**-1.4**
BBAC	**Balboa, Cauca**	**5.79**	**102**	P		**Pn**	**19 49 34.7**	**+0.5**
	84nm,0.7s,1μm							
BBAC				S		**Sn**	**19 50 37.2**	**-2.3**
	84nm,0.7s,1μm							
PIZC	**Pizarro, Choco**	**5.81**	**73**	P		**Pn**	**19 49 34.8**	**+0.6**
	249nm,0.7s,4μm							
GCUF	**Volcan Galeras**	**5.92**	**109**	P		**Pn**	**19 49 37.5**	**+1.4**
	123nm,0.5s,2μm							
SLOR	**San Lorenzo -**	**5.92**	**132**			**Pn**	**19 49 37.6**	**+1.6**
SRBA	**San Rafael, Bu**	**5.98**	**356**	Pn		**Pn**	**19 49 33.8**	**-2.9**
DRK0	**Durika**	**6.01**	**357**			**Pn**	**19 49 34.4**	**-2.6**
BONI	**La Bonita**	**6.05**	**117**	P		**Pn**	**19 49 39.3**	**+1.6**
	102nm,0.8s,1μm							
PEZE	**Perez Zeledon,**	**6.16**	**353**	Pn		**Pn**	**19 49 36.4**	**-2.7**
CHSH	**Refugio Sur-Vo**	**6.19**	**139**			**Pn**	**19 49 39.7**	**-0.3**
JAMC	**Jamundi, Valle**	**6.24**	**90**	P		**Pn**	**19 49 41.0**	**+0.7**
	54nm,0.5s,945nm2μm							
POPC	**Popayan, Colom**	**6.28**	**96**	P		**Pn**	**19 49 41.2**	**+0.4**
	28nm,0.7s							
POPC				S		**Sn**	**19 50 49.2**	**-2.2**
	28nm,0.7s							
LCR2	**La Lucha 2**	**6.56**	**351**			**Pn**	**19 49 41.6**	**-3.1**
RIMA	**Rio Macho**	**6.57**	**352**			**Pn**	**19 49 41.9**	**-2.9**
JACO	**JACO, Garabito**	**6.62**	**345**			**Pn**	**19 49 41.5**	**-3.8**
BCIP	**Isla Barro Col**	**6.65**	**27**	Pn		**Pn**	**19 49 46.1**	**+0.3**
BCIP	**Isla Barro Col**	**6.65**	**27**	P		**Pn**	**19 49 46.3**	**+0.6**
	130nm,1.1s,2μm							
COHC	**Cochancay**	**6.74**	**147**			**Pn**	**19 49 46.7**	**-0.2**
COHC	**Cochancay**	**6.74**	**147**	P		**Pn**	**19 49 46.6**	**-0.3**
	10nm,0.6s,237nm							
COHC				S		**Sn**	**19 51 02.0**	**-0.5**
	10nm,0.6s,237nm							
PLMC	**San Jos del P**	**6.83**	**76**	P		**Pn**	**19 49 49.6**	**+1.3**
	160nm,0.7s,3μm							
PLMC				S		**Sn**	**19 51 06.1**	**+1.2**
	160nm,0.7s,3μm							
DUNO	**Dulce Nombre,**	**7.27**	**340**			**Pn**	**19 49 53.0**	**-1.3**
JTS	**Las Juntas de**	**7.30**	**344**	Pn		**Pn**	**19 49 52.6**	**-2.2**
JTS	**Las Juntas de**	**7.30**	**344**	Pn		**Pn**	**19 49 52.4**	**-2.3**
	8.6nm,0.3s,baz=74,slow=7.5,SNR=35							
JTS						**Sn**	**19 51 11.4**	**-5.1**
	0.6nm,0.3s,baz=330,slow=22,SNR=0.9							
	73nm,0.8s							
ARNL	**Arenillas**	**7.31**	**157**			**Pn**	**19 49 55.6**	**+0.8**
SOCE	**Pocosol**	**7.31**	**347**			**Pn**	**19 49 53.3**	**-1.6**
ARE1	**Arenal 1**	**7.41**	**346**	Pn		**Pn**	**19 49 56.0**	**-0.2**
ORTG	**Ortega, Santa**	**7.53**	**341**			**Pn**	**19 49 55.3**	**-2.5**
DBBC	**Dabeiba**	**7.67**	**60**	P		**Pn**	**19 50 01.6**	**+1.7**
GUY2C	**Guyana, Caldas**	**7.79**	**75**	P		**Pn**	**19 50 04.7**	**+2.8**
	50nm,0.7s,721nm							
APAC	**Apartado, Choc**	**7.83**	**53**	P		**Pn**	**19 50 06.1**	**+4.1**
	48nm,0.9s,3μm							
HZTE	**Horizontes, Gu**	**7.90**	**341**	Pn		**Pn**	**19 50 01.5**	**-1.4**
HELC	**Santa Helena**	**7.94**	**68**	P		**Pn**	**19 50 06.0**	**+2.3**
	145nm,0.8s,1μm							
MCRA	**Macar, Loja**	**8.11**	**159**	Pn		**Pn**	**19 50 06.0**	**+0.3**
MCRA	**Macar, Loja**	**8.11**	**159**	P		**Pn**	**19 50 06.5**	**+0.7**
	3.8nm,0.7s							
UREC	**San Jos de Ur**	**8.62**	**58**	P		**Pn**	**19 50 15.0**	**+2.2**
	34nm,0.6s							
ROSC	**El Rosal**	**8.73**	**79**	Pn		**Pn**	**19 50 14.2**	**-0.4**
ROSC	**El Rosal**	**8.73**	**79**	Pn		**Pn**	**19 50 18.5**	**+3.8**
	4.1nm,0.3s,baz=286,slow=18,SNR=8.4							
ROSC						**Sn**	**19 51 52.0**	**-0.1**
	baz=258,slow=20							
ROSC					LR	LR	19 53 27.8	
	comp=Z,359nm,18.3s,baz=322,slow=39							
PTBC	**PUERTO BERRIO,**	**9.05**	**68**	P		**Pn**	**19 50 22.1**	**+3.3**
	127nm,0.9s,1μm							
MACC	**Macarena, Meta**	**9.13**	**97**	P		**Pn**	**19 50 21.6**	**+1.8**
	55nm,0.8s							
BARC	**Barichara**	**10.26**	**71**	P		**Pn**	**19 50 38.4**	**+2.9**
PAMC	**Pamplona, Colo**	**10.97**	**68**	P		**Pn**	**19 50 48.3**	**+2.9**
ATAH	**Atahualpa**	**11.24**	**156**	Pn		**Pn**	**19 50 50.9**	**+1.8**
	1.9nm,0.3s,baz=5.2,slow=7.9,SNR=15							
ATAH					LR	LR	19 55 04.4	
	comp=Z,2μm,19.4s,baz=332,slow=36							
	14nm,0.6s							
SDV	**Santo Domingo**	**13.45**	**65**	Pn		**Pn**	**19 51 19.5**	**+0.4**
SDV	**Santo Domingo**	**13.45**	**65**	Pn		**Pn**	**19 51 20.2**	**+1.1**
	1.1nm,0.3s,baz=242,slow=12,SNR=14							
SDV					LR	LR	19 56 21.7	
	comp=Z,534nm,20.4s,baz=246,slow=38							
BAUV	**El Baul**	**15.84**	**68**	Pn		**Pn**	**19 51 50.9**	**-0.1**
BAUV

SDDR				IAML		19 49 06.5	
	comp=Z,279nm,0.8s						
LOPE2	**Hotel El Peder**	**0.56**	**200**	⇑*e*Pg	**Pb**	**19 48 54.9**	**+0.3**
LOPE2				⇑*e*Sg	**Sn**	**19 49 04.3**	**-0.9**
LOPE2	**Hotel El Peder**	**0.56**	**200**	*i* P	**Pb**	**19 48 54.8**	**+0.3**
LOPE2				*e*S	**Sb**	**19 49 03.0**	**+0.8**
LOPE2				IAML		19 49 09.8	
	comp=Z,1μm,0.5s						
LOBA2	**Hotel Casa Bon**	**0.64**	**138**	⇓*e*Pg	**Pg**	**19 48 55.6**	**-0.1**
LOBA2				⇑*e*Sg	**Sn**	**19 49 06.3**	**-0.9**
PAPH	**Port-au-Prince**	**0.72**	**267**	*i* P	**Pb**	**19 48 57.4**	**+0.1**
PAPH				*e*S	**Sn**	**19 49 08.4**	**-0.8**
PAPH				IAML		19 49 11.9	
	comp=Z,280nm,0.3s						
ABDR	**Alto Bandera**	**0.91**	**74**	⇑*e*Pg	**Pn**	**19 49 01.5**	**+0.1**
ABDR				⇑*e*Sg	**Sn**	**19 49 15.6**	**+1.3**
ABDR				IAML		19 49 16.1	
	comp=N,642nm,0.7s						
LODA1	**ITESIL, Dajabo**	**0.99**	**351**	*i* P	**Pb**	**19 49 01.6**	**-0.3**
LODA1				IAML		19 49 19.3	
	comp=Z,1μm,2.4s						
BANI	**BANI**	**1.14**	**98**	⇑*e*Pg	**Pg**	**19 49 05.0**	**-0.2**
BANI				⇓*e*Sg	**Sg**	**19 49 21.1**	**+1.0**
BANI				IAML		19 49 25.6	
	comp=N,550nm,0.5s						
SC01	**Santiago de lo**	**1.16**	**42**	*e*Pg	**Pg**	**19 49 06.5**	**+0.8**
SC01				IAML		19 49 32.7	
	comp=N,178nm,0.7s						
SC01	**Santiago de lo**	**1.16**	**42**	*i* P	**Pg**	**19 49 05.8**	**+0.2**
DR08	**Loma La Naviza**	**1.50**	**74**	⇓*e*Sg	**Sb**	**19 49 29.7**	**+0.4**
DR08				IAML		19 49 29.9	
	comp=N,881nm,0.5s						
SDD	**Santo Domingo**	**1.55**	**93**	⇑*e*Sg	**Sg**	**19 49 32.4**	**-0.8**
SDD				IAML		19 49 38.4	
	comp=N,35nm,0.5s						
NADR	**Nagua**	**1.78**	**63**	⇓*e*Sg	**Sg**	**19 49 40.5**	**-0.1**
NADR				IAML		19 49 46.4	
	comp=N,1μm,0.6s						
HATOM	**Hato Mayor del**	**2.06**	**83**	⇓*e*Pg	**Pb**	**19 49 20.1**	**-0.1**
HATOM				⇑*e*Sg	**Sg**	**19 49 47.4**	**-2.2**
HATOM				IAML		19 49 50.5	
	comp=N,90nm,0.5s						
MIDR	**Miches**	**2.40**	**79**	⇑*e*Sg	**Sb**	**19 49 55.6**	**+0.3**
MIDR				IAML		19 50 03.2	
	comp=N,62nm,1.4s						

NEIC ***04*** *19:52:49.6,45.12N×147.78E,h74km*
BJI ***04*** *19:52:50.4±0.0,45.05N×147.91E,h111km,mb5.5/90, mB5.8/58*
NIED ***04*** *19:52:52.8,44.62N×148.17E,h109km,MW5.5,Moment Tensor Solution. s3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.13; $M_{\theta\theta}$0.03; $M_{\phi\phi}$ -0.16; $M_{r\theta}$-0.95; $M_{\theta\phi}$-0.05; $M_{\phi r}$-1.72; Fault plane solution: $M_0$1.97000×10^{17} NP1: ϕ_s209.00000°,δ88.00000°,λ92.00000°. NP2: ϕ_s351.00000°,δ3.00000°,λ52.00000°.*
MOS ***04*** *19:52:52.2±1.2,45.03N×147.81E,h123km,mb5.5/92, MS4.4/7 Error ellipse: s-maj=5.3km s-min=3.8km az=111.0*
MOS Felt (III) at Kuril'sk, Reydovo; (II) at Goryachiy Plyazh, Malokuril'skoye, Yuzhno-Kuril'sk.
NEIC ***04*** *19:52:53.0±2.3,45.07N±0.09×147.8E±0.1,h104km±1km, mb5.7/809,Mwb5.5/20,Mww5.4/25,Error ellipse: s-maj=17.1km s-min=10.2km az=145.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.54; $M_{\theta\theta}$0.13; $M_{\phi\phi}$0.41; $M_{r\theta}$-0.60; $M_{\theta\phi}$-0.30; $M_{\phi r}$-1.71; Fault plane solution: $M_0$1.91000×10^{17} NP1:ϕ_s15.35000°, δ83.81000°,λ-79.52000°. NP2:ϕ_s135.59000°,δ12.15000°, λ-149.19000°. Principal axes: T 1.7232, Plg38.0000°, Azm96.0000°; N 0.3229, Plg10.0000°, Azm194.0000°; P -2.0461, Plg50.0000°, Azm297.0000°;*
NEIC ***04*** *19:52:52.9,45.06N×147.79E,h110km*
JMA ***04*** *19:52:52.8±0.4,45.2×14.8E±.,h109km,MD5.4/40, MW5.5/40,NEAR ETOROFU ISLAND*
JMA Felt II J1 at NEAR ETOROFU ISLAND .
SKHL ***04*** *19:52:52.2±0.2,44.90N×148.10E,h115km±2km,mb6.5/12, mbv6.4/9,ms4.6/2,msh6.1/10,msha6.8/6*
IDC ***04*** *19:52:52.8±0.4,45.23N×147.67E,h107km±2km,mb4.8/28, mbtmp5.2/35,MS4.5/13,Error ellipse: s-maj=10.7km s-min=8.6km az=158.0*
NEIC ***04*** *19:52:52.9,45.06N×148.36E,h110km,Moment Tensor Solution. Duration: 296 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.44; $M_{\theta\theta}$0.11; $M_{\phi\phi}$0.33; $M_{r\theta}$-1.03; $M_{\theta\phi}$0.14; $M_{\phi r}$-1.34; Fault plane solution: $M_0$1.75000×10^{17} NP1:ϕ_s37.26000°, δ83.12000°,λ-87.63000°. NP2:ϕ_s198.18000°,δ7.27000°, λ-108.94000°. Principal axes: T 1.7194, Plg38.0000°, Azm125.0000°; N 0.0520, Plg2.0000°, Azm217.0000°; P -1.7714, Plg52.0000°, Azm310.0000°;*
GCMT ***04*** *19:52:54.0±0.1,44.98N±0.01×147.96E±0.01, h109km±1km,MW5.5/145,Moment Tensor Solution. s111,c197; s145,c274; Duration: 154 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.51±.03; $M_{\theta\theta}$0.53±.04; $M_{\phi\phi}$-0.01±.04; $M_{r\theta}$-0.89±.03; $M_{\theta\phi}$0.27±.04; $M_{\phi r}$-1.94±.02; Best double couple: $M_0$2.20700×10^{17} NP1:ϕ_s27.00000°,δ84.00000°, λ-100.00000°. NP2:ϕ_s269.00000°,δ11.00000°, λ-29.00000°. Principal axes: T 2.1020, Plg39.0000°, Azm126.0000°; N 0.2100, Plg10.0000°, Azm28.0000°; P -2.3120, Plg50.0000°, Azm286.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***04*** *19:52:54.7,46.74N×147.44E,h66km±2km,mb5.8*
ISC 04 19:52:52.3±0.2,45.02N±0.03×147.87E±0.03,h110km±1km, h111km:pP-P,n2170,σ1.38/2077,mb5.6/635,87C-159D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.21**	**359**	*c i* PN	**Pn**	**19 53 08.6**	**+0.8**
KUR				*i* S	**Sn**	**19 53 20.5**	**+1.1**
KUR				pmax	pmax		
	comp=Z,91μm,0.4s						
KUR				pmax	pmax		
	comp=E,23μm,0.3s						
KUR				pmax	pmax		
	comp=N,12μm,0.2s						
KUR				pmax	pmax		
	comp=Z,145μm,1.1s						
KUR				smax	smax		
	comp=E,92μm,0.8s						
KUR				smax	smax		
	comp=N,53μm,0.6s						
KUR				smax	smax		
	comp=E,1065μm,3.4s						
KUR				smax	smax		
	comp=N,1034μm,3.5s						
KUR	**Kuril'sk**	**0.21**	**359**	*i* P	**Pn**	**19 53 08.7**	**+0.9**
KUR				AMB	AMB	19 53 09.6	
	comp=N,91μm,0.4s						
KUR				*i* S	**Sn**	**19 53 21.0**	**+1.6**
KUR				A	A	19 53 21.9	
	comp=N,53μm,0.8s						
KUR				A	A	19 53 21.9	
	comp=N,92μm,0.8s						
KUR				A	A	19 53 22.6	
	comp=N,103μm,3.5s						
KUR				A	A	19 53 22.6	
	comp=N,107μm,3.5s						
SHO	**Shikotan**	**1.37**	**213**	*c i* PN	**Pn**	**19 53 16.8**	**-0.8**
SHO				*i* S	**Sn**	**19 53 35.3**	**-1.4**
SHO				pmax	pmax		
	comp=Z,4μm,0.2s						
SHO				smax	smax		
	comp=N,74μm,0.3s						
SHO				smax	smax		
	comp=E,45μm,0.3s						
SHO	**Shikotan**	**1.37**	**213**	*i* P	**Pn**	**19 53 16.8**	**-0.8**
SHO				AMB	AMB	19 53 19.6	
	comp=E,4μm,0.2s						
SHO				*i* S	**Sn**	**19 53 35.3**	**-1.4**
SHO				A	A	19 53 35.5	
	comp=E,74μm,0.3s						
SHO				A	A	19 53 35.5	
	comp=E,45μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.74**	**236**	*c i* PN	**Pn**	**19 53 23.2**	**+1.2**
YUK				*i* S	**Sn**	**19 53 46.4**	**+1.7**
YUK				pmax	pmax		
	comp=Z,11μm,0.3s						
YUK				smax	smax		
	comp=N,33μm,0.4s						
YUK				smax	smax		
	comp=E,59μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.74**	**236**	*i* P	**Pn**	**19 53 23.2**	**+1.2**
YUK				AMB	AMB	19 53 26.3	
	comp=E,11μm,0.3s						
YUK				*i* S	**Sn**	**19 53 46.4**	**+1.7**
YUK				A	A	19 53 47.5	
	comp=E,162μm,2.0s						
YUK				A	A	19 53 47.5	
	comp=E,214μm,2.0s						
YUK				A	A	19 53 50.6	
	comp=E,33μm,0.4s						
YUK				A	A	19 53 50.6	
	comp=E,59μm,0.4s						
RUSJ	**Misakicho**	**2.09**	**245**	*c i* PN	**Pn**	**19 53 27.7**	**+1.3**
RUSJ				*e*S	**Sn**	**19 53 55.7**	**+3.3**
JRA	**Rausu**	**2.25**	**242**	*e*P	**Pn**	**19 53 29.8**	**+1.4**
JRA	**Rausu**	**2.25**	**242**	A	A	19 53 29.8	
	comp=E,78nm,2.0s,comp=N,84nm,1.8s						
NEM2	**Nemuro 2**	**2.25**	**224**	⇓*e*P	**Pn**	**19 53 27.9**	**-0.6**
NEM2				⇓*e*S	**Sn**	**19 53 54.1**	**-2.1**
NEM2	**Nemuro 2**	**2.25**	**224**	A	A	19 53 27.9	
	comp=E,50nm,4.0s,comp=N,44nm,3.9s						
NMR	**Nemuro--Hokkai**	**2.26**	**224**	*d i* PN	**Pn**	**19 53 28.3**	**-0.3**
NMR				*i* S	**Sn**	**19 53 54.1**	**-2.2**
NMR	**Nemuro--Hokkai**	**2.26**	**224**	*i* P	**Pn**	**19 53 28.3**	**-0.3**
NMR				*i* S	**Sn**	**19 53 54.1**	**-2.2**
JNSB	**Nemuroshibetsu**	**2.40**	**240**	*e*P	**Pn**	**19 53 32.3**	**+1.9**
JNSB				*e*S	**Sn**	**19 54 02.6**	**+3.0**
JNSB	**Nemuroshibetsu**	**2.40**	**240**	A	A	19 53 32.3	
	comp=E,192nm,2.5s,comp=N,167nm,4.8s						
JNK	**Nakash**	**2.68**	**239**	*e*P	**Pn**	**19 53 35.6**	**+1.6**
JNK				*e*S	**Sn**	**19 54 08.0**	**+1.8**
JNK	**Nakash**	**2.68**	**239**	A	A	19 53 35.6	
	comp=E,50nm,3.7s,comp=N,35nm,2.6s						
JKHN	**Kushirohamanak**	**2.75**	**226**	*i* P	**Pn**	**19 53 34.8**	**-0.2**
JKHN				*e*S	**Sn**	**19 54 05.8**	**-2.0**
JKHN	**Kushirohamanak**	**2.75**	**226**	A	A	19 53 34.8	
	comp=E,44nm,2.7s,comp=N,39nm,1.1s						
AKK	**Akkeshi**	**2.96**	**229**	*e*P	**Pn**	**19 53 37.9**	**+0.1**
JTKR	**Abashiri--Toko**	**3.02**	**251**	*e*P	**Pn**	**19 53 40.3**	**+1.8**
JTKR				*e*S	**Sn**	**19 54 18.7**	**+4.5**
JTKR	**Abashiri--Toko**	**3.02**	**251**	A	A	19 53 40.3	
	comp=E,22nm,2.9s,comp=N,12nm,2.2s						
JAK	**Akkeshi**	**3.06**	**230**	*e*P	**Pn**	**19 53 39.0**	**0.0**
JAK				*e*S	**Sn**	**19 54 14.2**	**-0.8**
JAK	**Akkeshi**	**3.06**	**230**	A	A	19 53 39.0	
	comp=E,54nm,1.7s,comp=N,58nm,1.5s						
JMP	**Maruseppu**	**3.38**	**254**	A	A	19 53 46.4	
	comp=E,37nm,1.9s,comp=N,24nm,2.1s						
JAR	**Ashorobuto**	**3.42**	**241**	⇓*e*P	**Pn**	**19 53 45.8**	**+1.9**
JAR				⇓*e*S	**Sn**	**19 54 26.9**	**+3.2**
JAR	**Ashorobuto**	**3.42**	**241**	A	A	19 53 45.8	
	comp=E,35nm,2.1s,comp=N,39nm,1.9s						
JOB	**Obetsu**	**3.60**	**235**	A	A	19 53 47.3	
	comp=E,39nm,3.8s,comp=N,23nm,3.3s						
JSE	**Soyaes**	**3.75**	**271**	*e*P	**Pn**	**19 53 51.1**	**+2.8**
JSE	**Soyaes**	**3.75**	**271**	A	A	19 53 51.1	
	comp=E,26nm,3.1s,comp=N,16nm,5.8s						
JKK2	**Kamakawa 2**	**3.84**	**254**	*e*P	**Pn**	**19 53 52.2**	**+2.7**
JKK2	**Kamakawa 2**	**3.84**	**254**	A	A	19 53 52.2	
	comp=E,24nm,3.5s,comp=N,15nm,2.6s						
JKA	**Kamikawa-asahi**	**3.87**	**258**	Pn	**Pn**	**19 53 51.3**	**+1.4**
JKA	**Kamikawa-asahi**	**3.87**	**258**	*e*P	**Pn**	**19 53 51.3**	**+1.4**
ASAJ	**Asahikawa**	**3.88**	**259**	PN	**Pn**	**19 53 51.3**	**+1.4**
ASAJ	**Asahikawa**	**3.88**	**258**	A	A	19 53 53.5	
	comp=E,19nm,4.4s,comp=N,17nm,4.5s						
ASAJ	**Asahikawa**	**3.88**	**258**	P	**Pn**	**19 53 52.9**	**+2.9**
	comp=N,2μm,0.9s,baz=75,slow=7.1,SNR=276						
ASAJ				S	**Sn**	**19 54 29.9**	**-4.7**
	comp=N,311nm,0.4s,baz=82,slow=16,SNR=4.7						
JCH	**Churui**	**4.05**	**235**	*e*P	**Pn**	**19 53 53.0**	**+0.6**
JCH				*e*S	**Sn**	**19 54 38.2**	**-0.7**
JCH	**Churui**	**4.05**	**235**	A	A	19 53 53.0	
	comp=E,23nm,3.5s,comp=N,15nm,3.8s						
YSS	**Yuzh-Sakhalins**	**4.06**	**300**	Pn	**Pn**	**19 53 54.5**	**+2.2**
YSS	**Yuzh-Sakhalins**	**4.06**	**300**	P	**Pn**	**19 53 55.0**	**+2.7**
YSS	**Yuzh-Sakhalins**	**4.06**	**300**	*ce*PN	**Pn**	**19 53 55.6**	**+3.3**
YSS				*e*S	**Sn**	**19 54 42.2**	**+3.3**
YSS				pmax	pmax		
	comp=Z,3μm,0.7s						
YSS				pmax	pmax		
	comp=Z,2μm,2.2s						
YSS				pmax	pmax		
	comp=N,1μm,3.0s						
YSS				pmax	pmax		
	comp=E,1μm,2.1s						
YSS				smax	smax		
	comp=N,3μm,2.3s						
YSS				smax	smax		
	comp=E,10μm,2.3s						
YSS				smax	smax		
	comp=N,1μm,1.3s						
YSS				smax	smax		
	comp=E,1μm,1.1s						
YSS				MLR	MLR		
	comp=Z,7μm,11.0s						
YSS				MLR	MLR		
	comp=N,4μm,10.0s						
YSS	**Yuzh-Sakhalins**	**4.06**	**300**	*e*P	**Pn**	**19 53 55.6**	**+3.3**
YSS				AMB	AMB	19 53 56.8	
	comp=N,3μm,0.7s						
YSS				AMB	AMB	19 54 01.9	
	comp=N,1μm,2.2s						
YSS				AMB	AMB	19 54 01.9	
	comp=N,2μm,2.2s						
YSS				*e*S	**Sn**	**19 54 42.7**	**+3.8**
YSS				A	A	19 54 47.1	
	comp=N,3μm,2.3s						
YSS				A	A	19 54 47.1	
	comp=N,10μm,2.3s						
YSS				A	A	19 54 49.2	
	comp=N,1μm,0.9s						
YSS				A	A	19 54 49.2	
	comp=N,1μm,0.9s						
JFR	**Furan**	**4.23**	**246**	A	A	19 53 57.0	
	comp=E,18nm,2.7s,comp=N,14nm,2.1s						
JWK2	**Keihoku**	**4.24**	**276**	*e*P	**Pn**	**19 53 59.2**	**+4.5**
JWK2	**Keihoku**	**4.24**	**276**	A	A	19 53 59.2	
	comp=E,54nm,3.6s,comp=N,31nm,3.2s						
JTHR	**Tokachihiroo**	**4.29**	**232**	A	A	19 53 56.4	
	comp=E,17nm,4.6s,comp=N,14nm,2.5s						
JAB	**Ashibetsu**	**4.33**	**251**	A	A	19 53 59.0	
	comp=E,22nm,4.1s,comp=N,32nm,3.4s						
JSS	**Shosan**	**4.33**	**264**	*e*P	**Pn**	**19 54 00.7**	**+4.6**
JSS	**Shosan**	**4.33**	**264**	A	A	19 54 00.7	
	comp=E,40nm,4.3s,comp=N,27nm,4.5s						
JEM	**Erimo**	**4.56**	**230**	P	**Pn**	**19 54 00.8**	**+1.7**
JEM	**Erimo**	**4.56**	**230**	A	A	19 53 59.8	
	comp=E,15nm,4.3s,comp=N,17nm,2.6s						
ERM	**Erimo**	**4.56**	**230**	Pn	**Pn**	**19 53 59.3**	**+0.2**
ERM	**Erimo**	**4.56**	**230**	P	**Pn**	**19 54 00.8**	**+1.7**
ERM	**Erimo**	**4.56**	**230**	*ce*PN	**Pn**	**19 53 59.4**	**+0.3**
ERM				pmax	pmax		
	comp=Z,2μm,1.0s						
JHR	**Hokuryu**	**4.59**	**256**	*e*P	**Pn**	**19 54 03.4**	**+3.9**
JHR	**Hokuryu**	**4.59**	**256**	A	A	19 54 03.4	
	comp=E,31nm,2.8s,comp=N,27nm,4.7s						
JNBK	**Urakawa-nobuka**	**4.62**	**235**	*e*P	**Pn**	**19 53 59.6**	**-0.3**
JNBK	**Urakawa-nobuka**	**4.62**	**235**	A	A	19 53 59.6	
	comp=E,26nm,1.3s,comp=N,20nm,1.5s						
JYG	**Yagishiri**	**4.63**	**265**	A	A	19 54 04.4	
	comp=E,21nm,4.6s,comp=N,13nm,4.3s						
JRR	**Rishiri**	**4.65**	**274**	A	A	19 54 05.5	
	comp=E,116nm,4.8s,comp=N,100nm,3.9s						
JSHD	**Hidakashinhida**	**4.71**	**238**	A	A	19 54 02.6	
	comp=E,18nm,2.2s,comp=N,25nm,1.9s						
JRBN	**Rebuntou**	**4.83**	**277**	*e*P	**Pn**	**19 54 06.1**	**+3.4**
JRBN	**Rebuntou**	**4.83**	**277**	A	A	19 54 06.1	
	comp=E,12nm,4.3s,comp=N,8.0nm,3.4s						
JIAM	**Iburiatsuma**	**4.93**	**243**	A	A	19 54 06.2	
	comp=E,33nm,3.3s,comp=N,32nm,4.5s						
JISS	**Ishikarishitsu**	**4.96**	**252**	A	A	19 54 07.6	
	comp=E,33nm,3.6s,comp=N,45nm,4.3s						
JEW	**Eniwo**	**5.12**	**247**	⇓*e*P	**Pn**	**19 54 09.7**	**+3.0**
JEW	**Eniwo**	**5.12**	**247**	A	A	19 54 09.7	
	comp=E,28nm,2.7s,comp=N,25nm,2.9s						
JNB	**Noboribetsu**	**5.57**	**245**	A	A	19 54 15.2	
	comp=E,5.0nm,4.6s,comp=N,6.0nm,5.8s						
JSK	**Shakotan**	**5.57**	**255**	A	A	19 54 16.3	
	comp=E,11nm,3.5s,comp=N,7.0nm,3.8s						
UGL	**Uglegorsk**	**5.67**	**318**	*d i* PN	**Pn**	**19 54 18.0**	**+3.9**
UGL				pmax	pmax		
	comp=Z,3μm,0.8s						
UGL				pmax	pmax		
	comp=Z,3μm,0.7s						
UGL	**Uglegorsk**	**5.67**	**318**	*i* P	**Pn**	**19 54 18.0**	**+3.9**
UGL				AMB	AMB	19 54 19.5	
	comp=Z,3μm,1.0s						
UGL				AMB	AMB	19 54 19.5	
	comp=Z,3μm,0.7s						
UGL				*e*S	**Sn**	**19 55 23.6**	**+5.7**
UGL				A	A	19 55 29.0	
	comp=Z,13μm,4.5s						
UGL				A	A	19 55 29.0	
	comp=Z,13μm,4.5s						
JKB	**Kayabe**	**5.88**	**240**	A	A	19 54 18.9	
	comp=E,10.0nm,1.2s,comp=N,10.0nm,1.7s						
JAHD	**Aomorihigashid**	**6.08**	**234**	A	A	19 54 20.9	
	comp=E,36nm,1.6s,comp=N,39nm,1.5s						
JOT	**Ohata**	**6.17**	**236**	*e*P	**Pn**	**19 54 20.1**	**-0.8**
JOT				*e*S	**Sn**	**19 55 24.8**	**-5.3**
JOT	**Ohata**	**6.17**	**236**	A	A	19 54 20.1	
	comp=E,6.0nm,5.1s,comp=N,5.0nm,5.3s						
JARK	**Aomorirokkasho**	**6.23**	**232**	A	A	19 54 22.8	
	comp=E,9.0nm,1.6s,comp=N,9.0nm,2.5s						
JTM	**Tenmabayashi**	**6.54**	**232**	Pn	**Pn**	**19 54 24.7**	**-1.3**
JTM	**Tenmabayashi**	**6.54**	**232**	P	**Pn**	**19 54 24.6**	**-1.3**
JANG	**Nango**	**6.59**	**227**	*e*P	**Pn**	**19 54 24.1**	**-2.6**
JANG				*e*S	**Sn**	**19 55 32.7**	**-7.6**
JOSM	**Okushiri--Mats**	**6.77**	**247**	*e*P	**Pn**	**19 54 29.7**	**+0.7**
TYV	**Tymovskoe**	**6.81**	**331**	*e*PN	**Pn**	**19 54 33.3**	**+3.8**
TYV				*e*S	**Sn**	**19 55 48.9**	**+3.4**
TYV				pmax	pmax		
	comp=Z,1μm,3.1s						
TYV				pmax	pmax		
	comp=Z,197nm,0.9s						
TYV				smax	smax		
	comp=N,46nm,1.5s						
TYV				smax	smax		
	comp=E,74nm,1.5s						
TYV				smax	smax		
	comp=N,1μm,3.6s						
TYV				smax	smax		
	comp=E,1μm,3.6s						
TYV	**Tymovskoe**	**6.81**	**331**	*e*P	**Pn**	**19 54 33.3**	**+3.8**
TYV				AMB	AMB	19 54 34.0	
	comp=E,1μm,3.1s						
TYV				AMB	AMB	19 54 35.1	
	comp=E,200nm,0.9s						
TYV				*e*S	**Sn**	**19 55 49.1**	**+3.6**
TYV				A	A	19 55 57.5	
	comp=E,80nm,0.6s						
TYV				A	A	19 55 57.5	
	comp=E,120nm,0.6s						
TYV				A	A	19 55 58.5	
	comp=E,3μm,3.0s						
TYV				A	A	19 55 58.5	
	comp=E,3μm,3.0s						
JMK	**Ichinoseki**	**7.83**	**222**	*e*P	**Pn**	**19 54 40.9**	**-2.5**
SKR	**Severo-Kuril's**	**7.92**	**41**	*i* PN	**Pn**	**19 54 45.0**	**+0.4**
SKR				*e*S	**Sn**	**19 56 14.8**	**+2.3**
SKR				pmax	pmax		
	comp=Z,2μm,0.6s						
SKR				smax	smax		
	comp=E,862nm,0.9s						
SKR				smax	smax		
	comp=N,1μm,0.9s						
SKR				MLR	MLR		
	comp=Z,3μm,12.0s						
SKR	**Severo-Kuril's**	**7.92**	**41**	*i* P	**Pn**	**19 54 45.3**	**+0.7**
SKR				AMB	AMB	19 54 47.4	
	comp=Z,2μm,0.6s						
SKR				AMB	AMB	19 54 48.0	
	comp=Z,2μm,2.0s						
SKR				*e*S	**Sn**	**19 56 11.3**	**-1.2**
SKR				A	A	19 56 19.1	
	comp=Z,1μm,0.9s						
SKR				A	A	19 56 19.1	
	comp=E,860nm,0.9s						
SKR				A	A	19 56 26.6	
	comp=Z,5μm,4.5s						
SKR				A	A	19 56 26.6	
	comp=Z,4μm,4.5s						
SKR				AMS	AMS	19 57 30.5	
	comp=Z,3μm,12.0s						
TEY	**Ternei**	**7.98**	**274**	⇑*e*PN	**Pn**	**19 54 48.5**	**+3.1**
TEY				*e*		19 56 18.9	
TEY				pmax	pmax		
	comp=E,360nm,1.2s						
TEY				pmax	pmax		
	comp=Z,330nm,1.2s						
TEY				pmax	pmax		
	comp=Z,2μm,2.1s						
TEY				pmax	pmax		
	comp=E,2μm,2.2s						
TEY				pmax	pmax		
	comp=E,200nm,4.7s						
TEY	**Ternei**	**7.98**	**274**	*e*P	**Pn**	**19 54 48.5**	**+3.1**
TEY				AMB	AMB	19 54 49.9	
	comp=E,330nm,1.0s						
TEY				AMB	AMB	19 54 50.5	
	comp=E,2μm,2.2s						
TEY				AMB	AMB	19 54 50.5	
	comp=E,2μm,2.2s						
PAU	**Pauzhetka**	**8.78**	**40**	*e*P	**Pn**	**19 54 56.9**	**+0.7**
PAU				*e*S	**Sn**	**19 56 32.5**	**-0.8**
JMM	**Marumori**	**8.90**	**219**	P	**Pn**	**19 54 54.9**	**-3.1**
OKH	**Okha**	**9.12**	**341**	*d i* PN	**Pn**	**19 55 04.8**	**+4.0**
OKH				*i* S	**Sn**	**19 56 45.0**	**+3.4**
OKH				pmax	pmax		
	comp=Z,300nm,6.8s						
OKH				smax	smax		
	comp=N,2μm,9.9s						
OKH				smax	smax		
	comp=E,1μm,13.2s						
OKH				MLR	MLR		
	comp=E,1μm,13.0s						
OKH				MLR	MLR		
	comp=Z,900nm,12.0s						
OKH	**Okha**	**9.12**	**341**	*i* P	**Pn**	**19 55 04.8**	**+4.0**
OKH				AMB	AMB	19 55 06.0	
	comp=Z,5μm,2.0s						
OKH				*i* S	**Sn**	**19 56 45.0**	**+3.4**
OKH				A	A	19 56 56.5	
	comp=Z,7μm,5.0s						
OKH				A	A	19 56 56.5	
	comp=Z,2μm,5.0s						
NKL	**Nikolayevsk**	**9.40**	**333**	*e*PN	**Pn**	**19 55 05.1**	**+0.5**
NKL				pmax	pmax		
	comp=N,144nm,1.3s						
NKL				pmax	pmax		
	comp=E,1μm,1.5s						
NKL				pmax	pmax		
	comp=Z,2μm,1.5s						
NKL	**Nikolayevsk**	**9.40**	**333**	*e*P	**Pn**	**19 55 07.1**	**+2.5**
NKL				AMB	AMB	19 55 08.8	
	comp=Z,2μm,1.5s						
NKL				*e*S	**Sn**	**19 56 51.3**	**+3.0**
NKL				A	A	19 57 01.2	
	comp=Z,1μm,6.2s						
NKL				A	A	19 57 01.2	
	comp=Z,1μm,6.2s						
GRNR	**Gornyy**	**9.60**	**311**	⇓*i* PN	**Pn**	**19 55 11.0**	**+3.7**
GRNR				pmax	pmax		
	comp=N,160nm,1.2s						
GRNR				pmax	pmax		
	comp=E,290nm,1.2s						
GRNR				pmax	pmax		
	comp=Z,300nm,1.2s						
GRNR				MLR	MLR		
	comp=E,1μm,13.0s					

PETK	**Petropavlovsk-**	**10.34**	**35**	P		**Pn**	**19 55 17.4**	**0.0**
	comp=E,204nm,0.7s,baz=193,slow=5.4,SNR=274							
PETK				S		**Sn**	**19 57 12.5**	**+1.4**
	comp=E,9.8nm,0.6s,baz=113,slow=34,SNR=1.0							
PETK				ScP		**ScP**	**20 04 34.9**	**-0.7**
	comp=E,4.9nm,0.9s,baz=183,slow=2.9,SNR=2.8							
PETK				ScS		**ScS**	**20 08 08.8**	**-1.5**
	comp=E,5.1nm,1.0s,baz=260,slow=18,SNR=1.2							
PET	**Petropavlovsk**	**10.68**	**38**	Pn		**Pn**	**19 55 19.9**	**-2.0**
PET	**Petropavlovsk**	**10.68**	**38**	*e*Pn		**Pn**	**19 55 20.6**	**-1.3**
PET				pmax	pmax			
	comp=Z,149nm,0.9s							
PET				MLR	MLR			
	comp=Z,1μm,13.0s							
PET	**Petropavlovsk**	**10.68**	**38**	*e*P		**Pn**	**19 55 20.7**	**-1.2**
PET				AMB	AMB		19 55 33.3	
	comp=Z,150nm,0.9s							
MJB9	**Matsu-Tunnel**	**11.19**	**224**			**Pn**	**19 55 26.8**	**-2.1**
MAJO	**Matsushiro**	**11.19**	**224**	Pn		**Pn**	**19 55 26.4**	**-2.6**
MAJO	**Matsushiro**	**11.19**	**224**	P		**Pn**	**19 55 26.9**	**-2.0**
MAJO	**Matsushiro**	**11.19**	**224**	*d* iPN		**Pn**	**19 55 26.3**	**-2.6**
MJAR	**Matsushiro Arr**	**11.19**	**224**	P		**Pn**	**19 55 26.7**	**-2.3**
	comp=Z,24nm,0.7s,baz=26,slow=13,SNR=66							
MJAR				S		**Sn**	**19 57 27.2**	**-4.8**
	comp=Z,16nm,0.7s,baz=221,slow=42,SNR=2.3							
MJAR				ScS		**ScS**	**20 08 10.0**	**-2.5**
	comp=Z,0.4nm,0.4s,baz=120,slow=42,SNR=2.5							
USA0B	**Ussuriysk Arra**	**11.36**	**271**			**Pn**	**19 55 32.8**	**+1.8**
USA0B	**Ussuriysk Arra**	**11.36**	**271**	*d* iPn		**Pn**	**19 55 32.3**	**+1.2**
USRK	**Ussuriysk Ar.**	**11.36**	**271**			**Pn**	**19 55 32.8**	**+1.7**
USRK	**Ussuriysk Ar.**	**11.36**	**271**	PN		**Pn**	**19 55 32.8**	**+1.7**
USRK	**Ussuriysk Ar.**	**11.36**	**271**	P		**Pn**	**19 55 31.9**	**+0.8**
	comp=Z,101nm,0.8s,baz=81,slow=12,SNR=100							
USRK				ScP		**ScP**	**20 04 36.4**	**-0.7**
	comp=Z,4.9nm,1.0s,baz=315,slow=0.8,SNR=5.1							
VLA	**Vladivostok**	**11.66**	**266**	*i* PN		**Pn**	**19 55 35.7**	**+0.6**
VLA	**Vladivostok**	**11.66**	**266**	*i* P		**Pn**	**19 55 35.7**	**+0.6**
KLR	**Kul'dur**	**11.76**	**297**	P		**Pn**	**19 55 39.4**	**+3.1**
	comp=Z,157nm,1.1s,baz=102,slow=14,SNR=131							
KLR				LR	LR		20 00 20.1	
	comp=Z,2μm,19.0s,baz=117,slow=39							
KLR				PcP		**PcP**	**20 01 16.9**	**+1.8**
	comp=Z,1.6nm,0.6s,baz=198,slow=1.0,SNR=4.3							
KLR				ScP		**ScP**	**20 04 38.1**	**+0.5**
	comp=Z,4.6nm,0.5s,baz=223,slow=1.1,SNR=11							
KLR				ScS		**ScS**	**20 08 11.5**	**-1.6**
	comp=Z,5.1nm,1.1s,baz=138,slow=18,SNR=1.2							
MSHR	**Mys Shultsa**	**12.32**	**264**	*ce*PN		**Pn**	**19 55 44.7**	**+0.9**
MSHR				pmax	pmax			
	comp=Z,567nm,1.7s							
JGF	**Kuroka**	**12.36**	**224**	Pn		**Pn**	**19 55 42.6**	**-1.8**
JGF	**Kuroka**	**12.36**	**224**	P		**Pn**	**19 55 42.9**	**-1.5**
PSTR	**Posyet**	**12.55**	**265**	*c* iPN		**Pn**	**19 55 47.4**	**+0.6**
PSTR	**Posyet**	**12.55**	**265**	*e*P		**Pn**	**19 55 47.4**	**+0.6**
EKMR	**Ekimchan**	**12.66**	**315**	*e*P		**Pn**	**19 55 51.0**	**+2.8**
EKMR				AMB	AMB		19 55 51.9	
	comp=Z,490nm,0.8s							
JSG	**Sagara**	**12.72**	**219**			**Pn**	**19 55 50.4**	**+1.3**
INU	**Inuyama**	**12.72**	**224**	Pn		**Pn**	**19 55 48.4**	**-0.8**
INU	**Inuyama**	**12.72**	**224**	P		**Pn**	**19 55 48.9**	**-0.3**
MDJ	**Mudanjiang**	**12.99**	**275**	P		**Pn**	**19 55 53.4**	**+0.8**
MDJ				sP		P	19 56 26.7	+28
MDJ				S		**Sn**	**19 58 13.5**	**-1.9**
MDJ				pmax	pmax			
	comp=Z,53nm,1.2s							
MDJ				pmax	pmax			
	comp=Z,1μm,4.7s							
MDJ	**Mudanjiang**	**12.99**	**275**			**Pn**	**19 55 52.8**	**+0.3**
MDJ	**Mudanjiang**	**12.99**	**275**	P		**Pn**	**19 55 54.4**	**+1.8**
JHJ2	**Mitsune**	**13.43**	**210**	Pn		**Pn**	**19 55 54.5**	**-3.8**
JHJ	**Hachijo jima 2**	**13.43**	**211**	P		**Pn**	**19 55 55.9**	**-2.6**
	comp=Z,421nm,1.0s,baz=102,slow=20,SNR=4.7							
JHJ				S		Sn	19 58 13.2	-13
	comp=Z,255nm,0.3s,baz=46,slow=21,SNR=9.0							
BNX	**BinXian**	**14.40**	**280**	⇑P		**Pn**	**19 56 09.4**	**-1.4**
BNX				S		**Sn**	**19 58 47.2**	**-2.4**
BNX				PcP		**PcP**	**20 01 19.0**	**+0.6**
BNX				ScP		**ScP**	**20 04 41.8**	**-0.1**
BNX				ScS		**ScS**	**20 08 18.4**	**-0.9**
BNX				pmax	pmax			
	comp=Z,110nm,1.5s							
BNX				pmax	pmax			
	comp=Z,1μm,5.3s							
BNX				LR	LR			
	comp=Z,1μm,15.7s							
BNX				LR	LR			
	comp=Z,2μm,17.6s							
BNX				LR	LR			
	comp=Z,2μm,17.0s							
MA2	**Magadan**	**14.68**	**6**			**Pn**	**19 56 15.2**	**+1.0**
MA2	**Magadan**	**14.68**	**6**	P		**P**	**19 56 17.2**	**-0.3**
MA2	**Magadan**	**14.68**	**6**	*d* iP		**Pn**	**19 56 14.8**	**+0.5**
MA2	**Magadan**	**14.68**	**6**	P		**Pn**	**19 56 13.7**	**-0.6**
	comp=Z,155nm,0.8s,baz=180,slow=8.6,SNR=93							
MA2				S		**Sn**	**19 58 54.9**	**-1.3**
	comp=Z,14nm,0.9s,baz=246,slow=12,SNR=2.1							
MA2	**Magadan**	**14.68**	**6**	*i* P		**Pn**	**19 56 14.8**	**+0.5**
HEH	**HeiHe**	**14.73**	**298**	*e*P		**Pn**	**19 56 15.6**	**+0.6**
HEH				S		**Sn**	**19 59 01.7**	**+4.2**
HEH				pmax	pmax			
	comp=Z,230nm,1.6s							
HEH				pmax	pmax			
	comp=Z,3μm,3.9s							
OCTB	**Oktyabr'skiy**	**14.90**	**309**	*e*P		**P**	**19 56 19.5**	**-0.5**
OCTB				AMB	AMB		19 56 20.3	
	comp=Z,500nm,0.8s							
JMN	**Monobe**	**15.60**	**229**			**Pn**	**19 56 25.9**	**-0.1**
JMN	**Monobe**	**15.60**	**229**	P		**Pn**	**19 56 26.6**	**+0.5**
ZEA	**Zeya**	**15.96**	**310**	*e*P		**P**	**19 56 32.1**	**+0.4**
ZEA				*e*			19 59 31.1	
ZEA				pmax	pmax			
	comp=E,90nm,1.2s							
ZEA				pmax	pmax			
	comp=N,90nm,1.0s							
ZEA				pmax	pmax			
	comp=Z,160nm,1.1s							
ZEA				pmax	pmax			
	comp=Z,700nm,2.2s							
ZEA	**Zeya**	**15.96**	**310**	*e*P		**P**	**19 56 32.1**	**+0.4**
ZEA				AMB	AMB		19 56 33.1	
	comp=Z,200nm,0.8s							
ZEA				AMB	AMB		19 56 35.8	
	comp=Z,700nm,2.2s							
CN2	**Changchun**	**16.07**	**274**	*e*P		**Pn**	**19 56 30.3**	**-1.4**
CN2				*e*PP		**pP**	**19 56 46.5**	**-5.7**
CN2				*e*S		**Sn**	**19 59 24.1**	**-5.6**
CN2				*es*S		S	19 59 46.1	+11
CN2				pmax	pmax			
	comp=Z,40nm,1.1s							
CN2				LR	LR			
	comp=Z,820nm,12.0s							
CN2				LR	LR			
	comp=Z,1μm,12.0s							
CN2				LR	LR			
	comp=Z,1μm,12.0s							
KSRS	**Korea Array**	**16.77**	**250**	P		**Pn**	**19 56 39.3**	**-1.1**
	comp=Z,84nm,1.0s,baz=58,slow=12,SNR=31							
KSRS				S		**Sn**	**19 59 38.4**	**-8.4**
	comp=Z,1.9nm,0.9s,baz=20,slow=38,SNR=1.3							
KSRS				PcP		**PcP**	**20 01 23.0**	**+1.0**
	comp=Z,12nm,1.0s,baz=24,slow=0.8,SNR=11							
KSRS				pPcP			20 01 52.3	
	comp=Z,11nm,0.8s,baz=30,slow=0.9,SNR=11							
KSRS				LR	LR		20 02 23.8	
	comp=Z,1μm,21.7s,baz=55,slow=34							
KS19	**Wonju Array Si**	**16.79**	**250**	P		**Pn**	**19 56 40.2**	**-0.4**
KSAR	**Wonju Array Be**	**16.81**	**250**			**Pn**	**19 56 39.0**	**-1.8**
KSAR	**Wonju Array Be**	**16.81**	**250**	P		**Pn**	**19 56 39.0**	**-1.8**
INCN	**Inchon**	**17.62**	**252**	P		**P**	**19 56 47.5**	**-2.7**
INCN	**Inchon**	**17.62**	**252**	P		**Pn**	**19 56 52.2**	**+1.4**
INCN	**Inchon**	**17.62**	**252**	P		**P**	**19 56 47.5**	**-2.7**
JNU	**Nakatsue**	**17.71**	**234**	P		**P**	**19 56 50.0**	**-1.2**
JNU	**Nakatsue**	**17.71**	**234**	P		**Pn**	**19 56 52.4**	**+0.5**
JNU	**Nakatsue**	**17.71**	**234**	P		**P**	**19 56 51.5**	**+0.3**
	comp=Z,340nm,0.9s,baz=42,slow=5.3,SNR=50							
JNU				S		**Sn**	**20 00 04.6**	**-4.9**
	comp=Z,11nm,0.9s,baz=187,slow=21,SNR=1.4							
TJN	**Taejon**	**17.75**	**248**	P		**P**	**19 56 51.6**	**+0.1**
TJN	**Taejon**	**17.75**	**248**	P		**Pn**	**19 56 53.5**	**+1.2**
TJN	**Taejon**	**17.75**	**248**	*ce*P		**P**	**19 56 51.7**	**+0.1**
SNY	**Shenyang**	**17.91**	**268**	⇓P		**P**	**19 56 53.3**	**0.0**
SNY				pmax	pmax			
	comp=Z,260nm,1.3s							
SEY	**Seymchan**	**18.13**	**7**	*i* P		**P**	**19 56 55.5**	**0.0**
SEY				pmax	pmax			
	comp=Z,174nm,1.5s							
SEY	**Seymchan**	**18.13**	**7**	P		**P**	**19 56 55.0**	**-0.6**
	comp=Z,50nm,0.6s,baz=182,slow=9.3,SNR=65							
SEY				LR	LR		20 03 42.6	
	comp=Z,627nm,21.4s,baz=184,slow=36							
JCJ	**Chichijima**	**18.46**	**196**	P		**P**	**19 56 55.0**	**-4.4**
	comp=Z,123nm,0.8s,baz=10,slow=9.4,SNR=5.0							
JCJ				S		S	20 00 09.7	-15
	comp=Z,109nm,0.3s,baz=250,slow=23,SNR=10.0							
SHEM	**Shemya Is, Ala**	**18.82**	**56**	P		**Pn**	**19 57 04.8**	**-0.1**
	comp=Z,241nm,0.9s,baz=292,slow=5.4,SNR=4.7							
HIA	**Hailar**	**19.55**	**293**	P		**P**	**19 57 07.7**	**-3.4**
HIA	**Hailar**	**19.55**	**293**	P		**P**	**19 57 07.7**	**-3.4**
YAK	**Yakutsk**	**20.05**	**335**	P		**P**	**19 57 14.9**	**-1.5**
YAK	**Yakutsk**	**20.05**	**335**	*d* iP		**P**	**19 57 14.8**	**-1.6**
YAK				*e*S		**S**	**20 00 52.1**	**-3.3**
YAK				*e**SS		**sS**	**20 01 22.6**	**-7.0**
YAK				*e*			20 01 28.3	
YAK				*e*			20 08 32.5	
YAK				pmax	pmax			
	comp=Z,287nm,1.1s							
YAK				pmax	pmax			
	comp=N,165nm,1.2s							
YAK				pmax	pmax			
	comp=E,119nm,1.3s							
YAK				smax	smax			
	comp=E,1μm,3.2s							
YAK				smax	smax			
	comp=N,458nm,1.5s							
YAK	**Yakutsk**	**20.05**	**335**	P		**P**	**19 57 15.0**	**-1.3**
	comp=N,91nm,0.5s,baz=138,slow=4.0,SNR=70							
YAK				pP		**pwP**	**19 57 41.6**	**+1.3**
	comp=N,236nm,0.8s,baz=326,slow=8.9,SNR=6.3							
YAK				S		**S**	**20 00 49.6**	**-5.8**
	comp=N,29nm,0.9s,baz=73,slow=22,SNR=2.0							
YAK				ScP		**ScP**	**20 04 52.3**	**-0.9**
	comp=N,24nm,1.0s,baz=93,slow=6.0,SNR=6.0							
YAK				LR	LR		20 05 09.8	
	comp=N,1μm,21.7s,baz=135,slow=37							
DL2	**Dalian**	**20.40**	**262**	P		**P**	**19 57 18.8**	**-1.5**
DL2				S		**S**	**20 00 59.2**	**-3.5**
DL2				pmax	pmax			
	comp=N,320nm,1.0s							
DL2				pmax	pmax			
	comp=N,870nm,4.2s							
AMKA	**Amchitka**	**21.78**	**62**	P		**P**	**19 57 32.9**	**-2.1**
XLT	**XiLinHaoTe**	**22.65**	**278**	*e*P		**P**	**19 57 42.2**	**-1.9**
XLT				pP		pP	19 58 03.7	-0.8
XLT				PP		**PnPn**	**19 58 13.2**	**-0.9**
XLT				S		**S**	**20 01 40.0**	**-3.9**
XLT				SS		**SnSn**	**20 02 29.9**	**+4.2**
XLT				ScP		**ScP**	**20 05 01.3**	**+1.2**
XLT				pmax	pmax			
	comp=N,98nm,1.3s							
XLT				pmax	pmax			
	comp=N,1μm,7.7s							
XLT				LR	LR			
	comp=N,1μm,9.0s							
XLT				LR	LR			
	comp=N,1μm,9.7s							
JMZ	**Minamidaito 2**	**23.39**	**221**	P		**P**	**19 57 49.6**	**-1.6**
JMZ	**Minamidaito 2**	**23.39**	**221**	P		**P**	**19 57 52.2**	**+1.0**
CIT	**Chita**	**23.62**	**300**	*e*P		**P**	**19 57 49.1**	**-4.0**
CIT				*e*			19 58 27.1	
CIT				*e*			20 01 42.3	
CIT				*e*			20 01 55.4	
CIT				pmax	pmax			
	comp=Z,138nm,2.3s							
BJI	**Beijing**	**23.79**	**269**	P		**P**	**19 57 54.9**	**+0.2**
BJI				pP		**pwP**	**19 58 18.7**	**-1.5**
BJI				PP		**sP**	**19 58 31.2**	**+0.9**
BJI				S		**S**	**20 02 01.2**	**-0.9**
BJI				sS		**sS**	**20 02 41.0**	**-2.5**
BJI				pmax	pmax			
	comp=Z,92nm,1.9s							
BJI				pmax	pmax			
	comp=Z,1μm,5.8s							
BJT	**Baijiatuan**	**23.80**	**269**	P		**P**	**19 57 54.1**	**-0.7**
BJT	**Baijiatuan**	**23.80**	**269**	P		**P**	**19 57 56.3**	**+1.4**
BJT	**Baijiatuan**	**23.80**	**269**	P		**P**	**19 57 54.1**	**-0.7**
JOW	**Kunigami**	**24.00**	**227**	P		**P**	**19 57 53.7**	**-3.0**
JOW	**Kunigami**	**24.00**	**227**	P		**P**	**19 57 58.2**	**+1.5**
JOW	**Kunigami**	**24.00**	**227**	S		**S**	**20 02 01.9**	**-3.9**
	comp=Z,22nm,0.8s,baz=77,slow=13,SNR=1.0							
KIWB	**Kanaga Island**	**24.02**	**61**	P		**P**	**19 57 55.5**	**-1.1**
ADK	**Adak**	**24.31**	**61**	P		**P**	**19 57 59.5**	**+0.3**
ADK	**Adak**	**24.31**	**61**	P		**P**	**19 57 59.8**	**+0.6**
ADK	**Adak**	**24.31**	**61**	P		**P**	**19 57 59.6**	**+0.3**
BOD	**Bodaibo**	**24.40**	**314**	*e*P		**P**	**19 57 57.2**	**-2.8**
BOD				pmax	pmax			
	comp=Z,30nm,1.8s							
GSTR	**Great Sitkin T**	**24.70**	**60**	P		**P**	**19 58 01.2**	**-1.7**
BILL	**Bilibino**	**25.00**	**16**	P		**P**	**19 58 02.5**	**-2.8**
BILL	**Bilibino**	**25.00**	**16**	⇑*e*P		**P**	**19 58 03.9**	**-1.5**
BILL				pmax	pmax			
	comp=Z,68nm,1.2s							
ATKA	**Atka Island**	**25.85**	**60**	P		**P**	**19 58 13.2**	**0.0**
HNS	**HongShan**	**25.95**	**265**	⇓P		**P**	**19 58 15.2**	**+0.9**
HNS				pP		**pP**	**19 58 35.8**	**-2.0**
HNS				PcP		**PcP**	**20 01 41.5**	**+1.6**
HNS				S		**S**	**20 02 37.3**	**+0.9**
HNS				ScP		**ScP**	**20 05 10.4**	**+1.2**
HNS				ScS		**ScS**	**20 09 01.0**	**+2.1**
HNS				pmax	pmax			
	comp=Z,320nm,1.4s							
HNS				LR	LR			
	comp=Z,1μm,18.3s							
HNS				LR	LR			
	comp=Z,710nm,17.5s							
HNS				LR	LR			
	comp=Z,2μm,24.3s							
NJ2	**Nanjing**	**25.98**	**250**	⇓P		**P**	**19 58 15.4**	**+0.8**
NJ2				sP		**sP**	**19 58 51.9**	**+0.6**
NJ2				S		**S**	**20 02 39.2**	**+2.3**
NJ2				pmax	pmax			
	comp=Z,130nm,1.2s							
NJ2				pmax	pmax			
	comp=Z,2μm,3.6s							
NJ2				LR	LR			
	comp=Z,6μm,23.2s							
NJ2				LR	LR			
	comp=Z,3μm,18.9s							
NJ2				LR	LR			
	comp=Z,8μm,23.2s							
HHC	**Hu-ho-hao-te**	**26.76**	**274**	⇓*i*P		**P**	**19 58 23.0**	**+1.3**
HHC				pP		pP	19 58 46.3	+1.1
HHC				sP		sP	19 59 01.0	+3.2
HHC				S		**S**	**20 02 53.7**	**+4.3**
HHC				sS		sS	20 03 29.8	-2.0
HHC				pmax	pmax			
	comp=Z,170nm,1.3s							
HHC				pmax	pmax			
	comp=Z,1μm,4.0s							
TIY	**Taiyuan**	**27.41**	**267**	⇓P		**P**	**19 58 29.0**	**+1.5**
TIY				pP		**pP**	**19 58 50.9**	**-0.3**
TIY				S		**S**	**20 03 01.7**	**+2.0**
TIY				sS		**sS**	**20 03 47.0**	**+4.9**
TIY				pmax	pmax			
	comp=Z,64nm,1.3s							
TIY				LR	LR			
	comp=Z,930nm,13.3s							
TIY				LR	LR			
	comp=Z,640nm,14.7s							
TIY				LR	LR			
	comp=Z,800nm,15.2s							
BTO	**Baotou**	**27.94**	**274**	*e*P		**P**	**19 58 33.5**	**+1.3**
BTO				pP		**pP**	**19 58 54.7**	**-1.2**
BTO				sP		**sP**	**19 59 05.9**	**-2.5**
BTO				PP		**PnPn**	**19 59 29.2**	**+4.0**
BTO				S		**S**	**20 03 12.1**	**+4.1**
BTO				SS		**SnSn**	**20 04 39.7**	**+5.3**
BTO				pmax	pmax			
	comp=Z,180nm,1.4s							
BTO				pmax	pmax			
	comp=Z,3μm,3.9s							
BTO				LR	LR			
	comp=Z,2μm,7.0s							
BTO				LR	LR			
	comp=Z,2μm,9.3s							
BTO				LR	LR			
	comp=Z,2μm,10.1s							
ULN	**Ulaanbaatar**	**28.04**	**291**	P		**P**	**19 58 32.5**	**-0.6**
ULN	**Ulaanbaatar**	**28.04**	**291**	*d* iP		**P**	**19 58 32.3**	**-0.8**
ULN				pmax	pmax			
	comp=Z,51nm,1.7s							
TIXI	**Tiksi**	**28.23**	**347**	P		**P**	**19 58 31.4**	**-2.8**
TIXI	**Tiksi**	**28.23**	**347**	⇑*i*P		**P**	**19 58 31.3**	**-3.0**
TIXI				pmax	pmax			
	comp=Z,16nm,1.4s							
TIXI	**Tiksi**	**28.23**	**347**	LR	LR		20 09 24.8	
	comp=Z,631nm,20.4s,baz=156,slow=36							
SONM	**Songino Array**	**28.48**	**291**	P		**P**	**19 58 36.3**	**-0.7**
SONM	**Songino Array**	**28.48**	**291**	P		**P**	**19 58 36.5**	**-0.5**
	comp=Z,8.1nm,0.5s,baz=88,slow=8.7,SNR=73							
SONM				PcP		**PcP**	**20 01 47.0**	**+1.0**
	comp=Z,6.6nm,0.8s,baz=90,slow=2.9,SNR=3.0							
SONM				pPcP			20 02 16.6	
	comp=Z,6.9nm,0.9s,baz=103,slow=1.3,SNR=3.4							
SONM				ScP		**ScP**	**20 05 17.2**	**+0.3**
	comp=Z,7.4nm,0.9s,baz=117,slow=2.4,SNR=8.2							
SONM				LR	LR		20 11 21.3	
	comp=Z,2μm,18.2s,baz=52,slow=39							
	comp=Z,8.1nm,0.5s							
SPIA	**Saint Paul Isl**	**28.50**	**50**	P		**P**	**19 58 36.5**	**-0.4**
	baz=263							
YOJ	**Yonaguni jima**	**28.75**	**233**	P		**P**	**19 58 37.6**	**-1.8**
YOJ				IAmb	IAmb		19 58 39.4	
	comp=Z,152nm,1.2s							
YOJ	**Yonaguni jima**	**28.75**	**233**	P		**P**	**19 58 37.6**	**-1.8**
YOJ				pmax	pmax			
	comp=Z,152nm,1.2s							
P08K	**Saint George I**	**28.82**	**51**	P		**P**	**19 58 38.8**	**-0.8**
	baz=265							
LYN	**LuoYang**	**28.94**	**261**	⇓P		**P**	**19 58 42.0**	**+1.0**
LYN				pP		pP	19 59 06.4	+1.4
LYN				PcP		**PcP**	**20 01 48.5**	**+1.3**
LYN				S		**S**	**20 03 24.7**	**+1.2**
LYN				sS		sS	20 04 02.1	-3.9
LYN				SS		**SnSn**	**20 04 59.5**	**+1.0**
LYN				ScP		**ScP**	**20 05 19.6**	**+1.3**
LYN				PcS		**PcS**	**20 05 26.3**	**-3.7**
LYN				pmax	pmax			
	comp=Z,170nm,1.1s							
LYN				pmax	pmax			
	comp=Z,2μm,3.7s							
NIKH	**Nikolski High**	**29.10**	**58**	P		**P**	**19 58 41.1**	**-1.2**
	baz=272							
IRK	**Irkutsk**	**29.34**	**300**	*e*P		**P**	**19 58 42.8**	**-1.6**
IRK				pmax	pmax			
	comp=Z,99nm,1.6s							
GAMB	**Gambell**	**29.37**	**36**	P		**P**	**19 58 44.2**	**-0.3**
	baz=250							
YHNB	**Yeheng**	**29.53**	**235**	P		**P**	**19 58 47.8**	**+1.4**
H11N2	**WAKE ISLAND Hy**	**29.75**	**142**	T		T	20 29 35.1	
	baz=333,slow=75,SNR=517							
H11N1	**WAKE ISLAND Hy**	**29.76**	**142**	T		T	20 29 39.3	
	baz=333,slow=75,SNR=236							
H11N3	**WAKE ISLAND Hy**	**29.77**	**142**	T		T	20 29 36.3	
	baz=333,slow=75,SNR=96							
WHN	**Wuhan**	**29.93**	**253**	⇓*i*P		**P**	**19 58 50.4**	**+0.6**
WHN				S		**S**	**20 03 37.2**	**-2.0**
WHN				pmax	pmax			
	comp=Z,380nm,0.5s							
SSLB	**Suanglung**	**30.45**	**235**	P		**P**	**19 58 53.5**	**-1.0**
SSLB				PcP		**PcP**	**20 01 51.5**	**+0.3**
SSLB	**Suanglung**	**30.45**	**235**	P		**P**	**19 58 56.5**	**+2.0**
YULB	**Yu-li**	**30.56**	**234**	P		**P**	**19 58 56.2**	**+0.7**
YULB	**Yu-li**	**30.56**	**234**	P		**P**	**19 58 56.9**	**+1.5**
H11S1	**WAKE ISLAND Hy**	**30.75**	**143**	T		T	20 30 40.1	
	baz=333,slow=76,SNR=50							
H11S3	**WAKE ISLAND Hy**	**30.75**	**143**	T		T	20 31 00.8	
	baz=333,slow=76,SNR=1119							
H11S2	**WAKE ISLAND Hy**	**30.77**	**143**	T		T	20 31 01.7	
	baz=333,slow=76,SNR=298							
QZH	**Quanzhou**	**30.99**	**240**	⇓*i*P		**P**	**19 59 00.6**	**+1.4**
QZH				pP		**pP**	**19 59 26.0**	**+2.5**
QZH				sP		**sP**	**19 59 37.7**	**+1.6**
QZH				S		**S**	**20 03 58.6**	**+2.8**
QZH				pmax	pmax			
	comp=Z,140nm,1.7s							
QZH				pmax	pmax			
	comp=Z,610nm,3.5s							
TPUB	**Ta-pu**	**31.02**	**235**	P		**P**	**19 58 59.2**	**-0.3**
TPUB	**Ta-pu**	**31.02**	**235**	P		**P**	**19 59 00.8**	**+1.3**
M11K	**Mekoryuk**	**31.03**	**44**	P		**P**	**19 58 59.2**	**+0.1**
	baz=261							
TWGBT	**Beinan**	**31.13**	**234**	P		**P**	**19 59 01.2**	**+0.7**
TWG	**Pinlang**	**31.14**	**234**	P		**P**	**19 58 59.3**	**-1.1**
TWG				IAmb	IAmb		19 59 10.6	
	comp=Z,184nm,1.1s							
MOY	**Mondy**	**31.41**	**299**	*e*P		**P**	**19 59 01.6**	**-1.1**
MOY				pmax	pmax			
	comp=Z,46nm,2.3s							
TNA	**Tin City**	**31.50**	**34**	P		**P**	**19 59 04.1**	**+0.9**
	baz=251,SNR=50							
XAN	**Xi'an**	**31.70**	**263**	⇓P		**P**	**19 59 05.6**	**+0.2**
XAN				pP		pwP	19 59 32.5	+1.1
XAN				sP		sP	19 59 46.9	+5.1
XAN				S		**S**	**20 04 06.6**	**-0.3**
XAN				sS		sS	20 04 47.0	-2.5
XAN				pmax	pmax			
	comp=Z,240nm,1.3s							
XAN				pmax	pmax			
	comp=Z,560nm,4.3s							
XAN				LR	LR			
	comp=Z,4μm,23.4s							
XAN				LR	LR			
	comp=Z,6μm,19.9s							
XAN				LR	LR			
	comp=Z,9μm,23.4s							
XAN	**Xi'an**	**31.70**	**263**	P		**P**	**19 59 05.6**	**+0.2**
XAN				PcP		**PcP**	**20 01 55.5**	**+1.0**
F14K	**Arctic Creek**	**32.11**	**34**	P		**P**	**19 59 09.6**	**+1.0**
	baz=253,SNR=70							
FALS	**False Pass**	**32.24**	**55**	P		**P**	**19 59 09.1**	**-0.

ENH				PcP	**PcP**	**20 02 00.1 +0.8**		
L15K	**Ungalak Mounta**	**33.47**	**42**	P	**P**	**19 59 21.2 +0.7**		
	baz=264,SNR=12							
K15K	**Wolf Creek Mou**	**33.52**	**41**	P	**P**	**19 59 22.3 +1.3**		
	baz=263,SNR=12							
H16K	**Elim**	**33.59**	**37**	P	**P**	**19 59 22.2 +0.8**		
	baz=259,SNR=41							
G16K	**Koyuk River**	**33.70**	**35**		**ScP**	**20 05 35.0 +1.3**		
G16K	**Koyuk River**	**33.70**	**35**	P	**P**	**19 59 22.9 +0.5**		
	baz=258							
M15K	**Kasigluk River**	**33.77**	**44**	P	**P**	**19 59 24.2 +1.2**		
	baz=266,SNR=31							
SDPT	**Sand Point**	**33.90**	**53**	P	**P**	**19 59 22.0 -2.3**		
SDPT				PcP	**PcP**	**20 02 00.8 +0.7**		
SDPT	**Sand Point**	**33.90**	**53**	P	**P**	**19 59 23.5 -0.7**		
	baz=274							
D17K	**Noatak River**	**34.00**	**31**	P	**P**	**19 59 25.3 +0.3**		
	baz=253,SNR=156							
N15K	**Kwethluk River**	**34.04**	**45**	IAmb	IAmb	19 59 28.4		
	comp=Z,158nm,1.1s							
N15K				PcP	**PcP**	**20 02 02.7 +2.2**		
N15K	**Kwethluk River**	**34.04**	**45**	P	**P**	**19 59 26.6 +1.2**		
	baz=268,SNR=31							
J16K	**Anvik River**	**34.08**	**39**	P	**P**	**19 59 26.9 +1.2**		
	baz=262,SNR=11							
I17K	**Unalakleet**	**34.12**	**38**	P	**P**	**19 59 27.0 +0.9**		
	baz=261,SNR=7.1							
O15K	**Ungalikthiuk R**	**34.14**	**47**	P	**P**	**19 59 27.5 +1.2**		
	baz=269,SNR=46							
C17K	**DeLong Mountai**	**34.20**	**30**	P	**P**	**19 59 26.9 +0.2**		
	baz=252,SNR=124							
LZH	**Lanzhou**	**34.26**	**271**	⇓P	**P**	**19 59 29.1 +1.3**		
LZH				pP	pwP	19 59 53.5 -0.9		
LZH				sP	sP	20 00 07.5 +3.2		
LZH				PP	**PP**	**20 00 49.4 +2.0**		
LZH				S	**S**	**20 04 44.7 -2.1**		
LZH				ScP	**ScP**	**20 05 38.4 +1.9**		
LZH				pmax	pmax			
	comp=Z,250nm,1.5s							
LZH				pmax	pmax			
	comp=Z,540nm,5.2s							
LZH				LR	LR			
	comp=Z,1μm,13.4s							
LZH				LR	LR			
	comp=Z,1μm,11.7s							
LZH				LR	LR			
	comp=Z,1μm,14.4s							
S14K	**Fog Glacier**	**34.36**	**52**	P	**P**	**19 59 27.7 -0.6**		
	baz=274							
F17K	**Baldwin Pennin**	**34.37**	**34**	P	**P**	**19 59 29.1 +0.9**		
	baz=257,SNR=129							
G17K	**Kiwalik Mounta**	**34.42**	**35**	P	**P**	**19 59 29.7 +1.1**		
	baz=259,SNR=131							
L16K	**Owhat River**	**34.43**	**42**	P	**P**	**19 59 29.7 +0.9**		
	baz=266,SNR=28							
CHNA	**Chernabura Isl**	**34.45**	**54**	P	**P**	**19 59 28.6 -0.4**		
	baz=276							
H17K	**Granite Mounta**	**34.62**	**36**	IAmb	IAmb	19 59 32.8		
	comp=Z,76nm,1.1s							
H17K	**Granite Mounta**	**34.62**	**36**	P	**P**	**19 59 31.6 +1.2**		
	baz=261,SNR=31							
M16K	**Timber Creek**	**34.64**	**43**	IAmb	IAmb	19 59 32.8		
	comp=Z,67nm,0.8s							
M16K	**Timber Creek**	**34.64**	**43**	P	**P**	**19 59 31.4 +0.8**		
	baz=267							
N16K	**Nishlik Lake**	**34.71**	**44**	P	**P**	**19 59 32.5 +1.3**		
	baz=268							
E18K	**Tukpahlearik C**	**34.85**	**32**	ScP	**ScP**	**20 05 38.7 +0.9**		
E18K	**Tukpahlearik C**	**34.85**	**32**	P	**P**	**19 59 32.7 +0.4**		
	baz=256							
B18K	**Kokolik River**	**34.95**	**28**	P	**P**	**19 59 33.4 +0.3**		
	baz=252							
C18K	**Utukok River**	**34.95**	**30**	P	**P**	**19 59 33.0 -0.3**		
	baz=254							
CHGN	**Chignik**	**34.99**	**52**	P	**P**	**19 59 32.2 -1.4**		
CHGN				IAmb	IAmb	19 59 34.5		
	comp=Z,37nm,0.5s							
CHGN	**Chignik**	**34.99**	**52**	P	**P**	**19 59 32.4 -1.2**		
	baz=275,SNR=6.6							
L17K	**Donlin**	**35.02**	**41**	P	**P**	**19 59 34.8 +1.0**		
	baz=266							
F18K	**Selawik**	**35.03**	**33**	P	**P**	**19 59 34.6 +0.7**		
	baz=259,SNR=72							
O16K	**Kokwok River B**	**35.03**	**46**	P	**P**	**19 59 35.3 +1.3**		
O16K				IAmb	IAmb	19 59 36.1		
	comp=Z,59nm,0.9s							
O16K					**PcP**	**20 02 04.8 +1.5**		
O16K				ScP	**ScP**	**20 05 39.6 +1.0**		
O16K	**Kokwok River B**	**35.03**	**46**	P	**P**	**19 59 34.7 +0.8**		
	baz=270,SNR=26							
K17K	**Iditarod**	**35.06**	**40**	IAmb	IAmb	19 59 37.1		
	comp=Z,76nm,0.8s							
K17K	**Iditarod**	**35.06**	**40**	P	**P**	**19 59 35.3 +1.2**		
	baz=265,SNR=62							
P16K	**Nushagak River**	**35.09**	**47**	P	**P**	**19 59 35.8 +1.3**		
	baz=271,SNR=44							
G18K	**Tagagawik**	**35.30**	**35**	P	**P**	**19 59 37.0 +0.8**		
	baz=261,SNR=156							
H18K	**Honhosa River**	**35.30**	**36**	P	**P**	**19 59 37.1 +0.8**		
	baz=262							
R16K	**Pilot Point**	**35.36**	**49**	P	**P**	**19 59 37.0 +0.2**		
	baz=273,SNR=5.1							
M17K	**Holitna River**	**35.39**	**43**	P	**P**	**19 59 38.8 +1.7**		
	baz=268,SNR=51							
N17K	**Nushagak Hills**	**35.49**	**44**	IAmb	IAmb	19 59 40.4		
	comp=Z,49nm,0.8s							
N17K	**Nushagak Hills**	**35.49**	**44**	P	**P**	**19 59 38.9 +1.0**		
	baz=270,SNR=27							
O17K	**Koliganek Bris**	**35.54**	**46**	P	**P**	**19 59 39.9 +1.6**		
	baz=271,SNR=51							
GTA	**Gaotai**	**35.61**	**278**	⇓P	**P**	**19 59 40.4 +1.1**		
GTA				pP	pwP	20 00 05.4 -0.8		
GTA				PP	**PP**	**20 01 05.0 +2.8**		
GTA				PcP	**PcP**	**20 02 07.0 +1.4**		
GTA				S	**S**	**20 05 10.0 +2.7**		
GTA				ScP	**ScP**	**20 05 41.8 +0.5**		
GTA				pmax	pmax			
	comp=Z,110nm,1.6s							
GTA				pmax	pmax			
	comp=Z,890nm,11.2s							
GTA				LR	LR			
	comp=Z,770nm,16.3s							
GTA				LR	LR			
	comp=Z,1μm,15.1s							
GTA				LR	LR			
	comp=Z,870nm,17.9s							
C19K	**Lookout Ridge**	**35.63**	**29**	P	**P**	**19 59 39.5 +0.5**		
	baz=255,SNR=123							
HKC	**Hong Kong Inbse**	**35.66**	**242**	⇑P	**P**	**19 59 42.0 +2.2**		
HKPS	**Hong Kong Po S**	**35.70**	**242**	P	**P**	**19 59 42.3 +2.2**		
HKPS	**Hong Kong Po S**	**35.70**	**242**	P	**P**	**19 59 41.7 +1.6**		
SZP	**Santa**	**35.72**	**229**	P	**P**	**19 59 41.3 +1.1**		
L18K	**Granite Mounta**	**35.78**	**41**	IAmb	IAmb	19 59 43.0		
	comp=Z,54nm,0.8s							
L18K	**Granite Mounta**	**35.78**	**41**	P	**P**	**19 59 41.6 +1.3**		
	baz=268,SNR=33							
Q16K	**King Salmon**	**35.79**	**47**	P	**P**	**19 59 41.4 +0.9**		
	baz=273,SNR=13							
F19K	**Shaleruckik Mo**	**35.81**	**33**	IAmb	IAmb	19 59 41.9		
	comp=Z,95nm,0.8s							
F19K	**Shaleruckik Mo**	**35.81**	**33**	P	**P**	**19 59 40.4 -0.1**		
	baz=260							
J18K	**Innoko River**	**35.84**	**39**	P	**P**	**19 59 40.6 -0.2**		
J18K	**Innoko River**	**35.84**	**39**	P	**P**	**19 59 41.6 +0.8**		
	baz=266,SNR=48							
GCSA	**Galena City Sc**	**35.88**	**37**	P	**P**	**19 59 41.2 0.0**		
	baz=264,SNR=6.4							
P17K	**Kvichak River**	**35.88**	**46**	P	**P**	**19 59 42.3 +1.1**		
	baz=272,SNR=16							
G19K	**Purcell Mounta**	**35.97**	**35**	IAmb	IAmb	19 59 43.8		
	comp=Z,79nm,0.8s							
G19K				ScP	**ScP**	**20 05 42.9 +1.0**		
G19K	**Purcell Mounta**	**35.97**	**35**	P	**P**	**19 59 41.9 -0.1**		
	baz=262,SNR=103							
D19K	**Kuna River**	**36.01**	**30**	P	**P**	**19 59 42.2 -0.1**		
	baz=258							
GULI	**GuiLin**	**36.02**	**250**	⇓P	**P**	**19 59 42.8 0.0**		
GULI				S	**S**	**20 05 11.8 -1.7**		
GULI				pmax	pmax			
	comp=Z,130nm,1.7s							
GULI				LR	LR			
	comp=Z,4μm,20.6s							
GULI				LR	LR			
	comp=Z,2μm,18.4s							
GULI				LR	LR			
	comp=Z,4μm,18.4s							
TTA	**Tatalina**	**36.12**	**40**	P	**P**	**19 59 44.0 +0.6**		
TTA	**Tatalina**	**36.12**	**40**	P	**P**	**19 59 43.7 +0.3**		
	baz=267,SNR=48							
E19K	**Redstone River**	**36.13**	**32**	P	**P**	**19 59 43.7 +0.5**		
	baz=260							
N18K	**Kilae Creek**	**36.13**	**44**	P	**P**	**19 59 44.5 +1.1**		
	baz=270,SNR=46							
H19K	**Roundabout Mou**	**36.15**	**36**	P	**P**	**19 59 44.5 +1.0**		
	baz=263,SNR=236							
M18K	**Stony River**	**36.16**	**43**	P	**P**	**19 59 45.3 +1.6**		
	baz=269,SNR=37							
Q17K	**Contact Creek**	**36.22**	**48**	P	**P**	**19 59 44.7 +0.4**		
	baz=274,SNR=31							
SVW2	**Sparrevohn**	**36.28**	**43**	IAmb	IAmb	19 59 47.3		
	comp=Z,50nm,0.8s							
SVW2	**Sparrevohn**	**36.28**	**43**	P	**P**	**19 59 46.3 +1.6**		
J19K	**Poorman**	**36.36**	**38**	IAmb	IAmb	19 59 48.8		
	comp=Z,73nm,0.8s							
J19K	**Poorman**	**36.36**	**38**	P	**P**	**19 59 45.9 +0.6**		
	baz=266,SNR=81							
O18K	**Koktuh Hills**	**36.49**	**45**	IAmb	IAmb	19 59 52.0		
	comp=Z,75nm,0.9s							
O18K	**Koktuh Hills**	**36.49**	**45**	P	**P**	**19 59 47.9 +1.5**		
	baz=272,SNR=33							
P18K	**Big Mountain,**	**36.50**	**46**	P	**P**	**19 59 47.6 +1.1**		
	baz=273,SNR=68							
D20K	**Etivluk River**	**36.59**	**30**	P	**P**	**19 59 47.6 +0.4**		
	baz=259							
CHIR	**Chirikof Islan**	**36.60**	**52**	P	**P**	**19 59 47.4 0.0**		
	baz=277							
L19K	**White Mountain**	**36.63**	**41**	P	**P**	**19 59 48.6 +0.9**		
	baz=269,SNR=12							
F20K	**Avaraart Lake**	**36.64**	**33**	P	**P**	**19 59 48.0 +0.5**		
	baz=262,SNR=56							
E20K	**Nigu River**	**36.66**	**31**	P	**P**	**19 59 48.1 +0.3**		
	baz=260							
B20K	**Meade River**	**36.68**	**28**	P	**P**	**19 59 47.8 -0.1**		
	baz=257,SNR=273							
H20K	**Anotleneega Mo**	**36.80**	**36**	P	**P**	**19 59 49.5 +0.5**		
	baz=265							
N19K	**Bonanza Creek**	**36.82**	**44**	IAmb	IAmb	20 00 20.4		
	comp=Z,81nm,1.1s							
N19K	**Bonanza Creek**	**36.82**	**44**	P	**P**	**19 59 50.0 +0.6**		
	baz=272,SNR=24							
I20K	**Naaghedeneel**	**36.91**	**37**	IAmb	IAmb	20 00 34.5		
	comp=Z,138nm,1.2s							
I20K	**Naaghedeneel**	**36.91**	**37**	P	**P**	**19 59 51.0 +1.1**		
	baz=266,SNR=14							
O19K	**Port Alsworth**	**36.92**	**45**	P	**P**	**19 59 51.2 +1.1**		
	baz=272,SNR=17							
J20K	**Nowinta River**	**37.02**	**38**	IAmb	IAmb	19 59 54.2		
	comp=Z,83nm,0.8s							
J20K	**Nowinta River**	**37.02**	**38**	P	**P**	**19 59 52.0 +1.2**		
	baz=267,SNR=86							
K20K	**Telida**	**37.02**	**39**	P	**P**	**19 59 52.0 +1.1**		
	baz=268							
CD2	**Chengdu**	**37.06**	**263**	P	**P**	**19 59 52.3 +0.6**		
CD2				S	**S**	**20 05 27.2 -2.2**		
CD2				pmax	pmax			
	comp=Z,460nm,0.5s							
CD2				LR	LR			
	comp=Z,2μm,16.8s							
CD2				LR	LR			
	comp=Z,2μm,14.5s							
CD2				LR	LR			
	comp=Z,1μm,8.8s							
L20K	**Farewell, AK**	**37.09**	**41**	P	**P**	**19 59 52.3 +0.8**		
	baz=270,SNR=32							
A21K	**Barrow**	**37.18**	**26**	P	**P**	**19 59 51.4 -0.7**		
	baz=255,SNR=15							
SII	**Sitkinak Islan**	**37.30**	**51**	P	**P**	**19 59 54.5 +1.2**		
SII	**Sitkinak Islan**	**37.30**	**51**	P	**P**	**19 59 53.6 +0.2**		
	baz=277							
IMAR	**Indian Mountai**	**37.30**	**35**	P	**P**	**19 59 53.5 +0.3**		
C21K	**Knifeblade Rid**	**37.32**	**30**	P	**P**	**19 59 54.0 +0.6**		
	baz=260,SNR=166							
M20K	**Styx River**	**37.45**	**42**	IAmb	IAmb	19 59 58.5		
	comp=Z,41nm,0.7s							
M20K	**Styx River**	**37.45**	**42**	P	**P**	**19 59 55.5 +0.9**		
	baz=271,SNR=38							
G21K	**Allakaket**	**37.45**	**34**	PcP	**PcP**	**20 02 10.3 -0.2**		
G21K				ScP	**ScP**	**20 05 48.8 +1.3**		
G21K	**Allakaket**	**37.45**	**34**	P	**P**	**19 59 55.5 +1.0**		
	baz=265							
B21K	**Ikpikpuk River**	**37.46**	**29**	P	**P**	**19 59 55.1 +0.6**		
	baz=260							
E21K	**Killik River**	**37.50**	**31**	P	**P**	**19 59 54.7 -0.2**		
	baz=262							
ILSW	**Iliamna Southw**	**37.52**	**45**	IAmb	IAmb	19 59 57.9		
	comp=Z,203nm,1.9s							
F21K	**Alatna River**	**37.53**	**33**	IAmb	IAmb	19 59 57.2		
	comp=Z,70nm,0.9s							
F21K	**Alatna River**	**37.53**	**33**	P	**P**	**19 59 55.5 +0.4**		
	baz=264,SNR=93							
H21K	**Melozitna Rive**	**37.67**	**36**	IAmb	IAmb	19 59 58.4		
	comp=Z,90nm,0.8s							
H21K	**Melozitna Rive**	**37.67**	**36**	P	**P**	**19 59 57.3 +1.0**		
	baz=267							
OHAK	**Old Harbor**	**37.70**	**50**	IAmb	IAmb	19 59 57.7		
	comp=Z,101nm,0.9s							
OHAK	**Old Harbor**	**37.70**	**50**	P	**P**	**19 59 57.1 +0.4**		
OHAK	**Old Harbor**	**37.70**	**50**	P	**P**	**19 59 56.2 -0.5**		
	baz=277,SNR=16							
GYA	**Guiyang**	**37.75**	**255**	⇓*i*P	**P**	**19 59 57.8 +0.2**		
GYA				pP	pP	20 00 22.7 +0.5		
GYA				PP	**PnPn**	**20 01 27.7 -0.5**		
GYA				PcP	**PcP**	**20 02 13.8 +1.5**		
GYA				pmax	pmax			
	comp=Z,220nm,1.1s							
O20K	**Slope Mountain**	**37.77**	**45**	P	**P**	**19 59 57.8 +0.5**		
	baz=274,SNR=12							
CHUM	**Lake Minchumin**	**37.81**	**39**	P	**P**	**19 59 58.6 +1.0**		
	baz=269,SNR=64							
PPLA	**Purkeypile**	**37.87**	**40**	P	**P**	**19 59 59.6 +1.3**		
	baz=271,SNR=36							
N20K	**Mount Spurr**	**37.91**	**43**	P	**P**	**20 00 00.1 +1.5**		
	baz=273,SNR=34							
CAST	**Castle Rocks**	**37.91**	**39**	P	**P**	**19 59 59.9 +1.5**		
	baz=270,SNR=148							
I21K	**Tanana**	**37.99**	**36**	IAmb	IAmb	20 00 01.4		
	comp=Z,62nm,1.0s							
I21K	**Tanana**	**37.99**	**36**	P	**P**	**20 00 00.3 +1.3**		
	baz=268,SNR=36							
KDAK	**Kodiak Island**	**38.01**	**49**	P	**P**	**19 59 59.6 +0.3**		
KDAK				PcP	**PcP**	**20 02 13.8 +1.5**		
KDAK	**Kodiak Island**	**38.01**	**49**	*i*P	**P**	**19 59 59.4 +0.1**		
KDAK				pmax	pmax			
	comp=Z,411nm,0.9s							
KDAK	**Kodiak Island**	**38.01**	**49**	P	**P**	**19 59 59.2 -0.1**		
	baz=277							
KDAK	**Kodiak Island**	**38.01**	**49**	P	**P**	**19 59 59.3 0.0**		
KDAK				pP	**pP**	**20 00 24.6 +0.3**		
KDAK				sP	**sP**	**20 00 37.1 +0.2**		
KDAK				PcP	**PcP**	**20 02 13.6 +1.3**		
D22K	**Ayikyak River**	**38.03**	**30**	IAmb	IAmb	20 00 00.9		
	comp=Z,97nm,0.8s							
D22K	**Ayikyak River**	**38.03**	**30**	P	**P**	**19 59 59.9 +0.6**		
	baz=263,SNR=118							
SKT	**Skwentna**	**38.20**	**42**	P	**P**	**20 00 01.8 +1.0**		
	baz=272,SNR=13							
E22K	**Anaktuvuk Pass**	**38.26**	**32**	IAmb	IAmb	20 00 03.0		
	comp=Z,120nm,0.8s							
E22K	**Anaktuvuk Pass**	**38.26**	**32**	P	**P**	**20 00 01.9 +0.6**		
	baz=264,SNR=154							
H22K	**Ishtalitna Cre**	**38.27**	**35**	P	**P**	**20 00 02.6 +1.2**		
	baz=268,SNR=108							
BPAW	**Bear Paw Mtn.**	**38.40**	**38**	IAmb	IAmb	20 00 05.8		
	comp=Z,57nm,0.8s							
BPAW	**Bear Paw Mtn.**	**38.40**	**38**	P	**P**	**20 00 03.6 +1.1**		
	baz=270,SNR=53							
CAPN	**Captain Cook N**	**38.45**	**44**	P	**P**	**20 00 04.0 +1.1**		
	baz=274							
MLY	**Manley**	**38.51**	**37**	P	**P**	**20 00 04.7 +1.2**		
	baz=269,SNR=32							
CNPM	**China Poot**	**38.52**	**46**	P	**P**	**20 00 03.5 -0.1**		
CNPM				IAmb	IAmb	20 00 08.9		
	comp=Z,59nm,0.8s							
SUA	**Susitna One**	**38.60**	**43**	P	**P**	**20 00 04.1 -0.2**		
	baz=274,SNR=32							
BRLK	**Bradley Lake**	**38.67**	**45**	IAmb	IAmb	20 00 08.1		
	comp=Z,53nm,0.6s							
TRF	**Thorofare Moun**	**38.72**	**39**	P	**P**	**20 00 05.3 -0.1**		
	baz=272,SNR=32							
BRSE	**Bradley Lake S**	**38.75**	**45**	P	**P**	**20 00 06.0 +0.5**		
	baz=276,SNR=13							
D23K	**Nanushuk River**	**38.76**	**30**	P	**P**	**20 00 05.5 +0.1**		
	baz=264							
CUT	**Chulitna**	**38.77**	**41**	IAmb	IAmb	20 00 35.2		
	comp=Z,119nm,1.1s							
CUT	**Chulitna**	**38.77**	**41**	P	**P**	**20 00 05.7 +0.1**		
	baz=273,SNR=7.3							
COLD	**Coldfoot**	**38.80**	**33**	P	**P**	**20 00 06.4 +0.6**		
	baz=267,SNR=74							
G23K	**Bananza Creek**	**38.85**	**34**	IAmb	IAmb	20 00 08.4		
	comp=Z,93nm,0.8s							
G23K				PcP	**PcP**	**20 02 16.5 +1.5**		
G23K					**S**	**20 05 54.3 -1.3**		
G23K	**Bananza Creek**	**38.85**	**34**	P	**P**	**20 00 06.3 0.0**		
	baz=268							
C23K	**Itkillik River**	**38.87**	**29**	PcP	**PcP**	**20 02 17.4 +2.5**		
C23K				ScP	**ScP**	**20 05 53.8 +1.0**		
C23K	**Itkillik River**	**38.87**	**29**	P	**P**	**20 00 06.6 +0.3**		
	baz=263,SNR=172							
FIS	**Fire Island**	**38.88**	**43**	PcP	**PcP**	**20 02 17.0 +2.0**		
E23K	**Chandalar**	**39.08**	**32**	P	**P**	**20 00 08.9 +0.8**		
	baz=267,SNR=106							
I23K	**Minto, Yukon-K**	**39.10**	**37**	P	**P**	**20 00 09.2 +1.0**		
I23K				IAmb	IAmb	20 00 10.6		
	comp=Z,138nm,1.4s							
I23K				PcP	**PcP**	**20 02 16.8 +1.2**		
I23K				ScP	**ScP**	**20 05 54.5 +0.7**		
I23K	**Minto, Yukon-K**	**39.10**	**37**	P	**P**	**20 00 09.5 +1.2**		
	baz=270,SNR=35							
RC01	**Rabbit Creek A**	**39.12**	**43**	IAmb	IAmb	20 00 10.4		
	comp=Z,79nm,0.7s							
RC01				PcP	**PcP**	**20 02 17.0 +1.2**		
RC01				ScP	**ScP**	**20 05 53.6 -0.3**		
RC01	**Rabbit Creek A**	**39.12**	**43**	P	**P**	**20 00 08.4 -0.1**		
	baz=275,SNR=29							
O22K	**Cooper Landing**	**39.18**	**44**	P	**P**	**20 00 08.9 -0.1**		
	baz=276,SNR=26							
NEA2	**Nenana**	**39.23**	**37**	IAmb	IAmb	20 00 12.1		
	comp=Z,65nm,0.7s							
NEA2	**Nenana**	**39.23**	**37**	P	**P**	**20 00 10.3 +1.0**		
	baz=271,SNR=90							
MCK	**McKinley**	**39.32**	**39**	P	**P**	**20 00 10.7 +0.6**		
	baz=273,SNR=50							
SEW	**Seward**	**39.35**	**45**	P	**P**	**20 00 10.7 +0.2**		
	baz=277,SNR=9.9							
PMR	**Palmer**	**39.36**	**42**	P	**P**	**20 00 11.1 +0.6**		
PMR	**Palmer**	**39.36**	**42**	P	**P**	**20 00 09.8 -0.7**		
	baz=275,SNR=15							
RND	**Reindeer**	**39.37**	**39**	IAmb	IAmb	20 00 13.0		
	comp=Z,77nm,0.8s							
RND	**Reindeer**	**39.37**	**39**	P	**P**	**20 00 10.6 0.0**		
D24K	**Happy Valley**	**39.44**	**30**	P	**P**	**20 00 11.4 +0.4**		
	baz=266,SNR=261							
GHO	**Glory Hole Cre**	**39.45**	**42**	IAmb	IAmb	20 00 13.0		
	comp=Z,71nm,0.9s							
C24K	**Franklin Bluff**	**39.52**	**29**	P	**P**	**20 00 11.5 -0.2**		
	baz=265							
WAT1	**Susitna Watana**	**39.54**	**40**	P	**P**	**20 00 12.2 +0.1**		
	baz=274							
KNK	**Knik Glacier**	**39.70**	**42**	IAmb	IAmb	20 00 15.7		
	comp=Z,89nm,0.8s							
KNK	**Knik Glacier**	**39.70**	**42**	P	**P**	**20 00 13.4 +0.1**		
	baz=276,SNR=34							
H24K	**Noodor Dome**	**39.71**	**35**	IAmb	IAmb	20 00 16.0		
	comp=Z,111nm,0.9s							
H24K				PcP	**PcP**	**20 02 19.6 +2.0**		
H24K				ScP	**ScP**	**20 05 57.4 +1.3**		
H24K	**Noodor Dome**	**39.71**	**35**	P	**P**	**20 00 14.2 +0.9**		
	baz=271,SNR=92							
F24K	**Squaw Lake**	**39.71**	**33**	P	**P**	**20 00 13.9 +0.6**		
	baz=269,SNR=63							
SML	**Sawmill**	**39.72**	**42**	P	**P**	**20 00 14.3 +0.7**		
	baz=275,SNR=88							
COLA	**College**	**39.74**	**37**	P	**P**	**20 00 14.5 +1.0**		
COLA				IAmb	IAmb	20 00 43.0		
	comp=Z,132nm,0.9s							
COLA	**College**	**39.74**	**37**	P	**P**	**20 00 14.6 +1.0**		
COLA	**College**	**39.74**	**37**	*d i*P	**P**	**20 00 14.5 +1.0**		
COLA				pmax	pmax			
	comp=Z,103nm,0.9s							
COLA	**College**	**39.74**	**37**	P	**P**	**20 00 14.6 +1.0**		
COLA				pP	**pP**	**20 00 40.7 +2.2**		
COLA				PcP	**PcP**	**20 02 19.2 +1.5**		
G24K	**Hadweenzic Riv**	**39.86**	**34**	IAmb	IAmb	20 00 17.1		
	comp=Z,123nm,0.8s							
G24K	**Hadweenzic Riv**	**39.86**	**34**	P	**P**	**20 00 16.0 +1.4**		
	baz=270,SNR=130							
POKR	**Poker Plat Res**	**39.91**	**37**	IAmb	IAmb	20 00 45.2		
	comp=Z,121nm,0.8s							
POKR	**Poker Plat Res**	**39.91**	**37**	P	**P**	**20 00 16.4 +1.4**		
	baz=272,SNR=41							
WAT6	**Susitna Watana**	**39.93**	**41**	P	**P**	**20 00 15.3 -0.1**		
	baz=275,SNR=18							
M23K	**Glacier View**	**40.01**	**42**	P	**P**	**20 00 16.2 +0.3**		
	baz=276,SNR=18							
DHY	**Denali Highway**	**40.06**	**40**	P	**P**	**20 00 16.8 +0.4**		
	baz=275,SNR=44							
HDA	**Harding Lake**	**40.15**	**38**	IAmb	IAmb	20 00 19.4		
	comp=Z,64nm,0.6s							
HDA	**Harding Lake**	**40.15**	**38**	P	**P**	**20 00 17.2 +0.2**		
	baz=274,SNR=53							
ILAR	**Eielson Array**	**40.16**	**37**	P	**P**	**20 00 16.6 -0.5**		
ILAR				pP	**pP**	**20 00 43.7 +1.6**		
ILAR	**Eielson Array**	**40.16**	**37**	P	**P**	**20 00 16.6 -0.5**		
ILAR				*PP	**pP**	**20 00 43.7 +1.6**		
ILAR	**Eielson Array**	**40.16**	**37**	P	**P**	**20 00 16.5 -0.5**		
	comp=Z,15nm,0.6s,baz=251,slow=7.8,SNR=134							
ILAR				pP	**pP**	**20 00 42.4 +0.4**		
	comp=Z,38nm,1.0s,baz=260,slow=6.9,SNR=8.3							
ILAR				PcP	**PcP**	**20 02 18.7 -0.4**		
	comp=Z,16nm,1.0s,baz=281,slow=3.2,SNR=6.2							
ILAR				ScP	**ScP**	**20 05 56.5 -1.3**		
	comp=Z,5.0nm,1.0s,baz=292,slow=4.5,SNR=7.8							
ILAR				S	**S**	**20 06 08.2 -7.0**		
	comp=Z,0.3nm,0.5s,ba

baz=277,SNR=23
K24K **Donnelly Dome** 40.71 39 P P 20 00 21.8 +0.1
baz=275,SNR=46
HIN **Hinchinbrook I** 40.78 44 IAmb IAmb 20 00 24.1
comp=Z,79nm,0.9s
QIZ **Qiongzhong** 40.80 243 P P 20 00 23.9 +1.0
QIZ sP **sP** 20 01 00.0 -0.4
QIZ S **S** 20 06 30.3 +4.7
QIZ sS **sS** 20 07 08.3 -1.0
QIZ pmax pmax
comp=Z,61nm,1.4s
QIZ **Qiongzhong** 40.80 243 IAmb IAmb 20 00 26.2
comp=Z,130nm,1.4s
QIZ **Qiongzhong** 40.80 243 P P 20 00 24.3 +1.4
J25K **Salcha River,** 40.82 37 P P 20 00 22.2 -0.4
baz=275,SNR=32
C26K **Camden Bay** 40.85 29 P P 20 00 23.3 +0.7
baz=269,SNR=83
KLU **Klutina** 40.90 42 IAmb IAmb 20 00 25.9
comp=Z,123nm,1.0s
KLU **Klutina** 40.90 42 P P 20 00 24.5 +1.2
baz=278,SNR=54
PAX **Paxson** 40.93 40 P P 20 00 24.3 +0.7
baz=276,SNR=21
BMAR **Burnt Mountain** 40.98 33 P P 20 00 24.9 +1.0
PZH **PanZhiHua** 41.12 259 P P 20 00 25.9 +0.3
PZH PP **PP** 20 02 05.6 +3.1
PZH ScP **ScP** 20 06 03.1 +0.6
PZH S **S** 20 06 28.8 -1.7
PZH SS **SS** 20 09 33.4 -3.7
PZH ScS **ScS** 20 10 17.6 -1.0
PZH pmax pmax
comp=Z,170nm,1.3s
PZH pmax pmax
comp=Z,990nm,4.1s
EYAK **Cordova Ski Ar** 41.12 44 P P 20 00 26.5 +1.5
EYAK **Cordova Ski Ar** 41.12 44 P P 20 00 26.0 +1.0
baz=279,SNR=6.0
RIDG **Independent Ri** 41.13 39 IAmb IAmb 20 00 54.9
comp=Z,78nm,0.9s
RIDG **Independent Ri** 41.13 39 P P 20 00 24.9 -0.2
baz=276
F26K **Sheenjek River** 41.14 33 P P 20 00 26.4 +1.3
baz=272
HARP **HAARP** 41.14 41 P P 20 00 24.7 -0.5
baz=277,SNR=27
KMI **Kunming** 41.30 257 ⇓P P 20 00 28.1 +0.9
KMI pP pP 20 00 48.6 -3.4
KMI S **S** 20 06 32.8 -0.6
KMI sS sS 20 07 14.1 -3.0
KMI SS **SS** 20 09 40.6 -0.4
KMI pmax pmax
comp=Z,220nm,1.2s
KMI pmax pmax
comp=Z,2μm,3.5s
KMI LR LR
comp=Z,1μm,16.6s
KMI LR LR
comp=Z,2μm,16.0s
KMI LR LR
comp=Z,1μm,26.0s
KMI **Kunming** 41.30 257 P P 20 00 28.1 +0.9
KMI pP **pP** 20 00 54.3 +2.3
G26K **Porcupine Rive** 41.31 34 P P 20 00 27.7 +1.2
baz=273
SCRK **Sand Creek** 41.48 38 P P 20 00 27.6 -0.5
SCRK IAmb IAmb 20 00 30.3
comp=Z,71nm,0.9s
SCRK **Sand Creek** 41.48 38 P P 20 00 28.2 +0.1
baz=276,SNR=91
N25K **Chitina, Valde** 41.51 42 P P 20 00 29.1 +0.8
baz=279,SNR=14
J26L **Joseph Creek** 41.61 37 P P 20 00 29.2 +0.2
baz=276,SNR=37
BMRM **Bremner River** 41.61 43 P P 20 00 29.5 +0.4
baz=279,SNR=40
RAGM **Ragged Mountai** 41.67 44 IAmb IAmb 20 00 32.8
comp=Z,159nm,1.3s
MENT **Mentasta** 41.73 40 P P 20 00 31.3 +1.3
KAIM **Kayak Island** 41.88 44 P P 20 00 32.0 +0.8
KAIM IAmb IAmb 20 00 34.6
comp=Z,165nm,1.0s
KAIM **Kayak Island** 41.88 44 P P 20 00 31.2 0.0
baz=281,SNR=5.5
GLB **Gilahina Butte** 41.91 42 IAmb IAmb 20 01 01.5
comp=Z,204nm,2.0s
VRDI **Verde Repeater** 42.12 42 IAmb IAmb 20 00 35.7
comp=Z,67nm,0.8s
WMQ **Urumqi** 42.12 291 ⇓P P 20 00 34.0 +0.5
WMQ sP sP 20 01 12.4 +2.5
WMQ ScP **ScP** 20 06 06.9 +0.8
WMQ pmax pmax
comp=Z,20nm,1.3s
WMQ pmax pmax
comp=Z,860nm,4.3s
WMQ LR LR
comp=Z,1μm,15.7s
WMQ LR LR
comp=Z,1μm,17.7s
WMQ LR LR
comp=Z,860nm,20.1s
M26K **Nabesna, AK** 42.14 40 IAmb IAmb 20 00 36.3
comp=Z,146nm,0.8s
M26K **Nabesna, AK** 42.14 40 P P 20 00 35.0 +1.6
baz=279,SNR=102
BERG **Berg Lake** 42.15 43 IAmb IAmb 20 00 36.9
comp=Z,131nm,1.2s
D27M **Malcolm River** 42.24 30 P P 20 00 34.8 +0.6
baz=273,SNR=69
H27K **Steamboat Moun** 42.27 35 P P 20 00 35.8 +1.4
baz=276,SNR=77
MCARA **McCarthy VSAT** 42.30 42 IAmb IAmb 20 00 39.2
comp=Z,111nm,1.1s
MCARA **McCarthy VSAT** 42.30 42 P P 20 00 35.7 +1.1
baz=280,SNR=30
I27K **Kandik River** 42.31 36 P P 20 00 36.0 +1.3
baz=277,SNR=30
K27K **Chicken** 42.31 38 IAmb IAmb 20 00 38.0
comp=Z,158nm,1.0s
K27K **Chicken** 42.31 38 P P 20 00 35.9 +1.2
baz=278
CRQE **Cirque** 42.38 43 P P 20 00 36.6 +1.2
baz=281,SNR=58
BGLC **Bering Glacier** 42.40 44 P P 20 00 36.7 +1.3
baz=281
TGL **Tana Glacier** 42.50 43 IAmb IAmb 20 00 38.9
comp=Z,143nm,1.2s
TGL PcP **PcP** 20 02 29.2 +2.3
TGL ScP **ScP** 20 06 08.8 +1.4
L27K **Beaver Creek,** 42.57 39 IAmb IAmb 20 00 40.9
comp=Z,112nm,0.8s
L27K **Beaver Creek,** 42.57 39 P P 20 00 38.2 +1.4
baz=279,SNR=168
BCAR **Beaver Creek A** 42.59 39 pP pP 20 01 04.8 +2.7
ZSN **Zaisan** 42.59 297 *e*P P 20 00 36.7 -0.4
ZSN pmax pmax
comp=Z,164nm,2.0s
ZSN **Zaisan** 42.59 297 *e*P P 20 00 36.8 -0.4
comp=Z,164nm,2.0s,baz=297
EGAK **Eagle** 42.60 37 IAmb IAmb 20 00 39.4
comp=Z,84nm,1.0s
EGAK **Eagle** 42.60 37 P P 20 00 37.4 +0.4
baz=278,SNR=61
M27K **Edge Creek, AK** 42.66 40 IAmb IAmb 20 00 40.5
comp=Z,115nm,0.8s
M27K **Edge Creek, AK** 42.66 40 P P 20 00 39.1 +1.4
baz=280,SNR=68
ISLE **Juniper Island** 42.77 43 IAmb IAmb 20 00 40.9
comp=Z,100nm,0.8s
F28M **Old Crow** 42.78 32 IAmb IAmb 20 00 40.9
comp=Z,78nm,0.9s
F28M **Old Crow** 42.78 32 P P 20 00 39.7 +1.3
baz=276,SNR=84
E28M **Babbage River** 42.81 31 P P 20 00 39.2 +0.6
baz=275,SNR=97
BARN **Barnard Glacie** 43.01 42 IAmb IAmb 20 00 43.2
comp=Z,106nm,0.8s
I28M **Miner Creek** 43.02 36 IAmb IAmb 20 00 43.9
comp=Z,118nm,0.8s
I28M **Miner Creek** 43.02 36 P P 20 00 41.8 +1.3
baz=278,SNR=134
D28M **Stokes Point** 43.03 30 P P 20 00 40.5 +0.1
baz=275,SNR=40
SLVN **Son La** 43.04 252 IAmb IAmb 20 00 43.8
comp=Z,164nm,1.1s
MESA **MESA** 43.05 44 IAmb IAmb 20 00 43.6
comp=Z,118nm,0.8s
MESA **MESA** 43.05 44 P P 20 00 42.0 +1.1
baz=282,SNR=8.9
BVCY **Beaver Creek** 43.12 40 P P 20 00 42.9 +1.6
baz=281,SNR=52
CTG **Chitna Glacier** 43.18 42 P P 20 00 43.3 +1.4
baz=282,SNR=47
CTGM **Chitina Glacie** 43.18 42 IAmb IAmb 20 00 44.9
comp=Z,202nm,1.1s
TABL **Table Mountain** 43.38 43 IAmb IAmb 20 00 45.8
comp=Z,90nm,0.8s
YUK3 **Moose Creek** 43.43 41 P P 20 00 44.8 +0.8
baz=282,SNR=43
E29M **Blow River** 43.43 31 IAmb IAmb 20 00 46.0
comp=Z,112nm,1.0s
E29M **Blow River** 43.43 31 P P 20 00 44.4 +0.8
baz=277,SNR=127
DAWY **Dawson** 43.47 38 P P 20 00 44.5 +0.4
DAWY **Dawson** 43.47 38 P P 20 00 44.4 +0.3
baz=280,SNR=27
H29M **Whitestone** 43.54 34 IAmb IAmb 20 00 47.2
comp=Z,95nm,0.8s
H29M **Whitestone** 43.54 34 P P 20 00 45.4 +0.8
baz=279,SNR=77
YUK8 **Steele Glacier** 43.86 42 P P 20 00 48.4 +1.0
baz=283,SNR=18
PINM **Pinnacle** 43.89 43 P P 20 00 47.9 +0.3
baz=284,SNR=12
J29N **Klondike Camp** 43.91 37 IAmb IAmb 20 01 17.9
comp=Z,34nm,1.2s
J29N **Klondike Camp** 43.91 37 P P 20 00 48.2 +0.6
baz=281
EPYK **Eagle Plains** 44.18 34 P P 20 00 51.0 +1.3
baz=280,SNR=172
M29M **Somme Creek** 44.20 40 ScP **ScP** 20 06 15.6 +1.3
M29M **Somme Creek** 44.20 40 P P 20 00 51.7 +1.6
baz=283,SNR=34
L29M **L29M** 44.21 39 IAmb IAmb 20 00 53.3
comp=Z,95nm,0.9s
L29M **L29M** 44.21 39 P P 20 00 51.6 +1.6
baz=282,SNR=77
G30M **tAoh Zrail Nji** 44.27 33 IAmb IAmb 20 00 52.5
comp=Z,124nm,0.8s
G30M **tAoh Zrail Nji** 44.27 33 P P 20 00 51.4 +1.0
baz=280,SNR=67
K29M **Barlow Dome** 44.33 38 P P 20 00 52.4 +1.4
baz=282,SNR=60
F30M **Barrier River** 44.33 32 P P 20 00 52.5 +1.7
baz=280,SNR=173
YUK4 **Talbot Arm** 44.37 41 P P 20 00 52.7 +1.2
baz=284,SNR=27
SEM **Semipalatinsk** 44.39 302 *e*P P 20 00 51.2 -0.6
SEM **Semipalatinsk** 44.39 302 *e*P P 20 00 51.3 -0.6
baz=302
PNL **Peninsula** 44.41 44 P P 20 00 53.1 +1.5
PNL **Peninsula** 44.41 44 P P 20 00 52.0 +0.3
baz=285
MK31 **Makanchi Array** 44.46 297 *i* P P 20 00 50.7 -1.5
MK31 pmax pmax
comp=Z,43nm,1.0s
MKAR **Makanchi Array** 44.46 297 *ce*P P 20 00 51.2 -1.0
MKAR pmax pmax
comp=Z,9.0nm,0.6s
MKAR **Makanchi Array** 44.46 297 P P 20 00 50.7 -1.5
comp=Z,4.4nm,0.5s,baz=76,slow=8.0,SNR=107
MKAR PcP **PcP** 20 02 34.1 +0.3
comp=Z,17nm,0.8s,baz=73,slow=5.3,SNR=4.4
MKAR pPcP 20 03 03.9
comp=Z,9.3nm,0.8s,baz=66,slow=3.0,SNR=3.5
MKAR ScP **ScP** 20 06 15.9 +0.3
comp=Z,4.7nm,0.8s,baz=69,slow=4.4,SNR=6.1
MKAR LR LR 20 20 57.8
comp=Z,1μm,18.1s,baz=72,slow=38
comp=Z,4.4nm,0.5s
I30M **Mount Dempster** 44.53 36 IAmb IAmb 20 00 54.9
comp=Z,154nm,0.8s
I30M **Mount Dempster** 44.53 36 P P 20 00 53.9 +1.2
baz=282,SNR=206
YUK6 **Outpost Mounta** 44.60 42 P P 20 00 54.8 +1.4
baz=284,SNR=12
O29M **Mount Kennedy** 44.66 43 P P 20 00 55.1 +1.4
baz=285,SNR=11
MAKZ **Makanchi** 44.66 297 P P 20 00 52.9 -0.9
MAKZ **Makanchi** 44.66 297 ⇓P P 20 00 53.1 -0.7
MAKZ **Makanchi** 44.66 297 P P 20 00 53.0 -0.7
MAKZ pP **pP** 20 01 18.3 -0.1
J30M **Hart River** 44.68 37 IAmb IAmb 20 00 56.2
comp=Z,182nm,1.8s
J30M **Hart River** 44.68 37 P P 20 00 55.0 +1.2
baz=282,SNR=57
M30M **Minto, Yukon** 44.93 39 P P 20 00 57.1 +1.4
baz=284,SNR=55
G31M **Satah River** 45.03 33 IAmb IAmb 20 00 58.3
comp=Z,103nm,0.9s
G31M **Satah River** 45.03 33 P P 20 00 57.2 +0.8
baz=282,SNR=122
HYT **Haines Junctio** 45.03 42 P P 20 00 58.6 +1.9
baz=285,SNR=225
INK **Inuvik** 45.05 31 P P 20 00 56.5 +0.1
INK **Inuvik** 45.05 31 P P 20 00 57.2 +0.7
baz=281,SNR=63
N30M **Aishikik Lake** 45.07 41 P P 20 00 57.9 +1.1
baz=285,SNR=20
MAYO **Mayo, Yukon** 45.09 38 IAmb IAmb 20 01 29.8
comp=Z,79nm,0.8s
MAYO **Mayo, Yukon** 45.09 38 P P 20 00 58.4 +1.5
baz=284,SNR=7.7
F31M **Tsiigehtchic** 45.13 32 IAmb IAmb 20 00 59.0
comp=Z,144nm,1.1s
F31M **Tsiigehtchic** 45.13 32 P P 20 00 57.9 +0.8
baz=282,SNR=91
H31M **Peel River** 45.24 35 IAmb IAmb 20 01 00.4
comp=Z,126nm,0.8s
H31M **Peel River** 45.24 35 P P 20 00 59.5 +1.4
baz=283
P29M **Windy Craggy** 45.24 44 P P 20 01 00.4 +2.2
baz=286,SNR=129
KURK **Kurchatov** 45.26 303 P P 20 00 57.5 -0.9
KURK **Kurchatov** 45.26 303 *ce*P P 20 00 56.9 -1.5
KURK pmax pmax
comp=Z,56nm,1.7s
KURBB **Kurchatov Arra** 45.34 303 P P 20 00 57.5 -1.6
comp=Z,15nm,0.7s,baz=73,slow=9.4,SNR=25
KURBB PcP **PcP** 20 02 37.1 +0.4
comp=Z,26nm,0.9s,baz=70,slow=3.0,SNR=12
KURBB pPcP 20 03 06.8
comp=Z,12nm,0.8s,baz=73,slow=3.7,SNR=6.0
KURBB ScP **ScP** 20 06 19.3 +0.2
comp=Z,4.0nm,0.9s,baz=65,slow=3.5,SNR=7.1
comp=Z,15nm,0.7s
P30M **Million Dollar** 45.48 43 P P 20 01 02.0 +1.9
baz=286
O30N **Mendenhall** 45.72 42 P P 20 01 03.9 +1.9
baz=286,SNR=42
NONG **Nongkai** 45.84 249 P P 20 01 04.9 +1.5
PLBC **Pleasant Camp** 45.96 44 P P 20 01 05.7 +1.9
baz=287,SNR=6.2
M31M **Drury Creek, Y** 46.11 39 IAmb IAmb 20 01 07.8
comp=Z,87nm,0.8s
M31M **Drury Creek, Y** 46.11 39 P P 20 01 06.7 +1.8
baz=286,SNR=135
WHY **Whitehorse** 46.32 42 IAmb IAmb 20 01 09.7
comp=Z,69nm,0.9s
WHY **Whitehorse** 46.32 42 P P 20 01 08.6 +1.8
baz=287,SNR=49
UBPT **Khong Chiam** 46.36 244 P P 20 01 08.6 +1.1
UBPT IAmb IAmb 20 01 10.2
comp=Z,213nm,1.2s
UBPT **Khong Chiam** 46.36 244 P P 20 01 08.7 +1.2
SKAG **Skagway** 46.46 43 P P 20 01 09.4 +1.7
SKAG **Skagway** 46.46 43 P P 20 01 09.8 +2.1
baz=288,SNR=30
S31K **Pelican** 46.48 45 P P 20 01 09.1 +1.3
baz=289,SNR=8.0
FARO **Faro, Yukon** 46.57 39 IAmb IAmb 20 01 11.2
comp=Z,68nm,0.8s
FARO **Faro, Yukon** 46.57 39 P P 20 01 10.1 +1.6
baz=287,SNR=80
R31K **City Hall, Gus** 46.59 45 P P 20 01 10.8 +2.1
baz=288
LSA **Lhasa** 46.68 271 IAmb IAmb 20 01 13.7
comp=Z,70nm,0.8s
LSA **Lhasa** 46.68 271 *i* P P 20 01 12.1 +1.7
SNR=116
LSA **Lhasa** 46.68 271 P P 20 01 12.1 +1.7
LSA pP **pwP** 20 01 38.2 +0.5
A36M **Sachs Harbour** 47.00 25 P P 20 01 11.8 +0.1
baz=285,SNR=51
N32M **Quiet Lake** 47.01 41 P P 20 01 13.1 +1.0
baz=288,SNR=23
P32M **Atlin** 47.20 43 P P 20 01 15.4 +1.8
baz=289,SNR=27
R32K **Eaglecrest** 47.24 45 IAmb IAmb 20 01 17.4
comp=Z,97nm,0.8s
R32K **Eaglecrest** 47.24 45 P P 20 01 15.6 +1.8
baz=290,SNR=15
SIT **Sitka** 47.24 46 P P 20 01 16.4 +2.6
SIT IAmb IAmb 20 01 17.3
comp=Z,80nm,0.8s
SIT **Sitka** 47.24 46 P P 20 01 16.5 +2.7
SIT **Sitka** 47.24 46 P P 20 01 16.4 +2.6
SIT pmax pmax
comp=Z,80nm,0.8s
SIT **Sitka** 47.24 46 P P 20 01 16.2 +2.4
baz=290,SNR=16
JIS **Juneau Island** 47.31 45 IAmb IAmb 20 01 18.0
comp=Z,127nm,0.9s
JIS **Juneau Island** 47.31 45 P P 20 01 16.3 +2.0
P33M **Teslin, Yukon** 47.43 42 IAmb IAmb 20 01 18.9
comp=Z,155nm,1.1s
P33M **Teslin, Yukon** 47.43 42 P P 20 01 17.2 +1.8
baz=289,SNR=129
S32K **Killisnoo** 47.48 46 P P 20 01 17.0 +1.4
baz=290,SNR=24
TDK **Taldyqorghan** 47.67 296 *e*P P 20 01 17.4 0.0
TDK pmax pmax
comp=Z,136nm,1.5s
TDK **Taldyqorghan** 47.67 296 *e*P P 20 01 17.4 0.0
comp=Z,136nm,1.5s,baz=296
SHLS **Shalkode** 47.82 293 *e*P P 20 01 16.3 -2.3
SHLS **Shalkode** 47.82 293 *e*P P 20 01 16.4 -2.3
baz=293
MND **Mandalay** 47.92 259 P P 20 01 20.0 +0.5
UZB **Uzynbulak** 48.11 294 *e*P P 20 01 20.8 -0.1
UZB **Uzynbulak** 48.11 294 *e*P P 20 01 20.8 -0.1
baz=294
C36M **Paulatuk** 48.11 28 IAmb IAmb 20 01 21.6
comp=Z,73nm,0.8s
C36M **Paulatuk** 48.11 28 P P 20 01 20.6 +0.2
baz=288,SNR=106
Q32M **Nakina River** 48.11 43 P P 20 01 22.6 +1.8
baz=290
CHTO **Chiang Mai** 48.14 254 P P 20 01 22.3 +1.1
CHTO IAmb IAmb 20 01 23.9
comp=Z,140nm,0.8s
CHTO **Chiang Mai** 48.14 254 P P 20 01 22.0 +0.8
CHTO **Chiang Mai** 48.14 254 P P 20 01 22.3 +1.1
CHTO pmax pmax
comp=Z,140nm,0.9s
CHTO **Chiang Mai** 48.14 254 ⇓P P 20 01 22.2 +1.0
CHTO pP **pP** 20 01 47.5 +0.8
CHTO sP **sP** 20 01 59.5 +0.7
CM31 **Chiang Mai Arr** 48.38 253 IAmb IAmb 20 01 26.0
comp=Z,94nm,1.0s
CMAR **Chiang Mai Arr** 48.38 253 pP **pP** 20 01 49.0 +0.4
CMAR PcP **PcP** 20 02 49.2 +1.2
CMAR **Chiang Mai Arr** 48.38 253 P P 20 01 24.4 +1.3
comp=Z,44nm,0.9s,baz=40,slow=8.3,SNR=171
CMAR pP **pP** 20 01 48.8 +0.2
comp=Z,18nm,0.8s,baz=49,slow=7.5,SNR=4.9
CMAR PcP **PcP** 20 02 48.9 +1.0
comp=Z,11nm,0.9s,baz=7.2,slow=3.0,SNR=5.6
comp=Z,44nm,0.9s
ZHN **Zhinishke** 48.48 294 *d* iP P 20 01 23.7 0.0
ZHN **Zhinishke** 48.48 294 ⇓*i* P P 20 01 23.8 0.0
baz=294
T33K **Petersburg** 48.54 46 P P 20 01 25.7 +1.9
baz=292,SNR=5.4
SATY **Saty** 48.55 294 *d* iP P 20 01 24.3 0.0
SATY **Saty** 48.55 294 ⇓*i* P P 20 01 24.4 0.0
baz=294
R33M **Jennings River** 48.59 42 IAmb IAmb 20 01 28.2
comp=Z,76nm,0.9s
R33M **Jennings River** 48.59 42 P P 20 01 26.1 +1.8
baz=291,SNR=73
SHL **Shillong** 48.63 266 *e*P P 20 01 25.1 -0.1
SHL *i* pP **pwP** 20 01 54.0 +1.4
U33K **Whale Pass** 48.72 47 IAmb IAmb 20 01 28.7
comp=Z,94nm,0.8s
U33K **Whale Pass** 48.72 47 P P 20 01 27.0 +1.9
baz=292,SNR=27
WUS **Wushi** 48.90 291 P P 20 01 27.7 +0.7
CRAG **Craig** 48.96 48 IAmb IAmb 20 01 30.6
comp=Z,87nm,0.8s
CRAG **Craig** 48.96 48 P P 20 01 29.3 +2.2
CRAG **Craig** 48.96 48 P P 20 01 29.5 +2.5
baz=293,SNR=23
WRAK **Wrangell Islan** 49.00 46 IAmb IAmb 20 01 30.8
comp=Z,77nm,0.9s
WRAK **Wrangell Islan** 49.00 46 P P 20 01 29.8 +2.4
baz=292,SNR=20
BRZS **Berezniki** 49.05 304 *e*P P 20 01 26.4 -1.4
BRZS **Berezniki** 49.05 304 *e*P P 20 01 26.5 -1.4
baz=304
S34M **Telegraph Cree** 49.05 44 IAmb IAmb 20 01 31.1
comp=Z,64nm,0.8s
S34M **Telegraph Cree** 49.05 44 P P 20 01 30.1 +2.4
baz=292,SNR=55
TGTN **Hyland Airport** 49.07 39 P P 20 01 29.2 +1.3
baz=291,SNR=49
CHKK **Chushkaly** 49.10 295 *e*P P 20 01 27.8 -0.5
CHKK **Chushkaly** 49.10 295 *e*P P 20 01 27.8 -0.5
baz=295
BVAR **Borovoye Array** 49.10 309 P P 20 01 26.2 -2.0
comp=Z,2.4nm,0.5s,baz=58,slow=12,SNR=25
BVAR PcP **PcP** 20 02 50.4 +0.3
comp=Z,20nm,0.7s,baz=81,slow=4.7,SNR=9.1
BVAR pPcP 20 03 19.3
comp=Z,14nm,0.8s,baz=70,slow=4.9,SNR=4.6
BVAR ScP **ScP** 20 06 33.9 -0.9
comp=Z,4.6nm,0.9s,baz=76,slow=6.3,SNR=5.0
BVAR LR LR 20 22 54.1
comp=Z,419nm,19.8s,baz=79,slow=37
comp=Z,2.4nm,0.5s
BRVK **Borovoye** 49.15 309 P P 20 01 27.6 -1.0
BRVK **Borovoye** 49.15 309 *ce*P P 20 01 27.0 -1.5
BRVK pmax pmax
comp=Z,46nm,1.5s
WTLY **Watson Lake, Y** 49.35 41 IAmb IAmb 20 01 32.8
comp=Z,59nm,0.8s
WTLY **Watson Lake, Y** 49.35 41 P P 20 01 31.8 +1.8
baz=292,SNR=31
MDOK **Medeo** 49.38 294 *i* P P 20 01 30.1 -0.6
MDOK **Medeo** 49.38 294 *i* P P 20 01 30.1 -0.6
baz=295
DLBC **Dease Lake** 49.40 43 IAmb IAmb 20 01 33.9
comp=Z,69nm,0.8s
DLBC **Dease Lake** 49.40 43 P P 20 01 32.2 +1.8
baz=292,SNR=75
AAA **Alma-Ata** 49.45 295 *e*P P 20 01 31.2 +0.2
AAA **Alma-Ata** 49.45 295 *e*P P 20 01 31.2 +0.2
baz=295
AAA **Alma-Ata** 49.45 295 *e*P P 20 01 31.2 +0.2
KUU **Kurty** 49.50 296 *d* iP P 20 01 30.7 -0.6
KUU **Kurty** 49.50 296 ⇓*i* P P 20 01 30.7 -0.6
baz=296
NAYO **Nakonayok** 49.76 247 P P 20 01 35.3 +1.7
V35K **Ketchikan** 49.81 48 IAmb IAmb 20 01 36.5
comp=Z,54nm,0.9s
V35K **Ketchikan** 49.81 48 P P 20 01 35.0 +1.5
baz=294,SNR=22
KIP **Kipapa** 49.96 100 P P 20 01 37.0 +1.9
KIP **Kipapa** 49.96 100 P P 20 01 36.8 +1.7
OTUK **Ortayu** 50.00 302 *i* P P 20 01 34.0 -1.1
OTUK pmax pmax
comp=Z,80nm,1.7s
DIB **Dawson Inlet,** 50.22 50 P P 20 01 38.5 +1.9
DIB IAmb IAmb 20 01 39.3
comp=Z,83nm,0.7s
H02S1 **DAWSON INLET T** 50.22 50 P P 20 01 38.1 +1.5
SNR=166
ULHL **Ulahol** 50.34 294 P P 20 01 39.3 +1.3
SNR=21
U35K **Hyder** 50.40 46 P P 20 01 40.0 +2.1
baz=294,SNR=17
BTLS **Baital** 50.41 298 *d* iP P 20 01 37.6 -0.6
BTLS **Baital** 50.41 298 ⇓*i* P P 20 01 37.6 -0.6
baz=298
TKM2 **Tokmak 2** 50.43 295 P P 20 01 39.2 +0.5
SNR=31
TKM2 **Tokmak 2** 50.43 295 *i* P P 20 01 38.5 -0.2
TKM2 pmax pmax
comp=Z,115nm,1.6s
WRGLY **Wrigley** 50.51 36 P P 20 01 40.1 +1.4

baz=293,SNR=29
SGDS Sogindy 50.80 296*d* iP P **20 01 40.9 -0.3**
SGDS Sogindy 50.80 296⇓*i* iP P **20 01 40.9 -0.3**
baz=296
CHMS Chumysh 50.94 295 P P **20 01 42.4 +0.1**
SNR=12
RUBB Prince Rupert 50.94 48 IAmb IAmb 20 01 45.0
comp=Z,87nm,0.8s
USP Ospenovka 50.97 296 P P **20 01 42.7 +0.2**
SNR=27
KBK Karagaybulak 50.98 295 P P **20 01 43.3 +0.5**
SNR=22
SRDT SRDT 51.18 249 P P **20 01 45.8 +1.5**
AAK Ala-Archa 51.28 295 P P **20 01 45.3 +0.3**
SNR=19
AAK Ala-Archa 51.28 295 P P **20 01 45.5 +0.5**
AAK Ala-Archa 51.28 295*ce*P P **20 01 45.1 +0.1**
AAK pmax pmax
comp=Z,79nm,1.9s
AAK Ala-Archa 51.28 295 *i* P P **20 01 45.2 +0.3**
SNR=21
AAK Ala-Archa 51.28 295 *e*P P **20 01 45.1 +0.1**
AAK Ala-Archa 51.28 295 P P **20 01 45.2 +0.3**
LAE Lae 51.46 181 P P **20 01 48.0 +1.7**
UCH Uchtor 51.47 295 P P **20 01 47.9 +1.2**
SNR=8.3
KOTAN Kotaneelee Air 51.52 40 P P **20 01 47.1 +0.8**
baz=295,SNR=25
TOAD Toad River Com 51.52 42 P P **20 01 45.1 -1.2**
baz=295
EKS2 Erkin-Say 51.73 295 P P **20 01 48.5 +0.2**
SNR=18
KSH Kashi 51.88 291 P P **20 01 53.6 +4.1**
KSH sP sP 20 02 29.0 +2.1
KSH PcP **PcP** **20 03 05.0 +4.3**
KSH S **S** **20 09 10.1 +6.4**
KSH pmax pmax
comp=Z,72nm,1.9s
KSH pmax pmax
comp=Z,910nm,3.7s
KSH LR LR
comp=Z,750nm,17.9s
KSH LR LR
comp=Z,950nm,16.5s
KSH LR LR
comp=Z,1μm,16.1s
SVE Sverdlovsk 52.58 316⇓*e*P P **20 01 53.2 -0.9**
SVE *e*S **S** **20 09 11.3 -1.1**
SVE pmax pmax
comp=Z,58nm,1.5s
KHLU Kahalu`u 52.66 100 P P **20 01 56.5 +1.2**
SBUM Sibu 52.72 227 P P **20 01 57.0 +1.3**
POHA Pohakuloa 52.80 99 P P **20 01 58.0 +1.4**
POHA Pohakuloa 52.80 99 P P **20 01 58.6 +2.1**
POHA Pohakuloa 52.80 99 P P **20 01 57.9 +1.4**
POHA pP **pP** **20 02 23.2 +0.5**
POHA sP **sP** **20 02 36.1 +1.1**
MLOA Mauna Loa Obse 52.91 99 P P **20 01 58.5 +0.9**
HMH Humu'ula Sheep 52.94 99 P P **20 01 58.9 +1.3**
BBB Bella Bella 53.05 50 IAmb IAmb 20 02 00.2
comp=Z,84nm,0.9s
DZA Taraz 53.17 297 *e*P P **20 01 58.6 -0.2**
DZA Taraz 53.17 297 *e*P P **20 01 58.7 -0.2**
baz=297
NOR Nord 53.36 357 *i* P P **20 01 56.0 -3.6**
NOR IAmb IAmb 20 01 58.3
comp=Z,30nm,1.5s
KK31 Karatay Array 53.58 297 IAmb IAmb 20 02 04.8
comp=Z,133nm,1.9s
KK31 Karatay Array 53.58 297 *i* P P **20 02 01.4 -0.4**
KK31 pmax pmax
comp=Z,24nm,0.9s
KKAR Karatay Array 53.58 297 IAmb IAmb 20 02 04.8
comp=Z,132nm,1.9s
RES Resolute Bay 53.60 17 IAmb IAmb 20 02 02.7
comp=Z,78nm,0.8s
SPA0 Spitsbergen Ar 53.63 349 *e*P P **20 02 00.5 -1.2**
SPITS Spitsbergen Ar 53.63 349 P P **20 02 00.1 -1.6**
comp=Z,8.2nm,0.9s,baz=65,slow=8.4,SNR=12
SPITS PcP **PcP** **20 03 06.8 +0.3**
comp=Z,14nm,0.9s,baz=152,slow=11,SNR=3.6
comp=Z,8.2nm,0.9s
BKB Balikpapan 53.66 220 P P **20 02 04.1 +1.5**
ARU Arti 53.78 316 P P **20 02 01.4 -1.5**
ARU IAmb IAmb 20 03 08.8
comp=Z,66nm,1.3s
ARU Arti 53.78 316*d* iP P **20 02 01.0 -1.9**
ARU *PP **pP** **20 02 26.5 -1.9**
ARU 20 03 06.3
ARU 20 11 37.3
ARU SS **SKiKP** **20 13 06.3 +1.6**
ARU pmax pmax
comp=Z,70nm,1.7s
ARU Arti 53.78 316 P P **20 02 01.1 -1.9**
BOK Bokaro 53.99 269⇓*i* P P **20 02 05.6 +0.7**
BOK IAmb IAmb 20 02 07.6
comp=Z,77nm,0.8s
BOK *i* x x 20 02 35.1
BRLS Boroldaу 54.05 298*d* iP P **20 02 05.6 +0.5**
BRLS Boroldaу 54.05 298⇓*i* P P **20 02 05.7 +0.5**
baz=298
IUG Iuzhnay 54.38 297*d* iP P **20 02 07.9 +0.2**
IUG pmax pmax
comp=Z,93nm,2.1s
IUG Iuzhnay 54.38 297⇓*i* P P **20 02 08.0 +0.2**
comp=Z,93nm,2.1s,baz=297
YKA Yellowknife Ar 54.46 34 *i* P P **20 02 08.3 +0.5**
YKA pmax pmax
comp=Z,70nm,0.9s
YKA Yellowknife Ar 54.46 34 P P **20 02 08.2 +0.4**
comp=Z,71nm,0.9s,baz=302,slow=7.3,SNR=370
YKA pP **pP** **20 02 34.2 +0.1**
comp=Z,6.3nm,0.6s,baz=300,slow=7.3,SNR=2.8
YKA PcP **PcP** **20 03 10.9 +1.0**
comp=Z,8.1nm,0.8s,baz=264,slow=1.3,SNR=8.0
YKA ScP **ScP** **20 06 58.4 +0.5**
comp=Z,1.8nm,0.9s,baz=295,slow=4.8,SNR=4.8
comp=Z,71nm,0.9s
PTH Pithoragarh 54.49 278⇓*i* P P **20 02 09.0 +0.2**
DRK Karamyk 54.65 293 IAmb IAmb 20 02 12.1
comp=Z,117nm,1.4s
SURA Surathani 54.69 244 P P **20 02 12.0 +1.9**
BTK Batken 54.98 294 IAmb IAmb 20 02 13.8
comp=Z,169nm,1.5s
BTK Batken 54.98 294 P P **20 02 12.0 0.0**
VAR Varanasi 55.08 272 *e*P P **20 02 12.8 0.0**
STKI Sintang 55.13 226 P P **20 02 14.0 +0.8**
comp=Z,114nm,1.4s,comp=Z,7μm
SRIT Nakonsritamara 55.14 244 P P **20 02 15.4 +2.1**
DDI Dehra Dun 55.55 280 *e*P P **20 02 17.2 +1.0**
DDI IAmb IAmb 20 02 18.9
comp=Z,564nm,1.0s
SKLT Songkhla 55.59 242 P P **20 02 18.2 +1.7**
DHRM DHARAMSHALA 55.64 283⇓*i* P P **20 02 17.2 +0.2**
DHRM IAmb IAmb 20 02 19.0
comp=Z,221nm,1.0s
SMLA Simla 55.69 282 *e*P P **20 02 17.5 +0.4**
ALBI Allahabad 55.93 273⇓*i* P P **20 02 17.9 -1.0**
THN Thein Dam 55.94 284⇓*i* P P **20 02 19.2 +0.3**
BHK Bhakra 56.05 282⇓*i* P P **20 02 20.4 +0.7**
OZB Mount Ozzard 56.11 52 IAmb IAmb 20 02 22.1
comp=Z,57nm,0.7s
DGPR DIGLIPUR 56.19 254 *e*P P **20 02 21.8 +1.0**
JMU Jammu 56.34 284 *e*P P **20 02 21.2 -0.5**
TULEG Thule 56.49 10 *i* P P **20 02 20.6 -1.5**
TULEG IAmb IAmb 20 02 22.6
comp=Z,41nm,0.8s
AB31 Akbulak array 56.67 308 *i* P P **20 02 22.8 -1.0**
AB31 pmax pmax
comp=Z,11nm,0.4s
ABKAR Akbulak array 56.67 308 IAmb IAmb 20 02 26.0
comp=Z,97nm,1.4s
JHSG JHARSUGUGA 56.78 268 *e*P P **20 02 25.3 +0.4**
CHGR Chuyangaron 56.82 293 P P **20 02 25.3 +0.1**
VADS Vadso 56.86 339 *e*P P **20 02 23.8 -1.1**
VADS IAmb IAmb 20 02 30.5
comp=Z,38nm,1.0s
KIRV Kirov 56.91 322*ce*P P **20 02 24.1 -1.2**
KIRV Kirov 56.91 322 LR LR 20 28 40.9
comp=Z,695nm,21.0s,baz=79,slow=38
SIMJ Simiganj 56.92 294 P P **20 02 26.4 +0.5**
SIMJ Simiganj 56.92 294 P P **20 02 26.0 +0.1**
SIMJ pP **pP** **20 02 53.2 +1.5**
NIL Nilore 56.92 286 P P **20 02 26.9 +1.0**
NIL Nilore 56.92 286 P P **20 02 26.9 +1.0**
NIL pmax pmax
comp=Z,302nm,1.1s
NIL Nilore 56.92 286 P P **20 02 26.9 +1.0**
NIL pP **pP** **20 02 53.2 +1.6**
CLRS Cowichan Lake 56.95 52 IAmb IAmb 20 02 27.9
comp=Z,46nm,0.8s
KULM Kulim 57.03 241 P P **20 02 28.0 +1.3**
AKTO Aktyubinsk 57.10 310 *i* P P **20 02 25.7 -1.2**
AKTO pmax pmax
comp=Z,21nm,0.9s
AKTO Aktyubinsk 57.10 310 LR LR 20 27 26.0
comp=Z,574nm,22.0s,baz=60,slow=36
NDI New Delhi 57.11 279 *i* P P **20 02 27.6 +0.4**
NEEM North Greenlan 57.24 5 *i* P P **20 02 25.0 -2.8**
NEEM IAmb IAmb 20 02 28.2
comp=Z,47nm,0.9s
PBA Port Blair 57.40 253 *e*P P **20 02 29.9 +0.6**
PGC Sidney 57.42 52 IAmb IAmb 20 02 31.1
comp=Z,40nm,0.8s
B04A Port Angeles 57.71 53 IAmb IAmb 20 02 33.5
comp=Z,52nm,0.8s
MYKOM Kota Tinggi 57.88 235 P P **20 02 34.9 +2.1**
WISH Wishkah 58.07 54 IAmb IAmb 20 02 37.3
comp=Z,85nm,0.8s
JHNI Jhansi 58.15 275 *e*P P **20 02 34.0 -0.5**
TPRI Tanjung Pinang 58.20 234 P P **20 02 36.0 +1.0**
comp=Z,200nm,1.2s,comp=Z,2μmcomp=Z,2μm
ARA0 ARCESS Array S 58.24 340 *e*P P **20 02 29.9 -4.6**
ARCES ARCESS Array B 58.24 340 P P **20 02 33.4 -1.1**
ARCES ScP **ScP** **20 07 14.9 +0.6**
ARCES ARCESS Array B 58.24 340 P P **20 02 33.4 -1.1**
ARCES pmax pmax
comp=Z,58nm,1.3s
ARCES ARCESS Array B 58.24 340 P P **20 02 32.9 -1.6**
comp=Z,19nm,1.0s,baz=49,slow=7.4,SNR=14
ARCES PcP **PcP** **20 03 25.0 +0.5**
comp=Z,18nm,1.0s,baz=52,slow=7.9,SNR=7.4
ARCES ScP **ScP** **20 07 14.5 +0.1**
comp=Z,1.1nm,0.9s,baz=70,slow=7.8,SNR=6.8
ARCES LR LR 20 31 23.8
comp=Z,322nm,19.8s,baz=16,slow=40
comp=Z,19nm,1.0s
D05A Enumclaw 59.04 53 IAmb IAmb 20 02 43.4
comp=Z,75nm,0.8s
KTK1 Kautokeino 59.17 340 *e*P P **20 02 39.4 -1.6**
KTK1 IAmb IAmb 20 02 43.0
comp=Z,22nm,0.9s
KBL Kabul 59.25 290 P P **20 02 42.5 +0.2**
KBL Kabul 59.25 290 P P **20 02 42.5 +0.2**
KBL pmax pmax
comp=Z,290nm,1.5s
DSRI Dabo 59.31 233 P P **20 02 45.2 +2.5**
comp=Z,161nm,1.3s,comp=Z,2μmcomp=Z,2μm
JETT Jettan, Norway 59.44 341 *e*P P **20 02 41.4 -1.5**
JETT IAmb IAmb 20 02 44.9
comp=Z,68nm,1.1s
KULLO Kullorsuaq 59.51 8 *i* P P **20 02 38.6 -4.6**
KULLO IAmb IAmb 20 02 43.9
comp=Z,24nm,0.9s
KLMR Klimovskoe 59.64 327 *e*P P **20 02 40.5 -3.8**
KLMR pmax pmax
comp=Z,80nm,1.5s
TRO Tromso 59.72 342 *e*P P **20 02 42.7 -2.0**
TRO IAmb IAmb 20 02 43.6
comp=Z,174nm,1.6s
LTY Liberty 59.74 52 IAmb IAmb 20 02 47.4
comp=Z,44nm,0.8s
VIS Vishakhapatnam 59.74 265 *e*P P **20 02 45.4 -0.2**
COR Corvallis 59.76 56 P P **20 02 48.3 +2.9**
COR Corvallis 59.76 56 P P **20 02 48.3 +2.9**
COR pmax pmax
comp=Z,173nm,0.9s
COR Corvallis 59.76 56 P P **20 02 47.9 +2.5**
COR pP **pP** **20 03 14.9 +2.7**
PPBI Pangkal Pinang 59.84 230 P P **20 02 47.4 +1.2**
comp=Z,188nm,1.1s,comp=Z,3μm
B08A Colville Reser 59.85 50 IAmb IAmb 20 02 48.2
comp=Z,35nm,0.8s
PSI Prapat 60.04 240 P P **20 02 48.7 +0.9**
H04D Lebanon 60.13 56 IAmb IAmb 20 02 51.1
comp=Z,73nm,0.9s
KCSI Kotacane, Aceh 60.19 242 P P **20 02 49.2 +0.5**
comp=Z,25nm,1.0s
AJM Ajmer 60.26 279⇓*i* P P **20 02 49.9 +0.7**
HOOD Mount Hood Mea 60.30 54 P P **20 02 50.8 +1.5**
MXC Moxie City 60.35 52 IAmb IAmb 20 02 52.1
comp=Z,93nm,1.1s
SRBI Singaraja 60.48 218 P P **20 02 46.5 -4.0**
comp=Z,283nm,1.2s,comp=Z,3μm
E07A Sunnyside 60.60 52 IAmb IAmb 20 02 53.8
comp=Z,79nm,0.8s
K02D Willamette Mer 60.64 58 IAmb IAmb 20 02 54.9
comp=Z,88nm,1.1s
ABJI Asem Bagus 60.65 219 P P **20 02 52.5 +0.8**
comp=Z,188nm,1.7s
BKNI Bangkinang 60.71 237 P P **20 02 54.0 +1.8**
BKNI Bangkinang 60.71 237 P P **20 02 54.7 +2.5**
comp=Z,418nm,1.2s,comp=Z,4μmcomp=Z,2μm
C09A Chrisman Ranch 60.76 50 IAmb IAmb 20 02 54.3
comp=Z,80nm,0.8s
D08A Wollman Farm, 60.84 51 IAmb IAmb 20 02 54.8
comp=Z,54nm,0.8s
HAWA Hanford 60.88 52 IAmb IAmb 20 02 55.6
comp=Z,66nm,0.8s
G06A Carlson Farm, 60.93 54 IAmb IAmb 20 02 56.2
comp=Z,88nm,1.2s
KSXB Camp Six Broad 61.02 59 IAmb IAmb 20 02 57.7
comp=Z,102nm,1.3s
I05D Terrebonne, OR 61.05 55 IAmb IAmb 20 02 57.0
comp=Z,80nm,0.8s
E08A Dider Farm, El 61.09 52 IAmb IAmb 20 02 56.8
comp=Z,78nm,0.8s
NEW Newport 61.11 49 P P **20 02 55.6 +1.0**
NEW Newport 61.11 49 P P **20 02 55.7 +1.1**
baz=306,SNR=120
PMBI Palembang 61.22 231 P P **20 02 58.4 +2.8**
PMBI Palembang 61.22 231 P P **20 02 58.7 +3.1**
comp=Z,196nm,0.9s,comp=Z,5μmcomp=Z,2μm
UPNV Upernavik 61.31 8 *i* P P **20 02 52.2 -3.2**
UPNV IAmb IAmb 20 02 56.4
comp=Z,40nm,1.1s
BELG Belogornoye 61.33 317 *i* P P **20 02 54.1 -1.8**
BELG pmax pmax
comp=Z,12nm,1.1s
JCC Jacoby Creek, 61.52 60 IAmb IAmb 20 03 27.7
comp=Z,132nm,1.2s
NGJI Ngawi 61.55 222 P P **20 03 00.2 +2.4**
comp=Z,66nm,1.2s
KMPM Mount Pierce 61.70 60 IAmb IAmb 20 03 29.1
comp=Z,113nm,1.1s
YBH Yreka Blue Hor 61.78 58 IAmb IAmb 20 03 02.3
comp=Z,45nm,0.8s
K04D Siloquin, OR 61.82 57 IAmb IAmb 20 03 02.3
comp=Z,86nm,0.8s
STEI Steigen 61.89 342 *e*P P **20 02 57.8 -1.6**
STEI IAmb IAmb 20 03 01.4
comp=Z,33nm,1.3s
PWJI Pagerwojo 61.97 221 P P **20 03 00.2 -0.4**
comp=Z,329nm,1.3s,comp=Z,4μm
GSI Gunungsitoli 62.04 241 P P **20 03 03.7 +2.5**
GSI Gunungsitoli 62.04 241 P P **20 03 02.9 +1.7**
comp=Z,93nm,0.9s,comp=Z,9μm
PDSI Padang 62.05 236 P P **20 03 01.7 +0.5**
comp=Z,27nm,0.7s
KMRM Mail Ridge 62.07 60 IAmb IAmb 20 03 31.5
comp=Z,73nm,1.1s
LOF Lofoten 62.10 342 *e*P P **20 02 57.0 -3.8**
LOF IAmb IAmb 20 03 00.1
comp=Z,155nm,1.6s
AKL Akola 62.26 272⇓*i* P P **20 03 03.3 +0.7**
FAUS Fauske 62.32 341 *e*P P **20 03 00.5 -1.8**
FAUS IAmb IAmb 20 03 06.9
comp=Z,38nm,1.0s
KRJI Kerinci 62.41 235 P P **20 03 04.9 +1.2**
comp=Z,654nm,1.0s,comp=Z,6μmcomp=Z,3μm
VALR Valaam 62.44 331 *i* P P **20 03 01.6 -1.6**
VALR pmax pmax
comp=Z,73nm,1.0s
VJD Vijayawada 62.45 266⇓*i* P P **20 03 05.0 +1.2**
JASL Jaisalmer 62.59 282 *e*P P **20 03 05.4 +0.6**
SUMG Summit 62.62 2 *i* P P **20 03 03.7 -1.1**
SUMG IAmb IAmb 20 03 06.5
comp=Z,34nm,0.8s
LHSI Lahat 62.66 232 P P **20 03 06.9 +1.7**
comp=Z,84nm,0.8s,comp=Z,3μm
KNRA Kununurra 62.86 201 P P **20 03 08.0 +1.6**
TNG Tangerang 62.93 227 P P **20 03 09.0 +2.0**
comp=Z,1μm,0.5s,comp=Z,15μm
SISI Saibi 63.19 237 P P **20 03 09.7 +0.9**
comp=Z,67nm,1.0s,comp=Z,1μm
DBJI Dramaga 63.20 227 P P **20 03 09.9 +1.1**
comp=Z,80nm,0.5s,comp=Z,2μm
J08A Circle Bar Ran 63.30 55 IAmb IAmb 20 03 12.7
comp=Z,103nm,1.0s
HYB Hyderabad 63.33 268 *e*P P **20 03 10.0 +0.3**
HYB IVmB_BB 20 03 10.6
comp=Z,2μm,1.6s
HYB *e*pP **pP** **20 03 36.5 +0.2**
HYB *e*PcP **PcP** **20 03 46.4 +0.4**
HYB *e*S **S** **20 11 33.8 +0.3**
HYB *e*SKSac **SKKSac** **20 12 51.3 -1.3**
HYB Hyderabad 63.33 268 *e*P P **20 03 10.1 +0.3**
LWLI Liwa 63.35 231 P P **20 03 09.1 -0.8**
comp=Z,204nm,1.1s,comp=Z,2μm
MOR8 Moi Rana 63.51 341 *e*P P **20 03 07.0 -3.2**
MOR8 IAmb IAmb 20 03 10.6
comp=Z,75nm,1.1s
KASI Kota Agung 63.53 230 P P **20 03 09.7 -1.3**
comp=Z,67nm,1.4s,comp=Z,917nm
KONS Konsvik 63.54 341 *e*P P **20 03 09.7 -0.7**
KONS IAmb IAmb 20 03 11.2
comp=Z,28nm,1.1s
WVOR Wild Horse Val 63.77 55 IAmb IAmb 20 03 15.6
comp=Z,84nm,1.0s
WVOR Wild Horse Val 63.77 55 P P **20 03 14.0 +1.5**
PPSI Pulau Pagai 63.80 236 P P **20 03 14.2 +1.4**
comp=Z,263nm,1.0s,comp=Z,3μm
HRA Herat 63.83 293 IAmb IAmb 20 03 15.5
comp=Z,114nm,1.1s
FINES FINESS Array B 63.98 333 P P **20 03 11.6 -1.8**
comp=Z,26nm,0.8s,baz=54,slow=5.5,SNR=121
comp=Z,26nm,0.8s
GEYT Alibeck 64.28 299 IAmb IAmb 20 03 17.8
comp=Z,78nm,1.1s
GEYT Alibeck 64.28 299 P P **20 03 16.1 +0.4**
comp=Z,20nm,0.7s,baz=46,slow=4.2,SNR=56
comp=Z,20nm,0.7s
GYA0B ALIBECK ARRAY 64.28 299 IAmb IAmb 20 03 17.8
comp=Z,73nm,1.1s
FFC Flin Flon 64.37 37 P P **20 03 16.9 +0.9**
FFC Flin Flon 64.37 37 P P **20 03 16.9 +0.9**
FFC pmax pmax
comp=Z,158nm,0.8s
FFC Flin Flon 64.37 37 P P **20 03 16.9 +0.9**
FFC pP **pP** **20 03 45.0 +1.9**
OBN Obninsk 64.60 324*d* iP P **20 03 15.8 -1.6**
OBN *i* 20 03 49.9
OBN *e* 20 05 41.0
OBN *e*S **S** **20 11 49.4 +1.4**
OBN pmax pmax
comp=Z,80nm,1.5s
FCC Fort Churchill 64.67 31 IAmb IAmb 20 03 19.4
comp=Z,91nm,0.7s
MFID Camas Ranch 64.78 53 IAmb IAmb 20 03 21.4
comp=Z,52nm,0.8s
CTA Charters Tower 64.81 182 P P **20 03 23.0 +3.8**
comp=Z,36nm,0.9s,baz=64,slow=17,SNR=2.1
comp=Z,36nm,0.9s
VRH Novokhopyorsk 64.92 318 *e*P P **20 03 16.7 -2.9**
VRH pmax pmax
comp=Z,72nm,1.5s
PAHR Pah Rah Range 65.01 58 IAmb IAmb 20 03 23.6
comp=Z,92nm,1.1s
EMB Emerald Bay 65.03 59 IAmb IAmb 20 03 53.8
comp=Z,77nm,0.9s
MDRS Chennai 65.07 264⇓*i* P P **20 03 22.3 +1.2**
MDRS *i* x x 20 03 49.2
EGMT Eagleton 65.13 46 P P **20 03 22.4 +1.2**
baz=310,SNR=102
ILULI Ilulissat 65.22 7 *i* P P **20 03 18.4 -2.9**
ILULI IAmb IAmb 20 03 21.8
comp=Z,27nm,0.9s
PNTR Pine Nut 65.27 59 IAmb IAmb 20 03 25.0
comp=Z,68nm,0.8s
LPSR Galich'ya Gora 65.28 321 *e*P P **20 03 19.2 -2.7**
LPSR pmax pmax
comp=Z,40nm,0.9s
MEF Metsahovi 65.45 333 *e*P P **20 03 21.6 -1.3**
CMB Columbia Colle 65.45 60 IAmb IAmb 20 03 53.0
comp=Z,78nm,1.1s
NSS Namsos 65.45 341 *e*P P **20 03 21.3 -1.5**
HLID Hailey 65.49 52 P P **20 03 25.1 +1.4**
baz=310,SNR=88
SAO San Andreas Ge 65.58 62 P P **20 03 24.7 +0.5**
SAO San Andreas Ge 65.58 62 P P **20 03 24.7 +0.5**
SAO pmax pmax
comp=Z,38nm,1.0s
RAF Rauma 65.66 334 *e*P P **20 03 22.6 -1.5**
BOZ Bozeman (W) 65.72 49 P P **20 03 26.6 +1.5**
BOZ Bozeman (W) 65.72 49 P P **20 03 26.6 +1.5**
BOZ pmax pmax
comp=Z,131nm,0.7s
BOZ Bozeman (W) 65.72 49 P P **20 03 26.6 +1.5**
baz=310,SNR=214
WAKR Walker 65.73 59 IAmb IAmb 20 03 55.5
comp=Z,75nm,1.1s
VORR Voronezh 65.78 320 *e*P P **20 03 24.3 -0.8**
VORR pmax pmax
comp=Z,55nm,1.5s
BHUJ Bhuj 65.80 279⇓*i* P P **20 03 27.1 +1.4**
BHUJ IAmb IAmb 20 03 31.2
comp=Z,37nm,0.6s
BMN Battle Mountai 65.85 56 IAmb IAmb 20 03 28.7
comp=Z,63nm,0.8s
POO Poona 65.93 273 *e*P P **20 03 27.1 +0.4**
BBGB Big Mountain B 65.96 62 IAmb IAmb 20 03 57.0
comp=Z,97nm,0.9s
VSU Vasula 65.98 330*ce*P P **20 03 25.4 -0.9**
VSU pmax pmax
comp=Z,74nm,1.7s
ICESG Greenland Ices 66.07 3 *i* P P **20 03 26.0 -1.2**
ICESG IAmb IAmb 20 03 28.6
comp=Z,88nm,1.0s
VSR Storozhevoye 66.11 319 *e*P P **20 03 25.2 -2.1**
VSR pmax pmax
comp=Z,100nm,1.2s
KVN Kaiserville 66.20 58 IAmb IAmb 20 03 31.4
comp=Z,145nm,1.1s
RYN Ryan 66.21 59 IAmb IAmb 20 03 30.9
comp=Z,57nm,0.9s
VORD Divnogorie 66.22 319 *e*P P **20 03 27.1 -0.9**
VORD pmax pmax
comp=Z,60nm,1.1s
PMPB Monarch Peak 66.33 62 P P **20 03 30.4 +1.3**
YHL Hebgen Lake 66.44 50 IAmb IAmb 20 03 32.5
comp=Z,85nm,0.9s
LHV Little Huntoon 66.46 59 P P **20 03 31.7 +1.9**
NVAR Mina Array Bea 66.47 59 pP pP 20 03 58.5 +1.0
NVAR Mina Array Bea 66.47 59 P P **20 03 31.2 +1.1**
comp=Z,49nm,0.7s,baz=298,slow=7.4,SNR=354
NVAR pP **pP** **20 03 58.0 +0.5**
comp=Z,56nm,0.9s,baz=289,slow=7.1,SNR=11
NVAR PKPPKP **P'P'df** **20 31 59.7 -3.6**
comp=Z,1.0nm,1.0s,baz=151,slow=2.1,SNR=4.5
comp=Z,49nm,0.7s
NV11 Mina Array Sit 66.56 59 P P **20 03 29.6 -1.0**
NV11 IAmb IAmb 20 04 00.5
comp=Z,79nm,1.1s
MLAC Mammoth, Mammo 66.65 60 P P **20 03 33.1 +1.8**
baz=310,SNR=8.0
YNM Yellowstone No 66.78 49 IAmb IAmb 20 04 05.1
comp=Z,101nm,1.2s
MTSE Matsula 66.79 332 *e*P P **20 03 30.6 -0.9**
YNR Norris Junctio 66.80 49 IAmb IAmb 20 03 36.0
comp=Z,201nm,1.6s
ELK Elko 66.81 55 P P **20 03 33.7 +1.4**
YFT Old Faithful 66.89 50 IAmb IAmb 20 03 37.0
comp=Z,93nm,0.8s
Q09A Carvers 66.89 58 IAmb IAmb 20 04 03.3
comp=Z,101nm,0.9s
LKWY Lake 67.05 49 IAmb IAmb 20 03 37.7
comp=Z,79nm,0.9s
H17A Grant Village 67.06 50 P P **20 03 36.7 +2.8**
baz=311,SNR=108
YMP Mirror Lake Pl 67.06 49 IAmb IAmb 20 04 04.5
comp=Z,98nm,1.0s
SOEG Soedalen 67.10 360 *i* P P **20 03 32.6 -0.7**
SOEG IAmb IAmb 20 03 34.3
comp=Z,43nm,1.1s
VOG Valley Oaks Go 67.15 61 P P **20 03 34.9 +0.8**
baz=310
FLWY Flagg Ranch 67.20 50 IAmb IAmb 20 03 38.1

comp=Z,74nm,0.9s
RLMT Red Lodge 67.29 48 IAmb IAmb 20 03 37.9
comp=Z,130nm,1.3s
RLMT Red Lodge 67.29 48 P **P** **20 03 36.3 +1.2**
baz=312,SNR=47
MAK Makhachkala 67.35 309 *eP* **P** **20 03 35.0 -0.3**
MAK *e**PP **PcP** **20 04 00.8 -1.4**
MAK *e* 20 06 05.1
MAK *e*PPP PPP 20 07 43.0
MAK *eS* **S** **20 12 22.3 +0.4**
MAK pmax pmax
comp=Z,176nm,1.5s
MAK MLR MLR
comp=Z,262nm,17.0s
TIN Tinemaha, Big 67.39 60 P **P** **20 03 37.5 +1.6**
baz=310
MOOW Moose Ponds 67.40 50 IAmb IAmb 20 03 39.0
comp=Z,78nm,0.8s
SMMC Simmler 67.41 62 P **P** **20 03 37.2 +1.3**
baz=310
SFJD Kangerlussuaq 67.42 8 P **P** **20 03 34.3 -1.1**
SFJD Kangerlussuaq 67.42 8 P **P** **20 03 34.3 -1.1**
SFJD pmax pmax
comp=Z,28nm,1.0s
SFJD Kangerlussuaq 67.42 8 *i* P **P** **20 03 33.1 -2.2**
SFJD IAmb IAmb 20 03 36.0
comp=Z,34nm,1.0s
HVU Hansel Valley 67.56 53 IAmb IAmb 20 03 40.0
comp=Z,84nm,0.9s
LOHW Long Hollow 67.56 50 IAmb IAmb 20 03 40.0
comp=Z,59nm,0.8s
SNOW Snow King Moun 67.58 51 IAmb IAmb 20 03 40.3
comp=Z,82nm,0.8s
DGMT Dagmar 67.61 43 P **P** **20 03 37.5 +0.6**
baz=313,SNR=80
DGMT Dagmar 67.61 43 P **P** **20 03 38.0 +1.1**
baz=313,SNR=80
LCH Last Change Ra 67.64 59 IAmb IAmb 20 04 07.3
comp=Z,69nm,1.1s
VES Vestal, Richy 67.64 61 P **P** **20 03 37.2 0.0**
baz=310,SNR=23
PKM Mcpherson Peak 67.80 63 P **P** **20 03 39.6 +1.1**
baz=310,SNR=11
LAO LASA Array 67.82 46 P **P** **20 03 39.6 +1.3**
baz=313,SNR=43
LAO LASA Array 67.82 46 P **P** **20 03 39.8 +1.5**
baz=313,SNR=43
AHID Auburn Hatcher 67.85 51 IAmb IAmb 20 03 41.2
comp=Z,58nm,0.8s
GRAC Grapevine Rang 67.96 59 P **P** **20 03 40.5 +1.2**
baz=310,SNR=60
GOA Goa 67.97 270 *eP* **P** **20 03 39.7 +0.2**
BCW Bitter Crk WRg 68.02 62 IAmb IAmb 20 04 09.9
comp=Z,108nm,1.1s
SPUT South Promonto 68.05 53 IAmb IAmb 20 03 42.7
comp=Z,71nm,0.9s
ISA Isabella, Lake 68.14 61 P **P** **20 03 40.6 +0.1**
baz=310,SNR=17
SLIT Slitere, Latvi 68.14 332 *eP* **P** **20 03 39.1 -0.9**
SBC Santa Barbara 68.15 63 P **P** **20 03 41.5 +1.0**
baz=310
Q12A Willow Creek R 68.16 56 IAmb IAmb 20 03 43.7
comp=Z,71nm,1.0s
R11B Troy Canyon, C 68.16 57 P **P** **20 03 41.4 +0.7**
baz=311,SNR=125
ARVC Arvin 68.26 62 P **P** **20 03 41.9 +0.8**
baz=310,SNR=7.1
DOMB Dombas 68.27 340 *eP* **P** **20 03 39.7 -1.1**
DOMB IAmb IAmb 20 03 41.5
comp=Z,168nm,2.1s
DY2G Dye2 68.31 6 *i* P **P** **20 03 38.0 -3.2**
DY2G IAmb IAmb 20 03 42.2
comp=Z,56nm,1.0s
HWUT Hardware Ranch 68.36 52 IAmb IAmb 20 03 44.5
comp=Z,78nm,0.8s
GOF Gofitskoye 68.37 313 *ceP* **P** **20 03 41.8 +0.1**
ISAL Salakas 68.39 329 *eP* **P** **20 03 42.4 +0.8**
SCZ2 Santa Cruz Isl 68.49 63 P **P** **20 03 42.9 +0.3**
baz=311
MPMC Manual Prospec 68.49 60 P **P** **20 03 43.9 +1.1**
baz=311,SNR=72
MNK Minsk 68.54 327 *i* P **P** **20 03 40.8 -1.7**
MNK *i* *PP **PcP** **20 04 07.0 +0.1**
MNK *i* 20 06 13.5
MNK *i* PPP PPP 20 07 55.9
MNK *i* S **S** **20 12 34.9 -0.7**
MNK *i* *SS **SKiKP** **20 13 24.6 +0.4**
MNK *i* SS **SS** **20 17 02.0 +1.4**
MNK pmax pmax
comp=Z,27nm,0.9s
MNK pmax pmax
comp=E,9.0nm,1.0s
MNK pmax pmax
comp=N,21nm,1.0s
MNK MLR MLR
comp=N,339nm,15.0s
MNK MLR MLR
comp=E,106nm,13.0s
MNK MLR MLR
comp=Z,370nm,16.0s
DUG Dugway, Tooele 68.58 54 IAmb IAmb 20 03 46.4
comp=Z,134nm,1.0s
DUG Dugway, Tooele 68.58 54 P **P** **20 03 44.6 +1.4**
DUG Dugway, Tooele 68.58 54 P **P** **20 03 44.9 +1.6**
baz=311,SNR=80
NB2 NORSAR Subarra 68.60 339 P **P** **20 03 41.3 -1.6**
comp=Z,8.9nm,0.6s,baz=31,slow=6.5
NB2 NORSAR Subarra 68.60 339 P **P** **20 03 41.3 -1.6**
baz=31,slow=6.5
NOA NORSAR Array B 68.60 339 P **P** **20 03 41.5 -1.4**
comp=Z,9.7nm,0.7s,baz=29,slow=6.5,SNR=67
comp=Z,9.7nm,0.7s
FURC Furnace Creek, 68.61 60 P **P** **20 03 45.0 +1.8**
baz=311,SNR=53
AKN Aaknes 68.63 341 *eP* **P** **20 03 43.3 +0.3**
OSI Osito Audit: C 68.66 62 P **P** **20 03 44.9 +1.1**
baz=311
BW06 Boulder Array 68.70 50 P **P** **20 03 45.2 +1.1**
baz=312,SNR=44
PD31 Pinedale Array 68.70 50 IAmb IAmb 20 03 46.1
comp=Z,72nm,0.8s
PDAR Pinedale Array 68.70 50 P **P** **20 03 44.8 +0.7**
PDAR pP **pP** **20 04 11.7 +0.1**
PDAR Pinedale Array 68.70 50 P **P** **20 03 45.0 +0.9**
comp=Z,55nm,0.7s,baz=280,slow=1.8,SNR=441
PDAR pP **pP** **20 04 11.2 -0.3**
comp=Z,49nm,0.9s,baz=270,slow=1.5,SNR=8.7
PDAR PKP2bc 20 31 55.5
comp=Z,1.6nm,1.0s,baz=131,slow=2.5,SNR=5.4
comp=Z,55nm,0.7s
HFS Hagfors 68.72 337 P **P** **20 03 42.1 -1.5**
comp=Z,18nm,0.9s,baz=40,slow=4.7,SNR=38
comp=Z,18nm,0.9s
LRMC Laurel Mtn Rad 68.75 61 P **P** **20 03 45.3 +0.9**
baz=311,SNR=27
CCAC Calif City Air 68.75 61 IAmb IAmb 20 04 14.3
comp=Z,111nm,0.8s
TCUT Toone Ranyon 68.77 53 IAmb IAmb 20 03 47.1
comp=Z,96nm,0.8s
NC602 NORSAR Array S 68.78 339 *eP* **P** **20 03 42.5 -1.4**
NC602 IAmb IAmb 20 03 43.2
comp=Z,19nm,1.1s
NORES NORESS Array B 68.78 339 P **P** **20 03 42.2 -1.7**
PALK Pallekele 68.80 259 P **P** **20 03 45.2 +0.4**
PALK IAmb IAmb 20 03 46.7
comp=Z,137nm,1.1s
PALK Pallekele 68.80 259 ⇑P **P** **20 03 45.9 +1.1**
PALK Pallekele 68.80 259 P **P** **20 03 45.3 +0.4**
PALK pP **pP** **20 04 12.3 +0.5**
VSVD Vaisvydziai 68.87 330 *eP* **P** **20 03 44.0 -0.5**
DZM Mont Dzumac 68.89 162 LR LR 20 30 56.9
comp=Z,1μm,19.0s,baz=300,slow=33
GWY Greenwater Val 68.91 60 IAmb IAmb 20 04 15.1
comp=Z,128nm,0.9s
QSM Queen of Sheba 68.93 60 IAmb IAmb 20 04 15.2
comp=Z,148nm,1.0s
EDW2 Edwards Air Fo 68.94 61 P **P** **20 03 46.7 +1.2**
baz=311,SNR=39
KOD Kodaikanal 68.99 263 ⇓*i*P **P** **20 03 46.5 +0.2**
SNCC San Nicolas Is 69.04 64 P **P** **20 03 46.5 +0.4**
baz=311
DECC Green Verdugo 69.14 62 P **P** **20 03 47.6 +0.9**
baz=311,SNR=10
NLU North Lily Min 69.16 54 IAmb IAmb 20 03 49.9
comp=Z,92nm,0.9s
PABE Paberze 69.22 330 *eP* **P** **20 03 45.4 -1.4**
KIV Kislovodsk 69.30 312 ⇓P **P** **20 03 47.6 0.0**
KIV Kislovodsk 69.30 312 P **P** **20 03 48.8 +1.2**
KIV Kislovodsk 69.30 312 *eP* **P** **20 03 48.0 +0.4**
KIV *e**PP **pP** **20 04 18.5 +3.9**
KIV *e* 20 06 24.0
KIV *eS* **S** **20 12 47.1 +1.9**
KIV pmax pmax
comp=Z,130nm,1.1s
KIV pmax pmax
comp=Z,104nm,3.1s
KIV MLR MLR
comp=Z,421nm,17.0s
KIV Kislovodsk 69.30 312 *i* P **P** **20 03 46.8 -0.8**
SNR=34
KIV Kislovodsk 69.30 312 *eP* **P** **20 03 48.0 +0.4**
KIV Kislovodsk 69.30 312 P **P** **20 03 48.3 +0.7**
KIV pP **pP** **20 04 16.2 +1.6**
SHOC Shoshone, Teco 69.34 60 P **P** **20 03 47.9 +0.1**
baz=311
KBZ Khabaz 69.34 312 *ceP* **P** **20 03 48.3 +0.6**
KBZ pmax pmax
comp=Z,156nm,1.6s
KBZ Khabaz 69.34 312 P **P** **20 03 48.4 +0.6**
comp=Z,31nm,1.0s,baz=69,slow=4.3,SNR=53
KBZ S **S** **20 12 37.1 -8.3**
comp=Z,1.2nm,0.9s,baz=154,slow=10,SNR=1.5
comp=Z,31nm,1.0s
MPU Maple Canyon 69.37 54 IAmb IAmb 20 03 51.2
comp=Z,88nm,0.8s
GSC Goldstone, Bar 69.41 60 P **P** **20 03 48.5 +0.1**
baz=311,SNR=34
FMP Fort Macarthur 69.52 63 P **P** **20 03 49.2 +0.2**
baz=311
PBUR Paburge 69.53 331 *eP* **P** **20 03 48.3 -0.3**
ASAR Alice Springs 69.53 194 P **P** **20 03 50.0 +1.0**
comp=Z,32nm,0.9s,baz=8.3,slow=5.7,SNR=1.6
comp=Z,32nm,0.9s
RRX Edison Barstow 69.57 61 P **P** **20 03 49.8 +0.5**
baz=311
BFSC Mount Baldy Ra 69.57 62 P **P** **20 03 49.7 +0.3**
baz=311,SNR=20
FOO Floro 69.58 342 *eP* **P** **20 03 47.2 -1.5**
ANGG Ammassalik, Gr 69.62 2 *i* P **P** **20 03 46.8 -2.2**
ANGG IAmb IAmb 20 03 49.5
comp=Z,29nm,0.8s
SKAR Skarslia 69.64 340 *eP* **P** **20 03 49.2 -0.1**
ISOG Isortoq, Green 69.64 3 *i* P **P** **20 03 46.2 -2.9**
ISOG IAmb IAmb 20 03 50.2
comp=Z,45nm,0.9s
CIS Catalina Islan 69.64 63 P **P** **20 03 49.4 -0.4**
baz=311
HYA Hoyanger 69.70 341 *eP* **P** **20 03 48.9 -0.7**
ONI Oni 69.82 310 P **P** **20 03 51.4 +0.6**
ONI Oni 69.82 310 IAmb IAmb 20 03 53.4
comp=Z,219nm,1.5s
ONI Oni 69.82 310 P **P** **20 03 51.9 +1.1**
SCI2 San Clemente I 69.84 63 P **P** **20 03 49.8 -1.2**
baz=311
TUQ Turquoise Moun 69.86 60 P **P** **20 03 51.9 +0.7**
baz=312,SNR=44
HEC Hector,Ludlow 70.01 61 P **P** **20 03 52.7 +0.7**
baz=312,SNR=69
BBRC Big Bear Solar 70.02 61 P **P** **20 03 53.0 +0.7**
baz=312
NUUK Nuuk 70.05 9 *i* P **P** **20 03 51.1 -0.5**
NUUK IAmb IAmb 20 03 53.6
comp=Z,114nm,0.9s
ELS Elsinore Mount 70.10 62 IAmb IAmb 20 04 22.1
comp=Z,87nm,1.1s
SUE Sulen 70.12 342 *eP* **P** **20 03 51.2 -0.9**
ULM Lac du Bonnet 70.18 38 IAmb IAmb 20 03 53.9
comp=Z,72nm,0.7s
ULM Lac du Bonnet 70.18 38 P **P** **20 03 53.0 +0.3**
comp=Z,73nm,0.6s,baz=312,slow=6.8,SNR=152
ULM pP **pP** **20 04 20.9 +0.7**
comp=Z,19nm,0.7s,baz=332,slow=7.6,SNR=3.5
comp=Z,73nm,0.6s
TRLG Trialeti 70.18 309 P **P** **20 03 53.4 +0.3**
MDND Maddock 70.24 41 P **P** **20 03 54.5 +1.3**
baz=316,SNR=26
MDND Maddock 70.24 41 P **P** **20 03 54.3 +1.1**
baz=316,SNR=26
BORG Borgarnes 70.25 355 P **P** **20 03 52.9 +0.1**
BORG IAmb IAmb 20 03 55.9
comp=Z,181nm,1.4s
BORG Borgarnes 70.25 355 P **P** **20 03 52.9 +0.1**
BORG pmax pmax
comp=Z,181nm,1.4s
P17A Butcher Ranch, 70.25 54 IAmb IAmb 20 03 56.1
comp=Z,112nm,0.9s
MURC Murrieta 70.28 62 P **P** **20 03 54.7 +1.0**
baz=312,SNR=21
K22A Casper 70.42 49 IAmb IAmb 20 03 56.5
comp=Z,226nm,1.4s
K22A Casper 70.42 49 P **P** **20 03 55.6 +1.0**
baz=314,SNR=19
K22A Casper 70.42 49 P **P** **20 03 55.4 +0.8**
baz=314,SNR=19
GMRC Granite Mounta 70.45 60 P **P** **20 03 55.9 +1.1**
baz=312,SNR=44
TRD Trivandrum 70.55 262 *eP* **P** **20 03 56.3 +0.8**
TRD *i* x x 20 04 24.2
E28A Huff 70.64 43 P **P** **20 03 56.2 +0.6**
baz=316,SNR=17
SUW Suwalki 70.68 329 *eP* **P** **20 03 54.4 -1.3**
SUW Suwalki 70.68 329 *eP* **P** **20 03 55.4 -0.3**
KNB Kanab 70.68 57 IAmb IAmb 20 03 59.8
comp=Z,117nm,1.3s
RSSD Black Hills 70.70 46 P **P** **20 03 57.2 +0.9**
RSSD IAmb IAmb 20 03 58.1
comp=Z,111nm,0.8s
RSSD Black Hills 70.70 46 P **P** **20 03 57.3 +0.9**
RSSD pmax pmax
comp=Z,111nm,0.8s
RSSD Black Hills 70.70 46 P **P** **20 03 56.8 +0.5**
baz=315
RSSD Black Hills 70.70 46 P **P** **20 03 56.8 +0.5**
baz=315,SNR=87
RSSD Black Hills 70.70 46 P **P** **20 03 57.0 +0.7**
RSSD pP **pP** **20 04 24.5 +0.6**
RWWY Rawlins 70.71 50 IAmb IAmb 20 03 58.0
comp=Z,113nm,0.9s
PFO Pinyon Flats O 70.73 62 P **P** **20 03 57.2 +0.7**
PFO Pinyon Flats O 70.73 62 P **P** **20 03 57.3 +0.7**
PFO pmax pmax
comp=Z,58nm,1.1s
PFO Pinyon Flats O 70.73 62 P **P** **20 03 57.1 +0.5**
baz=312,SNR=17
PFO Pinyon Flats O 70.73 62 P **P** **20 03 57.4 +0.9**
PFO pP **pP** **20 04 24.8 +0.7**
PFO sP **sP** **20 04 37.3 +1.3**
TPFO Pinon Flats 70.74 62 P **P** **20 03 57.4 +0.8**
baz=312,SNR=18
BELC Belle Mtn. Jos 70.76 61 P **P** **20 03 57.0 +0.3**
baz=312,SNR=20
GNI Garni 70.77 308 P **P** **20 03 58.7 +2.0**
GNI IAmb IAmb 20 04 00.1
comp=Z,191nm,1.4s
GNI Garni 70.77 308 *i* P **P** **20 03 58.4 +1.7**
GNI pmax pmax
comp=Z,181nm,1.5s
GNI Garni 70.77 308 P **P** **20 03 58.3 +1.5**
109C Camp Elliot, M 70.81 63 P **P** **20 04 26.4**
comp=Z,91nm,0.9s
109C Camp Elliot, M 70.81 63 P **P** **20 03 57.4 +0.6**
baz=312,SNR=9.4
AKASG Malin Array Be 70.86 324 P **P** **20 03 55.7 -1.1**
comp=Z,9.6nm,0.4s,baz=38,slow=6.2,SNR=71
comp=Z,9.6nm,0.4s
AKBB Malin Array Si 70.86 324 *ceP* **P** **20 03 55.6 -1.2**
AKBB pmax pmax
comp=Z,73nm,1.5s
KIEV Kiev 70.87 324 ⇑P **P** **20 03 56.1 -0.8**
KIEV Kiev 70.87 324 P **P** **20 03 56.0 -0.9**
KIEV Kiev 70.87 324 ⇑P **P** **20 03 56.1 -0.8**
KIEV Kiev 70.87 324 *i* P **P** **20 03 54.4 -2.5**
SNR=27
KIEV Kiev 70.87 324 P **P** **20 03 55.6 -1.3**
VSLR Vesyoloye 71.03 313 *i* P **P** **20 03 58.3 +0.2**
VSLR pmax pmax
comp=Z,270nm,1.3s
BORU Boraas 71.09 336 *eP* **P** **20 03 57.6 -0.5**
NEE2 Needles Airpor 71.10 60 P **P** **20 03 59.6 +1.0**
baz=312
TASB TASBURUN-IGDIR 71.17 308 P **P** **20 04 00.9 +1.9**
IRM Iron Mountain 71.19 60 P **P** **20 04 00.3 +1.1**
baz=312,SNR=25
O20A White River Ci 71.21 52 IAmb IAmb 20 04 02.0
comp=Z,106nm,1.2s
O20A White River Ci 71.21 52 P **P** **20 03 59.9 +0.5**
baz=314,SNR=59
MONP2 Monument Peak 71.23 62 P **P** **20 04 00.2 +0.5**
baz=312,SNR=11
BLEU Blekinge 71.31 334 *eP* **P** **20 03 57.7 -1.7**
BC3 Big Chuckawall 71.33 61 P **P** **20 04 01.0 +0.9**
baz=312,SNR=29
KARS Kars 71.37 309 P **P** **20 04 01.8 +1.5**
U15A North Rim 71.39 57 IAmb IAmb 20 04 04.1
comp=Z,114nm,1.3s
ANN Anapa 71.41 315 *eP* **P** **20 03 58.1 -2.2**
ANN *e**PP **pP** **20 04 27.4 +0.3**
ANN *eS* **S** **20 13 07.8 -1.6**
ANN pmax pmax
comp=Z,191nm,1.6s
BATM Batumi 71.45 311 P **P** **20 04 00.9 +0.3**
BATM Batumi 71.45 311 P **P** **20 04 01.1 +0.5**
IKP In-Ko-Pah, Jac 71.59 62 P **P** **20 04 02.4 +0.7**
baz=312,SNR=12
BCA Borcka 71.60 310 P **P** **20 04 01.5 0.0**
AGMN Agassiz Nation 71.63 39 IAmb IAmb 20 04 02.6
comp=Z,73nm,0.8s
AGMN Agassiz Nation 71.63 39 P **P** **20 04 01.6 +0.1**
baz=318,SNR=22
PDMCI Parker Dam,Lak 71.70 60 P **P** **20 04 03.2 +0.9**
baz=312,SNR=42
DEL Delary 71.76 335 *i* P **P** **20 04 01.0 -1.1**
SENK Senkaya-Erzuru 71.82 309 P **P** **20 04 04.8 +1.7**
BLYC Blythe 71.84 60 IAmb IAmb 20 04 33.1
comp=Z,117nm,0.9s
N23A Red Feather La 71.95 50 IAmb IAmb 20 04 06.5
comp=Z,80nm,0.9s
N23A Red Feather La 71.95 50 P **P** **20 04 04.8 +0.9**
baz=314,SNR=10
D32B Dogwood Acres, 71.96 41 P **P** **20 04 04.0 +0.4**
baz=318,SNR=6.6
SNART Snartemo 71.96 339 *eP* **P** **20 04 03.5 +0.2**
ESJX Sierra Juarez 72.12 63 IAmb IAmb 20 04 34.9
comp=Z,74nm,1.0s
AGRB Hanur-Agry 72.15 308 P **P** **20 04 06.3 +1.3**
CHOM Cayeli-Rize 72.31 311 P **P** **20 04 07.9 +2.2**
KOPR Koprukoy-ERZUR 72.49 309 P **P** **20 04 09.2 +2.2**
B35A Bob, Littlefor 72.52 38 IAmb IAmb 20 04 08.3
comp=Z,96nm,0.6s
B35A Bob, Littlefor 72.52 38 P **P** **20 04 07.0 +0.1**
baz=319,SNR=64
WUAZ Wupatki 72.56 57 P **P** **20 04 08.2 +0.7**
baz=313,SNR=6.6
SMCO Snowmass 72.58 52 IAmb IAmb 20 04 10.1
comp=Z,66nm,0.8s
LUNU Lund 72.59 335 *i* P **P** **20 04 06.0 -1.1**
VANB Van 72.60 307 P **P** **20 04 09.8 +2.1**
Y14A Wickenburg 72.65 59 IAmb IAmb 20 04 38.1
comp=Z,91nm,1.0s
MLAZ Malazgirt-MUS 72.69 308 P **P** **20 04 10.3 +2.0**
ISCO Idaho Springs 72.89 51 P **P** **20 04 10.9 +1.3**
ISCO Idaho Springs 72.89 51 P **P** **20 04 11.2 +1.6**
baz=315,SNR=74
ISCO Idaho Springs 72.89 51 P **P** **20 04 11.0 +1.4**
baz=315,SNR=74
SIM Simferopol' 72.93 317 *eP* **P** **20 04 07.9 -1.4**
SIM *eS* **S** **20 13 22.0 -4.9**
SIM pmax pmax
comp=Z,151nm,1.4s
AKDM Akdamar-Van 73.02 307 P **P** **20 04 11.6 +1.4**
SUSD Miller 73.02 44 P **P** **20 04 10.6 +0.7**
baz=317,SNR=10
SUSD Miller 73.02 44 P **P** **20 04 10.0 +0.1**
baz=317,SNR=10
BRIGG Briggsdale 73.05 49 IAmb IAmb 20 04 12.8
comp=Z,141nm,0.8s
MVCO Mesa Verde 73.08 54 IAmb IAmb 20 04 12.9
comp=Z,72nm,0.8s
MVCO Mesa Verde 73.08 54 P **P** **20 04 11.9 +1.3**
baz=314,SNR=51
SORM Soroca 73.18 322 ⇑P **P** **20 04 10.4 -0.3**
SORM Soroca 73.18 322 ⇑P **P** **20 04 10.4 -0.3**
BANOM Banah 73.20 290 P **P** **20 04 11.8 +0.5**
SHME Shamm 73.22 290 P **P** **20 04 11.9 +0.5**
F33A 5 Mile Ranch, 73.26 41 IAmb IAmb 20 04 12.8
comp=Z,70nm,0.8s
F33A 5 Mile Ranch, 73.26 41 P **P** **20 04 11.5 +0.2**
baz=318,SNR=18
VRTB Varto-Mus 73.29 309 P **P** **20 04 12.6 +0.9**
IVI Ivigtut 73.33 8 *i* P **P** **20 04 10.7 -0.6**
IVI IAmb IAmb 20 04 12.3
comp=Z,92nm,1.0s
GKP Gorka Klasztor 73.37 332 *eP* **P** **20 04 12.3 +0.5**
GURO Guroymak-BITLI 73.39 308 P **P** **20 04 14.3 +1.9**
CUKT Cukurca 73.42 306 P **P** **20 04 13.6 +1.1**
MNCY Minicoy 73.48 265 *eP* **P** **20 04 13.0 0.0**
ESPY Espiye-Giresun 73.52 312 P **P** **20 04 12.7 -0.2**
MDH Madha 73.62 289 *i* P **P** **20 04 13.5 -0.2**
SNR=8.9
NRS Narsarsuaq 73.63 7 *i* P **P** **20 04 11.3 -1.8**
NRS IAmb IAmb 20 04 13.8
comp=Z,31nm,0.9s
LVV L'vov 73.66 326 *eP* **P** **20 04 13.1 -0.4**
LVV *e**PP **pP** **20 04 41.8 +1.1**
LVV *eS* **SKiKP** **20 13 31.1 -0.8**
LVV pmax pmax
comp=Z,140nm,1.6s
Q24A Divide 73.74 51 P **P** **20 04 15.3 +0.7**
baz=315,SNR=41
W18A Petrified Fore 73.80 56 P **P** **20 04 15.0 +0.1**
baz=314,SNR=6.6
EYMN Ely 73.80 37 IAmb IAmb 20 04 15.6
comp=Z,107nm,0.8s
EYMN Ely 73.80 37 P **P** **20 04 14.9 +0.4**
baz=321,SNR=36
EYMN Ely 73.80 37 P **P** **20 04 14.4 0.0**
baz=321,SNR=36
BNGB Bingl 73.83 309 P **P** **20 04 16.5 +1.6**
KIS Kishinev 73.85 321 ⇓*i*P **P** **20 04 14.2 -0.4**
comp=Z,250nm,2.5s
KIS *ep*P **sP** **20 04 53.0 -0.3**
KIS Kishinev 73.85 321 *d*P **P** **20 04 14.2 -0.4**
KIS pmax pmax
comp=Z,250nm,2.5s
UMQ Umm Al-Quwin 73.89 290 P **P** **20 04 16.4 +1.2**
MILM Milestii Mici 73.91 321 ⇓*i*P **P** **20 04 14.2 -0.8**
comp=Z,480nm,2.4s
MILM Milestii Mici 73.91 321 ⇓P **P** **20 04 15.3 +0.3**
MILM Milestii Mici 73.91 321 *d*P **P** **20 04 14.2 -0.8**
MILM pmax pmax
comp=Z,480nm,2.4s
UOSS Minazif 73.92 289 P **P** **20 04 15.9 +0.4**
UOSS Minazif 73.92 289 *i* P **P** **20 04 15.6 +0.2**
SNR=48
ERZN Erzincan 73.93 310 P **P** **20 04 16.9 +1.4**
PIX Pinacate 73.98 61 IAmb IAmb 20 04 45.6
comp=Z,97nm,1.0s
K30B Basset 73.99 45 P **P** **20 04 16.4 +0.8**
baz=317,SNR=56
OGNE Ogallala 74.00 48 P **P** **20 04 16.9 +1.0**
baz=316,SNR=75
OGNE Ogallala 74.00 48 P **P** **20 04 16.7 +0.9**
baz=316,SNR=75
HATD Hatta, Dubai 74.05 289 *i* P **P** **20 04 17.0 +0.7**
SNR=50
214A Organ Pipe Nat 74.11 61 IAmb IAmb 20 04 46.7
comp=Z,117nm,1.2s
214A Organ Pipe Nat 74.11 61 P **P** **20 04 17.7 +1.1**
baz=314,SNR=14
SVAN Silvan-Diyarba 74.14 308 P **P** **20 04 18.2 +1.6**
ASHO Ashiyiah 74.19 289 *i* P **P** **20 04 17.6 +0.5**
SNR=41
SOHO SOHO 74.25 288 *i* P **P** **20 04 17.6 +0.2**
SNR=30
NAZ Nazwa, Dubai 74.25 290 *i* P **P** **20 04 17.7 +0.3**
SNR=14
KWP Kalwaria Pacla 74.33 326 *eP* **P** **20 04 17.9 +0.4**
KWP Kalwaria Pacla 74.33 326 P **P** **20 04 17.7 +0.2**
SDCO Great Sand Dun 74.40 52 P **P** **20 04 19.9 +1.4**
baz=315,SNR=7.3
SDCO Great Sand Dun 74.40 52 P **P** **20 04 19.5 +1.0**
baz=315,SNR=7.3
FAQ Al Faqa, Dubai 74.47 289 *i* P **P** **20 04 18.9 +0.3**
SNR=32
LEOM Leova 74.50 321 ⇑P **P** **20 04 19.1 +0.6**
LEOM Leova 74.50 321 ⇑P **P** **20 04 19.1 +0.6**
F36A Milaca 74.51 40 P **P** **20 04 18.4 -0.2**
baz=320,SNR=17
VASR Vaslui 74.57 322 ⇓P **P** **20 04 19.8 +1.0**

PTK Pertek 74.61 310 P P 20 04 21.3 +1.8
RSDY Resadiye-TOKAT 74.63 312 P P 20 04 20.8 +1.4
ILIC ilic-Erzincan 74.65 311 P P 20 04 21.2 +1.5
ECSD EROS Data Cent 74.68 43 IAmb IAmb 20 04 21.1
comp=Z,129nm,0.9s
PRAR RASCA 74.69 323 ⇓P P 20 04 20.0 +0.4
ASUD Al Ashush, Dub 74.72 290 *i* P P 20 04 20.8 +0.7
SNR=24
DIKM Dikmen 74.79 314 ⇑P P 20 04 21.5 +1.2
DIKM Dikmen 74.79 314 P P 20 04 22.0 +1.8
KVT Kavak 74.80 313 P P 20 04 22.1 +1.7
E38A The Farm, Brul 74.82 38 IAmb IAmb 20 04 21.3
comp=Z,126nm,0.8s
E38A The Farm, Brul 74.82 38 P P 20 04 20.3 0.0
baz=321,SNR=51
ALNE Al Ain 74.82 289 *i* P P 20 04 21.4 +0.6
SNR=51
DYBB Diyarbakir 74.87 309 P P 20 04 22.3 +1.4
BURAR Bucovina Array 74.92 324 ⇑P P 20 04 21.4 +0.4
BURAR Bucovina Array 74.92 324 P P 20 04 22.7 +1.7
BIR Birlad 74.93 322 ⇑P P 20 04 22.3 +1.4
BIR Birlad 74.93 322 P P 20 04 22.3 +1.4
AJN Ajban 74.99 290 *i* P P 20 04 21.7 +0.1
SNR=7.9
ARPR Arapgir-MALATY 75.04 311 P P 20 04 23.8 +1.9
ARPR Arapgir-MALATY 75.04 311 IAmb IAmb 20 04 25.0
comp=Z,171nm,1.2s
MAZI Mazidag 75.05 308 P P 20 04 23.3 +1.3
VLDR Vladesti 75.06 321 ⇑P P 20 04 22.3 +0.7
KOLS Kolonicke sedl 75.06 326 *eP* P 20 04 22.3 +0.6
KOLS pmax pmax
comp=Z,49nm,1.7s
KOLS Kolonicke sedl 75.06 326 *eP* P 20 04 22.3 +0.6
KOLS *e* 20 15 07.3
STHS Stebnicka Huta 75.08 327 *eP* P 20 04 21.6 -0.2
STHS pmax pmax
comp=Z,73nm,1.8s
STHS Stebnicka Huta 75.08 327 *eP* P 20 04 21.5 -0.2
KSCO Kaye Shedlock' 75.08 49 P P 20 04 22.8 +0.7
baz=316,SNR=14
KSCO Kaye Shedlock' 75.08 49 P P 20 04 23.1 +1.0
baz=316,SNR=14
TOKT Tokat 75.10 313 P P 20 04 23.4 +1.3
TUC Tucson 75.12 59 P P 20 04 24.0 +1.6
TUC Tucson 75.12 59 P P 20 04 24.0 +1.6
TUC pmax pmax
comp=Z,58nm,1.2s
TUC Tucson 75.12 59 P P 20 04 23.7 +1.3
baz=314
VARL Varlezi 75.12 321 ⇓P P 20 04 23.3 +1.2
SVSK Karacayir 75.15 312 P P 20 04 23.9 +1.6
TESR Tescani 75.17 322 ⇓P P 20 04 22.4 0.0
RUE Ruedersdorf 75.17 333 *eP* P 20 04 22.9 +0.7
RUE Ruedersdorf 75.17 333 *eP* P 20 04 22.4 +0.2
comp=Z,424nm,2.3s,baz=29,slow=5.7
RUE *ep*P PcP 20 04 39.7 +4.5
GHRR 75.19 322 ⇓P P 20 04 23.1 +0.7
SCTR Scanteiesti 75.23 321 ⇑P P 20 04 23.1 +0.4
TLCR 75.23 320 ⇑P P 20 04 23.3 +0.6
TLCR 75.23 320 P P 20 04 24.6 +1.9
TATR Tatarca 75.26 321 ⇑P P 20 04 23.0 +0.1
SPMN Marine on St. 75.33 40 IAmb IAmb 20 04 24.4
comp=Z,61nm,0.8s
SPMN Marine on St. 75.33 40 P P 20 04 22.6 -0.6
baz=320,SNR=18
SPMN Marine on St. 75.33 40 P P 20 04 23.5 +0.2
baz=320,SNR=18
SLCR Slobozia Conac 75.39 321 ⇓P P 20 04 25.0 +1.4
CRVS Cervenica-Dubn 75.41 327 *eP* P 20 04 23.9 +0.2
CRVS pmax pmax
comp=Z,305nm,2.0s
CRVS Cervenica-Dubn 75.41 327 *eP* P 20 04 23.8 +0.1
IZVR Izvoarele 75.43 321 ⇓P P 20 04 25.1 +1.3
NIE Niedzica 75.44 328 *eP* P 20 04 24.0 +0.2
NIE Niedzica 75.44 328 P P 20 04 24.0 +0.2
SCHL Schela 75.44 321 ⇑P P 20 04 24.8 +1.0
T25A Trinidad 75.44 52 IAmb IAmb 20 04 26.5
comp=Z,74nm,0.8s
T25A Trinidad 75.44 52 P P 20 04 24.8 +0.5
baz=316,SNR=32
PANC Panciu 75.45 322 ⇑P P 20 04 24.7 +0.7
SCHLR Schela 75.46 321 ⇓P P 20 04 24.7 +0.7
CFR Carcaliu 75.55 321 ⇑P P 20 04 25.1 +0.6
CFR Carcaliu 75.55 321 P P 20 04 25.1 +0.6
ODBI Odobesti 75.58 322 ⇓P P 20 04 26.1 +1.5
BMR Baia Mare 75.58 325 ⇓P P 20 04 25.9 +1.2
BMR Baia Mare 75.58 325 P P 20 04 25.9 +1.2
KPL Plockton 75.63 346 *eP* P 20 04 24.8 +0.1
KPL IAmb IAmb 20 04 26.2
comp=Z,55nm,1.0s
VRI Vrincioaia 75.64 322 ⇑P P 20 04 25.4 +0.4
VRI ⇑P P 20 04 25.9 +0.8
VRI Vrincioaia 75.64 322 P P 20 04 25.2 +0.1
VRI Vrincioaia 75.64 322 P P 20 04 25.9 +0.8
BGNE Belgrade 75.66 45 P P 20 04 25.5 +0.2
baz=318,SNR=7.8
BGNE Belgrade 75.66 45 P P 20 04 25.9 +0.6
baz=318,SNR=7.8
TPGR Topolog 75.67 320 ⇑P P 20 04 25.7 +0.5
PLOR Plostina 75.69 322 ⇑P P 20 04 25.4 +0.1
PLOR Plostina 75.69 322 P P 20 04 25.7 +0.4
ARCR ARCALIA 75.69 324 ⇑P P 20 04 26.2 +0.9
KSP Ksiaz 75.71 331 *eP* P 20 04 25.1 -0.2
KSP Ksiaz 75.71 331 P P 20 04 24.7 -0.7
D41A Chassel 75.73 36 IAmb IAmb 20 04 28.2
comp=Z,76nm,0.8s
D41A Chassel 75.73 36 P P 20 04 26.0 +0.4
baz=323,SNR=26
TURR Turia 75.80 322 ⇑P P 20 04 26.5 +0.5
ANMO Albuquerque 75.84 55 P P 20 04 28.1 +1.5
ANMO Albuquerque 75.84 55 P P 20 04 28.2 +1.5
ANMO pmax pmax
comp=Z,40nm,0.9s
ANMO Albuquerque 75.84 55 P P 20 04 26.8 +0.2
baz=315
ANMO Albuquerque 75.84 55 P P 20 04 28.1 +1.5
baz=315,SNR=60
OZUR 75.87 323 ⇑P P 20 04 27.7 +1.3
DARE Darende-Malaty 75.87 311 P P 20 04 28.7 +2.1
COVR Voineasa-Covas 75.88 322 ⇑P P 20 04 27.1 +0.7
BISRR Bisoca 75.89 322 ⇑P P 20 04 27.8 +1.2
GRER 75.91 321 ⇑P P 20 04 28.6 +2.0
BOSR Bodos 75.94 323 ⇓P P 20 04 27.3 +0.5
LANS Liptovska Anna 75.97 328 *eP* P 20 04 27.9 +1.0
LANS pmax pmax
comp=Z,51nm,1.4s
LANS Liptovska Anna 75.97 328 *eP* P 20 04 27.9 +1.0
LANS *e* 20 15 15.9
TIRR Tirgusor 75.98 320 ⇓P P 20 04 26.8 -0.1
TIRR Tirgusor 75.98 320 P P 20 04 27.5 +0.6
TIRR Tirgusor 75.98 320 P P 20 04 26.8 -0.1
OSTC Ostas 75.98 331 *eP* P 20 04 26.9 0.0
I37B Waseca 75.98 41 P P 20 04 28.0 +0.9
baz=320,SNR=29
CHVC Chvalec 76.01 331 *eP* P 20 04 21.7 -5.4
HARR Harsova 76.02 320 ⇓P P 20 04 27.6 +0.4
HARR Harsova 76.02 320 P P 20 04 27.6 +0.4
UPC Upice 76.09 331 *eP* P 20 04 27.6 +0.1
FLTG Flechtingen 76.10 334 *eP* P 20 04 27.3 -0.2
comp=Z,142nm,1.7s,baz=29,slow=5.7
DPC Dobruska-Polom 76.11 330 *eP* P 20 04 28.0 +0.3
L34A Svendsen Farm, 76.12 44 P P 20 04 28.5 +0.7
baz=319,SNR=5.7
KECS Kecovo 76.13 327 *eP* P 20 04 28.7 +1.0
KECS pmax pmax
comp=Z,67nm,1.7s
KECS Kecovo 76.13 327 *eP* P 20 04 28.7 +1.0
DOPR Dopca 76.14 323 ⇑P P 20 04 29.2 +1.3
MORC Moravsky Berou 76.16 329 ⇓P P 20 04 28.2 +0.2
MORC Moravsky Berou 76.16 329 IAmb IAmb 20 04 29.8
comp=Z,183nm,1.7s
MORC Moravsky Berou 76.16 329 *eP* P 20 04 28.0 0.0
MORC Moravsky Berou 76.16 329 P P 20 04 28.2 +0.2
EFOR EFORIE 76.17 320 ⇓P P 20 04 29.0 +1.0
NEHR Nehoiu 76.17 322 ⇑P P 20 04 29.3 +1.2
KRLC Kraliky 76.18 330 *eP* P 20 04 28.1 0.0
Y22D IRIS PASSCAL I 76.19 56 P P 20 04 28.3 -0.2
baz=315
Y22F Passcal Instru 76.19 56 P P 20 04 28.8 +0.2
baz=315
CORM Corum 76.19 314 P P 20 04 30.2 +1.8
MESR Meseseni 76.22 325 ⇑P P 20 04 29.5 +1.2
SCHQ Schefferville 76.25 20 IAmb IAmb 20 04 30.0
comp=Z,111nm,1.0s
SCHQ Schefferville 76.25 20 P P 20 04 28.7 +0.3
comp=Z,66nm,0.9s,baz=346,slow=6.1,SNR=71
SCHQ pP pP 20 04 54.4 -1.9
comp=Z,15nm,0.8s,baz=14,slow=10,SNR=2.7
comp=Z,66nm,0.9s
COWI Conover 76.25 37 IAmb IAmb 20 04 29.6
comp=Z,61nm,0.7s
COWI Conover 76.25 37 P P 20 04 28.6 0.0
baz=322
Y22A Socorro 76.26 56 P P 20 04 29.6 +0.6
baz=315,SNR=9.3
PGOR Pogoanele 76.27 321 ⇓P P 20 04 29.5 +0.9
MLR Muntele Rosu 76.28 322 ⇓P P 20 04 29.2 +0.4
MLR ⇑P PcP 20 04 29.5 -11
MLR Muntele Rosu 76.28 322 P P 20 04 29.5 +0.7
MLR Muntele Rosu 76.28 322 IAmb IAmb 20 04 31.5
comp=Z,124nm,1.3s
MLR Muntele Rosu 76.28 322 ⇑P P 20 04 29.5 +0.7
NRDL Niedersach Rie 76.30 335 *eP* P 20 04 28.8 +0.3
comp=Z,104nm,1.8s,baz=29,slow=5.7
ISR Istrita 76.30 322 ⇓P P 20 04 29.8 +0.9
ISR Istrita 76.30 322 ⇓P P 20 04 29.8 +0.9
CJR Cluj-Napoca 76.31 324 ⇓P P 20 04 29.6 +0.8
CJR Cluj-Napoca 76.31 324 P P 20 04 29.6 +0.8
RETH Rethem/Aller, 76.31 336 *eP* P 20 04 28.3 -0.3
comp=Z,150nm,1.7s,baz=29,slow=5.7
AMRR Amara 76.35 321 ⇓P P 20 04 30.2 +1.2
AMRR Amara 76.35 321 ⇓P P 20 04 30.3 +1.2
MANR Mangalia 76.39 319 ⇑P P 20 04 29.6 +0.3
CLL Collm 76.42 333 *i* P P 20 04 28.7 -0.7
CLL pmax pmax
comp=Z,153nm,1.6s
CLL Collm 76.42 333 *i* P P 20 04 28.7 -0.7
comp=Z,153nm,1.6s
CLL *es*P sP 20 05 04.0 -4.4
CLL *e*S S 20 14 06.0 +0.6
CLL *e*SKSac SKKSac 20 14 31.0 +0.1
CLL Collm 76.42 333 *eP* P 20 04 29.2 -0.2
comp=Z,75nm,1.2s,baz=29,slow=5.7
ASSE Asse, Remlinge 76.45 334 *eP* P 20 04 29.6 +0.2
comp=Z,260nm,2.5s,baz=29,slow=5.7
G40A Rib Lake 76.45 38 IAmb IAmb 20 04 30.8
comp=Z,64nm,0.8s
G40A Rib Lake 76.45 38 P P 20 04 29.8 +0.1
baz=322,SNR=32
BRG Berggiesshubel 76.49 332 *i* P P 20 04 29.3 -0.4
BRG Amp 20 04 31.9
comp=Z,103nm,1.7s
BRG Berggiesshubel 76.49 332 *i* P P 20 04 29.3 -0.4
BRG S S 20 14 06.0 -0.2
BRG pmax pmax
comp=Z,103nm,1.7s
BRG Berggiesshubel 76.49 332 *eP* P 20 04 29.9 +0.2
comp=Z,103nm,1.7s,baz=29,slow=5.7
N33B J Bar K, Exete 76.51 45 P P 20 04 30.1 0.0
baz=319
ICOR Ion Corvin 76.52 320 ⇑P P 20 04 31.5 +1.5
MARR Marisel-Cluj 76.53 324 ⇑P P 20 04 29.9 -0.3
BNN Bunyan 76.54 312 P P 20 04 31.5 +1.1
SARI SarD1z-Kayseri 76.56 311 P P 20 04 32.2 +1.6
PVCC Panska Ves 76.57 331 *eP* P 20 04 31.1 +0.9
DRGR 76.61 325 *eP* P 20 04 31.9 +1.3
DRGR 76.61 325 P P 20 04 28.9 -1.7
LAWE Loch Awe, Argy 76.61 345 *eP* P 20 04 30.2 -0.1
319A Douglas 76.68 59 IAmb IAmb 20 04 34.3
comp=Z,121nm,0.8s
VOIR 76.70 323 ⇓P P 20 04 31.8 +0.6
VOIR 76.70 323 P P 20 04 31.8 +0.6
BORR Bors 76.74 325 ⇓P P 20 04 32.3 +1.1
VYHS Vyhne 76.75 328 *eP* P 20 04 31.7 +0.4
VYHS pmax pmax
comp=Z,175nm,1.6s
VYHS Vyhne 76.75 328 *eP* P 20 04 31.7 +0.4
VYHS *e* 20 15 17.3
CBKS Cedar Bluff 76.76 48 IAmb IAmb 20 04 32.5
comp=Z,80nm,0.8s
CBKS Cedar Bluff 76.76 48 P P 20 04 31.3 -0.3
baz=318,SNR=8.9
CBKS Cedar Bluff 76.76 48 P P 20 04 31.9 +0.4
baz=318,SNR=8.9
121A Cookes Peak, D 76.77 57 P P 20 04 33.2 +1.3
baz=315,SNR=30
121A Cookes Peak, D 76.77 57 P P 20 04 33.8 +1.9
baz=315,SNR=30
SULR 76.78 321 ⇓P P 20 04 32.0 +0.5
CLZ Clausthal 76.79 334 *eP* P 20 04 31.8 +0.4
comp=Z,248nm,1.7s,baz=29,slow=5.7
PSZ Piszkesteto 76.81 327 ⇓P P 20 04 32.4 +0.7
PSZ Piszkesteto 76.81 327 IAmb IAmb 20 04 33.9
comp=Z,180nm,1.5s
PSZ Piszkesteto 76.81 327 P P 20 04 32.4 +0.7
JAVC Velka Javorina 76.88 329 *eP* P 20 04 33.2 +1.2
VRAC Vranov 76.89 330 ⇑P P 20 04 33.0 +1.0
VRAC Vranov 76.89 330 *eP* P 20 04 32.3 +0.2
VRAC Vranov 76.89 330 P P 20 04 33.0 +1.0
NEUB Neuenburg 76.90 333 *eP* P 20 04 32.2 +0.1
comp=Z,157nm,1.5s,baz=29,slow=5.7
E43A Lone Tree Farm 76.93 36 IAmb IAmb 20 04 33.4
comp=Z,67nm,0.8s
E43A Lone Tree Farm 76.93 36 P P 20 04 32.4 +0.1
baz=324,SNR=25
ARR Arges 76.94 323 ⇓P P 20 04 33.8 +1.3
F42A Maple Grove Fa 76.95 37 IAmb IAmb 20 04 34.2
comp=Z,80nm,0.8s
F42A Maple Grove Fa 76.95 37 P P 20 04 33.1 +0.7
baz=323,SNR=19
KMRS Kahramanmaras 76.97 310 P P 20 04 34.3 +1.6
GOPC GO Pecny, Ondr 77.02 331 *eP* P 20 04 34.0 +1.2
PRU Pruhonice 77.04 331 *eP* P 20 04 32.6 -0.2
BR131 Keskin Array S 77.04 314 P P 20 04 34.0 +0.8
BR131 Keskin Array S 77.04 314 IAmb IAmb 20 04 35.4
comp=Z,129nm,1.4s
BRTR Keskin Array B 77.04 314 *i* P P 20 04 33.7 +0.5
BRTR pmax pmax
comp=Z,22nm,0.8s
BRTR Keskin Array B 77.04 314 P P 20 04 33.8 +0.5
comp=Z,21nm,0.8s,baz=66,slow=3.1,SNR=64
comp=Z,21nm,0.8s
GAZ Gaziantep 77.04 310 P P 20 04 35.1 +1.9
GAZ Gaziantep 77.04 310 IAmb IAmb 20 04 36.2
comp=Z,215nm,1.7s
EKA Eskdalemuir Ar 77.05 344 P P 20 04 32.3 -0.6
comp=Z,4.5nm,0.5s,baz=21,slow=4.9,SNR=25
comp=Z,4.5nm,0.5s
MZR Muzera 77.06 289 *i* P P 20 04 33.8 +0.4
SNR=7.2
IBBN Ibbenburen 77.16 336 *eP* P 20 04 33.6 +0.2
comp=Z,143nm,1.5s,baz=29,slow=5.7
KRUC Movsky 77.17 330 *eP* P 20 04 33.7 +0.1
GTTG Gottingen 77.17 335 *eP* P 20 04 34.0 +0.4
comp=Z,117nm,1.4s,baz=29,slow=5.7
STFAR Stefanesti-Arg 77.20 322 ⇑P P 20 04 34.4 +0.6
LOT Lotru 77.24 323 ⇓P P 20 04 34.3 +0.1
SMOL Smolenice 77.25 329 *eP* P 20 04 35.3 +1.2
DEV Deva 77.26 324 ⇑P P 20 04 34.4 +0.3
DEV Deva 77.26 324 P P 20 04 34.4 +0.3
N35A Tabor 77.32 44 P P 20 04 35.6 +1.0
baz=320,SNR=16
K38A Parkersburg 77.33 41 P P 20 04 35.0 +0.4
baz=321,SNR=6.0
I40A Norwalk 77.35 39 IAmb IAmb 20 04 35.8
comp=Z,72nm,0.8s
I40A Norwalk 77.35 39 P P 20 04 34.7 0.0
baz=322,SNR=14
ANTO Ankara 77.36 314 P P 20 04 36.1 +1.2
ANTO Ankara 77.36 314 P P 20 04 36.1 +1.2
ANTO pmax pmax
comp=Z,376nm,1.6s
TANN Tannenbergstha 77.37 333 *eP* P 20 04 35.0 +0.2
comp=Z,113nm,1.7s,baz=29,slow=5.7
PLN Plauen 77.41 333 *eP* P 20 04 34.5 -0.4
comp=Z,117nm,1.6s,baz=29,slow=5.7
MODS Modra-Piesok 77.43 329 *eP* P 20 04 36.2 +1.1
MODS pmax pmax
comp=Z,306nm,1.4s
MODS Modra-Piesok 77.43 329 *eP* P 20 04 36.2 +1.1
MOX Moxa 77.44 333 *eP* P 20 04 35.3 +0.2
comp=Z,128nm,1.5s,baz=29,slow=5.7
HUMR Humele 77.45 322 ⇓P P 20 04 35.4 +0.1
SIRR Siria 77.46 325 ⇑P P 20 04 36.0 +0.7
BUD Budapest 77.51 327 P P 20 04 36.3 +0.8
YUVA Yuva-Kibriscik 77.52 315 P P 20 04 37.2 +1.3
RAZG Razgrad 77.53 321 ⇓P P 20 04 36.3 +0.6
AFSR Afar-Bala (An 77.54 314 P P 20 04 37.2 +1.2
YAYX Yaylak 77.54 313 P P 20 04 36.8 +0.8
KOZT Kozan 77.56 311 P P 20 04 37.2 +1.2
ZVC Zvikov 77.62 331 *eP* P 20 04 36.5 +0.4
ZST Bratislava 77.64 329 *eP* P 20 04 37.4 +1.2
ZST pmax pmax
comp=Z,373nm,1.5s
ZST Bratislava 77.64 329 *eP* P 20 04 37.4 +1.2
LOZB Loznitsa 77.65 320 ⇑P P 20 04 37.1 +0.7
SERE Sereflikochisa 77.66 313 P P 20 04 37.7 +1.0
SURR Surduc 77.69 324 ⇓P P 20 04 36.9 +0.4
SCIA State Center 77.69 42 P P 20 04 36.8 +0.2
baz=321,SNR=12
SCIA State Center 77.69 42 P P 20 04 37.8 +1.2
baz=321,SNR=12
GZR Gura Zlata 77.71 324 ⇓P P 20 04 36.8 0.0
GZR Gura Zlata 77.71 324 ⇓P P 20 04 36.8 0.0
MDUB Mudurnu 77.71 316 P P 20 04 37.9 +1.0
GULA Gulagac 77.76 313 P P 20 04 37.9 +0.7
AMBH Ambrzfalva 77.77 326 ⇑P P 20 04 37.5 +0.6
UBBA Unterbreizbach 77.80 334 *eP* P 20 04 37.2 +0.2
comp=Z,147nm,1.7s,baz=29,slow=5.7
MANZ Manzenberg 77.85 333 *eP* P 20 04 37.8 +0.4
comp=Z,21nm,1.5s,baz=29,slow=5.7
MANZ *ep*P pP 20 04 56.2 -8.6
CMRD Camardi-Nigde 77.87 312 P P 20 04 39.5 +1.6
KULU Kulu 77.88 314 P P 20 04 39.3 +1.4
SAUV Serdivan-Sakar 77.93 316 P P 20 04 38.8 +0.8
KASTN Kahler Asten 77.94 335 *eP* P 20 04 38.2 +0.3
comp=Z,124nm,1.5s,baz=29,slow=5.7
SILT Sile 77.94 317 P P 20 04 38.8 +0.8
BZS Buzias 78.01 325 ⇑P P 20 04 37.9 -0.4
BZS Buzias 78.01 325 *eP* P 20 04 38.2 -0.1
BZS Buzias 78.01 325 ⇑P P 20 04 37.9 -0.4
ROTZ Rotzenmuhle 78.01 332 *eP* P 20 04 38.9 +0.6
comp=Z,37nm,1.6s,baz=29,slow=5.7
HPK Haverah Park 78.02 342 *eP* P 20 04 38.7 +0.5
HPK IAmb IAmb 20 04 39.7
comp=Z,316nm,1.6s
E46A Sault Ste Mari 78.03 34 P P 20 04 38.2 -0.2
baz=325,SNR=15
BUG Bochum--Univer 78.06 336 *eP* P 20 04 38.6 +0.1
comp=Z,159nm,1.5s,baz=29,slow=5.7
GULT Gulveren 78.07 316 P P 20 04 40.1 +1.2
KHC Kasperske Hory 78.10 331 P P 20 04 40.7
comp=Z,168nm,1.4s
KHC Kasperske Hory 78.10 331 *ce*P P 20 04 39.0 +0.2
KHC pmax pmax
comp=Z,349nm,1.7s
KHC Kasperske Hory 78.10 331 *eP* P 20 04 38.8 0.0
KHC *e*PCP PcP 20 04 51.5 +3.5
I42A Draeger Farm, 78.10 38 IAmb IAmb 20 04 40.0
comp=Z,72nm,0.8s
I42A Draeger Farm, 78.10 38 P P 20 04 38.9 0.0
baz=323,SNR=21
CKRC Cesky Krumlov 78.11 331 *eP* P 20 04 38.6 -0.3
SRE Strehaia 78.11 323 ⇑P P 20 04 39.6 +0.7
SRE Strehaia 78.11 323 P P 20 04 39.6 +0.7
VLAD Vladila 78.13 322 ⇓P P 20 04 38.8 -0.2
H43A Windswept, Lux 78.14 37 IAmb IAmb 20 04 40.9
comp=Z,132nm,0.8s
H43A Windswept, Lux 78.14 37 P P 20 04 39.6 +0.5
baz=323,SNR=15
KARA Karaisali 78.14 311 P P 20 04 40.4 +1.2
KSU1 Kansas State U 78.17 46 IAmb IAmb 20 04 40.7
comp=Z,231nm,1.4s
KSU1 Kansas State U 78.17 46 P P 20 04 39.2 -0.1
baz=319,SNR=17
TAHT Tahtakopru-Hat 78.18 310 P P 20 04 40.9 +1.4
HRT Hereke 78.19 317 P P 20 04 40.4 +0.9
SOP Sopron 78.27 329 P P 20 04 40.1 +0.4
HERR Herculane 78.27 324 ⇓P P 20 04 39.6 -0.2
JFWS Jewell Farm 78.28 40 P P 20 04 40.0 +0.1
baz=322,SNR=11
JFWS Jewell Farm 78.28 40 P P 20 04 39.7 -0.2
baz=322,SNR=11
CHBY Cihanbeyli 78.28 313 P P 20 04 40.7 +0.6
GEC2 GERESS Array S 78.30 331 *eP* P 20 04 40.4 +0.4
comp=Z,90nm,1.5s,baz=29,slow=5.7
GERES GERESS Array B 78.30 331 P P 20 04 39.8 -0.2
comp=Z,4.6nm,0.6s,baz=35,slow=7.2,SNR=44
comp=Z,4.6nm,0.6s
CONA Conrad Observa 78.32 329 *i* P P 20 04 40.9 +0.8
comp=Z,112nm,1.4s,SNR=56
ELND Elena 78.32 321 ⇓P P 20 04 40.2 +0.1
WET Wettzell 78.32 332 *eP* P 20 04 40.8 +0.8
comp=Z,186nm,1.4s,baz=29,slow=5.7
SVRH Sivrihisar-ESK 78.32 315 P P 20 04 40.8 +0.5
RONA Rosalia, Austr 78.35 329 *i* P P 20 04 41.0 +0.8
comp=Z,132nm,1.4s,SNR=35
BANR Banloc 78.39 325 ⇓P P 20 04 41.4 +1.0
GRF Grafenberg Arr 78.39 333 *eP* P 20 04 41.2 +0.8
comp=Z,219nm,1.4s,baz=29,slow=5.7
DJES Djerdap 78.40 324 ⇑P P 20 04 40.5 0.0
CTKS Kestanelik-??a 78.42 318 P P 20 04 41.4 +0.7
YESY Yesilyurt 78.44 312 P P 20 04 41.7 +0.7
ADVT Abdulvahap 78.45 317 P P 20 04 41.5 +0.6
L40A Anamosa 78.50 41 IAmb IAmb 20 04 42.0
comp=Z,82nm,0.9s
L40A Anamosa 78.50 41 P P 20 04 40.3 -0.8
baz=322,SNR=12
PLVB Pleven 78.52 322 ⇑P P 20 04 41.3 +0.1
YLV Yalova 78.53 317 P P 20 04 43.3 +1.9
PUNG Punghina 78.54 323 ⇑P P 20 04 41.6 +0.4
N38A Joes South For 78.54 43 P P 20 04 42.0 +0.6
baz=321,SNR=19
LBWR Ladybower, Pea 78.56 342 *eP* P 20 04 41.5 +0.3
LBWR IAmb IAmb 20 04 43.3
comp=Z,91nm,0.9s
G45A Suttons Bay 78.56 36 IAmb IAmb 20 04 42.6
comp=Z,102nm,0.8s
G45A Suttons Bay 78.56 36 P P 20 04 41.7 +0.3
baz=325,SNR=17
G45A P P 20 04 41.7 +0.3
baz=325,SNR=17
BAIL Bailesti 78.57 323 ⇑P P 20 04 41.9 +0.5
SLVT Silivri 78.57 318 P P 20 04 42.5 +1.0
KIZT Kizilcal 78.57 314 P P 20 04 42.5 +0.8
CAVI Cavuskoy 78.58 316 P P 20 04 42.7 +1.1
AMTX Amarillo 78.60 52 P P 20 04 43.0 +1.1
baz=318
AMTX Amarillo 78.60 52 P P 20 04 43.2 +1.3
baz=318,SNR=36
CIFT Cifteler, Eski 78.62 315 P P 20 04 42.2 +0.3
MDVR Moldovita 78.64 324 ⇑P P 20 04 42.1 +0.1
MSTX Muleshoe 78.65 53 P P 20 04 43.0 +0.8
baz=317,SNR=28
MORH Mrgy, Hungar 78.70 327 ⇑P P 20 04 42.1 0.0
GEMT Gemlik 78.72 317 P P 20 04 42.8 +0.5
ARMT Armutlu 78.78 317 P P 20 04 43.3 +0.6
EDRB Edirne 78.78 319 P P 20 04 43.4 +0.8
EDRB Edirne 78.78 319 P P 20 04 43.0 +0.4
MNTX Cornudas Mount 78.79 56 P P 20 04 43.7 +0.9
baz=316,SNR=23
MNTX Cornudas Mount 78.79 56 P P 20 04 43.9 +1.0
baz=316,SNR=23
TNS Taunus Mts 78.80 335 *eP* P 20 04 42.8 +0.1
comp=Z,135nm,1.5s,baz=29,slow=5.7
LADK Ladik-KONYA 78.84 314 P P 20 04 44.1 +0.9
OK035 E0210 Rd and N 78.87 49 IAmb IAmb 20 04 44.9
comp=Z,126nm,0.9s
KAN08 Anthony NE Sta 78.87 48 IAmb IAmb 20 04 44.9
comp=Z,145nm,0.8s
MDNY Mudanya-Bursa 78.92 317 P P 20 04 43.9 +0.5
AHRW Bad Neuenahr-A 78.92 336 *eP* P 20 04 43.7 +0.5
comp=Z,147nm,1.4s,baz=29,slow=5.7
MOA Molln 78.95 330 *eP* P 20 04 43.8 +0.3
comp=Z,52nm,1.9s,SNR=14
U32A Winter Ranch, 78.96 49 IAmb IAmb 20 04 45.7
comp=Z,121nm,0.9s
U32A Winter Ranch, 78.96 49 P P 20 04 44.9 +1.1
baz=318,SNR=14
KAAM Kaadhehdhoo 78.99 260 P P 20 04 45.1 +1.0
KAAM IAmb IAmb 20 04 46.6
comp=Z,240nm,1.4s
ARSA Arzberg 79.01 329 *i* P P 20 04 44.5 +0.6
comp=Z,74nm,1.4s,SNR=33
SHAO Shalim 79.03 284 *i* P P 20 04 45.0 +0.6
SNR=22
KONT Konya--Tatoy 79.03 313 P P 20 04 44.9 +0.7
OK032 Salt Plains WL 79.06 48 IAmb IAmb 20 04 45.9
comp=Z,92nm,0.9s
BEBN Eben Emael 79.09 337 *dP* P 20 04 44.3 +0.2
comp=Z,64nm,0.8s
FRGS Fruska Gora 79.11 325 ⇓P P 20 04 44.5 +0.1
FRGS Fruska Gora 79.11 325 ⇓*i*P P 20 04 44.4 0.0

I45A	**Fountain**	**79.14**	**37**	IAmb	IAmb	20 04 46.6			
	comp=Z,130nm,0.8s								
I45A	**Fountain**	**79.14**	**37**	P	**P**	**20 04 44.7**	**+0.2**		
	baz=324,SNR=7.8								
I45A				P	**P**	**20 04 44.7**	**+0.2**		
	baz=324,SNR=7.8								
ELMS	**Elmsett, Ipswi**	**79.14**	**340**	*e*P	**P**	**20 04 45.2**	**+0.8**		
ELMS				IAmb	IAmb	20 04 48.1			
	comp=Z,88nm,0.8s								
BTNL	**Ternell**	**79.15**	**336**	*d*P	**P**	**20 04 43.7**	**-0.9**		
	comp=Z,60nm,1.7s								
GLMI	**Grayling**	**79.17**	**35**	P	**P**	**20 04 44.6**	**-0.1**		
	baz=325,SNR=17								
GLMI	**Grayling**	**79.17**	**35**	P	**P**	**20 04 45.2**	**+0.5**		
	baz=325,SNR=17								
MEM	**Membach**	**79.17**	**336**	*d*P	**P**	**20 04 44.4**	**-0.1**		
	comp=Z,35nm,1.3s								
BLKB	**Belogradchik**	**79.18**	**323**	⇑P	**P**	**20 04 44.6**	**-0.2**		
KCTX	**Karacabey (Bur**	**79.25**	**317**	P	**P**	**20 04 46.1**	**+0.8**		
L42A	**Oliver, Polo**	**79.26**	**40**	IAmb	IAmb	20 04 46.4			
	comp=Z,65nm,0.8s								
L42A	**Oliver, Polo**	**79.26**	**40**	P	**P**	**20 04 45.0**	**-0.2**		
	baz=323,SNR=16								
P38A	**Dawn**	**79.30**	**44**	IAmb	IAmb	20 04 47.1			
	comp=Z,122nm,0.8s								
P38A	**Dawn**	**79.30**	**44**	P	**P**	**20 04 46.1**	**+0.6**		
	baz=321,SNR=43								
K43A	**Burlington**	**79.30**	**39**	IAmb	IAmb	20 04 46.3			
	comp=Z,94nm,0.9s								
K43A	**Burlington**	**79.30**	**39**	P	**P**	**20 04 45.5**	**0.0**		
	baz=323,SNR=5.5								
BIOA	**Bad Ischl, Aus**	**79.31**	**330**	*i* P	**P**	**20 04 45.7**	**+0.3**		
	comp=Z,114nm,1.3s,SNR=46								
BSTI	**Sart Tilman**	**79.32**	**337**	*d*P	**P**	**20 04 45.9**	**+0.5**		
TVSB	**Tavsanli**	**79.34**	**316**	P	**P**	**20 04 46.5**	**+0.6**		
FOEL	**Foel Wylfa**	**79.36**	**343**	*e*P	**P**	**20 04 45.7**	**+0.1**		
FOEL				IAmb	IAmb	20 04 48.9			
	comp=Z,172nm,1.3s								
UKOP	**Uzunkopru-Edir**	**79.39**	**319**	P	**P**	**20 04 47.6**	**+1.6**		
BHOU	**Houvegnez**	**79.40**	**336**	*d*P	**P**	**20 04 46.1**	**+0.3**		
	comp=Z,29nm,1.2s								
SILI	**Silifke-Mersin**	**79.41**	**311**	P	**P**	**20 04 46.7**	**+0.6**		
KOGS	**Kog**	**79.42**	**328**	*e*P	**P**	**20 04 45.8**	**-0.3**		
EDC	**Edincik**	**79.42**	**318**	P	**P**	**20 04 47.1**	**+0.9**		
PLD	**Plovdiv**	**79.45**	**321**	P	**P**	**20 04 47.1**	**+0.8**		
RKY	**Sarkoy-Tekirda**	**79.48**	**318**	P	**P**	**20 04 48.6**	**+2.0**		
SHUT	**Suhut-Afyon**	**79.49**	**315**	P	**P**	**20 04 47.9**	**+1.2**		
BCLA	**Clavier**	**79.54**	**337**	*d*P	**P**	**20 04 47.0**	**+0.4**		
	comp=Z,29nm,1.2s								
BEIL	**Beino**	**79.54**	**309**	*e*P	**P**	**20 04 47.7**	**+0.8**		
BOVS	**Bovan**	**79.58**	**323**	⇓P	**P**	**20 04 46.6**	**-0.4**		
KDZ	**Kurdzhali**	**79.59**	**320**	P	**P**	**20 04 47.1**	**0.0**		
BGES	**Gesves**	**79.63**	**337**	*d*P	**P**	**20 04 46.4**	**-0.7**		
	comp=Z,28nm,1.3s								
IKL	**Isikli**	**79.63**	**311**	P	**P**	**20 04 47.6**	**+0.3**		
KRBG	**Karabiga-Canak**	**79.66**	**318**	P	**P**	**20 04 48.4**	**+1.0**		
SOKA	**Soboth**	**79.67**	**329**	*i* P	**P**	**20 04 47.6**	**+0.1**		
	comp=Z,165nm,1.4s,SNR=79								
GEDZ	**Gediz**	**79.68**	**316**	P	**P**	**20 04 48.8**	**+1.1**		
FUR	**Furstenfeldbru**	**79.70**	**332**	*e*P	**P**	**20 04 48.3**	**+0.7**		
	comp=Z,280nm,1.4s,baz=29,slow=5.7								
HDMB	**Hadim**	**79.71**	**313**	P	**P**	**20 04 47.8**	**-0.3**		
SEYD	**Seydisehir-KON**	**79.71**	**313**	P	**P**	**20 04 49.3**	**+1.3**		
TEKS	**Tekeris**	**79.73**	**325**	⇓*i*P	**P**	**20 04 47.2**	**-0.6**		
N41A	**Harden Midland**	**79.74**	**41**	P	**P**	**20 04 48.2**	**+0.4**		
	baz=322,SNR=16								
AKKU	**Akkuyu-Mersin**	**79.76**	**311**	P	**P**	**20 04 48.5**	**+0.4**		
BMRD	**Maredsous**	**79.79**	**337**	*d*P	**P**	**20 04 47.6**	**-0.4**		
	comp=Z,43nm,1.2s								
RCHB	**Rochefort**	**79.80**	**337**	*d*P	**P**	**20 04 48.0**	**0.0**		
	comp=Z,31nm,1.3s								
ERIK	**Erikli-Kesan**	**79.81**	**319**	P	**P**	**20 04 49.2**	**+1.0**		
STU	**Stuttgart**	**79.85**	**334**	P	**P**	**20 04 48.9**	**+0.6**		
STU	**Stuttgart**	**79.85**	**334**	*e*P	**P**	**20 04 48.6**	**+0.3**		
	comp=Z,383nm,1.4s,baz=29,slow=5.7								
ALN	**Alexandroupoli**	**79.85**	**319**	P	**P**	**20 04 49.2**	**+0.8**		
ALN	**Alexandroupoli**	**79.85**	**319**	IAmb	IAmb	20 04 50.4			
	comp=Z,163nm,1.3s								
ALN	**Alexandroupoli**	**79.85**	**319**	P	**P**	**20 04 48.9**	**+0.5**		
SIMA	**Simav-Kutahya**	**79.86**	**316**	P	**P**	**20 04 49.4**	**+0.7**		
HWQ	**Hawqa**	**79.87**	**309**	*e*P	**P**	**20 04 49.3**	**+0.5**		
LESA	**Schwarzleotal**	**79.87**	**331**	*i* P	**P**	**20 04 49.0**	**+0.5**		
	comp=Z,124nm,1.2s								
T35B	**Sooner Cattle**	**79.87**	**47**	P	**P**	**20 04 49.7**	**+1.0**		
	baz=320,SNR=58								
RDO	**Rodhopi**	**79.89**	**320**	P	**P**	**20 04 49.7**	**+1.1**		
RDO	**Rodhopi**	**79.89**	**320**	P	**P**	**20 04 49.3**	**+0.7**		
EREN	**Erenkoy**	**79.90**	**311**	P	**P**	**20 04 49.6**	**+0.8**		
L44A	**Lake County Fo**	**79.91**	**39**	P	**P**	**20 04 48.2**	**-0.6**		
	baz=324								
DKNS	**Dickens**	**79.92**	**52**	IAmb	IAmb	20 04 52.4			
	comp=Z,100nm,0.8s								
ENEZ	**Enez**	**79.92**	**319**	P	**P**	**20 04 48.9**	**+0.1**		
LPK	**Lapseki**	**79.93**	**318**	P	**P**	**20 04 49.9**	**+1.0**		
KBA	**Koelnbreinsper**	**79.94**	**330**	*i* P	**P**	**20 04 49.4**	**+0.4**		
	comp=Z,187nm,1.4s,SNR=68								
KBA	**Koelnbreinsper**	**79.94**	**330**	P	**P**	**20 04 48.9**	**-0.2**		
GIVF	**Givet**	**79.96**	**337**	*e*P	**P**	**20 04 48.1**	**-0.8**		
GIVF				pmax	pmax				
	comp=Z,169nm,1.7s								
WLF	**Walferdange**	**79.97**	**336**	IAmb	IAmb	20 04 54.3			
	comp=Z,115nm,1.2s								
WLF	**Walferdange**	**79.97**	**336**	*d*P	**P**	**20 04 48.7**	**-0.3**		
	comp=Z,39nm,1.3s								
OBKA	**Obir**	**79.99**	**329**	*e*P	**P**	**20 04 49.2**	**-0.1**		
	comp=Z,39nm,1.0s,SNR=16								
OBKA	**Obir**	**79.99**	**329**	⇓*i*P	**P**	**20 04 48.6**	**-0.7**		
GOLS	**Golise**	**80.02**	**328**	*i* P	**P**	**20 04 49.4**	**0.0**		
DOU	**Dourbes**	**80.03**	**337**	*d*P	**P**	**20 04 48.7**	**-0.5**		
	comp=Z,19nm,1.4s								
POST	**Post**	**80.04**	**53**	IAmb	IAmb	20 04 52.2			
	comp=Z,145nm,0.9s								
ISP	**Isparta**	**80.07**	**314**	P	**P**	**20 04 49.4**	**-0.4**		
ISP	**Isparta**	**80.07**	**314**	*ce*P	**P**	**20 04 50.4**	**+0.6**		
ISP				pmax	pmax				
	comp=Z,53nm,1.3s								
CANM	**Can-anakkale**	**80.07**	**318**	P	**P**	**20 04 52.1**	**+2.4**		
P40A	**Paris**	**80.10**	**43**	IAmb	IAmb	20 04 51.5			
	comp=Z,120nm,0.8s								
P40A	**Paris**	**80.10**	**43**	P	**P**	**20 04 50.5**	**+0.6**		
	baz=322,SNR=54								
ODSA	**Odessa**	**80.13**	**54**	IAmb	IAmb	20 04 52.9			
	comp=Z,143nm,0.9s								
MCH1	**Michaelchurch**	**80.15**	**342**	*e*P	**P**	**20 04 50.7**	**+0.9**		
MCH1				IAmb	IAmb	20 04 51.2			
	comp=Z,237nm,1.7s								
BAIF	**Baives**	**80.17**	**337**	*e*P	**P**	**20 04 49.4**	**-0.6**		
BAIF				pmax	pmax				
	comp=Z,120nm,1.6s								
STRD	**Stroud**	**80.17**	**342**	*e*P	**P**	**20 04 50.9**	**+0.9**		
STRD				IAmb	IAmb	20 04 52.8			
	comp=Z,145nm,1.0s								
PDKS	**Podkum**	**80.21**	**329**	*e*P	**P**	**20 04 50.1**	**-0.3**		
ZAHL	**Zahle**	**80.21**	**308**	*e*P	**P**	**20 04 51.2**	**+0.5**		
MYKA	**Terra Mystica**	**80.22**	**330**	*e*P	**P**	**20 04 50.0**	**-0.4**		
	comp=Z,64nm,1.1s,SNR=27								
OK029	**Liberty Lake**	**80.22**	**49**	IAmb	IAmb	20 04 52.6			
	comp=Z,151nm,0.9s								
BASM	**Basmaki-Afyon**	**80.23**	**315**	P	**P**	**20 04 51.2**	**+0.5**		
CRES	**Cresnjev**	**80.24**	**328**	⇓*i*P	**P**	**20 04 50.0**	**-0.5**		
HQIL	**Hanson Quary C**	**80.24**	**39**	IAmb	IAmb	20 04 51.7			
	comp=Z,82nm,0.9s								
MONM	**Monmouth**	**80.26**	**342**	*e*P	**P**	**20 04 51.3**	**+0.9**		
MONM				IAmb	IAmb	20 04 52.6			
	comp=Z,74nm,0.9s								
WMOK	**Wichita Mounta**	**80.31**	**50**	IAmb	IAmb	20 04 52.9			
	comp=Z,74nm,0.8s								
WMOK	**Wichita Mounta**	**80.31**	**50**	P	**P**	**20 04 51.9**	**+0.9**		
	baz=319,SNR=73								
BHL	**Bhannes**	**80.31**	**309**	*e*P	**P**	**20 04 51.4**	**+0.2**		
OK033	**Mehan**	**80.31**	**48**	IAmb	IAmb	20 04 53.4			
	comp=Z,130nm,0.9s								
BCK	**Bucak**	**80.31**	**314**	P	**P**	**20 04 51.3**	**+0.2**		
WATA	**Walderalm**	**80.32**	**332**	*i* P	**P**	**20 04 51.3**	**+0.2**		
	comp=Z,184nm,1.2s,SNR=46								
BBLS	**Lazi&#263i**	**80.34**	**325**	⇓*i*P	**P**	**20 04 51.4**	**+0.2**		
HAPS	**Han Pijesak,BI**	**80.35**	**325**	⇓*i*P	**P**	**20 04 50.8**	**-0.4**		
WTTA	**Wattenberg**	**80.37**	**331**	*i* P	**P**	**20 04 51.9**	**+0.6**		
	comp=Z,159nm,1.1s,SNR=53								
A051A	**Mrakovica**	**80.38**	**327**	⇓*i*P	**P**	**20 04 49.8**	**-1.5**		
J47A	**Sunmer**	**80.38**	**36**	IAmb	IAmb	20 04 53.0			
	comp=Z,142nm,0.9s								
J47A	**Sunmer**	**80.38**	**36**	P	**P**	**20 04 51.9**	**+0.6**		
	baz=325,SNR=17								
J47A				P	**P**	**20 04 51.9**	**+0.6**		
	baz=325,SNR=17								
WOL	**Wolverton**	**80.39**	**341**	*e*P	**P**	**20 04 51.5**	**+0.4**		
LJU	**Ljubljana**	**80.40**	**329**	*e*P	**P**	**20 04 50.8**	**-0.6**		
PRED	**Cave del Predi**	**80.40**	**330**	IAmb	IAmb	20 04 52.2			
	comp=Z,128nm,1.5s								
OK052	**Battle Ridge R**	**80.42**	**48**	IAmb	IAmb	20 04 53.5			
	comp=Z,136nm,1.0s								
HMNX	**Herstmonceux**	**80.43**	**340**	*e*P	**P**	**20 04 52.2**	**+0.9**		
LFK	**Lefkose**	**80.43**	**311**	P	**P**	**20 04 52.4**	**+0.6**		
KULA	**Kula-Manisa**	**80.46**	**316**	P	**P**	**20 04 52.6**	**+0.7**		
KULA	**Kula-Manisa**	**80.46**	**316**	P	**P**	**20 04 52.4**	**+0.5**		
RETA	**Reutte**	**80.47**	**332**	*i* P	**P**	**20 04 52.0**	**+0.3**		
	comp=Z,126nm,1.3s,SNR=32								
MOTA	**Moosalm**	**80.47**	**332**	*i* P	**P**	**20 04 52.1**	**+0.2**		
	comp=Z,218nm,1.2s,SNR=64								
NVR	**Nevrokopi**	**80.48**	**321**	P	**P**	**20 04 53.3**	**+1.4**		
M44A	**Midewin, Midew**	**80.49**	**39**	IAmb	IAmb	20 04 53.1			
	comp=Z,131nm,0.9s								
M44A	**Midewin, Midew**	**80.49**	**39**	P	**P**	**20 04 52.2**	**+0.3**		
	baz=324,SNR=14								
BLY	**Banja Luka**	**80.49**	**327**	⇓*i*P	**P**	**20 04 51.6**	**-0.2**		
DQRL	**Deir Qamar**	**80.50**	**309**	*e*P	**P**	**20 04 53.0**	**+0.8**		
BFO	**Black Forest**	**80.51**	**334**	P	**P**	**20 04 52.0**	**+0.1**		
BFO				IAmb	IAmb	20 04 53.3			
	comp=Z,112nm,1.3s								
BFO	**Black Forest**	**80.51**	**334**	P	**P**	**20 04 52.0**	**+0.1**		
BFO				pmax	pmax				
	comp=Z,112nm,1.3s								
BFO	**Black Forest**	**80.51**	**334**	*e*P	**P**	**20 04 52.2**	**+0.3**		
	comp=Z,119nm,1.3s,baz=29,slow=5.7								
RCY	**Rachaya**	**80.51**	**308**	*e*P	**P**	**20 04 53.0**	**+0.7**		
UBR	**Ueberruh**	**80.51**	**333**	*e*P	**P**	**20 04 52.5**	**+0.5**		
	comp=Z,123nm,1.5s,baz=29,slow=5.7								
UBR				*e*pP	pP	20 05 10.7	-8.9		
ABTA	**Abfaltersbach**	**80.51**	**331**	*i* P	**P**	**20 04 51.0**	**-1.0**		
	comp=Z,62nm,1.4s,SNR=26								
SQTA	**Sankt Quirin**	**80.55**	**332**	*i* P	**P**	**20 04 52.6**	**+0.4**		
	comp=Z,145nm,1.1s,SNR=47								
QRWL	**Qaraoun**	**80.56**	**308**	*e*P	**P**	**20 04 53.3**	**+0.8**		
RSBS	**Rosebush, Pemb**	**80.56**	**343**	*e*P	**P**	**20 04 52.6**	**+0.5**		
RSBS				IAmb	IAmb	20 04 54.2			
	comp=Z,36nm,0.8s								
EZN	**Ezine**	**80.56**	**318**	P	**P**	**20 04 53.2**	**+0.9**		
RUDO	**Rudo**	**80.56**	**325**	*e*P	**P**	**20 04 51.6**	**-0.7**		
MNHN	**Monahans**	**80.58**	**55**	IAmb	IAmb	20 04 54.8			
	comp=Z,67nm,0.7s								
HDIL	**Hopedale**	**80.58**	**40**	P	**P**	**20 04 52.9**	**+0.5**		
	baz=323,SNR=30								
SJES	**Sjenica**	**80.61**	**324**	⇓*i*P	**P**	**20 04 53.0**	**+0.4**		
APMT	**Aspermont**	**80.62**	**52**	IAmb	IAmb	20 04 55.0			
	comp=Z,99nm,0.8s								
I49A	**Point Hope**	**80.62**	**35**	IAmb	IAmb	20 04 54.0			
	comp=Z,90nm,0.8s								
I49A	**Point Hope**	**80.62**	**35**	P	**P**	**20 04 53.4**	**+0.8**		
	baz=326								
I49A				P	**P**	**20 04 53.4**	**+0.8**		
	baz=326								
VOJS	**Vojsko**	**80.64**	**329**	*i* P	**P**	**20 04 51.7**	**-1.1**		
CEY	**Cerknica**	**80.70**	**329**	⇓*i*P	**P**	**20 04 52.3**	**-0.7**		
L46A	**Eue Claire**	**80.75**	**38**	IAmb	IAmb	20 04 55.1			
	comp=Z,170nm,0.9s								
L46A	**Eue Claire**	**80.75**	**38**	P	**P**	**20 04 54.0**	**+0.7**		
	baz=324,SNR=8.5								
L46A				P	**P**	**20 04 54.0**	**+0.7**		
	baz=324,SNR=8.5								
CDF	**Champ du Feu**	**80.76**	**335**	*e*P	**P**	**20 04 52.6**	**-0.7**		
CDF				pmax	pmax				
	comp=Z,167nm,1.4s								
CSS	**Mathiatis**	**80.78**	**311**	P	**P**	**20 04 54.5**	**+0.9**		
CSS	**Mathiatis**	**80.78**	**311**	IAmb	IAmb	20 04 55.6			
	comp=Z,157nm,1.4s								
SABO	**M.te Sabotino**	**80.79**	**330**	IAmb	IAmb	20 04 53.9			
	comp=Z,184nm,1.8s								
SRS	**Serrai**	**80.79**	**321**	P	**P**	**20 04 54.3**	**+0.8**		
SRS	**Serrai**	**80.79**	**321**	P	**P**	**20 04 53.6**	**+0.1**		
PLE	**Pljevlja**	**80.79**	**325**	⇓*i*P	**P**	**20 04 54.1**	**+0.5**		
MGRS	**Mrkonjic Grad**	**80.81**	**327**	⇓*i*P	**P**	**20 04 54.0**	**+0.4**		
KOKK	**Kokkinochori,**	**80.85**	**320**	P	**P**	**20 04 53.9**	**+0.1**		
DKL	**Dikili**	**80.88**	**317**	P	**P**	**20 04 54.5**	**+0.5**		
FETA	**Feichten**	**80.88**	**332**	*i* P	**P**	**20 04 54.4**	**+0.3**		
	comp=Z,86nm,1.2s,SNR=28								
LEF	**Lefka**	**80.90**	**311**	P	**P**	**20 04 54.3**	**+0.1**		
S39A	**Bolivar**	**80.90**	**45**	IAmb	IAmb	20 04 55.5			
	comp=Z,98nm,0.8s								
S39A	**Bolivar**	**80.90**	**45**	P	**P**	**20 04 53.9**	**-0.3**		
	baz=321,SNR=71								
CIMO	**Cimolais**	**80.92**	**330**	IAmb	IAmb	20 04 54.4			
	comp=Z,68nm,1.5s								
DAVA	**Damuels**	**80.93**	**333**	*i* P	**P**	**20 04 54.7**	**+0.3**		
	comp=Z,116nm,1.2s,SNR=30								
APMY	**Acipayam-Deniz**	**80.95**	**315**	P	**P**	**20 04 55.2**	**+0.6**		
R40A	**Maddies Statio**	**80.96**	**44**	IAmb	IAmb	20 04 55.8			
	comp=Z,110nm,0.7s								
R40A	**Maddies Statio**	**80.96**	**44**	P	**P**	**20 04 54.6**	**+0.2**		
	baz=322,SNR=59								
IVA	**Berane**	**80.96**	**324**	⇓*i*P	**P**	**20 04 54.7**	**+0.2**		
ECH	**Echery**	**80.97**	**335**	IAmb	IAmb	20 04 55.6			
	comp=Z,122nm,1.4s								
ECH	**Echery**	**80.97**	**335**	P	**P**	**20 04 54.2**	**-0.2**		
A050A	**Klekovaca**	**80.97**	**327**	⇓*i*P	**P**	**20 04 53.5**	**-1.0**		
SKDS	**Skadanscina**	**81.01**	**329**	⇓*i*P	**P**	**20 04 53.6**	**-1.0**		
TUL3	**Leonard**	**81.01**	**47**	IAmb	IAmb	20 04 56.7			
	comp=Z,88nm,0.9s								
TUL3	**Leonard**	**81.01**	**47**	P	**P**	**20 04 55.4**	**+0.6**		
	baz=320,SNR=24								
TUL3	**Leonard**	**81.01**	**47**	P	**P**	**20 04 55.7**	**+0.9**		
	baz=320,SNR=24								
PRK	**Paraskevi**	**81.05**	**318**	P	**P**	**20 04 55.0**	**+0.1**		
SKO	**Skopje**	**81.05**	**323**	*i* P	**P**	**20 04 55.5**	**+0.7**		
KNT	**Kendrikon**	**81.06**	**321**	P	**P**	**20 04 55.6**	**+0.6**		
KNT	**Kendrikon**	**81.06**	**321**	P	**P**	**20 04 55.3**	**+0.3**		
VAY	**Valandovo**	**81.08**	**322**	*i* P	**P**	**20 04 55.3**	**+0.2**		
UPM	**Unac-Piva**	**81.10**	**325**	⇓P	**P**	**20 04 54.6**	**-0.7**		
UPM	**Unac-Piva**	**81.10**	**325**	⇓*i*P	**P**	**20 04 54.8**	**-0.5**		
MMAI	**Mount Meron Ar**	**81.11**	**308**	P	**P**	**20 04 56.6**	**+1.1**		
	comp=Z,51nm,0.7s,baz=40,slow=7.6,SNR=176								
MMAI				pP	**pwP**	**20 05 25.4**	**+0.1**		
	comp=Z,14nm,0.7s,baz=38,slow=5.7,SNR=3.0								
MMAI				S	**S**	**20 14 50.9**	**-5.2**		
	comp=Z,0.9nm,0.4s,baz=197,slow=23,SNR=1.3								
	comp=Z,51nm,0.7s								
KOME	**Kolasin**	**81.14**	**324**	⇓*i*P	**P**	**20 04 55.4**	**0.0**		
PVY	**Plav**	**81.16**	**324**	⇓*i*P	**P**	**20 04 55.7**	**+0.1**		
WTFS	**Witchita Falls**	**81.21**	**51**	IAmb	IAmb	20 04 57.5			
	comp=Z,115nm,0.9s								
ELL	**Elmali**	**81.21**	**314**	P	**P**	**20 04 56.4**	**+0.4**		
P43A	**Skaggs, Pawnee**	**81.21**	**41**	IAmb	IAmb	20 04 57.1			
	comp=Z,101nm,0.9s								
P43A	**Skaggs, Pawnee**	**81.21**	**41**	P	**P**	**20 04 55.9**	**+0.2**		
	baz=323,SNR=18								
UDBI	**Udbina**	**81.23**	**328**	*i* P	**P**	**20 04 55.1**	**-0.7**		
OUR	**Ouranopolis**	**81.24**	**320**	P	**P**	**20 04 56.6**	**+0.7**		
SIGR	**SIGRI**	**81.27**	**318**	P	**P**	**20 04 56.4**	**+0.3**		
SIGR	**SIGRI**	**81.27**	**318**	P	**P**	**20 04 56.1**	**0.0**		
O44A	**Mansfield**	**81.29**	**40**	IAmb	IAmb	20 04 57.4			
	comp=Z,74nm,0.8s								
O44A	**Mansfield**	**81.29**	**40**	P	**P**	**20 04 56.8**	**+0.6**		
	baz=324,SNR=11								
U38A	**Gravette**	**81.33**	**46**	IAmb	IAmb	20 04 58.0			
	comp=Z,83nm,0.9s								
U38A	**Gravette**	**81.33**	**46**	P	**P**	**20 04 56.9**	**+0.4**		
	baz=321,SNR=44								
NEVS	**Nevesinje**	**81.34**	**325**	*e*P	**P**	**20 04 55.2**	**-1.3**		
BLCB	**Balcova**	**81.36**	**317**	P	**P**	**20 04 56.9**	**+0.4**		
BLCB	**Balcova**	**81.36**	**317**	P	**P**	**20 04 56.5**	**0.0**		
FUORN	**Ofenpass-Fuorn**	**81.39**	**332**	IAmb	IAmb	20 04 58.9			
	comp=Z,169nm,1.4s								
SMRN	**Sveta Marina**	**81.39**	**329**	*i* P	**P**	**20 04 55.9**	**-0.7**		
HAU	**Haudompre**	**81.40**	**335**	*e*P	**P**	**20 04 55.8**	**-0.9**		
HAU				pmax	pmax				
	comp=Z,108nm,1.5s								
RABC	**Rab**	**81.41**	**328**	*i* P	**P**	**20 04 55.7**	**-0.9**		
ABTX	**Abilene, Hawle**	**81.41**	**52**	P	**P**	**20 04 57.4**	**+0.4**		
	baz=319,SNR=14								
ABTX	**Abilene, Hawle**	**81.41**	**52**	P	**P**	**20 04 56.9**	**-0.1**		
	baz=319,SNR=14								
CTI	**Castel Tesino**	**81.42**	**331**	IAmb	IAmb	20 04 57.3			
	comp=Z,107nm,1.4s								
HINF	**Hinteralfeld**	**81.42**	**335**	*e*P	**P**	**20 04 55.7**	**-1.1**		
HINF				pmax	pmax				
	comp=Z,93nm,1.7s								
KIJV	**Kijevo**	**81.42**	**327**	*i* P	**P**	**20 04 56.5**	**-0.3**		
HORT	**Hortiatis**	**81.43**	**321**	P	**P**	**20 04 56.9**	**-0.1**		
HORT	**Hortiatis**	**81.43**	**321**	P	**P**	**20 04 56.5**	**-0.5**		
NKME	**Niksic**	**81.44**	**325**	⇓*i*P	**P**	**20 04 56.4**	**-0.6**		
GRG	**Griva**	**81.45**	**321**	P	**P**	**20 04 57.7**	**+0.6**		
GRG	**Griva**	**81.45**	**321**	P	**P**	**20 04 57.0**	**-0.1**		
BRY	**Bratogost**	**81.50**	**325**	⇓*i*P	**P**	**20 04 56.5**	**-0.8**		
BRY	**Bratogost**	**81.50**	**325**	⇓*i*P	**P**	**20 04 56.6**	**-0.8**		
TX31	**Lajitas Ar. Si**	**81.52**	**57**	IAmb	IAmb	20 04 60.0			
	comp=Z,94nm,0.7s								
TX31	**Lajitas Ar. Si**	**81.52**	**57**	P	**P**	**20 04 58.9**	**+1.2**		
	baz=317,SNR=262								
TXAR	**Lajitas Array**	**81.52**	**57**	P	**P**	**20 04 58.8**	**+1.1**		
	comp=Z,89nm,0.7s,baz=293,slow=4.1,SNR=601								
TXAR				pP	**pP**	**20 05 26.5**	**+0.6**		
	comp=Z,32nm,0.5s,baz=296,slow=4.3,SNR=7.4								
TXAR				PKKPbc	**PKKPbc**	**20 23 31.0**	**+3.1**		
	comp=Z,1.6nm,0.8s,baz=140,slow=4.7,SNR=9.2								
MMLI	**Mount Malkishu**	**81.53**	**308**	P	**P**	**20 04 59.3**	**+1.7**		
NVLJ	**Novalja**	**81.53**	**328**	*i* P	**P**	**20 04 56.2**	**-1.1**		
RICI	**Ricice**	**81.56**	**326**	*i* P	**P**	**20 04 56.5**	**-1.1**		
L48A	**N Adams**	**81.61**	**37**	IAmb	IAmb	20 04 59.4			
	comp=Z,104nm,0.8s								
L48A	**N Adams**	**81.61**	**37**	P	**P**	**20 04 58.4**	**+0.6**		
	baz=326,SNR=18								
L48A				P	**P**	**20 04 58.4**	**+0.6**		
	baz=326,SNR=18								
CEME	**Cevo**	**81.64**	**324**	⇓*i*P	**P**	**20 04 57.4**	**-0.6**		
AAM	**Ann Arbor**	**81.64**	**36**	P	**P**	**20 04 58.3**	**+0.3**		
	baz=326,SNR=5.7								
AAM	**Ann Arbor**	**81.64**	**36**	P	**P**	**20 04 58.6**	**+0.6**		
	baz=326,SNR=5.7								
CCM	**Cathedral Cave**	**81.64**	**43**	P	**P**	**20 04 58.8**	**+0.7**		
CCM				IAmb	IAmb	20 04 59.5			
	comp=Z,136nm,0.8s								
CCM	**Cathedral Cave**	**81.64**	**43**	P	**P**	**20 04 58.8**	**+0.7**		
CCM				pmax	pmax				
	comp=Z,136nm,0.9s								
CCM	**Cathedral Cave**	**81.64**	**43**	P	**P**	**20 04 58.1**	**0.0**		
	baz=322								
CCM	**Cathedral Cave**	**81.64**	**43**	P	**P**	**20 04 58.5**	**+0.4**		
	baz=322,SNR=97								
BALJ	**Balqa**	**81.67**	**307**	IAmb	IAmb	20 05 01.0			

baz=325,SNR=20
O48B Farmland 82.68 38 P **P** **20 05 03.6 +0.1**
baz=325,SNR=20
D62A Allapoint, All 82.69 24 P **P** **20 05 03.8 +0.5**
baz=335,SNR=5.2
D62A P **P** **20 05 03.8 +0.5**
baz=335,SNR=5.2
KPRO Kipourio 82.73 321 P **P** **20 05 03.1 -0.7**
CABF La Chapelle 82.73 335 *eP* **P** **20 05 03.2 -0.5**
CABF pmax pmax
comp=Z,106nm,1.6s
BRDY Brady 82.77 53 IAmb IAmb 20 05 06.0
comp=Z,65nm,0.7s
LOR Lormes 82.80 336 *eP* **P** **20 05 03.2 -0.7**
LOR pmax pmax
comp=Z,125nm,1.2s
J54A Appleton 82.82 32 IAmb IAmb 20 05 05.4
comp=Z,81nm,0.8s
J54A Appleton 82.82 32 P **P** **20 05 04.8 +0.7**
baz=329,SNR=6.0
J54A P **P** **20 05 04.8 +0.7**
baz=329,SNR=6.0
S44A Carbondale 82.89 42 P **P** **20 05 05.5 +1.0**
baz=323,SNR=53
LSK Leskovik 82.90 322 P **P** **20 05 05.2 +0.5**
FCAR Ozark Folk Cen 82.91 45 IAmb IAmb 20 05 05.9
comp=Z,81nm,0.8s
JCT Junction City 82.92 54 IAmb IAmb 20 05 06.8
comp=Z,112nm,0.8s
JCT Junction City 82.92 54 P **P** **20 05 05.8 +0.9**
baz=319,SNR=48
FW14 Alvarado 82.94 51 IAmb IAmb 20 05 06.8
comp=Z,101nm,0.8s
BMNY Brushton-Moira 82.95 29 P **P** **20 05 04.5 -0.2**
baz=331,SNR=9.7
BLO Bloomington 82.96 40 IAmb IAmb 20 05 07.3
comp=Z,44nm,0.7s
E62A Clayton Lake 82.97 25 P **P** **20 05 04.5 -0.4**
E62A P **P** **20 05 04.5 -0.4**
baz=334
PRMA PARMA 83.00 331 IAmb IAmb 20 05 07.1
comp=Z,183nm,1.3s
CGM3 Cape Girardeau 83.01 43 IAmb IAmb 20 05 06.7
comp=Z,104nm,1.2s
GRR Gorron 83.02 340 *eP* **P** **20 05 04.9 -0.1**
GRR pmax pmax
comp=Z,338nm,1.5s
PBMO Poplar Bluff 83.05 43 IAmb IAmb 20 05 07.2
comp=Z,134nm,1.0s
PBMO Poplar Bluff 83.05 43 P **P** **20 05 06.2 +0.8**
baz=323,SNR=42
AGG Agios Georgios 83.05 320 P **P** **20 05 04.4 -1.0**
AGG Agios Georgios 83.05 320 P **P** **20 05 04.1 -1.3**
SSF Saint Saulge 83.08 336 *eP* **P** **20 05 04.8 -0.6**
SSF pmax pmax
comp=Z,40nm,1.0s
O49A Covington 83.10 38 P **P** **20 05 05.8 +0.2**
baz=326,SNR=12
O49A P **P** **20 05 05.8 +0.2**
baz=326,SNR=12
WHTX Lake Whitney, 83.10 51 P **P** **20 05 06.9 +1.1**
baz=320,SNR=35
AXAR Agios Charalam 83.11 320 P **P** **20 05 04.8 -0.9**
LONY Lake Ozonia 83.12 29 P **P** **20 05 06.0 +0.4**
baz=331
APE Apeiranthos 83.13 317 P **P** **20 05 04.4 -1.5**
ZCCA Zocca 83.13 330 IAmb IAmb 20 05 29.5
comp=Z,164nm,1.3s
J55A Hilton 83.13 32 P **P** **20 05 05.7 0.0**
baz=329
J55A P **P** **20 05 05.7 0.0**
baz=329
PTL Penteli 83.14 319 P **P** **20 05 05.7 -0.2**
MAKR Makrakomi, Fth 83.15 320 P **P** **20 05 05.1 -0.8**
MIAR Mount Ida 83.22 47 IAmb IAmb 20 05 08.3
comp=Z,120nm,0.9s
MIAR Mount Ida 83.22 47 P **P** **20 05 06.9 +0.6**
MIAR Mount Ida 83.22 47 P **P** **20 05 06.8 +0.5**
baz=321,SNR=66
MIAR Mount Ida 83.22 47 P **P** **20 05 07.1 +0.8**
baz=321,SNR=66
P48A Milroy 83.22 39 IAmb IAmb 20 05 07.5
comp=Z,61nm,0.9s
P48A Milroy 83.22 39 P **P** **20 05 06.5 +0.3**
baz=325,SNR=13
P48A P **P** **20 05 06.5 +0.3**
baz=325,SNR=13
M52A Chesterland 83.22 35 IAmb IAmb 20 05 07.9
comp=Z,118nm,0.8s
M52A Chesterland 83.22 35 P **P** **20 05 07.0 +0.7**
baz=327,SNR=10
M52A P **P** **20 05 07.0 +0.7**
baz=327,SNR=10
LCAR Lake Charles 83.25 44 IAmb IAmb 20 05 07.9
comp=Z,129nm,1.7s
LCAR Lake Charles 83.25 44 P **P** **20 05 07.5 +1.1**
baz=322,SNR=17
ATH Athens Observa 83.27 319 P **P** **20 05 05.6 -0.9**
FRNY Flat Rock 83.27 28 P **P** **20 05 06.2 -0.1**
baz=332
ERPA Erie 83.28 34 IAmb IAmb 20 05 08.0
comp=Z,96nm,0.8s
ERPA Erie 83.28 34 P **P** **20 05 07.0 +0.5**
baz=328,SNR=16
TREL Terrell 83.28 50 IAmb IAmb 20 05 08.4
comp=Z,88nm,0.7s
VILL Villia 83.30 319 P **P** **20 05 05.7 -1.0**
N51A Ashland 83.32 36 IAmb IAmb 20 05 08.0
comp=Z,84nm,0.9s
N51A Ashland 83.32 36 P **P** **20 05 07.0 +0.3**
baz=327,SNR=8.2
N51A P **P** **20 05 07.0 +0.3**
baz=327,SNR=8.2
PQI Presque Isle 83.37 24 IAmb IAmb 20 07 55.0
comp=Z,161nm,1.9s
SMF Signal de Mont 83.37 336 *eP* **P** **20 05 06.3 -0.6**
SMF pmax pmax
comp=Z,225nm,1.1s
AVF Avril sur Loir 83.37 336 *eP* **P** **20 05 06.5 -0.4**
AVF pmax pmax
comp=Z,101nm,1.0s
SRN Sarande 83.38 322 P **P** **20 05 06.8 -0.2**
GUMA Gualdo di Mace 83.39 328 IAmb IAmb 20 05 26.2
comp=Z,120nm,1.2s
USIN University of 83.42 41 IAmb IAmb 20 05 09.1
comp=Z,117nm,1.0s
P49A Miami Univ. Ec 83.47 38 IAmb IAmb 20 05 08.9
comp=Z,92nm,0.8s
P49A Miami Univ. Ec 83.47 38 P **P** **20 05 07.8 +0.3**
baz=326,SNR=20
Z38A Mt. Pleasant 83.47 49 P **P** **20 05 08.7 +1.1**
baz=321,SNR=17
F62A Pittston Farm, 83.49 26 IAmb IAmb 20 05 09.1
comp=Z,56nm,0.9s
F62A Pittston Farm, 83.49 26 P **P** **20 05 08.4 +0.9**
baz=334,SNR=7.4
F62A P **P** **20 05 08.4 +0.9**
baz=334,SNR=7.4
LPL La Plagne 83.51 334 *eP* **P** **20 05 07.7 -0.2**
LPL pmax pmax
comp=Z,119nm,1.2s
LPG La Plagne 83.52 334 *eP* **P** **20 05 07.9 -0.1**
LPG pmax pmax
comp=Z,134nm,1.2s
IGT Igoumenitsa 83.53 322 P **P** **20 05 07.4 -0.4**
DRLN Deer Lake 83.53 16 IAmb IAmb 20 05 09.5
comp=Z,163nm,1.4s
KARP Karpathos 83.53 315 P **P** **20 05 08.4 +0.5**
KARP Karpathos 83.53 315 P **P** **20 05 07.5 -0.4**
HRFI Mount Harif 83.54 306 P **P** **20 05 09.5 +1.4**
SGMF Saint Gilles 83.56 341 *eP* **P** **20 05 07.6 -0.2**
SGMF pmax pmax
comp=Z,301nm,1.4s
WVNY West Valley, N 83.57 33 IAmb IAmb 20 05 09.3
comp=Z,87nm,0.9s
WVNY West Valley, N 83.57 33 P **P** **20 05 08.2 +0.2**
baz=329,SNR=10
M53A WI Miller and 83.58 35 IAmb IAmb 20 05 09.8
comp=Z,82nm,0.8s
M53A WI Miller and 83.58 35 P **P** **20 05 08.8 +0.7**
baz=328,SNR=15
SGRT San Giovanni R 83.58 326 IAmb IAmb 20 05 09.1
comp=Z,107nm,1.1s
ANX Ano Chora 83.59 320 P **P** **20 05 07.6 -0.7**
LOUT Loutraki 83.60 319 P **P** **20 05 06.6 -1.6**
ALLY Alegheny Colle 83.61 34 IAmb IAmb 20 05 09.8
comp=Z,117nm,0.8s
ALLY Alegheny Colle 83.61 34 P **P** **20 05 08.9 +0.7**
baz=328,SNR=17
ACSO Alum Creek Sta 83.64 37 IAmb IAmb 20 05 09.9
comp=Z,70nm,0.8s
ACSO Alum Creek Sta 83.64 37 P **P** **20 05 08.8 +0.4**
baz=327,SNR=13
ACSO Alum Creek Sta 83.64 37 P **P** **20 05 09.0 +0.6**
baz=327,SNR=13
ROSF Rostrenen 83.65 341 *eP* **P** **20 05 08.0 -0.3**
ROSF pmax pmax
comp=Z,349nm,1.3s
MSSA Maissana 83.66 331 IAmb IAmb 20 05 09.8
comp=Z,82nm,1.2s
THAL Thalero 83.70 320 P **P** **20 05 07.3 -1.4**
T45B Paducah 83.72 42 P **P** **20 05 09.6 +0.8**
baz=324,SNR=5.7
BGF Bois d'Agland 83.73 337 *eP* **P** **20 05 08.3 -0.4**
BGF pmax pmax
comp=Z,82nm,1.2s
EFP Efpalio 83.73 320 P **P** **20 05 08.5 -0.4**
PVO Paravola 83.75 321 P **P** **20 05 08.7 -0.2**
NCB Newcomb 83.81 29 P **P** **20 05 09.4 +0.1**
baz=332,SNR=8.1
WCI Wyandotte Cave 83.83 40 P **P** **20 05 10.1 +0.7**
WCI IAmb IAmb 20 05 11.1
comp=Z,89nm,0.8s
WCI Wyandotte Cave 83.83 40 P **P** **20 05 10.1 +0.7**
WCI pmax pmax
comp=Z,89nm,0.8s
WCI Wyandotte Cave 83.83 40 P **P** **20 05 09.9 +0.5**
baz=325
WCI Wyandotte Cave 83.83 40 P **P** **20 05 10.1 +0.7**
baz=325,SNR=30
EIL Elat 83.87 306 P **P** **20 05 11.0 +1.3**
G62A West of Eustis 83.92 26 P **P** **20 05 10.7 +0.9**
baz=334,SNR=7.2
G62A P **P** **20 05 10.7 +0.9**
baz=334,SNR=7.2
GUR Goura 83.93 320 P **P** **20 05 08.8 -1.2**
KLV Kalavryta, Ach 83.93 320 P **P** **20 05 09.1 -0.9**
435B Jarrell 83.95 52 P **P** **20 05 10.8 +0.7**
baz=320
435B Jarrell 83.95 52 P **P** **20 05 11.0 +0.9**
baz=320
J58A Remsen 83.97 30 IAmb IAmb 20 05 11.0
comp=Z,54nm,0.8s
J58A Remsen 83.97 30 P **P** **20 05 09.8 -0.2**
baz=331,SNR=9.3
J58A P **P** **20 05 09.8 -0.2**
baz=331,SNR=9.3
VT1 Waterbury 83.99 28 IAmb IAmb 20 05 11.7
comp=Z,60nm,0.9s
LKD2 Lefkada island 83.99 321 P **P** **20 05 09.8 -0.4**
237A Washetta, Mont 84.00 50 P **P** **20 05 12.0 +1.6**
baz=320
QUIF Quistinic 84.02 341 *eP* **P** **20 05 09.7 -0.4**
QUIF pmax pmax
comp=Z,225nm,1.6s
NYDR Nydri-Lefkada 84.04 321 P **P** **20 05 09.8 -0.6**
N53A Lisbon 84.05 35 IAmb IAmb 20 05 12.1
comp=Z,107nm,0.9s
N53A Lisbon 84.05 35 P **P** **20 05 11.1 +0.6**
baz=328,SNR=18
N53A P **P** **20 05 11.1 +0.6**
baz=328,SNR=18
CESX Cesi 84.06 329 IAmb IAmb 20 05 11.6
comp=Z,150nm,1.3s
DRAG Dragno-Lefkad 84.12 321 P **P** **20 05 10.1 -0.7**
EVGI Lefkada island 84.13 321 P **P** **20 05 10.5 -0.4**
TCF Toulx Ste Croi 84.16 337 *eP* **P** **20 05 10.6 -0.3**
TCF pmax pmax
comp=Z,257nm,1.9s
J59A Piesco 84.16 30 P **P** **20 05 10.4 -0.6**
baz=331
J59A P **P** **20 05 10.4 -0.6**
baz=331
L56A Greenwood 84.20 32 IAmb IAmb 20 05 12.4
comp=Z,52nm,0.8s
L56A Greenwood 84.20 32 P **P** **20 05 11.5 +0.2**
baz=330,SNR=6.5
L56A P **P** **20 05 11.5 +0.2**
baz=330,SNR=6.5
MBDF Montbardon 84.20 333 *eP* **P** **20 05 10.8 -0.6**
MBDF pmax pmax
comp=Z,91nm,1.4s
DRO Drossia 84.21 320 P **P** **20 05 11.4 +0.1**
O52A Adamsville 84.22 36 IAmb IAmb 20 05 12.7
comp=Z,99nm,0.9s
O52A Adamsville 84.22 36 P **P** **20 05 11.7 +0.4**
baz=327,SNR=17
O52A P **P** **20 05 11.7 +0.4**
baz=327,SNR=17
P51A Williamsport 84.23 37 P **P** **20 05 11.7 +0.3**
baz=327,SNR=9.7
P51A P **P** **20 05 11.7 +0.3**
baz=327,SNR=9.7
RLS Riolos of Patr 84.23 320 P **P** **20 05 11.6 +0.2**
PAMR Moraine State 84.23 34 P **P** **20 05 11.9 +0.5**
baz=328
PKME Peaks-Kenny Pk 84.26 25 P **P** **20 05 10.2 -1.2**
baz=335
R49A Shelbyville 84.29 39 P **P** **20 05 12.5 +0.8**
baz=326,SNR=8.6
R49A P **P** **20 05 12.5 +0.8**
baz=326,SNR=8.6
H62A Milan 84.30 27 IAmb IAmb 20 05 13.5
comp=Z,101nm,0.8s
H62A Milan 84.30 27 P **P** **20 05 12.4 +0.8**
baz=334,SNR=9.7
H62A P **P** **20 05 12.4 +0.8**
baz=334,SNR=9.7
FSK Fiskardo 84.31 321 P **P** **20 05 11.1 -0.7**
M55A Ridgway 84.31 33 IAmb IAmb 20 05 13.4
comp=Z,72nm,0.8s
M55A Ridgway 84.31 33 P **P** **20 05 12.4 +0.6**
baz=329,SNR=17
M55A P **P** **20 05 12.4 +0.6**
baz=329,SNR=17
ORIF Oris-en-Rattie 84.31 334 *eP* **P** **20 05 11.6 -0.2**
ORIF pmax pmax
comp=Z,46nm,0.9s
ZKR Zakros 84.34 315 P **P** **20 05 12.6 +0.6**
ZKR Zakros 84.34 315 P **P** **20 05 12.4 +0.4**
LBNH Lisbon 84.35 28 P **P** **20 05 11.1 -0.8**
baz=333
O53A New Philadelph 84.36 36 IAmb IAmb 20 05 13.5
comp=Z,106nm,0.8s
O53A New Philadelph 84.36 36 P **P** **20 05 10.4 -1.6**
baz=328,SNR=18
SSB Saint Sauveur 84.40 335 IAmb IAmb 20 05 14.1
comp=Z,173nm,1.8s
T47A Sharon Grove 84.47 41 P **P** **20 05 13.6 +1.0**
baz=324,SNR=30
Q51A Peebles 84.49 38 IAmb IAmb 20 05 14.4
comp=Z,121nm,0.9s
Q51A Peebles 84.49 38 P **P** **20 05 13.4 +0.7**
baz=326,SNR=27
Q51A P **P** **20 05 13.4 +0.7**
baz=326,SNR=27
P52A Corning 84.50 36 P **P** **20 05 12.5 -0.3**
baz=327,SNR=9.5
KEF5 Kardakata, Kep 84.50 321 P **P** **20 05 12.2 -0.6**
ACCN Adirondack Com 84.52 29 P **P** **20 05 13.1 +0.3**
baz=332,SNR=6.3
VLS Valsamata 84.53 321 P **P** **20 05 12.6 -0.3**
PSDA Pessada-Kefalo 84.58 321 P **P** **20 05 12.7 -0.5**
PSDB Penn State Uni 84.61 33 P **P** **20 05 14.7 +1.4**
baz=329
KEF3 Kipouria, Keph 84.61 321 P **P** **20 05 12.8 -0.5**
Z41A Richland Creek 84.62 47 IAmb IAmb 20 05 14.7
comp=Z,68nm,1.0s
CCAR Cane Creek 84.64 46 P **P** **20 05 15.2 +1.7**
baz=322,SNR=13
VLI Veliai 84.64 319 P **P** **20 05 11.3 -2.2**
UPAO U. Pittsburgh 84.65 35 P **P** **20 05 14.8 +1.3**
baz=328
R50A Paris 84.67 39 IAmb IAmb 20 05 15.4
comp=Z,58nm,0.9s
R50A Paris 84.67 39 P **P** **20 05 14.5 +0.8**
baz=326,SNR=13
R50A P **P** **20 05 14.5 +0.8**
baz=326,SNR=13
BINY Binghamton 84.73 31 P **P** **20 05 13.9 0.0**
baz=331
BINY Binghamton 84.73 31 P **P** **20 05 14.4 +0.5**
baz=331
VIVF Saint-Julien-l 84.74 335 *eP* **P** **20 05 13.8 -0.1**
VIVF pmax pmax
comp=Z,312nm,2.0s
O54A Avella 84.76 35 IAmb IAmb 20 05 15.8
comp=Z,80nm,0.8s
O54A Avella 84.76 35 P **P** **20 05 14.9 +0.9**
baz=328,SNR=14
O54A P **P** **20 05 14.9 +0.9**
baz=328,SNR=14
833A Chaparral WMA, 84.77 55 IAmb IAmb 20 05 45.5
comp=Z,159nm,1.6s
833A Chaparral WMA, 84.77 55 P **P** **20 05 14.7 +0.3**
baz=319,SNR=8.9
833A Chaparral WMA, 84.77 55 P **P** **20 05 15.4 +1.1**
baz=319,SNR=8.9
LTHK Lithakia 84.80 321 P **P** **20 05 13.4 -0.9**
NATX Nacogdoches 84.80 49 P **P** **20 05 14.7 +0.4**
baz=321,SNR=33
NATX Nacogdoches 84.80 49 P **P** **20 05 16.4 +2.0**
baz=321,SNR=33
WVT Waverly 84.82 42 P **P** **20 05 15.1 +0.7**
WVT IAmb IAmb 20 05 16.2
comp=Z,68nm,0.8s
WVT Waverly 84.82 42 P **P** **20 05 15.1 +0.7**
WVT pmax pmax
comp=Z,68nm,0.8s
WVT Waverly 84.82 42 P **P** **20 05 14.3 -0.1**
baz=324
WVT Waverly 84.82 42 P **P** **20 05 15.2 +0.8**
baz=324,SNR=33
IDI Anoyia 84.86 316 P **P** **20 05 13.7 -1.0**
IDI Anoyia 84.86 316 IAmb IAmb 20 05 18.6
comp=Z,158nm,1.2s
IDI Anoyia 84.86 316 P **P** **20 05 13.4 -1.3**
J61A Chester 84.93 28 P **P** **20 05 15.1 +0.3**
baz=333,SNR=6.3
J61A P **P** **20 05 15.1 +0.3**
baz=333,SNR=6.3
P53A Whipple 84.93 36 P **P** **20 05 15.5 +0.6**
baz=328,SNR=10
P53A P **P** **20 05 15.5 +0.6**
baz=328,SNR=10
I63A Otisfield 84.95 27 IAmb IAmb 20 05 17.2
comp=Z,80nm,0.8s
I63A Otisfield 84.95 27 P **P** **20 05 16.5 +1.6**
baz=334,SNR=7.1
I63A P **P** **20 05 16.5 +1.6**
baz=334,SNR=7.1
Q52A Bidwell 85.00 37 P **P** **20 05 14.9 -0.4**
baz=327,SNR=7.9
Q52A P **P** **20 05 14.9 -0.4**
baz=327,SNR=7.9
LMN Caledonia Moun 85.01 22 IAmb IAmb 20 05 16.8
comp=Z,64nm,0.9s
M57A Sunshine Farm, 85.05 32 IAmb IAmb 20 05 17.0
comp=Z,71nm,0.8s
M57A Sunshine Farm, 85.05 32 P **P** **20 05 16.1 +0.6**
baz=330,SNR=13
M57A P **P** **20 05 16.1 +0.6**
baz=330,SNR=13
PYL PYLOS 85.06 319 P **P** **20 05 14.4 -1.2**
L59A Walton 85.08 31 IAmb IAmb 20 05 17.0
comp=Z,79nm,0.8s
L59A Walton 85.08 31 P **P** **20 05 16.4 +0.7**
baz=331,SNR=9.0
L59A P **P** **20 05 16.4 +0.7**
baz=331,SNR=9.0
TRY Troy 85.10 29 IAmb IAmb 20 05 17.0
comp=Z,80nm,1.1s
TRY Troy 85.10 29 P **P** **20 05 16.0 +0.3**
baz=332
IMMV Iera Moni Meta 85.16 317 P **P** **20 05 15.8 -0.3**
IMMV Iera Moni Meta 85.16 317 P **P** **20 05 16.2 +0.1**
RJF Les Rejaudoux 85.25 337 *eP* **P** **20 05 14.8 -1.6**
RJF pmax pmax
comp=Z,266nm,1.5s
735A Kenedy 85.28 53 P **P** **20 05 18.9 +2.0**
baz=320,SNR=14
OXF Oxford 85.35 44 P **P** **20 05 17.1 0.0**
baz=323,SNR=25
OXF Oxford 85.35 44 P **P** **20 05 17.8 +0.7**
baz=323,SNR=25
SSPA Standing Stone 85.37 33 P **P** **20 05 17.8 +0.7**
SSPA Standing Stone 85.37 33 P **P** **20 05 17.2 +0.1**
baz=330
SSPA Standing Stone 85.37 33 P **P** **20 05 17.3 +0.2**
baz=330,SNR=8.1
KSPA Keystone Colle 85.37 31 P **P** **20 05 17.4 +0.3**
baz=331
PGF Pioggiola 85.40 331 *eP* **P** **20 05 16.4 -0.9**
PGF pmax pmax
comp=Z,183nm,1.6s
MCWV Mont Chateau 85.42 35 IAmb IAmb 20 05 19.4
comp=Z,81nm,0.8s
MCWV Mont Chateau 85.42 35 P **P** **20 05 17.6 +0.2**
baz=328,SNR=14
MCWV Mont Chateau 85.42 35 P **P** **20 05 18.4 +1.1**
baz=328,SNR=14
CAF Calviac 85.44 336 *eP* **P** **20 05 17.8 +0.4**
CAF pmax pmax
comp=Z,325nm,1.4s
U49A Red Boiling Sp 85.47 41 P **P** **20 05 18.5 +0.9**
baz=325,SNR=44
T50A Nancy 85.48 40 P **P** **20 05 18.3 +0.6**
baz=326
T50A P **P** **20 05 18.3 +0.6**
baz=326
S51A Beattyville 85.53 39 IAmb IAmb 20 05 19.4
comp=Z,69nm,0.8s
S51A Beattyville 85.53 39 P **P** **20 05 17.9 -0.1**
baz=326,SNR=15
S51A P **P** **20 05 17.9 -0.1**
baz=326,SNR=15
HKT Hockley 85.56 51 P **P** **20 05 19.9 +1.8**
baz=321
CLTN Cedars of Leba 85.56 41 IAmb IAmb 20 05 20.0
comp=Z,92nm,0.8s
Q54A Coxs Mills 85.59 36 IAmb IAmb 20 05 20.1
comp=Z,83nm,0.8s
Q54A Coxs Mills 85.59 36 P **P** **20 05 18.9 +0.7**
baz=328,SNR=15
Q54A P **P** **20 05 18.9 +0.7**
baz=328,SNR=15
GVDS Gavdos 85.61 317 P **P** **20 05 18.5 +0.2**
GVDS Gavdos 85.61 317 P **P** **20 05 18.0 -0.3**
GVD Gavdhos 85.61 317 P **P** **20 05 17.4 -1.0**
V48A Smith Brothers 85.61 42 IAmb IAmb 20 05 20.0
comp=Z,71nm,0.8s
V48A Smith Brothers 85.61 42 P **P** **20 05 18.8 +0.4**
baz=325,SNR=26
PLAL Pickwick Lake 85.63 43 IAmb IAmb 20 05 19.8
comp=Z,57nm,0.8s
N58A Sunbury 85.64 32 IAmb IAmb 20 05 19.9
comp=Z,60nm,0.9s
N58A Sunbury 85.64 32 P **P** **20 05 19.2 +0.8**
baz=330,SNR=7.5
N58A P **P** **20 05 19.2 +0.8**
baz=330,SNR=7.5
K62A Royalston 85.65 28 P **P** **20 05 19.0 +0.6**
baz=333
K62A P **P** **20 05 19.0 +0.6**
baz=333
R53A Hurricane 85.67 37 IAmb IAmb 20 05 20.3
comp=Z,59nm,0.9s
R53A Hurricane 85.67 37 P **P** **20 05 19.5 +0.9**
baz=327,SNR=11
R53A P **P** **20 05 19.5 +0.9**
baz=327,SNR=11
L61B Northampton 85.69 29 P **P** **20 05 19.1 +0.5**
baz=333
LFF La Frestale 85.80 337 *eP* **P** **20 05 19.4 +0.3**
LFF pmax pmax
comp=Z,328nm,1.4s
Y45A Yeager Farm, C 85.80 45 P **P** **20 05 20.7 +1.4**
baz=323,SNR=30
HRV Adam Dziewonsk 86.01 28 P **P** **20 05 20.4 +0.1**
baz=333
BRNY Black Rk. Fore 86.13 30 P **P** **20 05 20.7 -0.1**
baz=332
P57A Homestead Farm 86.31 34 P **P** **20 05 22.3 +0.6**
baz=330,SNR=8.3
P57A P **P** **20 05 22.3 +0.6**
baz=330,SNR=8.3
S54A Dingess, Beckl 86.39 37 IAmb IAmb 20 05 23.9
comp=Z,57nm,0.8s
S54A Dingess, Beckl 86.39 37 P **P** **20 05 23.0 +0.8**
baz=328,SNR=9.9

S54A				P	P	20 05 23.0	+0.8	
	baz=328,SNR=9.9							
TZTN	**Tazewell**	**86.46**	**39**	IAmb	IAmb	20 05 24.4		
	comp=Z,65nm,0.9s							
TZTN	**Tazewell**	**86.46**	**39**	P	P	**20 05 22.6**	**0.0**	
	baz=326,SNR=12							
TZTN	**Tazewell**	**86.46**	**39**	P	P	**20 05 22.6**	**0.0**	
	baz=326,SNR=12							
R55A	**Marlinton**	**86.48**	**36**	P	P	**20 05 23.6**	**+0.9**	
	baz=328,SNR=15							
R55A				P	P	**20 05 23.6**	**+0.9**	
	baz=328,SNR=15							
PAL	**Palisades**	**86.53**	**30**	P	P	**20 05 23.1**	**+0.4**	
	baz=332							
X48A	**Hartselle**	**86.55**	**43**	IAmb	IAmb	20 05 24.2		
	comp=Z,51nm,0.8s							
X48A	**Hartselle**	**86.55**	**43**	P	P	**20 05 23.3**	**+0.3**	
	baz=325,SNR=15							
VBMS	**Vicksburg**	**86.62**	**46**	P	P	**20 05 23.5**	**+0.2**	
	baz=323,SNR=8.1							
VBMS	**Vicksburg**	**86.62**	**46**	P	P	**20 05 24.9**	**+1.6**	
	baz=323,SNR=8.1							
V51A	**Loudon**	**86.71**	**40**	IAmb	IAmb	20 05 25.5		
	comp=Z,80nm,1.0s							
V51A	**Loudon**	**86.71**	**40**	P	P	**20 05 24.3**	**+0.6**	
	baz=326,SNR=13							
W50A	**Signal Mountai**	**86.76**	**41**	IAmb	IAmb	20 05 25.7		
	comp=Z,71nm,0.9s							
W50A	**Signal Mountai**	**86.76**	**41**	P	P	**20 05 24.0**	**-0.1**	
	baz=326,SNR=14							
PANJ	**Princeton**	**86.79**	**31**	P	P	**20 05 25.0**	**+0.9**	
	baz=331,SNR=5.5							
CPCT	**Cooper Cave**	**86.92**	**40**	IAmb	IAmb	20 05 26.5		
	comp=Z,83nm,0.9s							
GEDE	**Greenville**	**86.94**	**32**	P	P	**20 05 25.2**	**+0.4**	
	baz=331,SNR=7.1							
V52A	**Sevierville**	**87.02**	**40**	IAmb	IAmb	20 05 27.2		
	comp=Z,117nm,1.1s							
V52A	**Sevierville**	**87.02**	**40**	P	P	**20 05 26.1**	**+0.8**	
	baz=326,SNR=20							
146A	**Union**	**87.03**	**45**	P	P	**20 05 27.2**	**+1.8**	
	baz=324,SNR=32							
Z47A	**Carrollton**	**87.07**	**44**	P	P	**20 05 26.6**	**+1.1**	
	baz=324,SNR=18							
TKL	**Tuckaleechee C**	**87.09**	**40**	IAmb	IAmb	20 05 27.4		
	comp=Z,100nm,0.9s							
TKL	**Tuckaleechee C**	**87.09**	**40**	P	P	**20 05 26.4**	**+0.8**	
	baz=326,SNR=18							
M65A	**Busby, Falmout**	**87.16**	**28**	P	P	**20 05 26.2**	**+0.4**	
	baz=334							
FPAL	**Fort Paine**	**87.16**	**42**	IAmb	IAmb	20 05 27.5		
	comp=Z,71nm,1.0s							
U54A	**Nelsons Funny**	**87.24**	**38**	IAmb	IAmb	20 05 28.8		
	comp=Z,97nm,0.9s							
U54A	**Nelsons Funny**	**87.24**	**38**	P	P	**20 05 27.5**	**+1.1**	
	baz=327,SNR=9.4							
U54A				P	P	**20 05 27.5**	**+1.1**	
	baz=327,SNR=9.4							
BLA	**Blacksburg**	**87.26**	**37**	IAmb	IAmb	20 05 28.3		
	comp=Z,123nm,1.1s							
BLA	**Blacksburg**	**87.26**	**37**	P	P	**20 05 26.2**	**-0.2**	
	baz=328,SNR=18							
BLA	**Blacksburg**	**87.26**	**37**	P	P	**20 05 27.5**	**+1.0**	
	baz=328,SNR=18							
Y49A	**Blount Mountai**	**87.34**	**43**	IAmb	IAmb	20 05 28.3		
	comp=Z,77nm,0.8s							
Y49A	**Blount Mountai**	**87.34**	**43**	P	P	**20 05 27.4**	**+0.5**	
	baz=325,SNR=20							
S57A	**Dark Hollow, R**	**87.41**	**35**	IAmb	IAmb	20 05 29.1		
	comp=Z,70nm,1.0s							
S57A	**Dark Hollow, R**	**87.41**	**35**	P	P	**20 05 28.0**	**+0.9**	
	baz=329,SNR=11							
S57A				P	P	**20 05 28.0**	**+0.9**	
	baz=329,SNR=11							
W52A	**Murphy**	**87.49**	**40**	P	P	**20 05 28.3**	**+0.7**	
	baz=326,SNR=7.3							
X51A	**Calhoun**	**87.50**	**41**	IAmb	IAmb	20 05 29.3		
	comp=Z,71nm,0.9s							
X51A	**Calhoun**	**87.50**	**41**	P	P	**20 05 28.3**	**+0.7**	
	baz=326,SNR=8.7							
X51A				P	P	**20 05 28.3**	**+0.7**	
	baz=326,SNR=8.7							
V53A	**Saluda**	**87.52**	**39**	IAmb	IAmb	20 05 29.6		
	comp=Z,58nm,1.1s							
V53A	**Saluda**	**87.52**	**39**	P	P	**20 05 28.5**	**+0.8**	
	baz=327,SNR=13							
V53A				P	P	**20 05 28.5**	**+0.8**	
	baz=327,SNR=13							
CBN	**Corbin Frederi**	**87.66**	**34**	IAmb	IAmb	20 05 30.1		
	comp=Z,92nm,0.9s							
CBN	**Corbin Frederi**	**87.66**	**34**	P	P	**20 05 28.5**	**+0.2**	
	baz=330							
CBN	**Corbin Frederi**	**87.66**	**34**	P	P	**20 05 29.6**	**+1.3**	
	baz=330							
R58B	**Mineral**	**87.67**	**35**	IAmb	IAmb	20 05 30.1		
	comp=Z,52nm,1.0s							
R58B	**Mineral**	**87.67**	**35**	P	P	**20 05 28.8**	**+0.5**	
	baz=330,SNR=6.7							
R58B				P	P	**20 05 28.8**	**+0.5**	
	baz=330,SNR=6.7							
EPF	**Esparros**	**87.67**	**337**	*e*P	P	**20 05 28.2**	**-0.1**	
EPF				pmax	pmax			
	comp=Z,36nm,1.2s							
LRAL	**Lakeview Retre**	**87.73**	**43**	IAmb	IAmb	20 05 30.1		
	comp=Z,41nm,0.8s							
LRAL	**Lakeview Retre**	**87.73**	**43**	P	P	**20 05 29.1**	**+0.4**	
	baz=325,SNR=14							
LRAL	**Lakeview Retre**	**87.73**	**43**	P	P	**20 05 28.7**	**0.0**	
	baz=325,SNR=14							
CEST	**Esterri de Car**	**87.81**	**336**	IAmb	IAmb	20 05 32.4		
	comp=Z,148nm,1.2s							
346A	**Big Creek Wild**	**87.82**	**46**	P	P	**20 05 30.5**	**+1.4**	
	baz=324,SNR=6.3							
T57A	**Hurt**	**87.93**	**36**	IAmb	IAmb	20 05 31.4		
	comp=Z,69nm,0.9s							
T57A	**Hurt**	**87.93**	**36**	P	P	**20 05 30.2**	**+0.6**	
	baz=329,SNR=10							
T57A				P	P	**20 05 30.2**	**+0.6**	
	baz=329,SNR=10							
U56A	**King**	**88.01**	**37**	IAmb	IAmb	20 05 31.8		
	comp=Z,81nm,0.9s							
U56A	**King**	**88.01**	**37**	P	P	**20 05 30.7**	**+0.7**	
	baz=328,SNR=8.6							
U56A				P	P	**20 05 30.7**	**+0.7**	
	baz=328,SNR=8.6							
CASEE	**Lake Jocassee**	**88.03**	**40**	P	P	**20 05 31.4**	**+1.3**	
	baz=327,SNR=22							
SJPF	**Ste Jean**	**88.03**	**338**	*e*P	P	**20 05 30.6**	**+0.6**	
SJPF				pmax	pmax			
	comp=Z,38nm,1.4s							
ETSF	**Etsaut**	**88.05**	**337**	*e*P	P	**20 05 30.2**	**+0.1**	
ETSF				pmax	pmax			
	comp=Z,17nm,0.6s							
V55A	**Taylorsville**	**88.07**	**38**	IAmb	IAmb	20 05 32.1		
	comp=Z,75nm,1.2s							
V55A	**Taylorsville**	**88.07**	**38**	P	P	**20 05 31.3**	**+1.1**	
	baz=328,SNR=8.2							
V55A				P	P	**20 05 31.3**	**+1.1**	
	baz=328,SNR=8.2							
Z51A	**Franklin**	**88.37**	**42**	P	P	**20 05 32.4**	**+0.6**	
	baz=326,SNR=31							
Y52A	**Lilburn**	**88.44**	**41**	IAmb	IAmb	20 05 34.1		
	comp=Z,83nm,0.8s							
Y52A	**Lilburn**	**88.44**	**41**	P	P	**20 05 33.1**	**+1.1**	
	baz=326,SNR=23							
Y52A				P	P	**20 05 33.1**	**+1.1**	
	baz=326,SNR=23							
KMSC	**Kings Mountain**	**88.61**	**38**	IAmb	IAmb	20 05 34.5		
	comp=Z,89nm,0.9s							
KMSC	**Kings Mountain**	**88.61**	**38**	P	P	**20 05 32.9**	**0.0**	
	baz=328,SNR=14							
KMSC	**Kings Mountain**	**88.61**	**38**	P	P	**20 05 33.2**	**+0.3**	
	baz=328,SNR=14							
T59A	**Double "B" Far**	**88.65**	**35**	P	P	**20 05 34.2**	**+1.3**	
	baz=330,SNR=7.7							
T59A				P	P	**20 05 34.2**	**+1.3**	
	baz=330,SNR=7.7							
PAULI	**Pauline**	**88.67**	**39**	IAmb	IAmb	20 05 34.8		
	comp=Z,94nm,1.0s							
PAULI	**Pauline**	**88.67**	**39**	P	P	**20 05 34.2**	**+1.1**	
	baz=327,SNR=15							
NNZ	**Nelson**	**88.85**	**161**	P	P	**20 05 32.9**	**-0.5**	
250A	**Grady**	**88.94**	**44**	P	P	**20 05 35.7**	**+1.3**	
	baz=325,SNR=23							
HODGE	**Hodges**	**88.97**	**39**	IAmb	IAmb	20 05 36.6		
	comp=Z,79nm,0.9s							
HODGE	**Hodges**	**88.97**	**39**	P	P	**20 05 35.1**	**+0.6**	
	baz=327,SNR=17							

V58A	**Windy Hill, Pi**	**89.02**	**36**	IAmb	IAmb	20 05 36.6		
	comp=Z,64nm,0.8s							
V58A	**Windy Hill, Pi**	**89.02**	**36**	P	P	**20 05 35.9**	**+1.2**	
	baz=329,SNR=12							
V58A				P	P	**20 05 35.9**	**+1.2**	
	baz=329,SNR=12							
U59A	**Littleton**	**89.09**	**35**	P	P	**20 05 36.2**	**+1.2**	
	baz=330,SNR=8.1							
U59A				P	P	**20 05 36.2**	**+1.2**	
	baz=330,SNR=8.1							
GOGA	**Godfrey**	**89.10**	**41**	IAmb	IAmb	20 05 37.2		
	comp=Z,54nm,1.1s							
GOGA	**Godfrey**	**89.10**	**41**	P	P	**20 05 35.2**	**+0.1**	
	baz=327,SNR=8.4							
GOGA	**Godfrey**	**89.10**	**41**	P	P	**20 05 36.5**	**+1.3**	
	baz=327,SNR=8.4							
152A	**Waverly Hall**	**89.12**	**42**	IAmb	IAmb	20 05 36.9		
	comp=Z,45nm,0.8s							
152A	**Waverly Hall**	**89.12**	**42**	P	P	**20 05 35.9**	**+0.6**	
	baz=326,SNR=14							
W57A	**Gilead**	**89.19**	**37**	P	P	**20 05 35.8**	**+0.3**	
	baz=328,SNR=15							
W57A				P	P	**20 05 35.8**	**+0.3**	
	baz=328,SNR=15							
BRAL	**Brewton**	**89.22**	**45**	P	P	**20 05 35.5**	**-0.2**	
	baz=325							
JSC	**Jenkinsville**	**89.37**	**39**	P	P	**20 05 37.4**	**+1.0**	
	baz=328,SNR=9.5							
BIRD	**Birdtown, Kers**	**89.42**	**38**	IAmb	IAmb	20 05 38.4		
	comp=Z,71nm,0.9s							
BIRD	**Birdtown, Kers**	**89.42**	**38**	P	P	**20 05 37.8**	**+1.2**	
	baz=328,SNR=11							
W59A	**Clinton**	**89.83**	**36**	P	P	**20 05 39.9**	**+1.3**	
	baz=329							
154A	**Montrose**	**89.93**	**41**	P	P	**20 05 40.4**	**+1.3**	
	baz=327,SNR=8.7							
X58A	**Rowland**	**89.98**	**37**	P	P	**20 05 40.4**	**+1.2**	
	baz=329,SNR=7.1							
X58A				P	P	**20 05 40.4**	**+1.2**	
	baz=329,SNR=7.1							
Y57A	**Sumter**	**89.98**	**38**	P	P	**20 05 40.6**	**+1.4**	
	baz=328							
Y57A				P	P	**20 05 40.6**	**+1.4**	
	baz=328							
HAW	**Hawthorne Fire**	**89.99**	**40**	P	P	**20 05 40.7**	**+1.4**	
	baz=328,SNR=17							
352A	**Blakely**	**90.00**	**43**	P	P	**20 05 40.6**	**+1.2**	
	baz=326,SNR=8.4							
CNNC	**Cliffs of the**	**90.00**	**36**	P	P	**20 05 39.2**	**-0.1**	
	baz=330							
Y58A	**Scranton**	**90.39**	**38**	P	P	**20 05 41.8**	**+0.6**	
	baz=329							
Y58A				P	P	**20 05 41.8**	**+0.6**	
	baz=329							
TIGA	**Tifton**	**90.67**	**42**	P	P	**20 05 41.1**	**-1.5**	
	baz=326,SNR=5.7							
TIGA	**Tifton**	**90.67**	**42**	P	P	**20 05 44.0**	**+1.4**	
	baz=326,SNR=5.7							
255A	**Hazlehurst**	**90.79**	**41**	P	P	**20 05 44.2**	**+1.1**	
	baz=327							
NHSC	**New Hope**	**90.84**	**39**	P	P	**20 05 42.1**	**-1.2**	
	baz=328							
NHSC	**New Hope**	**90.84**	**39**	P	P	**20 05 43.9**	**+0.6**	
	baz=328							
KEST	**Kesra**	**91.29**	**327**	IAmb	IAmb	20 05 46.8		
	comp=Z,103nm,1.6s							
KEST	**Kesra**	**91.29**	**327**	P	P	**20 05 45.4**	**0.0**	
	comp=Z,18nm,1.1s,baz=40,slow=2.1,SNR=6.1							
	comp=Z,18nm,1.1s							
ESDC	**Sonseca Array**	**91.96**	**339**	IAmb	IAmb	20 05 49.5		
	comp=Z,36nm,1.4s							
ESDC	**Sonseca Array**	**91.96**	**339**	P	P	**20 05 47.4**	**-1.1**	
	comp=Z,4.8nm,0.7s,baz=12,slow=4.5,SNR=23							
	comp=Z,4.8nm,0.7s							
DWPF	**Disney Wildern**	**94.48**	**42**	P	P	**20 05 58.7**	**-1.4**	
	baz=328							
TORD	**Torodi Ar. Bea**	**114.50**	**323**	PKP	**PKiKP**	**20 11 19.1**	**-0.5**	
	comp=Z,1.7nm,0.6s,baz=24,slow=2.1,SNR=18							
TORD				SKP		20 14 44.5		
	comp=Z,1.2nm,0.5s,baz=25,slow=1.8,SNR=5.6							
TORD				PKKPbc	**PKKPbc**	**20 21 59.3**	**+2.5**	
	comp=Z,1.3nm,0.4s,baz=202,slow=3.3,SNR=17							
LAV4	**Lava4-Reventad**	**119.88**	**55**	P	**PKiKP**	**20 11 32.0**	**+1.5**	
VNDA	**Vanda**	**122.57**	**176**		**PKiKP**	**20 11 34.3**	**+0.9**	
VNDA	**Vanda**	**122.57**	**176**	PKIKP	**PKiKP**	**20 11 34.3**	**+0.9**	
VNDA	**Vanda**	**122.57**	**176**	PKP	**PKiKP**	**20 11 34.0**	**+0.5**	
	comp=Z,7.1nm,0.7s,baz=327,slow=3.7,SNR=8.5							
VNDA				pPKP	**pPKPdf**	**20 12 02.3**	**-0.8**	
	comp=Z,7.8nm,0.7s,baz=329,slow=3.7,SNR=6.4							
DBIC	**Dimbokro**	**123.01**	**327**	PKP	**PKPdf**	**20 11 35.1**	**-0.9**	
	comp=Z,15nm,0.9s,baz=53,slow=2.3,SNR=12							
DBIC				pPKP	**pPKPdf**	**20 12 04.7**	**-1.4**	
	comp=Z,5.2nm,0.6s,baz=45,slow=2.7,SNR=3.4							
TIC	**Toumodi**	**123.10**	**327**	*i*PKIKP	**PKPdf**	**20 11 35.8**	**-0.4**	
	comp=Z,5.4nm,0.2s							
KIC	**Kosan Boka**	**123.25**	**327**	*i*PKIKP	**PKPdf**	**20 11 36.1**	**-0.4**	
	comp=Z,44nm,1.0s							
LIC	**Lamto**	**123.49**	**327**	*i*PKIKP	**PKPdf**	**20 11 36.5**	**-0.4**	
	comp=Z,3.8nm,0.3s							
BOAV	**Boa Vista**	**126.45**	**36**	*e*P	**PKiKP**	**20 11 43.0**	**-0.1**	
BOSA	**Bosho**	**132.22**	**270**	PKP	**PKPdf**	**20 11 53.5**	**+0.3**	
	comp=Z,6.0nm,0.9s,baz=55,slow=3.3,SNR=6.9							
BOSA				pPKP	**pPKPdf**	**20 12 23.2**	**-0.1**	
	comp=Z,6.8nm,0.9s,baz=12,slow=4.0,SNR=4.1							
BOSA				PP	**PP**	**20 14 14.1**	**-3.1**	
	comp=Z,4.4nm,1.0s,baz=50,slow=2.4,SNR=4.2							
BOSA				SKPbc	**SKPbc**	**20 15 09.4**	**-0.2**	
	comp=Z,14nm,0.9s,baz=45,slow=4.6,SNR=9.9							
ETMB	**Extrema**	**134.29**	**50**	PKPdf	**PKPdf**	**20 11 58.0**	**+0.6**	
QSPA	**South Pole Qui**	**134.76**	**180**	PKP	**PKiKP**	**20 11 58.1**	**-0.1**	
	comp=Z,19nm,0.7s,baz=211,slow=0.4,SNR=10							
QSPA				pPKP	**pPKPdf**	**20 12 27.5**	**+0.8**	
	comp=Z,24nm,1.0s,baz=346,slow=1.2,SNR=4.2							
QSPA				SKPbc	**SKPbc**	**20 15 16.5**	**-0.2**	
	comp=Z,19nm,1.1s,baz=358,slow=2.8,SNR=5.4							
SAML	**Samuel**	**135.17**	**46**	*e*P	**PKPdf**	**20 11 59.0**	**-0.1**	
NBPB	**Pedra_Branca-C**	**140.14**	**12**	*e*P	**PKPdf**	**20 12 08.0**	**-0.3**	
NBLV	**Livramento - P**	**142.25**	**8**	*e*P	PKPdf	20 12 02.9	-9.3	
LVC	**Limon Verde**	**142.60**	**66**		**PKPdf**	**20 12 11.7**	**-1.1**	
LVC	**Limon Verde**	**142.60**	**66**	PKIKP	**PKPdf**	**20 12 11.7**	**-1.1**	
LVC	**Limon Verde**	**142.60**	**66**	*e*P	**PKPdf**	**20 12 11.1**	**-1.8**	
ELIB	**Princess Elisa**	**142.67**	**205**	*d*PKPdf	**PKPdf**	**20 12 07.4**	**-3.8**	
ELIB				*dp*PKPdf	**pPKPdf**	**20 12 35.9**	**-5.3**	
PTLB	**Pontes e Lacer**	**142.75**	**46**	*e*P	**PKPdf**	**20 12 09.7**	**-3.1**	
GO03	**Copiap**	**145.10**	**73**		**PKPdf**	**20 12 18.1**	**+1.5**	
AC02	**Maricunga**	**145.35**	**71**		**PKPab**	**20 12 19.7**	**+1.6**	
LCO	**Las Campanas**	**145.67**	**76**		**PKPab**	**20 12 19.7**	**+0.8**	
LCO	**Las Campanas**	**145.67**	**76**	PKP2	**PKPab**	**20 12 19.7**	**+0.8**	
AC05	**El Transito**	**145.86**	**75**		**PKPab**	**20 12 20.1**	**+0.6**	
NVL	**N'lazarevskaya**	**146.54**	**205**	*e*PKP2	**PKPdf**	**20 12 17.4**	**-0.3**	
NVL				pmax	pmax			
	comp=Z,125nm,0.9s							
BELA	**Belgrano 2**	**147.02**	**179**		**PKPbc**	**20 12 21.1**	**+0.4**	
BDFB	**Brasilia**	**147.79**	**30**		**PKiKP**	**20 12 25.6**	**-0.9**	
BDFB	**Brasilia**	**147.79**	**30**	PKP2	**PKiKP**	**20 12 25.6**	**-0.9**	
BDFB	**Brasilia**	**147.79**	**30**	PKP	**PKPdf**	**20 12 22.1**	**+0.5**	
	comp=Z,80nm,0.9s,baz=319,slow=2.1,SNR=41							
BDFB				PKPbc	**PKPbc**	**20 12 25.4**	**+0.8**	
	comp=Z,80nm,0.9s,baz=335,slow=3.1,SNR=61							
BDFB				pPKPbc	**pPKPdf**	**20 12 52.9**	**+1.2**	
	comp=Z,20nm,0.7s,baz=208,slow=1.9,SNR=2.3							
MT02	**Curacav**	**147.84**	**82**		**PKPbc**	**20 12 23.2**	**-1.0**	
PEL	**Peldehue**	**148.10**	**82**		**PKiKP**	**20 12 25.8**	**-0.8**	
PEL	**Peldehue**	**148.10**	**82**	PKP2	**PKiKP**	**20 12 25.8**	**-0.8**	
GDU01	**Guandu, BA**	**148.17**	**14**	*e*P	**PKPdf**	**20 12 20.2**	**-1.9**	
TROLL	**Troll, Antarti**	**148.36**	**200**	⇓PKPbc	**PKiKP**	**20 12 25.3**	**-0.7**	
	comp=Z,6μm,0.8s							
TROLL				⇑pPKiKP	**pPKPbc**	**20 12 54.9**	**+0.6**	
	comp=Z,3μm,0.9s							
TROLL				⇑SKPdf	**SKPdf**	**20 15 42.4**	**-1.9**	
BO01	**Tunca**	**148.48**	**84**		**PKPbc**	**20 12 26.5**	**+0.7**	
MT13	**San Alfonso**	**148.70**	**82**		**PKiKP**	**20 12 27.8**	**-0.1**	
AQDB	**Aquidauana**	**148.72**	**46**		**PKiKP**	**20 12 28.5**	**+0.4**	
CMC01	**Camacan, BA**	**149.78**	**14**	*e*P	**PKPbc**	**20 12 29.8**	**+0.3**	
SNAA	**Sanae**	**149.82**	**198**		**PKiKP**	**20 12 29.1**	**+0.2**	
SNAA	**Sanae**	**149.82**	**198**	⇓PKPbc	**PKPbc**	**20 12 28.4**	**+0.3**	
	comp=Z,1μm,1.0s							
SNAA				⇑pPKPbc	**pPKPbc**	**20 12 56.5**	**-1.4**	
	comp=Z,690nm,1.0s							
SNAA				⇑SKPdf	**SKPdf**	**20 15 43.8**	**-2.6**	
SNAA	**Sanae**	**149.82**	**198**	PKP	**PKPdf**	**20 12 23.5**	**+0.3**	
	comp=Z,41nm,1.2s,baz=114,slow=4.8,SNR=6.8							
SNAA				PKPbc	**PKPbc**	**20 12 28.4**	**+0.3**	
	comp=Z,59nm,0.9s,baz=177,slow=2.3,SNR=50							
SNAA				pPKPbc	**pPKPbc**	**20 12 56.4**	**-1.4**	
	comp=Z,41nm,1.1s,baz=111,slow=3.1,SNR=5.0							
GO06	**Curarrehue**	**150.61**	**93**		**PKiKP**	**20 12 32.3**	**+0.7**	

TICA	**Tres Isletas**	**150.69**	**60**	*e*P	**PKPdf**	**20 12 27.6**	**+1.8**	
VNA2	**Neumayer--Watz**	**151.35**	**197**	⇓PKPbc	**PKiKP**	**20 12 32.2**	**+0.1**	
	comp=Z,245nm,0.6s,baz=144,slow=1.1							
VNA2				⇑pPKPbc	**pPKPbc**	**20 13 01.1**	**-0.3**	
	comp=Z,100nm,0.8s,baz=123,slow=1.7							
VNA2				⇑SKPdf	**SKPdf**	**20 15 42.6**	**-5.9**	
	baz=37,slow=4.0							
VNA3	**Neumayer Olymp**	**151.53**	**195**	⇓PKPbc	**PKiKP**	**20 12 32.3**	**-0.1**	
	comp=Z,122nm,0.7s							
VNA3				⇑pPKPbc	**pPKPbc**	**20 13 01.3**	**-0.6**	
	comp=Z,67nm,0.8s							
LL02	**Futaleuf**	**151.61**	**101**		**PKiKP**	**20 12 34.1**	**+0.7**	
PLCA	**Paso Flores**	**151.70**	**95**	PKPbc	**PKiKP**	**20 12 34.9**	**+1.1**	
PLCA	**Paso Flores**	**151.70**	**95**	PKP	**PKPdf**	**20 12 27.1**	**0.0**	
	comp=Z,8.4nm,1.0s,baz=244,slow=4.5,SNR=12							
PLCA				PKPbc	**PKiKP**	**20 12 34.3**	**+0.5**	
	comp=Z,49nm,0.8s,baz=279,slow=2.2,SNR=68							
PLCA				pPKPbc	**pPKPbc**	**20 13 02.9**	**-0.4**	
	comp=Z,39nm,1.0s,baz=260,slow=4.5,SNR=5.2							
VNA1	**Neumayer--Stat**	**151.75**	**197**	⇓PKPbc	**PKiKP**	**20 12 33.4**	**+0.6**	
	comp=Z,102nm,0.8s							
VNA1				⇑pPKPbc	**pPKPbc**	**20 13 01.4**	**-0.9**	
	comp=Z,112nm,1.0s							
CPUP	**Villa Florida**	**152.49**	**56**	PKP	**PKPdf**	**20 12 29.4**	**+0.9**	
	comp=Z,9.6nm,1.0s,baz=341,slow=2.4,SNR=12							
CPUP				PKPbc	**PKiKP**	**20 12 35.9**	**+0.1**	
	comp=Z,10nm,0.6s,baz=297,slow=2.6,SNR=21							
CPUP				PKPab	**PKPab**	**20 12 46.6**	**+0.4**	
	comp=Z,23nm,0.8s,baz=358,slow=5.9,SNR=17							
CPUP				SKP		20 15 50.5		
	comp=Z,7.4nm,1.0s,baz=290,slow=9.2,SNR=3.8							
MCR1	**Marechal Candi**	**152.86**	**48**	*e*P	**PKPdf**	**20 12 26.2**	**-2.9**	
MCR1	**Marechal Candi**	**152.86**	**48**	*e*P	**PKPdf**	**20 12 28.2**	**-1.0**	
PTGB	**Pitanga**	**154.09**	**45**	*e*P	**PKPdf**	**20 12 30.4**	**-0.6**	
FRTB	**Fartura**	**154.12**	**39**	*e*P	**PKPdf**	**20 12 31.2**	**+0.2**	
FRBT	**Francisco Belt**	**154.60**	**49**	*e*P	**PKiKP**	**20 12 41.0**	**+0.8**	
ALF01	**Guarapari-ES**	**154.65**	**19**	*e*P	**PKPab**	**20 12 54.3**	**-1.1**	
VAO	**Valinhos**	**154.91**	**34**	*e*P	**PKPbc**	**20 12 39.2**	**-1.7**	
UNIS	**Unistalda (Bra**	**155.85**	**57**	*e*P	**PKPab**	**20 12 58.7**	**-1.8**	

IDC ***04*** *19:56:15.2±0.5,6°.38S×142°.70E, h0km, mb5.2/22, mbtmp5.2/25, ML2.8/1, MS5.5/51, Error ellipse: s-maj=19.2km s-min=10.5km az=74.0*

MOS ***04*** *19:56:15.1±1.1,6°.27S×142°.73E, h10km, mb5.7/49, MS5.6/17, Error ellipse: s-maj=13.5km s-min=7.6km az=109.8*

BJI ***04*** *19:56:16.0±0.0,6°.30S×142°.60E, h5km, mb5.2/82, mB5.7/63, Ms5.7/85, Ms7 5.6/79*

DJA ***04*** *19:56:17.8±1.0,6°.5S×142°×14'.3E±', h16km±7km, M5.6/66, mB5.9/55, mb5.5/66, MLv6.3/7, Mw(mB)5.5/55, MwMwp5.5/48, Mwp5.7/48*

NEIC ***04*** *19:56:17.9±2.5,6°.33S±0°.07×142°.60E±0°.07, h10km±1km, mb5.8/289, Ms_20 5.9/1008, Mww6.0/40, Error ellipse: s-maj=12.6km s-min=11.8km az=218.0*

NEIC ***04*** *19:56:18.4,6°.35S×142°.27E, h12km, Moment Tensor Solution. Duration: 4s9 Moment tensor: Scale 10^{18}Nm; M_{rr}1.10; $M_{\theta\theta}$-0.84; $M_{\phi\phi}$-0.26; $M_{r\theta}$0.34; $M_{\theta\phi}$0.41; $M_{\phi r}$-0.28; Fault plane solution: $M_0$1.16000×10^{18} NP1: ϕ_s121.71000°, δ56.07000°, λ94.77000°. NP2: ϕ_s293.20000°, δ34.22000°, λ82.95000°. Principal axes: T 1.1932, Plg78.0000°, Azm49.0000°; N -0.0612, Plg4.0000°, Azm299.0000°; P -1.1320, Plg11.0000°, Azm208.0000°;*

NEIC ***04*** *19:56:18.4,6°.35S×142°.57E, h12km*

GCMT ***04*** *19:56:25.9±0.1,6°.38S×142°.50E, h12km, MW6.0/175, Moment Tensor Solution. s145,c252; s175,c575; Duration: 2s3 Moment tensor: Scale 10^{18}Nm; M_{rr}0.95±.01; $M_{\theta\theta}$-0.72±.01; $M_{\phi\phi}$-0.23±.01; $M_{r\theta}$0.44±.01; $M_{\theta\phi}$0.39±.00; $M_{\phi r}$-0.31±.02; Best double couple: $M_0$1.08700×10^{18} NP1:ϕ_s122.00000°, δ60.00000°, λ

comp=Z,6.0nm,0.4s
WRA Warramunga Arr 15.71 210 Pn **Pn** **19 59 54.6 -5.4**
comp=Z,1.2nm,0.3s,baz=31,slow=14,SNR=45
WRA Sn **Sn** **20 02 51.9 -1.9**
comp=Z,4.7nm,0.3s,baz=27,slow=21,SNR=3.4
WRA Lg Lg 20 04 36.2
comp=Z,3.2nm,0.3s,baz=28,slow=26,SNR=2.7
WRA LR LR 20 06 46.6
comp=Z,38µm,18.6s,baz=12,slow=40
NLAI Namlea 15.76 281 P **Pn** **19 59 59.4 -1.2**
comp=Z,125nm,1.8s,comp=Z,4µm
LBMI Labuha 16.10 290 P **Pn** **20 00 01.6 -3.5**
comp=Z,423nm,1.8s,comp=Z,8µm
KNRA Kununurra 16.43 235 P **Pn** **20 00 05.1 -4.1**
baz=16,SNR=89
KNRA Kununurra 16.43 235 Pn **Pn** **20 00 06.1 -3.1**
KNRA IAmb IAmb 20 00 16.1
comp=Z,1µm,1.6s
KNRA Kununurra 16.43 235 P **Pn** **20 00 06.6 -2.6**
TNTI Ternate 16.78 294 Pn **Pn** **20 00 10.5 -3.2**
TNTI Ternate 16.78 294 P **Pn** **20 00 13.0 -0.7**
TNTI Ternate 16.78 294 P **Pn** **20 00 10.8 -2.9**
comp=Z,214nm,1.6s,comp=Z,4µmcomp=Z,7µm
SANI Sanana 17.11 284 P **Pn** **20 00 17.2 -0.7**
SANI Sanana 17.11 284 P **Pn** **20 00 14.4 -3.5**
SANI Sanana 17.11 284 P **Pn** **20 00 12.8 -5.1**
comp=Z,124nm,0.8s,comp=Z,3µmcomp=Z,9µm
HNR Honiara 17.45 101 Pn **Pn** **20 00 20.9 -1.2**
HNR IAmb IAmb 20 00 27.9
comp=Z,1µm,1.6s
HNR Honiara 17.45 101 P **P** **20 00 24.7 +1.5**
HNR Honiara 17.45 101 Pn **Pn** **20 00 18.1 -3.9**
comp=Z,292nm,0.3s,baz=167,slow=5.6,SNR=20
SOEI Soe 18.46 258 P **P** **20 00 34.2 -0.4**
SOEI IAmb IAmb 20 00 41.2
comp=Z,862nm,1.2s
SOEI Soe 18.46 258 P **Pn** **20 00 36.9 +2.2**
SOEI Soe 18.46 258 S **S** **20 04 08.8 +3.7**
SOEI P **P** **20 00 30.9 -3.7**
SOEI Soe 18.46 258 P **P** **20 00 34.0 -0.6**
comp=Z,749nm,0.9s,comp=Z,17µmcomp=Z,17µm
RK1H Rockhampton Ha 18.56 157 P **Pn** **20 00 39.0 +3.4**
AS01 Alice Springs 19.11 205 P **Pn** **20 00 43.8 +1.4**
AS31 Alice Springs 19.13 205 P **P** **20 00 41.2 -0.6**
ASAR Alice Springs 19.13 205 P **P** **20 00 41.2 -0.6**
ASAR Alice Springs 19.13 205 P **P** **20 00 40.6 -1.2**
comp=Z,121nm,0.9s,baz=31,slow=11,SNR=225
ASAR S **Sn** **20 04 10.5 -6.4**
comp=Z,73nm,1.1s,baz=20,slow=26,SNR=6.3
ASAR Lg Lg 20 06 21.6
comp=Z,1.5nm,0.3s,baz=27,slow=31,SNR=5.7
ASAR LR LR 20 09 14.1
comp=Z,16µm,19.2s,baz=16,slow=41
GD1S Gladstone Soft 19.23 156 P **Pn** **20 00 47.3 +3.5**
KMSI Cibinong 19.82 290 P **P** **20 00 49.1 -0.3**
comp=Z,916nm,1.2s,comp=Z,12µmcomp=Z,8µm
BBSI Bau Bau 19.94 271 P **P** **20 00 51.4 +0.7**
comp=Z,292nm,1.4s,comp=Z,6µmcomp=Z,11µm
QLP Quilpie 20.17 176 P **P** **20 00 53.9 +0.8**
baz=20,SNR=66
QLP Quilpie 20.17 176 P Pn 20 00 54.5 -0.5
FITZ Fitzroy Crossi 20.25 233 P **P** **20 00 53.0 -1.0**
baz=20,SNR=93
FITZ Fitzroy Crossi 20.25 233 P **P** **20 00 52.9 -1.0**
FITZ Fitzroy Crossi 20.25 233 P **P** **20 00 54.1 +0.1**
MMRI Maumere 20.32 262 P **P** **20 00 54.0 -0.8**
MMRI Maumere 20.32 262 P Pn 20 00 57.1 +0.3
MMRI Maumere 20.32 262 P **P** **20 00 52.2 -2.6**
comp=Z,716nm,1.6s,comp=Z,11µmcomp=Z,12µm
PATS Pohnpei 20.43 50 P **P** **20 00 54.1 -2.0**
baz=20,SNR=5.6
PATS Pohnpei 20.43 50 P **P** **20 00 52.7 -3.3**
PATS Pohnpei 20.43 50 P Pn 20 01 00.0 +1.8
LUWI Luwuk 20.48 284 P **P** **20 00 56.5 0.0**
LUWI Luwuk 20.48 284 P Pn 20 00 57.6 -1.1
LUWI Luwuk 20.48 284 P **P** **20 00 53.2 -3.3**
LUWI S Sn 20 04 50.5 +1.2
LUWI Luwuk 20.48 284 P **P** **20 00 55.6 -0.9**
comp=Z,732nm,1.7s,comp=Z,11µmcomp=Z,11µm
EIDS Eidsvold 20.57 158 P Pn 20 00 58.9 -0.8
baz=21,SNR=16
EIDS Eidsvold 20.57 158 P **P** **20 00 57.1 -0.3**
EIDS Eidsvold 20.57 158 P Pn 20 00 59.9 +0.2
RMQ Roma 20.86 164 P **P** **20 00 59.1 -1.4**
baz=21,SNR=4.3
RMQ Roma 20.86 164 P Pn 20 01 01.9 -1.1
EDFI Ende, Flores 20.86 262 P **P** **20 00 59.1 -1.7**
comp=Z,402nm,1.2s,comp=Z,5µmcomp=Z,13µm
INKA Innaminka 21.34 185 P **P** **20 01 07.8 +2.1**
DAV Davao City (W) 21.60 308 LR LR 20 09 49.7
comp=Z,8µm,20.0s,baz=125,slow=38
DAV Davao City (W) 21.60 308 P **P** **20 01 13.0 +4.4**
MRSI Marisa 21.71 287 P **P** **20 01 09.1 -0.7**
comp=Z,315nm,1.5s,comp=Z,3µmcomp=Z,7µm
BASI Baing, Sumba 22.12 259 P **P** **20 01 11.9 -2.4**
comp=Z,851nm,1.2s,comp=Z,16µmcomp=Z,14µm
OOD Oodnadatta 22.31 196 P **P** **20 01 17.6 +1.5**
BKSI Bulukumba 22.39 271 P **P** **20 01 16.8 -0.3**
comp=Z,517nm,1.3s,comp=Z,6µmcomp=Z,10µm
KAPI Kappang 22.78 272 P **P** **20 01 21.8 +0.5**
KAPI Kappang 22.78 272 P **P** **20 01 22.6 +1.4**
KAPI Kappang 22.78 272 *i* P **P** **20 01 20.8 -0.4**
KAPI pmax pmax
comp=Z,384nm,1.6s
KAPI Kappang 22.78 272 P **P** **20 01 23.8 +2.6**
TTSI Tana Toraja 22.94 277 P **P** **20 01 22.6 -0.4**
comp=Z,323nm,1.4s,comp=Z,7µmcomp=Z,7µm
TOLI2 Tolitoli 23.01 288 P **P** **20 01 23.1 -0.6**
TOLI2 Tolitoli 23.01 288 P **P** **20 01 25.5 +1.8**
WRKA Warakurna 23.08 215 P **P** **20 01 22.6 -1.7**
baz=23,SNR=46
WRKA Warakurna 23.08 215 P **P** **20 01 24.0 -0.3**
AULRC Lightning Ridg 23.50 168 P **P** **20 01 30.2 +1.7**
MPSI Mapaga 23.62 286 P **P** **20 01 29.2 -0.5**
comp=Z,158nm,1.6s,comp=Z,2µmcomp=Z,7µm
LCRK Leigh Creek 24.31 189 P **P** **20 01 36.4 +0.3**
PLAI Plampang 24.73 263 P **P** **20 01 40.2 +0.1**
PLAI Plampang 24.73 263 P **P** **20 01 36.1 -4.0**
comp=Z,134nm,1.3s,comp=Z,2µmcomp=Z,6µm
MULG Mulgathing 25.12 198 P **P** **20 01 45.3 +1.9**
CMSA Cobar Meteorol 25.21 174 P **P** **20 01 44.3 0.0**
baz=25,SNR=16
CMSA Cobar Meteorol 25.21 174 P **P** **20 01 46.4 +2.1**
KOUNC Koumac, New Ca 25.32 126 P **P** **20 01 45.4 +0.1**
KOUNC Koumac, New Ca 25.32 126 P **P** **20 01 47.3 +1.9**
ARMA Armidale 25.39 162 P **P** **20 01 46.5 +0.5**
baz=26,SNR=7.4
ARMA Armidale 25.39 162 P **P** **20 01 48.3 +2.2**
STKA Stephens Creek 25.40 182 P **P** **20 01 46.1 +0.1**
baz=26,SNR=23
STKA Stephens Creek 25.40 182 P **P** **20 01 46.1 +0.1**
STKA Stephens Creek 25.40 182 P **P** **20 01 47.0 +1.0**
STKA Stephens Creek 25.40 182 *i* P **P** **20 01 45.3 -0.7**
STKA Stephens Creek 25.40 182 P **P** **20 01 45.6 -0.4**
comp=Z,42nm,0.9s,baz=356,slow=11,SNR=42
STKA S **S** **20 06 22.1 +10**
comp=Z,6.0nm,0.8s,baz=208,slow=15,SNR=0.6
STKA LR LR 20 12 11.2
comp=Z,14µm,21.8s,baz=355,slow=38
comp=Z,42nm,0.9s
TWSI Taliwang, Sumb 25.60 263 P **P** **20 01 45.7 -2.3**
comp=Z,39nm,1.3s,comp=Z,1µmcomp=Z,5µm
AUPHS Peel High Scho 25.81 164 P **P** **20 01 52.5 +2.8**
BKB Balikpapan 26.14 280 P **P** **20 01 51.5 -1.4**
BKB Balikpapan 26.14 280 P **P** **20 01 52.5 -0.4**
comp=Z,454nm,1.4s,comp=Z,6µmcomp=Z,6µm
AUDCS Dubbo College 26.35 168 P **P** **20 01 57.4 +2.8**
MBWA Marble Bar 26.58 234 P **P** **20 01 56.4 -0.4**
MBWA Marble Bar 26.58 234 P **P** **20 01 58.6 +1.8**
MBWA Marble Bar 26.58 234 P **P** **20 01 57.0 +0.1**
MBWA P **P** **20 01 57.0 +0.1**
PSA00 Pilbara Seismi 26.70 233 P **P** **20 01 57.2 -0.7**
PSA00 IAmb IAmb 20 02 12.2
comp=Z,131nm,0.9s
PSA00 Pilbara Seismi 26.70 233 P **P** **20 01 57.8 -0.1**
PSA00 IAmb IAmb 20 02 12.2
comp=Z,54nm,0.8s
PSA00 Pilbara Seismi 26.70 233 P **P** **20 01 57.8 -0.1**
WHYH Whyalla 26.95 189 P **P** **20 02 03.2 +3.3**
BBOO Buckleboo 27.01 192 P **P** **20 02 00.6 0.0**
baz=27,SNR=11
BBOO Buckleboo 27.01 192 P **P** **20 01 59.7 -0.9**
BBOO Buckleboo 27.01 192 P **P** **20 02 01.7 +1.1**
HTT Hallett 27.15 187 P **P** **20 02 05.2 +3.3**
baz=27,SNR=11
HTT Hallett 27.15 187 P **P** **20 02 04.0 +2.1**
HTT Hallett 27.15 187 P **P** **20 02 01.1 -0.8**
SRBI Singaraja 27.22 265 P **P** **20 02 02.7 0.0**
comp=Z,39nm,1.5s,comp=Z,3µmcomp=Z,4µm
DZM Mont Dzumac 27.82 127 P **P** **20 02 06.9 -1.2**
DZM Mont Dzumac 27.82 127 P **P** **20 02 11.5 +3.4**
DZM Mont Dzumac 27.82 127 *e* P **P** **20 02 05.9 -2.2**
comp=Z,155nm,33.3s
DZM *e* S **S** **20 06 56.1 +5.4**
comp=Z,1µm,25.4s
DZM *e* LR LR 20 09 20.7
comp=Z,8µm,26.4s
DZM Mont Dzumac 27.82 127 LR LR 20 13 34.5
comp=Z,7µm,18.1s,baz=316,slow=38
FORT Forrest 27.86 208 P **P** **20 02 07.1 -1.1**
FORT IAmb IAmb 20 02 54.4
comp=Z,107nm,0.7s
FORT IAMs_20 IAMs_20 20 13 23.6
comp=Z,25µm,18.0s
FORT Forrest 27.86 208 P **P** **20 02 11.4 +3.2**
MTKI Muara Teweh, K 28.16 280 P **P** **20 02 07.2 -3.9**
comp=Z,246nm,1.1s,comp=Z,3µmcomp=Z,3µm
ABJI Asem Bagus 28.19 265 P **P** **20 02 09.9 -1.4**
comp=Z,39nm,1.5s,comp=Z,2µm
JAGI Jajag, Banyuwa 28.29 264 P **P** **20 02 09.1 -3.1**
JAGI Jajag, Banyuwa 28.29 264 P **P** **20 02 13.0 +0.8**
JAGI Jajag, Banyuwa 28.29 264 P **P** **20 02 08.8 -3.4**
comp=Z,64nm,1.6s,comp=Z,1µmcomp=Z,3µm
SYDH Sydney Hard Ro 28.29 166 P **P** **20 02 16.4 +4.4**
YNG Young 28.31 170 P **P** **20 02 14.0 +1.7**
baz=28,SNR=9.0
YNG Young 28.31 170 P **P** **20 02 15.0 +2.8**
OUENC Ouen Island, N 28.32 127 P **P** **20 02 09.3 -3.1**
KMMI Kalianget 28.45 267 P **P** **20 02 12.1 -1.5**
comp=Z,48nm,1.1s
PINNC Pines Island, 28.90 127 P **P** **20 02 16.1 -1.4**
GMJI Gumukmas 28.98 264 P **P** 20 02 30.1 +12
KKM Kota Kinabalu 29.08 295 P **P** **20 02 19.3 0.0**
KKM IAmb IAmb 20 02 32.0
comp=Z,163nm,1.4s
CAN Canberra 29.42 169 IAMs_20 IAMs_20 20 14 35.9
comp=Z,31µm,18.0s
CAN Canberra 29.42 169 P **P** **20 02 24.6 +2.5**
CAN Canberra 29.42 169 P **P** **20 02 22.7 +0.6**
CNB Canberra Magne 29.48 169 P **P** **20 02 24.1 +1.5**
TGY Tagaytay City 29.59 313 LR LR 20 14 13.0
comp=Z,9µm,21.8s,baz=118,slow=36
BWJI Bawean 29.78 269 P **P** **20 02 23.9 -1.6**
ARPS Mount Arapiles 30.28 181 P **P** **20 02 29.5 -0.1**
baz=30,SNR=7.6
ARPS Mount Arapiles 30.28 181 P **P** **20 02 32.5 +2.9**
AUSMG Snowy Mountain 30.42 170 P **P** **20 02 34.3 +3.3**
MEEK Meekatharra 30.47 226 P **P** **20 02 30.6 -0.9**
baz=31,SNR=4.9
MEEK Meekatharra 30.47 226 P **P** **20 02 33.5 +2.0**
PWJI Pagerwojo 30.60 265 P **P** **20 02 31.1 -1.6**
comp=Z,329nm,1.4s,comp=Z,4µm
BRAT Ballarat 31.07 178 P **P** **20 02 39.3 +2.8**
TOO Toolangi 31.18 176 P **P** **20 02 38.9 +1.3**
baz=31,SNR=4.7
TOO Toolangi 31.18 176 P **P** **20 02 39.0 +1.3**
TOO IAMs_20 IAMs_20 20 15 30.6
comp=Z,19µm,19.0s
TOO Toolangi 31.18 176 P **P** **20 02 40.1 +2.5**
TOO Toolangi 31.18 176 P **P** **20 02 39.0 +1.4**
TOO pmax pmax
comp=Z,42nm,1.2s
TOO MLR MLR
comp=Z,19µm,19.0s
KMBL Kambalda 31.55 215 P **P** **20 02 41.1 +0.2**
baz=32,SNR=9.8
KMBL Kambalda 31.55 215 P **P** **20 02 41.2 +0.3**
UGM Wanagama 31.86 265 P **P** **20 02 42.0 -1.9**
UGM Wanagama 31.86 265 P **P** **20 02 45.4 +1.5**
UGM Wanagama 31.86 265 P **P** **20 02 43.9 0.0**
comp=Z,214nm,1.3s
SMRI Semarang 31.95 267 P P 20 02 52.5 +7.9
YOGI Yogyakarta 32.09 265 P P 20 02 57.7 +12
JCJ Chichijima 33.26 359 P **P** **20 02 55.0 -0.9**
JCJ Chichijima 33.26 359 P **P** **20 02 51.4 -4.5**
comp=Z,68nm,0.6s,baz=231,slow=13,SNR=2.4
JCJ LR LR 20 13 51.5
comp=Z,6µm,21.9s,baz=172,slow=32
KPJI Karang Pucung 33.44 266 P **P** **20 02 55.9 -1.8**
comp=Z,108nm,1.2s
MORW Morawa 33.75 225 P **P** **20 02 60.0 -0.3**
baz=34,SNR=4.1
MORW Morawa 33.75 225 P **P** **20 02 58.1 -2.2**
MORW Morawa 33.75 225 P **P** **20 03 00.4 +0.2**
CMJI Cimerak 33.92 266 P **P** **20 02 59.1 -2.8**
comp=Z,120nm,1.7s,comp=Z,2µmcomp=Z,2µm
LEM Lembang 34.75 267 LR LR 20 21 39.3
comp=Z,7µm,19.0s,baz=114,slow=44
NWAO Narrogin (SRO) 35.43 218 LR LR 20 18 42.1
comp=Z,35µm,18.8s,baz=22,slow=38
MUN Mudaring 35.45 221 P **P** **20 03 15.4 +0.5**
baz=36,SNR=3.4
JOW Kunigami 35.80 338 P **P** **20 03 17.9 0.0**
JOW Kunigami 35.80 338 P **P** **20 03 19.3 +1.4**
JOW Kunigami 35.80 338 P **P** **20 03 19.1 +1.3**
JOW Kunigami 35.80 338 P **P** **20 03 18.1 +0.2**
JOW comp=Z,107nm,1.2s,baz=159,slow=12,SNR=8.0
LR LR 20 15 00.7
comp=Z,15µm,21.4s,baz=134,slow=31
comp=Z,107nm,1.2s
YOJ Yonaguni jima 36.10 329 P **P** **20 03 17.8 -2.7**
YOJ IAmb IAmb 20 03 28.6
comp=Z,135nm,1.0s
YOJ IAMs_20 IAMs_20 20 15 14.1
comp=Z,17µm,21.0s
YOJ Yonaguni jima 36.10 329 P **P** **20 03 17.8 -2.7**
YOJ pmax pmax
comp=Z,135nm,1.0s
YOJ MLR MLR
comp=Z,17µm,21.0s
YULB Yu-li 36.16 326 P **P** **20 03 22.9 +1.8**
MSVF Nonsavu 36.39 111 P **P** **20 03 22.7 -0.5**
MSVF Nonsavu 36.39 111 P **P** **20 03 26.1 +2.9**
MSVF Nonsavu 36.39 111 P **P** **20 03 22.7 -0.5**
MSVF pmax pmax
comp=Z,75nm,1.2s
TPUB Ta-pu 36.47 325 P **P** **20 03 21.7 -2.0**
TPUB Ta-pu 36.47 325 P **P** **20 03 24.9 +1.2**
NACB Ninganchiao 36.62 327 P **P** **20 03 23.4 -1.6**
NACB Ninganchiao 36.62 327 P **P** **20 03 25.5 +0.6**
SSLB Suanglung 36.67 326 P **P** **20 03 24.3 -1.1**
SSLB Suanglung 36.67 326 P **P** **20 03 26.5 +1.1**
XMIS Christmas Isla 36.76 261 P **P** **20 03 24.3 -2.0**
XMIS IAmb IAmb 20 03 35.1
comp=Z,185nm,1.1s
JAM Amami Oshima 36.77 341 P **P** **20 03 25.5 -0.7**
YHNB Yeheng 37.13 327 P **P** **20 03 30.6 +1.2**
TATO Taipei 37.32 327 P **P** **20 03 29.7 -1.2**
TATO Taipei 37.32 327 P **P** **20 03 31.0 +0.1**
TATO Taipei 37.32 327 P **P** **20 03 31.2 +0.4**
KNMB Chin-men Tao 38.67 323 P **P** **20 03 40.9 -1.5**
QZH Quanzhou 38.92 324 ↓ *i* P **P** **20 03 46.2 +1.9**
QZH PcS **PcS** **20 09 41.7 -3.0**
QZH S **S** **20 09 47.3 +5.1**
QZH pmax pmax
comp=Z,65nm,1.5s
QZH pmax pmax
comp=Z,580nm,6.7s
QZH LR LR
comp=Z,6µm,22.0s
QZH LR LR
comp=Z,6µm,23.4s
QZH LR LR
comp=Z,12µm,27.8s
LHSI Lahat 39.00 272 P P 20 03 54.0 +8.7
JMBI JAMBI 39.13 275 P P 20 04 02.1 +16
JHJ2 Mitsune 39.34 356 IAMs_20 IAMs_20 20 16 45.4
comp=Z,22µm,22.0s
JHJ Hachijo jima 2 39.35 356 P **P** **20 03 47.1 -0.7**
comp=Z,92nm,0.7s,baz=73,slow=19,SNR=2.0
JHJ LR LR 20 17 06.7
comp=Z,22µm,21.1s,baz=220,slow=32
comp=Z,92nm,0.7s
MYKOM Kota Tinggi 39.53 281 P **P** **20 03 49.3 -0.4**
JMN Monobe 40.72 349 P **P** **20 03 57.7 -1.6**
JMN IAmb IAmb 20 04 08.8
comp=Z,187nm,1.2s
JMN IAMs_20 IAMs_20 20 17 26.7
comp=Z,22µm,20.0s
JMN Monobe 40.72 349 P **P** **20 03 59.1 -0.2**
JNU Nakatsue 40.81 345 P **P** **20 04 01.2 +1.1**
JNU IAmb IAmb 20 04 04.5
comp=Z,222nm,1.6s
JNU Nakatsue 40.81 345 P **P** **20 04 02.6 +2.5**
JNU Nakatsue 40.81 345 P **P** **20 03 59.1 -1.0**
JNU Nakatsue 40.81 345 P **P** **20 03 59.5 -0.6**
comp=Z,59nm,1.2s,baz=146,slow=7.3,SNR=5.0
JNU LR LR 20 20 06.4
comp=Z,5µm,19.2s,baz=160,slow=35
comp=Z,59nm,1.2s
GZH Guangzhou 40.92 317 P **P** **20 04 02.9 +1.8**
GZH S **S** **20 10 17.5 +5.2**
GZH SS **SS** **20 13 14.9 +0.6**
GZH pmax pmax
comp=Z,75nm,1.8s
GZH LR LR
comp=Z,690nm,16.1s
GZH LR LR
comp=Z,810nm,12.7s
QIZ Qiongzhong 40.97 309 P **P** **20 04 01.8 +0.3**
QIZ S **S** **20 10 14.6 +1.5**
QIZ pmax pmax
comp=Z,33nm,1.7s
QIZ pmax pmax
comp=Z,220nm,2.6s
QIZ LR LR
comp=Z,2µm,22.1s
QIZ LR LR
comp=Z,3µm,18.1s
QIZ LR LR
comp=Z,6µm,20.2s
QIZ Qiongzhong 40.97 309 P **P** **20 03 58.0 -3.5**
QIZ Qiongzhong 40.97 309 P **P** **20 04 04.6 +3.1**
JSG Sagara 41.02 354 IAMs_20 IAMs_20 20 17 47.9
comp=Z,14µm,22.0s
JSG Sagara 41.02 354 P **P** **20 04 00.5 -1.2**
JOD2 Odawara 2 41.53 356 P **P** **20 04 03.1 -2.9**
INU Inuyama 41.82 353 IAmb IAmb 20 04 20.3
comp=Z,245nm,1.7s
INU IAMs_20 IAMs_20 20 17 50.8
comp=Z,14µm,22.0s
INU Inuyama 41.82 353 P **P** **20 04 08.2 0.0**
JAD Aida 41.84 350 P **P** **20 04 07.2 -1.3**
JWT Wachi 41.97 351 P **P** **20 04 08.1 -1.4**
BKNI Bangkinang 42.01 278 S **S** **20 10 30.1 +1.3**
JGF Kuroka 42.03 354 P **P** **20 04 11.3 +1.3**
JGF Kuroka 42.03 354 P **P** **20 04 08.2 -1.8**
JHS Saijyo 42.10 348 P **P** **20 04 10.7 +0.1**
JRY Ryogami san 42.30 356 P **P** **20 04 08.3 -3.8**
SSE Sheshan 42.51 332 P **P** **20 04 14.4 +0.5**
SSE S **S** **20 10 36.6 +1.1**
SSE pmax pmax
comp=Z,67nm,1.4s
SSE pmax pmax
comp=Z,520nm,4.1s
SSE LR LR
comp=Z,2µm,21.4s
SSE LR LR
comp=Z,2µm,21.4s
UBPT Khong Chiam 42.61 301 P **P** **20 04 11.9 -3.1**
JGN Niukaw 42.65 354 P **P** **20 04 12.5 -2.6**
MJAR Matsushiro Arr 42.87 355 P **P** **20 04 13.6 -3.3**
comp=Z,17nm,1.0s,baz=182,slow=8.9,SNR=28
MJAR PcP **PcP** **20 06 09.0 +1.3**
comp=Z,6.4nm,1.1s,baz=193,slow=2.8,SNR=2.4
MJAR S **S** **20 10 34.8 -6.1**
comp=Z,0.3nm,0.4s,baz=112,slow=28,SNR=1.8
MJAR LR LR 20 20 28.5
comp=Z,10µm,21.1s,baz=150,slow=34
comp=Z,17nm,1.0s
MAJO Matsushiro 42.88 355 P **P** **20 04 14.2 -2.7**
MAJO Matsushiro 42.88 355 P **P** **20 04 15.4 -1.5**
MAJO Matsushiro 42.88 355 *i* P **P** **20 04 14.1 -2.7**
MAJO pmax pmax
comp=Z,117nm,1.4s
MAT Matsushiro 42.88 355 P **P** **20 04 14.7 -2.2**
TOZ Tahuroa Road 43.22 141 P **P** **20 04 18.5 -1.2**
RAO Raoul Island 43.62 126 LR LR 20 21 20.7
comp=Z,2µm,19.0s,baz=300,slow=35
DSZ Denniston Nort 43.76 148 IAMs_20 IAMs_20 20 23 25.6
comp=Z,12µm,18.0s
TKNZ Takaka Hill 43.88 147 P **P** **20 04 24.8 -0.2**
JCZ Jackson Bay 44.01 153 P **P** **20 04 29.3 +3.2**
JMM Marumori 44.03 358 P **P** **20 04 28.9 +2.8**
JMM Marumori 44.03 358 P **P** **20 04 24.6 -1.5**
NNZ Nelson 44.24 146 P **P** **20 04 27.9 +0.1**
NNZ IAmb IAmb 20 05 35.0
comp=Z,208nm,1.7s
JSD Sado 44.35 355 IAmb IAmb 20 04 40.0
comp=Z,410nm,1.9s
JSD Sado 44.35 355 P **P** **20 04 29.7 +1.0**
JSD Sado 44.35 355 P **P** **20 04 27.1 -1.6**
NJ2 Nanjing 44.40 331 *e* P **P** **20 04 29.6 +0.4**
NJ2 sP **sP** **20 04 36.4 -0.4**
NJ2 S **S** **20 11 11.9 +8.6**
NJ2 sS **sS** **20 11 15.0 +2.7**
NJ2 pmax pmax
comp=Z,40nm,1.2s
NJ2 pmax pmax
comp=Z,1µm,5.0s
NJ2 LR LR
comp=Z,6µm,20.8s
NJ2 LR LR
comp=Z,3µm,20.8s
NJ2 LR LR
comp=Z,7µm,20.8s
DCZ Deep Cove 44.41 155 P **P** **20 04 30.0 +0.9**
RPSI Rantau Prapat 44.53 280 P **P** **20 04 29.9 -0.7**
PSI Prapat 44.55 280 P **P** **20 04 31.4 +0.5**
PSI Prapat 44.55 280 P **P** **20 04 29.9 -1.0**
PSI pmax pmax
comp=Z,358nm,1.5s
PSI MLR MLR
comp=Z,2µm,20.0s
URZ Urewera 44.55 141 LR LR 20 23 05.1
comp=Z,5µm,18.5s,baz=36,slow=36
BKZ Black Stump Fm 44.72 142 IAmb IAmb 20 05 01.4
comp=Z,100nm,0.6s
BKZ Black Stump Fm 44.72 142 P **P** **20 04 34.6 +2.8**
TCW Tory Channel 44.73 146 P **P** **20 04 31.2 -0.6**
LTZ Lake Taylor 44.74 149 IAMs_20 IAMs_20 20 23 45.6
comp=Z,10µm,18.0s
JYA Atsumi 44.80 357 P **P** **20 04 31.5 -0.8**
RPZ Rata Peaks 44.81 151 P **P** **20 04 30.9 -1.5**
RPZ IAmb IAmb 20 04 56.8
comp=Z,126nm,1.4s
RPZ IAMs_20 IAMs_20 20 22 19.3
comp=Z,11µm,19.0s
RPZ Rata Peaks 44.81 151 LR LR 20 22 39.9
comp=Z,10µm,18.1s,baz=309,slow=35
BSWZ Blackbirch Sta 44.85 147 P **P** **20 04 30.7 -2.1**
MRZ Mangatainoka R 45.11 144 P **P** **20 04 35.3 +0.5**
MRZ IAmb IAmb 20 05 03.9
comp=Z,100nm,0.8s
KHZ Kahutara 45.15 148 IAMs_20 IAMs_20 20 23 18.4
comp=Z,11µm,18.0s
AMCZ Amberley 45.22 149 P **P** **20 04 37.2 +1.6**
GVZ Greta Valley S 45.27 148 IAMs_20 IAMs_20 20 24 05.5
comp=Z,9µm,18.0s
SRIT Nakonsritamara 45.37 289 P **P** **20 04 37.0 -0.2**
SRIT Nakonsritamara 45.37 289 P **P** **20 04 39.2 +2.0**
SURA Surathani 45.52 289 P **P** **20 04 39.8 +1.4**
WHN Wuhan 45.60 325 P **P** **20 04 40.8 +2.1**
WHN sP **sP** **20 04 51.9 +5.5**
WHN pmax pmax
comp=Z,540nm,1.7s
WHN pmax pmax
comp=Z,2µm,3.9s
WHN LR LR
comp=Z,13µm,17.4s
WHN LR LR
comp=Z,8µm,16.5s
WHN LR LR
comp=Z,20µm,18.8s
KSRS Korea Array 45.69 344 P **P** **20 04 38.3 -1.1**
comp=Z,58nm,1.2s,baz=161,slow=7.9,SNR=22
KSRS PcP **PcP** **20 06 17.2 -0.1**
comp=Z,7.0nm,1.0s,baz=165,slow=5.0,SNR=1.9
KSRS S **S** **20 11 25.9 +4.2**
comp=Z,1.6nm,0.8s,baz=331,slow=26,SNR=1.3
KSRS LR LR 20 22 23.2
comp=Z,5µm,20.3s,baz=145,slow=34
comp=Z,58nm,1.2s
KS19 Wonju Array Si 45.75 344 IAmb IAmb 20 04 51.9

	comp=Z,261nm,1.6s								
KCSI	**Kotacane, Aceh**	**45.83**	**281**	P	**P**	**20**	**04**	**43.4**	**+2.5**
NONG	**Nongkai**	**45.88**	**303**	P	**P**	**20**	**04**	**41.4**	**+0.2**
INCN	**Inchon**	**46.09**	**342**	P	**P**	**20**	**04**	**40.1**	**-2.5**
INCN	**Inchon**	**46.09**	**342**	IAMs_20	IAMs_20	20	22	11.8	
	comp=Z,11µm,20.0s								
INCN	**Inchon**	**46.09**	**342**	P	**P**	**20**	**04**	**43.5**	**+0.9**
INCN	**Inchon**	**46.09**	**342**	P	**P**	**20**	**04**	**40.1**	**-2.5**
INCN				pmax	pmax				
	comp=Z,357nm,1.7s								
INCN				MLR	MLR				
	comp=Z,11µm,20.0s								
HJU	**Haeju**	**46.89**	**342**	P	**P**	**20**	**04**	**52.6**	**+3.8**
HJU				S	**S**	**20**	**11**	**42.6**	**+3.7**
HJU				AmB					
	comp=Z,1µm,2.3s								
HJU				AMS	AMS				
	comp=Z,7µm,12.9s								
JTM	**Tenmabayashi**	**46.94**	**358**	P	**P**	**20**	**04**	**48.7**	**-0.4**
JTM	**Tenmabayashi**	**46.94**	**358**	P	**P**	**20**	**04**	**47.1**	**-2.0**
JOT	**Ohata**	**47.53**	**358**	P	**P**	**20**	**04**	**51.5**	**-2.2**
GYA	**Guiyang**	**47.73**	**315**	P	**P**	**20**	**04**	**56.3**	**+0.6**
GYA				S	**S**	**20**	**11**	**57.2**	**+5.6**
GYA				pmax	pmax				
	comp=Z,89nm,1.5s								
GYA				LR	LR				
	comp=Z,2µm,18.0s								
GYA				LR	LR				
	comp=Z,2µm,17.1s								
GYA				LR	LR				
	comp=Z,3µm,22.4s								
SRDT	**SRDT**	**47.79**	**296**	P	**P**	**20**	**04**	**59.4**	**+3.2**
PYAG	**Pyongyang**	**47.80**	**342**	P	**P**	**20**	**04**	**58.5**	**+2.6**
PYAG				S	**S**	**20**	**11**	**55.8**	**+3.9**
PYAG				AmB					
	comp=Z,1µm,3.1s								
PYAG				AMS	AMS				
	comp=Z,8µm,16.3s								
HHU	**Hamhung**	**48.11**	**344**	P	**P**	**20**	**05**	**01.0**	**+2.8**
HHU				S	**S**	**20**	**11**	**59.8**	**+3.5**
HHU				AmB					
	comp=Z,1µm,3.4s								
HHU				AMS	AMS				
	comp=Z,6µm,18.8s								
ENH	**Enshi**	**48.32**	**321**	IAmb	IAmb	20	05	13.5	
	comp=Z,63nm,0.9s								
ENH	**Enshi**	**48.32**	**321**	P	**P**	**20**	**05**	**01.1**	**+1.0**
JEW	**Eniwo**	**48.98**	**359**	P	**P**	**20**	**05**	**04.1**	**-0.8**
DL2	**Dalian**	**49.06**	**338**	P	P	20	05	10.6	+5.0
DL2				S	S	20	12	19.1	+9.4
DL2				pmax	pmax				
	comp=Z,55nm,1.7s								
DL2				pmax	pmax				
	comp=Z,1µm,9.3s								
DL2				LR	LR				
	comp=Z,4µm,16.4s								
DL2				LR	LR				
	comp=Z,4µm,20.1s								
DL2				LR	LR				
	comp=Z,6µm,21.4s								
SUJ	**Sinuiju**	**49.16**	**342**	P	**P**	**20**	**05**	**08.7**	**+2.4**
SUJ				S	**S**	**20**	**12**	**14.9**	**+3.9**
SUJ				AmB					
	comp=Z,2µm,3.2s								
SUJ				AMS	AMS				
	comp=Z,9µm,14.2s								
CMAR	**Chiang Mai Arr**	**49.62**	**301**	P	**P**	**20**	**05**	**10.1**	**-0.2**
	comp=Z,16nm,1.1s,baz=114,slow=5.7,SNR=14								
CMAR				PcP	**PcP**	**20**	**06**	**31.9**	**+0.2**
	comp=Z,15nm,1.1s,baz=73,slow=3.0,SNR=5.7								
CMAR				S	**S**	**20**	**12**	**19.4**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=21,slow=20,SNR=1.2								
CMAR				LR	LR	20	24	48.5	
	comp=Z,2µm,21.9s,baz=110,slow=34								
	comp=Z,16nm,1.1s								
LYN	**LuoYang**	**49.66**	**327**	⇑P	**P**	**20**	**05**	**10.0**	**-0.2**
LYN				sP	sP	20	05	16.9	-1.0
LYN				S	**S**	**20**	**12**	**23.2**	**+5.0**
LYN				SS	**SS**	**20**	**15**	**49.3**	**-1.6**
LYN				pmax	pmax				
	comp=Z,88nm,1.4s								
LYN				pmax	pmax				
	comp=Z,1µm,5.4s								
LYN				LR	LR				
	comp=Z,4µm,15.5s								
LYN				LR	LR				
	comp=Z,4µm,17.9s								
LYN				LR	LR				
	comp=Z,7µm,18.5s								
CHTO	**Chiang Mai**	**49.77**	**301**	P	**P**	**20**	**05**	**10.6**	**-0.8**
CHTO	**Chiang Mai**	**49.77**	**301**	P	**P**	**20**	**05**	**10.6**	**-0.8**
CHTO				pmax	pmax				
	comp=Z,56nm,1.5s								
CHTO				MLR	MLR				
	comp=Z,2µm,19.0s								
CHTO	**Chiang Mai**	**49.77**	**301**	P	**P**	**20**	**05**	**11.1**	**-0.3**
CHTO				P	**P**	**20**	**05**	**11.1**	**-0.3**
KMI	**Kunming**	**49.83**	**311**	⇑P	**P**	**20**	**05**	**13.3**	**+1.3**
KMI				S	**S**	**20**	**12**	**24.7**	**+3.3**
KMI				pmax	pmax				
	comp=Z,68nm,1.7s								
KMI				LR	LR				
	comp=Z,3µm,19.5s								
KMI				LR	LR				
	comp=Z,3µm,22.3s								
KMI				LR	LR				
	comp=Z,5µm,23.6s								
PSTR	**Posyet**	**49.95**	**349**	*i* P	**P**	**20**	**05**	**12.1**	**-0.2**
JKA	**Kamikawa-asahi**	**50.24**	**360**	P	**P**	**20**	**05**	**14.2**	**-0.3**
ASAJ	**Asahikawa**	**50.24**	**360**	P	**P**	**20**	**05**	**14.2**	**-0.3**
ASAJ				pmax	pmax				
	comp=Z,316nm,1.5s								
ASAJ				MLR	MLR				
	comp=Z,4µm,20.0s								
ASAJ	**Asahikawa**	**50.24**	**360**	P	**P**	**20**	**05**	**14.2**	**-0.3**
ASAJ	**Asahikawa**	**50.24**	**360**	P	**P**	**20**	**05**	**12.8**	**-1.8**
	comp=Z,93nm,1.1s,baz=238,slow=9.0,SNR=7.1								
ASAJ				LR	LR	20	30	56.0	
	comp=Z,2µm,18.8s,baz=174,slow=41								
	comp=Z,93nm,1.1s								
HNS	**HongShan**	**50.73**	**331**	⇓P	**P**	**20**	**05**	**19.5**	**+1.2**
HNS				PcP	**PcP**	**20**	**06**	**36.9**	**+1.5**
HNS				PP	**PP**	**20**	**07**	**12.8**	**-1.8**
HNS				S	**S**	**20**	**12**	**36.9**	**+3.9**
HNS				pmax	pmax				
	comp=Z,65nm,1.5s								
HNS				pmax	pmax				
	comp=Z,660nm,4.0s								
HNS				LR	LR				
	comp=Z,7µm,20.7s								
HNS				LR	LR				
	comp=Z,2µm,24.7s								
HNS				LR	LR				
	comp=Z,8µm,24.1s								
SNY	**Shenyang**	**51.01**	**342**	P	**P**	**20**	**05**	**19.9**	**-0.4**
SNY				S	**S**	**20**	**12**	**41.9**	**+5.1**
SNY				pmax	pmax				
	comp=Z,12nm,0.9s								
SNY				LR	LR				
	comp=Z,5µm,18.5s								
SNY				LR	LR				
	comp=Z,3µm,18.5s								
SNY				LR	LR				
	comp=Z,10µm,19.9s								
USA0B	**Ussuriysk Arra**	**51.23**	**350**	IAmb	IAmb	20	05	31.8	
	comp=Z,313nm,1.8s								
USA0B				IAMs_20	IAMs_20	20	23	40.9	
	comp=Z,11µm,20.0s								
USA0B	**Ussuriysk Arra**	**51.23**	**350**	*i* P	**P**	**20**	**05**	**20.7**	**-1.2**
USRK	**Ussuriysk Ar.**	**51.23**	**350**	P	**P**	**20**	**05**	**20.0**	**-1.9**
USRK	**Ussuriysk Ar.**	**51.23**	**350**	P	**P**	**20**	**05**	**20.8**	**-1.2**
	comp=Z,40nm,0.9s,baz=165,slow=7.4,SNR=23								
USRK				S	**S**	**20**	**12**	**42.3**	**+2.5**
	comp=Z,1.0nm,0.8s,baz=189,slow=32,SNR=1.2								
USRK				LR	LR	20	23	52.2	
	comp=Z,11µm,21.2s,baz=168,slow=32								
	comp=Z,40nm,0.9s								
XAN	**Xi'an**	**51.28**	**324**	⇑P	**P**	**20**	**05**	**23.3**	**+0.7**
XAN				pP	pP	20	05	27.9	-0.3
XAN				sP	sP	20	05	31.3	+1.0
XAN				S	**S**	**20**	**12**	**36.6**	**-4.4**
XAN				SS	**SS**	**20**	**16**	**12.5**	**-4.4**
XAN				pmax	pmax				
	comp=Z,81nm,1.5s								
XAN				pmax	pmax				
	comp=Z,650nm,3.8s								
XAN				LR	LR				
	comp=Z,5µm,21.3s								
XAN				LR	LR				
	comp=Z,6µm,23.0s								
XAN				LR	LR				
	comp=Z,9µm,23.4s								
PZH	**PanZhiHua**	**51.33**	**311**	P	**P**	**20**	**05**	**23.6**	**+0.4**
PZH				pP	**pP**	**20**	**05**	**26.0**	**-2.8**
PZH				sP	**sP**	**20**	**05**	**35.0**	**+4.1**
PZH				S	**S**	**20**	**12**	**44.3**	**+2.2**
PZH				pmax	pmax				
	comp=Z,80nm,1.4s								
PZH				pmax	pmax				
	comp=Z,520nm,6.1s								
PZH				LR	LR				
	comp=Z,2µm,20.2s								
PZH				LR	LR				
	comp=Z,3µm,20.6s								
PZH				LR	LR				
	comp=Z,4µm,24.5s								
CTZ	**Chatham Island**	**51.59**	**143**	IAMs_20	IAMs_20	20	28	44.8	
	comp=Z,7µm,18.0s								
MDJ	**Mudanjiang**	**52.08**	**348**	P	**P**	**20**	**05**	**28.2**	**-0.1**
MDJ				sP	pP	20	05	32.2	-1.7
MDJ				PP	**PP**	**20**	**07**	**30.4**	**+3.7**
MDJ				PcS	**PcS**	**20**	**10**	**38.2**	**-0.1**
MDJ				S	**S**	**20**	**12**	**55.2**	**+3.7**
MDJ				pmax	pmax				
	comp=Z,28nm,1.4s								
MDJ				pmax	pmax				
	comp=Z,690nm,4.7s								
MDJ				LR	LR				
	comp=Z,4µm,17.6s								
MDJ				LR	LR				
	comp=Z,4µm,18.6s								
MDJ				LR	LR				
	comp=Z,10µm,17.9s								
MDJ	**Mudanjiang**	**52.08**	**348**	IAMs_20	IAMs_20	20	23	38.3	
	comp=Z,15µm,22.0s								
MDJ	**Mudanjiang**	**52.08**	**348**	P	**P**	**20**	**05**	**28.9**	**+0.6**
TIY	**Taiyuan**	**52.09**	**330**	⇑P	**P**	**20**	**05**	**30.7**	**+2.1**
TIY				S	**S**	**20**	**12**	**56.8**	**+4.8**
TIY				pmax	pmax				
	comp=Z,31nm,0.6s								
TIY				pmax	pmax				
	comp=Z,580nm,5.3s								
TIY				LR	LR				
	comp=Z,5µm,20.6s								
TIY				LR	LR				
	comp=Z,4µm,20.1s								
TIY				LR	LR				
	comp=Z,6µm,21.6s								
BJT	**Baijiatuau**	**52.19**	**334**	IAmb	IAmb	20	05	37.8	
	comp=Z,207nm,1.8s								
BJT	**Baijiatuau**	**52.19**	**334**	P	**P**	**20**	**05**	**30.2**	**+1.0**
BJI	**Beijing**	**52.21**	**334**	P	**P**	**20**	**05**	**30.2**	**+0.9**
BJI				pP	**pP**	**20**	**05**	**34.8**	**-0.1**
BJI				PcP	**PcP**	**20**	**06**	**37.0**	**-3.8**
BJI				S	**S**	**20**	**12**	**53.3**	**-0.1**
BJI				pmax	pmax				
	comp=Z,21nm,1.5s								
BJI				pmax	pmax				
	comp=Z,490nm,5.6s								
BJI				LR	LR				
	comp=Z,3µm,19.3s								
BJI				LR	LR				
	comp=Z,2µm,18.8s								
BJI				LR	LR				
	comp=Z,4µm,18.4s								
CN2	**Changchun**	**52.28**	**344**	*e*P	**P**	**20**	**05**	**28.8**	**-1.0**
CN2				*e*sP	pP	20	05	35.8	+0.3
CN2				*e*S	**S**	**20**	**12**	**52.4**	**-1.9**
CN2				*e*SS	**SS**	**20**	**16**	**28.7**	**-3.6**
CN2				pmax	pmax				
	comp=Z,20nm,1.4s								
CN2				pmax	pmax				
	comp=Z,890nm,4.5s								
CN2				LR	LR				
	comp=Z,1µm,19.0s								
CN2				LR	LR				
	comp=Z,1µm,19.0s								
CN2				LR	LR				
	comp=Z,2µm,20.0s								
CD2	**Chengdu**	**52.48**	**317**	P	**P**	**20**	**05**	**32.8**	**+1.2**
CD2				S	**S**	**20**	**13**	**00.8**	**+3.3**
CD2				pmax	pmax				
	comp=Z,120nm,1.0s								
CD2				LR	LR				
	comp=Z,2µm,16.6s								
CD2				LR	LR				
	comp=Z,3µm,17.8s								
CD2				LR	LR				
	comp=Z,4µm,20.0s								
YSS	**Yuzh-Sakhalins**	**53.08**	**0**	P	**P**	**20**	**05**	**36.4**	**+0.8**
YSS	**Yuzh-Sakhalins**	**53.08**	**0**	*e*P	**P**	**20**	**05**	**33.8**	**-1.8**
YSS				*e*		20	07	39.4	
YSS				*e*S	**S**	**20**	**13**	**01.8**	**-3.2**
YSS				pmax	pmax				
	comp=Z,40nm,1.3s								
MND	**Mandalay**	**53.56**	**303**	P	**P**	**20**	**05**	**41.0**	**+1.3**
BNX	**BinXian**	**53.62**	**347**	⇓P	**P**	**20**	**05**	**39.0**	**-0.6**
BNX				pP	**pP**	**20**	**05**	**46.3**	**+1.0**
BNX				sP	**sP**	**20**	**05**	**48.4**	**+0.9**
BNX				S	**S**	**20**	**13**	**12.2**	**-0.2**
BNX				pmax	pmax				
	comp=Z,94nm,1.5s								
BNX				pmax	pmax				
	comp=Z,770nm,5.1s								
BNX				LR	LR				
	comp=Z,4µm,19.7s								
BNX				LR	LR				
	comp=Z,4µm,19.1s								
BNX				LR	LR				
	comp=Z,8µm,19.5s								
HHC	**Hu-ho-hao-te**	**54.95**	**331**	⇑*i*P	**P**	**20**	**05**	**50.8**	**+1.2**
HHC				sP	sP	20	05	57.5	0.0
HHC				S	**S**	**20**	**13**	**31.9**	**+1.1**
HHC				sS	sS	20	13	39.8	-0.2
HHC				ScS	**ScS**	**20**	**15**	**33.8**	**-4.6**
HHC				pmax	pmax				
	comp=Z,31nm,1.1s								
HHC				pmax	pmax				
	comp=Z,1µm,8.1s								
HHC				LR	LR				
	comp=Z,3µm,17.8s								
HHC				LR	LR				
	comp=Z,3µm,17.5s								
HHC				LR	LR				
	comp=Z,5µm,19.4s								
UGL	**Uglegorsk**	**55.21**	**360**	*e*P	**P**	**20**	**05**	**51.4**	**+0.3**
UGL				*e*S	**S**	**20**	**13**	**38.2**	**+4.5**
UGL				pmax	pmax				
	comp=Z,90nm,0.9s								
UGL				pmax	pmax				
	comp=Z,1µm,3.5s								
UGL				smax	smax				
	comp=E,2µm,14.0s								
XLT	**XiLinHaoTe**	**55.47**	**337**	*e*P	**P**	**20**	**05**	**50.5**	**-2.8**
XLT				pP	pP	20	05	55.5	-3.4
XLT				sS	sS	20	13	42.7	-4.2
XLT				SS	**SS**	**20**	**17**	**18.3**	**-4.5**
XLT				pmax	pmax				
	comp=E,21nm,1.0s								
XLT				pmax	pmax				
	comp=E,700nm,3.8s								
XLT				LR	LR				
	comp=E,4µm,20.0s								
XLT				LR	LR				
	comp=E,5µm,20.0s								
BTO	**Baotou**	**55.51**	**330**	*e*P	**P**	**20**	**05**	**54.7**	**+1.1**
BTO				pP	**pP**	**20**	**05**	**59.4**	**+0.2**
BTO				sP	**sP**	**20**	**06**	**02.4**	**+1.0**
BTO				PP	**PP**	**20**	**08**	**01.8**	**+4.0**
BTO				S	**S**	**20**	**13**	**41.6**	**+3.3**
BTO				pmax	pmax				
	comp=E,45nm,1.3s								
BTO				pmax	pmax				
	comp=E,2µm,4.4s								
BTO				LR	LR				
	comp=E,11µm,20.4s								
BTO				LR	LR				
	comp=E,9µm,18.9s								
BTO				LR	LR				
	comp=E,16µm,18.0s								
LZH	**Lanzhou**	**55.72**	**322**	⇑P	**P**	**20**	**05**	**57.0**	**+1.7**
LZH				sP	sP	20	06	03.5	+0.5
LZH				S	**S**	**20**	**13**	**49.6**	**+8.2**
LZH				pmax	pmax				
	comp=E,26nm,1.6s								
LZH				pmax	pmax				
	comp=E,600nm,5.5s								
LZH				LR	LR				
	comp=E,2µm,14.1s								
LZH				LR	LR				
	comp=E,2µm,14.4s								
LZH				LR	LR				
	comp=E,4µm,15.1s								
KLR	**Kul'dur**	**56.16**	**351**	*i* P	**P**	**20**	**05**	**57.0**	**-1.0**
KLR				pmax	pmax				
	comp=E,61nm,1.1s								
KLR	**Kul'dur**	**56.16**	**351**	P	**P**	**20**	**05**	**55.2**	**-2.9**
	comp=Z,30nm,1.1s,baz=174,slow=5.3,SNR=15								
KLR				LR	LR	20	26	52.6	
	comp=Z,7µm,21.4s,baz=162,slow=33								
	comp=Z,30nm,1.1s								
TYV	**Tymovskoe**	**56.99**	**0**	*e*P	**P**	**20**	**06**	**02.6**	**-1.3**
TYV				*e*S	**S**	**20**	**13**	**58.3**	**+0.9**
TYV				pmax	pmax				
	comp=Z,900nm,5.2s								
TYV				pmax	pmax				
	comp=Z,33nm,1.2s								
TYV				smax	smax				
	comp=E,5.0nm,1.8s								
TYV				smax	smax				
	comp=N,400nm,5.1s								
TYV				smax	smax				
	comp=E,300nm,5.1s								
GRNR	**Gornyy**	**57.15**	**355**	⇑*i*P	**P**	**20**	**06**	**04.2**	**-0.8**
GRNR				pmax	pmax				
	comp=N,3.0nm,1.0s								
GRNR				pmax	pmax				
	comp=Z,10.0nm,1.0s								
RAR	**Rarotonga**	**57.58**	**111**	LR	LR	20	28	49.9	
	comp=Z,717nm,20.2s,baz=294,slow=34								
HEH	**HeiHe**	**57.90**	**349**	*e*P	**P**	**20**	**06**	**09.0**	**-1.3**
HEH				pP	**pP**	**20**	**06**	**11.5**	**-4.5**
HEH				ScP	**ScP**	**20**	**11**	**00.4**	**-1.7**
HEH				S	**S**	**20**	**14**	**12.4**	**+3.0**
HEH				SS	**SS**	**20**	**18**	**06.6**	**+5.9**
HEH				pmax	pmax				
	comp=Z,42nm,1.3s								
HEH				pmax	pmax				
	comp=Z,790nm,5.1s								
HEH				LR	LR				
	comp=Z,9µm,22.0s								
HEH				LR	LR				
	comp=Z,5µm,19.9s								
HEH				LR	LR				
	comp=Z,17µm,21.2s								
HIA	**Hailar**	**58.88**	**343**	IAMs_20	IAMs_20	20	30	03.4	
	comp=Z,9µm,20.0s								
HIA	**Hailar**	**58.88**	**343**	P	**P**	**20**	**06**	**19.2**	**+2.0**
HIA	**Hailar**	**58.88**	**343**	*i* P	**P**	**20**	**06**	**17.1**	**-0.1**
HIA				pmax	pmax				
	comp=Z,45nm,1.5s								
NKL	**Nikolayevsk**	**59.30**	**359**	*e*P	**P**	**20**	**06**	**16.1**	**-3.9**
NKL				*e*S	**S**	**20**	**14**	**31.4**	**+3.9**
NKL				pmax	pmax				
	comp=N,36nm,1.3s								
NKL				pmax	pmax				
	comp=E,97nm,1.3s								
NKL				pmax	pmax				
	comp=Z,345nm,1.3s								
NKL				smax	smax				
	comp=N,105nm,3.9s								
NKL				smax	smax				
	comp=E,665nm,3.9s								
GTA	**Gaotai**	**60.30**	**323**	*e*P	**P**	**20**	**06**	**27.7**	**+0.4**
GTA				pP	sP	20	06	34.5	-0.6
GTA				S	**S**	**20**	**14**	**36.2**	**-5.0**
GTA				pmax	pmax				
	comp=E,24nm,1.6s								
GTA				LR	LR				
	comp=E,2µm,20.3s								
GTA				LR	LR				
	comp=E,2µm,21.1s								
GTA				LR	LR				
	comp=E,3µm,21.1s								
XMAS	**Kiritimati**	**60.43**	**84**	P	**P**	**20**	**06**	**26.7**	**-1.9**
XMAS				IAmb	IAmb	20	06	30.5	
	comp=Z,90nm,1.1s								
PEA0B	**Petropavlovsk-**	**60.61**	**10**	P	**P**	**20**	**06**	**28.8**	**-0.2**
PEA0B	**Petropavlovsk-**	**60.61**	**10**	*i* P	**P**	**20**	**06**	**29.2**	**+0.2**
PETK	**Petropavlovsk-**	**60.61**	**10**	P	**P**	**20**	**06**	**27.6**	**-1.4**
PETK	**Petropavlovsk-**	**60.61**	**10**	P	**P**	**20**	**06**	**27.6**	**-1.4**
PETK	**Petropavlovsk-**	**60.61**	**10**	P	**P**	**20**	**06**	**26.7**	**-2.4**
	comp=Z,34nm,0.9s,baz=198,slow=9.1,SNR=15								
PETK				S	S	20	14	57.3	+13
	comp=Z,3.8nm,1.0s,baz=131,slow=13,SNR=1.9								
PETK				LR	LR	20	32	01.5	
	comp=Z,3µm,19.6s,baz=207,slow=35								
	comp=Z,34nm,0.9s								
PET	**Petropavlovsk**	**60.71**	**11**	P	**P**	**20**	**06**	**28.7**	**-0.9**
PET				IAmb	IAmb	20	06	41.7	
	comp=Z,180nm,1.7s								
PET	**Petropavlovsk**	**60.71**	**11**	*e*P	**P**	**20**	**06**	**29.1**	**-0.5**
PET				*e*S	**S**	**20**	**14**	**44.3**	**-1.3**
PET				*e*SS	**SS**	**20**	**18**	**46.0**	**+1.4**
PET				pmax	pmax				
	comp=Z,75nm,1.7s								
PET				MLR	MLR				
	comp=Z,3µm,18.0s								
LSA	**Lhasa**	**61.01**	**309**	P	P	20	06	27.4	-5.4
LSA				IAmb	IAmb	20	07	00.9	
	comp=Z,69nm,1.0s								
LSA	**Lhasa**	**61.01**	**309**	P	P	20	06	27.4	-5.4
LSA				pmax	pmax				
	comp=Z,69nm,1.0s								
LSA				MLR	MLR				
	comp=Z,3µm,22.0s								
LSA	**Lhasa**	**61.01**	**309**	P	**P**	**20**	**06**	**33.7**	**+0.9**
LSA				P	**P**	**20**	**06**	**33.7**	**+0.9**
ZEA	**Zeya**	**61.26**	**350**	*e*P	**P**	**20**	**06**	**32.7**	**-0.7**
ZEA				*e*S	**S**	**20**	**14**	**55.2**	**+2.6**
ZEA				pmax	pmax				
	comp=N,400nm,4.4s								
ZEA				pmax	pmax				
	comp=Z,500nm,4.4s								
ZEA				pmax	pmax				
	comp=E,20nm,1.3s								
ZEA				pmax	pmax				
	comp=N,80nm,1.4s								
ZEA				pmax	pmax				
	comp=Z,90nm,1.2s								
ZEA				smax	smax				
	comp=N,300nm,12.9s								
ZEA				smax	smax				
	comp=E,300nm,11.3s								
ULN	**Ulaanbaatar**	**62.41**	**334**	P	**P**	**20**	**06**	**40.6**	**-0.9**
ULN				IAmb	IAmb	20	06	49.4	
	comp=Z,145nm,1.8s								
ULN	**Ulaanbaatar**	**62.41**	**334**	IAMs_20	IAMs_20	20	33	12.4	
	comp=Z,7µm,20.0s								
ULN	**Ulaanbaatar**	**62.41**	**334**	*i* P	**P**	**20**	**06**	**40.4**	**-1.1**
ULN				pmax	pmax				
	comp=Z,78nm,1.8s								
ULN	**Ulaanbaatar**	**62.41**	**334**	P	**P**	**20**	**06**	**43.9**	**+2.4**
ULN				P	**P**	**20**	**06**	**43.9**	**+2.4**
SONM	**Songino Array**	**62.68**	**333**	P	**P**	**20**	**06**	**42.5**	**-0.8**
SONM	**Songino Array**	**62.68**	**333**	P	**P**	**20**	**06**	**43.2**	**-0.1**
	comp=Z,8.6nm,0.9s,baz=149,slow=6.2,SNR=14								
SONM				LR	LR	20	33	34.4	
	comp=Z,9µm,20.0s,baz=138,slow=36								
	comp=Z,8.6nm,0.9s								
PALK	**Pallekele**	**63.22**	**281**	P	**P**	**20**	**06**	**47.4**	**0.0**
PALK	**Pallekele**	**63.22**	**281**	P	**P**	**20**	**06**	**47.4**	**0.0**
PALK				pmax	pmax				
	comp=Z,232nm,2.0s								
PALK				MLR	MLR				
	comp=Z,3µm,22.0s								
PALK	**Pallekele**	**63.22**	**281**	P	**P**	**20**	**06**	**49.3**	**+1.9**
PALK				P	**P**	**20**	**06**	**49.3**	**+1.9**
CIT	**Chita**	**63.23**	**340**	*e*P	**P**	**20**	**06**	**46.2**	**-0.5**
CIT				*e*		20	07	30.0	
CIT				*e*		20	09	13.2	
CIT				*e*		20	10	30.4	
CIT				*e*		20	15	08.0	
CIT				pmax	pmax				
	comp=Z,190nm,2.2s								
MALK	**Mahakanadarawa**	**63.59**	**283**	S	**S**	**20**	**15**	**24.8**	**+1.4**
CASY	**

KIP Kipapa 64.43 63 P **P** **20 06 59.7 +4.6**
KIP Kipapa 64.43 63 *ce*P **P** **20 06 57.3 +2.2**
KIP pmax pmax
comp=Z,144nm,1.7s
SHEM Shemya Is, Ala 64.66 21 LR LR 20 29 56.6
comp=Z,9μm,21.9s,baz=196,slow=31
MA2 Magadan 66.05 5 P **P** **20 07 04.1 -0.8**
MA2 IAmb IAmb 20 07 19.8
comp=Z,49nm,1.1s
MA2 Magadan 66.05 5 P **P** **20 07 04.9 0.0**
MA2 Magadan 66.05 5 *i* P **P** **20 07 03.9 -1.0**
MA2 pmax pmax
comp=Z,63nm,1.4s
MA2 Magadan 66.05 5 LR LR 20 33 16.3
comp=Z,3μm,21.5s,baz=190,slow=34
POHA Pohakuloa 66.14 65 IAMs_20 IAMs_20 20 31 02.8
comp=Z,9μm,20.0s
AIS Amsterdam Isla 66.45 232 IAMs_20 IAMs_20 20 33 11.6
comp=Z,7μm,21.0s
IRK Irkutsk 66.88 336 *e*P **P** **20 07 11.0 +0.6**
IRK *e*S S 20 16 20.2 +18
IRK pmax pmax
comp=Z,169nm,3.7s
PPT Papeete 66.99 106 LR LR 20 34 36.5
comp=Z,467nm,18.9s,baz=288,slow=34
PPT2 Papeete2 66.99 106 *e*P P 20 07 16.8 +4.9
comp=Z,248nm,23.8s
PPT2 *e*S S 20 16 20.0 +15
comp=Z,730nm,24.5s
PPT2 *e*SS **SS** **20 20 33.7 +10**
comp=Z,4μm,34.5s
PPT2 *e*LQ LQ 20 24 38.1
comp=Z,3μm,31.8s
PPT2 *e*LR LR 20 27 13.4
comp=Z,3μm,29.0s
PPT2 *e*LR LR 20 27 32.9
comp=Z,2μm,34.0s
TBI Tubuai 67.26 113 *e*P P 20 07 22.8 +9.3
comp=Z,1μm,25.5s
TBI *e*S **S** **20 16 14.5 +6.3**
comp=Z,2μm,27.0s
TBI *e*LQ LQ 20 24 37.6
comp=Z,12μm,37.5s
TBI *e*LR LR 20 27 26.3
comp=Z,8μm,29.0s
TBI *e*LR LR 20 27 33.0
comp=Z,2μm,32.0s
HYB Hyderabad 67.51 292 *e*P **P** **20 07 15.8 +0.7**
ADK Adak 67.63 26 IAMs_20 IAMs_20 20 31 25.2
comp=Z,10μm,22.0s
ADK Adak 67.63 26 P **P** **20 07 17.1 +2.0**
BOD Bodaibo 68.03 344 *e*P **P** **20 07 16.7 -0.9**
BOD pmax pmax
comp=Z,63nm,1.9s
YAK Yakutsk 68.92 354 P **P** **20 07 21.2 -1.8**
YAK IAmb IAmb 20 07 35.4
comp=Z,46nm,0.8s
YAK Yakutsk 68.92 354 IAMs_20 IAMs_20 20 34 14.8
comp=Z,6μm,22.0s
YAK Yakutsk 68.92 354 *e*P **P** **20 07 21.8 -1.2**
YAK *e* 20 07 45.8
YAK *e* 20 09 55.2
YAK *e*S **S** **20 16 26.4 0.0**
YAK *e* 20 17 16.4
YAK *e*SS **SS** **20 20 50.6 -1.6**
YAK pmax pmax
comp=Z,41nm,1.3s
YAK pmax pmax
comp=N,23nm,1.3s
YAK pmax pmax
comp=E,4.0nm,1.5s
YAK pmax pmax
comp=Z,170nm,3.8s
YAK smax smax
comp=E,350nm,5.3s
YAK smax smax
comp=N,277nm,4.9s
YAK Yakutsk 68.92 354 P **P** **20 07 22.6 -0.4**
comp=N,13nm,0.7s,baz=162,slow=12,SNR=13
YAK LR LR 20 35 57.6
comp=N,4μm,20.4s,baz=162,slow=35
comp=N,13nm,0.7s
ATKA Atka Island 68.95 27 IAMs_20 IAMs_20 20 32 46.2
comp=Z,9μm,21.0s
SEY Seymchan 69.50 5 *i* P **P** **20 07 25.2 -1.4**
SEY pmax pmax
comp=Z,56nm,1.4s
SEY Seymchan 69.50 5 P **P** **20 07 25.6 -1.0**
comp=Z,17nm,1.1s,baz=214,slow=3.6,SNR=16
SEY LR LR 20 35 36.6
comp=Z,5μm,21.3s,baz=194,slow=34
comp=Z,17nm,1.1s
KAAM Kaadhehdhoo 69.80 273 IAMs_20 IAMs_20 20 36 55.6
comp=Z,5μm,22.0s
KAAM Kaadhehdhoo 69.80 273 P P 20 07 34.4 +4.9
WMQ Urumqi 70.27 321 *e*P **P** **20 07 32.5 +0.7**
WMQ sP sP 20 07 40.4 +0.8
WMQ S **S** **20 16 52.1 +8.9**
WMQ pmax pmax
comp=Z,56nm,1.5s
WMQ pmax pmax
comp=Z,470nm,5.9s
WMQ LR LR
comp=Z,3μm,15.3s
WMQ LR LR
comp=Z,2μm,19.1s
WMQ LR LR
comp=Z,2μm,18.7s
VNDA Vanda 71.85 176 P **P** **20 07 40.9 +0.1**
VNDA Vanda 71.85 176 P **P** **20 07 40.9 +0.1**
VNDA pmax pmax
comp=Z,55nm,1.4s
VNDA MLR MLR
comp=Z,11μm,18.0s
VNDA Vanda 71.85 176 P **P** **20 07 40.0 -0.8**
comp=Z,16nm,1.2s,baz=335,slow=18,SNR=16
VNDA S S 20 16 50.3 -10
comp=Z,1.2nm,1.0s,baz=60,slow=22,SNR=1.5
VNDA LR LR 20 37 39.4
comp=Z,4μm,20.2s,baz=350,slow=35
comp=Z,16nm,1.2s
NIKH Nikolski High 71.92 28 P **P** **20 07 39.0 -2.6**
baz=232
DGZ Jazzator, Alta 73.45 326 *i* P **P** **20 07 50.4 -0.5**
DGZ pmax pmax
comp=Z,64nm,1.6s
UNV Unalaska Valle 73.57 29 P **P** **20 07 53.8 +2.5**
UNV Unalaska Valle 73.57 29 P **P** **20 07 48.9 -2.4**
baz=234
PAF Port-aux-Franc 73.75 220 IAMs_20 IAMs_20 20 38 56.4
comp=Z,7μm,18.0s
ZSN Zaisan 73.78 323 *e*P **P** **20 07 52.3 -0.5**
ZSN Zaisan 73.78 323 *e*P **P** **20 07 52.4 -0.5**
baz=323
P08K Saint George I 73.91 25 P **P** **20 07 52.2 -1.0**
baz=230
SPIA Saint Paul Isl 73.99 25 P **P** **20 07 52.9 -0.8**
baz=229
AKUT Akutan 74.09 29 P **P** **20 07 58.6 +4.2**
MK31 Makanchi Array 75.03 322 P **P** **20 07 59.0 -1.1**
MK31 Makanchi Array 75.03 322 *i* P **P** **20 08 00.0 -0.1**
MK31 pmax pmax
comp=Z,68nm,1.0s
MKAR Makanchi Array 75.03 322 P **P** **20 07 58.9 -1.2**
MKAR Makanchi Array 75.03 322 *i* P **P** **20 08 00.0 -0.1**
MKAR pmax pmax
comp=Z,10.0nm,0.9s
MKAR Makanchi Array 75.03 322 P **P** **20 07 58.4 -1.7**
comp=Z,7.0nm,0.7s,baz=117,slow=5.0,SNR=19
MKAR S **S** **20 17 39.9 +2.5**
comp=Z,0.3nm,0.8s,baz=188,slow=2.5,SNR=1.0
MKAR LR LR 20 41 15.2
comp=Z,2μm,21.4s,baz=106,slow=36
comp=Z,7.0nm,0.7s
MAKZ Makanchi 75.23 322 P **P** **20 08 00.2 -1.0**
MAKZ IAmb IAmb 20 08 09.8
comp=Z,70nm,1.1s
MAKZ Makanchi 75.23 322 P **P** **20 08 00.2 -1.0**
MAKZ pmax pmax
comp=Z,70nm,1.1s
MAKZ MLR MLR
comp=Z,3μm,22.0s
SHLS Shalkode 75.31 318 *e*P **P** **20 08 00.0 -1.8**
SHLS Shalkode 75.31 318 *e*P **P** **20 08 00.1 -1.8**
baz=318
PDGK Podgornoye 75.36 318 *i* P **P** **20 08 00.2 -2.0**
PDGK pmax pmax
comp=Z,72nm,1.7s
UZB Uzynbulak 75.60 317 *e*P **P** **20 08 03.2 -0.4**
UZB pmax pmax
comp=Z,71nm,1.8s
UZB Uzynbulak 75.60 317 *e*P **P** **20 08 03.3 -0.4**
comp=Z,71nm,1.8s,baz=318
FALS False Pass 75.63 29 P **P** **20 08 01.7 -1.6**
baz=236
SATY Saty 75.98 317 *e*P **P** **20 08 05.4 -0.3**
SATY pmax pmax
comp=Z,58nm,1.8s
SATY Saty 75.98 317 *e*P **P** **20 08 05.4 -0.3**
comp=Z,58nm,1.8s,baz=317
ZHN Zhinishke 76.00 317 *e*P **P** **20 08 05.4 -0.5**
ZHN Zhinishke 76.00 317 *e*P **P** **20 08 05.4 -0.5**
baz=317
BILL Bilibino 76.09 9 P **P** **20 08 04.3 -1.3**
BILL Bilibino 76.09 9 *i* P **P** **20 08 05.1 -0.5**
BILL pmax pmax
comp=Z,41nm,1.3s
KSH Kashi 76.39 313 P **P** **20 08 10.4 +2.2**
KSH PcP **PcP** **20 08 21.8 +1.9**
KSH S **S** **20 17 57.4 +4.4**
KSH pmax pmax
comp=Z,26nm,1.6s
KSH pmax pmax
comp=Z,380nm,4.3s
KSH LR LR
comp=Z,1μm,18.6s
KSH LR LR
comp=Z,3μm,22.8s
KSH LR LR
comp=Z,4μm,22.5s
TDK Taldyqorghan 76.74 319 *e*P **P** **20 08 09.4 -0.4**
TDK pmax pmax
comp=Z,47nm,1.5s
TDK Taldyqorghan 76.74 319 *e*P **P** **20 08 09.5 -0.4**
comp=Z,47nm,1.5s,baz=319
MDOK Medeo 76.94 317 *e*P **P** **20 08 10.5 -0.7**
MDOK Medeo 76.94 317 *e*P **P** **20 08 10.6 -0.7**
baz=317
TNSS Tian-Shan 76.96 317 *e*P **P** **20 08 10.4 -1.2**
TNSS Tian-Shan 76.96 317 *e*P **P** **20 08 10.5 -1.2**
baz=317
ZAA0 Zalesovo Array 77.03 329 IAMs_20 IAMs_20 20 43 31.2
comp=Z,6μm,20.0s
ZALV Zalesovo Beam 77.03 329 P **P** **20 08 09.9 -1.3**
ZALV Zalesovo Beam 77.03 329 *i* P **P** **20 08 12.3 +1.1**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV Zalesovo Beam 77.03 329 P **P** **20 08 08.6 -2.7**
comp=Z,3.8nm,0.5s,baz=116,slow=5.5,SNR=14
ZALV S **S** **20 17 54.4 -4.6**
comp=Z,0.2nm,0.3s,baz=141,slow=40,SNR=1.5
ZALV LR LR 20 43 13.8
comp=Z,5μm,19.0s,baz=112,slow=37
comp=Z,3.8nm,0.5s
AAA Alma-Ata 77.05 317 *e*P **P** **20 08 11.5 -0.2**
AAA pmax pmax
comp=Z,50nm,1.3s
AAA Alma-Ata 77.05 317 *e*P **P** **20 08 11.5 -0.2**
comp=Z,50nm,1.3s,baz=317
CHKK Chushkaly 77.24 318 *e*P **P** **20 08 12.5 -0.2**
CHKK Chushkaly 77.24 318 *e*P **P** **20 08 12.6 -0.2**
baz=318
SDPT Sand Point 77.32 29 P **P** **20 08 13.2 +0.4**
SDPT Sand Point 77.32 29 P **P** **20 08 12.0 -0.8**
baz=239
CNBA Chernabura Isl 77.48 30 IAmb IAmb 20 08 26.4
comp=Z,238nm,1.8s
CHNA Chernabura Isl 77.49 30 P **P** **20 08 12.5 -1.3**
baz=240
M11K Mekoryuk 77.65 23 P **P** **20 08 13.6 -1.0**
baz=232
KUU Kurty 77.69 317 *e*P **P** **20 08 14.6 -0.6**
KUU pmax pmax
comp=Z,84nm,1.6s
KUU Kurty 77.69 317 *e*P **P** **20 08 14.7 -0.6**
comp=Z,84nm,1.6s,baz=317
TKM2 Tokmak 2 77.85 316 *i* P **P** **20 08 16.0 -0.4**
TKM2 pmax pmax
comp=Z,42nm,1.4s
GAMB Gambell 77.89 19 P **P** **20 08 15.8 0.0**
baz=227
S14K Fog Glacier 78.25 29 P **P** **20 08 17.2 -1.0**
baz=239
TIXI Tiksi 78.38 356 P **P** **20 08 16.7 -1.7**
TIXI Tiksi 78.38 356 *i* P **P** **20 08 17.6 -0.8**
TIXI pmax pmax
comp=Z,24nm,1.0s
TIXI Tiksi 78.38 356 LR LR 20 42 00.7
comp=Z,3μm,19.9s,baz=186,slow=35
AAK Ala-Archa 78.51 316 *i* P **P** **20 08 19.2 -0.8**
AAK pmax pmax
comp=Z,30nm,1.4s
AAK Ala-Archa 78.51 316 P **P** **20 08 21.3 +1.3**
AAK P **P** **20 08 21.3 +1.3**
SGDS Sogindy 78.69 316 *e*P **P** **20 08 20.1 -0.8**
SGDS Sogindy 78.69 316 *e*P **P** **20 08 20.1 -0.8**
baz=316
CHGN Chignik 78.81 29 IAmb IAmb 20 08 29.3
comp=Z,57nm,0.7s
CHGN Chignik 78.81 29 P **P** **20 08 20.7 -0.4**
baz=240
M13K Dall Lake 78.81 24 IAMs_20 IAMs_20 20 38 43.2
comp=Z,5μm,21.0s
M13K Dall Lake 78.81 24 P **P** **20 08 20.8 -0.1**
baz=235
KURK Kurchatov 78.92 324 P **P** **20 08 20.9 -0.9**
KURK IAmb IAmb 20 08 24.9
comp=Z,119nm,1.4s
KURK Kurchatov 78.92 324 *i* P **P** **20 08 21.5 -0.3**
KURK pmax pmax
comp=Z,94nm,1.4s
KURK Kurchatov 78.92 324 P **P** **20 08 22.8 +1.0**
KURK P **P** **20 08 22.8 +1.0**
KURBB Kurchatov Arra 78.93 324 P **P** **20 08 20.9 -0.9**
comp=Z,53nm,1.3s,baz=122,slow=4.3,SNR=35
comp=Z,53nm,1.3s
O14K Tigyukauivet M 79.04 26 IAmb IAmb 20 08 25.5
comp=Z,116nm,1.1s
O14K IAMs_20 IAMs_20 20 38 25.2
comp=Z,7μm,21.0s
O14K Tigyukauivet M 79.04 26 P **P** **20 08 21.8 -0.4**
baz=237
ARSB Arslanbob 79.15 314 P **P** **20 08 22.3 -1.2**
ARSB Arslanbob 79.15 314 P **P** **20 08 22.3 -1.2**
ARSB pmax pmax
comp=Z,21nm,1.2s
ARSB MLR MLR
comp=Z,600nm,21.0s
N14K Kuskokwak Cree 79.22 25 P **P** **20 08 22.1 -1.2**
baz=237
M14K Bethel 79.57 24 IAmb IAmb 20 08 28.6
comp=Z,144nm,1.1s
M14K IAMs_20 IAMs_20 20 38 01.5
comp=Z,7μm,22.0s
M14K Bethel 79.57 24 P **P** **20 08 23.9 -1.2**
baz=236,SNR=18
L14K Kuka Creek 79.61 24 IAmb IAmb 20 08 28.7
comp=Z,116nm,1.1s
L14K IAMs_20 IAMs_20 20 38 46.5
comp=Z,6μm,21.0s
L14K Kuka Creek 79.61 24 P **P** **20 08 24.5 -0.8**
baz=236
O15K Ungalikthiuk R 79.62 26 P **P** **20 08 24.3 -1.2**
baz=238,SNR=11
BTLS Baital 79.63 318 *e*P **P** **20 08 25.4 -0.4**
BTLS Baital 79.63 318 *e*P **P** **20 08 25.5 -0.4**
baz=318
R16K Pilot Point 79.83 28 P **P** **20 08 26.0 -0.6**
baz=241
CHIR Chirikof Islan 79.95 30 IAMs_20 IAMs_20 20 37 51.4
comp=Z,4μm,20.0s
CHIR Chirikof Islan 79.95 30 P **P** **20 08 26.6 -0.7**
baz=243
N15K Kwethluk River 80.03 25 IAmb IAmb 20 08 31.1
comp=Z,122nm,1.1s
N15K IAMs_20 IAMs_20 20 38 44.6
comp=Z,8μm,21.0s
N15K Kwethluk River 80.03 25 P **P** **20 08 27.2 -0.5**
baz=238
M15K Kasigluk River 80.06 25 P **P** **20 08 27.4 -0.4**
baz=238
J14K Nanvaranak Lak 80.08 22 IAMs_20 IAMs_20 20 40 34.9
comp=Z,4μm,21.0s
J14K Nanvaranak Lak 80.08 22 P **P** **20 08 27.8 0.0**
baz=234
KBL Kabul 80.21 307 P **P** **20 08 28.5 -1.0**
SNR=6.7
MAW Mawson 80.24 202 LR LR 20 43 27.0
comp=Z,2μm,18.1s,baz=72,slow=35
L15K Ungalak Mounta 80.27 24 P **P** **20 08 28.4 -0.5**
baz=237,SNR=12
TNA Tin City 80.29 19 P **P** **20 08 28.4 -0.5**
baz=230
P16K Nushagak River 80.36 27 P **P** **20 08 29.0 -0.5**
baz=240,SNR=13
GAR Garm 80.41 311 IAMs_20 IAMs_20 20 45 12.1
comp=Z,6μm,22.0s
ANM Nome 80.51 20 IAmb IAmb 20 08 33.7
comp=Z,82nm,1.2s
ANM IAMs_20 IAMs_20 20 38 09.1
comp=Z,7μm,22.0s
ANM Nome 80.51 20 P **P** **20 08 29.7 -0.5**
baz=233,SNR=36
K15K Wolf Creek Mou 80.60 23 P **P** **20 08 29.1 -1.6**
K15K IAmb IAmb 20 08 34.3
comp=Z,98nm,1.0s
K15K IAMs_20 IAMs_20 20 39 47.4
comp=Z,8μm,21.0s
K15K Wolf Creek Mou 80.60 23 P **P** **20 08 30.2 -0.4**
baz=236
O16K Kokwok River B 80.60 26 IAmb IAmb 20 08 33.7
comp=Z,141nm,1.2s
O16K IAMs_20 IAMs_20 20 37 56.6
comp=Z,7μm,22.0s
O16K Kokwok River B 80.60 26 P **P** **20 08 30.1 -0.6**
baz=240
F14K Arctic Creek 80.75 19 P **P** **20 08 30.8 -0.7**
baz=232
N16K Nishlik Lake 80.75 25 P **P** **20 08 30.6 -1.0**
baz=239
Q16K King Salmon 80.80 27 P **P** **20 08 30.6 -1.2**
baz=241
DZA Taraz 80.80 315 *e*P **P** **20 08 31.7 -0.6**
DZA pmax pmax
comp=Z,39nm,0.9s
DZA Taraz 80.80 315 *e*P **P** **20 08 31.7 -0.6**
comp=Z,39nm,0.9s,baz=315
M16K Timber Creek 80.95 25 IAmb IAmb 20 08 36.0
comp=Z,136nm,1.1s
M16K IAMs_20 IAMs_20 20 39 25.9
comp=Z,6μm,21.0s
M16K Timber Creek 80.95 25 P **P** **20 08 31.5 -1.2**
baz=239
Q17K Contact Creek 80.96 28 P **P** **20 08 31.5 -1.3**
baz=242,SNR=24
SII Sitkinak Islan 81.00 30 P **P** **20 08 34.7 +1.7**
SII Sitkinak Islan 81.00 30 P **P** **20 08 31.7 -1.3**
baz=244
L16K Owhat River 81.10 24 IAmb IAmb 20 08 35.9
comp=Z,92nm,1.1s
L16K IAMs_20 IAMs_20 20 39 10.9
comp=Z,7μm,22.0s
L16K Owhat River 81.10 24 P **P** **20 08 32.7 -0.7**
baz=238,SNR=36
O17K Koliganek Bris 81.13 26 P **P** **20 08 32.5 -1.1**
baz=241
P17K Kvichak River 81.14 27 P **P** **20 08 32.4 -1.2**
baz=242
CHGR Chuyangaron 81.18 311 IAMs_20 IAMs_20 20 44 29.7
comp=Z,5μm,22.0s
CHGR Chuyangaron 81.18 311 P **P** **20 08 34.4 -0.1**
G15K Niukluk 81.23 20 P **P** **20 08 32.5 -1.5**
baz=234
KKAR Karatay Array 81.44 315 P **P** **20 08 34.2 -1.4**
KKAR Karatay Array 81.44 315 P **P** **20 08 34.2 -1.4**
F15K North Star Dit 81.45 19 IAmb IAmb 20 08 41.3
comp=Z,108nm,1.2s
F15K IAMs_20 IAMs_20 20 38 36.6
comp=Z,7μm,22.0s
F15K North Star Dit 81.45 19 P **P** **20 08 34.3 -0.9**
baz=233,SNR=51
N17K Nushagak Hills 81.46 26 IAmb IAmb 20 08 39.0
comp=Z,83nm,1.1s
N17K IAMs_20 IAMs_20 20 38 46.3
comp=Z,7μm,22.0s
N17K Nushagak Hills 81.46 26 P **P** **20 08 35.0 -0.3**
baz=241
J16K Anvik River 81.50 22 IAmb IAmb 20 08 38.6
comp=Z,103nm,1.1s
J16K IAMs_20 IAMs_20 20 41 19.2
comp=Z,4μm,20.0s
J16K Anvik River 81.50 22 P **P** **20 08 34.6 -0.9**
baz=237
IUG Iuzhnay 81.50 314 *e*P **P** **20 08 35.6 -0.5**
IUG pmax pmax
comp=Z,51nm,1.5s
IUG Iuzhnay 81.50 314 *e*P **P** **20 08 35.6 -0.5**
comp=Z,51nm,1.5s,baz=314
H16K Elim 81.65 21 P **P** **20 08 35.9 -0.4**
baz=236,SNR=34
OHAK Old Harbor 81.74 30 IAmb IAmb 20 08 46.0
comp=Z,206nm,1.7s
OHAK Old Harbor 81.74 30 P **P** **20 08 38.8 +2.0**
OHAK Old Harbor 81.74 30 P **P** **20 08 35.3 -1.5**
baz=245,SNR=7.0
M17K Holitna River 81.78 25 IAmb IAmb 20 08 43.9
comp=Z,74nm,0.9s
M17K IAMs_20 IAMs_20 20 40 11.8
comp=Z,6μm,21.0s
M17K Holitna River 81.78 25 P **P** **20 08 36.1 -1.0**
baz=240
P18K Big Mountain, 81.78 27 IAMs_20 IAMs_20 20 39 15.2
comp=Z,7μm,22.0s
P18K Big Mountain, 81.78 27 P **P** **20 08 36.4 -0.8**
baz=243
I17K Unalakleet 81.79 22 IAmb IAmb 20 08 40.9
comp=Z,94nm,1.1s
I17K IAMs_20 IAMs_20 20 39 14.1
comp=Z,6μm,22.0s
I17K Unalakleet 81.79 22 P **P** **20 08 35.8 -1.2**
baz=237,SNR=20
L17K Donlin 81.80 24 P **P** **20 08 35.5 -1.6**
baz=240
OTUK Ortayu 81.81 321 *i* P **P** **20 08 35.7 -1.8**
BRLS Boroldav 81.89 315 *e*P **P** **20 08 37.5 -0.5**
BRLS Boroldav 81.89 315 *e*P **P** **20 08 37.5 -0.5**
baz=315
O18K Koktuh Hills 82.01 27 IAmb IAmb 20 08 42.6
comp=Z,144nm,1.8s
O18K IAMs_20 IAMs_20 20 40 37.1
comp=Z,7μm,21.0s
O18K Koktuh Hills 82.01 27 P **P** **20 08 37.1 -1.2**
baz=243
G16K Koyuk River 82.04 20 IAmb IAmb 20 08 41.6
comp=Z,81nm,1.1s
G16K IAMs_20 IAMs_20 20 39 06.4
comp=Z,7μm,22.0s
G16K Koyuk River 82.04 20 P **P** **20 08 36.5 -1.8**
baz=235
K17K Iditarod 82.09 24 IAmb IAmb 20 08 42.2
comp=Z,118nm,1.1s
K17K Iditarod 82.09 24 P **P** **20 08 37.1 -1.6**
baz=239
N18K Kilae Creek 82.09 26 IAmb IAmb 20 08 41.7
comp=Z,54nm,0.9s
N18K IAMs_20 IAMs_20 20 40 21.3
comp=Z,7μm,20.0s
N18K Kilae Creek 82.09 26 P **P** **20 08 36.6 -2.1**
baz=242
BRZS Berezniki 82.17 322 *e*P **P** **20 08 38.5 -0.8**
BRZS Berezniki 82.17 322 *e*P **P** **20 08 38.6 -0.8**
baz=322
KDAK Kodiak Island 82.32 29 P **P** **20 08 38.4 -1.5**
KDAK IAmb IAmb 20 08 50.4
comp=Z,100nm,1.2s
KDAK Kodiak Island 82.32 29 *i* P **P** **20 08 40.1 +0.2**
KDAK pmax pmax
comp=Z,138nm,1.4s
KDAK Kodiak Island 82.32 29 P **P** **20 08 38.0 -1.8**
baz=245
KDAK Kodiak Island 82.32 29 LR LR 20 43 15.4
comp=Z,4μm,19.4s,baz=265,slow=34
SVW2 Sparrevohn 82.42 26 P **P** **20 08 38.3 -2.2**
SVW2 IAmb IAmb 20 08 43.8
comp=Z,120nm,1.2s
SVW2 IAMs_20 IAMs_20 20 39 26.7
comp=Z,7μm,22.0s
SVW2 Sparrevohn 82.42 26 P **P** **20 08 40.9 +0.5**
L18K Granite Mounta 82.49 24 IAmb IAmb 20 08 44.4
comp=Z,67nm,1.1s
L18K IAMs_20 IAMs_20 20 40 03.6
comp=Z,7μm,22.0s

L18K	Granite Mounta	82.49	24	P	P	20 08 38.3	-2.4	
	baz=241							
M18K	Stony River	82.50	25	P	P	20 08 38.5	-2.2	
	baz=242							
O19K	Port Alsworth	82.56	27	IAMs_20	IAMs_20	20 41 15.4		
	comp=Z,6µm,20.0s							
O19K	Port Alsworth	82.56	27	P	P	20 08 38.8	-2.3	
	baz=243							
H17K	Granite Mounta	82.64	21	IAmb	IAmb	20 08 47.8		
	comp=Z,80nm,1.0s							
H17K				IAMs_20	IAMs_20	20 42 12.5		
	comp=Z,6µm,20.0s							
H17K	Granite Mounta	82.64	21	P	P	20 08 39.6	-1.9	
	baz=238							
G17K	Kiwalik Mounta	82.69	21	P	P	20 08 39.7	-2.0	
	baz=237,SNR=49							
N19K	Bonanza Creek	82.77	26	IAMs_20	IAMs_20	20 40 41.1		
	comp=Z,7µm,21.0s							
N19K	Bonanza Creek	82.77	26	P	P	20 08 39.7	-2.6	
	baz=243							
C16K	Lisburne Hills	82.80	17	IAmb	IAmb	20 08 47.2		
	comp=Z,63nm,1.1s							
C16K	Lisburne Hills	82.80	17	P	P	20 08 40.6	-1.6	
	baz=232							
ILSW	Iliamna Southw	83.00	27	IAmb	IAmb	20 08 44.4		
	comp=Z,128nm,1.6s							
ILSW				IAMs_20	IAMs_20	20 40 24.9		
	comp=Z,6µm,21.0s							
F17K	Baldwin Pennin	83.00	20	IAmb	IAmb	20 08 57.7		
	comp=Z,188nm,1.9s							
F17K				IAMs_20	IAMs_20	20 39 23.0		
	comp=Z,6µm,22.0s							
F17K	Baldwin Pennin	83.00	20	P	P	20 08 41.8	-1.5	
	baz=236							
J18K	Innoko River	83.09	23	IAmb	IAmb	20 08 46.1		
	comp=Z,63nm,1.1s							
J18K				IAMs_20	IAMs_20	20 41 05.4		
	comp=Z,6µm,21.0s							
J18K	Innoko River	83.09	23	P	P	20 08 41.1	-2.7	
	baz=241							
TTA	Tatalina	83.11	24	IAmb	IAmb	20 08 46.5		
	comp=Z,70nm,1.3s							
TTA	Tatalina	83.11	24	P	P	20 08 45.7	+1.7	
TTA	Tatalina	83.11	24	P	P	20 08 41.7	-2.4	
	baz=242,SNR=20							
D17K	Noatak River	83.13	18	P	P	20 08 42.1	-1.8	
	baz=234,SNR=60							
L19K	White Mountain	83.23	25	IAmb	IAmb	20 08 47.9		
	comp=Z,86nm,1.1s							
L19K				IAMs_20	IAMs_20	20 40 58.4		
	comp=Z,4µm,20.0s							
L19K	White Mountain	83.23	25	P	P	20 08 42.8	-1.8	
	baz=243							
O20K	Slope Mountain	83.27	27	P	P	20 08 42.0	-2.9	
	baz=245							
H18K	Honhosa River	83.32	21	IAmb	IAmb	20 08 49.8		
	comp=Z,107nm,1.5s							
H18K				IAMs_20	IAMs_20	20 39 59.0		
	comp=Z,7µm,22.0s							
H18K	Honhosa River	83.32	21	P	P	20 08 42.8	-2.2	
	baz=239							
C17K	DeLong Mountai	83.56	18	P	P	20 08 43.5	-2.6	
	baz=234,SNR=73							
G18K	Tagagawik	83.60	21	IAmb	IAmb	20 08 49.2		
	comp=Z,55nm,1.1s							
G18K				IAMs_20	IAMs_20	20 42 02.7		
	comp=Z,6µm,20.0s							
G18K	Tagagawik	83.60	21	P	P	20 08 42.9	-3.5	
	baz=239							
QSPA	South Pole Qui	83.61	180	P	P	20 08 45.9	-0.8	
QSPA				IAmb	IAmb	20 08 57.5		
	comp=Z,71nm,1.2s							
QSPA	South Pole Qui	83.61	180	P	P	20 08 43.7	-3.0	
	comp=Z,8.5nm,0.9s,baz=334,slow=1.7,SNR=18							
QSPA				LR	LR	20 47 09.7		
	comp=Z,13µm,18.0s,baz=6.5,slow=36							
	comp=Z,8.5nm,0.9s							
F18K	Selawik	83.63	20	P	P	20 08 43.9	-2.6	
	baz=238,SNR=15							
GCSA	Galena City Sc	83.66	22	P	P	20 08 44.5	-2.2	
	baz=240,SNR=8.9							
CNPM	China Poot	83.68	28	IAMs_20	IAMs_20	20 44 45.4		
	comp=Z,4µm,20.0s							
E18K	Tukpahlearik C	83.76	19	IAmb	IAmb	20 08 50.5		
	comp=Z,98nm,1.1s							
E18K				IAMs_20	IAMs_20	20 40 53.6		
	comp=Z,5µm,22.0s							
E18K	Tukpahlearik C	83.76	19	P	P	20 08 44.4	-2.8	
	baz=237							
J19K	Poorman	83.77	23	IAmb	IAmb	20 08 50.0		
	comp=Z,80nm,1.2s							
J19K				IAMs_20	IAMs_20	20 41 57.3		
	comp=Z,5µm,20.0s							
J19K	Poorman	83.77	23	P	P	20 08 44.3	-3.0	
	baz=242							
L20K	Farewell, AK	83.78	25	P	P	20 08 44.3	-3.1	
	baz=244							
M20K	Styx River	83.83	25	IAmb	IAmb	20 08 50.7		
	comp=Z,84nm,1.0s							
M20K				IAMs_20	IAMs_20	20 41 46.7		
	comp=Z,6µm,20.0s							
M20K	Styx River	83.83	25	P	P	20 08 44.4	-3.4	
	baz=244							
N20K	Mount Spurr	83.93	26	P	P	20 08 45.1	-3.2	
	baz=245,SNR=13							
BRLK	Bradley Lake	83.94	28	IAMs_20	IAMs_20	20 40 34.9		
	comp=Z,6µm,22.0s							
BRSE	Bradley Lake S	84.00	28	P	P	20 08 45.5	-3.0	
	baz=247							
K20K	Telida	84.09	24	IAmb	IAmb	20 08 55.2		
	comp=Z,73nm,1.1s							
K20K	Telida	84.09	24	P	P	20 08 46.2	-2.8	
	baz=243							
H19K	Roundabout Mou	84.20	21	IAmb	IAmb	20 08 52.7		
	comp=Z,89nm,1.1s							
H19K				IAMs_20	IAMs_20	20 43 42.4		
	comp=Z,6µm,20.0s							
H19K	Roundabout Mou	84.20	21	P	P	20 08 47.3	-2.2	
	baz=241							
CAPN	Captain Cook N	84.22	27	IAMs_20	IAMs_20	20 41 24.7		
	comp=Z,6µm,21.0s							
CAPN	Captain Cook N	84.22	27	P	P	20 08 46.9	-2.8	
	baz=246							
C18K	Utukok River	84.26	18	IAmb	IAmb	20 09 08.9		
	comp=Z,121nm,1.5s							
C18K	Utukok River	84.26	18	P	P	20 08 47.1	-2.7	
	baz=236							
G19K	Purcell Mounta	84.28	21	IAmb	IAmb	20 08 53.2		
	comp=Z,74nm,1.1s							
G19K				IAMs_20	IAMs_20	20 40 03.6		
	comp=Z,7µm,22.0s							
G19K	Purcell Mounta	84.28	21	P	P	20 08 47.3	-2.5	
	baz=240							
F19K	Shaleruckik Mo	84.39	20	IAmb	IAmb	20 08 55.3		
	comp=Z,58nm,1.3s							
F19K				IAMs_20	IAMs_20	20 40 40.2		
	comp=Z,6µm,22.0s							
F19K	Shaleruckik Mo	84.39	20	P	P	20 08 47.9	-2.5	
	baz=240							
J20K	Nowinta River	84.43	23	IAMs_20	IAMs_20	20 42 06.8		
	comp=Z,5µm,20.0s							
J20K	Nowinta River	84.43	23	P	P	20 08 48.1	-2.6	
	baz=243							
B18K	Kokolik River	84.48	17	P	P	20 08 48.5	-2.3	
	baz=236							
BVAR	Borovoye Array	84.51	325	P	P	20 08 49.6	-1.7	
	comp=Z,55nm,1.0s,baz=107,slow=5.0,SNR=30							
BVAR				S	SKSac	20 19 11.6	-2.8	
	comp=Z,0.1nm,0.4s,baz=180,slow=29,SNR=1.6							
	comp=Z,55nm,1.0s							
SKT	Skwentna	84.55	26	IAMs_20	IAMs_20	20 41 59.3		
	comp=Z,6µm,21.0s							
SKT	Skwentna	84.55	26	P	P	20 08 47.4	-4.0	
	baz=246,SNR=13							
BRVK	Borovoye	84.58	325	P	P	20 08 51.0	-0.7	
BRVK	Borovoye	84.58	325	*i* P	P	20 08 51.3	-0.4	
BRVK				pmax	pmax			
	comp=Z,173nm,1.5s							
BRVK	Borovoye	84.58	325	P	P	20 08 51.8	+0.2	
BRVK				P	P	20 08 51.8	+0.2	
I20K	Naaghedeneel	84.59	23	IAmb	IAmb	20 08 54.8		
	comp=Z,96nm,1.1s							
I20K				IAMs_20	IAMs_20	20 43 15.1		
	comp=Z,4µm,20.0s							
I20K	Naaghedeneel	84.59	23	P	P	20 08 48.4	-3.0	
	baz=243							
PPLA	Purkeypile	84.66	25	P	P	20 08 49.1	-3.0	
	baz=245,SNR=14							
SUA	Susitna One	84.69	26	IAmb	IAmb	20 08 53.6		
	comp=Z,42nm,0.9s							
SUA				IAMs_20	IAMs_20	20 40 25.8		
	comp=Z,6µm,22.0s							
SUA	Susitna One	84.69	26	P	P	20 08 48.9	-3.3	
	baz=246,SNR=18							
SEW	Seward	84.74	28	P	P	20 08 48.3	-3.9	
	baz=248							
O22K	Cooper Landing	84.76	27	IAMs_20	IAMs_20	20 40 27.8		
	comp=Z,7µm,22.0s							
H20K	Anotleneega Mo	84.76	22	P	P	20 08 50.5	-1.8	
	baz=242							
FIS	Fire Island	84.79	27	IAMs_20	IAMs_20	20 40 28.3		
	comp=Z,7µm,22.0s							
E19K	Redstone River	84.89	20	IAMs_20	IAMs_20	20 41 18.4		
	comp=Z,6µm,22.0s							
E19K	Redstone River	84.89	20	P	P	20 08 51.6	-1.3	
	baz=240							
CAST	Castle Rocks	84.92	24	IAmb	IAmb	20 08 55.4		
	comp=Z,68nm,1.1s							
CAST				IAMs_20	IAMs_20	20 42 13.0		
	comp=Z,7µm,21.0s							
CAST	Castle Rocks	84.92	24	P	P	20 08 50.9	-2.4	
	baz=245,SNR=50							
RC01	Rabbit Creek A	84.99	27	IAmb	IAmb	20 09 01.8		
	comp=Z,96nm,1.0s							
RC01	Rabbit Creek A	84.99	27	P	P	20 08 51.1	-2.4	
	baz=247,SNR=23							
C19K	Lookout Ridge	85.00	18	IAmb	IAmb	20 08 57.5		
	comp=Z,78nm,1.0s							
C19K				IAMs_20	IAMs_20	20 40 28.4		
	comp=Z,4µm,22.0s							
C19K	Lookout Ridge	85.00	18	P	P	20 08 51.4	-2.1	
	baz=238							
CHUM	Lake Minchumin	85.03	24	P	P	20 08 50.4	-3.2	
	baz=245,SNR=35							
NGCH	Negor - Chabah	85.03	296	P	P	20 08 56.6	+2.1	
M22K	Willow	85.07	26	IAMs_20	IAMs_20	20 41 23.1		
	comp=Z,6µm,21.0s							
M22K	Willow	85.07	26	P	P	20 08 50.6	-3.3	
	baz=247,SNR=8.2							
D19K	Kuna River	85.13	19	IAMs_20	IAMs_20	20 45 10.7		
	comp=Z,5µm,20.0s							
D19K	Kuna River	85.13	19	P	P	20 08 51.4	-2.7	
	baz=239							
F20K	Avaraart Lake	85.20	20	IAMs_20	IAMs_20	20 43 11.8		
	comp=Z,6µm,20.0s							
F20K	Avaraart Lake	85.20	20	P	P	20 08 51.6	-2.8	
	baz=241							
CUT	Chulitna	85.27	26	IAMs_20	IAMs_20	20 43 35.3		
	comp=Z,6µm,20.0s							
CUT	Chulitna	85.27	26	P	P	20 08 52.1	-2.8	
	baz=247,SNR=12							
PMR	Palmer	85.45	26	IAmb	IAmb	20 09 01.1		
	comp=Z,73nm,1.0s							
PMR				IAMs_20	IAMs_20	20 41 55.0		
	comp=Z,6µm,21.0s							
PMR	Palmer	85.45	26	P	P	20 08 57.4	+1.6	
PMR	Palmer	85.45	26	P	P	20 08 53.3	-2.5	
	baz=248,SNR=28							
KTH	Kantishna Hill	85.45	24	IAMs_20	IAMs_20	20 42 29.1		
	comp=Z,7µm,21.0s							
H21K	Melozitna Rive	85.61	22	IAMs_20	IAMs_20	20 43 55.9		
	comp=Z,6µm,20.0s							
H21K	Melozitna Rive	85.61	22	P	P	20 08 54.2	-2.3	
	baz=244							
GHO	Glory Hole Cre	85.61	26	IAMs_20	IAMs_20	20 42 33.2		
	comp=Z,7µm,21.0s							
E20K	Nigu River	85.63	19	P	P	20 08 54.5	-2.2	
	baz=241							
BPAW	Bear Paw Mtn.	85.65	24	IAmb	IAmb	20 08 58.9		
	comp=Z,54nm,1.2s							
BPAW	Bear Paw Mtn.	85.65	24	P	P	20 08 53.7	-3.2	
	baz=246,SNR=24							
P23K	Montague Islan	85.66	28	P	P	20 08 54.3	-2.6	
	baz=250							
TRF	Thorofare Moun	85.67	25	IAmb	IAmb	20 09 11.9		
	comp=Z,68nm,1.2s							
TRF				IAMs_20	IAMs_20	20 42 36.9		
	comp=Z,7µm,21.0s							
TRF	Thorofare Moun	85.67	25	P	P	20 08 54.3	-2.9	
	baz=247,SNR=18							
KNK	Knik Glacier	85.68	27	IAMs_20	IAMs_20	20 41 10.2		
	comp=Z,5µm,22.0s							
KNK	Knik Glacier	85.68	27	P	P	20 08 54.3	-2.7	
	baz=248,SNR=22							
I21K	Tanana	85.71	23	IAmb	IAmb	20 09 11.3		
	comp=Z,152nm,1.7s							
I21K				IAMs_20	IAMs_20	20 44 00.7		
	comp=Z,5µm,20.0s							
I21K	Tanana	85.71	23	P	P	20 08 55.4	-1.6	
	baz=245,SNR=25							
D20K	Etivluk River	85.72	19	P	P	20 08 55.3	-1.8	
	baz=240							
G21K	Allakaket	85.73	21	IAmb	IAmb	20 09 02.2		
	comp=Z,108nm,1.8s							
G21K				IAMs_20	IAMs_20	20 41 00.7		
	comp=Z,7µm,22.0s							
G21K	Allakaket	85.73	21	P	P	20 08 55.2	-2.0	
	baz=244							
SML	Sawmill	85.88	26	IAMs_20	IAMs_20	20 42 29.5		
	comp=Z,5µm,21.0s							
SML	Sawmill	85.88	26	P	P	20 08 55.6	-2.5	
	baz=248,SNR=25							
MID	Middleton Isla	85.97	29	IAMs_20	IAMs_20	20 46 01.9		
	comp=Z,4µm,20.0s							
F21K	Alatna River	86.05	21	IAMs_20	IAMs_20	20 41 09.5		
	comp=Z,7µm,22.0s							
F21K	Alatna River	86.05	21	P	P	20 08 56.5	-2.3	
	baz=244							
JLN	Jalan Bani Buh	86.10	293	P	P	20 09 01.0	+1.1	
	SNR=6.9							
JLN				P	P	20 09 01.0	+1.1	
	SNR=6.9							
MLY	Manley	86.13	23	IAmb	IAmb	20 09 01.8		
	comp=Z,58nm,1.0s							
MLY				IAMs_20	IAMs_20	20 43 41.7		
	comp=Z,5µm,20.0s							
MLY	Manley	86.13	23	P	P	20 08 57.3	-1.9	
	baz=246,SNR=58							
M23K	Glacier View	86.14	27	P	P	20 08 57.2	-2.1	
	baz=249,SNR=14							
WAT1	Susitna Watana	86.16	25	P	P	20 08 56.8	-2.6	
	baz=248							
B20K	Meade River	86.19	17	IAmb	IAmb	20 09 12.6		
	comp=Z,138nm,1.4s							
B20K	Meade River	86.19	17	P	P	20 08 57.0	-2.3	
	baz=240							
HIN	Hinchinbrook I	86.22	28	IAMs_20	IAMs_20	20 46 05.4		
	comp=Z,4µm,19.0s							
H22K	Ishtalitna Cre	86.24	22	P	P	20 08 56.9	-2.8	
	baz=246							
RND	Reindeer	86.25	25	P	P	20 08 57.7	-2.2	
BWN	Browne	86.29	24	IAMs_20	IAMs_20	20 42 33.0		
	comp=Z,7µm,21.0s							
SCM	Sheep Creek Mo	86.34	27	IAMs_20	IAMs_20	20 41 42.5		
	comp=Z,5µm,22.0s							
SCM	Sheep Creek Mo	86.34	27	P	P	20 08 57.5	-2.8	
	baz=249,SNR=17							
MCK	McKinley	86.34	25	P	P	20 08 57.8	-2.5	
MCK	McKinley	86.34	25	P	P	20 08 58.5	-1.8	
	baz=248,SNR=34							
WAT6	Susitna Watana	86.42	26	P	P	20 08 59.5	-1.3	
	baz=249,SNR=17							
E21K	Killik River	86.44	19	IAMs_20	IAMs_20	20 42 44.3		
	comp=Z,4µm,21.0s							
E21K	Killik River	86.44	19	P	P	20 08 59.9	-0.7	
	baz=243							
C21K	Knifeblade Rid	86.51	19	P	P	20 08 59.5	-1.5	
	baz=242							
WBK	Wadi Bani Khal	86.57	293	P	P	20 09 04.5	+2.2	
	SNR=7.8							
WBK				P	P	20 09 04.5	+2.2	
	SNR=7.8							
NEA2	Nenana	86.61	24	IAmb	IAmb	20 09 03.4		
	comp=Z,58nm,1.2s							
NEA2				IAMs_20	IAMs_20	20 43 01.7		
	comp=Z,5µm,21.0s							
NEA2	Nenana	86.61	24	P	P	20 08 59.8	-1.7	
	baz=248,SNR=36							
EYAK	Cordova Ski Ar	86.62	28	P	P	20 09 04.1	+2.5	
EYAK	Cordova Ski Ar	86.62	28	P	P	20 08 59.7	-1.9	
	baz=251							
I23K	Minto, Yukon-K	86.71	23	IAmb	IAmb	20 09 15.7		
	comp=Z,106nm,1.6s							
I23K				IAMs_20	IAMs_20	20 43 27.2		
	comp=Z,6µm,21.0s							
I23K	Minto, Yukon-K	86.71	23	P	P	20 09 00.1	-1.8	
	baz=247,SNR=15							
DHY	Denali Highway	86.75	25	IAmb	IAmb	20 09 04.3		
	comp=Z,82nm,1.0s							
DHY				IAMs_20	IAMs_20	20 41 55.5		
	comp=Z,5µm,22.0s							
DHY	Denali Highway	86.75	25	P	P	20 09 00.2	-2.3	
	baz=249,SNR=16							
B21K	Ikpikpuk River	86.78	18	IAMs_20	IAMs_20	20 42 22.2		
	comp=Z,4µm,22.0s							
B21K	Ikpikpuk River	86.78	18	P	P	20 09 00.5	-1.7	
	baz=242							
KLU	Klutina	86.85	27	IAMs_20	IAMs_20	20 41 43.1		
	comp=Z,6µm,22.0s							
KLU	Klutina	86.85	27	P	P	20 09 01.7	-1.1	
	baz=251,SNR=17							
M24K	Tolsona, Glenn	86.94	26	P	P	20 09 02.2	-1.1	
	baz=250,SNR=13							
WRH	Wood River Hil	86.96	24	IAmb	IAmb	20 09 04.9		
	comp=Z,78nm,1.1s							
WRH				IAMs_20	IAMs_20	20 43 54.8		
	comp=Z,7µm,21.0s							
WSAR	Wadi Sarin	86.97	294	LR	LR	20 51 48.3		
	comp=Z,1µm,20.8s,baz=128,slow=38							
A21K	Barrow	87.01	16	P	P	20 09 01.5	-1.8	
	baz=240							
E22K	Anaktuvuk Pass	87.03	20	IAmb	IAmb	20 09 05.8		
	comp=Z,51nm,1.0s							
E22K				IAMs_20	IAMs_20	20 42 03.3		
	comp=Z,5µm,22.0s							
E22K	Anaktuvuk Pass	87.03	20	P	P	20 09 02.3	-1.2	
	baz=245,SNR=36							
KAIM	Kayak Island	87.05	29	IAMs_20	IAMs_20	20 42 27.6		
	comp=Z,6µm,22.0s							
KAIM	Kayak Island	87.05	29	P	P	20 09 01.9	-1.8	
	baz=252							
D22K	Ayikyak River	87.06	19	IAMs_20	IAMs_20	20 43 13.0		
	comp=Z,7µm,22.0s							
D22K	Ayikyak River	87.06	19	P	P	20 09 02.5	-1.2	
	baz=244							
RAGM	Ragged Mountai	87.07	28	IAMs_20	IAMs_20	20 43 34.0		
	comp=Z,4µm,20.0s							
G23K	Bananza Creek	87.07	22	IAmb	IAmb	20 09 06.4		
	comp=Z,39nm,1.0s							
G23K				IAMs_20	IAMs_20	20 42 16.5		
	comp=Z,7µm,22.0s							
G23K	Bananza Creek	87.07	22	P	P	20 09 02.4	-1.4	
	baz=247							
MDM	Murphy Dome	87.08	23	IAmb	IAmb	20 09 16.6		
	comp=Z,141nm,1.8s							
MDM				IAMs_20	IAMs_20	20 43 48.1		
	comp=Z,5µm,20.0s							
CCB	Clear Creek Bu	87.14	24	IAmb	IAmb	20 09 05.0		
	comp=Z,77nm,1.0s							
CCB				IAMs_20	IAMs_20	20 44 00.6		
	comp=Z,6µm,21.0s							
COLA	College	87.20	24	P	P	20 09 02.4	-2.0	
COLA				IAmb	IAmb	20 09 09.2		
	comp=Z,46nm,0.8s							
COLA	College	87.20	24	IAMs_20	IAMs_20	20 43 52.1		
	comp=Z,5µm,20.0s							
COLA	College	87.20	24	P	P	20 09 04.0	-0.4	
COLA	College	87.20	24	*i* P	P	20 09 02.7	-1.7	
COLA				pmax	pmax			
	comp=Z,62nm,1.0s							
COLA	College	87.20	24	P	P	20 09 01.9	-2.5	
	baz=249							
COLD	Coldfoot	87.21	21	P	P	20 09 01.9	-2.5	
	baz=246,SNR=22							
HMT	Hamilton	87.25	28	IAmb	IAmb	20 09 07.6		
	comp=Z,88nm,1.0s							
HMT				IAMs_20	IAMs_20	20 42 56.8		
	comp=Z,5µm,22.0s							
MHTO	MHTO	87.27	291	P	P	20 09 06.9	+1.2	
	SNR=12							
MHTO				P	P	20 09 06.9	+1.2	
	SNR=12							
BMRM	Bremner River	87.28	28	P	P	20 09 03.5	-1.4	
	baz=252,SNR=25							
HDA	Harding Lake	87.40	24	IAmb	IAmb	20 09 15.6		
	comp=Z,128nm,1.7s							
HDA				IAMs_20	IAMs_20	20 43 48.5		
	comp=Z,5µm,21.0s							
HDA	Harding Lake	87.40	24	P	P	20 09 03.1	-2.2	
	baz=250,SNR=13							
SUCK	Suckling Hills	87.40	29	IAMs_20	IAMs_20	20 42 26.8		
	comp=Z,5µm,21.0s							
POKR	Poker Plat Res	87.46	23	IAmb	IAmb	20 09 20.1		
	comp=Z,119nm,1.9s							
POKR				IAMs_20	IAMs_20	20 43 37.9		
	comp=Z,5µm,21.0s							
POKR	Poker Plat Res	87.46	23	P	P	20 09 03.9	-1.8	
	baz=249,SNR=6.7							
BIDO	Bidbid	87.47	294	P	P	20 09 08.4	+1.8	
	SNR=9.1							
BIDO				P	P	20 09 08.4	+1.8	
	SNR=9.1							
SMDO	Samad	87.48	293	P	P	20 09 06.8	0.0	
SMDO				P	P	20 09 06.8	0.0	
N25K	Chitina, Valde	87.49	27	IAmb	IAmb	20 09 15.3		
	comp=Z,100nm,1.4s							
N25K	Chitina, Valde	87.49	27	P	P	20 09 04.2	-1.8	
	baz=252,SNR=17							
HARP	HAARP	87.49	26	P	P	20 09 04.0	-1.8	
	baz=251							
DQM	DQM	87.52	290	P	P	20 09 08.7	+1.8	
BERG	Berg Lake	87.53	28	IAMs_20	IAMs_20	20 42 53.9		
	comp=Z,5µm,22.0s							
PAX	Paxson	87.54	26	P	P	20 09 04.6	-1.6	
	baz=251,SNR=9.5							
H24K	Noodor Dome	87.54	23	P	P	20 09 04.6	-1.5	
	baz=249,SNR=24							
IL31		87.55	24	IAmb	IAmb	20 09 07.1		
	comp=Z,48nm,1.1s							
ILAR	Eielson Array	87.55	24	P	P	20 09 01.6	-4.5	
	comp=Z,26nm,0.9s,baz=256,slow=4.5,SNR=68							
ILAR				S	SKSac	20 19 36.4	+3.4	
	comp=Z,0.2nm,0.6s,baz=190,slow=20,SNR=1.1							
ILAR				LR	LR	20 44 24.1		
	comp=Z,5µm,21.1s,baz=238,slow=33							
BGLC	Bering Glacier	87.65	29	P	P	20 09 05.0	-1.7	
	baz=253							
K24K	Donnelly Dome	87.68	25	P	P	20 09 04.6	-2.2	
	baz=251,SNR=11							
E23K	Chandalar	87.75	20	P	P	20 09 04.6	-2.5	
	baz=247							
D23K	Nanushuk River	87.75	19	P	P	20 09 04.7	-2.3	
	baz=246							
GLB	Gilahina Butte	87.80	27	IAmb	IAmb	20 09 12.9		
	comp=Z,58nm,1.0s							
SNH	Sunshine Point	87.88	29	IAMs_20	IAMs_20	20 43 59.6		
	comp=Z,6µm,21.0s							
VRDI	Verde Repeater	87.90	28	IAmb	IAmb	20 09 21.9		
	comp=Z,115nm,1.6s							
CRQE	Cirque	87.93	28	P	P	20 09 06.6	-1.6	
	baz=253,SNR=19							
WAX	Waxell Ridge	87.95	29	IAMs_20	IAMs_20	20 43 07.4		
	comp=Z,4µm,22.0s							
G24K	Hadweenzic

	comp=Z,5µm,20.0s							
MENT	**Mentasta**	**88.29**	**26**	P	**P**	**20 09 10.1**	**+0.4**	
MESA	**MESA**	**88.31**	**29**	IAmb	IAmb	20 09 16.0		
MESA	comp=Z,73nm,1.0s			IAMs_20	IAMs_20	20 43 41.8		
	comp=Z,6µm,21.0s							
MESA	**MESA**	**88.31**	**29**	P	**P**	**20 09 08.0**	**-2.0**	
	baz=254							
PRP	**Porcupine Dome**	**88.35**	**23**	IAMs_20	IAMs_20	20 44 16.5		
	comp=Z,5µm,22.0s							
PRP	**Porcupine Dome**	**88.35**	**23**	P	**P**	**20 09 08.7**	**-1.3**	
	baz=251							
D24K	**Happy Valley**	**88.44**	**19**	IAMs_20	IAMs_20	20 43 58.3		
	comp=Z,5µm,21.0s							
D24K	**Happy Valley**	**88.44**	**19**	P	**P**	**20 09 08.4**	**-1.9**	
	baz=248,SNR=85							
M26K	**Nabesna, AK**	**88.45**	**27**	IAmb	IAmb	20 09 31.2		
	comp=Z,64nm,1.4s							
M26K	**Nabesna, AK**	**88.45**	**27**	P	**P**	**20 09 08.5**	**-1.9**	
	baz=253							
H25L	**Birch Creek**	**88.48**	**23**	P	**P**	**20 09 08.4**	**-2.0**	
	baz=251							
SCRK	**Sand Creek**	**88.49**	**25**	IAmb	IAmb	20 09 18.9		
	comp=Z,53nm,1.3s							
SCRK	**Sand Creek**	**88.49**	**25**	P	**P**	**20 09 07.8**	**-3.0**	
	baz=252,SNR=17							
G25K	**Bearman Lake**	**88.54**	**22**	P	**P**	**20 09 08.2**	**-2.5**	
	baz=250							
C24K	**Franklin Bluff**	**88.70**	**19**	P	**P**	**20 09 09.3**	**-2.1**	
	baz=248							
TABL	**Table Mountain**	**88.77**	**29**	IAMs_20	IAMs_20	20 44 16.9		
	comp=Z,7µm,22.0s							
FYU	**Fort Yukon**	**88.80**	**22**	IAMs_20	IAMs_20	20 46 15.4		
	comp=Z,6µm,20.0s							
CTG	**Chitna Glacier**	**88.81**	**28**	P	**P**	**20 09 09.1**	**-3.2**	
	baz=255,SNR=24							
J26L	**Joseph Creek**	**88.82**	**25**	IAmb	IAmb	20 09 15.1		
	comp=Z,89nm,1.2s							
J26L				IAMs_20	IAMs_20	20 45 05.7		
	comp=Z,5µm,21.0s							
J26L	**Joseph Creek**	**88.82**	**25**	P	**P**	**20 09 09.2**	**-3.1**	
	baz=253,SNR=48							
ARQ	**Araqi**	**88.91**	**293**	P	**P**	**20 09 13.0**	**-0.5**	
ARQ				P	**P**	**20 09 13.0**	**-0.5**	
LOGN	**Logan Glacier**	**88.93**	**28**	IAmb	IAmb	20 09 26.0		
	comp=Z,52nm,1.0s							
M27K	**Edge Creek, AK**	**88.94**	**27**	IAmb	IAmb	20 09 19.0		
	comp=Z,78nm,1.1s							
M27K	**Edge Creek, AK**	**88.94**	**27**	P	**P**	**20 09 09.9**	**-3.0**	
	baz=254							
F25K	**Christian Rive**	**88.99**	**21**	P	**P**	**20 09 10.8**	**-2.2**	
	baz=251							
SOHO	**SOHO**	**89.00**	**294**	P	**P**	**20 09 15.2**	**+1.4**	
SHAO	**Shalim**	**89.08**	**288**	P	**P**	**20 09 15.4**	**+1.1**	
SHAO				P	**P**	**20 09 15.4**	**+1.1**	
PINM	**Pinnacle**	**89.11**	**29**	P	**P**	**20 09 11.3**	**-2.3**	
	baz=256							
L27K	**Beaver Creek,**	**89.15**	**26**	IAmb	IAmb	20 09 16.9		
	comp=Z,75nm,1.2s							
L27K				IAMs_20	IAMs_20	20 44 53.7		
	comp=Z,5µm,20.0s							
L27K	**Beaver Creek,**	**89.15**	**26**	P	**P**	**20 09 10.7**	**-3.0**	
	baz=254							
E25K	**Arctic Village**	**89.19**	**21**	IAMs_20	IAMs_20	20 45 51.5		
	comp=Z,6µm,20.0s							
E25K	**Arctic Village**	**89.19**	**21**	P	**P**	**20 09 10.9**	**-2.9**	
	baz=251,SNR=40							
K27K	**Chicken**	**89.31**	**25**	P	**P**	**20 09 11.6**	**-2.8**	
	baz=254							
D25K	**Kavik River**	**89.32**	**20**	IAmb	IAmb	20 09 16.9		
	comp=Z,48nm,1.2s							
D25K				IAMs_20	IAMs_20	20 43 17.7		
	comp=Z,4µm,22.0s							
D25K	**Kavik River**	**89.32**	**20**	P	**P**	**20 09 12.8**	**-1.6**	
	baz=250							
BCPM	**Bancas Point**	**89.37**	**29**	IAmb	IAmb	20 09 30.2		
	comp=Z,110nm,1.3s							
BCPM				IAMs_20	IAMs_20	20 43 29.4		
	comp=Z,5µm,22.0s							
BVCY	**Beaver Creek**	**89.41**	**27**	P	**P**	**20 09 12.4**	**-2.6**	
	baz=255,SNR=16							
PNL	**Peninsula**	**89.42**	**30**	P	**P**	**20 09 17.1**	**+2.0**	
PNL	**Peninsula**	**89.42**	**30**	P	**P**	**20 09 12.1**	**-3.0**	
	baz=256,SNR=12							
YUK3	**Moose Creek**	**89.43**	**28**	P	**P**	**20 09 12.8**	**-2.5**	
	baz=256,SNR=29							
G26K	**Porcupine Rive**	**89.47**	**22**	P	**P**	**20 09 13.5**	**-1.6**	
	baz=252							
GEYT	**Alibeck**	**89.53**	**308**	P	**P**	**20 09 15.6**	**-0.5**	
	comp=Z,26nm,1.4s,baz=88,slow=10,SNR=8.5							
GEYT				S	**SKSac**	**20 19 41.0**	**-5.1**	
	comp=Z,0.5nm,0.4s,baz=204,slow=44,SNR=1.2							
GEYT				LR	LR	20 51 36.0		
	comp=Z,2µm,21.8s,baz=110,slow=37							
	comp=Z,26nm,1.4s							
F26K	**Sheenjek River**	**89.56**	**21**	P	**P**	**20 09 13.9**	**-1.7**	
	baz=252							
YUK8	**Steele Glacier**	**89.63**	**28**	P	**P**	**20 09 14.4**	**-1.9**	
	baz=256,SNR=13							
DMTO	**DMTO**	**89.69**	**288**	P	**P**	**20 09 18.1**	**+0.9**	
ALNE	**Al Ain**	**89.70**	**294**	P	**P**	**20 09 18.1**	**+0.9**	
ALNE				P	**P**	**20 09 18.1**	**+0.9**	
EGAK	**Eagle**	**89.89**	**25**	IAmb	IAmb	20 09 22.9		
	comp=Z,69nm,1.1s							
EGAK	**Eagle**	**89.89**	**25**	P	**P**	**20 09 15.3**	**-1.8**	
	baz=255,SNR=36							
I27K	**Kandik River**	**89.93**	**24**	P	**P**	**20 09 15.6**	**-1.8**	
	baz=254,SNR=65							
O29M	**Mount Kennedy**	**89.97**	**29**	IAMs_20	IAMs_20	20 47 31.5		
	comp=Z,5µm,20.0s							
O29M	**Mount Kennedy**	**89.97**	**29**	P	**P**	**20 09 15.8**	**-2.0**	
	baz=257							
AB31	**Akbulak array**	**90.00**	**319**	*i* P	**P**	**20 09 16.5**	**-1.5**	
AB31				pmax	pmax			
	comp=Z,9.0nm,0.8s							
ABKAR	**Akbulak array**	**90.00**	**319**	P	**P**	**20 09 15.9**	**-2.0**	
C26K	**Camden Bay**	**90.00**	**19**	P	**P**	**20 09 15.8**	**-1.7**	
	baz=251							
H27K	**Steamboat Moun**	**90.13**	**23**	P	**P**	**20 09 15.8**	**-2.5**	
	baz=255							
ASUD	**Al Ashush, Dub**	**90.15**	**295**	P	**P**	**20 09 20.6**	**+1.4**	
ASUD				P	**P**	**20 09 20.6**	**+1.4**	
YUK4	**Talbot Arm**	**90.17**	**28**	P	**P**	**20 09 16.9**	**-1.9**	
	baz=257,SNR=20							
YUK6	**Outpost Mounta**	**90.22**	**29**	P	**P**	**20 09 16.6**	**-2.4**	
	baz=257							
P29M	**Windy Craggy**	**90.24**	**30**	IAmb	IAmb	20 09 27.6		
	comp=Z,117nm,1.4s							
P29M				IAMs_20	IAMs_20	20 45 56.7		
	comp=Z,3µm,20.0s							
P29M	**Windy Craggy**	**90.24**	**30**	P	**P**	**20 09 16.6**	**-2.3**	
	baz=258							
DAWY	**Dawson**	**90.46**	**25**	IAmb	IAmb	20 09 25.9		
	comp=Z,81nm,1.2s							
DAWY	**Dawson**	**90.46**	**25**	P	**P**	**20 09 17.0**	**-2.9**	
	baz=256,SNR=52							
M29M	**Somme Creek**	**90.50**	**27**	IAmb	IAmb	20 09 33.4		
	comp=Z,42nm,1.1s							
M29M				IAMs_20	IAMs_20	20 46 00.4		
	comp=Z,5µm,20.0s							
M29M	**Somme Creek**	**90.50**	**27**	P	**P**	**20 09 16.5**	**-3.7**	
	baz=257							
DOK	**Doka**	**90.56**	**289**	P	**P**	**20 09 18.4**	**-2.8**	
DOK				P	**P**	**20 09 18.4**	**-2.8**	
I28M	**Miner Creek**	**90.56**	**24**	IAmb	IAmb	20 09 26.4		
	comp=Z,60nm,1.2s							
I28M	**Miner Creek**	**90.56**	**24**	P	**P**	**20 09 17.3**	**-3.1**	
	baz=256,SNR=30							
HYT	**Haines Junctio**	**90.60**	**29**	IAmb	IAmb	20 09 23.2		
	comp=Z,34nm,1.0s							
HYT				IAMs_20	IAMs_20	20 44 42.4		
	comp=Z,7µm,22.0s							
HYT	**Haines Junctio**	**90.60**	**29**	P	**P**	**20 09 17.3**	**-3.4**	
	baz=258,SNR=21							
S31K	**Pelican**	**90.67**	**32**	IAmb	IAmb	20 09 33.4		
	comp=Z,94nm,1.6s							
S31K	**Pelican**	**90.67**	**32**	P	**P**	**20 09 17.5**	**-3.4**	
	baz=259							
P30M	**Million Dollar**	**90.72**	**30**	P	**P**	**20 09 18.6**	**-2.5**	
	baz=259							
L29M	**L29M**	**90.79**	**27**	IAmb	IAmb	20 09 28.7		
	comp=Z,58nm,0.9s							
L29M				IAMs_20	IAMs_20	20 44 23.2		
	comp=Z,4µm,21.0s							
L29M	**L29M**	**90.79**	**27**	P	**P**	**20 09 18.8**	**-2.6**	
	baz=258							
WHFO	**Wadi Hawf**	**90.82**	**288**	P	**P**	**20 09 25.9**	**+3.4**	
WHFO				P	**P**	**20 09 25.9**	**+3.4**	
PLBC	**Pleasant Camp**	**90.89**	**30**	P	**P**	**20 09 19.4**	**-2.5**	
	baz=259							
SVE	**Sverdlovsk**	**90.89**	**327**	*e*P	**P**	**20 09 21.0**	**-0.9**	
SVE				pmax	pmax			
	comp=Z,51nm,1.5s							
SVE				MLR	MLR			
	comp=Z,3µm,19.0s							
N30M	**Aishikik Lake**	**90.93**	**28**	IAMs_20	IAMs_20	20 45 51.8		
	comp=Z,4µm,21.0s							
N30M	**Aishikik Lake**	**90.93**	**28**	P	**P**	**20 09 18.3**	**-3.8**	
	baz=258							
SIT	**Sitka**	**90.99**	**33**	IAmb	IAmb	20 09 31.1		
	comp=Z,56nm,1.5s							
SIT	**Sitka**	**90.99**	**33**	P	**P**	**20 09 25.5**	**+3.1**	
SIT	**Sitka**	**90.99**	**33**	P	**P**	**20 09 20.2**	**-2.2**	
	baz=260							
J29N	**Klondike Camp**	**91.05**	**25**	IAmb	IAmb	20 09 32.4		
	comp=Z,57nm,1.2s							
J29N				IAMs_20	IAMs_20	20 46 05.9		
	comp=Z,9µm,21.0s							
J29N	**Klondike Camp**	**91.05**	**25**	P	**P**	**20 09 20.5**	**-2.2**	
	baz=258							
F28M	**Old Crow**	**91.11**	**22**	P	**P**	**20 09 19.5**	**-3.3**	
	baz=256,SNR=7.1							
D27M	**Malcolm River**	**91.13**	**20**	P	**P**	**20 09 19.6**	**-3.3**	
	baz=255							
ABTO	**Aybut**	**91.21**	**287**	P	**P**	**20 09 26.1**	**+1.8**	
K29M	**Barlow Dome**	**91.22**	**26**	IAmb	IAmb	20 09 36.8		
	comp=Z,79nm,1.3s							
K29M				IAMs_20	IAMs_20	20 44 56.3		
	comp=Z,7µm,22.0s							
K29M	**Barlow Dome**	**91.22**	**26**	P	**P**	**20 09 19.8**	**-3.7**	
	baz=258							
O30N	**Mendenhall**	**91.27**	**29**	IAMs_20	IAMs_20	20 49 02.1		
	comp=Z,5µm,20.0s							
O30N	**Mendenhall**	**91.27**	**29**	P	**P**	**20 09 21.3**	**-2.4**	
	baz=259,SNR=13							
M30M	**Minto, Yukon**	**91.28**	**27**	IAMs_20	IAMs_20	20 46 12.4		
	comp=Z,5µm,21.0s							
M30M	**Minto, Yukon**	**91.28**	**27**	P	**P**	**20 09 21.1**	**-2.6**	
	baz=259,SNR=12							
H29M	**Whitestone**	**91.37**	**23**	IAmb	IAmb	20 10 12.2		
	comp=Z,87nm,1.6s							
H29M	**Whitestone**	**91.37**	**23**	P	**P**	**20 09 22.3**	**-1.7**	
	baz=257,SNR=9.3							
SKAG	**Skagway**	**91.41**	**30**	IAmb	IAmb	20 09 33.0		
	comp=Z,66nm,1.4s							
SKAG	**Skagway**	**91.41**	**30**	P	**P**	**20 09 25.1**	**+0.8**	
SKAG	**Skagway**	**91.41**	**30**	P	**P**	**20 09 21.6**	**-2.6**	
	baz=260,SNR=15							
AKTO	**Aktyubinsk**	**91.41**	**320**	*i* P	**P**	**20 09 23.2**	**-1.3**	
AKTO				pmax	pmax			
	comp=Z,30nm,1.7s							
AKTO	**Aktyubinsk**	**91.41**	**320**	LR	LR	20 51 11.4		
	comp=Z,2µm,21.4s,baz=76,slow=36							
S32K	**Killisnoo**	**91.46**	**32**	IAMs_20	IAMs_20	20 43 41.8		
	comp=Z,4µm,20.0s							
S32K	**Killisnoo**	**91.46**	**32**	P	**P**	**20 09 21.9**	**-2.7**	
	baz=261,SNR=8.0							
E28M	**Babbage River**	**91.47**	**21**	P	**P**	**20 09 21.3**	**-3.1**	
	baz=256							
R32K	**Eaglecrest**	**91.62**	**32**	P	**P**	**20 09 22.0**	**-3.3**	
	baz=261							
JIS	**Juneau Island**	**91.69**	**32**	P	**P**	**20 09 29.1**	**+3.5**	
WHY	**Whitehorse**	**91.83**	**29**	P	**P**	**20 09 23.0**	**-3.4**	
	baz=260,SNR=9.4							
J30M	**Hart River**	**91.87**	**25**	IAmb	IAmb	20 09 35.3		
	comp=Z,69nm,1.2s							
J30M	**Hart River**	**91.87**	**25**	P	**P**	**20 09 22.2**	**-4.3**	
	baz=259							
MAYO	**Mayo, Yukon**	**91.88**	**26**	IAMs_20	IAMs_20	20 44 55.0		
	comp=Z,7µm,22.0s							
MAYO	**Mayo, Yukon**	**91.88**	**26**	P	**P**	**20 09 21.8**	**-4.7**	
	baz=260							
D28M	**Stokes Point**	**91.92**	**20**	P	**P**	**20 09 21.9**	**-4.5**	
	baz=257							
CRAG	**Craig**	**91.95**	**35**	P	**P**	**20 09 30.1**	**+3.3**	
CRAG	**Craig**	**91.95**	**35**	P	**P**	**20 09 22.4**	**-4.5**	
	baz=262							
ARU	**Arti**	**91.96**	**326**	P	**P**	**20 09 24.3**	**-2.6**	
ARU	**Arti**	**91.96**	**326**	*d* iP	**P**	**20 09 25.5**	**-1.4**	
ARU						20 13 03.2		
ARU				S	**SKSac**	**20 19 57.7**	**-1.4**	
ARU				SS	**SS**	**20 26 33.5**	**-3.0**	
ARU				pmax	pmax			
	comp=Z,52nm,1.5s							
ARU	**Arti**	**91.96**	**326**	LR	LR	20 53 10.3		
	comp=Z,2µm,18.7s,baz=92,slow=37							
ARU	**Arti**	**91.96**	**326**	S	**P**	**20 09 25.5**	**-1.4**	
I30M	**Mount Dempster**	**91.97**	**25**	IAmb	IAmb	20 09 29.1		
	comp=Z,51nm,1.4s							
I30M				IAMs_20	IAMs_20	20 45 59.1		
	comp=Z,4µm,22.0s							
I30M	**Mount Dempster**	**91.97**	**25**	P	**P**	**20 09 23.0**	**-4.0**	
	baz=259							
E29M	**Blow River**	**92.01**	**21**	IAMs_20	IAMs_20	20 46 16.9		
	comp=Z,5µm,22.0s							
E29M	**Blow River**	**92.01**	**21**	P	**P**	**20 09 23.0**	**-3.9**	
	baz=258							
U33K	**Whale Pass**	**92.04**	**34**	IAmb	IAmb	20 09 40.7		
	comp=Z,112nm,1.9s							
U33K				IAMs_20	IAMs_20	20 45 26.3		
	comp=Z,4µm,20.0s							
U33K	**Whale Pass**	**92.04**	**34**	P	**P**	**20 09 23.6**	**-3.7**	
	baz=262							
EPYK	**Eagle Plains**	**92.05**	**23**	IAmb	IAmb	20 09 35.5		
	comp=Z,61nm,1.2s							
EPYK	**Eagle Plains**	**92.05**	**23**	P	**P**	**20 09 22.9**	**-4.3**	
	baz=259,SNR=15							
T33K	**Petersburg**	**92.23**	**33**	P	**P**	**20 09 24.3**	**-3.8**	
	baz=262							
P32M	**Atlin**	**92.24**	**30**	IAMs_20	IAMs_20	20 45 54.3		
	comp=Z,5µm,21.0s							
P32M	**Atlin**	**92.24**	**30**	P	**P**	**20 09 24.0**	**-4.2**	
	baz=261							
M31M	**Drury Creek, Y**	**92.32**	**28**	IAmb	IAmb	20 09 49.5		
	comp=Z,66nm,1.9s							
M31M				IAMs_20	IAMs_20	20 48 32.8		
	comp=Z,5µm,20.0s							
M31M	**Drury Creek, Y**	**92.32**	**28**	P	**P**	**20 09 24.1**	**-4.4**	
	baz=261,SNR=8.9							
G30M	**tAoh Zraii Nji**	**92.36**	**23**	IAMs_20	IAMs_20	20 46 53.5		
	comp=Z,6µm,21.0s							
G30M	**tAoh Zraii Nji**	**92.36**	**23**	P	**P**	**20 09 24.6**	**-4.0**	
	baz=259							
FOMA	**Nahampoana Res**	**92.42**	**245**	IAMs_20	IAMs_20	20 51 15.8		
	comp=Z,5µm,18.0s							
WRAK	**Wrangell Islan**	**92.51**	**34**	IAmb	IAmb	20 09 45.6		
	comp=Z,31nm,1.1s							
WRAK	**Wrangell Islan**	**92.51**	**34**	IAMs_20	IAMs_20	20 45 19.7		
	comp=Z,4µm,20.0s							
WRAK	**Wrangell Islan**	**92.51**	**34**	P	**P**	**20 09 25.6**	**-3.8**	
	baz=262							
F30M	**Barrier River**	**92.64**	**22**	P	**P**	**20 09 26.2**	**-3.6**	
	baz=260							
ELIB	**Princess Elisa**	**92.69**	**196**	*d*P	**P**	**20 09 32.2**	**+2.0**	
P33M	**Teslin, Yukon**	**92.78**	**30**	IAMs_20	IAMs_20	20 46 14.5		
	comp=Z,6µm,22.0s							
P33M	**Teslin, Yukon**	**92.78**	**30**	P	**P**	**20 09 26.3**	**-4.4**	
	baz=262,SNR=8.4							
N32M	**Quiet Lake**	**92.78**	**29**	IAmb	IAmb	20 09 32.8		
	comp=Z,44nm,1.4s							
N32M	**Quiet Lake**	**92.78**	**29**	P	P	20 09 25.6	-5.1	
	baz=262							
V35K	**Ketchikan**	**92.78**	**35**	IAmb	IAmb	20 09 43.7		
	comp=Z,47nm,1.4s							
V35K				IAMs_20	IAMs_20	20 42 55.9		
	comp=Z,5µm,22.0s							
V35K	**Ketchikan**	**92.78**	**35**	P	P	20 09 25.9	-4.8	
	baz=263							
FARO	**Faro, Yukon**	**92.81**	**28**	IAMs_20	IAMs_20	20 48 56.7		
	comp=Z,4µm,20.0s							
FARO	**Faro, Yukon**	**92.81**	**28**	P	**P**	**20 09 26.0**	**-4.8**	
	baz=262,SNR=15							
Q32M	**Nakina River**	**92.89**	**31**	IAmb	IAmb	20 09 49.6		
	comp=Z,58nm,2.0s							
Q32M	**Nakina River**	**92.89**	**31**	P	P	20 09 25.6	-5.8	
	baz=263							
H31M	**Peel River**	**92.91**	**24**	IAmb	IAmb	20 09 49.4		
	comp=Z,37nm,1.1s							
H31M				IAMs_20	IAMs_20	20 46 02.6		
	comp=Z,3µm,21.0s							
H31M	**Peel River**	**92.91**	**24**	P	P	20 09 26.0	-5.2	
	baz=261							
OPO	**Ambohidratompo**	**93.10**	**251**	LR	LR	20 45 49.7		
	comp=Z,1µm,22.0s,baz=266,slow=32							
G31M	**Satah River**	**93.11**	**23**	IAmb	IAmb	20 09 47.5		
	comp=Z,33nm,1.1s							
G31M	**Satah River**	**93.11**	**23**	P	P	20 09 26.8	-5.2	
	baz=261							
S34M	**Telegraph Cree**	**93.35**	**32**	IAMs_20	IAMs_20	20 44 28.9		
	comp=Z,3µm,20.0s							
S34M	**Telegraph Cree**	**93.35**	**32**	P	P	20 09 27.9	-5.5	
	baz=264,SNR=7.7							
F31M	**Tsiigehtchic**	**93.39**	**23**	IAmb	IAmb	20 09 40.8		
	comp=Z,48nm,1.4s							
F31M	**Tsiigehtchic**	**93.39**	**23**	P	P	20 09 28.0	-5.2	
	baz=262							
INK	**Inuvik**	**93.59**	**22**	IAMs_20	IAMs_20	20 46 10.0		
	comp=Z,5µm,22.0s							
INK	**Inuvik**	**93.59**	**22**	P	**P**	**20 09 32.8**	**-1.4**	
INK	**Inuvik**	**93.59**	**22**	P	**P**	**20 09 30.1**	**-4.1**	
	baz=262							
INK	**Inuvik**	**93.59**	**22**	LR	LR	20 47 06.2		
	comp=Z,4µm,21.8s,baz=222,slow=33							
R33M	**Jennings River**	**93.61**	**31**	IAMs_20	IAMs_20	20 48 23.8		
	comp=Z,3µm,20.0s							
R33M	**Jennings River**	**93.61**	**31**	P	**P**	**20 09 34.1**	**-0.5**	
	baz=264							
U35K	**Hyder**	**93.74**	**34**	IAMs_20	IAMs_20	20 42 54.3		
	comp=Z,4µm,22.0s							
MMPY	**Sheldon Lake,**	**93.82**	**28**	P	**P**	**20 09 35.9**	**+0.5**	
	baz=264,SNR=5.1							
DLBC	**Dease Lake**	**93.99**	**32**	IAmb	IAmb	20 09 38.0		
	comp=Z,70nm,2.0s							
DLBC	**Dease Lake**	**93.99**	**32**	P	**P**	**20 09 36.2**	**-0.1**	
	baz=264,SNR=8.0							
DLBC	**Dease Lake**	**93.99**	**32**	P	**P**	**20 09 34.8**	**-1.6**	
	comp=Z,7.0nm,1.0s,baz=280,slow=5.2,SNR=9.2							
DLBC				LR	LR	20 44 32.8		
	comp=Z,3µm,21.8s,baz=283,slow=31							
	comp=Z,7.0nm,1.0s							
BBB	**Bella Bella**	**94.53**	**38**	LR	LR	20 47 03.8		
	comp=Z,3µm,19.5s,baz=264,slow=32							
WTLY	**Watson Lake, Y**	**94.77**	**30**	IAmb	IAmb	20 09 45.5		
	comp=Z,48nm,1.3s							
WTLY	**Watson Lake, Y**	**94.77**	**30**	P	**P**	**20 09 39.2**	**-0.6**	
	baz=266,SNR=21							
TGTN	**Hyland Airport**	**95.12**	**29**	P	**P**	**20 09 41.2**	**-0.3**	
	baz=266							
BELA	**Belgrano 2**	**95.87**	**181**	P	**P**	**20 09 46.1**	**+1.5**	
JCC	**Jacoby Creek,**	**96.66**	**50**	IAMs_20	IAMs_20	20 45 05.9		
	comp=Z,5µm,21.0s							
A36M	**Sachs Harbour**	**96.67**	**18**	IAMs_20	IAMs_20	20 50 32.1		
	comp=Z,4µm,21.0s							
A36M	**Sachs Harbour**	**96.67**	**18**	P	**P**	**20 09 48.3**	**+0.1**	
	baz=270							
NLWA	**Neilton Lookou**	**97.03**	**43**	IAmb	IAmb	20 09 59.9		
	comp=Z,23nm,1.1s							
KIRV	**Kirov**	**97.05**	**328**	LR	LR	20 54 54.0		
	comp=Z,5µm,20.6s,baz=89,slow=36							
C36M	**Paulatuk**	**97.08**	**21**	IAmb	IAmb	20 10 33.3		
	comp=Z,44nm,1.9s							
C36M				IAMs_20	IAMs_20	20 49 23.2		
	comp=Z,6µm,22.0s							
C36M	**Paulatuk**	**97.08**	**21**	P	**P**	**20 09 50.1**	**0.0**	
	baz=271							
KOTAN	**Kotaneelee Air**	**97.14**	**30**	P	**P**	**20 09 49.6**	**-1.0**	
	baz=270							
HOPS	**Hopland Field**	**97.32**	**52**	IAMs_20	IAMs_20	20 47 06.5		
	comp=Z,5µm,20.0s							
COR	**Corvallis**	**97.34**	**46**	IAMs_20	IAMs_20	20 45 40.4		
	comp=Z,5µm,21.0s							
WRGLY	**Wrigley**	**97.41**	**27**	IAMs_20	IAMs_20	20 49 23.4		
	comp=Z,4µm,22.0s							
WRGLY	**Wrigley**	**97.41**	**27**	P	**P**	**20 09 50.6**	**-1.1**	
	baz=271							
MCCM	**Marconi Confer**	**97.44**	**52**	IAMs_20	IAMs_20	20 44 29.7		
	comp=Z,6µm,22.0s							
HUMO	**Hull Mountain**	**97.53**	**48**	P	**P**	**20 09 51.4**	**-1.4**	
HUMO				IAMs_20	IAMs_20	20 48 16.7		
	comp=Z,4µm,21.0s							
YBH	**Yreka Blue Hor**	**97.69**	**49**	LR	LR	20 46 14.2		
	comp=Z,7µm,21.6s,baz=315,slow=31							
MAK	**Makhachkala**	**98.02**	**312**	*e*P	**P**	**20 09 51.5**	**-3.4**	
MAK				*e*		20 20 26.3		
MAK				*e*SS	SS	20 28 00.3	-3.1	
MAK				*e*SSS	SSS	20 31 46.1		
MAK				pmax	pmax			
	comp=Z,258nm,1.9s							
BELG	**Belogornoye**	**98.04**	**322**	*i* P	**P**	**20 09 53.0**	**-1.7**	
BELG				pmax	pmax			
	comp=Z,8.0nm,1.0s							
BELG	**Belogornoye**	**98.04**	**322**	LR	LR	20 57 10.8		
	comp=Z,3µm,19.4s,baz=79,slow=37							
ORV	**Oroville**	**98.55**	**51**	P	Pdif	20 09 57.5	0.0	
ORV				IAmb	IAmb	20 10 13.8		
	comp=Z,35nm,1.9s							
ORV	**Oroville**	**98.55**	**51**	P	Pdif	20 09 57.5	0.0	
ORV				pmax	pmax			
	comp=Z,35nm,2.0s							
ORV				MLR	MLR			
	comp=Z,2µm,21.0s							
G05A	**Wamic**	**98.76**	**45**	IAmb	IAmb	20 10 19.8		
	comp=Z,24nm,1.0s							
J05D	**Fort Rock, OR**	**98.81**	**47**	P	**P**	**20 09 58.3**	**-0.4**	
J05D				IAmb	IAmb	20 10 14.2		
	comp=Z,61nm,1.9s							
SNAA

NEW	Newport	101.56	42	IAMs_20	IAMs_20	20 52 27.9				
	comp=Z,3µm,20.0s									
NEW	Newport	101.56	42	P	Pdif	20 10 09.9	-0.7			
	baz=273									
LRMC	Laurel Mtn Rad	101.56	55	P	Pdif	20 10 11.1	0.0			
	baz=270									
YKAW1	Yellowknife Wh	101.57	28	IAMs_20	IAMs_20	20 50 48.1				
	comp=Z,6µm,22.0s									
BFSC	Mount Baldy Ra	101.59	56	P	Pdif	20 10 11.4	+0.1			
	baz=270									
BMO	Blue Mountains	101.61	46	IAMs_20	IAMs_20	20 53 14.7				
	comp=Z,3µm,19.0s									
F10A	Beach Ranch, E	101.61	44	IAMs_20	IAMs_20	20 47 14.7				
	comp=Z,3µm,22.0s									
MPMC	Manual Prospec	101.72	55	P	Pdif	20 10 10.8	-1.0			
	baz=271									
MZP	Montezuma Peak	101.78	53	IAMs_20	IAMs_20	20 47 17.9				
	comp=Z,4µm,22.0s									
ELS	Elsinore Mount	101.78	57	IAMs_20	IAMs_20	20 51 06.5				
	comp=Z,3µm,20.0s									
GRAC	Grapevine Rang	101.80	54	P	Pdif	20 10 11.2	-0.8			
	baz=271									
GMN	Gold Mountain	101.88	53	IAMs_20	IAMs_20	20 47 36.7				
	comp=Z,4µm,21.0s									
KLMR	Klimovskoe	101.89	331	eP	Pdif	20 10 09.4	-2.4			
KLMR				S	SKSac	20 20 48.9	-1.5			
KLMR				pmax	pmax					
	comp=Z,43nm,2.0s									
KLMR				MLR	MLR					
	comp=Z,3µm,20.0s									
Q09A	Carvers	101.91	52	IAMs_20	IAMs_20	20 48 31.4				
	comp=Z,5µm,20.0s									
109C	Camp Elliot, M	102.06	58	IAMs_20	IAMs_20	20 49 38.8				
	comp=Z,3µm,20.0s									
TJX	Tijuana	102.10	58	IAMs_20	IAMs_20	20 46 47.0				
	comp=Z,4µm,21.0s									
QSM	Queen of Sheba	102.22	55	IAMs_20	IAMs_20	20 47 41.8				
	comp=Z,5µm,21.0s									
GSC	Goldstone, Bar	102.28	55	IAMs_20	IAMs_20	20 47 41.5				
	comp=Z,3µm,21.0s									
GWY	Greenwater Val	102.38	54	IAMs_20	IAMs_20	20 47 13.0				
	comp=Z,5µm,22.0s									
BAR	Barrett	102.42	58	IAMs_20	IAMs_20	20 50 01.5				
	comp=Z,4µm,21.0s									
CBX	Cerro Bola	102.43	58	IAMs_20	IAMs_20	20 48 15.8				
	comp=Z,5µm,20.0s									
CCX	Cicese	102.43	59	IAMs_20	IAMs_20	20 47 38.8				
	comp=Z,3µm,21.0s									
TKX	Tecate	102.48	58	IAMs_20	IAMs_20	20 49 21.9				
	comp=Z,4µm,19.0s									
PLID	Pearl Lake	102.52	45	IAMs_20	IAMs_20	20 50 17.9				
	comp=Z,3µm,20.0s									
LVZ	Lovozero	102.58	338	IAMs_20	IAMs_20	20 57 17.4				
	comp=Z,4µm,21.0s									
PFO	Pinyon Flats O	102.59	57	IAMs_20	IAMs_20	20 52 07.0				
	comp=Z,3µm,20.0s									
PMD	Palm Desert	102.66	57	IAMs_20	IAMs_20	20 51 52.7				
	comp=Z,3µm,20.0s									
MFID	Camas Ranch	102.75	47	IAMs_20	IAMs_20	20 49 37.9				
	comp=Z,4µm,20.0s									
RMX	La Rumorosa	102.92	58	IAMs_20	IAMs_20	20 49 22.9				
	comp=Z,4µm,20.0s									
ESJX	Sierra Juarez	103.04	59	IAMs_20	IAMs_20	20 47 47.9				
	comp=Z,4µm,22.0s									
APA	Apatity	103.12	338	⇓ iP	Pdif	20 10 12.3	-4.8			
APA				pmax	pmax					
	comp=Z,18nm,1.1s									
VTX	Valle De La Tr	103.19	59	IAMs_20	IAMs_20	20 47 39.8				
	comp=Z,3µm,22.0s									
ELK	Elko	103.33	50	IAMs_20	IAMs_20	20 52 22.7				
	comp=Z,3µm,20.0s									
UABX	UABC, Campus M	103.46	58	IAMs_20	IAMs_20	20 47 36.9				
	comp=Z,3µm,19.0s									
EDM	Edmonton	103.47	37	IAMs_20	IAMs_20	20 53 27.2				
	comp=Z,4µm,19.0s									
SHPR	Sheep Range	103.59	54	IAMs_20	IAMs_20	20 48 04.0				
	comp=Z,4µm,22.0s									
Q12A	Willow Creek R	103.74	51	IAMs_20	IAMs_20	20 48 36.6				
	comp=Z,5µm,22.0s									
HLID	Hailey	103.76	47	IAMs_20	IAMs_20	20 49 58.8				
	comp=Z,5µm,21.0s									
V12A	Nelson	103.87	55	IAMs_20	IAMs_20	20 48 09.4				
	comp=Z,4µm,22.0s									
SFX	San Felipe	103.99	60	IAMs_20	IAMs_20	20 52 59.2				
	comp=Z,3µm,20.0s									
OBN	Obninsk	104.35	325	IAMs_20	IAMs_20	21 01 03.0				
	comp=Z,3µm,20.0s									
OBN	Obninsk	104.35	325	i P	Pdif	20 10 21.8	-1.0			
OBN				i		20 14 42.6				
OBN				pmax	pmax					
	comp=Z,11nm,1.1s									
OBN				pmax	pmax					
	comp=Z,47nm,1.5s									
KEV	Kevo	104.63	341	IAMs_20	IAMs_20	21 01 25.6				
	comp=Z,4µm,20.0s									
FURI	Furi	104.67	278	IAMs_20	IAMs_20	20 56 04.4				
	comp=Z,3µm,21.0s									
113A	Mohawk Valley,	104.87	58	IAMs_20	IAMs_20	20 49 21.2				
	comp=Z,3µm,21.0s									
BGU	Big Grassy Mou	104.99	49	IAMs_20	IAMs_20	20 49 43.7				
	comp=Z,3µm,21.0s									
LCMT	Little Creek M	105.10	54	IAMs_20	IAMs_20	20 49 25.9				
	comp=Z,5µm,22.0s									
HVU	Hansel Valley	105.11	49	IAMs_20	IAMs_20	20 51 00.8				
	comp=Z,3µm,20.0s									
ARCES	ARCESS Array B	105.20	341	Pdiff	Pdif	20 10 25.4	-1.0			
	comp=Z,13nm,1.2s,baz=60,slow=7.5,SNR=4.3									
POGA	Pongola	105.37	240	IAMs_20	IAMs_20	20 48 42.9				
	comp=Z,4µm,21.0s									
SPUT	South Promonto	105.40	49	IAMs_20	IAMs_20	20 50 49.3				
	comp=Z,3µm,21.0s									
KNB	Kanab	105.44	53	IAMs_20	IAMs_20	20 49 36.8				
	comp=Z,5µm,22.0s									
Y14A	Wickenburg	105.46	57	IAMs_20	IAMs_20	20 53 47.7				
	comp=Z,2µm,19.0s									
BOZ	Bozeman (W)	105.55	45	IAMs_20	IAMs_20	20 50 54.7				
	comp=Z,3µm,20.0s									
214A	Organ Pipe Nat	105.71	59	IAMs_20	IAMs_20	20 48 42.5				
	comp=Z,4µm,22.0s									
YHL	Hebgen Lake	105.95	45	IAMs_20	IAMs_20	20 52 30.5				
	comp=Z,3µm,20.0s									
HWUT	Hardware Ranch	106.03	49	IAMs_20	IAMs_20	20 51 21.0				
	comp=Z,3µm,21.0s									
TCUT	Toone Canyon	106.20	49	IAMs_20	IAMs_20	20 53 45.5				
	comp=Z,4µm,19.0s									
AHID	Auburn Hatcher	106.25	47	IAMs_20	IAMs_20	20 54 36.7				
	comp=Z,4µm,19.0s									
TPAW	Teton Pass	106.28	47	IAMs_20	IAMs_20	20 51 41.2				
	comp=Z,5µm,21.0s									
YNM	Yellowstone No	106.30	45	IAMs_20	IAMs_20	20 52 41.9				
	comp=Z,3µm,19.0s									
YNR	Norris Junctio	106.32	45	IAMs_20	IAMs_20	20 52 42.4				
	comp=Z,3µm,20.0s									
SRIG	Santa Rosalia	106.35	64	IAMs_20	IAMs_20	20 47 37.8				
	comp=Z,4µm,22.0s									
FLWY	Flagg Ranch	106.39	46	IAMs_20	IAMs_20	20 50 44.2				
	comp=Z,3µm,21.0s									
MOOW	Moose Ponds	106.39	46	IAMs_20	IAMs_20	20 51 27.4				
	comp=Z,4µm,21.0s									
LOHW	Long Hollow	106.51	46	IAMs_20	IAMs_20	20 51 18.6				
	comp=Z,5µm,21.0s									
YMP	Mirror Lake Pl	106.69	45	IAMs_20	IAMs_20	20 54 14.1				
	comp=Z,3µm,20.0s									
X16A	Lo Mia Camp, P	106.73	56	IAMs_20	IAMs_20	20 54 11.2				
	comp=Z,3µm,19.0s									
SRU	San Rafael Swe	107.07	51	IAMs_20	IAMs_20	20 50 23.9				
	comp=Z,4µm,22.0s									
RLMT	Red Lodge	107.26	45	IAMs_20	IAMs_20	20 53 10.1				
	comp=Z,3µm,20.0s									
PDAR	Pinedale Array	107.38	47	Pdiff	Pdif	20 10 36.8	-0.2			
	comp=Z,0.6nm,0.8s,baz=262,slow=1.8,SNR=3.1									
TUC	Tucson	107.41	58	IAMs_20	IAMs_20	20 51 10.4				
	comp=Z,3µm,20.0s									
HSIG		107.43	62	IAMs_20	IAMs_20	20 52 49.4				
	comp=Z,3µm,20.0s									
RDMU	Red Mountain	107.64	50	IAMs_20	IAMs_20	20 55 20.8				
	comp=Z,3µm,19.0s									
BALJ	Balqa	107.72	302	IAMs_20	IAMs_20	21 04 19.0				
	comp=Z,1µm,22.0s									
X18A	Snowflake	107.95	56	IAMs_20	IAMs_20	20 55 21.5				
	comp=Z,3µm,20.0s									
FINES	FINESS Array B	108.05	333	Pdiff	Pdif	20 10 40.8	+1.7			
	comp=Z,0.8nm,0.6s,baz=53,slow=7.6,SNR=1.9									
SLBS	Sierra La Lagu	108.50	67	IAMs_20	IAMs_20	20 52 46.3				
	comp=Z,3µm,20.0s									
O20A	White River Ci	108.70	50	IAMs_20	IAMs_20	20 52 16.0				
	comp=Z,3µm,20.0s									
319A	Douglas	108.75	59	IAMs_20	IAMs_20	20 51 33.0				
	comp=Z,3µm,20.0s									
MVCO	Mesa Verde	108.86	53	IAMs_20	IAMs_20	20 51 37.6				
	comp=Z,5µm,22.0s									
RWWY	Rawlins	109.26	48	IAMs_20	IAMs_20	20 53 33.4				
	comp=Z,3µm,20.0s									
K22A	Casper	109.61	47	IAMs_20	IAMs_20	20 55 37.5				
	comp=Z,3µm,20.0s									
AKBB	Malin Array Si	109.62	322	IAMs_20	IAMs_20	21 05 14.6				
	comp=Z,3µm,21.0s									
KIEV	Kiev	109.63	322	IAMs_20	IAMs_20	21 05 13.6				
	comp=Z,3µm,21.0s									
NACGM	Naroch	109.87	326	ePdif	Pdif	20 10 41.6	-5.8			
	comp=Z,10.0nm,0.8s,baz=72									
121A	Cookes Peak, D	109.92	58	IAMs_20	IAMs_20	20 53 40.9				
	comp=Z,3µm,20.0s									
N23A	Red Feather La	110.33	49	IAMs_20	IAMs_20	20 55 40.7				
	comp=Z,3µm,20.0s									
MDUB	Mudurnu	110.36	311	IAMs_20	IAMs_20	21 08 47.1				
	comp=Z,3µm,21.0s									
BOSA	Boshof	110.43	236	IAMs_20	IAMs_20	20 55 38.6				
	comp=Z,5µm,22.0s									
Y22D	IRIS PASSCAL I	110.49	56	IAMs_20	IAMs_20	20 55 14.8				
	comp=Z,3µm,21.0s									
PHWY	Pilot Hill	110.62	48	IAMs_20	IAMs_20	20 54 27.4				
	comp=Z,4µm,20.0s									
ANMO	Albuquerque	110.77	55	IAMs_20	IAMs_20	20 59 58.1				
	comp=Z,2µm,19.0s									
KIS	Kishinev	110.77	318	ePP	PP	20 15 32.0	+3.5			
KIS				eL	L	21 00 51.0				
KIS				LRM	MLR	21 05 07.0				
	comp=Z,800nm,19.5s									
MILM	Milestii Mici	110.79	318	ePP	PP	20 15 34.0	+5.3			
MILM				eL	L	21 01 00.0				
MILM				LQM		21 01 54.0				
	comp=Z,1µm,22.0s									
MILM				LRM	MLR	21 05 07.0				
	comp=Z,1µm,19.0s									
RSSD	Black Hills	111.11	45	IAMs_20	IAMs_20	21 07 16.1				
	comp=Z,2µm,18.0s									
Q24A	Divide	111.24	51	IAMs_20	IAMs_20	20 59 59.2				
	comp=Z,3µm,20.0s									
LBTB	Lobatse	111.30	240	IAMs_20	IAMs_20	21 03 03.0				
	comp=Z,3µm,18.0s									
LSZ	Lusaka	111.57	251	IAMs_20	IAMs_20	20 56 27.0				
	comp=Z,5µm,22.0s									
BRIGG	Briggsdale	111.59	49	IAMs_20	IAMs_20	20 55 10.3				
	comp=Z,3µm,21.0s									
TIRR	Tirgusor	111.62	315	IAMs_20	IAMs_20	21 03 29.1				
	comp=Z,4µm,22.0s									
SUW	Suwalki	112.15	326	IAMs_20	IAMs_20	21 03 02.0				
	comp=Z,4µm,21.0s									
HPIG		112.22	64	IAMs_20	IAMs_20	20 54 28.4				
	comp=Z,4µm,20.0s									
FCC	Fort Churchill	112.23	28	IAMs_20	IAMs_20	20 57 13.9				
	comp=Z,4µm,21.0s									
LVV	L'vov	113.06	322	i PKIKP	PKiKP	20 15 06.0	+10			
LVV				e		20 21 32.7				
LVV				ePS	PS	20 25 16.9	-3.6			
LVV				eSS	SS	20 31 21.1	-7.1			
LVV				MLR	MLR					
	comp=N,900nm,22.0s									
LVV				MLR	MLR					
	comp=E,2µm,22.0s									
LVV				MLR	MLR					
	comp=Z,900nm,22.0s									
MLR	Muntele Rosu	113.07	317	IAMs_20	IAMs_20	21 06 56.4				
	comp=Z,4µm,21.0s									
KSCO	Kaye Shedlock'	113.17	50	IAMs_20	IAMs_20	20 54 55.1				
	comp=Z,3µm,21.0s									
MDND	Maddock	113.17	40	IAMs_20	IAMs_20	21 02 25.1				
	comp=Z,3µm,20.0s									
MSTX	Muleshoe	113.92	56	IAMs_20	IAMs_20	20 54 59.5				
	comp=Z,2µm,20.0s									
KWP	Kalwaria Pacla	113.94	322	IAMs_20	IAMs_20	21 07 03.9				
	comp=Z,3µm,21.0s									
SUSD	Miller	114.57	44	IAMs_20	IAMs_20	21 04 01.6				
	comp=Z,2µm,20.0s									
K30B	Basset	114.58	46	IAMs_20	IAMs_20	20 56 16.1				
	comp=Z,4µm,21.0s									
AMTX	Amarillo	114.66	55	IAMs_20	IAMs_20	20 55 24.1				
	comp=Z,3µm,21.0s									
ZAIG	Zacatecas	115.31	68	IAMs_20	IAMs_20	20 54 52.7				
	comp=Z,3µm,21.0s									
AGMN	Agassiz Nation	115.41	39	IAMs_20	IAMs_20	20 56 30.0				
	comp=Z,3µm,20.0s									
F33A	5 Mile Ranch,	115.95	42	IAMs_20	IAMs_20	21 09 41.8				
	comp=Z,3µm,18.0s									
BGNE	Belgrade	115.96	47	IAMs_20	IAMs_20	20 59 02.7				
	comp=Z,3µm,20.0s									
KONO	Kongsberg	116.04	336	IAMs_20	IAMs_20	21 08 55.5				
	comp=Z,3µm,19.0s									
ECSD	EROS Data Cent	116.39	44	IAMs_20	IAMs_20	20 58 25.7				
	comp=Z,4µm,19.0s									
OKC	Ostrava-Krasne	116.61	323	AMS	AMS	21 08 00.0				
	comp=Z,3µm,20.1s									
N33A	J Bar K, Exete	116.65	47	IAMs_20	IAMs_20	20 57 27.0				
	comp=Z,3µm,22.0s									
MOIG	Morelia	116.77	71	IAMs_20	IAMs_20	20 59 58.7				
	comp=Z,4µm,19.0s									
JCT	Junction City	116.94	59	IAMs_20	IAMs_20	20 55 42.0				
	comp=Z,3µm,22.0s									
MORC	Moravsky Berou	117.00	323	ePKP	PKPdf	20 15 02.4	-1.0			
L34A	Svendsen Farm,	117.08	46	IAMs_20	IAMs_20	20 58 14.3				
	comp=Z,3µm,20.0s									
JAVC	Velka Javorina	117.29	322	ePKP	PKiKP	20 15 05.7	+1.7			
KRLC	Kraliky	117.32	324	AMS	AMS	21 09 40.0				
	comp=Z,2µm,20.0s									
OSTC	Ostas	117.44	325	AMS	AMS	21 08 20.0				
	comp=Z,4µm,21.3s									
DPC	Dobruska-Polom	117.47	324	AMS	AMS	21 08 20.0				
	comp=Z,3µm,20.1s									
BRDY	Brady	117.49	58		PKiKP	20 15 05.3	+0.4			
CHVC	Chvalec	117.52	325	AMS	AMS	21 08 20.0				
	comp=Z,4µm,21.4s									
UPC	Upice	117.58	325	AMS	AMS	21 08 20.0				
	comp=Z,4µm,20.6s									
833A	Chaparral WMA,	117.60	61	IAMs_20	IAMs_20	20 58 34.8				
	comp=Z,3µm,21.0s									
KSU1	Kansas State U	117.71	49	IAMs_20	IAMs_20	21 06 17.2				
	comp=Z,3µm,21.0s									
MODS	Modra-Piesok	117.72	322	ePKIKP	PKiKP	20 15 08.1	+3.2			
MODS				e		20 15 16.0				
MODS	Modra-Piesok	117.72	322	ePKP	PKiKP	20 15 08.0	+3.2			
MODS				e		20 15 16.0				
VRAC	Vranov	117.75	323	ePKP	PKPdf	20 15 04.1	-0.7			
F36A	Milaca	117.76	41	IAMs_20	IAMs_20	21 02 42.7				
	comp=Z,3µm,22.0s									
OK029	Liberty Lake	117.86	53	IAMs_20	IAMs_20	20 56 58.8				
	comp=Z,4µm,22.0s									
N35A	Tabor	117.94	47	IAMs_20	IAMs_20	21 01 31.9				
	comp=Z,4µm,19.0s									
KRUC	Moravsky	117.97	323	ePKP	PKPdf	20 15 03.9	-1.4			
EYMN	Ely	118.25	38	P	PKiKP	20 15 06.1	+0.2			
	baz=294									
PUK	Puka	118.26	315	IAMs_20	IAMs_20	21 10 60.0				
	comp=Z,4µm,22.0s									
T35A	Sooner Cattle	118.34	51	IAMs_20	IAMs_20	20 57 26.2				
	comp=Z,4µm,22.0s									
FW06	Azle	118.38	56	IAMs_20	IAMs_20	21 03 42.8				
	comp=Z,2µm,19.0s									
PVCC	Panska Ves	118.40	325	AMS	AMS	21 07 00.0				
	comp=Z,5µm,21.6s									
TREC	Trest	118.41	324	AMS	AMS	21 09 00.0				
	comp=Z,3µm,21.1s									
SPMN	Marine on St.	118.47	41	IAMs_20	IAMs_20	21 07 49.3				
	comp=Z,2µm,19.0s									
SPMN	Marine on St.	118.47	41	P	PKiKP	20 15 06.7	+0.3			
	baz=292									
TIR	Tirane	118.50	314	IAMs_20	IAMs_20	21 11 19.3				
	comp=Z,3µm,22.0s									
GOPC	GO Pecny, Ondr	118.55	324	AMS	AMS	21 08 50.0				
	comp=Z,4µm,20.7s									
Z35A	Perchaven, San	118.56	56	IAMs_20	IAMs_20	21 01 08.4				
	comp=Z,2µm,21.0s									
RONA	Rosalia, Austr	118.60	322	ePKiKP	PKiKP	20 15 07.3	+0.7			
	comp=Z,6.6nm,1.4s									
RICC	Richard	118.66	325	AMS	AMS	21 07 00.0				
	comp=Z,5µm,21.1s									
WHTX	Lake Whitney,	118.66	57	IAMs_20	IAMs_20	20 59 10.2				
	comp=Z,2µm,20.0s									
PRU	Pruhonice	118.66	325	AMS	AMS	21 09 00.0				
PRA	Prague	118.68	325	AMS	AMS	21 08 50.0				
	comp=Z,5µm,21.8s									
E38A	The Farm, Brul	118.75	40	IAMs_20	IAMs_20	20 57 23.6				
	comp=Z,3µm,20.0s									
CONA	Conrad Observa	118.77	322	i PKiKP	PKiKP	20 15 07.0	0.0			
	comp=Z,6.3nm,1.0s									
435B	Jarrell	118.77	58	IAMs_20	IAMs_20	21 00 20.4				
	comp=Z,2µm,19.0s									
CLL	Collm	118.90	326	IAMs_20	IAMs_20	21 06 43.8				
	comp=Z,4µm,22.0s									
CLL	Collm	118.90	326	ePKIKP	PKiKP	20 15 07.0	0.0			
CLL	Collm	118.90	326	ePKiKP	PKiKP	20 15 07.0	0.0			
CLL				ex	x	20 15 16.0				
	comp=Z,22nm,1.8s									
CLL				i PKPmax		20 15 20.4				
	comp=Z,14nm,1.1s									
CLL				eSdif	Sdif	20 24 12.0	-3.3			
CLL				ex	x	20 25 43.0				
CLL				ePKPdf	PKPdf	20 25 51.0	-2.7			
CLL				ePPS	PPS	20 27 30.0				
CLL				e(SS)		20 32 48.0				
CLL				AMS	AMS	21 06 00.0				
735A	Kenedy	118.91	61	IAMs_20	IAMs_20	20 59 36.1				
	comp=Z,2µm,21.0s									
HSKC	Hora Svate Kat	119.00	326	AMS	AMS	21 07 40.0				
	comp=Z,5µm,21.7s									
ZVC	Zvikov	119.11	324	AMS	AMS	21 09 20.0				
	comp=Z,3µm,20.1s									
ARSA	Arzberg	119.26	321	i PKP	PKPdf	20 15 06.1	-1.7			
	comp=Z,3.5nm,1.1s									
CKRC	Cesky Krumlov	119.32	323	ePKP	PKiKP	20 15 12.7	+4.8			
CKRC				AMS	AMS	21 09 40.0				
	comp=Z,3µm,18.9s									
TLIG	Tlapa	119.36	74	IAMs_20	IAMs_20	20 59 16.2				
	comp=Z,2µm,20.0s									
EFI	East Falkland	119.54	165	IAMs_20	IAMs_20	21 11 27.0				
	comp=Z,2µm,20.0s									
KHC	Kasperske Hory	119.61	324	IAMs_20	IAMs_20	21 10 02.6				
	comp=Z,3µm,20.0s									
KHC	Kasperske Hory	119.61	324	ePKP	PKiKP	20 15 13.3	+4.8			
KHC				AMS	AMS	21 09 40.0				
	comp=Z,4µm,19.0s									
GERES	GERESS Array B	119.67	324	PKP	PKPdf	20 15 08.0	-0.6			
	comp=Z,0.9nm,0.9s,baz=72,slow=3.2,SNR=2.7									
N38A	Joes South For	119.69	46	IAMs_20	IAMs_20	21 02 15.4				
	comp=Z,4µm,20.0s									
COYC	Coyhaique	119.72	153	IAMs_20	IAMs_20	21 03 19.0				
	comp=Z,3µm,18.0s									
NKC	Novy Kostel	119.73	326	AMS	AMS	21 08 20.0				
	comp=Z,5µm,21.5s									
MOA	Molln	119.78	323	ePKiKP	PKiKP	20 15 09.9	+1.0			
	comp=Z,8.2nm,1.1s									
X37A	Clayton	119.81	54	IAMs_20	IAMs_20	20 57 47.2				
	comp=Z,3µm,22.0s									
SOKA	Soboth	119.81	321	ePKiKP	PKPdf	20 15 08.7	-0.3			
	comp=Z,8.6nm,1.1s									
P38A	Dawn	119.85	48	IAMs_20	IAMs_20	20 59 36.6				
	comp=Z,3µm,21.0s									
SCTE	Santa Cesarea	119.90	313	IAMs_20	IAMs_20	21 12 47.6				
	comp=Z,3µm,22.0s									
237A	Washetta, Mont	120.03	57	IAMs_20	IAMs_20	21 11 13.4				
	comp=Z,2µm,20.0s									
U38A	Gravette	120.11	51	IAMs_20	IAMs_20	20 58 54.2				
	comp=Z,4µm,22.0s									
G40A	Rib Lake	120.15	41	IAMs_20	IAMs_20	21 06 35.7				
	comp=Z,3µm,19.0s									
OBKA	Obir	120.18	321	ePKiKP	PKiKP	20 15 10.4	+0.6			
	comp=Z,8.6nm,1.6s									
TSUM	Tsumeb	120.20	244		PKPdf	20 15 07.7	-2.8			
BIOA	Bad Ischl, Aus	120.22	323	ePKiKP	PKPdf	20 15 09.4	-0.3			
	comp=Z,8.9nm,1.2s									
HKT	Hockley	120.41	59	IAMs_20	IAMs_20	20 57 49.7				
	comp=Z,4µm,22.0s									
I40A	Norwalk	120.42	42	IAMs_20	IAMs_20	21 05 56.0				
	comp=Z,2µm,20.0s									
Z38A	Mt. Pleasant	120.43	55	IAMs_20	IAMs_

FUORN	Ofenpass-Fuorn comp=Z,3µm,20.0s	122.76	323	IAMs_20	IAMs_20	21 12 13.2			
CCAR	Cane Creek comp=Z,3µm,20.0s	122.86	54	IAMs_20	IAMs_20	21 05 25.0			
L44A	Lake County Fo comp=Z,3µm,19.0s	122.92	43	IAMs_20	IAMs_20	21 06 08.2			
BFO	Black Forest comp=Z,2µm,20.0s	123.02	325	IAMs_20	IAMs_20	21 12 21.9			
CESX	Cesi comp=Z,2µm,19.0s	123.10	318	IAMs_20	IAMs_20	21 15 12.6			
I45A	Fountain comp=Z,3µm,20.0s	123.23	40	IAMs_20	IAMs_20	21 00 48.3			
HBAR	Harrisburg comp=Z,3µm,22.0s	123.27	51	IAMs_20	IAMs_20	21 00 25.5			
O44A	Mansfield comp=Z,3µm,20.0s	123.32	46	IAMs_20	IAMs_20	21 06 18.4			
ZCCA	Zocca comp=Z,3µm,22.0s	123.39	320	IAMs_20	IAMs_20	21 12 04.1			
Q44A	Meyer Farm, Va comp=Z,3µm,19.0s	123.39	47	IAMs_20	IAMs_20	21 09 53.3			
143A	Socs Landing, comp=Z,3µm,20.0s	123.48	55	IAMs_20	IAMs_20	21 01 52.7			
S44A	Carbondale comp=Z,2µm,20.0s	123.64	49	IAMs_20	IAMs_20	21 09 31.1			
SIUC	Southern Illin comp=Z,2µm,20.0s	123.66	49	IAMs_20	IAMs_20	21 07 33.6			
HDBT	Hernando Brdge comp=Z,3µm,22.0s	123.85	52	IAMs_20	IAMs_20	21 05 02.2			
GLMI	Grayling comp=Z,4µm,20.0s	123.90	39	IAMs_20	IAMs_20	21 07 23.6			
GLMI	Grayling baz=299	123.90	39	P	PKPdf	20 15 16.7	-0.1		
MET	Memphis--Engin comp=Z,2µm,22.0s	123.96	52	IAMs_20	IAMs_20	21 00 59.0			
EKA	Eskdalemuir Ar comp=Z,3.0nm,1.1s,baz=39,slow=2.7,SNR=1.6	124.04	337	PKP	PKPdf	20 15 16.3	-0.4		
L46A	Eue Claire comp=Z,3µm,21.0s	124.08	43	IAMs_20	IAMs_20	21 03 16.9			
PLCA	Paso Flores comp=Z,2µm,20.0s	124.11	150	IAMs_20	IAMs_20	21 21 18.6			
PLCA	Paso Flores comp=Z,2.0nm,0.8s,baz=183,slow=4.8,SNR=1.3	124.11	150	PKP	PKPdf	20 15 16.4	-1.0		
OLIL	Olney comp=Z,3µm,21.0s	124.12	47	IAMs_20	IAMs_20	21 11 32.6			
SFIN	Lafayette comp=Z,4µm,20.0s	124.20	45	IAMs_20	IAMs_20	21 08 50.5			
VBMS	Vicksburg comp=Z,3µm,19.0s	124.33	55	IAMs_20	IAMs_20	21 14 22.3			
VBMS	Vicksburg baz=286	124.33	55	P	PKPdf	20 15 17.9	0.0		
P46A	Rosedale comp=Z,3µm,20.0s	124.42	46	IAMs_20	IAMs_20	21 07 23.5			
J47A	Sunmer comp=Z,3µm,19.0s	124.51	41	IAMs_20	IAMs_20	21 07 09.1			
OXF	Oxford comp=Z,3µm,22.0s	124.56	52	IAMs_20	IAMs_20	21 01 40.9			
OXF	Oxford baz=288	124.56	52	P	PKPdf	20 15 18.0	-0.3		
Y45A	Yeager Farm, C comp=Z,3µm,21.0s	124.65	53	IAMs_20	IAMs_20	21 01 29.4			
IVI	Ivigtut comp=Z,2µm,21.0s	124.68	6	IAMs_20	IAMs_20	21 06 45.4			
USIN	University of comp=Z,4µm,21.0s	124.72	48	IAMs_20	IAMs_20	21 04 42.6			
N47A	Urbana comp=Z,3µm,20.0s	124.97	44	IAMs_20	IAMs_20	21 04 05.6			
BLO	Bloomington comp=Z,4µm,21.0s	125.09	46	IAMs_20	IAMs_20	21 07 31.1			
WVT	Waverly baz=290	125.25	50	P	PKPdf	20 15 19.2	-0.5		
L48A	N Adams comp=Z,3µm,20.0s	125.36	42	IAMs_20	IAMs_20	21 07 18.7			
146A	Union comp=Z,3µm,19.0s	125.40	54	IAMs_20	IAMs_20	21 08 00.4			
346A	Big Creek Wild comp=Z,3µm,21.0s	125.42	56	IAMs_20	IAMs_20	21 04 24.2			
PLAL	Pickwick Lake comp=Z,2µm,18.0s	125.45	51	IAMs_20	IAMs_20	21 07 11.3			
T47A	Sharon Grove comp=Z,3µm,19.0s	125.49	49	IAMs_20	IAMs_20	21 08 48.1			
CCIG	Comitan comp=Z,2µm,22.0s	125.57	75	IAMs_20	IAMs_20	21 01 13.0			
O48B	Farmland comp=Z,3µm,20.0s	125.60	44	IAMs_20	IAMs_20	21 04 25.5			
O48B	Farmland baz=295	125.60	44	P	PKPdf	20 15 20.1	-0.1		
WCI	Wyandotte Cave comp=Z,3µm,19.0s	125.62	47	IAMs_20	IAMs_20	21 08 24.3			
WCI	Wyandotte Cave baz=293	125.62	47	P	PKPdf	20 15 19.9	-0.4		
AAM	Ann Arbor baz=298	125.70	41	P	PKPdf	20 15 19.7	-0.6		
P48A	Milroy comp=Z,2µm,21.0s	125.75	45	IAMs_20	IAMs_20	21 09 00.5			
N49A	Columbus Grove comp=Z,4µm,21.0s	125.98	43	IAMs_20	IAMs_20	21 04 11.4			
Z47A	Carrollton comp=Z,3µm,20.0s	126.02	53	IAMs_20	IAMs_20	21 03 38.8			
K50A	Casco comp=Z,4µm,22.0s	126.15	40	IAMs_20	IAMs_20	21 02 48.5			
O49A	Covington comp=Z,3µm,21.0s	126.20	44	IAMs_20	IAMs_20	21 05 03.3			
P49A	Miami Univ. Ec comp=Z,3µm,18.0s	126.22	45	IAMs_20	IAMs_20	21 17 10.8			
P49A	Miami Univ. Ec baz=295	126.22	45	P	PKPdf	20 15 20.3	-1.0		
HUEH	Huehuetenango comp=Z,2µm,20.0s	126.24	76	IAMs_20	IAMs_20	21 04 31.8			
R49A	Shelbyville comp=Z,3µm,20.0s	126.41	46	IAMs_20	IAMs_20	21 10 11.1			
X48A	Hartselle comp=Z,2µm,20.0s	126.43	52	IAMs_20	IAMs_20	21 11 21.2			
M50A	Fremont comp=Z,3µm,20.0s	126.53	42	IAMs_20	IAMs_20	21 09 29.7			
U49A	Red Boiling Sp comp=Z,3µm,21.0s	126.66	49	IAMs_20	IAMs_20	21 02 53.0			
SSB	Saint Sauveur comp=Z,2µm,22.0s	126.86	324	IAMs_20	IAMs_20	21 12 58.7			
LRAL	Lakeview Retre comp=Z,4µm,22.0s	126.93	53	IAMs_20	IAMs_20	21 02 29.7			
LRAL	Lakeview Retre baz=289	126.93	53	P	PKPdf	20 15 22.4	-0.6		
R50A	Paris comp=Z,3µm,18.0s	127.02	46	IAMs_20	IAMs_20	21 11 03.2			
ACSO	Alum Creek Sta comp=Z,3µm,20.0s	127.11	43	IAMs_20	IAMs_20	21 04 45.2			
ACSO	Alum Creek Sta baz=297	127.11	43	P	PKPdf	20 15 22.5	-0.6		
Y49A	Blount Mountai comp=Z,2µm,20.0s	127.12	52	IAMs_20	IAMs_20	21 03 05.7			
T50A	Nancy comp=Z,4µm,21.0s	127.16	48	IAMs_20	IAMs_20	21 04 28.1			
N51A	Ashland comp=Z,3µm,19.0s	127.20	42	IAMs_20	IAMs_20	21 06 27.5			
P51A	Williamsport comp=Z,3µm,20.0s	127.39	44	IAMs_20	IAMs_20	21 05 51.9			
Q51A	Peebles comp=Z,3µm,20.0s	127.40	45	IAMs_20	IAMs_20	21 05 42.0			
FPAL	Fort Paine comp=Z,4µm,20.0s	127.51	51	IAMs_20	IAMs_20	21 03 13.8			
S51A	Beattyville comp=Z,3µm,19.0s	127.81	46	IAMs_20	IAMs_20	21 09 54.3			
250A	Grady comp=Z,2µm,22.0s	127.85	54	IAMs_20	IAMs_20	21 05 46.3			
O52A	Adamsville comp=Z,3µm,21.0s	127.94	43	IAMs_20	IAMs_20	21 09 13.3			
P52A	Corning baz=298	127.96	44	P	PKPdf	20 15 24.1	-0.6		
M53A	WI Miller and baz=300	128.07	41	P	PKPdf	20 15 24.5	-0.4		
X51A	Calhoun comp=Z,4µm,22.0s	128.08	51	IAMs_20	IAMs_20	21 03 41.9			
ERPA	Erie comp=Z,3µm,21.0s	128.17	40	IAMs_20	IAMs_20	21 09 53.7			
ERPA	Erie baz=301	128.17	40	P	PKPdf	20 15 24.5	-0.6		
Q52A	Bidwell comp=Z,3µm,22.0s	128.18	44	IAMs_20	IAMs_20	21 06 03.7			
KEST	Kesra comp=Z,2µm,20.0s	128.18	311	IAMs_20	IAMs_20	21 19 42.9			
Z51A	Franklin comp=Z,2µm,22.0s	128.28	52	IAMs_20	IAMs_20	21 04 48.3			
O53A	New Philadelph baz=299	128.30	42	P	PKPdf	20 15 25.2	-0.1		
TZTN	Tazewell baz=294	128.30	48	P	PKPdf	20 15 25.2	-0.2		
SNET	Serv Nac Est T comp=Z,2µm,22.0s	128.52	78	IAMs_20	IAMs_20	21 00 56.4			
P53A	Whipple comp=Z,4µm,21.0s	128.54	43	IAMs_20	IAMs_20	21 07 36.2			
451A	Vernon comp=Z,2µm,21.0s	128.70	56	IAMs_20	IAMs_20	21 08 54.0			
152A	Waverly Hall comp=Z,4µm,22.0s	128.86	53	IAMs_20	IAMs_20	21 04 24.9			
Y52A	Lilburn comp=Z,3µm,21.0s	128.95	51	IAMs_20	IAMs_20	21 03 57.0			
352A	Blakely comp=Z,2µm,22.0s	129.09	54	IAMs_20	IAMs_20	21 03 59.2			
S54A	Dingess, Beckl comp=Z,2µm,19.0s	129.37	45	IAMs_20	IAMs_20	21 16 54.5			
MCWV	Mont Chateau baz=300	129.50	42	P	PKPdf	20 15 27.3	-0.3		
GOGA	Godfrey comp=Z,2µm,20.0s	129.58	51	IAMs_20	IAMs_20	21 03 55.6			
GOGA	Godfrey baz=292	129.58	51	P	PKiKP	20 15 28.5	-0.2		
MAHO	Mahon comp=Z,2µm,21.0s	129.91	318	IAMs_20	IAMs_20	21 16 19.0			
LONY	Lake Ozonia baz=308	129.98	34	P	PKPdf	20 15 28.0	-0.4		
154A	Montrose comp=Z,3µm,20.0s	130.15	52	IAMs_20	IAMs_20	21 14 44.0			
TIGA	Tifton comp=Z,3µm,20.0s	130.18	54	IAMs_20	IAMs_20	21 05 04.0			
TIGA	Tifton baz=290	130.18	54	P	PKPdf	20 15 28.7	-0.5		
TRQA	Tornquist comp=Z,2µm,18.0s	130.24	155	IAMs_20	IAMs_20	21 20 11.0			
BLA	Blacksburg comp=Z,3µm,20.0s	130.27	46	IAMs_20	IAMs_20	21 11 54.2			
BLA	Blacksburg baz=297	130.27	46	P	PKPdf	20 15 29.3	0.0		
SSPA	Standing Stone baz=302	130.29	40	P	PKiKP	20 15 29.9	0.0		
KMSC	Kings Mountain baz=295	130.51	48	P	PKPdf	20 15 29.3	-0.4		
BINY	Binghamton baz=305	130.61	38	P	PKPdf	20 15 28.8	-1.0		
P57A	Homestead Farm comp=Z,3µm,20.0s	130.81	42	IAMs_20	IAMs_20	21 08 36.1			
255A	Hazlehurst comp=Z,3µm,20.0s	130.90	53	IAMs_20	IAMs_20	21 14 37.8			
LBNH	Linton baz=311	131.69	33	P	PKPdf	20 15 30.6	-1.1		
456A	Hilliard comp=Z,3µm,18.0s	131.69	54	IAMs_20	IAMs_20	21 19 55.0			
656A	Willston comp=Z,2µm,21.0s	131.74	56	IAMs_20	IAMs_20	21 11 16.4			
257A	Skidaway Islan comp=Z,2µm,20.0s	132.02	52	IAMs_20	IAMs_20	21 14 18.5			
BOAB	BOACO BROADBAND comp=Z,2µm,19.0s	132.05	79	IAMs_20	IAMs_20	21 08 01.0			
WUPA	West Chester U comp=Z,3µm,20.0s	132.13	40	IAMs_20	IAMs_20	21 06 24.9			
HZTE	Horizontes, Gu comp=Z,2µm,21.0s	132.18	81	IAMs_20	IAMs_20	21 02 26.4			
X58A	Rowland comp=Z,3µm,22.0s	132.25	48	IAMs_20	IAMs_20	21 05 52.0			
ORTG	Ortega, Santa comp=Z,2µm,20.0s	132.32	82	IAMs_20	IAMs_20	21 03 53.1			
T59A	Double "B" Far comp=Z,3µm,20.0s	132.40	44	IAMs_20	IAMs_20	21 11 43.4			
U59A	Littleton comp=Z,3µm,20.0s	132.53	45	IAMs_20	IAMs_20	21 14 05.2			
AC05	El Transito comp=Z,2µm,18.0s	132.81	140	IAMs_20	IAMs_20	21 26 33.0			
JTS	Las Juntas de comp=Z,2µm,20.0s	132.82	82	IAMs_20	IAMs_20	21 03 04.4			
ARE1	Arenal 1 comp=Z,2µm,20.0s	133.04	82	IAMs_20	IAMs_20	21 07 19.4			
DWPF	Diey Wildern comp=Z,2µm,18.0s	133.06	57	IAMs_20	IAMs_20	21 20 35.7			
JACO	JACO, Garabito comp=Z,2µm,18.0s	133.11	83	IAMs_20	IAMs_20	21 15 21.2			
ES18	SONSECA Array comp=Z,2µm,22.0s	135.22	323	IAMs_20	IAMs_20	21 19 35.0			
ES02	SONSECA Array comp=Z,2µm,22.0s	135.23	323	IAMs_20	IAMs_20	21 18 08.3			
ES03	SONSECA Array comp=Z,2µm,22.0s	135.23	323	IAMs_20	IAMs_20	21 19 45.5			
ES11	SONSECA Array comp=Z,2µm,21.0s	135.24	323	IAMs_20	IAMs_20	21 19 44.6			
ESBB	Sonseca Array comp=Z,2µm,21.0s	135.24	323	IAMs_20	IAMs_20	21 19 44.8			
ES04	SONSECA Array comp=Z,2µm,21.0s	135.25	323	IAMs_20	IAMs_20	21 19 45.8			
ESDC	Sonseca Array comp=Z,2µm,20.0s	135.25	323	IAMs_20	IAMs_20	21 19 54.8			
ES12	SONSECA Array comp=Z,2µm,21.0s	135.26	323	IAMs_20	IAMs_20	21 19 46.1			
ES16	SONSECA Array comp=Z,2µm,21.0s	135.26	323	IAMs_20	IAMs_20	21 19 53.1			
ES13	SONSECA Array comp=Z,2µm,21.0s	135.26	323	IAMs_20	IAMs_20	21 19 45.3			
ES15	SONSECA Array comp=Z,3µm,22.0s	135.27	323	IAMs_20	IAMs_20	21 17 37.6			
ES14	SONSECA Array comp=Z,2µm,20.0s	135.28	323	IAMs_20	IAMs_20	21 19 56.6			
MVO	Moncorvo	136.02	327	eLQ	LQ	21 00 01.3			
MVO	comp=Z,4µm,20.0s			eLR	LR	21 02 42.0			
PGAV	Gavieira, Arco comp=Z,2µm,22.0s	136.12	328	eLR	LR	21 02 28.4			
MTE	Manteigas	136.83	326	eLQ	LQ	20 56 42.4			
MTE	comp=Z,4µm,20.0s			eLR	LR	21 04 27.4			
PMRV	Marv??o	137.41	325	eLQ	LQ	21 01 02.6			
PMRV	comp=Z,3µm,20.0s			eLR	LR	21 04 10.7			
COI	Coimbra comp=Z,3µm,20.0s	137.44	327	IAMs_20	IAMs_20	21 20 32.6			
LVC	Limon Verde	137.81	134		PKPpre	20 15 38.5			
LVC	Limon Verde	137.81	134	PKIKP	PKPpre	20 15 38.5			
LVC	Limon Verde	137.81	134	eP	PKPdf	20 15 42.4	-1.8		
TA02	Huaiquique comp=Z,2µm,18.0s	138.33	130	IAMs_20	IAMs_20	21 09 54.6			
PVAQ	Vaqueiros	138.96	323	eLQ	LQ	20 57 21.3			
PVAQ	comp=Z,3µm,20.0s			eLR	LR	21 05 42.0			
PVAQ	Vaqueiros comp=Z,3µm,20.0s	138.96	323	IAMs_20	IAMs_20	21 22 10.0			
MESJ	Messejana comp=Z,3µm,21.0s	138.96	324	IAMs_20	IAMs_20	21 21 23.1			
PLTB	Pedras Altas	139.06	159	eP	PKPdf	20 15 46.1	+0.2		
ITQB	Itaqui comp=Z,3µm,19.0s	139.69	154	IAMs_20	IAMs_20	21 25 01.6			
ITQB	Itaqui	139.69	154	eP	Pdif	20 12 58.9	-1.8		
CPSB	Cacapava Do Su	140.34	158	eP	PKPdf	20 15 49.0	+0.8		
TOC3	Torodi Ar. Sit comp=Z,2µm,22.0s	140.90	283	IAMs_20	IAMs_20	21 19 18.7			
TOB2	Torodi Ar. Sit comp=Z,2µm,22.0s	140.91	283	IAMs_20	IAMs_20	21 19 17.0			
TOA2	Torodi Ar. Sit comp=Z,2µm,20.0s	140.92	283	IAMs_20	IAMs_20	21 19 30.2			
TOC4	Torodi Ar. Sit comp=Z,2µm,20.0s	140.92	283	IAMs_20	IAMs_20	21 19 29.3			
TOA0	Torodi Ar. Sit comp=Z,2µm,21.0s	140.93	283	IAMs_20	IAMs_20	21 19 30.3			
TOB1	Torodi Ar. Sit comp=Z,2µm,21.0s	140.93	283	IAMs_20	IAMs_20	21 19 30.3			
TORD	Torodi Ar. Bea comp=Z,3.3nm,0.8s,baz=58,slow=2.7,SNR=6.2	140.93	283	PKhKP	PKPpre	20 15 43.9			
TOA3	Torodi Ar. Sit comp=Z,2µm,21.0s	140.93	283	IAMs_20	IAMs_20	21 19 29.4			
TOB4	Torodi Ar. Sit comp=Z,2µm,21.0s	140.94	283	IAMs_20	IAMs_20	21 19 30.6			
TOB5	Torodi Ar. Sit comp=Z,2µm,21.0s	140.94	283	IAMs_20	IAMs_20	21 19 30.7			
TOC7	Torodi Ar. Sit comp=Z,2µm,21.0s	140.94	283	IAMs_20	IAMs_20	21 19 31.7			
TOC5	Torodi Ar. Sit comp=Z,2µm,21.0s	140.95	283	IAMs_20	IAMs_20	21 19 30.9			
TOC6	Torodi Ar. Sit comp=Z,2µm,21.0s	140.95	283	IAMs_20	IAMs_20	21 19 21.1			
AVE	Averroes comp=Z,2µm,21.0s	141.37	318	IAMs_20	IAMs_20	21 26 32.4			
CPUP	Villa Florida comp=Z,2µm,19.0s	142.19	150	IAMs_20	IAMs_20	21 29 50.9			
CRSM	Crissiumal (Br	142.69	155	eP	PKPdf	20 15 53.0	+0.5		
ROSC	El Rosal	143.23	90		PKPbc	20 15 52.5	+1.3		
ROSC	El Rosal	143.23	90	PKIKP	PKPbc	20 15 52.5	+1.3		
ROSC	El Rosal comp=Z,17nm,0.7s,baz=278,slow=15,SNR=12	143.23	90	PKP	PKPab	20 15 50.4	+0.4		
ITAB	Concordia	143.69	158	eP	PKPdf	20 15 55.2	+0.9		
FRBT	Francisco Belt	144.44	155	eP	PKPdf	20 15 55.3	-0.4		
SDDR	Presa de Saban	144.72	66		PKPab	20 15 54.3	-0.8		
MURT	Porto Murtinho	145.82	145	eP	PKPdf	20 15 58.1	0.0		
TBTG	Tabatinga, AM	145.89	107	eP	PKPdf	20 15 58.1	-0.3		
SDV	Santo Domingo	146.97	84		PKPdf	20 16 00.8	+0.4		
SDV	Santo Domingo	146.97	84	eP	PKPdf	20 15 59.6	-0.9		
BBRB	Robore, Bolivi	147.01	138	eP	PKPdf	20 16 00.4	+0.2		
ETMB	Extrema comp=Z,1µm,20.0s	147.10	119	IAMs_20	IAMs_20	21 20 56.3			
KIC	Kosan Boka comp=Z,249nm,1.3s	147.55	272	⇑iPKP2	PKPbc	20 16 03.8	0.0		
PMOZ	Porto Moniz, M comp=Z,2µm,20.0s	147.65	327	A	A	21 23 27.5			
DBIC	Dimbokro comp=Z,41nm,1.0s,baz=89,slow=5.5,SNR=17	147.67	272	PKPbc	PKPdf	20 16 01.8	+0.4		
LIC	Lamto comp=Z,255nm,1.5s	147.83	272	⇓ePKP2	PKPbc	20 16 04.1	-0.5		
AQDB	Aquidauana	147.83	146		PKPbc	20 16 04.3	-0.1		
AQDB	comp=Z,2µm,19.0s			IAMs_20	IAMs_20	21 26 05.0			
TIC	Toumodi comp=Z,298nm,1.2s	147.83	272	⇑iPKP2	PKPdf	20 16 02.6	+0.9		
SPB	Sao Paulo	148.66	162		PKiKP	20 16 08.2	+0.2		
SPB	Sao Paulo	148.66	162	eP	PKPdf	20 16 02.8	0.0		
MLPR	Magueyes Islan	148.86	66		PKPbc	20 16 05.8	-1.3		
PARB	Paraibuna	149.41	165	eP	PKPdf	20 16 02.6	-1.5		
RCLB	Rio Claro- Sao	149.73	161	eP	PKPdf	20 16 03.4	-1.2		
HUMP	Col San Antoni	149.89	65	PKPbc	PKiKP	20 16 10.2	-0.3		
SAML	Samuel comp=Z,2µm,20.0s	150.13	120	IAMs_20	IAMs_20	21 36 14.6			
SAML	Samuel	150.13	120	eP	PKPdf	20 16 05.1	-0.3		
VILB	Vilhena	150.31	130		PKiKP	20 16 12.2	+0.6		
VILB	comp=Z,2µm,22.0s			IAMs_20	IAMs_20	21 39 15.9			
VILB	Vilhena	150.31	130	eP	PKPdf	20 16 07.2	+1.5		
TEFE	Tefe	151.09	109	eP	PKPdf	20 16 06.3	-0.6		
SALV	Santo Antonio	151.41	141	eP	PKPdf	20 16 07.0	-0.3		
ALF01	Guarapari-ES	152.99	173	eP	PKPdf	20 16 10.0	+0.5		
GDSD	La Dsirade Is comp=Z,2µm,20.0s	154.80	65	IAMs_20	IAMs_20	21 21 54.6			
GRGR	Grenville comp=Z,1µm,20.0s	155.39	75	IAMs_20	IAMs_20	21 27 46.6			
BDFB	Brasilia comp=Z,6.1nm,0.8s,baz=194,slow=4.2,SNR=2.3	155.74	154	PKP	PKPdf	20 16 15.6	+2.0		

*TAP **04** 20:03:37.7,21.92N×121.73E,h25km,ML3.6,D*
ISC 04 20:03:35.4±1.6,21.96N±0.05×121.89E±0.05,h11km±9km,
n118,σ1s30/160,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	Lan-yu baz=310	0.29	278	P	Pb	20 03 43.0	+0.4
LYUB				S	Sb	20 03 46.6	-0.9
LAY	Lan-yu baz=308	0.33	283	P	Pg	20 03 42.8	+0.8
LAY				S	Sg	20 03 46.3	-0.1
LDUT	Ludao baz=350	0.81	331	P	Pn	20 03 52.2	-0.5
LDUT				S	Sn	20 04 02.7	-2.0
TSEB	Hengchuen, Pin baz=269	0.92	266	P	Pb	20 03 53.3	-0.1
TSEB				S	Sb	20 04 04.7	-1.0
SMST	Manzhou Townsh baz=288	0.98	273	eP	Pb	20 03 54.0	-0.4
TWKBT	Hengchun baz=282	1.00	269	eP	Pb	20 03 53.6	-1.2
TWKBT				eS	Sb	20 04 06.1	-1.9
TAW	Tawu baz=300	1.00	293	eS	Sb	20 04 06.7	-1.4
TAWH	Dawu Township baz=299	1.00	292	eP	Pb	20 03 54.3	-0.5
TAWH				eS	Sb	20 04 06.3	-1.7
TWK1	Hengchun baz=282	1.01	269	eP	Pb	20 03 53.7	-1.2
TWK1				eS	Sb	20 04 05.4	-2.8
SLIU	Shizi baz=289	1.04	284	eP	Pb	20 03 54.8	-0.7
SLIU				eS	Sb	20 04 07.0	-2.3
TTN	Taitung baz=336	1.05	319	eP	Pn	20 03 57.1	+1.1
EAST	Anshuo baz=300	1.05	293	eP	Pb	20 03 55.0	-0.7
EAST				eS	Sb	20 04 07.5	-2.0
SNW	Nanwan baz=283	1.06	270	eS	Sb	20 04 07.9	-1.8
HEN	Hengchun baz=285	1.07	272	eP	Pb	20 03 55.0	-1.0
HEN				eS	Sb	20 04 07.0	-3.0
TWGBT	Beinan	1.14	319	P	Pn	20 03 57.2	0.0
TWGBT	Beinan baz=312	1.14	319	eP	Pb	20 03 57.0	0.0
EDH	Donghe baz=350	1.14	332	eP	Pb	20 03 56.4	-0.7
EDH				eS	Sb	20 04 11.3	-0.7
TWG	Pinlang baz=312	1.14	318	eP	Pg	20 03 57.5	+0.1
LONT	Longtian baz=338	1.17	323	eP	Pn	20 03 58.0	+0.2
CHKT	Chengkung baz=354	1.23	337	P	Pn	20 03 58.6	0.0
CHKT				S	Sn	20 04 14.5	-0.7
SCZT	Fangliau baz=301	1.25	289	eP	Pg	20 03 59.9	+0.4
ECS	Chishang baz=344	1.29	331	eP	Pg	20 04 00.8	+0.6
CHKH	Chenggong baz=356	1.30	339	P	Pn	20 03 59.6	0.0
CHKH				eS	Sn	20 04 16.1	-0.8
EHD	Haiduan baz=347	1.34	332	P	Pb	20 04 00.6	+0.1
FULB	Fuli baz=351	1.35	336	P	Pn	20 04 00.4	+0.2
FULB				eS	Sg	20 04 17.9	-1.0
TSMG	Majia baz=308	1.37	303	eP	Pg	20 04 02.0	+0.2
SSD	Sandimen baz=310	1.40	304	eP	Pg	20 04 02.9	+0.5
ECBN	Changbin baz=358	1.41	343	eP	Pg	20 04 03.0	+0.6
ECBN				eS	Sb	20 04 19.4	-0.2
ELDTW	Lidau baz=338	1.46	327	eP	Pn	20 04 01.8	-0.1
TWP	Hsiaoliuchiu baz=289	1.47	285	eP	Pg	20 04 04.1	+0.5
EYUL	Yuli baz=353	1.48	339	eP	Pb	20 04 03.0	+0.1
TWF1	Yuli baz=352	1.49	338	eP	Pn	20 04 02.4	+0.3
YULB	Yu-li	1.52	339	P	Pb	20 04 03.8	+0.1
YULB	Yu-li baz=351	1.52	339	eP	Pb	20 04 03.4	-0.3
SLGT	Liugui baz=317	1.54	312	eP	Pg	20 04 04.9	-0.2
H

	baz=319							
TPUB	**Ta-pu**	**1.77**	**319**	P	**Pb**	**20 04 08.5**	**+0.6**
TPUB	**Ta-pu**	**1.77**	**319**	*eP*	**Pg**	**20 04 08.7**	**-0.7**
	baz=331							
SHHT	**Tainan City**	**1.77**	**307**	*eP*	**Pg**	**20 04 10.0**	**+0.5**
	baz=311							
SNST	**Tainan City**	**1.80**	**314**	*eP*	**Pg**	**20 04 10.8**	**+0.9**
	baz=319							
WARBT	**Fenglin Townsh**	**1.81**	**345**	*eP*	**Pn**	**20 04 07.6**	**+1.1**
	baz=356							
CHN4	**Tsaushan**	**1.83**	**319**	*eP*	**Pg**	**20 04 10.2**	**-0.4**
	baz=311							
TWK	**Hsinying**	**1.83**	**315**	*eP*	**Pg**	**20 04 11.4**	**+0.8**
	baz=320							
ALS	**Alishan**	**1.84**	**327**	*eP*	**Pg**	**20 04 10.2**	**-0.6**
	baz=325							
SHUL	**Shoufeng**	**1.84**	**351**	P	**Pb**	**20 04 08.5**	**-0.6**
SHUL	baz=355			S	**Sb**	**20 04 32.4**	**+0.3**
	baz=355							
WCKO	**Fanlu**	**1.89**	**321**	*eP*	**Pb**	**20 04 10.4**	**+0.5**
	baz=314							
ESL	**Shilin**	**1.89**	**347**	*eP*	**Pb**	**20 04 09.1**	**-0.8**
	baz=358							
WHYT	**Xinyi Township**	**1.97**	**331**	*eP*	**Pb**	**20 04 11.8**	**+0.4**
	baz=335							
SSLB	**Suanglung**	**2.01**	**335**	P	**Pb**	**20 04 12.0**	**0.0**
SSLB	**Suanglung**	**2.01**	**335**	*eP*	**Pb**	**20 04 12.2**	**+0.2**
	baz=348							
ETM	**Tongmen**	**2.03**	**350**	*eP*	**Pn**	**20 04 10.8**	**+1.3**
ETM				*eS*	**Sb**	**20 04 37.3**	**-0.2**
ICHU	**Yijhu**	**2.04**	**313**	*eS*	**Sb**	**20 04 38.3**	**+0.5**
	baz=317							
TSCK	**Chigu Township**	**2.04**	**306**	*eP*	**Pn**	**20 04 11.2**	**+1.4**
	baz=296							
TSCK				*eS*	**Sb**	**20 04 37.0**	**-1.0**
	baz=296							
OWD	**Renai**	**2.09**	**342**	*eP*	**Pb**	**20 04 13.1**	**-0.3**
	baz=353							
LXIB	**Xiulin Townshi**	**2.10**	**348**	*eP*	**Pn**	**20 04 12.2**	**+1.6**
	baz=358							
SMLT	**Sun Moon Lake**	**2.12**	**335**	*eP*	**Pb**	**20 04 13.7**	**-0.2**
	baz=346							
WDLH	**Douliu**	**2.12**	**324**	*eP*	**Pb**	**20 04 13.8**	**-0.1**
	baz=328							
TWD	**Chiawan**	**2.12**	**353**	*eP*	**Pb**	**20 04 13.3**	**-0.6**
	baz=7.0							
TWD				*eS*	**Sb**	**20 04 40.3**	**0.0**
	baz=7.0							
WJS	**Zhushan**	**2.14**	**330**	*eP*	**Pb**	**20 04 14.9**	**+0.8**
	baz=319							
WJS				*eS*	**Sg**	**20 04 43.0**	**-1.3**
	baz=319							
WUSB	**Renai**	**2.14**	**341**	*eP*	**Pb**	**20 04 13.9**	**-0.4**
	baz=351							
TYC	**Yuchr**	**2.15**	**334**	*eP*	**Pb**	**20 04 14.9**	**+0.5**
	baz=346							
EOS4	**EOS4**	**2.18**	**10**	*eP*	**Pb**	**20 04 15.3**	**+0.6**
	baz=22							
EOS4				*eS*	**Sb**	**20 04 40.5**	**-1.1**
	baz=22							
CHGB	**Renai**	**2.19**	**343**	*eP*	**Pb**	**20 04 14.6**	**-0.6**
	baz=353							
WNT	**Mingjian**	**2.21**	**330**	*eP*	**Pb**	**20 04 15.8**	**+0.4**
	baz=318							
WNT				*eS*	**Sg**	**20 04 45.0**	**-1.5**
	baz=318							
WTK	**Tuku**	**2.21**	**321**	*eP*	**Pb**	**20 04 14.4**	**-0.9**
	baz=325							
WTK				*eS*	**Sb**	**20 04 41.6**	**-1.1**
	baz=325							
NACB	**Ninganchiao**	**2.22**	**353**	P	**Pn**	**20 04 13.4**	**+1.3**
NACB	**Ninganchiao**	**2.22**	**353**	*eP*	**Pn**	**20 04 13.0**	**+0.9**
	baz=3.0							
DPDB	**Guoxing**	**2.24**	**337**	*eP*	**Pb**	**20 04 15.2**	**-0.8**
	baz=346							
WHF	**Hehuan Shan**	**2.25**	**345**	*eP*	**Pb**	**20 04 15.2**	**-1.1**
	baz=356							
ETLH	**Xiulin Townshi**	**2.26**	**350**	*eP*	**Pb**	**20 04 15.6**	**-0.8**
	baz=3.0							
WSF	**Szhu**	**2.27**	**318**	*eS*	**Sb**	**20 04 43.0**	**-1.5**
	baz=321							
WCS	**Beigang Elemen**	**2.27**	**337**	*eP*	**Pb**	**20 04 16.4**	**-0.1**
	baz=350							
EOS3	**EOS3**	**2.34**	**10**	*eP*	**Pb**	**20 04 17.4**	**-0.2**
	baz=11							
EOS3				*eS*	**Sb**	**20 04 45.3**	**-1.2**
	baz=11							
FUSS	**Fushou**	**2.35**	**345**	*eP*	**Pb**	**20 04 17.7**	**-0.2**
	baz=355							
WDGT	**Dungji**	**2.43**	**302**	P	**Pn**	**20 04 16.1**	**+1.0**
	baz=305							
WDGT				S	**Sn**	**20 04 43.7**	**-1.1**
	baz=305							
TCU	**Taichung**	**2.44**	**333**	*eP*	**Pb**	**20 04 19.7**	**+0.3**
	baz=323							
TCU				*eS*	**Sb**	**20 04 50.0**	**+0.5**
	baz=323							
ENA	**Nanau**	**2.46**	**357**	*eP*	**Pb**	**20 04 18.3**	**-1.3**
	baz=8.0							
WHP	**Taichung City**	**2.46**	**339**	*eP*	**Pb**	**20 04 20.4**	**+0.6**
	baz=351							
NNSB	**Datong**	**2.50**	**349**	*eP*	**Pb**	**20 04 18.4**	**-1.9**
LATG	**Datong**	**2.58**	**353**	*eP*	**Pb**	**20 04 22.5**	**+0.7**
	baz=355							
TWQ1	**Liyutan**	**2.59**	**337**	*eP*	**Pb**	**20 04 21.6**	**-0.2**
	baz=324							
TWQ1				*eS*	**Sb**	**20 04 54.6**	**+0.9**
	baz=324							
VCHM	**Qimei**	**2.59**	**299**	*eP*	**Pn**	**20 04 18.9**	**+1.6**
	baz=301							
VCHM				*eS*	**Sn**	**20 04 47.5**	**-1.3**
	baz=301							
PHUB	**P'eng-hu**	**2.64**	**306**	P	**Pn**	**20 04 19.3**	**+1.4**
	baz=297							
PHUB				S	**Sn**	**20 04 49.7**	**-0.2**
	baz=297							
NDT	**Datong Townshi**	**2.65**	**352**	*eS*	**Sb**	**20 04 52.7**	**-2.8**
	baz=355							
NSY	**Sanyi**	**2.65**	**337**	*eS*	**Sb**	**20 04 56.3**	**+0.8**
	baz=326							
ENTT	**Nioudou**	**2.68**	**354**	*eP*	**Pb**	**20 04 22.0**	**-1.5**
	baz=356							
PNG	**Penghu**	**2.68**	**307**	*eP*	**Pn**	**20 04 20.4**	**+1.9**
	baz=309							
PNG				*eS*	**Sn**	**20 04 51.0**	**0.0**
	baz=309							
YOJ	**Yonaguni jima**	**2.69**	**22**	P	**Pb**	**20 04 22.1**	**-1.5**
YOJ	**Yonaguni jima**	**2.69**	**22**	*eP*	**Pb**	**20 04 22.4**	**-1.1**
	baz=24							
YOJ				*eS*	**Sb**	**20 04 56.0**	**-0.6**
	baz=24							
YHNB	**Yeheng**	**2.73**	**350**	P	**Pb**	**20 04 22.5**	**-1.9**
YHNB	**Yeheng**	**2.73**	**350**	*eP*	**Pb**	**20 04 22.8**	**-1.6**
	baz=359							
NSK	**Sanguang**	**2.74**	**350**	*eP*	**Pn**	**20 04 22.1**	**+2.6**
	baz=5.0							
NSK				*eS*	**Sb**	**20 04 55.1**	**-3.1**
	baz=5.0							
NFF	**Wufeng Townshi**	**2.75**	**345**	*eP*	**Pb**	**20 04 23.6**	**-1.1**
	baz=329							
NFF				*eS*	**Sb**	**20 04 59.0**	**+0.7**
	baz=329							
TWE	**Neicheng**	**2.75**	**356**	*eP*	**Pb**	**20 04 23.3**	**-1.4**
	baz=7.0							
NSTT	**Nanjuang**	**2.78**	**343**	*eP*	**Pb**	**20 04 23.6**	**-1.4**
	baz=330							
LIOB	**Emei**	**2.79**	**343**	*eP*	**Pb**	**20 04 25.0**	**-0.3**
	baz=330							
FUSB	**Fushanzhiwuyua**	**2.80**	**354**	*eP*	**Pb**	**20 04 25.4**	**-0.1**
	baz=7.0							
NWLT	**Wulai**	**2.82**	**353**	*eP*	**Pb**	**20 04 24.9**	**-1.0**
	baz=355							
TIPB	**Shuangxi**	**3.00**	**359**	*eP*	**Pb**	**20 04 26.8**	**-2.0**
	baz=11							
SXI1	**Grass Mountain**	**3.12**	**360**	*eP*	**Pb**	**20 04 28.2**	**-2.7**
	baz=12							
VWUC	**VWUC**	**3.76**	**324**	*eP*	**Pn**	**20 04 35.7**	**+2.4**
	baz=325							
VWUC				*eS*	**Sn**	**20 05 18.1**	**+0.6**
	baz=325							
PTMZ	**Houxiangcun**	**3.98**	**321**	*eP*	**Pn**	**20 04 39.7**	**+3.3**
	baz=322							
PTMZ				*eS*	**Sn**	**20 05 24.0**	**+0.9**
	baz=322							
KNM	**Kinmen**	**4.01**	**308**	*eP*	**Pn**	**20 04 40.0**	**+3.2**
	baz=308							
KNMB	**Chin-men Tao**	**4.07**	**308**	*eP*	**Pn**	**20 04 39.9**	**+2.3**
	baz=309							
KNMB				*eS*	**Sn**	**20 05 25.3**	**0.0**
	baz=309							
ZPLA	**Ao Xicun**	**4.29**	**298**	*eP*	**Pn**	**20 04 42.0**	**+1.4**
	baz=299							
ZPLA				*eS*	**Sn**	**20 05 29.7**	**-1.0**
	baz=299							
DSXP	**Dongshan**	**4.47**	**294**	*eP*	**Pn**	**20 04 45.4**	**+2.3**
	baz=294							
DSXP				*eS*	**Sn**	**20 05 34.5**	**-0.6**
	baz=294							
MATB	**Ma-tsu**	**4.53**	**337**	*eP*	**Pn**	**20 04 48.4**	**+4.5**
	baz=327							
MATB				*eS*	**Sn**	**20 05 37.4**	**+0.8**
	baz=327							
AXDP	**Jialang**	**4.64**	**310**	*eP*	**Pn**	**20 04 48.9**	**+3.5**
	baz=310							
AXDP				*eS*	**Sn**	**20 05 39.9**	**+0.6**
	baz=310							
MHZQ	**Yeshan**	**4.88**	**328**	*eP*	**Pn**	**20 04 52.5**	**+3.8**
	baz=329							
MHZQ				*eS*	**Sn**	**20 05 46.1**	**+1.0**
	baz=329							
VDOS	**Pratas Island**	**4.97**	**256**	*eP*	**Pn**	**20 04 53.3**	**+3.2**
	baz=256							

RSNC ***04*** *20:10:43.6±0.0,0˚N±4˚×8˚0W±˚, h7km±4km, mb4.1, ML3.0*
IGQ ***04*** *20:10:43±0.6, 0˚N±2˚×8˚1W±˚, h10km*

ISC 04 20:10:44.3±1.5, 0.38N±0.04×80.40W±0.06, h13km±10km, n77, σ1§17/89, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAMA	**Jama**	**0.66**	**163**	P	**Pb**	**20 10 57.0**	**-0.7**
JAMA				S	**Sg**	**20 11 07.0**	**+1.0**
MAG1	**Magdalena**	**0.77**	**125**	P	**Pn**	**20 11 00.0**	**-0.8**
ATON	**Ecuador-Tonsup**	**0.78**	**49**	P	**Pg**	**20 11 00.0**	**+0.6**
ATON				S	**Sn**	**20 11 13.0**	**+0.6**
AMA1	**Acelerografo,**	**0.87**	**51**	P	**Pn**	**20 11 02.0**	**-0.3**
AMA1				S	**Sn**	**20 11 16.0**	**+1.1**
AV21	**Acelerografo,**	**0.90**	**72**	P	**Pn**	**20 11 02.0**	**-0.6**
AV21				S	**Sn**	**20 11 17.0**	**+1.6**
FLF1	**Flavio Alfaro-**	**0.92**	**143**	P	**Pg**	**20 11 02.0**	**0.0**
FLF1				S	**Sn**	**20 11 18.0**	**+2.0**
AV18	**Acelerografo,**	**0.93**	**94**	P	**Pn**	**20 11 03.0**	**0.0**
AES2	**Ecuador-Puerto**	**0.97**	**51**	P	**Pn**	**20 11 03.0**	**-0.6**
AES2				S	**Sn**	**20 11 19.0**	**+1.8**
ABH2	**Ecuador-Univer**	**1.03**	**180**	P	**Pb**	**20 11 03.0**	**-0.9**
ABH2				S	**Sg**	**20 11 19.0**	**+1.4**
PECV	**Mancha de Ca P**	**1.20**	**163**	P	**Pn**	**20 11 06.0**	**-0.8**
RVRD	**Rio Verde**	**1.23**	**56**	P	**Pb**	**20 11 07.0**	**-0.3**
ASDO	**Santo Domingo**	**1.43**	**116**	P	**Pn**	**20 11 08.0**	**-1.9**
APR2	**Miler**	**1.46**	**102**	P	**Pn**	**20 11 10.0**	**-0.5**
ELAR	**El Aromo**	**1.48**	**197**	P	**Pn**	**20 11 29.0**	**-0.7**
ELAR				S	**Sn**	**20 11 29.0**	**-0.9**
PAC1	**Pacto, Paraso**	**1.61**	**94**	P	**Pn**	**20 11 12.0**	**-0.6**
AQUE	**Quevedo**	**1.68**	**147**	P	**Pn**	**20 11 13.0**	**-0.4**
SNLR	**San Lorenzo-Es**	**1.80**	**60**	P	**Pb**	**20 11 16.0**	**-1.1**
HPAL	**Hacienda Las P**	**1.85**	**109**	P	**Pn**	**20 11 15.0**	**-1.0**
PINO	**Pino**	**1.87**	**107**	P	**Pn**	**20 11 16.0**	**-0.5**
GGPT	**Toaza - Volcan**	**1.88**	**109**	P	**Pn**	**20 11 16.0**	**-0.4**
TERV	**Terraza Guagua**	**1.88**	**107**	P	**Pn**	**20 11 16.0**	**-0.6**
GGPC	**Guagua Pichinc**	**1.89**	**107**	P	**Pn**	**20 11 16.0**	**-0.7**
JUA2	**San Juan 2**	**1.89**	**108**	P	**Pn**	**20 11 16.0**	**-0.7**
YANA	**Yana**	**1.89**	**105**	P	**Pn**	**20 11 16.0**	**-0.7**
PULU	**Pululahua**	**1.93**	**101**	P	**Pn**	**20 11 17.0**	**-0.2**
OTAV	**Otavalo**	**1.95**	**94**	P	**Pn**	**20 11 17.6**	**+0.1**
OTAV				S	**Sb**	**20 11 44.2**	**-0.3**
OTAV	**Otavalo**	**1.95**	**94**	P	**Pn**	**20 11 17.0**	**-0.5**
ILLI	**Illinizas Sur**	**1.99**	**123**	P	**Pn**	**20 11 17.0**	**-1.1**
CUSE	**Cuicocha Este**	**2.00**	**92**	P	**Pn**	**20 11 18.8**	**+0.6**
CUSE				S	**Sb**	**20 11 46.3**	**+0.5**
CUSE	**Cuicocha Este**	**2.00**	**92**	P	**Pn**	**20 11 18.0**	**-0.2**
CUIC	**Cuicocha-Domo**	**2.04**	**92**	P	**Pn**	**20 11 19.0**	**+0.3**
PAST	**Pastocalle**	**2.06**	**121**	P	**Pn**	**20 11 19.0**	**+0.1**
COTA	**Cotacachi**	**2.06**	**91**	P	**Pb**	**20 11 20.0**	**-1.9**
ALIT	**Ecuador-Imbabu**	**2.08**	**78**	P	**Pn**	**20 11 19.0**	**0.0**
LITE1	**Lita**	**2.08**	**78**	P	**Pn**	**20 11 18.0**	**-1.0**
URCU	**Urcuqui**	**2.15**	**88**	P	**Pn**	**20 11 20.0**	**-0.1**
URCU				Pn	**Pb**	**20 11 21.0**	**-2.2**
SRAM	**San Ramn-Vol**	**2.15**	**121**	P	**Pb**	**20 11 23.0**	**-0.3**
TOMA	**Boca Toma-Volc**	**2.15**	**114**	P	**Pb**	**20 11 22.0**	**-1.3**
SUCR	**Mariscal Sucre**	**2.16**	**118**	Pn	**Pn**	**20 11 21.0**	**+0.7**
CAMI	**Rancho Maria**	**2.17**	**119**	Pn	**Pn**	**20 11 21.0**	**+0.5**
PITA	**Cotopaxi Volc**	**2.18**	**115**	Pn	**Pn**	**20 11 21.0**	**+0.4**
NAS2	**Nasa**	**2.18**	**118**	Pn	**Pb**	**20 11 22.0**	**-1.9**
SLOR	**San Lorenzo -**	**2.20**	**120**	Pn	**Pn**	**20 11 21.0**	**+0.1**
IMBA	**Imbabura, San**	**2.20**	**93**	P	**Pb**	**20 11 22.0**	**-2.2**
BREF	**Cotopaxi Volca**	**2.22**	**118**	P	**Pn**	**20 11 22.0**	**+0.7**
BMOR	**Cotopaxi Volca**	**2.23**	**120**	P	**Pn**	**20 11 22.0**	**+0.5**
BVC2	**Cotopaxi Volca**	**2.24**	**117**	P	**Pn**	**20 11 22.0**	**+0.4**
VC1	**Cotopaxi 1**	**2.24**	**117**	P	**Pb**	**20 11 23.0**	**-1.9**
BRRN	**Barrancas-Volc**	**2.24**	**121**	P	**Pn**	**20 11 22.0**	**+0.5**
BTAM	**Cotopaxi Volca**	**2.26**	**118**	P	**Pn**	**20 11 22.0**	**+0.2**
ANTG	**Antisana-Guama**	**2.32**	**112**	P	**Pb**	**20 11 24.0**	**-2.2**
VCES	**Cotopaxi**	**2.32**	**120**	P	**Pn**	**20 11 23.0**	**+0.3**
YAHU	**Yahuarcocha**	**2.33**	**90**	P	**Pb**	**20 11 24.0**	**-2.4**
ANTI	**Antisana**	**2.38**	**110**	P	**Pn**	**20 11 24.0**	**+0.4**
CHMA	**Chilma**	**2.39**	**78**	P	**Pn**	**20 11 23.0**	**-0.4**
ANTS	**Antisana-Sarah**	**2.39**	**111**	P	**Pb**	**20 11 25.0**	**-2.6**
CHSH	**Refugio Sur-Vo**	**2.41**	**141**	P	**Pn**	**20 11 25.0**	**+1.1**
ANGU	**Angureal**	**2.41**	**98**	P	**Pn**	**20 11 25.0**	**+1.0**
CAYR	**Refugio Cayamb**	**2.42**	**99**	P	**Pb**	**20 11 26.0**	**-2.1**
LNGL	**El Angel-Carch**	**2.42**	**81**	P	**Pn**	**20 11 25.0**	**+0.9**
CAYA	**Cayambe**	**2.43**	**97**	P	**Pb**	**20 11 26.0**	**-2.2**
PORT	**Chimborazo Vol**	**2.45**	**138**	P	**Pn**	**20 11 24.0**	**-0.4**
PIS1	**Pisayambo**	**2.47**	**125**	P	**Pn**	**20 11 24.0**	**-0.7**
ECEN	**Cerro Negro**	**2.47**	**80**	P	**Pn**	**20 11 25.0**	**+0.3**
CHL1	**Volcn Chiles**	**2.49**	**80**	P	**Pn**	**20 11 26.0**	**+1.0**
TAMH	**Tambohuasha Ch**	**2.50**	**140**	P	**Pn**	**20 11 26.0**	**+0.9**
JUI6	**Juive**	**2.63**	**133**	P	**Pn**	**20 11 28.0**	**+1.2**
TULM	**Tulcn-Chalpat**	**2.63**	**83**	P	**Pb**	**20 11 29.0**	**-2.6**
BBIL	**Ulba Tungurahu**	**2.64**	**134**	P	**Pn**	**20 11 28.0**	**+1.2**
POND	**Pondoa**	**2.64**	**133**	P	**Pn**	**20 11 28.0**	**+1.1**
TUYU	**Q. Yuibug Volc**	**2.67**	**134**	P	**Pn**	**20 11 28.0**	**+0.7**
BMAS	**Trigal station**	**2.68**	**134**	P	**Pn**	**20 11 28.0**	**+0.6**
BULB	**Ulba Tungurahu**	**2.69**	**132**	P	**Pn**	**20 11 29.0**	**+1.5**
MILO	**Milagro-Astudi**	**2.77**	**162**	P	**Pn**	**20 11 28.0**	**-0.4**
BONI	**La Bonita**	**2.87**	**88**	P	**Pb**	**20 11 33.1**	**-2.5**
BONI	**La Bonita**	**2.87**	**88**	P	**Pb**	**20 11 33.0**	**-2.5**
COHC	**Cochancay**	**3.05**	**158**	P	**Pn**	**20 11 32.0**	**-0.2**
COHC				S	**Sn**	**20 12 10.0**	**+1.5**

IDC 04 20:12:18.8±1.5, 6.27S×142.70E, h0km, mb3.6/2, mbtmp3.6/5, ML3.3/1, Error ellipse: s-maj=37.5km s-min=30.5km az=71.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.41**	**126**	Pn	Pn	**20 13 41.5**	**+0.8**
	3.2nm,0.4s,baz=84,slow=23,SNR=1.3						
PMG				Sn	Sn	20 14 43.8	0.0
	0.3nm,0.3s,baz=76,slow=22,SNR=1.7						
WRA	**Warramunga Arr**	**15.84**	**210**	Pn	Pn	20 16 01.3	-2.0
	0.1nm,0.3s,baz=30,slow=13,SNR=1.2						
	1.6nm,1.0s						
ASAR	**Alice Springs**	**19.26**	**205**	P	Pn	20 16 45.8	-0.2
	1.0nm,0.5s,baz=28,slow=12,SNR=8.2						
BVAR	**Borovoye Array**	**84.49**	**325**	P	P	20 24 54.0	+0.5
	0.4nm,0.6s,baz=124,slow=4.4,SNR=2.6						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**87.43**	**24**	P	P	20 25 07.2	-0.6
	0.3nm,0.6s,baz=244,slow=3.9,SNR=2.3						
	0.3nm,0.6s						

NOU ***04*** *20:12:29.6, 32.89S×179.58W, h262km, mb5.0/46, South of Kermadec Islands*
NEIC ***04*** *20:12:29.5±2.6, 32.85S±0.06×180.0W±0.1, h243km±8km, mb4.8/37, Error ellipse: s-maj=14.7km s-min=5.7km az=121.0*
WEL ***04*** *20:12:31.5±0.4, 33˚S±6˚×18˚0W±1˚4, h200km, M5.1/22, mB5.5/15, ML5.8/8, MLv5.7/22, Mw(mB)5.0/19, Error ellipse: s-maj=0.0km s-min=0.0km az=113.2*
IDC ***04*** *20:12:31.5±1.0, 32.45S×179.93E, h256km±9km, mb4.2/8, mbtmp4.9/9, Error ellipse: s-maj=12.5km s-min=11.2km az=82.0*

ISC 04 20:12:30.4±0.4, 32.81S±0.04×179.95W±0.07, h250km, n251, σ2§40/267, mb4.8/31, 9C-1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.94**	**27**	P	**Pn**	**20 13 32.7**	**-0.9**
GLKZ				S	**S**	**20 14 17.4**	**-6.3**
RAO	**Raoul Island**	**3.95**	**27**	Pn	**Pn**	**20 13 32.4**	**-1.3**
RAO	**Raoul Island**	**3.95**	**27**	P	**Pn**	**20 13 32.9**	**-0.8**
RAO	**Raoul Island**	**3.95**	**27**	P	**Pn**	**20 13 31.7**	**-2.0**
	295nm,0.3s,baz=252,slow=19,SNR=5.3						
RAO				S	**S**	**20 14 19.8**	**-4.1**
	607nm,0.3s,baz=82,slow=20,SNR=6.1						
RAO	**Raoul Island**	**3.95**	**27**	S	**S**	**20 14 19.0**	**-4.9**
RIZ	**Raoul Island**	**3.96**	**26**	S	**S**	**20 14 18.3**	**-5.8**
MXZ	**Matakaoa Point**	**4.95**	**196**	Pn	**Pn**	**20 13 45.3**	**-0.2**
MXZ	**Matakaoa Point**	**4.95**	**196**	P	**Pn**	**20 13 45.7**	**+0.2**
MXZ	**Matakaoa Point**	**4.95**	**196**	P	**Pn**	**20 13 45.2**	**-0.2**
MXZ				S	**S**	**20 14 43.2**	**-2.2**
TDHS	**Te Araroa Dist**	**5.00**	**196**	S	**S**	**20 14 45.5**	**-1.1**
GRZ	**Great Barrier**	**5.11**	**227**	P	**Pn**	**20 13 51.1**	**+3.6**
WMGZ	**Waiomatatini S**	**5.17**	**195**	P	**Pn**	**20 13 48.9**	**+0.8**
HAZ	**Te Kaha**	**5.27**	**200**	P	**Pn**	**20 13 50.9**	**+1.5**
PKGZ	**Pakihiroa**	**5.32**	**197**	P	**Pn**	**20 13 50.1**	**0.0**
PUZ	**Puketiti**	**5.45**	**195**	P	**Pn**	**20 13 51.4**	**-0.2**
RUGZ	**Raukumara Rang**	**5.50**	**200**	P	**Pn**	**20 13 53.1**	**+0.8**
TWGZ	**Tauwhareparae**	**5.61**	**197**	P	**Pn**	**20 13 53.6**	**-0.1**
TWGZ				S	**S**	**20 15 01.5**	**+1.3**
WHRZ	**Whale Island**	**5.62**	**206**	S	**S**	**20 15 02.0**	**+1.5**
OPCS	**Opotiki Colleg**	**5.66**	**203**	S	**S**	**20 14 59.2**	**-2.0**
WKHS	**Whakatane High**	**5.71**	**205**	S	**S**	**20 15 00.4**	**-2.0**
OUZ	**Omahuta**	**5.88**	**244**	P	**Pn**	**20 13 59.6**	**+2.7**
OUZ	**Omahuta**	**5.88**	**244**	P	**Pn**	**20 13 59.8**	**+2.9**
EDRZ	**Edgecumbe**	**5.93**	**206**	P	**Pn**	**20 14 01.5**	**+3.8**
URZ	**Urewera**	**5.94**	**203**	P	**Pn**	**20 13 57.9**	**+0.2**
URZ	**Urewera**	**5.94**	**203**	P	**Pn**	**20 13 56.8**	**-0.9**
	60nm,0.3s,baz=116,slow=2.0,SNR=27						
URZ				S	**S**	**20 15 06.7**	**-0.8**
	560nm,0.4s,baz=29,slow=22,SNR=4.7						
TARZ	**Mount Tarawera**	**6.13**	**207**	P	**Pn**	**20 14 04.1**	**+3.9**
TOZ	**Tahuroa Road**	**6.16**	**216**		**Pn**	**20 13 57.7**	**-2.7**
HLRZ	**Highlands Stat**	**6.21**	**208**	P	**Pn**	**20 14 05.5**	**+4.4**
RRRZ	**Republican Roa**	**6.22**	**207**	P	**Pn**	**20 14 04.8**	**+3.6**
RRRZ				S	**S**	**20 15 11.7**	**-2.3**
MUGZ	**Murupara**	**6.25**	**204**	P	**Pn**	**20 14 01.4**	**-0.2**
MUGZ				S	**S**	**20 15 12.4**	**-2.2**
RTZ	**Ruatahuna**	**6.31**	**202**	P	**Pn**	**20 14 02.8**	**+0.5**
HRRZ	**Handcock Road**	**6.36**	**208**	P	**Pn**	**20 14 07.2**	**+4.3**
PRRZ	**Plateau Road**	**6.41**	**207**	P	**Pn**	**20 14 06.9**	**+3.3**
BKZ	**Black Stump Fm**	**6.96**	**203**		**Pn**	**20 14 07.8**	**-2.8**
BKZ	**Black Stump Fm**	**6.96**	**203**	P	**Pn**	**20 14 09.9**	**-0.7**
HIZ	**Hauiti**	**7.09**	**215**		**Pn**	**20 14 11.9**	**-0.2**
HIZ	**Hauiti**	**7.09**	**215**	P	**Pn**	**20 14 14.2**	**+2.1**
HIZ	**Hauiti**	**7.09**	**215**	P	**Pn**	**20 14 14.8**	**+2.7**
NTVZ	**North Tongarir**	**7.21**	**208**	P	**Pn**	**20 14 12.6**	**-1.1**
TMVZ	**Te Maari**	**7.21**	**208**	P	**Pn**	**20 14 12.6**	**-1.1**
TMVZ				S	**S**	**20 15 34.2**	**-2.6**
ETVZ	**East Tongariro**	**7.22**	**208**	P	**Pn**	**20 14 12.6**	**-1.4**
ETVZ				S	**S**	**20 15 35.2**	**-1.9**
OTVZ	**Oturere**	**7.27**	**208**	P	**Pn**	**20 14 13.2**	**-1.3**
SNVZ	**South Ngauruho**	**7.29**	**208**	P	**Pn**	**20 14 13.7**	**-1.2**
NGZ	**Ngauruhoe**	**7.30**	**208**	P	**Pn**	**20 14 14.4**	**-0.6**
FWVZ	**Far West T-bar**	**7.39**	**208**	P	**Pn**	**20 14 14.8**	**-1.4**
WNVZ	**Wahianoa**	**7.43**	**208**	P	**Pn**	**20 14 15.1**	**-1.6**
WNVZ				S	**S**	**20 15 38.6**	**-3.3**
MOVZ	**Moawhango**	**7.44**	**207**	P	**Pn**	**20 14 14.7**	**-2.0**
MOVZ				S	**S**	**20 15 39.0**	**-3.1**
VRZ	**Vera Road**	**7.62**	**213**	P	**Pn**	**20 14 22.1**	**+3.3**
PNHZ	**Pukenui**	**7.74**	**203**	P	**Pn**	**20 14 17.4**	**-2.9**
PNHZ				S	**S**	**20 15 42.4**	**-6.4**
TSZ	**Takapari Road**	**7.95**	**203**	P	**Pn**	**20 14 19.9**	**-3.1**
PKE	**Pukeiti**	**8.04**	**216**	P	**Pn**	**20 14 26.8**	**+2.7**
WAZ

baz=26,SNR=5.4
CNB Canberra Magne 25.50 256 P **P** **20 17 38.1 +1.9**
EIDS Eidsvold 26.33 279 P **P** **20 17 44.4 +0.8**
baz=27,SNR=4.0
EIDS Eidsvold 26.33 279 P **P** **20 17 43.2 -0.4**
EIDS IAmb IAmb 20 17 47.4
comp=Z,16nm,0.9s
YNG Young 26.37 258 P **P** **20 17 44.9 +0.9**
baz=27,SNR=5.4
YNG Young 26.37 258 P **P** **20 17 45.8 +1.8**
TAU Tasmania Unive 27.59 239 P **P** **20 17 51.6 -3.0**
TAU IAmb IAmb 20 18 04.0
comp=Z,18nm,1.0s
TAU Tasmania Unive 27.59 239 P **P** **20 17 56.0 +1.4**
CMSA Cobar Meteorol 29.04 263 P **P** **20 18 08.7 +1.1**
baz=30,SNR=43
CMSA Cobar Meteorol 29.04 263 P **P** **20 18 09.0 +1.4**
HNR Honiara 29.77 317 P **P** **20 18 12.2 -1.9**
comp=Z,764nm,0.5s,baz=169,slow=5.2,SNR=7.2
BRAT Ballarat 29.78 251 P **P** **20 18 16.0 +2.0**
ARPS Mount Arapiles 31.49 252 P **P** **20 18 30.4 +1.4**
baz=32,SNR=5.7
ARPS Mount Arapiles 31.49 252 P **P** **20 18 30.2 +1.1**
STKA Stephens Creek 32.39 261 P **P** **20 18 38.3 +1.4**
baz=33,SNR=9.2
STKA Stephens Creek 32.39 261 P **P** **20 18 35.3 -1.6**
STKA Stephens Creek 32.39 261 P **P** **20 18 37.4 +0.5**
comp=Z,15nm,0.8s,baz=102,slow=10,SNR=8.7
comp=Z,15nm,0.8s
CTA Charters Tower 32.66 284 P **P** **20 18 39.8 +0.4**
CTA Charters Tower 32.66 284 P **P** **20 18 39.6 +0.1**
comp=Z,7.1nm,0.5s,baz=111,slow=9.1,SNR=11
comp=Z,7.1nm,0.5s
CTAO Charters Tower 32.66 284 P **P** **20 18 39.5 +0.1**
CTAO IAmb IAmb 20 18 56.4
comp=Z,11nm,1.1s
CTAO Charters Tower 32.66 284 P **P** **20 18 39.9 +0.5**
INKA Innaminka 34.19 268 P **P** **20 18 52.7 +0.3**
HTT Hallett 34.30 257 P **P** **20 18 53.9 +0.5**
baz=35,SNR=4.6
HTT Hallett 34.30 257 P **P** **20 18 54.3 +0.9**
LCRK Leigh Creek 35.54 262 P **P** **20 19 04.4 +0.4**
BBOO Buckleboo 36.77 258 P **P** **20 19 13.9 -0.5**
baz=37,SNR=11
BBOO Buckleboo 36.77 258 P **P** **20 19 13.6 -0.8**
BBOO IAmb IAmb 20 19 14.7
comp=Z,43nm,0.9s
BBOO Buckleboo 36.77 258 P **P** **20 19 14.2 -0.2**
QIS Mount Isa 37.93 278 P **P** **20 19 24.7 +0.5**
baz=38,SNR=3.9
QIS Mount Isa 37.93 278 P **P** **20 19 23.9 -0.3**
OOD Oodnadatta 38.42 265 P **P** **20 19 28.7 +0.5**
MULG Mulgathing 39.05 261 P **P** **20 19 33.1 -0.2**
DRV Dumont d'Urvil 41.28 203 P **P** **20 19 52.4 +1.3**
DRV PcP **PcP** **20 21 44.2 -0.3**
AS01 Alice Springs 41.36 271 P **P** **20 19 51.9 -0.5**
AS31 Alice Springs 41.40 271 P **P** **20 19 52.2 -0.5**
ASAR Alice Springs 41.40 271 P **P** **20 19 50.1 -2.6**
ASAR Alice Springs 41.40 271 P **P** **20 19 52.0 -0.8**
comp=Z,25nm,0.7s,baz=106,slow=7.5,SNR=53
comp=Z,25nm,0.7s
WR0 Warramunga Arr 42.43 276 P **P** **20 20 00.2 -0.8**
WR0 IAmb IAmb 20 20 01.4
comp=Z,53nm,1.1s
WB1 Warramunga Arr. 42.59 276 P **P** **20 20 01.5 -0.9**
WB2 Warramunga Arr 42.60 276 P **P** **20 20 01.1 -1.3**
WB2 IAmb IAmb 20 20 02.2
comp=Z,43nm,1.1s
WRAB Tennant Creek 42.60 276 P **P** **20 20 00.5 -2.0**
WRAB IAmb IAmb 20 20 02.3
comp=Z,36nm,1.1s
WRA Warramunga Arr 42.61 276 P **P** **20 20 01.5 -1.0**
comp=Z,22nm,0.6s,baz=114,slow=7.9,SNR=45
comp=Z,22nm,0.6s
WB0 Warramunga Arr 42.64 276 P **P** **20 20 01.9 -0.9**
WB0 IAmb IAmb 20 20 03.0
comp=Z,51nm,0.9s
FORT Forrest 43.87 258 P **P** **20 20 11.5 -0.9**
baz=44,SNR=24
FORT Forrest 43.87 258 P **P** **20 20 11.5 -0.9**
FORT IAmb IAmb 20 20 16.9
comp=Z,70nm,0.7s
FORT Forrest 43.87 258 P **P** **20 20 12.5 +0.1**
SBA Scott Base 45.52 184 P **P** **20 20 25.6 +1.0**
SBA Scott Base 45.52 184 P **P** **20 20 29.4 +4.7**
VNDA Vanda 45.54 185 P **P** **20 20 26.0 +1.2**
VNDA Vanda 45.54 185 P **P** **20 20 28.2 +3.4**
comp=Z,2.6nm,0.6s,baz=4.4,slow=8.2,SNR=18
comp=Z,2.6nm,0.6s
VNDA Vanda 45.54 185 P **P** **20 20 28.0 +3.2**
VNDA PcP **PcP** **20 22 00.1 +1.3**
WRKA Warakurna 45.59 266 P **P** **20 20 24.7 -1.4**
baz=46,SNR=4.7
WRKA Warakurna 45.59 266 P **P** **20 20 25.9 -0.1**
KNRA Kununurra 49.30 277 P **P** **20 20 54.1 -0.4**
baz=50,SNR=4.7
KNRA Kununurra 49.30 277 P **P** **20 20 53.2 -1.4**
KNRA IAmb IAmb 20 21 11.2
comp=Z,19nm,1.1s
KNRA Kununurra 49.30 277 P **P** **20 20 54.2 -0.4**
CCD Concordia, Ant 50.18 196 P **P** **20 21 02.3 +1.5**
CCD PcP **PcP** **20 22 16.3 +0.2**
FITZ Fitzroy Crossi 50.76 273 P **P** **20 21 05.1 -0.3**
baz=51,SNR=3.6
FITZ Fitzroy Crossi 50.76 273 P **P** **20 21 05.1 -0.3**
NWAO Narrogin (SRO) 52.03 252 P **P** **20 21 12.2 -2.4**
KLBR Kellerberrin 52.03 253 P **P** **20 21 13.8 -0.9**
baz=53,SNR=7.0
KLBR Kellerberrin 52.03 253 P **P** **20 21 14.2 -0.6**
CASY Casey 52.23 209 P **P** **20 21 13.8 -1.8**
CASY Casey 52.23 209 P **P** **20 21 15.6 0.0**
MEEK Meekatharra 53.07 260 P **P** **20 21 20.8 -1.6**
baz=54,SNR=6.5
MEEK Meekatharra 53.07 260 P **P** **20 21 22.4 0.0**
MUN Mundaring 53.15 252 P **P** **20 21 22.2 -0.7**
baz=54,SNR=3.4
MUN Mundaring 53.15 252 P **P** **20 21 21.9 -1.0**
PSA00 Pilbara Seismi 54.09 266 P **P** **20 21 27.1 -2.7**
MORW Morawa 54.29 256 P **P** **20 21 29.8 -1.4**
baz=55,SNR=4.9
MORW Morawa 54.29 256 P **P** **20 21 28.9 -2.3**
MORW IAmb IAmb 20 21 33.7
comp=Z,29nm,1.1s
MORW Morawa 54.29 256 P **P** **20 21 30.4 -0.8**
MBWA Marble Bar 54.36 266 P **P** **20 21 28.6 -3.2**
MBWA IAmb IAmb 20 21 31.8
comp=Z,13nm,0.9s
MBWA Marble Bar 54.36 266 P **P** **20 21 29.8 -1.9**
SOEI Soe 56.12 281 P **P** **20 21 41.0 -3.5**
SOEI IAmb IAmb 20 21 55.4
comp=Z,15nm,0.8s
MLH Mauna Loa 57.07 28 P **P** **20 21 53.6 +2.6**
QSPA South Pole Qui 57.30 180 P **P** **20 21 54.4 +2.3**
QSPA South Pole Qui 57.30 180 P **P** **20 21 55.6 +3.5**
comp=Z,208nm,0.7s,baz=12,slow=0.5,SNR=740
QSPA South Pole Qui 57.30 180 ⇑P **P** **20 21 55.5 +3.5**
KEKH Kekaha 57.82 22 P **P** **20 21 54.9 -1.0**
GIRL Giralia 58.33 262 P **P** **20 21 59.4 -0.2**
baz=59,SNR=4.3
GIRL Giralia 58.33 262 P **P** **20 21 59.7 0.0**
BELA Belgrano 2 67.62 173 P **P** **20 23 00.8 +1.0**
BELA IAmb IAmb 20 23 02.9
comp=Z,25nm,0.6s
ELIB Princess Elisa 74.26 187 *d*P **P** **20 23 40.3 +0.5**
comp=Z,27nm,0.8s
TROLL Troll, Antarti 75.45 181 ⇑P **P** **20 23 48.5 +1.8**
comp=Z,2μm,0.8s
SNAA Sanae 75.79 179 P **P** **20 23 50.3 +1.8**
SNAA Sanae 75.79 179 ⇑P **P** **20 23 50.2 +1.8**
comp=Z,409nm,0.3s
SNAA Sanae 75.79 179 P **P** **20 23 50.1 +1.6**
comp=Z,19nm,0.3s,baz=206,slow=6.5,SNR=159
comp=Z,19nm,0.3s
VNA3 Neumayer Olymp 76.01 177 ⇑P **P** **20 23 51.5 +1.9**
comp=Z,225nm,0.7s
VNA2 Neumayer--Watz 76.42 177 ⇑P **P** **20 23 54.1 +2.1**
comp=Z,138nm,0.6s,baz=185,slow=3.7
VNA1 Neumayer--Stat 76.66 177 ⇑P **P** **20 23 55.6 +2.4**
comp=Z,143nm,1.0s
H03S2 Juan Fernandez 80.50 124 T T 21 53 45.2
baz=234,slow=74,SNR=2.7
H03S1 Juan Fernandez 80.52 124 T T 21 53 46.0
baz=234,slow=74,SNR=2.8
H03S3 Juan Fernandez 80.52 124 T T 21 53 45.6
baz=234,slow=74,SNR=3.0
H03N3 Juan Fernandez 80.71 124 T T 21 53 59.4
baz=237,slow=72,SNR=14
H03N2 Juan Fernandez 80.72 124 T T 21 54 01.0
baz=237,slow=72,SNR=11
H03N1 Juan Fernandez 80.73 124 T T 21 53 59.7
baz=237,slow=72,SNR=17
PLCA Paso Flores 82.06 134 P **P** **20 24 26.4 +3.4**
comp=Z,3.7nm,0.5s,baz=236,slow=5.0,SNR=24
comp=Z,3.7nm,0.5s
NJ2 Nanjing 86.58 312 *e*P **P** **20 24 48.4 +2.9**
NJ2 pP **pP** **20 25 41.4 -3.0**
NJ2 sP sP 20 26 02.6 -7.5
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
NJ2 pmax pmax
comp=Z,3μm,3.5s
NVAR Mina Array Bea 91.13 44 P **P** **20 25 08.2 +1.2**
comp=Z,0.8nm,0.8s,baz=226,slow=4.8,SNR=7.2
comp=Z,0.8nm,0.8s
PZH PanZhiHua 94.96 298 P **P** **20 25 26.7 +1.9**
PZH pmax pmax
comp=Z,10.0nm,0.5s
CD2 Chengdu 95.98 303 *e*P **P** **20 25 30.0 +0.8**
HHC Hu-ho-hao-te 96.73 315 *e*P **P** **20 25 31.9 -0.5**
HHC pmax pmax
comp=Z,11nm,0.6s
BTO Baotou 97.51 314 *e*P Pdif 20 25 40.6 +4.6
BTO pP pwP 20 26 45.0 +5.0
BTO sP sP 20 27 04.9 +3.7
BTO PP PP 20 29 45.7 +8.4
BTO Baotou 97.51 314 S **S** **20 36 42.5 +4.1**
ILAR Eielson Array 100.65 14 PKKPbc PKKPbc 20 42 03.0 -1.6
comp=Z,0.4nm,0.8s,baz=31,slow=2.5,SNR=4.2
WMQ Urumqi 113.41 308 *e*P **PKiKP** **20 30 40.2 +1.8**
BOSA Boshof 114.39 204 PKP **PKiKP** **20 30 40.9 -0.1**
comp=Z,2.3nm,0.9s,baz=178,slow=4.0,SNR=4.0
MKAR Makanchi Array 118.04 310 PKP **PKPdf** **20 30 45.4 -1.7**
comp=Z,0.5nm,0.7s,baz=140,slow=1.0,SNR=7.3
MKAR PKKPbc **PKKPbc** **20 41 09.3 +1.3**
comp=Z,0.5nm,0.6s,baz=290,slow=2.5,SNR=4.9
KURBB Kurchatov Arra 121.53 313 PKP **PKPdf** **20 30 52.1 -1.5**
comp=Z,1.4nm,0.8s,baz=106,slow=2.1,SNR=12
BVAR Borovoye Array 126.94 315 PKP **PKPdf** **20 31 03.3 -0.7**
comp=Z,0.7nm,0.4s,baz=145,slow=1.8,SNR=8.3
SPITS Spitsbergen Ar 133.98 355 PKP **PKPdf** **20 31 16.8 +0.1**
comp=Z,7.8nm,0.9s,baz=354,slow=12,SNR=10.0
SPITS SKPbc **SKPbc** **20 34 19.1 -2.9**
comp=Z,13nm,1.0s,baz=61,slow=5.8,SNR=6.0
ARCES ARCESS Array B 140.56 346 PKP **PKPdf** **20 31 27.5 -1.5**
comp=Z,1.4nm,0.6s,baz=40,slow=2.1,SNR=5.3
ARCES SKPbc **SKPbc** **20 34 39.8 -1.5**
comp=Z,2.0nm,0.8s,baz=46,slow=3.5,SNR=3.8
KBZ Khabaz 145.00 301 PKP PKPbc 20 31 36.4 -1.1
comp=Z,5.4nm,0.9s,baz=112,slow=5.4,SNR=8.7
FIA1 FINESS Array S 146.78 337 PKPdf **PKPdf** **20 31 40.9 +0.9**
FINES FINESS Array B 146.78 337 **PKPdf** **20 31 41.1 +1.1**
FINES FINESS Array B 146.78 337 PKPbc **PKPdf** **20 31 41.0 +0.9**
comp=Z,5.9nm,0.6s,baz=45,slow=4.0,SNR=44
MMAI Mount Meron Ar 150.41 280 PKPbc **PKPbc** **20 31 52.6 +0.1**
comp=Z,5.3nm,0.7s,baz=85,slow=3.7,SNR=23
NB2 NORSAR Subarra150.84 349 PKP **PKPbc** **20 31 51.9 -0.6**
comp=Z,0.8nm,0.5s,baz=14,slow=2.5
NOA NORSAR Array B150.84 349 PKPbc **PKPbc** **20 31 52.0 -0.6**
comp=Z,0.7nm,0.5s,baz=15,slow=4.1,SNR=7.7
HFS Hagfors 151.22 346 PKPbc **PKPbc** **20 31 52.2 -1.2**
comp=Z,2.3nm,0.7s,baz=73,slow=4.9,SNR=15
AKASG Malin Array Be 152.11 319 PKPbc **PKPbc** **20 31 54.9 -0.8**
comp=Z,0.4nm,0.3s,baz=42,slow=2.6,SNR=6.6
BRTR Keskin Array B 152.17 294 PKPbc **PKPbc** **20 31 55.2 -1.1**
comp=Z,3.2nm,0.8s,baz=120,slow=2.3,SNR=14
BRTR PKPab **PKPab** **20 32 06.1 -1.1**
comp=Z,2.1nm,1.0s,baz=111,slow=3.2,SNR=5.3
LIC Lamto 153.12 169 ⇑*i*PKIKP **PKiKP** **20 31 59.7 +0.5**
comp=Z,33nm,0.6s
KIC Kosan Boka 153.30 169 ⇑*i*PKIKP **PKPbc** **20 31 59.8 +0.4**
comp=Z,14nm,0.6s
TIC Toumodi 153.54 169 ⇑*i*PKIKP **PKPbc** **20 31 59.6 -0.4**
comp=Z,5.0nm,0.2s
DBIC Dimbokro 153.59 169 PKP **PKPdf** **20 31 52.2 +0.1**
comp=Z,3.3nm,0.8s,baz=176,slow=3.5,SNR=3.7
DBIC PKPbc **PKiKP** **20 32 00.8 +0.7**
comp=Z,4.4nm,0.4s,baz=176,slow=1.6,SNR=16
DBIC PKPab **PKPab** **20 32 15.1 +1.7**
comp=Z,11nm,0.9s,baz=161,slow=7.0,SNR=7.0
CLL Collm 159.23 337 *e*PKPdf **PKPdf** **20 32 00.0 +1.8**
CLL *e*PKPab **PKPab** **20 32 37.0 +0.2**
TORD Torodi Ar. Bea 160.37 185 PKP **PKPdf** **20 32 01.1 +0.4**
comp=Z,0.6nm,0.7s,baz=222,slow=1.9,SNR=5.3
TORD PKPab **PKPab** **20 32 43.1 +0.5**
comp=Z,20nm,1.1s,baz=166,slow=2.4,SNR=31

*IDC **04** 20:14:24.7±0.9,5°.97S×142°.99E, h0km, mb3.9/9, mbtmp4.0/12, ML3.8/1, Error ellipse: s-maj=29.6km s-min=18.4km az=83.0*
ISC 04 20:14:30.1±0.7, **6°.09S**×0°.08×**142°.87E**±0°.08, **h35km, n22, σ1s15/23, mb4.0/9, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**4.39**	**322**	P	**Pn**	**20 15 35.7**	**+1.3**
PMG	**Port Moresby**	**5.38**	**128**	Pn	**Pn**	**20 15 46.0**	**-1.9**
	7.6nm,0.4s,baz=311,slow=21,SNR=2.6						
PMG				Sn	**Sn**	**20 16 50.6**	**+1.9**
	1.3nm,0.3s,baz=299,slow=6.6,SNR=2.2						
FAKI	**Fak Fak**	**11.04**	**286**	P	**Pn**	**20 17 04.8**	**-0.9**
KDU	**Kakadu**	**12.17**	**237**	P	**Pn**	**20 17 20.0**	**-1.1**
MTN	**Manton Dam**	**13.37**	**239**	P	**Pn**	**20 17 36.1**	**-1.5**
QIS	**Mount Isa**	**14.72**	**192**	P	**Pn**	**20 17 56.6**	**+0.6**
WRA	**Warramunga Arr**	**16.07**	**210**	Pn	**Pn**	**20 18 12.3**	**-1.3**
	0.4nm,0.3s,baz=30,slow=12,SNR=7.7						
WRA				Lg	Lg	20 23 00.2	
	0.3nm,0.3s,baz=31,slow=26,SNR=2.9						
	0.8nm,0.4s						
KNRA	**Kununurra**	**16.80**	**234**	P	**Pn**	**20 18 21.7**	**-1.1**
SOEI	**Soe**	**18.77**	**258**	P	**P**	**20 18 46.5**	**-0.2**
AS01	**Alice Springs**	**19.46**	**205**	P	**Pn**	**20 18 56.3**	**+0.8**
ASAR	**Alice Springs**	**19.49**	**205**	P	**Pn**	**20 18 56.5**	**+0.8**
	8.6nm,0.7s,baz=34,slow=9.8,SNR=28						
ASAR				Lg	Lg	20 24 50.0	
	0.2nm,0.3s,baz=21,slow=33,SNR=4.6						
TOLI2	**Tolitoli**	**23.18**	**287**	P	**P**	**20 19 35.3**	**+1.3**
WRKA	**Warakurna**	**23.45**	**215**	P	**P**	**20 19 38.3**	**+1.8**
CMAR	**Chiang Mai Arr**	**49.71**	**300**	P	**P**	**20 23 19.0**	**-0.2**
	0.9nm,0.6s,baz=121,slow=5.5,SNR=6.0						
	0.9nm,0.6s						
USRK	**Ussuriysk Ar.**	**51.01**	**350**	P	**P**	**20 23 28.7**	**+0.1**
	2.8nm,0.8s,baz=156,slow=11,SNR=3.3						
	2.8nm,0.8s						
SONM	**Songino Array**	**62.56**	**333**	P	**P**	**20 24 51.0**	**+0.4**
	0.5nm,0.8s,baz=128,slow=9.3,SNR=4.7						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**74.99**	**322**	P	**P**	**20 26 08.1**	**+0.1**
	0.6nm,0.5s,baz=106,slow=5.2,SNR=3.6						
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**76.94**	**329**	P	**P**	**20 26 18.1**	**-0.8**
	0.4nm,0.4s,baz=117,slow=5.0,SNR=2.7						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**78.87**	**324**	P	**P**	**20 26 29.4**	**-0.3**
	0.4nm,0.5s,baz=124,slow=4.6,SNR=8.0						
	0.4nm,0.5s						
QSPA	**South Pole Qui**	**83.88**	**180**	P	**P**	**20 26 56.9**	**+0.7**
	1.0nm,0.7s,baz=332,slow=12,SNR=1.7						
	1.0nm,0.7s						
BVAR	**Borovoye Array**	**84.44**	**325**	P	**P**	**20 26 59.2**	**+0.1**
	4.0nm,1.0s,baz=107,slow=5.0,SNR=12						
	4.0nm,1.0s						
ILAR	**Eielson Array**	**87.20**	**24**	P	**P**	**20 27 11.0**	**-1.5**
	0.7nm,0.7s,baz=249,slow=4.3,SNR=4.9						
	0.7nm,0.7s						

IDC 04 20:22:26.9±1.9, **6°.26S**×**142°.89E**, **h0km, mb3.7/1, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=39.4km s-min=34.3km az=103.0, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.26**	**127**	Pn	Pn	20 23 46.8	-0.1
	5.4nm,0.8s,baz=299,slow=13,SNR=1.5						
PMG				Sn	Sn	20 24 49.3	+1.0
	1.4nm,0.3s,baz=58,slow=23,SNR=2.8						
WRA	**Warramunga Arr**	**15.94**	**211**	Pn	Pn	20 26 10.7	-2.0
	0.2nm,0.3s,baz=33,slow=13,SNR=1.8						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**19.35**	**206**	P	Pn	20 26 55.1	-0.1
	1.0nm,0.4s,baz=27,slow=13,SNR=8.8						
ILAR	**Eielson Array**	**87.34**	**24**	P	**P**	20 35 15.4	-0.1
	0.3nm,0.7s,baz=244,slow=5.1,SNR=4.3						
	0.3nm,0.7s						

*IDC **04** 20:24:01.8±0.7, 6°.24S×142°.91E, h0km, mb4.4/13, mbtmp4.4/15, ML2.3/1, MS4.8/1, Error ellipse: s-maj=29.0km s-min=15.9km az=76.0*
*DJA **04** 20:24:02.5±0.3, 6°.3S×14°.3E±°, h10km, M4.9/24, mB5.0/1, mb4.6/24, MLv5.1/5, Mw(mB)4.4/1*
*BJI **04** 20:24:02.1±0.0, 6°.33S×142°.96E, h9km, mb4.5/48, Ms5.0/5, Ms7 4.9/5*
*NEIC **04** 20:24:03.8±2.5, 6°.49S±0°.08×142°.68E±0°.08, h10km±1km, mb4.8/68, Error ellipse: s-maj=14.4km s-min=12.6km az=129.0*
ISC 04 20:24:03.6±0.4, **6°.47S**±0°.05×**142°.71E**±0°.05, **h10km, n124, σ1s68/104, mb4.8/59, 1C-3D, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.90**	**309**	P	**Pn**	**20 24 37.2**	**+1.1**
MMPI	**Merauke**	**3.04**	**229**	P	**Pg**	**20 25 00.2**	**-1.7**
MMPI				S	**Sg**	**20 25 45.6**	**+4.2**
GENI	**Genyem**	**4.61**	**327**	P	**Pn**	**20 25 14.6**	**+1.2**
GENI	**Genyem**	**4.61**	**327**	P	**Pn**	**20 25 12.5**	**-0.9**
PMG	**Port Moresby**	**5.29**	**124**		**Pn**	**20 25 23.6**	**+0.8**
PMG	**Port Moresby**	**5.29**	**124**	P	**Pn**	**20 25 23.6**	**+0.8**
PMG	**Port Moresby**	**5.29**	**124**	P	**Pn**	**20 25 23.7**	**+1.0**
PMG	**Port Moresby**	**5.29**	**124**	Pn	**Pn**	**20 25 23.0**	**+0.3**
	6.7nm,0.3s,baz=345,slow=3.5,SNR=13						
PMG				Sn	**Sn**	**20 26 23.3**	**-0.5**
	8.4nm,0.3s,baz=234,slow=12,SNR=4.6						
	18nm,0.3s						
SMPI	**Sarmi**	**5.97**	**318**	P	**Pn**	**20 25 32.4**	**+0.3**
	169nm,1.2s,0.9nm						
MANU	**Manus Island**	**6.40**	**47**		**Pn**	**20 25 39.9**	**+2.0**
COEN	**Coen**	**7.46**	**176**		**Pb**	**20 26 11.7**	**-1.5**
FAKI	**Fak Fak**	**11.00**	**288**	Pn	**Pn**	**20 26 39.1**	**-2.1**
FAKI	**Fak Fak**	**11.00**	**288**	P	**Pn**	**20 26 40.3**	**-0.9**
	45nm,1.1s						
SAUI	**Saumlaki**	**11.42**	**262**	P	**Pn**	**20 26 44.8**	**-2.1**
	289nm,0.7s						
KDU	**Kakadu**	**11.83**	**238**	P	**Pn**	**20 26 52.8**	**+0.3**
SWI	**Sorong**	**12.70**	**296**	P	Pn	20 26 59.6	-4.9
	35nm,0.7s						
MTN	**Manton Dam**	**13.05**	**240**		**Pn**	**20 27 08.9**	**-0.3**
CTA	**Charters Tower**	**13.97**	**166**	Lg	Lg	20 31 23.3	
	0.1nm,0.3s,baz=61,slow=18,SNR=2.1						
QIS	**Mount Isa**	**14.33**	**192**	P	**Pn**	**20 27 28.4**	**+1.7**
WB0	**Warramunga Arr**	**15.49**	**211**	P	**Pn**	**20 27 43.8**	**+1.5**
WR0	**Warramunga Arr**	**15.58**	**210**		**Pn**	**20 27 43.1**	**-0.4**
WB2	**Warramunga Arr**	**15.66**	**210**	Pn	**Pn**	**20 27 44.5**	**-0.1**
WRA	**Warramunga Arr**	**15.67**	**210**	Pn	**Pn**	**20 27 44.8**	**+0.2**
WRA	**Warramunga Arr**	**15.67**	**210**	Pn	**Pn**	**20 27 44.5**	**-0.2**
	1.1nm,0.3s,baz=31,slow=13,SNR=15						
WRA				Sn	**Sn**	**20 30 33.9**	**-4.6**
	0.8nm,0.3s,baz=28,slow=23,SNR=6.4						
WRA				Lg	Lg	20 32 27.4	
	1.1nm,0.3s,baz=28,slow=29,SNR=5.1						
LBMI	**Labuha**	**16.24**	**290**	P	**Pn**	**20 27 52.3**	**+0.3**
	24nm,1.0s						
KNRA	**Kununurra**	**16.45**	**235**	P	**Pn**	**20 27 53.8**	**-0.9**
SANI	**Sanana**	**17.24**	**284**	P	**Pn**	**20 27 58.8**	**-5.9**
	13nm,0.7s						
SOEI	**Soe**	**18.54**	**259**	P	**Pn**	**20 28 22.1**	**+1.2**
SOEI				IAmb	IAmb	20 28 46.7	
	comp=Z,72nm,0.8s						
SOEI	**Soe**	**18.54**	**259**	P	**Pn**	**20 28 21.9**	**+1.0**
SOEI	**Soe**	**18.54**	**259**	P	**Pn**	**20 28 23.0**	**+2.1**
	comp=Z,95nm,1.0s						
AS31	**Alice Springs**	**19.08**	**205**	P	**Pn**	**20 28 28.2**	**+0.9**
ASAR	**Alice Springs**	**19.08**	**205**	P	**Pn**	**20 28 27.3**	**0.0**
ASAR	**Alice Springs**	**19.08**	**205**	P	**Pn**	**20 28 28.6**	**+1.3**
	comp=Z,9.9nm,0.6s,baz=37,slow=8.7,SNR=36						
ASAR				Lg	Lg	20 34 12.7	
	comp=Z,0.2nm,0.3s,baz=25,slow=29,SNR=1.9						
ASAR				LR	LR	20 36 33.7	
	comp=Z,3μm,20.0s,baz=350,slow=39						
KMSI	**Cibinong**	**19.96**	**290**	P	**P**	**20 28 34.9**	**-1.2**
	comp=Z,71nm,1.1s						
FITZ	**Fitzroy Crossi**	**20.27**	**234**	P	**P**	**20 28 39.2**	**-0.3**
MMRI	**Maumere**	**20.41**	**263**	P	**P**	**20 28 39.9**	**-1.1**
	comp=Z,23nm,0.8s						
LUWI	**Luwuk**	**20.60**	**284**		Pn	20 28 44.9	-0.5
LUWI				IAmb	IAmb	20 29 11.4	
	comp=Z,39nm,0.9s						
LUWI	**Luwuk**	**20.60**	**284**	P	**P**	**20 28 42.3**	**-0.9**
	comp=Z,56nm,1.2s						
EDFI	**Ende, Flores**	**20.95**	**262**	P	**P**	**20 28 46.2**	**-0.9**
	comp=Z,27nm,0.8s						
TTSI	**Tana Toraja**	**23.06**	**277**	P	**P**	**20 29 13.0**	**+3.5**
	comp=Z,17nm,1.4s						
TOLI2	**Tolitoli**	**23.14**	**288**	P	**P**	**20 29 12.0**	**+1.6**
TOLI2	**Tolitoli**	**23.14**	**288**	P	**P**	**20 29 12.7**	**+2.3**
PLAI	**Plampang**	**24.82**	**263**	P	**P**	**20 29 22.2**	**-4.1**
STKA	**Stephens Creek**	**25.30**	**182**	P	**P**	**20 29 30.8**	**+0.4**
STKA	**Stephens Creek**	**25.30**	**182**	P	**P**	**20 29 32.5**	**+2.0**
	comp=Z,3.1nm,0.7s,baz=356,slow=10,SNR=7.4						
	comp=Z,3.1nm,0.7s						
JMN	**Monobe**	**40.84**	**349**	P	**P**	**20 31 44.5**	**-1.2**
MJAR	**Matsushiro Arr**	**42.99**	**355**	P	**P**	**20 32 00.1**	**-3.1**
	comp=Z,2.4nm,0.8s,baz=179,slow=7.2,SNR=7.6						
	comp=Z,2.4nm,0.8s						
NJ2	**Nanjing**	**44.55**	**331**	*e*P	**P**	**20 32 17.5**	**+1.7**
NJ2				pP	**sP**	**20 32 20.1**	**-0.3**
NJ2				sP	**pP**	**20 32 23.2**	**+4.1**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KSRS	**Korea Array**	**45.82**	**344**	P	**P**	**20 32 25.2**	**-0.6**
	comp=Z,4.4nm,0.8s,baz=162,slow=9.3,SNR=6.8						
	comp=Z,4.4nm,0.8s						
JTM	**Tenmabayashi**	**47.05**	**358**	P	**P**	**20 32 33.5**	**-1.9**
CMAR	**Chiang Mai Arr**	**49.76**	**301**	P	**P**	**20 32 57.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**49.76**	**301**	P	**P**	**20 32 57.8**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=118,slow=6.3,SNR=9.1						
	comp=Z,1.1nm,0.7s						
LYN	**LuoYang**	**49.80**	**327**	*e*P	**P**	**20 32 57.7**	**+0.9**
LYN				pmax	pmax		
	comp=Z,12nm,0.8s						
KMI	**Kunming**	**49.97**	**311**	⇓P	**P**	**20 33 00.9**	**+2.4**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
USA0B	**Ussuriysk Arra**	**51.35**	**350**	P	**P**	**20 33 08.0**	**-0.3**
USA0B				IAmb	IAmb	20 33 15.1	
	comp=Z,8.7nm,1.0s						
USRK	**Ussuriysk Ar.**	**51.35**	**350**	P	**P**	**20 33 06.6**	**-1.7**
USRK	**Ussuriysk Ar.**	**51.35**	**350**	P	**P**	**20 33 07.4**	**-0.9**
	comp=Z,5.4nm,0.8s,baz=175,slow=8.7,SNR=8.3						
	comp=Z,5.4nm,0.8s						
XAN	**Xi'an**	**51.43**	**324**	⇓P	**P**	**20 33 09.7**	**+0.6**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.4s						
PZH	**PanZhiHua**	**51.48**	**311**	P	**P**	**20 33 11.0**	**+1.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s					

LZH	Lanzhou	55.87	322	*e*P		P		20 33 43.1	+1.3
LZH				pP		sP		20 33 47.1	+0.6
LZH				pmax		pmax			
	comp=Z,18nm,1.5s								
HEH	HeiHe	58.03	348	*e*P		P		20 33 55.1	-1.5
HEH				pmax		pmax			
	comp=Z,6.0nm,0.6s								
GTA	Gaotai	60.45	323	*e*P		P		20 34 14.4	+0.6
GTA				pP		sP		20 34 24.3	+5.8
GTA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
GTA				LR		LR			
	comp=Z,310nm,17.9s								
GTA				LR		LR			
	comp=Z,360nm,17.9s								
GTA				LR		LR			
	comp=Z,370nm,17.1s								
PEA0B	Petropavlovsk-	60.70	10	P		P		20 34 14.6	-0.5
PETK	Petropavlovsk-	60.70	10	P		P		20 34 13.5	-1.5
	comp=Z,5.6nm,0.9s,baz=152,slow=4.7,SNR=3.8								
	comp=Z,5.6nm,0.9s								
ULN	Ulaanbaatar	62.55	334	P		P		20 34 27.4	-0.5
SONM	Songino Array	62.82	333	P		P		20 34 29.1	-0.5
SONM	Songino Array	62.82	333	P		P		20 34 28.8	-0.8
	comp=Z,1.2nm,0.6s,baz=156,slow=6.5,SNR=12								
	comp=Z,1.2nm,0.6s								
POHA	Pohakuloa	66.09	65	P		P		20 34 51.6	-0.2
WMQ	Urumqi	70.41	321	*e*P		P		20 35 19.9	+1.7
WMQ				pP		sP		20 35 25.0	+2.1
WMQ				PcP		PcP		20 35 41.2	+1.6
WMQ				pmax		pmax			
	comp=Z,16nm,0.7s								
MK31	Makanchi Array	75.18	322	P		P		20 35 45.4	-1.0
MK31				IAmb		IAmb		20 35 54.3	
	comp=Z,8.5nm,1.2s								
MKAR	Makanchi Array	75.18	322	P		P		20 35 46.6	+0.2
MKAR	Makanchi Array	75.18	322	P		P		20 35 45.6	-0.8
	comp=Z,1.7nm,0.6s,baz=109,slow=7.5,SNR=17								
	comp=Z,1.7nm,0.6s								
MAKZ	Makanchi	75.38	322	P		P		20 35 47.2	-0.3
MAKZ				IAmb		IAmb		20 35 54.7	
	comp=Z,12nm,1.3s								
KSH	Kashi	76.54	313	P		P		20 36 00.9	+6.4
ZALV	Zalesovo Beam	77.17	329	P		P		20 35 57.0	-0.5
ZALV	Zalesovo Beam	77.17	329	P		P		20 35 56.1	-1.4
	comp=Z,2.7nm,0.7s,baz=106,slow=5.6,SNR=9.9								
	comp=Z,2.7nm,0.7s								
KURK	Kurchatov	79.06	324	P		P		20 36 06.9	-1.2
KURK				IAmb		IAmb		20 36 14.9	
	comp=Z,9.7nm,1.1s								
KURBB	Kurchatov Arra	79.08	324	P		P		20 36 07.5	-0.7
	comp=Z,1.7nm,0.7s,baz=116,slow=4.6,SNR=15								
	comp=Z,1.7nm,0.7s								
L14K	Kuka Creek	79.67	24	IAmb		IAmb		20 36 14.2	
	comp=Z,11nm,0.8s								
M16K	Timber Creek	81.01	25	IAmb		IAmb		20 36 22.0	
	comp=Z,13nm,1.1s								
CHGR	Chuyangaron	81.33	311	P		P		20 36 20.9	+0.2
SIMJ	Simiganj	81.44	311	P		P		20 36 22.6	+1.2
SIMJ				IAmb		IAmb		20 36 28.5	
	comp=Z,6.8nm,0.9s								
QSPA	South Pole Qui	83.50	180	P		P		20 36 32.5	+0.9
	comp=Z,5.0nm,1.2s,baz=296,slow=1.2,SNR=3.6								
	comp=Z,5.0nm,1.2s								
E18K	Tukpahlearik C	83.83	19	IAmb		IAmb		20 36 34.0	
	comp=Z,3.7nm,0.8s								
K20K	Telida	84.15	24	IAmb		IAmb		20 36 37.7	
	comp=Z,6.5nm,0.9s								
H19K	Roundabout Mou	84.26	21	IAmb		IAmb		20 36 36.6	
	comp=Z,5.0nm,0.9s								
J20K	Nowinta River	84.49	23	IAmb		IAmb		20 36 40.0	
	comp=Z,5.3nm,0.8s								
BVAR	Borovoye Array	84.66	325	P		P		20 36 37.2	-0.3
	comp=Z,14nm,0.8s,baz=112,slow=6.0,SNR=66								
	comp=Z,14nm,0.8s								
BRVK	Borovoye	84.73	325	P		P		20 36 37.3	-0.6
E19K	Redstone River	84.95	20	IAmb		IAmb		20 36 40.1	
	comp=Z,7.2nm,0.9s								
CAST	Castle Rocks	84.98	24	P		P		20 36 36.6	-2.4
CAST				IAmb		IAmb		20 36 44.6	
	comp=Z,12nm,1.4s								
RC01	Rabbit Creek A	85.03	27	P		P		20 36 36.8	-2.4
D19K	Kuna River	85.20	19	IAmb		IAmb		20 36 45.8	
	comp=Z,7.1nm,1.1s								
MLY	Manley	86.19	23	P		P		20 36 43.8	-1.2
MLY				IAmb		IAmb		20 36 45.8	
	comp=Z,4.9nm,0.8s								
RND	Reindeer	86.31	25	IAmb		IAmb		20 36 47.8	
	comp=Z,6.9nm,0.8s								
DHY	Denali Highway	86.81	25	IAmb		IAmb		20 36 52.3	
	comp=Z,5.6nm,0.7s								
WRH	Wood River Hil	87.02	24	P		P		20 36 46.0	-3.0
WRH				IAmb		IAmb		20 36 54.1	
	comp=Z,6.4nm,1.0s								
E22K	Anaktuvuk Pass	87.09	20	IAmb		IAmb		20 36 51.4	
	comp=Z,6.2nm,0.8s								
D22K	Ayikyak River	87.13	19	IAmb		IAmb		20 36 52.8	
	comp=Z,4.6nm,0.7s								
CCB	Clear Creek Bu	87.20	24	IAmb		IAmb		20 36 51.7	
	comp=Z,6.5nm,0.8s								
H24K	Noodor Dome	87.60	23	IAmb		IAmb		20 36 54.6	
	comp=Z,2.8nm,0.8s								
IL31		87.61	24	IAmb		IAmb		20 36 53.0	
	comp=Z,4.2nm,0.7s								
ILAR	Eielson Array	87.61	24	P		P		20 36 49.8	-2.0
	comp=Z,3.6nm,0.7s,baz=257,slow=5.0,SNR=36								
	comp=Z,3.6nm,0.7s								
G24K	Hadweenzie Riv	88.07	22	IAmb		IAmb		20 36 57.3	
	comp=Z,5.0nm,0.9s								
F24K	Squaw Lake	88.22	21	IAmb		IAmb		20 37 02.0	
	comp=Z,5.7nm,0.8s								
CTGM	Chitina Glacie	88.86	28	P		P		20 36 57.3	-0.7
FYU	Fort Yukon	88.86	22	P		P		20 36 58.0	+0.2
J26L	Joseph Creek	88.88	25	IAmb		IAmb		20 37 00.9	
	comp=Z,3.2nm,0.7s								
M27K	Edge Creek, AK	88.98	27	IAmb		IAmb		20 37 05.8	
	comp=Z,5.7nm,0.8s								
K27K	Chicken	89.36	25	IAmb		IAmb		20 37 01.7	
	comp=Z,6.7nm,1.0s								
BMAR	Burnt Mountain	89.38	22	P		P		20 37 00.4	+0.2
M29M	Somme Creek	90.55	27	IAmb		IAmb		20 37 09.1	
	comp=Z,2.9nm,0.8s								
L29M	L29M	90.84	27	IAmb		IAmb		20 37 08.5	
	comp=Z,5.6nm,1.0s								
K29M	Barlow Dome	91.27	26	P		P		20 37 08.8	-0.4
K29M				IAmb		IAmb		20 37 16.8	
	comp=Z,5.4nm,1.1s								
O30N	Mendenhall	91.31	29	P		P		20 37 07.9	-1.4
TORD	Torodi Ar. Bea	141.05	283	PKP		PKPdf		20 43 32.5	-2.8
	comp=Z,0.6nm,0.9s,baz=45,slow=4.5,SNR=3.9								
DBIC	Dimbokro	147.78	272	PKPbc		PKPbc		20 43 50.4	+0.5
	comp=Z,4.7nm,0.9s,baz=71,slow=7.8,SNR=4.7								

IDC ***04*** *20:27:28.8±2.0,* **6.18S×142.94E, h0km, mb4.0/3, mbtmp4.1/4, ML4.0/1, Error ellipse: s-maj=85.3km s-min=37.1km az=106.0, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	19.44	206	P	P	20 31 57.1	0.0
	0.4nm,0.3s,baz=33,slow=11,SNR=8.3						
	6.1nm,0.7s						
MKAR	Makanchi Array	75.10	322	P	P	20 39 12.9	+0.1
	1.0nm,1.0s,baz=97,slow=5.8,SNR=3.3						
	1.0nm,1.0s						
BVAR	Borovoye Array	84.55	325	P	P	20 40 03.9	0.0
	1.6nm,0.7s,baz=104,slow=6.3,SNR=3.8						
	1.6nm,0.7s						
ILAR	Eielson Array	87.25	24	P	P	20 40 16.9	-0.1
	1.1nm,1.0s,baz=253,slow=5.1,SNR=4.4						
	1.1nm,1.0s						

IDC ***04*** *20:28:45.2±0.9, 5.92S×143.09E, h0km, mb4.2/12, mbtmp4.3/14, ML1.7/1, Error ellipse: s-maj=31.2km s-min=19.5km az=71.0*

ISC 04 20:28:50.5±0.7, 5.9S±0.1×143.1E±0.1, h35km, n14, σ0 53/15, mb4.2/12, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	5.32	131	Pn	Pn	20 30 06.8	-0.6
	1.9nm,0.3s,baz=283,slow=20,SNR=1.2						
PMG				Sn	Sn	20 31 08.3	+0.8
	baz=295,slow=17						
	5.5nm,0.3s						
ASAR	Alice Springs	19.73	206	P	P	20 33 17.5	+0.3
	18nm,0.8s,baz=34,slow=9.9,SNR=10						
MJAR	Matsushiro Arr	42.49	354	P	P	20 36 41.7	-0.7
	1.6nm,0.8s,baz=152,slow=6.1,SNR=4.4						
	1.6nm,0.8s						
KSRS	Korea Array	45.42	343	P	P	20 37 06.0	+0.1
	4.6nm,1.0s,baz=160,slow=9.3,SNR=5.2						
	4.6nm,1.0s						
CMAR	Chiang Mai Arr	49.81	300	P	P	20 37 40.2	-0.2
	1.7nm,0.7s,baz=118,slow=6.2,SNR=13						
	1.7nm,0.7s						
USRK	Ussuriysk Ar.	50.89	350	P	P	20 37 47.9	-0.2
	5.0nm,0.8s,baz=167,slow=6.0,SNR=7.6						
	5.0nm,0.8s						
PETK	Petropavlovsk-	60.10	10	P	P	20 38 55.0	+0.9
	7.8nm,1.1s,baz=151,slow=6.3,SNR=2.5						
	7.8nm,1.1s						
SONM	Songino Array	62.51	333	P	P	20 39 11.4	+0.7
	1.0nm,1.1s,baz=145,slow=5.3,SNR=3.3						
	1.0nm,1.1s						
MKAR	Makanchi Array	74.99	322	P	P	20 40 28.5	+0.1
	1.8nm,0.8s,baz=111,slow=6.6,SNR=6.8						
	1.8nm,0.8s						
ZALV	Zalesovo Beam	76.91	329	P	P	20 40 38.7	-0.4
	0.9nm,0.7s,baz=83,slow=4.5,SNR=4.2						
	0.9nm,0.7s						
KURBB	Kurchatov Arra	78.86	324	P	P	20 40 50.1	+0.1
	0.7nm,0.2s,baz=111,slow=4.6,SNR=7.3						
	0.7nm,0.2s						
QSPA	South Pole Qui	84.04	180	P	P	20 41 17.0	-0.4
	1.0nm,0.5s,baz=19,slow=1.8,SNR=4.0						
	1.0nm,0.5s						
BVAR	Borovoye Array	84.43	325	P	P	20 41 19.7	+0.3
	6.4nm,0.8s,baz=93,slow=5.1,SNR=19						
	6.4nm,0.8s						
ILAR	Eielson Array	86.97	24	P	P	20 41 31.4	-0.3
	2.2nm,0.8s,baz=251,slow=4.9,SNR=14						
	2.2nm,0.8s						

IDC ***04*** *20:34:52.8±1.2, 6.25S×142.83E, h0km, mb3.8/4, mbtmp3.9/7, ML3.7/1, Error ellipse: s-maj=33.1km s-min=21.4km az=82.0*

ISC 04 20:34:58.0±0.9, 6.44S±0.09×142.68E±0.10, h35km, n7, σ1 55/10, mb3.8/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	5.33	124	Pn	Pn	20 36 15.0	0.0
	4.3nm,0.4s,baz=305,slow=22,SNR=1.9						
PMG				Sn	Sn	20 37 14.9	-0.3
	1.5nm,0.3s,baz=211,slow=22,SNR=7.3						
WRA	Warramunga Arr	15.67	210	Pn	Pn	20 38 36.3	0.0
	0.3nm,0.3s,baz=32,slow=13,SNR=0.8						
WRA				Sn	Sn	20 41 26.1	-2.8
	0.3nm,0.3s,baz=28,slow=22,SNR=3.0						
WRA				Lg	Lg	20 43 17.8	
	0.2nm,0.3s,baz=38,slow=27,SNR=3.8						
	1.1nm,0.5s						
ASAR	Alice Springs	19.09	205	P	Pn	20 39 20.3	+1.5
	3.5nm,0.4s,baz=39,slow=8.1,SNR=33						
ASAR				Sn	S	20 42 54.6	+2.0
	0.2nm,0.3s,baz=24,slow=27,SNR=1.6						
ASAR				Lg	Lg	20 45 06.7	
	baz=21,slow=29						
SONM	Songino Array	62.78	333	P	P	20 45 20.0	-0.1
	0.3nm,0.7s,baz=130,slow=5.1,SNR=1.9						
	0.3nm,0.7s						
MKAR	Makanchi Array	75.14	322	P	P	20 46 36.1	-0.7
	0.8nm,0.9s,baz=135,slow=5.3,SNR=5.7						
	0.8nm,0.9s						
KURBB	Kurchatov Arra	79.04	324	P	P	20 46 57.5	-1.0
	0.3nm,0.2s,baz=121,slow=4.3,SNR=4.4						
	0.3nm,0.2s						
BVAR	Borovoye Array	84.62	325	P	P	20 47 28.8	+0.9
	1.9nm,0.8s,baz=123,slow=5.5,SNR=11						
	1.9nm,0.8s						

IDC ***04*** *20:40:39.1±0.7, 1.91S×135.40E, h0km, mb4.2/13, mbtmp4.3/15, ML4.2/1, MS4.4/6, Error ellipse: s-maj=30.5km s-min=11.6km az=78.0*

DJA ***04*** *20:40:41.4±2.6, 2.3S×13.3E±, h16km±2km, M5.0/50, mB5.5/12, mb4.9/50, MLv5.2/9, Mw(mB)5.0/12*

NEIC ***04*** *20:40:41.2±2.6, 1.94S±0.08×135.65E±0.08, h10km±1km, mb4.9/72, Error ellipse: s-maj=13.7km s-min=12.6km az=141.0*

GCMT ***04*** *20:40:43.2±0.4, 1.75S±0.02×135.78E±0.03, h20km±2km, MW4.9/64, Moment Tensor Solution. s11,c12; s64,c94; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.25±.24; Mθθ=1.53±.14; Mϕϕ 1.78±.19; Mrθ=-0.28±.33; Mθϕ 2.19±.12; Mϕr 0.48±.34; Best double couple: M0 2.80500×10^16 NP1: ϕs 162.00000°, δ86.00000°, λ-168.00000°. NP2: ϕs 71.00000°, δ78.00000°, λ-4.00000°. Principal axes: T 2.9010, Plg6.0000°, Azm296.0000°; N -0.1940, Plg78.0000°, Azm179.0000°; P -2.7090, Plg11.0000°, Azm27.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 20:40:44.1±0.4, 1.92S±0.05×135.65E±0.06, h35km, n166, σ1 84/140, mb4.8/69, MS4.7/7, 2C-2D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMPI	Sarmi	3.06	91	P	Pn	20 41 26.8	-3.3
FAKI	Fak Fak	3.54	254	Pn	Pn	20 41 37.4	+0.8
FAKI	Fak Fak	3.54	254	P	Pn	20 41 37.6	+1.0
SWI	Sorong	4.51	283	P	Pn	20 41 49.3	-0.6
GENI	Genyem	4.57	99	P	Pn	20 41 48.7	-2.1
BNDI	Bandanaira	6.29	246	P	Pn	20 42 15.2	+0.8
	323nm,0.9s,11μm3.7nm						
MMPI	Merauke	8.03	144	P	Pn	20 42 40.9	+2.5
	462nm,0.6s						
LBMI	Labuha	8.24	279	P	Pn	20 42 42.3	+1.0
	118nm,1.0s,2μm						
NLAI	Namlea	8.64	261	P	Pn	20 42 48.1	+1.4
	64nm,0.9s						
TNTI	Ternate	8.70	288	P	Pn	20 42 48.5	+1.0
	50nm,1.2s						
SANI	Sanana	9.65	269	P	Pn	20 42 59.4	-1.2
	35nm,0.8s						
KDU	Kakadu	11.15	196	P	Pn	20 43 21.6	+0.4
	baz=11,SNR=13						
MTN	Manton Dam	11.74	202	P	Pn	20 43 30.1	+0.9
	baz=2,SNR=6.3						
MTN	Manton Dam	11.74	202		Pn	20 43 29.9	+0.7
KMSI	Cibinong	11.92	282	P	Pn	20 43 32.1	+0.4
	172nm,1.1s						
GTOI	Gorontalo	12.89	281	P	Pn	20 43 47.7	+2.8
	22nm,0.7s						
LUWI	Luwuk	12.90	274	Pn	Pn	20 43 43.0	-2.1
LUWI	Luwuk	12.90	274	P	Pn	20 43 44.7	-0.4
	51nm,0.8s						
DAV	Davao City (W)	13.44	312	LR	LR	20 48 51.4	
	comp=Z,333nm,19.6s,baz=238,slow=37						
BBSI	Bau Bau	13.52	254	P	Pn	20 43 55.1	+1.5
	70nm,1.1s						
PMG	Port Moresby	13.65	123	Pn	Pn	20 43 52.2	-3.2
PMG	Port Moresby	13.65	123	Pn	Pn	20 43 58.1	+2.8
	23nm,0.9s,baz=343,slow=11,SNR=8.0						
PMG				LR	LR	20 49 34.7	
	comp=Z,889nm,20.0s,baz=271,slow=39						
SOEI	Soe	13.73	235		Pn	20 43 57.6	+1.0
SOEI	Soe	13.73	235	P	Pn	20 43 57.3	+0.7
	68nm,1.2s						
MRSI	Marisa	13.91	280	P	Pn	20 44 00.5	+1.6
	54nm,1.3s,679nm						
COEN	Coen	14.09	148	P	Pn	20 44 03.1	+1.8
	baz=14,SNR=6.0						
COEN	Coen	14.09	148	Pn	Pn	20 43 58.6	-2.7
MMRI	Maumere	14.92	243	Pn	Pn	20 44 09.1	-3.5
MMRI	Maumere	14.92	243	P	Pn	20 44 14.5	+1.9
	51nm,1.4s,1μm						
TOLI2	Tolitoli	15.16	281	P	P	20 44 19.9	-0.6
TOLI2				IAmb	IAmb	20 44 28.5	
	comp=Z,47nm,1.0s						
KNRA	Kununurra	15.26	206	P	Pn	20 44 16.7	-0.4
	baz=15,SNR=5.0						
KNRA	Kununurra	15.26	206		Pn	20 44 16.3	-0.8
EDFI	Ende, Flores	15.46	243	P	Pn	20 44 20.9	+1.1
	comp=Z,62nm,1.4s						
TTSI	Tana Toraja	15.85	266	P	Pn	20 44 25.9	+1.1
	comp=Z,66nm,1.0s						
MPSI	Mapaga	15.90	278	P	Pn	20 44 27.2	+1.8
	comp=Z,39nm,1.1s						
WB0	Warramunga Arr	17.78	184		P	20 44 50.8	+1.3
WRAB	Tennant Creek	17.95	184	Pn	Pn	20 44 45.7	-5.3
WB2	Warramunga Arr	17.96	184		Pn	20 44 50.5	-0.7
WRA	Warramunga Arr	17.96	184	P	Pn	20 44 51.1	-0.1
WRA	Warramunga Arr	17.96	184	P	Pn	20 44 48.9	-2.3
	comp=Z,0.9nm,0.3s,baz=6.5,slow=12,SNR=18						
WRA				S	Sn	20 48 08.2	-2.3
	comp=Z,8.0nm,0.8s,baz=8.7,slow=23,SNR=6.5						
	comp=Z,20nm,0.8s						
WR0	Warramunga Arr	17.96	183		Pn	20 44 51.8	+0.6
FITZ	Fitzroy Crossi	18.84	211	P	Pn	20 45 03.2	+1.3
	baz=19,SNR=5.7						
FITZ	Fitzroy Crossi	18.84	211	P	P	20 45 01.0	-0.1
QIS	Mount Isa	18.92	168	P	Pn	20 45 04.6	+1.6
	baz=19,SNR=6.0						
PLAI	Plampang	19.06	248	P	P	20 45 05.0	+1.4
	comp=Z,89nm,0.8s						
TWSI	Taliwang, Sumb	19.86	249	P	P	20 45 13.6	+1.2
	comp=Z,33nm,0.9s						
MTKI	Muara Teweh, K	20.77	272	P	Pn	20 45 24.2	-0.6
	comp=Z,56nm,1.0s						
CTA	Charters Tower	20.82	151	P	Pn	20 45 25.8	+0.4
	comp=Z,9.7nm,0.9s,baz=347,slow=13,SNR=5.0						
	comp=Z,9.7nm,0.9s						
CTAO	Charters Tower	20.82	151		P	20 45 21.8	-1.0
SRBI	Singaraja	21.25	253	P	P	20 45 29.6	+2.2
	comp=Z,58nm,0.9s						
AS31	Alice Springs	21.68	184	P	P	20 45 30.8	-1.3
ASAR	Alice Springs	21.68	184	P	P	20 45 28.8	-3.3
ASAR	Alice Springs	21.68	184	P	P	20 45 32.6	+0.6
	comp=Z,20nm,0.8s,baz=11,slow=10,SNR=44						
ASAR				S	S	20 49 32.2	+1.8
	comp=Z,1.2nm,0.7s,baz=30,slow=13,SNR=3.5						
ASAR				LR	LR	20 54 41.5	
	comp=Z,1μm,20.1s,baz=337,slow=39						
	comp=Z,20nm,0.8s						
KMMI	Kalianget	22.20	256	P	P	20 45 41.7	+4.1
	comp=Z,92nm,1.1s						
JAGI	Jajag, Banyuwa	22.36	252	P	P	20 45 40.0	+0.6
JAGI				IAmb	IAmb	20 45 52.0	
	comp=Z,30nm,0.7s						
JAGI	Jajag, Banyuwa	22.36	252	P	P	20 45 39.8	+0.4
	comp=Z,42nm,0.9s						
GMJI	Gumukmas	22.99	253	P	P	20 45 48.5	+2.5
SBUM	Sibu	23.82	280	P	P	20 45 53.2	-0.9
WRKA	Warakurna	24.05	197	P	P	20 45 57.1	+0.8
	baz=24,SNR=10						
STKI	Sintang	24.24	274	P	P	20 45 59.4	+1.3
	comp=Z,64nm,1.2s						
PWJI	Pagerwojo	24.50	255	P	P	20 46 02.9	+2.5
	comp=Z,21nm,0.9s						
PSA00	Pilbara Seismi	24.87	217	P	P	20 46 02.9	-0.8
HNR	Honiara	25.29	108	P	P	20 46 07.0	-0.6
SMRI	Semarang	25.63	258	P	P	20 46 09.2	-1.5
SMRI	Semarang	25.63	258	P	P	20 46 12.3	+1.6
	comp=Z,208nm,1.0s						
QLP	Quilpie	25.87	162	P	P	20 46 16.6	+3.9
	baz=26,SNR=8.1						
KPJI	Karang Pucung	27.16	258	P	P	20 46 26.0	+1.5
	comp=Z,41nm,1.2s						
EIDS	Eidsvold	27.66	149	P	P	20 46 31.8	+3.0
	baz=28,SNR=3.6						
EIDS	Eidsvold	27.66	149	P	P	20 46 28.1	-0.7
EIDS				IAmb	IAmb	20 46 36.9	
	comp=Z,25nm,0.9s						
YULB	Yu-li	28.78	332	P	P	20 46 38.4	-0.4
YULB				IAmb	IAmb	20 47 01.8	
	comp=Z,27nm,1.5s						
TPUB	Ta-pu	29.02	331	P	P	20 46 39.2	-1.8
TPUB				IAmb	IAmb	20 46 43.9	
	comp=Z,27nm,1.4s						
GIRL	Giralia	29.27	224	P	P	20 46 41.3	-1.9
SSLB	Suanglung	29.28	332	P	P	20 46 41.9	-1.4
SSLB				IAmb	IAmb	20 46 53.4	
	comp=Z,23nm,1.4s						
PPBI	Pangkal Pinang	29.49	269	P	P	20 46 46.1	+0.8
FORT	Forrest	29.59	193	P	P	20 46 46.0	+0.1
STKA	Stephens Creek	30.32	170	P	P	20 46 56.8	+4.4
	baz=30,SNR=8.2						
STKA	Stephens Creek	30.32	170	P	P	20 46 52.1	-0.3
STKA	Stephens Creek	30.32	170	P	P	20 46 52.9	+0.4
	comp=Z,3.0nm,0.8s,baz=350,slow=12,SNR=5.5						
	comp=Z,3.0nm,0.8s						
BBOO	Buckleboo	30.73	179	P	P	20 46 55.7	-0.3
BBOO				IAmb	IAmb	20 47 06.4	
	comp=Z,34nm,1.2s						
CMSA	Cobar Meteorol	30.95	163	P	P	20 47 04.3	+6.3
	baz=31,SNR=9.4						
HTT	Hallett	31.50	175	P	P	20 47 06.7	+3.9
	baz=32,SNR=4.6						
ARMA	Armidale	32.14	153	P	P	20 47 07.7	-1.0
ARMA				IAmb	IAmb	20 47 15.6	
	comp=Z,12nm,0.9s						
KRJI	Kerinci	34.16	269	P	P	20 47 26.2	-0.3
UBPT	Khong Chiam	34.40	301	P	P	20 47 28.5	+0.2
JHJ2	Mitsune	35.06	6	P	P	20 47 35.5	+1.7
PDSI	Padang	35.19	271	P	P	20 47 34.2	-1.1
	comp=Z,31nm,0.8s						
PDSI				pP	pP	20 47 39.9	-5.3
	comp=Z,31nm,0.8s						
NWAO	Narrogin (SRO)	35.36	207	LR	LR	21 04 08.9	
	comp=Z,363nm,18.0s,baz=54,slow=40						
JMN	Monobe	35.50	357	P	P	20 47 38.5	+0.9
SISI	Saibi	36.55	270	P	P	20 47 45.9	-1.0
	comp=Z,77nm,1.0s						
SISI				pP	pP	20 47 51.6	-5.3
	comp=Z,77nm,1.0s						
MILA	Mila	37.12	162	P	P	20 47 55.4	+3.9
	baz=37,SNR=3.5						
NJ2	Nanjing	37.35	336	*e*P	P	20 47 58.2	+4.8
NJ2				pP	pP	20 48 03.6	+0.1
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,220nm,4.4s						
WHN	Wuhan	38.13	330	P	P	20 48 09.9	+10
GSI	Gunungsitoli	38.20	275	P	P	20 48 01.6	+0.7
GSI				IAmb	IAmb	20 48 06.7	
	comp=Z,22nm,1

MDJ S S 20 56 05.0 +9.0
MDJ pmax pmax
comp=Z,4.0nm,0.8s
MDJ pmax pmax
comp=Z,210nm,4.1s
MDJ LR LR
comp=Z,690nm,12.7s
MDJ LR LR
comp=Z,620nm,10.5s
MDJ LR LR
comp=Z,640nm,13.7s
HHC Hu-ho-hao-te 47.89 335 eP P 20 49 23.0 +4.0
HHC sP sP 20 49 31.6 -1.8
HHC pmax pmax
comp=Z,13nm,0.5s
BNX BinXian 48.01 352 ⇓P P 20 49 23.6 +3.9
BNX pmax pmax
comp=Z,8.0nm,1.1s
LZH Lanzhou 48.05 325 eP P 20 49 26.2 +5.8
LZH pP pP 20 49 30.4 -0.3
LZH pmax pmax
comp=Z,9.0nm,1.4s
BTO Baotou 48.35 334 eP P 20 49 28.6 +6.0
BTO pP pP 20 49 33.4 +0.5
BTO sP sP 20 49 35.8 -1.2
BTO PP **PP 20 51 15.1 -0.3**
BTO S S 20 56 34.2 +14
BTO pmax pmax
comp=Z,12nm,1.2s
BTO pmax pmax
comp=Z,950nm,10.2s
BTO LR LR
comp=Z,430nm,14.1s
BTO LR LR
comp=Z,870nm,18.8s
MRNZ Matariki Terra 51.57 145 P **P 20 49 47.5 +0.5**
PYZ Puysegur Point 51.75 153 P **P 20 49 48.4 +0.3**
NNZ Nelson 51.82 144 P **P 20 49 48.6 -0.2**
NNZ IAmb IAmb 20 50 16.0
comp=Z,36nm,1.5s
MLZ Mavora Lakes 51.83 151 P **P 20 49 45.6 -3.2**
THZ Tophouse 51.89 145 P P 20 49 43.7 -5.7
THZ IAmb IAmb 20 50 07.8
comp=Z,33nm,1.5s
RPZ Rata Peaks 52.15 148 P P 20 49 44.2 -7.0
RPZ IAmb IAmb 20 50 04.3
comp=Z,18nm,1.1s
RPZ Rata Peaks 52.15 148 LR LR 21 10 25.8
comp=Z,607nm,19.1s,baz=302,slow=34
LBZ Lake Benmore 52.16 149 P **P 20 49 49.5 -1.7**
LTZ Lake Taylor 52.19 146 P P 20 49 44.7 -6.8
LTZ IAmb IAmb 20 50 12.0
comp=Z,29nm,1.2s
GTA Gaotai 52.65 325 P **P 20 49 55.3 +0.2**
GTA pmax pmax
comp=Z,4.0nm,1.3s
SONM Songino Array 55.74 337 P **P 20 50 18.4 +1.0**
SONM Songino Array 55.74 337 P **P 20 50 16.7 -0.8**
comp=Z,0.4nm,0.9s,baz=147,slow=8.0,SNR=2.6
WMQ Urumqi 52.61 323 eP P 20 51 10.8 +6.4
WMQ pP pP 20 51 14.4 -0.6
WMQ pmax pmax
comp=Z,18nm,1.1s
YAK Yakutsk 63.94 357 P **P 20 51 15.2 +1.9**
AIS Amsterdam Isla 63.96 228 P **P 20 51 15.1 +1.0**
MK31 Makanchi Array 67.31 323 P **P 20 51 34.9 -0.7**
MKAR Makanchi Array 67.31 323 P **P 20 51 34.9 -0.7**
comp=Z,1.0nm,0.7s,baz=111,slow=7.9,SNR=13
comp=Z,1.0nm,0.7s
MAKZ Makanchi 67.51 323 P **P 20 51 36.4 -0.4**
MAKZ IAmb IAmb 20 51 43.3
comp=Z,7.8nm,0.7s
KSH Kashi 68.33 314 P **P 20 51 43.7 +1.5**
KSH sP pP 20 51 51.7 -1.2
KSH pmax pmax
comp=Z,4.0nm,1.0s
ZALV Zalesovo Beam 69.74 331 P **P 20 51 48.4 -2.0**
ZALV Zalesovo Beam 69.74 331 P **P 20 51 49.1 -1.4**
comp=Z,0.4nm,0.4s,baz=110,slow=6.6,SNR=4.5
comp=Z,0.4nm,0.4s
ARSB Arslanbob 71.11 315 P **P 20 51 59.0 -0.3**
KURK Kurchatov 71.33 326 P **P 20 51 59.3 -0.9**
KURK IAmb IAmb 20 52 10.1
comp=Z,8.5nm,0.9s
KURBB Kurchatov Arra 71.34 326 P **P 20 51 59.0 -1.3**
comp=Z,1.3nm,0.2s,baz=114,slow=5.4,SNR=6.3
comp=Z,1.3nm,0.2s
GAR Garm 72.29 312 P **P 20 52 05.8 -0.6**
GAR IAmb IAmb 20 52 26.5
comp=Z,19nm,1.1s
SIMJ Simiganj 73.17 311 P **P 20 52 10.9 -0.8**
SIMJ IAmb IAmb 20 52 21.4
comp=Z,6.4nm,0.8s
BVAR Borovoye Array 76.93 326 P **P 20 52 32.0 -0.9**
comp=Z,1.7nm,0.9s,baz=113,slow=6.6,SNR=4.0
comp=Z,1.7nm,0.9s
K15K Wolf Creek Mou 79.40 25 P **P 20 52 48.2 +1.8**
K15K IAmb IAmb 20 52 57.2
comp=Z,15nm,1.1s
K17K Iditarod 80.94 25 P **P 20 52 54.6 -0.1**
K17K IAmb IAmb 20 53 06.4
comp=Z,18nm,1.1s
GEYT Alibeck 81.36 309 P **P 20 52 57.3 -0.2**
comp=Z,2.6nm,0.9s,baz=102,slow=13,SNR=4.3
comp=Z,2.6nm,0.9s
J19K Poorman 82.53 24 IAmb IAmb 20 53 12.7
comp=Z,8.2nm,1.1s
IMAR Indian Mountai 83.94 23 P P 20 53 13.8 +3.5
B20K Meade River 84.15 19 P P 20 53 15.2 +4.0
B20K IAmb IAmb 20 53 17.5
comp=Z,9.0nm,1.1s
MLY Manley 84.86 24 IAmb IAmb 20 53 26.5
comp=Z,8.0nm,1.5s
SML Sawmill 85.10 28 IAmb IAmb 20 53 30.2
comp=Z,16nm,1.1s
RND Reindeer 85.24 26 IAmb IAmb 20 53 24.9
comp=Z,7.6nm,0.8s
E22K Anaktuvuk Pass 85.33 21 IAmb IAmb 20 53 50.9
comp=Z,12nm,1.4s
NEA2 Nenana 85.44 25 P **P 20 53 20.3 +2.4**
NEA2 IAmb IAmb 20 53 33.8
comp=Z,11nm,1.5s
I23K Minto, Yukon-K 85.46 24 P **P 20 53 18.3 +0.3**
WRH Wood River Hil 85.82 25 IAmb IAmb 20 53 25.4
comp=Z,8.3nm,1.0s
CCB Clear Creek Bu 85.98 25 P P 20 53 24.1 +3.5
CCB IAmb IAmb 20 53 26.0
comp=Z,10nm,1.0s
IL31 86.39 25 P **P 20 53 23.5 +0.9**
IL31 IAmb IAmb 20 53 27.4
comp=Z,6.1nm,0.8s
ILAR Eielson Array 86.39 25 P **P 20 53 23.7 +1.1**
ILAR Eielson Array 86.39 25 P **P 20 53 21.9 -0.7**
comp=Z,3.5nm,0.9s,baz=266,slow=5.3,SNR=5.8
comp=Z,3.5nm,0.9s
G24K Hadweenzic Riv 86.58 23 P **P 20 53 26.2 +2.7**
G24K IAmb IAmb 20 53 33.1
comp=Z,18nm,1.4s
J25K Salcha River, 87.00 25 IAmb IAmb 20 53 34.5
comp=Z,6.0nm,1.0s
E25K Arctic Village 87.59 22 IAmb IAmb 20 53 38.6
comp=Z,9.8nm,1.2s
QSPA South Pole Qui 88.02 180 P **P 20 53 31.2 +0.6**
QSPA IAmb IAmb 20 53 38.8
comp=Z,8.5nm,0.9s
QSPA South Pole Qui 88.02 180 P **P 20 53 31.4 +0.7**
comp=Z,3.2nm,1.0s,baz=324,slow=2.0,SNR=7.9
comp=Z,3.2nm,1.0s
BARN Barnard Glacie 88.12 29 P **P 20 53 34.0 +2.7**
K27K Chicken 88.32 26 P **P 20 53 33.7 +1.8**
BCAR Beaver Creek A 88.32 27 P **P 20 53 34.2 +2.2**
DAWY Dawson 89.50 26 IAmb IAmb 20 53 47.6
comp=Z,8.3nm,1.2s
INK Inuvik 92.08 22 P **P 20 53 50.0 +0.6**
comp=Z,1.3nm,0.9s,baz=278,slow=2.8,SNR=3.8
comp=Z,1.3nm,0.9s
MMAI Mount Meron Ar 99.63 303 LR LR 21 45 42.1
comp=Z,628nm,18.1s,baz=208,slow=39
TORD Torodi Ar. Bea 133.10 286 PKP **PKiKP 20 59 59.3 +1.0**
comp=Z,0.9nm,0.9s,baz=98,slow=2.4,SNR=3.5
CPUP Villa Florida 149.25 157 PKPbc **PKiKP 21 00 30.8 -0.3**
comp=Z,1.2nm,0.7s,baz=185,slow=5.3,SNR=3.1

*NEIC **04** 20:43:36.0±1.6,56˚48N±0˚07×148˚66W±0˚10,h10km±2km,*

mb4.0/3,ML4.1/68,ML3.8(AEIC),Error ellipse:
s-maj=13.0km s-min=8.8km az=162.0
*IDC **04** 20:43:37.8±1.0,56˚74N×148˚69W,h0km,mb3.8/13,*
mbtmp3.8/18,ML3.7/5,Error ellipse: s-maj=21.6km
s-min=15.4km az=18.0
*AEIC **04** 20:43:41.5±1.2,56˚56N±0˚08×148˚7W±0˚1,h10km±7km,*
Error ellipse: s-maj=12.0km s-min=7.5km az=160.0
ISC 04 20:43:37.3±0.6,56˚62N±0˚06×148˚67W±0˚05,h10km,
n313,σ1ŷ09/310,mb4.0/13,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.43**	**300**	Pn	**Pn**		**20 44 16.6**	**-0.4**
KDAK	**Kodiak Island**	**2.43**	**300**		**Sn**		**20 44 44.2**	**-2.5**
KDAK	**Kodiak Island**	**2.43**	**300**	Pn	**Pn**		**20 44 16.5**	**-0.4**
	20nm,0.3s,baz=135,slow=4.7,SNR=260							
KDAK				Sn	**Sn**		**20 44 44.1**	**-2.6**
	26nm,0.3s,baz=82,slow=23,SNR=4.4							
	44nm,0.3s							
OHAK	**Old Harbor**	**2.60**	**285**	Pn	**Pn**		**20 44 18.3**	**-1.1**
OHAK	**Old Harbor**	**2.60**	**285**		**Sn**		**20 44 46.8**	**-4.2**
OHAK	**Old Harbor**	**2.60**	**285**	P	**Pn**		**20 44 18.5**	**-0.9**
OHAK	**Old Harbor**	**2.60**	**285**	P	**Pn**		**20 44 18.3**	**-1.1**
	baz=105							
OHAK				S	**Sn**		**20 44 47.2**	**-3.9**
	baz=105							
SII	**Sitkinak Islan**	**3.05**	**271**		**Pn**		**20 44 24.3**	**-1.2**
SII					**Sn**		**20 44 58.1**	**-4.1**
SII	**Sitkinak Islan**	**3.05**	**271**	IAML			20 45 05.8	
	comp=N,402nm,0.8s							
SII				IAML			20 45 09.4	
	comp=E,407nm,0.8s							
SII	**Sitkinak Islan**	**3.05**	**271**	P	**Pn**		**20 44 24.4**	**-1.2**
MID	**Middleton Isla**	**3.08**	**23**		**Pn**		**20 44 25.6**	**-0.4**
MID	**Middleton Isla**	**3.08**	**23**	IAML			20 45 18.8	
	comp=E,296nm,2.0s							
MID	**Middleton Isla**	**3.08**	**23**	P	**Pn**		**20 44 25.9**	**0.0**
CNPM	**China Poot**	**3.22**	**336**	Pn	**Pn**		**20 44 28.2**	**+0.3**
CNPM	**China Poot**	**3.22**	**336**		**Sn**		**20 45 04.5**	**-1.8**
CNPM	**China Poot**	**3.22**	**336**	IAML			20 45 11.3	
	comp=E,260nm,0.7s							
CNPM				IAML			20 45 11.9	
	comp=N,182nm,0.9s							
BRSE	**Bradley Lake S**	**3.32**	**342**		**Pn**		**20 44 29.0**	**-0.3**
BRSE					**Sn**		**20 45 06.2**	**-2.6**
BRSE	**Bradley Lake S**	**3.32**	**342**	P	**Pn**		**20 44 29.0**	**-0.3**
	baz=160							
BRSE				S	**Sn**		**20 45 07.7**	**-1.0**
	baz=160							
BRLK	**Bradley Lake**	**3.37**	**341**	Pn	**Pn**		**20 44 29.8**	**-0.1**
BRLK	**Bradley Lake**	**3.37**	**341**		**Sn**		**20 45 07.3**	**-2.7**
P23K	**Montague Islan**	**3.46**	**11**		**Pn**		**20 44 30.8**	**-0.3**
P23K					**Sn**		**20 45 09.8**	**-2.3**
P23K	**Montague Islan**	**3.46**	**11**	P	**Pn**		**20 44 30.8**	**-0.3**
	baz=191							
P23K				S	**Sn**		**20 45 09.8**	**-2.3**
	baz=191							
SEW	**Seward**	**3.52**	**354**		**Pn**		**20 44 31.6**	**-0.4**
SEW					**Sn**		**20 45 10.8**	**-2.8**
SEW	**Seward**	**3.52**	**354**	P	**Pn**		**20 44 31.6**	**-0.4**
	baz=173							
SEW				S	**Sn**		**20 45 10.8**	**-2.8**
	baz=173							
AUL	**Augustine Lava**	**3.76**	**320**		**Pn**		**20 44 36.2**	**+0.9**
KAKN	**Katmai Knife C**	**3.84**	**299**		**Pn**		**20 44 37.0**	**+0.5**
O22K	**Cooper Landing**	**3.92**	**352**		**Pn**		**20 44 37.5**	**+0.1**
O22K	**Cooper Landing**	**3.92**	**352**	P	**Pn**		**20 44 37.4**	**+0.1**
	baz=172							
ACHA	**Angle Creek He**	**3.94**	**297**		**Pn**		**20 44 38.9**	**+1.0**
HIN	**Hinchinbrook I**	**3.96**	**16**		**Pn**		**20 44 38.2**	**+0.2**
HIN				IAML			20 45 25.3	
	comp=E,221nm,1.0s							
HIN				IAML			20 45 26.2	
	comp=N,237nm,0.7s							
CHIR	**Chirikof Islan**	**3.96**	**261**		**Pn**		**20 44 36.6**	**-1.5**
CHIR	**Chirikof Islan**	**3.96**	**261**	IAML			20 45 21.8	
	comp=E,214nm,0.7s							
CHIR				IAML			20 45 22.8	
	comp=N,216nm,1.2s							
CHIR	**Chirikof Islan**	**3.96**	**261**	P	**Pn**		**20 44 36.6**	**-1.5**
	baz=78							
SLKM	**Skilak Lake**	**3.99**	**349**		**Pn**		**20 44 38.5**	**0.0**
KAIM	**Kayak Island**	**4.01**	**32**	Pn	**Pn**		**20 44 39.1**	**+0.5**
KAIM				IAML			20 45 39.9	
	comp=N,250nm,0.6s							
KAIM				IAML			20 45 45.1	
	comp=E,243nm,0.7s							
KAIM	**Kayak Island**	**4.01**	**32**	P	**Pn**		**20 44 38.9**	**+0.2**
	baz=214							
ANCK	**Angle Creek**	**4.02**	**296**		**Pn**		**20 44 40.0**	**+1.1**
O20K	**Slope Mountain**	**4.05**	**331**		**Pn**		**20 44 39.5**	**+0.1**
O20K	**Slope Mountain**	**4.05**	**331**	P	**Pn**		**20 44 39.5**	**+0.1**
	baz=149							
ILSW	**Iliamna Southw**	**4.12**	**327**		**Pn**		**20 44 40.4**	**0.0**
ILSW				IAML			20 45 30.9	
	comp=N,184nm,0.6s							
ILSW				IAML			20 45 33.1	
	comp=E,229nm,0.8s							
EYAK	**Cordova Ski Ar**	**4.23**	**20**	P	**Pn**		**20 44 42.2**	**+0.5**
EYAK	**Cordova Ski Ar**	**4.23**	**20**	P	**Pn**		**20 44 42.1**	**+0.4**
	baz=202							
CNTC	**Contact Creek**	**4.23**	**296**		**Pn**		**20 44 42.1**	**+0.2**
Q17K	**Contact Creek**	**4.24**	**296**	P	**Pn**		**20 44 42.1**	**+0.2**
	baz=112							
SUCK	**Suckling Hills**	**4.32**	**35**		**Pn**		**20 44 43.5**	**+0.5**
SUCK				IAML			20 45 41.3	
	comp=N,240nm,0.7s							
SUCK				IAML			20 45 47.6	
	comp=E,235nm,0.7s							
RAGM	**Ragged Mountai**	**4.32**	**27**		**Pn**		**20 44 43.2**	**+0.2**
RAGM				IAML			20 45 39.4	
	comp=E,271nm,1.0s							
CAPN	**Captain Cook N**	**4.36**	**344**		**Pn**		**20 44 44.7**	**+1.2**
CAPN	**Captain Cook N**	**4.36**	**344**	P	**Pn**		**20 44 44.7**	**+1.2**
	baz=162							
HMT	**Hamilton**	**4.39**	**30**		**Pn**		**20 44 44.7**	**+0.7**
NICHA	**Nichawak Mount**	**4.39**	**32**		**Pn**		**20 44 45.5**	**+0.6**
RDSO	**Redoubt South**	**4.40**	**333**		**Pn**		**20 44 43.9**	**-0.4**
RSO	**Redoubt South**	**4.41**	**333**		**Pn**		**20 44 44.3**	**-0.1**
RDWB	**Redoubt West**	**4.45**	**332**		**Pn**		**20 44 44.5**	**-0.5**
P18K	**Big Mountain,**	**4.46**	**311**		**Pn**		**20 44 45.0**	**0.0**
P18K	**Big Mountain,**	**4.46**	**311**	P	**Pn**		**20 44 44.6**	**-0.3**
	baz=127							
GOAT	**Goat Mountain**	**4.48**	**26**		**Pn**		**20 44 45.6**	**+0.4**
DFR	**Drift River**	**4.50**	**334**		**Pn**		**20 44 45.2**	**-0.5**
BGLC	**Bering Glacier**	**4.51**	**37**		**Pn**		**20 44 46.1**	**+0.5**
BGLC	**Bering Glacier**	**4.51**	**37**	P	**Pn**		**20 44 46.1**	**+0.5**
	baz=220							
RC01	**Rabbit Creek A**	**4.52**	**353**	Pn	**Pn**		**20 44 46.1**	**+0.4**
RC01				IAML			20 45 39.6	
	comp=E,220nm,0.5s							
RC01				IAML			20 45 39.6	
	comp=N,208nm,0.4s							
RC01	**Rabbit Creek A**	**4.52**	**353**	P	**Pn**		**20 44 45.9**	**+0.2**
	baz=173							
NCT	**North Crescent**	**4.54**	**332**		**Pn**		**20 44 45.9**	**-0.2**
BERG	**Berg Lake**	**4.59**	**32**		**Pn**		**20 44 47.0**	**+0.2**
FIS	**Fire Island**	**4.61**	**351**		**Pn**		**20 44 48.2**	**+1.2**
GRIN	**Grindle Hills**	**4.62**	**35**		**Pn**		**20 44 47.9**	**+0.7**
O19K	**Port Alsworth**	**4.66**	**323**		**Pn**		**20 44 47.2**	**-0.3**
O19K	**Port Alsworth**	**4.66**	**323**	P	**Pn**		**20 44 47.2**	**-0.3**
	baz=139							
SNH	**Sunshine Point**	**4.71**	**38**		**Pn**		**20 44 48.6**	**+0.3**
SNH	**Sunshine Point**	**4.71**	**38**	IAML			20 45 45.8	
	comp=E,142nm,1.6s							
SNH				IAML			20 46 49.8	
	comp=N,186nm,2.0s							
O18K	**Koktuh Hills**	**4.74**	**316**		**Pn**		**20 44 48.6**	**-0.2**
O18K	**Koktuh Hills**	**4.74**	**316**	P	**Pn**		**20 44 48.6**	**-0.2**
	baz=132							
DIV	**Divide**	**4.77**	**17**		**Pn**		**20 44 49.6**	**+0.4**
KHIT	**Khitrov Hills**	**4.77**	**34**		**Pn**		**20 44 49.4**	**+0.1**
KNK	**Knik Glacier**	**4.81**	**1**		**Pn**		**20 44 50.1**	**+0.3**
KNK				IAML			20 45 56.0	
	comp=E,92nm,0.7s							
KNK	**Knik Glacier**	**4.81**	**1**	P	**Pn**		**20 44 49.8**	**0.0**
	baz=181							
BMRM	**Bremner River**	**4.85**	**24**	P	**Pn**		**20 44 50.7**	**+0.4**
	baz=207							
P17K	**Kvichak River**	**4.88**	**305**		**Pn**		**20 44 50.6**	**-0.1**
P17K	**Kvichak River**	**4.88**	**305**	P	**Pn**		**20 44 50.6**	**-0.1**
	baz=120							
WAX	**Waxell Ridge**	**4.90**	**36**		**Pn**		**20 44 51.4**	**+0.3**
N20K	**Mount Spurr**	**4.95**	**340**	P	**Pn**		**20 44 51.3**	**-0.3**
	baz=157							
SPCR	**Spurr Chakacha**	**4.95**	**340**		**Pn**		**20 44 51.4**	**-0.3**
SPCN	**Chakachatna No**	**4.97**	**340**		**Pn**		**20 44 52.8**	**+0.9**
SUA	**Susitna One**	**4.98**	**348**	Pn	**Pn**		**20 44 52.2**	**0.0**
SUA				IAML			20 45 56.7	
	comp=N,66nm,0.9s							
SUA	**Susitna One**	**4.98**	**348**	P	**Pn**		**20 44 52.1**	**0.0**
	baz=167							
BARK	**Barkley Ridge**	**4.99**	**38**		**Pn**		**20 44 52.6**	**+0.4**
PMR	**Palmer**	**5.00**	**357**	Pn	**Pn**		**20 44 52.4**	**+0.2**
PMR				IAML			20 45 49.0	
	comp=N,66nm,0.4s							
PMR				IAML			20 45 49.5	
	comp=E,71nm,0.8s							
PMR	**Palmer**	**5.00**	**357**	P	**Pn**		**20 44 53.1**	**+0.9**
PMR	**Palmer**	**5.00**	**357**	P	**Pn**		**20 44 52.5**	**+0.2**
	baz=177							
SPCP	**Crater Peak Br**	**5.00**	**340**		**Pn**		**20 44 52.8**	**+0.4**
MESA	**MESA**	**5.02**	**42**		**Pn**		**20 44 52.9**	**+0.1**
MESA	**MESA**	**5.02**	**42**	IAML			20 45 52.8	
	comp=E,112nm,2.1s							
MESA				IAML			20 46 00.4	
	comp=N,136nm,0.8s							
MESA	**MESA**	**5.02**	**42**	P	**Pn**		**20 44 52.9**	**+0.1**
	baz=226							
CRQM	**Cirque**	**5.05**	**32**		**Pn**		**20 44 53.5**	**+0.3**
CRQM				IAML			20 45 56.0	
	comp=E,140nm,0.9s							
CRQM				IAML			20 45 57.8	
	comp=N,147nm,0.7s							
CRQE	**Cirque**	**5.06**	**33**	P	**Pn**		**20 44 53.5**	**+0.2**
	baz=216							
KLU	**Klutina**	**5.09**	**15**		**Pn**		**20 44 54.2**	**+0.6**
KLU				IAML			20 45 59.3	
	comp=N,81nm,0.7s							
KLU	**Klutina**	**5.09**	**15**	P	**Pn**		**20 44 54.1**	**+0.4**
	baz=197							
TGL	**Tana Glacier**	**5.15**	**34**		**Pn**		**20 44 55.0**	**+0.6**
TGL				IAML			20 45 52.0	
	comp=E,110nm,0.6s							
TGL				IAML			20 45 55.8	
	comp=N,63nm,0.4s							
GHO	**Glory Hole Cre**	**5.17**	**359**		**Pn**		**20 44 55.3**	**+0.5**
N19K	**Bonanza Creek**	**5.18**	**327**		**Pn**		**20 44 54.9**	**-0.1**
N19K				IAML			20 46 01.1	
	comp=E,61nm,1.0s							
N19K	**Bonanza Creek**	**5.18**	**327**	P	**Pn**		**20 44 54.8**	**-0.1**
	baz=143							
ISLE	**Juniper Island**	**5.19**	**37**		**Pn**		**20 44 55.3**	**+0.3**
ISLE	**Juniper Island**	**5.19**	**37**	IAML			20 45 53.1	
	comp=N,81nm,1.0s							
BAGL	**Bagley Icefiel**	**5.19**	**39**		**Pn**		**20 44 55.1**	**+0.3**
SPNN	**North Nagishla**	**5.20**	**338**		**Pn**		**20 44 55.7**	**+0.5**
SML	**Sawmill**	**5.21**	**2**	Pn	**Pn**		**20 44 56.1**	**+0.9**
SML				IAML			20 45 59.7	
	comp=E,137nm,0.5s							
SML				IAML			20 46 00.6	
	comp=N,93nm,0.6s							
SML	**Sawmill**	**5.21**	**2**	P	**Pn**		**20 44 56.0**	**+0.8**
	baz=182							
M23K	**Glacier View**	**5.21**	**5**		**Pn**		**20 44 56.3**	**+1.0**
M23K	**Glacier View**	**5.21**	**5**	P	**Pn**		**20 44 56.3**	**+1.0**
	baz=185							
SCM	**Sheep Creek Mo**	**5.28**	**7**		**Pn**		**20 44 57.1**	**+0.9**
SCM	**Sheep Creek Mo**	**5.28**	**7**	P	**Pn**		**20 44 56.9**	**+0.7**
	baz=188							
VRDI	**Verde Repeater**	**5.35**	**28**	Pn	**Pn**		**20 44 57.7**	**+0.3**
CHGN	**Chignik**	**5.42**	**271**	Pn	**Pn**		**20 44 57.1**	**-0.9**
CHGN	**Chignik**	**5.42**	**271**	P	**Pn**		**20 44 57.2**	**-0.8**
	baz=84							
N25K	**Chitina, Valde**	**5.42**	**21**		**Pn**		**20 44 58.8**	**+0.6**
N25K	**Chitina, Valde**	**5.42**	**21**	P	**Pn**		**20 44 58.8**	**+0.6**
	baz=204							
SAMH	**Samovar Hills**	**5.44**	**46**		**Pn**		**20 44 59.2**	**+0.7**
GLB	**Gilahina Butte**	**5.45**	**25**		**Pn**		**20 44 58.9**	**+0.3**
O17K	**Koliganek Bris**	**5.46**	**309**	P	**Pn**		**20 44 58.7**	**0.0**
	baz=123							
GRNC	**Granite Creek**	**5.48**	**38**		**Pn**		**20 44 59.5**	**+0.4**
TABL	**Table Mountain**	**5.50**	**43**		**Pn**		**20 44 59.7**	**+0.3**
P16K	**Nushagak River**	**5.54**	**300**		**Pn**		**20 45 00.3**	**+0.6**
P16K	**Nushagak River**	**5.54**	**300**	P	**Pn**		**20 45 00.3**	**+0.6**
	baz=113							
N18K	**Kilae Creek**	**5.55**	**320**		**Pn**		**20 44 59.5**	**-0.3**
N18K	**Kilae Creek**	**5.55**	**320**	P	**Pn**		**20 44 59.5**	**-0.3**
	baz=135							
SKT	**Skwentna**	**5.58**	**346**		**Pn**		**20 44 59.9**	**-0.3**
SKT	**Skwentna**	**5.58**	**346**	P	**Pn**		**20 45 00.6**	**+0.4**
	baz=164							
MCARA	**McCarthy VSAT**	**5.60**	**29**		**Pn**		**20 45 01.0**	**+0.5**
MCARA	**McCarthy VSAT**	**5.60**	**29**	P	**Pn**		**20 45 01.0**	**+0.5**
	baz=213							
PCA	**Pinnacle**	**5.64**	**48**		**Pn**		**20 45 01.2**	**+0.1**
PINM	**Pinnacle**	**5.64**	**48**	P	**Pn**		**20 45 01.2**	**+0.1**
	baz=234							
M24K	**Tolsona, Glenn**	**5.65**	**12**		**Pn**		**20 45 02.3**	**+1.0**
M24K	**Tolsona, Glenn**	**5.65**	**12**	P	**Pn**		**20 45 02.3**	**+1.0**
	baz=194							
SVW2	**Sparrevohn**	**5.75**	**324**	Pn	**Pn**		**20 45 02.3**	**-0.3**
SVW2	**Sparrevohn**	**5.75**	**324**	P	**Pn**		**20 45 02.4**	**-0.2**
BARN	**Barnard Glacie**	**5.75**	**36**		**Pn**		**20 45 03.4**	**+0.6**
M20K	**Styx River**	**5.75**	**338**		**Pn**		**20 45 03.0**	**+0.2**
M20K	**Styx River**	**5.75**	**338**	P	**Pn**		**20 45 03.0**	**+0.2**
	baz=155							
PNL	**Peninsula**	**5.78**	**54**		**Pn**		**20 45 03.3**	**+0.2**
PNL	**Peninsula**	**5.78**	**54**	P	**Pn**		**20 45 03.8**	**+0.7**
PNL	**Peninsula**	**5.78**	**54**	P	**Pn**		**20 45 03.3**	**+0.2**
	baz=241							
CTG	**Chitna Glacier**	**5.79**	**38**	P	**Pn**		**20 45 03.2**	**-0.1**
	baz=223							
CTGM	**Chitina Glacie**	**5.79**	**38**		**Pn**		**20 45 03.2**	**-0.1**
LOGN	**Logan Glacier**	**5.81**	**40**		**Pn**		**20 45 03.8**	**+0.3**
O16K	**Kokwok River B**	**5.82**	**305**		**Pn**		**20 45 03.6**	**0.0**
O16K	**Kokwok River B**	**5.82**	**305**	P	**Pn**		**20 45 03.6**	**0.0**
	baz=118							
BCPM	**Bancas Point**	**5.82**	**51**		**Pn**		**20 45 04.1**	**+0.5**
WACK	**Wrangell Chich**	**5.83**	**21**		**Pn**		**20 45 04.5**	**+0.6**
N17K	**Nushagak Hills**	**5.93**	**315**		**Pn**		**20 45 05.3**	**+0.2**
N17K	**Nushagak Hills**	**5.93**	**315**	P	**Pn**		**20 45 05.3**	**+0.2**
	baz=129							
WAT6	**Susitna Watana**	**6.00**	**4**	P	**Pn**		**20 45 07.1**	**+0.9**
	baz=185							
S14K	**Fog Glacier**	**6.05**	**271**	P	**Pn**		**20 45 06.5**	**-0.3**
	baz=84							
VNFG	**Fog Glacier, M**	**6.05**	**271**		**Pn**		**20 45 06.5**	**-0.3**
HARP	**HAARP**	**6.07**	**16**		**Pn**		**20 45 08.0**	**+1.0**
HARP	**HAARP**	**6.07**	**16**	P	**Pn**		**20 45 08.0**	**+1.0**
	baz=198							
M18K	**Stony River**	**6.12**	**326**		**Pn**		**20 45 07.3**	**-0.4**
M18K	**Stony River**	**6.12**	**326**	P	**Pn**		**20 45 07.3**	**-0.4**
	baz=141							
WAT1	**Susitna Watana**	**6.23**	**0**		**Pn**		**20 45 10.2**	**+1.0**
WAT1	**Susitna Watana**	**6.23**	**0**	P	**Pn**		**20 45 10.2**	**+1.0**
	baz=180							
WAT7	**Susitna Watana**	**6.24**	**359**		**Pn**		**20 45 10.3**	**+1.0**
L19K	**White Mountain**	**6.41**	**333**		**Pn**		**20 45 11.2**	**-0.5**
L19K	**White Mountain**	**6.41**	**333**	P	**Pn**		**20 45 11.2**	**-0.5**
	baz=148							
CHNA	**Chernabura Isl**	**6.42**	**258**	P	**Pn**		**20 45 11.0**	**-0.9**
	baz=

M17K	Holitna River	6.59	320	P		Pn	20 45 14.1	-0.1
	baz=134							
M27K	Edge Creek, AK	6.71	28			Pn	20 45 16.7	+0.8
M27K	Edge Creek, AK	6.71	28	P		Pn	20 45 16.7	+0.8
	baz=213							
SDPT	Sand Point	6.75	264			Pn	20 45 16.0	-0.3
SDPT	Sand Point	6.75	264	P		Pn	20 45 16.2	-0.1
SDPT	Sand Point	6.75	264	P		Pn	20 45 15.6	-0.7
	baz=76							
YUK7	Dusty Glacier	6.76	50			Pn	20 45 17.6	+0.9
RND	Reindeer	6.81	359			Pn	20 45 18.7	+1.4
S31K	Pelican	6.88	74			Pn	20 45 15.5	-2.5
YUK6	Outpost Mounta	6.89	47			Pn	20 45 19.4	+1.0
YUK6	Outpost Mounta	6.89	47	P		Pn	20 45 19.4	+1.0
	baz=234							
TRF	Thorofare Moun	6.90	354			Pn	20 45 19.7	+1.1
TRF	Thorofare Moun	6.90	354	P		Pn	20 45 19.7	+1.1
	baz=173							
M16K	Timber Creek	6.93	314			Pn	20 45 19.4	+0.6
M16K	Timber Creek	6.93	314	P		Pn	20 45 19.4	+0.6
	baz=126							
L18K	Granite Mounta	6.95	327			Pn	20 45 18.5	-0.5
L18K	Granite Mounta	6.95	327	P		Pn	20 45 18.5	-0.5
	baz=141							
N15K	Kwethluk River	6.98	305			Pn	20 45 19.9	+0.5
N15K	Kwethluk River	6.98	305	P		Pn	20 45 19.9	+0.5
	baz=117							
CAST	Castle Rocks	7.03	347			Pn	20 45 21.1	+0.8
CAST	Castle Rocks	7.03	347	P		Pn	20 45 20.9	+0.7
	baz=165							
BVCY	Beaver Creek	7.04	31			Pn	20 45 21.2	+0.9
BVCY	Beaver Creek	7.04	31	P		Pn	20 45 21.2	+0.9
	baz=217							
KTH	Kantishna Hill	7.05	352			Pn	20 45 21.1	+0.6
P30M	Million Dollar	7.09	55			Pn	20 45 21.8	+0.8
P30M	Million Dollar	7.09	55	P		Pn	20 45 21.8	+0.8
	baz=244							
MCK	McKinley	7.14	359			Pn	20 45 22.9	+1.2
MCK	McKinley	7.14	359	P		Pn	20 45 22.9	+1.2
	baz=179							
HYT	Haines Junctio	7.18	49	Pn		Pn	20 45 23.2	+0.9
O14K	Tigyukauivet M	7.21	297			Pn	20 45 22.9	+0.3
O14K	Tigyukauivet M	7.21	297	P		Pn	20 45 22.9	+0.3
	baz=107							
K20K	Telida	7.28	340			Pn	20 45 23.8	+0.2
K20K	Telida	7.28	340	P		Pn	20 45 23.8	+0.2
	baz=156							
L27K	Beaver Creek,	7.32	25			Pn	20 45 24.8	+0.6
L27K	Beaver Creek,	7.32	25	P		Pn	20 45 24.8	+0.6
	baz=210							
TTA	Tatalina	7.33	333			Pn	20 45 24.3	-0.1
TTA	Tatalina	7.33	333	P		Pn	20 45 24.6	+0.2
TTA	Tatalina	7.33	333	P		Pn	20 45 24.3	-0.1
	baz=147							
BCAR	Beaver Creek A	7.33	25	Pn		Pn	20 45 25.0	+0.6
SIT	Sitka	7.33	81			Pn	20 45 21.1	-3.2
L17K	Donlin	7.40	322			Pn	20 45 25.2	0.0
L17K	Donlin	7.40	322	P		Pn	20 45 25.2	0.0
	baz=135							
PS1A	Pavlof South-1	7.43	266			Pn	20 45 25.4	-0.2
M15K	Kasigluk River	7.48	308			Pn	20 45 27.0	+0.7
M15K	Kasigluk River	7.48	308	P		Pn	20 45 27.0	+0.7
	baz=119							
PS4A	Pavlof South-4	7.51	266			Pn	20 45 26.1	-0.6
L16K	Owhat River	7.54	317	Pn		Pn	20 45 27.9	+0.8
L16K	Owhat River	7.54	317	P		Pn	20 45 27.6	+0.5
	baz=129							
BPAW	Bear Paw Mtn.	7.59	352			Pn	20 45 27.9	0.0
BPAW	Bear Paw Mtn.	7.59	352	P		Pn	20 45 27.9	0.0
	baz=170							
N14K	Kuskokwak Cree	7.62	301			Pn	20 45 28.7	+0.5
N14K	Kuskokwak Cree	7.62	301	P		Pn	20 45 28.7	+0.5
	baz=111							
SKAG	Skagway	7.63	63			Pn	20 45 28.7	+0.3
SKAG	Skagway	7.63	63	P		Pn	20 45 29.3	+0.9
BESE	Bessie Mountai	7.68	69			Pn	20 45 29.0	-0.2
N30M	Aishikik Lake	7.69	46			Pn	20 45 29.9	+0.6
N30M	Aishikik Lake	7.69	46	P		Pn	20 45 29.9	+0.6
	baz=235							
S32K	Killisnoo	7.74	78			Pn	20 45 28.1	-1.7
S32K	Killisnoo	7.74	78	P		Pn	20 45 28.1	-1.7
	baz=268							
SCRK	Sand Creek	7.74	16			Pn	20 45 30.8	+0.8
SCRK	Sand Creek	7.74	16	P		Pn	20 45 30.8	+0.8
	baz=199							
O30N	Mendenhall	7.76	52			Pn	20 45 28.6	-1.6
M29M	Somme Creek	7.81	37			Pn	20 45 31.6	+0.7
M29M	Somme Creek	7.81	37	P		Pn	20 45 31.6	+0.7
	baz=225							
R32K	Eaglecrest	7.81	72			Pn	20 45 30.9	0.0
K17K	Iditarod	7.81	325	P		Pn	20 45 30.7	-0.2
	baz=138							
HDA	Harding Lake	7.86	5			Pn	20 45 32.2	+0.6
HDA	Harding Lake	7.86	5	P		Pn	20 45 32.2	+0.6
	baz=187							
JIS	Juneau Island	7.88	72			Pn	20 45 31.3	-0.5
JIS	Juneau Island	7.88	72	P		Pn	20 45 31.8	0.0
WRH	Wood River Hil	7.89	2			Pn	20 45 32.6	+0.7
J18K	Innoko River	7.96	333			Pn	20 45 33.0	+0.1
J18K	Innoko River	7.96	333	P		Pn	20 45 33.0	+0.1
	baz=146							
NEA2	Nenana	8.01	359	P		Pn	20 45 33.9	+0.4
	baz=178							
J20K	Nowinta River	8.05	343			Pn	20 45 35.0	+0.8
CCB	Clear Creek Bu	8.07	3			Pn	20 45 34.6	+0.2
J19K	Poorman	8.16	338	Pn		Pn	20 45 35.7	0.0
ILAR	Eielson Array	8.23	5	Pn		Pn	20 45 33.8	-2.8
	comp=N,1.0nm,0.3s,baz=191,slow=13,SNR=26							
ILAR					Sn	Sn	20 47 03.3	-6.2
	comp=N,1.1nm,0.3s,baz=186,slow=22,SNR=8.9							
	comp=N,0.8nm,0.3s							
WHY	Whitehorse	8.25	55	Pn		Pn	20 45 36.5	-0.4
COLA	College	8.29	2			Pn	20 45 38.3	+0.9
L29M	L29M	8.39	35			Pn	20 45 39.5	+0.7
L29M	L29M	8.39	35	P		Pn	20 45 39.5	+0.7
	baz=223							
P32M	Atlin	8.46	63	P		Pn	20 45 39.9	+0.1
	baz=255							
M30M	Minto, Yukon	8.47	40	P		Pn	20 45 40.9	+0.9
	baz=230							
MLY	Manley	8.50	354	P		Pn	20 45 41.1	+0.7
	baz=172							
FALS	False Pass	8.51	264	P		Pn	20 45 40.2	-0.2
I23K	Minto, Yukon-K	8.57	358	P		Pn	20 45 41.9	+0.7
	baz=177							
U33K	Whale Pass	8.65	87			Pn	20 45 38.9	-3.4
I21K	Tanana	8.74	351	P		Pn	20 45 44.7	+1.1
	baz=168							
EGAK	Eagle	8.97	21			Pn	20 45 46.9	+0.2
EGAK	Eagle	8.97	21	P		Pn	20 45 46.9	+0.2
	baz=207							
P33M	Teslin, Yukon	9.06	60			Pn	20 45 48.3	+0.2
P33M	Teslin, Yukon	9.06	60	P		Pn	20 45 48.5	+0.5
	baz=252							
WESE	West Dahl East	9.28	263			Pn	20 45 50.1	-0.9
IMAR	Indian Mountai	9.71	348	Pn		Pn	20 45 56.9	+0.1
J30M	Hart River	10.01	32			Pn	20 46 02.5	+1.4
G23K	Bananza Creek	10.15	357			Pn	20 46 03.6	+0.7
DLBC	Dease Lake	10.19	72			Pn	20 46 03.7	+0.2
DLBC	Dease Lake	10.19	72	Pn		Pn	20 46 04.0	+0.5
	comp=N,1.4nm,0.3s,baz=227,slow=11,SNR=21							
DLBC					Sn	Sn	20 47 55.9	-1.7
	comp=N,0.9nm,0.3s,baz=203,slow=26,SNR=2.8							
	comp=N,2.6nm,0.3s							
G21K	Allakaket	10.19	349			Pn	20 46 03.6	+0.1
I30M	Mount Dempster	10.48	30	Pn		Pn	20 46 09.8	+2.2
UNV	Unalaska Valle	10.55	262	P		Pn	20 46 07.7	-0.7
	comp=N,31nm,2.0s							
MMPY	Sheldon Lake,	10.65	48			Pn	20 46 10.6	+0.8
F24K	Squaw Lake	10.95	2			Pn	20 46 15.5	+1.7
F20K	Avaraart Lake	10.97	345			Pn	20 46 14.2	+0.1
BMAR	Burnt Mountain	11.02	8	Pn		Pn	20 46 15.8	+1.0
INK	Inuvik	13.60	24	Pn		Pn	20 46 51.1	+1.2
	comp=N,0.1nm,0.3s,baz=210,slow=15,SNR=7.0							
	comp=N,3.0nm,0.8s							
B20K	Meade River	13.95	348	Pn		Pn	20 46 54.9	+0.2
C36M	Paulatuk	16.78	31	Pn		Pn	20 47 30.2	-1.8
C36M				IAmb		IAmb	20 47 36.5	
	comp=Z,16nm,1.4s							
YKA	Yellowknife Ar	18.07	57	P		P	20 47 49.6	+1.0
	comp=Z,0.1nm,0.3s,baz=267,slow=12,SNR=12							
	comp=Z,1.3nm,0.8s							
A36M	Sachs Harbour	18.24	23	P		Pn	20 47 48.9	-1.2
A36M				IAmb		IAmb	20 48 03.0	
	comp=Z,10nm,0.8s							

NEW	Newport	20.81	100	P		P	20 48 13.9	-4.7
NEW				IAmb		IAmb	20 48 36.4	
	comp=Z,7.3nm,1.2s							
NEW	Newport	20.81	100	P		Pn	20 48 22.6	+1.6
	comp=Z,0.3nm,0.3s,baz=317,slow=12,SNR=2.1							
	comp=Z,0.3nm,0.3s							
NVAR	Mina Array Bea	27.07	119	P		P	20 49 23.3	+3.3
	comp=Z,0.2nm,0.3s,baz=315,slow=8.9,SNR=2.5							
	comp=Z,0.2nm,0.3s							
H11N2	WAKE ISLAND Hy	49.35	240	T		T	21 46 11.9	
	baz=30,slow=76,SNR=11							
H11N3	WAKE ISLAND Hy	49.35	240	T		T	21 46 10.9	
	baz=30,slow=76,SNR=12							
H11N1	WAKE ISLAND Hy	49.36	240	T		T	21 46 12.1	
	baz=30,slow=76,SNR=11							
H11S1	WAKE ISLAND Hy	50.49	240	T		T	21 47 54.0	
	baz=29,slow=76,SNR=22							
H11S2	WAKE ISLAND Hy	50.50	240	T		T	21 47 51.7	
	baz=29,slow=76,SNR=10							
H11S3	WAKE ISLAND Hy	50.51	240	T		T	21 47 55.3	
	baz=29,slow=76,SNR=14							
ARCES	ARCESS Array B	54.08	3	P		P	20 53 02.1	+0.7
	comp=Z,2.4nm,0.9s,baz=11,slow=6.8,SNR=4.4							
	comp=Z,2.4nm,0.9s							
SONM	Songino Array	58.68	310	P		P	20 53 37.4	+2.7
	comp=Z,0.9nm,0.9s,baz=16,slow=4.6,SNR=4.9							
	comp=Z,0.9nm,0.9s							
ZALV	Zalesovo Beam	61.46	327	P		P	20 53 55.6	+2.1
	comp=Z,0.6nm,0.5s,baz=36,slow=7.5,SNR=2.6							
	comp=Z,0.6nm,0.5s							
NOA	NORSAR Array B	61.62	11	P		P	20 53 55.1	+0.6
	comp=Z,0.6nm,0.8s,baz=348,slow=6.7,SNR=2.4							
	comp=Z,0.6nm,0.8s							
FINES	FINESS Array B	62.20	3	P		P	20 53 59.9	+1.5
	comp=Z,1.6nm,0.7s,baz=7.5,slow=8.5,SNR=12							
	comp=Z,1.6nm,0.7s							
BVAR	Borovoye Array	66.12	335	P		P	20 54 25.7	+1.5
	comp=Z,1.3nm,0.6s,baz=23,slow=8.0,SNR=3.7							
	comp=Z,1.3nm,0.6s							
KURBB	Kurchatov Arra	66.22	329	P		P	20 54 25.5	+0.6
	comp=Z,1.7nm,0.2s,baz=46,slow=2.7,SNR=2.0							
	comp=Z,1.7nm,0.2s							
MKAR	Makanchi Array	68.52	325	P		P	20 54 39.8	+0.3
	comp=Z,0.3nm,0.5s,baz=31,slow=6.5,SNR=4.7							
	comp=Z,0.3nm,0.5s							
AKASG	Malin Array Be	73.03	1	P		P	20 55 07.9	+1.1
	comp=Z,0.2nm,0.3s,baz=3.0,slow=6.6,SNR=4.0							
	comp=Z,0.2nm,0.3s							
PZH	PanZhiHua	78.24	300	P		P	20 55 36.0	-1.3
PZH				pmax		pmax		
	comp=Z,10.0nm,0.7s							
ESDC	Sonseca Array	79.53	27	P		P	20 55 46.0	+1.9
	comp=Z,0.9nm,0.8s,baz=359,slow=6.5,SNR=4.7							
	comp=Z,0.9nm,0.8s							
BRTR	Keskin Array B	84.00	358	P		P	20 56 09.1	+1.3
	comp=Z,0.8nm,0.8s,baz=360,slow=5.7,SNR=3.0							
	comp=Z,0.8nm,0.8s							
QSPA	South Pole Qui	146.41	180	PKPbc		PKiKP	21 03 18.2	-1.7
	comp=Z,2.8nm,0.9s,baz=112,slow=2.8,SNR=5.2							

IDC 04 20:44:12.8±1.4, 6.08°S×142.63°E, h0km, mb3.8/2, mbtmp3.8/5, ML3.3/1, MS4.4/1, Error ellipse: s-maj=32.3km s-min=24.5km az=95.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.57	127	Pn	Pn	Pn	20 45 37.8	+0.7
	6.8nm,0.7s,baz=338,slow=13,SNR=1.2							
PMG					Sn	Sn	20 46 41.8	-0.1
	1.5nm,0.3s,baz=246,slow=20,SNR=5.9							
WRA	Warramunga Arr	15.96	210	Pn		Pn	20 47 56.8	-2.1
	0.1nm,0.3s,baz=27,slow=13,SNR=1.7							
WRA					Lg	Lg	20 52 40.0	
	0.1nm,0.3s,baz=30,slow=29,SNR=1.4							
	1.6nm,0.7s							
ASAR	Alice Springs	19.39	205	P		Pn	20 48 41.5	-0.2
	1.6nm,0.5s,baz=29,slow=12,SNR=4.2							
ASAR					Lg	Lg	20 54 28.2	
	0.1nm,0.3s,baz=32,slow=33,SNR=1.8							
RAO	Raoul Island	43.77	127	LR		LR	21 08 00.9	
	comp=Z,460nm,19.5s,baz=350,slow=33							
MKAR	Makanchi Array	74.83	322	P		P	20 55 56.0	+0.7
	0.8nm,0.9s,baz=106,slow=5.1,SNR=3.6							
	0.8nm,0.9s							
ILAR	Eielson Array	87.29	24	P		P	20 57 00.2	-0.9
	0.5nm,0.8s,baz=249,slow=4.6,SNR=3.8							
	0.5nm,0.8s							

*IDC **04** 20:47:38.7±0.5, 29.74°N×142.10°E, h0km, mb4.3/26, mbtmp4.3/30, ML3.6/4, MS4.4/1, Error ellipse: s-maj=18.3km s-min=11.3km az=75.0*
*BJI **04** 20:47:40.0±0.0, 29.72°N×142.20°E, h29km, mb4.4/46, mB5.1/11, Ms4.4/7, Ms7 4.3/7*
*JMA **04** 20:47:41.5±0.2, 29.8°N±0.8°×142.2°E±°, h44km, MV4.4/39, NEAR TORISHIMA IS*
*MOS **04** 20:47:41.2±0.9, 29.72°N×142.10°E, h28km, mb4.7/37, Error ellipse: s-maj=11.6km s-min=5.1km az=122.3*
*NEIC **04** 20:47:43.4±1.8, 29.77°N±0.06°×142.1°E±0.1, h30km±5km, mb4.6/83, Error ellipse: s-maj=15.7km s-min=8.2km az=82.0*

ISC 04 20:47:42.2±0.7, 29.77°N±0.04°×142.19°E±0.07, h26km±3km, n262, σ1°59/284, mb4.5/96, MS4.4/4, 14C, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.67	180	eP		Pn	20 48 24.6	+1.0
CBIJ				eS		Sn	20 48 55.3	+0.3
JCJ	Chichijima	2.67	180	Pn		Pn	20 48 24.3	+0.8
JCJ	Chichijima	2.67	180	Pn		Pn	20 48 21.4	-2.2
	9.3nm,0.3s,baz=357,slow=19,SNR=17							
JCJ					Sn	Sn	20 48 52.0	-3.0
	65nm,0.3s,baz=273,slow=22,SNR=10							
JHH2	Haha-jima-NKT2	3.13	180	eS		Sn	20 49 08.4	+2.0
JHJ2	Mitsune	3.90	329	Pn		Pn	20 48 40.9	+0.4
JHJ2	Mitsune	3.90	329	P		Pn	20 48 40.9	+0.4
JHJ2	Mitsune	3.90	329	eP		Pn	20 48 40.6	+0.1
JHJ2				eS		Sn	20 49 23.7	-1.7
JHJ	Hachijo jima 2	3.92	329	Pn		Pn	20 48 39.6	-1.2
	20nm,0.3s,baz=40,slow=23,SNR=8.6							
JHJ					Sn	Sn	20 49 24.3	-1.7
	34nm,0.3s,baz=229,slow=23,SNR=5.9							
	100nm,0.7s							
JMKN	Mikurajimanish	4.67	332	eP		Pn	20 48 53.4	+2.4
BSO1	Boso 1	4.97	348	eP		Pn	20 48 54.4	-0.4
BSO1				eS		Sn	20 49 50.6	-0.5
BSO3	Boso 3	5.21	345	eP		Pn	20 48 58.2	0.0
BSO3				eS		Sn	20 49 58.5	+1.1
BSO4	Boso 4	5.43	344	eP		Pn	20 49 01.9	+0.4
BSO4				eS		Sn	20 50 02.8	-0.3
JOD2	Odawara 2	6.07	335	eP		Pn	20 49 11.2	+0.8
JOD2				eS		Sn	20 50 17.7	-1.3
HMMJ	Hamamatsu 2	6.33	324	eP		Pn	20 49 15.1	+1.3
JHU	Hanno	6.54	339	P		Pn	20 49 16.8	0.0
JHU				S		Sn	20 50 28.6	-1.9
JIE	Ise	6.55	316	eP		Pn	20 49 18.0	+1.1
JYT	Yasato	6.65	346	eP		Pn	20 49 18.8	+0.5
JYT				eS		Sn	20 50 31.1	-2.2
JNY	Yasuok	6.66	328	eP		Pn	20 49 21.1	+2.6
JHO	Hitachi	6.96	349	P		Pn	20 49 21.0	-1.5
JHO				S		Sn	20 50 35.1	-5.6
JAG	Ashikaga	7.02	342	P		Pn	20 49 22.3	-1.1
JAG				S		Sn	20 50 38.9	-3.5
INU	Inuyama	7.07	323	Pn		Pn	20 49 25.2	+1.2
JGF	Kuroka	7.10	326			Pn	20 49 25.9	+1.4
JGF	Kuroka	7.10	326	P		Pn	20 49 26.7	+2.2
MJAR	Matsushiro Arr	7.53	335	Pn		Pn	20 49 30.5	+0.1
	0.9nm,0.3s,baz=160,slow=11,SNR=41							
MJAR					Sn	Sn	20 50 54.7	-0.2
	0.5nm,0.3s,baz=231,slow=28,SNR=5.8							
	6.6nm,0.3s							
MAJO	Matsushiro	7.53	335			Pn	20 49 31.4	+1.0
MAJO	Matsushiro	7.53	335	P		Pn	20 49 32.0	+1.6
MAJO	Matsushiro	7.53	335	*i* P		Pn	20 49 31.4	+1.0
MJB9	Matsu-Tunnel	7.54	335			Pn	20 49 31.5	+1.0
JMM	Marumori	8.16	352			Pn	20 49 37.2	-1.7
JMM	Marumori	8.16	352	P		Pn	20 49 37.6	-1.3
JSD	Sado	8.87	339	Pn		Pn	20 49 47.1	-1.5
JSD	Sado	8.87	339	P		Pn	20 49 47.7	-1.0
JTM	Tenmabayashi	11.03	356	Pn		Pn	20 50 15.8	-2.5
JTM	Tenmabayashi	11.03	356	P		Pn	20 50 17.3	-1.0
ERM	Erimo	12.24	3	Pn		Pn	20 50 31.0	-3.8
ERM	Erimo	12.24	3	P		Pn	20 50 31.8	-3.0

ERM	Erimo	12.24	3	P		Pn	20 50 31.0	-3.8
JEM	Erimo	12.24	3	P		Pn	20 50 31.9	-3.0
KSRS	Korea Array	14.14	307	Pn		Pn	20 50 59.4	-1.4
	3.2nm,0.8s,baz=114,slow=12,SNR=1.5							
ASAJ	Asahikawa	14.32	1	P		Pn	20 50 59.6	-3.7
JKA	Kamikawa-asahi	14.32	1	Pn		Pn	20 50 59.6	-3.7
PSTR	Posyet	15.78	328	*i* P		P	20 51 25.7	-0.6
TEY	Ternei	15.86	345	eP		Pn	20 51 19.0	-4.7
USA0B	Ussuriysk Arra	16.53	333	*i* P		P	20 51 34.6	0.0
USRK	Ussuriysk Ar.	16.53	333	Pn		Pn	20 51 30.6	-1.6
USRK	Ussuriysk Ar.	16.53	333	Pn		Pn	20 51 31.4	-0.8
	0.1nm,0.3s,baz=158,slow=12,SNR=2.6							
	2.0nm,0.8s							
YSS	Yuzh-Sakhalins	17.16	1	eP		P	20 51 44.0	+2.4
YSS				pmax		pmax		
	comp=Z,20nm,1.1s							
MDJ	Mudanjiang	17.86	329	P		P	20 51 49.6	+0.2
MDJ				PP		pwP	20 52 00.7	-1.1
MDJ				S		Sn	20 55 05.7	-1.5
MDJ				pmax		pmax		
	comp=Z,17nm,0.9s							
MDJ				pmax		pmax		
	comp=Z,130nm,4.3s							
MDJ				LR		LR		
	comp=Z,810nm,16.1s							
MDJ				LR		LR		
	comp=Z,580nm,16.6s							
MDJ				LR		LR		
	comp=Z,920nm,14.2s							
MDJ	Mudanjiang	17.86	329	Pn		Pn	20 51 47.7	-1.2
NACB	Ninganchiao	19.18	258	P		P	20 52 02.7	-1.3
YHNB	Yeheng	19.19	260	P		P	20 52 03.3	-0.9
YHNB				IAmb		IAmb	20 52 08.1	
	comp=Z,30nm,0.9s							
CN2	Changchun	19.34	321	eP		Pn	20 52 05.8	-1.0
CN2				eS		Sn	20 55 38.5	-4.3
BNX	BinXian	19.72	328	⇑P		Pn	20 52 10.0	-1.3
BNX				pmax		pmax		
	comp=Z,22nm,0.7s							
YULB	Yu-li	19.73	256	P		P	20 52 09.8	-0.2
YULB				IAmb		IAmb	20 52 17.0	
	comp=Z,23nm,0.8s							
SSLB	Suanglung	19.87	258	P		P	20 52 12.1	+0.6
SSLB				IAmb		IAmb	20 52 26.2	
	comp=Z,31nm,0.9s							
NJ2	Nanjing	20.15	282	eP		P	20 52 13.0	-1.5
NJ2				pP		sP	20 52 22.0	-0.6
NJ2				sP		pwP	20 52 27.0	-0.4
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.6s							
NJ2				pmax		pmax		
	comp=Z,270nm,4.4s							
TPUB	Ta-pu	20.33	257	P		P	20 52 15.5	-1.0
TPUB				IAmb		IAmb	20 52 31.9	
	comp=Z,29nm,0.8s							
KLR	Kul'dur	21.00	341	*ce*P		P	20 52 24.3	+0.7
KLR				pmax		pmax		
	comp=Z,6.0nm,0.6s							
KLR	Kul'dur	21.00	341	P		P	20 52 24.1	+0.5
	comp=Z,6.5nm,0.6s,baz=164,slow=6.3,SNR=19							
	comp=Z,6.5nm,0.6s							
HEH	HeiHe	23.30	336	eP		P	20 52 47.4	-0.5
HEH				pmax		pmax		
	comp=Z,14nm,0.8s							
BJI	Beijing	23.59	303	P		P	20 52 50.1	-0.8
BJI				pmax		pmax		
	comp=Z,4.0nm,1.2s							
H11N2	WAKE ISLAND Hy	24.51	108	T		T	21 18 52.4	
	baz=297,slow=74,SNR=4.5							
H11N1	WAKE ISLAND Hy	24.52	108	T		T	21 18 58.8	
	baz=297,slow=74,SNR=3.3							
H11N3	WAKE ISLAND Hy	24.53	108	T		T	21 18 58.1	
	baz=297,slow=74,SNR=3.6							
LYN	LuoYang	25.56	288	⇑P		P	20 53 12.2	+3.1
LYN				pmax		pmax		
	comp=Z,9.0nm,0.7s							
HIA	Hailar	25.89	325	P		P	20 53 13.2	+1.2
HIA	Hailar	25.89	325	*i* P		P	20 53 12.9	+1.0
HIA				pmax		pmax		
	comp=Z,20nm,0.7s							
ZEA	Zeya	26.30	340	eP		P	20 53 16.5	+0.9
ZEA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
HHC	Hu-ho-hao-te	27.20	302	eP		P	20 53 25.3	+1.4
HHC				pP		pwP	20 53 35.0	-1.7
HHC				pmax		pmax		
	comp=Z,7.0nm,0.8s							
HHC				pmax		pmax		
	comp=Z,140nm,5.1s							
HHC				LR		LR		
	comp=Z,530nm,13.7s							
HHC				LR		LR		
	comp=Z,500nm,14.7s							
HHC				LR		LR		
	comp=Z,610nm,16.7s							
ENH	Enshi	28.27	279	P		P	20 53 30.9	-2.7
BTO	Baotou	28.28	301	eP		P	20 53 36.1	+2.5
BTO				pP		pP	20 53 40.3

comp=Z,4.0nm,0.8s
CHTO Chiang Mai 40.69 265 P P 20 55 18.1 -2.7
CHTO IAmb IAmb 20 55 32.2
comp=Z,8.1nm,0.7s
CHTO Chiang Mai 40.69 265 P **P 20 55 18.1 -2.7**
CHTO pmax pmax
comp=Z,8.0nm,0.7s
CMAR Chiang Mai Arr 40.84 264 P **P 20 55 20.5 -1.5**
CMAR Chiang Mai Arr 40.84 264‖ *e*P **P 20 55 21.4 -0.6**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CMAR Chiang Mai Arr 40.84 264 P **P 20 55 21.3 -0.8**
comp=Z,1.5nm,0.7s,baz=43,slow=8.2,SNR=12
CMAR PcP **PcP 20 57 23.9 +1.2**
comp=Z,0.4nm,0.5s,baz=57,slow=3.3,SNR=2.2
comp=Z,1.5nm,0.7s
BILL Bilibino 40.86 14 P **P 20 55 22.1 +0.5**
BILL Bilibino 40.86 14 *i* P **P 20 55 22.1 +0.5**
TIXI Tiksi 42.56 354 P **P 20 55 35.6 +0.2**
TIXI Tiksi 42.56 354 *i* P **P 20 55 35.8 +0.4**
TIXI pmax pmax
comp=Z,2.0nm,0.6s
COEN Coen 43.48 179 P **P 20 55 41.4 -2.1**
COEN IAmb IAmb 20 55 50.4
comp=Z,21nm,1.5s
MTN Manton Dam 43.69 196 P **P 20 55 43.6 -1.6**
MTN IAmb IAmb 20 55 45.3
comp=Z,16nm,0.8s
WMQ Urumqi 45.06 304 *e*P **P 20 55 57.4 +1.4**
DGZ Jazzator, Alta 45.46 312 *i* P **P 20 56 00.4 +1.2**
DGZ pmax pmax
comp=Z,24nm,0.8s
KULM Kulim 46.11 246 P **P 20 56 02.9 -1.7**
KULM IAmb IAmb 20 56 05.3
comp=Z,11nm,0.8s
KNRA Kununurra 47.01 198 P **P 20 56 09.2 -2.3**
KNRA IAmb IAmb 20 56 28.8
comp=Z,15nm,1.2s
ZSN Zaisan 47.05 309 *e*P **P 20 56 12.8 +1.2**
ZSN pmax pmax
comp=Z,6.0nm,1.0s
ZSN Zaisan 47.05 309 *e*P **P 20 56 12.8 +1.2**
comp=Z,6.0nm,1.0s,baz=309
ZALV Zalesovo Beam 47.50 318 P **P 20 56 15.2 +0.3**
ZALV Zalesovo Beam 47.50 318 *i* P **P 20 56 18.7 +3.7**
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 47.50 318 P **P 20 56 15.4 +0.5**
comp=Z,1.9nm,0.5s,baz=116,slow=5.2,SNR=7.1
ZALV PcP **PcP 20 57 45.2 +0.4**
comp=Z,2.4nm,0.5s,baz=106,slow=3.4,SNR=7.9
ZALV LR LR 21 16 18.5
comp=Z,402nm,19.2s,baz=236,slow=36
comp=Z,1.9nm,0.5s
ANM Nome 47.58 28 P **P 20 56 16.1 +0.7**
ANM IAmb IAmb 20 56 18.3
comp=Z,3.5nm,0.8s
ANM Nome 47.58 28 P **P 20 56 16.1 +0.7**
ANM pmax pmax
comp=Z,4.0nm,0.8s
MK31 Makanchi Array 48.81 308 P **P 20 56 24.4 -0.9**
MK31 Makanchi Array 48.81 308 *c*e P **P 20 56 25.6 +0.3**
MKAR Makanchi Array 48.81 308 P **P 20 56 24.8 -0.5**
MKAR Makanchi Array 48.81 308 *i* P **P 20 56 25.3 0.0**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 48.81 308 P **P 20 56 25.0 -0.3**
comp=Z,2.5nm,0.6s,baz=91,slow=9.6,SNR=18
MKAR PcP **PcP 20 57 49.3 -0.4**
comp=Z,0.8nm,0.8s,baz=71,slow=6.2,SNR=1.9
comp=Z,2.5nm,0.6s
PSI Prapat 48.98 245 P **P 20 56 27.1 +0.1**
PSI pmax pmax
comp=Z,6.0nm,0.8s
C16K Lisburne Hills 49.02 23 P **P 20 56 27.4 +0.9**
C16K IAmb IAmb 20 56 49.1
comp=Z,6.5nm,1.2s
MAKZ Makanchi 49.03 308 P **P 20 56 27.1 +0.2**
MAKZ IAmb IAmb 20 56 47.1
comp=Z,5.6nm,1.3s
MAKZ Makanchi 49.03 308 P **P 20 56 27.1 +0.2**
MAKZ pmax pmax
comp=Z,6.0nm,1.3s
RPSI Rantau Prapat 49.05 245 P **P 20 56 27.1 -0.3**
RPSI IAmb IAmb 20 56 29.5
comp=Z,6.2nm,0.8s
I17K Unalakleet 49.31 29 P **P 20 56 29.9 +1.2**
CTA Charters Tower 49.73 175 P **P 20 56 33.2 +0.8**
comp=Z,3.3nm,0.6s,baz=358,slow=9.0,SNR=7.8
comp=Z,3.3nm,0.6s
CTAO Charters Tower 49.73 175 P **P 20 56 31.9 -0.5**
CTAO Charters Tower 49.73 175 P **P 20 56 31.9 -0.5**
CTAO pmax pmax
comp=Z,17nm,1.5s
WB0 Warramunga Arr 49.82 190 P **P 20 56 32.6 -0.5**
F17K Baldwin Pennin 49.84 26 P **P 20 56 33.8 +1.1**
F17K IAmb IAmb 20 56 54.8
comp=Z,6.9nm,1.1s
WB2 Warramunga Arr 50.00 190 P **P 20 56 34.2 -0.3**
WRA Warramunga Arr 50.00 190 P **P 20 56 33.7 -0.8**
WRA Warramunga Arr 50.00 190 P **P 20 56 34.4 -0.1**
comp=Z,13nm,0.6s,baz=8.8,slow=8.0,SNR=108
WRA PcP **PcP 20 57 55.3 +1.0**
comp=Z,1.2nm,0.7s,baz=3.4,slow=3.7,SNR=2.4
comp=Z,13nm,0.6s
SEM Semipalatinsk 50.11 313 *e*P **P 20 56 34.5 -0.8**
SEM pmax pmax
comp=Z,4.0nm,1.0s
SEM Semipalatinsk 50.11 313 *e*P **P 20 56 34.6 -0.8**
comp=Z,4.1nm,1.0s,baz=313
FITZ Fitzroy Crossi 50.20 201 P **P 20 56 36.2 +0.3**
E18K Tukpahlearik C 50.39 25 P **P 20 56 37.3 +0.4**
C18K Utukok River 50.58 23 P **P 20 56 37.9 -0.6**
G18K Tagagawik 50.69 27 IAmb IAmb 20 56 54.5
comp=Z,5.5nm,1.2s
GSI Gunungsitoli 50.96 245 P **P 20 56 40.7 -1.2**
P18K Big Mountain, 51.00 36 P **P 20 56 43.0 +1.3**
P18K IAmb IAmb 20 57 07.7
comp=Z,11nm,1.2s
O18K Koktuh Hills 51.06 35 P **P 20 56 42.3 +0.1**
O18K IAmb IAmb 20 57 12.9
comp=Z,17nm,1.4s
SHLS Shalkode 51.08 303 *e*P **P 20 56 41.6 -1.1**
SHLS pmax pmax
comp=Z,7.0nm,1.1s
SHLS Shalkode 51.08 303 *e*P **P 20 56 41.6 -1.1**
comp=Z,7.4nm,1.1s,baz=303
KURK Kurchatov 51.15 313 P **P 20 56 42.8 0.0**
KURK Kurchatov 51.15 313 *c*e P **P 20 56 43.3 +0.5**
KURK pmax pmax
comp=Z,25nm,1.3s
KURBB Kurchatov Arra 51.20 313 P **P 20 56 43.5 +0.2**
comp=Z,8.1nm,0.6s,baz=90,slow=7.6,SNR=51
comp=Z,8.1nm,0.6s
UZB Uzynbulak 51.40 303 *e*P **P 20 56 46.3 +1.2**
UZB Uzynbulak 51.40 303 *e*P **P 20 56 46.3 +1.2**
baz=303
J19K Poorman 51.52 30 P **P 20 56 46.5 +1.0**
TDK Taldyqorghan 51.64 306 *e*P **P 20 56 46.8 +0.1**
TDK Taldyqorghan 51.64 306 *e*P **P 20 56 46.8 +0.1**
baz=306
E19K Redstone River 51.64 25 IAmb IAmb 20 57 09.8
comp=Z,5.6nm,0.9s
SATY Saty 51.86 303 *e*P **P 20 56 49.4 +0.9**
SATY pmax pmax
comp=Z,9.0nm,1.2s
SATY Saty 51.86 303 *e*P **P 20 56 49.5 +0.9**
comp=Z,8.5nm,1.2s,baz=303
B20K Meade River 52.38 22 P **P 20 56 52.8 +1.0**
B20K IAmb IAmb 20 57 15.1
comp=Z,4.4nm,0.9s
IMAR Indian Mountai 52.67 28 P **P 20 56 55.1 +1.1**
CHKK Chushkaly 52.78 304 *e*P **P 20 56 55.1 -0.1**
CHKK Chushkaly 52.78 304 *e*P **P 20 56 55.1 -0.1**
baz=304
MDOK Medeo 52.83 304 *e*P **P 20 56 55.8 +0.1**
MDOK Medeo 52.83 304 *e*P **P 20 56 55.9 +0.1**
baz=304
G21K Allakaket 52.86 27 IAmb IAmb 20 57 00.3
comp=Z,9.2nm,1.4s
AAA Alma-Ata 52.92 304 *e*P **P 20 56 56.5 +0.2**
AAA pmax pmax
comp=Z,7.0nm,0.7s
AAA Alma-Ata 52.92 304 *e*P **P 20 56 56.5 +0.2**
comp=Z,6.9nm,0.7s,baz=304
TNSS Tian-Shan 52.92 303 *e*P **P 20 56 57.1 +0.4**
baz=304
TNSS Tian-Shan 52.92 303 *e*P **P 20 56 57.2 +0.4**
H21K Melozitna Rive 52.99 28 P **P 20 56 57.6 +1.2**
CNPM China Poot 53.04 36 P **P 20 56 55.6 -1.2**
KUU Kurty 53.24 305 *e*P **P 20 56 59.1 +0.5**
KUU pmax pmax
comp=Z,5.0nm,0.5s
KUU Kurty 53.24 305 *e*P **P 20 56 59.1 +0.5**
comp=Z,4.7nm,0.5s,baz=305
I21K Tanana 53.26 29 P **P 20 56 58.7 +0.3**
I21K IAmb IAmb 20 57 04.5
comp=Z,5.5nm,1.2s
SUA Susitna One 53.41 33 P **P 20 56 59.9 +0.2**
SUA IAmb IAmb 20 57 14.5
comp=Z,7.9nm,1.3s
AS31 Alice Springs 53.73 189 P **P 20 57 00.5 -1.7**
ASAR Alice Springs 53.73 189 P **P 20 57 01.9 -0.3**
comp=Z,1.7nm,0.5s,baz=4.2,slow=7.0,SNR=21
ASAR PcP **PcP 20 58 08.4 +0.2**
comp=Z,0.7nm,0.7s,baz=14,slow=4.1,SNR=1.8
comp=Z,1.7nm,0.5s
MLY Manley 53.76 29 P **P 20 57 02.9 +0.8**
E22K Anaktuvuk Pass 53.80 25 P **P 20 57 03.9 +1.6**
E22K IAmb IAmb 20 57 14.0
comp=Z,8.2nm,1.4s
KSH Kashi 54.25 299 P **P 20 57 09.1 +2.9**
KSH sP pwP 20 57 20.3 -0.1
KSH pmax pmax
comp=Z,2.0nm,0.7s
G23K Bananza Creek 54.27 27 P **P 20 57 07.9 +2.1**
G23K IAmb IAmb 20 57 28.5
comp=Z,8.2nm,1.4s
RND Reindeer 54.43 31 P **P 20 57 08.1 +1.1**
RND IAmb IAmb 20 57 14.1
comp=Z,8.0nm,1.4s
RND Reindeer 54.43 31 P **P 20 57 08.1 +1.1**
RND pmax pmax
comp=Z,8.0nm,1.4s
SGDS Sogindy 54.53 304 *e*P **P 20 57 08.7 +0.6**
SGDS Sogindy 54.53 304 *e*P **P 20 57 08.8 +0.6**
baz=304
BTLS Baital 54.70 306 *e*P **P 20 57 09.5 +0.3**
BTLS Baital 54.70 306 *e*P **P 20 57 09.6 +0.3**
baz=306
MDM Murphy Dome 54.82 29 P **P 20 57 09.9 +0.2**
MDM IAmb IAmb 20 57 38.6
comp=Z,5.3nm,1.3s
BRZS Berezniki 54.99 312 *e*P **P 20 57 11.3 +0.1**
BRZS pmax pmax
comp=Z,7.0nm,1.0s
BRZS Berezniki 54.99 312 *e*P **P 20 57 11.4 +0.1**
comp=Z,7.1nm,1.0s,baz=312
H24K Noodor Dome 55.03 28 P **P 20 57 11.5 +0.1**
D24K Happy Valley 55.05 24 P **P 20 57 12.1 +0.8**
D24K IAmb IAmb 20 57 20.5
comp=Z,11nm,1.2s
HDA Harding Lake 55.33 30 P **P 20 57 13.8 +0.4**
HDA IAmb IAmb 20 57 29.4
comp=Z,4.5nm,1.1s
ILAR Eielson Array 55.38 29 P **P 20 57 14.4 +0.6**
comp=Z,1.0nm,0.8s,baz=264,slow=5.8,SNR=9.0
comp=Z,1.0nm,0.8s
PSA00 Pilbara Seismi 55.40 205 P **P 20 57 13.8 -0.6**
PSA00 IAmb IAmb 20 57 28.6
comp=Z,5.1nm,1.1s
EIDS Eidsvold 55.49 170 P **P 20 57 15.6 +0.7**
EIDS IAmb IAmb 20 57 37.1
comp=Z,10nm,1.2s
BVAR Borovoye Array 56.10 316 P **P 20 57 19.4 +0.3**
comp=Z,4.5nm,0.5s,baz=94,slow=7.1,SNR=12
comp=Z,4.5nm,0.5s
E25K Arctic Village 56.12 25 P **P 20 57 20.8 +1.7**
E25K IAmb IAmb 20 57 43.4
comp=Z,11nm,1.4s
ARSB Arslanbob 56.12 302 P **P 20 57 20.1 +0.4**
ARSB Arslanbob 56.12 302 P **P 20 57 20.1 +0.4**
ARSB pmax pmax
comp=Z,1.0nm,0.9s
BRVK Borovoye 56.16 316 *c*e P **P 20 57 21.3 +1.7**
BRVK pmax pmax
comp=Z,5.0nm,0.7s
BMAR Burnt Mountain 56.45 26 P **P 20 57 23.2 +1.8**
SCRK Sand Creek 56.62 30 P **P 20 57 21.5 -1.3**
DZA Taraz 57.01 304 *e*P **P 20 57 25.4 -0.4**
DZA Taraz 57.01 304 *e*P **P 20 57 25.4 -0.4**
baz=304
D27M Malcolm River 57.85 24 IAmb IAmb 20 57 47.2
comp=Z,3.2nm,0.8s
BTK Batken 58.01 301 P **P 20 57 31.9 -1.1**
BTK IAmb IAmb 20 57 56.1
comp=Z,4.0nm,0.9s
BTK Batken 58.01 301 P **P 20 57 31.9 -1.1**
BTK pmax pmax
comp=Z,4.0nm,0.9s
BRLS Borolday 58.05 305 *e*P **P 20 57 34.7 +1.5**
BRLS Borolday 58.05 305 *e*P **P 20 57 34.7 +1.5**
baz=304
IUG luzhnay 58.11 304 *e*P **P 20 57 33.8 +0.2**
IUG pmax pmax
comp=Z,5.0nm,0.8s
IUG luzhnay 58.11 304 *e*P **P 20 57 33.8 +0.2**
comp=Z,5.0nm,0.8s,baz=304
I28M Miner Creek 58.32 29 P **P 20 57 35.8 +1.1**
SIMJ Simiganj 59.72 300 P **P 20 57 44.6 -0.3**
SVE Sverdlovsk 61.13 322 *e*P **P 20 57 55.3 +1.2**
SVE pmax pmax
comp=Z,9.0nm,0.9s
STKA Stephens Creek 61.31 181 P **P 20 57 55.7 +0.2**
comp=Z,1.6nm,0.6s,baz=0.0,slow=7.1,SNR=3.9
comp=Z,1.6nm,0.6s
ARU Arti 62.33 321 P **P 20 58 02.4 +0.2**
ARU Arti 62.33 321 *c i* P **P 20 58 02.7 +0.5**
ARU S **S 21 06 27.9 +1.1**
ARU SS **SS 21 10 26.0 -3.9**
ARU pmax pmax
comp=Z,6.0nm,0.7s
ABKAR Akbulak array 63.25 313 P **P 20 58 08.9 +0.5**
KIRV Kirov 66.50 325 *c*e P **P 20 58 30.4 +1.0**
GEYT Alibeck 68.08 302 P **P 20 58 41.2 +1.3**
comp=Z,4.2nm,0.8s,baz=58,slow=5.6,SNR=9.2
comp=Z,4.2nm,0.8s
BELG Belogornoye 69.64 319 *i* P **P 20 58 50.1 +0.9**
BELG pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 69.80 29 P **P 20 58 51.1 +1.1**
comp=Z,1.3nm,1.0s,baz=294,slow=6.3,SNR=9.3
comp=Z,1.3nm,1.0s
ARCES ARCESS Array B 71.03 341 P **P 20 58 58.4 +1.0**
comp=Z,4.1nm,0.9s,baz=66,slow=12,SNR=4.7
comp=Z,4.1nm,0.9s
OBN Obninsk 74.35 325 *i* P **P 20 59 18.0 +0.7**
OBN pmax pmax
comp=Z,3.0nm,0.7s
LKRN Lenkeran, Azer 74.50 306 P **P 20 59 20.1 +1.5**
SEKA Sheki 74.51 309 P **P 20 59 20.0 +1.3**
ZKTA Zakatala 74.71 309 P **P 20 59 21.3 +1.5**
MNGR Mingechevir, A 74.78 308 P **P 20 59 21.6 +1.5**
GANJ Ganja 75.35 309 P **P 20 59 25.0 +1.4**
FINES FINESS Array B 75.56 334 *i* P **P 20 59 25.6 +1.3**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 75.56 334 P **P 20 59 24.6 +0.4**
comp=Z,2.6nm,0.6s,baz=61,slow=4.6,SNR=28
comp=Z,2.6nm,0.6s
KBZ Khabaz 76.20 313 *c*e P **P 20 59 29.5 +1.2**
KBZ pmax pmax
comp=Z,7.0nm,0.8s
KBZ Khabaz 76.20 313 P **P 20 59 29.1 +0.8**
comp=Z,7.2nm,0.8s,baz=93,slow=6.6,SNR=15
comp=Z,7.2nm,0.8s
KIV Kislovodsk 76.23 313 *e*P **P 20 59 29.6 +1.0**
KIV pmax pmax
comp=Z,9.0nm,1.1s
NAX Nakhchivan 76.59 307 P **P 20 59 31.9 +1.2**
MEF Metsahovi 76.96 333 *e*P **P 20 59 33.2 +1.0**
RAF Rauma 77.46 335 *e*P **P 20 59 34.8 -0.2**
NVAR Mina Array Bea 78.87 52 P **P 20 59 45.3 +1.7**
comp=Z,0.7nm,0.5s,baz=292,slow=5.6,SNR=9.0
comp=Z,0.7nm,0.5s
MNK Minsk 78.90 327 *i* P P 20 59 52.2 +9.1
MNK *i* S S 21 10 01.9 +22
MNK pmax pmax
comp=Z,4.0nm,0.7s
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK pmax pmax
comp=N,25nm,0.8s
MNK MLR MLR
comp=E,69nm,14.0s
MNK MLR MLR
comp=Z,132nm,13.0s
ISAL Salakas 79.07 329 *e*P **P 20 59 44.9 +0.8**
ANN Anapa 79.09 315 *e*P **P 20 59 40.9 -3.5**
ANN *e**PP **PcP 20 59 52.3 -0.5**
ANN eS **S 21 09 36.3 -5.8**
VSVD Vaisvydziai 79.79 330 *e*P **P 20 59 49.1 +1.1**
PABE Paberze 80.08 329 P **P 20 59 50.5 +1.0**
PABE Paberze 80.08 329 *e*P **P 20 59 50.8 +1.3**
AKASG Malin Array Be 80.47 324 P **P 20 59 51.9 +0.1**
comp=Z,1.8nm,0.6s,baz=48,slow=5.9,SNR=14
comp=Z,1.8nm,0.6s
AKBB Malin Array Si 80.47 324 IAmb IAmb 20 59 53.2
comp=Z,5.5nm,0.9s
AKBB Malin Array Si 80.47 324 *c*e P **P 20 59 52.5 +0.8**
HFS Hagfors 80.98 337 P **P 20 59 54.6 +0.3**
comp=Z,3.0nm,0.7s,baz=56,slow=5.7,SNR=9.9
comp=Z,3.0nm,0.7s
NB2 NORSAR Subarra 81.14 338 P **P 20 59 55.4 +0.2**
comp=Z,1.6nm,0.7s,baz=41,slow=5.3
NOA NORSAR Array B 81.14 338 P **P 20 59 55.8 +0.6**
comp=Z,2.3nm,0.7s,baz=41,slow=5.2,SNR=15
comp=Z,2.3nm,0.7s
SUW Suwalki 81.38 329 *e*P **P 20 59 56.7 +0.2**
PDAR Pinedale Array 82.31 45 P **P 21 00 03.2 +1.2**
comp=Z,0.3nm,0.5s,baz=273,slow=6.2,SNR=3.6
comp=Z,0.3nm,0.5s
RAYN Ar Rayn 84.08 294 P **P 21 00 10.4 -0.8**
RAYN Ar Rayn 84.08 294 P **P 21 00 10.4 -0.8**
RAYN pmax pmax
comp=Z,22nm,0.7s
BR131 Keskin Array S 84.20 313 P **P 21 00 11.8 +0.1**
BR131 Keskin Array S 84.20 313 P **P 21 00 11.8 +0.1**
BR131 pmax pmax
comp=Z,11nm,0.9s
BRTR Keskin Array B 84.20 313 P **P 21 00 12.0 +0.3**
BRTR Keskin Array B 84.20 313 *c*e P **P 21 00 12.6 +0.9**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
BRTR Keskin Array B 84.20 313 P **P 21 00 12.2 +0.5**
comp=Z,7.1nm,0.8s,baz=86,slow=4.1,SNR=26
comp=Z,7.1nm,0.8s
BUR08 Bucovina Ar. S 84.43 323 P **P 21 00 12.7 0.0**
BUR08 IAmb IAmb 21 00 22.8
comp=Z,6.5nm,1.3s
MMAI Mount Meron Ar 86.74 306 P **P 21 00 24.8 +0.4**
comp=Z,0.9nm,0.6s,baz=52,slow=5.5,SNR=5.1
comp=Z,0.9nm,0.6s
VYHS Vyhne 87.08 326 *e*P **P 21 00 26.8 +1.1**
VYHS Vyhne 87.08 326 *e*P **P 21 00 26.8 +1.1**
GERES GERESS Array B 89.23 329 P **P 21 00 36.0 +0.1**
comp=Z,0.4nm,0.6s,baz=38,slow=5.0,SNR=2.2
comp=Z,0.4nm,0.6s
TXAR Lajitas Array 94.00 53 P **P 21 00 59.1 +0.6**
comp=Z,0.9nm,0.7s,baz=335,slow=1.8,SNR=4.5
comp=Z,0.9nm,0.7s
TORD Torodi Ar. Bea 122.81 313 PKP **PKPdf 21 06 36.7 0.0**
comp=Z,0.5nm,0.6s,baz=6.6,slow=2.6,SNR=3.2

IDC 04 20:59:44.3±5.7, 3°28S×139°90E, h0km, mb3.1/2, mbtmp3.2/3, ML2.6/1, Error ellipse: s-maj=218.7km s-min=34.0km az=88.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.43**	**198**	P	Pn	21 03 47.5	-1.6
	baz=18,slow=13,SNR=2.3						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**21.08**	**195**	P	P	21 04 31.2	+0.7
	0.8nm,0.8s,baz=30,slow=10,SNR=6.1						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**70.97**	**322**	P	P	21 11 03.9	0.0
	0.1nm,0.5s,baz=101,slow=7.5,SNR=1.5						
	0.1nm,0.5s						

IDC 04 21:07:09.5±8.0, 4°64S×144°51E, h0km, mb3.3/2, mbtmp3.3/3, ML3.0/1, Error ellipse: s-maj=271.4km s-min=34.3km az=97.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.16**	**212**	P	Pn	21 11 21.6	-1.7
	0.1nm,0.3s,baz=39,slow=13,SNR=1.5						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**21.51**	**207**	P	P	21 12 01.3	+1.0
	0.4nm,0.4s,baz=41,slow=7.7,SNR=6.1						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**74.88**	**321**	P	P	21 18 52.2	0.0
	0.4nm,0.7s,baz=120,slow=7.1,SNR=5.2						
	0.4nm,0.7s						

AFAD 04 21:08:25.3±0.0, 38°20N×27°47E, h7km±2km, ML1.4, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IZMR	**zmir-demi**	**0.39**	**100**	P	Pb	21 08 33.7	-0.8
IZMR				S	Sg	21 08 39.1	+1.2
IZMR				*i* AML	AML	21 08 42.0	
	comp=Z,27nm,0.2s						
KIRA	**zmir-Kiraz**	**0.73**	**90**	P	Pb	21 08 40.4	-0.1
KIRA				S	Sb	21 08 50.4	-0.4
ESEN	**Aydn-Nazilli**	**0.80**	**120**	P	Pg	21 08 40.2	-0.6
ESEN				S	Sb	21 08 52.1	-0.6
MANT	**Manisa**	**0.90**	**71**	P	Pn	21 08 44.3	-0.4
MANT				S	Sg	21 08 54.7	+0.3
MANT				*i* AML	AML	21 08 59.0	
	comp=E,14nm,0.3s						

ISK 04 21:08:35.9, 36°86N×27°52E, h24km, ML0.9/6, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAT	**Datca**	**0.14**	**161**	Pg	Pb	21 08 41.1	+0.1
DAT				Sg	Sb	21 08 46.1	+1.7
DATC	**Datca-Mugla**	**0.15**	**133**	Pg	Pb	21 08 40.6	-0.4
DATC				Sg	Sb	21 08 45.2	+0.8
BODT	**Bodrum**	**0.26**	**320**	Pg	Pb	21 08 42.7	+0.4
BODT				Sg	Sb	21 08 47.7	+1.0
MLSB	**Milas**	**0.48**	**25**	Pg	Pb	21 08 46.5	+0.7
MLSB				Sg	Sn	21 08 54.1	-0.8
DALY	**Dalyan (Mula)**	**0.91**	**93**	Pg	Pn	21 08 53.6	+0.5
CAME	**Cameli-Denizli**	**1.43**	**86**	Pn	Pn	21 09 01.0	+0.5

*IDC **04** 21:11:10.4±0.8, 6°12S×142°62E, h0km, mb4.0/11, mbtmp4.1/13, ML2.1/1, MS5.1/1, Error ellipse: s-maj=29.1km s-min=17.6km az=78.0*
*NEIC **04** 21:11:12.8±1.4, 6°26S±0°08×142°42E±0°09, h10km±1km, mb4.5/24, Error ellipse: s-maj=15.7km s-min=13.2km az=102.0*

ISC 04 21:11:12.4±0.5, 6°30S±0°05×142°42E±0°06, h10km, n62, σ1s72/63, mb4.3/19, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.57**	**311**	P	**Pn**	**21 11 40.8**	**+0.4**
PMG	**Port Moresby**	**5.62**	**124**	Pn	**Pn**	**21 12 36.8**	**+0.8**
PMG	**Port Moresby**	**5.62**	**124**	P	**Pn**	**21 12 37.0**	**+1.0**
PMG	**Port Moresby**	**5.62**	**124**	Pn	**Pn**	**21 12 35.8**	**-0.2**
	3.6nm,0.3s,baz=309,slow=12,SNR=6.4						
PMG				Sn	**Sn**	**21 13 39.7**	**-1.0**
	6.0nm,0.3s,baz=214,slow=22,SNR=6.9						
	18nm,0.6s						
MANU	**Manus Island**	**6.50**	**50**		**Pn**	**21 12 48.1**	**0.0**
COEN	**Coen**	**7.65**	**174**	Pn	**Pn**	**21 13 03.3**	**-0.6**
COEN	**Coen**	**7.65**	**174**	P	**Pn**	**21 13 06.2**	**+2.3**
FAKI	**Fak Fak**	**10.68**	**288**	P	**Pn**	**21 13 45.9**	**+0.4**
KDU	**Kakadu**	**11.68**	**236**	P	**Pn**	**21 14 00.2**	**+0.9**
MTN	**Manton Dam**	**12.89**	**239**		**Pn**	**21 14 16.0**	**+0.2**
CTA	**Charters Tower**	**14.20**	**165**	Lg	Lg	21 18 47.3	
	0.1nm,0.3s,baz=280,slow=20,SNR=2.6						
QIS	**Mount Isa**	**14.44**	**191**	P	**Pn**	**21 14 38.7**	**+1.8**
WB0	**Warramunga Arr**	**15.50**	**209**	Pn	**Pn**	**21 14 50.4**	**-0.8**
WB0					IAmb	21 15 01.6	
	comp=Z,36nm,1.2s						
WR0	**Warramunga Arr**	**15.59**	**209**		**Pn**	**21 14 51.8**	**-0.6**
WR0					IAmb	21 15 10.4	

comp=Z,15nm,0.8s
WB2 Warramunga Arr 15.67 209 Pn **Pn** 21 14 52.5 **-0.8**
WRA Warramunga Arr 15.67 209 Pn **Pn** 21 14 50.8 **-2.7**
WRA Warramunga Arr 15.67 209 Pn **Pn** 21 14 52.9 **-0.5**
comp=Z,0.9nm,0.3s,baz=24,slow=13,SNR=23
WRA Sn **Sn** 21 17 39.6 **-7.7**
comp=Z,0.2nm,0.3s,baz=32,slow=24,SNR=5.5
WRA Lg Lg 21 19 36.0
comp=Z,0.4nm,0.3s,baz=25,slow=26,SNR=4.8
KNRA Kununurra 16.32 234 Pn **Pn** 21 15 01.1 **-0.6**
KNRA IAmb IAmb 21 15 08.1
comp=Z,39nm,1.1s
KNRA Kununurra 16.32 234 P **Pn** 21 15 01.5 **-0.3**
SOEI Soe 18.30 258 **Pn** 21 15 26.8 **+0.1**
SOEI IAmb IAmb 21 15 44.5
comp=Z,52nm,0.9s
SOEI Soe 18.30 258 P **P** 21 15 29.8 **+3.0**
AS01 Alice Springs 19.09 204 P **Pn** 21 15 37.9 **+1.7**
AS31 Alice Springs 19.11 204 Pn **Pn** 21 15 38.0 **+1.6**
ASAR Alice Springs 19.11 205 P **P** 21 15 36.7 **+1.1**
ASAR Alice Springs 19.11 205 P **Pn** 21 15 37.2 **+0.8**
comp=Z,13nm,0.6s,baz=32,slow=9.9,SNR=150
ASAR S **Sn** 21 19 05.9 **-4.9**
comp=Z,3.6nm,0.8s,baz=13,slow=28,SNR=5.6
ASAR Lg Lg 21 21 24.8
comp=Z,0.2nm,0.3s,baz=30,slow=32,SNR=1.6
FITZ Fitzroy Crossi 20.14 233 P **P** 21 15 46.8 **0.0**
OOD Oodnadatta 22.31 196 P **P** 21 16 12.7 **+2.5**
KAPI Kappang 22.59 272 P **P** 21 16 14.7 **+1.3**
KAPI IAmb IAmb 21 16 16.4
comp=Z,15nm,1.0s
TOLI2 Tolitoli 22.82 288 P **P** 21 16 16.6 **+0.9**
TOLI2 IAmb IAmb 21 16 43.7
comp=Z,9.9nm,1.0s
TOLI2 Tolitoli 22.82 288 P **P** 21 16 17.9 **+2.1**
WRKA Warakurna 23.03 214 P **P** 21 16 19.3 **+1.5**
LCRK Leigh Creek 24.35 189 P **P** 21 16 33.1 **+2.6**
MULG Mulgathing 25.12 197 P **P** 21 16 41.1 **+3.5**
STKA Stephens Creek 25.46 182 P **P** 21 16 42.2 **+1.6**
comp=Z,2.9nm,0.8s,baz=355,slow=9.9,SNR=5.8
comp=Z,2.9nm,0.8s
PSA00 Pilbara Seismi 26.59 233 P **P** 21 16 51.5 **+0.4**
PINNC Pines Island, 29.08 126 P **P** 21 17 13.7 **+0.4**
CMWZ Cape Campbell 45.21 146 P **P** 21 19 31.3 **+1.6**
KSRS Korea Array 45.58 344 P **P** 21 19 31.7 **-1.0**
comp=Z,4.1nm,1.0s,baz=161,slow=8.0,SNR=4.6
comp=Z,4.1nm,1.0s
ENH Enshi 48.16 321 P **P** 21 19 52.8 **-0.2**
ENH IAmb IAmb 21 19 56.0
comp=Z,5.8nm,1.0s
CMAR Chiang Mai Arr 49.43 301 P **P** 21 20 03.5 **+0.6**
comp=Z,0.5nm,0.5s,baz=108,slow=5.8,SNR=1.5
comp=Z,0.5nm,0.5s
USRK Ussuriysk Ar. 51.14 350 P **P** 21 20 14.2 **-1.2**
comp=Z,2.6nm,0.8s,baz=178,slow=8.5,SNR=4.0
comp=Z,2.6nm,0.8s
BRDH Bariadhala 57.40 302 LR LR 21 49 31.9
comp=Z,1µm,19.6s,baz=8.0,slow=40
PETK Petropavlovsk- 60.58 11 P **P** 21 21 21.6 **-1.5**
comp=Z,3.6nm,0.8s,baz=149,slow=3.0,SNR=7.2
comp=Z,3.6nm,0.8s
LSA Lhasa 60.83 309 P **P** 21 21 24.8 **-1.0**
LSA IAmb IAmb 21 21 28.3
comp=Z,2.5nm,0.7s
ULN Ulaanbaatar 62.27 334 P **P** 21 21 33.7 **-1.1**
ULN IAmb IAmb 21 21 49.4
comp=Z,1.8nm,0.8s
SONM Songino Array 62.54 333 P **P** 21 21 36.3 **-0.2**
comp=Z,0.4nm,0.6s,baz=147,slow=6.8,SNR=3.1
comp=Z,0.4nm,0.6s
MKAR Makanchi Array 74.87 322 P **P** 21 22 53.3 **-0.1**
comp=Z,1.0nm,0.7s,baz=109,slow=7.0,SNR=11
comp=Z,1.0nm,0.7s
MAKZ Makanchi 75.07 322 P **P** 21 22 53.9 **-0.6**
MAKZ IAmb IAmb 21 23 06.6
comp=Z,3.7nm,1.1s
ZALV Zalesovo Beam 76.88 329 P **P** 21 23 03.4 **-1.2**
comp=Z,0.7nm,0.6s,baz=92,slow=7.4,SNR=4.7
comp=Z,0.7nm,0.6s
KURBB Kurchatov Arra 78.78 324 P **P** 21 23 14.7 **-0.5**
comp=Z,0.3nm,0.7s,baz=104,slow=3.9,SNR=1.9
comp=Z,0.3nm,0.7s
L14K Kuka Creek 79.62 24 P **P** 21 23 19.6 **-0.1**
O16K Kokwok River B 80.62 26 P **P** 21 23 24.7 **-0.4**
L16K Owhat River 81.12 24 P **P** 21 23 27.4 **-0.3**
L16K IAmb IAmb 21 23 28.5
comp=Z,6.7nm,1.2s
N17K Nushagak Hills 81.48 26 P **P** 21 23 29.6 **0.0**
G18K Tagagawik 83.61 21 P **P** 21 23 41.0 **+0.3**
G18K IAmb IAmb 21 24 07.6
comp=Z,6.8nm,1.4s
QSPA South Pole Qui 83.67 180 P **P** 21 23 41.8 **+0.6**
BVAR Borovoye Array 84.36 325 P **P** 21 23 44.2 **-0.6**
comp=Z,3.0nm,0.7s,baz=115,slow=6.7,SNR=15
comp=Z,3.0nm,0.7s
ILAR Eielson Array 87.57 24 P **P** 21 23 57.9 **-2.5**
comp=Z,1.8nm,0.8s,baz=254,slow=5.3,SNR=17
comp=Z,1.8nm,0.8s
BCAR Beaver Creek A 89.19 26 P **P** 21 24 07.8 **-0.4**
K27K Chicken 89.33 25 P **P** 21 24 09.0 **+0.2**
BMAR Burnt Mountain 89.33 22 P **P** 21 24 08.9 **+0.1**
ABKAR Akbulak array 89.83 319 P **P** 21 24 10.6 **-0.8**

*IDC **04** 21:17:28.6±1.0,6°.11S×142°.95E,h0km,mb3.9/6, mbtmp3.9/8,ML2.0/1,Error ellipse: s-maj=34.4km s-min=20.5km az=75.0*
ISC 04 21:17:33.7±0.9,**6°.2S**±0°.1×**142°.80E**±0°.10,**h35**km,**n16**, σ1s**72**/15,**mb4.1**/9,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**1.85**	**302**	P		**Pn**	**Pn**	21 17 03.0	**0.0**
PMG	**Port Moresby**	**5.34**	**126**	P		**Pn**	**Pn**	21 18 51.9	**+0.9**
PMG	**Port Moresby**	**5.34**	**126**	Pn		**Pn**	**Pn**	21 18 50.3	**-0.6**
	3.7nm,0.3s,baz=28,slow=4.5,SNR=6.3								
PMG				Sn		**Sn**	**Sn**	21 19 50.0	**-1.2**
	4.3nm,0.3s,baz=223,slow=23,SNR=6.8								
	8.3nm,0.4s								
CTA	**Charters Tower**	**14.16**	**167**	Lg		Lg	Lg	21 24 54.9	
	0.1nm,0.3s,baz=15,slow=23,SNR=1.8								
WRA	**Warramunga Arr**	**15.91**	**210**	Pn		**Pn**	**Pn**	21 21 11.8	**-3.3**
	baz=142,slow=36								
WRA				Sn		Sn	Sn	21 23 57.2	-13
	0.2nm,0.3s,baz=32,slow=24,SNR=1.1								
WRA				Lg		Lg	Lg	21 25 59.2	
	0.2nm,0.3s,baz=30,slow=30,SNR=4.6								
SANI	**Sanana**	**17.28**	**283**	P		Pn	Pn	21 21 18.1	-14
	4.5nm,1.3s								
ASAR	**Alice Springs**	**19.32**	**205**	P		**P**	**P**	21 21 56.8	**+0.7**
	8.3nm,0.8s,baz=40,slow=7.3,SNR=16								
ASAR				Lg		Lg	Lg	21 27 48.0	
	0.1nm,0.3s,baz=28,slow=32,SNR=2.6								
INKA	**Innaminka**	**21.47**	**185**	P		**P**	**P**	21 22 23.1	**+3.8**
	28nm,0.8s								
OOD	**Oodnadatta**	**22.47**	**197**	P		**P**	**P**	21 22 31.6	**+1.6**
	19nm,1.0s								
WRKA	**Warakurna**	**23.29**	**215**	P		**P**	**P**	21 22 39.4	**+0.8**
	14nm,1.8s								
STKA	**Stephens Creek**	**25.53**	**182**	P		**P**	**P**	21 23 00.6	**+1.4**
	1.6nm,0.7s,baz=355,slow=12,SNR=3.0								
	1.6nm,0.7s								
MKAR	**Makanchi Array**	**75.06**	**322**	P		**P**	**P**	21 29 12.4	**+0.3**
	0.3nm,0.6s,baz=111,slow=7.3,SNR=5.6								
	0.3nm,0.6s								
ZALV	**Zalesovo Beam**	**77.03**	**329**	P		**P**	**P**	21 29 23.3	**+0.3**
	0.3nm,0.5s,baz=102,slow=6.1,SNR=1.4								
	0.3nm,0.5s								
KURBB	**Kurchatov Arra**	**78.95**	**324**	P		**P**	**P**	21 29 33.2	**-0.5**
	0.4nm,0.3s,baz=109,slow=5.0,SNR=1.4								
	0.4nm,0.3s								
BVAR	**Borovoye Array**	**84.53**	**325**	P		**P**	**P**	21 30 03.9	**+0.8**
	1.0nm,0.6s,baz=97,slow=6.4,SNR=7.5								
	1.0nm,0.6s								
ILAR	**Eielson Array**	**87.37**	**24**	P		**P**	**P**	21 30 16.3	**-0.6**
	0.6nm,0.6s,baz=262,slow=4.3,SNR=8.1								
	0.6nm,0.6s								

*CATAC **04** 21:20:28.7±0.5,13°.81N×88°.98W,h170km±4km,ML2.9*
*IDC **04** 21:20:28.8±4.1,13°.91N×88°.67W,h180km±102km,mb3.3/3, mbtmp3.8/4,Error ellipse: s-maj=136.1km s-min=33.8km az=24.0*
*SNET **04** 21:20:29.0±1.1,13°.81N×88°.93W,h167km±9km,ML3.5*
ISC 04 21:20:28.2±0.9,**13°.78N**±0°.09×**88°.96W**±0°.07,**h175**km±6km, **n61**,σ1s**46**/75,**El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PAVA	**Las Pavas**	**0.07**	**164**	*eP*		**Pn**		21 20 52.1	**+0.4**
PAVA				IAML				21 20 52.8	
	comp=Z,767nm,0.3s								
PAVA	**Las Pavas**	**0.07**	**164**	*i* P		**Pn**		21 20 52.0	**+0.4**
PAVA				IAML				21 20 52.3	
	comp=Z,2µm,1.0s								
PAVA				*i* S		**Sn**		21 21 10.8	**+1.3**
LFU	**La Fuente**	**0.16**	**257**	*eP*		**Pn**		21 20 52.1	**+0.5**
SJTE	**Alcalda de S**	**0.18**	**196**	*eP*		**Pn**		21 20 52.0	**+0.3**
SJTE	**Alcalda de S**	**0.18**	**196**	*i* P		**Pn**		21 20 51.7	**0.0**
SJTE				IAML				21 20 52.0	
	comp=Z,590nm,1.0s								
SJTE				*i* S		**Sn**		21 21 10.3	**+0.6**
UDBS	**Universidad Do**	**0.20**	**250**	*i* P		**Pn**		21 20 51.9	**+0.3**
UDBS				IAML				21 20 52.2	
	comp=Z,2µm,1.0s								
UDBS				*i* S		**Sn**		21 21 10.8	**+1.3**
SCLA	**Alcaldia de Sa**	**0.24**	**110**	*eP*		**Pn**		21 20 52.4	**+0.7**
SCLA	**Alcaldia de Sa**	**0.24**	**110**	*i* P		**Pn**		21 20 52.1	**+0.4**
SCLA				*i* S		**Sn**		21 21 11.0	**+1.4**
SCLA				IAML				21 21 13.7	
	comp=Z,300nm,1.0s								
LOMA	**Loma Larga**	**0.25**	**236**	*eP*		**Pn**		21 20 52.1	**+0.3**
LOMA	**Loma Larga**	**0.25**	**236**	*i* P		**Pn**		21 20 52.2	**+0.3**
LOMA				*i* S		**Sn**		21 21 12.5	**+2.6**
LOMA				IAML				21 21 13.8	
	comp=Z,620nm,1.0s								
UEES	**Universidad Ev**	**0.28**	**256**	*i* P		**Pn**		21 20 52.2	**+0.4**
UEES				IAML				21 21 18.3	
	comp=Z,330nm,1.0s								
SNET	**Serv Nac Est T**	**0.28**	**250**	*eP*		**Pn**		21 20 52.0	**+0.1**
SNET	**Serv Nac Est T**	**0.28**	**250**	*i* P		**Pn**		21 20 51.7	**-0.1**
SNET				IAML				21 20 52.1	
	comp=Z,2µm,1.0s								
SNET				*i* S		**Sn**		21 21 10.7	**+0.8**
TECO	**Alcaldia de Te**	**0.30**	**145**	*eP*		**Pn**		21 20 52.0	**+0.1**
TECO	**Alcaldia de Te**	**0.30**	**145**	*i* P		**Pn**		21 20 51.9	**+0.1**
TECO				IAML				21 20 52.5	
	comp=Z,420nm,1.0s								
TECO				*i* S		**Sn**		21 21 10.5	**+0.6**
BOQS	**Boqueron**	**0.32**	**261**	*eP*		**Pn**		21 20 52.4	**+0.3**
PMON	**Piamonte**	**0.35**	**258**	*i* P		**Pn**		21 20 51.6	**-0.5**
PMON				*i* S		**Sn**		21 21 12.3	**+2.0**
PMON				IAML				21 21 21.2	
	comp=Z,540nm,1.0s								
PQSS	**Presa 15 de Se**	**0.42**	**112**	*i* P		**Pn**		21 20 52.4	**+0.3**
PQSS				*i* S		**Sn**		21 21 10.9	**+0.5**
PQSS				IAML				21 21 30.1	
	comp=Z,380nm,1.0s								
LALI	**Alcalda de L**	**0.46**	**230**	*eP*		**Pn**		21 20 52.1	**-0.1**
LALI	**Alcalda de L**	**0.46**	**230**	*i* P		**Pn**		21 20 52.2	**-0.1**
LALI				IAML				21 20 52.3	
	comp=Z,490nm,1.0s								
LALI				*i* S		**Sn**		21 21 11.1	**+0.4**
JAYA	**Jayaque - finc**	**0.49**	**255**	*eP*		**Pn**		21 20 52.5	**-0.1**
JAYA				IAML				21 20 53.7	
	comp=Z,436nm,0.2s								
JAYA				*eS*		**Sn**		21 21 11.6	**+0.3**
JAYA	**Jayaque - finc**	**0.49**	**255**	*i* P		**Pn**		21 20 52.6	**-0.1**
JAYA				IAML				21 20 52.8	
	comp=Z,2µm,1.0s								
JAYA				*i* S		**Sn**		21 21 11.8	**+0.5**
COEB	**Comit de Eme**	**0.50**	**124**	*eP*		**Pn**		21 20 52.0	**-0.6**
COEB				*eS*		**Sn**		21 21 10.6	**-0.8**
COEB	**Comit de Eme**	**0.50**	**124**	*i* P		**Pn**		21 20 51.7	**-0.9**
COEB				IAML				21 20 52.3	
	comp=Z,640nm,1.0s								
COEB				*i* S		**Sn**		21 21 10.8	**-0.5**
ALJI	**Alcalda de J**	**0.59**	**140**	*i* P		Pn		21 20 43.7	-9.2
ALJI				*i* S		**Sn**		21 21 02.9	**-8.9**
SNJE	**San Jose**	**0.64**	**278**	*eP*		**Pn**		21 20 53.7	**+0.3**
CEVE	**Cerro Verde**	**0.65**	**274**	*i* P		**Pn**		21 20 53.9	**+0.4**
CEVE				IAML				21 21 20.1	
	comp=Z,510nm,0.3s								
CEVE	**Cerro Verde**	**0.65**	**274**	*i* P		**Pn**		21 20 53.9	**+0.4**
CEVE				IAML				21 20 54.2	
	comp=Z,1µm,1.0s								
RTR	**El Retiro**	**0.68**	**280**	*i* P		**Pn**		21 20 54.1	**+0.5**
PACA	**Pacayal**	**0.69**	**117**	*eP*		**Pn**		21 20 54.6	**+1.0**
PACA	**Pacayal**	**0.69**	**117**	*i* P		**Pn**		21 20 54.4	**+0.8**
PACA				IAML				21 21 34.2	
	comp=Z,3µm,1.0s								
MTO3	**Montecristo**	**0.72**	**327**	*eP*		**Pn**		21 20 54.5	**+0.7**
MTO3	**Montecristo**	**0.72**	**327**	*i* P		**Pn**		21 20 54.6	**+0.7**
MTO3				*i* S		**Sn**		21 21 14.1	**+0.4**
MTO3				IAML				21 21 17.6	
	comp=Z,270nm,1.0s								
BLLM	**Bellamira**	**0.78**	**116**	*i* P		**Pn**		21 20 54.3	**+0.3**
NUBE	**Las Nubes**	**0.81**	**278**	*i* P		**Pn**		21 20 54.5	**+0.2**
NUBE				IAML				21 20 55.0	
	comp=Z,470nm,1.0s								
LOAL	**Lomas de Alarc**	**0.83**	**285**	*i* P		**Pn**		21 20 54.8	**+0.5**
LOAL				IAML				21 20 54.9	
	comp=Z,2µm,1.0s								
SLOZ	**Alcaldia de Sa**	**0.84**	**287**	*eP*		**Pn**		21 20 54.5	**+0.1**
LCND	**La Caada**	**1.14**	**114**	*eP*		**Pn**		21 20 57.0	**+0.5**
LCND	**La Caada**	**1.14**	**114**	*i* P		**Pn**		21 20 57.2	**+0.6**
LCND				IAML				21 21 29.2	
	comp=Z,340nm,1.0s								
CNCH	**Conchagua**	**1.20**	**115**	*eP*		**Pn**		21 20 57.6	**+0.4**
CNCH	**Conchagua**	**1.20**	**115**	*i* P		**Pn**		21 20 57.7	**+0.4**
CNCH				IAML				21 20 58.2	
	comp=Z,820nm,1.0s								
CNCH				*i* S		**Sn**		21 21 20.5	**+0.9**
GUNB	**GUNB**	**1.57**	**301**	*i* P		**Pn**		21 21 01.1	**+0.3**
GUNB				IAML				21 21 01.8	
	comp=Z,230nm,1.0s								
CSGN	**Cosiguina Volc**	**1.58**	**120**	*i* P		Pn		21 20 54.7	-6.0
TGUH	**Tegucigalpa,Un**	**1.66**	**80**	*i* P		**Pn**		21 21 02.2	**+0.7**
TGUH				IAML				21 21 02.6	
	comp=Z,620nm,1.0s								
IZABA	**Izabal, Puerto**	**1.97**	**11**	*i* P		Pn		21 21 13.9	+9.3
PKGN	**Cerro Pekin**	**2.22**	**120**	*i* P		**Pn**		21 21 09.8	**+2.3**
ILCN	**San Idelfonso**	**2.50**	**118**	*i* P		Pn		21 21 26.4	+16
MACN	**El Madrono**	**2.58**	**120**	*i* P		**Pn**		21 21 13.6	**+1.9**
MACN				IAML				21 21 51.4	
	comp=Z,330nm,1.0s								
LIMN	**Finca el Limon**	**2.62**	**106**	*i* P		**Pn**		21 21 12.6	**+0.4**
LIMN				IAML				21 21 12.9	
	comp=Z,60nm,1.0s								
MOMN	**Momotombo**	**2.72**	**120**	*i* P		**Pn**		21 21 15.4	**+2.0**
COPN	**Coatepe**	**2.80**	**124**	*i* P		**Pn**		21 21 15.4	**+1.1**
HZTE	**Horizontes, Gu**	**4.49**	**133**	*i* P		**Pn**		21 21 37.5	**+2.0**
ORTG	**Ortega, Santa**	**4.82**	**134**	*i* P		**Pn**		21 21 41.6	**+1.7**
SAJU	**San Juanillo,**	**4.87**	**139**	*i* P		**Pn**		21 21 41.9	**+1.4**
DUNO	**Dulce Nombre,**	**5.00**	**137**	*i* P		**Pn**		21 21 44.1	**+1.9**
INDI	**Punta indio, G**	**5.16**	**139**	*i* P		**Pn**		21 21 45.8	**+1.6**
JTS	**Las Juntas de**	**5.24**	**131**	P		**Pn**		21 21 45.5	**+0.3**
	comp=Z,5.6nm,0.3s,baz=297,slow=20,SNR=8.9								
JTS				S		**Sn**		21 22 43.2	**-2.5**
	comp=Z,5.7nm,0.3s,baz=256,slow=22,SNR=2.7								
JACO	**JACO, Garabito**	**5.87**	**134**	*i* P		**Pn**		21 21 55.2	**+1.6**
TXAR	**Lajitas Array**	**20.62**	**321**	P		**P**		21 24 54.8	**+0.7**
	comp=Z,0.9nm,0.6s,baz=142,slow=12,SNR=5.2								
	comp=Z,0.9nm,0.6s								
SCHQ	**Schefferville**	**44.45**	**18**	P		**P**		21 28 20.1	**-1.5**
	comp=Z,8.0nm,1.2s,baz=214,slow=6.6,SNR=5.3								
	comp=Z,8.0nm,1.2s								
YKA	**Yellowknife Ar**	**51.95**	**345**	P		**P**		21 29 18.5	**-0.4**
	comp=Z,0.6nm,0.8s,baz=140,slow=7.5,SNR=9.9								
	comp=Z,0.6nm,0.8s								

IDC 04 21:24:17.1±2.0,**2°.51N**×**125°.73E**,**h0**km,**mb3.4**/3, **mbtmp3.4**/3,**Error ellipse: s-maj=187.1km s-min=24.9km az=65.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.86**	**160**	P		P	P	21 29 31.8	-0.6
	0.5nm,0.4s,baz=338,slow=10,SNR=7.2								
	0.5nm,0.4s								
ASAR	**Alice Springs**	**27.21**	**163**	P		P	P	21 30 03.7	+0.9
	0.2nm,0.5s,baz=341,slow=8.1,SNR=1.4								
	0.2nm,0.5s								
MKAR	**Makanchi Array**	**57.99**	**326**	P		P	P	21 34 11.6	-0.2
	0.3nm,0.5s,baz=120,slow=7.9,SNR=11								
	0.3nm,0.5s								

IDC 04 21:27:43.3±1.9,**6°.21S**×**142°.73E**,**h0**km,**mb3.5**/3, **mbtmp3.5**/5,**ML3.3**/2,**Error ellipse: s-maj=74.5km s-min=26.9km az=108.0,New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.90**	**210**	Pn		Pn	Pn	21 31 26.6	-2.1
	0.1nm,0.3s,baz=30,slow=13,SNR=1.9								
WRA				Sn		Sn	Sn	21 34 10.1	-16
	baz=94,slow=36,SNR=1.9								
WRA				Lg		Lg	Lg	21 36 09.0	
	baz=34,slow=29,SNR=1.8								
	0.4nm,0.6s								
ASAR	**Alice Springs**	**19.33**	**205**	P		P	Pn	21 32 10.9	-0.3
	0.3nm,0.3s,baz=29,slow=11,SNR=14								
	1.9nm,0.6s								
MKAR	**Makanchi Array**	**74.99**	**322**	P		P	P	21 39 27.4	+0.8
	0.3nm,0.9s,baz=119,slow=5.1,SNR=1.8								
	0.3nm,0.9s								
BVAR	**Borovoye Array**	**84.46**	**325**	P		P	P	21 40 17.8	-0.1
	0.3nm,0.5s,baz=91,slow=6.1,SNR=2.2								
	0.3nm,0.5s								
ILAR	**Eielson Array**	**87.36**	**24**	P		P	P	21 40 31.3	-0.7
	0.3nm,0.7s,baz=232,slow=4.4,SNR=2.6								
	0.3nm,0.7s								

*NEIC **04** 21:31:44.0±0.7,19°.44N±0°.01×155°.59W±0°.01,h3km±9km, Error ellipse: s-maj=2.4km s-min=1.0km az=142.0*
HVO 04 21:31:43.2±0.9,**19°.43N**±0°.01×**155°.613W**±0°.007, **h-1**km±6km,**ML3.0**/16,**ML2.6**/38(NEIC),**Error ellipse: s-maj=1.8km s-min=0.8km az=200.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MWH	**Moku'aweowe**	**0.05**	**16**	Pg		Pg	Pg	21 31 45.1	+0.9
MWH				Sg		Sg	Sg	21 31 46.7	+1.8
MLOA	**Mauna Loa Obse**	**0.11**	**19**			Pg	Pg	21 31 46.4	+1.1
MLOA						Sg	Sg	21 31 48.5	+1.8
MLOA	**Mauna Loa Obse**	**0.11**	**19**	IAML				21 31 48.6	
	comp=E,2µm,0.6s								
MLOA				IAML				21 31 48.9	
	comp=N,1µm,0.4s								
ALEP	**Alea Permanent**	**0.11**	**345**			Pg	Pg	21 31 46.5	+1.1
ALEP						Sg	Sg	21 31 48.7	+1.9
KHU	**Kahuku**	**0.19**	**181**			Pg	Pg	21 31 47.4	+0.6
KHU	**Kahuku**	**0.19**	**181**	IAML				21 31 51.4	
	comp=N,461nm,0.2s								
KHU				IAML				21 31 53.4	
	comp=E,471nm,0.4s								
HMH	**Humu'ula Sheep**	**0.21**	**36**			Pg	Pg	21 31 48.1	+0.9
HMH						Sg	Sg	21 31 51.6	+1.7
HMH	**Humu'ula Sheep**	**0.21**	**36**	IAML				21 31 52.5	
	comp=E,588nm,0.7s								
HMH				IAML				21 31 53.9	
	comp=N,384nm,1.2s								
MLH	**Mauna Loa**	**0.22**	**74**			Pg	Pg	21 31 48.4	+0.9
MLH	**Mauna Loa**	**0.22**	**74**	IAML				21 31 52.7	
	comp=N,1µm,0.6s								
MLH				IAML				21 31 52.8	
	comp=E,1µm,0.5s								
HTC	**Hot Caves**	**0.28**	**134**			Pg	Pg	21 31 49.0	+0.5
UWE	**Uwekahuna**	**0.30**	**92**			Pg	Pg	21 31 49.6	+0.7
UWE	**Uwekahuna**	**0.30**	**92**	IAML				21 31 57.0	
	comp=N,1µm,0.7s								
UWE				IAML				21 31 58.1	
	comp=E,2µm,0.4s								
SDHHI	**Sand Hill**	**0.30**	**98**			Pg	Pg	21 31 49.5	+0.5
SDHHI	**Sand Hill**	**0.30**	**98**	IAML				21 31 57.6	
	comp=E,2µm,1.0s								
SDHHI				IAML				21 31 59.2	
	comp=N,2µm,0.4s								
KHLU	**Kahalu`u**	**0.31**	**301**			Pg	Pg	21 31 50.3	+1.3
KHLU	**Kahalu`u**	**0.31**	**301**	IAML				21 31 56.6	
	comp=E,1µm,0.5s								
KHLU				IAML				21 32 00.5	
	comp=N,1µm,0.3s								
UWB	**Uwekahuna B**	**0.32**	**91**			Pg	Pg	21 31 49.7	+0.4
UWB	**Uwekahuna B**	**0.32**	**91**	IAML				21 32 00.1	
	comp=E,530nm,0.8s								
RSD	**Rainshed**	**0.32**	**84**			Pg	Pg	21 31 50.0	+0.7
RSD	**Rainshed**	**0.32**	**84**	IAML				21 32 00.4	
	comp=E,643nm,0.9s								
RSD				IAML				21 32 00.8	
	comp=N,548nm,0.3s								
HLP	**Hilina Pali**	**0.32**	**115**			Pg	Pg	21 31 49.8	+0.5
HLP						Sg	Sg	21 31 54.9	+1.5
HLP	**Hilina Pali**	**0.32**	**115**	IAML				21 31 57.2	
	comp=E,1µm,0.6s								
HLP				IAML				21 31 58.8	
	comp=N,928nm,0.6s								
RIM	**Rim**	**0.32**	**97**			Pg	Pg	21 31 49.8	+0.5
RIM	**Rim**	**0.32**	**97**	IAML				21 31 58.0	
	comp=E,1µm,1.2s								
RIM				IAML				21 31 58.5	
	comp=N,1µm,1.2s								
SBLHI	**Steaming Bluff**	**0.33**	**91**	Pg		Pg	Pg	21 31 49.7	+0.3
SBLHI						Sg	Sg	21 31 54.0	+0.4
SBLHI				IAML				21 32 00.4	
	comp=N,846nm,0.6s								
SBLHI				IAML				21 32 00.7	
	comp=E,1µm,0.8s								
HUH	**Hualalai**	**0.33**	**320**			Pb	Pb	21 31 51.4	-0.7
HUH				IAML				21 32 00.9	
	comp=E,611nm,0.5s								
HUH				IAML				21 32 01.1	
	comp=N,666nm,0.5s								
**

ASAR				S	S	21 48 13.9	-1.8	
	0.2nm,0.6s,baz=135,slow=15,SNR=4.5							
ASAR				Lg	Lg	21 50 35.8		
	baz=28,slow=32							
CMAR	**Chiang Mai Arr**	**49.75**	**301**	P	**P**	**21 49 15.7**	**+1.5**	
	0.3nm,0.3s,baz=111,slow=2.0,SNR=1.3							
	0.3nm,0.3s							
SONM	**Songino Array**	**62.90**	**333**	P	**P**	**21 50 46.8**	**-0.8**	
	0.2nm,0.6s,baz=142,slow=5.4,SNR=2.2							
	0.2nm,0.6s							
MKAR	**Makanchi Array**	**75.23**	**322**	P	**P**	**21 52 04.7**	**+0.6**	
	0.3nm,0.5s,baz=105,slow=7.2,SNR=6.5							
	0.3nm,0.5s							
ZALV	**Zalesovo Beam**	**77.25**	**329**	P	**P**	**21 52 15.0**	**-0.3**	
	0.3nm,0.3s,baz=108,slow=3.3,SNR=2.2							
	0.3nm,0.3s							
BVAR	**Borovoye Array**	**84.72**	**325**	P	**P**	**21 52 55.4**	**+0.3**	
	1.5nm,0.8s,baz=99,slow=9.2,SNR=7.9							
	1.5nm,0.8s							
ILAR	**Eielson Array**	**87.78**	**24**	P	**P**	**21 53 08.2**	**-1.9**	
	0.6nm,0.6s,baz=258,slow=5.0,SNR=12							
	0.6nm,0.6s							

RSNC 04 21:53:45.5±0.0, 7°N±2° × 77°3W±°, h141km±3km, mb3.5, mB5.3, ML2.8, Mw(mB)4.7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**199**	P	Pn	21 54 03.9	-1.2
BARC				S	Sn	21 54 18.6	-1.4
PAMC	**Pamplona, Colo**	**0.64**	**38**	P	Pn	21 54 06.6	-0.7
PAMC				S	Sn	21 54 23.6	-0.1
RUSC	**La Rusia**	**0.93**	**179**	P	Pn	21 54 08.0	-1.4
RUSC				S	Sn	21 54 26.1	-1.5
PTBC	**PUERTO BERRIO,**	**1.38**	**258**	P	Pn	21 54 10.4	-2.7
PTBC				S	Sn	21 54 31.5	-2.6
OCAC	**Ocana**	**1.42**	**351**	P	Pn	21 54 11.9	-1.8
OCAC				S	Sn	21 54 34.0	-1.2
SPBC	**San Pablo de B**	**1.52**	**220**	P	Pn	21 54 13.1	-1.6
SPBC				S	Sn	21 54 35.2	-1.8
NORC	**Norcasia**	**2.16**	**235**	P	Pn	21 54 20.3	-1.8
NORC				S	Sn	21 54 48.0	-2.2
ROSC	**El Rosal**	**2.32**	**212**	P	Pn	21 54 24.1	-0.3
ROSC				S	Sn	21 54 55.0	+0.8
CVER	**Cruz Verde, Cu**	**2.49**	**203**	P	Pn	21 54 25.5	-1.1
CVER				S	Sn	21 54 56.6	-1.5
HELC	**Santa Helena**	**2.50**	**255**	P	Pn	21 54 25.2	-1.3
HELC				S	Sn	21 54 57.2	-0.8
URFC	**San Jos de Ur**	**2.58**	**291**	P	Pn	21 54 24.5	-2.7
UREC				S	Sn	21 54 55.7	-3.7
GUY2C	**Guyana, Caldas**	**2.76**	**235**	P	Pn	21 54 28.2	-1.7
GUY2C				S	Sn	21 55 03.7	-0.4
VILC	**Villavicencio,**	**2.76**	**192**	P	Pn	21 54 27.9	-1.8
VILC				S	Sn	21 55 02.6	-1.1
PTGC	**Puerto Gaitan,**	**2.79**	**160**	P	Pn	21 54 27.2	-2.6
PTGC				S	Sn	21 55 00.3	-3.7
LL6C	**La Loma 6 Bece**	**2.89**	**357**	P	Pn	21 54 28.8	-2.4
CBOC	**Ciudad Bolivar**	**3.05**	**252**	P	Pn	21 54 32.0	-1.3
CBOC				S	Sn	21 55 08.8	-1.4
DBBC	**Dabeiba**	**3.09**	**274**	P	Pn	21 54 31.6	-2.2
DBBC				S	Sn	21 55 08.6	-2.5
ARGC	**Ariguani, Magd**	**3.21**	**339**	P	Pn	21 54 34.7	-0.6
ARGC				S	Sn	21 55 12.8	-1.1
ORTC	**Ortega, Tolima**	**3.60**	**216**	P	Pn	21 54 39.5	-0.9
ORTC				S	Sn	21 55 22.4	-0.5
APAC	**Apartado, Choc**	**3.61**	**287**	P	Pn	21 54 38.2	-2.2
APAC				S	Sn	21 55 20.4	-2.6
SJCC	**San Jacinto, C**	**3.68**	**326**	P	Pn	21 54 38.2	-3.2
SJCC				S	Sn	21 55 19.1	-5.6
PLMC	**San Jos del P**	**3.70**	**239**	P	Pn	21 54 39.7	-2.0
PLMC				S	Sn	21 55 24.1	-1.1
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	P	Pn	21 54 44.0	-3.9
CRJC				S	Sn	21 55 31.8	-4.5
YOTC	**Yotoco, Valle**	**4.29**	**229**	P	Pn	21 54 46.4	-3.1
SMRC	**Santa Marta, M**	**4.45**	**346**	P	Pn	21 54 49.4	-2.1
SMRC				S	Sn	21 55 37.0	-5.8
PTAC	**Punta Ardita,**	**4.68**	**274**	P	Pn	21 54 50.8	-3.8
MALC	**Bahia Malaga**	**5.06**	**237**	P	Pn	21 54 59.0	-0.6

IDC 04 21:54:16.1±3.4, 5°81S × 141°58E, h0km, mb3.5/2, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=116.5km s-min=25.4km az=100.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.71**	**206**	Pn	Pn	21 57 56.9	-2.1
	0.2nm,0.3s,baz=29,slow=13,SNR=8.5						
WRA				Sn	Sn	22 00 40.8	-13
	baz=15,slow=38,SNR=0.9						
WRA				Lg	Lg	22 02 37.0	
	baz=28,slow=29,SNR=1.5						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**19.23**	**202**	P	P	21 58 42.2	+0.2
	0.3nm,0.3s,baz=32,slow=10,SNR=18						
ASAR				Lg	Lg	22 04 27.7	
	baz=19,slow=32,SNR=1.3						
	2.3nm,0.9s						
MKAR	**Makanchi Array**	**73.97**	**322**	P	P	22 05 54.3	+0.9
	0.2nm,0.8s,baz=108,slow=4.7,SNR=2.1						
	0.2nm,0.8s						
BVAR	**Borovoye Array**	**83.47**	**325**	P	P	22 06 45.0	-0.6
	0.6nm,0.7s,baz=123,slow=5.3,SNR=2.8						
	0.6nm,0.7s						

*IDC **04** 22:18:00.2±1.9, 20°.92S × 178°.59W, h516km±19km, mb3.6/12, mbtmp4.5/14, Error ellipse: s-maj=16.4km s-min=15.0km az=148.0*
*NEIC **04** 22:18:01.3±1.6, 21°.1S±0°.1 × 178°.5W±0°.1, h531km±8km, mb4.4/43, Error ellipse: s-maj=21.0km s-min=17.4km az=162.0*
*NOU **04** 22:18:02.4, 21°.10S × 178°.47W, h531km, mb4.3/16, Fiji Islands Region*

ISC 04 22:18:03.3±0.5, 21°.13S±0°.08 × 178°.65W±0°.09, h550km, n114, σ1§40/115, mb4.4/35, 3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.59**	**317**	P	**P**	**22 19 28.6**	**-1.3**
MSVF	**Nonsavu**	**4.59**	**317**	P	**P**	**22 19 29.0**	**-1.0**
DGTI	**Dogotuki**	**5.04**	**342**	P	**P**	**22 19 31.6**	**-2.0**
NIUE	**Niue**	**8.45**	**78**	P	**P**	22 20 01.8	-3.7
NIUE	**Niue**	**8.45**	**78**	P	**P**	22 20 02.7	-2.8
MARNC	**Mare, Loyalty**	**12.42**	**266**	P	**P**	**22 20 46.0**	**-0.1**
MARNC	**Mare, Loyalty**	**12.42**	**266**	P	**P**	**22 20 47.0**	**+0.8**
PINNC	**Pines Island,**	**12.99**	**261**	P	**P**	**22 20 52.9**	**+0.9**
DZM	**Mont Dzumac**	**13.90**	**263**	P	**P**	**22 21 00.7**	**-0.8**
DZM	**Mont Dzumac**	**13.90**	**263**	P	**P**	**22 21 01.8**	**+0.3**
DZM	**Mont Dzumac**	**13.90**	**263**	P	**P**	**22 20 58.2**	**-3.3**
	6.7nm,0.6s,baz=76,slow=16,SNR=8.3						
OUZ	**Omahuta**	**15.60**	**204**	P	**P**	**22 21 19.9**	**+1.2**
KOUNC	**Koumac, New Ca**	**15.96**	**269**	P	**P**	**22 21 24.5**	**+2.0**
KOUNC				IAmb	IAmb	22 21 25.4	
	comp=Z,21nm,0.8s						
TOZ	**Tahuroa Road**	**17.30**	**196**	P	**P**	**22 21 35.3**	**+0.7**
URZ	**Urewera**	**17.46**	**191**	P	**P**	**22 21 35.4**	**-0.6**
URZ	**Urewera**	**17.46**	**191**	P	**P**	**22 21 34.7**	**-1.2**
	comp=Z,13nm,0.7s,baz=101,slow=5.2,SNR=7.3						
URZ				S	**S**	**22 24 24.1**	**-5.2**
	comp=Z,5.8nm,0.8s,baz=297,slow=22,SNR=1.8						
RTZ	**Ruatahuna**	**17.83**	**191**	P	**P**	**22 21 38.4**	**-1.1**
RTZ				IAmb	IAmb	22 22 13.0	
	comp=Z,22nm,1.2s						
BKZ	**Black Stump Fm**	**18.45**	**192**	P	**P**	**22 21 44.8**	**-0.4**
BFZ	**Birch Farm**	**19.97**	**191**	P	**P**	**22 21 59.2**	**+0.4**
MRZ	**Mangatainoka R**	**20.08**	**193**	P	**P**	**22 21 59.2**	**-0.6**
TUWZ	**Tuamarina**	**21.18**	**196**	P	**P**	**22 22 11.1**	**+1.3**
DSZ	**Denniston Nort**	**22.08**	**199**	P	**P**	**22 22 18.1**	**+0.2**
KHZ	**Kahutara**	**22.21**	**195**	P	**P**	**22 22 21.1**	**+2.1**
LTZ	**Lake Taylor**	**22.89**	**197**	P	**P**	**22 22 23.6**	**-1.6**
RPZ	**Rata Peaks**	**24.10**	**199**	P	**P**	**22 22 36.3**	**+0.5**
RPZ	**Rata Peaks**	**24.10**	**199**	P	**P**	**22 22 37.1**	**+1.3**
JCZ	**Jackson Bay**	**25.15**	**202**	P	**P**	**22 22 45.7**	**+0.5**
EIDS	**Eidsvold**	**28.09**	**256**	P	**P**	**22 23 11.6**	**+0.3**
EIDS				IAmb	IAmb	22 23 12.6	
	comp=Z,9.6nm,0.7s						
ARMA	**Armidale**	**28.25**	**245**	P	**P**	**22 23 13.0**	**+0.3**
ARMA				IAmb	IAmb	22 23 16.2	
	comp=Z,12nm,1.2s						
ARMA	**Armidale**	**28.25**	**245**	P	**P**	**22 23 14.2**	**+1.5**
MGCD	**Mangrove Creek**	**29.36**	**239**	P	**P**	**22 23 23.9**	**+1.7**
CNB	**Canberra Magne**	**31.37**	**236**	P	**P**	**22 23 41.4**	**+1.9**
CAN	**Canberra**	**31.65**	**236**	P	**P**	**22 23 43.0**	**+1.1**
CAN				IAmb	IAmb	22 23 44.1	
	comp=Z,18nm,1.0s						
CTAO	**Charters Tower**	**32.83**	**265**	P	**P**	**22 23 51.9**	**-0.1**
CMSA	**Cobar Meteorol**	**33.46**	**245**	P	**P**	**22 23 58.6**	**+1.4**
PMG	**Port Moresby**	**34.90**	**284**	P	**P**	**22 24 08.5**	**-1.0**
	comp=Z,8.6nm,0.5s,baz=117,slow=14,SNR=3.5						
	comp=Z,8.6nm,0.5s						
TOO	**Toolangi**	**35.03**	**234**	P	**P**	**22 24 10.8**	**+0.5**
TOO				IAmb	IAmb	22 24 12.2	
	comp=Z,15nm,0.7s						
STKA	**Stephens Creek**	**36.97**	**245**	P	**P**	**22 24 27.4**	**+1.0**
STKA	**Stephens Creek**	**36.97**	**245**	P	**P**	**22 24 27.3**	**+0.9**
	comp=Z,6.4nm,0.6s,baz=88,slow=9.2,SNR=15						
	comp=Z,6.4nm,0.6s						
COEN	**Coen**	**37.02**	**275**	P	**P**	**22 24 26.8**	**-0.2**
COEN				IAmb	IAmb	22 24 28.4	
	comp=Z,13nm,0.9s						
BBOO	**Buckleboo**	**41.72**	**244**	P	**P**	**22 25 04.8**	**+0.2**
WR0	**Warramunga Arr**	**43.72**	**263**	P	**P**	**22 25 19.8**	**-0.6**
WR0				IAmb	IAmb	22 25 23.1	
	comp=Z,6.8nm,0.8s						
AS31	**Alice Springs**	**43.78**	**257**	P	**P**	**22 25 21.3**	**+0.4**
ASAR	**Alice Springs**	**43.78**	**257**	P	**P**	**22 25 20.9**	**+0.1**
	comp=Z,19nm,0.8s,baz=86,slow=8.4,SNR=128						
ASAR				PcP	**PcP**	**22 26 55.8**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=106,slow=4.0,SNR=6.0						
ASAR				ScP	**ScP**	**22 29 58.6**	**+3.8**
	comp=Z,1.3nm,1.0s,baz=111,slow=4.4,SNR=4.8						
	comp=Z,19nm,0.8s						
WB0	**Warramunga Arr**	**43.89**	**263**	P	**P**	**22 25 21.0**	**-0.7**
WB0				IAmb	IAmb	22 25 22.0	
	comp=Z,14nm,0.7s						
WB2	**Warramunga Arr**	**43.90**	**263**	P	**P**	**22 25 21.2**	**-0.6**
WB2				IAmb	IAmb	22 25 22.2	
	comp=Z,20nm,0.9s						
WRA	**Warramunga Arr**	**43.91**	**263**	P	**P**	**22 25 20.9**	**-1.0**
WRA	**Warramunga Arr**	**43.91**	**263**	P	**P**	**22 25 21.3**	**-0.6**
	comp=Z,7.7nm,0.5s,baz=96,slow=7.6,SNR=114						
WRA				S	**S**	**22 31 11.3**	**-2.5**
	comp=Z,0.8nm,1.0s,baz=99,slow=14,SNR=3.8						
	comp=Z,7.7nm,0.5s						
FORT	**Forrest**	**48.49**	**247**	P	**P**	**22 25 56.2**	**-0.2**
MTN	**Manton Dam**	**48.56**	**271**	P	**P**	**22 25 56.2**	**-0.9**
MTN				IAmb	IAmb	22 25 57.3	
	comp=Z,17nm,0.8s						
KNRA	**Kununurra**	**50.01**	**267**	P	**P**	**22 26 07.5**	**-0.4**
KNRA				IAmb	IAmb	22 26 08.5	
	comp=Z,20nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.34**	**263**	P	**P**	**22 26 24.3**	**-0.3**
SOEI	**Soe**	**55.91**	**272**	P	**P**	**22 26 50.4**	**+0.4**
VNDA	**Vanda**	**57.23**	**185**	P	**P**	**22 26 59.2**	**+1.4**
	comp=Z,1.2nm,0.6s,baz=3.0,slow=5.9,SNR=7.3						
	comp=Z,1.2nm,0.6s						
QSPA	**South Pole Qui**	**68.94**	**180**	P	**P**	**22 28 14.3**	**+0.9**
QSPA				IAmb	IAmb	22 28 15.6	
	comp=Z,6.0nm,0.8s						
QSPA	**South Pole Qui**	**68.94**	**180**	P	**P**	**22 28 14.9**	**+1.6**
	comp=Z,5.4nm,0.7s,baz=14,slow=1.4,SNR=27						
	comp=Z,5.4nm,0.7s						
LEM	**Lembang**	**72.42**	**269**	P	**P**	**22 28 35.3**	**+0.5**
	comp=Z,19nm,0.8s,baz=157,slow=22,SNR=4.8						
	comp=Z,19nm,0.8s						
BELA	**Belgrano 2**	**79.01**	**173**	P	**P**	**22 29 10.2**	**+0.2**
NVAR	**Mina Array Bea**	**81.90**	**44**	P	**P**	**22 29 26.1**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=222,slow=9.1,SNR=8.7						
	comp=Z,0.7nm,0.6s						
BNX	**BinXian**	**82.59**	**325**	⇓P	P	**22 29 29.0**	**+0.2**
BNX				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BNX				pmax	pmax		
	comp=Z,190nm,4.2s						
ELIB	**Princess Elisa**	**85.95**	**187**	*d*P	**P**	**22 29 43.2**	**-1.9**
ELIB				*d*PcP	**PcP**	**22 29 45.8**	**-1.1**
F10A	**Beach Ranch, E**	**86.87**	**38**	P	**P**	**22 29 49.3**	**-0.5**
P17A	**Butcher Ranch,**	**87.43**	**46**	P	**P**	**22 29 51.4**	**-1.3**
P17A				IAmb	IAmb	22 30 35.3	
	comp=Z,7.6nm,0.9s						
RND	**Reindeer**	**87.45**	**13**	P	**P**	**22 29 51.8**	**-0.2**
RND				IAmb	IAmb	22 29 52.1	
	comp=Z,4.9nm,0.8s						
MCK	**McKinley**	**87.72**	**13**	P	**P**	**22 29 52.7**	**-0.6**
MCK				IAmb	IAmb	22 30 14.3	
	comp=Z,6.6nm,1.4s						
TXAR	**Lajitas Array**	**87.91**	**58**	P	**P**	**22 29 55.7**	**+0.7**
	comp=Z,0.8nm,0.9s,baz=202,slow=6.3,SNR=4.1						
	comp=Z,0.8nm,0.9s						
PV21	**Cone Mtn., Par**	**88.18**	**47**	P	**P**	**22 29 54.8**	**-1.6**
I21K	**Tanana**	**88.44**	**11**	P	**P**	**22 29 55.5**	**-1.0**
I21K				IAmb	IAmb	22 30 00.6	
	comp=Z,7.2nm,1.4s						
MLY	**Manley**	**88.53**	**11**	P	**P**	**22 29 55.5**	**-1.6**
MLY				IAmb	IAmb	22 29 57.3	
	comp=Z,5.8nm,1.4s						
WRH	**Wood River Hil**	**88.55**	**13**	P	**P**	**22 29 55.6**	**-1.4**
WRH				IAmb	IAmb	22 29 57.1	
	comp=Z,7.9nm,1.2s						
CCB	**Clear Creek Bu**	**88.76**	**13**	P	**P**	**22 29 56.4**	**-1.6**
CCB				IAmb	IAmb	22 29 57.2	
	comp=Z,2.4nm,0.6s						
IMAR	**Indian Mountai**	**88.88**	**10**	P	**P**	**22 29 57.6**	**-1.0**
MDM	**Murphy Dome**	**88.95**	**12**	P	**P**	**22 29 58.2**	**-0.8**
ILAR	**Eielson Array**	**89.06**	**13**	P	**P**	**22 29 59.2**	**-0.3**
ILAR	**Eielson Array**	**89.06**	**13**	P	**P**	**22 29 57.9**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=226,slow=5.8,SNR=10						
	comp=Z,0.6nm,0.6s						
M29M	**Somme Creek**	**89.18**	**17**	P	**P**	**22 30 00.1**	**-0.1**
M29M				IAmb	IAmb	22 30 38.3	
	comp=Z,4.7nm,1.4s						
J25K	**Salcha River,**	**89.25**	**14**	P	**P**	**22 29 59.4**	**-1.0**
J25K				IAmb	IAmb	22 30 01.2	
	comp=Z,5.5nm,1.5s						
HHC	**Hu-ho-hao-te**	**89.36**	**315**	*e*P	**P**	**22 30 02.4**	**+0.8**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,92nm,7.5s						
G21K	**Allakaket**	**89.41**	**10**	P	**P**	**22 30 00.5**	**-0.6**
G21K				IAmb	IAmb	22 30 01.4	
	comp=Z,4.2nm,1.1s						
F20K	**Avaraart Lake**	**89.57**	**9**	P	**P**	**22 30 00.5**	**-1.2**
E19K	**Redstone River**	**89.75**	**8**	P	**P**	**22 30 02.1**	**-0.5**
CMAR	**Chiang Mai Arr**	**89.75**	**290**	P	**P**	**22 30 05.3**	**+1.5**
	comp=Z,1.7nm,0.3s,baz=124,slow=3.5,SNR=13						
	comp=Z,1.7nm,0.3s						
PDAR	**Pinedale Array**	**89.84**	**43**	P	**P**	**22 30 03.4**	**-0.5**
PDAR	**Pinedale Array**	**89.84**	**43**	P	**P**	**22 30 03.6**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=227,slow=2.7,SNR=9.3						
	comp=Z,0.7nm,0.5s						
CHTO	**Chiang Mai**	**89.89**	**290**	P	**P**	**22 30 05.7**	**+1.3**
PZH	**PanZhiHua**	**90.47**	**298**	P	**P**	**22 30 08.0**	**+0.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,70nm,6.3s						
MKAR	**Makanchi Array**	**111.19**	**313**	PKiKP	**PKiKP**	**22 35 33.5**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=120,slow=1.0,SNR=9.4						
KURBB	**Kurchatov Arra**	**114.09**	**317**	PKiKP	PKPdf	22 35 38.4	-1.7
	comp=Z,0.4nm,0.6s,baz=90,slow=2.0,SNR=6.4						
BVAR	**Borovoye Array**	**119.17**	**320**	PKP	**PKPdf**	**22 35 48.8**	**-1.0**
	comp=Z,1.6nm,0.3s,baz=115,slow=2.5,SNR=34						
SPITS	**Spitsbergen Ar**	**122.45**	**356**	PKP	**PKPdf**	**22 35 54.0**	**-1.4**
	comp=Z,25nm,1.2s,baz=318,slow=1.9,SNR=2.6						
ARCES	**ARCESS Array B**	**129.43**	**349**	PKP	**PKPdf**	**22 36 08.0**	**-0.9**
	comp=Z,3.6nm,0.9s,baz=355,slow=1.3,SNR=7.4						
FINES	**FINESS Array B**	**136.20**	**343**	PKhKP	PKPpre	22 36 14.2	
	comp=Z,1.1nm,0.9s,baz=29,slow=4.4,SNR=4.3						
FINES				PKP	**PKPdf**	**22 36 22.1**	**+0.3**
	comp=Z,1.8nm,0.9s,baz=70,slow=2.6,SNR=8.1						
FINES				SKPbc	**SKPbc**	**22 39 03.9**	**+1.5**
	comp=Z,3.1nm,0.8s,baz=20,slow=6.1,SNR=9.3						
NOA	**NORSAR Array B**	**139.53**	**353**	PKhKP	PKPpre	22 36 17.7	
	comp=Z,0.5nm,1.0s,baz=30,slow=4.3,SNR=1.4						
HFS	**Hagfors**	**140.06**	**350**	PKhKP	PKPpre	22 36 21.3	
	comp=Z,1.2nm,0.3s,baz=58,slow=3.9,SNR=20						
HFS				SKPbc	**SKPbc**	**22 39 14.5**	**+1.1**
	comp=Z,2.6nm,0.8s,baz=34,slow=3.9,SNR=3.6						
LODK	**Lodwar**	**142.54**	**247**		**PKPdf**	**22 36 33.0**	**-1.8**
AKASG	**Malin Array Be**	**143.26**	**330**	PKP	PKPab	22 36 32.0	-0.9
	comp=Z,1.6nm,0.4s,baz=43,slow=4.2,SNR=14						
ARPR	**Arapgir-MALATY**	**143.65**	**308**		PKPab	22 36 35.9	+0.8
EKA	**Eskdalemuir Ar**	**145.68**	**5**	PKPbc	**PKPdf**	**22 36 37.4**	**-1.5**
	comp=Z,0.8nm,0.6s,baz=15,slow=3.1,SNR=1.8						
BRTR	**Keskin Array B**	**146.80**	**311**	PKPbc	**PKPdf**	**22 36 43.8**	**+2.3**
	comp=Z,1.3nm,0.7s,baz=132,slow=2.8,SNR=12						
MMAI	**Mount Meron Ar**	**147.59**	**299**	PKPbc	**PKPdf**	**22 36 46.8**	**+3.8**
	comp=Z,2.0nm,0.5s,baz=61,slow=4.2,SNR=14						
GERES	**GERESS Array B**	**150.63**	**343**	PKPbc	**PKPbc**	**22 36 52.6**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=44,slow=4.1,SNR=5.4						
CONA	**Conrad Observa**	**150.82**	**340**	*i* PKP	**PKPbc**	**22 36 53.8**	**-0.1**
	comp=Z,1.3nm,0.5s						
RONA	**Rosalia, Austr**	**150.87**	**339**	*i* PKP	**PKPbc**	**22 36 54.1**	**+0.3**
	comp=Z,3.7nm,0.5s						
MOA	**Molln**	**151.38**	**342**	*i* PKP	**PKPbc**	**22 36 54.6**	**-0.4**
	comp=Z,0.6nm,0.3s						
BIOA	**Bad Ischl, Aus**	**151.70**	**342**	*e*PKP	**PKPbc**	**22 36 54.9**	**-0.9**
	comp=Z,0.8nm,0.3s						
SOKA	**Soboth**	**152.19**	**340**	*e*PKP	**PKPbc**	**22 36 56.6**	**-0.3**
	comp=Z,0.2nm,0.3s						
LESA	**Schwarzleotal**	**152.21**	**343**	*i* PKP	**PKPbc**	**22 36 56.3**	**-0.7**
	comp=Z,0.8nm,0.3s						
KBA	**Koelnbreinsper**	**152.34**	**342**	*i* PKP	**PKPbc**	**22 36 56.0**	**-1.4**
	comp=Z,0.5nm,0.4s						
WATA	**Walderalm**	**152.58**	**345**	*i* PKP	**PKPbc**	**22 36 57.1**	**-0.7**
	comp=Z,1.4nm,0.5s						
WTTA	**Wattenberg**	**152.63**	**345**	*i* PKP	**PKPbc**	**22 36 57.2**	**-0.8**
	comp=Z,0.8nm,0.3s						
MOTA	**Moosalm**	**152.68**	**345**	*e*PKP	**PKPbc**	**22 36 58.0**	**-0.1**
	comp=Z,0.1nm,0.2s						
ABTA	**Abfaltersbach**	**152.88**	**343**	*i* PKP	**PKPdf**	**22 36 56.6**	**+5.9**
	comp=Z,1.0nm,0.5s						
FETA	**Feichten**	**153.07**	**346**	*e*PKP	**PKPdf**	**22 36 51.6**	**+0.6**
	comp=Z,1.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**172.05**	**182**	PKP	**PKPdf**	**22 37 08.7**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=153,slow=1.1,SNR=3.9						
TORD				PKPab	**PKPab**	**22 38 37.1**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=164,slow=1.5,SNR=3.6						

*IDC **04** 22:19:39.0±1.5, 7°.68S × 125°.30E, h0km, mb3.6/3, mbtmp3.5/5, ML3.4/2, Error ellipse: s-maj=127.4km s-min=25.5km az=66.0*
*DJA **04** 22:19:42.4±0.8, 8°S±4° × 12°5E±°, h10km, M3.4/7, mb3.7/1, MLv3.3/7*

ISC 04 22:19:42.8±1.2, 8°.0S±0°.1 × 124°.9E±0°.1, h27km, n9, σ1§35/9, mb3.6/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.87**	**198**	P	**Pb**	**22 20 15.9**	**-0.5**
MMRI	**Maumere**	**2.67**	**255**	P	**Pn**	**22 20 23.8**	**-0.3**
EDFI	**Ende, Flores**	**3.22**	**256**	P	**Pn**	**22 20 31.6**	**-0.2**
BKSI	**Bulukumba**	**5.38**	**299**	P	**Pn**	**22 21 00.2**	**-1.2**
WRA	**Warramunga Arr**	**15.04**	**143**	Pn	**Pn**	**22 23 11.5**	**-2.2**
	0.2nm,0.3s,baz=318,slow=13,SNR=10						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**17.86**	**152**	P	**P**	**22 23 50.5**	**+0.5**
	0.1nm,0.3s,baz=334,slow=12,SNR=3.2						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**66.35**	**330**	P	**P**	**22 30 29.4**	**+0.3**
	0.3nm,0.6s,baz=125,slow=8.2,SNR=5.4						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**70.76**	**331**	P	**P**	**22 30 57.0**	**+0.4**
	0.1nm,0.6s,baz=145,slow=5.0,SNR=2.0						
	0.1nm,0.6s						
QSPA	**South Pole Qui**	**82.02**	**180**	P	**P**	**22 32 02.4**	**+2.0**
	0.5nm,0.2s,baz=322,slow=5.6,SNR=18						
	0.5nm,0.2s						

*DJA **04** 22:28:51.0±0.6, 6°S±4° × 12°9E±°, h364km±10km, M4.0/12, mb3.6/7, mB4.6/3, MLv4.2/12, Mw(mB)3.8/3*
*IDC **04** 22:28:59.5±5.0, 6°.35S × 128°.90E, h369km±59km, mb2.4/2, mbtmp3.7/4, Error ellipse: s-maj=159.8km s-min=16.7km az=71.0*

ISC 04 22:28:54.8±0.9, 6°.19S±0°.07 × 128°.99E±0°.09, h350km, n12, σ2§52/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.89**	**29**	P	**Pn**	**22 29 44.5**	**-0.9**
**

comp=Z,11nm,0.9s
BKSI Bulukumba 22.87 272 P **P** **22 43 05.9 +0.8**
KAPI Kappang 23.26 272 P **P** **22 43 08.1 -1.0**
KAPI IAmb IAmb 22 43 28.7
comp=Z,30nm,1.3s
TOLI2 Tolitoli 23.51 288 P **P** **22 43 12.8 +1.3**
TOLI2 IAmb IAmb 22 43 16.8
comp=Z,17nm,0.9s
STKA Stephens Creek 25.29 183 P **P** **22 43 29.4 +1.7**
comp=Z,3.7nm,0.8s,baz=352,slow=8.6,SNR=6.2
STKA Lg Lg 22 51 31.3
comp=Z,0.1nm,0.3s,baz=313,slow=15,SNR=1.9
comp=Z,3.7nm,0.8s
KSRS Korea Array 45.96 343 P **P** **22 46 22.6 -1.4**
comp=Z,2.6nm,1.0s,baz=165,slow=8.9,SNR=1.6
comp=Z,2.6nm,1.0s
LYN LuoYang 50.03 327 *e*P **P** **22 46 56.6 +0.9**
LYN pmax pmax
comp=Z,5.0nm,0.6s
CMAR Chiang Mai Arr 50.10 300 P **P** **22 46 56.2 -0.3**
comp=Z,1.9nm,0.3s,baz=122,slow=5.9,SNR=4.3
comp=Z,1.9nm,0.3s
USRK Ussuriysk Ar. 51.44 350 P **P** **22 47 03.3 -2.8**
comp=Z,3.5nm,1.1s,baz=175,slow=7.2,SNR=2.9
comp=Z,3.5nm,1.1s
PZH PanZhiHua 51.78 311 P **P** **22 47 09.2 0.0**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,80nm,4.9s
HHC Hu-ho-hao-te 55.29 331 *e*P **P** **22 47 36.7 +2.1**
HHC pmax pmax
comp=Z,7.0nm,0.7s
HHC pmax pmax
comp=Z,53nm,4.6s
PETK Petropavlovsk- 60.66 10 P **P** **22 48 10.9 -0.9**
comp=Z,5.1nm,0.9s,baz=223,slow=5.7,SNR=2.7
comp=Z,5.1nm,0.9s
SONM Songino Array 63.01 333 P **P** **22 48 27.8 -0.1**
comp=Z,0.4nm,0.6s,baz=142,slow=5.1,SNR=4.3
comp=Z,0.4nm,0.6s
MA2 Magadan 66.14 4 P **P** **22 48 46.4 -1.6**
comp=Z,2.7nm,0.2s,baz=161,slow=8.2,SNR=4.0
comp=Z,2.7nm,0.2s
YAK Yakutsk 69.11 353 P **P** **22 49 07.0 +0.3**
SEY Seymchan 69.59 5 P **P** **22 49 08.2 -1.5**
comp=Z,2.2nm,0.9s,baz=198,slow=4.6,SNR=8.2
comp=Z,2.2nm,0.9s
MK31 Makanchi Array 75.44 322 P **P** **22 49 44.8 -0.1**
MK31 IAmb IAmb 22 49 48.1
comp=Z,2.7nm,0.9s
MKAR Makanchi Array 75.44 322 P **P** **22 49 44.1 -0.7**
MKAR Makanchi Array 75.44 322 P **P** **22 49 44.6 -0.3**
comp=Z,1.9nm,0.7s,baz=107,slow=6.8,SNR=17
comp=Z,1.9nm,0.7s
MAKZ Makanchi 75.64 322 P **P** **22 49 45.6 -0.4**
MAKZ IAmb IAmb 22 49 49.1
comp=Z,3.4nm,0.9s
KSH Kashi 76.84 313 P **P** **22 49 54.6 +1.5**
KSH pP pP 22 50 00.8 -3.4
KSH pmax pmax
comp=Z,3.0nm,1.5s
ZALV Zalesovo Beam 77.39 329 P **P** **22 49 54.8 -1.0**
comp=Z,0.3nm,0.4s,baz=109,slow=7.9,SNR=2.0
comp=Z,0.3nm,0.4s
O14K Tigyukauivet M 78.95 26 P **P** **22 50 04.3 +0.1**
KURBB Kurchatov Arra 79.32 324 P **P** **22 50 05.8 -0.7**
comp=Z,1.0nm,0.3s,baz=113,slow=4.8,SNR=6.4
comp=Z,1.0nm,0.3s
K15K Wolf Creek Mou 80.53 23 P **P** **22 50 13.5 +0.7**
QSPA South Pole Qui 83.48 180 P **P** **22 50 29.9 +1.5**
QSPA IAmb IAmb 22 50 31.6
comp=Z,8.5nm,1.1s
QSPA South Pole Qui 83.48 180 P **P** **22 50 29.5 +1.0**
comp=Z,3.7nm,0.9s,baz=338,slow=3.8,SNR=6.5
comp=Z,3.7nm,0.9s
G18K Tagagawik 83.55 21 P **P** **22 50 30.0 +1.4**
G18K IAmb IAmb 22 50 36.2
comp=Z,2.9nm,1.1s
E19K Redstone River 84.85 20 P **P** **22 50 35.7 +0.6**
E19K IAmb IAmb 22 50 36.1
comp=Z,3.3nm,1.1s
BVAR Borovoye Array 84.90 325 P **P** **22 50 35.6 0.0**
comp=Z,5.1nm,0.8s,baz=106,slow=5.3,SNR=22
comp=Z,5.1nm,0.8s
IMAR Indian Mountai 85.35 21 P **P** **22 50 38.4 +0.8**
D22K Ayikyak River 87.03 19 P **P** **22 50 46.0 +0.1**
D22K IAmb IAmb 22 51 27.8
comp=Z,6.2nm,1.4s
ILAR Eielson Array 87.48 24 P **P** **22 50 46.2 -2.0**
comp=Z,0.9nm,0.9s,baz=249,slow=5.0,SNR=4.9
comp=Z,0.9nm,0.9s
C23K Ikkilik River 88.10 19 P **P** **22 50 51.7 +0.8**
F24K Squaw Lake 88.10 21 P **P** **22 50 54.0 +2.8**
F24K IAmb IAmb 22 51 01.4
comp=Z,3.8nm,1.1s
M27K Edge Creek, AK 88.84 27 P **P** **22 50 56.9 +2.1**
ABKAR Akbulak array 90.41 319 P **P** **22 51 02.2 0.0**
TORD Torodi Ar. Bea 141.43 283 PKP **PKPdf** **22 57 32.4 -0.4**
comp=Z,0.5nm,0.8s,baz=108,slow=4.7,SNR=2.4
DBIC Dimbokro 148.16 272 PKPbc **PKiKP** **22 57 48.9 -0.6**
comp=Z,5.5nm,0.9s,baz=64,slow=5.2,SNR=4.6

*IDC **04** 22:44:15.6±1.4, 55°.98N×149°.27W, h0km, mb3.4/5, mbtmp3.4/10, ML3.1/5, MS3.5/6, Error ellipse: s-maj=29.2km s-min=17.9km az=42.0*
*NEIC **04** 22:44:17.3±1.4, 56°.04N±0°.08×149°.2W±0°.1, h20km±10km, ML3.6/18, ML3.6(AEIC), Error ellipse: s-maj=12.1km s-min=8.4km az=159.0*
*AEIC **04** 22:44:20.5±1.4, 56°.05N±0°.08×149°.20W±0°.05, h10km±7km, Error ellipse: s-maj=12.7km s-min=3.0km az=163.0*
ISC 04 22:44:16.8±0.8, 56°.14N±0°.07×149°.26W±0°.05, h10km, n217, σ0.992/214, mb3.5/5, MS3.6/3, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.46**	**314**		**Pn**	**22 44 57.3**	**+0.4**
KDAK					**Sn**	**22 45 25.6**	**-1.2**
KDAK	**Kodiak Island**	**2.46**	**314**	Pn	**Pn**	**22 44 57.2**	**+0.4**
	2.2nm,0.3s,baz=144,slow=6.7,SNR=31						
KDAK				Sn	**Sn**	**22 45 26.1**	**-0.8**
	4.6nm,0.3s,baz=267,slow=10,SNR=7.1						
	12nm,0.5s						
OHAK	**Old Harbor**	**2.47**	**298**		**Pn**	**22 44 57.0**	**0.0**
OHAK					**Sn**	**22 45 25.7**	**-1.6**
OHAK	**Old Harbor**	**2.47**	**298**	P	**Pn**	**22 44 57.4**	**+0.3**
OHAK	**Old Harbor**	**2.47**	**298**	P	**Pn**	**22 44 57.0**	**0.0**
	baz=115						
OHAK				S	**Sn**	**22 45 25.7**	**-1.6**
	baz=115						
SII	**Sitkinak Islan**	**2.77**	**281**		**Pn**	**22 45 01.0**	**-0.2**
SII					**Sn**	**22 45 32.4**	**-2.3**
SII	**Sitkinak Islan**	**2.77**	**281**	IAML		22 45 34.0	
	comp=E,378nm,0.8s						
SII				IAML		22 45 43.0	
	comp=N,428nm,0.7s						
SII	**Sitkinak Islan**	**2.77**	**281**	P	**Pn**	**22 45 01.0**	**-0.2**
	baz=98						
CNPM	**China Poot**	**3.56**	**344**		**Pn**	**22 45 12.1**	**+0.1**
CNPM					**Sn**	**22 45 53.4**	**-0.7**
CNPM	**China Poot**	**3.56**	**344**	IAML		22 45 58.4	
	comp=N,62nm,1.3s						
CNPM				IAML		22 46 01.7	
	comp=E,65nm,0.7s						
CHIR	**Chirikof Islan**	**3.59**	**268**		**Pn**	**22 45 11.6**	**-0.8**
CHIR					**Sn**	**22 45 51.2**	**-3.6**
CHIR	**Chirikof Islan**	**3.59**	**268**	IAML		22 45 58.9	
	comp=E,195nm,0.8s						
CHIR				IAML		22 45 59.2	
	comp=N,203nm,1.8s						
CHIR	**Chirikof Islan**	**3.59**	**268**	P	**Pn**	**22 45 11.6**	**-0.8**
	baz=83						
MID	**Middleton Isla**	**3.65**	**24**		**Pn**	**22 45 12.7**	**-0.5**
BRSE	**Bradley Lake S**	**3.70**	**348**		**Pn**	**22 45 13.5**	**-0.4**
BRSE					**Sn**	**22 45 55.9**	**-1.7**
BRSE	**Bradley Lake S**	**3.70**	**348**	P	**Pn**	**22 45 13.5**	**-0.4**
	baz=167						
BRSE				S	**Sn**	**22 45 56.2**	**-1.4**
	baz=167						
BRLK	**Bradley Lake**	**3.74**	**347**		**Pn**	**22 45 14.1**	**-0.4**
BRLK					**Sn**	**22 45 57.4**	**-1.2**
BRLK	**Bradley Lake**	**3.74**	**347**	IAML		22 46 10.2	
	comp=E,56nm,0.9s						
BRLK				IAML		22 46 11.5	
	comp=N,53nm,0.8s						
KAKN	**Katmai Knife C**	**3.83**	**307**		**Pn**	**22 45 16.8**	**+1.1**
SEW	**Seward**	**3.98**	**359**		**Pn**	**22 45 17.4**	**-0.3**
SEW	**Seward**	**3.98**	**359**	P	**Pn**	**22 45 17.4**	**-0.3**
	baz=178						
P23K	**Montague Islan**	**4.00**	**14**		**Pn**	**22 45 17.8**	**-0.2**
P23K	**Montague Islan**	**4.00**	**14**	P	**Pn**	**22 45 17.8**	**-0.2**
	baz=195						
CNTC	**Contact Creek**	**4.18**	**303**		**Pn**	**22 45 21.5**	**+0.8**
Q17K	**Contact Creek**	**4.19**	**303**	P	**Pn**	**22 45 21.5**	**+0.8**
	baz=118						
O20K	**Slope Mountain**	**4.34**	**337**		**Pn**	**22 45 23.6**	**+0.9**
O20K	**Slope Mountain**	**4.34**	**337**	P	**Pn**	**22 45 23.7**	**+0.9**
	baz=154						
PLK1	**Peulik 1**	**4.35**	**296**		**Pn**	**22 45 24.0**	**+1.1**
O22K	**Cooper Landing**	**4.36**	**357**		**Pn**	**22 45 23.9**	**+0.9**
O22K	**Cooper Landing**	**4.36**	**357**	P	**Pn**	**22 45 23.9**	**+0.9**
	baz=176						
ILSW	**Iliamna Southw**	**4.37**	**333**		**Pn**	**22 45 23.6**	**+0.3**
ILSW	**Iliamna Southw**	**4.37**	**333**	IAML		22 46 23.3	
	comp=E,88nm,0.9s						
ILSW				IAML		22 46 45.7	
	comp=N,47nm,0.9s						
SLKM	**Skilak Lake**	**4.41**	**354**		**Pn**	**22 45 23.6**	**-0.2**
HIN	**Hinchinbrook I**	**4.51**	**18**		**Pn**	**22 45 24.9**	**-0.2**
P18K	**Big Mountain,**	**4.57**	**318**		**Pn**	**22 45 25.9**	**+0.1**
P18K	**Big Mountain,**	**4.57**	**318**	P	**Pn**	**22 45 25.9**	**+0.1**
	baz=133						
KAIM	**Kayak Island**	**4.59**	**32**		**Pn**	**22 45 26.1**	**0.0**
KAIM	**Kayak Island**	**4.59**	**32**	P	**Pn**	**22 45 26.1**	**0.0**
	baz=216						
RDSO	**Redoubt South**	**4.70**	**338**		**Pn**	**22 45 27.5**	**-0.3**
RSO	**Redoubt South**	**4.71**	**338**		**Pn**	**22 45 28.0**	**0.0**
RDT	**Redoubt**	**4.75**	**341**		**Pn**	**22 45 27.7**	**-0.7**
CAPN	**Captain Cook N**	**4.75**	**349**		**Pn**	**22 45 29.1**	**+0.9**
CAPN	**Captain Cook N**	**4.75**	**349**	P	**Pn**	**22 45 29.2**	**+0.9**
	baz=167						
EYAK	**Cordova Ski Ar**	**4.79**	**21**		**Pn**	**22 45 28.9**	**0.0**
EYAK	**Cordova Ski Ar**	**4.79**	**21**	P	**Pn**	**22 45 29.6**	**+0.7**
EYAK	**Cordova Ski Ar**	**4.79**	**21**	P	**Pn**	**22 45 28.9**	**0.0**
	baz=204						
O19K	**Port Alsworth**	**4.87**	**329**		**Pn**	**22 45 29.9**	**0.0**
O19K	**Port Alsworth**	**4.87**	**329**	P	**Pn**	**22 45 29.9**	**0.0**
	baz=144						
O18K	**Koktuh Hills**	**4.89**	**322**		**Pn**	**22 45 30.6**	**+0.3**
O18K	**Koktuh Hills**	**4.89**	**322**	P	**Pn**	**22 45 30.6**	**+0.3**
	baz=137						
RAGM	**Ragged Mountai**	**4.90**	**28**		**Pn**	**22 45 30.8**	**+0.3**
SUCK	**Suckling Hills**	**4.90**	**34**		**Pn**	**22 45 30.6**	**+0.2**
P17K	**Kvichak River**	**4.92**	**311**		**Pn**	**22 45 31.8**	**+1.1**
P17K	**Kvichak River**	**4.92**	**311**	P	**Pn**	**22 45 31.8**	**+1.1**
	baz=126						
HMT	**Hamilton**	**4.97**	**30**		**Pn**	**22 45 31.3**	**-0.1**
NICHA	**Nichawak Mount**	**4.97**	**32**		**Pn**	**22 45 31.8**	**+0.3**
RC01	**Rabbit Creek A**	**4.97**	**357**	Pn	**Pn**	**22 45 31.3**	**-0.1**
FIS	**Fire Island**	**5.05**	**355**		**Pn**	**22 45 33.0**	**+0.6**
GOAT	**Goat Mountain**	**5.05**	**26**		**Pn**	**22 45 32.7**	**+0.1**
BGLC	**Bering Glacier**	**5.10**	**36**		**Pn**	**22 45 34.0**	**+0.9**
BGLC	**Bering Glacier**	**5.10**	**36**	P	**Pn**	**22 45 34.0**	**+0.9**
	baz=220						
CHGN	**Chignik**	**5.11**	**276**	Pn	**Pn**	**22 45 33.8**	**+0.5**
BERG	**Berg Lake**	**5.18**	**32**		**Pn**	**22 45 34.1**	**-0.2**
SNH	**Sunshine Point**	**5.29**	**37**		**Pn**	**22 45 36.1**	**+0.3**
N20K	**Mount Spurr**	**5.31**	**344**	P	**Pn**	**22 45 35.6**	**-0.4**
	baz=162						
SPCR	**Spurr Chakacha**	**5.31**	**344**		**Pn**	**22 45 35.6**	**-0.4**
KNK	**Knik Glacier**	**5.31**	**4**		**Pn**	**22 45 36.3**	**+0.3**
KNK	**Knik Glacier**	**5.31**	**4**	P	**Pn**	**22 45 36.3**	**+0.3**
	baz=185						
KHIT	**Khitrov Hills**	**5.36**	**34**		**Pn**	**22 45 36.7**	**0.0**
SPCP	**Crater Peak Br**	**5.36**	**345**		**Pn**	**22 45 37.0**	**+0.1**
SUA	**Susitna One**	**5.40**	**352**		**Pn**	**22 45 37.2**	**-0.1**
SUA	**Susitna One**	**5.40**	**352**	P	**Pn**	**22 45 37.3**	**-0.1**
	baz=171						
BMRM	**Bremner River**	**5.42**	**25**		**Pn**	**22 45 38.1**	**+0.5**
BMRM	**Bremner River**	**5.42**	**25**	P	**Pn**	**22 45 38.1**	**+0.5**
	baz=208						
N19K	**Bonanza Creek**	**5.43**	**332**		**Pn**	**22 45 37.5**	**-0.3**
N19K	**Bonanza Creek**	**5.43**	**332**	P	**Pn**	**22 45 37.5**	**-0.3**
	baz=148						
PMR	**Palmer**	**5.47**	**1**		**Pn**	**22 45 39.2**	**+1.0**
PMR	**Palmer**	**5.47**	**1**	P	**Pn**	**22 45 39.8**	**+1.6**
P16K	**Nushagak River**	**5.52**	**305**		**Pn**	**22 45 40.1**	**+1.3**
P16K	**Nushagak River**	**5.52**	**305**	P	**Pn**	**22 45 40.1**	**+1.3**
	baz=118						
O17K	**Koliganek Bris**	**5.54**	**314**		**Pn**	**22 45 39.8**	**+0.7**
O17K	**Koliganek Bris**	**5.54**	**314**	P	**Pn**	**22 45 39.8**	**+0.7**
	baz=128						
STLK	**Strandline Lak**	**5.54**	**347**		**Pn**	**22 45 39.5**	**+0.3**
SPNN	**North Nagishla**	**5.54**	**343**		**Pn**	**22 45 39.9**	**+0.6**
BARK	**Barkley Ridge**	**5.57**	**37**		**Pn**	**22 45 40.1**	**+0.4**
CRQM	**Cirque**	**5.64**	**32**		**Pn**	**22 45 40.4**	**-0.3**
KLU	**Klutina**	**5.64**	**17**		**Pn**	**22 45 41.1**	**+0.4**
KLU	**Klutina**	**5.64**	**17**	P	**Pn**	**22 45 41.1**	**+0.4**
	baz=199						
CRQE	**Cirque**	**5.65**	**32**	P	**Pn**	**22 45 40.4**	**-0.4**
	baz=217						
GHO	**Glory Hole Cre**	**5.66**	**2**		**Pn**	**22 45 41.5**	**+0.7**
SML	**Sawmill**	**5.71**	**4**		**Pn**	**22 45 42.0**	**+0.5**
SML	**Sawmill**	**5.71**	**4**	P	**Pn**	**22 45 42.0**	**+0.5**
	baz=185						
TGL	**Tana Glacier**	**5.73**	**33**		**Pn**	**22 45 41.8**	**-0.1**
N18K	**Kilae Creek**	**5.73**	**325**		**Pn**	**22 45 41.9**	**0.0**
ISLE	**Juniper Island**	**5.77**	**36**		**Pn**	**22 45 42.4**	**-0.1**
BAGL	**Bagley Icefiel**	**5.77**	**38**		**Pn**	**22 45 42.2**	**-0.1**
SCM	**Sheep Creek Mo**	**5.80**	**9**		**Pn**	**22 45 43.8**	**+1.0**
O16K	**Kokwok River B**	**5.85**	**310**	Pn	**Pn**	**22 45 44.5**	**+1.1**
VRDI	**Verde Repeater**	**5.94**	**28**		**Pn**	**22 45 44.7**	**-0.1**
SVW2	**Sparrevohn**	**5.97**	**329**	Pn	**Pn**	**22 45 45.1**	**+0.1**
SVW2	**Sparrevohn**	**5.97**	**329**	P	**Pn**	**22 45 45.3**	**+0.2**
SKT	**Skwentna**	**5.98**	**350**		**Pn**	**22 45 46.2**	**+1.0**
N25K	**Chitina, Valde**	**5.99**	**22**		**Pn**	**22 45 45.9**	**+0.4**
N25K	**Chitina, Valde**	**5.99**	**22**	P	**Pn**	**22 45 45.9**	**+0.4**
	baz=205						
KIAG	**Kiagna River**	**6.01**	**34**		**Pn**	**22 45 46.0**	**+0.3**
SAMH	**Samovar Hills**	**6.01**	**45**		**Pn**	**22 45 46.0**	**+0.3**
CHNA	**Chernabura Isl**	**6.02**	**262**	P	**Pn**	**22 45 44.8**	**-0.9**
	baz=74						
CNBA	**Chernabura Isl**	**6.02**	**262**		**Pn**	**22 45 44.8**	**-1.0**
GLB	**Gilahina Butte**	**6.03**	**26**		**Pn**	**22 45 46.3**	**+0.4**
GRNC	**Granite Creek**	**6.06**	**37**		**Pn**	**22 45 46.8**	**+0.3**
N17K	**Nushagak Hills**	**6.06**	**320**	Pn	**Pn**	**22 45 46.4**	**0.0**
TABL	**Table Mountain**	**6.08**	**41**		**Pn**	**22 45 47.4**	**+0.7**
M20K	**Styx River**	**6.10**	**342**		**Pn**	**22 45 46.5**	**-0.5**
MCARA	**McCarthy VSAT**	**6.18**	**29**		**Pn**	**22 45 49.2**	**+1.2**
PTPK	**Patty Peak**	**6.18**	**32**		**Pn**	**22 45 48.3**	**+0.1**
M24K	**Tolsona, Glenn**	**6.20**	**14**		**Pn**	**22 45 49.1**	**+0.8**
M24K	**Tolsona, Glenn**	**6.20**	**14**	P	**Pn**	**22 45 49.1**	**+0.8**
	baz=196						
PCA	**Pinnacle**	**6.21**	**47**		**Pn**	**22 45 48.2**	**-0.2**
PINM	**Pinnacle**	**6.21**	**47**	P	**Pn**	**22 45 48.2**	**-0.2**
	baz=234						
BARN	**Barnard Glacie**	**6.33**	**36**		**Pn**	**22 45 50.2**	**-0.1**
PNL	**Peninsula**	**6.34**	**52**		**Pn**	**22 45 50.3**	**+0.1**
PNL	**Peninsula**	**6.34**	**52**	P	**Pn**	**22 45 50.5**	**+0.4**
PNL	**Peninsula**	**6.34**	**52**	P	**Pn**	**22 45 50.3**	**+0.1**
	baz=240						
M18K	**Stony River**	**6.36**	**330**		**Pn**	**22 45 50.2**	**-0.1**
M18K	**Stony River**	**6.36**	**330**	P	**Pn**	**22 45 50.2**	**-0.1**
	baz=145						
CTGM	**Chitina Glacie**	**6.37**	**37**	Pn	**Pn**	**22 45 50.6**	**-0.1**
BCPM	**Bancas Point**	**6.38**	**49**		**Pn**	**22 45 51.0**	**+0.3**
SDPT	**Sand Point**	**6.38**	**268**		**Pn**	**22 45 51.1**	**+0.4**
SDPT	**Sand Point**	**6.38**	**268**	P	**Pn**	**22 45 51.1**	**+0.4**
LOGN	**Logan Glacier**	**6.39**	**39**	Pn	**Pn**	**22 45 51.4**	**+0.4**
O15K	**Ungalikthiuk R**	**6.43**	**303**		**Pn**	**22 45 52.6**	**+1.1**
O15K	**Ungalikthiuk R**	**6.43**	**303**	P	**Pn**	**22 45 52.6**	**+1.1**
	baz=114						
WAT6	**Susitna Watana**	**6.51**	**6**		**Pn**	**22 45 52.9**	**+0.3**
WAT6	**Susitna Watana**	**6.51**	**6**	P	**Pn**	**22 45 52.9**	**+0.3**
	baz=187						
HARP	**HAARP**	**6.62**	**17**		**Pn**	**22 45 54.8**	**+0.7**
HARP	**HAARP**	**6.62**	**17**	P	**Pn**	**22 45 54.7**	**+0.7**
	baz=200						
L19K	**White Mountain**	**6.71**	**337**		**Pn**	**22 45 55.3**	**+0.1**
L19K	**White Mountain**	**6.71**	**337**	P	**Pn**	**22 45 55.3**	**+0.1**
	baz=152						
WAT7	**Susitna Watana**	**6.72**	**2**		**Pn**	**22 45 56.4**	**+0.9**
WAT1	**Susitna Watana**	**6.72**	**3**		**Pn**	**22 45 56.4**	**+1.0**
WAT1	**Susitna Watana**	**6.72**	**3**	P	**Pn**	**22 45 56.4**	**+1.0**
	baz=183						
M17K	**Holitna River**	**6.77**	**325**		**Pn**	**22 45 57.0**	**+0.9**
M17K	**Holitna River**	**6.77**	**325**	P	**Pn**	**22 45 57.0**	**+0.9**
	baz=138						
L20K	**Farewell, AK**	**6.78**	**342**		**Pn**	**22 45 56.8**	**+0.5**
L20K	**Farewell, AK**	**6.78**	**342**	P	**Pn**	**22 45 56.8**	**+0.5**
	baz=158						
N15K	**Kwethluk River**	**7.01**	**310**		**Pn**	**22 46 00.7**	**+1.4**
N15K	**Kwethluk River**	**7.01**	**310**	P	**Pn**	**22 46 00.7**	**+1.4**
	baz=121						
O29M	**Mount Kennedy**	**7.02**	**49**		**Pn**	**22 46 00.1**	**+0.6**
O29M	**Mount Kennedy**	**7.02**	**49**	P	**Pn**	**22 46 00.1**	**+0.6**
	baz=238						
DHY	**Denali Highway**	**7.03**	**7**		**Pn**	**22 46 00.6**	**+0.9**
DHY	**Denali Highway**	**7.03**	**7**	P	**Pn**	**22 46 00.6**	**+0.9**
	baz=188						
M16K	**Timber Creek**	**7.04**	**318**		**Pn**	**22 46 01.2**	**+1.4**
M16K	**Timber Creek**	**7.04**	**318**	P	**Pn**	**22 46 01.2**	**+1.4**
	baz=130						
P29M	**Windy Craggy**	**7.07**	**56**		**Pn**	**22 45 59.8**	**-0.4**
P29M	**Windy Craggy**	**7.07**	**56**	P	**Pn**	**22 45 59.8**	**-0.4**
	baz=245						
PS1A	**Pavlof South-1**	**7.08**	**269**		**Pn**	**22 46 00.6**	**+0.3**
PS4A	**Pavlof South-4**	**7.16**	**269**		**Pn**	**22 46 01.0**	**-0.3**
PN7A	**Pavlof North-7**	**7.22**	**270**		**Pn**	**22 46 02.1**	**-0.1**
RND	**Reindeer**	**7.30**	**1**	Pn	**Pn**	**22 46 04.9**	**+1.6**
S31K	**Pelican**	**7.34**	**70**		**Pn**	**22 46 01.9**	**-1.9**
S31K	**Pelican**	**7.34**	**70**	P	**Pn**	**22 46 02.1**	**-1.7**
	baz=261						
CAST	**Castle Rocks**	**7.44**	**350**		**Pn**	**22 46 05.6**	**+0.3**
CAST	**Castle Rocks**	**7.44**	**350**	P	**Pn**	**22 46 05.6**	**+0.3**
	baz=168						
KTH	**Kantishna Hill**	**7.49**	**354**		**Pn**	**22 46 07.3**	**+1.4**
K20K	**Telida**	**7.64**	**343**		**Pn**	**22 46 08.1**	**+0.2**
L16K	**Owhat River**	**7.69**	**321**		**Pn**	**22 46 09.3**	**+0.7**
RIDG	**Independent Ri**	**7.94**	**14**		**Pn**	**22 46 12.7**	**+0.5**
BPAW	**Bear Paw Mtn.**	**8.04**	**355**		**Pn**	**22 46 14.0**	**+0.6**
SKAG	**Skagway**	**8.15**	**60**	P	**Pn**	**22 46 16.6**	**+1.6**
N30M	**Ashikik Lake**	**8.26**	**45**		**Pn**	**22 46 17.2**	**+0.6**
JIS	**Juneau Island**	**8.36**	**69**	P	**Pn**	**22 46 18.0**	**+0.2**
WRH	**Wood River Hil**	**8.38**	**3**		**Pn**	**22 46 18.6**	**+0.5**
M29M	**Somme Creek**	**8.39**	**37**	Pn	**Pn**	**22 46 19.4**	**+1.1**
NEA2	**Nenana**	**8.48**	**1**		**Pn**	**22 46 20.4**	**+0.9**
CCB	**Clear Creek Bu**	**8.57**	**4**		**Pn**	**22 46 22.2**	**+1.6**
L14K	**Kuka Creek**	**8.70**	**312**		**Pn**	**22 46 24.5**	**+2.0**
IL31		**8.74**	**7**		**Pn**	**22 46 24.4**	**+1.3**
ILAR	**Eielson Array**	**8.74**	**7**	Pn	**Pn**	**22 46 23.6**	**+0.6**
	comp=N,0.4nm,0.3s,baz=189,slow=14,SNR=23						
ILAR				Sn	**Sn**	**22 47 58.5**	**-3.1**
	comp=N,0.1nm,0.3s,baz=204,slow=24,SNR=3.6						
ILAR				LR	LR	22 49 55.9	
	comp=N,184nm,19.5s,baz=114,slow=38						
	comp=N,0.8nm,0.4s						
WHY	**Whitehorse**	**8.80**	**53**	Pn	**Pn**	**22 46 25.1**	**+1.1**
J26L	**Joseph Creek**	**8.85**	**16**	Pn	**Pn**	**22 46 25.2**	**+0.6**
MDM	**Murphy Dome**	**8.87**	**3**	Pn	**Pn**	**22 46 26.5**	**+1.7**
MLY	**Manley**	**8.95**	**356**		**Pn**	**22 46 26.7**	**+0.7**
L29M	**L29M**	**8.97**	**34**	Pn	**Pn**	**22 46 27.3**	**+1.0**
P32M	**Atlin**	**8.98**	**61**	Pn	**Pn**	**22 46 26.0**	**-0.3**
I23K	**Minto, Yukon-K**	**9.04**	**360**		**Pn**	**22 46 28.2**	**+1.1**
I21K	**Tanana**	**9.17**	**353**		**Pn**	**22 46 30.1**	**+1.2**
P33M	**Teslin, Yukon**	**9.59**	**58**	Pn	**Pn**	**22 46 35.0**	**+0.2**
K29M	**Barlow Dome**	**9.70**	**32**		**Pn**	**22 46 36.8**	**+0.6**
H21K	**Melozitna Rive**	**9.71**	**351**	Pn	**Pn**	**22 46 36.0**	**-0.3**
M31M	**Drury Creek, Y**	**9.74**	**45**		**Pn**	**22 46 38.4**	**+1.6**
H24K	**Noodor Dome**	**9.76**	**3**	Pn	**Pn**	**22 46 39.2**	**+2.2**
UNV	**Unalaska Valle**	**10.17**	**264**	P	**Pn**	**22 46 41.6**	**-1.0**
R33M	**Jennings River**	**10.30**	**64**	Pn	**Pn**	**22 46 44.8**	**+0.3**
G21K	**Allakaket**	**10.61**	**351**		**Pn**	**22 46 48.9**	**+0.2**
G23K	**Bananza Creek**	**10.62**	**358**	Pn	**Pn**	**22 46 49.1**	**+0.3**
G24K	**Hadweenzic Riv**	**10.63**	**4**		**Pn**	**22 46 50.2**	**+1.2**
DLBC	**Dease Lake**	**10.66**	**70**	Pn	**Pn**	**22 46 49.5**	**+0.2**
	comp=N,0.3nm,0.3s,baz=283,slow=7.5,SNR=5.9						
DLBC				Sn	**Sn**	**22 48 44.4**	**-4.2**
	comp=N,0.1nm,0.3s,baz=145,slow=15,SNR=0.9						
	comp=N,0.8nm,0.4s						
F21K	**Alatna River**	**11.30**	**352**	Pn	**Pn**	**22 46 59.5**	**+1.5**
E19K	**Redstone River**	**11.95**	**345**		**Pn**	**22 47 08.0**	**+1.1**
D22K	**Ayikyak River**	**12.88**	**354**		**Pn**	**22 47 21.3**	**+1.6**
BBB	**Bella Bella**	**12.99**	**99**	LR	LR	22 50 35.8	
	comp=N,190nm,18.9s,baz=0.0,slow=29						
INK	**Inuvik**	**14.17**	**24**	Pn	**Pn**	**22 47 38.1**	**+0.9**
	baz=207,slow=12,SNR=6.9						
INK				LR	LR	22 52 37.4	
	comp=N,109nm,18.3s,baz=206,slow=35						
	comp=N,4.1nm,1.1s						
YKA	**Yellowknife Ar**	**18.61**	**56**	P	**Pn**	**22 48 35.1**	**+0.9

1.6nm,0.3s,baz=282,slow=13,SNR=22
USRK Pg Pg 22 51 35.2 -6.1
8.7nm,0.3s,baz=281,slow=17,SNR=16
USRK Lg Lg 22 52 40.5
15nm,0.3s,baz=259,slow=15,SNR=5.1
3.4nm,0.4s
KLR Kul'dur 6.23 48 Pn **Pn 22 51 31.6 +0.7**
2.4nm,0.3s,baz=194,slow=13,SNR=18
KLR Pg **Pg 22 51 53.5 -4.7**
8.7nm,0.3s,baz=228,slow=16,SNR=15
KLR Lg Lg 22 53 13.3
44nm,0.3s,baz=236,slow=18,SNR=9.1
5.1nm,0.3s
XLT XiLinHaoTe 6.28 260 *e*Pn Pn 22 51 38.0 +6.3
XLT *e*Pg **Pg 22 51 58.0 -1.2**
XLT Sn **Sb 22 52 58.1 -5.5**
XLT Sg **Sg 22 53 18.5 -2.0**
XLT smax smax
comp=N,38nm,0.7s
XLT smax smax
comp=E,290nm,1.1s
DL2 Dalian 6.77 200 *e*Pg **Pb 22 51 55.6 -1.2**
DL2 smax smax
comp=E,240nm,0.7s
DL2 smax smax
comp=E,340nm,0.8s
DL2 LR LR
comp=E,780nm,11.7s
DL2 LR LR
comp=E,1μm,10.6s
DL2 LR LR
comp=E,730nm,10.5s
BJI Beijing 8.16 233 Pg **Pg 22 52 30.9 -4.3**
BJI pP Pb 22 52 34.4 +14
BJI Sg **Sg 22 54 18.8 -2.0**
BJI pmax pmax
comp=Z,5.0nm,0.7s
BJI smax smax
comp=N,110nm,1.0s
BJI smax smax
comp=E,110nm,0.9s
BJI LR LR
comp=N,730nm,11.1s
BJI LR LR
comp=E,550nm,13.1s
BJI LR LR
comp=Z,220nm,13.3s
KSRS Korea Array 8.21 161 Pn **Pn 22 51 58.9 +0.7**
comp=Z,0.9nm,0.3s,baz=348,slow=13,SNR=13
KSRS Pg Pg 22 52 28.7 -7.5
comp=Z,6.2nm,0.3s,baz=346,slow=18,SNR=31
KSRS Lg Lg 22 54 15.6
comp=Z,9.7nm,0.3s,baz=344,slow=30,SNR=10
comp=Z,2.6nm,0.4s
HHC Hu-ho-hao-te 10.56 250 *e*P **Pn 22 52 31.0 +0.6**
HHC sP 22 52 37.4
HHC S **Sn 22 54 30.5 +1.8**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC LR LR
comp=Z,320nm,5.3s
HHC LR LR
comp=Z,380nm,4.9s
HHC LR LR
comp=Z,230nm,6.9s
HNS HongShan 10.87 227 *e*P Pn 22 52 38.8 +4.3
HNS *e*S **Sn 22 54 41.5 +5.4**
HNS LR LR
comp=Z,840nm,13.9s
HNS LR LR
comp=Z,1μm,11.8s
HNS LR LR
comp=Z,800nm,11.4s
BTO Baotou 11.70 252 *e*P **Pn 22 52 46.7 +0.6**
BTO S **Sn 22 54 59.7 +3.0**
BTO pmax pmax
comp=Z,12nm,0.8s
BTO pmax pmax
comp=Z,260nm,3.9s
BTO LR LR
comp=Z,850nm,5.3s
BTO LR LR
comp=Z,730nm,5.7s
BTO LR LR
comp=Z,550nm,7.7s
SONM Songino Array 12.82 288 Pn **Pn 22 53 03.6 +2.3**
baz=91,slow=11,SNR=2.4
SONM Sn Sn 22 55 13.6 -10
comp=Z,0.1nm,0.3s,baz=90,slow=12,SNR=3.5
SONM Lg Lg 22 56 43.4
comp=Z,0.6nm,0.3s,baz=89,slow=28,SNR=6.7
comp=Z,0.3nm,0.6s
NJ2 Nanjing 13.98 201 *e*P **Pn 22 53 15.6 -1.5**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
WHN Wuhan 16.80 212 P **Pn 22 53 50.2 -4.1**
YAK Yakutsk 17.02 8 LR LR 23 00 11.9
comp=Z,157nm,18.7s,baz=278,slow=36
GTA Gaotai 19.24 261 *e*P Pn 22 54 34.8 +10
GTA pP sP 22 54 39.3 +12
GTA sP pP 22 54 44.0 +18
GTA pmax pmax
comp=Z,2.0nm,1.0s
GTA Gaotai 19.24 261 *e*P **Pn 22 54 23.6 -0.9**
GTA pP sP 22 54 27.8 +0.1
GTA pmax pmax
comp=Z,2.0nm,1.1s
GTA LR LR
comp=Z,140nm,10.0s
GTA LR LR
comp=Z,200nm,8.0s
GTA LR LR
comp=Z,270nm,13.5s
MA2 Magadan 21.20 38 LR LR 23 03 08.6
comp=Z,205nm,18.9s,baz=120,slow=37
PETK Petropavlovsk- 22.80 58 P **P 22 55 04.7 +3.0**
comp=Z,5.8nm,1.0s,baz=290,slow=9.7,SNR=2.5
comp=Z,5.8nm,1.0s
SEY Seymchan 23.69 32 P **P 22 55 13.6 +3.1**
comp=Z,0.5nm,0.3s,baz=311,slow=16,SNR=3.8
comp=Z,0.5nm,0.3s
GOMU GeErMu 24.25 258 P **P 22 55 17.2 +0.6**
GOMU pP sP 22 55 20.9 0.0
GOMU sP pP 22 55 22.2 +2.6
GOMU pmax pmax
comp=Z,3.0nm,0.7s
WMQ Urumqi 26.23 280 *e*P **P 22 55 35.2 +1.1**
TIXI Tiksi 26.50 3 LR LR 23 06 17.5
comp=Z,98nm,19.7s,baz=224,slow=37
ZALV Zalesovo Beam 26.90 303 P **P 22 55 41.4 +1.5**
comp=Z,0.3nm,0.4s,baz=81,slow=8.9,SNR=1.6
comp=Z,0.3nm,0.4s
QIZ Qiongzhong 28.94 210 P **P 22 55 57.4 -1.0**
QIZ S **S 23 00 49.2 +0.1**
QIZ LR LR
comp=Z,150nm,14.5s
QIZ LR LR
comp=Z,240nm,13.3s
QIZ LR LR
comp=Z,240nm,15.5s
MKAR Makanchi Array 29.19 288 P **P 22 56 02.3 +1.8**
comp=Z,0.4nm,0.8s,baz=82,slow=9.3,SNR=2.4
comp=Z,0.4nm,0.8s
TNCH TengChong 29.20 235 ||P P 22 56 05.9 +4.9
TNCH PP **PnPn 22 56 57.9 +4.3**
TNCH S S 23 00 44.1 -9.5
TNCH SS **SnSn 23 02 18.4 +0.2**
TNCH LR LR
comp=Z,130nm,8.9s
TNCH LR LR
comp=Z,160nm,13.0s
TNCH LR LR
comp=Z,95nm,11.7s
KURBB Kurchatov Arra 30.94 297 P **P 22 56 17.7 +1.8**
comp=Z,3.6nm,0.9s,baz=82,slow=9.3,SNR=17
comp=Z,3.6nm,0.9s
SHEM Shemya Is, Ala 32.71 59 LR LR 23 11 06.3
comp=Z,114nm,18.4s,baz=298,slow=39
BVAR Borovoye Array 35.55 303 P **P 22 56 57.9 +1.8**
comp=Z,0.5nm,0.7s,baz=92,slow=8.7,SNR=3.8
comp=Z,0.5nm,0.7s
AAK Ala-Archa 35.73 284 LR LR 23 11 29.9
comp=Z,99nm,20.0s,baz=34,slow=36
ILAR Eielson Array 49.59 34 P **P 22 58 50.7 +0.8**
comp=Z,0.2nm,0.8s,baz=291,slow=7.6,SNR=2.8
comp=Z,0.2nm,0.8s
FINES FINESS Array B 55.20 325 P **P 22 59 32.7 +1.2**
comp=Z,2.8nm,0.8s,baz=62,slow=6.6,SNR=11
comp=Z,2.8nm,0.8s
AKASG Malin Array Be 59.72 313 P **P 23 00 06.8 +3.3**
comp=Z,2.0nm,0.7s,baz=48,slow=6.9,SNR=11
comp=Z,2.0nm,0.7s
HFS Hagfors 60.86 328 P **P 23 00 13.4 +2.2**
comp=Z,1.2nm,0.7s,baz=29,slow=3.4,SNR=4.3
comp=Z,1.2nm,0.7s
NOA NORSAR Array B 61.17 329 P **P 23 00 15.8 +2.4**
comp=Z,1.0nm,0.9s,baz=53,slow=7.3,SNR=2.6
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 62.62 27 P **P 23 00 25.4 +2.5**
comp=Z,0.2nm,0.4s,baz=319,slow=6.8,SNR=8.5
comp=Z,0.2nm,0.4s
BRTR Keeskin Array B 63.81 301 P **P 23 00 33.5 +2.0**
comp=Z,1.6nm,0.8s,baz=76,slow=5.2,SNR=7.9
comp=Z,1.6nm,0.8s
WRA Warramunga Arr 65.52 170 P **P 23 00 42.0 -0.6**
comp=Z,0.7nm,0.8s,baz=354,slow=7.5,SNR=4.9
comp=Z,0.7nm,0.8s
DAVOX Davos/Dischmat 71.86 319 LR LR 23 38 29.3
comp=Z,128nm,18.1s,baz=354,slow=40

IDC 04 22:59:12.3±1.8, 5°45S×141°61E, h0km, mb4.1/1, mbtmp3.5/3, ML3.1/2, Error ellipse: s-maj=305.6km s-min=32.8km az=113.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.05**	**205**	Pn	Pn	23 02 58.4	-1.1
	0.1nm,0.3s,baz=26,slow=13,SNR=1.5						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**19.57**	**202**	P	P	23 03 42.4	+0.4
	0.1nm,0.3s,baz=33,slow=10,SNR=6.0						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**87.13**	**24**	P	P	23 11 59.9	0.0
	1.6nm,1.1s,baz=261,slow=5.8,SNR=11						
	1.6nm,1.1s						

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*IDC **04** 23:02:56.5±1.2, 6°20S×142°81E, h0km, mb3.9/3, mbtmp3.9/5, ML1.7/1, MS4.2/1, Error ellipse: s-maj=34.7km s-min=25.8km az=72.0*
ISC 04 23:03:02.1±0.8, 6°30S±0°10×142°73E±0°08, h35km, n14, σ1§87/14, mb4.1/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.82**	**304**	P	**Pn**	**23 03 30.5**	**-0.4**
GENI	**Genyem**	**4.49**	**325**	P	**Pn**	**23 04 08.6**	**+1.0**
PMG	**Port Moresby**	**5.36**	**125**	Pn	**Pn**	**23 04 18.4**	**-1.2**
	1.8nm,0.3s,baz=235,slow=18,SNR=1.5						
PMG				Sn	**Sn**	**23 05 21.1**	**+0.9**
	1.9nm,0.3s,baz=126,slow=6.9,SNR=3.5						
	5.0nm,0.3s						
KDU	**Kakadu**	**11.94**	**237**	P	**Pn**	**23 05 48.9**	**-1.0**
CTA	**Charters Tower**	**14.12**	**166**	Lg	Lg	23 10 29.8	
	0.2nm,0.3s,baz=232,slow=13,SNR=2.5						
WRA	**Warramunga Arr**	**15.82**	**210**	Pn	**Pn**	**23 06 38.9**	**-3.4**
	0.3nm,0.3s,baz=30,slow=12,SNR=9.5						
WRA				Sn	Sn	23 09 28.3	-8.4
	0.2nm,0.3s,baz=71,slow=36,SNR=2.3						
WRA				Lg	Lg	23 11 18.5	
	0.1nm,0.3s,baz=36,slow=26,SNR=1.5						
AS01	**Alice Springs**	**19.22**	**205**	P	**P**	**23 07 25.4**	**+2.1**
	6.4nm,0.7s						
ASAR	**Alice Springs**	**19.24**	**205**	P	**P**	**23 07 23.7**	**+0.2**
	3.5nm,0.6s,baz=28,slow=10,SNR=35						
ASAR				S	S	23 10 49.1	-10
	0.5nm,0.3s,baz=30,slow=9.6,SNR=2.6						
ASAR				Lg	Lg	23 13 09.8	
	baz=25,slow=30						
ASAR				LR	LR	23 15 24.5	
	comp=Z,630nm,18.5s,baz=44,slow=39						
QLP	**Quilpie**	**20.22**	**176**	P	**P**	**23 07 36.6**	**+2.5**
FITZ	**Fitzroy Crossi**	**20.38**	**233**	P	**P**	**23 07 35.8**	**-0.2**
OOD	**Oodnadatta**	**22.39**	**197**	P	**P**	**23 08 00.2**	**+2.7**
MKAR	**Makanchi Array**	**75.07**	**322**	P	**P**	**23 14 40.5**	**+0.2**
	0.3nm,0.6s,baz=106,slow=6.4,SNR=3.7						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**84.54**	**325**	P	**P**	**23 15 32.3**	**+0.8**
	1.2nm,0.8s,baz=110,slow=7.0,SNR=8.3						
	1.2nm,0.8s						
ILAR	**Eielson Array**	**87.45**	**24**	P	**P**	**23 15 43.8**	**-1.9**
	0.9nm,0.7s,baz=252,slow=4.1,SNR=15						
	0.9nm,0.7s						

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*SKHL **04** 23:04:18.6±0.1, 43°70N×147°20E, h77km±4km, mb5.5/3*
*MOS **04** 23:04:18.3±0.9, 43°81N×147°12E, h75km, mb4.4/10, Error ellipse: s-maj=9.5km s-min=7.8km az=69.2*
*JMA **04** 23:04:19.6±0.3, 43°7N±0°8×14°7E±°, h58km±4km, MV4.2/40, E OFF HOKKAIDO*
*IDC **04** 23:04:20.4±2.3, 43°92N×147°04E, h75km±20km, mb3.5/19, mbtmp3.8/24, Error ellipse: s-maj=18.8km s-min=16.2km az=149.0*
*NEIC **04** 23:04:21.3±1.4, 43°71N±0°09×147°0E±0°1, h84km±8km, mb4.2/40, Error ellipse: s-maj=14.7km s-min=12.7km az=127.0*
ISC 04 23:04:19.1±0.8, 43°72N±0°05×147°13E±0°05, h65km±6km, n144, σ1§28/158, mb4.1/45, 1C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.26**	**304**	*c* iPN	**Pn**	**23 04 29.8**	**+0.3**
SHO				*i* S	**Sn**	**23 04 37.1**	**0.0**
SHO				pmax	pmax		
	comp=Z,3μm,0.3s						
SHO				pmax	pmax		
	comp=E,849nm,0.4s						
SHO				pmax	pmax		
	comp=N,2μm,0.2s						
SHO				smax	smax		
	comp=N,18μm,0.5s						
SHO				smax	smax		
	comp=E,43μm,0.4s						
SHO	**Shikotan**	**0.26**	**304**	*i* P	**Pn**	**23 04 29.8**	**+0.3**
SHO				AMB	AMB	23 04 30.8	
	comp=E,2μm,0.3s						
SHO				AMB	AMB	23 04 30.8	
	comp=E,850nm,0.3s						
SHO				AMB	AMB	23 04 30.8	
	comp=E,3μm,0.3s						
SHO				*i* S	**Sn**	**23 04 37.3**	**+0.2**
SHO				A	A	23 04 37.5	
	comp=E,18μm,0.6s						
SHO				A	A	23 04 37.5	
	comp=E,43μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**0.97**	**289**	*d* iPN	**Pn**	**23 04 37.0**	**+0.1**
YUK				*i* S	**Sn**	**23 04 49.8**	**-0.4**
YUK				pmax	pmax		
	comp=Z,3μm,0.2s						
YUK				pmax	pmax		
	comp=E,1μm,0.3s						
YUK				pmax	pmax		
	comp=N,660nm,0.1s						
YUK				smax	smax		
	comp=E,15μm,0.5s						
YUK				smax	smax		
	comp=N,6μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.97**	**289**	*i* P	**Pn**	**23 04 37.1**	**+0.1**
YUK				AMB	AMB	23 04 39.1	
	comp=N,660nm,0.2s						
YUK				AMB	AMB	23 04 39.1	
	comp=N,1μm,0.2s						
YUK				AMB	AMB	23 04 39.1	
	comp=N,3μm,0.2s						
YUK				*i* S	**Sn**	**23 04 49.9**	**-0.3**
YUK				A	A	23 04 50.1	
	comp=N,6μm,0.5s						
YUK				A	A	23 04 50.1	
	comp=N,15μm,0.5s						
NEM2	**Nemuro 2**	**1.07**	**251**	P	**Pn**	**23 04 38.5**	**+0.3**
NEM2				*e*S	**Sn**	**23 04 52.1**	**-0.4**
NMR	**Nemuro--Hokkai**	**1.08**	**251**	*d* iPN	**Pn**	**23 04 38.5**	**+0.1**
NMR				*i* S	**Sn**	**23 04 52.4**	**-0.2**
NMR	**Nemuro--Hokkai**	**1.08**	**251**	*i* P	**Pn**	**23 04 38.5**	**+0.1**
NMR				*i* S	**Sn**	**23 04 52.5**	**-0.2**
RUSJ	**Misakicho**	**1.41**	**286**	*d* iPN	**Pn**	**23 04 43.8**	**+1.1**
RUSJ				*i* S	**Sn**	**23 05 02.4**	**+1.9**
JRA	**Rausu**	**1.47**	**279**	*e*P	**Pn**	**23 04 44.4**	**+0.9**
JRA				*e*S	**Sn**	**23 05 02.8**	**+0.9**
JNSB	**Nemuroshibetsu**	**1.54**	**273**	*i* P	**Pn**	**23 04 45.6**	**+1.1**
JNSB				*e*S	**Sn**	**23 05 04.8**	**+1.2**
JKHN	**Kushirohamanak**	**1.57**	**247**	*i* P	**Pn**	**23 04 45.6**	**+0.8**
JKHN				*e*S	**Sn**	**23 05 04.5**	**+0.2**
KUR	**Kuril'sk**	**1.60**	**19**	*e*PN	**Pn**	**23 04 45.0**	**-0.2**
KUR				*i* S	**Sn**	**23 05 03.9**	**-1.0**
KUR				pmax	pmax		
	comp=Z,106nm,0.3s						
KUR				smax	smax		
	comp=N,1μm,0.2s						
KUR				smax	smax		
	comp=E,641nm,0.2s						
KUR	**Kuril'sk**	**1.60**	**19**	*e*P	**Pn**	**23 04 45.2**	**0.0**
KUR				AMB	AMB	23 04 45.8	
	comp=E,160nm,0.2s						
KUR				*i* S	**Sn**	**23 05 05.0**	**+0.1**
KUR				A	A	23 05 05.9	
	comp=E,1μm,0.2s						
KUR				A	A	23 05 05.9	
	comp=E,640nm,0.2s						
JNK	**Nakash**	**1.76**	**266**	*e*P	**Pn**	**23 04 47.9**	**+0.6**
JNK				*e*S	**Sn**	**23 05 09.2**	**+0.5**
AKK	**Akkeshi**	**1.81**	**248**	*e*P	**Pn**	**23 04 48.4**	**+0.3**
JAK	**Akkeshi**	**1.92**	**249**	*e*P	**Pn**	**23 04 50.0**	**+0.5**
JAK				*e*S	**Sn**	**23 05 12.3**	**-0.3**
JTKR	**Abashiri--Toko**	**2.34**	**277**	*e*P	**Pn**	**23 04 56.5**	**+1.2**
JAR	**Ashorobuto**	**2.48**	**261**	*e*P	**Pn**	**23 04 58.5**	**+1.3**
JAR				*e*S	**Sn**	**23 05 27.2**	**+0.9**
JOB	**Onbets**	**2.54**	**252**	*e*P	**Pn**	**23 04 59.1**	**+1.1**
JOB				*e*S	**Sn**	**23 05 28.6**	**+0.8**
JMP	**Maruseppu**	**2.74**	**277**	*e*P	**Pn**	**23 05 02.3**	**+1.5**
JCH	**Churui**	**2.97**	**249**	*e*P	**Pn**	**23 05 04.4**	**+0.6**
JKK2	**Kamakawa 2**	**3.18**	**274**	*e*P	**Pn**	**23 05 08.8**	**+2.1**
JKA	**Kamikawa-asahi**	**3.30**	**278**	Pn	**Pn**	**23 05 10.6**	**+2.3**
JKA	**Kamikawa-asahi**	**3.30**	**278**	*e*P	**Pn**	**23 05 10.6**	**+2.3**
ASAJ	**Asahikawa**	**3.30**	**278**	PN	**Pn**	**23 05 10.6**	**+2.3**
ASAJ	**Asahikawa**	**3.30**	**278**	*e*P	**Pn**	**23 05 10.7**	**+2.3**
ASAJ	**Asahikawa**	**3.30**	**278**	P	**Pn**	**23 05 10.1**	**+1.8**
	comp=E,38nm,0.4s,baz=77,slow=13,SNR=46						
ASAJ				S	**Sn**	**23 05 40.9**	**-5.4**
	comp=E,37nm,0.6s,baz=94,slow=8.0,SNR=5.3						
JFR	**Furan**	**3.35**	**262**	*e*P	**Pn**	**23 05 11.1**	**+2.1**
JEM	**Erimo**	**3.38**	**241**	*e*P	**Pn**	**23 05 11.8**	**+2.4**
ERM	**Erimo**	**3.38**	**241**	Pn	**Pn**	**23 05 11.6**	**+2.2**
ERM	**Erimo**	**3.38**	**241**	||*i*PN	**Pn**	**23 05 12.0**	**+2.6**
JSE	**Soyaes**	**3.49**	**292**	*e*P	**Pn**	**23 05 12.2**	**+1.3**
JNBK	**Urakawa-nobuka**	**3.52**	**247**	*e*P	**Pn**	**23 05 11.9**	**+0.6**
JAB	**Ashibetsu**	**3.57**	**268**	*e*P	**Pn**	**23 05 15.0**	**+3.0**
YSS	**Yuzh-Sakhalins**	**4.47**	**318**	*e*PN	**Pn**	**23 05 25.5**	**+1.3**
YSS				pmax	pmax		
	comp=Z,20nm,1.2s						
YSS	**Yuzh-Sakhalins**	**4.47**	**318**	*e*P	**Pn**	**23 05 25.6**	**+1.3**
YSS				AMB	AMB	23 05 26.3	
	comp=Z,40nm,0.4s						
YSS				*e*S	**Sn**	**23 06 14.8**	**-0.1**
YSS				A	A	23 06 37.0	
	comp=Z,10.0nm,0.4s						
YSS				A	A	23 06 37.0	
	comp=Z,30nm,0.4s						
JTM	**Tenmabayashi**	**5.37**	**239**		**Pn**	**23 05 36.6**	**0.0**
JTM					**Sn**	**23 06 34.4**	**-2.7**
JMM	**Marumori**	**7.57**	**222**	Pn	**Pn**	**23 06 07.0**	**+0.3**
MJA0	**Matsu Arr-Jizo**	**9.88**	**226**	*e*PN	**Pn**	**23 06 39.9**	**+1.6**
MAJO	**Matsushiro**	**9.90**	**227**	*i* PN	**Pn**	**23 06 39.9**	**+1.3**
MJAR	**Matsushiro Arr**	**9.90**	**227**	P	**Pn**	**23 06 40.4**	**+1.8**
	comp=Z,1.4nm,0.3s,baz=20,slow=13,SNR=7.5						
USRK	**Ussuriysk Ar.**	**10.93**	**278**	P	**Pn**	**23 06 52.3**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=96,slow=16,SNR=1.4						
PETK	**Petropavlovsk-**	**11.71**	**33**	P	**Pn**	**23 07 01.5**	**-1.6**
	comp=Z,5.2nm,1.0s,baz=223,slow=17,SNR=1.7						
KSRS	**Korea Array**	**15.86**	**253**	P	**P**	**23 07 59.7**	**-1.0**
	comp=Z,2.2nm,0.8s,baz=65,slow=13,SNR=3.4						
HIA	**Hailar**	**19.59**	**296**	*i* P	**P**	**23 08 39.4**	**-2.4**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SONM	**Songino Array**	**28.47**	**293**	*e*P	**P**	**23 10 08.8**	**+0.9**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**28.47**	**293**	P	**P**	**23 10 07.0**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=78,slow=8.7,SNR=4.3						
	comp=Z,0.6nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**29.09**	**139**	T	T	23 41 04.0	
	baz=330,slow=76,SNR=537						
H11N1	**WAKE ISLAND Hy**	**29.10**	**139**	T	T	23 41 04.1	
	baz=330,slow=76,SNR=393						
H11N3	**WAKE ISLAND Hy**	**29.11**	**139**	T	T	23 41 04.5	
	baz=330,slow=76,SNR=494						
TIXI	**Tiksi**	**29.38**	**348**	*i* P	**P**	**23 10 16.1**	**+0.5**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.1s						
TIXI	**Tiksi**	**29.38**	**348**	*e*P	**P**	**23 10 16.1**	**+0.5**
H11S1	**WAKE ISLAND Hy**	**30.05**	**141**	T	T	23 42 16.6	
	baz=331,slow=76,SNR=986						
H11S3	**WAKE ISLAND Hy**	**30.06**	**141**	T	T	23 42 21.4	
	baz=331,slow=76,SNR=576						
H11S2	**WAKE ISLAND Hy**	**30.07**	**141**	T	T	23 42 13.6	
	baz=331,slow=76,SNR=648						
E19K	**Redstone River**	**37.51**	**32**	P	**P**	**23 11 26.3**	**+0.2**
E19K				IAmb	IAmb	23 11 27.4	
	comp=Z,2.9nm,1.0s						
ZALV	**Zalesovo Beam**	**41.00**	**307**	PcP	**PcP**	**23 13 54.3**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=42,slow=3.6,SNR=4.0						
L27K	**Beaver Creek,**	**43.91**	**38**	P	**P**	**23 12 20.3**	**+1.4**
L27K				IAmb	IAmb	23 12 20.9	
	comp=Z,2.5nm,0.8s						
BCAR	**Beaver Creek A**	**43.93**	**38**	P	**P**	**23 12 20.2**	**+1.1**
EGAK	**Eagle**	**43.96**	**36**	P	**P**	**23 12 19.4**	**+0.1**
EGAK				IAmb	IAmb	23 12 19.6	
	comp=Z,3.2nm,1.0s						
M27K	**Edge Creek, AK**	**44.00**	**39**	P	**P**	**23 12 20.9**	**+1.2**
F28M	**Old Crow**	**44.16**	**32**	P	**P**	**23 12 21.8**	**+0.9**
F28M				IAmb	IAmb	23 12 49.4	
	comp=Z,5.7nm,1.5s						
GRNC	**Granite Creek**	**44.34**	**42**	P	**P**	**23 12 23.1**	**+0.5**
I28M	**Miner Creek**	**44.38**	**35**	P	**P**	**23 12 23.7**	**+1.0**
CTGM	**Chitina Glacie**	**44.50**	**41**	P	**P**	**23 12 24.2**	**+0.4**
CTGM				IAmb	IAmb	23 12 42.3	
	comp=Z,5.3nm,1.2s						
MK31	**Makanchi Array**	**44.59**	**298**	P	**P**	**23 12 24.1**	**-0.4**
MK31	**Makanchi Array**	**44.59**	**298**	*i* P	**P**	**23 12 23.8**	**-0.7**
MKAR	**Makanchi Array**	**44.59**	**298**	P	**P**	**23 12 24.6**	**0.0**
MKAR	**Makanchi Array**	**44.59**	**298**	*e*P	**P**	**23 12 24.0**	**-0.5**
MKAR	**Makanchi Array**	**44.59**	**298**	P	**P**	**23 12 23.4**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=79,slow=9.2,SNR=6.6						
MKAR				PcP	**PcP**	**23 14 06.4**	**0.0**
	comp=Z,0.4nm,0.7s,baz=63,slow=1.6,SNR=4.2						
	comp=Z,0.4nm,0.6s						
MKAR	**Makanchi Array**	**44.59**	**298**	*e*P	**P**	**23 12 24.0**	**-0.5**
MAKZ	**Makanchi**	**44.78**	**298**	P	**P**	**23 12 24.8**	**-1.3**
MAKZ	**Makanchi**	**44.78**	**298**	P	**P**	**23 12 24.8**	**-1.3**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,1.5s						
E29M	**Blow River**	**44.81**	**31**	P	**P**	**23 12 26.7**	**+0.7**
H29M	**Whitestone**	**44.92**	**34**	P	**P**	**23 12 27.7**	**+0.8**
KURK	**Kurchatov**	**45.53**	**304**	P	**P**	**23 12 30.7**	**-1.2**
KURK						23 14 09.5	
L29M	**L29M**	**45.56**	**38**	P	**P**	**23 12 33.3**	**+1.2**
L29M				IAmb	IAmb	23 12 43.8	
	comp=Z,4.8nm,1.5s						
KURBB	**Kurchatov Arra**	**45.62**	**304**	P	**P**	**23 12 30.7**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=73,slow=9.5,SNR=5.4						
KURBB				PcP	**PcP**	**23 14 09.5**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=81,slow=3.8,SNR=5.2						
	comp=Z,0.2nm,0.3s						
G30M	**tAoh Zraii Nji**	**45.65**	**32**	P	**P**	**23 12 33.4**	**+0.7**
G30M				IAmb	IAmb	23 13 10.4	
	comp=Z,5.0nm,1.4s						
I30M	**Mount Dempster**	**45.90**	**35**	P	**P**	**23 12 35.5**	**+0.8**
I30M				IAmb	IAmb	23 12 36.5	
	comp=Z,3.3nm,1.1s						
J30M	**Hart River**	**46.04**	**36**	P	**P**	**23 12 37.0**	**+1.1**
J30M				IAmb	IAmb	23 12 37.9	
	comp=Z,4.2nm,1.4s						
HYT	**Haines Junctio**	**46.36**	**41**	P	**P**	**23 12 39.4**	**+1.0**
HYT				IAmb	IAmb	23 12 41.5	
	comp=Z,8.8nm,1.5s						
G31M	**Satah River**	**46.41**	**32**	P	**P**	**23 12 39.3**	**+0.7**
G31M				IAmb	IAmb	23 12 39.9	
	comp=Z,3.4nm,1.0s						
INK	**Inuvik**	**46.43**	**30**	P	**P**	**23 12 38.8**	**+0.1**
INK	**Inuvik**	**46.43**	**30**	P	**P**	**23 12 38.8**	**+0.1**
INK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
F31M	**Tsiigehtchic**	**46.51**	**31**	P	**P**	**23 12 39.9**	**+0.6**
P29M	**Windy Craggy**	**46.55**	**43**	P	**P**	**23 12 41.6**	**+1.8**
H31M	**Peel River**	**46.61**	**34**	P	**P**	**23 12 41.0**	**+0.8**
H31M				IAmb	IAmb	23 12 42.8	

	comp=Z,3.6nm,1.2s								
S31K	**Pelican**	**47.77**	**44**	P	**P**	**23 12 48.8**	**-0.6**
BVAR	**Borovoye Array**	**49.51**	**309**	P	**P**	**23 13 01.7**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=36,slow=7.5,SNR=1.6						
BVAR				PcP	**PcP**	**23 14 23.1**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=50,slow=4.5,SNR=3.0						
	comp=Z,0.1nm,0.3s						
DLBC	**Dease Lake**	**50.71**	**42**	P	**P**	**23 13 13.5**	**+1.7**
DLBC				IAmb	IAmb	23 13 36.7	
	comp=Z,3.3nm,1.2s						
KSH	**Kashi**	**51.86**	**291**	P	**P**	**23 13 25.0**	**+4.2**
RES	**Resolute Bay**	**55.00**	**17**	P	**P**	**23 13 46.7**	**+3.7**
RES	**Resolute Bay**	**55.00**	**17**	P	**P**	**23 13 46.7**	**+3.7**
RES				pmax	pmax		
	comp=Z,8.0nm,0.7s						
YKA	**Yellowknife Ar**	**55.83**	**34**	P	**P**	**23 13 49.0**	**-0.2**
YKA	**Yellowknife Ar**	**55.83**	**34**	*eP*	**P**	**23 13 49.5**	**+0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**55.83**	**34**	P	**P**	**23 13 48.5**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=299,slow=7.0,SNR=8.9						
	comp=Z,0.6nm,0.8s						
ABKAR	**Akbulak array**	**57.07**	**309**	P	**P**	**23 13 57.8**	**-0.4**
B04A	**Port Angeles**	**58.92**	**52**		**P**	**23 14 12.6**	**+1.4**
ARCES	**ARCESS Array B**	**59.27**	**340**	P	**P**	**23 14 12.7**	**-0.5**
	comp=Z,2.4nm,0.9s,baz=20,slow=11,SNR=1.4						
	comp=Z,2.4nm,0.9s						
KNRA	**Kununurra**	**61.46**	**200**	P	**P**	**23 14 28.5**	**-0.2**
MXC	**Moxie City**	**61.56**	**52**	P	**P**	**23 14 30.4**	**+1.1**
MXC				IAmb	IAmb	23 14 52.0	
	comp=Z,2.4nm,0.8s						
SUMG	**Summit**	**63.94**	**2**	P	**P**	**23 14 45.0**	**-0.1**
SUMG				IAmb	IAmb	23 14 58.6	
	comp=Z,4.0nm,1.1s						
SUMG	**Summit**	**63.94**	**2**	P	**P**	**23 14 45.0**	**-0.1**
SUMG				pmax	pmax		
	comp=Z,4.0nm,1.1s						
WRA	**Warramunga Arr**	**64.43**	**193**	P	**P**	**23 14 49.2**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=9.1,slow=6.7,SNR=4.2						
	comp=Z,0.8nm,0.5s						
GEYT	**Alibeck**	**64.44**	**299**	P	**P**	**23 14 47.2**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=58,slow=8.7,SNR=2.5						
	comp=Z,1.1nm,0.6s						
PLID	**Pearl Lake**	**64.87**	**51**	P	**P**	**23 14 51.6**	**+0.2**
PLID				IAmb	IAmb	23 14 55.3	
	comp=Z,3.4nm,1.4s						
FINES	**FINESS Array B**	**64.89**	**333**	P	**P**	**23 14 50.3**	**-0.7**
FINES	**FINESS Array B**	**64.89**	**333**	*eP*	**P**	**23 14 49.5**	**-1.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**64.89**	**333**	P	**P**	**23 14 48.9**	**-2.1**
	comp=Z,0.6nm,0.5s,baz=45,slow=8.4,SNR=6.1						
	comp=Z,0.6nm,0.5s						
FCC	**Fort Churchill**	**66.05**	**30**	P	**P**	**23 14 58.2**	**-0.2**
FCC	**Fort Churchill**	**66.05**	**30**	P	**P**	**23 14 58.3**	**-0.2**
BOZ	**Bozeman (W)**	**66.97**	**48**	P	**P**	**23 15 05.1**	**+0.2**
BOZ	**Bozeman (W)**	**66.97**	**48**	P	**P**	**23 15 05.1**	**+0.2**
BOZ				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NVAR	**Mina Array Bea**	**67.60**	**58**	P	**P**	**23 15 09.5**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=300,slow=6.7,SNR=4.0						
	comp=Z,0.4nm,0.6s						
ASAR	**Alice Springs**	**68.15**	**193**	P	**P**	**23 15 13.3**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=8.7,slow=5.7,SNR=4.0						
	comp=Z,1.0nm,0.8s						
SFJD	**Kangerlussuaq**	**68.78**	**7**	P	**P**	**23 15 15.9**	**+0.3**
SFJD	**Kangerlussuaq**	**68.78**	**7**	P	**P**	**23 15 15.9**	**+0.3**
SFJD				pmax	pmax		
	comp=Z,11nm,1.0s						
NC405	**NORSAR Array S**	**69.43**	**339**	P	**P**	**23 15 19.1**	**-0.7**
NC405				IAmb	IAmb	23 15 58.8	
	comp=Z,5.9nm,1.1s						
NC204	**NORSAR Array S**	**69.54**	**339**	P	**P**	**23 15 19.9**	**-0.6**
NC204				IAmb	IAmb	23 16 00.3	
	comp=Z,4.7nm,1.1s						
NB201	**NORSAR Array S**	**69.59**	**339**	P	**P**	**23 15 20.2**	**-0.6**
NB2	**NORSAR Subarra**	**69.62**	**339**	P	**P**	**23 15 19.9**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**69.62**	**339**	*eP*	**P**	**23 15 20.2**	**-0.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**69.62**	**339**	P	**P**	**23 15 19.6**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=32,slow=6.5,SNR=12						
	comp=Z,0.5nm,0.4s						
HFS	**Hagfors**	**69.71**	**337**	P	**P**	**23 15 20.4**	**-1.1**
	comp=Z,1.5nm,0.4s,baz=53,slow=5.7,SNR=15						
	comp=Z,1.5nm,0.4s						
PDAR	**Pinedale Array**	**69.94**	**50**	P	**P**	**23 15 23.8**	**+0.2**
PDAR	**Pinedale Array**	**69.94**	**50**	P	**P**	**23 15 23.4**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=328,slow=5.3,SNR=3.7						
	comp=Z,0.4nm,0.7s						
AKASG	**Malin Array Be**	**71.59**	**324**	P	**P**	**23 15 33.3**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=244,slow=12,SNR=2.3						
	comp=Z,0.6nm,0.6s						
BUR08	**Bucovina Ar. S**	**75.63**	**324**	P	**P**	**23 15 56.4**	**-0.6**
BUR08				IAmb	IAmb	23 16 15.3	
	comp=Z,4.1nm,1.3s						
BURAR	**Bucovina Array**	**75.65**	**324**	P	**P**	**23 15 57.0**	**-0.1**
BRTR	**Keskin Array B**	**77.55**	**314**	P	**P**	**23 16 08.2**	**+0.2**
BRTR	**Keskin Array B**	**77.55**	**314**	P	**P**	**23 16 08.2**	**+0.2**
BRTR	**Keskin Array B**	**77.55**	**314**	P	**P**	**23 16 07.5**	**-0.5**
	comp=Z,0.6nm,0.9s,baz=70,slow=5.1,SNR=1.7						
	comp=Z,0.6nm,0.9s						
SCHQ	**Schefferville**	**77.65**	**19**	P	**P**	**23 16 07.5**	**-0.6**
SCHQ				IAmb	IAmb	23 16 38.5	
	comp=Z,4.2nm,1.1s						
EKA	**Eskdalemuir Ar**	**78.14**	**343**	P	**P**	**23 16 09.0**	**-1.8**
EKA	**Eskdalemuir Ar**	**78.14**	**343**	P	**P**	**23 16 09.0**	**-1.8**
	comp=Z,1.1nm,0.8s,baz=25,slow=1.9,SNR=2.2						
	comp=Z,1.1nm,0.8s						
KHC	**Kasperske Hory**	**78.98**	**331**	P	**P**	**23 16 15.5**	**-0.1**
KHC	**Kasperske Hory**	**78.98**	**331**	P	**P**	**23 16 15.5**	**-0.1**
KHC				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MMAI	**Mount Meron Ar**	**81.49**	**308**	P	**P**	**23 16 30.1**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=74,slow=6.2,SNR=4.4						
	comp=Z,0.6nm,0.5s						
TXAR	**Lajitas Array**	**82.68**	**56**	P	**P**	**23 16 36.3**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=288,slow=2.7,SNR=4.4						
	comp=Z,0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**115.21**	**322**	PKP	**PKiKP**	**23 22 53.1**	**-0.2**
	comp=Z,1.0nm,1.2s,baz=29,slow=3.3,SNR=1.7						
H03N2	**Juan Fernandez**	**142.98**	**90**	T	T	02 03 05.6	
	baz=304,slow=77,SNR=8.7						
H03N3	**Juan Fernandez**	**142.99**	**90**	T	T	02 03 08.5	
	baz=304,slow=77,SNR=11						
H03N1	**Juan Fernandez**	**142.99**	**90**	T	T	02 03 08.9	
	baz=304,slow=77,SNR=11						

*SFS **04** 23:04:38.9,36˚.52N×4˚.45W, h92km, ML2.1/19, MLv2.1/19*
*INMG **04** 23:04:39.2±2.3, 36˚.57N×4˚.44W, h88km±5km, ML2.3, Error ellipse: s-maj=4.5km s-min=3.2km az=5.0*
*IGIL **04** 23:04:39.9, 36˚.53N×4˚.45W, h34km, ML2.4*
*CNRM **04** 23:04:39.3, 36˚.39N×4˚.71W, h53km, ML3.1*
*MDD **04** 23:04:39.6±0.4, 36˚.55N×4˚.46W, h85km±4km, Mb3.0/21, Error ellipse: s-maj=3.9km s-min=2.0km az=164.0*

ISC 04 23:04:36.9±1.2, 36˚.52N±0˚.03×4˚.43W±0˚.02, h102km±6km, n67, σ1§44/116, 13C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
EMAL	**Malaga-Limoner**	**0.24**	**1**	P		**Pn**	**23 04 52.3**	**+0.9**
EMAL				S		**Sn**	**23 05 01.3**	**-0.9**
EMIJ	**Mijas**	**0.28**	**279**	S		**Sn**	**23 05 01.3**	**-1.4**
EMIJ				P		**Pn**	**23 04 51.8**	**+0.3**
EMIJ	**Mijas**	**0.28**	**279**	P		**Pn**	**23 04 51.9**	**+0.3**
EMIJ				S		**Sn**	**23 05 00.8**	**-1.8**
EGOR	**Sierra Gorda,**	**0.64**	**24**	P		**Pn**	**23 04 55.5**	**+1.4**
EGOR				S		**Sn**	**23 05 07.3**	**+0.2**
EGOR	**Sierra Gorda,**	**0.64**	**24**	P		**Pn**	**23 04 55.5**	**+1.4**
EGOR				S		**Sn**	**23 05 06.2**	**-0.8**
ELGU	**Los Guajares,**	**0.73**	**62**	P		**Pn**	**23 04 55.2**	**+0.3**
ELGU				S		**Sn**	**23 05 08.5**	**+0.1**
ELGU	**Los Guajares,**	**0.73**	**62**	P		**Pn**	**23 04 55.1**	**+0.3**
ELGU				S		**Sn**	**23 05 06.9**	**-1.4**
ESPR	**Espera**	**1.20**	**287**	P		**Pn**	**23 05 01.8**	**+2.3**
ESPR				S		**Sn**	**23 05 16.9**	**+0.2**
ESPR	**Espera**	**1.20**	**287**	P		**Pn**	**23 05 01.5**	**+1.9**
ESPR				S		**Sn**	**23 05 16.6**	**-0.2**
EALB	**Alboran**	**1.27**	**117**	S		**Sn**	**23 05 16.9**	**-1.4**
EBER	**Berja**	**1.30**	**73**	P		**Pn**	**23 05 02.0**	**+1.1**
EBER				S		**Sn**	**23 05 19.8**	**+0.7**
EBER	**Berja**	**1.30**	**73**	P		**Pn**	**23 05 01.8**	**+0.9**
EBER				⇑*i*Vmb_V			23 05 05.3	
	340nm,SNR=1.2							
EBER				S		**Sn**	**23 05 19.0**	**-0.2**
PALE	**Palemas**	**1.36**	**163**	P		**Pn**	**23 05 01.9**	**+0.3**
PALE	**Palemas**	**1.36**	**163**	S		**Sn**	**23 05 18.5**	**-1.8**
EADA	**Adamuz**	**1.65**	**356**	S		**Sn**	**23 05 25.0**	**-1.6**
EADA				P		**Pn**	**23 05 06.4**	**+1.3**
EADA	**Adamuz**	**1.65**	**356**	P		**Pn**	**23 05 06.4**	**+1.3**
EADA				⇑*i*Vmb_V			23 05 06.7	
	2µm,SNR=12							
EADA				S		**Sn**	**23 05 26.0**	**-0.6**
EQES	**Quesada**	**1.68**	**40**	P		**Pn**	**23 05 07.3**	**+1.7**
EQES				⇑*i*Vmb_V			23 05 10.2	
	268nm,SNR=2.1							
EQES				S		**Sn**	**23 05 26.9**	**-0.4**
ECAB	**El Cabril**	**1.74**	**333**	P		**Pn**	**23 05 07.0**	**+0.8**
ECAB				S		**Sn**	**23 05 26.9**	**-1.7**
ECAB	**El Cabril**	**1.74**	**333**	P		**Pn**	**23 05 07.0**	**+0.8**
ECAB				⇑*i*Vmb_V			23 05 07.5	
	1µm,SNR=11							
ECAB				S		**Sn**	**23 05 26.9**	**-1.7**
GOG	**Mont Gurugu**	**1.74**	**138**	P		**Pn**	**23 05 07.4**	**+1.1**
GOG	**Mont Gurugu**	**1.74**	**138**	S		**Sn**	**23 05 29.8**	**+1.1**
ENIJ	**Nijar**	**1.84**	**75**	P		**Pn**	**23 05 09.0**	**+1.4**
ENIJ	**Nijar**	**1.84**	**75**	P		**Pn**	**23 05 08.8**	**+1.3**
ENIJ				⇑*i*Vmb_V			23 05 12.9	
	253nm,SNR=1.0							
ENIJ				S		**Sn**	**23 05 30.3**	**-0.6**
EMIN	**Mina Concepcio**	**2.18**	**306**	P		**Pn**	**23 05 12.8**	**+0.9**
EMIN				S		**Sn**	**23 05 36.9**	**-1.6**
EMIN	**Mina Concepcio**	**2.18**	**306**	P		**Pn**	**23 05 12.7**	**+0.9**
EMIN				⇑*i*Vmb_V			23 05 13.6	
	480nm,SNR=2.7							
EMIN				S		**Sn**	**23 05 37.2**	**-1.4**
PSIM	**Granatula de C**	**2.36**	**13**	P		**Pn**	**23 05 15.5**	**+1.3**
PSIM				S		**Sn**	**23 05 41.2**	**-1.7**
EGRO	**El Granado**	**2.64**	**293**	Pn		**Pn**	**23 05 19.1**	**+1.2**
EGRO				S		**Sn**	**23 05 48.4**	**-1.0**
EGRO	**El Granado**	**2.64**	**293**	P		**Pn**	**23 05 19.1**	**+1.2**
EGRO				⇑*i*Vmb_V			23 05 23.7	
	313nm,SNR=1.1							
EGRO				S		**Sn**	**23 05 47.9**	**-1.5**
PBAR	**Barrancos**	**2.65**	**309**	*eP*		**Pn**	**23 05 19.3**	**+1.3**
PBAR				*eS*		**Sn**	**23 05 48.6**	**-1.1**
PBAR				A		A	23 05 51.1	
	8.5nm,0.2s							
PVAQ	**Vaqueiros**	**2.77**	**290**	*eP*		**Pn**	**23 05 20.7**	**+1.1**
PVAQ				*eS*		**Sn**	**23 05 50.7**	**-1.8**
PVAQ				A		A	23 05 53.3	
	8.8nm,0.1s							
PVAQ	**Vaqueiros**	**2.77**	**290**	P		**Pn**	**23 05 20.7**	**+1.1**
PVAQ				S		**Sn**	**23 05 50.7**	**-1.8**
PVAQ	**Vaqueiros**	**2.77**	**290**	P		**Pn**	**23 05 19.8**	**+0.1**
PBDV	**Barranco-do-Ve**	**2.90**	**285**	*eP*		**Pn**	**23 05 22.9**	**+1.6**
PBDV				*eS*		**Sn**	**23 05 55.5**	**0.0**
PBDV				A		A	23 05 57.0	
	6.2nm,0.1s							
PBDV	**Barranco-do-Ve**	**2.90**	**285**	P		**Pn**	**23 05 22.9**	**+1.6**
PBDV				S		**Sn**	**23 05 54.7**	**-0.8**
PAB	**San Pablo**	**3.02**	**1**	P		**Pn**	**23 05 24.1**	**+1.0**
PAB				⇑*i*Vmb_V			23 05 26.4	
	226nm,SNR=2.3							
PAB				S		**Sn**	**23 05 56.7**	**-1.8**
EBAD	**Badajoz**	**3.03**	**318**	P		**Pn**	**23 05 24.4**	**+1.4**
EBAD				S		**Sn**	**23 05 57.5**	**-1.1**
EBAD	**Badajoz**	**3.03**	**318**	P		**Pn**	**23 05 24.4**	**+1.4**
EBAD				⇑*i*Vmb_V			23 05 24.9	
	304nm,SNR=2.0							
EBAD				S		**Sn**	**23 05 57.0**	**-1.6**
IFR	**Ifrane**	**3.05**	**191**	P		**Pn**	**23 05 24.6**	**+1.0**
IFR				S		**Sn**	**23 05 57.2**	**-2.3**
PCVE	**Castro Verde**	**3.09**	**292**	*eP*		**Pn**	**23 05 25.4**	**+1.6**
PCVE				*eS*		**Sn**	**23 05 58.9**	**-1.2**
PCVE				A		A	23 06 00.4	
	11nm,0.2s							
PCVE	**Castro Verde**	**3.09**	**292**	P		**Pn**	**23 05 25.1**	**+1.2**
PCVE				S		**Sn**	**23 05 59.6**	**-0.5**
ETOB	**Tobarra**	**3.12**	**46**	P		**Pn**	**23 05 25.9**	**+1.6**
ETOB				S		**Sn**	**23 05 58.9**	**-2.0**
ETOB	**Tobarra**	**3.12**	**46**	P		**Pn**	**23 05 25.6**	**+1.3**
ETOB				⇑*i*Vmb_V			23 05 31.0	
	157nm,SNR=1.3							
ETOB				S		**Sn**	**23 05 58.7**	**-2.2**
PBEJ	**Beja**	**3.12**	**300**	*eS*		**Sn**	**23 06 00.3**	**-0.6**
PBEJ				A		A	23 06 01.8	
	8.2nm,0.4s							
ESDC	**Sonseca Array**	**3.17**	**7**	P		**Pn**	**23 05 26.4**	**+1.4**
ESDC				⇑*i*Vmb_V			23 05 26.9	
	116nm,SNR=1.1							
ESDC				S		**Sn**	**23 06 00.2**	**-1.9**
ESDC				Sn		Sn	23 06 00.3	-1.2
MESJ	**Messejana**	**3.30**	**295**	*eP*		**Pn**	**23 05 28.2**	**+1.6**
MESJ				*eS*		**Sn**	**23 06 03.3**	**-1.8**
MESJ				A		A	23 06 04.9	
	7.0nm,0.4s							
MESJ	**Messejana**	**3.30**	**295**	*eP*		**Pn**	**23 05 28.0**	**+1.4**
MESJ				*eS*		**Sn**	**23 06 03.3**	**-1.8**
MESJ				IAML			23 06 05.5	
	comp=N,7.6nm,0.2s							
PESTR	**Estremoz**	**3.43**	**314**	*eP*		**Pn**	**23 05 30.1**	**+1.7**
PESTR				*eS*		**Sn**	**23 06 07.4**	**-0.8**
PESTR				A		A	23 06 07.5	
	comp=N,3.2nm,0.5s							
PESTR	**Estremoz**	**3.43**	**314**	P		**Pn**	**23 05 30.0**	**+1.7**
PESTR				S		**Sn**	**23 06 07.2**	**-1.0**
PESTR	**Estremoz**	**3.43**	**314**	P		**Pn**	**23 05 30.4**	**+2.0**
MORF	**Marmelete**	**3.47**	**284**	*eP*		**Pn**	**23 05 30.6**	**+1.6**
MORF				*eS*		**Sn**	**23 06 07.7**	**-1.6**
MORF				A		A	23 06 09.2	
	comp=N,7.7nm,0.2s							
MORF	**Marmelete**	**3.47**	**284**	*eP*		**Pn**	**23 05 30.1**	**+1.1**
MORF				*eS*		**Sn**	**23 06 07.2**	**-2.1**
MORF				IAML			23 06 09.3	
	comp=N,20nm,0.3s							
EVO	**Evora**	**3.48**	**306**	*eP*		**Pn**	**23 05 30.8**	**+1.7**
EVO				*eS*		**Sn**	**23 06 08.3**	**-1.2**
EVO				A		A	23 06 09.7	
	comp=N,12nm,0.3s							
ZHG	**ZHG**	**3.56**	**211**	P		**Pn**	**23 05 30.8**	**+0.5**
ZHG	**ZHG**	**3.56**	**211**	S		**Sn**	**23 06 10.1**	**-1.5**
PFVI	**Vila Bisbo**	**3.58**	**281**	*eS*		**Sn**	**23 06 09.9**	**-1.9**
PFVI				A		A	23 06 12.6	
	comp=N,11nm,0.2s							
PTEO	**Sao Teotonio**	**3.58**	**288**	*eS*		**Sn**	**23 06 12.1**	**+0.2**
PNCL	**Nicolau / Gran**	**3.63**	**297**	*eP*		**Pn**	**23 05 32.7**	**+1.6**
PNCL				*eS*		**Sn**	**23 06 11.4**	**-1.6**
PNCL				A		A	23 06 13.7	
	comp=N,5.2nm,0.3s							
MD31	**MD31**	**3.65**	**184**	P		**Pn**	**23 05 33.3**	**+1.7**
MD31	**MD31**	**3.65**	**184**	S		**Sn**	**23 06 13.9**	**+0.1**
PMRV	**Marv??o**	**3.73**	**322**	*eP*		**Pn**	**23 05 34.0**	**+1.6**
PMRV				*eS*		**Sn**	**23 06 13.6**	**-1.8**
PMRV				A		A	23 06 15.3	
	comp=N,2.0nm,0.3s							
EVIV	**Cofrentes, Val**	**3.79**	**43**	P		**Pn**	**23 05 34.2**	**+0.8**
EVIV				⇑*i*Vmb_V			23 05 34.7	
	comp=N,190nm,SNR=1.6							
EVIV				S		**Sn**	**23 06 13.5**	**-3.5**
PMTG	**Montargil**	**3.94**	**311**	*eP*		**Pn**	**23 05 36.8**	**+1.6**
PMTG				*eS*		**Sn**	**23 06 18.9**	**-1.5**
PMTG				A		A	23 06 20.1	
	comp=N,2.4nm,0.4s							
PCBR	**Castelo Branco**	**4.09**	**325**	*eP*		**Pn**	**23 05 39.1**	**+1.8**
PCBR				*eS*		**Sn**	**23 06 22.1**	**-2.0**
PCBR				A		A	23 06 22.6	
	comp=N,0.9nm,0.1s							
EMOS	**Mosqueruela**	**4.94**	**38**	P		**Pn**	**23 05 50.8**	**+1.9**
EMOS				⇑*i*Vmb_V			23 05 52.3	
	comp=N,123nm,SNR=0.9							
EMOS				S		**Sn**	**23 06 42.4**	**-2.5**
MVO	**Moncorvo**	**5.06**	**337**	*eP*		**Pn**	**23 05 52.6**	**+2.1**
TISM	**Timmit**	**5.07**	**200**	P		**Pn**	**23 05 49.5**	**-1.0**
PBRG	**Braganca**	**5.57**	**342**	*eP*		**Pn**	**23 05 59.9**	**+2.5**

*KRNET **04** 23:10:31.0±0.1, 42˚.42N×72˚.26E, h17km, mb2.1*
*SOME **04** 23:10:31.2, 42˚.40N×72˚.30E, h10km*
*NNC **04** 23:10:32.8±1.2, 42˚.60N×72˚.32E, h0km, mb2.9, mpv2.7, Error ellipse: s-maj=25.9km s-min=4.3km az=178.0*
*KNET **04** 23:10:34.0±0.8, 42˚.43N×72˚.51E, h12km±5km, ml1.8, Error ellipse: s-maj=5.7km s-min=5.1km az=177.0*

ISC 04 23:10:31.5±1.1, 42˚.40N±0˚.03×72˚.33E±0˚.02, h4km±10km,

n52, σ1§22/92, 38C-12D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MNAS	**Manas**	**0.16**	**55**	⇑*i*P		**Pg**	**23 10 35.2**	**+0.6**
	baz=68							
MNAS				⇑*i*S		**Sg**	**23 10 38.1**	**+1.4**
	baz=68							
ARK	**Arkit**	**0.66**	**205**	⇑*i*P		**Pg**	**23 10 43.7**	**-0.4**
	baz=0.0							
ARK				⇑*i*S		**Sg**	**23 10 52.7**	**+0.1**
	baz=0.0							
MRKS	**Merke**	**0.75**	**62**	*e*P		**Pg**	**23 10 45.9**	**+0.1**
	2.7nm,0.1s							
MRKS				*e*S		**Sb**	**23 10 56.3**	**-1.4**
	39nm,0.2s							
MRKS	**Merke**	**0.75**	**62**	P		**Pg**	**23 10 45.9**	**+0.1**
	2.7nm,0.1s							
MRKS				S		**Sb**	**23 10 56.3**	**-1.4**
	39nm,0.2s							
DZA	**Taraz**	**0.89**	**304**	*e*P		**Pg**	**23 10 48.5**	**-0.1**
	15nm,0.1s							
DZA				*e*S		**Sb**	**23 11 00.5**	**-1.3**
	67nm,0.1s							
EKS2	**Erkin-Say**	**1.10**	**76**	⇑P		**Pb**	**23 10 52.6**	**-0.6**
	1.4nm,0.1s,SNR=8.7							
EKS2				⇓S		**Sg**	**23 11 07.5**	**+0.6**
	2.9nm,0.1s							
EKS2	**Erkin-Say**	**1.10**	**76**	⇑*i*P		**Pb**	**23 10 52.7**	**-0.5**
	baz=77							
EKS2				⇑*i*S		**Sn**	**23 11 08.2**	**-1.4**
	baz=77							
ARSB	**Arslanbob**	**1.18**	**155**	⇑*e*P		**Pn**	**23 10 53.3**	**-1.6**
	baz=54							
ARSB				⇑*e*S		**Sb**	**23 11 09.8**	**-0.3**
	baz=54							
TRKS	**Terek-Say**	**1.24**	**226**	⇑*i*P		**Pn**	**23 10 54.3**	**-1.5**
	baz=21							
TRKS				⇑*i*S		**Sb**	**23 11 11.1**	**-0.9**
	baz=21							
KK31	**Karatay Array**	**1.52**	**298**	Pn		**Pb**	**23 10 59.7**	**-0.5**
	0.6nm,0.2s,baz=121,slow=17,SNR=79							
KK31				⇓Sn		**Sg**	**23 11 20.8**	**+0.6**
	14nm,0.4s,baz=130,slow=24,SNR=40							
ARLS	**Aral**	**1.57**	**109**	⇑*i*P		**Pb**	**23 11 01.1**	**-0.2**
	baz=9.0							
ARLS				⇑*i*S		**Sg**	**23 11 23.2**	**+1.1**
	baz=9.0							
AAK	**Ala-Archa**	**1.62**	**81**	⇑P		**Pb**	**23 11 02.0**	**0.0**
	2.1nm,0.1s,SNR=5.7							
AAK				⇓S		**Sg**	**23 11 23.1**	**-0.3**
	6.9nm,0.4s							
AAK	**Ala-Archa**	**1.62**	**81**	⇑*i*P		**Pb**	**23 11 01.8**	**-0.2**
	baz=82							
AAK				⇑*i*S		**Sg**	**23 11 24.0**	**+0.6**
	baz=82							
UCH	**Uchtor**	**1.63**	**95**	⇓P		**Pb**	**23 11 02.1**	**-0.2**
	1.2nm,0.2s							
UCH				⇑S		**Sg**	**23 11 23.8**	**+0.1**
	10nm,0.4s							
UCH	**Uchtor**	**1.63**	**95**	⇑*i*P		**Pb**	**23 11 02.0**	**-0.3**
	baz=96							
UCH				⇑*i*S		**Sg**	**23 11 24.6**	**+0.8**
	baz=96							
IUG	**Iuzhnay**	**1.73**	**262**	*e*P		**Pb**	**23 11 04.0**	**+0.2**
	3.5nm,0.1s							
IUG				*e*S		**Sg**	**23 11 27.4**	**+0.4**
	48nm,0.4s							
FRU1	**Bishkek**	**1.75**	**76**	⇓*e*P		**Pb**	**23 11 03.8**	**-0.4**
	baz=76							
FRU1				⇓*e*S		**Sg**	**23 11 27.5**	**-0.1**
	baz=76							
USP	**Ospenovka**	**1.82**	**61**	⇑P		**Pb**	**23 11 04.9**	**-0.4**
	6.2nm,0.3s,SNR=6.2							
USP				⇑S		**Sg**	**23 11 28.9**	**-0.9**
	16nm,0.3s							
USP	**Ospenovka**	**1.82**	**61**	⇑*e*P		**Pb**	**23 11 04.7**	**-0.6**
	baz=62							
USP				⇑*i*S		**Sg**	**23 11 29.5**	**-0.3**
	baz=62							
CHMS	**Chumysh**	**1.88**	**71**	⇑P		**Pb**	**23 11 06.1**	**-0.3**
	2.0nm,0.1s							
CHMS				⇑S		**Sb**	**23 11 30.5**	**+0.1**
	5.1nm,0.1s							
CHMS	**Chumysh**	**1.88**	**71**	⇑Pn		**Pb**	**23 11 06.3**	**-0.2**

	9.2nm,0.6s								
KTBS	**Karatobe**	**3.45**	**66**	*e*P		**Pb**	**23 11 33.8**	**+0.6**
	0.7nm,0.4s								
KTBS				*e*S		**Sg**	**23 12 18.8**	**-3.5**
	5.5nm,0.5s								
KTBS	**Karatobe**	**3.45**	**66**	Pg		**Pb**	**23 11 33.7**	**+0.6**
	0.7nm,0.4s								
KTBS				Lg		Lg	23 12 18.8		
	5.5nm,0.5s								
TNSS	**Tian-Shan**	**3.46**	**78**	*e*P		**Pb**	**23 11 33.7**	**+0.1**
	0.3nm,0.1s								
TNSS				*e*S		**Sb**	**23 12 18.9**	**+2.8**
	1.3nm,0.4s								
TNSS	**Tian-Shan**	**3.46**	**78**	Pg		**Pb**	**23 11 33.7**	**+0.1**
	0.3nm,0.1s								
TNSS				Lg		Lg	23 12 18.9		
	1.3nm,0.4s								
MDOK	**Medeo**	**3.56**	**76**	*e*P		**Pb**	**23 11 35.2**	**+0.1**
	0.8nm,0.2s								
MDOK				*e*S		**Sb**	**23 12 21.2**	**+2.6**
	1.4nm,0.3s								
MDOK	**Medeo**	**3.56**	**76**	Pg		**Pb**	**23 11 35.2**	**+0.1**
	0.8nm,0.2s								
MDOK				Lg		Lg	23 12 21.2		
	1.4nm,0.3s								
KOTS	**Kotyrbulak**	**3.62**	**75**	*e*P		**Pb**	**23 11 36.7**	**+0.7**
	1.1nm,0.4s								
KOTS				*e*S		**Sg**	**23 12 23.8**	**-3.8**
	2.9nm,0.3s								
KOTS	**Kotyrbulak**	**3.62**	**75**	Pg		**Pb**	**23 11 36.7**	**+0.7**
	1.1nm,0.4s								
KOTS				Lg		Lg	23 12 23.8		
	2.9nm,0.3s								
CHKK	**Chushkaly**	**3.71**	**65**	*e*P		**Pb**	**23 11 38.5**	**+1.0**
	0.3nm,0.1s								
CHKK				*e*S		**Sg**	**23 12 27.0**	**-3.5**
	3.3nm,0.3s								
CHKK	**Chushkaly**	**3.71**	**65**	Pg		**Pb**	**23 11 38.5**	**+1.0**
	0.3nm,0.1s								
CHKK				Lg		Lg	23 12 27.0		
	3.3nm,0.3s								

*TAP **04** 23:11:18.9,24˚.82N×122˚.46E,h12km,ML2.8,D*
*JMA **04** 23:11:19.9±0.2,25˚.N±1˚.×122˚.5E±0˚.5,h15km±3km,*
MV2.6/10,NW OFF ISHIGAKIJIMA IS

ISC 04 23:11:19.5±1.0,24˚.80N±0˚.03×122˚.46E±0˚.02,h15km±8km,
n48,σ0°58/86,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EOS2	**EOS2**	**0.43**	**209**	*i* P	**Pb**	**23 11 29.0**	**+0.2**
	baz=208						
EOS2				*i* S	**Sb**	**23 11 36.0**	**+0.9**
	baz=208						
TWB1	**Santiao Chiao**	**0.47**	**296**	*i* P	**Pg**	**23 11 29.1**	**+0.1**
	baz=294						
TWB1				*i* S	**Sg**	**23 11 35.4**	**0.0**
	baz=294						
EGS		**0.48**	**275**	*i* P	**Pg**	**23 11 29.3**	**+0.2**
	baz=273						
EGS				*i* S	**Sb**	**23 11 37.0**	**+0.4**
	baz=273						
EOS3	**EOS3**	**0.53**	**194**	*i* P	**Pb**	**23 11 30.6**	**+0.2**
	baz=194						
EOS3				*i* S	**Sb**	**23 11 39.3**	**+1.5**
	baz=194						
JYNG	**Yonagunijimaku**	**0.56**	**128**	*i* P	**Pg**	**23 11 30.5**	**-0.2**
JYNG				S	**Sg**	**23 11 37.9**	**-0.2**
TWC	**Suao**	**0.59**	**251**	*i* P	**Pg**	**23 11 30.8**	**-0.3**
	baz=249						
TWC				*i* S	**Sn**	**23 11 41.3**	**-1.3**
	baz=249						
TIPB	**Shuangxi**	**0.60**	**287**	*i* P	**Pb**	**23 11 31.6**	**-0.1**
	baz=285						
TIPB				*i* S	**Sb**	**23 11 40.3**	**+0.2**
	baz=285						
ESAO	**Su ao**	**0.60**	**248**	*i* P	**Pb**	**23 11 31.7**	**-0.1**
	baz=246						
ESAO				*i* S	**Sb**	**23 11 41.3**	**+1.2**
	baz=246						
SXI1	**Grass Mountain**	**0.60**	**299**	*i* P	**Pb**	**23 11 31.8**	**-0.1**
	baz=297						
SXI1				*i* S	**Sb**	**23 11 41.1**	**+0.9**
	baz=297						
YOJ	**Yonaguni jima**	**0.61**	**124**	*i* P	**Pg**	**23 11 31.4**	**-0.1**
	baz=125						
YOJ				*i* S	**Sg**	**23 11 39.3**	**-0.1**
	baz=125						
YOJ	**Yonaguni jima**	**0.61**	**124**	P	**Pg**	**23 11 31.3**	**-0.1**
YOJ				S	**Sg**	**23 11 39.0**	**-0.4**
NWF	**Wu-fen Shan**	**0.67**	**294**	*i* P	**Pb**	**23 11 33.4**	**+0.4**
	baz=292						
NWF				*i* S	**Sb**	**23 11 42.6**	**+0.4**
	baz=292						
WFSB	**Wu-fen Shan**	**0.67**	**294**	*i* P	**Pb**	**23 11 33.5**	**+0.5**
	baz=292						
WFSB				*i* S	**Sb**	**23 11 42.7**	**+0.6**
	baz=292						
EOS4	**EOS4**	**0.69**	**191**	*i* P	**Pb**	**23 11 33.2**	**+0.2**
	baz=190						
EOS4				*i* S	**Sb**	**23 11 43.2**	**+1.0**
	baz=190						
NDS	**Dongshan**	**0.69**	**256**	*i* P	**Pg**	**23 11 33.1**	**0.0**
	baz=255						
NDS				*i* S	**Sb**	**23 11 43.7**	**+0.9**
	baz=255						
EWUT	**Wuta**	**0.71**	**240**	*i* P	**Pg**	**23 11 33.2**	**-0.2**
	baz=239						
EWUT				*i* S	**Sb**	**23 11 44.0**	**+0.7**
	baz=239						
TNOU	**National Taiwa**	**0.71**	**299**	*i* P	**Pg**	**23 11 33.1**	**-0.4**
	baz=297						
TNOU				*i* S	**Sg**	**23 11 42.9**	**+0.1**
	baz=297						
TWE	**Neicheng**	**0.72**	**264**	*i* P	**Pg**	**23 11 33.3**	**-0.3**
	baz=262						
TWE				*i* S	**Sb**	**23 11 43.5**	**-0.1**
	baz=262						
ENA	**Nanau**	**0.75**	**241**	*i* P	**Pb**	**23 11 34.2**	**-0.2**
	baz=239						
ENA				*i* S	**Sb**	**23 11 44.5**	**+0.1**
	baz=239						
FUSB	**Fushanzhiwuyua**	**0.79**	**267**	*i* P	**Pg**	**23 11 34.9**	**0.0**
	baz=265						
FUSB				*i* S	**Sb**	**23 11 46.5**	**+0.8**
	baz=265						
EAHA	**Aohua**	**0.81**	**235**	*i* P	**Pg**	**23 11 34.6**	**-0.6**
	baz=233						
EAHA				*i* S	**Sg**	**23 11 44.2**	**-1.6**
	baz=233						
ENTT	**Nioudou**	**0.83**	**259**	*i* P	**Pb**	**23 11 36.1**	**+0.5**
	baz=257						
NWLT	**Wulai**	**0.87**	**269**	*i* P	**Pb**	**23 11 36.5**	**+0.2**
	baz=267						
NWLT				*i* S	**Sg**	**23 11 47.8**	**0.0**
	baz=267						
YM01	**YM01**	**0.88**	**293**	*i* P	**Pg**	**23 11 36.0**	**-0.5**
	baz=292						
YM01				*i* S	**Sg**	**23 11 48.0**	**0.0**
	baz=292						
NDT	**Datong Townshi**	**0.88**	**257**	*i* P	**Pb**	**23 11 36.7**	**+0.2**
	baz=256						
NDT				*i* S	**Sb**	**23 11 48.8**	**+0.6**
	baz=256						
LATG	**Datong**	**0.89**	**253**	*i* P	**Pg**	**23 11 36.6**	**-0.1**
	baz=251						
LATG				*i* S	**Sn**	**23 11 49.7**	**-0.6**
	baz=251						
TWY	**Chenhua**	**0.91**	**301**	*i* P	**Pn**	**23 11 37.9**	**+0.1**
	baz=300						
TWY				*i* S	**Sb**	**23 11 49.4**	**+0.4**
	baz=300						
YHNB	**Yeheng**	**0.99**	**263**	*i* P	**Pb**	**23 11 38.5**	**0.0**
	baz=261						
NACB	**Ninganchiao**	**1.00**	**232**	*i* P	**Pb**	**23 11 38.3**	**-0.3**
	baz=231						
NACB				*i* S	**Sn**	**23 11 52.5**	**-0.5**
	baz=231						
NSK	**Sanguang**	**1.01**	**263**	*i* P	**Pb**	**23 11 38.8**	**0.0**
	baz=261						
NSK				*i* S	**Sb**	**23 11 50.2**	**-1.6**
	baz=261						
NNSB	**Datong**	**1.05**	**249**	*i* P	**Pb**	**23 11 39.4**	**-0.1**
	baz=248						
NNSB				*i* S	**Sg**	**23 11 53.7**	**+0.3**
	baz=248						
NNS	**Nan Shan**	**1.05**	**250**	*i* P	**Pg**	**23 11 39.7**	**-0.2**
	baz=249						
NNS				*i* S	**Sg**	**23 11 53.8**	**+0.2**
	baz=249						
TWD	**Chiawan**	**1.06**	**228**	*i* P	**Pb**	**23 11 39.4**	**-0.2**
	baz=226						
ETLH	**Xiulin Townshi**	**1.07**	**237**	*i* P	**Pb**	**23 11 39.3**	**-0.5**
	baz=235						
LXIB	**Xiulin Townshi**	**1.23**	**231**	*i* P	**Pn**	**23 11 42.3**	**0.0**
	baz=230						
NFF	**Wufeng Townshi**	**1.23**	**262**	*i* P	**Pn**	**23 11 42.4**	**+0.1**
	baz=261						
FUSS	**Fushou**	**1.24**	**244**	*i* P	**Pg**	**23 11 43.1**	**-0.3**
	baz=242						
FUSS				*i* S	**Sn**	**23 11 59.2**	**+0.1**
	baz=242						
IRIF	**Iriomote-Funau**	**1.25**	**112**	P	**Pg**	**23 11 43.2**	**-0.4**
IRIF				S	**Sn**	**23 11 58.9**	**-0.1**
TDCB	**Techi**	**1.30**	**246**	*i* P	**Pb**	**23 11 44.1**	**+0.3**
	baz=244						
NSTT	**Nanjuang**	**1.34**	**263**	*i* P	**Pg**	**23 11 45.6**	**+0.4**
	baz=262						
CHGB	**Renai**	**1.38**	**238**	*i* P	**Pg**	**23 11 45.8**	**-0.4**
	baz=237						
CHGB				*i* S	**Sg**	**23 12 04.6**	**+0.4**
	baz=237						
WARBT	**Fenglin Townsh**	**1.46**	**222**	*i* P	**Pn**	**23 11 45.6**	**+0.2**
	baz=221						
WARBT				*i* S	**Sg**	**23 12 06.8**	**+0.4**
	baz=221						
WUSB	**Renai**	**1.46**	**237**	*i* P	**Pb**	**23 11 46.8**	**+0.3**
	baz=236						
WUSB				*i* S	**Sg**	**23 12 08.5**	**+1.7**
	baz=236						
WHP	**Taichung City**	**1.47**	**250**	*i* P	**Pg**	**23 11 48.0**	**+0.1**
	baz=248						
WHP				*i* S	**Sg**	**23 12 06.2**	**-0.9**
	baz=248						
JKRS	**Kuro-shima**	**1.52**	**111**	P	**Pn**	**23 11 46.7**	**+0.5**
JKRS				S	**Sn**	**23 12 04.1**	**-1.6**
JIJ	**Ishigaki jima**	**1.59**	**105**	S	**Sn**	**23 12 07.6**	**+0.1**
SSLB	**Suanglung**	**1.70**	**234**	*i* P	**Pg**	**23 11 51.5**	**-0.7**
	baz=233						
SSLB				*i* S	**Sg**	**23 12 14.3**	**-0.1**
	baz=233						
ALS	**Alishan**	**1.98**	**230**	*i* P	**Pb**	**23 11 55.2**	**-0.3**
	baz=229						

*IDC **04** 23:15:37.4±0.6,58˚.44S×25˚.09W,h0km,mb4.2/10,*
mbtmp4.3/11,ML5.0/1,MS3.8/11,Error ellipse:
s-maj=23.4km s-min=17.6km az=69.0
*NEIC **04** 23:15:37.4±1.5,58˚.43S±0˚.09×24˚.6W±0˚.2,h10km±1km,*
mb4.7/35,Error ellipse: s-maj=22.5km s-min=7.2km
az=50.0

ISC 04 23:15:40.7±0.5,58˚.57S±0˚.08×24˚.9W±0˚.1,h28km,n71,
σ1°77/60,mb4.6/25,MS3.9/10,2C-7D,South Sandwich
Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.71**	**299**	Pn	Pn	23 17 35.6	+4.7
VNA1	**Neumayer--Stat**	**13.99**	**157**	⇓P	**Pn**	**23 18 59.1**	**+2.4**
	comp=Z,18nm,0.4s						
VNA3	**Neumayer Olymp**	**14.20**	**160**	⇓P	**Pn**	**23 19 01.0**	**+1.4**
	comp=Z,13nm,0.2s						
VNA3				⇓S	Sn	23 21 25.6	-10
	comp=Z,3.6nm,0.5s						
VNA2	**Neumayer--Watz**	**14.39**	**156**	⇓P	**Pn**	**23 19 04.1**	**+2.0**
	comp=Z,10nm,0.4s,baz=332,slow=15						
VNA2				⇓S	Sn	23 21 29.6	-11
	comp=Z,3.1nm,0.5s,baz=328,slow=14						
SNAA	**Sanae**	**15.94**	**154**	P	**Pn**	**23 19 24.6**	**+2.0**
SNAA	**Sanae**	**15.94**	**154**	⇓P	**Pn**	**23 19 24.8**	**+2.2**
	comp=Z,341nm,0.3s						
SNAA				⇑S	**Sn**	**23 22 10.7**	**-7.4**
	comp=Z,21nm,0.5s						
SNAA	**Sanae**	**15.94**	**154**	Pn	**P**	**23 19 25.1**	**-0.8**
	comp=Z,6.0nm,0.3s,baz=322,slow=14,SNR=176						
SNAA				Sn	**Sn**	**23 22 12.6**	**-5.5**
	comp=Z,0.2nm,0.3s,baz=288,slow=21,SNR=1.8						
SNAA				LR	LR	23 24 35.8	
	comp=Z,447nm,18.5s,baz=297,slow=34						
	comp=Z,14nm,0.4s						
TROLL	**Troll, Antarti**	**17.44**	**151**	⇓P	**P**	**23 19 44.6**	**+1.9**
	comp=Z,236nm,0.3s						
TROLL				⇑S	Sn	23 22 41.5	-13
	comp=Z,71nm,0.5s						
BELA	**Belgrano 2**	**19.67**	**186**	P	**Pn**	**23 20 09.2**	**+0.7**
EFI	**East Falkland**	**20.00**	**276**	P	**P**	**23 20 11.3**	**+0.6**
EFI				IAmb	IAmb	23 20 50.2	
	comp=Z,89nm,1.5s						
GO08	**Villa O'Higgin**	**29.46**	**269**	P	**P**	**23 21 42.8**	**+1.1**
GO08				IAmb	IAmb	23 21 52.5	
	comp=Z,13nm,1.1s						
QSPA	**South Pole Qui**	**31.67**	**180**	P	**P**	**23 22 02.9**	**+1.5**
QSPA				IAmb	IAmb	23 22 05.8	
	comp=Z,13nm,1.4s						
QSPA	**South Pole Qui**	**31.67**	**180**	P	**P**	**23 22 03.3**	**+2.0**
	comp=Z,1.6nm,0.5s,baz=214,slow=2.5,SNR=15						
QSPA				LR	LR	23 34 44.0	
	comp=Z,285nm,18.5s,baz=203,slow=36						
	comp=Z,1.6nm,0.5s						
PLTB	**Pedras Altas**	**33.09**	**312**	P	**P**	**23 22 13.0**	**-0.9**
PLTB				IAmb	IAmb	23 22 38.1	
	comp=Z,16nm,1.4s						
PLCA	**Paso Flores**	**33.68**	**282**	P	**P**	**23 22 19.7**	**+0.7**
PLCA	**Paso Flores**	**33.68**	**282**	P	**P**	**23 22 19.7**	**+0.7**
	comp=Z,2.2nm,0.8s,baz=125,slow=5.8,SNR=5.2						
PLCA				LR	LR	23 35 52.9	
	comp=Z,134nm,18.2s,baz=124,slow=36						
	comp=Z,2.2nm,0.8s						
LR05	**Currie**	**34.80**	**281**	P	**P**	**23 22 29.5**	**+0.9**
LR05				IAmb	IAmb	23 22 51.5	
	comp=Z,28nm,1.4s						
GO06	**Curarrehue**	**35.01**	**282**	P	**P**	**23 22 30.9**	**+0.3**
GO06				IAmb	IAmb	23 23 11.2	
	comp=Z,13nm,1.5s						
MAW	**Mawson**	**37.40**	**141**	P	**P**	**23 22 49.4**	**-1.1**
MAW				IAmb	IAmb	23 23 27.9	
	comp=Z,19nm,1.5s						
MAW	**Mawson**	**37.40**	**141**	LR	LR	23 37 06.0	
	comp=Z,185nm,18.8s,baz=243,slow=34						
BO02	**Sierra Bellavi**	**38.35**	**288**	P	**P**	**23 22 58.5**	**-0.5**
BO02				IAmb	IAmb	23 23 23.1	
	comp=Z,13nm,1.2s						
GO05	**Huala**	**38.76**	**286**	P	**P**	**23 23 02.3**	**0.0**
GO05				IAmb	IAmb	23 23 08.1	
	comp=Z,19nm,0.9s						
MT09	**Talagante**	**39.27**	**289**	P	**P**	**23 23 07.0**	**+0.2**
MT09				IAmb	IAmb	23 23 15.4	
	comp=Z,19nm,1.1s						
CPUP	**Villa Florida**	**39.39**	**311**	P	**P**	**23 23 08.0**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=180,slow=9.9,SNR=1.8						
CPUP				LR	LR	23 38 52.8	
	comp=Z,101nm,18.1s,baz=146,slow=36						
	comp=Z,0.7nm,0.5s						
MT02	**Curacav**	**39.76**	**289**	P	**P**	**23 23 11.6**	**+0.9**
CO02	**Combarbal**	**41.36**	**291**	P	**P**	**23 23 24.7**	**+0.6**
CO02				IAmb	IAmb	23 23 38.5	
	comp=Z,36nm,1.2s						
AQDB	**Aquidauana**	**44.08**	**316**	P	**P**	**23 23 44.7**	**-1.4**
VNDA	**Vanda**	**44.10**	**182**	P	**P**	**23 23 48.1**	**+2.4**
	comp=Z,4.7nm,1.1s,baz=171,slow=8.3,SNR=7.2						
VNDA				LR	LR	23 40 44.7	
	comp=Z,135nm,19.5s,baz=224,slow=34						
	comp=Z,4.7nm,1.1s						
H04S2	**CROZET ISLANDS**	**45.46**	**110**	T	T	00 13 25.6	
	baz=226,slow=75,SNR=29						
H04S3	**CROZET ISLANDS**	**45.47**	**110**	T	T	00 13 29.0	
	baz=226,slow=75,SNR=27						
H04S1	**CROZET ISLANDS**	**45.48**	**110**	T	T	00 13 29.5	
	baz=226,slow=75,SNR=29						
BOSA	**Boshof**	**45.51**	**71**	P	**P**	**23 23 59.9**	**+2.3**
	comp=Z,3.0nm,1.0s,baz=73,slow=8.6,SNR=2.6						
	comp=Z,3.0nm,1.0s						
GO02	**Mina Guanaco**	**45.74**	**297**	P	**P**	**23 23 58.7**	**-0.9**
GO02				IAmb	IAmb	23 24 10.2	
	comp=Z,11nm,1.1s						
BDFB	**Brasilia**	**46.16**	**328**	P	**P**	**23 24 00.7**	**-2.1**
BDFB				IAmb	IAmb	23 24 12.1	
	comp=Z,5.3nm,0.9s						
BDFB	**Brasilia**	**46.16**	**328**	PKP2	**P**	**23 24 02.7**	**-0.1**
BDFB	**Brasilia**	**46.16**	**328**	P	**P**	**23 24 02.7**	**-0.1**
	comp=Z,3.3nm,0.5s,baz=153,slow=6.6,SNR=6.7						
	comp=Z,3.3nm,0.5s						
PB14	**IPOC Station P**	**46.58**	**297**	P	**P**	**23 24 04.9**	**-1.4**

LVC	**Limon Verde**	**47.62**	**300**	P	**P**	**23 24 13.9**	**-0.6**
LVC				lAmb	lAmb	23 24 44.3	
	comp=Z,11nm,1.2s						
LVC	**Limon Verde**	**47.62**	**300**	LR	LR	23 46 58.4	
	comp=Z,86nm,18.5s,baz=236,slow=40						
PB09	**IPOC Station P**	**48.48**	**300**	P	**P**	**23 24 20.7**	**-0.1**
LBTB	**Lobatse**	**48.67**	**69**	LR	LR	23 40 51.5	
	comp=Z,107nm,19.6s,baz=164,slow=31						
PB07	**IPOC Station P**	**48.83**	**299**	P	**P**	**23 24 22.9**	**-0.7**
PTLB	**Pontes e Lacer**	**49.96**	**315**	P	**P**	**23 24 30.3**	**-1.6**
PTLB				lAmb	lAmb	23 24 45.0	
	comp=Z,3.4nm,0.5s						
PB11	**IPOC Station P**	**50.44**	**301**	P	**P**	**23 24 35.5**	**-0.3**
PB11				lAmb	lAmb	23 24 40.9	
	comp=Z,14nm,1.1s						
H10N1	**ASCENSION HYDR**	**51.24**	**13**	T	T	00 20 10.9	
	baz=192,slow=74						
H10N3	**ASCENSION HYDR**	**51.24**	**13**	T	T	00 20 25.1	
	baz=192						
H10N2	**ASCENSION HYDR**	**51.26**	**13**	T	T	00 20 28.5	
	baz=192,slow=74						
PB16	**IPOC Station P**	**51.62**	**302**	P	**P**	**23 24 44.0**	**-1.2**
PB16				lAmb	lAmb	23 25 02.6	
	comp=Z,12nm,1.5s						
LPAZ	**La Paz**	**52.82**	**304**	P	**P**	**23 24 53.8**	**-0.4**
	comp=Z,1.4nm,0.4s,baz=91,slow=8.3,SNR=12						
	comp=Z,1.4nm,0.4s						
RCBR	**Riachuelo**	**53.29**	**346**	LR	LR	23 44 02.0	
	comp=Z,37nm,18.6s,baz=114,slow=32						
SAML	**Samuel**	**57.44**	**313**	P	**P**	**23 25 26.1**	**-0.7**
ETMB	**Extrema**	**57.84**	**310**	P	**P**	**23 25 27.6**	**-1.9**
DBIC	**Dimbokro**	**67.01**	**22**	P	**P**	**23 26 31.6**	**+0.9**
DBIC	**Dimbokro**	**67.01**	**22**	P	**P**	**23 26 31.8**	**+0.9**
	comp=Z,1.8nm,0.4s,baz=170,slow=7.4,SNR=6.2						
	comp=Z,1.8nm,0.4s						
BOAV	**Boa Vista**	**67.02**	**321**	P	**P**	**23 26 30.2**	**-0.7**
MCRA	**Macar, Loja**	**68.65**	**299**	P	**P**	**23 26 40.4**	**-1.0**
TOA0	**Torodi Ar. Sit**	**74.70**	**27**	P	**P**	**23 27 16.0**	**-1.5**
TOA0				lAmb	lAmb	23 27 45.9	
	comp=Z,5.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**74.70**	**27**	P	**P**	**23 27 16.0**	**-1.5**
TORD	**Torodi Ar. Bea**	**74.70**	**27**	P	**P**	**23 27 18.3**	**+0.8**
	comp=Z,1.2nm,0.4s,baz=201,slow=6.0,SNR=24						
	comp=Z,1.2nm,0.4s						
NWAO	**Narrogin (SRO)**	**83.53**	**149**	LR	LR	00 01 56.5	
	comp=Z,51nm,18.9s,baz=242,slow=33						
BBOO	**Buckleboo**	**87.59**	**164**	P	**P**	**23 28 23.5**	**-2.5**
FORT	**Forrest**	**88.17**	**157**	P	**P**	**23 28 28.9**	**+0.1**
STKA	**Stephens Creek**	**89.19**	**169**	LR	LR	00 06 32.5	
	comp=Z,64nm,19.4s,baz=209,slow=34						
ASAR	**Alice Springs**	**96.20**	**161**	P	**P**	**23 29 07.5**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=180,slow=4.1,SNR=5.1						
	comp=Z,0.7nm,0.8s						
KNRA	**Kununurra**	**102.93**	**154**	Pdif	**Pdif**	**23 29 33.7**	**-2.5**
CMAR	**Chiang Mai Arr**	**123.04**	**110**	PKP	**PKiKP**	**23 34 35.4**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=243,slow=4.0,SNR=1.7						
FINES	**FINESS Array B**	**126.05**	**28**	PKP	**PKPdf**	**23 34 37.8**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=201,slow=1.2,SNR=1.5						
MKAR	**Makanchi Array**	**136.51**	**72**	PKP	**PKPdf**	**23 34 58.4**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=264,slow=4.2,SNR=2.9						
KURBB	**Kurchatov Arra**	**137.25**	**66**	PKP	**PKiKP**	**23 35 01.5**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=285,slow=1.8,SNR=5.4						
SONM	**Songino Array**	**149.60**	**89**	PKPbc	**PKiKP**	**23 35 27.7**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=220,slow=2.8,SNR=18						
ILAR	**Eielson Array**	**152.67**	**308**	PKPbc	**PKPbc**	**23 35 33.0**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=161,slow=2.7,SNR=7.4						

*CATAC **04** 23:16:22.5±0.3,12˚.78N×88˚.64W,h43km±10km,ML3.7*
*SNET **04** 23:16:23.1±1.1,12˚.84N×88˚.64W,h35km,ML3.8*

ISC 04 23:16:19.5±1.5,12˚.67N±0˚.06×88˚.72W±0˚.03,h15km±10km,
n72,σ1°34/101,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALJI	**Alcalda de J**	**0.67**	**12**	*e*P	Pg	23 16 25.2	-7.5
ALJI				*e*S	Sg	23 16 34.0	-7.5
TECA	**Tecapa**	**0.85**	**14**	*e*P	**Pg**	**23 16 36.7**	**+0.6**
TECA				*e*S	**Sg**	**23 16 47.2**	**-0.1**
LCY	**Lacayo**	**0.85**	**29**	*e*P	**Pg**	**23 16 36.8**	**+0.6**
LCY				*e*S	**Sg**	**23 16 47.7**	**+0.2**
TECO	**Alcaldia de Te**	**0.87**	**356**	*e*P	**Pg**	**23 16 37.1**	**+0.6**
TECO				*e*S	**Sg**	**23 16 47.1**	**-0.7**
TECO				*e*S		23 16 48.1	
TECO	**Alcaldia de Te**	**0.87**	**356**	*i* P	**Pg**	**23 16 37.2**	**+0.8**
TECO				*i* S	**Sg**	**23 16 48.2**	**+0.4**
TECO				IAML		23 16 50.1	
	comp=Z,2μm,1.0s						
RANC	**El Ranchito**	**0.87**	**29**	*i* P	**Pg**	**23 16 37.0**	**+0.6**
RANC				*i* S	**Sg**	**23 16 48.6**	**+0.7**
RANC				IAML		23 16 56.7	
	comp=Z,2μm,1.0s						
VSM	**San Miguel**	**0.87**	**30**	*e*P	**Pg**	**23 16 37.3**	**+0.8**
PACA	**Pacayal**	**0.88**	**26**	*e*P	**Pg**	**23 16 37.2**	**+0.5**
PACA	**Pacayal**	**0.88**	**26**	*i* P	**Pg**	**23 16 37.5**	**+0.8**
PACA				*i* S	**Sg**	**23 16 49.4**	**+0.6**
PACA				IAML		23 16 49.9	
	comp=Z,16μm,1.0s						
BLLM	**Bellamira**	**0.90**	**31**	*e*P	**Pg**	**23 16 37.4**	**+0.3**
BLLM				*e*S	**Sg**	**23 16 47.8**	**-1.0**
SNVI	**San Vicente**	**0.95**	**353**	*e*P	**Pg**	**23 16 38.3**	**+0.3**
COEG	**Centro de Oper**	**0.96**	**350**	*i* P	**Pg**	**23 16 38.4**	**+0.3**
COEG				*i* S	**Sg**	**23 16 50.9**	**+0.1**
COEG				IAML		23 16 55.3	
	comp=Z,1μm,1.0s						
CNRM	**Centro Naciona**	**0.96**	**33**	*i* P	**Pg**	**23 16 38.1**	**-0.1**
CNRM				*i* S	**Sg**	**23 16 50.9**	**+0.1**
CNRM				IAML		23 16 53.6	
	comp=Z,8μm,1.0s						
PQSS	**Presa 15 de Se**	**0.96**	**9**	*e*P	**Pg**	**23 16 38.1**	**-0.1**
PQSS				*e*S	**Sg**	**23 16 49.8**	**-1.0**
PQSS	**Presa 15 de Se**	**0.96**	**9**	*i* P	**Pg**	**23 16 38.4**	**+0.2**
PQSS				*i* S	**Sg**	**23 16 51.2**	**+0.4**

LFU				*e*S		**Sg**	**23 16 55.8**	**-0.8**
UEES	**Universidad Ev**	**1.16**	**334**	*e*P		**Pg**	**23 16 41.4**	**-0.6**
UEES				*e*S		**Sg**	**23 16 55.7**	**-1.4**
UEES	**Universidad Ev**	**1.16**	**334**	*i* P		**Pg**	**23 16 42.1**	**+0.1**
UEES				*i* S		**Sg**	**23 16 55.6**	**-1.5**
UEES				IAML			23 16 59.0	
comp=Z,940nm,1.0s								
CSGN	**Cosiguina Volc**	**1.17**	**75**	*i* P		**Pg**	**23 16 40.9**	**-1.2**
CSGN				IAML			23 17 02.5	
comp=Z,5μm,1.0s								
PMON	**Piamonte**	**1.19**	**331**	*i* P		**Pg**	**23 16 42.1**	**-0.4**
PMON				*i* S		**Sg**	**23 16 56.9**	**-1.2**
PMON				IAML			23 17 01.2	
comp=Z,1μm,1.0s								
PIC2	**El Picacho**	**1.19**	**334**	*e*P		**Pg**	**23 16 42.3**	**-0.3**
PIC2				*e*S		**Sg**	**23 16 57.6**	**-0.6**
BOQS	**Boqueron**	**1.19**	**333**	*e*P		**Pg**	**23 16 41.9**	**-0.7**
BOQS				*e*S		**Sg**	**23 16 57.2**	**-1.1**
AMPH	**Amapala**	**1.20**	**59**	*e*P		**Pg**	**23 16 41.4**	**-1.3**
AMPH				*e*S		**Sg**	**23 16 56.0**	**-2.3**
JAYA	**Jayaque - finc**	**1.21**	**324**	*e*P		**Pg**	**23 16 42.2**	**-0.8**
JAYA				*e*S		**Sg**	**23 16 57.0**	**-1.8**
JAYA	**Jayaque - finc**	**1.21**	**324**	*i* P		**Pg**	**23 16 43.1**	**+0.1**
JAYA				IAML			23 16 59.7	
comp=Z,6μm,1.0s								
CEDA	**San Andres**	**1.31**	**330**	*e*P		**Pg**	**23 16 43.5**	**-1.2**
CEVE	**Cerro Verde**	**1.45**	**323**	*e*P		**Pn**	**23 16 46.4**	**+1.0**
SBLS	**San Blas**	**1.46**	**323**	*e*P		**Pn**	**23 16 46.5**	**+0.9**
SBLS				*e*S		**Sg**	**23 17 04.5**	**-2.2**
SNJE	**San Jose**	**1.47**	**324**	*e*P		Pn	23 16 45.7	0.0
LLGN	**La Laguna**	**1.50**	**352**	*i* P		**Pn**	**23 16 50.4**	**+4.4**
RTR	**El Retiro**	**1.52**	**324**	*e*P		**Pn**	**23 16 47.3**	**+1.0**
RTR				*e*S		**Sg**	**23 17 06.2**	**-2.4**
UNIC	**Universidad Ca**	**1.54**	**328**	*i* P		**Pn**	**23 16 47.8**	**+1.4**
UNIC				*i* S		**Sg**	**23 17 05.5**	**-3.6**
UNIC				IAML			23 17 08.9	
comp=Z,240nm,1.0s								
NUBE	**Las Nubes**	**1.60**	**320**	*e*P		Pn	23 16 48.1	+0.6
NUBE	**Las Nubes**	**1.60**	**320**	*i* P		Pn	23 16 48.1	+0.6
NUBE				*i* S		**Sn**	**23 17 07.4**	**-0.6**
NUBE				IAML			23 17 09.4	
comp=Z,1μm,1.0s								
CRIN	**San Cristobal**	**1.63**	**89**	*i* P		**Pn**	**23 16 48.5**	**+0.8**
CRIN				*i* S		**Sn**	**23 17 08.0**	**-0.4**
CRIN				IAML			23 17 14.4	
comp=Z,4μm,1.0s								
PKGN	**Cerro Pekin**	**1.70**	**90**	*i* P		**Pn**	**23 16 48.7**	**+0.1**
PKGN				*i* S		**Sn**	**23 17 08.4**	**-1.6**
PKGN				IAML			23 17 12.7	
comp=Z,4μm,1.0s								
MTO3	**Montecristo**	**1.83**	**340**	*e*P		Pn	23 16 50.6	0.0
MTO3	**Montecristo**	**1.83**	**340**	*i* P		Pn	23 16 50.6	0.0
MTO3				IAML			23 16 54.1	
comp=Z,110nm,1.0s								
HERN	**Volcan Telica**	**1.84**	**92**	*i* P		Pn	23 16 50.7	+0.1
HERN				*i* S		**Sn**	**23 17 12.0**	**-1.7**
HERN				IAML			23 17 16.0	
comp=Z,1μm,1.0s								
TELN	**Telica**	**1.84**	**92**	*i* P		Pn	23 16 49.9	-0.7
TELN				*i* S		**Sn**	**23 17 12.6**	**-1.1**
TELN				IAML			23 17 15.0	
comp=Z,110nm,1.0s								
TGUH	**Tegucigalpa,Un**	**1.97**	**45**	*i* P		Pn	23 16 51.9	-0.5
TGUH				*i* S		**Sn**	**23 17 14.1**	**-2.8**
TGUH				IAML			23 17 19.5	
comp=Z,260nm,1.0s								
CNGN	**Cerro Negro**	**1.98**	**95**	*i* P		Pn	23 16 51.8	-0.7
CNGN				IAML			23 17 24.4	
comp=Z,490nm,1.0s								
MACN	**El Madrono**	**2.00**	**96**	*i* P		**Pn**	**23 16 53.0**	**+0.2**
MACN				*i* S		**Sn**	**23 17 16.8**	**-0.8**
MACN				IAML			23 17 22.4	
comp=Z,370nm,1.0s								
COPN	**Copaltepe**	**2.13**	**103**	*i* P		Pn	23 16 53.4	-1.2
MOMN	**Momotombo**	**2.14**	**97**	*i* P		**Pn**	**23 16 54.9**	**+0.2**
MOMN				*i* S		**Sn**	**23 17 18.9**	**-2.1**
MOMN				IAML			23 17 21.7	
comp=Z,30nm,1.0s								
YUSH	**Yuscaran**	**2.23**	**55**	*e*P		Pn	23 16 55.3	-0.6
LIMN	**Finca el Limon**	**2.33**	**80**	*i* P		Pn	23 16 56.7	-0.6
LIMN				*i* S		**Sn**	**23 17 23.2**	**-2.5**
LIMN				IAML			23 17 26.1	
comp=Z,180nm,1.0s								
RCPN	**Sur Rio San Ju**	**2.69**	**71**	*i* P		Pn	23 17 02.2	-0.2
MATN	**Matagalpa**	**2.73**	**84**	*i* P		Pn	23 17 02.6	-0.3
MATN				IAML			23 17 02.7	
comp=Z,89nm,1.0s								
BOAB	**BOACO BROADBAN**	**2.98**	**94**	*i* P		Pn	23 17 05.8	-0.5
BOAB				IAML			23 17 08.9	
comp=Z,46nm,1.0s								
SAJU	**San Juanillo,**	**3.92**	**131**	*i* P		**Pn**	**23 17 21.2**	**+2.0**
SAJU				IAML			23 18 07.1	
comp=Z,55nm,1.0s								
JACO	**JACO, Garabito**	**4.98**	**126**	*i* P		**Pn**	**23 17 38.3**	**+4.6**
LCR2	**La Lucha 2**	**5.46**	**122**	*i* P		**Pn**	**23 17 44.9**	**+4.3**
CDM	**Cerro de Muert**	**5.76**	**122**	*i* P		**Pn**	**23 17 48.3**	**+3.4**

*IDC **04** 23:16:26.7±2.3,21°.02S×178°.72W,h599km±26km, mb3.5/3, mbtmp4.5/6, Error ellipse: s-maj=25.5km s-min=19.9km az=170.0*

*NOU **04** 23:16:29.1,20°.97S×178°.68W,h654km, mb4.3/20, Fiji Islands Region*

*NEIC **04** 23:16:29.3±1.3,21°.0S±0°.2×178°.9W±0°.2,h609km±20km, mb4.4/26, Error ellipse: s-maj=33.8km s-min=20.8km az=193.0*

ISC 04 23:16:28.0±0.7,**21°.0S**±0°.1×**178°.84W**±0°.09,**h600**km,**n78,** σ1**s33**/79,**mb4.5**/28,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.40**	**318**	P	**P**	**23 17 59.1**	**+2.6**
NIUE	**Niue**	**8.61**	**78**	P	**P**	**23 18 35.1**	**+2.0**
MARNC	**Mare, Loyalty**	**12.25**	**266**	P	**P**	**23 19 08.8**	**-0.4**
PINNC	**Pines Island,**	**12.83**	**260**	P	**P**	**23 19 14.8**	**-0.2**
DZM	**Mont Dzumac**	**13.73**	**263**	P	**P**	**23 19 23.6**	**-0.7**
DZM	**Mont Dzumac**	**13.73**	**263**	P	**P**	**23 19 26.2**	**+1.9**
9.7nm,1.6s							
DZM	**Mont Dzumac**	**13.73**	**263**	P	**P**	**23 19 24.7**	**+0.4**
4.9nm,0.7s,baz=81,slow=18,SNR=5.8							
OUZ	**Omahuta**	**15.62**	**204**	P	**P**	**23 19 44.8**	**+3.2**
66nm,1.1s							
GRZ	**Great Barrier**	**15.96**	**197**	P	**P**	**23 19 48.0**	**+3.3**
WIAZ	**Waiheke Island**	**16.56**	**197**	P	**P**	**23 19 53.5**	**+3.3**
MKAZ	**Moumakai**	**16.84**	**197**	P	**P**	**23 19 56.0**	**+3.2**
WTAZ	**Waiatarua**	**16.85**	**198**	P	**P**	**23 19 55.8**	**+2.9**
WMGZ	**Waiomatatini S**	**16.89**	**187**	P	**P**	**23 19 54.8**	**+1.5**
HAZ	**Te Kaha**	**16.92**	**189**	P	**P**	**23 19 54.2**	**+0.7**
AWAZ	**Awhitu Peninsu**	**16.95**	**198**	P	**P**	**23 19 57.1**	**+3.3**
PKGZ	**Pakihiroa**	**17.01**	**188**	P	**P**	**23 19 55.7**	**+1.3**
RUGZ	**Raukumara Rang**	**17.14**	**189**	P	**P**	**23 19 56.1**	**+0.4**
PUZ	**Puketiti**	**17.16**	**188**	P	**P**	**23 19 57.3**	**+1.5**
URZ	**Urewera**	**17.52**	**191**	P	**P**	**23 19 58.8**	**-0.2**
19nm,0.5s							
URZ	**Urewera**	**17.52**	**191**	P	**P**	**23 19 58.4**	**-0.5**
6.3nm,0.3s,baz=36,slow=3.1,SNR=18							
URZ				S	**S**	**23 22 49.2**	**-1.3**
3.0nm,0.4s,baz=26,slow=23,SNR=1.4							
URZ	**Urewera**	**17.52**	**191**	P	**P**	**23 19 58.6**	**-0.4**
MWZ	**Matawai**	**17.52**	**190**	P	**P**	**23 19 59.0**	**-0.1**
RAR	**Rarotonga**	**17.80**	**94**	P	**P**	**23 19 59.6**	**-2.2**
5.1nm,0.4s,baz=281,slow=11,SNR=1.7							
TCW	**Tory Channel**	**20.94**	**195**	P	**P**	**23 20 32.0**	**+2.0**
BHW	**Baring Head**	**21.00**	**193**	P	**P**	**23 20 30.6**	**+0.1**
BHW				IAmb	IAmb	23 20 40.6	
comp=Z,23nm,1.1s							
PLWZ	**Palliser**	**21.07**	**192**	P	**P**	**23 20 31.6**	**+0.5**
NNZ	**Nelson**	**21.17**	**196**	P	**P**	**23 20 32.8**	**+0.8**
NNZ				IAmb	IAmb	23 20 35.5	
comp=Z,19nm,1.1s							
MRNZ	**Matariki Terra**	**21.51**	**197**	P	**P**	**23 20 35.2**	**+0.2**
THZ	**Tophouse**	**21.81**	**197**	P	**P**	**23 20 38.0**	**+0.3**
THZ				IAmb	IAmb	23 20 42.9	
comp=Z,11nm,1.0s							
DSZ	**Denniston Nort**	**22.11**	**199**	P	**P**	**23 20 41.6**	**+1.2**
KHZ	**Kahutara**	**22.26**	**195**	P	**P**	**23 20 41.5**	**-0.2**
comp=Z,43nm,1.9s							
GVZ	**Greta Valley S**	**22.90**	**195**	P	**P**	**23 20 46.9**	**-0.6**
LTZ	**Lake Taylor**	**22.93**	**197**	P	**P**	**23 20 47.5**	**-0.2**
INZ	**Inchbonnie**	**23.11**	**198**	P	**P**	**23 20 49.6**	**+0.3**
INZ				IAmb	IAmb	23 21 07.5	
comp=Z,10nm,0.9s							
FOZ	**Fox Glacier**	**24.35**	**200**	P	**P**	**23 21 01.6**	**+1.4**
LBZ	**Lake Benmore**	**25.00**	**199**	P	**P**	**23 21 06.1**	**+0.1**
LBZ				IAmb	IAmb	23 21 10.9	
comp=Z,14nm,1.1s							
JCZ	**Jackson Bay**	**25.17**	**201**	P	**P**	**23 21 08.1**	**+0.5**
comp=Z,24nm,1.4s							
WKZ	**Wanaka**	**25.76**	**200**	P	**P**	**23 21 13.3**	**+0.6**
WKZ				IAmb	IAmb	23 21 16.4	
comp=Z,22nm,1.1s							
MLZ	**Mavora Lakes**	**26.54**	**201**	P	**P**	**23 21 21.7**	**+2.3**
DCZ	**Deep Cove**	**26.95**	**202**	P	**P**	**23 21 24.0**	**+1.0**
DCZ				IAmb	IAmb	23 21 25.4	
comp=Z,6.6nm,0.8s							
WHZ	**Wether Hill Ro**	**27.06**	**201**	P	**P**	**23 21 26.1**	**+2.1**
EIDS	**Eidsvold**	**27.95**	**255**	P	**P**	**23 21 32.2**	**+0.1**
ARMA	**Armidale**	**28.12**	**245**	P	**P**	**23 21 34.4**	**+0.7**
ARMA				IAmb	IAmb	23 21 43.6	
comp=Z,3.5nm,1.1s							
CTA	**Charters Tower**	**32.66**	**265**	P	**P**	**23 22 11.8**	**-0.7**
comp=Z,15nm,0.6s							
CTAO	**Charters Tower**	**32.66**	**265**	P	**P**	**23 22 12.2**	**-0.2**
CTAO				IAmb	IAmb	23 22 12.8	
comp=Z,9.9nm,0.5s							
CTAO	**Charters Tower**	**32.66**	**265**	P	**P**	**23 22 11.7**	**-0.7**
comp=Z,12nm,0.7s							
TOO	**Toolangi**	**34.95**	**234**	P	**P**	**23 22 31.7**	**+0.4**
TOO				IAmb	IAmb	23 22 37.6	
comp=Z,6.0nm,1.1s							
COEN	**Coen**	**36.83**	**275**	P	**P**	**23 22 47.1**	**-0.1**
COEN				IAmb	IAmb	23 22 49.4	
comp=Z,6.9nm,1.1s							
STKA	**Stephens Creek**	**36.85**	**245**	P	**P**	**23 22 47.4**	**+0.3**
STKA	**Stephens Creek**	**36.85**	**245**	P	**P**	**23 22 47.5**	**+0.4**
comp=Z,2.5nm,0.5s,baz=83,slow=12,SNR=6.8							
comp=Z,2.5nm,0.5s							
QIS	**Mount Isa**	**38.77**	**263**	P	**P**	**23 23 02.6**	**-0.2**
comp=Z,7.8nm,1.7s							
HTT	**Hallett**	**39.28**	**243**	P	**P**	**23 23 06.9**	**+0.2**
comp=Z,18nm,1.6s							
LCRK	**Leigh Creek**	**39.60**	**247**	P	**P**	**23 23 08.9**	**-0.4**
comp=Z,10nm,0.7s							
BBOO	**Buckleboo**	**41.60**	**244**	P	**P**	**23 23 24.8**	**-0.4**
BBOO				IAmb	IAmb	23 23 25.4	
comp=Z,11nm,0.6s							
BBOO	**Buckleboo**	**41.60**	**244**	P	**P**	**23 23 24.3**	**-0.8**
comp=Z,18nm,1.6s							
OOD	**Oodnadatta**	**41.76**	**251**	P	**P**	**23 23 26.6**	**+0.2**
comp=Z,12nm,1.3s							
MULG	**Mulgathing**	**43.19**	**248**	P	**P**	**23 23 36.6**	**-0.9**
comp=Z,25nm,0.8s							
WR0	**Warramunga Arr**	**43.56**	**263**	P	**P**	**23 23 39.5**	**-1.1**
AS01	**Alice Springs**	**43.59**	**257**	P	**P**	**23 23 40.0**	**-0.8**
comp=Z,10nm,0.6s							
AS31	**Alice Springs**	**43.63**	**257**	P	**P**	**23 23 40.7**	**-0.3**
ASAR	**Alice Springs**	**43.63**	**257**	P	**P**	**23 23 40.5**	**-0.6**
ASAR	**Alice Springs**	**43.63**	**257**	P	**P**	**23 23 40.6**	**-0.5**
comp=Z,5.7nm,0.5s,baz=96,slow=7.8,SNR=72							
ASAR				ScP	**ScP**	**23 28 10.0**	**+0.1**
comp=Z,0.3nm,0.3s,baz=103,slow=4.6,SNR=2.5							
comp=Z,5.7nm,0.5s							
WB0	**Warramunga Arr**	**43.73**	**263**	P	**P**	**23 23 40.9**	**-0.9**
WB0				IAmb	IAmb	23 23 41.3	
comp=Z,7.6nm,0.5s							
WB2	**Warramunga Arr**	**43.74**	**263**	P	**P**	**23 23 40.8**	**-1.1**
WB2				IAmb	IAmb	23 23 57.5	
comp=Z,4.4nm,1.1s							
WRA	**Warramunga Arr**	**43.75**	**263**	P	**P**	**23 23 41.0**	**-1.0**
WRA	**Warramunga Arr**	**43.75**	**263**	P	**P**	**23 23 41.0**	**-1.0**
comp=Z,2.7nm,0.3s,baz=97,slow=7.5,SNR=61							
comp=Z,2.7nm,0.3s							
KDU	**Kadu**	**47.17**	**272**	P	**P**	**23 24 07.8**	**-0.2**
comp=Z,14nm,2.1s							
FORT	**Forrest**	**48.36**	**247**	P	**P**	**23 24 15.6**	**-1.1**
comp=Z,22nm,0.8s							
WRKA	**Warakurna**	**48.56**	**255**	P	**P**	**23 24 17.2**	**-1.1**
comp=Z,9.8nm,0.6s							
MBWA	**Marble Bar**	**56.97**	**258**	P	**P**	**23 25 16.9**	**-1.1**
comp=Z,6.6nm,1.1s							
MEEK	**Meekatharra**	**57.00**	**251**	P	**P**	**23 25 17.5**	**-0.7**
MORW	**Morawa**	**58.90**	**248**	P	**P**	**23 25 30.2**	**-0.7**
QSPA	**South Pole Qui**	**69.04**	**180**	P	**P**	**23 26 35.5**	**+1.0**
BVAR	**Borovoe Array**	**119.98**	**320**	PKP	**PKPdf**	**23 34 08.1**	**-1.1**
comp=Z,0.4nm,0.3s,baz=158,slow=1.4,SNR=5.3							
ARCES	**ARCESS Array B**	**129.30**	**349**	PKP	**PKPdf**	**23 34 27.0**	**-1.4**
comp=Z,2.9nm,0.9s,baz=344,slow=3.1,SNR=3.8							
AKASG	**Malin Array Be**	**143.09**	**330**	PKP	PKPab	23 34 51.8	-0.5
comp=Z,0.9nm,0.3s,baz=43,slow=4.1,SNR=13							
BRTR	**Keskin Array B**	**146.60**	**311**	PKPbc	**PKPbc**	**23 35 03.0**	**-0.7**
comp=Z,0.6nm,1.0s,baz=11,slow=2.9,SNR=1.8							
GERES	**GERESS Array B**	**150.49**	**343**	PKPbc	**PKPbc**	**23 35 11.1**	**-1.8**
comp=Z,0.4nm,0.5s,baz=36,slow=7.4,SNR=3.9							

*ANF **04** 23:17:16.0±0.7,36°.51N×97°.66W,h3km±5km, ML5.6/13, Error ellipse: s-maj=1.8km s-min=1.4km az=12.0*

*IDC **04** 23:17:16.3±0.6,36°.50N×97°.64W,h0km, mb4.0/7, mbtmp4.0/16, ML3.8/9, MS3.7/18, Error ellipse: s-maj=10.1km s-min=7.3km az=151.0*

*NEIC **04** 23:17:16.8±1.2,36°.47N±0°.03×97°.72W±0°.04,h5km±1km, Error ellipse: s-maj=5.7km s-min=3.5km az=228.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; M_{rr}-0.48; $M_{\theta\theta}$2.54; $M_{\phi\phi}$-2.07; $M_{r\theta}$-0.01; $M_{\theta\phi}$1.22; $M_{\phi r}$0.28; Fault plane solution: $M_0$2.66000×10¹⁵ NP1: ϕ_s120.78000°,δ83.56000°,λ-5.04000°. NP2:ϕ_s211.35000°, δ84.99000°,λ-173.54000°. Principal axes: T 2.8474, Plg1.0000°, Azm346.0000°; N -0.4374, Plg82.0000°, Azm249.0000°; P -2.4101, Plg8.0000°, Azm76.0000°;*

*TUL **04** 23:17:17.4±0.9,36°.48N±0°.02×97°.74W±0°.04, h8km±8km, ML4.5, mb4.3/2(NEIC), mb_Lg4.5/42(NEIC), ML4.5/40(NEIC), Mwr4.2/51(NEIC) Error ellipse: s-maj=4.6km s-min=2.0km az=64.0*

*NEIC **04** 23:17:17.4, 36°.48N×97°.74W, h8km*

ISC 04 23:17:16.5±1.0,**36°.50N**±0°.02×**97°.67W**±0°.02,**h8**km±7km, **n380,** σ1**s17**/409,**mb4.2**/8,**MS4.0**/8,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN14	**Manchester OK**	**0.51**	**333**		**Pb**	**23 17 27.3**	**-0.5**
KAN14				Sg	**Sg**	**23 17 34.2**	**+1.0**
OK032	**Salt Plains WL**	**0.53**	**305**		**Pg**	**23 17 27.0**	**+0.2**
OK032				Sg	**Sg**	**23 17 33.9**	**+0.2**
OK032				IAML		23 17 36.2	
59μm,0.5s							
OK032				IAML		23 17 36.5	
41μm,0.4s							
KAN13	**South Haven SW**	**0.53**	**17**	Pg	**Pb**	**23 17 28.5**	**+0.3**
KAN13				Sg	**Sb**	**23 17 36.4**	**+0.4**
KAN13				IAML		23 17 37.0	
comp=N,47μm,0.4s							
KAN17	**Caldwell West**	**0.55**	**352**		**Pb**	**23 17 28.3**	**-0.1**
KAN17				Sg	**Sb**	**23 17 36.2**	**-0.2**
KAN17				IAML		23 17 44.3	
comp=E,23μm,0.2s							
KAN17				IAML		23 17 45.7	
comp=N,28μm,0.3s							
OK048	**Pawnee Station**	**0.59**	**98**	Pg	**Pb**	**23 17 29.6**	**+0.5**
OK048				IAML		23 17 39.0	
comp=N,29μm,0.6s							
KAN05	**Bluff City Nor**	**0.63**	**345**		**Pb**	**23 17 29.6**	**-0.1**
KAN05				IAML		23 17 42.9	
comp=N,18μm,0.2s							
KAN09	**Caldwell North**	**0.64**	**4**		**Pb**	**23 17 30.1**	**+0.2**
KAN01	**Argonia South**	**0.66**	**354**		**Pb**	**23 17 30.3**	**+0.1**
KAN01				IAML		23 17 42.1	
comp=E,16μm,0.7s							
KAN01				IAML		23 17 47.6	
comp=N,20μm,0.7s							
KAN10	**Anthony SW Sta**	**0.71**	**331**		**Pg**	**23 17 30.8**	**+0.6**
KAN10				IAML		23 17 53.6	
comp=N,15μm,0.7s							
OK029	**Liberty Lake**	**0.72**	**166**		**Pb**	**23 17 30.9**	**-0.5**
OK029				IAmb_Lg		23 17 40.6	
comp=Z,6μm,0.9s							
OK029				IAML		23 17 48.7	
comp=Z,15μm,0.7s							
OK033	**Mehan**	**0.75**	**127**	Pg	**Pb**	**23 17 32.3**	**+0.5**
OK033				IAML		23 17 45.1	
comp=Z,19μm,0.5s							
KAN06	**Argonia West S**	**0.76**	**349**		**Pb**	**23 17 32.1**	**+0.1**
KAN08	**Anthony NE Sta**	**0.76**	**342**		**Pb**	**23 17 32.1**	**+0.1**
KS21	**Milan North St**	**0.78**	**1**		**Pb**	**23 17 32.8**	**+0.4**
KS21	**Milan North St**	**0.78**	**1**	IAML		23 17 46.3	
comp=Z,24μm,0.6s							
KS21				IAML		23 17 46.8	
comp=Z,16μm,0.6s							
KAN12	**Harper NE Stat**	**0.84**	**342**		**Pb**	**23 17 33.4**	**+0.1**
KAN12				IAML		23 17 51.3	
comp=E,24μm,0.4s							
OK035	**E0210 Rd and N**	**0.86**	**284**		**Pg**	**23 17 32.7**	**-0.4**
OK035				IAML		23 17 52.3	
comp=E,21μm,0.5s							
OK038	**West end E0370**	**0.86**	**269**		**Pg**	**23 17 32.6**	**-0.6**
OK038				IAmb_Lg		23 17 42.2	
comp=Z,4μm,1.1s							
OK052	**Battle Ridge R**	**0.87**	**126**	Pg	**Pn**	**23 17 34.3**	**-0.7**
OK052				IAML		23 17 49.1	
comp=Z,19μm,0.3s							
ADOK	**Arcadia Dam**	**0.88**	**164**		**Pb**	**23 17 33.8**	**-0.3**
T35A	**Sooner Cattle**	**1.02**	**66**	Pg	**Pn**	**23 17 37.6**	**+0.5**
T35A				IAML		23 17 59.4	
comp=E,15μm,0.4s							
T35B	**Sooner Cattle**	**1.02**	**66**	P	**Pn**	**23 17 37.6**	**+0.4**
baz=246,SNR=1000							
T35B				S	**Sn**	**23 17 52.0**	**+0.4**
baz=246							
U32A	**Winter Ranch,**	**1.08**	**264**	Pg	**Pg**	**23 17 36.3**	**-0.9**
U32A				IAML		23 17 57.2	
comp=E,10μm,0.4s							
U32A				IAML		23 18 03.8	
comp=N,19μm,0.8s							
U32A	**Winter Ranch,**	**1.08**	**264**	P	**Pg**	**23 17 36.4**	**-0.9**
baz=84,SNR=559							
U32A				S	**Sg**	**23 17 50.5**	**-0.8**
baz=84							
TUL3	**Leonard**	**1.63**	**111**	Pg	**Pg**	**23 17 47.4**	**-0.4**
TUL3	**Leonard**	**1.63**	**111**	P	**Pg**	**23 17 47.4**	**-0.4**
baz=290,SNR=791							
TUL3				S	**Sg**	**23 18 10.1**	**+1.2**
baz=290							
TUL3	**Leonard**	**1.63**	**111**	P	**Pg**	**23 17 47.4**	**-0.4**
baz=290,SNR=1000							
TUL3				S	**Sg**	**23 18 10.2**	**+1.2**
baz=290							
WMOK	**Wichita Mounta**	**1.98**	**208**	Pn	**Pn**	**23 17 50.9**	**+0.6**
WMOK	**Wichita Mounta**	**1.98**	**208**	P	**Pn**	**23 17 51.0**	**+0.7**
baz=26,SNR=815							
WMOK				S	**Sb**	**23 18 17.5**	**0.0**
baz=26							
WMOK	**Wichita Mounta**	**1.98**	**208**	P	**Pn**	**23 17 51.0**	**+0.6**
baz=26,SNR=839							
WMOK				S	**Sb**	**23 18 17.0**	**-0.6**
baz=26							
R32A	**Long Quarter,**	**2.09**	**337**	Pn	**Pn**	**23 17 53.3**	**+1.4**
R32A				IAmb_Lg		23 18 26.7	
comp=Z,2μm,0.9s							
R32A	**Long Quarter,**	**2.09**	**337**	P	**Pn**	**23 17 53.4**	**+1.6**
baz=158,SNR=72							
R32A				S	**Sb**	**23 18 22.5**	**+1.7**
baz=158							
SMWD	**Samnorwood**	**2.51**	**237**	Pn	**Pn**	**23 17 58.4**	**+0.7**
SMWD				IAmb_Lg		23 18 38.9	
comp=Z,1μm,0.7s							
U38A	**Gravette**	**2.65**	**90**		**Pn**	**23 18 01.8**	**+2.3**
U38A				Pg	**Pg**	**23 18 07.9**	**+0.6**
U38A	**Gravette**	**2.65**	**90**	P	**Pn**	**23 18 01.8**	**+2.3**
baz=272,SNR=100							
X37A	**Clayton**	**2.67**	**135**	Pn	**Pn**	**23 18 02.0**	**+2.1**
X37A	**Clayton**	**2.67**	**135**	P	**Pn**	**23 18 01.9**	**+2.1**
baz=315,SNR=204							
X37A				Sb	**Sg**	**23 18 40.7**	**-1.8**
baz=315							
KSU1	**Kansas State U**	**2.73**	**18**	Pn	**Pn**	**23 18 01.9**	**+1.3**
KSU1				Pg	**Pg**	**23 18 08.9**	**+0.1**
KSU1				IAmb_Lg		23 18 47.3	
comp=Z,2μm,0.8s							
KSU1	**Kansas State U**	**2.73**	**18**	P	**Pn**	**23 18 02.6**	**+1.9**
baz=199,SNR=117							
KSU1	**Kansas State U**	**2.73**	**18**	P	**Pn**	**23 18 02.9**	**+2.2**
baz=199,SNR=89							
WTFS	**Witchita Falls**	**2.81**	**194**	Pn	**Pn**	**23 18 02.8**	**+1.1**
CBKS	**Cedar Bluff**	**2.83**	**325**		**Pn**	**23 18 03.1**	**+1.1**
CBKS				Pg	**Pg**	**23 18 10.1**	**-0.7**
CBKS				IAmb_Lg		23 18 49.8	
comp=Z,2μm,0.7s							
CBKS	**Cedar Bluff**	**2.83**	**325**	P	**Pn**	**23 18 03.0**	**+0.9**
baz=145							
CBKS	**Cedar Bluff**	**2.83**	**325**	P	**Pn**	**23 18 03.4**	**+1.3**
baz=145,SNR=35							
HHAR	**Hobbs**	**3.02**	**93**	Pn	**Pn**	**23 18 06.5**	**+1.9**
HHAR				IAmb_Lg		23 19 01.2	
comp=Z,2μm,0.8s							
Z35A	**Perchaven, San**	**3.18**	**174**	IAmb_Lg		23 19 02.5	
comp=Z,2μm,1.0s							
Z35A	**Perchaven, San**	**3.18**	**174**	P	**Pn**	**23 18 07.9**	**+1.0**
baz=353,SNR=224							
Z35A				S	**Sn**	**

comp=Z,1µm,0.8s
P38A Dawn 4.52 45 P Pn 23 18 27.1 +1.9
baz=228,SNR=28
N35A Tabor 4.63 19 P Pn 23 18 28.7 +1.9
baz=201
POST Post 4.66 224 IAmb_Lg 23 19 47.0
comp=Z,1µm,0.8s
KSCO Kaye Shedlock' 4.66 304 IAmb_Lg 23 19 55.3
comp=Z,2µm,0.8s
KSCO Kaye Shedlock' 4.66 304 P Pn 23 18 27.9 +0.6
baz=122,SNR=6.3
KSCO S Sn 23 19 21.3 -0.2
baz=122
R40A Maddies Statio 4.66 66 P Pn 23 18 29.2 +2.0
baz=249,SNR=92
237A Washetta, Mont 4.75 160 IAmb_Lg 23 19 58.3
comp=Z,676nm,0.8s
237A Washetta, Mont 4.75 160 P Pn 23 18 28.8 +0.5
baz=341
MSTX Muleshoe 4.88 240 P Pn 23 18 30.4 +0.2
baz=57,SNR=8.8
MSTX Muleshoe 4.88 240 P Pn 23 18 30.5 +0.2
baz=57
BGNE Belgrade 4.92 356 P Pn 23 18 31.6 +0.9
baz=176,SNR=69
BGNE Belgrade 4.92 356 P Pn 23 18 31.6 +0.9
baz=176,SNR=41
LCAR Lake Charles 5.28 93 P Pn 23 18 37.4 +1.7
baz=276,SNR=9.9
NATX Nacogdoches 5.35 151 P Pn 23 18 37.2 +0.6
baz=332
NATX S Sn 23 19 37.8 -0.6
baz=332
CCM Cathedral Cave 5.36 71 P Pn 23 18 38.0 +1.3
baz=255
CCM S Sn 23 19 39.6 +1.0
baz=255
CCM Cathedral Cave 5.36 71 P Pn 23 18 38.5 +1.8
baz=255,SNR=59
P40A Paris 5.37 54 P Pn 23 18 38.1 +1.2
baz=238,SNR=11
SGCY Sterling City 5.40 213 Pn Pn 23 18 37.1 -0.3
T25A Trinidad 5.44 279 P Pn 23 18 38.1 0.0
baz=95,SNR=19
N38A Joes South For 5.51 38 P Pn 23 18 40.8 +1.9
baz=221,SNR=14
L34A Svendsen Farm, 5.55 10 Pg Pg 23 18 59.3 -3.6
OGNE Ogallala 5.60 324 Pn Pn 23 18 41.0 +0.9
OGNE Pg Pg 23 19 00.8 -3.0
OGNE Ogallala 5.60 324 P Pn 23 18 41.4 +1.3
baz=142,SNR=29
OGNE Ogallala 5.60 324 P Pn 23 18 41.8 +1.7
baz=142,SNR=24
435B Jarrell 5.70 179 Pg Pg 23 19 02.9 -2.9
435B Jarrell 5.70 179 P Pn 23 18 41.6 +0.1
baz=359
435B Jarrell 5.70 179 P Pn 23 18 41.7 +0.2
baz=359,SNR=20
PBMO Poplar Bluff 5.83 85 P Pn 23 18 45.0 +1.7
baz=269
FVM French Village 5.97 73 P Pn 23 18 46.7 +1.5
baz=258,SNR=32
JCT Junction City 6.26 197 P Pn 23 18 49.1 -0.1
baz=15,SNR=9.6
JCT Junction City 6.26 197 P Pn 23 18 48.8 -0.5
baz=15,SNR=17
SLM Saint Louis 6.28 68 P Pn 23 18 50.9 +1.5
baz=252
SLM S Sn 23 20 00.1 -1.1
baz=252
PEBM Pemiscott Bayo 6.32 91 Pn Pn 23 18 51.0 +1.0
K30B Basset 6.34 347 P Pn 23 18 51.7 +1.4
baz=166,SNR=19
SDCO Great Sand Dun 6.38 284 P Pn 23 18 51.2 +0.2
baz=99
SCIA State Center 6.41 31 P Pn 23 18 51.7 +0.5
baz=214,SNR=5.4
Q24A Divide 6.42 295 P Pn 23 18 51.8 +0.2
baz=111,SNR=13
Q24A S Sn 23 20 04.5 -0.6
baz=111
N41A Harden Midland 6.79 50 P Pn 23 18 58.5 +2.1
baz=234
S44A Carbondale 6.83 77 P Pn 23 18 58.8 +1.8
baz=262,SNR=28
OXF Oxford 7.03 104 P Pn 23 18 59.6 0.0
baz=289,SNR=11
OXF S Sn 23 20 21.8 +2.2
baz=289
ISCO Idaho Springs 7.07 300 P Pn 23 19 01.1 +0.5
baz=116,SNR=35
ISCO Idaho Springs 7.07 300 P Pn 23 19 01.3 +0.7
baz=116,SNR=16
P43A Skaggs, Pawnee 7.15 62 P Pn 23 19 03.1 +1.7
baz=246,SNR=11
Q44A Meyer Farm, Va 7.27 68 P Pn 23 19 04.7 +1.7
baz=253,SNR=19
ANMO Albuquerque 7.31 260 P Pn 23 19 04.1 +0.4
baz=75
ANMO Albuquerque 7.31 260 P Pn 23 19 04.3 +0.5
baz=75
ANMO Albuquerque 7.31 260 Pn Pn 23 19 04.4 +0.7
comp=Z,0.5nm,0.3s,baz=175,slow=13,SNR=14
ANMO Pg Pb 23 19 28.8 +5.1
comp=Z,4.6nm,0.3s,baz=179,slow=16,SNR=10
ANMO Lg Lg 23 21 07.2
comp=Z,15nm,0.3s,baz=64,slow=21,SNR=7.1
ANMO LR LR 23 22 11.7
comp=Z,527nm,21.5s,baz=176,slow=40
comp=Z,4.4nm,0.7s
HDIL Hopedale 7.71 56 P Pn 23 19 09.4 +0.4
baz=241,SNR=29
HDIL Hopedale 7.71 56 P Pn 23 19 09.6 +0.6
baz=241,SNR=17
N23A Red Feather La 7.81 307 P Pn 23 19 11.9 +1.1
baz=122,SNR=48
N23A S Sn 23 20 37.9 -1.6
baz=122
OLIL Olney 7.92 71 P Pn 23 19 13.3 +1.5
baz=256
WVT Waverly 7.95 90 P Pn 23 19 12.3 -0.1
baz=275
WVT Waverly 7.95 90 P Pn 23 19 13.6 +1.3
baz=275,SNR=8.3
MNTX Cornudas Mount 7.99 235 P Pn 23 19 12.8 -0.1
baz=51,SNR=12
MNTX Cornudas Mount 7.99 235 P Pn 23 19 13.5 +0.6
baz=51
SUSD Miller 7.99 353 P Pn 23 19 13.1 +0.1
baz=173,SNR=5.9
SUSD Miller 7.99 353 P Pn 23 19 13.6 +0.7
baz=173,SNR=6.2
833A Chaparral WMA, 8.28 191 P Pn 23 19 17.5 +0.6
baz=9.3
L42A Oliver, Polo 8.29 46 P Pn 23 19 18.2 +1.2
baz=231
T47A Sharon Grove 8.50 84 P Pn 23 19 21.0 +1.2
baz=270,SNR=22
JFWS Jewell Farm 8.59 39 P Pn 23 19 21.4 +0.4
baz=224,SNR=22
JFWS Jewell Farm 8.59 39 P Pn 23 19 21.8 +0.8
baz=224,SNR=33
TXAR Lajitas Array 8.74 217 Pn Pn 23 19 22.5 -0.9
comp=Z,1.2nm,0.3s,baz=32,slow=11,SNR=33
TXAR Pg Pg 23 19 49.5 -14
comp=Z,3.9nm,0.3s,baz=33,slow=15,SNR=6.9
TXAR Sn Sn 23 20 58.6 -3.5
comp=Z,9.7nm,0.3s,baz=55,slow=14,SNR=3.5
TXAR Lg Lg 23 21 47.8
comp=Z,24nm,0.3s,baz=58,slow=28,SNR=8.0
TXAR LR LR 23 23 05.5
comp=Z,97nm,20.5s,baz=214,slow=40
comp=Z,1.8nm,0.3s
TX31 Lajitas Ar. Si 8.74 217 P Pn 23 19 22.5 -0.9
baz=33
P46A Rosedale 8.82 66 P Pn 23 19 25.1 +0.8
baz=253
M44A Midewin, Midew 8.95 54 P Pn 23 19 26.9 +0.9
baz=240
RSSD Black Hills 9.03 329 P Pn 23 19 27.9 +0.7
baz=146
RSSD Black Hills 9.03 329 P Pn 23 19 28.0 +0.7
baz=146,SNR=13
O20A White River Ci 9.06 297 P Pn 23 19 26.7 -1.1
baz=111
I40A Norwalk 9.14 34 P Pn 23 19 29.5 +0.8
baz=219,SNR=16
SFIN Lafayette 9.15 62 P Pn 23 19 28.1 -0.8
baz=248,SNR=28
SFIN Lafayette 9.15 62 P Pn 23 19 29.8 +1.0
baz=248,SNR=24
K22A Casper 9.18 315 P Pn 23 19 29.4 0.0
baz=130,SNR=8.3
WCI Wyandotte Cave 9.22 76 P Pn 23 19 30.4 +0.6
baz=263
WCI Wyandotte Cave 9.22 76 P Pn 23 19 31.3 +1.5
baz=263,SNR=17
121A Cookes Peak, D 9.23 248 P Pn 23 19 30.7 +0.5
baz=62
LRAL Lakeview Retre 9.44 108 P Pn 23 19 33.2 +0.4
baz=294
L44A Lake County Fo 9.45 50 P Pn 23 19 32.7 -0.2
baz=236
SPMN Marine on St. 9.46 21 P Pn 23 19 33.4 +0.3
baz=205,SNR=10
K43A Burlington 9.50 46 P Pn 23 19 34.4 +0.8
baz=232,SNR=11
U49A Red Boiling Sp 9.57 86 P Pn 23 19 35.8 +1.2
baz=273,SNR=9.1
F36A Milaca 9.86 17 P Pn 23 19 40.5 +2.0
baz=200
W18A Petrified Fore 9.90 266 P Pn 23 19 39.3 +0.1
baz=78
I42A Draeger Farm, 9.96 40 P Pn 23 19 41.6 +1.7
baz=225
R49A Shelbyville 10.11 76 P Pn 23 19 43.3 +1.4
baz=264,SNR=11
R49A P Pn 23 19 43.3 +1.4
baz=264,SNR=11
P48A Milroy 10.11 69 P Pn 23 19 41.6 -0.3
baz=257
P48A P Pn 23 19 41.6 -0.3
baz=257
BRAL Brewton 10.31 118 P Pn 23 19 45.2 +0.5
baz=304
T50A Nancy 10.31 83 P Pn 23 19 46.2 +1.4
baz=271
T50A P Pn 23 19 46.2 +1.4
baz=271
N47A Urbana 10.33 61 P Pn 23 19 45.1 +0.1
baz=249
N47A P Pn 23 19 45.1 +0.1
baz=249
O48B Farmland 10.52 65 P Pn 23 19 46.4 -1.2
baz=253,SNR=23
O48B Farmland 10.52 65 P Pn 23 19 46.7 -0.8
baz=253
P49A Miami Univ. Ec 10.66 70 P Pn 23 19 48.8 -0.7
baz=258,SNR=12
P49A Miami Univ. Ec 10.66 70 P Pn 23 19 49.6 +0.2
baz=258,SNR=8.5
R50A Paris 10.77 77 P Pn 23 19 51.7 +0.7
baz=264,SNR=9.9
R50A P Pn 23 19 51.7 +0.7
baz=264,SNR=9.9
V51A Loudon 10.79 90 P Pn 23 19 52.9 +1.5
baz=278,SNR=12
H43A Windswept, Lux 10.96 40 P Pn 23 19 53.7 +0.2
baz=227,SNR=10
BW06 Boulder Array 11.09 308 P Pn 23 19 55.3 -0.3
baz=121
PDAR Pinedale Array 11.09 308 Pn Pn 23 19 55.0 -0.7
comp=Z,0.7nm,0.3s,baz=117,slow=13,SNR=28
PDAR Pg 23 20 38.8
comp=Z,2.0nm,0.3s,baz=116,slow=14,SNR=5.6
PDAR Lg Lg 23 23 06.7
comp=Z,9.5nm,0.3s,baz=109,slow=26,SNR=11
PDAR LR LR 23 23 53.1
comp=Z,160nm,20.4s,baz=112,slow=36
O49A Congton 11.10 67 P Pn 23 19 55.4 -0.1
baz=255,SNR=10
O49A P Pn 23 19 55.4 -0.1
baz=255,SNR=10
TKL Tuckaleechee C 11.28 90 Pn Pn 23 19 57.8 -0.2
comp=Z,3.7nm,0.3s,baz=236,slow=9.4,SNR=35
TKL Sn Sn 23 22 02.1 -2.2
comp=Z,4.6nm,0.3s,baz=43,slow=6.5,SNR=3.9
TKL Lg Lg 23 23 02.8
comp=Z,8.2nm,0.3s,baz=184,slow=22,SNR=3.5
comp=Z,12nm,0.5s
S51A Beattyville 11.31 80 P Pn 23 19 59.7 +1.3
baz=268,SNR=32
S51A P Pn 23 19 59.7 +1.3
baz=268,SNR=32
TZTN Tazewell 11.37 86 P Pn 23 19 58.2 -1.0
baz=274
TZTN Tazewell 11.37 86 P Pn 23 19 59.9 +0.7
baz=274
V52A Sevierville 11.40 89 P Pn 23 20 00.6 +1.0
baz=277,SNR=9.9
N49A Columbus Grove 11.42 63 P Pn 23 19 59.6 -0.3
baz=252,SNR=8.3
N49A P Pn 23 19 59.6 -0.3
baz=252,SNR=8.3
MDND Maddock 11.43 353 P Pn 23 19 58.4 -1.6
baz=172
TUC Tucson 11.61 253 P Pn 23 20 02.5 -0.1
baz=65
L48A N Adams 11.61 58 P Pn 23 20 02.5 -0.1
baz=246,SNR=8.7
L48A P Pn 23 20 02.5 -0.1
baz=246,SNR=8.7
Q51A Peebles 11.62 73 P Pn 23 20 02.9 +0.3
baz=262,SNR=9.1
Q51A P Pn 23 20 02.9 +0.3
baz=262,SNR=9.1
AGMN Agassiz Nation 11.86 6 P Pn 23 20 04.1 -1.8
baz=187,SNR=8.9
LAO LASA Array 12.02 331 P Pn 23 20 07.7 -0.3
baz=145
GOGA Godfrey 12.06 101 P Pn 23 20 07.3 -1.3
baz=289
ACSO Alum Creek Sta 12.12 68 P Pn 23 20 08.6 -0.8
baz=257,SNR=14
AAM Ann Arbor 12.29 58 P Pn 23 20 11.0 -0.7
baz=246,SNR=6.5
RLMT Red Lodge 12.29 318 P Pn 23 20 10.9 -1.1
baz=131,SNR=6.6
EYMN Ely 12.31 20 P Pn 23 20 09.7 -2.4
baz=204,SNR=8.0
Q52A Bidwell 12.44 74 P Pn 23 20 13.8 0.0
baz=263,SNR=7.3
Q52A P Pn 23 20 13.8 0.0
baz=263,SNR=7.3
DUG Dugway, Tooele 12.45 292 P Pn 23 20 12.9 -1.2
baz=103
D41A Chassel 12.54 30 P Pn 23 20 13.1 -2.1
baz=216
R53A Hurricane 12.63 77 P Pn 23 20 16.9 +0.4
baz=266,SNR=15
R53A P Pn 23 20 16.9 +0.4
baz=266,SNR=15
P52A Corning 12.64 71 P Pn 23 20 15.0 -1.5
baz=260,SNR=12
E43A Lone Tree Farm 12.70 36 P Pn 23 20 15.8 -1.5
baz=223
N51A Ashland 12.73 65 P Pn 23 20 18.4 +0.5
baz=255
N51A P Pn 23 20 18.4 +0.5
baz=255
U54A Nelsons Funny 12.76 85 P Pn 23 20 18.5 +0.3
baz=275,SNR=11
U54A P Pn 23 20 18.5 +0.3
baz=275,SNR=11
DGMT Dagmar 12.89 340 P Pn 23 20 18.1 -1.8
baz=156,SNR=21
DGMT Dagmar 12.89 340 P Pn 23 20 18.1 -1.8
baz=156
GLMI Grayling 12.92 46 P Pn 23 20 19.0 -1.4
baz=234,SNR=7.6
P53A Whipple 13.19 72 P Pn 23 20 24.0 0.0
baz=262
P53A P Pn 23 20 24.0 0.0
baz=262
214A Organ Pipe Nat 13.32 254 P Pn 23 20 24.5 -1.4
baz=66
KMSC Kings Mountain 13.33 91 P Pn 23 20 24.9 -1.1
baz=280
O53A New Philadelph 13.44 69 P Pn 23 20 26.1 -1.4
baz=259,SNR=6.6
Q54A Coxs Mills 13.56 74 P Pn 23 20 29.0 0.0
baz=265
Q54A P Pn 23 20 29.0 0.0
baz=265
ULM Lac du Bonnet 13.80 5 Pn Pn 23 20 27.4 -5.0
ULM Lac du Bonnet 13.80 5 Pn Pn 23 20 27.7 -4.7
comp=Z,2.2nm,0.3s,baz=185,slow=13,SNR=29
ULM Sn Sn 23 22 55.1 -11
comp=Z,2.3nm,0.3s,baz=261,slow=19,SNR=1.6
ULM Lg Lg 23 24 19.6
comp=Z,4.2nm,0.3s,baz=36,slow=8.7,SNR=3.4
ULM LR LR 23 26 14.6
comp=Z,224nm,20.4s,baz=177,slow=39
comp=Z,12nm,0.8s
BLA Blacksburg 13.84 82 Pn Pn 23 20 32.6 -0.3
BLA Blacksburg 13.84 82 P Pn 23 20 31.5 -1.4
baz=272
N53A Lisbon 13.84 67 Pn 23 20 30.7 -2.2
N53A Lisbon 13.84 67 P Pn 23 20 31.3 -1.6
baz=257,SNR=11
N53A P Pn 23 20 31.3 -1.6
baz=257,SNR=11
U56A King 13.93 85 Pn 23 20 33.6 -0.6
E46A Sault Ste Mari 14.04 41 Pn Pn 23 20 33.0 -2.7
R55A Marlinton 14.07 77 Pn 23 20 35.8 -0.4
R55A Marlinton 14.07 77 P Pn 23 20 35.6 -0.5
baz=268,SNR=16
R55A P Pn 23 20 35.6 -0.5
baz=268,SNR=16
M53A WI Miller and 14.11 64 Pn 23 20 35.4 -1.1
M53A WI Miller and 14.11 64 P Pn 23 20 35.5 -1.1
baz=255,SNR=5.9
ELK Elko 14.37 292 Pn Pn 23 20 43.6 +3.1
comp=Z,0.1nm,0.3s,baz=39,slow=22,SNR=2.0
ELK Sn Sn 23 23 20.0 -0.1
comp=Z,0.1nm,0.3s,baz=324,slow=5.9,SNR=3.1
ELK Lg Lg 23 24 44.4
comp=Z,0.1nm,0.3s,baz=1.6,slow=14,SNR=2.1
ELK LR LR 23 26 40.5
comp=Z,106nm,18.0s,baz=104,slow=39
comp=Z,0.3nm,0.5s
MCWV Mont Chateau 14.39 72 P Pn 23 20 39.2 -1.3
baz=263
EGMT Eagleton 14.56 326 Pn Pn 23 20 41.4 -1.4
EGMT Eagleton 14.56 326 P Pn 23 20 41.6 -1.2
baz=138,SNR=12
HLID Hailey 14.62 304 P Pn 23 20 42.8 -1.0
baz=113
GMRC Granite Mounta 14.73 269 P Pn 23 20 46.0 +0.7
baz=78
T57A Hurt 14.78 83 Pn Pn 23 20 45.0 -0.8
BPMT Black Pine Rid 15.41 315 Pn 23 20 54.4 0.0
PFO Pinyon Flats O 15.65 265 LR LR 23 27 12.0
comp=Z,314nm,19.6s,baz=48,slow=38
SSPA Standing Stone 16.01 69 P Pn 23 21 00.9 -1.1
baz=261
SSPA Standing Stone 16.01 69 P Pn 23 20 59.7 -2.3
baz=261,SNR=5.4
SADO Sadowa 16.29 54 Pn Pn 23 21 03.8 -1.7
comp=Z,0.6nm,0.3s,baz=249,slow=13,SNR=5.4
SADO Sn Sn 23 23 56.8 -9.5
comp=Z,2.8nm,0.3s,baz=215,slow=11,SNR=3.2
SADO Lg Lg 23 25 35.7
comp=Z,3.4nm,0.3s,baz=178,slow=10,SNR=3.7
comp=Z,8.8nm,1.0s
LPIG La Paz 16.46 225 Pn Pn 23 21 09.1 +1.3
comp=Z,9.9nm,0.3s,baz=94,slow=2.3,SNR=4.1
NVAR Mina Array Bea 16.49 283 Pn Pn 23 21 09.5 +1.1
comp=Z,0.2nm,0.3s,baz=98,slow=12,SNR=8.2
NVAR Lg Lg 23 25 55.3
baz=56,slow=26,SNR=0.9
NVAR LR LR 23 28 34.7
comp=Z,181nm,18.9s,baz=86,slow=41
comp=Z,1.2nm,0.8s
BINY Binghamton 17.69 65 P Pn 23 21 22.5 -0.7
baz=258
TEIG Tepich 18.18 151 LR LR 23 29 14.0
comp=Z,1µm,18.4s,baz=162,slow=40
NEW Newport 18.50 315 P P 23 21 33.4 +0.3
baz=122
NEW Newport 18.50 315 P Pn 23 21 34.2 +1.0
comp=Z,0.1nm,0.3s,baz=130,slow=10,SNR=4.1
NEW Lg Lg 23 26 47.8
comp=Z,0.1nm,0.3s,baz=35,slow=17,SNR=2.4
NEW LR LR 23 29 30.4
comp=Z,215nm,19.2s,baz=117,slow=40
comp=Z,1.9nm,0.8s
CMIG Matias Romero 19.49 172 P P 23 21 44.4 +0.4
comp=Z,0.7nm,0.3s,baz=352,slow=11,SNR=6.9
CMIG LR LR 23 32 47.8
comp=Z,127nm,18.0s,baz=32,slow=48
comp=Z,5.3nm,0.7s
EDM Edmonton 20.00 332 IAmb IAmb 23 22 15.8
comp=Z,15nm,1.0s
YBH Yreka Blue Hor 20.09 293 P P 23 21 51.7 +1.2
comp=Z,1.2nm,0.6s,baz=61,slow=4.1,SNR=6.7
comp=Z,1.2nm,0.6s
L61B Northampton 20.15 65 P P 23 21 50.2 -0.9
baz=261
HRV Adam Dziewonsk 20.98 65 P P 23 22 00.2 +0.2
baz=262
SCHQ Schefferville 27.95 39 P P 23 23 08.1 +0.9
comp=Z,2.0nm,0.6s,baz=236,slow=6.1,SNR=9.4
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 28.06 343 P P 23 23 08.4 +0.3
comp=Z,1.5nm,0.8s,baz=143,slow=8.7,SNR=16
YKA Lg Lg 23 32 02.4
baz=318,slow=14
YKA LR LR 23 34 24.9
comp=Z,196nm,21.7s,baz=50,slow=37
comp=Z,1.5nm,0.8s
R33M Jennings River 31.41 327 P P 23 23 37.9 0.0
baz=122
Q32M Nakina River 31.76 326 P P 23 23 41.9 +0.8
baz=120
P32M Atlin 32.72 326 P P 23 23 50.2 +0.8
baz=119
MMPY Sheldon Lake, 33.33 332 P P 23 23 55.6 +0.9
baz=126
SKAG Skagway 33.39 325 P P 23 23 55.6 +0.5
baz=117
WHY Whitehorse 33.75 328 P P 23 23 59.1 +0.8
baz=119
FARO Faro, Yukon 33.92 331 P P 23 24 01.4 +1.7
baz=123
M31M Drury Creek, Y 34.32 330 P P 23 24 03.8 +0.6
baz=121
P29M Windy Craggy 34.57 325 P P 23 24 06.4 +1.0
baz=114
N30M Aishikik Lake 35.07 328 P P 23 24 10.4 +0.6
baz=117
PNL Peninsula 35.36 324 P P 23 24 11.6 -0.7
baz=112
YUK6 Outpost Mounta 35.40 327 P P 23 24 12.9 +0.1
baz=115
M30M Minto, Yukon 35.47 330 P P 23 24 12.4 -0.8
baz=119
C36M Paulatuk 35.92 344 P P 23 24 16.9 0.0
baz=142
M29M Somme Creek 36.10 329 P P 23 24 18.5 -0.2
baz=117
YUK8 Steele Glacier 36.16 327 P P 23 24 19.6 +0.2
baz=114
L29M L29M 36.27 330 P P 23 24 19.5 -0.5
baz=118
H31M Peel River 36.30 335 P P 23 24 20.2 0.0
baz=126
J30M Hart River 36.31 333 P P 23 24 20.7 +0.3
baz=122
K29M Barlow Dome 36.38 331 P P 23 24 21.5 +0.5
baz=120
YUK3 Moose Creek 36.66 327 P P 23 24 23.9 +0.4
baz=114
I30M Mount Dempster 36.67 334 P P 23 24 24.2 +0.7
baz=123
MESA MESA 36.74 324 P P 23 24 23.3 -1.0
baz=110
G31M Satah River 36.94 337 P P 23 24 25.0 -0.5
baz=127
F31M Tsiigehtchic 37.09 338 P P 23 24 27.2 +0.3
baz=128
EPYK Eagle Plains 37.42 335 P P 23 24 29.6 -0.2
baz=124
CRQE Cirque 37.47 325 P P 23 24 29.4 -1.0
baz=110
M27K Edge Creek, AK 37.51 328 P P 23 24 30.4 -0.3
baz=113
INK Inuvik 37.57 339 P P 23 24 30.6 -0.3
baz=129
INK Inuvik 37.57 339 LR LR 23 40 45.4
comp=Z,292nm,19.9s,baz=179,slow=38
G30M tAoh Zrail Nji 37.59 336 P P 23 24 31.4 +0.2
baz=125
L27K Beaver Creek, 37.76 329 P P 23 24 33.2 +0.5
baz=114

F30M	Barrier River	37.82	337	P	P	23 24 32.6	-0.5
	baz=126						
H29M	Whitestone	37.90	335	P	P	23 24 33.5	-0.3
	baz=121						
M26K	Nabesna, AK	38.01	327	P	P	23 24 34.3	-0.5
	baz=112						
I28M	Miner Creek	38.07	333	P	P	23 24 34.6	-0.7
	baz=119						
EGAK	Eagle	38.22	332	P	P	23 24 35.5	-1.0
	baz=116						
K27K	Chicken	38.26	330	P	P	23 24 35.7	-1.1
	baz=114						
A36M	Sachs Harbour	38.27	347	P	P	23 24 35.9	-0.9
	baz=143						
I27K	Kandik River	38.77	333	P	P	23 24 40.3	-0.8
	baz=117						
E29M	Blow River	38.92	338	P	P	23 24 41.7	-0.6
	baz=124						
SCRK	Sand Creek	39.01	330	P	P	23 24 42.0	-1.3
	baz=112						
H27K	Steamboat Moun	39.02	334	P	P	23 24 42.6	-0.6
	baz=118						
J26L	Joseph Creek	39.05	330	P	P	23 24 43.0	-0.6
	baz=113						
F28M	Old Crow	39.13	336	P	P	23 24 43.2	-0.9
	baz=121						
RIDG	Independent Ri	39.28	329	P	P	23 24 44.9	-0.5
	baz=111						
D28M	Stokes Point	39.70	339	P	P	23 24 48.7	-0.1
	baz=124						
SCM	Sheep Creek Mo	39.75	326	P	P	23 24 49.4	-0.1
	baz=106						
J25K	Salcha River,	39.81	330	P	P	23 24 49.2	-0.7
	baz=112						
E27K	Coleen River	39.98	336	P	P	23 24 50.9	-0.3
	baz=120						
WAT6	Susitna Watana	40.15	327	P	P	23 24 52.8	0.0
	baz=107						
G26K	Porcupine Rive	40.15	334	P	P	23 24 52.9	+0.4
	baz=116						
PRP	Porcupine Dome	40.21	331	P	P	23 24 53.1	-0.2
	baz=112						
HDA	Harding Lake	40.38	329	P	P	23 24 54.6	+0.1
	baz=110						
IL31		40.48	330	IAmb	IAmb	23 24 58.3	
	comp=Z,8.5nm,0.9s						
ILAR	Eielson Array	40.48	330	P	P	23 24 56.7	+1.4
	comp=Z,5.9nm,0.7s,baz=107,slow=7.0,SNR=90						
	comp=Z,5.9nm,0.7s						
F26K	Sheenjek River	40.60	335	P	P	23 24 56.1	-0.3
	baz=116						
H25L	Birch Creek	40.61	332	P	P	23 24 56.1	-0.2
	baz=113						
POKR	Poker Plat Res	40.81	330	P	P	23 24 58.1	0.0
	baz=110						
G25K	Bearman Lake	40.91	333	P	P	23 24 59.1	+0.2
	baz=113						
F25K	Christian Rive	41.08	334	P	P	23 24 60.0	-0.3
	baz=114,SNR=5.8						
H24K	Noodor Dome	41.23	331	P	P	23 25 01.8	+0.2
	baz=110						
E25K	Arctic Village	41.27	335	P	P	23 25 02.1	+0.2
	baz=115						
NEA2	Nenana	41.31	329	P	P	23 25 02.8	+0.6
	baz=108						
G24K	Hadweenzic Riv	41.39	333	P	P	23 25 03.1	+0.3
	baz=112						
TRF	Thorofare Moun	41.50	327	P	P	23 25 04.0	0.0
	baz=105						
I23K	Minto, Yukon-K	41.59	330	P	P	23 25 05.4	+0.9
	baz=108						
F24K	Squaw Lake	41.84	334	P	P	23 25 07.1	+0.6
	baz=112						
C26K	Camden Bay	41.86	338	P	P	23 25 07.1	+0.5
	baz=118						
BPAW	Bear Paw Mtn.	41.97	328	P	P	23 25 07.7	+0.1
	baz=105						
MLY	Manley	42.12	330	P	P	23 25 09.1	+0.2
	baz=106						
PPLA	Purkeypile	42.21	326	P	P	23 25 09.7	-0.1
	baz=102						
CAST	Castle Rocks	42.28	327	P	P	23 25 10.3	+0.2
	baz=103						
G23K	Bananza Creek	42.34	332	P	P	23 25 11.0	+0.3
	baz=109						
M20K	Styx River	42.44	325	P	P	23 25 11.5	0.0
	baz=100						
COLD	Coldfoot	42.58	333	P	P	23 25 12.7	+0.2
	baz=109						
H22K	Ishtalitna Cre	42.62	331	P	P	23 25 13.3	+0.4
	baz=106						
E23K	Chandalar	42.65	334	P	P	23 25 14.2	+1.0
	baz=111						
I21K	Tanana	42.66	330	P	P	23 25 13.4	+0.1
	baz=105,SNR=8.2						
D24K	Happy Valley	42.78	336	P	P	23 25 15.1	+1.0
	baz=113						
L20K	Farewell, AK	42.89	325	P	P	23 25 15.6	+0.5
	baz=100						
C24K	Franklin Bluff	42.96	337	P	P	23 25 16.5	+0.9
	baz=113						
P18K	Big Mountain,	43.11	321	P	P	23 25 17.2	+0.2
	baz=96						
H21K	Melozitna Rive	43.12	330	P	P	23 25 17.8	+0.9
	baz=105						
K20K	Telida	43.14	327	P	P	23 25 18.3	+1.1
	baz=101						
O18K	Koktuh Hills	43.15	321	P	P	23 25 17.2	0.0
	baz=96						
L19K	White Mountain	43.29	325	P	P	23 25 19.7	+1.3
	baz=99						
D23K	Nanushuk River	43.34	335	P	P	23 25 19.7	+1.1
	baz=110						
J20K	Nowinta River	43.34	328	P	P	23 25 19.9	+1.2
	baz=102						
E22K	Anaktuvuk Pass	43.45	334	P	P	23 25 19.4	-0.3
	baz=108						
G21K	Allakaket	43.62	331	P	P	23 25 21.7	+0.8
	baz=105						
C23K	Itkillik River	43.62	336	P	P	23 25 21.4	+0.5
	baz=111						
M18K	Stony River	43.65	324	P	P	23 25 21.1	-0.1
	baz=98						
F21K	Alatna River	43.80	332	P	P	23 25 23.0	+0.6
	baz=106						
H20K	Anotleneega Mo	43.92	330	P	P	23 25 24.1	+0.7
	baz=102						
TTA	Tatalina	43.94	326	P	P	23 25 23.9	+0.3
	baz=99						
J19K	Poorman	43.94	327	P	P	23 25 24.3	+0.7
	baz=100						
D22K	Ayikyak River	43.99	335	P	P	23 25 24.4	+0.4
	baz=108						
L18K	Granite Mounta	44.15	325	P	P	23 25 25.1	-0.1
	baz=97						
J18K	Innoko River	44.33	327	P	P	23 25 26.4	-0.3
	baz=99						
H19K	Roundabout Mou	44.57	329	P	P	23 25 28.3	-0.2
	baz=101						
F20K	Avaraart Lake	44.60	332	P	P	23 25 29.3	+0.6
	baz=103						
B22K	Teshekpuk Lake	44.70	337	P	P	23 25 29.5	-0.1
	baz=109						
C21K	Knifeblade Rid	44.80	335	P	P	23 25 30.4	+0.1
	baz=106						
B21K	Ikpikpuk River	44.87	335	P	P	23 25 31.3	+0.4
	baz=107						
G19K	Purcell Mounta	44.94	330	P	P	23 25 31.4	-0.2
	baz=101						
K17K	Iditarod	44.95	325	P	P	23 25 31.5	-0.1
	baz=96						
E20K	Nigu River	45.06	333	P	P	23 25 32.9	+0.3
	baz=104						
E19K	Redstone River	45.26	332	P	P	23 25 34.2	+0.2
	baz=102						
H18K	Honhosa River	45.30	329	P	P	23 25 33.9	-0.4
	baz=99						
D20K	Etivluk River	45.32	334	P	P	23 25 34.9	+0.4
	baz=104						
F19K	Shaleruckik Mo	45.34	331	P	P	23 25 34.8	+0.1
	baz=101						
D19K	Kuna River	45.81	333	P	P	23 25 38.2	-0.2
	baz=102						
B20K	Meade River	45.83	336	P	P	23 25 38.1	-0.3
	baz=105						
G17K	Kiwalik Mounta	46.30	329	P	P	23 25 42.0	-0.2
	baz=97						
K15K	Wolf Creek Mou	46.41	325	P	P	23 25 43.0	-0.2
	baz=93						
C19K	Lookout Ridge	46.46	334	P	P	23 25 43.1	-0.5
	baz=101						
C18K	Utukok River	46.95	333	P	P	23 25 47.4	0.0
	baz=99						
G16K	Koyuk River	46.99	329	P	P	23 25 47.8	+0.1
	baz=95						
M13K	Dall Lake	47.24	322	P	P	23 25 49.8	+0.1
	baz=99						
B18K	Kokolik River	47.28	334	P	P	23 25 49.5	-0.4
	baz=99						
C17K	DeLong Mountai	47.64	333	P	P	23 25 51.9	-0.9
	baz=97						
EKA	Eskdalemuir Ar	63.27	40	P	P	23 27 45.7	+0.4
	comp=Z,1.1nm,0.6s,baz=302,slow=6.0,SNR=5.0						
	comp=Z,1.1nm,0.6s						
TIXI	Tiksi	67.28	346	LR	LR	23 58 47.4	
	comp=Z,94nm,20.1s,baz=36,slow=37						
MA2	Magadan	68.95	330	LR	LR	00 01 52.1	
	comp=Z,88nm,18.0s,baz=90,slow=39						
TORD	Torodi Ar. Bea	89.65	74	P	P	23 30 17.7	+2.3
	comp=Z,0.4nm,0.8s,baz=257,slow=3.9,SNR=2.0						
	comp=Z,0.4nm,0.8s						
ZALV	Zalesovo Beam	89.89	359	P	P	23 30 17.0	+1.2
	comp=Z,0.3nm,0.4s,baz=330,slow=8.6,SNR=3.6						
	comp=Z,0.3nm,0.4s						
BVAR	Borovoye Array	90.24	7	LR	LR	00 13 02.0	
	comp=Z,51nm,18.1s,baz=344,slow=37						
SONM	Songino Array	93.33	344	LR	LR	00 17 10.2	
	comp=Z,54nm,18.5s,baz=60,slow=38						
JNU	Nakatsue	97.21	321	LR	LR	00 19 07.1	
	comp=Z,16nm,18.1s,baz=348,slow=38						
HHC	Hu-ho-hao-te	98.48	338	eP	P	23 30 55.3	-0.3
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,81nm,5.5s						
ASF	Jabal al Asfar	99.54	38	LR	LR	00 18 01.4	
	comp=Z,63nm,18.4s,baz=63,slow=37						

IDC 04 23:18:35.2±3.5, 20.80S×171.45E, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=132.8km s-min=55.4km az=151.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	28.85	241	P		P	P	23 24 35.8	+0.2
	1.0nm,0.4s,baz=65,slow=19,SNR=3.1								
	1.0nm,0.4s								
WRA	Warramunga Arr	34.76	265	P		P	P	23 25 27.6	0.0
	1.0nm,0.4s,baz=98,slow=7.2,SNR=10.0								
	1.0nm,0.4s								
ASAR	Alice Springs	34.81	258	P		P	P	23 25 27.6	-0.5
	2.3nm,0.5s,baz=88,slow=8.4,SNR=15								
	2.3nm,0.5s								
FINES	FINESS Array B	132.81	338	PKP		PKPdf		23 37 51.6	-0.1
	0.6nm,0.3s,baz=49,slow=3.7,SNR=13								

*DNK **04** 23:24:16.6±0.6, 67.18N×20.64E, h0km, ML3.1(UPP), Suspected explosion*
*HEL **04** 23:24:16.9±0.1, 67.18N×20.64E, h1km, ML2.6, ML3.1(UPP), Confirmed Induced event*
*UPP **04** 23:24:16.3±0.0, 67.19N×20.63E, h0km, ML3.1, Confirmed Induced event*
*IDC **04** 23:24:17.2±0.7, 67.14N×20.99E, h0km, mbtmp3.4/6, ML2.9/6, Error ellipse: s-maj=12.9km s-min=6.7km az=107.0*
*BER **04** 23:24:19.4±1.5, 67.21N×20.45E, h1km, ML2.6, Confirmed Induced event*

ISC 04 23:24:15.5±0.7, 67.18N±0.02×20.67E±0.02, h0km, n48, σ1.25/86, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.07	212	P		P	Pg	23 24 18.0	+1.1
DUNU				S		S	Sg	23 24 19.1	+1.3
DUNU	Dundret	0.07	212	P		P	Pg	23 24 18.0	+1.1
DUNU				S		S	Sg	23 24 19.1	+1.3
DUNU	Dundret	0.07	212	i	P	P	Pg	23 24 18.0	+1.1
DUNU				i	S	S	Sg	23 24 19.1	+1.3
MASU	Masugnsbyn	0.58	61	P		P	Pg	23 24 27.6	+1.0
MASU				S		S	Sg	23 24 35.7	+1.5
MASU	Masugnsbyn	0.58	61	P		P	Pg	23 24 27.6	+1.0
MASU				S		S	Sg	23 24 35.7	+1.5
MASU	Masugnsbyn	0.58	61	i	P	P	Pg	23 24 27.6	+1.0
MASU				i	S	S	Sg	23 24 35.7	+1.5
RATU	Laukkuluspa	0.77	328	P		P	Pg	23 24 30.4	+0.3
RATU				S		S	Sg	23 24 40.5	+0.4
RATU	Laukkuluspa	0.77	328	P		P	Pg	23 24 30.4	+0.3
RATU				S		S	Sg	23 24 40.5	+0.4
RATU	Laukkuluspa	0.77	328	i	P	P	Pg	23 24 30.4	+0.3
RATU				i	S	S	Sg	23 24 40.5	+0.4
KUA	Kurravaara	0.79	351	P		P	Pg	23 24 30.6	+0.1
KUA				S		S	Sg	23 24 41.7	+1.0
KUA	Kurravaara	0.79	351	P		P	Pg	23 24 30.6	+0.1
KUA				S		S	Sg	23 24 41.7	+1.0
KUA	Kurravaara	0.79	351	i	P	P	Pg	23 24 30.6	+0.1
KUA				i	S	S	Sg	23 24 41.7	+1.0
SALU	Saltoluokta	0.86	284	P		P	Pg	23 24 32.3	+0.3
SALU				S		S	Sg	23 24 43.8	+0.7
SALU	Saltoluokta	0.86	284	P		P	Pg	23 24 32.3	+0.3
SALU				S		S	Sg	23 24 43.8	+0.7
SALU	Saltoluokta	0.86	284	i	P	P	Pg	23 24 32.3	+0.3
SALU				i	S	S	Sg	23 24 43.8	+0.7
LANU	Lannavaara	1.01	30	P		P	Pg	23 24 34.8	0.0
LANU				S		S	Sg	23 24 48.5	+0.7
LANU	Lannavaara	1.01	30	P		P	Pg	23 24 34.8	0.0
LANU				S		S	Sg	23 24 48.5	+0.7
LANU	Lannavaara	1.01	30	eP		P	Pg	23 24 34.7	0.0
KOVU	Salmi	1.06	350	P		P	Pg	23 24 35.6	-0.2
KOVU	Salmi	1.06	350	P		P	Pg	23 24 35.6	-0.2
KOVU	Salmi	1.06	350	eP		P	Pg	23 24 35.6	-0.2
KLF	Kolari	1.28	86	eP		P	Pg	23 24 39.8	-0.3
KLF				eSB		S	Sg	23 24 57.1	+0.4
HEF	Hetta	1.68	41	eP		P	Pn	23 24 46.5	+0.4
HEF				eS		S	Sn	23 25 08.3	+0.1
HEF				MSG				23 25 12.2	
	comp=Z,36nm,0.2s								
KALU	Kalix	1.71	140	P		P	Pn	23 24 47.2	+0.7
KALU	Kalix	1.71	140	P		P	Pn	23 24 47.2	+0.7
KALU	Kalix	1.71	140	eP		P	Pn	23 24 47.4	+0.9
KALU				eSN		S	Sb	23 25 11.0	+1.2
SJUU	Sjulsmark	1.73	167	P		P	Pn	23 24 47.4	+0.7
SJUU	Sjulsmark	1.73	167	P		P	Pn	23 24 47.4	+0.7
SJUU	Sjulsmark	1.73	167	eP		P	Pn	23 24 47.4	+0.7
KIF	Kilpisjarvi	1.83	2	ePN		P	Pb	23 24 50.2	+0.4
KIF				eSG		S	Sg	23 25 15.2	+0.9
TOF	Tornio	1.83	126	ePN		P	Pn	23 24 49.5	+1.4
TOF				eSG		S	Sb	23 25 14.6	+1.4
TOF				MSG				23 25 16.0	
	comp=Z,36nm,0.1s								
KTK1	Kautokeino	2.07	27	eP		P	Pb	23 24 53.2	-0.8
KTK1				eS		S	Sb	23 25 19.5	-0.8
KTK1				IAML				23 25 22.8	
	comp=Z,120nm,0.4s								
KTK1	Kautokeino	2.07	27	eP		P	Pb	23 24 53.1	-0.8
KTK1				eSG		S	Sb	23 25 21.0	+0.7
FAUS	Fauske	2.10	278	eP		P	Pn	23 24 53.4	+1.6
FAUS				eSg		S	Sb	23 25 22.3	+1.4
FAUS				IAML				23 25 23.6	
	comp=Z,113nm,0.2s								
RNF	Rovaniemi	2.19	103	ePB		P	Pb	23 24 55.3	-0.5
RNF				eSG		S	Sb	23 25 24.2	+0.7
RNF				MSG				23 25 26.2	
	comp=Z,77nm,0.2s								
STEI	Steigen	2.21	292	eP		P	Pn	23 24 54.2	+0.8
STEI				ePg		P	Pb	23 24 56.0	-0.3
STEI				eSg		S	Sb	23 25 25.7	+1.5
STEI				IAML				23 25 32.1	
	comp=Z,45nm,0.5s								
STEI	Steigen	2.21	292	eP		P	Pn	23 24 54.0	+0.6
STEI				eSG		S	Sb	23 25 25.7	+1.5
SGF	Sodankyl	2.29	81	ePB		P	Pb	23 24 56.8	-0.7
SGF				eSB		S	Sb	23 25 26.5	+0.2
SGF				MSG				23 25 28.6	
	comp=Z,37nm,0.2s								
TRO	Tromso	2.54	346	eP		P	Pn	23 24 59.7	+1.8
TRO				eSG		S	Sb	23 25 34.7	+1.0
BURU	Burvik	2.63	173	eP		P	Pn	23 25 00.7	+1.6
BURU				eSG		S	Sb	23 25 38.3	+2.2
ARCES	ARCESS Array B	2.97	35	Pn		P	Pn	23 25 04.8	+1.1
	comp=Z,1.6nm,0.3s,baz=216,slow=13,SNR=245								
ARCES				Sn		Sn	Sn	23 25 41.4	+1.4
	comp=Z,3.5nm,0.3s,baz=214,slow=23,SNR=12								
	comp=Z,4.5nm,0.3s								
UMAU	Umeaa	3.31	180	eP		P	Pn	23 25 09.7	+1.2
UMAU				eS		S	Sn	23 25 48.7	+0.2
NSS	Namsos	4.46	237	eP		P	Pn	23 25 25.8	+1.7
NSS				eSG		S	Sg	23 26 35.1	-3.3
FINES	FINESS Array B	6.22	155	Pn		P	Pn	23 25 49.9	+1.4
	comp=Z,0.9nm,0.3s,baz=347,slow=13,SNR=61								
FINES				Sn		S	Sn	23 26 59.0	-1.2
	comp=Z,1.2nm,0.3s,baz=346,slow=22,SNR=9.0								
FINES				Lg		Lg	Lg	23 27 30.4	
	comp=Z,3.0nm,0.3s,baz=344,slow=32,SNR=15								
	comp=Z,2.7nm,0.4s								
NOA	NORSAR Array B	7.42	218	Pn		P	Pn	23 26 06.0	+1.2
	baz=25,slow=11,SNR=9.7								
NOA				Sn		S	Sn	23 27 26.3	-3.3
	comp=Z,0.1nm,0.3s,baz=38,slow=21,SNR=6.0								
NOA				Lg		Lg	Lg	23 28 05.9	
	comp=Z,0.1nm,0.3s,baz=20,slow=16,SNR=5.5								
	comp=Z,0.1nm,0.3s								
HFS	Hagfors	7.72	207	Pn		P	Pn	23 26 08.7	-0.3
	comp=Z,0.4nm,0.3s,baz=23,slow=12,SNR=14								
HFS				Sn		S	Sn	23 27 35.8	-1.2
	comp=Z,1.0nm,0.3s,baz=25,slow=25,SNR=8.7								
HFS				Lg		Lg	Lg	23 28 13.8	
	comp=Z,0.7nm,0.3s,baz=25,slow=24,SNR=2.8								
	comp=Z,0.7nm,0.3s								
SPITS	Spitsbergen Ar	11.12	355	Pn		P	Pn	23 26 56.1	+0.6
	baz=166,slow=15								
	comp=Z,11nm,1.0s								
AKASG	Malin Array Be	17.08	161	Pn		P	Pn	23 28 09.7	-5.6
	comp=Z,0.4nm,0.3s,baz=344,slow=12,SNR=2.0								
	comp=Z,0.2nm,0.3s								

IDC 04 23:28:17.9±3.2, 28.80S×178.26W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=93.5km s-min=15.5km az=41.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.54	147	Pn		Pn	Pn	23 28 33.5	+0.6
	436nm,0.3s,baz=84,slow=10.0,SNR=37								
RAO				Sn		Sn	Sn	23 28 42.0	-0.6
	2um,0.3s,baz=257,slow=23,SNR=25								
ASAR	Alice Springs	42.99	265	P		P	P	23 36 19.6	+0.3
	0.3nm,0.4s,baz=100,slow=7.6,SNR=4.4								
	0.3nm,0.4s								
WRA	Warramunga Arr	43.84	271	P		P	P	23 36 25.3	-0.8
	0.3nm,0.4s,baz=110,slow=7.9,SNR=2.6								
	0.3nm,0.4s								
FINES	FINESS Array B	143.57	341	PKP		PKPbc		23 47 52.1	+0.8
	0.8nm,0.5s,baz=46,slow=4.2,SNR=8.4								

*CATAC **05** 00:04:08.7±0.4, 8.49N×83.30W, h7km±3km, ML2.9*
*UCR **05** 00:04:08.5±0.8, 8.46N×83.29W, h9km±2km, MW3.5*

ISC 05 00:04:08.1±0.9, 8.50N±0.04×83.28W±0.03, h14km±4km, n33, σ0.70/46, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PTJ1	Puerto Jimenez	0.04	324	eP		P	Pg	00 04 10.6	-0.2
PTJ1				eS		S	Sg	00 04 13.0	+0.5
JIME	Puerto Jimenez	0.06	307	eP		P	Pb	00 04 10.4	-0.5
JIME				eS		S	Sg	00 04 13.1	+0.3
PIRO	Carate, Puerto	0.11	211	eP		P	Pg	00 04 11.1	-0.3
PIRO	Carate, Puerto	0.11	211	i	P	P	Pg	00 04 11.2	-0.3
PIRO				i	S	S	Sg	00 04 14.0	+0.3
PIRO				IAML				00 04 17.7	
	comp=Z,11μm,1.0s								
FITO	Golfito	0.17	45	eP		P	Pb	00 04 12.2	-0.8
FITO				eS		S	Sg	00 04 16.4	+1.3
EDAD	Golfito	0.19	36	eP		P	Pb	00 04 12.8	-0.5
CDITO	Canoas	0.41	80	eP		P	Pb	00 04 17.2	+0.1
CDITO	Canoas	0.41	80	i	P	P	Pb	00 04 17.1	+0.1
CDITO				i	S	S	Sb	00 04 24.7	+1.6
CDITO				IAML				00 04 29.9	
	comp=Z,830nm,1.0s								
PLAN	Los Planes de	0.43	293	i	P	P	Pb	00 04 17.1	-0.4
PLAN				i	S	S	Sb	00 04 24.0	+0.1
PLAN				IAML				00 04 26.2	
	comp=Z,1μm,1.0s								
EDPN	Palmar Norte	0.49	339	eP		P	Pg	00 04 17.3	-0.5
POTG	Potrero Grande	0.57	16	eP		P	Pb	00 04 19.8	0.0
POTG	Potrero Grande	0.57	16	i	P	P	Pb	00 04 19.9	0.0
POTG				i	S	S	Sb	00 04 28.6	+0.7
POTG				IAML				00 04 32.6	
	comp=Z,1μm,1.0s								
BRU2	Volcan	0.65	63	eP		P	Pb	00 04 21.5	+0.2
BRU2	Volcan	0.65	63	i	P	Pn	Pn	00 04 21.6	-1.4
BRU2				i	S	S	Sn	00 04 32.2	-0.9
BRU2				IAML				00 04 34.4	
	comp=Z,480nm,1.0s								
PEZE	Perez Zeledon,	0.96	336	eP		P	Pn	00 04 26.9	-0.3
PEZE	Perez Zeledon,	0.96	336	i	P	P	Pn	00 04 26.9	-0.3
PEZE				i	S	S	Sb	00 04 40.3	+1.1
PEZE				IAML				00 04 42.4	
	comp=Z,510nm,1.0s								
CDM	Cerro de Muert	1.15	335	eP		P	Pb	00 04 29.8	-0.2
CDM	Cerro de Muert	1.15	335	i	P	P	Pb	00 04 29.8	-0.2
CDM				i	S	S	Sn	00 04 47.1	+1.2
CDM				IAML				00 04 49.0	
	comp=Z,240nm,1.0s								
ABE2	San Pablo	1.42	327	eP		P	Pb	00 04 34.6	0.0
LCR2	La Lucha 2	1.43	330	eP		P	Pb	00 04 33.9	-0.7
LCR2	La Lucha 2	1.43	330	i	P	P	Pb	00 04 34.1	-0.5
LCR2				i	S	S	Sb	00 04 53.6	+0.9
LCR2				IAML				00 04 55.9	
	comp=Z,140nm,1.0s								
VTCV	VTCV, Calle Va	1.54	343	i	P	P	Pb	00 04 36.1	-0.4
VTCV				i	S	S	Sg	00 04 57.4	-0.4
VTCV				IAML				00 05 05.9	
	comp=Z,230nm,1.0s								
OCM	Ochomogo	1.54	334	eP		P	Pb	00 04 35.9	-0.6
OCM	Ochomogo	1.54	334	i	P	P	Pb	00 04 36.0	-0.6
OCM				i	S	S	Sg	00 04 58.7	+0.8
OCM				IAML				00 04 59.7	
	comp=Z,130nm,1.0s								
CVTV	Tajo	1.56	343	eP		P	Pb	00 04 36.7	-0.3
CVTQ	Turrialba Volc	1.57	342	eP		P	Pb	00 04 37.0	-0.2
VICA	Volcano Irazu	1.58	339	eP		P	Pb	00 04 37.3	0.0
VTR0	Volcan Turrial	1.58	342	eP		P	Pn	00 04 34.6	-1.4
CVTR	Volcan Turrial	1.58	343	eP		P	Pb	00 04 36.6	-0.8
JACO	JACO, Garabito	1.79	310	eP		P	Pn	00 04 38.7	+0.2
JACO	JACO, Garabito	1.79	310	i	P	P	Pb	00 04 40.3	-0.3
JACO				IAML				00 05 14.8	
	comp=Z,77nm,1.0s								
SOCE	Pocosol	2.29	325	i	P	P	Pb	00 04 48.1	-1.1
SAJU	San Juanillo,	2.86	303	i	P	P	Pn	00 04 54.1	+0.8

**IDC 05 00:06:07.1±13.0, 29.43N×88.58E, h0km, mb3.8/4, mbtmp3.7/5, ML3.3/1, Error

LPIG	**La Paz**	**26.37 328**	LR	LR	00 22 26.3	
	comp=Z,108nm,19.0s,baz=117,slow=30					
TXAR	**Lajitas Array**	**28.32 344**	P	P	00 15 17.9	-0.4
	0.4nm,0.7s,baz=155,slow=11,SNR=3.2					
	0.4nm,0.7s					
ANMO	**Albuquerque**	**34.39 343**	LR	LR	00 29 03.5	
	comp=Z,143nm,18.4s,baz=220,slow=34					
TKL	**Tuckaleechee C**	**35.09 16**	LR	LR	00 30 09.8	
	comp=Z,236nm,18.5s,baz=160,slow=36					
PFO	**Pinyon Flats O**	**37.20 330**	LR	LR	00 28 38.8	
	comp=Z,115nm,20.7s,baz=124,slow=31					
H03N2	**Juan Fernandez**	**38.47 158**	T	T	00 58 27.6	
	baz=333,slow=77,SNR=17					
H03N1	**Juan Fernandez**	**38.48 158**	T	T	00 58 34.8	
	baz=333,slow=77,SNR=24					
H03N3	**Juan Fernandez**	**38.49 158**	T	T	00 58 26.1	
	baz=333,slow=77,SNR=18					
NVAR	**Mina Array Bea**	**41.95 333**	P	P	00 17 15.4	-0.1
	0.4nm,0.8s,baz=159,slow=7.7,SNR=2.0					
	0.4nm,0.8s					
PDAR	**Pinedale Array**	**42.55 344**	P	P	00 17 20.7	+0.4
	0.5nm,0.8s,baz=162,slow=9.1,SNR=3.5					
PDAR			LR	LR	00 32 54.8	
	comp=Z,158nm,18.2s,baz=110,slow=33					
	0.5nm,0.8s					
PLCA	**Paso Flores**	**48.13 155**	LR	LR	00 35 16.8	
	comp=Z,54nm,18.3s,baz=37,slow=32					
DLBC	**Dease Lake**	**62.52 340**	LR	LR	00 46 54.7	
	comp=Z,122nm,18.4s,baz=106,slow=36					
ILAR	**Eielson Array**	**72.70 339**	P	P	00 20 52.0	-0.1
	0.3nm,0.6s,baz=141,slow=5.8,SNR=7.4					
	0.3nm,0.6s					

*IDC **05** 00:13:22.7±1.9,5.˚98S×143.˚12E,h0km,mb3.8/5, mbtmp3.7/7,ML3.5/2,MS3.3/1,Error ellipse: s-maj=76.4km s-min=28.2km az=104.0*

ISC 05 00:13:27.6±1.8,6.˚1S±0.˚2×143.˚1E±0.˚5,h35km,n7,σ1§18/7, mb3.9/5,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.20**	**211**	Pn	**Pn**	**00 17 11.2**	**-1.5**
	0.2nm,0.3s,baz=30,slow=13,SNR=2.2						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**19.60**	**206**	P	**P**	**00 17 54.6**	**+1.7**
	0.2nm,0.3s,baz=32,slow=10,SNR=16						
ASAR				LR	LR	00 26 12.6	
	comp=Z,86nm,19.7s,baz=81,slow=39						
	2.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**51.06**	**350**	P	**P**	**00 22 26.6**	**+0.2**
	1.7nm,0.8s,baz=149,slow=5.9,SNR=2.7						
	1.7nm,0.8s						
MKAR	**Makanchi Array**	**75.16**	**322**	P	**P**	**00 25 06.0**	**-0.4**
	0.4nm,0.7s,baz=108,slow=7.7,SNR=5.7						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**79.03**	**324**	P	**P**	**00 25 28.3**	**+0.2**
	0.2nm,0.3s,baz=94,slow=4.9,SNR=1.3						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**84.61**	**325**	P	**P**	**00 25 57.6**	**+0.3**
	1.6nm,0.8s,baz=104,slow=6.3,SNR=11						
	1.6nm,0.8s						
ILAR	**Eielson Array**	**87.10**	**24**	P	**P**	**00 26 09.0**	**-0.5**
	0.7nm,0.9s,baz=247,slow=4.6,SNR=4.5						
	0.7nm,0.9s						

ROM 05 00:15:08.6±0.1,43.˚708N±0.˚004×12.˚283E±0.˚006, h10km,ML1.4/24,2C-1D,Error ellipse: s-maj=0.5km s-min=0.5km az=337.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARC	**Parchiule**	**0.07**	**209**	P	Pg	00 15 11.1	+0.1
PARC				S	Sg	00 15 12.9	+0.3
PARC				AML	AML		
	comp=E,609µm,0.2s						
PARC				AML	AML		
	comp=N,408µm,0.1s						
PARC				AML	AML		
	comp=E,609µm,1.8s						
CPGN	**Carpegna, Ital**	**0.10**	**16**	⇓P	Pg	00 15 11.7	+0.3
CPGN				S	Sg	00 15 14.2	+0.8
CPGN				AML	AML		
	comp=E,598µm,0.4s						
CPGN				AML	AML		
	comp=N,468µm,0.4s						
CPGN				AML	AML		
	comp=E,617µm,0.4s						
CPGN				AML	AML		
	comp=E,597µm,0.4s						
CPGN				AML	AML		
	comp=N,409µm,0.4s						
CPGN				AML	AML		
	comp=E,616µm,0.4s						
PE3	**Peglio**	**0.15**	**94**	P	Pg	00 15 12.5	+0.4
PE3				S	Sg	00 15 16.0	+1.4
PE3				AML	AML		
	comp=E,298µm,0.3s						
PE3				AML	AML		
	comp=N,2µm,1.6s						
SSP9	**Sansepolcro**	**0.17**	**220**	P	Pg	00 15 13.1	+0.7
SSP9				S	Sg	00 15 16.2	+1.2
BADI	**Badiali**	**0.20**	**188**	P	Pg	00 15 13.4	+0.5
BADI				S	Sg	00 15 17.3	+1.6
BADI				AML	AML		
	comp=E,204µm,0.3s						
BADI				AML	AML		
	comp=N,176µm,0.2s						
NARO	**Abbazia di Nar**	**0.24**	**114**	⇑P	Pg	00 15 13.6	+0.1
NARO				S	Sg	00 15 17.9	+1.1
NARO				AML	AML		
	comp=E,188µm,0.6s						
NARO				AML	AML		
	comp=N,242µm,0.2s						
NARO				AML	AML		
	comp=E,188µm,1.4s						
PIEI	**Pieia**	**0.25**	**133**	⇑P	Pg	00 15 13.8	0.0
PIEI				S	Sg	00 15 18.4	+1.1
PIEI				AML	AML		
	comp=N,106µm,0.3s						
PIEI				AML	AML		
	comp=E,203µm,0.3s						
ATPI	**Pietralunga -**	**0.27**	**161**	P	Pg	00 15 14.6	+0.5
ATPI				S	Sb	00 15 19.5	-0.7
ATPI				AML	AML		
	comp=E,87µm,0.7s						
ATPI				AML	AML		
	comp=N,88µm,0.7s						
ATPI				AML	AML		
	comp=N,88µm,1.3s						
SFI	**Santa Sofia**	**0.37**	**302**	P	Pg	00 15 16.3	+0.2
SFI				S	Sb	00 15 22.4	-0.7
FRON	**Frontone**	**0.37**	**120**	P	Pg	00 15 16.0	0.0
FRON				S	Sb	00 15 22.7	-0.5
FRON				AML	AML		
	comp=N,96µm,1.4s						
FRON				AML	AML		
	comp=N,96µm,0.6s						
FRON				AML	AML		
	comp=E,53µm,0.4s						
ATMI	**Monte Miggiano**	**0.37**	**182**	P	Pb	00 15 16.7	-0.6
ATMI				S	Sb	00 15 22.8	-0.4
ATMI				AML	AML		
	comp=E,57µm,0.9s						
ATMI				AML	AML		
	comp=N,64µm,0.9s						
ATMI				AML	AML		
	comp=E,57µm,1.1s						
CAFI	**Castiglion Fio**	**0.44**	**211**	P	Pg	00 15 17.9	+0.5
SSFR	**Montelago di S**	**0.45**	**127**	P	Pg	00 15 17.6	+0.1
SSFR				S	Sb	00 15 25.1	-0.4
SSFR				AML	AML		
	comp=N,136µm,0.2s						
SSFR				AML	AML		
	comp=E,168µm,0.1s						
ARVD	**Arcevia**	**0.52**	**113**	P	Pg	00 15 18.9	+0.1
ARVD				AML	AML		
	comp=E,38µm,0.8s						
ARVD				AML	AML		
	comp=N,37µm,0.6s						
ARVD				AML	AML		
	comp=E,38µm,1.2s						
FOSV	**Fossato di Vic**	**0.54**	**140**	P	Pg	00 15 19.2	+0.1
FOSV				AML	AML		
	comp=E,16µm,1.3s						
FOSV				AML	AML		
	comp=E,16µm,0.7s						
FOSV				AML	AML		
	comp=N,16µm,1.4s						

*ROM **05** 00:15:48.9±0.1,43.˚011N±0.˚003×13.˚114E±0.˚005, h8km,ML2.2/74,Error ellipse: s-maj=0.3km s-min=0.2km az=86.0*

ISC 05 00:15:49.1±0.8,43.˚01N±0.˚02×13.˚12E±0.˚02,h10km±5km, n43,σ0§65/68,17C-7D,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FEMA	**Monte Fema**	**0.07**	**224**	⇑P	**Pg**	**00 15 51.1**	**-0.3**
FEMA				S	**Sg**	**00 15 52.7**	**-0.4**
FEMA				AML	AML		
	comp=E,3725µm,0.6s						
FEMA				AML	AML		
	comp=N,4185µm,1.0s						
FEMA				AML	AML		
	comp=E,3725µm,0.6s						
FEMA				AML	AML		
	comp=N,4185µm,1.0s						
CSP1	**Cessapalombo**	**0.10**	**39**	⇑P	**Pg**	**00 15 51.7**	**-0.1**
CSP1				S	**Sg**	**00 15 53.8**	**0.0**
CSP1				AML	AML		
	comp=E,1405µm,1.5s						
CSP1				AML	AML		
	comp=N,880µm,0.3s						
CSP1				AML	AML		
	comp=N,880µm,0.3s						
CSP1				AML	AML		
	comp=E,1400µm,1.5s						
CSP1				AML	AML		
	comp=N,880µm,1.7s						
MC2	**Monte Cornacci**	**0.11**	**151**	P	**Pg**	**00 15 51.8**	**-0.2**
MC2				S	**Sg**	**00 15 54.6**	**+0.5**
PF6	**Pievefavera**	**0.15**	**23**	P	**Pg**	**00 15 52.3**	**-0.1**
PF6				S	**Sg**	**00 15 55.0**	**+0.2**
PF6				AML	AML		
	comp=E,2095µm,0.5s						
PF6				AML	AML		
	comp=N,1206µm,0.2s						
PF6				AML	AML		
	comp=E,2090µm,0.5s						
CESI	**CESI - Serrava**	**0.15**	**268**	⇑P	**Pg**	**00 15 52.7**	**+0.2**
CESI				S	**Sg**	**00 15 55.6**	**+0.7**
CESI				AML	AML		
	comp=N,1920µm,0.3s						
CESI				AML	AML		
	comp=E,2435µm,0.2s						
GUMA	**Gualdo di Mace**	**0.17**	**72**	⇑P	**Pg**	**00 15 53.3**	**+0.5**
GUMA				S	**Sg**	**00 15 56.9**	**+1.5**
GUMA				AML	AML		
	comp=E,3965µm,0.4s						
GUMA				AML	AML		
	comp=E,4440µm,0.4s						
GUMA				AML	AML		
	comp=N,2580µm,0.4s						
GUMA				AML	AML		
	comp=N,4280µm,0.4s						
NRCA	**Norcia**	**0.18**	**180**	⇑P	**Pg**	**00 15 53.0**	**0.0**
NRCA				S	**Sg**	**00 15 56.4**	**+0.9**
NRCA				AML	AML		
	comp=E,3165µm,0.2s						
NRCA				AML	AML		
	comp=N,2190µm,0.7s						
NRCA				AML	AML		
	comp=E,3260µm,0.2s						
NRCA				AML	AML		
	comp=N,2170µm,0.4s						
NRCA				AML	AML		
	comp=N,2190µm,1.3s						
MMO1	**Montemonaco**	**0.19**	**126**	⇑P	**Pg**	**00 15 53.3**	**+0.1**
MMO1				S	**Sg**	**00 15 56.9**	**+0.9**
T1221	**Campello sul C**	**0.25**	**233**	⇑P	**Pg**	**00 15 54.5**	**+0.3**
T1221				S	**Sg**	**00 15 58.9**	**+1.4**
T1221				AML	AML		
	comp=E,576µm,0.5s						
T1221				AML	AML		
	comp=N,465µm,0.4s						
T1221				AML	AML		
	comp=E,594µm,0.5s						
T1221				AML	AML		
	comp=N,504µm,0.5s						
T1221				AML	AML		
	comp=N,465µm,1.6s						
MF5	**Montefalcone A**	**0.26**	**95**	⇑P	**Pb**	**00 15 55.2**	**-0.7**
MF5				AML	AML		
	comp=E,990µm,0.3s						
MF5				AML	AML		
	comp=N,733µm,0.7s						
MF5				AML	AML		
	comp=E,990µm,0.3s						
MF5				AML	AML		
	comp=N,733µm,1.3s						
T1214	**Arquata del Tr**	**0.26**	**165**	P	**Pg**	**00 15 54.5**	**0.0**
T1214				S	**Sb**	**00 16 00.3**	**-0.3**
T1214				AML	AML		
	comp=E,831µm,1.1s						
T1214				AML	AML		
	comp=N,812µm,0.6s						
T1214				AML	AML		
	comp=E,889µm,1.1s						
T1214				AML	AML		
	comp=N,786µm,0.6s						
T1214				AML	AML		
	comp=E,888µm,1.1s						
T1214				AML	AML		
	comp=N,786µm,0.6s						
T1214				AML	AML		
	comp=N,786µm,1.4s						
T1214				AML	AML		
	comp=N,812µm,1.4s						
T1214				AML	AML		
	comp=E,831µm,0.9s						
T1214				AML	AML		
	comp=E,888µm,0.9s						
SNTG	**Esanatoglia**	**0.28**	**332**	⇓P	**Pg**	**00 15 54.8**	**+0.1**
SNTG				S	**Sb**	**00 15 59.9**	**-1.2**
SNTG				AML	AML		
	comp=E,294µm,0.5s						
SNTG				AML	AML		
	comp=N,406µm,0.5s						
SNTG				AML	AML		
	comp=E,294µm,1.5s						
SNTG				AML	AML		
	comp=N,406µm,1.5s						
EL6	**Elcito**	**0.32**	**358**	⇓P	**Pg**	**00 15 55.6**	**+0.1**
EL6				S	**Sb**	**00 16 01.5**	**-0.8**
EL6				AML	AML		
	comp=N,1405µm,0.3s						
EL6				AML	AML		
	comp=E,804µm,0.4s						
MTRA	**Matera**	**0.33**	**141**	⇓P	**Pg**	**00 15 55.8**	**+0.1**
MTRA				S	**Sb**	**00 16 01.4**	**-1.1**
MTRA				AML	AML		
	comp=E,487µm,0.8s						
MTRA				AML	AML		
	comp=N,532µm,0.6s						
MTRA				AML	AML		
	comp=E,452µm,0.8s						
MTRA				AML	AML		
	comp=N,456µm,0.5s						
MTRA				AML	AML		
	comp=E,487µm,1.2s						
MTRA				AML	AML		
	comp=E,452µm,1.2s						
GAVE	**Gavelli**	**0.36**	**207**	⇑P	**Pg**	**00 15 56.4**	**+0.2**
GAVE				S	**Sb**	**00 16 02.7**	**-0.7**
GAVE				AML	AML		
	comp=E,1410µm,1.3s						
GAVE				AML	AML		
	comp=N,436µm,0.6s						
GAVE				AML	AML		
	comp=E,1205µm,1.3s						
GAVE				AML	AML		
	comp=N,1685µm,0.6s						
GAVE				AML	AML		
	comp=E,1410µm,1.3s						
GAVE				AML	AML		
	comp=N,1685µm,1.4s						
GAVE				AML	AML		
	comp=N,436µm,1.4s						
GAVE				AML	AML		
	comp=E,1205µm,0.7s						
GAVE				AML	AML		
	comp=E,1410µm,0.7s						
CING	**Cingoli**	**0.37**	**9**	P	**Pg**	**00 15 56.6**	**+0.2**
CING				S	**Sb**	**00 16 02.9**	**-0.8**
CING				AML	AML		
	comp=E,510µm,1.2s						
CING				AML	AML		
	comp=N,368µm,1.0s						
ATCC	**AVT- Casa Cast**	**0.39**	**297**	⇓P	**Pg**	**00 15 57.0**	**+0.3**
ATCC				S	**Sb**	**00 16 03.8**	**-0.5**
ATCC				AML	AML		
	comp=E,2165µm,0.2s						
ATCC				AML	AML		
	comp=N,982µm,1.1s						
LNSS	**Leonessa**	**0.41**	**188**	⇑P	**Pg**	**00 15 57.4**	**+0.2**
LNSS				S	**Sb**	**00 16 04.5**	**-0.5**
LNSS				AML	AML		
	comp=N,505µm,0.9s						
LNSS				AML	AML		
	comp=E,514µm,0.9s						
SMA1	**SAN MARTINO**	**0.41**	**157**	P	**Pg**	**00 15 57.2**	**-0.1**
SMA1				S	**Sb**	**00 16 04.3**	**-0.7**
SMA1				AML	AML		
	comp=E,402µm,0.5s						
SMA1				AML	AML		
	comp=N,322µm,0.8s						
MOMA	**Monte Martano**	**0.45**	**243**	⇑P	**Pg**	**00 15 58.0**	**0.0**
MOMA				S	**Sb**	**00 16 05.7**	**-0.4**
MOMA				AML	AML		
	comp=N,450µm,0.3s						
MOMA				AML	AML		
	comp=E,522µm,0.7s						
SSFR	**Montelago di S**	**0.49**	**330**	⇑P	**Pg**	**00 15 58.7**	**+0.1**
SSFR				S	**Sb**	**00 16 07.1**	**-0.1**
SSFR				AML	AML		
	comp=E,732µm,0.2s						
SSFR				AML	AML		
	comp=N,620µm,1.1s						
SSFR				AML	AML		
	comp=E,644µm,0.2s						
SSFR				AML	AML		
	comp=N,470µm,1.4s						
SSFR				AML	AML		
	comp=N,620µm,0.9s						
ARRO	**Arrone**	**0.50**	**211**	⇑P	**Pg**	**00 15 58.9**	**0.0**
ARRO				S	**Sb**	**00 16 07.1**	**-0.3**
ARVD	**Arcevia**	**0.50**	**345**	⇑P	**Pg**	**00 15 59.0**	**+0.1**
ARVD				S	**Sb**	**00 16 07.8**	**+0.3**
ARVD				AML	AML		
	comp=N,158µm,0.5s						
ARVD				AML	AML		
	comp=E,192µm,0.6s						
ARVD				AML	AML		
	comp=E,192µm,1.4s						
RM33	**Pellescritta (**	**0.51**	**172**	⇑P	**Pg**	**00 15 58.9**	**-0.1**
RM33				S	**Sb**	**00 16 07.2**	**-0.5**
RM33				AML	AML		
	comp=E,158µm,1.1s						
RM33				AML	AML		
	comp=N,174µm,0.2s						
RM33				AML	AML		
	comp=E,159µm,1.1s						
RM33				AML	AML		
	comp=N,174µm,1.8s						
RM33				AML	AML		
	comp=E,159µm,0.9s						
TERO	**Teramo**	**0.53**	**137**	P	**Pg**	**00 15 59.5**	**+0.1**
TERO				S	**Sb**	**00 16 08.0**	**-0.3**
TERO				AML	AML		
	comp=E,136µm,1.6s						
TERO				AML	AML		
	comp=E,136µm,0.4s						
TERO				AML	AML		
	comp=N,125µm,0.9s						
CESX	**Cesi**	**0.56**	**225**	⇑P	**Pg**	**00 15 59.8**	**-0.2**
CESX				S	**Sb**	**00 16 08.8**	**-0.3**
CESX				AML	AML		
	comp=E,391µm,0.4s						
CESX				AML	AML		
	comp=N,552µm,0.3s						
CESX				AML	AML		
	comp=N,552µm,1.7s						
FRON	**Frontone**	**0.58**	**331**	⇓P	**Pg**	**00 16 00.2**	**-0.2**
FRON				S	**Sb**	**00 16 10.1**	**+0.3**
FRON				AML	AML		
	comp=E,108µm,0.8s						
FRON				AML	AML		
	comp=N,208µm,0.3s						
PIEI	**Pieia**	**0.67**	**321**	⇓P	**Pg**	**00 16 02.1**	**-0.1**
PIEI				AML	AML		
	comp=N,85µm,1.1s						
PIEI				AML	AML		
	comp=E,144µm,0.7s						
PIEI				AML	AML		
	comp=E,144µm,1.3s						
PIEI				AML	AML		
	comp=N,85µm,0.9s						
ATPI	**Pietralunga -**	**0.68**	**310**	⇑P	**Pg**	**00 16 02.3**	**0.0**
ATPI				AML	AML		
	comp=E,83µm,0.8s						
ATPI				AML	AML		
	comp=E,83µm,0.8s						
ATPI				AML	AML		
	comp=N,105µm,0.3s						
ATMI	**Monte Miggiano**	**0.70**	**298**	AML	AML		
	comp=N,220µm,0.6s						
ATMI				AML	AML		
	comp=E,211µm,1.3s						
ATMI				AML	AML		
	comp=E,211µm,0.7s						
NARO	**Abbazia di Nar**	**0.71**	**327**	⇓P	**Pg**	**00 16 02.7**	**-0.2**
NARO				AML	AML		
	comp=N,64µm,1.6s						
NARO				AML	AML		
	comp=E,62µm,0.3s						
NARO				AML	AML		
	comp=N,64µm,0.4s						
SRES	**S.Oreste - Sor**	**0.89**	**210**	AML	AML		
	comp=N,49µm,1.2s						
SRES				AML	AML		
	comp=E,68µm,1.1s						
SRES				AML	AML		
	comp=N,49µm,0.8s						
DUGI	**Dugi Otok**	**1.72**	**55**	*e*Pn	**Pb**	**00 16 20.1**	**-0.7**
VIRC	**Vir**	**1.90**	**47**	*e*Pn	**Pn**	**00 16 21.9**	**+0.3**
VIRC				Sn	**Sb**	**00 16 47.2**	**-0.5**
NVLJ	**Novalja**	**2.01**	**39**	*e*Pn	**Pb**	**00 16 24.6**	**-1.1**
RABC	**Rab**	**2.12**	**34**	*e*Pn	**Pn**	**00 16 25.1**	**+0.5**
UDBI	**Udbina**	**2.45**	**51**	*e*Pn	**Pn**	**00 16 30.4**	**+1.2**
OBKA	**Obir**	**3.64**	**16**	*e*Pn	**Pn**	**00 16 46.7**	**+1.0**
	comp=N,0.7nm,0.6s						
ABTA	**Abfaltersbach**	**3.76**	**354**	*i* Pn	**Pn**	**00 16 49.1**	**+1.8**
	comp=N,1.5nm,0.5s						
KBA	**Koelnbreinsper**	**4.07**	**2**	*e*Pn	**Pn**	**00 16 53.6**	**+1.9**
	comp=N,0.3nm,0.2s						
FETA	**Feichten**	**4.35**	**338**	*e*Pn	**Pn**	**00 16 55.4**	**-0.1**
	comp=N,0.1nm,0.3s						
SQTA	**Sankt Quirin**	**4.42**	**343**	*e*Pn	**Pn**	**00 16 56.4**	**0.0**
	comp=N,0.5nm,0.3s						
BIOA	**Bad Ischl, Aus**	**4.70**	**4**	*e*Pn	**Pn**	**00 16 59.2**	**-0.9**
	comp=N,0.6nm,0.3s						

*IDC **05** 00:27:38.7±0.9,5.˚85S×143.˚12E,h0km,mb4.0/7, mbtmp4.0/9,ML1.7/1,MS3.6/11,Error ellipse: s-maj=36.6km s-min=20.0km az=68.0*

*NEIC **05** 00:27:46.5±2.0,6.˚3S±0.˚1×142.˚3E±0.˚1,h10km±2km, mb4.2/12,Error ellipse: s-maj=24.0km s-min=22.1km az=70.0*

ISC 05 00:27:40.3±0.8,6.˚05S±0.˚09×142.˚87E±0.˚09,h10km,n34, σ1§91/23,mb4.1/9,MS3.5/9,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.40**	**128**	Pn	**Pn**	**00 28 59.6**	**-1.4**
	1.7nm,0.3s,baz=302,slow=15,SNR=2.0						
PMG				Sn	**Sn**	**00 30 02.3**	**-0.9**
	2.4nm,0.3s,baz=289,slow=18,SNR=7.3						
	7.3nm,0.3s						
MTN	**Manton Dam**	**13.40**	**239**		Pn	00 30 48.3	-2.5
CTA	**Charters Tower**	**14.34**	**167**	LR	LR	00 36 55.9	
	comp=Z,164nm,18.8s,baz=348,slow=38						
CTAO	**Charters Tower**	**14.34**	**167**	P	**P**	**00 31 13.7**	**+3.0**
WB0	**Warramunga Arr**	**15.94**	**210**	Pn	**Pn**	**00 31 22.9**	**-1.9**
WB0				IAmb	IAmb	00 31 48.1	
	comp=Z,21nm,1.4s						

WR0	**Warramunga Arr**	**16.02 210**			**Pn**	**00 31 23.6**	**-2.4**
WR0				IAmb	IAmb	00 31 46.9	
	comp=Z,15nm,1.2s						
WB2	**Warramunga Arr**	**16.11 210**			**Pn**	**00 31 25.1**	**-1.9**
WB2				IAmb	IAmb	00 31 33.4	
	comp=Z,14nm,1.2s						
WRA	**Warramunga Arr**	**16.11 210**			**Pn**	**00 31 24.8**	**-2.3**
WRA	**Warramunga Arr**	**16.11 210**	Pn		**Pn**	**00 31 24.6**	**-2.5**
	comp=Z,0.4nm,0.3s,baz=32,slow=13,SNR=13						
WRA			Sn		Sn	00 34 16.2	-10
	comp=Z,0.2nm,0.3s,baz=26,slow=23,SNR=3.5						
KNRA	**Kununurra**	**16.83 234**			**Pn**	**00 31 33.9**	**-2.3**
KNRA				IAmb	IAmb	00 31 40.8	
	comp=Z,16nm,1.1s						
SOEI	**Soe**	**18.79 258**			**P**	**00 31 58.4**	**-1.9**
AS31	**Alice Springs**	**19.53 205**	P		**P**	**00 32 09.1**	**+1.0**
ASAR	**Alice Springs**	**19.53 205**	P		**P**	**00 32 09.5**	**+1.4**
	comp=Z,13nm,0.9s,baz=33,slow=9.4,SNR=60						
ASAR			S		**S**	**00 35 46.6**	**-2.3**
	comp=Z,1.5nm,0.9s,baz=17,slow=27,SNR=4.9						
ASAR			LR		LR	00 40 18.1	
	comp=Z,574nm,19.5s,baz=34,slow=38						
FITZ	**Fitzroy Crossi**	**20.65 233**			**P**	**00 32 21.3**	**+1.0**
LUWI	**Luwuk**	**20.66 283**	P		**P**	**00 32 21.0**	**+0.5**
EIDS	**Eidsvold**	**20.76 159**	P		Pn	00 32 26.7	+2.9
EIDS				IAmb	IAmb	00 32 27.3	
	comp=Z,8.0nm,0.9s						
TOLI2	**Tolitoli**	**23.18 287**	P		**P**	**00 32 47.8**	**+0.3**
TOLI2				IAmb	IAmb	00 32 51.3	
	comp=Z,17nm,1.2s						
STKA	**Stephens Creek**	**25.72 183**	P		**P**	**00 33 14.4**	**+3.4**
	comp=Z,2.5nm,0.7s,baz=358,slow=10,SNR=3.8						
STKA			LR		LR	00 43 40.2	
	comp=Z,155nm,18.1s,baz=360,slow=37						
	comp=Z,2.5nm,0.7s						
DZM	**Mont Dzumac**	**27.79 127**	LR		LR	00 44 37.0	
	comp=Z,140nm,20.1s,baz=308,slow=37						
LEM	**Lembang**	**35.04 267**	LR		LR	00 51 29.1	
	comp=Z,78nm,19.6s,baz=74,slow=40						
NWAO	**Narrogin (SRO)**	**35.84 218**	LR		LR	00 50 10.0	
	comp=Z,278nm,19.0s,baz=318,slow=37						
KNMB	**Chin-men Tao**	**38.59 323**	P		P	00 35 08.4	+4.7
MJAR	**Matsushiro Arr**	**42.59 354**	LR		LR	00 52 23.8	
	comp=Z,37nm,18.4s,baz=33,slow=35						
URZ	**Urewera**	**44.62 141**	LR		LR	00 56 03.9	
	comp=Z,46nm,19.2s,baz=301,slow=38						
KSRS	**Korea Array**	**45.47 343**	LR		LR	00 52 28.3	
	comp=Z,22nm,21.2s,baz=130,slow=33						
CMAR	**Chiang Mai Arr**	**49.69 300**	P		**P**	**00 36 33.7**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=116,slow=5.7,SNR=4.6						
	comp=Z,0.8nm,0.3s						
PZH	**PanZhiHua**	**51.34 311**	P		P	00 36 51.7	+6.3
PZH			pmax		pmax		
	comp=Z,10.0nm,1.2s						
PZH			pmax		pmax		
	comp=Z,100nm,5.1s						
SONM	**Songino Array**	**62.52 333**	P		**P**	**00 38 05.7**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=145,slow=5.3,SNR=4.5						
	comp=Z,0.5nm,0.8s						
SHEM	**Shemya Is, Ala**	**64.27 20**	LR		LR	01 00 38.1	
	comp=Z,48nm,20.5s,baz=265,slow=31						
VNDA	**Vanda**	**72.14 176**	LR		LR	01 08 53.4	
	comp=Z,31nm,19.4s,baz=219,slow=34						
MKAR	**Makanchi Array**	**74.96 322**	P		**P**	**00 39 21.7**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=106,slow=7.0,SNR=8.7						
	comp=Z,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**78.84 324**	P		**P**	**00 39 42.7**	**-0.9**
	comp=Z,0.5nm,0.2s,baz=111,slow=4.7,SNR=5.9						
	comp=Z,0.5nm,0.2s						
BVAR	**Borovoye Array**	**84.41 325**	P		**P**	**00 40 12.6**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=114,slow=6.6,SNR=13						
	comp=Z,2.4nm,0.9s						
ILAR	**Eielson Array**	**87.16 24**	P		**P**	**00 40 24.6**	**-1.9**
	comp=Z,0.9nm,1.0s,baz=260,slow=4.5,SNR=6.8						
	comp=Z,0.9nm,1.0s						

*IDC **05** 00:29:49.8±6.0,21°.10S×174°.55W,h0km,mb4.4/3, mbtmp4.4/3,Error ellipse: s-maj=286.7km s-min=46.4km az=150.0*
*NEIC **05** 00:30:47.0±1.1,23°.6S±0°.2×177°.9W±0°.1,h298km±17km, mb4.4/9,Error ellipse: s-maj=28.0km s-min=13.5km az=193.0*
ISC 05 00:30:46.5±0.9,23°.6S±0°.1×177°.9W±0°.1,h300km,n17, σ1§13/15,mb4.2/6,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.95**	**326**		**Pn**	**00 32 27.1**	**-0.4**
NIUE	**Niue**	**8.69**	**60**	Pn	**Pn**	**00 32 48.8**	**+0.2**
BFZ	**Birch Farm**	**17.74**	**195**	P	**P**	**00 34 34.0**	**+0.9**
BFZ				IAmb	IAmb	00 34 37.3	
	comp=Z,26nm,1.2s						
CTZ	**Chatham Island**	**20.12**	**177**	P	**P**	**00 34 58.9**	**+0.5**
CTA	**Charters Tower**	**33.40**	**269**	P	**P**	**00 36 58.9**	**+1.3**
	comp=Z,5.1nm,0.7s,baz=78,slow=9.6,SNR=1.6						
	comp=Z,5.1nm,0.7s						
CTAO	**Charters Tower**	**33.40**	**269**	P	**P**	**00 36 58.2**	**+0.5**
CTAO				IAmb	IAmb	00 37 04.7	
	comp=Z,9.6nm,1.1s						
MCQ	**Macquarie Isla**	**35.38**	**203**	P	**P**	**00 37 12.4**	**-1.6**
ASAR	**Alice Springs**	**43.98**	**260**	P	**P**	**00 38 25.6**	**+0.5**
ASAR	**Alice Springs**	**43.98**	**260**	P	**P**	**00 38 27.8**	**+2.7**
	comp=Z,4.4nm,0.8s,baz=109,slow=7.5,SNR=11						
	comp=Z,4.4nm,0.8s						
WR0	**Warramunga Arr**	**44.16**	**265**	P	**P**	**00 38 26.2**	**-0.1**
WR0				IAmb	IAmb	00 38 27.8	
	comp=Z,16nm,1.1s						
WB0	**Warramunga Arr**	**44.34**	**265**	P	**P**	**00 38 27.4**	**-0.4**
WB0				IAmb	IAmb	00 38 28.8	
	comp=Z,16nm,1.1s						
WRA	**Warramunga Arr**	**44.34**	**265**	P	**P**	**00 38 27.2**	**-0.7**
WRA	**Warramunga Arr**	**44.34**	**265**	P	**P**	**00 38 27.4**	**-0.5**
	comp=Z,2.4nm,0.7s,baz=97,slow=8.4,SNR=12						
	comp=Z,2.4nm,0.7s						
MBWA	**Marble Bar**	**57.32**	**259**	P	**P**	**00 40 03.1**	**-0.9**
GIRL	**Giralia**	**61.85**	**256**	P	**P**	**00 40 34.6**	**-0.1**
GIRL				IAmb	IAmb	00 40 38.8	
	comp=Z,16nm,1.1s						
AKASG	**Malin Array Be**	**145.72**	**329**	PKPbc	PKPbc	00 49 27.3	-23
	comp=Z,0.4nm,0.5s,baz=34,slow=3.4,SNR=4.0						
BRTR	**Keskin Array B**	**148.91**	**309**	PKPbc	PKPbc	00 49 41.5	-18
	comp=Z,0.3nm,0.4s,baz=130,slow=4.3,SNR=4.9						

*NNC **05** 00:44:46.6±1.2,42°.17N×80°.54E,h0km,mb3.6,mpv3.4, Error ellipse: s-maj=7.4km s-min=6.2km az=149.0*
*SOME **05** 00:44:46.8,42°.20N×80°.58E,h15km*
*KRNET **05** 00:44:51.0±0.1,42°.09N×80°.28E,mb2.4*
ISC 05 00:44:47.3±1.6,42°.16N±0°.05×80°.49E±0°.06,h10km,n54, σ1§81/90,19C-11D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**1.25**	**323**	*e*P	**Pn**	**00 45 07.4**	**-3.7**
	72nm,0.1s						
SHLS				*e*S	**Sb**	**00 45 22.6**	**-4.8**
	50nm,0.2s						
SHLS	**Shalkode**	**1.25**	**323**	P	**Pn**	**00 45 07.4**	**-3.7**
	72nm,0.1s						
SHLS				S	**Sb**	**00 45 22.6**	**-4.8**
	50nm,0.2s						
PDGK	**Podgornoye**	**1.38**	**328**	P	**Pn**	**00 45 12.2**	**-0.6**
	8.4nm,0.3s						
PDGK				S	**Sb**	**00 45 30.3**	**-0.8**
	15nm,0.3s						
PDGK	**Podgornoye**	**1.38**	**328**	⇑P	**Pn**	**00 45 11.6**	**-1.2**
	6.3nm,0.3s						
PDGK				⇓S	**Sg**	**00 45 32.7**	**+0.8**
	12nm,0.7s						
UZB	**Uzynbulak**	**1.47**	**313**	*e*P	**Pb**	**00 45 14.1**	**-0.7**
	12nm,0.2s						
UZB				*e*S	**Sb**	**00 45 33.6**	**0.0**
	13nm,0.3s						
UZB	**Uzynbulak**	**1.47**	**313**	P	**Pb**	**00 45 14.1**	**-0.7**
	12nm,0.2s						
UZB				S	**Sb**	**00 45 33.6**	**0.0**
	13nm,0.3s						
PRZ	**Przheval'sk**	**1.58**	**283**	⇓*e*P	**Pg**	**00 45 18.4**	**+0.7**
	baz=87						
PRZ				⇓*e*S	**Sg**	**00 45 38.6**	**+0.4**
	baz=87						
SATY	**Saty**	**1.78**	**301**	*e*P	**Pg**	**00 45 21.3**	**-0.2**
	20nm,0.4s						
SATY				*e*S	**Sg**	**00 45 46.5**	**+1.9**
	64nm,0.2s						
ZHN	**Zhinishke**	**1.82**	**304**	*e*P	**Pb**	**00 45 21.1**	**+0.2**
	14nm,0.3s						
ZHN				*e*S	**Sg**	**00 45 45.5**	**-0.4**
	44nm,0.2s						
ZHN	**Zhinishke**	**1.82**	**304**	P	**Pb**	**00 45 21.1**	**+0.2**
	14nm,0.3s						
ZHN				S	**Sg**	**00 45 45.5**	**-0.4**
	44nm,0.2s						
KPKS	**Kokpek**	**1.86**	**315**	*e*P	**Pb**	**00 45 21.4**	**-0.1**
	22nm,0.2s						
KPKS				*e*S	**Sg**	**00 45 46.5**	**-0.7**
	60nm,0.3s						
KPKS	**Kokpek**	**1.86**	**315**	P	**Pb**	**00 45 21.4**	**-0.1**
	22nm,0.2s						
KPKS				S	**Sg**	**00 45 46.5**	**-0.7**
	60nm,0.3s						
TARG	**Taragay, Kyrgy**	**2.04**	**259**	⇑*e*P	**Pg**	**00 45 26.0**	**-0.6**
	baz=60						
TARG				⇑*e*S	**Sb**	**00 45 51.7**	**+1.2**
	baz=60						
KURS	**Kuram**	**2.16**	**309**	*e*P	**Pb**	**00 45 27.1**	**+0.5**
	26nm,0.5s						
KURS				*e*S	**Sg**	**00 45 56.0**	**-0.9**
	17nm,0.4s						
KURS	**Kuram**	**2.16**	**309**	Pg	**Pb**	**00 45 27.1**	**+0.5**
	26nm,0.5s						
KURS				Lg	Lg	00 45 55.9	
	17nm,0.4s						
ANVS	**Anan'yevo**	**2.18**	**288**	⇓*i*P	**Pg**	**00 45 28.9**	**-0.2**
	baz=91						
ANVS				⇓*e*S	**Sg**	**00 45 56.2**	**-1.1**
	baz=91						
DJR	**Jarkent**	**2.23**	**347**	*e*P	**Pb**	**00 45 27.2**	**-0.6**
	11nm,0.4s						
DJR				*e*S	**Sb**	**00 45 56.2**	**+0.6**
	46nm,0.5s						
DJR	**Jarkent**	**2.23**	**347**	Pg	**Pb**	**00 45 27.2**	**-0.6**
	11nm,0.4s						
DJR				Lg	Lg	00 45 56.2	
	46nm,0.5s						
BLB	**Baldybastay**	**2.43**	**324**	Pg	**Pb**	**00 45 31.4**	**+0.1**
	19nm,0.2s						
BLB				Lg	Lg	00 46 03.6	
	16nm,0.2s						
KDJ	**Kajisay**	**2.46**	**271**	⇑*e*P	**Pb**	**00 45 32.1**	**+0.4**
	baz=72						
KDJ				⇑*e*S	**Sb**	**00 46 02.2**	**0.0**
	baz=72						
KOTS	**Kotyrbulak**	**2.71**	**295**	*e*P	**Pg**	**00 45 38.0**	**-1.3**
	11nm,0.2s						
KOTS				*e*S	**Sg**	**00 46 14.7**	**+0.3**
	55nm,0.7s						
KOTS	**Kotyrbulak**	**2.71**	**295**	Pg	**Pg**	**00 45 38.0**	**-1.3**
	11nm,0.2s						
KOTS				Lg	Lg	00 46 14.7	
	55nm,0.7s						
MDOK	**Medeo**	**2.73**	**293**	*e*P	**Pb**	**00 45 37.2**	**+0.9**
	14nm,0.3s						
MDOK				*e*S	**Sg**	**00 46 13.6**	**-1.4**
	24nm,0.4s						
MDOK	**Medeo**	**2.73**	**293**	Pg	**Pb**	**00 45 36.5**	**+0.2**
	4.7nm,0.4s						
MDOK				Pg	**Pb**	**00 45 37.2**	**+0.9**
	14nm,0.3s						
MDOK				Lg	Lg	00 46 13.3	
	19nm,0.6s						
MDOK				Lg	Lg	00 46 13.6	
	24nm,0.4s						
TNSS	**Tian-Shan**	**2.76**	**290**	*e*P	**Pb**	**00 45 38.0**	**+1.0**
	8.8nm,0.3s						
TNSS				*e*S	**Sg**	**00 46 14.5**	**-1.5**
	12nm,0.5s						
TNSS	**Tian-Shan**	**2.76**	**290**	Pg	**Pb**	**00 45 38.0**	**+1.0**
	8.8nm,0.3s						
TNSS				Lg	Lg	00 46 14.5	
	12nm,0.5s						
KNDC	**Almaty**	**2.80**	**293**	⇑Pg	**Pb**	**00 45 37.7**	**+0.1**
	9.9nm,0.3s						
KNDC				⇑Lg	Lg	00 46 16.3	
	47nm,0.6s						
ARXS	**Arharly**	**2.83**	**317**	*e*P	**Pb**	**00 45 39.0**	**+1.0**
	5.1nm,0.2s						
ARXS				*e*S	**Sg**	**00 46 16.9**	**-1.4**
	17nm,0.5s						
ARXS	**Arharly**	**2.83**	**317**	Pg	**Pb**	**00 45 39.0**	**+1.0**
	5.1nm,0.2s						
ARXS				Lg	Lg	00 46 16.9	
	17nm,0.5s						
CHKK	**Chushkaly**	**3.08**	**305**	*e*P	**Pb**	**00 45 43.4**	**+1.2**
	3.2nm,0.2s						
CHKK				*e*S	**Sg**	**00 46 24.1**	**-2.1**
	16nm,0.4s						
CHKK	**Chushkaly**	**3.08**	**305**	Pg	**Pb**	**00 45 43.4**	**+1.2**
	3.2nm,0.2s						
CHKK				Lg	Lg	00 46 24.1	
	16nm,0.4s						
MTBS	**Maitube**	**3.15**	**289**	*e*P	**Pb**	**00 45 44.6**	**+1.2**
	5.9nm,0.3s						
MTBS				*e*S	**Sg**	**00 46 25.8**	**-2.6**
	19nm,0.5s						
MTBS	**Maitube**	**3.15**	**289**	Pg	**Pb**	**00 45 44.6**	**+1.2**
	5.9nm,0.3s						
MTBS				Lg	Lg	00 46 25.8	
	19nm,0.5s						
ULHL	**Ulahol**	**3.15**	**273**	⇓*e*P	**Pb**	**00 45 42.1**	**-1.5**
	baz=74						
ULHL				⇓*e*S	**Sb**	**00 46 19.4**	**-2.8**
	baz=74						
KTBS	**Karatobe**	**3.20**	**300**	*e*P	**Pb**	**00 45 45.1**	**+0.9**
	4.1nm,0.3s						
KTBS				*e*S	**Sb**	**00 46 26.7**	**+3.5**
	25nm,0.5s						
KTBS	**Karatobe**	**3.20**	**300**	Pg	**Pb**	**00 45 45.1**	**+0.9**
	4.1nm,0.3s						
KTBS				Lg	Lg	00 46 26.7	
	25nm,0.5s						
KAPS	**Kapalarasan**	**3.23**	**346**	*e*P	**Pb**	**00 45 44.4**	**-0.5**
	1.9nm,0.2s						
KAPS				*e*S	**Sb**	**00 46 25.6**	**+1.2**
	24nm,0.2s						
KAPS	**Kapalarasan**	**3.23**	**346**	Pg	**Pb**	**00 45 44.4**	**-0.5**
	1.9nm,0.2s						
KAPS				Lg	Lg	00 46 25.6	
	24nm,0.2s						
NRN	**Naryn**	**3.43**	**259**	⇑*e*P	**Pb**	**00 45 46.1**	**-2.3**
	baz=60						
NRN				⇑*e*S	**Sn**	**00 46 26.1**	**+4.1**
	baz=60						
KST	**Kastek**	**3.46**	**286**	*e*P	**Pb**	**00 45 50.5**	**+1.8**
	4.6nm,0.4s						
KST				*e*S	**Sg**	**00 46 36.0**	**-2.3**
	12nm,0.6s						
KST	**Kastek**	**3.46**	**286**	Pg	**Pb**	**00 45 50.5**	**+1.8**
	4.6nm,0.4s						
KST				Lg	Lg	00 46 36.0	
	12nm,0.6s						
KUU	**Kurty**	**3.50**	**301**	*e*P	**Pb**	**00 45 51.1**	**+1.7**
	2.1nm,0.3s						
KUU				*e*S	**Sg**	**00 46 36.9**	**-2.8**
	18nm,0.6s						
KUU	**Kurty**	**3.50**	**301**	Pg	**Pb**	**00 45 51.1**	**+1.7**
	2.1nm,0.3s						
KUU				Lg	Lg	00 46 36.9	
	18nm,0.6s						
DGS	**Degeres**	**3.64**	**289**	*e*P	**Pb**	**00 45 53.9**	**+2.1**
	3.1nm,0.4s						
DGS				*e*S	**Sg**	**00 46 42.3**	**-2.0**
	13nm,0.5s						
DGS	**Degeres**	**3.64**	**289**	Pg	**Pb**	**00 45 53.9**	**+2.1**
	3.1nm,0.4s						
DGS				Lg	Lg	00 46 42.3	
	13nm,0.5s						
TKM2	**Tokmak 2**	**3.69**	**284**	⇓Pg	**Pb**	**00 45 51.0**	**-1.8**
	0.5nm,0.4s						
TKM2				⇑Lg	Lg	00 46 42.5	
	7.7nm,0.8s						
TKM2	**Tokmak 2**	**3.69**	**284**	⇑*e*P	**Pb**	**00 45 49.8**	**-3.0**
	baz=85						
TKM2				⇑*i*S	**Sn**	**00 46 32.8**	**+4.4**
	baz=85						
KRBS	**Karabastau**	**3.85**	**295**	*e*P	**Pb**	**00 45 56.4**	**+1.0**
	2.4nm,0.3s						
KRBS				*e*S	**Sb**	**00 46 46.2**	**+4.0**
	7.2nm,0.3s						
KRBS	**Karabastau**	**3.85**	**295**	Pg	**Pb**	**00 45 56.4**	**+1.0**
	2.4nm,0.3s						
KRBS				Lg	Lg	00 46 46.2	
	7.2nm,0.3s						
CHMS	**Chumysh**	**4.32**	**283**	⇑Pg	**Pb**	**00 46 00.8**	**-2.5**
	0.4nm,0.3s						
CHMS				⇓Lg	Lg	00 46 59.8	
	2.3nm,0.8s						
UCH	**Uchtor**	**4.44**	**273**	⇑*e*P	Pn	00 46 00.1	+5.0
	baz=74						
UCH				⇑*i*S	**Sn**	**00 46 50.4**	**+3.3**
	baz=74						
MAKZ	**Makanchi**	**4.77**	**12**	⇓Pn	**Pn**	**00 46 00.5**	**+1.2**
	0.5nm,0.3s						
MAKZ				⇑Sn	**Sn**	**00 46 56.8**	**+2.1**
	0.5nm,0.4s						
MAKZ				⇓Lg	Lg	00 47 15.8	
	2.7nm,0.6s						
MK31	**Makanchi Array**	**4.81**	**15**	⇑Pn	**Pn**	**00 46 01.2**	**+1.3**
	0.2nm,0.3s,baz=200,slow=14,SNR=34						
MK31				⇑Sn	**Sn**	**00 46 56.4**	**+0.7**
	0.7nm,0.6s,baz=193,slow=21,SNR=7.3						
MK31				⇑Lg	Lg	00 47 17.8	
	4.9nm,0.6s,baz=193,slow=28,SNR=10.0						

ATH 05 00:45:59.9,37°.19N×20°.53E,h9km±1km,ML2.3/12, Manual Solution by N.Liadopoulou This location: 2020/05/19 10:33:21 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LTHK	**Lithakia**	**0.57**	**25**	P	Pg	00 46 11.0	0.0
LTHK				S	Sg	00 46 19.0	+0.4
PSDA	**Pessada-Kefalo**	**0.92**	**3**	P	Pb	00 46 18.1	0.0
PSDA				S	Sb	00 46 30.5	+0.1
VLS	**Valsamata**	**0.99**	**3**	P	Pg	00 46 18.5	-0.4
VLS				S	Sg	00 46 32.0	+0.2
LXRA	**Lixouri, Kepha**	**1.01**	**356**	P	Pb	00 46 19.5	-0.1
LXRA				S	Sg	00 46 32.5	0.0
PYL	**PYLOS**	**1.02**	**106**	P	Pg	00 46 19.5	+0.1
PYL				S	Sb	00 46 33.4	+0.2
KEF3	**Kipouria, Keph**	**1.02**	**352**	P	Pb	00 46 19.7	-0.1
KEF3				S	Sn	00 46 34.7	-0.2
DMLN	**Damoulianata-K**	**1.05**	**353**	P	Pn	00 46 20.8	-0.1
DMLN				S	Sb	00 46 34.7	+0.4
KEF5	**Kardakata, Kep**	**1.09**	**358**	P	Pn	00 46 21.2	-0.2
KEF5				S	Sb	00 46 35.1	-0.1
RLS	**Riolos of Patr**	**1.15**	**40**	P	Pb	00 46 21.4	-0.4
DRO	**Drossia**	**1.21**	**51**	P	Pb	00 46 22.4	-0.6
DRO				S	Sg	00 46 39.0	+0.2
FSK	**Fiskardo**	**1.27**	**1**	P	Pn	00 46 23.6	-0.2
FSK				S	Sn	00 46 40.9	0.0
EVGI	**Lefkada island**	**1.43**	**4**	P	Pb	00 46 26.5	-0.3
EVGI				S	Sn	00 46 44.6	-0.4
NYDR	**Nydri-Lefkada**	**1.53**	**5**	P	Pb	00 46 28.5	+0.1
NYDR				S	Sn	00 46 47.1	-0.2
KLIV	**Kalavryta, Ach**	**1.55**	**56**	P	Pn	00 46 27.7	0.0
LKD2	**Lefkada island**	**1.60**	**4**	P	Pb	00 46 29.4	-0.3
LKD2				S	Sb	00 46 50.0	0.0
GUR	**Goura**	**1.62**	**62**	P	Pn	00 46 29.0	+0.2
PVO	**Paravola**	**1.63**	**29**	P	Pb	00 46 29.5	-0.7
TSLK	**Tsoukalades, L**	**1.64**	**4**	P	Pn	00 46 28.9	0.0
TSLK				S	Sn	00 46 50.1	+0.1
EFP	**Efpalio**	**1.65**	**41**	P	Pb	00 46 30.1	-0.3
ANX	**Ano Chora**	**1.78**	**38**	P	Pn	00 46 31.8	+0.8
VLI	**Veliai**	**1.99**	**103**	P	Pn	00 46 34.6	+0.9
KRND	**KRANIDI**	**2.10**	**84**	P	Pn	00 46 35.0	-0.3
AGG	**Agios Georgios**	**2.32**	**37**	P	Pn	00 46 38.5	+0.2

*VIE **05** 00:47:03.9±0.8,44°.10N×17°.48E,h10km,mb2.2/3, ml2.2/12,ms3.5/1,Error ellipse: s-maj=9.7km s-min=6.1km az=14.0*
*RHSSO **05** 00:47:05.6±0.3,43°.87N×16°.60E,h6km±1km,ML2.3/20*
*BEO **05** 00:47:05.0±0.8,43°.86N×16°.51E,h0km,ML2.2/5*
ISC 05 00:47:04.6±1.1,43°.87N±0°.02×16°.61E±0°.02,h2km±10km, n73,σ1§03/113,2D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIJV	**Kijevo**	**0.20**	**314**	*i* Pg	**Pg**	**00 47 08.9**	**+0.4**
KIJV				Sg	**Sg**	**00 47 12.2**	**+1.1**
RICI	**Ricice**	**0.53**	**134**	*e*Pg	**Pg**	**00 47 14.2**	**-0.6**
A050A	**Klekovaca**	**0.62**	**355**	*e*Pg	**Pg**	**00 47 16.0**	**-0.5**
A050A				*e*Sg	**Sg**	**00 47 25.5**	**+1.0**
MGRS	**Mrkonjic Grad**	**0.65**	**32**	⇓*i*Pg	**Pg**	**00 47 16.8**	**-0.3**
MGRS				*e*Sg	**Sg**	**00 47 26.1**	**+0.6**
MORI	**Morici**	**0.65**	**270**	*e*Pg	**Pg**	**00 47 16.7**	**-0.4**
MAKA	**Makarska**	**0.65**	**152**	*e*Pg	**Pg**	**00 47 16.2**	**-0.9**
HVAR	**Hvar**	**0.70**	**189**	*e*Pg	**Pg**	**00 47 17.1**	**-0.9**
HVAR				Sg	**Sb**	**00 47 28.7**	**-0.9**
ZIRJ	**Zirje**	**0.73**	**253**	*e*Pg	**Pg**	**00 47 18.2**	**-0.4**
ZIRJ				Sg	**Sb**	**00 47 30.0**	**-0.4**
UDBI	**Udbina**	**0.90**	**318**	*i* Pg	**Pg**	**00 47 21.6**	**-0.3**
BLY	**Banja Luka**	**0.97**	**25**	*e*Pg	**Pg**	**00 47 23.1**	**-0.3**
BLY				*e*Sg	**Sn**	**00 47 38.8**	**-1.0**
BLY	**Banja Luka**	**0.97**	**25**	*e*Pg	**Pg**	**00 47 23.0**	**-0.3**
BLY				*e*Sg	**Sb**	**00 47 36.9**	**-0.7**
PRIJ	**Prijedor**	**1.11**	**4**	*e*Pg	**Pg**	**00 47 25.3**	**-0.6**
PRIJ				*e*Sg	**Sb**	**00 47 41.2**	**-0.3**
LSTV	**Lastovo**	**1.12**	**169**	*e*Pg	**Pg**	**00 47 24.3**	**-1.7**
DUGI	**Dugi Otok**	**1.12**	**277**	*e*Pg	**Pg**	**00 47 25.3**	**-0.9**
DUGI				Sg	**Sn**	**00 47 43.0**	**-0.5**
A051A	**Mrakovica**	**1.17**	**11**	⇓*i*Pg	**Pg**	**00 47 26.6**	**-0.4**
A051A				*e*Sg	**Sg**	**00 47 42.6**	**+0.5**
VIRC	**Vir**	**1.20**	**291**	*e*Pg	**Pg**	**00 47 26.8**	**-0.8**
NEVS	**Nevesinje**	**1.23**	**117**	*e*Pg	**Pg**	**00 47 27.8**	**-0.3**
NEVS				*e*Sg	**Sb**	**00 47 44.7**	**-0.2**
STON	**Ston**	**1.27**	**141**	*e*Pg	**Pg**	**00 47 27.2**	**-1.8**
STON				*e*Sg	**Sn**	**00 47 48.2**	**+1.1**
STON	**Ston**	**1.27**	**141**	*e*Pg	**Pg**	**00 47 27.1**	**-1.9**
STON	**Ston**	**1.27**	**141**	*e*Pg	**Pg**	**00 47 28.8**	**-0.2**
STON				*e*Sg	**Sg**	**00 47 45.8**	**+0.2**
A251A	**Rujevac

CEY	**Cerknica**	**2.43**	**321**	*e*Pn	**Pn**	**00 47 45.7**	**+0.3**
CEY				*e*Sn	**Sn**	**00 48 16.2**	**+0.4**
DIVS	**Divibare**	**2.46**	**83**	*e*Pn	**Pb**	**00 47 48.7**	**-0.8**
SKDS	**Skadanscina**	**2.50**	**313**	*e*Pn	**Pn**	**00 47 46.1**	**-0.2**
SKDS				*e*Sn	**Sn**	**00 48 16.9**	**-0.5**
SJES	**Sjenica**	**2.52**	**103**	*e*Pn	**Pn**	**00 47 48.1**	**+1.4**
SJES	**Sjenica**	**2.52**	**103**	*e*Pn	**Pn**	**00 47 47.7**	**+1.0**
SJES				*e*Sn	**Sn**	**00 48 18.9**	**+0.8**
DRME	**Dracevica, Mon**	**2.53**	**131**	*e*Pn	**Pn**	**00 47 47.6**	**+0.9**
DRME				*e*Sn	**Sn**	**00 48 19.0**	**+0.9**
IVAS	**Ivanjica**	**2.59**	**95**	*e*Pn	**Pn**	**00 47 49.3**	**+1.7**
BEHE	**Becsehely**	**2.61**	**3**	*e*Pn	**Pn**	**00 47 48.4**	**+0.6**
BEHE				*e*Sn	**Sn**	**00 48 20.5**	**+0.5**
FRGS	**Fruska Gora**	**2.63**	**60**	*e*Pn	**Pn**	**00 47 49.7**	**+1.6**
FRGS	**Fruska Gora**	**2.63**	**60**	*e*Pn	**Pn**	**00 47 48.7**	**+0.6**
FRGS				*e*Sn	**Sn**	**00 48 20.9**	**+0.2**
MORH	**Mrgy, Hungar**	**2.76**	**31**	*e*Pn	**Pn**	**00 47 50.6**	**+0.8**
MORH				*e*Sn	**Sn**	**00 48 23.9**	**+0.2**
OBKA	**Obir** 0.4nm,0.2s	**3.02**	**332**	*i* Pn	**Pn**	**00 47 54.3**	**+0.8**
OBKA	**Obir** 0.5nm,0.2s	**3.02**	**332**	*e*Pn	**Pn**	**00 47 53.9**	**+0.4**
OBKA				*e*Sn	**Sn**	**00 48 30.1**	**-0.2**
SOKA	**Soboth** 0.5nm,0.2s	**3.02**	**339**	*i* Pn	**Pn**	**00 47 53.9**	**+0.3**
ARSA	**Arzberg** 0.9nm,0.3s	**3.47**	**348**	*i* Pn	**Pn**	**00 47 58.1**	**-1.6**
ARSA	**Arzberg**	**3.47**	**348**	*e*Pn	**Pn**	**00 47 59.7**	**0.0**
RONA	**Rosalia, Austr** 1.1nm,0.3s	**3.84**	**357**	*e*Pn	**Pn**	**00 48 00.8**	**-3.9**
KBA	**Koelnbreinsper** 0.5nm,0.4s	**3.95**	**326**	*e*Pn	**Pn**	**00 48 07.1**	**+0.7**
ABTA	**Abfaltersbach** 0.1nm,0.2s	**4.08**	**316**	*e*Pn	**Pn**	**00 48 09.7**	**+1.5**
CONA	**Conrad Observa** 0.3nm,0.2s	**4.09**	**353**	*e*Pn	**Pn**	**00 48 04.9**	**-3.4**
MOA	**Molln** 0.6nm,0.2s	**4.31**	**339**	*i* Pn	**Pn**	**00 48 10.3**	**-0.8**
LESA	**Schwarzleotal** 1.2nm,0.4s	**4.50**	**324**	*i* Pn	**Pn**	**00 48 15.5**	**+1.6**
WTTA	**Wattenberg** 0.5nm,0.3s	**4.87**	**316**	*i* Pn	**Pn**	**00 48 21.4**	**+2.3**
VYHS	**Vyhne**	**4.88**	**18**	*e*PN	**Pn**	**00 48 19.4**	**+0.3**
VYHS				*e*SN	**Sn**	**00 49 14.4**	**-1.7**
WATA	**Walderalm** 0.6nm,0.3s	**4.95**	**316**	*e*Pn	**Pn**	**00 48 22.1**	**+1.9**
SQTA	**Sankt Quirin** 0.1nm,0.1s	**5.06**	**313**	*e*Pn	**Pn**	**00 48 23.5**	**+1.9**
FETA	**Feichten** 0.4nm,0.5s	**5.20**	**309**	*e*Pn	**Pn**	**00 48 27.8**	**+4.2**

IDC 05 00:47:05.2±1.8,6°29S×142°70E,h0km,mb3.8/3, mbtmp3.7/5,ML3.3/2,Error ellipse: s-maj=69.9km s-min=30.8km az=106.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=30,slow=12,SNR=2.5 0.5nm,0.7s	**15.82**	**210**	Pn	**Pn**	00 50 47.6	-2.0
ASAR	**Alice Springs** 0.2nm,0.3s,baz=30,slow=10,SNR=31 3.5nm,0.8s	**19.24**	**205**	P	P	00 51 31.6	+0.3
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=110,slow=7.7,SNR=3.4 0.3nm,0.6s	**75.03**	**322**	P	P	00 58 49.8	+0.9
BVAR	**Borovoye Array** 0.8nm,0.7s,baz=98,slow=6.1,SNR=5.8 0.8nm,0.7s	**84.50**	**325**	P	P	00 59 40.3	+0.3
ILAR	**Eielson Array** 0.5nm,0.7s,baz=256,slow=5.1,SNR=6.4 0.5nm,0.7s	**87.45**	**24**	P	P	00 59 53.5	-0.9

*IDC **05** 00:48:46.4±1.8,5°91S×143°28E,h0km,mb3.8/5, mbtmp3.8/7,ML3.5/2,MS3.3/2,Error ellipse: s-maj=56.4km s-min=26.9km az=106.0*

ISC 05 00:48:48.2±1.0,6°03S±0°09×143°0E±0°1,h10km,n10, σ3$44/10,mb3.7/5,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** 0.9nm,0.3s,baz=294,slow=20,SNR=4.0	**5.30**	**130**	Sn	**Sn**	**00 51 10.0**	**+1.3**
CTA	**Charters Tower** comp=Z,72nm,18.4s,baz=306,slow=38	**14.33**	**168**	LR	LR	00 57 46.2	
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=32,slow=12,SNR=5.5	**16.20**	**211**	Pn	**P**	**00 52 39.7**	**+0.4**
WRA	0.1nm,0.3s,baz=28,slow=27,SNR=5.1 2.1nm,0.8s			Sn	**Sn**	**00 55 40.6**	**+4.5**
ASAR	**Alice Springs** 0.2nm,0.3s,baz=36,slow=9.2,SNR=11	**19.61**	**206**	P	**Pn**	**00 53 18.6**	**+0.3**
ASAR	0.8nm,0.8s,baz=20,slow=27,SNR=5.0 3.6nm,0.7s			S	**S**	**00 56 51.0**	**-7.4**
NWAO	**Narrogin (SRO)** comp=Z,84nm,19.4s,baz=108,slow=37	**35.95**	**219**	LR	LR	01 11 20.3	
CMAR	**Chiang Mai Arr** 0.5nm,0.2s,baz=120,slow=5.4,SNR=4.2 0.5nm,0.2s	**49.80**	**300**	P	**P**	**00 57 42.7**	**+1.1**
MKAR	**Makanchi Array** 0.4nm,0.8s,baz=106,slow=9.1,SNR=2.6 0.4nm,0.8s	**75.03**	**322**	P	**P**	**01 00 30.4**	**+0.2**
KURBB	**Kurchatov Arra** 0.3nm,0.7s,baz=110,slow=5.1,SNR=1.9 0.3nm,0.7s	**78.90**	**324**	P	**P**	**01 00 52.4**	**+0.6**
BVAR	**Borovoye Array** 2.2nm,0.9s,baz=100,slow=4.5,SNR=8.3 2.2nm,0.9s	**84.48**	**325**	P	**P**	**01 01 21.9**	**+0.6**
ILAR	**Eielson Array** 0.3nm,0.6s,baz=260,slow=4.2,SNR=4.8 0.3nm,0.6s	**87.08**	**24**	P	**P**	**01 01 31.9**	**-1.9**

*GCMT **05** 01:05:33.0±0.3, 11°.38N±0°.02×125°.61E±0°.02,h53km±1km, MW5.0/81,Moment Tensor Solution. s52,c64; s81,c118; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.40±.16; $M_{\theta\theta}$0.55±.13; $M_{\phi\phi}$-3.95±.11; $M_{r\theta}$0.49±.09; $M_{r\phi}$0.65±.10; $M_{\theta\phi}$1.17±.14; Best double couple: $M_0$3.94500×10^{16} NP1:ϕ_s3.00000°,δ54.00000°,λ104.00000°. NP2: ϕ_s160.00000°,δ38.00000°,λ71.00000°. Principal axes: T 3.6900, Plg76.0000°, Azm318.0000°; N 0.5070, Plg12.0000°, Azm175.0000°; P -4.1990, Plg8.0000°, Azm83.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **05** 01:05:34.7±0.8,11°.1N±4°.1×12°.6E±1°,h92km±7km,M5.0/33, mb4.9/33,mB5.5/15,Mw(mB)5.0/15,MwMwp7.5/1, Mwp7.2/1*

*IDC **05** 01:05:35.1±1.9,11°.31N×125°.40E,h79km±16km,mb4.5/28, mbtmp4.8/29,MS3.9/55,Error ellipse: s-maj=17.1km s-min=9.8km az=70.0*

*NEIC **05** 01:05:36.0±1.5,11°.32N±0°.07×125°.40E±0°.09,h84km±1km, mb4.9/192,Error ellipse: s-maj=14.1km s-min=9.3km az=67.0*

*BJI **05** 01:05:37.7±0.0,11°.36N×125°.47E,h121km,mb4.8/68, mB5.0/32*

ISC 05 01:05:32.6±0.4,11°32N±0°.04×125°48E±0°.06,h57km±3km, h57km:pP-P,n602,σ1$10/538,mb4.9/167,MS3.9/58, 17C-14D,Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**4.22**	**179**	Pn	**Pn**	**01 06 38.2**	**+3.7**
DAV	**Davao City (W)** 242nm,0.3s,baz=69,slow=7.4,SNR=1.2	**4.22**	**179**	P	Pn	01 06 42.2	+7.7
DAV	460nm,0.4s,baz=124,slow=20,SNR=1.6			S	**Sn**	**01 07 25.3**	**+2.8**
DAV	comp=Z,3$m,19.5s,baz=1.0,slow=46			LR	LR	01 08 47.4	
TGY	**Tagaytay City** 100nm,0.3s,baz=69,slow=4.0,SNR=6.8	**5.22**	**302**	P	**Pn**	**01 06 51.6**	**+3.3**
TGY	comp=Z,2$m,21.2s,baz=106,slow=41			LR	LR	01 09 04.6	
KKM	**Kota Kinabalu**	**10.55**	**241**	Pn	**Pn**	**01 08 05.2**	**+4.0**
GTOI	**Gorontalo** 51nm,1.1s,488nm	**10.89**	**193**	P	**Pn**	**01 08 07.8**	**+2.0**
TOLI2	**Tolitoli**	**11.16**	**205**	Pn	**Pn**	**01 08 09.9**	**+0.4**
LUWI	**Luwuk**	**12.57**	**193**	Pn	**Pn**	**01 08 32.4**	**+3.7**
LUWI	**Luwuk** 93nm,1.2s,4$m	**12.57**	**193**	P	**Pn**	**01 08 32.8**	**+4.1**
TPUB	**Ta-pu**	**12.78**	**339**	Pn	Pn	01 08 36.1	+4.5
SSLB	**Suanglung**	**13.13**	**341**	Pn	**Pn**	**01 08 37.7**	**+1.4**
SANI	**Sanana** 30nm,1.1s	**13.29**	**178**	P	**Pn**	**01 08 35.4**	**-3.2**
YHNB	**Yeheng**	**13.84**	**344**	Pn	**Pn**	**01 08 48.8**	**+2.8**
NLAI	**Namlea** 27nm,0.6s,22$m	**14.55**	**174**	P	**Pn**	**01 08 55.0**	**-0.5**
TTSI	**Tana Toraja** 92nm,1.0s,1$m	**15.34**	**202**	P	**Pn**	**01 09 07.2**	**+1.5**
JOW	**Kunigami** comp=Z,377nm,21.4s,baz=248,slow=34	**15.66**	**9**	LR	LR	01 14 23.3	
FAKI	**Fak Fak**	**15.67**	**154**		**P**	**01 09 13.9**	**+0.9**
SBUM	**Sibu**	**15.83**	**237**		**P**	**01 09 16.6**	**+1.8**
QIZ	**Qiongzhong**	**16.92**	**299**	P	**P**	**01 09 27.3**	**+0.5**
QIZ				S	**Sn**	**01 12 35.1**	**+2.2**
QIZ	comp=N,200nm,17.3s			LR	LR		
QIZ	comp=E,430nm,17.7s			LR	LR		
QIZ	comp=Z,640nm,22.8s			LR	LR		
KAPI	**Kappang**	**17.20**	**200**	P	**Pn**	**01 09 29.4**	**+0.3**
UBPT	**Khong Chiam**	**19.86**	**284**	P	**P**	**01 09 58.9**	**-0.3**
MMRI	**Maumere**	**20.08**	**189**	P	**P**	**01 10 03.4**	**+1.8**
EDFI	**Ende, Flores** 22nm,0.7s	**20.29**	**191**	P	Pn	01 10 07.4	+1.0
SOEI	**Soe**	**20.97**	**183**	P	**P**	**01 10 13.3**	**+2.0**
PLAI	**Plampang** 20nm,0.7s	**21.43**	**201**	P	**P**	**01 10 15.7**	**-0.4**
NJ2	**Nanjing**	**21.52**	**345**	⇓P	**P**	**01 10 18.8**	**+1.9**
NJ2				pP	**sP**	**01 10 40.3**	**+3.6**
NJ2	comp=Z,27nm,0.6s			pmax	pmax		
NJ2	comp=Z,270nm,3.6s			pmax	pmax		
KMMI	**Kalianget** 31nm,0.7s,3$m	**21.54**	**213**	P	**P**	**01 10 17.7**	**+0.4**
TWSI	**Taliwang, Sumb** 41nm,1.0s	**21.68**	**204**	P	**P**	**01 10 19.9**	**+1.1**
WHN	**Wuhan**	**21.74**	**333**	⇓P	**P**	**01 10 20.8**	**+1.5**
WHN	comp=Z,72nm,0.9s			pmax	pmax		
WHN	comp=Z,720nm,13.7s			LR	LR		
SRBI	**Singaraja**	**21.81**	**208**	P	P	01 10 36.7	+17
JCJ	**Chichijima** comp=Z,223nm,20.0s,baz=160,slow=34	**22.21**	**43**	LR	LR	01 18 00.4	
JNU	**Nakatsue** comp=Z,236nm,21.3s,baz=146,slow=34	**22.26**	**12**	LR	LR	01 18 09.9	
JAGI	**Jajag, Banyuwa**	**22.66**	**210**	P	**P**	**01 10 30.3**	**+1.0**
JAGI	**Jajag, Banyuwa** 65nm,1.2s	**22.66**	**210**	P	**P**	**01 10 30.0**	**+0.7**
SLVN	**Son La**	**22.95**	**298**	P	**P**	**01 10 31.6**	**-0.8**
NGJI	**Ngawi** 68nm,1.1s	**23.22**	**218**	P	**P**	**01 10 35.8**	**+0.9**
GYA	**Guiyang**	**23.27**	**313**	⇓P	**P**	**01 10 37.0**	**+1.5**
GYA				pP	sP	01 10 59.9	+4.2
GYA				S	**S**	**01 14 41.8**	**-1.9**
GYA				sS	sS	01 15 22.3	+15
GYA	comp=Z,34nm,0.8s			pmax	pmax		
GYA	comp=Z,210nm,6.1s			pmax	pmax		
GYA	comp=N,320nm,17.2s			LR	LR		
GYA	comp=E,390nm,14.5s			LR	LR		
GYA	comp=Z,450nm,17.3s			LR	LR		
ENH	**Enshi**	**24.01**	**324**	P	**P**	**01 10 40.8**	**-1.4**
MTN	**Manton Dam**	**24.65**	**167**	P	**P**	**01 10 47.5**	**-0.6**
MTN	comp=Z,26nm,0.7s			IAmb	IAmb	01 11 07.5	
KPJI	**Karang Pucung** comp=Z,32nm,0.8s	**24.79**	**222**	P	**P**	**01 10 49.1**	**-0.3**
IPM	**Ipoh**	**25.14**	**256**	P	**P**	**01 10 52.9**	**+0.2**
IPM	comp=Z,32nm,0.8s			IAmb	IAmb	01 10 55.9	
KULM	**Kulim**	**25.27**	**258**	P	**P**	**01 10 53.9**	**0.0**
LEM	**Lembang** comp=Z,264nm,22.0s,baz=42,slow=38	**25.31**	**225**	LR	LR	01 21 44.8	
PHRA	**Phrae**	**25.40**	**289**	P	**P**	**01 10 54.5**	**-0.5**
SRIT	**Nakonsritamara**	**25.62**	**266**	P	**P**	**01 10 56.5**	**-0.6**
CRAI	**Chiangrai**	**25.70**	**293**	P	**P**	**01 10 57.0**	**-0.7**
LYN	**LuoYang**	**25.99**	**335**	⇓P	**P**	**01 11 01.2**	**+1.0**
LYN				S	**S**	**01 15 23.8**	**-3.1**
LYN	comp=Z,38nm,0.7s			pmax	pmax		
KSRS	**Korea Array** comp=Z,9.5nm,0.9s,baz=181,slow=9.4,SNR=11	**26.12**	**4**	P	**P**	**01 11 02.1**	**+0.9**
KSRS	comp=Z,158nm,21.4s,baz=185,slow=34 comp=Z,9.5nm,0.9s			LR	LR	01 20 31.4	
CM31	**Chiang Mai Arr**	**26.59**	**289**	P	**P**	**01 11 05.2**	**-0.6**
CM31	comp=Z,24nm,0.9s			IAmb	IAmb	01 11 07.1	
CMAR	**Chiang Mai Arr**	**26.59**	**289**	P	**P**	**01 11 05.0**	**-0.7**
CMAR	**Chiang Mai Arr** comp=Z,11nm,0.7s,baz=99,slow=7.4,SNR=76	**26.59**	**289**	P	**P**	**01 11 06.1**	**+0.4**
CMAR	comp=Z,1.4nm,0.3s,baz=63,slow=0.9,SNR=9.8			PcP	**PcP**	**01 14 29.0**	**0.0**
CMAR	comp=Z,102nm,18.3s,baz=110,slow=38 comp=Z,11nm,0.7s			LR	LR	01 22 18.2	
CHTO	**Chiang Mai**	**26.66**	**289**	P	**P**	**01 11 05.5**	**-0.8**
LWLI	**Liwa**	**26.79**	**234**	P	P	01 10 58.7	-9.0
PZH	**PanZhiHua**	**26.99**	**307**	P	**P**	**01 11 11.4**	**+2.0**
PZH	comp=Z,6.0nm,0.7s			pmax	pmax		
PZH	comp=Z,100nm,4.7s			pmax	pmax		
KNRA	**Kununurra**	**27.02**	**173**	P	**P**	**01 11 09.4**	**-0.1**
KNRA	comp=Z,25nm,0.9s			IAmb	IAmb	01 11 46.8	
XAN	**Xi'an**	**27.21**	**329**	⇑P	**P**	**01 11 10.8**	**-0.4**
XAN				pP	sP	01 11 33.2	+1.0
XAN				S	**S**	**01 15 42.5**	**-3.8**
XAN				sS	sS	01 16 23.2	+13
XAN	comp=Z,41nm,0.8s			pmax	pmax		
XAN	comp=Z,200nm,4.7s			pmax	pmax		
MJAR	**Matsushiro Arr** comp=Z,1.3nm,0.3s,baz=205,slow=8.8,SNR=4.9	**27.62**	**23**	P	**P**	**01 11 14.1**	**-0.8**
MJAR	comp=Z,2.0nm,0.6s,baz=200,slow=1.8,SNR=2.3			PcP	**PcP**	**01 14 31.6**	**+0.4**
MJAR	comp=Z,327nm,21.9s,baz=201,slow=32 comp=Z,1.3nm,0.3s			LR	LR	01 20 10.9	
RPSI	**Rantau Prapat**	**27.69**	**254**	P	**P**	**01 11 15.7**	**+0.1**
HNS	**HongShan**	**27.72**	**341**	⇑P	**P**	**01 11 16.1**	**+0.5**
HNS	comp=Z,37nm,1.0s			pmax	pmax		
CD2	**Chengdu**	**28.02**	**317**	P	**P**	**01 11 19.0**	**+0.5**
CD2	comp=Z,10.0nm,0.5s			pmax	pmax		
KCSI	**Kotacane, Aceh** comp=Z,48nm,0.7s	**28.52**	**256**	P	**P**	**01 11 22.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**29.23**	**180**	P	**P**	**01 11 29.4**	**+0.1**
BJT	**Baijiatuau**	**29.75**	**346**	P	**P**	**01 11 33.0**	**-0.7**
BJT	comp=Z,27nm,1.4s			IAmb	IAmb	01 11 35.1	
BJI	**Beijing**	**29.77**	**346**	P	**P**	**01 11 33.8**	**0.0**
BJI	comp=Z,7.0nm,1.1s			pmax	pmax		
BJI	comp=Z,110nm,4.1s			pmax	pmax		
JMM	**Marumori**	**29.79**	**25**	P	**P**	**01 11 33.9**	**-0.2**
COEN	**Coen**	**30.64**	**145**	P	**P**	**01 11 41.2**	**-0.6**
COEN	comp=Z,65nm,1.9s			IAmb	IAmb	01 12 41.4	
LZH	**Lanzhou**	**31.48**	**325**	*e*P	**P**	**01 11 49.0**	**-0.2**
LZH	comp=Z,17nm,1.4s			pmax	pmax		
LZH	comp=Z,260nm,14.1s			LR	LR		
LZH	comp=Z,220nm,13.1s			LR	LR		
LZH	comp=Z,230nm,13.1s			LR	LR		
HHC	**Hu-ho-hao-te**	**31.87**	**340**	*e*P	**P**	**01 11 53.6**	**+1.1**
HHC				pP	sP	01 12 23.1	+10
HHC				*e*S	**S**	**01 17 00.5**	**+1.1**
HHC	comp=Z,18nm,0.7s			pmax	pmax		
HHC	comp=Z,130nm,4.5s			pmax	pmax		
WB0	**Warramunga Arr**	**32.11**	**164**	P	**P**	**01 11 53.3**	**-1.4**
BTO	**Baotou**	**32.20**	**338**	*e*P	**P**	**01 11 59.2**	**+3.8**
BTO				pP	sP	01 12 26.0	+10
BTO				S	**S**	**01 17 06.5**	**+1.9**
BTO				SS	**SnSn**	**01 19 00.8**	**+0.6**
BTO	comp=Z,11nm,0.6s			pmax	pmax		
BTO	comp=Z,290nm,4.9s			pmax	pmax		
BTO	comp=Z,230nm,5.4s			LR	LR		
BTO	comp=Z,350nm,7.1s			LR	LR		
BTO	comp=Z,340nm,8.2s			LR	LR		
WRA	**Warramunga Arr**	**32.27**	**164**	P	**P**	**01 11 54.6**	**-1.5**
WRA	**Warramunga Arr** comp=Z,3.4nm,0.6s,baz=343,slow=9.5,SNR=26	**32.27**	**164**	P	**P**	**01 11 54.5**	**-1.5**
WRA	comp=Z,8.1nm,0.7s,baz=343,slow=3.2,SNR=28			PcP	**PcP**	**01 14 43.4**	**-0.1**
WRA	comp=Z,1.1nm,0.9s,baz=345,slow=15,SNR=4.2			S	**S**	**01 17 01.0**	**-4.7**
WRA	comp=Z,1.9nm,0.7s,baz=341,slow=3.8,SNR=8.8 comp=Z,3.4nm,0.6s			ScP	**ScP**	**01 18 21.1**	**-1.4**
WB2	**Warramunga Arr**	**32.27**	**164**	P	**P**	**01 11 54.9**	**-1.1**
WB2	comp=Z,55nm,1.8s			IAmb	IAmb	01 11 56.0	
WR0	**Warramunga Arr**	**32.34**	**164**	P	**P**	**01 11 55.0**	**-1.7**
USA0B	**Ussuriysk Arra**	**33.24**	**9**	P	**P**	**01 12 04.6**	**+0.3**
USA0B	comp=Z,13nm,0.8s			IAmb	IAmb	01 12 05.8	
USRK	**Ussuriysk Ar.**	**33.24**	**9**	P	**P**	**01 12 04.3**	**0.0**
USRK	**Ussuriysk Ar.** comp=Z,12nm,0.7s,baz=194,slow=8.0,SNR=22	**33.24**	**9**	P	**P**	**01 12 05.1**	**+0.8**
USRK	comp=Z,92nm,20.6s,baz=185,slow=34 comp=Z,12nm,0.7s			LR	LR	01 24 24.3	
MDJ	**Mudanjiang**	**33.37**	**5**	P	**P**	**01 12 06.5**	**+1.1**
MDJ	comp=Z,15nm,1.0s			pmax	pmax		
MDJ	comp=Z,300nm,3.6s			pmax	pmax		
MDJ	**Mudanjiang** comp=Z,19nm,1.2s	**33.37**	**5**	IAmb	IAmb	01 12 10.3	
XLT	**XiLinHaoTe**	**33.47**	**348**	*e*P	**P**	**01 12 06.9**	**+0.5**
XLT				pP	sP	01 12 33.8	+6.3
XLT				PP	**PnPn**	**01 13 21.0**	**+1.9**
XLT				PcP	**PcP**	**01 14 47.7**	**+1.2**
XLT	comp=Z,20nm,0.9s			pmax	pmax		
XLT	comp=Z,190nm,4.3s			pmax	pmax		
BNX	**BinXian**	**34.34**	**2**	⇓P	**P**	**01 12 14.4**	**+0.6**
BNX	comp=Z,26nm,0.8s			pmax	pmax		
BNX	comp=Z,260nm,5.0s			pmax	pmax		
AS31	**Alice Springs**	**35.73**	**167**	P	**P**	**01 12 25.6**	**-0.5**
ASAR	**Alice Springs** comp=Z,13nm,0.3s,baz=356,slow=7.8,SNR=53	**35.73**	**167**	P	**P**	**01 12 26.1**	**0.0**
ASAR	comp=Z,6.9nm,0.7s,baz=345,slow=2.9,SNR=13			PcP	**PcP**	**01 14 53.1**	**-0.2**
ASAR	comp=Z,1.4nm,0.8s,baz=348,slow=3.0,SNR=5.5 comp=Z,13nm,0.3s			ScP	**ScP**	**01 18 29.9**	**-4.8**
ASAJ	**Asahikawa** comp=Z,83nm,20.8s,baz=182,slow=35	**35.87**	**21**	LR	LR	01 26 25.0	
JKA	**Kamikawa-asahi**	**35.87**	**21**	P	**P**	**01 12 27.4**	**+0.4**
GTA	**Gaotai**	**36.08**	**325**	⇑P	**P**	**01 12 29.7**	**+0.6**
GTA				PcP	**PcP**	**01 14 54.5**	**+0.3**
GTA	comp=Z,20nm,1.0s			pmax	pmax		
GTA	comp=Z,170nm,21.9s			LR	LR		
GTA	comp=Z,220nm,20.3s			LR	LR		
GTA	comp=Z,350nm,23.1s			LR	LR		
LSA	**Lhasa** comp=Z,7.2nm,0.7s	**36.79**	**305**	IAmb	IAmb	01 12 40.4	
GOMU	**GeErMu**	**37.15**	**317**	P	**P**	**01 12 39.5**	**+1.0**
GOMU	comp=Z,9.0nm,0.9s			pmax	pmax		
GOMU	comp=Z,140nm,18.0s			LR	LR		
GOMU	comp=Z,210nm,18.2s			LR	LR		
GOMU	comp=Z,380nm,18.3s			LR	LR		
CTA	**Charters Tower** comp=Z,57nm,18.4s,baz=270,slow=39	**37.31**	**147**	LR	LR	01 29 56.2	
CTAO	**Charters Tower**	**37.31**	**147**	P	**P**	**01 12 40.1**	**+0.5**
CTAO	**Charters Tower**	**37.31**	**147**	P	**P**	**01 12 40.3**	**+0.7**
CTAO				pP	**pP**	**01 12 53.5**	**-0.6**
KLR	**Kul'dur** comp=Z,146nm,21.3s,baz=198,slow=35	**38.15**	**7**	LR	LR	01 28 02.9	
HEH	**HeiHe**	**38.85**	**2**	*e*P	**P**	**01 12 51.6**	**-0.6**
HEH	comp=Z,14nm,0.9s			pmax	pmax		
HEH	comp=Z,160nm,3.7s			pmax	pmax		
ULN	**Ulaanbaatar**	**39.58**	**340**	P	**P**	**01 12 59.2**	**+0.7**
ULN	**Ulaanbaatar**	**39.58**	**340**	P	**P**	**01 12 59.4**	**+0.9**
SONM	**Songino Array**	**39.77**	**340**	P	**P**	**01 13 00.3**	**+0.3**
SONM	**Songino Array** comp=Z,18nm,0.7s,baz=157,slow=9.6,SNR=173	**39.77**	**340**	P	**P**	**01 13 00.8**	**+0.7**
SONM	comp=Z,1.4nm,0.7s,baz=163,slow=6.0,SNR=3.6			PcP	**PcP**	**01 15 05.1**	**-0.3**
SONM	comp=Z,121nm,20.5s,baz=172,slow=37 comp=Z,18nm,0.7s			LR	LR	01 30 01.2	
HNR	**Honiara** comp=Z,2$m,21.5s,baz=311,slow=33	**40.00**	**120**	LR	LR	01 27 24.1	
H11S3	**WAKE ISLAND Hy** baz=273,slow=76,SNR=230	**40.39**	**75**	T	T	01 56 16.0	
H11S1	**WAKE ISLAND Hy** baz=273,slow=76,SNR=93	**40.40**	**75**	T	T	01 56 14.5	
H11S2	**WAKE ISLAND Hy** baz=273,slow=76,SNR=119	**40.40**	**75**	T	T	01 56 10.4	
H11N1	**WAKE ISLAND Hy** baz=265,slow=75,SNR=943	**40.68**	**73**	T	T	01 56 33.1	
H11N2	**WAKE ISLAND Hy** baz=265,slow=75,SNR=724	**40.69**	**73**	T	T	01 56 29.6	
H11N3	**WAKE ISLAND Hy** baz=265,slow=75,SNR=781	**40.70**	**73**	T	T	01 56 33.7	
MORW	**Morawa**	**41.17**	**193**	P	**P**	**01 13 10.4**	**-1.2**
FORT	**Forrest**	**41.93**	**177**	P	**P**	**01 13 17.5**	**-0.3**
EIDS	**Eidsvold**	**44.19**	**146**	P	**P**	**01 13 35.5**	**-0.7**
EIDS	comp=Z,21nm,1.6s			IAmb	IAmb	01 13 51.9	
NWAO	**Narrogin (SRO)** comp=Z,45nm,18.8s,baz=344,slow=41	**44.69**	**190**	LR	LR	01 36 22.4	
BBOO	**Buckleboo**	**45.03**	**167**	P	**P**	**01 13 42.9**	**+0.2**
STKA	**Stephens Creek** comp=Z,26nm,0.6s,baz=334,slow=8.0,SNR=74	**45.64**	**161**	P	**P**	**01 13 48.4**	**+0.8**
STKA	comp=Z,49nm,18.9s,baz=12,slow=39 comp=Z,26nm,0.6s			LR	LR	01 35 33.3	
WMQ	**Urumqi**	**45.92**	**322**	*e*P	**P**	**01 13 51.8**	**+2.0**
WMQ	comp=Z,16nm,0.7s			pmax	pmax		
ARMA	**Armidale**	**48.53**	**149**	P	**P**	**01 14 11.2**	**+0.9**
PETK	**Petropavlovsk-**	**49.02**	**25**	P	**P**	**01 14 15.0**	**+1.4**
PETK	**Petropavlovsk-** comp=Z,4.8nm,0.7s,baz=207,slow=3.5,SNR=4.5	**49.02**	**25**	P	**P**	**01 14 15.5**	**+1.8**
PETK	comp=Z,6.6nm,1.0s,baz=228,slow=3.2,SNR=2.0			PcP	**PcP**	**01 15 37.5**	**+0.7**
PETK	comp=Z,115nm,21.5s,baz=222,slow=34 comp=Z,4.8nm,0.7s			LR	LR	01 33 05.4	
ZSN	**Zaisan** baz=325	**49.57**	**325**	*e*P	**P**	**01 14 18.1**	**+0.1**
MKAR	**Makanchi Array**	**50.73**	**323**	P	**P**	**01 14 26.8**	**+0.1**
MKAR	**Makanchi Array** comp=Z,14nm,0.7s,baz=119,slow=8.3,SNR=178	**50.73**	**323**	P	**P**	**01 14 27.1**	**+0.3**
MKAR	comp=Z,3.9nm,0.7s,baz=104,slow=5.7,SNR=4.5			PcP	**PcP**	**01 15 42.8**	**-0.5**
MKAR	comp=Z,0.3nm,0.6s,baz=75,slow=6.1,SNR=3.0			ScP	**ScP**	**01 19 32.8**	**-2.0**
MKAR	comp=Z,83nm,21.0s,baz=104,slow=38 comp=Z,14nm,0.7s			LR	LR	01 37 37.3	
SHLS	**Shalkode** baz=317	**50.85**	**317**	*e*P	**P**	**01 14 25.8**	**-2.1**
**M

comp=Z,10nm,0.6s
MAKZ Makanchi 50.92 322 P P 01 14 28.5 +0.3
MAKZ sP **sP 01 14 47.9 -2.0**
MAKZ PcP **PcP 01 15 43.5 -0.5**
UZB Uzynbulak 51.14 317 *eP* **P 01 14 30.2 +0.1**
comp=Z,5.4nm,0.6s,baz=317
CAN Canberra 51.45 155 P P 01 14 32.5 +0.3
CAN Canberra 51.45 155 P **P 01 14 34.2 +1.9**
SATY Saty 51.52 317 *eP* **P 01 14 32.8 -0.1**
baz=317
MA2 Magadan 51.74 16 LR LR 01 36 42.1
comp=Z,56nm,18.9s,baz=117,slow=36
KSH Kashi 51.96 312 P P 01 14 37.9 +1.7
KSH pP sP 01 15 08.0 +10
KSH pmax pmax
comp=Z,5.0nm,0.8s
LIFNC LIFOU 51.99 128 P P 01 14 37.3 +0.9
DZM Mont Dzumac 52.11 130 P P 01 14 39.0 +1.5
DZM Mont Dzumac 52.11 130 LR LR 01 34 19.6
comp=Z,46nm,20.8s,baz=226,slow=33
DZM Mont Dzumac 52.11 130 P P 01 14 39.2 +1.8
DZM pP **pP 01 14 52.4 -0.1**
DZM sP **sP 01 14 58.1 -0.8**
TOO Toolangi 52.13 160 P P 01 14 38.5 +1.2
TDK Taldyqorghan 52.31 319 *eP* **P 01 14 38.8 +0.2**
comp=Z,5.1nm,0.6s,baz=319
MDOK Medeo 52.48 316 *eP* **P 01 14 40.0 0.0**
baz=316
TNSS Tian-Shan 52.50 316 *eP* **P 01 14 40.3 -0.2**
baz=316
NIL Nilore 52.51 304 P P 01 14 40.1 -0.2
NIL Nilore 52.51 304 P **P 01 14 40.1 -0.2**
NIL sP **sP 01 14 58.5 -3.4**
AAA Alma-Ata 52.58 316 *eP* **P 01 14 40.4 -0.3**
comp=Z,12nm,0.6s,baz=316
OUENC Ouen Island, N 52.61 130 P P 01 14 42.2 +1.1
OUENC IAmb IAmb 01 14 43.5
comp=Z,12nm,0.7s
CHKK Chushkaly 52.78 317 *eP* **P 01 14 41.5 -0.6**
baz=317
KUU Kurty 53.23 317 *eP* **P 01 14 45.5 +0.1**
comp=Z,11nm,0.7s,baz=317
ZAA0 Zalesovo Array 53.34 331 P P 01 14 44.9 -1.0
ZAA0 IAmb IAmb 01 14 46.7
comp=Z,14nm,0.8s
ZALV Zalesovo Beam 53.34 331 P P 01 14 45.2 -0.8
ZALV Zalesovo Beam 53.34 331 P P 01 14 45.6 -0.3
comp=Z,12nm,0.7s,baz=116,slow=7.1,SNR=75
ZALV PcP **PcP 01 15 52.0 -0.8**
comp=Z,1.1nm,0.4s,baz=124,slow=4.7,SNR=1.1
ZALV LR LR 01 39 13.4
comp=Z,76nm,18.7s,baz=117,slow=38
comp=Z,12nm,0.7s
SEM Semipalatinsk 53.71 326 *eP* **P 01 14 48.3 -0.8**
baz=326
AAK Ala-Archa 54.04 315 P P 01 14 50.6 -1.0
AAK Ala-Archa 54.04 315 LR LR 01 40 22.0
comp=Z,130nm,21.6s,baz=94,slow=39
AAK Ala-Archa 54.04 315 P P 01 14 51.6 +0.1
AAK PcP **PcP 01 15 55.7 -0.2**
KURK Kurchatov 54.77 325 P P 01 14 56.1 -0.3
KURK Kurchatov 54.77 325 P P 01 14 56.6 +0.2
KURK pP **pP 01 15 10.8 -0.9**
KURBB Kurchatov Arra 54.77 325 P P 01 14 56.6 +0.1
comp=Z,13nm,0.7s,baz=126,slow=6.9,SNR=117
comp=Z,13nm,0.7s
DRK Karamyk 55.03 310 IAmb IAmb 01 15 27.9
comp=Z,8.8nm,1.0s
BTLS Baital 55.18 318 *eP* **P 01 14 59.1 -0.5**
baz=318
BTK Batken 55.91 311 IAmb IAmb 01 15 21.1
comp=Z,13nm,1.4s
GAR Garm 56.03 310 P P 01 15 05.2 -0.7
KBL Kabul 56.10 304 P P 01 15 05.8 -0.9
DZA Taraz 56.33 314 *eP* **P 01 15 07.7 -0.2**
comp=Z,5.6nm,0.6s,baz=314
SHEM Shemya Is, Ala 56.70 33 LR LR 01 34 28.1
comp=Z,80nm,21.6s,baz=260,slow=30
CHGR Chuyangaron 56.83 309 P P 01 15 10.6 -1.0
SIMJ Simiganj 56.94 309 P P 01 15 10.7 -1.8
SIMJ IAmb IAmb 01 15 13.6
comp=Z,8.6nm,0.9s
SIMJ Simiganj 56.94 309 P P 01 15 11.6 -0.8
KK31 Karatay Array 56.97 314 P P 01 15 11.5 -0.9
KK31 IAmb IAmb 01 15 14.3
comp=Z,7.5nm,1.0s
KKAR Karatay Array 56.97 314 P P 01 15 11.6 -0.8
IUG Iuzhnay 57.04 313 *eP* **P 01 15 12.9 -0.1**
comp=Z,6.0nm,0.7s,baz=313
CHM Chimkent 57.39 313 *eP* **P 01 15 15.4 0.0**
comp=Z,4.0nm,0.5s,baz=313
BRLS Boroldaу 57.42 314 *eP* **P 01 15 15.4 -0.2**
baz=314
BRZS Berezniki 57.88 323 *eP* **P 01 15 18.6 -0.1**
comp=Z,6.7nm,0.6s,baz=323
TIXI Tiksi 60.33 1 P P 01 15 34.4 -0.8
TIXI Tiksi 60.33 1 LR LR 01 44 03.3
comp=Z,102nm,18.6s,baz=202,slow=38
TIXI Tiksi 60.33 1 P P 01 15 35.0 -0.2
BVAR Borovoye Array 60.37 325 P P 01 15 35.9 +0.1
comp=Z,12nm,0.7s,baz=120,slow=9.0,SNR=80
BVAR PcP **PcP 01 16 19.8 -0.6**
comp=Z,3.9nm,0.6s,baz=120,slow=4.5,SNR=4.3
BVAR LR LR 01 42 01.2
comp=Z,103nm,20.5s,baz=110,slow=36
comp=Z,12nm,0.7s
BRVK Borovoye 60.44 325 P P 01 15 35.7 -0.6
BRVK Borovoye 60.44 325 P P 01 15 36.2 -0.1
BRVK pP **pP 01 15 50.8 -0.9**
BRVK sP **sP 01 15 56.1 -2.0**
HRA Herat 61.65 303 P P 01 15 43.8 -1.3
HRA IAmb IAmb 01 15 46.2
comp=Z,11nm,0.7s
BILL Bilibino 62.62 16 P P 01 15 51.4 +0.7
WSAR Wadi Sarin 64.45 290 LR LR 01 48 06.8
comp=Z,39nm,18.9s,baz=88,slow=40
GEYT Alibeck 65.30 307 IAmb IAmb 01 16 10.2
comp=Z,18nm,0.8s
GEYT Alibeck 65.30 307 P P 01 16 09.3 +0.4
comp=Z,14nm,0.8s,baz=93,slow=5.8,SNR=28
GEYT LR LR 01 48 55.9
comp=Z,102nm,19.7s,baz=82,slow=40
comp=Z,14nm,0.8s
GYA0B ALIBECK ARRAY 65.30 307 IAmb IAmb 01 16 10.2
comp=Z,16nm,0.8s
ABKAR Akbulak array 65.58 319 P P 01 16 09.8 -0.6
NIKH Nikolski High 66.44 37 P P 01 16 16.1 +0.2
baz=257
SPIA Saint Paul Isl 66.71 32 P P 01 16 18.1 +0.6
baz=254
AKTO Aktyubinsk 67.03 320 LR LR 01 47 34.9
comp=Z,234nm,21.1s,baz=260,slow=38
ARU Arti 67.93 327 P P 01 16 23.9 -1.4
ARU Arti 67.93 327 LR LR 01 46 09.8
comp=Z,78nm,19.9s,baz=92,slow=36
ARU Arti 67.93 327 P P 01 16 24.4 -0.9
ARU pP **pP 01 16 39.1 -1.9**
ARU sP **sP 01 16 44.0 -3.3**
UNV Unalaska Valle 68.00 36 P P 01 16 25.8 0.0
baz=259
RPZ Rata Peaks 68.68 146 P P 01 16 31.1 +0.9
RPZ Rata Peaks 68.68 146 LR LR 01 45 12.7
comp=Z,73nm,22.0s,baz=286,slow=35
URZ Urewera 68.96 139 LR LR 01 46 01.9
comp=Z,51nm,21.1s,baz=116,slow=35
BKZ Black Stump Fm 69.08 140 P P 01 16 33.7 +0.9
FALS False Pass 69.96 36 P P 01 16 38.6 +0.7
baz=261
TNA Tin City 70.16 24 P P 01 16 40.2 +1.3
baz=253
F14K Arctic Creek 70.78 24 P P 01 16 44.3 +1.6
baz=255
ANM Nome 70.94 25 P P 01 16 45.0 +1.3
ANM Nome 70.94 25 P P 01 16 45.0 +1.3
baz=256
M13K Dall Lake 70.95 30 P P 01 16 45.1 +1.2
baz=259
J14K Nanvaranak Lak 71.32 27 P P 01 16 47.2 +1.2
baz=258
L14K Kuka Creek 71.45 29 IAmb IAmb 01 16 49.6
comp=Z,22nm,1.2s
L14K Kuka Creek 71.45 29 P P 01 16 48.0 +1.2
baz=260
F15K North Star Dit 71.51 24 P P 01 16 48.3 +1.1
baz=256
G15K Niukluk 71.59 25 P P 01 16 48.9 +1.2
baz=257
N14K Kuskokwak Cree 71.69 30 P P 01 16 48.5 +0.3
baz=261
M14K Bethel 71.69 30 P P 01 16 49.5 +1.2
baz=260
SDPT Sand Point 71.70 35 P P 01 16 49.2 +0.8
baz=264
O14K Tigyukauivet M 71.79 31 P P 01 16 50.1 +1.1
baz=262
C16K Lisburne Hills 71.89 21 IAmb IAmb 01 16 51.6
comp=Z,12nm,0.9s
C16K Lisburne Hills 71.89 21 P P 01 16 49.8 +0.5
baz=255
L15K Ungalak Mounta 72.07 29 P P 01 16 51.9 +1.4
baz=260
CHNA Chernabura Isl 72.15 36 P P 01 16 52.3 +1.2
baz=264
K15K Wolf Creek Mou 72.15 28 P P 01 16 52.4 +1.4
baz=260
H16K Elim 72.27 26 P P 01 16 52.3 +0.6
baz=259
M15K Kasigluk River 72.30 30 P P 01 16 52.7 +0.8
baz=262
S14K Fog Glacier 72.32 34 P P 01 16 53.1 +0.8
baz=264
G16K Koyuk River 72.37 25 P P 01 16 52.9 +0.6
baz=259
N15K Kwethluk River 72.51 30 IAmb IAmb 01 16 55.8
comp=Z,16nm,0.9s
N15K Kwethluk River 72.51 30 P P 01 16 53.9 +0.6
baz=262
O15K Ungalikthiuk R 72.52 31 P P 01 16 53.9 +0.6
baz=263
D17K Noatak River 72.58 22 P P 01 16 55.2 +1.7
baz=257
C17K Delong Mountai 72.72 21 P P 01 16 54.9 +0.5
baz=257
J16K Anvik River 72.74 27 P P 01 16 55.4 +0.9
baz=261
I17K Unalakleet 72.80 26 P P 01 16 56.2 +1.4
baz=261
CHGN Chignik 72.95 34 P P 01 16 56.7 +0.8
baz=265
F17K Baldwin Pennin 73.02 24 P P 01 16 57.2 +1.1
baz=259
L16K Owhat River 73.02 29 P P 01 16 56.3 0.0
L16K Owhat River 73.02 29 P P 01 16 57.7 +1.4
baz=262
G17K Kiwalik Mounta 73.09 25 P P 01 16 58.1 +1.5
baz=260
KIRV Kirov 73.15 328 LR LR 01 51 58.3
comp=Z,101nm,18.7s,baz=100,slow=38
M16K Timber Creek 73.18 30 P P 01 16 58.6 +1.4
baz=263
N16K Nishlik Lake 73.21 30 P P 01 16 58.4 +1.0
baz=263
H17K Granite Mounta 73.31 25 IAmb IAmb 01 17 00.3
comp=Z,10nm,0.8s
H17K Granite Mounta 73.31 25 P P 01 16 58.5 +0.6
baz=261
B18K Kokolik River 73.41 21 P P 01 16 59.9 +1.5
baz=258
P16K Nushagak River 73.44 32 P P 01 16 59.8 +1.1
baz=264
O16K Kokwok River B 73.44 31 P P 01 16 59.5 +0.7
baz=264
E18K Tukpahlearik C 73.46 23 IAmb IAmb 01 17 01.3
comp=Z,13nm,0.8s
E18K Tukpahlearik C 73.46 23 P P 01 16 59.9 +1.2
baz=260
C18K Utukok River 73.47 21 IAmb IAmb 01 17 01.0
comp=Z,9.8nm,0.7s
C18K Utuk River 73.47 21 P P 01 16 59.7 +0.8
baz=259
R16K Pilot Point 73.53 33 P P 01 17 00.2 +0.9
baz=265
L17K Donlin 73.63 28 P P 01 17 00.3 +0.5
baz=263
F18K Selawik 73.68 24 P P 01 17 00.9 +0.9
baz=261
K17K Iditarod 73.70 28 IAmb IAmb 01 17 03.1
comp=Z,14nm,1.1s
K17K Iditarod 73.70 28 P P 01 17 01.4 +1.2
baz=263
BELG Belogornoye 73.71 321 LR LR 01 51 31.7
comp=Z,68nm,19.9s,baz=124,slow=37
M17K Holitna River 73.95 29 P P 01 17 02.7 +0.9
baz=264
O17K Koliganek Bris 73.97 31 P P 01 17 02.7 +0.9
baz=265
G18K Tagagawik 73.97 24 P P 01 17 02.7 +0.9
baz=262
H18K Honhosa River 73.99 25 P P 01 17 03.0 +1.2
baz=262
N17K Nushagak Hills 73.99 30 IAmb IAmb 01 17 04.3
comp=Z,16nm,1.1s
N17K Nushagak Hills 73.99 30 P P 01 17 03.7 +1.7
baz=265
C19K Lookout Ridge 74.13 21 P P 01 17 04.0 +1.3
C19K IAmb IAmb 01 17 05.5
comp=Z,22nm,0.8s
C19K Lookout Ridge 74.13 21 P P 01 17 04.2 +1.5
baz=260
P17K Kvichak River 74.25 32 P P 01 17 04.4 +0.9
baz=266
L18K Granite Mounta 74.39 28 P P 01 17 05.4 +1.1
baz=265
F19K Shaleruckik Mo 74.45 24 P P 01 17 05.6 +1.1
baz=262
Q17K Contact Creek 74.47 33 P P 01 17 05.8 +0.8
baz=266
J18K Innoko River 74.50 27 P P 01 17 05.9 +1.0
baz=264
D19K Kuna River 74.56 22 IAmb IAmb 01 17 07.5
comp=Z,14nm,0.8s
D19K Kuna River 74.56 22 P P 01 17 05.9 +0.7
baz=262
GCSA Galena City Sc 74.56 26 P P 01 17 04.9 -0.3
baz=264
G19K Purcell Mounta 74.64 24 P P 01 17 06.3 +0.7
baz=263
N18K Kilae Creek 74.64 30 P P 01 17 07.1 +1.3
baz=266
M18K Stony River 74.73 29 P P 01 17 06.5 +0.2
baz=266
E19K Redstone River 74.75 23 IAmb IAmb 01 17 08.7
comp=Z,34nm,1.5s
E19K Redstone River 74.75 23 P P 01 17 07.3 +1.0
baz=263
TTA Tatalina 74.77 28 P P 01 17 07.4 +0.9
baz=265
H19K Roundabout Mou 74.83 25 IAmb IAmb 01 17 09.2
comp=Z,14nm,0.8s
H19K Roundabout Mou 74.83 25 P P 01 17 07.3 +0.6
baz=264
P18K Big Mountain, 74.89 31 P P 01 17 07.0 -0.2
P18K IAmb IAmb 01 17 08.9
comp=Z,36nm,1.8s
P18K Big Mountain, 74.89 31 P P 01 17 08.0 +0.8
baz=267
O18K Koktuh Hills 74.92 31 P P 01 17 08.6 +1.1
O18K Koktuh Hills 74.92 31 P P 01 17 08.5 +1.1
baz=267,SNR=9.1
J19K Poorman 75.03 27 P P 01 17 09.1 +1.1
baz=265
B20K Meade River 75.11 20 IAmb IAmb 01 17 10.7
comp=Z,16nm,0.7s
B20K Meade River 75.11 20 P P 01 17 09.7 +1.5
baz=262
D20K Etivluk River 75.14 22 P P 01 17 09.6 +1.1
baz=263
E20K Nigu River 75.24 22 P P 01 17 10.1 +1.0
baz=264
L19K White Mountain 75.24 29 IAmb IAmb 01 17 11.7
comp=Z,9.6nm,0.9s
L19K White Mountain 75.24 29 P P 01 17 10.4 +1.2
baz=266
F20K Avaraart Lake 75.28 23 P P 01 17 09.9 +0.6
baz=264
N19K Bonanza Creek 75.34 30 IAmb IAmb 01 17 12.4
comp=Z,12nm,0.9s
N19K Bonanza Creek 75.34 30 P P 01 17 10.7 +0.8
baz=267
O19K Port Alsworth 75.39 31 IAmb IAmb 01 17 12.1
comp=Z,12nm,0.9s
O19K Port Alsworth 75.39 31 P P 01 17 10.7 +0.7
baz=267
A21K Barrow 75.48 19 P P 01 17 11.0 +0.7
baz=262
H20K Anotleneega Mo 75.48 25 P P 01 17 10.9 +0.4
baz=266
I20K Naaghedeneel 75.59 26 IAmb IAmb 01 17 13.8
comp=Z,21nm,0.8s
I20K Naaghedeneel 75.59 26 P P 01 17 12.7 +1.6
baz=266
K20K Telida 75.68 27 P P 01 17 13.3 +1.6
baz=267
J20K Nowinta River 75.69 26 P P 01 17 13.1 +1.3
baz=266
L20K Farewell, AK 75.72 28 P P 01 17 13.0 +1.0
baz=267
GNI Garni 75.74 309 LR LR 01 55 15.5
comp=Z,83nm,20.9s,baz=82,slow=39
OHAK Old Harbor 75.82 34 P P 01 17 13.6 +1.0
baz=269
C21K Knifeblade Rid 75.84 21 P P 01 17 13.6 +1.1
baz=265,SNR=6.4
B21K Ikpikpuk River 75.95 21 IAmb IAmb 01 17 15.5
comp=Z,19nm,0.8s
B21K Ikpikpuk River 75.95 21 P P 01 17 14.3 +1.3
baz=265
IMAR Indian Mountai 75.98 25 P P 01 17 14.2 +0.9
M20K Styx River 76.04 29 P P 01 17 15.2 +1.4
baz=268
E21K Killik River 76.07 22 P P 01 17 14.7 +0.8
baz=266
G21K Allakaket 76.11 24 IAmb IAmb 01 17 16.5
comp=Z,17nm,0.9s
G21K Allakaket 76.11 24 P P 01 17 14.7 +0.6
baz=266
F21K Alatna River 76.17 23 P P 01 17 15.1 +0.7
baz=266
KDAK Kodiak Island 76.21 33 P P 01 17 15.3 +0.6
baz=269
KDAK Kodiak Island 76.21 33 LR LR 01 56 27.3
comp=Z,52nm,18.0s,baz=287,slow=40
O20K Slope Mountain 76.23 31 P P 01 17 14.3 -0.7
baz=269
H21K Melozitna Rive 76.35 25 IAmb IAmb 01 17 18.0
comp=Z,8.4nm,0.8s
H21K Melozitna Rive 76.35 25 P P 01 17 17.1 +1.6
baz=267
N20K Mount Spurr 76.46 30 P P 01 17 16.6 +0.3
baz=269
RAYN Ar Rayn 76.46 292 P P 01 17 15.8 -1.2
CHUM Lake Minchumin 76.48 27 P P 01 17 16.0 -0.2
baz=268
PPLA Purkeypile 76.51 28 P P 01 17 16.8 +0.2
baz=269
CAST Castle Rocks 76.57 27 P P 01 17 17.2 +0.4
CAST IAmb IAmb 01 17 18.8
comp=Z,11nm,0.8s
CAST Castle Rocks 76.57 27 P P 01 17 16.8 0.0
baz=268,SNR=10
D22K Ayikyak River 76.58 22 IAmb IAmb 01 17 19.5
comp=Z,23nm,1.5s
D22K Ayikyak River 76.58 22 P P 01 17 16.5 -0.2
baz=267
ONI Oni 76.59 311 P P 01 17 16.4 -0.9
ONI IAmb IAmb 01 17 19.6
comp=Z,12nm,0.9s
I21K Tanana 76.67 25 IAmb IAmb 01 17 19.8
comp=Z,15nm,0.8s
I21K Tanana 76.67 25 P P 01 17 17.6 +0.4
baz=268,SNR=12
SKT Skwentna 76.80 29 P P 01 17 17.9 -0.1
SKT IAmb IAmb 01 18 34.0
comp=Z,35nm,2.0s
SKT Skwentna 76.80 29 P P 01 17 18.6 +0.5
baz=269
E22K Anaktuvuk Pass 76.86 22 IAmb IAmb 01 17 20.9
comp=Z,19nm,1.4s
E22K Anaktuvuk Pass 76.86 22 P P 01 17 18.9 +0.6
baz=268
CNPM China Poot 76.93 31 P P 01 17 18.8 0.0
KBZ Khabaz 76.93 312 P P 01 17 18.6 -0.6
comp=Z,11nm,0.9s,baz=106,slow=2.9,SNR=18
KBZ LR LR 01 54 49.2
comp=Z,94nm,20.3s,baz=76,slow=38
comp=Z,11nm,0.9s
H22K Ishtalitna Cre 76.95 25 P P 01 17 19.2 +0.3
baz=269
CAPN Captain Cook N 76.97 30 P P 01 17 19.2 +0.2
baz=270
KIV Kislovodsk 77.07 313 ⇓P **P 01 17 20.2 +0.2**
KIV Kislovodsk 77.07 313 P P 01 17 19.4 -0.7
BPAW Bear Paw Mtn. 77.08 27 P P 01 17 19.9 +0.3
BPAW IAmb IAmb 01 17 21.6
comp=Z,20nm,0.8s
BPAW Bear Paw Mtn. 77.08 27 P P 01 17 20.5 +1.0
baz=269,SNR=23
SUA Susitna One 77.17 29 P P 01 17 19.9 -0.4
SUA IAmb IAmb 01 17 21.6
comp=Z,11nm,0.8s
SUA Susitna One 77.17 29 P P 01 17 20.0 -0.3
baz=270,SNR=10
BRSE Bradley Lake S 77.18 31 P P 01 17 20.5 +0.3
baz=271
MLY Manley 77.20 26 P P 01 17 20.3 0.0
baz=269,SNR=16
D23K Nanushuk River 77.30 22 P P 01 17 21.3 +0.6
baz=268,SNR=14
C23K Itkillik River 77.35 21 P P 01 17 21.6 +0.6
baz=268,SNR=18
TRF Thorofare Moun 77.38 27 P P 01 17 21.2 -0.3
TRF Thorofare Moun 77.38 27 P P 01 17 21.4 -0.1
baz=270,SNR=5.8
CUT Chulitna 77.39 28 P P 01 17 21.8 +0.5
baz=270
COLD Coldfoot 77.44 23 P P 01 17 22.6 +1.0
baz=269
M22K Willow 77.47 29 P P 01 17 22.4 +0.7
baz=271
G23K Bananza Creek 77.51 24 IAmb IAmb 01 17 24.7
comp=Z,37nm,1.8s
G23K Bananza Creek 77.51 24 P P 01 17 23.7 +1.7
baz=270,SNR=8.8
RC01 Rabbit Creek A 77.66 30 P P 01 17 23.5 +0.6
baz=271
O22K Cooper Landing 77.68 30 P P 01 17 23.6 +0.6
baz=271
E23K Chandalar 77.68 23 P P 01 17 24.7 +1.7
baz=270
I23K Minto, Yukon-K 77.78 26 P P 01 17 24.2 +0.7
I23K IAmb IAmb 01 17 26.5
comp=Z,10.0nm,0.7s
I23K Minto, Yukon-K 77.78 26 P P 01 17 24.1 +0.7
baz=271,SNR=16
SEW Seward 77.82 31 P P 01 17 23.8 +0.1
baz=272
NEA2 Nenana 77.91 26 P P 01 17 25.2 +1.0
NEA2 IAmb IAmb 01 17 26.5
comp=Z,12nm,0.7s
NEA2 Nenana 77.91 26 P P 01 17 24.5 +0.3
baz=271,SNR=17
PMR Palmer 77.94 29 P P 01 17 24.3 -0.1
PMR IAmb IAmb 01 17 25.4
comp=Z,9.1nm,0.8s
PMR Palmer 77.94 29 P P 01 17 24.9 +0.5
baz=272
D24K Happy Valley 77.97 21 IAmb IAmb 01 17 26.9
comp=Z,16nm,0.8s
D24K Happy Valley 77.97 21 P P 01 17 25.2 +0.7
baz=270,SNR=21
MCK McKinley 77.98 27 P P 01 17 25.0 +0.3
baz=271,SNR=18
C24K Franklin Bluff 78.02 21 P P 01 17 25.2 +0.5
baz=270
RND Reindeer 78.03 27 P P 01 17 24.3 -0.7
RND IAmb IAmb 01 17 40.2
comp=Z,15nm,1.2s
GHO Glory Hole Cre 78.03 29 P P 01 17 24.7 -0.4
WAT1 Susitna Watana 78.18 28 P P 01 17 26.1 +0.3
baz=272
MDM Murphy Dome 78.26 26 P P 01 17 26.3 +0.1
MDM IAmb IAmb 01 17 28.3
comp=Z,25nm,1.6s
KNK Knik Glacier 78.27 29 P P 01 17 26.9 +0.6
KNK IAmb IAmb 01 17 41.5
comp=Z,32nm,1.4s
KNK Knik Glacier 78.27 29 P P 01 17 27.1 +0.8
baz=272
SML Sawmill 78.31 29 P P 01 17 25.9 -0.6
SML IAmb IAmb 01 17 27.6
comp=Z,18nm,1.0s

SML **Sawmill** 78.31 29 P P 01 17 26.9 +0.3
baz=272
F24K **Squaw Lake** 78.34 23 IAmb IAmb 01 17 29.5
comp=Z,15nm,0.7s
F24K **Squaw Lake** 78.34 23 P P 01 17 27.4 +0.8
baz=271
H24K **Noodor Dome** 78.39 25 P P 01 17 27.9 +1.0
baz=272,SNR=6.8
G24K **Hadweenzic Riv** 78.52 24 IAmb IAmb 01 17 30.1
comp=Z,13nm,0.8s
G24K **Hadweenzic Riv** 78.52 24 P P 01 17 28.0 +0.4
baz=272
WAT6 **Susitna Watana** 78.56 28 P P 01 17 28.0 -0.1
baz=273,SNR=8.6
POKR **Poker Plat Res** 78.59 26 P P 01 17 29.0 +1.0
baz=272
M23K **Glacier View** 78.60 29 P P 01 17 28.7 +0.5
baz=273
DHY **Denali Highway** 78.71 28 P P 01 17 29.3 +0.5
DHY **Denali Highway** 78.71 28 P P 01 17 28.9 0.0
baz=273,SNR=5.0
SCM **Sheep Creek Mo** 78.79 29 IAmb IAmb 01 17 30.9
comp=Z,19nm,0.8s
SCM **Sheep Creek Mo** 78.79 29 P P 01 17 29.1 -0.1
baz=273
HDA **Harding Lake** 78.83 26 IAmb IAmb 01 17 30.3
comp=Z,8.8nm,0.7s
HDA **Harding Lake** 78.83 26 P P 01 17 29.2 -0.1
baz=273,SNR=11
D25K **Kavik River** 78.84 21 IAmb IAmb 01 17 31.4
comp=Z,13nm,0.7s
D25K **Kavik River** 78.84 21 P P 01 17 29.9 +0.6
baz=272
ILAR **Eielson Array** 78.84 26 P P 01 17 28.3 -1.1
ILAR **Eielson Array** 78.84 26 P P 01 17 29.0 -0.3
comp=Z,3.2nm,0.7s,baz=242,slow=5.7,SNR=44
ILAR LR LR 01 50 38.9
comp=Z,48nm,21.9s,baz=74,slow=34
comp=Z,3.2nm,0.7s
P23K **Montague Islan** 78.85 31 P P 01 17 29.4 -0.1
baz=273
G25K **Bearman Lake** 79.06 24 P P 01 17 31.0 +0.5
baz=273
E25K **Arctic Village** 79.19 22 P P 01 17 31.9 +0.7
baz=273,SNR=14
F25K **Christian Rive** 79.20 23 P P 01 17 31.8 +0.5
baz=274,SNR=13
H25L **Birch Creek** 79.21 24 P P 01 17 32.1 +0.9
baz=274,SNR=13
M24K **Tolsona, Glenn** 79.32 29 IAmb IAmb 01 17 34.3
comp=Z,19nm,0.8s
M24K **Tolsona, Glenn** 79.32 29 P P 01 17 33.3 +1.2
baz=274
C26K **Camden Bay** 79.32 21 P P 01 17 33.2 +1.3
baz=274
PRP **Porcupine Dome** 79.38 25 P P 01 17 32.2 -0.2
baz=274
K24K **Donnelly Dome** 79.38 27 P P 01 17 32.1 -0.3
baz=274,SNR=8.0
FYU **Fort Yukon** 79.42 24 IAmb IAmb 01 17 48.7
comp=Z,26nm,1.6s
KLU **Klutina** 79.48 29 P P 01 17 32.6 -0.4
baz=274
J25K **Salcha River,** 79.50 26 P P 01 17 33.4 +0.3
baz=274
PAX **Paxson** 79.58 28 P P 01 17 33.9 +0.4
baz=274,SNR=5.7
EYAK **Cordova Ski Ar** 79.64 30 P P 01 17 33.8 +0.1
baz=275
F26K **Sheenjek River** 79.76 23 P P 01 17 35.4 +1.1
baz=275,SNR=8.9
HARP **HAARP** 79.77 28 P P 01 17 35.5 +1.1
baz=275
RIDG **Independent Ri** 79.80 27 IAmb IAmb 01 17 35.9
comp=Z,14nm,0.8s
RIDG **Independent Ri** 79.80 27 P P 01 17 34.5 -0.1
baz=275
G26K **Porcupine Rive** 79.97 24 P P 01 17 36.2 +0.8
baz=275
N25K **Chitina, Valde** 80.10 29 P P 01 17 36.8 +0.4
baz=276
SCRK **Sand Creek** 80.16 27 IAmb IAmb 01 17 52.0
comp=Z,22nm,1.7s
SCRK **Sand Creek** 80.16 27 P P 01 17 36.9 +0.2
baz=276,SNR=6.1
BMRM **Bremner River** 80.16 30 P P 01 17 36.9 +0.3
baz=276
J26L **Joseph Creek** 80.29 26 P P 01 17 37.2 -0.1
J26L **Joseph Creek** 80.29 26 P P 01 17 38.0 +0.6
baz=276
M26K **Nabesna, AK** 80.77 28 P P 01 17 41.0 +1.1
baz=277
H27K **Steamboat Moun** 80.94 24 P P 01 17 40.7 0.0
baz=278
I27K **Kandik River** 80.98 25 P P 01 17 41.8 +0.9
baz=278
K27K **Chicken** 80.99 26 P P 01 17 42.2 +1.3
baz=277
L27K **Beaver Creek,** 81.22 27 P P 01 17 43.0 +0.7
baz=278
EGAK **Eagle** 81.29 26 P P 01 17 43.0 +0.4
EGAK IAmb IAmb 01 18 06.6
comp=Z,22nm,1.9s
EGAK **Eagle** 81.29 26 P P 01 17 43.2 +0.7
baz=278
M27K **Edge Creek, AK** 81.29 28 P P 01 17 43.0 +0.2
baz=278
F28M **Old Crow** 81.39 23 IAmb IAmb 01 17 45.4
comp=Z,12nm,0.8s
F28M **Old Crow** 81.39 23 P P 01 17 44.5 +1.4
baz=279,SNR=22
D28M **Stokes Point** 81.54 21 P P 01 17 45.3 +1.6
baz=280
BARN **Barnard Glacie** 81.57 29 IAmb IAmb 01 17 48.6
comp=Z,9.3nm,0.6s
I28M **Miner Creek** 81.70 25 P P 01 17 45.8 +1.0
baz=279
CTG **Chitna Glacier** 81.74 29 P P 01 17 46.9 +1.7
baz=278
CTGM **Chitina Glacie** 81.75 29 IAmb IAmb 01 17 47.9
comp=Z,16nm,0.9s
BVCY **Beaver Creek** 81.75 28 P P 01 17 45.8 +0.7
baz=279
E29M **Blow River** 82.00 22 P P 01 17 47.7 +1.5
baz=280
YUK3 **Moose Creek** 82.04 29 P P 01 17 47.4 +0.6
baz=279
DAWY **Dawson** 82.15 26 P P 01 17 48.4 +1.2
baz=280,SNR=5.7
H29M **Whitestone** 82.21 24 P P 01 17 48.3 +1.0
baz=280
PINM **Pinnacle** 82.41 30 P P 01 17 49.0 +0.4
baz=280
YUK8 **Steele Glacier** 82.45 29 P P 01 17 49.6 +0.6
baz=280
J29N **Klondike Camp** 82.59 26 IAmb IAmb 01 17 53.7
comp=Z,42nm,1.9s
J29N **Klondike Camp** 82.59 26 P P 01 17 50.0 +0.5
baz=281
OPO **Ambohidratompo** 82.70 249 P P 01 17 50.8 -0.2
comp=Z,14nm,0.7s,baz=95,slow=3.6,SNR=8.2
comp=Z,14nm,0.7s
EPYK **Eagle Plains** 82.83 24 P P 01 17 51.1 +0.4
EPYK **Eagle Plains** 82.83 24 P P 01 17 51.0 +0.4
baz=282
SPITS **Spitsbergen Ar** 82.84 349 P P 01 17 50.8 +0.3
comp=Z,11nm,0.7s,baz=98,slow=6.3,SNR=14
SPITS LR LR 01 59 25.9
comp=Z,54nm,19.2s,baz=360,slow=39
comp=Z,11nm,0.7s
M29M **Somme Creek** 82.85 28 IAmb IAmb 01 17 54.4
comp=Z,7.9nm,0.7s
M29M **Somme Creek** 82.85 28 P P 01 17 51.8 +0.9
baz=281
L29M **L29M** 82.88 27 IAmb IAmb 01 18 07.8
comp=Z,20nm,1.2s
L29M **L29M** 82.88 27 P P 01 17 51.4 +0.4
baz=281
G30M **tAoh Zraii Nji** 82.90 23 P P 01 17 51.7 +0.7
baz=282
PNL **Peninsula** 82.90 31 P P 01 17 50.8 -0.3
baz=280
F30M **Barrier River** 82.93 22 P P 01 17 51.1 0.0
baz=282
ARCES **ARCESS Array B** 82.95 340 P P 01 17 51.0 -0.1
comp=Z,15nm,0.8s,baz=84,slow=6.2,SNR=34
ARCES LR LR 01 59 38.5
comp=Z,84nm,18.1s,baz=121,slow=39
comp=Z,15nm,0.8s
YUK4 **Talbot Arm** 82.97 29 P P 01 17 51.5 -0.1
baz=281
K29M **Barlow Dome** 83.00 26 IAmb IAmb 01 18 08.1
comp=Z,14nm,1.4s
K29M **Barlow Dome** 83.00 26 P P 01 17 51.8 +0.1
baz=281
YUK6 **Outpost Mounta** 83.18 29 P P 01 17 51.7 -1.1
baz=281
O29M **Mount Kennedy** 83.19 30 P P 01 17 53.2 +0.5
baz=281
I30M **Mount Dempster** 83.21 25 IAmb IAmb 01 17 55.1
comp=Z,22nm,1.8s
I30M **Mount Dempster** 83.21 25 P P 01 17 53.1 +0.4
baz=282
J30M **Hart River** 83.36 25 IAmb IAmb 01 17 56.2
comp=Z,17nm,1.6s
J30M **Hart River** 83.36 25 P P 01 17 54.6 +1.1
baz=282
M30M **Minto, Yukon** 83.58 27 IAmb IAmb 01 17 57.8
comp=Z,13nm,1.3s
M30M **Minto, Yukon** 83.58 27 P P 01 17 54.5 -0.1
baz=282
INK **Inuvik** 83.60 22 P P 01 17 55.0 +0.6
INK IAmb IAmb 01 17 56.1
comp=Z,21nm,1.7s
INK **Inuvik** 83.60 22 P P 01 17 55.5 +1.0
baz=284
HYT **Haines Junctio** 83.61 29 IAmb IAmb 01 18 12.1
comp=Z,12nm,1.2s
HYT **Haines Junctio** 83.61 29 P P 01 17 54.1 -0.8
baz=282
G31M **Satah River** 83.66 23 P P 01 17 54.9 +0.1
baz=284
N30M **Aishikik Lake** 83.68 29 IAmb IAmb 01 17 58.2
comp=Z,15nm,1.2s
N30M **Aishikik Lake** 83.68 29 P P 01 17 55.2 +0.1
baz=282
F31M **Tsiigehtchic** 83.74 22 P P 01 17 54.9 -0.3
baz=284
P29M **Windy Craggy** 83.74 31 IAmb IAmb 01 18 12.8
comp=Z,9.3nm,0.9s
P29M **Windy Craggy** 83.74 31 P P 01 17 56.2 +0.8
baz=282
MAYO **Mayo, Yukon** 83.77 26 P P 01 17 56.7 +1.2
baz=283
H31M **Peel River** 83.90 24 IAmb IAmb 01 17 58.0
comp=Z,10nm,1.1s
H31M **Peel River** 83.90 24 P P 01 17 56.9 +0.7
baz=284
MMAI **Mount Meron Ar** 83.99 302 P P 01 17 57.3 -0.1
comp=Z,2.6nm,0.6s,baz=74,slow=7.0,SNR=11
MMAI LR LR 01 59 19.9
comp=Z,54nm,21.1s,baz=62,slow=38
comp=Z,2.6nm,0.6s
P30M **Million Dollar** 84.02 30 P P 01 17 57.5 +0.6
baz=282
GHAJ **Ghor Haditha** 84.14 301 IAmb IAmb 01 17 58.9
comp=Z,11nm,0.5s
BR131 **Keskin Array S** 84.27 309 IAmb IAmb 01 21 03.9
comp=Z,23nm,1.9s
BRTR **Keskin Array B** 84.27 309 P P 01 17 57.5 -1.2
comp=Z,8nm,0.7s,baz=106,slow=4.3,SNR=19
comp=Z,2.8nm,0.7s
O30N **Mendenhall** 84.30 29 IAmb IAmb 01 18 00.5
comp=Z,13nm,1.4s
O30N **Mendenhall** 84.30 29 P P 01 17 57.6 -0.7
baz=283
PLBC **Pleasant Camp** 84.46 31 P P 01 17 58.8 -0.2
baz=283
FIA1 **FINESS Array S** 84.60 332 P P 01 17 58.6 -1.1
FINES **FINESS Array B** 84.61 332 P P 01 17 59.2 -0.5
comp=Z,5.8nm,0.4s,baz=74,slow=4.8,SNR=134
FINES LR LR 01 58 27.4
comp=Z,80nm,18.2s,baz=76,slow=38
comp=Z,5.8nm,0.4s
M31M **Drury Creek, Y** 84.76 28 P P 01 18 01.0 +0.4
baz=284
WHY **Whitehorse** 84.91 29 IAmb IAmb 01 18 04.2
comp=Z,14nm,0.8s
WHY **Whitehorse** 84.91 29 P P 01 18 02.0 +0.5
baz=284
EIL **Elat** 84.94 299 LR LR 02 01 55.7
comp=Z,60nm,18.9s,baz=74,slow=40
SKAG **Skagway** 84.97 30 P P 01 18 01.5 -0.1
baz=284
A36M **Sachs Harbour** 85.15 17 IAmb IAmb 01 18 04.0
comp=Z,15nm,0.8s
A36M **Sachs Harbour** 85.15 17 P P 01 18 02.2 0.0
baz=282
FARO **Faro, Yukon** 85.22 27 P P 01 18 03.3 +0.4
baz=285
AKASG **Malin Array Be** 85.27 321 P P 01 18 02.0 -1.3
comp=Z,5.8nm,0.5s,baz=67,slow=4.5,SNR=42
AKASG LR LR 01 59 14.9
comp=Z,79nm,19.3s,baz=41,slow=38
comp=Z,5.8nm,0.5s
KIEV **Kiev** 85.28 321 ⇑P P 01 18 02.0 -1.3
KIEV **Kiev** 85.28 321 P P 01 18 00.8 -2.5
N32M **Quiet Lake** 85.63 28 P P 01 18 05.9 +0.9
N32M **Quiet Lake** 85.63 28 P P 01 18 05.4 +0.5
baz=286
R32K **Eaglecrest** 85.67 31 P P 01 18 06.1 +0.9
baz=285
PURM **Purcari** 85.70 316 ⇑P P 01 18 04.8 -0.7
MEF **Metsahovi** 85.71 331 eP P 01 18 05.0 -0.2
P32M **Atlin** 85.74 30 P P 01 18 06.0 +0.4
baz=285
P33M **Teslin, Yukon** 86.01 29 P P 01 18 07.2 +0.3
baz=286
MMPY **Sheldon Lake,** 86.05 27 P P 01 18 07.2 +0.2
baz=287
MILM **Milestii Mici** 86.33 317 PM 01 18 07.5
comp=Z,60nm,1.6s
MILM **Milestii Mici** 86.33 317 ⇓P P 01 18 06.8 -1.9
SORM **Soroca** 86.37 318 ⇑P P 01 18 07.3 -1.5
MTSE **Matsula** 86.40 329 eP P 01 18 09.1 +0.5
C36M **Paulatuk** 86.52 19 P P 01 18 09.4 +0.4
baz=293
TLCR 86.71 315 ⇓P P 01 18 10.1 -0.4
RAF **Rauma** 86.73 332 eP P 01 18 08.8 -1.4
U33K **Whale Pass** 86.97 33 P P 01 18 12.4 +0.9
baz=286
TPGR **Topolog** 87.06 315 ⇓P P 01 18 11.4 -0.8
VSVD **Vaisvydziai** 87.08 327 eP P 01 18 11.6 -0.4
TIRR **Tirgusor** 87.15 315 ⇑P P 01 18 11.6 -1.1
CFR **Carcaliu** 87.18 315 ⇑P P 01 18 11.8 -1.0
PABE **Paberze** 87.19 326 eP P 01 18 12.6 0.0
HARR **Harsova** 87.43 315 ⇓P P 01 18 13.1 -1.0
ICOR **Ion Corvin** 87.66 314 ⇑P P 01 18 14.6 -0.5
TGTN **Hyland Airport** 87.73 27 P P 01 18 16.1 +0.9
baz=290
TESR **Tescani** 87.88 317 ⇑P P 01 18 15.2 -0.9
WTLY **Watson Lake, Y** 87.96 29 IAmb IAmb 01 18 19.0
comp=Z,5.1nm,0.6s
WTLY **Watson Lake, Y** 87.96 29 P P 01 18 17.5 +1.2
baz=289
VRI **Vrincioaia** 87.98 316 ⇑P P 01 18 16.8 +0.1
PLOR **Plostina** 88.04 316 ⇓P P 01 18 16.3 -0.7
SUW **Suwalki** 88.04 325 eP P 01 18 16.8 0.0
NEHR **Nehoiu** 88.38 316 ⇑P P 01 18 17.7 -1.0
BURAR **Bucovina Array** 88.55 318 ⇑P P 01 18 18.6 -0.8
BUR08 **Bucovina Ar. S** 88.55 318 P P 01 18 18.1 -1.4
BUR08 IAmb IAmb 01 18 20.2
comp=Z,9.3nm,0.7s
MLR **Muntele Rosu** 88.61 316 ⇓P P 01 18 19.0 -0.8
MLR **Muntele Rosu** 88.61 316 IAmb IAmb 01 18 26.5
comp=Z,26nm,1.9s
MLR **Muntele Rosu** 88.61 316 LR LR 02 01 53.9
comp=Z,160nm,21.8s,baz=69,slow=38
LOZB **Loznitsa** 88.68 314 ⇑P P 01 18 19.2 -0.8
WRGLY **Wrigley** 89.19 25 P P 01 18 22.8 +0.8
baz=294
KWP **Kalwaria Pacla** 89.59 321 P P 01 18 23.8 -0.4
KOLS **Kolonicke sedl** 90.07 320 eP P 01 18 26.0 -0.4
MARR **Marisel-Cluj** 90.18 318 ⇑P P 01 18 26.5 -0.6
CRVS **Cervenica-Dubn** 90.59 320 eP P 01 18 28.6 -0.2
RES **Resolute Bay** 90.61 10 P P 01 18 28.7 +0.3
RES IAmb IAmb 01 19 05.7
comp=Z,6.5nm,1.2s
RES **Resolute Bay** 90.61 10 LR LR 02 00 15.3
comp=Z,64nm,20.9s,baz=346,slow=36
HFS **Hagfors** 90.77 332 P P 01 18 28.4 -1.0
comp=Z,1.4nm,0.4s,baz=85,slow=3.5,SNR=22
HFS LR LR 02 02 39.1
comp=Z,86nm,18.0s,baz=63,slow=38
comp=Z,1.4nm,0.4s
VNDA **Vanda** 91.06 173 P P 01 18 30.6 +0.3
comp=Z,3.1nm,0.8s,baz=332,slow=5.9,SNR=9.5
VNDA LR LR 02 01 06.0
comp=Z,63nm,19.0s,baz=255,slow=37
comp=Z,3.1nm,0.8s
SURR **Surduc** 91.11 317 ⇑P P 01 18 30.0 -1.3
SIRR **Siria** 91.26 318 ⇓P P 01 18 31.2 -0.8
NB2 **NORSAR Subarra** 91.48 334 P P 01 18 30.7 -2.1
comp=Z,4.7nm,1.1s,baz=86,slow=4.8
NOA **NORSAR Array B** 91.48 334 P P 01 18 31.1 -1.6
comp=Z,1.4nm,0.8s,baz=64,slow=4.7,SNR=7.5
NOA LR LR 02 02 41.0
comp=Z,84nm,21.1s,baz=65,slow=38
comp=Z,1.4nm,0.8s
BZS **Buzias** 91.49 317 ⇓P P 01 18 32.0 -1.1
MDVR **Moldovita** 91.68 316 ⇑P P 01 18 33.0 -1.0
LANS **Liptovska Anna** 91.75 321 eP P 01 18 34.8 +0.5
JMIC **Jan Mayen** 92.24 346 LR LR 02 05 10.7
comp=Z,33nm,18.9s,baz=64,slow=39
YKA **Yellowknife Ar** 93.12 24 P P 01 18 40.6 +0.4
comp=Z,2.3nm,0.9s,baz=300,slow=4.8,SNR=28
YKA PKKP PKKPdf 01 35 46.0 -2.3
comp=Z,0.2nm,0.6s,baz=131,slow=2.2,SNR=5.0
comp=Z,2.3nm,0.9s
VRAC **Vranov** 93.46 322 LR LR 02 04 45.3
comp=Z,88nm,18.6s,baz=54,slow=38
MBAR **Mbarara** 94.76 270 LR LR 01 58 23.1
comp=Z,86nm,21.6s,baz=67,slow=34
ZVC **Zvikov** 94.86 322 eP P 01 18 48.6 +0.1
ARSA **Arzberg** 94.89 320 i P P 01 18 46.8 -1.9
comp=Z,3.1nm,1.0s
CKRC **Cesky Krumlov** 95.03 322 eP P 01 18 49.5 +0.1
KHC **Kasperske Hory** 95.35 322 eP P 01 18 50.6 -0.2
GERES **GERESS Array B** 95.39 322 P P 01 18 50.7 -0.4
comp=Z,1.4nm,0.7s,baz=76,slow=5.9,SNR=6.3
GERES LR LR 02 05 02.0
comp=Z,117nm,19.0s,baz=107,slow=37
comp=Z,1.4nm,0.7s
SOKA **Soboth** 95.42 320 ePcP P 01 18 49.9 -1.4
comp=Z,3.1nm,0.9s
MOA **Molln** 95.45 321 ePcP P 01 18 50.6 -0.7
comp=Z,6.6nm,0.7s
OBKA **Obir** 95.80 320 ePcP P 01 18 52.3 -0.6
comp=Z,4.5nm,1.1s
KBA **Koelnbreinsper** 96.33 320 i PcP P 01 18 54.2 -1.3
comp=Z,2.5nm,0.6s
LESA **Schwarzleotal** 96.60 321 ePcP P 01 18 55.4 -1.2
comp=Z,5.1nm,0.7s
ABTA **Abfaltersbach** 96.98 320 i P P 01 18 56.4 -2.0
comp=Z,3.9nm,0.8s
WTTA **Wattenberg** 97.31 321 i PcP P 01 18 58.8 -1.2
comp=Z,8.9nm,0.9s
WATA **Walderalm** 97.32 321 ePcP P 01 18 58.3 -1.7
comp=Z,3.1nm,0.7s
SQTA **Sankt Quirin** 97.59 321 i PcP P 01 18 59.8 -1.4
comp=Z,4.9nm,0.8s
MOTA **Moosalm** 97.60 321 ePcP P 01 18 59.6 -1.6
comp=Z,4.7nm,1.2s
RETA **Reutte** 97.75 322 ePcP P 01 19 00.6 -1.2
comp=Z,9.1nm,2.0s
FETA **Feichten** 97.97 321 ePcP P 01 19 02.1 -0.8
comp=Z,4.0nm,0.9s
YBH **Yreka Blue Hor** 98.25 45 LR LR 01 54 12.3
comp=Z,38nm,20.6s,baz=270,slow=30
FUORN **Ofenpass-Fuorn** 98.44 321 P P 01 19 04.2 -0.9
FUORN IAmb IAmb 01 19 05.9
comp=Z,4.6nm,0.8s
DAVOX **Davos/Dischmat** 98.60 321 LR LR 02 09 37.2
comp=Z,115nm,18.4s,baz=68,slow=39
LSZ **Lusaka** 99.85 256 LR LR 02 01 02.7
comp=Z,45nm,20.9s,baz=114,slow=33
HLID **Hailey** 102.93 40 P Pdif 01 19 25.4 +0.3
baz=300
SBC **Santa Barbara** 103.32 50 P Pdif 01 19 25.6 -1.2
baz=294
HEC **Hector,Ludlow** 105.68 49 P PKiKP 01 23 49.7 -0.6
baz=296
109C **Camp Elliot, M** 105.94 51 P PKiKP 01 23 49.8 -0.9
baz=295
BGNE **Belgrade** 113.93 35 P PKiKP 01 24 04.9 -0.7
baz=312
CBKS **Cedar Bluff** 114.71 38 P PKiKP 01 24 06.3 -0.9
baz=310
MNTX **Cornudas Mount** 115.20 47 P PKiKP 01 24 06.5 -1.8
baz=303
SCIA **State Center** 116.21 31 P PKiKP 01 24 09.2 -0.7
baz=317
KSU1 **Kansas State U** 116.35 36 P PKPdf 01 24 09.3 -1.0
baz=313
TXAR **Lajitas Array** 117.72 48 PKP PKPdf 01 24 13.9 +0.6
comp=Z,1.0nm,0.6s,baz=333,slow=0.9,SNR=18
GLMI **Grayling** 117.83 24 P PKPdf 01 24 12.2 -0.7
baz=326
ABTX **Abilene, Hawle** 118.65 43 P PKPdf 01 24 15.2 +0.3
baz=308
TORD **Torodi Ar. Bea** 119.16 292 PKP PKPdf 01 24 14.8 -1.5
comp=Z,1.2nm,0.6s,baz=53,slow=3.0,SNR=11
JCT **Junction City** 119.83 45 P PKPdf 01 24 17.6 +0.3
baz=307
CCM **Cathedral Cave** 120.06 33 P PKPdf 01 24 16.9 -0.5
baz=318
MIAR **Mount Ida** 121.24 37 P PKPdf 01 24 19.8 0.0
baz=314
LONY **Lake Ozonia** 121.43 17 P PKPdf 01 24 20.2 +0.3
baz=337
P49A **Miami Univ. Ec** 122.14 27 P PKPdf 01 24 21.3 -0.1
baz=325
M53A **WI Miller and** 122.23 23 P PKPdf 01 24 21.3 -0.2
baz=330
ACSO **Alum Creek Sta** 122.32 26 P PKPdf 01 24 21.4 -0.3
baz=329
O53A **New Philadelph** 123.04 24 P PKPdf 01 24 22.6 -0.5
baz=329
P52A **Corning** 123.18 25 P PKPdf 01 24 23.1 -0.2
baz=327
BINY **Binghamton** 123.21 19 P PKPdf 01 24 22.1 -1.3
baz=335
WVT **Waverly** 123.31 32 P PKPdf 01 24 23.3 -0.4
baz=320
OXF **Oxford** 123.67 35 P PKPdf 01 24 23.7 -0.7
baz=318
L61B **Northampton** 123.96 16 P PKPdf 01 24 23.8 -1.0
baz=339
SSPA **Standing Stone** 123.97 21 P PKPdf 01 24 23.8 -1.0
baz=332
TZTN **Tazewell** 125.10 29 P PKPdf 01 24 26.0 -1.1
baz=325
LRAL **Lakeview Retre** 126.11 34 P PKPdf 01 24 28.6 -0.6
baz=320
KMSC **Kings Mountain** 127.28 28 P PKPdf 01 24 30.5 -0.9
baz=326
DBIC **Dimbokro** 127.45 287 PKP PKPdf 01 24 30.9 -1.3
comp=Z,1.7nm,0.7s,baz=90,slow=1.0,SNR=2.0
GOGA **Godfrey** 127.67 31 P PKPdf 01 24 31.7 -0.4
baz=324
PLCA **Paso Flores** 147.47 157 PKPbc PKPbc 01 25 11.4 +0.7
comp=Z,13nm,0.7s,baz=229,slow=4.3,SNR=44
CPUP **Villa Florida** 164.83 170 PKP PKPdf 01 25 30.8 -0.2
comp=Z,1.4nm,0.6s,baz=183,slow=4.5,SNR=5.4
CPUP PKPab PKPab 01 26 27.2 +0.4
comp=Z,2.9nm,0.8s,baz=195,slow=7.4,SNR=6.6
LPAZ **La Paz** 165.89 112 PKP PKPdf 01 25 33.6 +0.8
comp=Z,2.5nm,0.9s,baz=342,slow=3.2,SNR=7.6
LPAZ PKPab PKPab 01 26 33.2 +0.4
comp=Z,1.8nm,0.8s,baz=198,slow=3.2,SNR=3.8

IDC 05 01:09:53.0±7.8,25.75S×67.97E,h0km,mb4.0/2, mbtmp4.0/2,Error ellipse: s-maj=557.2km s-min=102.1km az=25.0,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H04N2	**CROZET ISLANDS**	24.12	208	T	T	01 39 46.9	
	baz=40,slow=74,SNR=113						
H04N1	**CROZET ISLANDS**	24.13	208	T	T	01 39 39.1	
	baz=40,slow=74,SNR=104						
H04N3	**CROZET ISLANDS**	24.14	208	T	T	01 39 39.1	
	baz=40,slow=74,SNR=13						
ASAR	**Alice Springs**	59.36	103	P	P	01 19 57.2	-0.3
	1.6nm,0.9s,baz=254,slow=6.0,SNR=7.9						
	1.6nm,0.9s						
WRA	**Warramunga Arr**	60.88	99	P	P	01 20 08.1	+0.2
	1.7nm,0.8s,baz=252,slow=7.4,SNR=6.9						
	1.7nm,0.8s						
YKA	**Yellowknife Ar**	143.22	2	PKP	PKPdf	01 29 27.8	-0.7
	0.3nm,0.9s,baz=345,slow=3.7,SNR=5.1						

*JMA **05** 01:15:34.9±0.1,24°N±1°×122°.4E±0°.4,h49km±3km, MV2.1/11,TAIWAN REGION*
*TAP **05** 01:15:35.5,24°.04N×122°.39E,h50km,ML2.9,C*
ISC 05 01:15:35.1±1.3,**24°.04N**±0°.05×**122°.40E**±0°.03,**h55**km±8km, **n41**,σ0**s49**/65,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.11**	**319**	*i* P	**Pn**	**01 15 43.0**	**0.0**
	baz=310						
EOS4				*i* S	**Sn**	**01 15 48.9**	**+0.1**
	baz=310						
EOS3	**EOS3**	**0.26**	**343**	*i* P	**Pn**	**01 15 44.3**	**+0.2**
	baz=321						
EOS3				*e*S	**Sn**	**01 15 51.2**	**+0.5**
	baz=321						
EOS2	**EOS2**	**0.41**	**338**	P	**Pn**	**01 15 45.8**	**+0.2**
	baz=321						
EOS2				*i* S	**Sn**	**01 15 54.0**	**+1.0**
	baz=321						
JYNG	**Yonagunijimaku**	**0.65**	**50**	P	**Pn**	**01 15 48.2**	**-0.2**
JYNG				S	**Sn**	**01 15 57.9**	**-0.2**
EAHA	**Aohua**	**0.67**	**296**	*e*S	**Sn**	**01 15 58.8**	**+0.3**
	baz=296						
YOJ	**Yonaguni jima**	**0.70**	**53**	*i* P	**Pn**	**01 15 49.0**	**-0.1**
	baz=59						
YOJ	**Yonaguni jima**	**0.70**	**53**	P	**Pn**	**01 15 49.0**	**-0.1**
YOJ				S	**Sn**	**01 15 58.9**	**-0.3**
ENA	**Nanau**	**0.72**	**303**	*e*S	**Sn**	**01 15 59.6**	**+0.1**
	baz=309						
ETL	**Fush Village**	**0.72**	**280**	P	**Pn**	**01 15 48.9**	**-0.4**
	baz=279						
TWD	**Chiawan**	**0.73**	**274**	*i* P	**Pn**	**01 15 49.1**	**-0.4**
	baz=273						
TWD				*i* S	**Sn**	**01 15 59.1**	**-0.9**
	baz=273						
NACB	**Ninganchiao**	**0.75**	**281**	*i* P	**Pn**	**01 15 49.2**	**-0.4**
	baz=271						
NACB				*i* S	**Sn**	**01 15 59.4**	**-0.9**
	baz=271						
TWC	**Suao**	**0.76**	**319**	*i* P	**Pn**	**01 15 49.2**	**-0.6**
	baz=319						
TWC				*e*S	**Sn**	**01 15 59.2**	**-1.4**
	baz=319						
SHUL	**Shoufeng**	**0.80**	**252**	*i* P	**Pn**	**01 15 50.5**	**+0.1**
	baz=252						
SHUL				*i* S	**Sn**	**01 16 01.9**	**+0.4**
	baz=252						
ETM	**Tongmen**	**0.83**	**265**	P	**Pn**	**01 15 50.4**	**-0.3**
	baz=265						
ETM				S	**Sn**	**01 16 01.4**	**-0.8**
	baz=265						
ETLH	**Xiulin Townshi**	**0.85**	**282**	P	**Pn**	**01 15 50.9**	**-0.2**
	baz=281						
ETLH				S	**Sn**	**01 16 02.1**	**-0.8**
	baz=281						
NDS	**Dongshan**	**0.86**	**314**	S	**Sn**	**01 16 03.2**	**+0.3**
	baz=314						
LXIB	**Xiulin Townshi**	**0.90**	**269**	P	**Pn**	**01 15 51.6**	**-0.2**
	baz=269						
TWE	**Neicheng**	**0.95**	**316**	*e*P	**Pn**	**01 15 52.5**	**+0.2**
	baz=316						
EGFH	**Guangfu**	**0.96**	**248**	S	**Sn**	**01 16 05.8**	**+0.5**
	baz=240						
ENTT	**Nioudou**	**0.97**	**309**	*e*P	**Pn**	**01 15 52.8**	**+0.3**
	baz=300						
WARBT	**Fenglin Townsh**	**0.98**	**251**	P	**Pn**	**01 15 52.3**	**-0.4**
	baz=245						
WARBT				*e*S	**Sn**	**01 16 05.3**	**-0.3**
	baz=245						
NDT	**Datong Townshi**	**0.98**	**305**	*e*P	**Pn**	**01 15 53.0**	**+0.3**
	baz=298						
NDT				S	**Sn**	**01 16 06.3**	**+0.5**
	baz=298						
NNSB	**Datong**	**1.01**	**293**	*e*P	**Pn**	**01 15 53.4**	**+0.3**
	baz=293						
NNSB				*e*S	**Sn**	**01 16 06.2**	**-0.2**
	baz=293						
NNS	**Nan Shan**	**1.02**	**293**	S	**Sn**	**01 16 06.9**	**+0.1**
	baz=293						
FUSB	**Fushanzhiwuyua**	**1.03**	**314**	*e*P	**Pn**	**01 15 53.9**	**+0.5**
	baz=305						
FUSB				S	**Sn**	**01 16 07.4**	**+0.4**
	baz=305						
WHF	**Hehuan Shan**	**1.04**	**276**	*e*P	**Pn**	**01 15 53.8**	**-0.1**
	baz=276						
WHF				*e*S	**Sn**	**01 16 07.4**	**-0.3**
	baz=276						
FUSS	**Fushou**	**1.08**	**281**	*e*P	**Pn**	**01 15 54.6**	**+0.4**
	baz=281						
NWLT	**Wulai**	**1.10**	**312**	P	**Pn**	**01 15 54.8**	**+0.4**
	baz=301						
NWLT				S	**Sn**	**01 16 08.7**	**+0.1**
	baz=301						
EHY	**Hungye**	**1.12**	**242**	P	**Pn**	**01 15 54.7**	**+0.2**
	baz=235						
CHGB	**Renai**	**1.12**	**271**	*e*P	**Pn**	**01 15 55.1**	**+0.3**
	baz=271						
CHGB				*e*S	**Sn**	**01 16 09.3**	**0.0**
	baz=271						
OWD	**Renai**	**1.12**	**266**	*e*P	**Pn**	**01 15 54.8**	**+0.1**
	baz=276						
OWD				*e*S	**Sn**	**01 16 09.4**	**+0.2**
	baz=276						
ECBN	**Changbin**	**1.13**	**231**	S	**Sn**	**01 16 09.0**	**-0.2**
	baz=222						
YHNB	**Yeheng**	**1.13**	**304**	P	**Pn**	**01 15 55.0**	**+0.3**
	baz=304						
YHNB				*e*S	**Sn**	**01 16 08.8**	**-0.5**
	baz=304						
TWT	**Tachien**	**1.14**	**281**	S	**Sn**	**01 16 10.2**	**+0.6**
	baz=272						
TDCB	**Techi**	**1.15**	**281**	*i* S	**Sn**	**01 16 09.9**	**-0.1**
	baz=272						
SXI1	**Grass Mountain**	**1.16**	**336**	*e*P	**Pn**	**01 15 54.6**	**-0.5**
	baz=336						
YULB	**Yu-li**	**1.20**	**238**	P	**Pn**	**01 15 55.8**	**+0.2**
	baz=251						
YULB				*e*S	**Sn**	**01 16 10.5**	**-0.3**
	baz=251						
SMLT	**Sun Moon Lake**	**1.38**	**264**	*e*P	**Pn**	**01 15 58.9**	**+0.8**
	baz=256						
JKRS	**Kuro-shima**	**1.48**	**82**	P	**Pn**	**01 16 00.1**	**+0.7**
JKRS				S	**Sn**	**01 16 18.9**	**+1.2**
JIJ	**Ishigaki jima**	**1.63**	**78**	P	**Pn**	**01 16 01.3**	**-0.1**
JIJ				S	**Sn**	**01 16 20.4**	**-0.8**
JISG	**Ishigakijimahi**	**1.83**	**72**	P	**Pn**	**01 16 04.0**	**-0.1**
JISG				S	**Sn**	**01 16 25.2**	**-0.9**

*BUT **05** 01:18:29.4±2.5,46°.91N±0°.05×112°.53W±0°.08,h11km±6km, Error ellipse: s-maj=8.4km s-min=7.0km az=144.0*
NEIC 05 01:18:28.0±1.6,**46°.82N**±0°.04×**112°.58W**±0°.08,**h12**km±6km, **ML2.7**/36,**ML2.9**/12(BUT),**Error ellipse: s-maj=8.4km s-min=3.8km az=118.0**,**Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYMT	**Lyon Mountain**	**0.25**	**53**	Pg	Pg	01 18 33.6	+0.3
LYMT				Sg	Sg	01 18 36.4	-0.5
BPMT	**Black Pine Rid**	**0.71**	**238**	Pg	Pn	01 18 44.0	-0.1
BOZ	**Bozeman (W)**	**1.39**	**151**	Pn	Pg	01 18 54.9	+0.2
BOZ				IAML		01 19 16.0	
	141nm,0.5s						
BOZ				IAML		01 19 16.3	
	126nm,0.5s						
YHL	**Hebgen Lake**	**2.20**	**153**	Pn	Pn	01 19 04.8	+0.2
YHL				IAML		01 19 41.9	
	comp=E,71nm,0.5s						
EGMT	**Eagleton**	**2.26**	**57**	Pn	Pn	01 19 06.0	+0.7
YHH	**Holmes Hill**	**2.37**	**149**	Pn	Pn	01 19 07.6	+0.8
YNR	**Norris Junctio**	**2.49**	**147**	Pn	Pn	01 19 10.0	+1.5
YMP	**Mirror Lake Pl**	**2.68**	**140**	Pn	Pn	01 19 11.3	+0.1
YMP				IAML		01 19 58.8	
	comp=N,37nm,0.4s						
YMP				IAML		01 19 59.2	
	comp=E,30nm,0.6s						
RLMT	**Red Lodge**	**2.87**	**125**	Pn	Pn	01 19 15.6	+1.9
RLMT				IAML		01 20 03.5	
	comp=E,26nm,0.3s						
RLMT				IAML		01 20 05.1	
	comp=E,20nm,0.7s						
PLID	**Pearl Lake**	**2.95**	**235**	Pn	Pn	01 19 16.3	+1.5
PLID				IAML		01 20 07.0	
	comp=E,30nm,0.3s						
PLID				IAML		01 20 07.4	
	comp=E,22nm,0.5s						
FLWY	**Flagg Ranch**	**3.04**	**154**	Pn	Pn	01 19 17.4	+1.4
F10A	**Beach Ranch, E**	**3.33**	**257**	Pn	Pn	01 19 22.1	+2.2
MOOW	**Moose Ponds**	**3.33**	**157**	Pn	Pn	01 19 22.9	+2.8
NEW	**Newport**	**3.40**	**297**	Pn	Pn	01 19 21.7	+0.8
NEW				IAML		01 20 18.3	
	comp=E,15nm,1.1s						
LOHW	**Long Hollow**	**3.50**	**156**	Pn	Pn	01 19 24.3	+1.9
HLID	**Hailey**	**3.51**	**202**	Pn	Pn	01 19 24.4	+2.0
HLID				IAML		01 20 22.7	
	comp=E,14nm,0.3s						
HLID				IAML		01 20 24.2	
	comp=E,18nm,0.2s						
BMO	**Blue Mountains**	**3.85**	**241**	Pn	Pn	01 19 27.7	+0.7
BMO				IAML		01 20 38.6	
	comp=E,10nm,0.3s						
BMO				IAML		01 20 38.8	
	comp=E,11nm,0.7s						
MFID	**Camas Ranch**	**4.11**	**215**	Pn	Pn	01 19 30.6	-0.1
G08A	**Pilot Rock**	**4.70**	**253**	Pn	Pn	01 19 39.7	+1.0
G08A				IAML		01 21 02.1	
	comp=E,5.4nm,2.9s						
G08A				IAML		01 21 15.0	
	comp=N,6.7nm,4.6s						
E07A	**Sunnyside**	**5.02**	**270**	Pn	Pn	01 19 44.4	+1.4
HWUT	**Hardware Ranch**	**5.26**	**172**	Pn	Pn	01 19 47.9	+1.3
HWUT				IAML		01 20 31.0	
	comp=N,7.5nm,4.0s						
HWUT				IAML		01 22 52.3	
	comp=N,6.4nm,4.0s						
MXC	**Moxie City**	**5.32**	**270**	Pn	Pn	01 19 49.3	+2.1

*LDG **05** 01:26:43.5±0.1,47°.05N×0°.76E,h2km,Md3.3/1,Ml3.1/38*
*STR **05** 01:26:44.7±0.4,47°N±4°×±°,h5km,MLv3.6/25,Error ellipse: s-maj=0.0km s-min=0.0km az=167.5,preliminary*
ISC 05 01:26:41.8±1.0,**47°.05N**±0°.02×**0°.75E**±0°.01,**h14**km±9km, **n99**,σ1**s71**/181,**France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFF	**Saint Martin d**	**0.77**	**234**	*e*Pg	**Pb**	**01 26 58.0**	**+1.1**
MFF	**Saint Martin d**	**0.77**	**234**	*e*Pn	**Pn**	**01 26 59.2**	**+1.0**
MFF				*e*Sg	**Sb**	**01 27 07.7**	**+0.6**
	43nm,0.2s						
MFF				*e*Sn	**Sn**	**01 27 10.4**	**+1.0**
	154nm,0.2s						
MFF	**Saint Martin d**	**0.77**	**234**	Pg	**Pb**	**01 26 58.3**	**+1.5**
TCF	**Toulx Ste Croi**	**1.26**	**127**	*e*Pg	**Pn**	**01 27 07.5**	**+2.5**
TCF				*e*Sg	**Sn**	**01 27 23.6**	**+1.8**
	107nm,0.3s						
HYF	**Humbligny**	**1.30**	**80**	*e*Pg	**Pn**	**01 27 08.4**	**+2.8**
HYF				*e*Sg	**Sn**	**01 27 25.8**	**+3.0**
BGF	**Bois d'Agland**	**1.52**	**108**	*e*Pg	**Pg**	**01 27 11.1**	**0.0**
BGF				*e*Sn	**Sb**	**01 27 28.3**	**-0.6**
BGF				*e*Sg	**Sg**	**01 27 30.9**	**+0.1**
	216nm,0.5s						
LDF	**La Druitiere**	**1.65**	**339**	*e*Pn	**Pb**	**01 27 12.3**	**+0.3**
LDF	**La Druitiere**	**1.65**	**339**	*e*Pg	**Pg**	**01 27 14.5**	**+1.0**
LDF				*e*Sg	**Sg**	**01 27 36.3**	**+1.3**
	54nm,0.3s						
GRR	**Gorron**	**1.72**	**321**	*e*Pn	**Pb**	**01 27 13.5**	**+0.3**
GRR	**Gorron**	**1.72**	**321**	*e*Pg	**Pg**	**01 27 15.3**	**+0.4**
GRR				*e*Sg	**Sg**	**01 27 37.9**	**+0.6**
	75nm,0.3s						
VERF	**Verneugheol**	**1.77**	**137**	Pn	**Pb**	**01 27 14.1**	**0.0**
VERF				Pg	**Pg**	**01 27 16.7**	**+0.9**
VERF				Sn	**Sn**	**01 27 36.1**	**+1.8**
VERF				Sg	**Sg**	**01 27 40.0**	**+1.2**
AVF	**Avril sur Loir**	**1.80**	**97**	*e*P	**Pb**	**01 27 14.7**	**+0.2**
AVF	**Avril sur Loir**	**1.80**	**97**	*e*Pg	**Pg**	**01 27 16.6**	**+0.2**
AVF				*e*Sg	**Sg**	**01 27 39.5**	**-0.3**
	40nm,0.3s						
RJF	**Les Rejaudoux**	**1.83**	**163**	*e*Pn	**Pn**	**01 27 14.2**	**+1.4**
RJF	**Les Rejaudoux**	**1.83**	**163**	*e*Pg	**Pg**	**01 27 17.2**	**+0.3**
RJF				*e*Sn	**Sn**	**01 27 35.5**	**-0.2**
RJF				*e*Sg	**Sg**	**01 27 40.3**	**-0.3**
	123nm,0.3s						
SSF	**Saint Saulge**	**1.88**	**89**	*e*P	**Pb**	**01 27 15.7**	**-0.2**
SSF	**Saint Saulge**	**1.88**	**89**	*e*Pg	**Pg**	**01 27 18.5**	**+0.6**
SSF				*e*Sn	**Sn**	**01 27 38.8**	**+1.8**
SSF				*e*Sg	**Sg**	**01 27 42.3**	**-0.1**
	36nm,0.3s						
FRNF	**Fournols**	**2.09**	**142**	Pn	**Pn**	**01 27 18.5**	**+2.1**
FRNF				Pg	**Pg**	**01 27 22.9**	**+1.1**
FRNF				Sn	**Sn**	**01 27 43.4**	**+1.3**
LFF	**La Frestale**	**2.11**	**180**	*e*Pn	**Pn**	**01 27 18.1**	**+1.4**
LFF	**La Frestale**	**2.11**	**180**	*e*Pg	**Pg**	**01 27 22.1**	**-0.3**
LFF				*e*Sn	**Sn**	**01 27 42.5**	**-0.2**
LFF				*e*Sg	**Sg**	**01 27 48.9**	**-0.9**
	128nm,0.5s						
LOR	**Lormes**	**2.13**	**83**	*e*Pn	**Pn**	**01 27 19.1**	**+2.1**
	baz=265						
LOR	**Lormes**	**2.13**	**83**	*e*Pg	**Pg**	**01 27 22.1**	**-0.6**
	baz=266						
LOR				*e*Sn	**Sn**	**01 27 43.7**	**+0.5**
LOR				*e*Sg	**Sg**	**01 27 49.4**	**-0.9**
	59nm,0.3s,baz=270						
LOR	**Lormes**	**2.13**	**83**	Pn	**Pn**	**01 27 19.2**	**+2.3**
SMF	**Signal de Mont**	**2.16**	**100**	*e*Pn	**Pn**	**01 27 19.8**	**+2.5**
SMF	**Signal de Mont**	**2.16**	**100**	*e*Pg	**Pg**	**01 27 23.1**	**-0.1**
SMF				*e*Sg	**Sg**	**01 27 49.6**	**-1.6**
	52nm,0.3s						
LRVF	**chteau la Riv**	**2.23**	**200**	Pn	**Pn**	**01 27 20.9**	**+2.6**
LRVF				Sn	**Sn**	**01 27 48.0**	**+2.4**
LRVF				Sg	**Sg**	**01 27 54.2**	**+0.6**
CAF	**Calviac**	**2.32**	**156**	*e*Pn	**Pn**	**01 27 21.1**	**+1.6**
CAF	**Calviac**	**2.32**	**156**	*e*Pg	**Pg**	**01 27 25.8**	**-0.4**
CAF				*e*Sn	**Sn**	**01 27 48.3**	**+0.5**
CAF				*e*Sg	**Sg**	**01 27 55.7**	**-0.5**
	80nm,0.4s						
LBL	**Lubilhac**	**2.51**	**136**	Pn	**Pn**	**01 27 24.6**	**+2.3**
SGMF	**Saint Gilles**	**2.54**	**299**	*e*Pn	**Pn**	**01 27 24.5**	**+1.9**
SGMF	**Saint Gilles**	**2.54**	**299**	*e*Pg	**Pg**	**01 27 29.1**	**-1.4**
SGMF				*e*Sn	**Sn**	**01 27 53.9**	**+0.7**
SGMF				*e*Sg	**Sg**	**01 28 02.7**	**-0.7**
	24nm,0.3s						
COLF	**Collangettes**	**2.55**	**126**	Pn	**Pn**	**01 27 24.7**	**+1.9**
MONQ	**Montcuq**	**2.70**	**173**	Pn	**Pn**	**01 27 26.4**	**+1.6**
MONQ				Pg	**Pg**	**01 27 36.1**	**+2.4**
MONQ				Sn	**Sn**	**01 27 58.0**	**+0.7**
QUIF	**Quistinic**	**2.79**	**289**	*e*Pn	**Pn**	**01 27 27.8**	**+1.8**
QUIF	**Quistinic**	**2.79**	**289**	*e*Pg	**Pg**	**01 27 35.4**	**0.0**
QUIF				*e*Sn	**Sn**	**01 27 59.5**	**0.0**
QUIF				*e*Sg	**Sg**	**01 28 10.0**	**-1.6**
	61nm,0.3s						
JSA	**Saint Aubin**	**2.90**	**319**	Pn	**Pn**	**01 27 29.1**	**+1.7**
ROSF	**Rostrenen**	**3.01**	**297**	*e*Pn	**Pn**	**01 27 29.8**	**+0.8**
ROSF	**Rostrenen**	**3.01**	**297**	*e*Pg	**Pg**	**01 27 38.8**	**-0.7**
ROSF				*e*Sn	**Sn**	**01 28 04.6**	**-0.2**
ROSF				*e*Sg	**Sg**	**01 28 17.8**	**-0.6**
	20nm,0.3s						
SFTF	**Sexfontaines**	**3.12**	**67**	*e*Pg	**Pg**	**01 27 40.2**	**-1.4**
	baz=248						
SFTF				*e*Sn	**Sn**	**01 28 06.9**	**-0.6**
SFTF				*e*Sg	**Sg**	**01 28 20.8**	**-1.2**
	15nm,0.4s						
SSB	**Saint Sauveur**	**3.17**	**123**	Pn	**Pn**	**01 27 33.6**	**+2.3**
SSB				Pg	**Pg**	**01 27 43.6**	**+0.9**
MEZF	**Maizieres J'vi**	**3.24**	**62**	*e*Pn	**Pn**	**01 27 33.2**	**+1.0**
MEZF	**Maizieres J'vi**	**3.24**	**62**	*e*Pg	**Pg**	**01 27 43.3**	**-0.6**
	baz=248						
MEZF				*e*Sn	**Sn**	**01 28 10.4**	**-0.1**
MEZF				*e*Sg	**Sg**	**01 28 24.9**	**-1.0**
	6.5nm,0.3s						
OG35	**Corcelles**	**3.47**	**105**	Pn	**Pn**	**01 27 39.0**	**+3.6**
VIVF	**Saint-Julien-l**	**3.51**	**127**	*e*Pn	**Pn**	**01 27 36.7**	**+0.8**
VIVF	**Saint-Julien-l**	**3.51**	**127**	*e*Pg	**Pg**	**01 27 48.4**	**-0.6**
VIVF				*e*Sn	**Sn**	**01 28 16.9**	**-0.3**
VIVF				*e*Sg	**Sg**	**01 28 33.2**	**-1.2**
	11nm,0.3s						
PAGF	**Fort de Pagny**	**3.67**	**64**	*e*Pn	**Pn**	**01 27 39.2**	**+1.1**
PAGF	**Fort de Pagny**	**3.67**	**64**	*e*Pg	**Pg**	**01 27 51.2**	**-1.0**
	baz=248						
PAGF				*e*Sn	**Sn**	**01 28 20.3**	**-0.9**
PAGF				*e*Sg	**Sg**	**01 28 38.7**	**-1.0**
	14nm,0.4s						
CABF	**La Chapelle**	**3.69**	**95**	*e*P	**Pn**	**01 27 41.4**	**+3.0**
CABF	**La Chapelle**	**3.69**	**95**	*e*Pg	**Pg**	**01 27 51.9**	**-0.6**
CABF				*e*Sn	**Sn**	**01 28 20.2**	**-1.5**
CABF				*e*Sg	**Sg**	**01 28 38.9**	**-1.3**
	2.1nm,0.2s						
LASF	**Ste Croix**	**3.69**	**143**	*e*P	**Pn**	**01 27 40.9**	**+2.5**
LASF	**Ste Croix**	**3.69**	**143**	*e*Pg	**Pg**	**01 27 51.6**	**-0.9**
LASF				*e*Sn	**Sn**	**01 28 21.8**	**+0.2**
LASF				*e*Sg	**Sg**	**01 28 40.0**	**-0.3**
	9.2nm,0.3s						
BOUC	**Bouclans**	**3.76**	**85**	Pn	**Pn**	**01 27 40.9**	**+1.6**
BOUC				Sn	**Sn**	**01 28 21.7**	**-1.7**
BAIF	**Baives**	**3.78**	**36**	*e*Pn	**Pn**	**01 27 41.7**	**+2.1**
BAIF	**Baives**	**3.78**	**36**	*e*Pg	**Pg**	**01 27 53.5**	**-0.8**
BAIF				*e*Sn	**Sn**	**01 28 22.2**	**-1.7**
BAIF				*e*Sg	**Sg**	**01 28 40.4**	**-2.9**
	4.0nm,0.3s						
GIMEL	**St. Georges /**	**3.82**	**96**	Pn	**Pn**	**01 27 43.2**	**+2.9**
GIMEL	**St. Georges /**	**3.82**	**96**	Sn	**Sn**	**01 28 24.0**	**-1.0**
MTLF	**Montolieu**	**3.85**	**164**	*e*Pn	**Pn**	**01 27 41.3**	**+0.7**
MTLF	**Montolieu**	**3.85**	**164**	*e*Pg	**Pg**	**01 27 54.4**	**-1.2**
MTLF				*e*Sn	**Sn**	**01 28 24.6**	**-1.1**
MTLF				*e*Sg	**Sg**	**01 28 43.9**	**-1.6**
	11nm,0.3s						
MTLF	**Montolieu**	**3.85**	**164**	Pn	**Pn**	**01 27 42.6**	**+2.0**
HAU	**Haudompre**	**3.91**	**74**	*e*Pn	**Pn**	**01 27 42.4**	**+1.0**
HAU	**Haudompre**	**3.91**	**74**	*e*Pg	**Pg**	**01 27 56.0**	**-0.7**
HAU				*e*Sn	**Sn**	**01 28 25.2**	**-1.8**
HAU				*e*Sg	**Sg**	**01 28 45.9**	**-1.4**
	20nm,0.4s						
DOU	**Dourbes**	**3.97**	**39**	Pn	**Pn**	**01 27 44.8**	**+2.6**
DOU				Sn	**Sn**	**01 28 28.6**	**0.0**
EPF	**Esparros**	**4.03**	**184**	*e*Pn	**Pn**	**01 27 43.4**	**+0.3**
EPF	**Esparros**	**4.03**	**184**	*e*Pg	**Pg**	**01 27 58.0**	**-1.1**
EPF				*e*Sn	**Sn**	**01 28 28.4**	**-1.8**
EPF				*e*Sg	**Sg**	**01 28 49.5**	**-1.8**
	6.7nm,0.3s						
OSSF	**Osses**	**4.06**	**201**	Pn	**Pn**	**01 27 45.2**	**+1.8**
OSSF				Sn	**Sn**	**01 28 28.2**	**-2.4**
RONF	**Ronchamp**	**4.06**	**79**	Pn	**Pn**	**01 27 44.5**	**+1.1**
RONF				Sn	**Sn**	**01 28 29.3**	**-1.4**
GIVF	**Givet**	**4.08**	**40**	*e*Pn	**Pn**	**01 27 44.6**	**+0.9**
GIVF				*e*Sn	**Sn**	**01 28 29.0**	**-2.1**
GIVF				*e*Sg	**Sg**	**01 28 50.7**	**-1.9**
	6.1nm,0.3s						
DUNF	**Dun**	**4.10**	**169**	Pn	**Pn**	**01 27 46.8**	**+2.8**
DUNF				Sn	**Sn**	**01 28 30.8**	**-0.9**
ATE	**Arette**	**4.10**	**195**	Pn	**Pn**	**01 27 45.0**	**+1.0**
ATE				Sn	**Sn**	**01 28 29.5**	**-2.3**
ORIF	**Oris-en-Rattie**	**4.16**	**119**	*e*P	**Pn**	**01 27 48.3**	**+3.3**
ORIF	**Oris-en-Rattie**	**4.16**	**119**	*e*Pg	**Pg**	**01 27 59.7**	**-1.8**
ORIF				*e*Sn	**Sn**	**01 28 31.8**	**-1.6**
ORIF				*e*Sg	**Sg**	**01 28 53.4**	**-2.0**
	2.8nm,0.3s						
SJPF	**Ste Jean**	**4.18**	**200**	*e*Pn	**Pn**	**01 27 46.5**	**+1.4**
SJPF	**Ste Jean**	**4.18**	**200**	*e*Pg	**Pg**	**01 27 59.9**	**-2.0**
SJPF				*e*Sn	**Sn**	**01 28 32.2**	**-1.6**
SJPF				*e*Sg	**Sg**	**01 28 52.8**	**-3.2**
	5.4nm,0.3s						
HINF	**Hinteralfeld**	**4.21**	**77**	*e*Pn	**Pn**	**01 27 46.3**	**+0.7**
HINF	**Hinteralfeld**	**4.21**	**77**	*e*Pg	**Pg**	**01 28 01.7**	**-0.7**
HINF				*e*Sn	**Sn**	**01 28 32.7**	**-1.8**
HINF				*e*Sg	**Sg**	**01 28 54.8**	**-2.1**
	8.5nm,0.2s						
ETSF	**Etsaut**	**4.26**	**193**	*e*Pn	**Pn**	**01 27 47.5**	**+1.3**
ETSF	**Etsaut**	**4.26**	**193**	*e*Pg	**Pg**	**01 28 02.8**	**-0.6**
ETSF				*e*Sn	**Sn**	**01 28 31.2**	**-4.5**
ETSF				*e*Sg	**Sg**	**01 28 54.4**	**-4.1**
	8.9nm,0.4s						
RSL	**Roselend**	**4.29**	**106**	Pn	**Pn**	**01 27 49.3**	**+2.5**
RCHB	**Rochefort**	**4.29**	**42**	Pn	**Pn**	**01 27 49.9**	**+3.2**
AIGLE	**Aigle**	**4.33**	**97**	Pn	**Pn**	**01 27 50.6**	**+3.4**
ECHI	**Chisagues Biel**	**4.41**	**185**	Pn	**Pn**	**01 27 52.1**	**+3.8**
LPL	**La Plagne**	**4.42**	**108**	*e*P	**Pn**	**01 27 52.4**	**+3.8**
LPL	**La Plagne**	**4.42**	**108**	*e*Pg	**Pg**	**01 28 06.1**	**-0.4**
LPL				*e*Sn	**Sn**	**01 28 38.4**	**-1.5**
LPL				*e*Sg	**Sg**	**01 29 02.8**	**-0.9**
	4.9nm,0.5s						
BOURR	**Bourrignon**	**4.43**	**83**	Pn	**Pn**	**01 27 49.8**	**+1.2**
LPG	**La Plagne**	**4.44**	**108**	*e*P	**Pn**	**01 27 52.9**	**+4.0**
LPG	**La Plagne**	**4.44**	**108**	*e*Pg	**Pg**	**01 28 06.8**	**-0.1**
LPG				*e*Sn	**Sn**	**01 28 40.3**	**-0.2**
LPG				*e*Sg	**Sg**	**01 29 02.4**	**-2.0**
	2.8nm,0.3s						
CARF	**Carcanieres**	**4.44**	**167**	Pn	**Pn**	**01 27 51.0**	**+2.2**
CARF				Sn	**Sn**	**01 28 39.1**	**-1.2**
WLF	**Walferdange**	**4.45**	**52**	Pn	**Pn**	**01 27 50.7**	**+1.9**
ECH	**Echery**	**4.48**	**73**	Pn	**Pn**	**01 27 50.0**	**+0.7**
SMRF	**Simiane la Rot**	**4.58**	**130**	*e*P	**Pn**	**01 27 54.1**	**+3.5**
SMRF	**Simiane la Rot**	**4.58**	**130**	*e*Pg	**Pg**	**01 28 07.8**	**-1.7**
SMRF				*e*Sg	**Sg**	**01 29 06.8**	**-1.9**
	5.4nm,0.3s						
DYA	**Yadsworthy**	**4.59**	**319**	Pn	**Pn**	**01 27 52.1**	**+1.4**
DYA	**Yadsworthy**	**4.59**	**319**	Sn	**Sn**	**01 28 40.9**	**-2.8**
CDF	**Champ du Feu**	**4.61**	**70**	*e*Pn	**Pn**	**01 27 52.2**	**+1.2**
CDF	**Champ du Feu**	**4.61**	**70**	*e*Pg	**Pg**	**01 28 09.4**	**-0.6**
CDF				*e*Sn	**Sn**	**01 28 42.5**	**-1.8**
CDF				*e*Sg	**Sg**	**01 29 08.0**	**-1.7**
	6.1nm

SADOGASHIMA IS REG

ISC 05 01:52:19.3±1.0, 38°06'N±0°08×138°7'E±0°1, h199km±8km, n14, σ0°42/19, mb3.5/4, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSD	**Sado**	**0.33**	**266**	P	**Pn**	**01 52 45.9**	**+0.1**
JSD				*eS*	**Sn**	**01 53 05.3**	**-0.9**
JIZZ	**Izumozaki**	**0.53**	**177**	*eP*	**Pn**	**01 52 47.1**	**+0.6**
JUON	**Uonuma**	**0.90**	**160**	*eP*	**Pn**	**01 52 48.6**	**+0.2**
JYA	**Atsumi**	**0.97**	**57**	P	**Pn**	**01 52 49.2**	**+0.4**
JYA				*eS*	**Sn**	**01 53 11.7**	**-0.1**
JFY	**Yanaizu**	**1.04**	**128**	P	**Pn**	**01 52 49.4**	**0.0**
JSZ	**Suzu**	**1.21**	**240**	P	**Pn**	**01 52 50.8**	**+0.3**
MAT	**Matsushiro**	**1.56**	**194**	P	**Pn**	**01 52 53.5**	**0.0**
MAT				S	**Sn**	**01 53 19.8**	**-0.3**
MJAR	**Matsushiro Arr** 11nm,0.5s,baz=1.8,slow=10,SNR=18	**1.56**	**194**	P	**Pn**	**01 52 54.0**	**+0.4**
MJAR	1.9nm,0.3s,baz=8.5,slow=17,SNR=5.4			S	**Sn**	**01 53 20.3**	**+0.2**
JAG	**Ashikaga**	**1.74**	**159**	P	**Pn**	**01 52 55.0**	**-0.3**
JRY	**Ryogami san**	**2.05**	**175**	P	**Pn**	**01 52 58.4**	**0.0**
JRY				*eS*	**Sn**	**01 53 29.0**	**+0.3**
SONM	**Songino Array** 0.8nm,0.6s,baz=100,slow=8.9,SNR=5.9	**25.41**	**303**	P	**P**	**01 57 28.9**	**+0.5**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=82,slow=9.0,SNR=2.9	**41.73**	**301**	P	**P**	**01 59 48.5**	**-0.1**
KURBB	**Kurchatov Arra** 0.7nm,0.6s,baz=84,slow=8.2,SNR=9.5	**43.65**	**307**	P	**P**	**02 00 03.2**	**-0.7**
FINES	**FINESS Array B** 1.1nm,0.9s,baz=64,slow=6.3,SNR=2.2	**66.88**	**331**	P	**P**	**02 02 49.6**	**+0.1**

*NEIC **05** 01:56:33.5±1.8, 20°8S±0°1×178°7W±0°1, h566km±7km, mb4.2/33, Error ellipse: s-maj=21.6km s-min=14.7km az=159.0*

*IDC **05** 01:56:34.7±3.5, 20°83S×178°68W, h585km±40km, mb3.4/13, mbtmp4.3/13, Error ellipse: s-maj=19.8km s-min=18.1km az=140.0*

ISC 05 01:56:34.5±0.5, 20°7S±0°1×178°7W±0°1, h587km, n79, σ0°81/77, mb4.1/30, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.25**	**314**	P	**P**	**01 57 58.7**	**-2.2**
EIDS	**Eidsvold**	**28.11**	**255**	P	**P**	**02 01 41.4**	**+0.6**
EIDS				IAmb	IAmb	02 01 53.6	
	comp=Z,9.8nm,1.4s						
ARMA	**Armidale**	**28.34**	**244**	P	**P**	**02 01 43.6**	**+0.8**
ARMA				IAmb	IAmb	02 01 47.8	
	comp=Z,5.8nm,1.1s						
CTA	**Charters Tower**	**32.77**	**265**	P	**P**	**02 02 21.6**	**+0.9**
	comp=Z,5.4nm,0.4s,baz=93,slow=10,SNR=15						
	comp=Z,5.4nm,0.4s						
CTAO	**Charters Tower**	**32.77**	**265**	P	**P**	**02 02 21.4**	**+0.7**
COEN	**Coen**	**36.90**	**274**	P	**P**	**02 02 55.9**	**+0.9**
STKA	**Stephens Creek**	**37.06**	**244**	P	**P**	**02 02 56.5**	**+0.4**
STKA	**Stephens Creek**	**37.06**	**244**	P	**P**	**02 02 56.6**	**+0.5**
	comp=Z,3.0nm,0.5s,baz=80,slow=11,SNR=11						
	comp=Z,3.0nm,0.5s						
JOHN	**Johnston Islan**	**38.31**	**14**	P	**P**	**02 03 05.6**	**-0.7**
BBOO	**Buckleboo**	**41.82**	**244**	P	**P**	**02 03 33.8**	**-0.4**
WR0	**Warramunga Arr**	**43.69**	**262**	P	**P**	**02 03 48.9**	**-0.1**
WR0				IAmb	IAmb	02 04 09.3	
	comp=Z,12nm,1.5s						
AS31	**Alice Springs**	**43.79**	**257**	P	**P**	**02 03 49.7**	**+0.1**
ASAR	**Alice Springs**	**43.79**	**257**	P	**P**	**02 03 49.0**	**-0.6**
ASAR	**Alice Springs**	**43.79**	**257**	P	**P**	**02 03 50.0**	**+0.3**
	comp=Z,4.4nm,0.5s,baz=97,slow=7.7,SNR=52						
ASAR				PcP	**PcP**	**02 05 23.8**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=109,slow=3.4,SNR=10						
	comp=Z,4.4nm,0.5s						
WB0	**Warramunga Arr**	**43.86**	**263**	P	**P**	**02 03 50.2**	**-0.1**
WB0				IAmb	IAmb	02 03 53.6	
	comp=Z,7.1nm,1.1s						
WB2	**Warramunga Arr**	**43.87**	**262**	P	**P**	**02 03 50.2**	**-0.1**
WB2				IAmb	IAmb	02 04 15.7	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**43.88**	**262**	P	**P**	**02 03 49.5**	**-0.9**
WRA	**Warramunga Arr**	**43.88**	**262**	P	**P**	**02 03 50.2**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=98,slow=8.8,SNR=28						
WRA				PcP	**PcP**	**02 05 24.2**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=97,slow=3.1,SNR=3.7						
	comp=Z,2.2nm,0.5s						
MTN	**Manton Dam**	**48.47**	**271**	P	**P**	**02 04 24.4**	**-0.7**
FORT	**Forrest**	**48.56**	**247**	P	**P**	**02 04 24.9**	**-0.7**
KNRA	**Kununurra**	**49.95**	**267**	P	**P**	**02 04 35.8**	**-0.2**
KNRA				IAmb	IAmb	02 05 00.0	
	comp=Z,17nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.31**	**263**	P	**P**	**02 04 53.6**	**+0.6**
PSA00	**Pilbara Seismi**	**56.94**	**257**	P	**P**	**02 05 25.5**	**+0.2**
PSA00				IAmb	IAmb	02 05 26.0	
	comp=Z,8.9nm,0.8s						
MBWA	**Marble Bar**	**57.12**	**258**	P	**P**	**02 05 26.2**	**-0.3**
MBWA				IAmb	IAmb	02 05 31.8	
	comp=Z,13nm,1.2s						
VNDA	**Vanda**	**57.62**	**185**	P	**P**	**02 05 29.1**	**+0.1**
VNDA	**Vanda**	**57.62**	**185**	P	**P**	**02 05 29.4**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=20,slow=7.9,SNR=2.2						
	comp=Z,1.2nm,0.8s						
GIRL	**Giralia**	**61.82**	**255**	P	**P**	**02 05 58.1**	**+0.3**
QSPA	**South Pole Qui**	**69.34**	**180**	P	**P**	**02 06 43.0**	**-0.9**
QSPA	**South Pole Qui**	**69.34**	**180**	P	**P**	**02 06 43.4**	**-0.5**
	comp=Z,3.0nm,0.7s,baz=2.9,slow=1.0,SNR=9.9						
	comp=Z,3.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**78.76**	**326**	P	**P**	**02 07 37.6**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=120,slow=5.7,SNR=2.8						
	comp=Z,1.8nm,0.7s						
YBH	**Yreka Blue Hor**	**80.90**	**39**	P	**P**	**02 07 50.1**	**+1.6**
PNTR	**Pine Nut**	**81.22**	**43**	P	**P**	**02 07 51.0**	**+0.7**
PNTR				IAmb	IAmb	02 07 52.4	
	comp=Z,4.3nm,0.8s						
L04D	**Klamath Falls**	**81.44**	**39**	P	**P**	**02 07 52.3**	**+1.0**
L04D				IAmb	IAmb	02 07 54.3	
	comp=Z,6.7nm,1.0s						
NVAR	**Mina Array Bea**	**81.67**	**44**	P	**P**	**02 07 53.4**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=220,slow=8.3,SNR=13						
	comp=Z,1.2nm,0.7s						
KVN	**Kaiserville**	**82.15**	**43**	P	**P**	**02 07 55.4**	**+0.3**
I04A	**Tendick Farm,**	**82.35**	**37**	P	**P**	**02 07 55.6**	**-0.1**
I04A				IAmb	IAmb	02 08 11.7	
	comp=Z,6.3nm,1.2s						
K05A	**Summer Lake**	**82.58**	**39**	P	**P**	**02 07 58.6**	**+1.5**
K05A				IAmb	IAmb	02 07 59.5	
	comp=Z,5.6nm,1.0s						
J05D	**Fort Rock, OR**	**82.71**	**38**	P	**P**	**02 07 58.9**	**+1.2**
J05D				IAmb	IAmb	02 08 00.1	
	comp=Z,5.7nm,0.8s						
PINE	**Pine Mountain**	**83.19**	**38**	P	**P**	**02 08 01.3**	**+1.1**
PINE				IAmb	IAmb	02 08 02.6	
	comp=Z,4.2nm,0.8s						
K15K	**Wolf Creek Mou**	**83.86**	**8**	P	**P**	**02 08 03.8**	**+1.0**
L18K	**Granite Mounta**	**84.51**	**10**	P	**P**	**02 08 07.0**	**+1.0**
L18K				IAmb	IAmb	02 08 14.2	
	comp=Z,7.1nm,1.3s						
U15A	**North Rim**	**84.63**	**48**	P	**P**	**02 08 08.9**	**+1.4**
RND	**Reindeer**	**87.07**	**13**	P	**P**	**02 08 18.2**	**0.0**
RND				IAmb	IAmb	02 08 19.3	
	comp=Z,6.4nm,0.8s						
TXAR	**Lajitas Array**	**87.76**	**58**	P	**P**	**02 08 23.6**	**+1.3**
	comp=Z,1.3nm,0.9s,baz=212,slow=6.9,SNR=12						
	comp=Z,1.3nm,0.9s						
CCB	**Clear Creek Bu**	**88.39**	**13**	P	**P**	**02 08 23.9**	**-0.3**
CCB				IAmb	IAmb	02 08 24.8	
	comp=Z,3.4nm,0.8s						
ILAR	**Eielson Array**	**88.69**	**13**	P	**P**	**02 08 25.6**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=225,slow=5.6,SNR=14						
	comp=Z,0.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**89.53**	**290**	P	**P**	**02 08 32.7**	**+2.0**
	comp=Z,1.1nm,0.3s,baz=121,slow=3.1,SNR=6.0						
	comp=Z,1.1nm,0.3s						
PDAR	**Pinedale Array**	**89.60**	**44**	P	**P**	**02 08 31.1**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=215,slow=2.8,SNR=12						
	comp=Z,1.1nm,0.7s						
YKA	**Yellowknife Ar**	**97.01**	**25**	P	**P**	**02 09 03.7**	**+0.1**
	comp=Z,0.2nm,0.8s,baz=248,slow=6.6,SNR=1.9						
	comp=Z,0.2nm,0.8s						
MKAR	**Makanchi Array**	**110.85**	**313**	PKiKP	**PKiKP**	**02 14 01.0**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=65,slow=2.1,SNR=5.7						
KURBB	**Kurchatov Arra**	**113.74**	**317**	PKiKP	**PKiKP**	**02 14 06.8**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=79,slow=2.6,SNR=4.8						
BVAR	**Borovoye Array**	**118.80**	**320**	PKP	**PKiKP**	**02 14 16.4**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=96,slow=1.4,SNR=7.7						
ARCES	**ARCESS Array B**	**129.01**	**349**	PKhKP	PKPpre	02 14 32.7	
	comp=Z,2.4nm,0.8s,baz=20,slow=2.9,SNR=8.0						
FINES	**FINESS Array B**	**135.79**	**343**	PKP	**PKPdf**	**02 14 47.7**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=24,slow=3.8,SNR=1.4						
NOA	**NORSAR Array B**	**139.12**	**353**	PKhKP	PKPpre	02 14 47.7	
	comp=Z,1.0nm,0.9s,baz=15,slow=4.3,SNR=3.5						
HFS	**Hagfors**	**139.65**	**350**	PKhKP	PKPpre	02 14 48.8	
	comp=Z,0.9nm,0.4s,baz=83,slow=4.6,SNR=11						
AKASG	**Malin Array Be**	**142.87**	**330**	PKP	**PKPdf**	**02 14 59.5**	**-2.2**
	comp=Z,5.9nm,0.6s,baz=42,slow=4.1,SNR=40						
AKBB	**Malin Array Si**	**142.87**	**330**		PKPpre	02 14 59.4	
KIEV	**Kiev**	**142.88**	**330**	PKPpre	PKPpre	02 14 59.4	
EKA	**Eskdalemuir Ar**	**145.29**	**4**	PKPbc	**PKPab**	**02 15 07.4**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=333,slow=2.7,SNR=2.0						
BR131	**Keskin Array S**	**146.47**	**312**		**PKPbc**	**02 15 11.0**	**0.0**
BRTR	**Keskin Array B**	**146.47**	**312**	PKPbc	**PKPbc**	**02 15 11.6**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=141,slow=4.9,SNR=11						
BUR08	**Buovina Ar. S**	**146.90**	**330**	PKPbc	**PKiKP**	**02 15 13.1**	**-0.7**
MMAI	**Mount Meron Ar**	**147.32**	**299**	PKPbc	**PKiKP**	**02 15 14.6**	**-0.5**
	comp=Z,2.9nm,0.5s,baz=67,slow=4.8,SNR=16						
GERES	**GERESS Array B**	**150.22**	**343**	PKPbc	**PKiKP**	**02 15 20.2**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=19,slow=4.2,SNR=4.9						
CONA	**Conrad Observa**	**150.41**	**340**	*i* PKP	**PKiKP**	**02 15 21.4**	**+0.4**
	comp=Z,1.3nm,0.6s						
RONA	**Rosalia, Austr**	**150.47**	**339**	*i* PKP	**PKiKP**	**02 15 21.4**	**+0.4**
	comp=Z,2.5nm,0.4s						
BIOA	**Bad Ischl, Aus**	**151.29**	**342**	*e*PKP	**PKiKP**	**02 15 22.4**	**-0.3**
	comp=Z,0.9nm,0.3s						
LESA	**Schwarzleotal**	**151.80**	**343**	*e*PKP	**PKiKP**	**02 15 24.0**	**+0.2**
	comp=Z,0.9nm,0.4s						
KBA	**Koelnbreinsper**	**151.93**	**342**	*i* PKP	**PKiKP**	**02 15 23.6**	**-0.6**
	comp=Z,0.9nm,0.4s						
OBKA	**Obir**	**152.08**	**340**	*e*PKP	**PKiKP**	**02 15 25.3**	**+0.8**
	comp=Z,0.2nm,0.2s						
WATA	**Walderalm**	**152.16**	**345**	*i* PKP	**PKiKP**	**02 15 24.4**	**-0.3**
	comp=Z,1.0nm,0.4s						
WTTA	**Wattenberg**	**152.22**	**345**	*e*PKP	**PKiKP**	**02 15 25.0**	**+0.2**
	comp=Z,1.8nm,0.4s						
MYKA	**Terra Mystica**	**152.25**	**341**	*e*PKP	**PKPbc**	**02 15 24.0**	**-0.6**
	comp=Z,1.1nm,0.5s						
MOTA	**Moosalm**	**152.27**	**346**	*i* PKP	**PKiKP**	**02 15 25.3**	**+0.4**
	comp=Z,1.4nm,0.6s						
SQTA	**Sankt Quirin**	**152.36**	**345**	*i* PKP	**PKiKP**	**02 15 25.4**	**+0.4**
	comp=Z,0.8nm,0.4s						
ABTA	**Abfaltersbach**	**152.47**	**343**	*i* PKP	**PKiKP**	**02 15 24.8**	**-0.5**
	comp=Z,2.3nm,0.6s						
FETA	**Feichten**	**152.66**	**346**	*e*PKP	**PKiKP**	**02 15 26.0**	**+0.3**
	comp=Z,0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**172.45**	**183**	PKP	**PKPdf**	**02 15 36.2**	**-1.4**
	comp=Z,0.7nm,0.9s,baz=199,slow=4.0,SNR=3.0						
TORD				PKPab	**PKPab**	**02 17 05.4**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=198,slow=4.2,SNR=2.2						

IDC 05 02:02:22.9±1.8, 5°58S×141°59E, h0km, mb3.6/1, mbtmp3.6/3, ML3.4/2, MS3.2/1, Error ellipse: s-maj=252.6km s-min=28.0km az=114.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.92**	**206**	Pn	Pn	02 06 07.1	-1.4
	0.2nm,0.3s,baz=29,slow=12,SNR=5.6						
WRA				Lg	Lg	02 10 45.2	
	0.1nm,0.3s,baz=38,slow=30,SNR=2.8						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**19.44**	**202**	P	Pn	02 06 52.4	+0.1
	0.2nm,0.3s,baz=31,slow=10,SNR=16						
ASAR				LR	LR	02 15 14.5	
	comp=Z,66nm,18.5s,baz=144,slow=40						
	1.3nm,0.6s						
ILAR	**Eielson Array**	**87.26**	**24**	P	P	02 15 10.9	-0.2
	0.2nm,0.6s,baz=247,slow=4.6,SNR=7.0						
	0.2nm,0.6s						

*IDC **05** 02:05:12.4±1.6, 23°53S×179°93W, h530km±18km, mb3.4/8, mbtmp4.3/10, Error ellipse: s-maj=35.9km s-min=15.0km az=167.0*

*NOU **05** 02:05:13.2, 23°67S×179°76W, h559km, mb4.0/11, South of Fiji Islands*

*NEIC **05** 02:05:13.9±2.1, 23°8S±0°1×179°9W±0°2, h550km±8km, mb4.5/21, Error ellipse: s-maj=21.7km s-min=18.4km az=134.0*

ISC 05 02:05:13.3±0.5, 23°77S±0°08×179°93W±0°09, h550km, n94, σ1°61/91, mb4.3/20, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**5.61**	**11**	P	**P**	**02 06 48.0**	**-0.5**
RAO	**Raoul Island**	**5.75**	**162**	P	**P**	**02 06 51.5**	**+1.9**
RAO	**Raoul Island**	**5.75**	**162**	P	**P**	**02 06 49.9**	**+0.4**
	19nm,0.3s,baz=108,slow=23,SNR=5.4						
MSVF	**Nonsavu**	**6.30**	**342**	P	**P**	**02 06 53.8**	**-1.1**
MSVF	**Nonsavu**	**6.30**	**342**	P	**P**	**02 06 53.8**	**-1.1**
TAVE	**Taveuni**	**7.03**	**0**	P	**P**	**02 07 01.8**	**+0.1**
YSA	**Yasawairara**	**7.41**	**341**	P	**P**	**02 07 05.0**	**-0.4**
DGTI	**Dogotuki**	**7.44**	**358**	P	**P**	**02 07 05.2**	**-0.5**
MARNC	**Mare, Loyalty**	**11.35**	**279**	P	**P**	**02 07 45.7**	**+0.5**
MARNC	**Mare, Loyalty**	**11.35**	**279**	P	**P**	**02 07 45.8**	**+0.7**
PINNC	**Pines Island,**	**11.67**	**273**	P	**P**	**02 07 49.4**	**+1.0**
LIFNC	**LIFOU**	**12.24**	**282**	P	**P**	**02 07 53.0**	**-1.4**
DZM	**Mont Dzumac**	**12.67**	**275**	P	**P**	**02 08 01.4**	**+2.5**
DZM	**Mont Dzumac**	**12.67**	**275**	P	**P**	**02 07 59.8**	**+0.9**
	5.9nm,0.8s,baz=82,slow=19,SNR=6.8						
WCZ	**Waipu Caves**	**13.10**	**201**	P	P	02 08 08.6	+5.6
WCZ	**Waipu Caves**	**13.10**	**201**	P	**P**	**02 08 07.2**	**+4.1**
RUGZ	**Raukumara Rang**	**14.30**	**188**	P	**P**	**02 08 17.4**	**+2.0**
TWGZ	**Tauwhareparae**	**14.47**	**187**	P	**P**	**02 08 19.9**	**+2.7**
URZ	**Urewera**	**14.66**	**189**	P	**P**	**02 08 20.3**	**+1.2**
URZ	**Urewera**	**14.66**	**189**	P	**P**	**02 08 19.3**	**+0.2**
	5.7nm,0.3s,baz=343,slow=3.1,SNR=9.7						
URZ				S	**S**	**02 10 46.5**	**-5.7**
	2.3nm,0.5s,baz=131,slow=19,SNR=1.3						
URZ	**Urewera**	**14.66**	**189**	P	**P**	**02 08 19.6**	**+0.5**
MWZ	**Matawai**	**14.68**	**188**	P	**P**	**02 08 20.1**	**+0.8**
MTHZ	**Maungataniwha**	**15.28**	**190**	P	**P**	**02 08 25.7**	**+0.2**
MRHZ	**Matea Rd**	**15.33**	**191**	P	**P**	**02 08 24.2**	**-1.9**
ETVZ	**East Tongariro**	**15.76**	**193**	P	**P**	**02 08 30.8**	**+0.3**
OTVZ	**Oturere**	**15.79**	**193**	P	**P**	**02 08 29.6**	**-1.2**
WNVZ	**Wahianoa**	**15.97**	**193**	P	**P**	**02 08 31.9**	**-0.7**
BHHZ	**Black Hill Sta**	**16.04**	**191**	P	**P**	**02 08 31.3**	**-1.8**
PXZ	**Pawanui**	**16.44**	**189**	P	**P**	**02 08 42.0**	**+5.3**
TSZ	**Takapari Road**	**16.61**	**191**	P	**P**	**02 08 38.8**	**+0.5**
PRHZ	**Porangahau**	**16.70**	**189**	P	**P**	**02 08 46.2**	**+7.1**
BFZ	**Birch Farm**	**17.17**	**190**	P	**P**	**02 08 42.4**	**-0.9**
BFZ	**Birch Farm**	**17.17**	**190**	P	**P**	**02 08 43.2**	**-0.1**
	41nm,1.8s						
BFZ	**Birch Farm**	**17.17**	**190**	P	**P**	**02 08 43.6**	**+0.3**
TCW	**Tory Channel**	**18.05**	**194**	P	**P**	**02 08 51.8**	**+0.3**
LTZ	**Lake Taylor**	**20.03**	**197**	P	**P**	**02 09 08.7**	**-0.8**
EIDS	**Eidsvold**	**26.39**	**261**	P	**P**	**02 10 06.7**	**+0.3**
EIDS				IAmb	IAmb	02 10 22.3	
	comp=Z,10nm,1.3s						
EIDS	**Eidsvold**	**26.39**	**261**	P	**P**	**02 10 07.4**	**+1.0**
CMSA	**Cobar Meteorol**	**31.32**	**248**	P	**P**	**02 10 49.8**	**+0.7**
	comp=Z,7.5nm,1.8s						
CTA	**Charters Tower**	**31.54**	**270**	P	**P**	**02 10 51.7**	**+0.5**
	comp=Z,12nm,0.4s,baz=93,slow=10,SNR=30						
	comp=Z,12nm,0.4s						
CTAO	**Charters Tower**	**31.54**	**270**	P	**P**	**02 10 51.6**	**+0.5**
STKA	**Stephens Creek**	**34.83**	**248**	P	**P**	**02 11 19.4**	**+0.7**
	comp=Z,1.1nm,0.4s,baz=108,slow=12,SNR=3.1						
	comp=Z,1.1nm,0.4s						
COEN	**Coen**	**36.16**	**279**	P	**P**	**02 11 30.2**	**+0.3**
COEN				IAmb	IAmb	02 12 00.4	
	comp=Z,16nm,1.3s						
BBOO	**Buckleboo**	**39.55**	**247**	P	**P**	**02 11 57.1**	**-0.2**
BBOO				IAmb	IAmb	02 12 00.1	
	comp=Z,18nm,1.2s						
ASAR	**Alice Springs**	**42.12**	**260**	P	**P**	**02 12 17.3**	**-0.6**
ASAR	**Alice Springs**	**42.12**	**260**	P	**P**	**02 12 18.4**	**+0.5**
	comp=Z,2.3nm,0.5s,baz=94,slow=8.4,SNR=19						
ASAR				ScP	**ScP**	**02 17 01.9**	**+3.8**
	comp=Z,1.3nm,0.8s,baz=101,slow=4.1,SNR=7.8						
	comp=Z,2.3nm,0.5s						
WB2	**Warramunga Arr**	**42.47**	**266**	P	**P**	**02 12 20.0**	**-0.7**
WB0	**Warramunga Arr**	**42.47**	**266**	P	**P**	**02 12 20.0**	**-0.7**
WB0				IAmb	IAmb	02 12 28.3	
	comp=Z,14nm,1.2s						
WRA	**Warramunga Arr**	**42.48**	**266**	P	**P**	**02 12 19.8**	**-1.0**
WRA	**Warramunga Arr**	**42.48**	**266**	P	**P**	**02 12 20.6**	**-0.1**
	comp=Z,3.8nm,0.5s,baz=90,slow=5.9,SNR=42						
	comp=Z,3.8nm,0.5s						
FORT	**Forrest**	**46.41**	**249**	P	**P**	**02 12 49.9**	**-1.0**
FORT				IAmb	IAmb	02 12 51.8	
	comp=Z,16nm,0.8s						
KNRA	**Kununurra**	**48.75**	**270**	P	**P**	**02 13 08.7**	**+0.2**
KNRA				IAmb	IAmb	02 13 33.0	
	comp=Z,19nm,1.4s						
KIWB	**Kanaga Island**	**75.33**	**2**	P	**P**	**02 15 59.9**	**-0.3**
ADK	**Adak**	**75.38**	**2**	P	**P**	**02 15 59.8**	**-0.6**
KHMM	**Horse Mountain**	**82.81**	**39**	P	**P**	**02 16 40.8**	**+0.5**
KHMM				IAmb	IAmb	02 17 17.6	
	comp=Z,26nm,1.4s						
CMB	**Columbia Colle**	**83.06**	**43**	P	**P**	**02 16 41.8**	**+0.3**
KRMB	**Red Mountain**	**83.12**	**39**	P	**P**	**02 16 42.9**	**+1.1**
OHAK	**Old Harbor**	**83.74**	**14**	P	**P**	**02 16 44.5**	**+0.3**
OHAK				IAmb	IAmb	02 16 45.5	
	comp=Z,18nm,1.4s						
NVAR	**Mina Array Bea**	**84.62**	**44**	P	**P**	**02 16 48.6**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=227,slow=7.3,SNR=7.1						
	comp=Z,0.8nm,0.7s						
O18K	**Koktuh Hills**	**85.76**	**12**	P	**P**	**02 16 53.6**	**-0.4**
O18K				IAmb	IAmb	02 16 54.6	
	comp=Z,6.5nm,0.7s						
G08A	**Pilot Rock**	**88.29**	**38**	P	**P**	**02 17 07.0**	**+0.5**
G08A				IAmb	IAmb	02 17 08.5	
	comp=Z,3.1nm,0.9s						
MTPU	**Mount Pierson**	**88.40**	**47**	P	**P**	**02 17 08.9**	**+1.4**
TX31	**Lajitas Ar. Si**	**90.31**	**58**	P	**P**	**02 17 18.0**	**+1.8**
TXAR	**Lajitas Array**	**90.31**	**58**	P	**P**	**02 17 18.3**	**+2.1**
	comp=Z,1.3nm,0.7s,baz=214,slow=6.6,SNR=20						
	comp=Z,1.3nm,0.7s						
BSUT	**Blindstream Ca**	**90.64**	**45**	P	**P**	**02 17 18.3**	**+0.5**
BSUT				IAmb	IAmb	02 17 19.8	
	comp=Z,5.5nm,0.8s						
ILAR	**Eielson Array**	**91.89**	**14**	P	**P**	**02 17 21.4**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=220,slow=6.2,SNR=5.4						
	comp=Z,0.3nm,0.5s						
PDAR	**Pinedale Array**	**92.56**	**44**	P	**P**	**02 17 26.3**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=215,slow=4.6,SNR=6.0						
	comp=Z,0.5nm,0.6s						
MKAR	**Makanchi Array**	**112.11**	**313**	PKiKP	**PKiKP**	**02 22 45.7**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=76,slow=0.7,SNR=5.0						
KURBB	**Kurchatov Arra**	**115.19**	**316**	PKP	**PKPdf**	**02 22 51.5**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=129,slow=1.9,SNR=2.7						
KKAR	**Karatay Array**	**119.83**	**307**	PKPdf	**PKPdf**	**02 23 00.4**	**-1.0**
BVAR	**Borovoye Array**	**120.38**	**319**	PKP	**PKPdf**	**02 23 02.0**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=111,slow=2.4,SNR=7.0						
ARCES	**ARCESS Array B**	**131.77**	**348**	PKPdf	**PKPdf**	**02 23 22.5**	**-0.8**
ARCES	**ARCESS Array B**	**131.77**	**348**	PKP	**PKPdf**	**02 23 22.8**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=66,slow=1.5,SNR=8.0						
FINES	**FINESS Array B**	**138.34**	**342**	PKPpre	PKPpre	02 23 24.7	
FINES					**PKPdf**	**02 23 36.4**	**+0.8**
FINES	**FINESS Array B**	**138.34**	**342**	PKPpre	PKPpre	02 23 26.3	
	comp=Z,2.1nm,0.9s,baz=56,slow=3.4,SNR=4.1						
FINES				PKP	**PKPdf**	**02 23 36.5**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=104,slow=1.3,SNR=7.4						
FINES				SKPbc	**SKPbc**	**02 26 19.4**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=200,slow=3.7,SNR=3.9						
NB2	**NORSAR Subarra**	**141.96**	**351**	PKP	**PKPdf**	**02 23 38.4**	**-4.0**
	comp=Z,0.8nm,0.7s,baz=23,slow=3.4						
NOA	**NORSAR Array B**	**141.96**	**351**	PKhKP	PKPpre	02 23 38.0	
	comp=Z,2.4nm,0.8s,baz=11,slow=1.8,SNR=5.4						
HFS	**Hagfors**	**142.43**	**349**	PKhKP	PKP

TORD					IAmb	IAmb	02 30 56.2		
	comp=Z,2.7nm,1.4s								
TORD	**Torodi Ar. Bea**	**72.89**	**28**	P		**P**	**02 30 41.4**	**+0.3**	
	comp=Z,1.6nm,0.5s,baz=202,slow=6.0,SNR=22								
	comp=Z,1.6nm,0.5s								
A36M	**Sachs Harbour**	**144.85**	**328**	PKPdf		**PKPdf**	**02 38 47.3**	**-0.1**	
M30M	**Minto, Yukon**	**145.95**	**309**	PKPdf		**PKPdf**	**02 38 49.9**	**+0.2**	
INK	**Inuvik**	**146.51**	**320**	PKPdf		**PKPbc**	**02 38 51.7**	**-0.2**	
G30M	**tAoh Zraii Nji**	**147.14**	**317**	PKPdf		**PKPbc**	**02 38 53.3**	**-0.6**	
E29M	**Blow River**	**148.10**	**320**	PKPbc		**PKPbc**	**02 38 56.2**	**-0.1**	
BCAR	**Beaver Creek A**	**148.27**	**309**	PKPbc		**PKPbc**	**02 38 56.8**	**-0.2**	
SONM	**Songino Array**	**149.94**	**86**	PKPbc		**PKPbc**	**02 39 01.5**	**-0.2**	
	comp=Z,0.3nm,0.6s,baz=208,slow=4.4,SNR=2.5								
BMAR	**Burnt Mountain**	**150.42**	**317**	PKPbc		**PKPbc**	**02 39 02.1**	**-0.1**	
E25K	**Arctic Village**	**150.88**	**318**	PKPbc		**PKPbc**	**02 39 03.2**	**0.0**	
ILAR	**Eielson Array**	**150.88**	**311**	PKPbc		**PKPbc**	**02 39 02.9**	**-0.4**	
ILAR	**Eielson Array**	**150.88**	**311**	PKPbc		**PKPbc**	**02 39 03.1**	**-0.1**	
	comp=Z,1.1nm,0.9s,baz=130,slow=1.2,SNR=13								
RND	**Reindeer**	**151.45**	**308**	PKPbc		**PKPbc**	**02 39 04.9**	**+0.2**	
TRF	**Thorofare Moun**	**152.09**	**308**	PKPbc		**PKPbc**	**02 39 05.8**	**-0.6**	
SKT	**Skwentna**	**152.34**	**304**	PKPbc		**PKPbc**	**02 39 06.3**	**-0.5**	
C23K	**Itkillik River**	**152.77**	**322**	PKPbc		**PKPbc**	**02 39 07.3**	**-0.1**	

IDC 05 02:19:52.6±2.1, 5.73S×141.36E, h0km, mb3.5/1, mbtmp3.6/3, ML3.5/2, Error ellipse: s-maj=179.8km s-min=34.9km az=113.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.69**	**205**	Pn	Pn	02 23 33.4	-1.8
	0.1nm,0.3s,baz=25,slow=13,SNR=2.6						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**19.22**	**201**	P	Pn	02 24 19.2	-0.1
	0.2nm,0.3s,baz=31,slow=9.9,SNR=20						
	1.6nm,0.6s						
ILAR	**Eielson Array**	**87.49**	**24**	P	P	02 32 41.8	-0.1
	0.3nm,0.9s,baz=238,slow=5.2,SNR=1.9						
	0.3nm,0.9s						

TEH 05 02:22:28.5, 30.71N×57.41E, h10km±22km, ML3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRM1	**Kerman Provinc**	**0.23**	**210**	Pg	Pg	02 22 34.0	+0.5
ZRDN	**Zarand Kerman**	**0.79**	**289**	Pg	Pg	02 22 44.0	+0.1
CHMN	**Cheshme madani**	**0.85**	**172**	Pg	Pg	02 22 45.0	0.0
KHGB	**Koh Gabri**	**0.87**	**248**	Pg	Pg	02 22 45.2	-0.1
TVBK	**TV Kerman**	**0.91**	**218**	Pg	Pb	02 22 46.6	+0.1
NGRK	**Negar Kerman**	**1.21**	**209**	Pg	Pg	02 22 52.0	+0.2
IBAF	**Bafgh**	**1.81**	**300**	Pn	Pb	02 23 01.8	+0.1
KBAM	**BAM**	**1.81**	**150**	Pn	Pb	02 23 01.5	-0.3
BSRN	**Basiran**	**1.93**	**49**	Pn	Pb	02 23 03.5	-0.4
IKOO	**Kooshah**	**2.19**	**38**	Pn	Pb	02 23 07.0	-1.3
NHDN	**Nehbandan**	**2.37**	**73**	Pn	Pb	02 23 09.7	-1.6
TPRV	**Parvadeh(Tabas**	**2.39**	**345**	Pn	Pn	02 23 09.5	+1.7
ITEG	**Tejag**	**2.46**	**27**	Pn	Pb	02 23 11.1	-1.8
IMEH	**Mehriz**	**2.49**	**287**	Pn	Pb	02 23 11.6	-1.9
TKDS	**Koohdasht(Taba**	**2.91**	**355**	Pn	Pn	02 23 17.0	+2.1
ICHK	**Chekchek**	**2.99**	**302**	Pn	Pn	02 23 17.7	+1.6
AFRZ	**Afriz**	**3.03**	**26**	Pn	Pn	02 23 18.7	+2.0
TNSJ	**Nastanj**	**3.32**	**348**	Pn	Pn	02 23 22.4	+1.9
ANAR	**Anarak**	**3.99**	**309**	Pn	Pn	02 23 31.5	+1.7
IRAM	**Ramesheh**	**4.44**	**286**	Pn	Pn	02 23 38.1	+2.0
KRSH	**Karshahi**	**5.52**	**307**	Pn	Pn	02 23 52.8	+1.9
ISFB	**Sefidab**	**5.68**	**311**	Pn	Pn	02 23 54.6	+1.6
JRKH	**Jarkhoshk**	**5.74**	**25**	Pn	Pn	02 23 56.7	+2.9

IDC 05 02:23:40.0±6.7, 6.23S×142.11E, h0km, mb3.6/2, mbtmp3.4/4, ML3.1/2, MS2.9/1, Error ellipse: s-maj=252.9km s-min=35.2km az=97.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.58**	**208**	Pn	Pn	02 27 19.9	-1.2
	0.1nm,0.3s,baz=28,slow=14,SNR=2.2						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**19.05**	**204**	P	Pn	02 28 04.6	0.0
	0.1nm,0.3s,baz=32,slow=11,SNR=3.6						
	0.6nm,0.7s						
JNU	**Nakatsue**	**40.57**	**345**	LR	LR	02 47 27.6	
	comp=Z,15nm,20.0s,baz=239,slow=35						
MKAR	**Makanchi Array**	**74.64**	**326**	P	P	02 35 22.9	+1.6
	0.2nm,0.5s,baz=136,slow=7.2,SNR=2.7						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**84.13**	**325**	P	P	02 36 11.0	-1.9
	0.6nm,0.7s,baz=108,slow=4.7,SNR=1.9						
	0.6nm,0.7s						

*IDC **05** 02:35:53.3±1.9, 6.49S×143.13E, h0km, mb3.7/4, mbtmp3.7/6, ML3.4/2, MS2.7/1, Error ellipse: s-maj=68.3km s-min=25.8km az=108.0*

ISC 05 02:35:58.1±1.8, 6.6S±0.2×143.1E±0.5, h35km, n8, σ1°57/6, mb3.7/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.90**	**125**	LR	LR	02 39 40.5	
	comp=Z,77nm,20.4s,baz=224,slow=46						
CTA	**Charters Tower**	**13.78**	**168**	Lg	Lg	02 43 18.9	
	0.2nm,0.3s,baz=53,slow=5.1,SNR=2.0						
WRA	**Warramunga Arr**	**15.79**	**212**	Pn	**Pn**	**02 39 36.6**	**-1.3**
	0.2nm,0.3s,baz=33,slow=14,SNR=7.9						
WRA				Lg	Lg	02 44 16.6	
	baz=32,slow=30,SNR=3.5						
	1.7nm,0.8s						
ASAR	**Alice Springs**	**19.16**	**207**	P	**P**	**02 40 20.2**	**+1.5**
	0.1nm,0.3s,baz=36,slow=9.8,SNR=24						
ASAR				Lg	Lg	02 46 05.2	
	baz=21,slow=32,SNR=2.5						
	3.2nm,0.9s						
MKAR	**Makanchi Array**	**75.51**	**322**	P	**P**	**02 47 39.5**	**+0.4**
	0.9nm,1.0s,baz=124,slow=6.1,SNR=4.6						
	0.9nm,1.0s						
KURBB	**Kurchatov Arra**	**79.40**	**324**	P	**P**	**02 48 02.3**	**+1.7**
	0.2nm,0.5s,baz=111,slow=5.2,SNR=2.8						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**84.97**	**325**	P	**P**	**02 48 29.4**	**-0.4**
	0.5nm,0.5s,baz=108,slow=4.8,SNR=4.6						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**87.54**	**24**	P	**P**	**02 48 41.9**	**-0.3**
	0.5nm,1.0s,baz=254,slow=6.5,SNR=4.5						
	0.5nm,1.0s						

*IDC **05** 02:46:04.3±2.5, 4.41S×128.88E, h0km, mb3.4/1, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=192.4km s-min=30.4km az=68.0*

*DJA **05** 02:46:04.5±0.7, 4°S±15°×13°E±°, h17km±15km, M3.3/7, MLv3.3/7*

ISC 05 02:46:04.1±1.1, 4.3S±0.1×129.49E±0.08, h10km, n7, σ0°57/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.46**	**117**	P	**Pb**	**02 46 14.3**	**0.0**
NLAI	**Namlea**	**2.61**	**294**	P	**Pn**	**02 46 46.3**	**-0.1**
FAKI	**Fak Fak**	**3.08**	**63**	P	**Pn**	**02 46 52.8**	**0.0**
SWI	**Sorong**	**3.85**	**27**	P	**Pn**	**02 47 03.4**	**-0.1**
WRA	**Warramunga Arr**	**16.24**	**163**	Pn	**P**	**02 49 54.8**	**-0.8**
	0.1nm,0.3s,baz=344,slow=13,SNR=2.3						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**19.71**	**168**	P	**Pn**	**02 50 36.1**	**+0.8**
	0.1nm,0.3s,baz=347,slow=9.7,SNR=4.7						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**65.72**	**326**	P	**P**	**02 56 49.3**	**+0.2**
	0.2nm,0.4s,baz=112,slow=8.3,SNR=5.4						
	0.2nm,0.4s						

*VAO **05** 02:53:58.7±0.6, 18.24S×72.02W, h10km, mb4.5*
*NEIC **05** 02:54:06.6±2.3, 18.37S±0.05×71.46W±0.02, h22km±5km, mb4.7/51, Mwr4.1/27, Error ellipse: s-maj=8.1km s-min=3.4km az=183.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.55; $M_{\theta\theta}$-0.65; $M_{\phi\phi}$-0.90; $M_{r\theta}$-0.23; $M_{\theta\phi}$0.84; $M_{\phi r}$-0.89; Fault plane solution: $M_0$1.83000×10^{15} NP1:ϕ_s299.62000°, δ39.44000°, λ55.75000°. NP2:ϕ_s161.02000°, δ58.33000°, λ114.84000°. Principal axes: T 1.9319, Plg67.0000°, Azm119.0000°; N -0.2148, Plg21.0000°, Azm327.0000°; P -1.7172,*
Plg10.0000°, Azm233.0000°;
*NEIC **05** 02:54:07.9, 18.37S×71.45W, h32km*
*IDC **05** 02:54:09.7±2.6, 18.15S×71.11W, h43km±24km, mb3.9/12, mbtmp4.2/15, ML4.0/3, MS3.4/7, Error ellipse: s-maj=22.8km s-min=14.9km az=61.0*
*GUC **05** 02:54:09.3±0.8, 18.49S×71.40W, h20km±9km, ML4.2*

ISC 05 02:54:03.8±1.9, 18.27S±0.04×71.50W±0.05, h10km±11km, n176, σ1°49/170, mb4.6/31, MS3.6/3, 12C-1D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**1.16**	**107**		**Pb**	**02 54 26.0**	**0.0**
PB12				Sn	**Sb**	**02 54 39.7**	**-1.5**
PB12	**IPOC Station P**	**1.16**	**107**	↓*iP*	**Pn**	**02 54 26.3**	**+0.1**
PB12				*i* S	**Sb**	**02 54 40.3**	**-0.9**
PB12				IAML		02 54 40.8	
	comp=N,5μm,0.4s						
PB16	**IPOC Station P**	**1.89**	**92**	Pn	**Pb**	**02 54 38.4**	**-0.4**
PB16				Sn	**Sn**	**02 55 01.6**	**+0.7**
PB16	**IPOC Station P**	**1.89**	**92**	↑*iP*	**Pb**	**02 54 38.2**	**-0.6**
PB16				*i* S	**Sb**	**02 55 03.2**	**+0.5**
PB16				IAML		02 55 05.0	
	comp=N,7μm,0.5s						
PB18	**Visviri**	**2.04**	**71**	↑*iP*	**Pg**	**02 54 42.6**	**-0.3**
PB18				*i* S	**Sg**	**02 55 10.6**	**+1.3**
PB18				IAML		02 55 17.6	
	comp=E,5μm,0.2s						
PB11	**IPOC Station P**	**2.29**	**131**		**Pn**	**02 54 43.1**	**+1.3**
PB11	**IPOC Station P**	**2.29**	**131**	↑*iP*	**Pn**	**02 54 43.0**	**+1.3**
PB11				*i* S	**Sn**	**02 55 09.6**	**-0.5**
TA02	**Huaiquique**	**2.37**	**147**	Pn	**Pn**	**02 54 43.8**	**+1.0**
TA02	**Huaiquique**	**2.37**	**147**	*eP*	**Pn**	**02 54 43.8**	**+1.0**
TA02				*i* S	**Sn**	**02 55 11.7**	**-0.3**
TA02				IAML		02 55 13.4	
	comp=N,2μm,0.1s						
HMBC	**Humberstone**	**2.51**	**143**	↑*iP*	**Pn**	**02 54 46.1**	**+1.3**
HMBC				*i* S	**Sn**	**02 55 14.1**	**-1.4**
HMBC				IAML		02 55 18.9	
	comp=N,2μm,0.8s						
GO01	**Chusmiza**	**2.58**	**123**	Pn	**Pn**	**02 54 47.2**	**+1.1**
GO01	**Chusmiza**	**2.58**	**123**	↑*iP*	**Pn**	**02 54 47.9**	**+1.7**
GO01				*i* S	**Sn**	**02 55 18.6**	**+0.7**
GO01				IAML		02 55 28.1	
	comp=N,1μm,0.2s						
TA01	**Diego Aracena**	**2.60**	**152**	Pn	**Pn**	**02 54 46.0**	**+0.1**
TA01	**Diego Aracena**	**2.60**	**152**	*eP*	**Pn**	**02 54 46.0**	**+0.1**
TA01				IAML		02 55 18.6	
	comp=E,589nm,0.8s						
PATCX	**Punta Patache**	**2.84**	**154**	Pn	**Pn**	**02 54 49.4**	**+0.2**
PB08	**IPOC Station P**	**2.89**	**130**	Pn	**Pn**	**02 54 51.1**	**+0.8**
PB08	**IPOC Station P**	**2.89**	**130**	↑*iP*	**Pn**	**02 54 51.7**	**+1.4**
PB08				IAML		02 55 30.5	
	comp=N,705nm,0.5s						
PB01	**IPOC Station P**	**3.35**	**146**	Pn	**Pn**	**02 54 56.7**	**+0.4**
PB01	**IPOC Station P**	**3.35**	**146**	↑*iP*	**Pn**	**02 54 57.1**	**+0.8**
PB01				IAML		02 55 50.4	
	comp=E,519nm,0.3s						
PB02	**IPOC Station P**	**3.39**	**154**	Pn	**Pn**	**02 54 57.3**	**+0.4**
PB02	**IPOC Station P**	**3.39**	**154**	↑*iP*	**Pn**	**02 54 57.8**	**+0.9**
PB02				IAML		02 55 37.6	
	comp=E,1μm,0.2s						
PB07	**IPOC Station P**	**3.76**	**156**	Pn	**Pn**	**02 55 02.2**	**+0.2**
PB07	**IPOC Station P**	**3.76**	**156**	↑*iP*	**Pn**	**02 55 02.6**	**+0.6**
LPAZ	**La Paz**	**3.77**	**59**	Pn	**Pn**	**02 55 06.4**	**+3.8**
LPAZ	**La Paz**	**3.77**	**59**	P	**Pb**	**02 55 07.6**	**-3.3**
	comp=E,37nm,0.5s,baz=240,slow=6.9,SNR=69						
LPAZ				LR	LR	02 56 44.1	
	comp=E,502nm,19.4s,baz=271,slow=46						
LPAZ	**La Paz**	**3.77**	**59**	*eP*	**Pn**	**02 55 03.5**	**+0.9**
PB09	**IPOC Station P**	**4.10**	**149**	Pn	**Pn**	**02 55 07.9**	**+1.2**
PB09	**IPOC Station P**	**4.10**	**149**	↑*iP*	**Pn**	**02 55 08.4**	**+1.7**
PB09				*i* S	**Sn**	**02 55 53.7**	**-1.2**
PB04	**IPOC Station P**	**4.24**	**163**	Pn	**Pn**	**02 55 08.1**	**-0.5**
PB04	**IPOC Station P**	**4.24**	**163**	↑*iP*	**Pn**	**02 55 08.6**	**0.0**
PB06	**IPOC Station P**	**4.77**	**158**	Pn	**Pn**	**02 55 15.3**	**-0.6**
PB06	**IPOC Station P**	**4.77**	**158**	↑*iP*	**Pn**	**02 55 15.9**	**0.0**
LVC	**Limon Verde**	**4.95**	**151**	Pn	**Pn**	**02 55 19.9**	**+1.3**
LVC	**Limon Verde**	**4.95**	**151**	P	**Pn**	**02 55 20.3**	**+1.7**
	comp=E,22nm,0.3s,baz=345,slow=9.5,SNR=62						
LVC				S	**Sn**	**02 56 15.9**	**-0.3**
	comp=E,59nm,0.4s,baz=275,slow=23,SNR=6.5						
LVC				LR	LR	02 56 35.6	
	comp=E,125nm,19.9s,baz=328,slow=30						
	comp=E,37nm,0.3s						
LVC	**Limon Verde**	**4.95**	**151**	*eP*	**Pn**	**02 55 16.9**	**-1.7**
PB15	**IPOC Station P**	**5.27**	**159**	Pn	**Pn**	**02 55 22.3**	**-0.5**
AF01	**San Pedro de A**	**5.60**	**147**	Pn	**Pn**	**02 55 29.6**	**+2.1**
PB14	**IPOC Station P**	**6.41**	**171**	Pn	**Pn**	**02 55 36.9**	**-1.7**
GO02	**Mina Guanaco**	**7.08**	**166**	Pn	**Pn**	**02 55 47.0**	**-0.9**
AC01	**Pan de Azucar**	**7.88**	**174**	Pn	**Pn**	**02 55 57.8**	**-0.8**
NNA	**Nana**	**8.10**	**320**	P	Pn	02 56 08.9	+7.3
	comp=E,0.9nm,0.3s,baz=155,slow=19,SNR=1.5						
NNA				S	**Sn**	**02 57 26.1**	**-7.3**
	comp=E,7.9nm,0.3s,baz=166,slow=12,SNR=1.4						
	comp=E,3.2nm,0.3s						
AC02	**Maricunga**	**8.80**	**166**	Pn	**Pn**	**02 56 11.8**	**+0.2**
ETMB	**Extrema**	**9.84**	**32**	Pn	**Pn**	**02 56 27.1**	**+1.7**
ETMB	**Extrema**	**9.84**	**32**	*eP*	**Pn**	**02 56 24.8**	**-0.7**
SIV	**San Ignacio**	**10.22**	**79**	P	**Pn**	**02 56 33.0**	**+2.3**
	comp=E,11nm,0.5s,baz=263,slow=10,SNR=46						
SIV				LR	LR	03 00 55.8	
	comp=E,434nm,18.6s,baz=292,slow=41						
BBSD	**Serra de San D**	**10.43**	**86**	*eP*	**Pn**	**02 56 34.7**	**+1.2**
CZSB	**Cruzeiro do Su**	**10.54**	**353**	Pn	**Pn**	**02 56 37.2**	**+2.1**
BBRB	**Robore, Bolivi**	**11.10**	**92**	*eP*	**Pn**	**02 56 44.5**	**+1.7**
VILB	**Vilhena**	**12.10**	**66**	Pn	**Pn**	**02 56 57.9**	**+1.5**
VILB	**Vilhena**	**12.10**	**66**	*eP*	**Pn**	**02 56 58.3**	**+1.9**
PTLB	**Pontes e Lacer**	**12.16**	**79**	Pn	**Pn**	**02 56 58.8**	**+1.6**
PTLB	**Pontes e Lacer**	**12.16**	**79**	*eP*	**Pn**	**02 56 59.6**	**+2.4**
SAML	**Samuel**	**12.29**	**42**	Pn	**Pn**	**02 56 59.4**	**+0.4**
SAML	**Samuel**	**12.29**	**42**	*eP*	**Pn**	**02 56 58.9**	**-0.1**
MURT	**Porto Murtinho**	**13.48**	**107**	*eP*	**Pn**	**02 57 15.4**	**+0.1**
AQDB	**Aquidauana**	**15.07**	**101**	Pn	**Pn**	**02 57 36.7**	**-0.2**
AQDB	**Aquidauana**	**15.07**	**101**	*eP*	**Pn**	**02 57 36.1**	**-0.8**
SALV	**Santo Antonio**	**15.29**	**84**	*eP*	**Pn**	**02 57 40.7**	**+0.8**
CPUP	**Villa Florida**	**15.36**	**124**	P	**Pn**	**02 57 40.1**	**-0.6**
	comp=E,0.2nm,0.3s,baz=315,slow=13,SNR=3.5						
CPUP				LR	LR	03 04 13.0	
	comp=E,74nm,21.1s,baz=304,slow=40						
	comp=E,0.5nm,0.4s						
PDRB	**Porto dos Gac**	**15.72**	**67**	*eP*	**Pn**	**02 57 47.4**	**+1.8**
MCRA	**Macar, Loja**	**16.10**	**328**	Pn	**P**	**02 57 52.6**	**-1.2**
AMBA	**Amambai (Brazi**	**16.13**	**109**	*eP*	**P**	**02 57 53.2**	**-0.9**
TEFE	**Tefe**	**16.14**	**25**	*eP*	**Pn**	**02 57 48.8**	**-2.1**
H03N1	**Juan Fernandez**	**16.51**	**202**	T	T	03 15 01.7	
	baz=26,slow=73,SNR=206						
H03N2	**Juan Fernandez**	**16.51**	**202**	T	T	03 15 06.7	
	baz=26,slow=73,SNR=160						
H03N3	**Juan Fernandez**	**16.52**	**202**	T	T	03 15 00.6	
	baz=26,slow=73,SNR=174						
ITQB	**Itaqui**	**17.69**	**133**	Pn	**Pn**	**02 58 08.4**	**-1.9**
MACA	**Manacapuru-AM**	**18.38**	**36**	P	**Pn**	**02 58 17.9**	**-1.0**
MACA				IAmb	IAmb	02 58 19.1	
	comp=Z,42nm,0.5s						
MACA	**Manacapuru-AM**	**18.38**	**36**	*eP*	**Pn**	**02 58 17.1**	**-1.8**
CRSM	**Crissiumal (Br**	**18.50**	**123**	*eP*	**Pn**	**02 58 20.8**	**+0.5**
FRBT	**Francisco Belt**	**18.71**	**117**	*eP*	**Pn**	**02 58 23.2**	**+0.3**
RODS	**Rosario do Sul**	**19.08**	**132**	*eP*	**P**	**02 58 26.9**	**+0.2**
PTGB	**Pitanga**	**19.18**	**113**	*eP*	**P**	**02 58 28.0**	**+0.2**
NPGB	**Novo Progresso**	**19.28**	**57**	*eP*	**P**	**02 58 27.1**	**-1.8**
LDASE	**Londrina, Braz**	**19.71**	**108**	*eP*	**P**	**02 58 33.7**	**+0.1**
ALGR	**Alto Alegre (B**	**19.89**	**125**	*eP*	**P**	**02 58 35.6**	**+0.1**
ITAB	**Concordia**	**19.94**	**120**	P	**P**	**02 58 35.1**	**-0.9**
ITAB				IAmb	IAmb	02 58 43.0	
	comp=Z,58nm,1.5s						
ITAB	**Concordia**	**19.94**	**120**	*eP*	**P**	**02 58 35.8**	**-0.3**
FLOC	**Florencia**	**20.15**	**348**	P	Pn	02 58 40.3	+0.1
CPSB	**Cacapava Do Su**	**20.38**	**130**	*eP*	**P**	**02 58 40.9**	**+0.1**
CRUC	**La Cruz**	**20.43**	**344**	P	Pn	02 58 46.2	+2.3
SNDB	**Serra Nova Dou**	**20.47**	**75**	*eP*	**P**	**02 58 40.2**	**-1.7**
ITTB	**Itaituba**	**20.70**	**50**	*eP*	**P**	**02 58 43.0**	**-1.4**
GARC	**Garzon, Huila**	**20.71**	**349**	P	Pn	02 58 47.1	+0.1
BBAC	**Balboa, Cauca**	**20.94**	**344**	P	Pn	02 58 53.3	+3.6
PLTB	**Pedras Altas**	**21.02**	**133**	P	**P**	**02 58 47.2**	**-0.5**
PLTB				IAmb	IAmb	02 58 58.6	
	comp=Z,13nm,0.8s						
PLTB	**Pedras Altas**	**21.02**	**133**	*eP*	**P**	**02 58 47.4**	**-0.3**
FRTB	**Fartura**	**21.11**	**108**	*eP*	**P**	**02 58 49.8**	**+1.0**
POPC	**Popayan, Colom**	**21.30**	**346**	P	**P**	**02 58 53.8**	**+2.7**
TRQA	**Tornquist**	**21.40**	**159**	P	**P**	**02 58 52.2**	**+0.4**
TRQA				IAmb	IAmb	02 59 27.7	
	comp=Z,23nm,1.3s						

CNLB	**Canela**	**21.82**	**124**	*eP*		**P**	**02 58 56.3**	**-0.1**	
IPMB	**Ipameri, GO**	**22.13**	**93**	*eP*		**P**	**02 58 58.5**	**-1.4**	
ORTC	**Ortega, Tolima**	**22.35**	**350**	P		**P**	**02 59 03.1**	**+1.0**	
PLCA	**Paso Flores**	**22.40**	**178**	P		**P**	**02 59 01.8**	**-0.7**	
PLCA	**Paso Flores**	**22.40**	**178**	P		**P**	**02 59 04.3**	**+1.7**	
	comp=Z,3.0nm,0.9s,baz=349,slow=14,SNR=4.5								
	comp=Z,3.0nm,0.9s								
PLCA	**Paso Flores**	**22.40**	**178**	*eP*		**P**	**02 58 58.0**	**-4.6**	
BDFB	**Brasilia**	**22.61**	**87**	P		**P**	**02 59 04.8**	**-0.2**	
BDFB				IAmb		IAmb	02 59 05.7		
	comp=Z,14nm,0.5s								
BDFB	**Brasilia**	**22.61**	**87**	P		**P**	**02 59 03.9**	**-1.1**	
	comp=Z,14nm,0.5s,baz=259,slow=11,SNR=43								
	comp=Z,14nm,0.5s								
YOTC	**Yotoco, Valle**	**22.62**	**347**	P		**P**	**02 59 08.4**	**+3.3**	
RCLB	**Rio Claro- Sao**	**22.84**	**104**	*eP*		**P**	**02 59 07.1**	**-0.3**	
BOAV	**Boa Vista**	**23.21**	**29**	P		**P**	**02 59 10.4**	**-0.7**	
MALB	**Monte Alegre**	**23.49**	**48**	*eP*		**P**	**02 59 12.4**	**-1.6**	
MCPB	**Macapa, AP**	**26.11**	**49**	*eP*		**P**	**02 59 36.0**	**-2.0**	
JANB	**Januaria**	**26.23**	**87**	*eP*		**P**	**02 59 37.4**	**-1.9**	
SDBA	**SAO DESIDERIO**	**26.28**	**81**	*eP*		**P**	**02 59 39.1**	**-0.6**	
BAUV	**El Baul**	**27.25**	**7**	P		**P**	**02 59 47.5**	**-0.8**	
BAUV				IAmb		IAmb	02 59 51.7		
	comp=Z,13nm,0.8s								
RIB01	**Linhares ES**	**29.44**	**97**	*eP*		**P**	**03 00 06.3**	**-1.7**	
MDP	**Montagnes des**	**29.75**	**40**	LR		LR	03 12 40.8		
	comp=Z,138nm,19.5s,baz=264,slow=38								
NAN01	**Guarapari, ES**	**29.81**	**94**	*eP*		**P**	**03 00 09.1**	**-2.2**	
GDU01	**Guandu, BA**	**30.99**	**86**	*eP*		**P**	**03 00 20.0**	**-1.7**	
NBLA	**Lagarto - SE**	**33.37**	**82**	*eP*		**P**	**03 00 40.4**	**-2.1**	
NBPB	**Pedra_Branca-S**	**33.62**	**72**	*eP*		**P**	**03 00 43.9**	**-0.9**	
NBAN	**Anadia - AL**	**35.18**	**81**	*eP*		**P**	**03 00 56.7**	**-1.6**	
RPN	**Rapa Nui**	**35.89**	**249**	LR		LR	03 12 51.9		
	comp=Z,82nm,18.1s,baz=100,slow=31								
RCBR	**Riachuelo**	**36.85**	**75**	P		**P**	**03 01 11.9**	**-0.8**	
RCBR				IAmb		IAmb	03 01 23.8		
	comp=Z,21nm,1.2s								
TEIG	**Tepich**	**41.65**	**336**	P		**P**	**03 01 53.7**	**+1.2**	
TEIG				IAmb		IAmb	03 02 01.2		
	comp=Z,35nm,1.4s								
V58A	**Windy Hill, Pi**	**54.25**	**352**	P		**P**	**03 03 30.1**	**+0.2**	
V55A	**Taylorsville**	**54.61**	**350**	P		**P**	**03 03 33.7**	**+1.1**	
V55A				IAmb		IAmb	03 04 15.2		
	comp=Z,11nm,1.2s								
T57A	**Hurt**	**55.45**	**352**	P		**P**	**03 03 39.4**	**+0.7**	
T57A				IAmb		IAmb	03 04 03.6		
	comp=Z,16nm,1.2s								
S57A	**Dark Hollow, R**	**56.17**	**353**	P		**P**	**03 03 44.2**	**+0.4**	
S57A				IAmb		IAmb	03 03 53.5		
	comp=Z,21nm,1.3s								
R58B	**Mineral**	**56.25**	**354**	P		**P**	**03 03 44.9**	**+0.6**	
S54A	**Dingess, Beckl**	**56.53**	**351**	P		**P**	**03 03 46.8**	**+0.4**	
MIAR	**Mount Ida**	**56.57**	**338**	P		**P**	**03 03 47.2**	**+0.5**	
MIAR				IAmb		IAmb	03 03 48.4		
	comp=Z,6.9nm,1.0s								
TXAR	**Lajitas Array**	**56.60**	**326**	P		**P**	**03 03 48.5**	**+1.4**	
	comp=Z,0.2nm,0.4s,baz=152,slow=8.1,SNR=4.4								
	comp=Z,0.2nm,0.4s

MJAR Matsushiro Arr 148.15 311 PKPbc **PKiKP** **03 13 51.8 -0.3**
comp=Z,1.7nm,0.7s,baz=94,slow=1.7,SNR=2.9
SONM Songino Array 150.46 3 PKPbc **PKiKP** **03 13 57.3 +0.6**
comp=Z,2.1nm,0.7s,baz=320,slow=1.5,SNR=15

IDC 05 03:15:42.8±1.9, 5.79S×141.69E, h0km, mb3.8/1, mbtmp3.8/3, ML3.7/2, Error ellipse: s-maj=251.3km s-min=33.0km az=114.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.77**	**206**	Pn	Pn	03 19 24.6	-1.9
	0.2nm,0.3s,baz=30,slow=13,SNR=8.8						
WRA				Lg	Lg	03 23 53.1	
	baz=36,slow=25,SNR=2.1						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**19.28**	**202**	P	Pn	03 20 10.1	-0.3
	0.4nm,0.3s,baz=31,slow=10,SNR=25						
ASAR				Lg	Lg	03 25 41.8	
	baz=22,slow=25						
	2.9nm,0.8s						
ILAR	**Eielson Array**	**87.41**	**24**	P	P	03 28 31.8	0.0
	0.7nm,1.0s,baz=255,slow=4.1,SNR=6.1						
	0.7nm,1.0s						

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*MDD **05** 03:19:54.1±0.7, 35.61N×3.75W, h0km, mb_Lg2.2/6, Error ellipse: s-maj=6.4km s-min=3.1km az=41.0*
*SFS **05** 03:19:54.9, 35.56N×3.78W, h6km, ML2.4/8, ML2.8/7, MLv2.2/8*
*CNRM **05** 03:19:55.6, 35.52N×3.67W, h17km, ML2.6*
ISC 05 03:19:54.3±1.0, 35.59N±0.02×3.74W±0.03, h13km±9km, n27, σ0.91s91/42, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.41**	**203**	P	**Pg**	**03 20 02.8**	**+0.4**
PALE	**Palemas**	**0.41**	**203**	S	**Sg**	**03 20 08.6**	**+0.6**
EALB	**Alboran**	**0.67**	**59**	Pg	**Pn**	**03 20 08.8**	**-0.7**
WMELI	**Melilla**	**0.70**	**113**	Sg	**Sg**	**03 20 17.2**	**0.0**
WMELI				Pg	**Pg**	**03 20 08.0**	**+0.1**
EMEL	**Melilla**	**0.70**	**114**	Pg	**Pb**	**03 20 08.4**	**0.0**
EMEL				Sg	**Sg**	**03 20 17.4**	**+0.2**
EMLI	**Melilla**	**0.71**	**114**	Sg	**Sg**	**03 20 17.6**	**+0.2**
EMLI				Pg	**Pg**	**03 20 08.2**	**+0.1**
GOG	**Mont Gurugu**	**0.71**	**121**	P	**Pb**	**03 20 08.5**	**-0.1**
GOG	**Mont Gurugu**	**0.71**	**121**	S	**Sg**	**03 20 17.7**	**+0.1**
ELGU	**Los Guajares,**	**1.28**	**4**	Pn	**Pn**	**03 20 17.8**	**-0.1**
ELGU				Sn	**Sn**	**03 20 36.2**	**+1.3**
ELGU	**Los Guajares,**	**1.28**	**4**	Pg	**Pn**	**03 20 17.6**	**-0.3**
ELGU				Sg	**Sn**	**03 20 35.6**	**+0.7**
ELGU				*i* Vmb_Lg		03 20 37.7	
EMIJ	**Mijas**	**1.28**	**320**	Pn	**Pn**	**03 20 17.6**	**-0.3**
EMIJ				Sn	**Sn**	**03 20 35.4**	**+0.5**
EMIJ	**Mijas**	**1.28**	**320**	Pg	**Pn**	**03 20 17.3**	**-0.6**
EMIJ				Sg	**Sg**	**03 20 34.8**	**-0.8**
EMIJ				*i* Vmb_Lg		03 20 39.5	
EMAL	**Malaga-Limoner**	**1.29**	**335**	Pn	**Pn**	**03 20 18.0**	**-0.1**
EMAL				Sn	**Sg**	**03 20 35.9**	**-0.1**
TAF	**Taforalt**	**1.34**	**125**	P	**Pn**	**03 20 18.0**	**-0.7**
TAF	**Taforalt**	**1.34**	**125**	S	**Sb**	**03 20 34.4**	**-1.9**
EBER	**Berja**	**1.47**	**28**	Pn	**Pb**	**03 20 21.6**	**-0.1**
EBER	**Berja**	**1.47**	**28**	Pn	**Pn**	**03 20 20.7**	**0.0**
EBER				Sn	**Sg**	**03 20 41.1**	**-0.8**
EBER				*i* Vmb_Lg		03 20 52.9	
EGOR	**Sierra Gorda,**	**1.54**	**349**	Sn	**Sb**	**03 20 42.4**	**0.0**
EGOR				*i* Vmb_Lg		03 20 48.4	
EQES	**Quesada**	**2.27**	**14**	Pg	**Pb**	**03 20 35.0**	**-0.3**
EQES				Sg	**Sb**	**03 21 04.7**	**+1.4**
EQES				*i* Vmb_Lg		03 21 09.2	
IFR	**Ifrane**	**2.37**	**209**	Sn	**Sn**	**03 21 00.6**	**-1.3**
EADA	**Adamuz**	**2.66**	**346**	Pg	**Pb**	**03 20 39.8**	**-1.9**
EADA				Sn	**Sn**	**03 21 10.3**	**+1.4**
EADA				Sg	**Sb**	**03 21 16.3**	**+2.0**
EADA				*i* Vmb_Lg		03 21 19.7	
ECAB	**El Cabril**	**2.82**	**332**	Pn	**Pn**	**03 20 38.4**	**-0.7**
ECAB				Sn	**Sn**	**03 21 13.4**	**+0.4**
ECAB				Sg	**Sb**	**03 21 20.7**	**+1.7**
MD31	**MD31**	**2.85**	**198**	P	**Pn**	**03 20 40.2**	**+0.7**
MD31	**MD31**	**2.85**	**198**	S	**Sn**	**03 21 14.5**	**+0.9**
MDT	**Midelt**	**2.86**	**195**	P	**Pn**	**03 20 40.2**	**+0.5**
ETOB	**Tobarra**	**3.52**	**29**	Pn	**Pn**	**03 20 48.4**	**-0.3**
EGRO	**El Granado**	**3.58**	**304**	Pn	**Pn**	**03 20 49.1**	**-0.4**
EGRO				Sn	**Sn**	**03 21 29.9**	**-1.7**

IDC 05 03:30:42.7±2.1, 5.98S×142.57E, h0km, mb3.5/1, mbtmp3.2/3, ML3.0/2, Error ellipse: s-maj=288.7km s-min=35.8km az=115.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.02**	**209**	Pn	Pn	03 34 28.4	-1.1
	baz=35,slow=12,SNR=1.4						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**19.46**	**204**	P	P	03 35 11.7	+0.5
	0.1nm,0.3s,baz=32,slow=11,SNR=6.9						
	0.4nm,0.4s						
ILAR	**Eielson Array**	**87.22**	**24**	P	P	03 43 30.7	0.0
	0.3nm,0.9s,baz=243,slow=6.0,SNR=1.6						
	0.3nm,0.9s						

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*IDC **05** 03:40:57.9±0.7, 36.53N×97.83W, h0km, mb4.1/5, mbtmp4.0/16, ML3.5/9, MS3.7/20, Error ellipse: s-maj=10.2km s-min=8.6km az=6.0*
*NEIC **05** 03:40:58.2±1.9, 36.48N±0.02×97.74W±0.02, h5km±1km, Error ellipse: s-maj=3.2km s-min=2.8km az=225.0, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr=0.20; Mθθ=1.22; Mφφ=-1.02; Mrθ=0.79; Mrφ=1.78; Mθφ=-0.11; Fault plane solution: M0=2.26000×10^15 NP1: φs=285.77000°, δ=89.82000°, λ=-20.47000°. NP2: φs=15.84000°, δ=69.53000°, λ=-179.81000°. Principal axes: T 2.3660, Plg=14.0000°, Azm=333.0000°; N -0.2345, Plg=70.0000°, Azm=105.0000°; P -2.1315, Plg=14.0000°, Azm=239.0000°;*
*ANF **05** 03:40:60.0±1.3, 36.53N×97.71W, h20km±11km, ML5.4/14 Error ellipse: s-maj=2.6km s-min=2.4km az=127.0*
*TUL **05** 03:40:59.2±1.7, 36.48N±0.02×97.75W±0.02, h8km±5km, ML4.4, mb4.2/49(NEIC), mb_Lg4.5/148(NEIC), ML4.4/40(NEIC), Mwr4.2/63(NEIC), Error ellipse: s-maj=2.7km s-min=2.2km az=218.0*
*NEIC **05** 03:40:59.2, 36.48N×97.75W, h8km*
ISC 05 03:40:58.9±1.0, 36.52N±0.02×97.72W±0.02, h12km±6km, n392, σ1s14/398, mb4.2/19, MS3.8/14, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAN14	**Manchester OK**	**0.48**	**336**	Pg	**Pg**	**03 41 08.9**	**+0.6**
KAN14				Sg	**Sb**	**03 41 15.8**	**-0.6**
KAN14				IAML		03 41 18.8	
	comp=E,24μm,0.1s						
KAN14				IAML		03 41 21.4	
	comp=N,20μm,0.1s						
OK032	**Salt Plains WL**	**0.49**	**306**	Pg	**Pg**	**03 41 08.6**	**+0.2**
OK032				Sg	**Sg**	**03 41 15.4**	**+0.5**
OK032				IAML		03 41 15.8	
	comp=N,59μm,0.3s						
OK032				IAML		03 41 17.8	
	comp=N,39μm,0.5s						
KAN17	**Caldwell West**	**0.53**	**356**	Pg	**Pb**	**03 41 09.9**	**-0.2**
KAN17				Sg	**Sb**	**03 41 17.6**	**-0.2**
KAN17				IAML		03 41 22.1	
	comp=E,40μm,0.3s						
KAN17				IAML		03 41 26.6	
	comp=N,27μm,0.3s						
KAN13	**South Haven SW**	**0.53**	**21**	Pg	**Pb**	**03 41 10.2**	**0.0**
KAN13				Sg	**Sb**	**03 41 17.9**	**0.0**
KAN13				IAML		03 41 25.6	
	comp=N,37μm,0.3s						
KAN05	**Bluff City Nor**	**0.60**	**348**	Pg	**Pb**	**03 41 11.2**	**-0.2**
KAN05				Sg	**Sb**	**03 41 19.9**	**0.0**
KAN05				IAML		03 41 24.2	
	comp=N,17μm,0.2s						
KAN05				IAML		03 41 28.8	
	comp=E,19μm,0.2s						
KAN09	**Caldwell North**	**0.62**	**8**	Pg	**Pb**	**03 41 11.8**	**0.0**
KAN09				Sg	**Sb**	**03 41 20.7**	**+0.2**
OK048	**Pawnee Station**	**0.63**	**99**	Pg	**Pg**	**03 41 11.4**	**+0.2**
OK048				Sg	**Sg**	**03 41 20.1**	**+0.5**
KAN01	**Argonia South**	**0.64**	**357**	Pg	**Pb**	**03 41 12.0**	**0.0**
KAN01				Sg	**Sb**	**03 41 20.5**	**-0.3**
KAN01				IAML		03 41 23.8	
	comp=E,21μm,0.6s						
KAN10	**Anthony SW Sta**	**0.68**	**334**	Pg	**Pg**	**03 41 12.3**	**+0.3**
KAN10				IAML		03 41 32.2	
	comp=N,17μm,0.5s						
KAN08	**Anthony NE Sta**	**0.74**	**344**		**Pb**	**03 41 13.6**	**0.0**
KAN08				Sg	**Sb**	**03 41 23.8**	**+0.1**
KAN08				IAML		03 41 26.9	
	comp=E,14μm,0.8s						
KAN06	**Argonia West S**	**0.74**	**351**	Pg	**Pg**	**03 41 13.6**	**+0.4**
KAN06				Sg	**Sb**	**03 41 24.0**	**+0.2**
KAN06				IAML		03 41 26.9	
	comp=E,19μm,0.6s						
KAN06				IAML		03 41 30.8	
	comp=N,13μm,0.4s						
OK029	**Liberty Lake**	**0.75**	**163**	Pg	**Pg**	**03 41 12.7**	**-0.6**
OK029				Sg	**Sg**	**03 41 22.4**	**-0.7**
KS21	**Milan North St**	**0.77**	**3**	Pg	**Pg**	**03 41 14.2**	**+0.4**
KS21				Sg	**Sb**	**03 41 25.1**	**+0.4**
KS21	**Milan North St**	**0.77**	**3**	IAML		03 41 25.8	
	comp=N,13μm,0.4s						
KS21				IAML		03 41 27.7	
	comp=N,23μm,0.4s						
OK033	**Mehan**	**0.79**	**126**	Pg	**Pg**	**03 41 14.0**	**-0.1**
OK033				Sg	**Sg**	**03 41 24.4**	**0.0**
OK033				IAML		03 41 27.4	
	comp=N,13μm,0.6s						
KAN12	**Harper NE Stat**	**0.81**	**344**	Pg	**Pb**	**03 41 15.0**	**0.0**
OK035	**E0210 Rd and N**	**0.82**	**284**	Pg	**Pg**	**03 41 14.1**	**-0.6**
OK035				Sg	**Sg**	**03 41 25.3**	**-0.1**
OK038	**West end E0370**	**0.82**	**268**	Pg	**Pg**	**03 41 14.2**	**-0.6**
OK038				Sg	**Sg**	**03 41 25.0**	**-0.5**
ADOK	**Arcadia Dam**	**0.91**	**162**	Pg	**Pg**	**03 41 15.7**	**-0.7**
OK052	**Battle Ridge R**	**0.91**	**125**	Pg	**Pg**	**03 41 16.0**	**-0.3**
OK052				IAML		03 41 31.1	
	comp=N,12μm,0.6s						
OK052				IAML		03 41 34.8	
	comp=N,10μm,0.5s						
U32A	**Winter Ranch,**	**1.04**	**263**	Pg	**Pg**	**03 41 17.8**	**-1.1**
U32A				IAML		03 41 34.9	
	comp=E,13μm,0.6s						
U32A	**Winter Ranch,**	**1.04**	**263**	P	**Pg**	**03 41 18.0**	**-1.0**
	baz=84,SNR=390						
U32A				S	**Sg**	**03 41 32.2**	**-0.3**
	baz=84						
T35A	**Sooner Cattle**	**1.05**	**67**	Pg	**Pg**	**03 41 19.3**	**+0.2**
T35B	**Sooner Cattle**	**1.05**	**67**	P	**Pg**	**03 41 19.4**	**+0.3**
	baz=247,SNR=1000						
T35B				S	**Sb**	**03 41 33.9**	**+1.2**
	baz=247						
TUL3	**Leonard**	**1.67**	**111**	Pn	**Pn**	**03 41 29.0**	**+1.0**
TUL3	**Leonard**	**1.67**	**111**	P	**Pn**	**03 41 29.3**	**+1.3**
	baz=290,SNR=334						
TUL3				S	**Sb**	**03 41 51.8**	**+1.2**
	baz=290						
TUL3	**Leonard**	**1.67**	**111**	P	**Pn**	**03 41 29.3**	**+1.3**
	baz=290,SNR=843						
TUL3				Sb	**Sb**	**03 41 52.4**	**+1.7**
	baz=290						
WMOK	**Wichita Mounta**	**1.97**	**206**	P	**Pn**	**03 41 32.7**	**+0.6**
	baz=25,SNR=966						
WMOK				S	**Sn**	**03 41 58.9**	**+2.1**
	baz=25						
WMOK	**Wichita Mounta**	**1.97**	**206**	P	**Pn**	**03 41 33.0**	**+0.9**
	baz=25,SNR=1000						
WMOK				Sb	**Sb**	**03 41 59.6**	**+0.3**
	baz=25						
R32A	**Long Quarter,**	**2.06**	**338**	Pn	**Pn**	**03 41 34.7**	**+1.4**
R32A	**Long Quarter,**	**2.06**	**338**	P	**Pn**	**03 41 35.2**	**+1.8**
	baz=158,SNR=139						
R32A				Sb	**Sg**	**03 42 04.4**	**-0.7**
	baz=158						
SMWD	**Samnorwood**	**2.49**	**236**	Pn	**Pn**	**03 41 39.8**	**+0.6**
SMWD				IAmb_Lg		03 42 18.6	
	comp=Z,1μm,0.7s						
U38A	**Gravette**	**2.69**	**91**	Pn	**Pn**	**03 41 43.2**	**+1.3**
U38A	**Gravette**	**2.69**	**91**	P	**Pn**	**03 41 42.8**	**+0.8**
	baz=272,SNR=113						
U38A				Sb	**Sb**	**03 42 22.4**	**+2.5**
	baz=272						
X37A	**Clayton**	**2.71**	**134**	Pn	**Pn**	**03 41 43.4**	**+1.1**
X37A				IAmb_Lg		03 42 31.7	
	comp=Z,2μm,1.0s						
X37A	**Clayton**	**2.71**	**134**	P	**Pn**	**03 41 43.7**	**+1.4**
	baz=315,SNR=243						
KSU1	**Kansas State U**	**2.73**	**19**		**Pn**	**03 41 44.0**	**+1.5**
KSU1				IAmb_Lg		03 42 28.6	
	comp=Z,1μm,0.8s						
KSU1	**Kansas State U**	**2.73**	**19**	P	**Pn**	**03 41 44.1**	**+1.6**
	baz=199						
KSU1	**Kansas State U**	**2.73**	**19**	P	**Pn**	**03 41 44.6**	**+2.1**
	baz=199						
CBKS	**Cedar Bluff**	**2.80**	**326**	Pn	**Pn**	**03 41 45.0**	**+1.5**
CBKS	**Cedar Bluff**	**2.80**	**326**	P	**Pn**	**03 41 43.9**	**+0.4**
	baz=145,SNR=225						
CBKS				Sb	**Sb**	**03 42 24.6**	**+1.5**
	baz=145						
CBKS	**Cedar Bluff**	**2.80**	**326**	P	**Pn**	**03 41 45.5**	**+2.0**
	baz=145,SNR=45						
CBKS				Sb	**Sb**	**03 42 25.4**	**+2.4**
	baz=145						
WTFS	**Witchita Falls**	**2.81**	**193**	Pn	**Pn**	**03 41 44.2**	**+0.6**
HHAR	**Hobbs**	**3.06**	**93**	Pn	**Pn**	**03 41 48.8**	**+1.7**
HHAR				IAmb_Lg		03 42 42.3	
	comp=Z,975nm,0.7s						
HHAR	**Hobbs**	**3.06**	**93**	P	**Pn**	**03 41 49.3**	**+2.3**
	baz=275						
Z35A	**Perchaven, San**	**3.20**	**173**	Pn	**Pn**	**03 41 49.9**	**+0.9**
Z35A				IAmb_Lg		03 42 46.3	
	comp=Z,1μm,1.3s						
Z35A	**Perchaven, San**	**3.20**	**173**	P	**Pn**	**03 41 50.1**	**+1.1**
	baz=353,SNR=32						
FW03	**Perrin-Whitt E**	**3.48**	**185**	Pn	**Pn**	**03 41 54.0**	**+1.2**
FW06	**Azle**	**3.54**	**178**	Pn	**Pn**	**03 41 54.8**	**+1.1**
AMTX	**Amarillo**	**3.61**	**244**	Pn	**Pn**	**03 41 55.6**	**+0.8**
AMTX				IAmb_Lg		03 42 57.3	
	comp=Z,2μm,0.8s						
AMTX	**Amarillo**	**3.61**	**244**	P	**Pn**	**03 41 55.7**	**+1.0**
	baz=62						
AMTX				Sb	**Sb**	**03 42 49.2**	**+2.7**
	baz=62						
AMTX	**Amarillo**	**3.61**	**244**	P	**Pn**	**03 41 55.7**	**+1.0**
	baz=62,SNR=21						
S39A	**Bolivar**	**3.71**	**70**	Pn	**Pn**	**03 41 57.5**	**+1.6**
S39A	**Bolivar**	**3.71**	**70**	P	**Pn**	**03 41 57.7**	**+1.8**
	baz=252,SNR=175						
PLPT	**Palo Pinto**	**3.73**	**188**	Pn	**Pn**	**03 41 56.9**	**+0.6**
APMT	**Aspermont**	**3.74**	**212**	Pn	**Pn**	**03 41 57.0**	**+0.5**
APMT				IAmb_Lg		03 43 01.6	
	comp=Z,805nm,0.9s						
FW07	**Weatherford**	**3.80**	**181**	Pn	**Pn**	**03 41 58.0**	**+0.7**
MIAR	**Mount Ida**	**3.91**	**119**	Pn	**Pn**	**03 41 60.0**	**+1.2**
MIAR				IAmb_Lg		03 43 11.7	
	comp=Z,1μm,0.9s						
MIAR	**Mount Ida**	**3.91**	**119**	P	**Pn**	**03 42 00.4**	**+1.7**
	baz=301,SNR=26						
MIAR				S	**Sn**	**03 42 45.8**	**+1.3**
	baz=301						
MIAR	**Mount Ida**	**3.91**	**119**	P	**Pn**	**03 42 00.2**	**+1.5**
	baz=301,SNR=88						
MIAR				S	**Sn**	**03 42 45.9**	**+1.3**
	baz=301						
U40A	**Yellville**	**3.93**	**91**	P	**Pn**	**03 42 00.8**	**+1.8**
	baz=273,SNR=48						
U40A				P	**Pn**	**03 42 00.8**	**+1.8**
	baz=273,SNR=48						
Z38A	**Mt. Pleasant**	**3.95**	**145**		**Pn**	**03 41 59.8**	**+0.5**
Z38A	**Mt. Pleasant**	**3.95**	**145**	P	**Pn**	**03 42 00.4**	**+1.1**
	baz=326,SNR=15						
TREL	**Terrell**	**4.01**	**160**	Pn	**Pn**	**03 42 00.5**	**+0.4**
TREL				IAmb_Lg		03 43 10.5	
	comp=Z,863nm,0.8s						
RTBA	**Rita Blanca**	**4.04**	**270**	Pn	**Pn**	**03 42 01.7**	**+1.0**
FW16	**Waxahatchie**	**4.08**	**170**	IAmb_Lg		03 43 15.4	
	comp=Z,854nm,0.7s						
FW14	**Alvarado**	**4.13**	**174**	Pn	**Pn**	**03 42 02.2**	**+0.4**
FW14				IAmb_Lg		03 43 16.2	
	comp=Z,880nm,0.9s						
FW13	**Cleburne**	**4.16**	**177**	Pn	**Pn**	**03 42 02.5**	**+0.3**
ABTX	**Abilene, Hawle**	**4.19**	**203**	P	**Pn**	**03 42 02.7**	**0.0**
	baz=22,SNR=23						
ABTX	**Abilene, Hawle**	**4.19**	**203**	P	**Pn**	**03 42 02.8**	**+0.1**
	baz=22,SNR=15						
N33B	**J Bar K, Exete**	**4.22**	**3**	P	**Pn**	**03 42 04.0**	**+1.0**
	baz=183,SNR=20						
N33B				S	**Sn**	**03 42 53.5**	**+1.3**
	baz=183						
N33A	**J Bar K, Exete**	**4.22**	**3**	Pn	**Pn**	**03 42 03.6**	**+0.5**
N33A				IAmb_Lg		03 43 21.5	
	comp=Z,984nm,0.8s						
SN07	**Snyder 07**	**4.30**	**218**	Pn	**Pn**	**03 42 04.3**	**+0.1**
SN07				IAmb_Lg		03 43 15.2	
	comp=Z,950nm,0.8s						
MGMO	**Mountain Grove**	**4.42**	**80**	Pn	**Pn**	**03 42 07.3**	**+1.5**
MGMO				IAmb_Lg		03 43 22.1	
	comp=Z,678nm,0.8s						
SN05	**Snyder 5**	**4.47**	**217**	Pn	**Pn**	**03 42 06.4**	**-0.1**
SN05				IAmb_Lg		03 43 30.4	
	comp=Z,1μm,0.8s						
X40A	**Basin Creek Fa**	**4.47**	**115**	IAmb_Lg		03 43 30.8	
	comp=Z,638nm,0.8s						
WHTX	**Lake Whitney,**	**4.52**	**177**	Pn	**Pn**	**03 42 07.8**	**+0.7**
WHTX	**Lake Whitney,**	**4.52**	**177**	P	**Pn**	**03 42 07.8**	**+0.7**
	baz=357,SNR=22						
WHTX				S	**Sn**	**03 42 59.0**	**-0.6**
	baz=357						
WHTX	**Lake Whitney,**	**4.52**	**177**	P	**Pn**	**03 42 07.4**	**+0.3**
	baz=357,SNR=62						
P38A	**Dawn**	**4.53**	**46**	IAmb_Lg		03 43 28.3	
	comp=Z,920nm,1.0s						
P38A	**Dawn**	**4.53**	**46**	P	**Pn**	**03 42 08.8**	**+1.4**
	baz=228,SNR=38						
FCAR	**Ozark Folk Cen**	**4.57**	**96**	Pn	**Pn**	**03 42 09.3**	**+1.5**
FCAR				IAmb_Lg		03 43 30.6	
	comp=Z,673nm,0.9s						
WHAR	**Wooly Hollow**	**4.58**	**104**	Pn	**Pn**	**03 42 09.0**	**+1.1**
WHAR				IAmb_Lg		03 43 30.3	
	comp=Z,1μm,1.0s						
KSCO	**Kaye Shedlock'**	**4.62**	**304**	Pn	**Pn**	**03 42 09.7**	**+1.1**
KSCO				IAmb_Lg		03 43 34.0	
	comp=Z,1μm,0.7s						
KSCO	**Kaye Shedlock'**	**4.62**	**304**	P	**Pn**	**03 42 09.9**	**+1.3**
	baz=122,SNR=22						
KSCO				S	**Sn**	**03 43 02.7**	**+0.5**
	baz=122						
KSCO	**Kaye Shedlock'**	**4.62**	**304**	P	**Pn**	**03 42 10.1**	**+1.5**
	baz=122,SNR=18						
N35A	**Tabor**	**4.63**	**20**	Pn	**Pn**	**03 42 10.0**	**+1.3**
R40A	**Maddies Statio**	**4.69**	**66**	Pn	**Pn**	**03 42 10.6**	**+1.2**
R40A	**Maddies Statio**	**4.69**	**66**	P	**Pn**	**03 42 11.1**	**+1.6**
	baz=249,SNR=114						
UALR	**University of**	**4.71**	**110**	Pn	**Pn**	**03 42 11.7**	**+1.9**
UALR				IAmb_Lg		03 43 38.9	
	comp=Z,892nm,0.9s						
WLAR	**White Oak Lake**	**4.71**	**125**	Pn	**Pn**	**03 42 10.3**	**+0.5**
WLAR				IAmb_Lg		03 43 36.6	
	comp=Z,875nm,0.8s						
237A	**Washetta, Mont**	**4.77**	**160**	IAmb_Lg		03 43 41.7	
	comp=Z,588nm,0.9s						
237A	**Washetta, Mont**	**4.77**	**160**	P	**Pn**	**03 42 10.8**	**+0.2**
	baz=341,SNR=38						
237A				S	**Sn**	**03 43 05.5**	**-0.4**
	baz=341						
MSTX	**Muleshoe**	**4.85**	**240**	Pn	**Pn**	**03 42 11.7**	**-0.1**
MSTX	**Muleshoe**	**4.85**	**240**	P	**Pn**	**03 42 11.7**	**-0.1**
	baz=57,SNR=14						
MSTX	**Muleshoe**	**4.85**	**240**	P	**Pn**	**03 42 12.1**	**+0.3**
	baz=57,SNR=17						
BGNE	**Belgrade**	**4.90**	**356**	Pn	**Pn**	**03 42 12.9**	**+0.6**
BGNE	**Belgrade**	**4.90**	**356**	P	**Pn**	**03 42 13.3**	**+1.0**
	baz=176,SNR=90						
BGNE				S	**Sn**	**03 43 09.0**	**0.0**
	baz=176						
BGNE	**Belgrade**	**4.90**	**356**	P	**Pn**	**03 42 13.5**	**+1.2**
	baz=176,SNR=95						
Z41A	**Richland Creek**	**5.19**	**127**	Pn	**Pn**	**03 42 15.1**	**-1.2**
Z41A				IAmb_Lg		03 43 53.2	
	comp=Z,1μm,0.8s						
BRDY	**Brady**	**5.32**	**192**	Pn	**Pn**	**03 42 17.3**	**-0.9**
BRDY				IAmb_Lg		03 43 52.6	
	comp=Z,661nm,0.7s						
LCAR	**Lake Charles**	**5.32**	**93**	IAmb_Lg		03 43 52.4	
	comp=Z,591nm,0.8s						
NATX	**Nacogdoches**	**5.38**	**151**	P	**Pn**	**03 42 19.2**	**+0.2**
	baz=332						
NATX				S	**Sn**	**03 43 19.9**	**-0.9**
	baz=332						
SGCY	**Sterling City**	**5.39**	**213**	Pn	**Pn**	**03 42 18.2**	**-0.9**
SGCY				IAmb_Lg		03 44 03.0	
	comp=Z,1μm,1.0s						
CCM	**Cathedral Cave**	**5.39**	**71**	Pn	**Pn**	**03 42 20.2**	**+1.2**
CCM				IAmb_Lg		03 44 04.3	
	comp=Z,516nm,0.8s						
CCM	**Cathedral Cave**	**5.39**	**71**	P	**Pn**	**03 42 19.9**	**+0.9**
	baz=255						
CCM				S	**Sn**	**03 43 20.8**	**-0.2**
	baz=255						
CCM	**Cathedral Cave**	**5.39**	**71**	P	**Pn**	**03 42 20.3**	**+1.3**
	baz=255,SNR=71						
P40A	**Paris**	**5.39**	**54**	IAmb_Lg		03 43 57.1	
	comp=Z,783nm,0.8s						
P40A	**Paris**	**5.39**	**54**	P	**Pn**	**03 42 20.2**	**+1.0**
	baz=238						
T25A	**Trinidad**	**5.40**	**279**	P	**Pn**	**03 42 19.6**	**+0.2**
	baz=95,SNR=14						
T25A				S	**Sn**	**03 43 21.7**	**0.0**
	baz=95						
CCAR	**Cane Creek**	**5.52**	**116**	Pn	**Pn**	**03 42 22.4**	**+1.6**
CCAR				IAmb_Lg		03 44 03.6	
	comp=Z,874nm,0.9s						
N38A	**Joes South For**	**5.53**	**38**	Pn	**Pn**	**03 42 22.2**	**+1.3**
N38A	**Joes South For**	**5.53**	**38**	P	**Pn**	**03 42 21.9**	**+0.9**
	baz=221,SNR=17						
N38A				S	**Sn**	**03 43 26.9**	**+2.4**
	baz=221						
OGNE	**Ogallala**	**5.56**	**324**	Pn	**Pn**	**03 42 22.4**	**+0.9**
OGNE				IAmb_Lg		03 44 07.7	
	comp=Z,814nm,0.7s						
OGNE	**Ogallala**	**5.56**	**324**	P	**Pn**	**03 42 22.6**	**+1.1**
	baz=142,SNR=14						
435B	**Jarrell**	**5.72**	**179**	Pn	**Pn**	**03 42 23.6**	**0.0**
435B				IAmb_Lg		03 44 05.6	
	comp=Z,1μm,1.0s						
435B

N41A **Harden Midland** 6.81 50 P Pn 03 42 39.8 +1.2
baz=234
HICK **Hickman** 6.84 87 Pn Pn 03 42 40.0 +1.0
S44A **Carbondale** 6.87 78 IAmb_Lg 03 44 38.5
comp=Z,752nm,0.8s
S44A **Carbondale** 6.87 78 P Pn 03 42 40.9 +1.6
baz=262,SNR=24
SIUC **Southern Illin** 6.90 77 IAmb_Lg 03 44 38.8
comp=Z,774nm,0.8s
ISCO **Idaho Springs** 7.03 300 Pn Pn 03 42 42.5 +0.6
ISCO IAmb_Lg 03 44 43.6
comp=Z,506nm,0.9s
ISCO **Idaho Springs** 7.03 300 P Pn 03 42 42.8 +0.9
baz=116,SNR=35
ISCO **Idaho Springs** 7.03 300 P Pn 03 42 43.1 +1.2
baz=116,SNR=44
OXF **Oxford** 7.07 104 Pn Pn 03 42 41.0 -1.1
OXF **Oxford** 7.07 104 P Pn 03 42 41.5 -0.7
baz=289,SNR=15
OXF **Oxford** 7.07 104 P Pn 03 42 42.8 +0.7
baz=289
HNDO **Hondo** 7.09 191 IAmb_Lg 03 44 49.8
comp=Z,745nm,1.0s
P43A **Skaggs, Pawnee** 7.18 62 IAmb_Lg 03 44 56.7
comp=Z,647nm,0.8s
Y45A **Yeager Farm, C** 7.20 109 IAmb_Lg 03 45 01.0
comp=Z,541nm,0.8s
ECSD **EROS Data Cent** 7.26 6 Pn Pn 03 42 43.9 -0.9
ANMO **Albuquerque** 7.28 260 Pn Pn 03 42 45.3 +0.1
ANMO **Albuquerque** 7.28 260 P Pn 03 42 45.4 +0.2
baz=75
ANMO **Albuquerque** 7.28 260 P Pn 03 42 46.0 +0.8
baz=75,SNR=12
ANMO **Albuquerque** 7.28 260 Pn Pn 03 42 46.3 +1.1
comp=Z,0.6nm,0.3s,baz=182,slow=7.2,SNR=17
ANMO Pg Pb 03 43 08.0 +2.8
comp=Z,3.5nm,0.3s,baz=165,slow=15,SNR=8.3
ANMO Lg Lg 03 44 43.8
comp=Z,21nm,0.3s,baz=55,slow=17,SNR=12
ANMO LR LR 03 45 53.4
comp=Z,316nm,21.3s,baz=165,slow=41
comp=Z,1.7nm,0.3s
Q44A **Meyer Farm, Va** 7.30 68 IAmb_Lg 03 45 02.9
comp=Z,468nm,0.8s
Q44A **Meyer Farm, Va** 7.30 68 P Pn 03 42 46.5 +1.2
baz=253,SNR=25
VBMS **Vicksburg** 7.34 124 Pn Pn 03 42 45.7 -0.1
VBMS IAmb_Lg 03 45 12.2
comp=Z,474nm,1.2s
VBMS **Vicksburg** 7.34 124 P Pn 03 42 46.3 +0.5
baz=308
DRIO **Del Rio** 7.48 200 IAmb_Lg 03 44 54.8
comp=Z,449nm,0.8s
L40A **Anamosa** 7.49 40 IAmb_Lg 03 45 16.6
comp=Z,592nm,0.9s
SAND **Sanderson** 7.51 211 IAmb_Lg 03 45 14.2
comp=Z,518nm,0.8s
735A **Kenedy** 7.64 181 IAmb_Lg 03 45 15.8
comp=Z,395nm,0.8s
PHWY **Pilot Hill** 7.69 311 IAmb_Lg 03 45 14.5
comp=Z,670nm,0.9s
HDIL **Hopedale** 7.74 56 P Pn 03 42 51.5 +0.2
baz=241,SNR=36
HDIL **Hopedale** 7.74 56 P Pn 03 42 51.4 +0.1
baz=241,SNR=9.6
N23A **Red Feather La** 7.77 307 Pn Pn 03 42 53.0 +0.9
N23A **Red Feather La** 7.77 307 P Pn 03 42 53.4 +1.4
baz=122,SNR=51
N23A S Sn 03 44 19.4 -0.7
baz=122
OLIL **Olney** 7.95 71 IAmb_Lg 03 45 10.9
comp=Z,488nm,1.1s
OLIL **Olney** 7.95 71 P Pn 03 42 55.4 +1.2
baz=257
MNTX **Cornudas Mount** 7.96 235 P Pn 03 42 54.3 -0.1
baz=51,SNR=18
MNTX **Cornudas Mount** 7.96 235 P Pn 03 42 54.4 -0.1
baz=51,SNR=24
SUSD **Miller** 7.97 354 P Pn 03 42 54.9 +0.3
baz=173,SNR=6.3
SUSD **Miller** 7.97 354 P Pn 03 42 55.2 +0.6
baz=173,SNR=14
WVT **Waverly** 7.99 90 Pn Pn 03 42 55.0 +0.2
WVT IAmb_Lg 03 45 29.9
comp=Z,323nm,1.1s
WVT **Waverly** 7.99 90 P Pn 03 42 55.4 +0.6
baz=276
146A **Union** 8.12 116 Pn Pn 03 42 58.0 +1.3
O44A **Mansfield** 8.13 61 IAmb_Lg 03 45 29.8
comp=Z,404nm,1.0s
I37A **Lemond, Waseca** 8.19 22 IAmb_Lg 03 45 40.3
comp=Z,694nm,0.8s
833A **Chaparral WMA,** 8.29 190 Pn Pn 03 42 58.4 -0.5
833A IAmb_Lg 03 45 28.1
comp=Z,312nm,0.8s
833A **Chaparral WMA,** 8.29 190 P Pn 03 42 59.4 +0.5
baz=9.2
L42A **Oliver, Polo** 8.31 46 P Pn 03 42 60.0 +0.8
baz=231
T47A **Sharon Grove** 8.54 84 Pn Pn 03 43 02.5 +0.2
T47A **Sharon Grove** 8.54 84 P Pn 03 43 02.7 +0.4
baz=270,SNR=14
JFWS **Jewell Farm** 8.60 40 Pn Pn 03 43 02.9 -0.2
JFWS IAmb_Lg 03 45 38.7
comp=Z,540nm,0.8s
JFWS **Jewell Farm** 8.60 40 P Pn 03 43 03.2 +0.1
baz=224,SNR=35
JFWS **Jewell Farm** 8.60 40 P Pn 03 43 03.2 +0.1
baz=224,SNR=31
TX31 **Lajitas Ar. Si** 8.73 217 Pn Pn 03 43 04.0 -1.1
TX31 **Lajitas Ar. Si** 8.73 217 P Pn 03 43 03.7 -1.4
baz=33
TXAR **Lajitas Array** 8.73 217 Pn Pn 03 43 03.7 -1.4
comp=Z,3.1nm,0.5s,baz=34,slow=11,SNR=84
TXAR Pg Pg 03 43 27.2 -19
comp=Z,4.5nm,0.3s,baz=48,slow=12,SNR=7.5
TXAR Lg Lg 03 45 32.3
comp=Z,20nm,0.3s,baz=49,slow=28,SNR=9.1
TXAR LR LR 03 46 57.1
comp=Z,161nm,19.4s,baz=30,slow=41
M44A **Midewin, Midew** 8.97 54 IAmb_Lg 03 45 53.6
comp=Z,540nm,1.1s
RSSD **Black Hills** 8.99 330 Pn Pn 03 43 09.2 +0.4
RSSD IAmb_Lg 03 45 48.5
comp=Z,274nm,0.9s
RSSD **Black Hills** 8.99 330 P Pn 03 43 09.6 +0.9
baz=146
RSSD **Black Hills** 8.99 330 P Pn 03 43 10.2 +1.5
baz=146,SNR=13
RWWY **Rawlins** 9.00 308 IAmb_Lg 03 45 51.0
comp=Z,400nm,0.9s
O20A **White River Ci** 9.02 297 P Pn 03 43 11.0 +1.9
baz=111
K22A **Casper** 9.15 315 Pn Pn 03 43 11.0 +0.2
K22A **Casper** 9.15 315 P Pn 03 43 11.4 +0.6
baz=130,SNR=13
I40A **Norwalk** 9.15 34 Pn Pn 03 43 10.6 -0.1
I40A IAmb_Lg 03 46 00.4
comp=Z,260nm,0.7s
I40A **Norwalk** 9.15 34 P Pn 03 43 10.9 +0.2
baz=219,SNR=17
SFIN **Lafayette** 9.18 62 P Pn 03 43 11.8 +0.7
baz=248,SNR=25
SFIN **Lafayette** 9.18 62 P Pn 03 43 11.4 +0.2
baz=248
121A **Cookes Peak, D** 9.20 247 P Pn 03 43 11.6 -0.1
baz=62
121A **Cookes Peak, D** 9.20 247 P Pn 03 43 11.3 -0.3
baz=62
CLTN **Cedars of Leba** 9.21 89 Pn Pn 03 43 11.9 +0.5
BLO **Bloomington** 9.25 70 Pn Pn 03 43 12.3 +0.3
WCI **Wyandotte Cave** 9.26 76 Pn Pn 03 43 12.6 +0.5
WCI **Wyandotte Cave** 9.26 76 P Pn 03 43 12.7 +0.5
baz=263
WCI **Wyandotte Cave** 9.26 76 P Pn 03 43 12.9 +0.8
baz=263,SNR=26
HQIL **Hanson Quary C** 9.30 52 IAmb_Lg 03 46 08.3
comp=Z,357nm,1.0s
F33A **5 Mile Ranch,** 9.38 6 IAmb_Lg 03 46 04.6
comp=Z,426nm,1.1s
SPMN **Marine on St.** 9.46 22 IAmb_Lg 03 46 13.0
comp=Z,359nm,1.0s
SPMN **Marine on St.** 9.46 22 P Pn 03 43 16.1 +1.1
baz=205,SNR=7.8
L44A **Lake County Fo** 9.47 50 P Pn 03 43 15.4 +0.3
baz=236
LRAL **Lakeview Retre** 9.48 108 Pn Pn 03 43 15.1 -0.1

LRAL **Lakeview Retre** 9.48 108 P Pn 03 43 15.5 +0.2
baz=294
K43A **Burlington** 9.52 47 P Pn 03 43 16.7 +1.0
baz=232
F36A **Milaca** 9.86 17 Pn Pn 03 43 19.8 -0.5
I42A **Draeger Farm,** 9.98 40 Pn Pn 03 43 22.3 +0.3
I42A **Draeger Farm,** 9.98 40 P Pn 03 43 22.0 0.0
baz=225,SNR=12
P48A **Milroy** 10.14 69 P Pn 03 43 23.6 -0.6
baz=257
P48A P Pn 03 43 23.6 -0.6
baz=257
R49A **Shelbyville** 10.14 76 Pn Pn 03 43 25.0 +0.7
E28A **Huff** 10.29 348 Pn Pn 03 43 24.7 -1.7
E28A **Huff** 10.29 348 P Pn 03 43 25.7 -0.7
baz=167,SNR=14
T50A **Nancy** 10.35 83 Pn Pn 03 43 27.6 +0.5
N47A **Urbana** 10.36 61 Pn Pn 03 43 25.6 -1.7
G40A **Rib Lake** 10.43 31 Pn Pn 03 43 27.1 -1.1
G40A **Rib Lake** 10.43 31 P Pn 03 43 28.2 0.0
baz=216
O48B **Farmland** 10.55 65 Pn Pn 03 43 28.1 -1.7
O48B **Farmland** 10.55 65 P Pn 03 43 29.2 -0.6
baz=253,SNR=29
O48B **Farmland** 10.55 65 P Pn 03 43 29.2 -0.6
baz=253
P49A **Miami Univ. Ec** 10.69 70 P Pn 03 43 31.7 -0.1
baz=258,SNR=5.4
P49A **Miami Univ. Ec** 10.69 70 P Pn 03 43 31.7 -0.1
baz=258
CPCT **Cooper Cave** 10.75 92 Pn Pn 03 43 33.7 +1.1
R50A **Paris** 10.80 77 P Pn 03 43 33.9 +0.6
baz=265,SNR=14
R50A P Pn 03 43 33.9 +0.6
baz=265,SNR=14
V51A **Loudon** 10.83 90 P Pn 03 43 35.5 +1.7
baz=278,SNR=12
H43A **Windswept, Lux** 10.97 41 P Pn 03 43 35.4 -0.2
baz=227,SNR=13
BW06 **Boulder Array** 11.05 308 P Pn 03 43 36.6 -0.4
baz=121,SNR=19
PD31 **Pinedale Array** 11.05 308 Pn Pn 03 43 36.5 -0.4
PDAR **Pinedale Array** 11.05 308 Pn Pn 03 43 36.2 -0.7
comp=Z,3.6nm,0.6s,baz=116,slow=13,SNR=33
PDAR Pg 03 44 17.9
comp=Z,3.3nm,0.3s,baz=106,slow=16,SNR=6.7
PDAR Lg Lg 03 46 44.0
comp=Z,4.8nm,0.3s,baz=113,slow=36,SNR=3.0
PDAR LR 03 48 36.9
comp=Z,124nm,20.2s,baz=118,slow=42
E38A **The Farm, Brul** 11.09 23 Pn Pn 03 43 36.4 -0.8
O49A **Covington** 11.13 67 P Pn 03 43 37.4 -0.4
baz=255
O49A P Pn 03 43 37.4 -0.4
baz=255
TKL **Tuckaleechee C** 11.32 90 Pn Pn 03 43 40.8 +0.3
comp=Z,2.1nm,0.3s,baz=234,slow=8.1,SNR=28
TKL Sn Sn 03 46 00.2 +13
comp=Z,1.6nm,0.3s,baz=85,slow=7.8,SNR=5.7
TKL Lg Lg 03 46 45.9
comp=Z,4.8nm,0.3s,baz=166,slow=22,SNR=4.3
comp=Z,9.9nm,0.5s
S51A **Beattyville** 11.34 80 P Pn 03 43 41.8 +1.1
baz=268,SNR=5.9
S51A P Pn 03 43 41.8 +1.1
baz=268,SNR=5.9
TZTN **Tazewell** 11.40 86 Pn Pn 03 43 42.2 +0.7
TZTN **Tazewell** 11.40 86 P Pn 03 43 42.8 +1.2
baz=274
TZTN **Tazewell** 11.40 86 P Pn 03 43 43.1 +1.5
baz=274,SNR=7.4
MDND **Maddock** 11.41 354 P Pn 03 43 39.9 -1.7
baz=172
V52A **Sevierville** 11.44 89 P Pn 03 43 43.1 +1.1
baz=277
N49A **Columbus Grove** 11.45 63 P Pn 03 43 41.4 -0.8
baz=252,SNR=12
N49A P Pn 03 43 41.4 -0.8
baz=252,SNR=12
COWI **Conover** 11.54 31 Pn Pn 03 43 43.3 -0.1
L48A **N Adams** 11.64 58 Pn Pn 03 43 43.4 -1.4
L48A **N Adams** 11.64 58 P Pn 03 43 43.8 -1.0
baz=246,SNR=11
L48A P Pn 03 43 43.8 -1.0
baz=246,SNR=11
Q51A **Peebles** 11.65 73 P Pn 03 43 44.8 -0.2
baz=262
Q51A P Pn 03 43 44.8 -0.2
baz=262
SSFO **Shawnee State** 11.72 75 Pn Pn 03 43 45.4 -0.5
U15A **North Rim** 11.73 274 Pn Pn 03 43 47.5 +1.1
AGMN **Agassiz Nation** 11.85 6 P Pn 03 43 45.9 -1.8
baz=187,SNR=9.9
HWUT **Hardware Ranch** 11.90 300 Pn Pn 03 43 50.2 +1.7
P51A **Williamsport** 11.94 71 Pn Pn 03 43 48.1 -0.8
J47A **Sunmer** 11.96 52 Pn Pn 03 43 47.8 -1.4
AHID **Auburn Hatcher** 12.05 305 Pn Pn 03 43 50.5 0.0
V53A **Saluda** 12.09 90 Pn Pn 03 43 51.9 +0.8
ACSO **Alum Creek Sta** 12.15 68 Pn Pn 03 43 51.0 -0.7
ACSO **Alum Creek Sta** 12.15 68 P Pn 03 43 50.7 -1.0
baz=257,SNR=10
ACSO **Alum Creek Sta** 12.15 68 P Pn 03 43 51.3 -0.4
baz=257
RLMT **Red Lodge** 12.25 318 Pn Pn 03 43 53.4 0.0
RLMT **Red Lodge** 12.25 318 P Pn 03 43 52.6 -0.7
baz=131
AAM **Ann Arbor** 12.31 58 Pn Pn 03 43 52.5 -1.4
AAM **Ann Arbor** 12.31 58 P Pn 03 43 52.9 -1.0
baz=246,SNR=9.8
EYMN **Ely** 12.31 20 Pn Pn 03 43 50.4 -3.6
EYMN **Ely** 12.31 20 P Pn 03 43 51.6 -2.4
baz=204
FLWY **Flagg Ranch** 12.45 311 Pn Pn 03 43 57.2 +1.1
Q52A **Bidwell** 12.48 74 Pn Pn 03 43 55.8 -0.4
Q52A **Bidwell** 12.48 74 P Pn 03 43 56.2 0.0
baz=263,SNR=8.1
Q52A P Pn 03 43 56.2 0.0
baz=263,SNR=8.1
G45A **Suttons Bay** 12.48 43 P Pn 03 43 55.0 -1.3
baz=231,SNR=8.7
G45A P Pn 03 43 55.0 -1.3
baz=231,SNR=8.7
D41A **Chassel** 12.55 30 Pn Pn 03 43 54.9 -2.3
R53A **Hurricane** 12.67 77 Pn Pn 03 43 58.2 -0.7
P52A **Corning** 12.67 71 P Pn 03 43 57.5 -1.4
baz=261,SNR=9.7
E43A **Lone Tree Farm** 12.71 36 Pn Pn 03 43 56.5 -2.9
E43A **Lone Tree Farm** 12.71 36 P Pn 03 43 57.2 -2.2
baz=223
N51A **Ashland** 12.76 65 P Pn 03 44 00.2 +0.1
baz=255
N51A P Pn 03 44 00.2 +0.1
baz=255
U54A **Nelsons Funny** 12.79 85 P Pn 03 44 00.8 +0.2
baz=275,SNR=6.9
U54A P Pn 03 44 00.8 +0.2
baz=275,SNR=6.9
DGMT **Dagmar** 12.86 340 Pn Pn 03 43 59.9 -1.6
DGMT **Dagmar** 12.86 340 P Pn 03 43 59.8 -1.7
baz=156,SNR=18
GLMI **Grayling** 12.94 46 P Pn 03 44 00.6 -2.0
baz=234,SNR=15
S54A **Dingess, Beckl** 13.16 79 Pn Pn 03 44 04.7 -0.9
S54A **Dingess, Beckl** 13.16 79 P Pn 03 44 05.6 0.0
baz=269,SNR=9.9
S54A P Pn 03 44 05.6 0.0
baz=269,SNR=9.9
P53A **Whipple** 13.22 72 Pn Pn 03 44 06.0 -0.4
O53A **New Philadelph** 13.48 69 P Pn 03 44 07.8 -2.1
baz=259
ULM **Lac du Bonnet** 13.79 5 Pn Pn 03 44 09.7 -4.4
comp=Z,0.9nm,0.3s,baz=181,slow=11,SNR=13
ULM Sn Sn 03 46 37.3 -10
comp=Z,2.7nm,0.3s,baz=87,slow=17,SNR=5.7
ULM Lg Lg 03 48 03.2
comp=Z,2.7nm,0.3s,baz=252,slow=20,SNR=2.0
comp=Z,4.6nm,0.5s
BOZ **Bozeman (W)** 13.86 315 P Pn 03 44 15.0 -0.1
baz=126
N53A **Lisbon** 13.87 67 Pn Pn 03 44 13.3 -1.9
BLA **Blacksburg** 13.87 82 Pn Pn 03 44 16.4 +1.0
BLA **Blacksburg** 13.87 82 P Pn 03 44 14.2 -1.1
baz=272
U56A **King** 13.96 86 Pn Pn 03 44 16.8 +0.2
O54A **Avella** 14.09 70 Pn Pn 03 44 15.4 -2.9
R55A **Marlinton** 14.11 78 Pn Pn 03 43 16.7 -1.8

R55A **Marlinton** 14.11 78 P Pn 03 44 17.5 -1.1
baz=268,SNR=15
R55A P Pn 03 44 17.5 -1.1
baz=268,SNR=15
M53A **WI Miller and** 14.14 64 P Pn 03 44 17.7 -1.3
baz=255
ELK **Elko** 14.33 292 Pn Pn 03 44 23.0 +1.3
comp=Z,0.1nm,0.3s,baz=17,slow=20,SNR=1.3
ELK Lg Lg 03 48 23.1
comp=Z,0.1nm,0.3s,baz=198,slow=19,SNR=1.4
comp=Z,0.5nm,0.8s
MCWV **Mont Chateau** 14.42 72 P Pn 03 44 22.6 -0.2
baz=263
EGMT **Eagleton** 14.53 326 Pn Pn 03 44 23.5 -0.8
EGMT **Eagleton** 14.53 326 P Pn 03 44 23.0 -1.3
baz=138,SNR=8.9
HLID **Hailey** 14.58 304 P Pn 03 44 25.5 +0.3
baz=113
GMRC **Granite Mounta** 14.69 269 P Pn 03 44 27.5 +0.9
baz=78
ERPA **Erie** 14.81 62 P Pn 03 44 27.0 -1.1
baz=254
T57A **Hurt** 14.82 83 Pn Pn 03 44 26.7 -1.5
S57A **Dark Hollow, R** 15.02 80 Pn Pn 03 44 29.5 -1.5
V58A **Windy Hill, Pi** 15.05 87 Pn Pn 03 44 28.9 -2.4
BPMT **Black Pine Rid** 15.37 315 Pn Pn 03 44 37.6 +1.8
MFID **Camas Ranch** 15.48 302 Pn Pn 03 44 37.5 +0.4
M55A **Ridgway** 15.54 66 Pn Pn 03 44 35.5 -2.3
PFO **Pinyon Flats O** 15.62 265 LR LR 03 51 01.1
comp=Z,226nm,18.5s,baz=78,slow=39
MZP **Montezuma Peak** 15.73 280 Pn Pn 03 44 38.8 -1.8
R58B **Mineral** 15.87 79 Pn Pn 03 44 41.6 -0.5
R58B IAmb IAmb 03 45 10.5
comp=Z,25nm,1.4s
WVNY **West Valley, N** 15.88 62 Pn Pn 03 44 38.9 -3.3
WVNY IAmb IAmb 03 45 21.2
comp=Z,37nm,1.2s
SSPA **Standing Stone** 16.04 69 Pn Pn 03 44 42.5 -1.7
SSPA IAmb IAmb 03 44 59.3
comp=Z,35nm,1.3s
SSPA **Standing Stone** 16.04 69 P Pn 03 44 42.0 -2.3
baz=261
T59A **Double "B" Far** 16.18 82 Pn Pn 03 44 43.9 -2.1
T59A IAmb IAmb 03 44 51.1
comp=Z,36nm,1.4s
SADO **Sadowa** 16.31 54 Pn Pn 03 44 44.6 -3.1
comp=Z,0.8nm,0.3s,baz=236,slow=12,SNR=4.3
SADO Sn Sn 03 47 47.2 -1.2
comp=Z,1.5nm,0.3s,baz=180,slow=20,SNR=2.1
SADO Lg Lg 03 49 24.7
comp=Z,1.4nm,0.3s,baz=180,slow=20,SNR=2.0
comp=Z,2.0nm,0.4s
LPIG **La Paz** 16.45 225 LR LR 03 51 27.2
comp=Z,243nm,18.7s,baz=29,slow=38
NVAR **Mina Array Bea** 16.45 283 Pn Pn 03 44 51.5 +1.8
comp=Z,0.1nm,0.3s,baz=91,slow=12,SNR=5.5
comp=Z,0.4nm,0.6s
M57A **Sunshine Farm,** 16.72 67 P Pn 03 44 51.2 -1.7
M57A IAmb IAmb 03 45 09.3
comp=Z,16nm,0.7s
K57A **Scipio Center** 17.46 63 Pn Pn 03 45 00.1 -2.1
WUPA **West Chester U** 17.70 72 Pn Pn 03 45 04.0 -1.2
WUPA IAmb IAmb 03 45 27.1
comp=Z,11nm,0.8s
BINY **Binghamton** 17.72 65 Pn Pn 03 45 03.2 -2.3
BINY IAmb IAmb 03 45 35.1
comp=Z,22nm,1.0s
BINY **Binghamton** 17.72 65 P Pn 03 45 03.6 -1.8
baz=258
KSPA **Keystone Colle** 17.77 67 Pn Pn 03 45 04.2 -1.8
KSPA IAmb IAmb 03 45 30.0
comp=Z,39nm,1.3s
TEIG **Tepich** 18.21 150 P 03 45 12.9 +1.1
L59A **Walton** 18.41 65 P P 03 45 12.8 -1.1
L59A IAmb IAmb 03 45 51.7
comp=Z,16nm,0.9s
FFC **Flin Flon** 18.45 352 P P 03 45 13.4 -0.8
NEW **Newport** 18.47 316 P Pn 03 45 15.6 +1.0
baz=122
NEW **Newport** 18.47 316 P P 03 45 13.4 -1.1
comp=Z,0.1nm,0.3s,baz=160,slow=15,SNR=3.2
NEW Lg Lg 03 50 34.9
comp=Z,0.1nm,0.3s,baz=27,slow=2.3,SNR=2.8
NEW LR LR 03 53 13.9
comp=Z,202nm,20.3s,baz=114,slow=40
comp=Z,1.6nm,0.8s
J59A **Piesco** 19.06 62 P P 03 45 21.7 +0.7
J59A IAmb IAmb 03 45 47.5
comp=Z,18nm,1.2s
PAL **Palisades** 19.09 69 P P 03 45 22.2 +1.0
baz=264
LONY **Lake Ozonia** 19.31 58 P P 03 45 23.9 +0.2
baz=253
NCB **Newcomb** 19.38 60 P P 03 45 23.9 -0.6
NCB IAmb IAmb 03 45 50.5
comp=Z,14nm,0.9s
KSCT **Kent School, K** 19.49 67 P P 03 45 26.4 +0.8
CMIG **Matias Romero** 19.51 172 P P 03 45 25.6 -0.5
comp=Z,0.5nm,0.3s,baz=9.1,slow=10,SNR=7.4
comp=Z,3.4nm,0.6s
ACCN **Adirondack Com** 19.64 62 P P 03 45 27.2 -0.1
EDM **Edmonton** 19.97 332 P P 03 45 31.0 +0.1
YBH **Yreka Blue Hor** 20.05 293 P P 03 45 32.2 +0.3
comp=Z,0.1nm,0.3s,baz=148,slow=9.5,SNR=1.9
YBH LR LR 03 52 54.3
comp=Z,92nm,21.4s,baz=96,slow=36
comp=Z,0.8nm,0.6s
L61B **Northampton** 20.18 65 P Pn 03 45 35.6 +0.4
baz=261
K62A **Royalston** 20.54 65 P Pn 03 45 40.1 +0.8
BRLDA **Berland Lookou** 22.24 328 P P 03 45 55.9 +0.4
BRLDA IAmb IAmb 03 45 59.5
comp=Z,5.9nm,0.7s
FCC **Fort Churchill** 22.39 5 P P 03 45 56.7 -0.1
CLRS **Cowichan Lake** 22.86 311 P P 03 46 02.6 +0.7
CLRS IAmb IAmb 03 46 08.9
comp=Z,9.4nm,1.3s
BBB **Bella Bella** 26.53 316 LR LR 03 57 40.0
comp=Z,250nm,19.7s,baz=117,slow=38
SCHQ **Schefferville** 27.97 39 P P 03 46 50.9 +1.7
SCHQ **Schefferville** 27.97 39 P P 03 46 51.2 +2.1
comp=Z,2.8nm,0.6s,baz=244,slow=7.5,SNR=13
SCHQ LR LR 03 58 26.4
comp=Z,286nm,19.4s,baz=235,slow=37
comp=Z,2.8nm,0.6s
YKA **Yellowknife Ar** 28.04 343 P P 03 46 49.1 -0.5
comp=Z,0.5nm,0.9s,baz=146,slow=8.7,SNR=7.0
YKA Lg Lg 03 55 37.2
baz=161,slow=22,SNR=3.4
YKA LR LR 03 58 07.1
comp=Z,182nm,21.6s,baz=110,slow=37
comp=Z,0.5nm,0.9s
DLBC **Dease Lake** 30.45 326 P P 03 47 13.0 +1.7
DLBC IAmb IAmb 03 47 43.9
comp=Z,7.8nm,1.4s
FRB **Frobisher Bay** 32.49 24 LR LR 04 00 09.2
comp=Z,279nm,19.1s,baz=184,slow=35
FARO **Faro, Yukon** 33.88 331 P P 03 47 40.3 -1.0
FARO IAmb IAmb 03 47 44.8
comp=Z,3.6nm,1.3s
L29M **L29M** 36.23 330 P P 03 48 03.4 +1.8
L29M IAmb IAmb 03 48 05.4
comp=Z,6.4nm,1.3s
G31M **Satah River** 36.91 337 P P 03 48 07.9 +0.8
G31M IAmb IAmb 03 48 27.3
comp=Z,6.1nm,1.4s
INK **Inuvik** 37.54 339 P P 03 48 13.5 +1.1
INK **Inuvik** 37.54 339 LR LR 04 04 27.2
comp=Z,316nm,18.2s,baz=192,slow=38
EGAK **Eagle** 38.19 332 P P 03 48 18.6 +0.6
EGAK IAmb IAmb 03 48 21.5
comp=Z,5.3nm,1.4s
SCRK **Sand Creek** 38.98 330 P P 03 48 26.1 +1.3
F28M **Old Crow** 39.10 336 P P 03 48 27.2 +1.6
PRP **Porcupine Dome** 40.18 331 P P 03 48 36.0 +1.2
IL31 **40.44 330** P P 03 48 37.9 +1.1
IL31 IAmb IAmb 03 48 39.5
comp=Z,3.6nm,0.8s
ILAR **Eielson Array** 40.44 330 P P 03 48 38.6 +1.8
ILAR **Eielson Array** 40.44 330 P P 03 48 38.8 +1.9
comp=Z,3.0nm,0.8s,baz=107,slow=7.1,SNR=40
comp=Z,3.0nm,0.8s
BMAR **Burnt Mountain** 40.61 334 P P 03 48 39.4 +1.2
CCB **Clear Creek Bu** 40.77 330 P P 03 48 41.2 +1.7
MDM **Murphy Dome** 41.05 330 P P 03 48 43.3 +1.5
MDM IAmb IAmb 03 48 46.8

	comp=Z,6.2nm,1.4s					
TRF	**Thorofare Moun**	**41.47 327**	P	**P**	**03 48 47.0**	**+1.6**
TRF			IAmb	IAmb	03 48 50.1	
	comp=Z,4.8nm,1.0s					
KDAK	**Kodiak Island**	**41.53 319**	LR	LR	04 04 21.3	
	comp=Z,122nm,18.4s,baz=103,slow=34					
KTH	**Kantishna Hill**	**41.77 327**	P	**P**	**03 48 48.8**	**+1.0**
PPLA	**Purkeypile**	**42.17 326**	P	**P**	**03 48 51.7**	**+0.5**
PPLA			IAmb	IAmb	03 49 01.6	
	comp=Z,11nm,1.4s					
CAST	**Castle Rocks**	**42.24 327**	P	**P**	**03 48 52.9**	**+1.2**
I21K	**Tanana**	**42.63 330**	P	**P**	**03 48 56.3**	**+1.6**
I21K			IAmb	IAmb	03 48 57.6	
	comp=Z,3.5nm,0.8s					
IMAR	**Indian Mountai**	**43.55 330**	P	**P**	**03 49 02.5**	**+0.3**
TTA	**Tatalina**	**43.90 326**	P	**P**	**03 49 05.7**	**+0.6**
B21K	**Ikpikpuk River**	**44.84 335**	P	**P**	**03 49 13.5**	**+1.1**
B21K			IAmb	IAmb	03 49 15.0	
	comp=Z,3.7nm,0.9s					
D19K	**Kuna River**	**45.78 333**	P	**P**	**03 49 21.6**	**+1.7**
SUMG	**Summit**	**46.45 21**	*i* P	**P**	**03 49 23.0**	**-2.6**
BORG	**Borgarnes**	**51.94 32**	LR	LR	04 09 43.8	
	comp=Z,106nm,18.7s,baz=260,slow=33					
SIV	**San Ignacio**	**62.65 140**	LR	LR	04 22 28.1	
	comp=Z,86nm,18.4s,baz=298,slow=40					
EKA	**Eskdalemuir Ar**	**63.28 40**	P	**P**	**03 51 28.8**	**+1.6**
	comp=Z,2.3nm,0.6s,baz=293,slow=6.9,SNR=15					
	comp=Z,2.3nm,0.6s					
LVC	**Limon Verde**	**64.80 151**	LR	LR	04 21 15.6	
	comp=Z,46nm,20.0s,baz=321,slow=37					
SEY	**Seymchan**	**66.33 332**	LR	LR	04 21 51.4	
	comp=Z,129nm,19.5s,baz=334,slow=37					
HFS	**Hagfors**	**68.55 30**	LR	LR	04 20 23.1	
	comp=Z,37nm,20.6s,baz=266,slow=34					
BDFB	**Brasilia**	**69.93 129**	P	**P**	**03 52 08.8**	**-1.5**
FINES	**FINESS Array B**	**72.29 25**	P	**P**	**03 52 25.2**	**+1.4**
	comp=Z,1.5nm,0.6s,baz=319,slow=5.3,SNR=6.1					
	comp=Z,1.5nm,0.6s					
DAVOX	**Davos/Dischmat**	**74.75 43**	LR	LR	04 24 46.2	
	comp=Z,62nm,18.4s,baz=276,slow=35					
KIRV	**Kirov**	**81.36 17**	LR	LR	04 28 31.1	
	comp=Z,31nm,19.2s,baz=327,slow=35					
HHC	**Hu-ho-hao-te**	**98.45 338**	*e*P	**P**	**03 54 35.6**	**-1.6**
HHC			pP	pP	03 54 40.6	-0.7
HHC			pmax	pmax		
	comp=Z,11nm,0.5s					
HHC			pmax	pmax		
	comp=Z,110nm,3.9s					

TRN 05 03:41:46.5, 17°.31N × 61°.85W, h38 km, MD4.0, North of Antigua., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANBD	**Bethesda, Anti**	**0.27**	**163**	*e*P	Pn	03 41 55.4	+0.8
ANBD				*e*S	Sn	03 42 02.3	+0.6
MBFL	**Flemmings, Mon**	**0.66**	**212**	*e*P	Pn	03 42 00.5	+1.1
MBFL				*e*S	Sn	03 42 11.0	+2.5
ABD	**La Joyeuse, An**	**0.90**	**157**	*e*P	Pn	03 42 04.0	+1.5
ABD				*e*S	Sn	03 42 16.9	+2.5
SMRT	**St. Maarten**	**1.38**	**302**	*e*P	Pn	03 42 09.0	-0.2
MAGL	**Barre de l'ile**	**1.46**	**158**	*e*P	Pn	03 42 11.6	+1.4
TDBA	**Terre de Bas,**	**1.47**	**172**	*e*P	Pn	03 42 12.4	+2.0
SVN	**Savane Anatole**	**2.54**	**165**	*e*P	Pn	03 42 26.9	+1.7
SVN				*e*S	Sn	03 42 56.8	+1.9
PCM	**Pelee Case Pet**	**2.55**	**166**	*e*P	Pn	03 42 27.8	+2.4
BAMF	**Morne Balai**	**2.57**	**165**	*e*P	Pn	03 42 28.2	+2.6
GBMF	**Grand Be**	**2.58**	**165**	*e*P	Pn	03 42 27.4	+1.6
PML	**Morne Lenard**	**2.59**	**166**	*e*P	Pn	03 42 28.4	+2.5
FDF	**Fort de France**	**2.65**	**165**	*e*P	Pn	03 42 27.9	+1.2
FDF	**Fort de France**	**2.65**	**165**	*e*P	Pn	03 42 28.5	+1.9
FDF				*e*S	Sn	03 42 59.8	+2.2
ZAM	**Aeronautique**	**2.83**	**164**	*e*P	Pn	03 42 30.3	+1.1
LPMF	**Morne Lapointe**	**2.85**	**163**	*e*P	Pn	03 42 39.1	+10
BIM	**Bigot**	**2.87**	**165**	*e*P	Pn	03 42 32.0	+2.2
MVM	**Montagne Vaucl**	**2.89**	**161**	*e*P	Pn	03 42 31.3	+1.3
MPOM	**Morne Pois Mar**	**3.00**	**161**	*e*P	Pn	03 42 32.8	+1.3
MPOM				*e*S	Sn	03 43 07.1	+0.8
SLBI	**Saint Lucia, B**	**3.37**	**165**	*e*P	Pn	03 42 38.8	+2.2
SLBI				*e*S	Sn	03 43 17.1	+1.8
SVB	**Belmont**	**4.05**	**172**	*e*P	Pn	03 42 48.0	+2.0
SVB				*e*S	Sn	03 43 31.9	-0.4
GCMP	**Grenada, Carri**	**4.81**	**175**	*e*P	Pn	03 42 58.1	+1.7
GRW	**Mount Saint Ca**	**5.12**	**178**	*e*P	Pn	03 43 03.6	+2.8
GRGR	**Grenville**	**5.15**	**178**	*e*P	Pn	03 43 04.2	+3.1
TRN	**Trinidad (W)**	**6.63**	**176**	*e*P	Pn	03 43 25.1	+3.6

*NOU **05** 04:00:20.1, 37°.49S × 176°.80E, h250 km, MLv4.1/10, North Island, New Zealand*
*WEL **05** 04:00:24.2 ± 0.7, 37°.S ± 6" × 17°.7E ± ", h196 km ± 6 km, M4.0/107, MLv4.0/107, Error ellipse: s-maj=0.0km s-min=0.0km az=40.8*
ISC 05 04:00:18.8 ± 2.2, 37°.43S ± 0°.10 × 176°.69E ± 0°.07, h241 km ± 10 km, n160, σ 2.9 03/171, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.41**	**104**	P	**Pn**	**04 00 51.9**	**+1.6**
WHRZ	**Whale Island**	**0.49**	**152**	P	**Pn**	**04 00 52.9**	**+2.4**
MARZ	**Manawahe**	**0.56**	**181**	P	**Pn**	**04 00 51.5**	**+0.8**
EDRZ	**Edgecumbe**	**0.68**	**176**	P	**Pn**	**04 00 52.4**	**+1.2**
KARZ	**Kaharoa**	**0.69**	**210**	P	**Pn**	**04 00 52.6**	**+1.3**
KMRZ	**Kaimai**	**0.72**	**234**	P	**Pn**	**04 00 52.8**	**+1.4**
KMRZ				S	**S**	**04 01 15.3**	**-1.8**
OMRZ	**Omania**	**0.72**	**200**	P	**Pn**	**04 00 52.8**	**+1.4**
OMRZ				S	**S**	**04 01 15.9**	**-1.2**
MKRZ	**Makatiti**	**0.73**	**194**	P	**Pn**	**04 00 53.1**	**+1.5**
NGRZ	**Ngongotaha**	**0.78**	**210**	P	**Pn**	**04 00 53.3**	**+1.6**
TARZ	**Mount Tarawera**	**0.82**	**190**	P	**Pn**	**04 00 54.0**	**+2.0**
HLRZ	**Highlands Stat**	**0.87**	**198**	P	**Pn**	**04 00 53.0**	**+0.9**
URZ	**Urewera**	**0.90**	**158**	P	**Pn**	**04 00 53.3**	**+1.2**
URZ	**Urewera**	**0.90**	**158**	P	**Pn**	**04 00 53.3**	**+1.2**
URZ				S	**S**	**04 01 15.6**	**-2.9**
RRRZ	**Republican Roa**	**0.92**	**188**	P	**Pn**	**04 00 54.0**	**+1.7**
RRRZ				S	**S**	**04 01 16.8**	**-2.0**
HAZ	**Te Kaha**	**0.93**	**111**	P	**Pn**	**04 00 53.5**	**+1.2**
HAZ				S	**S**	**04 01 15.8**	**-3.0**
RUGZ	**Raukumara Rang**	**0.95**	**125**	P	**Pn**	**04 00 53.4**	**+0.7**
RUGZ				S	**S**	**04 01 16.3**	**-3.0**
TOZ	**Tahuroa Road**	**0.99**	**252**	P	**Pn**	**04 00 54.1**	**+1.4**
TOZ				S	**S**	**04 01 17.3**	**-2.0**
HRRZ	**Handcock Road**	**1.01**	**198**	P	**Pn**	**04 00 54.9**	**+2.0**
HRRZ				S	**S**	**04 01 19.0**	**-0.8**
GRRZ	**Galatos Road**	**1.03**	**206**	P	**Pn**	**04 00 54.2**	**+1.2**
GRRZ				S	**S**	**04 01 20.5**	**+0.6**
MUGZ	**Murupara**	**1.05**	**176**	P	**Pn**	**04 00 54.5**	**+1.4**
MUGZ				S	**S**	**04 01 16.6**	**-3.5**
PRRZ	**Plateau Road**	**1.10**	**192**	P	**Pn**	**04 00 55.2**	**+1.9**
PRRZ				S	**S**	**04 01 18.8**	**-1.8**
MWZ	**Matawai**	**1.13**	**144**	P	**Pn**	**04 00 55.0**	**+1.4**
ALRZ	**Allen Road**	**1.17**	**193**	P	**Pn**	**04 00 55.6**	**+1.8**
PKGZ	**Pakihiroa**	**1.20**	**113**	P	**Pn**	**04 00 56.2**	**+2.2**
RTZ	**Ruatahuna**	**1.21**	**169**	P	**Pn**	**04 00 55.8**	**+1.6**
RAGZ	**Rawiri**	**1.22**	**152**	P	**Pn**	**04 00 56.2**	**+2.0**
MKAZ	**Moumakai**	**1.26**	**284**	P	**Pn**	**04 00 55.7**	**+1.3**
KUTZ	**Kaahu Road**	**1.26**	**212**	P	**Pn**	**04 00 56.6**	**+2.2**
TWGZ	**Tauwhareparae**	**1.27**	**127**	P	**Pn**	**04 00 56.9**	**+2.4**
TLZ	**Tolley Road**	**1.28**	**225**	P	**Pn**	**04 00 56.4**	**+1.8**
MXZ	**Matakaoa Point**	**1.30**	**97**	P	**Pn**	**04 00 57.1**	**+2.5**
MXZ	**Matakaoa Point**	**1.30**	**97**	P	**Pn**	**04 00 56.8**	**+2.2**
WIAZ	**Waiheke Island**	**1.39**	**297**	P	**Pn**	**04 00 56.7**	**+1.3**
WIAZ				S	**S**	**04 01 21.4**	**-2.6**
PUZ	**Puketiti**	**1.40**	**118**	P	**Pn**	**04 00 57.7**	**+2.3**
MRHZ	**Matea Rd**	**1.42**	**188**	P	**Pn**	**04 00 57.3**	**+1.7**
WMGZ	**Waionatatini S**	**1.43**	**107**	P	**Pn**	**04 00 58.2**	**+2.6**
MTHZ	**Maungataniwha**	**1.43**	**175**	P	**Pn**	**04 00 57.6**	**+2.0**
SNGZ	**Shannon Statio**	**1.45**	**159**	P	**Pn**	**04 00 58.1**	**+2.3**
WATZ	**Wairara**	**1.48**	**210**	P	**Pn**	**04 00 58.4**	**+2.4**
RAHZ	**Arahi**	**1.52**	**168**	P	**Pn**	**04 00 58.9**	**+2.6**
GRZ	**Great Barrier**	**1.53**	**320**	P	**Pn**	**04 00 57.8**	**+1.4**
RIGZ	**Rimuhau**	**1.54**	**147**	P	**Pn**	**04 00 59.3**	**+2.8**
MBAZ	**Motutapu North**	**1.57**	**294**	P	**Pn**	**04 00 58.4**	**+1.6**
CNGZ	**Carnagh Statio**	**1.60**	**132**	P	**Pn**	**04 01 00.2**	**+3.3**
RATZ	**Rangitukua**	**1.61**	**206**	P	**Pn**	**04 00 59.2**	**+2.2**
AWAZ	**Awhitu Peninsu**	**1.67**	**282**	P	**Pn**	**04 00 59.0**	**+1.5**
NMHZ	**Naumai**	**1.67**	**177**	P	**Pn**	**04 01 00.3**	**+2.7**
ABAZ	**Army Bay**	**1.70**	**298**	P	**Pn**	**04 00 59.6**	**+1.8**
WHHZ	**Waihua**	**1.71**	**165**	P	**Pn**	**04 01 00.4**	**+2.6**
KATZ	**Kakaramea**	**1.73**	**206**	P	**Pn**	**04 01 00.7**	**+2.5**
BKZ	**Black Stump Fm**	**1.74**	**185**	P	**Pn**	**04 01 00.0**	**+1.8**
BKZ	**Black Stump Fm**	**1.74**	**185**	P	**Pn**	**04 00 59.9**	**+1.7**
WTAZ	**Waiatarua**	**1.76**	**286**	P	**Pn**	**04 01 00.1**	**+1.8**
PRGZ	**Paritu Road**	**1.77**	**148**	P	**Pn**	**04 01 01.0**	**+2.6**
KNZ	**Kokohu**	**1.77**	**154**	P	**Pn**	**04 01 01.0**	**+2.7**
HIZ	**Hauiti**	**1.81**	**233**	P	**Pn**	**04 01 00.9**	**+2.3**
HIZ	**Hauiti**	**1.81**	**233**	P	**Pn**	**04 01 01.0**	**+2.3**
NTVZ	**North Tongarir**	**1.85**	**205**	P	**Pn**	**04 01 01.5**	**+2.3**
ARHZ	**Aropaoanui**	**1.85**	**173**	P	**Pn**	**04 01 01.8**	**+2.8**
TMVZ	**Te Maari**	**1.86**	**204**	P	**Pn**	**04 01 01.5**	**+2.3**
KRVZ	**Karewarewa**	**1.86**	**206**	P	**Pn**	**04 01 01.5**	**+2.2**
ETVZ	**East Tongariro**	**1.87**	**204**	P	**Pn**	**04 01 01.7**	**+2.3**
WTVZ	**West Tongariro**	**1.90**	**207**	P	**Pn**	**04 01 01.8**	**+2.3**
NNVZ	**North Ngauruho**	**1.90**	**206**	P	**Pn**	**04 01 02.0**	**+2.3**
OTVZ	**Oturere**	**1.91**	**205**	P	**Pn**	**04 01 02.1**	**+2.3**
TWVZ	**Taurewa**	**1.91**	**210**	P	**Pn**	**04 01 02.1**	**+2.4**
SNVZ	**South Ngauruho**	**1.94**	**205**	P	**Pn**	**04 01 02.3**	**+2.2**
NGZ	**Ngauruhoe**	**1.94**	**206**	P	**Pn**	**04 01 02.6**	**+2.6**
MHGZ	**Mahia Peninsul**	**1.98**	**151**	P	**Pn**	**04 01 03.2**	**+3.0**
COVZ	**Chateau Observ**	**1.99**	**207**	P	**Pn**	**04 01 02.6**	**+2.2**
KWHZ	**Kaweka Forest**	**2.01**	**186**	P	**Pn**	**04 01 02.8**	**+2.3**
TUVZ	**Tukino**	**2.01**	**203**	P	**Pn**	**04 01 02.9**	**+2.2**
MCHZ	**McNeill Hill**	**2.02**	**180**	P	**Pn**	**04 01 03.3**	**+2.8**
FWVZ	**Far West T-bar**	**2.03**	**206**	P	**Pn**	**04 01 03.2**	**+2.3**
MAVZ	**Matarangi**	**2.04**	**205**	P	**Pn**	**04 01 03.5**	**+2.4**
WHVZ	**Whangaehu Hut**	**2.04**	**205**	P	**Pn**	**04 01 03.2**	**+2.1**
TRVZ	**Turoa**	**2.07**	**205**	P	**Pn**	**04 01 03.5**	**+2.2**
WNVZ	**Wahianoa**	**2.08**	**204**	P	**Pn**	**04 01 03.4**	**+2.1**
MOVZ	**Moawhango**	**2.11**	**200**	P	**Pn**	**04 01 03.1**	**+1.6**
BHHZ	**Black Hill Sta**	**2.12**	**193**	P	**Pn**	**04 01 03.3**	**+1.8**
PKVZ	**Pokaka**	**2.14**	**209**	P	**Pn**	**04 01 04.4**	**+2.6**
MTVZ	**Mangateitei**	**2.18**	**206**	P	**Pn**	**04 01 04.3**	**+2.2**
KRHZ	**Kereru**	**2.18**	**206**	P	**Pn**	**04 01 04.3**	**+2.2**
CKHZ	**Cape Kidnapper**	**2.25**	**172**	P	**Pn**	**04 01 05.6**	**+2.9**
VRZ	**Vera Road**	**2.27**	**221**	P	**Pn**	**04 01 06.1**	**+3.1**
KAHZ	**Kahuranaki**	**2.37**	**176**	P	**Pn**	**04 01 06.8**	**+2.8**
WCZ	**Waipu Caves**	**2.40**	**308**	P	**Pn**	**04 01 06.3**	**+2.0**
MHEZ	**Mangahewa**	**2.48**	**228**	P	Pn	04 01 10.1	+5.0
PXZ	**Pawanui**	**2.60**	**177**	P	**Pn**	**04 01 08.7**	**+2.4**
DREZ	**Durham Road**	**2.63**	**227**	P	**Pn**	**04 01 11.2**	**+4.5**
WPHZ	**Waipukurau**	**2.64**	**184**	P	**Pn**	**04 01 08.9**	**+2.2**
WAZ	**Wanganui**	**2.68**	**209**	P	**Pn**	**04 01 09.6**	**+2.5**
TSZ	**Takapari Road**	**2.69**	**192**	P	**Pn**	**04 01 09.1**	**+1.8**
LREZ	**Lake Rotokare**	**2.71**	**221**	P	**Pn**	**04 01 11.0**	**+3.6**
NEZ	**North Egmont**	**2.75**	**227**	P	**Pn**	**04 01 11.7**	**+3.8**
PREZ	**Palmer Road**	**2.76**	**225**	P	**Pn**	**04 01 11.9**	**+3.9**
PKE	**Pukeiti**	**2.76**	**229**	P	**Pn**	**04 01 11.7**	**+3.6**
KHEZ	**Kahui Hut**	**2.81**	**228**	P	**Pn**	**04 01 12.0**	**+3.4**
KHEZ	**Kahui Hut**	**2.81**	**228**	P	**Pn**	**04 01 12.1**	**+3.4**
PRHZ	**Porangahau**	**2.84**	**181**	P	**Pn**	**04 01 10.9**	**+2.1**
NBEZ	**Newall Road No**	**2.88**	**229**	P	**Pn**	**04 01 12.0**	**+3.7**
DVHZ	**Dannevirke**	**2.90**	**188**	P	**Pn**	**04 01 11.2**	**+1.7**
NMEZ	**Namu Road**	**2.97**	**227**	P	**Pn**	**04 01 14.4**	**+4.2**
OHWZ	**Ohakea**	**2.98**	**201**	P	**Pn**	**04 01 12.8**	**+2.6**
ANWZ	**Angora Road**	**3.04**	**183**	P	**Pn**	**04 01 13.2**	**+2.2**
POWZ	**Post Office Ro**	**3.05**	**193**	P	**Pn**	**04 01 13.0**	**+1.8**
PRWZ	**Pori Road**	**3.17**	**190**	P	**Pn**	**04 01 14.5**	**+2.0**
BFZ	**Birch Farm**	**3.27**	**186**	P	**Pn**	**04 01 15.2**	**+1.7**
BFZ	**Birch Farm**	**3.27**	**186**	P	**Pn**	**04 01 15.3**	**+1.7**
OUZ	**Omahuta**	**3.33**	**311**	P	**Pn**	**04 01 16.8**	**+2.5**
MRZ	**Mangatainoka R**	**3.34**	**195**	P	**Pn**	**04 01 15.7**	**+1.3**
TIWZ	**Tintock**	**3.40**	**190**	P	**Pn**	**04 01 16.8**	**+1.7**
CPWZ	**Castlepoint**	**3.50**	**186**	P	**Pn**	**04 01 18.6**	**+2.4**
HOWZ	**Holdsworth Sta**	**3.58**	**194**	P	**Pn**	**04 01 18.3**	**+1.1**
OGWZ	**Otaki Gorge**	**3.59**	**199**	P	**Pn**	**04 01 18.5**	**+1.3**
KIW	**Kapiti Island**	**3.70**	**201**	P	**Pn**	**04 01 19.6**	**+1.1**
TMWZ	**Te Maipa**	**3.73**	**189**	P	**Pn**	**04 01 20.2**	**+1.3**
MTW	**Mount Morrison**	**3.84**	**193**	P	**Pn**	**04 01 21.0**	**+0.8**
CAW	**Cannon Point**	**3.89**	**198**	P	**Pn**	**04 01 21.8**	**+1.1**
DUWZ	**D'Urville Isla**	**4.00**	**212**	P	**Pn**	**04 01 22.9**	**+0.9**
TRWZ	**Traveller**	**4.04**	**191**	P	**Pn**	**04 01 23.8**	**+1.2**
PAWZ	**Paruwai Farm**	**4.07**	**193**	P	**Pn**	**04 01 23.7**	**+0.8**
WEL	**Wellington**	**4.13**	**200**	P	**Pn**	**04 01 24.7**	**+1.1**
TCW	**Tory Channel**	**4.22**	**206**	P	**Pn**	**04 01 25.5**	**+0.9**
BHW	**Baring Head**	**4.22**	**199**	P	**Pn**	**04 01 25.4**	**+0.8**
PLWZ	**Palliser**	**4.28**	**195**	P	**Pn**	**04 01 26.2**	**+0.8**
TUWZ	**Tuamarina**	**4.53**	**207**	P	**Pn**	**04 01 29.1**	**+0.8**
NNZ	**Nelson**	**4.57**	**213**	P	**Pn**	**04 01 29.5**	**+0.6**
TKNZ	**Takaka Hill**	**4.62**	**218**	P	**Pn**	**04 01 30.7**	**+1.2**
CMWZ	**Cape Campbell**	**4.72**	**203**	P	**Pn**	**04 01 32.5**	**+1.8**
BSWZ	**Blackbirch Sta**	**4.80**	**206**	P	**Pn**	**04 01 32.6**	**+0.9**
MRNZ	**Matariki Terra**	**5.00**	**216**	P	**Pn**	**04 01 34.5**	**+0.3**
THZ	**Tophouse**	**5.22**	**213**	P	**Pn**	**04 01 38.1**	**+1.1**
KHZ	**Kahutara**	**5.54**	**205**	P	**Pn**	**04 01 41.8**	**+1.0**
KHZ	**Kahutara**	**5.54**	**205**	P	**Pn**	**04 01 42.0**	**+1.2**
DSZ	**Dennistoun Nort**	**5.73**	**220**	P	**Pn**	**04 01 43.7**	**+0.5**
GVZ	**Greta Valley S**	**6.20**	**206**	P	**Pn**	**04 01 50.0**	**+0.8**
LTZ	**Lake Taylor**	**6.33**	**211**	P	**Pn**	**04 01 51.0**	**+0.3**
AMCZ	**Amberley**	**6.52**	**207**	P	**Pn**	**04 01 53.8**	**+0.7**
INZ	**Inchbonnie**	**6.64**	**216**	P	**Pn**	**04 01 55.1**	**+0.4**
OXZ	**Oxford**	**6.88**	**210**	P	**Pn**	**04 01 57.9**	**+0.2**
MQZ	**McQueen's Vall**	**6.98**	**205**	P	**Pn**	**04 01 58.6**	**-0.4**
AKCZ	**Akaroa Harbour**	**7.05**	**203**	P	**Pn**	**04 02 00.7**	**+0.9**
MHCZ	**Mount Hutt**	**7.24**	**211**	P	**Pn**	**04 02 02.8**	**+0.5**
WVZ	**Waitaha Valley**	**7.25**	**217**	P	**Pn**	**04 02 03.2**	**+0.9**
WACZ	**Wakanui South**	**7.48**	**208**	P	**Pn**	**04 02 05.8**	**+0.6**
RPZ	**Rata Peaks**	**7.60**	**213**	P	**Pn**	**04 02 07.8**	**+0.9**
RPZ	**Rata Peaks**	**7.60**	**213**	P	**Pn**	**04 02 07.8**	**+0.9**
ARCZ	**Arundel**	**7.74**	**211**	P	**Pn**	**04 02 09.0**	**+0.4**
FOZ	**Fox Glacier**	**8.04**	**218**	P	**Pn**	**04 02 13.2**	**+0.9**
TMZ	**Timaru**	**8.17**	**210**	P	**Pn**	**04 02 14.5**	**+0.4**
LBZ	**Lake Benmore**	**8.52**	**213**	P	**Pn**	**04 02 19.3**	**+0.9**
ODZ	**Otahua Downs**	**8.87**	**209**	P	**Pn**	**04 02 24.2**	**+1.3**
ODZ	**Otahua Downs**	**8.87**	**209**	P	**Pn**	**04 02 24.2**	**+1.3**
JCZ	**Jackson Bay**	**8.94**	**220**	P	**Pn**	**04 02 24.9**	**+0.9**
JCZ	**Jackson Bay**	**8.94**	**220**	P	**Pn**	**04 02 24.6**	**+0.6**
WKZ	**Wanaka**	**9.38**	**216**	P	**Pn**	**04 02 29.8**	**+0.2**
EAZ	**Earnscleugh**	**9.57**	**213**	P	**Pn**	**04 02 32.0**	**+0.2**
HHSZ	**Highcliff Hill**	**9.60**	**206**	P	**Pn**	**04 02 34.4**	**+2.2**
MLZ	**Mavora Lakes**	**10.21**	**216**	P	**Pn**	**04 02 41.9**	**+1.9**

IDC 05 04:01:04.3 ± 1.9, 6°.20S × 143°.18E, h0 km, mb3.6/3, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=79.0km s-min=30.7km az=107.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.14**	**211**	Pn	Pn	04 04 50.6	-2.1
	0.2nm,0.3s,baz=27,slow=13,SNR=4.7						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**19.52**	**206**	P	P	04 05 34.0	+0.5
	0.2nm,0.3s,baz=33,slow=9.5,SNR=23						
	5.3nm,1.0s						
MKAR	**Makanchi Array**	**75.26**	**322**	P	P	04 12 49.8	+0.6
	0.3nm,0.8s,baz=102,slow=6.2,SNR=3.4						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**84.71**	**325**	P	P	04 13 40.6	+0.5
	0.9nm,0.6s,baz=111,slow=3.3,SNR=4.6						
	0.9nm,0.6s						
ILAR	**Eielson Array**	**87.18**	**24**	P	P	04 13 51.3	-0.9
	0.2nm,0.6s,baz=250,slow=4.7,SNR=5.1						
	0.2nm,0.6s						

*HEL **05** 04:17:25.7 ± 0.2, 67°.60N × 33°.86E, h0 km, ML1.9, Suspected explosion*
*KOLA **05** 04:17:26.4, 67°.63N × 33°.82E, h0 km, ML2.3, Error ellipse: s-maj=5.8km s-min=2.1km az=150.0, Khibiny, mines Rasvumchorr, Central*
*IDC **05** 04:17:28.4 ± 1.9, 67°.70N × 33°.38E, h0 km, mbtmp3.4/5, ML2.3/4, Error ellipse: s-maj=19.9km s-min=10.0km az=82.0*
ISC 05 04:17:25.2 ± 0.8, 67°.62N ± 0°.04 × 33°.83E ± 0°.03, h0 km, n35, σ 1.9 63/61, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.17**	**254**	P	**Pg**	**04 17 29.5**	**+1.1**
APA				S	**Sg**	**04 17 31.9**	**+1.3**
APA0	**Apatity Array**	**0.32**	**268**	P	**Pg**	**04 17 31.8**	**+0.4**
APA0				S	**Sg**	**04 17 36.2**	**+0.7**
LVZ	**Lovozero**	**0.42**	**48**	P	**Pg**	**04 17 34.1**	**+0.8**
LVZ				S	**Sg**	**04 17 39.9**	**+1.2**
LVZ	**Lovozero**	**0.42**	**48**	PG	**Pg**	**04 17 33.7**	**+0.4**
	baz=225						
LVZ				SG	**Sg**	**04 17 38.0**	**-0.7**
VRF	**Varrio**	**1.62**	**277**	PG	**Pn**	**04 17 54.8**	**-0.1**
VRF				MSG		04 18 14.4	
	comp=Z,10nm,0.2s						
VRF				SG	**Sn**	**04 18 15.2**	**-1.2**
TERR	**Teriberka**	**1.66**	**16**	P	**Pn**	**04 17 55.8**	**+0.2**
TERR				S	**Sn**	**04 18 16.8**	**-0.7**
OLKF	**Oulanka, Finla**	**2.17**	**235**	PG	**Pb**	**04 18 04.9**	**-0.5**
	baz=47						
OLKF				MSG		04 18 30.2	
	comp=Z,8.5nm,0.2s						
OLKF				SG	**Sb**	**04 18 34.6**	**+1.8**
PRVG	**Vayda Guba**	**2.22**	**345**	S	**Sn**	**04 18 32.4**	**+1.0**
KU6	**Riekki**	**2.23**	**226**	PG	**Pn**	**04 18 05.1**	**+1.7**
KU6				MSG		04 18 31.8	
	comp=Z,5.0nm,0.2s						
KU6				SG	**Sb**	**04 18 35.9**	**+1.4**
RAJF	**Raja-Jooseppi**	**2.25**	**295**	PB	**Pn**	**04 18 04.5**	**+0.9**
RAJF				SN	**Sn**	**04 18 32.6**	**+0.7**
MSF	**Maaselka**	**2.56**	**230**	PG	**Pb**	**04 18 11.2**	**-0.7**
	baz=48						
MSF				SG	**Sb**	**04 18 45.4**	**+1.5**
SGF	**Sodankyl**	**2.81**	**270**	PB	**Pn**	**04 18 12.8**	**+1.5**
SGF				SG	**Sb**	**04 18 50.6**	**-0.5**
KMNF	**Kaamanen**	**2.96**	**304**	PN	**Pn**	**04 18 13.9**	**+0.5**
KMNF				SN	**Sn**	**04 18 50.0**	**+0.5**
VADS	**Vadso**	**2.99**	**329**	P	**Pn**	**04 18 14.6**	**+0.8**
VADS				S	**Sn**	**04 18 49.9**	**-0.4**
RANF	**Ranua**	**3.22**	**243**	PB	**Pn**	**04 18 19.2**	**+2.4**
	baz=56						
RANF				SG	**Sb**	**04 19 04.6**	**+1.8**
RNF	**Rovaniemi**	**3.22**	**255**	PN	**Pn**	**04 18 17.6**	**+0.7**
	baz=71						
RNF				SN	**Sn**	**04 18 56.5**	**+0.7**
KEV	**Kevo**	**3.29**	**314**	PN	**Pn**	**04 18 18.7**	**+0.8**
	baz=127						
KEV				SN	**Sn**	**04 18 57.4**	**-0.2**
ARA0	**ARCESS Array S**	**3.61**	**306**	*e*P	**Pn**	**04 18 22.2**	**-0.1**
ARA0	**ARCESS Array S**	**3.61**	**306**	PN	**Pn**	**04 18 22.6**	**+0.3**
	baz=119						
ARA0				SN	**Sn**	**04 19 03.9**	**-1.7**
ARCES	**ARCESS Array B**	**3.61**	**306**	P	**Pn**	**04 18 22.5**	**+0.2**
ARCES				S	**Sn**	**04 19 04.8**	**-0.7**
ARCES	**ARCESS Array B**	**3.61**	**306**	Pn	**Pn**	**04 18 22.8**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=122,slow=15,SNR=

VICA	**Volcano Irazu**	**1.54**	**340**	*e*P	**Pn**	**04 23 06.3**	**-0.6**
VTRT	**Volcan Turrial**	**1.54**	**342**	*e*P	**Pn**	**04 23 06.2**	**-0.6**
VTR0	**Volcan Turrial**	**1.55**	**343**	*e*P	**Pn**	**04 23 06.6**	**-0.4**
CVTR	**Volcan Turrial**	**1.55**	**343**	*e*P	**Pn**	**04 23 06.3**	**-0.6**
TAAN	**Batan**	**1.55**	**359**	*e*P	**Pn**	**04 23 07.0**	**+0.4**
VTUN	**Crater Central**	**1.55**	**343**	*i* P	**Pn**	**04 23 06.8**	**-0.2**
VTUN				*i* S	**Sg**	**04 23 29.2**	**0.0**
VTUN				IAML		04 23 33.8	
	comp=Z,310nm,1.0s						
HDC3	**Heredia 3**	**1.67**	**332**	*i* P	**Pn**	**04 23 08.5**	**+0.2**
HDC3				IAML		04 23 09.7	
	comp=Z,420nm,1.0s						
HDC3				*i* S	**Sb**	**04 23 31.7**	**+0.8**
JACO	**JACO, Garabito**	**1.75**	**310**	*i* P	**Pn**	**04 23 09.5**	**+0.2**
JACO				IAML		04 23 45.3	
	comp=Z,140nm,1.0s						
RIFO	**Rio Frio, Sara**	**1.88**	**341**	*i* P	**Pn**	**04 23 11.5**	**+0.4**
RIFO				*i* S	**Sb**	**04 23 37.0**	**+0.1**
RIFO				IAML		04 23 46.3	
	comp=Z,180nm,1.0s						
LAFE	**Finca La Fe, P**	**2.03**	**309**	*i* P	**Pn**	**04 23 13.9**	**+0.7**
LAFE				*i* S	**Sg**	**04 23 45.0**	**+0.6**
LAFE				IAML		04 23 52.2	
	comp=Z,0.6nm,1.0s						
CPMI	**Catarata Coope**	**2.04**	**329**	*i* P	**Pn**	**04 23 14.1**	**+0.5**
SOCE	**Pocosol**	**2.25**	**325**	*i* P	**Pn**	**04 23 17.5**	**+1.2**
SOCE				IAML		04 23 19.1	
	comp=Z,280nm,1.0s						
SOCE				*i* S	**Sb**	**04 23 47.5**	**-0.2**
COVE	**Coope Vega, Sa**	**2.43**	**334**	*i* P	**Pn**	**04 23 19.3**	**+0.6**
COVE				*i* S	**Sn**	**04 23 50.7**	**+2.2**
COVE				IAML		04 24 02.0	
	comp=Z,110nm,1.0s						

*NNC **05** 04:26:05.6±0.6,49°.83N×77°.39E,h0km,mb2.1,mpv2.1, Error ellipse: s-maj=7.5km s-min=2.8km az=114.0, Suspected Mining explosion.*
*IDC **05** 04:26:06.8±3.0,50°.00N×77°.26E,h0km,mbtmp2.3/2, ML1.6/2,Error ellipse: s-maj=27.3km s-min=12.1km az=97.0*
ISC 05 04:26:07.9±4.4,49°.95N±0°.06×77°.5E±0°.3,h0km,n8, σ1s25/10,5C-3D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.95**	**44**	Pg	**Pg**	**Pg**	**04 26 25.9**	**-0.2**
	0.2nm,0.3s,baz=233,slow=18,SNR=18							
KURBB				Lg		Lg	04 26 41.5	
	0.2nm,0.3s,baz=231,slow=31,SNR=16							
KURBB	**Kurchatov Arra**	**0.95**	**44**	⇑P		**Pb**	**04 26 26.2**	**-1.0**
	0.8nm,0.3s							
KURBB				⇓S		**Sb**	**04 26 41.2**	**+0.9**
	8.5nm,0.7s							
KURK	**Kurchatov**	**1.05**	**43**	⇑P		**Pb**	**04 26 27.9**	**-1.1**
	1.3nm,0.4s							
KURK				⇑S		**Sn**	**04 26 44.3**	**-1.0**
	6.8nm,0.7s							
MAKZ	**Makanchi**	**4.34**	**135**	⇑Pg		**Pb**	**04 27 23.2**	**-1.7**
	0.2nm,0.3s							
MAKZ				⇓Lg		Lg	04 28 21.6	
	1.3nm,0.8s							
MK31	**Makanchi Array**	**4.50**	**133**	⇓Pg		**Pb**	**04 27 27.7**	**0.0**
	0.1nm,0.5s,baz=318,slow=14,SNR=4.6							
MK31				⇑Lg		Lg	04 28 28.6	
	1.2nm,0.9s,baz=311,slow=26,SNR=5.6							
MKAR	**Makanchi Array**	**4.50**	**133**	Pn		**Pn**	**04 27 17.4**	**+0.1**
	baz=301,slow=12,SNR=1.8							
MKAR				Pg		**Pb**	**04 27 28.5**	**+0.9**
	0.1nm,0.3s,baz=318,slow=14,SNR=4.9							
MKAR				Lg		Lg	04 28 28.9	
	0.2nm,0.3s,baz=308,slow=26,SNR=4.7							
	0.1nm,0.4s							
I46RU	**ZALESOVO INFRA**	**6.05**	**46**	I		I	05 03 10.0	
	baz=229,slow=333,SNR=1.4							
ZALV	**Zalesovo Beam**	**6.05**	**46**	Pn		**Pn**	**04 27 40.2**	**+1.8**
	0.1nm,0.3s,baz=235,slow=18,SNR=2.7							
	0.6nm,0.5s							

AFAD 05 04:29:25.6±0.0,37°.24N×26°.65E,h7km±4km,MW3.3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DDIM	**Aydin, Didim**	**0.52**	**65**	P		Pg	04 29 35.4	-0.2
DDIM				S		Sb	04 29 44.0	-0.7
GCAM	**G?zelcaml?**	**0.65**	**45**	P		Pg	04 29 38.4	+0.2
GCAM				S		Sg	04 29 47.5	+0.8
BDRM	**Kayabasi**	**0.66**	**105**	P		Pg	04 29 38.7	+0.5
BDRM				S		Sb	04 29 48.3	-0.4
YAZI	**Mula-Dat§a-**	**0.85**	**131**	P		Pb	04 29 43.2	+0.5
YAZI				S		Sb	04 29 54.0	-0.2
DAT	**Datca**	**0.90**	**124**	P		Pb	04 29 43.4	-0.2
DAT				S		Sb	04 29 55.5	-0.3
MULA	**Mugla, Merkez-**	**1.33**	**89**	P		Pn	04 29 50.5	-0.2
MULA				S		Sn	04 30 09.9	+1.2
TURN	**Turunc**	**1.35**	**109**	P		Pn	04 29 50.2	-0.7
TURN				S		Sg	04 30 10.1	+0.9
IZMR	**zmir-demi**	**1.37**	**49**	P		Pn	04 29 50.5	-0.5
ESEN	**Aydn-Nazilli**	**1.46**	**67**	P		Pn	04 29 52.1	-0.2
ESEN				S		Sn	04 30 10.3	-1.4
SABU	**Mula-Dalaman**	**1.90**	**102**	P		Pb	04 30 00.3	-0.3
SABU				S		Sn	04 30 19.4	-3.2

*ISK **05** 04:29:44.3,38°.51N×25°.58E,h11km,ML3.4/19*
*ATH **05** 04:29:46.9,38°.59N×25°.60E,h12km±1km,ML3.2/14,Error ellipse: s-maj=1.3km s-min=0.7km az=117.0*
*THE **05** 04:29:47.1,38°.58N×25°.64E,h20km±2km,ML3.2/12,Error ellipse: s-maj=2.6km s-min=0.5km az=116.0*
ISC 05 04:29:46.4±0.8,38°.58N±0°.02×25°.61E±0°.02,h15km±5km, n70,σ0s62/97,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PSRA	**Psara**	**0.05**	**222**	P		**Pg**	**04 29 48.9**	**-0.2**
PSRA				S		**Sg**	**04 29 50.3**	**-0.5**
PSRA				AML		AML	04 29 50.7	
PSRA				AML		AML	04 29 50.8	
EAG2	**Marmaro, Chios**	**0.39**	**95**	P		**Pg**	**04 29 54.9**	**+0.6**
EAG2				S		**Sg**	**04 30 00.2**	**+0.5**
CHOS	**Chios island**	**0.40**	**119**	P		**Pg**	**04 29 55.1**	**+0.6**
CHOS				S		**Sg**	**04 30 00.2**	**+0.2**
	3µm,0.1s							
CHOS	**Chios island**	**0.40**	**119**	P		**Pg**	**04 29 55.1**	**+0.6**
CHOS				S		**Sg**	**04 30 00.8**	**+0.9**
SIGR	**SIGRI**	**0.66**	**17**	Pg		**Pg**	**04 29 58.7**	**-0.6**
SIGR				Sg		**Sb**	**04 30 09.7**	**+1.1**
SIGR	**SIGRI**	**0.66**	**17**	P		**Pg**	**04 29 59.4**	**+0.1**
SIGR				S		**Sg**	**04 30 08.9**	**+0.9**
	5µm,0.5s							
SIGR	**SIGRI**	**0.66**	**17**	P		**Pg**	**04 29 59.3**	**0.0**
SIGR				S		**Sg**	**04 30 08.7**	**+0.6**
SIGR				AML		AML	04 30 11.6	
	comp=E,8405µm,0.3s							
SIGR				AML		AML	04 30 12.7	
	comp=N,10042µm,0.6s							
PRK	**Paraskevi**	**0.84**	**38**	P		**Pg**	**04 30 02.7**	**0.0**
PRK				S		**Sg**	**04 30 14.3**	**+0.5**
	comp=N,2µm,0.5s							
PRK	**Paraskevi**	**0.84**	**38**	P		**Pg**	**04 30 02.5**	**-0.2**
PRK				S		**Sg**	**04 30 14.1**	**+0.3**
PRK				AML		AML	04 30 15.9	
	comp=E,4583µm,0.5s							
PRK				AML		AML	04 30 17.7	
	comp=N,4583µm,0.4s							
SKY	**Skiros Island**	**0.88**	**290**	P		**Pb**	**04 30 03.9**	**+0.6**
SKY				AML		AML	04 30 18.2	
	comp=E,3038µm,0.3s							
SKY				AML		AML	04 30 19.2	
	comp=N,2776µm,0.2s							
FOCM	**Foa**	**0.89**	**81**	Pg		**Pg**	**04 30 03.0**	**-0.6**
FOCM				Sg		**Sg**	**04 30 15.4**	**+0.1**
EAG3	**Mitilini, Lesv**	**0.91**	**56**	P		**Pg**	**04 30 03.7**	**-0.2**
EAG3				S		**Sg**	**04 30 16.0**	**+0.3**
GPNR	**Gulpinar-Canak**	**0.97**	**25**	Pg		**Pg**	**04 30 04.2**	**-0.9**
GPNR				Sg		**Sn**	**04 30 19.6**	**+0.7**
CAND	**Candarli**	**1.01**	**68**	Pg		**Pb**	**04 30 05.6**	**+0.1**
EFSA	**Agios Efstrati**	**1.07**	**334**	P		**Pb**	**04 30 06.7**	**+0.1**
EFSA				S		**Sb**	**04 30 20.9**	**+0.4**
EFSA				AML		AML	04 30 23.0	
	comp=N,5365µm,0.3s							
EFSA				AML		AML	04 30 23.1	
	comp=E,3067µm,0.4s							
TNSA	**Tinos**	**1.10**	**199**	P		**Pb**	**04 30 06.5**	**-0.5**
TNSA				S		**Sb**	**04 30 21.5**	**+0.3**
DKL	**Dikili**	**1.13**	**64**	Pn		**Pb**	**04 30 07.2**	**-0.4**
BLCB	**Balcova**	**1.14**	**99**	Pn		**Pb**	**04 30 05.9**	**-1.9**
KYMI	**Kymi, Euboea I**	**1.18**	**273**	P		**Pb**	**04 30 07.8**	**-0.7**
KYMI				S		**Sb**	**04 30 23.9**	**+0.2**
	comp=E,412nm,0.6s							
KYMI	**Kymi, Euboea I**	**1.18**	**273**	P		**Pb**	**04 30 08.1**	**-0.4**
KYMI				S		**Sb**	**04 30 23.6**	**-0.1**
KYMI				AML		AML	04 30 29.6	
	comp=E,793µm,0.4s							
KYMI				AML		AML	04 30 34.0	
	comp=N,861µm,0.8s							
SMG	**Samos**	**1.30**	**131**	P		**Pn**	**04 30 10.9**	**+0.8**
SMG				AML		AML	04 30 30.4	
	comp=E,3273µm,0.3s							
SMG				AML		AML	04 30 31.0	
	comp=N,2136µm,0.3s							
LIA	**Limnos Island**	**1.36**	**346**	P		**Pn**	**04 30 10.1**	**-0.7**
LIA				S		**Sb**	**04 30 27.7**	**-1.0**
	comp=N,2µm,0.5s							
LIA	**Limnos Island**	**1.36**	**346**	P		**Pn**	**04 30 10.8**	**0.0**
LIA				S		**Sb**	**04 30 27.9**	**-0.8**
LIA				AML		AML	04 30 30.8	
	comp=E,3922µm,0.6s							
LIA				AML		AML	04 30 31.5	
	comp=N,2786µm,0.3s							
EZN	**Ezine**	**1.36**	**24**	Pn		**Pn**	**04 30 10.8**	**-0.1**
EZN	**Ezine**	**1.36**	**24**	P		**Pn**	**04 30 10.3**	**-0.6**
EZN				S		**Sn**	**04 30 28.1**	**-0.6**
	comp=N,668nm,0.5s							
DION	**Dionisos Attik**	**1.41**	**250**	P		**Pn**	**04 30 11.3**	**-0.2**
DION				S		**Sn**	**04 30 29.7**	**-0.2**
	comp=N,1µm,0.5s							
DION	**Dionisos Attik**	**1.41**	**250**	P		**Pn**	**04 30 12.2**	**+0.7**
DION				S		**Sn**	**04 30 29.4**	**-0.5**
DION				AML		AML	04 30 40.1	
	comp=E,2042µm,0.5s							
DION				AML		AML	04 30 42.6	
	comp=N,1872µm,0.5s							
PTL	**Penteli**	**1.47**	**249**	P		**Pn**	**04 30 12.3**	**-0.1**
PTL				S		**Sn**	**04 30 32.0**	**+0.6**
	comp=N,522nm,0.4s							
PTL	**Penteli**	**1.47**	**249**	P		**Pn**	**04 30 13.2**	**+0.8**
PTL				AML		AML	04 30 37.1	
	comp=N,1025µm,0.3s							
PTL				AML		AML	04 30 42.1	
	comp=E,1125µm,0.5s							
APE	**Apeiranthos**	**1.51**	**182**	P		**Pn**	**04 30 12.2**	**-0.7**
ATHU	**Athens Univers**	**1.56**	**247**	P		**Pn**	**04 30 13.6**	**0.0**
ATHU				S		**Sn**	**04 30 32.8**	**-0.8**
ATHU	**Athens Univers**	**1.56**	**247**	P		**Pn**	**04 30 14.5**	**+0.9**
ATHU				AML		AML	04 30 41.5	
	comp=E,263µm,0.4s							
ATHU				AML		AML	04 30 45.0	
	comp=N,473µm,0.5s							
ATH	**Athens Observa**	**1.61**	**248**	P		**Pn**	**04 30 13.7**	**-0.5**
ATH				S		**Sn**	**04 30 34.0**	**-0.7**
	comp=N,532nm,0.3s							
GADA	**Gvkgeada**	**1.62**	**8**	Pn		**Pn**	**04 30 14.2**	**-0.3**
COMU	**Canakkale**	**1.66**	**24**	Pn		**Pn**	**04 30 14.9**	**-0.1**
AKS	**Akhisar**	**1.75**	**79**	Pn		**Pn**	**04 30 16.0**	**-0.3**
CANM	**Can-anakkale**	**1.82**	**38**	Pn		**Pn**	**04 30 17.3**	**+0.2**
VIL2	**Platees**	**1.87**	**259**	P		**Pn**	**04 30 17.7**	**-0.2**
VIL2				AML		AML	04 30 56.7	
	comp=E,722µm,0.6s							
VIL2				AML		AML	04 30 59.5	
	comp=N,576µm,0.5s							
SMTH	**Samothraki Isl**	**1.89**	**358**	P		**Pn**	**04 30 17.6**	**-0.6**
SMTH	**Samothraki Isl**	**1.89**	**358**	P		**Pn**	**04 30 17.7**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.94**	**20**	Pn		**Pn**	**04 30 18.8**	**0.0**
LPK	**Lapseki**	**2.00**	**26**	Pn		**Pn**	**04 30 19.7**	**0.0**
PAIG	**Paliouri**	**2.01**	**313**	P		**Pn**	**04 30 19.8**	**0.0**
PAIG				S		**Sn**	**04 30 44.3**	**-0.4**
	comp=N,85nm,0.7s							
THAS	**Thassos island**	**2.14**	**342**	P		**Pn**	**04 30 21.3**	**-0.2**
THAS	**Thassos island**	**2.14**	**342**	P		**Pn**	**04 30 21.2**	**-0.3**
OUR	**Ouranopolis**	**2.16**	**325**	P		**Pn**	**04 30 21.5**	**-0.3**
GONE	**Gonen-Balikesi**	**2.18**	**47**	Pn		**Pn**	**04 30 22.7**	**+0.6**
ENEZ	**Enez**	**2.19**	**11**	Pn		**Pn**	**04 30 22.4**	**+0.1**
ENEZ	**Enez**	**2.19**	**11**	P		**Pn**	**04 30 22.3**	**0.0**
ENEZ				S		**Sn**	**04 30 48.6**	**-0.6**
	comp=N,262nm,0.5s							
ERIK	**Erikli-Kesan**	**2.20**	**18**	Pn		**Pn**	**04 30 23.3**	**+0.9**
KRBG	**Karabiga-Canak**	**2.23**	**35**	Pn		**Pn**	**04 30 22.4**	**-0.5**
AXAR	**Agios Charalam**	**2.31**	**276**	P		**Pn**	**04 30 24.4**	**+0.4**
AXAR				AML		AML	04 31 15.2	
	comp=E,328µm,1.2s							
AXAR				AML		AML	04 31 21.8	
	comp=N,380µm,0.8s							
ALN	**Alexandroupoli**	**2.34**	**8**	Pn		**Pn**	**04 30 24.3**	**-0.1**
ALN	**Alexandroupoli**	**2.34**	**8**	P		**Pn**	**04 30 24.2**	**-0.1**
ALN				S		**Sn**	**04 30 52.5**	**-0.3**
	comp=N,95nm,0.6s							
ALN	**Alexandroupoli**	**2.34**	**8**	P		**Pn**	**04 30 24.0**	**-0.3**
ALN				AML		AML	04 31 02.9	
	comp=E,209µm,0.7s							
ALN				AML		AML	04 31 12.8	
	comp=N,187µm,0.5s							
RKY	**Sarkoy-Tekirda**	**2.43**	**29**	Pn		**Pn**	**04 30 25.9**	**+0.3**
KOKK	**Kokkinochori,**	**2.56**	**331**	P		**Pn**	**04 30 27.3**	**0.0**
KAVA	**Kavala**	**2.56**	**341**	P		**Pn**	**04 30 27.1**	**-0.2**
RDO	**Rodhopi**	**2.56**	**359**	P		**Pn**	**04 30 27.4**	**0.0**
RDO	**Rodhopi**	**2.56**	**359**	P		**Pn**	**04 30 27.3**	**-0.1**
MAKR	**Makrakomi, Fth**	**2.75**	**280**	P		**Pn**	**04 30 31.3**	**+1.3**
SOH	**Sokhos**	**2.83**	**323**	P		**Pn**	**04 30 31.7**	**+0.5**
SRS	**Serrai**	**2.97**	**329**	P		**Pn**	**04 30 33.2**	**+0.1**
KDZ	**Kurdzhali**	**3.05**	**356**	*e*P		**Pn**	**04 30 34.4**	**+0.2**
NVR	**Nevrokopi**	**3.08**	**335**	P		**Pn**	**04 30 35.7**	**+1.2**
RZN	**Rozhen**	**3.18**	**348**	*e*P		**Pn**	**04 30 34.7**	**-1.4**
DIM	**Dimitrovgrad**	**3.46**	**360**	*e*P		**Pn**	**04 30 40.1**	**+0.4**
PLD	**Plovdiv**	**3.62**	**350**	*e*P		**Pn**	**04 30 42.6**	**+0.6**
NEF	**NEVSHA**	**4.85**	**15**	*e*P		**Pn**	**04 31 00.8**	**+2.0**
MPEP	**Malo Peshtene**	**4.98**	**344**	*e*P		**Pn**	**04 31 02.0**	**+1.4**

*NAO **05** 04:34:49.3,35°.08N×24°.47E,h33km,mb3.7*
*IDC **05** 04:35:07.7±1.3,37°.38N×22°.12E,h0km,mb3.5/8, mbtmp3.5/10,ML2.9/1,Error ellipse: s-maj=27.1km s-min=22.0km az=126.0*
*ATH **05** 04:35:10.2,37°.41N×22°.18E,h7km±3km,ML3.3/14,Error ellipse: s-maj=3.2km s-min=0.9km az=257.0*
*THE **05** 04:35:10.2,37°.40N×22°.23E,h4km,ML3.3/20,Error ellipse: s-maj=1.0km s-min=0.4km az=257.0*
ISC 05 04:35:10.2±0.9,37°.40N±0°.02×22°.20E±0°.02,h13km±7km, n52,σ0s80/80,mb3.4/8,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KLMT	**Kalamata**	**0.36**	**198**	P		**Pg**	**04 35 17.5**	**+0.1**
KLMT				S		**Sg**	**04 35 22.8**	**+0.5**
	5µm,0.5s							
GUR	**Goura**	**0.54**	**12**	P		**Pg**	**04 35 20.5**	**-0.4**
GUR				S		**Sg**	**04 35 28.8**	**+0.6**
	6µm,0.3s							
GUR	**Goura**	**0.54**	**12**	P		**Pg**	**04 35 20.5**	**-0.4**
GUR				AML		AML	04 35 31.8	
	comp=E,9543µm,0.2s							
GUR				AML		AML	04 35 33.5	
	comp=N,13909µm,0.3s							
PYL	**PYLOS**	**0.62**	**216**	P		**Pg**	**04 35 22.1**	**-0.3**
PYL				S		**Sg**	**04 35 31.5**	**+0.8**
	comp=N,7µm,0.5s							
PYL	**PYLOS**	**0.62**	**216**	P		**Pg**	**04 35 21.8**	**-0.6**
PYL				S		**Sg**	**04 35 30.3**	**-0.3**
PYL				AML		AML	04 35 32.5	
	comp=N,11042µm,0.4s							
PYL				AML		AML	04 35 32.8	
	comp=E,16146µm,0.6s							
KLV	**Kalavryta, Ach**	**0.64**	**357**	P		**Pg**	**04 35 22.1**	**-0.6**
KLV				S		**Sb**	**04 35 32.4**	**+0.1**
	comp=E,1µm,0.3s							
KLV	**Kalavryta, Ach**	**0.64**	**357**	P		**Pg**	**04 35 21.9**	**-0.8**
KLV				S		**Sg**	**04 35 30.8**	**-0.4**
KLV				AML		AML	04 35 34.8	
	comp=E,3227µm,0.3s							
KLV				AML		AML	04 35 39.2	
	comp=N,1918µm,0.5s							
DRO	**Drossia**	**0.67**	**325**	P		**Pg**	**04 35 22.9**	**-0.4**
DRO				S		**Sb**	**04 35 33.9**	**+0.8**
	comp=N,7µm,0.5s							
DRO	**Drossia**	**0.67**	**325**	P		**Pg**	**04 35 22.8**	**-0.4**
DRO				AML		AML	04 35 35.7	
	comp=N,12763µm,0.4s							
DRO				AML		AML	04 35 36.1	
	comp=E,15488µm,0.5s							
THAL	**Thalero**	**0.73**	**30**	P		**Pg**	**04 35 24.2**	**-0.2**
THAL				S		**Sb**	**04 35 35.1**	**+0.3**
	comp=E,5µm,0.4s							
THAL	**Thalero**	**0.73**	**30**	P		**Pg**	**04 35 23.9**	**-0.5**
THAL				AML		AML	04 35 46.2	
	comp=N,8947µm,0.4s							
THAL				AML		AML	04 35 47.1	
	comp=E,12245µm,0.4s							
KRND	**KRANIDI**	**0.76**	**91**	P		**Pg**	**04 35 24.6**	**-0.3**
KRND				S		**Sg**	**04 35 35.0**	**+0.1**
	comp=E,2µm,0.3s							
KRND	**KRANIDI**	**0.76**	**91**	P		**Pg**	**04 35 25.0**	**+0.1**
KRND				S		**Sg**	**04 35 35.0**	**+0.1**
KRND				AML		AML	04 35 37.3	
	comp=N,4256µm,0.4s							
KRND				AML		AML	04 35 39.1	
	comp=E,3138µm,0.3s							
LOUT	**Loutraki**	**0.85**	**46**	P		**Pg**	**04 35 26.3**	**-0.4**
LOUT				S		**Sb**	**04 35 38.4**	**+0.2**
	comp=E,2µm,0.6s							
LOUT	**Loutraki**	**0.85**	**46**	P		**Pg**	**04 35 26.2**	**-0.4**
LTK	**Loutraki**	**0.87**	**44**	P		**Pg**	**04 35 26.5**	**-0.5**
LTK				AML		AML	04 35 43.7	
	comp=N,2581µm,0.5s							
LTK				AML		AML	04 35 44.0	
	comp=E,2799µm,0.4s							
RLS	**Riolos of Patr**	**0.87**	**319**	P		**Pg**	**04 35 26.3**	**-0.8**
RLS				S		**Sb**	**04 35 40.0**	**+1.1**
	comp=E,1µm,0.5s							
RLS	**Riolos of Patr**	**0.87**	**319**	P		**Pg**	**04 35 26.0**	**-1.1**
RLS				S		**Sg**	**04 35 38.8**	**+0.3**
RLS				AML		AML	04 35 45.5	
	comp=N,2423µm,0.6s							
RLS				AML		AML	04 35 50.8	
	comp=E,1925µm,0.5s							
VLI	**Velíai**	**0.90**	**139**	P		**Pg**	**04 35 26.7**	**-1.0**
VLI				S		**Sg**	**04 35 39.5**	**0.0**
	comp=E,930nm,0.4s							
VLI	**Velíai**	**0.90**	**139**	P		**Pg**	**04 35 27.2**	**-0.5**
VLI				AML		AML	04 35 45.6	
	comp=E,1903µm,0.4s							
VLI				AML		AML	04 35 50.2	
	comp=N,1713µm,0.4s							
UPR	**University Cam**	**0.94**	**340**	P		**Pg**	**04 35 27.9**	**-0.4**
UPR				S		**Sb**	**04 35 42.0**	**+1.3**
MNVA	**Monemvasia**	**0.98**	**137**	P		**Pg**	**04 35 29.6**	**+0.4**
YDRA	**Hydra**	**1.01**	**93**	P		**Pb**	**04 35 29.8**	**+0.2**
EFP	**Efpalio**	**1.05**	**347**	P		**Pb**	**04 35 29.6**	**-0.6**
EFP				S		**Sg**	**04 35 44.7**	**+0.6**
	comp=N,1µm,0.5s							
EFP	**Efpalio**	**1.05**	**347**	P		**Pb**	**04 35 29.3**	**-1.0**
EFP				S		**Sb**	**04 35 43.5**	**-0.4**
EFP				AML		AML	04 35 48.6	
	comp=E,2115µm,0.5s							
EFP				AML		AML	04 35 48.9	
	comp=N,2113µm,0.5s							
DLFA	**Delphi**	**1.10**	**12**	P		**Pb**	**04 35 30.4**	**-0.8**
LTHK	**Lithakia**	**1.12**	**286**	P		**Pb**	**04 35 31.4**	**-0.1**
LTHK				S		**Sn**	**04 35 48.6**	**+1.6**
	comp=N,1µm,0.5s							
LTHK	**Lithakia**	**1.12**	**286**	P		**Pb**	**04 35 30.8**	**-0.8**
LTHK				AML		AML	04 35 55.6	
	comp=N,3068µm,0.5s							
LTHK				AML		AML	04 35 55.8	
	comp=E,2728µm,0.4s							
KRI1	**kERI**	**1.13**	**284**	P		**Pb**	**04 35 31.2**	**-0.4**
KRI1				S		**Sn**	**04 35 48.8**	**+1.7**
	comp=E,2µm,0.4s							
VILL	**Villia**	**1.16**	**49**	P		**Pb**	**04 35 31.8**	**-0.5**
VILL				S		**Sn**	**04 35 48.5**	**+0.4**
	comp=E,2µm,0.6s							
VIL2	**Platees**	**1.17**	**46**	P		**Pb**	**04 35 32.1**	**-0.3**
VIL2				AML		AML	04 35 52.9	
	comp=N,2390µm,0.6s							
VIL2				AML		AML	04 35 53.2	
	comp=E,3208µm,0.5s							
ANX	**Ano Chora**	**1.21**	**350**	P		**Pn**	**04 35 32.3**	**-0.7**
ANX				S		**Sg**	**04 35 50.9**	**+1.7**
	comp=E,1µm,0.7s							
ANX	**Ano Chora**	**1.21**	**350**	P		**Pn**	**04 35 32.0**	**-1.0**
ANX				AML		AML	04 35 56.0	
	comp=N,2784µm,0.5s							
ANX				AML		AML	04 36 03.2	
	comp=E,2827µm,1.0s							
PVO	**Paravola**	**1.32**	**337**	P		**Pn**	**04 35 34.9**	**+0.5**
PVO				S		**Sg**	**04 35 54.5**	**+1.7**
	comp=E,13µm,0.5s							
ATH	**Athens Observa**	**1.33**	**64**	P		**Pn**	**04 35 35.0**	**+0.4**
ATH				S		**Sn**	**04 35 52.6**	**+0.4**
	comp=E,948nm,0.8s							
ATH	**Athens Observa**	**1.33**	**64**	P		**Pn**	**04 35 34.9**	**+0.3**
ATH				AML		AML	04 35 57.6	
	comp=E,1805µm,0.5s							
ATH				AML		AML	04 35 58.0	
	comp=N,1885µm,0.8s							
ATHU	**Athens Univers**	**1.38**	**65**	P		**Pn**	**04 35 35.3**	**+0.1**
ATHU				S		**Sb**	**04 35 54.0**	**+0.6**
AXAR	**Agios Charalam**	**1.41**	**15**	P		**Pn**	**04 35 36.1**	**+0.5**
AXAR				S		**Sg**	**04 35 56.2**	**+0.6**
	comp=N,2µm,0.7s							
PTL	**Penteli**	**1.47**	**64**	P		**Pn**	**04 35 36.6**	**+0.1**
PTL				S		**Sb**	**04 35 56.8**	**+0.7**
	comp=N,550nm,0.4s							
DION	**Dionisos Attik**	**1.53**	**63**	P		**Pn**	**04 35 37.5**	**+0.2

ML3.7(NAO), Confirmed Earthquake
*DNK **05** 04:53:15.0±1.0, 79.08N×5.45E, h6km±15km, ML1.8*
*KOLA **05** 04:53:16.6, 78.58N×6.62E, h0km, ML2.4, Error ellipse: s-maj=18.2km s-min=14.1km az=140.0, Greenland sea,Knipovich ridge, middle*
*FCIAR **05** 04:53:18.0, 78.79N×5.74E, h10km, station OMEGA has station magnitude of 3.60*

ISC 05 04:53:11.8±0.9, 78.73N±0.08×5.22E±0.05, h10km, n30, σ2s15/57, 3C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.32**	**78**	P	**Pn**	**04 53 37.3**	**+1.1**
KBS				S	**Sb**	**04 53 53.0**	**-0.6**
KBS	**Kingsbay**	**1.32**	**78**	↑ *i* P	**Pn**	**04 53 37.6**	**+1.4**
KBS				*e* S	**Sb**	**04 53 53.8**	**+0.2**
KBS				IAML		04 53 55.0	
	comp=Z,120nm,0.3s						
KBS	**Kingsbay**	**1.32**	**78**	↑ *i* P	**Pn**	**04 53 37.6**	**+1.4**
KBS				*i* S	**Sb**	**04 53 53.8**	**+0.2**
KBS	**Kingsbay**	**1.32**	**78**	Pn	**Pn**	**04 53 37.6**	**+1.4**
KBS				Sn	**Sb**	**04 53 53.9**	**+0.2**
KBS	**Kingsbay**	**1.32**	**78**	*e* P	**Pn**	**04 53 37.2**	**+1.0**
KBS				*e* S	**Sb**	**04 53 52.8**	**-0.8**
BRBB	**Barentsburg B**	**1.93**	**105**	P	**Pn**	**04 53 45.8**	**+1.3**
BRBB				S	**Sn**	**04 54 07.9**	**-0.8**
BRBB	**Barentsburg B**	**1.93**	**105**	*e* P	**Pn**	**04 53 46.1**	**+1.6**
BRBB				*e* Pg	**Pb**	**04 53 47.5**	**+0.6**
BRBB				*e* S	**Sn**	**04 54 07.5**	**-1.2**
BRBB				*e* Sg	**Sb**	**04 54 10.4**	**-0.4**
BRBB	**Barentsburg B**	**1.93**	**105**	Pn	**Pn**	**04 53 46.0**	**+1.6**
BRBB				Sn	**Sn**	**04 54 07.5**	**-1.2**
BRBA	**Barentsburg A**	**1.94**	**106**	*e* Pg	**Pn**	**04 53 47.8**	**+3.1**
BRBA				*e* S	**Sn**	**04 54 08.3**	**-0.8**
BRBA				*e* Sg	**Sb**	**04 54 11.1**	**-0.2**
BRBA				IAML		04 54 11.7	
	comp=Z,76nm,0.4s						
BRBA	**Barentsburg A**	**1.94**	**106**	Pn	**Pn**	**04 53 46.3**	**+1.6**
BRBA				Sn	**Sn**	**04 54 08.3**	**-0.8**
SPA0	**Spitsbergen Ar**	**2.31**	**98**	Pn	**Pn**	**04 53 52.5**	**+2.7**
	baz=277,slow=7.4						
SPA0				Sn	**Sn**	**04 54 19.0**	**+0.8**
	baz=273,slow=18						
SPA0	**Spitsbergen Ar**	**2.31**	**98**	Pn	**Pn**	**04 53 52.5**	**+2.7**
	baz=277,slow=7.4						
SPA0				Sn	**Sn**	**04 54 19.0**	**+0.8**
	baz=273,slow=18						
SPA0	**Spitsbergen Ar**	**2.31**	**98**	↑ *i* P	**Pn**	**04 53 52.4**	**+2.7**
SPA0				*i* S	**Sn**	**04 54 18.4**	**+0.2**
SPITS	**Spitsbergen Ar**	**2.31**	**98**	P	**Pn**	**04 53 52.0**	**+2.2**
SPITS				S	**Sn**	**04 54 18.9**	**+0.7**
HSPB	**Hornsund (broa**	**2.79**	**124**	P	**Pn**	**04 53 59.1**	**+2.8**
HSPB				S	**Sn**	**04 54 28.4**	**-1.5**
HSPB	**Hornsund (broa**	**2.79**	**124**	*e* P	**Pn**	**04 53 58.9**	**+2.6**
HSPB				*e* S	**Sn**	**04 54 27.6**	**-2.2**
HSPB				IAML		04 54 31.2	
	comp=Z,30nm,0.6s						
HSPB	**Hornsund (broa**	**2.79**	**124**	Pn	**Pn**	**04 53 56.1**	**-0.2**
HSPB				Sn	**Sn**	**04 54 27.9**	**-2.0**
NOR	**Nord**	**4.69**	**318**	*i* P	**Pn**	**04 54 22.8**	**+0.3**
NOR				*i* S	**Sn**	**04 55 12.8**	**-4.0**
NOR				IAML		04 55 16.2	
	comp=Z,5.5nm,0.3s						
NOR	**Nord**	**4.69**	**318**	*i* P	**Pn**	**04 54 22.8**	**+0.3**
NOR				*i* S	**Sn**	**04 55 12.8**	**-4.0**
NOR				IAML		04 55 16.2	
	comp=Z,5.5nm,0.3s						
NOR	**Nord**	**4.69**	**318**	Pn	**Pn**	**04 54 22.5**	**0.0**
NOR				Sn	**Sn**	**04 55 13.2**	**-3.7**
HOPEN	**Hopen**	**4.79**	**108**	*e* P	**Pn**	**04 54 25.2**	**+1.5**
HOPEN				*e* S	**Sn**	**04 55 16.6**	**-2.6**
HOPEN				IAML		04 55 19.3	
	comp=Z,31nm,0.3s						
HOPEN	**Hopen**	**4.79**	**108**	Pn	**Pn**	**04 54 24.6**	**+0.8**
HOPEN				Sn	**Sn**	**04 55 16.9**	**-2.2**
HOPEN	**Hopen**	**4.79**	**108**	*e* P	**Pn**	**04 54 24.7**	**+0.9**
HOPEN				*e* S	**Sn**	**04 55 16.2**	**-2.9**
OMEGA	**Omega**	**7.69**	**55**	*e* P	**Pn**	**04 55 05.2**	**+1.7**
OMEGA				*e* S	**Sn**	**04 56 24.0**	**-6.3**
	comp=Z,17nm,0.6s						
ARA0	**ARCESS Array S**	**10.67**	**139**	Pn	**Pn**	**04 55 46.9**	**+2.5**
	baz=338,slow=12						
ARA0				Sn	**Sn**	**04 57 39.5**	**-4.3**
ARA0	**ARCESS Array S**	**10.67**	**139**	Pn	**Pn**	**04 55 46.9**	**+2.5**
	baz=338,slow=12						
ARA0				Sn	**Sn**	**04 57 39.5**	**-4.3**
NEEM	**North Greenlan**	**11.30**	**292**	*i* P	Pn	04 55 51.3	-1.9
NEEM				*i* S	Sn	04 57 47.4	-12
NEEM				IAML		04 57 51.6	
	comp=Z,3.7nm,0.3s						
NEEM	**North Greenlan**	**11.30**	**292**	*i* P	Pn	04 55 51.3	-1.9
NEEM				*i* S	Sn	04 57 47.4	-12
NEEM				IAML		04 57 51.6	
	comp=Z,3.7nm,0.3s						
SUMG	**Summit**	**12.10**	**263**	*i* P	**Pn**	**04 56 04.8**	**+0.5**
SUMG				*i* S	Sn	04 58 10.6	-8.6
SUMG				IAML		04 58 25.0	
	comp=Z,0.7nm,0.3s						
SUMG	**Summit**	**12.10**	**263**	*i* P	**Pn**	**04 56 04.8**	**+0.5**
SUMG				*i* S	Sn	04 58 10.6	-8.6
SUMG				IAML		04 58 25.0	
	comp=Z,0.7nm,0.3s						

*AEIC **05** 04:54:18.0±2.7, 53.17N±0.06×166.93W±0.08, h46km±8km, Error ellipse: s-maj=9.9km s-min=4.5km az=146.0*
*NEIC **05** 04:54:18.4±2.3, 53.09N±0.06×166.88W±0.07, h35km±21km, mb3.4/18, ML3.4/10, ML3.2(AEIC), Error ellipse: s-maj=9.3km s-min=4.6km az=151.0*

ISC 05 04:54:18.0±1.4, 53.06N±0.09×166.79W±0.07, h35km±10km, n86, σ1s35/91, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MGOD	**Makushin Gods**	**0.74**	**356**		**Pn**	**04 54 31.2**	**-0.7**
MGOD					**Sn**	**04 54 41.3**	**-0.7**
MAPS	**Pakushin South**	**0.76**	**353**		**Pn**	**04 54 31.6**	**-0.5**
MAPS					**Sn**	**04 54 41.7**	**-0.6**
OKFG	**Magazine Ridge**	**0.76**	**298**		**Pn**	**04 54 31.4**	**-0.8**
OKFG					**Sn**	**04 54 41.0**	**-1.4**
UNV	**Unalaska Valle**	**0.81**	**12**		**Pn**	**04 54 31.2**	**-1.6**
UNV	**Unalaska Valle**	**0.81**	**12**	P	**Pn**	**04 54 31.6**	**-1.2**
MNAT	**Makushin Natee**	**0.83**	**4**		**Pn**	**04 54 32.6**	**-0.5**
MNAT					**Sn**	**04 54 43.6**	**-0.6**
OKER	**Okmok East Rim**	**0.85**	**298**		**Pn**	**04 54 33.1**	**-0.5**
MSW	**Makushin Switc**	**0.86**	**0**		**Pn**	**04 54 32.9**	**-0.6**
MSW					**Sn**	**04 54 44.1**	**-0.8**
OKNC	**Okmok New Cone**	**0.90**	**297**		**Pn**	**04 54 33.5**	**-0.6**
OKNC					**Sn**	**04 54 44.3**	**-1.5**
OKSP	**Okmok Steeple**	**0.92**	**283**		**Pn**	**04 54 33.5**	**-0.9**
ZRO	**Akutan Zero**	**1.14**	**25**		**Pn**	**04 54 37.1**	**-0.3**
AKRB	**Akutan Reef Bi**	**1.16**	**22**		**Pn**	**04 54 37.6**	**0.0**
AKBBA	**Akutan Broad B**	**1.16**	**26**		**Pn**	**04 54 37.3**	**-0.4**
AHB	**Akutan Harbor**	**1.21**	**28**		**Pn**	**04 54 38.0**	**-0.4**
AKLV	**Akutan Long Va**	**1.21**	**24**		**Pn**	**04 54 38.0**	**-0.4**
AKGG	**Akutan Green G**	**1.24**	**22**		**Pn**	**04 54 38.5**	**-0.2**
AKUT	**Akutan**	**1.24**	**29**	Pn	**Pn**	**04 54 37.7**	**-1.0**
AKUT				IAML		04 54 59.1	
	comp=E,707nm,0.3s						
AKUT	**Akutan**	**1.24**	**29**	P	**Pn**	**04 54 38.3**	**-0.4**
NIKH	**Nikolski High**	**1.25**	**267**	Pn	**Pn**	**04 54 37.4**	**-1.5**
AKSA	**Akutan Strait**	**1.26**	**31**		**Pn**	**04 54 38.3**	**-0.8**
CLCO	**Concord Point,**	**1.80**	**262**		**Pn**	**04 54 45.8**	**-0.6**
CLES	**Cleveland East**	**1.89**	**264**	Pn	**Pn**	**04 54 48.0**	**+0.3**
WECS	**Westdahl Cape**	**1.90**	**38**		**Pn**	**04 54 48.6**	**+0.7**
WESE	**West Dahl East**	**1.93**	**42**		**Pn**	**04 54 49.1**	**+0.8**
WEBT	**Westdahl Beart**	**1.95**	**37**		**Pn**	**04 54 49.5**	**+0.9**
ISLZ	**Isanotski Laza**	**2.47**	**46**		**Pn**	**04 54 56.4**	**+0.7**
ISNN	**Isanotski Nort**	**2.51**	**44**		**Pn**	**04 54 57.7**	**+1.4**
FALS	**False Pass**	**2.69**	**47**	Pn	**Pn**	**04 54 58.8**	**+0.2**
PS4A	**Pavlof South-4**	**3.69**	**50**		**Pn**	**04 55 14.4**	**+1.9**
PS1A	**Pavlof South-1**	**3.79**	**49**		**Pn**	**04 55 15.8**	**+2.0**
P08K	**Sand Point**	**3.89**	**337**		**Pn**	**04 55 15.0**	**-0.1**
SDPT	**Sand Point**	**4.36**	**56**	Pn	**Pn**	**04 55 22.7**	**+1.1**
SDPT				IAML		04 56 35.1	
	comp=E,48nm,1.1s						
SDPT				IAML		04 56 44.8	
	comp=N,44nm,1.4s						
SDPT	**Sand Point**	**4.36**	**56**	P	**Pn**	**04 55 23.6**	**+2.0**
ATKA	**Atka Island**	**4.59**	**262**	Pn	**Pn**	**04 55 25.8**	**+1.0**
ATKA				IAML		04 56 38.3	
	comp=N,33nm,0.6s						
ATKA				IAML		04 56 41.0	
	comp=E,35nm,1.4s						
ATKA	**Atka Island**	**4.59**	**262**	P	Pn	04 55 30.0	+5.2
CNBA	**Chernabura Isl**	**4.61**	**65**	Pn	**Pn**	**04 55 26.2**	**+1.2**
CNBA				IAML		04 56 13.4	
	comp=E,36nm,3.0s						
CHGN	**Chignik**	**5.84**	**53**	Pn	**Pn**	**04 55 43.0**	**+1.1**
ADK	**Adak**	**6.16**	**263**	Pn	**Pn**	**04 55 47.2**	**+0.9**
ADK	**Adak**	**6.16**	**263**	P	**Pn**	**04 55 50.1**	**+3.8**
KIWB	**Kanaga Island**	**6.45**	**263**	Pn	**Pn**	**04 55 51.8**	**+1.5**
O14K	**Tigyukauivet M**	**6.93**	**24**	Pn	**Pn**	**04 55 59.3**	**+2.4**
M13K	**Dall Lake**	**7.61**	**13**	Pn	**Pn**	**04 56 09.0**	**+2.9**
N15K	**Kwethluk River**	**8.02**	**25**	Pn	**Pn**	**04 56 14.4**	**+2.5**
O16K	**Kokwok River B**	**8.13**	**33**	Pn	**Pn**	**04 56 14.2**	**+0.9**
M14K	**Bethel**	**8.15**	**17**	Pn	**Pn**	**04 56 14.1**	**+0.5**
L14K	**Kuka Creek**	**8.60**	**13**	Pn	**Pn**	**04 56 20.4**	**+0.7**
OHAK	**Old Harbor**	**8.78**	**56**	Pn	**Pn**	**04 56 21.2**	**-1.0**
P18K	**Big Mountain,**	**9.03**	**41**	Pn	**Pn**	**04 56 27.8**	**+2.1**
M16K	**Timber Creek**	**9.04**	**25**	Pn	**Pn**	**04 56 26.5**	**+0.7**
N17K	**Nushagak Hills**	**9.14**	**31**	Pn	**Pn**	**04 56 29.3**	**+2.0**
O18K	**Koktuh Hills**	**9.34**	**39**	Pn	**Pn**	**04 56 32.0**	**+2.1**
KDAK	**Kodiak Island**	**9.36**	**54**	Pn	**Pn**	**04 56 29.7**	**-0.4**
K15K	**Wolf Creek Mou**	**9.67**	**15**	Pn	**Pn**	**04 56 35.9**	**+1.4**
M17K	**Holitna River**	**9.77**	**27**	Pn	**Pn**	**04 56 36.2**	**+0.4**
SVW2	**Sparrevohn**	**10.09**	**33**	Pn	**Pn**	**04 56 40.5**	**+0.4**
N19K	**Bonanza Creek**	**10.26**	**36**	Pn	**Pn**	**04 56 44.0**	**+1.4**
L18K	**Granite Mounta**	**10.64**	**26**	Pn	**Pn**	**04 56 48.3**	**+0.6**
K17K	**Iditarod**	**10.67**	**22**	Pn	**Pn**	**04 56 49.5**	**+1.4**
L19K	**White Mountain**	**11.14**	**30**	Pn	**Pn**	**04 56 53.5**	**-1.0**
K20K	**Telida**	**12.28**	**28**	Pn	**Pn**	**04 57 12.3**	**+2.2**
J19K	**Poorman**	**12.39**	**23**	Pn	**Pn**	**04 57 14.3**	**+2.7**
J20K	**Nowinta River**	**12.91**	**25**	Pn	**Pn**	**04 57 20.4**	**+1.7**
HIN	**Hinchinbrook I**	**13.30**	**48**	Pn	**Pn**	**04 57 22.8**	**-1.2**
KLU	**Klutina**	**14.04**	**45**	Pn	**Pn**	**04 57 34.9**	**+0.8**
HMT	**Hamilton**	**14.31**	**50**	Pn	**Pn**	**04 57 36.2**	**-1.5**
H21K	**Melozitna Rive**	**14.45**	**24**	Pn	**Pn**	**04 57 37.7**	**-1.9**
VRDI	**Verde Repeater**	**15.00**	**48**	Pn	**Pn**	**04 57 47.1**	**-0.2**
M26K	**Nabesna, AK**	**15.68**	**44**	Pn	**Pn**	**04 57 54.2**	**-1.8**
M26K				IAmb	IAmb	04 58 36.0	
	comp=Z,4.4nm,1.4s						
SCRK	**Sand Creek**	**16.06**	**38**		**Pn**	**04 58 02.9**	**+2.0**
SCRK				IAmb	IAmb	04 58 03.0	
	comp=Z,3.8nm,1.4s						
BCAR	**Beaver Creek A**	**16.48**	**43**	Pn	**Pn**	**04 58 06.9**	**+0.8**
B21K	**Ikpikpuk River**	**17.55**	**14**		**P**	**04 58 21.8**	**+1.6**
B21K				IAmb	IAmb	04 58 58.5	
	comp=Z,4.1nm,1.5s						
HYT	**Haines Junctio**	**17.64**	**52**		**Pn**	**04 58 20.9**	**+0.2**
HYT				IAmb	IAmb	04 58 55.8	
	comp=Z,2.9nm,0.9s						
M29M	**Somme Creek**	**17.65**	**47**	Pn	**Pn**	**04 58 20.4**	**-0.5**
DAWY	**Dawson**	**17.88**	**41**		**Pn**	**04 58 23.9**	**+0.3**
BMAR	**Burnt Mountain**	**17.97**	**28**		**P**	**04 58 26.0**	**+1.1**
E25K	**Arctic Village**	**18.18**	**26**	P	**P**	**04 58 28.2**	**+0.9**
E25K				IAmb	IAmb	04 58 38.3	
	comp=Z,2.5nm,1.2s						
D24K	**Happy Valley**	**18.20**	**21**	P	**Pn**	**04 58 27.4**	**+0.1**
I28M	**Miner Creek**	**18.31**	**37**	P	**Pn**	**04 58 31.4**	**+2.5**
C23K	**Itkillik River**	**18.41**	**18**	P	**Pn**	**04 58 30.6**	**+0.7**
C23K				IAmb	IAmb	04 58 56.7	
	comp=Z,3.8nm,1.3s						
K29M	**Barlow Dome**	**18.54**	**43**	P	**P**	**04 58 31.8**	**+0.4**
K29M				IAmb	IAmb	04 58 45.7	
	comp=Z,5.5nm,1.5s						
H29M	**Whitestone**	**19.25**	**36**	P	**P**	**04 58 37.4**	**-1.6**
H29M				IAmb	IAmb	04 59 04.3	
	comp=Z,2.9nm,1.1s						
M31M	**Drury Creek, Y**	**19.41**	**49**	P	**Pn**	**04 58 42.8**	**+0.7**
M31M				IAmb	IAmb	04 58 56.7	
	comp=Z,3.3nm,1.1s						
FARO	**Faro, Yukon**	**19.89**	**49**	P	**P**	**04 58 47.2**	**+1.2**
FARO				IAmb	IAmb	04 59 03.2	
	comp=Z,2.4nm,0.9s						
G30M	**tAoh Zraii Nji**	**20.37**	**35**	P	**P**	**04 58 48.9**	**-2.3**
G31M	**Satah River**	**21.03**	**36**	P	**P**	**04 58 56.2**	**-2.0**
INK	**Inuvik**	**21.91**	**33**	P	**P**	**04 59 06.7**	**-0.9**

IDC 05 04:55:11.5±2.1, 5.84S×141.76E, h0km, mb3.5/1, mbtmp3.4/3, ML3.1/2, MS4.3/1, Error ellipse: s-maj=220.5km s-min=35.5km az=114.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.77**	**207**	Pn	Pn	04 58 54.4	-0.8
	0.1nm,0.3s,baz=32,slow=13,SNR=2.0 0.4nm,0.6s						
ASAR	**Alice Springs**	**19.27**	**202**	P	P	04 59 38.1	+0.2
	0.2nm,0.3s,baz=30,slow=10,SNR=12 1.1nm,0.7s						
JHJ	**Hachijo jima 2**	**38.79**	**357**	LR	LR	05 18 08.3	
	comp=Z,437nm,20.2s,baz=61,slow=36						
ILAR	**Eielson Array**	**87.42**	**24**	P	P	05 08 00.5	0.0
	0.3nm,0.8s,baz=249,slow=4.7,SNR=2.0 0.3nm,0.8s						

IDC 05 05:10:17.2±7.0, 6.05S×141.97E, h0km, mb3.2/1, mbtmp3.5/3, ML3.5/2, Error ellipse: s-maj=245.8km s-min=36.8km az=95.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.68**	**208**	Pn	Pn	05 13 58.4	-1.2
	0.1nm,0.3s,baz=31,slow=13,SNR=2.0 0.2nm,0.3s						
ASAR	**Alice Springs**	**19.16**	**203**	P	Pn	05 14 42.9	-0.3
	0.6nm,0.3s,baz=32,slow=11,SNR=32 3.5nm,0.7s						
MKAR	**Makanchi Array**	**74.40**	**322**	P	P	05 21 57.1	0.0
	0.1nm,0.6s,baz=101,slow=7.5,SNR=2.0 0.1nm,0.6s						

IDC 05 05:26:14.8±3.6, 5.20S×151.91E, h0km, mb3.4/3, mbtmp3.5/3, Error ellipse: s-maj=123.0km s-min=32.6km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.52**	**228**	P	P	05 31 16.0	-0.4
	0.8nm,0.6s,baz=52,slow=9.8,SNR=9.3 0.8nm,0.6s						
ASAR	**Alice Springs**	**25.26**	**222**	P	P	05 31 43.3	+0.4
	0.8nm,0.7s,baz=56,slow=9.0,SNR=13 0.8nm,0.7s						
SONM	**Songino Array**	**66.19**	**328**	P	P	05 37 04.9	+0.3
	0.3nm,0.6s,baz=130,slow=5.7,SNR=2.6 0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**149.58**	**287**	PKPbc	PKPbc	05 46 06.7	-0.8
	0.5nm,0.4s,baz=79,slow=2.2,SNR=7.1						

*IDC **05** 05:39:01.0±2.1, 60.37N×152.52W, h97km±32km, mb3.5/4, mbtmp3.7/8, Error ellipse: s-maj=44.5km s-min=22.1km az=122.0*
*NEIC **05** 05:39:02.1±1.0, 60.35N±0.03×152.44W±0.06, h100km±3km, Error ellipse: s-maj=4.7km s-min=4.6km az=176.0*
*AEIC **05** 05:39:03.2±1.2, 60.36N±0.03×152.42W±0.06, h96km±3km, ML3.1, ML3.3/181(NEIC), Error ellipse: s-maj=4.7km s-min=4.6km az=197.0*

ISC 05 05:39:01.9±0.8, 60.37N±0.04×152.40W±0.04, h107km±6km, n357, σ0s73/380, mb3.9/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RDSO	**Redoubt South**	**0.19**	**297**		**Pn**	**05 39 16.6**	**-0.5**
RDSO					**Sn**	**05 39 26.9**	**-1.6**
RED	**Redoubt Volcan**	**0.20**	**286**		**Pn**	**05 39 16.5**	**-0.9**
RED					**Sn**	**05 39 27.0**	**-1.3**
RSO	**Redoubt South**	**0.20**	**299**		**Pn**	**05 39 16.7**	**-0.4**
RDT	**Redoubt**	**0.21**	**359**		**Pn**	**05 39 16.7**	**-0.3**
RDT					**Sn**	**05 39 27.3**	**-1.1**
RDWB	**Redoubt West**	**0.25**	**299**		**Pn**	**05 39 16.5**	**-0.7**
RDWB					**Sn**	**05 39 27.3**	**-1.5**
DFR	**Drift River**	**0.27**	**328**		**Pn**	**05 39 16.8**	**-0.5**
DFR					**Sn**	**05 39 27.3**	**-1.5**
RDJH	**Redoubt Jeurge**	**0.30**	**318**		**Pn**	**05 39 16.9**	**-0.6**
O20K	**Slope Mountain**	**0.31**	**202**		**Pn**	**05 39 17.4**	**0.0**
O20K	**Slope Mountain** baz=20	**0.31**	**202**	P	**Pn**	**05 39 17.4**	**0.0**
NCT	**North Crescent**	**0.33**	**307**		**Pn**	**05 39 16.8**	**-0.7**
NCT					**Sn**	**05 39 28.1**	**-1.1**
ILSW	**Iliamna Southw**	**0.54**	**225**		**Pn**	**05 39 17.9**	**-0.8**
ILSW				Sn	**Sn**	**05 39 30.1**	**-1.3**
ILSW				IAML		05 39 31.3	
	comp=E,519nm,0.6s						
ILSW				IAML		05 39 32.0	
	comp=N,608nm,0.4s						
CAPN	**Captain Cook N**	**0.73**	**56**		**Pn**	**05 39 21.9**	**+1.8**
CAPN	**Captain Cook N**	**0.73**	**56**	P	**Pn**	**05 39 21.9**	**+1.8**
	baz=237						
N20K	**Mount Spurr**	**0.84**	**6**	P	**Pn**	**05 39 21.2**	**-0.1**
	baz=187						
N20K				S	**Sn**	**05 39 35.0**	**-1.0**
	baz=187						
SPCR	**Spurr Chakacha**	**0.84**	**6**		**Pn**	**05 39 21.2**	**-0.1**
SPCR					**Sn**	**05 39 35.0**	**-1.0**
SPCN	**Chakachatna No**	**0.87**	**7**		**Pn**	**05 39 21.6**	**+0.1**
SPCN					**Sn**	**05 39 36.3**	**-0.1**
SPBG	**Spurr Blockage**	**0.90**	**1**		**Pn**	**05 39 22.0**	**+0.1**
SPBG					**Sn**	**05 39 36.5**	**-0.4**
SPCP	**Crater Peak Br**	**0.91**	**7**		**Pn**	**05 39 22.2**	**+0.1**
SPCP					**Sn**	**05 39 36.9**	**-0.4**
SPCG	**Spurr Capps Gl**	**0.95**	**11**		**Pn**	**05 39 22.5**	**+0.1**
SPCG					**Sn**	**05 39 37.4**	**-0.5**
BRLK	**Bradley Lake**	**0.97**	**128**		**Pn**	**05 39 22.1**	**-0.4**
BRLK				Sn	**Sn**	**05 39 37.4**	**-0.7**
BRLK				IAML		05 39 38.2	
	comp=N,1μm,0.3s						
O19K	**Port Alsworth**	**0.97**	**261**		**Pn**	**05 39 22.0**	**-0.5**
O19K				Sn	**Sn**	**05 39 37.0**	**-1.1**
O19K				IAML		05 39 37.8	
	comp=E,986nm,0.5s						
O19K				IAML		05 39 45.6	
	comp=N,531nm,0.4s						
SPNN	**North Nagishla**	**1.02**	**352**		**Pn**	**05 39 23.1**	**0.0**
SPNN					**Sn**	**05 39 38.8**	**-0.4**
CNPM	**China Poot**	**1.02**	**145**		**Pn**	**05 39 22.9**	**-0.2**
CNPM					**Sn**	**05 39 38.5**	**-0.6**
BRSE	**Bradley Lake S**	**1.04**	**126**		**Pn**	**05 39 22.9**	**-0.3**
BRSE					**Sn**	**05 39 38.6**	**-0.7**
BRSE	**Bradley Lake S**	**1.04**	**126**	P	**Pn**	**05 39 22.9**	**-0.3**
	baz=307						
BRSE				S	**Sn**	**05 39 38.6**	**-0.7**
	baz=307						
SLKM	**Skilak Lake**	**1.09**	**82**		**Pn**	**05 39 23.6**	**-0.2**
SLKM					**Sn**	**05 39 39.6**	**-0.6**
AUL	**Augustine Lava**	**1.12**	**208**		**Pn**	**05 39 24.1**	**0.0**
N19K	**Bonanza Creek**	**1.12**	**294**	Pn	**Pn**	**05 39 23.8**	**-0.5**
N19K					**Sn**	**05 39 40.0**	**-1.1**
N19K				IAML		05 39 40.8	
	comp=N,238nm,0.6s						
N19K	**Bonanza Creek**	**1.12**	**294**	P	**Pn**	**05 39 23.8**	**-0.5**
	baz=113						
N19K				S	**Sn**	**05 39 39.8**	**-1.3**
	baz=113						
STLK	**Strandline Lak**	**1.17**	**13**		**Pn**	**05 39 24.8**	**+0.1**
FIS	**Fire Island**	**1.32**	**53**		**Pn**	**05 39 27.8**	**+1.4**
O22K	**Cooper Landing**	**1.33**	**84**		**Pn**	**05 39 26.6**	**+0.2**
O22K	**Cooper Landing**	**1.33**	**84**	P	**Pn**	**05 39 26.6**	**+0.2**
	baz=266						
SUA	**Susitna One**	**1.36**	**35**		**Pn**	**05 39 27.5**	**+0.6**
SUA	**Susitna One**	**1.36**	**35**	P	**Pn**	**05 39 27.5**	**+0.6**
	baz=217						
SEW	**Seward**	**1.49**	**99**		**Pn**	**05 39 28.3**	**-0.1**
SEW	**Seward**	**1.49**	**99**	P	**Pn**	**05 39 28.1**	**-0.2**
	baz=281						
RC01	**Rabbit Creek A**	**1.50**	**60**		**Pn**	**05 39 28.8**	**+0.3**
RC01	**Rabbit Creek A**	**1.50**	**60**	P	**Pn**	**05 39 28.7**	**+0.3**
	baz=242						
O18K	**Koktuh Hills**	**1.50**	**251**		**Pn**	**05 39 28.0**	**-0.5**
O18K	**Koktuh Hills**	**1.50**	**251**	P	**Pn**	**05 39 27.9**	**-0.5**
	baz=69						
M20K	**Styx River**	**1.56**	**347**		**Pn**	**05 39 29.8**	**+0.5**
M20K				IAML		05 39 51.7	
	comp=N,239nm,0.8s						
M20K	**Styx River**	**1.56**	**347**	P	**Pn**	**05 39 29.8**	**+0.5**
	baz=167						
SKT	**Skwentna**	**1.67**	**14**		**Pn**	**05 39 30.6**	**0.0**
SKT				IAML		05 39 56.0	
	comp=N,220nm,0.3s						
SKT				IAML		05 39 56.2	
	comp=E,262nm,0.5s						
SKT	**Skwentna**	**1.67**	**14**	P	**Pn**	**05 39 30.6**	**0.0**
	baz=195						
SVW2	**Sparrevohn**	**1.73**	**297**		**Pn**	**05 39 30.7**	**-0.6**
SVW2	**Sparrevohn**	**1.73**	**297**	P	**Pn**	**05 39 30.7**	**-0.6**
P18K	**Big Mountain,**	**1.73**	**237**		**Pn**	**05 39 30.9**	**-0.5**
P18K				IAML		05 39 53.3	
	comp=N,122nm,0.8s						
P18K	**Big Mountain,**	**1.73**	**237**	P	**Pn**	**05 39 30.8**	**-0.5**
	baz=54						
N18K	**Kilae Creek**	**1.76**	**282**		**Pn**	**05 39 31.3**	**

M17K Holitna River 2.67 295 P Pn 05 39 43.3 -0.1
baz=111
M23K Glacier View 2.68 56 Pn 05 39 43.2 -0.4
M23K Glacier View 2.68 56 P Pn 05 39 43.2 -0.4
baz=240
ANCK Angle Creek 2.69 218 Pn 05 39 43.9 +0.2
Q16K King Salmon 2.75 234 Pn 05 39 44.8 +0.3
Q16K King Salmon 2.75 234 P Pn 05 39 44.8 +0.3
baz=50
CNTC Contact Creek 2.76 222 Pn 05 39 44.6 -0.1
Q17K Contact Creek 2.77 222 P Pn 05 39 44.6 -0.1
baz=39
L18K Granite Mounta 2.79 314 Pn 05 39 44.6 -0.2
L18K Granite Mounta 2.79 314 P Pn 05 39 44.6 -0.2
baz=130
SCM Sheep Creek Mo 2.87 57 Pn Pn 05 39 45.8 -0.3
SCM IAML 05 40 31.0
comp=E,174nm,1.0s
SCM IAML 05 40 32.3
comp=N,161nm,0.8s
SCM Sheep Creek Mo 2.87 57 P Pn 05 39 45.7 -0.3
baz=241
HIN Hinchinbrook I 2.93 87 Pn 05 39 46.8 0.0
HIN IAML 05 40 22.5
comp=E,114nm,0.8s
HIN IAML 05 40 23.0
comp=N,98nm,0.5s
O16K Kokwok River B 2.97 257 Pn Pn 05 39 47.3 0.0
O16K Kokwok River B 2.97 257 P Pn 05 39 47.0 -0.3
baz=72
WAT7 Susitna Watana 3.00 33 Pn 05 39 48.0 +0.1
CAST Castle Rocks 3.07 3 Pn Pn 05 39 48.7 +0.1
CAST Castle Rocks 3.07 3 P Pn 05 39 48.7 +0.1
baz=183
WAT1 Susitna Watana 3.08 35 Pn 05 39 49.0 +0.1
WAT1 Susitna Watana 3.08 35 P Pn 05 39 49.0 +0.1
baz=218
TTA Tatalina 3.10 328 Pn 05 39 49.0 -0.1
TTA Tatalina 3.10 328 P Pn 05 39 49.0 -0.1
TTA Tatalina 3.10 328 P Pn 05 39 48.9 -0.1
baz=145
K20K Telida 3.11 346 Pn 05 39 49.6 +0.5
K20K Telida 3.11 346 P Pn 05 39 49.5 +0.3
baz=165
P16K Nushagak River 3.14 247 Pn 05 39 49.7 +0.2
P16K Nushagak River 3.14 247 P Pn 05 39 49.7 +0.2
baz=62
WAT6 Susitna Watana 3.15 43 Pn 05 39 49.7 -0.2
WAT6 Susitna Watana 3.15 43 P Pn 05 39 49.7 -0.2
baz=227
N16K Nishlik Lake 3.16 275 Pn 05 39 49.9 0.0
N16K Nishlik Lake 3.16 275 P Pn 05 39 49.9 0.0
baz=89
OHAK Old Harbor 3.19 189 Pn Pn 05 39 48.4 -1.9
OHAK Old Harbor 3.19 189 P Pn 05 39 48.5 -1.7
OHAK Old Harbor 3.19 189 P Pn 05 39 48.3 -1.9
baz=7.8
MID Middleton Isla 3.19 104 Pn 05 39 50.0 -0.2
MID IAML 05 41 55.0
comp=N,129nm,1.5s
MID Middleton Isla 3.19 104 P Pn 05 39 49.8 -0.5
TRF Thorofare Moun 3.25 17 Pn Pn 05 39 51.3 0.0
TRF IAML 05 40 32.3
comp=E,72nm,0.7s
TRF IAML 05 40 51.2
comp=N,92nm,0.8s
TRF Thorofare Moun 3.25 17 P Pn 05 39 51.2 0.0
baz=199
KTH Kantishna Hill 3.27 12 Pn Pn 05 39 51.6 +0.2
KTH IAML 05 40 37.1
comp=N,57nm,0.6s
KTH IAML 05 40 56.1
comp=E,44nm,0.8s
M16K Timber Creek 3.29 284 Pn Pn 05 39 51.5 -0.1
M16K Timber Creek 3.29 284 P Pn 05 39 51.5 -0.1
baz=99
EYAK Cordova Ski Ar 3.30 84 P Pn 05 39 51.8 +0.2
KLU Klutina 3.36 68 Pn 05 39 52.1 -0.4
KLU Klutina 3.36 68 P Pn 05 39 51.8 -0.7
baz=253
L17K Donlin 3.36 304 Pn 05 39 52.4 -0.1
L17K Donlin 3.36 304 P Pn 05 39 52.4 -0.1
baz=120
M24K Tolsona, Glenn 3.48 57 Pn Pn 05 39 54.5 +0.4
M24K Tolsona, Glenn 3.48 57 P Pn 05 39 54.3 +0.2
baz=243
RND Reindeer 3.48 27 Pn Pn 05 39 54.4 +0.2
RND IAML 05 40 52.7
comp=E,44nm,1.0s
RND IAML 05 40 53.4
comp=N,45nm,0.8s
CHUM Lake Minchumin 3.53 1 Pn 05 39 54.8 +0.1
CHUM Lake Minchumin 3.53 1 P Pn 05 39 54.8 +0.1
baz=181
DHY Denali Highway 3.62 39 Pn 05 39 56.4 +0.2
DHY IAML 05 40 39.3
comp=E,93nm,0.4s
DHY Denali Highway 3.62 39 P Pn 05 39 56.2 +0.1
baz=224
K17K Iditarod 3.68 312 Pn 05 39 57.0 +0.1
K17K IAML 05 40 58.0
comp=E,21nm,1.2s
K17K IAML 05 41 20.2
comp=N,25nm,1.0s
K17K Iditarod 3.68 312 P Pn 05 39 56.9 +0.1
baz=127
L16K Owhat River 3.70 294 Pn 05 39 56.9 -0.1
L16K Owhat River 3.70 294 P Pn 05 39 56.7 -0.3
baz=108
J18K Innoko River 3.72 329 Pn Pn 05 39 57.5 +0.2
J18K Innoko River 3.72 329 P Pn 05 39 57.5 +0.2
baz=145
MCK McKinley 3.75 24 Pn 05 39 58.0 +0.3
MCK McKinley 3.75 24 P Pn 05 39 58.0 +0.3
baz=207
GOAT Goat Mountain 3.80 83 Pn 05 39 57.0 -1.5
BPAW Bear Paw Mtn. 3.81 9 Pn Pn 05 39 57.9 -0.6
BPAW IAML 05 40 40.6
comp=N,19nm,0.7s
BPAW IAML 05 40 44.8
comp=E,23nm,0.8s
BPAW Bear Paw Mtn. 3.81 9 P Pn 05 39 57.7 -0.8
baz=191
RAGM Ragged Mountai 3.83 86 Pn 05 39 58.8 -0.1
RAGM IAML 05 40 59.3
comp=E,75nm,0.8s
N15K Kwethluk River 3.84 270 Pn Pn 05 39 59.7 +0.7
N15K IAML 05 41 24.1
comp=N,22nm,1.4s
N15K IAML 05 41 25.0
comp=E,19nm,1.0s
N15K Kwethluk River 3.84 270 P Pn 05 39 59.2 +0.3
baz=84
BMRM Bremner River 3.88 78 Pn 05 39 58.8 -0.8
BMRM Bremner River 3.88 78 P Pn 05 39 58.3 -1.3
baz=264
J20K Nowinta River 3.91 349 Pn 05 40 00.3 +0.4
J20K Nowinta River 3.91 349 P Pn 05 40 00.2 +0.3
baz=167
SII Sitkinak Islan 3.93 195 P Pn 05 39 58.3 -1.9
baz=13
O15K Ungalikthiuk R 3.94 256 Pn 05 40 00.7 +0.4
O15K Ungalikthiuk R 3.94 256 P Pn 05 40 00.7 +0.4
baz=69
J19K Poorman 3.94 339 Pn 05 40 00.6 +0.3
J19K Poorman 3.94 339 P Pn 05 40 00.5 +0.2
baz=156
N25K Chitina, Valde 4.00 68 Pn 05 40 00.6 -0.6
N25K IAML 05 40 47.6
comp=E,50nm,0.6s
N25K Chitina, Valde 4.00 68 P Pn 05 40 00.6 -0.6
baz=255
KAIM Kayak Island 4.01 93 Pn Pn 05 40 01.9 +0.6
KAIM IAML 05 40 52.4
comp=N,56nm,0.7s
KAIM IAML 05 40 54.1
comp=E,71nm,1.3s
KAIM Kayak Island 4.01 93 P Pn 05 40 01.2 0.0
baz=280
HARP HAARP 4.04 57 Pn 05 40 01.8 +0.2
HARP HAARP 4.04 57 P Pn 05 40 01.8 +0.2
baz=243
HMT Hamilton 4.04 87 Pn Pn 05 40 01.5 -0.1
HMT IAML 05 40 49.7
comp=N,68nm,0.4s
BWN Browne 4.06 18 Pn Pn 05 40 03.2 +1.3
BWN IAML 05 41 09.8
comp=N,66nm,0.9s
BWN IAML 05 41 10.6
comp=E,58nm,1.1s
PAX Paxson 4.21 49 Pn 05 40 04.3 +0.3
PAX Paxson 4.21 49 P Pn 05 40 04.3 +0.3
baz=235
WACK Wrangell Chich 4.23 64 Pn 05 40 03.8 -0.6
SUCK Suckling Hills 4.31 90 Pn Pn 05 40 05.5 +0.2
SUCK IAML 05 40 58.2
comp=N,26nm,1.2s
SUCK IAML 05 41 33.2
comp=E,28nm,1.5s
BERG Berg Lake 4.32 86 Pn 05 40 04.9 -0.4
BERG IAML 05 40 59.1
comp=N,57nm,0.5s
GLB Gilahina Butte 4.33 72 Pn Pn 05 40 05.1 -0.5
GLB IAML 05 40 56.1
comp=N,33nm,0.4s
GLB IAML 05 40 57.3
comp=E,24nm,0.5s
VRDI Verde Repeater 4.47 75 Pn Pn 05 40 06.9 -0.7
VRDI IAML 05 40 58.8
comp=E,16nm,0.4s
VRDI IAML 05 40 59.4
comp=N,29nm,0.4s
NEA2 Nenana 4.51 19 Pn 05 40 08.0 0.0
NEA2 IAML 05 40 59.0
comp=E,13nm,0.8s
NEA2 Nenana 4.51 19 P Pn 05 40 07.8 -0.2
baz=202
KHIT Khitrov Hills 4.54 85 Pn 05 40 07.9 -0.5
I20K Naaghedeneel 4.55 349 Pn 05 40 08.6 +0.2
I20K IAML 05 41 36.8
comp=N,42nm,0.9s
I20K IAML 05 41 41.5
comp=E,48nm,1.2s
WRH Wood River Hil 4.58 24 Pn Pn 05 40 09.1 +0.2
WRH IAML 05 41 04.8
comp=E,21nm,0.5s
WRH IAML 05 41 04.9
comp=N,18nm,0.4s
CRQM Cirque 4.59 81 Pn Pn 05 40 09.5 +0.4
CRQM IAML 05 41 02.6
comp=N,42nm,0.4s
CRQM IAML 05 41 11.4
comp=E,30nm,0.5s
L15K Ungalak Mounta 4.62 291 Pn 05 40 08.7 -0.6
L15K Ungalak Mounta 4.62 291 P Pn 05 40 08.7 -0.6
baz=103
O14K Tigyukauivet M 4.62 260 Pn Pn 05 40 10.3 +1.0
O14K IAML 05 41 52.9
comp=N,15nm,1.4s
O14K IAML 05 42 44.2
comp=E,12nm,1.4s
K24K Donnelly Dome 4.64 39 Pn 05 40 11.5 +1.7
K24K Donnelly Dome 4.64 39 P Pn 05 40 11.5 +1.7
baz=225
MCARA McCarthy VSAT 4.69 73 Pn Pn 05 40 11.2 +0.8
MCARA McCarthy VSAT 4.69 73 P Pn 05 40 09.9 -0.5
baz=262
WAX Waxell Ridge 4.73 85 Pn Pn 05 40 11.1 +0.1
M14K Bethel 4.74 279 Pn Pn 05 40 11.4 +0.4
M14K IAML 05 42 53.0
comp=N,13nm,1.5s
M14K IAML 05 42 57.2
comp=E,11nm,1.4s
TGL Tana Glacier 4.74 81 Pn Pn 05 40 11.3 +0.2
TGL IAML 05 41 05.2
comp=E,27nm,0.4s
TGL IAML 05 41 07.2
comp=N,26nm,0.2s
MLY Manley 4.75 9 Pn Pn 05 40 11.2 +0.1
MLY Manley 4.75 9 P Pn 05 40 10.5 -0.7
baz=190
SNH Sunshine Point 4.76 88 Pn Pn 05 40 11.4 0.0
SNH IAML 05 41 08.3
comp=E,27nm,1.1s
SNH IAML 05 41 14.4
comp=N,29nm,1.3s
HDA Harding Lake 4.78 30 Pn 05 40 11.8 +0.1
HDA Harding Lake 4.78 30 P Pn 05 40 11.7 +0.1
baz=214
CCB Clear Creek Bu 4.79 24 Pn Pn 05 40 11.3 -0.4
CCB IAML 05 41 07.3
comp=E,23nm,0.3s
CCB IAML 05 41 08.2
comp=N,19nm,0.3s
K15K Wolf Creek Mou 4.81 298 Pn Pn 05 40 12.2 +0.2
K15K Wolf Creek Mou 4.81 298 P Pn 05 40 11.9 0.0
baz=110
I21K Tanana 4.84 2 Pn 05 40 12.1 -0.2
I21K IAML 05 41 42.9
comp=N,8.8nm,0.9s
I21K Tanana 4.84 2 P Pn 05 40 11.1 -1.2
baz=183
GCSA Galena City Sc 4.86 337 Pn 05 40 13.0 +0.4
GCSA Galena City Sc 4.86 337 P Pn 05 40 13.0 +0.4
baz=153
CHIR Chirikof Islan 4.87 202 Pn Pn 05 40 11.9 -0.8
CHIR Chirikof Islan 4.87 202 P Pn 05 40 11.2 -1.6
baz=19
J16K Anvik River 4.87 311 Pn Pn 05 40 12.6 -0.2
J16K Anvik River 4.87 311 P Pn 05 40 12.1 -0.6
baz=124
RIDG Independent Ri 4.91 43 Pn 05 40 13.8 +0.5
RIDG Independent Ri 4.91 43 P Pn 05 40 13.9 +0.5
baz=230
PTPK Patty Peak 4.94 76 Pn 05 40 13.6 -0.3
M26K Nabesna, AK 4.96 62 Pn Pn 05 40 13.9 -0.1
M26K IAML 05 41 09.9
comp=N,27nm,0.8s
M26K IAML 05 41 38.4
comp=E,16nm,0.5s
KIAG Kiagna River 4.97 79 Pn 05 40 14.1 -0.2
ISLE Juniper Island 4.98 83 Pn Pn 05 40 14.4 0.0
ISLE IAML 05 41 12.5
comp=N,26nm,1.1s
ISLE IAML 05 41 13.6
comp=E,27nm,0.6s
COLA College 4.99 23 Pn 05 40 14.2 -0.1
COLA College 4.99 23 P Pn 05 40 14.6 +0.3
MDM Murphy Dome 4.99 21 Pn 05 40 14.5 0.0
MDM IAML 05 41 18.1
comp=N,9.8nm,0.9s
MDM IAML 05 41 42.1
comp=E,13nm,0.7s
I23K Minto, Yukon-K 5.00 15 Pn 05 40 15.3 +0.8
I23K IAML 05 41 48.7
comp=E,12nm,1.5s
I23K IAML 05 41 53.2
comp=N,13nm,0.9s
IL31 5.10 28 Pn Pn 05 40 16.1 +0.2
ILAR Eielson Array 5.10 28 Pn Pn 05 40 16.1 +0.2
ILAR Eielson Array 5.10 28 P Pn 05 40 15.8 -0.2
comp=N,7.6nm,0.4s,baz=212,slow=13,SNR=193
ILAR S Sn 05 41 08.9 -4.6
comp=N,2.1nm,0.4s,baz=231,slow=16,SNR=6.2
BAGL Bagley Icefiel 5.11 84 Pn 05 40 16.3 +0.3
L14K Kuka Creek 5.12 285 Pn Pn 05 40 16.7 +0.5
L14K IAML 05 42 21.2
comp=N,14nm,1.4s
L14K IAML 05 42 33.1
comp=E,12nm,1.1s
CHGN Chignik 5.16 221 Pn Pn 05 40 16.5 -0.3
CHGN IAML 05 41 16.2
comp=N,16nm,1.0s
CHGN IAML 05 42 54.4
comp=E,15nm,1.1s
MESA MESA 5.20 88 Pn Pn 05 40 17.0 -0.5
I17K Unalakleet 5.26 316 Pn Pn 05 40 17.2 -0.8
I17K IAML 05 42 09.7
comp=E,8.2nm,1.4s
GRNC Granite Creek 5.27 81 Pn Pn 05 40 18.9 +0.5
GRNC IAML 05 41 20.1
comp=E,13nm,1.4s
GRNC IAML 05 41 21.1
comp=N,22nm,0.6s
H20K Anotleneega Mo 5.27 349 Pn 05 40 17.9 -0.2
H20K Anotleneega Mo 5.27 349 P Pn 05 40 18.0 -0.2
baz=167
POKR Poker Plat Res 5.29 23 Pn 05 40 18.9 +0.5
POKR IAML 05 41 18.4
comp=E,18nm,0.6s
POKR IAML 05 41 19.1
comp=N,15nm,0.9s
POKR Poker Plat Res 5.29 23 P Pn 05 40 18.6 +0.2
baz=208
H21K Melozitna Rive 5.32 358 Pn 05 40 18.4 -0.4
H21K Melozitna Rive 5.32 358 P Pn 05 40 18.4 -0.4
baz=178
BARN Barnard Glacie 5.32 78 Pn Pn 05 40 19.4 +0.4
BARN IAML 05 41 20.3
comp=E,15nm,0.5s
BARN IAML 05 41 20.4
comp=N,18nm,0.5s
SCRK Sand Creek 5.35 44 Pn Pn 05 40 19.1 -0.3
SCRK IAML 05 41 32.8
comp=E,17nm,0.8s
SCRK IAML 05 41 33.2
comp=N,20nm,0.7s
SCRK Sand Creek 5.35 44 P Pn 05 40 19.0 -0.3
baz=231
J25K Salcha River, 5.36 34 Pn Pn 05 40 19.8 +0.4
J25K IAML 05 41 22.0
comp=N,23nm,0.5s
J25K Salcha River, 5.36 34 P Pn 05 40 19.9 +0.4
baz=221
M27K Edge Creek, AK 5.44 64 Pn Pn 05 40 21.1 +0.4
M27K Edge Creek, AK 5.44 64 P Pn 05 40 20.9 +0.3
baz=253
CTG Chitna Glacier 5.47 79 P Pn 05 40 21.9 +0.8
baz=268
CTGM Chitina Glacie 5.47 79 Pn Pn 05 40 22.0 +0.9
H19K Roundabout Mou 5.50 342 Pn 05 40 21.4 +0.2
H19K Roundabout Mou 5.50 342 P Pn 05 40 21.2 -0.1
baz=159
H18K Honhosa River 5.53 333 Pn Pn 05 40 22.1 +0.4
H18K Honhosa River 5.53 333 P Pn 05 40 21.9 +0.2
baz=148
TABL Table Mountain 5.58 84 Pn Pn 05 40 23.0 +0.4
LOGN Logan Glacier 5.63 80 Pn Pn 05 40 23.9 +0.6
IMAR Indian Mountai 5.67 354 Pn Pn 05 40 23.7 0.0
L27K Beaver Creek, 5.71 57 Pn 05 40 24.1 0.0
L27K Beaver Creek, 5.71 57 P Pn 05 40 24.2 0.0
baz=246
BCAR Beaver Creek A 5.72 57 Pn Pn 05 40 24.3 -0.1
H17K Granite Mounta 5.75 326 Pn Pn 05 40 25.4 +0.8
SAMH Samovar Hills 5.79 87 Pn 05 40 26.1 +0.7
J26L Joseph Creek 5.83 41 Pn 05 40 26.2 +0.3
J26L Joseph Creek 5.83 41 P Pn 05 40 25.6 -0.2
baz=229
J14K Nanvaranak Lak 5.84 299 Pn Pn 05 40 27.0 +1.1
H24K Noodor Dome 5.86 19 Pn 05 40 26.8 +0.5
H24K Noodor Dome 5.86 19 P Pn 05 40 26.2 0.0
baz=203
YUK3 Moose Creek 5.96 71 Pn 05 40 28.7 +0.9
YUK3 Moose Creek 5.96 71 P Pn 05 40 28.7 +0.9
baz=262
PRP Porcupine Dome 6.04 28 Pn Pn 05 40 29.2 +0.4
PRP Porcupine Dome 6.04 28 P Pn 05 40 28.7 -0.1
baz=214
PCA Pinnacle 6.05 87 Pn 05 40 29.7 +0.8
PINM Pinnacle 6.06 87 P Pn 05 40 29.3 +0.4
baz=278
K27K Chicken 6.07 48 Pn Pn 05 40 29.6 +0.6
G19K Purcell Mounta 6.17 342 Pn 05 40 30.3 -0.1
G19K Purcell Mounta 6.17 342 P Pn 05 40 29.7 -0.7
baz=158
G21K Allakaket 6.20 356 Pn 05 40 30.8 +0.1
G21K Allakaket 6.20 356 P Pn 05 40 30.7 0.0
baz=175
G18K Tagagawik 6.23 336 Pn 05 40 32.1 +0.9
G18K Tagagawik 6.23 336 P Pn 05 40 31.9 +0.7
baz=150
BCPM Bancas Point 6.38 88 Pn Pn 05 40 34.2 +0.9
G23K Bananza Creek 6.46 8 Pn 05 40 34.5 +0.2
PNL Peninsula 6.55 90 Pn 05 40 35.8 +0.1
PNL Peninsula 6.55 90 P Pn 05 40 35.8 +0.1
G24K Hadweenzic Riv 6.73 17 Pn 05 40 38.0 +0.1
G16K Koyuk River 6.79 322 Pn Pn 05 40 39.7 +0.9
EGAK Eagle 6.82 45 Pn Pn 05 40 38.8 -0.3
EGAK Eagle 6.82 45 P Pn 05 40 38.8 -0.3
baz=235
O29M Mount Kennedy 6.86 85 Pn Pn 05 40 41.5 +1.6
F20K Avaraart Lake 6.87 349 Pn Pn 05 40 41.0 +1.3
F20K Avaraart Lake 6.87 349 P Pn 05 40 41.1 +1.3
baz=166
F21K Alatna River 6.90 356 Pn Pn 05 40 41.3 +1.0
F21K Alatna River 6.90 356 P Pn 05 40 40.9 +0.6
baz=176
F19K Shaleruckik Mo 6.92 342 Pn Pn 05 40 41.3 +0.8
COLD Coldfoot 6.96 7 Pn 05 40 41.6 +0.6
COLD Coldfoot 6.96 7 P Pn 05 40 41.1 +0.1
baz=189
FYU Fort Yukon 7.00 24 Pn Pn 05 40 41.6 +0.1
M29M Somme Creek 7.00 67 Pn 05 40 42.4 +0.6
M29M Somme Creek 7.00 67 P Pn 05 40 42.2 +0.4
baz=259
G25K Bearman Lake 7.01 21 Pn 05 40 41.4 -0.3
G25K Bearman Lake 7.01 21 P Pn 05 40 41.4 -0.3
baz=207
DAWY Dawson 7.12 53 Pn 05 40 43.5 +0.2
F17K Baldwin Pennin 7.27 331 Pn Pn 05 40 45.8 +0.5
L29M L29M 7.31 62 Pn Pn 05 40 46.2 +0.3
ANM Nome 7.34 311 Pn Pn 05 40 47.9 +1.7
HYT Haines Junctio 7.35 80 Pn Pn 05 40 47.1 +0.6
P29M Windy Craggy 7.39 89 Pn 05 40 47.5 +0.6
E19K Redstone River 7.43 345 Pn Pn 05 40 48.2 +0.8
E19K Redstone River 7.43 345 P Pn 05 40 48.2 +0.8
baz=161
F24K Squaw Lake 7.45 13 Pn Pn 05 40 47.9 +0.1
N30M Aishikik Lake 7.54 75 Pn Pn 05 40 48.6 -0.4
I28M Miner Creek 7.63 43 Pn 05 40 50.4 +0.2
H27K Steamboat Moun 7.65 35 Pn 05 40 49.4 -1.0
H27K Steamboat Moun 7.65 35 P Pn 05 40 49.4 -1.0
baz=225
F15K North Star Dit 7.72 319 Pn Pn 05 40 53.1 +1.8
J29N Klondike Camp 7.75 52 Pn 05 40 52.6 +0.8
K29M Barlow Dome 7.79 57 Pn Pn 05 40 52.7 +0.2
E22K Anaktuvuk Pass 7.80 2 Pn Pn 05 40 54.1 +1.5
BMAR Burnt Mountain 7.88 23 Pn Pn 05 40 52.4 -1.1
E18K Tukpahlearik C 7.95 336 Pn Pn 05 40 55.6 +1.2
O30N Mendenhall 8.04 80 Pn Pn 05 40 56.9 +1.1
E25K Arctic Village 8.33 18 Pn Pn 05 40 58.9 -0.7
E25K Arctic Village 8.33 18 P Pn 05 40 58.5 -1.1
baz=204
D19K Kuna River 8.52 346 Pn Pn 05 41 03.3 +1.0
J30M Hart River 8.54 54 Pn Pn 05 41 03.8 +1.2
D22K Ayikyak River 8.55 359 Pn Pn 05 41 04.2 +1.6
H29M Whitestone 8.61 41 Pn Pn 05 41 04.2 +0.8
SKAG Skagway 8.62 89 Pn Pn 05 41 04.0 +0.4
S31K Pelican 8.64 99 Pn Pn 05 41 03.8 -0.1
WHY Whitehorse 8.64 80 Pn Pn 05 41 04.4 +0.3
D23K Nanushuk River 8.67 4 Pn 05 41 05.3 +1.1
D23K Nanushuk River 8.67 4 P Pn 05 41 05.3 +1.1
baz=186
I30M Mount Dempster 8.79 50 Pn Pn 05 41 06.2 +0.2
M31M Drury Creek, Y 8.86 70 Pn Pn 05 41 07.6 +0.7
D24K Happy Valley 8.95 8 Pn Pn 05 41 09.2 +1.2
F28M Old Crow 9.10 32 Pn Pn 05 41 09.6 -0.5
F28M Old Crow 9.10 32 P Pn 05 41 09.2 -0.9
baz=223
C18K Utukok River 9.13 339 Pn Pn 05 41 08.4 -2.1
EPYK Eagle Plains 9.24 43 Pn Pn 05 41 12.1 0.0
B21K Ikpikpuk River 9.34 355 Pn Pn 05 41 13.4 +0.1
FARO Faro, Yukon 9.35 70 Pn Pn 05 41 14.3 +0.9
R32K Eaglecrest 9.37 95 Pn Pn 05 41 15.4 +1.6
P32M Atlin 9.39 87 Pn Pn 05 41 14.8 +0.7
C23K Itkillik River 9.54 4 Pn Pn 05 41 17.1 +1.1
S32K Killisnoo 9.66 100 Pn Pn 05 41 20.1 +2.5
C16K Lisburne Hills 9.70 330 Pn Pn 05 41 20.7 +2.6
G30M Aioh Zraii Nji 9.75 40 Pn Pn 05 41 18.9 -0.1
E29M Blow River 10.18 32 Pn Pn 05 41 24.4 -0.3
Q32M Nakina River 10.27 89 Pn Pn 05 41 27.3 +1.1
G31M Satah River 10.36 43 Pn Pn 05 41 26.3 -0.9
R33M Jennings River 10.80 86 Pn Pn 05 41 34.9 +1.6
F31M Tsiigehtchic 10.81 41 Pn Pn 05 41 32.1 -1.1
U33K Whale Pass 11.00 104 Pn Pn 05 41 36.0 +0.2
S34M Telegraph Cree 11.18 93 Pn Pn 05 41 39.6 +1.3
WRAK Wrangell Islan 11.22 102 Pn Pn 05 41 39.9 +1.1
INK Inuvik 11.36 38 P Pn 05 41 40.0 -0.6
comp=N,1.5nm,0.6s,baz=232,slow=14,SNR=18
YKA Yellowknife Ar 18.03 67 P Pn 05 43 05.7 +0.6
comp=N,0.3nm,0.6s,baz=284,slow=12,SNR=6.4
SPITS Spitsbergen Ar 41.53 3 P P 05 46 37.4 -0.6
comp=N,1.0nm,0.4s,baz=346,slow=11,SNR=5.5
comp=N,1.0nm,0.4s
SONM Songino Array 54.82 306 P P 05 48 21.4 +0.8

comp=N,1.0nm,0.8s,baz=43,slow=6.4,SNR=5.9
comp=N,1.0nm,0.8s
ZALV Zalesovo Beam 57.26 324 P **P** **05 48 37.3 -0.3**
comp=N,0.5nm,0.3s,baz=34,slow=5.4,SNR=2.5
comp=N,0.5nm,0.3s
MKAR Makanchi Array 64.33 322 P **P** **05 49 24.5 -1.2**
comp=N,0.5nm,1.0s,baz=45,slow=11,SNR=1.7
comp=N,0.5nm,1.0s

*SJA **05** 05:44:14.7±0.6,22°.96S×66°.77W,h231^{km}±6^{km},ML4.0, MW3.9*
*IDC **05** 05:44:15.9±0.9,22°.92S×66°.66W,h195^{km}±10^{km},mb3.5/5, mbtmp4.1/11,Error ellipse: s-maj=15.8km s-min=12.7km az=130.0*
*NEIC **05** 05:44:16.1±2.4,23°.06S±0°.06×66°.69W±0°.08,h203^{km}±7^{km}, mb4.6/33,Error ellipse: s-maj=11.2km s-min=9.5km az=81.0*
*GUC **05** 05:44:17.1±0.5,22°.99S×67°.07W,h239^{km}±5^{km},ML4.2*
*VAO **05** 05:44:20.8±0.6,22°.64S×66°.39W,h226^{km}±3^{km},mb4.1*

ISC 05 05:44:16.0±0.6,22°.96S±0°.04×66°.71W±0°.05,h204^{km}±6^{km}, n198,σ1§32/231,mb4.3/14,14C,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YJA	**Yavi**	**1.35**	**55**	*eP*	**Pn**	**05 44 51.4**	**+2.1**
AF01	**San Pedro de A**	**1.36**	**270**		**Pn**	**05 44 50.6**	**+1.4**
AF01	**San Pedro de A**	**1.36**	**270**	⇑*iP*	**Pn**	**05 44 50.6**	**+1.4**
LVC	**Limon Verde**	**2.06**	**279**		**Pn**	**05 44 56.4**	**+0.5**
LVC				Sn	**S**	**05 44 56.4**	**+0.5**
LVC	**Limon Verde**	**2.06**	**279**	*eP*	**Pn**	**05 44 56.4**	**+0.5**
LVC				*eS*	**S**	**05 45 27.3**	**+1.0**
LVC	**Limon Verde**	**2.06**	**279**	P	**Pn**	**05 44 56.4**	**+0.5**
	222nm,0.4s,baz=104,slow=5.4,SNR=440						
LVC				S	**S**	**05 45 26.1**	**-0.1**
	66nm,0.3s,baz=270,slow=20,SNR=23						
LVC	**Limon Verde**	**2.06**	**279**	⇑*iP*	**Pn**	**05 44 56.4**	**+0.5**
LVC				*i* S	**S**	**05 45 26.4**	**+0.1**
LVC				IAML		05 45 27.5	
	826nm,0.5s						
SLA	**San Lorenzo**	**2.07**	**148**	*eP*	**Pn**	**05 44 57.5**	**+1.8**
PB15	**IPOC Station P**	**2.56**	**264**		**Pn**	**05 45 01.2**	**+0.2**
PB15				Sn	**S**	**05 45 35.3**	**0.2**
PB15	**IPOC Station P**	**2.56**	**264**	*eP*	**Pn**	**05 45 01.2**	**+0.2**
PB15				*eS*	**S**	**05 45 36.5**	**+1.0**
PB15				IAML		05 45 38.8	
	comp=Z,833nm,0.2s						
PB15	**IPOC Station P**	**2.56**	**264**	⇑*iP*	**Pn**	**05 45 01.2**	**+0.2**
PB15				*i* S	**S**	**05 45 35.5**	**0.0**
PB09	**IPOC Station P**	**2.62**	**296**		**Pn**	**05 45 02.6**	**+1.0**
PB09				Sn	**S**	**05 45 36.7**	**+0.1**
PB09	**IPOC Station P**	**2.62**	**296**	*eP*	**Pn**	**05 45 02.6**	**+1.0**
PB09				*eS*	**S**	**05 45 37.5**	**+0.9**
PB09				IAML		05 45 41.0	
	comp=Z,203nm,0.3s						
PB09	**IPOC Station P**	**2.62**	**296**	⇑*iP*	**Pn**	**05 45 02.6**	**+1.0**
PB09				*i* S	**S**	**05 45 36.8**	**+0.1**
PB09				IAML		05 45 43.0	
	comp=E,255nm,0.3s						
PB06	**IPOC Station P**	**2.66**	**275**		**Pn**	**05 45 02.1**	**0.0**
PB06				Sn	**S**	**05 45 36.3**	**-1.1**
PB06	**IPOC Station P**	**2.66**	**275**	*eP*	**Pn**	**05 45 02.2**	**+0.2**
PB06				*eS*	**S**	**05 45 37.5**	**+0.1**
PB06				IAML		05 45 39.9	
	comp=Z,238nm,0.5s						
PB06	**IPOC Station P**	**2.66**	**275**	⇑*iP*	**Pn**	**05 45 02.1**	**0.0**
PB06				*i* S	**S**	**05 45 36.2**	**-1.1**
PB06				IAML		05 45 41.2	
	comp=N,353nm,0.1s						
PB07	**IPOC Station P**	**3.19**	**292**		**Pn**	**05 45 07.8**	**-0.5**
PB07	**IPOC Station P**	**3.19**	**292**	*eP*	**Pn**	**05 45 08.3**	**0.0**
PB07				*eS*	**S**	**05 45 46.9**	**-1.6**
PB07				IAML		05 45 49.0	
	comp=Z,408nm,0.3s						
PB07	**IPOC Station P**	**3.19**	**292**	⇑*iP*	**Pn**	**05 45 08.3**	**0.0**
PB07				*i* S	**S**	**05 45 46.4**	**-2.2**
PB07				IAML		05 45 50.0	
	comp=N,673nm,0.3s						
FSA	**Cafayete**	**3.21**	**168**	*eP*	**Pn**	**05 45 09.6**	**+1.2**
PB01	**IPOC Station P**	**3.21**	**306**		**Pn**	**05 45 08.6**	**+0.1**
PB01	**IPOC Station P**	**3.21**	**306**	*eP*	**Pn**	**05 45 08.8**	**+0.3**
PB01				*eP*	**Pn**	**05 45 08.8**	**+0.3**
PB01				*eS*	**S**	**05 45 48.1**	**-0.7**
PB01				IAML		05 45 51.7	
	comp=Z,254nm,0.2s						
PB01	**IPOC Station P**	**3.21**	**306**	⇑*iP*	**Pn**	**05 45 08.7**	**+0.3**
PB01				*i* S	**S**	**05 45 48.0**	**-0.9**
PB04	**IPOC Station P**	**3.24**	**280**		**Pn**	**05 45 08.6**	**-0.3**
PB04	**IPOC Station P**	**3.24**	**280**	*eP*	**Pn**	**05 45 08.8**	**-0.1**
PB04				*eP*	**Pn**	**05 45 08.8**	**-0.1**
PB04				*eS*	**S**	**05 45 47.9**	**-1.7**
PB04				IAML		05 45 51.4	
	comp=Z,321nm,0.2s						
PB04	**IPOC Station P**	**3.24**	**280**	⇑*iP*	**Pn**	**05 45 08.6**	**-0.3**
PB04				*i* S	**S**	**05 45 47.2**	**-2.4**
PB02	**IPOC Station P**	**3.38**	**298**		**Pn**	**05 45 10.4**	**-0.2**
PB02	**IPOC Station P**	**3.38**	**298**	*eP*	**Pn**	**05 45 10.4**	**0.0**
PB02				*eS*	**S**	**05 45 50.5**	**-2.0**
PB02				IAML		05 45 52.7	
	comp=Z,583nm,0.2s						
PB02	**IPOC Station P**	**3.38**	**298**	⇑*iP*	**Pn**	**05 45 10.3**	**-0.2**
PB02				*eS*	**S**	**05 45 49.7**	**-2.8**
GO02	**Mina Guanaco**	**3.43**	**230**	Pn	**Pn**	**05 45 11.1**	**-0.2**
GO02	**Mina Guanaco**	**3.43**	**230**	*eP*	**Pn**	**05 45 11.3**	**0.0**
GO02				*eS*	**S**	**05 45 53.3**	**-0.6**
GO02	**Mina Guanaco**	**3.43**	**230**	⇑*iP*	**Pn**	**05 45 11.1**	**-0.2**
GO02				*i* S	**S**	**05 45 53.1**	**-0.9**
PB08	**IPOC Station P**	**3.61**	**320**		**Pn**	**05 45 15.0**	**+1.4**
PB08	**IPOC Station P**	**3.61**	**320**	*eP*	**Pn**	**05 45 14.9**	**+1.3**
PB08				*eS*	**S**	**05 45 59.4**	**+1.3**
PB08				IAML		05 46 01.9	
	comp=Z,109nm,0.8s						
PB08	**IPOC Station P**	**3.61**	**320**	⇑*iP*	**Pn**	**05 45 15.0**	**+1.4**
PB08				*i* S	**S**	**05 45 58.9**	**+0.8**
PB14	**IPOC Station P**	**3.77**	**243**	Pn	**Pn**	**05 45 14.8**	**-0.6**
PB14	**IPOC Station P**	**3.77**	**243**	*eP*	**Pn**	**05 45 14.8**	**-0.6**
PB14				*eS*	**S**	**05 45 59.0**	**-2.5**
PB14				IAML		05 46 04.3	
	comp=Z,80nm,0.7s						
PB14	**IPOC Station P**	**3.77**	**243**	⇑*iP*	**Pn**	**05 45 14.8**	**-0.6**
PB14				*i* S	**S**	**05 45 58.3**	**-3.2**
PATCX	**Punta Patache**	**3.84**	**303**		**Pn**	**05 45 15.7**	**-0.4**
PATCX	**Punta Patache**	**3.84**	**303**	*i* S	**S**	**05 45 59.8**	**-2.9**
GO01	**Chusmiza**	**4.01**	**324**		**Pn**	**05 45 19.5**	**+0.9**
GO01	**Chusmiza**	**4.01**	**324**	*eP*	**Pn**	**05 45 19.5**	**+0.9**
GO01				*eS*	**S**	**05 46 08.8**	**+1.6**
GO01	**Chusmiza**	**4.01**	**324**	⇑*iP*	**Pn**	**05 45 19.5**	**+0.9**
GO01				*i* S	**S**	**05 46 07.2**	**+0.1**
TA01	**Diego Aracena**	**4.01**	**306**	Pn	**Pn**	**05 45 18.2**	**+0.1**
TA01	**Diego Aracena**	**4.01**	**306**	*eP*	**Pn**	**05 45 18.0**	**-0.2**
TA01				*i* S	**S**	**05 46 02.8**	**-3.6**
TA02	**Huaiquique**	**4.16**	**309**	Pn	**Pn**	**05 45 20.6**	**+0.6**
PB11	**IPOC Station P**	**4.21**	**319**	Pn	**Pn**	**05 45 20.3**	**-0.4**
PB11	**IPOC Station P**	**4.21**	**319**	⇑*iP*	**Pn**	**05 45 20.2**	**-0.4**
PB11				*i* S	**S**	**05 46 08.6**	**-2.5**
AC02	**Maricunga**	**4.44**	**209**	Pn	**Pn**	**05 45 23.8**	**-0.1**
AC02	**Maricunga**	**4.44**	**209**	*eP*	**Pn**	**05 45 23.8**	**-0.1**
AC01	**Pan de Azucar**	**4.76**	**227**		**Pn**	**05 45 25.9**	**-1.6**
PB16	**IPOC Station P**	**5.30**	**330**		**Pn**	**05 45 35.9**	**+1.0**
PB12	**IPOC Station P**	**5.49**	**321**	Pn	**Pn**	**05 45 36.8**	**-0.2**
GO03	**Copiap**	**5.61**	**214**	Pn	**Pn**	**05 45 36.0**	**-2.3**
AC04	**Llanos de Chal**	**6.54**	**216**	Pn	**Pn**	**05 45 47.1**	**-3.2**
AC05	**El Transito**	**6.68**	**208**		**Pn**	**05 45 49.9**	**-2.2**
TICA	**Tres Isletas**	**6.69**	**122**	*eP*	**Pn**	**05 45 56.8**	**+4.7**
LPAZ	**La Paz**	**6.77**	**348**	Pn	**Pn**	**05 45 53.9**	**-0.1**
LPAZ	**La Paz**	**6.77**	**348**	P	**Pn**	**05 45 55.5**	**+1.5**
	comp=Z,2.6nm,0.4s,baz=156,slow=6.0,SNR=27						
LPAZ				S	**S**	**05 47 11.5**	**+0.1**
	comp=Z,2.9nm,0.5s,baz=276,slow=21,SNR=6.5						
LPAZ	**La Paz**	**6.77**	**348**	*eP*	**Pn**	**05 45 55.3**	**+1.4**
LCO	**Las Campanas**	**7.02**	**210**	Pn	**Pn**	**05 45 53.9**	**-2.8**
VACA	**Villa Angela C**	**7.16**	**132**	*eP*	Pn	05 46 02.9	+4.7
CO01	**Juntas del Tor**	**7.62**	**203**	Pn	**Pn**	**05 46 03.5**	**-1.0**
BBRB	**Robore, Bolivi**	**7.96**	**55**	*eP*	**Pn**	**05 46 06.3**	**-2.5**
BBSD	**Serra de San D**	**8.11**	**46**	*eP*	**Pn**	**05 46 09.3**	**-1.4**
MURT	**Porto Murtinho**	**8.52**	**83**	*eP*	**Pn**	**05 46 14.1**	**-1.9**
BBLB	**La Banda, Boli**	**8.54**	**61**	*eP*	**Pn**	**05 46 14.5**	**-1.8**
CO03	**El Pedregal**	**8.62**	**204**	Pn	**Pn**	**05 46 14.2**	**-3.0**
SIV	**San Ignacio**	**8.73**	**38**	P	**Pn**	**05 46 17.8**	**-1.1**
	comp=Z,10.0nm,0.5s,baz=218,slow=10,SNR=51						
SIV				S	**S**	**05 47 49.8**	**-7.4**
	comp=Z,1.9nm,0.7s,baz=135,slow=16,SNR=2.0						
CO06	**Fray Jorge**	**8.85**	**209**	Pn	**Pn**	**05 46 17.1**	**-3.2**
CO02	**Combarbal**	**9.06**	**204**	Pn	**Pn**	**05 46 20.2**	**-2.8**
CPUP	**Villa Florida**	**9.16**	**113**	P	**Pn**	**05 46 23.5**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=307,slow=11,SNR=3.3						
BDQN	**Bodoquena, MS**	**9.59**	**77**	*eP*	**Pn**	**05 46 29.8**	**-0.1**
PTLB	**Pontes e Lacer**	**10.34**	**45**	Pn	**Pn**	**05 46 39.3**	**-0.3**
PTLB	**Pontes e Lacer**	**10.34**	**45**	*eP*	**Pn**	**05 46 37.7**	**-1.9**
VA03	**San Esteban**	**10.34**	**198**		**Pn**	**05 46 38.1**	**-1.5**
VBST	**Vila Bela da S**	**10.50**	**38**	*eP*	**Pn**	**05 46 41.5**	**-0.2**
AQDB	**Aquidauana**	**10.53**	**78**	Pn	**Pn**	**05 46 42.2**	**+0.2**
AQDB	**Aquidauana**	**10.53**	**78**	*eP*	**Pn**	**05 46 42.0**	**0.0**
AMBA	**Amambai (Brazi**	**10.80**	**92**	*eP*	**Pn**	**05 46 47.4**	**+1.9**
AZCA	**Azaras, Argent**	**10.94**	**120**	*eP*	**P**	**05 46 50.8**	**-2.8**
MT02	**Curacav**	**10.98**	**200**	Pn	**Pn**	**05 46 45.6**	**-2.1**
MT03	**Universidad Ad**	**11.02**	**197**	Pn	**Pn**	**05 46 46.1**	**-2.2**
ITQB	**Itaqui**	**11.24**	**129**	*eP*	**P**	**05 46 55.9**	**-0.9**
POCN	**Pocone**	**11.30**	**58**	*eP*	**Pn**	**05 46 51.8**	**-0.2**
MT09	**Talagante**	**11.41**	**198**	Pn	**Pn**	**05 46 50.6**	**-2.8**
RVDE	**Rio Verde (Bra**	**11.66**	**73**	*eP*	**Pn**	**05 46 56.7**	**+0.1**
MCR1	**Marechal Candi**	**11.70**	**100**	*eP*	**Pn**	**05 46 59.4**	**+2.4**
VILB	**Vilhena**	**11.72**	**33**	Pn	**Pn**	**05 46 58.4**	**+1.1**
VILB	**Vilhena**	**11.72**	**33**	*eP*	**Pn**	**05 46 57.3**	**0.0**
PTET	**Porto Estrela**	**11.75**	**52**	*eP*	**Pn**	**05 46 57.5**	**-0.2**
UNIS	**Unistalda (Bra**	**12.10**	**123**	*eP*	**P**	**05 47 06.0**	**-0.4**
PP1B	**Ponte de Pedra**	**12.31**	**66**	*eP*	**Pn**	**05 47 03.8**	**-0.9**
CRSM	**Crissiumal (Br**	**12.32**	**114**	*eP*	**P**	**05 47 08.1**	**-0.7**
RPRD	**Ribas do Rio P**	**12.34**	**81**	*eP*	**Pn**	**05 47 06.4**	**+1.3**
SALV	**Santo Antonio**	**12.53**	**58**	*eP*	**Pn**	**05 47 07.1**	**-0.5**
RODS	**Rosario do Sul**	**12.64**	**128**	*eP*	**P**	**05 47 13.2**	**+0.7**
FRBT	**Francisco Belt**	**12.78**	**106**	*eP*	**P**	**05 47 13.2**	**-0.9**
TBOT	**Tacuaremb**	**12.92**	**135**	*eP*	**P**	**05 47 16.1**	**+0.7**
TRCB	**Terra Rica**	**12.97**	**92**	Pn	**Pn**	**05 47 13.7**	**+0.6**
TRCB	**Terra Rica**	**12.97**	**92**	*eP*	**Pn**	**05 47 14.6**	**+1.5**
ETMB	**Extrema**	**13.08**	**2**	Pn	**Pn**	**05 47 13.9**	**-0.5**
ML02	**Panimavida**	**13.40**	**197**	Pn	**Pn**	**05 47 14.8**	**-3.5**
NBRS	**Nobres**	**13.45**	**52**	*eP*	**Pn**	**05 47 18.4**	**-0.6**
PTGB	**Pitanga**	**13.51**	**100**	*eP*	**P**	**05 47 21.1**	**-1.1**
ALGR	**Alto Alegre (B**	**13.61**	**118**	*eP*	**P**	**05 47 23.2**	**-0.1**
ITAB	**Concordia**	**13.87**	**111**	*eP*	**P**	**05 47 27.0**	**+0.9**
CPSB	**Cacapava Do Su**	**13.98**	**125**	*eP*	**Pn**	**05 47 25.8**	**+0.3**
SAML	**Samuel**	**14.34**	**14**	Pn	**Pn**	**05 47 30.2**	**+0.2**
SAML	**Samuel**	**14.34**	**14**	*eP*	**Pn**	**05 47 29.5**	**-0.5**
LDASE	**Londrina, Braz**	**14.34**	**95**	*eP*	**Pn**	**05 47 30.4**	**+0.3**
PCMB	**Pacaembu**	**14.36**	**88**	*eP*	**Pn**	**05 47 29.8**	**-0.5**
PLTB	**Pedras Altas**	**14.56**	**130**		**Pn**	**05 47 31.9**	**-0.7**
PDRB	**Porto dos Gac**	**14.76**	**42**	*eP*	**Pn**	**05 47 33.8**	**-1.4**
ITRB	**Iturama**	**15.57**	**81**	*eP*	**P**	**05 47 44.9**	**-0.2**
CNLB	**Canela**	**15.57**	**117**	*eP*	**Pn**	**05 47 47.6**	**+2.6**
FRTB	**Fartura**	**15.77**	**95**	*eP*	**Pn**	**05 47 47.9**	**+0.4**
ARAG	**Araguaiana, MT**	**15.79**	**65**	*eP*	**P**	**05 47 46.8**	**-0.7**
GO06	**Curarrehue**	**17.06**	**193**	P	**P**	**05 47 59.8**	**-1.6**
RCLB	**Rio Claro- Sao**	**17.70**	**92**	*eP*	**P**	**05 48 09.1**	**+0.6**
SPB	**Sao Paulo**	**17.72**	**96**	P	**P**	**05 48 09.0**	**+0.5**
SPB				IAmb	IAmb	05 48 12.3	
	comp=Z,18nm,1.1s						
SPB	**Sao Paulo**	**17.72**	**96**	*eP*	**P**	**05 48 08.5**	**-0.1**
LR05	**Currie**	**17.79**	**193**	P	**P**	**05 48 09.7**	**+0.5**
LR05				IAmb	IAmb	05 48 11.1	
	comp=Z,21nm,0.5s						
PET01	**Itanhaem-SP**	**17.86**	**98**	*eP*	**P**	**05 48 10.3**	**+0.3**
PLCA	**Paso Flores**	**18.02**	**189**	P	**P**	**05 48 12.4**	**+0.7**
PLCA	**Paso Flores**	**18.02**	**189**	P	**P**	**05 48 12.3**	**+0.6**
	comp=Z,2.6nm,0.5s,baz=7.4,slow=12,SNR=12						
IPMB	**Ipameri, GO**	**18.02**	**77**	*eP*	**P**	**05 48 12.0**	**+0.1**
VAO	**Valinhos**	**18.18**	**94**	*eP*	**P**	**05 48 14.1**	**+0.5**
SNDB	**Serra Nova Dou**	**18.30**	**56**	*eP*	**P**	**05 48 14.3**	**-0.6**
LL03	**Petrohue**	**18.75**	**193**	P	**P**	**05 48 20.1**	**+0.6**
TBTG	**Tabatinga, AM**	**18.92**	**350**	P	**Pn**	**05 48 23.3**	**-1.4**
TBTG				IAmb	IAmb	05 48 26.1	
	comp=Z,15nm,0.6s						
BDFB	**Brasilia**	**19.07**	**71**	P	**P**	**05 48 24.3**	**+0.9**
BDFB				IAmb	IAmb	05 48 25.6	
	comp=Z,41nm,1.0s						
BDFB	**Brasilia**	**19.07**	**71**	P	**P**	**05 48 24.5**	**+1.1**
	comp=Z,44nm,1.0s,baz=241,slow=13,SNR=61						
BDFB	**Brasilia**	**19.07**	**71**	*eP*	**P**	**05 48 23.4**	**0.0**
NPGB	**Novo Progresso**	**19.23**	**36**	*eP*	**P**	**05 48 22.9**	**-2.0**
LL05	**Los Muermos**	**19.25**	**196**	P	**P**	**05 48 25.3**	**+0.4**
PARB	**Paraibuna**	**19.39**	**95**	*eP*	**P**	**05 48 26.6**	**-0.2**
TEFE	**Tefe**	**19.44**	**6**	*eP*	**P**	**05 48 27.5**	**+0.2**
PMNB	**Patos De Minas**	**19.45**	**81**	*eP*	**P**	**05 48 27.1**	**-0.4**
SLP01	**Ubatuba-SP**	**19.82**	**95**	*eP*	**P**	**05 48 31.8**	**+0.4**
LL01	**San Ignacio de**	**19.94**	**192**	P	**P**	**05 48 31.5**	**-0.8**
LL01				IAmb	IAmb	05 48 37.2	
	comp=Z,18nm,1.4s						
LL06	**Loncomilla**	**20.05**	**195**	P	**P**	**05 48 33.8**	**+0.3**
BSCB	**Bom Sucesso**	**20.43**	**89**	*eP*	**P**	**05 48 38.2**	**+0.3**
GO07	**Milladeo Hill,**	**20.91**	**194**	P	**P**	**05 48 42.2**	**-0.4**
ITTB	**Itaituba**	**21.31**	**31**	*eP*	**P**	**05 48 44.6**	**-2.5**
AY01	**Puyuhuapi**	**21.96**	**191**	P	**P**	**05 48 53.1**	**-0.1**
AY01				IAmb	IAmb	05 48 53.8	
	comp=Z,8.1nm,0.7s						
DIAM	**Diamantina, MG**	**22.04**	**82**	*eP*	**P**	**05 48 54.4**	**-0.1**
MCRA	**Macar, Loja**	**22.49**	**323**	P	**P**	**05 48 59.8**	**+1.2**
DUB01	**Friburgo-RJ**	**22.49**	**93**	*eP*	**P**	**05 48 59.0**	**+0.4**
JANB	**Januaria**	**22.56**	**74**	*eP*	**P**	**05 48 58.5**	**-0.8**
COYC	**Coyhaique**	**22.98**	**190**	P	**P**	**05 49 01.9**	**-0.7**
COYC				IAmb	IAmb	05 49 08.0	
	comp=Z,16nm,1.4s						
SMTB	**Santa Maria do**	**23.08**	**56**	*eP*	**P**	**05 49 03.7**	**-0.1**
CAM01	**Campos-RJ**	**23.18**	**92**	*eP*	**P**	**05 49 04.7**	**0.0**
SDBA	**SAO DESIDERIO**	**23.24**	**67**	*eP*	**P**	**05 49 04.9**	**-0.5**
COHC	**Cochancay**	**23.73**	**327**	P	**P**	**05 49 13.4**	**+3.6**
MALB	**Monte Alegre**	**24.21**	**32**	*eP*	**P**	**05 49 14.2**	**+0.1**
SJMB	**Sao Joao De Ma**	**24.21**	**85**	*eP*	**P**	**05 49 13.6**	**-0.5**
ALF01	**Guarapari-ES**	**24.23**	**89**	*eP*	**P**	**05 49 14.7**	**+0.4**
RIB01	**Linhares ES**	**24.79**	**87**	*eP*	**P**	**05 49 18.6**	**-0.8**
NAN01	**Guarapari, ES**	**25.41**	**83**	*eP*	**P**	**05 49 24.4**	**-0.5**
BOAV	**Boa Vista**	**25.91**	**14**	P	**P**	**05 49 29.6**	**+0.1**
BOAV				IAmb	IAmb	05 49 30.9	
	comp=Z,5.5nm,0.9s						
BOAV	**Boa Vista**	**25.91**	**14**	*eP*	**P**	**05 49 29.6**	**+0.1**
GUA01	**Guaratinga, BA**	**26.07**	**81**	*eP*	**P**	**05 49 31.1**	**+0.1**
MCPB	**Macapa, AP**	**26.60**	**34**	*eP*	**P**	**05 49 30.0**	**-0.6**
NBIT	**Itapeh - BA**	**26.97**	**78**	*eP*	**P**	**05 49 39.3**	**+0.4**
GDU01	**Guandu, BA**	**27.30**	**75**	*eP*	**P**	**05 49 40.9**	**-1.0**
NBPN	**Ponto Novo - B**	**28.02**	**69**	*eP*	**P**	**05 49 46.6**	**-1.7**
NBLA	**Lagarto - SE**	**30.04**	**72**	*eP*	**P**	**05 50 05.0**	**-1.1**
NBTA	**Tacaratu-PE**	**30.69**	**68**	*eP*	**P**	**05 50 10.7**	**-1.2**
NBMA	**Muriti-CE**	**31.01**	**64**	*eP*	**P**	**05 50 14.4**	**-0.4**
NBPB	**Pedra_Branca-C**	**31.37**	**61**	*eP*	**P**	**05 50 17.5**	**-0.4**
NBAN	**Anadia - AL**	**31.97**	**71**	*eP*	**P**	**05 50 21.9**	**-1.2**
NBCA	**Caruaru-PE**	**32.89**	**68**	*eP*	**P**	**05 50 31.1**	**-0.2**
RCBR	**Riachuelo**	**34.23**	**65**	P	**P**	**05 50 42.8**	**0.0**
RCBR				IAmb	IAmb	05 51 08.8	
	comp=Z,12nm,1.1s						
GRGR	**Grenville**	**35.23**	**9**	P	**P**	**05 50 51.7**	**+0.6**
MPOM	**Morne Pois Mar**	**37.61**	**9**	P	**P**	**05 51 11.3**	**+0.1**
MPOM				IAmb	IAmb	05 51 38.3	
	comp=Z,46nm,1.4s						
BIM	**Bigot**	**37.65**	**9**	P	**P**	**05 51 12.3**	**+0.7**
FDF	**Fort de France**	**37.85**	**9**	P	**P**	**05 51 14.0**	**+0.6**
FDF				IAmb	IAmb	05 51 18.4	
	comp=Z,39nm,1.1s						
PCDR	**Punta Cana, DR**	**41.25**	**358**	P	**P**	**05 51 41.7**	**+0.4**
MTO3	**Montecristo**	**43.25**	**327**	P	**P**	**05 51 59.6**	**+1.9**
833A	**Chaparral WMA,**	**59.95**	**327**	P	**P**	**05 54 02.7**	**+1.8**
833A				IAmb	IAmb	05 54 03.2	
	comp=Z,4.6nm,0.8s						
TXAR	**Lajitas Array**	**63.00**	**324**	P	**P**	**05 54 22.5**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=135,slow=10,SNR=2.1						
	comp=Z,0.2nm,0.6s						
P38A	**Dawn**	**67.11**	**338**	P	**P**	**05 54 48.1**	**+0.5**
P38A				IAmb	IAmb	05 54 52.4	
	comp=Z,11nm,1.5s						
DBIC	**Dimbokro**	**67.22**	**72**	P	**P**	**05 54 47.6**	**-1.1**
DBIC				IAmb	IAmb	05 54 54.7	
	comp=Z,21nm,1.4s						
DBIC	**Dimbokro**	**67.22**	**72**	P	**P**	**05 54 49.0**	**+0.2**
	comp=Z,3.8nm,0.7s,baz=221,slow=8.2,SNR=4.6						
	comp=Z,3.8nm,0.7s						
QSPA	**South Pole Qui**	**67.24**	**180**	P	**P**	**05 54 50.2**	**+2.0**
QSPA				IAmb	IAmb	05 54 50.5	
	comp=Z,4.4nm,0.6s						
QSPA	**South Pole Qui**	**67.24**	**180**	P	**P**	**05 54 50.3**	**+2.1**
	comp=Z,2.8nm,0.5s,baz=324,slow=1.0,SNR=33						
	comp=Z,2.8nm,0.5s						
ESJX	**Sierra Juarez**	**72.14**	**317**	P	**P**	**05 55 18.0**	**-0.7**
TOA0	**Torodi Ar. Sit**	**75.94**	**69**	P	**P**	**05 55 40.5**	**-0.3**
TOA0				IAmb	IAmb	05 55 42.3	
	comp=Z,3.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**75.94**	**69**	P	**P**	**05 55 40.4**	**-0.4**
TORD	**Torodi Ar. Bea**	**75.94**	**69**	P	**P**	**05 55 40.4**	**-0.4**
	comp=Z,2.1nm,0.4s,baz=257,slow=5.4,SNR=26						
	comp=Z,2.1nm,0.4s						
PDAR	**Pinedale Array**	**76.40**	**329**	P	**P**	**05 55 43.0**	**0.0**
PDAR	**Pinedale Array**	**76.40**	**329**	P	**P**	**05 55 43.3**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=74,slow=3.9,SNR=2.1						
	comp=Z,0.2nm,0.6s						
PLID	**Pearl Lake**	**81.25**	**327**	P	**P**	**05 56 10.7**	**+1.2**
ASAR	**Alice Springs**	**129.51**	**205**	PKP	**PKPdf**	**06 03 01.0**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=134,slow=2.7,SNR=3.1						
WRA	**Warramunga Arr**	**132.67**	**207**	PKP	**PKiKP**	**06 03 08.2**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=149,slow=1.2,SNR=4.9						
MKAR	**Makanchi Array**	**145.55**	**39**	PKPbc	**PKPab**	**06 03 31.6**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=304,slow=4.2,SNR=9.7						

IDC 05 05:47:42.5±5.8,6°.08S×142°.26E,h0^{km},mb3.7/2, mbtmp3.5/4,ML3.3/2,Error ellipse: s-maj=217.0km s-min=34.2km az=96.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.79**	**208**	Pn	Pn	05 51 26.8	+0.4
	0.1nm,0.3s,baz=28,slow=13,SNR=2.9						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**19.25**	**204**	P	P	05 52 08.2	-0.5
	0.1nm,0.3s,baz=33,slow=9.0,SNR=6.1						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**74.60**	**322**	P	P	05 59 23.6	-0.1
	0.3nm,0.8s,baz=104,slow=4.8,SNR=3.0						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**84.08**	**325**	P	P	06 00 15.6	+0.3
	0.7nm,0.5s,baz=123,slow=5.3,SNR=3.4						
	0.7nm,0.5s						

*IDC **05** 05:54:38.7±2.6,29°.48N×141°.67E,h0^{km},mb3.7/8, mbtmp3.7/10,ML3.0/2,Error ellipse: s-maj=111.1km s-min=15.8km az=73.0*

**ISC 05 05:54:42.8±2.0

PETK	**Petropavlovsk-**	**53.87**	**22**	P		**P**		**06 11 01.0**	**+1.1**
	comp=Z,5.0nm,0.7s,baz=216,slow=4.6,SNR=3.9								
	comp=Z,5.0nm,0.7s								
MK31	**Makanchi Array**	**56.76**	**324**	P		**P**		**06 11 21.1**	**+0.4**
MKAR	**Makanchi Array**	**56.76**	**324**	P		**P**		**06 11 20.9**	**+0.1**
MKAR	**Makanchi Array**	**56.76**	**324**	P		**P**		**06 11 21.1**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=126,slow=7.9,SNR=14								
	comp=Z,0.8nm,0.6s								
ZALV	**Zalesovo Beam**	**59.62**	**332**	P		**P**		**06 11 40.7**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=116,slow=6.6,SNR=2.1								
	comp=Z,0.4nm,0.4s								
KURBB	**Kurchatov Area**	**60.89**	**327**	P		**P**		**06 11 48.7**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=124,slow=6.4,SNR=15								
	comp=Z,1.3nm,0.7s								
KKAR	**Karatay Array**	**62.63**	**316**	P		**P**		**06 12 01.8**	**+0.7**
BVAR	**Borovoye Array**	**66.48**	**326**	P		**P**		**06 12 25.4**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=104,slow=11,SNR=4.2								
	comp=Z,0.6nm,0.5s								
ABKAR	**Akbulak array**	**71.45**	**320**	P		**P**		**06 12 54.9**	**-1.9**
SDPT	**Sand Point**	**75.66**	**34**	P		**P**		**06 13 20.8**	**-0.5**
M14K	**Bethel**	**76.13**	**29**	P		**P**		**06 13 24.5**	**+0.6**
M14K				IAmb		IAmb		06 13 52.4	
	comp=Z,15nm,1.2s								
L16K	**Owhat River**	**77.52**	**28**	P		**P**		**06 13 31.4**	**-0.3**
L16K				IAmb		IAmb		06 13 34.7	
	comp=Z,5.4nm,1.2s								
M16K	**Timber Creek**	**77.62**	**29**	P		**P**		**06 13 32.6**	**+0.3**
M16K				IAmb		IAmb		06 13 58.7	
	comp=Z,8.7nm,1.4s								
O16K	**Kokwok River B**	**77.76**	**30**	P		**P**		**06 13 33.3**	**+0.3**
O16K				IAmb		IAmb		06 14 01.5	
	comp=Z,7.7nm,1.1s								
E18K	**Tukpahlearik C**	**78.40**	**22**	P		**P**		**06 13 37.1**	**+0.7**
L18K	**Granite Mounta**	**78.92**	**28**	P		**P**		**06 13 40.2**	**+0.9**
L18K				IAmb		IAmb		06 13 51.3	
	comp=Z,8.9nm,1.5s								
P18K	**Big Mountain,**	**79.17**	**31**	P		**P**		**06 13 40.6**	**-0.2**
P18K				IAmb		IAmb		06 14 07.8	
	comp=Z,17nm,1.4s								
O18K	**Koktuh Hills**	**79.25**	**30**	P		**P**		**06 13 42.0**	**+0.7**
O18K				IAmb		IAmb		06 14 08.3	
	comp=Z,7.2nm,0.9s								
KDAK	**Kodiak Island**	**80.35**	**32**	P		**P**		**06 13 47.1**	**-0.1**
J20K	**Nowinta River**	**80.36**	**26**	P		**P**		**06 13 47.6**	**+0.5**
B21K	**Ikpikpuk River**	**81.02**	**20**	P		**P**		**06 13 51.2**	**+0.7**
SKT	**Skwentna**	**81.28**	**28**	P		**P**		**06 13 51.3**	**-0.8**
SKT				IAmb		IAmb		06 14 08.5	
	comp=Z,6.7nm,1.4s								
I21K	**Tanana**	**81.41**	**25**	P		**P**		**06 13 53.3**	**+0.6**
I21K				IAmb		IAmb		06 13 54.0	
	comp=Z,5.6nm,1.1s								
BPAW	**Bear Paw Mtn.**	**81.73**	**26**	P		**P**		**06 13 54.3**	**-0.1**
O22K	**Cooper Landing**	**82.04**	**30**	P		**P**		**06 13 56.0**	**0.0**
RC01	**Rabbit Creek A**	**82.07**	**29**	P		**P**		**06 13 56.3**	**+0.1**
SCM	**Sheep Creek Mo**	**83.26**	**28**	P		**P**		**06 14 02.1**	**-0.4**
SCM				IAmb		IAmb		06 14 16.9	
	comp=Z,18nm,1.4s								
ILAR	**Eielson Array**	**83.55**	**25**	P		P		06 14 00.9	-2.9
	comp=Z,0.3nm,0.6s,baz=270,slow=5.0,SNR=6.6								
	comp=Z,0.3nm,0.6s								
KLU	**Klutina**	**83.93**	**29**	P		**P**		**06 14 05.8**	**-0.2**
BMAR	**Burnt Mountain**	**84.52**	**23**	P		**P**		**06 14 09.4**	**+0.7**
TGL	**Tana Glacier**	**85.44**	**30**	P		**P**		**06 14 14.1**	**+0.6**
TGL				IAmb		IAmb		06 14 39.6	
	comp=Z,15nm,1.1s								
BCAR	**Beaver Creek A**	**85.82**	**27**	P		**P**		**06 14 15.4**	**0.0**

*BJI **05** 06:02:35.5±0.0,5˚.12S×154˚.44E,h166km,mb4.9/65, mB5.1/31*

*IDC **05** 06:02:36.1±0.5,5˚.28S×154˚.23E,h157km±4km,mb4.5/22, mbtmp4.9/23,MS3.8/5, Error ellipse: s-maj=11.0km s-min=8.8km az=76.0*

*DJA **05** 06:02:37.9±0.5,5˚.S±4˚×15˚.4E±˚,h177km±3km,M4.6/33, mB5.1/18,mb4.7/33,MLv5.0/3,Mw(mB)4.5/18*

*GCMT **05** 06:02:37.9±0.3,5˚.41S±0˚.03×154˚.10E±0˚.02,h170km±3km, MW5.0/93,Moment Tensor Solution. s23,c26; s93,c115; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.66±.12; Mθθ-0.53±.15; Mϕϕ-2.13±.16; Mrθ-0.21±.11; Mθϕ2.08±.16; Mϕr-1.65±.11; Best double couple: M0 3.59100×10^16 NP1:ϕs167.00000°,δ60.00000°,λ117.00000°. NP2: ϕs302.00000°,δ39.00000°,λ52.00000°. Principal axes: T 3.3770, Plg64.0000°, Azm124.0000°; N 0.4330, Plg23.0000°, Azm333.0000°; P -3.8060, Plg11.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **05** 06:02:37.9±1.7,5˚.29S±0˚.09×154˚.17E±0˚.09,h164km±6km, mb4.8/235 Error ellipse: s-maj=14.8km s-min=10.4km az=222.0*

ISC 05 06:02:37.3±0.4,**5˚.29S**±0˚.04×**154˚.21E**±0˚.05,**h166**km±3km, **h166**km:**pP-P,n682,**σ1**919**/661,**mb4.8**/166,**6C-6D, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**2.31**	**298**	Pn		**Pn**	**06 03 16.5**	**-0.5**
RABL	**Rabaul**	**2.31**	**298**	P		**Pn**	**06 03 16.8**	**-0.2**
KRVT	**Keravat (AS076**	**2.39**	**294**	P		**Pn**	**06 03 17.8**	**-0.1**
	2μm,0.3s,baz=277,slow=0.2,SNR=1.2							
KRVT				S		**Sn**	**06 03 47.1**	**-2.1**
	8μm,0.3s,baz=103,slow=1.4,SNR=5.3							
BULU	**Kimbe**	**3.89**	**266**	P		**Pn**	**06 03 37.0**	**+0.5**
HNR	**Honiara**	**7.02**	**126**	Pn		**Pn**	**06 04 17.5**	**-0.2**
MANU	**Manus Island**	**7.55**	**295**	Pn		**Pn**	**06 04 24.0**	**-0.8**
MANU	**Manus Island**	**7.55**	**295**	P		**Pn**	**06 04 26.0**	**+1.2**
PMG	**Port Moresby**	**8.10**	**239**	Pn		**Pn**	**06 04 33.4**	**+1.3**
PMG	**Port Moresby**	**8.10**	**239**	P		**Pn**	**06 04 34.0**	**+1.9**
PMG	**Port Moresby**	**8.10**	**239**	P		**Pn**	**06 04 32.9**	**+0.9**
	314nm,0.9s,baz=64,slow=6.0,SNR=30							
PMG				S		**Sn**	**06 06 04.2**	**+1.6**
	66nm,0.9s,baz=232,slow=17,SNR=1.1							
TABU	**Tabubil**	**12.94**	**269**	P		**Pn**	**06 05 35.4**	**+0.1**
COEN	**Coen**	**13.87**	**231**			**P**	**06 05 49.0**	**-1.1**
COEN	**Coen**	**13.87**	**231**	P		**Pn**	**06 05 48.7**	**+1.6**
GENI	**Genyem**	**14.26**	**280**	P		**Pn**	**06 05 52.2**	**+0.2**
GENI	**Genyem**	**14.26**	**280**	P		**Pn**	**06 05 51.7**	**-0.3**
	167nm,0.7s,3μm							
TV1H	**Townsville Har**	**15.66**	**207**	P		**P**	**06 06 10.8**	**+1.1**
SMPI	**Sarmi**	**15.81**	**281**	P		**Pn**	**06 06 10.7**	**-0.4**
	816nm,0.8s,8μm							
MTSU	**Mount Surprise**	**16.02**	**216**	P		**P**	**06 06 15.4**	**+1.6**
CTA	**Charters Tower**	**16.62**	**207**	P		**Pn**	**06 06 22.7**	**+1.8**
CTA	**Charters Tower**	**16.62**	**207**	P		**Pn**	**06 06 22.5**	**+1.6**
	36nm,0.8s,baz=28,slow=13,SNR=32							
CTA				LR		LR	06 11 45.5	
	comp=Z,154nm,21.8s,baz=26,slow=33							
CTAO	**Charters Tower**	**16.62**	**207**	P		**Pn**	**06 06 22.6**	**+1.6**
CTAO				IAmb		IAmb	06 06 25.0	
	comp=Z,52nm,0.9s							
CTAO	**Charters Tower**	**16.62**	**207**	P		**Pn**	**06 06 22.7**	**+1.8**
KOUNC	**Koumac, New Ca**	**18.05**	**148**	P		**P**	**06 06 37.5**	**+1.4**
KOUNC	**Koumac, New Ca**	**18.05**	**148**	P		**Pn**	**06 06 38.0**	**+0.1**
RK1H	**Rockhampton Ha**	**18.35**	**191**	P		**P**	**06 06 40.6**	**+1.3**
GD1S	**Gladstone Soft**	**18.68**	**189**	P		**Pn**	**06 06 44.8**	**-0.4**
LIFNC	**LIFOU**	**19.93**	**142**	P		**P**	**06 06 58.0**	**+1.6**
EIDS	**Eidsvold**	**20.19**	**188**	P		**P**	**06 07 00.1**	**+0.9**
EIDS				IAmb		IAmb	06 07 03.1	
	comp=Z,33nm,0.8s							
EIDS	**Eidsvold**	**20.19**	**188**	P		**P**	**06 07 00.3**	**+1.1**
DZM	**Mont Dzumac**	**20.46**	**146**	P		**P**	**06 07 02.9**	**+0.7**
DZM	**Mont Dzumac**	**20.46**	**146**	P		**P**	**06 07 03.1**	**+0.9**
DZM	**Mont Dzumac**	**20.46**	**146**	P		**P**	**06 07 02.8**	**+0.7**
	comp=Z,43nm,0.5s,baz=273,slow=8.3,SNR=9.1							
	comp=Z,43nm,0.5s							
ONTNC	**Ouen Toro**	**20.65**	**146**	P		**P**	**06 07 02.5**	**-1.6**
ONTNC	**Ouen Toro**	**20.65**	**146**	P		**P**	**06 07 05.0**	**+0.9**
QIS	**Mount Isa**	**20.78**	**222**	P		**P**	**06 07 05.6**	**+0.1**
MARNC	**Mare, Loyalty**	**20.94**	**142**	P		**P**	**06 07 06.9**	**-0.3**
OUENC	**Ouen Island, N**	**20.96**	**146**	P		**P**	**06 07 07.2**	**-0.1**
OUENC	**Ouen Island, N**	**20.96**	**146**	P		**P**	**06 07 10.0**	**+2.6**
PINNC	**Pines Island,**	**21.45**	**145**	P		**P**	**06 07 12.3**	**-0.4**
PINNC	**Pines Island,**	**21.45**	**145**	P		**P**	**06 07 14.5**	**+1.8**
FAKI	**Fak Fak**	**22.03**	**275**	P		**P**	**06 07 17.1**	**-1.7**
FAKI				IAmb		IAmb	06 07 18.3	
	comp=Z,41nm,0.8s							
FAKI	**Fak Fak**	**22.03**	**275**	P		**P**	**06 07 17.9**	**-0.9**
FAKI	**Fak Fak**	**22.03**	**275**	P		**P**	**06 07 16.4**	**-2.4**
	comp=Z,73nm,0.9s,comp=Z,876nm							
KDU	**Kakadu**	**22.68**	**250**	P		**P**	**06 07 24.0**	**-0.9**
GC1S	**Gold Coast 1 S**	**22.76**	**182**	P		**P**	**06 07 27.0**	**+1.6**
SAUI	**Saumlaki**	**22.91**	**262**	P		**P**	**06 07 27.4**	**+0.4**
QLP	**Quilpie**	**23.22**	**203**	P		**P**	**06 07 30.3**	**+0.6**
SWI	**Sorong**	**23.33**	**280**	P		**P**	**06 07 29.9**	**-0.9**
	comp=Z,74nm,1.0s,comp=Z,1μm							
MTN	**Manton Dam**	**23.98**	**250**	P		**P**	**06 07 36.2**	**-0.6**
MTN	**Manton Dam**	**23.98**	**250**	P		**P**	**06 07 36.8**	**+0.1**
WR0	**Warramunga Arr**	**24.06**	**231**	P		**P**	**06 07 36.8**	**-0.6**
WB0	**Warramunga Arr**	**24.07**	**232**	P		**P**	**06 07 37.6**	**+0.1**
DRS	**Darwin Rock St**	**24.09**	**251**	P		**P**	**06 07 37.4**	**-0.3**
WRAB	**Tennant Creek**	**24.20**	**231**	P		**P**	**06 07 38.4**	**-0.3**
WB2	**Warramunga Arr**	**24.20**	**231**	P		**P**	**06 07 38.3**	**-0.4**
WRA	**Warramunga Arr**	**24.21**	**231**	P		**P**	**06 07 38.1**	**-0.7**
WRA	**Warramunga Arr**	**24.21**	**231**	P		**P**	**06 07 38.5**	**-0.3**
	comp=Z,59nm,0.7s,baz=54,slow=10.0,SNR=111							
WRA				S		**S**	**06 11 40.7**	**-4.5**
	comp=Z,7.1nm,1.2s,baz=48,slow=15,SNR=5.2							
	comp=Z,59nm,0.7s							
AULRC	**Lightning Ridg**	**24.73**	**193**	P		**P**	**06 07 44.6**	**+1.3**
ARMA	**Armidale**	**25.12**	**185**	P		**P**	**06 07 47.7**	**+0.7**
ARMA	**Armidale**	**25.12**	**185**	P		**P**	**06 07 48.1**	**+1.1**
INKA	**Innaminka**	**25.74**	**208**	P		**P**	**06 07 52.7**	**+0.1**
AUPHS	**Peel High Scho**	**25.87**	**187**	P		**P**	**06 07 54.8**	**+1.1**
H11S3	**WAKE ISLAND Hy**	**26.64**	**27**	T		T	06 36 02.9	
	baz=208,slow=74,SNR=123							
H11S2	**WAKE ISLAND Hy**	**26.65**	**27**	T		T	06 36 08.7	
	baz=208,slow=74,SNR=72							
H11S1	**WAKE ISLAND Hy**	**26.66**	**27**	T		T	06 36 04.7	
	baz=208,SNR=34							
AS01	**Alice Springs**	**26.74**	**225**	P		**P**	**06 08 02.2**	**+0.6**
AS31	**Alice Springs**	**26.77**	**225**	P		**P**	**06 08 01.2**	**-0.7**
ASAR	**Alice Springs**	**26.77**	**225**	P		**P**	**06 08 01.5**	**-0.4**
ASAR	**Alice Springs**	**26.77**	**225**	P		**P**	**06 08 01.4**	**-0.5**
	comp=Z,5.1nm,0.3s,baz=57,slow=8.8,SNR=32							
ASAR				pP		**pP**	**06 08 33.9**	**-0.7**
	comp=Z,10nm,0.8s,baz=53,slow=11,SNR=5.6							
ASAR				S		**S**	**06 12 20.1**	**-5.6**
	comp=Z,6.7nm,0.8s,baz=51,slow=13,SNR=9.0							
	comp=Z,5.1nm,0.3s							
KNRA	**Kununurra**	**27.04**	**246**	P		**P**	**06 08 03.5**	**-0.8**
KNRA	**Kununurra**	**27.04**	**246**	P		**P**	**06 08 04.2**	**-0.1**
LBMI	**Labuha**	**27.07**	**279**	P		**P**	**06 08 04.5**	**-0.1**
	comp=Z,75nm,1.0s,comp=Z,1μm							
NLAI	**Namlea**	**27.11**	**273**	P		**P**	**06 08 04.2**	**-0.8**
	comp=Z,42nm,0.5s,comp=Z,4μm							
CMSA	**Cobar Meteorol**	**27.31**	**196**	P		**P**	**06 08 07.2**	**+0.7**
SANI	**Sanana**	**28.35**	**275**	P		**P**	**06 08 15.7**	**-0.3**
SANI	**Sanana**	**28.35**	**275**	P		**P**	**06 08 15.2**	**-0.8**
	comp=Z,34nm,0.6s,comp=Z,517nm							
OOD	**Oodnadatta**	**28.48**	**216**	P		**P**	**06 08 18.2**	**+1.2**
STKA	**Stephens Creek**	**28.97**	**203**	P		**P**	**06 08 20.7**	**-0.6**
STKA	**Stephens Creek**	**28.97**	**203**	P		**P**	**06 08 21.1**	**-0.2**
STKA	**Stephens Creek**	**28.97**	**203**	P		**P**	**06 08 20.9**	**-0.4**
	comp=Z,10nm,0.5s,baz=16,slow=7.8,SNR=32							
STKA				LR		LR	06 19 45.9	
	comp=Z,71nm,19.9s,baz=16,slow=36							
	comp=Z,10nm,0.5s							
LCRK	**Leigh Creek**	**29.21**	**209**	P		**P**	**06 08 24.9**	**+1.4**
CAN	**Canberra**	**30.27**	**188**	P		**P**	**06 08 33.3**	**+0.5**
CAN				IAmb		IAmb	06 08 34.6	
	comp=Z,24nm,0.9s							
CAN	**Canberra**	**30.27**	**188**	P		**P**	**06 08 34.2**	**+1.4**
CAN	**Canberra**	**30.27**	**188**	P		**P**	**06 08 33.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**30.68**	**243**	P		**P**	**06 08 35.5**	**-1.1**
FITZ				IAmb		IAmb	06 08 36.9	
	comp=Z,15nm,0.7s							
FITZ	**Fitzroy Crossi**	**30.68**	**243**	P		**P**	**06 08 35.6**	**-0.9**
MULG	**Mulgathing**	**31.29**	**215**	P		**P**	**06 08 43.2**	**+1.5**
HTT	**Hallett**	**31.41**	**205**	P		**P**	**06 08 43.8**	**+1.0**
LUWI	**Luwuk**	**31.67**	**277**	P		**P**	**06 08 44.5**	**-0.8**
WRKA	**Warakurna**	**31.68**	**229**	P		**P**	**06 08 44.2**	**-1.1**
GTOI	**Gorontalo**	**31.71**	**280**	P		**P**	**06 08 45.7**	**0.0**
	comp=Z,36nm,0.7s,comp=Z,340nm							
BBOO	**Buckleboo**	**32.20**	**210**	P		**P**	**06 08 48.7**	**-1.0**
BBOO				IAmb		IAmb	06 08 54.9	
	comp=Z,14nm,0.7s							
EDFI	**Ende, Flores**	**32.45**	**262**	P		**P**	**06 08 50.4**	**-1.9**
	comp=Z,66nm,0.9s,comp=Z,473nm							
TOO	**Toolangi**	**33.11**	**193**	P		**P**	**06 08 58.1**	**+0.6**
ARPS	**Mount Arapiles**	**33.32**	**198**	P		**P**	**06 09 00.0**	**+0.6**
BRAT	**Ballarat**	**33.46**	**195**	P		**P**	**06 09 01.5**	**+1.0**
TOLI2	**Tolitoli**	**33.99**	**280**	P		**P**	**06 09 04.1**	**-1.4**
TOLI2				IAmb		IAmb	06 09 06.5	
	comp=Z,15nm,0.8s							
TOLI2	**Tolitoli**	**33.99**	**280**	P		**P**	**06 09 05.6**	**+0.1**
KAPI	**Kappang**	**34.32**	**269**	P		**P**	**06 09 07.9**	**-0.4**
FORT	**Forrest**	**35.32**	**221**	P		**P**	**06 09 15.8**	**-0.9**
GLAD	**Gladstone**	**35.97**	**188**	P		**P**	**06 09 23.6**	**+1.5**
PLAI	**Plampang**	**36.32**	**262**	P		**P**	**06 09 22.3**	**-3.1**
	comp=Z,27nm,0.7s							
AULHS	**Lilydale High**	**36.35**	**189**	P		**P**	**06 09 26.9**	**+1.6**
CORO	**Coronation Par**	**36.56**	**189**	P		**P**	**06 09 28.8**	**+1.8**
MBWA	**Marble Bar**	**36.96**	**242**	P		**P**	**06 09 28.9**	**-1.9**
MBWA	**Marble Bar**	**36.96**	**242**	P		**P**	**06 09 32.4**	**+1.6**
MBWA	**Marble Bar**	**36.96**	**242**	P		**P**	**06 09 29.6**	**-1.2**
MBWA				pP		**pP**	**06 10 08.2**	**+4.1**
MBWA				pwP		**pwP**	**06 10 17.7**	**+4.2**
MBWA				PcP		**PcP**	**06 11 48.0**	**-0.6**
PSA00	**Pilbara Seismi**	**37.01**	**241**	P		**P**	**06 09 29.0**	**-2.1**
PSA00	**Pilbara Seismi**	**37.01**	**241**	P		**P**	**06 09 30.2**	**-1.0**
TOZ	**Tahuroa Road**	**37.68**	**152**	P		**P**	**06 09 38.0**	**+1.5**
TAU	**Tasmania Unive**	**37.96**	**188**	P		**P**	**06 09 40.6**	**+1.8**
RTZ	**Ruatahuna**	**39.09**	**151**	P		**P**	**06 09 49.4**	**+1.0**
BKZ	**Black Stump Fm**	**39.29**	**152**	P		**P**	**06 09 50.8**	**+0.7**
BKZ				IAmb		IAmb	06 09 53.1	
	comp=Z,10nm,0.6s							
TKNZ	**Takaka Hill**	**39.35**	**157**	P		**P**	**06 09 52.2**	**+1.7**
DSZ	**Denniston Nort**	**39.55**	**159**	P		**P**	**06 09 53.4**	**+1.2**
MRNZ	**Matariki Terra**	**39.59**	**158**	P		**P**	**06 09 53.6**	**+1.1**
KMBL	**Kambalda**	**39.90**	**225**	P		**P**	**06 09 55.4**	**+0.2**
THZ	**Tophouse**	**39.97**	**158**	P		**P**	**06 09 56.0**	**+0.4**
TCW	**Tory Channel**	**40.02**	**156**	P		**P**	**06 09 57.3**	**+1.3**
MEEK	**Meekatharra**	**40.04**	**234**	P		**P**	**06 09 56.0**	**-0.5**
TUWZ	**Tuamarina**	**40.08**	**157**	P		**P**	**06 09 57.1**	**+0.7**
MRZ	**Mangatainoka R**	**40.10**	**155**	P		**P**	**06 09 56.9**	**+0.2**
INZ	**Inchbonnie**	**40.29**	**160**	P		**P**	**06 09 58.7**	**+0.5**
INZ				IAmb		IAmb	06 10 00.9	
	comp=Z,27nm,0.8s							
FOZ	**Fox Glacier**	**40.50**	**162**	P		**P**	**06 10 00.8**	**+0.9**
JOW	**Kunigami**	**40.62**	**323**	P		**P**	**06 10 01.2**	**+0.1**
	comp=Z,24nm,0.5s,baz=98,slow=14,SNR=2.8							
	comp=Z,24nm,0.5s							
LTZ	**Lake Taylor**	**40.63**	**159**	P		**P**	**06 10 02.2**	**+1.2**
JCZ	**Jackson Bay**	**40.70**	**164**	P		**P**	**06 10 02.9**	**+1.2**
PLWZ	**Palliser**	**40.72**	**156**	P		**P**	**06 10 01.7**	**-0.1**
RPZ	**Rata Peaks**	**41.05**	**161**	P		**P**	**06 10 04.2**	**-0.3**
GVZ	**Greta Valley S**	**41.06**	**159**	P		**P**	**06 10 04.8**	**+0.3**
LBZ	**Lake Benmore**	**41.39**	**163**	P		**P**	**06 10 07.4**	**+0.2**
DCZ	**Deep Cove**	**41.58**	**166**	P		**P**	**06 10 09.0**	**+0.4**
ODZ	**Otahua Downs**	**42.12**	**163**	IAmb		IAmb	06 10 14.8	
	comp=Z,30nm,0.9s							
WHZ	**Wether Hill Ro**	**42.17**	**166**	P		**P**	**06 10 13.1**	**-0.4**
KLBR	**Kellerberrin**	**43.01**	**228**	P		**P**	**06 10 20.5**	**0.0**
MORW	**Morawa**	**43.15**	**232**	P		**P**	**06 10 21.0**	**-0.7**
NACB	**Ninganchiao**	**43.22**	**314**	P		**P**	**06 10 22.7**	**+0.5**
NACB				IAmb		IAmb	06 10 23.5	
	comp=Z,36nm,1.0s							
SSLB	**Suanglung**	**43.44**	**313**	P		**P**	**06 10 23.6**	**-0.5**
SSLB				IAmb		IAmb	06 10 25.4	
	comp=Z,16nm,0.9s							
SSLB	**Suanglung**	**43.44**	**313**	P		**P**	**06 10 25.2**	**+1.1**
JNU	**Nakatsue**	**44.15**	**331**	P		**P**	**06 10 29.8**	**+0.2**
JNU				IAmb		IAmb	06 10 30.1	
	comp=Z,31nm,0.9s							
MAJO	**Matsushiro**	**44.23**	**341**	P		**P**	**06 10 28.8**	**-1.3**
MAJO				IAmb		IAmb	06 10 33.4	
	comp=Z,26nm,1.4s							
MJB9	**Matsu-Tunnel**	**44.23**	**341**	P		**P**	**06 10 28.7**	**-1.5**
MJB9				IAmb		IAmb	06 10 30.1	
	comp=Z,26nm,1.4s							
CTZ	**Chatham Island**	**46.10**	**151**	P		**P**	**06 10 45.2**	**+0.4**
BBJI	**Bungbulang**	**46.31**	**265**	P		**P**	**06 10 46.1**	**-0.9**
JTM	**Tenmabayashi**	**47.41**	**346**	P		**P**	**06 10 54.5**	**-0.4**
KSRS	**Korea Array**	**49.08**	**332**	P		**P**	**06 11 07.9**	**+0.2**
	comp=Z,6.8nm,0.7s,baz=151,slow=9.0,SNR=9.9							
	comp=Z,6.8nm,0.7s							
KSAR	**Wonju Array Be**	**49.08**	**332**	P		**P**	**06 11 06.6**	**-1.2**
MCQ	**Macquarie Isla**	**49.22**	**176**	P		**P**	**06 11 09.8**	**+1.3**
MCQ	**Macquarie Isla**	**49.22**	**176**	P		**P**	**06 11 10.0**	**+1.5**
NJ2	**Nanjing**	**50.11**	**320**	*e*P		**P**	**06 11 17.3**	**+1.6**
NJ2				pP		**pP**	**06 11 53.1**	**+1.3**
NJ2				sP		**sP**	**06 12 10.6**	**+0.9**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
NJ2				pmax		pmax		
	comp=Z,510nm,3.8s							
JKA	**Kamikawa-asahi**	**50.28**	**349**	P		**P**	**06 11 17.9**	**+1.2**
JKA				IAmb		IAmb	06 11 18.8	
	comp=Z,35nm,1.2s							
CNSH	**ChangSha**	**51.86**	**312**	⇓P		**P**	**06 11 30.5**	**+1.7**
CNSH				pmax		pmax		
	comp=Z,40nm,0.9s							
WHN	**Wuhan**	**52.18**	**316**	⇓P		**P**	**06 11 32.1**	**+1.0**
USRK	**Ussuriysk Ar.**	**53.17**	**340**	P		**P**	**06 11 38.7**	**+0.5**
	comp=Z,3.1nm,0.5s,baz=148,slow=5.8,SNR=11							
	comp=Z,3.1nm,0.5s							
MDJ	**Mudanjiang**	**54.38**	**339**	P		**P**	**06 11 46.2**	**-0.7**
MDJ				pP		pP	06 12 24.5	+0.7
MDJ				PcP		**PcP**	**06 12 47.7**	**-0.9**
MDJ				PP		**PP**	**06 13 50.6**	**-0.3**
MDJ				ScP		**ScP**	**06 16 27.0**	**-4.3**
MDJ				S		**S**	**06 19 13.7**	**+1.5**
MDJ				sS		sS	06 20 19.0	+1.5
MDJ				pmax		pmax		
	comp=Z,12nm,1.7s							
MDJ				pmax		pmax		
	comp=Z,140nm,4.1s							
CN2	**Changchun**	**55.33**	**335**	*e*P		**P**	**06 11 57.8**	**+4.1**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.8s							
NONG	**Nongkai**	**55.45**	**296**	P		**P**	**06 11 56.2**	**+1.1**
ENH	**Enshi**	**55.52**	**312**	P		**P**	**06 11 56.6**	**+1.2**
ENH	**Enshi**	**55.52**	**312**	P		**P**	**06 11 55.8**	**+0.3**
ENH				pP		**pwP**	**06 12 36.4**	**-1.6**
GYA	**Guiyang**	**55.81**	**307**	*e*P		**P**	**06 11 59.3**	**+1.6**
GYA				pmax		pmax		
	comp=Z,11nm,0.5s							
GYA				pmax		pmax		
	comp=Z,130nm,4.3s							
BNX	**BinXian**	**56.15**	**338**	⇓P		**P**	**06 11 59.4**	**-0.1**
BNX				pmax		pmax		
	comp=Z,13nm,0.8s							
BNX				pmax		pmax		
	comp=Z,170nm,4.6s							
HNS	**HongShan**	**56.19**	**322**	⇓P		**P**	**06 12 00.3**	**+0.3**
HNS				pmax		pmax		
	comp=Z,10.0nm,1.0s							
BJI	**Beijing**	**57.08**	**326**	P		**P**	**06 12 06.5**	**+0.3**
BJI				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KLR	**Kul'dur**	**57.72**	**343**	P		**P**	**06 12 10.5**	**0.0**
	comp=Z,6.4nm,0.7s,baz=182,slow=1.8,SNR=29							
	comp=Z,6.4nm,0.7s							
XAN	**Xi'an**	**57.95**	**316**	⇑P		**P**	**06 12 12.1**	**-0.4**
XAN				pP		pP	06 12 52.5	+2.9
XAN				pmax		pmax		
	comp=Z,27nm,0.8s							

VNDA Vanda 72.30 178 P P 06 13 44.7 +0.5
VNDA IAmb IAmb 06 13 45.7
comp=Z,24nm,0.8s
VNDA Vanda 72.30 178 P P 06 13 44.6 +0.5
comp=Z,21nm,0.8s,baz=329,slow=6.9,SNR=68
comp=Z,21nm,0.8s
M11K Mekoryuk 72.44 19 P P 06 13 46.5 +1.3
baz=222
CHGN Chignik 72.55 25 P P 06 13 46.4 +0.5
CHGN IAmb IAmb 06 13 47.1
comp=Z,18nm,0.9s
CHGN Chignik 72.55 25 P P 06 13 47.1 +1.2
baz=230
O14K Tigyukauivet M 73.37 22 P P 06 13 52.0 +1.3
O14K IAmb IAmb 06 13 53.2
comp=Z,28nm,1.1s
O14K Tigyukauivet M 73.37 22 P P 06 13 52.0 +1.3
baz=227
M13K Dall Lake 73.43 20 P P 06 13 52.9 +1.9
baz=224
GAMB Gambell 73.48 15 P P 06 13 52.8 +1.6
baz=216
N14K Kuskokwak Cree 73.67 21 P P 06 13 53.0 +0.5
baz=226
R16K Pilot Point 73.71 25 P P 06 13 53.8 +1.0
baz=231
O15K Ungalikthiuk R 73.86 23 P P 06 13 54.4 +0.8
baz=228
M14K Bethel 74.15 21 P P 06 13 57.0 +1.8
M14K Bethel 74.15 21 P P 06 13 56.8 +1.6
baz=226
L14K Kuka Creek 74.32 20 P P 06 13 58.0 +1.8
L14K IAmb IAmb 06 13 58.7
comp=Z,18nm,0.8s
L14K Kuka Creek 74.32 20 P P 06 13 57.5 +1.4
baz=225
PALK Pallekele 74.40 279 P P 06 13 58.0 +0.2
N15K Kwethluk River 74.43 22 P P 06 13 58.9 +2.0
N15K IAmb IAmb 06 13 59.9
comp=Z,16nm,1.0s
N15K Kwethluk River 74.43 22 P P 06 13 57.4 +0.6
baz=228
P16K Nushagak River 74.48 23 P P 06 13 57.5 +0.4
baz=230
SII Sitkinak Islan 74.56 27 P P 06 13 59.0 +1.3
SII Sitkinak Islan 74.56 27 P P 06 13 58.3 +0.6
baz=234
M15K Kasigluk River 74.57 21 P P 06 13 59.0 +1.4
baz=227
Q16K King Salmon 74.79 24 P P 06 13 59.6 +0.7
baz=231
O16K Kokwok River B 74.80 23 P P 06 13 59.4 +0.4
O16K Kokwok River B 74.80 23 P P 06 14 00.6 +1.6
baz=230
Q17K Contact Creek 74.85 25 P P 06 14 00.4 +1.0
baz=232
L15K Ungalak Mounta 74.97 20 P P 06 14 01.3 +1.4
baz=226
J14K Nanvaranak Lak 75.04 19 IAmb IAmb 06 14 03.7
comp=Z,26nm,0.8s
J14K Nanvaranak Lak 75.04 19 P P 06 14 02.4 +2.2
baz=224
N16K Nishlik Lake 75.12 22 P P 06 14 02.3 +1.4
baz=229
P17K Kvichak River 75.20 24 P P 06 14 01.9 +0.6
baz=231
O17K Koliganek Bris 75.31 23 P P 06 14 03.0 +1.1
baz=231
OHAK Old Harbor 75.35 26 P P 06 14 03.2 +1.1
baz=235
K15K Wolf Creek Mou 75.38 20 P P 06 14 04.3 +2.1
K15K IAmb IAmb 06 14 04.9
comp=Z,25nm,0.8s
K15K Wolf Creek Mou 75.38 20 P P 06 14 03.6 +1.3
baz=226
M16K Timber Creek 75.42 22 P P 06 14 04.2 +1.7
M16K IAmb IAmb 06 14 05.2
comp=Z,23nm,0.8s
M16K Timber Creek 75.42 22 P P 06 14 04.2 +1.7
baz=229
L16K Owhat River 75.69 21 P P 06 14 05.5 +1.5
L16K IAmb IAmb 06 14 06.2
comp=Z,10nm,0.7s
L16K Owhat River 75.69 21 P P 06 14 05.6 +1.6
baz=228
N17K Nushagak Hills 75.75 23 IAmb IAmb 06 14 08.1
comp=Z,22nm,1.4s
N17K Nushagak Hills 75.75 23 P P 06 14 06.0 +1.6
baz=230
P18K Big Mountain, 75.81 24 P P 06 14 05.1 +0.2
P18K Big Mountain, 75.81 24 P P 06 14 05.4 +0.6
baz=232
ANM Nome 75.83 17 IAmb IAmb 06 14 07.2
comp=Z,12nm,0.8s
ANM Nome 75.83 17 P P 06 14 06.8 +2.0
baz=222,SNR=5.2
TNA Tin City 75.89 15 P P 06 14 06.5 +1.5
baz=219
KDAK Kodiak Island 75.98 26 P P 06 14 07.3 +1.5
baz=235
O18K Koktuh Hills 76.11 24 P P 06 14 07.2 +0.8
O18K Koktuh Hills 76.11 24 P P 06 14 07.5 +1.0
baz=232
M17K Holitna River 76.22 22 IAmb IAmb 06 14 10.1
comp=Z,14nm,0.8s
M17K Holitna River 76.22 22 P P 06 14 08.9 +1.8
baz=230
F14K Arctic Creek 76.25 16 P P 06 14 08.2 +1.1
baz=221
N18K Kilae Creek 76.35 23 P P 06 14 09.8 +2.0
N18K IAmb IAmb 06 14 10.6
comp=Z,19nm,0.9s
N18K Kilae Creek 76.35 23 P P 06 14 09.9 +2.0
baz=232
J16K Anvik River 76.38 19 IAmb IAmb 06 14 10.8
comp=Z,12nm,0.8s
J16K Anvik River 76.38 19 P P 06 14 09.8 +2.0
baz=227
L17K Donlin 76.39 21 P P 06 14 09.9 +1.9
baz=229
G15K Niukluk 76.53 17 P P 06 14 10.0 +1.3
baz=223
O19K Port Alsworth 76.67 24 P P 06 14 10.0 +0.4
O19K Port Alsworth 76.67 24 P P 06 14 10.4 +0.9
baz=233
SVW2 Sparrevohn 76.73 23 P P 06 14 11.7 +1.8
I17K Unalakleet 76.76 19 IAmb IAmb 06 14 13.6
comp=Z,27nm,0.9s
I17K Unalakleet 76.76 19 P P 06 14 11.0 +1.0
baz=226
K17K Iditarod 76.77 20 IAmb IAmb 06 14 12.8
comp=Z,19nm,1.0s
K17K Iditarod 76.77 20 P P 06 14 11.9 +1.8
baz=229
H16K Elim 76.81 18 P P 06 14 11.2 +1.0
baz=225
M18K Stony River 76.88 22 P P 06 14 11.7 +1.0
baz=232
F15K North Star Dit 76.89 16 P P 06 14 12.6 +1.8
F15K IAmb IAmb 06 14 13.0
comp=Z,17nm,1.1s
F15K North Star Dit 76.89 16 P P 06 14 11.8 +1.1
baz=222,SNR=6.2
N19K Bonanza Creek 76.98 23 P P 06 14 12.7 +1.2
N19K Bonanza Creek 76.98 23 P P 06 14 12.4 +0.9
baz=233
ILSW Iliamna Southw 77.02 24 P P 06 14 12.1 +0.4
L18K Granite Mounta 77.02 21 IAmb IAmb 06 14 14.5
comp=Z,17nm,0.9s
L18K Granite Mounta 77.02 21 P P 06 14 12.8 +1.2
baz=231
WMQ Urumqi 77.05 317 eP P 06 14 13.1 +0.9
WMQ pmax pmax
comp=Z,20nm,0.9s
O20K Slope Mountain 77.29 24 P P 06 14 13.9 +0.7
baz=235
G16K Koyuk River 77.31 17 P P 06 14 14.5 +1.5
G16K IAmb IAmb 06 14 15.9
comp=Z,23nm,0.9s
G16K Koyuk River 77.31 17 P P 06 14 14.4 +1.3
baz=225
L19K White Mountain 77.67 22 IAmb IAmb 06 14 17.7
comp=Z,21nm,0.8s
L19K White Mountain 77.67 22 P P 06 14 16.1 +0.9
baz=232
TTA Tatalina 77.71 21 P P 06 14 16.8 +1.3
TTA IAmb IAmb 06 14 17.7
comp=Z,10nm,0.8s
TTA Tatalina 77.71 21 P P 06 14 17.8 +2.3
TTA Tatalina 77.71 21 P P 06 14 16.1 +0.6
baz=231,SNR=10
H17K Granite Mounta 77.73 18 IAmb IAmb 06 14 17.9
comp=Z,14nm,0.7s
H17K Granite Mounta 77.73 18 P P 06 14 16.9 +1.5
baz=227
J18K Innoko River 77.81 20 P P 06 14 17.4 +1.5
J18K IAmb IAmb 06 14 18.0
comp=Z,11nm,0.8s
J18K Innoko River 77.81 20 P P 06 14 16.8 +0.8
baz=230
BRSE Bradley Lake S 77.88 25 P P 06 14 18.0 +1.7
baz=237
G17K Kiwalik Mounta 77.89 18 P P 06 14 17.6 +1.3
baz=226,SNR=12
N20K Mount Spurr 78.10 23 P P 06 14 18.4 +0.7
baz=235
M20K Styx River 78.14 23 P P 06 14 19.6 +1.8
M20K IAmb IAmb 06 14 20.1
comp=Z,10nm,0.8s
M20K Styx River 78.14 23 P P 06 14 19.4 +1.5
baz=234
L20K Farewell, AK 78.21 22 P P 06 14 19.2 +1.0
baz=233
CAPN Captain Cook N 78.28 24 P P 06 14 20.0 +1.5
baz=236
H18K Honhosa River 78.36 19 P P 06 14 19.3 +0.4
baz=228
F17K Baldwin Pennin 78.38 17 P P 06 14 20.4 +1.5
F17K IAmb IAmb 06 14 21.7
comp=Z,16nm,0.7s
F17K Baldwin Pennin 78.38 17 P P 06 14 19.4 +0.5
baz=226,SNR=8.6
J19K Poorman 78.52 20 P P 06 14 21.6 +1.8
J19K Poorman 78.52 20 P P 06 14 20.3 +0.5
baz=231
TIXI Tiksi 78.57 352 P P 06 14 20.6 +0.7
GCSA Galena City Sc 78.58 19 P P 06 14 20.7 +0.7
baz=230
SEW Seward 78.62 25 P P 06 14 21.4 +1.0
baz=238
C16K Lisburne Hills 78.63 14 IAmb IAmb 06 14 22.1
comp=Z,15nm,1.1s
C16K Lisburne Hills 78.63 14 P P 06 14 21.1 +0.9
baz=221
K20K Telida 78.67 21 P P 06 14 22.1 +1.4
K20K IAmb IAmb 06 14 23.1
comp=Z,11nm,0.8s
K20K Telida 78.67 21 P P 06 14 21.6 +0.9
baz=233,SNR=9.0
O22K Cooper Landing 78.71 25 P P 06 14 21.9 +1.0
baz=237
G18K Tagagawik 78.77 18 P P 06 14 22.1 +0.9
G18K Tagagawik 78.77 18 P P 06 14 21.9 +0.7
baz=226,SNR=11
D17K Noatak River 78.77 15 P P 06 14 22.0 +0.9
baz=224,SNR=12
SKT Skwentna 78.81 23 P P 06 14 21.5 +0.1
baz=236
SUA Susitna One 78.83 24 P P 06 14 22.1 +0.4
SUA IAmb IAmb 06 14 23.0
comp=Z,14nm,0.6s
SUA Susitna One 78.83 24 P P 06 14 22.3 +0.6
baz=236,SNR=11
F18K Selawik 78.95 17 P P 06 14 22.6 +0.6
baz=227
RC01 Rabbit Creek A 79.03 24 P P 06 14 23.8 +1.1
RC01 IAmb IAmb 06 14 24.2
comp=Z,15nm,0.8s
RC01 Rabbit Creek A 79.03 24 P P 06 14 23.4 +0.7
baz=237,SNR=5.9
PPLA Purkeypile 79.09 22 P P 06 14 22.7 -0.4
baz=235
J20K Nowinta River 79.14 20 IAmb IAmb 06 14 25.7
comp=Z,17nm,0.7s
J20K Nowinta River 79.14 20 P P 06 14 24.0 +0.8
baz=233
H19K Roundabout Mou 79.22 19 IAmb IAmb 06 14 25.7
comp=Z,17nm,0.8s
H19K Roundabout Mou 79.22 19 P P 06 14 24.9 +1.3
baz=230
M22K Willow 79.24 24 P P 06 14 24.6 +0.8
M22K IAmb IAmb 06 14 28.9
comp=Z,33nm,1.2s
M22K Willow 79.24 24 P P 06 14 23.7 0.0
baz=237
E18K Tukpahlearik C 79.25 16 IAmb IAmb 06 14 25.8
comp=Z,9.4nm,0.7s
E18K Tukpahlearik C 79.25 16 P P 06 14 24.6 +0.9
baz=226
C17K DeLong Mountai 79.32 15 P P 06 14 25.4 +1.3
baz=223
I20K Naagheda eneel 79.41 20 IAmb IAmb 06 14 27.1
comp=Z,24nm,0.8s
I20K Naagheda eneel 79.41 20 P P 06 14 25.0 +0.4
baz=232
G19K Purcell Mounta 79.42 18 IAmb IAmb 06 14 26.9
comp=Z,18nm,1.1s
G19K Purcell Mounta 79.42 18 P P 06 14 25.4 +0.7
baz=230
CAST Castle Rocks 79.43 22 IAmb IAmb 06 14 26.4
comp=Z,13nm,0.7s
CAST Castle Rocks 79.43 22 P P 06 14 25.5 +0.7
baz=235,SNR=17
P23K Montague Islan 79.44 26 P P 06 14 24.8 -0.1
baz=240
PMR Palmer 79.55 24 P P 06 14 25.4 -0.1
PMR IAmb IAmb 06 14 26.8
comp=Z,10.0nm,0.8s
PMR Palmer 79.55 24 P P 06 14 26.4 +1.0
PMR Palmer 79.55 24 P P 06 14 26.1 +0.7
baz=238,SNR=5.5
CHUM Lake Minchumin 79.62 21 P P 06 14 26.2 +0.5
baz=234,SNR=18
F19K Shaleruckik Mo 79.66 17 P P 06 14 27.0 +1.1
F19K Shaleruckik Mo 79.66 17 P P 06 14 26.8 +0.9
baz=229
H20K Anotleneega Mo 79.70 19 P P 06 14 26.8 +0.6
baz=232
KNK Knik Glacier 79.73 24 P P 06 14 26.7 +0.2
baz=238
GHO Glory Hole Cre 79.73 24 IAmb IAmb 06 14 28.1
comp=Z,9.6nm,0.7s
KTH Kantishna Hill 79.94 22 IAmb IAmb 06 14 28.2
comp=Z,11nm,0.8s
C18K Utukok River 79.95 15 IAmb IAmb 06 14 29.3
comp=Z,23nm,1.4s
C18K Utukok River 79.95 15 P P 06 14 28.0 +0.5
baz=225
SML Sawmill 79.99 24 P P 06 14 28.4 +0.5
baz=238,SNR=9.3
TRF Throfare Moun 80.11 22 P P 06 14 28.8 +0.2
baz=236,SNR=6.9
ZSN Zaisan 80.15 320 eP P 06 14 28.9 -0.1
comp=Z,11nm,0.9s,baz=320
BPAW Bear Paw Mtn. 80.22 21 P P 06 14 29.4 +0.3
BPAW Bear Paw Mtn. 80.22 21 P P 06 14 29.0 -0.1
baz=236,SNR=5.6
M23K Glacier View 80.23 24 P P 06 14 29.5 +0.3
baz=239
E19K Redstone River 80.23 17 IAmb IAmb 06 14 31.3
comp=Z,22nm,0.7s
E19K Redstone River 80.23 17 P P 06 14 29.8 +0.8
baz=229
B18K Kokolik River 80.31 14 P P 06 14 30.0 +0.7
baz=225,SNR=6.9
SCM Sheep Creek Mo 80.41 24 P P 06 14 30.8 +0.6
baz=239
F20K Avaraart Lake 80.42 18 P P 06 14 31.4 +1.4
baz=231
EYAK Cordova Ski Ar 80.43 26 P P 06 14 31.5 +1.3
baz=241
WAT1 Susitna Watana 80.44 23 P P 06 14 31.2 +0.9
baz=238
I21K Tanana 80.49 20 IAmb IAmb 06 14 33.5
comp=Z,11nm,0.8s
I21K Tanana 80.49 20 P P 06 14 31.5 +1.1
baz=235,SNR=15
H21K Melozitna Rive 80.49 20 P P 06 14 31.6 +1.1
baz=234
WAT6 Susitna Watana 80.63 23 P P 06 14 32.3 +0.9
baz=239,SNR=6.9
RND Reindeer 80.63 22 IAmb IAmb 06 14 32.6
comp=Z,13nm,0.7s
D19K Kuna River 80.67 16 IAmb IAmb 06 14 33.1
comp=Z,11nm,0.7s
D19K Kuna River 80.67 16 P P 06 14 32.1 +0.8
baz=228
C19K Lookout Ridge 80.69 15 P P 06 14 32.9 +1.4
C19K IAmb IAmb 06 14 33.7
comp=Z,20nm,0.8s
C19K Lookout Ridge 80.69 15 P P 06 14 32.3 +0.8
baz=227
MCK McKinley 80.78 22 P P 06 14 32.5 +0.5
baz=238,SNR=16
G21K Allakaket 80.78 19 P P 06 14 33.2 +1.2
baz=233
BWN Browne 80.82 22 IAmb IAmb 06 14 34.1
comp=Z,29nm,1.2s
KLU Klutina 80.82 25 IAmb IAmb 06 14 35.1
comp=Z,26nm,1.2s
KLU Klutina 80.82 25 P P 06 14 33.3 +0.9
baz=241,SNR=5.9
MLY Manley 80.84 21 IAmb IAmb 06 14 33.8
comp=Z,16nm,0.6s
MLY Manley 80.84 21 P P 06 14 33.0 +0.6
baz=236,SNR=19
M24K Tolsona, Glenn 81.02 24 IAmb IAmb 06 14 35.7
comp=Z,19nm,0.7s
M24K Tolsona, Glenn 81.02 24 P P 06 14 34.0 +0.6
baz=240
DHY Denali Highway 81.03 23 P P 06 14 34.8 +1.2
DHY Denali Highway 81.03 23 P P 06 14 34.0 +0.5
baz=239,SNR=9.4
E20K Nigu River 81.05 17 P P 06 14 34.3 +0.8
baz=230
H22K Ishtalitna Cre 81.11 20 P P 06 14 34.2 +0.5
baz=235
BMRM Bremner River 81.13 26 P P 06 14 34.4 +0.5
baz=242
NEA2 Nenana 81.19 21 IAmb IAmb 06 14 34.8
comp=Z,11nm,0.7s
NEA2 Nenana 81.19 21 P P 06 14 33.7 -0.4
baz=237,SNR=5.6
F21K Alatna River 81.21 18 P P 06 14 35.0 +0.8
baz=233
D20K Etivluk River 81.23 16 P P 06 14 35.3 +1.0
baz=230
BERG Berg Lake 81.25 26 IAmb IAmb 06 14 37.4
comp=Z,24nm,0.9s
I23K Minto, Yukon-K 81.39 21 P P 06 14 36.0 +0.9
I23K Minto, Yukon-K 81.39 21 P P 06 14 36.1 +0.9
baz=237,SNR=7.3
N25K Chitina, Valde 81.43 25 P P 06 14 36.1 +0.5
baz=242
HARP HAARP 81.58 24 P P 06 14 36.9 +0.6
baz=241
MKAR Makanchi Array 81.62 319 P P 06 14 36.6 -0.3
comp=Z,13nm,0.8s,baz=101,slow=6.3,SNR=28
MKAR pP pP 06 15 14.7 -1.8
comp=Z,2.3nm,0.8s,baz=103,slow=6.4,SNR=1.8
comp=Z,13nm,0.8s
CRQE Cirque 81.69 26 P P 06 14 37.2 +0.2
baz=243
GLB Gilahina Butte 81.69 25 P P 06 14 38.2 +1.3
GLB IAmb IAmb 06 14 38.9
comp=Z,13nm,0.8s
PAX Paxson 81.73 24 P P 06 14 37.7 +0.5
baz=241
VRDI Verde Repeater 81.75 26 IAmb IAmb 06 14 39.3
comp=Z,12nm,0.8s
COLA College 81.78 21 P P 06 14 37.6 +0.4
COLA College 81.78 21 P P 06 14 38.8 +1.6
COLA College 81.78 21 P P 06 14 37.4 +0.2
baz=238
E21K Killik River 81.81 17 P P 06 14 38.2 +0.9
E21K Killik River 81.81 17 P P 06 14 37.8 +0.4
baz=232
MAKZ Makanchi 81.83 319 P P 06 14 37.9 0.0
MAKZ IAmb IAmb 06 14 38.9
comp=Z,21nm,0.8s
HDA Harding Lake 81.88 22 P P 06 14 37.9 +0.2
HDA Harding Lake 81.88 22 P P 06 14 38.2 +0.4
baz=239,SNR=9.4
MESA MESA 81.94 27 P P 06 14 39.0 +0.6
baz=244
MCARA McCarthy VSAT 82.00 26 P P 06 14 40.0 +1.5
MCARA IAmb IAmb 06 14 41.1
comp=Z,12nm,0.8s
MCARA McCarthy VSAT 82.00 26 P P 06 14 38.6 +0.2
baz=243
K24K Donnelly Dome 82.02 23 P P 06 14 39.4 +0.8
baz=241,SNR=6.0
C21K Knifeblade Rid 82.02 16 P P 06 14 39.3 +0.9
baz=231
G23K Bananza Creek 82.02 19 P P 06 14 39.1 +0.6
G23K IAmb IAmb 06 14 40.4
comp=Z,10nm,0.8s
G23K Bananza Creek 82.02 19 P P 06 14 39.2 +0.7
baz=236
POKR Poker Plat Res 82.06 21 P P 06 14 38.7 0.0
baz=239
IL31 82.08 22 P P 06 14 38.9 +0.1
IL31 IAmb IAmb 06 14 39.5
comp=Z,9.8nm,0.7s
ILAR Eielson Array 82.08 22 P P 06 14 38.2 -0.6
comp=Z,8.0nm,0.6s,baz=245,slow=5.2,SNR=139
ILAR pP pP 06 15 16.8 -2.8
comp=Z,1.7nm,0.9s,baz=246,slow=5.7,SNR=2.2
comp=Z,8.0nm,0.6s
COLD Coldfoot 82.25 19 P P 06 14 39.8 +0.2
baz=236
E22K Anaktuvuk Pass 82.27 18 P P 06 14 40.6 +0.8
E22K IAmb IAmb 06 14 41.7
comp=Z,11nm,0.8s
E22K Anaktuvuk Pass 82.27 18 P P 06 14 40.0 +0.2
baz=234
H24K Noodor Dome 82.28 21 P P 06 14 40.7 +0.8
H24K Noodor Dome 82.28 21 P P 06 14 40.7 +0.8
baz=238,SNR=6.8
ZAA0 Zalesovo Array 82.34 326 P P 06 14 39.6 -0.7
ZAA0 IAmb IAmb 06 14 40.3
comp=Z,14nm,1.1s
ZALV Zalesovo Beam 82.34 326 P P 06 14 39.9 -0.5
comp=Z,6.2nm,0.5s,baz=116,slow=6.0,SNR=18
comp=Z,6.2nm,0.5s
RIDG Independent Ri 82.35 23 IAmb IAmb 06 14 41.8
comp=Z,18nm,1.0s
RIDG Independent Ri 82.35 23 P P 06 14 40.4 +0.1
baz=241
B21K Ikpikpuk River 82.36 16 IAmb IAmb 06 14 42.0
comp=Z,11nm,0.9s
B21K Ikpikpuk River 82.36 16 P P 06 14 40.6 +0.5
baz=232
BARN Barnard Glacie 82.45 26 P P 06 14 42.7 +1.6
BARN IAmb IAmb 06 14 43.7
comp=Z,8.4nm,0.7s
D22K Ayikyak River 82.45 17 IAmb IAmb 06 14 43.0
comp=Z,15nm,0.7s
D22K Ayikyak River 82.45 17 P P 06 14 41.9 +1.2
baz=234
M26K Nabesna, AK 82.47 25 P P 06 14 41.7 +0.8
baz=243
CTG Chitna Glacier 82.55 26 P P 06 14 42.2 +0.6
baz=245
CTGM Chitina Glacie 82.56 26 P P 06 14 41.6 +0.1
CTGM IAmb IAmb 06 14 44.1
comp=Z,21nm,1.3s
J25K Salcha River, 82.57 22 P P 06 14 41.4 0.0
J25K Salcha River, 82.57 22 P P 06 14 41.7 +0.2
baz=241
SHLS Shalkode 82.57 315 eP P 06 14 40.3 -1.7
baz=315
PINM Pinnacle 82.68 27 P P 06 14 42.9 +0.8
baz=246
SCRK Sand Creek 82.80 23 P P 06 14 42.9 +0.2
baz=242,SNR=9.3
G24K Hadweenzic Riv 82.87 20 IAmb IAmb 06 14 44.6
comp=Z,8.0nm,0.7s
G24K Hadweenzic Riv 82.87 20 P P 06 14 43.1 +0.2
baz=239
UZB Uzynbulak 82.88 315 eP P 06 14 43.5 -0.1
baz=314
PNL Peninsula 82.90 28 P P 06 14 43.0 -0.2
baz=247
E23K Chandalar 82.91 18 P P 06 14 43.7 +0.6
baz=236
M27K Edge Creek, AK 82.92 25 P P 06 14 43.9 +0.5
baz=244
A21K Barrow 82.93 14 P P 06 14 43.4 +0.4
baz=229
PRP Porcupine Dome 82.96 21 P P 06 14 44.3 +0.8
baz=241
D23K Nanushuk River 83.09 17 P P 06 14 45.6 +1.6

baz=235
F24K Squaw Lake 83.17 19 P P 06 14 45.8 +1.4
F24K IAmb IAmb 06 14 46.7
comp=Z,16nm,0.9s
F24K Squaw Lake 83.17 19 P P 06 14 45.6 +1.2
baz=238
J26L Joseph Creek 83.20 23 P P 06 14 45.3 +0.5
baz=243,SNR=11
L27K Beaver Creek, 83.25 24 P P 06 14 45.7 +0.8
L27K Beaver Creek, 83.25 24 P P 06 14 46.0 +1.1
baz=244,SNR=12
BCAR Beaver Creek A 83.27 24 P P 06 14 46.2 +1.2
YUK3 Moose Creek 83.28 26 P P 06 14 46.4 +1.1
baz=246,SNR=5.2
SATY Saty 83.30 314 eP P 06 14 45.6 -0.2
baz=314
ZHN Zhinishke 83.31 314 eP P 06 14 45.6 -0.2
baz=314
BVCY Beaver Creek 83.37 25 P P 06 14 46.7 +1.1
baz=245,SNR=6.0
G25K Bearman Lake 83.38 20 P P 06 14 47.4 +2.0
baz=240
YUK8 Steele Glacier 83.38 26 P P 06 14 47.0 +1.0
baz=246
O29M Mount Kennedy 83.53 28 P P 06 14 47.4 +0.8
baz=248
K27K Chicken 83.57 23 P P 06 14 48.2 +1.7
K27K IAmb IAmb 06 14 49.1
comp=Z,13nm,1.1s
K27K Chicken 83.57 23 P P 06 14 47.6 +1.1
baz=244
FYU Fort Yukon 83.58 21 P P 06 14 47.0 +0.5
FYU IAmb IAmb 06 14 48.2
comp=Z,8.4nm,0.6s
C23K Itkillik River 83.61 17 IAmb IAmb 06 14 48.7
comp=Z,21nm,0.9s
C23K Itkillik River 83.61 17 P P 06 14 47.5 +1.0
baz=235
P29M Windy Craggy 83.67 28 P P 06 14 47.9 +0.8
baz=248
D24K Happy Valley 83.75 18 P P 06 14 48.7 +1.4
D24K IAmb IAmb 06 14 49.5
comp=Z,13nm,0.8s
D24K Happy Valley 83.75 18 P P 06 14 48.3 +0.9
baz=237
TDK Taldyqorghan 83.76 316 eP P 06 14 47.8 -0.2
comp=Z,8.1nm,0.4s,baz=316
S31K Pelican 83.80 30 P P 06 14 48.7 +1.0
baz=250
YUK6 Outpost Mounta 83.87 27 P P 06 14 49.3 +0.9
baz=248
YUK4 Talbot Arm 83.90 27 P P 06 14 50.0 +1.5
baz=247,SNR=6.4
F25K Christian Rive 83.94 20 P P 06 14 49.9 +1.5
baz=240
SIT Sitka 83.96 31 P P 06 14 49.3 +0.7
baz=251
C24K Franklin Bluff 84.10 17 P P 06 14 49.6 +0.6
baz=237
P30M Million Dollar 84.21 28 P P 06 14 50.7 +0.8
baz=249
HYT Haines Junctio 84.22 27 IAmb IAmb 06 14 52.6
comp=Z,9.9nm,0.7s
HYT Haines Junctio 84.22 27 P P 06 14 50.9 +0.9
baz=248,SNR=14
BMAR Burnt Mountain 84.22 20 P P 06 14 51.3 +1.5
E25K Arctic Village 84.23 19 P P 06 14 50.8 +1.0
baz=240
EGAK Eagle 84.25 23 P P 06 14 51.0 +1.0
EGAK IAmb IAmb 06 14 51.9
comp=Z,18nm,1.1s
EGAK Eagle 84.25 23 P P 06 14 50.6 +0.6
baz=245,SNR=18
PLBC Pleasant Camp 84.26 29 P P 06 14 51.0 +0.9
baz=250
G26K Porcupine Rive 84.27 20 P P 06 14 50.9 +1.0
baz=242
MDOK Medeo 84.29 314 eP P 06 14 50.7 -0.1
baz=314
KSH Kashi 84.32 310 P P 06 14 53.0 +2.0
KSH pmax pmax
comp=Z,23nm,0.9s
TNSS Tian-Shan 84.34 314 eP P 06 14 51.1 -0.3
baz=314
AAA Alma-Ata 84.40 314 eP P 06 14 51.1 -0.2
comp=Z,12nm,0.4s,baz=314
M29M Somme Creek 84.41 26 P P 06 14 52.4 +1.5
baz=247
I27K Kandik River 84.44 22 P P 06 14 52.0 +1.1
baz=244
S32K Killisnoo 84.48 31 P P 06 14 52.3 +1.2
baz=251
CHKK Chushkaly 84.49 315 eP P 06 14 50.8 -0.9
baz=315
F26K Sheenjek River 84.50 20 P P 06 14 52.4 +1.3
baz=242
D25K Kavik River 84.58 18 P P 06 14 51.8 +0.3
baz=240
CRAG Craig 84.62 33 P P 06 14 53.5 +1.6
baz=253
N30M Aishikik Lake 84.64 27 P P 06 14 53.7 +1.7
baz=249
DAWY Dawson 84.66 24 P P 06 14 53.0 +0.9
baz=246,SNR=8.0
QSPA South Pole Qui 84.68 180 P P 06 14 52.0 -0.3
QSPA South Pole Qui 84.68 180 P P 06 14 52.0 -0.3
comp=Z,18nm,0.7s,baz=350,slow=0.9,SNR=62
QSPA pP pP 06 15 31.3 -1.8
comp=Z,6.2nm,0.7s,baz=304,slow=0.5,SNR=2.7
comp=Z,18nm,0.7s
NRN Naryn 84.69 312 IAmb IAmb 06 14 54.5
comp=Z,15nm,1.4s
SKAG Skagway 84.76 29 P P 06 14 53.7 +1.2
baz=250
L29M L29M 84.80 25 P P 06 14 53.9 +1.0
L29M IAmb IAmb 06 14 55.3
comp=Z,10nm,0.7s
L29M L29M 84.80 25 P P 06 14 53.7 +0.9
baz=248
U33K Whale Pass 84.82 32 P P 06 14 54.0 +1.1
baz=253
O30N Mendenhall 84.85 28 P P 06 14 54.3 +1.2
O30N Mendenhall 84.85 28 P P 06 14 54.1 +1.0
baz=250
BOOM Boomskoye usch 84.95 313 IAmb IAmb 06 14 55.6
comp=Z,16nm,0.8s
KUU Kurty 84.95 315 eP P 06 14 53.6 -0.4
comp=Z,10nm,0.7s,baz=315
I28M Miner Creek 85.01 23 P P 06 14 54.5 +0.6
I28M Miner Creek 85.01 23 P P 06 14 54.7 +0.9
baz=246,SNR=10.0
KURK Kurchatov 85.02 322 P P 06 14 53.6 -0.4
KURK IAmb IAmb 06 14 54.5
comp=Z,12nm,0.8s
KURBB Kurchatov Arra 85.05 322 P P 06 14 53.3 -0.9
comp=Z,4.1nm,0.6s,baz=105,slow=3.8,SNR=14
KURBB pP pP 06 15 35.5 +1.1
comp=Z,5.1nm,0.9s,baz=113,slow=4.1,SNR=5.9
comp=Z,4.1nm,0.6s
M30M Minto, Yukon 85.17 26 P P 06 14 55.3 +0.6
M30M IAmb IAmb 06 14 56.9
comp=Z,15nm,1.3s
M30M Minto, Yukon 85.17 26 P P 06 14 56.0 +1.3
baz=249,SNR=10.0
J29N Klondike Camp 85.28 24 P P 06 14 56.6 +1.5
J29N IAmb IAmb 06 14 57.9
comp=Z,12nm,0.8s
J29N Klondike Camp 85.28 24 P P 06 14 56.7 +1.5
baz=248,SNR=11
WRAK Wrangell Islan 85.32 32 P P 06 14 57.2 +1.8
baz=253
C26K Camden Bay 85.33 18 P P 06 14 57.2 +2.0
baz=241
K29M Barlow Dome 85.33 24 P P 06 14 56.4 +0.8
K29M IAmb IAmb 06 14 58.5
comp=Z,18nm,0.9s
K29M Barlow Dome 85.33 24 P P 06 14 57.4 +1.8
baz=248
WHY Whitehorse 85.37 28 P P 06 14 56.6 +0.9
baz=251
V35K Ketchikan 85.41 33 P P 06 14 56.7 +0.8
baz=254
NIL Nilore 85.41 304 P P 06 14 56.4 -0.1
P32M Atlin 85.58 29 P P 06 14 57.0 +0.2
baz=252
MAW Mawson 85.66 203 P P 06 14 56.6 -0.3
MAW IAmb IAmb 06 14 57.5
comp=Z,11nm,0.7s
MAW Mawson 85.66 203 P P 06 14 56.9 0.0
comp=Z,47nm,0.7s,baz=104,slow=6.1,SNR=37
comp=Z,47nm,0.7s
H29M Whitestone 85.91 22 P P 06 14 59.2 +1.0
H29M Whitestone 85.91 22 P P 06 14 59.4 +1.2
baz=247
MAYO Mayo, Yukon 85.92 25 P P 06 14 59.3 +1.0
baz=250,SNR=10
F28M Old Crow 85.92 21 IAmb IAmb 06 15 00.7
comp=Z,11nm,0.8s
F28M Old Crow 85.92 21 P P 06 14 59.2 +1.0
baz=246
AAK Ala-Archa 86.02 313 P P 06 14 59.4 0.0
AAK Ala-Archa 86.02 313 P P 06 14 59.5 0.0
comp=Z,3.2nm,0.7s,baz=134,slow=7.0,SNR=6.7
AAK pP pP 06 15 37.8 -1.7
comp=Z,3.1nm,0.8s,baz=130,slow=5.0,SNR=4.2
comp=Z,3.2nm,0.7s
J30M Hart River 86.08 24 P P 06 15 00.7 +1.5
J30M IAmb IAmb 06 15 02.1
comp=Z,15nm,0.8s
J30M Hart River 86.08 24 P P 06 15 00.0 +0.8
baz=249
Q32M Nakina River 86.09 30 P P 06 14 59.8 +0.4
baz=253
M31M Drury Creek, Y 86.10 26 P P 06 15 00.3 +1.1
M31M Drury Creek, Y 86.10 26 P P 06 14 58.7 -0.5
baz=251,SNR=12
P33M Teslin, Yukon 86.20 29 P P 06 14 59.9 +0.1
baz=253
I30M Mount Dempster 86.30 23 P P 06 15 01.0 +0.7
I30M IAmb IAmb 06 15 02.0
comp=Z,12nm,0.8s
I30M Mount Dempster 86.30 23 P P 06 15 01.6 +1.4
baz=249
N32M Quiet Lake 86.36 28 IAmb IAmb 06 15 03.2
comp=Z,12nm,0.8s
N32M Quiet Lake 86.36 28 P P 06 15 00.8 +0.2
baz=252
S34M Telegraph Cree 86.37 31 P P 06 15 01.8 +1.2
S34M Telegraph Cree 86.37 31 P P 06 15 01.3 +0.7
baz=254,SNR=5.0
U35K Hyder 86.43 33 P P 06 15 01.5 +0.6
baz=255
FARO Faro, Yukon 86.57 27 P P 06 15 02.1 +0.6
baz=252,SNR=8.5
EPYK Eagle Plains 86.58 22 P P 06 15 02.5 +1.0
EPYK Eagle Plains 86.58 22 P P 06 15 02.2 +0.7
baz=249,SNR=21
BTLS Baital 86.79 316 eP P 06 15 02.4 -0.5
baz=316
R33M Jennings River 86.86 30 P P 06 15 03.7 +0.5
baz=254
E29M Blow River 86.92 20 P P 06 15 03.0 -0.1
E29M Blow River 86.92 20 P P 06 15 03.6 +0.5
baz=248
G30M tAoh Zraii Nji 86.99 22 P P 06 15 03.9 +0.5
G30M IAmb IAmb 06 15 04.8
comp=Z,16nm,1.1s
G30M tAoh Zraii Nji 86.99 22 P P 06 15 03.5 0.0
baz=249
D28M Stokes Point 87.00 19 P P 06 14 04.7 +1.3
baz=247
DLBC Dease Lake 87.08 31 P P 06 15 04.3 +0.2
baz=255
H31M Peel River 87.30 23 P P 06 15 05.2 +0.3
H31M IAmb IAmb 06 15 06.6
comp=Z,23nm,1.2s
H31M Peel River 87.30 23 P P 06 15 04.8 -0.1
baz=251
F30M Barrier River 87.37 21 P P 06 15 05.5 +0.3
baz=250
G31M Satah River 87.69 22 IAmb IAmb 06 15 08.2
comp=Z,14nm,1.0s
G31M Satah River 87.69 22 P P 06 15 06.9 +0.2
baz=251,SNR=11
F31M Tsiigehtchic 88.05 22 P P 06 15 08.8 +0.3
F31M IAmb IAmb 06 15 10.6
comp=Z,10nm,1.4s
F31M Tsiigehtchic 88.05 22 P P 06 15 08.9 +0.5
baz=251,SNR=5.7
WTLY Watson Lake, Y 88.11 29 IAmb IAmb 06 15 11.2
comp=Z,14nm,1.4s
WTLY Watson Lake, Y 88.11 29 P P 06 15 09.8 +0.8
baz=256
BTK Batken 88.33 310 P P 06 15 10.5 +0.1
BTK IAmb IAmb 06 15 11.2
comp=Z,8.4nm,0.9s
YBH Yreka Blue Hor 88.33 48 LR LR 06 51 22.8
comp=Z,104nm,18.1s,baz=16,slow=33
DZA Taraz 88.36 313 eP P 06 15 10.0 -0.5
baz=313
INK Inuvik 88.41 21 P P 06 15 10.4 +0.4
INK Inuvik 88.41 21 P P 06 15 10.3 +0.2
baz=252,SNR=7.4
BRZS Berezniki 88.58 320 eP P 06 15 09.8 -1.6
baz=320
TGTN Hyland Airport 88.69 28 P P 06 15 12.7 +1.0
baz=257
KKAR Karatay Array 88.99 313 P P 06 15 12.3 -1.1
KBL Kabul 89.00 305 P P 06 15 12.7 -1.3
IUG Iuzhnay 89.21 312 eP P 06 15 13.2 -1.4
baz=312
BRLS Borolday 89.47 313 eP P 06 15 14.9 -0.8
baz=313
SIMJ Simiganj 89.53 309 P P 06 15 16.1 -0.1
SIMJ IAmb IAmb 06 15 17.2
comp=Z,12nm,1.0s
CHM Chimkent 89.54 312 eP P 06 15 14.7 -1.3
comp=Z,7.7nm,0.6s,baz=312
PKM Mcpherson Peak 89.69 55 P P 06 15 18.0 +0.9
baz=263
SBC Santa Barbara 89.72 56 P P 06 15 16.3 -0.7
baz=263
SCZ2 Santa Cruz Isl 89.74 56 P P 06 15 17.4 +0.3
baz=264
VES Vestal, Richgr 90.39 54 P P 06 15 20.5 +0.4
baz=264
KOTAN Kotaneelee Air 90.44 30 P P 06 15 21.4 +1.6
baz=260
BVAR Borovoye Array 90.47 323 P P 06 15 18.8 -1.3
comp=Z,5.6nm,0.5s,baz=107,slow=5.1,SNR=21
BVAR pP pP 06 15 59.7 -0.8
comp=Z,9.2nm,0.8s,baz=104,slow=6.3,SNR=8.8
comp=Z,5.6nm,0.5s
SCI2 San Clemente I 90.53 57 P P 06 15 20.7 -0.2
baz=264
BRVK Borovoye 90.54 323 P P 06 15 18.4 -1.9
BRVK IAmb IAmb 06 15 19.8
comp=Z,9.8nm,1.2s
ISA Isabella, Lake 90.87 54 P P 06 15 23.1 +0.7
baz=264
WRGLY Wrigley 91.23 27 P P 06 15 25.0 +1.7
baz=261
CWC Cottonwood Cre 91.26 54 P P 06 15 25.3 +0.9
baz=264
NVAR Mina Array Bea 91.28 52 P P 06 15 23.9 -0.6
comp=Z,1.0nm,0.8s,baz=249,slow=6.1,SNR=9.4
NVAR pP pP 06 16 06.8 +0.8
comp=Z,1.4nm,0.9s,baz=254,slow=6.5,SNR=4.3
NVAR LR LR 06 49 38.7
comp=Z,58nm,19.2s,baz=124,slow=31
comp=Z,1.0nm,0.8s
BFSC Mount Baldy Ra 91.39 56 P P 06 15 25.7 +0.7
baz=265
LRMC Laurel Mtn Rad 91.49 55 P P 06 15 25.2 -0.2
baz=265
MPMC Manual Prospec 91.70 54 P P 06 15 26.1 -0.4
baz=265
MZP Montezuma Peak 91.93 52 P P 06 15 28.0 +0.5
C36M Paulatuk 91.99 21 P P 06 15 26.3 -0.4
C36M IAmb IAmb 06 15 27.4
comp=Z,4.9nm,0.8s
C36M Paulatuk 91.99 21 P P 06 15 26.8 +0.1
baz=260
RRX Edison Barstow 92.00 55 P P 06 15 27.5 -0.1
baz=265
BBRC Big Bear Solar 92.00 56 P P 06 15 28.0 +0.1
baz=265
A36M Sachs Harbour 92.07 18 P P 06 15 27.2 +0.1
A36M Sachs Harbour 92.07 18 P P 06 15 26.9 -0.1
baz=259
TPH Tonopah 92.09 52 P P 06 15 29.3 +1.1
TKX Tecate 92.12 58 P P 06 15 29.4 +1.1
E09A Wood Farm, Sta 92.17 44 P P 06 15 28.5 +0.4
E09A IAmb IAmb 06 15 29.6
comp=Z,8.0nm,1.3s
FURC Furnace Creek, 92.24 54 P P 06 15 28.8 +0.1
baz=265
MONP2 Monument Peak 92.30 57 P P 06 15 29.1 -0.3
baz=265
PFO Pinyon Flats O 92.33 57 P P 06 15 29.5 +0.2
baz=265
TPFO Pinon Flats 92.34 57 P P 06 15 29.4 +0.1
baz=265
HEC Hector,Ludlow 92.53 55 P P 06 15 30.3 +0.2
baz=265
R11B Troy Canyon, C 93.40 52 P P 06 15 34.3 +0.1
baz=266
YKA Yellowknife Ar 95.20 28 P P 06 15 41.9 +0.3
comp=Z,0.6nm,0.5s,baz=274,slow=4.6,SNR=15
YKA pP pP 06 16 22.4 -0.6
comp=Z,0.9nm,0.8s,baz=269,slow=4.7,SNR=5.2
comp=Z,0.6nm,0.5s
214A Organ Pipe Nat 95.29 58 P P 06 15 42.5 -0.3
baz=267
ELIB Princess Elisa 96.67 194 dP P 06 15 47.3 -1.1
comp=Z,5.1nm,0.9s
PDAR Pinedale Array 98.14 48 PP PP 06 19 55.6 -1.6
comp=Z,1.0nm,0.9s,baz=252,slow=4.4,SNR=6.0
PDAR LR LR 06 56 37.0
comp=Z,64nm,18.2s,baz=93,slow=33
MDND Maddock 104.75 42 P Pdif 06 16 25.0 +0.3
baz=279
SUSD Miller 105.69 45 P PKiKP 06 20 41.4 +0.2
baz=278
CBKS Cedar Bluff 105.80 51 P PKiKP 06 20 41.0 -0.6
baz=276
JCT Junction City 106.44 60 P PKiKP 06 20 42.5 -0.5
baz=274
BGNE Belgrade 106.69 48 P PKiKP 06 20 42.4 -0.8
baz=278
833A Chaparral WMA, 106.92 62 P PKiKP 06 20 42.8 -1.1
baz=273
AGMN Agassiz Nation 107.14 41 P PKiKP 06 20 42.6 -1.1
baz=282
ARCES ARCESS Array B 107.74 343 PKiKP PKiKP 06 20 43.0 -1.3
comp=Z,6.6nm,1.1s,baz=83,slow=1.7,SNR=7.6
435B Jarrell 108.32 59 P PKiKP 06 20 45.7 -0.8
baz=275
WHTX Lake Whitney, 108.32 58 P PKiKP 06 20 45.9 -0.5
baz=275
TUL3 Leonard 109.26 54 P PKiKP 06 20 47.3 -0.8
baz=278
FINES FINESS Array B 112.07 336 PKiKP PKiKP 06 20 51.6 -1.0
comp=Z,0.5nm,0.4s,baz=98,slow=5.8,SNR=5.6
CCM Cathedral Cave 112.50 51 P PKiKP 06 20 53.3 -0.8
baz=281
L44A Lake County Fo 114.04 46 P PKPdf 06 20 56.4 -0.5
baz=286
OXF Oxford 114.64 54 P PKPdf 06 20 57.5 -0.8
baz=281
SFIN Lafayette 115.11 48 P PKiKP 06 20 58.3 -0.8
baz=285
GLMI Grayling 115.54 42 P PKiKP 06 20 59.1 -0.7
baz=289
WVT Waverly 115.57 52 P PKPdf 06 20 60.0 -0.1
baz=283
AKASG Malin Array Be 115.71 325 PKP PKPdf 06 20 58.5 -1.4
comp=Z,0.9nm,0.4s,baz=44,slow=2.7,SNR=9.4
WCI Wyandotte Cave 116.27 50 P PKPdf 06 21 01.3 -0.1
baz=285
O48B Farmland 116.56 47 P PKPdf 06 21 01.9 -0.1
baz=287
LRAL Lakeview Retre 116.91 56 P PKPdf 06 21 02.5 -0.2
baz=282
AAM Ann Arbor 117.02 45 P PKPdf 06 21 02.8 +0.1
baz=289
P49A Miami Univ. Ec 117.10 48 P PKPdf 06 21 01.6 -1.3
baz=287
BRAL Brewton 117.23 58 P PKPdf 06 21 02.4 -1.0
baz=281
HFS Hagfors 117.64 339 PKP PKPdf 06 21 01.7 -1.6
comp=Z,2.0nm,1.0s,baz=56,slow=5.7,SNR=1.4
NOA NORSAR Array B 117.84 341 PKP PKPdf 06 21 02.7 -1.1
comp=Z,0.4nm,0.6s,baz=78,slow=2.1,SNR=1.9
ACSO Alum Creek Sta 118.16 47 P PKPdf 06 21 03.8 -1.2
baz=288
PLCA Paso Flores 118.54 142 PKP PKPdf 06 21 05.2 -0.7
comp=Z,0.5nm,0.4s,baz=280,slow=5.0,SNR=3.2
TZTN Tazewell 118.82 51 P PKPdf 06 21 05.5 -0.9
baz=286
P52A Corning 118.97 47 P PKPdf 06 21 05.2 -1.4
baz=289
M53A WI Miller and 119.41 45 P PKPdf 06 21 06.5 -0.9
baz=291
O53A New Philadelph 119.43 46 P PKPdf 06 21 06.0 -1.5
baz=290
ERPA Erie 119.64 44 P PKPdf 06 21 06.2 -1.5
baz=292
GOGA Godfrey 119.70 54 P PKPdf 06 21 06.4 -1.7
baz=284
TIGA Tifton 120.07 57 P PKPdf 06 21 07.0 -1.9
baz=283
SCHQ Schefferville 120.61 26 PKP PKPdf 06 21 07.9 -1.4
comp=Z,2.5nm,0.9s,baz=297,slow=6.8,SNR=2.5
MCWV Mont Chateau 120.62 47 P PKPdf 06 21 07.9 -1.8
baz=291
KMSC Kings Mountain 120.94 52 P PKPdf 06 21 09.2 -1.3
baz=287
BLA Blacksburg 121.02 49 P PKPdf 06 21 08.5 -2.1
baz=289
SSPA Standing Stone 121.66 45 P PKPdf 06 21 09.7 -2.0
baz=293
LONY Lake Ozonia 122.18 39 P PKPdf 06 21 11.3 -1.3
baz=298
BINY Binghamton 122.34 43 P PKPdf 06 21 11.5 -1.5
baz=295
NHSC New Hope 122.44 54 P PKPdf 06 21 12.0 -1.4
baz=286
DWPF Disney Wildern 122.64 60 P PKPdf 06 21 11.6 -2.3
baz=283
CBN Corbin Frederi 122.94 47 P PKPdf 06 21 13.7 -0.5
baz=292
CNNC Cliffs of the 123.59 51 P PKPdf 06 21 14.8 -0.7
baz=290
CLL Collm 123.95 332 ePKPdf PKiKP 06 21 17.0 +1.0
LBNH Lisbon 124.03 39 P PKPdf 06 21 15.5 -0.7
baz=300
PAL Palisades 124.26 43 P PKPdf 06 21 15.5 -1.2
baz=296
L61B Northampton 124.42 41 P PKPdf 06 21 15.8 -1.2
baz=298
PKME Peaks-Kenny Pk 125.09 36 P PKPdf 06 21 17.0 -1.1
baz=303
HRV Adam Dziewonsk 125.12 40 P PKPdf 06 21 17.1 -1.2
baz=299
GERES GERESS Array B 125.20 329 PKP PKPdf 06 21 18.1 -0.2
comp=Z,1.2nm,0.5s,baz=50,slow=3.4,SNR=5.4
M65A Busby, Falmout 126.17 41 P PKPdf 06 21 19.2 -1.1
baz=300
EKA Eskdalemuir Ar 126.89 344 PKP PKPdf 06 21 20.7 -0.5
comp=Z,0.4nm,0.4s,baz=17,slow=2.6,SNR=6.5
LPAZ La Paz 132.95 118 PKP PKPdf 06 21 34.7 +0.1
comp=Z,2.3nm,0.6s,baz=266,slow=4.3,SNR=11
CPUP Villa Florida 136.16 137 PKP PKPdf 06 21 38.0 -1.7
comp=Z,1.4nm,0.7s,baz=356,slow=3.8,SNR=4.4
MDT Midelt 146.23 327 PKPbc PKPdf 06 21 57.6 0.0
comp=Z,4.0nm,0.5s,baz=172,slow=0.2,SNR=14
BDFB Brasilia 149.72 134 PKP PKPdf 06 22 04.2 +0.5
comp=Z,7.2nm,0.5s,baz=274,slow=2.1,SNR=14
BDFB PKPbc PKPbc 06 22 07.9 -0.7
comp=Z,7.2nm,0.5s,baz=279,slow=2.0,SNR=12
TORD Torodi Ar. Bea 151.79 288 PKPbc PKPbc 06 22 12.2 -1.2
comp=Z,5.6nm,0.7s,baz=41,slow=3.4,SNR=26
TORD pPKPbc pPKPbc 06 22 53.5 -2.5
comp=Z,3.6nm,0.6s,baz=50,slow=3.1,SNR=3.4
KIC Kosan Boka 159.04 274⇑ ePKP1 PKPab 06 22 52.8 -1.3
comp=Z,21nm,0.8s
DBIC Dimbokro 159.14 275 PKPab PKPab 06 22 54.2 -0.3
comp=Z,5.5nm,0.6s,baz=81,slow=6.3,SNR=8.9
TIC Toumodi 159.30 275⇑ PKP1 PKPab 06 22 53.9 -1.3
comp=Z,3.6nm,0.2s
LIC Lamto 159.32 274⇑ ePKP1 PKPab 06 22 53.6 -1.7
comp=Z,28nm,0.8s

*IDC **05** 06:05:48.4±0.7,35°.37N×22°.27E,h0km,mb4.1/18, mbtmp4.0/26,ML3.8/8,MS3.5/18,Error ellipse: s-maj=14.9km s-min=13.1km az=134.0*
*MED_RC **05** 06:05:49.0±0.8,35°.15N×22°.11E,h20km±2km,MW4.2/9, Moment Tensor Solution.Mantle waves: s9,c10; Duration: 1s0 Moment tensor: Scale 10¹⁵Nm; Mrr2.19±.53; Mθθ-2.47±.41; Mϕϕ0.28±.37; Mrθ-0.43±.35; Mθϕ-0.69±.21;*

$M_{6/7}$-0.03±.31; Best double couple: $M_0$2.45000×10^{15} NP1:$\phi_{\pm}$259.00000°, δ50.00000°, λ93.00000°. NP2: $\phi_{\pm}$74.00000°, δ40.00000°, λ87.00000°. Principal axes: T 2.2300, Plg84.0000°, Azm191.0000°; N 0.4400, Plg2.0000°, Azm77.0000°; P -2.6700, Plg5.0000°, Azm347.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.

*NEIC **05** 06:05:50.2±2.7, 35°.33N±0'.08×22°.19E±0'.07, h10^{km}±1^{km}, mb4.5/27 Error ellipse: s-maj=14.6km s-min=8.8km az=198.0*

*ATH **05** 06:05:52.2, 35°.28N×22°.28E, h5^{km}±2^{km}, ML3.8/8, Error ellipse: s-maj=3.0km s-min=1.4km az=23.0*

*PDG **05** 06:05:54.3±0.4, 35°.23N×22°.13E, h12^{km}±3^{km}, ML4.3/12, Error ellipse: s-maj=2.1km s-min=2.1km az=0.0*

*THE **05** 06:05:54.2, 35°.39N×22°.30E, h14^{km}±2^{km}, ML3.7/13, Error ellipse: s-maj=2.4km s-min=0.7km az=225.0*

*NAO **05** 06:06:20.5, 38°.61N×23°.51E, h33^{km}, mb3.5*

ISC 05 06:05:49.7±1.0, 35°.37N±0'.03×22°.22E±0'.03, h10^{km}±6^{km}, n275, σ1°91/306, mb4.4/34, MS3.4/13, 15C-24D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**1.01**	**60**	P		**Pn**	**06 06 11.1**	**+1.2**
ANKY				S		**Sn**	**06 06 25.8**	**+1.6**
	7μm,0.8s							
ANKY	**Antikythira Is**	**1.01**	**60**	P		**Pn**	**06 06 10.8**	**+0.9**
ANKY				S		**Sn**	**06 06 25.5**	**+1.3**
ANKY				AML	AML		06 06 31.4	
	comp=N,12523μm,0.7s							
ANKY				AML	AML		06 06 32.5	
	comp=E,14952μm,0.9s							
RODP	**Rodopos**	**1.27**	**81**	P		**Pn**	**06 06 16.1**	**+2.6**
RODP				S		**Sn**	**06 06 32.8**	**+2.2**
	comp=E,898nm,0.7s							
IMMV	**Iera Moni Meta**	**1.44**	**86**	P		**Pg**	**06 06 18.2**	**+0.9**
IMMV				S		**Sg**	**06 06 36.2**	**+0.3**
	comp=E,4μm,0.6s							
IMMV	**Iera Moni Meta**	**1.44**	**86**	P		**Pg**	**06 06 17.5**	**+0.2**
IMMV				S		**Sg**	**06 06 36.0**	**0.0**
IMMV				AML	AML		06 06 49.7	
	comp=E,10382μm,0.7s							
IMMV				AML	AML		06 07 00.4	
	comp=N,8607μm,0.6s							
VLI	**Veliai**	**1.46**	**23**	P		**Pg**	**06 06 19.1**	**+1.4**
VLI				S		**Sg**	**06 06 37.2**	**+0.4**
	comp=N,2μm,0.8s							
VLI	**Veliai**	**1.46**	**23**	P		**Pg**	**06 06 19.2**	**+1.4**
VLI				S		**Sg**	**06 06 38.6**	**+1.8**
VLI				AML	AML		06 06 54.2	
	comp=E,4847μm,0.9s							
VLI				AML	AML		06 06 56.4	
	comp=N,3486μm,0.6s							
CHAN	**Chania**	**1.49**	**84**	P		**Pg**	**06 06 18.7**	**+0.4**
CHAN				S		**Sg**	**06 06 38.0**	**+0.3**
CHAN				AML	AML		06 06 50.4	
	comp=N,6292μm,0.7s							
CHAN				AML	AML		06 06 51.2	
	comp=E,9833μm,0.6s							
PYL	**PYLOS**	**1.57**	**346**	P		**Pg**	**06 06 20.6**	**+0.8**
PYL				S		**Sg**	**06 06 41.7**	**+1.5**
	comp=E,1μm,0.8s							
PYL	**PYLOS**	**1.57**	**346**	P		**Pg**	**06 06 20.2**	**+0.3**
PYL				AML	AML		06 06 59.9	
	comp=E,2948μm,0.8s							
PYL				AML	AML		06 07 02.8	
	comp=N,1980μm,0.7s							
GVD	**Gavdhos**	**1.62**	**109**	P		**Pg**	**06 06 20.1**	**-0.6**
GVD				S		**Sg**	**06 06 41.7**	**0.0**
	comp=N,3μm,0.5s							
GVD	**Gavdhos**	**1.62**	**109**	P		**Pb**	**06 06 19.7**	**+0.1**
PRNS	**Prines Rethymn**	**1.86**	**89**	P		**Pb**	**06 06 23.3**	**-0.5**
PRNS				S		**Sn**	**06 06 45.6**	**+0.4**
	comp=N,615nm,0.6s							
TMBK	**Timbaki Herakl**	**2.10**	**97**	P		**Pn**	**06 06 26.3**	**+1.4**
KRND	**KRANIDI**	**2.14**	**20**	P		**Pb**	**06 06 28.4**	**-0.2**
KRND				S		**Sb**	**06 06 55.0**	**-0.3**
	comp=N,905nm,1.1s							
IDI	**Anoyia**	**2.18**	**91**	Pn		**Pb**	**06 06 28.4**	**-0.9**
IDI				Sn		**Sb**	**06 06 55.1**	**-1.3**
IDI	**Anoyia**	**2.18**	**91**	P		**Pb**	**06 06 28.3**	**-1.0**
IDI				S		**Sb**	**06 06 55.6**	**-0.8**
	comp=N,620nm,0.6s							
IDI	**Anoyia**	**2.18**	**91**	P		**Pb**	**06 06 27.9**	**-1.4**
IDI				S		**Sn**	**06 06 53.8**	**+0.5**
IDI				AML	AML		06 07 17.3	
	comp=E,1915μm,0.7s							
IDI				AML	AML		06 07 19.7	
	comp=N,1090μm,0.6s							
MHLO	**Agia Marina, M**	**2.20**	**53**	P		**Pb**	**06 06 29.2**	**-0.4**
MHLO				S		**Sb**	**06 06 55.5**	**-1.5**
	comp=N,5μm,0.9s							
MHLO	**Agia Marina, M**	**2.20**	**53**	P		**Pb**	**06 06 28.8**	**-0.8**
MHLO				AML	AML		06 07 16.0	
	comp=E,6586μm,1.0s							
MHLO				AML	AML		06 07 18.8	
	comp=N,10127μm,1.1s							
KSTL	**Kastelli Herak**	**2.33**	**91**	P		**Pg**	**06 06 33.4**	**-0.9**
GUR	**Goura**	**2.56**	**2**	P		**Pb**	**06 06 34.9**	**-0.9**
GUR				S		**Sb**	**06 07 06.0**	**-1.5**
	comp=N,792nm,0.5s							
GUR	**Goura**	**2.56**	**2**	P		**Pb**	**06 06 35.8**	**-0.1**
LTHK	**Lithakia**	**2.59**	**335**	P		**Pb**	**06 06 35.1**	**-1.1**
DRO	**Drossia**	**2.61**	**351**	P		**Pb**	**06 06 35.2**	**-1.4**
DRO				S		**Sb**	**06 07 07.6**	**-1.2**
	comp=N,1μm,0.7s							
DRO	**Drossia**	**2.61**	**351**	P		**Pb**	**06 06 36.5**	**-0.1**
KLV	**Kalavryta, Ach**	**2.67**	**359**	P		**Pb**	**06 06 36.2**	**-1.4**
KLV				S		**Sb**	**06 07 08.1**	**-2.4**
	comp=N,472nm,0.8s							
KLV	**Kalavryta, Ach**	**2.67**	**359**	P		**Pb**	**06 06 37.2**	**-0.5**
LTK	**Loutraki**	**2.71**	**12**	P		**Pb**	**06 06 37.7**	**-0.6**
RLS	**Riolos of Patr**	**2.75**	**347**	P		**Pb**	**06 06 38.5**	**-0.4**
ATH	**Athens Observa**	**2.86**	**24**	P		**Pb**	**06 06 38.7**	**-2.1**
PTL	**Penteli**	**2.98**	**26**	P		**Pb**	**06 06 40.9**	**-2.0**
DION	**Dionisos Attik**	**3.03**	**26**	P		**Pb**	**06 06 41.9**	**-1.9**
EFP	**Efpalio**	**3.06**	**355**	P		**Pb**	**06 06 43.2**	**-1.1**
VLS	**Valsamata**	**3.09**	**335**	P		**Pn**	**06 06 41.7**	**+3.1**
APE	**Apeiranthos**	**3.17**	**57**	⇑P		**Pb**	**06 06 43.5**	**-2.5**
APE	**Apeiranthos**	**3.17**	**57**	P		**Pn**	**06 06 41.6**	**+1.9**
ANX	**Ano Chora**	**3.23**	**356**	P		**Pb**	**06 06 45.0**	**-2.1**
ZKR	**Zakros**	**3.28**	**93**	P		**Pn**	**06 06 43.1**	**+2.0**
ZKR				AML	AML		06 07 56.0	
	comp=E,1029μm,1.3s							
ZKR				AML	AML		06 07 57.9	
	comp=N,211μm,1.0s							
PVO	**Paravola**	**3.29**	**350**	P		**Pb**	**06 06 46.3**	**-1.8**
FSK	**Fiskardo**	**3.36**	**337**	P		**Pn**	**06 06 45.5**	**+3.3**
EVR	**Evrytania**	**3.56**	**355**	P		**Pb**	**06 06 50.4**	**-2.3**
KYMI	**Kymi, Euboea I**	**3.59**	**24**	P		**Pn**	**06 06 47.8**	**+2.4**
AGG	**Agios Georgios**	**3.65**	**1**	Pn		**Pn**	**06 06 49.9**	**+3.6**
KARP	**Karpathos**	**4.03**	**86**	Pn		**Pn**	**06 06 53.2**	**+1.6**
KARP	**Karpathos**	**4.03**	**86**	P		**Pn**	**06 06 52.8**	**+1.2**
KEK	**Kerkira**	**4.74**	**337**	Pn		**Pn**	**06 07 00.3**	**-1.0**
ARG	**Arkhangelos**	**4.87**	**78**	Pn		**Pn**	**06 07 04.9**	**+1.8**
KBN	**Korca**	**5.37**	**348**			**Pn**	**06 07 13.6**	**+3.7**
FNA	**Florina**	**5.45**	**353**	Pn		**Pn**	**06 07 13.8**	**+2.8**
VLO	**Vlora**	**5.53**	**338**	Pn		**Pn**	**06 07 14.0**	**+1.9**
SCTE	**Santa Cesarea**	**5.56**	**329**	Pn		**Pn**	**06 07 14.2**	**+1.7**
TIP	**Timpagrande**	**5.78**	**313**	⇓P		**Pn**	**06 07 17.1**	**+1.5**
TIP	**Timpagrande**	**5.78**	**313**			**Pn**	**06 07 16.8**	**+1.2**
CEL	**Celeste**	**5.84**	**301**			**Pn**	**06 07 18.4**	**+2.0**
OHR	**Ohrid**	**5.84**	**349**	*i* Pn		**Pn**	**06 07 19.6**	**+3.2**
OHR				*i* Sn		**Sn**	**06 08 24.3**	**+0.8**
VAY	**Valandovo**	**5.95**	**3**	*i* Pn		**Pn**	**06 07 20.5**	**+2.7**
VAY				*i* Sn		**Sn**	**06 08 27.4**	**+1.4**
MANT	**Manisa**	**5.95**	**57**	Pn		**Pn**	**06 07 19.2**	**+1.0**
AKAS	**Kas**	**6.06**	**80**	Pn		**Pn**	**06 07 20.7**	**+1.2**
TIR	**Tirane**	**6.25**	**343**	⇓P		**Pn**	**06 07 24.8**	**+2.8**
TIR	**Tirane**	**6.25**	**343**			**Pn**	**06 07 24.8**	**+2.8**
ALN	**Alexandroupoli**	**6.29**	**27**	Pn		**Pn**	**06 07 24.5**	**+2.0**
RDO	**Rodhopi**	**6.33**	**23**			**Pn**	**06 07 25.9**	**+2.9**
ELL	**Elmali**	**6.38**	**75**			**Pn**	**06 07 25.4**	**+1.6**
RAFF	**Raffo Rosso**	**6.61**	**289**	Pn		**Pn**	**06 07 28.9**	**+1.9**
SKO	**Skopje**	**6.62**	**355**	*i* Pn		**Pn**	**06 07 29.4**	**+2.3**
SKO				*i* Sn		**Sn**	**06 08 41.8**	**-0.9**
VAE	**Valguarnera**	**6.64**	**291**	Pn		**Pn**	**06 07 30.1**	**+2.7**
	comp=N,1.1nm,0.3s,baz=191,slow=5.2,SNR=1.8							
VAE				Sn		**Sn**	**06 08 42.2**	**-1.0**
	comp=N,4.3nm,0.3s,baz=292,slow=16,SNR=2.1							
	comp=N,12nm,0.5s							
MATE	**Matera**	**6.84**	**322**	⇑P		**Pn**	**06 07 31.4**	**+1.4**
CUC	**Castrocucco**	**6.86**	**314**			**Pn**	**06 07 33.0**	**+2.5**
PUK	**Puka**	**6.91**	**345**	Pn		**Pn**	**06 07 32.9**	**+1.8**
ULC	**Ulcinj**	**6.98**	**341**	⇓*i* Pn		**Pn**	**06 07 32.7**	**+0.6**
ULC				*i* Sn		**Sn**	**06 08 49.4**	**-2.2**
ISP	**Isparta**	**7.11**	**67**	Pn		**Pn**	**06 07 35.0**	**+1.2**
DRME	**Dracevica, Mon**	**7.21**	**342**	⇓*i* Pn		**Pn**	**06 07 35.8**	**+0.7**
DRME	**Dracevica, Mon**	**7.21**	**342**	⇓*i* Pn		**Pn**	**06 07 36.1**	**+1.0**
DRME				*i* Sn		**Sn**	**06 08 54.8**	**-2.3**
BUM	**Brajici-Budva**	**7.39**	**340**	⇓*i* Pn		**Pn**	**06 07 38.2**	**+0.5**
BUM				*i* Sn		**Sn**	**06 08 59.2**	**-2.5**
PVY	**Plav**	**7.43**	**347**	⇓*i* Pn		**Pn**	**06 07 40.0**	**+1.8**
PVY				*i* Sn		**Sn**	**06 09 00.2**	**-2.4**
CEME	**Cevo**	**7.61**	**341**	⇑*i* Pn		**Pn**	**06 07 41.3**	**+0.5**
CEME				*i* Sn		**Sn**	**06 09 03.8**	**-3.4**
HCY	**Herceg Novi**	**7.64**	**339**	*e*Pn		**Pn**	**06 07 40.1**	**-1.0**
HCY	**Herceg Novi**	**7.64**	**339**	⇓*i* Pn		**Pn**	**06 07 40.6**	**-0.5**
HCY				*i* Sn		**Sn**	**06 09 05.0**	**-2.7**
IVA	**Berane**	**7.71**	**347**	⇓*i* Pn		**Pn**	**06 07 43.9**	**+1.8**
IVA				*i* Sn		**Sn**	**06 09 06.8**	**-2.7**
KOME	**Kolasin**	**7.76**	**345**	⇓*i* Pn		**Pn**	**06 07 44.5**	**+1.7**
KOME				*i* Sn		**Sn**	**06 09 08.0**	**-2.8**
NKME	**Niksic**	**7.81**	**342**	⇓*i* Pn		**Pn**	**06 07 43.8**	**+0.3**
NKME				*i* Sn		**Sn**	**06 09 09.1**	**-2.9**
TREB	**Trebinje**	**7.93**	**339**	*e*Pn		**Pn**	**06 07 44.2**	**-0.8**
DBRK	**Dubrovnik**	**7.95**	**338**	*e*Pn		**Pn**	**06 07 45.4**	**+0.2**
DBRK						Sn	06 09 05.2	-10
BRY	**Bratogost**	**8.05**	**340**	*e*Pn		**Pn**	**06 07 46.4**	**-0.4**
BRY	**Bratogost**	**8.05**	**340**	⇓*i* Pn		**Pn**	**06 07 47.6**	**+0.8**
BRY				*i* Sn		**Sn**	**06 09 13.8**	**-4.1**
SJES	**Sjenica**	**8.07**	**348**	⇓*i* Pn		**Pn**	**06 07 47.6**	**+0.5**
SGRT	**San Giovanni R**	**8.15**	**325**	Pn		**Pn**	**06 07 49.0**	**+1.0**
PLVB	**Pleven**	**8.22**	**12**	⇓P		**Pn**	**06 07 52.8**	**+3.8**
UPM	**Unac-Piva**	**8.23**	**343**	*e*Pn		**Pn**	**06 07 51.9**	**+2.5**
UPM	**Unac-Piva**	**8.23**	**343**	⇑*i* Pn		**Pn**	**06 07 50.9**	**+1.5**
UPM				*i* Sn		**Sn**	**06 09 19.2**	**-3.4**
PLE	**Pljevlja**	**8.25**	**345**	⇓*i* Pn		**Pn**	**06 07 51.4**	**+1.9**
PLE				*i* Sn		**Sn**	**06 09 19.3**	**-3.5**
BLKB	**Belogradchik**	**8.25**	**2**	⇑P		**Pn**	**06 07 52.4**	**+2.9**
BOVS	**Bovan**	**8.26**	**357**	⇑P		**Pn**	**06 07 50.7**	**+1.1**
STON	**Ston**	**8.27**	**336**	*i* Pn		**Pn**	**06 07 49.3**	**-0.4**
STON	**Ston**	**8.27**	**336**	⇓*i* Pn		**Pn**	**06 07 48.7**	**-1.0**
LSTV	**Lastovo**	**8.47**	**332**	*e*Pn		**Pn**	**06 07 52.4**	**0.0**
LSTV						Sn	06 09 19.2	-8.8
RUDO	**Rudo**	**8.53**	**346**	*e*Pn		**Pn**	**06 07 52.5**	**-0.7**
NEVS	**Nevesinje**	**8.54**	**339**	*e*Pn		**Pn**	**06 07 53.1**	**-0.3**
BBLS	**Lazi&#263i**	**8.76**	**346**	⇓*i* Pn		**Pn**	**06 07 56.1**	**-0.4**
MAKA	**Makarska**	**8.87**	**335**	*e*Pn		**Pn**	**06 07 58.2**	**+0.3**
HVAR	**Hvar**	**8.99**	**332**	*e*Pn		**Pn**	**06 07 58.5**	**-1.0**
RICI	**Ricice**	**9.02**	**336**	*e*Pn		**Pn**	**06 07 59.8**	**-0.2**
HAPS	**Han Pijesak,BI**	**9.06**	**345**	*e*Pn		**Pn**	**06 08 00.6**	**-0.1**
DJES	**Djerdap**	**9.29**	**1**	Pn		**Pn**	**06 08 05.3**	**+1.7**
TEKS	**Tekeris**	**9.40**	**348**	*e*Pn		**Pn**	**06 08 03.0**	**-2.2**
HERR	**Herculane**	**9.50**	**1**	⇑P		**Pn**	**06 08 08.2**	**+1.6**
ZIRJ	**Zirje**	**9.71**	**330**	*e*Pn		**Pn**	**06 08 09.4**	**0.0**
KIJV	**Kijevo**	**9.72**	**334**	*e*Pn		**Pn**	**06 08 10.2**	**+0.7**
MGRS	**Mrkonjic Grad**	**9.86**	**338**	*e*Pn		**Pn**	**06 08 11.9**	**+0.4**
MORI	**Morici**	**9.86**	**331**	*e*Pn		**Pn**	**06 08 11.3**	**-0.2**
FRGS	**Fruska Gora**	**9.95**	**350**	⇑*i* Pn		**Pn**	**06 08 12.2**	**-0.5**
GZR	**Gura Zlata**	**10.02**	**2**	⇑P		**Pn**	**06 08 16.0**	**+2.2**
BRTR	**Keskin Array B**	**10.05**	**61**	Pn		**Pn**	**06 08 15.1**	**+0.8**
BRTR	**Keskin Array B**	**10.05**	**61**	Pn		**Pn**	**06 08 17.6**	**+3.4**
	comp=N,0.3nm,0.3s,baz=237,slow=17,SNR=6.1							
BRTR				LR		LR	06 12 32.7	
	comp=N,133nm,18.9s,baz=214,slow=40							
	comp=N,1.8nm,0.7s							
BR131	**Keskin Array S**	**10.05**	**61**	Pn		**Pn**	**06 08 15.0**	**+0.8**
A050A	**Klekovaca**	**10.09**	**336**	*e*Pn		**Pn**	**06 08 15.0**	**+0.3**
BLY	**Banja Luka**	**10.13**	**339**	*e*Pn		**Pn**	**06 08 14.8**	**-0.4**
DUGI	**Dugi Otok**	**10.22**	**330**	*e*Pn		**Pn**	**06 08 18.0**	**+1.6**
TIRR	**Tirgusor**	**10.24**	**26**	Pn		**Pn**	**06 08 17.6**	**+1.0**
BZS	**Buzias**	**10.25**	**358**	⇑P		**Pn**	**06 08 16.8**	**+0.1**
NRCA	**Norcia**	**10.27**	**319**	Pn		**Pn**	**06 08 20.4**	**+3.1**
VOIR		**10.28**	**11**	⇓P		Pn	06 08 22.4	+5.0
GUMA	**Gualdo di Mace**	**10.32**	**321**	Pn		**Pn**	**06 08 20.7**	**+2.9**
A051A	**Mrakovica**	**10.45**	**339**	*e*Pn		**Pn**	**06 08 18.4**	**-1.2**
VIRC	**Vir**	**10.47**	**330**	*e*Pn		**Pn**	**06 08 21.1**	**+1.2**
MLR	**Muntele Rosu**	**10.50**	**15**	⇓P		Pn	06 08 25.2	+4.8
MLR	**Muntele Rosu**	**10.50**	**15**	Pn		**Pn**	**06 08 20.1**	**-0.2**
MLR	**Muntele Rosu**	**10.50**	**15**	Pn		**Pn**	**06 08 22.3**	**+1.9**
	comp=N,0.2nm,0.3s,baz=146,slow=14,SNR=3.7							
MLR				LR		LR	06 13 30.4	
	comp=N,243nm,19.1s,baz=198,slow=44							
	comp=N,3.4nm,0.9s							
KEST	**Kesra**	**10.50**	**276**	Pn		**Pn**	**06 08 20.2**	**-0.1**
NVLJ	**Novalja**	**10.77**	**331**	*e*Pn		**Pn**	**06 08 23.9**	**0.0**
COVR	**Voineasa-Covas**	**10.89**	**15**	⇑P		Pn	06 08 31.0	+5.4
MMAI	**Mount Meron Ar**	**11.16**	**98**	Pn		**Pn**	**06 08 30.0**	**+0.5**
	comp=N,1.3nm,0.3s,baz=297,slow=16,SNR=1.9							
MMAI				Sn		**Sn**	**06 10 27.9**	**-6.5**
	comp=N,2.5nm,0.3s,baz=12,slow=17,SNR=5.6							
	comp=N,1.6nm,0.4s							
MORH	**Mrgy, Hungar**	**11.17**	**347**	⇓P		**Pn**	**06 08 29.6**	**+0.3**
DRGR		**11.42**	**2**	⇑P		**Pn**	**06 08 34.3**	**+1.5**
CRES	**Cresnjev**	**11.64**	**336**	*e*Pn		**Pn**	**06 08 34.6**	**-1.2**
BALJ	**Balqa**	**11.64**	**103**	Pn		**Pn**	**06 08 34.3**	**-1.7**
SKDS	**Skadanscina**	**11.93**	**331**	*e*Pn		**Pn**	**06 08 38.8**	**-1.0**
CEY	**Cerknica**	**11.93**	**333**	*e*Pn		**Pn**	**06 08 40.4**	**+0.6**
LEOM	**Leova**	**11.99**	**20**	⇑P		**Pn**	**06 08 40.2**	**-0.4**
EIL	**Elat**	**12.15**	**114**	Pn		**Pn**	**06 08 40.7**	**-2.2**
	comp=N,1.6nm,0.3s,baz=228,slow=4.5,SNR=14							
EIL				Sn		Sn	06 10 49.4	-9.0
	comp=N,0.8nm,0.3s,baz=335,slow=17,SNR=2.4							
	comp=N,4.3nm,0.5s							
SABO	**M.te Sabotino**	**12.45**	**331**	Pn		**Pn**	**06 08 47.3**	**+0.4**
SOKA	**Soboth**	**12.53**	**337**	*i* Pn		**Pn**	**06 08 48.2**	**+0.2**
	comp=N,1.9nm,0.3s							
SOKA				*i* Sn		**Sn**	**06 10 59.4**	**-8.2**
	comp=N,4.8nm,0.8s							
OBKA	**Obir**	**12.54**	**335**	*i* Pn		**Pn**	**06 08 48.3**	**0.0**
	comp=N,2.2nm,0.5s							
OBKA				*i* Sn		**Sn**	**06 11 01.8**	**-6.3**
	comp=N,8.1nm,0.7s							
OBKA	**Obir**	**12.54**	**335**	⇓*i* Pn		**Pn**	**06 08 48.2**	**0.0**
PSZ	**Piszkesteto**	**12.66**	**353**	Pn		**Pn**	**06 08 51.0**	**+1.2**
PRED	**Cave del Predi**	**12.84**	**332**	Pn		**Pn**	**06 08 52.8**	**+0.4**
ARSA	**Arzberg**	**12.89**	**339**	*i* Pn		**Pn**	**06 08 54.3**	**+1.4**
	comp=N,1.3nm,0.4s							
ARSA				*e*Sn		**Sn**	**06 11 11.5**	**-4.9**
	comp=N,0.6nm,0.3s							
MYKA	**Terra Mystica**	**12.97**	**333**	*e*Pn		**Pn**	**06 08 55.5**	**+1.4**
	comp=N,1.8nm,0.3s							
STAL	**STALIGIAL**	**13.04**	**329**	Pn		**Pn**	**06 08 56.0**	**+1.0**
RONA	**Rosalia, Austr**	**13.09**	**342**	*e*Pn		**Pn**	**06 08 57.2**	**+1.5**
	comp=N,2.6nm,0.5s							
RONA				*e*Sn		**Sn**	**06 11 26.3**	**+5.0**
	comp=N,2.0nm,0.3s							
CIMO	**Cimolais**	**13.19**	**329**	Pn		**Pn**	**06 08 58.8**	**+1.7**
CTI	**Castel Tesino**	**13.33**	**326**	Pn		**Pn**	**06 08 59.1**	**0.0**
ARPR	**Arapgir-MALATY**	**13.37**	**69**	Pn		**Pn**	**06 08 56.8**	**-2.8**
CONA	**Conrad Observa**	**13.41**	**341**	*e*Pn		**Pn**	**06 09 02.5**	**+2.3**
	comp=N,0.7nm,0.3s							
KBA	**Koelnbreinsper**	**13.46**	**333**	*e*Pn		**Pn**	**06 09 02.6**	**+1.7**
	comp=N,0.8nm,0.2s							
KBA				*i* Sn		**Sn**	**06 11 29.5**	**-1.0**
	comp=N,3.6nm,0.6s							
MODS	**Modra-Piesok**	**13.50**	**346**	*e*PN		**Pn**	**06 09 01.1**	**-0.2**
MODS	**Modra-Piesok**	**13.50**	**346**	*e*P		P	06 09 16.1	+5.5
ABTA	**Abfaltersbach**	**13.51**	**330**	*e*Pn		**Pn**	**06 09 05.3**	**+3.9**
	comp=N,0.8nm,0.2s							
CRVS	**Cervenica-Dubn**	**13.54**	**358**	*e*PN		**Pn**	**06 09 03.3**	**+1.6**
CRVS	**Cervenica-Dubn**	**13.54**	**358**	*e*P		**P**	**06 09 15.5**	**+4.6**
CRVS				*e*			06 40 39.0	
CRVS				*e*			07 15 27.4	
MOA	**Molln**	**13.81**	**337**	*i* Pn		**Pn**	**06 09 06.4**	**+1.0**
	comp=N,2.4nm,0.4s							
MOA				*i* Sn		**Sn**	**06 11 35.0**	**-3.8**
	comp=N,0.2nm,0.2s							
LESA	**Schwarzleotal**	**14.00**	**332**	*e*Pn		**Pn**	**06 09 09.7**	**+1.6**
	comp=N,2.3nm,0.3s							
LESA				*e*Sn		**Sn**	**06 11 38.8**	**-4.8**
	comp=N,2.9nm,0.5s							
STHS	**Stebnicka Huta**	**14.06**	**357**	*e*P		P	06 09 22.6	+5.9
WTTA	**Wattenberg**	**14.28**	**330**	*i* Pn		**Pn**	**06 09 13.2**	**+1.1**
	comp=N,2.4nm,0.4s							
WTTA				*i* Sn		**Sn**	**06 11 46.0**	**-4.6**
	comp=N,14nm,0.7s							
WATA	**Walderalm**	**14.36**	**330**	*i* Pn		**P**	**06 09 17.6**	**-2.7**
	comp=N,2.2nm,0.3s							
WATA				*i* Sn		**Sn**	**06 11 48.0**	**-4.6**
	comp=N,6.5nm,0.4s							
FUORN	**Ofenpass-Fuorn**	**14.40**	**325**	Pn		**Pn**	**06 09 13.6**	**-0.1**
SQTA	**Sankt Quirin**	**14.43**	**328**	*e*Pn		**P**	**06 09 25.2**	**+4.2**
	comp=N,4.8nm,0.6s							
FETA	**Feichten**	**14.48**	**327**	*i* Pn		**P**	**06 09 20.3**	**-1.4**
	comp=N,0.7nm,0.4s							
VRAC	**Vranov**	**14.53**	**345**	LR		LR	06 17 05.6	
	comp=N,202nm,18.0s,baz=174,slow=47							
MOTA	**Moosalm**	**14.57**	**329**	*e*Pn		**Pn**	**06 09 11.9**	**-4.1**
	comp=N,1.6nm,0.5s							
DAVOX	**Davos/Dischmat**	**14.70**	**325**	Sn		**Sn**	**06 11 53.3**	**-7.4**
	comp=N,0.2nm,0.3s,baz=308,slow=19,SNR=1.9							
TUE	**Stuetta**	**14.73**	**323**	Pn		**Pn**	**06 09 19.0**	**+0.7**
MORC	**Moravsky Berou**	**14.80**	**348**	⇓P		**P**	**06 09 22.8**	**-2.2**
MORC	**Moravsky Berou**	**14.80**	**348**	Pn		**Pn**	**06 09 18.2**	**-0.8**
GEC2	**GERESS Array S**	**14.86**	**338**	Pn		**Pn**	**06 09 19.3**	**-0.6**
GERES	**GERESS Array B**	**14.86**	**338**	Pn		**Pn**	**06 09 20.2**	**+0.2**
GERES	**GERESS Array B**	**14.86**	**338**	Pn		**Pn**	**06 09 19.9**	**0.0**
	comp=N,0.2nm,0.3s,baz=142,slow=11,SNR=2.9							
GERES				Sn		**Sn**	**06 12 00.1**	**-4.6**
	comp=N,0.3nm,0.3s,baz=152,slow=22,SNR=5.7							
GERES				LR		LR	06 16 37.5	
	comp=N,326nm,18.3s,baz=144,slow=44							
	comp=N,0.7nm,0.5s							
KHC	**Kasperske Hory**	**15.15**	**338**	*e*P		**P**	**06 09 31.6**	**+2.7**
DPC	**Dobruska-Polom**	**15.58**	**346**	*e*P		**P**	**06 09 35.8**	**+2.2**
SENIN	**Lac Senin/Sane**	**15.72**	**319**	Pn		**Pn**	**06 09 32.4**	**+1.0**
SENIN				IAmb		IAmb	06 09 44.6	
	comp=Z,73nm,1.5s							
KIEV	**Kiev**	**16.13**	**16**	Pn		**Pn**	**06 09 36.1**	**-0.3**
AKASG	**Malin Array Be**	**16.14**	**16**			**Pn**	**06 09 35.6**	**-1.0**
AKASG	**Malin Array Be**	**16.14**	**16**	Pn		**Pn**	**06 09 35.1**	**-1.4**
	comp=Z,1.2nm,0.3s,baz=202,slow=9.3,SNR=10							
AKASG				LR		LR	06 16 30.0	
	comp=Z,88nm,19.4s,baz=202,slow=40							
	comp=Z,1.8nm,0.6s							
AKBB	**Malin Array Si**	**16.14**	**16**	Pn		**Pn**	**06 09 35.9**	**-0.7**
GRFO	**Grafenberg**	**16.42**	**334**	Pn

	comp=Z,4.8nm,0.8s								
SPA0	**Spitsbergen Ar**	**42.99**	**358**	*e*P		**P**		**06 13 49.9**	**+1.3**
SPITS	**Spitsbergen Ar**	**42.99**	**358**	P		**P**		**06 13 48.9**	**+0.2**
	comp=Z,2.2nm,0.5s,baz=157,slow=11,SNR=7.4								
	comp=Z,2.2nm,0.5s								
MAKZ	**Makanchi**	**45.45**	**56**	P		**P**		**06 14 07.7**	**-1.1**
MAKZ				IAmb		IAmb		06 14 18.6	
	comp=Z,2.2nm,0.6s								
MK31	**Makanchi Array**	**45.66**	**56**	P		**P**		**06 14 10.0**	**-0.5**
MKAR	**Makanchi Array**	**45.66**	**56**	P		**P**		**06 14 10.1**	**-0.4**
MKAR	**Makanchi Array**	**45.66**	**56**	P		**P**		**06 14 09.9**	**-0.6**
	comp=Z,1.9nm,0.5s,baz=267,slow=7.3,SNR=25								
	comp=Z,1.9nm,0.5s								
ZALV	**Zalesovo Beam**	**46.59**	**46**	P		**P**		**06 14 17.3**	**-0.3**
ZALV	**Zalesovo Beam**	**46.59**	**46**	P		**P**		**06 14 16.7**	**-0.9**
	comp=Z,2.3nm,0.6s,baz=268,slow=8.1,SNR=6.1								
	comp=Z,2.3nm,0.6s								
WMQ	**Urumqi**	**49.97**	**59**	*e*P		**P**		**06 14 48.4**	**+4.4**
WMQ				pmax		pmax			
	comp=Z,13nm,1.1s								
SFJD	**Kangerlussuaq**	**51.34**	**331**	LR		LR		06 38 29.9	
	comp=Z,133nm,18.0s,baz=156,slow=38								
TSUM	**Tsumeb**	**54.45**	**185**	LR		LR		06 39 01.3	
	comp=Z,53nm,19.4s,baz=338,slow=37								
SONM	**Songino Array**	**61.20**	**50**	P		**P**		**06 16 06.4**	**+1.6**
	comp=Z,1.5nm,0.6s,baz=297,slow=9.5,SNR=7.2								
	comp=Z,1.5nm,0.6s								
SCHQ	**Schefferville**	**61.46**	**319**	P		**P**		**06 16 06.5**	**+0.3**
SCHQ				IAmb		IAmb		06 16 19.4	
	comp=Z,8.3nm,1.3s								
SCHQ	**Schefferville**	**61.46**	**319**	P		**P**		**06 16 05.3**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=52,slow=10,SNR=1.4								
	comp=Z,1.0nm,0.6s								
BOSA	**Boshof**	**63.70**	**177**	P		**P**		**06 16 21.6**	**0.0**
	comp=Z,3.4nm,1.0s,baz=0.0,slow=10,SNR=2.6								
	comp=Z,3.4nm,1.0s								
PZH	**PanZhiHua**	**67.11**	**73**	P		**P**		**06 16 45.3**	**+1.4**
PZH				pmax		pmax			
	comp=Z,7.0nm,0.9s								
PZH				pmax		pmax			
	comp=Z,100nm,5.1s								
SUR	**Sutherland**	**67.41**	**181**	LR		LR		06 50 08.5	
	comp=Z,70nm,19.7s,baz=356,slow=40								
HHC	**Hu-ho-hao-te**	**67.50**	**55**	*e*P		**P**		**06 16 46.9**	**+0.8**
HHC				pmax		pmax			
	comp=Z,7.0nm,0.5s								
HHC				pmax		pmax			
	comp=Z,98nm,4.8s								
INK	**Inuvik**	**75.05**	**351**	LR		LR		06 55 33.5	
	comp=Z,119nm,18.3s,baz=14,slow=40								
YKA	**Yellowknife Ar**	**76.49**	**341**	P		**P**		**06 17 40.6**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=37,slow=5.4,SNR=5.4								
	comp=Z,0.2nm,0.6s								
NJ2	**Nanjing**	**77.04**	**60**	*e*P		**P**		**06 17 42.2**	**-0.9**
NJ2				sP		**pwP**		**06 17 48.2**	**-1.6**
NJ2				pmax		pmax			
	comp=Z,4.0nm,0.5s								
NJ2				pmax		pmax			
	comp=Z,350nm,5.5s								
ILAR	**Eielson Array**	**79.82**	**355**	P		**P**		**06 17 58.5**	**+0.6**
	comp=Z,0.5nm,1.0s,baz=329,slow=3.0,SNR=2.6								
	comp=Z,0.5nm,1.0s								
ELIB	**Princess Elisa**	**107.03**	**180**	*d*PP		**PP**		**06 24 37.7**	**+5.1**
ASAR	**Alice Springs**	**120.45**	**99**	PKP		**PKPdf**		**06 24 41.5**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=338,slow=2.0,SNR=1.9								

*NNC **05** 06:31:16.6±1.4,54.°71N×83.°74E,h8km±13km,mb3.0, mpv2.4,Error ellipse: s-maj=16.4km s-min=7.2km az=39.0, Suspected Mining explosion.*
*IDC **05** 06:31:17.1±1.5,54.°65N×83.°70E,h0km,mbtmp3.0/3, ML2.6/3,Error ellipse: s-maj=13.3km s-min=8.6km az=13.0*
ISC 05 06:31:15.3±2.3,54.°7N±0.°1×83.°69E±0.°08,h0km,n10, σ1§59/17,7C-7D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**139**	I	I	06 36 47.7	
	baz=317,slow=332,SNR=1.6						
ZAA0	**Zalesovo Array**	**1.02**	**139**	⇑P	**Pb**	**06 31 35.3**	**-0.6**
	0.1nm,0.3s						
ZAA0				⇓S	**Sb**	**06 31 49.4**	**-0.4**
	3.4nm,0.6s						
ZALV	**Zalesovo Beam**	**1.02**	**139**	Pg	**Pg**	**06 31 34.8**	**-0.1**
	1.7nm,0.3s,baz=321,slow=14,SNR=23						
ZALV				Lg	Lg	06 31 49.3	
	12nm,0.3s,baz=321,slow=28,SNR=53						
KURK	**Kurchatov**	**5.06**	**220**	⇑Pn	**Pn**	**06 32 34.8**	**+2.4**
	0.5nm,0.4s						
KURK				⇓Sn	**Sn**	**06 33 31.7**	**+0.2**
	0.6nm,0.5s						
KURK				⇑Lg	Lg	06 33 59.1	
	7.3nm,0.7s						
KURBB	**Kurchatov Arra**	**5.17**	**219**	Pn	**Pn**	**06 32 35.5**	**+1.6**
	0.1nm,0.3s,baz=39,slow=13,SNR=4.7						
KURBB				Sn	**Sn**	**06 33 32.8**	**-1.4**
	0.1nm,0.3s,baz=28,slow=14,SNR=4.1						
KURBB				Lg	Lg	06 33 59.6	
	0.1nm,0.3s,baz=43,slow=32,SNR=5.6						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**5.17**	**219**	⇓Pn	**Pn**	**06 32 35.3**	**+1.4**
	0.6nm,0.3s						
KURBB				⇓Sn	**Sn**	**06 33 34.4**	**+0.2**
	3.3nm,0.5s						
KURBB				⇑Lg	Lg	06 34 01.0	
	13nm,0.7s						
MK31	**Makanchi Array**	**7.99**	**187**	⇓Pn	**Pn**	**06 33 13.5**	**+0.9**
	0.1nm,0.3s,baz=12,slow=13,SNR=9.4						
MK31				⇑Sn	**Sn**	**06 34 44.7**	**+1.1**
	0.2nm,0.6s						
MK31				⇑Lg	Lg	06 35 26.3	
	1.2nm,0.7s,baz=18,slow=26,SNR=4.2						
MKAR	**Makanchi Array**	**7.99**	**187**	Pn	**Pn**	**06 33 14.2**	**+1.5**
	0.1nm,0.3s,baz=12,slow=13,SNR=7.7						
MKAR				Sn	**Sn**	**06 34 41.9**	**-1.7**
	baz=16,slow=23,SNR=2.4						
MKAR				Lg	Lg	06 35 28.9	
	0.1nm,0.3s,baz=18,slow=28,SNR=6.5						
	0.3nm,0.5s						
MAKZ	**Makanchi**	**8.00**	**188**	⇓Pn	**Pn**	**06 33 12.3**	**-0.5**
	0.1nm,0.3s						
MAKZ				⇑Sn	**Sn**	**06 34 43.7**	**-0.2**
	0.4nm,0.5s						
MAKZ				⇓Lg	Lg	06 35 31.4	
	0.8nm,0.7s						
BVAR	**Borovoye Array**	**8.05**	**263**	Pn	**Pn**	**06 33 14.9**	**+1.5**
	0.1nm,0.3s,baz=73,slow=14,SNR=8.0						
BVAR				Sn	**Sn**	**06 34 41.5**	**-3.5**
	baz=74,slow=21,SNR=2.7						
	1.2nm,0.4s						

*NIED **05** 06:31:30.0,35.°60N×140.°11E,h68km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.54; Mθθ1.09; Mϕϕ-1.64; Mrθ-0.08; Mθϕ0.42; Mϕr2.01; Fault plane solution: Mo2.32000×10¹⁵ NP1:ϕs5.00000°, δ77.00000°,λ104.00000°. NP2:ϕs137.00000°,δ19.00000°, λ43.00000°.*
*JMA **05** 06:31:30.0±0.2,35.°6N±0.°5×140.°1E±0.°8,h68km±1km, MV3.7/39,CENTRAL CHIBA PREF*
JMA Felt II J1 at CENTRAL CHIBA PREF .
*NEIC **05** 06:31:30.5±1.4,35.°57N±0.°06×140.°17E±0.°09,h74km±8km, mb4.4/26,Error ellipse: s-maj=10.6km s-min=8.1km az=104.0*
*IDC **05** 06:31:31.7±2.1,35.°48N×140.°04E,h77km±16km,mb3.7/11, mbtmp4.0/12,MS3.4/6,Error ellipse: s-maj=32.8km s-min=6.2km az=67.0*
ISC 05 06:31:30.2±0.7,35.°56N±0.°04×140.°15E±0.°04,h70km±6km, n99,σ1§06/95,mb4.3/27,10D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.15**	**164**	⇓*i*P	**Pn**	**06 31 40.9**	**+0.3**
JCN				⇓*e*S	**Sn**	**06 31 48.6**	**+0.5**
JSMT	**Sammumatsuo**	**0.25**	**72**	*i* P	**Pn**	**06 31 41.5**	**+0.5**
TOK	**Tokyo**	**0.34**	**291**	*e*P	**Pn**	**06 31 42.0**	**+0.4**
BSO3	**Boso 3**	**0.82**	**159**	⇓*i*P	**Pn**	**06 31 46.2**	**+0.1**
BSO3				⇓X		06 31 59.5	
JOD2	**Odawara 2**	**0.92**	**251**	⇓*i*P	**Pn**	**06 31 47.3**	**-0.4**
JOD2				⇓S	**Sn**	**06 31 59.7**	**-1.0**
JAG	**Ashikaga**	**1.03**	**327**	⇓*i*P	**Pn**	**06 31 48.7**	**-0.4**
JIM2	**Oshima 3**	**1.03**	**215**	P	**Pn**	**06 31 48.5**	**-0.6**
JIM2				S	**Sn**	**06 32 02.0**	**-1.1**
JRY	**Ryogami san**	**1.11**	**294**	⇓*i*P	**Pn**	**06 31 50.3**	**+0.2**
BSO1	**Boso 1**	**1.13**	**143**	P	**Pn**	**06 31 49.7**	**-0.1**
BSO1				*e*S	**Sn**	**06 32 06.0**	**+1.4**
JFNN	**Fujinakano**	**1.25**	**253**	*e*P	**Pn**	**06 31 51.8**	**-0.1**
JYN	**Shimob**	**1.31**	**268**	⇓*i*P	**Pn**	**06 31 52.6**	**-0.2**
JYN				⇓*e*S	**Sn**	**06 32 09.9**	**+0.3**
JIZS	**Izushimoda**	**1.34**	**231**	*i* P	**Pn**	**06 31 52.7**	**-0.3**
JIZS				S	**Sn**	**06 32 09.6**	**-0.7**
JKT	**Katashina**	**1.41**	**329**	*i* P	**Pn**	**06 31 53.8**	**-0.2**
JSG	**Sagara**	**1.84**	**242**	Pn	**Pn**	**06 31 58.6**	**-1.1**
JSG	**Sagara**	**1.84**	**242**	P	**Pn**	**06 32 00.5**	**+0.8**
MJAR	**Matsushiro Arr**	**1.85**	**302**	P	**Pn**	**06 31 60.0**	**+0.1**
	49nm,0.4s,baz=130,slow=17,SNR=99						
MJAR				S	**Sn**	**06 32 23.2**	**+0.8**
	136nm,0.7s,baz=7.7,slow=16,SNR=10						
MAJO	**Matsushiro**	**1.85**	**302**	Pn	**Pn**	**06 32 00.3**	**+0.4**
MAJO	**Matsushiro**	**1.85**	**302**	P	**Pn**	**06 32 00.7**	**+0.8**
MJB9	**Matsu-Tunnel**	**1.86**	**302**	Pn	**Pn**	**06 32 00.6**	**+0.7**
JGF	**Kuroka**	**2.28**	**272**		**Pn**	**06 32 06.8**	**+1.2**
JGF	**Kuroka**	**2.28**	**272**	P	**Pn**	**06 32 07.5**	**+1.9**
JMM	**Marumori**	**2.35**	**12**	Pn	**Pn**	**06 32 07.2**	**+0.5**
JMM	**Marumori**	**2.35**	**12**	P	**Pn**	**06 32 07.8**	**+1.2**
JHJ	**Hachijo jima 2**	**2.46**	**187**	P	**Pn**	**06 32 08.3**	**+0.3**
	232nm,0.3s,baz=226,slow=22,SNR=27						
JHJ				S	**Sn**	**06 32 37.1**	**+0.1**
	310nm,0.3s,baz=47,slow=23,SNR=12						
JHJ2	**Mitsune**	**2.46**	**187**	Pn	**Pn**	**06 32 07.7**	**-0.4**
JHJ2	**Mitsune**	**2.46**	**187**	P	**Pn**	**06 32 08.6**	**+0.5**
INU	**Inuyama**	**2.57**	**266**		**Pn**	**06 32 09.9**	**+0.4**
INU	**Inuyama**	**2.57**	**266**	P	**Pn**	**06 32 10.8**	**+1.3**
JSD	**Sado**	**2.90**	**329**	Pn	**Pn**	**06 32 13.3**	**-0.7**
JSD	**Sado**	**2.90**	**329**	P	**Pn**	**06 32 14.3**	**+0.3**
JTM	**Tenmabayashi**	**5.26**	**8**	Pn	**Pn**	**06 32 45.6**	**-0.7**
JTM	**Tenmabayashi**	**5.26**	**8**	P	**Pn**	**06 32 46.1**	**-0.2**
JMN	**Monobe**	**5.49**	**252**	Pn	**Pn**	**06 32 48.9**	**-0.5**
JMN	**Monobe**	**5.49**	**252**	P	**Pn**	**06 32 50.8**	**+1.4**
JHS	**Saijyo**	**5.78**	**266**	Pn	**Pn**	**06 32 52.3**	**-1.1**
ERM	**Erimo**	**6.86**	**19**	Pn	**Pn**	**06 33 07.9**	**-0.1**
ERM	**Erimo**	**6.86**	**19**	P	**Pn**	**06 33 07.2**	**-0.8**
JEM	**Erimo**	**6.86**	**19**	P	**Pn**	**06 33 07.3**	**-0.7**
JNU	**Nakatsue**	**8.05**	**255**	LR	LR	06 36 31.3	
	comp=Z,169nm,18.2s,baz=19,slow=38						
JCJ	**Chichijima**	**8.62**	**168**	Pn	**Pn**	**06 33 29.8**	**-2.4**
JCJ	**Chichijima**	**8.62**	**168**	P	**Pn**	**06 33 29.8**	**-2.4**
JCJ	**Chichijima**	**8.62**	**168**	P	Pn	06 33 24.6	-7.6
	40nm,0.4s,baz=102,slow=23,SNR=12						
JCJ				S	Sn	06 34 54.6	-13
	27nm,0.3s,baz=287,slow=19,SNR=2.1						
ASAJ	**Asahikawa**	**8.74**	**12**	S	**Sn**	**06 35 07.5**	**-3.3**
	7.3nm,0.7s,baz=184,slow=32,SNR=3.6						
USRK	**Ussuriysk Ar.**	**10.66**	**326**	P	**Pn**	**06 34 04.5**	**+4.6**
	1.4nm,0.8s,baz=151,slow=9.2,SNR=2.2						
XLT	**XiLinHaoTe**	**20.25**	**302**	*e*P	Pn	06 36 03.1	+0.7
XLT				pP	pP	06 36 16.9	+2.6
XLT				sP	sP	06 36 24.3	+1.2
XLT				pmax	pmax		
	comp=Z,5.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,170nm,4.5s						
WHN	**Wuhan**	**22.17**	**264**	P	**P**	**06 36 21.1**	**+0.6**
HHC	**Hu-ho-hao-te**	**23.02**	**292**	*e*P	**P**	**06 36 28.9**	**-0.6**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,78nm,4.6s						
MA2	**Magadan**	**25.00**	**13**	LR	LR	06 47 22.7	
	comp=Z,54nm,19.0s,baz=72,slow=38						
SONM	**Songino Array**	**27.80**	**307**	P	**P**	**06 37 12.7**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=114,slow=8.4,SNR=6.3						
SONM				LR	LR	06 48 29.0	
	comp=Z,86nm,19.1s,baz=4.0,slow=37						
	comp=Z,0.8nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.34**	**117**	T	T	07 07 05.3	
	baz=309,slow=75,SNR=36						
H11N1	**WAKE ISLAND Hy**	**28.34**	**117**	T	T	07 06 51.0	
	baz=309,slow=75,SNR=29						
H11N3	**WAKE ISLAND Hy**	**28.35**	**117**	T	T	07 07 02.0	
	baz=309,slow=75,SNR=28						
H11S3	**WAKE ISLAND Hy**	**28.98**	**119**	T	T	07 07 34.9	
	baz=311,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**28.98**	**119**	T	T	07 07 36.6	
	baz=311,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**29.00**	**119**	T	T	07 07 29.5	
	baz=311,slow=76,SNR=9.8						
PZH	**PanZhiHua**	**33.95**	**265**	P	**P**	**06 38 08.3**	**+1.2**
PZH				pmax	pmax		
	comp=Z,11nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.2s						
CMAR	**Chiang Mai Arr**	**40.15**	**256**	LR	LR	06 56 06.7	
	comp=Z,42nm,18.9s,baz=185,slow=37						
ZAA0	**Zalesovo Array**	**42.17**	**314**	P	**P**	**06 39 15.0**	**-0.8**
ZAA0				IAmb	IAmb	06 39 17.2	
	comp=Z,4.6nm,1.1s						
ZALV	**Zalesovo Beam**	**42.17**	**314**	P	**P**	**06 39 15.4**	**-0.3**
ZALV	**Zalesovo Beam**	**42.17**	**314**	P	**P**	**06 39 16.1**	**+0.3**
	comp=Z,13nm,1.3s,baz=93,slow=6.5,SNR=9.3						
	comp=Z,13nm,1.3s						
MK31	**Makanchi Array**	**44.05**	**303**	P	**P**	**06 39 31.7**	**+0.6**
MKAR	**Makanchi Array**	**44.05**	**303**	P	**P**	**06 39 31.4**	**+0.3**
MKAR	**Makanchi Array**	**44.05**	**303**	P	**P**	**06 39 32.0**	**+1.0**
	comp=Z,3.5nm,0.9s,baz=88,slow=9.4,SNR=24						
MKAR				LR	LR	06 59 33.1	
	comp=Z,51nm,18.2s,baz=22,slow=38						
	comp=Z,3.5nm,0.9s						
MAKZ	**Makanchi**	**44.26**	**303**	P	**P**	**06 39 33.0**	**+0.2**
KURK	**Kurchatov**	**46.05**	**309**	P	**P**	**06 39 46.7**	**-0.1**
KURK				IAmb	IAmb	06 39 48.2	
	comp=Z,5.3nm,0.8s						
KURBB	**Kurchatov Arra**	**46.12**	**309**	P	**P**	**06 39 47.9**	**+0.5**
	comp=Z,2.9nm,0.7s,baz=86,slow=7.8,SNR=28						
	comp=Z,2.9nm,0.7s						
G18K	**Tagagawik**	**46.43**	**30**	P	**P**	**06 39 49.2**	**-0.4**
G18K				IAmb	IAmb	06 40 15.6	
	comp=Z,8.4nm,1.4s						
K20K	**Telida**	**48.11**	**34**	P	**P**	**06 40 02.6**	**-0.1**
K20K				IAmb	IAmb	06 40 10.2	
	comp=Z,7.9nm,1.5s						
TARG	**Taragay, Kyrgy**	**48.15**	**297**	P	**P**	**06 40 02.6**	**-1.2**
TARG				IAmb	IAmb	06 40 06.8	
	comp=Z,4.4nm,0.8s						
B21K	**Ikpikpuk River**	**48.55**	**25**	P	**P**	**06 40 05.7**	**-0.2**
KDAK	**Kodiak Island**	**48.87**	**41**	LR	LR	07 05 19.5	
	comp=Z,59nm,18.4s,baz=93,slow=41						
D22K	**Ayikyak River**	**49.13**	**26**	P	**P**	**06 40 09.6**	**-0.8**
D22K				IAmb	IAmb	06 40 34.7	
	comp=Z,3.8nm,1.1s						
BOOM	**Boomskoye usch**	**49.30**	**299**	P	**P**	**06 40 12.0**	**-0.4**
BOOM				IAmb	IAmb	06 40 14.7	
	comp=Z,3.2nm,1.1s						
BVAR	**Borovoye Array**	**50.82**	**313**	P	**P**	**06 40 23.1**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=111,slow=6.5,SNR=4.6						
	comp=Z,0.4nm,0.3s						
ILAR	**Eielson Array**	**51.28**	**32**	P	**P**	**06 40 28.7**	**+2.0**
	comp=Z,0.3nm,0.8s,baz=258,slow=5.8,SNR=2.8						
	comp=Z,0.3nm,0.8s						
KNRA	**Kununurra**	**52.09**	**194**	P	**P**	**06 40 33.4**	**+0.2**
KK31	**Karatay Array**	**52.99**	**301**	P	**P**	**06 40 38.8**	**-0.9**
KK31				IAmb	IAmb	06 41 02.5	
	comp=Z,3.4nm,1.4s						
KKAR	**Karatay Array**	**52.99**	**301**	P	**P**	**06 40 37.7**	**-2.1**
KKAR				IAmb	IAmb	06 41 02.5	
	comp=Z,3.4nm,1.4s						
TGL	**Tana Glacier**	**53.53**	**37**	P	**P**	**06 40 42.0**	**-1.6**
TGL				IAmb	IAmb	06 41 09.9	
	comp=Z,8.2nm,1.2s						
WAX	**Waxell Ridge**	**53.57**	**37**	P	**P**	**06 40 42.8**	**-1.0**
BCAR	**Beaver Creek A**	**53.68**	**34**	P	**P**	**06 40 44.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**55.11**	**197**	P	**P**	**06 40 55.0**	**-0.2**
OPA	**Opana**	**55.21**	**87**	P	**P**	**06 40 55.4**	**-0.7**
M29M	**Somme Creek**	**55.29**	**34**	P	**P**	**06 40 54.8**	**-1.5**
WB0	**Warramunga Arr**	**55.30**	**187**	P	**P**	**06 40 56.0**	**-0.6**
WB0				IAmb	IAmb	06 41 22.2	
	comp=Z,9.7nm,1.2s						
G30M	**tAoh Zraii Nji**	**55.39**	**28**	P	**P**	**06 40 56.8**	**-0.1**
G30M				IAmb	IAmb	06 41 23.4	
	comp=Z,9.7nm,1.4s						
WR0	**Warramunga Arr**	**55.48**	**186**	P	**P**	**06 40 58.3**	**+0.4**
WB2	**Warramunga Arr**	**55.48**	**187**	P	**P**	**06 40 57.5**	**-0.4**
WRA	**Warramunga Arr**	**55.48**	**187**	P	**P**	**06 40 57.0**	**-1.0**
WRA	**Warramunga Arr**	**55.48**	**187**	P	**P**	**06 40 57.5**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=0.8,slow=7.5,SNR=39						
	comp=Z,1.3nm,0.4s						
ABKAR	**Akbulak array**	**58.11**	**310**	P	**P**	**06 41 15.4**	**-1.0**
R32K	**Eaglecrest**	**58.22**	**38**	P	**P**	**06 41 14.9**	**-2.1**
ASAR	**Alice Springs**	**59.20**	**187**	P	**P**	**06 41 24.9**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=13,slow=15,SNR=8.6						
	comp=Z,0.2nm,0.3s						
PSA00	**Pilbara Seismi**	**60.00**	**202**	P	**P**	**06 41 29.5**	**0.0**
PSA00				IAmb	IAmb	06 41 41.6	
	comp=Z,7.4nm,1.5s						
ARCES	**ARCESS Array B**	**65.01**	**339**	P	**P**	**06 42 03.7**	**+1.2**
	comp=Z,2.3nm,0.8s,baz=52,slow=7.4,SNR=1.4						
	comp=Z,2.3nm,0.8s						
FINES	**FINESS Array B**	**69.64**	**332**	P	**P**	**06 42 31.9**	**+0.1**
FINES	**FINESS Array B**	**69.64**	**332**	P	**P**	**06 42 31.7**	**0.0**
	comp=Z,1.3nm,0.7s,baz=79,slow=9.9,SNR=4.8						
	comp=Z,1.3nm,0.7s						
AKASG	**Malin Array Be**	**74.83**	**322**	P	**P**	**06 43 03.6**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=47,slow=6.9,SNR=3.9						
NOA	**NORSAR Array B**	**75.14**	**337**	P	**P**	**06 43 05.8**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=39,slow=8.6,SNR=1.7						
	comp=Z,1.0nm,0.8s						

*SDD **05** 06:36:58.7±2.1,17.°82N×74.°21W,h109km±53km,MD3.9, ML3.4,MW3.8*
*OSPL **05** 06:37:02.6±1.8,18.°54N×73.°70W,h0km±14km,ML2.8*
*SSNC **05** 06:37:03.7±1.0,18.°55N×73.°71W,h5km,MD3.2,ML2.9, MW2.7*
ISC 05 06:37:01.5±3.8,18.°51N±0.°08×73.°74W±0.°05,h10km±27km, n27,σ1§14/35,8C-3D,Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**1.72**	**344**	*e*P	**Pn**	**06 37 30.8**	**-0.7**
MASC				*e*S	**Sn**	**06 37 51.4**	**-2.2**
MASC				IAML		06 37 55.4	
	comp=E,63nm,0.6s						
MASC				IAML		06 37 55.9	
	comp=N,42nm,0.3s						
MASC	**Masc**	**1.72**	**344**	*i* P	**Pn**	**06 37 31.4**	**-0.2**
MASC				*e*S	**Sn**	**06 37 52.5**	**-1.2**
MASC				IAML		06 38 04.0	
	comp=Z,61nm,3.1s						
GTBY	**Guantanamo Bay**	**1.91**	**318**	⇑*e*Pg	**Pn**	**06 37 34.5**	**+0.3**
GTBY				⇓*e*Sg	**Sn**	**06 37 59.1**	**+0.7**
GTBY				IAML		06 38 04.3	
	comp=E,78nm,0.6s						
GTBY				IAML		06 38 09.5	
	comp=N,121nm,0.6s						
GTBY	**Guantanamo Bay**	**1.91**	**318**	*e*P	**Pn**	**06 37 34.6**	**+0.3**
GTBY				*e*S	**Sn**	**06 37 58.9**	**+0.5**
GTBY				IAML		06 38 00.2	
	comp=N,103nm,0.3s						
GTBY				IAML		06 38 00.4	
	comp=N,74nm,0.2s						
GTBY	**Guantanamo Bay**	**1.91**	**318**	*i* P	**Pn**	**06 37 34.8**	**+0.5**
GTBY				*e*S	**Sn**	**06 37 59.1**	**+0.7**
GTBY				IAML		06 38 05.5	
	comp=Z,17nm,0.1s						
LOPE2	**Hotel El Peder**	**1.96**	**104**	⇓*e*Pg	**Pn**	**06 37 33.9**	**-0.9**
LOPE2				⇑*e*Sg	**Sn**	**06 38 00.5**	**+1.1**
LOPE2				IAML		06 38 01.9	
	comp=E,56nm,1.5s						
LOPE2				IAML		06 38 02.6	
	comp=N,48nm,0.6s						
LOPE2	**Hotel El Peder**	**1.96**	**104**	*i* P	**Pn**	**06 37 33.7**	**-1.2**
LOPE2				*e*S	**Sn**	**06 37 58.7**	**-0.7**
LOPE2				IAML		06 38 09.2	
	comp=Z,79nm,1.2s						
LODA1	**ITESIL, Dajabo**	**2.19**	**62**	IAML		06 38 05.6	
	comp=E,917nm,0.9s						
LODA1				IAML		06 38 07.6	
	comp=N,979nm,1.8s						
NEDR	**Neiba UASD**	**2.21**	**90**	⇑*e*Pg	**Pn**	**06 37 38.5**	**+0.3**
NEDR				⇑*e*Sg	**Sb**	**06 38 10.3**	**+1.4**
NEDR				IAML		06 38 15.8	
	comp=N,103nm,0.8s						
NEDR				IAML		06 38 17.7	
	comp=E,69nm,0.5s						
NMDO	**Nuevo Mundo**	**2.35**	**330**	*e*P	**Pn**	**06 37 40.7**	**+0.4**
NMDO				IAML		06 38 14.4	
	comp=E,79nm,0.5s						
NMDO				IAML		06 38 14.7	
	comp=N,26nm,0.3s						
PODR	**Polo**	**2.36**	**98**	⇑*e*Pg	**Pn**	**06 37 40.9**	**+0.2**
PODR				IAML		06 38 29.6	
	comp=N,81nm,0.8s						
PODR				IAML		06 38 30.6	
	comp=E,72nm,0.7s						
PODR	**Polo**	**2.36**	**98**	*i* P	**Pn**	**06 37 40.7**	**+0.1**
RCC	**Rio Carpintero**	**2.36**	**309**	*e*P	**Pn**	**06 37 40.2**	**-0.

MOLW	**Molesworth Sta**	**0.38**	**326**	P	**Pb**	**06 46 30.6 -1.6**
MOLW				S	**Sb**	**06 46 35.5 -2.4**
WTMC	**Te Mara Farm W**	**0.42**	**239**	P	**Pb**	**06 46 33.4 +0.5**
WTMC				S	**Sn**	**06 46 40.3 -1.1**
CECS	**Cheviot Emerge**	**0.45**	**206**	P	**Pn**	**06 46 34.9 +0.1**
HSES	**Hanmer Springs**	**0.54**	**257**	P	**Pb**	**06 46 34.5 -0.3**
KEKS	**Kekerengu Vall**	**0.55**	**36**	P	**Pb**	**06 46 35.6 +0.6**
GVZ	**Greta Valley S**	**0.68**	**214**	P	**Pn**	**06 46 39.0 +1.1**
GVZ				S	**Sn**	**06 46 50.1 +2.5**
BSWZ	**Blackbirch Sta**	**0.73**	**20**	P	**Pb**	**06 46 37.8 -0.2**
THZ	**Tophouse**	**0.80**	**323**	P	**Pb**	**06 46 38.7 -0.6**
THZ				S	**Sb**	**06 46 48.1 -1.5**
CMWZ	**Cape Campbell**	**0.82**	**37**	P	**Pn**	**06 46 40.9 +1.0**
AMCZ	**Amberley**	**1.01**	**220**	P	**Pb**	**06 46 43.4 +0.6**
LTZ	**Lake Taylor**	**1.01**	**248**	P	**Pn**	**06 46 42.8 +0.2**
LTZ				S	**Sb**	**06 46 55.9 +0.1**
TUWZ	**Tuamarina**	**1.02**	**17**	P	**Pn**	**06 46 43.1 +0.5**
TUWZ				S	**Sn**	**06 46 57.2 +1.1**
MRNZ	**Matariki Terra**	**1.17**	**329**	P	**Pn**	**06 46 45.2 +0.6**
MRNZ				S	**Sb**	**06 47 00.8 +0.8**
NNZ	**Nelson**	**1.19**	**354**	P	**Pn**	**06 46 45.4 +0.4**
TCW	**Tory Channel**	**1.31**	**25**	P	**Pn**	**06 46 47.2 +0.6**
SNZO	**South Karori**	**1.40**	**39**	P	**Pn**	**06 46 48.6 +0.9**
BHW	**Baring Head**	**1.41**	**45**	P	**Pn**	**06 46 48.5 +0.6**
OXZ	**Oxford**	**1.44**	**230**	P	**Pn**	**06 46 48.5 +0.2**
OXZ				S	**Sn**	**06 47 06.2 -0.3**
TKNZ	**Takaka Hill**	**1.44**	**342**	P	**Pb**	**06 46 49.9 -0.1**
WEL	**Wellington**	**1.45**	**40**	P	**Pn**	**06 46 49.3 +0.9**
DSZ	**Denniston Nort**	**1.46**	**296**	P	**Pb**	**06 46 49.8 -0.5**
DSZ				S	**Sb**	**06 47 08.7 +0.3**
MQZ	**McQueen's Vall**	**1.46**	**206**	P	**Pn**	**06 46 48.5 -0.1**
MQZ				S	**Sn**	**06 46 57.5 -0.5**
PLWZ	**Palliser**	**1.52**	**57**	P	**Pn**	**06 46 49.8 +0.2**
AKCZ	**Akaroa Harbour**	**1.54**	**197**	P	**Pn**	**06 46 50.2 +0.5**
AKCZ				S	**Sb**	**06 47 10.4 -0.3**
INZ	**Inchbonnie**	**1.58**	**258**	P	**Pn**	**06 46 51.3 +1.0**
DUWZ	**D'Urville Isla**	**1.63**	**10**	P	**Pn**	**06 46 52.0 +1.0**
RACZ	**Rakaia**	**1.68**	**217**	P	**Pn**	**06 46 51.7 +0.1**
CAW	**Cannon Point**	**1.73**	**42**	P	**Pn**	**06 46 52.8 +0.5**
PAWZ	**Paruwai Farm**	**1.74**	**55**	P	**Pn**	**06 46 52.6 +0.1**
MHCZ	**Mount Hutt**	**1.84**	**232**	P	**Pn**	**06 46 53.9 0.0**
KIW	**Kapiti Island**	**1.85**	**34**	P	**Pn**	**06 46 54.8 +0.8**
TRWZ	**Traveller**	**1.89**	**59**	P	**Pn**	**06 46 54.4 -0.1**
MTW	**Mount Morrison**	**1.92**	**50**	P	**Pn**	**06 46 55.0 0.0**
WACZ	**Wakanui South**	**1.98**	**219**	P	**Pn**	**06 46 56.0 +0.2**
OGWZ	**Otaki Gorge**	**2.00**	**38**	P	**Pn**	**06 46 56.6 +0.5**
HOWZ	**Holdsworth Sta**	**2.11**	**45**	P	**Pn**	**06 46 57.7 +0.1**
WVZ	**Waitaha Valley**	**2.17**	**251**	P	**Pn**	**06 46 59.5 +1.1**
TMWZ	**Te Maipa**	**2.18**	**54**	P	**Pn**	**06 46 58.2 -0.4**
RPZ	**Rata Peaks**	**2.25**	**234**	P	**Pn**	**06 46 59.7 +0.2**
RPZ	**Rata Peaks**	**2.25**	**234**	P	**Pn**	**06 46 59.5 0.0**
MRZ	**Mangatainoka R**	**2.32**	**42**	P	**Pn**	**06 47 00.4 0.0**
ARCZ	**Arundel**	**2.32**	**228**	P	**Pn**	**06 47 00.3 -0.2**
TIWZ	**Tintock**	**2.39**	**48**	P	**Pn**	**06 47 01.4 -0.1**
GCSZ	**Gaunt Creek Bo**	**2.54**	**248**	P	**Pn**	**06 47 04.7 +1.2**
PRWZ	**Pori Road**	**2.60**	**45**	P	**Pn**	**06 47 04.1 -0.2**
POWZ	**Post Office Ro**	**2.62**	**40**	P	**Pb**	**06 47 09.0 -1.1**
BFZ	**Birch Farm**	**2.66**	**51**	P	**Pn**	**06 47 04.9 -0.3**
BFZ	**Birch Farm**	**2.66**	**51**	P	**Pn**	**06 47 04.6 -0.5**
TMZ	**Timaru**	**2.71**	**222**	P	**Pn**	**06 47 05.8 0.0**
WAZ	**Wanganui**	**2.86**	**23**	P	**Pn**	**06 47 10.5 +2.6**
DVHZ	**Dannevirke**	**2.88**	**44**	P	**Pn**	**06 47 07.4 -0.9**
ANWZ	**Angora Road**	**2.94**	**50**	P	**Pn**	**06 47 08.8 -0.1**
FOZ	**Fox Glacier**	**2.96**	**246**	P	**Pn**	**06 47 10.5 +1.2**
TSZ	**Takapari Road**	**2.97**	**39**	P	**Pn**	**06 47 09.2 -0.3**
PREZ	**Palmer Road**	**3.10**	**9**	P	**Pb**	**06 47 17.3 -1.0**
KHEZ	**Kahui Hut**	**3.13**	**9**	P	**Pn**	**06 47 15.5 +3.8**
KHEZ	**Kahui Hut**	**3.13**	**7**	P	**Pn**	**06 47 16.0 -2.9**
LBZ	**Lake Benmore**	**3.15**	**230**	P	**Pn**	**06 47 12.1 +0.2**
PRHZ	**Porangahau**	**3.16**	**48**	P	**Pn**	**06 47 14.5 +2.5**
NEZ	**North Egmont**	**3.16**	**8**	P	**Pb**	**06 47 16.6 -2.8**
PNHZ	**Pukenui**	**3.20**	**40**	P	**Pn**	**06 47 11.9 -0.6**
PKE	**Pukeiti**	**3.23**	**6**	P	**Pn**	**06 47 16.5 +3.5**
DREZ	**Durham Road**	**3.25**	**9**	P	**Pb**	**06 47 19.7 -1.2**
MTVZ	**Mangateitei**	**3.35**	**26**	P	**Pn**	**06 47 16.8 +2.0**
ODZ	**Otahua Downs**	**3.37**	**218**	P	**Pn**	**06 47 14.6 -0.3**
ODZ	**Otahua Downs**	**3.37**	**218**	P	**Pn**	**06 47 14.8 -0.1**
VRZ	**Vera Road**	**3.41**	**16**	P	**Pn**	**06 47 18.7 +3.3**
MOVZ	**Moawhango**	**3.43**	**30**	P	**Pn**	**06 47 16.5 +0.7**
WNVZ	**Wahianoa**	**3.45**	**28**	P	**Pn**	**06 47 17.4 +1.3**
TRVZ	**Turoa**	**3.46**	**27**	P	**Pn**	**06 47 17.6 +1.3**
BHHZ	**Black Hill Sta**	**3.48**	**34**	P	**Pn**	**06 47 16.9 +0.4**
WHVZ	**Whangaehu Hut**	**3.48**	**27**	P	**Pn**	**06 47 18.3 +1.6**
MAVZ	**Matarangi**	**3.49**	**27**	P	**Pb**	**06 47 23.5 -1.6**
KRHZ	**Kereru**	**3.49**	**39**	P	**Pn**	**06 47 15.8 -0.8**
FWVZ	**Far West T-bar**	**3.50**	**26**	P	**Pn**	**06 47 18.4 +1.6**
TUVZ	**Tukino**	**3.52**	**28**	P	**Pn**	**06 47 18.7 +1.6**
NGZ	**Ngauruhoe**	**3.58**	**26**	P	**Pn**	**06 47 19.3 +1.3**
SNVZ	**South Ngauruho**	**3.59**	**27**	P	**Pn**	**06 47 19.6 +1.6**
OTVZ	**Oturere**	**3.62**	**27**	P	**Pn**	**06 47 19.6 +1.1**
KAHZ	**Kahuranaki**	**3.62**	**45**	P	**Pn**	**06 47 20.2 +1.7**
TWVZ	**Taurewa**	**3.63**	**24**	P	**Pn**	**06 47 19.7 +1.2**
NNVZ	**North Ngauruho**	**3.63**	**26**	P	**Pn**	**06 47 19.9 +1.3**
WTVZ	**West Tongariro**	**3.63**	**26**	P	**Pn**	**06 47 19.8 +1.1**
ETVZ	**East Tongariro**	**3.66**	**27**	P	**Pn**	**06 47 22.1 +3.1**
KRVZ	**Karewarewa**	**3.67**	**26**	P	**Pn**	**06 47 20.3 +1.1**
TMVZ	**Te Maari**	**3.67**	**27**	P	**Pn**	**06 47 20.2 +1.1**
NTVZ	**North Tongarir**	**3.68**	**27**	P	**Pn**	**06 47 20.6 +1.3**
KWHZ	**Kaweka Forest**	**3.69**	**37**	P	**Pn**	**06 47 19.7 +0.3**
JCZ	**Jackson Bay**	**3.86**	**243**	P	**Pn**	**06 47 22.7 +1.0**
JCZ	**Jackson Bay**	**3.86**	**243**	P	**Pn**	**06 47 22.4 +0.7**
BKZ	**Black Stump Fm**	**3.94**	**36**	P	**Pn**	**06 47 24.7 +2.0**
HIZ	**Hauiti**	**4.01**	**15**	P	**Pn**	**06 47 25.8 +2.0**
HIZ	**Hauiti**	**4.01**	**15**	P	**Pn**	**06 47 26.0 +2.3**
HHSZ	**Highcliff Hill**	**4.07**	**210**	P	**Pn**	**06 47 24.7 +0.1**
WKZ	**Wanaka**	**4.08**	**232**	P	**Pn**	**06 47 24.8 0.0**
EAZ	**Earnscleugh**	**4.17**	**226**	P	**Pn**	**06 47 25.6 -0.2**
MTHZ	**Maungataniwha**	**4.35**	**36**	P	**Pn**	**06 47 32.6 +4.3**
TLZ	**Tolley Road**	**4.35**	**21**	P	**Pn**	**06 47 31.0 +2.6**
PRRZ	**Plateau Road**	**4.47**	**30**	P	**Pn**	**06 47 29.2 -0.8**
TUZ	**Tuapeka**	**4.53**	**217**	P	**Pn**	**06 47 30.9 +0.1**
TOZ	**Tahuroa Road**	**4.90**	**18**	P	**Pn**	**06 47 37.0 +1.0**
MLZ	**Mavora Lakes**	**4.91**	**231**	P	**Pn**	**06 47 35.6 -0.6**
URZ	**Urewera**	**4.96**	**35**	P	**Pn**	**06 47 36.6 -0.1**
URZ	**Urewera**	**4.96**	**35**	P	**Pn**	**06 47 35.7 -1.0**
MWZ	**Matawai**	**5.08**	**38**	P	**Pn**	**06 47 38.4 0.0**
SYZ	**Scrubby Hill**	**5.20**	**216**	P	**Pn**	**06 47 40.4 +0.5**
SYZ	**Scrubby Hill**	**5.20**	**216**	P	**Pn**	**06 47 37.9 -2.0**
WHZ	**Wether Hill Ro**	**5.33**	**227**	P	**Pn**	**06 47 40.2 -1.5**
AWAZ	**Awhitu Peninsu**	**5.40**	**9**	P	**Pn**	**06 47 41.0 +2.2**
MKAZ	**Moumakai**	**5.44**	**14**	P	**Pn**	**06 47 44.4 +1.1**
RUGZ	**Raukumara Rang**	**5.45**	**37**	P	**Pn**	**06 47 42.5 -1.1**
ETAZ	**East Tamaki Re**	**5.55**	**12**	P	**Pn**	**06 47 46.8 +2.0**
HAZ	**Te Kaha**	**5.67**	**36**	P	**Pn**	**06 47 45.9 -0.5**
WIAZ	**Waiheke Island**	**5.74**	**13**	P	**Pn**	**06 47 49.4 +2.0**
CTZ	**Chatham Island**	**7.33**	**104**	P	**Pn**	**06 48 08.6 -0.6**

*CATAC **05** 06:50:40.9±0.2, 10°.67N×85°.00W, h4km±2km, ML2.5*
*UCR **05** 06:50:40.6±1.3, 10°.66N×84°.99W, h6km±2km, MW3.8*

ISC 05 06:50:41.2±0.8,**10°.65N**±0°.02×**84°.99W**±0°.02,**h11**km±6km,
n60, σ0°**78**/90,**5C-6D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACAL	**Aguas Claras**	**0.05**	**249**	⇑*iP*	**Pg**	**06 50 42.5**	**-1.0**
ACAL				*eS*	**Sg**	**06 50 45.2**	**+0.2**
CUI	**Cuipilapa**	**0.17**	**272**	⇑*eP*	**Pg**	**06 50 45.1**	**+0.1**
VMAR	**Armenia, Volca**	**0.20**	**323**	⇑*eP*	**Pg**	**06 50 45.9**	**+0.3**
VERA	**Finca Concepci**	**0.23**	**30**	⇓*iP*	**Pg**	**06 50 46.0**	**-0.1**
CNAS	**Canas**	**0.24**	**205**	*eP*	**Pg**	**06 50 46.6**	**+0.4**
BAGA	**Bagaces**	**0.29**	**245**	⇑*eP*	**Pb**	**06 50 48.5**	**-0.1**
CEDE	**Laguna Cedeo**	**0.33**	**120**	*eP*	**Pg**	**06 50 48.2**	**+0.5**
CEDE				*eS*	**Sb**	**06 50 54.2**	**-0.2**
ARE1	**Arenal 1**	**0.33**	**125**	⇓*eP*	**Pg**	**06 50 48.0**	**+0.2**
VACR	**Volcan Arenal**	**0.35**	**120**	⇓*iP*	**Pg**	**06 50 48.6**	**+0.3**
VACR				*eS*	**Sb**	**06 50 55.0**	**-0.2**
JTS	**Las Juntas de**	**0.36**	**174**	⇓*iP*	**Pg**	**06 50 47.8**	**-0.6**
JTS				*eS*	**Sg**	**06 50 53.4**	**+0.2**
JUNT	**Juntas**	**0.37**	**175**	⇓*eP*	**Pg**	**06 50 48.1**	**-0.5**
JUNT				*eS*	**Sg**	**06 50 53.6**	**+0.2**
TUNA	**La Fortuna**	**0.38**	**118**	*eP*	**Pb**	**06 50 50.4**	**+0.3**
TUNA				*eS*	**Sb**	**06 50 58.3**	**+2.1**
SOCE	**Pocosol**	**0.45**	**126**	*eP*	**Pg**	**06 50 49.9**	**-0.2**
SOCE				*eS*	**Sg**	**06 50 57.2**	**+1.0**
SOCE	**Pocosol**	**0.45**	**126**	*iP*	**Pg**	**06 50 49.8**	**-0.3**
SOCE				*iS*	**Sg**	**06 50 56.9**	**+0.8**
SOCE				IAML		06 50 58.6	
	comp=Z,560nm,1.0s						
LCHIL	**Los Chiles**	**0.47**	**35**	*eP*	**Pg**	**06 50 49.9**	**-0.5**
PLVR	**Palo Verde**	**0.47**	**230**	⇓*eP*	**Pg**	**06 50 50.4**	**0.0**
PLVR				*eS*	**Sg**	**06 50 56.9**	**+0.2**
ORTG	**Ortega, Santa**	**0.54**	**238**	*eP*	**Pg**	**06 50 51.7**	**-0.2**
ORTG				*eS*	**Sb**	**06 51 00.2**	**-0.6**
ORTG	**Ortega, Santa**	**0.54**	**238**	*iP*	**Pg**	**06 50 51.5**	**-0.4**
ORTG				*iS*	**Sg**	**06 50 59.4**	**+0.3**
ORTG				IAML		06 51 01.4	
	comp=Z,94nm,1.0s						
ALIBA	**Liberia Airpor**	**0.55**	**264**	*eP*	**Pb**	**06 50 53.1**	**+0.1**
COVE	**Coope Vega, Sa**	**0.58**	**83**	*eP*	**Pg**	**06 50 51.7**	**-0.8**
COVE	**Coope Vega, Sa**	**0.58**	**83**	*iP*	**Pg**	**06 50 52.5**	**0.0**
COVE				IAML		06 51 11.6	
	comp=Z,280nm,1.0s						
HZTE	**Horizontes, Gu**	**0.60**	**276**	*eP*	**Pb**	**06 50 53.1**	**-0.7**
HZTE	**Horizontes, Gu**	**0.60**	**276**	*iP*	**Pb**	**06 50 53.0**	**-0.7**
HZTE				IAML		06 51 13.4	
	comp=Z,180nm,1.0s						
NICO	**Nicoya**	**0.68**	**221**	*eP*	**Pg**	**06 50 54.1**	**-0.4**
NICO				*eS*	**Sb**	**06 51 04.9**	**+0.2**
CPMI	**Catarata Coope**	**0.70**	**121**	*eP*	**Pg**	**06 50 54.6**	**-0.2**
CPMI	**Catarata Coope**	**0.70**	**121**	*iP*	**Pg**	**06 50 54.0**	**-0.9**
CPMI				*iS*	**Sb**	**06 51 05.4**	**0.0**
CPMI				IAML		06 51 08.1	
	comp=Z,150nm,1.0s						
JUD3	**Juan Diaz 3**	**0.72**	**228**	*eP*	**Pg**	**06 50 55.1**	**-0.1**
JUD3				*eS*	**Sb**	**06 51 06.6**	**+0.6**
ITAL	**Pital**	**0.73**	**106**	*eP*	**Pg**	**06 50 53.6**	**-1.8**
SRA1	**San Ramn**	**0.75**	**138**	*eP*	**Pg**	**06 50 55.2**	**-0.6**
SRA1				*eS*	**Sg**	**06 51 06.0**	**+0.3**
DUNO	**Dulce Nombre,**	**0.76**	**221**	*iP*	**Pg**	**06 50 55.8**	**0.0**
DUNO				*iS*	**Sb**	**06 51 06.6**	**-0.2**
DUNO				IAML		06 51 09.7	
	comp=Z,360nm,1.0s						
CMARA	**Lajas Hojancha**	**0.76**	**214**	*eP*	**Pg**	**06 50 55.6**	**-0.4**
LAFE	**Finca La Fe, P**	**0.84**	**175**	*iP*	**Pg**	**06 50 56.8**	**-0.7**
LAFE				*iS*	**Sg**	**06 51 08.9**	**+0.4**
LAFE				IAML		06 51 09.3	
	comp=Z,1.0nm,1.0s						
TRB2	**Turrubares**	**0.91**	**144**	*eP*	**Pg**	**06 50 57.8**	**-0.9**
TCS1	**Tacares**	**0.91**	**132**	*eP*	**Pg**	**06 50 58.2**	**-0.6**
TCS1	**Tacares**	**0.91**	**132**	*iP*	**Pg**	**06 50 58.2**	**-0.6**
TCS1				IAML		06 51 20.8	
	comp=Z,560nm,1.0s						
SAJU	**San Juanillo,**	**0.92**	**231**	*iP*	**Pg**	**06 50 58.3**	**-0.6**
SAJU				*iS*	**Sb**	**06 51 11.9**	**+0.5**
SAJU				IAML		06 51 12.7	
	comp=Z,78nm,1.0s						
INDI	**Punta indio, G**	**0.93**	**213**	*eP*	**Pg**	**06 50 59.0**	**-0.2**
INDI	**Punta indio, G**	**0.93**	**213**	*iP*	**Pg**	**06 50 58.8**	**-0.4**
INDI				*iS*	**Sb**	**06 51 12.0**	**+0.2**
INDI				IAML		06 51 26.5	
	comp=Z,59nm,1.0s						
JACO	**JACO, Garabito**	**1.03**	**162**	⇑*iP*	**Pg**	**06 50 59.9**	**-1.3**
JACO	**JACO, Garabito**	**1.03**	**162**	*iP*	**Pg**	**06 50 59.8**	**-1.4**
JACO				*iS*	**Sb**	**06 51 15.5**	**+0.7**
JACO				IAML		06 51 27.4	
	comp=Z,60nm,1.0s						
CBL1	**Cabuya**	**1.06**	**185**	*eP*	**Pg**	**06 51 00.9**	**-0.8**
RIFO	**Rio Frio, Sara**	**1.10**	**107**	*iP*	**Pb**	**06 51 02.3**	**0.0**
RIFO				*iS*	**Sb**	**06 51 17.3**	**+0.6**
RIFO				IAML		06 51 44.9	
	comp=Z,180nm,1.0s						
ACOS	**Acosta**	**1.18**	**136**	*eP*	**Pg**	**06 51 02.5**	**-1.4**
OCM	**Ochomogo**	**1.26**	**127**	*iP*	**Pg**	**06 51 04.5**	**-1.0**
OCM				IAML		06 51 09.9	
	comp=Z,54nm,1.0s						
OCM				*iS*	**Sb**	**06 51 22.3**	**+0.8**
VICA	**Volcano Irazu**	**1.31**	**120**	*eP*	**Pg**	**06 51 05.1**	**-1.3**
ABE2	**San Pablo**	**1.32**	**136**	*eP*	**Pn**	**06 51 05.9**	**0.0**
ACON	**Acoyapa**	**1.32**	**352**	*eP*	**Pn**	**06 51 04.5**	**-1.2**
LCR2	**La Lucha 2**	**1.32**	**133**	*eP*	**Pn**	**06 51 04.3**	**-1.7**
LCR2	**La Lucha 2**	**1.32**	**133**	*iP*	**Pn**	**06 51 04.7**	**-1.2**
LCR2				*iS*	**Sb**	**06 51 24.2**	**+0.8**
LCR2				IAML		06 51 30.0	
	comp=Z,59nm,1.0s						
RAZU	**San Marcos de**	**1.37**	**136**	*eP*	**Pn**	**06 51 05.2**	**-1.3**
VTCV	**VTCV, Calle Va**	**1.41**	**118**	*iP*	**Pn**	**06 51 06.6**	**-0.5**
VTCV				IAML		06 51 32.0	
	comp=Z,48nm,1.0s						
RIMA	**Rio Macho**	**1.41**	**128**	*eP*	**Pn**	**06 51 06.2**	**-1.0**
RIMA	**Rio Macho**	**1.41**	**128**	*iP*	**Pn**	**06 51 07.1**	**-0.1**
RIMA				*iS*	**Sn**	**06 51 28.8**	**+2.9**
RIMA				IAML		06 51 32.0	
	comp=Z,39nm,1.0s						
VERB	**Verbena**	**1.45**	**119**	*eP*	**Pn**	**06 51 07.6**	**0.0**
CDM	**Cerro de Muert**	**1.63**	**132**	*eP*	**Pn**	**06 51 09.7**	**-0.7**
CDM				*eS*	**Sg**	**06 51 33.5**	**-0.2**
CDM	**Cerro de Muert**	**1.63**	**132**	*iP*	**Pn**	**06 51 10.0**	**-0.3**
CDM				*iS*	**Sn**	**06 51 31.8**	**+0.3**
CDM				IAML		06 51 40.7	
	comp=Z,51nm,1.0s						
BLUN	**Bluefields**	**1.80**	**41**	*iP*	**Pn**	**06 51 11.3**	**-0.9**
BLUN				*iS*	**Sn**	**06 51 34.9**	**-0.2**
BLUN				IAML		06 51 40.2	
	comp=Z,87nm,1.0s						
PEZE	**Perez Zeledon,**	**1.81**	**134**	*eP*	**Pn**	**06 51 13.1**	**+0.7**
PEZE				*eS*	**Sg**	**06 51 38.7**	**-0.7**
PEZE	**Perez Zeledon,**	**1.81**	**134**	*iP*	**Pn**	**06 51 13.2**	**+0.7**
PEZE				*iS*	**Sg**	**06 51 39.4**	**+0.1**
PEZE				IAML		06 51 40.7	
	comp=Z,42nm,1.0s						
BOAB	**BOACO BROADBAN**	**1.91**	**340**	*iP*	**Pn**	**06 51 14.6**	**+0.8**
BOAB				*iS*	**Sb**	**06 51 40.3**	**+0.3**
BOAB				IAML		06 51 43.7	
	comp=Z,67nm,1.0s						

*NNC **05** 06:52:56.0±4.3, 51°.34N×82°.12E, h0km, mb2.7, mpv2.3,*
Error ellipse: s-maj=40.9km s-min=19.9km az=21.0,
Suspected Mining explosion.
*IDC **05** 06:52:57.5±1.5, 51°.35N×81°.83E, h0km, mbtmp1.9/1,*
ML1.9/1, Error ellipse: s-maj=15.9km s-min=12.9km
az=134.0

ISC 05 06:52:58.1±1.3,**51°.38N**±0°.07×**81°.89E**±0°.08,**h0**km,**n8,**
σ0°**61**/9,**5C-3D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.17**	**253**	⇑Pn	**Pn**	**06 53 35.3**	**-0.1**
KURK	0.6nm,0.3s			⇓Sn	**Sn**	**06 54 03.8**	**+0.9**
	1.4nm,0.5s						
KURBB	**Kurchatov Arra**	**2.25**	**252**	Pg	**Pn**	**06 53 36.7**	**+0.1**
KURBB	0.1nm,0.3s,baz=72,slow=18,SNR=2.6			Lg	Lg	06 54 07.7	
	0.1nm,0.3s,baz=72,slow=33,SNR=4.3						
KURBB	**Kurchatov Arra**	**2.25**	**252**	⇓Pn	**Pn**	**06 53 36.4**	**-0.2**
KURBB	0.8nm,0.3s			⇑Sn	**Sb**	**06 54 08.0**	**-0.1**
	9.4nm,0.8s						
I46RU	**ZALESOVO INFRA**	**3.13**	**34**	I	I	07 11 10.0	
	baz=211,slow=320,SNR=1.0						
ZALV	**Zalesovo Beam**	**3.13**	**34**	Pg	**Pb**	**06 53 54.3**	**-0.3**
ZALV	0.2nm,0.3s,baz=220,slow=18,SNR=2.6			Lg	Lg	06 54 38.1	
	0.3nm,0.3s,baz=225,slow=29,SNR=3.7						
MAKZ	**Makanchi**	**4.58**	**179**	⇑Pg	**Pb**	**06 54 18.3**	**-1.0**
MAKZ	0.3nm,0.5s			⇑Lg	Lg	06 55 18.8	
	1.8nm,0.9s						
MK31	**Makanchi Array**	**4.60**	**177**	⇓Pg	**Pb**	**06 54 19.6**	**-0.1**
MK31	0.1nm,0.4s,baz=352,slow=15,SNR=4.5			⇑Lg	Lg	06 55 21.9	
	1.4nm,0.8s,baz=2.2,slow=32,SNR=3.5						
MKAR	**Makanchi Array**	**4.60**	**177**	Pn	**Pn**	**06 54 09.5**	**+0.6**
MKAR	0.1nm,0.3s,baz=2.0,slow=11,SNR=8.4			Lg	Lg	06 55 20.1	
	0.1nm,0.3s,baz=14,slow=25,SNR=4.4						
	0.1nm,0.3s						

*IDC **05** 06:55:51.6±0.9, 6°.23S×142°.92E, h0km, mb4.1/6,*
mbtmp4.1/8, ML1.8/1, MS3.2/5, Error ellipse: s-maj=36.3km
s-min=22.3km az=60.0

ISC 05 06:55:53.1±0.8,**6°.5S**±0°.1×**142°.7E**±0°.1,**h10**km,**n12,**
σ1°**62**/**11**,**mb4.2**/6,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.30**	**123**	Pn	**Pn**	**06 57 13.3**	**+0.9**
	2.0nm,0.3s,baz=319,slow=20,SNR=2.4						
PMG				Sn	**Sn**	**06 58 12.7**	**-0.9**
	1.5nm,0.3s,baz=219,slow=19,SNR=7.3						
PMG				LR	LR	06 59 29.4	
	comp=Z,86nm,18.0s,baz=250,slow=42						
	6.1nm,0.4s						
CTA	**Charters Tower**	**13.95**	**166**	LR	LR	07 04 54.7	
	comp=Z,97nm,19.0s,baz=16,slow=38						
WRA	**Warramunga Arr**	**15.62**	**210**	Pn	**Pn**	**06 59 32.4**	**-1.2**
	0.5nm,0.3s,baz=22,slow=13,SNR=15						
WRA				Sn	Sn	07 02 19.7	-7.2
	0.2nm,0.3s,baz=32,slow=24,SNR=2.4						
WRA				Lg	Lg	07 04 17.0	
	0.4nm,0.3s,baz=29,slow=21,SNR=3.8						
ASAR	**Alice Springs**	**19.04**	**205**	P	**Pn**	**07 00 19.3**	**+3.0**
	5.7nm,0.7s,baz=35,slow=9.1,SNR=42						
ASAR				S	**Sn**	**07 03 47.5**	**-2.2**
	2.3nm,0.9s,baz=18,slow=28,SNR=4.3						
ASAR				Lg	Lg	07 05 53.8	
	baz=14,slow=27						
ASAR				LR	LR	07 07 49.7	
	comp=Z,185nm,19.0s,baz=12,slow=37						
STKA	**Stephens Creek**	**25.27**	**182**	LR	LR	07 12 45.1	
	comp=Z,116nm,18.9s,baz=20,slow=40						
LEM	**Lembang**	**34.81**	**267**	LR	LR	07 19 24.0	
	comp=Z,26nm,21.4s,baz=160,slow=40						
CMAR	**Chiang Mai Arr**	**49.74**	**301**	P	**P**	**07 04 46.6**	**+0.5**
	0.9nm,0.3s,baz=126,slow=4.6,SNR=0.8						
	0.9nm,0.3s						
MKAR	**Makanchi Array**	**75.18**	**322**	P	**P**	**07 07 36.0**	**0.0**
	0.9nm,0.9s,baz=104,slow=5.1,SNR=7.0						
	0.9nm,0.9s						
KURBB	**Kurchatov Arra**	**79.08**	**324**	P	**P**	**07 07 57.5**	**-0.3**
	0.7nm,0.9s,baz=118,slow=4.4,SNR=5.2						
	0.7nm,0.9s						
QSPA	**South Pole Qui**	**83.47**	**180**	P	**P**	**07 08 21.8**	**+0.8**
	1.2nm,0.7s,baz=280,slow=2.5,SNR=5.1						
	1.2nm,0.7s						
BVAR	**Borovoye Array**	**84.66**	**325**	P	**P**	**07 08 27.2**	**+0.1**
	3.7nm,0.9s,baz=114,slow=6.6,SNR=14						
	3.7nm,0.9s						
ILAR	**Eielson Array**	**87.65**	**24**	P	**P**	**07 08 39.8**	**-1.8**
	1.2nm,0.8s,baz=258,slow=5.1,SNR=13						
	1.2nm,0.8s						

*IDC **05** 07:14:51.9±1.2, 49°.74N×81°.64E, h0km, mbtmp2.2/2,*
ML1.9/2, Error ellipse: s-maj=17.3km s-min=8.1km
az=57.0
*NNC **05** 07:14:51.9±0.9, 49°.60N×81°.64E, h0km, mb2.5, mpv2.1,*
Error ellipse: s-maj=13.7km s-min=2.2km az=54.0,
Suspected Mining explosion.

ISC 05 07:14:50.6±1.1,**49°.53N**±0°.08×**81°.4E**±0°.1,**h0**km,**n8,**
σ0°**47**/10,**3C-5D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.14**	**305**	⇓Pn	**Pb**	**07 15 30.4**

HELC				S		Sn	07 34 39.8	-4.2
PLMC	**San Jos del P**	**2.21**	**143**	P		Pn	07 34 12.3	-4.9
PLMC				S		Sn	07 34 44.0	-1.4
UREC	**San Jos de Ur**	**2.34**	**63**	P		Pn	07 34 15.9	-2.9
UREC				S		Sn	07 34 45.7	-2.6
MALC	**Bahia Malaga**	**2.67**	**174**	P		Pn	07 34 20.9	-2.4
MALC				S		Sn	07 34 54.4	-2.0
GUY2C	**Guyana, Caldas**	**2.68**	**123**	P		Pn	07 34 21.7	-2.2
GUY2C				S		Sn	07 34 54.4	-2.9
NORC	**Norcasia**	**2.96**	**112**	P		Pn	07 34 25.8	-1.7
NORC				S		Sn	07 35 02.9	-0.9
YOTC	**Yotoco, Valle**	**2.97**	**154**	P		Pn	07 34 24.5	-3.1
YOTC				S		Sn	07 35 01.3	-2.7
ANIL	**Santa Ana**	**3.10**	**134**	P		Pn	07 34 27.1	-2.6
PTBC	**PUERTO BERRIO,**	**3.16**	**92**	P		Pn	07 34 29.7	-0.4
PTBC				S		Sn	07 35 07.2	-1.3
BCIP	**Isla Barro Col**	**3.30**	**319**	P		Pn	07 34 28.4	-3.7
BCIP				S		Sn	07 35 09.1	-2.9
ORTC	**Ortega, Tolima**	**3.63**	**139**	P		Pn	07 34 35.5	-1.2
SPBC	**San Pablo de B**	**3.68**	**106**	P		Pn	07 34 36.8	-0.6
SPBC				S		Sn	07 35 22.6	+1.0
ROSC	**El Rosal**	**3.77**	**119**	P		Pn	07 34 40.2	+1.4
ROSC				S		Sn	07 35 26.6	+2.5
SJCC	**San Jacinto, C**	**4.01**	**37**	P		Pn	07 34 39.4	-2.5
SJCC				S		Sn	07 35 25.5	-4.2
POPC	**Popayan, Colom**	**4.22**	**167**	P		Pn	07 34 44.2	-0.8
BARC	**Barichara**	**4.42**	**91**	P		Pn	07 34 46.6	-1.1
BARC				S		Sn	07 35 38.5	-1.5
OCAC	**Ocana**	**4.55**	**70**	P		Pn	07 34 47.5	-1.9
OCAC				S		Sn	07 35 39.5	-3.6
RUSC	**La Rusia**	**4.59**	**100**	P		Pn	07 34 49.1	-1.1
RUSC				S		Sn	07 35 47.5	+3.0
PAMC	**Pamplona, Colo**	**4.94**	**82**	P		Pn	07 34 53.7	-1.3
PAMC				S		Sn	07 35 50.5	-2.7
LL6C	**La Loma 6 Bece**	**5.28**	**55**	P		Pn	07 34 57.3	-2.0
FLOC	**Florencia**	**5.43**	**159**	P		Pn	07 35 00.9	-0.6
	5.2nm,1.2s							
CRJC	**Cerrejon, Guaj**	**6.37**	**47**	P		Pn	07 35 11.7	-2.7
	22nm,0.8s,1µm							
CRJC				S		Sn	07 36 21.7	-6.3
	22nm,0.8s,1µm							
OTAV	**Otavalo**	**6.45**	**187**	P		Pn	07 35 15.2	-0.6

*IDC **05** 07:54:44.6±3.9, 36°.70N×71°.12E, h61km±36km, mb3.3/4, mbtmp3.6/9, ML3.3/5, Error ellipse: s-maj=31.8km s-min=25.4km az=168.0*
*NNC **05** 07:54:51.0±3.8, 37°.15N×70°.91E, h100km±75km, mb3.1, mpv3.6, Error ellipse: s-maj=28.9km s-min=22.6km az=9.0*
ISC 05 07:54:49.3±1.1, 37°.04N±0°.09×70°.95E±0°.07, h100km, n22, σ1§77/29, mb3.2/4, 2C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UCH	**Uchtor**	**5.87**	**27**	P	**Pn**	**07 56 15.2**	**+1.0**
	SNR=6.5						
EKS2	**Erkin-Say**	**6.02**	**20**	P	**Pn**	**07 56 17.7**	**+1.8**
	SNR=7.9						
KK31	**Karatay Array**	**6.07**	**357**	⇓P	**Pn**	**07 56 17.6**	**+1.1**
	3.7nm,0.5s,baz=178,slow=13,SNR=40						
KK31				⇑S	**Sn**	**07 57 24.6**	**+0.1**
	2.2nm,0.5s,baz=176,slow=21,SNR=5.9						
AAK	**Ala-Archa**	**6.22**	**25**	P	**Pn**	**07 56 20.1**	**+1.5**
	SNR=8.0						
AAK	**Ala-Archa**	**6.22**	**25**	P	**Pn**	**07 56 19.7**	**+1.0**
	4.3nm,0.4s,baz=173,slow=4.3,SNR=14						
AAK				S	**Sn**	**07 57 26.1**	**-2.3**
	1.5nm,0.5s,baz=162,slow=19,SNR=1.1						
CHMS	**Chumysh**	**6.63**	**25**	P	**Pn**	**07 56 25.1**	**+1.0**
	SNR=7.1						
CHMS	**Chumysh**	**6.63**	**25**	⇓P	**Pn**	**07 56 23.6**	**-0.5**
	2.7nm,0.4s						
CHMS				⇓S	**Sn**	**07 57 38.8**	**+0.7**
	2.4nm,0.7s						
USP	**Ospenovka**	**6.79**	**22**	P	**Pn**	**07 56 26.9**	**+0.6**
	SNR=6.7						
TKM2	**Tokmak 2**	**6.87**	**30**	P	**Pn**	**07 56 28.7**	**+1.1**
	SNR=6.3						
TKM2	**Tokmak 2**	**6.87**	**30**	⇓P	**Pn**	**07 56 27.6**	**0.0**
	0.8nm,0.3s						
TKM2				⇓S	**Sn**	**07 57 44.4**	**0.0**
	2.3nm,0.7s						
GEYT	**Alibeck**	**10.24**	**279**	P	**Pn**	**07 57 12.4**	**-0.9**
	1.2nm,0.3s,baz=125,slow=12,SNR=7.4						
GEYT				S	**Sn**	**07 59 05.4**	**-0.7**
	1.4nm,0.4s,baz=282,slow=7.2,SNR=1.9						
	2.0nm,0.3s						
MKAR	**Makanchi Array**	**12.88**	**37**	P	**Pn**	**07 57 47.7**	**-0.9**
	0.1nm,0.3s,baz=225,slow=15,SNR=11						
	0.6nm,0.5s						
AB31	**Akbulak array**	**14.60**	**330**	⇑P	**Pn**	**07 58 10.6**	**-0.1**
	0.3nm,0.4s,baz=263,slow=34,SNR=15						
AB31				S	**Sn**	**08 00 49.2**	**-2.3**
	1.3nm,0.7s,baz=153,slow=22,SNR=7.9						
KURBB	**Kurchatov Arra**	**14.63**	**19**	P	**P**	**07 58 12.8**	**-1.9**
	0.1nm,0.3s,baz=210,slow=10,SNR=6.4						
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**15.99**	**359**	P	**Pn**	**07 58 27.9**	**-0.4**
	baz=155,slow=11,SNR=5.1						
	0.6nm,0.4s						
AKTO	**Aktyubinsk**	**16.30**	**329**	P	**P**	**07 58 36.6**	**+3.4**
	2.4nm,0.3s,baz=134,slow=6.2,SNR=14						
AKTO	**Aktyubinsk**	**16.30**	**329**	⇓P	**P**	**07 58 35.6**	**+2.4**
	1.1nm,0.4s						
AKTO				S	**Sn**	**08 01 28.1**	**-4.4**
	1.4nm,1.1s						
ZALV	**Zalesovo Beam**	**19.45**	**25**	P	**P**	**07 59 08.0**	**+0.3**
	0.4nm,0.3s,baz=213,slow=10,SNR=6.8						
	1.7nm,0.5s						
ARCES	**ARCESS Array B**	**40.63**	**337**	P	**P**	**08 02 21.6**	**+2.6**
	1.7nm,0.8s,baz=97,slow=6.2,SNR=6.0						
	1.7nm,0.8s						
YKA	**Yellowknife Ar**	**80.71**	**3**	P	**P**	**08 06 52.4**	**+1.5**
	0.2nm,0.6s,baz=340,slow=3.4,SNR=4.2						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**82.31**	**122**	P	**P**	**08 06 58.0**	**-2.0**
	0.2nm,0.5s,baz=304,slow=8.1,SNR=1.4						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**84.59**	**125**	P	**P**	**08 07 09.9**	**-1.8**
	0.2nm,0.6s,baz=320,slow=3.7,SNR=2.0						
	0.2nm,0.6s						

*ISK **05** 08:29:29.6, 38°.98N×26°.33E, h17km, ML2.9/26*
*AFAD **05** 08:29:29.6±0.0, 38°.94N×26°.25E, h7km±2km, ML3.0*
*ATH **05** 08:29:30.2, 38°.97N×26°.29E, h14km±2km, ML2.8/5, Error ellipse: s-maj=2.3km s-min=0.9km az=310.0*
*THE **05** 08:29:30.1, 38°.96N×26°.29E, h8km, ML2.7/8, Error ellipse: s-maj=0.8km s-min=0.4km az=79.0*
ISC 05 08:29:30.0±0.9, 38°.96N±0°.02×26°.29E±0°.02, h14km±6km, n59, σ0§52/93, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EAG3	**Mitilini, Lesv**	**0.25**	**60**	P	**Pg**	**08 29 35.2**	**-0.1**
EAG3				S	**Sg**	**08 29 39.2**	**+0.2**
LESV	**Lesvos island,**	**0.26**	**55**	P	**Pg**	**08 29 35.0**	**-0.5**
LESV				S	**Sg**	**08 29 39.8**	**+0.6**
	16µm,0.3s						
PRK	**Paraskevi**	**0.28**	**357**	P	**Pg**	**08 29 35.9**	**-0.1**
PRK				S	**Sg**	**08 29 40.6**	**+0.6**
	1µm,0.3s						
PRK	**Paraskevi**	**0.28**	**357**	P	**Pg**	**08 29 35.8**	**-0.1**
PRK				S	**Sg**	**08 29 40.7**	**+0.6**
PRK				AML	AML	08 29 44.3	
	comp=E,3280µm,0.5s						
PRK				AML	AML	08 29 46.3	
	comp=N,3234µm,0.2s						
KARB	**zmir-Karabur**	**0.31**	**162**	P	**Pg**	**08 29 36.3**	**-0.1**
KARB				S	**Sg**	**08 29 40.7**	**-0.1**
CAND	**Candarli**	**0.40**	**91**	Pg	**Pg**	**08 29 37.5**	**-0.5**
CAND				Sg	**Sg**	**08 29 43.4**	**-0.1**
SIGR	**SIGRI**	**0.42**	**307**	Pg	**Pg**	**08 29 38.6**	**+0.2**
SIGR				Sg	**Sg**	**08 29 43.9**	**-0.2**
SIGR	**SIGRI**	**0.42**	**307**	P	**Pg**	**08 29 38.2**	**-0.2**
SIGR				S	**Sg**	**08 29 44.3**	**+0.2**
	comp=N,1µm,0.4s						
SIGR	**SIGRI**	**0.42**	**307**	P	**Pg**	**08 29 38.2**	**-0.2**
SIGR				S	**Sg**	**08 29 44.2**	**+0.1**
SIGR				AML	AML	08 29 44.7	
	comp=E,2279µm,0.3s						
SIGR				AML	AML	08 29 46.8	
	comp=N,1860µm,0.3s						

FOCM	**Foa**	**0.42**	**126**	Pg	**Pg**	**08 29 38.3**	**-0.1**
FOCM				Sg	**Sg**	**08 29 44.7**	**+0.5**
AYVA	**Ayvalik**	**0.47**	**42**	P	**Pg**	**08 29 39.3**	**0.0**
AYVA				S	**Sb**	**08 29 46.2**	**-0.6**
DKL	**Dikili**	**0.49**	**77**	Pg	**Pg**	**08 29 39.3**	**-0.4**
DKL				Sg	**Sg**	**08 29 46.2**	**-0.1**
IZMD	**zmir-Dikili-**	**0.50**	**87**	P	**Pg**	**08 29 39.8**	**-0.1**
GPNR	**Gulpinar-Canak**	**0.51**	**346**	Pg	**Pg**	**08 29 39.7**	**-0.3**
KOCA	**Canakkale, Ayv**	**0.55**	**348**	P	**Pg**	**08 29 40.5**	**-0.4**
CHOS	**Chios island**	**0.60**	**198**	P	**Pg**	**08 29 41.8**	**0.0**
CHOS				S	**Sb**	**08 29 50.8**	**+0.1**
	comp=N,1µm,0.3s						
CHOS	**Chios island**	**0.60**	**198**	P	**Pg**	**08 29 41.5**	**-0.3**
CHOS				S	**Sb**	**08 29 50.7**	**+0.1**
CHOS				AML	AML	08 29 54.5	
	comp=N,1459µm,0.3s						
CHOS				AML	AML	08 29 54.5	
	comp=E,2598µm,0.4s						
ZEDA	**zmir-Bergama**	**0.61**	**89**	P	**Pb**	**08 29 42.4**	**-0.1**
ZEDA				S	**Sb**	**08 29 51.4**	**+0.4**
URLA	**Izmir**	**0.65**	**158**	P	**Pg**	**08 29 42.2**	**-0.4**
URLA				S	**Sg**	**08 29 51.7**	**+0.6**
URLA				*i* AML	AML	08 29 55.0	
	comp=E,894nm,0.2s						
PSRA	**Psara**	**0.70**	**234**	P	**Pg**	**08 29 43.7**	**0.0**
PSRA				S	**Sb**	**08 29 53.8**	**+0.3**
ZEYE	**Izmir, Urla-Ze**	**0.74**	**167**	P	**Pg**	**08 29 44.0**	**-0.3**
ZEYE				S	**Sn**	**08 29 56.3**	**-0.8**
BAYC	**CANAKKALE_Bayr**	**0.80**	**14**	P	**Pb**	**08 29 46.1**	**+0.4**
BAYC				S	**Sn**	**08 29 57.9**	**-0.8**
BAYC				*i* AML	AML	08 30 01.0	
	comp=E,464nm,0.2s						
BUHA	**Balikesir, Bur**	**0.81**	**48**	P	**Pg**	**08 29 45.8**	**0.0**
BUHA				S	**Sn**	**08 29 58.8**	**-0.1**
BLCB	**Balcova**	**0.82**	**134**	Pg	**Pg**	**08 29 45.8**	**-0.1**
BLCB				Sg	**Sb**	**08 29 57.5**	**+0.5**
BLCB	**Balcova**	**0.82**	**134**	P	**Pg**	**08 29 45.9**	**0.0**
BLCB				S	**Sb**	**08 29 57.8**	**+0.8**
EZN	**Ezine**	**0.86**	**2**	Pg	**Pb**	**08 29 46.8**	**0.0**
EZN				Sg	**Sb**	**08 29 58.8**	**+0.6**
EZN	**Ezine**	**0.86**	**2**	P	**Pg**	**08 29 46.1**	**-0.6**
EZN				S	**Sn**	**08 29 59.3**	**-0.8**
	comp=E,985nm,0.5s						
BOZC	**Bozcaada**	**0.90**	**348**	P	**Pg**	**08 29 46.8**	**-0.6**
BOZC				S	**Sn**	**08 30 00.7**	**-0.3**
BOZC				*i* AML	AML	08 30 01.0	
	comp=E,490nm,0.3s						
GMLD	**Gumuldur**	**1.01**	**151**	Pg	**Pg**	**08 29 49.7**	**+0.2**
GMLD				Sg	**Sg**	**08 30 03.5**	**+0.8**
DGB	**zmir**	**1.02**	**153**	P	**Pb**	**08 29 49.1**	**-0.3**
DGB				S	**Sg**	**08 30 03.4**	**+0.4**
COMU	**Canakkale**	**1.15**	**7**	Pn	**Pb**	**08 29 51.6**	**0.0**
STEP	**BALIKESIR_Sava**	**1.19**	**69**	P	**Pg**	**08 29 53.1**	**+0.2**
STEP				S	**Sg**	**08 30 09.1**	**+0.8**
AKHS	**Akhisar**	**1.19**	**93**	P	**Pg**	**08 29 53.4**	**+0.5**
AKHS				S	**Sg**	**08 30 10.6**	**+2.1**
AKS	**Akhisar**	**1.19**	**93**	Pn	**Pn**	**08 29 51.3**	**-0.9**
CANM	**Can-anakkale**	**1.20**	**29**	Pn	**Pn**	**08 29 51.3**	**-1.1**
GADA	**Gvkgeada**	**1.27**	**346**	Pn	**Pb**	**08 29 53.6**	**0.0**
LIA	**Limnos Island**	**1.27**	**318**	P	**Pn**	**08 29 53.0**	**-0.3**
LIA				S	**Sn**	**08 30 10.4**	**+0.3**
	comp=E,552nm,0.3s						
LIA	**Limnos Island**	**1.27**	**318**	P	**Pn**	**08 29 53.0**	**-0.3**
LIA				AML	AML	08 30 12.7	
	comp=E,1031µm,0.3s						
LIA				AML	AML	08 30 12.9	
	comp=N,1765µm,0.3s						
GOMA	**Golmarmara-Man**	**1.30**	**101**	Pn	**Pn**	**08 29 53.3**	**-0.3**
SMG	**Samos**	**1.32**	**161**	P	**Pn**	**08 29 53.5**	**-0.5**
SMG				S	**Sn**	**08 30 12.1**	**+0.6**
	comp=N,688nm,0.3s						
SMG	**Samos**	**1.32**	**161**	P	**Pn**	**08 29 53.4**	**-0.6**
SMG				AML	AML	08 30 15.6	
	comp=N,1875µm,0.3s						
SMG				AML	AML	08 30 17.5	
	comp=E,982µm,0.2s						
GELI	**Tayfur-Gelibol**	**1.44**	**6**	Pn	**Pn**	**08 29 55.9**	**+0.2**
LPK	**Lapseki**	**1.46**	**14**	Pn	**Pn**	**08 29 55.7**	**-0.2**
GONE	**Gonen-Balikesi**	**1.53**	**44**	Pn	**Pn**	**08 29 56.0**	**-0.9**
SMTH	**Samothraki Isl**	**1.62**	**339**	P	**Pn**	**08 29 58.3**	**+0.2**
SMTH				S	**Sn**	**08 30 19.0**	**+0.2**
	comp=E,85nm,0.5s						
SMTH	**Samothraki Isl**	**1.62**	**339**	P	**Pn**	**08 29 57.9**	**-0.2**
KRBG	**Karabiga-Canak**	**1.63**	**28**	Pn	**Pn**	**08 29 57.4**	**-0.8**
ERIK	**Erikli-Kesan**	**1.72**	**6**	Pn	**Pn**	**08 29 59.3**	**-0.1**
ENEZ	**Enez**	**1.78**	**357**	Pn	**Pn**	**08 30 00.7**	**+0.4**
ENEZ	**Enez**	**1.78**	**357**	P	**Pn**	**08 30 00.0**	**-0.3**
ENEZ				S	**Sn**	**08 30 22.9**	**+0.3**
EDC	**Edincik**	**1.84**	**41**	Pn	**Pn**	**08 30 00.7**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.85**	**21**	Pn	**Pn**	**08 30 01.1**	**-0.3**
KULA	**Kula-Manisa**	**1.91**	**103**	Pn	**Pn**	**08 30 01.7**	**-0.4**
DST	**Dursunbey**	**1.92**	**70**	Pn	**Pn**	**08 30 00.9**	**-1.4**
MRMT	**Marmara Adasi**	**1.92**	**31**	Pn	**Pn**	**08 30 02.1**	**-0.3**
ALN	**Alexandroupoli**	**1.94**	**355**	P	**Pn**	**08 30 02.5**	**-0.1**
ALN				S	**Sn**	**08 30 27.6**	**+0.8**
ALN	**Alexandroupoli**	**1.94**	**355**	P	**Pn**	**08 30 02.7**	**+0.1**
KCTX	**Karacabey (Bur**	**2.06**	**50**	Pn	**Pn**	**08 30 03.3**	**-0.9**
SIMA	**Simav-Kutahya**	**2.10**	**86**	Pn	**Pn**	**08 30 04.2**	**-0.6**

IDC 05 08:34:15.6±2.0, 5°.86S×142°.16E, h0km, mb3.4/1, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=205.0km s-min=34.2km az=115.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.93**	**208**	Pn	Pn	08 37 59.5	-1.8
	0.1nm,0.3s,baz=28,slow=13,SNR=4.8						
WRA				Lg	Lg	08 42 36.3	
	baz=30,slow=28,SNR=3.8						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**19.41**	**203**	P	Pn	08 38 44.0	-0.5
	0.2nm,0.3s,baz=34,slow=9.2,SNR=13						
	1.6nm,0.8s						
ILAR	**Eielson Array**	**87.28**	**24**	P	P	08 47 04.0	+0.1
	0.2nm,0.7s,baz=266,slow=5.4,SNR=4.0						
	0.2nm,0.7s						

IDC 05 08:41:24.1±3.9, 3°.01N×31°.32W, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=130.5km s-min=38.0km az=5.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10N3	**ASCENSION HYDR**	**19.94**	**123**	T	T	09 06 18.0	
	baz=301,slow=75,SNR=56						
H10N2	**ASCENSION HYDR**	**19.94**	**123**	T	T	09 06 17.5	
	baz=301,slow=75,SNR=47						
H10N1	**ASCENSION HYDR**	**19.96**	**123**	T	T	09 06 17.7	
	baz=301,slow=75,SNR=81						
H10S3	**ASCENSION HYDR**	**20.41**	**126**	T	T	09 06 53.3	
	baz=301,slow=74,SNR=39						
H10S2	**ASCENSION HYDR**	**20.43**	**126**	T	T	09 06 53.5	
	baz=279,slow=74,SNR=13						
H05S1	**Guadeloupe/Mar**	**31.26**	**293**	T	T	09 20 42.1	
	SNR=9.8						
TORD	**Torodi Ar. Bea**	**34.15**	**71**	P	P	08 48 11.2	-0.1
	0.4nm,0.8s,baz=265,slow=9.0,SNR=2.2						
	0.4nm,0.8s						
SCHQ	**Schefferville**	**59.15**	**337**	P	P	08 51 26.5	-0.1
	2.2nm,0.8s,baz=90,slow=12,SNR=3.7						
	2.2nm,0.8s						
TXAR	**Lajitas Array**	**73.16**	**300**	P	P	08 52 57.2	0.0
	0.3nm,0.7s,baz=111,slow=6.2,SNR=4.8						
	0.3nm,0.7s						
YKA	**Yellowknife Ar**	**84.24**	**332**	P	P	08 53 57.6	+0.2
	0.2nm,0.7s,baz=93,slow=5.0,SNR=6.7						
	0.2nm,0.7s						

*NORS **05** 08:52:22.5, 41°.78N×46°.79E, h36km, MPVA3.7*
*MOS **05** 08:52:23.6, 41°.90N×46°.90E, h56km±2km, MPVA4.0*
*TIF **05** 08:52:23.7, 41°.92N×46°.75E, h45km±1km*
*DRS **05** 08:52:24.7, 41°.74N×46°.50E, h22km*
*AZER **05** 08:52:24.1, 41°.73N×46°.64E, h43km, ml2.7*
ISC 05 08:52:25.9±1.0, 41°.87N±0°.02×46°.71E±0°.02, h32km±10km, n45, σ1§53/83, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZKTA	**Zakatala**	**0.24**	**195**	P	**Pn**	**08 52 32.3**	**-1.0**
ZKTA				S	**Sn**	**08 52 38.3**	**+0.2**
LGD	**Lagodekhi**	**0.35**	**264**	P	**Pb**	**08 52 33.8**	**-0.4**
LGD				S	**Sn**	**08 52 41.4**	**+0.7**
KMKR	**Kumukh**	**0.39**	**48**	*e*Pg	**Pb**	**08 52 34.2**	**-0.7**
KMKR				*e*Sg	**Sn**	**08 52 42.5**	**+0.3**
GNBR	**Gunib**	**0.55**	**20**	*e*Pg	**Pn**	**08 52 36.7**	**-1.0**
GNBR				*e*Sg	**Sb**	**08 52 46.5**	**+1.3**
XNZR	**Khunzakh**	**0.67**	**360**	*e*Pg	**Pn**	**08 52 38.6**	**-0.8**
XNZR				*e*Sg	**Sn**	**08 52 49.6**	**+0.7**
VSHL	**Vashlovani**	**0.68**	**200**	P	**Pn**	**08 52 38.7**	**-0.7**
VSHL				S	**Sn**	**08 52 50.9**	**+2.0**
URKR	**Urkarakh**	**0.75**	**67**	*e*Pg	**Pn**	**08 52 38.8**	**-1.7**
URKR				*e*Sg	**Sn**	**08 52 49.6**	**-1.3**
SEKA	**Sheki**	**0.76**	**151**	P	**Pn**	**08 52 38.1**	**-2.4**
SEKA				S	**Sn**	**08 52 49.7**	**-1.2**
ARKR	**Arakani**	**0.76**	**16**	*e*Pg	**Pn**	**08 52 39.5**	**-1.0**
ARKR				*e*Sg	**Sn**	**08 52 51.5**	**+0.5**
UNCR	**Uncukul**	**0.84**	**4**	*e*Pg	**Pn**	**08 52 40.6**	**-1.1**
UNCR				*e*Sg	**Sn**	**08 52 53.2**	**+0.2**
AKT	**Akhty**	**0.86**	**117**	*e*Pg	**Pn**	**08 52 39.7**	**-2.3**
AKT				*e*Sg	**Sn**	**08 52 51.6**	**-1.9**
SGKR	**Sergokala**	**0.92**	**50**	*e*Pg	**Pn**	**08 52 41.6**	**-1.1**
SGKR				*e*Sg	**Sn**	**08 52 54.0**	**-0.9**
BUJR	**Buynaksk**	**1.00**	**17**	*e*Pg	**Pn**	**08 52 43.0**	**-0.8**
BUJR				*e*Sg	**Sn**	**08 52 57.4**	**+0.6**
DGRG	**David-gareji**	**1.08**	**248**	P	**Pn**	**08 52 44.2**	**-0.7**
DGRG				S	**Sn**	**08 53 01.8**	**+2.9**
MNGR	**Mingechevir, A**	**1.13**	**165**	P	Pn	08 52 42.7	-2.9
MNGR				S	**Sn**	**08 53 02.2**	**+2.2**
DBC	**Dubki**	**1.15**	**5**	*e*Pg	**Pn**	**08 52 45.0**	**-1.0**
DBC				*e*Sg	**Sn**	**08 53 01.0**	**+0.3**
DLMR	**Dylym**	**1.20**	**357**	*e*Pg	**Pn**	**08 52 45.4**	**-1.1**
DLMR				*e*Sg	**Sn**	**08 53 01.7**	**0.0**
QSAR	**Qusar**	**1.22**	**106**	P	**Pn**	**08 52 46.8**	**-0.1**
QSAR				S	**Sn**	**08 53 03.0**	**+0.8**
QBL	**Gabala**	**1.26**	**137**	P	**Pn**	**08 52 46.2**	**-1.2**
QBL				S	**Sn**	**08 53 03.8**	**+0.6**
GANJ	**Ganja**	**1.26**	**193**	P	**Pn**	**08 52 44.9**	**-2.5**
GANJ				S	**Sn**	**08 53 00.7**	**-2.5**
XNQ	**Khinaliq**	**1.28**	**122**	P	**Pn**	**08 52 47.4**	**-0.5**
XNQ				S	**Sn**	**08 53 05.0**	**+0.9**
QZX	**Qazax, Azerbai**	**1.29**	**231**	P	**Pn**	**08 52 45.8**	**-2.0**
QZX				S	**Sn**	**08 53 04.0**	**0.0**
GDB	**GEDABAY**	**1.35**	**212**	P	Pn	08 52 46.0	-2.8
GDB				S	**Sn**	**08 53 03.1**	**-2.7**
SHTL	**Shatili**	**1.39**	**305**	P	**Pn**	**08 52 49.0**	**-0.3**
CHRG	**Chargali**	**1.40**	**290**	P	**Pn**	**08 52 48.7**	**-0.7**
CHRG				S	**Sn**	**08 53 07.0**	**+0.1**
SEAG	**Tbilisi Sea**	**1.43**	**266**	P	Pn	**08 52 49.2**	**-0.4**
QUBA	**Quba, Azerbaij**	**1.44**	**110**	Pn	**Pn**	**08 52 49.3**	**-0.5**
QUBA				Sn	**Sn**	**08 53 08.4**	**+0.8**
IML	**Ismayilli**	**1.55**	**134**	Pg	**Pn**	**08 52 51.7**	**-0.1**
IML				Sg	**Sn**	**08 53 13.3**	**+2.9**
GUDG	**Gudauri**	**1.76**	**290**	P	Pn	**08 52 55.0**	**+0.6**
GUDG	**Gudauri**	**1.76**	**290**	*e*Pg	**Pn**	**08 52 54.8**	**+0.4**
GUDG				*e*Sg	**Sn**	**08 53 19.0**	**+3.1**
PQL	**Pirkuli**	**1.79**	**127**	Pg	**Pn**	**08 52 55.8**	**+1.1**
PQL				Sn	**Sn**	**08 53 15.2**	**-1.2**
AGDM	**Agdam**	**1.79**	**170**	Pn	**Pn**	**08 52 53.3**	**-1.3**
AGDM				Sn	**Sn**	**08 53 15.3**	**-1.0**
SIZA	**Siyzn**	**1.83**	**115**	Pg	**Pn**	**08 52 57.5**	**+2.3**
SIZA				Sn	**Sn**	**08 53 19.3**	**+1.9**
ATGJ	**Altiaghaj**	**1.96**	**120**	Pg	**Pn**	**08 53 00.1**	**+3.0**
ATGJ				Sn	**Sn**	**08 53 20.9**	**+0.3**
DMNI	**Dmanisi**	**1.96**	**255**	P	**Pn**	**08 52 55.0**	**-2.2**
DMNI				S	**Sn**	**08 53 18.6**	**-2.1**
TRLG	**Trialeti**	**1.98**	**261**	P	**Pn**	**08 52 55.7**	**-1.7**
TRLG				S	**Sn**	**08 53 20.1**	**-1.1**
LACR	**Lac**	**2.02**	**299**	*e*Pg	**Pn**	**08 52 56.1**	**-1.2**
LACR				*e*Sg	**Sn**	**08 53 23.0**	**+0.7**
GBS	**Qobustan**	**2.15**	**128**	Pg	Pn	08 53 03.5	+3.8
GBS				Sg	**Sb**	**08 53 32.1**	**+1.6**
GNI	**Garni**	**2.27**	**221**	*e*Pn	**Pn**	**08 53 03.1**	**+1.7**
GNI				*e*Sn	**Sn**	**08 53 33.1**	**+4.7**
ALIG	**Mtskhetisjvari**	**2.29**	**277**	P	**Pn**	**08 53 00.8**	**-0.7**
ALIG				S	**Sn**	**08 53 27.6**	**-1.1**
ONI	**Oni**	**2.52**	**288**	P	**Pn**	**08 53 06.8**	**+2.0**
DIGR	**Digorskoe uzhe**	**2.53**	**295**	*e*Pn	**Pn**	**08 53 03.8**	**-1.2**
DIGR				*e*Sn	**Sb**	**08 53 41.5**	**-0.1**
LSNR	**Lesken**	**

	comp=E,439nm,0.2s							
HMH	**Humu'ula Sheep**	**0.40**	**6**		Sn	08 53 19.6		-1.1
STCH	**Steam Cracks**	**0.42**	**64**		Sn	08 53 18.8		-1.9
STCH				IAML		08 53 19.0		
	comp=E,416nm,0.2s							
STCH	**Steam Cracks**	**0.42**	**64**		Pn	08 53 12.7		-1.3
NPOC	**North of Pu'u**	**0.44**	**64**	Pn	Pn	08 53 12.3		-2.0
NPOC					Sn	08 53 19.1		-2.0
NPOC				IAML		08 53 19.4		
	comp=E,532nm,0.4s							
NPOC				IAML		08 53 19.4		
	comp=N,526nm,0.6s							
JCUZ	**Jacuzzi**	**0.44**	**65**		Sn	08 53 19.3		-1.9
JCUZ	**Jacuzzi**	**0.44**	**65**		Pn	08 53 13.1		-1.2
JCUZ				IAML		08 53 20.6		
	comp=N,473nm,0.7s							
JCUZ				IAML		08 53 28.2		
	comp=E,361nm,0.7s							
CPH	**Captain Cook**	**0.47**	**308**		Pn	08 53 13.0		-1.7
KHLU	**Kahalu`u**	**0.52**	**318**		Pn	08 53 13.9		-1.6
KHLU				IAML		08 53 20.7		
	comp=N,572nm,0.2s							
KHLU				IAML		08 53 21.0		
	comp=E,400nm,0.2s							
KHLU	**Kahalu`u**	**0.52**	**318**		Sn	08 53 20.6		-2.6
JOKA	**Jonika Flow**	**0.54**	**65**		Pn	08 53 14.1		-1.7
JOKA					Sn	08 53 21.3		-2.4
POHA	**Pohakuloa**	**0.56**	**359**		Pn	08 53 14.5		-1.7
POHA				IAML		08 53 27.5		
	comp=E,265nm,0.1s							
HUH	**Hualalai**	**0.56**	**329**		Pn	08 53 14.9		-1.4
HUH				IAML		08 53 23.5		
	comp=E,509nm,0.2s							
HUH	**Hualalai**	**0.56**	**329**		Sn	08 53 23.1		-1.4
HPAH	**Hawaii Prepara**	**0.84**	**349**		Pn	08 53 18.0		-1.9
HPAH				IAML		08 53 28.2		
	comp=N,314nm,0.4s							

*KRSC **05** 09:00:03.0±1.5,50.°67N×156.°99E,h130^{km}±14^{km},Ml3.7*
*IDC **05** 09:00:04.1±3.3,50.°99N×156.°16E,h146^{km}±33^{km},mb2.8/4,*
mbtmp3.2/5,Error ellipse: s-maj=116.5km s-min=29.9km az=126.0
ISC 05 09:00:03.9±1.0,50.°7N±0.°1×156.°9E±0.°2,h136^{km}±8^{km},n31,
σ1°08/37,mb2.9/4,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.51**	**272**	*eP*	**Pn**	**09 00 23.4**	**-0.2**
SKR				*eS*	**Sn**	**09 00 38.1**	**-0.4**
PAU	**Pauzhetka**	**0.80**	**356**	*eP*	**Pn**	**09 00 26.4**	**+0.8**
PAU				*eS*	**Sn**	**09 00 42.6**	**+0.4**
KDTR	**Khodutka, Kamc**	**1.36**	**32**	*eP*	**Pn**	**09 00 31.2**	**+0.5**
KDTR				*eS*	**Sn**	**09 00 51.2**	**-0.2**
ASAK	**Asacha**	**1.83**	**19**	*eP*	**Pn**	**09 00 36.8**	**+0.7**
ASAK				*eS*	**Sn**	**09 01 00.6**	**-0.2**
MTVR	**Mutnovka**	**1.98**	**23**	*eP*	**Pn**	**09 00 38.7**	**+0.7**
MTVR				*eS*	**Sn**	**09 01 04.7**	**+0.4**
GRL	**Gorelyy**	**2.02**	**21**	*eP*	**Pn**	**09 00 39.3**	**+0.8**
GRL				*eS*	**Sn**	**09 01 06.0**	**+0.9**
RUS	**Russkaya**	**2.03**	**29**	*eP*	**Pn**	**09 00 38.7**	**+0.2**
RUS				*eS*	**Sn**	**09 01 04.0**	**-1.0**
APC	**Apacha**	**2.27**	**4**	*eP*	**Pn**	**09 00 40.5**	**-0.8**
PETK	**Petropavlovsk-**	**2.49**	**11**	P	**Pn**	**09 00 43.0**	**-1.2**
	3.4nm,0.5s,baz=176,slow=10,SNR=4.1						
PET	**Petropavlovsk**	**2.60**	**24**	*eP*	**Pn**	**09 00 45.7**	**+0.2**
PET				*eS*	**Sn**	**09 01 16.4**	**-1.0**
DALK	**Dalny**	**2.63**	**25**	*eP*	**Pn**	**09 00 46.1**	**+0.3**
DALK				*eS*	**Sn**	**09 01 17.4**	**-0.8**
AVH	**Avacha**	**2.84**	**23**	*eP*	**Pn**	**09 00 49.7**	**+1.1**
AVH				*eS*	**Sn**	**09 01 24.2**	**+1.1**
KOK	**Koryaka**	**2.84**	**21**	*eP*	**Pn**	**09 00 50.0**	**+1.4**
SMAR	**Somma**	**2.85**	**23**	*eP*	**Pn**	**09 00 49.8**	**+0.9**
KRER	**Koryakskii**	**2.88**	**23**	*eS*	**Sn**	**09 01 24.5**	**+0.3**
KRX	**Arik**	**2.90**	**21**	*eP*	**Pn**	**09 00 50.3**	**+0.8**
NLC	**Nalytchevo**	**2.92**	**30**	*eS*	**Sn**	**09 01 22.0**	**-2.9**
SPN	**Mys Shipunski**	**3.10**	**37**	*eP*	**Pn**	**09 00 52.1**	**+0.2**
SPN				*eS*	**Sn**	**09 01 27.0**	**-2.1**
TUMD	**Tumrok D**	**5.01**	**24**	*eP*	**Pn**	**09 01 18.3**	**+1.3**
TUMD				*eS*	**Sn**	**09 02 12.1**	**-1.9**
TUMR	**Tumrok**	**5.02**	**22**	*eP*	**Pn**	**09 01 19.0**	**+1.7**
KMNR	**Kamenistaya**	**5.47**	**20**	*eP*	**Pn**	**09 01 24.3**	**+1.0**
H11N2	**WAKE ISLAND Hy**	**31.87**	**162**	T	T	09 40 14.9	
	baz=348,slow=76,SNR=9.8						
H11N3	**WAKE ISLAND Hy**	**31.88**	**162**	T	T	09 40 16.2	
	baz=348,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**31.89**	**162**	T	T	09 40 18.0	
	baz=348,slow=76,SNR=9.0						
ILAR	**Eielson Array**	**31.93**	**42**	P	**P**	**09 06 15.5**	**-0.6**
	0.2nm,0.7s,baz=266,slow=6.1,SNR=5.3						
	0.2nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**33.02**	**163**	T	T	09 41 47.8	
	baz=348,slow=76,SNR=4.9						
H11S3	**WAKE ISLAND Hy**	**33.03**	**163**	T	T	09 41 49.8	
	baz=348,slow=76,SNR=6.7						
H11S2	**WAKE ISLAND Hy**	**33.04**	**163**	T	T	09 41 45.9	
	baz=348,slow=76,SNR=4.2						
YKA	**Yellowknife Ar**	**46.29**	**40**	P	**P**	**09 08 15.1**	**-0.1**
	0.1nm,0.5s,baz=299,slow=7.6,SNR=5.2						
	0.1nm,0.5s						
TXAR	**Lajitas Array**	**73.44**	**64**	P	**P**	**09 11 22.2**	**+0.9**
	0.1nm,0.5s,baz=308,slow=4.4,SNR=4.3						
	0.1nm,0.5s						
ASAR	**Alice Springs**	**76.75**	**202**	P	**P**	**09 11 39.8**	**-0.2**
	0.2nm,0.7s,baz=19,slow=5.9,SNR=1.9						
	0.2nm,0.7s						

*IDC **05** 09:01:05.8±0.7,2.°87N×31.°29W,h0^{km},mb3.9/14,*
mbtmp3.9/15,ML3.1/3,MS3.9/43,Error ellipse:
s-maj=23.0km s-min=17.9km az=125.0
ISC 05 09:01:07.2±0.6,2.°71N±0.°10×31.°4W±0.°1,h10^{km},n57,
σ1°87/16,mb3.9/13,MS4.0/42,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**9.62**	**208**	Pn	**Pn**	**09 03 27.1**	**+1.2**
	0.3nm,0.3s,baz=51,slow=18,SNR=1.3						
RCBR				Sn	**Sn**	**09 05 09.0**	**-5.1**
	0.3nm,0.3s,baz=104,slow=16,SNR=1.0						
RCBR				LR	LR	09 06 29.5	
	comp=Z,187nm,18.2s,baz=56,slow=33						
	1.2nm,0.3s						
H10N3	**ASCENSION HYDR**	**19.81**	**122**	T	T	09 26 05.2	
	baz=301,slow=75,SNR=254						
H10N2	**ASCENSION HYDR**	**19.81**	**122**	T	T	09 26 05.6	
	baz=301,slow=75,SNR=291						
H10N1	**ASCENSION HYDR**	**19.83**	**122**	T	T	09 26 06.8	
	baz=301,slow=75,SNR=253						
H10S3	**ASCENSION HYDR**	**20.27**	**125**	T	T	09 26 41.4	
	baz=301,slow=74,SNR=146						
H10S2	**ASCENSION HYDR**	**20.29**	**125**	T	T	09 26 42.8	
	baz=279,slow=74,SNR=58						
MDP	**Montagnes des**	**21.37**	**277**	LR	LR	09 12 16.4	
	comp=Z,228nm,21.9s,baz=82,slow=31						
BDFB	**Brasilia**	**24.58**	**222**	LR	LR	09 14 57.4	
	comp=Z,131nm,20.4s,baz=33,slow=34						
DBIC	**Dimbokro**	**26.69**	**81**	LR	LR	09 15 16.4	
	comp=Z,308nm,19.2s,baz=288,slow=32						
H05S1	**Guadeloupe/Mar**	**31.34**	**294**	T	T	09 40 25.5	
	SNR=31						
PCRV	**Puerto La Cruz**	**33.87**	**284**	LR	LR	09 20 15.8	
	comp=Z,276nm,18.9s,slow=34						
TORD	**Torodi Ar. Bea**	**34.28**	**71**	P	**P**	**09 07 52.6**	**-1.3**
	1.5nm,0.8s,baz=262,slow=7.9,SNR=8.2						
TORD				LR	LR	09 19 25.2	
	comp=Z,158nm,21.8s,baz=290,slow=32						
	1.5nm,0.8s						
SIV	**San Ignacio**	**34.77**	**237**	LR	LR	09 21 45.2	
	comp=Z,332nm,19.8s,baz=96,slow=36						
CPUP	**Villa Florida**	**38.26**	**219**	P	**P**	**09 08 28.9**	**+1.0**
	2.1nm,0.9s,baz=35,slow=16,SNR=4.3						
CPUP				LR	LR	09 23 34.4	
	comp=Z,165nm,18.4s,baz=36,slow=35						
	2.1nm,0.9s						
MDT	**Midelt**	**39.06**	**37**	LR	LR	09 22 36.4	
	comp=Z,239nm,20.3s,baz=348,slow=33						
SDV	**Santo Domingo**	**39.54**	**281**	LR	LR	09 24 37.6	
	comp=Z,163nm,18.2s,baz=44,slow=36						
LPAZ	**La Paz**	**40.95**	**241**	P	**P**	**09 08 52.0**	**+0.9**
	1.2nm,0.7s,baz=127,slow=5.1,SNR=5.1						
LPAZ				LR	LR	09 25 38.3	
	comp=Z,301nm,19.4s,baz=31,slow=36						
	1.2nm,0.7s						

ROSC	**El Rosal**	**42.92**	**274**	LR	LR	09 26 16.7		
	comp=Z,278nm,19.6s,baz=66,slow=35							
ESDC	**Sonseca Array**	**44.41**	**30**	P	**P**	**09 09 18.8**		**+0.5**
	1.1nm,0.8s,baz=229,slow=8.2,SNR=2.9							
	1.1nm,0.8s							
LVC	**Limon Verde**	**44.46**	**234**	LR	LR	09 27 43.2		
	comp=Z,143nm,18.7s,baz=12,slow=36							
NNA	**Nana**	**47.51**	**251**	LR	LR	09 29 22.7		
	comp=Z,176nm,18.1s,baz=42,slow=36							
ATAH	**Atahualpa**	**47.96**	**258**	LR	LR	09 28 45.7		
	comp=Z,212nm,21.7s,baz=65,slow=34							
TSUM	**Tsumeb**	**52.78**	**117**	LR	LR	09 29 29.6		
	comp=Z,111nm,18.0s,baz=332,slow=32							
JTS	**Las Juntas de**	**53.73**	**281**	LR	LR	09 34 32.7		
	comp=Z,250nm,18.5s,baz=77,slow=37							
PLCA	**Paso Flores**	**56.10**	**215**	LR	LR	09 34 04.9		
	comp=Z,92nm,18.8s,baz=49,slow=35							
EKA	**Eskdalemuir Ar**	**57.21**	**19**	P	**P**	**09 10 53.3**		**-1.1**
	1.0nm,0.6s,baz=220,slow=7.2,SNR=5.4							
	1.0nm,0.6s							
TKL	**Tuckaleechee C**	**58.45**	**311**	LR	LR	09 33 14.0		
	comp=Z,134nm,18.4s,baz=144,slow=33							
SCHQ	**Schefferville**	**59.41**	**337**	P	**P**	**09 11 09.2**		**-0.6**
	4.5nm,0.8s,baz=122,slow=3.5,SNR=6.4							
	4.5nm,0.8s							
GERES	**GERESS Array B**	**59.91**	**33**	LR	LR	09 38 41.4		
	comp=Z,49nm,18.1s,baz=281,slow=38							
SUR	**Sutherland**	**60.43**	**130**	LR	LR	09 31 44.0		
	comp=Z,69nm,21.4s,baz=281,slow=30							
LSZ	**Lusaka**	**61.55**	**109**	LR	LR	09 32 28.8		
	comp=Z,118nm,21.9s,baz=294,slow=31							
LBTB	**Lobatse**	**61.67**	**120**	LR	LR	09 32 21.3		
	comp=Z,77nm,21.7s,baz=247,slow=30							
VRAC	**Vranov**	**61.74**	**33**	LR	LR	09 36 06.4		
	comp=Z,57nm,18.4s,baz=302,slow=34							
MBAR	**Mbarara**	**62.16**	**92**	LR	LR	09 35 22.1		
	comp=Z,102nm,19.2s,baz=255,slow=33							
BOSA	**Boshof**	**62.55**	**124**	P	**P**	**09 11 32.4**		**+0.5**
	2.3nm,0.9s,baz=256,slow=4.2,SNR=2.1							
BOSA				LR	LR	09 33 51.8		
	comp=Z,82nm,19.4s,baz=208,slow=31							
	2.3nm,0.9s							
NB2	**NORSAR Subarra**	**66.48**	**21**	P	**P**	**09 11 56.8**		**0.0**
	comp=Z,0.8nm,0.6s,baz=228,slow=6.5							
NOA	**NORSAR Array B**	**66.48**	**21**	P	**P**	**09 11 54.6**		**-2.2**
	comp=Z,1.2nm,0.7s,baz=227,slow=6.5,SNR=6.3							
NOA				LR	LR	09 38 19.4		
	comp=Z,18nm,19.7s,baz=270,slow=34							
	comp=Z,1.2nm,0.7s							
EIL	**Elat**	**68.13**	**59**	LR	LR	09 42 59.6		
	comp=Z,112nm,18.1s,baz=248,slow=37							
BRTR	**Keskin Array B**	**69.17**	**48**	LR	LR	09 41 46.6		
	comp=Z,366nm,21.9s,baz=314,slow=35							
JMIC	**Jan Mayen**	**69.76**	**8**	LR	LR	09 37 38.0		
	comp=Z,18nm,19.8s,baz=36,slow=32							
ULM	**Lac du Bonnet**	**71.83**	**322**	LR	LR	09 41 11.9		
	comp=Z,126nm,18.7s,baz=116,slow=34							
TXAR	**Lajitas Array**	**73.27**	**300**	P	**P**	**09 12 40.1**		**+0.7**
	comp=Z,0.7nm,0.7s,baz=118,slow=6.9,SNR=11							
	comp=Z,0.7nm,0.7s							
ANMO	**Albuquerque**	**76.25**	**305**	LR	LR	09 43 54.3		
	comp=Z,67nm,19.4s,baz=188,slow=34							
SNAA	**Sanae**	**76.51**	**171**	P	**P**	**09 12 59.5**		**+2.3**
	comp=Z,1.9nm,0.8s,baz=281,slow=5.2,SNR=3.5							
	comp=Z,1.9nm,0.8s							
GNI	**Garni**	**77.63**	**50**	LR	LR	09 50 07.0		
	comp=Z,27nm,18.1s,baz=229,slow=38							
PDAR	**Pinedale Array**	**79.51**	**313**	P	**P**	**09 13 14.6**		**-0.1**
	comp=Z,0.4nm,0.8s,baz=82,slow=8.6,SNR=2.6							
PDAR				LR	LR	09 43 47.2		
	comp=Z,60nm,20.6s,baz=113,slow=32							
	comp=Z,0.4nm,0.8s							
RPN	**Rapa Nui**	**80.56**	**242**	LR	LR	09 45 42.9		
	comp=Z,48nm,18.2s,baz=54,slow=33							
KIRV	**Kirov**	**82.88**	**31**	LR	LR	09 49 30.3		
	comp=Z,29nm,18.9s,baz=283,slow=35							
ELK	**Elko**	**83.61**	**311**	LR	LR	09 46 53.0		
	comp=Z,64nm,19.6s,baz=105,slow=33							
YKA	**Yellowknife Ar**	**84.49**	**332**	P	**P**	**09 13 39.7**		**-0.4**
	comp=Z,0.6nm,0.7s,baz=95,slow=5.1,SNR=15							
	comp=Z,0.6nm,0.7s							
NEW	**Newport**	**85.18**	**318**	LR	LR	09 49 44.3		
	comp=Z,128nm,18.1s,baz=104,slow=34							
NVAR	**Mina Array Bea**	**85.94**	**308**	P	**P**	**09 13 48.9**		**+0.7**
	comp=Z,0.5nm,0.8s,baz=99,slow=9.2,SNR=4.8							
NVAR				LR	LR	09 51 20.5		
	comp=Z,66nm,18.0s,baz=121,slow=35							
	comp=Z,0.5nm,0.8s							
WSAR	**Wadi Sarin**	**88.93**	**67**	LR	LR	09 54 54.6		
	comp=Z,107nm,18.0s,baz=248,slow=36							
YBH	**Yreka Blue Hor**	**89.23**	**312**	LR	LR	09 51 52.2		
	comp=Z,56nm,18.8s,baz=92,slow=34							
DLBC	**Dease Lake**	**92.26**	**329**	LR	LR	09 52 12.9		
	comp=Z,105nm,18.1s,baz=114,slow=33							
BVAR	**Borovoye Array**	**94.90**	**36**	LR	LR	09 58 13.9		
	comp=Z,47nm,18.3s,baz=334,slow=36							
ILAR	**Eielson Array**	**98.17**	**337**	P	Pdif	09 14 43.0		-1.3
	comp=Z,0.2nm,0.8s,baz=54,slow=4.6,SNR=2.5							
	comp=Z,0.2nm,0.8s							

IDC 05 09:29:38.6±2.5,53.°73N×87.°06E,h0^{km},mbtmp2.9/2,
ML2.5/2,Error ellipse: s-maj=23.6km s-min=15.0km
az=72.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.35**	**280**	I	I	09 38 45.0	
	baz=100,slow=335,SNR=13						
ZALV	**Zalesovo Beam**	**1.35**	**280**	Pg	Pg	09 30 02.8	-1.5
	1.2nm,0.3s,baz=101,slow=17,SNR=17						
ZALV				Lg	Lg	09 30 21.4	
	1.4nm,0.3s,baz=98,slow=29,SNR=14						
KURBB	**Kurchatov Arra**	**6.10**	**243**	Pn	Pn	09 31 10.7	+0.8
	0.1nm,0.3s,baz=58,slow=14,SNR=7.8						
KURBB				Lg	Lg	09 32 52.9	
	baz=59,slow=29,SNR=4.1						
	1.2nm,0.7s						
MKAR	**Makanchi Array**	**7.58**	**206**	Pn	Pn	09 31 31.8	+1.4
	0.1nm,0.3s,baz=26,slow=13,SNR=6.0						
MKAR				Lg	Lg	09 33 38.9	
	0.1nm,0.3s,baz=29,slow=33,SNR=3.8						
	0.3nm,0.4s						

NNC 05 09:30:20.9±2.8,53.°48N×87.°86E,h0^{km},mb3.1,mpv2.7,
8C-6D,Error ellipse: s-maj=22.3km s-min=10.5km
az=59.0,Suspected Mining explosion.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.87**	**286**	⇓P	Pn	09 30 53.3	-0.8
	0.6nm,0.4s						
ZAA0				⇑S	Sb	09 31 19.2	-0.6
	3.0nm,0.7s						
KURK	**Kurchatov**	**6.33**	**248**	⇓Pn	Pn	09 31 56.2	+0.8
	0.3nm,0.4s						
KURK				⇓Sn	Sn	09 33 09.7	+1.4
	0.8nm,0.5s						
KURK				⇑Lg	Lg	09 33 40.0	
	4.3nm,0.9s						
KURBB	**Kurchatov Arra**	**6.42**	**247**	⇓Pn	Pn	09 31 57.0	+0.3
	1.1nm,0.3s						
KURBB				⇑Sn	Sn	09 33 11.7	+1.1
	1.9nm,0.6s						
KURBB				⇑Lg	Lg	09 33 42.2	
	10nm,1.0s						
MK31	**Makanchi Array**	**7.58**	**210**	⇑Pn	Pn	09 32 15.3	+2.7
	0.1nm,0.3s,baz=26,slow=12,SNR=4.0						
MK31				⇑Sn	Sn	09 33 41.2	+2.0
	0.3nm,0.6s						
MK31				⇓Lg	Lg	09 34 20.3	
	2.9nm,0.9s,baz=32,slow=25						
MAKZ	**Makanchi**	**7.67**	**212**	⇑Pn	Pn	09 32 15.1	+1.3
	0.4nm,0.4s						
MAKZ				⇓Sn	Sn	09 33 39.9	-1.4
	0.4nm,0.6s						
MAKZ				⇑Lg	Lg	09 34 24.5	
	1.2nm,0.8s						

*IDC **05** 09:32:04.2±2.5,7.°12S×128.°64E,h0^{km},mb3.9/2,*
mbtmp3.7/4,ML3.6/2,MS2.7/1,Error ellipse:
s-maj=296.7km s-min=30.1km az=67.0
ISC 05 09:32:06.2±1.2,7.°30S±0.°09×128.°8E±0.°2,h10^{km},n13,
σ3°33/11,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRS	**Darwin Rock St**	**5.50**	**158**	P	Pb	09 33 39.0	-3.3
FAKI	**Fak Fak**	**5.54**	**38**	P	**Pn**	**09 33 29.3**	**+0.5**
MTN	**Manton Dam**	**5.96**	**158**	P	Pb	09 33 44.3	-5.9
WRA	**Warramunga Arr**	**13.66**	**157**	Pn	**Pn**	**09 35 20.8**	**+0.6**
	0.3nm,0.3s,baz=334,slow=13,SNR=12						
WRA				Sn	Sn	09 37 42.4	-10
	0.5nm,0.3s,baz=338,slow=22,SNR=4.8						
	1.0nm,0.8s						
DAV	**Davao City (W)**	**14.64**	**347**	LR	LR	09 41 00.0	
	comp=Z,27nm,18.7s,baz=58,slow=37						
QIS	**Mount Isa**	**16.82**	**143**	P	**P**	**09 36 04.8**	**+0.7**
ASAR	**Alice Springs**	**16.99**	**164**	P	**P**	**09 36 07.7**	**+1.6**
	0.3nm,0.3s,baz=339,slow=8.6,SNR=32						
ASAR				S	**Sn**	**09 39 07.0**	**-6.1**
	0.5nm,0.7s,baz=354,slow=28,SNR=3.5						
	0.8nm,0.7s						
AS01	**Alice Springs**	**17.00**	**164**	P	**P**	**09 36 08.8**	**+2.7**
WRKA	**Warakurna**	**17.64**	**182**	P	**P**	**09 36 18.6**	**+5.4**
OOD	**Oodnadatta**	**21.40**	**163**	P	**P**	**09 36 55.8**	**+1.6**
MULG	**Mulgathing**	**23.38**	**168**	P	**P**	**09 37 16.3**	**+1.1**
MKAR	**Makanchi Array**	**67.84**	**327**	P	**P**	**09 43 03.0**	**-1.6**
	0.9nm,0.4s,baz=116,slow=7.5,SNR=5.2						
	0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**72.16**	**329**	P	**P**	**09 43 28.9**	**-2.2**
	0.3nm,0.3s,baz=139,slow=4.7,SNR=3.1						
	0.3nm,0.3s						

*IDC **05** 09:39:40.9±1.4,39.°67N×75.°65E,h0^{km},mb3.6/7,*
mbtmp3.7/9,ML3.6/2,MS3.4/3,Error ellipse: s-maj=28.3km
s-min=20.8km az=75.0
*SOME **05** 09:39:45.2,39.°95N×75.°50E,h5^{km}*
*NNC **05** 09:39:48.1±0.9,40.°05N×75.°45E,h0^{km},mb4.1,mpv3.8,*
Error ellipse: s-maj=7.3km s-min=5.1km az=158.0
*KRNET **05** 09:39:48.7±0.1,40.°16N×75.°25E,h21^{km},mb3.7*
ISC 05 09:39:46.6±1.5,40.°02N±0.°05×75.°27E±0.°03,h11^{km}±9^{km},
n83,σ2°916/119,mb3.6/7,MS3.5/3,28C-27D,
Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.36**	**270**	⇓*iP*	**Pb**	**09 40 13.6**	**+1.5**
	baz=65						
SFK				⇓*iS*	**Sg**	**09 40 31.9**	**+1.5**
	baz=65						
NRN	**Naryn**	**1.52**	**21**	⇓*iP*	**Pn**	**09 40 14.3**	**+0.4**
	baz=23						
NRN				⇓*iS*	**Sn**	**09 40 32.9**	**-0.9**
	baz=23						
OHH	**Osh**	**1.97**	**286**	⇑*iP*	**Pb**	**09 40 23.5**	**+1.0**
	baz=82						
OHH				⇑*iS*	**Sb**	**09 40 48.8**	**+1.8**
	baz=82						
ARLS	**Aral**	**1.98**	**339**	⇓*iP*	**Pb**	**09 40 22.4**	**-0.2**
	baz=38						
ARLS				⇓*iS*	**Sb**	**09 40 46.8**	**-0.5**
	baz=38						
ARSB	**Arslanbob**	**2.18**	**308**	⇑*iP*	**Pb**	**09 40 25.9**	**-0.1**
	baz=5.0						
ARSB				⇑*iS*	**Sb**	**09 40 53.2**	**+0.2**
	baz=5.0						
UCH	**Uchtor**	**2.28**	**346**	P	Pb	**09 40 28.6**	**+0.6**
	SNR=676						
UCH	**Uchtor**	**2.28**	**346**	⇓*iP*	**Pb**	**09 40 27.0**	**-1.0**
	baz=45						
UCH				⇓*iS*	**Sb**	**09 40 54.6**	**-1.7**
	baz=45						
ULHL	**Ulahol**	**2.34**	**18**	P	**Pb**	**09 40 29.6**	**+0.7**
	SNR=34						
ULHL	**Ulahol**	**2.34**	**18**	⇑*iP*	**Pn**	**09 40 27.8**	**+2.6**
	baz=19						
ULHL				⇑*iS*	**Sb**	**09 40 56.1**	**-1.8**
	baz=19						
BOOM	**Boomskoye usch**	**2.52**	**11**	⇑*iP*	**Pn**	**09 40 30.1**	**+2.5**
	baz=12						
BOOM				⇑*iS*	**Sn**	**09 41 00.3**	**+2.0**
	baz=12						
KDJ	**Kajisay**	**2.56**	**34**	⇑*iP*	**Pn**	**09 40 30.8**	**+2.7**
	baz=36						
KDJ				⇑*iS*	**Sb**	**09 41 02.0**	**-2.0**
	baz=36						
KBK	**Karagaybulak**	**2.65**	**355**	P	Pb	**09 40 33.9**	**-0.2**
	SNR=148						
KBK	**Karagaybulak**	**2.65**	**355**	⇓*iP*	**Pn**	**09 40 31.9**	**+2.6**
	baz=55						
KBK				⇓*iS*	**Sn**	**09 41 03.1**	**+1.6**
	baz=55						
AAK	**Ala-Archa**	**2.68**	**348**	P	Pb	**09 40 34.5**	**-0.1**
	SNR=146						
AAK	**Ala-Archa**	**2.68**	**348**	Pn	Pb	**09 40 34.7**	**0.0**
	29nm,0.3s,baz=149,slow=7.8,SNR=94						
AAK				Sn	**Sg**	**09 41 11.7**	**-1.1**
	18nm,0.3s,baz=50,slow=22,SNR=8.7						
	87nm,0.3s						
AAK	**Ala-Archa**	**2.68**	**348**	⇑*iP*	**Pn**	**09 40 32.4**	**+2.6**
	baz=47						
AAK				⇑*iS*	**Sn**	**09 41 04.2**	**+1.9**
	baz=47						
DRK	**Karamyk**	**2.73**	**260**	⇑*iP*	**Pb**	**09 40 35.3**	**-0.3**
	baz=57

26nm,0.8s
DGS eS **Sg** **09 41 29.5 -1.2**
115nm,0.6s
DGS **Degeres** **3.24 6** Pg **Pb** **09 40 45.8 +1.6**
26nm,0.8s
DGS Lg Lg 09 41 29.5
115nm,0.6s
TNSS **Tian-Shan** **3.27 22** eP **Pb** **09 40 46.4 +1.6**
56nm,0.4s
TNSS eS **Sg** **09 41 30.1 -1.5**
82nm,0.6s
TNSS **Tian-Shan** **3.27 22** Pg **Pb** **09 40 46.4 +1.6**
56nm,0.4s
TNSS Lg Lg 09 41 30.1
82nm,0.6s
ANVS **Anan'yevo** **3.30 32**⇑ *i*P **Pn** **09 40 41.2 +2.9**
baz=34
ANVS ⇑ *i*S **Sn** **09 41 19.9 +2.4**
baz=34
USP **Ospenovka** **3.30 350** P **Pb** **09 40 42.5 -2.5**
SNR=23
USP **Ospenovka** **3.30 350**⇓ *i*P **Pn** **09 40 41.0 +2.9**
baz=50
USP ⇓ *i*S **Sn** **09 41 18.8 +1.5**
baz=50
MDOK **Medeo** **3.41 22** eP **Pb** **09 40 48.3 +1.2**
8.4nm,0.9s
MDOK eS **Sg** **09 41 33.9 -2.3**
81nm,0.9s
MDOK **Medeo** **3.41 22** Pn **Pn** **09 40 43.0 +3.1**
15nm,0.4s
MDOK Pg **Pb** **09 40 48.3 +1.2**
8.4nm,0.9s
MDOK Lg Lg 09 41 33.9
81nm,0.9s
MDOK Lg Lg 09 41 34.2
113nm,1.0s
BTK **Batken** **3.42 272**⇑ *i*P Pn 09 40 44.4 +4.5
baz=70
BTK ⇑ *i*S **Sn** **09 41 24.8 +4.4**
baz=70
KNDC **Almaty** **3.44 21**⇓ Pg **Pg** **09 40 52.6 +0.1**
35nm,0.5s
KNDC ⇓ Lg Lg 09 41 35.9
79nm,0.6s
TRKS **Terek-Say** **3.48 297**⇑ *i*P **Pn** **09 40 43.6 +2.8**
baz=94
TRKS ⇑ *i*S **Sn** **09 41 23.8 +1.7**
baz=94
KOTS **Kotyrbulak** **3.50 23** eP **Pb** **09 40 50.7 +2.1**
24nm,0.4s
KOTS eS **Sg** **09 41 37.7 -1.1**
400nm,0.7s
KOTS **Kotyrbulak** **3.50 23** Pg **Pb** **09 40 50.7 +2.1**
24nm,0.4s
KOTS Lg Lg 09 41 37.7
400nm,0.7s
KRBS **Karabastau** **3.69 5** eP **Pb** **09 40 53.8 +2.0**
56nm,0.7s
KRBS eS **Sg** **09 41 43.1 -1.8**
104nm,1.0s
KRBS **Karabastau** **3.69 5** Pg **Pb** **09 40 53.8 +2.0**
56nm,0.7s
KRBS Lg Lg 09 41 43.1
104nm,1.0s
KTBS **Karatobe** **3.84 15** eP **Pb** **09 40 56.8 +2.5**
19nm,0.5s
KTBS eS **Sg** **09 41 48.6 -1.2**
87nm,0.9s
KTBS **Karatobe** **3.84 15** Pg **Pb** **09 40 56.8 +2.5**
19nm,0.5s
KTBS Lg Lg 09 41 48.6
87nm,0.9s
SATY **Saty** **3.84 37** eP **Pb** **09 40 55.8 +1.4**
12nm,0.7s
SATY eS **Sg** **09 41 46.9 -3.1**
30nm,0.7s
SATY **Saty** **3.84 37** Pg **Pb** **09 40 55.8 +1.4**
12nm,0.7s
SATY Lg Lg 09 41 46.9
30nm,0.7s
ZHN **Zhinishke** **3.94 36** eP **Pb** **09 40 57.4 +1.4**
4.7nm,0.6s
ZHN eS **Sb** **09 41 49.2 +5.5**
58nm,0.5s
ZHN **Zhinishke** **3.94 36** Pg **Pb** **09 40 57.4 +1.4**
4.7nm,0.6s
ZHN Lg Lg 09 41 49.2
58nm,0.5s
KUU **Kurty** **3.95 11** eP **Pb** **09 40 59.1 +2.9**
16nm,0.6s
KUU eS **Sg** **09 41 51.8 -1.7**
64nm,0.6s
KUU **Kurty** **3.95 11** Pg **Pb** **09 40 59.1 +2.9**
16nm,0.6s
KUU Lg Lg 09 41 51.8
64nm,0.6s
CHKK **Chushkaly** **4.04 18** eP **Pb** **09 41 00.2 +2.5**
14nm,0.5s
CHKK eS **Sg** **09 41 54.1 -2.1**
68nm,0.5s
CHKK **Chushkaly** **4.04 18** Pg **Pb** **09 41 00.2 +2.5**
14nm,0.5s
CHKK Lg Lg 09 41 54.1
68nm,0.5s
KURS **Kuram** **4.09 31** eP **Pb** **09 40 59.6 +1.0**
13nm,0.8s
KURS eS **Sb** **09 41 53.4 +5.4**
20nm,0.6s
KURS **Kuram** **4.09 31** Pg **Pb** **09 40 59.6 +1.0**
13nm,0.8s
KURS Lg Lg 09 41 53.4
20nm,0.6s
UZB **Uzynbulak** **4.20 41** eP **Pb** **09 41 01.7 +1.1**
6.7nm,0.5s
UZB eS **Sb** **09 41 56.8 +5.4**
18nm,0.5s
UZB **Uzynbulak** **4.20 41** Pg **Pb** **09 41 01.7 +1.1**
6.7nm,0.5s
UZB Lg Lg 09 41 56.8
18nm,0.5s
PDGK **Podgornoye** **4.57 42** Pg **Pb** **09 41 08.7 +1.9**
6.5nm,0.8s
PDGK Lg Lg 09 42 08.3
9.9nm,0.7s
PDGK **Podgornoye** **4.57 42**⇓ Pn **Pn** **09 40 57.0 +1.2**
2.0nm,0.4s
PDGK ⇑ Pg **Pb** **09 41 10.2 +3.4**
3.0nm,0.4s
PDGK ⇑ Lg Lg 09 42 08.2
17nm,0.7s
KK31 **Karatay Array** **4.72 312** Pn Pn 09 41 01.1 +3.5
0.4nm,0.3s,baz=124,slow=13,SNR=12
KK31 ⇓ Pg **Pg** **09 41 14.4 -2.5**
1.2nm,0.4s,baz=130,slow=17,SNR=13
KK31 ⇓ Lg Lg 09 42 19.8
6.9nm,0.6s,baz=114,slow=28,SNR=2.6
BLB **Baldybastay** **4.72 29** Pg **Pb** **09 41 11.4 +2.0**
12nm,0.6s
BLB Lg Lg 09 42 13.1
7.5nm,0.6s
BRLS **Boroldaу** **5.07 308** eP **Pg** **09 41 21.9 -1.8**
3.1nm,0.4s
BRLS eS **Sg** **09 42 31.0 +1.7**
9.9nm,0.8s
BRLS **Boroldaу** **5.07 308** Pg Pb 09 41 19.6 +4.3
3.1nm,1.1s
BRLS Lg Lg 09 42 27.5
13nm,0.6s
KNOS **Konyrlen** **5.22 32** Pg **Pb** **09 41 20.9 +3.1**
7.1nm,0.7s
KNOS Lg Lg 09 42 29.8
8.6nm,0.9s
BVAR **Borovoye Array** **13.43 347** Pn **Pn** **09 42 58.2 +1.3**
baz=157,slow=19,SNR=1.6
ZALV **Zalesovo Beam** **15.36 22** Pn **Pn** **09 43 22.7 -0.4**
0.3nm,0.3s,baz=188,slow=8.7,SNR=3.2
0.6nm,0.4s
SONM **Songino Array** **23.62 60** P **P** **09 44 53.4 -4.1**
0.3nm,0.5s,baz=272,slow=9.9,SNR=2.8
0.3nm,0.5s
PALK **Pallekele** **32.97 170** LR LR 09 59 58.8
comp=Z,45nm,19.1s,baz=11,slow=37
MLR **Muntele Rosu** **36.17 295** LR LR 10 07 09.1
comp=Z,76nm,18.0s,baz=254,slow=45
FINES **FINESS Array B** **36.60 322** P **P** **09 46 51.9 -0.3**
0.7nm,0.5s,baz=122,slow=7.8,SNR=7.8
0.7nm,0.5s
ARCES **ARCESS Array B** **39.28 335** P **P** **09 47 14.8 0.0**
3.5nm,0.9s,baz=102,slow=10.0,SNR=4.9
3.5nm,0.9s
HFS **Hagfors** **42.49 319** LR LR 10 07 56.7
comp=Z,57nm,20.0s,baz=261,slow=40
NOA **NORSAR Array B** **43.70 321** P **P** **09 47 51.3 +0.1**
0.4nm,0.7s,baz=97,slow=7.4,SNR=1.7
0.4nm,0.7s
TORD **Torodi Ar. Bea** **69.13 270** P **P** **09 50 51.1 -1.9**
0.4nm,0.4s,baz=54,slow=6.1,SNR=7.2
0.4nm,0.4s
ILAR **Eielson Array** **70.44 18** P **P** **09 50 57.5 -2.8**
0.4nm,0.8s,baz=315,slow=5.9,SNR=5.6
0.4nm,0.8s
YKA **Yellowknife Ar** **77.53 5** P **P** **09 51 39.5 -2.3**
0.4nm,0.7s,baz=347,slow=5.7,SNR=9.2
0.4nm,0.7s

IDC 05 09:44:12.6±6.7, 5.98S×141.65E, h0km, mb3.4/1, mbtmp3.4/3, ML3.4/2, MS2.9/1, Error ellipse: s-maj=237.3km s-min=36.5km az=94.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**14.72**	**163**	LR	LR	09 53 04.7	
	comp=Z,45nm,19.0s,baz=103,slow=36						
WRA	**Warramunga Arr**	**15.59**	**206**	Pn	Pn	09 47 53.0	-0.9
	0.2nm,0.3s,baz=27,slow=13,SNR=8.4						
WRA				Lg	Lg	09 52 23.9	
	baz=34,slow=29						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**19.10**	**202**	P	Pn	09 48 37.6	-0.2
	0.1nm,0.3s,baz=33,slow=11,SNR=10						
ASAR				Lg	Lg	09 54 11.0	
	baz=19,slow=28,SNR=1.3						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**74.15**	**322**	P	P	09 55 51.0	-0.1
	0.2nm,0.6s,baz=112,slow=8.8,SNR=3.0						
	0.2nm,0.6s						

JMA 05 09:44:20.7±0.1, 24.2N±0.3×123.8E±0.4, h17km±1km, MV0.8/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.12**	**321**	*i* P	Pg	09 44 24.4	0.0
JKRS	**Kuro-shima**	**0.18**	**92**	P	Pg	09 44 25.2	0.0
JKRS				eS	Sg	09 44 28.6	+0.3
HATJ	**Hateruma jima**	**0.19**	**182**	*i* P	Pg	09 44 25.1	-0.2
HATJ				eS	Sg	09 44 28.4	+0.1
JIJ	**Ishigaki jima**	**0.33**	**68**	eP	Pg	09 44 27.5	-0.1
JIJ				eS	Sg	09 44 31.9	-0.4
JISG	**Ishigakijimahi**	**0.57**	**53**	eP	Pg	09 44 32.0	-0.1
JYNG	**Yonagunijimaku**	**0.82**	**285**	eS	Sg	09 44 47.9	+0.5

TAP 05 09:44:28.0, 23.87N×121.97E, h32km, ML1.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.34**	**288**	eS	Sb	09 44 41.9	0.0
	baz=287						
SHUL	**Shoufeng**	**0.38**	**257**	eS	Sn	09 44 44.8	+1.4
	baz=257						
TWD	**Chiawan**	**0.40**	**301**	*i* P	Pn	09 44 37.4	0.0
	baz=302						
TWD				S	Sn	09 44 44.0	+0.2
	baz=302						
EOS4	**EOS4**	**0.41**	**53**	*i* P	Pn	09 44 37.4	+0.2
	baz=52						
EOS4				*i* S	Sn	09 44 43.9	+0.3
	baz=52						
ETL	**Fush Village**	**0.42**	**312**	*i* P	Pn	09 44 37.7	-0.2
	baz=312						
ETL				*i* S	Sn	09 44 44.8	+0.2
	baz=312						
ETM	**Tongmen**	**0.44**	**282**	P	Pn	09 44 37.9	-0.2
	baz=282						
ETM				S	Sn	09 44 45.4	+0.3
	baz=282						
NACB	**Ninganchiao**	**0.45**	**312**	*i* P	Pb	09 44 38.0	+0.2
	baz=311						
NACB				*i* S	Sn	09 44 45.1	-0.2
	baz=311						
ESL	**Shilin**	**0.49**	**263**	P	Pn	09 44 38.8	0.0
	baz=262						
ESL				S	Sn	09 44 46.5	+0.3
	baz=262						
EOS3	**EOS3**	**0.52**	**38**	P	Pn	09 44 39.4	+0.3
	baz=37						
EOS3				*i* S	Sn	09 44 47.5	+0.7
	baz=37						
LXIB	**Xiulin Townshi**	**0.53**	**286**	P	Pn	09 44 39.6	+0.2
	baz=286						
LXIB				S	Sn	09 44 47.8	+0.4
	baz=286						
WARBT	**Fenglin Townsh**	**0.55**	**254**	P	Pb	09 44 39.5	+0.1
	baz=253						
WARBT				S	Sn	09 44 47.6	-0.1
	baz=253						
ETLH	**Xiulin Townshi**	**0.55**	**307**	P	Pn	09 44 40.2	+0.5
	baz=306						
ETLH				*i* S	Sn	09 44 48.4	+0.5
	baz=306						
ENA	**Nanau**	**0.59**	**340**	P	Pn	09 44 40.2	0.0
	baz=340						
ENA				S	Sn	09 44 49.1	+0.4
	baz=340						
EWUT	**Wuta**	**0.59**	**343**	P	Pn	09 44 40.6	+0.4
	baz=343						
EWUT				eS	Sn	09 44 49.9	+1.1
	baz=343						
EOS2	**EOS2**	**0.60**	**24**	S	Sn	09 44 49.9	+1.2
	baz=24						
HGSD	**Ruisui**	**0.62**	**233**	S	Sn	09 44 50.2	+0.7
	baz=232						
EHY	**Hungye**	**0.69**	**238**	eP	Pb	09 44 41.8	+0.1
	baz=237						
EHY				eS	Sn	09 44 51.2	0.0
	baz=237						
WHF	**Hehuan Shan**	**0.69**	**293**	P	Pb	09 44 42.6	+0.6
	baz=293						
WHF				S	Sn	09 44 51.9	+0.1
	baz=293						
OWD	**Renai**	**0.73**	**277**	eP	Pb	09 44 43.0	+0.6
	baz=276						
OWD				S	Sn	09 44 52.4	+0.2
	baz=276						
CHGB	**Renai**	**0.75**	**285**	P	Pb	09 44 43.1	+0.3
	baz=284						
CHGB				S	Sn	09 44 53.7	+0.8
	baz=284						
FUSS	**Fushou**	**0.76**	**300**	S	Sn	09 44 53.7	+0.5
	baz=299						
VWDT	**VWDT**	**0.76**	**261**	P	Pb	09 44 43.2	+0.4
	baz=261						
VWDT				S	Sb	09 44 54.0	+1.0
	baz=261						
NNSB	**Datong**	**0.77**	**316**	P	Pb	09 44 43.1	+0.1
	baz=316						
NNSB				S	Sn	09 44 53.4	+0.2
	baz=316						
LATG	**Datong**	**0.77**	**329**	P	Pb	09 44 43.1	0.0
	baz=328						
LATG				S	Sb	09 44 53.4	0.0
	baz=328						
YULB	**Yu-li**	**0.78**	**232**	P	Pn	09 44 42.9	+0.1
	baz=232						
YULB				S	Sn	09 44 53.3	0.0
	baz=232						
NNS	**Nan Shan**	**0.78**	**316**	eP	Pn	09 44 42.7	-0.2
	baz=316						
NNS				S	Sb	09 44 54.2	+0.6
	baz=316						
WUSB	**Renai**	**0.78**	**279**	P	Pb	09 44 43.6	+0.3
	baz=278						
WUSB				S	Sb	09 44 53.7	0.0
	baz=278						
NDT	**Datong Townshi**	**0.83**	**330**	S	Sb	09 44 55.5	+0.4
	baz=330						
ENTT	**Nioudou**	**0.85**	**335**	eP	Pb	09 44 44.1	-0.2
	baz=334						
ENTT				S	Sb	09 44 55.6	+0.3
	baz=334						
TWE	**Neicheng**	**0.89**	**342**	eP	Pn	09 44 44.5	+0.3
	baz=342						
SSLB	**Suanglung**	**0.93**	**265**	eS	Sb	09 44 57.8	+0.1
	baz=264						
FUSB	**Fushanzhiwuyua**	**0.95**	**339**	eP	Pb	09 44 46.5	+0.5
	baz=338						
FUSB				eS	Sb	09 44 58.3	+0.1
	baz=338						
YHNB	**Yeheng**	**0.96**	**326**	P	Pb	09 44 46.1	-0.1
	baz=325						
YHNB				S	Sn	09 44 58.2	+0.3
	baz=325						
NSK	**Sanguang**	**0.97**	**325**	eS	Sb	09 44 58.6	-0.3
	baz=325						
EDH	**Donghe**	**1.08**	**214**	eP	Pn	09 44 46.9	0.0
	baz=214						
EDH				eS	Sn	09 44 59.2	-1.6
	baz=214						

IDC 05 09:47:33.0±1.9, 31.44S×178.49W, h0km, mb4.0/3, mbtmp4.0/4, ML3.8/1, Error ellipse: s-maj=45.7km s-min=32.7km az=62.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.70**	**207**	Pn	Pn	09 49 25.8	-0.6
	1.6nm,0.3s,baz=354,slow=5.0,SNR=32						
URZ				Sn	Sn	09 50 45.0	-9.4
	1.4nm,0.3s,baz=68,slow=23,SNR=8.8						
	3.2nm,0.3s						
ASAR	**Alice Springs**	**42.64**	**268**	P	P	09 55 31.4	-0.1
	0.6nm,0.3s,baz=108,slow=7.9,SNR=13						
	0.6nm,0.3s						
WRA	**Warramunga Arr**	**43.73**	**273**	P	P	09 55 40.2	0.0
	1.9nm,0.4s,baz=113,slow=7.7,SNR=32						
	1.9nm,0.4s						
QSPA	**South Pole Qui**	**58.67**	**180**	P	P	09 57 32.1	0.0
	1.2nm,0.9s,baz=218,slow=5.2,SNR=7.5						
	1.2nm,0.9s						
FINES	**FINESS Array B**	**145.97**	**339**	PKPbc	PKPdf	10 07 13.0	-0.2
	1.3nm,0.4s,baz=46,slow=4.6,SNR=14						

IDC 05 09:55:19.9±1.9, 6.49S×143.21E, h0km, mb3.7/3, mbtmp3.7/5, ML3.9/2, Error ellipse: s-maj=82.4km s-min=30.7km az=108.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.90**	**212**	Pn	Pn	09 59 03.3	-2.0
	0.3nm,0.3s,baz=30,slow=13,SNR=9.7						
WRA				Lg	Lg	10 03 38.2	
	baz=25,slow=28,SNR=2.6						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**19.28**	**207**	P	Pn	09 59 47.2	-0.1
	0.6nm,0.3s,baz=29,slow=12,SNR=37						
ASAR				Lg	Lg	10 05 27.8	
	baz=16,slow=34,SNR=1.9						
	2.8nm,0.5s						
MKAR	**Makanchi Array**	**75.51**	**322**	P	P	10 07 06.5	+0.3
	0.3nm,0.7s,baz=103,slow=6.4,SNR=3.1						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**84.96**	**325**	P	P	10 07 57.0	0.0
	1.0nm,0.7s,baz=111,slow=8.1,SNR=5.3						
	1.0nm,0.7s						
ILAR	**Eielson Array**	**87.43**	**24**	P	P	10 08 08.7	-0.3
	0.3nm,0.8s,baz=263,slow=3.8,SNR=6.2						
	0.3nm,0.8s						

TAP ***05*** *10:01:03.5, 24.02N×121.77E, h3km, ML3.0, C*
IDC 05 10:01:04.9±0.9, 24.02N±0.02×121.76E±0.0, h13km±6km, n78, σ0.997/135, 3C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.15**	**254**	P	**Pg**	**10 01 08.8**	**+0.3**
	baz=253						
TWD	**Chiawan**	**0.16**	**292**	*i* P	**Pg**	**10 01 08.2**	**-0.5**
	baz=292						
TWD				eS	**Sg**	**10 01 11.8**	**+0.4**
	baz=292						
ETL	**Fush Village**	**0.19**	**318**	*i* P	**Pg**	**10 01 08.6**	**-0.6**
	baz=316						
ETL				*i* S	**Sg**	**10 01 12.6**	**+0.5**
	baz=316						
NACB	**Ninganchiao**	**0.22**	**316**⇓	*i* P	**Pg**	**10 01 09.0**	**-0.6**
	baz=314						
NACB				*i* S	**Sg**	**10 01 13.2**	**+0.3**
	baz=314						
ETM	**Tongmen**	**0.25**	**258**	*i* P	**Pb**	**10 01 09.9**	**-1.4**
	baz=258						
ETM				*i* S	**Sb**	**10 01 14.8**	**-0.8**
	baz=258						
SHUL	**Shoufeng**	**0.29**	**218**	P	**Pb**	**10 01 11.4**	**-0.6**
	baz=219						
SHUL				eS	**Sb**	**10 01 18.0**	**+1.2**
	baz=219						
EAHA	**Aohua**	**0.31**	**356**	*i* P	**Pb**	**10 01 11.3**	**-1.1**
	baz=354						
EAHA				*i* S	**Sb**	**10 01 16.9**	**-0.5**
	baz=354						
ETLH	**Xiulin Townshi**	**0.32**	**306**	*i* P	**Pb**	**10 01 11.0**	**-1.5**
	baz=305						
ETLH				S	**Sb**	**10 01 16.7**	**-0.9**
	baz=305						
LXIB	**Xiulin Townshi**	**0.32**	**271**⇑	*i* P	**Pb**	**10 01 11.1**	**-1.5**
	baz=270						
LXIB				*i* S	**Sb**	**10 01 17.1**	**-0.6**
	baz=270						
ESL	**Shilin**	**0.36**	**236**	P	**Pb**	**10 01 11.7**	**-1.5**
	baz=235						
ESL				S	**Sb**	**10 01 18.9**	**0.0**
	baz=235						
ENA	**Nanau**	**0.41**	**357**	P	**Pb**	**10 01 12.7**	**-1.3**
	baz=357						
ENA				S	**Sb**	**10 01 19.9**	**-0.3**
	baz=357						
EWUT	**Wuta**	**0.42**	**2**	P	**Pb**	**10 01 13.2**	**-1.2**
EWUT				S	**Sb**	**10 01 20.7**	**0.0**
WARBT	**Fenglin Townsh**	**0.46**	**229**⇑	*i* P	**Pg**	**10 01 13.3**	**-0.7**
	baz=229						
WARBT				eS	**Sb**	**10 01 20.6**	**-1.0**
	baz=229						
EGFH	**Guangfu**	**0.46**	**221**	P	**Pb**	**10 01 13.9**	**-1.1**
	baz=222						
EGFH				S	**Sb**	**10 01 21.5**	**-0.3**
	baz=222						
WHF	**Hehuan Shan**	**0.47**	**286**	P	**Pb**	**10 01 14.1**	**-1.3**
	baz=285						
WHF				S	**Sb**	**10 01 21.9**	**-0.5**
	baz=285						
EOS4	**EOS4**	**0.52**	**79**	P	**Pb**	**10 01 15.5**	**-0.2**
	baz=78						
EOS4				S	**Sb**	**10 01 24.3**	**+1.3**
	baz=78						
NNSB	**Datong**	**0.54**	**320**⇑	*i* P	**Pb**	**10 01 15.3**	**-1.0**
	baz=319						
NNSB				*i* S	**Sb**	**10 01 23.5**	**-0.4**
	baz=319						
NNSH	**Datong**	**0.54**	**320**	P	**Pb**	**10 01 15.8**	**-0.5**
	baz=319						
NNSH				S	**Sb**	**10 01 23.7**	**-0.3**
	baz=319						
CHGB	**Renai**	**0.54**	**275**	P	**Pb**	**10 01 15.6**	**-0.8**
	baz=274						
CHGB				S	**Sb**	**10 01 24.2**	**0.0**
	baz=274						
OWD	**Renai**	**0.54**	**263**	P	**Pb**	**10 01 15.7**	**-0.7**
	baz=263						
OWD				S	**Sb**	**10 01 24.4**	**+0.3**
	baz=263						
LATG	**Datong**	**0.56**	**337**	*i* P	**Pb**	**10 01 15.5**	**-1.2**
	baz=336						
LATG				S	**Sb**	**10 01 24.2**	**-0.4**
	baz=336						
ESAO	**Su ao**	**0.56**	**8**	P	**Pb**	**10 01 15.8**	**-0.9**
	baz=6.0						
ESAO				S	**Sb**	**10 01 24.7**	**+0.1**
	baz=6.0						
TWT	**Tachien**	**0.58**	**294**	P	**Pb**	**10 01 16.8**	**-0.4**
	baz=292						
TWT				S	**Sb**	**10 01 26.6**	**+1.2**
	baz=292						
WUSB	**Renai**	**0.59**	**268**	P	**Pb**	**10 01 16.6**	**-0.6**
	baz=267						
WUSB				S	**Sb**	**10 01 26.1**	**+0.6**
	baz=267						
TWC	**Suao**	**0.59**	**8**	P	**Pb**	**10 01 16.3**	**-0.9**
	baz=7.0						
TWC				eS	**Sb**	**10 01 26.1**	**+0.5**

baz=7.0
TDCB Techi 0.60 293 P Pb 10 01 16.8 -0.6
baz=292
TDCB S Sb 10 01 26.2 +0.4
baz=292
HGSD Ruisui 0.61 211 P Pb 10 01 17.1 -0.4
baz=211
HGSD eS Sn 10 01 28.4 -0.6
baz=211
NDS Dongshan 0.61 356 *eP* **Pb 10 01 16.5 -1.0**
baz=355
NDS S Sb 10 01 26.9 +0.8
baz=355
NDT Datong Townshi 0.62 339 P Pb 10 01 17.1 -0.7
baz=338
NDT S Sb 10 01 27.4 +0.9
baz=338
VWDT VWDT 0.63 245 P Pb 10 01 16.9 -0.8
baz=245
VWDT S Sb 10 01 27.5 +1.1
baz=245
ENTT Nioudou 0.64 344 P Pb 10 01 17.4 -0.7
baz=343
ENTT S Sb 10 01 27.6 +0.6
baz=343
EHY Hungye 0.65 218 P Pg 10 01 16.7 -0.9
baz=218
EHY S Sb 10 01 27.6 +0.4
baz=218
TWE Neicheng 0.70 353 P Pb 10 01 18.5 -0.6
baz=353
TWE S Sb 10 01 29.7 +1.0
baz=353
YHNB Yeheng 0.74 332 P Pb 10 01 19.4 -0.3
YHNB Yeheng 0.74 332 P Pb 10 01 19.1 -0.6
baz=331
YHNB S Sb 10 01 30.1 +0.4
baz=331
NSK Sanguang 0.75 331 P Pb 10 01 19.4 -0.6
baz=330
NSK S Sb 10 01 30.7 +0.6
baz=330
YULB Yu-li 0.75 214 P Pn 10 01 21.3 0.0
YULB Yu-li 0.75 214 P Pb 10 01 18.9 -1.1
baz=214
YULB S Sb 10 01 31.1 +1.0
baz=214
FUSB Fushanzhiwuyua 0.76 348 P Pb 10 01 19.2 -0.8
baz=347
FUSB S Sb 10 01 30.9 +0.6
baz=347
DPDB Guoxing 0.76 271 S Sb 10 01 31.8 +1.3
baz=271
SSLB Suanglung 0.77 253 P Pb 10 01 19.5 -0.8
SSLB Suanglung 0.77 253 P Pb 10 01 19.4 -0.8
baz=252
SSLB eS Sb 10 01 30.8 0.0
baz=252
TWF1 Yuli 0.79 213 *eP* **Pg 10 01 18.7 -1.5**
baz=212
TWF1 S Sb 10 01 32.3 +1.2
baz=212
WHP Taichung City 0.79 289 P Pb 10 01 20.7 +0.1
baz=289
WHP S Sn 10 01 32.9 -0.7
baz=289
NWLT Wulai 0.79 343 P Pb 10 01 20.4 -0.2
baz=342
NWLT S Sb 10 01 31.9 +0.6
baz=342
SMLT Sun Moon Lake 0.80 260 P Pb 10 01 20.4 -0.4
baz=260
SMLT S Sb 10 01 32.6 +1.0
baz=260
NFF Wufeng Townshi 0.85 316 P Pn 10 01 22.1 -0.6
baz=315
CHKH Chenggong 0.89 202 *eP* **Pb 10 01 21.9 -0.4**
baz=202
CHKH eS Sn 10 01 35.5 -0.4
baz=202
WHYT Xinyi Township 0.89 249 P Pb 10 01 22.2 -0.1
baz=249
FULB Fuli 0.92 208 P Pn 10 01 23.0 -0.7
baz=208
FULB eS Sn 10 01 36.9 +0.1
baz=208
LIOB Emei 0.92 313 P Pn 10 01 23.2 -0.5
baz=312
LIOB S Sn 10 01 37.0 +0.1
baz=312
NSTT Nanjuang 0.92 311 P Pn 10 01 23.4 -0.3
baz=311
NSTT S Sn 10 01 36.8 0.0
baz=311
TIPB Shuangxi 0.95 4 P Pb 10 01 23.0 -0.4
baz=3.0
TWQ1 Liyutan 0.96 290 *eP* **Pn 10 01 24.8 +0.6**
baz=289
TWQ1 eS Sn 10 01 38.8 +1.1
baz=289
CHKT Chengkung 0.98 202 P Pb 10 01 23.4 -0.5
baz=201
CHKT S Sn 10 01 38.8 +0.5
baz=201
TATO Taipei 0.98 345 P Pn 10 01 28.0 +3.5
TATO Taipei 0.98 345 P Pn 10 01 24.3 -0.2
baz=345
TATO S Sn 10 01 37.9 -0.4
baz=345
EHD Haiduan 1.00 211 P Pb 10 01 24.1 -0.2
baz=210
ALS Alishan 1.01 240 P Pb 10 01 24.1 -0.4
baz=239
NMLH Miaoli 1.02 300 *eP* **Pn 10 01 26.0 +1.0**
baz=300
NMLH eS Sn 10 01 41.2 +1.9
baz=300
NWF Wu-fen Shan 1.05 1 P Pn 10 01 25.6 +0.2
NWF S Sn 10 01 40.2 +0.2
WFSB Wu-fen Shan 1.05 1 S Sn 10 01 40.5 +0.6
SXI1 Grass Mountain 1.08 6 P Pn 10 01 25.7 -0.1
baz=5.0
YM01 YM01 1.14 351 P Pn 10 01 26.7 +0.1
baz=350
YM08 YM08 1.18 352 P Pn 10 01 26.9 -0.2
baz=351
WCKO Fanlu 1.21 242 *eP* **Pn 10 01 28.3 +0.8**
baz=241
WCKO eS Sn 10 01 46.5 +2.7
baz=241
YOJ Yonaguni jima 1.22 69 P Pn 10 01 36.2 +8.4
STYH Taoyuan 1.24 227 *eP* **Pg 10 01 27.1 -1.6**
baz=227
STYT Tauyuan 1.25 227 *eP* **Pg 10 01 27.6 -1.5**
baz=227
STYT eS Sn 10 01 45.3 +0.2
baz=227
TPUB Ta-pu 1.26 236 P Pn 10 01 28.3 0.0
TPUB Ta-pu 1.26 236 *eP* **Pg 10 01 27.8 -1.3**
baz=235
TPUB eS Sn 10 01 47.1 +2.0
baz=235
WRL Guolierlin Hig 1.27 265 *eP* **Pn 10 01 28.9 +0.5**
baz=264
WRL eS Sn 10 01 48.2 +2.8
baz=264
WTP Ta-pu 1.30 234 *eP* **Pn 10 01 28.7 -0.2**
baz=233
WTP S Sn 10 01 47.8 +1.6
baz=233
TWK Hsinying 1.39 238 *eP* **Pg 10 01 30.6 -1.0**
baz=237
TWK eS Sn 10 01 51.0 +2.6
baz=237
CHN1 Nanshi 1.40 234 *eP* **Pg 10 01 31.2 -0.7**
baz=233
CHN1 eS Sn 10 01 51.0 +2.3
baz=233
SNST Tainan City 1.41 236 *eP* **Pn 10 01 30.3 0.0**
baz=235
SGST Jiashian 1.43 229 P Pn 10 01 30.5 -0.1
baz=229
SGST eS Sn 10 01 50.9 +1.6
baz=229
SLGT Liugui 1.45 225 *eP* **Pn 10 01 30.5 -0.3**
baz=225

UCR ***05*** *10:14:25.5±1.3, 10°.65N×84°.99W, h3km±2km, MW3.6*
CATAC ***05*** *10:14:26.0±0.3, 10°.66N×84°.98W, h4km±2km, ML2.4*
ISC 05 10:14:26.0±0.9, 10°.65N±0°.02×84°.98W±0°.02, h10km±6km, n49, σ0s64/68, 3C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ACAL	**Aguas Claras**	**0.06**	**255**	↑*iP*		**Pg**	**10 14 27.7**	**-0.6**
ACAL				*eS*		**Sg**	**10 14 29.5**	**-0.4**
CUI	**Cuipilapa**	**0.18**	**273**	↑*iP*		**Pg**	**10 14 30.4**	**+0.4**
VMAR	**Armenia, Volca**	**0.21**	**321**	*eP*		**Pg**	**10 14 31.2**	**+0.7**
VERA	**Finca Concepci**	**0.23**	**28**	*eP*		**Pg**	**10 14 31.4**	**+0.5**
BAGA	**Bagaces**	**0.30**	**247**	*eP*		**Pb**	**10 14 33.1**	**-0.4**
BAGA				*eS*		**Sb**	**10 14 39.1**	**+0.6**
CEDE	**Laguna Cedeo**	**0.32**	**121**	↑*iP*		**Pb**	**10 14 33.5**	**-0.3**
CEDE				*eS*		**Sb**	**10 14 39.6**	**+0.6**
ARE1	**Arenal 1**	**0.32**	**126**	↓*iP*		**Pb**	**10 14 33.4**	**-0.5**
VACR	**Volcan Arenal**	**0.34**	**120**	↓*eP*		**Pb**	**10 14 33.8**	**-0.4**
VACR				*eS*		**Sb**	**10 14 40.5**	**+0.7**
JTS	**Las Juntas de**	**0.36**	**176**	*iP*		**Pg**	**10 14 33.1**	**0.0**
JTS				*eS*		**Sg**	**10 14 38.4**	**+0.5**
JUNT	**Juntas**	**0.36**	**177**	*eP*		**Pg**	**10 14 33.2**	**-0.1**
JUNT				*eS*		**Sg**	**10 14 38.7**	**+0.6**
TUNA	**La Fortuna**	**0.38**	**118**	*eP*		**Pb**	**10 14 35.5**	**+0.8**
GPS3	**Bodega del ICE**	**0.39**	**286**	*eP*		**Pn**	**10 14 37.2**	**-0.6**
SOCE	**Pocosol**	**0.44**	**127**	↓*eP*		**Pg**	**10 14 35.0**	**+0.2**
SOCE				*eS*		**Sb**	**10 14 42.5**	**-0.2**
SOCE	**Pocosol**	**0.44**	**127**	*iP*		**Pg**	**10 14 35.1**	**+0.3**
SOCE				*iS*		**Sb**	**10 14 42.8**	**+0.1**
SOCE					IAML		10 14 43.8	
	comp=Z,460nm,1.0s							
LCHIL	**Los Chiles**	**0.47**	**34**	*eP*		**Pg**	**10 14 35.0**	**-0.2**
PLVR	**Palo Verde**	**0.47**	**231**	*eP*		**Pg**	**10 14 35.5**	**+0.1**
PLVR				*eS*		**Sb**	**10 14 43.0**	**-0.6**
ORTG	**Ortega, Santa**	**0.55**	**239**	*iP*		**Pg**	**10 14 37.1**	**+0.3**
ORTG				*iS*		**Sg**	**10 14 44.8**	**+0.7**
ORTG					IAML		10 14 45.4	
	comp=Z,68nm,1.0s							
ELI1	**Hacienda Flor**	**0.56**	**270**	*eP*		**Pb**	**10 14 37.4**	**-0.5**
COVE	**Coope Vega, Sa**	**0.57**	**83**	*eP*		**Pg**	**10 14 36.9**	**-0.3**
COVE	**Coope Vega, Sa**	**0.57**	**83**	*iP*		**Pg**	**10 14 37.1**	**-0.1**
COVE				*iS*		**Sg**	**10 14 45.6**	**+0.8**
COVE					IAML		10 14 51.9	
	comp=Z,180nm,1.0s							
HZTE	**Horizontes, Gu**	**0.61**	**276**	*eP*		**Pb**	**10 14 38.4**	**-0.3**
HZTE	**Horizontes, Gu**	**0.61**	**276**	*iP*		**Pb**	**10 14 38.2**	**-0.6**
HZTE					IAML		10 14 48.5	
	comp=Z,150nm,1.0s							
CPMI	**Catarata Coope**	**0.69**	**122**	*eP*		**Pg**	**10 14 39.8**	**+0.2**
CPMI				*eS*		**Sb**	**10 14 50.6**	**+0.6**
CPMI	**Catarata Coope**	**0.69**	**122**	*iP*		**Pg**	**10 14 39.7**	**+0.2**
CPMI				*iS*		**Sg**	**10 14 48.6**	**0.0**
CPMI					IAML		10 14 52.4	
	comp=Z,130nm,1.0s							
SACU	**Santa Cruz**	**0.71**	**237**	*eP*		**Pg**	**10 14 39.1**	**-0.7**
SACU				*eS*		**Sb**	**10 14 50.8**	**+0.6**
ARZA	**Esparza**	**0.72**	**155**	*eP*		**Pb**	**10 14 41.0**	**+0.3**
ARZA				*eS*		**Sb**	**10 14 51.1**	**+0.5**
JUD3	**Juan Diaz 3**	**0.73**	**229**	*eP*		**Pg**	**10 14 40.1**	**0.0**
CMARA	**Lajas Hojancha**	**0.76**	**215**	*eP*		**Pg**	**10 14 40.7**	**-0.1**
LAFE	**Finca La Fe, P**	**0.84**	**175**	*eP*		**Pg**	**10 14 41.9**	**-0.3**
TRB2	**Turrubares**	**0.90**	**144**	*eP*		**Pg**	**10 14 43.1**	**-0.3**
TCS1	**Tacares**	**0.90**	**132**	*eP*		**Pg**	**10 14 43.5**	**+0.1**
SAJU	**San Juanillo,**	**0.92**	**231**	*iP*		**Pg**	**10 14 43.6**	**-0.2**
SAJU					IAML		10 14 47.5	
	comp=Z,58nm,1.0s							
INDI	**Punta indio, G**	**0.93**	**213**	*eP*		**Pg**	**10 14 44.0**	**0.0**
INDI	**Punta indio, G**	**0.93**	**213**	*iP*		**Pb**	**10 14 44.6**	**+0.3**
INDI					IAML		10 15 03.8	
	comp=Z,49nm,1.0s							
JACO	**JACO, Garabito**	**1.03**	**162**	*eP*		**Pg**	**10 14 44.9**	**-1.0**
JACO	**JACO, Garabito**	**1.03**	**162**	*iP*		**Pg**	**10 14 45.1**	**-0.8**
JACO				*iS*		**Sg**	**10 14 59.8**	**+0.5**
JACO					IAML		10 15 00.7	
	comp=Z,41nm,1.0s							
VICA	**Volcano Irazu**	**1.30**	**120**	*eP*		**Pg**	**10 14 50.0**	**-1.0**
ABE2	**San Pablo**	**1.31**	**136**	*eP*		**Pg**	**10 14 49.9**	**-1.3**
ICR3	**Volcano Irazu**	**1.31**	**120**	*eP*		**Pg**	**10 14 49.8**	**-1.5**
LCR2	**La Lucha 2**	**1.32**	**133**	*eP*		**Pg**	**10 14 49.6**	**-1.7**
LCR2	**La Lucha 2**	**1.32**	**133**	*iP*		**Pg**	**10 14 49.7**	**-1.7**
LCR2					IAML		10 15 13.2	
	comp=Z,49nm,1.0s							
ACON	**Acoyapa**	**1.32**	**352**	*eP*		**Pn**	**10 14 50.5**	**-0.1**
ACON	**Acoyapa**	**1.32**	**352**	*iP*		**Pn**	**10 14 49.9**	**-0.7**
ACON					IAML		10 15 12.9	
	comp=Z,210nm,1.0s							
RIMA	**Rio Macho**	**1.41**	**128**	*eP*		**Pn**	**10 14 51.2**	**-0.6**
RIMA				*eS*		**Sn**	**10 15 11.9**	**+1.3**
RIMA	**Rio Macho**	**1.41**	**128**	*iP*		**Pn**	**10 14 51.5**	**-0.4**
RIMA					IAML		10 14 53.3	
	comp=Z,39nm,1.0s							
CDM	**Cerro de Muert**	**1.62**	**132**	*eP*		**Pn**	**10 14 55.1**	**0.0**
CDM				*eS*		**Sg**	**10 15 18.2**	**-0.1**
CDM	**Cerro de Muert**	**1.62**	**132**	*iP*		**Pn**	**10 14 55.0**	**0.0**
CDM				*iS*		**Sg**	**10 15 19.0**	**+0.8**
CDM					IAML		10 15 25.6	
	comp=Z,29nm,1.0s							
BLUN	**Bluefields**	**1.79**	**41**	*iP*		**Pn**	**10 14 56.4**	**-0.6**
BLUN					IAML		10 15 22.9	
	comp=Z,94nm,1.0s							
BOAB	**BOACO BROADBAN**	**1.91**	**339**	*iP*		**Pb**	**10 15 00.1**	**-0.9**
BOAB					IAML		10 15 28.9	
	comp=Z,33nm,1.0s							

IDC ***05*** *10:34:00.4±0.8, 6°.14S×143°.15E, h0km, mb4.2/9, mbtmp4.2/11, ML1.8/1, Error ellipse: s-maj=31.4km s-min=17.4km az=74.0*
ISC 05 10:34:02.0±0.7, 6°.2S±0°.1×143°.0E±0°.1, h10km, n14, σ0s94/14, mb4.2/9, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.20**	**128**	Pn		**Pn**	**10 35 20.4**	**+0.5**
	2.3nm,0.3s,baz=7.7,slow=3.5,SNR=5.6							
PMG				Sn		**Sn**	**10 36 19.8**	**-0.2**
	6.5nm,0.3s,baz=197,slow=24,SNR=3.0							
	8.9nm,0.4s							
CTA	**Charters Tower**	**14.13**	**167**	Lg		Lg	10 41 28.8	
	0.1nm,0.3s,baz=218,slow=18,SNR=3.0							
WRA	**Warramunga Arr**	**16.01**	**211**	Pn		**Pn**	**10 37 45.4**	**-2.1**
	0.5nm,0.3s,baz=31,slow=13,SNR=20							
WRA				Sn		Sn	10 40 33.9	-11
	0.5nm,0.3s,baz=31,slow=24,SNR=1.4							
WRA				Lg		Lg	10 42 27.7	
	0.3nm,0.3s,baz=21,slow=26,SNR=5.2							
ASAR	**Alice Springs**	**19.41**	**206**	P		**Pn**	**10 38 30.1**	**+0.4**
	14nm,0.8s,baz=34,slow=9.6,SNR=59							
ASAR				Lg		Lg	10 44 23.0	
	0.1nm,0.3s,baz=21,slow=29,SNR=5.4							
STKA	**Stephens Creek**	**25.55**	**183**	P		**P**	**10 39 32.4**	**+1.3**
	2.0nm,0.7s,baz=356,slow=13,SNR=2.5							
	2.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**49.88**	**300**	P		**P**	**10 42 56.8**	**+0.7**
	0.7nm,0.3s,baz=130,slow=6.2,SNR=6.2							
	0.7nm,0.3s							
USRK	**Ussuriysk Ar.**	**51.17**	**350**	P		**P**	**10 43 05.0**	**-0.3**
	2.0nm,0.9s,baz=188,slow=8.4,SNR=3.1							
	2.0nm,0.9s							
SONM	**Songino Array**	**62.74**	**333**	P		**P**	**10 44 27.9**	**+0.4**
	0.3nm,0.5s,baz=152,slow=8.0,SNR=2.4							
	0.3nm,0.5s							
MKAR	**Makanchi Array**	**75.17**	**322**	P		**P**	**10 45 45.3**	**+0.5**
	2.0nm,0.8s,baz=100,slow=7.7,SNR=5.6							
	2.0nm,0.8s							
KURBB	**Kurchatov Arra**	**79.05**	**324**	P		**P**	**10 46 06.8**	**+0.4**
	1.2nm,0.7s,baz=114,slow=4.5,SNR=5.9							
	1.2nm,0.7s							
QSPA	**South Pole Qui**	**83.73**	**180**	P		**P**	**10 46 31.0**	**-0.2**
	2.3nm,0.9s,baz=348,slow=0.7,SNR=9.7							
	2.3nm,0.9s							
BVAR	**Borovoye Array**	**84.63**	**325**	P		**P**	**10 46 36.0**	**+0.2**
	9.1nm,0.7s,baz=111,slow=6.5,SNR=30							
	9.1nm,0.7s							
ILAR	**Eielson Array**	**87.28**	**24**	P		**P**	**10 46 47.4**	**-1.4**
	1.2nm,0.8s,baz=254,slow=4.7,SNR=18							
	1.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**141.27**	**283**	PKP		**PKPdf**	**10 53 34.0**	**-0.1**
	0.4nm,0.7s,baz=58,slow=4.1,SNR=2.9							

IDC ***05*** *10:36:38.2±0.8, 35°.35N×22°.36E, h0km, mb3.9/17, mbtmp3.9/22, ML3.6/5, MS3.4/12, Error ellipse: s-maj=17.7km s-min=14.2km az=126.0*

ATH ***05*** *10:36:43.4, 35°.36N×22°.32E, h11km±1km, ML3.6/13, Error ellipse: s-maj=3.2km s-min=1.2km az=29.0*
THE ***05*** *10:36:47.2, 35°.54N×22°.45E, h25km±1km, ML3.3/8, Error ellipse: s-maj=2.2km s-min=0.9km az=39.0*
BEO ***05*** *10:36:56.2±0.8, 36°.48N×21°.61E, h0km, ML3.6/6*
ISC 05 10:36:42.8±1.5, 35°.44N±0°.05×22°.23E±0°.04, h27km±10km, n114, σ1s82/126, mb4.0/17, MS3.3/8, 1C, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.97**	**64**	P		**Pn**	**10 37 01.1**	**+0.5**
ANKY				S		**Sn**	**10 37 13.2**	**-0.3**
	3µm,0.8s							
ANKY	**Antikythira Is**	**0.97**	**64**	P		**Pn**	**10 37 00.8**	**+0.1**
ANKY				S		**Sn**	**10 37 14.1**	**+0.6**
ANKY					AML	AML	10 37 23.6	
	comp=N,6483µm,1.0s							
ANKY					AML	AML	10 37 24.9	
	comp=E,6728µm,0.9s							
RODP	**Rodopos**	**1.25**	**84**	P		**Pb**	**10 37 06.5**	**+0.7**
RODP				S		**Sb**	**10 37 20.7**	**-0.8**
	comp=E,448nm,0.7s							
VLI	**Velíai**	**1.40**	**24**	P		**Pb**	**10 37 08.6**	**+0.4**
VLI				S		**Sb**	**10 37 24.3**	**-1.3**
	comp=E,2µm,0.8s							
VLI	**Velíai**	**1.40**	**24**	P		**Pb**	**10 37 09.3**	**+1.2**
VLI					AML	AML	10 37 44.2	
	comp=E,3727µm,1.0s							
VLI					AML	AML	10 37 48.0	
	comp=N,2651µm,0.7s							
IMMV	**Iera Moni Meta**	**1.43**	**89**	P		**Pb**	**10 37 08.0**	**-0.8**
IMMV				S		**Sn**	**10 37 24.4**	**-0.5**
	comp=N,3µm,0.8s							
IMMV	**Iera Moni Meta**	**1.43**	**89**	P		**Pb**	**10 37 07.9**	**-0.8**
IMMV				S		**Sn**	**10 37 24.8**	**-0.1**
IMMV					AML	AML	10 37 37.9	
	comp=N,5585µm,0.9s							
IMMV					AML	AML	10 37 46.6	
	comp=E,5395µm,0.8s							
CHAN	**Chania**	**1.48**	**87**	P		**Pb**	**10 37 08.6**	**-1.0**
CHAN				S		**Sn**	**10 37 26.1**	**0.0**
CHAN					AML	AML	10 37 45.0	
	comp=E,4917µm,0.8s							
CHAN					AML	AML	10 37 59.7	
	comp=N,4988µm,0.8s							
PYL	**PYLOS**	**1.50**	**345**	P		**Pb**	**10 37 11.4**	**+1.4**
PYL				S		**Sb**	**10 37 30.5**	**+1.9**
	comp=N,938nm,1.2s							
PYL	**PYLOS**	**1.50**	**345**	P		**Pb**	**10 37 10.6**	**+0.7**
PYL				S		**Sb**	**10 37 30.7**	**+2.0**
PYL					AML	AML	10 37 52.6	
	comp=E,2423µm,1.2s							
PYL					AML	AML	10 37 58.5	
	comp=N,1875µm,1.0s							
GVD	**Gavdhos**	**1.64**	**111**	P		**Pn**	**10 37 09.5**	**-0.3**
GVD					AML	AML	10 37 44.0	
	comp=E,2200µm,1.0s							
GVD					AML	AML	10 38 02.5	
	comp=N,3498µm,1.1s							
PRNS	**Prines Rethymn**	**1.86**	**92**	P		**Pn**	**10 37 13.1**	**+0.3**
PRNS				S		**Sn**	**10 37 34.7**	**-0.7**
	comp=N,470nm,0.9s							
KRND	**KRANIDI**	**2.07**	**21**	P		**Pb**	**10 37 18.4**	**-1.3**
KRND				S		**Sn**	**10 37 41.1**	**+0.4**
	comp=N,445nm,0.9s							
KRND	**KRANIDI**	**2.07**	**21**	P		**Pb**	**10 37 18.8**	**-0.9**
KRND					AML	AML	10 38 11.5	
	comp=E,1238µm,0.6s							
KRND					AML	AML	10 38 14.6	
	comp=N,1813µm,1.3s							
IDI	**Anoyia**	**2.18**	**93**	P		**Pn**	**10 37 18.3**	**+1.0**
IDI				S		**Sn**	**10 37 43.5**	**0.0**
	comp=N,245nm,0.8s							
IDI	**Anoyia**	**2.18**	**93**	P		**Pn**	**10 37 18.1**	**+0.8**
IDI				S		**Sn**	**10 37 43.4**	**0.0**
IDI					AML	AML	10 38 07.2	
	comp=E,977µm,0.8s							
IDI					AML	AML	10 38 07.3	
	comp=N,823µm,1.1s							
GUR	**Goura**	**2.49**	**2**	P		**Pb**	**10 37 24.8**	**-2.1**
GUR	**Goura**	**2.49**	**2**	P		**Pb**	**10 37 25.9**	**-1.0**
GUR					AML	AML	10 38 19.8	
	comp=E,1236µm,0.7s							
GUR					AML	AML	10 38 33.3	
	comp=N,1055µm,0.8s							
DRO	**Drossia**	**2.54**	**351**	P		**Pb**	**10 37 25.5**	**-2.1**
DRO	**Drossia**	**2.54**	**351**	P		**Pb**	**10 37 26.1**	**-1.5**
DRO					AML	AML	10 38 24.2	
	comp=E,1786µm,0.9s							
DRO					AML	AML	10 38 46.2	
	comp=N,1468µm,1.0s							
KLV	**Kalavryta, Ach**	**2.60**	**359**	P		**Pb**	**10 37 26.7**	**-1.9**
KLV	**Kalavryta, Ach**	**2.60**	**359**	P		**Pb**	**10 37 26.9**	**-1.8**
LTK	**Loutraki**	**2.64**	**13**	P		**Pb**	**10 37 27.2**	**-2.2**
LTK					AML	AML	10 38 27.0	
	comp=N,708µm,0.7s							
LTK					AML	AML	10 38 27.3	
	comp=E,1244µm,0.8s							
RLS	**Riolos of Patr**	**2.68**	**347**	P		**Pb**	**10 37 28.4**	**-1.6**
PSDA	**Pessada-Kefalo**	**2.97**	**334**	P		**Pn**	**10 37 30.4**	**+2.2**
EFP	**Efpalio**	**2.99**	**355**	P		**Pb**	**10 37 33.2**	**-2.1**
ANX	**Ano Chora**	**3.15**	**356**	P		**Pb**	**10 37 35.6**	**-2.6**
ZKR	**Zakros**	**3.28**	**95**	P		**Pn**	**10 37 32.9**	**+0.5**
FSK	**Fiskardo**	**3.29**	**337**	P		**Pn**	**10 37 35.6**	**+3.0**
FSK					AML	AML	10 38 17.1	
	comp=N,574µm,1.2s							
FSK					AML	AML	10 38 26.1	
	comp=E,555µm,1.3s							
EVGI	**Lefkada island**	**3.41**	**339**	P		**Pn**	**10 37 37.3**	**+3.2**
DRAG	**Dragano-Lefkad**	**3.49**	**338**	P		**Pn**	**10 37 38.6**	**+3.3**
KYMI	**Kymi, Euboea I**	**3.52**	**25**	P		**Pn**	**10 37 38.1**	**+2.5**
AGG	**Agios Georgios**	**3.57**	**1**	P		**Pn**	**10 37 40.2**	**+3.8**
AGG					AML	AML	10 38 29.8	
	comp=E,402µm,0.7s							
AGG					AML	AML	10 38 30.0	
	comp=N,603µm,1.1s							
KARP	**Karpathos**	**4.03**	**87**	P		**Pn**	**10 37 43.1**	**+0.4**
IGT	**Igoumenitsa**	**4.35**	**340**	*e*Pn		**Pn**	**10 37 49.0**	**+1.9**
IGT				*e*Sn		Sn	10 38 26.9	-10
FNA	**Florina**	**5.37**	**353**	*e*Pn		**Pn**	**10 38 03.7**	**+2.5**
FNA				*e*Sn		Sn	10 38 51.8	-10
SRS	**Serrai**	**5.77**	**10**	*e*Pn		**Pn**	**10 38 08.9**	**+2.4**
OHR	**Ohrid**	**5.77**	**349**	*e*Pn		**Pn**	**10 38 08.6**	**+2.0**
OHR				*e*Sn		Sn	10 38 59.4	-13
OHR	**Ohrid**	**5.77**	**349**	*i*Pn		**Pn**	**10 38 09.8**	**+3.1**
OHR				*i*Sn		**Sn**	**10 39 16.1**	**+4.2**
VAY	**Valandovo**	**5.88**	**3**	*e*Pn		**Pn**	**10 38 10.3**	**+2.3**
VAY				*e*Sn		**Sn**	**10 39 07.4**	**-7.0**
VAY	**Valandovo**	**5.88**	**3**	*i*Pn		**Pn**	**10 38 10.6**	**+2.6**
VAY				*i*Sn		**Sn**	**10 39 17.8**	**+3.4**
MMB	**Musomishta**	**6.21**	**11**	*e*P		**Pn**	**10 38 15.3**	**+2.6**
KKB	**Krupnik**	**6.43**	**6**	*e*P		**Pn**	**10 38 18.8**	**+3.2**
VAE	**Valguarnera**	**6.62**	**290**	Pn		**Pn**	**10 38 20.6**	**+2.3**
	comp=N,1.2nm,0.3s,baz=117,slow=14,SNR=1.9							
VAE				Sn		**Sn**	**10 39 32.0**	**-0.8**
	comp=N,1.9nm,0.3s,baz=160,slow=15,SNR=1.8							
	comp=N,20nm,0.8s							
KDZ	**Kurdzhali**	**6.64**	**21**	*e*P		**Pn**	**10 38 20.1**	**+1.6**
PRVS	**Prvonek**	**7.05**	**359**	*e*Pn		**Pn**	**10 38 26.2**	**+1.9**
PRVS				*e*Sn		Sn	10 39 33.7	-10
DIM	**Dimitrovgrad**	**7.09**	**21**	*e*P		**Pn**	**10 38 27.0**	**+2.3**
DRME	**Dracevica, Mon**	**7.14**	**341**	*e*Pn		**Pn**	**10 38 25.6**	**+0.2**
VTS	**Vitosha**	**7.21**	**6**	*e*Pn		**Pn**	**10 38 28.1**	**+1.6**
BARS	**Barje**	**7.37**	**358**	*e*Pn		**Pn**	**10 38 30.5**	**+1.9**
HCY	**Herceg Novi**	**7.57**	**339**	*e*Pn		**Pn**	**10 38 30.6**	**-0.7**
SELS	**Selova**	**7.81**	**354**	*e*Pn		**Pn**	**10 38 35.1**	**+0.5**
ZAPS	**Zavoj**	**7.83**	**2**	*e*Pn		**Pn**	**10 38 37.3**	**+2.5**
TREB	**Trebinje**	**7.86**	**339**	*e*Pn		**Pn**	**10 38 32.2**	**-3.1**
DBRK	**Dubrovnik**	**7.88**	**337**	*e*Pn		**Pn**	**10 38 35.1**	**-0.4**
MPEP	**Malo Peshtene**	**7.99**	**8**	*e*P		**Pn**	**10 38 41.2**	**+4.2**
SJES	**Sjenica**	**8.00**	**348**	*e*Pn		**Pn**	**10 38 38.1**	**+0.8**
SJES				*e*Sn		Sn	10 39 53.6	-13
SJES	**Sjenica**	**8.00**	**348**	*e*Pn		**Pn**	**10 38 38.0**	**+0.8**
UPM	**Unac-Piva**	**8.16**	**343**	*e*Pn		**Pn**	**10 38 39.7**	**+0.1**
BLKB	**Belogradchik**	**8.18**	**2**	*e*Pn		**P

BBLS	**Lazi&#263i**	**8.69**	**346**	*e*Pn		**Pn**	**10 38 45.9**	**-0.8**
BBLS	**Lazi&#263i**	**8.69**	**346**	*e*Pn		**Pn**	**10 38 44.4**	**-2.3**
DIVS	**Divibare**	**8.81**	**349**	*e*Pn		**Pn**	**10 38 48.0**	**-0.4**
TRUS	**Trudelj**	**8.88**	**351**	*e*Pn		**Pn**	**10 38 49.0**	**-0.3**
RICI	**Ricice**	**8.95**	**335**	*e*Pn		**Pn**	**10 38 49.6**	**-0.6**
HAPS	**Han Pijesak,BI**	**8.99**	**345**	*e*Pn		**Pn**	**10 38 50.1**	**-0.8**
TEKS	**Tekeris**	**9.33**	**348**	*e*Pn		**Pn**	**10 38 54.4**	**-1.0**
TEKS	**Tekeris**	**9.33**	**348**	*e*Pn		**Pn**	**10 38 54.3**	**-1.1**
ZIRJ	**Zirje**	**9.64**	**330**	*e*Pn		**Pn**	**10 38 59.1**	**-0.6**
KIJV	**Kijevo**	**9.65**	**334**	*e*Pn		**Pn**	**10 39 00.8**	**+1.0**
MORI	**Morici**	**9.79**	**331**	*e*Pn		**Pn**	**10 39 01.4**	**-0.4**
FRGS	**Fruska Gora**	**9.88**	**350**	*e*Pn		**Pn**	**10 39 02.3**	**-0.6**
FRGS	**Fruska Gora**	**9.88**	**350**	*e*Pn		**Pn**	**10 39 01.4**	**-1.5**
BRTR	**Keskin Array B**	**10.01**	**61**	Pn		**Pn**	**10 39 05.3**	**+0.4**
	comp=N,0.1nm,0.3s,baz=282,slow=14,SNR=1.4							
	comp=N,0.7nm,0.5s							
A050A	**Klekovaca**	**10.03**	**336**	*e*Pn		**Pn**	**10 39 03.8**	**-1.2**
BLY	**Banja Luka**	**10.06**	**339**	*e*Pn		**Pn**	**10 39 05.4**	**0.0**
A051A	**Mrakovica**	**10.38**	**339**	*e*Pn		**Pn**	**10 39 06.6**	**-3.3**
MLR	**Muntele Rosu**	**10.43**	**15**	Pn		**Pn**	**10 39 12.3**	**+1.8**
	comp=N,0.8nm,0.4s,baz=254,slow=13,SNR=4.0							
MLR				LR		LR	10 44 08.7	
	comp=N,185nm,20.1s,baz=196,slow=43							
CRES	**Cresnjev**	**11.57**	**336**	*e*Pn		**Pn**	**10 39 24.8**	**-1.3**
CEY	**Cerknica**	**11.86**	**332**	*e*Pn		**Pn**	**10 39 30.1**	**0.0**
EIL	**Elat**	**12.18**	**115**	Pn		Pn	10 39 30.2	-4.2
	comp=N,0.6nm,0.3s,baz=244,slow=14,SNR=2.3							
	comp=N,2.7nm,0.5s							
VYHS	**Vyhne**	**13.28**	**350**	*e*PN		**Pn**	**10 39 51.2**	**+1.8**
CRVS	**Cervenica-Dubn**	**13.46**	**358**	*e*PN		**Pn**	**10 39 49.1**	**-2.8**
VRAC	**Vranov**	**14.46**	**345**	LR		LR	10 47 46.8	
	comp=N,111nm,19.6s,baz=196,slow=46							
GERES	**GERESS Array B**	**14.79**	**337**	Pn		**Pn**	**10 40 10.0**	**-0.2**
	comp=N,0.2nm,0.3s,baz=152,slow=6.7,SNR=2.2							
GERES				LR		LR	10 47 27.7	
	comp=N,260nm,18.9s,baz=154,slow=44							
	comp=N,0.3nm,0.3s							
AKASG	**Malin Array Be**	**16.07**	**16**	Pn		**Pn**	**10 40 25.1**	**-1.6**
	comp=N,0.6nm,0.3s,baz=213,slow=12,SNR=2.5							
AKASG				LR		LR	10 46 46.3	
	comp=N,88nm,21.4s,baz=203,slow=38							
NACGM	**Naroch**	**19.71**	**8**	⇑*i*P		**P**	**10 41 10.0**	**0.0**
	comp=Z,19nm,0.9s,baz=191							
ESDC	**Sonseca Array**	**21.15**	**289**	P		**P**	**10 41 26.6**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=80,slow=9.3,SNR=9.7							
	comp=Z,0.8nm,0.6s							
BELG	**Belogornoye**	**24.74**	**39**	LR		LR	10 52 58.6	
	comp=Z,46nm,19.1s,baz=70,slow=40							
HFS	**Hagfors**	**25.32**	**350**	P		**P**	**10 42 06.7**	**-0.2**
	comp=Z,3.0nm,0.6s,baz=155,slow=11,SNR=19							
HFS				LR		LR	10 52 47.8	
	comp=Z,48nm,19.5s,baz=226,slow=38							
	comp=Z,3.0nm,0.6s							
FINES	**FINESS Array B**	**26.14**	**4**	P		**P**	**10 42 13.5**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=153,slow=9.4,SNR=8.1							
FINES				LR		LR	10 52 49.0	
	comp=Z,68nm,19.0s,baz=214,slow=37							
	comp=Z,1.9nm,0.7s							
EKA	**Eskdalemuir Ar**	**26.45**	**327**	P		**P**	**10 42 17.9**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=129,slow=8.7,SNR=3.7							
	comp=Z,0.7nm,0.5s							
NOA	**NORSAR Array B**	**26.57**	**348**	P		**P**	**10 42 18.5**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=164,slow=9.6,SNR=5.0							
NOA				LR		LR	10 56 08.9	
	comp=Z,44nm,18.9s,baz=295,slow=44							
	comp=Z,0.4nm,0.5s							
TORD	**Torodi Ar. Bea**	**28.91**	**225**	P		**P**	**10 42 39.0**	**-0.6**
	comp=Z,2.6nm,0.6s,baz=38,slow=10.0,SNR=24							
	comp=Z,2.6nm,0.6s							
KIRV	**Kirov**	**29.28**	**29**	LR		LR	10 54 59.6	
	comp=Z,91nm,19.4s,baz=254,slow=38							
ARCES	**ARCESS Array B**	**34.20**	**2**	P		**P**	**10 43 25.3**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=187,slow=8.6,SNR=22							
ARCES				LR		LR	10 58 53.8	
	comp=Z,111nm,18.5s,baz=36,slow=39							
	comp=Z,2.0nm,0.5s							
DBIC	**Dimbokro**	**37.93**	**227**	P		**P**	**10 43 57.1**	**-0.9**
	comp=Z,3.8nm,0.6s,baz=38,slow=8.6,SNR=4.8							
	comp=Z,3.8nm,0.6s							
KURBB	**Kurchatov Arra**	**42.81**	**51**	P		**P**	**10 44 37.3**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=274,slow=8.6,SNR=5.2							
	comp=Z,1.1nm,0.5s							
SPITS	**Spitsbergen Ar**	**42.91**	**358**	P		**P**	**10 44 38.8**	**+0.2**
	comp=Z,8.9nm,1.1s,baz=163,slow=10,SNR=1.5							
	comp=Z,8.9nm,1.1s							
MKAR	**Makanchi Array**	**45.62**	**56**	P		**P**	**10 44 60.0**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=264,slow=7.7,SNR=15							
	comp=Z,1.2nm,0.6s							
ZALV	**Zalesovo Beam**	**46.54**	**46**	P		**P**	**10 45 06.6**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=271,slow=9.6,SNR=4.0							
	comp=Z,0.8nm,0.4s							
LBTB	**Lobatse**	**60.21**	**176**	LR		LR	11 17 17.9	
	comp=Z,49nm,18.3s,baz=205,slow=41							
SONM	**Songino Array**	**61.15**	**50**	P		**P**	**10 46 54.7**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=295,slow=11,SNR=3.1							
	comp=Z,0.5nm,0.4s							
SCHQ	**Schefferville**	**61.41**	**319**	P		**P**	**10 46 57.3**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=53,slow=10,SNR=1.3							
	comp=Z,1.2nm,0.7s							
BOSA	**Boshof**	**63.78**	**177**	P		**P**	**10 47 12.0**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=338,slow=5.4,SNR=1.7							
	comp=Z,1.4nm,0.7s							
SEY	**Seymchan**	**74.19**	**21**	LR		LR	11 25 06.2	
	comp=Z,144nm,18.4s,baz=276,slow=39							
YKA	**Yellowknife Ar**	**76.42**	**341**	P		**P**	**10 48 30.4**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=52,slow=7.8,SNR=1.5							
	comp=Z,0.2nm,0.6s							
ILAR	**Eielson Array**	**79.75**	**355**	P		**P**	**10 48 48.8**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=344,slow=3.1,SNR=4.4							
	comp=Z,0.2nm,0.6s							

*SDD **05** 10:52:17.9±2.4, 18˚53N×71˚55W, h20km±10km, MD3.5, ML2.9, MW3.7*

*OSPL **05** 10:52:18.4±2.1, 18˚57N×71˚54W, h5km±228km, ML2.8*

ISC 05 10:52:17.1±1.0, 18˚54N±0˚02×71˚50W±0˚03, h18km±4km, n17, σ0°81/31, 16C-5D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEDR	**Neiba UASD**	**0.10**	**128**	*e*Pg	**Pg**	**10 52 20.4**	**-0.3**
NEDR				⇑*e*Sg	**Sg**	**10 52 24.0**	**+0.8**
NEDR				IAML		10 52 24.4	
	comp=Z,2μm,0.4s						
NEDR				IAML		10 52 24.8	
	comp=N,3μm,0.6s						
PODR	**Polo**	**0.43**	**151**	⇑*e*Pg	**Pg**	**10 52 26.1**	**+0.1**
PODR				⇓*e*Sg	**Sb**	**10 52 33.8**	**+1.2**
PODR				IAML		10 52 36.2	
	comp=N,2μm,0.4s						
PODR				IAML		10 52 36.3	
	comp=N,2μm,0.7s						
PODR	**Polo**	**0.43**	**151**	⇑*i*P	**Pg**	**10 52 26.1**	**+0.1**
PODR				*e*S	**Sb**	**10 52 33.8**	**+1.2**
SDDR	**Presa de Saban**	**0.48**	**24**	⇓*e*Pg	**Pg**	**10 52 26.8**	**0.0**
SDDR				⇑*e*Sg	**Sb**	**10 52 35.0**	**+1.1**
SDDR				IAML		10 52 39.1	
	comp=E,338nm,0.8s						
SDDR				IAML		10 52 44.3	
	comp=N,534nm,0.6s						
SDDR	**Presa de Saban**	**0.48**	**24**	⇓*i*P	**Pg**	**10 52 26.9**	**0.0**
SDDR				IAML		10 52 39.6	
	comp=Z,308nm,0.9s						
LOPE2	**Hotel El Peder**	**0.56**	**205**	⇑*e*Pg	**Pb**	**10 52 28.2**	**-0.2**
LOPE2				⇑*e*Sg	**Sb**	**10 52 35.7**	**-0.3**
LOPE2				IAML		10 52 37.8	
	comp=E,251nm,0.5s						
LOPE2				IAML		10 52 37.9	
	comp=N,428nm,0.9s						
LOPE2	**Hotel El Peder**	**0.56**	**205**	⇑*i*P	**Pb**	**10 52 28.2**	**-0.2**
LOPE2				*e*S	**Sg**	**10 52 36.8**	**+0.9**
LOPE2				IAML		10 52 41.0	
	comp=Z,739nm,1.2s						
LOBA2	**Hotel Casa Bon**	**0.60**	**140**	⇑*e*Pg	**Pb**	**10 52 28.8**	**-0.3**
LOBA2				⇑*e*Sg	**Sb**	**10 52 36.5**	**-0.6**
LOBA2				IAML		10 52 41.0	
	comp=N,119nm,0.8s						
PAPH	**Port-au-Prince**	**0.76**	**269**	*i*P	**Pb**	**10 52 30.7**	**-1.1**
PAPH				*e*S	**Sb**	**10 52 41.6**	**-0.3**
PAPH				IAML		10 52 45.7	
	comp=Z,382nm,0.3s						
ABDR	**Alto Bandera**	**0.87**	**72**	⇓*e*Pg	**Pg**	**10 52 34.3**	**+0.1**
ABDR				⇑*e*Sg	**Sg**	**10 52 46.6**	**+0.9**
ABDR				IAML		10 52 49.3	
	comp=N,276nm,0.6s						
ABDR				IAML		10 52 49.6	
	comp=E,336nm,0.6s						
LODA1	**ITESIL, Dajabo**	**1.01**	**349**	*i*P	**Pb**	**10 52 36.3**	**+0.1**
LODA1				*e*S	**Sb**	**10 52 49.3**	**+0.1**
MADR	**Mao Valverde**	**1.08**	**20**	⇑*e*Pg	**Pb**	**10 52 36.3**	**-1.1**
MADR				⇑*e*Sg	**Sg**	**10 52 53.3**	**+0.9**
MADR				IAML		10 52 58.1	
	comp=E,386nm,0.5s						
MADR				IAML		10 52 59.3	
	comp=N,652nm,0.4s						
SC01	**Santiago de lo**	**1.14**	**40**	*i*P	**Pg**	**10 52 39.3**	**+0.1**
LUDR	**Luperon**	**1.44**	**21**	⇑*e*Pg	**Pb**	**10 52 43.9**	**+0.4**
LUDR				IAML		10 53 08.2	
	comp=N,1μm,0.3s						
DR08	**Loma La Naviza**	**1.46**	**73**	*e*Pg	**Pn**	**10 52 42.9**	**+0.2**
DR08				*e*Sg	**Sb**	**10 53 02.6**	**+0.5**
DR08				IAML		10 53 03.1	
	comp=N,498nm,0.6s						
HATOM	**Hato Mayor del**	**2.02**	**83**	⇓*e*Pg	**Pb**	**10 52 53.4**	**0.0**
HATOM				⇑*e*Sg	**Sg**	**10 53 21.1**	**-1.1**
HATOM				IAML		10 53 23.2	
	comp=E,55nm,1.5s						
HATOM				IAML		10 53 23.8	
	comp=N,59nm,2.5s						
MIDR	**Miches**	**2.36**	**79**	*e*Pg	**Pb**	**10 52 57.6**	**-1.5**
MIDR				IAML		10 53 28.9	
	comp=E,31nm,1.0s						
MIDR				⇑*e*Sg	**Sg**	**10 53 31.3**	**-1.8**
MIDR				IAML		10 53 31.5	
	comp=N,62nm,3.5s						

*BJI **05** 10:59:59.2±0.0, 29˚70N×142˚33E, h10km, mb4.6/65, mB4.9/39, Ms4.5/55, Ms7 4.3/54*

*IDC **05** 11:00:02.2±0.4, 29˚76N×142˚08E, h0km, mb4.6/28, mbtmp4.6/30, ML3.7/2, MS4.1/36, Error ellipse: s-maj=15.7km s-min=11.5km az=79.0*

*MOS **05** 11:00:02.8±0.9, 29˚76N×142˚07E, h18km, mb5.1/58, Error ellipse: s-maj=8.3km s-min=4.0km az=117.5*

*NEIC **05** 11:00:04.1±1.4, 29˚81N±0˚06×142˚13E±0˚08, h10km±1km, mb4.9/132, Error ellipse: s-maj=13.4km s-min=7.9km az=238.0*

*NIED **05** 11:00:04.6, 29˚83N×142˚42E, h53km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.13; $M_{\theta\theta}$0.23; $M_{\phi\phi}$-1.36; $M_{r\theta}$-0.24; $M_{\theta\phi}$0.19; $M_{\phi r}$1.04; Fault plane solution: $M_0$1.65000×10^{16} NP1: ϕ_s348.00000°, δ65.00000°, λ85.00000°. NP2: ϕ_s179.00000°, δ25.00000°, λ100.00000°.*

*JMA **05** 11:00:04.6±0.2, 29˚8N±0˚7×14˚2E±˚, h53km, MV4.7/40, NEAR TORISHIMA IS*

*PPT **05** 11:00:04.8±0.3, 29˚71N×142˚02E, h10km, mb5.0/19, MLv5.6/2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

*GCMT **05** 11:00:11.1±0.4, 29˚78N±0˚03×141˚84E±0˚03, h30km±1km, MW5.0/61, Moment Tensor Solution. s22,c26; s61,c81; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.24±.28; $M_{\theta\theta}$3.50±.26; $M_{\phi\phi}$-3.74±.17; $M_{r\theta}$0.75±.41; $M_{\theta\phi}$-1.65±.20; $M_{\phi r}$-1.09±.23; Best double couple: $M_0$4.19500×10^{16} NP1: ϕ_s148.00000°, δ88.00000°, λ19.00000°. NP2: ϕ_s57.00000°, δ71.00000°, λ178.00000°. Principal axes: T 4.1070, Plg14.0000°, Azm14.0000°; N 0.1790, Plg71.0000°, Azm153.0000°; P -4.2840, Plg12.0000°, Azm281.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 11:00:04.0±0.5, 29.75N±0˚04×142˚25E±0˚05, h17km±2km, n589, σ1°45/608, mb4.8/160, MS4.2/48, 16C-11D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.64**	**181**	*e*P	**Pn**	**11 00 47.2**	**+1.3**
CBIJ				*e*S	**Sn**	**11 01 18.9**	**+1.2**
JCJ	**Chichijima**	**2.64**	**181**		**Pn**	**11 00 45.9**	**-0.1**
JCJ	**Chichijima**	**2.64**	**181**	Pn	**Pn**	**11 00 43.5**	**-2.5**
	11nm,0.3s,baz=3.4,slow=18,SNR=19						
JCJ				Sn	**Sn**	**11 01 13.2**	**-4.4**
	99nm,0.3s,baz=271,slow=22,SNR=13						
JCJ				LR	LR	11 01 43.9	
	comp=Z,999nm,21.4s,baz=354,slow=38						
JHJ	**Hachijo jima 2**	**3.96**	**329**	Pn	**Pn**	**11 01 03.1**	**-0.9**
	15nm,0.3s,baz=110,slow=22,SNR=6.4						
JHJ				Sn	**Sn**	**11 01 46.9**	**-3.4**
	24nm,0.3s,baz=58,slow=22,SNR=2.5						
JHJ				LR	LR	11 02 30.9	
	comp=Z,2μm,20.2s,baz=49,slow=38						
	85nm,0.5s						
JMYK	**Miyake Tsubota**	**4.87**	**333**	*e*P	**Pn**	**11 01 16.9**	**+0.3**
BSO1	**Boso 1**	**5.01**	**348**	P	**Pn**	**11 01 17.9**	**0.0**
BSO1				*e*S	**Sn**	**11 02 14.5**	**-0.6**
BSO3	**Boso 3**	**5.25**	**344**	*e*P	**Pn**	**11 01 22.2**	**+0.7**
BSO4	**Boso 4**	**5.47**	**343**	*e*P	**Pn**	**11 01 27.0**	**+2.3**
BSO4				*e*S	**Sn**	**11 02 27.8**	**+0.7**
JOD2	**Odawara 2**	**6.11**	**335**	*e*P	**Pn**	**11 01 35.8**	**+2.2**
JHU	**Hanno**	**6.58**	**338**	*e*P	**Pn**	**11 01 40.8**	**+0.8**
JHU				*e*S	**Sn**	**11 02 53.0**	**-1.6**
JYT	**Yasato**	**6.69**	**346**	P	**Pn**	**11 01 41.3**	**-0.2**
JNY	**Yasuok**	**6.71**	**328**	*e*P	Pn	11 01 47.1	+5.3
JRY	**Ryogami san**	**6.85**	**337**	*e*P	**Pn**	**11 01 45.0**	**+1.2**
JRY				*e*S	**Sn**	**11 03 01.4**	**-0.1**
JHO	**Hitachi**	**6.99**	**349**	*e*P	**Pn**	**11 01 44.7**	**-0.9**
JAG	**Ashikaga**	**7.06**	**341**	*e*P	**Pn**	**11 01 46.6**	**0.0**
INU	**Inuyama**	**7.12**	**323**	Pn	**Pn**	**11 01 46.3**	**-1.1**
JGF	**Kuroka**	**7.14**	**326**		**Pn**	**11 01 47.4**	**-0.4**
MJAR	**Matsushiro Arr**	**7.57**	**335**	Pn	**Pn**	**11 01 54.2**	**+0.5**
	1.0nm,0.3s,baz=154,slow=10,SNR=45						
MJAR				Sn	**Sn**	**11 03 18.1**	**-1.1**
	0.3nm,0.3s,baz=163,slow=16,SNR=4.5						
MJAR				LR	LR	11 05 11.3	
	comp=Z,979nm,18.1s,baz=150,slow=41						
	48nm,1.0s						
MAJO	**Matsushiro**	**7.57**	**334**	Pn	**Pn**	**11 01 55.4**	**+1.7**
MAJO	**Matsushiro**	**7.57**	**334**	*d*iP	**Pn**	**11 01 54.4**	**+0.7**
MJB9	**Matsu-Tunnel**	**7.58**	**334**	Pn	**Pn**	**11 01 55.4**	**+1.6**
JFK	**Kawauchi**	**7.68**	**352**	*e*P	**Pn**	**11 01 54.9**	**-0.3**
JMM	**Marumori**	**8.19**	**352**	Pn	**Pn**	**11 02 01.0**	**-1.0**
JSD	**Sado**	**8.90**	**339**	Pn	**Pn**	**11 02 11.2**	**-0.7**
JMK	**Ichinoseki**	**9.22**	**355**	*e*P	**Pn**	**11 02 14.6**	**-1.6**
JNU	**Nakatsue**	**10.28**	**292**	LR	LR	11 06 19.9	
	comp=Z,1μm,18.4s,baz=104,slow=37						
JTM	**Tenmabayashi**	**11.05**	**355**	Pn	**Pn**	**11 02 39.3**	**-2.1**
ERM	**Erimo**	**12.26**	**3**	Pn	**Pn**	**11 02 54.8**	**-3.0**
ERM	**Erimo**	**12.26**	**3**	*d*iP	**Pn**	**11 02 55.1**	**-2.7**
JOW	**Kunigami**	**12.65**	**260**	LR	LR	11 07 35.6	
	comp=Z,1μm,19.5s,baz=89,slow=36						
TJN	**Taejon**	**14.12**	**302**	*e*P	**Pn**	**11 03 24.0**	**+0.8**
KSRS	**Korea Array**	**14.19**	**307**	Pn	**Pn**	**11 03 26.9**	**+2.8**
	0.2nm,0.3s,baz=111,slow=14,SNR=16						
KSRS				LR	LR	11 08 43.6	
	comp=Z,736nm,18.6s,baz=110,slow=37						
KSAR	**Wonju Array Be**	**14.21**	**306**	Pn	**Pn**	**11 03 20.9**	**-3.6**
KSAR	**Wonju Array Be**	**14.21**	**306**	P	**Pn**	**11 03 20.9**	**-3.6**
KS19	**Wonju Array Si**	**14.25**	**307**		**Pn**	**11 03 22.2**	**-2.8**
ASAJ	**Asahikawa**	**14.34**	**1**	P	**Pn**	**11 03 24.0**	**-2.3**
ASAJ	**Asahikawa**	**14.34**	**1**	Pn	**Pn**	**11 03 23.7**	**-2.6**
	1.4nm,0.3s,baz=227,slow=11,SNR=9.0						
ASAJ				Sn	Sn	11 05 50.6	-14
	0.3nm,0.3s,baz=225,slow=32,SNR=2.7						
ASAJ				LR	LR	11 11 37.6	
	comp=Z,89nm,19.6s,baz=190,slow=48						
JKA	**Kamikawa-asahi**	**14.34**	**1**		**Pn**	**11 03 24.0**	**-2.3**
MSHR	**Mys Shultsa**	**15.61**	**328**	⇓*i*P	**Pn**	**11 03 44.3**	**+1.1**
VLA	**Vladivostok**	**15.72**	**331**	*e*P	**Pn**	**11 03 44.1**	**-0.5**
PSTR	**Posyet**	**15.82**	**328**	*i*P	**Pn**	**11 03 44.2**	**-1.8**
USA0B	**Ussuriysk Arra**	**16.57**	**333**	*d*iP	**Pn**	**11 03 53.8**	**-1.7**
USRK	**Ussuriysk Ar.**	**16.57**	**333**	Pn	**Pn**	**11 03 49.3**	**-6.2**
	0.1nm,0.3s,baz=170,slow=13,SNR=4.4						
USRK				LR	LR	11 10 32.7	
	comp=Z,600nm,18.1s,baz=150,slow=38						
YSS	**Yuzh-Sakhalins**	**17.18**	**1**		**Pn**	**11 04 01.8**	**-1.4**
YSS	**Yuzh-Sakhalins**	**17.18**	**1**	*e*P	**Pn**	**11 04 02.1**	**-1.1**
YSS				*e*S	**Sn**	**11 07 13.1**	**-0.8**
YSS				pmax	pmax		
	comp=Z,20nm,1.3s						
YSS				MLR	MLR		
	comp=Z,600nm,15.0s						
MDJ	**Mudanjiang**	**17.91**	**329**	P	**Pn**	**11 04 12.3**	**+0.1**
MDJ				sP	sP	11 04 16.4	-0.6
MDJ				PP	**PnPn**	**11 04 23.3**	**+0.1**
MDJ				S	**Sn**	**11 07 31.5**	**0.0**
MDJ				sS	S	11 07 36.4	-1.4
MDJ				ScS	**ScS**	**11 15 55.3**	**-7.5**
MDJ				pmax	pmax		
	comp=Z,34nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,260nm,4.9s						
MDJ				LR	LR		
	comp=Z,1μm,16.1s						
MDJ				LR	LR		
	comp=Z,600nm,16.1s						
MDJ				LR	LR		
	comp=Z,1μm,16.8s						
MDJ	**Mudanjiang**	**17.91**	**329**		**Pn**	**11 04 10.9**	**-1.3**
YHNB	**Yeheng**	**19.23**	**260**	P	**P**	**11 04 27.6**	**0.0**
YHNB				IAmb	IAmb	11 04 39.3	
	comp=Z,92nm,1.2s						
DL2	**Dalian**	**19.29**	**304**	P	**P**	**11 04 27.2**	**-0.8**
DL2				S	**S**	**11 08 09.1**	**+3.2**
DL2				pmax	pmax		
	comp=Z,43nm,0.8s						
DL2				pmax	pmax		
	comp=Z,730nm,5.5s						
DL2				LR	LR		
	comp=Z,860nm,16.4s						
DL2				LR	LR		
	comp=Z,1μm,17.9s						
DL2				LR	LR		
	comp=Z,1μm,15.7s						
CN2	**Changchun**	**19.38**	**321**	*e*P	**P**	**11 04 29.4**	**+0.4**
CN2				*e*sP	sP	11 04 36.0	+2.7
CN2				*e*S	**Sn**	**11 07 59.9**	**-7.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=Z,400nm,13.0s						
CN2				LR	LR		
	comp=Z,400nm,13.0s						
CN2				LR	LR		
	comp=Z,500nm,12.0s						
BNX	**BinXian**	**19.76**	**328**	⇓P	**P**	**11 04 32.5**	**-0.6**
BNX				pmax	pmax		
	comp=Z,44nm,1.2s						
BNX				pmax	pmax		
	comp=Z,220nm,3.5s						
YULB	**Yu-li**	**19.77**	**256**	P	**Pn**	**11 04 34.2**	**-0.8**
YULB				IAmb	IAmb	11 04 47.3	
	comp=Z,47nm,0.9s						
SSLB	**Suanglung**	**19.91**	**258**	P	**P**	**11 04 35.2**	**+0.3**
NJ2	**Nanjing**	**20.20**	**282**	*e*P	**P**	**11 04 38.1**	**+0.1**
NJ2				pP	**pP**	**11 04 40.6**	**-0.5**
NJ2				sP	**sP**	**11 04 41.9**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,490nm,4.5s						
TPUB	**Ta-pu**	**20.37**	**257**	P	**P**	**11 04 40.0**	**+0.1**
KLR	**Kul'dur**	**21.04**	**341**	⇑*i*P	**P**	**11 04 46.8**	**-0.1**
KLR				pmax	pmax		
	comp=Z,18nm,1.0s						
KLR	**Kul'dur**	**21.04**	**341**	P	**P**	**11 04 46.5**	**-0.5**
	comp=Z,16nm,1.1s,baz=140,slow=9.8,SNR=17						
KLR				LR	LR	11 13 24.3	
	comp=Z,241nm,18.9s,baz=150,slow=38						
	comp=Z,16nm,1.1s						
TYV	**Tymovskoe**	**21.09**	**1**	*e*P	**P**	**11 04 49.9**	**+2.4**
TYV				*e*S	Sn	11 08 48.2	0.0
TYV				pmax	pmax		
	comp=Z,100nm,3.1s						
TYV				pmax	pmax		
	comp=Z,7.0nm,1.2s						
GRNR	**Gornyy**	**21.45**	**350**	⇑*i*P	**P**	**11 04 52.2**	**+0.8**
GRNR				pmax	pmax		
	comp=N,3.0nm,0.8s						
GRNR				MLR	MLR		
	comp=N,180nm,16.0s						
GRNR				MLR	MLR		
	comp=Z,260nm,14.0s						
HEH	**HeiHe**	**23.34**	**335**	*e*P	**P**	**11 05 10.6**	**-0.7**
HEH				pP	**pP**	**11 05 13.1**	**-1.3**
HEH				S	**S**	**11 09 22.6**	**-0.7**
HEH				sS	**sS**	**11 09 31.1**	**+2.6**
HEH				pmax	pmax		
	comp=Z,32nm,1.0s						
HEH				pmax	pmax		
	comp=Z,280nm,6.2s						
HEH				LR	LR		
	comp=Z,450nm,19.4s						
HEH				LR	LR		
	comp=Z,580nm,18.5s						
HEH				LR	LR		
	comp=Z,860nm,17.9s						
SKR	**Severo-Kuril's**	**23.36**	**23**	*e*P	**P**	**11 05 09.4**	**-2.1**
SKR				pmax	pmax		
	comp=Z,273nm,1.1s						
SKR				MLR	MLR		
	comp=Z,2μm,16.0s						
BJT	**Baijiatuao**	**23.64**	**303**	P	**P**	**11 05 11.6**	**-2.8**
BJT

ZEA MLR MLR
comp=Z,200nm,13.0s
ZEA MLR MLR
comp=N,200nm,16.0s
HHC Hu-ho-hao-te 27.25 302 *e*P **P 11 05 47.5 0.0**
HHC *e*S **S 11 10 27.8 +1.8**
HHC sS sS 11 10 36.7 +5.3
HHC pmax pmax
comp=N,12nm,0.9s
HHC pmax pmax
comp=N,140nm,4.1s
HHC LR LR
comp=N,300nm,16.7s
HHC LR LR
comp=N,870nm,16.2s
HHC LR LR
comp=N,1μm,16.8s
DAV Davao City (W) 27.48 218 LR LR 11 18 41.4
comp=N,225nm,18.0s,baz=46,slow=41
ENH Enshi 28.32 279 P **P 11 05 55.2 -1.9**
ENH IAmb IAmb 11 06 09.0
comp=Z,19nm,1.2s
BTO Baotou 28.34 301 *e*P **P 11 05 59.5 +2.3**
BTO pP **sP 11 06 04.0 +2.4**
BTO sP **pwP 11 06 06.3 -2.4**
BTO PP **PnPn 11 06 50.6 +4.7**
BTO S **S 11 10 48.3 +5.2**
BTO SS **SnSn 11 12 04.6 +3.9**
BTO pmax pmax
comp=Z,60nm,1.0s
BTO pmax pmax
comp=Z,340nm,4.5s
BTO LR LR
comp=Z,870nm,14.1s
BTO LR LR
comp=Z,2μm,14.6s
BTO LR LR
comp=Z,3μm,13.9s
MA2 Magadan 30.38 9 P **P 11 06 15.8 +0.9**
MA2 IAmb IAmb 11 06 49.9
comp=Z,17nm,1.3s
MA2 Magadan 30.38 9 *i*P **P 11 06 14.3 -0.6**
MA2 Magadan 30.38 9 LR LR 11 25 17.7
comp=Z,86nm,18.0s,baz=150,slow=50
QIZ Qiongzhong 31.29 257 P **P 11 06 22.0 -1.4**
QIZ S **S 11 11 29.7 +0.1**
QIZ LR LR
comp=Z,240nm,20.1s
QIZ LR LR
comp=Z,250nm,18.6s
QIZ LR LR
comp=Z,250nm,17.2s
GYA Guiyang 31.48 273 P **P 11 06 26.8 +1.6**
GYA S **S 11 11 35.4 +2.6**
GYA pmax pmax
comp=Z,9.0nm,0.6s
GYA pmax pmax
comp=Z,120nm,4.6s
GYA LR LR
comp=Z,340nm,19.3s
ULN Ulaanbaatar 32.49 314 P **P 11 06 34.3 +0.5**
ULN IAmb IAmb 11 06 35.7
comp=Z,19nm,0.9s
ULN Ulaanbaatar 32.49 314*c i*P **P 11 06 34.0 +0.2**
ULN pmax pmax
comp=Z,25nm,1.0s
LZH Lanzhou 32.70 291 ⇓P **P 11 06 35.2 -0.6**
LZH sP pwP 11 06 45.0 -1.7
LZH pmax pmax
comp=Z,14nm,1.5s
LZH LR LR
comp=Z,250nm,12.0s
LZH LR LR
comp=Z,320nm,12.0s
LZH LR LR
comp=Z,340nm,13.7s
SONM Songino Array 32.89 313 P **P 11 06 37.5 +0.2**
SONM IAmb IAmb 11 06 39.1
comp=Z,14nm,0.9s
SONM Songino Array 32.89 313 P **P 11 06 37.6 +0.3**
comp=Z,12nm,0.8s,baz=112,slow=7.9,SNR=66
SONM LR LR 11 20 35.0
comp=Z,357nm,18.1s,baz=142,slow=38
comp=Z,12nm,0.8s
CD2 Chengdu 33.13 282 *e*P **P 11 06 38.5 -1.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
YAK Yakutsk 33.33 349 *e*P **P 11 06 38.5 -2.2**
YAK *e* 11 07 48.3
YAK *e* 11 09 20.0
YAK *e*S **S 11 11 59.8 -0.6**
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=N,6.0nm,0.8s
YAK pmax pmax
comp=E,1.0nm,0.8s
YAK pmax pmax
comp=Z,301nm,7.2s
YAK pmax pmax
comp=N,137nm,9.8s
YAK pmax pmax
comp=E,126nm,4.1s
YAK smax smax
comp=E,135nm,4.2s
YAK smax smax
comp=N,89nm,4.3s
YAK MLR MLR
comp=N,109nm,14.0s
YAK MLR MLR
comp=E,149nm,22.0s
SEY Seymchan 33.84 8⇑*i*P **P 11 06 46.5 +1.3**
SEY pmax pmax
comp=Z,8.0nm,1.0s
FAKI Fak Fak 33.87 198 P **P 11 06 47.1 +1.2**
FAKI IAmb IAmb 11 07 38.1
comp=Z,18nm,1.0s
BOD Bodaibo 34.20 333 *e*P **P 11 06 48.8 +0.3**
BOD pmax pmax
comp=Z,21nm,1.3s
KMI Kunming 35.25 272 ⇓P **P 11 06 56.8 -1.3**
KMI pmax pmax
comp=Z,100nm,4.4s
KMI LR LR
comp=Z,280nm,15.4s
KMI LR LR
comp=Z,220nm,11.8s
KMI LR LR
comp=Z,300nm,20.1s
ZAK Zakamensk 35.70 316 *e*P **P 11 07 01.0 -0.6**
ZAK pmax pmax
comp=Z,12nm,1.4s
PZH PanZhiHua 35.74 275 P **P 11 07 02.6 +0.3**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.1s
GTA Gaotai 35.96 297 *e*P **P 11 07 02.4 -1.6**
GTA sP pwP 11 07 13.0 -2.6
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA LR LR
comp=Z,300nm,17.1s
GTA LR LR
comp=Z,390nm,17.5s
GTA LR LR
comp=Z,380nm,17.5s
MOY Mondy 37.49 318 *e*P **P 11 07 17.2 +0.3**
MOY pmax pmax
comp=Z,16nm,1.9s
TNCH TengChong 38.94 274 P **P 11 07 28.4 -1.1**
TNCH pmax pmax
comp=Z,23nm,0.6s
TNCH pmax pmax
comp=Z,79nm,4.1s
CRAI Chiangrai 38.94 266 P **P 11 07 28.4 -0.9**
CRAI IAmb IAmb 11 07 41.1
comp=Z,17nm,1.0s
PHRA Phrae 39.75 263 P **P 11 07 35.4 -0.7**
GOMU GeErMu 39.99 292 P **P 11 07 37.3 -1.1**
GOMU pP sP 11 07 42.9 0.0
GOMU sP pwP 11 07 48.9 -1.1
GOMU pmax pmax
comp=Z,9.0nm,1.0s
GOMU LR LR
comp=Z,200nm,15.9s
GOMU LR LR
comp=Z,250nm,16.3s
GOMU LR LR
comp=Z,450nm,15.3s
CHTO Chiang Mai 40.74 265 P **P 11 07 43.3 -1.0**
CHTO IAmb IAmb 11 07 55.5
comp=Z,19nm,0.9s
CHTO Chiang Mai 40.74 265 P **P 11 07 43.3 -1.0**
CHTO pmax pmax
comp=Z,19nm,1.0s
BILL Bilibino 40.87 14 P **P 11 07 44.3 -0.4**
BILL IAmb IAmb 11 07 49.8
comp=Z,26nm,1.7s
BILL Bilibino 40.87 14 *i* P **P 11 07 45.5 +0.8**
BILL pmax pmax
comp=Z,3.0nm,0.7s
CM31 Chiang Mai Arr 40.88 264 P **P 11 07 43.9 -1.6**
CMAR Chiang Mai Arr 40.88 264 P **P 11 07 43.5 -2.0**
CMAR PcP **PcP 11 09 47.7 +1.6**
CMAR Chiang Mai Arr 40.88 264 *i* P **P 11 07 44.5 -1.0**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 40.88 264 P **P 11 07 44.5 -1.0**
comp=Z,2.6nm,0.8s,baz=45,slow=8.4,SNR=20
CMAR PcP **PcP 11 09 48.2 +2.1**
comp=Z,1.2nm,0.3s,baz=33,slow=1.1,SNR=8.7
CMAR LR LR 11 26 34.4
comp=Z,398nm,18.2s,baz=65,slow=39
comp=Z,2.6nm,0.8s
TIXI Tiksi 42.59 354 P **P 11 07 58.4 -0.3**
TIXI Tiksi 42.59 354⇑*i*P **P 11 07 58.7 0.0**
TIXI pmax pmax
comp=Z,5.0nm,0.7s
UNV Unalaska Valle 43.93 42 P **P 11 08 09.6 -0.2**
baz=258
WMQ Urumqi 45.11 304 *e*P **P 11 08 20.1 +0.5**
WMQ sP pwP 11 08 29.7 -1.5
WMQ pmax pmax
comp=Z,15nm,1.1s
WMQ LR LR
comp=Z,380nm,24.5s
WMQ LR LR
comp=Z,180nm,21.5s
DGZ Jazzator, Alta 45.51 312*c i*P **P 11 08 23.2 +0.5**
DGZ pmax pmax
comp=Z,69nm,1.0s
KULM Kulim 46.15 246 P **P 11 08 27.4 -0.6**
IPM Ipoh 46.34 245 P **P 11 08 28.7 -0.7**
IPM IAmb IAmb 11 08 29.5
comp=Z,16nm,0.8s
TNA Tin City 46.97 26 P **P 11 08 33.0 -0.8**
baz=246
M13K Dall Lake 47.17 33 P **P 11 08 35.1 -0.2**
baz=255
F14K Arctic Creek 47.55 26 P **P 11 08 37.7 -0.5**
baz=247
ZAA0 Zalesovo Array 47.55 318 P **P 11 08 38.5 0.0**
ZALV Zalesovo Beam 47.55 318 P **P 11 08 37.9 -0.5**
ZALV Zalesovo Beam 47.55 318 *i* P **P 11 08 38.5 +0.1**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 47.55 318 P **P 11 08 38.0 -0.4**
comp=Z,6.8nm,1.0s,baz=98,slow=6.3,SNR=21
ZALV PcP **PcP 11 10 08.2 0.0**
comp=Z,2.5nm,0.7s,baz=118,slow=3.2,SNR=4.3
ZALV LR LR 11 29 06.2
comp=Z,248nm,18.3s,baz=90,slow=37
comp=Z,6.8nm,1.0s
ANM Nome 47.58 28 P **P 11 08 40.3 +1.8**
ANM IAmb IAmb 11 08 41.7
comp=Z,6.8nm,0.8s
ANM Nome 47.58 28 P **P 11 08 40.3 +1.8**
ANM pmax pmax
comp=Z,7.0nm,0.8s
ANM Nome 47.58 28 P **P 11 08 38.9 +0.4**
baz=249
SDPT Sand Point 47.64 41 P **P 11 08 39.1 0.0**
baz=262
J14K Nanvaranak Lak 47.74 30 P **P 11 08 40.2 +0.4**
baz=252
O14K Tigyukauivet M 47.91 35 P **P 11 08 39.4 -1.8**
baz=255
CHNA Chernabura Isl 48.08 41 P **P 11 08 42.8 +0.3**
baz=263
G15K Niukluk 48.27 27 P **P 11 08 43.3 -0.5**
baz=250
F15K North Star Dit 48.28 26 P **P 11 08 44.4 +0.4**
F15K IAmb IAmb 11 09 07.6
comp=Z,9.4nm,1.1s
F15K North Star Dit 48.28 26 P **P 11 08 44.9 +1.0**
baz=249
S14K Fog Glacier 48.29 39 P **P 11 08 41.7 -2.5**
baz=262
O15K Ungalikthiuk R 48.62 36 P **P 11 08 47.9 +1.2**
baz=259
N15K Kwethluk River 48.69 34 P **P 11 08 49.1 +1.9**
baz=258
MK31 Makanchi Array 48.86 308 P **P 11 08 49.0 +0.2**
MK31 IAmb IAmb 11 09 04.3
comp=Z,7.2nm,0.9s
MK31 Makanchi Array 48.86 308*c i*P **P 11 08 48.2 -0.6**
MKAR Makanchi Array 48.86 308 P **P 11 08 49.0 +0.2**
MKAR Makanchi Array 48.86 308 P **P 11 08 48.6 -0.2**
comp=Z,5.7nm,0.8s,baz=91,slow=9.1,SNR=47
MKAR LR LR 11 30 14.5
comp=Z,284nm,18.7s,baz=97,slow=37
comp=Z,5.7nm,0.8s
H16K Elim 48.88 28 P **P 11 08 49.5 +1.0**
baz=252
PSI Prapat 49.01 245 P **P 11 08 49.6 -0.8**
PSI pmax pmax
comp=Z,14nm,0.9s
C16K Lisburne Hills 49.03 23 P **P 11 08 50.5 +0.9**
C16K IAmb IAmb 11 09 11.9
comp=Z,6.9nm,0.9s
C16K Lisburne Hills 49.03 23 P **P 11 08 50.6 +1.0**
baz=246
MAKZ Makanchi 49.08 308 P **P 11 08 50.0 -0.4**
MAKZ IAmb IAmb 11 09 06.8
comp=Z,18nm,1.4s
MAKZ Makanchi 49.08 308 P **P 11 08 50.0 -0.4**
MAKZ pmax pmax
comp=Z,18nm,1.4s
RPSI Rantau Prapat 49.08 245 P **P 11 08 49.6 -1.1**
RPSI IAmb IAmb 11 08 51.1
comp=Z,14nm,0.9s
J16K Anvik River 49.19 30 P **P 11 08 49.7 -1.2**
baz=255
LEM Lembang 49.29 228 P **P 11 08 52.2 -0.2**
comp=Z,30nm,0.6s,baz=304,slow=21,SNR=7.0
LEM LR LR 11 32 35.9
comp=Z,77nm,18.2s,baz=340,slow=40
comp=Z,30nm,0.6s
I17K Unalakleet 49.31 29 P **P 11 08 51.6 -0.2**
baz=254
L16K Owhat River 49.31 32 P **P 11 08 50.4 -1.5**
baz=257
N16K Nishlik Lake 49.40 34 P **P 11 08 52.3 -0.3**
baz=259
O16K Kokwok River B 49.57 35 P **P 11 08 55.1 +1.2**
baz=260
D17K Noatak River 49.59 24 P **P 11 08 54.6 +0.7**
baz=249,SNR=7.6
CTA Charters Tower 49.70 175 P **P 11 08 56.8 +1.5**
comp=Z,7.4nm,0.9s,baz=344,slow=8.5,SNR=3.8
comp=Z,7.4nm,0.9s
G17K Kiwalik Mounta 49.78 27 P **P 11 08 57.4 +2.0**
baz=253
F17K Baldwin Pennin 49.84 26 P **P 11 08 57.3 +1.5**
F17K IAmb IAmb 11 08 59.2
comp=Z,6.9nm,0.8s
F17K Baldwin Pennin 49.84 26 P **P 11 08 55.9 +0.1**
baz=252
C17K DeLong Mountai 49.84 23 P **P 11 08 56.2 +0.3**
baz=248
H17K Granite Mounta 49.92 28 P **P 11 08 57.7 +1.2**
baz=254
L17K Donlin 49.95 32 P **P 11 08 56.5 -0.3**
baz=258
WRAB Tennant Creek 49.98 190 P **P 11 08 57.8 +0.4**
WRAB Tennant Creek 49.98 190*c i*P **P 11 08 57.3 -0.1**
WRAB pmax pmax
comp=Z,32nm,0.9s
WB2 Warramunga Arr 49.99 190 P **P 11 08 57.2 -0.2**
WRA Warramunga Arr 49.99 190 P **P 11 08 57.5 0.0**
WRA Warramunga Arr 49.99 190 P **P 11 08 57.5 0.0**
comp=Z,22nm,0.8s,baz=8.9,slow=8.0,SNR=48
WRA PcP **PcP 11 10 19.3 +1.9**
comp=Z,2.5nm,0.8s,baz=7.5,slow=4.0,SNR=1.9
comp=Z,22nm,0.8s
K17K Iditarod 50.07 31 P **P 11 08 57.1 -0.6**
baz=258
O17K Koliganek Bris 50.10 35 P **P 11 08 58.8 +0.9**
baz=261
SEM Semipalatinsk 50.16 313 *e*P **P 11 08 57.6 -1.2**
SEM pmax pmax
comp=Z,17nm,1.2s
SEM Semipalatinsk 50.16 313 *e*P **P 11 08 57.7 -1.1**
comp=Z,17nm,1.2s,baz=313
Q16K King Salmon 50.17 37 P **P 11 08 57.5 -0.9**
baz=263
N17K Nushagak Hills 50.17 34 P **P 11 08 56.7 -1.8**
baz=261
M17K Holitna River 50.21 33 P **P 11 08 59.0 +0.3**
baz=260
P17K Kvichak River 50.35 36 P **P 11 08 59.8 0.0**
baz=262
E18K Tukpahlearik C 50.39 25 P **P 11 09 01.6 +1.6**
E18K Tukpahlearik C 50.39 25 P **P 11 09 00.9 +0.9**
baz=252
F18K Selawik 50.49 26 P **P 11 09 01.4 +0.7**
baz=253
Q17K Contact Creek 50.52 37 P **P 11 08 59.9 -1.4**
baz=264
C18K Utukok River 50.59 23 P **P 11 09 01.8 +0.2**
baz=250
H18K Honhosa River 50.61 28 P **P 11 09 03.6 +1.9**
H18K Honhosa River 50.61 28 P **P 11 09 03.4 +1.7**
baz=256
B18K Kokolik River 50.64 22 P **P 11 09 01.9 0.0**
baz=249
G18K Tagagawik 50.69 27 P **P 11 09 04.3 +2.0**
G18K IAmb IAmb 11 09 06.6
comp=Z,9.1nm,1.0s
G18K Tagagawik 50.69 27 P **P 11 09 03.2 +0.9**
baz=255
L18K Granite Mounta 50.71 32 P **P 11 09 00.7 -1.8**
baz=260
J18K Innoko River 50.93 30 P **P 11 09 04.5 +0.3**
baz=259
M18K Stony River 50.99 33 P **P 11 09 04.7 +0.1**
baz=261
P18K Big Mountain, 50.99 36 P **P 11 09 06.0 +1.3**
baz=263
GSI Gunungsitoli 50.99 245 P **P 11 09 04.5 -0.8**
O18K Koktuh Hills 51.06 35 P **P 11 09 07.0 +1.8**
O18K IAmb IAmb 11 09 27.9
comp=Z,49nm,1.9s
O18K Koktuh Hills 51.06 35 P **P 11 09 07.8 +2.7**
baz=263
PDGK Podgornoye 51.09 304 P **P 11 09 03.7 -2.2**
GCSA Galena City Sc 51.13 29 P **P 11 09 08.4 +2.8**
baz=258
SHLS Shalkode 51.13 303 *e*P **P 11 09 02.5 -3.7**
SHLS pmax pmax
comp=Z,19nm,1.9s
SHLS Shalkode 51.13 303 *e*P **P 11 09 02.5 -3.7**
comp=Z,19nm,1.9s,baz=303
TTA Tatalina 51.14 31 P **P 11 09 08.1 +2.2**
baz=260
KURK Kurchatov 51.20 313 P **P 11 09 06.1 -0.2**
KURK Kurchatov 51.20 313 P **P 11 09 06.6 +0.3**
KURBB Kurchatov Arra 51.25 313 P **P 11 09 05.8 -1.0**
KURBB Kurchatov Arra 51.25 313 P **P 11 09 06.6 -0.1**
comp=Z,24nm,1.0s,baz=89,slow=7.4,SNR=86
KURBB LR LR 11 31 18.4
comp=Z,144nm,18.2s,baz=173,slow=37
comp=Z,24nm,1.0s
F19K Shaleruckik Mo 51.28 26 P **P 11 09 08.1 +1.4**
baz=255
SII Sitkinak Islan 51.28 39 P **P 11 09 08.7 +1.7**
baz=266
C19K Lookout Ridge 51.29 23 P **P 11 09 08.0 +1.2**
C19K IAmb IAmb 11 09 10.5
comp=Z,28nm,1.6s
C19K Lookout Ridge 51.29 23 P **P 11 09 09.0 +2.1**
baz=251
G19K Purcell Mounta 51.37 27 P **P 11 09 08.8 +1.4**
G19K Purcell Mounta 51.37 27 P **P 11 09 09.4 +1.9**
baz=256
UZB Uzynbulak 51.45 303 *e*P **P 11 09 07.6 -1.0**
UZB pmax pmax
comp=Z,13nm,1.6s
UZB Uzynbulak 51.45 303 *e*P **P 11 09 07.7 -1.0**
comp=Z,13nm,1.6s,baz=303
H19K Roundabout Mou 51.48 28 P **P 11 09 10.2 +2.0**
baz=257
J19K Poorman 51.51 30 P **P 11 09 08.2 -0.3**
baz=259
N19K Bonanza Creek 51.53 34 P **P 11 09 06.6 -2.3**
baz=263
O19K Port Alsworth 51.54 35 P **P 11 09 09.6 +0.9**
baz=264
L19K White Mountain 51.55 32 P **P 11 09 07.3 -1.6**
baz=261
D19K Kuna River 51.61 24 P **P 11 09 10.8 +1.5**
D19K IAmb IAmb 11 09 33.9
comp=Z,11nm,1.1s
D19K Kuna River 51.61 24 P **P 11 09 07.1 -2.2**
baz=253
E19K Redstone River 51.65 25 P **P 11 09 10.7 +1.2**
baz=255
TDK Taldyqorghan 51.69 306 *e*P **P 11 09 09.5 -0.7**
TDK pmax pmax
comp=Z,7.0nm,0.7s
TDK Taldyqorghan 51.69 306 *e*P **P 11 09 09.5 -0.7**
comp=Z,7.5nm,0.7s,baz=306
OHAK Old Harbor 51.82 39 P **P 11 09 10.8 0.0**
baz=267
SATY Saty 51.91 303 *e*P **P 11 09 11.2 -0.8**
SATY Saty 51.91 303 *e*P **P 11 09 11.3 -0.8**
baz=303
L20K Farewell, AK 52.04 32 P **P 11 09 12.4 -0.1**
baz=262
K20K Telida 52.09 31 P **P 11 09 12.4 -0.4**
baz=261
F20K Avaraart Lake 52.11 26 P **P 11 09 13.5 +0.6**
baz=257
H20K Anotleneega Mo 52.11 28 P **P 11 09 11.7 -1.3**
baz=259
I20K Naaghedeneel 52.15 29 P **P 11 09 14.4 +1.2**
baz=260
J20K Nowinta River 52.18 30 P **P 11 09 15.7 +2.2**
baz=261
D20K Etivluk River 52.20 24 P **P 11 09 13.3 -0.4**
baz=255,SNR=8.4
KDAK Kodiak Island 52.23 38 P **P 11 09 14.8 +0.9**
baz=267
KDAK Kodiak Island 52.23 38 LR LR 11 29 50.8
comp=Z,136nm,21.0s,baz=264,slow=34
E20K Nigu River 52.23 24 P **P 11 09 15.6 +1.7**
baz=255,SNR=9.1
M20K Styx River 52.31 33 P **P 11 09 15.9 +1.2**
baz=263
B20K Meade River 52.38 22 P **P 11 09 14.9 0.0**
baz=253
N20K Mount Spurr 52.68 34 P **P 11 09 19.1 +1.8**
baz=265
CHKK Chushkaly 52.83 304 *e*P **P 11 09 17.8 -0.9**
CHKK Chushkaly 52.83 304 *e*P **P 11 09 17.8 -0.9**
baz=304
G21K Allakaket 52.86 27 P **P 11 09 20.9 +2.4**
baz=259
MDOK Medeo 52.88 304 *e*P **P 11 09 18.3 -0.9**
MDOK Medeo 52.88 304 *e*P **P 11 09 18.3 -0.9**
baz=304
CHUM Lake Minchumin 52.94 30 P **P 11 09 20.5 +1.4**
baz=262
A21K Barrow 52.94 21 P **P 11 09 19.0 0.0**
baz=253
C21K Knifeblade Rid 52.95 24 P **P 11 09 21.1 +1.9**
baz=256
TNSS Tian-Shan 52.98 303 *e*P **P 11 09 20.1 -0.1**
TNSS Tian-Shan 52.98 303 *e*P **P 11 09 20.1 -0.1**
baz=303
CAST Castle Rocks 52.98 31 P **P 11 09 20.8 +1.3**
CAST IAmb IAmb 11 09 27.7
comp=Z,25nm,1.9s
CAST Castle Rocks 52.98 31 P **P 11 09 21.3 +1.8**
baz=263
H21K Melozitna Rive 52.99 28 P **P 11 09 21.1 +1.6**
H21K IAmb IAmb 11 09 42.4
comp=Z,22nm,1.4s
H21K Melozitna Rive 52.99 28 P **P 11 09 18.5 -1.0**

baz=261
F21K **Alatna River** 53.01 26 P P 11 09 21.0 +1.4
baz=259
SKT **Skwentna** 53.08 33 P P 11 09 21.3 +1.1
SKT IAmb IAmb 11 11 04.2
comp=Z,23nm,1.8s
SKT **Skwentna** 53.08 33 P P 11 09 21.8 +1.6
baz=265
B21K **Ikpikpuk River** 53.13 23 P P 11 09 21.2 +0.9
B21K **Ikpikpuk River** 53.13 23 P P 11 09 21.8 +1.4
baz=256
I21K **Tanana** 53.26 29 P P 11 09 23.3 +1.9
I21K **Tanana** 53.26 29 P P 11 09 23.9 +2.4
baz=262
KUU **Kurty** 53.29 305 *e*P P 11 09 21.4 -0.7
KUU pmax pmax
comp=Z,10.0nm,0.8s
KUU **Kurty** 53.29 305 *e*P P 11 09 21.4 -0.7
comp=Z,9.6nm,0.8s,baz=305
BRSE **Bradley Lake S** 53.29 36 P P 11 09 22.6 +0.8
baz=267
SUA **Susitna One** 53.40 33 P P 11 09 23.3 +0.6
SUA IAmb IAmb 11 10 38.3
comp=Z,41nm,2.0s
SUA **Susitna One** 53.40 33 P P 11 09 23.6 +0.9
baz=266
BPAW **Bear Paw Mtn.** 53.54 30 P P 11 09 25.4 +1.8
baz=264
H22K **Ishtalitna Cre** 53.61 28 P P 11 09 25.6 +1.6
baz=262
D22K **Ayikyak River** 53.63 24 P P 11 09 26.0 +1.9
D22K IAmb IAmb 11 09 47.6
comp=Z,16nm,1.2s
D22K **Ayikyak River** 53.63 24 P P 11 09 26.1 +1.9
baz=258,SNR=5.6
ASAR **Alice Springs** 53.71 190 P P 11 09 25.4 +0.2
comp=Z,8.7nm,1.0s,baz=6.9,slow=6.5,SNR=11
comp=Z,8.7nm,1.0s
M22K **Willow** 53.72 33 P P 11 09 26.3 +1.5
baz=266
MLY **Manley** 53.76 29 P P 11 09 26.5 +1.3
MLY IAmb IAmb 11 09 33.3
comp=Z,26nm,1.9s
MLY **Manley** 53.76 29 P P 11 09 26.3 +1.0
baz=263
BOOM **Boomskoye usch** 53.79 303 P P 11 09 25.6 -0.3
BOOM **Boomskoye usch** 53.79 303 P P 11 09 25.6 -0.3
BOOM pmax pmax
comp=Z,4.0nm,0.8s
E22K **Anaktuvuk Pass** 53.80 25 P P 11 09 26.8 +1.4
E22K IAmb IAmb 11 09 48.8
comp=Z,19nm,1.3s
E22K **Anaktuvuk Pass** 53.80 25 P P 11 09 26.0 +0.5
baz=260
RC01 **Rabbit Creek A** 53.87 34 P P 11 09 23.7 -2.2
baz=267
NRN **Naryn** 53.92 302 P P 11 09 26.6 -0.5
NRN **Naryn** 53.92 302 P P 11 09 26.6 -0.5
NRN pmax pmax
comp=Z,8.0nm,1.1s
SEW **Seward** 53.96 35 P P 11 09 25.1 -1.5
baz=268
TKM2 **Tokmak 2** 53.97 303 *i* P P 11 09 26.6 -0.7
TKM2 pmax pmax
comp=Z,8.0nm,1.0s
PMR **Palmer** 54.18 33 P P 11 09 27.3 -1.0
baz=267
G23K **Bananza Creek** 54.27 27 P P 11 09 30.8 +1.9
G23K IAmb IAmb 11 09 33.6
comp=Z,11nm,1.0s
G23K **Bananza Creek** 54.27 27 P P 11 09 31.2 +2.3
baz=263
COLD **Coldfoot** 54.27 26 P P 11 09 31.2 +2.4
baz=262
I23K **Minto, Yukon-K** 54.35 29 P P 11 09 29.1 -0.4
baz=264
D23K **Nanushuk River** 54.36 24 P P 11 09 30.9 +1.4
baz=260
MCK **McKinley** 54.41 31 P P 11 09 30.1 +0.2
baz=266
NEA2 **Nenana** 54.42 30 P P 11 09 31.2 +1.2
NEA2 **Nenana** 54.42 30 P P 11 09 29.9 -0.1
baz=265
RND **Reindeer** 54.42 31 P P 11 09 30.3 +0.2
RND **Reindeer** 54.42 31 P P 11 09 30.3 +0.2
RND pmax pmax
comp=Z,8.0nm,1.1s
KNK **Knik Glacier** 54.50 34 P P 11 09 29.6 -1.1
baz=268
WAT1 **Susitna Watana** 54.52 32 P P 11 09 32.6 +1.8
baz=267
C23K **Itkillik River** 54.53 23 P P 11 09 32.1 +1.4
C23K IAmb IAmb 11 09 39.8
comp=Z,18nm,1.2s
C23K **Itkillik River** 54.53 23 P P 11 09 32.9 +2.2
baz=260
SML **Sawmill** 54.58 33 P P 11 09 33.2 +2.0
baz=268
E23K **Chandalar** 54.60 25 P P 11 09 32.1 +0.7
baz=262
BTLS **Baital** 54.75 306 *e*P P 11 09 31.9 -0.7
BTLS pmax pmax
comp=Z,14nm,1.5s
BTLS **Baital** 54.75 306 *e*P P 11 09 32.0 -0.7
comp=Z,14nm,1.5s,baz=306
MDM **Murphy Dome** 54.81 29 P P 11 09 34.2 +1.3
AAK **Ala-Archa** 54.82 303 P P 11 09 32.9 -0.5
AAK **Ala-Archa** 54.82 303 P P 11 09 32.9 -0.5
AAK pmax pmax
comp=Z,5.0nm,0.9s
AAK **Ala-Archa** 54.82 303 LR LR 11 36 20.7
comp=Z,149nm,18.3s,baz=76,slow=40
WAT6 **Susitna Watana** 54.88 32 P P 11 09 35.2 +1.6
baz=268
COLA **College** 54.97 29 *e*P P 11 09 34.6 +0.7
COLA pmax pmax
comp=Z,3.0nm,1.0s
P23K **Montague Islan** 54.98 35 P P 11 09 35.7 +1.6
baz=270
H24K **Noodor Dome** 55.03 28 P P 11 09 35.2 +0.7
H24K IAmb IAmb 11 09 57.4
comp=Z,9.9nm,1.2s
H24K **Noodor Dome** 55.03 28 P P 11 09 36.1 +1.6
baz=265
BRZS **Berezniki** 55.04 312 *e*P P 11 09 34.7 0.0
BRZS pmax pmax
comp=Z,20nm,1.1s
BRZS **Berezniki** 55.04 312 *e*P P 11 09 34.7 0.0
comp=Z,20nm,1.1s,baz=312
D24K **Happy Valley** 55.05 24 P P 11 09 36.0 +1.6
D24K IAmb IAmb 11 09 58.3
comp=Z,14nm,1.0s
D24K **Happy Valley** 55.05 24 P P 11 09 35.3 +0.8
baz=262,SNR=15
SCM **Sheep Creek Mo** 55.05 33 P P 11 09 35.4 +0.7
baz=269
DHY **Denali Highway** 55.07 32 P P 11 09 33.7 -1.2
baz=268
POKR **Poker Plat Res** 55.16 29 P P 11 09 34.3 -1.0
baz=266
C24K **Franklin Bluff** 55.17 23 P P 11 09 37.5 +2.2
baz=262
F24K **Squaw Lake** 55.19 26 P P 11 09 35.7 +0.1
baz=264
G24K **Hadweenzic Riv** 55.27 27 P P 11 09 36.3 +0.2
baz=265
HDA **Harding Lake** 55.33 30 P P 11 09 36.8 +0.3
HDA **Harding Lake** 55.33 30 P P 11 09 37.8 +1.3
baz=267
IL31 55.37 29 P P 11 09 37.0 +0.1
ILAR **Eielson Array** 55.37 29 P P 11 09 37.5 +0.7
comp=Z,2.5nm,0.8s,baz=267,slow=5.5,SNR=21
comp=Z,2.5nm,0.8s
EIDS **Eidsvold** 55.46 170 P P 11 09 38.6 +0.8
EIDS IAmb IAmb 11 09 40.4
comp=Z,10nm,0.8s
KLU **Klutina** 55.72 33 P P 11 09 37.4 -2.1
baz=270
K24K **Donnelly Dome** 55.82 31 P P 11 09 40.2 +0.1
baz=269
G25K **Bearman Lake** 55.82 27 P P 11 09 38.4 -1.6
baz=266
D25K **Kavik River** 55.94 24 P P 11 09 42.7 +1.8
baz=264
PAX **Paxson** 55.94 32 P P 11 09 40.5 -0.6
baz=269
PRP **Porcupine Dome** 55.99 29 P P 11 09 42.3 +0.9
baz=268
J25K **Salcha River,** 56.02 30 P P 11 09 41.2 -0.4
baz=268
F25K **Christian Rive** 56.06 26 P P 11 09 42.2 +0.4
baz=266
E25K **Arctic Village** 56.12 25 P P 11 09 44.2 +2.0
E25K IAmb IAmb 11 10 06.2
comp=Z,16nm,1.2s
E25K **Arctic Village** 56.12 25 P P 11 09 43.3 +1.0
baz=266,SNR=18
BVA0 **Borovoye Array** 56.15 316 *i* P P 11 09 42.1 -0.5
BVAR **Borovoye Array** 56.15 316 P P 11 09 43.0 +0.4
comp=Z,8.1nm,0.8s,baz=91,slow=8.9,SNR=37
BVAR LR LR 11 34 42.8
comp=Z,240nm,18.1s,baz=77,slow=37
comp=Z,8.1nm,0.8s
FYU **Fort Yukon** 56.15 27 P P 11 09 44.2 +1.8
FYU IAmb IAmb 11 10 05.7
comp=Z,25nm,1.3s
ARSB **Arslanbob** 56.17 302 P P 11 09 42.5 -0.7
ARSB **Arslanbob** 56.17 302 P P 11 09 42.5 -0.7
ARSB pmax pmax
comp=Z,7.0nm,1.3s
BRVK **Borovoye** 56.21 316 P P 11 09 43.5 +0.4
BRVK IAmb IAmb 11 10 05.4
comp=Z,13nm,0.9s
BRVK **Borovoye** 56.21 316 *c i*P P 11 09 43.1 +0.1
BRVK pmax pmax
comp=Z,16nm,1.3s
BMAR **Burnt Mountain** 56.45 26 P P 11 09 46.2 +1.6
C26K **Camden Bay** 56.50 23 P P 11 09 45.0 +0.2
baz=265
SCRK **Sand Creek** 56.61 30 P P 11 09 46.9 +1.0
SCRK **Sand Creek** 56.61 30 P P 11 09 47.3 +1.4
baz=270
F26K **Sheenjek River** 56.63 26 P P 11 09 46.3 +0.4
baz=268
G26K **Porcupine Rive** 56.74 27 P P 11 09 47.1 +0.5
baz=268
J26L **Joseph Creek** 56.80 30 P P 11 09 48.8 +1.7
baz=270
DZA **Taraz** 57.06 304 *e*P P 11 09 49.0 -0.3
DZA **Taraz** 57.06 304 *e*P P 11 09 49.0 -0.3
baz=304
CRQE **Cirque** 57.11 34 P P 11 09 49.1 -0.3
baz=273
K27K **Chicken** 57.45 30 P P 11 09 52.7 +1.0
baz=272
L27K **Beaver Creek,** 57.60 32 P P 11 09 54.2 +1.4
L27K **Beaver Creek,** 57.60 32 P P 11 09 53.2 +0.4
baz=273
KK31 **Karatay Array** 57.60 305 P P 11 09 53.3 +0.2
KK31 **Karatay Array** 57.60 305 *i* P P 11 09 53.2 +0.1
KKAR **Karatay Array** 57.60 305 P P 11 09 53.3 +0.2
KKAR **Karatay Array** 57.60 305 P P 11 09 52.6 -0.5
KKAR **Karatay Array** 57.60 305 P P 11 09 52.6 -0.5
KKAR 11 09 53.3
KKAR pmax pmax
comp=Z,22nm,0.9s
M27K **Edge Creek, AK** 57.61 32 P P 11 09 54.2 +1.2
baz=273
I27K **Kandik River** 57.61 29 P P 11 09 54.1 +1.3
baz=271
BCAR **Beaver Creek A** 57.62 32 P P 11 09 54.2 +1.3
H27K **Steamboat Moun** 57.64 28 P P 11 09 54.0 +1.0
baz=271
MESA **MESA** 57.71 35 P P 11 09 56.1 +2.3
baz=274
EGAK **Eagle** 57.83 30 P P 11 09 55.2 +0.9
EGAK **Eagle** 57.83 30 P P 11 09 55.8 +1.5
baz=272
BTK **Batken** 58.06 301 P P 11 09 57.1 +0.6
BTK IAmb IAmb 11 10 18.0
comp=Z,16nm,1.1s
BTK **Batken** 58.06 301 P P 11 09 57.1 +0.6
BTK pmax pmax
comp=Z,16nm,1.2s
BRLS **Borolday** 58.10 305 *e*P P 11 09 57.5 +0.9
BRLS **Borolday** 58.10 305 *e*P P 11 09 57.6 +0.9
baz=304
IUG **Iuzhnay** 58.16 304 *e*P P 11 09 56.9 -0.2
IUG pmax pmax
comp=Z,16nm,0.8s
IUG **Iuzhnay** 58.16 304 *e*P P 11 09 56.9 -0.2
comp=Z,16nm,0.8s,baz=304
F28M **Old Crow** 58.27 26 P P 11 09 58.1 +0.7
F28M IAmb IAmb 11 10 21.8
comp=Z,7.8nm,1.1s
F28M **Old Crow** 58.27 26 P P 11 09 56.9 -0.5
baz=272,SNR=9.8
YUK3 **Moose Creek** 58.31 33 P P 11 09 58.5 +0.5
baz=275
I28M **Miner Creek** 58.32 29 P P 11 09 56.4 -1.5
baz=273
CHM **Chimkent** 58.43 304 *e*P P 11 09 58.6 -0.3
CHM pmax pmax
comp=Z,16nm,0.9s
CHM **Chimkent** 58.43 304 *e*P P 11 09 58.6 -0.3
comp=Z,16nm,0.9s,baz=304
DAWY **Dawson** 58.63 30 P P 11 10 01.3 +1.3
DAWY IAmb IAmb 11 10 22.5
comp=Z,23nm,1.6s
DAWY **Dawson** 58.63 30 P P 11 10 01.0 +1.0
baz=274
D28M **Stokes Point** 58.64 24 P P 11 10 01.3 +1.4
baz=272
GAR **Garm** 58.70 300 P P 11 10 00.5 -0.5
H29M **Whitestone** 58.92 28 P P 11 10 02.9 +1.0
baz=274
E29M **Blow River** 58.98 25 P P 11 10 04.1 +1.8
E29M IAmb IAmb 11 10 18.0
comp=Z,7.4nm,0.9s
E29M **Blow River** 58.98 25 P P 11 10 04.0 +1.6
baz=273,SNR=5.8
J29N **Klondike Camp** 59.11 30 P P 11 10 05.1 +1.7
J29N IAmb IAmb 11 10 06.9
comp=Z,23nm,1.6s
J29N **Klondike Camp** 59.11 30 P P 11 10 05.3 +1.9
baz=275
M29M **Somme Creek** 59.19 32 P P 11 10 05.9 +1.9
baz=276
YUK4 **Talbot Arm** 59.22 33 P P 11 10 05.0 +0.7
baz=276
L29M **L29M** 59.27 31 P P 11 10 04.8 +0.3
baz=276
O29M **Mount Kennedy** 59.37 35 P P 11 10 04.6 -0.7
baz=277
K29M **Barlow Dome** 59.47 30 P P 11 10 07.7 +1.8
baz=276
EPYK **Eagle Plains** 59.57 28 P P 11 10 08.0 +1.5
EPYK IAmb IAmb 11 10 10.7
comp=Z,10nm,0.8s
EPYK **Eagle Plains** 59.57 28 P P 11 10 06.5 +0.1
baz=275,SNR=10
CHGR **Chuyangaron** 59.66 300 P P 11 10 07.5 -0.1
CHGR **Chuyangaron** 59.66 300 P P 11 10 07.5 -0.1
CHGR pmax pmax
comp=Z,101nm,1.1s
G30M **tAoh Zraii Nji** 59.72 27 P P 11 10 06.9 -0.5
baz=275
SIMJ **Simiganj** 59.77 300 P P 11 10 08.4 0.0
I30M **Mount Dempster** 59.82 29 P P 11 10 09.8 +1.4
I30M **Mount Dempster** 59.82 29 P P 11 10 06.8 -1.6
baz=276
F30M **Barrier River** 59.83 26 P P 11 10 05.9 -2.3
baz=275
HYT **Haines Junctio** 59.83 34 P P 11 10 09.8 +1.3
baz=278
P29M **Windy Craggy** 59.88 35 P P 11 10 08.4 -0.3
baz=278
J30M **Hart River** 59.91 30 P P 11 10 07.7 -1.3
baz=276
M30M **Minto, Yukon** 59.94 32 P P 11 10 10.3 +1.2
baz=277
P30M **Million Dollar** 60.20 35 P P 11 10 11.8 +0.9
baz=278
MAYO **Mayo, Yukon** 60.22 31 P P 11 10 13.2 +2.3
MAYO IAmb IAmb 11 10 36.6
comp=Z,11nm,1.1s
MAYO **Mayo, Yukon** 60.22 31 P P 11 10 12.8 +1.9
baz=278
G31M **Satah River** 60.49 27 P P 11 10 13.5 +0.8
G31M IAmb IAmb 11 10 20.9
comp=Z,5.8nm,0.8s
G31M **Satah River** 60.49 27 P P 11 10 12.8 +0.2
baz=277,SNR=5.8
H31M **Peel River** 60.60 28 P P 11 10 13.3 -0.2
baz=278
INK **Inuvik** 60.60 25 P P 11 10 14.0 +0.6
INK IAmb IAmb 11 11 20.8
comp=Z,8.3nm,1.4s
INK **Inuvik** 60.60 25 P P 11 10 14.0 +0.6
INK pmax pmax
comp=Z,8.0nm,1.4s
INK **Inuvik** 60.60 25 P P 11 10 13.0 -0.4
baz=277
F31M **Tsiigehtchic** 60.63 26 P P 11 10 14.4 +0.8
F31M IAmb IAmb 11 11 45.4
comp=Z,31nm,1.9s
F31M **Tsiigehtchic** 60.63 26 P P 11 10 13.5 -0.1
baz=277
M31M **Drury Creek, Y** 61.10 32 P P 11 10 18.1 +1.1
M31M **Drury Creek, Y** 61.10 32 P P 11 10 18.0 +0.9
baz=280
WHY **Whitehorse** 61.13 34 P P 11 10 18.1 +0.8
WHY IAmb IAmb 11 11 23.8
comp=Z,12nm,1.5s
SVE **Sverdlovsk** 61.17 322 *e*P P 11 10 18.4 +0.9
SVE pmax pmax
comp=Z,31nm,1.2s
STKA **Stephens Creek** 61.29 181 P P 11 10 18.8 +0.3
comp=Z,3.0nm,0.8s,baz=350,slow=15,SNR=4.1
comp=Z,3.0nm,0.8s
FARO **Faro, Yukon** 61.58 32 P P 11 10 21.8 +1.5
FARO IAmb IAmb 11 10 57.4
comp=Z,13nm,1.7s
FARO **Faro, Yukon** 61.58 32 P P 11 10 21.7 +1.4
baz=280
FORT **Forrest** 61.69 194 P P 11 10 21.7 +0.5
R32K **Eaglecrest** 61.75 37 P P 11 10 23.1 +1.7
baz=282
PALK **Pallekele** 61.76 262 LR LR 11 37 01.9
comp=Z,66nm,20.9s,baz=165,slow=36
P33M **Teslin, Yukon** 62.22 34 P P 11 10 26.4 +1.7
P33M IAmb IAmb 11 10 33.2
comp=Z,12nm,1.4s
P33M **Teslin, Yukon** 62.22 34 P P 11 10 25.8 +1.2
baz=282
ARU **Arti** 62.38 321 P P 11 10 25.8 +0.1
ARU **Arti** 62.38 321 *c i*P P 11 10 25.4 -0.2
ARU 11 12 38.3
ARU S S 11 18 52.0 +0.6
ARU SS SS 11 22 53.8 -0.8
ARU pmax pmax
comp=Z,38nm,1.5s
ARU **Arti** 62.38 321 LR LR 11 40 25.7
comp=Z,188nm,19.0s,baz=118,slow=39
BBOO **Buckleboo** 62.49 186 P P 11 10 27.0 +0.5
A36M **Sachs Harbour** 62.78 20 P P 11 10 28.8 +0.8
A36M IAmb IAmb 11 10 50.2
comp=Z,16nm,1.3s
A36M **Sachs Harbour** 62.78 20 P P 11 10 27.3 -0.8
baz=282
U33K **Whale Pass** 62.96 39 P P 11 10 29.0 -0.5
baz=284
AB31 **Akbulak array** 63.30 313 *i* P P 11 10 30.7 -1.2
ABKAR **Akbulak array** 63.30 313 P P 11 10 32.3 +0.4
ABKAR **Akbulak array** 63.30 313 P P 11 10 31.8 -0.2
C36M **Paulatuk** 63.78 23 P P 11 10 35.3 +0.6
C36M IAmb IAmb 11 10 57.1
comp=Z,5.4nm,0.9s
C36M **Paulatuk** 63.78 23 P P 11 10 34.8 +0.1
baz=285
DLBC **Dease Lake** 64.02 36 P P 11 10 37.4 +0.8
baz=285
DLBC **Dease Lake** 64.02 36 LR LR 11 39 16.8
comp=Z,108nm,19.2s,baz=333,slow=37
TGTN **Hyland Airport** 64.08 32 P P 11 10 36.6 -0.3
baz=285
AKTO **Aktyubinsk** 64.19 315 P P 11 10 35.2 -2.5
AKTO **Aktyubinsk** 64.19 315 LR LR 11 39 41.6
comp=Z,222nm,19.2s,baz=96,slow=37
WTLY **Watson Lake, Y** 64.20 34 P P 11 10 39.1 +1.4
baz=285
WRGLY **Wrigley** 65.75 30 P P 11 10 48.1 +0.5
WRGLY IAmb IAmb 11 10 50.7
comp=Z,9.0nm,0.9s
WRGLY **Wrigley** 65.75 30 P P 11 10 48.9 +1.3
baz=286
HRA **Herat** 66.27 297 P P 11 10 51.8 0.0
HRA IAmb IAmb 11 11 09.1
comp=Z,7.0nm,1.0s
KIRV **Kirov** 66.54 325⇑ *i*P P 11 10 53.4 +0.6
KIRV **Kirov** 66.54 325 LR LR 11 42 28.0
comp=Z,206nm,18.9s,baz=74,slow=38
NWAO **Narrogin (SRO)** 66.69 203 P P 11 10 54.3 +0.3
comp=Z,9.4nm,0.7s,baz=21,slow=7.6,SNR=4.5
comp=Z,9.4nm,0.7s
FLDN **Fort Liard** 66.70 33 P P 11 10 52.6 -1.2
baz=289
GEYT **Alibeck** 68.13 302 P P 11 11 03.6 +0.3
GEYT **Alibeck** 68.13 302 P P 11 11 03.7 +0.4
comp=Z,11nm,0.8s,baz=72,slow=0.9,SNR=17
GEYT LR LR 11 43 10.2
comp=Z,168nm,19.0s,baz=48,slow=38
comp=Z,11nm,0.8s
GYA0B **ALIBECK ARRAY** 68.13 302 P P 11 11 03.7 +0.3
RES **Resolute Bay** 69.48 14 P P 11 11 11.2 +0.2
RES **Resolute Bay** 69.48 14 P P 11 11 11.2 +0.2
RES pmax pmax
comp=Z,5.0nm,1.1s
APA **Apatity** 69.63 337⇓ *i*P P 11 11 17.4 +5.4
APA pmax pmax
comp=Z,8.0nm,0.7s
BELG **Belogornoye** 69.69 319 *c i*P P 11 11 12.6 0.0
BELG pmax pmax
comp=Z,8.0nm,1.3s
YKA **Yellowknife Ar** 69.79 29 P P 11 11 14.3 +1.2
comp=Z,3.1nm,1.0s,baz=293,slow=6.0,SNR=22
comp=Z,3.1nm,1.0s
KLMR **Klimovskoe** 70.33 330 *e*P P 11 11 15.1 -1.3
KLMR *e* 11 13 50.6
KLMR pmax pmax
comp=Z,33nm,1.7s
ARCES **ARCESS Array B** 71.06 341 P P 11 11 20.6 -0.2
comp=Z,3.2nm,0.8s,baz=53,slow=9.1,SNR=4.3
ARCES LR LR 11 48 03.8
comp=Z,203nm,18.2s,baz=66,slow=41
comp=Z,3.2nm,0.8s
NEEM **North Greenlan** 72.75 3 *i* P P 11 11 31.1 -0.1
NEEM IAmb IAmb 11 11 59.0
comp=Z,4.3nm,0.9s
VALR **Valaam** 73.74 332⇑ *i*P P 11 11 37.3 +0.4
VALR pmax pmax
comp=Z,21nm,1.0s
OBN **Obninsk** 74.39 325⇑ *e*P P 11 11 41.8 +1.0
OBN *e* 11 11 53.1
OBN *e* 11 14 32.8
OBN *e*PPP PPP 11 16 08.2
OBN *e*S S 11 21 17.7 +3.3
OBN *i* SSS SSS 11 29 16.7
OBN pmax pmax
comp=Z,8.0nm,0.9s
OBN MLR MLR
comp=Z,263nm,16.0s
PINE **Pine Mountain** 74.59 48 P P 11 11 43.5 +1.1
EDM **Edmonton** 74.67 37 P P 11 11 44.3 +1.8
EDM IAmb IAmb 11 11 58.5
comp=Z,11nm,1.0s
EDM **Edmonton** 74.67 37 P P 11 11 44.3 +1.8
EDM pmax pmax
comp=Z,11nm,1.0s
NEW **Newport** 74.92 43 P P 11 11 44.0 -0.2
baz=298
VSR **Storozhevoye** 74.93 321 *e*P P 11 11 42.7 -1.3
VSR pmax pmax
comp=Z,10.0nm,0.7s
VORD **Divnogorie** 74.98 320 *e*P P 11 11 42.9 -1.4
VORD pmax pmax
comp=Z,9.0nm,0.7s
FINES **FINESS Array B** 75.60 334 P P 11 11 48.1 +0.5
comp=Z,5.4nm,0.8s,baz=72,slow=6.2,SNR=15
FINES LR LR 11 47 30.1
comp=Z,113nm,18.5s,baz=30,slow=38
comp=Z,5.4nm,0.8s
KBZ **Khabaz** 76.25 313 *i* P P 11 11 53.1 +1.3
KBZ pmax pmax
comp=Z,22nm,0.9s
KBZ **Khabaz** 76.25 313 P P 11 11 53.0 +1.3
comp=Z,20nm,0.9s,baz=164,slow=2.3,SNR=23
KBZ LR LR 11 48 17.3
comp=Z,100nm,18.6s,baz=67,slow=38

comp=Z,20nm,0.9s
KIV Kislovodsk 76.28 313 P **P** 11 11 51.9 -0.1
KIV Kislovodsk 76.28 313 *e*P **P** 11 11 52.6 +0.6
KIV pmax pmax
comp=Z,21nm,1.1s
KIV MLR MLR
comp=Z,133nm,18.0s
ONI Oni 76.43 311 P **P** 11 11 53.4 +0.5
ONI IAmb IAmb 11 12 00.1
comp=Z,18nm,1.0s
ONI Oni 76.43 311 P **P** 11 11 53.4 +0.5
ONI pmax pmax
comp=Z,18nm,1.0s
GNI Garni 76.70 309 LR LR 11 49 13.2
comp=Z,108nm,18.9s,baz=206,slow=38
MEF Metsahovi 77.00 333 *e*P **P** 11 11 57.5 +1.9
VSU Vasula 77.11 331 *d* iP **P** 11 11 57.3 +1.0
VSU pmax pmax
comp=Z,25nm,1.1s
RAF Rauma 77.50 335 *e*P **P** 11 11 59.4 +0.9
CMB Columbia Colle 77.59 53 P **P** 11 11 59.8 +0.3
CMB Columbia Colle 77.59 53 P **P** 11 11 59.8 +0.3
CMB pmax pmax
comp=Z,6.0nm,1.1s
YERR Yerington 77.94 52 P **P** 11 12 02.0 +0.5
YERR IAmb IAmb 11 12 24.3
comp=Z,14nm,1.4s
SUMG Summit 77.95 0 P **P** 11 12 01.5 +0.2
SUMG IAmb IAmb 11 12 04.3
comp=Z,9.4nm,0.9s
SUMG Summit 77.95 0 P **P** 11 12 01.5 +0.2
SUMG pmax pmax
comp=Z,9.0nm,0.9s
SUMG Summit 77.95 0 *i* P **P** 11 12 02.0 +0.7
SUMG IAmb IAmb 11 12 04.1
comp=Z,5.1nm,0.8s
MTSE Matsula 78.17 332 *e*P **P** 11 12 03.4 +1.3
RYN Ryan 78.60 52 P **P** 11 12 05.9 +0.7
KVN Kaiserville 78.68 52 P **P** 11 12 06.6 +0.9
KVN Kaiserville 78.68 52 P **P** 11 12 06.6 +0.9
KVN pmax pmax
comp=Z,8.0nm,1.1s
NVAR Mina Array Bea 78.84 52 P **P** 11 12 07.8 +1.1
NVAR Mina Array Bea 78.84 52 P **P** 11 12 08.8 +2.1
comp=Z,1.7nm,0.6s,baz=301,slow=5.3,SNR=16
comp=Z,1.7nm,0.6s
HLID Hailey 78.86 46 P **P** 11 12 05.9 -0.7
baz=301
MNK Minsk 78.94 327 *i* P **P** 11 12 05.0 -1.6
MNK *i* 11 12 13.4
MNK *i* 11 15 03.3
MNK *i* PPP PPP 11 16 51.6
MNK *i* S **S** **11 22 03.9 -0.4**
MNK *i* 11 22 26.7
MNK *i* SS **SS** **11 27 09.7 +1.1**
MNK *i* SSS SSS 11 30 35.0
MNK pmax pmax
comp=E,7.0nm,0.7s
MNK pmax pmax
comp=Z,23nm,0.9s
MNK pmax pmax
comp=N,11nm,0.8s
MNK MLR MLR
comp=Z,250nm,18.0s
MNK MLR MLR
comp=N,249nm,18.0s
MNK MLR MLR
comp=E,121nm,19.0s
ANN Anapa 79.14 316 *e*P **P** 11 12 08.3 +0.5
ANN *e*S **S** **11 22 10.7 +4.0**
ANN pmax pmax
comp=Z,57nm,0.9s
EGMT Eagleton 79.31 41 P **P** 11 12 08.0 -0.9
EGMT IAmb IAmb 11 12 09.3
comp=Z,11nm,1.1s
EGMT Eagleton 79.31 41 P **P** 11 12 07.0 -1.8
baz=303
FFC Flin Flon 79.47 32 P **P** 11 12 11.0 +1.6
FFC Flin Flon 79.47 32 P **P** 11 12 11.0 +1.6
FFC pmax pmax
comp=Z,8.0nm,1.1s
PKM Mcpherson Peak 79.49 56 P **P** 11 12 10.0 -0.2
baz=299
BOZ Bozeman (W) 79.51 43 P **P** 11 12 10.3 +0.3
baz=302
VES Vestal, Richgr 79.55 55 P **P** 11 12 10.5 +0.3
baz=299
TPH Tonopah 79.76 52 P **P** 11 12 12.6 +1.0
TPH Tonopah 79.76 52 P **P** 11 12 12.6 +1.0
TPH pmax pmax
comp=Z,29nm,1.3s
ISA Isabella, Lake 80.07 55 P **P** 11 12 13.1 -0.2
baz=300
PABE Paberze 80.12 329 P **P** 11 12 13.1 +0.2
PABE Paberze 80.12 329 *e*P **P** 11 12 14.2 +1.3
AKASG Malin Array Be 80.52 324 P **P** 11 12 15.0 -0.1
comp=Z,1.3nm,0.6s,baz=48,slow=5.8,SNR=7.5
AKASG LR LR 11 50 25.3
comp=Z,271nm,18.4s,baz=90,slow=38
AKBB Malin Array Si 80.52 324 P **P** 11 12 14.3 -0.9
AKBB IAmb IAmb 11 12 16.1
comp=Z,9.2nm,0.9s
AKBB Malin Array Si 80.52 324 ⇓ *i* P **P** 11 12 15.5 +0.3
AKBB pmax pmax
comp=Z,11nm,0.9s
KIEV Kiev 80.53 324 P **P** 11 12 14.8 -0.5
KIEV IAmb IAmb 11 12 16.1
comp=Z,8.3nm,0.9s
KIEV Kiev 80.53 324 P **P** 11 12 14.8 -0.5
KIEV pmax pmax
comp=Z,8.0nm,0.9s
MPMC Manual Prospec 80.58 54 P **P** 11 12 15.7 -0.3
baz=300
PBUR Paburge 80.67 331 *e*P **P** 11 12 17.1 +1.3
LRMC Laurel Mtn Rad 80.73 55 P **P** 11 12 18.5 +1.7
baz=300
R11B Troy Canyon, C 80.74 51 P **P** 11 12 17.1 +0.3
baz=301
H17A Grant Village 80.79 44 P **P** 11 12 16.3 -0.8
baz=303
PPT2 Papeete2 80.79 116 *e*LR LR 11 37 44.8
comp=Z,112nm,24.0s
EDW2 Edwards Air Fo 80.80 55 P **P** 11 12 15.5 -1.7
baz=300
FURC Furnace Creek, 80.81 53 P **P** 11 12 17.6 +0.6
baz=300
HFS Hagfors 81.02 337 P **P** 11 12 18.0 +0.4
comp=Z,6.8nm,0.8s,baz=54,slow=7.3,SNR=10
comp=Z,6.8nm,0.8s
RLMT Red Lodge 81.17 43 P **P** 11 12 19.3 +0.1
baz=304
NB2 NORSAR Subarra 81.17 338 P **P** 11 12 19.6 +1.0
NB2 pmax pmax
comp=Z,1.0nm,0.7s
NB2 NORSAR Subarra 81.17 338 P **P** 11 12 18.8 +0.2
comp=Z,25nm,1.1s,baz=41,slow=5.3
NB2 NORSAR Subarra 81.17 338 P **P** 11 12 18.8 +0.2
baz=41,slow=5.3
NOA NORSAR Array B 81.17 338 P **P** 11 12 18.8 +0.2
comp=Z,7.3nm,0.9s,baz=41,slow=5.1,SNR=19
NOA LR LR 11 51 22.0
comp=Z,125nm,20.2s,baz=40,slow=38
comp=Z,7.3nm,0.9s
SUW Suwalki 81.42 329 P **P** 11 12 20.2 +0.4
SUW Suwalki 81.42 329 P **P** 11 12 20.3 +0.4
SUW pmax pmax
comp=Z,59nm,0.9s
SUW Suwalki 81.42 329 *e*P **P** 11 12 21.2 +1.3
GSC Goldstone, Bar 81.43 54 P **P** 11 12 21.2 +0.7
baz=300
ICESG Greenland Ices 81.44 1 *i* P **P** 11 12 21.4 +1.2
ICESG IAmb IAmb 11 12 35.9
comp=Z,6.2nm,0.8s
DUG Dugway, Tooele 81.62 48 P **P** 11 12 20.6 -0.9
baz=302
MURC Murrieta 82.01 56 P **P** 11 12 24.8 +1.3
baz=300
BW06 Boulder Array 82.30 45 P **P** 11 12 23.7 -1.4
baz=304
PDAR Pinedale Array 82.30 45 P **P** 11 12 26.4 +1.3
comp=Z,1.0nm,0.7s,baz=262,slow=2.6,SNR=9.2
comp=Z,1.0nm,0.7s
PFO Pinyon Flats O 82.54 56 P **P** 11 12 26.1 -0.2
baz=301
TPFO Pinon Flats 82.54 56 P **P** 11 12 25.3 -1.2
baz=301
BELC Belle Mtn. Jos 82.67 55 P **P** 11 12 26.8 -0.3
baz=301
MONP2 Monument Peak 82.93 56 P **P** 11 12 26.7 -1.9
baz=301
DY2G Dye2 83.86 3 *i* P **P** 11 12 28.9 -3.8
DY2G IAmb IAmb 11 12 36.7
comp=Z,3.7nm,0.7s
KSV Kosov 84.12 323 P **P** 11 12 33.9 -0.2
RAYN Ar Rayn 84.14 294 P **P** 11 12 35.3 +0.6
RAYN Ar Rayn 84.14 294 P **P** 11 12 35.3 +0.6
RAYN pmax pmax
comp=Z,63nm,0.9s
TBI Tubuai 84.20 121 *e*LR LR 11 38 45.4
comp=Z,581nm,26.8s
K22A Casper 84.20 44 P **P** 11 12 33.8 -1.0
baz=306
BR131 Keskin Array S 84.25 313 P **P** 11 12 35.5 +0.3
BR131 Keskin Array S 84.25 313 *c* iP **P** 11 12 35.4 +0.3
BRTR Keskin Array B 84.25 313 P **P** 11 12 35.6 +0.5
comp=Z,18nm,0.8s,baz=92,slow=3.8,SNR=31
BRTR LR LR 11 55 53.2
comp=Z,114nm,18.2s,baz=26,slow=40
comp=Z,18nm,0.8s
BUR08 Bucovina Ar. S 84.47 323 P **P** 11 12 36.1 +0.1
BUR08 IAmb IAmb 11 12 39.6
comp=Z,6.0nm,0.9s
KWP Kalwaria Pacla 84.47 325 *e*P **P** 11 12 37.2 +1.3
KWP Kalwaria Pacla 84.47 325 P **P** 11 12 36.1 +0.2
KWP Kalwaria Pacla 84.47 325 P **P** 11 12 36.1 +0.2
KWP pmax pmax
comp=Z,28nm,1.0s
BURAR Bucovina Array 84.48 323 P **P** 11 12 35.8 -0.3
BURAR IAmb IAmb 11 12 37.8
comp=Z,5.0nm,0.8s
O20A White River Ci 84.59 47 P **P** 11 12 35.8 -1.1
baz=305
WUAZ Wupatki 85.10 52 P **P** 11 12 40.3 +0.8
baz=303
KOLS Kolonicke sedl 85.15 325 *e*P **P** 11 12 40.5 +1.2
KOLS pmax pmax
comp=Z,5.0nm,0.9s
KOLS Kolonicke sedl 85.15 325 *e*P **P** 11 12 40.5 +1.2
ULM Lac du Bonnet 85.20 33 P **P** 11 12 39.2 -0.3
comp=Z,2.2nm,0.9s,baz=339,slow=5.2,SNR=3.8
comp=Z,2.2nm,0.9s
MDUB Mudurnu 85.36 314 P **P** 11 12 40.5 -0.2
MLR Muntele Rosu 85.42 321 LR LR 11 53 28.8
comp=Z,131nm,19.1s,baz=55,slow=38
OJC Ojcow 85.49 327 P **P** 11 12 41.6 +0.6
N23A Red Feather La 85.58 45 P **P** 11 12 44.1 +2.1
baz=306
NIE Niedzica 85.79 326 P **P** 11 12 43.3 +0.8
MMAI Mount Meron Ar 86.79 306 P **P** 11 12 47.8 0.0
comp=Z,0.7nm,0.3s,baz=85,slow=6.4,SNR=1.6
comp=Z,0.7nm,0.3s
MORC Moravsky Berou 86.85 328 *e*P **P** 11 12 47.5 -0.3
VYHS Vyhne 87.13 326 *e*P **P** 11 12 49.6 +0.5
VYHS pmax pmax
comp=Z,8.0nm,1.1s
VYHS Vyhne 87.13 326 *e*P **P** 11 12 49.6 +0.5
TUC Tucson 87.27 54 P **P** 11 12 51.8 +1.7
baz=304
VRAC Vranov 87.62 328 *e*P **P** 11 12 50.7 -0.7
CLL Collm 87.77 331 *e*P **P** 11 12 53.0 +0.9
CLL Collm 87.77 331 *e*P **P** 11 12 53.0 +0.9
KRUC Moravsky 87.89 328 *e*P **P** 11 12 50.3 -2.4
KHC Kasperske Hory 89.12 329 ⇓ *i* P **P** 11 12 58.9 +0.3
KHC pmax pmax
comp=Z,24nm,1.8s
GERES GERESS Array B 89.28 329 P **P** 11 12 58.2 -1.2
comp=Z,0.6nm,0.5s,baz=35,slow=8.7,SNR=3.9
comp=Z,0.6nm,0.5s
CBKS Cedar Bluff 90.63 44 P **P** 11 13 08.2 +2.3
baz=310
WMOK Wichita Mounta 93.83 46 P **P** 11 13 20.6 -0.1
baz=311
TX31 Lajitas Ar. Si 93.97 53 P **P** 11 13 22.0 +0.5
TX31 IAmb IAmb 11 13 40.5
comp=Z,8.0nm,1.1s
TXAR Lajitas Array 93.97 53 P **P** 11 13 24.1 +2.5
comp=Z,2.7nm,0.8s,baz=305,slow=3.4,SNR=28
comp=Z,2.7nm,0.8s
833A Chaparral WMA, 97.54 51 P **P** 11 13 36.6 -1.1
baz=310
O48B Farmland 97.62 35 P **P** 11 13 36.5 -1.3
baz=320
QSPA South Pole Qui 119.51 180 PKP **PKiKP** 11 18 52.5 +0.4
comp=Z,2.9nm,1.1s,baz=261,slow=2.1,SNR=3.8
TORD Torodi Ar. Bea 122.86 313 PKP **PKPdf** 11 18 59.8 -0.2
comp=Z,0.8nm,0.8s,baz=21,slow=3.3,SNR=4.5
LPAZ La Paz 149.11 71 PKPbc **PKiKP** 11 19 54.1 -0.1
comp=Z,4.5nm,0.9s,baz=28,slow=4.4,SNR=4.1
PLCA Paso Flores 151.21 121 PKPbc **PKiKP** 11 19 58.5 +1.4
comp=Z,5.0nm,0.9s,baz=273,slow=3.7,SNR=9.5

*IDC **05** 11:04:16.9±1.0,5.°95S×142.°97E, h0km, mb3.9/5, mbtmp4.0/7, ML1.9/1, Error ellipse: s-maj=35.0km s-min=21.3km az=79.0*

ISC 05 11:04:18.4±0.8, 5.°97S±0.°09×142.°84E±0.°08, h10km, n20, σ1886/19, mb3.8/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.76**	**293**	P	**Pb**	**11 04 51.3**	**+0.5**
PMG	**Port Moresby**	**5.47**	**129**	Pn	**Pn**	**11 05 40.5**	**+0.4**
	2.4nm,0.3s,baz=191,slow=0.5,SNR=8.3						
PMG				Sn	**Sn**	**11 06 42.3**	**-0.8**
	7.5nm,0.3s,baz=221,slow=21,SNR=12						
	13nm,0.5s						
COEN	**Coen**	**7.94**	**178**	P	**Pn**	**11 06 17.3**	**+3.2**
FAKI	**Fak Fak**	**10.99**	**286**	P	**Pn**	**11 06 55.6**	**-0.2**
MTSU	**Mount Surprise**	**12.17**	**173**	P	**Pn**	11 07 18.3	+6.2
KDU	**Kakadu**	**12.21**	**236**	P	**Pn**	**11 07 10.4**	**-2.2**
MTN	**Manton Dam**	**13.41**	**239**	P	**Pn**	**11 07 26.4**	**-2.6**
DRS	**Darwin Rock St**	**13.42**	**241**	P	**Pn**	**11 07 27.4**	**-1.7**
CTA	**Charters Tower**	**14.42**	**167**	Lg	Lg	11 11 53.2	
	0.1nm,0.3s,baz=252,slow=20,SNR=2.0						
WRA	**Warramunga Arr**	**16.16**	**210**	Pn	**Pn**	**11 08 02.2**	**-3.7**
	1.5nm,0.3s,baz=28,slow=14,SNR=41						
WRA				Sn	Sn	11 10 52.5	-13
	0.3nm,0.3s,baz=29,slow=22,SNR=2.7						
WRA				Lg	Lg	11 12 43.4	
	0.1nm,0.3s,baz=32,slow=27,SNR=3.5						
KNRA	**Kununurra**	**16.85**	**234**	P	**Pn**	**11 08 11.5**	**-3.1**
AS01	**Alice Springs**	**19.56**	**205**	P	**Pn**	**11 08 47.4**	**-0.5**
ASAR	**Alice Springs**	**19.58**	**205**	P	**Pn**	**11 08 47.5**	**-0.7**
	21nm,0.7s,baz=32,slow=10.0,SNR=125						
ASAR				S	S	11 12 15.7	-12
	0.7nm,0.6s,baz=16,slow=28,SNR=3.2						
ASAR				Lg	Lg	11 14 39.2	
	baz=34,slow=34						
OOD	**Oodnadatta**	**22.74**	**197**	P	**P**	**11 09 21.8**	**+0.9**
WRKA	**Warakurna**	**23.53**	**215**	P	**P**	**11 09 28.8**	**-0.2**
STKA	**Stephens Creek**	**25.80**	**182**	P	**P**	**11 09 50.7**	**+0.9**
	1.7nm,0.8s,baz=340,slow=12,SNR=3.2						
	1.7nm,0.8s						
MKAR	**Makanchi Array**	**74.88**	**322**	P	**P**	**11 16 00.6**	**+1.1**
	0.5nm,0.7s,baz=96,slow=7.5,SNR=3.0						
	0.5nm,0.7s						
QSPA	**South Pole Qui**	**84.00**	**180**	P	**P**	**11 16 48.2**	**-0.7**
	0.7nm,0.6s,baz=306,slow=1.2,SNR=6.4						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**84.33**	**325**	P	**P**	**11 16 51.8**	**+1.1**
	1.9nm,0.7s,baz=120,slow=6.0,SNR=7.4						
	1.9nm,0.7s						
ILAR	**Eielson Array**	**87.10**	**24**	P	**P**	**11 17 03.3**	**-0.9**
	0.4nm,0.8s,baz=264,slow=4.2,SNR=8.4						
	0.4nm,0.8s						

STR 05 11:11:03.4±1.5, 48.°N±9.°×±.°, h0km, MLv1.9/6, Error ellipse: s-maj=0.0km s-min=0.0km az=28.5, preliminary, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIZ	**Kirchzarten**	**0.32**	**190**	Pg	Pg	11 11 09.2	-0.3
KIZ				Sg	Sg	11 11 13.0	-0.7
ECH	**Echery**	**0.56**	**265**	Pg	Pg	11 11 14.5	+0.3
ECH				Sg	Sg	11 11 22.1	+0.5
SLE	**Schleitheim**	**0.60**	**147**	Pg	Pg	11 11 15.2	+0.2
SLE	**Schleitheim**	**0.60**	**147**	Sg	Sg	11 11 23.6	+0.7
MOF	**Molkenrain**	**0.72**	**234**	Sg	Sb	11 11 28.2	-1.1
SULZ	**Cheisacher**	**0.75**	**174**	Pg	Pg	11 11 17.8	0.0
SULZ				Pn	Pb	11 11 19.6	+0.2
BALST	**Balsthal**	**0.96**	**192**	Pg	Pg	11 11 21.7	-0.1
BALST	**Balsthal**	**0.96**	**192**	Sg	Sg	11 11 35.0	+0.8

VIE 05 11:11:44.7±0.4, 46.°72N×13.°78E, h0km, ml0.9/3, Error ellipse: s-maj=5.0km s-min=0.9km az=163.0, Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MYKA	**Terra Mystica**	**0.13**	**226**	*e*Pg	Pg	11 11 47.1	0.0
	1.2nm,0.1s						
MYKA				*i* Sg	Sg	11 11 49.0	+0.2
	2.5nm,0.1s						
OBKA	**Obir**	**0.57**	**111**	*e*Pg	Pg	11 11 55.8	+0.1
	0.2nm,0.1s						
OBKA				*i* Sg	Sg	11 12 03.6	+0.6
	0.6nm,0.1s						
SOKA	**Soboth**	**0.86**	**92**	*i* Pg	Pg	11 12 01.1	-0.2
	0.1nm,0.1s						
SOKA				*i* Sg	Sg	11 12 13.6	+1.1
	0.2nm,0.1s						

STR 05 11:12:27.1±0.5, 46.°N±3.°×±.°, h0km, MLv2.2/9, Error ellipse: s-maj=0.0km s-min=0.0km az=97.7, preliminary, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GIMEL	**St. Georges /**	**0.39**	**83**	Pg	Pg	11 12 33.9	-0.6
GIMEL				Sg	Sg	11 12 40.0	+0.5
PLYF	**Puligny Montra**	**0.81**	**306**	Pg	Pg	11 12 42.8	+0.2
OGSI	**Sixt**	**0.84**	**120**	Pg	Pg	11 12 43.4	+0.3
BOUC	**Bouclans**	**0.85**	**26**	Pg	Pg	11 12 42.6	-0.7
BOUC				Sg	Sg	11 12 54.7	+0.4
OGSM	**Saint Maurice**	**0.88**	**181**	Pg	Pg	11 12 43.2	-0.8
OGSM				Sg	Sg	11 12 55.1	-0.3
RSL	**Roselend**	**1.02**	**141**	Pg	Pg	11 12 47.1	+0.4
RSL				Sg	Sb	11 13 01.4	-0.4
SSB	**Saint Sauveur**	**1.46**	**214**	Pn	Pn	11 12 53.4	-1.3
LOR	**Lormes**	**1.49**	**302**	Pn	Pn	11 12 54.7	-0.5
ORIF	**Oris-en-Rattie**	**1.57**	**176**	Pn	Pn	11 12 55.7	-0.7

IDC 05 11:12:43.9±2.2, 6.°33S×144.°25E, h0km, mb3.6/3, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=89.8km s-min=36.9km az=107.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.61**	**214**	Pn	Pn	11 16 31.3	-7.0
	0.2nm,0.3s,baz=32,slow=12,SNR=4.6						
WRA				Lg	Lg	11 21 24.9	
	baz=29,slow=29						
ASAR	**Alice Springs**	**19.91**	**209**	P	P	11 17 17.2	-0.1
	0.2nm,0.3s,baz=35,slow=10,SNR=10.0						
	3.3nm,0.9s						
MKAR	**Makanchi Array**	**76.02**	**321**	P	P	11 24 33.5	+0.3
	0.4nm,0.7s,baz=100,slow=5.7,SNR=4.7						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**85.43**	**324**	P	P	11 25 23.3	-0.1
	0.6nm,0.7s,baz=99,slow=3.6,SNR=2.7						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**86.86**	**24**	P	P	11 25 30.0	-0.2
	0.3nm,0.9s,baz=262,slow=4.5,SNR=1.7						
	0.3nm,0.9s						

*IDC **05** 11:14:25.9±0.7, 55.°32S×128.°82W, h0km, mb4.1/8, mbtmp4.1/8, MS4.5/25, Error ellipse: s-maj=25.4km s-min=21.7km az=159.0*

*GCMT **05** 11:14:32.0±0.1, 55.°41S±0.°01×128.°83W±0.°01, h22km, MW5.3/135, Moment Tensor Solution. s92,c142; s135,c222; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.16±.02; $M_{\theta\theta}$0.67±.02; $M_{\phi\phi}$-0.51±.02; $M_{r\theta}$-0.13±.03; $M_{\theta\phi}$0.83±.01; $M_{\phi r}$-0.03±.03; Best double couple: $M_0$1.02700×10^{17} NP1:ϕ_s288.00000°, δ88.00000°, λ6.00000°. NP2:ϕ_s198.00000°, δ84.00000°, λ178.00000°. Principal axes: T 1.1100, Plg6.0000°, Azm153.0000°; N -0.1670, Plg84.0000°, Azm307.0000°; P -0.9440, Plg3.0000°, Azm63.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 05 11:14:27.5±0.8, 55.°3S±0.°2×128.°8W±0.°2, h10km, n50, σ0893/18, mb4.3/10, MS4.6/25, 4C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**31.50**	**35**	LR	LR	11 30 22.1	
	comp=Z,484nm,20.6s,baz=192,slow=30						
PMSA	**Palmer Station**	**32.27**	**133**	LR	LR	11 30 22.6	
	comp=Z,1μm,18.3s,baz=300,slow=30						
VNDA	**Vanda**	**32.38**	**202**	P	**P**	**11 20 56.2**	**-0.4**
	2.1nm,1.0s,baz=45,slow=7.1,SNR=2.4						
VNDA				LR	LR	11 29 58.9	
	comp=Z,485nm,21.6s,baz=82,slow=29						
	2.1nm,1.0s						
QSPA	**South Pole Qui**	**34.89**	**180**	P	**P**	**11 21 19.5**	**+0.7**
	6.0nm,1.0s,baz=117,slow=3.5,SNR=12						
QSPA				LR	LR	11 34 20.2	
	comp=Z,1μm,18.5s,baz=87,slow=34						
	6.0nm,1.0s						
RPZ	**Rata Peaks**	**39.51**	**261**	LR	LR	11 34 15.6	
	comp=Z,996nm,20.4s,baz=118,slow=30						
URZ	**Urewera**	**39.64**	**272**	LR	LR	11 34 34.5	
	comp=Z,691nm,21.4s,baz=220,slow=30						
PLCA	**Paso Flores**	**40.38**	**94**	LR	LR	11 34 48.4	
	comp=Z,437nm,18.9s,baz=226,slow=30						
H03S2	**Juan Fernandez**	**40.42**	**79**	T	T	12 05 03.9	
	baz=221,slow=74,SNR=224						
H03S1	**Juan Fernandez**	**40.43**	**79**	T	T	12 05 05.6	
	baz=221,slow=74,SNR=228						
H03S3	**Juan Fernandez**	**40.44**	**79**	T	T	12 05 03.6	
	baz=221,slow=74,SNR=221						
H03N3	**Juan Fernandez**	**40.70**	**79**	T	T	12 05 23.4	
	baz=224,slow=72,SNR=4026						
H03N2	**Juan Fernandez**	**40.71**	**79**	T	T	12 05 22.3	
	baz=224,slow=72,SNR=2487						
H03N1	**Juan Fernandez**	**40.72**	**79**	T	T	12 05 22.7	
	baz=224,slow=72,SNR=3642						
RAR	**Rarotonga**	**41.16**	**313**	LR	LR	11 36 48.7	
	comp=Z,232nm,18.2s,baz=168,slow=33						
VNA3	**Neumayer Olymp**	**46.69**	**157**	⇑P	**P**	**11 22 56.3**	**+0.5**
	comp=Z,7.7nm,0.7s						
VNA2	**Neumayer--Watz**	**47.43**	**158**	⇑P	**P**	**11 23 01.9**	**+0.4**
	comp=Z,17nm,0.6s,baz=218,slow=8.9						
SNAA	**Sanae**	**47.80**	**160**	⇑P	**P**	**11 23 04.3**	**-0.2**
	comp=Z,102nm,0.6s						
SNAA	**Sanae**	**47.80**	**160**	P	**P**	**11 23 03.9**	**-0.5**
	comp=Z,4.0nm,0.7s,baz=218,slow=8.7,SNR=16						
SNAA				LR	LR	11 42 11.6	
	comp=Z,1μm,19.9s,baz=197,slow=35						
	comp=Z,4.0nm,0.7s						
TROLL	**Troll, Antarti**	**48.54**	**162**	⇑P	**P**	**11 23 10.8**	**+0.5**
	comp=Z,252nm,0.7s						
MAW	**Mawson**	**57.12**	**185**	LR	LR	11 46 15.5	
	comp=Z,336nm,19.4s,baz=167,slow=34						
CPUP	**Villa Florida**	**58.35**	**91**	P	**P**	**11 24 22.5**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=217,slow=6.1,SNR=4.4						
CPUP				LR	LR	11 46 04.8	
	comp=Z,515nm,18.6s,baz=228,slow=32						
	comp=Z,1.9nm,0.7s						
NNA	**Nana**	**59.07**	**64**	LR	LR	11 44 27.9	
	comp=Z,141nm,19.0s,baz=220,slow=30						
LPAZ	**La Paz**	**60.16**	**75**	P	**P**	**11 24 36.2**	**+0.1**
	comp=Z,3.2nm,1.0s,baz=209,slow=5.0,SNR=5.1						
	comp=Z,3.2nm,1.0s						
ATAH	**Atahualpa**	**62.43**	**60**	LR	LR	11 45 46.1	
	comp=Z,456nm,18.5s,baz=209,slow=30						
SIV	**San Ignacio**	**64.35**	**81**	LR	LR	11 48 09.1	
	comp=Z,150nm,19.4s,baz=250,slow=31						
BDFB	**Brasilia**	**72.08**	**92**	LR	LR	11 53 47.1	
	comp=Z,351nm,21.1s,baz=195,slow=33						
ROSC	**El Rosal**	**74.80**	**57**	LR	LR	11 52 21.0	
	comp=Z,486nm,20.1s,baz=324,slow=30						
ASAR	**Alice Springs**	**74.87**	**250**	P	**P**	**11 26 08.1**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=142,slow=6.0,SNR=14						
ASAR				LR	LR	11 55 01.4	
	comp=Z,476nm,19.2s,baz=89,slow=32						
	comp=Z,1.6nm,0.7s						
JTS	**Las Juntas de**	**74.92**	**45**	LR	LR	11 51 48.3	
	comp=Z,220nm,19.0s,baz=318,slow=30						
H01W1	**Cape Leeuwin H**	**75.32**	**229**	T	T	12 49 50.8	
	baz=147,slow=76,SNR=79						

H01W2	**Cape Leeuwin H**	**75.32**	**229**	T	T	12 49 47.6	
	baz=147,slow=76,SNR=94						
H01W3	**Cape Leeuwin H**	**75.33**	**229**	T	T	12 49 51.9	
	baz=147,slow=76,SNR=86						
NWAO	**Narrogin (SRO)**	**75.61**	**233**	LR	LR	11 51 38.8	
	comp=Z,309nm,20.2s,baz=82,slow=30						
WRA	**Warramunga Arr**	**77.64**	**253**	P	**P**	**11 26 23.1**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=143,slow=5.0,SNR=8.4						
	comp=Z,0.8nm,0.6s						
PMG	**Port Moresby**	**78.93**	**270**	LR	LR	11 57 41.9	
	comp=Z,214nm,18.4s,baz=180,slow=33						
PCRV	**Puerto La Cruz**	**84.19**	**63**	LR	LR	12 00 38.5	
	comp=Z,578nm,18.4s,slow=33						
RCBR	**Riachuelo**	**86.92**	**96**	LR	LR	12 02 53.5	
	comp=Z,144nm,20.0s,baz=230,slow=34						
TXAR	**Lajitas Array**	**87.00**	**22**	P	**P**	**11 27 13.2**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=186,slow=8.0,SNR=4.2						
	comp=Z,0.4nm,0.7s						
SUR	**Sutherland**	**88.88**	**155**	LR	LR	11 59 40.8	
	comp=Z,304nm,20.2s,baz=186,slow=31						
H11N3	**WAKE ISLAND Hy**	**92.35**	**302**	T	T	13 09 55.6	
	baz=157,slow=79,SNR=18						
H11N1	**WAKE ISLAND Hy**	**92.36**	**302**	T	T	13 09 54.3	
	baz=157,slow=79,SNR=18						
H11N2	**WAKE ISLAND Hy**	**92.37**	**302**	T	T	13 09 57.0	
	baz=157,slow=79,SNR=18						
BOSA	**Boshof**	**93.53**	**157**	LR	LR	12 06 55.2	
	comp=Z,374nm,18.6s,baz=196,slow=34						
LBTB	**Lobatse**	**97.08**	**157**	LR	LR	12 08 02.9	
	comp=Z,271nm,18.9s,baz=198,slow=33						
ILAR	**Eielson Array**	**120.53**	**351**	PKP	**PKPdf**	**11 33 18.2**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=199,slow=1.7,SNR=14						
TORD	**Torodi Ar. Bea**	**123.19**	**118**	PKP	**PKPdf**	**11 33 22.0**	**-2.4**
	comp=Z,0.3nm,0.6s,baz=225,slow=1.8,SNR=1.9						
SONM	**Songino Array**	**145.69**	**281**	PKPbc	**PKPdf**	**11 34 05.7**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=128,slow=3.8,SNR=9.1						
MKAR	**Makanchi Array**	**158.82**	**259**	PKPab	**PKPab**	**11 35 00.6**	**0.0**
	comp=Z,0.3nm,0.6s,baz=94,slow=3.6,SNR=2.2						
ZALV	**Zalesovo Beam**	**160.57**	**280**	PKPab	**PKPab**	**11 35 07.3**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=92,slow=4.3,SNR=2.8						
BVAR	**Borovoye Array**	**168.51**	**267**	PKPab	**PKPab**	**11 35 44.9**	**+1.9**
	comp=Z,0.5nm,0.5s,baz=98,slow=2.9,SNR=2.1						

*IDC **05** 11:22:23.3±0.6, 15.54S×173.32W, h0km, mb4.3/11, mbtmp4.3/12, ML3.5/1, MS4.3/4, Error ellipse: s-maj=27.0km s-min=16.7km az=138.0*

*NEIC **05** 11:22:23.7±3.0, 15.57S±0.06×173.0W±0.1, h10km±1km, mb5.0/28, Error ellipse: s-maj=19.9km s-min=9.7km az=284.0*

*NOU **05** 11:22:28.6, 15.06S×172.56W, h106km, mb4.9/16, Samoa Islands Region*

ISC 05 11:22:27.1±0.4, 15°60S±0.05×173°11W±0.07, h29km, n169, σ1§83/155, mb4.8/25, MS4.4/5, 1C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.12**	**38**		**Pn**	**11 22 59.8**	**-1.0**
AFI				Sn	**Sn**	**11 23 21.9**	**-4.2**
AFI	**Afiamalu**	**2.12**	**38**	P	**Pn**	**11 23 00.2**	**-0.5**
NIUE	**Niue**	**4.60**	**139**	Pn	**Pn**	**11 23 34.7**	**-0.1**
NIUE				Sn	**Sn**	**11 24 20.9**	**-6.3**
NIUE	**Niue**	**4.60**	**139**	P	**Pn**	**11 23 35.0**	**+0.2**
TAVE	**Taveuni**	**6.62**	**260**	P	Pn	11 24 11.7	+9.2
TAVE	**Taveuni**	**6.62**	**260**	P	Pn	11 24 11.6	+9.1
DGTI	**Dogotuki**	**6.92**	**263**	P	Pn	11 24 15.5	+8.9
MSVF	**Nonsavu**	**8.73**	**255**		Pn	11 24 40.1	+8.4
MSVF	**Nonsavu**	**8.73**	**255**	P	Pn	11 24 41.3	+10
RAR	**Rarotonga**	**13.83**	**116**	Pn	**Pn**	**11 25 42.6**	**+1.3**
	2.4nm,0.3s,baz=44,slow=14,SNR=2.2						
RAR				Sn	Sn	11 27 58.7	-15
	0.9nm,0.3s,baz=31,slow=14,SNR=1.5						
	15nm,0.7s						
MARNC	**Mare, Loyalty**	**18.81**	**249**	P	**Pn**	**11 26 45.9**	**+0.8**
MARNC	**Mare, Loyalty**	**18.81**	**249**	P	**Pn**	**11 26 46.8**	**+1.6**
MARNC	**Mare, Loyalty**	**18.81**	**249**	P	**Pn**	**11 26 46.7**	**+1.6**
LIFNC	**LIFOU**	**19.36**	**252**	P	**Pn**	**11 26 52.4**	**+0.6**
LIFNC				IAmb	IAmb	11 26 55.2	
	comp=Z,103nm,0.8s						
LIFNC	**LIFOU**	**19.36**	**252**	P	**Pn**	**11 26 54.5**	**+2.7**
PINNC	**Pines Island,**	**19.64**	**246**	P	**Pn**	**11 26 55.3**	**+0.2**
PINNC				IAmb	IAmb	11 27 06.2	
	comp=Z,69nm,0.7s						
PINNC	**Pines Island,**	**19.64**	**246**	P	**Pn**	**11 26 56.1**	**+1.0**
PINNC	**Pines Island,**	**19.64**	**246**	P	**Pn**	**11 26 56.4**	**+1.3**
OUENC	**Ouen Island, N**	**20.12**	**247**	P	Pn	11 27 01.2	+0.4
OUENC				IAmb	IAmb	11 27 05.4	
	comp=Z,86nm,0.8s						
OUENC	**Ouen Island, N**	**20.12**	**247**	P	Pn	11 27 02.2	+1.4
OUENC	**Ouen Island, N**	**20.12**	**247**	P	Pn	11 27 02.4	+1.6
DZM	**Mont Dzumac**	**20.38**	**248**	P	Pn	11 27 04.7	+0.7
DZM				IAmb	IAmb	11 27 09.3	
	comp=Z,51nm,0.8s						
DZM	**Mont Dzumac**	**20.38**	**248**	P	Pn	11 27 04.6	+0.6
DZM	**Mont Dzumac**	**20.38**	**248**	P	Pn	11 27 04.5	+0.5
ONTNC	**Ouen Toro**	**20.43**	**248**	P	Pn	11 27 05.2	+0.7
ONTNC	**Ouen Toro**	**20.43**	**248**	P	Pn	11 27 05.8	+1.3
OUZ	**Omahuta**	**22.88**	**209**	P	**P**	**11 27 29.2**	**+0.8**
MXZ	**Matakaoa Point**	**23.16**	**198**	P	**P**	**11 27 32.5**	**+1.3**
MXZ	**Matakaoa Point**	**23.16**	**198**	P	**P**	**11 27 32.9**	**+1.7**
HAZ	**Te Kaha**	**23.49**	**198**	P	**P**	**11 27 34.8**	**+0.3**
PKGZ	**Pakihiroa**	**23.53**	**198**	P	**P**	**11 27 38.2**	**+3.2**
PUZ	**Puketiti**	**23.64**	**197**	P	**P**	**11 27 36.6**	**+0.6**
RUGZ	**Raukumara Rang**	**23.72**	**198**	P	**P**	**11 27 37.7**	**+0.9**
TWGZ	**Tauwhareparae**	**23.82**	**198**	P	**P**	**11 27 41.3**	**+3.5**
CNGZ	**Carnagh Statio**	**24.04**	**197**	P	**P**	**11 27 42.1**	**+2.4**
MWZ	**Matawai**	**24.10**	**198**	P	**P**	**11 27 41.3**	**+0.9**
TKGZ	**Te Karaka**	**24.10**	**198**	P	**P**	**11 27 42.1**	**+1.9**
URZ	**Urewera**	**24.16**	**199**	P	**P**	**11 27 41.3**	**+0.5**
URZ	**Urewera**	**24.16**	**199**	P	**P**	**11 27 41.1**	**+0.3**
KMRZ	**Kaimai**	**24.18**	**202**	P	**P**	**11 27 37.1**	**-4.0**
TOZ	**Tahuroa Road**	**24.23**	**202**	P	**P**	**11 27 43.8**	**+2.3**
TOZ				IAmb	IAmb	11 27 44.0	
	comp=Z,17nm,0.8s						
TOZ	**Tahuroa Road**	**24.23**	**202**	P	**P**	**11 27 43.6**	**+2.1**
RAGZ	**Rawiri**	**24.29**	**198**	P	**P**	**11 27 43.1**	**+1.1**
MUGZ	**Murupara**	**24.47**	**199**	P	**P**	**11 27 45.6**	**+1.9**
RTZ	**Ruatahuna**	**24.53**	**199**	P	**P**	**11 27 45.1**	**+0.8**
RTZ				IAmb	IAmb	11 27 47.9	
	comp=Z,17nm,0.6s						
RTZ	**Ruatahuna**	**24.53**	**199**	P	**P**	**11 27 44.2**	**-0.1**
SNGZ	**Shannon Statio**	**24.57**	**198**	P	**P**	**11 27 46.7**	**+2.1**
KNZ	**Kokohu**	**24.70**	**197**	P	**P**	**11 27 48.9**	**+3.2**
RAHZ	**Arahi**	**24.77**	**198**	P	**P**	**11 27 47.3**	**+0.9**
RATZ	**Rangitukua**	**25.15**	**201**	P	**P**	**11 27 50.1**	**+0.2**
HIZ	**Hauiti**	**25.16**	**203**	P	**P**	**11 27 50.3**	**+0.4**
HIZ	**Hauiti**	**25.16**	**203**	P	**P**	**11 27 53.3**	**+3.3**
MCHZ	**McNeill Hill**	**25.38**	**199**	P	**P**	**11 27 57.3**	**+5.4**
TMVZ	**Te Maari**	**25.40**	**201**	P	**P**	**11 27 52.7**	**+0.5**
ETVZ	**East Tongariro**	**25.41**	**201**	P	**P**	**11 27 51.8**	**-0.5**
KWHZ	**Kaweka Forest**	**25.44**	**199**	P	**P**	**11 27 52.9**	**+0.3**
NNVZ	**North Ngauruho**	**25.44**	**201**	P	**P**	**11 27 54.8**	**+2.1**
SNVZ	**South Ngauruho**	**25.48**	**201**	P	**P**	**11 27 52.5**	**-0.5**
NGZ	**Ngauruhoe**	**25.49**	**201**	P	**P**	**11 27 54.0**	**+1.0**
TUVZ	**Tukino**	**25.55**	**201**	P	**P**	**11 27 53.1**	**-0.6**
TRVZ	**Turoa**	**25.62**	**201**	P	**P**	**11 27 50.8**	**-3.5**
BHHZ	**Black Hill Sta**	**25.62**	**200**	P	**P**	**11 27 54.0**	**-0.1**
WNVZ	**Wahianoa**	**25.62**	**201**	P	**P**	**11 27 53.7**	**-0.6**
KAHZ	**Kahuranaki**	**25.64**	**198**	P	**P**	**11 27 56.7**	**+2.3**
KRHZ	**Kereru**	**25.66**	**199**	P	**P**	**11 27 55.4**	**+0.9**
VRZ	**Vera Road**	**25.74**	**202**	P	**P**	**11 27 56.2**	**+1.1**
PXZ	**Pawanui**	**25.86**	**198**	P	**P**	**11 27 58.4**	**+2.1**
PNHZ	**Pukenui**	**25.96**	**199**	P	**P**	**11 27 58.7**	**+1.5**
PKE	**Pukeiti**	**26.09**	**203**	P	**P**	**11 28 03.1**	**+4.8**
NEZ	**North Egmont**	**26.11**	**203**	P	**P**	**11 28 03.1**	**+4.5**
TSZ	**Takapari Road**	**26.17**	**199**	P	**P**	**11 27 59.9**	**+0.8**
DVHZ	**Dannevirke**	**26.32**	**199**	P	**P**	**11 28 02.4**	**+1.9**
ANWZ	**Angora Road**	**26.38**	**198**	P	**P**	**11 28 02.4**	**+1.6**
BFZ	**Birch Farm**	**26.65**	**198**	P	**P**	**11 28 04.2**	**+0.8**
BFZ	**Birch Farm**	**26.65**	**198**	P	**P**	**11 28 04.2**	**+0.8**
BFZ	**Birch Farm**	**26.65**	**198**	P	**P**	**11 28 04.1**	**+0.7**
MRZ	**Mangatainoka R**	**26.84**	**199**	P	**P**	**11 28 04.3**	**-0.7**
HNR	**Honiara**	**26.99**	**280**	LR	LR	11 37 28.1	
	comp=Z,2µm,18.9s,baz=92,slow=34						
SNZO	**South Karori**	**27.70**	**200**	P	**P**	**11 28 12.9**	**+0.1**
TUWZ	**Tuamarina**	**28.07**	**201**	P	**P**	**11 28 17.8**	**+1.7**
KHZ	**Kahutara**	**29.08**	**201**	P	**P**	**11 28 24.5**	**-0.6**
INZ	**Inchbonnie**	**30.10**	**203**	P	**P**	**11 28 34.3**	**+0.2**
INZ				IAmb	IAmb	11 28 34.6	
	comp=Z,29nm,0.9s						
JCZ	**Jackson Bay**	**32.28**	**205**	P	**P**	**11 28 53.2**	**-0.2**
EIDS	**Eidsvold**	**34.83**	**248**	P	**P**	**11 29 13.9**	**-1.8**
EIDS				IAmb	IAmb	11 30 21.0	
	comp=Z,24nm,1.7s						
ARMA	**Armidale**	**35.48**	**239**	P	**P**	**11 29 20.2**	**-1.3**
ARMA				IAmb	IAmb	11 29 20.6	
	comp=Z,34nm,1.6s						
ARMA	**Armidale**	**35.48**	**239**	P	**P**	**11 29 20.3**	**-1.1**
CNB	**Canberra Magne**	**38.85**	**233**	P	**P**	**11 29 48.9**	**-1.1**
CAN	**Canberra**	**39.13**	**233**	P	**P**	**11 29 52.6**	**+0.3**
CMSA	**Cobar Meteorol**	**40.69**	**240**	P	**P**	**11 30 03.9**	**-1.4**
CMSA	**Cobar Meteorol**	**40.69**	**240**	P	**P**	**11 30 03.8**	**-1.5**
MTSU	**Mount Surprise**	**40.76**	**260**	P	**P**	**11 30 05.0**	**-1.0**
MTSU	**Mount Surprise**	**40.76**	**260**	P	**P**	**11 30 05.7**	**-0.3**
QLP	**Quilpie**	**41.10**	**247**	P	**P**	**11 30 07.2**	**-1.5**
QLP	**Quilpie**	**41.10**	**247**	P	**P**	**11 30 07.1**	**-1.6**
COEN	**Coen**	**42.25**	**266**	P	**P**	**11 30 18.8**	**+0.6**
COEN				IAmb	IAmb	11 30 19.1	
	comp=Z,26nm,0.9s						
COEN	**Coen**	**42.25**	**266**	P	**P**	**11 30 18.4**	**+0.2**
TOO	**Toolangi**	**42.55**	**231**	P	**P**	**11 30 19.8**	**-0.8**
TOO				IAmb	IAmb	11 30 21.5	
	comp=Z,36nm,1.6s						
TOO	**Toolangi**	**42.55**	**231**	P	**P**	**11 30 19.7**	**-0.8**
STKA	**Stephens Creek**	**44.18**	**240**	P	**P**	**11 30 32.7**	**-1.0**
STKA	**Stephens Creek**	**44.18**	**240**	P	**P**	**11 30 32.8**	**-0.8**
STKA	**Stephens Creek**	**44.18**	**240**	P	**P**	**11 30 32.7**	**-1.0**
	comp=Z,16nm,0.6s,baz=93,slow=9.7,SNR=38						
	comp=Z,16nm,0.6s						
INKA	**Innaminka**	**44.31**	**246**	P	**P**	**11 30 34.3**	**-0.4**
ARPS	**Mount Arapiles**	**45.09**	**233**	P	**P**	**11 30 39.8**	**-1.1**
HTT	**Hallett**	**46.68**	**239**	P	**P**	**11 30 52.5**	**-1.0**
LCRK	**Leigh Creek**	**46.82**	**243**	P	**P**	**11 30 53.4**	**-1.2**
LCRK	**Leigh Creek**	**46.82**	**243**	P	**P**	**11 30 53.2**	**-1.4**
OOD	**Oodnadatta**	**48.78**	**247**	P	**P**	**11 31 09.5**	**-0.3**
BBOO	**Buckleboo**	**48.95**	**240**	P	**P**	**11 31 09.5**	**-1.6**
BBOO	**Buckleboo**	**48.95**	**240**	P	**P**	**11 31 09.5**	**-1.6**
WB0	**Warramunga Arr**	**50.03**	**257**	P	**P**	**11 31 18.9**	**-0.6**
WB0				IAmb	IAmb	11 33 10.8	
	comp=Z,46nm,1.9s						
WB2	**Warramunga Arr**	**50.06**	**257**	P	**P**	**11 31 18.2**	**-1.5**
WRA	**Warramunga Arr**	**50.07**	**257**	P	**P**	**11 31 17.9**	**-1.8**
WRA	**Warramunga Arr**	**50.07**	**257**	P	**P**	**11 31 17.9**	**-1.8**
	comp=Z,2.3nm,0.5s,baz=92,slow=6.7,SNR=82						
WRA				PcP	**PcP**	**11 32 39.3**	**0.0**
	comp=Z,1.0nm,0.8s,baz=85,slow=3.9,SNR=4.7						
	comp=Z,2.3nm,0.5s						
AS01	**Alice Springs**	**50.27**	**252**	P	**P**	**11 31 19.9**	**-1.4**
AS31	**Alice Springs**	**50.31**	**252**		**P**	**11 31 20.2**	**-1.4**
ASAR	**Alice Springs**	**50.31**	**252**	P	**P**	**11 31 20.8**	**-0.9**
ASAR	**Alice Springs**	**50.31**	**252**	P	**P**	**11 31 19.9**	**-1.7**
	comp=Z,18nm,0.6s,baz=87,slow=7.7,SNR=417						
	comp=Z,18nm,0.6s						
MULG	**Mulgathing**	**50.38**	**243**	P	**P**	**11 31 20.5**	**-1.5**
WRKA	**Warakurna**	**55.39**	**250**	P	**P**	**11 31 57.8**	**-1.3**
FORT	**Forrest**	**55.57**	**243**	P	**P**	**11 31 58.5**	**-1.8**
FORT	**Forrest**	**55.57**	**243**	P	**P**	**11 31 58.3**	**-2.0**
KNRA	**Kununurra**	**55.81**	**261**	P	**P**	**11 32 00.5**	**-1.7**
VNDA	**Vanda**	**63.20**	**186**	P	**P**	**11 32 53.4**	**+1.2**
VNDA				IAmb	IAmb	11 35 00.7	
	comp=Z,31nm,1.9s						
VNDA	**Vanda**	**63.20**	**186**	P	**P**	**11 32 54.2**	**+2.0**
	comp=Z,3.3nm,0.9s,baz=18,slow=5.4,SNR=8.1						
	comp=Z,3.3nm,0.9s						
PSA00	**Pilbara Seismi**	**63.41**	**253**	P	**P**	**11 32 54.4**	**-0.2**
PSA00				IAmb	IAmb	11 32 54.6	
	comp=Z,18nm,1.2s						
NWAO	**Narrogin (SRO)**	**64.76**	**241**	P	**P**	**11 33 03.2**	**0.0**
MORW	**Morawa**	**66.05**	**245**	P	**P**	**11 33 10.7**	**-0.9**
VES	**Vestal, Richgr**	**72.30**	**44**	P	**P**	**11 33 51.7**	**+1.6**
	baz=235						
EDW2	**Edwards Air Fo**	**72.49**	**45**	P	**P**	**11 33 53.1**	**+1.8**
	baz=236						
ISA	**Isabella, Lake**	**72.60**	**44**	P	**P**	**11 33 53.9**	**+1.9**
	baz=235						
CMB	**Columbia Colle**	**72.73**	**41**	P	**P**	**11 33 49.4**	**-3.3**
LRMC	**Laurel Mtn Rad**	**73.03**	**45**	P	**P**	**11 33 56.6**	**+1.9**
	baz=236						
BELC	**Belle Mtn. Jos**	**73.39**	**47**	P	**P**	**11 33 58.5**	**+1.7**
	baz=237						
MPMC	**Manual Prospec**	**73.49**	**44**	P	**P**	**11 33 59.6**	**+2.2**
	baz=236						
HEC	**Hecr,Ludlow**	**73.60**	**46**	P	**P**	**11 33 59.6**	**+1.6**
	baz=237						
IRM	**Iron Mountain**	**74.07**	**47**	P	**P**	**11 34 02.6**	**+2.0**
	baz=238						
FURC	**Furnace Creek,**	**74.13**	**44**	P	**P**	**11 34 02.3**	**+1.4**
	baz=236						
NVAR	**Mina Array Bea**	**74.29**	**42**	P	**P**	**11 34 03.1**	**+1.0**
	comp=Z,3.0nm,0.8s,baz=228,slow=11,SNR=23						
	comp=Z,3.0nm,0.8s						
QSPA	**South Pole Qui**	**74.44**	**180**	P	**P**	**11 34 03.3**	**+0.8**
	comp=Z,5.8nm,0.8s,baz=30,slow=1.4,SNR=18						
	comp=Z,5.8nm,0.8s						
R11B	**Troy Canyon, C**	**76.02**	**43**	P	**P**	**11 34 13.7**	**+1.7**
	baz=237						
LEM	**Lembang**	**77.90**	**266**	LR	LR	12 08 10.8	
	comp=Z,138nm,20.4s,baz=126,slow=35						
MDJ	**Mudanjiang**	**79.36**	**322**	P	**P**	**11 34 28.2**	**-2.0**
MDJ				pmax	pmax		
	comp=Z,12nm,2.3s						
MDJ				pmax	pmax		
	comp=Z,240nm,4.1s						
HLID	**Hailey**	**79.61**	**39**	P	**P**	**11 34 34.1**	**+2.2**
	baz=237						
TXAR	**Lajitas Array**	**80.49**	**56**	P	**P**	**11 34 38.4**	**+1.5**
	comp=Z,0.6nm,0.7s,baz=216,slow=7.0,SNR=9.5						
	comp=Z,0.6nm,0.7s						
NJ2	**Nanjing**	**80.51**	**307**	⇑P	**P**	**11 34 35.3**	**-1.5**
NJ2				pP	**sP**	**11 34 56.0**	**+7.3**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,220nm,5.0s						
ANMO	**Albuquerque**	**80.72**	**50**	LR	LR	12 07 06.4	
	comp=Z,111nm,18.4s,baz=264,slow=33						
PDAR	**Pinedale Array**	**82.23**	**42**	P	**P**	**11 34 46.5**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=204,slow=3.3,SNR=5.0						
	comp=Z,0.5nm,0.7s						
ILAR	**Eielson Array**	**82.59**	**11**	P	**P**	**11 34 47.4**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=226,slow=6.6,SNR=8.6						
	comp=Z,0.7nm,0.7s						
J25K	**Salcha River,**	**82.73**	**12**	P	**P**	**11 34 49.1**	**+1.2**
	baz=207						
E20K	**Nigu River**	**84.52**	**6**	P	**P**	**11 34 58.6**	**+1.6**
	baz=196						
J30M	**Hart River**	**84.72**	**15**	P	**P**	**11 34 59.3**	**+1.2**
	baz=215						
G26K	**Porcupine Rive**	**85.12**	**11**	P	**P**	**11 35 01.8**	**+1.9**
	baz=208						
H29M	**Whitestone**	**85.60**	**13**	P	**P**	**11 35 03.6**	**+1.3**
	baz=213						
F28M	**Old Crow**	**86.46**	**12**	P	**P**	**11 35 08.1**	**+1.5**
	baz=212						
XLT	**XiLinHaoTe**	**87.46**	**317**	*e*P	**P**	**11 35 08.8**	**-3.3**
XLT				pP	sP	11 35 29.2	+5.0
XLT				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,130nm,4.9s						
F31M	**Tsiigehtchic**	**87.66**	**14**	P	**P**	**11 35 14.1**	**+1.8**
	baz=218						
HHC	**Hu-ho-hao-te**	**89.37**	**313**	*e*P	**P**	**11 35 20.6**	**-0.6**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,97nm,6.9s						
YKA	**Yellowknife Ar**	**90.17**	**23**	P	**P**	**11 35 25.2**	**+0.9**
	comp=Z,0.2nm,0.8s,baz=237,slow=4.4,SNR=3.7						
	comp=Z,0.2nm,0.8s						
ELIB	**Princess Elisa**	**91.96**	**185**	*d*P	**P**	**11 35 32.5**	**-0.3**
PZH	**PanZhiHua**	**92.61**	**297**	P	**P**	**11 35 34.6**	**-2.1**
PZH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
CMAR	**Chiang Mai Arr**	**92.94**	**288**	P	**P**	**11 35 39.5**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=108,slow=2.7,SNR=8.2						
	comp=Z,1.1nm,0.7s						
A36M	**Sachs Harbour**	**93.03**	**13**	P	**P**	**11 35 39.0**	**+1.7**
	baz=226						
ULM	**Lac du Bonnet**	**93.91**	**39**	LR	LR	12 10 38.9	
	comp=Z,122nm,19.7s,baz=151,slow=31						
LPAZ	**La Paz**	**99.48**	**110**	LR	LR	12 13 20.9	
	comp=Z,1µm,19.0s,baz=241,slow=31						
BVAR	**Borovoye Array**	**118.21**	**322**	PKP	**PKiKP**	**11 41 11.5**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=56,slow=3.7,SNR=3.8						
ARCES	**ARCESS Array B**	**124.85**	**352**	PKP	**PKiKP**	**11 41 24.2**	**+0.2**
	comp=Z,3.6nm,1.0s,baz=20,slow=4.0,SNR=4.1						
GERES	**GERESS Array B**	**146.38**	**352**	PKPbc	**PKPab**	**11 42 06.2**	**0.0**
	comp=Z,0.7nm,0.7s,baz=60,slow=5.8,SNR=2.5						
BRTR	**Keskin Array B**	**146.49**	**321**	PKPbc	**PKPab**	**11 42 06.9**	**-0.1**
	comp=Z,4.5nm,0.9s,baz=120,slow=2.1,SNR=11						
MMAI	**Mount Meron Ar**	**148.91**	**309**	PKPbc	**PKPbc**	**11 42 12.8**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=77,slow=1.8,SNR=3.8						

IDC 05 11:32:31.3±2.1, 5°87S×142°92E, h0km, mb3.6/3, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=83.3km s-min=30.2km az=106.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.29**	**210**	Pn	Pn	11 36 16.8	-4.7
	0.2nm,0.3s,baz=30,slow=13,SNR=9.6						
WRA				Sn	Sn	11 39 05.5	-18
	0.2nm,0.3s,baz=36,slow=24,SNR=4.8						
WRA				Lg	Lg	11 41 02.0	
	0.1nm,0.3s,baz=29,slow=24,SNR=3.5						
ASAR	**Alice Springs**	**19.71**	**205**	P	P	11 37 02.0	-0.5
	0.2nm,0.3s,baz=32,slow=10,SNR=26						
ASAR				S	S	11 40 30.0	-16
	0.7nm,0.8s,baz=21,slow=26,SNR=4.5						
ASAR				Lg	Lg	11 42 59.3	
	baz=25,slow=33,SNR=3.1						
	1.8nm,0.6s						
MKAR	**Makanchi Array**	**74.84**	**322**	P	P	11 44 14.1	+0.3
	0.2nm,0.7s,baz=109,slow=6.6,SNR=2.9						
	0.2nm,0.7s						
BVAR	**Borovoye Array**	**84.29**	**325**	P	P	11 45 05.2	+0.2
	0.8nm,0.6s,baz=121,slow=5.5,SNR=5.1						
	0.8nm,0.6s						
ILAR	**Eielson Array**	**86.98**	**24**	P	P	11 45 17.9	-0.3
	0.3nm,1.0s,baz=232,slow=5.4,SNR=2.4						
	0.3nm,1.0s						

*SNET **05** 11:35:37.3±0.7, 17.54N×85.01W, h154km±578km, ML5.6*

*CATAC **05** 11:35:50.6±0.5, 17.08N×85.93W, h10km, MB6.4, mb5.4, ML5.3*

*IDC **05** 11:35:50.7±1.2, 16.91N×85.65W, h0km, mb4.1/11, mbtmp4.2/14, ML3.9/3, MS3.9/12, Error ellipse: s-maj=30.6km s-min=20.3km az=43.0*

*NEIC **05** 11:35:52.6±2.2, 16.82N±0.06×85.88W±0.08, h10km±1km, mb4.6/91, Error ellipse: s-maj=12.1km s-min=9.6km az=89.0*

*GCMT **05** 11:35:57.6±0.4, 16.98N±0.02×85.82W±0.03, h28km±1km, MW4.9/74, Moment Tensor Solution. s7,c7; s74,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.12±.19; $M_{\theta\theta}$-1.27±.12; $M_{\phi\phi}$1.39±.14; $M_{r\theta}$-0.85±.21; $M_{r\phi}$1.71±.09; $M_{\theta\phi}$0.71±.21; Best double couple: M_o2.41900×10^{16} NP1:ϕ_s163.00000°, δ79.00000°, λ-158.00000°. NP2: ϕ_s68.00000°, δ68.00000°, λ-12.00000°. Principal axes: T 2.2590, Plg7.0000°, Azm294.0000°; N 0.3180, Plg65.0000°, Azm189.0000°; P -2.5780, Plg24.0000°, Azm27.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 11:35:53.8±0.4, 16°78N±0.03×85°85W±0.04, h29km, n326, σ1§29/327, mb4.5/24, MS3.9/8, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZABA	**Izabal, Puerto**	**2.82**	**249**	*i* P	**Pn**	**11 36 35.7**	**-1.3**
IZABA				*i* S	**Sn**	**11 37 06.8**	**-3.2**
IZABA				IAML		11 37 12.3	
	comp=Z,26nm,1.0s						
TGUH	**Tegucigalpa,

CNGA Al SSO del Vol 4.33 191 *i* P **Pn** **11 37 01.5 +3.7**
CNGA IAML 11 38 14.0
comp=Z,940nm,1.0s
MOM2 El Cardon 4.36 188 *i* P **Pn** **11 36 59.9 +1.8**
MOM2 IAML 11 38 26.1
comp=Z,1µm,1.0s
MACN El Madrono 4.36 191 *i* P **Pn** **11 37 00.1 +2.0**
MACN IAML 11 38 11.0
comp=Z,410nm,1.0s
MOMN Momotombo 4.39 189 *i* P **Pn** **11 37 00.8 +2.2**
MOMN IAML 11 38 26.6
comp=Z,58nm,1.0s
LEVN Ruinas Leon Vi 4.41 190 *i* P **Pn** **11 37 01.3 +2.5**
AVCB Coban 4.57 254 *i* P **Pn** **11 37 01.7 +0.6**
AVCB IAML 11 38 16.2
comp=Z,6µm,1.0s
APQ2 Apoyeque 4.57 186 *i* P **Pn** **11 37 03.3 +2.2**
APQ2 IAML 11 38 19.5
comp=Z,980nm,1.0s
TISN Laguna Tiscapa 4.62 185 *i* P **Pn** **11 37 03.2 +1.4**
TISN IAML 11 38 43.8
comp=Z,71nm,1.0s
COPN Copaltepe 4.62 189 *i* P **Pn** **11 37 03.6 +1.8**
COPN IAML 11 38 29.1
comp=Z,2µm,1.0s
RB28C Hialeah 4.64 185 *i* P Pn 11 37 07.0 +5.0
RB28C IAML 11 37 08.3
comp=Z,2µm,1.0s
UNAN Cigeo UNAN 4.66 185 *i* P **Pn** **11 37 05.1 +2.9**
UNAN IAML 11 38 38.1
comp=Z,8µm,1.0s
NUBE Las Nubes 4.75 234 *i* P **Pn** **11 37 05.1 +1.5**
NUBE IAML 11 38 27.6
comp=Z,350nm,1.0s
APG El Apazote 4.78 249 LR LR 11 38 57.4
comp=Z,150nm,18.5s,baz=90,slow=37
ESPN Las Esperanzas 4.79 162 **Pn** **11 37 05.4 +1.3**
ESPN Las Esperanzas 4.79 162 *i* P **Pn** **11 37 06.2 +2.1**
ACON Acoyapa 4.82 172 **Pn** **11 37 05.7 +1.2**
ACON Acoyapa 4.82 172 *i* P Pb 11 37 12.9 -4.7
ACON IAmb IAmb 11 37 39.8
comp=Z,310nm,0.7s
ACON *i* S **Sb** **11 38 11.4 -3.8**
ACON IAML 11 38 34.6
comp=Z,3µm,1.0s
GUNB GUNB 4.84 244 *i* P **Pn** **11 37 05.7 +0.7**
GUNB *i* S **Sn** **11 38 00.4 +0.1**
GUNB IAML 11 38 01.8
comp=Z,720nm,1.0s
BLUN Bluefields 5.15 157 *i* P **Pn** **11 37 09.7 +0.7**
BLUN IAmb IAmb 11 37 38.1
comp=Z,78nm,0.8s
BLUN IAML 11 38 40.9
comp=Z,920nm,1.0s
QUIS Sacapulas 5.25 254 *i* P **Pn** **11 37 11.4 +0.9**
QUIS IAML 11 37 12.1
comp=Z,2µm,1.0s
QUIS IVmB_BB 11 37 12.1
comp=Z,16µm,1.0s
QUIS IAmb IAmb 11 37 12.2
comp=Z,760nm,0.4s
QUIS *i* S **Sn** **11 38 09.9 -0.3**
HUEH Huehuetenango 5.62 256 **Pn** **11 37 16.0 +0.3**
HUEH Huehuetenango 5.62 256 *i* P **Pn** **11 37 15.8 +0.1**
HUEH IVmB_BB 11 37 19.4
comp=Z,13µm,1.0s
HUEH IAML 11 38 25.9
comp=Z,3µm,1.0s
SMSP San Marcos 5.98 253 *i* P **Pn** **11 37 21.7 +1.0**
SMSP IAML 11 37 53.2
comp=Z,6µm,1.0s
SMSP IVmB_BB 11 37 53.2
comp=Z,160µm,1.0s
CCIG Comitan 6.05 266 **Pn** **11 37 22.0 +0.5**
ARE1 Arenal 1 6.37 170 **Pn** **11 37 27.6 +1.8**
JTS Las Juntas de 6.50 172 Pn **Pn** **11 37 28.3 +0.7**
JTS Las Juntas de 6.50 172 Pn **Pn** **11 37 29.4 +1.8**
comp=Z,2.7nm,0.3s,baz=343,slow=9.1,SNR=12
JTS Sn **Sn** **11 38 40.0 -0.9**
comp=Z,9.8nm,0.3s,baz=353,slow=19,SNR=2.5
JTS Lg Lg 11 39 07.7
comp=Z,4.4nm,0.3s,baz=125,slow=23,SNR=4.0
comp=Z,13nm,0.5s
SOR Soroa 6.56 24 Pn **Pn** **11 37 29.0 +0.7**
CAMR Camarioca 7.54 33 Pn **Pn** **11 37 41.1 -0.6**
CMIG Matias Romero 8.65 273 Pn **Pn** **11 37 54.8 -2.3**
comp=Z,1.9nm,0.3s,baz=118,slow=9.0,SNR=23
CMIG Sn **Sn** **11 39 26.8 -7.0**
comp=Z,7.1nm,0.3s,baz=229,slow=23,SNR=3.8
CMIG LR LR 11 41 44.6
comp=Z,1µm,18.7s,baz=96,slow=40
DWPF Disney Wildern 12.00 19 P **Pn** **11 38 42.7 -0.1**
baz=201
TLIG Tlapa 12.18 276 **Pn** **11 38 44.1 -1.4**
656A Willston 12.90 13 **Pn** **11 38 54.6 -0.6**
456A Hilliard 14.32 13 **Pn** **11 39 14.4 -0.1**
BRAL Brewton 14.37 356 **Pn** **11 39 14.4 -0.9**
BRAL Brewton 14.37 356 P **Pn** **11 39 15.2 -0.1**
baz=176
352A Blakely 14.66 3 **Pn** **11 39 17.8 -1.5**
255A Hazlehurst 15.39 11 Pn **Pn** **11 39 28.1 -0.8**
HBVL Hebbronville 15.68 313 **Pn** **11 39 32.4 -0.4**
HBVL IAmb IAmb 11 39 36.6
comp=Z,45nm,0.9s
152A Waverly Hall 15.86 3 Pn **Pn** **11 39 34.4 -0.6**
HKT Hockley 15.99 327 **Pn** **11 39 36.0 -0.6**
146A Union 16.06 350 **Pn** **11 39 37.8 +0.3**
146A IAmb IAmb 11 39 48.1
comp=Z,41nm,0.6s
LRAL Lakeview Retre 16.22 357 Pn **Pn** **11 39 39.4 -0.3**
LRAL Lakeview Retre 16.22 357 P **Pn** **11 39 39.3 -0.3**
baz=176,SNR=8.5
735A Kenedy 16.30 320 **Pn** **11 39 39.8 -0.8**
Z47A Carrollton 16.48 353 **Pn** **11 39 43.2 +0.3**
Z47A IAmb IAmb 11 39 47.3
comp=Z,50nm,0.8s
Z51A Franklin 16.48 2 **Pn** **11 39 42.2 -0.7**
Z51A IAmb IAmb 11 39 45.8
comp=Z,56nm,0.8s
MLDN Muldoon 16.53 324 **Pn** **11 39 43.4 -0.2**
GOGA Godfrey 16.70 7 **Pn** **11 39 45.0 -0.8**
GOGA Godfrey 16.70 7 P **Pn** **11 39 44.6 -1.2**
baz=188
SDV Santo Domingo 16.77 116 **Pn** **11 39 46.9 -0.1**
SDV Santo Domingo 16.77 116 Pn **Pn** **11 39 46.4 -0.6**
comp=Z,1.3nm,0.3s,baz=317,slow=14,SNR=7.7
SDV LR LR 11 48 01.3
comp=Z,230nm,18.8s,baz=280,slow=44
comp=Z,7.3nm,0.5s
ZAIG Zacatecas 16.82 293 **Pn** **11 39 47.8 +0.2**
NATX Nacogdoches 16.93 333 P **Pn** **11 39 47.5 -1.1**
baz=150
833A Chaparral WMA, 16.97 315 **Pn** **11 39 47.5 -1.6**
833A Chaparral WMA, 16.97 315 P **Pn** **11 39 47.3 -1.8**
baz=130,SNR=120
Y49A Blount Mountai 17.02 358 P **Pn** **11 39 49.4 -0.3**
Y49A IAmb IAmb 11 39 54.8
comp=Z,43nm,1.1s
NHSC New Hope 17.05 16 P **Pn** **11 39 51.5 +1.4**
NHSC New Hope 17.05 16 P **Pn** **11 39 48.1 -1.9**
baz=199
Y52A Lilburn 17.09 5 **Pn** **11 39 50.7 +0.1**
Y52A IAmb IAmb 11 39 55.4
comp=Z,44nm,1.4s
435B Jarrell 17.58 325 P **Pn** **11 39 57.0 +0.2**
435B Jarrell 17.58 325 P **Pn** **11 39 56.9 +0.2**
baz=140
X48A Hartselle 17.64 357 P **Pn** **11 39 57.7 +0.3**
237A Washetta, Mont 17.65 331 P **Pn** **11 39 56.8 -0.8**
237A IAmb IAmb 11 40 21.9
comp=Z,39nm,0.8s
HODGE Hodges 17.68 10 P **Pn** **11 39 57.1 -0.8**
HNDO Hondo 17.69 318 P **Pn** **11 39 56.7 -1.4**
FPAL Fort Paine 17.69 1 P **P** **11 39 59.5 +0.7**
X51A Calhoun 17.74 3 P **Pn** **11 39 58.3 -0.4**
X51A IAmb IAmb 11 40 02.3
comp=Z,53nm,1.3s
JSC Jenkinsville 17.91 12 P **Pn** **11 40 01.6 +0.8**
OXF Oxford 17.95 350 P **Pn** **11 40 01.1 -0.1**
OXF IAmb IAmb 11 40 06.5
comp=Z,55nm,0.9s
OXF Oxford 17.95 350 P **Pn** **11 40 01.5 +0.3**
baz=169,SNR=6.6
PLAL Pickwick Lake 18.24 354 P **P** **11 40 07.2 +2.4**
PLAL IAmb IAmb 11 40 09.4
comp=Z,29nm,0.8s
W52A Murphy 18.32 5 P **P** **11 40 05.4 -0.4**
W52A IAmb IAmb 11 40 09.8
comp=Z,42nm,1.2s
BG3 Lake Jocassee 18.33 8 P **P** **11 40 04.8 -1.0**
BG3 IAmb IAmb 11 40 10.0
comp=Z,54nm,1.5s
PAULI Pauline 18.33 11 P **P** **11 40 06.0 +0.2**
W50A Signal Mountai 18.36 1 P **Pn** **11 40 07.4 +1.2**
SWET Sewanee 18.37 360 P **Pn** **11 40 07.3 +0.9**
BIRD Birdtown, Kers 18.44 14 P **P** **11 40 05.9 -1.1**
BIRD IAmb IAmb 11 40 11.6
comp=Z,24nm,0.8s
WHTX Lake Whitney, 18.45 327 P **Pn** **11 40 08.6 +1.2**
baz=143,SNR=37
DRIO Del Rio 18.50 315 P **P** **11 40 07.0 -0.7**
CPCT Cooper Cave 18.64 3 P **P** **11 40 10.1 +0.9**
JCT Junction City 18.67 319 P **P** **11 40 10.2 +0.6**
JCT IAmb IAmb 11 40 20.3
comp=Z,45nm,0.8s
JCT Junction City 18.67 319 P **Pn** **11 40 10.8 +0.7**
baz=134,SNR=34
KMSC Kings Mountain 18.73 12 P **P** **11 40 10.0 -0.2**
KMSC Kings Mountain 18.73 12 P **P** **11 40 10.4 +0.2**
baz=194
BRDY Brady 18.76 323 P **P** **11 40 11.2 +0.6**
BRDY IAmb IAmb 11 40 18.2
comp=Z,58nm,1.0s
TKL Tuckaleechee C 18.90 5 P **P** **11 40 13.0 +1.0**
TKL IAmb IAmb 11 40 16.5
comp=Z,64nm,1.2s
TKL Tuckaleechee C 18.90 5 P **P** **11 40 12.1 0.0**
comp=Z,0.9nm,0.3s,baz=170,slow=11,SNR=12
TKL S Sn 11 43 24.0 -20
comp=Z,3.3nm,0.6s,baz=168,slow=19,SNR=2.0
comp=Z,35nm,1.1s
V48A Smith Brothers 18.91 358 P **Pn** **11 40 13.3 +0.4**
V48A IAmb IAmb 11 40 19.0
comp=Z,22nm,0.7s
V51A Loudon 19.00 4 P **Pn** **11 40 15.0 +1.0**
V51A IAmb IAmb 11 40 16.2
comp=Z,37nm,1.1s
MIAR Mount Ida 19.00 340 P **P** **11 40 12.8 -0.4**
baz=157
V53A Saluda 19.01 8 P **P** **11 40 14.3 +0.9**
V53A IAmb IAmb 11 40 18.3
comp=Z,27nm,0.9s
BAUV El Baul 19.02 112 P **Pn** **11 40 15.4 +1.0**
W57A Gilead 19.04 15 **Pn** **11 40 15.7 +1.3**
W57A IAmb IAmb 11 40 19.9
comp=Z,24nm,0.8s
V52A Sevierville 19.10 6 P **P** **11 40 15.2 +1.0**
V52A IAmb IAmb 11 40 18.8
comp=Z,32nm,1.1s
CLTN Cedars of Leba 19.24 359 P **P** **11 40 16.3 +0.5**
FW06 Azle 19.28 329 P **P** **11 40 15.7 -0.6**
FW06 IAmb IAmb 11 40 42.5
comp=Z,24nm,0.5s
WHAR Wooly Hollow 19.32 344 P **P** **11 40 17.8 +1.2**
WVT Waverly 19.36 355 P **Pn** **11 40 18.5 +0.2**
WVT IAmb IAmb 11 40 33.1
comp=Z,19nm,0.7s
WVT Waverly 19.36 355 P **P** **11 40 17.3 +0.2**
baz=174
PLPT Palo Pinto 19.54 327 **Pn** **11 40 21.3 +0.7**
PLPT IAmb IAmb 11 40 38.0
comp=Z,48nm,0.8s
FW03 Perrin-Whitt E 19.59 328 P **P** **11 40 21.0 +1.3**
FW03 IAmb IAmb 11 40 41.6
comp=Z,34nm,0.8s
U49A Red Boiling Sp 19.66 0 P **P** **11 40 20.8 +0.5**
LCAR Lake Charles 19.79 347 P **P** **11 40 22.6 +0.8**
OZNA Ozona 19.80 318 P **Pn** **11 40 24.4 +0.6**
SAND Sanderson 19.85 314 P **Pn** **11 40 24.1 -0.2**
SAND IAmb IAmb 11 40 31.5
comp=Z,23nm,1.0s
U54A Nelsons Funny 19.99 10 P **Pn** **11 40 26.6 +0.7**
U54A IAmb IAmb 11 40 28.8
comp=Z,29nm,0.8s
ABTX Abilene, Hawle 20.11 324 P **P** **11 40 25.0 -0.4**
baz=138,SNR=11
T47A Sharon Grove 20.16 357 P **P** **11 40 26.7 +0.9**
T47A IAmb IAmb 11 40 35.3
comp=Z,30nm,0.8s
WTFS Witchita Falls 20.37 328 P **P** **11 40 29.8 +1.6**
SGCY Sterling City 20.48 320 P **P** **11 40 30.5 +1.1**
TXAR Lajitas Array 20.58 310 P **P** **11 40 32.0 +1.4**
TXAR Lajitas Array 20.58 311 P Pn 11 40 32.5 -0.4
comp=Z,18nm,0.8s,baz=133,slow=9.8,SNR=162
TXAR S S 11 44 05.0 -14
comp=Z,2.3nm,0.7s,baz=120,slow=15,SNR=4.3
comp=Z,18nm,0.8s
TX31 Lajitas Ar. Si 20.58 311 P **P** **11 40 32.0 +1.4**
TX31 IAmb IAmb 11 40 33.9
comp=Z,28nm,0.9s
S51A Beattyville 20.88 5 P **P** **11 40 34.3 +0.7**
S51A IAmb IAmb 11 40 39.0
comp=Z,34nm,0.9s
BLA Blacksburg 20.91 12 P **P** **11 40 34.4 +0.4**
baz=195
T57A Hurt 20.97 15 P **P** **11 40 35.8 +1.2**
T57A IAmb IAmb 11 40 37.4
comp=Z,25nm,0.8s
S44A Carbondale 21.05 352 P **P** **11 40 35.9 +0.4**
S44A IAmb IAmb 11 40 47.0
comp=Z,27nm,0.9s
MNHN Monahans 21.14 316 P **P** **11 40 37.2 +0.6**
ALPN Alpine 21.15 313 P **P** **11 40 38.2 +1.4**
WMOK Wichita Mounta 21.31 330 P **P** **11 40 38.4 +0.2**
baz=144,SNR=8.9
WCI Wyandotte Cave 21.38 359 P **P** **11 40 39.2 +0.2**
WCI Wyandotte Cave 21.38 359 P **P** **11 40 38.6 -0.4**
baz=179
ODSA Odessa 21.51 318 P **P** **11 40 42.0 +1.5**
CCM Cathedral Cave 21.72 348 P **P** **11 40 43.4 +0.8**
baz=166
PECS Pecos 21.90 315 P **P** **11 40 46.3 +1.5**
PECS IAmb IAmb 11 40 53.0
comp=Z,25nm,1.0s
SSFO Shawnee State 21.96 6 P **P** **11 40 46.4 +1.1**
Q51A Peebles 22.28 5 P **P** **11 40 48.2 -0.4**
Q51A IAmb IAmb 11 40 58.7
comp=Z,22nm,0.9s
VHRN Van Horn 22.34 312 P **P** **11 40 50.9 +1.4**
VHRN IAmb IAmb 11 40 53.4
comp=Z,17nm,0.9s
P49A Miami Univ. Ec 22.70 2 P **P** **11 40 54.2 +1.1**
baz=183
MSTX Muleshoe 22.90 322 P **P** **11 40 55.3 0.0**
MSTX Muleshoe 22.90 322 P **P** **11 40 55.7 +0.3**
baz=134
AMTX Amarillo 22.93 325 P **P** **11 40 56.3 +0.6**
baz=138
P53A Whipple 22.96 9 P **P** **11 40 56.8 +0.9**
P52A Corning 23.00 7 P **P** **11 40 56.9 +0.6**
baz=189
MNTX Cornudas Mount 23.14 314 P **P** **11 40 57.8 +0.1**
baz=126,SNR=21
O48B Farmland 23.41 1 P **P** **11 41 01.3 +1.0**
baz=182
ACSO Alum Creek Sta 23.50 6 P **P** **11 41 02.2 +0.9**
baz=187
P38A Dawn 23.73 345 P **P** **11 41 02.7 -0.7**
P38A IAmb IAmb 11 41 44.5
comp=Z,17nm,1.1s
O53A New Philadelph 23.73 9 P **P** **11 41 04.6 +1.2**
baz=191
HDIL Hopedale 23.88 354 P **P** **11 41 05.4 +0.5**
baz=172
EPT El Paso 23.96 312 P **P** **11 41 06.3 +0.4**
KSU1 Kansas State U 24.15 339 P **P** **11 41 07.9 +0.5**
baz=154
SSPA Standing Stone 24.76 15 P **P** **11 41 13.7 +0.8**
baz=198
M53A WI Miller and 24.98 9 P **P** **11 41 16.1 +1.2**
baz=192
121A Cookes Peak, D 25.29 312 P **P** **11 41 20.6 +2.5**
121A IAmb IAmb 11 41 23.5
comp=Z,20nm,0.9s
121A Cookes Peak, D 25.29 312 P **P** **11 41 18.1 +0.1**
baz=123,SNR=8.1
ERPA Erie 25.75 10 P **P** **11 41 23.7 +1.8**
baz=193
ANMO Albuquerque 25.82 318 P **P** **11 41 24.2 +1.3**
ANMO Albuquerque 25.82 318 P **P** **11 41 23.9 +1.1**
baz=129
T25A Trinidad 26.08 325 P **P** **11 41 26.0 +0.7**
baz=136
BINY Binghamton 26.71 16 P **P** **11 41 32.4 +1.7**
baz=201
SDCO Great Sand Dun 27.12 324 P **P** **11 41 35.3 +0.6**
baz=135
TUC Tucson 27.36 309 P **P** **11 41 37.2 +0.6**
baz=119
W18A Petrified Fore 28.07 315 P **P** **11 41 43.2 +0.1**
baz=125
SADO Sadowa 28.48 10 P **P** **11 41 46.1 -0.2**
comp=Z,4.9nm,0.9s,baz=216,slow=7.3,SNR=3.2
SADO LR LR 11 52 46.5
comp=Z,150nm,19.2s,baz=267,slow=36
comp=Z,4.9nm,0.9s
MVCO Mesa Verde 28.53 320 P **P** **11 41 47.5 +0.3**
baz=130
LONY Lake Ozonia 29.34 17 P **P** **11 41 54.3 +0.3**
baz=202
WUAZ Wupatki 29.41 314 P **P** **11 41 55.0 0.0**
baz=123
PDMCI Parker Dam,Lak 30.77 310 P **P** **11 42 07.5 +0.7**
baz=118
RSSD Black Hills 31.30 334 P **P** **11 42 11.7 +0.1**
baz=145
PKME Peaks-Kenny Pk 31.62 23 P **P** **11 42 14.9 +0.8**
baz=211
MONP2 Monument Peak 31.90 306 P **P** **11 42 16.8 -0.2**
baz=113
V12A Nelson 31.95 312 P **P** **11 42 19.3 +2.0**
V12A IAmb IAmb 11 42 21.3
comp=Z,8.2nm,1.1s
BELC Belle Mtn. Jos 32.02 308 P **P** **11 42 18.5 +0.5**
baz=115
GMRC Granite Mounta 32.10 310 P **P** **11 42 18.9 +0.2**
baz=116
TPFO Pinon Flats 32.20 307 P **P** **11 42 19.4 -0.2**
baz=114
PFO Pinyon Flats O 32.21 307 P **P** **11 42 20.3 +0.6**
baz=114
HEC Hector,Ludlow 32.62 309 P **P** **11 42 23.0 -0.2**
baz=116
MURC Murrieta 32.77 307 P **P** **11 42 24.8 +0.4**
baz=113
ETMB Extrema 32.79 142 P **P** **11 42 24.8 0.0**
ETMB IAmb IAmb 11 42 38.9
comp=Z,4.3nm,0.8s
PDAR Pinedale Array 32.86 327 P **P** **11 42 26.2 +0.8**
comp=Z,0.2nm,0.6s,baz=130,slow=11,SNR=2.9
comp=Z,0.2nm,0.6s
MDND Maddock 32.99 343 P **P** **11 42 26.4 +0.3**
baz=155
SHOC Shoshone, Teco 33.05 311 P **P** **11 42 26.7 -0.2**
baz=117
SCI2 San Clemente I 33.59 305 P **P** **11 42 31.9 +0.3**
baz=111
FURC Furnace Creek, 33.74 312 P **P** **11 42 34.7 +1.9**
baz=117
R11B Troy Canyon, C 33.77 315 P **P** **11 42 34.9 +1.6**
baz=121
EDW2 Edwards Air Fo 33.88 308 P **P** **11 42 35.7 +1.5**
baz=114
LRMC Laurel Mtn Rad 33.90 309 P **P** **11 42 36.4 +2.0**
baz=115
REDW Red Top Meadow 33.96 327 P **P** **11 42 35.2 +0.3**
MPMC Manual Prospec 34.01 311 P **P** **11 42 36.3 +0.9**
baz=116,SNR=6.9
TPAW Teton Pass 34.10 327 P **P** **11 42 35.8 -0.4**
TPAW IAmb IAmb 11 42 53.6
comp=Z,5.0nm,0.8s
ULM Lac du Bonnet 34.36 349 P **P** **11 42 36.8 -1.1**
comp=Z,0.7nm,0.5s,baz=196,slow=11,SNR=2.4
comp=Z,0.7nm,0.5s
SNCC San Nicolas Is 34.45 305 P **P** **11 42 38.7 -0.4**
baz=110
ISA Isabella, Lake 34.56 309 P **P** **11 42 39.6 -0.5**
baz=114
CWC Cottonwood Cre 34.60 311 P **P** **11 42 41.3 +0.8**
baz=116
ARVC Arvin 34.61 308 P **P** **11 42 41.8 +1.4**
baz=113
VES Vestal, Richgr 35.09 309 P **P** **11 42 44.8 +0.3**
baz=114
PKM Mcpherson Peak 35.26 307 P **P** **11 42 45.8 -0.5**
baz=112
NVAR Mina Array Bea 35.66 314 P **P** **11 42 52.5 +2.8**
comp=Z,2.7nm,0.8s,baz=121,slow=9.1,SNR=21
comp=Z,2.7nm,0.8s
HLID Hailey 36.04 324 P **P** **11 42 54.3 +1.5**
baz=129
SCHQ Schefferville 40.72 17 P **P** **11 43 31.8 0.0**
comp=Z,12nm,0.8s,baz=213,slow=7.0,SNR=21
SCHQ LR LR 12 00 22.1
comp=Z,210nm,19.8s,baz=214,slow=36
comp=Z,12nm,0.8s
EDM Edmonton 42.26 336 P **P** **11 43 44.0 -0.5**
EDM IAmb IAmb 11 44 00.4
comp=Z,27nm,1.5s
LVC Limon Verde 42.51 157 LR LR 12 01 47.7
comp=Z,102nm,18.3s,baz=327,slow=37
FRB Frobisher Bay 48.42 10 LR LR 12 06 21.5
comp=Z,187nm,18.4s,baz=196,slow=38
RPN Rapa Nui 49.23 208 LR LR 12 00 60.0
comp=Z,76nm,18.3s,baz=22,slow=30
YKA Yellowknife Ar 49.91 343 P **P** **11 44 44.8 +0.3**
comp=Z,1.4nm,1.0s,baz=137,slow=7.8,SNR=16
comp=Z,1.4nm,1.0s
CPUP Villa Florida 51.04 147 LR LR 12 11 07.8
comp=Z,103nm,18.2s,baz=322,slow=42
KOTAN Kotaneelee Air 51.31 337 P **P** **11 44 56.4 +1.3**
baz=131
DLBC Dease Lake 52.75 333 P **P** **11 45 05.2 -0.7**
DLBC IAmb IAmb 11 45 35.7
comp=Z,7.0nm,1.0s
DLBC Dease Lake 52.75 333 P **P** **11 45 08.2 +2.2**
baz=123
R33M Jennings River 53.68 333 P **P** **11 45 14.4 +1.6**
baz=129
TGTN Hyland Airport 53.80 336 P **P** **11 45 14.9 +1.3**
baz=127
M31M Drury Creek, Y 56.58 335 P **P** **11 45 33.8 +0.2**
baz=121
P29M Windy Craggy 56.80 331 P **P** **11 45 36.9 +1.6**
baz=116
N30M Aishikik Lake 57.34 334 P **P** **11 45 40.5 +1.4**
baz=118
M30M Minto, Yukon 57.74 335 P **P** **11 45 42.9 +1.1**
baz=118
YUK4 Talbot Arm 57.96 333 P **P** **11 45 44.8 +1.2**
baz=116
L29M L29M 58.53 335 P **P** **11 45 48.9 +1.4**
baz=117
G31M Satah River 59.05 340 P **P** **11 45 51.7 +0.9**
baz=123
INK Inuvik 59.59 341 P **P** **11 45 55.7 +1.1**
baz=125
A36M Sachs Harbour 59.81 347 P **P** **11 45 56.1 +0.2**
A36M IAmb IAmb 11 45 57.1
comp=Z,10nm,1.2s
A36M Sachs Harbour 59.81 347 P **P** **11 45 55.7 -0.2**
baz=135,SNR=6.3
L27K Beaver Creek, 60.03 334 P **P** **11 45 58.2 +0.5**
baz=114
M26K Nabesna, AK 60.27 333 P **P** **11 46 00.1 +0.6**
baz=112
EYAK Cordova Ski Ar 60.87 331 P **P** **11 46 03.9 +0.5**
baz=108
E29M Blow River 61.01 340 P **P** **11 46 04.9 +0.6**
baz=120
H27K Steamboat Moun 61.24 338 P **P** **11 46 07.0 +1.1**
baz=116
F28M Old Crow 61.28 339 P **P** **11 46 06.5 +0.4**
F28M IAmb IAmb 11 46 29.6
comp=Z,5.8nm,1.0s
F28M Old Crow 61.28 339 P **P** **11 46 07.6 +1.5**
baz=118
PAX Paxson 61.54 333 P **P** **11 46 08.4 +0.3**
baz=110
M24K Tolsona, Glenn 61.56 332 P **P** **11 46 09.4 +1.2**
baz=109
D28M Stokes Point 61.74 341 P **P** **11 46 09.6 +0.5**
baz=120
K24K Donnelly Dome 61.96 334 P **P** **11 46 11.6 +0.8**
baz=110
SUMG Summit 62.04 15 *i* P **P** **11 46 11.0 -0.6**
J25K Salcha River, 62.08 335 P **P** **11 46 11.9 +0.3**
baz=111
G26K Porcupine Rive 62.36 338 P **P** **11 46 14.5 +1.2**

	baz=114						
HDA	**Harding Lake**	**62.65**	**335**	P	**P**	**11 46 16.0**	**+0.6**
	baz=109						
IL31		**62.74**	**335**	P	**P**	**11 46 15.7**	**-0.3**
IL31				IAmb	IAmb	11 46 47.7	
	comp=Z,3.9nm,0.9s						
ILAR	**Eielson Array**	**62.74**	**335**	P	**P**	**11 46 15.8**	**-0.2**
ILAR	**Eielson Array**	**62.74**	**335**	P	**P**	**11 46 17.0**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=120,slow=5.1,SNR=31						
ILAR				LR	LR	12 13 28.3	
	comp=Z,215nm,22.0s,baz=155,slow=36						
	comp=Z,1.2nm,0.7s						
F26K	**Sheenjek River**	**62.79**	**339**	P	**P**	**11 46 15.9**	**-0.4**
	baz=114						
WAT1	**Susitna Watana**	**62.84**	**333**	P	**P**	**11 46 18.0**	**+1.3**
	baz=107						
G25K	**Bearman Lake**	**63.13**	**337**	P	**P**	**11 46 19.1**	**+0.6**
	baz=111						
RND	**Reindeer**	**63.14**	**333**	P	**P**	**11 46 18.1**	**-0.6**
MCK	**McKinley**	**63.27**	**334**	P	**P**	**11 46 19.5**	**0.0**
	baz=107						
F25K	**Christian Rive**	**63.27**	**338**	P	**P**	**11 46 21.0**	**+1.4**
	baz=112						
E25K	**Arctic Village**	**63.45**	**339**	P	**P**	**11 46 22.1**	**+1.4**
	baz=112						
H24K	**Noodor Dome**	**63.49**	**336**	P	**P**	**11 46 21.1**	**+0.1**
	baz=109						
NEA2	**Nenana**	**63.58**	**335**	P	**P**	**11 46 22.0**	**+0.5**
	baz=107						
G24K	**Hadweenzic Riv**	**63.62**	**337**	P	**P**	**11 46 22.4**	**+0.6**
	baz=110						
TRF	**Thorofare Moun**	**63.77**	**333**	P	**P**	**11 46 22.6**	**-0.5**
	baz=106						
I23K	**Minto, Yukon-K**	**63.86**	**335**	P	**P**	**11 46 23.6**	**+0.3**
	baz=107						
C26K	**Camden Bay**	**63.94**	**341**	P	**P**	**11 46 23.7**	**-0.1**
	baz=114						
SKT	**Skwentna**	**63.95**	**331**	P	**P**	**11 46 24.8**	**+0.7**
	baz=104						
F24K	**Squaw Lake**	**64.05**	**338**	P	**P**	**11 46 24.9**	**+0.2**
	baz=110						
BPAW	**Bear Paw Mtn.**	**64.24**	**334**	P	**P**	**11 46 26.5**	**+0.6**
	baz=105						
MLY	**Manley**	**64.39**	**335**	P	**P**	**11 46 27.5**	**+0.6**
	baz=106						
PPLA	**Purkeypile**	**64.46**	**332**	P	**P**	**11 46 27.6**	**0.0**
	baz=104						
CAST	**Castle Rocks**	**64.54**	**333**	P	**P**	**11 46 28.5**	**+0.6**
	baz=104						
G23K	**Bananza Creek**	**64.59**	**337**	P	**P**	**11 46 28.8**	**+0.7**
	baz=107						
M20K	**Styx River**	**64.67**	**331**	P	**P**	**11 46 27.9**	**-1.0**
	baz=102						
CHUM	**Lake Minchumin**	**64.75**	**333**	P	**P**	**11 46 29.9**	**+0.7**
	baz=104						
COLD	**Coldfoot**	**64.81**	**337**	P	**P**	**11 46 30.1**	**+0.5**
	baz=107						
E23K	**Chandalar**	**64.85**	**338**	P	**P**	**11 46 30.0**	**+0.1**
	baz=108						
O19K	**Port Alsworth**	**64.91**	**329**	P	**P**	**11 46 30.8**	**+0.5**
	baz=100						
I21K	**Tanana**	**64.93**	**335**	P	**P**	**11 46 31.4**	**+1.0**
	baz=105						
C24K	**Franklin Bluff**	**65.09**	**340**	P	**P**	**11 46 31.8**	**+0.5**
	baz=110						
L20K	**Farewell, AK**	**65.13**	**332**	P	**P**	**11 46 31.0**	**-0.8**
	baz=102						
P18K	**Big Mountain,**	**65.22**	**328**	P	**P**	**11 46 33.3**	**+0.8**
	baz=99						
K20K	**Telida**	**65.40**	**333**	P	**P**	**11 46 34.1**	**+0.6**
	baz=102						
D23K	**Nanushuk River**	**65.51**	**339**	P	**P**	**11 46 35.6**	**+1.5**
	baz=108						
M18K	**Stony River**	**65.85**	**330**	P	**P**	**11 46 37.5**	**+1.1**
	baz=100						
G21K	**Allakaket**	**65.87**	**336**	P	**P**	**11 46 36.5**	**0.0**
	baz=104						
I20K	**Naaghedeneel**	**65.88**	**334**	P	**P**	**11 46 37.0**	**+0.6**
	baz=102						
F21K	**Alatna River**	**66.04**	**337**	P	**P**	**11 46 37.4**	**-0.1**
	baz=104						
D22K	**Ayikyak River**	**66.17**	**339**	P	**P**	**11 46 38.9**	**+0.5**
	baz=106						
TTA	**Tatalina**	**66.18**	**332**	P	**P**	**11 46 38.3**	**-0.3**
	baz=100						
O16K	**Kokwok River B**	**66.70**	**328**	P	**P**	**11 46 41.7**	**-0.1**
	baz=97						
H19K	**Roundabout Mou**	**66.84**	**335**	P	**P**	**11 46 42.0**	**-0.6**
	baz=101						
G19K	**Purcell Mounta**	**67.21**	**335**	P	**P**	**11 46 44.8**	**-0.2**
	baz=100						
E20K	**Nigu River**	**67.28**	**338**	P	**P**	**11 46 44.4**	**-1.1**
	baz=102						
D20K	**Etivluk River**	**67.52**	**338**	P	**P**	**11 46 46.5**	**-0.5**
	baz=102						
G18K	**Tagagawik**	**67.80**	**335**	P	**P**	**11 46 48.9**	**+0.1**
	baz=99						
B20K	**Meade River**	**67.98**	**339**	P	**P**	**11 46 49.9**	**+0.2**
	baz=102						
D19K	**Kuna River**	**68.02**	**338**	P	**P**	**11 46 50.2**	**0.0**
	baz=100						
H16K	**Elim**	**69.15**	**333**	P	**P**	**11 46 56.9**	**-0.2**
	baz=95						
ESDC	**Sonseca Array**	**73.34**	**53**	P	**P**	**11 47 24.1**	**+1.0**
	comp=Z,2.0nm,0.8s,baz=279,slow=5.9,SNR=7.2						
	comp=Z,2.0nm,0.8s						
CLL	**Collm**	**82.49**	**39**	*i* P	**P**	**11 48 13.9**	**+0.3**
TORD	**Torodi Ar. Bea**	**83.98**	**78**	P	**P**	**11 48 22.1**	**0.0**
	comp=Z,0.6nm,0.7s,baz=328,slow=4.1,SNR=3.0						
	comp=Z,0.6nm,0.7s						
FINES	**FINESS Array B**	**85.43**	**27**	P	**P**	**11 48 28.9**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=267,slow=2.8,SNR=8.6						
	comp=Z,2.2nm,0.6s						
TIXI	**Tiksi**	**88.70**	**350**	LR	LR	12 32 08.1	
	comp=Z,130nm,18.9s,baz=99,slow=38						
HHC	**Hu-ho-hao-te**	**120.43**	**345**	*e*P	**PKPdf**	**11 54 40.5**	**-2.4**
NJ2	**Nanjing**	**125.98**	**334**	*e*P	**PKPdf**	**11 54 53.6**	**-0.1**
PZH	**PanZhiHua**	**136.35**	**350**	PKP	**PKPdf**	**11 55 12.3**	**-1.3**
CMAR	**Chiang Mai Arr**	**144.67**	**352**	PKP	**PKPab**	**11 55 28.1**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=338,slow=3.8,SNR=6.4						

DJA 05 11:37:00.6±1.9,5°S±7′×13°4E±°, h27km±20km, M4.3/6, mb4.3/3, mbB5.5/1, MLv4.3/6, Mw(mB)5.0/1, MwMwp6.0/1, Mwp6.0/1, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.30**	**316**	P	Pn	11 37 36.4	-0.4
FAKI				S	Sn	11 38 05.8	+1.5
BNDI	**Bandanaira**	**3.92**	**271**	P	Pn	11 37 58.6	-0.5
SWI	**Sorong**	**4.52**	**325**	P	Pn	11 38 11.0	+3.7
NLAI	**Namlea**	**6.86**	**281**	P	Pn	11 38 40.0	+0.5
LBMI	**Labuha**	**7.46**	**302**	P	Pn	11 38 47.9	+0.2
	14nm,1.0s,74µm0.1nm						
MMPI	**Merauke**	**7.55**	**121**	P	Pn	11 38 49.4	+0.4

*IDC **05** 11:47:11.6±0.6,6°32S×143°24E, h0km, mb4.4/14, mbtmp4.4/16, ML1.8/1, MS3.9/7, Error ellipse: s-maj=26.6km s-min=14.3km az=79.0*

*NEIC **05** 11:47:13.2±1.9,6°49S±0°08×143°11E±0°09, h10km±1km, mb4.7/50, Error ellipse: s-maj=14.7km s-min=13.7km az=95.0*

*DJA **05** 11:47:15.2±0.3,6°S±3′×14°3E±°, h10km, M5.0/13, mB5.1/3, mb4.6/13, MLv5.2/6, Mw(mB)4.5/3*

ISC 05 11:47:13.4±0.4,6°50S±0°05×143°13E±0°06, h10km, n117, σ2s08/113, mb4.6/49, MS3.6/6, 2C-2D, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**2.26**	**303**	P	**Pn**	**11 47 51.0**	**0.0**
MMPI	**Merauke**	**3.35**	**234**	P	**Pn**	**11 48 07.8**	**+1.9**
GENI	**Genyem**	**4.88**	**323**	P	**Pn**	**11 48 28.8**	**+1.9**
PMG	**Port Moresby**	**4.92**	**126**		**Pn**	**11 48 27.8**	**+0.3**
PMG	**Port Moresby**	**4.92**	**126**	P	**Pn**	**11 48 29.2**	**+1.7**
PMG	**Port Moresby**	**4.92**	**126**	Pn	**Pn**	**11 48 29.0**	**+1.6**
	2.9nm,0.3s,baz=21,slow=3.0,SNR=12						
PMG				Sn	**Sn**	**11 49 23.5**	**-1.0**
	8.0nm,0.3s,baz=221,slow=23,SNR=8.7						
	22nm,0.6s						
MANU	**Manus Island**	**6.12**	**44**		**Pn**	**11 48 44.8**	**+0.8**
SMPI	**Sarmi**	**6.29**	**315**	P	**Pn**	**11 48 48.0**	**+1.7**
	83nm,1.6s,3.4nm						
COEN	**Coen**	**7.41**	**180**	P	**Pn**	**11 49 05.7**	**+4.0**
FAKI	**Fak Fak**	**11.42**	**288**		**Pn**	**11 49 55.5**	**-1.1**
FAKI	**Fak Fak**	**11.42**	**288**	P	**Pn**	**11 49 55.8**	**-0.9**
FAKI	**Fak Fak**	**11.42**	**288**	P	**Pn**	**11 49 57.8**	**+1.1**
	32nm,1.0s						
MTSU	**Mount Surprise**	**11.62**	**174**	P	**Pn**	**11 50 04.1**	**+4.6**
MTN	**Manton Dam**	**13.40**	**241**	Pn	**Pn**	**11 50 23.1**	**-0.7**
MTN	**Manton Dam**	**13.40**	**241**	P	**Pn**	**11 50 23.8**	**0.0**
DRS	**Darwin Rock St**	**13.42**	**243**	P	**Pn**	**11 50 25.1**	**+1.0**
CTA	**Charters Tower**	**13.84**	**168**	Lg	Lg	11 54 32.5	
	0.1nm,0.3s,baz=86,slow=22,SNR=2.5						
QIS	**Mount Isa**	**14.38**	**193**	P	**Pn**	**11 50 40.4**	**+3.1**
WB0	**Warramunga Arr**	**15.68**	**212**		**Pn**	**11 50 54.1**	**-0.5**
WR0	**Warramunga Arr**	**15.77**	**211**		**Pn**	**11 50 55.4**	**-0.3**
WR0				IAmb	IAmb	11 51 05.4	
	comp=Z,32nm,0.8s						
WRAB	**Tennant Creek**	**15.84**	**212**		**Pn**	**11 50 54.4**	**-2.4**
WB2	**Warramunga Arr**	**15.85**	**212**		**Pn**	**11 50 55.7**	**-1.1**
WRA	**Warramunga Arr**	**15.86**	**212**		**Pn**	**11 50 55.4**	**-1.5**
WRA	**Warramunga Arr**	**15.86**	**212**	Pn	**Pn**	**11 50 56.1**	**-0.8**
	comp=Z,1.4nm,0.3s,baz=33,slow=13,SNR=74						
WRA				Sn	**Sn**	**11 53 43.4**	**-9.4**
	comp=Z,0.3nm,0.3s,baz=27,slow=23,SNR=3.4						
WRA				Lg	Lg	11 55 37.4	
	comp=Z,0.5nm,0.3s,baz=29,slow=28,SNR=5.0						
LBMI	**Labuha**	**16.65**	**290**	P	**P**	**11 51 09.1**	**-0.4**
	comp=Z,33nm,1.1s						
KNRA	**Kununurra**	**16.78**	**236**	Pn	**Pn**	**11 51 08.3**	**-0.4**
KNRA				IAmb	IAmb	11 51 09.3	
	comp=Z,60nm,0.7s						
KNRA	**Kununurra**	**16.78**	**236**	P	**Pn**	**11 51 08.5**	**-0.2**
HNR	**Honiara**	**16.90**	**101**	LR	LR	11 57 16.8	
	comp=Z,2µm,20.6s,baz=238,slow=36						
SOEI	**Soe**	**18.95**	**259**	P	**Pn**	**11 51 37.9**	**+2.2**
SOEI	**Soe**	**18.95**	**259**	P	**Pn**	**11 51 37.8**	**+2.1**
	comp=Z,83nm,0.9s						
AS31	**Alice Springs**	**19.23**	**207**		**Pn**	**11 51 41.1**	**+2.2**
ASAR	**Alice Springs**	**19.23**	**207**	P	**Pn**	**11 51 40.9**	**+1.9**
ASAR	**Alice Springs**	**19.23**	**207**	P	**Pn**	**11 51 41.4**	**+2.4**
	comp=Z,23nm,0.9s,baz=30,slow=12,SNR=120						
ASAR				Lg	Lg	11 57 27.0	
	comp=Z,0.1nm,0.3s,baz=20,slow=30,SNR=2.1						
PATS	**Pohnpei**	**20.12**	**49**	P	**P**	**11 51 47.0**	**-0.7**
EIDS	**Eidsvold**	**20.24**	**159**		**P**	**11 51 48.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**20.59**	**234**	P	Pn	11 51 54.2	-0.8
EDFI	**Ende, Flores**	**21.37**	**263**	P	**P**	**11 52 02.0**	**+0.6**
	comp=Z,22nm,1.0s						
BKSI	**Bukumba**	**22.92**	**272**	P	**P**	**11 52 18.4**	**+0.6**
	comp=Z,20nm,1.5s						
KAPI	**Kappang**	**23.31**	**272**	P	**P**	**11 52 21.4**	**-0.4**
KAPI				IAmb	IAmb	11 52 31.8	
	comp=Z,36nm,1.4s						
TTSI	**Tana Toraja**	**23.48**	**277**	P	**P**	**11 52 25.9**	**+2.3**
STKA	**Stephens Creek**	**25.29**	**183**		**P**	**11 52 38.1**	**-2.0**
STKA	**Stephens Creek**	**25.29**	**183**	P	**P**	**11 52 41.7**	**+1.6**
	comp=Z,1.6nm,0.8s,baz=1.7,slow=10,SNR=2.6						
STKA				LR	LR	12 03 03.5	
	comp=Z,128nm,20.8s,baz=12,slow=37						
	comp=Z,1.6nm,0.8s						
PSA00	**Pilbara Seismi**	**27.04**	**234**	P	**P**	**11 52 55.1**	**-1.0**
FORT	**Forrest**	**27.99**	**208**	P	**P**	**11 53 03.9**	**-0.6**
MJAR	**Matsushiro Arr**	**43.07**	**354**	P	**P**	**11 55 11.3**	**-2.3**
	comp=Z,2.8nm,1.0s,baz=182,slow=6.2,SNR=4.6						
	comp=Z,2.8nm,1.0s						
URZ	**Urewera**	**44.11**	**141**	LR	LR	12 13 26.1	
	comp=Z,91nm,19.3s,baz=178,slow=36						
RPZ	**Rata Peaks**	**44.43**	**151**	LR	LR	12 13 20.0	
	comp=Z,68nm,20.2s,baz=281,slow=35						
NJ2	**Nanjing**	**44.79**	**330**	*e*P	**P**	**11 55 29.0**	**+1.5**
NJ2				pP	**sP**	**11 55 35.1**	**+2.9**
NJ2				sP	**pP**	**11 55 38.0**	**+7.1**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,260nm,4.3s						
KSRS	**Korea Array**	**45.98**	**343**	P	**P**	**11 55 36.1**	**-0.7**
	comp=Z,6.0nm,0.8s,baz=161,slow=9.2,SNR=10						
	comp=Z,6.0nm,0.8s						
GYA	**Guiyang**	**48.21**	**314**	*e*P	**P**	**11 55 55.8**	**+1.2**
GYA				pmax	pmax		
	comp=Z,12nm,0.6s						
CMAR	**Chiang Mai Arr**	**50.14**	**300**	P	**P**	**11 56 09.5**	**0.0**
	comp=Z,1.0nm,0.6s,baz=129,slow=6.4,SNR=6.1						
	comp=Z,1.0nm,0.6s						
ASAJ	**Asahikawa**	**50.39**	**359**	LR	LR	12 19 14.4	
	comp=Z,29nm,19.7s,baz=162,slow=38						
USRK	**Ussuriysk Ar.**	**51.46**	**350**	P	**P**	**11 56 17.9**	**-1.0**
	comp=Z,7.7nm,0.9s,baz=174,slow=7.9,SNR=8.5						
	comp=Z,7.7nm,0.9s						
XAN	**Xi'an**	**51.71**	**323**	⇓P	**P**	**11 56 19.6**	**-1.4**
XAN				pP	sP	11 56 28.5	+2.7
XAN				sP	pP	11 56 32.3	+7.8
XAN				pmax	pmax		
	comp=Z,12nm,1.6s						
XAN				pmax	pmax		
	comp=Z,150nm,7.4s						
PZH	**PanZhiHua**	**51.83**	**311**	P	**P**	**11 56 23.3**	**+1.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.4s						
MDJ	**Mudanjiang**	**52.33**	**348**	P	**P**	**11 56 24.3**	**-1.1**
MDJ				ScP	**ScP**	**12 01 27.8**	**-6.1**
MDJ				S	**S**	**12 03 54.4**	**+3.6**
MDJ				sS	sS	12 04 04.6	+8.0
MDJ				pmax	pmax		
	comp=Z,13nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,180nm,4.1s						
BNX	**BinXian**	**53.88**	**346**	⇓P	**P**	**11 56 35.5**	**-1.3**
BNX				pmax	pmax		
	comp=Z,17nm,0.9s						
BNX				pmax	pmax		
	comp=Z,92nm,7.0s						
HHC	**Hu-ho-hao-te**	**55.33**	**331**	*e*P	P	11 56 52.5	+4.9
HHC				pP	sP	11 56 59.8	+7.5
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC				pmax	pmax		
	comp=Z,82nm,4.8s						
LZH	**Lanzhou**	**56.16**	**322**	*e*P	**P**	**11 56 53.7**	**0.0**
LZH				pP	sP	11 57 01.7	+3.3
LZH				pmax	pmax		
	comp=Z,15nm,1.5s						
PETK	**Petropavlovsk-**	**60.66**	**10**	P	**P**	**11 57 23.7**	**-0.9**
	comp=Z,13nm,0.8s,baz=157,slow=6.7,SNR=12						
	comp=Z,13nm,0.8s						
GTA	**Gaotai**	**60.73**	**322**	*e*P	**P**	**11 57 25.9**	**+0.3**
GTA				pP	sP	11 57 31.3	+1.0
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GOMU	**GeErMu**	**62.08**	**317**	P	**P**	**11 57 35.4**	**+0.4**
GOMU				pP	sP	11 57 39.5	-0.3
GOMU				sP	pP	11 57 41.3	+2.8
GOMU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	**Songino Array**	**63.04**	**333**	P	**P**	**11 57 40.2**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=163,slow=6.5,SNR=7.9						
	comp=Z,1.1nm,0.8s						
MA2	**Magadan**	**66.15**	**4**	P	**P**	**11 57 59.2**	**-1.7**
VNDA	**Vanda**	**71.67**	**176**	P	**P**	**11 58 35.3**	**+0.3**
VNDA	**Vanda**	**71.67**	**176**	P	**P**	**11 58 35.8**	**+0.9**
	comp=Z,1.3nm,0.9s,baz=327,slow=5.4,SNR=1.8						
	comp=Z,1.3nm,0.9s						
MK31	**Makanchi Array**	**75.47**	**322**	P	**P**	**11 58 57.7**	**-0.2**
MK31				IAmb	IAmb	11 58 58.7	
	comp=Z,7.8nm,1.1s						
MKAR	**Makanchi Array**	**75.47**	**322**	P	**P**	**11 58 57.4**	**-0.5**
	comp=Z,5.9nm,0.7s,baz=107,slow=7.0,SNR=55						
	comp=Z,5.9nm,0.7s						
MAKZ	**Makanchi**	**75.67**	**322**	P	**P**	**11 58 58.1**	**-0.9**
BILL	**Bilibino**	**76.15**	**9**	P	**P**	**11 59 00.0**	**-1.2**
BILL				IAmb	IAmb	11 59 01.1	
	comp=Z,8.3nm,1.4s						
KSH	**Kashi**	**76.88**	**313**	P	**P**	**11 59 07.6**	**+1.4**
NIL	**Nilore**	**77.11**	**307**	P	**P**	**11 59 06.4**	**-1.2**
ZALV	**Zalesovo Beam**	**77.42**	**329**	P	**P**	**11 59 07.3**	**-1.4**
	comp=Z,1.5nm,0.6s,baz=116,slow=5.9,SNR=7.5						
	comp=Z,1.5nm,0.6s						
BOOM	**Boomskoye usch**	**77.93**	**316**	P	**P**	**11 59 11.9**	**-0.2**
BOOM				IAmb	IAmb	11 59 13.0	
	comp=Z,3.9nm,0.7s						
AAK	**Ala-Archa**	**78.98**	**316**	P	**P**	**11 59 16.9**	**-1.0**
KURK	**Kurchatov**	**79.34**	**324**	P	**P**	**11 59 18.4**	**-1.0**
KURK				IAmb	IAmb	11 59 19.8	
	comp=Z,9.3nm,1.1s						
KURBB	**Kurchatov Arra**	**79.36**	**324**	P	**P**	**11 59 18.2**	**-1.2**
	comp=Z,1.3nm,0.3s,baz=115,slow=4.9,SNR=13						
	comp=Z,1.3nm,0.3s						
M14K	**Bethel**	**79.48**	**24**	P	**P**	**11 59 19.8**	**-0.1**
M14K				IAmb	IAmb	11 59 21.3	
	comp=Z,12nm,0.9s						
ARSB	**Arslanbob**	**79.62**	**314**	P	**P**	**11 59 19.9**	**-1.5**
CHGR	**Chuyangaron**	**81.68**	**310**	P	**P**	**11 59 30.8**	**-1.6**
SIMJ	**Simiganj**	**81.79**	**310**	P	**P**	**11 59 31.5**	**-1.6**
SIMJ				IAmb	IAmb	11 59 33.6	
	comp=Z,6.1nm,1.0s						
KK31	**Karatay Array**	**81.91**	**315**	P	**P**	**11 59 32.3**	**-1.1**
KK31				IAmb	IAmb	11 59 33.8	
	comp=Z,7.1nm,1.4s						
KKAR	**Karatay Array**	**81.91**	**315**	P	**P**	**11 59 32.5**	**-0.9**
KKAR	**Karatay Array**	**81.91**	**315**	P	**P**	**11 59 32.8**	**-0.6**
KKAR				IAmb	IAmb	11 59 33.8	
	comp=Z,7.0nm,1.4s						
G16K	**Koyuk River**	**81.99**	**20**	P	**P**	**11 59 33.0**	**-0.2**
G16K				IAmb	IAmb	11 59 33.9	
	comp=Z,5.3nm,0.9s						
SVW2	**Sparrevohn**	**82.32**	**25**	P	**P**	**11 59 34.9**	**-0.3**
SVW2				IAmb	IAmb	11 59 37.1	
	comp=Z,4.7nm,0.8s						
H17K	**Granite Mounta**	**82.59**	**21**	P	**P**	**11 59 35.2**	**-1.2**
H17K				IAmb	IAmb	11 59 36.6	
	comp=Z,3.9nm,0.8s						
N19K	**Bonanza Creek**	**82.66**	**26**	P	**P**	**11 59 36.3**	**-0.8**
N19K				IAmb	IAmb	11 59 38.6	
	comp=Z,9.4nm,1.1s						
QSPA	**South Pole Qui**	**83.47**	**180**	P	**P**	**11 59 41.9**	**+0.7**
QSPA				IAmb	IAmb	11 59 53.7	
	comp=Z,5.8nm,0.8s						
QSPA	**South Pole Qui**	**83.47**	**180**	P	**P**	**11 59 41.6**	**+0.4**
	comp=Z,3.3nm,0.6s,baz=306,slow=0.6,SNR=33						
QSPA				LR	LR	12 36 47.2	
	comp=Z,192nm,18.0s,baz=290,slow=36						
	comp=Z,3.3nm,0.6s						
G18K	**Tagagawik**	**83.55**	**21**	P	**P**	**11 59 40.0**	**-1.4**
G18K				IAmb	IAmb	11 59 41.4	
	comp=Z,4.5nm,1.1s						
J19K	**Poorman**	**83.70**	**23**	P	**P**	**11 59 41.9**	**-0.3**
E18K	**Tukpahlearik C**	**83.72**	**19**	P	**P**	**11 59 40.4**	**-1.8**
E18K				IAmb	IAmb	11 59 42.2	
	comp=Z,5.7nm,1.1s						
M20K	**Styx River**	**83.73**	**25**	P	**P**	**11 59 41.3**	**-1.2**
K20K	**Telida**	**84.01**	**24**	P	**P**	**11 59 42.8**	**-1.1**
K20K				IAmb	IAmb	11 59 44.3	
	comp=Z,6.5nm,1.1s						
G19K	**Purcell Mounta**	**84.22**	**21**	P	**P**	**11 59 43.6**	**-1.2**
G19K				IAmb	IAmb	11 59 45.5	
	comp=Z,8.5nm,1.2s						
CAST	**Castle Rocks**	**84.84**	**24**	P	**P**	**11 59 46.7**	**-1.3**
CAST				IAmb	IAmb	11 59 47.5	
	comp=Z,5.1nm,1.0s						
RC01	**Rabbit Creek A**	**84.88**	**27**	P	**P**	**11 59 46.8**	**-1.4**
BVAR	**Borovoye Array**	**84.93**	**325**	P	**P**	**11 59 48.0**	**-0.7**
	comp=Z,10nm,0.8s,baz=111,slow=6.5,SNR=47						
	comp=Z,10nm,0.8s						
BRVK	**Borovoye**	**85.00**	**325**	P	**P**	**11 59 48.0**	**-1.0**
IMAR	**Indian Mountai**	**85.34**	**21**	P	**P**	**11 59 49.5**	**-1.0**
H21K	**Melozitna Rive**	**85.54**	**22**	P	**P**	**11 59 50.2**	**-1.3**
H21K				IAmb	IAmb	11 59 51.7	
	comp=Z,5.1nm,1.1s						
BPAW	**Bear Paw Mtn.**	**85.57**	**24**	P	**P**	**11 59 50.0**	**-1.7**
BPAW				IAmb	IAmb	11 59 51.1	
	comp=Z,12nm,1.4s						
MLY	**Manley**	**86.05**	**23**	P	**P**	**11 59 52.4**	**-1.8**
MLY				IAmb	IAmb	11 59 54.0	
	comp=Z,6.0nm,1.0s						
CCB	**Clear Creek Bu**	**87.06**	**24**	P	**P**	**11 59 56.0**	**-3.0**
CCB				IAmb	IAmb	11 59 57.6	
	comp=Z,6.0nm,0.9s						
IL31		**87.47**	**24**	P	**P**	**11 59 58.2**	**-2.7**
IL31				IAmb	IAmb	11 59 59.3	
	comp=Z,3.4nm,0.8s						
ILAR	**Eielson Array**	**87.47**	**24**	P	**P**	**11 59 58.0**	**-3.0**
ILAR	**Eielson Array**	**87.47**	**24**	P	**P**	**11 59 58.5**	**-2.5**
	comp=Z,2.8nm,0.8s,baz=258,slow=5.0,SNR=28						
	comp=Z,2.8nm,0.8s						
BARN	**Barnard Glacie**	**88.56**	**28**	P	**P**	**12 00 04.8**	**-1.7**
BCAR	**Beaver Creek A**	**89.06**	**26**	P	**P**	**12 00 07.7**	**-1.0**
BMAR	**Burnt Mountain**	**89.26**	**22**	P	**P**	**12 00 09.4**	**-0.1**
YBH	**Yreka Blue Hor**	**97.38**	**49**	LR	LR	12 39 44.8	
	comp=Z,58nm,18.4s,baz=288,slow=32						
SNAA	**Sanae**	**98.85**	**190**	⇑P	Pdif	12 00 56.2	+2.7
	comp=Z,70nm,0.8s						
VNA1	**Neumayer--Stat**	**100.64**	**189**	⇑P	**Pdif**	**12 00 54.1**	**-7.2**
	comp=Z,27nm,0.8s						
NVAR	**Mina Array Bea**	**100.71**	**52**	P	**Pdif**	**12 01 02.8**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=258,slow=4.5,SNR=4.9						
TORD	**Torodi Ar. Bea**	**141.47**	**283**	PKhKP	PKPpre	12 06 39.6	
	comp=Z,0.2nm,0.4s,baz=46,slow=3.5,SNR=2.8						
DBIC	**Dimbokro**	**148.20**	**272**	PKPbc	**PKPbc**	**12 07 00.3**	**-0.5**
	comp=Z,1nm,0.9s,baz=58,slow=3.1,SNR=14						

FUNV 05 11:47:16.4,9°16N×61°30W, h32km, MW3.9, Near coast of Venezuela

| Code | Station Name | Δ

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.25**	**262**	P	**Pn**	**11 51 02.6**	**+0.1**
NEM2				*e*S	**Sn**	**11 51 12.7**	**+0.3**
NMR	**Nemuro--Hokkai**	**0.26**	**263**	*e*P	**Pn**	**11 51 02.1**	**-0.4**
NMR				*e*S	**Sn**	**11 51 12.2**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**0.65**	**346**	*e*P	**Pn**	**11 51 04.9**	**-0.4**
YUK				AMB	AMB	11 51 05.7	
	540nm,0.4s						
YUK				*e*S	**Sn**	**11 51 17.1**	**-0.3**
YUK				A	A	11 51 22.0	
	620nm,0.2s						
YUK				A	A	11 51 22.0	
	240nm,0.2s						
SHO	**Shikotan**	**0.72**	**49**	*e*P	**Pn**	**11 51 05.5**	**-0.4**
SHO				*e*S	**Sn**	**11 51 18.1**	**-0.3**
SHO				A	A	11 51 19.2	
	600nm,0.2s						
SHO				A	A	11 51 19.2	
	360nm,0.2s						
JKHN	**Kushirohamanak**	**0.74**	**245**	P	**Pn**	**11 51 06.2**	**+0.1**
JKHN				*e*S	**Sn**	**11 51 19.1**	**+0.2**
JNSB	**Nemuroshibetsu**	**0.87**	**296**	P	**Pn**	**11 51 07.4**	**-0.1**
JNSB				*e*S	**Sn**	**11 51 21.7**	**+0.5**
JRA	**Rausu**	**0.88**	**308**	P	**Pn**	**11 51 07.5**	**-0.1**
JRA				*e*S	**Sn**	**11 51 21.6**	**+0.3**
AKK	**Akkeshi**	**0.98**	**247**	*e*P	**Pn**	**11 51 08.3**	**-0.4**
JNK	**Nakash**	**1.01**	**281**	P	**Pn**	**11 51 08.4**	**-0.6**
JNK				*e*S	**Sn**	**11 51 22.7**	**-1.2**
JAK	**Akkeshi**	**1.09**	**249**	P	**Pn**	**11 51 09.6**	**-0.4**
JAK				*e*S	**Sn**	**11 51 25.1**	**-0.5**
JTKR	**Abashiri--Toko**	**1.68**	**291**	P	**Pn**	**11 51 16.8**	**-0.4**
JAR	**Ashorobuto**	**1.69**	**267**	P	**Pn**	**11 51 17.2**	**-0.2**
JAR				*e*S	**Sn**	**11 51 38.7**	**-0.1**
JOB	**Onbets**	**1.72**	**254**	P	**Pn**	**11 51 17.6**	**-0.1**
JOB				*e*S	**Sn**	**11 51 38.8**	**-0.6**
JMP	**Maruseppu**	**2.06**	**288**	P	**Pn**	**11 51 21.8**	**-0.4**
JMP				*e*S	**Sn**	**11 51 47.0**	**-0.5**
JCH	**Churui**	**2.15**	**249**	*e*P	**Pn**	**11 51 22.8**	**-0.5**
JCH				*e*S	**Sn**	**11 51 47.7**	**-1.7**
KUR	**Kuril'sk**	**2.23**	**34**	*e*P	**Pn**	**11 51 24.0**	**-0.4**
KUR				*i* S	**Sn**	**11 51 50.6**	**-0.8**
KUR				A	A	11 51 52.8	
	150nm,0.2s						
KUR				A	A	11 51 52.8	
	100nm,0.2s						
WMQ	**Urumqi**	**41.50**	**292**	*e*P	**P**	**11 58 28.4**	**+1.2**
WMQ				pmax	pmax		
	comp=Z,10.0nm,1.3s						

JMA 05 12:06:52.4±0.1, 24°.3N±0°.3×123°.8E±0°.3, h14km±1km, MV0.7/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.12**	**318**	P	Pg	12 06 55.8	0.0
JKRS	**Kuro-shima**	**0.18**	**93**	*e*P	Pg	12 06 56.6	0.0
JKRS				*e*S	Sg	12 06 59.7	+0.3
HATJ	**Hateruma jima**	**0.19**	**183**	P	Pg	12 06 56.6	-0.1
HATJ				*e*S	Sg	12 07 00.1	+0.4
JIJ	**Ishigaki jima**	**0.32**	**69**	*e*P	Pg	12 06 59.1	+0.1
JIJ				*e*S	Sg	12 07 03.1	-0.4
JISG	**Ishigakijimahi**	**0.56**	**53**	*e*P	Sg	12 07 03.4	-0.1
JISG				*e*S	Sg	12 07 11.4	+0.3
JTJ	**Tarama**	**0.90**	**64**	*e*P	Pb	12 07 09.7	-0.1
JTJ				*e*S	Sb	12 07 21.9	+0.3

TAP 05 12:07:43.7, 24°.45N×121°.87E, h21km, ML1.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.08**	**264**	*i* P	Pb	12 07 48.1	+0.4
	baz=263						
EWUT				*i* S	Sb	12 07 51.2	+0.8
	baz=263						
ENA	**Nanau**	**0.12**	**258**	*i* P	Pb	12 07 48.5	-1.5
	baz=255						
ENA				*i* S	Sb	12 07 51.7	-2.7
	baz=255						
TWC	**Suao**	**0.16**	**353**	*i* P	Pb	12 07 48.8	-0.8
	baz=356						
TWC				*i* S	Sb	12 07 52.3	-1.5
	baz=356						
NDS	**Dongshan**	**0.23**	**322**	P	Pb	12 07 50.0	+0.3
	baz=322						
NDS				S	Sb	12 07 54.7	+0.8
	baz=322						
LATG	**Datong**	**0.32**	**285**	*i* P	Pb	12 07 51.4	+0.6
	baz=284						
LATG				S	Sn	12 07 57.6	-1.8
	baz=284						
ENTT	**Nioudou**	**0.33**	**304**	P	Pb	12 07 51.1	+0.2
	baz=304						
ENTT				S	Sb	12 07 57.0	+1.1
	baz=304						
EOS2	**EOS2**	**0.33**	**96**	S	Sb	12 07 57.3	+1.7
	baz=96						
NDT	**Datong Townshi**	**0.36**	**295**	P	Pb	12 07 52.2	+0.9
	baz=294						
NDT				S	Sb	12 07 57.6	+1.2
	baz=294						
NACB	**Ninganchiao**	**0.38**	**222**	P	Pb	12 07 51.9	+0.3
	baz=221						
NACB				S	Sb	12 07 57.8	+0.9
	baz=221						
FUSB	**Fushanzhiwuyua**	**0.40**	**320**	P	Pb	12 07 52.7	+0.7
	baz=319						
FUSB				S	Sb	12 07 58.4	+0.8
	baz=319						
NNSB	**Datong**	**0.44**	**267**	P	Pb	12 07 53.4	+0.5
	baz=266						
NNSB				S	Sb	12 08 00.4	+1.3
	baz=266						
YHNB	**Yeheng**	**0.50**	**296**	P	Pb	12 07 54.4	+0.6
	baz=295						
YHNB				S	Sn	12 08 02.3	-1.3
	baz=295						
NSK	**Sanguang**	**0.52**	**296**	P	Pb	12 07 54.5	+0.4
	baz=295						
NSK				S	Sb	12 08 02.3	+1.1
	baz=295						
TIPB	**Shuangxi**	**0.52**	**356**	P	Pn	12 07 55.1	-0.8
	baz=355						
LXIB	**Xiulin Townshi**	**0.60**	**224**	P	Pb	12 07 56.2	+0.5
	baz=223						
FUSS	**Fushou**	**0.61**	**250**	*e*P	Pb	12 07 56.4	+0.6
	baz=250						
FUSS				*e*S	Sn	12 08 05.8	-0.7
	baz=250						
WHF	**Hehuan Shan**	**0.63**	**241**	*e*S	Sn	12 08 06.5	-0.9
	baz=240						

*NEIC **05** 12:07:47.0±2.4, 74°.00N±0°.08×72°.5W±0°.2, h15km±7km, Error ellipse: s-maj=11.3km s-min=8.9km az=157.0*
*OTT **05** 12:07:48.3±0.3, 73°.91N×72°.47W, h18km, ML4.0/3, 223km northeast from Pond Inlet, Nu Baffin Bay Seismic Zone.*
*DNK **05** 12:07:52.3±1.9, 73°.91N×72°.41W, h36km±46km, ML1.9*
ISC 05 12:07:45.7±0.8, 73°.90N±0°.06×72°.44W±0°.05, h10km, n26, σ2s 20/30, 1D, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TULEG	**Thule**	**2.81**	**18**	Pn	**Pn**	**12 08 30.0**	**-0.7**
TULEG	**Thule**	**2.81**	**18**	*i* S	**Sn**	**12 09 03.1**	**-1.4**
KULLO	**Kullorsuaq**	**4.20**	**73**	Pn	**Pn**	**12 08 51.9**	**+2.2**
KULLO				Sn	**Sn**	**12 09 36.8**	**-1.9**
KULLO	**Kullorsuaq**	**4.20**	**73**	*i* P	**Pn**	**12 08 51.9**	**+2.2**
KULLO				*i* S	**Sn**	**12 09 36.4**	**-2.3**
KULLO				IAML		12 09 39.1	
	comp=Z,9.4nm,0.4s						
KULLO	**Kullorsuaq**	**4.20**	**73**	PN	**Pn**	**12 08 51.9**	**+2.2**
KULLO				SN	**Sn**	**12 09 36.8**	**-1.9**
KULLO				Trac		12 09 37.6	
	comp=Z,5.6nm,0.2s						
UPNV	**Upernavik**	**4.82**	**95**	*i* P	**Pn**	**12 09 00.3**	**+2.2**
UPNV				*e*S	**Sn**	**12 09 50.4**	**-3.5**
UPNV				IAML		12 09 53.0	
	comp=Z,4.3nm,0.3s						
ILON	**Igloolik, Nuna**	**5.42**	**218**	Pn	**Pn**	**12 09 08.6**	**+2.2**
ILON				Sn	**Sn**	**12 10 05.8**	**-2.9**
ILON	**Igloolik, Nuna**	**5.42**	**218**	PN	**Pn**	**12 09 08.6**	**+2.2**
ILON				Trac		12 10 20.6	
	comp=Z,14nm,0.4s						
RES	**Resolute Bay**	**6.13**	**288**	Pn	**Pn**	**12 09 15.5**	**-0.7**
RES	**Resolute Bay**	**6.13**	**288**	PN	**Pn**	**12 09 18.1**	**+2.0**
RES	**Resolute Bay**	**6.13**	**288**	SN	**Sn**	**12 10 22.5**	**-3.7**
RES				Trac		12 10 48.0	
	comp=Z,34nm,1.2s						
NUUG	**Nuugaatsiaq**	**6.18**	**103**	*e*P	**Pn**	**12 09 19.4**	**+2.5**
NEEM	**North Greenlan**	**6.35**	**46**	*e*	**Pn**	**12 09 21.7**	**+2.3**
	baz=244,slow=10						
NEEM				*i* P	**Pn**	**12 09 22.2**	**+2.7**
NEEM				*e*S	**Sn**	**12 10 28.6**	**-3.4**
NEEM				IAML		12 10 30.3	
	comp=Z,2.5nm,0.4s						
SUMG	**Summit**	**9.81**	**81**	Pn	**Pn**	**12 10 06.3**	**-0.7**
SUMG	**Summit**	**9.81**	**81**	*i* P	**Pn**	**12 10 07.0**	**+0.1**
SUMG				*i* S	Sn	12 11 47.9	-9.3
FRB	**Frobisher Bay**	**10.29**	**170**	Pn	**Pn**	**12 10 14.6**	**+1.5**
FRB				Sn	Sn	12 12 01.8	-6.5
FRB	**Frobisher Bay**	**10.29**	**170**	PN	**Pn**	**12 10 14.6**	**+1.5**
FRB	**Frobisher Bay**	**10.29**	**170**	SN	Sn	12 12 01.8	-6.5
FRB				Trac		12 12 14.5	
	comp=Z,16nm,0.7s						
BLKN	**Baker Lake**	**12.63**	**233**	PN	Pn	12 10 40.0	-5.2
BLKN	**Baker Lake**	**12.63**	**233**	SN	Sn	12 12 56.1	-10
BLKN				Trac		12 13 57.5	
	comp=Z,0.3nm,0.0s						
A36M	**Sachs Harbour**	**15.18**	**289**	Pn	**Pn**	**12 11 20.8**	**+1.0**
YKA	**Yellowknife Ar**	**18.82**	**255**	P	**P**	**12 12 05.1**	**+0.1**
E29M	**Blow River**	**20.79**	**288**		**P**	**12 12 27.3**	**+0.8**
E29M				IAmb	IAmb	12 12 54.6	
	comp=Z,4.4nm,1.4s						
G31M	**Satah River**	**20.86**	**283**	P	**P**	**12 12 27.4**	**+0.1**
G31M				IAmb	IAmb	12 12 38.6	
	comp=Z,3.1nm,1.4s						
H31M	**Peel River**	**21.71**	**281**	P	**P**	**12 12 37.8**	**+1.4**

*CATAC **05** 12:08:12.2±1.0, 16°.59N×85°.99W, h10km, ML4.4*
*IDC **05** 12:08:15.7±8.2, 16°.93N×86°.62W, h0km, mb3.3/2, mbtmp3.6/5, ML3.7/3, MS3.6/7, Error ellipse: s-maj=143.8km s-min=37.8km az=155.0*
ISC 05 12:08:15.2±1.0, 16°.63N±0°.08×86°.08W±0°.08, h35km, n21, σ2s 54/18, MS3.5/4, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCPN	**Sur Rio San Ju**	**3.09**	**180**	*i* P	**Pn**	**12 09 00.7**	**-1.0**
RCPN				IAML		12 09 39.6	
	comp=Z,5.9nm,1.0s						
SIUN	**Universidad Ur**	**3.16**	**156**	*i* P	**Pn**	**12 09 01.6**	**-1.0**
SIUN				*i* S	**Sn**	**12 09 35.3**	**-3.8**
SIUN				IAML		12 10 11.5	
	comp=Z,96nm,1.0s						
LIMN	**Finca el Limon**	**3.56**	**184**	*i* P	**Pn**	**12 09 08.5**	**+0.4**
LIMN				IAML		12 10 21.9	
	comp=Z,650nm,1.0s						
PETF	**Flores**	**3.64**	**275**	*i* P	**Pn**	**12 09 08.5**	**-0.6**
PETF				IAML		12 10 08.7	
	comp=Z,860nm,1.0s						
MATN	**Matagalpa**	**3.69**	**178**	*i* P	**Pn**	**12 09 09.8**	**0.0**
MATN				IAML		12 10 35.7	
	comp=Z,180nm,1.0s						
CNCH	**Conchagua**	**3.74**	**207**	*i* P	**Pn**	**12 09 11.4**	**+0.8**
CNCH				IAML		12 10 30.5	
	comp=Z,770nm,1.0s						
ESQI	**Esquipulas**	**3.76**	**237**	*i* P	**Pn**	**12 09 14.3**	**+3.5**
ESQI				IAML		12 10 43.1	
	comp=Z,440nm,1.0s						
PACA	**Pacayal**	**3.82**	**215**	*i* P	**Pn**	**12 09 14.4**	**+2.7**
PACA				IAML		12 10 26.5	
	comp=Z,2μm,1.0s						
MTO3	**Montecristo**	**3.86**	**235**	*i* P	**Pn**	**12 09 13.0**	**+0.6**
MTO3				*i* S	**Sn**	**12 09 59.3**	**+2.6**
MTO3				IAML		12 10 12.8	
	comp=Z,150nm,1.0s						
TEIG	**Tepich**	**4.14**	**330**	LR	LR	12 10 11.5	
	comp=Z,412nm,18.6s,baz=1.5,slow=32						
BOAB	**BOACO BROADBAN**	**4.18**	**174**	*i* P	**Pn**	**12 09 16.7**	**+0.2**
BOAB				IAML		12 10 49.5	
	comp=Z,230nm,1.0s						
APG	**El Apazote**	**4.52**	**250**	LR	LR	12 11 12.9	
	comp=Z,40nm,18.3s,baz=101,slow=42						
CMIG	**Matias Romero**	**8.44**	**274**	Pn	**Pn**	**12 10 13.2**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=250,slow=12,SNR=1.9						
CMIG				Sn	**Sn**	**12 11 43.3**	**-5.9**
	comp=Z,1.0nm,0.3s,baz=217,slow=19,SNR=5.5						
CMIG				LR	LR	12 13 50.4	
	comp=Z,360nm,20.0s,baz=93,slow=42						
	comp=Z,0.8nm,0.3s						
TKL	**Tuckaleechee C**	**19.06**	**6**	P	**Pn**	**12 12 37.4**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=211,slow=12,SNR=1.9						
TKL				LR	LR	12 19 56.5	
	comp=Z,208nm,18.2s,baz=161,slow=37						
	comp=Z,3.1nm,0.8s						
TXAR	**Lajitas Array**	**20.50**	**311**	P	**P**	**12 12 50.2**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=132,slow=11,SNR=30						
TXAR				S	S	12 16 20.4	-18
	comp=Z,0.1nm,0.3s,baz=119,slow=14,SNR=1.8						
	comp=Z,2.4nm,0.8s						
LPIG	**La Paz**	**23.87**	**292**	LR	LR	12 23 32.1	
	comp=Z,131nm,19.0s,baz=20,slow=39						
ANMO	**Albuquerque**	**25.78**	**319**	LR	LR	12 25 21.9	
	comp=Z,106nm,18.1s,baz=198,slow=41						
PFO	**Pinyon Flats O**	**32.12**	**307**	LR	LR	12 29 40.4	
	comp=Z,119nm,18.1s,baz=122,slow=41						
MDP	**Montagnes des**	**34.72**	**105**	LR	LR	12 31 13.7	
	comp=Z,104nm,18.3s,baz=295,slow=39						
NVAR	**Mina Array Bea**	**35.60**	**314**	P	**P**	**12 15 08.8**	**-1.0**
	comp=Z,0.9nm,1.1s,baz=123,slow=9.8,SNR=4.5						
	comp=Z,0.9nm,1.1s						
ILAR	**Eielson Array**	**62.78**	**335**	P	**P**	**12 18 39.9**	**+3.0**
	comp=Z,0.1nm,0.6s,baz=101,slow=4.7,SNR=1.6						
	comp=Z,0.1nm,0.6s						

IDC 05 12:09:12.4±5.8, 8°.75N×40°.61W, h0km, mb3.9/5, mbtmp3.9/5, MS3.9/25, Error ellipse: s-maj=210.3km s-min=31.0km az=20.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**12.48**	**254**	LR	LR	12 16 26.7	
	comp=Z,308nm,19.8s,baz=74,slow=35						
RCBR	**Riachuelo**	**15.22**	**162**	LR	LR	12 17 20.7	
	comp=Z,10nm,18.7s,baz=267,slow=32						
PCRV	**Puerto La Cruz**	**23.74**	**275**	LR	LR	12 24 11.0	
	comp=Z,324nm,18.0s,slow=38						
SDV	**Santo Domingo**	**29.66**	**273**	LR	LR	12 27 44.8	
	comp=Z,238nm,18.2s,baz=46,slow=38						
H10N3	**ASCENSION HYDR**	**30.80**	**122**	T	T	12 48 04.2	
	baz=301						
H10N2	**ASCENSION HYDR**	**30.80**	**122**	T	T	12 48 04.6	
	baz=301						
H10N1	**ASCENSION HYDR**	**30.82**	**122**	T	T	12 48 05.6	
	baz=301						
SIV	**San Ignacio**	**31.85**	**220**	LR	LR	12 27 17.3	
	comp=Z,104nm,18.9s,baz=88,slow=34						
ROSC	**El Rosal**	**33.68**	**266**	LR	LR	12 29 21.3	
	comp=Z,324nm,18.6s,baz=66,slow=36						
DBIC	**Dimbokro**	**35.48**	**91**	P	P	12 16 10.2	-0.9
	3.6nm,0.8s,baz=290,slow=14,SNR=4.3						
DBIC				LR	LR	12 27 42.5	
	comp=Z,164nm,18.8s,baz=246,slow=31						
	3.6nm,0.8s						
ATAH	**Atahualpa**	**40.83**	**248**	LR	LR	12 33 04.2	
	comp=Z,218nm,19.7s,baz=66,slow=35						
NNA	**Nana**	**41.49**	**241**	LR	LR	12 34 30.7	
	comp=Z,78nm,18.7s,baz=30,slow=37						
TORD	**Torodi Ar. Bea**	**41.73**	**80**	P	P	12 17 03.7	+0.1
	2.3nm,0.8s,baz=284,slow=7.7,SNR=12						
TORD				LR	LR	12 32 55.2	
	comp=Z,238nm,18.2s,baz=288,slow=34						
	2.3nm,0.8s						
JTS	**Las Juntas de**	**43.73**	**276**	LR	LR	12 38 34.5	
	comp=Z,221nm,19.8s,baz=24,slow=40						
TEIG	**Tepich**	**47.38**	**289**	LR	LR	12 36 15.5	
	comp=Z,1μm,19.5s,baz=192,slow=34						
TKL	**Tuckaleechee C**	**47.55**	**111**	LR	LR	12 36 06.3	
	comp=Z,63nm,18.6s,baz=146,slow=34						
FRB	**Frobisher Bay**	**58.42**	**346**	LR	LR	12 40 56.7	
	comp=Z,163nm,19.0s,baz=186,slow=33						
SFJD	**Kangerlussuaq**	**58.56**	**355**	LR	LR	12 38 42.9	
	comp=Z,80nm,19.4s,baz=220,slow=30						
TSUM	**Tsumeb**	**63.71**	**116**	LR	LR	12 40 15.6	
	comp=Z,204nm,21.8s,baz=333,slow=29						
ANMO	**Albuquerque**	**65.26**	**304**	LR	LR	12 45 04.0	
	comp=Z,92nm,21.4s,baz=200,slow=33						
PDAR	**Pinedale Array**	**68.67**	**312**	LR	LR	12 49 56.4	
	comp=Z,92nm,18.5s,baz=113,slow=36						
LSZ	**Lusaka**	**72.22**	**109**	LR	LR	12 48 29.9	
	comp=Z,35nm,20.4s,baz=222,slow=33						
BRTR	**Keskin Array B**	**72.36**	**51**	P	P	12 20 41.5	+0.9
	1.9nm,0.8s,baz=252,slow=7.4,SNR=2.1						
	1.9nm,0.8s						
LBTB	**Lobatse**	**72.65**	**120**	LR	LR	12 47 25.9	
	comp=Z,34nm,18.7s,baz=266,slow=32						
ELK	**Elko**	**72.70**	**310**	LR	LR	12 51 40.4	
	comp=Z,96nm,19.1s,baz=108,slow=35						
BOSA	**Boshof**	**73.54**	**123**	LR	LR	12 45 23.3	
	comp=Z,78nm,21.0s,baz=194,slow=30						
NEW	**Newport**	**74.54**	**318**	LR	LR	12 53 00.0	
	comp=Z,88nm,18.5s,baz=101,slow=35						
YKA	**Yellowknife Ar**	**74.91**	**332**	P	P	12 20 53.9	-1.0
	0.4nm,0.9s,baz=90,slow=7.0,SNR=3.0						
	0.4nm,0.9s						
YBH	**Yreka Blue Hor**	**78.35**	**311**	LR	LR	12 55 22.3	
	comp=Z,38nm,18.6s,baz=196,slow=35						
ILAR	**Eielson Array**	**88.98**	**336**	P	P	12 22 09.5	+0.6
	0.4nm,0.9s,baz=69,slow=4.1,SNR=5.7						
	0.4nm,0.9s						
WSAR	**Wadi Sarin**	**94.98**	**66**	LR	LR	13 06 01.8	
	comp=Z,80nm,21.2s,baz=358,slow=36						

*JMA **05** 12:17:04.0±0.1, 24°.5N±0°.5×122°.1E±0°.2, h64km±1km, MV2.6/14, TAIWAN REGION*
*TAP **05** 12:17:04.1, 24°.52N×122°.08E, h62km, ML3.3, B*
ISC 05 12:17:04.3±1.2, 24°.54N±0°.02×122°.11E±0°.02, h63km±5km, n110, σ1s 01/183, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.16**	**136**	P	**Pn**	**12 17 14.5**	**+0.7**
	baz=125						
EOS2				S	**Sn**	**12 17 22.5**	**+1.8**
	baz=125						
ESAO	**Su ao**	**0.24**	**280**	P	**Pn**	**12 17 14.5**	**+0.1**
	baz=285						
ESAO				S	**Sn**	**12 17 21.7**	**-0.1**
	baz=285						
TWC	**Suao**	**0.25**	**287**	P	**Pn**	**12 17 14.5**	**+0.1**
	baz=294						
TWC				S	**Sn**	**12 17 21.7**	**-0.1**
	baz=294						
EOS3	**EOS3**	**0.31**	**142**	P	**Pn**	**12 17 15.3**	**+0.6**
	baz=136						
EOS3				S	**Sn**	**12 17 23.2**	**+1.0**
	baz=136						
EWUT	**Wuta**	**0.31**	**254**	P	**Pn**	**12 17 14.7**	**-0.1**
	baz=255						
EWUT				S	**Sn**	**12 17 22.3**	**-0.3**
	baz=255						
EGS		**0.35**	**333**	P	**Pn**	**12 17 15.4**	**+0.3**
	baz=338						
EGS				*e*S	**Sn**	**12 17 21.7**	**-1.3**
	baz=338						
ENA	**Nanau**	**0.35**	**253**	P	**Pn**	**12 17 14.9**	**-0.3**
	baz=253						
ENA				S	**Sn**	**12 17 22.8**	**-0.3**
	baz=253						
NDS	**Dongshan**	**0.37**	**285**	P	**Pn**	**12 17 15.6**	**+0.2**
	baz=289						
NDS				S	**Sn**	**12 17 23.7**	**+0.3**
	baz=289						
EAHA	**Aohua**	**0.39**	**239**	P	**Pn**	**12 17 15.2**	**-0.4**
	baz=239						
EAHA				S	**Sn**	**12 17 23.5**	**-0.2**
	baz=239						
ILA	**Ilan**	**0.40**	**305**	*e*S	**Sn**	**12 17 24.9**	**+1.1**
	baz=309						
TWE	**Neicheng**	**0.44**	**295**	P	**Pn**	**12 17 16.3**	**+0.3**
	baz=298						
TWE				*e*S	**Sn**	**12 17 24.9**	**+0.4**
	baz=298						
EOS4	**EOS4**	**0.45**	**155**	*e*S	**Sn**	**12 17 24.0**	**0.0**
	baz=151						
TWB1	**Santiao Chiao**	**0.48**	**347**	P	**Pn**	**12 17 16.1**	**-0.3**
	baz=351						
TWB1				*i* S	**Sn**	**12 17 24.4**	**-0.8**
	baz=351						
ENTT	**Nioudou**	**0.51**	**282**	P	**Pn**	**12 17 16.7**	**+0.1**
	baz=284						
ENTT				S	**Sn**	**12 17 25.8**	**+0.2**
	baz=284						
TIPB	**Shuangxi**	**0.51**	**329**	P	**Pn**	**12 17 16.6**	**-0.1**
	baz=332						
TIPB				S	**Sn**	**12 17 25.1**	**-0.6**
	baz=332						
FUSB	**Fushanzhiwuyua**	**0.53**	**295**	P	**Pn**	**12 17 17.2**	**+0.3**
	baz=298						
FUSB				S	**Sn**	**12 17 26.5**	**+0.4**
	baz=298						
LATG	**Datong**	**0.53**	**270**	P	**Pn**	**12 17 16.7**	**-0.3**
	baz=272						
LATG				S	**Sn**	**12 17 26.3**	**0.0**
	baz=272						
NDT	**Datong Townshi**	**0.55**	**277**	P	**Pn**	**12 17 17.1**	**+0.1**
	baz=279						
NDT				S	**Sn**	**12 17 26.1**	**-0.3**
	baz=279						
ETL	**Fush Village**	**0.58**	**230**	*e*P	**Pn**	**12 17 17.4**	**0.0**
	baz=229						
ETL				*e*S	**Sn**	**12 17 26.3**	**-0.7**
	baz=229						
NACB	**Ninganchiao**	**0.59**	**233**	P	**Pn**	**12 17 16.8**	**-0.7**
NACB	**Ninganchiao**	**0.59**	**233**	P	**Pn**	**12 17 16.9**	**-0.7**
	baz=232						
NACB				S	**Sn**	**12 17 26.4**	**-0.8**
	baz=232						
SXI1	**Grass Mountain**	**0.60**	**339**	P	**Pn**	**12 17 17.8**	**+0.1**
	baz=341						
SXI1				S	**Sn**	**12 17 26.9**	**-0.5**
	baz=341						
NWLT	**Wulai**	**0.60**	**294**	P	**Pn**	**12 17 18.0**	**+0.3**
	baz=296						
NWLT				S	**Sn**	**12 17 27.9**	**+0.4**
	baz=296						
NWF	**Wu-fen Shan**	**0.61**	**331**	P	**Pn**	**12 17 18.1**	**+0.3**
	baz=333						
NWF				S	**Sn**	**12 17 27.5**	**-0.3**
	baz=333						
WFSB	**Wu-fen Shan**	**0.61**	**331**	P	**Pn**	**12 17 18.1**	**+0.4**
	baz=333						
WFSB				S	**Sn**	**12 17 27.5**	**-0.1**
	baz=333						
TWD	**Chiawan**	**0.65**	**226**	P	**Pn**	**12 17 17.4**	**-0.8**
	baz=225						
TWD				S	**Sn**	**12 17 27.7**	**-0.7**
	baz=225						
ETLH	**Xiulin Townshi**	**0.66**	**240**	*e*P	**Pn**	**12 17 17.8**	**-0.6**
	baz=240						
ETLH				S	**Sn**	**12 17 27.4**	**-1.2**
	baz=240						
NNSB	**Datong**	**0.67**	**261**	P	**Pn**	**12 17 18.3**	**-0.3**
	baz=262						
NNSB				*e*S	**Sn**	**12 17 28.8**	**-0.2**
	baz=262						
NNSH	**Datong**	**0.67**	**261**	*e*P	**P

	baz=323							
YM01				*e*S		**Sn**	12 17 30.8	-0.4
	baz=323							
ETM	**Tongmen**	**0.80**	**225**	P		**Pn**	12 17 19.2	-0.8
	baz=224							
ETM				S		**Sn**	12 17 30.0	-1.5
	baz=224							
YM08	**YM08**	**0.80**	**324**	*e*P		**Pn**	12 17 20.1	0.0
	baz=326							
YM08				S		**Sn**	12 17 30.4	-1.2
	baz=326							
LXIB	**Xiulin Townshi**	**0.81**	**231**	*e*P		**Pn**	12 17 19.9	-0.4
	baz=231							
LXIB				*e*S		**Sn**	12 17 30.8	-1.3
	baz=231							
YOJ	**Yonaguni jima**	**0.82**	**95**	P		**Pn**	12 17 20.2	-0.1
YOJ				*e*S		**Sn**	12 17 32.2	+0.2
FUSS	**Fushou**	**0.84**	**250**	P		**Pn**	12 17 20.3	-0.4
	baz=250							
FUSS				S		**Sn**	12 17 32.7	-0.1
	baz=250							
ANP	**Anpu**	**0.84**	**321**	*e*P		**Pn**	12 17 20.9	+0.3
	baz=322							
TWS1	**Kuangyinshan**	**0.84**	**312**	*e*P		**Pn**	12 17 21.1	+0.5
	baz=314							
TWS1				*i* S		**Sn**	12 17 33.0	+0.6
	baz=314							
WHF	**Hehuan Shan**	**0.86**	**243**	P		**Pn**	12 17 20.9	-0.3
	baz=243							
WHF				S		**Sn**	12 17 32.6	-1.0
	baz=243							
NTST	**Danshui**	**0.87**	**316**	*e*P		**Pn**	12 17 21.4	+0.6
	baz=318							
NTST				*e*S		**Sn**	12 17 33.7	+0.7
	baz=318							
SHUL	**Shoufeng**	**0.90**	**214**	*e*P		**Pn**	12 17 20.8	-0.4
	baz=213							
SHUL				*e*S		**Sn**	12 17 33.3	-0.3
	baz=213							
TWT	**Tachien**	**0.90**	**252**	*e*P		**Pn**	12 17 22.1	+0.8
	baz=252							
TWT				*e*S		**Sn**	12 17 34.0	0.0
	baz=252							
NFF	**Wufeng Townshi**	**0.91**	**276**	*e*P		**Pn**	12 17 21.6	+0.2
	baz=277							
NFF				*e*S		**Sn**	12 17 34.1	+0.1
	baz=277							
TDCB	**Techi**	**0.91**	**252**	*e*P		**Pn**	12 17 21.5	0.0
	baz=252							
TDCB				S		**Sn**	12 17 33.5	-0.7
	baz=252							
NCUH	**Zhongli**	**0.94**	**297**	*e*P		**Pn**	12 17 22.2	+0.4
	baz=298							
NCUH				*e*S		**Sn**	12 17 35.9	+1.1
	baz=298							
ESL	**Shilin**	**0.95**	**221**	*e*S		**Sn**	12 17 33.4	-1.3
	baz=219							
CHGB	**Renai**	**0.97**	**241**	P		**Pn**	12 17 22.3	-0.1
	baz=241							
CHGB				*e*S		**Sn**	12 17 35.6	-0.2
	baz=241							
LIOB	**Emei**	**1.00**	**277**	*e*P		**Pn**	12 17 22.7	+0.2
	baz=277							
LIOB				S		**Sn**	12 17 37.2	+1.2
	baz=277							
NSTT	**Nanjuang**	**1.01**	**276**	*e*P		**Pn**	12 17 22.8	+0.2
	baz=276							
NSTT				S		**Sn**	12 17 36.7	+0.4
	baz=276							
OWD	**Renai**	**1.03**	**236**	*e*P		**Pn**	12 17 23.0	0.0
	baz=235							
OWD				*e*S		**Sn**	12 17 36.2	-0.6
	baz=235							
WARBT	**Fenglin Townsh**	**1.05**	**219**	*e*P		**Pn**	12 17 23.2	+0.1
	baz=218							
WARBT				*e*S		**Sn**	12 17 34.9	-2.2
	baz=218							
WUSB	**Renai**	**1.05**	**239**	*e*P		**Pn**	12 17 23.2	-0.1
	baz=239							
WUSB				*e*S		**Sn**	12 17 37.5	+0.1
	baz=239							
WHP	**Taichung City**	**1.09**	**257**	*e*P		**Pn**	12 17 25.1	+1.4
	baz=257							
WHP				S		**Sn**	12 17 38.7	+0.5
	baz=257							
WPL	**Puli Township**	**1.17**	**244**	*e*S		**Sn**	12 17 40.5	+0.5
	baz=244							
VWDT	**VWDT**	**1.18**	**229**	*e*P		**Pn**	12 17 25.1	+0.4
	baz=228							
VWDT				S		**Sn**	12 17 39.7	-0.4
	baz=228							
WCS	**Beigang Elemen**	**1.19**	**247**	*e*P		**Pn**	12 17 25.5	+0.6
	baz=246							
WCS				*e*S		**Sn**	12 17 41.9	+1.5
	baz=246							
HGSD	**Ruisui**	**1.21**	**211**	*e*P		**Pn**	12 17 24.6	-0.6
	baz=210							
HGSD				*e*S		**Sn**	12 17 40.2	-0.7
	baz=210							
TWQ1	**Liyutan**	**1.23**	**262**	S		**Sn**	12 17 41.7	+0.3
	baz=261							
EHY	**Hungye**	**1.25**	**215**	*e*P		**Pn**	12 17 25.5	-0.3
	baz=214							
SMLT	**Sun Moon Lake**	**1.28**	**240**	*e*P		**Pn**	12 17 26.8	+0.5
	baz=239							
SMLT				*e*S		**Sn**	12 17 44.7	+2.0
	baz=239							
SSLB	**Suanglung**	**1.29**	**235**	P		**Pn**	12 17 26.6	+0.3
SSLB	**Suanglung**	**1.29**	**235**	*e*P		**Pn**	12 17 27.6	+1.2
	baz=234							
SSLB				*e*S		**Sn**	12 17 44.4	+1.6
	baz=234							
TYC	**Yuchr**	**1.30**	**241**	P		**Pn**	12 17 27.6	+1.1
	baz=241							
TYC				S		**Sn**	12 17 44.5	+1.5
	baz=241							
ECBN	**Changbin**	**1.35**	**207**	*e*S		**Sn**	12 17 42.5	-1.7
	baz=205							
YULB	**Yu-li**	**1.36**	**213**	P		**Pn**	12 17 29.0	+1.8
YULB	**Yu-li**	**1.36**	**213**	*e*P		**Pn**	12 17 27.2	0.0
	baz=212							
WWF	**Wufeng**	**1.38**	**249**	*e*P		**Pn**	12 17 27.9	+0.5
	baz=249							
WWF				*e*S		**Sn**	12 17 46.0	+1.1
	baz=249							
TWF1	**Yuli**	**1.39**	**212**	*e*S		**Sn**	12 17 45.3	+0.1
	baz=211							
WHYT	**Xinyi Township**	**1.42**	**234**	*e*P		**Pn**	12 17 28.9	+0.8
	baz=233							
WHYT				*e*S		**Sn**	12 17 47.4	+1.5
	baz=233							
WJS	**Zhushan**	**1.45**	**241**	*e*P		**Pn**	12 17 29.4	+1.0
	baz=240							
WJS				*e*S		**Sn**	12 17 48.1	+1.6
	baz=240							
WNT	**Mingjian**	**1.46**	**244**	*e*S		**Sn**	12 17 48.5	+1.8
	baz=243							
CHKH	**Chenggong**	**1.49**	**206**	*e*S		**Sn**	12 17 45.7	-1.7
	baz=205							
IRIF	**Iriomote-Funau**	**1.49**	**97**	P		**Pn**	12 17 28.9	-0.1
IRIF				*e*S		**Sn**	12 17 47.2	-0.3
FULB	**Fuli**	**1.52**	**209**	*e*S		**Sn**	12 17 48.1	-0.3
	baz=208							
ALS	**Alishan**	**1.57**	**230**	*e*P		**Pn**	12 17 31.0	+0.7
	baz=229							
ALS				*e*S		**Sn**	12 17 50.2	+0.3
	baz=229							
CHKT	**Chengkung**	**1.58**	**206**	*e*S		**Sn**	12 17 46.7	-3.0
	baz=204							
EHD	**Haiduan**	**1.61**	**211**	*e*P		**Pn**	12 17 30.8	+0.2
	baz=210							
EHD				*e*S		**Sn**	12 17 49.8	-0.6
	baz=210							
HATJ	**Hateruma jima**	**1.62**	**107**	*e*S		**Sn**	12 17 51.4	+0.8
WDLH	**Douliu**	**1.66**	**240**	*e*S		**Sn**	12 17 53.1	+1.4
	baz=239							
WRL	**Guolierlin Hig**	**1.70**	**249**	*e*P		**Pn**	12 17 31.8	0.0
	baz=248							
WRL				*e*S		**Sn**	12 17 52.5	-0.1
	baz=248							
EDH	**Donghe**	**1.72**	**206**	*e*S		**Sn**	12 17 49.0	-4.0
	baz=204							
RLNB	**Erlin**	**1.72**	**249**	*e*S		**Sn**	12 17 53.5	+0.4
	baz=248							
WCKO	**Fanlu**	**1.76**	**232**	*e*P		**Pn**	12 17 33.6	+1.0
	baz=231							
WCKO				*e*S		**Sn**	12 17 56.4	+2.5
	baz=231							
JKRS	**Kuro-shima**	**1.76**	**99**	*e*P		**Pn**	12 17 33.1	+0.5
JKRS				S		**Sn**	12 17 54.6	+0.7
WTK	**Tuku**	**1.78**	**242**	*e*P		**Pn**	12 17 33.4	+0.5
	baz=241							
WTK				*e*S		**Sn**	12 17 55.0	+0.4
	baz=241							
CHN4	**Tsaushan**	**1.82**	**230**	*e*S		**Sn**	12 17 57.5	+2.0
	baz=229							
STYH	**Taoyuan**	**1.83**	**222**	*e*S		**Sn**	12 17 57.1	+1.5
	baz=221							
TPUB	**Ta-pu**	**1.83**	**228**	P		**Pn**	12 17 35.2	+1.7
TPUB	**Ta-pu**	**1.83**	**228**	*e*P		**Pn**	12 17 34.6	+1.1
	baz=227							
TPUB				*e*S		**Sn**	12 17 56.1	+0.4
	baz=227							
JIJ	**Ishigaki jima**	**1.86**	**95**	P		**Pn**	12 17 33.9	-0.1
JIJ				S		**Sn**	12 17 55.6	-0.8
WTP	**Ta-pu**	**1.88**	**227**	*e*S		**Sn**	12 17 58.6	+1.8
	baz=226							
WSF	**Szhu**	**1.94**	**243**	*e*S		**Sn**	12 17 58.9	+0.5
	baz=242							
LDUT	**Ludao**	**1.94**	**198**	*e*S		**Sn**	12 17 54.4	-4.0
	baz=197							
TWK	**Hsinying**	**1.95**	**230**	*e*S		**Sn**	12 18 01.1	+2.4
	baz=229							
TWGBT	**Beinan**	**1.95**	**209**	P		**Pn**	12 17 37.8	+2.6
JISG	**Ishigakijimahi**	**2.01**	**88**	*e*P		**Pn**	12 17 36.1	+0.2
JISG				*e*S		**Sn**	12 17 59.6	-0.3
SLGT	**Liugui**	**2.04**	**221**	*e*S		**Sn**	12 18 02.0	+1.2
	baz=220							
JTJ	**Tarama**	**2.36**	**87**	S		**Sn**	12 18 09.5	+0.8
PHUB	**P'eng-hu**	**2.53**	**247**	*e*S		**Sn**	12 18 10.5	-2.3
	baz=246							
PTMZ	**Houxiangcun**	**2.76**	**281**	*e*P		**Pn**	12 17 45.0	-1.2
	baz=280							
PTMZ				*e*S		**Sn**	12 18 15.6	-2.8
	baz=280							
VCHM	**Qimei**	**2.79**	**242**	*e*S		**Sn**	12 18 17.4	-1.6
	baz=241							
LYJJ	**Jianjiangzhen**	**2.92**	**314**	*e*P		**Pn**	12 17 48.4	+0.1
	baz=314							
LYJJ				*e*S		**Sn**	12 18 21.2	-1.0
	baz=314							
XPSS	**Dashiqiu**	**2.95**	**324**	*e*P		**Pn**	12 17 48.4	-0.3
	baz=324							
XPSS				*e*S		**Sn**	12 18 21.1	-1.8
	baz=324							

NEIC ***05*** *12:21:46.4±0.9, 34°.8S±0°.2×108°.87W±0°.09, h10km±2km, mb4.6/10, Error ellipse: s-maj=29.2km s-min=12.2km az=1.0*
IDC ***05*** *12:21:46.5±0.7, 34°.91S×108°.46W, h0km, mb4.1/9, mbtmp4.1/9, MS3.7/4, Error ellipse: s-maj=31.8km s-min=19.7km az=75.0*
ISC 05 12:21:47.4±0.6, 34°.9S±0°.1×108°.6W±0°.1, h10km, n39, σ0°93/29, mb4.5/14, MS3.6/4, 3C-4D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**7.81**	**355**	LR	LR	12 25 31.0	
	comp=Z,25nm,18.2s,baz=162,slow=29						
GO06	**Curarrehue**	**29.78**	**110**	P	**P**	**12 27 54.9**	**+0.5**
GO06				IAmb	IAmb	12 28 02.0	
	comp=Z,7.9nm,1.0s						
PLCA	**Paso Flores**	**30.44**	**112**	P	**P**	**12 28 00.3**	**+0.1**
PLCA				IAmb	IAmb	12 28 03.0	
	comp=Z,9.5nm,1.1s						
PLCA	**Paso Flores**	**30.44**	**112**	P	**P**	**12 27 60.0**	**-0.2**
	comp=Z,4.6nm,1.1s,baz=274,slow=12,SNR=6.2						
PLCA				LR	LR	12 36 44.8	
	comp=Z,135nm,19.2s,baz=346,slow=30						
	comp=Z,4.6nm,1.1s						
LVC	**Limon Verde**	**36.67**	**81**	LR	LR	12 40 03.5	
	comp=Z,104nm,18.3s,baz=310,slow=30						
PPT	**Papeete**	**40.29**	**285**	LR	LR	12 41 40.9	
	comp=Z,56nm,20.1s,baz=116,slow=30						
LPAZ	**La Paz**	**40.62**	**73**	P	**P**	**12 29 26.8**	**-1.6**
LPAZ	**La Paz**	**40.62**	**73**	P	**P**	**12 29 28.4**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=216,slow=8.0,SNR=4.2						
	comp=Z,1.7nm,0.8s						
CPUP	**Villa Florida**	**44.54**	**93**	LR	LR	12 46 07.0	
	comp=Z,97nm,18.2s,baz=322,slow=33						
PTLB	**Pontes e Lacer**	**48.26**	**79**	P	**P**	**12 30 28.6**	**-0.1**
AQDB	**Aquidauana**	**48.48**	**87**	P	**P**	**12 30 29.8**	**-0.8**
AQDB				IAmb	IAmb	12 30 31.0	
	comp=Z,5.2nm,0.6s						
QSPA	**South Pole Qui**	**55.27**	**180**	P	**P**	**12 31 22.6**	**+1.9**
QSPA				IAmb	IAmb	12 31 23.1	
	comp=Z,5.5nm,1.1s						
QSPA	**South Pole Qui**	**55.27**	**180**	P	**P**	**12 31 22.2**	**+1.5**
	comp=Z,3.3nm,1.0s,baz=130,slow=18,SNR=8.2						
	comp=Z,3.3nm,1.0s						
BDFB	**Brasilia**	**57.22**	**87**	P	**P**	**12 31 35.2**	**-0.1**
BDFB				IAmb	IAmb	12 31 36.2	
	comp=Z,13nm,1.5s						
BAUV	**El Baul**	**58.09**	**49**	P	**P**	**12 31 40.6**	**-0.6**
VNA3	**Neumayer Olymp**	**60.13**	**158**	⇓P	**P**	**12 31 54.8**	**+0.2**
	comp=Z,6.0nm,0.7s						
VNA3	**Neumayer Olymp**	**60.13**	**158**	⇑P	P	12 32 01.3	+6.7
	comp=Z,7.1nm,0.7s						
VNA2	**Neumayer--Watz**	**60.94**	**158**	⇓P	**P**	**12 32 00.6**	**+0.5**
	comp=Z,5.0nm,0.7s,baz=271,slow=6.8						
VNA2	**Neumayer--Watz**	**60.94**	**158**	⇑P	P	12 32 07.9	+7.8
	comp=Z,6.4nm,0.7s,baz=262,slow=4.9						
SNAA	**Sanae**	**61.96**	**160**	P	**P**	**12 32 07.2**	**+0.1**
SNAA				IAmb	IAmb	12 32 51.8	
	comp=Z,7.3nm,1.3s						
SNAA	**Sanae**	**61.96**	**160**	⇓P	**P**	**12 32 07.2**	**+0.1**
	comp=Z,58nm,0.8s						
SNAA	**Sanae**	**61.96**	**160**	P	**P**	**12 32 06.8**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=216,slow=5.8,SNR=4.1						
	comp=Z,2.3nm,0.8s						
DCZ	**Deep Cove**	**62.42**	**232**	P	**P**	**12 32 08.0**	**-2.5**
TROLL	**Troll, Antarti**	**63.27**	**161**	⇑P	**P**	**12 32 16.3**	**+0.4**
	comp=Z,135nm,0.7s						
TROLL	**Troll, Antarti**	**63.27**	**161**	⇓P	P	12 32 23.6	+7.7
	comp=Z,172nm,0.6s						
TXAR	**Lajitas Array**	**64.09**	**5**	P	**P**	**12 32 22.4**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=185,slow=9.1,SNR=3.9						
	comp=Z,0.3nm,0.8s						
NVAR	**Mina Array Bea**	**73.55**	**352**	P	**P**	**12 33 22.4**	**+1.9**
	comp=Z,1.6nm,0.9s,baz=182,slow=7.7,SNR=12						
	comp=Z,1.6nm,0.9s						
PDAR	**Pinedale Array**	**77.33**	**359**	P	**P**	**12 33 42.8**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=150,slow=7.2,SNR=7.6						
	comp=Z,0.8nm,0.8s						
ULM	**Lac du Bonnet**	**85.56**	**8**	P	**P**	**12 34 25.1**	**-0.3**
	comp=Z,3.0nm,0.8s,baz=177,slow=4.9,SNR=5.2						
	comp=Z,3.0nm,0.8s						
YKA	**Yellowknife Ar**	**97.21**	**357**	P	**P**	**12 35 19.2**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=172,slow=4.4,SNR=8.1						
	comp=Z,0.4nm,0.8s						
H01W1	**Cape Leeuwin H**	**99.86**	**215**	T	T	14 27 55.5	
	baz=145						
H01W2	**Cape Leeuwin H**	**99.86**	**214**	T	T	14 27 42.1	
	baz=145						
H01W3	**Cape Leeuwin H**	**99.88**	**214**	T	T	14 27 48.4	
	baz=145						
AKASG	**Malin Array Be**	**145.81**	**49**	PKPbc	**PKPdf**	**12 41 24.9**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=274,slow=3.7,SNR=4.3						
CMAR	**Chiang Mai Arr**	**150.55**	**243**	PKPbc	**PKiKP**	**12 41 41.1**	**+0.4**
	comp=Z,3.1nm,0.7s,baz=190,slow=1.5,SNR=24						
SONM	**Songino Array**	**151.01**	**307**	PKPbc	**PKPbc**	**12 41 40.2**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=134,slow=1.9,SNR=11						
ZALV	**Zalesovo Beam**	**158.78**	**338**	PKPab	**PKPab**	**12 42 21.4**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=29,slow=3.7,SNR=5.3						
BVAR	**Borovoye Array**	**161.90**	**2**	PKPab	**PKPab**	**12 42 34.6**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=345,slow=5.2,SNR=4.9						
KURBB	**Kurchatov Arra**	**163.48**	**344**	PKPab	**PKPab**	**12 42 40.8**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=18,slow=4.5,SNR=4.6						

SJA ***05*** *12:23:52.9±0.8, 31°.31S×68°.91W, h107km±2km, ML3.4, MW3.5*
GUC ***05*** *12:23:53.8±0.8, 31°.27S×69°.28W, h149km±7km, ML3.3*
ISC 05 12:23:54.2±1.3, 31°.29S±0°.03×68°.94W±0°.03, h106km±8km, n46, σ1°05/76, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DOCA	**Reserva Natura**	**0.36**	**340**	*e*P	**Pn**	**12 24 09.6**	**-0.8**
DOCA				*e*S	**Sn**	**12 24 22.8**	**+0.5**
DOCA				IAML		12 24 23.0	
	comp=Z,2μm,0.5s						
RTLL	**Cerro Villicun**	**0.40**	**95**	*e*P	**Pn**	**12 24 09.4**	**-0.7**
RTLL				IAML		12 24 23.7	
	comp=Z,1μm,0.4s						
SJA	**San Juan**	**0.40**	**126**	*e*P	**Pn**	**12 24 09.6**	**-0.5**
SJA				*e*S	**Sn**	**12 24 21.1**	**-0.8**
SJA				IAML		12 24 24.1	
	comp=Z,1μm,0.2s						
RTLS	**Leoncito**	**0.59**	**211**	*e*P	**Pn**	**12 24 11.4**	**-0.3**
RTLS				*e*S	**Sn**	**12 24 25.4**	**+0.6**
RTLS				IAML		12 24 25.5	
	comp=Z,2μm,0.2s						
ACCO	**Cerro Coronel**	**0.71**	**351**	*e*P	**Pn**	**12 24 12.8**	**0.0**
ACCO				IAML		12 24 28.0	
	comp=Z,644nm,0.4s						
ACDV	**Cuesta del Vie**	**1.13**	**352**	*e*P	**Pn**	**12 24 17.0**	**+0.2**
ACDV				*e*S	**Sn**	**12 24 34.7**	**+1.0**
ACDV				IAML		12 24 34.8	
	comp=Z,576nm,0.7s						
AROD	**Rodeo**	**1.21**	**337**	*e*P	**Pn**	**12 24 18.0**	**+0.2**
AROD				*e*S	**Sn**	**12 24 36.6**	**+1.0**
ASAL	**Salagasta**	**1.30**	**176**	*e*P	**Pn**	**12 24 18.5**	**0.0**
ASAL				IAML		12 24 38.6	
	comp=Z,319nm,0.6s						
AVFE	**Valle Fertil**	**1.42**	**64**	*e*P	**Pn**	**12 24 19.7**	**-0.3**
AVFE				*e*S	**Sn**	**12 24 39.6**	**+0.2**
AVFE				IAML		12 24 39.9	
	comp=Z,599nm,0.6s						
ARCO	**CERRO ARCO**	**1.54**	**180**	*e*P	**Pn**	**12 24 21.2**	**-0.3**
ARCO				*e*S	**Sn**	**12 24 42.0**	**-0.3**
ARCO				IAML		12 24 44.7	
	comp=Z,262nm,0.2s						
CO03	**El Pedregal**	**1.57**	**286**	*e*P	**Pn**	**12 24 21.9**	**+0.1**
CO03				*e*S	**Sn**	**12 24 44.1**	**+1.4**
CO03				IAML		12 24 44.8	
	comp=Z,862nm,0.6s						
CO03	**El Pedregal**	**1.57**	**286**	*e*P	**Pn**	**12 24 21.9**	**+0.1**
CO03				*i* S	**Sn**	**12 24 43.1**	**+0.4**
CO01	**Juntas del Tor**	**1.65**	**322**	*e*P	**Pn**	**12 24 23.9**	**+1.0**
CO01				*e*S	**Sn**	**12 24 47.0**	**+2.3**
CO01				IAML		12 24 49.7	
	comp=Z,95nm,0.6s						
CO01	**Juntas del Tor**	**1.65**	**322**	*e*P	**Pn**	**12 24 23.9**	**+1.0**
CO01				*i* S	**Sn**	**12 24 46.4**	**+1.8**
CO01				IAML		12 24 47.8	
	comp=N,306nm,0.5s						
CO02	**Combarbal**	**1.77**	**272**	*e*P	**Pn**	**12 24 24.1**	**-0.2**
CO02				*e*S	**Sn**	**12 24 47.8**	**+0.7**
CO02				IAML		12 24 49.1	
	comp=Z,670nm,0.4s						
CO02	**Combarbal**	**1.77**	**272**	*e*P	**Pn**	**12 24 23.8**	**-0.5**
CO02				*i* S	**Sn**	**12 24 46.9**	**-0.3**
AAGR	**Agrelo**	**1.79**	**177**	*e*P	**Pn**	**12 24 24.1**	**-0.4**
AAGR				*e*S	**Sn**	**12 24 47.5**	**0.0**
AAGR				IAML		12 24 48.2	
	comp=Z,206nm,0.2s						
AGUA	**GUANDACOL**	**1.84**	**12**	*e*P	**Pn**	**12 24 26.1**	**+0.9**
AGUA				IAML		12 24 52.1	
	comp=Z,287nm,0.4s						
ACHE	**Chepes**	**1.95**	**87**	*e*P	**Pn**	**12 24 26.2**	**-0.3**
ACHE				*e*S	**Sn**	**12 24 50.8**	**-0.4**
GO04	**Tololo Observa**	**1.96**	**304**	*e*P	**Pn**	**12 24 25.9**	**-0.9**
GO04	**Tololo Observa**	**1.96**	**304**	*e*P	**Pn**	**12 24 25.9**	**-0.9**
GO04				*i* S	**Sn**	**12 24 51.6**	**+0.2**
VA03	**San Esteban**	**2.01**	**223**	*e*P	**Pn**	**12 24 27.5**	**+0.3**
VA03				IAML		12 25 01.8	
	comp=Z,101nm,0.3s						
VA03	**San Esteban**	**2.01**	**223**	*e*P	**Pn**	**12 24 27.2**	**0.0**
VA03				*i* S	**Sn**	**12 24 53.4**	**+0.9**
VA03				IAML		12 24 54.0	
	comp=N,325nm,0.5s						
AVIZ	**Vizcacheras**	**2.20**	**171**	*e*P	**Pn**	**12 24 29.6**	**-0.2**
AVIZ				*e*S	**Sn**	**12 24 56.2**	**-0.8**
APLL	**PUNTA DE LOS L**	**2.26**	**67**	*e*P	**Pn**	**12 24 30.1**	**-0.4**
APLL				*e*S	**Sn**	**12 24 57.8**	**-0.3**
FCH	**Farellones**	**2.33**	**209**	*e*P	**Pn**	**12 24 32.9**	**+1.3**
FCH				*i* S	**Sn**	**12 25 02.4**	**+2.2**
FCH				IAML		12 25 07.7	
	comp=E,87nm,0.2s						
MT04	**Ro Olivares**	**2.34**	**205**	*e*P	**Pn**	**12 24 32.5**	**+0.9**
MT04				*i* S	**Sn**	**12 25 02.9**	**+2.6**
MT04				IAML		12 25 10.7	
	comp=N,93nm,0.9s						
PEL	**Peldehue**	**2.37**	**218**	*e*P	**Pn**	**12 24 32.3**	**+0.5**
VA06	**Catapilco**	**2.37**	**237**	*e*P	**Pn**	**12 24 30.6**	**-1.2**
VA06				*i* S	**Sn**	**12 24 58.4**	**-2.2**
VA06				IAML		12 25 02.9	
	comp=E,278nm,0.3s						
MT10	**Hacienda Santa**	**2.40**	**214**	*e*P	**Pn**	**12 24 33.1**	**+0.8**
MT10				*i* S	**Sn**	**12 25 02.5**	**+1.0**
MT10				IAML		12 25 08.5	
	comp=E,186nm,0.3s						
CO06	**Fray Jorge**	**2.40**	**284**	*e*P	**Pn**	**12 24 30.3**	**-1.9**
CO06				*i* S	**Sn**	**12 24 58.3**	**-3.0**
CO05	**La Serena**	**2.41**	**304**	*e*P	**Pn**	**12 24 31.1**	**-1.3**
CO05				*i* S	**Sn**	**12 24 59.6**	**-2.0**
CO05				IAML		12 25 00.8	
	comp=N,302nm,0.5s						
ROCH	**El Roble**	**2.43**	**226**	*e*P	**Pn**	**12 24 32.1**	**-0.7**
ROCH				*i* S	**Sn**	**12 25 00.9**	**-1.5**
ROCH				IAML		12 25 05.2	
	comp=N,164nm,0.2s						
ROC1	**El Roble**	**2.44**	**226**	*e*P	**Pn**	**12 24 32.0**	**-0.9**
ROC1				*e*S	**Sn**	**12 25 01.6**	**-1.0**
MT16	**CCHEN**	**2.52**	**212**	*i* S	**Sn**	**12 25 05.1**	**+0.9**
ACLC	**CERRO LA CRUZ**	**2.53**	**43**	*e*P	**Pn**	**12 24 33.6**	**-0.5**
ACLC				IAML		12 25 33.8	
	comp=Z,141nm,0.4s						
MT03	**Universidad Ad**	**2.57**	**211**	*e*P	**Pn**	**12 24 35.6**	**+1.1**
MT03				IAML		12 25 14.4	
	comp=Z,82nm,0.3s						
VCA	**Vinchina**	**2.62**	**14**	*e*P	**Pn**	**12 24 36.0**	**+0.7**
VCA				IAML		12 25 10.7	
	comp=Z,120nm,0.5s						
MT13	**San Alfonso**	**2.70**	**205**	*

PNCL					A		A	12 29 02.0	
	comp=E,5.9nm,0.4s								
PNCL	**Nicolau / Gran**	**4.32**	**74**		Pn		**Pn**	**12 28 13.0**	**+2.3**
PNCL					Sn		**Sn**	**12 28 58.0**	**-2.3**
MESJ	**Messejana**	**4.51**	**78**	*e*	Pn		**Pn**	**12 28 15.6**	**+2.3**
MESJ				*e*	Sn		**Sn**	**12 29 02.4**	**-2.6**
MESJ					A		A	12 29 18.4	
	comp=E,5.0nm,0.8s								
MESJ	**Messejana**	**4.51**	**78**	*e*	P		**Pn**	**12 28 15.6**	**+2.3**
MESJ				*e*	S		**Sn**	**12 29 02.4**	**-2.6**
MESJ					IAML			12 29 06.0	
	comp=N,3.9nm,0.1s								
PCVE	**Castro Verde**	**4.62**	**81**	*e*	Pn		**Pn**	**12 28 17.3**	**+2.4**
PCVE				*e*	Sn		**Sn**	**12 29 05.5**	**-2.4**
PCVE					A		A	12 29 10.2	
	comp=N,4.1nm,0.3s								
PCVE	**Castro Verde**	**4.62**	**81**		Pn		**Pn**	**12 28 17.0**	**+2.1**
PBDV	**Barranco-do-Ve**	**4.69**	**86**	*e*	Pn		**Pn**	**12 28 18.2**	**+2.5**
PBDV				*e*	Sn		**Sn**	**12 29 08.6**	**-0.9**
PBDV					A		A	12 29 17.7	
	comp=N,7.1nm,1.4s								
PBDV	**Barranco-do-Ve**	**4.69**	**86**		Pn		**Pn**	**12 28 18.0**	**+2.3**
PBDV					Sn		**Sn**	**12 29 07.4**	**-2.1**
PMTG	**Montargil**	**4.85**	**63**	*e*	Pn		**Pn**	**12 28 20.4**	**+2.5**
PMTG				*e*	Sn		**Sn**	**12 29 11.3**	**-2.0**
PMTG					A		A	12 29 19.8	
	comp=N,4.5nm,0.7s								
PVAQ	**Vaqueiros**	**4.86**	**84**	*e*	Pn		**Pn**	**12 28 20.6**	**+2.5**
PVAQ				*e*	Sn		**Sn**	**12 29 11.1**	**-2.6**
PVAQ					A		A	12 29 16.5	
	comp=N,4.7nm,0.1s								
PVAQ	**Vaqueiros**	**4.86**	**84**		Pn		**Pn**	**12 28 20.4**	**+2.2**
PVAQ					Sn		**Sn**	**12 29 10.7**	**-3.1**
EGRO	**El Granado**	**5.06**	**82**		Pn		**Pn**	**12 28 23.4**	**+2.6**
EGRO					Sn		**Sn**	**12 29 15.3**	**-3.2**
EGRO	**El Granado**	**5.06**	**82**		P		**Pn**	**12 28 23.6**	**+2.8**
EGRO				⇑	*i*Vmb_V			12 28 26.4	
	comp=N,292nm,SNR=0.8								
EGRO					S		**Sn**	**12 29 17.3**	**-1.2**
PCAS	**Casmilo, Conde**	**5.14**	**52**	*e*	Pn		**Pn**	**12 28 24.7**	**+2.8**
PCAS				*e*	Sn		**Sn**	**12 29 20.8**	**+0.3**
PCAS					A		A	12 29 23.5	
	comp=N,3.9nm,0.5s								
PESTR	**Estremoz**	**5.24**	**67**	*e*	Pn		**Pn**	**12 28 26.6**	**+3.3**
PESTR				*e*	Sn		**Sn**	**12 29 21.2**	**-1.8**
PESTR					A		A	12 29 32.6	
	comp=N,4.6nm,0.5s								
PESTR	**Estremoz**	**5.24**	**67**		Pn		**Pn**	**12 28 26.3**	**+3.0**
PESTR					Sn		**Sn**	**12 29 21.0**	**-2.0**
PBAR	**Barrancos**	**5.48**	**76**	*e*	Pn		**Pn**	**12 28 29.2**	**+2.5**
PBAR				*e*	Sn		**Sn**	**12 29 26.6**	**-2.5**
PBAR					A		A	12 29 36.5	
	comp=N,3.1nm,0.5s								
PBAR	**Barrancos**	**5.48**	**76**		Pn		**Pn**	**12 28 28.8**	**+2.2**
PBAR					Sn		**Sn**	**12 29 26.5**	**-2.5**
PMRV	**Marv??o**	**5.58**	**63**	*e*	Pn		**Pn**	**12 28 30.9**	**+2.9**
PMRV				*e*	Sn		**Sn**	**12 29 30.2**	**-1.3**
PMRV					A		A	12 29 32.3	
	comp=N,3.0nm,0.8s								
EBAD	**Badajoz**	**5.63**	**70**		Sn		**Sn**	**12 29 29.2**	**-3.5**
PCBR	**Castelo Branco**	**5.70**	**58**	*e*	Pn		**Pn**	**12 28 32.0**	**+2.4**
PCBR				*e*	Sn		**Sn**	**12 29 35.7**	**+1.3**
EMIN	**Mina Concepcio**	**5.72**	**80**		Pn		**Pn**	**12 28 31.6**	**+1.7**
EMIN					Sn		**Sn**	**12 29 31.7**	**-3.1**
EMIN	**Mina Concepcio**	**5.72**	**80**		P		**Pn**	**12 28 33.0**	**+3.1**
EMIN				⇑	*i*Vmb_V			12 28 37.7	
	comp=N,242nm,SNR=1.0								
EMIN					S		**Sn**	**12 29 33.4**	**-1.4**
PVIS	**Viseu**	**5.90**	**49**	*e*	Sn		**Sn**	**12 29 40.7**	**+1.4**
MTE	**Manteigas**	**5.94**	**53**	*e*	Sn		**Sn**	**12 29 39.9**	**-0.4**
ESPR	**Espera**	**6.36**	**89**		Sn		**Sn**	**12 29 46.6**	**-3.9**
ESPR	**Espera**	**6.36**	**89**		P		**Pn**	**12 28 41.9**	**+3.2**
ESPR				⇑	*i*Vmb_V			12 28 46.2	
	comp=N,729nm,SNR=2.3								
ESPR					S		**Sn**	**12 29 49.3**	**-1.2**
EZAM	**Zamans**	**6.46**	**36**	⇑	*i*Vmb_V			12 28 46.2	
	comp=N,362nm,SNR=0.8								
EZAM					S		**Sn**	**12 29 49.7**	**-3.4**
PCAB	**Cabril**	**6.47**	**42**	*e*	Pn		**Pn**	**12 28 43.4**	**+3.2**
PCAB				*e*	Sn		**Sn**	**12 29 51.4**	**-2.0**
PCAB					A		A	12 29 59.1	
	comp=N,6.6nm,0.4s								
ELOB	**Lobios**	**6.56**	**41**		P		**Pn**	**12 28 45.1**	**+3.5**
ELOB				⇑	*i*Vmb_V			12 28 46.5	
	comp=N,145nm,SNR=0.5								
ELOB					S		**Sn**	**12 29 53.1**	**-2.7**
MVO	**Moncorvo**	**6.69**	**50**	*e*	Pn		**Pn**	**12 28 46.2**	**+2.9**
MVO				*e*	Sn		**Sn**	**12 29 58.2**	**-0.7**
MVO					A		A	12 30 05.0	
	comp=N,3.2nm,0.2s								
ECAB	**El Cabril**	**6.74**	**78**		Pn		**Pn**	**12 28 46.4**	**+2.5**
ECAB	**El Cabril**	**6.74**	**78**		P		**Pn**	**12 28 46.6**	**+2.7**
ECAB				⇑	*i*Vmb_V			12 28 50.9	
	comp=N,163nm,SNR=1.0								
ECAB					S		**Sn**	**12 29 58.7**	**-1.2**
EPLA	**Plasencia**	**6.76**	**61**		P		**Pn**	**12 28 48.0**	**+3.7**
EPLA				⇑	*i*Vmb_V			12 28 50.0	
	comp=N,232nm,SNR=1.2								
EPLA					S		**Sn**	**12 29 58.5**	**-2.1**
EMAZ	**Mazaricos**	**6.98**	**30**		P		**Pn**	**12 28 49.3**	**+2.1**
EMAZ				⇑	*i*Vmb_V			12 28 50.0	
	comp=N,366nm,SNR=0.9								
EMAZ					S		**Sn**	**12 30 00.2**	**-5.6**
EAGO	**Agolada(Pontev**	**7.25**	**35**		P		**Pn**	**12 28 52.7**	**+1.8**
EAGO				⇑	*i*Vmb_V			12 28 56.2	
	comp=N,291nm,SNR=1.0								
EAGO					S		**Sn**	**12 30 07.1**	**-5.4**
PBRG	**Braganca**	**7.25**	**47**	*e*	Pn		**Pn**	**12 28 54.0**	**+3.0**
PBRG				*e*	Sn		**Sn**	**12 30 10.7**	**-1.9**
ECAL	**Calabor**	**7.34**	**46**		Pn		**Pn**	**12 28 55.5**	**+3.2**
ECAL					Sn		**Sn**	**12 30 11.7**	**-3.2**
ECAL	**Calabor**	**7.34**	**46**		P		**Pn**	**12 28 55.4**	**+3.2**
ECAL				⇑	*i*Vmb_V			12 28 57.3	
	comp=N,236nm,SNR=1.1								
EADA	**Adamuz**	**7.40**	**78**		Pn		**Pn**	**12 28 54.7**	**+1.6**
EADA	**Adamuz**	**7.40**	**78**		P		**Pn**	**12 28 55.1**	**+2.0**
EADA				⇑	*i*Vmb_V			12 28 55.7	
	comp=N,170nm,SNR=1.4								
EADA					S		**Sn**	**12 30 14.0**	**-2.4**
PAB	**San Pablo**	**7.84**	**68**		P		**Pn**	**12 29 02.0**	**+2.8**
PAB				⇑	*i*Vmb_V			12 29 07.2	
	comp=N,139nm,SNR=1.1								
EPON	**Pontenova**	**8.09**	**37**		P		**Pn**	**12 29 04.9**	**+2.4**
EPON				⇑	*i*Vmb_V			12 29 12.2	
	comp=N,322nm,SNR=1.0								
EPON					S		**Sn**	**12 30 28.2**	**-5.1**
PSIM	**Granatula de C**	**8.13**	**74**		P		**Pn**	**12 29 05.8**	**+2.7**
PSIM					S		**Sn**	**12 30 30.9**	**-3.4**
CFTV	**Fuerteventura**	**8.59**	**182**		S		**Sn**	**12 30 44.1**	**-1.4**

*SOME **05** 12:33:12.9,41.°12N×72.°40E,h5km*
*KRNET **05** 12:33:12.6±0.1,41.°12N×72.°35E,h13km,mb2.0*
*NNC **05** 12:33:13.4±2.1,41.°14N×72.°34E,h0km,mb2.9,mpv2.5,*
Error ellipse: s-maj=18.2km s-min=6.7km az=176.0
*ISU **05** 12:33:19.9,40.°79N×72.°31E,h5km*

ISC 05 12:33:12.5±1.2,41.°13N±0.°02×72.°34E±0.°02,h4km±12km, n25,σ1°00/43,18C-8D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**0.52**	**68**	⇑*i*P	**Pg**	**12 33 22.5**	**0.0**
	baz=67						
ARSB				⇑*i*S	**Sg**	**12 33 30.3**	**+1.0**
	baz=67						
TSTA	**Tashata**	**0.56**	**169**	P	**Pb**	**12 33 25.2**	**+0.3**
TSTA				S	**Sg**	**12 33 29.2**	**-1.4**
ARK	**Arkit**	**0.72**	**337**	⇑*e*P	**Pb**	**12 33 27.2**	**-0.6**
	baz=37						
ARK				⇑*e*S	**Sb**	**12 33 37.0**	**-1.1**
	baz=37						
TRKS	**Terek-Say**	**0.99**	**294**	⇑*i*P	**Pb**	**12 33 30.7**	**-1.6**
	baz=91						
TRKS				⇑*i*S	**Sg**	**12 33 44.0**	**-0.2**
	baz=91						
CHMI	**Chimion**	**1.06**	**216**	P	**Pn**	**12 33 35.9**	**+1.7**
CHMI				S	**Sn**	**12 33 47.8**	**-1.6**
MNAS	**Manas**	**1.36**	**5**	⇑*e*P	**Pg**	**12 33 38.9**	**+0.3**
	baz=5.0						
MNAS				⇑*i*S	**Sg**	**12 33 57.8**	**+1.5**
	baz=5.0						
SFK	**Sufi-Kurgan**	**1.43**	**141**	⇓*e*P	**Pg**	**12 33 39.7**	**-0.1**
	baz=41						
SFK				⇓*e*S	**Sg**	**12 33 59.0**	**+0.7**
	baz=41						
BTK	**Batken**	**1.58**	**228**	⇑*e*P	**Pb**	**12 33 42.3**	**0.0**
	baz=28						
BTK				⇑*e*S	**Sg**	**12 34 03.9**	**+0.7**
	baz=28						
ARLS	**Aral**	**1.66**	**63**	⇑*i*P	**Pb**	**12 33 43.5**	**-0.2**
	baz=63						
ARLS				⇑*i*S	**Sg**	**12 34 06.2**	**+0.4**
	baz=63						
MRKS	**Merke**	**1.74**	**22**	*e*P	**Pg**	**12 33 46.3**	**+0.4**
	3.6nm,0.4s						
MRKS				*e*S	**Sg**	**12 34 09.4**	**+0.8**
	13nm,0.5s						
MRKS	**Merke**	**1.74**	**22**	P	**Pg**	**12 33 46.3**	**+0.4**
	3.6nm,0.4s						
MRKS				S	**Sg**	**12 34 09.4**	**+0.8**
	13nm,0.5s						
EKS2	**Erkin-Say**	**1.87**	**35**	⇓*e*P	**Pb**	**12 33 47.6**	**+0.3**
	baz=34						
EKS2				⇓*i*S	**Sg**	**12 34 13.5**	**+0.9**
	baz=34						
UCH	**Uchtor**	**1.96**	**55**	⇑*i*P	**Pb**	**12 33 48.9**	**-0.2**
	baz=55						
UCH				⇑*i*S	**Sg**	**12 34 15.7**	**+0.1**
	baz=55						
IUG	**luzhnay**	**2.01**	**301**	*e*P	**Pg**	**12 33 50.7**	**-0.3**
	10nm,0.3s						
IUG				*e*S	**Sg**	**12 34 17.2**	**+0.3**
	34nm,0.3s						
IUG	**luzhnay**	**2.01**	**301**	Pg	**Pg**	**12 33 50.7**	**-0.3**
	10nm,0.3s						
IUG				Lg	Lg	12 34 17.2	
	34nm,0.3s						
AAK	**Ala-Archa**	**2.20**	**46**	⇑*i*P	**Pb**	**12 33 52.2**	**-0.8**
	baz=46						
AAK				⇑*i*S	**Sb**	**12 34 21.4**	**+0.6**
	baz=46						
KK31	**Karatay Array**	**2.40**	**326**	⇓Pg	**Pb**	**12 33 54.8**	**-1.4**
	0.4nm,0.3s,baz=134,slow=14,SNR=12						
KK31				⇓Lg	Lg	12 34 28.5	
	4.1nm,0.7s,baz=143,slow=29,SNR=9.2						
CHMS	**Chumysh**	**2.59**	**43**	⇑Pg	**Pb**	**12 33 59.6**	**+0.1**
	0.4nm,0.3s						
CHMS				⇓Lg	Lg	12 34 33.4	
	7.2nm,0.9s						
BRLS	**Borolday**	**2.66**	**316**	*e*P	**Pb**	**12 34 01.0**	**+0.3**
	0.6nm,0.2s						
BRLS				*e*S	**Sb**	**12 34 34.8**	**+1.1**
	4.4nm,0.5s						
BRLS	**Borolday**	**2.66**	**316**	Pg	**Pb**	**12 34 01.0**	**+0.3**
	0.6nm,0.2s						
BRLS				Lg	Lg	12 34 34.8	
	4.4nm,0.5s						
TKM2	**Tokmak 2**	**3.02**	**53**	⇑Pg	**Pb**	**12 34 07.5**	**+0.6**
	0.3nm,0.4s						
TKM2				⇓Lg	Lg	12 34 47.9	
	2.2nm,0.8s						
KST	**Kastek**	**3.31**	**53**	*e*P	**Pg**	**12 34 14.4**	**-1.4**
	0.7nm,0.4s						
KST				*e*S	**Sg**	**12 34 57.8**	**-0.9**
	3.6nm,0.4s						
KST	**Kastek**	**3.31**	**53**	Pg	**Pg**	**12 34 14.4**	**-1.4**
	0.7nm,0.4s						
KST				Lg	Lg	12 34 57.8	
	3.6nm,0.4s						
DGS	**Degeres**	**3.31**	**49**	*e*P	**Pg**	**12 34 14.1**	**-1.9**
	0.9nm,0.3s						
DGS				*e*S	**Sg**	**12 34 56.9**	**-1.9**
	2.9nm,0.3s						
DGS	**Degeres**	**3.31**	**49**	Pg	**Pg**	**12 34 14.1**	**-1.9**
	0.9nm,0.3s						
DGS				Lg	Lg	12 34 56.9	
	2.9nm,0.3s						

*IDC **05** 12:35:05.5±0.7,5.°65S×142.°59E,h0km,mb4.2/13,*
mbtmp4.2/15,ML2.0/1,MS3.3/3,Error ellipse:
s-maj=30.2km s-min=15.0km az=77.0
*NEIC **05** 12:35:07.6±1.6,5.°8S±0.°1×142.°28E±0.°07,h10km±1km,*
mb4.3/16,Error ellipse: s-maj=21.3km s-min=8.8km
az=21.0

ISC 05 12:35:10.4±0.5,5.°87S±0.°06×142.°34E±0.°08,h35km,n51,σ1°55/50,mb4.3/18,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.26**	**298**	P	**Pn**	**12 35 31.7**	**0.0**
GENI	**Genyem**	**3.91**	**326**	P	**Pn**	**12 36 09.7**	**+1.6**
PMG	**Port Moresby**	**5.93**	**127**	Pn	**Pn**	**12 36 35.6**	**-0.1**
PMG	**Port Moresby**	**5.93**	**127**	Pn	**Pn**	**12 36 35.8**	**+0.1**
	2.3nm,0.3s,baz=4.6,slow=5.0,SNR=8.4						
PMG				Sn	**Sn**	**12 37 42.0**	**-0.5**
	1.8nm,0.3s,baz=332,slow=11,SNR=1.9						
	9.6nm,0.3s						
COEN	**Coen**	**8.07**	**174**	Pn	**Pn**	**12 37 07.2**	**+1.9**
FAKI	**Fak Fak**	**10.48**	**286**	Pn	**Pn**	**12 37 36.3**	**-2.0**
KDU	**Kakadu**	**11.86**	**234**	P	**Pn**	**12 37 57.9**	**+0.8**
MTN	**Manton Dam**	**13.04**	**237**	Pn	**Pn**	**12 38 11.8**	**-1.5**
CTA	**Charters Tower**	**14.63**	**165**	Lg	Lg	12 42 55.0	
	0.1nm,0.3s,baz=63,slow=20,SNR=2.8						
CTA				LR	LR	12 44 25.8	
	comp=Z,85nm,20.6s,baz=50,slow=38						
WB0	**Warramunga Arr**	**15.83**	**209**		**Pn**	**12 38 49.9**	**-0.9**
WB0				IAmb	IAmb	12 39 14.5	
	comp=Z,12nm,0.8s						
WR0	**Warramunga Arr**	**15.92**	**208**		**Pn**	**12 38 50.8**	**-1.2**
WR0				IAmb	IAmb	12 39 04.4	
	comp=Z,17nm,0.8s						
WB2	**Warramunga Arr**	**16.00**	**208**		**Pn**	**12 38 53.5**	**+0.6**
WB2				IAmb	IAmb	12 39 12.5	
	comp=Z,14nm,0.6s						
WRA	**Warramunga Arr**	**16.00**	**208**		**Pn**	**12 38 51.8**	**-1.2**
WRA	**Warramunga Arr**	**16.00**	**208**	Pn	**Pn**	**12 38 51.4**	**-1.7**
	comp=Z,1.9nm,0.3s,baz=27,slow=13,SNR=36						
WRA				Sn	Sn	12 41 40.0	-9.5
	comp=Z,0.3nm,0.3s,baz=25,slow=23,SNR=5.7						
WRA				Lg	Lg	12 43 45.6	
	comp=Z,0.6nm,0.3s,baz=26,slow=27,SNR=5.3						
KNRA	**Kununurra**	**16.50**	**233**		**Pn**	**12 38 57.7**	**-1.6**
KNRA	**Kununurra**	**16.50**	**233**	P	**Pn**	**12 38 58.1**	**-1.3**
SOEI	**Soe**	**18.31**	**257**		**P**	**12 39 21.3**	**-0.6**
SOEI				IAmb	IAmb	12 39 39.3	
	comp=Z,33nm,0.8s						
AS01	**Alice Springs**	**19.45**	**204**	P	**Pn**	**12 39 36.7**	**+1.2**
AS31	**Alice Springs**	**19.46**	**204**	P	**Pn**	**12 39 36.5**	**+0.7**
ASAR	**Alice Springs**	**19.47**	**204**	P	**Pn**	**12 39 36.9**	**+1.1**
ASAR	**Alice Springs**	**19.47**	**204**	P	**Pn**	**12 39 36.6**	**+0.9**
	comp=Z,8.0nm,0.5s,baz=31,slow=12,SNR=101						
ASAR				S	**S**	**12 43 05.9**	**-6.7**
	comp=Z,2.6nm,0.7s,baz=17,slow=27,SNR=4.9						
ASAR				Lg	Lg	12 45 35.5	
	comp=Z,0.1nm,0.3s,baz=17,slow=30,SNR=4.5						
ASAR				LR	LR	12 48 01.4	
	comp=Z,176nm,20.4s,baz=30,slow=39						
FITZ	**Fitzroy Crossi**	**20.33**	**232**		**P**	**12 39 44.5**	**+0.7**
QLP	**Quilpie**	**20.67**	**175**	P	Pn	12 39 51.8	+1.9
EIDS	**Eidsvold**	**21.12**	**158**	P	**P**	**12 39 53.3**	**+1.1**
EIDS				IAmb	IAmb	12 40 09.6	
	comp=Z,11nm,1.2s						
OOD	**Oodnadatta**	**22.70**	**195**	P	**P**	**12 40 11.2**	**+2.1**
WRKA	**Warakurna**	**23.33**	**214**	P	**P**	**12 40 16.8**	**+1.1**
STKA	**Stephens Creek**	**25.88**	**181**	P	**P**	**12 40 39.4**	**+0.3**
STKA	**Stephens Creek**	**25.88**	**181**	P	**P**	**12 40 42.8**	**+3.7**
	comp=Z,2.3nm,0.8s,baz=6.5,slow=14,SNR=3.5						
	comp=Z,2.3nm,0.8s						
BBOO	**Buckleboo**	**27.43**	**192**	P	**P**	**12 40 53.8**	**+0.8**
FORT	**Forrest**	**28.18**	**207**	P	**P**	**12 41 00.4**	**+0.7**
RAO	**Raoul Island**	**44.12**	**127**	LR	LR	12 58 18.0	
	comp=Z,32nm,21.3s,baz=108,slow=32						
KSRS	**Korea Array**	**45.15**	**344**	P	**P**	**12 43 23.4**	**-0.3**
	comp=Z,4.3nm,0.9s,baz=161,slow=8.0,SNR=6.0						
	comp=Z,4.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**49.15**	**300**	P	**P**	**12 43 56.2**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=124,slow=6.1,SNR=2.2						
	comp=Z,0.3nm,0.3s						
USRK	**Ussuriysk Ar.**	**50.71**	**350**	P	**P**	**12 44 06.2**	**-0.4**
	comp=Z,6.0nm,0.9s,baz=176,slow=8.2,SNR=6.0						
	comp=Z,6.0nm,0.9s						
PZH	**PanZhiHua**	**50.82**	**311**	P	**P**	**12 44 09.7**	**+1.8**
PZH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
HHC	**Hu-ho-hao-te**	**54.40**	**331**	*e*P	**P**	**12 44 33.6**	**-0.6**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,43nm,4.1s						
PETK	**Petropavlovsk-**	**60.18**	**11**	P	**P**	**12 45 13.3**	**-1.3**
	comp=Z,6.1nm,0.8s,baz=188,slow=8.7,SNR=3.4						
	comp=Z,6.1nm,0.8s						
SONM	**Songino Array**	**62.13**	**333**	P	**P**	**12 45 28.3**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=140,slow=5.7,SNR=2.4						
	comp=Z,0.4nm,0.5s						
VNDA	**Vanda**	**72.35**	**176**	P	**P**	**12 46 33.3**	**+1.1**
VNDA				IAmb	IAmb	12 46 58.4	
	comp=Z,2.5nm,1.1s						
VNDA	**Vanda**	**72.35**	**176**	P	**P**	**12 46 33.4**	**+1.1**
	comp=Z,2.8nm,1.1s,baz=2.9,slow=6.3,SNR=2.5						
	comp=Z,2.8nm,1.1s						
MK31	**Makanchi Array**	**74.49**	**322**		**P**	**12 46 45.4**	**0.0**
MK31				IAmb	IAmb	12 46 47.5	
	comp=Z,2.9nm,1.1s						
MKAR	**Makanchi Array**	**74.49**	**322**	P	**P**	**12 46 45.6**	**+0.2**
MKAR	**Makanchi Array**	**74.49**	**322**	P	**P**	**12 46 46.0**	**+0.6**
	comp=Z,2.9nm,0.8s,baz=103,slow=8.0,SNR=19						
	comp=Z,2.9nm,0.8s						
MAKZ	**Makanchi**	**74.69**	**322**	P	**P**	**12 46 46.3**	**-0.2**
MAKZ				IAmb	IAmb	12 46 48.0	
	comp=Z,4.4nm,1.1s						
ZALV	**Zalesovo Beam**	**76.48**	**329**	P	**P**	**12 46 56.2**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=113,slow=4.6,SNR=5.5						
	comp=Z,0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**78.39**	**324**	P	**P**	**12 47 07.8**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=110,slow=4.7,SNR=5.9						
	comp=Z,1.1nm,0.7s						
BVAR	**Borovoye Array**	**83.96**	**325**	P	**P**	**12 47 37.5**	**+0.5**
	comp=Z,4.6nm,0.8s,baz=114,slow=6.6,SNR=19						
	comp=Z,4.6nm,0.8s						
QSPA	**South Pole Qui**	**84.09**	**180**	P	**P**	**12 47 38.6**	**+1.1**
QSPA	**South Pole Qui**	**84.09**	**180**	P	**P**	**12 47 38.8**	**+1.2**
	comp=Z,2.3nm,1.0s,baz=314,slow=1.9,SNR=8.3						
	comp=Z,2.3nm,1.0s						
ILAR	**Eielson Array**	**87.22**	**24**	P	**P**	**12 47 51.0**	**-1.9**
	comp=Z,1.8nm,0.8s,baz=259,slow=4.3,SNR=33						
	comp=Z,1.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**140.56**	**283**	PKP	**PKiKP**	**12 54 38.8**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=64,slow=3.4,SNR=2.2						

*IDC **05** 13:08:04.5±0.9,40.°89S×91.°53W,h0km,mb4.1/6,*
mbtmp4.1/7,ML3.9/1,MS3.8/17,Error ellipse:
s-maj=32.8km s-min=22.8km az=86.0
*NEIC **05** 13:08:06.6±1.5,41.°1S±0.°1×92.°1W±0.°2,h10km±2km,*
mb4.5/30,Error ellipse: s-maj=25.7km s-min=23.0km
az=253.0

ISC 05 13:08:06.4±0.8,40.°9S±0.°1×91.°9W±0.°1,h10km,n68,σ1°25/47,mb4.5/20,MS3.8/15,4C,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H03S2	**Juan Fernandez**	**12.52**	**60**	T	T	13 23 53.0	
	baz=231,slow=73,SNR=193						
H03S1	**Juan Fernandez**	**12.53**	**60**	T	T	13 23 54.4	
	baz=231,slow=73,SNR=180						
H03S3	**Juan Fernandez**	**12.54**	**60**	T	T	13 23 52.1	
	baz=231,slow=73,SNR=137						
H03N3	**Juan Fernandez**	**12.76**	**58**	T	T	13 24 07.6	
	baz=232,slow=71,SNR=462						
H03N2	**Juan Fernandez**	**12.77**	**58**	T	T	13 24 06.4	
	baz=232,slow=71,SNR=534						
H03N1	**Juan Fernandez**	**12.78**	**58**	T	T	13 24 06.5	
	baz=232,slow=71,SNR=506						
AY01	**Puyuhuapi**	**14.60**	**110**	Pn	**Pn**	**13 11 33.6**	**+0.7**
LL01	**San Ignacio de**	**14.66**	**102**	P	**P**	**13 11 41.3**	**+1.3**
LL02	**Futaleuf**	**15.08**	**105**	Pn	**Pn**	**13 11 41.1**	**+1.7**
COYC	**Coyhaique**	**15.18**	**114**	Pn	**Pn**	**13 11 42.1**	**+1.4**
COYC				IAmb	IAmb	13 12 09.0	
	comp=Z,26nm,1.3s						
GO06	**Curarrehue**	**15.67**	**92**		**P**	**13 11 51.8**	**+0.4**
PLCA	**Paso Flores**	**16.18**	**96**	Pn	**Pn**	**13 11 55.4**	**+1.6**
PLCA	**Paso Flores**	**16.18**	**96**	Pn	**Pn**	**13 11 50.9**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=296,slow=10,SNR=1.6						
PLCA				LR	LR	13 16 36.8	
	comp=Z,428nm,20.6s,baz=260,slow=32						
	comp=Z,0.8nm,0.7s						
RPN	**Rapa Nui**	**19.89**	**308**	LR	LR	13 18 10.4	
	comp=Z,255nm,18.9s,baz=138,slow=30						
AC05	**El Transito**	**21.41**	**62**	P	**P**	**13 12 56.8**	**+2.3**
AC05				IAmb	IAmb	13 13 01.3	
	comp=Z,21nm,0.8s						
AC02	**Maricunga**	**23.48**	**60**	P	**P**	**13 13 17.2**	**+0.4**
AC02				IAmb	IAmb	13 13 25.0	
	comp=Z,26nm,1.5s						
LVC	**Limon Verde**	**26.63**	**54**	P	**P**	**

MPU				IAmb	IAmb	13 20 32.0		
	comp=Z,5.0nm,1.1s							
NLU	**North Lily Min**	**82.57**	**345**	P	**P**	**13 20 30.4**	**+0.9**	
NLU				IAmb	IAmb	13 20 32.0		
	comp=Z,5.6nm,1.2s							
BSUT	**Blindstream Ca**	**82.88**	**346**	P	**P**	**13 20 32.1**	**+0.9**	
BSUT				IAmb	IAmb	13 20 33.2		
	comp=Z,6.6nm,1.1s							
DUG	**Dugway, Tooele**	**82.95**	**344**	P	**P**	**13 20 32.1**	**+0.7**	
DUG				IAmb	IAmb	13 20 33.5		
	comp=Z,5.8nm,1.1s							
KVN	**Kaiserville**	**83.11**	**340**	P	**P**	**13 20 32.4**	**+0.2**	
KVN				IAmb	IAmb	13 20 40.6		
	comp=Z,2.7nm,1.0s							
YERR	**Yerington**	**83.35**	**339**	P	**P**	**13 20 34.8**	**+1.3**	
DZM	**Mont Dzumac**	**84.14**	**246**	LR	LR	13 48 51.5		
	comp=Z,43nm,21.5s,baz=84,slow=29							
PD31	**Pinedale Array**	**84.83**	**347**	P	**P**	**13 20 41.1**	**+0.1**	
PD31				IAmb	IAmb	13 20 42.4		
	comp=Z,4.2nm,0.9s							
PDAR	**Pinedale Array**	**84.83**	**347**	P	**P**	**13 20 40.8**	**-0.2**	
PDAR	**Pinedale Array**	**84.83**	**347**	P	**P**	**13 20 41.0**	**0.0**	
	comp=Z,2.8nm,0.9s,baz=156,slow=4.6,SNR=22							
	comp=Z,2.8nm,0.9s							
REDW	**Red Top Meadow**	**85.63**	**346**	P	**P**	**13 20 45.5**	**+0.6**	
TPAW	**Teton Pass**	**85.77**	**346**	P	**P**	**13 20 45.2**	**-0.5**	
FLWY	**Flagg Ranch**	**86.30**	**347**	P	**P**	**13 20 48.8**	**+0.6**	
YHH	**Holmes Hill**	**87.01**	**347**	P	**P**	**13 20 53.2**	**+1.4**	
HNR	**Honiara**	**97.26**	**251**	LR	LR	13 56 49.5		
	comp=Z,400nm,19.8s,baz=196,slow=30							
USRK	**Ussuriysk Ar.**	**147.78**	**291**	PKPbc	**PKPbc**	**13 27 49.9**	**-1.1**	
	comp=Z,3.1nm,0.8s,baz=115,slow=3.6,SNR=4.8							
CMAR	**Chiang Mai Arr**	**155.74**	**206**	PKP	**PKPdf**	**13 28 00.3**	**-0.5**	
	comp=Z,0.5nm,0.4s,baz=211,slow=3.0,SNR=6.2							

*NEIC **05** 13:20:30.0±2.3, 17°.98N±0°.04×68°.33W±0°.04, h35km±2km, ML2.4/8, Md2.6/6(RSPR), Error ellipse: s-maj=7.7km s-min=5.2km az=324.0*
*SDD **05** 13:20:29.9±1.3, 18°.05N×68°.26W, h31km±15km, MD3.1, ML2.4, MW3.7*
*RSPR **05** 13:20:31.1, 17°.94N×68°.31W, h39km±9km, MD2.6/6*

ISC 05 13:20:26.7±1.5, **17°.99N**±0°.09×**68°.28W**±0°.04, **h12**km±10km, **n23**, σ0**47**/27, **8C, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SADR	**Isla Saona**	**0.51**	**293**	⇑*e*P		**Pn**	**13 20 40.2**	**+0.3**
SADR				⇑*e*Sg		**Sn**	**13 20 48.2**	**-0.4**
SADR				IAML			13 20 48.7	
	comp=N,162nm,0.7s							
SADR				IAML			13 20 50.5	
	comp=E,97nm,1.2s							
PCDR	**Punta Cana, DR**	**0.53**	**350**	⇑*e*P		**Pn**	**13 20 40.8**	**+0.7**
PCDR	**Punta Cana, DR**	**0.53**	**350**	*e*S		**Sn**	**13 20 49.3**	**+0.3**
PCDR	**Punta Cana, DR**	**0.53**	**350**			**Pn**	**13 20 40.6**	**+0.5**
PCDR	**Punta Cana, DR**	**0.53**	**350**			**Sn**	**13 20 49.3**	**+0.3**
PCDR	**Punta Cana, DR**	**0.53**	**350**	IAML			13 21 00.8	
	comp=N,241nm,2.6s							
PCDR	**Punta Cana, DR**	**0.53**	**350**	*e*Pg		**Pn**	**13 20 40.0**	**-0.1**
PCDR				IAML			13 21 32.7	
	comp=N,703nm,1.9s							
MLPR	**Magueyes Islan**	**1.18**	**91**	⇑*e*P		**Pg**	**13 20 50.0**	**+0.6**
MLPR	**Magueyes Islan**	**1.18**	**91**	*e*S		**Sb**	**13 21 03.9**	**-0.3**
MLPR	**Magueyes Islan**	**1.18**	**91**			**Pg**	**13 20 50.0**	**+0.6**
MLPR	**Magueyes Islan**	**1.18**	**91**			**Sb**	**13 21 03.9**	**-0.3**
MLPR	**Magueyes Islan**	**1.18**	**91**	IAML			13 21 02.7	
	comp=N,43nm,4.6s							
MIDR	**Miches**	**1.23**	**324**	*e*Pg		**Pg**	**13 20 50.2**	**0.0**
MIDR				*e*Sg		**Sg**	**13 21 05.4**	**-0.9**
MIDR				IAML			13 21 27.6	
	comp=N,62nm,2.9s							
HATOM	**Hato Mayor del**	**1.31**	**307**	*e*Pg		**Pg**	**13 20 51.9**	**0.0**
HATOM				⇑*e*Sg		**Sg**	**13 21 08.9**	**-0.1**
HATOM				IAML			13 21 09.5	
	comp=N,22nm,0.3s							
AOPR	**Arecibo Observ**	**1.50**	**76**	⇑*e*P		**Pg**	**13 20 55.7**	**+0.3**
AOPR	**Arecibo Observ**	**1.50**	**76**	*e*S		**Sg**	**13 21 14.4**	**-0.5**
AOPR	**Arecibo Observ**	**1.50**	**76**			**Pg**	**13 20 55.7**	**+0.3**
AOPR						**Sg**	**13 21 14.4**	**-0.5**
AOPR	**Arecibo Observ**	**1.50**	**76**	*e*Pg		**Pg**	**13 20 56.0**	**+0.5**
AOPR				⇑*e*Sg		**Sb**	**13 21 13.0**	**-0.5**
AOPR				IAML			13 21 15.3	
	comp=E,83nm,0.7s							
AOPR				IAML			13 21 57.6	
	comp=N,94nm,3.5s							
CELP	**Cerrillos**	**1.62**	**87**	⇑*e*P		**Pg**	**13 20 57.7**	**-0.1**
CELP	**Cerrillos**	**1.62**	**87**	*e*S		**Sn**	**13 21 15.4**	**-0.6**
CELP	**Cerrillos**	**1.62**	**87**			**Pg**	**13 20 57.7**	**-0.1**
CELP						**Sn**	**13 21 15.4**	**-0.6**
CELP	**Cerrillos**	**1.62**	**87**	IAML			13 21 37.2	
	comp=N,51nm,4.9s							
CELP				IAML			13 21 49.2	
	comp=E,36nm,4.6s							
CELP	**Cerrillos**	**1.62**	**87**	*e*Pg		**Pb**	**13 20 57.0**	**+0.3**
CELP				*e*Sg		**Sn**	**13 21 16.0**	**-0.1**
CELP				IAML			13 21 35.5	
	comp=N,48nm,4.9s							

*SOME **05** 13:23:47.7, 42°.58N×79°.52E, h5km*
*NNC **05** 13:23:48.6±0.8, 42°.59N×79°.59E, h0km, mb3.6, mpv3.5, Error ellipse: s-maj=5.5km s-min=2.8km az=155.0*
*KRNET **05** 13:23:48.2±0.1, 42°.55N×79°.60E, h20km, mb3.2*

ISC 05 13:23:48.8±1.0, **42°.58N**±0°.04×**79°.58E**±0°.03, **h10**km, **n77**, σ1**9**/150, **21C-24D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.58**	**351**	*e*P		**Pb**	**13 24 00.8**	**-0.4**
	182nm,0.1s							
SHLS				*e*S		**Sb**	**13 24 10.1**	**+0.6**
	159nm,0.2s							
SHLS	**Shalkode**	**0.58**	**351**	P		**Pb**	**13 24 00.8**	**-0.4**
	181nm,0.1s							
SHLS				P		**Pb**	**13 24 00.8**	**-0.4**
	182nm,0.1s							
SHLS				S		**Sb**	**13 24 09.8**	**+0.3**
	188nm,0.2s							
SHLS				S		**Sb**	**13 24 10.1**	**+0.6**
	159nm,0.2s							
SHLS	**Shalkode**	**0.58**	**351**	*e*P		**Pb**	**13 24 00.8**	**-0.4**
	baz=19							
SHLS				*e*S		**Sb**	**13 24 10.1**	**+0.6**
	baz=19							
UZB	**Uzynbulak**	**0.70**	**324**	*e*P		**Pg**	**13 24 02.0**	**-0.3**
	90nm,0.1s							
UZB				*e*S		**Sb**	**13 24 12.4**	**-0.5**
	215nm,0.2s							
UZB	**Uzynbulak**	**0.70**	**324**	P		**Pg**	**13 24 02.0**	**-0.3**
	88nm,0.2s							
UZB				P		**Pg**	**13 24 02.0**	**-0.3**
	90nm,0.1s							
UZB				S		**Sb**	**13 24 12.4**	**-0.5**
	215nm,0.2s							
UZB				S		**Sb**	**13 24 12.4**	**-0.5**
	139nm,0.1s							
UZB	**Uzynbulak**	**0.70**	**324**	*e*P		**Pg**	**13 24 02.0**	**-0.3**
	baz=25							
UZB				*e*S		**Sb**	**13 24 12.3**	**-0.5**
	baz=25							
PDGK	**Podgornoye**	**0.75**	**355**	P		**Pg**	**13 24 02.8**	**-0.5**
	43nm,0.1s							
PDGK				S		**Sb**	**13 24 13.6**	**-0.8**
	30nm,0.2s							
PDGK	**Podgornoye**	**0.75**	**355**	⇑P		**Pg**	**13 24 02.5**	**-0.8**
	15nm,0.2s							
PDGK				⇑S		**Sb**	**13 24 13.4**	**-1.0**
	27nm,0.3s							
PRZ	**Przheval'sk**	**0.88**	**264**	⇑*i*P		**Pg**	**13 24 04.6**	**-1.1**
	baz=67							
PRZ				⇑*i*S		**Sg**	**13 24 16.9**	**-0.3**
	baz=67							
SATY	**Saty**	**0.99**	**299**	*e*P		**Pg**	**13 24 07.1**	**-0.7**
	5.2nm,0.3s							
SATY				*e*S		**Sb**	**13 24 21.1**	**-0.1**
	143nm,0.1s							
SATY	**Saty**	**0.99**	**299**	P		**Pg**	**13 24 07.1**	**-0.7**
	5.2nm,0.3s							
SATY				S		**Sb**	**13 24 21.1**	**-0.1**
	143nm,0.1s							
SATY	**Saty**	**0.99**	**299**	*e*P		**Pg**	**13 24 07.1**	**-0.7**
	baz=0.0							
SATY				*e*S		**Sb**	**13 24 21.1**	**-0.1**
	baz=0.0							
ZHN	**Zhinishke**	**1.02**	**305**	*e*P		**Pg**	**13 24 07.3**	**-1.2**
	8.9nm,0.1s							
ZHN				*e*S		**Sb**	**13 24 21.7**	**-0.6**
	291nm,0.2s							
ZHN	**Zhinishke**	**1.02**	**305**	P		**Pg**	**13 24 07.3**	**-1.2**
	8.9nm,0.1s							
ZHN				P		**Pg**	**13 24 07.4**	**-1.2**
	11nm,0.1s							
ZHN				S		**Sg**	**13 24 21.5**	**-0.4**
	290nm,0.3s							
ZHN				S		**Sb**	**13 24 21.7**	**-0.6**
	291nm,0.2s							
ZHN	**Zhinishke**	**1.02**	**305**	*e*P		**Pg**	**13 24 07.3**	**-1.2**
	baz=6.0							
ZHN				*e*S		**Sb**	**13 24 21.7**	**-0.6**
	baz=6.0							
KTMS	**Ketmen**	**1.03**	**33**	*e*P		**Pg**	**13 24 07.2**	**-1.5**
	23nm,0.1s							
KTMS				*e*S		**Sg**	**13 24 21.3**	**-0.8**
	16nm,0.2s							
KTMS	**Ketmen**	**1.03**	**33**	P		**Pg**	**13 24 07.2**	**-1.5**
	23nm,0.1s							
KTMS				P		**Pb**	**13 24 07.5**	**-1.4**
KTMS				S		**Sg**	**13 24 21.3**	**-0.8**
	16nm,0.2s							
KTMS				S		**Sb**	**13 24 21.5**	**-1.0**
KTMS	**Ketmen**	**1.03**	**33**	*e*P		**Pg**	**13 24 07.2**	**-1.5**
	baz=31							
KTMS				*e*S		**Sg**	**13 24 21.3**	**-0.8**
	baz=31							
KPKS	**Kokpek**	**1.10**	**324**	*e*P		**Pg**	**13 24 09.1**	**-0.9**
	22nm,0.2s							
KPKS				*e*S		**Sn**	**13 24 24.6**	**-1.1**
	142nm,0.3s							
KPKS	**Kokpek**	**1.10**	**324**	P		**Pg**	**13 24 09.1**	**-0.9**
	17nm,0.3s							
KPKS				P		**Pb**	**13 24 09.3**	**-0.7**
KPKS				S		**Sn**	**13 24 24.5**	**-1.1**
KPKS				S		**Sn**	**13 24 24.5**	**-1.1**
	40nm,0.2s							
KPKS	**Kokpek**	**1.10**	**324**	*e*P		**Pg**	**13 24 09.1**	**-0.9**
	baz=24							
KPKS				*e*S		**Sn**	**13 24 24.6**	**-1.1**
	baz=24							
KURS	**Kuram**	**1.37**	**312**	*e*P		**Pg**	**13 24 14.3**	**-0.9**
	3.1nm,0.2s							
KURS				*e*S		**Sg**	**13 24 33.2**	**+0.2**
	17nm,0.3s							
KURS	**Kuram**	**1.37**	**312**	P		**Pg**	**13 24 14.3**	**-0.9**
	3.1nm,0.2s							
KURS				S		**Sg**	**13 24 33.2**	**+0.2**
	17nm,0.3s							
KURS	**Kuram**	**1.37**	**312**	*e*P		**Pg**	**13 24 14.3**	**-0.9**
	baz=12							
KURS				*e*S		**Sg**	**13 24 33.2**	**+0.2**
	baz=12							
ANVS	**Anan'yevo**	**1.43**	**279**	⇑*e*P		**Pn**	**13 24 14.7**	**-0.2**
	baz=80							
ANVS				⇑*i*S		**Sg**	**13 24 34.0**	**-0.7**
	baz=80							
BLB	**Baldybastay**	**1.71**	**332**	P		**Pb**	**13 24 20.1**	**-0.4**
	61nm,0.3s							
BLB				S		**Sg**	**13 24 43.5**	**-0.4**
	31nm,0.2s							
DJR	**Jarkent**	**1.75**	**5**	*e*P		**Pb**	**13 24 20.5**	**-0.6**
	11nm,0.2s							
DJR				*e*S		**Sg**	**13 24 44.6**	**-0.7**
	36nm,0.3s							
DJR	**Jarkent**	**1.75**	**5**	P		**Pb**	**13 24 20.5**	**-0.6**
	11nm,0.2s							
DJR				S		**Sg**	**13 24 44.6**	**-0.7**
	36nm,0.3s							
KNOS	**Konyrlen**	**1.80**	**351**	P		**Pb**	**13 24 21.5**	**-0.5**
	20nm,0.3s							
KNOS				P		**Pb**	**13 24 21.5**	**-0.5**
	21nm,0.2s							
KNOS				S		**Sg**	**13 24 46.0**	**-0.6**
	19nm,0.2s							
KNOS				S		**Sb**	**13 24 46.4**	**+1.8**
	33nm,0.2s							
KDJ	**Kajisay**	**1.84**	**257**	⇑*i*P		**Pb**	**13 24 21.5**	**-1.1**
	baz=57							
KDJ				⇑*i*S		**Sb**	**13 24 45.8**	**+0.1**
	baz=57							
KOTS	**Kotyrbulak**	**1.93**	**291**	*e*P		**Pb**	**13 24 23.8**	**-0.3**
	17nm,0.2s							
KOTS				*e*S		**Sg**	**13 24 49.6**	**-1.1**
	94nm,0.4s							
KOTS	**Kotyrbulak**	**1.93**	**291**	Pg		**Pb**	**13 24 23.8**	**-0.3**
	17nm,0.2s							
KOTS				Lg		Lg	13 24 49.7	
	94nm,0.4s							
MDOK	**Medeo**	**1.95**	**288**	*e*P		**Pb**	**13 24 23.7**	**-0.8**
	13nm,0.2s							
MDOK				*e*S		**Sb**	**13 24 49.6**	**+0.6**
	22nm,0.5s							
MDOK	**Medeo**	**1.95**	**288**	⇓Pn		**Pb**	**13 24 23.7**	**-0.8**
	3.0nm,0.2s							
MDOK				Pg		**Pb**	**13 24 23.7**	**-0.8**
	13nm,0.2s							
MDOK				Lg		Lg	13 24 49.6	
	22nm,0.5s							
MDOK				⇓Sn		**Sg**	**13 24 50.2**	**-1.3**
	58nm,0.6s							
MDOK	**Medeo**	**1.95**	**288**	*e*P		**Pb**	**13 24 23.7**	**-0.8**
	baz=89							
MDOK				*e*S		**Sb**	**13 24 49.5**	**+0.6**
	baz=89							
TNSS	**Tian-Shan**	**1.99**	**284**	*e*P		**Pb**	**13 24 24.4**	**-0.9**
	14nm,0.3s							
TNSS				*e*S		**Sb**	**13 24 50.7**	**+0.4**
	15nm,0.3s							
TNSS	**Tian-Shan**	**1.99**	**284**	Pg		**Pb**	**13 24 24.4**	**-0.9**
	14nm,0.3s							
TNSS				Lg		Lg	13 24 50.7	
	15nm,0.3s							
TNSS	**Tian-Shan**	**1.99**	**284**	*e*P		**Pb**	**13 24 24.4**	**-0.9**
	baz=85							
TNSS				*e*S		**Sb**	**13 24 50.7**	**+0.4**
	baz=85							
KNDC	**Almaty**	**2.02**	**289**	⇑Pn		**Pg**	**13 24 26.7**	**-0.9**
	11nm,0.2s							
KNDC				⇑Sn		**Sg**	**13 24 55.4**	**+1.6**
	48nm,0.7s							
ARXS	**Arharly**	**2.07**	**322**	*e*P		**Pb**	**13 24 25.8**	**-0.7**
	9.4nm,0.4s							
ARXS				*e*S		**Sg**	**13 24 53.9**	**-1.5**
	71nm,0.6s							
ARXS	**Arharly**	**2.07**	**322**	Pg		**Pb**	**13 24 25.8**	**-0.7**
	9.4nm,0.4s							
ARXS				Lg		Lg	13 24 53.9	
	71nm,0.6s							
IZV	**Izvestkoviy**	**2.23**	**283**	*e*P		**Pb**	**13 24 28.6**	**-0.7**
	11nm,0.1s							
IZV				*e*S		**Sg**	**13 24 58.5**	**-2.0**
	59nm,0.2s							
IZV	**Izvestkoviy**	**2.23**	**283**	Pg		**Pb**	**13 24 28.6**	**-0.7**
	11nm,0.1s							
IZV				Lg		Lg	13 24 58.5	
	59nm,0.2s							
CHKK	**Chushkaly**	**2.28**	**305**	*e*P		**Pb**	**13 24 29.8**	**-0.3**
	1.5nm,0.1s							
CHKK				*e*S		**Sg**	**13 25 00.3**	**-1.8**
	42nm,0.4s							
CHKK	**Chushkaly**	**2.28**	**305**	Pg		**Pb**	**13 24 29.8**	**-0.3**
	1.5nm,0.1s							
CHKK				Lg		Lg	13 25 00.3	
	42nm,0.4s							
MTBS	**Maitube**	**2.38**	**284**	*e*P		**Pb**	**13 24 30.9**	**-0.9**
	7.4nm,0.4s							
MTBS				*e*S		**Sb**	**13 25 02.3**	**+1.1**
	32nm,0.4s							
MTBS	**Maitube**	**2.38**	**284**	Pg		**Pb**	**13 24 30.9**	**-0.9**
	7.4nm,0.4s							
MTBS				Lg		Lg	13 25 02.3	
	32nm,0.4s							
KTBS	**Karatobe**	**2.40**	**299**	*e*P		**Pb**	**13 24 31.9**	**-0.2**
	9.9nm,0.3s							
KTBS				*e*S		**Sg**	**13 25 03.4**	**-2.6**
	58nm,0.2s							
KTBS	**Karatobe**	**2.40**	**299**	Pg		**Pb**	**13 24 31.9**	**-0.2**
	9.9nm,0.3s							
KTBS				Lg		Lg	13 25 03.4	
	58nm,0.2s							
ULHL	**Ulahol**	**2.50**	**263**	⇓*i*P		**Pn**	**13 24 31.0**	**+1.3**
	baz=64							
ULHL				⇓*i*S		**Sn**	**13 25 01.8**	**+1.5**
	baz=64							
BOOM	**Boomskoye usch**	**2.69**	**269**	⇓*i*P		**Pn**	**13 24 33.7**	**+1.4**
	baz=70							
BOOM				⇓*i*S		**Sn**	**13 25 06.5**	**+1.4**
	baz=70							
KST	**Kastek**	**2.70**	**281**	*e*P		**Pb**	**13 24 36.2**	**-1.1**
	9.6nm,0.2s							
KST				*e*S		**Sb**	**13 25 11.3**	**+0.8**
	26nm,0.4s							
KST	**Kastek**	**2.70**	**281**	Pg		**Pb**	**13 24 36.2**	**-1.1**
	9.6nm,0.2s							
KST				Lg		Lg	13 25 11.3	
	26nm,0.4s							
KAPS	**Kapalarasan**	**2.71**	**357**	*e*P		**Pb**	**13 24 37.0**	**-0.3**
	4.5nm,0.2s							
KAPS				*e*S		**Sb**	**13 25 12.2**	**+1.6**
	19nm,0.2s							
KAPS	**Kapalarasan**	**2.71**	**357**	Pg		**Pb**	**13 24 36.0**	**-1.3**
	4.3nm,0.4s							
KAPS				Lg		Lg	13 25 11.0	
	19nm,0.3s							
KUU	**Kurty**	**2.71**	**300**	*e*P		**Pb**	**13 24 36.9**	**-0.5**
	2.6nm,0.3s							
KUU				*e*S		**Sb**	**13 25 12.3**	**+1.7**
	28nm,0.4s							
KUU	**Kurty**	**2.71**	**300**	Pg		**Pb**	**13 24 36.9**	**-0.5**
	2.6nm,0.3s							
KUU				Lg		Lg	13 25 12.3	
	28nm,0.4s							
DGS	**Degeres**	**2.87**	**285**	*e*P		**Pb**	**13 24 39.4**	**-0.9**
	12nm,0.3s							
DGS				*e*S		**Sb**	**13 25 16.9**	**+1.4**
	99nm,0.9s							
DGS	**Degeres**	**2.87**	**285**	Pg		**Pb**	**13 24 39.4**	**-0.9**
	12nm,0.3s							
DGS				Lg		Lg	13 25 16.9	
	99nm,0.9s							
NRN	**Naryn**	**2.91**	**248**	⇑*i*P		**Pn**	**13 24 36.8**	**+1.4**
	baz=49							
NRN				⇑*i*S		**Sn**	**13 25 12.1**	**+1.6**
	baz=49							
TKM2	**Tokmak 2**	**2.95**	**278**	⇓Pn		**Pb**	**13 24 38.7**	**-2.9**
	3.6nm,0.4s							
TKM2				⇓Lg		Lg	13 25 23.6	
	13nm,0.6s							
TKM2	**Tokmak 2**	**2.95**	**278**	⇓*i*P		**Pn**	**13 24 37.4**	**+1.4**
	baz=78							
TKM2				⇓*i*S		**Sn**	**13 25 13.2**	**+1.6**
	baz=78							
KRBS	**Karabastau**	**3.07**	**293**	*e*P		**Pb**	**13 24 43.1**	**-0.4**
	2.6nm,0.2s							
KRBS				*e*S		**Sb**	**13 25 23.1**	**+2.1**
	27nm,0.4s							
KRBS	**Karabastau**	**3.07**	**293**	Pg		**Pb**	**13 24 43.1**	**-0.4**
	2.6nm,0.2s							
KRBS				Lg		Lg	13 25 23.1	
	27nm,0.4s							
KBK	**Karagaybulak**	**3.42**	**273**	⇓*i*P		**Pn**	**13 24 44.0**	**+1.7**
	baz=73							
KBK				⇓*i*S		**Sn**	**13 25 24.2**	**+1.2**
	baz=73							
CHMS	**Chumysh**	**3.58**	**278**	⇓Pn		**Pb**	**13 24 50.3**	**-1.8**
	1.3nm,0.3s							
CHMS				⇓Lg		Lg	13 25 41.7	
	6.6nm,0.6s							
CHMS	**Chumysh**	**3.58**	**278**	⇓*i*P		**Pn**	**13 24 46.0**	**+1.6**
	baz=79							
CHMS				⇓*i*S		**Sn**	**13 25 27.8**	**+1.1**
	baz=79							
AAK	**Ala-Archa**	**3.75**	**273**	⇑*i*P		**Pn**	**13 24 48.4**	**+1.5**
	baz=73							
AAK				⇑*i*S		**Sn**	**13 25 32.1**	**+0.8**
	baz=73							
UCH	**Uchtor**	**3.77**	**266**	⇑*i*P		**Pn**	**13 24 48.6**	**+1.2**
	baz=67							
UCH				⇑*i*S		**Sn**	**13 25 32.4**	**+0.4**
	baz=67							
USP	**Ospenovka**	**3.79**	**282**	⇑*i*P		**Pn**	**13 24 49.2**	**+1.9**
	baz=83							
USP				⇑*i*S		**Sn**	**13 25 33.0**	**+1.0**
	baz=83							
ARLS	**Aral**	**3.97**	**261**	⇓*i*P		**Pn**	**13 24 51.7**	**+1.8**
	baz=62							
ARLS				⇓*i*S		**Sn**	**13 25 37.0**	**+0.4**
	baz=62							
EKS2	**Erkin-Say**	**4.28**	**273**	⇑*i*P		**Pn**	**13 24 55.8**	**+1.6**
	baz=73							
EKS2				⇑*i*S		**Sn**	**13 25 44.9**	**+0.7**
	baz=73							
MAKZ	**Makanchi**	**4.56**	**21**	⇓Pn		**Pn**	**13 24 59.7**	**+1.9**
	0.4nm,0.3s							
MAKZ				⇓Sn		**Sn**	**13 25 53.6**	**+2.8**
	0.6nm,0.5s							
MAKZ				⇓Lg		Lg	13 26 13.3	
	2.0nm,0.7s							
MK31	**Makanchi Array**	**4.63**	**24**	⇑Pn		**Pn**	**13 24 59.9**	**+1.1**
	0.3nm,0.3s,baz=208,slow=14,SNR=22							
MK31				⇓Sn		**Sn**	**13 25 54.6**	**+1.9**
	0.6nm,0.5s,baz=200,slow=14,SNR=5.4							
MK31				⇓Lg		Lg	13 26 11.9	
	2.6nm,0.8s,baz=195,slow=27,SNR=5.1							
MRKS	**Merke**	**4.69**	**274**	*e*P		**Pb**	**13 25 12.7**	**+1.6**
	1.0nm,0.3s							
MRKS				*e*S		**Sg**	**13 26 13.3**	**-6.0**
	10nm,0.3s							
MRKS	**Merke**	**4.69**	**274**	Pg		**Pb**	**13 25 12.7**	**+1.6**
	1.0nm,0.3s							
MRKS				Lg		Lg	13 26 13.3	
	10nm,0.3s							
KK31	**Karatay Array**	**6.69**	**278**	⇓Lg		Lg	13 27 26.2	
	0.9nm,0.5s,baz=95,slow=27,SNR=6.2							

*SOF **05** 13:25:44.1, 43°.18N±0°.01×25°.89E±0°.01, h9km±2km, MD2.7/11*

ISC 05 13:25:44.5±0.9, **43°.18N**±0°.02×**25°.91E**±0°.02, **h9**km±7km, **n33**, σ0**77**/58, **19C-17D, Bulgaria**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SZH	**Strazhitsa**	**0.10**	**29**	⇑*i*Pg		**Pg**	**13 25 46.9**	**-0.1**
SZH				⇑*i*Sg		**Sg**	**13 25 48.8**	**0.0**
LOZB	**Loznitsa**	**0.53**	**69**	⇑P		**Pg**	**13 25 54.9**	**0.0**
LOZB				⇑S		**Sb**	**13 26 02.9**	**-0.9**
PVL	**Pavlikeni**	**0.54**	**264**	⇑*i*Pg		**Pb**	**13 25 55.3**	**-0.8**
PVL				Sg		**Sb**	**13 26 03.0**	**-1.0**
ZIMR		**0.62**	**320**	⇓S		**Sb**	**13 26 06.1**	**-0.2**
JMB	**Yambol**	**0.82**	**146**	*e*Pg		**Pb**	**13 26 01.1**	**+0.2**
JMB				Sg		**Sb**	**13 26 12.3**	**+0.2**
PLVB	**Pleven**	**0.96**	**283**	⇓P		**Pb

TIRR				⇑S		**Sb**	**13 26 52.4**	**+0.2**
MLR	**Muntele Rosu**	**2.31**	**1**	⇓P		**Pb**	**13 26 25.3**	**-1.1**
MLR				⇑S		**Sb**	**13 26 54.8**	**-0.2**
VOIR		**2.34**	**345**	⇑P		**Pb**	**13 26 26.4**	**-0.5**
VOIR				⇑S		**Sb**	**13 26 55.7**	**-0.2**
BLKB	**Belogradchik**	**2.40**	**282**	⇓P		**Pb**	**13 26 27.5**	**-0.3**
BLKB				⇓S		**Sb**	**13 26 56.9**	**-0.6**
PUNG	**Punghina**	**2.42**	**298**	⇑S		**Sb**	**13 26 58.7**	**+0.6**
TPGR	**Topolog**	**2.47**	**46**	⇓P		**Pb**	**13 26 28.1**	**-0.9**
TPGR				⇓S		**Sb**	**13 26 59.6**	**+0.2**
CFR	**Carcaliu**	**2.56**	**38**	⇑P		**Pb**	**13 26 29.6**	**-0.9**

*IDC **05** 13:33:34.5±6.1, 6°.92S×105°.86E, h74km±49km, mb3.3/6, mbtmp3.6/6, Error ellipse: s-maj=63.8km s-min=18.8km az=52.0*

*DJA **05** 13:33:36.3±0.2, 7°.5±2°×10°.6E±°, h44km±8km, M4.3/16, mb4.7/2, MLv4.2/16*

ISC 05 13:33:36.5±1.0, 7°.01S±0°.09×106°.16E±0°.06, h80km±8km, n31, σ1§70/33, mb3.6/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKJI	**Sukabumi**	**0.39**	**90**	P	**Pn**	**13 33 48.8**	**-0.5**
SKJI				S	**Sn**	**13 33 58.3**	**-0.5**
DBJI	**Dramaga**	**0.73**	**52**	P	**Pn**	**13 33 52.6**	**+0.1**
DBJI				S	**Sn**	**13 34 05.2**	**+0.8**
SBJI	**Serang**	**0.88**	**358**	P	**Pn**	**13 33 54.0**	**-0.1**
SBJI				S	**Sn**	**13 34 07.5**	**+0.3**
CBJI	**Citeko**	**0.90**	**50**	P	**Pn**	**13 33 54.1**	**-0.2**
TNG	**Tangerang**	**0.96**	**30**	P	**Pn**	**13 33 56.8**	**+1.8**
TNG				P	**Pn**	**13 33 55.0**	**0.0**
TNG				S	**Sn**	**13 34 09.4**	**+0.6**
TNG				S	**Sn**	**13 34 10.0**	**+1.2**
LEM	**Lembang**	**1.45**	**83**	P	**Pn**	**13 34 03.2**	**+1.9**
	174nm,0.4s,baz=303,slow=13,SNR=30						
LEM				S	**Sn**	**13 34 25.1**	**+5.0**
	194nm,0.4s,baz=309,slow=23,SNR=7.6						
LEM				LR	LR	13 34 54.6	
	comp=Z,78nm,19.5s,baz=25,slow=46						
LEM	**Lembang**	**1.45**	**83**	P	**Pn**	**13 34 02.1**	**+0.8**
KASI	**Kota Agung**	**2.22**	**312**	P	**Pn**	**13 34 12.0**	**+0.7**
KASI				S	**Sn**	**13 34 39.0**	**+1.1**
CMJI	**Cimerak**	**2.39**	**109**	P	**Pn**	**13 34 13.5**	**-0.1**
CMJI				S	**Sn**	**13 34 41.9**	**-0.2**
KPJI	**Karang Pucung**	**2.76**	**97**	P	**Pn**	**13 34 19.6**	**+1.0**
LWLI	**Liwa**	**2.88**	**313**	P	**Pn**	**13 34 22.1**	**+1.8**
LWLI				S	**Sn**	**13 34 57.6**	**+3.6**
MNAI	**Manna**	**4.13**	**309**	P	**Pn**	**13 34 39.3**	**+2.0**
UGM	**Wanagama**	**4.42**	**102**	P	**Pn**	**13 34 41.9**	**+0.8**
PWJI	**Pagerwojo**	**5.68**	**101**	P	**Pn**	**13 34 57.9**	**-0.5**
PPSI	**Pulau Pagai**	**7.44**	**304**	P	**Pn**	**13 35 22.0**	**-0.4**
H01W3	**Cape Leeuwin H**	**28.70**	**166**	T	T	14 10 04.1	
	baz=344,slow=76,SNR=7.3						
H01W1	**Cape Leeuwin H**	**28.71**	**166**	T	T	14 10 07.1	
	baz=344,slow=76,SNR=9.8						
H01W2	**Cape Leeuwin H**	**28.71**	**166**	T	T	14 10 04.4	
	baz=344,slow=76,SNR=10						
WRA	**Warramunga Arr**	**30.20**	**118**	P	**P**	**13 39 40.1**	**+0.5**
	0.4nm,0.7s,baz=288,slow=11,SNR=6.1						
WRA				PcP	**PcP**	**13 42 39.1**	**0.0**
	0.2nm,0.7s,baz=311,slow=3.2,SNR=4.6						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**31.36**	**125**	P	**P**	**13 39 50.7**	**+0.8**
	0.2nm,0.4s,baz=299,slow=7.8,SNR=11						
ASAR				PcP	**PcP**	**13 42 42.3**	**+0.2**
	0.3nm,0.9s,baz=307,slow=2.3,SNR=1.7						
	0.2nm,0.4s						
H08S2	**Diego Garcia H**	**33.40**	**267**	T	T	14 15 48.8	
	baz=91,slow=76,SNR=25						
H08S3	**Diego Garcia H**	**33.41**	**267**	T	T	14 15 43.4	
	baz=91,slow=76,SNR=22						
H08S1	**Diego Garcia H**	**33.42**	**267**	T	T	14 15 40.7	
	baz=91,slow=76,SNR=23						
STKA	**Stephens Creek**	**41.25**	**132**	P	**P**	**13 41 15.1**	**+1.1**
	0.8nm,0.4s,baz=316,slow=7.0,SNR=4.1						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**57.62**	**341**	P	**P**	**13 43 15.4**	**-2.8**
	0.3nm,0.6s,baz=157,slow=7.3,SNR=5.8						
	0.3nm,0.6s						
H04N2	**CROZET ISLANDS**	**60.72**	**220**	T	T	14 49 45.2	
	baz=67,slow=75,SNR=80						
H04N1	**CROZET ISLANDS**	**60.73**	**220**	T	T	14 49 51.2	
	baz=67,slow=75,SNR=124						
H04N3	**CROZET ISLANDS**	**60.74**	**220**	T	T	14 49 50.5	
	baz=67,slow=75,SNR=91						
KURBB	**Kurchatov Arra**	**62.18**	**340**	P	**P**	**13 43 46.4**	**-2.9**
	0.2nm,0.3s,baz=145,slow=5.4,SNR=1.7						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**67.05**	**337**	P	**P**	**13 44 18.6**	**-2.5**
	0.3nm,0.3s,baz=146,slow=12,SNR=2.6						
	0.3nm,0.3s						
TXAR	**Lajitas Array**	**144.19**	**48**	PKP	PKPbc	13 53 02.1	-0.2
	0.2nm,0.6s,baz=229,slow=1.0,SNR=3.5						

*SKHL **05** 13:50:00.0±0.1, 43°.40N×145°.50E, h80km±2km, mb3.6/3, msha4.6/3*

JMA 05 13:48:59.5±0.2, 43°.4N±0°.6×145°.4E±0°.9, h81km±1km, MV1.7/24, NEMURO REGION, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NMR	**Nemuro--Hokkai**	**0.21**	**101**	*e*P	Pn	13 49 11.3	-0.1
NMR				AMB	AMB	13 49 11.7	
	10.0nm,0.2s						
NMR				*i* S	Sn	13 49 20.2	0.0
NMR				A	A	13 49 20.4	
	90nm,0.2s						
NMR				A	A	13 49 20.4	
	70nm,0.2s						
NEM2	**Nemuro 2**	**0.23**	**102**	*e*P	Pn	13 49 11.4	0.0
NEM2				*e*S	Sn	13 49 20.1	-0.2
JKHN	**Kushirohamanak**	**0.39**	**212**	*e*P	Pn	13 49 12.6	+0.3
JKHN				*e*S	Sn	13 49 22.0	+0.1
JNSB	**Nemuroshibetsu**	**0.48**	**319**	*e*P	Pn	13 49 13.2	+0.1
JNSB				*e*S	Sn	13 49 23.4	+0.2
JNK	**Nakash**	**0.55**	**289**	*e*P	Pn	13 49 13.5	-0.2
JNK				*e*S	Sn	13 49 23.6	-0.7
JRA	**Rausu**	**0.57**	**336**	*e*P	Pn	13 49 13.9	0.0
JRA				*e*S	Sn	13 49 25.1	+0.5
AKK	**Akkeshi**	**0.59**	**228**	*e*P	Pn	13 49 13.8	-0.2
AKK				*e*S	Sn	13 49 24.9	0.0
JAK	**Akkeshi**	**0.68**	**233**	*e*P	Pn	13 49 15.1	+0.1
JAK				*e*S	Sn	13 49 26.7	+0.2
YUK	**Yuzh-Kuril'sk**	**0.69**	**26**	*i* P	Pn	13 49 15.4	+0.3
YUK				AMB	AMB	13 49 15.7	
	50nm,0.4s						
YUK				*i* S	Sn	13 49 27.5	+0.8
YUK				A	A	13 49 29.3	
	110nm,0.3s						
YUK				A	A	13 49 29.3	
	130nm,0.3s						
JAR	**Ashorobuto**	**1.22**	**265**	*e*P	Pn	13 49 21.9	+0.7
JAR				*e*S	Sn	13 49 38.4	+0.8
JTKR	**Abashiri--Toko**	**1.24**	**297**	*e*P	Pn	13 49 21.7	+0.2
MYR	**Moyori**	**1.94**	**236**	*e*S	Sn	13 49 53.4	-0.8
KUR	**Kuril'sk**	**2.52**	**43**	*e*S	Sn	13 50 08.2	+0.1
KUR				A	A	13 50 13.2	
	10.0nm,0.6s						
KUR				A	A	13 50 13.2	
	30nm,0.6s						

IDC 05 13:51:20.4±2.1, 6°.19S×143°.09E, h0km, mb3.7/2, mbtmp3.6/4, ML3.0/2, Error ellipse: s-maj=111.9km s-min=32.9km az=110.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.10**	**211**	Pn	Pn	13 55 08.5	+0.2
	baz=29,slow=11,SNR=2.4						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**19.50**	**206**	P	P	13 55 49.0	-0.3
	0.1nm,0.3s,baz=32,slow=10,SNR=12						
	0.6nm,0.6s						
BVAR	**Borovoye Array**	**84.65**	**325**	P	P	14 03 56.4	+0.4
	0.8nm,0.8s,baz=90,slow=6.3,SNR=2.9						
	0.8nm,0.8s						
ILAR	**Eielson Array**	**87.20**	**24**	P	P	14 04 08.1	-0.3
	0.3nm,0.7s,baz=258,slow=4.5,SNR=2.5						
	0.3nm,0.7s						

JMA 05 14:09:09.5±0.3, 37°.3N±1°.0×14°.4E±°, h47km, MV3.5/23, FAR E OFF NORTH HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**2.47**	**295**	P	Pn	14 09 48.7	+1.4
JIKH				*e*S	Sn	14 10 17.6	+1.3
JIO	**Ouri**	**2.62**	**297**	*e*P	Pn	14 09 50.7	+1.5
JIO				*e*S	Sn	14 10 21.2	+1.4
JKMT	**Kesennumamotoy**	**2.70**	**305**	*e*P	Pn	14 09 51.7	+1.2
JKMT				*e*S	Sn	14 10 22.9	+1.1
OFUJ	**Ofunato**	**2.74**	**311**	*e*P	Pn	14 09 52.0	+1.0
OFUJ				*e*S	Sn	14 10 23.6	+0.9
JMK	**Ichinoseki**	**2.94**	**305**	*e*P	Pn	14 09 55.4	+1.6
JMK				*e*S	Sn	14 10 29.5	+1.6
JOTO	**OTAMA OYAMA**	**3.18**	**276**	*e*P	Pn	14 09 59.6	+2.5
JOTO				*e*S	Sn	14 10 36.4	+2.6
JOM	**Ohasama**	**3.21**	**313**	P	Pn	14 09 59.5	+2.0
JOM				*e*S	Sn	14 10 36.3	+1.8
JRY	**Ryogami san**	**4.54**	**255**	P	Pn	14 10 16.5	+0.7
JRY				*e*S	Sn	14 11 06.9	-0.5
JCH	**Churui**	**5.35**	**352**	*e*P	Pn	14 10 25.6	-1.2
JCH				*e*S	Sn	14 11 23.3	-3.7
NEM2	**Nemuro 2**	**6.14**	**10**	*e*P	Pn	14 10 34.2	-3.5
NEM2				*e*S	Sn	14 11 39.3	-7.3
JTKR	**Abashiri--Toko**	**6.66**	**357**	*e*P	Pn	14 10 43.4	-1.3
JTKR				*e*S	Sn	14 11 55.2	-4.1

*MOS **05** 14:12:12.0±0.9, 29°.81N×138°.78E, h403km, mb4.1/17, Error ellipse: s-maj=14.2km s-min=6.3km az=104.7*

*JMA **05** 14:12:13.3±0.2, 30°.N±1°.×13°.9E±°, h434km, MV3.9/40, NEAR TORISHIMA IS*

*IDC **05** 14:12:14.1±0.9, 29°.88N×138°.79E, h408km±8km, mb3.4/22, mbtmp4.2/28, Error ellipse: s-maj=12.2km s-min=9.2km az=88.0*

ISC 05 14:12:12.9±0.5, 29°.77N±0°.06×138°.89E±0°.08, h400km, n73, σ1§36/83, mb3.8/38, 19C-1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**3.42**	**13**	P	**Pn**	**14 13 22.1**	**+2.5**
JHJ	**Hachijo jima 2**	**3.42**	**13**	P	**Pn**	**14 13 21.8**	**+2.2**
	149nm,0.4s,baz=221,slow=20,SNR=9.8						
JHJ				S	**S**	**14 14 13.8**	**+0.1**
	155nm,0.3s,baz=180,slow=20,SNR=7.4						
CBIJ	**Chichi jima**	**3.94**	**132**	P	**Pn**	**14 13 25.7**	**+1.2**
CBIJ				*e*S	**S**	**14 14 22.7**	**+0.3**
JCJ	**Chichijima**	**3.94**	**132**	P	**Pn**	**14 13 21.6**	**-2.9**
	141nm,0.4s,baz=0.3,slow=16,SNR=70						
JCJ				S	**S**	**14 14 18.6**	**-3.9**
	594nm,0.4s,baz=291,slow=22,SNR=41						
JKN2	**Miekihoku**	**4.98**	**334**	*e*P	**Pn**	**14 13 37.9**	**+3.3**
BSO1	**Boso 1**	**5.18**	**19**	P	**Pn**	**14 13 37.2**	**+1.1**
BSO1				S	**S**	**14 14 42.8**	**-1.1**
BSO3	**Boso 3**	**5.20**	**15**	S	**S**	**14 14 43.3**	**-1.5**
BSO4	**Boso 4**	**5.34**	**13**	*e*P	**Pn**	**14 13 38.6**	**+0.3**
BSO4				*e*S	**S**	**14 14 46.1**	**-1.8**
JOD2	**Odawara 2**	**5.48**	**2**	P	**Pn**	**14 13 40.8**	**+1.0**
JNY	**Yasuok**	**5.64**	**351**	*e*P	**Pn**	**14 13 44.1**	**+2.5**
JHU	**Hanno**	**6.07**	**3**	P	**Pn**	**14 13 46.1**	**-0.1**
JHU				S	**S**	**14 14 58.8**	**-3.5**
JRY	**Ryogami san**	**6.23**	**0**	P	**Pn**	**14 13 48.6**	**+0.7**
JYT	**Yasato**	**6.53**	**9**	P	**Pn**	**14 13 50.6**	**-0.6**
MJAR	**Matsushiro Arr**	**6.78**	**355**	P	**P**	**14 13 54.2**	**-0.4**
	2.6nm,0.4s,baz=172,slow=11,SNR=9.6						
MJAR				S	**S**	**14 15 14.0**	**-2.5**
	5.2nm,0.8s,baz=146,slow=16,SNR=4.9						
MAJO	**Matsushiro**	**6.78**	**355**	*i* P	**P**	**14 13 57.7**	**+3.1**
JNU	**Nakatsue**	**7.62**	**298**	P	**Pn**	**14 14 02.6**	**-0.9**
	22nm,1.0s,baz=153,slow=11,SNR=3.3						
KSRS	**Korea Array**	**11.92**	**313**	P	**P**	**14 14 51.8**	**+0.2**
	6.2nm,0.9s,baz=123,slow=11,SNR=10						
ERM	**Erimo**	**12.69**	**15**	*ce*P	**Pn**	**14 15 01.0**	**-0.9**
ERM				pmax	pmax		
	comp=Z,148nm,1.7s						
VLA	**Vladivostok**	**14.46**	**339**	*i* P	**P**	**14 15 20.4**	**+1.1**
VLA				pmax	pmax		
	comp=Z,15nm,1.0s						
ASAJ	**Asahikawa**	**14.62**	**11**	P	**P**	**14 15 21.8**	**+0.7**
	comp=Z,8.0nm,0.7s,baz=221,slow=14,SNR=11						
USA0B	**Ussuriysk Arra**	**15.41**	**341**	*i* P	**P**	**14 15 30.0**	**+0.4**
USRK	**Ussuriysk Ar.**	**15.41**	**341**	P	**P**	**14 15 30.3**	**+0.7**
	comp=Z,2.9nm,0.5s,baz=156,slow=9.4,SNR=12						
YSS	**Yuzh-Sakhalins**	**17.42**	**9**	*e*P	**P**	**14 15 52.7**	**+1.7**
YSS				pmax	pmax		
	comp=Z,20nm,1.4s						
KLR	**Kul'dur**	**20.18**	**346**	*e*P	**P**	**14 16 19.5**	**+0.7**
KLR				pmax	pmax		
	comp=Z,8.0nm,1.7s						
KLR	**Kul'dur**	**20.18**	**346**	P	**P**	**14 16 19.5**	**+0.7**
	comp=Z,4.2nm,0.6s,baz=159,slow=8.9,SNR=18						
	comp=Z,4.2nm,0.6s						
TYV	**Tymovskoe**	**21.26**	**7**	*e*P	**P**	**14 16 27.9**	**-0.6**
TYV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TYV				pmax	pmax		
	comp=Z,100nm,3.2s						
ZEA	**Zeya**	**25.41**	**344**	*e*P	**P**	**14 17 06.1**	**+0.2**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.4s						
PETK	**Petropavlovsk-**	**27.08**	**25**	P	**P**	**14 17 21.9**	**+1.1**
	comp=Z,3.5nm,0.8s,baz=184,slow=4.5,SNR=7.8						
	comp=Z,3.5nm,0.8s						
ULN	**Ulaanbaatar**	**30.39**	**315**	*ce*P	**P**	**14 17 50.2**	**+0.1**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.3s						
SONM	**Songino Array**	**30.78**	**315**	P	**P**	**14 17 53.3**	**-0.1**
	comp=Z,1.4nm,0.4s,baz=120,slow=7.7,SNR=8.1						
	comp=Z,1.4nm,0.4s						
MA2	**Magadan**	**30.88**	**12**	*ce*P	**P**	**14 17 54.2**	**+0.3**
MA2				pmax	pmax		
	comp=Z,25nm,1.7s						
YAK	**Yakutsk**	**32.83**	**352**	*i* P	**P**	**14 18 10.1**	**-0.6**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ZAK	**Zakamensk**	**33.69**	**318**	*e*P	**P**	**14 18 17.7**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.6s						
SEY	**Seymchan**	**34.30**	**11**	*ce*P	**P**	**14 18 24.5**	**+1.3**
SEY				pmax	pmax		
	comp=Z,6.0nm,1.7s						
CMAR	**Chiang Mai Arr**	**37.99**	**262**	*ce*P	**P**	**14 18 55.7**	**+1.0**
CMAR	**Chiang Mai Arr**	**37.99**	**262**	P	**P**	**14 18 55.3**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=49,slow=9.5,SNR=7.5						
	comp=Z,0.8nm,0.6s						
BILL	**Bilibino**	**41.57**	**15**	*e*P	**P**	**14 19 23.7**	**+0.7**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.7s						
TIXI	**Tiksi**	**42.29**	**355**	*ce*P	**P**	**14 19 27.6**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.6s						
DGZ	**Jazzator, Alta**	**43.33**	**312**	*e*P	**P**	**14 19 37.6**	**+0.1**
DGZ				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ZALV	**Zalesovo Beam**	**45.57**	**318**	*i* P	**P**	**14 19 53.9**	**-0.8**
ZALV	**Zalesovo Beam**	**45.57**	**318**	P	**P**	**14 19 54.1**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=97,slow=7.6,SNR=8.2						
	comp=Z,1.4nm,0.5s						
MK31	**Makanchi Array**	**46.55**	**308**	*ce*P	**P**	**14 20 01.7**	**-0.7**
MKAR	**Makanchi Array**	**46.55**	**308**	*ce*P	**P**	**14 20 02.2**	**-0.2**
MKAR	**Makanchi Array**	**46.55**	**308**	P	**P**	**14 20 01.9**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=95,slow=8.7,SNR=16						
MKAR				PcP	**pwP**	**14 21 27.8**	**+2.3**
	comp=Z,0.3nm,0.4s,baz=77,slow=3.1,SNR=5.2						
MKAR				ScP	**ScP**	**14 24 40.5**	**-3.1**
	comp=Z,0.4nm,0.7s,baz=80,slow=4.6,SNR=4.9						
	comp=Z,1.2nm,0.7s						
KURK	**Kurchatov**	**49.05**	**313**	*ce*P	**P**	**14 20 19.9**	**-1.3**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KURBB	**Kurchatov Arra**	**49.10**	**313**	P	**P**	**14 20 20.8**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=92,slow=7.1,SNR=13						
	comp=Z,1.4nm,0.5s						
WRA	**Warramunga Arr**	**49.62**	**186**	*ce*P	P	14 20 31.7	+5.9
WRA	**Warramunga Arr**	**49.62**	**186**	P	**P**	**14 20 26.8**	**+0.9**
	comp=Z,5.5nm,0.8s,baz=4.0,slow=7.8,SNR=50						
WRA				PcP	**PcP**	**14 21 40.9**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=359,slow=3.8,SNR=2.6						
	comp=Z,5.5nm,0.8s						
AAK	**Ala-Archa**	**52.36**	**303**	*ce*P	**P**	**14 20 45.7**	**-0.3**
ASAR	**Alice Springs**	**53.35**	**186**	P	**P**	**14 20 54.0**	**+1.0**
	comp=Z,2.7nm,0.7s,baz=359,slow=5.6,SNR=47						
	comp=Z,2.7nm,0.7s						
BVAR	**Borovoye Array**	**54.11**	**316**	P	**P**	**14 20 57.7**	**-0.4**
	comp=Z,4.2nm,0.5s,baz=93,slow=7.3,SNR=39						
	comp=Z,4.2nm,0.5s						
BRVK	**Borovoye**	**54.18**	**316**	*ce*P	**P**	**14 20 57.7**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
ILAR	**Eielson Array**	**56.79**	**30**	P	**P**	**14 21 16.2**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=259,slow=4.9,SNR=22						
	comp=Z,1.1nm,0.8s						
ARU	**Arti**	**60.53**	**321**	*d* iP	**P**	**14 21 39.8**	**-2.5**
ARU				S	S	14 29 15.4	-10
ARU				pmax	pmax		
	comp=Z,8.0nm,1.4s						
STKA	**Stephens Creek**	**61.36**	**177**	P	**P**	**14 21 49.2**	**+1.1**
	comp=Z,3.3nm,0.8s,baz=343,slow=8.2,SNR=5.4						
	comp=Z,3.3nm,0.8s						
KIRV	**Kirov**	**64.85**	**325**	*ce*P	**P**	**14 22 10.9**	**+0.5**
ARCES	**ARCESS Array B**	**70.06**	**340**	P	**P**	**14 22 42.1**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=54,slow=6.3,SNR=13						
	comp=Z,1.4nm,0.5s						
YKA	**Yellowknife Ar**	**71.16**	**28**	*ce*P	**P**	**14 22 49.0**	**-0.2**
YKA	**Yellowknife Ar**	**71.16**	**28**	P	**P**	**14 22 49.1**	**0.0**
	comp=Z,0.7nm,0.7s,baz=297,slow=6.3,SNR=16						
	comp=Z,0.7nm,0.7s						
OBN	**Obninsk**	**72.68**	**324**	*e*P	**P**	**14 22 57.8**	**-0.4**
OBN				*e**PP	**pwP**	**14 24 30.5**	**+0.2**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KBZ	**Khabaz**	**74.07**	**311**	P	**P**	**14 23 06.1**	**-0.3**
	comp=Z,3.5nm,0.9s,baz=81,slow=6.7,SNR=4.1						
	comp=Z,3.5nm,0.9s						
KIV	**Kislovodsk**	**74.11**	**312**	*e*P	**P**	**14 23 07.2**	**+0.4**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
FINES	**FINESS Array B**	**74.26**	**333**	P	**P**	**14 23 06.5**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=65,slow=4.3,SNR=16						
	comp=Z,0.7nm,0.3s						
AKASG	**Malin Array Be**	**78.74**	**322**	P	**P**	**14 23 31.5**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=59,slow=2.5,SNR=2.1						
AKBB	**Malin Array Si**	**78.74**	**322**	*ce*P	**P**	**14 23 31.8**	**-0.4**
AKBB				pmax	pmax		
	comp=Z,9.0nm,1.4s						
HFS	**Hagfors**	**79.81**	**335**	P	**P**	**14 23 36.4**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=84,slow=7.4,SNR=9.9						
	comp=Z,0.7nm,0.3s						
NB2	**NORSAR Array B**	**80.04**	**337**	P	**P**	**14 23 38.0**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=43,slow=5.3						
NOA	**NORSAR Array B**	**80.04**	**337**	P	**P**	**14 23 38.1**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=60,slow=6.2,SNR=4.9						
	comp=Z,0.9nm,0.6s						
NVAR	**Mina Array Bea**	**81.11**	**51**	P	**P**	**14 23 46.4**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=289,slow=5.9,SNR=13						
	comp=Z,1.2nm,0.7s						
BRTR	**Keskin Array B**	**82.06**	**311**	*ce*P	**P**	**14 23 50.0**	**-0.1**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRTR	**Keskin Array B**	**82.06**	**311**	P	**P**	**14 23 49.5**	**-0.7**
	comp=Z,4.2nm,1.1s,baz=174,slow=1.4,SNR=4.9						
	comp=Z,4.2nm,1.1s						
PDAR	**Pinedale Array**	**84.31**	**43**	P	**P**	**14 24 02.1**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=294,slow=4.4,SNR=3.7						
	comp=Z,0.4nm,0.8s						
TXAR	**Lajitas Array**	**96.26**	**51**	P	**P**	**14 24 59.1**	**+1.7**
	comp=Z,0.3nm,0.8s,baz=267,slow=2.5,SNR=3.5						
	comp=Z,0.3nm,0.8s						

ISC 05 14:14:49.8±1.3, 49°.71N±0°.09×17°.40E±0°.06, h9km±11km, n6, σ0§69/9, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MORC	**Moravsky Berou**	**0.12**	**56**	*e*PG	**Pg**	**14 14 52.6**	**+0.1**
MORC				*e*SG	**Sg**	**14 14 54.6**	**+0.1**
MORC				*e*RG	Rg	14 14 56.2	
VRAC	**Vranov**	**0.66**	**232**	*e*PG	**Pb**	**14 15 02.7**	**-0.8**
JAVC	**Velka Javorina**	**0.87**	**168**	*e*PG	**Pn**	**14 15 09.1**	**+0.8**
KRUC	**Moravsky**	**0.92**	**225**	*e*PG	**Pb**	**14 15 07.6**	**-0.3**
VYHS	**Vyhne**	**1.54**	**142**	*e*PG	**Pb**	**14 15 17.7**	**-0.8**
VYHS				*e*SG	**Sb**	**14 15 38.3**	**+0.1**
OJC	**Ojcow**	**1.63**	**71**	*e*Pg	**Pb**	**14 15 19.5**	**-0.5**
OJC				*e*Sg	**Sb**	**14 15 40.7**	**-0.1**

*IDC **05** 14:19:04.6±18.0, 13°.00S×169°.43E, h0km, mb4.0/4, mbtmp4.1/4, Error ellipse: s-maj=310.0km s-min=116.1km az=58.0*

*NOU **05** 14:19:42.6, 14°.86S×167°.64E, h129km, MLv4.6/10, Vanuatu Islands*

ISC 05 14:19:13.0±10.0, 13°.2S±0°.4×16°.9E±°, h35km, n9, σ0§29/5, mb4.1/4, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**7.75**	**193**	P	Pn	14 21 06.2	+2.8
KOUNC	**Koumac, New Ca**	**8.64**	**211**	P	**Pn**	**14 21 15.6**	**-0.1**
DZM

comp=Z,311nm,19.9s,baz=74,slow=33
LSZ Lusaka 38.56 257 P **P** **14 28 30.5 +0.4**
LSZ Lusaka 38.56 257 LR LR 14 42 45.0
comp=Z,433nm,18.2s,baz=99,slow=34
RAYN Ar Rayn 38.69 327 P **P** **14 28 31.0 +0.1**
H04N2 CROZET ISLANDS 39.26 197 T T 15 10 19.4
baz=25,slow=75,SNR=7.6
H04N1 CROZET ISLANDS 39.26 197 T T 15 10 20.9
baz=25,slow=75,SNR=8.0
H04N3 CROZET ISLANDS 39.28 197 T T 15 10 19.6
baz=25,slow=75,SNR=7.9
LEM Lembang 40.10 90 LR LR 14 42 25.4
comp=Z,225nm,18.8s,baz=203,slow=32
JCJI Jatiwangi 40.78 89 P **P** **14 28 47.7 -0.7**
CM31 Chiang Mai Arr 41.59 49 P **P** **14 28 55.8 +0.8**
CMAR Chiang Mai Arr 41.59 49 P **P** **14 28 54.8 -0.2**
CMAR Chiang Mai Arr 41.59 49 P **P** **14 28 55.6 +0.6**
comp=Z,3.2nm,0.7s,baz=243,slow=9.5,SNR=30
CMAR PcP **PcP** **14 30 52.2 +0.1**
comp=Z,0.3nm,0.3s,baz=230,slow=4.8,SNR=3.2
CMAR LR LR 14 45 49.3
comp=Z,75nm,18.0s,baz=235,slow=36
comp=Z,3.2nm,0.7s
CHTO Chiang Mai 41.81 48 P **P** **14 28 57.2 +0.4**
PHRA Phrae 42.58 50 P **P** **14 29 03.4 +0.3**
LBTB Lobatse 42.60 243 P **P** **14 29 02.9 -0.4**
LBTB Lobatse 42.60 243 LR LR 14 44 32.7
comp=Z,240nm,21.2s,baz=80,slow=33
NIL Nilore 42.85 7 P **P** **14 29 05.6 +0.5**
NIL IAmb IAmb 14 29 06.9
comp=Z,8.3nm,0.9s
KBL Kabul 43.39 2 P **P** **14 29 10.7 +1.1**
KBL IAmb IAmb 14 29 11.8
comp=Z,10nm,1.1s
HRA Herat 43.45 354 P **P** **14 29 09.1 -0.9**
CRAI Chiangrai 43.75 48 P **P** **14 29 13.2 +0.7**
BOSA Boshof 43.89 238 P **P** **14 29 13.1 -0.6**
BOSA IAmb IAmb 14 29 15.8
comp=Z,19nm,1.1s
BOSA Boshof 43.89 238 **P** **14 29 13.3 -0.4**
BOSA Boshof 43.89 238 P **P** **14 29 12.7 -1.0**
comp=Z,7.8nm,0.8s,baz=79,slow=7.2,SNR=8.7
BOSA LR LR 14 44 33.7
comp=Z,126nm,21.4s,baz=75,slow=32
comp=Z,7.8nm,0.8s
LSA Lhasa 44.91 30 P **P** **14 29 23.1 +0.9**
LSA IAmb IAmb 14 29 24.8
comp=Z,8.0nm,0.8s
TNCH TengChong 45.61 41 P **P** **14 29 28.7 +1.2**
TNCH pP pP 14 29 31.5 -0.7
TNCH sP pwP 14 29 35.0 -1.4
TNCH S **S** **14 36 13.7 +4.1**
TNCH sS sS 14 36 17.6 +0.9
TNCH SS **ScS** **14 39 26.8 +3.1**
TNCH pmax pmax
comp=Z,20nm,0.8s
TNCH pmax pmax
comp=Z,68nm,3.4s
TNCH LR LR
comp=N,85nm,4.8s
TNCH LR LR
comp=E,66nm,5.2s
TNCH LR LR
comp=Z,73nm,5.2s
SIMJ Simiganj 47.49 2 P **P** **14 29 41.2 -0.8**
SIMJ IAmb IAmb 14 30 16.8
comp=Z,6.8nm,1.2s
GEYT Alibeck 47.49 350 P **P** **14 29 41.3 -0.6**
GEYT Alibeck 47.49 350 P **P** **14 29 40.9 -1.0**
comp=Z,1.4nm,0.6s,baz=198,slow=9.1,SNR=2.0
GEYT LR LR 14 48 08.6
comp=Z,69nm,20.9s,baz=161,slow=34
comp=Z,1.4nm,0.6s
CHGR Chuyangaron 47.50 2 P **P** **14 29 41.3 -0.6**
GAR Garm 47.89 3 P **P** **14 29 44.7 -0.3**
DRK Karamyk 48.47 5 P **P** **14 29 49.2 -0.5**
DRK IAmb IAmb 14 29 50.4
comp=Z,8.7nm,1.0s
SUR Sutherland 48.70 235 LR LR 14 48 00.4
comp=Z,96nm,19.4s,baz=80,slow=33
BTK Batken 48.98 4 P **P** **14 29 53.2 -0.2**
BTK IAmb IAmb 14 30 06.4
comp=Z,6.4nm,0.8s
TSUM Tsumeb 48.99 252 P **P** **14 29 54.6 +0.7**
TSUM IAmb IAmb 14 29 56.1
comp=Z,7.2nm,0.9s
TSUM Tsumeb 48.99 252 LR LR 14 48 25.1
comp=Z,113nm,21.2s,baz=106,slow=34
KSH Kashi 49.01 9 P **P** **14 29 50.6 -3.0**
KSH pP pwP 14 30 01.5 -0.7
KSH pmax pmax
comp=Z,22nm,0.9s
KSH LR LR
comp=N,130nm,15.7s
KSH LR LR
comp=E,320nm,15.2s
KSH LR LR
comp=Z,240nm,14.4s
EIL Elat 49.44 322 LR LR 14 47 32.8
comp=Z,119nm,20.4s,baz=86,slow=32
H01W3 Cape Leeuwin H 49.97 128 T T 15 23 38.6
baz=290,slow=75,SNR=51
H01W2 Cape Leeuwin H 49.98 128 T T 15 23 37.3
baz=290,slow=75,SNR=67
H01W1 Cape Leeuwin H 49.99 128 T T 15 23 42.3
baz=290,slow=75,SNR=62
ARSB Arslanbob 50.41 6 P **P** **14 30 04.7 +0.4**
NWAO Narrogin (SRO) 51.84 125 LR LR 14 47 35.4
comp=Z,205nm,21.2s,baz=212,slow=31
AAK Ala-Archa 51.87 7 P **P** **14 30 15.6 +0.3**
AAK IAmb IAmb 14 30 16.9
comp=Z,7.4nm,1.0s
AAK Ala-Archa 51.87 7 LR LR 14 50 50.0
comp=Z,107nm,20.8s,baz=195,slow=34
BOOM Boomskoye usch 51.91 8 P **P** **14 30 15.1 -0.5**
GOMU GeErMu 51.99 28 P **P** **14 30 16.9 +0.4**
GOMU pP pwP 14 30 25.6 +0.3
GOMU sP sP 14 30 28.9 +5.8
GOMU S S 14 37 29.3 -10
GOMU sS pS 14 37 44.5 -0.7
GOMU ScS ScS 14 39 20.8 -46
GOMU pmax pmax
comp=Z,6.0nm,1.1s
GOMU LR LR
comp=N,200nm,21.0s
GOMU LR LR
comp=E,130nm,17.5s
GOMU LR LR
comp=Z,170nm,20.0s
KKAR Karatay Array 51.99 3 P **P** **14 30 15.7 -0.3**
GNI Garni 53.17 339 LR LR 14 52 06.5
comp=Z,40nm,19.0s,baz=182,slow=35
GTA Gaotai 56.94 30 P **P** **14 30 52.4 +0.2**
GTA pP sP 14 30 58.0 -0.9
GTA pmax pmax
comp=Z,11nm,1.0s
KBZ Khabaz 56.97 339 P **P** **14 30 51.5 -0.6**
comp=Z,4.0nm,1.0s,baz=174,slow=5.1,SNR=3.8
comp=Z,4.0nm,1.0s
MAKZ Makanchi 57.16 12 P **P** **14 30 52.6 -0.9**
MAKZ IAmb IAmb 14 30 53.6
comp=Z,5.0nm,1.0s
MK31 Makanchi Array 57.21 12 P **P** **14 30 52.4 -1.4**
MKAR Makanchi Array 57.21 12 P **P** **14 30 52.5 -1.3**
MKAR Makanchi Array 57.21 12 P **P** **14 30 53.0 -0.8**
comp=Z,2.1nm,0.7s,baz=196,slow=7.9,SNR=27
MKAR LR LR 14 53 19.7
comp=Z,102nm,21.5s,baz=233,slow=34
comp=Z,2.1nm,0.7s
BRTR Keskin Array B 57.62 330 P **P** **14 30 57.1 0.0**
BRTR Keskin Array B 57.62 330 P **P** **14 30 56.0 -1.0**
comp=Z,2.9nm,0.9s,baz=153,slow=8.3,SNR=6.9
BRTR LR LR 14 53 26.9
comp=Z,84nm,20.8s,baz=168,slow=34
comp=Z,2.9nm,0.9s
TGY Tagaytay City 58.09 67 LR LR 14 52 51.6
comp=Z,107nm,21.1s,baz=260,slow=33
ABKAR Akbulak array 58.40 354 P **P** **14 31 00.6 -1.5**
ABKAR Akbulak array 58.40 354 P **P** **14 31 01.3 -0.8**
ABKAR IAmb IAmb 14 31 03.0
comp=Z,8.8nm,1.0s
MAW Mawson 58.55 182 LR LR 14 50 14.3
comp=Z,109nm,18.3s,baz=332,slow=30
AKTO Aktyubinsk 59.77 353 LR LR 14 55 17.6
comp=Z,64nm,20.9s,baz=254,slow=34
KURBB Kurchatov Arra 60.24 8 P **P** **14 31 14.4 -0.4**
comp=Z,4.0nm,1.0s,baz=206,slow=7.0,SNR=19
KURBB LR LR 14 55 37.2
comp=Z,88nm,21.3s,baz=178,slow=34
comp=Z,4.0nm,1.0s
KURK Kurchatov 60.34 8 P **P** **14 31 14.8 -0.7**
KURK IAmb IAmb 14 31 16.1
comp=Z,8.0nm,1.1s
DAV Davao City (W) 60.37 77 LR LR 14 56 15.1
comp=Z,93nm,20.3s,baz=248,slow=35
BVAR Borovoye Array 61.89 2 P **P** **14 31 25.4 -0.6**
comp=Z,3.4nm,0.7s,baz=157,slow=7.9,SNR=20
BVAR LR LR 14 57 51.4
comp=Z,117nm,19.9s,baz=187,slow=36
comp=Z,3.4nm,0.7s
BRVK Borovoye 61.92 2 P **P** **14 31 25.7 -0.5**
BRVK IAmb IAmb 14 31 26.9
comp=Z,4.2nm,0.8s
BTO Baotou 63.26 35 *e*P **P** **14 31 35.9 +0.4**
BTO pP **pwP** **14 31 46.4 +0.2**
BTO sP sP 14 31 50.1 +7.9
BTO PP **PP** **14 34 00.9 +6.0**
BTO S **S** **14 40 06.9 +0.2**
BTO Baotou 63.26 35 SS SS 14 44 13.6 +0.1
BTO pmax pmax
comp=Z,11nm,0.6s
BTO pmax pmax
comp=Z,96nm,5.2s
BTO LR LR
comp=N,270nm,5.5s
BTO LR LR
comp=E,170nm,5.0s
BTO LR LR
comp=Z,210nm,6.4s
HHC Hu-ho-hao-te 64.30 36 *e*P **P** **14 31 43.7 +1.3**
HHC pmax pmax
comp=Z,7.0nm,0.5s
HHC pmax pmax
comp=Z,66nm,4.4s
ZAA0 Zalesovo Array 64.51 11 P **P** **14 31 41.8 -1.5**
ZAA0 IAmb IAmb 14 31 43.3
comp=Z,3.2nm,0.8s
ZALV Zalesovo Beam 64.51 11 P **P** **14 31 41.8 -1.6**
comp=Z,2.7nm,0.8s,baz=210,slow=7.2,SNR=12
ZALV LR LR 14 57 40.7
comp=Z,86nm,21.9s,baz=219,slow=34
comp=Z,2.7nm,0.8s
ASAR Alice Springs 65.16 112 P **P** **14 31 49.1 +0.8**
ASAR Alice Springs 65.16 112 P **P** **14 31 47.5 -0.8**
comp=Z,0.9nm,0.8s,baz=277,slow=6.1,SNR=13
ASAR LR LR 14 59 04.9
comp=Z,153nm,18.0s,baz=278,slow=35
comp=Z,0.9nm,0.8s
WRA Warramunga Arr 65.57 108 P **P** **14 31 53.1 +2.1**
WRA Warramunga Arr 65.57 108 P **P** **14 31 50.3 -0.8**
comp=Z,1.1nm,0.8s,baz=280,slow=5.7,SNR=7.1
comp=Z,1.1nm,0.8s
ARU Arti 65.63 355 P **P** **14 31 49.6 -1.0**
ARU IAmb IAmb 14 31 51.2
comp=Z,5.9nm,0.9s
ARU Arti 65.63 355 LR LR 14 58 14.9
comp=Z,104nm,20.3s,baz=151,slow=34
MLR Muntele Rosu 65.70 329 LR LR 14 57 55.1
comp=Z,74nm,21.5s,baz=141,slow=34
SONM Songino Array 66.42 28 P **P** **14 31 56.2 +0.2**
SONM IAmb IAmb 14 31 57.6
comp=Z,8.8nm,1.1s
SONM Songino Array 66.42 28 P **P** **14 31 55.8 -0.2**
comp=Z,6.9nm,1.0s,baz=224,slow=6.2,SNR=27
SONM LR LR 15 00 28.1
comp=Z,158nm,20.3s,baz=232,slow=36
comp=Z,6.9nm,1.0s
BJT Baijiatuau 66.57 39 P **P** **14 31 56.6 -0.3**
BJT IAmb IAmb 14 31 58.4
comp=Z,5.4nm,0.7s
BURAR Bucovina Array 67.55 331 P **P** **14 32 02.8 -0.4**
BUR08 Bucovina Ar. S 67.58 331 P **P** **14 32 02.4 -1.0**
BUR08 IAmb IAmb 14 32 40.9
comp=Z,9.0nm,1.5s
AKASG Malin Array Be 67.99 335 P **P** **14 32 05.2 -0.6**
comp=Z,0.3nm,0.3s,baz=141,slow=5.9,SNR=2.6
AKASG LR LR 15 02 52.0
comp=Z,75nm,18.2s,baz=180,slow=37
TORD Torodi Ar. Bea 68.65 288 P **P** **14 32 10.0 -0.6**
TORD Torodi Ar. Bea 68.65 288 P **P** **14 32 10.3 -0.3**
comp=Z,1.3nm,1.0s,baz=98,slow=6.7,SNR=5.7
TORD LR LR 15 00 30.2
comp=Z,130nm,20.0s,baz=128,slow=34
comp=Z,1.3nm,1.0s
XLT XiLinHaoTe 68.82 36 *e*P **P** **14 32 11.6 +0.4**
XLT pP pwP 14 32 20.4 -1.5
XLT sP PcP 14 32 30.8 -4.9
XLT PcP PcP 14 33 24.8 +49
XLT pmax pmax
comp=Z,7.0nm,0.9s
XLT pmax pmax
comp=Z,130nm,4.3s
KIRV Kirov 68.92 350 LR LR 15 00 51.0
comp=Z,44nm,20.6s,baz=172,slow=35
JOW Kunigami 69.12 57 LR LR 15 03 26.4
comp=Z,102nm,18.5s,baz=294,slow=37
STKA Stephens Creek 72.08 121 LR LR 14 59 41.9
comp=Z,134nm,21.1s,baz=229,slow=32
KSRS Korea Array 73.18 47 LR LR 15 05 45.0
comp=Z,61nm,18.3s,baz=240,slow=37
DBIC Dimbokro 73.46 280 P **P** **14 32 39.5 -0.4**
DBIC Dimbokro 73.46 280 P **P** **14 32 40.6 +0.8**
comp=Z,7.6nm,0.9s,baz=83,slow=6.5,SNR=6.3
DBIC LR LR 15 03 25.3
comp=Z,80nm,20.3s,baz=101,slow=35
comp=Z,7.6nm,0.9s
JNU Nakatsue 73.61 52 LR LR 15 03 01.4
comp=Z,92nm,20.1s,baz=204,slow=34
DAVOX Davos/Dischmat 75.33 323 LR LR 15 07 04.1
comp=Z,50nm,18.7s,baz=255,slow=37
CLL Collm 76.04 328 *e*P **P** **14 32 55.0 +1.0**
comp=Z,10.0nm,1.2s
CLL *e*S **S** **14 42 40.0 +3.6**
CLL eSS **SS** **14 47 24.0 -5.8**
CTA Charters Tower 76.75 109 LR LR 15 04 11.6
comp=Z,214nm,20.8s,baz=264,slow=34
FINES FINESS Array B 77.25 341 LR LR 15 06 04.4
comp=Z,56nm,18.0s,baz=152,slow=35
PMG Port Moresby 78.77 98 LR LR 15 07 27.9
comp=Z,79nm,18.1s,baz=248,slow=35
USRK Ussuriysk Ar. 78.83 42 P **P** **14 33 09.0 -0.8**
comp=Z,1.9nm,0.7s,baz=254,slow=5.4,SNR=4.9
comp=Z,1.9nm,0.7s
MDT Midelt 79.88 306 LR LR 15 09 49.6
comp=Z,151nm,18.3s,baz=352,slow=37
MJAR Matsushiro Arr 80.45 51 P **P** **14 33 19.3 +0.5**
comp=Z,2.2nm,0.9s,baz=234,slow=5.8,SNR=3.0
MJAR LR LR 15 07 18.8
comp=Z,52nm,21.8s,baz=308,slow=34
comp=Z,2.2nm,0.9s
KLR Kul'dur 80.80 37 LR LR 15 12 48.6
comp=Z,57nm,18.1s,baz=310,slow=38
HFS Hagfors 80.86 336 P **P** **14 33 19.8 -0.6**
comp=Z,2.8nm,0.8s,baz=104,slow=6.3,SNR=3.5
comp=Z,2.8nm,0.8s
QSPA South Pole Qui 80.99 180 P **P** **14 33 21.8 +0.5**
QSPA IAmb IAmb 14 33 28.1
comp=Z,11nm,1.3s
QSPA South Pole Qui 80.99 180 P **P** **14 33 21.8 +0.5**
comp=Z,3.9nm,0.9s,baz=263,slow=2.3,SNR=6.4
QSPA LR LR 15 03 53.5
comp=Z,113nm,19.7s,baz=238,slow=32
comp=Z,3.9nm,0.9s
ESDC Sonseca Array 81.54 312 P **P** **14 33 24.0 -0.6**
comp=Z,1.8nm,1.0s,baz=72,slow=4.2,SNR=3.6
ESDC LR LR 15 08 46.3
comp=Z,80nm,18.2s,baz=251,slow=35
comp=Z,1.8nm,1.0s
NOA NORSAR Array B 82.38 336 P **P** **14 33 28.3 -0.2**
comp=Z,0.8nm,0.9s,baz=108,slow=8.7,SNR=2.4
NOA LR LR 15 09 52.7
comp=Z,31nm,21.8s,baz=260,slow=36
comp=Z,0.8nm,0.9s
ARCES ARCESS Array B 83.50 346 P **P** **14 33 34.9 +0.8**
comp=Z,6.1nm,0.8s,baz=124,slow=6.0,SNR=8.9
ARCES LR LR 15 11 12.7
comp=Z,73nm,18.8s,baz=149,slow=36
comp=Z,6.1nm,0.8s
YAK Yakutsk 85.58 25 LR LR 15 12 14.9
comp=Z,86nm,18.8s,baz=281,slow=36
ASAJ Asahikawa 85.95 44 LR LR 15 14 11.9
comp=Z,41nm,18.2s,baz=320,slow=37
TIXI Tiksi 89.99 16 LR LR 15 14 21.4
comp=Z,122nm,19.3s,baz=214,slow=36
HNR Honiara 91.25 100 LR LR 15 15 04.6
comp=Z,1μm,18.0s,baz=192,slow=36
SPITS Spitsbergen Ar 91.39 351 LR LR 15 19 44.6
comp=Z,44nm,18.0s,baz=246,slow=38
DZM Mont Dzumac 95.12 113 LR LR 15 14 42.7
comp=Z,69nm,20.1s,baz=224,slow=34
BORG Borgarnes 97.47 334 LR LR 15 21 17.3
comp=Z,71nm,18.2s,baz=341,slow=37
URZ Urewera 99.72 131 LR LR 15 13 48.9
comp=Z,63nm,19.1s,baz=302,slow=32
ILAR Eielson Array 119.47 16 PKP **PKPdf** **14 39 53.2 -2.7**
comp=Z,0.3nm,0.8s,baz=348,slow=3.9,SNR=5.1
YKA Yellowknife Ar 126.64 1 PKP **PKiKP** **14 40 08.9 -1.3**
comp=Z,0.5nm,0.8s,baz=356,slow=2.0,SNR=8.5
PDAR Pinedale Array 146.29 356 PKPbc **PKPdf** **14 40 46.2 -0.7**
comp=Z,0.6nm,0.7s,baz=134,slow=3.9,SNR=5.1
NVAR Mina Array Bea 150.34 9 PKPbc **PKiKP** **14 41 00.1 +0.6**
comp=Z,2.5nm,0.8s,baz=274,slow=1.9,SNR=20
TXAR Lajitas Array 158.07 338 PKPab **PKPab** **14 41 38.5 +0.7**
comp=Z,1.5nm,0.8s,baz=64,slow=4.2,SNR=14

*IDC **05** 14:30:15.3±7.1,15°.66N×97°.70W,h0km,mb3.4/4, mbtmp3.4/5,ML3.5/1,MS3.1/2,Error ellipse: s-maj=159.6km s-min=120.6km az=53.0*
*NEIC **05** 14:30:21.5±1.5,16°.22N±0°.05×98°.06W±0°.04,h20km±5km, mb4.6/8,Md4.5/106(MEX),Error ellipse: s-maj=8.0km s-min=3.2km az=211.0*
*MEX **05** 14:30:22.9±0.6,16°.20N×98°.12W,h9km±3km,MD4.4*
ISC 05 14:30:20.5±1.1,16°.20N±0°.03×98°.09W±0°.02,h14km±6km, n120,σ2§34/185,mb3.7/7,1D,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID	Op	Time	Res
						ISC h m s	ISC
PNIG	**Pinotepa**	**0.19**	**348**			**Pb 14 30 26.5**	**+0.6**
PNIG						**Sg 14 30 29.3**	**+1.2**
PNIG	**Pinotepa** baz=180,slow=7.4	**0.19**	**348**	‖*e*P		**Pb 14 30 26.5**	**+0.6**
PNIG				*i* S		**Sg 14 30 29.4**	**+1.2**
YOIG	**Yosondua**	**0.83**	**38**			**Pb 14 30 37.0**	**+0.1**
YOIG						**Sg 14 30 46.6**	**-1.2**
YOIG	**Yosondua**	**0.83**	**38**	*e*P		**Pb 14 30 37.0**	**+0.1**
YOIG				*i* S		**Sb 14 30 47.7**	**-0.4**
PEIG	**Puerto Escondi**	**0.92**	**103**			**Pb 14 30 39.0**	**+0.6**
PEIG						**Sb 14 30 51.4**	**+0.9**
PEIG	**Puerto Escondi**	**0.92**	**103**	*e*P		**Pb 14 30 38.9**	**+0.6**
PEIG				*e*S		**Sb 14 30 51.2**	**+0.8**
TXIG	**Tlaxiaco**	**1.09**	**16**			**Pg 14 30 41.1**	**-0.5**
TXIG						**Sg 14 30 54.7**	**-1.2**
TXIG	**Tlaxiaco**	**1.09**	**16**	*e*P		**Pg 14 30 41.1**	**-0.5**
TXIG				*e*S		**Sg 14 30 54.7**	**-1.2**
CRIG	**Cruz Grande**	**1.14**	**298**			**Pb 14 30 41.1**	**-0.8**
CRIG						**Sb 14 30 54.5**	**-2.0**
CRIG	**Cruz Grande**	**1.14**	**298**	*e*P		**Pb 14 30 41.1**	**-0.8**
CRIG				*e*S		**Sb 14 30 54.5**	**-2.0**
MGIG	**Malinaltepec**	**1.15**	**333**			**Pb 14 30 42.2**	**-0.1**
MGIG						**Sb 14 30 56.1**	**-1.1**
MGIG	**Malinaltepec**	**1.15**	**333**	*e*P		**Pb 14 30 42.2**	**-0.1**
MGIG				*e*S		**Sb 14 30 56.1**	**-1.1**
TLIG	**Tlapa**	**1.43**	**341**			**Pn 14 30 45.9**	**-0.3**
TLIG	**Tlapa**	**1.43**	**341**	*e*P		**Pn 14 30 46.3**	**+0.1**
TLIG				*e*S		**Sn 14 31 03.4**	**-1.5**
VHO	**Vista Hermosa**	**1.56**	**56**	*e*P		**Pn 14 30 48.1**	**+0.1**
VHO				*e*S		**Sn 14 31 08.1**	**0.0**
OXIG	**Oaxaca**	**1.56**	**56**			**Pn 14 30 48.1**	**+0.1**
OXIG						**Sn 14 31 08.1**	**0.0**
OXBJ	**Oaxaca**	**1.56**	**56**			**Pn 14 30 48.1**	**+0.1**
OXBJ						**Sn 14 31 08.5**	**+0.3**
OXBJ	**Oaxaca**	**1.56**	**56**	*e*P		**Pn 14 30 48.1**	**+0.1**
OXBJ				*e*S		**Sn 14 31 08.5**	**+0.3**
HLIG	**Huajuapan de L**	**1.64**	**9**			**Pn 14 30 49.5**	**+0.4**
HLIG						**Sn 14 31 10.3**	**+0.1**
HLIG	**Huajuapan de L**	**1.64**	**9**	*e*P		**Pn 14 30 49.5**	**+0.4**
HLIG				*e*S		**Sn 14 31 10.3**	**+0.1**
FTIG	**Fresnillo de T**	**1.70**	**358**			**Pn 14 30 50.4**	**+0.6**
FTIG						**Sn 14 31 11.5**	**+0.1**
FTIG	**Fresnillo de T**	**1.70**	**358**	*e*P		**Pn 14 30 50.4**	**+0.6**
FTIG				*e*S		**Sn 14 31 11.5**	**+0.1**
DAIG	**Los Arroyos**	**1.71**	**299**			**Pn 14 30 50.9**	**+1.0**
DAIG						**Sn 14 31 12.7**	**+1.2**
DAIG	**Los Arroyos**	**1.71**	**299**	*e*P		**Pn 14 30 50.9**	**+1.0**
DAIG				*e*S		**Sn 14 31 12.7**	**+1.2**
HUIG	**Huatulco**	**1.95**	**102**			**Pn 14 30 53.7**	**+0.5**
HUIG						**Sn 14 31 13.8**	**-3.6**
HUIG	**Huatulco**	**1.95**	**102**	*e*P		**Pn 14 30 53.7**	**+0.5**
HUIG				*e*S		**Sn 14 31 13.8**	**-3.6**
TOIG	**Toxpalan**	**2.12**	**27**			**Pn 14 30 55.9**	**+0.2**
TOIG						**Sb 14 31 24.0**	**-1.1**
TOIG	**Toxpalan**	**2.12**	**27**	*e*P		**Pn 14 30 55.9**	**+0.2**
TOIG				*e*S		**Sb 14 31 24.0**	**-1.1**
CAIG	**El Cayaco**	**2.25**	**292**			**Pb 14 31 01.2**	**+0.2**
CAIG						**Sb 14 31 28.7**	**-0.1**
CAIG	**El Cayaco**	**2.25**	**292**	*e*P		**Pb 14 31 01.2**	**+0.2**
CAIG				*e*S		**Sb 14 31 28.7**	**-0.1**
MEIG	**Mezcala**	**2.26**	**320**			**Pn 14 30 58.2**	**+0.7**
MEIG						**Sn 14 31 24.3**	**-0.9**
MEIG	**Mezcala**	**2.26**	**320**	*e*P		**Pn 14 30 58.2**	**+0.7**
MEIG				*e*S		**Sn 14 31 24.3**	**-0.9**
TPIG	**Tehuac#an**	**2.31**	**17**			**Pb 14 31 02.3**	**+0.2**
TPIG						**Sb 14 31 29.7**	**-0.9**
TPIG	**Tehuac#an**	**2.31**	**17**	*e*P		**Pn 14 30 59.7**	**+1.3**
TPIG				*e*S		**Sb 14 31 29.7**	**-0.9**
PLIG	**Platanillo**	**2.56**	**328**			**Pb 14 31 08.4**	**+2.0**
PLIG						**Sb 14 31 39.0**	**+1.2**
PLIG	**Platanillo**	**2.56**	**328**	*e*P		**Pb 14 31 08.4**	**+2.0**
PLIG				*e*S		**Sb 14 31 39.0**	**+1.2**
NEUV	**Arroyo Zacate**	**2.65**	**55**	*e*P		**Pn 14 31 03.3**	**+0.4**
NEUV				*e*S		**Sn 14 31 36.3**	**+1.5**
YAIG	**Yautepec**	**2.81**	**341**			**Pb 14 31 09.2**	**-1.3**
YAIG						**Sb 14 31 44.1**	**-0.7**
YAIG	**Yautepec**	**2.81**	**341**	*e*P		**Pb 14 31 09.2**	**-1.3**
YAIG				*e*S		**Sb 14 31 44.1**	**-0.7**
PPM	**Popocatepetl**	**2.90**	**350**	*e*P		**Pn 14 31 09.2**	**+2.5**
PPM				*e*S		**Sn 14 31 43.1**	**+1.5**
PPIG	**Popocatepetl**	**2.90**	**350**			**Pn 14 31 09.2**	**+2.5**
PPIG						**Sn 14 31 43.1**	**+1.5**
AMVM	**AMECAMECA**	**2.99**	**347**			**Pn 14 31 07.3**	**-0.4**
AMVM						**Sn 14 31 43.0**	**-0.6**
AMVM	**AMECAMECA**	**2.99**	**347**	*e*P		**Pn 14 31 07.3**	**-0.4**
AMVM				*e*S		**Sn 14 31 43.0**	**-0.6**
ARIG	**Puente Sto Nin**	**2.99**	**314**			**Pn 14 31 10.7**	**+3.1**
ARIG						**Sb 14 31 49.4**	**-0.7**
ARIG	**Puente Sto Nin**	**2.99**	**314**	*e*P		**Pn 14 31 10.7**	**+3.1**
ARIG				*e*S		**Sb 14 31 49.4**	**-0.7**
MPVM	**San Francisco**	**3.11**	**344**	*e*P		**Pn 14 31 06.8**	**-2.6**
MPVM				*e*S		**Sn 14 31 43.0**	**-3.5**
TLVM	**San Miguel Top**	**3.16**	**341**	*e*P		**Pb 14 31 14.5**	**-2.2**
TLVM				*e*S		**Sn 14 31 47.6**	**-0.3**
XCVM	**Xochimilco**	**3.19**	**342**	*e*S		**Sn 14 31 49.0**	**+0.5**
CMIG	**Matias Romero**	**3.19**	**73**			**Pn 14 31 10.6**	**+0.2**
CMIG						**Sn 14 31 48.0**	**-0.3**
CMIG	**Matias Romero** comp=Z,170nm,19.2s,baz=136,slow=32	**3.19**	**73**	LR		LR 14 31 54.5	
CMIG	**Matias Romero**	**3.19**	**73**	*e*P		**Pn 14 31 10.6**	**+0.2**
CMIG				*e*S		**Sn 14 31 48.0**	**-0.3**
THVM	**De Xico**	**3.21**	**345**	*e*S		**Sn 14 31 45.3**	**-3.6**
AOVM	**Tlapan**	**3.27**	**339**	*e*P		**Pn 14 31 15.8**	**+4.0**
AOVM				*e*S		**Sn 14 31 52.4**	**+1.6**
UNM	**Universidad Na**	**3.28**	**342**	*e*S		**Sn 14 31 53.1**	**+2.4**
INVM	**La Marquesa**	**3.31**	**338**	*e*P		**Pn 14 31 15.6**	**+3.3**
INVM				*e*S		**Sn 14 31 51.4**	**-0.3**
BJVM	**Benito Juarez**	**3.32**	**342**	*e*S		**Sn 14 31 49.6**	**-2.1**
CJVM	**Cuajimalpa**	**3.34**	**340**	*e*S		**Sn 14 31 48.9**	**-3.4**
NILT	**Santiago Nilte**	**3.35**	**83**	*e*S		**Sn 14 31 51.1**	**-1.0**
PBVM	**Pinon**	**3.36**	**344**			**Pb 14 31 17.9**	**-2.0**
PBVM						**Sn 14 31 53.9**	**+1.7**
PBVM	**Pinon**	**3.36**	**344**	*e*P		**Pb 14 31 17.9**	**-2.0**
PBVM				*e*S		**Sn 14 31 53.9**	**+1.7**
JAUV	**Jalcomulco**	**3.38**	**21**	*e*P		**Pn 14 31 13.2**	**+0.3**
JAUV				*e*S		**Sn 14 31 51.6**	**-1.2**
TOVM	**TOLUCA**	**3.42**	**334**			**Pn 14 31 15.3**	**+1.6**
TOVM						**Sn 14 31 52.0**	**-2.2**
TOVM	**TOLUCA**	**3.42**	**334**	*e*P		**Pn 14 31 15.3**	**+1.6**
TOVM				*e*S		**Sn 14 31 52.0**	**-2.2**
PTVM	**Pico Tres Padr**	**3.51**	**344**	*e*P		**Pn 14 31 19.1**	**+4.2**
PTVM				*e*S		**Sn 14 32 01.4**	**+5.0**
ZIIG	**Zihuatanejo**	**3.52**	**294**			**Pn 14 31 15.9**	**+1.0**
ZIIG						**Sn 14 31 52.8**	**-3.6**
ZIIG	**Zihuatanejo**	**3.52**	**294**	*e*P		**Pn 14 31 15.9**	**+1.0**
ZIIG				*e*S		**Sn 14 31 52.8**	**-3.6**

AZVM	**Cuida Lopez Ma**	**3.55**	**341**		**Sn**	**14 31 57.4**	**-0.1**
AZVM	**Cuida Lopez Ma**	**3.55**	**341**	*eS*	**Sn**	**14 31 57.4**	**-0.1**
VTVM	**Tizayuca**	**3.61**	**350**		**Sn**	**14 31 59.3**	**+0.4**
VTVM	**Tizayuca**	**3.61**	**350**	*eS*	**Sn**	**14 31 59.3**	**+0.4**
PMUV	**Sontecomapan**	**3.67**	**50**	*eP*	**Pn**	**14 31 15.8**	**-1.1**
ZUVM	**ZUMPANGO**	**3.73**	**345**		**Sn**	**14 32 01.0**	**-0.7**
ZUVM	**ZUMPANGO**	**3.73**	**345**	*eS*	**Sn**	**14 32 01.0**	**-0.7**
LVIG	**Laguna Verde**	**3.85**	**24**	*eP*	**Pn**	**14 31 23.8**	**+4.5**
LVIG				*eS*	**Sn**	**14 32 09.0**	**+4.8**
ACIG	**Acambay**	**4.13**	**336**		**Pn**	**14 31 25.7**	**+2.4**
ACIG					**Sn**	**14 32 07.8**	**-3.7**
ACIG	**Acambay**	**4.13**	**336**	*eP*	**Pn**	**14 31 25.7**	**+2.4**
ACIG				*eS*	**Sn**	**14 32 07.8**	**-3.7**
DHIG	**Demacu**	**4.18**	**348**		**Pb**	**14 31 31.1**	**-2.9**
DHIG					**Sn**	**14 32 18.9**	**+6.1**
DEIG	**Demacu**	**4.18**	**348**	*eP*	**Pb**	**14 31 31.1**	**-2.9**
DEIG				*eS*	**Sn**	**14 32 18.9**	**+6.1**
MOIG	**Morelia**	**4.55**	**320**	*eS*	**Sb**	**14 32 29.6**	**-5.5**
PCIG		**4.71**	**95**		**Pn**	**14 31 33.4**	**+2.3**
PCIG					**Sn**	**14 32 22.9**	**-2.6**
PCIG		**4.71**	**95**	*eP*	**Pn**	**14 31 33.4**	**+2.3**
PCIG				*eS*	**Sn**	**14 32 22.9**	**-2.6**
TGIG		**4.80**	**82**		**Sn**	**14 32 27.6**	**-0.2**
TGIG		**4.80**	**82**	*eP*	**Pn**	**14 31 31.8**	**-0.6**
TGIG				*eS*	**Sn**	**14 32 27.6**	**-0.2**
CTUV	**Llano Grande**	**5.25**	**357**	*eS*	**Sn**	**14 32 42.2**	**+3.3**
MMIG	**Aquila**	**5.44**	**293**		**Sn**	**14 32 46.0**	**+2.4**
MMIG	**Aquila**	**5.44**	**293**	*eS*	**Sn**	**14 32 46.0**	**+2.4**
CCIG	**Comitan**	**5.71**	**88**	*eS*	**Sn**	**14 32 56.5**	**+5.8**
PATR	**El Naranjo**	**5.74**	**100**	*eP*	Pn	14 31 50.7	+5.2
PATR				*eS*	**Sn**	**14 32 49.6**	**-1.7**
PAVE	**Pavencul**	**5.78**	**99**	*eP*	**Pn**	14 31 52.4	+6.3
PAVE				*eS*	**Sn**	**14 32 50.0**	**-2.3**
CHUJ	**Union Juarez**	**5.86**	**100**	*eP*	**Pn**	**14 31 50.3**	**+3.1**
CHUJ				*eS*	**Sn**	**14 32 50.4**	**-4.0**
RPIG	**Rio Verde**	**5.93**	**343**		**Sn**	**14 33 00.8**	**+5.0**
RPIG	**Rio Verde**	**5.93**	**343**	*eS*	**Sn**	**14 33 00.8**	**+5.0**
COIG	**Colima**	**6.11**	**300**	*eP*	**Pn**	**14 31 51.9**	**+1.4**
COIG				*eS*	**Sn**	**14 32 55.4**	**-4.8**
JUBC	**Volcan de Coli**	**6.18**	**303**	*eS*	**Sn**	**14 33 06.4**	**+4.2**
EZ5V		**6.18**	**303**	*eS*	**Sn**	**14 32 56.3**	**-6.0**
MNGA	**Volcan de Coli**	**6.19**	**302**	*eS*	**Sn**	**14 33 07.3**	**+4.8**
INCO	**Volcan de Coli**	**6.21**	**303**	*eP*	**Pn**	**14 31 53.9**	**+1.8**
INCO				*eS*	**Sn**	**14 32 57.5**	**-5.6**
SOMAC	**Volcano de Col**	**6.23**	**303**	*eS*	**Sn**	**14 33 11.7**	**+8.1**
CDAR	**Ciudad de Arme**	**6.27**	**297**	*eS*	**Sn**	**14 33 07.0**	**+2.9**
GTIG	**Gomez Farias**	**6.91**	**352**	*eP*	**Pn**	**14 32 01.4**	**0.0**
GTIG				*eS*	**Sn**	**14 33 17.0**	**-2.8**
CHU	**Emiliano Zapat**	**7.03**	**297**	*eS*	**Sn**	**14 33 30.1**	**+7.3**
ESTA	**Talpa de Allen**	**7.66**	**304**	*eS*	**Sn**	**14 33 42.2**	**+3.7**
MTO3	**Montecristo**	**8.61**	**101**	Pn	**Pn**	**14 32 24.5**	**-0.4**
TEIG	**Tepich**	**10.14**	**65**	Pn	**Pn**	**14 32 45.7**	**-0.1**
TXAR	**Lajitas Array**	**14.04**	**340**	Pn	**P**	**14 33 46.6**	**-0.4**
	baz=153,slow=13,SNR=5.2						
	0.6nm,0.8s						
POST	**Post**	**17.07**	**350**	Pn	**Pn**	**14 34 17.1**	**-1.9**
ANMO	**Albuquerque**	**20.12**	**340**	LR	LR	14 44 18.8	
	comp=Z,114nm,20.0s,baz=217,slow=41						
T35A	**Sooner Cattle**	**20.68**	**4**	P	**P**	**14 34 59.6**	**-0.5**
HODGE	**Hodges**	**22.91**	**35**	P	**P**	**14 35 23.2**	**-0.8**
HODGE				IAmb	IAmb	14 35 31.4	
	comp=Z,11nm,0.9s						
PDAR	**Pinedale Array**	**28.24**	**342**	P	**P**	**14 36 16.1**	**+2.8**
	comp=Z,0.3nm,0.7s,baz=155,slow=11,SNR=2.0						
	comp=Z,0.3nm,0.7s						
NVAR	**Mina Array Bea**	**28.39**	**325**	P	**P**	**14 36 16.9**	**+2.1**
	comp=Z,0.3nm,0.7s,baz=142,slow=10,SNR=3.0						
	comp=Z,0.3nm,0.7s						
L56A	**Greenwood**	**31.29**	**30**	P	**P**	**14 36 39.0**	**-1.1**
L56A				IAmb	IAmb	14 37 06.5	
	comp=Z,16nm,1.2s						
D41A	**Chassel**	**31.77**	**12**	P	**P**	**14 36 43.0**	**-1.3**
G62A	**West of Eustis**	**37.04**	**33**	P	**P**	**14 37 29.0**	**-0.9**
YKA	**Yellowknife Ar**	**47.68**	**350**	P	**P**	**14 38 57.7**	**+1.4**
	comp=Z,0.8nm,1.1s,baz=150,slow=7.8,SNR=3.6						
	comp=Z,0.8nm,1.1s						
H03N2	**Juan Fernandez**	**52.64**	**160**	T	T	15 36 00.8	
	baz=338,slow=77,SNR=58						
H03N1	**Juan Fernandez**	**52.65**	**160**	T	T	15 36 04.0	
	baz=338,slow=77,SNR=70						
H03N3	**Juan Fernandez**	**52.66**	**160**	T	T	15 36 00.9	
	baz=338,slow=77,SNR=64						
RC01	**Rabbit Creek A**	**57.86**	**333**	P	**P**	**14 40 10.1**	**-1.4**
RC01				IAmb	IAmb	14 40 40.7	
	comp=Z,7.7nm,1.3s						
ILAR	**Eielson Array**	**58.55**	**338**	P	**P**	**14 40 18.1**	**+1.7**
	comp=Z,0.4nm,0.9s,baz=140,slow=7.1,SNR=4.7						
	comp=Z,0.4nm,0.9s						

IDC 05 14:37:25.6±999.0, 49°14N×10°63E, h0km, Error ellipse: s-maj=439.4km s-min=48.3km az=96.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**2.05**	**97**	I	I	14 51 39.2	
	0.1nm,1.0s,baz=279,slow=328,SNR=7.1						
I43RU	**DUBNA INFRASONI**	**7.65**	**54**	I	I	16 22 30.0	
	baz=253,slow=333,SNR=1.9						
I31KZ	**AKTYUBINSK INF**	**30.24**	**69**	I	I	17 40 10.0	
	baz=292,slow=309,SNR=0.3						

*IDC **05** 14:57:08.1±1.4, 4.°84N×75.°90W, h0km, mb3.5/2, mbtmp3.6/3, ML2.5/1, Error ellipse: s-maj=34.5km s-min=15.3km az=179.0*
*RSNC **05** 14:57:11.9±0.0, 5.°1N×2.°7°6W±.°, h0km±3km, M3.1, ML3.4*
ISC 05 14:57:09.9±1.1, 4.°89N±0.°02×75.°72W±0.°02, h4km±8km, n37, σ1°44/68, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAN1	**Manizales, Cal**	**0.27**	**47**	P	**Pb**	**14 57 16.2**	**-1.2**
CMAN1				S	**Sg**	**14 57 19.9**	**+1.2**
RECRC	**Villamaria, Ca**	**0.37**	**79**	P	**Pg**	**14 57 17.4**	**+0.2**
RECRC				S	**Sg**	**14 57 22.3**	**+0.1**
GUY2C	**Guyana, Caldas**	**0.48**	**47**	P	**Pg**	**14 57 19.6**	**+0.3**
GUY2C				S	**Sg**	**14 57 25.8**	**+0.1**
ANIL	**Santa Ana**	**0.51**	**141**	P	**Pg**	**14 57 19.8**	**+0.1**
ANIL				S	**Sg**	**14 57 26.6**	**+0.3**
PLMC	**San Jos del P**	**0.56**	**272**	P	**Pb**	**14 57 22.6**	**+0.3**
PLMC				S	**Sb**	**14 57 31.2**	**+0.5**
CBOC	**Ciudad Bolivar**	**1.01**	**343**	P	**Pg**	**14 57 29.0**	**-0.3**
CBOC				S	**Sb**	**14 57 43.0**	**-0.7**
NORC	**Norcasia**	**1.08**	**52**	P	**Pg**	**14 57 30.3**	**-0.3**
NORC				S	**Sg**	**14 57 43.3**	**-1.3**
ORTC	**Ortega, Tolima**	**1.08**	**154**	P	**Pg**	**14 57 30.3**	**-0.4**
ORTC				S	**Sg**	**14 57 44.9**	**+0.2**
YOTC	**Yotoco, Valle**	**1.09**	**215**	P	**Pg**	**14 57 30.0**	**-0.9**
YOTC				S	**Sg**	**14 57 45.0**	**-0.1**
YOTC				S	**Sg**	**14 57 45.0**	**-0.1**
HELC	**Santa Helena**	**1.31**	**8**	P	**Pg**	**14 57 33.6**	**-1.4**
HELC				S	**Sg**	**14 57 51.4**	**-0.5**
ROSC	**El Rosal**	**1.40**	**92**	Pg	**Pg**	**14 57 37.8**	**+1.1**
	33nm,0.3s,baz=306,slow=19,SNR=28						
ROSC				Lg	Lg	14 57 58.1	
	28nm,0.3s,baz=294,slow=20,SNR=10						
ROSC	**El Rosal**	**1.40**	**92**	P	**Pg**	**14 57 38.0**	**+1.3**
ROSC				S	**Sn**	**14 57 57.3**	**+1.8**
PIZC	**Pizarro, Choco**	**1.64**	**273**	P	**Pg**	**14 57 42.2**	**+1.0**
PIZC				S	**Sg**	**14 58 06.3**	**+3.8**
SPBC	**San Pablo de B**	**1.81**	**65**	P	**Pb**	**14 57 43.0**	**-0.6**
SPBC				S	**Sb**	**14 58 07.1**	**+0.5**
MALC	**Bahia Malaga**	**1.83**	**242**	P	**Pg**	**14 57 44.3**	**-0.7**
MALC				S	**Sg**	**14 58 10.7**	**+2.0**
JAMC	**Jamundi, Valle**	**1.92**	**210**	P	**Pn**	**14 57 44.0**	**+0.5**
JAMC				S	**Sb**	**14 58 09.4**	**-0.5**
PTBC	**PUERTO BERRIO,**	**2.07**	**37**	P	**Pb**	**14 57 47.4**	**-0.6**
PTBC				S	**Sn**	**14 58 12.1**	**+0.5**
VILC	**Villavicencio,**	**2.16**	**111**	P	**Pb**	**14 57 50.0**	**+0.3**
VILC				S	**Sb**	**14 58 17.1**	**+0.2**
DBBC	**Dabeiba**	**2.17**	**347**	P	**Pb**	**14 57 49.7**	**-0.1**
DBBC				S	**Sg**	**14 58 19.7**	**+0.1**
BETC	**Betania**	**2.21**	**173**	P	**Pb**	**14 57 49.5**	**-1.0**
BETC				S	**Sb**	**14 58 17.4**	**-0.8**
POPC	**Popayan, Colom**	**2.52**	**202**	P	**Pn**	**14 57 53.5**	**+1.7**
POPC				S	**Sb**	**14 58 25.1**	**-2.2**
GARC	**Garzon, Huila**	**2.69**	**175**	P	**Pb**	**14 57 58.7**	**-0.1**
GARC				S	**Sb**	**14 58 31.8**	**-0.5**
RUSC	**La Rusia**	**2.81**	**69**	P	**Pb**	**14 57 58.9**	**-2.0**
RUSC				S	**Sb**	**14 58 35.4**	**-0.4**
UREC	**San Jos de Ur**	**2.85**	**4**	P	**Pb**	**14 58 00.1**	**-1.2**
UREC				S	**Sb**	**14 58 36.4**	**-0.2**
BARC	**Barichara**	**3.04**	**56**	P	**Pn**	**14 58 01.4**	**+2.4**
BARC				S	**Sb**	**14 58 41.3**	**-1.0**
PTAC	**Punta Ardita,**	**3.06**	**317**	P	**Pn**	**14 58 01.2**	**+2.2**
GR1C	**Gorgona, Isla**	**3.08**	**233**	P	**Pn**	**14 58 00.3**	**+1.0**
GR1C				S	**Sb**	**14 58 41.4**	**-1.7**
APAC	**Apartado, Choc**	**3.11**	**344**	P	**Pb**	**14 58 06.5**	**+0.7**
APAC				S	**Sg**	**14 58 47.0**	**-2.9**
BBAC	**Balboa, Cauca**	**3.23**	**208**	P	**Pb**	**14 58 06.5**	**-1.4**
BBAC				S	**Sb**	**14 58 44.0**	**-3.8**
FLOC	**Florencia**	**3.29**	**179**	P	Pn	**14 58 04.3**	**+2.1**
FLOC				S	**Sb**	**14 58 49.2**	**0.0**
MACC	**Macarena, Meta**	**3.31**	**146**	P	**Pb**	**14 58 07.9**	**-1.2**
MACC				S	**Sb**	**14 58 51.1**	**+1.4**
PAMC	**Pamplona, Colo**	**3.87**	**51**	P	**Pb**	**14 58 15.7**	**-3.2**
PAMC				S	**Sn**	**14 59 00.2**	**+3.5**
SJCC	**San Jacinto, C**	**5.00**	**6**	P	Pn	14 58 30.7	+4.9
SDV	**Santo Domingo**	**6.42**	**52**	Pn	**Pn**	**14 58 46.2**	**+0.7**
	1.0nm,0.3s,baz=253,slow=14,SNR=2.0						
SDV				S	**Sn**	**15 00 01.0**	**+1.6**
	1.8nm,0.3s,baz=252,slow=19,SNR=3.8						
	2.3nm,0.4s						
SIV	**San Ignacio**	**25.31**	**145**	P	**P**	**15 02 36.9**	**-0.9**
	0.6nm,0.4s,baz=316,slow=10,SNR=3.6						
	0.6nm,0.4s						
ILAR	**Eielson Array**	**77.62**	**335**	P	**P**	**15 09 06.3**	**-0.8**
	0.4nm,1.0s,baz=119,slow=5.6,SNR=2.7						
	0.4nm,1.0s						
ASAR	**Alice Springs**	**145.89**	**234**	PKPbc	**PKPdf**	**15 16 48.9**	**-2.0**
	0.3nm,0.5s,baz=121,slow=3.2,SNR=7.1						

*IDC **05** 15:02:48.2±0.8, 6.°77N×73.°02W, h155km±11km, mb3.0/1, mbtmp3.8/4, Error ellipse: s-maj=41.8km s-min=7.9km az=133.0*
*RSNC **05** 15:02:49.6±0.0, 7.°1N±1.°×7.°3W±.°, h145km±2km, M3.5, mb4.0, mB4.8, ML3.1, Mw(mB)4.1*
ISC 05 15:02:48.1±0.9, 6.°84N±0.°03×73.°10W±0.°04, h149km±6km, n42, σ1°48/80, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**199**	P	**Pn**	**15 03 09.2**	**+0.4**
BARC				S	**Sn**	**15 03 24.1**	**-0.4**
PAMC	**Pamplona, Colo**	**0.63**	**38**	P	**Pn**	**15 03 12.0**	**+1.3**
PAMC				S	**Sn**	**15 03 29.2**	**+1.3**
RUSC	**La Rusia**	**0.94**	**179**	P	**Pn**	**15 03 13.1**	**+0.2**
RUSC				S	**Sn**	**15 03 31.3**	**-0.5**
TAMC	**Tame, Arauca**	**1.36**	**107**	P	**Pn**	**15 03 17.5**	**+1.3**
TAMC				S	**Sn**	**15 03 38.7**	**+1.1**
PTBC	**PUERTO BERRIO,**	**1.39**	**258**	P	**Pn**	**15 03 16.2**	**-0.2**
PTBC				S	**Sn**	**15 03 36.5**	**-1.6**
OCAC	**Ocana**	**1.41**	**351**	P	**Pn**	**15 03 17.5**	**+0.6**
OCAC				S	**Sn**	**15 03 39.2**	**+0.3**
SPBC	**San Pablo de B**	**1.53**	**220**	P	**Pn**	**15 03 18.2**	**+0.2**
SPBC				S	**Sn**	**15 03 40.4**	**-0.5**
NORC	**Norcasia**	**2.17**	**234**	P	**Pn**	**15 03 25.2**	**-0.1**
NORC				S	**Sn**	**15 03 52.9**	**-1.0**
ROSC	**El Rosal**	**2.33**	**212**	P	**Pn**	**15 03 29.1**	**+1.5**
	126nm,0.3s,baz=50,slow=17,SNR=88						
ROSC				S	**Sn**	**15 03 58.2**	**+0.3**
	60nm,0.3s,baz=139,slow=22,SNR=5.2						
ROSC	**El Rosal**	**2.33**	**212**	P	**Pn**	**15 03 29.0**	**+1.5**
ROSC				S	**Sn**	**15 03 58.0**	**+0.2**
HELC	**Santa Helena**	**2.50**	**255**	P	**Pn**	**15 03 30.7**	**+1.1**
HELC				S	**Sn**	**15 04 01.2**	**-0.3**
UREC	**San Jos de Ur**	**2.58**	**291**	P	**Pn**	**15 03 29.8**	**-0.4**
UREC				S	**Sn**	**15 03 31.6**	**+1.4**
UREC				S	**Sn**	**15 04 00.1**	**-2.6**
GUY2C	**Guyana, Caldas**	**2.77**	**235**	P	**Pn**	**15 03 34.3**	**+1.3**
GUY2C				S	**Sn**	**15 04 07.6**	**0.0**
VILC	**Villavicencio,**	**2.77**	**192**	P	**Pn**	**15 03 32.5**	**-0.3**
VILC				S	**Sn**	**15 04 08.0**	**+0.7**
PTGC	**Puerto Gaitan,**	**2.79**	**160**	P	**Pn**	**15 03 32.4**	**-0.5**
PTGC				S	**Sn**	**15 04 05.1**	**-2.4**
CBOC	**Ciudad Bolivar**	**3.06**	**252**	P	**Pn**	**15 03 37.3**	**+1.0**
CBOC				S	**Sn**	**15 04 12.8**	**-0.8**
DBBC	**Dabeiba**	**3.10**	**273**	P	**Pn**	**15 03 37.3**	**+0.5**
DBBC				S	**Sn**	**15 04 12.4**	**-2.0**
SDV	**Santo Domingo**	**3.17**	**50**	P	**Pn**	**15 03 38.9**	**+1.0**
	31nm,0.3s,baz=230,slow=7.9,SNR=41						
SDV				S	**Sn**	**15 04 16.4**	**0.0**
	120nm,0.6s,baz=251,slow=22,SNR=36						
ARGC	**Ariguani, Magd**	**3.21**	**339**	P	**Pn**	**15 03 40.3**	**+2.2**
ARGC				S	**Sn**	**15 04 18.4**	**+1.5**
APAC	**Apartado, Choc**	**3.61**	**287**	P	**Pn**	**15 03 44.1**	**+0.8**
APAC				S	**Sn**	**15 04 25.7**	**-0.5**
ORTC	**Ortega, Tolima**	**3.61**	**216**	P	**Pn**	**15 03 43.9**	**+0.5**
ORTC				S	**Sn**	**15 04 26.8**	**+0.5**
SJCC	**San Jacinto, C**	**3.67**	**326**	P	**Pn**	**15 03 43.5**	**-0.6**
SJCC				S	**Sn**	**15 04 25.1**	**-2.6**
PLMC	**San Jos del P**	**3.71**	**239**	P	**Pn**	**15 03 45.3**	**+0.7**
PLMC				S	**Sn**	**15 04 29.2**	**+0.7**
CRJC	**Cerrejon, Guaj**	**4.16**	**3**	P	**Pn**	**15 03 49.8**	**-0.7**
CRJC				S	**Sn**	**15 04 35.9**	**-3.2**
YOTC	**Yotoco, Valle**	**4.30**	**229**	P	**Pn**	**15 03 52.1**	**-0.4**
YOTC				S	**Sn**	**15 04 46.1**	**+3.6**
SMRC	**Santa Marta, M**	**4.44**	**346**	P	**Pn**	**15 03 54.2**	**+0.1**
SMRC				S	**Sn**	**15 04 43.0**	**-2.6**
PIZC	**Pizarro, Choco**	**4.63**	**247**	P	**Pn**	**15 03 57.8**	**+1.1**
PIZC				S	**Sn**	**15 04 50.3**	**+0.2**
PTAC	**Punta Ardita,**	**4.69**	**274**	P	**Pn**	**15 03 57.5**	**+0.1**
MACC	**Macarena, Meta**	**4.72**	**189**	P	**Pn**	**15 03 56.4**	**-1.5**
MACC				S	**Sn**	**15 04 48.8**	**-3.5**
BETC	**Betania**	**4.75**	**210**	P	**Pn**	**15 03 57.4**	**-0.8**
URIC	**Uribia, Colomb**	**4.95**	**13**	P	**Pn**	**15 04 00.2**	**-0.7**
URIC				S	**Sn**	**15 04 54.0**	**-3.7**
JAMC	**Jamundi, Valle**	**5.07**	**225**	P	**Pn**	**15 04 02.2**	**-0.4**
	14nm,0.8s,3µm						
JAMC				S	**Sn**	**15 04 58.6**	**-2.1**
	14nm,0.8s,3µm						
MALC	**Bahia Malaga**	**5.07**	**237**	P	**Pn**	**15 04 03.7**	**+1.2**
	70nm,2.0s						
MALC				S	**Sn**	**15 05 00.5**	**0.0**
	70nm,2.0s						
GARC	**Garzon, Huila**	**5.20**	**207**	P	**Pn**	**15 04 03.8**	**-0.7**
GARC				P	**Pn**	**15 04 03.8**	**-0.7**
GARC				S	**Sn**	**15 04 59.0**	**-5.0**
POPC	**Popayan, Colom**	**5.56**	**220**	P	**Pn**	**15 04 10.0**	**+0.7**
	7.6nm,0.6s						
POPC				S	**Sn**	**15 05 13.0**	**+0.4**
	7.6nm,0.6s						
FLOC	**Florencia**	**5.81**	**206**	P	**Pn**	**15 04 11.6**	**-0.8**
	23nm,1.1s						
BBAC	**Balboa, Cauca**	**6.33**	**221**	P	**Pn**	**15 04 20.6**	**+1.2**
BBAC				S	**Sn**	**15 05 29.0**	**-1.9**
CRUC	**La Cruz**	**6.50**	**216**	P	**Pn**	**15 04 23.8**	**+2.0**
PCRV	**Puerto La Cruz**	**9.00**	**68**	P	**Pn**	**15 04 56.0**	**+1.0**
	2.4nm,0.3s,baz=278,slow=7.1,SNR=7.5						
PCRV				S	**Sn**	**15 06 35.3**	**+0.4**
	2.8nm,0.5s,baz=358,slow=17,SNR=1.4						
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**15 13 00.7**	**+0.3**
	0.2nm,0.5s,baz=131,slow=6.7,SNR=6.9						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**149.14**	**234**	PKPbc	**PKPbc**	**15 22 18.5**	**-1.2**
	0.6nm,0.7s,baz=112,slow=3.9,SNR=9.7						
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc	**PKPbc**	**15 22 21.8**	**-1.0**
	0.1nm,0.3s,baz=108,slow=2.7,SNR=8.8						

IDC 05 15:03:45.0±1.9, 5.°00S×140.°04E, h0km, mb3.5/1, mbtmp3.4/3, ML3.6/2, Error ellipse: s-maj=135.5km s-min=26.0km az=110.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.86**	**200**	Pn	Pn	15 07 28.6	-1.1
	0.2nm,0.3s,baz=19,slow=13,SNR=8.4						
WRA				Sn	Sn	15 10 20.0	-6.3
	0.1nm,0.3s,baz=30,slow=21,SNR=3.7						
WRA				Lg	Lg	15 12 10.7	
	0.1nm,0.3s,baz=23,slow=29,SNR=3.1						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**19.48**	**197**	P	P	15 08 14.2	+0.5
	0.3nm,0.3s,baz=27,slow=12,SNR=30						
ASAR				Lg	Lg	15 14 01.8	
	baz=33,slow=34,SNR=2.6						
	0.7nm,0.4s						
ILAR	**Eielson Array**	**87.36**	**24**	P	P	15 16 33.6	0.0
	0.2nm,0.7s,baz=265,slow=5.1,SNR=5.1						
	0.2nm,0.7s						

IDC 05 15:09:48.1±3.0, 6.°69S×154.°56E, h0km, mb3.7/3, mbtmp3.8/4, ML2.0/1, MS3.1/1, Error ellipse: s-maj=77.6km s-min=35.2km az=125.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.81**	**249**	Pn	Pn	15 11 45.1	+1.9
	1.2nm,0.3s,baz=46,slow=12,SNR=4.0						
PMG				Sn	Sn	15 13 12.9	+0.5
	baz=14,slow=17						
	11nm,0.5s						
CTA	**Charters Tower**	**15.57**	**210**	LR	LR	15 18 32.5	
	comp=Z,68nm,18.1s,baz=94,slow=34						
WRA	**Warramunga Arr**	**23.64**	**234**	P	P	15 15 00.7	-0.6
	2.3nm,0.8s,baz=59,slow=9.7,SNR=9.7						
	2.3nm,0.8s						
ASAR	**Alice Springs**	**26.06**	**227**	P	P	15 15 23.4	-0.1
	0.7nm,0.8s,baz=56,slow=8.9,SNR=7.2						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**82.90**	**319**	P	P	15 22 15.1	+0.2
	0.7nm,0.9s,baz=104,slow=5.1,SNR=5.1						
	0.7nm,0.9s						

FUNV 05 15:12:38.9, 8.°94N×61.°29W, h5km, MW3.5, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUEV	**Luepa**	**3.08**	**183**	*eP*	Pn	15 13 27.2	-1.2
LUEV				*eS*	Sn	15 14 03.6	-2.1
PCRV	**Puerto La Cruz**	**3.53**	**291**	*eP*	Pn	15 13 32.9	-1.5
CACV	**CAICARA DEL OR**	**5.38**	**256**	*eP*	Pn	15 13 50.5	-9.3
CACV				*eS*	Sn	15 14 45.0	-17
BENV	**Beln**	**6.31**	**280**	*eP*	Pn	15 14 11.0	-1.7
BENV				*eS*	Sn	15 15 18.7	-6.6
BAUV	**El Baul**	**6.67**	**271**	*eP*	Pn	15 14 15.4	-2.3
BAUV				*eS*	Sn	15 15 26.8	-7.4

*IDC **05** 15:42:40.2±0.4, 52.°59N×160.°38E, h0km, mb5.3/32, mbtmp5.3/37, ML5.0/5, MS4.7/77, Error ellipse: s-maj=11.9km s-min=10.1km az=160.0*
*KRSC **05** 15:42:41.0±1.8, 52.°39N×160.°80E, h48km±21km, Mc5.4, Ml5.8, Felt [III] at MGeoES-1; [II-III] at Petropavlovsk; [II] at Pionersky.*
*NEIC **05** 15:42:41.5, 52.°57N×160.°50E, h30km*
*BJI **05** 15:42:41.9±0.0, 52.°80N×160.°11E, h20km, mb5.3/84, mB5.2/59, Ms5.4/86, Ms7 5.3/84*
*NEIC **05** 15:42:41.5, 52.°37N×161.°49E, h30km, Moment Tensor Solution. Duration: 1ŝ8 Moment tensor: Scale 10^{16}Nm; M_{rr}4.47; $M_{\theta\theta}$-1.54; $M_{\phi\phi}$-2.94; $M_{r\theta}$3.65; $M_{\theta\phi}$-2.82; $M_{r\phi}$3.91; Fault plane solution: $M_0$7.20000×10^{16} NP1:ϕs42.04000°, δ69.08000°, λ93.29000°. NP2:ϕs212.91000°, δ21.17000°, λ81.47000°. Principal axes: T 6.8738, Plg66.0000°, Azm318.0000°; N 0.6437, Plg3.0000°, Azm221.0000°; P -7.5175, Plg24.0000°, Azm129.0000°;*
*NEIC **05** 15:42:43.6±1.9, 52.°59N±0.°08×160.°45E±0.°09, h22km±3km, mb5.2/448, Mww5.2/12 Error ellipse: s-maj=12.2km s-min=8.2km az=177.0*
*MOS **05** 15:42:45.5±0.9, 52.°55N×160.°38E, h64km, mb5.7/88, MS5.0/35, Error ellipse: s-maj=5.5km s-min=3.5km az=98.7*
*GCMT **05** 15:42:47.6±0.1, 52.°43N±0.°01×160.°68E±0.°02, h27km, MW5.3/135, Moment Tensor Solution. s100,c156; s135,c237; Duration: 1ŝ0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.71±.02; $M_{\theta\theta}$-0.38±.01; $M_{\phi\phi}$-0.33±.01; $M_{r\theta}$0.47±.02; $M_{r\phi}$-0.41±.01; $M_{\theta\phi}$0.43±.02; Best double couple: $M_0$0.97300×10^{17} NP1:ϕs47.00000°, δ65.00000°, λ90.00000°. NP2:ϕs226.00000°, δ25.00000°, λ89.00000°. Principal axes: T 0.9450, Plg70.0000°, Azm318.0000°; N 0.0570, Plg0.0000°, Azm227.0000°; P -1.0010, Plg20.0000°, Azm137.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 05 15:42:43.7±0.4, 52.°60N±0.°03×160.°61E±0.°02, h29km±2km, h29km:pP-P, n1619, σ1°64/1506, mb5.3/478, MS5.0/130, 136C-52D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**

KIRR Kirishev 3.37 357 PN Pn 15 43 38.5 +4.1
KIRR Kirishev 3.37 357 eP Pn 15 43 38.5 +4.1
BZWR Bezymyannyi-We 3.37 359 PN Pn 15 43 38.4 +3.9
BZWR Bezymyannyi-We 3.37 359 eP Pn 15 43 38.4 +3.9
KPT Kopyto 3.38 356 PN Pn 15 43 38.5 +3.9
KPT Kopyto 3.38 356 eP Pn 15 43 38.5 +3.9
SKR Severo-Kuril's 3.39 237 ⇓iPN Pn 15 43 34.7 +0.1
SKR eS Sn 15 44 11.1 -2.7
SKR pmax pmax
comp=Z,460nm,1.0s
SKR smax smax
comp=N,12μm,0.7s
SKR smax smax
comp=E,33μm,0.7s
SKR Severo-Kuril's 3.39 237 eP Pn 15 43 34.1 -0.5
SKR eS Sn 15 44 12.2 -1.6
ZLN Zelenaya 3.43 2 PN Pb 15 43 40.0 -3.8
ZLN Zelenaya 3.43 2 eP Pb 15 43 40.0 -3.8
KOZ Kozyrevsk 3.49 353 PN Pn 15 43 38.7 +2.6
KOZ Kozyrevsk 3.49 353 eP Pn 15 43 38.7 +2.6
ESO Esso 3.52 342 PN Pn 15 43 39.2 +2.8
ESO Esso 3.52 342 eP Pn 15 43 39.2 +2.8
KRSR Krestovskiy 3.63 360 PN Pn 15 43 41.6 +3.6
KRSR S Sb 15 44 27.2 -3.5
KRSR Krestovskiy 3.63 360 eP Pn 15 43 41.6 +3.6
KRSR eS Sb 15 44 27.2 -3.5
KLY Klyuchi 3.72 0 PN Pn 15 43 42.8 +3.7
KLY Klyuchi 3.72 0 eP Pn 15 43 42.8 +3.7
SRDR Sredinnyy 3.76 352 PN Pn 15 43 43.3 +3.5
SRDR S Sb 15 44 30.6 -3.9
SRDR Sredinnyy 3.76 352 eP Pn 15 43 43.3 +3.5
SRDR eS Sb 15 44 30.6 -3.9
KBG Krutoberegovo 3.86 18 PN Pn 15 43 42.4 +1.3
KBG Krutoberegovo 3.86 18 eP Pn 15 43 42.4 +1.3
BDR Baidarnaya 3.99 5 PN Pn 15 43 47.5 +4.5
BDR Baidarnaya 3.99 5 eP Pn 15 43 47.5 +4.5
SRKR Sorokina 4.08 4 PN Pb 15 43 49.7 -5.1
SRKR S Sb 15 44 39.6 -4.0
SRKR Sorokina 4.08 4 eP Pb 15 43 49.7 -5.1
SRKR eS Sb 15 44 39.6 -4.0
BKI Bering 4.11 48 PN Pn 15 43 44.7 +0.3
BKI Bering 4.11 48 eP Pn 15 43 44.7 +0.3
TIGL Tigil 5.29 349 eP Pn 15 44 04.3 +3.5
PALN Palana 6.52 357 PN Pn 15 44 21.0 +3.5
PALN Palana 6.52 357 eP Pn 15 44 21.0 +3.5
SHEM Shemya Is, Ala 8.21 84 PN Pn 15 44 41.6 +1.0
comp=E,50nm,0.3s,baz=79,slow=2.1,SNR=13
SHEM Sn Sn 15 46 07.4 -4.9
comp=E,30nm,0.3s,baz=198,slow=23,SNR=10
SHEM LR LR 15 47 45.7
comp=E,5μm,21.1s,baz=302,slow=37
comp=E,114nm,0.4s
MA2 Magadan 8.89 326 PN Pn 15 44 51.8 +1.8
MA2 Magadan 8.89 326 cePN Pn 15 44 53.4 +3.4
MA2 pmax pmax
comp=Z,61nm,1.0s
MA2 MLR MLR
comp=Z,9μm,16.0s
MA2 Magadan 8.89 326 Pn Pn 15 44 53.3 +3.2
comp=Z,0.8nm,0.3s,baz=132,slow=8.3,SNR=38
MA2 LR LR 15 48 47.9
comp=Z,8μm,19.1s,baz=136,slow=42
comp=Z,45nm,0.9s
KMSK Kamenskaya 10.34 15 PN Pn 15 45 13.5 +3.7
KMSK Kamenskaya 10.34 15 eP Pn 15 45 13.5 +3.7
OKH Okha 10.68 282 ciPN Pn 15 45 17.2 +2.7
OKH iS Sn 15 47 21.0 +8.0
OKH pmax pmax
comp=Z,500nm,11.7s
OKH smax smax
comp=E,900nm,7.9s
OKH MLR MLR
comp=Z,6μm,14.0s
OKH MLR MLR
comp=N,8μm,14.0s
OKH MLR MLR
comp=E,8μm,14.0s
KUR Kuril'sk 11.15 234 ePN Pn 15 45 23.3 +2.3
KUR eS Sn 15 47 28.3 +3.7
KUR pmax pmax
comp=E,96nm,0.7s
KUR pmax pmax
comp=Z,148nm,0.7s
KUR pmax pmax
comp=N,34nm,0.5s
KUR Kuril'sk 11.15 234 eP Pn 15 45 21.2 +0.2
SEY Seymchan 11.24 340 cePN Pn 15 45 26.1 +3.9
SEY pmax pmax
comp=Z,56nm,1.3s
SEY Seymchan 11.24 340 Pn Pn 15 45 25.9 +3.7
comp=Z,0.1nm,0.3s,baz=143,slow=12,SNR=31
SEY LR LR 15 50 04.1
comp=Z,4μm,19.6s,baz=154,slow=40
TYV Tymovskoe 11.27 268 ePN Pn 15 45 27.7 +5.1
TYV eS Sn 15 47 30.6 +3.1
TYV pmax pmax
comp=Z,63nm,1.4s
TYV pmax pmax
comp=Z,900nm,3.6s
TYV smax smax
comp=N,9.0nm,1.8s
TYV smax smax
comp=E,7.0nm,1.8s
TYV smax smax
comp=N,300nm,5.7s
TYV smax smax
comp=E,200nm,5.7s
TYV MLR MLR
comp=N,4μm,16.0s
TYV MLR MLR
comp=E,6μm,16.0s
TYV Tymovskoe 11.27 268 eP Pn 15 45 26.8 +4.2
NKL Nikolayevsk 12.05 281 ePN Pn 15 45 32.9 -0.4
NKL pmax pmax
comp=N,317nm,1.1s
NKL pmax pmax
comp=E,83nm,0.6s
NKL pmax pmax
comp=Z,921nm,1.0s
NKL MLR MLR
comp=E,17μm,15.0s
NKL MLR MLR
comp=N,7μm,14.0s
NKL MLR MLR
comp=Z,24μm,18.0s
UGL Uglegorsk 12.23 261 ePN Pn 15 45 39.5 +3.7
UGL eS Sn 15 47 57.4 +6.3
UGL pmax pmax
comp=Z,400nm,0.9s
UGL pmax pmax
comp=Z,3μm,4.0s
UGL smax smax
comp=E,930nm,7.5s
UGL smax smax
comp=N,750nm,6.5s
UGL MLR MLR
comp=E,8μm,13.0s
UGL MLR MLR
comp=N,5μm,16.0s
UGL MLR MLR
comp=Z,9μm,15.0s
SHO Shikotan 12.65 232 ePN Pn 15 45 37.4 -4.2
SHO pmax pmax
comp=E,44nm,0.4s
SHO pmax pmax
comp=Z,57nm,0.4s
YSS Yuzh-Sakhalins 12.83 251 Pn Pn 15 45 43.8 -0.2
YSS Yuzh-Sakhalins 12.83 251 cePN Pn 15 45 45.4 +1.4
YSS eS Sn 15 48 08.2 +2.5
YSS pmax pmax
comp=Z,110nm,1.0s
YSS pmax pmax
comp=Z,700nm,7.0s
YSS pmax pmax
comp=N,300nm,2.0s
YSS pmax pmax
comp=E,500nm,5.9s
YSS MLR MLR
comp=Z,13μm,13.0s
YUK Yuzh-Kuril'sk 13.01 235 ⇓iPN Pn 15 45 41.8 -4.6
YUK eS Sn 15 48 10.9 +0.9
YUK pmax pmax
comp=Z,396nm,0.6s
YUK pmax pmax
comp=N,87nm,0.4s
YUK pmax pmax
comp=E,244nm,0.4s
YUK MLR MLR
comp=Z,6μm,19.0s
YUK Yuzh-Kuril'sk 13.01 235 eP Pn 15 45 43.7 -2.7
NMR Nemuro--Hokkai 13.56 233 ePN Pn 15 45 48.0 -5.9
ADK Adak 13.92 84 P Pn 15 45 59.7 +0.9
JKA Kamikawa-asahi 14.64 242 Pn Pn 15 46 07.2 -1.5
ASAJ Asahikawa 14.64 242 P Pn 15 46 07.2 -1.5
ASAJ Asahikawa 14.64 242 Pn Pn 15 46 08.0 -0.7
comp=Z,3.4nm,0.3s,baz=68,slow=8.7,SNR=34
ASAJ LR LR 15 52 32.5
comp=Z,2μm,19.2s,baz=54,slow=41
comp=Z,122nm,0.8s
GRNR Gornyy 15.10 273 ⇑iP Pn 15 46 16.8 +2.0
GRNR eS Sn 15 49 04.0 +3.1
GRNR pmax pmax
comp=E,150nm,0.8s
GRNR pmax pmax
comp=N,50nm,0.9s
GRNR pmax pmax
comp=Z,230nm,0.9s
GRNR smax smax
comp=N,3.0nm,0.8s
GRNR MLR MLR
comp=E,3μm,14.0s
GRNR MLR MLR
comp=N,2μm,16.0s
ATKA Atka Island 15.36 81 P P 15 46 20.6 -2.0
BILL Bilibino 15.73 8 Pn Pn 15 46 24.6 +1.7
BILL IAmb IAmb 15 46 31.4
comp=Z,162nm,0.8s
BILL Bilibino 15.73 8 iP P 15 46 25.1 -1.5
BILL pmax pmax
comp=Z,180nm,0.9s
BILL MLR MLR
comp=Z,2μm,12.4s
ERM Erimo 15.84 235 Pn Pn 15 46 23.8 -0.6
ERM IAmb IAmb 15 46 31.2
comp=Z,106nm,1.1s
ERM Erimo 15.84 235 P Pn 15 46 23.8 -0.6
ERM pmax pmax
comp=Z,107nm,1.1s
TEY Ternei 17.47 254 ⇓eP Pn 15 46 45.2 +0.2
TEY pmax pmax
comp=N,20nm,1.2s
TEY pmax pmax
comp=Z,100nm,1.2s
TEY pmax pmax
comp=E,40nm,1.2s
JTM Tennabayashi 17.80 236 Pn Pn 15 46 42.7 -6.4
GAMB Gambell 18.21 41 P P 15 46 55.2 +1.1
baz=245
NIKH Nikolski High 18.41 77 P Pn 15 46 58.7 +2.2
NIKH Nikolski High 18.41 77 P Pn 15 46 57.2 +0.7
baz=281
KLR Kul'dur 18.45 271 ceP Pn 15 46 57.1 +0.1
KLR pmax pmax
comp=Z,184nm,1.7s
KLR MLR MLR
comp=Z,6μm,17.0s
KLR Kul'dur 18.45 271 P Pn 15 46 57.2 +0.2
comp=Z,2.4nm,0.3s,baz=66,slow=10,SNR=124
KLR LR LR 15 54 48.1
comp=Z,6μm,18.7s,baz=72,slow=40
comp=Z,82nm,0.9s
YAK Yakutsk 19.00 312 P P 15 47 01.1 -1.6
YAK Yakutsk 19.00 312 eP P 15 47 01.5 -1.2
YAK eS Sn 15 50 35.2 0.0
YAK pmax pmax
comp=Z,417nm,1.0s
YAK pmax pmax
comp=N,126nm,1.5s
YAK pmax pmax
comp=E,309nm,1.5s
YAK smax smax
comp=E,255nm,3.3s
YAK smax smax
comp=N,194nm,2.9s
YAK MLR MLR
comp=N,4μm,21.0s
YAK MLR MLR
comp=E,3μm,16.0s
YAK Yakutsk 19.00 312 P P 15 47 01.7 -1.0
comp=E,18nm,0.3s,baz=93,slow=5.2,SNR=95
YAK LR LR 15 55 06.9
comp=E,3μm,18.6s,baz=110,slow=40
comp=E,438nm,0.9s
UNV Unalaska Valle 19.64 73 P Pn 15 47 12.6 +1.4
UNV Unalaska Valle 19.64 73 P Pn 15 47 11.1 -0.2
baz=280
M11K Mekoryuk 19.73 54 P P 15 47 10.9 +0.3
baz=262
ZEA Zeya 19.93 287 eP P 15 47 12.1 -0.8
ZEA eS S 15 50 39.4 -16
ZEA pmax pmax
comp=Z,200nm,1.3s
ZEA pmax pmax
comp=E,100nm,1.4s
ZEA pmax pmax
comp=N,50nm,0.7s
ZEA pmax pmax
comp=Z,160nm,0.9s
ZEA smax smax
comp=E,200nm,12.3s
ZEA MLR MLR
comp=E,2μm,15.0s
ZEA MLR MLR
comp=N,2μm,14.0s
ZEA MLR MLR
comp=Z,2μm,14.0s
JMM Marumori 20.19 231 P 15 47 16.3 +0.5
JMM Marumori 20.19 231 P Pn 15 47 19.0 +1.1
TNA Tin City 20.44 38 P P 15 47 18.7 +0.3
baz=246,SNR=14
USA0B Ussuriysk Arra 20.67 257 P P 15 47 18.7 -2.3
USA0B IAmb IAmb 15 47 21.4
comp=Z,210nm,0.9s
USA0B Ussuriysk Arra 20.67 257 iP P 15 47 17.7 -3.3
USRK Ussuriysk Ar. 20.67 257 P P 15 47 18.4 -2.6
USRK Ussuriysk Ar. 20.67 257 P P 15 47 19.7 -1.3
comp=Z,190nm,0.9s,baz=59,slow=8.2,SNR=98
USRK LR LR 15 56 04.4
comp=Z,5μm,18.3s,baz=61,slow=39
comp=Z,190nm,0.9s
HEH HeiHe 20.73 277 eP P 15 47 19.7 -1.9
HEH S S 15 51 07.6 -3.8
HEH sS Sn 15 51 16.5 -0.5
HEH SS SnSn 15 51 37.4 +5.8
HEH ScP ScP 15 55 05.0 +0.7
HEH ScS ScS 15 58 49.4 +2.0
HEH pmax pmax
comp=Z,130nm,0.8s
HEH pmax pmax
comp=Z,520nm,4.2s
HEH LR LR
comp=Z,4μm,15.5s
HEH LR LR
comp=Z,4μm,17.6s
HEH LR LR
comp=Z,7μm,15.5s
F14K Arctic Creek 21.02 39 P P 15 47 26.0 +1.4
baz=248,SNR=5.7
ANM Nome 21.08 42 P P 15 47 27.4 +2.1
ANM IAmb IAmb 15 47 41.9
comp=Z,117nm,1.8s
ANM Nome 21.08 42 P P 15 47 27.4 +2.1
ANM pmax pmax
comp=Z,117nm,1.8s
ANM Nome 21.08 42 P P 15 47 25.9 +0.6
baz=252,SNR=8.3
M13K Dall Lake 21.14 54 P P 15 47 27.4 +1.5
M13K IAmb IAmb 15 47 40.4
comp=Z,340nm,1.9s
M13K Dall Lake 21.14 54 P P 15 47 27.7 +1.8
baz=264
FALS False Pass 21.26 70 P P 15 47 28.9 +1.7
baz=279
JSD Sado 21.30 236 P P 15 47 26.9 -0.9
JSD IAmb IAmb 15 47 37.9
comp=Z,205nm,0.8s
JSD Sado 21.30 236 P P 15 47 30.0 +2.2
VLA Vladivostok 21.35 255 iP P 15 47 26.1 -2.2
J14K Nanvaranak Lak 21.39 48 P P 15 47 30.1 +1.5
baz=258,SNR=7.3
L14K Kuka Creek 21.56 52 IAmb IAmb 15 47 45.2
comp=Z,129nm,1.6s
L14K Kuka Creek 21.56 52 P P 15 47 31.5 +1.0
baz=263,SNR=6.9
F15K North Star Dit 21.75 40 P P 15 47 33.2 +0.7
baz=250
G15K Niukluk 21.76 42 P P 15 47 33.9 +1.3
baz=252,SNR=9.7
M14K Bethel 21.85 53 P P 15 47 35.7 +2.1
M14K IAmb IAmb 15 47 50.6
comp=Z,55nm,1.0s
M14K Bethel 21.85 53 P P 15 47 33.7 +0.2
baz=265
MDJ Mudanjiang 21.87 261 P P 15 47 31.5 -2.4
MDJ sP pP 15 47 38.7 -2.5
MDJ PP PnPn 15 47 54.7 -0.9
MDJ SS SnSn 15 52 05.8 +6.1
MDJ pmax pmax
comp=Z,180nm,0.9s
MDJ pmax pmax
comp=Z,340nm,3.9s
MDJ LR LR
comp=Z,7μm,13.7s
MDJ LR LR
comp=Z,4μm,16.1s
MDJ LR LR
comp=Z,9μm,14.3s
MDJ Mudanjiang 21.87 261 IAmb IAmb 15 47 33.9
comp=Z,143nm,0.9s
N14K Kuskokwak Cree 21.93 56 P P 15 47 35.4 +1.0
baz=267
MSHR Mys Shultsa 22.10 255 ceP P 15 47 37.4 +1.0
MSHR pmax pmax
comp=Z,100nm,0.8s
O14K Tigyukauivet M 22.12 57 P P 15 47 37.5 +1.0
baz=269
L15K Ungalak Mounta 22.18 51 P P 15 47 37.4 +0.4
baz=263
K15K Wolf Creek Mou 22.24 49 P P 15 47 39.5 +1.8
K15K IAmb IAmb 15 47 59.4
comp=Z,62nm,1.1s
K15K Wolf Creek Mou 22.24 49 P P 15 47 38.3 +0.6
baz=262,SNR=9.2
PSTR Posyet 22.27 255 iP P 15 47 35.0 -3.2
H16K Elim 22.40 43 P P 15 47 40.3 +0.9
baz=255,SNR=13
M15K Kasigluk River 22.47 54 P P 15 47 40.2 0.0
baz=266,SNR=26
MJB9 Matsu-Tunnel 22.49 233 P P 15 47 40.1 -0.5
MAJO Matsushiro 22.49 233 P P 15 47 40.2 -0.4
MAJO Matsushiro 22.49 233 P P 15 47 42.3 +1.6
MAJO Matsushiro 22.49 233 iP P 15 47 40.9 +0.2
MAJO pmax pmax
comp=Z,130nm,0.7s
MJAR Matsushiro Arr 22.49 233 P P 15 47 40.1 -0.6
comp=Z,77nm,0.9s,baz=32,slow=8.2,SNR=61
MJAR LR LR 15 56 55.0
comp=Z,3μm,21.6s,baz=46,slow=38
comp=Z,77nm,0.9s
C16K Lisburne Hills 22.54 33 P P 15 47 41.6 +0.8
baz=243
G16K Koyuk River 22.56 41 P P 15 47 41.7 +0.6
baz=253
BNX BinXian 22.62 266 ⇓P P 15 47 40.1 -1.8
BNX S S 15 51 43.3 -4.4
BNX sS pS 15 51 52.4 -4.0
BNX pmax pmax
comp=Z,260nm,1.0s
BNX pmax pmax
comp=Z,790nm,2.9s
BNX LR LR
comp=Z,7μm,14.7s
BNX LR LR
comp=Z,7μm,15.0s
BNX LR LR
comp=Z,10μm,14.8s
N15K Kwethluk River 22.74 55 IAmb IAmb 15 48 00.9
comp=Z,101nm,1.1s
N15K Kwethluk River 22.74 55 P P 15 47 44.1 +1.0
baz=268,SNR=21
J16K Anvik River 22.82 47 P P 15 47 44.5 +0.7
baz=260,SNR=14
SDPT Sand Point 22.85 68 P P 15 47 47.6 +3.4
SDPT Sand Point 22.85 68 P P 15 47 45.1 +0.9
baz=279
O15K Ungalikthiuk R 22.86 58 P P 15 47 43.9 -0.5
baz=271
I17K Unalakleet 22.89 45 P P 15 47 45.8 +1.3
baz=259,SNR=6.9
D17K Noatak River 23.07 35 P P 15 47 47.7 +1.3
baz=247,SNR=24
L16K Owhat River 23.13 51 P P 15 47 47.9 +0.8
baz=265,SNR=5.4
S14K Fog Glacier 23.23 65 P P 15 47 47.6 -0.6
baz=278
G17K Kiwalik Mounta 23.27 41 P P 15 47 49.2 +0.7
baz=255
F17K Baldwin Pennin 23.30 39 IAmb IAmb 15 47 52.9
comp=Z,44nm,1.0s
F17K Baldwin Pennin 23.30 39 P P 15 47 48.8 0.0
baz=252
M16K Timber Creek 23.33 53 IAmb IAmb 15 48 16.6
comp=Z,74nm,1.2s
M16K Timber Creek 23.33 53 P P 15 47 48.8 -0.3
baz=267,SNR=7.3
C17K DeLong Mountai 23.35 33 P P 15 47 49.7 +0.5
baz=246,SNR=24
N16K Nishlik Lake 23.41 54 P P 15 47 49.3 -0.6
baz=269
H17K Granite Mounta 23.44 43 IAmb IAmb 15 48 09.2
comp=Z,72nm,1.3s
H17K Granite Mounta 23.44 43 P P 15 47 50.5 +0.4
baz=257
CHNA Chernabura Isl 23.44 69 P P 15 47 49.3 -0.9
baz=281
CNBA Chernabura Isl 23.45 69 P P 15 47 51.1 +0.8
CNBA IAmb IAmb 15 48 02.1
comp=Z,69nm,1.0s
JGF Kuroka 23.66 233 P P 15 47 51.8 -0.7
JGF IAmb IAmb 15 47 59.3
comp=Z,71nm,0.8s
JGF Kuroka 23.66 233 P P 15 47 54.2 +1.7
TIXI Tiksi 23.66 335 P P 15 47 51.0 -1.2
TIXI IAmb IAmb 15 47 53.0
comp=Z,189nm,0.9s
TIXI Tiksi 23.66 335 ceP P 15 47 51.4 -0.8
TIXI pmax pmax
comp=Z,185nm,0.8s
TIXI Tiksi 23.66 335 LR LR 15 58 02.0
comp=Z,3μm,18.9s,baz=144,slow=39
L17K Donlin 23.72 50 P P 15 47 52.3 -0.6
baz=265,SNR=9.4
O16K Kokwok River B 23.74 56 P P 15 47 52.3 -0.7
baz=271
K17K Iditarod 23.78 49 IAmb IAmb 15 48 15.5
comp=Z,58nm,1.1s
K17K Iditarod 23.78 49 P P 15 47 53.7 +0.3
baz=264,SNR=8.6
P16K Nushagak River 23.82 58 P P 15 47 54.1 +0.4
baz=273,SNR=7.1
CHGN Chignik 23.85 65 P P 15 47 55.6 +1.5
baz=278
E18K Tukpahlearik C 23.86 37 P P 15 47 55.1 +1.0
E18K Tukpahlearik C 23.86 37 P P 15 47 55.3 +1.2
baz=251,SNR=35
F18K Selawik 23.96 39 P P 15 47 55.8 +0.7
baz=254,SNR=38
INU Inuyama 24.02 233 P P 15 47 55.1 -0.8
INU Inuyama 24.02 233 P P 15 47 58.0 +2.1
M17K Holitna River 24.09 52 IAmb IAmb 15 48 15.3
comp=Z,45nm,0.9s
M17K Holitna River 24.09 52 P P 15 47 57.1 +0.8
baz=268,SNR=12
C18K Utukok River 24.09 34 IAmb IAmb 15 47 59.8
comp=Z,81nm,0.9s
C18K Utukok River 24.09 34 P P 15 47 56.3 0.0
baz=248,SNR=92
H18K Honhosa River 24.13 43 IAmb IAmb 15 48 25.8
comp=Z,181nm,1.8s
H18K Honhosa River 24.13 43 P P 15 47 56.6 -0.1
baz=258,SNR=16
G18K Tagagawik 24.17 41 IAmb IAmb 15 48 19.0
comp=Z,42nm,1.0s
G18K Tagagawik 24.17 41 P P 15 47 58.7 +1.6
baz=256
B18K Kokolik River 24.17 32 P P 15 47 58.9 +1.9
baz=245
N17K Nushagak Hills 24.19 54 P P 15 47 57.8 +0.5

		baz=270							
O17K	Koliganek Bris		24.25	56	P	P	15 47 58.7	+1.0	
	baz=272,SNR=9.3								
L18K	Granite Mounta		24.48	50	P	P	15 48 00.7	+0.8	
	baz=267,SNR=8.2								
Q16K	King Salmon		24.53	59	P	P	15 48 01.2	+0.9	
	baz=274								
J18K	Innoko River		24.57	47	IAmb	IAmb	15 48 22.3		
	comp=Z,41nm,0.9s								
J18K	Innoko River		24.57	47	P	P	15 48 01.4	+0.6	
	baz=264								
P17K	Kvichak River		24.61	57	P	P	15 48 02.0	+1.0	
	baz=274,SNR=18								
GCSA	Galena City Sc		24.68	44	P	P	15 48 02.0	+0.4	
	baz=261,SNR=5.6								
F19K	Shaleruckik Mo		24.75	39	IAmb	IAmb	15 48 16.3		
	comp=Z,28nm,0.8s								
F19K	Shaleruckik Mo		24.75	39	P	P	15 48 02.6	+0.4	
	baz=256,SNR=32								
C19K	Lookout Ridge		24.80	33	IAmb	IAmb	15 48 09.5		
	comp=Z,77nm,0.8s								
C19K	Lookout Ridge		24.80	33	P	P	15 48 03.6	+0.8	
	baz=249,SNR=58								
CN2	Changchun		24.82	263	⇓P	P	15 48 01.0	-2.1	
CN2					*e*sP	pP	15 48 09.0	-1.9	
CN2					*e*S	S	15 52 18.8	-5.0	
CN2					pmax	pmax			
	comp=Z,100nm,1.1s								
CN2					pmax	pmax			
	comp=Z,300nm,5.0s								
CN2					LR	LR			
	comp=Z,2µm,16.0s								
CN2					LR	LR			
	comp=Z,1µm,16.0s								
CN2					LR	LR			
	comp=Z,2µm,18.0s								
N18K	Kilae Creek		24.83	54	IAmb	IAmb	15 48 13.9		
	comp=Z,38nm,0.9s								
N18K	Kilae Creek		24.83	54	P	P	15 48 02.5	-0.5	
	baz=271								
TTA	Tatalina		24.84	48	IAmb	IAmb	15 48 20.6		
	comp=Z,41nm,1.0s								
TTA	Tatalina		24.84	48	P	P	15 48 04.1	+0.8	
	baz=266,SNR=19								
G19K	Purcell Mounta		24.85	41	P	P	15 48 03.3	+0.1	
	baz=258,SNR=23								
M18K	Stony River		24.86	52	P	P	15 48 02.7	-0.6	
	baz=269,SNR=15								
Q17K	Contact Creek		24.97	60	P	P	15 48 04.4	-0.1	
	baz=276,SNR=14								
SVW2	Sparrevohn		24.98	53	P	P	15 48 07.3	+2.9	
H19K	Roundabout Mou		24.99	42	P	P	15 48 04.7	+0.3	
	baz=260								
D19K	Kuna River		25.09	35	IAmb	IAmb	15 48 21.1		
	comp=Z,64nm,1.0s								
D19K	Kuna River		25.09	35	P	P	15 48 05.2	-0.2	
	baz=252								
E19K	Redstone River		25.11	38	IAmb	IAmb	15 48 35.7		
	comp=Z,96nm,1.1s								
E19K	Redstone River		25.11	38	P	P	15 48 06.2	+0.6	
	baz=255,SNR=61								
J19K	Poorman		25.12	46	P	P	15 48 04.8	-0.8	
	baz=264,SNR=24								
O18K	Koktuh Hills		25.20	56	IAmb	IAmb	15 48 25.0		
	comp=Z,76nm,1.1s								
O18K	Koktuh Hills		25.20	56	P	P	15 48 06.4	0.0	
	baz=273,SNR=12								
P18K	Big Mountain,		25.21	57	IAmb	IAmb	15 48 24.3		
	comp=Z,74nm,1.1s								
P18K	Big Mountain,		25.21	57	P	P	15 48 07.0	+0.4	
	baz=274,SNR=11								
L19K	White Mountain		25.34	50	P	P	15 48 06.8	-0.9	
	baz=268,SNR=10								
CHIR	Chirikof Islan		25.48	65	P	P	15 48 08.2	-0.7	
	baz=281								
N19K	Bonanza Creek		25.52	53	IAmb	IAmb	15 48 32.3		
	comp=Z,44nm,1.1s								
N19K	Bonanza Creek		25.52	53	P	P	15 48 09.8	+0.4	
	baz=272								
M19K	Big River Lodg		25.55	51	P	P	15 48 10.2	+0.6	
	baz=269								
F20K	Avaraart Lake		25.58	39	P	P	15 48 09.5	-0.3	
	baz=257								
O19K	Port Alsworth		25.62	55	P	P	15 48 09.4	-0.8	
	baz=273								
H20K	Anotleneega Mo		25.63	43	P	P	15 48 11.5	+1.2	
	baz=261,SNR=11								
D20K	Etivluk River		25.68	35	P	P	15 48 11.8	+1.0	
	baz=253,SNR=34								
I20K	Naaghedeneel		25.70	44	P	P	15 48 11.1	+0.3	
	baz=263								
E20K	Nigu River		25.71	36	P	P	15 48 11.9	+0.9	
	baz=254,SNR=48								
K20K	Telida		25.75	48	P	P	15 48 11.7	+0.3	
	baz=267								
J20K	Nowinta River		25.78	46	IAmb	IAmb	15 48 37.4		
	comp=Z,42nm,0.9s								
J20K	Nowinta River		25.78	46	P	P	15 48 12.3	+0.7	
	baz=265								
L20K	Farewell, AK		25.80	50	P	P	15 48 12.5	+0.6	
	baz=269								
B20K	Meade River		25.92	32	P	P	15 48 12.4	-0.4	
	baz=250								
SII	Sitkinak Islan		26.13	63		P	15 48 15.0	+0.2	
SII					IAmb	IAmb	15 48 33.5		
	comp=Z,66nm,0.9s								
SII	Sitkinak Islan		26.13	63	P	P	15 48 14.4	-0.4	
	baz=281								
M20K	Styx River		26.15	51	P	P	15 48 15.7	+0.6	
	baz=271								
IMAR	Indian Mountai		26.16	42	P	P	15 48 16.6	+1.5	
IMAR					PcP	PcP	15 51 42.8	+1.5	
G21K	Allakaket		26.34	40	P	P	15 48 17.8	+1.1	
	baz=261,SNR=15								
C21K	Knifeblade Rid		26.45	34	P	P	15 48 19.0	+1.4	
	baz=254								
F21K	Alatna River		26.47	39	P	P	15 48 19.1	+1.2	
	baz=259,SNR=17								
O20K	Slope Mountain		26.48	55	P	P	15 48 18.8	+0.7	
	baz=275								
OHAK	Old Harbor		26.49	61	IAmb	IAmb	15 48 33.9		
	comp=Z,47nm,1.0s								
OHAK	Old Harbor		26.49	61	P	P	15 48 18.5	+0.4	
	baz=280								
H21K	Melozitna Rive		26.50	42	P	P	15 48 19.1	+1.0	
	baz=263,SNR=19								
E21K	Killik River		26.55	36	P	P	15 48 18.9	+0.3	
	baz=256								
CHUM	Lake Minchumin		26.56	46	P	P	15 48 19.0	+0.3	
	baz=267,SNR=6.7								
A21K	Barrow		26.57	29	P	P	15 48 19.5	+0.9	
	baz=248,SNR=12								
PPLA	Purkeypile		26.59	49	P	P	15 48 18.9	-0.3	
	baz=269								
N20K	Mount Spurr		26.61	52	P	P	15 48 19.5	+0.2	
	baz=273,SNR=10								
B21K	Ikpikpuk River		26.63	33	P	P	15 48 20.1	+0.8	
	baz=254								
CAST	Castle Rocks		26.65	47	P	P	15 48 19.5	0.0	
	baz=268,SNR=9.4								
BOD	Bodaibo		26.66	300	*e*P	P	15 48 18.0	-1.7	
BOD					pmax	pmax			
	comp=Z,145nm,1.3s								
KDAK	Kodiak Island		26.77	60	*i* P	P	15 48 21.0	+0.3	
KDAK					pmax	pmax			
	comp=Z,27nm,1.0s								
KDAK	Kodiak Island		26.77	60	P	P	15 48 20.4	-0.3	
	baz=279								
I21K	Tanana		26.80	44	P	P	15 48 20.9	+0.1	
	baz=265,SNR=6.4								
SKT	Skwentna		26.90	51	P	P	15 48 21.5	-0.4	
	baz=272								
D22K	Ayikyak River		27.11	35	IAmb	IAmb	15 49 05.8		
	comp=Z,50nm,1.2s								
D22K	Ayikyak River		27.11	35	P	P	15 48 23.4	-0.2	
	baz=257								
H22K	Ishtalitna Cre		27.11	42	P	P	15 48 24.2	+0.5	
	baz=264,SNR=6.3								
CAPN	Captain Cook N		27.15	53	P	P	15 48 23.7	-0.3	
	baz=274								
BPAW	Bear Paw Mtn.		27.16	46	P	P	15 48 24.5	+0.4	
	baz=268,SNR=6.3								
CNPM	China Poot		27.23	56	P	P	15 48 26.1	+1.3	
CNPM					IAmb	IAmb	15 48 40.2		
	comp=Z,37nm,1.0s								
E22K	Anaktuvuk Pass		27.27	37	P	P	15 48 24.5	-0.6	
	baz=259,SNR=19								
SUA	Susitna One		27.30	52	PcP	PcP	15 51 45.0	+0.8	
	baz=273								
MLY	Manley		27.31	44	P	P	15 48 26.7	+1.2	
	baz=266,SNR=7.7								
KS19	Wonju Array Si		27.33	250	IAmb	IAmb	15 48 29.1		
	comp=Z,45nm,0.8s								
KSRS	Korea Array		27.33	249	P	P	15 48 26.1	+0.4	
	comp=Z,35nm,0.7s,baz=42,slow=9.0,SNR=58								
KSRS					PcP	PcP	15 51 45.9	+1.4	
	comp=Z,5.2nm,0.8s,baz=10,slow=2.9,SNR=6.1								
KSRS					LR	LR	16 00 21.2		
	comp=Z,2µm,18.8s,baz=45,slow=39								
	comp=Z,35nm,0.7s								
KSAR	Wonju Array Be		27.36	249	P	P	15 48 25.2	-0.9	
KSAR	Wonju Array Be		27.36	249	P	P	15 48 25.2	-0.9	
BRSE	Bradley Lake S		27.45	56	P	P	15 48 26.8	0.0	
	baz=277								
TRF	Thorofare Moun		27.45	47	IAmb	IAmb	15 48 45.5		
	comp=Z,34nm,1.0s								
TRF	Thorofare Moun		27.45	47	P	P	15 48 27.5	+0.6	
	baz=270,SNR=6.1								
CUT	Chulitna		27.48	50	P	P	15 48 27.1	+0.2	
	baz=272								
COLD	Coldfoot		27.74	39	P	P	15 48 29.8	+0.6	
	baz=263,SNR=14								
G23K	Bananza Creek		27.75	40	P	P	15 48 29.8	+0.4	
	baz=264,SNR=9.3								
RC01	Rabbit Creek A		27.81	53	P	P	15 48 29.6	-0.4	
	baz=275								
D23K	Nanushuk River		27.84	36	P	P	15 48 30.5	+0.4	
	baz=259								
I23K	Minto, Yukon-K		27.90	44	P	P	15 48 30.0	-0.6	
	baz=268,SNR=7.0								
NEA2	Nenana		28.00	45	P	P	15 48 30.7	-0.9	
	baz=269								
C23K	Itkillik River		28.04	34	IAmb	IAmb	15 49 10.1		
	comp=Z,27nm,0.8s								
C23K	Itkillik River		28.04	34	P	P	15 48 31.6	-0.3	
	baz=258,SNR=19								
INCN	Inchon		28.05	251	P	P	15 48 32.3	0.0	
INCN					IAmb	IAmb	15 48 35.4		
	comp=Z,147nm,1.4s								
INCN	Inchon		28.05	251	P	P	15 48 32.3	0.0	
INCN					pmax	pmax			
	comp=Z,147nm,1.4s								
INCN	Inchon		28.05	251	P	P	15 48 34.2	+1.9	
INCN					P	P	15 48 34.2	+1.9	
SEW	Seward		28.06	55	P	P	15 48 31.5	-0.6	
	baz=277								
MCK	McKinley		28.06	47	P	P	15 48 31.9	-0.3	
	baz=271,SNR=6.1								
PMR	Palmer		28.06	51	P	P	15 48 30.7	-1.5	
	baz=274								
E23K	Chandalar		28.07	38	P	P	15 48 33.3	+1.1	
	baz=262								
WAT1	Susitna Watana		28.26	49	P	P	15 48 34.2	+0.2	
	baz=273								
CIT	Chita		28.38	288	*e*P	P	15 48 33.5	-1.7	
CIT					*e*		15 48 51.5		
CIT					*e*		15 48 57.1		
CIT					*e*		15 49 31.3		
CIT					pmax	pmax			
	comp=Z,102nm,1.4s								
KNK	Knik Glacier		28.40	52	IAmb	IAmb	15 49 16.0		
	comp=Z,47nm,1.2s								
KNK	Knik Glacier		28.40	52	P	P	15 48 35.0	-0.2	
	baz=275,SNR=7.3								
TJN	Taejon		28.40	248	*ce*P	P	15 48 35.4	0.0	
SML	Sawmill		28.43	51	IAmb	IAmb	15 49 10.7		
	comp=Z,32nm,0.8s								
SML	Sawmill		28.43	51	P	P	15 48 35.5	0.0	
	baz=275,SNR=8.2								
D24K	Happy Valley		28.53	35	P	P	15 48 37.2	+0.9	
	baz=261,SNR=16								
COLA	College		28.53	44	*i* P	P	15 48 38.5	+2.2	
COLA					pmax	pmax			
	comp=Z,15nm,1.1s								
COLA	College		28.53	44	P	P	15 48 36.8	+0.5	
	baz=270								
H24K	Noodor Dome		28.55	42	P	P	15 48 38.1	+1.6	
	baz=268								
WAT6	Susitna Watana		28.65	49	P	P	15 48 37.8	+0.2	
	baz=274								
F24K	Squaw Lake		28.66	39	P	P	15 48 38.1	+0.6	
	baz=265								
C24K	Franklin Bluff		28.67	34	P	P	15 48 38.6	+1.2	
	baz=260								
POKR	Poker Plat Res		28.71	44	IAmb	IAmb	15 49 03.3		
	comp=Z,47nm,1.6s								
POKR	Poker Plat Res		28.71	44	P	P	15 48 38.7	+0.7	
	baz=269								
M23K	Glacier View		28.71	51	P	P	15 48 38.2	+0.2	
	baz=275								
G24K	Hadweenzic Riv		28.75	41	IAmb	IAmb	15 48 60.0		
	comp=Z,40nm,1.0s								
G24K	Hadweenzic Riv		28.75	41	P	P	15 48 39.3	+1.0	
	baz=266								
DHY	Denali Highway		28.78	48	P	P	15 48 39.9	+1.1	
	baz=273								
SCM	Sheep Creek Mo		28.90	51	IAmb	IAmb	15 48 56.2		
	comp=Z,27nm,0.9s								
SCM	Sheep Creek Mo		28.90	51	P	P	15 48 40.8	+1.1	
	baz=276,SNR=6.0								
HDA	Harding Lake		28.92	45	P	P	15 48 41.2	+1.4	
	baz=271								
ILAR	Eielson Array		28.95	45	P	P	15 48 40.0	0.0	
ILAR	Eielson Array		28.95	45	P	P	15 48 40.0	0.0	
ILAR	Eielson Array		28.95	45	P	P	15 48 41.5	+1.5	
	comp=Z,3.3nm,0.9s,baz=255,slow=6.9,SNR=20								
ILAR					LR	LR	16 01 52.7		
	comp=Z,1µm,18.0s,baz=259,slow=40								
P23K	Montague Islan		29.09	55	P	P	15 48 41.1	-0.2	
	baz=279								
G25K	Bearman Lake		29.30	41	P	P	15 48 43.8	+0.7	
	baz=268								
M24K	Tolsona, Glenn		29.41	50	P	P	15 48 45.6	+1.3	
	baz=276								
D25K	Kavik River		29.41	35	P	P	15 48 44.8	+0.6	
	baz=263								
K24K	Donnelly Dome		29.46	47	P	P	15 48 44.9	+0.3	
	baz=273								
PRP	Porcupine Dome		29.52	43	IAmb	IAmb	15 49 32.6		
	comp=Z,42nm,1.4s								
PRP	Porcupine Dome		29.52	43	P	P	15 48 45.7	+0.5	
	baz=270,SNR=11								
F25K	Christian Rive		29.52	39	P	P	15 48 46.0	+0.8	
	baz=267								
E25K	Arctic Village		29.59	38	IAmb	IAmb	15 49 19.5		
	comp=Z,37nm,1.3s								
E25K	Arctic Village		29.59	38	P	P	15 48 47.3	+1.6	
	baz=266,SNR=13								
J25K	Salcha River,		29.60	45	P	P	15 48 46.3	+0.4	
	baz=272								
KLU	Klutina		29.60	51	P	P	15 48 45.9	-0.1	
	baz=277								
FYU	Fort Yukon		29.64	41	IAmb	IAmb	15 49 17.0		
	comp=Z,26nm,1.0s								
PAX	Paxson		29.66	48	P	P	15 48 47.0	+0.6	
	baz=275								
EYAK	Cordova Ski Ar		29.82	53	P	P	15 48 48.3	+0.6	
	baz=279								
HARP	HAARP		29.86	49	P	P	15 48 48.4	+0.3	
	baz=276								
BMAR	Burnt Mountain		29.92	39	P	P	15 48 50.4	+1.7	
C26K	Camden Bay		30.00	34	P	P	15 48 49.8	+0.6	
	baz=263								
DL2	Dalian		30.05	259	P	P	15 48 49.9	-0.1	
DL2					S	S	15 53 49.3	+3.1	
DL2					pmax	pmax			
	comp=Z,94nm,0.9s								
DL2					pmax	pmax			
	comp=Z,440nm,4.3s								
DL2					LR	LR			
	comp=Z,2µm,13.9s								
DL2					LR	LR			
	comp=Z,2µm,13.8s								
DL2					LR	LR			
	comp=Z,3µm,14.5s								
F26K	Sheenjek River		30.10	39	P	P	15 48 51.6	+1.4	
	baz=268,SNR=8.5								
N25K	Chitina, Valde		30.22	51	P	P	15 48 52.5	+1.1	
	baz=276								
G26K	Porcupine Rive		30.22	40	P	P	15 48 51.9	+0.6	
	baz=270,SNR=11								
SCRK	Sand Creek		30.24	46	P	P	15 48 51.2	-0.4	
	baz=274,SNR=9.3								
BMRM	Bremner River		30.31	52	P	P	15 48 52.7	+0.6	
	baz=279								
J26L	Joseph Creek		30.39	45	P	P	15 48 54.0	+1.1	
	baz=274								
XLT	XiLinHaoTe		30.47	271	*e*P	P	15 48 52.2	-1.6	
XLT					pP	pP	15 49 00.6	-1.5	
XLT					sP	sP	15 49 05.8	+0.3	
XLT					S	S	15 53 54.0	+1.0	
XLT					sS	pS	15 54 00.8	-1.2	
XLT					SS	ScP	15 55 32.6	+0.1	
XLT					pmax	pmax			
	comp=Z,65nm,0.9s								
XLT					pmax	pmax			
	comp=Z,200nm,4.4s								
XLT					LR	LR			
	comp=Z,4µm,18.3s								
XLT					LR	LR			
	comp=Z,5µm,17.0s								
I26K	Coal Creek Min		30.51	43	P	P	15 48 54.5	+0.7	
	baz=273								
KAIM	Kayak Island		30.58	54	P	P	15 48 53.9	-0.6	
	baz=281								
GLB	Gilahina Butte		30.61	51		P	15 48 54.8	-0.1	
GLB					IAmb	IAmb	15 49 23.4		
	comp=Z,40nm,1.7s								
L26K	Log Cabin Wild		30.61	48	P	P	15 48 54.6	-0.2	
	baz=277								
M26K	Nabesna, AK		30.86	49	P	P	15 48 56.6	-0.4	
	baz=278								
MCARA	McCarthy VSAT		31.00	51	P	P	15 48 58.0	-0.2	
	baz=280								
CRQM	Cirque		31.05	52	IAmb	IAmb	15 49 28.3		
	comp=Z,24nm,0.9s								
K27K	Chicken		31.07	46	P	P	15 48 58.8	0.0	
	baz=276								
CRQE	Cirque		31.07	52	P	P	15 48 59.2	+0.2	
	baz=281								
I27K	Kandik River		31.14	43	P	P	15 48 58.2	-1.2	
	baz=274								
H27K	Steamboat Moun		31.14	42	P	P	15 48 59.5	0.0	
	baz=273,SNR=10								
L27K	Beaver Creek,		31.30	48	IAmb	IAmb	15 49 45.0		
	comp=Z,29nm,1.1s								
L27K	Beaver Creek,		31.30	48	P	P	15 49 00.5	-0.3	
	baz=278								
BCAR	Beaver Creek A		31.32	48	P	P	15 49 02.6	+1.6	
M27K	Edge Creek, AK		31.38	49	IAmb	IAmb	15 49 46.6		
	comp=Z,20nm,0.9s								
M27K	Edge Creek, AK		31.38	49	P	P	15 49 02.0	+0.3	
	baz=279								
EGAK	Eagle		31.39	44	P	P	15 49 02.2	+0.5	
	baz=276								
ISLE	Juniper Island		31.47	52	IAmb	IAmb	15 50 04.5		
	comp=Z,20nm,0.9s								
BARN	Barnard Glacie		31.70	51	IAmb	IAmb	15 49 34.6		
	comp=Z,98nm,1.9s								
GRNC	Granite Creek		31.72	52	P	P	15 49 05.9	+1.1	
GRNC					IAmb	IAmb	15 49 46.9		
	comp=Z,26nm,1.1s								
F28M	Old Crow		31.73	39	P	P	15 49 06.1	+1.5	
F28M	Old Crow		31.73	39	P	P	15 49 05.9	+1.3	
	baz=272,SNR=14								
MESA	MESA		31.74	53	P	P	15 49 05.3	+0.3	
	baz=282								
BVCY	Beaver Creek		31.84	49	P	P	15 49 07.1	+1.6	
	baz=280								
I28M	Miner Creek		31.85	43	P	P	15 49 07.6	+1.9	
	baz=275								
CTG	Chitna Glacier		31.88	52	P	P	15 49 07.7	+1.6	
	baz=282								
CTGM	Chitina Glacie		31.88	52	IAmb	IAmb	15 49 46.7		
	comp=Z,20nm,1.1s								
LOGN	Logan Glacier		32.07	52	IAmb	IAmb	15 49 29.3		
	comp=Z,65nm,1.7s								
D28M	Stokes Point		32.12	36	P	P	15 49 09.5	+1.6	
	baz=270								
YUK3	Moose Creek		32.13	50	P	P	15 49 08.7	+0.3	
	baz=281								
DAWY	Dawson		32.24	46	P	P	15 49 10.4	+1.3	
	baz=278								
H29M	Whitestone		32.42	41	IAmb	IAmb	15 50 09.1		
	comp=Z,16nm,0.8s								
H29M	Whitestone		32.42	41	P	P	15 49 11.4	+0.8	
	baz=276								
E29M	Blow River		32.45	37	P	P	15 49 12.4	+1.5	
	baz=272,SNR=12								
YUK8	Steele Glacier		32.56	51	P	P	15 49 13.0	+0.8	
	baz=282								
PINM	Pinnacle		32.59	53	P	P	15 49 13.0	+0.8	
	baz=284								
BJI	Beijing		32.63	265	P	P	15 49 10.7	-2.0	
BJI					PP	PnPn	15 50 17.2	-3.6	
BJI					S	S	15 54 23.4	-3.2	
BJI					pmax	pmax			
	comp=Z,77nm,5.2s								
BJI					LR	LR			
	comp=Z,2µm,14.3s								
BJI					LR	LR			
	comp=Z,2µm,15.0s								
BJI					LR	LR			
	comp=Z,4µm,14.7s								
J29N	Klondike Camp		32.69	45	P	P	15 49 15.5	+2.4	
	baz=278								
M29M	Somme Creek		32.93	48	P	P	15 49 16.8	+1.5	
	baz=281								
L29M	L29M		32.95	47	IAmb	IAmb	15 49 29.1		
	comp=Z,25nm,0.8s								
L29M	L29M		32.95	47	P	P	15 49 17.5	+2.1	
	baz=281,SNR=13								
EPYK	Eagle Plains		33.06	41	IAmb	IAmb	15 50 24.5		
	comp=Z,29nm,1.2s								
EPYK	Eagle Plains		33.06	41	P	P	15 49 16.8	+0.5	
	baz=277,SNR=5.7								
YUK4	Talbot Arm		33.07	50	P	P	15 49 18.0	+1.4	
	baz=283								
K29M	Barlow Dome		33.09	46	P	P	15 49 18.4	+1.7	
	baz=280								
PNL	Peninsula		33.11	54	P	P	15 49 17.0	+0.2	
	baz=285								
H11N2	WAKE ISLAND Hy		33.17	169	T	T	16 25 39.8		
	baz=351,slow=76,SNR=1385								
H11N3	WAKE ISLAND Hy		33.18	169	T	T	16 25 12.4		
	baz=351,slow=76,SNR=1527								
H11N1	WAKE ISLAND Hy		33.18	169	T	T	16 25 40.1		
	baz=351,slow=76,SNR=1614								
G30M	tAoh Zrail Nji		33.19	40	P	P	15 49 18.4	+0.9	
	baz=276,SNR=9.8								
F30M	Barrier River		33.30	39	P	P	15 49 19.1	+0.9	
	baz=276,SNR=10								
YUK6	Outpost Mounta		33.30	51	P	P	15 49 18.6	0.0	
	baz=284								
O29M	Mount Kennedy		33.35	52	P	P	15 49 19.4	+0.4	
	baz=284								
I30M	Mount Dempster		33.36	43	P	P	15 49 19.1	+0.1	
	baz=279								
J30M	Hart River		33.48	44	P	P	15 49 20.1	0.0	
	baz=280								
IRK	Irkutsk		33.61	292	*e*P	P	15 49 19.2	-2.0	
IRK					pmax	pmax			
	comp=Z,77nm,1.7s								
M30M	Minto, Yukon		33.66	48	P	P	15 49 22.1	+0.5	
	baz=282								
HYT	Haines Junctio		33.73	51	P	P	15 49 22.2	-0.1	
	baz=284								
N30M	Aishikik Lake		33.78	50	P	P	15 49 22.3	-0.3	
	baz=284								
MAYO	Mayo, Yukon		33.85	46	P	P	15 49 24.4	+1.3	
	baz=282								
ULN	Ulaanbaatar		33.92

H31M Peel River 34.10 42 P P 15 49 25.8 +0.4
baz=280
P30M Million Dollar 34.18 52 P P 15 49 26.5 +0.5
baz=286
SONM Songino Array 34.32 284 P P 15 49 26.1 -1.5
SONM IAmb IAmb 15 49 28.9
comp=Z,24nm,0.8s
SONM PcP PcP 15 52 03.3 +0.3
SONM Songino Array 34.32 284 P P 15 49 26.9 -0.6
comp=Z,23nm,0.8s,baz=64,slow=7.8,SNR=84
SONM PcP PcP 15 52 03.8 +0.8
comp=Z,8.0nm,1.0s,baz=90,slow=2.5,SNR=4.2
SONM LR LR 16 04 45.8
comp=Z,6µm,18.6s,baz=62,slow=39
comp=Z,23nm,0.8s
H11S1 WAKE ISLAND Hy 34.35 170 T T 16 27 10.0
baz=352,slow=76,SNR=48
H11S3 WAKE ISLAND Hy 34.37 170 T T 16 27 12.2
baz=352,slow=76,SNR=161
H11S2 WAKE ISLAND Hy 34.37 170 T T 16 27 11.4
baz=352,slow=76,SNR=34
O30N Mendenhall 34.42 51 P P 15 49 28.7 +0.6
baz=286
M31M Drury Creek, Y 34.84 48 P P 15 49 33.3 +1.6
baz=285,SNR=14
HHC Hu-ho-hao-te 34.95 270 eP P 15 49 34.5 +1.4
HHC pP pP 15 49 39.2 -2.2
HHC eS S 15 55 07.9 +5.1
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,190nm,5.2s
HHC LR LR
comp=Z,3µm,16.3s
HHC LR LR
comp=Z,3µm,15.9s
HHC LR LR
comp=Z,5µm,17.7s
ZAK Zakamensk 34.96 290 eP P 15 49 31.6 -1.4
ZAK e 15 52 02.4
ZAK pmax pmax
comp=Z,38nm,1.4s
WHY Whitehorse 35.02 51 P P 15 49 35.0 +1.6
baz=286
SKAG Skagway 35.16 53 IAmb IAmb 15 50 36.0
comp=Z,26nm,1.1s
SKAG Skagway 35.16 53 P P 15 49 35.9 +1.4
baz=286
HNS HongShan 35.19 263 ⇑P P 15 49 34.1 -0.8
HNS S S 15 55 01.4 -4.7
HNS SS SnSn 15 57 16.1 -8.1
HNS pmax pmax
comp=Z,54nm,1.2s
HNS LR LR
comp=Z,2µm,15.1s
HNS LR LR
comp=Z,4µm,15.4s
HNS LR LR
comp=Z,3µm,15.5s
S31K Pelican 35.19 56 P P 15 49 36.1 +1.4
baz=289
JOW Kunigami 35.28 236 LR LR 16 05 55.6
comp=Z,563nm,18.5s,baz=91,slow=40
FARO Faro, Yukon 35.30 48 P P 15 49 37.0 +1.3
baz=285
MOY Mondy 35.70 293 eP P 15 49 38.7 -0.6
MOY pmax pmax
comp=Z,85nm,1.4s
N32M Quiet Lake 35.72 50 P P 15 49 39.9 +0.5
baz=287
P32M Atlin 35.90 52 P P 15 49 42.1 +1.2
baz=289
R32K Eaglecrest 35.94 55 P P 15 49 41.5 +0.3
baz=290
SIT Sitka 35.96 57 P P 15 49 42.1 +0.8
baz=291
BTO Baotou 36.04 271 eP P 15 49 41.6 -0.8
BTO pP pP 15 49 46.1 -4.6
BTO sP sP 15 49 48.7 -5.4
BTO PP PP 15 51 06.0 +1.6
BTO S S 15 55 19.5 0.0
BTO pmax pmax
comp=Z,93nm,1.3s
BTO pmax pmax
comp=Z,370nm,6.0s
BTO LR LR
comp=Z,3µm,15.5s
BTO LR LR
comp=Z,6µm,16.1s
BTO LR LR
comp=Z,7µm,19.6s
P33M Teslin, Yukon 36.13 51 P P 15 49 44.5 +1.6
baz=288
S32K Killisnoo 36.19 56 P P 15 49 44.6 +1.3
baz=291
TIY Taiyuan 36.36 265 eP P 15 49 44.6 -0.5
TIY pP pP 15 49 50.7 -2.8
TIY sP sP 15 49 54.4 -2.5
TIY S S 15 55 22.4 -2.0
TIY pmax pmax
comp=Z,50nm,0.8s
TIY pmax pmax
comp=Z,290nm,5.3s
TIY LR LR
comp=Z,2µm,16.5s
TIY LR LR
comp=Z,2µm,16.5s
TIY LR LR
comp=Z,3µm,17.2s
A36M Sachs Harbour 36.40 30 IAmb IAmb 15 49 49.3
comp=Z,42nm,0.8s
A36M Sachs Harbour 36.40 30 P P 15 49 46.5 +1.6
baz=279,SNR=43
NJ2 Nanjing 36.40 252 eP P 15 49 45.2 -0.2
NJ2 pmax pmax
comp=Z,15nm,0.6s
NJ2 pmax pmax
comp=Z,460nm,6.4s
NJ2 LR LR
comp=Z,2µm,17.1s
NJ2 LR LR
comp=Z,2µm,17.1s
NJ2 LR LR
comp=Z,2µm,14.7s
Q32M Nakina River 36.81 53 P P 15 49 49.9 +1.1
baz=290
C36M Paulatuk 37.28 35 IAmb IAmb 15 50 13.8
comp=Z,47nm,1.0s
C36M Paulatuk 37.28 35 P P 15 49 53.3 +0.9
baz=283,SNR=46
R33M Jennings River 37.29 52 P P 15 49 54.1 +1.3
baz=291,SNR=10
U33K Whale Pass 37.44 57 P P 15 49 54.8 +0.9
baz=293
CRAG Craig 37.70 58 P P 15 49 57.9 +1.8
baz=294
WRAK Wrangell Islan 37.72 57 P P 15 49 58.6 +2.3
baz=293
S34M Telegraph Cree 37.75 54 P P 15 49 57.9 +1.3
baz=292
TGTN Hyland Airport 37.80 48 P P 15 49 58.5 +1.5
baz=290,SNR=6.9
WTLY Watson Lake, Y 38.06 50 P P 15 50 00.9 +1.7
baz=291
DLBC Dease Lake 38.09 53 P P 15 50 01.2 +1.6
baz=292,SNR=6.9
DLBC Dease Lake 38.09 53 LR LR 16 07 35.7
comp=Z,592nm,18.2s,baz=305,slow=39
LYN LuoYang 38.43 261 ⇑P P 15 50 01.6 -1.0
LYN S S 15 55 58.0 +2.3
LYN pmax pmax
comp=Z,90nm,0.9s
LYN pmax pmax
comp=Z,400nm,3.8s
LYN LR LR
comp=Z,5µm,15.5s
LYN LR LR
comp=Z,4µm,16.0s
LYN LR LR
comp=Z,7µm,16.7s
V35K Ketchikan 38.54 58 P P 15 50 04.4 +1.2
baz=295
T35M Bob Quinn 38.55 55 P P 15 50 04.7 +1.3
baz=294
WRGLY Wrigley 39.32 44 P P 15 50 11.4 +1.7
baz=291
GRNB Grenville Isla 40.07 60 P P 15 50 18.1 +2.1

WHN Wuhan 40.13 255 ⇓P P 15 50 16.1 -0.7
WHN pP pP 15 50 19.4 -5.4
WHN PP PnPn 15 51 53.1 +0.2
WHN S S 15 56 22.4 +1.1
WHN pmax pmax
comp=Z,140nm,0.9s
WHN LR LR
comp=Z,5µm,13.4s
WHN LR LR
comp=Z,5µm,13.7s
WHN LR LR
comp=Z,6µm,13.3s
TOAD Toad River Com 40.23 51 P P 15 50 19.0 +1.7
baz=295
KOTAN Kotaneelee Air 40.24 49 P P 15 50 19.5 +2.1
baz=294,SNR=5.8
XAN Xi'an 40.93 264 ⇑P P 15 50 21.4 -2.0
XAN sP pP 15 50 28.7 -3.2
XAN S S 15 56 32.6 -0.6
XAN pmax pmax
comp=Z,18nm,1.2s
XAN pmax pmax
comp=Z,320nm,4.3s
XAN LR LR
comp=Z,3µm,19.2s
XAN LR LR
comp=Z,3µm,22.0s
XAN LR LR
comp=Z,5µm,14.4s
SSLB Suanglung 41.58 242 P P 15 50 27.6 -1.2
SSLB IAmb IAmb 15 50 33.7
comp=Z,76nm,1.2s
BBB Bella Bella 41.84 61 LR LR 16 06 50.9
comp=Z,507nm,20.2s,baz=300,slow=35
TPUB Ta-pu 42.15 242 P P 15 50 32.2 -1.2
TPUB IAmb IAmb 15 50 51.5
comp=Z,63nm,0.8s
EUNU Eureka 42.36 14 P P 15 50 36.1 +1.5
LZH Lanzhou 42.65 270 ⇑P P 15 50 37.0 -0.6
LZH sP pP 15 50 43.1 -3.0
LZH pmax pmax
comp=Z,78nm,1.6s
LZH LR LR
comp=Z,4µm,13.1s
LZH LR LR
comp=Z,3µm,13.7s
LZH LR LR
comp=Z,5µm,13.1s
CNSH ChangSha 42.71 254 ⇑P P 15 50 36.8 -1.1
CNSH S S 15 56 56.1 -3.4
CNSH pmax pmax
comp=Z,65nm,1.0s
CNSH LR LR
comp=Z,2µm,18.2s
CNSH LR LR
comp=Z,1µm,18.1s
CNSH LR LR
comp=Z,2µm,16.6s
GTA Gaotai 42.98 277 ⇑P P 15 50 39.4 -0.8
GTA pP pP 15 50 45.0 -3.6
GTA PP PP 15 52 19.7 -0.3
GTA PcP PcP 15 52 31.5 +1.3
GTA S S 15 56 59.5 -4.0
GTA ScS ScS 16 00 39.9 +1.4
GTA pmax pmax
comp=Z,23nm,1.4s
GTA pmax pmax
comp=Z,200nm,9.2s
GTA LR LR
comp=Z,2µm,15.1s
GTA LR LR
comp=Z,2µm,17.9s
GTA LR LR
comp=Z,3µm,19.1s
ENH Enshi 43.22 260 IAmb IAmb 15 50 43.5
comp=Z,103nm,0.9s
ZAA0 Zalesovo Array 43.31 303 P P 15 50 40.3 -2.2
ZAA0 IAmb IAmb 15 50 42.1
comp=Z,41nm,0.9s
ZALV Zalesovo Beam 43.31 303 P P 15 50 40.0 -2.5
ZALV Zalesovo Beam 43.31 303 *i* P P 15 50 40.7 -1.8
ZALV pmax pmax
comp=Z,39nm,0.8s
ZALV Zalesovo Beam 43.31 303 P P 15 50 41.0 -1.5
comp=Z,39nm,0.8s,baz=60,slow=7.0,SNR=125
ZALV PP PP 15 52 22.6 -0.5
comp=Z,4.4nm,0.8s,baz=59,slow=12,SNR=2.0
ZALV LR LR 16 10 04.0
comp=Z,2µm,18.7s,baz=60,slow=38
comp=Z,39nm,0.8s
YKA Yellowknife Ar 43.32 42 P P 15 50 43.8 +1.4
YKA Yellowknife Ar 43.32 42 P P 15 50 44.3 +1.8
comp=Z,5.8nm,0.8s,baz=299,slow=8.0,SNR=45
comp=Z,5.8nm,0.8s
RES Resolute Bay 43.67 22 P P 15 50 46.7 +1.6
RES IAmb IAmb 15 50 48.3
comp=Z,35nm,0.9s
RES Resolute Bay 43.67 22 P P 15 50 46.7 +1.6
RES pmax pmax
comp=Z,35nm,0.9s
RES Resolute Bay 43.67 22 LR LR 16 10 40.6
comp=Z,344nm,20.0s,baz=320,slow=38
DGZ Jazzator, Alta 44.17 297 *c i* P P 15 50 49.1 -0.6
DGZ pmax pmax
comp=Z,125nm,1.0s
NOR Nord 46.03 359 *i* P P 15 51 04.0 +0.1
NOR IAmb IAmb 15 51 06.1
comp=Z,58nm,1.6s
CD2 Chengdu 46.23 265 eP P 15 51 05.0 -1.2
GZH Guangzhou 46.36 249 P P 15 51 02.2 -4.9
GZH PP PcP 15 52 48.5 +6.7
GZH S S 15 57 44.4 -8.2
GZH LR LR
comp=Z,590nm,15.6s
GZH LR LR
comp=Z,610nm,16.9s
HKPS Hong Kong Po S 46.54 248 IAmb IAmb 15 51 17.4
comp=Z,39nm,0.9s
ZSN Zaisan 46.85 296 eP P 15 51 09.4 -1.4
ZSN pmax pmax
comp=Z,27nm,0.9s
ZSN Zaisan 46.85 296 eP P 15 51 09.4 -1.4
comp=Z,27nm,0.9s,baz=296
TULEG Thule 47.36 14 IAmb IAmb 15 52 52.9
comp=Z,32nm,0.7s
TULEG Thule 47.36 14 *i* P P 15 51 14.9 +0.6
TULEG IAmb IAmb 15 51 15.8
comp=Z,32nm,0.9s
KBS Kingsbay 47.41 352 P P 15 51 15.3 +0.6
KBS Kingsbay 47.41 352 *ce* P P 15 51 16.7 +2.0
KBS pmax pmax
comp=Z,205nm,1.3s
KBS Kingsbay 47.41 352 ⇑*i* P P 15 51 16.2 +1.5
KBS IAmb IAmb 15 51 17.3
comp=Z,160nm,1.1s
KBS Kingsbay 47.41 352 *i* P P 15 51 14.6 -0.1
WMQ Urumqi 47.43 290 ⇑P P 15 51 15.2 -0.2
WMQ PcP PcP 15 52 44.6 -0.9
WMQ pmax pmax
comp=Z,98nm,0.9s
WMQ pmax pmax
comp=Z,340nm,4.5s
WMQ LR LR
comp=Z,2µm,11.9s
WMQ LR LR
comp=Z,3µm,13.9s
WMQ LR LR
comp=Z,2µm,14.3s
SEM Semipalatinsk 47.60 301 eP P 15 51 14.7 -2.0
SEM pmax pmax
comp=Z,37nm,1.0s
SEM Semipalatinsk 47.60 301 eP P 15 51 14.8 -2.0
comp=Z,37nm,1.0s,baz=301
SPA0 Spitsbergen Ar 47.67 351 ⇑*i* P P 15 51 17.7 +0.9
SPITS Spitsbergen Ar 47.67 351 P P 15 51 18.0 +1.2
SPITS pmax pmax
comp=Z,415nm,1.0s
SPITS Spitsbergen Ar 47.67 351 P P 15 51 18.0 +1.2
comp=Z,308nm,0.9s,baz=64,slow=9.4,SNR=178
SPITS LR LR 16 12 25.6
comp=Z,856nm,18.3s,baz=2.5,slow=38
comp=Z,308nm,0.9s
GYA Guiyang 47.70 258 ⇑*i* P P 15 51 17.0 -0.7
GYA pP pP 15 51 22.2 -3.7
GYA sP pwP 15 51 24.4 -4.4
GYA S S 15 58 10.4 -1.6
GYA pmax pmax
comp=Z,73nm,0.9s
GYA pmax pmax
comp=Z,310nm,7.6s
GYA LR LR
comp=Z,3µm,15.4s
GYA LR LR
comp=Z,1µm,17.9s
GYA LR LR
comp=Z,4µm,16.6s
GOMU GeErMu 48.07 277 P P 15 51 19.5 -1.3
GOMU pP pP 15 51 24.3 -5.0
GOMU sP sP 15 51 25.9 -6.7
GOMU PcP PcP 15 52 49.8 +1.5
GOMU S S 15 58 06.0 -11
GOMU sS pS 15 58 24.3 -2.8
GOMU pmax pmax
comp=Z,25nm,1.0s
GOMU LR LR
comp=Z,4µm,16.6s
GOMU LR LR
comp=Z,3µm,15.3s
GOMU LR LR
comp=Z,5µm,15.7s
HOPEN Hopen 48.09 347 ⇑*i* P P 15 51 20.2 +0.2
KURK Kurchatov 48.26 302 P P 15 51 19.9 -1.7
KURK Kurchatov 48.26 302 *ce* P P 15 51 20.0 -1.7
KURK pmax pmax
comp=Z,356nm,1.3s
KURK Kurchatov 48.26 302 P P 15 51 20.2 -1.4
KURK S S 15 58 16.1 -3.0
KURBB Kurchatov Arra 48.36 302 P P 15 51 21.3 -1.1
comp=Z,146nm,0.9s,baz=58,slow=7.9,SNR=355
KURBB PcP PcP 15 52 49.0 +0.5
comp=Z,11nm,0.8s,baz=55,slow=3.4,SNR=4.9
KURBB LR LR 16 13 14.8
comp=Z,2µm,18.5s,baz=57,slow=38
comp=Z,146nm,0.9s
MK31 Makanchi Array 48.65 296 *ce* P P 15 51 23.2 -1.6
MKAR Makanchi Array 48.65 296 P P 15 51 23.0 -1.8
MKAR Makanchi Array 48.65 296 P P 15 51 23.5 -1.3
comp=Z,20nm,0.5s,baz=54,slow=7.0,SNR=198
MKAR LR LR 16 12 55.5
comp=Z,1µm,20.9s,baz=52,slow=37
comp=Z,20nm,0.5s
NEEM North Greenlan 48.73 9 *i* P P 15 51 25.2 0.0
NEEM IAmb IAmb 15 51 27.1
comp=Z,187nm,1.1s
HSPB Hornsund (broa 48.80 350 eP P 15 51 25.7 +0.3
HSPB Hornsund (broa 48.80 350 eP P 15 51 26.7 +1.3
EDM Edmonton 48.81 53 IAmb IAmb 15 51 56.8
comp=Z,37nm,1.1s
MAKZ Makanchi 48.81 297 P P 15 51 24.0 -2.0
MAKZ Makanchi 48.81 297 P P 15 51 24.0 -2.0
MAKZ pmax pmax
comp=Z,117nm,1.3s
H04A Detroit Lake 49.33 67 P P 15 51 29.6 -0.4
E07A Sunnyside 49.46 63 P P 15 51 32.0 +1.0
C09A Chrisman Ranch 49.55 61 IAmb IAmb 15 51 46.4
comp=Z,20nm,1.4s
HAWA Hanford 49.74 63 P P 15 51 33.9 +0.8
HAWA IAmb IAmb 15 52 08.8
comp=Z,17nm,1.1s
NEW Newport 49.88 60 P P 15 51 35.1 +1.0
baz=308
NEW Newport 49.88 60 LR LR 16 11 23.7
comp=Z,346nm,21.9s,baz=305,slow=34
HUMO Hull Mountain 50.20 69 P P 15 51 37.6 +1.0
E09A Wood Farm, Sta 50.41 62 IAmb IAmb 15 52 17.2
comp=Z,18nm,1.0s
BJO1 Bjornoya 50.60 348 ⇑*i* P P 15 51 40.0 +0.8
KULLO Kullorsuaq 50.61 12 *i* P P 15 51 39.6 +0.4
KULLO IAmb IAmb 15 51 43.6
comp=Z,69nm,0.8s
PZH PanZhiHua 50.63 263 P P 15 51 39.0 -1.2
PZH S S 15 58 50.5 -2.6
PZH pmax pmax
comp=Z,30nm,1.2s
PZH pmax pmax
comp=Z,190nm,5.0s
PZH LR LR
comp=Z,2µm,18.2s
PZH LR LR
comp=Z,1µm,17.7s
PZH LR LR
comp=Z,3µm,18.3s
L04D Klamath Falls 50.82 69 IAmb IAmb 15 52 11.4
comp=Z,25nm,1.0s
K04D Chiloquin, OR 50.87 68 P P 15 51 41.9 +0.1
K04D IAmb IAmb 15 52 48.0
comp=Z,15nm,0.7s
YBH Yreka Blue Hor 50.90 70 LR LR 16 11 12.7
comp=Z,310nm,21.4s,baz=310,slow=34
BVAR Borovoye Array 50.94 309 P P 15 51 41.2 -0.8
comp=Z,40nm,0.7s,baz=56,slow=7.4,SNR=169
BVAR PcP PcP 15 52 58.4 +0.4
comp=Z,18nm,0.8s,baz=64,slow=6.8,SNR=5.2
BVAR LR LR 16 15 29.4
comp=Z,2µm,18.5s,baz=56,slow=39
comp=Z,40nm,0.7s
BRVK Borovoye 50.97 309 P P 15 51 41.3 -1.0
BRVK IAmb IAmb 15 51 42.8
comp=Z,48nm,0.8s
BRVK Borovoye 50.97 309 *ce* P P 15 51 41.1 -1.1
BRVK pmax pmax
comp=Z,103nm,1.7s
BRVK Borovoye 50.97 309 P P 15 51 40.8 -1.4
BRVK P P 15 51 40.8 -1.4
BRVK S S 15 58 53.6 -3.4
BRVK S S 15 58 53.6 -3.4
KMI Kunming 51.05 261 ⇑P P 15 51 42.7 -0.7
KMI S S 15 58 59.3 +0.2
KMI pmax pmax
comp=Z,31nm,0.8s
KMI pmax pmax
comp=Z,190nm,3.9s
KMI LR LR
comp=Z,2µm,20.6s
KMI LR LR
comp=Z,2µm,19.7s
KMI LR LR
comp=Z,1µm,22.2s
K05A Summer Lake 51.29 68 P P 15 51 47.0 +2.0
K05A IAmb IAmb 15 52 19.8
comp=Z,31nm,1.3s
QIZ Qiongzhong 51.55 249 P P 15 51 48.0 +1.0
QIZ PP PP 15 53 43.4 -1.0
QIZ S S 15 59 07.7 +2.0
QIZ pmax pmax
comp=Z,70nm,1.6s
QIZ LR LR
comp=Z,610nm,13.4s
QIZ LR LR
comp=Z,1µm,14.5s
QIZ LR LR
comp=Z,1µm,15.7s
QIZ Qiongzhong 51.55 249 IAmb IAmb 15 51 50.2
comp=Z,85nm,1.1s
BRZS Berezniki 51.73 305 *c i* P P 15 51 46.2 -1.7
BRZS pmax pmax
comp=Z,33nm,0.8s
BRZS Berezniki 51.73 305 ⇑*i* P P 15 51 46.3 -1.7
comp=Z,33nm,0.8s,baz=305
TDK Taldyqorghan 51.89 297 *c i* P P 15 51 48.3 -0.9
TDK Taldyqorghan 51.89 297 ⇑*i* P P 15 51 48.3 -0.9
baz=297
UPNV Upernavik 52.34 13 *i* P P 15 51 52.1 0.0
UPNV IAmb IAmb 15 51 53.9
comp=Z,45nm,0.9s
PLID Pearl Lake 52.48 63 P P 15 51 55.4 +1.5
SHLS Shalkode 52.50 294 eP P 15 51 51.0 -3.0
SHLS pmax pmax
comp=Z,24nm,0.6s
SHLS Shalkode 52.50 294 eP P 15 51 51.0 -3.0
comp=Z,24nm,0.6s,baz=294
VADS Vadso 52.62 341 eP P 15 51 55.0 +0.7
VADS IAmb IAmb 15 51 55.4
comp=Z,105nm,0.8s
ARXS Arharly 52.72 296 *i* P P 15 51 54.0 -1.5
UZB Uzunbulak 52.75 295 eP P 15 51 54.5 -1.3
UZB pmax pmax
comp=Z,25nm,1.5s
UZB Uzunbulak 52.75 295 eP P 15 51 54.6 -1.3
comp=Z,25nm,1.5s,baz=294
WVOR Wild Horse Val 52.75 67 P P 15 52 00.5 +4.7
SVE Sverdlovsk 52.85 317 eP P 15 51 55.8 -0.4

SVE pmax pmax
comp=Z,31nm,1.0s
ORV Oroville 53.02 71 P P 15 51 57.8 +0.1
ORV Oroville 53.02 71 P P 15 51 57.8 +0.1
ORV pmax pmax
comp=Z,11nm,1.1s
FFC Flin Flon 53.14 46 P P 15 52 00.0 +1.6
FFC Flin Flon 53.14 46 P P 15 52 00.0 +1.6
FFC pmax pmax
comp=Z,10.0nm,1.1s
SATY Saty 53.15 295*c* *i*P P 15 51 57.8 -0.9
SATY pmax pmax
comp=Z,25nm,1.2s
SATY Saty 53.15 295⇑ *i*P P 15 51 57.8 -0.9
comp=Z,25nm,1.2s,baz=295
SLVN Son La 53.22 257 IAmb IAmb 15 52 01.4
comp=Z,67nm,0.9s
HAMF Hammerfest 53.24 343 *e*P P 15 51 58.6 -0.2
HAMF IAmb IAmb 15 52 00.1
comp=Z,102nm,0.9s
LVZ Lovozero 53.28 338 P P 15 51 59.3 +0.1
LVZ Lovozero 53.28 338*ce*P P 15 51 59.5 +0.3
LVZ pmax pmax
comp=Z,126nm,0.7s
KEV Kevo 53.38 342 P P 15 51 59.7 -0.2
KEV Kevo 53.38 342 P P 15 51 59.7 -0.2
KEV pmax pmax
comp=Z,66nm,0.8s
DAV Davao City (W) 53.66 225 LR LR 16 14 05.9
comp=Z,283nm,21.7s,baz=4.5,slow=35
TNCH TengChong 53.67 264 P P 15 52 01.8 -1.0
TNCH pP pP 15 52 08.7 -2.7
TNCH sP sP 15 52 11.2 -3.6
TNCH S S 15 59 31.1 -3.8
TNCH sS pS 15 59 43.5 -1.1
TNCH SS SKiKP 16 03 14.4 -0.6
TNCH pmax pmax
comp=Z,32nm,0.9s
TNCH pmax pmax
comp=Z,190nm,4.3s
TNCH LR LR
comp=Z,1μm,19.5s
TNCH LR LR
comp=Z,560nm,20.3s
TNCH LR LR
comp=Z,670nm,20.8s
FCC Fort Churchill 53.67 39 IAmb IAmb 15 52 24.4
comp=Z,20nm,0.9s
KUU Kurty 53.74 297 *e*P P 15 52 00.9 -2.0
KUU Kurty 53.74 297 *e*P P 15 52 01.0 -2.0
baz=297
APA Apatity 53.83 338⇓ *i*P P 15 52 02.6 -0.6
APA pmax pmax
comp=Z,6.0nm,0.8s
MDOK Medeo 53.83 296 *i*P P 15 52 02.6 -1.1
MDOK Medeo 53.83 296 *i*P P 15 52 02.7 -1.1
baz=296
EGMT Eagleton 53.85 56 P P 15 52 05.1 +1.3
baz=311
ARA0 ARCESS Array S 53.85 342⇑ *i*P P 15 52 04.1 +0.7
ARA0 IAmb IAmb 15 52 04.8
comp=Z,123nm,0.8s
ARCES ARCESS Array B 53.85 342 P P 15 52 03.9 +0.5
ARCES ARCESS Array B 53.85 342 P P 15 52 03.9 +0.5
ARCES pmax pmax
comp=Z,124nm,0.9s
ARCES ARCESS Array B 53.85 342 P P 15 52 04.1 +0.7
comp=Z,116nm,0.8s,baz=38,slow=7.7,SNR=116
ARCES PcP **PcP** 15 53 10.0 +1.4
comp=Z,16nm,0.9s,baz=33,slow=3.5,SNR=2.0
ARCES LR LR 16 19 08.7
comp=Z,494nm,19.3s,baz=46,slow=41
comp=Z,116nm,0.8s
AAA Alma-Ata 53.87 296 *e*P P 15 52 03.0 -0.9
AAA pmax pmax
comp=Z,25nm,0.7s
AAA Alma-Ata 53.87 296 *e*P P 15 52 03.1 -0.9
comp=Z,25nm,0.7s,baz=296
TNSS Tian-Shan 53.97 296 *e*P P 15 52 03.7 -1.4
TNSS Tian-Shan 53.97 296 *e*P P 15 52 03.7 -1.4
baz=296
ARU Arti 53.97 318 P P 15 52 03.4 -1.0
ARU Arti 53.97 318*c* *i*P P 15 52 03.6 -0.8
ARU *PP **sP** 15 52 19.0 +2.2
ARU 15 53 07.8
ARU S S 15 59 35.4 -2.4
ARU SS SS 16 03 19.3 +0.8
ARU pmax pmax
comp=Z,90nm,1.0s
ARU MLR MLR
comp=Z,2μm,16.0s
ARU Arti 53.97 318 LR LR 16 17 43.1
comp=Z,2μm,20.9s,baz=36,slow=39
PAHR Pah Rah Range 54.13 70 IAmb IAmb 15 52 35.4
comp=Z,21nm,1.2s
BTLS Baital 54.21 299*c* *i*P P 15 52 04.7 -1.6
BTLS pmax pmax
comp=Z,29nm,1.1s
BTLS Baital 54.21 299⇑ *i*P P 15 52 04.8 -1.6
comp=Z,29nm,1.1s,baz=299
HLID Hailey 54.34 63 P P 15 52 08.2 +0.7
baz=312
SUMG Summit 54.41 7 P P 15 52 09.5 +1.6
SUMG Summit 54.41 7 *i*P P 15 52 08.5 +0.6
SUMG IAmb IAmb 15 52 13.1
comp=Z,179nm,1.0s
BOZ Bozeman (W) 54.48 60 IAmb IAmb 15 52 31.0
comp=Z,17nm,1.1s
BOZ Bozeman (W) 54.48 60 P P 15 52 09.4 +0.9
baz=312,SNR=5.2
YERR Yerington 54.70 70 IAmb IAmb 15 52 25.5
comp=Z,20nm,1.1s
KTK1 Kautokeino 54.72 343⇑ *i*P P 15 52 10.6 +0.9
KTK1 IAmb IAmb 15 52 11.3
comp=Z,164nm,0.7s
JETT Jettan, Norway 54.74 344⇑ *i*P P 15 52 10.3 +0.4
LSA Lhasa 54.77 274 IAmb IAmb 15 52 13.4
comp=Z,34nm,0.8s
LSA Lhasa 54.77 274 P P 15 52 11.1 0.0
TKM2 Tokmak 2 54.79 296 P P 15 52 09.8 -1.0
SNR=9.9
UMMG Uummannaq 54.80 13 *i*P P 15 52 09.8 -0.4
UMMG IAmb IAmb 15 52 19.4
comp=Z,25nm,0.9s
BMN Battle Mountai 54.88 68 IAmb IAmb 15 52 26.9
comp=Z,22nm,1.1s
ULHL Ulahol 54.88 295 P P 15 52 10.7 -0.9
SNR=51
WAKR Walker 54.91 71 IAmb IAmb 15 52 34.2
comp=Z,63nm,1.8s
TRO Tromso 54.92 345 *e*P P 15 52 11.8 +0.7
TRO IAmb IAmb 15 52 12.6
comp=Z,72nm,0.8s
SGDS Sogindy 54.96 297 *e*P P 15 52 10.8 -1.0
SGDS pmax pmax
comp=Z,20nm,1.1s
SGDS Sogindy 54.96 297 *e*P P 15 52 10.9 -1.0
comp=Z,20nm,1.1s,baz=297
USP Ospenovka 55.15 297 P P 15 52 12.5 -0.8
SNR=96
CHMS Chumysh 55.19 297 P P 15 52 12.9 -0.6
SNR=31
KVN Kaiserville 55.31 69 IAmb IAmb 15 52 30.0
comp=Z,18nm,1.0s
KBK Karagaybulak 55.32 297 P P 15 52 13.8 -0.8
SNR=46
NRN Naryn 55.56 295 IAmb IAmb 15 53 18.1
comp=Z,15nm,0.9s
YNR Norris Junctio 55.57 60 P P 15 52 17.3 +0.8
YNR IAmb IAmb 15 52 40.5
comp=Z,48nm,1.7s
AAK Ala-Archa 55.58 297 P P 15 52 15.6 -0.8
SNR=92
AAK Ala-Archa 55.58 297 P P 15 52 15.1 -1.4
AAK Ala-Archa 55.58 297*ce*P P 15 52 15.5 -1.0
AAK pmax pmax
comp=Z,120nm,1.3s
AAK Ala-Archa 55.58 297 *i*P P 15 52 15.7 -0.8
SNR=115
AAK Ala-Archa 55.58 297 LR LR 16 17 45.2
comp=Z,1μm,19.9s,baz=46,slow=38
AAK Ala-Archa 55.58 297 P P 15 52 15.6 -0.8
AAK P P 15 52 15.6 -0.8
AAK S S 15 59 59.8 -0.3
AAK S S 15 59 59.8 -0.3
NVAR Mina Array Bea 55.62 70 P P 15 52 19.0 +2.1
comp=Z,4.0nm,0.9s,baz=301,slow=7.5,SNR=21
NVAR LR LR 16 14 25.2
comp=Z,268nm,19.9s,baz=294,slow=34
comp=Z,4.0nm,0.9s
LHV Little Huntoon 55.62 70 IAmb IAmb 15 52 43.8
comp=Z,35nm,1.1s
YFT Old Faithful 55.66 60 IAmb IAmb 15 52 53.5
comp=Z,15nm,1.0s
NV11 Mina Array Sit 55.70 70 IAmb IAmb 15 53 01.9
comp=Z,17nm,1.1s
ELK Elko 55.78 66 P P 15 52 20.8 +2.8
ELK Elko 55.78 66 LR LR 16 13 03.9
comp=Z,402nm,21.8s,baz=330,slow=33
LKWY Lake 55.82 60 IAmb IAmb 15 52 58.3
comp=Z,15nm,1.1s
H17A Grant Village 55.84 60 IAmb IAmb 15 52 42.8
comp=Z,27nm,1.2s
H17A Grant Village 55.84 60 P P 15 52 19.8 +1.4
baz=313
UCH Uchtor 55.84 296 P P 15 52 17.9 -0.8
SNR=24
EKS2 Erkin-Say 55.95 297 P P 15 52 18.3 -0.8
SNR=88
KIRV Kirov 55.98 324*ce*P P 15 52 19.3 +0.5
KIRV Kirov 55.98 324 LR LR 16 19 14.0
comp=Z,2μm,18.5s,baz=42,slow=39
FLWY Flagg Ranch 55.98 60 IAmb IAmb 15 52 59.8
comp=Z,44nm,1.5s
RLMT Red Lodge 56.03 59 IAmb IAmb 15 52 57.8
comp=Z,20nm,0.9s
RLMT Red Lodge 56.03 59 P P 15 52 21.0 +1.3
baz=313
CRAI Chiangrai 56.17 259 IAmb IAmb 15 52 22.8
comp=Z,49nm,0.9s
MOOW Moose Ponds 56.19 61 IAmb IAmb 15 52 36.9
comp=Z,33nm,1.9s
ILULI Ilulissat 56.29 13 *i*P P 15 52 20.2 -0.7
ILULI IAmb IAmb 15 52 22.3
comp=Z,47nm,0.8s
DGMT Dagmar 56.31 53 P P 15 52 24.1 +2.6
baz=313
LOHW Long Hollow 56.35 61 IAmb IAmb 15 52 46.2
comp=Z,29nm,1.4s
JMIC Jan Mayen 56.47 356 LR LR 16 15 36.4
comp=Z,334nm,20.0s,baz=61,slow=35
LAO LASA Array 56.52 55 P P 15 52 23.6 +0.5
baz=313
LCH Last Change Ra 56.82 71 IAmb IAmb 15 52 41.4
comp=Z,22nm,1.5s
BGU Big Grassy Mou 56.88 65 P P 15 52 26.3 +0.5
KSH Kashi 56.89 293 P P 15 52 28.6 +2.8
KSH pP pP 15 52 34.6 +0.3
KSH pmax pmax
comp=Z,29nm,1.3s
KSH LR LR
comp=Z,1μm,17.2s
KSH LR LR
comp=Z,1μm,15.2s
KSH LR LR
comp=Z,2μm,17.7s
UBPT Khong Chiam 57.04 251 IAmb IAmb 15 52 43.4
comp=Z,51nm,1.0s
STEI Steigen 57.04 345 *e*P P 15 52 27.2 +0.9
STEI IAmb IAmb 15 52 27.5
comp=Z,122nm,1.3s
DZA Taraz 57.11 299 *e*P P 15 52 26.0 -1.2
DZA pmax pmax
comp=Z,15nm,0.9s
DZA Taraz 57.11 299 *e*P P 15 52 26.1 -1.2
comp=Z,15nm,0.9s,baz=299
CWC Cottonwood Cre 57.12 72 P P 15 52 29.3 +1.8
baz=314
LOF Lofoten 57.12 346 *e*P P 15 52 27.6 +0.8
LOF IAmb IAmb 15 52 28.7
comp=Z,312nm,1.0s
GRAC Grapevine Rang 57.14 71 P P 15 52 28.6 +1.0
baz=314
PKM Mcpherson Peak 57.19 74 P P 15 52 28.6 +0.6
baz=315
HWUT Hardware Ranch 57.21 63 IAmb IAmb 15 52 46.4
comp=Z,15nm,0.9s
SCO Scoresbysund 57.21 1 *i*P P 15 52 27.8 +0.4
SCO IAmb IAmb 15 52 31.4
comp=Z,11nm,0.9s
R11B Troy Canyon, C 57.22 68 P P 15 52 29.1 +0.8
baz=314
KKAR Karatay Array 57.40 300 P P 15 52 27.7 -1.5
KKAR Karatay Array 57.40 300 IAmb IAmb 15 52 29.9
comp=Z,65nm,0.8s
KKAR Karatay Array 57.40 300 P P 15 52 27.7 -1.5
ISA Isabella, Lake 57.43 73 P P 15 52 31.0 +1.4
baz=314
SMPI Sarmi 57.43 206 P P 15 52 31.0 +1.4
comp=Z,42nm,1.9s
BW06 Boulder Array 57.49 61 P P 15 52 31.5 +1.4
baz=314,SNR=13
PD31 Pinedale Array 57.49 61 IAmb IAmb 15 52 53.8
comp=Z,41nm,1.6s
PDAR Pinedale Array 57.49 61 P P 15 52 32.1 +1.9
comp=Z,3.4nm,0.7s,baz=312,slow=3.0,SNR=34
PDAR LR LR 16 14 31.5
comp=Z,353nm,21.7s,baz=330,slow=33
comp=Z,3.4nm,0.7s
DUG Dugway, Tooele 57.50 65 IAmb IAmb 15 52 48.4
comp=Z,16nm,0.9s
DUG Dugway, Tooele 57.50 65 P P 15 52 32.8 +2.7
DUG Dugway, Tooele 57.50 65 P P 15 52 32.1 +2.0
baz=314
KLMR Klimovskoe 57.53 330*c* *i*P P 15 52 30.2 +0.4
KLMR pmax pmax
comp=Z,282nm,0.8s
KLMR MLR MLR
comp=Z,3μm,18.0s
FAUS Fauske 57.54 345⇑ *i*P P 15 52 30.5 +0.7
FAUS IAmb IAmb 15 52 31.3
comp=Z,150nm,1.0s
SBC Santa Barbara 57.56 74 P P 15 52 32.3 +1.9
baz=315
ARVC Arvin 57.59 73 P P 15 52 32.5 +1.8
baz=315
ICESG Greenland Ices 57.71 8 *i*P P 15 52 30.9 -0.6
ICESG IAmb IAmb 15 52 33.3
comp=Z,97nm,1.1s
MPMC Manual Prospec 57.72 72 P P 15 52 34.4 +2.6
baz=314
FURC Furnace Creek, 57.80 71 P P 15 52 34.9 +2.9
baz=314
BRLS Boroldav 57.81 300*c* *i*P P 15 52 32.4 +0.3
BRLS Boroldav 57.81 300⇑ *i*P P 15 52 32.5 +0.3
baz=300
FRB Frobisher Bay 57.84 23 LR LR 16 20 01.9
comp=Z,392nm,19.0s,baz=343,slow=39
GWY Greenwater Val 58.11 71 IAmb IAmb 15 53 01.3
comp=Z,40nm,1.5s
CHTO Chiang Mai 58.11 259 P P 15 52 34.2 -0.2
CHTO Chiang Mai 58.11 259 P P 15 52 34.3 -0.2
CHTO pmax pmax
comp=Z,108nm,0.9s
CHTO Chiang Mai 58.11 259 P P 15 52 35.3 +0.8
PRN Pahroc Range 58.18 69 IAmb IAmb 15 53 09.3
comp=Z,18nm,0.9s
EDW2 Edwards Air Fo 58.26 73 P P 15 52 38.1 +2.6
baz=315
IUG Iuzhnay 58.32 299*c* *i*P P 15 52 35.0 -0.8
IUG Iuzhnay 58.32 299⇑ *i*P P 15 52 35.1 -0.8
baz=299
ABKAR Akbulak array 58.35 311 P P 15 52 34.5 -1.3
ABKAR Akbulak array 58.35 311 IAmb IAmb 15 52 37.6
comp=Z,31nm,0.9s
AKTO Aktyubinsk 58.39 313 LR LR 16 20 26.0
comp=Z,2μm,19.3s,baz=42,slow=39
CMAR Chiang Mai Arr 58.39 259 P P 15 52 37.3 +0.9
CMAR Chiang Mai Arr 58.39 259 P P 15 52 37.3 +0.9
CMAR Chiang Mai Arr 58.39 259 P P 15 52 37.7 +1.2
comp=Z,49nm,0.8s,baz=30,slow=6.6,SNR=141
CMAR LR LR 16 20 26.3
comp=Z,953nm,19.2s,baz=45,slow=39
comp=Z,49nm,0.8s
SFJD Kangerlussuaq 58.42 14 P P 15 52 36.3 +0.4
SFJD IAmb IAmb 15 52 37.8
comp=Z,36nm,1.1s
SFJD Kangerlussuaq 58.42 14 P P 15 52 36.3 +0.4
SFJD pmax pmax
comp=Z,36nm,1.1s
SFJD Kangerlussuaq 58.42 14 *i*P P 15 52 35.8 -0.2
SFJD IAmb IAmb 15 52 37.4
comp=Z,35nm,1.0s
SFJD Kangerlussuaq 58.42 14 LR LR 16 19 11.3
comp=Z,834nm,21.2s,baz=346,slow=38
CHM Chimkent 58.43 299 *e*P P 15 52 35.6 -0.8
CHM pmax pmax
comp=Z,21nm,0.8s
CHM Chimkent 58.43 299 *e*P P 15 52 35.7 -0.8
comp=Z,21nm,0.8s,baz=299
SNCC San Nicolas Is 58.51 75 P P 15 52 37.8 +0.7
baz=315
TNTI Ternate 58.62 220 P P 15 52 45.7 +7.7
GSC Goldstone, Bar 58.65 72 P P 15 52 40.8 +2.6
baz=315
KONS Konsvik 58.69 345⇑ *i*P P 15 52 39.0 +1.2
KONS IAmb IAmb 15 52 39.2
comp=Z,74nm,1.0s
SHPR Sheep Range 58.75 70 P P 15 52 38.4 -0.6
MOR8 Moi Rana 58.79 345⇑ *i*P P 15 52 38.0 -0.6
MOR8 IAmb IAmb 15 52 38.7
comp=Z,111nm,0.9s
RRX Edison Barstow 58.84 72 P P 15 52 41.4 +2.0
baz=315
STOK Stokkvaagen 58.86 345 *e*P P 15 52 40.0 +0.9
STOK IAmb IAmb 15 52 40.4
comp=Z,38nm,0.9s
ULM Lac du Bonnet 58.93 47 IAmb IAmb 15 53 15.9
comp=Z,43nm,1.7s
ULM Lac du Bonnet 58.93 47 P P 15 52 41.3 +1.5
comp=Z,8.3nm,0.9s,baz=320,slow=7.1,SNR=11
ULM LR LR 16 19 02.5
comp=Z,456nm,19.0s,baz=317,slow=37
comp=Z,8.3nm,0.9s
MDND Maddock 58.95 51 IAmb IAmb 15 53 03.9
comp=Z,56nm,1.1s
MDND Maddock 58.95 51 P P 15 52 40.4 +0.5
baz=316
MDND Maddock 58.95 51 P P 15 52 41.4 +1.4
baz=316
MVU Marysvale 59.01 66 IAmb IAmb 15 53 07.3
comp=Z,29nm,1.0s
RDMU Red Mountain 59.01 63 IAmb IAmb 15 52 59.0
comp=Z,25nm,1.0s
K22A Casper 59.17 59 P P 15 52 42.5 +0.7
baz=315
SOEG Soedalen 59.19 5 *i*P P 15 52 41.5 +0.2
SOEG IAmb IAmb 15 52 43.5
comp=Z,67nm,1.0s
HEC Hector,Ludlow 59.26 72 P P 15 52 44.7 +2.3
baz=315
BBRC Big Bear Solar 59.32 73 P P 15 52 45.2 +2.2
baz=315
RSSD Black Hills 59.42 56 P P 15 52 44.9 +1.3
RSSD IAmb IAmb 15 53 30.8
comp=Z,32nm,1.0s
RSSD Black Hills 59.42 56 P P 15 52 44.9 +1.3
RSSD pmax pmax
comp=Z,32nm,1.0s
RSSD Black Hills 59.42 56 P P 15 52 45.8 +2.3
baz=315
RSSD Black Hills 59.42 56 P P 15 52 45.6 +2.0
baz=315
LCMT Little Creek M 59.48 68 IAmb IAmb 15 53 02.3
comp=Z,19nm,1.0s
DY2G Dye2 59.51 12 *i*P P 15 52 43.0 -0.8
DY2G IAmb IAmb 15 52 45.3
comp=Z,70nm,1.2s
SRU San Rafael Swe 59.52 64 IAmb IAmb 15 53 02.2
comp=Z,20nm,1.0s
VALR Valaam 59.56 335 *i*P P 15 52 44.5 +0.5
VALR pmax pmax
comp=Z,428nm,0.9s
GMRC Granite Mounta 59.68 71 P P 15 52 47.5 +2.1
baz=316
LBMI Labuha 59.86 219 P P 15 52 45.8 -0.8
comp=Z,47nm,0.9s
BELC Belle Mtn. Jos 60.04 72 P P 15 52 48.7 +0.8
baz=316
O20A White River Ci 60.04 62 P P 15 52 47.7 -0.1
O20A IAmb IAmb 15 53 35.0
comp=Z,14nm,0.9s
O20A White River Ci 60.04 62 P P 15 52 49.4 +1.6
baz=315
PFO Pinyon Flats O 60.05 73 P P 15 52 48.6 +0.6
baz=316
PFO Pinyon Flats O 60.05 73 LR LR 16 17 04.5
comp=Z,206nm,18.3s,baz=300,slow=34
TPFO Pinon Flats 60.06 73 P P 15 52 49.1 +1.1
baz=316
HMU Henry Mountain 60.23 66 IAmb IAmb 15 53 41.1
comp=Z,26nm,0.8s
AGMN Agassiz Nation 60.36 48 IAmb IAmb 15 53 30.4
comp=Z,11nm,1.0s
AGMN Agassiz Nation 60.36 48 P P 15 52 50.6 +0.9
baz=317
IRM Iron Mountain 60.42 72 P P 15 52 51.7 +1.3
baz=316
MONP2 Monument Peak 60.59 73 P P 15 52 54.3 +2.6
baz=316
PHWY Pilot Hill 60.69 60 IAmb IAmb 15 55 04.0
comp=Z,18nm,0.9s
FINES FINESS Array B 60.70 337 P P 15 52 52.2 +0.5
FINES FINESS Array B 60.70 337 *i*P P 15 52 52.5 +0.8
FINES pmax pmax
comp=Z,129nm,0.7s
FINES FINESS Array B 60.70 337 P P 15 52 52.6 +0.9
comp=Z,129nm,0.7s,baz=43,slow=8.6,SNR=310
FINES LR LR 16 22 54.3
comp=Z,815nm,18.7s,baz=32,slow=40
comp=Z,129nm,0.7s
NSS Namsos 60.71 345⇑ *i*P P 15 52 52.0 +0.3
NSS IAmb IAmb 15 52 53.2
comp=Z,88nm,1.1s
N23A Red Feather La 60.73 60 P P 15 52 53.5 +0.9
baz=316
PDMCI Parker Dam,Lak 60.90 71 P P 15 52 54.8 +1.3
baz=316
IKP In-Ko-Pah, Jac 60.94 73 P P 15 52 55.0 +1.1
baz=316
PUL Pulkovo 61.06 334*ce*P P 15 52 54.8 +0.6
PUL pmax pmax
comp=Z,238nm,0.7s
TOLI2 Tolitoli 61.08 227 P P 15 52 53.9 -1.0
TOLI2 IAmb IAmb 15 52 56.2
comp=Z,35nm,1.2s
MRSI Marisa 61.13 226 P P 15 52 55.9 +0.6
comp=Z,49nm,1.1s,comp=Z,751nm
ISOG Isortoq, Green 61.23 9 *i*P P 15 52 54.4 -0.9
ISOG IAmb IAmb 15 52 56.5
comp=Z,42nm,0.9s
CHGR Chuyangaron 61.26 297 P P 15 52 55.0 -1.0
B35A Bob, Littlefor 61.27 47 P P 15 52 57.6 +1.7
baz=318
ANGG Ammassalik, Gr 61.29 9 P P 15 52 55.4 -0.2
ANGG IAmb IAmb 15 53 01.3
comp=Z,56nm,1.1s
ANGG Ammassalik, Gr 61.29 9 *i*P P 15 52 54.8 -0.9
ANGG IAmb IAmb 15 53 00.7
comp=Z,100nm,1.3s
BELG Belogornoye 61.30 320 *i*P P 15 52 55.4 -0.5
BELG pmax pmax
comp=Z,88nm,1.0s
BELG Belogornoye 61.30 320 LR LR 16 22 28.7
comp=Z,985nm,18.4s,baz=38,slow=39
SIMJ Simiganj 61.34 297 P P 15 52 55.4 -1.3
WUAZ Wupatki 61.61 68 P P 15 52 59.7 +1.1
WUAZ IAmb IAmb 15 53 16.9
comp=Z,20nm,1.2s
WUAZ Wupatki 61.61 68 P P 15 52 58.8 +0.3
baz=316
ISCO Idaho Springs 61.69 61 P P 15 52 58.5 -0.7
ISCO IAmb IAmb 15 53 26.5
comp=Z,23nm,1.2s
ISCO Idaho Springs 61.69 61 P P 15 52 58.5 -0.7
ISCO pmax pmax
comp=Z,23nm,1.2s
ISCO Idaho Springs 61.69 61 P P 15 52 59.0 -0.2
baz=316
SANI Sanana 61.74 220 P P 15 52 58.9 -0.4
comp=Z,38nm,1.0s,comp=Z,537nm
HNR Honiara 61.78 181 LR LR 16 16 16.2
comp=Z,6μm,20.9s,baz=20,slow=33
MVCO Mesa Verde 61.99 65 P P 15 53 02.0 +0.8
baz=316
RAF Rauma 62.06 339 *e*P P 15 53 01.9 +1.0
LUWI Luwuk 62.14 224 P P 15 53 00.7 -1.3
LUWI Luwuk 62.14 224 P P 15 53 03.3 +1.3
comp=Z,70nm,1.2s

MPSI Mapaga 62.16 228 P **P** **15 53 03.1 +0.9**
comp=Z,21nm,1.1s
TBLU Trondheim 62.17 345 *e*P **P** **15 53 02.0 +0.3**
TBLU IAmb IAmb 15 53 02.4
comp=Z,73nm,1.2s
MEF Metsahovi 62.17 337 *e*P **P** **15 53 03.0 +1.3**
MOS Moscow 62.24 328 *e*P **P** **15 53 02.2 0.0**
MOS *e* 15 53 37.1
MOS *e*S **S** **16 01 28.0 +2.2**
MOS pmax pmax
comp=Z,400nm,1.2s
MOS pmax pmax
comp=Z,338nm,1.2s
MOS pmax pmax
comp=N,220nm,1.0s
MOS MLR MLR
comp=Z,1µm,18.0s
EYMN Ely 62.57 46 P **P** **15 53 05.7 +1.1**
baz=319
EYMN Ely 62.57 46 P **P** **15 53 05.7 +1.1**
baz=319
NIL Nilore 62.58 290 P **P** **15 53 04.5 -0.4**
NIL Nilore 62.58 290 P **P** **15 53 04.5 -0.4**
NIL pmax pmax
comp=Z,95nm,0.8s
NIL Nilore 62.58 290 P **P** **15 53 04.6 -0.3**
PMG Port Moresby 62.83 195 LR LR 16 16 50.1
comp=Z,271nm,21.3s,baz=14,slow=33
BORG Borgarnes 62.98 1 LR LR 16 19 27.5
comp=Z,288nm,21.6s,baz=355,slow=35
OBN Obninsk 63.10 328 ⇓P **P** **15 53 08.8 +0.8**
OBN Obninsk 63.10 328 P **P** **15 53 07.7 -0.3**
OBN Obninsk 63.10 328*c* *i*P **P** **15 53 07.9 -0.1**
OBN *e* 15 53 45.1
OBN *e* 15 55 29.9
OBN *e*PPP PPP 15 56 57.0
OBN *i*S **S** **16 01 44.3 +7.8**
OBN pmax pmax
comp=Z,457nm,1.7s
OBN MLR MLR
comp=Z,987nm,19.0s
OBN Obninsk 63.10 328 LR LR 16 22 39.0
comp=Z,1µm,20.7s,baz=6.5,slow=38
VSU Vasula 63.13 335*ce*P **P** **15 53 09.4 +1.3**
VSU pmax pmax
comp=Z,270nm,1.0s
MOL Molde 63.22 346 *e*P **P** **15 53 10.2 +1.5**
MOL IAmb IAmb 15 53 11.3
comp=Z,60nm,1.0s
SDCO Great Sand Dun 63.24 62 IAmb IAmb 15 53 23.9
comp=Z,40nm,1.9s
SDCO Great Sand Dun 63.24 62 P **P** **15 53 10.9 +1.4**
baz=317
214A Organ Pipe Nat 63.36 72 P **P** **15 53 11.7 +1.6**
baz=317
ECSD EROS Data Cent 63.38 52 P **P** **15 53 11.1 +1.0**
ECSD IAmb IAmb 15 53 36.4
comp=Z,49nm,1.6s
DOMB Dombas 63.50 345 *e*P **P** **15 53 10.9 +0.3**
DOMB IAmb IAmb 15 53 12.8
comp=Z,59nm,0.9s
MTSE Matsula 63.64 337 *e*P **P** **15 53 13.2 +1.7**
AKN Aaknes 63.68 347 *e*P **P** **15 53 12.6 +0.9**
AKN IAmb IAmb 15 53 14.6
comp=Z,85nm,1.0s
SBUM Sibu 64.00 236 IAmb IAmb 15 53 26.1
comp=Z,40nm,0.9s
SPMN Marine on St. 64.05 49 P **P** **15 53 15.7 +1.2**
baz=320
NB2 NORSAR Subarra 64.11 344 P **P** **15 53 15.0 +0.5**
NB2 pmax pmax
comp=Z,103nm,1.6s
NB2 NORSAR Subarra 64.11 344 P **P** **15 53 15.1 +0.5**
comp=Z,170nm,1.7s,baz=23,slow=6.9
NB2 NORSAR Subarra 64.11 344 P **P** **15 53 15.1 +0.5**
baz=23,slow=6.9
NOA NORSAR Array B 64.11 344 P **P** **15 53 15.3 +0.7**
comp=Z,32nm,0.8s,baz=21,slow=6.6,SNR=102
NOA LR LR 16 23 08.6
comp=Z,292nm,19.6s,baz=45,slow=38
comp=Z,32nm,0.8s
IVI Ivigtut 64.25 15 *i*P **P** **15 53 15.7 +0.3**
IVI IAmb IAmb 15 53 17.7
comp=Z,37nm,1.0s
TUC Tucson 64.27 70 P **P** **15 53 17.0 +0.8**
baz=318
T25A Trinidad 64.27 62 IAmb IAmb 15 53 31.0
comp=Z,31nm,1.6s
T25A Trinidad 64.27 62 P **P** **15 53 17.6 +1.3**
baz=318
KBL Kabul 64.31 294 P **P** **15 53 14.3 -2.2**
KBL IAmb IAmb 15 53 16.9
comp=Z,35nm,0.8s
KBL Kabul 64.31 294 P **P** **15 53 14.3 -2.2**
KBL pmax pmax
comp=Z,35nm,0.8s
KBL Kabul 64.31 294 P **P** **15 53 14.4 -2.2**
SNR=20
KBL S **S** **16 01 46.8 -5.9**
NC602 NORSAR Array S 64.34 344 IAmb IAmb 15 53 17.9
comp=Z,30nm,1.1s
NC602 NORSAR Array S 64.34 344 *e*P **P** **15 53 16.8 +0.8**
NC602 IAmb IAmb 15 53 17.6
comp=Z,26nm,1.0s
NORES NORESS Array B 64.34 344 P **P** **15 53 17.6 +1.6**
BGNE Belgrade 64.36 55 P **P** **15 53 18.1 +1.5**
baz=319
LPSR Galich'ya Gora 64.37 325 *e*P **P** **15 53 15.7 -0.7**
LPSR pmax pmax
comp=Z,530nm,0.8s
VRH Novokhopyorsk 64.50 322 *e*P **P** **15 53 16.1 -1.1**
VRH pmax pmax
comp=Z,380nm,0.7s
VRH MLR MLR
comp=Z,4µm,17.0s
FOO Floro 64.50 347 *e*P **P** **15 53 18.9 +1.9**
HFS Hagfors 64.52 342 P **P** **15 53 17.7 +0.5**
comp=Z,34nm,0.8s,baz=36,slow=5.5,SNR=52
HFS LR LR 16 25 51.0
comp=Z,542nm,18.5s,baz=24,slow=40
comp=Z,34nm,0.8s
NRS Narsarsuaq 64.70 14 *i*P **P** **15 53 17.9 -0.5**
NRS IAmb IAmb 15 53 25.0
comp=Z,11nm,1.0s
HYA Hoyanger 64.76 347 *e*P **P** **15 53 19.8 +1.0**
HYA IAmb IAmb 15 53 21.6
comp=Z,77nm,1.0s
ANMO Albuquerque 64.77 65 P **P** **15 53 21.1 +1.5**
baz=318
ANMO Albuquerque 64.77 65 LR LR 16 18 57.3
comp=Z,280nm,21.8s,baz=62,slow=34
SKAR Skarslia 64.91 345 *e*P **P** **15 53 21.1 +1.2**
SKAR IAmb IAmb 15 53 22.6
comp=Z,76nm,1.3s
SLIT Slitere, Latvi 64.98 337 *e*P **P** **15 53 21.1 +0.8**
VORR Voronezh 65.03 324 *e*P **P** **15 53 18.7 -2.0**
VORR pmax pmax
comp=Z,90nm,0.4s
SUE Sulen 65.06 347 *e*P **P** **15 53 22.0 +1.3**
TTSI Tana Toraja 65.21 226 P **P** **15 53 22.8 +0.5**
comp=Z,22nm,0.9s
OSL Oslo 65.23 344 *e*P **P** **15 53 23.2 +1.4**
VSR Storozhevoye 65.42 324 *e*P **P** **15 53 22.1 -1.1**
VSR pmax pmax
comp=Z,290nm,0.8s
VSR MLR MLR
comp=Z,2µm,19.0s
CBKS Cedar Bluff 65.50 58 P **P** **15 53 24.5 +0.4**
baz=319
ASK Askoy 65.56 347 *e*P **P** **15 53 28.5 +4.5**
VORD Divnogorie 65.58 324 *e*P **P** **15 53 22.3 -2.0**
VORD pmax pmax
comp=Z,210nm,0.7s
VORD MLR MLR
comp=Z,1µm,15.0s
BER Bergen 65.63 347 *e*P **P** **15 53 25.9 +1.5**
BER IAmb IAmb 15 53 27.4
comp=Z,99nm,1.0s
KONO Kongsberg 65.69 344 P **P** **15 53 25.8 +1.0**
KONO IAmb IAmb 15 53 27.9
comp=Z,44nm,1.0s
KONO Kongsberg 65.69 344*ce*P **P** **15 53 27.6 +2.8**
KONO pmax pmax
comp=Z,31nm,1.0s
KONO Kongsberg 65.69 344 *e*P **P** **15 53 26.3 +1.5**
KONO IAmb IAmb 15 53 27.6
comp=Z,44nm,1.0s
RTBA Rita Blanca 65.69 62 IAmb IAmb 15 53 39.5
comp=Z,42nm,1.5s
121A Cookes Peak, D 65.82 68 P **P** **15 53 27.9 +1.5**
baz=318
ISAL Salakas 65.83 334 *e*P **P** **15 53 27.3 +1.5**
ODD1 Odda 65.90 346 *e*P **P** **15 53 27.0 +0.7**
ODD1 IAmb IAmb 15 53 29.6
comp=Z,40nm,0.8s
SCHQ Schefferville 65.94 28 P **P** **15 53 27.9 +1.3**
comp=Z,17nm,0.8s,baz=344,slow=7.0,SNR=24
SCHQ LR LR 16 24 30.5
comp=Z,220nm,19.1s,baz=336,slow=38
comp=Z,17nm,0.8s
STRU Stroemstad 66.00 343 *i*P **P** **15 53 28.0 +1.2**
VSVD Vaisvydziai 66.05 335 *e*P **P** **15 53 28.7 +1.6**
I40A Norwalk 66.08 48 IAmb IAmb 15 54 11.1
comp=Z,23nm,1.0s
NACGM Naroch 66.24 333 *e*P **P** **15 53 29.1 +0.7**
MNK Minsk 66.28 332 *i*P **P** **15 53 29.9 +1.2**
comp=E,43nm,1.1s
MNK *i*P **P** **15 53 29.9 +1.2**
comp=N,178nm,1.1s,baz=30
MNK *i*P **P** **15 53 29.9 +1.2**
comp=Z,285nm,0.9s,baz=30
MNK *i*pP **sP** **15 53 46.2 +5.0**
MNK *i*PP **PP** **15 55 56.4 +2.2**
MNK *i*PPP PPP 15 57 31.7
MNK *i*SSS SSS 16 09 44.0
MNK *i*LQ LQ 16 17 54.6
MNK *i*LR LR 16 23 06.4
MNK *i*LRM MLR 16 26 19.8
comp=E,454nm,16.8s
MNK *i*LRM MLR 16 26 24.9
comp=Z,1µm,16.9s
MNK *i*LRM MLR 16 26 29.1
comp=N,549nm,15.9s
MNK Minsk 66.28 332 *i*P **P** **15 53 29.9 +1.2**
MNK *i**PP **sP** **15 53 46.1 +5.0**
MNK *i* 15 53 59.2
MNK *i* 15 55 56.3
MNK *i*PPP PPP 15 57 31.6
MNK *i*S **S** **16 02 15.4 -0.3**
MNK *i**SS sS 16 02 43.5 +13
MNK *i* 16 03 20.9
MNK *i*SS **SS** **16 06 33.7 +2.7**
MNK pmax pmax
comp=Z,285nm,0.9s
MNK pmax pmax
comp=E,43nm,1.1s
MNK pmax pmax
comp=N,178nm,1.0s
MNK MLR MLR
comp=E,454nm,17.0s
MNK MLR MLR
comp=Z,1µm,17.0s
MNK MLR MLR
comp=N,549nm,16.0s
SCIA State Center 66.39 51 P **P** **15 53 32.0 +2.3**
baz=320
BLS5 Blasjo 66.40 346 *e*P **P** **15 53 30.3 +0.8**
BLS5 IAmb IAmb 15 53 32.3
comp=Z,73nm,1.1s
STKI Sintang 66.42 236 P **P** **15 53 32.0 +1.9**
comp=Z,33nm,0.5s,comp=Z,8µm
PABE Paberze 66.46 335 *e*P **P** **15 53 31.3 +1.5**
PBUR Paburge 66.51 336 *e*P **P** **15 53 30.9 +0.8**
KMY Karmoy 66.78 347 *e*P **P** **15 53 32.9 +1.1**
TJOU Tjoern 66.87 343 *i*P **P** **15 53 33.6 +1.2**
KAPI Kappang 67.00 225 *i*P **P** **15 53 34.0 +0.3**
KAPI pmax pmax
comp=Z,13nm,1.0s
KAPI Kappang 67.00 225 S **S** **16 02 29.1 +3.9**
BORU Boraas 67.03 342 *i*P **P** **15 53 34.6 +1.2**
BKSI Bulukumba 67.11 225 P **P** **15 53 34.9 +0.4**
comp=Z,31nm,1.1s
HOMB Homborsund 67.18 344 *e*P **P** **15 53 35.5 +1.1**
HOMB IAmb IAmb 15 53 39.7
comp=Z,130nm,1.4s
SNART Snartemo 67.32 345 *e*P **P** **15 53 36.4 +1.2**
SNART IAmb IAmb 15 53 38.8
comp=Z,112nm,0.9s
SNART Snartemo 67.32 345 *i*P **P** **15 53 36.5 +1.3**
ONAU Onsala 67.41 342 *i*P **P** **15 53 36.9 +1.0**
AMTX Amarillo 67.43 62 IAmb IAmb 15 55 16.0
comp=Z,14nm,0.7s
AMTX Amarillo 67.43 62 P **P** **15 53 36.3 -0.1**
baz=319
MSTX Muleshoe 67.52 63 IAmb IAmb 15 53 50.6
comp=Z,22nm,1.2s
MSTX Muleshoe 67.52 63 P **P** **15 53 37.8 +0.6**
baz=319
GEYT Alibeck 67.62 303 P **P** **15 53 37.5 -0.1**
GEYT Alibeck 67.62 303 P **P** **15 53 37.5 -0.1**
GEYT pmax pmax
comp=Z,62nm,0.8s
GEYT Alibeck 67.62 303 P **P** **15 53 37.7 +0.1**
comp=Z,50nm,0.7s,baz=31,slow=3.5,SNR=64
GEYT PP **PP** **15 56 03.4 -3.0**
comp=Z,13nm,0.9s,baz=347,slow=6.1,SNR=5.5
GEYT LR LR 16 25 44.5
comp=Z,1µm,18.4s,baz=48,slow=38
comp=Z,50nm,0.7s
FABU Falkenberg 67.63 342 *i*P **P** **15 53 38.4 +1.2**
BLEU Blekinge 67.66 340 *i*P **P** **15 53 38.0 +0.6**
MNTX Cornudas Mount 67.79 67 P **P** **15 53 41.2 +2.5**
baz=319
MNTX Cornudas Mount 67.79 67 P **P** **15 53 40.4 +1.6**
baz=319
KULM Kulim 67.87 249 P **P** **15 53 40.5 +1.1**
KULM IAmb IAmb 15 53 57.0
comp=Z,35nm,1.0s
DEL Delary 67.90 341 *i*P **P** **15 53 40.0 +1.0**
GLMI Grayling 67.99 44 P **P** **15 53 40.1 +0.4**
baz=323
P38A Dawn 68.00 53 P **P** **15 53 41.0 +1.2**
baz=321
SUW Suwalki 68.00 334 *e*P **P** **15 53 40.5 +0.9**
SMWD Samnorwood 68.03 61 IAmb IAmb 15 54 12.5
comp=Z,47nm,1.2s
HRA Herat 68.15 298 IAmb IAmb 15 53 43.4
comp=Z,41nm,0.9s
IPM Ipoh 68.32 248 IAmb IAmb 15 53 59.6
comp=Z,40nm,0.9s
BJUU Bjuv 68.44 341 *i*P **P** **15 53 43.9 +1.6**
N41A Harden Midland 68.44 51 P **P** **15 53 42.9 +0.2**
N41A Harden Midland 68.44 51 P **P** **15 53 42.8 +0.2**
baz=322
L44A Lake County Fo 68.65 48 P **P** **15 53 43.2 -0.7**
baz=323
MAK Makhachkala 68.75 314 *e*P **P** **15 53 45.2 +0.7**
MAK *e*PPP PPP 15 57 55.2
MAK *e*S **S** **16 02 49.5 +3.8**
MAK pmax pmax
comp=Z,229nm,1.1s
MAK MLR MLR
comp=Z,1µm,16.0s
LUNU Lund 68.77 341 *i*P **P** **15 53 45.8 +1.4**
P40A Paris 68.79 52 IAmb IAmb 15 54 08.0
comp=Z,24nm,0.9s
P40A Paris 68.79 52 P **P** **15 53 45.9 +1.0**
baz=322
MUD Monsted U'grnd 68.80 343 *i*P **P** **15 53 45.0 +0.4**
COP Copenhagen 68.92 341 *i*P **P** **15 53 47.3 +1.9**
COP IAmb IAmb 15 53 49.5
comp=Z,155nm,0.8s
BSD Bornholm Skovb 68.95 340 *i*P **P** **15 53 47.4 +1.8**
BSD IAmb IAmb 15 53 48.3
comp=Z,48nm,0.8s
BSD Bornholm Skovb 68.95 340 *e*P **P** **15 53 47.3 +1.7**
GOF Gofitskoye 68.97 318*ce*P **P** **15 53 42.6 -3.2**
MYKOM Kota Tinggi 68.97 244 IAmb IAmb 15 53 52.8
comp=Z,17nm,0.9s
WMOK Wichita Mounta 69.08 60 IAmb IAmb 15 54 20.5
comp=Z,20nm,0.9s
WMOK Wichita Mounta 69.08 60 P **P** **15 53 48.2 +1.5**
baz=320,SNR=9.6
WMOK Wichita Mounta 69.08 60 P **P** **15 53 47.7 +1.0**
baz=320
AKASG Malin Array Be 69.20 329 P **P** **15 53 47.6 +0.4**
comp=Z,19nm,0.3s,baz=29,slow=6.8,SNR=154
AKASG LR LR 16 27 42.3
comp=Z,1µm,18.2s,baz=0.0,slow=39
comp=Z,19nm,0.3s
AKBB Malin Array Si 69.20 329*ce*P **P** **15 53 46.3 -0.9**
AKBB pmax pmax
comp=Z,236nm,1.0s
KIEV Kiev 69.21 329 ⇑P **P** **15 53 47.5 +0.3**
KIEV Kiev 69.21 329 P **P** **15 53 46.9 -0.3**
KIEV Kiev 69.21 329 P **P** **15 53 46.9 -0.3**
KIEV pmax pmax
comp=Z,175nm,1.0s
KIEV Kiev 69.21 329 *i*P **P** **15 53 47.3 +0.1**
SNR=13
MMRI Maumere 69.23 221 P **P** **15 53 48.5 +0.8**
comp=Z,56nm,0.9s,comp=Z,1µm
HDIL Hopedale 69.30 50 P **P** **15 53 48.6 +0.7**
baz=322
HDIL Hopedale 69.30 50 P **P** **15 53 48.7 +0.7**
baz=322
GROC Groznyy 69.31 315 *e*P **P** **15 53 47.6 -0.4**
MCD Coleburn Disti 69.39 351 *e*P **P** **15 53 48.5 +0.3**
APMT Aspermont 69.45 62 IAmb IAmb 15 54 02.1
comp=Z,49nm,1.6s
ERBR Yeremizino-Bor 69.46 320 *e*P **P** **15 53 49.8 +0.9**
ERBR *e**PP **sP** **15 54 05.0 +4.6**
ERBR *e*S **S** **16 02 52.4 -1.6**
ERBR pmax pmax
comp=Z,449nm,1.1s
SOEI Soe 69.46 219 IAmb IAmb 15 54 18.0
comp=Z,35nm,0.8s
SOEI Soe 69.46 219 P **P** **15 53 49.1 -0.2**
comp=Z,51nm,1.0s
MNHN Monahans 69.52 65 IAmb IAmb 15 54 29.0
comp=Z,12nm,0.9s
EDFI Ende, Flores 69.55 222 P **P** **15 53 49.0 -0.8**
R40A Maddies Statio 69.65 53 IAmb IAmb 15 54 04.3
comp=Z,10nm,0.8s
R40A Maddies Statio 69.65 53 P **P** **15 53 50.7 +0.5**
baz=322
TUL3 Leonard 69.74 57 P **P** **15 53 51.5 +0.7**
baz=321
RGN Rugen 69.82 340 *e*P **P** **15 53 52.5 +1.6**
KIV Kislovodsk 70.01 317 ⇓P **P** **15 53 53.7 +1.2**
KIV Kislovodsk 70.01 317 P **P** **15 53 52.8 +0.4**
KIV Kislovodsk 70.01 317 *e*P **P** **15 53 52.2 -0.2**
KIV *e* 15 56 23.1
KIV *e*S **S** **16 02 58.8 -2.0**
KIV pmax pmax
comp=Z,118nm,4.2s
KIV pmax pmax
comp=Z,48nm,1.1s
KIV MLR MLR
comp=Z,1µm,18.0s
KIV Kislovodsk 70.01 317 *i*P **P** **15 53 53.0 +0.5**
SNR=10
KIV Kislovodsk 70.01 317 P **P** **15 53 52.9 +0.4**
U38A Gravette 70.05 56 IAmb IAmb 15 54 17.6
comp=Z,8.7nm,0.7s
LHMI Lhok Sumawe 70.05 252 P **P** **15 53 54.3 +1.4**
comp=Z,146nm,1.2s,comp=Z,2µm
KBZ Khabaz 70.11 317*ce*P **P** **15 53 53.6 +0.7**
KBZ pmax pmax
comp=Z,161nm,1.0s
KBZ Khabaz 70.11 317 P **P** **15 53 53.7 +0.8**
comp=Z,110nm,0.9s,baz=48,slow=4.5,SNR=121
KBZ LR LR 16 28 49.4
comp=Z,1µm,19.8s,baz=16,slow=40
comp=Z,110nm,0.9s
GKP Gorka Klasztor 70.15 338 *e*P **P** **15 53 54.0 +1.0**
ZKTA Zakatala 70.20 313 P **P** **15 53 53.9 +0.3**
ABTX Abilene, Hawle 70.24 62 P **P** **15 53 54.7 +0.7**
baz=320
SADO Sadowa 70.29 41 LR LR 16 27 41.0
comp=Z,534nm,18.1s,baz=296,slow=38
SEKA Sheki 70.29 313 P **P** **15 53 54.3 +0.1**
CCM Cathedral Cave 70.34 53 P **P** **15 53 55.1 +0.7**
CCM IAmb IAmb 15 54 26.4
comp=Z,32nm,1.4s
CCM Cathedral Cave 70.34 53 P **P** **15 53 55.1 +0.7**
CCM pmax pmax
comp=Z,33nm,1.5s
CCM Cathedral Cave 70.34 53 P **P** **15 53 54.3 -0.1**
baz=322
CCM Cathedral Cave 70.34 53 P **P** **15 53 54.9 +0.5**
baz=322
HHAR Hobbs 70.39 56 IAmb IAmb 15 54 17.0
comp=Z,17nm,0.9s
SFIN Lafayette 70.45 49 P **P** **15 53 54.0 -1.1**
baz=323
DSRI Dabo 70.47 242 P P 15 54 06.3 +11
TX31 Lajitas Ar. Si 70.54 67 IAmb IAmb 15 54 28.2
comp=Z,11nm,0.8s
TX31 Lajitas Ar. Si 70.54 67 P **P** **15 53 57.3 +1.4**
baz=320
TXAR Lajitas Array 70.54 67 P **P** **15 53 57.6 +1.7**
comp=Z,3.1nm,0.7s,baz=303,slow=4.9,SNR=28
comp=Z,3.1nm,0.7s
NEUR Neytrino 70.57 317 *i*P **P** **15 53 56.9 +0.9**
NEUR pmax pmax
comp=Z,17nm,1.2s
BEL Belsk 70.59 335 *e*P **P** **15 53 57.3 +1.6**
LPIG La Paz 70.69 76 LR LR 16 20 01.6
comp=Z,122nm,19.8s,baz=241,slow=32
MNGR Mingechevir, A 70.69 312 P **P** **15 53 57.2 +0.7**
ONI Oni 70.81 316 *e*P **P** **15 53 58.6 +1.3**
TRQ Mont Tremblant 70.83 37 P **P** **15 53 58.3 +1.0**
TRQ IAmb IAmb 15 53 59.2
comp=Z,21nm,0.9s
U40A Yellville 70.88 55 P **P** **15 53 57.9 +0.2**
baz=322
U40A P **P** **15 53 57.9 +0.2**
baz=322
PSI Prapat 70.89 249 P **P** **15 53 58.2 +0.1**
PSI pmax pmax
comp=Z,19nm,0.9s
LAWE Loch Awe, Argy 70.89 352 *e*P **P** **15 53 58.1 +0.6**
LAWE IAmb IAmb 15 53 58.7
comp=Z,44nm,1.3s
SAND Sanderson 70.93 66 IAmb IAmb 15 54 36.0
comp=Z,12nm,1.1s
RPSI Rantau Prapat 70.97 248 P **P** **15 53 58.2 -0.3**
RPSI IAmb IAmb 15 54 13.6
comp=Z,19nm,0.9s
P46A Rosedale 71.01 49 IAmb IAmb 15 55 45.7
comp=Z,30nm,0.8s
P46A Rosedale 71.01 49 P **P** **15 53 58.8 +0.3**
baz=323
GANJ Ganja 71.14 313 P **P** **15 53 59.9 +0.6**
PGBU Glenifferbraes 71.25 351 *e*P **P** **15 54 01.4 +1.7**
PGBU IAmb IAmb 15 54 02.8
comp=Z,100nm,1.2s
PLAI Plampang 71.26 225 P **P** **15 53 59.7 -0.5**
comp=Z,43nm,1.1s
HORU Horodok 71.37 330 P **P** **15 54 01.9 +1.4**
KMMI Kalianget 71.40 230 P **P** **15 54 01.8 +0.8**
comp=Z,65nm,1.3s
ANN Anapa 71.41 321 *e*P **P** **15 54 00.1 -0.6**
ANN *e**PP **sP** **15 54 14.7 +2.3**
ANN *i* 15 56 36.7
ANN *e*S **S** **16 03 10.9 -5.8**
ANN pmax pmax
comp=Z,76nm,0.9s
O48B Farmland 71.43 47 P **P** **15 53 59.7 -1.3**
baz=324
VSLR Vesyoloye 71.50 319 *i*P **P** **15 54 01.9 +0.5**
VSLR pmax pmax
comp=Z,341nm,0.9s
SOC Sochi 71.53 319 *e*P **P** **15 53 59.3 -2.2**
SOC *e* 15 56 36.5
SOC *e*PPP PPP 15 58 20.2
SOC *e*S **S** **16 03 13.9 -4.3**
SOC *e*SS **SS** **16 07 51.8 -0.6**
SOC pmax pmax
comp=Z,19nm,0.5s
SOC MLR MLR
comp=Z,2µm,18.0s
LVV L'vov 71.53 332 *e*P **P** **15 54 02.0 +0.5**
LVV pmax pmax
comp=Z,270nm,1.6s
LVV MLR MLR
comp=N,2µm,17.0s
LVV MLR MLR
comp=E,900nm,17.0s
LVV MLR MLR
comp=Z,800nm,17.0s
HYB Hyderabad 71.56 275⇑*e*P **P** **15 54 01.6 -0.5**
HYB IVmB_BB 15 54 02.3
comp=Z,958nm,0.9s
HYB IVMs_BB IVMs_BB 16 29 19.2
comp=Z,466nm,12.6s
TWSI Taliwang, Sumb 71.57 226 P **P** **15 54 02.8 +0.8**

comp=Z,15nm,1.0s
LKRN Lenkeran, Azer 71.57 310 P **P** **15 54 02.3 +0.4**
S44A Carbondale 71.58 52 IAmb IAmb 15 54 34.8
comp=Z,28nm,1.1s
EKA Eskdalemuir Ar 71.60 350 P **P** **15 54 02.8 +1.1**
comp=Z,29nm,1.0s,baz=12,slow=4.9,SNR=18
comp=Z,29nm,1.0s
FCAR Ozark Folk Cen 71.61 55 IAmb IAmb 15 54 41.8
comp=Z,19nm,0.9s
ESK Eskdalemuir 71.62 350 P **P** **15 54 03.2 +1.3**
ESK Eskdalemuir 71.62 350 *eP* **P** **15 54 02.5 +0.7**
ESK IAmb IAmb 15 54 06.3
comp=Z,96nm,1.4s
ESK Eskdalemuir 71.62 350 P **P** **15 54 03.2 +1.3**
ESK pmax pmax
comp=Z,93nm,1.4s
BRDY Brady 71.62 63 IAmb IAmb 15 54 16.2
comp=Z,19nm,1.3s
RUE Ruedersdorf 71.66 339 *eP* **P** **15 54 03.7 +1.6**
SORM Soroca 71.72 329 ⇓P **P** **15 54 03.2 +0.5**
SORM Soroca 71.72 329 P **P** **15 54 03.1 +0.5**
JCT Junction City 71.81 64 P **P** **15 54 02.9 -0.6**
baz=321
WHTX Lake Whitney, 71.90 61 P **P** **15 54 04.0 0.0**
baz=321
MIAR Mount Ida 71.94 57 IAmb IAmb 15 54 28.4
comp=Z,20nm,1.1s
MIAR Mount Ida 71.94 57 P **P** **15 54 03.9 -0.2**
baz=322
MIAR Mount Ida 71.94 57 P **P** **15 54 04.7 +0.6**
baz=322
P48A Milroy 71.95 48 IAmb IAmb 15 55 31.7
comp=Z,93nm,1.6s
P48A Milroy 71.95 48 P **P** **15 54 04.1 -0.1**
baz=324
P48A P **P** **15 54 04.1 -0.1**
baz=324
WHAR Wooly Hollow 72.00 55 IAmb IAmb 15 54 07.6
comp=Z,17nm,1.1s
KWP Kalwaria Pacla 72.08 333 *eP* **P** **15 54 06.5 +1.8**
KWP Kalwaria Pacla 72.08 333 P **P** **15 54 06.5 +1.8**
N51A Ashland 72.12 45 IAmb IAmb 15 54 07.4
comp=Z,28nm,0.7s
ERPA Erie 72.14 43 P **P** **15 54 04.1 -1.2**
baz=326
LONY Lake Ozonia 72.18 38 P **P** **15 54 03.8 -1.6**
baz=328
P49A Miami Univ. Ec 72.21 48 P **P** **15 54 04.0 -1.7**
baz=324
GNI Garni 72.25 314 P **P** **15 54 07.0 +0.9**
GNI Garni 72.25 314 *ceP* **P** **15 54 07.3 +1.2**
GNI pmax pmax
comp=Z,152nm,1.7s
GNI Garni 72.25 314 P **P** **15 54 07.3 +1.2**
GNI Garni 72.25 314 LR LR 16 30 32.1
comp=Z,755nm,19.1s,baz=25,slow=40
GNI Garni 72.25 314 P **P** **15 54 06.8 +0.7**
RETH Rethem/Aller, 72.31 342 *eP* **P** **15 54 07.7 +1.7**
comp=Z,33nm,1.0s,baz=19,slow=5.9
KESW Keswick, Cumbr 72.33 350 *eP* **P** **15 54 07.9 +1.7**
KESW IAmb IAmb 15 54 10.9
comp=Z,98nm,1.0s
OJC Ojcow 72.33 335 *eP* **P** **15 54 07.3 +1.0**
OJC Ojcow 72.33 335 IAmb IAmb 15 54 09.0
comp=Z,60nm,1.0s
FLTG Flechtingen 72.33 341 *eP* **P** **15 54 07.2 +1.0**
comp=Z,56nm,0.9s,baz=19,slow=5.9
BATM Batumi 72.36 316 P **P** **15 54 06.8 +0.2**
NRDL Niedersach Rie 72.39 342 *eP* **P** **15 54 08.2 +1.7**
comp=Z,39nm,0.9s,baz=19,slow=5.9
M53A WI Miller and 72.42 44 P **P** **15 54 06.1 -0.8**
baz=326
ACSO Alum Creek Sta 72.42 46 P **P** **15 54 05.6 -1.3**
baz=325
SIM Simferopol' 72.52 323 *d i* P **P** **15 54 08.2 +0.7**
SIM S **S** **16 03 23.0 -6.6**
SIM pmax pmax
comp=Z,252nm,1.3s
BCA Borcka 72.53 316 ⇑P **P** **15 54 08.7 +1.1**
WCI Wyandotte Cave 72.55 49 P **P** **15 54 07.6 -0.1**
baz=324
KSV Kosov 72.58 331 P **P** **15 54 07.4 -0.4**
KSP Ksiaz 72.62 337 *eP* **P** **15 54 09.2 +1.3**
PURM Purcari 72.64 327 ⇑P **P** **15 54 09.3 +1.3**
MILM Milestii Mici 72.64 328 ⇑P **P** **15 54 09.0 +0.9**
MILM Milestii Mici 72.64 328 P **P** **15 54 09.0 +0.9**
STHS Stebnicka Huta 72.67 334 *eP* **P** **15 54 09.5 +1.2**
STHS pmax pmax
comp=Z,54nm,0.9s
STHS Stebnicka Huta 72.67 334 *eP* **P** **15 54 09.5 +1.2**
SNSI Sinabang, Aceh 72.69 251 P **P** **15 54 09.5 +0.7**
comp=Z,167nm,1.1s
GMJI Gumukmas 72.71 229 P **P** **15 54 09.8 +0.9**
KOLS Kolonicke sedl 72.83 333 *eP* **P** **15 54 10.8 +1.5**
KOLS pmax pmax
comp=Z,52nm,0.8s
KOLS Kolonicke sedl 72.83 333 *eP* **P** **15 54 10.8 +1.5**
GSI Gunungsitoli 72.88 249 P **P** **15 54 10.6 +0.7**
comp=Z,94nm,1.0s
OSTC Ostas 72.91 337 *eP* **P** **15 54 11.5 +1.8**
OSTC MLR MLR
comp=Z,2μm,14.5s
OSTC Ostas 72.91 337 *eP* **P** **15 54 11.5 +1.8**
OSTC AMS AMS 16 32 40.0
comp=Z,2μm,14.5s
CHVC Chvalec 72.91 337 *eP* **P** **15 54 11.6 +1.9**
CHVC MLR MLR
comp=Z,2μm,14.1s
CHVC Chvalec 72.91 337 *eP* **P** **15 54 11.6 +1.9**
CHVC AMS AMS 16 32 40.0
comp=Z,2μm,14.1s
NIE Niedzica 72.93 334 *eP* **P** **15 54 11.5 +1.6**
CLL Collm 72.93 339 *i* P **P** **15 54 10.6 +0.8**
CLL pmax pmax
comp=Z,78nm,0.9s
CLL Collm 72.93 339 *i* P **P** **15 54 10.6 +0.8**
comp=Z,78nm,0.9s
CLL *i* pP **pP** **15 54 17.6 -1.2**
CLL *e*S **S** **16 03 36.0 +2.0**
CLL *es*S **pS** **16 03 46.0 +0.6**
CLL *e*PPS PPS 16 04 18.0
CLL *e*SS **SS** **16 08 18.0 +4.7**
CLL *e*SSS SSS 16 11 54.0
CLL *ex* x 16 12 24.0
CLL AMS AMS 16 28 00.0
comp=N,400nm,20.6s
CLL AMS AMS 16 28 00.0
comp=E,500nm,18.6s
CLL Collm 72.93 339 *eP* **P** **15 54 10.8 +1.0**
comp=E,70nm,0.9s,baz=19,slow=5.9
SENK Senkaya-Erzuru 72.95 315 *eP* **P** **15 54 11.2 +0.9**
CLZ Clausthal 72.96 341 *eP* **P** **15 54 11.9 +1.8**
comp=E,75nm,0.9s,baz=19,slow=5.9
UPC Upice 73.00 337 *eP* **P** **15 54 11.6 +1.4**
UPC MLR MLR
comp=Z,2μm,15.3s
UPC Upice 73.00 337 *eP* **P** **15 54 11.6 +1.4**
UPC AMS AMS 16 32 40.0
comp=Z,2μm,15.3s
IBBN Ibbenburen 73.01 343 *eP* **P** **15 54 12.1 +1.9**
comp=Z,70nm,0.9s,baz=19,slow=5.9
O52A Adamsville 73.01 45 IAmb IAmb 15 54 12.8
comp=Z,25nm,0.8s
DPC Dobruska-Polom 73.07 337 *eP* **P** **15 54 12.7 +2.0**
DPC MLR MLR
comp=Z,2μm,15.9s
DPC Dobruska-Polom 73.07 337 *eP* **P** **15 54 12.7 +2.0**
DPC AMS AMS 16 32 30.0
comp=Z,2μm,15.9s
CRVS Cervenica-Dubn 73.08 333 *eP* **P** **15 54 11.9 +1.1**
CRVS pmax pmax
comp=Z,74nm,1.2s
CRVS Cervenica-Dubn 73.08 333 *eP* **P** **15 54 11.9 +1.1**
OKC Ostrava-Krasne 73.10 336 AMS AMS 16 29 50.0
comp=Z,1μm,19.2s
BRG Berggiesshubel 73.13 339 *i* P **P** **15 54 11.9 +0.9**
BRG Amp 15 54 14.4
comp=Z,17nm,1.0s
BRG Berggiesshubel 73.13 339 P P 15 54 16.0 +5.0
BRG Amp 15 54 20.3
comp=Z,20nm,1.0s
BRG Berggiesshubel 73.13 339 *i* P **P** **15 54 11.9 +0.9**
BRG pmax pmax
comp=Z,17nm,1.0s
BRG MLR MLR
comp=E,361nm,14.2s
BRG MLR MLR
comp=N,747nm,14.4s
BRG MLR MLR
comp=Z,1μm,15.6s
BRG Berggiesshubel 73.13 339 *eP* **P** **15 54 11.9 +0.9**
comp=Z,15nm,0.9s,baz=19,slow=5.9
BURAR Bucovina Array 73.16 330 ⇑P **P** **15 54 12.4 +1.0**
BURAR Bucovina Array 73.16 330 P **P** **15 54 12.0 +0.6**
O53A New Philadelph 73.17 45 P **P** **15 54 10.8 -0.6**
baz=326
T47A Sharon Grove 73.17 51 IAmb IAmb 15 55 49.9
comp=Z,25nm,0.8s
T47A Sharon Grove 73.17 51 P **P** **15 54 12.6 +1.2**
baz=324
KRLC Kraliky 73.22 337 *eP* **P** **15 54 13.4 +1.8**
KRLC MLR MLR
comp=Z,1μm,16.8s
KRLC Kraliky 73.22 337 *eP* **P** **15 54 13.4 +1.8**
KRLC AMS AMS 16 30 00.0
comp=Z,1μm,16.8s
VASR Vaslui 73.22 328 ⇓P **P** **15 54 13.4 +1.8**
PWJI Pagerwojo 73.26 231 P **P** **15 54 11.8 -0.3**
comp=Z,62nm,1.0s
P52A Corning 73.28 46 P **P** **15 54 12.1 0.0**
baz=326
MORC Moravsky Berou 73.31 336 ⇓P **P** **15 54 14.1 +2.0**
MORC Moravsky Berou 73.31 336 IAmb IAmb 15 54 15.7
comp=Z,43nm,1.0s
MORC Moravsky Berou 73.31 336 *eP* **P** **15 54 13.2 +1.1**
PVCC Panska Ves 73.31 338 *eP* **P** **15 54 14.3 +2.2**
PVCC MLR MLR
comp=Z,1μm,12.6s
PVCC Panska Ves 73.31 338 *eP* **P** **15 54 14.3 +2.2**
PVCC AMS AMS 16 32 50.0
comp=Z,1μm,12.6s
GTTG Gottingen 73.33 341 *eP* **P** **15 54 13.8 +1.7**
comp=Z,18nm,0.8s,baz=19,slow=5.9
LBWR Ladybower, Pea 73.34 349 *eP* **P** **15 54 12.4 +0.2**
LBWR IAmb IAmb 15 54 14.5
comp=Z,49nm,1.0s
KNRA Kununurra 73.36 212 IAmb IAmb 15 54 14.1
comp=Z,38nm,1.0s
TRSU Trosnyk 73.39 332 P **P** **15 54 14.7 +2.2**
RICC Richard 73.41 338 *eP* **P** **15 54 15.1 +2.5**
RICC AMS AMS 16 31 20.0
comp=Z,1μm,17.0s
CTA Charters Tower 73.45 194 LR LR 16 20 56.2
comp=Z,134nm,21.3s,baz=90,slow=31
AGRB Hanur-Agry 73.48 314 *eP* **P** **15 54 14.3 +0.8**
LBNH Lisbon 73.49 37 P **P** **15 54 11.8 -1.4**
baz=330
HSKC Hora Svate Kat 73.49 339 *eP* **P** **15 54 14.9 +1.7**
HSKC AMS AMS 16 32 40.0
comp=Z,1μm,12.6s
KRJI Kerinci 73.51 243 P **P** **15 54 14.8 +1.0**
comp=Z,256nm,0.9s,comp=Z,3μm
WVT Waverly 73.52 52 P **P** **15 54 15.2 +1.7**
WVT IAmb IAmb 15 54 16.5
comp=Z,14nm,1.0s
WVT Waverly 73.52 52 P **P** **15 54 15.2 +1.7**
WVT pmax pmax
comp=Z,14nm,1.0s
WVT Waverly 73.52 52 P **P** **15 54 13.6 +0.1**
baz=324
WVT Waverly 73.52 52 P **P** **15 54 13.9 +0.5**
baz=324
PKME Peaks-Kenny Pk 73.53 34 P **P** **15 54 13.1 -0.3**
baz=331
PBSI Pulau Batu 73.59 247 P **P** **15 54 14.5 +0.4**
comp=Z,95nm,0.9s
BIR Birlad 73.61 328 ⇑P **P** **15 54 15.8 +1.9**
BIR Birlad 73.61 328 P **P** **15 54 15.7 +1.9**
MAUC Maruska 73.61 336 *eP* **P** **15 54 15.9 +2.0**
MAUC AMS AMS 16 30 10.0
comp=Z,2μm,17.3s
KOPR Koprukoy-ERZUR 73.63 315 *eP* **P** **15 54 15.4 +1.1**
TESR Tescani 73.70 329 ⇓P **P** **15 54 15.4 +1.0**
KECS Kecovo 73.73 334 *eP* **P** **15 54 16.8 +2.2**
KECS pmax pmax
comp=Z,31nm,1.0s
KECS Kecovo 73.73 334 *eP* **P** **15 54 16.8 +2.2**
PRA Prague 73.77 338 AMS AMS 16 33 00.0
comp=Z,2μm,12.4s
PRU Pruhonice 73.83 338 *eP* **P** **15 54 16.7 +1.6**
PRU MLR MLR
comp=Z,2μm,13.8s
PRU Pruhonice 73.83 338 *eP* **P** **15 54 16.7 +1.6**
PRU AMS AMS 16 33 10.0
comp=Z,2μm,13.8s
VLDR Vladesti 73.83 328 ⇑P **P** **15 54 16.4 +1.3**
GOPC GO Pecny, Ondr 73.84 338 *eP* **P** **15 54 17.8 +2.6**
GOPC MLR MLR
comp=Z,1μm,13.8s
GOPC GO Pecny, Ondr 73.84 338 *eP* **P** **15 54 17.8 +2.6**
GOPC AMS AMS 16 33 00.0
comp=Z,1μm,13.8s
MOX Moxa 73.85 340 *eP* **P** **15 54 16.4 +1.1**
comp=Z,36nm,1.0s,baz=19,slow=5.9
MOX *e*L L 16 28 39.5
comp=Z,443nm,21.2s
PLN Plauen 73.88 340 *eP* **P** **15 54 16.7 +1.3**
comp=Z,28nm,0.9s,baz=19,slow=5.9
ARCR ARCALIA 73.89 331 ⇓P **P** **15 54 17.9 +2.3**
BUG Bochum–Univer 73.93 343 *eP* **P** **15 54 17.2 +1.6**
comp=Z,46nm,0.9s,baz=19,slow=5.9
KASTN Kahler Asten 73.95 342 *eP* **P** **15 54 17.1 +1.3**
comp=Z,30nm,1.1s,baz=19,slow=5.9
VRAC Vranov 73.97 336 ⇓P **P** **15 54 18.0 +2.1**
VRAC Vranov 73.97 336 *eP* **P** **15 54 17.3 +1.3**
VRAC Vranov 73.97 336 LR LR 16 31 03.3
comp=Z,2μm,18.2s,baz=25,slow=39
FOEL Foel Wylfa 74.01 350 *eP* **P** **15 54 17.6 +1.5**
FOEL IAmb IAmb 15 54 18.1
comp=Z,61nm,1.1s
SCTR Scanteiesti 74.01 328 ⇑P **P** **15 54 18.6 +2.4**
MLAZ Malazgirt-MUS 74.03 314 *eP* **P** **15 54 18.5 +1.8**
OXF Oxford 74.05 54 IAmb IAmb 15 54 19.4
comp=Z,26nm,0.8s
OXF Oxford 74.05 54 P **P** **15 54 17.0 +0.3**
baz=324
NKC Novy Kostel 74.06 339 *eP* **P** **15 54 19.0 +2.5**
NKC MLR MLR
comp=Z,700nm,16.7s
NKC Novy Kostel 74.06 339 *eP* **P** **15 54 19.0 +2.5**
NKC AMS AMS 16 33 30.0
comp=Z,700nm,16.7s
TATR Tatarca 74.06 327 ⇓P **P** **15 54 19.2 +2.7**
LLW Llanuwychllyn 74.10 350 *eP* **P** **15 54 17.1 +0.5**
LLW IAmb IAmb 15 54 19.1
comp=Z,31nm,1.1s
PANC Panciu 74.11 328 ⇑P **P** **15 54 18.9 +2.1**
VANB Van 74.12 314 *eP* **P** **15 54 18.9 +1.8**
JAVC Velka Javorina 74.12 336 *eP* **P** **15 54 19.2 +2.3**
SLCR Slobozia Conac 74.16 328 ⇑P **P** **15 54 19.3 +2.2**
VYHS Vyhne 74.16 335 *eP* **P** **15 54 18.7 +1.6**
VYHS pmax pmax
comp=Z,47nm,1.2s
VYHS Vyhne 74.16 335 *eP* **P** **15 54 18.7 +1.6**
ESPY Espiye-Giresun 74.17 318 *eP* **P** **15 54 16.5 -0.7**
NEGRR Negrea 74.17 328 ⇑P **P** **15 54 19.1 +1.9**
TLCR 74.17 327 ⇑P **P** **15 54 18.5 +1.4**
U49A Red Boiling Sp 74.18 50 P **P** **15 54 18.8 +1.5**
baz=325
SISI Saibi 74.18 246 P **P** **15 54 17.8 +0.2**
comp=Z,85nm,1.2s
IZVR Izvoarele 74.20 328 ⇑P **P** **15 54 19.6 +2.3**
T50A Nancy 74.20 49 IAmb IAmb 15 54 41.3
comp=Z,34nm,1.4s
SCHL Schela 74.22 328 ⇓P **P** **15 54 19.6 +2.2**
ODBI Odobesti 74.24 328 ⇓P **P** **15 54 20.1 +2.5**
SCHLR Schela 74.24 328 ⇑P **P** **15 54 18.8 +1.2**
MCWV Mont Chateau 74.25 44 P **P** **15 54 17.9 +0.2**
baz=327
SSPA Standing Stone 74.25 42 P **P** **15 54 16.2 -1.5**
baz=327
VRI Vrincioaia 74.25 328 ⇓P **P** **15 54 18.9 +1.3**
VRI Vrincioaia 74.25 328 P **P** **15 54 18.9 +1.3**
KRUC Moravsky 74.25 336 *eP* **P** **15 54 18.8 +1.2**
TREC Trest 74.25 337 AMS AMS 16 33 30.0
comp=Z,2μm,14.9s
CLTN Cedars of Leba 74.26 51 IAmb IAmb 15 54 20.8
comp=Z,14nm,0.8s
PLOR Plostina 74.29 328 ⇑P **P** **15 54 19.5 +1.5**
PLOR Plostina 74.29 328 P **P** **15 54 19.4 +1.5**
TURR Turia 74.31 329 ⇓P **P** **15 54 20.1 +2.1**
V48A Smith Brothers 74.31 51 IAmb IAmb 15 54 20.7
comp=Z,16nm,1.0s
V48A Smith Brothers 74.31 51 P **P** **15 54 19.0 +0.8**
baz=324
OZUR 74.34 329 ⇑P **P** **15 54 20.4 +2.1**
MANZ Manzenberg 74.36 339 *eP* **P** **15 54 19.4 +1.1**
comp=Z,5.4nm,0.9s,baz=19,slow=5.9
CFR Carcaliu 74.40 327 ⇓P **P** **15 54 19.7 +1.2**
PSZ Piszkesteto 74.41 334 ⇑P **P** **15 54 21.0 +2.4**
PSZ Piszkesteto 74.41 334 P **P** **15 54 21.0 +2.4**
ZVC Zvikov 74.42 338 *eP* **P** **15 54 20.2 +1.6**
ZVC AMS AMS 16 33 20.0
comp=Z,1μm,13.5s
R53A Hurricane 74.43 46 P **P** **15 54 19.3 +0.4**
baz=326
R53A P **P** **15 54 19.3 +0.4**
baz=326
COVR Voineasa-Covas 74.43 329 ⇓P **P** **15 54 20.6 +1.9**
CJR Cluj-Napoca 74.45 331 ⇑P **P** **15 54 21.0 +2.1**
CJR Cluj-Napoca 74.45 331 P **P** **15 54 21.0 +2.1**
SMOL Smolenice 74.50 336 *eP* **P** **15 54 21.2 +2.1**
SMOL pmax pmax
comp=Z,19nm,1.0s
AKDM Akdamar-Van 74.52 314 *eP* **P** **15 54 20.7 +1.2**
DZM Mont Dzumac 74.52 174 LR LR 16 22 51.8
comp=Z,363nm,19.0s,baz=24,slow=32
BISRR Bisoca 74.54 328 ⇑P **P** **15 54 21.8 +2.4**
ROTZ Rotzenmuhle 74.55 339 *eP* **P** **15 54 20.7 +1.4**
comp=Z,6.8nm,0.9s,baz=19,slow=5.9
DOPR Dopca 74.58 329 ⇓P **P** **15 54 21.7 +2.1**
TPGR Topolog 74.59 327 ⇑P **P** **15 54 21.3 +1.6**
MARR Marisel-Cluj 74.63 331 ⇓P **P** **15 54 21.3 +1.3**
BORR Bors 74.64 332 ⇓P **P** **15 54 21.9 +2.0**
DRGR 74.64 331 ⇑P **P** **15 54 21.7 +1.6**
DRGR 74.64 331 P **P** **15 54 21.6 +1.6**
MODS Modra-Piesok 74.67 336 *eP* **P** **15 54 22.0 +1.9**
MODS pmax pmax
comp=Z,64nm,1.0s
MODS Modra-Piesok 74.67 336 *eP* **P** **15 54 22.0 +1.9**
GURO Guroymak-BITLI 74.75 314 *eP* **P** **15 54 22.5 +1.7**
L61B Northampton 74.75 38 P **P** **15 54 19.4 -1.2**
baz=330
BEBN Eben Emael 74.83 344 *dP* **P** **15 54 22.5 +1.7**
GRF Grafenberg Arr 74.83 340 *eP* **P** **15 54 22.7 +1.7**
comp=Z,49nm,0.8s,baz=19,slow=5.9
GRF *e*L L 16 29 08.6
comp=Z,437nm,21.7s
GRFO Grafenberg 74.83 340 P **P** **15 54 22.2 +1.2**
GRFO Grafenberg 74.83 340 P **P** **15 54 22.2 +1.2**
GRFO pmax pmax
comp=Z,69nm,1.0s
MLR Muntele Rosu 74.83 329 ⇑P **P** **15 54 23.5 +2.3**
MLR Muntele Rosu 74.83 329 *eP* **P** **15 54 22.4 +1.2**
MLR Muntele Rosu 74.83 329 IAmb IAmb 15 54 24.6
comp=Z,55nm,0.9s
MLR Muntele Rosu 74.83 329 LR LR 16 32 06.6
comp=Z,2μm,18.9s,baz=34,slow=40
KHC Kasperske Hory 74.85 338 IAmb IAmb 15 54 25.2
comp=Z,41nm,1.0s
KHC Kasperske Hory 74.85 338 *ceP* **P** **15 54 21.7 +0.6**
KHC pmax pmax
comp=Z,62nm,0.9s
KHC Kasperske Hory 74.85 338 *eP* **P** **15 54 23.0 +1.9**
KHC AMS AMS 16 33 40.0
comp=Z,2μm,13.7s
MCH1 Michaelchurch 74.87 350 *eP* **P** **15 54 22.3 +1.2**
MCH1 IAmb IAmb 15 54 23.4
comp=Z,35nm,1.1s
TNS Taunus Mts 74.88 342 *eP* **P** **15 54 22.4 +1.2**
comp=Z,42nm,1.1s,baz=19,slow=5.9
ZST Bratislava 74.88 336 *eP* **P** **15 54 23.4 +2.2**
ZST pmax pmax
comp=Z,88nm,1.0s
ZST Bratislava 74.88 336 *eP* **P** **15 54 23.4 +2.2**
HARR Harsova 74.90 327 ⇑P **P** **15 54 22.7 +1.3**
HARR Harsova 74.90 327 P **P** **15 54 22.7 +1.3**
DIKM Dikmen 74.92 321 ⇑P **P** **15 54 23.9 +2.3**
DIKM Dikmen 74.92 321 *eP* **P** **15 54 23.7 +2.1**
TIRR Tirgusor 74.95 327 ⇑P **P** **15 54 23.3 +1.6**
TIRR Tirgusor 74.95 327 *eP* **P** **15 54 22.5 +0.8**
TIRR Tirgusor 74.95 327 P **P** **15 54 22.5 +0.8**
MEM Membach 74.95 344 *dP* **P** **15 54 23.2 +1.6**
comp=Z,100nm,0.9s
BTNL Ternell 74.95 343 *dP* **P** **15 54 23.0 +1.4**
comp=Z,54nm,0.9s
BNGB Bingl 74.97 316 *eP* **P** **15 54 23.6 +1.6**
CKRC Cesky Krumlov 74.97 338 *eP* **P** **15 54 23.4 +1.6**
CKRC MLR MLR
comp=Z,2μm,13.9s
CKRC Cesky Krumlov 74.97 338 *eP* **P** **15 54 23.4 +1.6**
CKRC AMS AMS 16 34 10.0
comp=Z,2μm,13.9s
ISR Istrita 74.97 328 ⇑P **P** **15 54 24.0 +2.1**
ISR Istrita 74.97 328 P **P** **15 54 22.9 +1.0**
TLBR Topalu 74.99 327 ⇓P **P** **15 54 24.3 +2.3**
WET Wettzell 74.99 339 *eP* **P** **15 54 23.4 +1.5**
comp=Z,35nm,0.8s,baz=19,slow=5.9
MONM Monmouth 75.00 349 *eP* **P** **15 54 22.3 +0.5**
BSTI Sart Tilman 75.05 344 *dP* **P** **15 54 24.1 +2.0**
comp=Z,9.8nm,0.8s
GEC2 GERESS Array S 75.09 338 IAmb IAmb 15 54 32.0
comp=Z,35nm,1.2s
GEC2 GERESS Array S 75.09 338 *eP* **P** **15 54 23.7 +1.1**
comp=Z,21nm,1.0s,baz=19,slow=5.9
GERES GERESS Array B 75.09 338 P **P** **15 54 23.4 +0.8**
GERES GERESS Array B 75.09 338 P **P** **15 54 23.4 +0.8**
GERES GERESS Array B 75.09 338 P **P** **15 54 23.8 +1.3**
comp=Z,13nm,0.7s,baz=36,slow=7.1,SNR=40
GERES LR LR 16 31 43.0
comp=Z,709nm,18.4s,baz=26,slow=39
comp=Z,13nm,0.7s
KVT Kavak 75.10 320 *eP* **P** **15 54 24.5 +1.8**
CUKT Cukurca 75.13 313 *eP* **P** **15 54 23.9 +0.8**
SWET Sewanee 75.16 51 IAmb IAmb 15 54 25.4
comp=Z,22nm,0.8s
VOIR 75.16 329 ⇓P **P** **15 54 24.9 +1.9**
VOIR 75.16 329 P **P** **15 54 24.3 +1.3**
AMRR Amara 75.17 327 ⇑P **P** **15 54 24.6 +1.7**
RSDY Resadiye-TOKAT 75.17 319 *eP* **P** **15 54 24.4 +1.3**
TZTN Tazewell 75.19 49 P **P** **15 54 23.3 0.0**
baz=326
MFTR Murfatlar 75.19 327 ⇑P **P** **15 54 25.3 +2.2**
EFOR EFORIE 75.21 326 ⇓P **P** **15 54 24.6 +1.5**
BCLA Clavier 75.25 344 *dP* **P** **15 54 24.8 +1.5**
comp=Z,24nm,1.0s
BGES Gesves 75.32 344 *dP* **P** **15 54 25.1 +1.3**
comp=Z,24nm,0.9s
ARR Arges 75.35 330 ⇓P **P** **15 54 26.3 +2.2**
SIRR Siria 75.42 332 ⇑P **P** **15 54 26.5 +2.0**
CONA Conrad Observa 75.44 336 *i* pP **P** **15 54 26.3 +1.8**
comp=Z,34nm,0.7s,SNR=16
SVAN Silvan-Diyarba 75.44 315 *eP* **P** **15 54 26.5 +1.8**
ICOR Ion Corvin 75.45 327 ⇑P **P** **15 54 26.6 +2.0**
BMRD Maredsous 75.45 344 *dP* **P** **15 54 25.5 +1.0**
comp=Z,36nm,0.9s
SULR 75.46 328 ⇓P **P** **15 54 25.9 +1.3**
ILIC ilic-Erzincan 75.47 317 *eP* **P** **15 54 26.3 +1.4**
W50A Signal Mountai 75.47 51 IAmb IAmb 15 54 36.8
comp=Z,20nm,1.0s
W50A Signal Mountai 75.47 51 P **P** **15 54 25.9 +0.9**
baz=325
SOP Sopron 75.49 336 P **P** **15 54 26.8 +2.0**
RCHB Rochefort 75.52 344 *dP* **P** **15 54 25.5 +0.7**
comp=Z,23nm,1.0s
RONA Rosalia, Austr 75.54 336 *i* pP **P** **15 54 27.1 +2.0**
comp=Z,39nm,1.1s,SNR=9.3
TOKT Tokat 75.55 319 *eP* **P** **15 54 26.5 +1.2**
WB0 Warramunga Arr 75.58 205 IAmb IAmb 15 54 26.6
comp=Z,28nm,1.0s
PTK Pertek 75.59 316 *eP* **P** **15 54 27.4 +1.6**
DOU Dourbes 75.68 344 *dP* **P** **15 54 26.6 +0.8**
comp=Z,25nm,0.9s
SVSK Karacayir 75.71 319 *eP* **P** **15 54 27.6 +1.5**
NGCH Negor - Chabah 75.72 293 P **P** **15 54 27.7 +1.3**
WR0 Warramunga Arr 75.73 205 IAmb IAmb 15 54 32.6
comp=Z,18nm,0.6s
WRAB Tennant Creek 75.75 205 P **P** **15 54 26.7 +0.2**
WRAB IAmb IAmb 15 54 27.7
comp=Z,31nm,1.1s
WRAB Tennant Creek 75.75 205 *i* P **P** **15 54 26.9 +0.4**
WRAB pmax pmax
comp=Z,23nm,1.1s
SURR Surduc 75.76 331 ⇑P **P** **15 54 27.2 +0.9**
WB2 Warramunga Arr 75.76 205 IAmb IAmb 15 54 27.8
comp=Z,28nm,1.1s

WRA **Warramunga Arr** 75.77 205 P **P** 15 54 26.5 -0.1
WRA **Warramunga Arr** 75.77 205 *i* P **P** 15 54 26.8 +0.3
WRA pmax pmax
comp=Z,12nm,0.9s
WRA **Warramunga Arr** 75.77 205 P **P** 15 54 26.6 +0.1
comp=Z,12nm,0.9s,baz=19,slow=5.9,SNR=34
comp=Z,12nm,0.9s
PSN **Preselentsi** 75.77 326 *eP* **P** 15 54 27.5 +1.1
BAIF **Baives** 75.78 345 *eP* **P** 15 54 27.2 +0.8
BAIF pmax pmax
comp=Z,41nm,1.1s
TKL **Tuckaleechee C** 75.81 49 LR LR 16 28 26.3
comp=Z,500nm,21.0s,baz=332,slow=36
WLF **Walferdange** 75.83 343 IAmb IAmb 15 54 31.5
comp=Z,29nm,1.1s
WLF **Walferdange** 75.83 343 *dP* **P** 15 54 28.8 +2.1
ARPR **Arapgir-MALATY** 75.86 317 *eP* **P** 15 54 28.5 +1.2
FPAL **Fort Paine** 75.86 51 IAmb IAmb 15 54 48.4
comp=Z,24nm,1.1s
GZR **Gura Zlata** 75.89 331 ⇓P **P** 15 54 28.4 +1.3
MOA **Molln** 75.89 337 *i* P **P** 15 54 28.5 +1.4
comp=Z,13nm,0.9s,SNR=7.5
BZS **Buzias** 76.03 332 ⇓P **P** 15 54 28.9 +1.0
BZS **Buzias** 76.03 332 *eP* **P** 15 54 28.7 +0.8
BZS **Buzias** 76.03 332 P **P** 15 54 28.9 +1.0
BLA **Blacksburg** 76.04 46 P **P** 15 54 28.7 +0.5
baz=327
DYBB **Diyarbakir** 76.07 315 *eP* **P** 15 54 29.6 +1.3
STU **Stuttgart** 76.12 341 IAmb IAmb 15 54 33.2
comp=Z,33nm,0.9s
STU **Stuttgart** 76.12 341 P **P** 15 54 32.5 +4.2
ARSA **Arzberg** 76.15 336 *i* pP **P** 15 54 30.4 +1.8
comp=Z,40nm,1.2s,SNR=10
BIOA **Bad Ischl, Aus** 76.19 338 *i* pP **P** 15 54 31.2 +2.4
comp=Z,20nm,1.5s
MORH **Mrgy, Hungar** 76.31 334 ⇓P **P** 15 54 30.4 +0.9
RJOB **Jochberg** 76.34 338 *eP* **P** 15 54 31.3 +1.7
comp=Z,23nm,0.8s,baz=19,slow=5.9
MAZI **Mazidag** 76.35 315 *eP* **P** 15 54 31.1 +1.1
RAZG **Razgrad** 76.37 328 ⇓P **P** 15 54 30.7 +0.8
LRAL **Lakeview Retre** 76.42 53 P **P** 15 54 30.6 +0.3
baz=325
CORM **Corum** 76.43 320 *eP* **P** 15 54 32.2 +1.8
PRD **Provadia** 76.43 327 *eP* **P** 15 54 31.9 +1.7
HERR **Herculane** 76.47 331 ⇓P **P** 15 54 31.1 +0.8
RMGR **Halanga-Turnu** 76.58 331 ⇓P **P** 15 54 32.9 +1.9
LESA **Schwarzleotal** 76.66 338 *i* P **P** 15 54 33.0 +1.5
comp=Z,25nm,0.8s
BFO **Black Forest** 76.71 341 P **P** 15 54 32.1 +0.4
BFO IAmb IAmb 15 54 37.1
comp=Z,24nm,1.0s
BFO **Black Forest** 76.71 341 P **P** 15 54 32.1 +0.4
BFO pmax pmax
comp=Z,24nm,1.0s
BG3 **Lake Jocassee** 76.75 49 IAmb IAmb 15 54 54.3
comp=Z,48nm,1.4s
SOKA **Soboth** 76.81 336 *i* P **P** 15 54 34.0 +1.6
comp=Z,24nm,0.7s,SNR=9.5
KBA **Koelnbreinsper** 76.83 338 *i* pP **P** 15 54 34.6 +2.0
comp=Z,113nm,0.8s,SNR=42
CDF **Champ du Feu** 76.83 342 *eP* **P** 15 54 33.3 +0.8
CDF pmax pmax
comp=Z,41nm,1.0s
PUNG **Punghina** 76.86 330 ⇑P **P** 15 54 33.6 +1.0
KALN **Kalnik** 76.96 335 *i* P **P** 15 54 34.2 +1.0
FRGS **Fruska Gora** 76.97 333 ⇓P **P** 15 54 34.7 +1.5
FRGS **Fruska Gora** 76.97 333 ⇑*i*P **P** 15 54 33.6 +0.4
UBR **Ueberruh** 76.97 340 *eP* **P** 15 54 34.8 +1.5
comp=Z,25nm,1.0s,baz=19,slow=5.9
WATA **Walderalm** 76.99 339 *i* pP **P** 15 54 35.1 +1.6
comp=Z,36nm,1.2s,SNR=7.9
RETA **Reutte** 77.02 340 *i* P **P** 15 54 34.5 +0.9
comp=Z,18nm,0.9s
LOBO **Lobor** 77.04 336 *i* P **P** 15 54 34.5 +1.0
WTTA **Wattenberg** 77.04 339 *i* pP **P** 15 54 35.6 +1.7
comp=Z,42nm,1.1s,SNR=13
ECH **Echery** 77.05 342 IAmb IAmb 15 54 38.6
comp=Z,44nm,1.1s
ECH **Echery** 77.05 342 P **P** 15 54 34.8 +1.2
MOTA **Moosalm** 77.08 339 *i* P **P** 15 54 35.4 +1.4
comp=Z,39nm,0.9s,SNR=9.8
OBKA **Obir** 77.08 337 *i* P **P** 15 54 35.3 +1.3
comp=Z,52nm,0.9s
OBKA **Obir** 77.08 337 ⇑*i*P **P** 15 54 35.1 +1.2
BNN **Bunyan** 77.08 319 *eP* **P** 15 54 35.3 +1.2
JASK **Jask - Hormozg** 77.14 296 P **P** 15 54 35.0 +0.6
SNR=6.6
PLVB **Pleven** 77.14 329 ⇓P **P** 15 54 35.3 +1.1
SQTA **Sankt Quirin** 77.18 339 *i* pP **P** 15 54 36.1 +1.6
comp=Z,42nm,0.9s,SNR=15
MYKA **Terra Mystica** 77.19 337 *i* P **P** 15 54 35.8 +1.3
comp=Z,27nm,1.0s
BR131 **Keskin Array S** 77.20 321 *eP* **P** 15 54 35.6 +0.8
BR131 **Keskin Array S** 77.20 321 IAmb IAmb 15 54 36.9
comp=Z,61nm,1.0s
BR131 **Keskin Array S** 77.20 321 *i* P **P** 15 54 35.0 +0.2
BRTR **Keskin Array B** 77.20 321 P **P** 15 54 35.2 +0.4
comp=Z,63nm,1.1s,baz=50,slow=3.2,SNR=87
BRTR LR LR 16 34 33.8
comp=Z,924nm,18.6s,baz=28,slow=40
comp=Z,63nm,1.1s
SARI **SarD1z-Kayseri** 77.23 318 *eP* **P** 15 54 36.6 +1.6
VALD **Valchedram** 77.24 330 P **P** 15 54 35.8 +1.1
GOLS **Golise** 77.28 336 *i* P **P** 15 54 36.5 +1.5
PTJ **Puntijarka** 77.30 336 P **P** 15 54 35.9 +0.8
ABTA **Abfaltersbach** 77.33 338 *i* P **P** 15 54 36.7 +1.3
comp=Z,50nm,0.9s,SNR=20
KMSC **Kings Mountain** 77.35 48 P **P** 15 54 34.1 -1.5
baz=327
YUVA **Yuva-Kibriscik** 77.36 322 *eP* **P** 15 54 37.4 +1.8
PRED **Cave del Predi** 77.38 337 P **P** 15 54 36.4 +0.8
DAVA **Damuels** 77.40 340 *i* P **P** 15 54 36.9 +1.1
comp=Z,27nm,1.0s
ANTO **Ankara** 77.40 321 ⇑P **P** 15 54 37.8 +2.0
ANTO **Ankara** 77.40 321 P **P** 15 54 37.3 +1.5
ANTO **Ankara** 77.40 321 P **P** 15 54 37.3 +1.5
ANTO pmax pmax
comp=Z,78nm,1.0s
ANTO **Ankara** 77.40 321 P **P** 15 54 36.4 +0.5
GCIS **Gornji Cirnik** 77.42 336 *i* P **P** 15 54 37.3 +1.6
MPEP **Malo Peshtene** 77.44 329 *eP* **P** 15 54 36.6 +0.7
FETA **Feichten** 77.47 339 *i* pP **P** 15 54 37.9 +1.7
comp=Z,37nm,0.9s,SNR=9.2
MDUB **Mudurnu** 77.47 323 *eP* **P** 15 54 37.6 +1.3
HINF **Hinteralfeld** 77.49 342 *eP* **P** 15 54 36.6 +0.5
HINF pmax pmax
comp=Z,36nm,1.3s
CRES **Cresnjev** 77.50 336 ⇑*i*P **P** 15 54 36.8 +0.6
BLKB **Belogradchik** 77.53 330 ⇑P **P** 15 54 36.5 +0.1
SAUV **Serdivan-Sakar** 77.56 324 *eP* **P** 15 54 37.7 +1.1
TEKS **Tekeris** 77.60 333 ⇑*i*P **P** 15 54 36.8 0.0
AFSR **Afar-Bala (An** 77.66 321 *eP* **P** 15 54 38.4 +1.1
OZLJ **Ozalj** 77.69 336 *i* P **P** 15 54 38.1 +0.9
BGKT **Boggazkoy** 77.72 325 *eP* **P** 15 54 37.4 -0.1
HRT **Hereke** 77.72 324 *eP* **P** 15 54 38.8 +1.2
STAL **STALIGIAL** 77.75 338 IAmb IAmb 15 54 40.0
comp=Z,21nm,0.9s
GULT **Gulveren** 77.76 323 *eP* **P** 15 54 39.5 +1.7
KMRS **Kahramanmaras** 77.81 317 *eP* **P** 15 54 39.4 +1.3
BOVS **Bovan** 77.81 331 ⇓P **P** 15 54 38.4 +0.4
YAYX **Yaylak** 77.81 320 *eP* **P** 15 54 39.0 +0.8
CEY **Cerknica** 77.83 337 ⇑*i*P **P** 15 54 38.4 +0.3
BOJS **Bojanci** 77.85 336 ⇑*i*P **P** 15 54 38.9 +0.8
LDF **La Druitiere** 77.86 347 *eP* **P** 15 54 38.5 +0.4
LDF pmax pmax
comp=Z,31nm,1.2s
DAVOX **Davgas/Dischmat** 77.88 340 LR LR 16 35 31.6
comp=Z,452nm,18.9s,baz=46,slow=41
A051A **Mrakovica** 77.89 335 ⇑*i*P **P** 15 54 38.1 -0.3
SERE **Sereflikochisa** 77.91 320 *eP* **P** 15 54 39.7 +1.0
BRAL **Brewton** 77.91 54 P **P** 15 54 36.8 -1.9
baz=325
SHME **Shamm** 77.94 297 *i* P **P** 15 54 38.9 0.0
SNR=13
SHME **Shamm** 77.94 297 P **P** 15 54 38.6 -0.3
SNR=5.2
BANOM **Banah** 77.95 297 P **P** 15 54 38.8 -0.2
FUORN **Ofenpass-Fuorn** 77.95 340 IAmb IAmb 15 54 43.4
comp=Z,29nm,1.0s
GAZ **Gaziantep** 77.96 317 *eP* **P** 15 54 40.6 +1.6
DIM **Dimitrovgrad** 78.04 327 *eP* **P** 15 54 41.2 +2.0
ADVT **Abdulvahap** 78.04 324 *eP* **P** 15 54 39.7 +0.5
KULU **Kulu** 78.04 321 *eP* **P** 15 54 40.8 +1.4
YLV **Yalova** 78.05 324 *eP* **P** 15 54 41.3 +1.9

BLY **Banja Luka** 78.06 334 ⇑*i*P **P** 15 54 40.5 +1.2
SRCK **Saricakaya, Es** 78.06 323 *eP* **P** 15 54 39.9 +0.5
PGB **Panagyurishte** 78.07 329 *eP* **P** 15 54 40.5 +1.1
SKDS **Skadanscina** 78.11 337 ⇑*i*P **P** 15 54 40.8 +1.2
PALK **Pallekele** 78.13 266 P **P** 15 54 40.2 0.0
PALK IAmb IAmb 15 54 48.3
comp=Z,47nm,0.9s
PALK **Pallekele** 78.13 266 *i* P **P** 15 54 40.4 +0.2
PALK pmax pmax
comp=Z,63nm,1.1s
PALK **Pallekele** 78.13 266 LR LR 16 35 03.5
comp=Z,326nm,18.0s,baz=151,slow=40
PALK **Pallekele** 78.13 266 P **P** 15 54 40.1 -0.1
GRR **Gorron** 78.16 347 *eP* **P** 15 54 40.5 +0.7
GRR pmax pmax
comp=Z,83nm,1.2s
GULA **Gulagac** 78.16 320 *eP* **P** 15 54 40.9 +0.8
CTI **Castel Tesino** 78.19 338 IAmb IAmb 15 54 42.9
comp=Z,32nm,0.9s
HAPS **Han Pijesak,Bl** 78.19 333 ⇑*i*P **P** 15 54 40.5 +0.3
CAVI **Cavuskoy** 78.20 324 *eP* **P** 15 54 41.2 +1.0
PLD **Plovdiv** 78.22 328 *eP* **P** 15 54 41.3 +1.1
PLD **Plovdiv** 78.22 328 *eP* **P** 15 54 41.6 +1.4
GEMT **Gemlik** 78.23 324 *eP* **P** 15 54 40.9 +0.6
ARMT **Armutlu** 78.23 325 *eP* **P** 15 54 40.9 +0.5
SVRH **Sivrihisar-ESK** 78.25 322 *eP* **P** 15 54 40.9 +0.3
BBLS **Lazi&#263i** 78.27 332 ⇑*i*P **P** 15 54 41.6 +1.0
KOZT **Kozan** 78.27 318 *eP* **P** 15 54 41.8 +1.2
VTS **Vitosha** 78.27 329 *eP* **P** 15 54 41.8 +1.1
TUE **Stuetta** 78.28 340 IAmb IAmb 15 54 44.9
comp=Z,30nm,0.7s
MGRS **Mrkonjic Grad** 78.39 334 ⇑*i*P **P** 15 54 42.0 +0.8
MDNY **Mudanya-Bursa** 78.40 324 *eP* **P** 15 54 41.8 +0.6
MDH **Madha** 78.45 296 *i* P **P** 15 54 40.7 -1.1
SNR=10
MDH **Madha** 78.45 296 P **P** 15 54 40.6 -1.1
SNR=8.7
A050A **Klekovaca** 78.48 335 ⇑*i*P **P** 15 54 43.5 +1.8
CHBY **Cihanbeyli** 78.48 321 *eP* **P** 15 54 42.5 +0.6
KDZ **Kurdzhali** 78.49 327 *eP* **P** 15 54 42.9 +1.2
CIFT **Cifteler, Eski** 78.50 322 *eP* **P** 15 54 42.7 +0.8
RUDO **Rudo** 78.50 332 ⇑*i*P **P** 15 54 42.4 +0.6
SGMF **Saint Gilles** 78.50 349 *eP* **P** 15 54 42.5 +0.8
SGMF pmax pmax
comp=Z,69nm,1.1s
ROSF **Rostrenen** 78.51 349 *eP* **P** 15 54 42.5 +0.8
ROSF pmax pmax
comp=Z,76nm,1.0s
LOR **Lormes** 78.55 344 *eP* **P** 15 54 42.7 +0.7
LOR pmax pmax
comp=Z,44nm,1.1s
KIZT **Kizilcal** 78.61 322 *eP* **P** 15 54 43.3 +0.7
UMQ **Umm Al-Quwin** 78.61 297 P **P** 15 54 43.2 +0.6
UDBI **Udbina** 78.63 335 *i* P **P** 15 54 43.6 +1.0
SJES **Sjenica** 78.66 332 ⇑*i*P **P** 15 54 43.9 +1.1
KCTX **Karacabey (Bur** 78.68 325 *eP* **P** 15 54 43.6 +0.8
PLE **Pljevlja** 78.76 332 ⇑*i*P **P** 15 54 44.8 +1.4
KARA **Karaisali** 78.77 319 *eP* **P** 15 54 44.5 +1.1
UOSS **Minazif** 78.78 296 P **P** 15 54 43.2 -0.3
UOSS **Minazif** 78.78 296 *i* P **P** 15 54 43.0 -0.6
SNR=17
UOSS **Minazif** 78.78 296 P **P** 15 54 42.9 -0.7
EDC **Edincik** 78.78 325 *eP* **P** 15 54 43.6 +0.2
WSAR **Wadi Sarin** 78.79 293 LR LR 16 33 51.7
comp=Z,435nm,18.6s,baz=72,slow=39
CABF **La Chapelle** 78.79 342 *eP* **P** 15 54 44.6 +1.2
CABF pmax pmax
comp=Z,45nm,1.1s
CNNC **Cliffs of the** 78.80 45 P **P** 15 54 41.3 -2.2
baz=328
SSF **Saint Saulge** 78.81 344 *eP* **P** 15 54 44.2 +0.8
SSF pmax pmax
comp=Z,21nm,0.9s
NVLJ **Novalja** 78.83 336 *i* P **P** 15 54 43.6 +0.2
YESY **Yesilyurt** 78.84 320 *eP* **P** 15 54 44.7 +0.8
BIDO **Bidbid** 78.85 294 P **P** 15 54 44.2 +0.2
SNR=13
SALO **Salr** 78.85 339 IAmb IAmb 15 54 46.7
comp=Z,51nm,0.9s
RDO **Rodhopi** 78.86 327 *eP* **P** 15 54 44.9 +1.2
QUIF **Quistinic** 78.91 349 *eP* **P** 15 54 44.6 +0.7
QUIF pmax pmax
comp=Z,170nm,1.8s
HATD **Hatta, Dubai** 78.91 296 *i* P **P** 15 54 44.1 -0.3
SNR=46
HATD **Hatta, Dubai** 78.91 296 P **P** 15 54 44.0 -0.3
SNR=31
KIJV **Kijevo** 78.95 335 *i* P **P** 15 54 45.2 +0.9
TVSB **Tavsanli** 79.00 324 *eP* **P** 15 54 45.6 +0.9
KKB **Krupnik** 79.01 329 *eP* **P** 15 54 44.5 -0.1
LADK **Ladik-KONYA** 79.02 321 *eP* **P** 15 54 45.5 +0.7
UPM **Unac-Piva** 79.02 333 ⇑*i*P **P** 15 54 45.8 +0.9
UPM **Unac-Piva** 79.02 333 ⇑*i*P **P** 15 54 45.6 +0.7
NAZ **Nazwa, Dubai** 79.04 297 *i* P **P** 15 54 45.0 0.0
SNR=16
NAZ **Nazwa, Dubai** 79.04 297 P **P** 15 54 44.7 -0.3
SNR=12
IVA **Berane** 79.04 332 ⇑*i*P **P** 15 54 45.7 +0.8
ASHO **Ashiyiah** 79.07 296 *i* P **P** 15 54 44.8 -0.4
SNR=37
ASHO **Ashiyiah** 79.07 296 P **P** 15 54 44.9 -0.4
SNR=26
MMB **Musomishta** 79.08 328 *eP* **P** 15 54 45.8 +0.8
AVF **Avril sur Loir** 79.09 344 *eP* **P** 15 54 45.8 +0.9
AVF pmax pmax
comp=Z,66nm,1.1s
WBK **Wadi Bani Khal** 79.09 293 P **P** 15 54 45.9 +0.5
SNR=24
SMF **Signal de Mont** 79.15 344 *eP* **P** 15 54 46.2 +0.9
SMF pmax pmax
comp=Z,69nm,1.1s
NEVS **Nevesinje** 79.15 333 ⇑*i*P **P** 15 54 46.9 +1.4
KOME **Kolasin** 79.17 332 ⇑*i*P **P** 15 54 45.7 +0.1
JLN **Jalan Bani Buh** 79.21 292 P **P** 15 54 46.4 +0.4
SNR=25
RICI **Ricice** 79.24 334 *i* P **P** 15 54 46.0 +0.2
KONT **Konya--Tatoy** 79.24 321 *eP* **P** 15 54 46.8 +0.8
SOHO **SOHO** 79.24 296 *i* P **P** 15 54 45.1 -1.0
SNR=45
SOHO **SOHO** 79.24 296 P **P** 15 54 45.2 -0.9
HOQ **Hoqain** 79.25 295 P **P** 15 54 46.1 -0.1
SNR=18
SMDO **Samad** 79.25 294 P **P** 15 54 46.5 +0.1
SNR=19
MORI **Morici** 79.27 335 *i* P **P** 15 54 46.4 +0.5
FAQ **Al Faqa, Dubai** 79.27 297 *i* P **P** 15 54 45.7 -0.6
SNR=15
FAQ **Al Faqa, Dubai** 79.27 297 P **P** 15 54 45.7 -0.6
SNR=10
PVY **Plav** 79.28 332 ⇑*i*P **P** 15 54 47.0 +0.8
DUGI **Dugi Otok** 79.31 335 *i* P **P** 15 54 46.8 +0.6
TIGA **Tifton** 79.38 52 P **P** 15 54 46.1 -0.6
baz=326
GEDZ **Gediz** 79.38 323 *eP* **P** 15 54 47.2 +0.4
SHUT **Suhut-Afyon** 79.39 322 *eP* **P** 15 54 48.1 +1.2
BRY **Bratogost** 79.40 333 ⇑*i*P **P** 15 54 46.4 -0.5
BGF **Bois d'Agland** 79.40 345 *eP* **P** 15 54 47.6 +0.9
BGF pmax pmax
comp=Z,43nm,1.2s
NKME **Niksic** 79.41 332 ⇑*i*P **P** 15 54 47.1 +0.3
SKO **Skopje** 79.41 330 *i* P **P** 15 54 48.1 +1.3
ASAR **Alice Springs** 79.44 205 P **P** 15 54 47.4 +0.4
ASAR **Alice Springs** 79.44 205 P **P** 15 54 47.4 +0.4
ASAR **Alice Springs** 79.44 205 P **P** 15 54 47.8 +0.8
comp=Z,9.1nm,0.8s,baz=16,slow=5.3,SNR=83
comp=Z,9.1nm,0.8s
MAKA **Makarska** 79.46 334 *i* P **P** 15 54 47.0 0.0
ASUD **Al Ashush, Dub** 79.51 297 *i* P **P** 15 54 47.4 -0.1
SNR=14
ASUD **Al Ashush, Dub** 79.51 297 P **P** 15 54 47.5 -0.1
SNR=7.4
CEME **Cevo** 79.62 332 ⇑*i*P **P** 15 54 48.1 +0.1
TREB **Trebinje** 79.62 333 ⇑*i*P **P** 15 54 47.9 0.0
VAY **Valandovo** 79.65 329 *i* P **P** 15 54 49.7 +1.6
STON **Ston** 79.66 333 *i* P **P** 15 54 47.9 -0.2
STON **Ston** 79.66 333 ⇑*i*P **P** 15 54 48.7 +0.6
KNT **Kendrikon** 79.69 329 *eP* **P** 15 54 48.6 +0.2
LPL **La Plagne** 79.72 342 *eP* **P** 15 54 50.4 +1.7
LPL pmax pmax
comp=Z,66nm,0.9s
DBRK **Dubrovnik** 79.72 333 *i* P **P** 15 54 47.3 -1.2
ALNE **Al Ain** 79.73 296 *i* P **P** 15 54 48.6 -0.3
SNR=14
ALNE **Al Ain** 79.73 296 P **P** 15 54 48.5 -0.3
SNR=32
LPG **La Plagne** 79.74 342 *eP* **P** 15 54 50.6 +1.7
LPG pmax pmax
comp=Z,106nm,1.0s
AJN **Ajban** 79.75 297 *i* P **P** 15 54 48.1 -0.8
SNR=8.7
AJN **Ajban** 79.75 297 P **P** 15 54 48.0 -0.8
SNR=9.7
TCF **Toulx Ste Croi** 79.77 345 *eP* **P** 15 54 49.6 +0.9
TCF pmax pmax
comp=Z,34nm,1.0s
JMDO **Jabal Madar** 79.77 293 P **P** 15 54 49.2 +0.2
SNR=52
PUK **Puka** 79.80 331 IAmb IAmb 15 54 52.8
comp=Z,25nm,0.8s
KBD **Kabd** 79.83 305 P **P** 15 54 49.0 -0.2
HCY **Herceg Novi** 79.83 332 ⇑*i*P **P** 15 54 48.4 -0.7
HCY **Herceg Novi** 79.83 332 ⇑*i*P **P** 15 54 49.3 +0.2
BUM **Brajici-Budva** 79.85 332 ⇑*i*P **P** 15 54 49.9 +0.6
DRME **Dracevica, Mon** 79.88 332 ⇑*i*P **P** 15 54 49.8 +0.5
DRME **Dracevica, Mon** 79.88 332 ⇑*i*P **P** 15 54 51.2 +1.9
ARQ **Araqi** 79.88 295 P **P** 15 54 49.6 0.0
SNR=31
SEYD **Seydisehir-KON** 79.91 321 *eP* **P** 15 54 50.9 +1.2
BSY **Bisya** 79.98 294 P **P** 15 54 50.0 -0.2
SNR=49
SILI **Silifke-Mersin** 80.00 319 *eP* **P** 15 54 49.9 -0.1
HDMB **Hadim** 80.05 320 *eP* **P** 15 54 50.9 +0.3
ISP **Isparta** 80.05 322 *eP* **P** 15 54 50.7 +0.3
ULC **Ulcinj** 80.06 332 ⇑*i*P **P** 15 54 52.1 +1.7
LIA **Limnos Island** 80.10 327 *eP* P 15 54 23.3 -27
KULA **Kula-Manisa** 80.12 324 *eP* **P** 15 54 51.3 +0.5
HORT **Hortiatis** 80.14 329 *eP* **P** 15 54 50.7 -0.2
BNI **Bardonecchia** 80.18 342 IAmb IAmb 15 55 03.6
comp=Z,52nm,1.1s
BNI **Bardonecchia** 80.18 342 P **P** 15 54 53.4 +2.3
IKL **Isikli** 80.20 319 *eP* **P** 15 54 51.3 +0.1
AKKU **Akkuyu-Mersin** 80.33 319 *eP* **P** 15 54 51.9 +0.1
SSB **Saint Sauveur** 80.36 343 IAmb IAmb 15 54 54.9
comp=Z,64nm,1.3s
OHR **Ohrid** 80.39 330 *i* P **P** 15 54 53.3 +1.2
TIR **Tirane** 80.45 331 P **P** 15 54 54.8 +2.4
FNA **Florina** 80.51 330 *eP* **P** 15 54 53.2 +0.4
FNA **Florina** 80.51 330 IAmb IAmb 15 54 55.6
comp=Z,20nm,1.1s
JRN **Qarnain Island** 80.59 299 P **P** 15 54 52.7 -0.7
SNR=7.5
GUMA **Gualdo di Mace** 80.62 336 IAmb IAmb 15 54 58.5
comp=Z,289nm,1.4s
EREN **Erenkoy** 80.62 318 *eP* **P** 15 54 54.0 +0.6
OSSC **Osservatorio P** 80.68 338 IAmb IAmb 15 55 17.6
comp=Z,51nm,1.1s
LIT **Litokhoron** 80.79 329 IAmb IAmb 15 54 55.1
comp=Z,21nm,0.9s
RJF **Les Rejaudoux** 80.83 345 *eP* **P** 15 54 55.7 +1.3
RJF pmax pmax
comp=Z,41nm,1.2s
KBN **Korca** 80.84 330 IAmb IAmb 15 55 01.2
comp=Z,65nm,1.0s
SHMA **Al-Shehemyia** 80.86 301 P **P** 15 54 54.3 -0.5
SNR=9.6
MHTO **MHTO** 80.94 293 P **P** 15 54 55.4 +0.1
MHTO P **P** 15 54 55.5 +0.1
SNR=104
SAKB **Bahrain** 80.98 301 P **P** 15 54 55.0 -0.5
MZWR **Madinat Zayed** 80.99 297 P **P** 15 54 54.6 -0.9
LFK **Lefkose** 81.10 319 *eP* **P** 15 54 56.4 +0.3
CAF **Calviac** 81.12 345 *eP* **P** 15 54 57.6 +1.6
CAF pmax pmax
comp=Z,46nm,1.0s
UMZA **Um Al Zommool** 81.13 296 P **P** 15 54 55.8 -0.5
SBF **Sospel** 81.17 341 *eP* **P** 15 54 56.9 +0.6
SBF pmax pmax
comp=Z,53nm,1.0s
RAR **Rarotonga** 81.18 143 LR LR 16 29 14.7
comp=Z,396nm,18.0s,baz=332,slow=34
LFF **La Frestale** 81.31 346 *eP* **P** 15 54 58.4 +1.5
LFF pmax pmax
comp=Z,64nm,1.1s
GHWR **Ruwais** 81.37 298 P **P** 15 54 56.9 -0.7
CSS **Mathiatis** 81.45 319 *eP* **P** 15 54 58.4 +0.5
CSS **Mathiatis** 81.45 319 IAmb IAmb 15 55 02.2
comp=Z,47nm,0.8s
INTR **Introdacqua** 81.46 336 IAmb IAmb 15 55 02.1
comp=Z,52nm,1.0s
LEF **Lefka** 81.49 319 *eP* **P** 15 54 57.9 -0.2
MBWA **Marble Bar** 81.60 218 P **P** 15 54 58.9 +0.4
MBWA IAmb IAmb 15 54 59.7
comp=Z,40nm,1.1s
TRNA **Turayna** 81.63 300 P **P** 15 54 58.3 -0.6
SNR=5.9
SMRA **Abu-Samra** 81.83 300 P **P** 15 54 59.3 -0.7
SNR=14
SLWR **Sila** 81.92 299 P **P** 15 54 59.9 -0.5
PSA00 **Pilbara Seismi** 81.93 218 IAmb IAmb 15 55 01.5
comp=Z,34nm,1.1s
KEK **Kerkira** 81.97 331 *eP* **P** 15 54 57.4 -3.1
KEK **Kerkira** 81.97 331 IAmb IAmb 15 54 59.1
comp=Z,35nm,0.7s
DQM **DQM** 82.03 292 P **P** 15 55 00.7 -0.4
SNR=13
PPT **Papeete** 82.08 133 LR LR 16 23 05.2
comp=Z,388nm,20.6s,baz=309,slow=30
PPT2 **Papeete2** 82.10 133 *eP* **P** 15 55 00.0 -1.4
comp=Z,30nm,23.8s
PPT2 **Papeete2** 82.10 133 *eS* **S** 16 05 13.6 -0.5
comp=Z,90nm,26.2s
PPT2 *eSS* **SS** 16 10 37.3 +2.9
comp=Z,88nm,23.8s
PPT2 *eLR* LR 16 20 27.6
comp=Z,757nm,25.5s
PPT2 *eLR* LR 16 20 41.8
comp=Z,911nm,24.0s
PGF **Pioggiola** 82.11 339 *eP* **P** 15 55 02.9 +1.6
PGF pmax pmax
comp=Z,124nm,1.9s
MMAI **Mount Meron Ar** 82.28 316 P **P** 15 55 03.3 +0.9
comp=Z,24nm,0.7s,baz=29,slow=7.0,SNR=53
MMAI PP **PP** 15 58 07.1 -3.3
comp=Z,14nm,1.1s,baz=61,slow=8.7,SNR=4.5
comp=Z,24nm,0.7s
MTLF **Montolieu** 82.64 344 *eP* **P** 15 55 05.6 +1.7
MTLF pmax pmax
comp=Z,81nm,1.0s
MMLI **Mount Malkishu** 82.77 316 *eP* **P** 15 55 05.5 +0.6
BALJ **Balqa** 82.98 316 IAmb IAmb 15 55 14.9
comp=Z,85nm,1.0s
EPF **Esparros** 83.24 346 *eP* **P** 15 55 08.1 +1.0
EPF pmax pmax
comp=Z,40nm,1.0s
TIP **Timpagrande** 83.35 333 ⇓P **P** 15 55 09.4 +1.6
SJPF **Ste Jean** 83.38 347 *eP* **P** 15 55 09.8 +2.0
SJPF pmax pmax
comp=Z,28nm,0.9s
ETSF **Etsaut** 83.50 346 *eP* **P** 15 55 10.2 +1.7
ETSF pmax pmax
comp=Z,36nm,0.8s
CEST **Esterri de Car** 83.52 345 IAmb IAmb 15 55 12.1
comp=Z,74nm,1.0s
RAO **Raoul Island** 83.64 161 LR LR 16 26 47.9
comp=Z,191nm,20.2s,baz=352,slow=32
GHAJ **Ghor Haditha** 83.69 315 IAmb IAmb 15 55 11.5
comp=Z,38nm,0.9s
IDI **Anoyia** 84.35 325 LR LR 16 37 52.4
comp=Z,8.8nm,19.2s,baz=58,slow=39
SHAO **Shalim** 84.63 293 P **P** 15 55 13.7 -0.8
DOK **Doka** 84.99 294 P **P** 15 55 15.5 -0.8
SNR=17
HRFI **Mount Harif** 85.01 315 *eP* **P** 15 55 15.9 -0.4
CMIG **Matias Romero** 85.11 68 LR LR 16 29 39.2
comp=Z,131nm,21.4s,baz=321,slow=33
DMTO **DMTO** 85.25 293 P **P** 15 55 16.6 -1.1
PGAV **Gavieira, Arco** 85.32 352 *eP* **P** 15 55 20.4 +2.6
comp=Z,97nm,1.4s
PBRG **Braganca** 85.34 351 *eP* **P** 15 55 20.8 +3.0
comp=Z,56nm,1.8s
EIL **Elat** 85.37 315 LR LR 16 38 21.7
comp=Z,519nm,21.0s,baz=53,slow=39
RAYN **Ar Rayn** 85.59 304 P **P** 15 55 19.6 +0.3
RAYN **Ar Rayn** 85.59 304 P **P** 15 55 19.6 +0.3
RAYN pmax pmax
comp=Z,85nm,1.0s
RAYN **Ar Rayn** 85.59 304 *i* P **P** 15 55 19.4 0.0
SNR=119
RAYN **Ar Rayn** 85.59 304 P **P** 15 55 19.3 0.0
VAE **Valguarnera** 85.59 334 LR LR 16 37 22.9

	comp=Z,624nm,18.8s,baz=334,slow=38							
STKA	**Stephens Creek**	**85.75**	**196**	P	**P**	**15 55 20.5**	**+0.9**	
STKA	**Stephens Creek**	**85.75**	**196**	P	**P**	**15 55 20.2**	**+0.7**	
	comp=Z,9.4nm,1.1s,baz=354,slow=8.2,SNR=6.4							
STKA				LR	LR	16 31 10.2		
	comp=Z,218nm,20.9s,baz=16,slow=34							
	comp=Z,9.4nm,1.1s							
WHFO	**Wadi Hawf**	**85.75**	**294**	P	**P**	**15 55 19.1**	**-1.1**	
	SNR=18							
RBK	**Rabkut**	**85.84**	**293**	P	**P**	**15 55 19.6**	**-1.0**	
	SNR=6.0							
PVRL	**Vila Real**	**85.96**	**351**	*e*P	**P**	**15 55 22.7**	**+1.8**	
MVO	**Moncorvo**	**86.00**	**351**	*e*P	**P**	**15 55 22.9**	**+1.8**	
	comp=Z,52nm,1.2s							
MVO	**Moncorvo**	**86.00**	**351**	*e*LR	LR	16 38 59.2		
	comp=Z,311nm,18.0s							
PTO	**Porto**	**86.17**	**352**	*e*P	**P**	**15 55 23.8**	**+1.9**	
	comp=Z,92nm,1.5s							
ABTO	**Aybut**	**86.47**	**294**	P	**P**	**15 55 22.9**	**-0.8**	
	SNR=12							
PVIS	**Viseu**	**86.53**	**351**	*e*P	**P**	**15 55 25.3**	**+1.6**	
	comp=Z,432nm,0.7s							
MTE	**Manteigas**	**86.81**	**351**	*e*P	**P**	**15 55 27.2**	**+2.1**	
	comp=Z,83nm,1.1s							
MTE	**Manteigas**	**86.81**	**351**	*e*LR	LR	16 39 26.3		
	comp=Z,349nm,18.0s							
COI	**Coimbra**	**87.08**	**352**	*e*P	**P**	**15 55 28.5**	**+2.2**	
	comp=Z,163nm,1.4s							
ESBB	**Sonseca Array**	**87.13**	**348**	IAmb	IAmb	15 55 29.7		
	comp=Z,36nm,1.0s							
ESDC	**Sonseca Array**	**87.13**	**348**	P	**P**	**15 55 27.9**	**+1.2**	
ESDC				IAmb	IAmb	15 55 29.2		
	comp=Z,33nm,1.1s							
ESDC	**Sonseca Array**	**87.13**	**348**	P	**P**	**15 55 27.6**	**+1.0**	
	comp=Z,28nm,0.9s,baz=2.9,slow=4.8,SNR=72							
ESDC				LR	LR	16 37 06.4		
	comp=Z,126nm,19.7s,baz=12,slow=38							
	comp=Z,28nm,0.9s							
TBI	**Tubuai**	**87.22**	**135**	*e*LR	LR	16 23 06.6		
	comp=Z,3μm,24.0s							
PCAS	**Casmilo, Conde**	**87.24**	**352**	*e*P	**P**	**15 55 28.9**	**+1.8**	
	comp=Z,156nm,1.8s							
PAB	**San Pablo**	**87.30**	**348**	P	**P**	**15 55 28.5**	**+1.0**	
PAB	**San Pablo**	**87.30**	**348**	P	**P**	**15 55 28.5**	**+1.0**	
PAB				pmax	pmax			
	comp=Z,84nm,2.0s							
PCBR	**Castelo Branco**	**87.36**	**351**	*e*P	**P**	**15 55 28.8**	**+1.1**	
	comp=Z,80nm,1.8s							
PMRV	**Marv??o**	**87.76**	**351**	*e*LR	LR	16 41 37.5		
	comp=Z,393nm,18.0s							
PMTG	**Montargil**	**88.19**	**351**	*e*P	**P**	**15 55 32.4**	**+0.7**	
KEST	**Kesra**	**88.53**	**337**	P	**P**	**15 55 34.5**	**+1.0**	
	comp=Z,30nm,0.9s,baz=296,slow=1.9,SNR=22							
KEST				LR	LR	16 40 30.6		
	comp=Z,793nm,18.9s,baz=348,slow=39							
	comp=Z,30nm,0.9s							
PVAQ	**Vaqueiros**	**89.79**	**351**	*e*LR	LR	16 41 44.0		
	comp=Z,408nm,18.0s							
MORW	**Morawa**	**90.15**	**218**	IAmb	IAmb	15 55 41.5		
	comp=Z,22nm,1.0s							
TOO	**Toolangi**	**90.76**	**192**	P	**P**	**15 55 43.9**	**+0.5**	
TOO				IAmb	IAmb	15 55 44.8		
	comp=Z,24nm,1.3s							
TOO	**Toolangi**	**90.76**	**192**	P	**P**	**15 55 43.9**	**+0.5**	
TOO				pmax	pmax			
	comp=Z,24nm,1.3s							
URZ	**Urewera**	**91.62**	**167**	LR	LR	16 33 00.2		
	comp=Z,186nm,19.5s,baz=120,slow=33							
NWAO	**Narrogin (SRO)**	**93.20**	**215**	LR	LR	16 41 31.1		
	comp=Z,75nm,18.9s,baz=62,slow=38							
MDT	**Midelt**	**93.97**	**348**	LR	LR	16 44 27.0		
	comp=Z,115nm,18.2s,baz=346,slow=40							
RPZ	**Rata Peaks**	**96.36**	**172**	LR	LR	16 35 53.5		
	comp=Z,262nm,19.2s,baz=360,slow=33							
ATD	**Arta Tunnel**	**96.95**	**299**	LR	LR	16 46 13.8		
	comp=Z,36nm,18.4s,baz=24,slow=39							
TORD	**Torodi Ar. Bea**	**112.04**	**338**	PP	PP	16 01 50.6	-8.6	
	comp=Z,6.1nm,1.2s,baz=10,slow=11,SNR=5.5							
DBIC	**Dimbokro**	**119.67**	**343**	PKP	**PKiKP**	**16 01 31.8**	**+0.7**	
	comp=Z,2.0nm,0.6s,baz=168,slow=2.1,SNR=4.5							
DBIC				PP	**PP**	**16 02 49.0**	**-3.8**	
	comp=Z,14nm,1.0s,baz=332,slow=7.9,SNR=5.1							
SAML	**Samuel**	**123.88**	**55**	PKPdf	**PKiKP**	**16 01 39.4**	**+0.2**	
LPAZ	**La Paz**	**127.39**	**65**	PKP	**PKiKP**	**16 01 47.5**	**+0.6**	
	comp=Z,1.2nm,0.8s,baz=74,slow=4.3,SNR=4.4							
BDFB	**Brasilia**	**136.73**	**42**		**PKPdf**	**16 02 04.0**	**+0.7**	
BDFB	**Brasilia**	**136.73**	**42**	PKP	**PKiKP**	**16 02 04.6**	**-0.5**	
	comp=Z,2.4nm,0.5s,baz=90,slow=1.0,SNR=4.2							
AQDB	**Aquidauana**	**137.43**	**55**	PKPdf	**PKiKP**	**16 02 05.4**	**-0.9**	
BOSA	**Boshof**	**139.38**	**288**	PKP	**PKPdf**	**16 02 07.4**	**-0.5**	
	comp=Z,2.6nm,0.8s,baz=297,slow=3.4,SNR=3.7							
CPUP	**Villa Florida**	**141.38**	**62**	PKP	**PKPdf**	**16 02 12.6**	**+1.2**	
	comp=Z,1.1nm,0.6s,baz=289,slow=3.7,SNR=3.8							
QSPA	**South Pole Qui**	**142.34**	**180**	PKiKP	PKPpre	16 02 06.3		
	comp=Z,6.3nm,0.9s,baz=208,slow=0.9,SNR=17							
PLCA	**Paso Flores**	**143.69**	**92**	PKP	**PKPdf**	**16 02 15.3**	**+0.2**	
	comp=Z,3.1nm,0.8s,baz=267,slow=3.7,SNR=5.9							
SUR	**Sutherland**	**144.74**	**289**	PKPdf	**PKPdf**	**16 02 17.8**	**+0.3**	
COYC	**Coyhaique**	**145.46**	**100**	PKPdf	**PKPab**	**16 02 19.1**	**+0.8**	
TRQA	**Tornquist**	**147.24**	**81**	PKPbc	**PKPab**	**16 02 24.9**	**-0.5**	
PLTB	**Pedras Altas**	**147.65**	**64**	PKPbc	**PKiKP**	**16 02 26.1**	**-0.9**	
ELIB	**Princess Elisa**	**153.20**	**208**	*d*PKP	**PKiKP**	**16 02 37.3**	**0.0**	
TROLL	**Troll, Antarti**	**158.29**	**198**	⇑PKPab	**PKPab**	**16 03 09.0**	**-1.9**	
	comp=Z,720nm,1.0s							
SNAA	**Sanae**	**159.51**	**195**	PKPab	**PKPab**	**16 03 16.2**	**+0.1**	
SNAA	**Sanae**	**159.51**	**195**	⇑PKPab	**PKPab**	**16 03 12.8**	**-3.3**	
	comp=Z,106nm,0.9s							
SNAA	**Sanae**	**159.51**	**195**	PKPab	**PKPab**	**16 03 16.3**	**+0.2**	
	comp=Z,6.6nm,1.1s,baz=213,slow=3.4,SNR=5.2							
VNA3	**Neumayer Olymp**	**160.79**	**190**	⇑PKPab	**PKPab**	**16 03 19.0**	**-2.7**	
	comp=Z,9.7nm,0.8s							
VNA2	**Neumayer--Watz**	**160.83**	**192**	⇑PKPab	**PKPab**	**16 03 16.3**	**-5.5**	
	comp=Z,3.7nm,0.6s,baz=206,slow=5.3							

HEL 05 16:02:25.9±0.4, 69°.41N×30°.70E, h0km, ML1.3, Suspected explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAJF	**Raja-Jooseppi**	**1.28**	**224**	PG	Pg	16 02 48.4	-1.9
RAJF				SB	Sg	16 03 06.0	-0.8
KEV	**Kevo**	**1.34**	**287**	PG	Pg	16 02 50.3	-1.3
	baz=102						
KEV				MSG		16 03 06.3	
	comp=Z,1.9nm,0.2s						
KEV				SB	Sg	16 03 07.8	-1.0
KMNF	**Kaamanen**	**1.34**	**260**	PG	Pg	16 02 50.3	-1.3
KMNF				SG	Sg	16 03 07.6	-1.4
VRF	**Varrio**	**1.72**	**194**	PG	Pn	16 02 57.3	+0.2
VRF				MSG		16 03 17.2	
	comp=Z,2.0nm,0.2s						
VRF				SG	Sn	16 03 18.3	-1.4
ARA0	**ARCESS Array S**	**1.83**	**276**	PG	Pn	16 02 58.8	+0.2
	baz=93						
ARA0				SG	Sn	16 03 22.7	+0.2
SGF	**Sodankyl**	**2.51**	**220**	SG	Sb	16 03 41.8	-1.3
KTK1	**Kautokeino**	**2.69**	**265**	PG	Pb	16 03 13.9	-1.0
KTK1				SG	Sb	16 03 47.5	-0.9
HEF	**Hetta**	**2.74**	**252**	PG	Pb	16 03 14.4	-1.3
HEF				MSG		16 03 46.5	
	comp=Z,0.9nm,0.2s						
HEF				SB	Sn	16 03 47.2	+2.4
LANU	**Lannavaara**	**3.46**	**251**	SG	Sb	16 04 11.9	+1.6
KIF	**Kilpisjarvi**	**3.55**	**268**	SB	Sn	16 04 08.1	+3.3
KIF	**Kilpisjarvi**	**3.55**	**268**	PB	Sb	16 04 08.1	-5.0
TRO	**Tromso**	**4.14**	**279**	PN	Pn	16 03 32.0	+1.8

HEL 05 16:02:56.6±0.2, 64°.87N×20°.35E, h0km, ML1.3, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BURU	**Burvik**	**0.53**	**122**	PG	Pg	16 03 05.9	-0.8
	baz=305						
BURU				SG	Sg	16 03 12.7	-0.7
UMAU	**Umeaa**	**1.00**	**172**	PG	Pg	16 03 14.3	-1.4
	baz=354						
UMAU				SG	Sg	16 03 27.5	-1.1
KALU	**Kalix**	**1.61**	**50**	PG	Sn	16 03 48.8	+1.2
KALU	**Kalix**	**1.61**	**50**	PN	Pn	16 03 25.4	-0.8
KALU				SN	Sg	16 03 48.8	+0.6
HUSU	**Husum**	**1.61**	**198**	PG	Pn	16 03 25.4	-0.8
HUSU				SN	Sg	16 03 48.7	+0.5
OBF0	**Syolatti, Pyha**	**1.71**	**101**	PG	Pn	16 03 27.3	-0.3
OBF0				MSG		16 03 47.7	
	comp=Z,2.8nm,0.2s						
OBF0				SN	Sb	16 03 50.6	-0.3
OUF	**Merijarvi**	**1.95**	**103**	PG	Pn	16 03 31.1	+0.2
	baz=290						
OUF				MSG		16 03 54.6	
	comp=Z,0.9nm,0.2s						
OUF				SG	Sn	16 03 55.8	-0.4
OBF4	**Vikkela, Lumij**	**2.03**	**89**	PG	Pn	16 03 32.6	+0.6
	baz=271						
OBF4				MSG		16 03 57.0	
	comp=Z,0.9nm,0.2s						
OBF4				SG	Sb	16 04 00.4	+0.3
TOF	**Tornio**	**2.06**	**52**	PG	Pb	16 03 33.7	-1.0
TOF				MSG		16 03 57.8	
	comp=Z,0.8nm,0.2s						
TOF				SG	Sb	16 04 00.0	-0.8
VAF	**Ylistaro**	**2.10**	**150**	PG	Pn	16 03 33.4	+0.5
	baz=328						
VAF				MSG		16 03 58.8	
	comp=Z,2.8nm,0.2s						
VAF				SG	Sn	16 04 00.8	+1.1
HEMU	**Hemsoen**	**2.43**	**206**	SG	Sb	16 04 10.2	-1.3
PAJU	**Pajala**	**2.44**	**26**	SG	Sb	16 04 10.5	-1.5
MSF	**Maaselka**	**3.78**	**70**	SN	Sn	16 04 37.4	-3.9
RAF	**Rauma**	**3.91**	**170**	SG	Sb	16 04 58.1	+3.9
OLKF	**Oulanka, Finla**	**4.03**	**65**	PG	Pb	16 04 08.0	-0.4
FIA0	**FINESS Array S**	**4.31**	**140**	SG	Sb	16 05 09.9	+4.4
AAL	**Aland**	**4.71**	**182**	SG	Sb	16 05 21.9	+4.8

JMA 05 16:16:04.8±0.2, 24°.2N±0°.4×123°.8E±0°.4, h15km±1km, MV1.2/9, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.14**	**314**	*i* P	Pg	16 16 08.5	0.0
JKRS	**Kuro-shima**	**0.16**	**91**	P	Pg	16 16 08.8	0.0
JKRS				*e*S	Sg	16 16 11.9	+0.5
HATJ	**Hateruma jima**	**0.18**	**189**	*i* P	Pg	16 16 09.0	-0.1
HATJ				*e*S	Sg	16 16 12.3	+0.2
JIJ	**Ishigaki jima**	**0.30**	**66**	*i* P	Pg	16 16 10.9	-0.2
JIJ				*e*S	Sg	16 16 15.3	-0.2
JISG	**Ishigakijimahi**	**0.55**	**51**	P	Pg	16 16 15.6	-0.1
JISG				S	Sb	16 16 24.2	+0.3
YOJ	**Yonaguni jima**	**0.79**	**287**	*e*S	Sg	16 16 29.1	-1.4
JTJ	**Tarama**	**0.88**	**63**	*e*P	Pb	16 16 21.6	-0.2
JTJ				*e*S	Sg	16 16 34.4	+0.8

TAP 05 16:16:50.2, 24°.17N×121°.68E, h12km, ML1.6, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETL	**Fush Village**	**0.05**	**261**	*i* P	Pg	16 16 53.2	+0.7
	baz=260						
ETL				*i* S	Sg	16 16 54.6	+0.4
NACB	**Ninganchiao**	**0.07**	**275**	*i* P	Pg	16 16 53.5	+0.7
	baz=275						
NACB				*i* S	Sg	16 16 55.1	+0.6
TWD	**Chiawan**	**0.11**	**220**	*i* P	Pb	16 16 53.8	-0.6
	baz=217						
TWD				*i* S	Sg	16 16 55.6	+0.3
	baz=217						
EAHA	**Aohua**	**0.17**	**20**	*i* P	Pg	16 16 54.7	+0.6
	baz=19						
EAHA				*i* S	Sg	16 16 57.2	+0.5
	baz=19						
ETLH	**Xiulin Townshi**	**0.18**	**283**	*i* P	Pb	16 16 55.4	-0.2
	baz=282						
ETLH				*i* S	Sg	16 16 58.5	+1.3
	baz=282						
HWA	**Hwalien**	**0.20**	**199**	*e*P	Pb	16 16 55.7	-0.1
	baz=196						
ETM	**Tongmen**	**0.26**	**220**	*i* P	Pg	16 16 56.1	+0.5
	baz=219						
ETM				*i* S	Sg	16 16 59.7	+0.4
	baz=219						
ENA	**Nanau**	**0.27**	**13**	*i* P	Pb	16 16 56.5	-0.4
	baz=14						
ENA				*i* S	Sg	16 17 00.3	+0.8
	baz=14						
LXIB	**Xiulin Townshi**	**0.28**	**239**	*i* P	Pb	16 16 56.7	-0.5
	baz=238						
LXIB				*i* S	Sg	16 17 00.9	+0.9
	baz=238						
EWUT	**Wuta**	**0.29**	**19**	*i* P	Pb	16 16 57.1	-0.3
	baz=18						
EWUT				*i* S	Sg	16 17 00.9	+0.7
	baz=18						
NNSB	**Datong**	**0.37**	**314**	*i* P	Pb	16 16 59.0	+0.1
	baz=314						
NNSB				*i* S	Sb	16 17 04.3	-0.4
	baz=314						
WHF	**Hehuan Shan**	**0.38**	**267**	*i* P	Pb	16 16 59.0	-0.1
	baz=266						
WHF				*i* S	Sb	16 17 04.7	-0.4
	baz=266						
NNS	**Nan Shan**	**0.39**	**315**	P	Pb	16 16 59.6	+0.5
	baz=315						
NNS				*i* S	Sb	16 17 05.0	-0.1
	baz=315						
LATG	**Datong**	**0.39**	**340**	*i* P	Pb	16 16 59.0	-0.1
	baz=339						
LATG				*i* S	Sb	16 17 04.7	-0.6
	baz=339						
FUSS	**Fushou**	**0.40**	**282**	*i* P	Pb	16 16 59.6	+0.2
	baz=281						
FUSS				*i* S	Sb	16 17 05.2	-0.4
	baz=281						
ESL	**Shilin**	**0.42**	**212**	*i* P	Pg	16 16 58.7	+0.2
	baz=211						
NDT	**Datong Townshi**	**0.46**	**341**	*i* P	Pb	16 17 00.7	+0.4
	baz=341						
NDT				*i* S	Sb	16 17 07.0	-0.1
	baz=341						
TWC	**Suao**	**0.47**	**20**	*e*S	Sg	16 17 06.0	+0.3
	baz=20						
CHGB	**Renai**	**0.47**	**257**	*i* P	Pb	16 17 00.5	0.0
	baz=256						
CHGB				*i* S	Sb	16 17 06.9	-0.7
	baz=256						
ENTT	**Nioudou**	**0.48**	**348**	*i* P	Pb	16 17 01.1	+0.4
	baz=348						
ENTT				*i* S	Sb	16 17 07.8	+0.1
	baz=348						
OWD	**Renai**	**0.50**	**245**	*i* P	Pb	16 17 01.3	+0.2
	baz=245						
OWD				*e*S	Sn	16 17 10.3	-1.7
	baz=245						
WARBT	**Fenglin Townsh**	**0.52**	**211**	*i* P	Pg	16 17 00.7	+0.3
	baz=210						
WARBT				*i* S	Sb	16 17 09.6	+0.8
	baz=210						
WUSB	**Renai**	**0.54**	**251**	*i* P	Pb	16 17 01.8	+0.1
	baz=251						
WUSB				*i* S	Sb	16 17 09.0	-0.4
	baz=251						
TWE	**Neicheng**	**0.55**	**359**	*e*S	Sb	16 17 09.9	+0.2
YHNB	**Yeheng**	**0.57**	**331**	*i* P	Pb	16 17 02.9	+0.7
	baz=331						
YHNB				*i* S	Sb	16 17 10.3	0.0
	baz=331						
NSK	**Sanguang**	**0.58**	**330**	*i* P	Pb	16 17 03.1	+0.7
	baz=330						
NSK				*i* S	Sb	16 17 11.0	+0.3
	baz=330						
FUSB	**Fushanzhiwuyua**	**0.60**	**352**	*i* P	Pb	16 17 03.3	+0.7
	baz=352						
FUSB				*i* S	Sg	16 17 10.3	+0.5
	baz=352						
NWLT	**Wulai**	**0.63**	**345**	*i* P	Pb	16 17 03.7	+0.5
	baz=345						
NWLT				*i* S	Sb	16 17 11.7	-0.3
	baz=345						
VWDT	**VWDT**	**0.64**	**230**	P	Pb	16 17 03.7	+0.4
	baz=229						
VWDT				*i* S	Sb	16 17 12.3	+0.1
	baz=229						
NFF	**Wufeng Townshi**	**0.69**	**312**	*e*S	Sb	16 17 14.5	+0.8
	baz=312						
SSLB	**Suanglung**	**0.76**	**240**	*i* P	Pb	16 17 05.8	+0.4
	baz=240						
SSLB				*i* S	Sb	16 17 15.3	-0.4
	baz=240						
TIPB	**Shuangxi**	**0.81**	**10**	*e*S	Sn	16 17 19.9	+0.4
	baz=9.0						
YULB	**Yu-li**	**0.85**	**204**	P	Pn	16 17 08.6	+0.7
	baz=204						
YULB				*e*S	Sb	16 17 18.8	+0.6
	baz=204						

*NEIC **05** 16:26:44.6±2.2, 36°.47N±0°.05×136°.11E±0°.06, h10km±1km, mb4.3/9, Error ellipse: s-maj=9.0km s-min=7.4km az=28.0*
*JMA **05** 16:26:45.4±0.1, 36°.5N±0°.2×136°.2E±0°.2, h15km, MV3.7/35, NW OFF HOKURIKU DISTRICT*
JMA Felt II J1 at NW OFF HOKURIKU DISTRICT.

ISC 05 16:26:45.8±0.7, 36°.44N±0°.04×136°.26E±0°.04, h15km±4km, n32, σ2s16/42, mb4.4/6, 4D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKG	**Kaga**	**0.17**	**160**	⇓P	**Pg**	**16 26 50.0**	**0.0**
JKG				⇓S	**Sg**	**16 26 53.7**	**+0.9**
JJH	**Hakui**	**0.64**	**41**	P	**Pg**	**16 26 57.7**	**-0.6**
JJH				*e*S	**Sg**	**16 27 06.7**	**-0.1**
JGN	**Niukaw**	**0.88**	**104**	⇓P	**Pg**	**16 27 02.4**	**-0.5**
JGN				⇓S	**Sg**	**16 27 14.5**	**0.0**
JTT	**Ttatey**	**0.88**	**79**	P	**Pg**	**16 27 02.4**	**-0.4**
JTT				*e*S	**Sg**	**16 27 15.2**	**+0.8**
JYTA	**Yamagatataniai**	**0.93**	**155**	P	**Pb**	**16 27 03.5**	**-0.1**
JYTA				S	**Sg**	**16 27 16.5**	**+0.6**
JGF	**Kuroka**	**1.22**	**133**	Pn	**Pn**	**16 27 08.4**	**0.0**
INU	**Inuyama**	**1.25**	**150**	Pn	**Pn**	**16 27 09.2**	**+0.4**
MJB9	**Matsu-Tunnel**	**1.57**	**86**	Pn	**Pn**	**16 27 14.5**	**+1.3**
MAJO	**Matsushiro**	**1.57**	**86**	Pn	**Pn**	**16 27 13.0**	**-0.2**
JSD	**Sado**	**2.25**	**44**	Pn	**Pn**	**16 27 21.5**	**-1.0**
JSG	**Sagara**	**2.36**	**138**	Pn	**Pn**	**16 27 22.9**	**-1.2**
JMN	**Monobe**	**3.34**	**216**	Pn	**Pn**	**16 27 35.5**	**-2.0**
JMM	**Marumori**	**3.89**	**67**		**Pn**	**16 27 44.1**	**-0.9**
KS19	**Wonju Array Si**	**6.80**	**281**	Pn	**Pn**	**16 28 22.0**	**-3.1**
USA0B	**Ussuriysk Arra**	**8.41**	**339**	Pn	**Pn**	**16 28 43.8**	**-3.3**
USRK	**Ussuriysk Ar.**	**8.41**	**339**	Pn	**Pn**	**16 28 44.3**	**-2.7**
XLT	**XiLinHaoTe**	**17.10**	**302**	*e*P	**P**	**16 30 48.2**	**+2.2**
XLT				pP	sP	16 30 52.8	+0.8
XLT				sP	pP	16 31 00.0	+10
XLT				S	**Sn**	**16 33 52.0**	**-2.2**
XLT				sS	S	16 34 01.3	-2.5
XLT				pmax	pmax		
	comp=Z,2.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,250nm,6.6s						
XLT				LR	LR		
	comp=N,29nm,14.0s						
XLT				LR	LR		
	comp=E,290nm,15.7s						
XLT				LR	LR		
	comp=Z,320nm,14.9s						
HHC	**Hu-ho-hao-te**	**19.76**	**290**	*e*P	**Pn**	**16 31 22.6**	**+5.8**
HHC				sP	sP	16 31 29.6	+8.3
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,130nm,4.8s						
BTO	**Baotou**	**20.91**	**289**	*e*P	**P**	**16 31 27.4**	**-0.4**
BTO				pP	**sP**	**16 31 31.4**	**-2.5**
BTO				sP	**pP**	**16 31 35.0**	**+3.0**
BTO				PP	**PnPn**	**16 31 49.4**	**+3.1**
BTO				S	Sn	16 35 22.0	-4.3
BTO				SS	**SnSn**	**16 35 48.7**	**+7.6**
BTO				pmax	pmax		
	comp=Z,11nm,0.6s						
BTO				pmax	pmax		
	comp=Z,280nm,4.8s						
BTO				LR	LR		
	comp=N,390nm,6.3s						
BTO				LR	LR		
	comp=E,340nm,8.8s						
BTO				LR	LR		
	comp=Z,520nm,14.7s						
PZH	**PanZhiHua**	**30.92**	**261**	P	**P**	**16 33 01.6**	**-0.6**
PZH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
WMQ	**Urumqi**	**37.41**	**297**	*e*P	**P**	**16 33 58.0**	**-0.2**
F15K	**North Star Dit**	**44.78**	**30**	P	**P**	**16 34 58.9**	**+0.4**
F15K				IAmb	IAmb	16 35 02.5	
	comp=Z,5.1nm,1.1s						
E19K	**Redstone River**	**47.96**	**28**	P	**P**	**16 35 24.1**	**+0.6**
H19K	**Roundabout Mou**	**48.14**	**31**	P	**P**	**16 35 26.1**	**+1.3**
H19K				IAmb	IAmb	16 35 36.6	
	comp=Z,7.2nm,1.5s						
IMAR	**Indian Mountai**	**49.27**	**30**	P	**P**	**16 35 33.3**	**-0.2**
D22K	**Ayikyak River**	**49.75**	**27**	P	**P**	**16 35 37.4**	**+0.2**
E22K	**Anaktuvuk Pass**	**50.05**	**28**	P	**P**	**16 35 39.8**	**+0.3**
E22K				IAmb	IAmb	16 36 07.6	
	comp=Z,4.5nm,1.5s						
ABKAR	**Akbulak array**	**55.13**	**309**	P	**P**	**16 36 15.9**	**-1.4**
WB0	**Warramunga Arr**	**55.93**	**182**	P	**P**	**16 36 22.6**	**-0.7**
WRAB	**Tennant Creek**	**56.10**	**182**	P	**P**	**16 36 21.9**	**-2.6**
G30M	**tAoh Zrail Nji**	**56.12**	**28**	P	**P**	**16 36 24.9**	**+0.7**
G30M				IAmb	IAmb	16 36 31.0	
	comp=Z,6.1nm,1.4s						
G31M	**Satah River**	**56.88**	**28**	P	**P**	**16 36 29.5**	**0.0**
G31M				IAmb	IAmb	16 36 51.5	
	comp=Z,3.1nm,1.4s						

*SNET **05** 16:30:09.9±2.3, 13°.06N×89°.27W, h47km, ML3.7*
*CATAC **05** 16:30:09.4±0.7, 13°.01N×89°.25W, h23km±5km, ML3.8*

ISC 05 16:30:09.1±1.8, 13°.00N±0°.07×89°.27W±0°.04, h27km±12km, n52, σ0s57/73, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.49**	**354**	*e*P	**Pn**	**16 30 20.7**	**+0.2**
LALI				*e*S	**Sn**	**16 30 27.9**	**-0.3**
LALI	**Alcalda de L**	**0.49**	**354**	*i* P	**Pn**	**16 30 20.7**	**+0.2**
LALI				*i* S	**Sn**	**16 30 28.0**	**-0.2**
LALI				IAML		16 30 28.1	
	comp=Z,3μm,1.0s						
PANCS	**Alcalda de**	**0.62**	**8**	*i* P	**Pn**	**16 30 22.1**	**-0.2**
PANCS				*i* S	**Sn**	**16 30 31.0**	**-0.4**
PANCS				IAML		16 30 31.8	
	comp=Z

UDBS	**Universidad Do**	**0.72**	**9**	*i* P		**Pn**	**16 30 24.0**	**+0.3**
UDBS				*i* S		**Sn**	**16 30 34.3**	**+0.3**
UDBS				IAML			16 30 35.4	
	comp=Z,4μm,1.0s							
COEG	**Centro de Oper**	**0.73**	**31**	*eP*		**Pb**	**16 30 22.9**	**-0.4**
COEG	**Centro de Oper**	**0.73**	**31**	*i* P		**Pn**	**16 30 23.5**	**-0.3**
COEG				*i* S		**Sn**	**16 30 33.9**	**-0.1**
COEG				IAML			16 30 34.4	
	comp=Z,1μm,1.0s							
BOQS	**Boqueron**	**0.73**	**359**	*eP*		**Pn**	**16 30 24.1**	**+0.1**
LFU	**La Fuente**	**0.76**	**11**	*eP*		**Pn**	**16 30 24.6**	**+0.4**
PAVA	**Las Pavas**	**0.78**	**24**	*i* P		**Pn**	**16 30 24.5**	**-0.1**
PAVA				*i* S		**Sb**	**16 30 35.3**	**+0.8**
PAVA				IAML			16 30 36.3	
	comp=Z,3μm,1.0s							
UESV	**Universidad de**	**0.79**	**36**	*i* P		**Pb**	**16 30 24.3**	**0.0**
UESV				*i* S		**Sb**	**16 30 35.3**	**+0.6**
UESV				IAML			16 30 37.4	
	comp=Z,1μm,1.0s							
CEDA	**San Andres**	**0.81**	**351**	*eS*		**Sn**	**16 30 36.5**	**+0.3**
CEDA	**San Andres**	**0.81**	**351**	*i* P		**Pb**	**16 30 24.4**	**-0.3**
CEDA				IAML			16 30 39.9	
	comp=Z,5μm,1.0s							
QUEZ	**Alcaldia de Qu**	**0.83**	**360**	*i* P		**Pb**	**16 30 25.0**	**-0.1**
QUEZ				IAML			16 30 39.2	
	comp=Z,5μm,1.0s							
COEB	**Comit de Eme**	**0.87**	**55**	*eS*		**Sb**	**16 30 33.4**	**-3.8**
COEB	**Comit de Eme**	**0.87**	**55**	*i* P		**Pn**	**16 30 24.9**	**-0.9**
COEB				IAML			16 30 34.3	
	comp=Z,2μm,1.0s							
SCLA	**Alcaldia de Sa**	**0.88**	**37**	*i* P		**Pb**	**16 30 25.8**	**0.0**
SCLA				IAML			16 30 41.4	
	comp=Z,500nm,1.0s							
TECA	**Tecapa**	**0.90**	**56**	*eP*		**Pb**	**16 30 26.4**	**+0.2**
CEVE	**Cerro Verde**	**0.90**	**337**	*i* P		**Pb**	**16 30 26.3**	**0.0**
CEVE				IAML			16 30 44.9	
	comp=Z,2μm,1.0s							
SBLS	**San Blas**	**0.91**	**338**	*eP*		**Pb**	**16 30 26.5**	**+0.1**
SNJE	**San Jose**	**0.93**	**339**	*eP*		**Pn**	**16 30 26.5**	**-0.2**
PQSS	**Presa 15 de Se**	**0.93**	**48**	*i* P		**Pb**	**16 30 26.9**	**+0.3**
PQSS				IAML			16 30 40.2	
	comp=Z,2μm,1.0s							
UNIC	**Universidad Ca**	**1.02**	**344**	*i* P		**Pb**	**16 30 28.0**	**-0.2**
UNIC				IAML			16 30 43.4	
	comp=Z,550nm,1.0s							
NUBE	**Las Nubes**	**1.03**	**331**	*eP*		**Pn**	**16 30 27.6**	**-0.4**
NUBE				*eS*		**Sb**	**16 30 41.0**	**-0.6**
NUBE	**Las Nubes**	**1.03**	**331**	*i* P		**Pn**	**16 30 27.5**	**-0.5**
NUBE				IAML			16 30 42.1	
	comp=Z,2μm,1.0s							
PACA	**Pacayal**	**1.03**	**63**	*eP*		**Pb**	**16 30 28.5**	**0.0**
PACA				*eS*		**Sb**	**16 30 42.3**	**+0.6**
PACA	**Pacayal**	**1.03**	**63**	*i* P		**Pb**	**16 30 28.5**	**0.0**
PACA				IAML			16 30 45.9	
	comp=Z,24μm,1.0s							
LCY	**Lacayo**	**1.04**	**66**	*eP*		**Pb**	**16 30 28.4**	**-0.1**
VSM	**San Miguel**	**1.06**	**66**	*eP*		**Pb**	**16 30 28.9**	**-0.1**
BLLM	**Bellamira**	**1.10**	**66**	*eP*		**Pb**	**16 30 29.2**	**-0.3**
LOAL	**Lomas de Alarc**	**1.11**	**333**	*i* P		**Sn**	**16 30 43.9**	**+0.3**
LLGN	**La Laguna**	**1.20**	**15**	*i* P		**Pb**	**16 30 31.0**	**-0.3**
LLGN				IAML			16 30 47.3	
	comp=Z,1μm,1.0s							
LCND	**La Caada**	**1.38**	**77**	*eP*		**Pn**	**16 30 33.0**	**+0.4**
LCND				*eS*		**Sn**	**16 30 50.6**	**+0.6**
MTO3	**Montecristo**	**1.40**	**356**	*eP*		**Pn**	**16 30 33.1**	**0.0**
MTO3	**Montecristo**	**1.40**	**356**	*i* P		**Pn**	**16 30 33.1**	**0.0**
MTO3				IAML			16 30 52.2	
	comp=Z,220nm,1.0s							
CNCH	**Conchagua**	**1.42**	**79**	*eP*		**Pn**	**16 30 33.5**	**+0.1**
CNCH				*eS*		**Sn**	**16 30 51.4**	**0.0**
CNCH	**Conchagua**	**1.42**	**79**	*i* P		**Pn**	**16 30 33.7**	**+0.3**
CNCH				IAML			16 30 55.4	
	comp=Z,2μm,1.0s							
ESQI	**Esquipulas**	**1.56**	**357**	*i* P		**Pn**	**16 30 35.7**	**+0.5**
ESQI				IAML			16 30 58.3	
	comp=Z,470nm,1.0s							
CSGN	**Cosiguina Volc**	**1.67**	**90**	*i* P		**Pn**	**16 30 37.0**	**+0.3**
CSGN				IAML			16 31 04.8	
	comp=Z,2μm,1.0s							
POTN	**Potosi Cosigui**	**1.72**	**90**	*i* P		**Pn**	**16 30 37.8**	**+0.5**
POTN				IAML			16 31 00.3	
	comp=Z,120nm,1.0s							
PKGN	**Cerro Pekin**	**2.26**	**98**	*i* P		**Pn**	**16 30 44.8**	**0.0**
PKGN				IAML			16 31 25.3	
	comp=Z,5μm,1.0s							

*IDC **05** 16:42:34.7±1.3,5°.10S×146°.35E, h0km, mb3.5/6, mbtmp3.6/8, ML3.2/2, MS3.0/3, Error ellipse: s-maj=51.5km s-min=19.9km az=94.0*

ISC 05 16:42:35.6±0.8, 5°.11S±0°.08×146°.4E±0°.1, h10km, n21, σ1s 64/15, mb3.6/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.34**	**170**	P	**Pn**	**16 43 43.9**	**+2.2**
PMG	**Port Moresby**	**4.34**	**170**	Pn	**Pn**	**16 43 44.1**	**+2.4**
	26nm,0.3s,baz=50,slow=4.7,SNR=91						
PMG				Sn	**Sn**	**16 44 32.8**	**+0.5**
	14nm,0.3s,baz=313,slow=23,SNR=6.3						
PMG				LR	LR	16 45 09.3	
	comp=Z,106nm,18.1s,baz=65,slow=36 160nm,0.6s						
RABL	**Rabaul**	**5.83**	**81**	P	**Pb**	**16 44 16.3**	**-1.0**
COEN	**Coen**	**9.35**	**200**	P	**Pn**	**16 44 52.1**	**+1.6**
CTA	**Charters Tower**	**14.89**	**181**	Pn	**P**	**16 46 11.2**	**-1.0**
	1.5nm,0.3s,baz=358,slow=13,SNR=19						
CTA				LR	LR	16 51 36.8	
	comp=Z,93nm,19.4s,baz=89,slow=36						
CTAO	**Charters Tower**	**14.89**	**181**	P	**P**	**16 46 09.2**	**-2.9**
KDU	**Kakadu**	**15.67**	**240**	P	**P**	**16 46 18.9**	**-1.9**
WRA	**Warramunga Arr**	**18.84**	**217**	P	**Pn**	**16 46 55.9**	**-0.5**
	0.2nm,0.3s,baz=38,slow=12,SNR=9.8 0.5nm,0.4s						
ASAR	**Alice Springs**	**22.03**	**212**	P	**P**	**16 47 30.4**	**-0.1**
	0.5nm,0.5s,baz=45,slow=8.0,SNR=14 0.5nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**30.83**	**40**	T	T	17 21 17.3	
	baz=223,slow=76,SNR=35						
H11S2	**WAKE ISLAND Hy**	**30.84**	**40**	T	T	17 21 15.1	
	baz=223,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hy**	**30.85**	**40**	T	T	17 21 18.1	
	baz=223,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy**	**31.86**	**39**	T	T	17 22 35.4	
	baz=221						
H11N3	**WAKE ISLAND Hy**	**31.87**	**39**	T	T	17 22 32.7	
	baz=221,slow=74						
H11N2	**WAKE ISLAND Hy**	**31.88**	**39**	T	T	17 22 33.1	
	baz=221,slow=74						
KSRS	**Korea Array**	**45.71**	**339**	LR	LR	17 08 28.1	
	comp=Z,20nm,20.3s,baz=310,slow=34						
USRK	**Ussuriysk Ar.**	**50.77**	**347**	P	**P**	**16 51 36.9**	**+1.0**
	1.4nm,0.7s,baz=182,slow=7.2,SNR=4.2 1.4nm,0.7s						
MKAR	**Makanchi Array**	**76.43**	**321**	P	**P**	**16 54 25.6**	**+0.1**
	0.1nm,0.4s,baz=99,slow=8.9,SNR=2.3 0.1nm,0.4s						
ZALV	**Zalesovo Beam**	**77.94**	**328**	P	**P**	**16 54 35.4**	**+1.6**
	0.2nm,0.3s,baz=91,slow=5.9,SNR=1.8 0.2nm,0.3s						
ILAR	**Eielson Array**	**84.90**	**23**	P	**P**	**16 55 10.4**	**-0.1**
	0.5nm,0.9s,baz=266,slow=5.1,SNR=4.1 0.5nm,0.9s						
BVAR	**Borovoye Array**	**85.69**	**324**	P	**P**	**16 55 15.3**	**+0.6**
	0.2nm,0.5s,baz=100,slow=1.6,SNR=2.1 0.2nm,0.5s						

IDC 05 16:46:12.2±4.3, 6°.21S×141°.80E, h0km, mb3.2/1, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=140.9km s-min=30.7km az=100.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.46**	**207**	Pn	Pn	16 49 50.3	-1.6
	0.1nm,0.3s,baz=30,slow=13,SNR=2.5						
WRA				Lg	Lg	16 54 23.4	
	baz=20,slow=34,SNR=2.4 0.5nm,0.8s						
ASAR	**Alice Springs**	**18.95**	**203**	P	Pn	16 50 35.5	-0.2
	0.2nm,0.3s,baz=32,slow=9.8,SNR=16 1.9nm,0.6s						
MKAR	**Makanchi Array**	**74.42**	**322**	P	P	16 57 52.4	+0.1
	0.1nm,0.5s,baz=111,slow=6.9,SNR=1.8 0.1nm,0.5s						

TRN 05 16:59:32.7, 16°.89N×61°.02W, h26km, MD4.0, 2D, South-east of Antigua., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABD	**La Joyeuse, An**	**0.61**	**228**	*eP*	Pn	16 59 46.9	+1.3
ABD				*eS*	Sn	16 59 56.3	+1.8
ANBD	**Bethesda, Anti**	**0.73**	**283**	*i* P	Pn	16 59 48.9	+1.6
ANBD				*eS*	Sn	16 59 59.8	+2.2
ANDO	**Antigua, Disas**	**0.81**	**286**	*eP*	Pn	16 59 50.0	+1.6
ANDO				*eS*	Sn	17 00 01.7	+2.2
MAGL	**Barre de l'ile**	**0.96**	**195**	*eP*	Pb	16 59 52.1	+1.3
MBFL	**Flemmings, Mon**	**1.15**	**263**	*i* P	Pb	16 59 55.6	+1.6
MBFL				*eS*	Sb	17 00 11.2	+2.8
TDBA	**Terre de Bas,**	**1.19**	**210**	*eP*	Pb	16 59 56.5	+1.9
TBG	**Guadaloupe-3**	**1.19**	**210**	*eP*	Pb	16 59 56.1	+1.4
TBG				*eS*	Sb	17 00 12.8	+3.2
SVN	**Savane Anatole**	**2.04**	**184**	*eP*	Pn	17 00 07.1	+1.7
SVN				*eS*	Sn	17 00 31.9	+1.9
BAMF	**Morne Balai**	**2.06**	**183**	*eP*	Pn	17 00 07.4	+1.7
PCM	**Pelee Case Pet**	**2.07**	**185**	*eP*	Pn	17 00 07.3	+1.5
GBMF	**Grand Be**	**2.08**	**184**	*eP*	Pn	17 00 07.3	+1.3
PML	**Morne Lenard**	**2.10**	**184**	*eP*	Pn	17 00 07.9	+1.7
FDF	**Fort de France**	**2.14**	**183**	*eP*	Pn	17 00 08.0	+1.1
FDF				*eS*	Sb	17 00 34.9	-2.2
LPMF	**Morne Lapointe**	**2.30**	**179**	*eP*	Pn	17 00 09.8	+0.9
ZAM	**Aeronautique**	**2.30**	**180**	*eP*	Pn	17 00 10.2	+1.3
MVM	**Montagne Vaucl**	**2.32**	**177**	*eP*	Pn	17 00 10.8	+1.5
BIM	**Bigot**	**2.35**	**181**	*eP*	Pn	17 00 11.9	+2.2
MPOM	**Morne Pois Mar**	**2.43**	**176**	*eP*	Pn	17 00 12.1	+1.3
MPOM				*eS*	Sn	17 00 41.0	+1.3
SLBI	**Saint Lucia, B**	**2.85**	**179**	*eP*	Pn	17 00 18.0	+1.5
SLBI				*eS*	Sn	17 00 51.1	+1.2
SLW	**Petit Monier**	**2.85**	**178**	*eP*	Pn	17 00 18.9	+2.3
SLW				*eS*	Sn	17 00 51.5	+1.5
SLB	**Belfond**	**3.04**	**180**	*eP*	Pn	17 00 20.5	+1.3
SLB				*eS*	Sn	17 00 57.1	+2.3
SVB	**Belmont**	**3.60**	**184**	*e*	Pn	17 00 25.1	-1.7
SVB	**Belmont**	**3.60**	**184**	*eS*	Sn	17 01 10.3	+1.8
SVT	**Saint Vincent**	**3.70**	**183**	*eP*	Pn	17 00 29.8	+1.6
SVT				*eS*	Sn	17 01 13.1	+2.1
GCMP	**Grenada, Carri**	**4.39**	**185**	*eP*	Pn	17 00 39.9	+2.2
GCMP				*eS*	Sn	17 01 29.7	+1.7
GRW	**Mount Saint Ca**	**4.74**	**188**	*eP*	Pn	17 00 44.9	+2.3
GRGR	**Grenville**	**4.76**	**187**	*eP*	Pn	17 00 45.6	+2.7

TRN 05 17:01:42.9, 16°.88N×61°.00W, h28km, MD3.9, 1D, South-east of Antigua., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABD	**La Joyeuse, An**	**0.62**	**230**	*eP*	Pn	17 01 56.8	+0.9
ABD				*eS*	Sn	17 02 07.0	+2.2
ANBD	**Bethesda, Anti**	**0.75**	**283**	*i* P	Pn	17 01 59.2	+1.5
ANBD				*eS*	Sn	17 02 09.8	+1.7
ANDO	**Antigua, Disas**	**0.83**	**286**	*eP*	Pb	17 02 00.4	+1.6
ANDO				*eS*	Sn	17 02 12.1	+2.0
MAGL	**Barre de l'ile**	**0.96**	**197**	*eP*	Pb	17 02 02.6	+1.6
MBFL	**Flemmings, Mon**	**1.17**	**264**	*eP*	Pb	17 02 05.2	+0.7
MBFL				*eS*	Sb	17 02 21.6	+2.2
TDBA	**Terre de Bas,**	**1.19**	**211**	*eP*	Pb	17 02 06.7	+1.7
TBG	**Guadaloupe-3**	**1.20**	**211**	*eP*	Pb	17 02 06.1	+1.2
TBG				*eS*	Sb	17 02 23.1	+3.0
GBMF	**Grand Be**	**2.08**	**184**	*eP*	Pn	17 02 17.7	+1.7
FDF	**Fort de France**	**2.14**	**184**	*eP*	Pn	17 02 17.8	+1.0
FDF				*eS*	Sn	17 02 43.9	+1.4
LPMF	**Morne Lapointe**	**2.29**	**179**	*eP*	Pn	17 02 20.0	+1.1
ZAM	**Aeronautique**	**2.29**	**181**	*eP*	Pn	17 02 20.7	+1.8
MVM	**Montagne Vaucl**	**2.31**	**178**	*eP*	Pn	17 02 21.0	+1.7
MPOM	**Morne Pois Mar**	**2.42**	**177**	*eP*	Pn	17 02 22.4	+1.7
MPOM				*eS*	Sn	17 02 51.0	+1.5
SLBI	**Saint Lucia, B**	**2.84**	**180**	*eP*	Pn	17 02 27.6	+1.1
SLBI				*eS*	Sn	17 03 01.6	+1.9

*IDC **05** 17:13:26.8±7.2, 24°.90S×179°.75E, h537km±70km, mb2.8/3, mbtmp3.8/4, Error ellipse: s-maj=59.3km s-min=28.4km az=56.0*

ISC 05 17:13:27.0±1.5, 24°.8S±0°.3×179°.8E±0°.2, h550km, n7, σ0s 55/7, mb3.5/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.59**	**280**	P	**P**	**17 16 12.1**	**+0.4**
	3.0nm,0.7s,baz=85,slow=19,SNR=1.7						
ASAR	**Alice Springs**	**41.74**	**262**	P	**P**	**17 20 28.2**	**-0.4**
	0.3nm,0.8s,baz=93,slow=6.5,SNR=11 0.3nm,0.8s						
WRA	**Warramunga Arr**	**42.20**	**267**	P	**P**	**17 20 31.8**	**-0.4**
	1.0nm,0.6s,baz=104,slow=8.0,SNR=8.8 1.0nm,0.6s						
QSPA	**South Pole Qui**	**65.28**	**180**	P	**P**	**17 23 14.7**	**+0.2**
	0.9nm,0.6s,baz=225,slow=1.4,SNR=7.8 0.9nm,0.6s						
HFS	**Hagfors**	**143.40**	**348**	PKP	**PKPdf**	**17 31 57.9**	**-0.6**
	1.8nm,0.5s,baz=33,slow=3.4,SNR=8.6						
AKASG	**Malin Array Be**	**145.65**	**326**	PKPbc	**PKPbc**	**17 32 04.7**	**+0.5**
	0.6nm,0.5s,baz=45,slow=4.0,SNR=6.2						
MMAI	**Mount Meron Ar**	**147.92**	**293**	PKPbc	**PKiKP**	**17 32 12.5**	**+0.1**
	1.0nm,0.5s,baz=78,slow=4.4,SNR=5.1						

*UPP **05** 17:23:53.7±0.0, 67°.19N×20°.67E, h0km, ML2.4, Confirmed Induced event*
*HEL **05** 17:23:54.1±0.2, 67°.19N×20°.64E, h0km, ML1.9, Suspected explosion*
*IDC **05** 17:23:54.2±1.0, 67°.17N×20°.88E, h0km, mbtmp2.9/4, ML2.3/4, Error ellipse: s-maj=15.3km s-min=9.1km az=114.0*

ISC 05 17:23:53.3±0.7, 67°.19N±0°.02×20°.64E±0°.03, h0km, n41, σ1s 21/68, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.07**	**203**	P	**Pg**	**17 23 55.5**	**+0.8**
DUNU				S	**Sg**	**17 23 56.7**	**+1.1**
MASU	**Masugnsbyn**	**0.59**	**62**	P	**Pg**	**17 24 04.8**	**+0.3**
RATU	**Laukkuluspa**	**0.76**	**328**	P	**Pg**	**17 24 08.0**	**+0.2**
KUA	**Kurravaara**	**0.78**	**351**	P	**Pg**	**17 24 08.1**	**0.0**
SALU	**Saltoluokta**	**0.85**	**284**	P	**Pg**	**17 24 09.8**	**+0.3**
PAJU	**Pajala**	**0.98**	**99**	P	**Pg**	**17 24 11.6**	**-0.4**
PAJU	**Pajala**	**0.98**	**99**	PG	**Pg**	**17 24 11.3**	**-0.7**
	baz=281						
PAJU				SB	**Sg**	**17 24 25.3**	**+0.6**
LANU	**Lannavaara**	**1.00**	**30**	P	**Pg**	**17 24 12.1**	**-0.4**
LANU	**Lannavaara**	**1.00**	**30**	PB	**Pg**	**17 24 11.9**	**-0.6**
LANU				SB	**Sb**	**17 24 26.3**	**-1.0**
KOVU	**Salmi**	**1.05**	**350**	P	**Pg**	**17 24 13.4**	**-0.1**
KLF	**Kolari**	**1.29**	**86**	PN	**Pg**	**17 24 17.0**	**-1.1**
	baz=270						
KLF	comp=Z,7.3nm,0.2s			MSG		17 24 33.2	
KLF				SN	**Sg**	**17 24 34.5**	**-0.3**
HEF	**Hetta**	**1.68**	**42**	*eP*	**Pn**	**17 24 23.8**	**0.0**
HEF	**Hetta**	**1.68**	**42**	PG	**Pn**	**17 24 23.5**	**-0.4**
	baz=225						
HEF				MSG		17 24 44.1	
HEF	comp=Z,11nm,0.2s			SN	**Sn**	**17 24 45.8**	**-0.3**
KALU	**Kalix**	**1.72**	**140**	P	**Pn**	**17 24 24.6**	**+0.2**
KALU	**Kalix**	**1.72**	**140**	PG	**Pn**	**17 24 24.5**	**+0.2**
KALU				SN	**Sn**	**17 24 48.1**	**+1.0**
SJUU	**Sjulsmark**	**1.73**	**167**	P	**Pn**	**17 24 24.8**	**+0.2**
KIF	**Kilpisjarvi**	**1.82**	**2**	*eP*	**Pb**	**17 24 27.0**	**-0.5**
KIF	**Kilpisjarvi**	**1.82**	**2**	PG	**Pb**	**17 24 27.0**	**-0.5**
KIF				MSG		17 24 49.6	
	comp=Z,17nm,0.2s						
KIF				SG	**Sg**	**17 24 52.2**	**+0.3**
TOF	**Tornio**	**1.84**	**126**	PG	**Pn**	**17 24 26.6**	**+0.5**
TOF				MSG		17 24 49.0	
	comp=Z,12nm,0.2s						
TOF				SG	**Sb**	**17 24 51.5**	**+0.2**
KTK1	**Kautokeino**	**2.07**	**27**	PG	**Pb**	**17 24 31.0**	**-0.8**
KTK1				SG	**Sg**	**17 24 58.7**	**-1.1**
RNF	**Rovaniemi**	**2.20**	**103**	PG	**Pn**	**17 24 31.8**	**+0.9**
	baz=291						
RNF				SG	**Sb**	**17 25 01.8**	**+0.2**
SGF	**Sodankyl**	**2.29**	**81**	PG	**Pn**	**17 24 33.3**	**+1.0**
SGF				SG	**Sb**	**17 25 04.2**	**-0.1**
TRO	**Tromso**	**2.54**	**346**	SG	**Sg**	**17 25 13.3**	**-1.3**
RANF	**Ranua**	**2.72**	**113**	PB	**Pn**	**17 24 38.9**	**+0.8**
	baz=301						
RANF				SG	**Sb**	**17 25 16.4**	**-0.2**
ARA0	**ARCESS Array S**	**2.97**	**35**	PN	**Pn**	**17 24 42.2**	**+0.7**
ARA0				SB	**Sn**	**17 25 20.1**	**+2.3**
ARCES	**ARCESS Array B**	**2.97**	**35**	Pn	**Pn**	**17 24 42.2**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=215,slow=13,SNR=41						
ARCES				Lg	Lg	17 25 20.0	
	comp=Z,2.7nm,0.3s,baz=221,slow=33,SNR=28 comp=Z,1.8nm,0.4s						
OBF4	**Vikkela, Lumij**	**3.00**	**141**	PG	**Pb**	**17 24 47.3**	**-0.2**
	baz=322						
OBF4				MSG		17 25 22.5	
	comp=Z,2.8nm,0.2s						
OUL	**Oulu**	**3.00**	**132**	PG	**Pb**	**17 24 46.5**	**-1.0**
	baz=316						
OUL				SG	**Sb**	**17 25 26.1**	**+1.4**
KMNF	**Kaamanen**	**3.08**	**47**	PN	**Pn**	**17 24 43.7**	**+0.5**
KMNF				SB	**Sn**	**17 25 21.2**	**+0.5**
RAJF	**Raja-Jooseppi**	**3.18**	**63**	PN	**Pn**	**17 24 44.6**	**+0.1**
RAJF				SG	**Sb**	**17 25 30.6**	**+0.8**
OUF	**Merijarvi**	**3.30**	**147**	PN	**Pn**	**17 24 47.2**	**+1.2**
OUF				SB	**Sn**	**17 25 29.0**	**+3.1**
UMAU	**Umeaa**	**3.32**	**180**	PN	**Pn**	**17 24 47.2**	**+0.8**
	baz=3.0						
UMAU				SN	**Sn**	**17 25 26.7**	**+0.2**
KEV	**Kevo**	**3.48**	**39**	PN	**Pn**	**17 24 49.6**	**+0.9**
KEV				SN	**Sn**	**17 25 30.4**	**-0.1**
VRF	**Varrio**	**3.50**	**77**	PN	**Pn**	**17 24 49.5**	**+0.7**
VRF				SG	**Sb**	**17 25 41.0**	**+2.1**
MSF	**Maaselka**	**3.59**	**107**	PN	**Pn**	**17 24 51.2**	**+1.0**
MSF				SG	**Sb**	**17 25 44.2**	**+2.5**
KU6	**Riekki**	**3.87**	**103**	PN	**Pn**	**17 24 54.6**	**+0.7**
	baz=289						
KU6				SG	**Sb**	**17 25 51.2**	**+1.6**
HUSU	**Husum**	**3.91**	**189**	PN	**Pn**	**17 24 55.7**	**+1.2**
HUSU				SN	**Sn**	**17 25 40.6**	**-0.4**
VAF	**Ylistaro**	**4.25**	**167**	PN	**Pn**	**17 25 00.4**	**+1.3**
VAF				SG	**Sg**	**17 26 06.5**	**-3.2**
FINES	**FINESS Array B**	**6.23**	**155**	Pn	**Pn**	**17 25 27.1**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=346,slow=12,SNR=14						
FINES				Sn	**Sn**	**17 26 36.8**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=346,slow=24,SNR=7.0						
FINES				Lg	Lg	17 27 08.2	
	comp=Z,0.9nm,0.3s,baz=344,slow=26,SNR=6.8 comp=Z,0.9nm,0.4s						
NOA	**NORSAR Array B**	**7.42**	**218**	Pn	**Pn**	**17 25 43.7**	**+1.0**
	baz=31,slow=12,SNR=4.1						
NOA				Sn	**Sn**	**17 27 03.4**	**-4.0**
	baz=290,slow=13,SNR=6.6						
NOA				Lg	Lg	17 27 43.5	
	comp=Z,0.1nm,0.3s,baz=64,slow=18,SNR=4.7 comp=Z,0.4nm,0.7s						
HFS	**Hagfors**	**7.72**	**207**	Pn	**Pn**	**17 25 46.4**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=25,slow=11,SNR=6.1						
HFS				Sn	**Sn**	**17 27 11.7**	**-3.2**
	comp=Z,0.7nm,0.3s,baz=22,slow=21,SNR=10.0 comp=Z,0.6nm,0.3s						

*IDC **05** 18:01:33.0±28.0, 19°.51S×178°.48W, h491km±244km, mb2.8/3, mbtmp3.7/3, Error ellipse: s-maj=326.2km s-min=58.8km az=134.0*

ISC 05 18:01:32.0±3.2, 20°.5S±1°.1×178°.2W±0°.7, h500km, n8, σ0s 84/8, mb3.4/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.47**	**256**	P	**P**	**18 08 58.5**	**0.0**
	0.5nm,0.6s,baz=90,slow=8.3,SNR=12 0.5nm,0.6s						
WRA	**Warramunga Arr**	**44.50**	**261**	P	**P**	**18 08 58.7**	**0.0**
	0.4nm,0.3s,baz=94,slow=7.7,SNR=22 0.4nm,0.3s						
ILAR	**Eielson Array**	**87.76**	**13**	P	**P**	**18 13 26.8**	**0.0**
	0.5nm,0.8s,baz=216,slow=5.2,SNR=6.1 0.5nm,0.8s						
BVAR	**Borovoye Array**	**118.48**	**320**	PKP	**PKiKP**	**18 19 22.9**	**+0.6**
	0.5nm,0.3s,baz=102,slow=2.3,SNR=4.9						
ARCES	**ARCESS Array B**	**128.28**	**350**	PKP	**PKiKP**	**18 19 41.6**	**+0.3**
	4.1nm,0.8s,baz=26,slow=2.5,SNR=8.8						
AKASG	**Malin Array Be**	**142.38**	**331**	PKP	**PKPdf**	**18 20 05.5**	**-1.6**
	0.8nm,0.4s,baz=46,slow=3.5,SNR=8.2						
EKA	**Eskdalemuir Ar**	**144.41**	**5**	PKP	**PKPdf**	**18 20 11.1**	**+0.5**
	0.6nm,0.4s,baz=327,slow=3.0,SNR=5.9						
GERES	**GERESS Array B**	**149.56**	**344**	PKPbc	**PKiKP**	**18 20 25.6**	**+0.2**
	0.5nm,0.6s,baz=224,slow=2.7,SNR=3.7						

JMA 05 18:04:24.2±0.2, 24°.2N±0°.5×123°.8E±0°.6, h15km±1km, MV0.7/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.12**	**318**	*eS*	Sg	18 04 30.1	+0.1
JKRS	**Kuro-shima**	**0.17**	**92**	P

*JMA **05** 18:12:57.1±0.1,42.°0N±0.°3×141.°4E±0.°7,h91km±1km, MV2.7/39,S OFF TOMAKOMAI*
*IDC **05** 18:13:02.8±4.3,42.°72N×141.°16E,h118km±26km,mb3.3/4, mbtmp3.6/5,Error ellipse: s-maj=68.0km s-min=29.5km az=155.0*
ISC 05 18:12:56.4±1.0,**42.°01N**±0.°04×**141.°41E**±0.°05,**h98**km±7km, **n29,σ0⁰94/33,mb3.6/4,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKB	**Kayabe**	**0.31**	**247**	P	**Pn**	**18 13 10.6**	**-0.2**
JKB				eS	Sn	18 13 21.1	-0.4
JNB	**Noboribetsu**	**0.54**	**329**	P	**Pn**	**18 13 11.9**	**-0.4**
JNB				eS	Sn	18 13 23.6	-0.5
JOT	**Ohata**	**0.69**	**204**	eP	**Pn**	**18 13 13.8**	**+0.3**
JOT				eS	Sn	18 13 26.6	+0.3
JIAM	**Iburiatsuma**	**0.72**	**32**	P	**Pn**	**18 13 14.3**	**+0.5**
JIAM				eS	Sn	18 13 27.7	+0.9
JYM2	**Yakumo 2**	**0.78**	**278**	P	**Pn**	**18 13 14.6**	**+0.2**
JEW	**Eniwo**	**0.83**	**2**	eP	**Pn**	**18 13 15.2**	**+0.4**
JEW				eS	Sn	18 13 28.7	-0.1
JSR	**Shiriuchi**	**0.89**	**237**	P	**Pn**	**18 13 15.8**	**+0.4**
JNBK	**Urakawa-nobuka**	**1.03**	**74**	eP	**Pn**	**18 13 17.4**	**+0.4**
JBT2	**Biratori 2**	**1.04**	**42**	P	**Pn**	**18 13 17.7**	**+0.5**
JOMM	**Oshimamatsumae**	**1.16**	**246**	eP	**Pn**	**18 13 19.1**	**+0.7**
JSH	**Shimam**	**1.19**	**302**	eP	**Pn**	**18 13 19.1**	**+0.3**
JHST	**Hiyamasetana**	**1.21**	**290**	eP	**Pn**	**18 13 19.3**	**+0.2**
JISS	**Ishikarishitsu**	**1.26**	**0**	eP	**Pn**	**18 13 20.3**	**+0.6**
JISS				eS	Sn	18 13 37.9	+0.6
JOSM	**Okushiri--Mats**	**1.44**	**273**	eP	**Pn**	**18 13 22.2**	**+0.4**
JOSM				eS	Sn	18 13 41.2	+0.1
JCH	**Churui**	**1.57**	**67**	eP	**Pn**	**18 13 24.2**	**+0.8**
JCH				eS	Sn	18 13 44.2	+0.4
JANG	**Nango**	**1.64**	**177**	eP	**Pn**	**18 13 24.1**	**-0.2**
JANG				eS	Sn	18 13 45.3	-0.2
JHR	**Hokuryu**	**1.75**	**7**	eP	**Pn**	**18 13 26.8**	**+1.1**
ASAJ	**Asahikawa** 4.8nm,0.2s,baz=217,slow=14,SNR=47	**2.28**	**22**	P	**Pn**	**18 13 33.2**	**+0.8**
ASAJ	7.2nm,0.5s,baz=178,slow=13,SNR=5.3			S	Sn	**18 13 56.0**	**-4.1**
USRK	**Ussuriysk Ar.** 2.1nm,0.7s,baz=96,slow=14,SNR=5.2	**7.24**	**291**	P	**Pn**	**18 14 40.5**	**+1.1**
H11N2	**WAKE ISLAND Hy 30.9** baz=322,slow=75,SNR=5.5	**6 128**		T	T	18 51 42.9	
H11N1	**WAKE ISLAND Hy 30.9** baz=322,slow=75,SNR=4.8	**7 128**		T	T	18 51 43.3	
H11N3	**WAKE ISLAND Hy 30.9** baz=322,slow=75,SNR=4.1	**8 128**		T	T	18 51 43.9	
H11S1	**WAKE ISLAND Hy 31.8** baz=323,slow=76,SNR=5.1	**1 130**		T	T	18 52 44.9	
H11S3	**WAKE ISLAND Hy 31.8** baz=323,slow=76,SNR=6.7	**1 130**		T	T	18 52 44.8	
H11S2	**WAKE ISLAND Hy 31.8** baz=323,slow=76,SNR=5.9	**3 130**		T	T	18 52 46.4	
ZALV	**Zalesovo Beam** 0.7nm,0.4s,baz=94,slow=7.6,SNR=4.0 0.7nm,0.4s	**38.7**	**308**	P	**P**	**18 20 10.8**	**+0.3**
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=82,slow=10.0,SNR=7.5 0.4nm,0.5s	**41.65**	**297**	P	**P**	**18 20 34.5**	**-0.5**
KURBB	**Kurchatov Arra** 0.4nm,0.3s,baz=78,slow=8.4,SNR=2.8 0.4nm,0.3s	**43.08**	**304**	P	**P**	**18 20 46.0**	**-0.5**
BVAR	**Borovoye Array** 0.4nm,0.5s,baz=79,slow=9.8,SNR=2.7 0.4nm,0.5s	**47.33**	**309**	P	**P**	**18 21 19.9**	**-0.1**

*NOU **05** 18:15:06.3,38.°51S×175.°82E,h212km,MLv3.8/11,North Island, New Zealand*
*WEL **05** 18:15:10.8±0.8,38.°3S±6.°×17.°6E±.°,h165km±7km,M2.9/49, ML2.6/30,MLv2.9/49,Error ellipse: s-maj=0.0km s-min=0.0km az=168.9*
ISC 05 18:15:05.3±1.7,**38.°52S**±0.°05×**175.°76E**±0.°05,**h208**km±9km, **n140,σ1⁰65/146,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUTZ	**Kaahu Road**	**0.06**	**55**	P	**Pn**	**18 15 33.9**	**+1.3**
WATZ	**Wairara**	**0.18**	**187**	P	**Pn**	**18 15 34.2**	**+1.6**
WHTZ	**Whakaora**	**0.21**	**133**	P	**Pn**	**18 15 33.7**	**+1.0**
TLZ	**Tolley Road**	**0.26**	**318**	P	**Pn**	**18 15 34.2**	**+1.4**
TLZ				S	Sn	18 15 52.3	-1.7
WPRZ	**Whakapapatarin**	**0.32**	**89**	P	**Pn**	**18 15 34.0**	**+1.2**
GRRZ	**Galatos Road**	**0.32**	**158**	P	**Pn**	**18 15 34.2**	**+1.3**
RATZ	**Rangitukua**	**0.34**	**179**	P	**Pn**	**18 15 34.2**	**+1.3**
HSRZ	**Hossack Road**	**0.43**	**61**	P	**Pn**	**18 15 34.4**	**+1.2**
HATZ	**Hinemaiaia**	**0.45**	**145**	P	**Pn**	**18 15 34.4**	**+1.2**
KATZ	**Kakaramea**	**0.45**	**187**	P	**Pn**	**18 15 34.8**	**+1.5**
RITZ	**Rihia Road**	**0.46**	**171**	P	**Pn**	**18 15 35.0**	**+1.7**
HLRZ	**Highlands Stat**	**0.54**	**60**	P	**Pn**	**18 15 35.4**	**+1.9**
NGRZ	**Ngongotaha**	**0.54**	**39**	P	**Pn**	**18 15 34.8**	**+1.2**
KRVZ	**Karewarewa**	**0.58**	**189**	P	**Pn**	**18 15 35.3**	**+1.5**
NTVZ	**North Tongarir**	**0.58**	**187**	P	**Pn**	**18 15 35.4**	**+1.6**
TMVZ	**Te Maari**	**0.59**	**184**	P	**Pn**	**18 15 35.4**	**+1.6**
MRHZ	**Matea Rd**	**0.60**	**121**	P	**Pn**	**18 15 34.9**	**+1.1**
MRHZ				S	Sn	18 15 52.8	-3.1
TWVZ	**Taurewa**	**0.60**	**205**	P	**Pn**	**18 15 35.4**	**+1.6**
WTVZ	**West Tongariro**	**0.61**	**193**	P	**Pn**	**18 15 35.6**	**+1.7**
ETVZ	**East Tongariro**	**0.61**	**184**	P	**Pn**	**18 15 35.6**	**+1.6**
NNVZ	**North Ngauruho**	**0.62**	**191**	P	**Pn**	**18 15 35.6**	**+1.6**
KARZ	**Kaharoa**	**0.63**	**37**	P	**Pn**	**18 15 35.0**	**+1.1**
OMRZ	**Omania**	**0.64**	**49**	P	**Pn**	**18 15 35.0**	**+1.0**
OTVZ	**Oturere**	**0.64**	**187**	P	**Pn**	**18 15 35.6**	**+1.5**
TARZ	**Mount Tarawera**	**0.65**	**64**	P	**Pn**	**18 15 35.2**	**+1.1**
NGZ	**Ngauruhoe**	**0.66**	**191**	P	**Pn**	**18 15 35.7**	**+1.5**
SNVZ	**South Ngauruho**	**0.67**	**188**	P	**Pn**	**18 15 35.8**	**+1.6**
MKRZ	**Makatiti**	**0.68**	**55**	P	**Pn**	**18 15 35.4**	**+1.2**
COVZ	**Chateau Observ**	**0.70**	**194**	P	**Pn**	**18 15 35.7**	**+1.4**
HIZ	**Hauiti**	**0.71**	**271**	P	**Pn**	**18 15 36.0**	**+1.8**
HIZ	**Hauiti**	**0.71**	**271**	P	**Pn**	**18 15 35.9**	**+1.7**
FWVZ	**Far West T-bar**	**0.75**	**192**	P	**Pn**	**18 15 36.2**	**+1.5**
TUVZ	**Tukino**	**0.75**	**186**	P	**Pn**	**18 15 36.4**	**+1.8**
MAVZ	**Matarangi**	**0.76**	**192**	P	**Pn**	**18 15 36.5**	**+1.6**
WHVZ	**Whangaehu Hut**	**0.77**	**190**	P	**Pn**	**18 15 36.5**	**+1.6**
TRVZ	**Turoa**	**0.79**	**192**	P	**Pn**	**18 15 36.7**	**+1.7**
WNVZ	**Wahianoa**	**0.81**	**189**	P	**Pn**	**18 15 36.7**	**+1.8**
PKVZ	**Pokaka**	**0.83**	**203**	P	**Pn**	**18 15 36.7**	**+1.8**
BKZ	**Black Stump Fm**	**0.86**	**139**	P	**Pn**	**18 15 36.5**	**+1.5**
BKZ	**Black Stump Fm**	**0.86**	**139**	P	**Pn**	**18 15 36.6**	**+1.5**
MOVZ	**Moawhango**	**0.88**	**180**	P	**Pn**	**18 15 36.8**	**+1.5**
MOVZ				S	Sn	18 15 56.0	-2.7
MTVZ	**Mangateitei**	**0.89**	**195**	P	**Pn**	**18 15 37.1**	**+1.8**
MTHZ	**Maungataniwha**	**0.91**	**112**	P	**Pn**	**18 15 36.8**	**+1.4**
MTHZ				S	Sn	18 15 56.8	-1.9
RTZ	**Ruatahuna**	**0.96**	**96**	P	**Pn**	**18 15 36.9**	**+1.1**
RTZ				S	Sn	18 15 57.4	-1.9
VRZ	**Vera Road**	**0.99**	**232**	P	**Pn**	**18 15 37.8**	**+2.0**
BHHZ	**Black Hill Sta**	**0.99**	**166**	P	**Pn**	**18 15 37.6**	**+1.7**
NMHZ	**Naumai**	**1.00**	**125**	P	**Pn**	**18 15 38.3**	**+2.3**
NMHZ				S	Sn	18 15 59.5	-0.3
KWHZ	**Kaweka Forest**	**1.04**	**150**	P	**Pn**	**18 15 38.2**	**+2.0**
URZ	**Urewera**	**1.09**	**76**	P	**Pn**	**18 15 37.2**	**+0.7**
URZ	**Urewera**	**1.09**	**76**	P	**Pn**	**18 15 37.3**	**+0.7**
RAHZ	**Arahi**	**1.11**	**111**	P	**Pn**	**18 15 38.6**	**+1.9**
MCHZ	**McNeill Hill**	**1.17**	**142**	P	**Pn**	**18 15 39.7**	**+2.6**
ARHZ	**Aropaoanui**	**1.21**	**128**	P	**Pn**	**18 15 39.6**	**+2.3**
KRHZ	**Kereru**	**1.21**	**157**	P	**Pn**	**18 15 39.5**	**+2.0**
MHEZ	**Mangahewa**	**1.25**	**243**	P	**Pn**	**18 15 40.2**	**+2.5**
RAGZ	**Rawiri**	**1.30**	**89**	P	**Pn**	**18 15 39.6**	**+1.5**
WAZ	**Wanganui**	**1.37**	**206**	P	**Pn**	**18 15 40.8**	**+2.2**
MWZ	**Matawai**	**1.40**	**83**	P	**Pn**	**18 15 40.1**	**+1.1**
LREZ	**Lake Rotokare**	**1.41**	**228**	P	**Pn**	**18 15 41.6**	**+2.7**
PNHZ	**Pukenui**	**1.43**	**166**	P	**Pn**	**18 15 41.1**	**+1.9**
PREZ	**Palmer Road**	**1.49**	**236**	P	**Pn**	**18 15 42.1**	**+2.4**
MKAZ	**Moumakai**	**1.50**	**341**	P	**Pn**	**18 15 41.3**	**+1.6**
NEZ	**North Egmont**	**1.50**	**240**	P	**Pn**	**18 15 42.3**	**+2.5**
CKHZ	**Cape Kidnapper**	**1.53**	**138**	P	**Pn**	**18 15 42.4**	**+2.5**
KAHZ	**Kahuranaki**	**1.54**	**146**	P	**Pn**	**18 15 42.6**	**+2.5**
PKE	**Pukeiti**	**1.54**	**244**	P	**Pn**	**18 15 42.5**	**+2.4**
TSZ	**Takapari Road**	**1.54**	**174**	P	**Pn**	**18 15 42.1**	**+2.0**
KHEZ	**Kahui Hut**	**1.56**	**240**	P	**Pn**	**18 15 42.9**	**+2.5**
KHEZ	**Kahui Hut**	**1.56**	**240**	P	**Pn**	**18 15 42.8**	**+2.5**
KNZ	**Kokohu**	**1.57**	**109**	P	**Pn**	**18 15 42.2**	**+1.9**
RIGZ	**Rimuhau**	**1.58**	**97**	P	**Pn**	**18 15 42.3**	**+1.9**
RUGZ	**Raukumara Rang**	**1.61**	**70**	P	**Pn**	**18 15 41.0**	**+0.2**
WPHZ	**Waipukurau**	**1.63**	**161**	P	**Pn**	**18 15 42.9**	**+2.1**
AWAZ	**Awhitu Peninsu**	**1.71**	**328**	P	**Pn**	**18 15 43.5**	**+1.9**
PRGZ	**Paritu Road**	**1.71**	**104**	P	**Pn**	**18 15 43.7**	**+2.1**
OHWZ	**Ohakea**	**1.71**	**191**	P	**Pn**	**18 15 44.2**	**+2.6**
PXZ	**Pawanui**	**1.73**	**151**	P	**Pn**	**18 15 43.8**	**+2.1**
HAZ	**Te Kaha**	**1.77**	**65**	P	**Pn**	**18 15 42.5**	**+0.4**
TWGZ	**Tauwhareparae**	**1.78**	**79**	P	**Pn**	**18 15 44.1**	**+1.7**
MHGZ	**Mahia Peninsul**	**1.79**	**111**	P	**Pn**	**18 15 44.6**	**+2.2**
WIAZ	**Waiheke Island**	**1.80**	**344**	P	**Pn**	**18 15 44.1**	**+1.6**
DVHZ	**Dannevirke**	**1.80**	**170**	P	**Pn**	**18 15 44.2**	**+1.8**
WTAZ	**Waiatarua**	**1.85**	**329**	P	**Pn**	**18 15 45.2**	**+2.2**
POWZ	**Post Office Ro**	**1.87**	**180**	P	**Pn**	**18 15 44.8**	**+1.8**
PRHZ	**Porangahau**	**1.87**	**159**	P	**Pn**	**18 15 45.1**	**+2.1**
CNGZ	**Carnagh Statio**	**1.92**	**90**	P	**Pn**	**18 15 45.8**	**+2.2**
PKGZ	**Pakihiroa**	**1.93**	**72**	P	**Pn**	**18 15 44.9**	**+1.1**
ANWZ	**Angora Road**	**2.01**	**164**	P	**Pn**	**18 15 46.6**	**+2.1**
PUZ	**Puketiti**	**2.02**	**78**	P	**Pn**	**18 15 45.7**	**+1.1**
PRWZ	**Pori Road**	**2.04**	**175**	P	**Pn**	**18 15 46.7**	**+2.0**
MRZ	**Mangatainoka R**	**2.14**	**184**	P	**Pn**	**18 15 47.4**	**+1.6**
BFZ	**Birch Farm**	**2.19**	**170**	P	**Pn**	**18 15 48.0**	**+1.7**
BFZ	**Birch Farm**	**2.19**	**170**	P	**Pn**	**18 15 48.0**	**+1.7**
WMGZ	**Waiomatatini S**	**2.21**	**72**	P	**Pn**	**18 15 47.8**	**+1.3**
MXZ	**Matakaoa Point**	**2.23**	**65**	P	**Pn**	**18 15 48.1**	**+1.3**
MXZ	**Matakaoa Point**	**2.23**	**65**	P	**Pn**	**18 15 48.0**	**+1.3**
TIWZ	**Tintock**	**2.25**	**178**	P	**Pn**	**18 15 48.7**	**+1.7**
OGWZ	**Otaki Gorge**	**2.33**	**191**	P	**Pn**	**18 15 49.6**	**+1.8**
HOWZ	**Holdsworth Sta**	**2.38**	**185**	P	**Pn**	**18 15 49.8**	**+1.4**
CPWZ	**Castlepoint**	**2.41**	**172**	P	**Pn**	**18 15 50.8**	**+2.2**
KIW	**Kapiti Island**	**2.42**	**195**	P	**Pn**	**18 15 50.3**	**+1.5**
TMWZ	**Te Maipa**	**2.58**	**178**	P	**Pn**	**18 15 52.0**	**+1.4**
CAW	**Cannon Point**	**2.63**	**191**	P	**Pn**	**18 15 52.7**	**+1.5**
MTW	**Mount Morrison**	**2.64**	**184**	P	**Pn**	**18 15 52.4**	**+1.2**
DUWZ	**D'Urville Isla**	**2.68**	**211**	P	**Pn**	**18 15 53.1**	**+1.4**
WEL	**Wellington**	**2.86**	**195**	P	**Pn**	**18 15 55.2**	**+1.5**
PAWZ	**Paruwai Farm**	**2.87**	**185**	P	**Pn**	**18 15 54.9**	**+1.1**
TRWZ	**Traveller**	**2.87**	**181**	P	**Pn**	**18 15 55.2**	**+1.3**
SNZO	**South Karori**	**2.90**	**196**	P	**Pn**	**18 15 55.5**	**+1.4**
TCW	**Tory Channel**	**2.92**	**203**	P	**Pn**	**18 15 55.8**	**+1.5**
BHW	**Baring Head**	**2.96**	**193**	P	**Pn**	**18 15 56.0**	**+1.2**
PLWZ	**Palliser**	**3.07**	**187**	P	**Pn**	**18 15 57.1**	**+0.9**
TUWZ	**Tuamarina**	**3.22**	**205**	P	**Pn**	**18 15 59.1**	**+1.2**
NNZ	**Nelson**	**3.25**	**214**	P	**Pn**	**18 15 59.4**	**+1.1**
TKNZ	**Takaka Hill**	**3.31**	**220**	P	**Pn**	**18 15 59.3**	**+0.4**
CMWZ	**Cape Campbell**	**3.43**	**200**	P	**Pn**	**18 16 02.7**	**+2.2**
BSWZ	**Blackbirch Sta**	**3.50**	**204**	P	**Pn**	**18 16 02.7**	**+1.5**
MRNZ	**Matariki Terra**	**3.68**	**218**	P	**Pn**	**18 16 04.3**	**+0.8**
THZ	**Tophouse**	**3.91**	**213**	P	**Pn**	**18 16 07.3**	**+1.0**
KHZ	**Kahutara**	**4.24**	**203**	P	**Pn**	**18 16 11.9**	**+1.6**
KHZ	**Kahutara**	**4.24**	**203**	P	**Pn**	**18 16 11.9**	**+1.6**
DSZ	**Denniston Nort**	**4.42**	**222**	P	**Pn**	**18 16 12.8**	**+0.2**
GVZ	**Greta Valley S**	**4.90**	**204**	P	**Pn**	**18 16 19.5**	**+1.0**
LTZ	**Lake Taylor**	**5.01**	**211**	P	**Pn**	**18 16 20.6**	**+0.5**
AMCZ	**Amberley**	**5.21**	**206**	P	**Pn**	**18 16 23.3**	**+0.8**
OXZ	**Oxford**	**5.56**	**209**	P	**Pn**	**18 16 26.9**	**-0.2**
MQZ	**McQueen's Vall**	**5.68**	**203**	P	**Pn**	**18 16 28.5**	**0.0**
RACZ	**Rakaia**	**5.87**	**207**	P	**Pn**	**18 16 31.1**	**+0.2**
MHCZ	**Mount Hutt**	**5.92**	**211**	P	**Pn**	**18 16 31.7**	**0.0**
WACZ	**Wakanui South**	**6.17**	**207**	P	**Pn**	**18 16 35.0**	**+0.3**
RPZ	**Rata Peaks**	**6.29**	**213**	P	**Pn**	**18 16 37.6**	**+1.3**
RPZ	**Rata Peaks**	**6.29**	**213**	P	**Pn**	**18 16 37.1**	**+0.8**
ARCZ	**Arundel**	**6.42**	**211**	P	**Pn**	**18 16 38.8**	**+0.7**
FOZ	**Fox Glacier**	**6.72**	**220**	P	**Pn**	**18 16 42.8**	**+0.9**
TMZ	**Timaru**	**6.86**	**210**	P	**Pn**	**18 16 44.2**	**+0.5**
LBZ	**Lake Benmore**	**7.20**	**214**	P	**Pn**	**18 16 48.8**	**+0.7**
ODZ	**Otahua Downs**	**7.55**	**209**	P	**Pn**	**18 16 54.1**	**+1.5**
ODZ	**Otahua Downs**	**7.55**	**209**	P	**Pn**	**18 16 53.6**	**+1.0**
JCZ	**Jackson Bay**	**7.63**	**221**	P	**Pn**	**18 16 54.9**	**+1.1**
JCZ	**Jackson Bay**	**7.63**	**221**	P	**Pn**	**18 16 54.6**	**+0.8**

*NEIC **05** 18:18:27.4±0.7,47.°57N±0.°03×92.°54W±0.°05,h0km±2km, mb_Lg2.8/12,ML2.6/6,Error ellipse: s-maj=6.8km s-min=3.5km az=227.0*
*IDC **05** 18:18:28.3±3.9,47.°65N×92.°69W,h0km,mbtmp2.5/2, ML0.6/1,Error ellipse: s-maj=74.4km s-min=27.0km az=51.0*
ISC 05 18:18:26.5±1.1,**47.°55N**±0.°05×**92.°56W**±0.°04,**h0**km,**n18, σ0⁰71/15,Minnesota**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	**Ely**	**0.82**	**61**	Pg	**Pg**	**18 18 42.9**	**+0.6**
EYMN				Sg	**Sg**	**18 18 53.0**	**+0.1**
EYMN				IAML		18 18 57.2	
	264nm,1.1s						
EYMN				IAML		18 18 59.5	
	242nm,1.4s						
B35A	**Bob, Littlefor**	**1.13**	**316**	Pg	**Pg**	**18 18 48.0**	**-0.2**
B35A				IAML		18 19 04.6	
	comp=E,98nm,1.5s						
E38A	**The Farm, Brul**	**1.17**	**144**	Pg	**Pg**	**18 18 48.6**	**-0.2**
E38A				IAML		18 19 13.2	
	comp=N,204nm,0.5s						
F36A	**Milaca**	**1.81**	**202**		**Pn**	**18 18 59.7**	**+0.7**
F36A				IAmb_Lg		18 19 28.8	
	comp=Z,36nm,1.0s						
SPMN	**Marine on St.**	**2.33**	**184**		**Pn**	**18 19 06.5**	**+0.5**
AGMN	**Agassiz Nation**	**2.34**	**290**	IAmb_Lg		18 19 43.2	
	comp=Z,31nm,0.9s						
D41A	**Chassel**	**2.76**	**99**	Pn	**Pn**	**18 19 11.1**	**-0.9**
G40A	**Rib Lake**	**2.80**	**144**	Pn	**Pn**	**18 19 13.3**	**+0.7**
F33A	**5 Mile Ranch,**	**3.08**	**238**		**Pn**	**18 19 16.7**	**+0.3**
F33A				IAmb_Lg		18 20 09.2	
	comp=Z,27nm,1.0s						
ULM	**Lac du Bonnet**	**3.48**	**322**	Pn	**Pn**	**18 19 23.3**	**+1.5**
ULM				IAmb_Lg		18 20 16.7	
	comp=Z,31nm,1.0s						
ULM	**Lac du Bonnet**	**3.48**	**322**	Pn	**Pn**	**18 19 21.2**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=151,slow=10,SNR=1.3						
ULM				Lg	Lg	18 20 11.7	
	comp=Z,1.2nm,0.3s,baz=122,slow=15,SNR=6.4						
	comp=Z,1.2nm,0.6s						
I10CA	**LAC DU BONNET**	**3.51**	**321**	I	I	18 37 15.0	
	comp=Z,0.5nm,1.0s,baz=138,slow=321,SNR=11						
I37A	**Lemond, Waseca**	**3.58**	**190**	IAmb_Lg		18 20 27.5	
	comp=Z,22nm,0.9s						
E43A	**Lone Tree Farm**	**3.99**	**105**	Pn	**Pn**	**18 19 29.1**	**+0.2**
I42A	**Draeger Farm,**	**4.46**	**144**	Pn	**Pn**	**18 19 35.5**	**+0.1**
ECSD	**EROS Data Cent**	**4.76**	**218**		**Pn**	**18 19 39.1**	**-0.3**
G45A	**Suttons Bay**	**5.40**	**115**	IAmb_Lg		18 21 28.7	
	comp=Z,18nm,0.7s						
YKA	**Yellowknife Ar**	**19.43**	**328**	P	**P**	**18 22 53.4**	**-0.8**
	comp=Z,0.1nm,0.6s,baz=135,slow=8.0,SNR=3.8						

*NEIC **05** 18:33:56.5±2.0,19.°4S±0.°1×179.°03W±0.°07,h668km±7km, mb4.7/285,Error ellipse: s-maj=18.2km s-min=6.3km az=156.0*
*IDC **05** 18:33:56.9±1.2,19.°30S×179.°17W,h680km±14km, mb3.9/16,mbtmp4.9/17,Error ellipse: s-maj=13.1km s-min=9.1km az=155.0*
*NOU **05** 18:33:56.0,19.°39S×179.°06W,h673km,mb4.9/66,Fiji Islands Region*
ISC 05 18:33:55.5±0.3,**19.°38S**±0.°07×**179.°02W**±0.°05,**h668**km, **n794,σ0⁰96/683,mb4.7**/186,**19C-31D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**2.79**	**342**	P	**P**	**18 35 20.8**	**+1.4**
MSVF	**Nonsavu**	**3.23**	**300**	P	**P**	**18 35 23.4**	**+1.7**
MSVF	**Nonsavu**	**3.23**	**300**	P	**P**	**18 35 23.5**	**+1.8**
DGTI	**Dogotuki**	**3.29**	**339**	P	**P**	**18 35 23.0**	**+1.0**
YSA	**Yasawairara**	**4.20**	**309**	P	**P**	**18 35 28.4**	**+1.1**
NIUE	**Niue**	**8.60**	**89**	P	**P**	**18 36 02.4**	**-0.2**
	baz=8.6,SNR=10						
NIUE	**Niue**	**8.60**	**89**	P	**P**	**18 36 02.8**	**+0.2**
NIUE	**Niue**	**8.60**	**89**	P	**P**	**18 36 03.1**	**+0.5**
AFI	**Afiamalu**	**8.82**	**53**	P	**P**	**18 36 03.7**	**-1.1**
AFI	**Afiamalu**	**8.82**	**53**	P	**P**	**18 36 04.1**	**-0.7**
FUNA	**Funafuti**	**10.93**	**351**	P	**P**	**18 36 23.9**	**-0.5**
FUNA	**Funafuti**	**10.93**	**351**	P	**P**	**18 36 24.2**	**-0.2**
MARNC	**Mare, Loyalty**	**12.32**	**258**	P	**P**	**18 36 37.0**	**0.0**
LIFNC	**LIFOU**	**12.99**	**262**	P	**P**	**18 36 42.4**	**-0.7**
LIFNC	**LIFOU**	**12.99**	**262**	P	**P**	**18 36 43.1**	**0.0**
PINNC	**Pines Island,**	**13.04**	**253**	P	**P**	**18 36 44.1**	**+0.5**
DZM	**Mont Dzumac**	**13.86**	**256**	P	**P**	**18 36 51.8**	**+0.7**
DZM	**Mont Dzumac**	**13.86**	**256**	P	**P**	**18 36 52.4**	**+1.2**
	34nm,0.7s,baz=122,slow=16,SNR=34						
ONTNC	**Ouen Toro**	**13.89**	**255**	P	**P**	**18 36 52.5**	**+1.2**
ONTNC	**Ouen Toro**	**13.89**	**255**	P	**P**	**18 36 51.7**	**+0.4**
KOUNC	**Koumac, New Ca**	**15.74**	**263**	P	**P**	**18 37 09.7**	**+1.5**
KOUNC	**Koumac, New Ca**	**15.74**	**263**	P	**P**	**18 37 10.0**	**+1.8**
BFZ	**Birch Farm**	**21.61**	**190**	P	**P**	**18 38 00.6**	**-0.2**
BFZ				IAmb	IAmb	18 38 33.0	
	comp=Z,49nm,1.3s						
HNR	**Honiara**	**22.62**	**293**	P	**P**	**18 38 10.7**	**+0.7**
HNR	**Honiara**	**22.62**	**293**	P	**P**	**18 38 10.3**	**+0.3**
TUWZ	**Tuamarina**	**22.78**	**194**	P	**P**	**18 38 11.1**	**0.0**
MRNZ	**Matariki Terra**	**23.04**	**196**	P	**P**	**18 38 12.7**	**-0.6**
THZ	**Tophouse**	**23.34**	**195**	P	**P**	**18 38 14.5**	**-1.6**
DSZ	**Denniston Nort**	**23.62**	**197**	P	**P**	**18 38 17.5**	**-1.1**
DSZ				IAmb	IAmb	18 38 55.0	
	comp=Z,22nm,1.1s						
KHZ	**Kahutara**	**23.81**	**194**	P	**P**	**18 38 18.7**	**-1.5**
KHZ				IAmb	IAmb	18 38 29.9	
	comp=Z,37nm,1.3s						
LTZ	**Lake Taylor**	**24.46**	**196**	P	**P**	**18 38 24.6**	**-1.3**
LTZ				IAmb	IAmb	18 39 07.3	
	comp=Z,21nm,1.2s						
FOZ	**Fox Glacier**	**25.84**	**199**	P	**P**	**18 38 35.7**	**-2.2**
LBZ	**Lake Benmore**	**26.51**	**198**	P	**P**	**18 38 42.1**	**-1.7**
WKZ	**Wanaka**	**27.26**	**199**	P	**P**	**18 38 48.5**	**-1.8**
PPT	**Papeete**	**27.97**	**91**	P	**P**	**18 38 58.1**	**+1.3**
	comp=Z,18nm,0.6s,baz=61,slow=4.6,SNR=5.7						
	comp=Z,18nm,0.6s						
EIDS	**Eidsvold**	**28.25**	**252**	P	**P**	**18 38 59.0**	**0.0**
	baz=28,SNR=14						
EIDS	**Eidsvold**	**28.25**	**252**	P	**P**	**18 38 59.4**	**+0.3**
EIDS				IAmb	IAmb	18 39 00.3	
	comp=Z,19nm,0.9s						
EIDS	**Eidsvold**	**28.25**	**252**	P	**P**	**18 38 59.4**	**+0.3**
RK1H	**Rockhampton Ha**	**28.64**	**257**	P	**P**	**18 39 02.7**	**+0.2**
ARMA	**Armidale**	**28.72**	**242**	P	**P**	**18 39 04.7**	**+1.5**
	baz=29,SNR=31						
ARMA	**Armidale**	**28.72**	**242**	P	**P**	**18 39 04.8**	**+1.5**
AUPHS	**Peel High Scho**	**29.52**	**241**	P	**P**	**18 39 11.3**	**+1.4**
AULRC	**Lightning Ridg**	**31.58**	**245**	P	**P**	**18 39 27.3**	**-0.1**
AUAYR	**Ayr State High**	**31.62**	**264**	P	**P**	**18 39 29.0**	**+1.1**
AUDCS	**Dubbo College**	**31.68**	**240**	P	**P**	**18 39 29.5**	**+1.3**
CNB	**Canberra Magne**	**32.08**	**234**	P	**P**	**18 39 33.1**	**+1.4**
	baz=32,SNR=14						
TV1H	**Townsville Har**	**32.23**	**264**	P	**P**	**18 39 33.0**	**0.0**
CTA	**Charters Tower**	**32.66**	**263**	P	**P**	**18 39 36.6**	**0.0**
CTAO	**Charters Tower**	**32.66**	**263**	P	**P**	**18 39 36.9**	**+0.3**
CTAO	**Charters Tower**	**32.66**	**263**	P	**P**	**18 39 36.6**	**0.0**
CMSA	**Cobar Meteorol**	**33.94**	**242**	P	**P**	**18 39 47.9**	**+0.9**
	baz=34,SNR

	comp=Z,35nm,0.9s,comp=Z,457nm								
BBSI	**Bau Bau**	58.42	276	P	P	18 42 49.5	-1.1		
	comp=Z,41nm,0.9s								
BLDU	**Ballidu**	58.64	245	P	P	18 42 51.3	-0.5		
	baz=59,SNR=11								
BASI	**Baing, Sumba**	58.86	270	P	P	18 42 53.5	0.0		
VNDA	**Vanda**	58.94	185	P	P	18 42 54.8	+1.9		
	comp=Z,1.1nm,0.7s,baz=8.0,slow=7.0,SNR=6.3								
	comp=Z,1.1nm,0.7s								
MUN	**Mundaring**	58.95	244	P	P	18 42 54.0	+0.1		
	baz=59,SNR=3.8								
SGSI	**Sangihe**	59.12	287	P	P	18 42 53.0	-2.3		
	comp=Z,304nm,0.8s								
KMSI	**Cibinong**	59.28	283	P	P	18 42 54.8	-1.5		
	comp=Z,114nm,0.9s								
MORW	**Morawa**	59.37	247	P	P	18 42 56.3	-0.4		
	baz=59,SNR=5.8								
GTOI	**Gorontalo**	60.20	282	P	P	18 43 03.1	+0.8		
	comp=Z,13nm,1.3s								
MRSI	**Marisa**	61.12	282	P	P	18 43 07.6	-0.8		
	comp=Z,20nm,0.9s								
PLAI	**Plampang**	61.91	270	P	P	18 43 13.5	0.0		
PLAI	**Plampang**	61.91	270	P	P	18 43 12.1	-1.4		
	comp=Z,56nm,0.9s								
GIRL	**Giralia**	61.93	254	P	P	18 43 14.6	+1.1		
	baz=62,SNR=4.0								
TOLI2	**Tolitoli**	62.44	282	P	P	18 43 16.2	-0.6		
TOLI2	**Tolitoli**	62.44	282	P	P	18 43 16.9	+0.1		
TWSI	**Taliwang, Sumb**	62.78	270	P	P	18 43 18.2	-0.8		
	comp=Z,48nm,0.9s,comp=Z,558nm								
MPSI	**Mapaga**	62.96	281	P	P	18 43 19.4	-0.8		
	comp=Z,34nm,1.0s,comp=Z,391nm								
SRBI	**Singaraja**	64.55	270	P	P	18 43 29.2	-1.0		
	comp=Z,27nm,1.0s								
BKB	**Balikpapan**	65.18	278	P	P	18 43 34.0	-0.2		
	comp=Z,77nm,1.5s								
JAGI	**Jajag, Banyuwa**	65.43	269	P	P	18 43 34.2	-1.5		
JAGI				IAmb	IAmb	18 43 35.2			
	comp=Z,25nm,0.8s								
JAGI	**Jajag, Banyuwa**	65.43	269	P	P	18 43 34.4	-1.3		
JAGI	**Jajag, Banyuwa**	65.43	269	P	P	18 43 34.3	-1.5		
	comp=Z,33nm,1.0s								
KMMI	**Kalianget**	66.04	271	P	P	18 43 39.3	-0.1		
	comp=Z,21nm,1.2s								
MTKI	**Muara Teweh, K**	67.17	277	P	P	18 43 46.1	-0.3		
	comp=Z,17nm,0.5s								
PWJI	**Pagerwojo**	67.78	269	P	P	18 43 49.3	-0.8		
MJAR	**Matsushiro Arr**	68.75	324	P	P	18 43 54.8	-0.6		
	comp=Z,3.8nm,0.6s,baz=161,slow=5.0,SNR=11								
	comp=Z,3.8nm,0.6s								
UGM	**Wanagama**	69.03	269	P	P	18 43 57.3	-0.2		
UGM	**Wanagama**	69.03	269	P	P	18 43 57.4	-0.2		
	comp=Z,55nm,1.9s								
SMRI	**Semarang**	69.37	270	P	P	18 43 59.7	+0.1		
	comp=Z,64nm,0.8s								
QSPA	**South Pole Qui**	70.68	180	P	P	18 44 07.2	+0.8		
	comp=Z,16nm,0.8s,baz=46,slow=1.3,SNR=71								
	comp=Z,16nm,0.8s								
KPJI	**Karang Pucung**	70.70	269	P	P	18 44 06.4	-1.0		
	comp=Z,18nm,1.0s								
STKI	**Sintang**	70.72	277	P	P	18 44 07.7	+0.2		
SBUM	**Sibu**	70.87	280	P	P	18 44 09.1	+0.7		
KIWB	**Kanaga Island**	70.95	1	P	P	18 44 07.8	-0.1		
BBJI	**Bungbulang**	71.88	268	P	P	18 44 13.3	-1.0		
LEM	**Lembang**	72.10	269	P	P	18 44 16.0	+0.3		
	comp=Z,47nm,0.9s								
NIKH	**Nikolski High**	72.59	6	P	P	18 44 17.1	-0.2		
	baz=190								
DBJI	**Dramaga**	73.00	269	P	P	18 44 20.0	-0.7		
UNV	**Unalaska Valle**	73.72	8	P	P	18 44 22.7	-1.0		
	baz=192								
PETK	**Petropavlovsk-**	74.95	346	P	P	18 44 30.3	-0.3		
	comp=Z,8.2nm,0.8s,baz=142,slow=8.8,SNR=6.4								
	comp=Z,8.2nm,0.8s								
KSRS	**Korea Array**	75.42	319	P	P	18 44 33.9	+0.3		
	comp=Z,1.4nm,0.6s,baz=129,slow=6.2,SNR=6.2								
	comp=Z,1.4nm,0.6s								
CHNA	**Chernabura Isl**	75.76	11	P	P	18 44 35.9	+1.0		
	baz=199								
SDPT	**Sand Point**	76.09	11	P	P	18 44 36.1	-0.7		
	baz=198								
S14K	**Fog Glacier**	77.14	11	P	P	18 44 42.9	+0.2		
	baz=199								
CHGN	**Chignik**	77.37	12	P	P	18 44 43.7	0.0		
	baz=200								
SCZ2	**Santa Cruz Isl**	77.53	47	P	P	18 44 45.8	+0.6		
	baz=236								
SCI2	**San Clemente I**	77.74	48	P	P	18 44 45.0	-1.3		
	baz=237								
SAO	**San Andreas Ge**	77.88	44	IAmb	IAmb	18 44 49.4			
	comp=Z,31nm,0.9s								
PKM	**Mcpherson Peak**	77.91	46	P	P	18 44 47.3	-0.1		
	baz=236								
SMMC	**Simmler**	78.02	46	P	P	18 44 49.2	+1.4		
	baz=236								
CIS	**Catalina Islan**	78.06	48	P	P	18 44 49.5	+1.5		
	baz=237								
HOPS	**Hopland Field**	78.16	41	IAmb	IAmb	18 44 50.7			
	comp=Z,23nm,0.9s								
KCPM	**Cahto Peak**	78.26	40	IAmb	IAmb	18 44 51.6			
	comp=Z,36nm,1.1s								
FMP	**Fort Macarthur**	78.31	48	P	P	18 44 49.9	+0.6		
	baz=237								
NJ2	**Nanjing**	78.43	310	eP	P	18 44 52.4	+2.5		
NJ2				pmax	pmax				
	comp=Z,13nm,0.5s								
NJ2				pmax	pmax				
	comp=Z,310nm,4.0s								
SII	**Sitkinak Islan**	78.48	14	P	P	18 44 50.5	+0.8		
SII	**Sitkinak Islan**	78.48	14	P	P	18 44 50.1	+0.4		
	baz=204								
OSI	**Osito Audit: C**	78.50	47	P	P	18 44 51.1	+0.7		
	baz=237								
KMRM	**Mail Ridge**	78.51	40	P	P	18 44 50.9	+0.6		
KHMM	**Horse Mountain**	78.89	39	IAmb	IAmb	18 44 54.6			
	comp=Z,20nm,1.0s								
VES	**Vestal, Richgr**	78.93	46	P	P	18 44 53.8	+1.2		
	baz=236								
MURC	**Murrieta**	79.03	49	P	P	18 44 52.5	-0.6		
	baz=238								
BFSC	**Mount Baldy Ra**	79.04	48	P	P	18 44 54.8	+1.5		
	baz=237								
MDJ	**Mudanjiang**	79.06	325	P	P	18 44 55.6	+2.6		
MDJ				pmax	pmax				
	comp=Z,8.0nm,2.4s								
MDJ				pmax	pmax				
	comp=Z,190nm,5.7s								
EDW2	**Edwards Air Fo**	79.15	47	P	P	18 44 54.6	+0.8		
	baz=237,SNR=12								
MONP2	**Monument Peak**	79.21	49	P	P	18 44 54.5	+0.2		
	baz=238,SNR=6.8								
ISA	**Isabella, Lake**	79.25	46	IAmb	IAmb	18 44 56.7			
	comp=Z,30nm,1.1s								
ISA	**Isabella, Lake**	79.25	46	P	P	18 44 54.8	+0.5		
	baz=237,SNR=14								
OHAK	**Old Harbor**	79.29	14	P	P	18 44 54.0	+0.1		
	baz=205								
CMB	**Columbia Colle**	79.30	43	P	P	18 44 55.0	+0.4		
CMB				IAmb	IAmb	18 44 56.5			
	comp=Z,19nm,0.9s								
IKP	**In-Ko-Pah, Jac**	79.31	50	P	P	18 44 54.6	-0.1		
	baz=239,SNR=5.2								
AFDM	**Forest Hills D**	79.45	42	IAmb	IAmb	18 44 57.3			
	comp=Z,20nm,1.0s								
ORV	**Oroville**	79.47	42	P	P	18 44 56.0	+0.7		
ORV				IAmb	IAmb	18 44 57.4			
	comp=Z,21nm,1.1s								
PFO	**Pinyon Flats O**	79.56	49	P	P	18 44 55.7	-0.3		
	baz=238								
TPFO	**Pinon Flats**	79.56	49	P	P	18 44 55.1	-0.9		
	baz=238								
BBRC	**Big Bear Solar**	79.57	48	P	P	18 44 56.3	+0.1		
	baz=238								
LRMC	**Laurel Mtn Rad**	79.69	47	P	P	18 44 56.6	-0.1		
	baz=237								
O14K	**Tigyukauivet M**	79.69	9	P	P	18 44 57.5	+1.6		
	baz=197								
Q17K	**Contact Creek**	79.70	12	P	P	18 44 55.9	-0.3		
	baz=202,SNR=9.6								
SLBS	**Sierra La Lagu**	79.79	60	P	P	18 44 58.9	+1.5		
SLBS				IAmb	IAmb	18 45 00.2			
	comp=Z,27nm,1.0s								
RRX	**Edison Barstow**	79.84	48	P	P	18 44 57.2	-0.1		
	baz=238								
O15K	**Ungalikthiuk R**	79.84	10	P	P	18 44 57.2	+0.5		
	baz=198								
MDPB	**Devils Postpil**	79.93	44	IAmb	IAmb	18 45 00.2			
	comp=Z,29nm,1.0s								
Q16K	**King Salmon**	79.93	12	P	P	18 44 57.5	+0.3		
	baz=201								
CWC	**Cottonwood Cre**	79.94	46	P	P	18 44 58.1	+0.1		
	baz=237								
KDAK	**Kodiak Island**	79.96	14	P	P	18 44 57.8	+0.4		
	baz=205								
P16K	**Nushagak River**	80.02	11	P	P	18 44 57.3	-0.3		
	baz=200,SNR=8.5								
EMB	**Emerald Bay**	80.02	43	IAmb	IAmb	18 45 00.7			
	comp=Z,25nm,1.4s								
YBH	**Yreka Blue Hor**	80.03	39	P	P	18 44 59.2	+1.0		
YBH				IAmb	IAmb	18 45 00.8			
	comp=Z,26nm,1.1s								
BELC	**Belle Mtn. Jos**	80.09	49	P	P	18 44 58.5	-0.3		
	baz=238,SNR=5.7								
MLAC	**Mammoth, Mammo**	80.09	44	P	P	18 44 59.5	+0.6		
	baz=236								
MPMC	**Manual Prospec**	80.14	46	P	P	18 44 59.1	0.0		
	baz=237,SNR=15								
M11K	**Mekoryuk**	80.16	6	P	P	18 44 59.6	+1.3		
	baz=192								
TIN	**Tinemaha, Big**	80.17	45	P	P	18 45 00.2	+1.1		
	baz=237								
J01E	**Myrtle Point**	80.18	38	IAmb	IAmb	18 45 01.1			
	comp=Z,32nm,1.0s								
GSC	**Goldstone, Bar**	80.20	47	IAmb	IAmb	18 45 01.4			
	comp=Z,23nm,1.1s								
GSC	**Goldstone, Bar**	80.20	47	P	P	18 45 00.3	+1.0		
	baz=238,SNR=11								
N14K	**Kuskokwak Cree**	80.28	9	P	P	18 44 58.0	-0.9		
	baz=197								
HEC	**Hector,Ludlow**	80.28	48	P	P	18 45 01.2	+1.6		
	baz=238								
BC3	**Big Chuckawall**	80.30	49	P	P	18 45 00.3	+0.5		
	baz=239								
HUMO	**Hull Mountain**	80.41	38	IAmb	IAmb	18 45 02.9			
	comp=Z,26nm,1.1s								
P17K	**Kvichak River**	80.46	12	P	P	18 44 59.2	-0.7		
	baz=202,SNR=14								
QSM	**Queen of Sheba**	80.51	47	IAmb	IAmb	18 45 02.8			
	comp=Z,26nm,1.3s								
M13K	**Dall Lake**	80.52	8	P	P	18 45 00.1	0.0		
	baz=195								
O16K	**Kokwok River B**	80.53	11	P	P	18 44 60.0	-0.3		
	baz=200								
DBO	**Dodson Butte**	80.56	38	IAmb	IAmb	18 45 03.3			
	comp=Z,20nm,1.1s								
L04D	**Klamath Falls**	80.56	39	P	P	18 45 01.7	+0.6		
YERR	**Yerington**	80.58	43	P	P	18 45 01.9	+0.7		
YERR				IAmb	IAmb	18 45 03.4			
	comp=Z,33nm,1.0s								
LHV	**Little Huntoon**	80.65	44	IAmb	IAmb	18 45 04.1			
	comp=Z,34nm,1.1s								
PIX	**Pinacate**	80.70	52	IAmb	IAmb	18 45 04.1			
	comp=Z,18nm,1.0s								
GRAC	**Grapevine Rang**	80.72	46	P	P	18 45 02.4	+0.5		
	baz=237,SNR=5.2								
GMRC	**Granite Mounta**	80.73	48	P	P	18 45 01.8	-0.3		
	baz=239,SNR=8.3								
N15K	**Kwethluk River**	80.75	9	P	P	18 45 02.0	+0.7		
	baz=198								
IRM	**Iron Mountain**	80.77	49	P	P	18 45 02.3	+0.1		
	baz=239,SNR=7.1								
FURC	**Furnace Creek,**	80.78	46	P	P	18 45 03.3	+1.2		
	baz=238								
BELA	**Belgrano 2**	80.78	173	P	P	18 45 01.2	-0.3		
BELA				IAmb	IAmb	18 45 02.3			
	comp=Z,20nm,0.6s								
P18K	**Big Mountain,**	80.88	12	P	P	18 45 01.6	-0.5		
	baz=203,SNR=18								
O17K	**Koliganek Bris**	80.88	11	P	P	18 45 01.3	-0.7		
	baz=201								
NVAR	**Mina Array Bea**	80.88	44	P	P	18 45 03.9	+1.0		
	comp=Z,12nm,0.8s,baz=225,slow=8.4,SNR=84								
	comp=Z,12nm,0.8s								
SHOC	**Shoshone, Teco**	80.88	47	P	P	18 45 02.4	-0.3		
	baz=238								
TUQ	**Turquoise Moun**	80.88	48	P	P	18 45 02.9	0.0		
	baz=238								
PAHR	**Pah Rah Range**	80.90	42	IAmb	IAmb	18 45 05.0			
	comp=Z,32nm,1.1s								
NV11	**Mina Array Sit**	80.98	44	IAmb	IAmb	18 45 05.5			
	comp=Z,36nm,1.1s								
M14K	**Bethel**	81.03	8	P	P	18 45 02.7	0.0		
	baz=196,SNR=6.7								
113A	**Mohawk Valley,**	81.07	51	IAmb	IAmb	18 45 06.2			
	comp=Z,23nm,1.1s								
M15K	**Kasigluk River**	81.16	9	P	P	18 45 03.5	+0.1		
	baz=198								
N16K	**Nishlik Lake**	81.25	10	P	P	18 45 04.0	0.0		
	baz=199,SNR=18								
O18K	**Koktuh Hills**	81.31	12	P	P	18 45 04.1	-0.2		
	baz=203,SNR=24								
KVN	**Kaiserville**	81.36	43	IAmb	IAmb	18 45 07.2			
	comp=Z,32nm,1.0s								
214A	**Organ Pipe Nat**	81.37	52	IAmb	IAmb	18 45 08.1			
	comp=Z,20nm,1.0s								
214A	**Organ Pipe Nat**	81.37	52	P	P	18 45 05.9	+0.6		
	baz=241,SNR=7.0								
I04A	**Tendick Farm,**	81.45	38	IAmb	IAmb	18 45 07.2			
	comp=Z,21nm,1.1s								
NEE2	**Nes Airpor**	81.46	49	P	P	18 45 05.9	+0.3		
	baz=239								
L14K	**Kuka Creek**	81.51	8	P	P	18 45 05.4	+0.3		
	baz=196								
PDMCI	**Parker Dam,Lak**	81.56	49	P	P	18 45 06.3	+0.1		
	baz=240,SNR=7.5								
N17K	**Nushagak Hills**	81.57	11	P	P	18 45 05.1	-0.4		
	baz=201								
H04D	**Lebanon**	81.70	37	IAmb	IAmb	18 45 09.0			
	comp=Z,34nm,1.0s								
M16K	**Timber Creek**	81.74	10	P	P	18 45 07.3	+0.9		
	baz=199								
O19K	**Port Alsworth**	81.80	12	P	P	18 45 06.2	-0.4		
	baz=204								
CNPM	**China Poot**	81.84	14	IAmb	IAmb	18 45 07.9			
	comp=Z,19nm,0.8s								
UBPT	**Khong Chiam**	81.86	289	P	P	18 45 08.4	+0.5		
UBPT	**Khong Chiam**	81.86	289	P	P	18 45 08.5	+0.5		
N18K	**Kilae Creek**	81.94	11	P	P	18 45 07.1	-0.4		
	baz=202								
L15K	**Ungalak Mounta**	81.99	8	P	P	18 45 07.5	-0.1		
	baz=197,SNR=9.5								
O20K	**Slope Mountain**	82.04	13	P	P	18 45 07.3	-0.7		
	baz=205,SNR=6.1								
H04A	**Detroit Lake**	82.11	37	IAmb	IAmb	18 45 10.4			
	comp=Z,29nm,1.1s								
BRLK	**Bradley Lake**	82.14	14	IAmb	IAmb	18 45 09.2			
	comp=Z,25nm,0.8s								
BRSE	**Bradley Lake S**	82.15	14	P	P	18 45 08.0	-0.5		
	baz=207,SNR=7.3								
S11A	**Rachel**	82.16	46	IAmb	IAmb	18 45 11.3			
	comp=Z,28nm,0.9s								
Y14A	**Wickenburg**	82.20	50	IAmb	IAmb	18 45 11.7			
	comp=Z,16nm,1.0s								
L16K	**Owhat River**	82.31	9	IAmb	IAmb	18 45 11.0			
	comp=Z,22nm,1.1s								
L16K	**Owhat River**	82.31	9	P	P	18 45 09.3	0.0		
	baz=198,SNR=9.0								
N19K	**Bonanza Creek**	82.33	12	P	P	18 45 08.4	-1.1		
	baz=203								
M17K	**Holitna River**	82.34	10	P	P	18 45 10.0	+0.6		
	baz=200,SNR=12								
SVW2	**Sparrevohn**	82.39	11	P	P	18 45 10.0	+0.3		
I05D	**Terrebonne, OR**	82.39	38	IAmb	IAmb	18 45 12.3			
	comp=Z,18nm,0.9s								
K15K	**Wolf Creek Mou**	82.58	8	P	P	18 45 11.0	+0.5		
	baz=197,SNR=7.2								
R11B	**Troy Tranyon, C**	82.64	45	P	P	18 45 11.1	-0.6		
	baz=238,SNR=17								
BMN	**Battle Mountai**	82.68	43	IAmb	IAmb	18 45 13.9			
	comp=Z,28nm,0.9s								
M18K	**Stony River**	82.71	11	P	P	18 45 11.6	+0.4		
	baz=202								
J14K	**Nanvaranak Lak**	82.76	7	P	P	18 45 11.5	+0.1		
	baz=195								
SEW	**Seward**	82.77	14	P	P	18 45 11.9	+0.3		
	baz=198								
HOOD	**Mount Hood Mea**	82.80	37	IAmb	IAmb	18 45 14.1			
	comp=Z,27nm,1.1s								
NLWA	**Neilton Lookou**	82.85	34	IAmb	IAmb	18 45 14.6			
	comp=Z,28nm,1.1s								
L17K	**Donlin**	82.90	10	P	P	18 45 12.7	+0.6		
	baz=200								
WVOR	**Wild Horse Val**	82.90	40	IAmb	IAmb	18 45 15.1			
	comp=Z,27nm,1.1s								
G05A	**Wamic**	82.94	37	IAmb	IAmb	18 45 29.1			
	comp=Z,24nm,1.2s								
Q23K	**Middleton Isla**	82.95	16	P	P	18 45 14.4	+2.0		
	baz=211								
CAPN	**Captain Cook N**	82.98	13	P	P	18 45 12.5	0.0		
	baz=206								
O22K	**Cooper Landing**	83.04	14	IAmb	IAmb	18 45 19.2			
	comp=Z,23nm,0.8s								
O22K	**Cooper Landing**	83.04	14	P	P	18 45 12.4	-0.5		
	baz=208								
TUC	**Tucson**	83.05	52	P	P	18 45 15.3	+1.5		
TUC				IAmb	IAmb	18 45 16.8			
	comp=Z,25nm,1.1s								
TUC	**Tucson**	83.05	52	P	P	18 45 15.1	+1.3		
	baz=242								
GAMB	**Gambell**	83.08	3	P	P	18 45 12.7	-0.3		
	baz=187								
N20K	**Mount Spurr**	83.14	13	P	P	18 45 12.1	-1.4		
	baz=205,SNR=8.5								
P23K	**Montague Islan**	83.18	15	P	P	18 45 12.6	-1.0		
	baz=210								
L18K	**Granite Mounta**	83.24	10	P	P	18 45 14.0	+0.1		
	baz=201								
I07A	**Izee**	83.31	39	IAmb	IAmb	18 45 17.1			
	comp=Z,16nm,0.9s								
M19K	**Big River Lodg**	83.36	11	P	P	18 45 13.8	-0.7		
	baz=203,SNR=9.6								
K17K	**Iditarod**	83.44	9	P	P	18 45 14.7	-0.2		
	baz=200								
Q12A	**Willow Creek R**	83.50	45	IAmb	IAmb	18 45 18.0			
	comp=Z,20nm,1.0s								
GNW	**Green Mountain**	83.51	34	IAmb	IAmb	18 45 17.5			
	comp=Z,17nm,0.9s								
J08A	**Circle Bar Ran**	83.52	40	IAmb	IAmb	18 45 18.0			
	comp=Z,22nm,1.1s								
L19K	**White Mountain**	83.53	11	P	P	18 45 15.1	-0.2		
	baz=203								
X16A	**Lo Mia Camp, P**	83.56	50	IAmb	IAmb	18 45 19.0			
	comp=Z,19nm,1.0s								
M20K	**Styx River**	83.58	12	P	P	18 45 15.3	-0.4		
	baz=204								
RC01	**Rabbit Creek A**	83.58	14	IAmb	IAmb	18 45 16.3			
	comp=Z,21nm,1.0s								
RC01	**Rabbit Creek A**	83.58	14	P	P	18 45 15.5	-0.1		
	baz=208,SNR=7.7								
CLRS	**Cowichan Lake**	83.61	33	IAmb	IAmb	18 45 17.9			
	comp=Z,17nm,1.0s								
J16K	**Anvik River**	83.65	8	P	P	18 45 15.9	0.0		
	baz=197								
SUA	**Susitna One**	83.69	13	IAmb	IAmb	18 45 16.6			
	comp=Z,20nm,0.8s								
SUA	**Susitna One**	83.69	13	P	P	18 45 15.7	-0.6		
	baz=207,SNR=18								
CBB	**Campbell River**	83.76	32	IAmb	IAmb	18 45 18.7			
	comp=Z,31nm,1.3s								
KAIM	**Kayak Island**	83.89	17	P	P	18 45 16.8	-0.3		
	baz=213								
U15A	**North Rim**	83.93	48	IAmb	IAmb	18 45 20.7			
	comp=Z,19nm,0.8s								
L20K	**Farewell, AK**	83.98	11	P	P	18 45 16.7	-0.9		
	baz=204								
SKT	**Skwentna**	83.99	13	P	P	18 45 16.9	-0.7		
	baz=206								
TTA	**Tatalina**	84.02	10	P	P	18 45 18.8	+1.0		
TTA	**Tatalina**	84.02	10	P	P	18 45 17.3	-0.5		
	baz=208,SNR=7.8								
EYAK	**Cordova Ski Ar**	84.07	16	P	P	18 45 17.7	-0.2		
	baz=211								
CRAG	**Craig**	84.09	24	P	P	18 45 18.8	+0.7		
	baz=223								
WUAZ	**Wupatki**	84.14	49	IAmb	IAmb	18 45 21.6			
	comp=Z,19nm,1.1s								
WUAZ	**Wupatki**	84.14	49	P	P	18 45 19.3	+0.2		
	baz=241,SNR=6.0								
KNK	**Knik Glacier**	84.16	14	IAmb	IAmb	18 45 20.7			
	comp=Z,14nm,0.9s								
KNK	**Knik Glacier**	84.16	14	P	P	18 45 18.1	-0.3		
	baz=209,SNR=7.6								
PMR	**Palmer**	84.16	14	P	P	18 45 18.1	-0.2		
I17K	**Unalakleet**	84.22	8	P	P	18 45 18.6	0.0		
	baz=197								
G08A	**Pilot Rock**	84.32	38	IAmb	IAmb	18 45 21.9			
	comp=Z,24nm,1.3s								
ANM	**Nome**	84.34	6	P	P	18 45 19.0	-0.2		
	baz=193								
J18K	**Innoko River**	84.40	10	P	P	18 45 19.3	-0.2		
	baz=201,SNR=7.5								
BJI	**Beijing**	84.42	316	P	P	18 45 20.9	+0.7		
BJI				pmax	pmax				
	comp=Z,2.0nm,0.5s								
SIT	**Sitka**	84.45	22	P	P	18 45 19.8	-0.1		
	baz=221								
LTY	**Liberty**	84.50	36	IAmb	IAmb	18 45 22.0			
	comp=Z,14nm,0.9s								
SML	**Sawmill**	84.53	14	IAmb	IAmb	18 45 34.3			
	comp=Z,17nm,1.2s								
SML	**Sawmill**	84.53	14	P	P	18 45 19.5	-0.8		
	baz=209								
U33K	**Whale Pass**	84.56	24	P	P	18 45 20.3	-0.1		
	baz=223								
V35K	**Ketchikan**	84.58	25	P	P	18 45 20.4	-0.1		
	baz=224								
ENH	**Enshi**	84.62	305	P	P	18 45 21.4	0.0		
CUT	**Chulitna**	84.64	13	P	P	18 45 21.1	+0.5		
	baz=207								
M23K	**Glacier View**	84.66	14	P	P	18 45 21.3	+0.4		
	baz=210								
PPLA	**Purkeypile**	84.69	12	P	P	18 45 21.0	-0.1		
	baz=205								

baz=212,SNR=12
GRNC **Granite Creek** 85.30 17 IAmb IAmb 18 45 25.3
comp=Z,21nm,1.1s
M24K **Tolsona, Glenn** 85.30 15 P **P** **18 45 24.0 +0.1**
baz=211,SNR=6.2
H17K **Granite Mounta** 85.33 8 P **P** **18 45 23.1 -0.9**
baz=198
GLB **Gilahina Butte** 85.33 16 IAmb IAmb 18 45 25.0
comp=Z,16nm,1.1s
WAT6 **Susitna Watana** 85.35 14 P **P** **18 45 23.9 -0.4**
baz=209
D08A **Wollman Farm,** 85.35 36 IAmb IAmb 18 45 26.5
comp=Z,19nm,0.9s
WAT1 **Susitna Watana** 85.38 14 P **P** **18 45 23.0 -1.3**
baz=209
121A **Cookes Peak, D** 85.41 53 IAmb IAmb 18 45 28.0
comp=Z,14nm,1.0s
121A **Cookes Peak, D** 85.41 53 P **P** **18 45 25.1 -0.2**
baz=244
DUG **Dugway, Tooele** 85.43 45 P **P** **18 45 24.6 -0.6**
baz=240
G16K **Koyuk River** 85.46 7 P **P** **18 45 24.5 0.0**
baz=196
E09A **Wood Farm, Sta** 85.48 37 IAmb IAmb 18 45 26.8
comp=Z,19nm,1.2s
MCARA **McCarthy VSAT** 85.49 16 P **P** **18 45 25.2 +0.4**
baz=214,SNR=7.3
J20K **Nowinta River** 85.49 11 P **P** **18 45 24.2 -0.6**
baz=203
F15K **North Star Dit** 85.53 6 P **P** **18 45 24.4 -0.4**
baz=194
KTH **Kantishna Hill** 85.53 12 IAmb IAmb 18 45 24.7
comp=Z,18nm,1.3s
CHUM **Lake Minchumin** 85.56 12 P **P** **18 45 24.1 -0.9**
baz=205
TRF **Thorofare Moun** 85.57 13 IAmb IAmb 18 45 25.4
comp=Z,22nm,1.1s
TRF **Thorofare Moun** 85.57 13 P **P** **18 45 23.9 -1.4**
baz=207,SNR=11
ZAIG **Zacatecas** 85.57 64 IAmb IAmb 18 45 29.2
comp=Z,12nm,0.9s
GCSA **Galena City Sc** 85.58 9 P **P** **18 45 23.7 -1.4**
baz=201
LOGN **Logan Glacier** 85.59 18 IAmb IAmb 18 45 26.1
comp=Z,14nm,1.0s
BARN **Barnard Glacie** 85.60 17 IAmb IAmb 18 45 26.8
comp=Z,17nm,0.9s
CTG **Chitna Glacier** 85.61 17 P **P** **18 45 25.3 -0.3**
baz=215,SNR=7.1
CTGM **Chitina Glacie** 85.61 17 IAmb IAmb 18 45 26.7
comp=Z,12nm,0.8s
P29M **Windy Craggy** 85.62 20 IAmb IAmb 18 45 27.4
comp=Z,20nm,0.9s
P29M **Windy Craggy** 85.62 20 P **P** **18 45 25.5 0.0**
baz=219
H18K **Honhosa River** 85.74 9 P **P** **18 45 25.9 0.0**
baz=200
G17K **Kiwalik Mounta** 85.77 8 P **P** **18 45 25.3 -0.7**
baz=197
HARP **HAARP** 85.80 15 P **P** **18 45 25.3 -1.0**
baz=212,SNR=5.9
DHY **Denali Highway** 85.86 14 P **P** **18 45 26.2 -0.5**
baz=210,SNR=7.1
O29M **Mount Kennedy** 85.89 19 P **P** **18 45 26.3 -0.6**
baz=218
PLID **Pearl Lake** 85.95 39 IAmb IAmb 18 45 30.3
comp=Z,31nm,1.4s
I20K **Naaghedeneel** 86.01 10 IAmb IAmb 18 45 28.3
comp=Z,16nm,1.1s
I20K **Naaghedeneel** 86.01 10 P **P** **18 45 27.0 -0.1**
baz=203
MCK **McKinley** 86.10 13 P **P** **18 45 26.9 -0.7**
baz=208,SNR=12
HLID **Hailey** 86.11 41 P **P** **18 45 28.2 -0.2**
baz=239,SNR=29
C09A **Chrisman Ranch** 86.14 36 IAmb IAmb 18 45 29.8
comp=Z,22nm,1.1s
PAX **Paxson** 86.21 15 P **P** **18 45 27.2 -1.1**
baz=212
HVU **Hansel Valley** 86.25 43 IAmb IAmb 18 45 31.9
comp=Z,2nm,1.0s
P30M **Million Dollar** 86.25 20 P **P** **18 45 28.1 -0.4**
baz=219,SNR=8.4
SKAG **Skagway** 86.28 21 P **P** **18 45 29.1 +0.7**
baz=221
T35M **Bob Quinn** 86.30 24 P **P** **18 45 29.4 +0.6**
baz=225
YUK8 **Steele Glacier** 86.32 18 P **P** **18 45 29.5 +0.5**
baz=217
M26K **Nabesna, AK** 86.35 16 P **P** **18 45 29.2 +0.3**
baz=214
H19K **Roundabout Mou** 86.37 9 P **P** **18 45 28.7 -0.1**
baz=201
G18K **Tagagawik** 86.41 8 P **P** **18 45 29.4 +0.4**
baz=199
YUK6 **Outpost Mounta** 86.46 19 P **P** **18 45 28.3 -1.3**
baz=218
XLT **XiLinHaoTe** 86.47 319 *e*P **P** **18 45 33.9 +4.0**
XLT pP pP 18 47 54.4 +4.4
XLT sP sP 18 48 57.2 +1.7
XLT PP **PP** **18 49 12.1 +6.8**
XLT pmax pmax
comp=Z,6.0nm,0.6s
XLT pmax pmax
comp=Z,230nm,4.4s
YUK3 **Moose Creek** 86.52 17 P **P** **18 45 30.2 +0.4**
baz=216,SNR=18
H20K **Anotleneega Mo** 86.59 10 P **P** **18 45 30.1 +0.2**
baz=203
F17K **Baldwin Pennin** 86.60 7 P **P** **18 45 29.0 -0.8**
baz=197
M27K **Edge Creek, AK** 86.61 16 P **P** **18 45 29.9 -0.3**
baz=215
MENT **Mentasta** 86.61 15 P **P** **18 45 31.5 +1.4**
S34M **Telegraph Cree** 86.62 23 IAmb IAmb 18 45 32.4
comp=Z,16nm,1.0s
S34M **Telegraph Cree** 86.62 23 P **P** **18 45 30.7 +0.6**
baz=224,SNR=8.5
HYT **Haines Junctio** 86.63 19 IAmb IAmb 18 45 31.9
comp=Z,13nm,0.9s
HYT **Haines Junctio** 86.63 19 P **P** **18 45 30.6 +0.3**
baz=219,SNR=5.9
YUK4 **Talbot Arm** 86.69 18 P **P** **18 45 31.3 +0.6**
baz=218,SNR=9.0
Y22D **IRIS PASSCAL I** 86.74 52 P **P** **18 45 27.4 -4.1**
baz=244
Y22F **Passcal Instru** 86.74 52 P **P** **18 45 27.8 -3.7**
baz=244
L26K **Log Cabin Wild** 86.78 15 P **P** **18 45 30.6 -0.3**
baz=213
I21K **Tanana** 86.80 11 IAmb IAmb 18 45 31.4
comp=Z,21nm,1.0s
I21K **Tanana** 86.80 11 P **P** **18 45 30.2 -0.6**
baz=205,SNR=15
NEA2 **Nenana** 86.83 12 P **P** **18 45 30.0 -1.0**
baz=208,SNR=9.4
K24K **Donnelly Dome** 86.86 14 P **P** **18 45 30.7 -0.6**
baz=211,SNR=7.5
G19K **Purcell Mounta** 86.86 9 P **P** **18 45 31.0 -0.1**
baz=201
MLY **Manley** 86.89 12 P **P** **18 45 30.6 -0.8**
baz=207,SNR=9.7
MNTX **Cornudas Mount** 86.89 55 P **P** **18 45 32.2 +0.1**
baz=245
P32M **Atlin** 86.92 21 P **P** **18 45 32.4 +0.8**
baz=222
BVCY **Beaver Creek** 86.93 17 P **P** **18 45 31.8 +0.2**
baz=216
F18K **Selawik** 86.94 8 P **P** **18 45 30.6 -0.8**
baz=198
Q32M **Nakina River** 86.96 22 IAmb IAmb 18 45 33.4
comp=Z,12nm,0.9s
Q32M **Nakina River** 86.96 22 P **P** **18 45 31.1 -0.9**
baz=224,SNR=5.4
BSUT **Blindstream Ca** 86.97 45 IAmb IAmb 18 45 34.9
comp=Z,26nm,1.2s
MVCO **Mesa Verde** 86.98 49 P **P** **18 45 32.4 -0.3**
baz=243
O30N **Mendenhall** 87.03 20 IAmb IAmb 18 45 33.6
comp=Z,15nm,0.8s
O30N **Mendenhall** 87.03 20 P **P** **18 45 32.2 +0.1**
baz=220,SNR=7.8
NEW **Newport** 87.04 36 P **P** **18 45 32.1 -0.4**
baz=236
H21K **Melozitna Rive** 87.08 11 P **P** **18 45 31.7 -0.5**
baz=205,SNR=10
HDA **Harding Lake** 87.12 13 IAmb IAmb 18 45 33.3
comp=Z,18nm,0.8s
HDA **Harding Lake** 87.12 13 P **P** **18 45 32.2 -0.2**
baz=210,SNR=23
L27K **Beaver Creek,** 87.20 16 P **P** **18 45 33.3 +0.4**
baz=215
N30M **Aishikik Lake** 87.25 19 P **P** **18 45 33.2 +0.1**
baz=219
I23K **Minto, Yukon-K** 87.27 12 IAmb IAmb 18 45 33.1
comp=Z,16nm,1.4s
I23K **Minto, Yukon-K** 87.27 12 P **P** **18 45 32.2 -0.8**
baz=208,SNR=7.1
TXAR **Lajitas Array** 87.27 58 P **P** **18 45 35.5 +1.5**
comp=Z,16nm,0.9s,baz=222,slow=5.9,SNR=109
comp=Z,16nm,0.9s
COLA **College** 87.33 13 P **P** **18 45 32.2 -1.0**
COLA **College** 87.33 13 P **P** **18 45 34.4 +1.1**
COLA **College** 87.33 13 P **P** **18 45 32.6 -0.7**
baz=209
WHY **Whitehorse** 87.33 20 P **P** **18 45 35.0 +1.4**
baz=221,SNR=6.4
DLBC **Dease Lake** 87.41 23 P **P** **18 45 33.5 -0.5**
baz=225
F19K **Shaleruckik Mo** 87.41 8 P **P** **18 45 33.4 -0.2**
baz=200
SCRK **Sand Creek** 87.42 15 P **P** **18 45 33.8 -0.2**
baz=213,SNR=12
IL31 87.44 13 IAmb IAmb 18 45 34.0
comp=Z,16nm,0.9s
ILAR **Eielson Array** 87.44 13 P **P** **18 45 32.9 -1.0**
comp=Z,10nm,0.9s,baz=229,slow=5.6,SNR=84
comp=Z,10nm,0.9s
ANMO **Albuquerque** 87.46 52 P **P** **18 45 35.6 +0.6**
ANMO IAmb IAmb 18 45 36.9
comp=Z,17nm,1.2s
ANMO **Albuquerque** 87.46 52 P **P** **18 45 35.2 +0.3**
baz=244
H22K **Ishtalitna Cre** 87.55 11 P **P** **18 45 34.1 -0.3**
baz=206,SNR=18
E18K **Tukpahlearik C** 87.62 7 P **P** **18 45 34.5 -0.1**
baz=197,SNR=8.0
D17K **Noatak River** 87.62 6 P **P** **18 45 34.7 +0.1**
baz=195
M29M **Somme Creek** 87.62 18 IAmb IAmb 18 45 36.3
comp=Z,19nm,0.9s
M29M **Somme Creek** 87.62 18 P **P** **18 45 34.8 -0.1**
baz=218,SNR=18
POKR **Poker Plat Res** 87.63 13 IAmb IAmb 18 45 34.7
comp=Z,12nm,0.8s
POKR **Poker Plat Res** 87.63 13 P **P** **18 45 33.8 -1.0**
baz=210
ELIB **Princess Elisa** 87.64 187 *d*P **P** **18 45 34.8 -0.3**
J25K **Salcha River,** 87.64 14 IAmb IAmb 18 45 35.4
comp=Z,11nm,0.8s
J25K **Salcha River,** 87.64 14 P **P** **18 45 34.1 -0.8**
baz=212
P33M **Teslin, Yukon** 87.68 21 P **P** **18 45 35.1 -0.1**
baz=223,SNR=7.5
R33M **Jennings River** 87.74 22 P **P** **18 45 36.2 +0.7**
baz=225
G21K **Allakaket** 87.75 10 P **P** **18 45 35.7 +0.4**
baz=204
AHID **Auburn Hatcher** 87.81 43 IAmb IAmb 18 45 39.2
comp=Z,18nm,0.9s
BILL **Bilibino** 87.83 355 P **P** **18 45 35.3 -0.3**
HHC **Hu-ho-hao-te** 87.89 315 *e*P **P** **18 45 37.5 +0.8**
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,140nm,5.0s
F20K **Avaraart Lake** 87.90 9 P **P** **18 45 35.8 -0.1**
baz=202
K27K **Chicken** 87.94 15 P **P** **18 45 36.4 +0.2**
baz=215
J26L **Joseph Creek** 87.97 15 P **P** **18 45 36.7 +0.3**
baz=213
C16K **Lisburne Hills** 87.97 5 P **P** **18 45 37.1 +0.8**
baz=193
E19K **Redstone River** 88.07 8 IAmb IAmb 18 45 37.7
comp=Z,13nm,0.9s
E19K **Redstone River** 88.07 8 P **P** **18 45 36.5 -0.3**
baz=200,SNR=14
H24K **Noodor Dome** 88.17 12 P **P** **18 45 36.3 -1.0**
baz=209
M30M **Minto, Yukon** 88.21 18 P **P** **18 45 37.5 0.0**
baz=219,SNR=33
L29M **L29M** 88.24 17 P **P** **18 45 37.8 +0.1**
baz=218
TPAW **Teton Pass** 88.26 42 IAmb IAmb 18 45 39.8
comp=Z,17nm,1.0s
N32M **Quiet Lake** 88.28 20 P **P** **18 45 38.5 +0.5**
baz=223
C17K **DeLong Mountai** 88.36 6 P **P** **18 45 38.3 +0.2**
baz=195
PRP **Porcupine Dome** 88.38 13 IAmb IAmb 18 45 40.1
comp=Z,11nm,1.0s
PRP **Porcupine Dome** 88.38 13 P **P** **18 45 38.7 +0.3**
baz=211,SNR=7.3
F21K **Alatna River** 88.41 10 P **P** **18 45 38.0 -0.4**
baz=204
O20A **White River Ci** 88.48 46 P **P** **18 45 39.2 -0.3**
baz=243,SNR=6.3
MOOW **Moose Ponds** 88.51 42 IAmb IAmb 18 45 41.7
comp=Z,16nm,1.4s
G23K **Bananza Creek** 88.53 11 P **P** **18 45 38.6 -0.4**
baz=207
LOHW **Long Hollow** 88.54 43 IAmb IAmb 18 45 41.7
comp=Z,12nm,1.1s
M31M **Drury Creek, Y** 88.65 19 P **P** **18 45 39.4 -0.2**
baz=222,SNR=7.3
DAWY **Dawson** 88.66 16 IAmb IAmb 18 45 40.7
comp=Z,15nm,0.9s
DAWY **Dawson** 88.66 16 P **P** **18 45 39.6 0.0**
baz=217,SNR=16
C18K **Utukok River** 88.73 6 P **P** **18 45 40.2 +0.3**
baz=197
I26K **Coal Creek Min** 88.74 14 IAmb IAmb 18 45 41.0
comp=Z,21nm,1.1s
I26K **Coal Creek Min** 88.74 14 P **P** **18 45 39.7 -0.2**
baz=214,SNR=18
SAND **Sanderson** 88.75 58 IAmb IAmb 18 45 42.5
comp=Z,8.8nm,0.9s
EGAK **Eagle** 88.78 15 IAmb IAmb 18 45 41.0
comp=Z,18nm,1.0s
EGAK **Eagle** 88.78 15 P **P** **18 45 39.8 -0.2**
baz=215,SNR=8.6
MNHN **Monahans** 88.79 56 IAmb IAmb 18 45 42.7
comp=Z,11nm,0.9s
LL02 **Futaleuf** 88.79 136 P **P** **18 45 41.8 +1.0**
LL02 IAmb IAmb 18 45 43.2
comp=Z,14nm,0.8s
YFT **Old Faithful** 88.79 42 IAmb IAmb 18 45 44.3
comp=Z,14nm,1.0s
BW06 **Boulder Array** 88.81 44 P **P** **18 45 40.4 -0.7**
baz=242,SNR=10.0
PD31 **Pinedale Array** 88.81 44 IAmb IAmb 18 45 42.5
comp=Z,14nm,0.9s
PDAR **Pinedale Array** 88.81 44 P **P** **18 45 41.4 +0.3**
comp=Z,12nm,0.9s,baz=207,slow=3.0,SNR=38
PDAR PP **PP** **18 49 20.7 -3.1**
comp=Z,2.4nm,1.1s,baz=242,slow=5.9,SNR=8.6
comp=Z,12nm,0.9s
CMAR **Chiang Mai Arr** 88.84 290 P **P** **18 45 42.7 +1.3**
comp=Z,2.1nm,0.9s,baz=120,slow=2.7,SNR=17
CMAR PP **PP** **18 49 25.0 +0.8**
comp=Z,1.0nm,1.0s,baz=127,slow=5.1,SNR=4.6
comp=Z,2.1nm,0.9s
TROLL **Troll, Antarti** 88.84 180 ⇑P **P** **18 45 40.4 -0.2**
comp=Z,415nm,0.5s
BOZ **Bozeman (W)** 88.86 40 IAmb IAmb 18 45 43.2
comp=Z,17nm,1.1s
BOZ **Bozeman (W)** 88.86 40 P **P** **18 45 41.8 +0.7**
baz=241,SNR=5.8
H17A **Grant Village** 88.93 42 IAmb IAmb 18 45 44.8
comp=Z,15nm,1.0s
H17A **Grant Village** 88.93 42 P **P** **18 45 42.8 +1.1**
baz=241,SNR=9.5
SMCO **Snowmass** 88.93 48 IAmb IAmb 18 45 43.8
comp=Z,19nm,1.2s
D19K **Kuna River** 88.94 8 P **P** **18 45 40.0 -0.8**
baz=200
CHTO **Chiang Mai** 88.96 290 P **P** **18 45 41.2 -0.8**
CHTO **Chiang Mai** 88.96 290 P **P** **18 45 43.2 +1.2**
COLD **Coldfoot** 88.96 11 P **P** **18 45 40.7 -0.2**
baz=207,SNR=23
H25L **Birch Creek** 88.96 13 P **P** **18 45 40.7 -0.2**
baz=211
E20K **Nigu River** 88.97 8 P **P** **18 45 40.6 -0.4**
baz=202
K29M **Barlow Dome** 88.99 17 IAmb IAmb 18 45 42.6
comp=Z,16nm,0.9s
K29M **Barlow Dome** 88.99 17 P **P** **18 45 40.9 -0.3**
baz=219
FARO **Faro, Yukon** 89.00 20 P **P** **18 45 41.3 +0.1**
baz=222
G24K **Hadweenzic Riv** 89.00 12 P **P** **18 45 41.4 +0.3**
baz=210
WTLY **Watson Lake, Y** 89.03 23 P **P** **18 45 41.9 +0.5**
baz=226
SNAA **Sanae** 89.15 179 ⇑P **P** **18 45 40.9 -1.1**
comp=Z,90nm,0.7s
SNAA **Sanae** 89.15 179 P **P** **18 45 41.7 -0.2**
comp=Z,1.5nm,0.3s,baz=137,slow=4.9,SNR=11
comp=Z,1.5nm,0.3s
VNA3 **Neumayer Olymp** 89.31 177 ⇑P **P** **18 45 42.2 -0.5**
comp=Z,27nm,0.7s
D20K **Etivluk River** 89.33 8 P **P** **18 45 42.7 +0.1**
baz=201
G25K **Bearman Lake** 89.33 12 P **P** **18 45 43.3 +0.7**
baz=211
PZH **PanZhiHua** 89.34 298 P **P** **18 45 45.4 +1.6**
PZH pmax pmax
comp=Z,7.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,4.4s
C19K **Lookout Ridge** 89.34 7 IAmb IAmb 18 45 43.9
comp=Z,15nm,0.9s
C19K **Lookout Ridge** 89.34 7 P **P** **18 45 42.8 +0.1**
baz=198
I27K **Kandik River** 89.35 15 P **P** **18 45 42.6 -0.2**
baz=215
B18K **Kokolik River** 89.36 6 P **P** **18 45 43.2 +0.6**
baz=196
SDCO **Great Sand Dun** 89.36 49 P **P** **18 45 43.4 -0.4**
baz=245
E21K **Killik River** 89.45 9 P **P** **18 45 42.8 -0.3**
baz=204
E22K **Anaktuvuk Pass** 89.50 10 P **P** **18 45 43.5 +0.1**
baz=206
I28M **Miner Creek** 89.63 15 P **P** **18 45 43.9 -0.2**
baz=216
F24K **Squaw Lake** 89.64 11 P **P** **18 45 44.4 +0.3**
baz=209
VNA2 **Neumayer--Watz** 89.74 177 ⇑P **P** **18 45 44.3 -0.3**
comp=Z,11nm,0.6s,baz=200,slow=3.7
E23K **Chandalar** 89.81 11 P **P** **18 45 45.5 +0.6**
baz=208
MSTX **Muleshoe** 89.83 54 P **P** **18 45 45.8 0.0**
baz=246
H27K **Steamboat Moun** 89.88 14 P **P** **18 45 45.8 +0.5**
baz=215,SNR=9.4
J30M **Hart River** 89.89 17 P **P** **18 45 45.2 -0.2**
baz=220
T25A **Trinidad** 89.89 50 IAmb IAmb 18 45 47.7
comp=Z,9.3nm,1.1s
T25A **Trinidad** 89.89 50 P **P** **18 45 46.7 +0.5**
baz=245
MMPY **Sheldon Lake,** 89.95 20 IAmb IAmb 18 45 47.2
comp=Z,9.8nm,1.0s
MMPY **Sheldon Lake,** 89.95 20 P **P** **18 45 46.1 +0.5**
baz=224,SNR=9.9
VNA1 **Neumayer--Stat** 89.97 177 ⇑P **P** **18 45 44.4 -1.3**
comp=Z,26nm,0.9s
G26K **Porcupine Rive** 89.98 13 P **P** **18 45 46.5 +0.9**
baz=213
C21K **Knifeblade Rid** 90.00 8 P **P** **18 45 46.1 +0.5**
baz=203
D22K **Ayikyak River** 90.05 9 P **P** **18 45 46.3 +0.4**
baz=205
RLMT **Red Lodge** 90.10 42 IAmb IAmb 18 45 49.1
comp=Z,11nm,1.1s
RLMT **Red Lodge** 90.10 42 P **P** **18 45 47.6 +0.7**
baz=242
Q24A **Divide** 90.12 48 P **P** **18 45 47.8 +0.5**
baz=245
F25K **Christian Rive** 90.14 12 P **P** **18 45 47.2 +0.8**
baz=211
ISCO **Idaho Springs** 90.15 48 P **P** **18 45 47.2 -0.2**
baz=245
TGTN **Hyland Airport** 90.19 22 P **P** **18 45 47.3 +0.6**
baz=227
833A **Chaparral WMA,** 90.33 60 P **P** **18 45 48.5 +0.4**
baz=248
I30M **Mount Dempster** 90.37 17 P **P** **18 45 47.5 -0.1**
baz=220
D23K **Nanushuk River** 90.44 10 P **P** **18 45 48.2 +0.5**
baz=207
B21K **Ikpikpuk River** 90.45 8 P **P** **18 45 48.2 +0.6**
baz=203
B20K **Meade River** 90.48 7 P **P** **18 45 48.8 +1.0**
baz=201
F26K **Sheenjek River** 90.53 13 P **P** **18 45 48.8 +0.6**
baz=213
E25K **Arctic Village** 90.61 12 P **P** **18 45 48.8 +0.2**
baz=211
GO06 **Curarrehue** 90.61 133 P **P** **18 45 50.9 +1.4**
GO06 IAmb IAmb 18 45 51.5
comp=Z,17nm,1.2s
H29M **Whitestone** 90.64 15 P **P** **18 45 48.5 -0.2**
baz=218
KOTAN **Kotaneelee Air** 90.82 24 P **P** **18 45 49.7 0.0**
baz=231
RTBA **Rita Blanca** 90.83 52 IAmb IAmb 18 45 51.4
comp=Z,12nm,1.0s
D24K **Happy Valley** 90.91 10 P **P** **18 45 49.9 0.0**
baz=208
EGMT **Eagleton** 91.15 39 IAmb IAmb 18 45 53.0
comp=Z,9.3nm,1.1s
EGMT **Eagleton** 91.15 39 P **P** **18 45 50.5 -1.1**
baz=242
EPYK **Eagle Plains** 91.17 16 IAmb IAmb 18 45 51.9
comp=Z,9.3nm,0.9s
EPYK **Eagle Plains** 91.17 16 P **P** **18 45 50.9 -0.3**
baz=219,SNR=7.8
C23K **Itkillik River** 91.23 9 P **P** **18 45 51.1 -0.1**
baz=207
H31M **Peel River** 91.37 17 P **P** **18 45 51.8 -0.3**
baz=222
F28M **Old Crow** 91.39 14 P **P** **18 45 51.8 -0.3**
baz=217
C24K **Franklin Bluff** 91.44 10 P **P** **18 45 52.7 +0.5**
baz=208
EDM **Edmonton** 91.70 33 IAmb IAmb 18 45 55.5
comp=Z,5.2nm,0.8s
ABTX **Abilene, Hawle** 91.73 56 P **P** **18 45 54.1 -0.5**
baz=248
G30M **tAoh Zraii Nji** 91.77 16 P **P** **18 45 53.7 -0.2**
baz=220
A21K **Barrow** 91.78 7 P **P** **18 45 53.7 -0.1**
baz=201
G31M **Satah River** 92.23 16 P **P** **18 45 55.6 -0.3**
baz=222,SNR=11
C26K **Camden Bay** 92.27 11 P **P** **18 45 56.1 +0.1**
baz=212
F30M **Barrier River** 92.36 15 P **P** **18 45 56.3 -0.2**
baz=220
E29M **Blow River** 92.46 14 P **P** **18 45 57.4 +0.4**
baz=218
D27M **Malcolm River** 92.48 13 P **P** **18 45 57.1 0.0**
baz=216
435B **Jarrell** 92.69 58 P **P** **18 45 57.5 -1.4**
baz=249
LAO **LASA Array** 92.70 41 P **P** **18 45 57.6 -1.1**
baz=244
F31M **Tsiigehtchic** 92.75 16 P **P** **18 45 57.8 -0.5**
baz=222,SNR=11
D28M **Stokes Point** 93.02 13 P **P** **18 45 59.3 -0.1**
baz=218
RSSD **Black Hills** 93.02 44 P **P** **18 45 59.0 -1.4**
baz=246
WMOK **Wichita Mounta** 93.17 54 P **P** **18 45 59.3 -1.8**
baz=249
WHTX **Lake Whitney,** 93.22 57 P **P** **18 46 00.5 -0.8**
baz=249
INK **Inuvik** 93.45 15 IAmb IAmb 18 46 01.9
comp=Z,9.1nm,1.1s
INK **Inuvik** 93.45 15 P **P** **18 46 01.1 -0.3**
baz=222,SNR=5.9
SONM **Songino Array** 94.28 319 PP **PP** **18 49 58.2 -7.5**
comp=Z,0.4nm,0.4s,baz=104,slow=6.3,SNR=4.6
DGMT **Dagmar** 94.69 40 P **P** **18 46 08.6 +1.0**
baz=246
YKA **Yellowknife Ar** 95.91 25 P **P** **18 46 12.4 -0.3**
comp=Z,1.1nm,0.8s,baz=244,slow=4.2,SNR=12
comp=Z,1.1nm,0.8s
A36M **Sachs Harbour** 98.04 15 P **P** **18 46 23.1 +1.0**
baz=230
SCIA **State Center** 99.67 49 P **Pdif** **18 46 30.4 +0.4**
baz=253

SPMN	Marine on St. baz=254	100.92	46	P		Pdif	18 46 36.9	+1.5
BRAL	Brewton baz=254	101.40	61	P		Pdif	18 46 38.4	+0.5
LRAL	Lakeview Retre baz=255	101.94	59	P		Pdif	18 46 41.6	+1.3
JFWS	Jewell Farm baz=255	102.06	49	P		Pdif	18 46 42.1	+1.5
WVT	Waverly baz=255	102.09	56	P		Pdif	18 46 41.8	+0.9
HDIL	Hopedale baz=255	102.13	51	P		Pdif	18 46 42.3	+1.3
EYMN	Ely baz=255	102.52	43	P		Pdif	18 46 43.8	+1.3
L44A	Lake County Fo baz=256	103.55	50	P		Pdif	18 46 48.3	+1.1
SFIN	Lafayette baz=256	103.71	52	P		Pdif	18 46 49.2	+1.2
WCI	Wyandotte Cave baz=256	103.81	54	P		Pdif	18 46 49.5	+1.0
GOGA	Godfrey baz=256	104.90	59	P		PKiKP	18 51 05.0	+1.0
O48B	Farmland baz=257	105.13	52	P		PKiKP	18 51 04.9	+0.6
P49A	Miami Univ. Ec baz=257	105.30	53	P		PKiKP	18 51 05.5	+0.9
DWPF	Disney Wildern baz=256	105.35	65	P		PKiKP	18 51 05.4	+0.4
GLMI	Grayling baz=259	106.46	48	P		PKiKP	18 51 08.0	+1.4
KMSC	Kings Mountain baz=258	107.01	58	P		PKiKP	18 51 08.7	+0.8
P52A	Corning baz=259	107.28	53	P		PKiKP	18 51 08.4	+0.2
O53A	New Philadelph baz=260	108.09	53	P		PKiKP	18 51 10.8	+1.1
BLA	Blacksburg baz=259	108.14	56	P		PKiKP	18 51 10.6	+0.5
M53A	WI Miller and baz=260	108.69	52	P		PKiKP	18 51 11.4	+0.6
MCWV	Mont Chateau baz=260	109.02	54	P		PKiKP	18 51 12.0	+0.4
ZALV	Zalesovo Beam comp=Z,1.0nm,0.5s,baz=121,slow=2.0,SNR=7.3	109.02	322	PKiKP		PKiKP	18 51 09.8	-1.3
MKAR	Makanchi Array comp=Z,1.4nm,0.7s,baz=67,slow=1.6,SNR=18	109.73	314	PKiKP		PKiKP	18 51 11.5	-1.2
MKAR	comp=Z,0.3nm,0.4s,baz=302,slow=2.7,SNR=7.2			PKKPbc		PKKPbc	19 02 18.1	-1.0
BINY	Binghamton baz=264	112.27	51	P		PKiKP	18 51 18.0	+0.4
KURBB	Kurchatov Arra comp=Z,1.8nm,0.7s,baz=98,slow=1.9,SNR=24	112.58	318	PKiKP		PKiKP	18 51 16.6	-1.3
KURBB	comp=Z,0.4nm,0.4s,baz=273,slow=4.1,SNR=8.0			PKKPbc		PKKPbc	19 02 09.3	-0.7
LONY	Lake Ozonia baz=266	113.52	49	P		PKiKP	18 51 20.1	+0.2
PAL	Palisades baz=264	113.69	53	P		PKiKP	18 51 20.1	-0.2
L61B	Northampton baz=266	114.73	51	P		PKiKP	18 51 22.6	+0.2
LBNH	Lisbon baz=267	115.39	50	P		PKPdf	18 51 23.5	-0.1
HRV	Adam Dziewonsk baz=267	115.56	51	P		PKiKP	18 51 24.5	+0.6
M65A	Busby, Falmout baz=267	116.19	53	P		PKiKP	18 51 25.6	+0.5
PKME	Peaks-Kenny Pk baz=270	117.30	48	P		PKiKP	18 51 27.4	+0.2
BVAR	Borovoye Array comp=Z,2.9nm,0.3s,baz=62,slow=1.1,SNR=33	117.61	320	PKP		PKPdf	18 51 26.5	-1.1
BRVK	Borovoye	117.67	320			PKPdf	18 51 26.4	-1.2
KK31	Karatay Array	117.80	309			PKPdf	18 51 27.4	-0.8
SPITS	Spitsbergen Ar comp=Z,1.8nm,0.4s,baz=109,slow=4.5,SNR=32	120.60	356	PKP		PKPdf	18 51 32.2	-0.7
ARU	Arti	123.74	326			PKPdf	18 51 38.1	-1.1
ABKAR	Akbulak array	124.62	317			PKPdf	18 51 40.1	-1.0
BOSA	Boshof comp=Z,2.4nm,0.8s,baz=63,slow=4.5,SNR=3.6	126.83	207	PKP		PKiKP	18 51 46.9	0.0
GEYT	Alibeck comp=Z,2.1nm,0.8s,baz=46,slow=4.2,SNR=3.9	127.37	303	PKP		PKPdf	18 51 46.5	-0.3
ARCES	ARCESS Array B comp=Z,4.0nm,0.6s,baz=23,slow=0.7,SNR=29	127.65	349	PKP		PKPdf	18 51 45.6	-0.7
FINES	FINESS Array B comp=Z,1.4nm,0.3s,baz=96,slow=1.6,SNR=17	134.43	343	PKP		PKPdf	18 51 59.2	-0.2
FINES	comp=Z,2.7nm,0.9s,baz=8.1,slow=4.0,SNR=4.0			SKPbc		SKPbc	18 54 27.1	-1.2
RCBR	Riachuelo comp=Z,3.2nm,0.8s,baz=198,slow=3.2,SNR=3.7	135.89	121	PKP		PKPdf	18 52 03.5	0.0
NB2	NORSAR Subarra comp=Z,1.1nm,0.8s,baz=16,slow=3.3	137.76	353	PKP		PKPpre	18 51 55.4	
NOA	NORSAR Array B comp=Z,1.9nm,0.9s,baz=21,slow=3.8,SNR=5.1	137.76	353	PKhKP		PKPpre	18 51 55.3	
NOA	comp=Z,1.0nm,0.6s,baz=13,slow=4.1,SNR=4.2			PKP		PKPdf	18 52 06.3	+0.7
HFS	Hagfors comp=Z,1.4nm,0.3s,baz=30,slow=2.3,SNR=19	138.29	350	PKhKP		PKPpre	18 51 57.1	
RAYN	Ar Rayn	138.48	284			PKPdf	18 52 08.1	0.0
STRU	Stroemstad	139.71	352	*i* P		PKPpre	18 52 02.4	
TJOU	Tjoern	140.62	351	*i* P		PKPpre	18 52 03.8	
BORU	Boraas	140.82	350	*i* P		PKPpre	18 52 03.9	
ONAU	Onsala	141.18	351	*i* P		PKPpre	18 52 05.7	
BLEU	Blekinge	141.49	347	*i* P		PKPdf	18 52 06.7	-5.6
AKASG	Malin Array Be comp=Z,1.1nm,0.3s,baz=42,slow=4.0,SNR=23	141.57	331	PKhKP		PKPpre	18 52 07.5	
AKASG	comp=Z,0.3nm,0.4s,baz=41,slow=1.9,SNR=5.8			SKPbc		SKPbc	18 54 47.0	-1.7
KIEV	Kiev	141.59	331	⇑P		PKPpre	18 52 06.5	
KIEV	Kiev	141.59	331			PKPpre	18 52 07.1	
DEL	Delary	141.73	348	*i* P		PKPdf	18 52 08.1	-4.7
BJUU	Bjuv	142.26	349	*i* P		PKPdf	18 52 09.9	-3.8
LUNU	Lund	142.60	348	*i* P		PKPdf	18 52 11.0	-3.3
BSD	Bornholm Skovb	142.79	347	*e*P		PKPdf	18 52 12.2	-2.5
BSD	comp=Z,59nm,1.2s			IAmb		IAmb	18 52 17.4	
LODK	Lodwar	142.87	249			PKPdf	18 52 14.5	-1.7
SORM	Soroca	143.75	329	⇓P		PKPbc	18 52 15.4	-0.7
EKA	Eskdalemuir Ar comp=Z,4.3nm,0.7s,baz=356,slow=3.2,SNR=12	143.97	4	PKP		PKPbc	18 52 15.7	-0.9
MILM	Milestii Mici	144.33	327	⇑P		PKPdf	18 52 17.4	-0.2
BSEG	Bad Segeberg baz=19,slow=2.5	144.77	350	*e*PKPbc		PKPbc	18 52 18.9	-0.1
BR131	Keskin Array S	145.38	313			PKPdf	18 52 19.6	-0.3
BRTR	Keskin Array B	145.38	313			PKPdf	18 52 19.9	0.0
BRTR	Keskin Array B comp=Z,5.2nm,0.6s,baz=132,slow=3.7,SNR=13	145.38	313	PKPbc		PKPbc	18 52 20.7	-0.8
BURAR	Bucovina Array	145.62	331	⇓P		PKPbc	18 52 22.2	+0.4
TESR	Tescani	145.71	328	⇑P		PKPbc	18 52 21.3	-0.7
OJC	Ojcow	145.77	338	*e*PKP		PKPbc	18 52 21.8	-0.3
CFR	Carcaliu	145.82	325	⇑P		PKPdf	18 52 20.3	+0.1
TPGR	Topolog	145.87	324	⇑P		PKPdf	18 52 21.3	+0.9
KOLS	Kolonicke sedl	145.90	335	*e*PKP		PKPbc	18 52 23.5	+1.1
ANTO	Ankara	145.90	314	⇑P		PKPbc	18 52 22.4	-0.4
ANTO	Ankara	145.90	314			PKPdf	18 52 21.0	+0.3
RETH	Rethem/Aller, baz=19,slow=2.5	146.07	351	*e*PKPbc		PKPbc	18 52 22.4	-0.3
FLTG	Flechtingen baz=19,slow=2.5	146.15	349	*e*PKPbc		PKPbc	18 52 22.7	-0.3
NRDL	Niedersach Rie baz=19,slow=2.5	146.19	350	*e*PKPbc		PKPbc	18 52 22.8	-0.2
CRVS	Cervenica-Dubn	146.24	335	*e*PKP		PKPab	18 52 27.0	+0.8
KSP	Ksiaz	146.34	342	*e*PKP		PKPbc	18 52 23.8	+0.3
TURR	Turia	146.34	328	⇑P		PKPbc	18 52 23.1	-0.6
BMR	Baia Mare	146.36	332	⇑P		PKPbc	18 52 23.2	-0.5
MMAI	Mount Meron Ar comp=Z,9.2nm,0.6s,baz=69,slow=4.6,SNR=27	146.42	301	PKPbc		PKPbc	18 52 24.8	+0.4
ASSE	Asse, Remlinge baz=19,slow=2.5	146.45	349	*e*PKPbc		PKPbc	18 52 23.9	+0.2
BOSR	Bodos	146.51	328	⇓P		PKPbc	18 52 24.2	0.0
OSTC	Ostas	146.62	342	*e*PKP		PKPbc	18 52 25.2	+0.9
CHVC	Chvalec	146.64	342	*e*PKP		PKPbc	18 52 25.2	+0.8
DOPR	Dopca	146.72	328	⇑P		PKPbc	18 52 25.0	+0.3
UPC	Upice	146.72	342	*e*PKP		PKPbc	18 52 24.8	+0.2
CLL	Collm comp=Z,39nm,0.8s	146.76	346	⇑*i*PKPbc		PKPbc	18 52 24.5	-0.1
CLL	comp=Z,18nm,0.9s			⇓*i*PKPab		PKPab	18 52 27.9	-0.2
CLL				*e*pPKPdf		pPKPab	18 54 54.0	+0.9
CLL				*e*pPKiKP		pPKiKP	18 54 59.0	+1.4
CLL	Collm baz=19,slow=2.5	146.76	346	*e*PKPbc		PKPbc	18 52 24.6	-0.1
DPC	Dobruska-Polom	146.77	342	*e*PKP		PKPbc	18 52 25.2	+0.4
CLZ	Clausthal baz=19,slow=2.5	146.78	349	*e*PKPbc		PKPbc	18 52 24.9	+0.1
KRLC	Kraliky	146.88	341	*e*PKP		PKPbc	18 52 25.3	+0.2
MORC	Moravsky Berou	146.91	340	⇑P		PKPbc	18 52 25.7	+0.5
MORC	Moravsky Berou	146.91	340	*e*PKP		PKPbc	18 52 25.0	-0.2
BRG	Berggiesshubel	146.94	345	⇑*i*PKP		PKPbc	18 52 25.1	0.0
BRG				Amp			18 52 26.2	
BRG	comp=Z,16nm,0.8s Berggiesshubel	146.94	345	P		PKPab	18 52 29.4	+0.5
BRG	comp=Z,10nm,0.9s			Amp			18 52 29.7	
BRG	Berggiesshubel baz=19,slow=2.5	146.94	345	*e*PKPbc		PKPbc	18 52 25.2	0.0
PVCC	Panska Ves	147.10	344	*e*PKP		PKPbc	18 52 26.2	+0.6
NEUB	Neuenburg baz=19,slow=2.5	147.11	347	*e*PKPbc		PKPbc	18 52 25.7	+0.1
MAUC	Maruska	147.17	340	*e*PKP		PKPbc	18 52 26.5	+0.7
VOIR		147.26	328	⇑P		PKPbc	18 52 26.6	+0.3
MARR	Marisel-Cluj	147.28	331	⇓P		PKPbc	18 52 26.0	-0.3
HSKC	Hora Svate Kat	147.31	345	*e*PKP		PKPbc	18 52 26.3	+0.2
ARR	Arges	147.52	328	⇓P		PKiKP	18 52 27.9	-0.4
VYHS	Vyhne	147.57	338	*e*PKP		PKPbc	18 52 27.0	+0.2
PRU	Pruhonice	147.60	344	*e*PKP		PKPbc	18 52 27.0	+0.2
GOPC	GO Pecny, Ondr	147.60	343	*e*PKP		PKPbc	18 52 27.1	+0.2
VRAC	Vranov	147.62	341	⇓P		PKPbc	18 52 26.9	0.0
VRAC	Vranov	147.62	341	*e*PKP		PKPbc	18 52 26.8	-0.1
JAVC	Velka Javorina	147.66	339	*e*PKP		PKiKP	18 52 27.9	-0.6
MOX	Moxa baz=19,slow=2.5	147.68	347	*e*PKPbc		PKPbc	18 52 26.7	-0.3
KASTN	Kahler Asten baz=19,slow=2.5	147.71	351	*e*PKPbc		PKPbc	18 52 27.0	-0.2
TANN	Tannenbergstha baz=19,slow=2.5	147.71	346	*e*PKPbc		PKPbc	18 52 27.3	+0.1
PLN	Plauen baz=19,slow=2.5	147.72	347	*e*PKPbc		PKPbc	18 52 27.0	-0.1
NKC	Novy Kostel	147.89	346	*e*PKP		PKPbc	18 52 28.0	+0.4
KRUC	Moravsky	147.89	341	*e*PKP		PKPbc	18 52 27.4	-0.2
HUMR	Humele	147.93	327	⇓P		PKPbc	18 52 27.3	-0.5
ZVC	Zvikov	148.19	344	*e*PKP		PKPbc	18 52 28.8	+0.4
MANZ	Manzenberg baz=19,slow=2.5	148.20	346	*e*PKPbc		PKPbc	18 52 28.6	+0.2
MODS	Modra-Piesok	148.21	339	*e*PKP		PKPbc	18 52 29.0	+0.5
SIRR	Siria	148.24	332	⇑P		PKPdf	18 52 25.3	+1.0
GZR	Gura Zlata	148.40	330	⇓P		PKPdf	18 52 24.6	0.0
SURR	Surduc	148.43	331	⇓P		PKPbc	18 52 28.8	-0.3
MEM	Membach	148.59	354	*d*PKPdf		PKPdf	18 52 24.4	-0.2
MEM				*d*PKP		PKPbc	18 52 29.4	+0.1
BTNL	Ternell	148.59	354	*d*PKP		PKPbc	18 52 29.3	-0.1
KHC	Kasperske Hory	148.64	344	*e*PKP		PKPbc	18 52 29.7	+0.2
BSTI	Sart Tilman	148.65	354	*d*PKP		PKPbc	18 52 29.5	0.0
TNS	Taunus Mts baz=19,slow=2.5	148.66	351	*e*PKPbc		PKPbc	18 52 29.6	+0.1
CKRC	Cesky Krumlov	148.72	343	*e*PKP		PKPbc	18 52 29.9	+0.2
BZS	Buzias	148.76	332	⇓P		PKPbc	18 52 29.0	-0.8
WET	Wettzell baz=19,slow=2.5	148.80	345	*e*PKPbc		PKPbc	18 52 30.0	+0.1
BHOU	Houvegnez	148.84	354	*d*PKP		PKPbc	18 52 30.3	+0.4
BHOU				*d*PKPab		PKPab	18 52 36.6	-0.1
BCLA	Clavier	148.84	355	*d*PKP		PKPbc	18 52 29.7	-0.2
BCLA				*d*PKPab		PKPab	18 52 36.1	-0.6
GEC2	GERESS Array S baz=19,slow=2.5	148.87	344	*e*PKPbc		PKPbc	18 52 30.0	-0.2
GERES	GERESS Array B comp=Z,8.6nm,0.8s,baz=37,slow=5.0,SNR=38	148.87	344	PKPbc		PKPbc	18 52 29.7	-0.4
GERES	comp=Z,0.4nm,0.4s,baz=8.5,slow=2.7,SNR=3.6			SKPbc		SKPbc	18 55 04.2	-1.3
BGES	Gesves	148.89	355	*d*PKPab		PKPab	18 52 35.9	-1.1
PLVB	Pleven	148.90	326	⇓P		PKPbc	18 52 29.1	-1.2
HERR	Herculane	148.95	330	⇓P		PKPbc	18 52 30.2	-0.1
BMRD	Maredsous	149.00	355	*d*PKP		PKPbc	18 52 30.3	0.0
BMRD				*d*PKPab		PKPab	18 52 36.8	-0.6
CONA	Conrad Observa comp=Z,27nm,1.3s,SNR=6.6	149.06	340	*i* PKP		PKPbc	18 52 30.7	+0.1
RCHB	Rochefort	149.11	355	*d*PKP		PKPbc	18 52 30.3	-0.2
RONA	Rosalia, Austr comp=Z,19nm,0.8s,SNR=6.3	149.12	340	*i* PKP		PKPbc	18 52 30.7	0.0
DOU	Dourbes	149.22	355	*d*PKP		PKPbc	18 52 30.8	0.0
WLF	Walferdange	149.50	353	*d*PKP		PKPbc	18 52 31.7	+0.2
WLF	Walferdange baz=19,slow=2.5	149.50	353	*e*PKPbc		PKiKP	18 52 32.1	-0.1
MORH	Mrgy, Hungar	149.54	335	⇑P		PKPbc	18 52 30.9	-0.8
MOA	Molln comp=Z,5.5nm,0.7s	149.62	342	*i* PKP		PKPbc	18 52 31.1	-0.8
BLKB	Belogradchik	149.74	328	⇓P		PKPbc	18 52 32.1	-0.3
ARSA	Arzberg comp=Z,4.1nm,1.0s	149.77	340	*i* PKP		PKPbc	18 52 31.6	-0.7
FRGS	Fruska Gora	149.92	333	⇓P		PKPbc	18 52 32.5	-0.2
BIOA	Bad Ischl, Aust comp=Z,3.1nm,0.4s	149.94	343	*i* PKP		PKPbc	18 52 31.9	-0.8
SOKA	Soboth comp=Z,14nm,1.1s	150.43	340	*i* PKP		PKPbc	18 52 33.0	-0.9
LESA	Schwarzleotal comp=Z,16nm,1.2s	150.44	344	*i* PKP		PKPbc	18 52 33.3	-0.6
BFO	Black Forest	150.51	350			PKPbc	18 52 33.2	-0.8
BFO	Black Forest baz=19,slow=2.5	150.51	350	*e*PKPbc		PKPbc	18 52 33.7	-0.3
KBA	Koelnbreinsper comp=Z,13nm,1.1s	150.58	343	*i* PKP		PKPbc	18 52 33.2	-1.1
OBKA	Obir comp=Z,11nm,1.2s	150.73	341	*i* PKP		PKPbc	18 52 33.1	-1.5
WATA	Walderalm comp=Z,9.3nm,0.6s	150.80	345	*i* PKP		PKPbc	18 52 34.1	-0.7
UBR	Ueberruh baz=19,slow=2.5	150.81	347	*e*PKPbc		PKPbc	18 52 34.2	-0.5
RETA	Reutte comp=Z,7.2nm,0.7s	150.85	346	*i* PKP		PKPbc	18 52 34.4	-0.4
WTTA	Wattenberg comp=Z,27nm,1.0s,SNR=6.0	150.86	345	*e*PKP		PKPbc	18 52 34.5	-0.5
MYKA	Terra Mystica comp=Z,8.0nm,0.7s	150.90	342	*i* PKP		PKPbc	18 52 33.7	-1.2
MOTA	Moosalm comp=Z,22nm,1.1s	150.91	346	*i* PKP		PKPbc	18 52 34.3	-0.8
SQTA	Sankt Quirin comp=Z,22nm,1.0s,SNR=6.1	151.00	346	*i* PKP		PKPbc	18 52 34.5	-0.7
ABTA	Abfaltersbach comp=Z,25nm,1.1s,SNR=5.1	151.11	343	*i* PKP		PKPbc	18 52 34.3	-1.1
DAVA	Damuels comp=Z,11nm,0.7s	151.23	347	*i* PKP		PKPbc	18 52 35.8	+0.1
FETA	Feichten comp=Z,16nm,1.1s	151.30	346	*i* PKP		PKPbc	18 52 35.5	-0.4
FUORN	Ofenpass-Fuorn	151.78	346			PKPbc	18 52 36.9	-0.2
ESDC	Sonseca Array	159.33	11			PKPab	18 53 21.9	-0.1
ESDC	Sonseca Array comp=Z,3.4nm,0.9s,baz=333,slow=5.0,SNR=8.9	159.33	11	PKPab		PKPab	18 53 21.4	-0.6
DBIC	Dimbokro comp=Z,5.6nm,0.9s,baz=169,slow=4.5,SNR=4.5	166.15	155	PKPab		PKPab	18 53 53.0	+0.5
TORD	Torodi Ar. Bea	173.76	186			PKPdf	18 52 49.8	-1.4
TORD	Torodi Ar. Bea comp=Z,2.4nm,1.1s,baz=346,slow=3.2,SNR=7.3	173.76	186	PKP		PKPdf	18 52 49.9	-1.3
TORD	comp=Z,1.2nm,0.8s,baz=176,slow=2.7,SNR=5.4			PKPab		PKPab	18 54 26.2	0.0

TAP 05 18:37:52.2,24.26N×121.70E,h12km, ML1.2, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EAHA	Aohua baz=28	0.08	29	*i* P	Pg	18 37 55.0	+0.2
EAHA				*i* S	Sg	18 37 57.0	+0.4
ETL	Fush Village baz=215	0.12	214	P	Pg	18 37 55.6	+0.2
ETL				*i* S	Sg	18 37 58.1	+0.5
NACB	Ninganchiao baz=219	0.13	228	*i* P	Pg	18 37 55.5	+0.1
NACB				*i* S	Sg	18 37 58.0	+0.3
ENA	Nanau baz=15	0.17	13	*i* P	Pg	18 37 56.4	+0.3
ENA				*i* S	Sg	18 37 59.2	+0.3
EWUT	Wuta baz=21	0.20	22	*i* P	Pg	18 37 56.7	+0.1
EWUT				*i* S	Sg	18 37 59.7	+0.2
TWD	Chiawan baz=206	0.20	207	*i* P	Pg	18 37 56.7	+0.1
TWD				S	Sg	18 37 59.3	-0.3
ETLH	Xiulin Townshi baz=255	0.20	255	*i* P	Pg	18 37 57.0	+0.3
ETLH				*i* S	Sg	18 38 00.1	+0.3
LATG	Datong baz=330	0.32	330	*i* P	Pg	18 37 59.2	+0.5
LATG				*i* S	Sg	18 38 02.9	-0.1
NNSB	Datong baz=300	0.33	300	*i* P	Pg	18 37 59.5	+0.5
NNSB				*i* S	Sg	18 38 04.0	+0.5
NNS	Nan Shan baz=301	0.35	301	*e*P	Pb	18 38 00.6	+0.1
NNS				*i* S	Sg	18 38 04.5	+0.6
LXIB	Xiulin Townshi baz=228	0.35	228	*e*S	Sg	18 38 04.7	+0.5
NDT	Datong Townshi baz=333	0.38	334	*i* P	Pb	18 38 00.5	-0.5
NDT				*i* S	Sb	18 38 06.0	-0.9
ENTT	Nioudou baz=342	0.40	342	P	Pb	18 38 00.8	-0.5
ENTT				*i* S	Sb	18 38 06.5	-0.9
FUSS	Fushou baz=269	0.41	268	S	Sg	18 38 06.6	+0.5
YHNB	Yeheng baz=323	0.50	324	P	Pg	18 38 02.6	+0.4
YHNB				*i* S	Sg	18 38 09.2	+0.4
NSK	Sanguang baz=323	0.52	323	S	Sg	18 38 09.7	+0.4
NWLT	Wulai baz=345	0.55	341	S	Sg	18 38 10.5	+0.3
NFF	Wufeng Townshi baz=305	0.65	305	S	Sb	18 38 15.2	+0.7
LIOB	Emei baz=301	0.73	302	S	Sb	18 38 18.1	+1.1

JMA 05 18:38:02.1±0.2,24.2N±0.3×123.8E±0.4,h19km±1km, MV0.5/6, NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRIF	Iriomote-Funau	0.15	327	P	Pg	18 38 06.3	-0.1
IRIF				*e*S	Sg	18 38 09.5	+0.3
HATJ	Hateruma jima	0.15	184	P	Pg	18 38 06.3	-0.1
HATJ				S	Sg	18 38 09.4	0.0
JKRS	Kuro-shima	0.18	82	P	Pg	18 38 06.7	0.0
JKRS				S	Sg	18 38 10.1	+0.2
JIJ	Ishigaki jima	0.33	63	P	Pg	18 38 09.0	-0.3
JIJ				S	Sg	18 38 13.7	-0.4
JISG	Ishigakijimahi	0.58	50	P	Pg	18 38 13.8	0.0
JISG				*e*S	Sg	18 38 21.8	+0.1

DNK 05 18:56:26.5±1.8,59.05N×5.54E,h0km±47km,Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNART	Snartemo	1.12	128	*i* P	Pg	18 56 46.0	-2.0
HOMB	Homborsund	1.73	115	*i* P	Pn	18 56 58.0	+0.2
HOMB				*e*S	Sn	18 57 03.9	-17
HOMB	Homborsund	1.73	115	*e*P	Pb	18 56 58.5	-0.6
STRU	Stroemstad	2.92	88	*i* P	Pn	18 57 13.9	-0.2
STRU	Stroemstad	2.92	88	*i*	Pn	18 57 08.9	-5.1
STRU				*i* P	Pb	18 57 13.9	-5.3
TJOU	Tjoern	3.35	105	*i* P	Pn	18 57 20.0	0.0
TJOU	Tjoern	3.35	105	*e*P	Pn	18 57 19.8	-0.2
ONAU	Onsala	3.75	113	*i* P	Pn	18 57 26.8	+1.2

DNK 05 18:56:50.7±0.3,59.39N×6.50E,h15km,Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNART	Snartemo	1.11	160	*i* P	Pb	18 57 10.1	-1.5
STRU	Stroemstad	2.44	96	*i* P	Pn	18 57 30.2	+0.3
STRU	Stroemstad	2.44	96	*i* S	Pn	18 57 29.8	-0.1
TJOU	Tjoern	3.00	115	*i* P	Pn	18 57 38.0	+0.4
TJOU	Tjoern	3.00	115	*i* S	Pn	18 57 38.5	+0.9
ONAU	Onsala	3.48	123	*i* S	Pb	18 57 53.0	+1.1
ONAU	Onsala	3.48	123	*i* P	Pb	18 57 52.0	+0.1

*SOME **05** 18:58:18.9,39.65N×74.02E,h0km*
*KRNET **05** 18:58:19.9±0.1,39.64N×73.99E,h13km,mb3.0*
*NNC **05** 18:58:23.4±1.4,39.72N×74.10E,h0km,mb3.5,mpv3.1,*
Error ellipse: s-maj=11.0km s-min=5.8km az=172.0

ISC 05 18:58:17.0±1.3,39.60N±0.04×74.01E±0.02,h19km±3km, n70,σ1.964/112,25C-28D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	Sufi-Kurgan baz=15	0.56	317	⇑*i* P	Pn	18 58 30.4	+0.2
SFK				⇑*i* S	Sn	18 58 38.1	-1.0
OHH	Osh baz=14	1.31	315	⇑*i* P	Pg	18 58 44.2	+1.8
OHH				⇑*i* S	Sn	18 59 02.0	+4.6
DRK	Karamyk baz=65	1.71	267	⇓*i* P	Pg	18 58 51.8	+1.8
DRK				⇓*i* S	Sg	18 59 15.3	+3.0
ARSB	Arslanbob baz=36	1.89	336	⇑*i* P	Pg	18 58 54.3	+0.9
ARSB				⇑*i* S	Sg	18 59 19.5	+1.6
ARLS	Aral baz=6.0	2.27	6	⇓*e*P	Pg	18 59 00.1	-0.5
ARLS				⇓*i* S	Sg	18 59 29.5	-0.6
NRN	Naryn baz=40	2.38	39	⇑*i* P	Pb	18 59 01.5	+2.1
NRN				⇑*i* S	Sg	18 59 32.0	-1.6
BTK	Batken baz=81	2.50	281	⇓*i* P	Pg	18 59 03.6	-1.3
BTK				⇓*i* S	Sg	18 59 35.4	-1.9
UCH	Uchtor SNR=53	2.65	8	P	Pg	18 59 07.9	0.0
UCH	Uchtor baz=8.0	2.65	8	⇑*i* P	Pb	18 59 05.7	+1.6
UCH				⇑*i* S	Sb	18 59 39.0	+2.6
ARK	Arkit baz=25	2.69	325	⇑*i* P	Pb	18 59 06.0	+1.5
ARK				⇑*i* S	Sg	18 59 39.6	-3.8
TRKS	Terek-Say baz=11	2.91	312	⇑*i* P	Pb	18 59 08.3	-0.1
TRKS				⇑*i* S	Sb	18 59 43.7	+0.1
GAR	Garm baz=58	2.93	259	⇑*e*P	Pb	18 59

	45nm,0.6s									
MRKS	**Merke**	**3.19**	**350**		Pg		**Pg**	**18 59 19.3**	**+1.1**
	7.0nm,0.4s									
MRKS					Lg		Lg	19 00 02.5		
	45nm,0.6s									
FRU1	**Bishkek**	**3.24**		**8**	⇓*iP*		**Pb**	**18 59 13.9**	**0.0**	
	baz=8.0									
FRU1					⇓*eS*		**Sb**	**18 59 53.3**	**+0.4**	
	baz=8.0									
CHMS	**Chumysh**	**3.44**		**9**	⇑Pn		**Pb**	**18 59 18.1**	**+0.8**	
	1.1nm,0.4s									
CHMS					⇑Lg		Lg	19 00 08.3		
	21nm,0.8s									
CHMS	**Chumysh**	**3.44**		**9**	⇑*eP*		**Pb**	**18 59 16.3**	**-1.0**	
	baz=9.0									
CHMS					⇑*iS*		**Sb**	**18 59 57.4**	**-1.3**	
	baz=9.0									
KDJ	**Kajisay**	**3.49**		**43**	⇑*eP*		**Pb**	**18 59 17.4**	**-0.8**	
	baz=43									
KDJ					⇑*iS*		**Sb**	**18 59 59.4**	**-0.8**	
	baz=43									
TKM2	**Tokmak 2**	**3.52**		**19**	⇑Pn		**Pb**	**18 59 19.5**	**+0.6**	
	1.1nm,0.3s									
TKM2					⇓Lg		Lg	19 00 12.3		
	7.8nm,0.8s									
TKM2	**Tokmak 2**	**3.52**		**19**	⇓*eP*		**Pb**	**18 59 17.7**	**-1.2**	
	baz=20									
TKM2					⇓*iS*		**Sb**	**18 59 59.9**	**-1.4**	
	baz=20									
USP	**Ospenovka**	**3.68**		**6**	⇓*iP*		**Pb**	**18 59 19.6**	**-1.8**	
	baz=6.0									
USP					⇓*iS*		**Sb**	**19 00 03.3**	**-2.3**	
	baz=6.0									
KST	**Kastek**	**3.74**		**23**	*eP*		**Pg**	**18 59 27.6**	**-1.1**	
	2.2nm,0.2s									
KST					*eS*		**Sg**	**19 00 16.2**	**-0.9**	
	10nm,0.5s									
KST	**Kastek**	**3.74**		**23**	Pg		**Pg**	**18 59 26.6**	**-2.0**	
	1.8nm,0.3s									
KST					Lg		Lg	19 00 14.8		
	21nm,0.7s									
DGS	**Degeres**	**3.87**		**19**	*eP*		**Pg**	**18 59 32.0**	**+0.9**	
	4.9nm,0.8s									
DGS					*eS*		**Sg**	**19 00 24.2**	**+2.9**	
	12nm,0.8s									
DGS	**Degeres**	**3.87**		**19**	Pg		**Pg**	**18 59 32.0**	**+0.9**	
	4.9nm,0.8s									
DGS					Lg		Lg	19 00 24.2		
	12nm,0.8s									
CHGR	**Chuyangaron**	**3.89**		**257**	⇓*iP*		**Pb**	**18 59 23.1**	**-1.9**	
	baz=57									
CHGR					⇓*iS*		**Sb**	**19 00 09.2**	**-2.5**	
	baz=57									
IUG	**Iuzhnay**	**3.94**		**311**	*eP*		**Pg**	**18 59 32.9**	**+0.4**	
	21nm,0.5s									
IUG					*eS*		**Sg**	**19 00 25.6**	**+2.0**	
	39nm,0.5s									
IUG	**Iuzhnay**	**3.94**		**311**	Pg		**Pg**	**18 59 32.9**	**+0.4**	
	21nm,0.5s									
IUG					Lg		Lg	19 00 25.6		
	39nm,0.5s									
MTBS	**Maitube**	**3.97**		**27**	*eP*		**Pg**	**18 59 32.7**	**-0.3**	
	3.6nm,0.6s									
MTBS					*eS*		**Sg**	**19 00 25.0**	**+0.7**	
	12nm,1.1s									
MTBS	**Maitube**	**3.97**		**27**	Pg		**Pg**	**18 59 32.7**	**-0.3**	
	3.6nm,0.6s									
MTBS					Lg		Lg	19 00 25.0		
	12nm,1.1s									
TNSS	**Tian-Shan**	**4.08**		**32**	*eP*		**Pg**	**18 59 34.6**	**-0.6**	
	2.4nm,0.6s									
TNSS					*eS*		**Sg**	**19 00 28.3**	**+0.1**	
	3.0nm,0.7s									
TNSS	**Tian-Shan**	**4.08**		**32**	Pg		**Pg**	**18 59 34.6**	**-0.6**	
	2.4nm,0.6s									
TNSS					Lg		Lg	19 00 28.3		
	3.0nm,0.7s									
MDOK	**Medeo**	**4.23**		**32**	*eP*		**Pg**	**18 59 37.5**	**-0.5**	
	3.3nm,0.8s									
MDOK					*eS*		**Sg**	**19 00 33.5**	**+0.7**	
	4.5nm,0.9s									
MDOK	**Medeo**	**4.23**		**32**	Pg		**Pg**	**18 59 37.5**	**-0.5**	
	3.3nm,0.8s									
MDOK					Pg		Pb	18 59 37.9	+7.1	
	3.1nm,0.5s									
MDOK					Lg		Lg	19 00 33.4		
	4.5nm,0.9s									
MDOK					Lg		Lg	19 00 35.7		
	19nm,1.0s									
KRBS	**Karabastau**	**4.28**		**16**	*eP*		**Pg**	**18 59 38.5**	**-0.4**	
	1.9nm,0.6s									
KRBS					*eS*		**Sg**	**19 00 35.6**	**+1.4**	
	9.6nm,0.7s									
KRBS	**Karabastau**	**4.28**		**16**	Pg		**Pg**	**18 59 38.5**	**-0.4**	
	1.9nm,0.6s									
KRBS					Lg		Lg	19 00 35.6		
	9.6nm,0.7s									
KOTS	**Kotyrbulak**	**4.31**		**32**	*eP*		**Pg**	**18 59 39.5**	**-0.2**	
	4.5nm,0.8s									
KOTS					*eS*		**Sg**	**19 00 37.3**	**+1.8**	
	26nm,0.8s									
KOTS	**Kotyrbulak**	**4.31**		**32**	Pg		**Pg**	**18 59 39.5**	**-0.2**	
	4.5nm,0.8s									
KOTS					Lg		Lg	19 00 37.3		
	26nm,0.8s									
KK31	**Karatay Array**	**4.38**		**324**	⇓Pn		**Pb**	**18 59 30.2**	**-3.0**	
	0.5nm,0.3s,baz=129,slow=13,SNR=21									
KK31					⇑Sn		**Sb**	**19 00 23.6**	**-2.0**	
	5.5nm,0.6s,baz=140,slow=24,SNR=5.9									
KK31					⇑Lg		Lg	19 00 40.9		
	6.9nm,0.7s,baz=124,slow=27,SNR=4.0									
KKAR	**Karatay Array**	**4.38**		**324**	⇓*iP*		**Pb**	**18 59 29.4**	**-3.8**	
	baz=24									
KKAR					⇓*iS*		**Sb**	**19 00 19.9**	**-5.7**	
	baz=24									
KTBS	**Karatobe**	**4.57**		**25**	*eP*		**Pg**	**18 59 44.4**	**-0.1**	
	3.5nm,0.9s									
KTBS					*eS*		**Sg**	**19 00 45.9**	**+2.3**	
	4.9nm,0.7s									
KTBS	**Karatobe**	**4.57**		**25**	Pg		**Pg**	**18 59 44.3**	**-0.1**	
	3.5nm,0.9s									
KTBS					Lg		Lg	19 00 45.9		
	4.9nm,0.7s									
KUU	**Kurty**	**4.63**		**21**	*eP*		**Pg**	**18 59 44.7**	**-0.9**	
	1.5nm,0.4s									
KUU					*eS*		**Sg**	**19 00 46.1**	**+0.6**	
	5.5nm,0.8s									
KUU	**Kurty**	**4.63**		**21**	Pg		**Pg**	**18 59 44.7**	**-0.9**	
	1.5nm,0.4s									
KUU					Lg		Lg	19 00 46.1		
	5.5nm,0.8s									
BRLS	**Boroldday**	**4.64**		**319**	*eP*		**Pg**	**18 59 44.1**	**-1.9**	
	2.0nm,0.5s									
BRLS					*eS*		**Sg**	**19 00 45.0**	**-1.1**	
	6.4nm,0.8s									
BRLS	**Boroldday**	**4.64**		**319**	Pg		**Pg**	**18 59 44.1**	**-1.9**	
	2.0nm,0.5s									
BRLS					Lg		Lg	19 00 45.0		
	6.4nm,0.8s									
SATY	**Saty**	**4.78**		**42**	*eP*		**Pg**	**18 59 48.2**	**-0.4**	
	2.5nm,0.9s									
SATY					*eS*		**Sg**	**19 00 52.1**	**+1.6**	
	6.1nm,1.4s									
SATY	**Saty**	**4.78**		**42**	Pg		**Pg**	**18 59 48.2**	**-0.4**	
	2.5nm,0.9s									
SATY					Lg		Lg	19 00 52.1		
	6.1nm,1.4s									
CHKK	**Chushkaly**	**4.80**		**27**	*eP*		**Pg**	**18 59 48.6**	**-0.2**	
	1.3nm,0.3s									
CHKK					*eS*		**Sg**	**19 00 52.6**	**+1.7**	
	3.4nm,0.5s									
CHKK	**Chushkaly**	**4.80**		**27**	Pg		**Pg**	**18 59 48.6**	**-0.2**	
	1.3nm,0.3s									
CHKK					Lg		Lg	19 00 52.6		
	3.4nm,0.5s									
KURS	**Kuram**	**4.98**		**37**	*eP*		**Pg**	**18 59 51.5**	**-0.8**	
	1.8nm,0.7s									
KURS					*eS*		**Sg**	**19 00 57.4**	**+0.5**	
	2.7nm,1.2s									
KURS	**Kuram**	**4.98**		**37**	Pg		**Pg**	**18 59 51.5**	**-0.8**	
	1.8nm,0.7s									
KURS					Lg		Lg	19 00 57.4		
	2.7nm,1.2s									
UZB	**Uzynbulak**	**5.17**		**45**	*eP*		**Pg**	**18 59 53.9**	**-2.1**	
	3.1nm,0.1s									
UZB					*eS*		**Sg**	**19 01 01.6**	**-1.4**	
	2.2nm,0.2s									
UZB	**Uzynbulak**	**5.17**		**45**	Pg		**Pg**	**18 59 53.9**	**-2.1**	
	3.2nm,0.3s									
UZB					Lg		Lg	19 01 01.4		
	2.0nm,1.1s									
ARXS	**Arharly**	**5.42**		**31**	*eP*		**Pg**	**18 59 58.6**	**-2.1**	
	2.3nm,1.1s									
ARXS					*eS*		**Sg**	**19 01 10.6**	**-0.2**	
	4.0nm,0.5s									
ARXS	**Arharly**	**5.42**		**31**	Pg		**Pg**	**18 59 58.6**	**-2.1**	
	2.3nm,1.1s									
ARXS					Lg		Lg	19 01 10.6		
	4.0nm,0.5s									
BTLS	**Baital**	**5.43**		**0**	*eP*		**Pg**	**18 59 59.6**	**-1.4**	
	1.0nm,0.6s									
BTLS					*eS*		**Sg**	**19 01 12.0**	**+0.7**	
	4.2nm,0.9s									
BTLS	**Baital**	**5.43**		**0**	Pg		**Pg**	**18 59 59.7**	**-1.4**	
	1.0nm,0.6s									
BTLS					Lg		Lg	19 01 12.0		
	4.2nm,0.9s									
PDGK	**Podgornoye**	**5.55**		**46**	Pg		**Pg**	**19 00 02.2**	**-1.1**	
	1.0nm,0.9s									
PDGK					Lg		Lg	19 01 16.3		
	1.6nm,1.4s									
PDGK	**Podgornoye**	**5.55**		**46**	Pg		**Pg**	**18 59 59.9**	**-3.4**	
	0.3nm,0.4s									
PDGK					Lg		Lg	19 01 15.6		
	4.9nm,0.7s									
KNOS	**Konyrlen**	**6.12**		**37**	Pg		**Pg**	**19 00 13.5**	**-0.5**	
	1.5nm,0.8s									
KNOS					Lg		Lg	19 01 35.7		
	2.1nm,0.7s									

*IDC **05** 18:59:16.4±1.0,6°.03S×143°.02E,h0km,mb3.9/5, mbtmp3.9/7,ML1.8/1,Error ellipse: s-maj=35.7km s-min=21.4km az=64.0*
ISC 05 18:59:18.1±0.8,**6°.22S**±0°.09×**142°.84E**±0°.09,**h10**km,**n16,** σ2**s10**/17,**mb3.7**/5,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.86**	**300**	P	**Pb**	**18 59 50.8**	**-1.5**
GENI	**Genyem**	**4.48**	**323**	P	**Pn**	**19 00 28.5**	**+2.4**
PMG	**Port Moresby**	**5.32**	**127**	Pn	**Pn**	**19 00 37.4**	**-0.3**
	2.0nm,0.3s,baz=285,slow=12,SNR=7.4						
PMG				Sn	**Sn**	**19 01 38.2**	**-0.9**
	1.6nm,0.3s,baz=183,slow=12,SNR=2.1						
	5.7nm,0.4s						
KDU	**Kakadu**	**12.08**	**237**	P	**Pn**	**19 02 08.8**	**-1.5**
MTN	**Manton Dam**	**13.29**	**239**	P	**Pn**	**19 02 24.6**	**-2.3**
WRA	**Warramunga Arr**	**15.95**	**210**	Pn	**Pn**	**19 02 59.9**	**-2.9**
	0.3nm,0.3s,baz=30,slow=13,SNR=16						
WRA				Sn	Sn	19 05 50.2	-10
	0.3nm,0.3s,baz=30,slow=24,SNR=4.9						
WRA				Lg	Lg	19 07 42.4	
	0.2nm,0.3s,baz=31,slow=29,SNR=4.3						
KNRA	**Kununurra**	**16.70**	**235**	P	**Pn**	**19 03 10.6**	**-1.8**
AS01	**Alice Springs**	**19.34**	**205**	P	**Pn**	**19 03 46.2**	**+1.3**
	15nm,0.9s						
ASAR	**Alice Springs**	**19.36**	**205**	P	**P**	**19 03 45.8**	**+1.7**
	6.0nm,0.6s,baz=31,slow=11,SNR=79						
ASAR				S	S	19 07 13.4	-10
	0.7nm,0.7s,baz=20,slow=27,SNR=2.9						
ASAR				Lg	Lg	19 09 31.9	
	baz=21,slow=30,SNR=4.2						
OOD	**Oodnadatta**	**22.51**	**197**	P	**P**	**19 04 22.6**	**+4.6**
WRKA	**Warakurna**	**23.33**	**215**	P	**P**	**19 04 26.6**	**-0.1**
STKA	**Stephens Creek**	**25.55**	**182**	P	**P**	**19 04 49.5**	**+2.3**
	1.0nm,0.6s,baz=326,slow=7.3,SNR=3.4						
	1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**49.75**	**300**	P	**P**	**19 08 11.4**	**+0.3**
	0.5nm,0.8s,baz=128,slow=4.7,SNR=5.5						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**75.07**	**322**	P	**P**	**19 11 00.1**	**-0.2**
	0.4nm,0.7s,baz=106,slow=6.8,SNR=5.7						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**84.53**	**325**	P	**P**	**19 11 51.2**	**-0.1**
	2.5nm,0.7s,baz=113,slow=6.0,SNR=17						
	2.5nm,0.7s						
ILAR	**Eielson Array**	**87.33**	**24**	P	**P**	**19 12 03.5**	**-1.4**
	0.7nm,0.7s,baz=254,slow=5.5,SNR=7.5						
	0.7nm,0.7s						

*LDG **05** 19:11:02.5±0.1,42°.79N×0°.95W,h2km,Md2.5/2,Ml2.8/17, Error ellipse: s-maj=2.5km s-min=1.8km az=11.0*
*INMG **05** 19:11:02.3±1.5,42°.77N×0°.95W,h4km±3km,ML2.4,Error ellipse: s-maj=2.8km s-min=2.5km az=32.0*
*MDD **05** 19:11:02.0±0.3,42°.80N×0°.93W,h2km±2km,mb_Lg2.7/18, Error ellipse: s-maj=1.9km s-min=1.4km az=176.0*
*STR **05** 19:11:03.2±0.7,43°.N±5′×±°,h2km,MLv2.6/16,Error ellipse: s-maj=0.0km s-min=0.0km az=15.6,preliminary*
ISC 05 19:11:01.3±1.0,**42°.81N**±0°.02×**0°.97W**±0°.02,**h13**km±8km, **n67,** σ1**9s06**/106,**Pyrenees**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EORO	**Oroz-Betelu**	**0.27**	**289**	Pg	**Pb**	**19 11 07.9**	**-0.2**
EORO				Sg	**Sb**	**19 11 11.9**	**-0.7**
EORO				*i* Vmb_Lg		19 11 14.4	
ETSF	**Etsaut**	**0.32**	**73**	*e*Pg	**Pb**	**19 11 07.9**	**-1.0**
ETSF				*e*Sg	**Sg**	**19 11 11.8**	**-0.4**
CANF	**Canfranc**	**0.34**	**97**	Pg	**Pb**	**19 11 08.1**	**-1.1**
ATE	**Arette**	**0.34**	**35**	Pg	**Pb**	**19 11 08.7**	**-0.7**
ATE				Sg	**Sb**	**19 11 14.2**	**-0.5**
SJPF	**Ste Jean**	**0.36**	**329**	*e*Pg	**Pb**	**19 11 09.1**	**-0.6**
SJPF				*e*Sg	**Sg**	**19 11 13.3**	**-0.2**
EARA	**Aranguren**	**0.45**	**266**	Pg	**Pb**	**19 11 11.4**	**+0.3**
EARA				Sg	**Sb**	**19 11 17.9**	**+0.1**
EARA				*i* Vmb_Lg		19 11 23.1	
EARA	**Aranguren**	**0.45**	**266**	Pg	**Pb**	**19 11 11.3**	**+0.1**
OSSF	**Osses**	**0.50**	**335**	Pg	**Pb**	**19 11 11.7**	**-0.3**
EALK	**Alkurruntz**	**0.57**	**316**	Pg	**Pb**	**19 11 12.9**	**-0.4**
EALK				Sg	**Sb**	**19 11 20.9**	**-0.5**
EALK				*i* Vmb_Lg		19 11 24.8	
EALK	**Alkurruntz**	**0.57**	**316**	Pg	**Pb**	**19 11 12.9**	**-0.4**
URDF	**Urds**	**0.69**	**23**	Pg	**Pn**	**19 11 15.9**	**-0.9**
URDF				Sg	**Sb**	**19 11 26.3**	**+1.6**
VIEF	**Viey**	**0.73**	**84**	Pg	**Pb**	**19 11 15.5**	**-0.5**
VIEF				Sg	**Sb**	**19 11 25.9**	**-0.1**
PYLO	**Lourdes**	**0.74**	**66**	Pg	**Pn**	**19 11 16.7**	**-0.8**
PYLO				Sg	**Sb**	**19 11 25.4**	**-0.6**
ECHI	**Chisagues Biel**	**0.87**	**99**	Pg	**Pb**	**19 11 18.0**	**-0.4**
ECHI				Sg	**Sb**	**19 11 29.1**	**-0.9**
ECHI				*i* Vmb_Lg		19 11 36.8	
ECHI	**Chisagues Biel**	**0.87**	**99**	Pg	**Pb**	**19 11 18.0**	**-0.4**
TERF	**Tercis-les-Bai**	**0.88**	**353**	Pg	**Pn**	**19 11 19.7**	**+0.2**
EPF	**Esparros**	**0.99**	**76**	*e*Pg	**Pb**	**19 11 20.1**	**-0.3**
EPF				*e*Sg	**Sb**	**19 11 32.9**	**-0.4**
ESAC	**San Caprasio**	**1.15**	**161**	Pg	**Pg**	**19 11 22.3**	**-1.1**
ESAC				Sg	**Sb**	**19 11 37.5**	**-0.3**
ESAC				*i* Vmb_Lg		19 11 43.3	
MLS	**Moulis**	**1.52**	**84**	Pg	**Pg**	**19 11 31.4**	**+0.8**
MLS				Sn	**Sg**	**19 11 52.3**	**+1.9**
SALF	**Salau**	**1.59**	**91**	Pg	**Pg**	**19 11 32.0**	**+0.1**
SALF				Sn	**Sg**	**19 11 53.6**	**+1.1**
ELAN	**Lanestosa**	**1.86**	**284**	Pn	**Pn**	**19 11 33.8**	**+0.9**
ELAN				Sn	**Sn**	**19 11 56.1**	**-0.2**
ELAN				*i* Vmb_Lg		19 12 02.4	
PAND	**Andorre**	**1.88**	**98**	Pg	**Pg**	**19 11 37.2**	**-0.2**
EMIR	**Miracle**	**2.05**	**115**	Pn	**Pn**	**19 11 35.1**	**-0.5**
EMIR				Sn	**Sn**	**19 12 00.6**	**-0.6**
EMIR				*i* Vmb_Lg		19 12 07.8	
DUNF	**Dun**	**2.05**	**83**	Pn	**Pn**	**19 11 36.2**	**+0.6**
ERTA	**Horta de San J**	**2.09**	**152**	Pn	**Pn**	**19 11 36.3**	**+0.3**
ERTA				Sn	**Sn**	**19 12 01.9**	**-0.1**
ERTA				*i* Vmb_Lg		19 12 13.7	
EPOB	**Poblet**	**2.10**	**133**	Pn	**Pn**	**19 11 35.7**	**-0.6**
EPOB				Sn	**Sn**	**19 12 02.0**	**-0.4**
EPOB				*i* Vmb_Lg		19 12 09.9	
MONQ	**Montcuq**	**2.22**	**44**	Pn	**Pn**	**19 11 38.7**	**+0.9**
MONQ				Sn	**Sb**	**19 12 09.8**	**+1.2**
FNEB	**Nbias**	**2.26**	**86**	Pg	**Pg**	**19 11 43.8**	**-0.9**
CARF	**Carcanieres**	**2.27**	**91**	Pn	**Pb**	**19 11 42.4**	**+0.2**
CARF				Sg	**Sg**	**19 12 15.9**	**+1.7**
E0901	**Celadas (Terue**	**2.33**	**183**	Pn	**Pn**	**19 11 38.6**	**-0.8**
E0901				Sn	**Sn**	**19 12 08.3**	**+0.3**
E0901				*i* Vmb_Lg		19 12 30.1	
MTLF	**Montolieu**	**2.40**	**76**	*e*Pn	**Pn**	**19 11 41.7**	**+1.4**
MTLF				*e*Sn	**Sn**	**19 12 11.0**	**+1.5**
	15nm,0.3s						
MTLF	**Montolieu**	**2.40**	**76**	Pn	**Pb**	**19 11 43.6**	**-0.7**
MTLF				Sn	**Sb**	**19 12 13.7**	**-0.1**
LFF	**La Frestale**	**2.46**	**30**	*e*Pn	**Pn**	**19 11 42.0**	**+0.8**
LFF				*e*Sn	**Sn**	**19 12 11.8**	**+0.6**
	5.2nm,0.2s						
EMOS	**Mosqueruela**	**2.47**	**171**	Pn	**Pn**	**19 11 42.3**	**+0.8**
EMOS				Sn	**Sn**	**19 12 11.8**	**+0.2**
EMOS				*i* Vmb_Lg		19 12 30.8	
FILF	**Fillols**	**2.61**	**94**	Pn	**Pn**	**19 11 45.0**	**+1.7**
FILF				Pg	**Pg**	**19 11 50.9**	**-0.6**
EJON	**La Jonquera**	**2.87**	**96**	Pn	**Pn**	**19 11 46.9**	**+0.1**
EJON				Sn	**Sn**	**19 12 21.3**	**+0.1**
EJON				*i* Vmb_Lg		19 12 47.5	
CAF	**Calviac**	**3.05**	**45**	*e*Pn	**Pn**	**19 11 50.2**	**+0.9**
CAF				*e*Sn	**Sn**	**19 12 25.4**	**-0.3**
	6.1nm,0.2s						
RJF	**Les Rejaudoux**	**3.07**	**35**	*e*Pn	**Pn**	**19 11 50.1**	**+0.5**
RJF				*e*Sn	**Sn**	**19 12 26.8**	**+0.6**
	7.8nm,0.3s						
EARI	**Arriondas**	**3.15**	**280**	Pn	**Pn**	**19 11 51.0**	**+0.3**
EARI				Sn	**Sn**	**19 12 29.0**	**+0.9**
EVIV	**Cofrentes, Val**	**3.54**	**182**	Sn	**Sn**	**19 12 37.9**	**+0.2**
LASF	**Ste Croix**	**3.74**	**68**	*e*Pn	**Pn**	**19 12 00.6**	**+1.9**
LASF				*e*Sn	**Sn**	**19 12 43.6**	**+1.0**
	4.2nm,0.3s						
MFF	**Saint Martin d**	**3.84**	**9**	*e*Pn	**Pn**	**19 12 00.3**	**+0.2**
MFF				*e*Sn	**Sn**	**19 12 43.8**	**-1.3**
	3.4nm,0.3s						
LBL	**Lubilhac**	**3.89**	**50**	Pn	**Pn**	**19 12 01.7**	**+0.8**
EJUZ	**Juzbado, Salam**	**4.05**	**247**	Pn	**Pn**	**19 12 03.8**	**+0.7**
PAB	**San Pablo**	**4.14**	**219**	Pn	**Pn**	**19 12 04.5**	**+0.2**
PAB				Sn	**Sn**	**19 12 53.0**	**+0.4**
TCF	**Toulx Ste Croi**	**4.16**	**32**	*e*Sn	**Sn**	**19 12 51.2**	**-1.8**
	1.9nm,0.2s						
COLF	**Collangettes**	**4.31**	**49**	Pn	**Pn**	**19 12 09.0**	**+2.3**
ECAL	**Calabor**	**4.36**	**261**	Pn	**Pn**	**19 12 08.1**	**+0.8**
ECAL				Sn	**Sn**	**19 12 58.6**	**+0.6**
PBRG	**Braganca**	**4.40**	**259**	*e*Sn	**Sn**	**19 12 59.1**	**+0.2**
PSIM	**Granatula de C**	**4.51**	**209**	Pn	**Pn**	**19 12 09.7**	**+0.3**
PSIM				Sn	**Sn**	**19 13 00.3**	**-1.4**
EPON	**Pontenova**	**4.56**	**279**	Pn	**Pn**	**19 12 10.3**	**+0.3**
EPON				Sn	**Sn**	**19 13 03.1**	**+0.3**
VIVF	**Saint-Julien-l**	**4.57**	**61**	*e*Pn	**Pn**	**19 12 12.5**	**+2.3**
BGF	**Bois d'Agland**	**4.63**	**35**	*e*Pn	**Pn**	**19 12 11.0**	**0.0**
BGF				*e*Sn	**Sn**	**19 13 04.0**	**-0.7**
	14nm,0.5s						
MVO	**Moncorvo**	**4.80**	**252**	*e*Pn	**Pn**	**19 12 15.4**	**+1.9**
MVO				*e*Sn	**Sn**	**19 13 08.1**	**-0.9**
MVO				A	A	19 13 41.7	
	4.2nm,0.6s						
SMRF	**Simiane la Rot**	**4.91**	**74**	*e*Pn	**Pn**	**19 12 16.2**	**+1.3**
AVF	**Avril sur Loir**	**5.03**	**36**	*e*Pn	**Pn**	**19 12 17.9**	**+1.4**
SSF	**Saint Saulge**	**5.31**	**35**	*e*Sn	**Sn**	**19 13 19.5**	**-1.8**
	0.7nm,0.2s						
QUIF	**Quistinic**	**5.34**	**344**	*e*Sn	**Sn**	**19 13 19.6**	**-2.4**
	2.8nm,0.3s						
ORIF	**Oris-en-Rattie**	**5.38**	**65**	*e*Pn	**Pn**	**19 12 24.4**	**+3.0**
SGMF	**Saint Gilles**	**5.56**	**349**	*e*Sn	**Sn**	**19 13 26.7**	**-0.8**
	3.3nm,0.3s						
GRR	**Gorron**	**5.58**	**1**	*e*Sn	**Sn**	**19 13 26.6**	**-1.4**
	2.4nm,0.3s						
LOR	**Lormes**	**5.62**	**36**	*e*Sn	**Sn**	**19 13 26.2**	**-2.8**
	0.9nm,0.4s						
ROSF	**Rostrenen**	**5.76**	**344**	*e*Sn	**Sn**	**19 13 31.0**	**-1.5**
	1.1nm,0.3s						
LDF	**La Druitiere**	**5.82**	**6**	*e*Sn	**Sn**	**19 13 31.2**	**-2.7**
	1.0nm,0.3s						
PMRV	**Marv??o**	**5.91**	**237**	*e*Pn	**Pn**	**19 12 29.5**	**+0.9**
PMRV				*e*Sn	**Sn**	**19 13 34.5**	**-1.6**
PMRV				A	A	19 13 50.4	
	2.9nm,0.7s						
SBF	**Sospel**	**6.22**	**77**	*e*Pn	**Pn**	**19 12 32.3**	**-0.6**
PESTR	**Estremoz**	**6.38**	**234**	*e*Pn	**Pn**	**19 12 35.7**	**+0.7**

*DNK **05** 19:42:14.8±1.4,51°.24N×16°.34E,h39km±51km,ML1.9*
*IPEC **05** 19:42:16.1±0.2,51°.48N×16°.16E,h1km,ML2.2/4,Error ellipse: s-maj=1.7km s-min=1.0km az=29.0*
*IDC **05** 19:42:17.0±0.9,51°.44N×16°.14E,h0km,mbtmp3.4/5, ML2.6/5,Error ellipse: s-maj=21.2km s-min=8.5km az=105.0*
*VIE **05** 19:42:18.5±0.5,51°.31N×15°.91E,h0km,mb2.6/3,ml2.5/4, Error ellipse: s-maj=4.6km s-min=3.4km az=69.0, Suspected Mining induced.*
*PRU **05** 19:42:18.1,51°.42N×16°.09E,h0km*
ISC 05 19:42:14.9±0.7,**51°.54N**±0°.03×**16°.14E**±0°.03,**h0**km,**n45,** σ0**s88**/86,**Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.71**	**172**	*i* Pg	**Pg**	**19 42 28.9**	**+0.5**
KSP

KRUC	**Moravsky**	**2.49**	**176**	*e*PN	**Pn**	**19 42 56.9**	**+0.3**
OJC	**Ojcow**	**2.67**	**118**	*e*Pg	**Pg**	**19 43 07.3**	**+1.4**
OJC				*e*Sg	**Sg**	**19 43 42.4**	**+1.9**
NKC	**Novy Kostel**	**2.68**	**242**	*e*PN	**Pn**	**19 43 00.1**	**+0.8**
NKC				*e*PG	**Pg**	**19 43 05.9**	**-0.3**
NKC				*e*SG	**Sg**	**19 43 40.9**	**-0.1**
	comp=Z,27nm,0.3s						
JAVC	**Velka Javorina**	**2.86**	**159**	*e*Pn	**Pn**	**19 43 01.9**	**+0.2**
	baz=340						
JAVC	**Velka Javorina**	**2.86**	**159**	*e*PN	**Pn**	**19 43 02.0**	**+0.2**
KHC	**Kasperske Hory**	**2.92**	**215**	*e*PN	**Pn**	**19 43 03.0**	**+0.4**
KHC				*e*PG	**Pb**	**19 43 08.7**	**+0.9**
KHC				*e*SN	**Sn**	**19 43 37.5**	**-0.9**
KHC				*e*SG	**Sb**	**19 43 46.3**	**+2.3**
	comp=Z,64nm,2.0s						
CKRC	**Cesky Krumlov**	**2.97**	**204**	*e*PN	**Pn**	**19 43 04.0**	**+0.8**
CKRC				*e*PG	**Pb**	**19 43 09.6**	**+1.0**
GERES	**GERESS Array B**	**3.12**	**211**	Pn	**Pn**	**19 43 06.5**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=28,slow=15,SNR=12						
GERES				Pg	**Pb**	**19 43 12.3**	**+1.0**
	comp=Z,2.3nm,0.3s,baz=32,slow=18,SNR=29						
GERES				Lg	Lg	19 43 52.8	
	comp=Z,2.2nm,0.3s,baz=37,slow=30,SNR=7.6						
	comp=Z,1.2nm,0.4s						
MODS	**Modra-Piesok**	**3.25**	**167**	*e*PG	**Pg**	**19 43 16.9**	**-0.3**
MODS				*e*SG	**Sg**	**19 43 58.3**	**-1.1**
VYHS	**Vyhne**	**3.51**	**149**	*e*PN	**Pn**	**19 43 12.9**	**+2.2**
VYHS				*e*PG	**Pg**	**19 43 22.2**	**+0.1**
CONA	**Conrad Observa**	**3.62**	**183**	*i* Pn	**Pn**	**19 43 13.0**	**+0.7**
	comp=Z,1.0nm,0.3s						
CONA				*e*Sg	**Sg**	**19 44 08.6**	**-2.5**
	comp=Z,5.8nm,0.4s						
BSD	**Bornholm Skovb**	**3.66**	**349**	*e*P	**Pn**	**19 43 13.4**	**+0.8**
BSD				*e*S	**Sn**	**19 43 56.3**	**0.0**
BSD				IAML		19 44 04.0	
	comp=Z,1.0nm,0.2s						
RONA	**Rosalia, Austr**	**3.85**	**178**	*e*Sg	**Sg**	**19 44 18.0**	**-0.4**
	comp=Z,2.6nm,0.3s						
MOA	**Molin**	**3.89**	**199**	*i* Pn	**Pn**	**19 43 16.5**	**+0.5**
	comp=Z,1.1nm,0.2s						
MOA				*e*Sg	**Sg**	**19 44 18.4**	**-1.5**
	comp=Z,3.4nm,0.3s						
ARSA	**Arzberg**	**4.31**	**186**	*e*Sg	**Sg**	**19 44 32.8**	**-0.6**
	comp=Z,1.4nm,0.3s						
LUNU	**Lund**	**4.40**	**340**	*e*P	**Pn**	**19 43 23.5**	**+0.7**
LUNU				*e*S	**Sn**	**19 44 15.8**	**+1.0**
BLEU	**Blekinge**	**4.78**	**358**	*e*P	**Pn**	**19 43 29.7**	**+1.7**
BLEU				*e*S	**Sn**	**19 44 22.4**	**-1.6**
BJUU	**Bjuv**	**4.90**	**339**	*e*P	**Pn**	**19 43 30.3**	**+0.5**
BJUU				*e*S	**Sn**	**19 44 25.9**	**-1.3**
DEL	**Delary**	**5.12**	**346**	*e*P	**Pn**	**19 43 33.6**	**+0.9**
DEL				*e*S	**Sn**	**19 44 30.4**	**-2.0**
HFS	**Hagfors**	**8.72**	**352**	Pn	**Pn**	**19 44 22.8**	**+0.7**
	baz=173,slow=12,SNR=1.1						
	comp=Z,1.3nm,0.6s						
FINES	**FINESS Array B**	**11.33**	**25**	Pn	**Pn**	**19 44 57.0**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=206,slow=12,SNR=5.6						
	comp=Z,2.1nm,1.0s						
ARCES	**ARCESS Array B**	**18.59**	**10**	Pn	**P**	**19 46 31.1**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=196,slow=12,SNR=4.6						
	comp=Z,3.3nm,1.0s						

***IDC 05** 19:49:27.1±7.5,11°.89N×144°.74E,h0km,mb3.4/3,*
mbtmp3.4/3,MS3.4/1,Error ellipse: s-maj=275.6km
s-min=34.4km az=81.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**15.31**	**351**	LR	LR	19 57 50.6	
	comp=Z,144nm,19.7s,baz=149,slow=33						
H11N1	**WAKE ISLAND Hy**	**22.67**	**67**	T	T	20 17 04.3	
	baz=257,slow=75,SNR=8.9						
H11N2	**WAKE ISLAND Hy**	**22.68**	**67**	T	T	20 17 28.9	
	baz=257,slow=75,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**22.69**	**67**	T	T	20 17 11.5	
	baz=257,slow=75,SNR=8.5						
WRA	**Warramunga Arr**	**33.25**	**198**	P	P	19 56 06.3	0.0
	0.4nm,0.6s,baz=20,slow=9.1,SNR=4.8						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**36.89**	**197**	P	P	19 56 37.6	-0.2
	0.4nm,0.7s,baz=21,slow=12,SNR=4.8						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**62.62**	**317**	P	P	19 59 53.5	0.0
	0.1nm,0.6s,baz=95,slow=7.2,SNR=1.9						
	0.1nm,0.6s						

*IDC **05** 20:07:40.5±1.1,33°.85S×72°.36W,h0km,mb3.7/5,*
mbtmp3.8/7,ML4.1/2,MS3.1/4,Error ellipse: s-maj=53.2km
s-min=19.8km az=91.0
*SJA **05** 20:07:41.3±0.8,33°.90S×72°.30W,h26km±2km,ML3.5,*
MW3.9
*NEIC **05** 20:07:41.6±2.0,33°.89S±0°.03×72°.36W±0°.06,h10km±2km,*
mb4.2/6,Error ellipse: s-maj=8.7km s-min=3.8km
az=296.0
*GUC **05** 20:07:44.9±0.7,33°.99S×72°.19W,h39km±2km,ML3.6*
ISC 05 20:07:39.6±1.4,33°.92S±0°.03×72°.45W±0°.03,h2km±9km,
n95,σ1s94/128,mb4.0/7,1C-6D,Off coast of central
Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BO03	**Pichilemu**	**0.71**	**145**	*e*P	**Pb**	**20 07 56.3**	**+1.6**
BO03				*i* S	**Sb**	**20 08 04.9**	**-0.1**
BO03				IAML		20 08 05.5	
	comp=E,8μm,0.2s						
VA05	**Santo Domingo**	**0.74**	**70**		**Pn**	**20 07 56.3**	**-0.9**
VA05					**Sg**	**20 08 03.4**	**-0.1**
VA05	**Santo Domingo**	**0.74**	**70**	↓*i* P	**Pn**	**20 07 56.3**	**-0.9**
VA05				*i* S	**Sb**	**20 08 04.7**	**-1.2**
MT01	**Popeta**	**1.00**	**87**		**Pg**	**20 07 59.2**	**+0.5**
MT01	**Popeta**	**1.00**	**87**	*e*P	**Pg**	**20 07 58.5**	**-0.3**
MT01				*e*S	**Sg**	**20 08 11.2**	**-0.5**
MT01				IAML		20 08 12.1	
	comp=Z,2μm,0.1s						
MT01	**Popeta**	**1.00**	**87**	*i* P	**Pg**	**20 07 59.3**	**+0.5**
MT01				*i* S	**Sg**	**20 08 09.5**	**-2.3**
MT01				IAML		20 08 12.1	
	comp=N,3μm,0.2s						
VA01	**Torpederas**	**1.11**	**37**		**Pg**	**20 08 01.8**	**+0.8**
VA01	**Torpederas**	**1.11**	**37**	*e*P	**Pg**	**20 08 01.8**	**+0.8**
VA01				*e*P	**Pn**	**20 08 02.5**	**+0.3**
VA01				*e*S	**Sb**	**20 08 15.8**	**-0.8**
VA01				IAML		20 08 19.0	
	comp=Z,656nm,0.6s						
VA01	**Torpederas**	**1.11**	**37**	*e*P	**Pn**	**20 08 02.4**	**+0.1**
GO05	**Huala**	**1.18**	**159**		**Pb**	**20 08 03.4**	**+0.6**
GO05				Sn	**Sb**	**20 08 16.1**	**-2.3**
GO05	**Huala**	**1.18**	**159**	*e*P	**Pb**	**20 08 03.3**	**+0.6**
GO05				*e*S	**Sb**	**20 08 17.9**	**-0.6**
GO05				IAML		20 08 18.3	
	comp=Z,638nm,0.4s						
GO05	**Huala**	**1.18**	**159**	↑*i* P	**Pb**	**20 08 03.3**	**+0.6**
GO05				*i* S	**Sb**	**20 08 16.7**	**-1.7**
GO05				IAML		20 08 18.2	
	comp=E,2μm,0.2s						
MT09	**Talagante**	**1.23**	**84**		**Pb**	**20 08 02.7**	**-0.9**
MT09	**Talagante**	**1.23**	**84**	↓*i* P	**Pb**	**20 08 02.8**	**-0.9**
MT09				*i* S	**Sg**	**20 08 16.8**	**-2.3**
MT09				IAML		20 08 17.1	
	comp=N,5μm,0.1s						
BO01	**Tunca**	**1.23**	**113**		**Pb**	**20 08 02.5**	**-1.1**
BO01	**Tunca**	**1.23**	**113**	*e*P	**Pb**	**20 08 02.4**	**-1.2**
BO01				*e*S	**Sb**	**20 08 16.4**	**-3.6**
BO01				IAML		20 08 19.2	
	comp=Z,844nm,0.3s						
MT02	**Curacav**	**1.28**	**60**		**Pb**	**20 08 03.7**	**-0.7**
MT02	**Curacav**	**1.28**	**60**	*e*P	**Pb**	**20 08 02.5**	**-1.9**
MT02				*e*P	**Pb**	**20 08 03.8**	**-0.7**
MT02				*e*S	**Sb**	**20 08 20.1**	**-1.2**
MT02				IAML		20 08 20.5	
	comp=Z,715nm,0.3s						
MT02	**Curacav**	**1.28**	**60**	↓*i* P	**Pb**	**20 08 03.9**	**-0.5**
MT02				*i* S	**Sb**	**20 08 17.9**	**-3.4**
MT05	**Renca**	**1.52**	**70**		**Pn**	**20 08 07.1**	**-0.9**
MT05	**Renca**	**1.52**	**70**	*e*P	**Pn**	**20 08 07.4**	**-0.6**
MT05				*e*S	**Sg**	**20 08 27.6**	**-0.9**
MT05				IAML		20 08 34.0	
	comp=Z,643nm,0.6s						
BO04	**La Punta**	**1.53**	**93**		**Pn**	**20 08 07.5**	**-0.6**
BO04	**La Punta**	**1.53**	**93**	↓*i* P	**Pn**	**20 08 07.6**	**-0.6**
BO04				*i* S	**Sn**	**20 08 24.6**	**-4.1**
MT12	**Pirque**	**1.59**	**84**	*e*P	**Pn**	**20 08 08.2**	**-0.8**
MT12				*i* S	**Sn**	**20 08 26.3**	**-3.8**
MT12				IAML		20 08 38.1	
	comp=N,2μm,0.3s						
BO02	**Sierra Bellavi**	**1.64**	**123**		**Pn**	**20 08 09.6**	**0.0**
BO02	**Sierra Bellavi**	**1.64**	**123**	*e*P	**Pn**	**20 08 09.5**	**0.0**
BO02				*e*S	**Sn**	**20 08 29.9**	**-1.3**
VA06	**Catapilco**	**1.66**	**36**		**Pn**	**20 08 09.8**	**0.0**
PEL	**Peldehue**	**1.66**	**63**		**Pn**	**20 08 10.1**	**+0.2**
MT03	**Universidad Ad**	**1.67**	**76**		**Pn**	**20 08 09.4**	**-0.7**
MT03	**Universidad Ad**	**1.67**	**76**	*e*P	**Pn**	**20 08 09.1**	**-0.9**
MT03				*e*S	**Sn**	**20 08 29.1**	**-3.0**
MT03				IAML		20 08 34.5	
	comp=Z,791nm,0.5s						
MT16	**CCHEN**	**1.68**	**74**		**Pn**	**20 08 09.4**	**-0.8**
MT10	**Hacienda Santa**	**1.72**	**69**	↓*i* P	**Pn**	**20 08 11.0**	**+0.2**
MT10				IAML		20 08 40.2	
	comp=N,2μm,0.3s						
MT13	**San Alfonso**	**1.81**	**85**		**Pn**	**20 08 11.6**	**-0.4**
LMEL	**Las Melosas**	**1.87**	**89**		**Pn**	**20 08 12.7**	**-0.2**
LMEL	**Las Melosas**	**1.87**	**89**	*e*P	**Pn**	**20 08 12.5**	**-0.4**
LMEL				*i* S	**Sn**	**20 08 34.6**	**-2.6**
LMEL				IAML		20 08 38.5	
	comp=N,1μm,0.4s						
FCH	**Farellones**	**1.90**	**73**	*e*P	**Pn**	**20 08 13.1**	**-0.2**
FCH				*i* S	**Sn**	**20 08 34.8**	**-3.2**
FCH				IAML		20 08 35.6	
	comp=N,915nm,0.3s						
VA03	**San Esteban**	**1.96**	**55**		**Pn**	**20 08 14.6**	**+0.5**
VA03	**San Esteban**	**1.96**	**55**	*e*P	**Pn**	**20 08 14.0**	**-0.1**
VA03				*e*S	**Sn**	**20 08 38.0**	**-1.4**
VA03				IAML		20 08 42.0	
	comp=Z,628nm,0.3s						
VA03	**San Esteban**	**1.96**	**55**	↓*i* P	**Pn**	**20 08 14.5**	**+0.5**
ML02	**Panimavida**	**2.03**	**156**		**Pn**	**20 08 15.9**	**+1.0**
BI05	**Punta Hualpn**	**2.89**	**192**	Pn	**Pn**	**20 08 27.9**	**+1.1**
CO02	**Combarbal**	**2.97**	**25**	Pn	**Pn**	**20 08 28.9**	**+0.9**
CO02	**Combarbal**	**2.97**	**25**	*e*P	**Pn**	**20 08 28.8**	**+0.9**
CO02				*e*S	**Sn**	**20 09 02.5**	**-1.6**
CO02				IAML		20 09 03.5	
	comp=Z,258nm,0.3s						
AAGR	**Agrelo**	**3.14**	**76**	*e*P	Pn	20 08 11.0	-19
AAGR				IAML		20 09 24.9	
	comp=Z,110nm,2.1s						
CO06	**Fray Jorge**	**3.30**	**12**		**Pn**	**20 08 32.7**	**+0.2**
ASAL	**Salagasta**	**3.31**	**67**	*e*P	Pn	20 08 14.0	-19
ASAL				*e*S	**Sg**	**20 09 28.4**	**+2.6**
ASAL				IAML		20 09 34.2	
	comp=Z,71nm,0.8s						
RTLS	**Leoncito**	**3.39**	**52**	*e*P	**Pn**	**20 08 36.5**	**+2.6**
RTLS				*e*S	**Sg**	**20 09 27.8**	**-0.9**
RTLS				IAML		20 09 29.6	
	comp=Z,356nm,0.5s						
CO03	**El Pedregal**	**3.41**	**26**		**Pn**	**20 08 35.0**	**+1.1**
CO03	**El Pedregal**	**3.41**	**26**	*e*P	**Pn**	**20 08 34.8**	**+0.8**
CO03				*e*S	**Sn**	**20 09 13.9**	**-1.1**
CO03				IAML		20 09 33.4	
	comp=Z,99nm,0.6s						
GO04	**Tololo Observa**	**3.99**	**21**		**Pn**	**20 08 43.1**	**+1.1**
GO04	**Tololo Observa**	**3.99**	**21**	*e*P	**Pn**	**20 08 43.6**	**+1.6**
GO04				*e*S	**Sn**	**20 09 28.2**	**-1.2**
GO04				IAML		20 10 00.4	
	comp=Z,149nm,0.5s						
DOCA	**Reserva Natura**	**4.11**	**45**	*e*P	**Pn**	**20 08 45.3**	**+1.5**
DOCA				IAML		20 09 55.4	
	comp=Z,51nm,0.8s						
CO05	**La Serena**	**4.12**	**15**	Pn	**Pn**	**20 08 42.0**	**-1.6**
RTLL	**Cerro Villicun**	**4.23**	**54**	*e*P	**Pn**	**20 08 46.9**	**+1.6**
RTLL				*e*S	**Sb**	**20 09 49.6**	**+3.2**
ACCO	**Cerro Coronel**	**4.38**	**42**	*e*P	**Pn**	**20 08 50.0**	**+2.4**
ACCO				*e*S	**Sb**	**20 09 52.6**	**+1.5**
CO01	**Juntas del Tor**	**4.41**	**28**		**Pn**	**20 08 49.2**	**+1.4**
CO01	**Juntas del Tor**	**4.41**	**28**	*e*P	**Pn**	**20 08 49.0**	**+1.2**
CO01				*e*S	**Sn**	**20 09 39.4**	**-0.5**
CO01				IAML		20 10 00.5	
	comp=Z,41nm,0.7s						
AROD	**Rodeo**	**4.51**	**35**	*e*P	**Pn**	**20 08 52.2**	**+2.8**
AROD				*e*S	**Sn**	**20 09 45.0**	**+2.5**
LC02	**Puerto Saavedr**	**4.92**	**189**	Pn	**Pn**	**20 08 56.0**	**+1.3**
LCO	**Las Campanas**	**5.11**	**17**	Pn	**Pn**	**20 08 57.8**	**+0.3**
H03S1	**Juan Fernandez**	**5.37**	**269**	Pn	**Pn**	**20 09 03.7**	**+3.2**
H03S1				*e*S	**Sn**	**20 09 57.7**	**-5.1**
H03S1				T	T	20 15 00.9	
	baz=91,slow=75,SNR=197						
H03S3	**Juan Fernandez**	**5.37**	**269**	Pn	**Pn**	**20 09 03.7**	**+3.1**
H03S3				Sn	**Sn**	**20 09 57.6**	**-5.4**
	baz=334,slow=76						
H03S3				T	T	20 15 02.2	
	baz=91,slow=75,SNR=208						
H03S2	**Juan Fernandez**	**5.39**	**269**	Pn	**Pn**	**20 09 03.6**	**+2.8**
H03S2				Sn	**Sn**	**20 09 57.3**	**-6.0**
	baz=326,slow=76						
H03S2				T	T	20 15 04.3	
	baz=91,slow=75,SNR=219						
AC05	**El Transito**	**5.39**	**21**		**Pn**	**20 09 02.5**	**+1.2**
H03N1	**Juan Fernandez**	**5.41**	**273**	Pn	**Pn**	**20 09 05.5**	**+4.5**
	baz=267,slow=76						
H03N1				Sn	**Sn**	**20 10 01.5**	**-2.3**
H03N1				T	T	20 15 20.5	
	baz=98,slow=74,SNR=10						
H03N3	**Juan Fernandez**	**5.42**	**273**	Pn	Pn	20 09 06.7	+5.4
	baz=267,slow=76						
H03N3				Sn	**Sn**	**20 10 02.0**	**-2.1**
H03N3				T	T	20 15 17.2	
	baz=98,slow=74,SNR=15						
H03N2	**Juan Fernandez**	**5.42**	**273**	Pn	**Pn**	**20 09 05.1**	**+3.8**
	baz=267,slow=76						
H03N2				Sn	**Sn**	**20 10 01.7**	**-2.5**
H03N2				T	T	20 15 21.6	
	baz=98,slow=74,SNR=17						
GO06	**Curarrehue**	**5.71**	**172**	Pn	**Pn**	**20 09 06.8**	**+1.1**
AC04	**Llanos de Chal**	**5.81**	**12**	Pn	**Pn**	**20 09 06.2**	**-0.7**
LR05	**Currie**	**6.31**	**177**	Pn	**Pn**	**20 09 15.6**	**+1.9**
GO03	**Copiap**	**6.58**	**17**	Pn	**Pn**	**20 09 17.7**	**+0.2**
AC06	**Mina Casimiro**	**6.78**	**16**	Pn	**Pn**	**20 09 18.8**	**-1.5**
PLCA	**Paso Flores**	**6.97**	**168**	Pn	**Pn**	**20 09 24.4**	**+1.6**
PLCA	**Paso Flores**	**6.97**	**168**	Pn	**Pn**	**20 09 24.8**	**+1.9**
	comp=Z,1.2nm,0.3s,baz=336,slow=12,SNR=37						
PLCA				Sn	**Sn**	**20 10 48.8**	**+6.0**
	baz=337,slow=9.4						
PLCA				LR	LR	20 12 09.7	
	comp=Z,91nm,21.1s,baz=77,slow=38						
	comp=Z,3.1nm,0.4s						
AC02	**Maricunga**	**7.62**	**23**	Pn	**Pn**	**20 09 30.8**	**-1.3**
AC01	**Pan de Azucar**	**7.91**	**12**	Pn	**Pn**	**20 09 34.1**	**-1.6**
GO02	**Mina Guanaco**	**9.07**	**17**	Pn	**Pn**	**20 09 48.8**	**-3.1**
TRQA	**Tornquist**	**9.44**	**119**	Pn	**Pn**	**20 09 54.0**	**-2.7**
LVC	**Limon Verde**	**11.69**	**16**	LR	LR	20 14 27.4	
	comp=Z,63nm,20.2s,baz=228,slow=35						
CPUP	**Villa Florida**	**15.10**	**64**	LR	LR	20 17 35.2	
	comp=Z,111nm,18.8s,baz=337,slow=40						
LPAZ	**La Paz**	**17.98**	**14**	P	**P**	**20 11 52.5**	**+0.4**
LPAZ	**La Paz**	**17.98**	**14**	P	**Pn**	**20 11 52.0**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=186,slow=8.9,SNR=5.7						
	comp=Z,2.1nm,0.7s						
MG03	**Isla Dawson**	**19.98**	**177**	P	**P**	**20 12 12.4**	**-0.7**
SIV	**San Ignacio**	**20.58**	**33**	P	**P**	**20 12 19.9**	**-0.1**
	comp=Z,2.8nm,0.6s,baz=209,slow=8.0,SNR=10						
	comp=Z,2.8nm,0.6s						
TRCB	**Terra Rica**	**20.62**	**63**	P	**P**	**20 12 18.8**	**-1.7**
TRCB				IAmb	IAmb	20 12 20.0	
	comp=Z,20nm,0.7s						
PTLB	**Pontes e Lacer**	**21.97**	**36**	P	**P**	**20 12 35.1**	**+0.3**
PTLB				IAmb	IAmb	20 12 35.7	
	comp=Z,5.0nm,1.0s						
SPB	**Sao Paulo**	**24.17**	**71**	P	**P**	**20 12 55.1**	**-2.3**
SPB				IAmb	IAmb	20 12 57.9	
	comp=Z,16nm,1.2s						
ETMB	**Extrema**	**24.66**	**15**	P	**P**	**20 13 02.2**	**+0.3**
ETMB				IAmb	IAmb	20 13 05.2	
	comp=Z,4.0nm,1.1s						
RPN	**Rapa Nui**	**32.36**	**272**	LR	LR	20 23 51.1	
	comp=Z,80nm,20.9s,baz=73,slow=30						
SNAA	**Sanae**	**51.79**	**158**	P	**P**	**20 16 49.5**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=261,slow=13,SNR=1.6						
	comp=Z,1.0nm,0.6s						
QSPA	**South Pole Qui**	**56.32**	**180**	P	**P**	**20 17 23.2**	**+1.4**
	comp=Z,2.1nm,0.9s,baz=197,slow=1.6,SNR=6.1						
	comp=Z,2.1nm,0.9s						
TXAR	**Lajitas Array**	**69.49**	**331**	P	**P**	**20 18 51.7**	**+1.9**
	comp=Z,0.1nm,0.5s,baz=152,slow=7.9,SNR=2.2						
	comp=Z,0.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**84.50**	**70**	P	**P**	**20 20 16.3**	**+1.7**
	comp=Z,0.3nm,0.8s,baz=219,slow=4.9,SNR=2.1						
	comp=Z,0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**153.04**	**43**	PKPbc	**PKPbc**	**20 27 38.5**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=283,slow=2.6,SNR=5.2						
ZALV	**Zalesovo Beam**	**154.34**	**32**	PKPbc	**PKPbc**	**20 27 40.6**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=331,slow=4.5,SNR=4.1						

*NOU **05** 20:16:52.6,19°.25S×179°.01W,h682km,mb4.8/45,Fiji*
Islands Region
*NEIC **05** 20:16:52.4±2.0,19°.3S±0°.1×178°.98W±0°.08,h674km±7km,*
mb4.4/157,Error ellipse: s-maj=14.6km s-min=10.9km
az=186.0
*IDC **05** 20:16:55.2±1.7,19°.33S×179°.20W,h699km±20km,*
mb3.6/18,mbtmp4.6/19,Error ellipse: s-maj=13.7km
s-min=10.3km az=150.0
ISC 05 20:16:51.8±0.3,19°.34S±0°.07×178°.99W±0°.06,h668km,
n481,σ0s83/485,mb4.4/97,3C-2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**1.11**	**9**	P	**P**	**20 18 11.7**	**+1.8**
TAVE	**Taveuni**	**2.76**	**341**	P	**P**	**20 18 17.3**	**+1.8**
MSVF	**Nonsavu**	**3.23**	**299**	P	**P**	**20 18 19.1**	**+1.2**
MSVF	**Nonsavu**	**3.23**	**299**	P	**P**	**20 18 19.7**	**+1.8**
DGTI	**Dogotuki**	**3.26**	**338**	P	**P**	**20 18 19.5**	**+1.5**
NIUE	**Niue**	**8.57**	**90**	P	**P**	**20 18 59.0**	**+0.5**
AFI	**Afiamalu**	**8.77**	**53**	P	**P**	**20 18 59.3**	**-1.3**
AFI	**Afiamalu**	**8.77**	**53**	P	**P**	**20 19 00.0**	**-0.6**
FUNA	**Funafuti**	**10.89**	**350**	P	**P**	**20 19 18.7**	**-1.6**
LIFNC	**LIFOU**	**13.02**	**261**	P	**P**	**20 19 38.5**	**-1.1**
DZM	**Mont Dzumac**	**13.90**	**256**	P	**P**	**20 19 48.8**	**+1.1**
DZM	**Mont Dzumac**	**13.90**	**256**	P	**P**	**20 19 49.3**	**+1.6**
DZM	**Mont Dzumac**	**13.90**	**256**	P	**P**	**20 19 49.1**	**+1.4**
	25nm,0.8s,baz=87,slow=15,SNR=16						
ONTNC	**Ouen Toro**	**13.93**	**255**	P	**P**	**20 19 48.4**	**+0.6**
KOUNC	**Koumac, New Ca**	**15.77**	**263**	P	**P**	**20 20 06.2**	**+1.5**
KOUNC	**Koumac, New Ca**	**15.77**	**263**	P	**P**	**20 20 07.3**	**+2.6**
TOZ	**Tahuroa Road**	**18.94**	**194**	P	**P**	**20 20 34.0**	**+0.8**
TOZ				IAmb	IAmb	20 20 35.6	
	comp=Z,19nm,1.4s						
URZ	**Urewera**	**19.15**	**189**	P	**P**	**20 20 34.0**	**-1.1**
	comp=Z,5.8nm,0.4s,baz=266,slow=1.4,SNR=6.5						
RTZ	**Ruatahuna**	**19.52**	**189**	P	**P**	**20 20 37.0**	**-1.4**
RTZ				IAmb	IAmb	20 20 38.0	
	comp=Z,9.7nm,0.6s						
TCW	**Tory Channel**	**22.55**	**193**	P	**P**	**20 21 06.8**	**+1.6**
LTZ	**Lake Taylor**	**24.51**	**196**	P	**P**	**20 21 21.7**	**-0.9**
OXZ	**Oxford**	**25.08**	**196**	P	**P**	**20 21 26.8**	**-0.7**
RPZ	**Rata Peaks**	**25.70**	**197**	P	**P**	**20 21 31.6**	**-1.3**
RPZ				IAmb	IAmb	20 21 33.7	
	comp=Z,18nm,1.1s						
FOZ	**Fox Glacier**	**25.89**	**199**	P	**P**	**20 21 34.2**	**-0.3**
LBZ	**Lake Benmore**	**26.56**	**198**	P	**P**	**20 21 39.1**	**-1.3**
LBZ				IAmb	IAmb	20 22 18.6	
	comp=Z,11nm,1.2s						
JCZ	**Jackson Bay**	**26.70**	**200**	P	**P**	**20 21 42.2**	**+0.4**
WKZ	**Wanaka**	**27.31**	**199**	P	**P**	**20 21 46.3**	**-0.6**
PPTF	**Pamatai, Papee**	**27.95**	**91**	P	**P**	**20 21 54.4**	**+1.5**
MLZ	**Mavora Lakes**	**28.07**	**200**	P	**P**	**20 21 54.1**	**+0.6**
EIDS	**Eidsvold**	**28.28**	**252**	P	**P**	**20 21 55.8**	**+0.2**
EIDS				IAmb	IAmb	20 21 56.8	
	comp=Z,16nm,1.0s						
EIDS	**Eidsvold**	**28.28**	**252**	P	**P**	**20 21 56.2**	**+0.6**
DCZ	**Deep Cove**	**28.47**	**201**	P	**P**	**20 21 57.1**	**+0.2**
WHZ	**Wether Hill Ro**	**28.59**	**199**	P	**P**	**20 21 58.7**	**+0.7**
RK1H	**Rockhampton Ha**	**28.67**	**256**	P	**P**	**20 21 59.6**	**+0.6**
ARMA	**Armidale**	**28.76**	**242**	P	**P**	**20 22 01.0**	**+1.1**
AUPHS	**Peel High Scho**	**29.56**	**241**	P	**P**	**20 22 08.3**	**+1.8**
CNB	**Canberra Magne**	**32.13**	**234**	P	**P**	**20 22 29.5**	**+1.2**
CAN	**Canberra**	**32.41**	**234**	P	**P**	**20 22 31.6**	**+1.0**
CTA	**Charters Tower**	**32.69**	**263**	P	**P**	**20 22 33.6**	**+0.5**
CTA	**Charters Tower**	**32.69**	**263**	P	**P**	**20 22 33.7**	**+0.6**
	comp=Z,48nm,0.7s,baz=94,slow=9.8,SNR=55						
	comp=Z,48nm,0.7s						
CTAO	**Charters Tower**	**32.69**	**263**	P	**P**	**20 22 33.5**	**+0.5**
CTAO	**Charters Tower**	**32.69

MORW **Morawa** 59.41 247 P P 20 25 50.7 -2.5
PLAI **Plampang** 61.93 270 P P 20 26 09.9 0.0
GIRL **Giralia** 61.96 254 P P 20 26 09.7 -0.2
TOLI2 **Tolitoli** 62.45 282 P P 20 26 13.1 -0.1
CASY **Casey** 64.61 205 P P 20 26 25.5 -0.4
CASY IAmb IAmb 20 26 28.9
comp=Z,21nm,1.1s
KKM **Kota Kinabalu** 68.56 285 P P 20 26 51.5 +0.5
MJAR **Matsushiro Arr** 68.73 324 P P 20 26 51.5 0.0
comp=Z,3.7nm,0.6s,baz=165,slow=5.2,SNR=11
comp=Z,3.7nm,0.6s
MAJO **Matsushiro** 68.73 324 P P 20 26 51.7 +0.2
MAJO IAmb IAmb 20 27 16.8
comp=Z,22nm,1.5s
MJB9 **Matsu-Tunnel** 68.73 324 P P 20 26 52.4 +0.9
UGM **Wanagama** 69.06 269 P P 20 26 54.0 +0.1
QSPA **South Pole Qui** 70.72 180 P P 20 27 04.0 +1.1
comp=Z,4.4nm,0.5s,baz=276,slow=1.3,SNR=20
comp=Z,4.4nm,0.5s
ADK **Adak** 70.95 2 P P 20 27 04.1 0.0
ATKA **Atka Island** 71.36 3 P P 20 27 05.1 -1.4
BBJI **Bungbulang** 71.90 268 P P 20 27 09.9 -0.8
JKA **Kamikawa-asahi** 72.27 332 P P 20 27 13.9 +1.9
JKA IAmb IAmb 20 27 14.9
comp=Z,18nm,1.0s
NIKH **Nikolski High** 72.54 6 P P 20 27 13.3 0.0
baz=190
UNV **Unalaska Valle** 73.67 8 P P 20 27 19.5 -0.2
baz=192
AKUT **Akutan** 74.05 8 P P 20 27 21.2 -0.6
PETK **Petropavlovsk-** 74.92 346 P P 20 27 27.1 +0.3
comp=Z,9.8nm,0.8s,baz=142,slow=7.4,SNR=7.5
comp=Z,9.8nm,0.8s
FALS **False Pass** 75.09 9 P P 20 27 28.4 +0.9
baz=195
KSRS **Korea Array** 75.41 319 P P 20 27 30.5 +0.8
comp=Z,0.9nm,0.7s,baz=108,slow=4.8,SNR=2.7
comp=Z,0.9nm,0.7s
CHNA **Chernabura Isl** 75.71 11 P P 20 27 31.7 +0.7
baz=199
SDPT **Sand Point** 76.04 11 P P 20 27 32.6 -0.2
baz=198
S14K **Fog Glacier** 77.10 11 P P 20 27 38.9 +0.3
baz=199
CHGN **Chignik** 77.32 12 P P 20 27 39.6 0.0
CHGN **Chignik** 77.32 12 P P 20 27 40.1 +0.5
baz=200
USRK **Ussuriysk Ar.** 77.49 326 P P 20 27 42.0 +1.1
USRK **Ussuriysk Ar.** 77.49 326 P P 20 27 42.1 +1.3
comp=Z,3.3nm,0.7s,baz=133,slow=4.4,SNR=5.6
comp=Z,3.3nm,0.7s
FMP **Fort Macarthur** 78.27 48 P P 20 27 44.7 -0.6
baz=237
SII **Sitkinak Islan** 78.44 14 P P 20 27 46.3 +0.7
KMRM **Mail Ridge** 78.46 40 P P 20 27 47.8 +1.5
KMRM IAmb IAmb 20 27 49.6
comp=Z,9.4nm,1.0s
MONP2 **Monument Peak** 79.16 49 P P 20 27 51.0 +0.7
baz=238
OHAK **Old Harbor** 79.25 14 P P 20 27 50.5 +0.6
OHAK IAmb IAmb 20 28 27.4
comp=Z,14nm,1.2s
O14K **Tigyukauivet M** 79.65 9 P P 20 27 52.8 +0.9
baz=197
Q17K **Contact Creek** 79.65 12 P P 20 27 52.5 +0.3
baz=202,SNR=7.4
O15K **Ungalikthiuk R** 79.80 10 P P 20 27 54.6 +1.9
baz=198
CWC **Cottonwood Cre** 79.89 46 P P 20 27 54.6 +0.6
baz=237
KDAK **Kodiak Island** 79.92 14 P P 20 27 54.3 +0.9
baz=205
P16K **Nushagak River** 79.97 11 P P 20 27 54.0 +0.4
baz=200
YBH **Yreka Blue Hor** 79.98 39 P P 20 27 55.7 +1.5
MPMC **Manual Prospec** 80.09 46 P P 20 27 55.3 +0.3
baz=237
M11K **Mekoryuk** 80.12 6 P P 20 27 55.3 +1.0
baz=192
WAKR **Walker** 80.14 43 P P 20 27 56.4 +1.2
MPK **Martis Peak** 80.20 42 P P 20 27 55.5 -0.2
MPK IAmb IAmb 20 27 58.0
comp=Z,7.0nm,0.7s
N14K **Kuskokwak Cree** 80.23 9 P P 20 27 55.3 +0.4
baz=196
HEC **Hector,Ludlow** 80.23 48 P P 20 27 56.3 +0.6
baz=238
HUMO **Hull Mountain** 80.36 38 P P 20 27 58.3 +2.2
PNTR **Pine Nut** 80.36 43 P P 20 27 57.5 +1.1
PNTR IAmb IAmb 20 27 59.3
comp=Z,6.5nm,0.8s
P17K **Kvichak River** 80.41 12 P P 20 27 56.0 +0.1
baz=202,SNR=8.9
M13K **Dall Lake** 80.48 8 P P 20 27 56.7 +0.5
baz=195
O16K **Kokwok River B** 80.49 11 P P 20 27 55.6 -0.6
O16K IAmb IAmb 20 27 56.8
comp=Z,10nm,1.2s
O16K **Kokwok River B** 80.49 11 P P 20 27 56.6 +0.4
baz=200
YERR **Yerington** 80.53 43 P P 20 27 58.6 +1.3
BKNI **Bangkinang** 80.64 274 P P 20 27 58.4 +0.2
GMRC **Granite Mounta** 80.68 48 P P 20 27 57.1 -1.0
baz=239
N15K **Kwethluk River** 80.70 9 P P 20 27 58.6 +1.3
N15K IAmb IAmb 20 28 00.3
comp=Z,12nm,0.8s
N15K **Kwethluk River** 80.70 9 P P 20 27 58.9 +1.5
baz=198
GWY **Greenwater Val** 80.72 47 P P 20 27 59.7 +1.5
IRM **Iron Mountain** 80.73 49 P P 20 27 57.4 -0.8
baz=239
BELA **Belgrano 2** 80.82 173 P P 20 27 57.5 -0.4
P18K **Big Mountain,** 80.83 12 P P 20 27 57.8 -0.3
P18K IAmb IAmb 20 27 59.0
comp=Z,12nm,0.8s
P18K **Big Mountain,** 80.83 12 P P 20 27 58.0 -0.1
baz=203,SNR=6.2
O17K **Koliganek Bris** 80.83 11 P P 20 27 58.7 +0.7
baz=201
NVAR **Mina Array Bea** 80.83 44 P P 20 28 00.4 +1.6
comp=Z,1.7nm,0.7s,baz=227,slow=8.2,SNR=16
comp=Z,1.7nm,0.7s
PAHR **Pah Rah Range** 80.85 42 P P 20 27 59.6 +0.8
GMN **Gold Mountain** 80.91 45 P P 20 28 00.5 +1.2
NV11 **Mina Array Sit** 80.93 44 P P 20 27 59.5 +0.2
M14K **Bethel** 80.99 8 P P 20 27 59.9 +1.1
M14K IAmb IAmb 20 28 00.9
comp=Z,20nm,1.2s
M14K **Bethel** 80.99 8 P P 20 27 59.9 +1.1
baz=196
M15K **Kasigluk River** 81.12 9 P P 20 28 00.3 +0.8
baz=197
N16K **Nishlik Lake** 81.20 10 P P 20 28 00.7 +0.7
baz=199
O18K **Koktuh Hills** 81.26 12 P P 20 28 00.5 +0.3
O18K **Koktuh Hills** 81.26 12 P P 20 28 00.1 -0.2
baz=203,SNR=11
KVN **Kaiserville** 81.31 43 P P 20 28 02.3 +1.1
214A **Organ Pipe Nat** 81.33 52 P P 20 28 00.9 -0.4
baz=241
TPH **Tonopah** 81.35 45 P P 20 28 03.2 +1.7
TPH IAmb IAmb 20 28 04.1
comp=Z,25nm,1.3s
L14K **Kuka Creek** 81.46 8 P P 20 28 02.1 +0.9
L14K IAmb IAmb 20 28 03.2
comp=Z,21nm,1.1s
L14K **Kuka Creek** 81.46 8 P P 20 28 01.8 +0.6
baz=196
N17K **Nushagak Hills** 81.52 11 P P 20 28 01.7 +0.1
N17K **Nushagak Hills** 81.52 11 P P 20 28 02.8 +1.2
baz=201
K05A **Summer Lake** 81.65 39 P P 20 28 04.7 +1.8
K05A IAmb IAmb 20 28 05.9
comp=Z,8.0nm,1.0s
M16K **Timber Creek** 81.69 10 P P 20 28 03.9 +1.5
M16K IAmb IAmb 20 28 05.0
comp=Z,17nm,0.9s
M16K **Timber Creek** 81.69 10 P P 20 28 02.6 +0.2
baz=199
O19K **Port Alsworth** 81.75 12 P P 20 28 02.6 0.0
O19K **Port Alsworth** 81.75 12 P P 20 28 02.8 +0.1
baz=203,SNR=13
J05D **Fort Rock, OR** 81.78 39 P P 20 28 04.9 +1.5
J05D IAmb IAmb 20 28 06.4
comp=Z,10nm,0.9s

ILSW **Iliamna Southw** 81.80 13 P P 20 28 02.7 -0.4
N18K **Kilae Creek** 81.90 11 P P 20 28 03.9 +0.5
baz=202
L15K **Ungalak Mounta** 81.95 8 P P 20 28 04.3 +0.7
baz=197
O20K **Slope Mountain** 82.00 13 P P 20 28 04.6 +0.6
baz=205
IPM **Ipoh** 82.06 278 P P 20 28 06.2 +0.9
IPM IAmb IAmb 20 28 06.9
comp=Z,9.1nm,0.7s
BRLK **Bradley Lake** 82.09 14 P P 20 28 04.6 +0.2
BRLK IAmb IAmb 20 28 05.6
comp=Z,14nm,0.9s
BRSE **Bradley Lake S** 82.10 14 P P 20 28 05.0 +0.4
baz=207
PINE **Pine Mountain** 82.25 38 P P 20 28 07.5 +1.6
L16K **Owhat River** 82.27 9 P P 20 28 06.0 +0.8
baz=198
N19K **Bonanza Creek** 82.29 12 P P 20 28 05.3 -0.2
N19K IAmb IAmb 20 28 06.1
comp=Z,6.2nm,0.8s
N19K **Bonanza Creek** 82.29 12 P P 20 28 05.4 -0.1
baz=203
M17K **Holitna River** 82.30 10 P 20 28 06.3 +0.9
M17K IAmb IAmb 20 28 08.0
comp=Z,26nm,1.2s
M17K **Holitna River** 82.30 10 P P 20 28 06.3 +0.9
baz=200
RSO **Redoubt South** 82.31 13 P P 20 28 04.9 -0.9
K15K **Wolf Creek Mou** 82.53 8 P P 20 28 07.7 +1.1
K15K IAmb IAmb 20 28 08.9
comp=Z,13nm,0.8s
K15K **Wolf Creek Mou** 82.53 8 P P 20 28 06.9 +0.3
baz=197
R11B **Troy Canyon, C** 82.59 45 P P 20 28 07.5 -0.2
baz=238
BMN **Battle Mountai** 82.63 43 P P 20 28 09.0 +1.2
M18K **Stony River** 82.67 11 P P 20 28 08.2 +1.0
baz=202
F04A **Amboy** 82.69 36 P P 20 28 07.5 -0.2
F04A IAmb IAmb 20 28 09.5
comp=Z,20nm,1.5s
J14K **Nanvaranak Lak** 82.72 7 P P 20 28 08.5 +1.1
baz=195
SEW **Seward** 82.73 14 P P 20 28 08.5 +0.9
baz=208
CAPN **Captain Cook N** 82.93 13 P P 20 28 09.5 +1.0
baz=206
O22K **Cooper Landing** 83.00 14 P P 20 28 08.7 -0.2
O22K IAmb IAmb 20 28 13.0
comp=Z,13nm,0.7s
O22K **Cooper Landing** 83.00 14 P P 20 28 09.9 +1.0
baz=208
N20K **Mount Spurr** 83.10 13 P P 20 28 09.5 0.0
baz=205
P23K **Montague Islan** 83.13 15 P P 20 28 10.3 +0.8
baz=210
L18K **Granite Mounta** 83.19 10 P 20 28 11.0 +1.1
L18K IAmb IAmb 20 28 11.9
comp=Z,6.1nm,0.9s
L18K **Granite Mounta** 83.19 10 P P 20 28 10.6 +0.7
baz=201
M19K **Big River Lodg** 83.31 11 P P 20 28 10.6 +0.1
M19K IAmb IAmb 20 28 11.4
comp=Z,5.4nm,0.7s
M19K **Big River Lodg** 83.31 11 P P 20 28 10.9 +0.4
baz=203
K17K **Iditarod** 83.40 9 P P 20 28 11.6 +0.7
baz=200
GNW **Green Mountain** 83.46 34 P P 20 28 12.5 +1.0
L19K **White Mountain** 83.48 11 P 20 28 12.0 +0.7
L19K IAmb IAmb 20 28 13.0
comp=Z,6.6nm,0.9s
L19K **White Mountain** 83.48 11 P P 20 28 11.6 +0.3
baz=203
M20K **Styx River** 83.53 12 P P 20 28 11.4 -0.2
baz=204
RC01 **Rabbit Creek A** 83.53 14 P P 20 28 11.9 +0.3
RC01 **Rabbit Creek A** 83.53 14 P P 20 28 11.4 -0.1
baz=208
J16K **Anvik River** 83.61 8 P P 20 28 11.9 +0.1
baz=197
SUA **Susitna One** 83.65 13 P P 20 28 12.0 -0.3
SUA IAmb IAmb 20 28 13.3
comp=Z,11nm,0.6s
SUA **Susitna One** 83.65 13 P P 20 28 12.0 -0.3
baz=207,SNR=9.0
U15A **North Rim** 83.88 48 P P 20 28 15.9 +1.7
L20K **Farewell, AK** 83.94 11 P P 20 28 14.2 +0.6
baz=204
SKT **Skwentna** 83.94 13 P P 20 28 12.5 -1.1
SKT **Skwentna** 83.94 13 P P 20 28 14.0 +0.4
baz=206
TTA **Tatalina** 83.97 10 P P 20 28 14.6 +0.8
TTA **Tatalina** 83.97 10 P P 20 28 14.5 +0.8
TTA **Tatalina** 83.97 10 P P 20 28 15.2 +1.4
baz=202
EYAK **Cordova Ski Ar** 84.03 16 P P 20 28 13.8 -0.2
baz=211
M22K **Willow** 84.04 13 P P 20 28 13.0 -1.0
M22K IAmb IAmb 20 28 14.8
comp=Z,15nm,0.8s
CRAG **Craig** 84.04 24 P P 20 28 13.1 -1.0
baz=223
KNK **Knik Glacier** 84.11 14 P P 20 28 14.7 +0.3
KNK IAmb IAmb 20 28 15.5
comp=Z,5.7nm,0.8s
KNK **Knik Glacier** 84.11 14 P P 20 28 14.8 +0.3
baz=209
PMR **Palmer** 84.12 14 P P 20 28 14.3 0.0
PMR IAmb IAmb 20 28 16.6
comp=Z,6.5nm,1.0s
PMR **Palmer** 84.12 14 P P 20 28 14.5 +0.1
PMR **Palmer** 84.12 14 P P 20 28 14.1 -0.2
baz=208
I17K **Unalakleet** 84.17 8 P P 20 28 13.7 -0.8
baz=197
GSI **Gunungsitoli** 84.23 273 P P 20 28 15.6 -0.5
GSI IAmb IAmb 20 28 18.1
comp=Z,8.6nm,0.7s
G08A **Pilot Rock** 84.27 38 P P 20 28 17.4 +1.7
ANM **Nome** 84.30 6 P P 20 28 15.0 -0.2
baz=193
GHO **Glory Hole Cre** 84.32 14 P P 20 28 15.3 -0.2
GHO IAmb IAmb 20 28 16.6
comp=Z,12nm,0.7s
J18K **Innoko River** 84.36 10 P P 20 28 16.1 +0.5
J18K **Innoko River** 84.36 10 P P 20 28 16.3 +0.8
baz=201
SIT **Sitka** 84.41 22 P P 20 28 14.5 -1.3
baz=221
SML **Sawmill** 84.49 14 P P 20 28 14.8 -1.5
baz=209
DIV **Divide** 84.52 15 P P 20 28 16.7 +0.2
DIV IAmb IAmb 20 28 17.6
comp=Z,9.2nm,0.7s
U33K **Whale Pass** 84.52 24 P P 20 28 15.8 -0.6
baz=223
V35K **Ketchikan** 84.53 25 P P 20 28 15.8 -0.7
baz=224
CUT **Chulitna** 84.59 13 P P 20 28 16.1 -0.6
CUT IAmb IAmb 20 28 17.4
comp=Z,12nm,1.0s
CUT **Chulitna** 84.59 13 P P 20 28 15.2 -1.5
baz=207
M23K **Glacier View** 84.62 14 P P 20 28 16.6 -0.2
baz=209
PPLA **Purkeypile** 84.64 12 P P 20 28 17.0 -0.1
baz=205
BMRM **Bremner River** 84.68 16 P P 20 28 17.6 +0.4
BMRM IAmb IAmb 20 28 18.5
comp=Z,7.3nm,0.7s
BMRM **Bremner River** 84.68 16 P P 20 28 17.4 +0.1
baz=212
H16K **Elim** 84.70 7 P P 20 28 17.2 0.0
baz=196
K20K **Telida** 84.71 11 P P 20 28 17.2 -0.1
K20K IAmb IAmb 20 28 18.7
comp=Z,6.1nm,0.9s
K20K **Telida** 84.71 11 P P 20 28 17.5 +0.3
baz=204
WAX **Waxell Ridge** 84.72 17 P P 20 28 17.8 +0.4
WAX IAmb IAmb 20 28 19.2
comp=Z,13nm,0.9s
SCM **Sheep Creek Mo** 84.75 14 P P 20 28 17.6 0.0
SCM **Sheep Creek Mo** 84.75 14 P P 20 28 17.5 -0.1

baz=210,SNR=5.4
S31K **Pelican** 84.78 21 P P 20 28 17.1 -0.5
baz=220
KLU **Klutina** 84.79 15 P P 20 28 18.4 +0.6
KLU **Klutina** 84.79 15 P P 20 28 18.0 +0.2
baz=211
G15K **Niukluk** 84.85 6 P P 20 28 17.6 -0.2
baz=194
CRQE **Cirque** 84.90 17 P P 20 28 18.1 -0.3
baz=214
S32K **Killisnoo** 84.98 22 P P 20 28 18.6 0.0
baz=222
J19K **Poorman** 85.03 10 P P 20 28 19.7 +1.0
baz=202
TNA **Tin City** 85.06 5 P P 20 28 18.3 -0.5
baz=190
PNL **Peninsula** 85.09 19 P P 20 28 19.3 +0.1
baz=217
F14K **Arctic Creek** 85.10 5 P P 20 28 18.6 -0.4
baz=192
CAST **Castle Rocks** 85.14 12 P P 20 28 18.1 -1.2
CAST IAmb IAmb 20 28 19.8
comp=Z,16nm,1.4s
CAST **Castle Rocks** 85.14 12 P P 20 28 19.1 -0.2
baz=205
N25K **Chitina, Valde** 85.22 16 P P 20 28 20.2 +0.4
N25K IAmb IAmb 20 28 20.9
comp=Z,6.7nm,0.8s
N25K **Chitina, Valde** 85.22 16 P P 20 28 19.9 +0.1
baz=212,SNR=5.9
M24K **Tolsona, Glenn** 85.26 15 P P 20 28 19.9 -0.1
baz=211
H17K **Granite Mounta** 85.28 8 P P 20 28 19.8 -0.1
baz=198
GLB **Gilahina Butte** 85.29 16 P P 20 28 20.6 +0.4
GLB IAmb IAmb 20 28 21.6
comp=Z,7.8nm,1.2s
WAT6 **Susitna Watana** 85.30 14 P P 20 28 20.0 -0.3
baz=209,SNR=5.7
WAT1 **Susitna Watana** 85.34 13 P P 20 28 20.6 +0.3
baz=209
G16K **Koyuk River** 85.42 7 P P 20 28 21.2 +0.6
G16K IAmb IAmb 20 28 23.3
comp=Z,8.2nm,1.3s
G16K **Koyuk River** 85.42 7 P P 20 28 21.0 +0.5
baz=196
J20K **Nowinta River** 85.45 11 P P 20 28 21.1 +0.4
baz=203
TRF **Thorofare Moun** 85.52 13 P P 20 28 20.7 -0.6
TRF IAmb IAmb 20 28 23.1
comp=Z,4.7nm,0.8s
TRF **Thorofare Moun** 85.52 13 P P 20 28 21.8 +0.5
baz=207
BARN **Barnard Glacie** 85.55 17 P P 20 28 22.0 +0.4
BARN IAmb IAmb 20 28 23.2
comp=Z,5.5nm,0.8s
CTG **Chitna Glacier** 85.56 17 P P 20 28 22.1 +0.5
baz=215
CTGM **Chitina Glacie** 85.57 17 P P 20 28 21.9 +0.3
CTGM IAmb IAmb 20 28 23.0
comp=Z,4.7nm,0.8s
P29M **Windy Craggy** 85.58 20 P P 20 28 22.1 +0.6
baz=219
BGU **Big Grassy Mou** 85.61 44 P P 20 28 22.1 -0.2
F10A **Beach Ranch, E** 85.66 38 P P 20 28 23.3 +1.0
H18K **Honhosa River** 85.70 9 P P 20 28 21.7 -0.2
baz=200
G17K **Kiwalik Mounta** 85.73 8 P P 20 28 22.8 +0.8
baz=197
HARP **HAARP** 85.76 15 P P 20 28 22.1 -0.2
baz=212
RND **Reindeer** 85.78 13 P P 20 28 22.5 +0.1
RND IAmb IAmb 20 28 23.4
comp=Z,10nm,1.0s
DHY **Denali Highway** 85.82 14 P P 20 28 23.0 +0.2
baz=210
O29M **Mount Kennedy** 85.84 19 P P 20 28 23.5 +0.6
baz=218
PLID **Pearl Lake** 85.91 39 P P 20 28 23.7 0.0
I20K **Naaghedeneel** 85.97 10 P P 20 28 24.1 +1.0
baz=203
MCK **McKinley** 86.05 13 P P 20 28 23.4 -0.3
MCK **McKinley** 86.05 13 P P 20 28 23.6 0.0
baz=208
HLID **Hailey** 86.07 41 P P 20 28 26.2 +1.8
HLID **Hailey** 86.07 41 P P 20 28 24.6 +0.2
baz=239,SNR=5.5
PAX **Paxson** 86.17 15 P P 20 28 24.3 0.0
baz=212
P30M **Million Dollar** 86.20 20 P P 20 28 23.5 -1.0
baz=219
YUK8 **Steele Glacier** 86.27 18 P P 20 28 24.7 -0.3
baz=217
M26K **Nabesna, AK** 86.30 16 P P 20 28 24.8 -0.1
baz=214
H19K **Roundabout Mou** 86.33 9 P P 20 28 25.7 +0.9
baz=201
G18K **Tagagawik** 86.36 8 P P 20 28 25.0 -0.1
baz=199
YUK6 **Outpost Mounta** 86.42 19 P P 20 28 24.9 -0.8
baz=218
YUK3 **Moose Creek** 86.47 17 P P 20 28 25.4 -0.5
baz=216,SNR=6.4
H20K **Anotleneega Mo** 86.54 10 P P 20 28 25.6 -0.3
baz=203
F17K **Baldwin Pennin** 86.56 7 P P 20 28 25.3 -0.6
baz=197
M27K **Edge Creek, AK** 86.56 16 P P 20 28 26.9 +0.7
M27K IAmb IAmb 20 28 28.2
comp=Z,6.5nm,1.0s
M27K **Edge Creek, AK** 86.56 16 P P 20 28 24.9 -1.3
baz=215
S34M **Telegraph Cree** 86.57 23 P P 20 28 25.4 -0.8
baz=224
HYT **Haines Junctio** 86.58 19 P P 20 28 27.2 +0.9
HYT IAmb IAmb 20 28 32.2
comp=Z,6.4nm,1.2s
HYT **Haines Junctio** 86.58 19 P P 20 28 25.9 -0.4
baz=219
YUK4 **Talbot Arm** 86.65 18 P P 20 28 26.8 +0.1
baz=218
L26K **Log Cabin Wild** 86.74 15 P P 20 28 27.0 +0.1
baz=213
I21K **Tanana** 86.75 11 P P 20 28 27.0 +0.2
I21K IAmb IAmb 20 28 27.9
comp=Z,5.3nm,0.8s
I21K **Tanana** 86.75 11 P P 20 28 26.9 0.0
baz=205
NEA2 **Nenana** 86.79 12 P P 20 28 26.5 -0.6
baz=208
K24K **Donnelly Dome** 86.81 14 P P 20 28 27.8 +0.6
baz=211,SNR=6.1
G19K **Purcell Mounta** 86.81 9 P P 20 28 27.1 -0.1
baz=201
MNTX **Cornudas Mount** 86.85 55 P P 20 28 27.5 -0.6
baz=245
MLY **Manley** 86.85 12 P P 20 28 26.7 -0.7
MLY **Manley** 86.85 12 P P 20 28 26.5 -0.9
baz=207
BVCY **Beaver Creek** 86.88 17 P P 20 28 27.7 +0.1
baz=216
WRH **Wood River Hil** 86.88 13 P P 20 28 26.9 -0.6
WRH IAmb IAmb 20 28 28.2
comp=Z,11nm,1.0s
F18K **Selawik** 86.90 8 P P 20 28 27.8 +0.3
baz=198
Q32M **Nakina River** 86.91 22 P P 20 28 28.0 0.0
baz=223
O30N **Mendenhall** 86.98 20 P P 20 28 28.1 0.0
O30N IAmb IAmb 20 28 30.0
comp=Z,6.0nm,0.8s
O30N **Mendenhall** 86.98 20 P P 20 28 28.8 +0.7
baz=220
H21K **Melozitna Rive** 87.04 11 P 20 28 28.0 -0.2
H21K **Melozitna Rive** 87.04 11 P P 20 28 28.8 +0.6
baz=205
HDA **Harding Lake** 87.07 13 P P 20 28 28.0 -0.4
HDA **Harding Lake** 87.07 13 P P 20 28 28.9 +0.5
baz=210
CCB **Clear Creek Bu** 87.10 13 P P 20 28 27.7 -0.8
CCB IAmb IAmb 20 28 28.9
comp=Z,8.5nm,0.7s
L27K **Beaver Creek,** 87.16 16 P P 20 28 29.3 +0.4
baz=215
BCAR **Beaver Creek A** 87.17 16 P P 20 28 29.4 +0.4
IMAR **Indian Mountai** 87.18 10 P P 20 28 28.5 -0.4
N30M **Aishikik Lake** 87.20 19 P P 20 28 28.9 -0.2

baz=219
TXAR **Lajitas Array** 87.22 58 P P 20 28 32.4 +2.3
comp=Z,0.8nm,0.7s,baz=220,slow=6.7,SNR=10
comp=Z,0.8nm,0.7s
MDM **Murphy Dome** 87.28 13 P P 20 28 28.9 -0.4
MDM IAmb IAmb 20 28 29.8
comp=Z,7.5nm,0.8s
WHY **Whitehorse** 87.28 20 P P 20 28 28.7 -0.9
baz=221
COLA **College** 87.28 13 P P 20 28 28.2 -1.1
COLA **College** 87.28 13 P P 20 28 28.8 -0.5
COLA **College** 87.28 13 P P 20 28 28.6 -0.7
baz=209
F19K **Shaleruckik Mo** 87.37 8 P P 20 28 29.5 -0.2
baz=200
SCRK **Sand Creek** 87.38 15 P 20 28 30.2 +0.2
SCRK **Sand Creek** 87.38 15 P P 20 28 29.4 -0.6
baz=213
IL31 87.40 13 P P 20 28 29.1 -0.7
IL31 IAmb IAmb 20 28 30.4
comp=Z,4.9nm,0.8s
ILAR **Eielson Array** 87.40 13 P 20 28 29.3 -0.6
ILAR **Eielson Array** 87.40 13 P P 20 28 29.6 -0.3
comp=Z,3.6nm,0.8s,baz=229,slow=5.6,SNR=38
comp=Z,3.6nm,0.8s
IL03 **Eielson Array** 87.41 13 P P 20 28 29.3 -0.6
H22K **Ishtalitna Cre** 87.51 11 P P 20 28 30.3 -0.1
baz=206
M29M **Somme Creek** 87.57 18 P 20 28 31.6 +0.7
M29M IAmb IAmb 20 28 32.7
comp=Z,4.9nm,0.9s
M29M **Somme Creek** 87.57 18 P P 20 28 30.5 -0.4
baz=218
E18K **Tukpahlearik C** 87.57 7 P P 20 28 30.2 -0.4
baz=197
D17K **Noatak River** 87.58 6 P P 20 28 30.6 0.0
baz=195
POKR **Poker Plat Res** 87.58 13 P P 20 28 30.6 -0.2
POKR IAmb IAmb 20 28 31.1
comp=Z,6.3nm,0.8s
POKR **Poker Plat Res** 87.58 13 P P 20 28 29.9 -0.8
baz=210
J25K **Salcha River,** 87.60 14 P P 20 28 30.6 -0.3
J25K IAmb IAmb 20 28 31.9
comp=Z,5.5nm,0.7s
J25K **Salcha River,** 87.60 14 P P 20 28 30.1 -0.8
baz=212
P33M **Teslin, Yukon** 87.64 21 P P 20 28 30.7 -0.5
baz=223
ELIB **Princess Elisa** 87.68 187 *d*P P 20 28 30.7 -0.8
ELIB *d*PcP PcP 20 28 31.7 -0.9
R33M **Jennings River** 87.69 22 P P 20 28 30.7 -0.9
baz=225
G21K **Allakaket** 87.71 10 P P 20 28 31.3 0.0
baz=204
F20K **Avaraart Lake** 87.86 9 P 20 28 32.0 +0.1
F20K **Avaraart Lake** 87.86 9 P P 20 28 32.0 +0.1
baz=202
HHC **Hu-ho-hao-te** 87.88 315 *e*P P 20 28 32.8 -0.1
HHC pmax pmax
comp=Z,11nm,0.5s
HHC pmax pmax
comp=Z,110nm,5.2s
K27K **Chicken** 87.89 15 P P 20 28 32.1 -0.1
baz=214
J26L **Joseph Creek** 87.92 15 P P 20 28 33.1 +0.6
J26L IAmb IAmb 20 28 34.2
comp=Z,7.5nm,0.7s
J26L **Joseph Creek** 87.92 15 P P 20 28 32.7 +0.3
baz=213
C16K **Lisburne Hills** 87.93 5 P P 20 28 32.5 +0.2
baz=193
E19K **Redstone River** 88.03 8 P P 20 28 32.3 -0.4
baz=200
H24K **Noodor Dome** 88.12 12 P P 20 28 32.8 -0.6
baz=209
M30M **Minto, Yukon** 88.16 18 P 20 28 33.8 +0.2
M30M **Minto, Yukon** 88.16 18 P P 20 28 33.9 +0.4
baz=219,SNR=14
L29M **L29M** 88.19 17 P 20 28 34.1 +0.4
L29M IAmb IAmb 20 28 35.8
comp=Z,7.4nm,0.9s
L29M **L29M** 88.19 17 P P 20 28 33.6 -0.1
baz=218
N32M **Quiet Lake** 88.24 20 P P 20 28 33.6 -0.4
baz=223
C17K **DeLong Mountai** 88.32 6 P P 20 28 34.8 +0.7
baz=195
PRP **Porcupine Dome** 88.34 13 P P 20 28 36.0 +1.6
baz=211
F21K **Alatna River** 88.36 10 P 20 28 34.5 +0.2
F21K **Alatna River** 88.36 10 P P 20 28 34.2 -0.2
baz=204
G23K **Bananza Creek** 88.49 11 P P 20 28 34.9 -0.1
baz=207
M31M **Drury Creek, Y** 88.60 19 P P 20 28 35.3 -0.3
baz=222
DAWY **Dawson** 88.61 16 P 20 28 35.7 +0.1
DAWY IAmb IAmb 20 28 37.2
comp=Z,4.3nm,0.8s
DAWY **Dawson** 88.61 16 P P 20 28 35.9 +0.3
baz=217,SNR=5.7
C18K **Utukok River** 88.69 6 P P 20 28 36.5 +0.6
baz=197
I26K **Coal Creek Min** 88.69 14 P P 20 28 36.1 +0.2
baz=214
EGAK **Eagle** 88.73 15 P P 20 28 36.6 +0.5
baz=215
PD31 **Pinedale Array** 88.77 44 P P 20 28 37.8 +0.7
PDAR **Pinedale Array** 88.77 44 P P 20 28 38.2 +1.1
PDAR **Pinedale Array** 88.77 44 P P 20 28 38.4 +1.2
comp=Z,1.1nm,0.6s,baz=222,slow=2.9,SNR=12
comp=Z,1.1nm,0.6s
BOZ **Bozeman (W)** 88.81 40 P P 20 28 36.8 -0.3
baz=241
CMAR **Chiang Mai Arr** 88.85 290 P P 20 28 39.3 +1.6
comp=Z,0.7nm,0.8s,baz=92,slow=2.9,SNR=6.1
comp=Z,0.7nm,0.8s
TROLL **Troll, Antarti** 88.88 180 ⇑P P 20 28 36.9 -0.1
comp=Z,160nm,0.5s
D19K **Kuna River** 88.89 8 P P 20 28 37.7 +0.9
baz=200
COLD **Coldfoot** 88.92 11 P P 20 28 37.7 +0.8
COLD IAmb IAmb 20 28 38.6
comp=Z,4.8nm,0.8s
COLD **Coldfoot** 88.92 11 P P 20 28 37.4 +0.5
baz=207
H25L **Birch Creek** 88.92 13 P P 20 28 37.6 +0.7
baz=211
E20K **Nigu River** 88.92 8 P P 20 28 37.7 +0.7
baz=201
K29M **Barlow Dome** 88.94 17 P 20 28 38.2 +0.9
K29M IAmb IAmb 20 28 39.0
comp=Z,3.6nm,0.8s
K29M **Barlow Dome** 88.94 17 P P 20 28 37.3 0.0
baz=219
FARO **Faro, Yukon** 88.95 20 P P 20 28 37.7 +0.4
baz=222
G24K **Hadweenzic Riv** 88.96 12 P P 20 28 37.6 +0.5
baz=210
SNAA **Sanae** 89.19 179 P P 20 28 38.1 -0.2
comp=Z,1.3nm,0.5s,baz=196,slow=15,SNR=2.3
comp=Z,1.3nm,0.5s
J29N **Klondike Camp** 89.23 16 P P 20 28 39.5 +1.0
J29N IAmb IAmb 20 28 40.5
comp=Z,6.6nm,0.9s
J29N **Klondike Camp** 89.23 16 P P 20 28 38.7 +0.2
baz=218
G25K **Bearman Lake** 89.29 12 P P 20 28 38.9 +0.3
baz=211
D20K **Etivluk River** 89.29 8 P P 20 28 38.8 +0.2
baz=201
C19K **Lookout Ridge** 89.30 7 P P 20 28 38.8 +0.1
baz=198
SDCO **Great Sand Dun** 89.31 49 P P 20 28 38.7 -1.2
baz=245
B18K **Kokolik River** 89.31 6 P P 20 28 38.3 -0.4
baz=196
VNA3 **Neumayer Olymp** 89.35 177 ⇑P P 20 28 38.9 -0.2
comp=Z,6.9nm,0.6s
E22K **Anaktuvuk Pass** 89.46 10 P P 20 28 40.1 +0.6
baz=206
I28M **Miner Creek** 89.58 15 P P 20 28 40.4 +0.3
I28M IAmb IAmb 20 28 40.9
comp=Z,4.3nm,1.0s
I28M **Miner Creek** 89.58 15 P P 20 28 40.5 +0.3
baz=216
F24K **Squaw Lake** 89.60 11 P P 20 28 40.6 +0.5
baz=209
E23K **Chandalar** 89.76 11 P P 20 28 42.5 +1.5
baz=208
VNA2 **Neumayer--Watz** 89.78 177 ⇑P P 20 28 41.3 +0.2
comp=Z,4.8nm,0.6s,baz=173,slow=4.3
H27K **Steamboat Moun** 89.84 14 P P 20 28 42.5 +1.2
baz=215
J30M **Hart River** 89.84 17 P P 20 28 42.3 +0.9
baz=220
T25A **Trinidad** 89.84 50 P P 20 28 42.1 -0.1
baz=246
MMPY **Sheldon Lake,** 89.90 20 P P 20 28 42.8 +1.2
baz=224
G26K **Porcupine Rive** 89.93 13 P P 20 28 43.2 +1.7
baz=213
C21K **Knifeblade Rid** 89.95 8 P P 20 28 43.3 +1.7
baz=203
D22K **Ayikyak River** 90.00 9 P 20 28 41.9 0.0
D22K IAmb IAmb 20 28 43.5
comp=Z,5.1nm,0.8s
D22K **Ayikyak River** 90.00 9 P P 20 28 43.0 +1.1
baz=205
F25K **Christian Rive** 90.09 12 P P 20 28 43.8 +1.3
baz=211
BMAR **Burnt Mountain** 90.17 13 P P 20 28 43.5 +0.7
833A **Chaparral WMA,** 90.29 60 P P 20 28 43.2 -1.0
baz=248
I30M **Mount Dempster** 90.33 17 P 20 28 43.6 0.0
I30M **Mount Dempster** 90.33 17 P P 20 28 44.4 +0.8
baz=220
D23K **Nanushuk River** 90.39 10 P P 20 28 44.8 +1.1
baz=207
B21K **Ikpikpuk River** 90.41 8 P P 20 28 43.9 +0.2
baz=203
B20K **Meade River** 90.44 7 P P 20 28 44.8 +0.9
baz=200
F26K **Sheenjek River** 90.48 13 P P 20 28 44.2 0.0
baz=213
E25K **Arctic Village** 90.56 12 P P 20 28 44.8 +0.2
baz=211
H29M **Whitestone** 90.59 15 P P 20 28 45.9 +1.2
baz=218
YAK **Yakutsk** 90.70 338 P P 20 28 43.5 -1.7
YAK IAmb IAmb 20 28 45.7
comp=Z,7.5nm,0.8s
JCT **Junction City** 90.76 58 P P 20 28 45.3 -1.1
baz=248
KOTAN **Kotaneelee Air** 90.77 24 P P 20 28 45.3 -0.3
baz=231
D24K **Happy Valley** 90.87 10 P P 20 28 46.8 +1.0
baz=208
EPYK **Eagle Plains** 91.12 16 P P 20 28 47.6 +0.5
baz=219
C23K **Itkillik River** 91.19 9 P P 20 28 47.4 +0.1
baz=207
B22K **Teshekpuk Lake** 91.23 8 P P 20 28 48.3 +0.8
baz=204
F28M **Old Crow** 91.35 14 P P 20 28 49.0 +0.8
baz=217
C24K **Franklin Bluff** 91.39 10 P P 20 28 48.9 +0.6
baz=208
D25K **Kavik River** 91.45 11 P P 20 28 49.1 +0.5
baz=211
G30M **tAoh Zraii Nji** 91.72 15 P P 20 28 50.5 +0.5
baz=220
KSCO **Kaye Shedlock'** 91.89 49 P P 20 28 51.3 -0.2
baz=247
G31M **Satah River** 92.18 16 P P 20 28 51.8 -0.1
G31M IAmb IAmb 20 28 53.0
comp=Z,5.2nm,0.8s
G31M **Satah River** 92.18 16 P P 20 28 52.8 +0.9
baz=222
E28M **Babbage River** 92.22 13 P P 20 28 52.0 -0.1
E28M IAmb IAmb 20 28 53.5
comp=Z,2.5nm,0.9s
E28M **Babbage River** 92.22 13 P P 20 28 53.1 +0.9
baz=217
C26K **Camden Bay** 92.22 11 P P 20 28 53.4 +1.4
baz=212
E29M **Blow River** 92.42 14 P P 20 28 53.7 +0.7
baz=218
F31M **Tsiigehtchic** 92.71 16 P P 20 28 55.0 +0.7
baz=222
YKA **Yellowknife Ar** 95.86 25 P P 20 29 09.3 +0.6
comp=Z,0.2nm,0.7s,baz=249,slow=4.4,SNR=3.9
comp=Z,0.2nm,0.7s
ZALV **Zalesovo Beam** 109.01 322 PKiKP PKiKP 20 34 07.0 -0.3
comp=Z,0.2nm,0.4s,baz=83,slow=3.5,SNR=1.7
MKAR **Makanchi Array** 109.73 314 PKiKP PKiKP 20 34 08.6 -0.3
comp=Z,0.2nm,0.5s,baz=139,slow=1.0,SNR=4.0
PAL **Palisades** 113.65 53 P PKiKP 20 34 15.9 -0.6
baz=264
L61B **Northampton** 114.69 51 P PKiKP 20 34 18.0 -0.5
baz=266
PKME **Peaks-Kenny Pk** 117.25 48 P PKiKP 20 34 22.9 -0.5
baz=270
BVAR **Borovoye Array** 117.60 320 PKP PKiKP 20 34 23.4 -0.4
comp=Z,0.7nm,0.5s,baz=84,slow=0.9,SNR=6.1
ARCES **ARCESS Array B** 127.62 349 PKP PKiKP 20 34 42.3 -0.9
comp=Z,2.0nm,0.9s,baz=46,slow=2.6,SNR=5.8
FINES **FINESS Array B** 134.40 343 SKPbc SKPbc 20 37 24.0 -0.4
comp=Z,1.6nm,0.8s,baz=29,slow=4.8,SNR=6.8
AKASG **Malin Array Be** 141.55 331 PKhKP PKPpre 20 35 04.3
comp=Z,0.5nm,0.4s,baz=45,slow=3.7,SNR=8.1
LODK **Lodwar** 142.91 249 PKPdf 20 35 11.2 -1.4
EKA **Eskdalemuir Ar** 143.93 4 PKP PKPab 20 35 12.9 -0.2
comp=Z,1.7nm,0.7s,baz=351,slow=2.7,SNR=5.5
MBAR **Mbarara** 144.74 239 PKPdf PKPdf 20 35 13.6 -2.2
BRTR **Keskin Array B** 145.37 313 PKPdf PKPdf 20 35 15.4 -0.7
BRTR **Keskin Array B** 145.37 313 PKPbc PKPbc 20 35 17.7 0.0
comp=Z,0.8nm,0.6s,baz=128,slow=4.5,SNR=4.6
BUR08 **Bucovina Ar. S** 145.59 331 PKPdf PKPdf 20 35 15.2 -0.9
BURAR **Bucovina Array** 145.60 331 PKPbc 20 35 18.1 +0.1
MMAI **Mount Meron Ar** 146.43 301 PKPbc PKiKP 20 35 21.3 -1.4
comp=Z,1.6nm,0.4s,baz=75,slow=4.4,SNR=10
CLL **Collm** 146.72 346 PKPbc 20 35 20.9 +0.1
GERES **GERESS Array B** 148.84 344 PKPbc PKiKP 20 35 26.7 -0.5
comp=Z,1.4nm,0.7s,baz=63,slow=6.1,SNR=5.8
KEST **Kesra** 162.09 337 PKPab PKPab 20 36 31.2 +0.7
comp=Z,3.2nm,0.7s,baz=242,slow=5.6,SNR=4.5

JMA 05 20:34:32.8±0.2, 24°.2N±0°.4×123°.8E±0°.5, h13km±2km, MV1.4/8, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IRIF	Iriomote-Funau	0.12	317	*i* P		Pg	20 34 36.2	0.0
JKRS	Kuro-shima	0.17	92	P		Pg	20 34 37.0	+0.1
HATJ	Hateruma jima	0.19	185	P		Pg	20 34 36.9	-0.1
HATJ				*e*S		Sg	20 34 40.3	+0.3
JIJ	Ishigaki jima	0.32	68	*i* P		Pg	20 34 39.1	-0.2
JIJ				S		Sg	20 34 43.7	+0.1
JISG	Ishigakijimahi	0.56	52	P		Pg	20 34 43.9	+0.1
JISG				*e*S		Sb	20 34 52.2	-0.2
JTJ	Tarama	0.89	64	*e*P		Pg	20 34 50.0	-0.2
JTJ				*e*S		Sb	20 35 02.6	+0.6

TAP 05 20:35:24.8, 24°.81N×122°.43E, h15km±1km, ML2.3, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EOS2	EOS2	0.43	205	*i* P		Pb	20 35 33.8	-0.2
EOS2	baz=206			*i* S		Sb	20 35 40.8	+0.6
TWB1	Santiao Chiao	0.45	296	P		Pg	20 35 34.1	+0.3
TWB1	baz=296			*i* S		Sb	20 35 40.7	-0.3
EOS3	EOS3	0.53	191	*i* P		Pg	20 35 35.5	+0.2
EOS3	baz=191			*i* S		Sb	20 35 43.1	-0.1
TWC	Suao	0.56	250	*i* P		Pg	20 35 36.1	+0.2
TWC	baz=256			*i* S		Sg	20 35 43.3	-0.2
TIPB	Shuangxi	0.57	287	*i* P		Pb	20 35 36.8	+0.2
TIPB	baz=286			*i* S		Sb	20 35 45.4	+0.8
SXI1	Grass Mountain	0.58	300	*i* P		Pb	20 35 37.0	+0.2
SXI1	baz=299			S		Sb	20 35 45.2	+0.4
ESAO	Su ao	0.58	247	*i* P		Pb	20 35 36.8	+0.1
ESAO	baz=256			*i* S		Sb	20 35 45.1	+0.3
NWF	Wu-fen Shan	0.65	294	P		Pg	20 35 37.0	-0.5
NWF	baz=293			S		Sb	20 35 47.9	+1.2
WFSB	Wu-fen Shan	0.65	294	*i* P		Pg	20 35 36.7	-0.8
WFSB	baz=293			*i* S		Sb	20 35 47.9	+1.3
NDS	Dongshan	0.67	255	*i* P		Pb	20 35 38.3	0.0
NDS	baz=255			*i* S		Sn	20 35 49.4	-0.8
EOS4	EOS4	0.69	189	*i* P		Pb	20 35 38.5	+0.1
EOS4	baz=182			*i* S		Sb	20 35 48.0	+0.4
EWUT	Wuta	0.69	239	*i* P		Pg	20 35 38.5	+0.1
EWUT	baz=247			*i* S		Sb	20 35 48.2	+0.2
TWE	Neicheng	0.70	263	*i* P		Pg	20 35 38.5	0.0
TWE	baz=262			*i* S		Sb	20 35 48.6	+0.4
ENA	Nanau	0.73	239	*i* P		Pb	20 35 39.2	-0.1
ENA	baz=246			*i* S		Sg	20 35 48.8	0.0
FUSB	Fushanzhiwuyua	0.77	267	*i* P		Pb	20 35 40.1	+0.1
FUSB	baz=266			*i* S		Sb	20 35 50.8	+0.5
EAHA	Aohua	0.79	233	*i* P		Pg	20 35 40.1	-0.1
EAHA	baz=247			*i* S		Sb	20 35 50.8	-0.1
ENTT	Nioudou	0.80	258	*i* P		Pn	20 35 41.2	-0.5
ENTT	baz=265			*i* S		Sn	20 35 52.4	-1.0
NWLT	Wulai	0.84	268	*i* P		Pn	20 35 41.8	-0.4
NWLT	baz=267			*i* S		Sb	20 35 52.5	0.0
NDT	Datong Townshi	0.86	256	*i* P		Pb	20 35 41.3	-0.2
NDT	baz=242			*i* S		Sb	20 35 53.7	+0.8
LATG	Datong	0.87	252	*i* P		Pg	20 35 41.9	+0.2
LATG	baz=251			*i* S		Sb	20 35 53.6	+0.5
YHNB	Yeheng	0.97	262	*i* P		Pg	20 35 43.7	0.0
YHNB	baz=271			*i* S		Sg	20 35 56.4	0.0
ETL	Fush Village	0.98	229	P		Pn	20 35 44.1	0.0
ETL	baz=239			S		Sg	20 35 56.9	+0.3
NSK	Sanguang	0.98	263	*i* P		Pg	20 35 44.0	+0.1
NSK	baz=261			*i* S		Sb	20 35 56.5	0.0
NACB	Ninganchiao	0.99	231	*i* P		Pb	20 35 43.4	-0.3
NACB	baz=240			*i* S		Sb	20 35 55.9	-0.7
NNSB	Datong	1.03	249	*i* P		Pb	20 35 44.5	+0.1
NNSB	baz=248			*i* S		Sg	20 35 58.5	+0.4
NNS	Nan Shan	1.03	249	*i* P		Pn	20 35 44.9	0.0
NNS	baz=248			*i* S		Sg	20 35 58.3	0.0
ETLH	Xiulin Townshi	1.05	236	*i* P		Pb	20 35 44.5	-0.3
ETLH	baz=246			*i* S		Sg	20 35 59.2	+0.3
ETM	Tongmen	1.20	226	*e*P		Pb	20 35 47.4	+0.1
NFF	baz=207 Wufeng Townshi	1.21	262	*i* P		Pn	20 35 47.2	0.0
NFF	baz=251			S		Sg	20 36 04.5	+0.7
LXIB	Xiulin Townshi	1.21	230	*i* P		Pb	20 35 47.7	0.0
LXIB	baz=238			*i* S		Sg	20 36 06.5	+2.3
FUSS	Fushou	1.22	243	P		Pg	20 35 48.3	-0.1
FUSS	baz=242			*i* S		Sn	20 36 03.8	-0.1
WHF	Hehuan Shan	1.25	238	*i* P		Pb	20 35 48.7	+0.3
WHF	baz=247			*e*S		Sg	20 36 07.4	+2.0
LIOB	Emei	1.30	263	*i* P		Pg	20 35 50.6	+0.8
NSTT	baz=262 Nanjuang	1.31	263	P		Pg	20 35 50.2	+0.1
NSTT	baz=261			S		Sn	20 36 06.5	+0.6
ESL	Shilin	1.34	223	*i* P		Pg	20 35 50.5	-0.2
ESL	baz=205			*i* S		Sg	20 36 10.0	+1.7
CHGB	Renai	1.37	237	*i* P		Pg	20 35 50.9	-0.3
CHGB	baz=245			*i* S		Sg	20 36 11.1	+2.1
OWD	baz=245 Renai	1.43	234	*i* P		Pb	20 35 51.7	+0.5
WARBT	baz=228 Fenglin Townsh	1.45	222	*i* P		Pb	20 35 52.0	+0.6
WARBT	baz=205			S		Sg	20 36 11.4	0.0
WUSB	baz=205 Renai	1.45	236	*i* P		Pg	20 35 52.2	-0.5
WUSB	baz=243			*i* S		Sg	20 36 13.6	+2.1
WHP	Taichung City	1.45	249	*i* P		Pg	20 35 53.9	+1.1
WHP	baz=248			S		Sg	20 36 12.2	+0.5
WCS	Beigang Elemen	1.57	242	P		Pg	20 35 55.0	-0.1
VWDT	baz=241 VWDT	1.58	229	P		Pg	20 35 55.6	+0.4
SMLT	baz=213 Sun Moon Lake	1.67	237	P		Pg	20 35 56.3	-0.7
SSLB	baz=223 Suanglung	1.69	233	*i* P		Pb	20 35 56.4	+0.8
TYC	baz=216 Yuchr	1.69	238	P		Pb	20 35 56.5	+0.8
EYUL	baz=219 Yuli	1.77	215	*e*P		Pb	20 35 57.5	+0.4
	baz=201							

IDC 05 20:51:15.3±3.7, 6°.23S×142°.82E, h0km, mb3.5/1, mbtmp3.7/3, ML3.8/2, Error ellipse: s-maj=113.3km s-min=35.3km az=95.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.92	210	P		Pn	20 54 59.1	-1.9
	0.3nm,0.3s,baz=33,slow=12,SNR=9.6							
	0.5nm,0.5s							
ASAR	Alice Springs	19.34	205	P		Pn	20 55 43.5	0.0
	0.6nm,0.3s,baz=33,slow=9.8,SNR=32							
	3.7nm,0.8s							
MKAR	Makanchi Array	75.06	322	P		P	21 02 59.0	-0.1
	0.3nm,0.6s,baz=116,slow=5.5,SNR=4.3							
	0.3nm,0.6s							

DNK ***05*** *21:15:27.5±0.6, 81°.88N×6°.38W, h0km±14km, ML1.0*
BER ***05*** *21:15:27.2±4.0, 82°.34N×5°.93W, h10km, mb(Pn)3.6, ML2.5(NAO), Confirmed Earthquake*
ISC 05 21:15:25.2±2.7, 82°.1N±0°.3×6°.30W±0°.06, h10km, n16,

σ1§79/22, **North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NOR	**Nord**	**1.57**	**256**	*e*P	**Pb**	**21 15 54.1**	**-0.1**
NOR				*e*S	**Sg**	**21 16 15.1**	**-0.4**
NOR	**Nord**	**1.57**	**256**	*e*	**Pb**	**21 15 54.0**	**-0.1**
	baz=75,slow=16						
NOR				*i* P	**Pg**	**21 15 54.4**	**-0.7**
NOR				*e*S	**Sb**	**21 16 14.9**	**+0.9**
NOR				IAML		21 16 17.7	
	comp=Z,1.9nm,0.3s						
NOR	**Nord**	**1.57**	**256**	Pn	**Pg**	**21 15 54.2**	**-0.9**
NOR				Lg	Lg	21 16 14.9	
KBS	**Kingsbay**	**4.37**	**128**	*e*P	**Pn**	**21 16 33.4**	**+1.9**
KBS				*e*S	**Sn**	**21 17 21.0**	**-1.4**
KBS				IAML		21 17 32.3	
	comp=Z,2.7nm,0.8s						
KBS	**Kingsbay**	**4.37**	**128**	*i* P	**Pn**	**21 16 32.4**	**+0.9**
KBS				*e*S	**Sn**	**21 17 21.0**	**-1.4**
KBS	**Kingsbay**	**4.37**	**128**	Pn	**Pn**	**21 16 33.4**	**+1.9**
BRBB	**Barentsburg B**	**5.32**	**128**	*e*P	**Pn**	**21 16 46.4**	**+1.8**
BRBB				*e*S	**Sn**	**21 17 44.6**	**-1.2**
BRBB	**Barentsburg B**	**5.32**	**128**	Pn	**Pn**	**21 16 46.6**	**+2.1**
BRBA	**Barentsburg A**	**5.35**	**129**	*e*P	**Pn**	**21 16 47.6**	**+2.7**
BRBA				*e*S	**Sn**	**21 17 43.5**	**-3.0**
BRBA				IAML		21 18 08.8	
	comp=Z,6.6nm,0.3s						
BRBA	**Barentsburg A**	**5.35**	**129**	Pn	Pn	21 16 49.4	+4.4
SPA0	**Spitsbergen Ar**	**5.49**	**124**	Pn	**Pn**	**21 16 48.1**	**+1.2**
	baz=356,slow=12						
SPA0	**Spitsbergen Ar**	**5.49**	**124**	Pn	**Pn**	**21 16 48.1**	**+1.2**
	baz=356,slow=12						
HSPB	**Hornsund (broa**	**6.42**	**131**	*e*P	**Pn**	**21 17 02.1**	**+2.6**
HSPB	**Hornsund (broa**	**6.42**	**131**	Pn	**Pn**	**21 17 02.5**	**+2.9**
HOPEN	**Hopen**	**7.93**	**118**	*e*P	**Pn**	**21 17 19.7**	**-0.5**
HOPEN	**Hopen**	**7.93**	**118**	Pn	**Pn**	**21 17 21.9**	**+1.7**

*HEL **05** 21:37:02.9±0.2, 67.75N×33.67E, h0km, ML2.3, Suspected explosion*
*KOLA **05** 21:37:02.2, 67.65N×33.76E, h0km, ML2.7, Error ellipse: s-maj=5.2km s-min=2.1km az=150.0, Khibiny, mines Kirovsk, Yukspor*
*IDC **05** 21:37:03.1±1.7, 67.69N×33.63E, h0km, mbtmp3.5/5, ML2.6/4, Error ellipse: s-maj=19.1km s-min=9.1km az=86.0*
ISC 05 21:37:01.0±0.8, **67.70N**±0.03×**33.65E**±0.03, **h0**km, **n36,** σ1§83/67, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.16**	**217**	P	**Pg**	**21 37 05.2**	**+1.2**
APA				S	**Sg**	**21 37 07.5**	**+1.5**
APA0	**Apatity Array**	**0.27**	**251**	P	**Pg**	**21 37 07.2**	**+1.2**
APA0				S	**Sg**	**21 37 11.3**	**+1.8**
LVZ	**Lovozero**	**0.43**	**61**	P	**Pg**	**21 37 09.7**	**+0.5**
LVZ				S	**Sg**	**21 37 15.6**	**+0.8**
LVZ	**Lovozero**	**0.43**	**61**	PG	**Pg**	**21 37 09.4**	**+0.2**
LVZ				SG	**Sg**	**21 37 15.8**	**+1.0**
VRF	**Varrio**	**1.54**	**274**	PG	**Pn**	**21 37 30.3**	**+0.6**
	baz=86						
VRF				MSG		21 37 49.3	
	comp=Z,64nm,0.2s						
VRF				SG	**Sn**	**21 37 50.7**	**+0.3**
TERR	**Teriberka**	**1.61**	**19**	P	**Pn**	**21 37 31.1**	**+0.6**
TERR				S	**Sn**	**21 37 51.5**	**-0.4**
PRVG	**Vayda Guba**	**2.13**	**346**	P	**Pb**	**21 37 41.0**	**+0.7**
PRVG				S	**Sb**	**21 38 07.8**	**+0.5**
RAJF	**Raja-Jooseppi**	**2.15**	**294**	PB	**Pn**	**21 37 39.4**	**+1.4**
RAJF				SG	**Sb**	**21 38 08.3**	**+0.4**
KU6	**Riekki**	**2.24**	**223**	PN	**Pn**	**21 37 41.2**	**+2.0**
	baz=43						
KU6				MSG		21 38 10.5	
	comp=Z,9.8nm,0.2s						
KU6				SB	**Sb**	**21 38 11.2**	**+0.7**
MSF	**Maaselka**	**2.56**	**228**	PN	**Pn**	**21 37 46.3**	**+2.7**
MSF				SB	**Sb**	**21 38 20.5**	**+0.9**
SGF	**Sodankyl**	**2.75**	**268**	PN	**Pn**	**21 37 47.9**	**+1.7**
	baz=78						
SGF				SG	**Sb**	**21 38 26.6**	**+1.6**
KMNF	**Kaamanen**	**2.86**	**304**	PN	**Pn**	**21 37 49.3**	**+1.5**
KMNF				SB	**Sn**	**21 38 24.6**	**+1.7**
VADS	**Vadso**	**2.89**	**329**	P	**Pn**	**21 37 49.8**	**+1.6**
VADS				S	**Sn**	**21 38 24.0**	**+0.5**
RNF	**Rovaniemi**	**3.17**	**253**	PN	**Pn**	**21 37 53.3**	**+1.2**
	baz=68						
RNF				SN	**Sn**	**21 38 32.5**	**+1.9**
KEV	**Kevo**	**3.19**	**314**	*e*P	**Pn**	**21 37 54.2**	**+2.0**
KEV	**Kevo**	**3.19**	**314**	PB	**Pn**	**21 37 54.0**	**+1.7**
	baz=128						
KEV				SB	**Sn**	**21 38 32.7**	**+1.9**
RANF	**Ranua**	**3.19**	**241**	PN	**Pn**	**21 37 53.8**	**+1.5**
	baz=54						
RANF				SG	**Sb**	**21 38 38.9**	**+1.0**
ARA0	**ARCESS Array S**	**3.51**	**305**	*e*P	**Pn**	**21 37 57.7**	**+1.0**
ARA0	**ARCESS Array S**	**3.51**	**305**	PN	**Pn**	**21 37 58.1**	**+1.4**
	baz=113						
ARA0				SN	**Sn**	**21 38 39.2**	**+0.3**
ARCES	**ARCESS Array B**	**3.51**	**305**	P	**Pn**	**21 37 57.8**	**+1.1**
ARCES				S	**Sn**	**21 38 39.4**	**+0.5**
ARCES	**ARCESS Array B**	**3.51**	**305**	Pn	**Pn**	**21 37 58.3**	**+1.6**
	comp=Z,2.6nm,0.3s,baz=122,slow=15,SNR=247						
ARCES				Sn	**Sn**	**21 38 40.1**	**+1.3**
	comp=Z,3.1nm,0.3s,baz=117,slow=18,SNR=11						
ARCES				Lg	Lg	21 38 51.8	
	comp=Z,8.1nm,0.3s,baz=107,slow=33,SNR=5.5						
	comp=Z,6.1nm,0.3s						
KLF	**Kolari**	**3.76**	**267**	PN	**Pn**	**21 38 02.4**	**+2.3**
	baz=82						
KLF				SG	**Sg**	**21 38 58.9**	**-2.6**
RMF	**Romuvaara**	**3.81**	**205**	PN	**Pn**	**21 38 01.4**	**+0.6**
HEF	**Hetta**	**3.82**	**285**	PN	**Pn**	**21 38 02.0**	**+1.1**
	baz=97						
HEF				SN	**Sn**	**21 38 47.1**	**+0.6**
TOF	**Tornio**	**4.02**	**251**	PG	**Pb**	**21 38 14.0**	**+1.5**
TOF				SN	**Sn**	**21 38 52.7**	**+1.3**
OUL	**Oulu**	**4.07**	**234**	PB	**Pb**	**21 38 10.9**	**-2.5**
	baz=47						
OUL				SG	**Sg**	**21 39 10.8**	**-0.8**
KTK1	**Kautokeino**	**4.08**	**294**	PN	**Pn**	**21 38 07.0**	**+2.5**
KTK1				SN	**Sn**	**21 38 53.6**	**+0.7**
PAJU	**Pajala**	**4.13**	**266**	PN	**Pn**	**21 38 05.9**	**+0.7**
	baz=76						
PAJU				SN	**Sn**	**21 38 55.0**	**+0.8**
LANU	**Lannavaara**	**4.42**	**280**	PN	**Pn**	**21 38 09.9**	**+0.7**
LANU				SN	**Sn**	**21 39 00.5**	**-0.9**
KALU	**Kalix**	**4.47**	**250**	PN	**Pn**	**21 38 12.9**	**+3.0**
KALU				SG	**Sg**	**21 39 21.6**	**-2.8**
OBF4	**Vikkela, Lumij**	**4.51**	**234**	SN	**Sn**	**21 39 05.0**	**+1.7**
FAUS	**Fauske**	**7.04**	**276**	S	**Sn**	**21 40 01.9**	**-3.8**
FINES	**FINESS Array B**	**7.07**	**211**	Pn	**Pn**	**21 38 45.8**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=26,slow=12,SNR=7.7						
FINES				Sn	**Sn**	**21 40 04.0**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=28,slow=21,SNR=5.3						
FINES				Lg	Lg	21 40 38.4	
	comp=Z,1.1nm,0.3s,baz=25,slow=28,SNR=17						
	comp=Z,0.8nm,0.4s						
HFS	**Hagfors**	**11.55**	**239**	Pn	**Pn**	**21 39 44.4**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=39,slow=18,SNR=2.5						
HFS				Sn	**Sn**	**21 41 52.5**	**-3.8**
	comp=Z,0.2nm,0.3s,baz=55,slow=23,SNR=3.3						
HFS				Lg	Lg	21 43 00.9	
	comp=Z,0.2nm,0.3s,baz=47,slow=28,SNR=1.8						
	comp=Z,2.1nm,0.8s						
SPITS	**Spitsbergen Ar**	**11.60**	**342**	Pn	**Pn**	**21 39 46.1**	**-1.4**
	comp=Z,7.0nm,0.9s,baz=139,slow=17,SNR=13						
SPITS				Sn	**Sn**	**21 41 53.9**	**-3.6**
	baz=146,slow=31						
NOA	**NORSAR Array B**	**11.72**	**246**	Pn	**Pn**	**21 39 46.0**	**-3.3**
	baz=46,slow=11,SNR=4.3						
NOA				Sn	**Sn**	**21 41 55.5**	**-5.2**
	baz=50,slow=23,SNR=2.4						
NOA				Lg	Lg	21 43 05.4	
	baz=48,slow=26,SNR=1.1						
	comp=Z,0.2nm,0.5s						

*ATH **05** 21:45:13.3, 39.95N×20.51E, h14km±4km, ML2.2/3, Error ellipse: s-maj=5.0km s-min=1.1km az=160.0*
*TIR **05** 21:45:14.7, 39.92N×20.65E, h3km±1km, Md2.5, Ml2.2*
ISC 05 21:45:13.3±1.1, **39.93N**±0.03×**20.57E**±0.03, **h10**km±9km, **n13,** σ1§97/25, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSK	**Leskovik**	**0.23**	**7**	P	**Pb**	**21 45 19.8**	**+0.3**
	baz=351						
LSK				S	**Sb**	**21 45 24.1**	**+2.8**
	baz=351						
LSK				AMP			
	comp=E,4.0nm,0.5s,baz=351						
JAN	**Janina**	**0.35**	**141**	P	**Pb**	**21 45 20.9**	**-0.7**
JAN				S	**Sb**	**21 45 26.9**	**-0.3**
JAN				AML	AML	21 45 28.7	
	comp=E,4428μm,0.4s						
JAN				AML	AML	21 45 29.5	
	comp=N,2210μm,0.4s						
IGT	**Igoumenitsa**	**0.43**	**205**	P	**Pb**	**21 45 23.4**	**+0.4**
	baz=213						
IGT				S	**Sn**	**21 45 31.3**	**+3.8**
	baz=213						
IGT				AMP			
	comp=E,0.8nm,0.4s,baz=213						
IGT	**Igoumenitsa**	**0.43**	**205**	P	**Pg**	**21 45 22.3**	**+0.5**
IGT				S	**Sb**	**21 45 28.5**	**-1.0**
IGT				AML	AML	21 45 33.6	
	comp=N,610μm,0.7s						
IGT				AML	AML	21 45 36.2	
	comp=E,400μm,0.4s						
SRN	**Sarande**	**0.44**	**264**	P	**Pn**	**21 45 25.3**	**-0.3**
	baz=267						
SRN				S	**Sn**	**21 45 33.0**	**+5.3**
	baz=267						
SRN				AMP			
	comp=N,0.6nm,0.5s,baz=267						
PENT	**Pentalofos**	**0.52**	**58**	P	**Pb**	**21 45 23.8**	**-0.8**
PENT				S	**Sb**	**21 45 31.5**	**-0.6**
NEST	**Nestorio**	**0.61**	**37**	P	**Pb**	**21 45 25.9**	**-0.3**
NEST				S	**Sg**	**21 45 33.2**	**-0.1**
KPRO	**Kipourio**	**0.61**	**87**	P	**Pg**	**21 45 25.1**	**-0.2**
KPRO				S	**Sn**	**21 45 35.5**	**-2.6**
KEK	**Kerkira**	**0.63**	**250**	P	**Pg**	**21 45 24.3**	**-1.2**
KEK				S	**Sg**	**21 45 33.1**	**-0.6**
KEK				AML	AML	21 45 39.9	
	comp=E,407μm,0.6s						
KEK				AML	AML	21 45 41.5	
	comp=N,295μm,0.7s						
FNA	**Florina**	**1.06**	**36**	P	**Pn**	**21 45 35.2**	**+1.0**
	baz=32						
FNA				S	**Sn**	**21 45 50.7**	**+1.7**
	baz=32						
FNA	**Florina**	**1.06**	**36**	P	**Pb**	**21 45 33.3**	**-0.4**
FNA				S	**Sb**	**21 45 46.9**	**-0.7**
LKD2	**Lefkada island**	**1.14**	**176**	P	**Pg**	**21 45 37.4**	**+2.2**
	baz=179						
LKD2				S	**Sn**	**21 45 53.7**	**+2.8**
	baz=179						
LKD2				AMP			
	comp=E,0.3nm,0.8s,baz=179						
SCTE	**Santa Cesarea**	**1.62**	**276**	P	**Pg**	**21 45 45.8**	**+1.4**
	baz=277						

*STR **05** 21:50:34.5±1.6, 44.N±12.×1.2E±1.1, h4km, MLv4.2/20, Error ellipse: s-maj=0.0km s-min=0.0km az=143.4, preliminary*
*ROM **05** 21:50:35.9±0.1, 43.929N±0.004×11.965E±0.005, h7km, ML3.9/265, Mw3.7, Error ellipse: s-maj=0.5km s-min=0.1km az=40.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=5.10; $M_{\theta\theta}$=0.53; $M_{\phi\phi}$=4.58; $M_{r\theta}$=0.30; $M_{\theta\phi}$=-1.12; $M_{\phi r}$=0.64; Fault plane solution: M_o=5.03573×10^{14} NP1:φs347.00000°, δ41.00000°, λ-88.00000°. NP2:φs164.00000°, δ49.00000°, λ-92.00000°.*
*MOS **05** 21:50:35.3±1.1, 43.93N×12.00E, h15km, mb4.4/10 Error ellipse: s-maj=4.0km s-min=2.8km az=86.3*
*LDG **05** 21:50:36.0±0.1, 43.92N×11.95E, h8km, Ml4.0/40, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*NEIC **05** 21:50:36.9±1.8, 43.99N±0.03×12.00E±0.04, h10km±1km, mb4.4/13, Error ellipse: s-maj=6.3km s-min=4.8km az=317.0*
*MED_RC **05** 21:50:36.0±0.3, 43.92N×11.95E, h10km, MW4.1/14, Moment Tensor Solution. Mantle waves: s14,c17; Duration: 1§0 Moment tensor: Scale 10^{15}Nm; M_{rr}=1.82±.11; $M_{\theta\theta}$=0.13±.14; $M_{\phi\phi}$=1.69±.09; $M_{r\theta}$=-0.22±.33; $M_{\theta\phi}$=-0.30±.10; $M_{\phi r}$=0.21±.25; Best double couple: M_o=1.81000×10^{15} NP1:φs164.00000°, δ49.00000°, λ-97.00000°. NP2:φs355.00000°, δ41.00000°, λ-82.00000°. Principal axes: T 1.7600, Plg4.0000°, Azm259.0000°; N 0.0900, Plg5.0000°, Azm169.0000°; P -1.8500, Plg83.0000°, Azm26.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*IDC **05** 21:50:36.2±0.7, 44.03N×12.00E, h0km, mb3.8/16, mbtmp3.8/26, ML3.6/10, MS3.4/15 Error ellipse: s-maj=13.5km s-min=10.8km az=101.0*
*PDG **05** 21:50:36.4±1.0, 43.91N×11.94E, h17km±1km, ML4.1/12, Error ellipse: s-maj=0.8km s-min=0.8km az=0.0*
*BGR **05** 21:50:37.5±0.7, 43.87N×12.10E, h10km, ML3.9/14, Error ellipse: s-maj=12.2km s-min=11.1km az=168.0*
*PRU **05** 21:50:40.3, 44.33N×11.84E, h0km, M4.4*
*NAO **05** 21:50:41.6, 43.92N×11.95E, h10km, mb3.9*
ISC 05 21:50:36.7±0.7, **43.92N**±0.02×**11.97E**±0.01, **h11**km±4km, **n610,** σ1§64/721, **mb4.0**/29, **MS3.5**/10, **45C-43D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFI	**Santa Sofia**	**0.09**	**258**	⇑P	**Pg**	**21 50 38.7**	**-0.6**
SFI				S	**Sg**	**21 50 40.8**	**-0.3**
SFI	**Santa Sofia**	**0.09**	**258**	⇑P	**Pg**	**21 50 38.7**	**-0.6**
SFI				S	**Sg**	**21 50 40.8**	**-0.3**
SFI				AML	AML		
SFI				AML	AML		
SFI				AML	AML		
SFI				AML	AML		
SFI				AML	AML		
SFI				AML	AML		
SFI				AML	AML		
SFI				AML	AML		
LMD	**Lutirano**	**0.24**	**309**	⇑P	**Pg**	**21 50 41.0**	**-0.8**
LMD				S	**Sg**	**21 50 45.2**	**+0.1**
LMD				AML	AML		
	comp=N,77400μm,1.3s						
LMD				AML	AML		
	comp=E,78600μm,0.3s						
LMD				AML	AML		
	comp=N,77400μm,0.7s						
LMD				AML	AML		
	comp=E,78559μm,0.3s						
LMD				AML	AML		
	comp=N,57837μm,0.3s						
LMD	**Lutirano**	**0.24**	**309**	P	**Pg**	**21 50 40.9**	**-0.8**
LMD				S	**Sg**	**21 50 45.5**	**+0.3**
CPGN	**Carpegna, Ital**	**0.28**	**115**	⇑P	**Pb**	**21 50 42.9**	**-1.1**
CPGN				AML	AML		
	comp=E,51450μm,0.8s						
CPGN				AML	AML		
	comp=N,64300μm,0.5s						
CPGN				AML	AML		
	comp=N,65050μm,0.8s						
CPGN				AML	AML		
	comp=E,51450μm,0.8s						
CPGN				AML	AML		
	comp=E,58650μm,1.6s						
CPGN				AML	AML		
	comp=N,64950μm,0.8s						
CPGN				AML	AML		
	comp=N,64300μm,0.5s						
CPGN				AML	AML		
	comp=E,58700μm,1.6s						
CPGN				AML	AML		
	comp=N,65000μm,0.8s						
CPGN				AML	AML		
	comp=E,58700μm,0.4s						
CPGN				AML	AML		
	comp=N,64300μm,1.5s						
CPGN				AML	AML		
	comp=N,65000μm,1.2s						
CPGN				AML	AML		
	comp=E,51450μm,1.2s						
CPGN				AML	AML		
	comp=E,58030μm,0.6s						
CPGN				AML	AML		
	comp=N,64298μm,0.5s						
CPGN				AML	AML		
	comp=N,64993μm,0.8s						
CPGN				AML	AML		
	comp=E,51426μm,0.8s						
CRE	**Caprese Michel**	**0.30**	**182**	P	**Pg**	**21 50 42.7**	**-0.2**
CRE				S	**Sb**	**21 50 48.4**	**-0.9**
CRE	**Caprese Michel**	**0.30**	**182**	⇓P	**Pg**	**21 50 42.7**	**-0.2**
CRE				S	**Sb**	**21 50 48.3**	**-1.0**
CRE				AML	AML		
	comp=E,34850μm,1.4s						
CRE				AML	AML		
	comp=N,91800μm,0.2s						
CRE				AML	AML		
	comp=E,34850μm,0.6s						
CRE				AML	AML		
	comp=E,32331μm,0.3s						
CRE				AML	AML		
	comp=N,91786μm,0.2s						
PARC	**Parchiule**	**0.34**	**144**	⇓P	**Pg**	**21 50 43.1**	**-0.3**
PARC				S	**Sb**	**21 50 49.0**	**-1.2**
PARC				AML	AML		
	comp=E,50050μm,0.3s						
PARC				AML	AML		
	comp=N,37600μm,0.5s						
PARC				AML	AML		
	comp=E,50056μm,0.3s						
PARC				AML	AML		
	comp=N,37611μm,0.5s						
RUFI	**Rufina**	**0.34**	**256**	⇑P	**Pg**	**21 50 43.1**	**-0.4**
RUFI				S	**Sg**	**21 50 49.0**	**+0.9**
RUFI				AML	AML		
	comp=E,38650μm,0.4s						
RUFI				AML	AML		
	comp=N,40500μm,0.4s						
RUFI				AML	AML		
	comp=N,40450μm,0.4s						
RUFI				AML	AML		
	comp=E,38664μm,0.4s						
RUFI				AML	AML		
	comp=N,40470μm,0.4s						
RUFI	**Rufina**	**0.34**	**256**	P	**Pg**	**21 50 43.1**	**-0.4**
RUFI				S	**Sg**	**21 50 49.3**	**+1.2**
RSM	**Repubblica di**	**0.35**	**89**	⇑P	**Pb**	**21 50 44.1**	**-0.9**
RSM				AML	AML		
	comp=E,42238μm,1.7s						
RSM				AML	AML		
	comp=E,54523μm,1.2s						
BRSN	**Barisano**	**0.37**	**12**	P	**Pb**	**21 50 44.2**	**-1.1**
BRSN				AML	AML		
	comp=E,67500μm,0.7s						
BRSN				AML	AML		
	comp=E,71600μm,0.8s						
BRSN				AML	AML		
	comp=N,81300μm,1.0s						
BRSN				AML	AML		
	comp=N,86400μm,0.8s						
BRSN				AML	AML		
	comp=E,71900μm,0.8s						
BRSN				AML	AML		
	comp=N,86400μm,1.2s						
BRSN				AML	AML		
	comp=E,71900μm,1.2s						
BRSN				AML	AML		
	comp=N,81050μm,1.0s						
BRSN				AML	AML		
	comp=E,67500μm,1.3s						
BRSN				AML	AML		
	comp=N,86620μm,0.8s						
BRSN				AML	AML		
	comp=N,77666μm,0.7s						
BRSN				AML	AML		
	comp=E,67495μm,0.7s						
BRSN				AML	AML		
	comp=E,69994μm,0.9s						
BRSN				AML	AML		
BRSN				AML	AML		
	comp=E,88546μm,1.0s						
SSP9	**Sansepolcro**	**0.37**	**161**	⇓P	**Pg**	**21 50 43.8**	**-0.3**
SSP9				S	**Sb**	**21 50 50.3**	**-0.8**
SSP9				AML	AML		
	comp=E,21000μm,1.4s						
SSP9				AML	AML		
	comp=N,29850μm,1.3s						
SSP9				AML	AML		
	comp=E,21050μm,1.4s						
SSP9				AML	AML		
	comp=N,29850μm,0.7s						
SSP9				AML	AML		
	comp=E,21050μm,0.6s						
SSP9				AML	AML		
	comp=N,29862μm,1.3s						
SSP9				AML	AML		
	comp=E,19456μm,0.8s						
FAEN	**Faenza**	**0.37**	**350**	P	**Pb**	**21 50 44.9**	**-0.4**
BRIS	**BRISIGHELLA**	**0.40**	**305**	⇑P	**Pg**	**21 50 43.1**	**-1.5**
BRIS				S	**Sg**	**21 50 49.3**	**-0.6**
BRIS				AML	AML		
	comp=N,39500μm,1.4s						
BRIS				AML	AML		
	comp=N,43500μm,1.4s						
BRIS				AML	AML		
	comp=N,45050μm,0.4s						
BRIS				AML	AML		
	comp=E,50550μm,0.5s						
BRIS				AML	AML		
	comp=E,47450μm,0.5s						
BRIS				AML	AML		
	comp=N,44700μm,0.4s						
BRIS				AML	AML		
	comp=E,50522μm,0.5s						
BRIS				AML	AML		
	comp=E,47474μm,0.5s						
BRIS				AML	AML		
	comp=N,44680μm,0.4s						
BRIS				AML	AML		
	comp=N,45052μm,0.4s						
BLLA	**Bellaria**	**0.42**	**59**	⇑P	**Pb**	**21 50 45.1**	**-1.1**
BLLA				AML	AML		
	comp=E,28150μm,1.1s						
BLLA				AML	AML		
	comp=E,35850μm,1.5s						
BLLA				AML	AML		
	comp=N,42800μm,1.6s						
BLLA				AML	AML		
	comp=N,42800μm,0.4s						
BLLA				AML	AML		
	comp=E,28129μm,1.1s						
BLLA				AML	AML		
	comp=N,42833μm,1.6s						
PE3	**Peglio**	**0.45**	**121**	P	**Pb**	**21 50 45.5**	**-1.1**
PE3				AML	AML		
	comp=N,1μm,0.3s						
PE3				AML	AML		
	comp=E,62592μm,0.7s						
BADI	**Badiali**	**0.46**	**154**	⇓P	**Pg**	**21 50 45.2**	**-0.5**
BADI				S	**Sb**	**21 50 53.1**	**-0.6**
BADI				AML	AML		
	comp=E,21050μm,1.6s						
BADI				AML	AML		
	comp=N,20600μm,1.0s						
BADI				AML	AML		
	comp=E,21050μm,0.4s						
BADI				AML	AML		
	comp=E,17982μm,0.7s						
BADI				AML	AML		
	comp=N,18605μm,0.5s						
SEI	**Scarperia**	**0.46**	**287**	⇑P	**Pg**	**21 50 45.0**	**-0.7**
SEI				S	**Sb**	**21 50 53.0**	**-0.7**
SEI				AML	AML		
	comp=E,54650μm,0.5s						
SEI				AML	AML		
SEI				AML	AML		
SEI				AML	AML		
	comp=E,54650μm,1.5s						
SEI				AML	AML		
SEI				AML	AML		
	comp=E,54664μm,0.5s						
SEI	**Scarperia**	**0.46**	**287**	P	**Pg**	**21 50 45.0**	**-0.7**
SEI				S	**Sg**	**21 50 52.9**	**+1.1**
IMOL	**Imola, Italy**	**0.47**	**340**	⇑P	**Pb**	**21 50 46.3**	**-0.7**
IMOL				AML	AML		
	comp=E,36200μm,0.9s						
IMOL				AML	AML		
	comp=E,36250μm,0.9s						
IMOL				AML	AML		
	comp=N,36900μm,1.1s						

IMOL AML AML
comp=N,36900µm,0.9s
IMOL AML AML
comp=E,31325µm,0.5s
IMOL AML AML
comp=N,30404µm,1.2s
IMOL Imola, Italy 0.47 340 P **Pb 21 50 46.5 -0.4**
ATMC Monte Cedrone 0.50 161 P **Pg 21 50 46.0 -0.6**
NARO Abbazia di Nar 0.54 125 ⇑P **Pg 21 50 46.5 -0.8**
NARO S **Sb 21 50 55.7 -0.4**
NARO AML AML
comp=E,7395µm,0.2s
NARO AML AML
comp=N,10505µm,1.0s
NARO AML AML
comp=E,7393µm,0.2s
NARO AML AML
comp=N,10487µm,1.0s
PIEI Piela 0.56 133 ⇑P **Pg 21 50 46.7 -1.0**
PIEI S **Sb 21 50 56.0 -0.8**
PIEI AML AML
comp=E,12500µm,0.5s
PIEI AML AML
comp=N,9465µm,0.4s
PIEI AML AML
comp=E,12491µm,0.5s
PIEI AML AML
comp=N,9464µm,0.4s
MOCL Monte Cuccoli 0.57 278 ⇓P **Pg 21 50 47.2 -0.7**
MOCL S **Sb 21 50 57.0 0.0**
MOCL AML AML
comp=E,11405µm,0.9s
MOCL AML AML
comp=N,9990µm,0.7s
MOCL AML AML
comp=N,9985µm,0.7s
MOCL AML AML
comp=N,9985µm,1.3s
MOCL AML AML
comp=E,11400µm,0.9s
MOCL AML AML
comp=N,8899µm,0.3s
MOCL AML AML
comp=E,11398µm,0.9s
CAFI Castiglion Fio 0.59 180 ⇓P **Pg 21 50 47.9 -0.4**
CAFI S **Sb 21 50 58.1 +0.5**
CAFI AML AML
comp=N,8500µm,1.1s
CAFI AML AML
comp=E,12050µm,0.6s
CAFI AML AML
comp=E,11950µm,0.6s
CAFI AML AML
comp=N,8635µm,1.1s
CAFI AML AML
comp=N,8635µm,0.9s
CAFI AML AML
comp=N,8500µm,0.9s
CAFI AML AML
comp=E,12056µm,0.6s
CAFI AML AML
comp=E,11936µm,0.6s
CAFI AML AML
comp=N,8010µm,0.7s
CAFI AML AML
comp=N,8201µm,0.7s
ATVO AVT- Monte Val 0.63 149 P **Pg 21 50 48.2 -0.7**
ATVO S **Sb 21 50 59.0 +0.4**
ATVO AML AML
comp=E,26850µm,0.6s
ATVO AML AML
comp=N,13950µm,0.4s
ATVO AML AML
comp=E,26850µm,1.4s
ATVO AML AML
comp=N,13994µm,0.4s
ATVO AML AML
comp=E,26862µm,0.6s
MPPT Montemurlo 0.63 273 ⇑P **Pg 21 50 48.3 -0.7**
MPPT AML AML
comp=E,17100µm,1.0s
MPPT AML AML
comp=N,11615µm,0.6s
MPPT AML AML
comp=N,11620µm,0.6s
MPPT AML AML
comp=N,11620µm,1.4s
MPPT AML AML
comp=N,11621µm,0.6s
MPPT AML AML
comp=E,17100µm,1.0s
MPAG Monte Paganucc 0.65 117 P **Pg 21 50 48.3 -0.9**
MPAG S **Sb 21 50 59.1 0.0**
MPAG AML AML
comp=E,8055µm,0.6s
MPAG AML AML
comp=N,7650µm,1.0s
MPAG AML AML
comp=N,7880µm,1.0s
MPAG AML AML
comp=E,8060µm,0.6s
MPAG AML AML
comp=E,7970µm,0.6s
MPAG AML AML
comp=N,7655µm,1.0s
MPAG AML AML
comp=N,6553µm,0.6s
MPAG AML AML
comp=E,8056µm,0.6s
MPAG AML AML
comp=E,7972µm,0.6s
MPAG AML AML
comp=N,7880µm,1.0s
FNVD Fontana Vidola 0.66 292 ⇑P **Pg 21 50 48.5 -0.9**
FNVD AML AML
comp=N,21500µm,1.1s
FNVD AML AML
comp=E,33800µm,1.0s
FNVD AML AML
comp=E,33800µm,1.0s
FNVD AML AML
comp=E,33806µm,1.0s
FNVD AML AML
comp=N,17181µm,0.6s
OSSC Osservatorio P 0.66 233 **Pg 21 50 48.5 -0.9**
OSSC Osservatorio P 0.66 233 P **Pg 21 50 48.9 -0.6**
OSSC AML AML
OSSC AML AML
comp=N,21438µm,0.7s
OSSC AML AML
comp=E,12994µm,0.7s
OSSC AML AML
OSSC Osservatorio P 0.66 233 P **Pg 21 50 48.8 -0.6**
OSSC S **Sb 21 50 59.5 +0.1**
CSNT Castellina Chi 0.67 228 P **Pg 21 50 49.0 -0.6**
CSNT AML AML
comp=E,10820µm,0.7s
CSNT AML AML
comp=N,17250µm,0.5s
CSNT AML AML
comp=E,10820µm,1.3s
CSNT AML AML
comp=N,17279µm,0.5s
CSNT AML AML
comp=E,10812µm,0.7s
CSNT Castellina Chi 0.67 228 P **Pg 21 50 49.4 -0.3**
CSNT S **Sb 21 50 59.8 +0.1**
FRON Frontone 0.68 126 ⇑P **Pg 21 50 49.0 -1.0**
FRON S **Sb 21 51 00.6 +0.4**
FRON AML AML
comp=E,7925µm,0.6s
FRON AML AML
comp=N,12310µm,0.5s
FRON AML AML
comp=N,12314µm,0.5s
FRON AML AML
comp=E,7928µm,0.6s
ATVA AVT- Monte Val 0.69 160 P **Pg 21 50 49.1 -0.9**
MTCR Monte La Croce 0.71 279 ⇑P **Pg 21 50 49.4 -1.0**
MTCR AML AML
comp=N,9515µm,1.5s
MTCR AML AML
comp=E,7955µm,0.9s
MTCR AML AML
comp=N,9495µm,1.5s
MTCR AML AML
comp=E,7955µm,1.1s

MTCR AML AML
comp=N,9495µm,0.5s
MTCR AML AML
comp=E,7953µm,0.9s
MTCR Monte La Croce 0.71 279 P **Pg 21 50 49.4 -1.0**
ATSC Scheggia e Pas 0.72 133 P **Pg 21 50 49.7 -1.0**
SSFR Montelago di S 0.77 129 P **Pg 21 50 50.5 -1.0**
SSFR AML AML
comp=N,10360µm,0.6s
SSFR AML AML
comp=E,9895µm,0.4s
SSFR AML AML
comp=N,10425µm,0.3s
SSFR AML AML
comp=N,10360µm,1.4s
SSFR AML AML
comp=E,10495µm,1.0s
SSFR AML AML
comp=N,10425µm,1.7s
SSFR AML AML
comp=N,10132µm,0.3s
SSFR AML AML
comp=E,9647µm,0.3s
SSFR AML AML
comp=N,10442µm,0.3s
SSFR AML AML
comp=E,9905µm,0.4s
COR1 Corinaldo 0.80 111 P **Pb 21 50 52.0 -0.7**
COR1 AML AML
comp=E,10735µm,0.4s
COR1 AML AML
comp=N,20250µm,1.0s
COR1 AML AML
comp=E,10717µm,0.4s
COR1 AML AML
comp=N,20210µm,1.0s
ARVD Arcevia 0.82 121 ⇑P **Pg 21 50 51.5 -1.2**
ARVD S **Sb 21 51 04.3 +0.1**
ARVD AML AML
comp=E,6230µm,0.9s
ARVD AML AML
comp=E,6230µm,1.1s
ARVD AML AML
comp=E,6166µm,0.5s
ARVD AML AML
comp=N,5965µm,1.1s
ZCCA Zocca 0.83 301 **Pg 21 50 52.3 -0.5**
ZCCA Zocca 0.83 301 ⇑P **Pg 21 50 52.8 0.0**
ZCCA AML AML
comp=N,5740µm,1.0s
ZCCA AML AML
comp=E,6345µm,1.2s
ZCCA AML AML
comp=E,6755µm,1.0s
ZCCA AML AML
comp=N,5300µm,1.1s
ZCCA Zocca 0.83 301 P **Pg 21 50 52.8 0.0**
FOSV Fossato di Vic 0.85 137 P **Pg 21 50 52.2 -1.0**
FOSV AML AML
comp=E,8675µm,0.5s
FOSV AML AML
comp=N,6270µm,1.2s
FOSV AML AML
comp=E,8670µm,0.5s
FOSV AML AML
comp=N,6275µm,1.2s
FOSV AML AML
comp=E,8672µm,0.5s
FOSV AML AML
comp=N,5812µm,0.7s
POPM Popiglio 0.88 278 P **Pg 21 50 53.2 -0.5**
POPM AML AML
comp=E,4475µm,0.9s
POPM AML AML
comp=N,5315µm,0.7s
POPM AML AML
comp=N,5317µm,0.7s
POPM AML AML
comp=E,3972µm,0.5s
POPM Popiglio 0.88 278 P **Pg 21 50 52.8 -0.9**
ATCC AVT- Casa Cast 0.89 146 P **Pg 21 50 53.1 -0.7**
ATCC AML AML
comp=N,12900µm,0.4s
ATCC AML AML
comp=N,12900µm,1.6s
ATCC AML AML
comp=E,15400µm,0.9s
ATCC AML AML
comp=N,12907µm,0.4s
ATCC AML AML
comp=E,15378µm,0.9s
FROS Frosini 0.93 220 ⇓P **Pb 21 50 54.6 -0.2**
FROS AML AML
comp=E,10800µm,0.6s
FROS AML AML
comp=N,13300µm,0.6s
FROS AML AML
comp=E,10800µm,1.4s
FROS AML AML
comp=N,13314µm,0.5s
FROS AML AML
comp=E,10813µm,0.7s
FROS Frosini 0.93 220 P **Pg 21 50 54.5 0.0**
SENI Senigallia 0.94 103 P **Pb 21 50 54.7 -0.4**
SENI AML AML
comp=E,41700µm,0.4s
SENI AML AML
comp=E,14800µm,0.7s
SENI AML AML
comp=N,12800µm,1.0s
SENI AML AML
comp=N,51550µm,0.4s
SENI AML AML
comp=E,14800µm,1.3s
SNTG Esanatoglia 0.97 133 P **Pg 21 50 54.5 -1.0**
SNTG AML AML
comp=N,6590µm,0.5s
SNTG AML AML
comp=E,6955µm,0.7s
SNTG AML AML
comp=N,6760µm,0.5s
SNTG AML AML
comp=N,6760µm,1.5s
SNTG AML AML
comp=E,7220µm,0.7s
SNTG AML AML
comp=N,6761µm,0.5s
SNTG AML AML
comp=E,6951µm,0.7s
SNTG AML AML
comp=E,7220µm,0.7s
SNTG AML AML
comp=N,6588µm,0.5s
BDI Bagni Di Lucca 1.00 278 ⇑P **Pg 21 50 54.6 -1.3**
BDI Bagni Di Lucca 1.00 278 P **Pg 21 50 55.3 -0.7**
BDI AML AML
comp=E,5780µm,0.8s
BDI AML AML
comp=N,3940µm,0.7s
BDI AML AML
comp=E,5645µm,0.7s
BDI AML AML
comp=N,4490µm,0.7s
BDI AML AML
comp=N,3940µm,1.3s
BDI AML AML
comp=N,4490µm,1.3s
BDI AML AML
comp=E,5780µm,1.2s
BDI AML AML
comp=E,5645µm,1.3s
BDI AML AML
comp=N,3937µm,0.7s
BDI AML AML
comp=N,4487µm,0.7s
BDI AML AML
comp=E,5779µm,0.8s
BDI AML AML
comp=E,5647µm,0.7s
BDI Bagni Di Lucca 1.00 278 P **Pg 21 50 55.0 -0.9**
EL6 Elcito 1.02 125 P **Pg 21 50 55.1 -1.2**
EL6 AML AML
comp=N,18200µm,0.5s
EL6 AML AML
comp=E,13850µm,0.7s
EL6 AML AML
comp=N,18218µm,0.5s

EL6 AML AML
comp=E,13851µm,0.7s
MGAB Montegabbione 1.02 174 P **Pg 21 50 55.8 -0.4**
MGAB AML AML
comp=N,11250µm,0.8s
MGAB AML AML
comp=N,12300µm,0.5s
MGAB AML AML
comp=E,12300µm,0.7s
MGAB AML AML
comp=E,11195µm,0.7s
MGAB AML AML
comp=N,12287µm,0.5s
MGAB AML AML
comp=E,12255µm,0.7s
MGAB AML AML
comp=E,11193µm,0.7s
MGAB AML AML
comp=N,11297µm,0.8s
RAVA Ravarino 1.03 324 P **Pg 21 50 56.2 -0.4**
RAVA Ravarino 1.03 324 P **Pn 21 50 59.2 +2.1**
RAVA S **Sn 21 51 17.5 +5.9**
CING Cingoli 1.05 121 P **Pg 21 50 56.0 -0.9**
CING AML AML
comp=E,8495µm,0.4s
CING AML AML
comp=E,8495µm,1.6s
CING AML AML
comp=N,5990µm,1.1s
CING AML AML
comp=E,8496µm,0.4s
CING AML AML
comp=N,5963µm,0.6s
PII Pisa 1.06 260 ⇑P **Pb 21 50 55.9 -1.2**
PII Pisa 1.06 260 ⇑P **Pb 21 50 55.9 -1.2**
PII AML AML
comp=E,4785µm,0.5s
PII AML AML
comp=N,8730µm,0.7s
PII AML AML
comp=N,8730µm,1.3s
PII AML AML
comp=E,4786µm,0.5s
PII Pisa 1.06 260 P **Pb 21 50 55.9 -1.2**
MAIM Mastiano 1.07 270 ⇑P **Pb 21 50 55.7 -1.5**
MAIM AML AML
comp=N,3725µm,0.5s
MAIM AML AML
comp=E,2490µm,0.9s
MAIM AML AML
comp=E,2489µm,0.9s
MAIM AML AML
comp=N,3725µm,0.5s
MAIM Mastiano 1.07 270 P **Pb 21 50 56.3 -0.9**
SACS San Casciano d 1.07 182 ⇓P **Pg 21 50 56.6 -0.8**
SACS AML AML
comp=E,5000µm,0.5s
SACS AML AML
comp=N,6890µm,1.0s
SACS AML AML
comp=E,4765µm,0.5s
SACS AML AML
comp=N,6850µm,1.0s
SACS AML AML
comp=E,4762µm,0.5s
SACS AML AML
comp=E,4998µm,0.5s
SACS AML AML
comp=N,6850µm,1.0s
SACS AML AML
comp=N,6891µm,1.0s
CARD Cardoso 1.08 276 P **Pb 21 50 55.7 -1.7**
CARD AML AML
comp=E,2720µm,0.7s
CARD AML AML
comp=N,4310µm,0.5s
CARD AML AML
comp=N,4310µm,0.5s
CARD AML AML
comp=E,2721µm,0.7s
CARD Cardoso 1.08 276 P **Pb 21 50 56.1 -1.2**
GSCL Gusciola 1.08 294 P **Pb 21 50 57.2 -0.2**
GSCL AML AML
comp=E,7625µm,0.8s
GSCL AML AML
comp=N,6470µm,0.7s
GSCL Gusciola 1.08 294 P **Pb 21 50 57.3 -0.2**
SF04 Casetta 1.11 192 P **Pb 21 50 57.4 -0.6**
SF04 AML AML
comp=E,4260µm,0.3s
SF04 AML AML
comp=N,3515µm,0.2s
SF04 AML AML
comp=E,4264µm,0.3s
SF04 AML AML
comp=N,3515µm,0.2s
TRIF Trifonti 1.12 224 ⇓P **Pb 21 50 57.7 -0.4**
ARCI Arcidosso 1.13 199 ⇓P **Pb 21 50 57.4 -0.9**
ARCI AML AML
comp=E,3675µm,0.8s
ARCI AML AML
comp=N,9495µm,0.8s
ARCI AML AML
comp=E,3675µm,1.2s
ARCI AML AML
comp=N,9516µm,0.8s
ARCI AML AML
comp=E,3676µm,0.8s
SF03 Valle Cupa 1.14 190 P **Pb 21 50 57.9 -0.5**
CESI CESI - Serrava 1.14 143 AML AML
comp=E,5780µm,0.5s
CESI AML AML
comp=N,4875µm,0.7s
SF01 Poggio Pratacc 1.15 195 P **Pb 21 50 58.0 -0.7**
SF01 AML AML
comp=E,3460µm,1.5s
SF01 AML AML
comp=N,3950µm,0.8s
SF01 AML AML
comp=N,3950µm,1.2s
SF01 AML AML
comp=E,3460µm,0.5s
SF01 AML AML
comp=N,3952µm,0.8s
SF01 AML AML
comp=E,3205µm,0.8s
MAGO Bibbona 1.15 236 ⇓P **Pb 21 50 57.5 -1.1**
MAGO AML AML
comp=N,2865µm,1.0s
MAGO AML AML
comp=N,2865µm,1.0s
MAGO AML AML
comp=E,2765µm,0.9s
MAGO AML AML
comp=N,2866µm,1.0s
MAGO AML AML
comp=E,2769µm,0.9s
SARO Sassorosso 1.16 284 P **Pb 21 50 57.9 -0.9**
SARO AML AML
comp=E,8270µm,0.6s
SARO AML AML
comp=N,9400µm,0.6s
SARO Sassorosso 1.16 284 P **Pb 21 50 57.9 -0.9**
MCIV Monte Civitell 1.16 191 P **Pb 21 50 58.1 -0.7**
MCIV AML AML
comp=E,1660µm,0.9s
MCIV AML AML
comp=N,1640µm,0.6s
MCIV AML AML
comp=E,1660µm,1.1s
MCIV AML AML
comp=N,1641µm,0.6s
MCIV AML AML
comp=E,1658µm,0.9s
VLC Villacollemand 1.16 282 P **Pb 21 50 58.0 -0.9**
VLC AML AML
comp=E,3445µm,1.3s
VLC AML AML
comp=N,2755µm,1.1s
VLC AML AML
comp=E,3385µm,1.3s
VLC AML AML
comp=N,2715µm,0.7s
VLC AML AML
comp=N,2715µm,1.3s
VLC AML AML
comp=N,2755µm,0.9s

VLC				AML	AML			
	comp=E,3445µm,0.7s							
VLC				AML	AML			
	comp=E,3385µm,0.7s							
VLC				AML	AML			
	comp=N,2716µm,0.7s							
VLC				AML	AML			
	comp=N,2758µm,1.1s							
VLC				AML	AML			
	comp=E,3443µm,1.3s							
VLC				AML	AML			
	comp=E,3384µm,1.3s							
PF6	**Pievefavera**	**1.18 131**		AML	AML			
	comp=E,8055µm,0.8s							
PF6				AML	AML			
	comp=E,8055µm,1.2s							
PF6				AML	AML			
	comp=N,2500µm,0.5s							
PF6				AML	AML			
	comp=N,2500µm,1.5s							
RIBO	**Ribolla Roccas**	**1.18 215**		P	**Pb**	**21 50 58.4**	**-0.8**	
RIBO	**Ribolla Roccas**	**1.18 215**		AML	AML			
	comp=E,4555µm,1.2s							
SERM	**Sermide**	**1.19 336**		AML	AML			
	comp=E,8055µm,1.0s							
SERM				AML	AML			
	comp=N,4185µm,0.9s							
SERM				AML	AML			
	comp=E,8055µm,1.0s							
SERM				AML	AML			
	comp=E,5270µm,1.0s							
SERM				AML	AML			
	comp=N,4185µm,1.1s							
SERM				AML	AML			
	comp=N,7295µm,0.5s							
SERM	**Sermide**	**1.19 336**		P	**Pg**	**21 51 00.8**	**+1.3**	
MOMA	**Monte Martano**	**1.20 158**		P	**Pb**	**21 50 58.5**	**-1.1**	
MOMA				AML	AML			
	comp=E,3610µm,0.9s							
MOMA				AML	AML			
	comp=N,4200µm,0.7s							
MOMA				AML	AML			
	comp=E,3750µm,0.9s							
MOMA				AML	AML			
	comp=E,3750µm,1.1s							
MOMA				AML	AML			
	comp=E,3610µm,1.1s							
MOMA				AML	AML			
	comp=N,4085µm,0.7s							
MOMA				AML	AML			
	comp=N,4200µm,0.7s							
MOMA				AML	AML			
	comp=N,4085µm,0.7s							
MOMA				AML	AML			
	comp=E,3531µm,0.6s							
MOMA				AML	AML			
	comp=E,3632µm,1.5s							
CSP1	**Cessapalombo**	**1.23 132**		P	**Pb**	**21 50 59.0**	**-0.9**	
CSP1				AML	AML			
	comp=E,7575µm,0.7s							
CSP1				AML	AML			
	comp=N,2735µm,0.5s							
CSP1				AML	AML			
	comp=E,7575µm,1.3s							
CSP1				AML	AML			
	comp=N,2736µm,0.5s							
CSP1				AML	AML			
	comp=E,7571µm,0.7s							
AOI	**Ancona**	**1.24 107**		P	**Pg**	**21 51 00.4**	**-0.2**	
AOI				AML	AML			
	comp=N,6400µm,0.6s							
AOI				AML	AML			
	comp=E,4175µm,0.8s							
PP3	**Marolino**	**1.31 114**		AML	AML			
	comp=N,11800µm,1.1s							
PP3				AML	AML			
	comp=N,11650µm,1.1s							
PP3				AML	AML			
	comp=E,10350µm,1.5s							
PP3				AML	AML			
	comp=E,10225µm,1.5s							
LATE	**Laterza**	**1.31 185**		P	**Pn**	**21 50 59.9**	**-1.2**	
LATE				AML	AML			
	comp=E,7660µm,0.9s							
LATE				AML	AML			
	comp=N,11325µm,0.9s							
LATE				AML	AML			
	comp=E,7660µm,1.1s							
LATE				AML	AML			
	comp=N,11347µm,0.9s							
LATE				AML	AML			
	comp=E,7662µm,0.9s							
GUMA	**Gualdo di Mace**	**1.32 130**			**Pg**	**21 51 01.1**	**-0.9**	
GUMA	**Gualdo di Mace**	**1.32 130**		P	**Pg**	**21 51 01.3**	**-0.6**	
GUMA				AML	AML			
	comp=E,22950µm,0.5s							
GUMA				AML	AML			
	comp=N,25750µm,0.8s							
GUMA				AML	AML			
	comp=E,30450µm,0.5s							
GUMA				AML	AML			
	comp=N,17700µm,0.8s							
GUMA				AML	AML			
	comp=N,25750µm,1.2s							
GUMA				AML	AML			
	comp=N,17700µm,1.2s							
GUMA				AML	AML			
	comp=E,30450µm,1.5s							
GUMA				AML	AML			
	comp=E,22950µm,1.5s							
GUMA				AML	AML			
	comp=N,25730µm,0.8s							
GUMA				AML	AML			
	comp=N,17684µm,0.8s							
GUMA				AML	AML			
	comp=E,30458µm,0.5s							
GUMA				AML	AML			
	comp=E,22938µm,0.5s							
EQUI	**Equi**	**1.33 281**		P	**Pn**	**21 51 00.3**	**-1.0**	
EQUI				AML	AML			
	comp=E,2095µm,1.3s							
EQUI				AML	AML			
	comp=N,1795µm,0.8s							
EQUI	**Equi**	**1.33 281**		P	**Pn**	**21 51 00.2**	**-1.0**	
MNTP	**Montappone**	**1.35 125**		P	**Pg**	**21 51 02.0**	**-0.6**	
MC2	**Monte Cornacci**	**1.35 138**		P	**Pb**	**21 51 01.6**	**-0.6**	
NRCA	**Norcia**	**1.37 142**			**Pn**	**21 51 01.4**	**-0.5**	
NRCA	**Norcia**	**1.37 142**		P	**Pg**	**21 51 02.2**	**-0.9**	
NRCA				AML	AML			
	comp=E,3465µm,0.8s							
NRCA				AML	AML			
	comp=E,3550µm,0.8s							
NRCA				AML	AML			
	comp=N,3365µm,0.7s							
NRCA				AML	AML			
	comp=N,3270µm,1.4s							
NRCA				AML	AML			
	comp=E,3465µm,1.2s							
NRCA				AML	AML			
	comp=E,3550µm,1.2s							
NRCA				AML	AML			
	comp=N,3367µm,0.7s							
NRCA				AML	AML			
	comp=N,3238µm,0.7s							
NRCA				AML	AML			
	comp=E,3467µm,0.8s							
NRCA				AML	AML			
	comp=E,3552µm,0.8s							
CESX	**Cesi**	**1.39 161**			**Pn**	**21 51 00.6**	**-1.5**	
CESX	**Cesi**	**1.39 161**		P	**Pn**	**21 51 01.3**	**-0.7**	
CESX				AML	AML			
	comp=E,4240µm,0.5s							
CESX				AML	AML			
	comp=N,4490µm,0.7s							
CESX				AML	AML			
	comp=E,4239µm,0.5s							
CESX				AML	AML			
	comp=N,4489µm,0.7s							
CASP	**Castiglione de**	**1.39 216**		Pn	**Pn**	**21 51 00.5**	**-1.6**	
CASP	**Castiglione de**	**1.39 216**		⇓P	**Pn**	**21 51 00.7**	**-1.4**	
CASP				AML	AML			
	comp=E,1320µm,1.6s							
CASP				AML	AML			
	comp=N,1740µm,0.7s							
CASP				AML	AML			
	comp=N,1740µm,1.3s							
CASP				AML	AML			
	comp=E,1320µm,0.4s							
CASP				AML	AML			
	comp=N,1687µm,0.4s							
CASP				AML	AML			
	comp=E,1319µm,1.6s							
GAVE	**Gavelli**	**1.41 151**		AML	AML			
	comp=E,4665µm,0.5s							
GAVE				AML	AML			
	comp=N,1610µm,0.5s							
GAVE				AML	AML			
	comp=N,5235µm,0.5s							
GAVE				AML	AML			
	comp=E,4645µm,1.1s							
MMO1	**Montemonaco**	**1.43 135**		P	**Pb**	**21 51 02.5**	**-0.9**	
MF5	**Montefalcone A**	**1.43 130**		P	**Pg**	**21 51 03.6**	**-0.6**	
MF5				AML	AML			
	comp=E,10900µm,1.5s							
MF5				AML	AML			
	comp=N,20250µm,0.6s							
MF5				AML	AML			
	comp=N,20250µm,1.4s							
MF5				AML	AML			
	comp=E,10900µm,0.5s							
MF5				AML	AML			
	comp=N,20277µm,0.6s							
MF5				AML	AML			
	comp=E,10336µm,1.2s							
TEOL	**Teolo**	**1.45 352**		Pn	**Pn**	**21 51 02.3**	**-0.6**	
TEOL	**Teolo**	**1.45 352**		P	**Pn**	**21 51 02.4**	**-0.6**	
TEOL				AML	AML			
	comp=E,8125µm,1.1s							
TEOL				AML	AML			
	comp=E,8125µm,0.9s							
TEOL				AML	AML			
	comp=N,7110µm,0.6s							
TEOL				AML	AML			
	comp=N,7110µm,0.6s							
TEOL				AML	AML			
	comp=E,7260µm,0.5s							
PRMA	**PARMA**	**1.45 306**		Pn	**Pb**	**21 51 04.0**	**+0.2**	
ARRO	**Arrone**	**1.47 156**		P	**Pb**	**21 51 03.2**	**-0.8**	
T1214	**Arquata del Tr**	**1.48 142**		AML	AML			
	comp=N,4115µm,0.7s							
T1214				AML	AML			
	comp=E,6165µm,0.8s							
T1214				AML	AML			
	comp=E,6690µm,0.8s							
T1214				AML	AML			
	comp=N,4360µm,0.7s							
T1214				AML	AML			
	comp=E,6165µm,1.2s							
GRAM	**Graiana**	**1.48 293**		P	**Pb**	**21 51 04.2**	**-0.1**	
GRAM				AML	AML			
	comp=E,5300µm,1.0s							
GRAM				AML	AML			
	comp=N,4135µm,1.2s							
GRAM				AML	AML			
	comp=N,4135µm,0.8s							
OPPE	**Oppeano**	**1.50 338**		P	**Pb**	**21 51 03.7**	**-0.8**	
VENL	**Venezia Lido**	**1.52 11**		P	**Pb**	**21 51 04.1**	**-0.8**	
PLMA	**Palmaria, Port**	**1.53 275**		P	**Pn**	**21 51 03.6**	**-0.4**	
PLMA	**Palmaria, Port**	**1.53 275**		P	**Pn**	**21 51 02.5**	**-1.5**	
LNSS	**Leonessa**	**1.54 149**		P	**Pb**	**21 51 04.2**	**-1.1**	
ZOVE	**Zovencedo**	**1.57 348**		P	**Pn**	**21 51 04.0**	**-0.6**	
GROG	**Isola di Gorgo**	**1.58 252**		P	**Pn**	**21 51 03.9**	**-0.8**	
GROG				AML	AML			
	comp=E,1405µm,0.5s							
GROG				AML	AML			
	comp=N,1230µm,1.0s							
GROG				AML	AML			
	comp=E,1407µm,0.5s							
GROG				AML	AML			
	comp=N,1230µm,1.0s							
BRJN	**Brijuni**	**1.61 52**		*e*Pn	**Pn**	**21 51 04.2**	**-0.9**	
BRJN	**Brijuni**	**1.61 52**		P	**Pn**	**21 51 04.2**	**-0.9**	
MAON	**Monte Argentar**	**1.61 203**		P	**Pn**	**21 51 05.4**	**+0.2**	
SMA1	**SAN MARTINO**	**1.63 142**		P	**Pg**	**21 51 06.9**	**-1.1**	
SMA1				AML	AML			
	comp=E,5505µm,0.6s							
SMA1				AML	AML			
	comp=N,4780µm,0.6s							
SMA1				AML	AML			
	comp=E,5507µm,0.6s							
SMA1				AML	AML			
	comp=N,4777µm,0.6s							
RM33	**Pellescritta (**	**1.68 147**		P	**Pn**	**21 51 05.9**	**-0.3**	
RM33				AML	AML			
	comp=E,3710µm,0.9s							
RM33				AML	AML			
	comp=N,2635µm,0.6s							
RM33				AML	AML			
	comp=E,3620µm,0.9s							
RM33				AML	AML			
	comp=N,2625µm,0.6s							
RM33				AML	AML			
	comp=E,3620µm,1.1s							
RM33				AML	AML			
	comp=E,3710µm,1.1s							
RM33				AML	AML			
	comp=N,2625µm,1.4s							
RM33				AML	AML			
	comp=N,2635µm,1.4s							
RM33				AML	AML			
	comp=E,3708µm,0.9s							
RM33				AML	AML			
	comp=E,3618µm,0.9s							
RM33				AML	AML			
	comp=N,2633µm,0.6s							
RM33				AML	AML			
	comp=N,2628µm,0.6s							
TREG	**Tregnago**	**1.70 341**		P	**Pn**	**21 51 06.0**	**-0.4**	
SRES	**S.Oreste - Sor**	**1.73 167**		AML	AML			
	comp=E,1006µm,1.1s							
SRES				AML	AML			
	comp=N,1220µm,0.8s							
CAMP	**Campotosto**	**1.74 142**		Pn	**Pn**	**21 51 07.2**	**+0.2**	
TERO	**Teramo**	**1.77 137**		AML	AML			
	comp=E,2705µm,1.2s							
TERO				AML	AML			
	comp=N,1585µm,0.7s							
TERO				AML	AML			
	comp=E,2705µm,0.8s							
TERO				AML	AML			
	comp=N,4265µm,0.7s							
TERO				AML	AML			
	comp=E,2175µm,0.7s							
MSSA	**Maissana**	**1.81 283**		Pn	**Pn**	**21 51 07.8**	**-0.1**	
MSSA	**Maissana**	**1.81 283**		AML	AML			
	comp=N,1920µm,0.8s							
MSSA				AML	AML			
	comp=E,1600µm,1.2s							
MSSA				AML	AML			
	comp=N,1920µm,1.2s							
ROVR	**Rover Verones**	**1.84 340**		P	**Pn**	**21 51 07.9**	**-0.5**	
ROVR				AML	AML			
	comp=E,908µm,0.4s							
ROVR				AML	AML			
	comp=N,2650µm,0.4s							
ROVR				AML	AML			
	comp=N,1062µm,0.4s							
ROVR				AML	AML			
	comp=E,2330µm,0.4s							
ROVR				AML	AML			
	comp=N,2650µm,0.4s							
ROVR				AML	AML			
	comp=N,1062µm,0.4s							
ROVR				AML	AML			
	comp=E,908µm,0.4s							
ROVR				AML	AML			
	comp=E,2331µm,0.4s							
FIAM	**Fiamignano**	**1.86 153**		P	**Pn**	**21 51 08.6**	**0.0**	
ASOL	**Asolo**	**1.88 359**		P	**Pn**	**21 51 09.1**	**+0.3**	
SMRN	**Sveta Marina**	**1.92 54**		*e*Pn	**Pn**	**21 51 08.0**	**-1.4**	
MBAL	**Monte Baldo -**	**1.94 336**		P	**Pn**	**21 51 09.4**	**-0.4**	
MBAL				AML	AML			
	comp=N,1385µm,0.5s							
MBAL				AML	AML			
	comp=E,1700µm,0.8s							
MBAL				AML	AML			
	comp=N,1385µm,1.5s							
MBAL				AML	AML			
	comp=E,1699µm,0.8s							
MBAL				AML	AML			
	comp=N,1388µm,0.5s							
CGRP	**Cima Grappa**	**1.96 357**		AML	AML			
	comp=N,2250µm,0.7s							
CGRP				AML	AML			
	comp=E,2180µm,1.5s							
CGRP				AML	AML			
	comp=N,2305µm,0.7s							
CGRP				AML	AML			
	comp=E,2220µm,1.5s							
SALO	**Salr**	**1.98 329**		Pn	**Pn**	**21 51 10.1**	**-0.2**	
SALO	**Salr**	**1.98 329**		P	**Pn**	**21 51 10.8**	**+0.5**	
SALO				AML	AML			
	comp=E,3595µm,0.8s							
SALO				AML	AML			
	comp=N,3255µm,1.0s							
SALO				AML	AML			
	comp=E,3805µm,0.8s							
SALO				AML	AML			
	comp=N,3460µm,1.0s							
SALO				AML	AML			
	comp=E,3806µm,0.8s							
SALO				AML	AML			
	comp=E,3593µm,0.8s							
SALO				AML	AML			
	comp=N,3254µm,1.0s							
SALO				AML	AML			
	comp=N,3462µm,1.0s							
BOB	**Bobbio (Coli)**	**1.99 296**		P	**Pb**	**21 51 12.5**	**-0.6**	
DOSS	**Dosso del Somm**	**2.03 344**		P	**Pn**	**21 51 10.6**	**-0.5**	
DOSS				AML	AML			
	comp=E,2160µm,0.5s							
DOSS				AML	AML			
	comp=N,2075µm,0.9s							
DOSS				AML	AML			
	comp=N,2120µm,0.5s							
DOSS				AML	AML			
	comp=E,2160µm,1.5s							
DOSS				AML	AML			
	comp=N,2120µm,1.5s							
DOSS				AML	AML			
	comp=E,2145µm,0.7s							
DOSS				AML	AML			
	comp=N,2075µm,1.1s							
DOSS				AML	AML			
	comp=N,2120µm,0.5s							
DOSS				AML	AML			
	comp=E,2160µm,0.5s							
DOSS				AML	AML			
	comp=E,2143µm,0.7s							
DOSS				AML	AML			
	comp=N,2072µm,0.9s							
GORR	**Gorreto**	**2.04 291**		P	**Pn**	**21 51 11.9**	**+0.9**	
GORR	**Gorreto**	**2.04 291**		P	**Pb**	**21 51 13.2**	**-0.6**	
VARA	**Varagna**	**2.05 339**		P	**Pn**	**21 51 11.0**	**-0.3**	
VARA				AML	AML			
	comp=E,2320µm,0.4s							
VARA				AML	AML			
	comp=N,3070µm,1.3s							
VARA				AML	AML			
	comp=N,2465µm,0.4s							
VARA				AML	AML			
	comp=E,3105µm,1.3s							
VARA				AML	AML			
	comp=E,2317µm,0.4s							
VARA				AML	AML			
	comp=N,2466µm,0.4s							
VARA				AML	AML			
	comp=E,2928µm,0.5s							
VARA				AML	AML			
	comp=N,2916µm,0.5s							
VARN	**Col Varnada, M**	**2.07 3**		AML	AML			
	comp=N,2285µm,1.5s							
VARN				AML	AML			
	comp=N,2285µm,0.5s							
VARN				AML	AML			
	comp=N,2260µm,0.5s							
VARN				AML	AML			
	comp=N,2260µm,1.5s							
VARN				AML	AML			
	comp=E,2985µm,1.5s							
VARN				AML	AML			
	comp=E,3015µm,1.5s							
CERT	**Cerreto**	**2.11 159**		P	**Pn**	**21 51 11.8**	**-0.2**	
CERT				AML	AML			
	comp=N,906µm,0.7s							
CERT				AML	AML			
	comp=E,1615µm,0.6s							
CERT				AML	AML			
	comp=N,905µm,0.7s							
CERT				AML	AML			
	comp=E,1617µm,0.6s							
MORSI	**Morsiglia**	**2.13 244**		P	**Pn**	**21 51 10.7**	**-1.6**	
CTI	**Castel Tesino**	**2.14 354**		P	**Pn**	**21 51 12.1**	**-0.4**	
CTI				S	**Sn**	**21 51 38.9**	**-0.1**	
CTI	**Castel Tesino**	**2.14 354**		P	**Pn**	**21 51 12.0**	**-0.5**	
CTI				AML	AML			
	comp=E,2095µm,0.3s							
CTI				AML	AML			
	comp=N,2210µm,0.4s							
CTI				AML	AML			
	comp=E,2094µm,0.3s							
CTI				AML	AML			
	comp=N,2210µm,0.4s							
LUSI	**Trento, Gardas**	**2.16 341**		P	**Pn**	**21 51 12.4**	**-0.4**	
LUSI				AML	AML			
	comp=E,1735µm,1.0s							
LUSI				AML	AML			
	comp=N,2070µm,1.1s							
LUSI				AML	AML			
	comp=E,1735µm,1.0s							
LUSI				AML	AML			
	comp=E,1559µm,0.7s							
LUSI				AML	AML			
	comp=N,1957µm,0.3s							
PTQR	**Pietraquaria**	**2.17 151**		P	**Pn**	**21 51 13.7**	**+0.8**	
PTQR				AML	AML			
	comp=E,956µm,1.3s							
PTQR				AML	AML			
	comp=N,646µm,0.8s							
PTQR				AML	AML			
	comp=N,646µm,1.2s							
PTQR				AML	AML			
	comp=E,956µm,0.7s							
PTQR				AML	AML			
	comp=N,645µm,0.8s							
PTQR				AML	AML			
	comp=E,955µm,1.3s							
PANI	**Panarotta**	**2.17 348**		*e*Pn	**Pn**	**21 51 12.9**	**-0.2**	
PANI	**Panarotta**	**2.17 348**		P	**Pn**	**21 51 12.7**	**-0.4**	
PANI				AML	AML			
	comp=E,944µm,0.4s							
PANI				AML	AML			
	comp=N,1074µm,0.8s							
PANI				AML	AML			
	comp=N,1074µm,1.2s							
PANI				AML	AML			
	comp=N,1010µm,0.4s							
PANI				AML	AML			
	comp=E,947µm,0.4s							
SKDS	**Skadanscina**	**2.18 41**		*e*Pn	**Pn**	**21 51 11.7**	**-1.3**	
NVLJ	**Novalja**	**2.18 72**		*e*Pn	**Pn**	**21 51 12.3**	**-0.6**	
NVLJ				Sn	**Sn**	**21 51 39.4**	**-0.6**	
RABC	**Rab**	**2.18 67**		*e*Pn	**Pn**	**21 51 12.4**	**-0.5**	
SAMA	**S.Maria delle**	**2.19 168**		AML	AML			
	comp=E,766µm,0.7s							
SAMA				AML	AML			
	comp=N,720µm,1.5s							
SAMA				AML	AML			
	comp=E,766µm,1.3s							
TRI	**Trieste**	**2.20 35**		⇑P	**Pn**	**21 51 11.5**	**-1.7**	
TRI	**Trieste**	**2.20 35**		P	**Pn**	**21 51 11.9**	**-1.3**	
TRI				AML	AML			
	comp=E,839µm,1.3s							
TRI				AML	AML			
	comp=N,1029µm,1.5s							
TRI				AML	AML			
	comp=E,839µm,0.7s							
TRI				AML	AML			
	comp=N,1029µm,0.5s							
RNCA	**Ronca, Sant'Ol**	**2.24 285**		P	**Pn**	**21 51 14.4**	**+0.7**	
VIVA	**Pratoni del Vi**	**2.25 165**		AML	AML			
	comp=E,1670µm,0.7s							
VIVA				AML	AML			
	comp=N,2060µm,0.5s							
VIVA				AML	AML			
	comp=N,2060µm,1.5s							
VIRC	**Vir**	**2.25 80**		*e*Pn	**Pn**	**21 51 13.7**	**-0.3**	
ZONE	**Zone**	**2.26 325**		P	**Pn**	**21 51 14.2**	**0.0**	
ZONE				AML	AML			
	comp=E,388µm,0.4s							
ZONE				AML	AML			

comp=N,395µm,1.0s
ZONE AML AML
comp=E,1420µm,0.4s
ZONE AML AML
comp=N,1350µm,0.9s
ZONE AML AML
comp=E,388µm,1.6s
ZONE AML AML
comp=E,1420µm,1.6s
ZONE AML AML
comp=N,1350µm,1.1s
ZONE AML AML
comp=N,395µm,1.0s
ZONE AML AML
comp=E,388µm,0.4s
ZONE AML AML
comp=E,1422µm,0.4s
ZONE AML AML
comp=N,355µm,0.4s
ZONE AML AML
comp=N,1281µm,0.4s
RONC Roncone 2.27 336 P **Pn 21 51 14.0 -0.3**
RONC AML AML
comp=E,3290µm,1.1s
RONC AML AML
comp=E,1985µm,0.6s
RONC AML AML
comp=N,3360µm,0.8s
RONC AML AML
comp=E,1985µm,1.4s
RONC AML AML
comp=E,3290µm,0.9s
RONC AML AML
comp=N,1765µm,1.1s
RONC AML AML
comp=N,1682µm,0.4s
RONC AML AML
comp=E,1983µm,0.6s
RONC AML AML
comp=E,3283µm,0.7s
RONC AML AML
comp=N,3358µm,0.8s
GAGG Gaggia 2.27 342 P **Pn 21 51 14.1 -0.3**
GAGG AML AML
comp=E,1800µm,0.7s
GAGG AML AML
comp=N,2410µm,0.9s
GAGG AML AML
comp=E,2490µm,0.9s
GAGG AML AML
comp=N,1795µm,0.7s
GAGG AML AML
comp=E,2490µm,1.1s
GAGG AML AML
comp=N,2410µm,1.1s
GAGG AML AML
comp=E,1800µm,1.3s
GAGG AML AML
comp=N,1795µm,1.3s
GAGG AML AML
comp=E,2493µm,0.9s
GAGG AML AML
comp=N,2410µm,0.9s
GAGG AML AML
comp=E,1800µm,0.7s
GAGG AML AML
comp=N,1793µm,0.7s
RIY Rijeka 2.28 51 *e*Pn **Pn 21 51 13.5 -0.8**
SABO M.te Sabotino 2.36 29 Pn **Pn 21 51 14.4 -1.0**
SABO M.te Sabotino 2.36 29 AML AML
comp=E,2160µm,0.4s
SABO AML AML
comp=E,8745µm,1.6s
SABO AML AML
comp=N,9275µm,0.7s
SABO AML AML
comp=E,2160µm,1.6s
SABO AML AML
comp=N,2370µm,0.7s
SABO AML AML
comp=E,8745µm,0.4s
MABI Malga Bissina 2.37 335 P **Pn 21 51 15.6 -0.1**
MABI AML AML
comp=N,296µm,0.5s
MABI AML AML
comp=E,482µm,0.4s
MABI AML AML
comp=N,296µm,1.5s
MABI AML AML
comp=E,482µm,0.4s
MABI AML AML
comp=N,295µm,0.5s
ZIAN Ziano 2.37 353 P **Pn 21 51 15.7 0.0**
ZIAN AML AML
comp=E,1845µm,1.1s
ZIAN AML AML
comp=N,1185µm,0.5s
ZIAN AML AML
comp=E,1245µm,0.5s
ZIAN AML AML
comp=N,1855µm,1.1s
ZIAN AML AML
comp=E,1241µm,0.5s
ZIAN AML AML
comp=N,1187µm,0.5s
ZIAN AML AML
comp=E,1847µm,1.1s
ZIAN AML AML
comp=N,1854µm,1.1s
INTR Introdacqua 2.38 143 Pn **Pn 21 51 16.6 +0.8**
STAL STALIGIAL 2.40 12 Pn **Pn 21 51 14.9 -1.0**
STAL STALIGIAL 2.40 12 P **Pn 21 51 15.1 -0.9**
STAL AML AML
comp=E,1630µm,0.4s
STAL AML AML
comp=N,1535µm,0.7s
STAL AML AML
comp=E,1590µm,0.4s
STAL AML AML
comp=N,1220µm,1.4s
STAL AML AML
comp=N,1220µm,0.6s
STAL AML AML
comp=E,1590µm,1.6s
STAL AML AML
comp=E,1630µm,1.6s
STAL AML AML
comp=N,1106µm,0.3s
STAL AML AML
comp=N,1511µm,0.3s
STAL AML AML
comp=E,1627µm,0.4s
CIMO Cimolais 2.41 8 AML AML
comp=N,373µm,1.3s
CIMO AML AML
comp=E,532µm,0.8s
CIMO AML AML
comp=E,530µm,0.6s
CIMO AML AML
comp=E,532µm,1.2s
CIMO AML AML
comp=N,371µm,1.3s
MPRI Monte Prat 2.43 17 AML AML
comp=E,1825µm,0.8s
MPRI AML AML
comp=E,2350µm,0.8s
MPRI AML AML
comp=N,3395µm,0.5s
MPRI AML AML
comp=N,2605µm,0.5s
MDI Monti di Nese 2.45 320 P **Pn 21 51 16.8 +0.1**
MDI Monti di Nese 2.45 320 P **Pn 21 51 16.8 +0.1**
MDI AML AML
comp=E,831µm,1.0s
MDI AML AML
comp=N,810µm,0.8s
MDI AML AML
comp=E,838µm,0.8s
MDI AML AML
comp=N,715µm,0.7s
MDI AML AML
comp=E,838µm,0.8s
MDI AML AML
comp=E,831µm,1.0s
MDI AML AML
comp=N,810µm,0.8s
MDI AML AML
comp=N,715µm,0.7s
GEPF Gemona 2.49 19 P **Pn 21 51 16.5 -0.7**
GEPF AML AML
comp=N,1012µm,0.7s
GEPF AML AML
comp=E,769µm,0.8s
VINO Villanova 2.51 21 P **Pn 21 51 16.9 -0.7**
VINO AML AML
comp=E,1470µm,0.7s
VINO AML AML
comp=N,1290µm,0.8s
VINO AML AML
comp=E,1470µm,1.3s
VINO AML AML
comp=N,1290µm,1.2s
CEY Cerknica 2.52 43 *e*Pn **Pn 21 51 16.4 -1.3**
PCP Piancastagn 2.54 285 P **Pn 21 51 17.6 -0.3**
PCP Piancastagn 2.54 285 P **Pn 21 51 16.9 -1.0**
LATB Latina 2.54 163 P **Pn 21 51 17.6 -0.2**
GIUL Giuliano Di Ro 2.55 158 P **Pn 21 51 18.5 +0.5**
POFI Posta Fibreno 2.55 149 P **Pn 21 51 19.6 +1.5**
OZOL Ozolo 2.56 346 P **Pn 21 51 18.6 +0.3**
OZOL AML AML
comp=E,1690µm,0.4s
OZOL AML AML
comp=N,1240µm,0.4s
OZOL AML AML
comp=E,1895µm,0.4s
OZOL AML AML
comp=N,1260µm,0.4s
OZOL AML AML
comp=E,1690µm,1.6s
OZOL AML AML
comp=E,1895µm,1.6s
OZOL AML AML
comp=N,1240µm,1.6s
OZOL AML AML
comp=N,1260µm,1.6s
OZOL AML AML
comp=E,1693µm,0.4s
OZOL AML AML
comp=E,1898µm,0.4s
OZOL AML AML
comp=N,1241µm,0.4s
OZOL AML AML
comp=N,1259µm,0.4s
ROBS Robic 2.56 25 *i* Pn **Pn 21 51 17.5 -0.7**
ROBS *i* Sn **Sn 21 51 49.2 -0.2**
ROBS IAML 21 51 50.6
comp=Z,194nm,0.3s
PGF Pioggiola 2.57 239 *e*P **Pn 21 51 17.7 -0.7**
PGF *e*Sn **Sn 21 51 48.2 -1.5**
comp=Z,138nm,0.5s
PGF Pioggiola 2.57 239 P **Pn 21 51 15.9 -2.5**
LRP Arpino 2.57 152 P **Pn 21 51 19.0 +0.8**
LRP AML AML
comp=E,519µm,0.7s
LRP AML AML
comp=N,411µm,0.7s
LRP AML AML
comp=E,519µm,1.3s
LRP AML AML
comp=N,411µm,0.7s
LRP AML AML
comp=E,519µm,0.7s
CLUD Cludinico 2.62 14 AML AML
comp=N,878µm,0.9s
CLUD AML AML
comp=N,888µm,0.9s
CLUD AML AML
comp=E,930µm,1.0s
CLUD AML AML
comp=E,910µm,1.0s
CARE Lago del Cares 2.66 341 P **Pn 21 51 20.2 +0.4**
CARE AML AML
comp=E,443µm,1.0s
CARE AML AML
comp=N,436µm,0.4s
CARE AML AML
comp=E,446µm,1.0s
CARE AML AML
comp=N,629µm,1.4s
CARE AML AML
comp=N,436µm,0.4s
CARE AML AML
comp=E,443µm,1.0s
CARE AML AML
comp=E,445µm,1.0s
CARE AML AML
comp=N,628µm,1.4s
CANO Canova, Maglio 2.70 277 AML AML
comp=E,2080µm,1.3s
CANO AML AML
comp=E,2080µm,0.7s
CANO AML AML
comp=N,938µm,0.9s
CANO Canova, Maglio 2.70 277 P **Pn 21 51 18.7 -1.4**
MORI Morici 2.71 90 *e*Pn **Pn 21 51 20.5 +0.3**
ZOU Zoufplan 2.73 15 AML AML
comp=N,1435µm,1.3s
ZOU AML AML
comp=N,1425µm,1.3s
ZOU AML AML
comp=E,1250µm,1.1s
ZOU AML AML
comp=E,1295µm,1.1s
ZOU AML AML
comp=N,1435µm,0.7s
ZOU AML AML
comp=N,1425µm,0.7s
PRED Cave del Predi 2.76 24 Pn **Pn 21 51 19.8 -1.2**
BRES Bressanone 2.78 357 AML AML
comp=N,677µm,0.5s
BRES AML AML
comp=E,728µm,1.2s
PLIT Plitvice 2.79 69 *e*Pn **Pn 21 51 21.1 -0.2**
BRMO Bormio 2.79 337 P **Pn 21 51 22.4 +0.9**
BRMO AML AML
comp=N,314µm,1.3s
BRMO AML AML
comp=E,489µm,1.0s
BRMO AML AML
comp=E,489µm,1.0s
BRMO AML AML
comp=N,302µm,0.5s
LJU Ljubljana 2.79 40 ⇑P **Pn 21 51 20.8 -0.6**
LJU Ljubljana 2.79 40 AML AML
comp=N,9985µm,1.4s
LJU AML AML
comp=E,8060µm,0.6s
LJU AML AML
comp=N,9985µm,0.6s
UDBI Udbina 2.80 76 *e*Pn **Pn 21 51 22.7 +1.2**
RORO Rocca Rossa 2.82 275 P **Pn 21 51 20.7 -1.0**
BOJS Bojanci 2.83 55 AML AML
comp=N,2755µm,0.5s
BOJS AML AML
comp=E,2215µm,0.9s
BOJS AML AML
comp=N,2755µm,1.5s
BOJS AML AML
comp=E,2215µm,1.1s
BOJS Bojanci 2.83 55 *e*Pn **Pn 21 51 21.2 -0.6**
MIDA Miranda 2.83 143 P **Pn 21 51 23.7 +1.7**
ACOM Acomizza, Ital 2.84 22 P **Pn 21 51 22.0 -0.3**
ACOM AML AML
comp=E,1635µm,0.9s
ACOM AML AML
comp=E,1610µm,0.9s
ACOM AML AML
comp=N,1104µm,1.0s
ACOM AML AML
comp=E,1610µm,1.1s
ACOM AML AML
comp=E,1635µm,1.1s
ACOM AML AML
comp=N,1250µm,1.0s
ACOM AML AML
comp=E,1194µm,0.4s
ACOM AML AML
comp=E,1237µm,0.4s
ACOM AML AML
comp=N,1105µm,1.0s
ACOM AML AML
comp=N,1249µm,1.0s
BERNI Berninapass 2.84 332 P **Pn 21 51 23.0 +0.7**
ABTA Abfaltersbach 2.85 8 *e*Pn **Pn 21 51 22.3 0.0**
comp=N,24nm,0.4s,SNR=16
ABTA Sn **Sn 21 51 55.8 -0.9**
comp=N,466nm,0.9s
MOSI Grossmontoni 2.87 340 P **Pn 21 51 23.9 +1.2**
MOSI AML AML
comp=E,1435µm,1.2s
MOSI AML AML
comp=N,2510µm,0.5s
MOSI AML AML
comp=N,2510µm,1.5s
MOSI AML AML
comp=E,1380µm,0.9s
MOSI AML AML
comp=N,2513µm,0.5s
MYKA Terra Mystica 2.95 23 *e*Pn **Pn 21 51 23.6 -0.1**
comp=N,13nm,0.4s
MYKA *e*Sn **Sn 21 52 00.3 +1.2**
comp=N,100nm,0.5s
VARE Varese 2.99 312 P **Pn 21 51 24.9 +0.7**
VARE AML AML
comp=E,830µm,1.1s
VARE AML AML
comp=N,715µm,0.9s
VARE AML AML
comp=N,715µm,1.1s
VARE AML AML
comp=E,830µm,0.9s
VARE AML AML
comp=N,715µm,0.9s
GBOS Grotte di Boss 2.99 278 P **Pn 21 51 23.4 -0.7**
GBOS AML AML
comp=E,290µm,0.6s
GBOS AML AML
comp=N,289µm,1.1s
GBOS AML AML
comp=N,289µm,0.9s
GBOS AML AML
comp=E,290µm,0.6s
GBOS AML AML
comp=N,289µm,1.1s
GBOS Grotte di Boss 2.99 278 P **Pn 21 51 23.5 -0.7**
GBOS Grotte di Boss 2.99 278 S **Sn 21 51 59.7 -0.4**
OZLJ Ozalj 3.01 55 *e*Pn **Pn 21 51 24.6 +0.2**
ROSI Rosskopf 3.03 353 P **Pn 21 51 26.3 +1.5**
VDL Val di Lei 3.12 326 P **Pn 21 51 27.5 +1.5**
CRES Cresnjev 3.13 51 *e*Pn **Pn 21 51 25.2 -0.8**
TUE Stuetta 3.15 325 Pn **Pn 21 51 27.0 +0.5**
TUE Stuetta 3.15 325 P **Pn 21 51 27.4 +0.9**
TUE AML AML
comp=E,312µm,0.6s
TUE AML AML
comp=E,374µm,0.6s
TUE AML AML
comp=N,369µm,1.0s
TUE AML AML
comp=E,374µm,1.4s
TUE AML AML
comp=E,312µm,1.4s
TUE AML AML
comp=N,320µm,1.0s
TUE AML AML
comp=E,373µm,0.6s
TUE AML AML
comp=E,312µm,0.6s
TUE AML AML
comp=N,369µm,1.0s
TUE AML AML
comp=N,320µm,1.0s
OBKA Obir 3.16 34 *i* Pn **Pn 21 51 26.4 -0.1**
comp=N,22nm,0.3s
OBKA *i* Sn **Sn 21 52 06.4 +2.0**
comp=N,130nm,0.4s
OBKA Obir 3.16 34 *e*Pn **Pn 21 51 26.1 -0.5**
OBKA Obir 3.16 34 *e*Pn **Pn 21 51 26.1 -0.5**
SAOF Saorge 3.19 273 P **Pn 21 51 26.4 -0.4**
BURY Giardini Botan 3.19 269 AML AML
comp=N,226µm,0.6s
BURY AML AML
comp=E,246µm,0.6s
KIJV Kijevo 3.21 87 *e*Pn **Pn 21 51 27.9 +0.9**
MELA Melanico ??? S 3.21 133 P **Pn 21 51 28.9 +1.7**
DAVOX Davos/Dischmat 3.21 333 AML AML
comp=N,396µm,1.2s
DAVOX AML AML
comp=E,305µm,0.6s
DAVOX Davos/Dischmat 3.21 333 Pn **Pn 21 51 28.8 +1.5**
comp=E,14nm,0.3s,baz=138,slow=7.3,SNR=65
DAVOX Sn **Sn 21 52 02.8 -2.9**
comp=E,13nm,0.3s,baz=130,slow=16,SNR=4.1
DAVOX LR LR 21 52 59.4
comp=E,56nm,19.8s,baz=138,slow=46
comp=E,49nm,0.4s
FETA Feichten 3.22 345 *i* Pn **Pn 21 51 28.6 +1.2**
comp=E,29nm,0.5s,SNR=27
FETA *e*Sn **Sn 21 52 08.1 +2.3**
comp=E,87nm,0.6s
SBF Sospel 3.28 271 *e*P **Pn 21 51 27.1 -1.0**
SBF *e*Sn **Sn 21 52 04.9 -2.2**
comp=E,399nm,0.5s
SBF Sospel 3.28 271 P **Pn 21 51 27.6 -0.5**
KBA Koelnbreinsper 3.30 17 *i* Pn **Pn 21 51 29.0 +0.5**
comp=E,26nm,0.4s,SNR=18
KBA *i* Sn **Sn 21 52 09.2 +1.4**
comp=E,182nm,0.8s
KBA Koelnbreinsper 3.30 17 P **Pn 21 51 29.1 +0.6**
KBA Koelnbreinsper 3.30 17 *e*Pn **Pn 21 51 28.9 +0.3**
A251A Rujevac 3.30 67 *e*Pn **Pn 21 51 28.9 +0.5**
A050A Klekovaca 3.33 79 *e*Pn **Pn 21 51 29.7 +0.9**
SQTA Sankt Quirin 3.34 351 *e*Pn **Pn 21 51 30.1 +1.1**
comp=E,110nm,0.4s,SNR=71
SQTA *i* Sn **Sn 21 52 10.8 +2.1**
comp=E,100nm,0.3s
SQTA Sankt Quirin 3.34 351 P **Pn 21 51 30.6 +1.6**
HVAR Hvar 3.34 101 *e*Pn **Pn 21 51 29.1 +0.2**
HVAR Hvar 3.34 101 P **Pn 21 51 29.0 +0.2**
WTTA Wattenberg 3.35 356 *i* Pn **Pn 21 51 30.6 +1.4**
comp=E,18nm,0.2s,SNR=6.4
WTTA *i* Sn **Sn 21 52 11.2 +2.2**
comp=E,70nm,0.3s
WTTA Wattenberg 3.35 356 ⇑P **Pn 21 51 31.5 +2.3**
WTTA Wattenberg 3.35 356 AML AML
comp=N,780µm,0.6s
WTTA AML AML
comp=E,834µm,0.5s
WTTA AML AML
comp=N,780µm,1.4s
WTTA AML AML
comp=E,834µm,1.5s
WTTA Wattenberg 3.35 356 *e*Pn **Pn 21 51 30.8 +1.6**
STV Sant Anna di V 3.36 277 ⇑P **Pn 21 51 30.1 +0.9**
STV Sant Anna di V 3.36 277 P **Pn 21 51 28.9 -0.4**
STV AML AML
comp=E,196µm,0.5s
STV AML AML
comp=E,196µm,1.5s
STV AML AML
comp=N,163µm,1.0s
STV AML AML
comp=E,196µm,0.5s
STV AML AML
comp=N,163µm,1.0s
TRAV Traversella 3.40 299 P **Pn 21 51 29.6 -0.2**
TRAV AML AML
comp=E,442µm,0.8s
TRAV AML AML
comp=N,323µm,1.1s
TRAV AML AML
comp=N,291µm,0.5s
TRAV AML AML
comp=E,442µm,0.8s
APRC Apricena 3.41 128 P **Pn 21 51 30.8 +0.9**
WATA Walderalm 3.42 356 *i* Pn **Pn 21 51 31.8 +1.7**
comp=E,22nm,0.3s,SNR=13
WATA *e*Sn **Sn 21 52 13.5 +2.7**
comp=E,70nm,0.3s
FUSIO Fusio 3.44 318 P **Pn 21 51 30.7 +0.2**
FUSIO AML AML
comp=N,352µm,1.4s
FUSIO AML AML
comp=E,400µm,0.7s
FUSIO AML AML
comp=N,352µm,1.3s
FUSIO AML AML
comp=E,401µm,0.7s
PTJ Puntijarka 3.47 54 P **Pn 21 51 31.6 +0.9**
MOTA Moosalm 3.48 350 *i* Pn **Pn 21 51 32.3 +1.4**
comp=E,35nm,0.3s,SNR=21
MOTA *i* Sn **Sn 21 52 15.0 +2.9**

BHB Bricherasio 3.50 287 P Pn 21 51 32.3 +1.3
SOKA Soboth 3.50 37 *e*Pn Pn 21 51 31.0 -0.2
comp=E,11nm,0.3s
SOKA *i* Sn Sn 21 52 11.5 -1.2
comp=E,60nm,0.5s
SGRT San Giovanni R 3.52 127 Pn Pn 21 51 31.9 +0.4
SGRT San Giovanni R 3.52 127 AML AML
comp=N,518µm,1.2s
SGRT AML AML
comp=E,508µm,0.9s
SGRT AML AML
comp=N,518µm,0.8s
LESA Schwarzleotal 3.54 8 *i* Pn Pn 21 51 32.5 +0.8
comp=N,109nm,0.4s
LESA *i* Sn Sn 21 52 16.5 +3.0
comp=N,404nm,0.6s
PZZ Stroppo 3.54 281 P Pn 21 51 30.8 -0.9
PZZ Stroppo 3.54 281 P Pn 21 51 30.4 -1.3
MMK Mattmark 3.55 308 ⇓P Pn 21 51 35.6 +3.6
CIRO Champorcher 3.55 300 P Pn 21 51 31.7 -0.4
ISO Isola 3.55 276 P Pn 21 51 33.7 +1.8
PRIJ Prijedor 3.56 71 *e*Pn Pb 21 51 40.7 +1.0
CALF Calern 3.65 269 P Pn 21 51 33.1 -0.3
CALF S Sn 21 52 14.0 -2.5
RETA Reutte 3.66 347 *i* Pn Pn 21 51 34.8 +1.4
comp=N,26nm,0.3s,SNR=20
RETA *i* Sn Sn 21 52 19.2 +2.6
comp=N,46nm,0.3s
LOBO Lobor 3.67 51 *e*Pn Pn 21 51 32.2 -1.1
DAVA Damuels 3.67 337 *i* Pn Pn 21 51 35.7 +2.2
comp=N,57nm,0.4s,SNR=36
DAVA *i* Sn Sn 21 52 20.5 +3.6
comp=N,78nm,0.4s
DAVA Damuels 3.67 337 *e*Pn Pn 21 51 35.8 +2.2
A051A Mrakovica 3.70 71 *e*Pn Pn 21 51 32.8 -1.1
MGRS Mrkonjic Grad 3.71 81 *e*Pn Pn 21 51 34.6 +0.5
EMBD Embd, Matterta 3.72 309 P Pn 21 51 35.2 +1.0
MAKA Makarska 3.72 98 *e*Pn Pn 21 51 35.3 +1.2
MAKA Sn Sn 21 52 16.8 -1.2
SURF Saint Ours 3.75 280 P Pn 21 51 33.5 -1.2
RICI Ricice 3.77 95 *e*Pn Pn 21 51 35.5 +0.6
LSTV Lastovo 3.77 106 *e*Pn Pn 21 51 34.7 -0.1
MBDF Montbardon 3.81 284 *e*P Pn 21 51 35.5 0.0
MBDF *e*Sn Sn 21 52 19.3 -1.2
comp=N,134nm,0.6s
MBDF Montbardon 3.81 284 P Pn 21 51 34.8 -0.7
BLY Banja Luka 3.83 76 *e*Pn Pn 21 51 35.4 -0.3
RJOB Jochberg 3.86 8 *e*Pn Pn 21 51 37.9 +1.8
BNALP Bannalp 3.86 321 AML AML
comp=E,239µm,0.5s
BNALP AML AML
comp=N,322µm,0.6s
MCRV Calabrutti - M 3.93 142 AML AML
comp=N,174µm,1.3s
MCRV AML AML
comp=N,174µm,0.7s
MCRV AML AML
comp=E,160µm,0.7s
BIOA Bad Ischl, Aus 3.94 17 *e*Pn Pn 21 51 38.6 +1.3
comp=E,37nm,0.4s,SNR=13
BIOA *e*Sn Sn 21 52 25.1 +1.6
comp=E,99nm,0.5s
MRGE Morge 3.95 300 P Pn 21 51 38.3 +0.9
BNI Bardonecchia 3.95 288 Pn Pn 21 51 38.6 +1.2
BNI Bardonecchia 3.95 288 P Pn 21 51 38.6 +1.2
UBR Ueberruh 3.98 342 *e*Pn Pn 21 51 38.7 +1.0
OGMO Fort Saint-Gob 3.99 291 P Pn 21 51 39.7 +1.8
LMR La Mourre 4.01 263 *e*P Pn 21 51 37.2 -0.8
LMR *e*Sn Sn 21 52 22.9 -2.1
comp=E,46nm,0.5s
LMR La Mourre 4.01 263 P Pn 21 51 36.8 -1.2
LPG La Plagne 4.04 295 *e*P Pn 21 51 39.3 +0.6
LPG *e*Sn Sn 21 52 25.1 -1.1
comp=E,162nm,0.8s
LPG La Plagne 4.04 295 P Pn 21 51 38.3 -0.4
LPL La Plagne 4.06 295 *e*P Pn 21 51 39.5 +0.6
LPL *e*Sn Sn 21 52 23.9 -2.6
comp=E,147nm,0.8s
LPL La Plagne 4.06 295 P Pn 21 51 38.8 -0.1
SENIN Lac Senin/Sane 4.11 308 Pn Pn 21 51 41.1 +1.5
ARSA Arzberg 4.16 36 *e*Pn Pn 21 51 39.8 -0.3
comp=E,16nm,0.3s,SNR=8.8
ARSA *i* Sn Sn 21 52 26.6 -2.2
comp=E,29nm,0.6s
ARSA Arzberg 4.16 36 P Pn 21 51 39.6 -0.6
ARSA Arzberg 4.16 36 *e*Pn Pn 21 51 39.6 -0.6
FLAF Flassans-sur-I 4.18 265 P Pn 21 51 40.8 +0.3
FLAF S Sn 21 52 26.8 -2.5
MRVN Minervino Murg 4.24 131 P Pn 21 51 42.1 +0.9
MOA Molln 4.24 21 *i* Pn Pn 21 51 41.8 +0.4
comp=E,16nm,0.3s,SNR=13
MOA *i* Sn Sn 21 52 31.0 +0.2
comp=E,77nm,0.6s
MOA Molln 4.24 21 *e*Pn Pn 21 51 41.7 +0.4
MOA *e*Sn Sn 21 52 30.8 0.0
FUR Furstenfeldbru 4.27 354 P Pn 21 51 44.0 +2.3
OGSI Sixt 4.27 302 P Pn 21 51 44.3 +2.5
OGSI S Sn 21 52 35.1 +3.5
STON Ston 4.31 102 *e*Pn Pn 21 51 42.0 -0.1
STON Ston 4.31 102 *e*Pn Pn 21 51 41.9 -0.3
ORIF Oris-en-Rattie 4.47 285 *e*P Pn 21 51 45.7 +1.2
ORIF Oris-en-Rattie 4.47 285 *e*Pn Pn 21 51 46.7 +2.2
ORIF *e*Sn Sn 21 52 35.1 -1.5
comp=E,190nm,1.0s
ORIF Oris-en-Rattie 4.47 285 P Pn 21 51 45.3 +0.8
ARTF Artigues 4.48 268 P Pn 21 51 44.5 -0.1
NEVS Nevesinje 4.50 96 *e*Pn Pn 21 51 47.1 +2.2
SLE Schleitheim 4.54 329 P Pn 21 51 47.8 +2.3
AMUR Altamura 4.57 130 P Pn 21 51 46.6 +0.8
BSTF la Bastide-des 4.57 272 P Pn 21 51 45.7 -0.1
SMRF Simiane la Rot 4.62 273 *e*P Pn 21 51 46.9 +0.4
SMRF *e*Sn Sn 21 52 37.6 -2.5
comp=E,33nm,0.6s
DBRK Dubrovnik 4.68 103 *e*Pn Pn 21 51 48.2 +0.9
GIMEL St. Georges / 4.80 305 P Pn 21 51 50.0 +1.0
GIMEL St. Georges / 4.80 305 P Pn 21 51 50.3 +1.3
MATE Matera 4.80 131 ⇓P Pn 21 51 49.7 +0.8
TREB Trebinje 4.81 102 *e*Pn Pn 21 51 49.4 +0.3
VSI Villasalto 4.83 205 Pn Pn 21 51 50.5 +1.1
CONA Conrad Observa 4.84 33 *i* Pn Pn 21 51 49.3 -0.3
comp=E,14nm,0.4s,SNR=11
CONA *i* Sn Sn 21 52 46.0 +0.3
comp=E,37nm,0.4s
RONA Rosalia, Austr 4.84 37 *i* Pn Pn 21 51 49.6 +0.1
comp=E,20nm,0.4s,SNR=5.8
RONA *i* Sn Sn 21 52 44.6 -1.0
comp=E,52nm,0.9s
BRY Bratogost 4.90 100 *e*Pn Pn 21 51 51.1 +0.7
BRY *i* Sn Sn 21 52 47.4 +0.3
NOCI Noci 4.91 128 P Pn 21 51 50.6 +0.2
SOP Sopron 4.94 39 P Pn 21 51 52.1 +1.2
SOP pmax pmax
comp=Z,28nm,0.8s
CABF La Chapelle 4.94 305 *e*Pn Pn 21 51 51.6 +0.6
CABF *e*Sn Sn 21 52 46.4 -1.8
comp=Z,132nm,0.8s
CABF La Chapelle 4.94 305 P Pn 21 51 51.7 +0.7
HCY Herceg Novi 5.00 105 *e*Pn Pn 21 51 53.0 +1.4
HCY Herceg Novi 5.00 105 ⇑*i* Pn Pn 21 51 52.5 +0.9
HCY *i* Sn Sn 21 52 49.7 +0.3
OG35 Corcelles 5.01 297 P Pn 21 51 52.6 +0.8
HAPS Han Pijesak,BI 5.04 86 *e*Pn Pn 21 51 52.8 +0.4
GEC2 GERESS Array S 5.07 13 Pn Pn 21 51 51.1 -1.6
GEC2 GERESS Array S 5.07 13 P Pn 21 51 52.9 +0.2
GEC2 pmax pmax
comp=Z,30nm,0.7s
GEC2 GERESS Array S 5.07 13 *e*Pn Pn 21 51 52.0 -0.7
GERES GERESS Array B 5.07 13 Pn Pn 21 51 51.6 -1.1
GERES GERESS Array B 5.07 13 Pn Pn 21 51 51.8 -0.9
comp=Z,3.5nm,0.3s,baz=188,slow=12,SNR=47
GERES Sn Sn 21 52 48.4 -2.8
comp=Z,6.5nm,0.3s,baz=171,slow=9.5,SNR=3.6
comp=Z,4.4nm,0.3s
BFO Black Forest 5.08 331 Pn Pn 21 51 52.5 -0.3
BFO Black Forest 5.08 331 P Pn 21 51 52.5 -0.3
BFO Black Forest 5.08 331 *e*Pn Pn 21 51 53.1 +0.3
BFO *e*Sn Sn 21 52 50.6 -0.9
UPM Unac-Piva 5.09 96 *e*Pn Pn 21 51 53.2 0.0
UPM Unac-Piva 5.09 96 ⇑*i* Pn Pn 21 51 53.8 +0.6
UPM *i* Sn Sn 21 52 52.1 0.0
CKRC Cesky Krumlov 5.16 17 *e*P Pn 21 51 53.5 -0.4
CKRC *e* 21 52 50.7
CKRC Cesky Krumlov 5.16 17 *e*PN Pn 21 51 53.5 -0.4
CKRC *e*SN Sn 21 52 50.7 -2.7
STU Stuttgart 5.21 339 Pn Pn 21 51 54.4 -0.3
STU Stuttgart 5.21 339 P Pn 21 51 54.4 -0.3
NKME Niksic 5.22 100 ⇑*i* Pn Pn 21 51 55.5 +0.7
NKME *i* Sn Sn 21 52 55.3 +0.2
MORH Mrgy, Hungar 5.25 62 ⇑P Pn 21 51 53.4 -1.7
WET Wettzell 5.26 7 P Pn 21 51 55.7 +0.4
WET pmax pmax
comp=Z,13nm,0.6s
WET Wettzell 5.26 7 *e*Pn Pn 21 51 54.6 -0.7
WET *e*Sn Sn 21 52 53.0 -2.9
CEME Cevo 5.26 103 ⇓*i* Pn Pn 21 51 56.1 +0.7
CEME *i* Sn Sn 21 52 56.1 +0.1
HINF Hinteralfeld 5.28 319 *e*Pn Pn 21 51 55.3 -0.3
HINF *e*Sn Sn 21 52 53.9 -2.6
comp=Z,130nm,0.6s
VIVF Saint-Julien-I 5.31 283 *e*P Pn 21 51 56.6 +0.6
VIVF *e*Sn Sn 21 52 53.5 -3.7
comp=Z,37nm,0.7s
VIVF Saint-Julien-I 5.31 283 P Pn 21 51 56.4 +0.4
BUM Brajici-Budva 5.32 105 *e*Pn Pn 21 51 57.0 +0.8
BUM *i* Sn Sn 21 52 57.6 0.0
KHC Kasperske Hory 5.33 11 Pn Pn 21 51 55.6 -0.6
KHC Kasperske Hory 5.33 11 *i* P Pn 21 51 55.7 -0.6
KHC Kasperske Hory 5.33 11 *e*PN Pn 21 51 55.6 -0.6
KHC *ex* x 21 52 57.0
KHC *e*SN Sn 21 52 55.2 -2.4
RUDO Rudo 5.37 91 *e*Pn Pn 21 51 56.8 0.0
BBLS Lazi&#263i 5.38 88 *e*Pn Pn 21 51 57.1 +0.2
PLE Pljevlja 5.42 94 ⇓*i* Pn Pn 21 51 58.3 +0.7
PLE *i* Sn Sn 21 53 00.0 0.0
ECH Echery 5.44 324 Pn Pn 21 51 57.7 -0.1
ECH Echery 5.44 324 P Pn 21 51 57.7 -0.1
TEKS Tekeris 5.47 81 *e*Pn Pn 21 51 55.3 -2.9
SSB Saint Sauveur 5.47 287 Pn Pn 21 51 59.2 +1.0
SSB Saint Sauveur 5.47 287 P Pn 21 51 59.3 +1.0
SSB Saint Sauveur 5.47 287 P Pn 21 51 58.3 +0.1
CDF Champ du Feu 5.55 326 *e*Pn Pn 21 51 59.0 -0.3
CDF *e*Sn Sn 21 53 00.5 -2.6
comp=Z,120nm,0.7s
DRME Dracevica, Mon 5.57 106 *e*Pn Pn 21 51 59.3 -0.2
DRME Dracevica, Mon 5.57 106 ⇑*i* Pn Pn 21 52 00.1 +0.6
DRME *i* Sn Sn 21 53 03.4 0.0
ZST Bratislava 5.57 38 *e*P Pn 21 51 58.2 -1.3
ZST *e* 21 53 00.0
ZST Bratislava 5.57 38 *e*PN Pn 21 51 58.2 -1.3
ZST *e*SN Sn 21 53 00.0 -3.5
KOME Kolasin 5.60 98 ⇑*i* Pn Pn 21 52 00.8 +0.7
KOME *i* Sn Sn 21 53 04.5 0.0
HAU Haudompre 5.66 318 *e*Pn Pn 21 52 00.5 -0.2
HAU *e*Sn Sn 21 53 03.4 -2.3
comp=Z,106nm,0.3s
ULC Ulcinj 5.69 108 *e*Pn Pn 21 52 00.9 -0.3
ULC *i* Sn Sn 21 53 06.4 -0.1
ZVC Zvikov 5.72 15 *e*PN Pn 21 52 01.4 -0.3
ZVC *e*SN Sn 21 53 02.6 -4.7
FRGS Fruska Gora 5.74 75 *e*Pn Pn 21 52 02.3 +0.4
MODS Modra-Piesok 5.78 38 *e*P Pn 21 52 01.7 -0.7
MODS *e* 21 53 05.6
MODS Modra-Piesok 5.78 38 *e*PN Pn 21 52 01.7 -0.7
MODS *e*SN Sn 21 53 05.6 -3.1
GRFO Grafenberg 5.79 355 Pn Pn 21 52 02.7 +0.1
GRFO Grafenberg 5.79 355 P Pn 21 52 02.7 +0.1
GRA1 Grafenberg Arr 5.79 355 Pn Pn 21 52 02.6 0.0
GRF Grafenberg Arr 5.79 355 P Pn 21 52 02.6 0.0
ROTZ Rotzenmuhle 5.85 2 *e*Pn Pn 21 52 02.5 -0.9
ROTZ *e*Sn Sn 21 53 05.8 -4.6
LASF Ste Croix 5.85 274 *e*P Pn 21 52 03.1 -0.3
LASF *e*Sn Sn 21 53 08.2 -2.3
comp=Z,188nm,1.7s
SJES Sjenica 5.85 94 *e*Pn Pn 21 52 04.3 +0.8
IVA Berane 5.87 98 *e*Pn Pn 21 52 04.5 +0.8
IVA *i* Sn Sn 21 53 10.9 -0.2
TREC Trest 5.89 23 *e*P Pn 21 53 03.2 -0.8
TREC *e* 21 53 08.2
TREC Trest 5.89 23 *e*PN Pn 21 53 03.2 -0.8
TREC *e*SN Sn 21 53 08.2 -3.3
TIP Timpagrande 5.95 141 Pn Pn 21 52 04.7 -0.1
SMOL Smolenice 5.95 38 *e*P Pn 21 52 05.9 +1.1
SMOL *e* 21 53 10.3
KRUC Moravsky 5.98 29 *e*PN Pn 21 52 04.3 -0.8
KRUC *e*SN Sn 21 53 09.7 -3.9
KRUC Moravsky 5.98 29 P Pn 21 52 04.4 -0.7
KRUC pmax pmax
comp=Z,16nm,0.7s
PVY Plav 5.99 100 ⇑*i* Pn Pn 21 52 06.2 +0.8
PVY *i* Sn Sn 21 53 13.6 -0.3
MANZ Manzenberg 6.07 1 *e*Pn Pn 21 52 06.4 +0.1
MANZ *e*Sn Sn 21 53 10.9 -4.9
COLF Collangettes 6.11 288 P Pn 21 52 07.9 +0.9
PUK Puka 6.11 105 Pn Pn 21 52 08.2 +1.2
VRAC Vranov 6.26 29 ⇑P Pn 21 52 08.2 -0.8
VRAC Vranov 6.26 29 *e*PN Pn 21 52 08.1 -0.8
VRAC *e*SN Sn 21 53 16.5 -3.9
VRAC Vranov 6.26 29 ⇑P Pn 21 52 08.2 -0.8
VRAC Vranov 6.26 29 Pn Pn 21 52 08.1 -0.9
comp=Z,1.7nm,0.3s,baz=220,slow=15,SNR=16
VRAC Sn Sn 21 53 16.3 -4.2
comp=Z,1.3nm,0.3s,baz=324,slow=18,SNR=2.3
VRAC Lg Lg 21 53 52.8
comp=Z,1.0nm,0.3s,baz=355,slow=22,SNR=3.6
comp=Z,9.5nm,0.5s
GOPC GO Pecny, Ondr 6.30 17 *e*P Pn 21 52 08.9 -0.6
GOPC *e* 21 53 17.7
GOPC GO Pecny, Ondr 6.30 17 *e*PN Pn 21 52 08.9 -0.6
GOPC *e*SN Sn 21 53 17.7 -3.7
PRU Pruhonice 6.32 15 *e*P Pn 21 52 09.7 -0.1
PRU *e* 21 53 16.8
PRU Pruhonice 6.32 15 *e*PN Pn 21 52 09.7 -0.1
PRU *e*SN Sn 21 53 16.8 -5.1
JAVC Velka Javorina 6.32 37 *e*PN Pn 21 52 10.4 +0.6
NKC Novy Kostel 6.32 3 *e*P Pn 21 52 10.8 +1.0
NKC *e* 21 53 17.3
NKC Novy Kostel 6.32 3 *e*PN Pn 21 52 10.8 +1.0
NKC *e*SN Sn 21 53 17.3 -4.7
PAGF Fort de Pagny 6.34 319 *e*Pn Pn 21 52 10.5 +0.4
baz=133
PAGF *e*Sn Sn 21 53 18.4 -4.0
comp=Z,86nm,0.6s
SMF Signal de Mont 6.34 298 *e*Pn Pn 21 52 10.6 +0.4
SMF *e*Sn Sn 21 53 19.6 -3.0
comp=Z,105nm,0.8s
SMF Signal de Mont 6.34 298 P Pn 21 52 10.4 +0.2
LBL Lubilhac 6.36 285 P Pn 21 52 11.9 +1.4
TIR Tirane 6.37 111 Pn Pn 21 52 09.7 -0.8
TIR Tirane 6.37 111 P Pn 21 52 09.7 -0.8
SFTF Sexfontaines 6.45 314 *e*Pn Pn 21 52 11.7 +0.2
baz=129
SFTF *e*Sn Sn 21 53 22.0 -3.1
comp=Z,56nm,0.6s
TANN Tannenbergstha 6.50 3 *e*Pn Pn 21 52 12.8 +0.4
LOR Lormes 6.60 303 *e*Pn Pn 21 52 13.9 +0.2
baz=119
LOR Lormes 6.60 303 *e*Pn Pn 21 52 14.4 +0.7
LOR *e*Sn Sn 21 53 25.7 -3.2
comp=Z,69nm,0.6s
LOR Lormes 6.60 303 P Pn 21 52 14.7 +1.0
LOR pmax pmax
comp=Z,32nm,0.6s
VYHS Vyhne 6.60 44 *e*P Pn 21 52 13.0 -0.7
VYHS *e* 21 53 25.7
VYHS Vyhne 6.60 44 *e*PN Pn 21 52 13.0 -0.7
VYHS *e*SN Sn 21 53 25.6 -3.4
MEZF Maizieres J'vi 6.63 316 *e*Pn Pn 21 52 15.1 +1.0
baz=131
MEZF *e*Sn Sn 21 53 26.4 -3.2
comp=Z,37nm,0.5s
SAVF Savonnieres en 6.67 317 *e*Pn Pn 21 52 15.6 +1.0
baz=134
SAVF *e*Sn Sn 21 53 27.5 -3.1
comp=Z,63nm,0.9s
AVF Avril sur Loir 6.71 298 *e*Pn Pn 21 52 15.6 +0.4
AVF *e*Sn Sn 21 53 28.5 -3.1
comp=Z,33nm,0.8s
AVF Avril sur Loir 6.71 298 P Pn 21 52 14.7 -0.5
SSF Saint Saulge 6.72 301 *e*Pn Pn 21 52 15.7 +0.3
SSF *e*Sn Sn 21 53 28.5 -3.4
comp=Z,45nm,0.7s
SSF Saint Saulge 6.72 301 P Pn 21 52 15.9 +0.6
MOX Moxa 6.73 358 P Pn 21 52 16.2 +0.8
MOX Moxa 6.73 358 *e*Pn Pn 21 52 14.4 -1.0
MOX *e*Sn Sn 21 53 27.7 -4.3
TNS Taunus Mts 6.74 340 P Pn 21 52 18.0 +2.3
TNS pmax pmax
comp=Z,18nm,0.7s
TNS Taunus Mts 6.74 340 *e*Pn Pn 21 52 15.8 +0.1
HSKC Hora Svate Kat 6.76 8 *e*PN Pn 21 52 14.9 -1.0
HSKC *e*SN Sn 21 53 27.5 -5.4
MAUC Maruska 6.77 34 *e*PN Pn 21 52 16.5 +0.4
PSZ Piszkesteto 6.82 51 Pn Pn 21 52 15.9 -0.8
PSZ Piszkesteto 6.82 51 P Pn 21 52 19.9 +3.2
PSZ pmax pmax
comp=Z,9.0nm,0.9s
PVCC Panska Ves 6.84 14 *e*P Pn 21 52 18.2 +1.3
PVCC *e* 21 53 27.4
PVCC Panska Ves 6.84 14 *e*PN Pn 21 52 18.2 +1.3
PVCC *e*SN Sn 21 53 27.4 -7.4
BGF Bois d'Agland 6.96 295 *e*Pn Pn 21 52 19.0 +0.4
BGF *e*Sn Sn 21 53 34.3 -3.4
comp=Z,26nm,0.3s
BGF Bois d'Agland 6.96 295 P Pn 21 52 18.9 +0.4
KRLC Kraliky 6.98 26 *e*P Pn 21 52 18.5 -0.4
KRLC *e* 21 53 32.3
KRLC Kraliky 6.98 26 *e*PN Pn 21 52 18.5 -0.4
KRLC *e*SN Sn 21 53 32.3 -5.9
MORC Moravsky Berou 6.99 31 ⇑P Pn 21 52 19.6 +0.5
MORC Moravsky Berou 6.99 31 Pn Pn 21 52 17.8 -1.3
MORC Moravsky Berou 6.99 31 *e*PN Pn 21 52 18.9 -0.2
MORC Moravsky Berou 6.99 31 ⇑P Pn 21 52 19.6 +0.5
WLF Walferdange 6.99 327 Pn Pn 21 52 18.9 -0.1
WLF Walferdange 6.99 327 P Pn 21 52 18.9 -0.1
WLF Walferdange 6.99 327 *d*Pn Pn 21 52 19.4 +0.4
WLF *d*S Sn 21 53 37.9 -0.6
WLF Walferdange 6.99 327 *e*Pn Pn 21 52 21.2 +2.2
BZS Buzias 7.07 73 ⇓P Pn 21 52 20.5 +0.3
BZS Buzias 7.07 73 ⇓P Pn 21 52 20.5 +0.3
BRG Berggiesshubel 7.08 10 *e*P Pn 21 52 19.8 -0.4
BRG Amp 21 52 23.8
comp=Z,11nm,0.6s
BRG S Sn 21 53 28.3 -12
BRG r 21 54 25.1
BRG Amp 21 54 43.0
comp=Z,28nm,0.9s
BRG Berggiesshubel 7.08 10 *e*P Pn 21 52 19.8 -0.4
BRG pmax pmax
comp=Z,11nm,0.6s
BRG Berggiesshubel 7.08 10 *e*Pn Pn 21 52 19.6 -0.6
DPC Dobruska-Polom 7.08 23 *e*P Pn 21 52 20.0 -0.3
DPC *e* 21 53 35.4
DPC Dobruska-Polom 7.08 23 *e*PN Pn 21 52 20.0 -0.3
DPC *e*SN Sn 21 53 35.4 -5.4
MTLF Montolieu 7.10 269 *e*P Pn 21 52 20.4 -0.1
MTLF *e*Sn Sn 21 53 36.4 -4.8
comp=Z,13nm,0.5s
MTLF Montolieu 7.10 269 P Pn 21 52 20.2 -0.3
OHR Ohrid 7.10 110 P Pn 21 52 23.2 +2.5
OHR pmax pmax
comp=Z,45nm,0.8s
OHR Ohrid 7.10 110 *i* Pn Pn 21 52 22.9 +2.3
OHR *i* Sn Sn 21 53 42.3 +0.9
UPC Upice 7.14 21 *e*P Pn 21 52 19.8 -1.2
UPC Upice 7.14 21 *e*PN Pn 21 52 19.8 -1.2
CAF Calviac 7.16 281 *e*P Pn 21 52 22.6 +1.2
CAF *e*Sn Sn 21 53 39.2 -3.6
comp=Z,6.8nm,0.6s
CAF Calviac 7.16 281 P Pn 21 52 21.7 +0.3
KEK Kerkira 7.20 123 Pn Pn 21 52 19.2 -2.8
CHVC Chvalec 7.22 21 *e*P Pn 21 52 20.4 -1.8
CHVC Chvalec 7.22 21 *e*PN Pn 21 52 20.4 -1.8
OSTC Ostas 7.24 22 *e*P Pn 21 52 20.6 -1.8
OSTC Ostas 7.24 22 *e*PN Pn 21 52 20.6 -1.8
FNEB Nbias 7.25 265 P Pn 21 52 23.0 +0.3
OKC Ostrava-Krasne 7.27 33 *e*P Pn 21 52 22.3 -0.6
OKC *e* 21 53 41.8
OKC Ostrava-Krasne 7.27 33 *e*PN Pn 21 52 22.3 -0.6
OKC *e*SN Sn 21 53 41.8 -3.6
TCF Toulx Ste Croi 7.30 292 *e*Pn Pn 21 52 23.5 +0.2
TCF *e*Sn Sn 21 53 42.5 -3.6
comp=Z,22nm,0.6s
TCF Toulx Ste Croi 7.30 292 P Pn 21 52 21.9 -1.4
KBN Korca 7.33 114 Pn Pn 21 52 21.5 -2.2
KBN Korca 7.33 114 P Pn 21 52 21.5 -2.2
HYF Humbligny 7.35 300 *e*Pn Pn 21 52 23.7 -0.2
HYF *e*Sn Sn 21 53 43.7 -3.6
AHRW Bad Neuenahr-A 7.41 335 *e*Pn Pn 21 52 26.7 +2.0
CLL Collm 7.42 5 Pn Pn 21 52 23.4 -1.5
CLL Collm 7.42 5 *e*P Pn 21 52 25.0 +0.1
CLL *e* 21 53 54.0
CLL Collm 7.42 5 *e*Pn Pn 21 52 25.0 +0.1
CLL *e*Sn Sn 21 53 39.0 -10
CLL *ex* x 21 53 46.0
CLL *e*Sb Sb 21 53 54.0 -20
CLL *e*Sg Sg 21 54 33.0 -1.7
comp=Z,45nm,1.1s
CLL Collm 7.42 5 *e*Pn Pn 21 52 25.1 +0.1
DUNF Dun 7.44 267 P Pn 21 52 26.0 +0.8
HERR Herculane 7.54 79 ⇑P Pn 21 52 25.6 -1.0
RJF Les Rejaudoux 7.58 284 *e*P Pn 21 52 28.9 +1.7
RJF *e*Sn Sn 21 53 49.2 -3.9
comp=Z,5.5nm,0.6s
BHOU Houvegnez 7.61 330 *d*Pn Pn 21 52 28.8 +1.4
BHOU *d*S Sn 21 53 52.4 -1.3
IGT Igoumenitsa 7.64 122 P Pn 21 52 30.0 +2.0
IGT pmax pmax
comp=Z,49nm,1.8s
FNA Florina 7.64 111 Pn Pn 21 52 27.8 -0.2
FNA Florina 7.64 111 P Pn 21 52 27.8 -0.2
RCHB Rochefort 7.75 326 *d*Pn Pn 21 52 30.6 +1.2
RCHB *dx* x 21 52 33.5
RCHB *d*S Sn 21 53 52.9 -4.2
BTNL Ternell 7.76 331 *d*Pn Pn 21 52 32.0 +2.5
BTNL *d*S Sn 21 53 58.7 +1.4
BLKB Belogradchik 7.76 89 ⇓P Pn 21 52 33.6 +4.0
MEM Membach 7.82 331 *d*Pn Pn 21 52 31.5 +1.2
MEM *d*S Sn 21 52 56.2 -2.4
GZA Gura Zlata 7.85 75 ⇑P Pn 21 52 30.2 -0.6
GIVF Givet 7.87 324 *e*Pn Pn 21 52 32.2 +1.1
GIVF *e*Sn Sn 21 53 55.7 -4.5
comp=Z,44nm,0.8s
CLF Chambon-Foret 7.91 305 Pn Pn 21 52 32.9 +1.3
BCLA Clavier 7.92 327 *dx* x 21 52 37.7
BCLA *d*PP Pn 21 52 38.9 +7.1
BCLA *d*P Pb 21 52 49.6 -4.4
BCLA *d*S Sn 21 53 57.4 -4.0
CEST Esterri de Car 7.93 264 Pn Pn 21 52 33.5 +1.4
BSTI Sart Tilman 7.96 329 *d*P Pn 21 52 32.2 0.0
BSTI *d*S Sn 21 54 01.6 -0.6
DOU Dourbes 7.97 323 *d*Pn Pn 21 52 33.5 +1.2
DOU *d*P Pb 21 52 52.7 -2.0
DOU *d*S Sn 21 53 59.3 -3.2
BGES Gesves 7.98 326 *d*S Sn 21 53 58.7 -4.1
BMRD Maredsous 8.05 325 *d*P Pn 21 52 36.6 +3.1
BMRD *d*S Sn 21 54 03.1 -1.3
DRGR 8.09 66 ⇑P Pn 21 52 33.5 -0.7
DRGR 8.09 66 ⇑P Pn 21 52 33.5 -0.7
LFF La Frestale 8.10 281 *e*P Pn 21 52 36.6 +2.4
LFF *e*Sn Sn 21 54 01.8 -4.0
BAIF Baives 8.11 322 *e*Pn Pn 21 52 34.5 +0.2
BAIF *e*Sn Sn 21 54 01.9 -4.0
comp=Z,24nm,0.8s
KEST Kesra 8.43 195 Pn Pn 21 52 44.0 +5.2
comp=Z,1.1nm,0.3s,baz=327,slow=4.5,SNR=20
EPF Esparros 8.50 268 *e*P Pn 21 52 41.1 +1.3
EPF *e*Sn Sn 21 54 11.7 -4.1
comp=Z,4.5nm,0.5s
MFF Saint Martin d 8.95 292 *e*P Pn 21 52 46.7 +0.8
MFF *e*Sn Sn 21 54 22.2 -4.5
comp=Z,3.4nm,0.4s
MFF Saint Martin d 8.95 292 P Pn 21 52 47.3 +1.4
SRS Serrai 9.03 104 P Pn 21 52 48.6 +1.6
SRS pmax pmax
comp=Z,21nm,2.1s
ARR Arges 9.15 77 ⇑P Pn 21 52 51.1 +2.4
ETSF Etsaut 9.18 268 *e*P Pn 21 52 51.5 +2.4
ETSF *e*Sn Sn 21 54 27.5 -4.9
comp=Z,10nm,0.8s
AGG Agios Georgios 9.19 119 Pn Pn 21 52 49.1 -0.1
AGG Agios Georgios 9.19 119 P Pn 21 52 49.1 -0.1
LDF La Druitiere 9.59 303 *e*P Pn 21 52 56.4 +1.8
LDF *e*Sn Sn 21 54 37.1 -5.1
comp=Z,11nm,0.8s
LDF La Druitiere 9.59 303 P Pn 21 52 56.8 +2.2

SJPF	**Ste Jean**	**9.62**	**270**	*e*P		**Pn**	**21 52 54.3**	**-0.8**
SJPF				*e*Sn		**Sn**	**21 54 38.2**	**-5.0**
	comp=Z,14nm,0.9s							
GRR	**Gorron**	**9.95**	**301**	*e*P		**Pn**	**21 53 00.3**	**+0.7**
GRR				*e*Sn		**Sn**	**21 54 46.0**	**-5.3**
	comp=Z,4.4nm,0.4s							
GRR	**Gorron**	**9.95**	**301**	P		**Pn**	**21 52 59.3**	**-0.3**
BUR08	**Bucovina Ar. S**	**9.96**	**63**	Pn		**Pn**	**21 52 59.0**	**-0.9**
BURAR	**Bucovina Array**	**9.97**	**64**	⇑P		**Pn**	**21 53 01.8**	**+1.9**
BURAR	**Bucovina Array**	**9.97**	**64**	⇑P		**Pn**	**21 53 01.8**	**+1.9**
MLR	**Muntele Rosu**	**10.08**	**76**	LR	LR		21 57 42.7	
	comp=Z,253nm,19.4s,baz=272,slow=42							
RDO	**Rodhopi**	**10.39**	**101**	Pn		**Pn**	**21 53 05.4**	**-0.2**
SGMF	**Saint Gilles**	**10.97**	**298**	*e*P		**Pn**	**21 53 14.1**	**+0.5**
SGMF				*e*Sn		**Sn**	**21 55 10.5**	**-5.8**
QUIF	**Quistinic**	**11.27**	**296**	*e*P		**Pn**	**21 53 18.4**	**+0.8**
QUIF				*e*Sn		**Sn**	**21 55 17.4**	**-6.1**
ROSF	**Rostrenen**	**11.46**	**298**	*e*Sn		**Sn**	**21 55 22.0**	**-6.1**
	comp=Z,269nm,1.7s							
APE	**Apeiranthos**	**12.38**	**119**	*i* P		**Pn**	**21 53 33.7**	**+0.8**
ESDC	**Sonseca Array**	**12.62**	**256**	Pn		**Pn**	**21 53 37.1**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=70,slow=13,SNR=4.9							
ESDC				LR		LR	21 58 06.5	
	comp=Z,137nm,20.2s,baz=118,slow=36							
	comp=Z,1.2nm,0.8s							
AKASG	**Malin Array Be**	**13.51**	**54**	Pn		**Pn**	**21 53 46.6**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=237,slow=13,SNR=2.0							
AKASG				LR		LR	21 59 52.7	
	comp=Z,120nm,18.9s,baz=240,slow=41							
	comp=Z,0.1nm,0.3s							
AKBB	**Malin Array Si**	**13.51**	**54**	*i* P		**Pn**	**21 53 49.1**	**+0.9**
PABE	**Paberze**	**13.93**	**29**	Pn		**Pn**	**21 53 53.8**	**0.0**
NACGM	**Naroch**	**14.58**	**36**	*e*P		**P**	**21 54 05.5**	**-3.8**
	comp=Z,6.0nm,0.8s,baz=228							
MDUB	**Mudurnu**	**14.66**	**97**	Pn		**Pn**	**21 54 00.3**	**-3.8**
MNK	**Minsk**	**14.80**	**39**	*i* P		**Pn**	**21 54 03.1**	**-2.7**
	comp=E,7.0nm,0.8s							
MNK				*i* P		**Pn**	**21 54 03.1**	**-2.7**
	comp=N,4.0nm,0.7s							
MNK				*i* P		**Pn**	**21 54 03.1**	**-2.7**
	comp=Z,17nm,0.7s,baz=231							
MNK				*i* PPP	PPP		21 54 18.8	
MNK				*i* S		**Sn**	**21 56 47.0**	**-2.8**
MNK				*i* SS		**SnSn**	**21 57 00.8**	**-1.3**
MNK				*i* SSS	SSS		21 57 13.4	
MNK				*i* LQ	LQ		21 58 21.9	
MNK				*i* LR	LR		22 00 12.4	
MNK				*i* LRM	MLR		22 01 02.5	
	comp=Z,72nm,15.0s							
MNK				*i* LRM	MLR		22 01 18.6	
	comp=N,69nm,14.1s							
MNK				*i* LRM	MLR		22 01 28.8	
	comp=E,20nm,15.2s							
MNK	**Minsk**	**14.80**	**39**	*i* P		**Pn**	**21 54 03.1**	**-2.7**
MNK				*i* S		**Sn**	**21 56 46.9**	**-2.8**
MNK				pmax	pmax			
	comp=Z,17nm,0.6s							
MNK				pmax	pmax			
	comp=E,7.0nm,0.9s							
MNK				pmax	pmax			
	comp=N,4.0nm,0.7s							
MNK				MLR	MLR			
	comp=Z,72nm,15.0s							
MNK				MLR	MLR			
	comp=N,69nm,14.0s							
MNK				MLR	MLR			
	comp=E,20nm,15.0s							
EKA	**Eskdalemuir Ar**	**15.01**	**325**	Pn		**Pn**	**21 54 09.1**	**+0.5**
	baz=137,slow=14							
	comp=E,1.1nm,0.4s							
HFS	**Hagfors**	**16.27**	**3**	Pn		**Pn**	**21 54 25.0**	**+0.1**
	comp=E,0.1nm,0.3s,baz=184,slow=8.7,SNR=1.6							
	comp=E,1.5nm,0.7s							
BRTR	**Keskin Array B**	**16.68**	**97**	Pn		**P**	**21 54 33.7**	**+0.8**
	baz=278,slow=11,SNR=2.0							
	comp=E,0.6nm,0.8s							
MDT	**Midelt**	**17.05**	**235**	LR	LR		22 00 37.2	
	comp=E,116nm,19.3s,baz=348,slow=35							
NB2	**NORSAR Subarra**	**17.15**	**359**	P		**P**	**21 54 39.5**	**+1.7**
	comp=Z,8.9nm,1.2s,baz=178,slow=11							
NOA	**NORSAR Array B**	**17.15**	**359**	P		**P**	**21 54 36.7**	**-1.1**
	baz=177,slow=11,SNR=2.2							
NOA				LR	LR		22 02 20.5	
	comp=Z,32nm,19.2s,baz=275,slow=41							
	comp=Z,0.4nm,0.6s							
NB201	**NORSAR Array S**	**17.16**	**359**	Pn		**Pn**	**21 54 34.8**	**-1.4**
VSU	**Vasula**	**17.19**	**27**	*i* P		**P**	**21 54 37.2**	**-1.0**
VSU				pmax	pmax			
	comp=Z,27nm,0.9s							
OBN	**Obninsk**	**19.39**	**46**	*ce*P		**Pn**	**21 55 03.9**	**+0.3**
OBN				pmax	pmax			
	comp=Z,2.0nm,0.6s							
OBN				MLR	MLR			
	comp=Z,92nm,14.0s							
FINES	**FINESS Array B**	**19.44**	**21**	P		**P**	**21 55 02.6**	**-0.3**
FINES	**FINESS Array B**	**19.44**	**21**	*e*P		**Pn**	**21 55 03.9**	**-0.2**
FINES	**FINESS Array B**	**19.44**	**21**	P		**Pn**	**21 55 03.3**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=201,slow=8.3,SNR=9.8							
FINES				LR	LR		22 03 18.2	
	comp=Z,77nm,19.3s,baz=212,slow=39							
	comp=Z,4.1nm,0.8s							
FIA1	**FINESS Array S**	**19.44**	**21**	P		**Pn**	**21 55 03.1**	**-1.1**
FIA1				IAmb	IAmb		21 55 15.1	
	comp=Z,36nm,1.3s							
VSR	**Storozhevoye**	**19.67**	**59**	*e*P		**P**	**21 55 02.3**	**-3.2**
VSR				pmax	pmax			
	comp=Z,4.0nm,0.5s							
LPSR	**Galich'ya Gora**	**19.84**	**55**	*e*P		**P**	**21 55 05.8**	**-1.6**
LPSR				pmax	pmax			
	comp=Z,5.0nm,0.6s							
VSLR	**Vesyoloye**	**20.27**	**82**	*i* P		Pn	21 55 12.9	-1.2
VSLR				pmax	pmax			
	comp=Z,38nm,1.4s							
VALR	**Valaam**	**20.76**	**26**	*i* P		**P**	**21 55 17.6**	**+0.4**
VALR				pmax	pmax			
	comp=Z,6.0nm,1.0s							
MMAI	**Mount Meron Ar**	**21.27**	**113**	P		**P**	**21 55 24.8**	**+1.7**
	comp=Z,2.4nm,0.7s,baz=318,slow=11,SNR=5.9							
	comp=Z,2.4nm,0.7s							
KIV	**Kislovodsk**	**22.06**	**79**	*e*P		**P**	**21 55 32.5**	**+0.9**
KIV				pmax	pmax			
	comp=Z,6.0nm,1.1s							
KIV				MLR	MLR			
	comp=Z,35nm,14.0s							
KBZ	**Khabaz**	**22.26**	**80**	*i* P		**P**	**21 55 34.6**	**+1.1**
KBZ				pmax	pmax			
	comp=Z,3.0nm,1.0s							
KBZ	**Khabaz**	**22.26**	**80**	P		**P**	**21 55 35.4**	**+1.9**
	comp=Z,1.9nm,0.8s,baz=273,slow=5.7,SNR=3.6							
KBZ				LR	LR		22 05 11.3	
	comp=Z,65nm,20.4s,baz=284,slow=39							
	comp=Z,1.9nm,0.8s							
ASF	**Jabal al Asfar**	**22.78**	**113**	P		**P**	**21 55 42.0**	**+2.7**
	comp=Z,3.3nm,0.8s,baz=216,slow=0.3,SNR=4.4							
	comp=Z,3.3nm,0.8s							
EIL	**Elat**	**23.16**	**120**	LR	LR		22 06 45.9	
	comp=Z,44nm,19.4s,baz=247,slow=42							
GURO	**Guroymak-BITLI**	**23.16**	**93**	P		**P**	**21 55 43.0**	**-0.4**
KLMR	**Klimovskoe**	**23.59**	**34**	*e*P		**P**	**21 55 46.3**	**-0.9**
KLMR				pmax	pmax			
	comp=Z,8.0nm,1.0s							
GNI	**Garni**	**24.54**	**87**	P		**P**	**21 55 58.5**	**+1.9**
	comp=Z,3.8nm,0.9s,baz=223,slow=21,SNR=2.2							
	comp=Z,3.8nm,0.9s							
BELG	**Belogornoye**	**25.03**	**58**	*i* P		**P**	**21 56 01.6**	**+1.0**
BELG				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KIRV	**Kirov**	**27.21**	**44**	LR	LR		22 08 28.0	
	comp=Z,122nm,18.3s,baz=247,slow=40							
ARU	**Arti**	**31.72**	**50**	P		**P**	**21 56 59.6**	**-0.6**
ARU				IAmb	IAmb		21 57 11.2	
	comp=Z,7.0nm,1.2s							
ARU	**Arti**	**31.72**	**50**	*d* iP		**P**	**21 56 59.5**	**-0.8**
ARU							21 57 59.9	
ARU				S		**S**	**22 02 10.0**	**+0.4**
ARU				SS		**SnSn**	**22 03 56.3**	**+0.3**
ARU				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ARU	**Arti**	**31.72**	**50**	LR	LR		22 10 43.8	
	comp=Z,54nm,19.4s,baz=262,slow=38							
TOA0	**Torodi Ar. Sit**	**31.91**	**199**	P		**P**	**21 57 02.5**	**+0.2**
TOA0				IAmb	IAmb		21 57 03.3	
	comp=Z,3.8nm,0.8s							
TORD	**Torodi Ar. Bea**	**31.91**	**199**	P		**P**	**21 57 02.2**	**-0.1**
TORD				IAmb	IAmb		21 57 03.3	
	comp=Z,3.0nm,1.0s							
TORD	**Torodi Ar. Bea**	**31.91**	**199**	P		**P**	**21 57 02.7**	**+0.4**
	comp=Z,4.4nm,0.9s,baz=14,slow=9.9,SNR=20							
TORD				PcP		**PcP**	**21 59 52.0**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=358,slow=4.3,SNR=4.0							
	comp=Z,4.4nm,0.9s							
BRVK	**Borovoye**	**38.72**	**55**	*i* P		**P**	**21 58 02.2**	**+1.7**
BRVK				pmax	pmax			
	comp=Z,2.0nm,1.0s							
BVAR	**Borovoye Array**	**38.79**	**55**	P		**P**	**21 58 01.5**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=289,slow=4.4,SNR=2.3							
BVAR				LR	LR		22 16 22.8	
	comp=Z,61nm,18.1s,baz=258,slow=40							
	comp=Z,0.5nm,0.6s							
DBIC	**Dimbokro**	**39.93**	**207**	LR	LR		22 15 34.4	
	comp=Z,85nm,19.0s,baz=292,slow=37							
UOSS	**Minazif**	**40.54**	**103**			**P**	**21 58 16.4**	**+0.3**
UOSS				IAmb	IAmb		21 58 18.7	
	comp=Z,6.6nm,0.9s							
KURBB	**Kurchatov Arra**	**44.28**	**57**	P		**P**	**21 58 46.7**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=296,slow=7.4,SNR=4.8							
KURBB				PcP		**PcP**	**22 00 31.5**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=293,slow=3.7,SNR=4.1							
	comp=Z,0.3nm,0.6s							
KURK	**Kurchatov**	**44.30**	**57**	*i* P		**P**	**21 58 47.3**	**+1.0**
KURK				pmax	pmax			
	comp=Z,4.0nm,1.3s							
ZALV	**Zalesovo Beam**	**46.88**	**51**	P		**P**	**21 59 06.8**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=289,slow=9.0,SNR=2.2							
ZALV				LR	LR		22 20 18.6	
	comp=Z,49nm,20.8s,baz=329,slow=38							
	comp=Z,0.3nm,0.3s							
KSH	**Kashi**	**46.92**	**72**	P		**P**	**21 59 07.9**	**+0.6**
MK31	**Makanchi Array**	**47.98**	**61**	P		**P**	**21 59 13.8**	**-1.6**
MK31	**Makanchi Array**	**47.98**	**61**	P		**P**	**21 59 13.8**	**-1.6**
MK31				pmax	pmax			
	comp=Z,2.0nm,1.3s							
MKAR	**Makanchi Array**	**47.98**	**61**	P		**P**	**21 59 13.2**	**-2.2**
MKAR	**Makanchi Array**	**47.98**	**61**	P		**P**	**21 59 16.4**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=282,slow=6.8,SNR=16							
MKAR				PcP		**PcP**	**22 00 44.4**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=300,slow=3.1,SNR=2.4							
MKAR				LR	LR		22 22 19.0	
	comp=Z,78nm,19.5s,baz=300,slow=40							
	comp=Z,1.0nm,0.6s							
SONM	**Songino Array**	**61.76**	**50**	*e*P		**P**	**22 00 57.4**	**+2.2**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.8s							
SONM	**Songino Array**	**61.76**	**50**	P		**P**	**22 00 56.1**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=296,slow=8.1,SNR=5.0							
	comp=Z,0.7nm,0.5s							
YKA	**Yellowknife Ar**	**65.65**	**336**	*e*P		**P**	**22 01 22.5**	**+2.0**
YKA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
YKA	**Yellowknife Ar**	**65.65**	**336**	P		**P**	**22 01 21.5**	**+1.1**
	comp=Z,1.6nm,0.9s,baz=38,slow=6.0,SNR=11							
	comp=Z,1.6nm,0.9s							
E29M	**Blow River**	**65.76**	**348**	P		**P**	**22 01 21.8**	**+0.7**
ULM	**Lac du Bonnet**	**67.18**	**318**	*e*P		**P**	**22 01 32.3**	**+1.8**
ULM				pmax	pmax			
	comp=Z,2.0nm,0.5s							
ULM	**Lac du Bonnet**	**67.18**	**318**	P		**P**	**22 01 31.0**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=55,slow=8.9,SNR=4.2							
	comp=Z,1.7nm,0.5s							
BMAR	**Burnt Mountain**	**67.56**	**350**	P		**P**	**22 01 33.2**	**+0.5**
H29M	**Whitestone**	**67.83**	**347**	P		**P**	**22 01 33.7**	**-0.7**
H29M				IAmb	IAmb		22 01 40.6	
	comp=Z,2.9nm,1.0s							
I28M	**Miner Creek**	**68.80**	**348**	P		**P**	**22 01 40.7**	**+0.2**
I28M				IAmb	IAmb		22 01 41.7	
	comp=Z,3.9nm,1.4s							
HHC	**Hu-ho-hao-te**	**68.96**	**53**	*e*P		**P**	**22 01 41.7**	**-0.3**
HHC				pmax	pmax			
	comp=Z,7.0nm,0.8s							
HHC				pmax	pmax			
	comp=Z,130nm,4.5s							
IMAR	**Indian Mountai**	**69.87**	**354**	P		**P**	**22 01 48.4**	**+1.3**
ILAR	**Eielson Array**	**70.38**	**351**	P		**P**	**22 01 51.6**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=15,slow=6.3,SNR=5.5							
	comp=Z,0.4nm,0.8s							
I21K	**Tanana**	**70.52**	**353**	P		**P**	**22 01 52.4**	**+1.4**
BCAR	**Beaver Creek A**	**71.32**	**348**	P		**P**	**22 01 55.6**	**-0.4**
PZH	**PanZhiHua**	**71.98**	**70**	P		**P**	**22 02 00.6**	**-0.1**
PZH				pmax	pmax			
	comp=Z,8.0nm,0.7s							
PZH				pmax	pmax			
	comp=Z,100nm,5.1s							
N30M	**Aishikik Lake**	**72.02**	**345**	P		**P**	**22 02 00.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**75.30**	**79**	*e*P		**P**	**22 02 23.0**	**+2.9**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**75.30**	**79**	P		**P**	**22 02 20.8**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=308,slow=7.1,SNR=6.9							
	comp=Z,0.5nm,0.3s							
TXAR	**Lajitas Array**	**86.33**	**308**	P		**P**	**22 03 20.7**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=90,slow=3.8,SNR=5.2							
	comp=Z,0.6nm,0.8s							
NVAR	**Mina Array Bea**	**86.50**	**323**	P		**P**	**22 03 21.9**	**+2.0**
	comp=Z,0.1nm,0.4s,baz=17,slow=0.9,SNR=2.3							
	comp=Z,0.1nm,0.4s							
NNA	**Nana**	**97.35**	**261**	LR	LR		22 47 21.4	
	comp=Z,45nm,19.1s,baz=16,slow=35							
ASAR	**Alice Springs**	**128.78**	**87**	PKP		**PKiKP**	**22 09 45.5**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=309,slow=1.7,SNR=2.6							

*IDC **05** 21:54:45.4±1.0, 35°.32N×22°.36E, h0km, mb3.8/15, mbtmp3.7/21, ML3.5/6, Error ellipse: s-maj=20.8km s-min=15.8km az=2.0*

*ATH **05** 21:54:50.4, 35°.31N×22°.37E, h9km±2km, ML3.2/2, Error ellipse: s-maj=3.0km s-min=1.2km az=42.0*

ISC 05 21:54:49.1±1.3, 35°.30N±0°.05×22°.35E±0°.04, h31km±10km, n56, σ2s25/67, mb3.7/15, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANKY	**Antikythira Is**	**0.96**	**53**	P	**Pn**	**21 55 08.1**	**+1.7**
ANKY				S	**Sb**	**21 55 12.7**	**-6.8**
ANKY	**Antikythira Is**	**0.96**	**53**	P	**Pn**	**21 55 08.1**	**+1.7**
ANKY				S	**Sb**	**21 55 20.8**	**+1.2**
ANKY				AML	AML	21 55 27.0	
	comp=N,2985μm,0.9s						
ANKY				AML	AML	21 55 30.8	
	comp=E,3196μm,1.2s						
RODP	**Rodopos**	**1.18**	**77**	P	**Pb**	**21 55 11.9**	**+1.1**
IMMV	**Iera Moni Meta**	**1.34**	**83**	P	**Pb**	**21 55 15.0**	**+1.4**
IMMV				S	**Sn**	**21 55 25.2**	**-3.3**
IMMV	**Iera Moni Meta**	**1.34**	**83**	P	**Pb**	**21 55 14.9**	**+1.3**
IMMV				S	**Sb**	**21 55 31.8**	**+1.4**
IMMV				AML	AML	21 55 49.4	
	comp=N,2004μm,0.6s						
IMMV				AML	AML	21 55 54.8	
	comp=E,1391μm,0.5s						
CHAN	**Chania**	**1.40**	**80**	P	**Pn**	**21 55 14.4**	**+1.9**
CHAN				S	**Sb**	**21 55 32.8**	**+0.8**
MNVA	**Monemvasia**	**1.49**	**22**	P	**Pb**	**21 55 16.2**	**0.0**
VLI	**Veliai**	**1.49**	**18**	P	**Pb**	**21 55 17.1**	**+0.9**
VLI				S	**Sn**	**21 55 28.1**	**-4.2**
VLI	**Veliai**	**1.49**	**18**	P	**Pb**	**21 55 17.0**	**+0.9**
VLI				S	**Sb**	**21 55 35.1**	**+0.3**
GVD	**Gavdhos**	**1.50**	**107**	P	**Pb**	**21 55 16.1**	**-0.1**
GVD				S	**Sb**	**21 55 34.8**	**0.0**
PYL	**PYLOS**	**1.67**	**343**	P	**Pb**	**21 55 18.5**	**-0.6**
PYL				S	**Sb**	**21 55 40.0**	**+0.2**
IDI	**Anoyia**	**2.08**	**90**	P	**Pb**	**21 55 25.0**	**-1.1**
KRND	**KRANIDI**	**2.18**	**17**	P	**Pn**	**21 55 26.3**	**+3.1**
KRND	**KRANIDI**	**2.18**	**17**	P	**Pn**	**21 55 26.0**	**+2.8**
GUR	**Goura**	**2.63**	**360**	P	**Pn**	**21 55 33.0**	**+3.4**
DRO	**Drossia**	**2.70**	**349**	P	**Pn**	**21 55 32.8**	**+2.5**
KLV	**Kalavryta, Ach**	**2.74**	**357**	P	**Pn**	**21 55 34.3**	**+3.2**
THAL	**Thalero**	**2.75**	**5**	P	**Pn**	**21 55 34.0**	**+3.1**
LTK	**Loutraki**	**2.76**	**10**	P	**Pn**	**21 55 34.5**	**+3.2**
RLS	**Riolos of Patr**	**2.84**	**346**	P	**Pn**	**21 55 35.1**	**+2.8**
VIL2	**Platees**	**3.00**	**14**	P	**Pn**	**21 55 36.3**	**+1.8**
PTL	**Penteli**	**3.00**	**23**	P	**Pn**	**21 55 37.1**	**+2.5**
DION	**Dionisos Attik**	**3.05**	**24**	P	**Pn**	**21 55 37.9**	**+2.7**
EFP	**Efpalio**	**3.14**	**354**	P	**Pn**	**21 55 40.1**	**+3.6**
VLS	**Valsamata**	**3.20**	**334**	P	**Pn**	**21 55 38.6**	**+1.2**
PVO	**Paravola**	**3.38**	**349**	P	**Pn**	**21 55 43.0**	**+3.3**
AXAR	**Agios Charalam**	**3.47**	**4**	P	**Pn**	**21 55 43.1**	**+2.1**
VAE	**Valguarnera**	**6.76**	**291**	Pn	**Pn**	**21 56 27.1**	**+0.9**
	comp=E,1.0nm,0.3s,baz=207,slow=18,SNR=1.7						
VAE				Sn	**Sn**	**21 57 39.9**	**-2.4**
	comp=E,1.4nm,0.3s,baz=131,slow=19,SNR=1.4						
	comp=E,9.5nm,0.9s						
STON	**Ston**	**8.38**	**336**	*e*Pn	**Pn**	**21 56 46.3**	**-2.0**
RICI	**Ricice**	**9.12**	**335**	*e*Pn	Pn	21 56 56.2	-2.4
ZIRJ	**Zirje**	**9.82**	**330**	*e*Pn	**Pn**	**21 57 06.4**	**-1.7**
ZIRJ				Sn	Sn	21 58 45.8	-11
KIJV	**Kijevo**	**9.83**	**334**	*e*Pn	**Pn**	**21 57 08.1**	**-0.1**
MORI	**Morici**	**9.97**	**331**	*e*Pn	**Pn**	**21 57 10.6**	**+0.4**
BRTR	**Keskin Array B**	**9.99**	**60**	Pn	**Pn**	**21 57 11.3**	**+0.7**
	comp=E,0.1nm,0.3s,baz=327,slow=36,SNR=2.3						
	comp=E,0.6nm,0.8s						
UDBI	**Udbina**	**10.51**	**333**	*e*Pn	**Pn**	**21 57 18.1**	**+0.5**
NVLJ	**Novalja**	**10.88**	**330**	*e*Pn	**Pn**	**21 57 23.0**	**+0.3**
MMAI	**Mount Meron Ar**	**11.05**	**98**	Pn	**Pn**	**21 57 23.6**	**-1.4**
	comp=E,0.7nm,0.3s,baz=278,slow=10.0,SNR=2.7						
MMAI				Sn	**Sn**	**21 59 25.9**	**-1.7**
	comp=E,0.6nm,0.3s,baz=308,slow=34,SNR=1.4						
	comp=E,0.2nm,0.3s						
EIL	**Elat**	**12.02**	**114**	Pn	**Pn**	**21 57 37.2**	**-1.1**
	comp=E,0.4nm,0.3s,baz=330,slow=16,SNR=2.3						
EIL				Sn	**Sn**	**21 59 45.6**	**-5.8**
	comp=E,0.2nm,0.3s,baz=72,slow=23,SNR=1.3						
	comp=E,1.7nm,0.4s						
DAVOX	**Davos/Dischmat**	**14.81**	**325**	Sn	Sn	22 00 49.4	-10
	baz=147,slow=22,SNR=0.9						
GERES	**GERESS Array B**	**14.97**	**337**	Pn	**Pn**	**21 58 17.7**	**-0.8**
	comp=E,0.1nm,0.3s,baz=172,slow=7.9,SNR=1.6						
GERES				Sn	**Sn**	**22 00 57.6**	**-5.6**
	comp=E,0.1nm,0.3s,baz=153,slow=21,SNR=3.7						
	comp=E,0.3nm,0.6s						
AKASG	**Malin Array Be**	**16.18**	**16**	Pn	**Pn**	**21 58 34.0**	**-0.1**
	comp=E,1.2nm,0.3s,baz=210,slow=11,SNR=6.3						
	comp=E,0.2nm,0.3s						
ESDC	**Sonseca Array**	**21.30**	**290**	P	**P**	**21 59 34.4**	**+1.2**
	comp=E,1.5nm,0.7s,baz=78,slow=9.6,SNR=5.3						
	comp=E,1.5nm,0.7s						
HFS	**Hagfors**	**25.48**	**350**	P	**P**	**22 00 14.3**	**+0.1**
	comp=E,1.5nm,0.5s,baz=156,slow=11,SNR=9.1						
	comp=E,1.5nm,0.5s						
FINES	**FINESS Array B**	**26.27**	**4**	P	**P**	**22 00 21.3**	**0.0**
	comp=E,1.9nm,0.9s,baz=179,slow=9.2,SNR=5.2						
	comp=E,1.9nm,0.9s						
EKA	**Eskdalemuir Ar**	**26.63**	**327**	P	**P**	**22 00 24.6**	**-0.1**
	comp=E,0.7nm,0.7s,baz=124,slow=8.6,SNR=1.8						
	comp=E,0.7nm,0.7s						
NOA	**NORSAR Array B**	**26.73**	**348**	P	**P**	**22 00 24.5**	**-1.1**
	comp=E,0.4nm,0.7s,baz=156,slow=8.8,SNR=1.8						
	comp=E,0.4nm,0.7s						
GEYT	**Alibeck**	**28.72**	**74**	P	**P**	**22 00 44.6**	**+0.9**
	comp=E,0.6nm,0.4s,baz=262,slow=9.9,SNR=1.4						
	comp=E,0.6nm,0.4s						
TORD	**Torodi Ar. Bea**	**28.89**	**225**	P	**P**	**22 00 45.8**	**+0.6**
	comp=E,1.1nm,0.6s,baz=36,slow=10,SNR=14						
	comp=E,1.1nm,0.6s						
ARCES	**ARCESS Array B**	**34.34**	**2**	P	**P**	**22 01 32.9**	**+0.3**
	comp=E,1.2nm,0.6s,baz=187,slow=9.3,SNR=15						
	comp=E,1.2nm,0.6s						
BVAR	**Borovoye Array**	**37.92**	**47**	P	**P**	**22 02 03.9**	**+0.4**
	comp=E,0.3nm,0.6s,baz=282,slow=6.8,SNR=1.4						
	comp=E,0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**42.82**	**51**	P	**P**	**22 02 43.8**	**-0.2**
	comp=E,0.5nm,0.4s,baz=275,slow=8.7,SNR=12						
	comp=E,0.5nm,0.4s						
SPITS	**Spitsbergen Ar**	**43.06**	**358**	P	**P**	**22 02 46.3**	**+0.7**
	comp=E,8.3nm,1.0s,baz=165,slow=6.0,SNR=0.9						
	comp=E,8.3nm,1.0s						
MKAR	**Makanchi Array**	**45.61**	**56**	P	**P**	**22 03 07.2**	**+0.8**
	comp=E,0.9nm,0.6s,baz=279,slow=6.7,SNR=7.8						
	comp=E,0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**46.57**	**46**	P	**P**	**22 03 14.2**	**+0.4**
	comp=E,0.5nm,0.3s,baz=292,slow=7.6,SNR=4.3						
	comp=E,0.5nm,0.3s						
SONM	**Songino Array**	**61.16**	**50**	P	**P**	**22 05 03.6**	**+2.8**
	comp=E,0.4nm,0.4s,baz=287,slow=10,SNR=1.8						
	comp=E,0.4nm,0.4s						
ILAR	**Eielson Array**	**79.90**	**355**	P	**P**	**22 06 56.8**	**+2.4**
	comp=E,0.2nm,0.6s,baz=4.3,slow=3.6,SNR=1.7						
	comp=E,0.2nm,0.6s						

**SJA 05 22:03:13.9±0.7, 27°.93

0.9nm,0.9s
ASAR Alice Springs 19.52 206 P P 22 14 45.6 +0.1
0.2nm,0.3s,baz=37,slow=8.4,SNR=9.3
1.2nm,0.6s
URZ Urewera 44.37 141 LR LR 22 36 44.1
comp=Z,42nm,21.1s,baz=284,slow=36
MKAR Makanchi Array 75.20 322 P P 22 22 01.1 +0.2
0.3nm,0.7s,baz=101,slow=6.0,SNR=3.6
0.3nm,0.7s

DJA 05 22:10:45.3±0.8, 0°S±2″×12°3E±°, h32km±12km, M3.6/12, mb4.0/3, MLv3.4/12, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.73**	**8**	P	Pb	22 11 01.0	+1.4
GTOI				S	Sn	22 11 14.1	+4.7
LUWI	**Luwuk**	**0.95**	**188**	P	Pn	22 11 02.2	-0.3
LUWI				S	Sb	22 11 18.2	+2.5
MRSI	**Marisa**	**1.12**	**300**	P	Pn	22 11 04.6	-0.2
MRSI				S	Sb	22 11 19.8	-0.6
KMSI	**Cibinong**	**1.26**	**58**	P	Pn	22 11 06.9	+0.2
KMSI				S	Sn	22 11 22.3	-0.2
MPSI	**Mapaga**	**3.04**	**278**	P	Pn	22 11 31.1	-0.1
MPSI				S	Sn	22 12 06.8	+0.2
SANI	**Sanana**	**3.64**	**122**	P	Pn	22 11 40.1	+0.6
TTSI	**Tana Toraja**	**4.26**	**226**	P	Pn	22 11 47.1	-0.9
SGSI	**Sangihe**	**4.57**	**35**	P	Pn	22 11 52.6	+0.3
NLAI	**Namlea**	**5.23**	**127**	P	Pn	22 12 01.5	+0.2
	12nm,0.9s,0.1nm						
BBSI	**Bau Bau**	**5.37**	**184**	P	Pn	22 12 02.4	-0.9

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*IDC **05** 22:15:08.4±12.0, 20°.06N×145°.34E, h443km±103km, mb3.2/8, mbtmp4.0/9, Error ellipse: s-maj=116.8km s-min=24.4km az=178.0*

ISC 05 22:15:09.5±2.5, 20°2N±0°.4×145°3E±0°.2, h450km, n9, σ0°35/9, mb3.5/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**17.46**	**341**	P	**P**	**22 18 46.3**	**-0.3**
	1.7nm,0.5s,baz=172,slow=8.7,SNR=4.3						
KLR	**Kul'dur**	**30.97**	**343**	P	**P**	**22 20 48.5**	**+0.4**
	1.7nm,0.3s,baz=153,slow=12,SNR=12						
	1.7nm,0.3s						
MKAR	**Makanchi Array**	**57.21**	**313**	P	**P**	**22 24 12.4**	**-0.1**
	0.4nm,0.6s,baz=90,slow=8.6,SNR=6.5						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**60.01**	**317**	P	**P**	**22 24 30.9**	**-0.4**
	1.3nm,0.7s,baz=95,slow=7.3,SNR=6.8						
	1.3nm,0.7s						
ILAR	**Eielson Array**	**62.48**	**27**	P	**P**	**22 24 47.1**	**-0.3**
	0.3nm,0.4s,baz=258,slow=5.8,SNR=8.9						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**65.13**	**320**	P	**P**	**22 25 04.8**	**+0.2**
	1.2nm,0.5s,baz=101,slow=7.6,SNR=11						
	1.2nm,0.5s						
YKA	**Yellowknife Ar**	**76.85**	**28**	P	**P**	**22 26 14.2**	**+0.4**
	0.4nm,0.5s,baz=291,slow=5.6,SNR=6.2						
	0.4nm,0.5s						
NVAR	**Mina Array Bea**	**82.50**	**52**	P	**P**	**22 26 44.4**	**-0.1**
	0.7nm,0.6s,baz=264,slow=6.0,SNR=6.9						
	0.7nm,0.6s						
FINES	**FINESS Array B**	**85.41**	**335**	P	**P**	**22 26 57.9**	**-0.2**
	0.8nm,0.4s,baz=76,slow=4.0,SNR=20						
	0.8nm,0.4s						

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*PRE **05** 22:16:54.9±4.2, 6°.91S×35°.25E, h10km, mb4.5*
*IDC **05** 22:16:56.7±0.8, 6°.70S×35°.45E, h0km, mb3.9/12, mbtmp4.0/14, ML4.8/3, MS3.6/11, Error ellipse: s-maj=20.7km s-min=15.5km az=115.0*
*NEIC **05** 22:16:58.4±1.2, 6°.69S±0°.08×35°.36E±0°.10, h10km±1km, mb4.5/19, Error ellipse: s-maj=16.6km s-min=12.8km az=284.0*
*EAF **05** 22:17:03.3±1.6, 6°.49S×35°.18E, h0km±28km*

ISC 05 22:16:58.0±0.4, 6°68S±0°.04×35°32E±0°.05, h10km, n81, σ1°84/87, mb4.3/23, MS3.6/8, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DODT	**Dodoma, Tanzan**	**0.65**	**42**	*i* P	**Pn**	**22 17 14.4**	**+1.0**
DODT				*i* S	**Sn**	**22 17 23.4**	**-0.4**
PDHT	**Panda Hill**	**3.08**	**222**	*i* P	**Pn**	**22 17 48.3**	**+1.4**
PDHT				*i* S	**Sn**	**22 18 25.4**	**+1.5**
GETA	**Geita**	**4.32**	**331**	*i* P	**Pb**	**22 18 13.0**	**-1.2**
GETA				*i* S	**Sb**	**22 19 06.9**	**+0.5**
KIBK	**Kibwezi**	**5.10**	**32**		**Pn**	**22 18 14.1**	**-0.5**
KIBK	**Kibwezi**	**5.10**	**32**	*e*P	**Pn**	**22 18 15.9**	**+1.3**
MTVE	**AfricaArray -**	**5.97**	**127**	*i* P	Pb	22 18 35.7	-6.5
MBAR	**Mbarara**	**7.57**	**323**	Pn	**Pn**	**22 18 49.0**	**+0.3**
MBAR	**Mbarara**	**7.57**	**323**	*i* P	**Pn**	**22 18 50.0**	**+1.3**
MBAR	**Mbarara**	**7.57**	**323**	*e*P	**Pn**	**22 18 50.5**	**+1.8**
MBAR				*e*S	**Sn**	**22 20 10.8**	**-4.0**
MBAR	**Mbarara**	**7.57**	**323**	Pn	**Pn**	**22 18 49.9**	**+1.2**
	33nm,0.3s,baz=304,slow=6.8,SNR=72						
MBAR				Sn	**Sn**	**22 20 09.6**	**-5.1**
	142nm,0.3s,baz=15,slow=21,SNR=9.6						
MBAR				Lg	Lg	22 21 00.1	
	136nm,0.3s,baz=61,slow=22,SNR=10						
MBAR				LR	LR	22 22 07.0	
	comp=Z,253nm,18.6s,baz=122,slow=40						
MBAR	**Mbarara**	**7.57**	**323**	*i* P	**Pn**	**22 18 50.0**	**+1.3**
ZOMB	**Zomba**	**8.65**	**180**	*e*PN	**Pn**	**22 19 01.3**	**-2.2**
ZOMB				*e*SN	Sn	22 20 31.3	-10
ZOMB	**Zomba**	**8.65**	**180**	*e*PN	**Pn**	**22 19 01.3**	**-2.2**
ZOMB				*e*SN	Sn	22 20 31.3	-10
LODK	**Lodwar**	**10.04**	**0**	Pn	**Pn**	**22 19 22.3**	**-0.1**
LODK	**Lodwar**	**10.04**	**0**	*e*P	**Pn**	**22 19 21.6**	**-0.8**
LODK				*e*S	**Sn**	**22 21 21.8**	**+6.6**
LODK	**Lodwar**	**10.04**	**0**	*e*P	**Pn**	**22 19 24.7**	**+2.2**
LSZ	**Lusaka**	**11.04**	**219**	Pn	**Pn**	**22 19 36.5**	**+0.3**
LSZ	**Lusaka**	**11.04**	**219**	*i* P	**Pn**	**22 19 33.2**	**-3.1**
LSZ	**Lusaka**	**11.04**	**219**	Pn	**Pn**	**22 19 37.6**	**+1.4**
	4.2nm,0.3s,baz=43,slow=9.2,SNR=39						
LSZ				Sn	**Sn**	**22 21 43.0**	**+3.0**
	0.7nm,0.3s,baz=48,slow=14,SNR=1.4						
LSZ				Lg	Lg	22 22 41.4	
	7.8nm,0.3s,baz=100,slow=13,SNR=10						
LSZ				LR	LR	22 23 53.8	
	comp=Z,406nm,19.3s,baz=44,slow=38						
	16nm,0.4s						
LSZ	**Lusaka**	**11.04**	**219**	*i* P	**Pn**	**22 19 33.2**	**-3.1**
KRI	**Karoi**	**11.53**	**208**	*i* P	**Pn**	**22 19 46.0**	**+3.1**
KRI	**Karoi**	**11.53**	**208**	*i* P	**Pn**	**22 19 46.0**	**+3.1**
BLWY	**Bulawayo**	**14.88**	**205**	*i* P	**Pn**	**22 20 26.4**	**-2.4**
BLWY	**Bulawayo**	**14.88**	**205**	*i* P	**Pn**	**22 20 26.4**	**-2.4**
MUSN	**Musina, Limpop**	**16.39**	**198**	*i* P	**Pn**	**22 20 46.0**	**-2.4**
MUSN	**Musina, Limpop**	**16.39**	**198**	*e*P	**Pn**	**22 20 42.1**	**-6.3**
MUSN				*e*S	**S**	**22 24 04.0**	**+1.2**
MUSN	**Musina, Limpop**	**16.39**	**198**	*i* P	**Pn**	**22 20 46.0**	**-2.4**
OPO	**Ambohidratompo**	**16.54**	**137**	Pn	**Pn**	**22 20 49.3**	**-1.1**
	baz=306,slow=18,SNR=1.4						
OPO				Sn	Sn	22 23 40.0	-14
	baz=353,slow=19,SNR=1.3						
OPO				LR	LR	22 26 13.8	
	comp=Z,110nm,20.2s,baz=194,slow=34						
	2.8nm,0.7s						
ABPO	**Ambohimpanom**	**16.87**	**138**	Pn	**Pn**	**22 20 54.1**	**-0.5**
ABPO				IAmb	IAmb	22 21 10.8	
	comp=Z,44nm,1.4s						
ABPO	**Ambohimpanom**	**16.87**	**138**	*e*P	**Pn**	**22 20 53.1**	**-1.6**
MOPA	**Mopani**	**17.16**	**192**	*i* P	**P**	**22 20 59.4**	**-0.3**
MOPA	**Mopani**	**17.16**	**192**	*e*P	**Pn**	**22 20 57.2**	**-0.9**
MOPA				*e*S	**Sn**	**22 24 08.9**	**-0.2**
MOPA	**Mopani**	**17.16**	**192**	*i* P	**P**	**22 20 59.4**	**-0.3**
LEPH	**Lephalale, Lim**	**18.55**	**202**	*e*P	**Pn**	**22 21 16.9**	**+1.6**
LEPH				*e*S	**Sn**	**22 24 44.4**	**+1.6**
VOI	**Vohitsoka**	**18.76**	**145**	P	**P**	**22 21 16.6**	**-1.0**
LBTB	**Lobatse**	**20.47**	**206**	P	**P**	**22 21 35.5**	**-0.7**
LBTB	**Lobatse**	**20.47**	**206**	*i* P	**P**	**22 21 34.2**	**-2.0**
LBTB	**Lobatse**	**20.47**	**206**	*e*P	Pn	22 21 37.9	-0.4
LBTB				IAmb	IAmb	22 21 43.4	
	comp=Z,53nm,1.9s						
LBTB	**Lobatse**	**20.47**	**206**	P	**P**	**22 21 36.0**	**-0.1**
	comp=Z,5.0nm,0.8s,baz=26,slow=17,SNR=5.1						
LBTB				Lg	Lg	22 27 35.7	
	comp=Z,0.2nm,0.3s,baz=27,slow=2.9,SNR=2.7						
LBTB				LR	LR	22 29 22.4	
	comp=Z,99nm,19.1s,baz=31,slow=36						
	comp=Z,5.0nm,0.8s						
LBTB	**Lobatse**	**20.47**	**206**	*i* P	**P**	**22 21 34.2**	**-2.0**
TSUM	**Tsumeb**	**21.27**	**233**	P	**P**	**22 21 43.8**	**-1.1**
TSUM	**Tsumeb**	**21.27**	**233**	P	**P**	**22 21 45.9**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=7.9,slow=13,SNR=2.4						
TSUM				Lg	Lg	22 28 10.0	
	comp=Z,0.3nm,0.3s,baz=277,slow=2.9,SNR=1.8						
TSUM				LR	LR	22 30 06.9	
	comp=Z,184nm,18.8s,baz=333,slow=37						
	comp=Z,1.1nm,0.3s						
BOSA	**Boshof**	**23.80**	**202**	P	**P**	**22 22 11.5**	**+0.1**
BOSA	**Boshof**	**23.80**	**202**	*i* P	**P**	**22 22 09.3**	**-2.0**
BOSA	**Boshof**	**23.80**	**202**	*e*P	**P**	**22 22 13.4**	**+2.0**
BOSA				IAmb	IAmb	22 22 28.2	
	comp=Z,13nm,1.2s						
BOSA	**Boshof**	**23.80**	**202**	P	**P**	**22 22 12.2**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=21,slow=16,SNR=2.1						
BOSA				Lg	Lg	22 29 19.5	
	comp=Z,0.2nm,0.3s,baz=102,slow=22,SNR=3.6						
	comp=Z,1.6nm,0.8s						
BOSA	**Boshof**	**23.80**	**202**	*i* P	**P**	**22 22 09.3**	**-2.0**
TORD	**Torodi Ar. Bea**	**38.77**	**301**	P	**P**	**22 24 24.4**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=108,slow=6.8,SNR=5.3						
	comp=Z,0.8nm,0.8s						
DBIC	**Dimbokro**	**42.22**	**288**	LR	LR	22 40 45.8	
	comp=Z,86nm,19.6s,baz=140,slow=34						
BRTR	**Keskin Array B**	**46.20**	**358**	P	**P**	**22 25 23.3**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=169,slow=7.4,SNR=3.8						
	comp=Z,0.8nm,0.8s						
PALK	**Palikele**	**47.35**	**74**	LR	LR	22 42 03.8	
	comp=Z,43nm,19.1s,baz=22,slow=32						
GEYT	**Alibeck**	**49.20**	**24**	LR	LR	22 46 44.7	
	comp=Z,60nm,19.5s,baz=172,slow=36						
SIMJ	**Simiganj**	**54.89**	**32**	P	**P**	**22 26 29.1**	**0.0**
SIMJ				IAmb	IAmb	22 26 30.7	
	comp=Z,4.9nm,1.1s						
CHGR	**Chuyangaron**	**54.97**	**32**	P	**P**	**22 26 29.4**	**-0.3**
CHGR				IAmb	IAmb	22 26 30.8	
	comp=Z,6.1nm,0.7s						
GAR	**Garm**	**55.83**	**33**	P	**P**	**22 26 36.7**	**+0.8**
GAR				IAmb	IAmb	22 26 37.3	
	comp=Z,6.1nm,0.7s						
AKASG	**Malin Array Be**	**57.39**	**355**	P	**P**	**22 26 47.5**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=180,slow=6.0,SNR=4.9						
AKASG				LR	LR	22 55 43.9	
	comp=Z,71nm,18.6s,baz=262,slow=40						
	comp=Z,0.6nm,0.6s						
MORC	**Moravsky Berou**	**58.32**	**347**	P	**P**	**22 26 53.0**	**-0.2**
GERES	**GERESS Array B**	**58.45**	**343**	P	**P**	**22 26 55.3**	**+1.1**
GERES	**GERESS Array B**	**58.45**	**343**	P	**P**	**22 26 55.5**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=125,slow=4.9,SNR=4.7						
	comp=Z,0.9nm,0.7s						
KK31	**Karatay Array**	**58.95**	**30**	P	**P**	**22 26 58.1**	**+0.4**
KK31				IAmb	IAmb	22 26 59.1	
	comp=Z,10nm,1.4s						
KKAR	**Karatay Array**	**58.95**	**30**	P	**P**	**22 26 58.2**	**+0.5**
ABKAR	**Akbulak array**	**59.71**	**18**	P	**P**	**22 27 02.3**	**-0.5**
ARU	**Arti**	**65.74**	**14**	P	**P**	**22 27 42.8**	**0.0**
ARU				IAmb	IAmb	22 27 44.1	
	comp=Z,6.7nm,1.0s						
BVAR	**Borovoye Array**	**66.49**	**22**	P	**P**	**22 27 47.7**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=226,slow=12,SNR=6.3						
	comp=Z,1.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**67.51**	**67**	P	**P**	**22 27 54.0**	**-1.0**
CMAR	**Chiang Mai Arr**	**67.51**	**67**	P	**P**	**22 27 55.0**	**0.0**
	comp=Z,2.3nm,0.8s,baz=261,slow=7.5,SNR=16						
	comp=Z,2.3nm,0.8s						
MK31	**Makanchi Array**	**67.56**	**33**	P	**P**	**22 27 54.3**	**-0.5**
MK31				IAmb	IAmb	22 27 55.5	
	comp=Z,1.8nm,0.9s						
MKAR	**Makanchi Array**	**67.56**	**33**	P	**P**	**22 27 53.9**	**-0.9**
MKAR	**Makanchi Array**	**67.56**	**33**	P	**P**	**22 27 54.5**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=233,slow=5.8,SNR=18						
	comp=Z,1.8nm,0.8s						
KURBB	**Kurchatov Arra**	**68.16**	**28**	P	**P**	**22 27 58.5**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=230,slow=7.0,SNR=12						
	comp=Z,2.0nm,0.9s						
PHRA	**Phrae**	**68.70**	**67**	P	**P**	**22 28 02.1**	**-0.3**
WMQ	**Urumqi**	**68.95**	**38**	*e*P	**P**	**22 28 04.8**	**+1.2**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
LEM	**Lembang**	**71.73**	**95**	LR	LR	22 57 45.4	
	comp=Z,28nm,18.6s,baz=346,slow=34						
PZH	**PanZhiHua**	**72.26**	**60**	P	**P**	**22 28 26.1**	**+1.9**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,5.2s						
ZAA0	**Zalesovo Array**	**73.26**	**28**	P	**P**	**22 28 28.2**	**-1.2**
ZAA0				IAmb	IAmb	22 28 31.6	
	comp=Z,3.6nm,1.1s						
ZALV	**Zalesovo Beam**	**73.26**	**28**	P	**P**	**22 28 27.9**	**-1.5**
ZALV	**Zalesovo Beam**	**73.26**	**28**	P	**P**	**22 28 28.6**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=251,slow=4.5,SNR=5.6						
ZALV				LR	LR	23 04 14.6	
	comp=Z,49nm,18.6s,baz=54,slow=39						
	comp=Z,1.2nm,0.7s						
PSA00	**Pilbara Seismi**	**82.51**	**111**	P	**P**	**22 29 21.5**	**-0.1**
QSPA	**South Pole Qui**	**83.39**	**180**	P	**P**	**22 29 25.4**	**0.0**
QSPA				IAmb	IAmb	22 29 52.3	
	comp=Z,2.3nm,1.1s						
HHC	**Hu-ho-hao-te**	**84.04**	**48**	*e*P	**P**	**22 29 28.1**	**-1.2**
HHC				pP	pP	22 29 32.1	-0.8
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,87nm,4.0s						
NJ2	**Nanjing**	**88.06**	**58**	*e*P	**P**	**22 29 49.3**	**+0.2**
NJ2				pP	**PcP**	**22 29 51.1**	**+0.2**
NJ2				sP	**sP**	**22 29 54.4**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,330nm,5.0s						

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*IDC **05** 22:19:42.4±0.7, 29°.66N×142°.08E, h0km, mb3.9/18, mbtmp3.9/22, ML3.5/5, MS2.9/4, Error ellipse: s-maj=23.6km s-min=14.8km az=76.0*
*NEIC **05** 22:19:45.0±2.0, 29°.76N±0°.04×142°.4E±0°.1, h22km±5km, mb4.6/14, Error ellipse: s-maj=17.6km s-min=3.9km az=77.0*

ISC 05 22:19:46.1±0.5, 29°69N±0°05×142°20E±0°09, h30km, n51, σ1°33/51, mb4.1/24, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.58**	**180**	Pn	**Pn**	**22 20 26.4**	**+0.5**
JCJ	**Chichijima**	**2.58**	**180**	Pn	**Pn**	**22 20 25.1**	**-0.9**
	8.3nm,0.3s,baz=8.6,slow=21,SNR=8.8						
JCJ				Sn	**Sn**	**22 20 52.6**	**-3.8**
	26nm,0.3s,baz=286,slow=23,SNR=9.9						
JHJ	**Hachijo jima 2**	**3.99**	**330**	Pn	**Pn**	**22 20 45.2**	**-0.1**
	13nm,0.3s,baz=112,slow=11,SNR=1.5						
JHJ				Sn	**Sn**	**22 21 27.4**	**-3.7**
	15nm,0.3s,baz=243,slow=22,SNR=1.2						
	266nm,0.9s						
MJAR	**Matsushiro Arr**	**7.61**	**335**	Pn	**Pn**	**22 21 35.4**	**+0.5**
	0.5nm,0.3s,baz=160,slow=10,SNR=13						
MJAR				LR	LR	22 24 33.7	
	comp=Z,55nm,19.5s,baz=205,slow=38						
	3.3nm,0.6s						
MAJO	**Matsushiro**	**7.61**	**335**	Pn	**Pn**	**22 21 34.3**	**-0.7**
MJB9	**Matsu-Tunnel**	**7.61**	**335**	Pn	**Pn**	**22 21 35.3**	**+0.2**
JMM	**Marumori**	**8.24**	**352**	Pn	**Pn**	**22 21 41.0**	**-2.5**
JNU	**Nakatsue**	**10.26**	**292**	LR	LR	22 26 10.7	
	comp=Z,50nm,18.0s,baz=177,slow=38						
JOW	**Kunigami**	**12.60**	**260**	LR	LR	22 26 47.7	
	comp=Z,124nm,18.1s,baz=53,slow=34						
KSRS	**Korea Array**	**14.19**	**307**	Pn	**Pn**	**22 23 05.6**	**+0.7**
	0.3nm,0.3s,baz=108,slow=11,SNR=1.5						
KSRS				LR	LR	22 28 06.4	
	comp=Z,32nm,19.8s,baz=85,slow=36						
	0.6nm,0.5s						
JKA	**Kamikawa-asahi**	**14.40**	**1**	Pn	**Pn**	**22 23 05.0**	**-2.8**
USRK	**Ussuriysk Ar.**	**16.60**	**334**	Pn	**Pn**	**22 23 36.8**	**+0.2**
	0.1nm,0.3s,baz=149,slow=7.8,SNR=1.7						
	1.1nm,0.7s						
YULB	**Yu-li**	**19.71**	**256**	P	**P**	**22 24 13.5**	**+0.3**
YULB				IAmb	IAmb	22 24 41.3	
	comp=Z,60nm,1.4s						
SSLB	**Suanglung**	**19.85**	**258**	P	**P**	**22 24 15.1**	**+0.3**
SSLB				IAmb	IAmb	22 24 23.1	
	comp=Z,18nm,0.9s						
KLR	**Kul'dur**	**21.08**	**341**	P	**P**	**22 24 27.8**	**0.0**
	comp=Z,1.1nm,0.5s,baz=155,slow=12,SNR=3.7						
	comp=Z,1.1nm,0.5s						
SONM	**Songino Array**	**32.90**	**313**	P	**P**	**22 26 16.7**	**-1.0**
SONM	**Songino Array**	**32.90**	**313**	P	**P**	**22 26 16.2**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=111,slow=7.9,SNR=3.7						
	comp=Z,0.5nm,0.3s						
KIWB	**Kanaga Island**	**37.25**	**42**	P	**P**	**22 26 52.3**	**-2.7**
CMAR	**Chiang Mai Arr**	**40.83**	**264**	P	**P**	**22 27 25.3**	**0.0**
	comp=Z,0.5nm,0.4s,baz=74,slow=6.7,SNR=1.7						
	comp=Z,0.5nm,0.4s						
MTN	**Manton Dam**	**43.61**	**196**	P	**P**	**22 27 48.5**	**+0.7**
KULM	**Kulim**	**46.08**	**246**	P	**P**	**22 28 07.5**	**-0.1**
ZALV	**Zalesovo Beam**	**47.56**	**318**	P	**P**	**22 28 20.2**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=103,slow=6.2,SNR=2.1						
	comp=Z,0.2nm,0.3s						
MK31	**Makanchi Array**	**48.86**	**308**	P	**P**	**22 28 29.6**	**+0.6**
MKAR	**Makanchi Array**	**48.86**	**308**	P	**P**	**22 28 28.9**	**-0.1**
MKAR	**Makanchi Array**	**48.86**	**308**	P	**P**	**22 28 29.3**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=89,slow=9.9,SNR=8.2						
	comp=Z,0.8nm,0.7s						
WB0	**Warramunga Arr**	**49.74**	**190**	P	**P**	**22 28 36.5**	**+0.6**
WB0				IAmb	IAmb	22 28 37.0	
	comp=Z,4.7nm,0.8s						
WR0	**Warramunga Arr**	**49.91**	**189**	P	**P**	**22 28 37.1**	**0.0**
WR0				IAmb	IAmb	22 28 42.5	
	comp=Z,5.4nm,1.1s						
WRA	**Warramunga Arr**	**49.92**	**190**	P	**P**	**22 28 36.1**	**-1.1**
WRA	**Warramunga Arr**	**49.92**	**190**	P	**P**	**22 28 37.6**	**+0.4**
	comp=Z,3.3nm,0.7s,baz=7.2,slow=7.8,SNR=29						
	comp=Z,3.3nm,0.7s						
KURBB	**Kurchatov Arra**	**51.26**	**313**	P	**P**	**22 28 47.4**	**+0.3**
	comp=Z,2.3nm,0.6s,baz=90,slow=7.6,SNR=22						
	comp=Z,2.3nm,0.6s						
ASAR	**Alice Springs**	**53.65**	**189**	P	**P**	**22 29 05.5**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=0.5,slow=4.2,SNR=8.1						
	comp=Z,0.6nm,0.6s						
ILAR	**Eielson Array**	**55.45**	**29**	P	**P**	**22 29 19.0**	**+1.4**
	comp=Z,0.3nm,0.9s,baz=268,slow=6.3,SNR=1.9						
	comp=Z,0.3nm,0.9s						
BVAR	**Borovoye Array**	**56.16**	**316**	P	**P**	**22 29 23.1**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=97,slow=7.3,SNR=6.9						
	comp=Z,0.8nm,0.4s						
BMAR	**Burnt Mountain**	**56.53**	**26**	P	**P**	**22 29 25.8**	**+0.4**
KK31	**Karatay Array**	**57.60**	**305**	P	**P**	**22 29 33.6**	**+0.3**
KK31				IAmb	IAmb	22 29 35.2	
	comp=Z,3.4nm,0.6s						
KKAR	**Karatay Array**	**57.60**	**305**	P	**P**	**22 29 33.6**	**+0.3**
G31M	**Satah River**	**60.56**	**27**	P	**P**	**22 29 54.6**	**+1.3**
G31M				IAmb	IAmb	22 30 12.6	
	comp=Z,10nm,1.5s						
INK	**Inuvik**	**60.68**	**25**	P	**P**	**22 29 54.3**	**+0.2**
INK				IAmb	IAmb	22 29 57.7	
	comp=Z,4.2nm,1.4s						
SKAG	**Skagway**	**61.19**	**35**	P	**P**	**22 29 55.3**	**-2.4**
ARU	**Arti**	**62.40**	**321**	P	**P**	**22 30 05.2**	**-0.7**
ARU				IAmb	IAmb	22 30 18.3	
	comp=Z,4.1nm,0.7s						
ABKAR	**Akbulak array**	**63.31**	**313**	P	**P**	**22 30 12.1**	**0.0**
YKA	**Yellowknife Ar**	**69.87**	**29**	P	**P**	**22 30 55.4**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=262,slow=4.3,SNR=2.3						
	comp=Z,0.1nm,0.3s						
FINES	**FINESS Array B**	**75.63**	**334**	P	**P**	**22 31 28.9**	**+0.9**
FINES	**FINESS Array B**	**75.63**	**334**	P	**P**	**22 31 29.1**	**+1.1**
	comp=Z,3.1nm,1.1s,baz=85,slow=4.4,SNR=4.8						
	comp=Z,3.1nm,1.1s						
KBZ	**Khabaz**	**76.26**	**313**	P	**P**	**22 31 32.8**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=148,slow=4.6,SNR=5.3						
	comp=Z,1.6nm,0.8s						
NVAR	**Mina Array Bea**	**78.92**	**52**	P	**P**	**22 31 49.5**	**+2.3**
	comp=Z,0.2nm,0.5s,baz=297,slow=4.0,SNR=2.3						
	comp=Z,0.2nm,0.5s						
HFS	**Hagfors**	**81.05**	**337**	P	**P**	**22 31 58.7**	**+0.7**
	comp=Z,6.3nm,1.1s,baz=112,slow=3.4,SNR=3.6						
	comp=Z,6.3nm,1.1s						
NOA	**NORSAR Array B**	**81.21**	**338**	P	**P**	**22 31 58.4**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=42,slow=5.5,SNR=4.1						
	comp=Z,0.6nm,0.7s						
BRTR	**Keskin Array B**	**84.25**	**313**	P	**P**	**22 32 15.9**	**+0.7**
	comp=Z,2.2nm,0.8s,baz=92,slow=3.8,SNR=10.0						
	comp=Z,2.2nm,0.8s						
TXAR	**Lajitas Array**	**94.04**	**53**	P	**P**	**22 33 03.2**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=340,slow=2.9,SNR=4.6						
	comp=Z,0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**122.87**	**312**	PKP	**PKiKP**	**22 38 40.0**	**-0.2**
	comp=Z,0.4nm,1.0s,baz=10.0,sl

JTM Tenmabayashi 11.08 356 Pn **Pn** **22 40 05.3 -3.9**
ERM Erimo 12.30 4 *i* P **Pn** **22 40 25.3 -0.7**
JOW Kunigami 12.50 260 LR LR 22 44 32.6
comp=Z,154nm,20.0s,baz=10.0,slow=34
KSRS Korea Array 14.09 307 Pn **Pn** **22 40 50.8 +0.5**
0.2nm,0.3s,baz=109,slow=12,SNR=3.8
KSRS LR LR 22 46 10.6
comp=Z,100nm,18.5s,baz=100,slow=37
1.3nm,0.8s
ASAJ Asahikawa 14.38 2 Pn **Pn** **22 40 50.4 -3.9**
1.3nm,0.3s,baz=246,slow=10.0,SNR=2.2
ASAJ Sn Sn 22 43 18.0 -15
0.2nm,0.3s,baz=314,slow=31,SNR=1.4
USA0B Ussuriysk Arra 16.53 334 Pn **Pn** **22 41 20.4 -2.1**
USA0B Ussuriysk Arra 16.53 334 P **Pn** **22 41 20.4 -2.1**
USA0B pmax pmax
comp=Z,33nm,1.9s
USRK Ussuriysk Ar. 16.53 334 P **P** **22 41 24.9 +0.1**
USRK Ussuriysk Ar. 16.53 334 P **P** **22 41 24.9 +0.1**
USRK Ussuriysk Ar. 16.53 334 Pn **Pn** **22 41 20.9 -1.6**
comp=Z,0.2nm,0.3s,baz=156,slow=10,SNR=1.8
comp=Z,0.9nm,0.5s
YSS Yuzh-Sakhalins 17.22 2 *eP* **Pn** **22 41 29.2 -1.9**
YSS pmax pmax
comp=Z,10.0nm,0.8s
MDJ Mudanjiang 17.86 330 P **Pn** **22 41 38.6 -0.4**
MDJ sP P 22 41 42.6 +3.1
MDJ S **Sn** **22 44 57.1 -0.1**
MDJ SS **SnSn** **22 45 12.7 +1.7**
MDJ pmax pmax
comp=Z,12nm,1.7s
MDJ pmax pmax
comp=Z,270nm,3.6s
MDJ LR LR
comp=Z,310nm,15.5s
YHNB Yeheng 19.08 260 **P** **22 41 51.2 -1.9**
YHNB IAmb IAmb 22 41 55.1
comp=Z,112nm,1.6s
CN2 Changchun 19.32 321 *eP* **Pn** **22 41 57.6 +0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
BNX BinXian 19.71 328 ⇑P **P** **22 41 59.5 -0.3**
BNX pmax pmax
comp=Z,15nm,0.7s
BNX pmax pmax
comp=Z,96nm,4.6s
SSLB Suanglung 19.75 258 P **P** **22 42 00.2 -0.3**
KLR Kul'dur 21.02 341 *ceP* **P** **22 42 15.4 +1.5**
KLR pmax pmax
comp=Z,4.0nm,0.6s
KLR Kul'dur 21.02 341 P **P** **22 42 14.1 +0.1**
comp=Z,3.5nm,0.5s,baz=160,slow=10.0,SNR=14
comp=Z,3.5nm,0.5s
HEH HeiHe 23.31 336 *eP* **P** **22 42 36.9 -1.3**
HEH pmax pmax
comp=Z,7.0nm,0.9s
BJI Beijing 23.54 303 P **P** **22 42 39.6 -0.9**
BJI pmax pmax
comp=Z,2.0nm,1.3s
XLT XiLinHaoTe 25.04 312 *eP* **P** **22 42 54.0 -0.5**
XLT pP pP 22 43 00.2 -1.4
XLT sP sP 22 43 05.6 +0.9
XLT PP **PnPn** **22 43 29.2 +0.8**
XLT pmax pmax
comp=Z,8.0nm,0.9s
XLT pmax pmax
comp=Z,140nm,4.5s
HIA Hailar 25.88 325 P **P** **22 42 59.5 -2.4**
HIA IAmb IAmb 22 43 03.1
comp=Z,11nm,0.8s
HIA Hailar 25.88 325 *i* P **P** **22 43 01.9 0.0**
HIA pmax pmax
comp=Z,12nm,0.9s
ZEA Zeya 26.32 340 *eP* **P** **22 43 06.2 +0.3**
ZEA *e* 22 43 16.1
ZEA pmax pmax
comp=Z,10.0nm,0.5s
HHC Hu-ho-hao-te 27.14 302 *eP* **P** **22 43 13.4 -0.1**
HHC pP pP 22 43 17.4 -3.3
HHC S **S** **22 47 46.3 -3.9**
HHC pmax pmax
comp=Z,6.0nm,0.5s
HHC pmax pmax
comp=Z,43nm,3.5s
HHC LR LR
comp=N,120nm,14.5s
HHC LR LR
comp=E,170nm,15.5s
HHC LR LR
comp=Z,170nm,15.2s
BTO Baotou 28.23 301 *eP* **P** **22 43 25.1 +1.9**
BTO pP **pP** **22 43 29.4 -1.0**
BTO sP **sP** **22 43 32.5 -1.0**
BTO PP **PnPn** **22 44 14.4 +2.5**
BTO S **S** **22 48 12.8 +5.6**
BTO SS **SnSn** **22 49 30.2 +5.4**
BTO pmax pmax
comp=Z,15nm,0.7s
BTO pmax pmax
comp=Z,310nm,4.1s
BTO LR LR
comp=N,240nm,6.8s
BTO LR LR
comp=E,200nm,8.4s
BTO LR LR
comp=Z,380nm,5.2s
XAN Xi'an 28.41 287 ⇓P **P** **22 43 22.6 -2.3**
XAN pmax pmax
comp=Z,7.0nm,1.5s
GYA Guiyang 31.34 273 *eP* **P** **22 43 52.2 +1.2**
GYA pmax pmax
comp=Z,9.0nm,0.8s
ULN Ulaanbaatar 32.40 314 P **P** **22 43 59.0 -1.1**
ULN Ulaanbaatar 32.40 314 *ceP* **P** **22 44 00.0 -0.1**
ULN pmax pmax
comp=Z,5.0nm,1.0s
SONM Songino Array 32.80 314 P **P** **22 44 04.0 +0.5**
SONM Songino Array 32.80 314 P **P** **22 44 04.1 +0.5**
SONM pmax pmax
comp=Z,3.0nm,0.9s
SONM Songino Array 32.80 314 P **P** **22 44 02.7 -1.0**
comp=Z,2.6nm,0.7s,baz=113,slow=8.3,SNR=8.4
comp=Z,2.6nm,0.7s
CD2 Chengdu 32.99 282 *eP* **P** **22 44 04.0 -1.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
YAK Yakutsk 33.33 349 *i* P **P** **22 44 07.7 -0.1**
YAK pmax pmax
comp=Z,13nm,0.5s
YAK Yakutsk 33.33 349 LR LR 22 58 27.7
comp=Z,50nm,18.1s,baz=290,slow=38
SEY Seymchan 33.89 8 *i* P **P** **22 44 13.3 +0.6**
SEY pmax pmax
comp=Z,2.0nm,1.3s
BOD Bodaibo 34.17 333 *eP* **P** **22 44 15.1 -0.1**
BOD pmax pmax
comp=Z,5.0nm,1.7s
SLVN Son La 35.31 265 P **P** **22 44 24.7 -0.9**
SLVN IAmb IAmb 22 44 38.1
comp=Z,13nm,1.7s
PZH PanZhiHua 35.60 275 P **P** **22 44 28.7 +0.6**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.1s
CRAI Chiangrai 38.79 266 P **P** **22 44 55.3 +0.2**
PMG Port Moresby 39.20 172 P **P** **22 44 59.9 +1.4**
PMG Port Moresby 39.20 172 P **P** **22 44 59.9 +1.4**
PMG pmax pmax
comp=Z,35nm,1.0s
PHRA Phrae 39.60 263 P **P** **22 45 00.8 -1.1**
GOMU GeErMu 39.87 292 P **P** **22 45 08.1 +3.7**
GOMU pP pP 22 45 12.6 +0.9
GOMU sP sP 22 45 14.4 -0.3
GOMU pmax pmax
comp=Z,2.0nm,0.6s
CHTO Chiang Mai 40.59 265 P **P** **22 45 09.0 -1.0**
CHTO Chiang Mai 40.59 265 P **P** **22 45 09.0 -1.0**
CHTO pmax pmax
comp=Z,4.0nm,0.8s
CMAR Chiang Mai Arr 40.73 264 P **P** **22 45 10.2 -1.0**
comp=Z,1.4nm,0.3s,baz=67,slow=6.9,SNR=5.0
CMAR LR LR 23 04 09.9
comp=Z,56nm,18.2s,baz=80,slow=39
comp=Z,1.4nm,0.3s

BILL Bilibino 40.94 14 *i* P **P** **22 45 13.6 +1.3**
BILL pmax pmax
comp=Z,3.0nm,1.7s
TIXI Tiksi 42.60 354 P **P** **22 45 25.0 -0.9**
TIXI Tiksi 42.60 354 *i* P **P** **22 45 25.4 -0.5**
TIXI pmax pmax
comp=Z,4.0nm,1.4s
MTN Manton Dam 43.61 196 P **P** **22 45 33.6 -0.9**
WMQ Urumqi 45.01 304 *eP* **P** **22 45 47.6 +1.9**
DGZ Jazzator, Alta 45.42 312 *d* P **P** **22 45 49.7 +0.7**
DGZ pmax pmax
comp=Z,18nm,1.0s
KULM Kulim 46.00 246 P **P** **22 45 53.1 -0.6**
KULM IAmb IAmb 22 45 54.6
comp=Z,8.1nm,0.7s
ZALV Zalesovo Beam 47.47 318 *i* P **P** **22 46 04.5 -0.3**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 47.47 318 P **P** **22 46 03.4 -1.4**
comp=Z,0.7nm,0.4s,baz=97,slow=5.1,SNR=4.0
ZALV PcP **PcP** **22 47 34.5 -0.2**
comp=Z,1.5nm,0.6s,baz=99,slow=2.6,SNR=6.5
comp=Z,0.7nm,0.4s
F15K North Star Dit 48.38 26 P **P** **22 46 12.4 +0.7**
F15K IAmb IAmb 22 46 54.9
comp=Z,25nm,2.0s
MK31 Makanchi Array 48.77 308 P **P** **22 46 14.7 -0.3**
MK31 Makanchi Array 48.77 308 *ceP* **P** **22 46 14.9 -0.1**
MKAR Makanchi Array 48.77 308 P **P** **22 46 14.4 -0.6**
MKAR Makanchi Array 48.77 308 *i* P **P** **22 46 14.8 -0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 48.77 308 P **P** **22 46 14.9 -0.1**
comp=Z,2.3nm,0.7s,baz=90,slow=9.7,SNR=32
comp=Z,2.3nm,0.7s
N15K Kwethluk River 48.80 34 P **P** **22 46 14.3 -0.7**
MAKZ Makanchi 48.98 308 P **P** **22 46 16.0 -0.6**
MAKZ IAmb IAmb 22 46 18.7
comp=Z,10nm,1.7s
MAKZ Makanchi 48.98 308 P **P** **22 46 16.0 -0.6**
MAKZ pmax pmax
comp=Z,10.0nm,1.7s
CTA Charters Tower 49.68 175 P **P** **22 46 21.4 -0.7**
comp=Z,3.5nm,0.9s,baz=336,slow=10.0,SNR=1.8
comp=Z,3.5nm,0.9s
WB0 Warramunga Arr 49.75 189 P **P** **22 46 19.4 -3.3**
WB0 IAmb IAmb 22 46 29.4
comp=Z,9.9nm,0.9s
F17K Baldwin Pennin 49.93 26 P **P** **22 46 24.0 +0.5**
F17K IAmb IAmb 22 46 57.2
comp=Z,16nm,1.5s
WRA Warramunga Arr 49.93 190 P **P** **22 46 23.1 -0.9**
WRA Warramunga Arr 49.93 190 *ceP* **P** **22 46 22.6 -1.4**
WRA pmax pmax
comp=Z,7.0nm,0.7s
WRA Warramunga Arr 49.93 190 P **P** **22 46 23.8 -0.3**
comp=Z,7.1nm,0.7s,baz=6.8,slow=7.9,SNR=48
comp=Z,7.1nm,0.7s
E18K Tukpahlearik C 50.48 25 P **P** **22 46 28.7 +1.0**
E18K IAmb IAmb 22 47 31.0
comp=Z,11nm,1.8s
GSI Gunungsitoli 50.84 245 P **P** **22 46 30.8 -0.3**
GSI IAmb IAmb 22 46 41.5
comp=Z,27nm,1.4s
KURK Kurchatov 51.11 313 P **P** **22 46 31.7 -1.0**
KURK IAmb IAmb 22 46 34.2
comp=Z,8.7nm,0.8s
KURK Kurchatov 51.11 313 *ceP* **P** **22 46 32.2 -0.4**
KURK pmax pmax
comp=Z,12nm,1.0s
KURBB Kurchatov Arra 51.17 313 P **P** **22 46 33.0 0.0**
comp=Z,4.7nm,0.6s,baz=90,slow=7.5,SNR=44
comp=Z,4.7nm,0.6s
H19K Roundabout Mou 51.58 28 P **P** **22 46 36.1 +0.2**
H19K IAmb IAmb 22 47 53.5
comp=Z,12nm,1.7s
E19K Redstone River 51.74 25 P **P** **22 46 37.5 +0.4**
F20K Avaraart Lake 52.21 26 P **P** **22 46 40.8 +0.2**
KDAK Kodiak Island 52.35 38 LR LR 23 08 50.2
comp=Z,52nm,19.3s,baz=61,slow=36
B20K Meade River 52.47 22 P **P** **22 46 43.1 +0.7**
B20K IAmb IAmb 22 48 14.7
comp=Z,27nm,1.9s
B21K Ikpikpuk River 53.22 23 P **P** **22 46 48.6 +0.6**
B21K IAmb IAmb 22 47 51.5
comp=Z,15nm,1.8s
ASAR Alice Springs 53.65 189 P **P** **22 46 51.2 -0.6**
comp=Z,0.9nm,0.5s,baz=3.9,slow=5.8,SNR=12
comp=Z,0.9nm,0.5s
KSH Kashi 54.19 299 P **P** **22 46 59.0 +3.2**
KSH sP pwP 22 47 08.2 -1.7
KSH pmax pmax
comp=Z,2.0nm,0.6s
G23K Bananza Creek 54.36 27 P **P** **22 46 57.1 +0.6**
G23K IAmb IAmb 22 47 10.5
comp=Z,8.8nm,1.5s
C23K Itkillik River 54.62 23 P **P** **22 46 58.9 +0.6**
C23K IAmb IAmb 22 47 40.1
comp=Z,15nm,1.6s
AAK Ala-Archa 54.71 303 P **P** **22 46 58.5 -1.1**
AAK Ala-Archa 54.71 303 *ceP* **P** **22 46 59.9 +0.3**
AAK pmax pmax
comp=Z,3.0nm,1.7s
AAK Ala-Archa 54.71 303 LR LR 23 11 01.3
comp=Z,38nm,18.7s,baz=36,slow=37
H24K Noodor Dome 55.13 28 P **P** **22 47 03.1 +1.0**
ILAR Eielson Array 55.48 29 P **P** **22 47 03.5 -1.0**
comp=Z,0.4nm,0.7s,baz=260,slow=6.8,SNR=6.4
comp=Z,0.4nm,0.7s
BVAR Borovoye Array 56.07 316 P **P** **22 47 08.6 -0.5**
comp=Z,2.4nm,0.6s,baz=94,slow=7.6,SNR=12
comp=Z,2.4nm,0.6s
BRVK Borovoye 56.13 316 *ceP* **P** **22 47 10.7 +1.3**
BRVK pmax pmax
comp=Z,6.0nm,1.7s
E25K Arctic Village 56.22 25 P **P** **22 47 11.1 +1.2**
E25K IAmb IAmb 22 47 20.5
comp=Z,7.3nm,1.4s
BMAR Burnt Mountain 56.55 26 P **P** **22 47 13.2 +1.0**
SCRK Sand Creek 56.72 30 P **P** **22 47 13.7 +0.1**
SCRK IAmb IAmb 22 47 38.2
comp=Z,13nm,1.9s
KK31 Karatay Array 57.50 305 P **P** **22 47 19.5 +0.2**
KK31 IAmb IAmb 22 47 20.7
comp=Z,8.1nm,0.7s
KK31 Karatay Array 57.50 305 P **P** **22 47 19.5 +0.2**
KK31 pmax pmax
comp=Z,8.0nm,0.7s
KKAR Karatay Array 57.50 305 P **P** **22 47 19.8 +0.4**
KKAR Karatay Array 57.50 305 P **P** **22 47 19.8 +0.4**
I28M Miner Creek 58.42 29 P **P** **22 47 26.4 +0.9**
L29M L29M 59.38 31 P **P** **22 47 32.6 +0.4**
L29M IAmb IAmb 22 47 48.4
comp=Z,20nm,1.8s
CHGR Chuyangaron 59.54 300 P **P** **22 47 33.8 +0.1**
CHGR Chuyangaron 59.54 300 P **P** **22 47 33.8 +0.1**
CHGR pmax pmax
comp=Z,25nm,0.6s
SIMJ Simiganj 59.66 300 P **P** **22 47 33.2 -1.3**
SIMJ IAmb IAmb 22 47 35.9
comp=Z,5.2nm,0.7s
G30M tAoh Zraii Nji 59.81 27 P **P** **22 47 35.5 +0.4**
G30M IAmb IAmb 22 48 34.0
comp=Z,7.6nm,1.4s
G31M Satah River 60.58 27 P **P** **22 47 40.1 -0.1**
INK Inuvik 60.70 25 P **P** **22 47 41.4 +0.4**
INK IAmb IAmb 22 49 40.5
comp=Z,9.7nm,1.6s
INK Inuvik 60.70 25 P **P** **22 47 41.4 +0.4**
INK pmax pmax
comp=Z,10.0nm,1.7s
SVE Sverdlovsk 61.11 322 *eP* P 22 47 55.8 +12
SVE pmax pmax
comp=Z,7.0nm,0.9s
STKA Stephens Creek 61.26 180 P **P** **22 47 44.3 -0.9**
comp=Z,1.2nm,0.7s,baz=21,slow=7.1,SNR=1.7
comp=Z,1.2nm,0.7s
FORT Forrest 61.62 194 P **P** **22 47 46.9 -0.8**
ARU Arti 62.31 321 *c i* P **P** **22 47 52.0 -0.1**
ARU 22 50 08.7
ARU S **S** **22 56 20.4 +4.2**
ARU SS **SS** **23 00 20.8 +1.4**
ARU pmax pmax
comp=Z,5.0nm,0.7s
ABKAR Akbulak array 63.22 313 P **P** **22 47 58.0 -0.3**

DLBC Dease Lake 64.14 36 LR LR 23 16 25.0
comp=Z,43nm,18.8s,baz=118,slow=36
YKA Yellowknife Ar 69.89 29 *ce* P **P** **22 48 45.0 +4.3**
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 69.89 29 P **P** **22 48 40.1 -0.5**
comp=Z,0.3nm,0.7s,baz=297,slow=6.5,SNR=2.9
comp=Z,0.3nm,0.7s
VALR Valaam 73.70 332 *i* P **P** **22 49 04.1 +0.6**
VALR pmax pmax
comp=Z,12nm,1.1s
OBN Obninsk 74.33 325 ⇑ *eP* **P** **22 49 07.4 +0.1**
OBN *e* 22 49 28.1
OBN pmax pmax
comp=Z,2.0nm,0.8s
LKRN Lenkeran, Azer 74.45 306 P **P** **22 49 06.9 -1.5**
SEKA Sheki 74.46 309 P **P** **22 49 07.3 -1.2**
ZKTA Zakatala 74.66 309 P **P** **22 49 08.3 -1.3**
MNGR Mingechevir, A 74.73 308 P **P** **22 49 08.7 -1.2**
GANJ Ganja 75.31 308 P **P** **22 49 12.2 -1.1**
FIA1 FINESS Array S 75.56 334 P **P** **22 49 14.8 +0.4**
FINES FINESS Array B 75.56 334 P **P** **22 49 13.9 -0.4**
FINES FINESS Array B 75.56 334 *ce* P **P** **22 49 14.8 +0.5**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 75.56 334 P **P** **22 49 14.9 +0.6**
comp=Z,1.1nm,0.5s,baz=58,slow=4.3,SNR=11
comp=Z,1.1nm,0.5s
KBZ Khabaz 76.17 313 *ce* P **P** **22 49 20.7 +2.6**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 76.17 313 P **P** **22 49 18.9 +0.8**
comp=Z,6.0nm,0.9s,baz=137,slow=4.6,SNR=11
comp=Z,6.0nm,0.9s
KIV Kislovodsk 76.19 313 P **P** **22 49 17.6 -0.9**
KIV IAmb IAmb 22 49 22.1
comp=Z,7.0nm,0.8s
KIV Kislovodsk 76.19 313 *eP* **P** **22 49 18.9 +0.5**
KIV pmax pmax
comp=Z,7.0nm,1.1s
NAX Nakhchivan 76.54 307 P **P** **22 49 19.0 -1.5**
SUMG Summit 77.98 0 P **P** **22 49 29.4 +1.1**
SUMG Summit 77.98 0 P **P** **22 49 29.4 +1.1**
SUMG pmax pmax
comp=Z,44nm,1.9s
NVAR Mina Array Bea 78.98 52 P **P** **22 49 34.2 -0.1**
comp=Z,0.3nm,0.5s,baz=295,slow=5.4,SNR=3.6
comp=Z,0.3nm,0.5s
PABE Paberze 80.07 329 P **P** **22 49 40.1 +0.6**
AKASG Malin Array Be 80.46 324 P **P** **22 49 41.2 -0.5**
comp=Z,0.9nm,0.5s,baz=51,slow=5.5,SNR=7.7
AKASG LR LR 23 27 34.7
comp=Z,43nm,18.1s,baz=233,slow=37
comp=Z,0.9nm,0.5s
HFS Hagfors 80.99 337 P **P** **22 49 44.2 -0.1**
comp=Z,3.7nm,0.7s,baz=95,slow=6.6,SNR=5.4
comp=Z,3.7nm,0.7s
NC204 NORSAR Array S 81.12 338 P **P** **22 49 44.4 -0.7**
NB2 NORSAR Subarra 81.15 338 P **P** **22 49 45.1 -0.2**
comp=Z,1.2nm,0.7s,baz=41,slow=5.3
NOA NORSAR Array B 81.15 338 P **P** **22 49 45.3 0.0**
comp=Z,1.9nm,0.7s,baz=40,slow=5.1,SNR=8.2
comp=Z,1.9nm,0.7s
RAYN Ar Rayn 84.01 294 P **P** **22 50 01.7 +0.8**
RAYN Ar Rayn 84.01 294 P **P** **22 50 01.7 +0.8**
RAYN pmax pmax
comp=Z,15nm,0.7s
BR131 Keskin Array S 84.16 313 P **P** **22 50 02.2 +0.7**
BR131 IAmb IAmb 22 50 05.6
comp=Z,8.3nm,1.1s
BR131 Keskin Array S 84.16 313 P **P** **22 50 02.2 +0.7**
BR131 pmax pmax
comp=Z,8.0nm,1.1s
BRTR Keskin Array B 84.16 313 P **P** **22 50 01.8 +0.2**
BRTR Keskin Array B 84.16 313 P **P** **22 50 02.0 +0.5**
comp=Z,4.9nm,0.8s,baz=106,slow=3.0,SNR=20
comp=Z,4.9nm,0.8s
BUR08 Bucovina Ar. S 84.41 323 P **P** **22 50 03.0 +0.4**
BUR08 IAmb IAmb 22 51 54.8
comp=Z,18nm,1.9s
KWP Kalwaria Pacla 84.42 325 P **P** **22 50 02.6 +0.2**
KWP Kalwaria Pacla 84.42 325 P **P** **22 50 02.7 +0.2**
KWP pmax pmax
comp=Z,40nm,1.9s
BURAR Bucovina Array 84.42 323 P **P** **22 50 02.9 +0.3**
BURAR Bucovina Array 84.42 323 P **P** **22 50 02.9 +0.3**
BURAR pmax pmax
comp=Z,1.0nm,0.7s
MMAI Mount Meron Ar 86.69 306 P **P** **22 50 15.1 +0.9**
comp=Z,0.2nm,0.3s,baz=38,slow=7.3,SNR=1.4
comp=Z,0.2nm,0.3s
CLL Collm 87.72 331 *eP* **P** **22 50 18.0 -0.7**
TXAR Lajitas Array 94.11 53 P **P** **22 50 50.2 +1.1**
comp=Z,0.9nm,0.8s,baz=308,slow=2.7,SNR=7.1
comp=Z,0.9nm,0.8s
QSPA South Pole Qui 119.48 180 PKP **PKPdf** **22 56 18.4 -0.3**
comp=Z,0.4nm,0.6s,baz=263,slow=2.5,SNR=1.0
TORD Torodi Ar. Bea 122.77 312 PKP **PKPdf** **22 56 26.3 -0.3**
comp=Z,0.3nm,0.6s,baz=19,slow=2.6,SNR=2.3
LPAZ La Paz 149.26 71 PKP2 **PKPbc** **22 57 20.0 0.0**
LPAZ La Paz 149.26 71 LRPbc **PKPbc** **22 57 20.0 0.0**
comp=Z,1.3nm,0.7s,baz=27,slow=6.7,SNR=5.3
PLCA Paso Flores 151.32 121 PKIKP **PKPbc** **22 57 24.0 +0.3**
PLCA Paso Flores 151.32 121 PKPbc **PKPbc** **22 57 23.9 +0.3**
comp=Z,1.0nm,0.7s,baz=264,slow=3.3,SNR=4.2

*IDC **05** 22:42:36.2±1.2, 6.26S×143.09E, h0km, mb3.8/4, mbtmp3.8/6, ML1.7/1, MS3.4/2, Error ellipse: s-maj=42.9km s-min=26.7km az=55.0*

ISC 05 22:42:41.1±1.0, 6.5S±0.1×143.0E±0.1, h35km, n8, σ1°49/8, mb3.7/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.09**	**126**	Pn	**Pn**	**Pn**	**22 43 53.8**	**-1.1**
	1.9nm,0.3s,baz=106,slow=23,SNR=2.6							
PMG				Sn		**Sn**	**22 44 53.6**	**+1.2**
	1.4nm,0.3s,baz=33,slow=22,SNR=2.4							
	2.8nm,0.3s							
WRA	**Warramunga Arr**	**15.81**	**211**	Pn		**Pn**	**22 46 19.4**	**-1.9**
	0.3nm,0.3s,baz=29,slow=13,SNR=5.6							
WRA				Lg		Lg	22 51 01.5	
	0.2nm,0.3s,baz=20,slow=27,SNR=2.8							
ASAR	**Alice Springs**	**19.21**	**206**	P		**P**	**22 47 04.4**	**+2.1**
	4.9nm,0.8s,baz=33,slow=10,SNR=4.2							
ASAR				Lg		Lg	22 52 49.1	
	0.1nm,0.3s,baz=18,slow=32,SNR=4.2							
ASAR				LR		LR	22 55 14.6	
	comp=Z,125nm,20.5s,baz=8.0,slow=39							
MKAR	**Makanchi Array**	**75.33**	**322**	P		**P**	**22 54 21.0**	**0.0**
	0.4nm,0.7s,baz=108,slow=7.0,SNR=4.3							
	0.4nm,0.7s							
KURBB	**Kurchatov Arra**	**79.22**	**324**	P		**P**	**22 54 42.3**	**-0.3**
	0.2nm,0.4s,baz=98,slow=4.8,SNR=3.5							
	0.2nm,0.4s							
BVAR	**Borovoye Array**	**84.79**	**325**	P		**P**	**22 55 12.4**	**+0.6**
	2.5nm,0.8s,baz=102,slow=6.1,SNR=8.1							
	2.5nm,0.8s							
WSAR	**Wadi Sarin**	**87.34**	**294**	LR		LR	23 37 18.0	
	comp=Z,17nm,20.9s,baz=284,slow=38							
ILAR	**Eielson Array**	**87.49**	**24**	P		**P**	**22 55 24.6**	**-0.3**
	0.5nm,0.7s,baz=260,slow=4.6,SNR=6.8							
	0.5nm,0.7s							

KRNET 05 23:00:55.8±0.1, 39.46N×76.94E, mb2.3, 12C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**2.09**	**340**	⇑ *i* P		Pn	23 01 33.1	+0.6
	baz=40							
NRN				⇑ *i* S		Sn	23 02 00.4	+1.0
	baz=40							
KDJ	**Kajisay**	**2.67**	**4**	⇑ *e* P		Pn	23 01 41.2	+1.0
	baz=4.0							
KDJ				⇑ *e* S		Sn	23 02 14.2	+0.8
	baz=4.0							
SFK	**Sufi-Kurgan**	**2.71**	**283**	⇓ *e* P		Pn	23 01 41.7	+0.9
	baz=83							
SFK				⇓ *e* S		Sn	23 02 15.2	+0.8
	baz=83							
ULHL	**Ulahol**	**2.83**	**349**	⇑ *e* P		Pn	23 01 43.5	+1.0
	baz=49							
ULHL				⇑ *e* S		Sn	23 02 18.1	+0.7
	baz=49							

ARLS	**Aral**	**3.11**	**321**	⇑*i*P	Pn	23 01 47.2	+0.9
	baz=21						
ARLS				⇑*i*S	Sn	23 02 24.6	+0.3
	baz=21						
UCH	**Uchtor**	**3.32**	**327**	⇑*i*P	Pn	23 01 50.4	+1.0
	baz=27						
UCH				⇑*i*S	Sn	23 02 30.1	+0.3
	baz=27						
ANVS	**Anan'yevo**	**3.36**	**9**	⇓*e*P	Pn	23 01 50.8	+1.1
	baz=9.0						
ANVS				⇓*e*S	Sn	23 02 31.0	+0.5
	baz=9.0						
KBK	**Karagaybulak**	**3.53**	**335**	⇑*i*P	Pn	23 01 53.0	+1.0
	baz=35						
KBK				⇑*i*S	Sn	23 02 34.9	+0.4
	baz=35						

NNC ***05*** *23:01:39.0±2.2, 40.92N×76.96E, h0km, mb2.6, mpv2.2, Error ellipse: s-maj=14.8km s-min=12.6km az=19.0*
SOME ***05*** *23:01:39.8, 41.03N×76.80E, h0km*

ISC 05 23:01:36.0±3.3**, 40.8N**±0.1**×76.90E**±0.07**, h10**km**, n22, σ0.90/33, 1C-1D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**2.20**	**1**	*e*P		**Pg**		**23 02 18.6**	**+0.3**
	0.4nm,0.1s								
TNSS				*e*S		**Sg**		**23 02 46.1**	**-0.7**
	3.9nm,0.8s								
TNSS	**Tian-Shan**	**2.20**	**1**	Pg		**Pg**		**23 02 19.2**	**+1.0**
	0.9nm,0.3s								
TNSS				Lg		Lg		23 02 47.8	
	3.9nm,0.8s								
TKM2	**Tokmak 2**	**2.30**	**335**	⇓Pg		**Pb**		**23 02 18.6**	**+0.8**
	0.2nm,0.3s								
TKM2				⇑Lg		Lg		23 02 48.6	
	1.7nm,0.8s								
KST	**Kastek**	**2.32**	**343**	*e*P		**Pg**		**23 02 20.5**	**+0.1**
	1.0nm,0.6s								
KST				*e*S		**Sg**		**23 02 49.8**	**-0.7**
	1.6nm,0.5s								
KST	**Kastek**	**2.32**	**343**	Pg		**Pg**		**23 02 20.5**	**+0.1**
	1.0nm,0.6s								
KST				Lg		Lg		23 02 49.8	
	1.6nm,0.5s								
MTBS	**Maitube**	**2.32**	**351**	*e*P		**Pg**		**23 02 20.3**	**-0.2**
	0.9nm,0.2s								
MTBS				*e*S		**Sg**		**23 02 49.1**	**-1.5**
	2.7nm,0.1s								
MTBS	**Maitube**	**2.32**	**351**	Pg		**Pg**		**23 02 20.9**	**+0.4**
	1.1nm,0.2s								
MTBS				Lg		Lg		23 02 50.3	
	1.9nm,0.2s								
MDOK	**Medeo**	**2.33**	**3**	*e*P		**Pg**		**23 02 21.4**	**+0.7**
	1.4nm,0.5s								
MDOK				*e*S		**Sg**		**23 02 51.1**	**+0.2**
	5.1nm,0.5s								
MDOK	**Medeo**	**2.33**	**3**	Pg		**Pb**		**23 02 18.6**	**+0.3**
	0.4nm,0.4s								
MDOK				Pg		**Pg**		**23 02 21.4**	**+0.7**
	1.4nm,0.5s								
MDOK				Lg		Lg		23 02 50.9	
	9.9nm,1.0s								
MDOK				Lg		Lg		23 02 51.1	
	5.1nm,0.5s								
KOTS	**Kotyrbulak**	**2.40**	**4**	*e*P		**Pg**		**23 02 23.0**	**+0.9**
	0.7nm,0.4s								
KOTS				*e*S		**Sg**		**23 02 54.0**	**+0.7**
	5.6nm,0.5s								
KOTS	**Kotyrbulak**	**2.40**	**4**	Pg		**Pg**		**23 02 23.0**	**+0.9**
	0.7nm,0.4s								
KOTS				Lg		Lg		23 02 54.0	
	5.6nm,0.5s								
SATY	**Saty**	**2.49**	**26**	*e*P		**Pg**		**23 02 24.1**	**+0.3**
	0.9nm,0.2s								
SATY				*e*S		**Sg**		**23 02 55.6**	**-0.5**
	3.9nm,0.2s								
SATY	**Saty**	**2.49**	**26**	Pg		**Pg**		**23 02 23.4**	**-0.4**
	0.9nm,0.3s								
SATY				Lg		Lg		23 02 54.4	
	1.3nm,0.3s								
DGS	**Degeres**	**2.55**	**341**	*e*P		**Pg**		**23 02 23.8**	**-1.1**
	0.5nm,0.5s								
DGS				*e*S		**Sb**		**23 02 55.2**	**+1.9**
	1.2nm,0.4s								
DGS	**Degeres**	**2.55**	**341**	Pg		**Pg**		**23 02 23.8**	**-1.1**
	0.5nm,0.5s								
DGS				Lg		Lg		23 02 55.2	
	1.2nm,0.4s								
KTBS	**Karatobe**	**2.88**	**357**	*e*P		**Pg**		**23 02 30.9**	**-0.3**
	0.4nm,0.4s								
KTBS				*e*S		**Sg**		**23 03 07.4**	**-1.2**
	3.6nm,0.5s								
KTBS	**Karatobe**	**2.88**	**357**	Pg		**Pg**		**23 02 30.9**	**-0.3**
	0.4nm,0.4s								
KTBS				Lg		Lg		23 03 07.4	
	3.6nm,0.5s								
KRBS	**Karabastau**	**3.00**	**343**	*e*P		**Pg**		**23 02 32.9**	**-0.6**
	0.5nm,0.3s								
KRBS				*e*S		**Sg**		**23 03 11.0**	**-1.4**
	2.7nm,0.5s								
KRBS	**Karabastau**	**3.00**	**343**	Pg		**Pg**		**23 02 32.9**	**-0.6**
KRBS				Lg		Lg		23 03 11.0	
PDGK	**Podgornoye**	**3.15**	**37**	Pg		**Pb**		**23 02 32.0**	**-0.2**
	0.2nm,0.4s								
PDGK				Lg		Lg		23 03 12.3	
	2.4nm,0.8s								
ARXS	**Arharly**	**3.45**	**11**	*e*P		**Pg**		**23 02 41.0**	**-1.1**
	0.6nm,0.5s								
ARXS				*e*S		**Sg**		**23 03 25.0**	**-1.7**
	1.6nm,0.5s								
ARXS	**Arharly**	**3.45**	**11**	Pg		**Pg**		**23 02 41.0**	**-1.1**
	0.6nm,0.5s								
ARXS				Lg		Lg		23 03 25.0	
	1.6nm,0.5s								

IDC ***05*** *23:02:36.9±0.9, 55.39N×157.13W, h0km, mb4.0/16, mbtmp4.0/19, ML3.7/3, MS3.3/2, Error ellipse: s-maj=22.2km s-min=16.9km az=162.0*
ANF ***05*** *23:02:37.7±0.6, 55.47N×157.07W, h10km±4km, ML4.2/26, Error ellipse: s-maj=3.5km s-min=2.0km az=172.0*
AEIC ***05*** *23:02:38.2±1.7, 55.41N±0.07×157.03W±0.09, h16km±6km, ML3.7, mb3.8/8(NEIC), ML3.9/36(NEIC), Error ellipse: s-maj=10.9km s-min=5.3km az=151.0*
NEIC ***05*** *23:02:39.3±1.6, 55.39N±0.06×157.02W±0.05, h29km± 10km, Error ellipse: s-maj=9.9km s-min=1.6km az=157.0*

ISC 05 23:02:37.9±1.9**, 55.46N**±0.04**×157.05W**±0.04**, h7**km±12km**, n348, σ1.923/371, mb4.1/17, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHIR	**Chirikof Islan**	**0.89**	**65**			**Pb**		**23 02 54.9**	**-0.7**
CHIR						**Sg**		**23 03 07.6**	**+1.2**
CHIR					IAML			23 03 11.3	
	comp=N,5μm,0.8s								
CHIR					IAML			23 03 16.2	
	comp=E,4μm,0.8s								
CHIR	**Chirikof Islan**	**0.89**	**65**	P		**Pb**		**23 02 54.7**	**-1.0**
	baz=253,SNR=98								
CHIR				S		**Sg**		**23 03 07.5**	**+1.0**
	baz=253								
CHGN	**Chignik**	**1.14**	**318**			**Pn**		**23 02 57.5**	**-2.9**
CHGN					IAML			23 03 13.4	
	comp=N,2μm,0.5s								
CHGN					IAML			23 03 16.5	
	comp=E,3μm,0.6s								
CHGN	**Chignik**	**1.14**	**318**	P		**Pn**		**23 02 57.3**	**-3.1**
	baz=137,SNR=81								
CHGN				S		**Sb**		**23 03 11.0**	**-4.1**
	baz=137								
VNKR	**Veniaminof 5**	**1.43**	**295**			**Pn**		**23 03 02.4**	**-2.0**
VNKR						**Sn**		**23 03 21.3**	**-2.2**
CHNA	**Chernabura Isl**	**1.59**	**248**	P		**Pn**		**23 03 05.3**	**-1.1**
	baz=62,SNR=66								
CHNA				S		**Sn**		**23 03 26.0**	**-1.2**
	baz=62								
CNBA	**Chernabura Isl**	**1.59**	**247**	Pn		**Pn**		**23 03 05.5**	**-1.0**
CNBA	**Chernabura Isl**	**1.59**	**247**			**Sb**		**23 03 27.0**	**-0.9**
S14K	**Fog Glacier**	**1.64**	**301**	P		**Pn**		**23 03 05.6**	**-1.6**
	baz=118								
S14K				S		**Sn**		**23 03 27.2**	**-1.4**
	baz=118								
ANNW	**Aniakchak Nort**	**1.65**	**337**			**Pn**		**23 03 06.5**	**-0.9**
SII	**Sitkinak Islan**	**1.95**	**54**	Pn		**Pn**		**23 03 10.7**	**-0.7**
SII	**Sitkinak Islan**	**1.95**	**54**	P		**Pn**		**23 03 10.6**	**-1.0**
SII	**Sitkinak Islan**	**1.95**	**54**	P		**Pn**		**23 03 10.5**	**-1.0**
SII	**Sitkinak Islan**	**1.95**	**54**	P		**Pn**		**23 03 10.5**	**-1.0**
	baz=240,SNR=19								
SII					S	**Sn**		**23 03 35.5**	**-0.7**
	baz=240								
SDPT	**Sand Point**	**1.96**	**268**		Pn	**Pn**		**23 03 10.2**	**-1.4**
SDPT					IAML			23 03 45.8	
	comp=E,1μm,1.1s								
SDPT	**Sand Point**	**1.96**	**268**			**Sn**		**23 03 35.8**	**-0.6**
SDPT	**Sand Point**	**1.96**	**268**	P		**Pn**		**23 03 10.7**	**-0.8**
SDPT	**Sand Point**	**1.96**	**268**	P		**Pn**		**23 03 11.5**	**0.0**
SDPT	**Sand Point**	**1.96**	**268**	P		**Pn**		**23 03 10.2**	**-1.4**
	baz=83,SNR=40								
SDPT					S	**Sn**		**23 03 35.2**	**-1.1**
	baz=83								
R16K	**Pilot Point**	**2.14**	**352**			**Pn**		**23 03 14.2**	**+0.2**
R16K					IAML			23 04 21.6	
	comp=N,990nm,0.9s								
R16K	**Pilot Point**	**2.14**	**352**			**Sn**		**23 03 41.5**	**+0.8**
R16K	**Pilot Point**	**2.14**	**352**		Pb	**Pn**		**23 03 14.8**	**+0.9**
	baz=174								
R16K					S	**Sn**		**23 03 39.4**	**-1.3**
	baz=174								
PLK3	**Peulik 3**	**2.28**	**11**			**Pn**		**23 03 16.7**	**+0.7**
PLK1	**Peulik 1**	**2.36**	**6**			**Pn**		**23 03 17.8**	**+0.7**
OHAK	**Old Harbor**	**2.74**	**48**	Pn		**Pn**		**23 03 21.2**	**-1.0**
OHAK					IAML			23 04 19.4	
	comp=N,406nm,0.9s								
OHAK					IAML			23 04 24.0	
	comp=E,345nm,0.9s								
OHAK	**Old Harbor**	**2.74**	**48**	P		**Pn**		**23 03 21.3**	**-1.0**
OHAK	**Old Harbor**	**2.74**	**48**	P		**Pn**		**23 03 21.4**	**-0.9**
OHAK	**Old Harbor**	**2.74**	**48**	P		**Pn**		**23 03 21.1**	**-1.2**
	baz=234,SNR=17								
OHAK					S	**Sn**		**23 03 54.7**	**-0.9**
	baz=234								
PS4A	**Pavlof South-4**	**2.75**	**270**			**Pn**		**23 03 22.0**	**-0.4**
PN7A	**Pavlof North-7**	**2.82**	**272**			**Pn**		**23 03 23.6**	**+0.1**
Q17K	**Contact Creek**	**2.88**	**12**	P		**Pn**		**23 03 23.6**	**-0.8**
	baz=195,SNR=27								
Q17K					S	**Sn**		**23 03 59.4**	**0.0**
	baz=195								
Q16K	**King Salmon**	**3.24**	**4**	P		**Pn**		**23 03 28.5**	**-0.6**
	baz=185,SNR=27								
Q16K					S	**Sn**		**23 04 05.5**	**-2.3**
	baz=185								
KDAK	**Kodiak Island**	**3.39**	**45**	Pn		**Pn**		**23 03 30.2**	**-1.1**
KDAK					IAML			23 04 40.0	
	comp=E,242nm,1.4s								
KDAK					IAML			23 04 40.1	
	comp=E,332nm,1.1s								
KDAK	**Kodiak Island**	**3.39**	**45**	P		**Pn**		**23 03 30.0**	**-1.2**
	baz=230								
KDAK	**Kodiak Island**	**3.39**	**45**	Pn		**Pn**		**23 03 29.0**	**-2.3**
	comp=E,5.3nm,0.3s,baz=232,slow=6.3,SNR=177								
KDAK					Sn	**Sn**		**23 04 09.1**	**-2.7**
	comp=E,7.9nm,0.3s,baz=198,slow=15,SNR=1.6								
	comp=E,12nm,0.3s								
P16K	**Nushagak River**	**3.62**	**352**	P		**Pn**		**23 03 33.5**	**-0.9**
	baz=172,SNR=16								
P16K					S	**Sn**		**23 04 16.4**	**-1.0**
	baz=172								
FALS	**False Pass**	**3.70**	**263**	P		**Pn**		**23 03 35.9**	**+0.4**
FALS	**False Pass**	**3.70**	**263**	P		**Pn**		**23 03 35.7**	**+0.2**
FALS	**False Pass**	**3.70**	**263**	P		**Pn**		**23 03 34.9**	**-0.6**
	baz=77								
FALS					S	**Sn**		**23 04 17.0**	**-2.4**
	baz=77								
P17K	**Kvichak River**	**3.76**	**5**	P		**Pn**		**23 03 36.1**	**-0.2**
	baz=187,SNR=9.1								
O15K	**Ungalikthiuk R**	**4.02**	**339**	P		**Pn**		**23 03 39.4**	**-0.5**
	baz=158								
O15K					S	**Sn**		**23 04 25.6**	**-1.6**
	baz=158								
P18K	**Big Mountain,**	**4.07**	**13**	Pn		**Pn**		**23 03 40.8**	**+0.3**
P18K	**Big Mountain,**	**4.07**	**13**	P		**Pn**		**23 03 40.2**	**-0.4**
	baz=196								
P18K					S	**Sn**		**23 04 27.7**	**-0.7**
	baz=196								
O16K	**Kokwok River B**	**4.19**	**353**			**Pn**		**23 03 42.6**	**+0.4**
O16K	**Kokwok River B**	**4.19**	**353**	P		**Pn**		**23 03 41.8**	**-0.3**
	baz=173								
O17K	**Koliganek Bris**	**4.33**	**360**	P		**Pn**		**23 03 43.6**	**-0.5**
	baz=181,SNR=12								
O17K					S	**Sn**		**23 04 31.7**	**-3.1**
	baz=181								
O14K	**Tigyukauivet M**	**4.44**	**331**			**Pn**		**23 03 46.3**	**+0.7**
O14K					IAML			23 05 08.4	
	comp=N,136nm,1.1s								
O14K	**Tigyukauivet M**	**4.44**	**331**	P		**Pn**		**23 03 45.4**	**-0.2**
	baz=148								
O14K					Sb	**Sb**		**23 04 50.6**	**+0.8**
	baz=148								
O18K	**Koktuh Hills**	**4.52**	**12**	Pn		**Pn**		**23 03 47.8**	**+1.0**
O18K					IAML			23 05 06.7	
	comp=N,88nm,0.8s								
O18K					IAML			23 05 09.9	
	comp=E,117nm,1.0s								
O18K	**Koktuh Hills**	**4.52**	**12**	P		**Pn**		**23 03 46.8**	**0.0**
	baz=195								
O18K					Sb	**Sb**		**23 04 56.0**	**+3.9**
	baz=195								
O19K	**Port Alsworth**	**4.97**	**16**	Pn		**Pn**		**23 03 52.7**	**-0.2**
ILSW	**Iliamna Southw**	**5.00**	**23**			**Pn**		**23 03 53.7**	**+0.2**
ILSW					IAML			23 05 33.8	
	comp=E,68nm,1.1s								
N15K	**Kwethluk River**	**5.00**	**342**			**Pn**		**23 03 53.4**	**+0.1**
N15K	**Kwethluk River**	**5.00**	**342**	P		**Pn**		**23 03 53.1**	**-0.2**
	baz=160								
N15K					S	**Sn**		**23 04 51.1**	**-0.2**
	baz=160								
N17K	**Nushagak Hills**	**5.08**	**359**			**Pn**		**23 03 54.3**	**-0.2**
N17K					IAML			23 05 32.9	
	comp=E,60nm,0.9s								
N17K	**Nushagak Hills**	**5.08**	**359**	P		**Pn**		**23 03 54.0**	**-0.5**
	baz=180								
N16K	**Nishlik Lake**	**5.11**	**350**	P		**Pn**		**23 03 54.7**	**-0.2**
	baz=170								
N14K	**Kuskokwak Cree**	**5.12**	**333**	P		**Pn**		**23 03 54.5**	**-0.5**
	baz=149								
CNPM	**China Poot**	**5.14**	**35**	Pn		**Pn**		**23 03 54.6**	**-0.7**
CNPM					IAML			23 05 33.0	
	comp=E,86nm,1.4s								
O20K	**Slope Mountain**	**5.21**	**25**	P		**Pn**		**23 03 56.1**	**-0.1**
	baz=210								
AKUT	**Akutan**	**5.22**	**259**	P		**Pn**		**23 03 56.5**	**+0.2**
N18K	**Kilae Creek**	**5.27**	**6**	Pn		**Pn**		**23 03 57.6**	**+0.4**
N18K					IAML			23 05 29.8	
	comp=E,65nm,0.8s								
N18K					IAML			23 05 36.4	
	comp=N,54nm,0.9s								
N18K	**Kilae Creek**	**5.27**	**6**	P		**Pn**		**23 03 54.9**	**-2.2**
	baz=188								
N18K					S	**Sn**		**23 04 58.8**	**+0.7**
	baz=188								
BRLK	**Bradley Lake**	**5.44**	**35**	Pn		**Pn**		**23 03 58.0**	**-1.4**
BRSE	**Bradley Lake S**	**5.47**	**36**	P		**Pn**		**23 03 58.6**	**-1.2**
	baz=222								
RSO	**Redoubt South**	**5.51**	**23**			**Pn**		**23 03 57.4**	**-3.1**
N19K	**Bonanza Creek**	**5.54**	**13**	Pn		**Pn**		**23 04 01.2**	**+0.4**
N19K	**Bonanza Creek**	**5.54**	**13**	P		**Pn**		**23 04 00.9**	**0.0**
	baz=196								
M15K	**Kasigluk River**	**5.60**	**341**	P		**Pn**		**23 04 01.1**	**-0.4**
	baz=159,SNR=19								
M15K					S	**Sn**		**23 05 05.3**	**-0.7**
	baz=159								
M16K	**Timber Creek**	**5.67**	**351**	Pn		**Pn**		**23 04 02.8**	**+0.3**
M16K	**Timber Creek**	**5.67**	**351**	P		**Pn**		**23 04 02.1**	**-0.5**
	baz=170								
SVW2	**Sparrevohn**	**5.71**	**7**	Pn		**Pn**		**23 04 03.9**	**+0.8**
SVW2	**Sparrevohn**	**5.71**	**7**	P		**Pn**		**23 04 03.6**	**+0.5**
SVW2	**Sparrevohn**	**5.71**	**7**	P		**Pn**		**23 04 04.6**	**+1.5**
UNV	**Unalaska Valle**	**5.72**	**258**	P		**Pn**		**23 04 02.5**	**-0.7**
	baz=69								
M14K	**Bethel**	**5.91**	**336**	Pn		**Pn**		**23 04 05.8**	**0.0**
M14K	**Bethel**	**5.91**	**336**	P		**Pn**		**23 04 05.3**	**-0.5**
	baz=152,SNR=20								
M14K					Sb	**Sb**		**23 05 35.9**	**+3.7**
	baz=152								
M17K	**Holitna River**	**5.96**	**358**			**Pn**		**23 04 06.4**	**-0.1**
M17K	**Holitna River**	**5.96**	**358**	P		**Pn**		**23 04 06.3**	**-0.3**
	baz=179								
M17K					S	**Sn**		**23 05 13.9**	**-1.2**
	baz=179								
M13K	**Dall Lake**	**6.00**	**329**			**Pn**		**23 04 07.1**	**+0.2**
M13K	**Dall Lake**	**6.00**	**329**	P		**Pn**		**23 04 07.2**	**+0.2**
	baz=144								
M18K	**Stony River**	**6.08**	**6**	P		**Pn**		**23 04 08.4**	**+0.2**
	baz=187								
M18K					S	**Sn**		**23 05 17.6**	**-0.5**
	baz=187								
CAPN	**Captain Cook N**	**6.17**	**28**	P		**Pn**		**23 04 09.7**	**+0.3**
	baz=214								
SEW	**Seward**	**6.18**	**38**	P		**Pn**		**23 04 09.6**	**+0.1**
	baz=225								
N20K	**Mount Spurr**	**6.30**	**22**	P		**Pn**		**23 04 10.3**	**-0.9**
	baz=207								
O22K	**Cooper Landing**	**6.37**	**35**			**Pn**		**23 04 11.9**	**-0.2**
L16K	**Owhat River**	**6.40**	**350**	Pn		**Pn**		**23 04 12.3**	**-0.2**
L16K	**Owhat River**	**6.40**	**350**	P		**Pn**		**23 04 11.9**	**-0.6**
	baz=168								
L14K	**Kuka Creek**	**6.60**	**336**	Pn		**Pn**		**23 04 14.4**	**-0.8**
L14K	**Kuka Creek**	**6.60**	**336**	P		**Pn**		**23 04 15.1**	**-0.1**
	baz=151								
M19K	**Big River Lodg**	**6.61**	**11**			**Pn**		**23 04 15.1**	**-0.3**
M19K	**Big River Lodg**	**6.61**	**11**	P		**Pn**		**23 04 15.3**	**-0.1**
	baz=194								
L15K	**Ungalak Mounta**	**6.66**	**341**	P		**Pn**		**23 04 15.1**	**-0.9**
	baz=158								
L17K	**Donlin**	**6.73**	**355**	P		**Pn**		**23 04 16.7**	**-0.4**
	baz=174								
FIS	**Fire Island**	**6.74**	**29**			**Pn**		**23 04 16.9**	**-0.3**
M20K	**Styx River**	**6.76**	**16**			**Pn**		**23 04 17.3**	**-0.3**
M20K	**Styx River**	**6.76**	**16**	P		**Pn**		**23 04 17.1**	**-0.4**
	baz=200								
L18K	**Granite Mounta**	**6.79**	**1**	Pn		**Pn**		**23 04 17.6**	**-0.3**
L18K	**Granite Mounta**	**6.79**	**1**	P		**Pn**		**23 04 17.8**	**0.0**
	baz=182								
RC01	**Rabbit Creek A**	**6.83**	**31**	Pn		**Pn**		**23 04 17.6**	**-0.9**
RC01	**Rabbit Creek A**	**6.83**	**31**	P		**Pn**		**23 04 17.1**	**-1.4**
	baz=218								
L19K	**White Mountain**	**6.84**	**9**	Pn		**Pn**		**23 04 18.3**	**-0.3**
L19K	**White Mountain**	**6.84**	**9**	P		**Pn**		**23 04 19.0**	**+0.4**
	baz=191								
L19K					S	**Sn**		**23 05 37.8**	**+1.1**
	baz=191								
SUA	**Susitna One**	**6.87**	**26**	Pn		**Pn**		**23 04 18.5**	**-0.6**
SUA	**Susitna One**	**6.87**	**26**	P		**Pn**		**23 04 18.1**	**-1.0**
	baz=212,SNR=8.6								
P23K	**Montague Islan**	**6.88**	**45**	P		**Pn**		**23 04 18.4**	**-0.8**
	baz=234								
M11K	**Mekoryuk**	**6.94**	**319**	P		**Pn**		**23 04 19.7**	**-0.2**
	baz=132								
Q23K	**Middton Isla**	**7.01**	**51**	Pn		**Pn**		**23 04 19.1**	**-1.8**
MID	**Middleton Isla**	**7.01**	**51**	Pn		**Pn**		**23 04 19.5**	**-1.4**
SKT	**Skwentna**	**7.14**	**21**	Pn		**Pn**		**23 04 21.9**	**-0.9**
SKT	**Skwentna**	**7.14**	**21**	P		**Pn**		**23 04 21.9**	**-0.9**
	baz=207								
L20K	**Farewell, AK**	**7.23**	**12**	P		**Pn**		**23 04 24.3**	**+0.4**
	baz=195								
K15K	**Wolf Creek Mou**	**7.24**	**343**			**Pn**		**23 04 24.8**	**+0.7**
K15K	**Wolf Creek Mou**	**7.24**	**343**	P		**Pn**		**23 04 23.4**	**-0.6**
	baz=160								
K17K	**Iditarod**	**7.31**	**355**	P		**Pn**		**23 04 24.7**	**-0.3**
	baz=175								
KNK	**Knik Glacier**	**7.48**	**34**			**Pn**		**23 04 26.9**	**-0.5**
KNK	**Knik Glacier**	**7.48**	**34**	P		**Pn**		**23 04 26.7**	**-0.7**
	baz=222								
HIN	**Hinchinbrook I**	**7.48**	**44**			**Pn**		**23 04 26.8**	**-0.6**
TTA	**Tatalina**	**7.51**	**4**	P		**Pn**		**23 04 28.8**	**+0.9**
TTA	**Tatalina**	**7.51**	**4**	P		**Pn**		**23 04 28.6**	**+0.7**
TTA	**Tatalina**	**7.51**	**4**	P		**Pn**		**23 04 26.9**	**-1.0**
	baz=185								
GHO	**Glory Hole Cre**	**7.62**	**30**			**Pn**		**23 04 27.2**	**-2.1**
SML	**Sawmill**	**7.82**	**32**	Pn		**Pn**		**23 04 30.9**	**-1.1**
SML	**Sawmill**	**7.82**	**32**	P		**Pn**		**23 04 30.6**	**-1.5**
	baz=220								
EYAK	**Cordova Ski Ar**	**7.87**	**45**	P		**Pn**		**23 04 32.3**	**-0.4**
EYAK	**Cordova Ski Ar**	**7.87**	**45**	P		**Pn**		**23 04 32.2**	**-0.4**
EYAK	**Cordova Ski Ar**	**7.87**	**45**	P		**Pn**		**23 04 32.0**	**-0.7**
	baz=235								
M23K	**Glacier View**	**7.99**	**34**	P		**Pn**		**23 04 33.1**	**-1.3**
	baz=222								
J18K	**Innoko River**	**8.04**	**1**	P		**Pn**		**23 04 34.1**	**-0.8**
	baz=182								
J14K	**Nanvaranak Lak**	**8.04**	**338**	P		**Pn**		**23 04 35.0**	**0.0**
	baz=153								
J16K	**Anvik River**	**8.06**	**348**			**Pn**		**23 04 35.1**	**-0.1**
J16K	**Anvik River**	**8.06**	**348**	P		**Pn**		**23 04 35.1**	**-0.1**
	baz=166								
K20K	**Telida**	**8.07**	**10**	P		**Pn**		**23 04 34.7**	**-0.8**
	baz=193								
KAIM	**Kayak Island**	**8.11**	**51**	Pn		**Pn**		**23 04 36.0**	**0.0**
KAIM	**Kayak Island**	**8.11**	**51**	P		**Pn**		**23 04 36.0**	**0.0**
	baz=243								
SCM	**Sheep Creek Mo**	**8.15**	**34**			**Pn**		**23 04 36.4**	**-0.3**
SCM	**Sheep Creek Mo**	**8.15**	**34**	P		**Pn**		**23 04 35.9**	**-0.8**
	baz=223								
RAGM	**Ragged Mountai**	**8.23**	**48**			**Pn**		**23 04 37.1**	**-0.5**
CAST	**Castle Rocks**	**8.37**	**16**	P		**Pn**		**23 04 39.4**	**-0.3**
	baz=200								
HMT	**Hamilton**	**8.38**	**49**	Pn		**Pn**		**23 04 38.9**	**-0.8**
KLU	**Klutina**	**8.39**	**39**	P		**Pn**		**23 04 38.0**	**-2.0**
	baz=230,SNR=5.5								
SUCK	**Suckling Hills**	**8.46**	**51**	Pn		**Pn**		**23 04 40.4**	**-0.4**
BMRM	**Bremner River**	**8.57**

ANM	Nome	10.03	339	Pn		Pn	23 05 02.5	+0.2
ANM	Nome baz=152	10.03	339	P		Pn	23 05 00.7	-1.5
LOGN	Logan Glacier	10.03	51	Pn		Pn	23 05 03.1	+0.7
M26K	Nabesna, AK	10.04	40	Pn		Pn	23 05 02.0	-0.5
M26K	Nabesna, AK baz=233	10.04	40	P		Pn	23 05 01.3	-1.2
I21K	Tanana	10.07	12			Pn	23 04 56.4	-6.4
I21K	Tanana baz=197	10.07	12	P		Pn	23 05 01.4	-1.4
WRH	Wood River Hil	10.08	23	Pn		Pn	23 05 01.4	-1.5
PINM	Pinnacle baz=250	10.09	56	P		Pn	23 05 03.3	+0.2
MLY	Manley	10.10	15	Pn		Pn	23 05 01.9	-1.4
MLY	Manley baz=201	10.10	15	P		Pn	23 05 01.8	-1.4
H19K	Roundabout Mou baz=182	10.11	1	P		Pn	23 05 03.1	-0.2
K24K	Donnelly Dome baz=220	10.11	30	P		Pn	23 05 03.3	-0.1
H20K	Anotleneega Mo baz=188	10.12	5	P		Pn	23 05 03.1	-0.5
G15K	Niukluk baz=157	10.17	343	P		Pn	23 05 04.3	+0.2
G17K	Kiwalik Mounta baz=169	10.23	352	P		Pn	23 05 04.9	-0.2
HDA	Harding Lake	10.29	25	Pn		Pn	23 05 05.2	-0.7
HDA	Harding Lake baz=214	10.29	25	P		Pn	23 05 05.1	-0.7
CCB	Clear Creek Bu	10.30	23	Pn		Pn	23 05 04.7	-1.2
G16K	Koyuk River	10.30	347	Pn		Pn	23 05 06.4	+0.5
G16K	Koyuk River baz=163	10.30	347	P		Pn	23 05 05.5	-0.5
L26K	Log Cabin Wild	10.31	37	Pn		Pn	23 05 06.3	+0.1
L26K	Log Cabin Wild baz=230	10.31	37	P		Pn	23 05 05.9	-0.3
BCPM	Bancas Point	10.34	57	Pn		Pn	23 05 07.1	+0.6
PNL	Peninsula baz=254	10.37	59	P		Pn	23 05 06.3	-0.6
I23K	Minto, Yukon-K	10.43	18			Pn	23 05 06.3	-1.4
I23K	Minto, Yukon-K baz=205	10.43	18	P		Pn	23 05 06.0	-1.7
M27K	Edge Creek, AK	10.44	42			Pn	23 05 07.5	-0.5
M27K	Edge Creek, AK baz=236	10.44	42	P		Pn	23 05 07.7	-0.3
H21K	Melozitna Rive baz=194	10.44	10	P		Pn	23 05 07.5	-0.4
MDM	Murphy Dome	10.48	21	Pn		Pn	23 05 06.7	-1.7
G18K	Tagagawik	10.50	356			Pn	23 05 09.2	+0.5
G18K	Tagagawik baz=175	10.50	356	P		Pn	23 05 07.3	-1.4
IL31		10.61	24	Pn		Pn	23 05 08.7	-1.5
ILAR	Eielson Array	10.61	24	Pn		Pn	23 05 09.5	-0.7
ILAR	Eielson Array comp=N,0.3nm,0.3s,baz=215,slow=13,SNR=12	10.61	24	Pn		Pn	23 05 06.8	-3.4
ILAR				Sn		Sn	23 07 01.3	-7.9
ILAR	comp=N,0.1nm,0.3s,baz=204,slow=22,SNR=1.6			LR		LR	23 09 13.2	
	comp=N,139nm,18.1s,baz=118,slow=37 comp=N,1.1nm,0.6s							
ATKA	Atka Island	10.64	259	P		Pn	23 05 09.8	-0.9
YUK3	Moose Creek baz=242	10.70	47	P		Pn	23 05 10.3	-1.3
G19K	Purcell Mounta	10.72	360			Pn	23 05 12.5	+0.8
G19K	Purcell Mounta baz=180	10.72	360	P		Pn	23 05 10.6	-1.1
SCRK	Sand Creek	10.77	32	Pn		Pn	23 05 11.5	-1.0
YUK8	Steele Glacier baz=245	10.77	50	P		Pn	23 05 12.0	-0.7
POKR	Poker Plat Res baz=211	10.78	22	P		Pn	23 05 11.2	-1.4
H22K	Ishtalitna Cre baz=198	10.83	12	P		Pn	23 05 12.3	-0.9
J25K	Salcha River,	10.86	28	Pn		Pn	23 05 12.2	-1.5
J25K	Salcha River, baz=218	10.86	28	P		Pn	23 05 12.2	-1.5
L27K	Beaver Creek,	10.87	39	Pn		Pn	23 05 12.6	-1.2
L27K	Beaver Creek, baz=233	10.87	39	P		Pn	23 05 13.3	-0.5
BCAR	Beaver Creek A	10.89	39	Pn		Pn	23 05 14.0	-0.1
F15K	North Star Dit	10.93	343	Pn		Pn	23 05 15.4	+0.8
F15K	North Star Dit baz=157	10.93	343	P		Pn	23 05 14.4	-0.2
O29M	Mount Kennedy baz=252	10.95	56	P		Pn	23 05 15.4	+0.4
F14K	Arctic Creek baz=152	11.03	339	P		Pn	23 05 16.1	+0.2
P29M	Windy Craggy	11.17	60			Pn	23 05 17.5	-0.4
P29M	Windy Craggy baz=257	11.17	60	P		Pn	23 05 18.5	+0.6
G21K	Allakaket baz=191	11.23	7	P		Pn	23 05 18.4	-0.3
F18K	Selawik baz=173	11.25	355	P		Pn	23 05 19.0	+0.1
J26L	Joseph Creek	11.28	31	Pn		Pn	23 05 18.1	-1.3
J26L	Joseph Creek baz=223	11.28	31	P		Pn	23 05 17.6	-1.9
YUK4	Talbot Arm baz=247	11.29	51	P		Pn	23 05 20.1	+0.5
H24K	Noodor Dome	11.33	20	Pn		Pn	23 05 18.0	-2.0
H24K	Noodor Dome baz=208	11.33	20	P		Pn	23 05 17.3	-2.8
K27K	Chicken	11.41	35	Pn		Pn	23 05 20.3	-0.8
K27K	Chicken baz=229	11.41	35	P		Pn	23 05 20.7	-0.4
F19K	Shaleruckik Mo	11.42	359	Pn		Pn	23 05 21.1	-0.2
F19K	Shaleruckik Mo baz=178	11.42	359	P		Pn	23 05 19.2	-2.1
TNA	Tin City baz=147	11.44	337	P		Pn	23 05 21.2	-0.3
F20K	Avaraart Lake	11.65	3	Pn		Pn	23 05 25.2	+0.8
F20K	Avaraart Lake baz=184	11.65	3	P		Pn	23 05 24.5	+0.1
S31K	Pelican	11.70	69	Pn		Pn	23 05 24.1	-1.0
S31K	Pelican baz=267	11.70	69	P		Pn	23 05 24.0	-1.1
G23K	Bananza Creek	11.78	14	Pn		Pn	23 05 24.6	-1.6
M29M	Somme Creek	11.84	46			Pn	23 05 26.6	-0.5
M29M	Somme Creek baz=243	11.84	46	P		Pn	23 05 26.6	-0.5
F21K	Alatna River	11.93	7	Pn		Pn	23 05 28.4	+0.2
I26K	Coal Creek Min	12.00	29			Pn	23 05 28.2	-0.9
I26K	Coal Creek Min baz=222	12.00	29	P		Pn	23 05 28.1	-1.1
N30M	Aishikik Lake	12.03	52	Pn		Pn	23 05 29.2	-0.4
N30M	Aishikik Lake baz=249	12.03	52	P		Pn	23 05 30.2	+0.6
E19K	Redstone River baz=180	12.04	360	P		Pn	23 05 28.9	-0.9
E18K	Tukpahlearik C	12.12	353			Pn	23 05 32.4	+1.5
E18K	Tukpahlearik C baz=171	12.12	353	P		Pn	23 05 30.7	-0.1
G24K	Hadweenzic Riv	12.17	18	Pn		Pn	23 05 29.1	-2.4
O30N	Mendenhall	12.26	56	Pn		Pn	23 05 33.2	+0.4
S32K	Killisnoo	12.57	72	Pn		Pn	23 05 35.7	-1.3
S32K	Killisnoo baz=271	12.57	72	P		Pn	23 05 36.2	-0.9
M30M	Minto, Yukon	12.60	47	Pn		Pn	23 05 36.9	-0.5
I27K	Kandik River baz=224	12.65	30	P		Pn	23 05 37.1	-1.1
WHY	Whitehorse	12.81	57			Pn	23 05 40.2	-0.2
WHY	Whitehorse baz=256	12.81	57	P		Pn	23 05 40.6	+0.2
E20K	Nigu River baz=183	12.85	1	P		Pn	23 05 41.3	+0.4
K29M	Barlow Dome	12.91	42	Pn		Pn	23 05 40.6	-1.1
K29M	Barlow Dome baz=239	12.91	42	P		Pn	23 05 41.6	-0.1
E22K	Anaktuvuk Pass	12.95	9	Pn		Pn	23 05 41.8	-0.4
I28M	Miner Creek baz=228	13.04	33	P		Pn	23 05 42.5	-1.0
D19K	Kuna River baz=178	13.10	358	P		Pn	23 05 43.3	-0.8
E23K	Chandalar baz=199	13.11	12	P		Pn	23 05 43.7	-0.7
H27K	Steamboat Moun baz=223	13.14	29	P		Pn	23 05 42.9	-1.8
G26K	Porcupine Rive baz=216	13.14	23	P		Pn	23 05 43.7	-1.0
C17K	DeLong Mountai baz=165	13.37	350	P		Pn	23 05 48.1	+0.3
C18K	Utukok River baz=170	13.38	353	P		Pn	23 05 47.5	-0.5
C16K	Lisburne Hills baz=160	13.42	347	P		Pn	23 05 49.8	+1.2
M31M	Drury Creek, Y	13.49	51	P		Pn	23 05 50.5	+1.0
	baz=251							
J30M	Hart River baz=238	13.74	40	P		Pn	23 05 53.3	+0.3
N32M	Quiet Lake baz=257	13.78	56	P		P	23 05 58.1	-4.1
C21K	Knifeblade Rid baz=186	13.79	3	P		Pn	23 05 55.2	+1.6
H29M	Whitestone baz=229	14.04	32	P		Pn	23 05 55.8	-1.3
I30M	Mount Dempster	14.08	38			P	23 06 06.2	+0.6
I30M	Mount Dempster baz=236	14.08	38	P		Pn	23 05 56.4	-1.3
B21K	Ikpikpuk River	14.26	3	P		P	23 06 07.3	0.0
R33M	Jennings River	14.54	64	Pn		Pn	23 06 03.5	-0.5
R33M	Jennings River baz=266	14.54	64	P		Pn	23 06 05.3	+1.2
F28M	Old Crow	14.61	27			P	23 06 07.9	-3.4
F28M	Old Crow baz=222	14.61	27	P		Pn	23 06 04.7	-0.1
B20K	Meade River baz=180	14.61	360	P		Pn	23 06 03.6	-1.1
DLBC	Dease Lake comp=N,0.1nm,0.3s,baz=270,slow=10,SNR=2.2	15.00	67	Pn		Pn	23 06 08.6	-1.5
MMPY	Sheldon Lake,	15.00	51	P		P	23 06 12.2	-3.5
MMPY				IAmb		IAmb	23 06 20.4	
	comp=Z,4.1nm,1.1s							
MMPY	Sheldon Lake, baz=254	15.00	51	P		Pn	23 06 10.5	+0.4
B22K	Teshekpuk Lake baz=188	15.03	5	P		Pn	23 06 10.2	-0.2
H31M	Peel River comp=Z,4.8nm,0.9s	15.11	38	IAmb		IAmb	23 06 18.4	
H31M	Peel River baz=238	15.11	38	P		Pn	23 06 10.6	-1.0
G30M	tAoh Zraii Nji	15.19	32			P	23 06 16.5	-1.3
G30M				IAmb		IAmb	23 06 23.1	
	comp=Z,5.6nm,0.8s							
G30M	tAoh Zraii Nji baz=231	15.19	32	P		Pn	23 06 11.9	-0.8
E29M	Blow River baz=224	15.68	27	P		Pn	23 06 16.7	-2.3
F30M	Barrier River baz=230	15.72	31	P		Pn	23 06 18.6	-1.0
G31M	Satah River	15.76	34	Pn		Pn	23 06 18.9	-1.2
G31M	Satah River baz=235	15.76	34	P		Pn	23 06 20.6	+0.6
TGTN	Hyland Airport baz=261	16.13	56	P		Pn	23 06 24.5	-0.3
D28M	Stokes Point baz=220	16.18	24	P		P	23 06 26.7	-2.0
INK	Inuvik	16.83	31	Pn		Pn	23 06 33.0	-0.7
INK				IAmb		IAmb	23 06 39.6	
	comp=Z,5.5nm,0.8s							
INK	Inuvik baz=232	16.83	31	P		Pn	23 06 33.4	-0.2
INK	Inuvik comp=Z,0.3nm,0.3s,baz=267,slow=16,SNR=6.0	16.83	31	Pn		Pn	23 06 32.4	-1.3
INK				LR		LR	23 13 19.5	
	comp=Z,132nm,19.9s,baz=183,slow=38 comp=Z,1.9nm,0.6s							
KOTAN	Kotaneelee Air baz=270	18.07	61	P		P	23 06 50.5	+0.8
C36M	Paulatuk	20.29	34	P		P	23 07 13.1	-0.7
C36M	Paulatuk baz=244	20.29	34	P		P	23 07 13.0	-0.7
A36M	Sachs Harbour	21.29	27	P		P	23 07 24.8	+0.1
A36M	Sachs Harbour baz=236	21.29	27	P		P	23 07 23.8	-0.8
YKA	Yellowknife Ar comp=Z,0.4nm,0.7s,baz=287,slow=9.9,SNR=6.1	22.61	55	P		P	23 07 37.9	-0.9
PETK	Petropavlovsk- comp=Z,4.8nm,1.0s,baz=82,slow=13,SNR=2.3 comp=Z,4.8nm,1.0s	26.17	284	P		P	23 08 11.0	-1.7
PDAR	Pinedale Array comp=Z,0.2nm,0.5s,baz=306,slow=5.4,SNR=2.2 comp=Z,0.2nm,0.5s	32.91	92	P		P	23 09 13.9	+1.0
TXAR	Lajitas Array comp=Z,0.4nm,0.7s,baz=330,slow=4.8,SNR=5.1 comp=Z,0.4nm,0.7s	45.79	102	P		P	23 11 01.4	+1.2
SPITS	Spitsbergen Ar comp=Z,7.4nm,1.1s,baz=343,slow=1.5,SNR=5.8 comp=Z,7.4nm,1.1s	46.56	2	P		P	23 11 06.2	+0.6
ARCES	ARCESS Array B comp=Z,5.9nm,1.1s,baz=21,slow=7.8,SNR=2.8 comp=Z,5.9nm,1.1s	55.30	359	P		P	23 12 12.6	+1.2
SONM	Songino Array comp=Z,1.3nm,0.8s,baz=46,slow=8.3,SNR=4.4 comp=Z,1.3nm,0.8s	55.70	306	P		P	23 12 16.4	+1.6
FINES	FINESS Array B comp=Z,5.4nm,1.0s,baz=46,slow=8.2,SNR=6.1 comp=Z,5.4nm,1.0s	63.41	358	P		P	23 13 06.6	-1.0
NB2	NORSAR Subarra comp=Z,4.4nm,0.9s,baz=353,slow=6.9	63.48	6	P		P	23 13 09.8	+1.7
NOA	NORSAR Array B comp=Z,2.1nm,0.9s,baz=352,slow=6.6,SNR=6.7 comp=Z,2.1nm,0.9s	63.48	6	P		P	23 13 08.9	+0.9
HFS	Hagfors comp=Z,4.9nm,0.9s,baz=46,slow=4.3,SNR=4.9 comp=Z,4.9nm,0.8s	64.52	5	P		P	23 13 16.2	+1.3
KURBB	Kurchatov Arra comp=Z,0.4nm,0.3s,baz=32,slow=6.0,SNR=2.1 comp=Z,0.4nm,0.3s	64.63	324	P		P	23 13 16.2	+0.5
BVAR	Borovoye Array comp=Z,2.6nm,0.8s,baz=34,slow=5.4,SNR=12 comp=Z,2.6nm,0.8s	65.02	331	P		P	23 13 18.5	+0.2
MKAR	Makanchi Array comp=Z,0.4nm,0.7s,baz=44,slow=5.8,SNR=5.4 comp=Z,0.4nm,0.7s	66.57	320	P		P	23 13 28.6	+0.2
AKASG	Malin Array Be comp=Z,0.7nm,0.4s,baz=4.5,slow=5.5,SNR=7.8 comp=Z,0.7nm,0.4s	74.08	356	P		P	23 14 13.6	-0.6
VYHS	Vyhne	76.36	3	*e*P		P	23 14 29.6	+2.2
MODS	Modra-Piesok	76.43	4	*e*P		P	23 14 31.5	+3.7
ESDC	Sonseca Array comp=Z,0.2nm,0.5s,baz=337,slow=6.8,SNR=1.5 comp=Z,0.2nm,0.5s	82.49	21	P		P	23 15 01.7	+0.7
CMAR	Chiang Mai Arr comp=Z,0.5nm,0.3s,baz=15,slow=6.0,SNR=7.4 comp=Z,0.5nm,0.3s	82.66	292	P		P	23 15 02.1	0.0
BRTR	Keskin Array B comp=Z,1.1nm,0.9s,baz=350,slow=5.3,SNR=4.0 comp=Z,1.1nm,0.9s	84.75	352	P		P	23 15 12.4	-0.3
H03N2	Juan Fernandez baz=325,slow=77,SNR=6.5	110.65	119	T		T	01 21 14.4	
H03N1	Juan Fernandez baz=325,slow=77,SNR=8.3	110.67	119	T		T	01 21 15.7	
H03N3	Juan Fernandez baz=325,slow=77,SNR=9.7	110.67	119	T		T	01 21 14.8	
QSPA	South Pole Qui comp=Z,1.7nm,1.0s,baz=71,slow=0.5,SNR=2.7	145.24	180	PKPbc		PKPbc	23 22 12.7	-1.8

*IDC **05** 23:19:39.5±2.2,2.7°N×127.23°E,h0km,mb4.1/8, mbtmp4.1/8,Error ellipse: s-maj=303.1km s-min=16.5km az=67.0*

*NEIC **05** 23:19:48.9±1.4, 1.8°N±0.1°×126.5°E±0.1°,h62km±6km, mb4.5/17,Error ellipse: s-maj=20.6km s-min=9.3km az=222.0*

*DJA **05** 23:19:49.4±0.4,2.1°N±3.3°×12.6°E±.°,h57km±18km,M4.2/11, mb4.4/2,MLv4.0/11*

ISC 05 23:19:47.4±0.6,1.82N±0.05×126.48E±0.05,h47km,n39, σ1s90/45,mb4.3/18,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
TNTI	Ternate	1.37	139	Pn	Pn	23 20 11.4		+1.3
TNTI	Ternate	1.37	139	P	Pn	23 20 12.4		+2.3
TNTI				S	Sn	23 20 30.6		+3.5
SGSI	Sangihe	2.08	333	P	Pn	23 20 22.0		+2.2
SGSI				S	Sn	23 20 46.5		+1.9
LBMI	Labuha	2.65	157	P	Pn	23 20 30.6		+2.9
LBMI				S	Sn	23 21 02.9		+4.3
KMSI	Cibinong	2.78	244	P	Pn	23 20 31.8		+2.3
KMSI				S	Sn	23 21 02.9		+1.0
GTOI	Gorontalo	3.66	251	P	Pn	23 20 43.6		+2.1
GTOI				S	Sn	23 21 25.9		+2.5
SANI	Sanana	3.88	187	P	Pn	23 20 45.3		+0.8
SANI				S	Sn	23 21 28.7		-0.1
LUWI	Luwuk	4.67	233	P	Pn	23 20 55.7		+0.3
LUWI				S	Sn	23 21 50.0		+1.7
MRSI	Marisa	4.73	254	P	Pn	23 20 58.3		+2.1
TOLI2	Tolitoli	5.74	263		Pn	23 21 11.1		+1.1
MPSI	Mapaga	6.74	257	P	Pn	23 21 24.8		+1.0
SBUM	Sibu	14.26	273	P	P	23 23 13.3		+0.5
MTN	Manton Dam	15.29	163	Pn	Pn	23 23 19.8		-0.4
MTN				IAmb	IAmb	23 23 28.4		
	comp=Z,34nm,1.4s							
KNRA	Kununurra	17.53	173		Pn	23 23 48.3		-0.2
FITZ	Fitzroy Crossi	19.81	182	P	P	23 24 13.7		-0.5
WB0	Warramunga Arr	22.82	160	P	P	23 24 46.2		-0.4
WB0				IAmb	IAmb	23 24 53.4		
	comp=Z,21nm,1.4s							
WRAB	Tennant Creek	22.96	161	P	P	23 24 48.0		0.0
WRA	Warramunga Arr	22.96	161	P	P	23 24 46.6		-1.5
WRA	Warramunga Arr comp=Z,4.0nm,0.4s,baz=339,slow=11,SNR=49	22.96	161	P	P	23 24 47.4		-0.7
	comp=Z,4.0nm,0.4s							
WB2	Warramunga Arr	22.97	161	P	P	23 24 47.9		-0.1
WB2				IAmb	IAmb	23 24 52.8		
	comp=Z,16nm,1.4s							
WR0	Warramunga Arr	23.05	160	P	P	23 24 48.3		-0.5
WR0				IAmb	IAmb	23 25 01.2		
	comp=Z,17nm,1.4s							
ASAR	Alice Springs comp=Z,0.9nm,0.4s,baz=346,slow=12,SNR=26	26.35	165	P	P	23 25 19.5		+0.2
	comp=Z,0.9nm,0.4s							
GYA	Guiyang	31.02	324	*e*P	P	23 26 02.3		+1.3
GYA				pmax	pmax			
	comp=Z,8.0nm,0.8s							
BBOO	Buckleboo	35.62	166	P	P	23 26 40.5		-0.3
BBOO				IAmb	IAmb	23 27 22.0		
	comp=Z,25nm,1.4s							
STKA	Stephens Creek comp=Z,1.3nm,0.5s,baz=338,slow=13,SNR=3.4	36.46	158	P	P	23 26 48.1		+0.2
	comp=Z,1.3nm,0.5s							
HHC	Hu-ho-hao-te	41.13	343	*e*P	P	23 27 31.3		+4.2
HHC				pmax	pmax			
	comp=Z,5.0nm,0.6s							
HHC				pmax	pmax			
	comp=Z,76nm,4.6s							
MK31	Makanchi Array	58.98	326	P	P	23 29 41.4		-0.9
MKAR	Makanchi Array comp=Z,1.2nm,0.4s,baz=121,slow=6.9,SNR=34	58.98	326	P	P	23 29 41.4		-0.9
	comp=Z,1.2nm,0.4s							
MLZ	Mavora Lakes	59.73	147	P	P	23 29 43.8		-3.6
ZALV	Zalesovo Beam comp=Z,0.3nm,0.3s,baz=127,slow=8.4,SNR=2.5	62.17	334	P	P	23 30 02.4		-1.4
	comp=Z,0.3nm,0.3s							
KURBB	Kurchatov Arra comp=Z,1.2nm,0.4s,baz=128,slow=6.2,SNR=11	63.20	328	P	P	23 30 10.1		-0.7
	comp=Z,1.2nm,0.4s							
KURK	Kurchatov	63.21	328	P	P	23 30 10.2		-0.6
KURK				IAmb	IAmb	23 30 11.2		
	comp=Z,3.4nm,0.5s							
BVAR	Borovoye Array comp=Z,0.8nm,0.5s,baz=104,slow=6.3,SNR=4.2	68.78	327	P	P	23 30 45.1		-1.4
	comp=Z,0.8nm,0.5s							
VNDA	Vanda	81.58	173	P	P	23 31 59.7		-0.1
VNDA				IAmb	IAmb	23 32 38.1		
	comp=Z,3.6nm,1.1s							
GHO	Glory Hole Cre	85.84	28	P	P	23 32 18.4		-3.5
SML	Sawmill	86.13	28	P	P	23 32 20.2		-3.1
G24K	Hadweenzic Riv	86.77	23		P	23 32 26.0		-0.3
G24K				IAmb	IAmb	23 32 28.0		
	comp=Z,8.3nm,1.5s							
G31M	Satah River	91.97	23	P	P	23 32 56.6		+5.8
G31M				IAmb	IAmb	23 33 37.7		
	comp=Z,6.3nm,1.4s							
FINES	FINESS Array B comp=Z,3.6nm,1.1s,baz=62,slow=4.5,SNR=3.7	93.38	332	P	P	23 32 55.0		-2.4
	comp=Z,3.6nm,1.1s							

*SJA **05** 23:22:41.2±0.8,29.95S×71.77W,h14km±3km, ML3.5, MW3.4*

*GUC **05** 23:22:44.1±0.8,30.06S×71.60W,h40km±2km, ML3.2*

ISC 05 23:22:40.7±1.4,29.98S±0.02×71.78W±0.04,h6km±10km, n36,σ2s14/70,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
CO05	La Serena	0.47	83	*e*P	Pn	23 22 52.6		-1.4
CO05				*i* S	Sb	23 22 58.3		-0.4
CO05				IAML		23 22 58.4		
	comp=N,3µm,0.2s							
CO06	Fray Jorge	0.70	170	*e*P	Pb	23 22 56.1		+0.7
CO06				*i* S	Sg	23 23 04.7		+1.3
CO06				IAML		23 23 07.4		
	comp=N,3µm,0.2s							
GO04	Tololo Observa	0.87	103	*e*P	Pb	23 22 58.1		-0.2
GO04				*e*S	Sg	23 23 08.2		-0.5
GO04				IAML		23 23 09.4		
	comp=Z,3µm,0.3s							
GO04	Tololo Observa	0.87	103	*e*P	Pg	23 22 58.0		+0.6
GO04				*i* S	Sg	23 23 08.2		-0.5
GO04				IAML		23 23 10.0		
	comp=E,3µm,0.3s							
CO03	El Pedregal	1.27	133	*e*P	Pn	23 23 04.1		-1.0
CO03				*e*S	Sb	23 23 19.8		-2.0
CO03				IAML		23 23 20.4		
	comp=Z,1µm,0.3s							
CO03	El Pedregal	1.27	133	*e*P	Pn	23 23 04.0		-1.2
CO03				*i* S	Sb	23 23 18.5		-3.3
CO03				IAML		23 23 20.7		
	comp=E,2µm,0.3s							
LCO	Las Campanas	1.34	44	*e*P	Pg	23 23 06.4		-0.1
LCO				*e*S	Sg	23 23 24.8		+0.8
LCO				*e*S	Sn	23 23 25.1		+0.4
LCO				*e*S	Sn	23 23 25.6		+0.9
LCO	Las Campanas	1.34	44	*e*P	Pg	23 23 07.0		+0.4
LCO				*i* S	Sg	23 23 24.2		+0.2
CO02	Combarbal	1.39	151	*e*P	Pn	23 23 06.6		-0.2
CO02				*i* S	Sn	23 23 22.9		-2.7
CO01	Juntas del Tor	1.46	90	*e*P	Pn	23 23 07.5		-0.4
CO01				*i* S	Sn	23 23 24.2		-3.2
CO01				IAML		23 23 28.8		
	comp=N,231nm,0.2s							
AC05	El Transito	1.74	49	*e*P	Pb	23 23 13.0		-0.1
AC05				*e*S	Sg	23 23 36.2		-0.4
AC05	El Transito	1.74	49	*e*P	Pb	23 23 12.9		-0.1
AC05				*i* S	Sb	23 23 34.0		-1.2
AC04	Llanos de Chal	1.87	19	*e*P	Pb	23 23 14.7		-0.6
AC04				*e*S	Sg	23 23 44.4		+3.5
AC04				IAML		23 23 46.1		
	comp=Z,223nm,0.5s							
AC04	Llanos de Chal	1.87	19	*e*P	Pb	23 23 14.8		-0.6
AC04				*i* S	Sb	23 23 37.0		-2.0
AROD	Rodeo	2.00	96	*e*P	Pb	23 23 17.1		-0.7
AROD				*e*S	Sb	23 23 43.8		+0.6
ACDV	Cuesta del Vie	2.31	95	*e*P	Pb	23 23 22.6		-0.3
ACDV				*e*S	Sb	23 23 50.1		-1.7
ACCO	Cerro Coronel	2.42	105	*e*P	Pb	23 23 23.9		-1.0
ACCO				*e*S	Sb	23 23 56.3		+1.2
DOCA	Reserva Natura	2.52	113	*e*P	Pb	23 23 24.8		-1.8
DOCA				*e*S	Sb	23 23 58.5		+0.5
GO03	Copiap	2.73	30	*e*P	Pb	23 23 27.2		-2.9
GO03				*e*S	Sg	23 24 12.0		+3.4
GO03				IAML		23 24 12.2		
	comp=Z,84nm,0.4s							
RTLS	Leoncito	2.80	131	*e*P	Pb	23 23 29.0		-2.3
RTLS				*e*S	Sb	23 24 05.6		-0.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MT01	**Popeta**	**3.90**	**174**	*eP*	**Pn**	**23 23 42.0**	**+0.8**
MT01				IAML		23 24 48.2	
	comp=Z,60nm,0.6s						
AC02	**Maricunga**	**3.91**	**37**	*eP*	**Pn**	**23 23 44.0**	**+2.3**
AC02				*eS*	**Sg**	**23 24 42.7**	**-3.5**
AC02				IAML		23 24 50.2	
	comp=Z,144nm,0.8s						
AC01	**Pan de Azucar**	**3.96**	**16**	*eP*	**Pn**	**23 23 42.1**	**+0.1**
AC01				*eP*	**Pn**	**23 23 42.2**	**+0.1**
AC01				*eS*	**Sg**	**23 24 44.6**	**-3.2**
AC01				IAML		23 25 03.4	
	comp=Z,32nm,1.5s						
ACLC	**CERRO LA CRUZ**	**4.23**	**84**	*eP*	**Pn**	**23 23 48.0**	**+2.1**
ACLC				*eS*	**Sn**	**23 24 39.6**	**+3.8**
ACLC				IAML		23 24 49.4	
	comp=Z,180nm,0.4s						
APLL	**PUNTA DE LOS L**	**4.56**	**97**	*eP*	**Pn**	**23 23 52.2**	**+1.9**
APLL				*eS*	**Sb**	**23 24 51.3**	**-5.3**
ACHE	**Chepes**	**4.56**	**106**	*eP*	**Pn**	**23 23 51.9**	**+1.4**
ACHE				*eS*	**Sn**	**23 24 49.1**	**+5.1**
BO02	**Sierra Bellavi**	**4.87**	**170**	*eP*	**Pn**	**23 23 56.4**	**+1.7**
BO02				IAML		23 25 23.3	
	comp=Z,39nm,0.5s						
GO02	**Mina Guanaco**	**5.18**	**23**	*eP*	**Pn**	**23 23 59.7**	**+0.7**
GO02				*eS*	**Sn**	**23 25 01.3**	**+2.0**

*IDC **05** 23:23:01.0±1.9,6˚.05S×142˚.60E,h0km,mb3.8/5, mbtmp3.8/6,ML3.7/1,MS3.5/7,Error ellipse: s-maj=74.2km s-min=35.0km az=102.0*

ISC 05 23:23:01.2±1.1,6°.3S±0°.1×142°.7E±0°.1,h10km,n13, σ1§10/8,mb3.7/5,MS3.4/3,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.36**	**125**	Sn	**Sn**	**23 25 23.1**	**-0.1**
	3.1nm,0.3s,baz=256,slow=14,SNR=2.4						
PMG				LR	LR	23 27 20.8	
	comp=Z,138nm,18.4s,baz=265,slow=46						
CTA	**Charters Tower**	**14.13**	**166**	Lg	Lg	23 30 34.3	
	0.1nm,0.3s,baz=79,slow=18,SNR=1.2						
CTA				LR	LR	23 32 01.2	
	comp=Z,96nm,18.1s,baz=312,slow=38						
WRA	**Warramunga Arr**	**15.83**	**210**	Pn	**Pn**	**23 26 42.9**	**-1.5**
	0.1nm,0.3s,baz=26,slow=14,SNR=3.3						
WRA				Lg	Lg	23 31 24.3	
	0.1nm,0.3s,baz=25,slow=28,SNR=2.5						
HNR	**Honiara**	**17.33**	**101**	LR	LR	23 33 55.2	
	comp=Z,858nm,19.9s,baz=320,slow=37						
ASAR	**Alice Springs**	**19.25**	**205**	P	**Pn**	**23 27 28.6**	**+1.7**
	0.3nm,0.3s,baz=27,slow=11,SNR=21						
ASAR				Lg	Lg	23 33 12.8	
	0.1nm,0.3s,baz=22,slow=29,SNR=3.1						
ASAR				LR	LR	23 35 37.6	
	comp=Z,309nm,18.4s,baz=28,slow=39						
	2.8nm,0.7s						
STKA	**Stephens Creek**	**25.47**	**182**	LR	LR	23 39 51.9	
	comp=Z,112nm,18.6s,baz=21,slow=39						
LEM	**Lembang**	**34.89**	**267**	LR	LR	23 47 10.2	
	comp=Z,29nm,19.7s,baz=16,slow=42						
RPZ	**Rata Peaks**	**44.80**	**151**	LR	LR	23 51 51.4	
	comp=Z,40nm,18.1s,baz=218,slow=38						
MKAR	**Makanchi Array**	**75.07**	**322**	P	**P**	**23 34 43.0**	**-0.3**
	0.2nm,0.7s,baz=102,slow=6.1,SNR=2.9						
	0.2nm,0.7s						
ZALV	**Zalesovo Beam**	**77.04**	**329**	P	**P**	**23 34 54.8**	**+0.4**
	0.3nm,0.4s,baz=119,slow=5.4,SNR=2.0						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**78.96**	**324**	P	**P**	**23 35 05.3**	**+0.1**
	0.2nm,0.3s,baz=111,slow=5.1,SNR=1.7						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**84.53**	**325**	P	**P**	**23 35 35.1**	**+0.6**
	1.4nm,0.9s,baz=117,slow=5.2,SNR=4.0						
	1.4nm,0.9s						
ILAR	**Eielson Array**	**87.44**	**24**	P	**P**	**23 35 48.3**	**-0.3**
	0.7nm,0.7s,baz=252,slow=5.2,SNR=5.0						
	0.7nm,0.7s						

*NEIC **05** 23:29:55.7±1.5,56˚.24N±0˚.08×148˚.6W±0˚.1,h22km±9km, ML3.6/54,ML3.3(AEIC),Error ellipse: s-maj=11.8km s-min=8.1km az=165.0*

*AEIC **05** 23:29:58.9±1.4,56˚.23N±0˚.08×148˚.7W±0˚.1,h12km±7km, Error ellipse: s-maj=12.7km s-min=8.4km az=161.0*

ISC 05 23:29:53.3±1.6,56°.26N±0°.09×148°.61W±0°.06,h10km, n225,σ1§40/229,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.66**	**307**		**Pn**	**23 30 37.0**	**+0.8**
KDAK	**Kodiak Island**	**2.66**	**307**		**Sn**	**23 31 06.9**	**-1.5**
OHAK	**Old Harbor**	**2.75**	**293**		**Pn**	**23 30 37.6**	**+0.2**
OHAK					**Sn**	**23 31 08.8**	**-1.9**
OHAK	**Old Harbor**	**2.75**	**293**	P	**Pn**	**23 30 37.7**	**+0.2**
	baz=109						
OHAK				S	**Sn**	**23 31 08.6**	**-2.1**
	baz=109						
SII	**Sitkinak Islan**	**3.11**	**278**	Pn	**Pn**	**23 30 43.7**	**+1.2**
SII					**Sn**	**23 31 17.8**	**-1.9**
SII				IAML		23 31 18.5	
	comp=E,165nm,1.3s						
SII				IAML		23 31 24.3	
	comp=N,187nm,0.9s						
SII	**Sitkinak Islan**	**3.11**	**278**	S	**Sn**	**23 31 16.9**	**-2.7**
	baz=94						
Q23K	**Middleton Isla**	**3.40**	**20**		**Pn**	**23 30 46.4**	**+0.1**
Q23K				IAML		23 31 27.5	
	comp=E,112nm,1.2s						
Q23K				IAML		23 31 32.7	
	comp=N,93nm,0.9s						
Q23K	**Middleton Isla**	**3.40**	**20**	P	**Pn**	**23 30 46.4**	**+0.1**
	baz=202						
MID	**Middleton Isla**	**3.40**	**20**	Pn	**Pn**	**23 30 46.5**	**+0.1**
MID				IAML		23 31 32.2	
	comp=N,105nm,1.4s						
MID				IAML		23 31 37.1	
	comp=E,107nm,1.3s						
CNPM	**China Poot**	**3.56**	**338**		**Pn**	**23 30 49.8**	**+1.1**
CNPM	**China Poot**	**3.56**	**338**		**Sn**	**23 31 30.4**	**-0.4**
BRSE	**Bradley Lake S**	**3.67**	**343**		**Pn**	**23 30 51.0**	**+0.8**
BRSE					**Sn**	**23 31 32.6**	**-0.9**
BRSE	**Bradley Lake S**	**3.67**	**343**	P	**Pn**	**23 30 50.9**	**+0.8**
	baz=161						
BRSE				S	**Sn**	**23 31 32.6**	**-0.9**
	baz=161						
BRLK	**Bradley Lake**	**3.72**	**342**		**Pn**	**23 30 51.7**	**+0.9**
P23K	**Montague Islan**	**3.81**	**9**		**Pn**	**23 30 52.6**	**+0.7**
P23K	**Montague Islan**	**3.81**	**9**	P	**Pn**	**23 30 52.6**	**+0.7**
	baz=190						
SEW	**Seward**	**3.88**	**354**		**Pn**	**23 30 53.8**	**+0.8**
SEW	**Seward**	**3.88**	**354**		**Sn**	**23 31 35.9**	**-2.7**
SEW	**Seward**	**3.88**	**354**	P	**Pn**	**23 30 53.1**	**+0.1**
	baz=173						
SEW				S	**Sn**	**23 31 35.9**	**-2.7**
	baz=173						
CHIR	**Chirikof Islan**	**3.96**	**267**	Pn	**Pn**	**23 30 55.3**	**+1.2**
CHIR				IAML		23 31 48.5	
	comp=N,55nm,1.4s						
CHIR				IAML		23 31 52.3	
	comp=E,61nm,1.5s						
KAKN	**Katmai Knife C**	**4.05**	**303**		**Pn**	**23 30 57.2**	**+1.8**
AUL	**Augustine Lava**	**4.06**	**323**		**Pn**	**23 30 57.9**	**+2.5**
KAHC	**Katmai Hardscr**	**4.21**	**307**		**Pn**	**23 30 58.9**	**+1.4**
KAHC	**Katmai Hardscr**	**4.21**	**307**	P	**Pn**	**23 30 58.9**	**+1.4**
	baz=122						
O22K	**Cooper Landing**	**4.28**	**353**		**Pn**	**23 30 59.2**	**+0.8**
HIN	**Hinchinbrook I**	**4.30**	**14**		**Pn**	**23 30 59.9**	**+1.1**
HIN	**Hinchinbrook I**	**4.30**	**14**		**Sn**	**23 31 46.4**	**-2.4**
KAIM	**Kayak Island**	**4.30**	**29**		**Pn**	**23 30 59.5**	**+0.8**
KAIM				IAML		23 32 05.3	
	comp=E,83nm,1.5s						
KAIM	**Kayak Island**	**4.30**	**29**	P	**Pn**	**23 30 59.3**	**+0.6**
	baz=213						
SLKM	**Skilak Lake**	**4.35**	**349**		**Sn**	**23 31 48.4**	**-1.7**
O20K	**Slope Mountain**	**4.38**	**333**		**Pn**	**23 31 00.9**	**+1.0**
O20K	**Slope Mountain**	**4.38**	**333**	P	**Pn**	**23 31 00.9**	**+1.0**
	baz=149						
CNTC	**Contact Creek**	**4.43**	**300**		**Pn**	**23 31 02.4**	**+1.7**
Q17K	**Contact Creek**	**4.43**	**300**	P	**Pn**	**23 31 02.4**	**+1.7**
	baz=114						
ILSW	**Iliamna Southw**	**4.44**	**329**		**Pn**	**23 31 01.6**	**+0.8**
ILSW					**Sn**	**23 31 53.0**	**+0.4**
ILSW	**Iliamna Southw**	**4.44**	**329**	IAML		23 31 56.8	
	comp=N,37nm,0.8s						
ILSW				IAML		23 32 17.0	
	comp=E,28nm,0.9s						
EYAK	**Cordova Ski Ar**	**4.56**	**18**		**Pn**	**23 31 03.0**	**+0.7**
EYAK					**Sn**	**23 31 53.0**	**-2.2**
EYAK	**Cordova Ski Ar**	**4.56**	**18**	P	**Pn**	**23 31 03.0**	**+0.7**
	baz=200						
SUCK	**Suckling Hills**	**4.60**	**32**		**Pn**	**23 31 03.8**	**+0.9**
SUCK					**Sn**	**23 31 54.7**	**-1.6**
SUCK	**Suckling Hills**	**4.60**	**32**	IAML		23 32 00.7	
	comp=N,59nm,1.0s						
SUCK				IAML		23 32 19.1	
	comp=E,54nm,1.3s						
RAGM	**Ragged Mountai**	**4.63**	**25**		**Pn**	**23 31 04.2**	**+0.8**
NICHA	**Nichawak Mount**	**4.68**	**30**		**Pn**	**23 31 05.2**	**+1.2**
HMT	**Hamilton**	**4.69**	**27**		**Pn**	**23 31 05.4**	**+1.3**
P18K	**Big Mountain,**	**4.73**	**314**		**Pn**	**23 31 05.5**	**+0.8**
P18K	**Big Mountain,**	**4.73**	**314**	P	**Pn**	**23 31 05.2**	**+0.5**
	baz=129						
RDSO	**Redoubt South**	**4.74**	**334**		**Pn**	**23 31 05.3**	**+0.4**
RSO	**Redoubt South**	**4.75**	**334**		**Pn**	**23 31 05.7**	**+0.6**
GOAT	**Goat Mountain**	**4.79**	**24**		**Pn**	**23 31 06.6**	**+1.1**
RC01	**Rabbit Creek A**	**4.88**	**354**		**Pn**	**23 31 08.3**	**+1.6**
RC01				IAML		23 32 05.9	
	comp=N,32nm,0.6s						
RC01				IAML		23 32 09.9	
	comp=E,50nm,0.8s						
BERG	**Berg Lake**	**4.89**	**30**		**Pn**	**23 31 07.5**	**+0.7**
BERG	**Berg Lake**	**4.89**	**30**	IAML		23 32 13.1	
	comp=N,67nm,0.8s						
GRIN	**Grindle Hills**	**4.91**	**32**		**Pn**	**23 31 08.2**	**+1.1**
O19K	**Port Alsworth**	**4.97**	**325**		**Pn**	**23 31 09.2**	**+1.4**
O19K				IAML		23 32 10.2	
	comp=N,60nm,0.5s						
FIS	**Fire Island**	**4.97**	**351**		**Pn**	**23 31 09.6**	**+1.6**
FIS				IAML		23 32 09.2	
	comp=E,62nm,0.8s						
FIS				IAML		23 32 15.4	
	comp=N,55nm,1.0s						
SNH	**Sunshine Point**	**4.98**	**35**	Pn	**Pn**	**23 31 09.2**	**+1.1**
SNH				IAML		23 32 10.8	
	comp=E,45nm,1.0s						
SNH				IAML		23 32 13.2	
	comp=N,36nm,1.3s						
O18K	**Koktuh Hills**	**5.03**	**319**		**Pn**	**23 31 09.6**	**+0.8**
O18K	**Koktuh Hills**	**5.03**	**319**	P	**Pn**	**23 31 09.5**	**+0.8**
	baz=133						
P17K	**Kvichak River**	**5.13**	**308**		**Pn**	**23 31 11.3**	**+1.3**
P17K	**Kvichak River**	**5.13**	**308**	P	**Pn**	**23 31 11.3**	**+1.3**
	baz=122						
BMRM	**Bremner River**	**5.17**	**22**		**Pn**	**23 31 11.7**	**+1.0**
BMRM	**Bremner River**	**5.17**	**22**	P	**Pn**	**23 31 11.6**	**+1.0**
	baz=206						
KNK	**Knik Glacier**	**5.17**	**1**	Pn	**Pn**	**23 31 11.7**	**+1.0**
KNK				IAML		23 32 19.5	
	comp=E,22nm,0.8s						
KNK				IAML		23 32 21.2	
	comp=N,22nm,0.8s						
WAX	**Waxell Ridge**	**5.18**	**33**		**Pn**	**23 31 11.8**	**+0.9**
BARK	**Barkley Ridge**	**5.26**	**35**		**Pn**	**23 31 12.8**	**+0.8**
MESA	**MESA**	**5.28**	**39**		**Pn**	**23 31 13.2**	**+0.8**
MESA				IAML		23 32 27.9	
	comp=E,40nm,1.4s						
MESA				IAML		23 32 30.9	
	comp=N,38nm,1.2s						
MESA	**MESA**	**5.28**	**39**	P	**Pn**	**23 31 13.1**	**+0.8**
	baz=224						
N20K	**Mount Spurr**	**5.30**	**341**	P	**Pn**	**23 31 13.2**	**+0.7**
	baz=158						
SUA	**Susitna One**	**5.34**	**349**		**Pn**	**23 31 13.9**	**+0.8**
SUA				IAML		23 32 23.1	
	comp=N,15nm,0.6s						
SUA	**Susitna One**	**5.34**	**349**	P	**Pn**	**23 31 13.9**	**+0.8**
	baz=167						
CRQM	**Cirque**	**5.34**	**30**		**Pn**	**23 31 14.1**	**+0.8**
CRQM	**Cirque**	**5.34**	**30**	IAML		23 32 16.2	
	comp=E,37nm,0.7s						
CRQM				IAML		23 32 24.4	
	comp=N,31nm,0.9s						
CRQE	**Cirque**	**5.35**	**30**	P	**Pn**	**23 31 14.1**	**+0.7**
	baz=215						
KLU	**Klutina**	**5.43**	**14**	P	**Pn**	**23 31 15.7**	**+1.4**
	baz=196						
TGL	**Tana Glacier**	**5.43**	**31**		**Pn**	**23 31 15.2**	**+0.9**
BAGL	**Bagley Icefiel**	**5.46**	**36**		**Pn**	**23 31 15.3**	**+0.8**
ISLE	**Juniper Island**	**5.46**	**34**		**Pn**	**23 31 15.6**	**+0.8**
CHGN	**Chignik**	**5.46**	**275**	Pn	**Pn**	**23 31 16.0**	**+1.3**
N19K	**Bonanza Creek**	**5.51**	**328**		**Pn**	**23 31 16.0**	**+0.6**
N19K	**Bonanza Creek**	**5.51**	**328**	P	**Pn**	**23 31 16.0**	**+0.6**
	baz=144						
STLK	**Strandline Lak**	**5.52**	**344**		**Pn**	**23 31 16.3**	**+0.8**
GHO	**Glory Hole Cre**	**5.53**	**358**		**Pn**	**23 31 17.6**	**+1.8**
SPNN	**North Nagishla**	**5.55**	**339**		**Pn**	**23 31 17.4**	**+1.4**
SML	**Sawmill**	**5.57**	**1**		**Pn**	**23 31 17.7**	**+1.5**
SML	**Sawmill**	**5.57**	**1**	P	**Pn**	**23 31 18.0**	**+1.8**
	baz=182						
SCM	**Sheep Creek Mo**	**5.63**	**6**		**Pn**	**23 31 19.4**	**+2.3**
VRDI	**Verde Repeater**	**5.66**	**26**	Pn	**Pn**	**23 31 18.6**	**+1.0**
SAMH	**Samovar Hills**	**5.67**	**44**		**Pn**	**23 31 19.2**	**+1.5**
O17K	**Koliganek Bris**	**5.72**	**312**		**Pn**	**23 31 19.6**	**+1.3**
O17K	**Koliganek Bris**	**5.72**	**312**	P	**Pn**	**23 31 19.6**	**+1.3**
	baz=124						
N25K	**Chitina, Valde**	**5.75**	**19**		**Pn**	**23 31 20.2**	**+1.4**
N25K	**Chitina, Valde**	**5.75**	**19**	P	**Pn**	**23 31 20.2**	**+1.4**
	baz=203						
GLB	**Gilahina Butte**	**5.76**	**24**		**Pn**	**23 31 19.9**	**+1.0**
N18K	**Kilae Creek**	**5.85**	**322**	Pn	**Pn**	**23 31 20.6**	**+0.5**
N18K	**Kilae Creek**	**5.85**	**322**	P	**Pn**	**23 31 20.5**	**+0.5**
	baz=136						
PCA	**Pinnacle**	**5.86**	**45**		**Pn**	**23 31 21.1**	**+0.9**
PINM	**Pinnacle**	**5.86**	**46**	P	**Pn**	**23 31 21.2**	**+1.0**
	baz=232						
MCARA	**McCarthy VSAT**	**5.90**	**27**		**Pn**	**23 31 21.9**	**+1.1**
MCARA	**McCarthy VSAT**	**5.90**	**27**	P	**Pn**	**23 31 21.8**	**+1.1**
	baz=212						
SKT	**Skwentna**	**5.93**	**347**		**Pn**	**23 31 21.4**	**+0.2**
SKT	**Skwentna**	**5.93**	**347**	P	**Pn**	**23 31 22.2**	**+1.1**
	baz=164						
PNL	**Peninsula**	**5.98**	**51**		**Pn**	**23 31 22.9**	**+1.1**
PNL	**Peninsula**	**5.98**	**51**	P	**Pn**	**23 31 22.9**	**+1.1**
	baz=239						
M24K	**Tolsona, Glenn**	**6.00**	**11**		**Pn**	**23 31 24.6**	**+2.5**
M24K	**Tolsona, Glenn**	**6.00**	**11**	P	**Pn**	**23 31 24.4**	**+2.3**
	baz=193						
BARN	**Barnard Glacie**	**6.03**	**34**		**Pn**	**23 31 23.9**	**+1.3**
BCPM	**Bancas Point**	**6.03**	**48**		**Pn**	**23 31 24.0**	**+1.5**
CTG	**Chitna Glacier**	**6.06**	**36**	P	**Pn**	**23 31 23.9**	**+0.9**
	baz=222						
O16K	**Kokwok River B**	**6.06**	**307**		**Pn**	**23 31 24.3**	**+1.5**
O16K	**Kokwok River B**	**6.06**	**307**	P	**Pn**	**23 31 24.3**	**+1.5**
	baz=120						
CTGM	**Chitina Glacie**	**6.06**	**36**		**Pn**	**23 31 24.0**	**+1.0**
SVW2	**Sparrevohn**	**6.06**	**326**	Pn	**Pn**	**23 31 23.5**	**+0.6**
LOGN	**Logan Glacier**	**6.07**	**38**		**Pn**	**23 31 23.9**	**+0.8**
M20K	**Styx River**	**6.10**	**339**		**Pn**	**23 31 24.4**	**+0.9**
M20K	**Styx River**	**6.10**	**339**	P	**Pn**	**23 31 24.5**	**+0.9**
	baz=156						
N17K	**Nushagak Hills**	**6.21**	**317**		**Pn**	**23 31 25.9**	**+0.9**
N17K	**Nushagak Hills**	**6.21**	**317**	P	**Pn**	**23 31 26.0**	**+0.9**
	baz=130						
M19K	**Big River Lodg**	**6.40**	**335**		**Pn**	**23 31 27.9**	**+0.4**
M19K	**Big River Lodg**	**6.40**	**335**	P	**Pn**	**23 31 27.9**	**+0.4**
	baz=150						
CNBA	**Chernabura Isl**	**6.40**	**262**	Pn	**Pn**	**23 31 27.2**	**-0.3**
HARP	**HAARP**	**6.41**	**15**	P	**Pn**	**23 31 30.4**	**+2.8**
	baz=197						
M18K	**Stony River**	**6.44**	**328**		**Pn**	**23 31 28.3**	**+0.2**
M18K	**Stony River**	**6.44**	**328**	P	**Pn**	**23 31 28.3**	**+0.2**
	baz=141						
O29M	**Mount Kennedy**	**6.66**	**48**		**Pn**	**23 31 32.2**	**+0.9**
O29M	**Mount Kennedy**	**6.66**	**48**	P	**Pn**	**23 31 32.2**	**+0.9**
	baz=237						
O15K	**Ungalikthiuk R**	**6.68**	**301**		**Pn**	**23 31 33.3**	**+1.9**
O15K	**Ungalikthiuk R**	**6.68**	**301**	P	**Pn**	**23 31 33.3**	**+1.9**
	baz=111						
P29M	**Windy Craggy**	**6.70**	**55**		**Pn**	**23 31 31.7**	**0.0**
P29M	**Windy Craggy**	**6.70**	**55**	P	**Pn**	**23 31 31.7**	**0.0**
	baz=244						
L19K	**White Mountain**	**6.75**	**334**		**Pn**	**23 31 32.5**	**+0.2**
L19K	**White Mountain**	**6.75**	**334**	P	**Pn**	**23 31 32.5**	**+0.2**
	baz=149						
SDPT	**Sand Point**	**6.75**	**267**	Pn	**Pn**	**23 31 32.7**	**+0.3**
L20K	**Farewell, AK**	**6.79**	**339**		**Pn**	**23 31 33.7**	**+0.7**
L20K	**Farewell, AK**	**6.79**	**339**	P	**Pn**	**23 31 33.7**	**+0.7**
	baz=154						
N16K	**Nishlik Lake**	**6.81**	**313**		**Pn**	**23 31 34.4**	**+1.2**
N16K	**Nishlik Lake**	**6.81**	**313**	P	**Pn**	**23 31 34.4**	**+1.2**
	baz=124						
YUK8	**Steele Glacier**	**6.82**	**39**	P	**Pn**	**23 31 35.8**	**+2.2**
	baz=226						
YUK2	**White River**	**6.84**	**33**		**Pn**	**23 31 35.6**	**+1.9**
DHY	**Denali Highway**	**6.87**	**5**	Pn	**Pn**	**23 31 36.2**	**+2.1**
DHY	**Denali Highway**	**6.87**	**5**	P	**Pn**	**23 31 35.8**	**+1.7**
	baz=186						
M17K	**Holitna River**	**6.89**	**322**		**Pn**	**23 31 35.6**	**+1.3**
M17K	**Holitna River**	**6.89**	**322**	P	**Pn**	**23 31 35.2**	**+0.9**
	baz=135						
PPLA	**Purkeypile**	**6.90**	**346**	Pn	**Pn**	**23 31 37.2**	**+2.6**
PAX	**Paxson**	**6.92**	**12**	Pn	**Pn**	**23 31 37.1**	**+2.3**
YUK3	**Moose Creek**	**6.95**	**34**		**Pn**	**23 31 37.0**	**+1.7**
YUK3	**Moose Creek**	**6.95**	**34**	P	**Pn**	**23 31 36.9**	**+1.7**
	baz=221						
S31K	**Pelican**	**6.96**	**71**	Pn	**Pn**	**23 31 34.4**	**-0.8**
S31K	**Pelican**	**6.96**	**71**	P	**Pn**	**23 31 34.1**	**-1.1**
	baz=261						
M27K	**Edge Creek, AK**	**7.02**	**27**	Pn	**Pn**	**23 31 37.3**	**+1.1**
M27K	**Edge Creek, AK**	**7.02**	**27**	P	**Pn**	**23 31 37.0**	**+0.9**
	baz=212						
YUK6	**Outpost Mounta**	**7.12**	**44**	P	**Pn**	**23 31 39.7**	**+2.1**
	baz=233						
MENT	**Mentasta**	**7.14**	**18**	Pn	Pn	23 31 33.8	-3.9
RND	**Reindeer**	**7.17**	**359**	Pn	**Pn**	**23 31 40.3**	**+2.1**
M16K	**Timber Creek**	**7.21**	**316**	Pn	**Pn**	**23 31 39.9**	**+1.3**
M16K	**Timber Creek**	**7.21**	**316**	P	**Pn**	**23 31 39.8**	**+1.2**
	baz=127						
N15K	**Kwethluk River**	**7.22**	**308**		**Pn**	**23 31 41.1**	**+2.3**
N15K	**Kwethluk River**	**7.22**	**308**	P	**Pn**	**23 31 41.1**	**+2.3**
	baz=118						
YUK4	**Talbot Arm**	**7.26**	**41**	P	**Pn**	**23 31 42.9**	**+3.4**
	baz=229						
TRF	**Thorofare Moun**	**7.26**	**354**	Pn	**Pn**	**23 31 41.7**	**+2.1**
L18K	**Granite Mounta**	**7.27**	**329**	Pn	**Pn**	**23 31 40.5**	**+1.0**
L18K	**Granite Mounta**	**7.27**	**329**	P	**Pn**	**23 31 40.1**	**+0.7**
	baz=142						
P30M	**Million Dollar**	**7.27**	**53**		**Pn**	**23 31 41.0**	**+1.4**
P30M	**Million Dollar**	**7.27**	**53**	P	**Pn**	**23 31 41.0**	**+1.4**
	baz=243						
CAST	**Castle Rocks**	**7.39**	**348**		**Pn**	**23 31 42.3**	**+1.1**
CAST	**Castle Rocks**	**7.39**	**348**	P	**Pn**	**23 31 42.8**	**+1.6**
	baz=165						
HYT	**Haines Junctio**	**7.39**	**47**	Pn	**Pn**	**23 31 42.9**	**+1.5**
HYT	**Haines Junctio**	**7.39**	**47**	P	**Pn**	**23 31 42.8**	**+1.5**
	baz=236						
O14K	**Tigyukauivet M**	**7.40**	**299**	Pn	**Pn**	**23 31 43.0**	**+1.7**
KTH	**Kantishna Hill**	**7.41**	**352**	Pn	**Pn**	**23 31 42.6**	**+1.1**
L27K	**Beaver Creek,**	**7.64**	**24**	Pn	**Pn**	**23 31 45.9**	**+1.3**
BCAR	**Beaver Creek A**	**7.65**	**24**	Pn	**Pn**	**23 31 46.0**	**+1.3**
TTA	**Tatalina**	**7.67**	**334**	Pn	**Pn**	**23 31 45.1**	**+0.1**
SKAG	**Skagway**	**7.78**	**60**	Pn	**Pn**	**23 31 47.9**	**+1.5**
L16K	**Owhat River**	**7.83**	**319**		**Pn**	**23 31 48.3**	**+1.2**
L16K	**Owhat River**	**7.83**	**319**	P	**Pn**	**23 31 48.6**	**+1.5**
	baz=130						
N14K	**Kuskokwak Cree**	**7.84**	**303**		**Pn**	**23 31 48.9**	**+1.6**
N14K	**Kuskokwak Cree**	**7.84**	**303**	P	**Pn**	**23 31 48.9**	**+1.6**
	baz=112						
N30M	**Aishikik Lake**	**7.92**	**44**		**Pn**	**23 31 50.2**	**+1.7**
N30M	**Aishikik Lake**	**7.92**	**44**	P	**Pn**	**23 31 50.2**	**+1.7**
	baz=234						
BWN	**Browne**	**7.95**	**357**	Pn	**Pn**	**23 31 50.7**	**+1.9**
BPAW	**Bear Paw Mtn.**	**7.96**	**352**	Pn	**Pn**	**23 31 49.6**	**+0.7**
O30N	**Mendenhall**	**7.96**	**50**	Pn	**Pn**	**23 31 51.3**	**+2.3**
M29M	**Somme Creek**	**8.08**	**36**	Pn	**Pn**	**23 31 52.2**	**+1.5**
M29M	**Somme Creek**	**8.08**	**36**	P	**Pn**	**23 31 52.1**	**+1.5**
	baz=224						
SCRK	**Sand Creek**	**8.08**	**15**	Pn	**Pn**	**23 31 52.5**	**+1.8**
K17K	**Iditarod**	**8.13**	**327**	Pn	**Pn**	**23 31 51.8**	**+0.5**
K17K	**Iditarod**	**8.13**	**327**	P	**Pn**	**23 31 51.8**	**+0.5**
	baz=138						
WRH	**Wood River Hil**	**8.25**	**2**	Pn	**Pn**	**23 31 55.0**	**+2.1**
J18K	**Innoko River**	**8.29**	**334**	Pn	**Pn**	**23 31 54.2**	**+0.7**
M14K	**Bethel**	**8.31**	**308**	Pn	**Pn**	**23 31 53.4**	**-0.3**
NEA2	**Nenana**	**8.37**	**359**	Pn	**Pn**	**23 31 56.2**	**+1.7**
J20K	**Nowinta River**	**8.40**	**343**	Pn	**Pn**	**23 31 56.1**	**+1.1**
CCB	**Clear Creek Bu**	**8.43**	**2**	Pn	**Pn**	**23 31 56.9**	**+1.6**
WHY	**Whitehorse**	**8.44**	**53**		**Pn**	**23 31 57.5**	**+1.9**
IL31		**8.59**	**5**	Pn	**Pn**	**23 32 00.1**	**+2.6**
ILAR	**E

NVAR	**Mina Array Bea**	**79.33**	**52**	P	**P**	**23 47 12.0**	**+0.7**
	0.1nm,0.3s,baz=318,slow=3.9,SNR=1.7							
	0.1nm,0.3s							
NOA	**NORSAR Array B**	**81.27**	**338**	P	**P**	**23 47 20.8**	**-0.3**
	0.4nm,0.7s,baz=41,slow=5.4,SNR=3.4							
	0.4nm,0.7s							
BRTR	**Keskin Array B**	**84.13**	**313**	P	**P**	**23 47 36.4**	**-0.1**
	0.9nm,0.7s,baz=90,slow=2.4,SNR=5.5							
	0.9nm,0.7s							

*THE **05** 23:37:09.9, 38°.85N × 26°.12E, h10 km ± 2 km, ML2.6/7, Error ellipse: s-maj=2.7km s-min=0.8km az=7.0*
*ATH **05** 23:37:10.0, 38°.84N × 26°.12E, h13 km ± 2 km, ML2.7/5, Error ellipse: s-maj=2.4km s-min=0.8km az=97.0*
*AFAD **05** 23:37:10.3 ± 0.0, 38°.87N × 26°.19E, h7 km ± 4 km, ML2.5*
ISC 05 23:37:09.8 ± 0.9, **38°.85N** ± 0°.02 × **26°.12E** ± 0°.03, **h16** km ± 8 km, **n28**, σ 0**s**53/50, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARB	**zmir-Karabur**	**0.29**	**130**	P	**Pg**	**23 37 16.2**	**0.0**
KARB				*i* AML	AML	23 37 20.0	
	comp=E,889nm,0.2s						
KARB				S	**Sg**	**23 37 20.1**	**-0.3**
KARB				*i* AML	AML	23 37 21.0	
	comp=N,727nm,0.2s						
EAG2	**Marmaro, Chios**	**0.31**	**182**	P	**Pg**	**23 37 16.2**	**-0.2**
EAG2				S	**Sg**	**23 37 20.4**	**-0.4**
EAG2				AML	AML	23 37 24.0	
	comp=E,8788μm,0.3s						
EAG2				AML	AML	23 37 25.2	
	comp=N,15521μm,0.3s						
PRK	**Paraskevi**	**0.41**	**16**	P	**Pg**	**23 37 18.2**	**0.0**
PRK				S	**Sg**	**23 37 24.3**	**+0.5**
	comp=N,1μm,0.4s						
PRK	**Paraskevi**	**0.41**	**16**	P	**Pg**	**23 37 18.2**	**0.0**
PRK				S	**Sg**	**23 37 23.7**	**-0.1**
PRK				AML	AML	23 37 26.6	
	comp=N,2034μm,0.4s						
PRK				AML	AML	23 37 27.6	
	comp=E,2005μm,0.4s						
SIGR	**SIGRI**	**0.41**	**330**	P	**Pg**	**23 37 18.4**	**+0.1**
SIGR				S	**Sg**	**23 37 23.3**	**-0.7**
	comp=E,1μm,0.4s						
SIGR	**SIGRI**	**0.41**	**330**	P	**Pg**	**23 37 18.3**	**+0.1**
SIGR				S	**Sg**	**23 37 23.5**	**-0.4**
SIGR				AML	AML	23 37 24.4	
	comp=E,2348μm,0.4s						
SIGR				AML	AML	23 37 26.3	
	comp=N,2294μm,0.4s						
EAG3	**Mitilini, Lesv**	**0.42**	**56**	P	**Pg**	**23 37 18.5**	**+0.2**
EAG3				S	**Sg**	**23 37 24.4**	**+0.4**
EAG3				AML	AML	23 37 24.9	
	comp=N,3543μm,0.2s						
EAG3				AML	AML	23 37 24.9	
	comp=E,5778μm,0.3s						
LESV	**Lesvos island,**	**0.42**	**53**	P	**Pg**	**23 37 18.5**	**+0.1**
LESV				S	**Sg**	**23 37 23.7**	**-0.6**
	comp=E,2μm,0.3s						
CHOS	**Chios island**	**0.47**	**187**	P	**Pg**	**23 37 19.2**	**-0.1**
CHOS				S	**Sg**	**23 37 25.5**	**-0.1**
	comp=E,530nm,0.2s						
CHOS	**Chios island**	**0.47**	**187**	P	**Pg**	**23 37 19.1**	**-0.2**
CHOS				S	**Sg**	**23 37 24.8**	**-0.8**
CHOS				AML	AML	23 37 27.5	
	comp=E,1297μm,0.2s						
CHOS				AML	AML	23 37 28.0	
	comp=N,766μm,0.2s						
PSRA	**Psara**	**0.54**	**235**	P	**Pg**	**23 37 20.2**	**-0.3**
PSRA				S	**Sg**	**23 37 27.7**	**0.0**
URLA	**Izmir**	**0.61**	**143**	P	**Pg**	**23 37 22.1**	**+0.2**
URLA				S	**Sg**	**23 37 30.4**	**+0.3**
AYVA	**Ayvalik**	**0.63**	**44**	P	**Pg**	**23 37 22.3**	**0.0**
IZMD	**zmir-Dikili-**	**0.64**	**78**	P	**Pg**	**23 37 22.4**	**-0.1**
IZMD				P	**Pg**	**23 37 22.4**	**-0.1**
KOCA	**Canakkale, Ayv**	**0.65**	**1**	P	**Pg**	**23 37 22.7**	**+0.1**
KOCA				S	**Sb**	**23 37 32.3**	**+0.7**
ZEYE	**Izmir, Urla-Ze**	**0.68**	**154**	P	**Pb**	**23 37 23.6**	**+0.3**
ZEYE				*i* AML	AML	23 37 34.0	
	comp=N,262nm,0.3s						
ZEDA	**zmir-Bergama**	**0.75**	**81**	P	**Pg**	**23 37 24.5**	**0.0**
ZEDA				S	**Sg**	**23 37 33.2**	**-1.3**
ZEDA				*i* AML	AML	23 37 36.0	
	comp=N,209nm,0.3s						
BLCB	**Balcova**	**0.86**	**123**	P	**Pb**	**23 37 26.9**	**+0.6**
BLCB				S	**Sg**	**23 37 37.7**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**0.95**	**20**	P	**Pg**	**23 37 27.8**	**-0.5**
BAYC				S	**Sg**	**23 37 40.3**	**-0.4**
BUHA	**Balikesir, Bur**	**0.98**	**49**	P	**Pg**	**23 37 28.2**	**-0.7**
BUHA				S	**Sg**	**23 37 40.9**	**-0.9**
BUHA				*i* AML	AML	23 37 44.0	
	comp=N,147nm,0.7s						
EZN	**Ezine**	**0.98**	**9**	P	**Pg**	**23 37 28.6**	**-0.3**
EZN				S	**Sb**	**23 37 42.0**	**+0.8**
	comp=N,712nm,0.5s						
BOZC	**Bozcaada**	**0.99**	**357**	P	**Pg**	**23 37 28.1**	**-0.9**
BOZC				P	**Pg**	**23 37 28.1**	**-0.9**
BOZC				*i* AML	AML	23 37 43.0	
	comp=N,137nm,0.3s						
BOZC				*i* AML	AML	23 37 56.0	
	comp=N,249nm,1.8s						
BOZC				*i* AML	AML	23 38 09.0	
	comp=N,228nm,2.0s						
DGB	**zmir**	**1.00**	**143**	P	**Pg**	**23 37 28.9**	**-0.2**
DGB				S	**Sg**	**23 37 41.4**	**-0.8**
LIA	**Limnos Island**	**1.27**	**325**	P	**Pn**	**23 37 32.8**	**-0.1**
SMG	**Samos**	**1.27**	**154**	P	**Pn**	**23 37 33.0**	**0.0**
SMG				S	**Sb**	**23 37 50.4**	**+0.9**
	comp=N,200nm,0.4s						
SMG	**Samos**	**1.27**	**154**	P	**Pn**	**23 37 32.2**	**-0.8**
APE	**Apeiranthos**	**1.84**	**195**	P	**Pn**	**23 37 39.7**	**-1.1**
DION	**Dionisos Attik**	**1.89**	**246**	P	**Pn**	**23 37 41.9**	**+0.5**

AFAD 05 23:55:29.1 ± 0.0, **37°.11N** × **28°.84E**, **h7** km ± 2 km, **ML1.8, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DNZT	**Denizli-Tavas-**	**0.22**	**42**	P	Pg	23 55 33.6	+0.1
DNZT				S	Sg	23 55 37.2	+0.7
TAVA	**DENIZLI_Tavas**	**0.36**	**9**	P	Pg	23 55 36.2	+0.1
TAVA				S	Sg	23 55 41.2	+0.4
TAVA				*i* AML	AML	23 55 43.0	
	comp=N,97nm,0.3s						
TAVA				*i* AML	AML	23 55 43.0	
	comp=E,104nm,0.3s						
CAEL	**Denizli, Camel**	**0.38**	**89**	P	Pb	23 55 37.5	-0.8
CAEL				*i* AML	AML	23 55 50.0	
	comp=E,89nm,0.7s						
CAEL				*i* AML	AML	23 55 52.0	
	comp=N,73nm,1.1s						
MULA	**Mugla, Merkez-**	**0.44**	**289**	P	Pg	23 55 38.4	+0.7
MULA				*i* AML	AML	23 55 50.0	
	comp=E,83nm,0.5s						
DNIZ	**Denizli-Tavas-**	**0.53**	**17**	P	Pg	23 55 39.6	+0.1
DNIZ				S	Sg	23 55 46.5	0.0
TURN	**Turunc**	**0.59**	**235**	P	Pb	23 55 41.1	-0.5
TURN				*i* AML	AML	23 56 01.0	
	comp=E,48nm,2.0s						
GOLH	**Golhisar**	**0.59**	**78**	P	Pg	23 55 40.5	0.0
GOLH				S	Sb	23 55 49.6	-0.7
KNIK	**Mula-Seydike**	**0.64**	**114**	P	Pg	23 55 41.5	0.0
KNIK				S	Sg	23 55 50.9	+1.0
IZZE	**Mula-Seydike**	**0.74**	**155**	P	Pg	23 55 43.2	-0.2
IZZE				*i* AML	AML	23 55 56.0	
	comp=N,48nm,0.4s						
IZZE				*i* AML	AML	23 55 56.0	
	comp=E,32nm,0.4s						
ESEN	**Aydn-Nazilli**	**0.79**	**330**	P	Pg	23 55 44.0	-0.3
ESEN				S	Sg	23 55 53.7	-0.8
INCE	**Denizli-Bozkur**	**0.83**	**44**	P	Pg	23 55 45.2	0.0
BRDR	**BURDUR-Merkez**	**1.13**	**59**	P	Pn	23 55 54.3	+2.8

*TEH **06** 00:04:50.3, 27°.67N × 58°.32E, h50 km, ML3.0*
*OMAN **06** 00:04:52.6 ± 0.1, 27°.37N × 58°.34E, h16 km ± 1 km, mb3.9/2, ml3.1/17, Error ellipse: s-maj=2.6km s-min=0.9km az=7.0*
ISC 06 00:04:50.7 ± 1.3, **27°.65N** ± 0°.05 × **58°.35E** ± 0°.04, **h35** km, **n38**, σ 1**s**73/59, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNJ	**Kahnooj**	**0.65**	**297**	Pg	**Pn**	**00 05 03.3**	**-0.1**
KBAM	**BAM**	**1.48**	**3**	Pg	**Pn**	**00 05 15.0**	**+0.1**
IBND	**Bandar-abas**	**1.62**	**263**	Pg	**Pn**	**00 05 17.9**	**+1.2**
JASK	**Jask - Hormozg**	**1.83**	**194**	Pn	**Pn**	**00 05 20.9**	**+1.2**
JASK	**Jask - Hormozg**	**1.83**	**194**	P	**Pn**	**00 05 21.4**	**+1.7**
	SNR=7.2						
JASK				S	**Sn**	**00 05 43.2**	**+1.6**
GENO	**Geno**	**1.95**	**263**	Pn	**Pn**	**00 05 21.9**	**+0.4**
CHMN	**Cheshme madani**	**2.31**	**342**	Pn	**Pn**	**00 05 26.9**	**+0.3**
NGRK	**Negar Kerman**	**2.44**	**325**	Pn	**Pn**	**00 05 29.7**	**+1.3**
BANOM	**Banah**	**2.52**	**227**	P	**Pn**	**00 05 30.4**	**+1.3**
BANOM				S	**Sn**	**00 05 59.2**	**+0.6**
SHME	**Shamm**	**2.54**	**232**	P	**Pn**	**00 05 30.0**	**+0.6**
	SNR=5.9						
SHME				S	**Sn**	**00 06 00.0**	**+0.9**
ZHDN	**Zahedan**	**2.77**	**51**	Pn	**Pn**	**00 05 34.3**	**+1.5**
CHBR	**Chabahar**	**2.80**	**137**	Pn	**Pn**	**00 05 33.7**	**+0.8**
MDH	**Madha**	**2.98**	**219**	P	**Pn**	**00 05 34.6**	**-0.9**
MDH				S	**Sn**	**00 06 06.3**	**-3.7**
UOSS	**Minazif**	**3.31**	**216**	P	**Pn**	**00 05 42.0**	**+1.9**
UOSS				S	**Sn**	**00 06 14.4**	**-3.9**
NGCH	**Negor - Chabah**	**3.38**	**132**	Pn	**Pn**	**00 05 42.2**	**+1.3**
NGCH	**Negor - Chabah**	**3.38**	**132**	P	**Pn**	**00 05 42.3**	**+1.3**
NGCH				S	**Sn**	**00 06 21.4**	**+1.5**
HATD	**Hatta, Dubai**	**3.45**	**216**	S	**Sn**	**00 06 18.9**	**-2.7**
NAZ	**Nazwa, Dubai**	**3.59**	**223**	P	**Pn**	**00 05 46.0**	**+2.1**
	SNR=6.5						
NAZ				S	**Sn**	**00 06 26.4**	**+1.4**
SRVN	**Saravan**	**3.60**	**93**	Pn	**Pn**	**00 05 46.1**	**+2.0**
ASHO	**Ashiyiah**	**3.60**	**215**	P	**Pn**	**00 05 44.8**	**+0.7**
	SNR=9.4						
ASHO				S	**Sn**	**00 06 24.7**	**-0.8**
FAQ	**Al Faqa, Dubai**	**3.81**	**221**	P	**Pn**	**00 05 48.9**	**+2.0**
FAQ				S	**Sn**	**00 06 31.0**	**+0.5**
SOHO	**SOHO**	**3.87**	**205**	P	**Pn**	**00 05 47.2**	**-0.4**
SOHO				S	**Sn**	**00 06 27.8**	**-4.1**
ASUD	**Al Ashush, Dub**	**4.06**	**223**	P	**Pn**	**00 05 52.4**	**+2.1**
	SNR=13						
ASUD				S	**Sn**	**00 06 37.8**	**+1.2**
BIDO	**Bidbid**	**4.12**	**183**	P	**Pn**	**00 05 50.7**	**-0.4**
BIDO				S	**Sn**	**00 06 35.0**	**-3.0**
ALNE	**Al Ain**	**4.28**	**214**	P	**Pn**	**00 05 55.2**	**+1.8**
	SNR=33						
ALNE				S	**Sn**	**00 06 43.5**	**+1.4**
SMDO	**Samad**	**4.58**	**184**	P	**Pn**	**00 05 58.2**	**+0.6**
	SNR=7.3						
SMDO				S	**Sn**	**00 06 49.0**	**-0.6**
ARQ	**Araqi**	**4.60**	**201**	P	**Pn**	**00 05 59.6**	**+1.8**
	SNR=18						
ARQ				S	**Sn**	**00 06 51.7**	**+1.5**
BSY	**Bisya**	**5.00**	**192**	P	**Pn**	**00 06 05.1**	**+1.9**
BSY				S	**Sn**	**00 07 01.2**	**+1.4**
WBK	**Wadi Bani Khal**	**5.05**	**174**	P	**Pn**	**00 06 04.7**	**+0.7**
	SNR=86						
WBK				S	**Sn**	**00 06 57.3**	**-3.9**
ITEG	**Tejag**	**5.24**	**4**	Pn	**Pn**	**00 06 06.6**	**-0.1**
JMDO	**Jabal Madar**	**5.26**	**183**	P	**Pn**	**00 06 08.0**	**+1.1**
	SNR=34						
JMDO				S	**Sn**	**00 07 06.4**	**0.0**
JLN	**Jalan Bani Buh**	**5.56**	**170**	P	**Pn**	**00 06 10.5**	**-0.4**
	SNR=31						
JLN				S	**Sn**	**00 07 10.2**	**-3.5**
UMZA	**Um Al Zommool**	**5.70**	**211**	P	**Pn**	**00 06 12.7**	**-0.2**
UMZA				S	**Sn**	**00 07 15.6**	**-1.6**
MHTO	**MHTO**	**6.64**	**183**	P	**Pn**	**00 06 27.0**	**+1.1**
	SNR=11						
MHTO				S	**Sn**	**00 07 38.7**	**-1.7**
SHMA	**Al-Shehemyia**	**6.84**	**257**	P	**Pn**	**00 06 28.1**	**-0.5**
TRNA	**Turayna**	**7.04**	**247**	P	**Pn**	**00 06 30.7**	**-0.5**
SMRA	**Abu-Samra**	**7.36**	**249**	P	**Pn**	**00 06 34.7**	**-0.9**
DQM	**DQM**	**7.72**	**186**	P	**Pn**	**00 06 41.8**	**+1.2**

*KRSC **06** 00:26:00.1 ± 1.8, 52°.43N × 160°.72E, h19 km ± 23 km, Ml3.9*
*IDC **06** 00:26:03.8 ± 6.8, 52°.67N × 160°.81E, h49 km ± 51 km, mb3.5/3, mbtmp3.8/3, Error ellipse: s-maj=65.2km s-min=49.1km az=178.0*
ISC 06 00:25:58.1 ± 2.2, **52°.60N** ± 0°.06 × **160°.90E** ± 0°.07, **h12** km ± 10 km, **n42**, σ 1**s**17/50, **mb4.2**/3, **Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.72**	**313**	*e*P	**Pn**	**00 26 14.9**	**+0.8**
SPN				*e*S	**Sn**	**00 26 25.0**	**-0.1**
NLC	**Nalytchevo**	**1.10**	**302**	*e*P	**Pn**	**00 26 20.2**	**+0.9**
NLC				*e*S	**Sn**	**00 26 35.0**	**+0.7**
DALK	**Dalny**	**1.37**	**289**	*e*P	**Pb**	**00 26 24.3**	**+0.7**
DALK				*e*S	**Sg**	**00 26 41.7**	**-0.5**
PET	**Petropavlovsk**	**1.42**	**288**	*e*P	**Pb**	**00 26 25.2**	**+0.6**
PET				*e*S	**Sg**	**00 26 43.1**	**-0.8**
SMAR	**Somma**	**1.43**	**298**	*e*P	**Pb**	**00 26 25.2**	**+0.4**
AVH	**Avacha**	**1.46**	**298**	*e*P	**Pg**	**00 26 26.5**	**+0.2**
RUS	**Russkaya**	**1.47**	**264**	*e*P	**Pn**	**00 26 24.7**	**+0.4**
RUS				*e*S	**Sn**	**00 26 42.6**	**-0.7**
KRER	**Koryakskii**	**1.48**	**299**	*e*P	**Pg**	**00 26 27.0**	**+0.5**
KRER				*e*S	**Sg**	**00 26 46.8**	**+1.1**
KOK	**Koryaka**	**1.53**	**298**	*e*P	**Pg**	**00 26 27.9**	**+0.4**
KRX	**Arik**	**1.56**	**300**	*e*P	**Pb**	**00 26 27.5**	**+0.7**
KRX				*e*S	**Sg**	**00 26 46.3**	**-1.9**
MTVR	**Mutnovka**	**1.66**	**267**	*e*P	**Pn**	**00 26 28.3**	**+1.2**
MTVR				*e*S	**Sn**	**00 26 48.4**	**0.0**
KRMR	**Karymshinskiy**	**1.70**	**279**	*e*P	**Pn**	**00 26 28.9**	**+1.4**
GRL	**Gorelyy**	**1.72**	**269**	*e*P	**Pb**	**00 26 30.1**	**+0.4**
GRL				*e*S	**Sn**	**00 26 50.6**	**+0.7**
ASAK	**Asacha**	**1.84**	**264**	*e*P	**Pn**	**00 26 30.6**	**+1.1**
ASAK				*e*S	**Sn**	**00 26 53.2**	**+0.3**
KDTR	**Khodutka, Kamc**	**1.91**	**246**	*e*P	**Pn**	**00 26 30.0**	**-0.4**
KDTR				*e*S	**Sn**	**00 26 50.8**	**-3.4**
PETK	**Petropavlovsk-**	**2.00**	**286**	P	**Pb**	**00 26 33.8**	**-0.6**
	71nm,0.5s,baz=96,slow=19,SNR=38						
PETK				S	**Sb**	**00 26 57.9**	**-1.4**
	60nm,0.6s,baz=98,slow=22,SNR=9.6						
GNL	**Ganaly**	**2.09**	**303**	*e*P	**Pb**	**00 26 36.3**	**+0.3**
APC	**Apacha**	**2.29**	**280**	*e*P	**Pn**	**00 26 37.6**	**+2.0**
TUMD	**Tumrok D**	**2.62**	**354**	*e*P	**Pb**	**00 26 45.6**	**+0.6**
TUMD				*e*S	**Sb**	**00 27 16.9**	**-0.2**
TUMR	**Tumrok**	**2.72**	**351**	*e*P	**Pb**	**00 26 48.0**	**+1.3**
TUMR				*e*S	**Sg**	**00 27 24.1**	**-1.4**
PAU	**Pauzhetka**	**2.77**	**247**	*e*P	**Pn**	**00 26 44.4**	**+2.2**
KMNR	**Kamenistaya**	**3.18**	**353**	*e*P	**Pb**	**00 26 55.7**	**+1.1**
BZP	**Bezymyannyi-Pe**	**3.32**	**357**	*e*P	**Pb**	**00 26 58.1**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**3.35**	**358**	*e*P	**Pb**	**00 26 57.2**	**-0.2**
BZMR	**Bezymyannaya**	**3.35**	**356**	*e*P	**Pb**	**00 26 56.8**	**-0.6**
KIRR	**Kirishev**	**3.37**	**355**	*e*P	**Pb**	**00 26 56.2**	**-1.7**
BZWR	**Bezymyannyi-We**	**3.38**	**356**	*e*P	**Pb**	**00 26 57.0**	**-0.9**
KPT	**Kopyto**	**3.39**	**354**	*e*P	**Pb**	**00 26 59.1**	**+0.9**
LGNR	**Loginova**	**3.49**	**358**	*e*P	**Pb**	**00 27 00.1**	**+0.2**
KOZ	**Kozyrevsk**	**3.51**	**351**	*e*P	**Pb**	**00 27 00.0**	**-0.1**
ESO	**Esso**	**3.57**	**340**	*e*P	**Pb**	**00 26 58.9**	**-2.2**
KRSR	**Krestovskiy**	**3.63**	**357**	*e*P	**Pb**	**00 27 02.5**	**+0.4**
SRDR	**Sredinnyy**	**3.78**	**350**	*e*P	**Pb**	**00 27 02.4**	**-2.4**
H11N2	**WAKE ISLAND Hy**	**33.14**	**170**	T	T	01 07 57.9	
	baz=355,slow=74						
H11N3	**WAKE ISLAND Hy**	**33.16**	**170**	T	T	01 07 56.8	
	baz=355,slow=74						
H11N1	**WAKE ISLAND Hy**	**33.16**	**170**	T	T	01 07 58.5	
	baz=355						
H11S1	**WAKE ISLAND Hy**	**34.33**	**170**	T	T	01 09 24.8	
H11S3	**WAKE ISLAND Hy**	**34.34**	**170**	T	T	01 09 24.2	
	baz=353						
H11S2	**WAKE ISLAND Hy**	**34.35**	**170**	T	T	01 09 26.0	
	baz=353						
MKAR	**Makanchi Array**	**48.81**	**296**	P	**P**	**00 34 41.9**	**-0.9**
	0.2nm,0.5s,baz=56,slow=7.5,SNR=4.1						
	0.2nm,0.5s						
ARCES	**ARCESS Array B**	**53.90**	**342**	P	**P**	**00 35 20.4**	**-0.2**
	1.7nm,0.7s,baz=36,slow=7.9,SNR=1.4						
	1.7nm,0.7s						
FINES	**FINESS Array B**	**60.76**	**337**	P	**P**	**00 36 10.2**	**+1.1**
	0.9nm,0.5s,baz=35,slow=5.1,SNR=10						
	0.9nm,0.5s						

*KRSC **06** 00:41:39.1 ± 1.4, 52°.41N × 160°.85E, h17 km ± 18 km, Ml4.4*
*MOS **06** 00:41:44.2 ± 1.0, 52°.53N × 160°.44E, h59 km, mb4.6/18, Error ellipse: s-maj=7.8km s-min=4.2km az=106.1*
*NEIC **06** 00:41:46.9 ± 1.4, 52°.8N ± 0°.1 × 160°.4E ± 0°.1, h51 km ± 6 km, mb4.3/30, Error ellipse: s-maj=18.8km s-min=10.9km az=161.0*

*IDC **06** 00:41:46.3 ± 2.2, 52°.60N × 160°.60E, h59 km ± 15 km, mb3.7/24, mbtmp4.0/25, MS3.3/3, Error ellipse: s-maj=19.2km s-min=13.5km az=161.0*
ISC 06 00:41:45.2 ± 0.9, **52°.53N** ± 0°.04 × **160°.51E** ± 0°.05, **h48** km ± 6 km, **n184**, σ 1**s**38/203, **mb4.2**/58, **MS3.5**/3, **11C-1D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.65**	**333**	PN	**Pn**	**00 41 55.5**	**-2.6**
SPN				S	**Sn**	**00 42 05.7**	**-1.7**
SPN	**Mys Shipunski**	**0.65**	**333**	*e*P	**Pn**	**00 41 55.5**	**-2.6**
SPN				*e*S	**Sn**	**00 42 05.7**	**-1.7**
NLC	**Nalytchevo**	**0.96**	**313**	PN	**Pn**	**00 42 00.7**	**-1.5**
NLC				S	**Sn**	**00 42 14.7**	**-0.1**
NLC	**Nalytchevo**	**0.96**	**313**	*e*P	**Pn**	**00 42 00.7**	**-1.5**
NLC				*e*S	**Sn**	**00 42 14.7**	**-0.1**
DALK	**Dalny**	**1.18**	**296**	PN	**Pn**	**00 42 05.1**	**-0.2**
DALK				S	**Sn**	**00 42 21.8**	**+1.6**
DALK	**Dalny**	**1.18**	**296**	*e*P	**Pn**	**00 42 05.1**	**-0.2**
DALK				*e*S	**Sn**	**00 42 21.8**	**+1.6**
RUS	**Russkaya**	**1.23**	**266**	PN	**Pn**	**00 42 05.3**	**-0.6**
RUS				S	**Sn**	**00 42 23.0**	**+1.7**
RUS	**Russkaya**	**1.23**	**266**	*e*P	**Pn**	**00 42 05.3**	**-0.6**
RUS				*e*S	**Sn**	**00 42 23.0**	**+1.7**
PET	**Petropavlovsk**	**1.23**	**295**	P	**Pn**	**00 42 05.8**	**-0.2**
PET	**Petropavlovsk**	**1.23**	**295**	*e*PN	**Pn**	**00 42 05.8**	**-0.2**
PET				*e*S	**Sn**	**00 42 23.2**	**+1.7**
PET				pmax	pmax		
	comp=Z,2μm,0.5s						
PET				smax	smax		
	comp=E,3μm,0.7s						
PET				smax	smax		
	comp=N,2μm,0.6s						
PET	**Petropavlovsk**	**1.23**	**295**	*e*P	**Pn**	**00 42 05.7**	**-0.2**
PET				*e*S	**Sn**	**00 42 23.6**	**+2.1**
SDLR	**Sedlovina**	**1.24**	**308**	PN	**Pn**	**00 42 07.3**	**+1.1**
SDLR	**Sedlovina**	**1.24**	**308**	*e*P	**Pn**	**00 42 07.3**	**+1.1**
SMAR	**Somma**	**1.27**	**306**	PN	**Pn**	**00 42 06.0**	**-0.8**
SMAR	**Somma**	**1.27**	**306**	*e*P	**Pn**	**00 42 06.0**	**-0.8**
AVH	**Avacha**	**1.30**	**305**	PN	**Pn**	**00 42 06.7**	**-0.4**
AVH	**Avacha**	**1.30**	**305**	*e*P	**Pn**	**00 42 06.7**	**-0.4**
KRER	**Koryakskii**	**1.32**	**307**	PN	**Pn**	**00 42 07.1**	**-0.3**
KRER	**Koryakskii**	**1.32**	**307**	*e*P	**Pn**	**00 42 07.1**	**-0.3**
KRER				*e*S	**Sn**	**00 42 28.4**	**+4.5**
KOK	**Koryaka**	**1.37**	**305**	PN	**Pn**	**00 42 07.8**	**-0.2**
KOK	**Koryaka**	**1.37**	**305**	*e*P	**Pn**	**00 42 07.8**	**-0.2**
KRX	**Arik**	**1.40**	**307**	PN	**Pn**	**00 42 07.8**	**-0.6**
KRX	**Arik**	**1.40**	**307**	*e*P	**Pn**	**00 42 07.8**	**-0.6**
MTVR	**Mutnovka**	**1.42**	**269**	PN	**Pn**	**00 42 08.5**	**-0.2**
MTVR				S	**Sn**	**00 42 29.2**	**+2.8**
MTVR	**Mutnovka**	**1.42**	**269**	*e*P	**Pn**	**00 42 08.5**	**-0.2**
MTVR				*e*S	**Sn**	**00 42 29.2**	**+2.8**
KRMR	**Karymshinskiy**	**1.48**	**283**	PN	**Pn**	**00 42 09.1**	**-0.3**
KRMR	**Karymshinskiy**	**1.48**	**283**	*e*P	**Pn**	**00 42 09.1**	**-0.3**
KRMR				*e*S	**Sn**	**00 42 32.0**	**+4.4**
GRL	**Gorelyy**	**1.49**	**272**	PN	**Pn**	**00 42 09.8**	**+0.2**
GRL	**Gorelyy**	**1.49**	**272**	*e*P	**Pn**	**00 42 09.8**	**+0.2**
ASAK	**Asacha**	**1.60**	**266**	PN	**Pn**	**00 42 11.4**	**+0.3**
ASAK	**Asacha**	**1.60**	**266**	*e*P	**Pn**	**00 42 11.4**	**+0.3**
ASAK				*e*S	**Sn**	**00 42 34.3**	**+3.6**
KII	**Karymskiy**	**1.64**	**338**	PN	**Pn**	**00 42 11.0**	**-0.6**
KII				S	**Sn**	**00 42 33.3**	**+1.7**
KII	**Karymskiy**	**1.64**	**338**	*e*P	**Pn**	**00 42 11.0**	**-0.6**
KII				*e*S	**Sn**	**00 42 33.3**	**+1.7**
KDTR	**Khodutka, Kamc**	**1.66**	**245**	PN	**Pn**	**00 42 10.6**	**-1.2**
KDTR				S	**Sn**	**00 42 34.0**	**+2.0**
KDTR	**Khodutka, Kamc**	**1.66**	**245**	*e*P	**Pn**	**00 42 10.6**	**-1.2**
KDTR				*e*S	**Sn**	**00 42 34.0**	**+2.0**
PEA0B	**Petropavlovsk-**	**1.80**	**290**		**Pn**	**00 42 14.3**	**+0.5**
PEA0B	**Petropavlovsk-**	**1.80**	**290**	*ce*PN	**Pn**	**00 42 14.0**	**+0.2**
PETK	**Petropavlovsk-**	**1.80**	**290**		**Pn**	**00 42 13.7**	**-0.2**
PETK	**Petropavlovsk-**	**1.80**	**290**	P	**Pn**	**00 42 13.4**	**-0.4**
	comp=N,85nm,0.3s,baz=91,slow=20,SNR=555						
PETK				S	**Sn**	**00 42 39.7**	**+4.2**
	comp=N,180nm,0.6s,baz=96,slow=25,SNR=4.3						
GNL	**Ganaly**	**1.94**	**308**	PN	**Pn**	**00 42 16.8**	**+1.0**
GNL	**Ganaly**	**1.94**	**308**	*e*P	**Pn**	**00 42 16.8**	**+1.0**
APC	**Apacha**	**2.08**	**282**	PN	**Pn**	**00 42 18.8**	**+1.3**

TIXI	Tiksi	23.70	336	LR	LR	00 56 49.2				
	comp=Z,67nm,18.7s,baz=152,slow=38									
K20K	Telida	25.84	47	P	P	00 47 12.4	+0.7			
J20K	Nowinta River	25.87	46	P	P	00 47 13.4	+1.4			
B20K	Meade River	26.01	32	P	P	00 47 13.6	+0.4			
B21K	Ikpikpuk River	26.73	33	P	P	00 47 20.0	+0.4			
CAST	Castle Rocks	26.74	47	P	P	00 47 18.6	-1.3			
KSRS	Korea Array	27.25	249	P	P	00 47 26.2	+1.6			
	comp=Z,1.3nm,0.5s,baz=40,slow=11,SNR=4.1									
	comp=Z,1.3nm,0.5s									
E22K	Anaktuvuk Pass	27.36	37	P	P	00 47 24.9	-0.5			
ILAR	Eielson Array	29.04	45	P	P	00 47 39.8	-0.5			
	comp=Z,0.3nm,0.9s,baz=258,slow=8.8,SNR=2.5									
	comp=Z,0.3nm,0.9s									
H11N2	WAKE ISLAND Hy	33.11	169	T	T	01 23 39.8				
	baz=353									
H11N3	WAKE ISLAND Hy	33.12	169	T	T	01 23 38.6				
	baz=353									
H11N1	WAKE ISLAND Hy	33.12	169	T	T	01 23 39.2				
	baz=353									
ULN	Ulaanbaatar	33.88	284	*ce*P	P	00 48 22.6	-0.6			
ULN				pmax	pmax					
	comp=Z,2.0nm,1.0s									
SONM	Songino Array	34.28	284	P	P	00 48 25.1	-1.5			
	comp=Z,0.4nm,0.3s,baz=61,slow=8.5,SNR=5.5									
SONM				PcP	PcP	00 51 00.9	-1.1			
	comp=Z,0.3nm,0.4s,baz=60,slow=5.8,SNR=1.9									
	comp=Z,0.4nm,0.3s									
H11S1	WAKE ISLAND Hy	34.29	170	T	T	01 25 12.7				
	baz=351,slow=76,SNR=8.0									
H11S3	WAKE ISLAND Hy	34.30	170	T	T	01 25 09.3				
	baz=351,slow=76,SNR=15									
H11S2	WAKE ISLAND Hy	34.31	170	T	T	01 25 11.6				
	baz=351,slow=76,SNR=9.0									
A36M	Sachs Harbour	36.49	30	P	P	00 48 46.4	+1.3			
A36M				IAmb	IAmb	00 49 04.2				
	comp=Z,2.7nm,1.0s									
ZALV	Zalesovo Beam	43.30	303	*i* P	P	00 49 39.7	-2.1			
ZALV				pmax	pmax					
	comp=Z,1.0nm,0.6s									
ZALV	Zalesovo Beam	43.30	303	P	P	00 49 39.8	-2.0			
	comp=Z,0.8nm,0.6s,baz=54,slow=7.4,SNR=6.5									
	comp=Z,0.8nm,0.6s									
YKA	Yellowknife Ar	43.41	42	P	P	00 49 41.5	-1.1			
	comp=Z,0.2nm,0.7s,baz=300,slow=7.8,SNR=3.0									
	comp=Z,0.2nm,0.7s									
DGZ	Jazzator, Alta	44.15	297	*i* P	P	00 49 47.9	-1.0			
DGZ				pmax	pmax					
	comp=Z,3.0nm,0.8s									
C03A	Quillayute Air	46.14	64	P	P	00 50 06.6	+2.1			
WISH	Wishkah	47.06	65	P	P	00 50 12.7	+1.0			
KBS	Kingsbay	47.47	352	*ce*P	P	00 50 16.0	+1.5			
KBS				pmax	pmax					
	comp=Z,52nm,2.5s									
SPITS	Spitsbergen Ar	47.74	351	P	P	00 50 16.2	-0.4			
	comp=Z,2.1nm,0.4s,baz=47,slow=8.5,SNR=30									
	comp=Z,2.1nm,0.4s									
SPB2	Spitsbergen Ar	47.74	351	P	P	00 50 16.6	-0.1			
KURK	Kurchatov	48.25	302	*ce*P	P	00 50 19.9	-1.0			
KURK				pmax	pmax					
	comp=Z,9.0nm,1.3s									
KURBB	Kurchatov Arra	48.35	302	P	P	00 50 20.5	-1.1			
	comp=Z,2.3nm,0.5s,baz=56,slow=8.1,SNR=17									
	comp=Z,2.3nm,0.5s									
MK31	Makanchi Array	48.63	296	P	P	00 50 22.3	-1.6			
MK31				IAmb	IAmb	00 50 23.7				
	comp=Z,1.1nm,0.7s									
MK31	Makanchi Array	48.63	296	*ce*P	P	00 50 22.7	-1.2			
MKAR	Makanchi Array	48.63	296	P	P	00 50 22.4	-1.5			
MKAR	Makanchi Array	48.63	296	*ce*P	P	00 50 22.7	-1.2			
MKAR				pmax	pmax					
	comp=Z,1.0nm,0.5s									
MKAR	Makanchi Array	48.63	296	P	P	00 50 22.2	-1.7			
	comp=Z,0.8nm,0.5s,baz=54,slow=7.3,SNR=27									
MKAR				PcP	PcP	00 51 48.7	0.0			
	comp=Z,0.2nm,0.7s,baz=56,slow=8.8,SNR=1.3									
MKAR				ScP	ScP	00 55 38.5	-0.8			
	comp=Z,0.2nm,0.8s,baz=68,slow=5.0,SNR=1.8									
	comp=Z,0.8nm,0.5s									
BVAR	Borovoye Array	50.94	309	P	P	00 50 39.3	-2.1			
	comp=Z,1.4nm,0.5s,baz=54,slow=7.5,SNR=16									
BVAR				PcP	PcP	00 51 57.6	+0.5			
	comp=Z,0.6nm,0.7s,baz=56,slow=5.9,SNR=1.9									
	comp=Z,1.4nm,0.5s									
BRVK	Borovoye	50.97	309	P	P	00 50 41.3	-0.2			
BRVK				IAmb	IAmb	00 50 53.3				
	comp=Z,1.2nm,0.7s									
BRVK	Borovoye	50.97	309	*ce*P	P	00 50 40.7	-0.9			
BRVK				pmax	pmax					
	comp=Z,7.0nm,2.5s									
FCC	Fort Churchill	53.77	39	P	P	00 51 03.0	+0.9			
FCC				IAmb	IAmb	00 51 20.0				
	comp=Z,1.6nm,1.0s									
FCC	Fort Churchill	53.77	39	P	P	00 51 03.0	+0.9			
FCC				pmax	pmax					
	comp=Z,2.0nm,1.0s									
ARCES	ARCESS Array B	53.91	342	P	P	00 51 02.7	-0.4			
ARCES				IAmb	IAmb	00 51 04.8				
	comp=Z,12nm,1.1s									
ARCES	ARCESS Array B	53.91	342	P	P	00 51 02.4	-0.6			
	comp=Z,7.5nm,0.9s,baz=37,slow=9.1,SNR=7.6									
ARCES				ScP	ScP	00 56 01.6	-0.1			
	comp=Z,6.2nm,1.0s,baz=51,slow=6.3,SNR=5.3									
	comp=Z,7.5nm,0.9s									
ARU	Arti	53.99	318	P	P	00 51 03.0	-0.8			
ARU				IAmb	IAmb	00 51 05.2				
	comp=Z,3.6nm,0.6s									
ARU	Arti	53.99	318	*c i* P	P	00 51 02.5	-1.3			
ARU						00 52 05.3				
ARU				S	S	00 58 33.3	-2.5			
ARU				SS	SKiKP	01 02 10.9	-0.5			
ARU				pmax	pmax					
	comp=Z,4.0nm,0.7s									
SUMG	Summit	54.49	7	P	P	00 51 08.1	+0.3			
SUMG				IAmb	IAmb	00 51 09.4				
	comp=Z,8.2nm,1.1s									
SUMG	Summit	54.49	7	P	P	00 51 08.1	+0.3			
SUMG				pmax	pmax					
	comp=Z,8.0nm,1.1s									
SUMG	Summit	54.49	7	*i* P	P	00 51 07.0	-0.8			
AAK	Ala-Archa	55.56	297	*ce*P	P	00 51 15.0	-0.6			
AAK				pmax	pmax					
	comp=Z,3.0nm,1.7s									
JMIC	Jan Mayen	56.54	356	LR	LR	01 14 19.3				
	comp=Z,33nm,18.6s,baz=281,slow=35									
KK31	Karatay Array	57.38	300	P	P	00 51 27.7	-0.7			
KK31				IAmb	IAmb	00 51 28.5				
	comp=Z,1.9nm,0.8s									
KK31	Karatay Array	57.38	300	P	P	00 51 27.7	-0.7			
KK31				pmax	pmax					
	comp=Z,2.0nm,0.8s									
KKAR	Karatay Array	57.38	300	P	P	00 51 27.6	-0.8			
KKAR	Karatay Array	57.38	300	P	P	00 51 27.6	-0.8			
KKAR				IAmb	IAmb	00 51 28.5				
	comp=Z,1.9nm,0.8s									
KKAR	Karatay Array	57.38	300	P	P	00 51 27.6	-0.8			
KKAR				pmax	pmax					
	comp=Z,2.0nm,0.8s									
PHRA	Phrae	57.52	258	P	P	00 51 31.0	+1.4			
PDAR	Pinedale Array	57.58	61	P	P	00 51 31.1	+1.1			
PDAR	Pinedale Array	57.58	61	P	P	00 51 30.9	+0.9			
	comp=Z,0.2nm,0.6s,baz=314,slow=5.7,SNR=2.3									
	comp=Z,0.2nm,0.6s									
CMAR	Chiang Mai Arr	58.32	259	P	P	00 51 36.7	+1.5			
	comp=Z,0.7nm,0.3s,baz=23,slow=6.6,SNR=8.9									
	comp=Z,0.7nm,0.3s									
ABKAR	Akbulak array	58.36	311	P	P	00 51 34.5	-0.6			
ABKAR				IAmb	IAmb	00 51 53.9				
	comp=Z,1.3nm,0.8s									
VALR	Valaam	59.60	335	*i* P	P	00 51 43.5	0.0			
VALR				pmax	pmax					
	comp=Z,13nm,0.9s									
GAR	Garm	60.36	296	P	P	00 51 48.8	-0.4			
GAR				IAmb	IAmb	00 51 49.8				
	comp=Z,4.3nm,0.9s									
BAR	Barrett	60.67	74	P	P	00 51 51.5	+0.2			
FINES	FINESS Array B	60.74	337	*i* P	P	00 51 51.7	+0.4			
FINES				pmax	pmax					
	comp=Z,3.0nm,0.4s									
FINES	FINESS Array B	60.74	337	P	P	00 51 51.2	0.0			
	comp=Z,2.6nm,0.4s,baz=31,slow=7.8,SNR=35									
	comp=Z,2.6nm,0.4s									
PHWY	Pilot Hill	60.78	59	P	P	00 51 51.8	-0.4			
CHGR	Chuyangaron	61.24	297	P	P	00 51 54.2	-0.9			
CHGR				IAmb	IAmb	00 51 55.2				
	comp=Z,4.6nm,0.7s									
CHGR	Chuyangaron	61.24	297	P	P	00 51 54.2	-0.9			
CHGR				pmax	pmax					
	comp=Z,5.0nm,0.7s									
BELG	Belogornoye	61.32	320	*i* P	P	00 51 55.7	+0.4			
BELG				pmax	pmax					
	comp=Z,3.0nm,1.0s									
SIMJ	Simiganj	61.32	297	P	P	00 51 55.4	-0.3			
SIMJ				IAmb	IAmb	00 51 56.6				
	comp=Z,2.6nm,0.7s									
OBN	Obninsk	63.13	328	↓*e*P	P	00 52 06.5	-0.9			
OBN				*e*		00 52 42.4				
OBN				*e*		00 54 30.6				
OBN				*e*S	S	01 01 04.0	+29			
OBN				pmax	pmax					
	comp=Z,24nm,2.5s									
OBN				MLR	MLR					
	comp=Z,54nm,17.0s									
NB2	NORSAR Subarra	64.16	344	P	P	00 52 14.0	-0.2			
	comp=Z,0.7nm,0.6s,baz=22,slow=6.9									
NOA	NORSAR Array B	64.16	344	P	P	00 52 14.0	-0.2			
NOA	NORSAR Array B	64.16	344	P	P	00 52 14.0	-0.2			
	comp=Z,1.2nm,0.7s,baz=21,slow=6.6,SNR=6.7									
	comp=Z,1.2nm,0.7s									
LPSR	Galich'ya Gora	64.39	325	*e*P	P	00 52 14.9	-0.9			
LPSR				pmax	pmax					
	comp=Z,10.0nm,0.7s									
VRH	Novokhopyorsk	64.52	322	*e*P	P	00 52 14.9	-1.7			
VRH				pmax	pmax					
	comp=Z,10.0nm,0.6s									
HFS	Hagfors	64.57	342	P	P	00 52 16.6	-0.2			
	comp=Z,4.2nm,1.0s,baz=54,slow=7.4,SNR=10									
	comp=Z,4.2nm,1.0s									
VSR	Storozhevoye	65.44	324	*e*P	P	00 52 20.3	-2.3			
VSR				pmax	pmax					
	comp=Z,8.0nm,0.6s									
GEYT	Alibeck	67.61	303	P	P	00 52 35.8	-1.0			
	comp=Z,1.5nm,0.7s,baz=58,slow=9.2,SNR=3.2									
	comp=Z,1.5nm,0.7s									
AKASG	Malin Array Be	69.23	329	P	P	00 52 45.5	-1.1			
	comp=Z,0.7nm,0.4s,baz=31,slow=6.8,SNR=7.5									
	comp=Z,0.7nm,0.4s									
AKBB	Malin Array Si	69.23	329	*ce*P	P	00 52 46.7	+0.1			
AKBB				pmax	pmax					
	comp=Z,4.0nm,0.9s									
KIV	Kislovodsk	70.03	317	*e*P	P	00 52 51.9	+0.2			
KIV				pmax	pmax					
	comp=Z,5.0nm,1.1s									
KBZ	Khabaz	70.12	317	*ce*P	P	00 52 52.4	+0.3			
KBZ				pmax	pmax					
	comp=Z,5.0nm,0.9s									
KBZ	Khabaz	70.12	317	P	P	00 52 52.2	+0.1			
	comp=Z,4.3nm,0.9s,baz=359,slow=3.6,SNR=7.2									
	comp=Z,4.3nm,0.9s									
TXAR	Lajitas Array	70.62	67	P	P	00 52 54.7	-0.9			
	comp=Z,0.2nm,0.5s,baz=306,slow=6.2,SNR=2.7									
	comp=Z,0.2nm,0.5s									
CLL	Collm	72.97	339	*i* P	P	00 53 10.5	+1.3			
CLL				*e*'PP	pwP	00 53 24.0	+1.1			
CLL				pmax	pmax					
	comp=Z,3.0nm,0.8s									
CLL	Collm	72.97	339	*i* P	P	00 53 10.5	+1.3			
	comp=Z,3.0nm,0.8s									
CLL				*ep*P	pwP	00 53 24.0	+1.1			
BUR08	Bucovina Ar. S	73.17	330	P	P	00 53 11.1	+0.5			
BUR08				IAmb	IAmb	00 53 12.7				
	comp=Z,1.9nm,0.8s									
BURAR	Bucovina Array	73.19	330	P	P	00 53 10.9	+0.2			
BURAR				IAmb	IAmb	00 53 12.8				
	comp=Z,2.1nm,0.8s									
GERES	GERESS Array B	75.13	338	P	P	00 53 22.6	+0.6			
	comp=Z,0.7nm,0.6s,baz=38,slow=6.6,SNR=3.7									
	comp=Z,0.7nm,0.6s									
ARSA	Arzberg	76.19	336	*e*P	P	00 53 29.9	+1.9			
	comp=Z,1.7nm,0.6s									
SOKA	Soboth	76.85	336	*e*P	P	00 53 32.8	+1.0			
	comp=Z,1.4nm,0.6s									
KBA	Koelnbreinsper	76.88	338	*i* P	P	00 53 32.0	0.0			
	comp=Z,3.4nm,0.7s									
BRTR	Keskin Array B	77.22	321	P	P	00 53 34.5	+0.4			
	comp=Z,0.8nm,0.6s,baz=46,slow=4.4,SNR=5.7									
	comp=Z,0.8nm,0.6s									
ABTA	Abfaltersbach	77.38	338	*e*P	P	00 53 34.5	-0.2			
	comp=Z,2.4nm,0.9s									
ASAR	Alice Springs	79.35	205	P	P	00 53 47.0	+1.4			
	comp=Z,0.3nm,0.5s,baz=14,slow=4.8,SNR=2.7									
	comp=Z,0.3nm,0.5s									
MMAI	Mount Meron Ar	82.30	316	P	P	00 54 02.2	+0.6			
	comp=Z,2.0nm,0.7s,baz=33,slow=6.3,SNR=7.2									
	comp=Z,2.0nm,0.7s									

NEIC ***06*** *00:51:34.6±1.7, 43.83N±0.07×147.5E±0.1, h35km±2km, mb4.6/206, Error ellipse: s-maj=14.0km s-min=11.1km az=133.0*

SKHL ***06*** *00:51:34.2±0.1, 43.70N×147.40E, h64km±4km, mb5.3/4*

MOS ***06*** *00:51:34.7±0.9, 43.86N×147.29E, h65km, mb4.7/24, Error ellipse: s-maj=8.2km s-min=5.8km az=75.8*

MOS Felt (II-III) at Gornyy.

JMA ***06*** *00:51:35.0±0.3, 44°N±1°×14°7E±°, h24km, MD4.1/39, MV4.5/39, E OFF HOKKAIDO*

JMA Felt I J1 at E OFF HOKKAIDO .

NIED ***06*** *00:51:35.0, 43.66N×147.28E, h24km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.19; Mθθ-1.20; Mφφ0.01; Mrθ1.38; Mθφ-1.22; Mφr-0.35; Fault plane solution: M₀2.22000×10¹⁵ NP1:φ₀89.00000°, δ70.00000°, λ.124.00000°. NP2:φ₀206.00000°, δ39.00000°, λ33.00000°.*

IDC ***06*** *00:51:36.5±2.0, 43.89N×147.34E, h67km±17km, mb3.8/24, mbtmp4.1/29, MS3.0/9 Error ellipse: s-maj=16.4km s-min=11.4km az=159.0*

ISC 06 00:51:35.2±0.7, 43.78N±0.05×147.40E±0.05, h56km±5km, n609, σ1$05/611, mb4.5/151, MS3.5/4, 2C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.42	282	*i* P	N	Pn	00 51 45.0	-1.0
SHO					eS	Sn	00 51 51.9	-1.9
SHO				pmax		pmax		
	comp=N,858nm,0.3s							
SHO				pmax		pmax		
	comp=Z,2μm,0.3s							
SHO				pmax		pmax		
	comp=E,2μm,0.5s							
SHO				smax		smax		
	comp=E,28μm,0.4s							
SHO				smax		smax		
	comp=N,25μm,0.2s							
SHO	Shikotan	0.42	282	*i* P		Pn	00 51 45.0	-1.0
SHO				AMB		AMB	00 51 46.3	
	comp=N,860nm,0.3s							
SHO				AMB		AMB	00 51 46.3	
	comp=N,2μm,0.3s							
SHO				*e*S		Sn	00 51 52.2	-1.6
SHO				A		A	00 51 53.8	
	comp=N,25μm,0.5s							
SHO				A		A	00 51 53.8	
	comp=N,28μm,0.5s							
YUK	Yuzh-Kuril'sk	1.14	283	*d i* P	N	Pn	00 51 54.2	-0.7
YUK				*e*S		Sn	00 52 08.0	-1.5
YUK				pmax		pmax		
	comp=Z,2μm,0.5s							
YUK				pmax		pmax		
	comp=N,134nm,0.2s							
YUK				pmax		pmax		
	comp=E,428nm,0.3s							
YUK				smax		smax		
	comp=N,7μm,0.3s							
YUK				smax		smax		
	comp=E,11μm,0.6s							
YUK	Yuzh-Kuril'sk	1.14	283	*i* P		Pn	00 51 54.2	-0.7
YUK				AMB		AMB	00 51 54.6	
	comp=E,2μm,0.5s							
YUK				*e*S		Sn	00 52 08.2	-1.3
YUK				A		A	00 52 09.4	
	comp=E,7μm,0.5s							
YUK				A		A	00 52 09.4	
	comp=E,11μm,0.5s							
NEM2	Nemuro 2	1.27	251	*e*P		Pn	00 51 55.7	-1.0
NEM2				*e*S		Sn	00 52 10.8	-2.0
NMR	Nemuro--Hokkai	1.28	252	↑*i* P	N	Pn	00 51 55.7	-1.1
NMR				*e*S		Sn	00 52 10.6	-2.4
NMR	Nemuro--Hokkai	1.28	252	*i* P		Pn	00 51 55.7	-1.1
NMR				*e*S		Sn	00 52 10.8	-2.2

KUR	Kuril'sk	1.49	13	*e*PN		Pn	00 51 59.7	+0.1		
KUR				*i* S		Sn	00 52 17.6	-0.4		
KUR				pmax	pmax					
	comp=N,284nm,0.5s									
KUR				pmax	pmax					
	comp=Z,571nm,0.5s									
KUR				pmax	pmax					
	comp=E,364nm,0.4s									
KUR				smax	smax					
	comp=N,6μm,0.3s									
KUR				smax	smax					
	comp=E,5μm,0.4s									
KUR	Kuril'sk	1.49	13	*e*P		Pn	00 51 59.7	+0.1		
KUR				AMB	AMB		00 52 06.6			
	comp=E,280nm,0.4s									
KUR				AMB	AMB		00 52 06.6			
	comp=E,360nm,0.4s									
KUR				AMB	AMB		00 52 06.6			
	comp=E,590nm,0.4s									
KUR				*i* S		Sn	00 52 17.8	-0.2		
KUR				A	A		00 52 20.4			
	comp=E,6μm,0.4s									
KUR				A	A		00 52 20.4			
	comp=E,5μm,0.4s									
RUSJ	Misakicho	1.58	282	↓*i* PN		Pn	00 52 01.3	+0.4		
RUSJ				*e*S		Sn	00 52 20.3	0.0		
JRA	Rausu	1.65	276	*e*P		Pn	00 52 01.9	+0.1		
JRA				*e*S		Sn	00 52 21.6	-0.3		
JRA	Rausu	1.65	276	A	A		00 52 01.9			
	comp=E,3.0nm,1.4s,comp=N,9.0nm,1.7s									
JNSB	Nemuroshibetsu	1.73	271	*e*P		Pn	00 52 03.1	+0.2		
JNSB				*e*S		Sn	00 52 23.9	0.0		
JNSB	Nemuroshibetsu	1.73	271	A	A		00 52 03.1			
	comp=E,5.0nm,2.9s,comp=N,6.0nm,2.4s									
JKHN	Kushirohamanak	1.77	248	P		Pn	00 52 03.0	-0.5		
JKHN				*e*S		Sn	00 52 23.4	-1.5		
JNK	Nakash	1.95	265	*e*P		Pn	00 52 05.8	-0.2		
AKK	Akkeshi	2.01	249	*e*P		Pn	00 52 05.9	-0.8		
JAK	Akkeshi	2.12	249	*e*P		Pn	00 52 07.4	-0.8		
JAK				*e*S		Sn	00 52 31.5	-1.9		
JAK	Akkeshi	2.12	249	A	A		00 52 07.4			
	comp=E,4.0nm,3.2s,comp=N,3.0nm,0.9s									
JTKR	Abashiri--Toko	2.53	275	*e*P		Pn	00 52 14.7	+0.9		
JTKR				*e*S		Sn	00 52 45.7	+2.3		
JAR	Ashorobuto	2.68	261	*e*P		Pn	00 52 16.3	+0.4		
JAR				*e*S		Sn	00 52 48.4	+1.3		
JOB	Onbets	2.74	253	*e*P		Pn	00 52 16.9	+0.2		
JOB				*e*S		Sn	00 52 47.6	-1.1		
JMP	Maruseppu	2.93	276	*e*P		Pn	00 52 20.2	+0.9		
JCH	Churui	3.17	250	*e*P		Pn	00 52 22.4	-0.2		
JCH				*e*S		Sn	00 52 58.1	-1.1		
JKK2	Kamakawa 2	3.36	273	*e*P		Pn	00 52 27.3	+2.0		
JKA	Kamikawa-asahi	3.48	277	Pn		Pn	00 52 28.5	+1.7		
JKA				Sn		Sn	00 53 09.2	+2.5		
ASAJ	Asahikawa	3.48	277	*e*P		Pn	00 52 29.1	+2.3		
ASAJ	Asahikawa	3.48	277	P		Pn	00 52 28.6	+1.8		
	comp=N,36nm,0.4s,baz=84,slow=12,SNR=28									
ASAJ				*e*S		Sn	00 53 07.9	+1.1		
	comp=N,48nm,0.6s,baz=108,slow=20,SNR=4.0									
ASAJ				LR	LR		00 53 56.2			
	comp=N,204nm,21.2s,baz=128,slow=41									
JFR	Furan	3.55	262	*e*P		Pn	00 52 29.5	+1.7		
JEM	Erimo	3.58	242	*e*P		Pn	00 52 29.9	+1.7		
ERM	Erimo	3.58	242	Pn		Pn	00 52 29.4	+1.3		
ERM				Sn		Sn	00 53 12.1	+2.9		
ERM	Erimo	3.58	242	*i* PN		Pn	00 52 29.7	+1.5		
JSE	Soyaes	3.65	290	*e*P		Pn	00 52 29.9	+0.9		
JNBK	Urakawa-nobuka	3.72	248	*e*P		Pn	00 52 30.1	0.0		
YSS	Yuzh-Sakhalins	4.55	316	Pn		Pn	00 52 42.4	+0.9		
YSS	Yuzh-Sakhalins	4.55	316	↓*i* PN		Pn	00 52 42.4	+0.9		
YSS				*e*S		Sn	00 53 31.6	-1.5		
YSS				pmax	pmax					
	comp=Z,90nm,0.7s									
YSS				MLR	MLR					
	comp=Z,300nm,14.0s									
YSS	Yuzh-Sakhalins	4.55	316	*e*P		Pn	00 52 42.4	+0.9		
YSS				AMB	AMB		00 52 42.9			
	comp=Z,90nm,0.7s									
YSS				*e*S		Sn	00 53 31.6	-1.5		
YSS				A	A		00 53 44.3			
	comp=Z,30nm,0.7s									
YSS				A	A		00 53 44.3			
	comp=Z,70nm,0.7s									
JTM	Tenmabayashi	5.57	240	Pn		Pn	00 52 55.2	-0.2		
JMM	Marumori	7.74	222	Pn		Pn	00 53 27.7	+2.5		
TYV	Tymovskoe	7.78	337	*e*P		Pn	00 53 27.0	+1.3		
TYV				AMB	AMB		00 53 29.2			
	comp=Z,20nm,0.4s									
SKR	Severo-Kuril's	9.10	38	*e*PN		Pn	00 53 43.1	-0.6		
SKR				pmax	pmax					
	comp=Z,209nm,0.8s									
SKR	Severo-Kuril's	9.10	38	*e*P		Pn	00 53 45.2	+1.5		
SKR				AMB	AMB		00 53 46.6			
	comp=Z,220nm,0.6s									
SKR				*e*S		Sn	00 55 22.5	-2.0		
SKR				A	A		00 55 27.8			
	comp=Z,160nm,0.8s									
SKR				A	A		00 55 27.8			
	comp=Z,80nm,0.8s									
MJA0	Matsu Arr-Jizo	10.06	227	*e*PN		Pn	00 53 53.5	-3.5		
MJAR	Matsushiro Arr	10.08	227	P		Pn	00 53 57.9	+0.7		
	comp=Z,0.9nm,0.3s,baz=25

UNV	**Unalaska Valle** baz=270	**31.46**	**55**	P	**P**	**00 57 53.1**	**+2.1**
TNA	**Tin City** baz=250	**32.73**	**33**	P	**P**	**00 58 02.4**	**+0.4**
FALS	**False Pass** baz=271	**33.25**	**53**	P	**P**	**00 58 08.5**	**+1.8**
F14K	**Arctic Creek** baz=252	**33.33**	**33**	P	**P**	**00 58 07.2**	**-0.1**
ANM	**Nome** baz=255	**33.46**	**35**	P	**P**	**00 58 09.6**	**+1.1**
M13K	**Dall Lake** baz=263	**33.57**	**43**	P	**P**	**00 58 11.1**	**+1.7**
J14K	**Nanvaranak Lak** baz=259	**33.84**	**39**	P	**P**	**00 58 11.6**	**-0.1**
L14K	**Kuka Creek** baz=262	**34.02**	**41**	P	**P**	**00 58 13.3**	**0.0**
F15K	**North Star Dit** baz=254	**34.07**	**33**	P	**P**	**00 58 13.8**	**+0.1**
G15K	**Niukluk** baz=255	**34.12**	**35**	P	**P**	**00 58 14.9**	**+0.7**
M14K	**Bethel**	**34.29**	**42**	P	**P**	**00 58 17.3**	**+1.7**
M14K	**Bethel** baz=264,SNR=5.4	**34.29**	**42**	P	**P**	**00 58 16.6**	**+0.9**
N14K	**Kuskokwak Cree** baz=265	**34.35**	**44**	P	**P**	**00 58 17.4**	**+1.2**
O14K	**Tigyukauivet M** baz=266	**34.51**	**45**	P	**P**	**00 58 19.1**	**+1.4**
C16K	**Lisburne Hills** baz=249	**34.62**	**29**	P	**P**	**00 58 17.9**	**-0.6**
L15K	**Ungalak Mounta** baz=263	**34.63**	**41**	P	**P**	**00 58 19.4**	**+0.7**
K15K	**Wolf Creek Mou** baz=262	**34.69**	**40**	P	**P**	**00 58 20.1**	**+1.0**
H16K	**Elim** baz=258	**34.79**	**36**	P	**P**	**00 58 20.2**	**+0.2**
M15K	**Kasigluk River** baz=265,SNR=7.7	**34.91**	**43**	P	**P**	**00 58 21.5**	**+0.5**
G16K	**Koyuk River** baz=257	**34.91**	**34**	P	**P**	**00 58 20.5**	**-0.4**
N15K	**Kwethluk River** baz=266	**35.16**	**44**	P	**P**	**00 58 24.1**	**+0.9**
D17K	**Noatak River** baz=253,SNR=7.3	**35.24**	**30**	P	**P**	**00 58 23.3**	**-0.4**
O15K	**Ungalikthiuk R** baz=268	**35.25**	**45**	P	**P**	**00 58 25.1**	**+1.2**
C17K	**DeLong Mountai** baz=252,SNR=9.1	**35.45**	**29**	P	**P**	**00 58 25.1**	**-0.5**
L16K	**Owhat River**	**35.59**	**41**	P	**P**	**00 58 27.3**	**+0.5**
L16K	**Owhat River** baz=265,SNR=6.5	**35.59**	**41**	P	**P**	**00 58 28.0**	**+1.1**
F17K	**Baldwin Pennin**	**35.59**	**33**	P	**P**	**00 58 27.3**	**+0.5**
F17K	comp=Z,5.7nm,0.7s			IAmb	IAmb	00 58 29.8	
F17K	**Baldwin Pennin** baz=256,SNR=7.2	**35.59**	**33**	P	**P**	**00 58 26.7**	**-0.1**
G17K	**Kiwalik Mounta** baz=258	**35.63**	**34**	P	**P**	**00 58 27.8**	**+0.6**
M16K	**Timber Creek** baz=266	**35.78**	**42**	P	**P**	**00 58 29.4**	**+0.9**
H17K	**Granite Mounta** baz=260	**35.83**	**35**	P	**P**	**00 58 29.5**	**+0.6**
N16K	**Nishlik Lake** baz=267	**35.84**	**43**	P	**P**	**00 58 30.4**	**+1.3**
E18K	**Tukpahlearik C**	**36.08**	**31**	P	**P**	**00 58 31.6**	**+0.6**
E18K	comp=Z,3.1nm,0.6s			IAmb	IAmb	00 58 33.4	
E18K	**Tukpahlearik C** baz=256	**36.08**	**31**	P	**P**	**00 58 31.6**	**+0.6**
O16K	**Kokwok River B** baz=269	**36.15**	**45**	P	**P**	**00 58 32.6**	**+0.9**
L17K	**Donlin** baz=265	**36.18**	**40**	P	**P**	**00 58 32.7**	**+0.8**
C18K	**Utukok River**	**36.19**	**29**	P	**P**	**00 58 31.6**	**-0.5**
C18K	comp=Z,6.9nm,0.8s			IAmb	IAmb	00 58 32.2	
C18K	**Utukok River** baz=253,SNR=7.7	**36.19**	**29**	P	**P**	**00 58 31.2**	**-0.8**
P16K	**Nushagak River** baz=270	**36.19**	**46**	P	**P**	**00 58 33.3**	**+1.2**
B18K	**Kokolik River** baz=252	**36.20**	**28**	P	**P**	**00 58 32.5**	**+0.5**
K17K	**Iditarod**	**36.23**	**39**	P	**P**	**00 58 32.8**	**+0.5**
K17K	**Iditarod** baz=264	**36.23**	**39**	P	**P**	**00 58 33.1**	**+0.8**
F18K	**Selawik** baz=258	**36.26**	**33**	P	**P**	**00 58 33.1**	**+0.6**
H18K	**Honhosa River**	**36.51**	**35**	P	**P**	**00 58 35.5**	**+0.8**
H18K	**Honhosa River** baz=261	**36.51**	**35**	P	**P**	**00 58 35.3**	**+0.5**
G18K	**Tagagawik** baz=260	**36.51**	**34**	P	**P**	**00 58 35.5**	**+0.8**
M17K	**Holitna River** baz=267	**36.53**	**42**	P	**P**	**00 58 36.2**	**+1.2**
N17K	**Nushagak Hills** baz=268	**36.62**	**43**	P	**P**	**00 58 36.8**	**+1.1**
O17K	**Koliganek Bris** baz=270,SNR=7.4	**36.66**	**44**	P	**P**	**00 58 37.0**	**+1.0**
C19K	**Lookout Ridge**	**36.88**	**29**	P	**P**	**00 58 37.5**	**-0.3**
C19K	comp=Z,6.5nm,0.8s			IAmb	IAmb	00 58 38.4	
C19K	**Lookout Ridge** baz=254	**36.88**	**29**	P	**P**	**00 58 38.1**	**+0.3**
Q16K	**King Salmon** baz=271	**36.89**	**46**	P	**P**	**00 58 39.3**	**+1.4**
L18K	**Granite Mounta**	**36.94**	**40**	P	**P**	**00 58 39.0**	**+0.6**
L18K	**Granite Mounta** baz=267,SNR=6.9	**36.94**	**40**	P	**P**	**00 58 39.3**	**+0.9**
P17K	**Kvichak River** baz=271	**36.99**	**45**	P	**P**	**00 58 39.5**	**+0.7**
J18K	**Innoko River** baz=265	**37.02**	**38**	P	**P**	**00 58 39.5**	**+0.5**
F19K	**Shaleruckik Mo** baz=259	**37.03**	**32**	P	**P**	**00 58 39.1**	**0.0**
G19K	**Purcell Mounta** baz=261	**37.19**	**34**	P	**P**	**00 58 40.8**	**+0.3**
D19K	**Kuna River** baz=257	**37.25**	**30**	P	**P**	**00 58 41.1**	**+0.1**
N18K	**Kilae Creek** baz=269	**37.27**	**43**	P	**P**	**00 58 42.2**	**+1.0**
TTA	**Tatalina**	**37.29**	**39**	P	**P**	**00 58 42.4**	**+0.9**
TTA	comp=Z,7.8nm,0.8s			IAmb	IAmb	00 58 43.4	
TTA	**Tatalina**	**37.29**	**39**	P	**P**	**00 58 42.4**	**+0.9**
TTA	comp=Z,8.0nm,0.8s			pmax	pmax		
TTA	**Tatalina** baz=266,SNR=6.2	**37.29**	**39**	P	**P**	**00 58 41.7**	**+0.2**
Q17K	**Contact Creek** baz=273	**37.31**	**47**	P	**P**	**00 58 42.8**	**+1.1**
M18K	**Stony River** baz=268	**37.31**	**41**	P	**P**	**00 58 43.3**	**+1.7**
E19K	**Redstone River** baz=259	**37.36**	**32**	P	**P**	**00 58 42.1**	**+0.2**
H19K	**Roundabout Mou** baz=262	**37.36**	**35**	P	**P**	**00 58 42.7**	**+0.8**
SVW2	**Sparrevohn**	**37.42**	**42**	P	**P**	**00 58 43.8**	**+1.2**
SVW2	comp=Z,7.6nm,0.9s			IAmb	IAmb	00 58 45.1	
J19K	**Poorman**	**37.55**	**37**	P	**P**	**00 58 44.1**	**+0.5**
J19K	comp=Z,10nm,0.8s			IAmb	IAmb	00 58 45.8	
J19K	**Poorman** baz=265,SNR=12	**37.55**	**37**	P	**P**	**00 58 44.1**	**+0.5**
O18K	**Koktuh Hills**	**37.61**	**44**	P	**P**	**00 58 44.5**	**+0.4**
O18K	comp=Z,12nm,1.1s			IAmb	IAmb	00 58 49.1	
O18K	**Koktuh Hills** baz=271	**37.61**	**44**	P	**P**	**00 58 45.2**	**+1.1**
P18K	**Big Mountain,**	**37.61**	**45**	P	**P**	**00 58 44.7**	**+0.6**
P18K	comp=Z,11nm,0.9s			IAmb	IAmb	00 58 46.2	
P18K	**Big Mountain,** baz=272,SNR=5.7	**37.61**	**45**	P	**P**	**00 58 45.4**	**+1.3**
CHIR	**Chirikof Islan**	**37.63**	**51**	P	**P**	**00 58 44.3**	**0.0**
CHIR	**Chirikof Islan** baz=276	**37.63**	**51**	P	**P**	**00 58 45.9**	**+1.6**
L19K	**White Mountain**	**37.79**	**40**	P	**P**	**00 58 46.9**	**+1.2**
L19K	**White Mountain** baz=268	**37.79**	**40**	P	**P**	**00 58 46.3**	**+0.6**
D20K	**Etivluk River** baz=258	**37.83**	**30**	P	**P**	**00 58 45.6**	**-0.3**
F20K	**Avaraart Lake**	**37.86**	**32**	P	**P**	**00 58 46.8**	**+0.7**
F20K	**Avaraart Lake** baz=261	**37.86**	**32**	P	**P**	**00 58 46.0**	**-0.2**
E20K	**Nigu River** baz=259	**37.90**	**30**	P	**P**	**00 58 46.1**	**-0.4**
B20K	**Meade River**	**37.93**	**27**	P	**P**	**00 58 46.7**	**0.0**
B20K	comp=Z,15nm,1.2s			IAmb	IAmb	00 58 47.9	
B20K	**Meade River** baz=256	**37.93**	**27**	P	**P**	**00 58 46.6**	**0.0**
N19K	**Bonanza Creek**	**37.96**	**43**	P	**P**	**00 58 49.0**	**+1.9**
N19K	comp=Z,5.0nm,0.8s			IAmb	IAmb	00 58 49.6	
N19K	**Bonanza Creek** baz=270	**37.96**	**43**	P	**P**	**00 58 48.0**	**+0.9**
H20K	**Anotleneega Mo** baz=264,SNR=8.7	**38.00**	**35**	P	**P**	**00 58 47.9**	**+0.5**
M19K	**Big River Lodg**	**38.01**	**41**		**P**	**00 58 49.2**	**+1.8**
M19K	**Big River Lodg** baz=269	**38.01**	**41**	P	**P**	**00 58 48.5**	**+1.1**
O19K	**Port Alsworth** baz=271	**38.05**	**44**	P	**P**	**00 58 49.1**	**+1.3**
I20K	**Naaghedeneel** baz=265	**38.11**	**36**	P	**P**	**00 58 49.1**	**+0.9**
K20K	**Telida** baz=268	**38.20**	**38**	P	**P**	**00 58 49.6**	**+0.6**
J20K	**Nowinta River** baz=266	**38.21**	**37**	P	**P**	**00 58 50.3**	**+1.3**
L20K	**Farewell, AK** baz=269	**38.26**	**40**	P	**P**	**00 58 50.8**	**+1.2**
IMAR	**Indian Mountai**	**38.52**	**34**	P	**P**	**00 58 52.6**	**+0.9**
C21K	**Knifeblade Rid** baz=260	**38.57**	**29**	P	**P**	**00 58 52.6**	**+0.6**
M20K	**Styx River** baz=270	**38.60**	**41**	P	**P**	**00 58 53.6**	**+1.1**
G21K	**Allakaket** baz=264	**38.67**	**33**	P	**P**	**00 58 53.3**	**+0.4**
B21K	**Ikpikpuk River**	**38.71**	**28**	P	**P**	**00 58 53.5**	**+0.3**
B21K	comp=Z,12nm,0.7s			IAmb	IAmb	00 58 54.0	
B21K	**Ikpikpuk River** baz=259	**38.71**	**28**	P	**P**	**00 58 53.2**	**-0.1**
E21K	**Killik River** baz=261	**38.74**	**30**	P	**P**	**00 58 53.1**	**-0.5**
F21K	**Alatna River**	**38.76**	**32**	P	**P**	**00 58 54.5**	**+0.8**
F21K	**Alatna River** baz=263	**38.76**	**32**	P	**P**	**00 58 53.7**	**+0.1**
OHAK	**Old Harbor**	**38.77**	**48**	P	**P**	**00 58 54.1**	**+0.2**
OHAK	**Old Harbor** baz=276	**38.77**	**48**	P	**P**	**00 58 54.9**	**+1.0**
RSO	**Redoubt South**	**38.82**	**43**	P	**P**	**00 58 56.1**	**+1.6**
H21K	**Melozitna Rive**	**38.88**	**35**	P	**P**	**00 58 55.7**	**+1.0**
H21K	**Melozitna Rive** baz=266,SNR=10	**38.88**	**35**	P	**P**	**00 58 55.3**	**+0.6**
CHUM	**Lake Minchumin** baz=268,SNR=8.6	**39.00**	**38**	P	**P**	**00 58 56.4**	**+0.7**
PPLA	**Purkeypile**	**39.04**	**39**	P	**P**	**00 58 58.1**	**+1.9**
PPLA	comp=Z,9.4nm,0.8s			IAmb	IAmb	00 59 03.9	
PPLA	**Purkeypile** baz=270,SNR=5.5	**39.04**	**39**	P	**P**	**00 58 57.0**	**+0.8**
N20K	**Mount Spurr** baz=272,SNR=6.3	**39.06**	**42**	P	**P**	**00 58 57.5**	**+1.1**
CAST	**Castle Rocks**	**39.09**	**38**	P	**P**	**00 58 58.1**	**+1.5**
CAST	**Castle Rocks** baz=269,SNR=22	**39.09**	**38**	P	**P**	**00 58 57.6**	**+1.1**
KDAK	**Kodiak Island**	**39.10**	**47**	P	**P**	**00 58 56.9**	**+0.3**
KDAK	comp=Z,12nm,1.0s			IAmb	IAmb	00 58 57.3	
KDAK	**Kodiak Island**	**39.10**	**47**	P	**P**	**00 58 56.9**	**+0.3**
KDAK	comp=Z,13nm,1.0s			pmax	pmax		
KDAK	**Kodiak Island** baz=276	**39.10**	**47**	P	**P**	**00 58 57.6**	**+1.1**
I21K	**Tanana**	**39.19**	**36**	P	**P**	**00 58 58.4**	**+1.1**
I21K	comp=Z,9.4nm,1.3s			IAmb	IAmb	00 58 59.5	
I21K	**Tanana** baz=267	**39.19**	**36**	P	**P**	**00 58 58.0**	**+0.7**
B22K	**Teshekpuk Lake**	**39.25**	**27**	P	**P**	**00 58 57.2**	**-0.5**
B22K	**Teshekpuk Lake** baz=259	**39.25**	**27**	P	**P**	**00 58 57.2**	**-0.5**
D22K	**Ayikyak River**	**39.27**	**30**	P	**P**	**00 58 58.4**	**+0.5**
D22K	comp=Z,6.0nm,0.6s			IAmb	IAmb	00 58 58.9	
D22K	**Ayikyak River** baz=262,SNR=8.6	**39.27**	**30**	P	**P**	**00 58 57.8**	**-0.2**
SKT	**Skwentna**	**39.36**	**41**	P	**P**	**00 59 00.1**	**+1.3**
SKT	**Skwentna** baz=272	**39.36**	**41**	P	**P**	**00 58 59.8**	**+1.0**
H22K	**Ishtalitna Cre** baz=267	**39.48**	**34**	P	**P**	**00 59 00.5**	**+0.8**
E22K	**Anaktuvuk Pass**	**39.49**	**31**	P	**P**	**00 59 00.6**	**+0.7**
E22K	comp=Z,9.3nm,0.7s			IAmb	IAmb	00 59 01.0	
E22K	**Anaktuvuk Pass** baz=264	**39.49**	**31**	P	**P**	**00 58 59.9**	**0.0**
G22K	**Bettles** baz=266	**39.50**	**33**	P	**P**	**00 58 59.8**	**0.0**
BPAW	**Bear Paw Mtn.**	**39.59**	**37**	P	**P**	**00 59 02.1**	**+1.4**
BPAW	comp=Z,7.4nm,0.7s			IAmb	IAmb	00 59 04.9	
BPAW	**Bear Paw Mtn.** baz=269,SNR=6.4	**39.59**	**37**	P	**P**	**00 59 01.7**	**+1.1**
KTH	**Kantishna Hill**	**39.61**	**38**	P	**P**	**00 59 02.4**	**+1.5**
MLY	**Manley**	**39.71**	**36**	P	**P**	**00 59 03.3**	**+1.6**
MLY	**Manley** baz=268,SNR=10	**39.71**	**36**	P	**P**	**00 59 02.4**	**+0.7**
SUA	**Susitna One**	**39.75**	**41**	P	**P**	**00 59 02.6**	**+0.5**
SUA	comp=Z,9.0nm,1.1s			IAmb	IAmb	00 59 03.3	
SUA	**Susitna One** baz=273	**39.75**	**41**	P	**P**	**00 59 02.8**	**+0.7**
BRLK	**Bradley Lake**	**39.79**	**44**	P	**P**	**00 59 03.0**	**+0.6**
BRSE	**Bradley Lake S** baz=275	**39.87**	**44**	P	**P**	**00 59 04.4**	**+1.3**
TRF	**Thorofare Moun**	**39.90**	**38**	P	**P**	**00 59 04.5**	**+1.1**
TRF	comp=Z,6.0nm,0.8s			IAmb	IAmb	00 59 06.2	
TRF	**Thorofare Moun** baz=271,SNR=5.5	**39.90**	**38**	P	**P**	**00 59 03.9**	**+0.5**
CUT	**Chulitna** baz=272	**39.94**	**40**	P	**P**	**00 59 04.4**	**+0.9**
D23K	**Nanushuk River** baz=264	**40.00**	**30**	P	**P**	**00 59 04.3**	**+0.3**
COLD	**Coldfoot**	**40.03**	**32**	P	**P**	**00 59 04.9**	**+0.7**
COLD	**Coldfoot** baz=266,SNR=5.2	**40.03**	**32**	P	**P**	**00 59 04.3**	**0.0**
G23K	**Bananza Creek**	**40.07**	**33**	P	**P**	**00 59 05.5**	**+0.9**
G23K	**Bananza Creek** baz=267	**40.07**	**33**	P	**P**	**00 59 04.9**	**+0.3**
C23K	**Itkillik River**	**40.12**	**28**	P	**P**	**00 59 05.1**	**+0.2**
C23K	comp=Z,11nm,1.1s			IAmb	IAmb	00 59 06.2	
C23K	**Itkillik River** baz=263	**40.12**	**28**	P	**P**	**00 59 05.3**	**+0.3**
BWN	**Browne**	**40.26**	**37**	P	**P**	**00 59 08.1**	**+1.9**
RC01	**Rabbit Creek A**	**40.26**	**42**	P	**P**	**00 59 06.3**	**0.0**
RC01	comp=Z,15nm,1.2s			IAmb	IAmb	00 59 07.9	
RC01	**Rabbit Creek A** baz=274	**40.26**	**42**	P	**P**	**00 59 06.8**	**+0.6**
I23K	**Minto, Yukon-K**	**40.30**	**36**	P	**P**	**00 59 07.3**	**+0.9**
I23K	comp=Z,7.8nm,0.8s			IAmb	IAmb	00 59 09.5	
I23K	**Minto, Yukon-K** baz=270,SNR=9.5	**40.30**	**36**	P	**P**	**00 59 07.0**	**+0.5**
E23K	**Chandalar** baz=266	**40.31**	**31**	P	**P**	**00 59 06.4**	**-0.3**
O22K	**Cooper Landing**	**40.31**	**43**	P	**P**	**00 59 06.5**	**-0.2**
O22K	**Cooper Landing** baz=275	**40.31**	**43**	P	**P**	**00 59 06.9**	**+0.3**
GOMU	**GeErMu**	**40.41**	**278**	P	**P**	**00 59 07.7**	**-0.5**
GOMU				pP	pP	00 59 10.8	-12
GOMU				sP	sP	00 59 13.2	-16
GOMU	comp=Z,5.0nm,0.6s			pmax	pmax		
NEA2	**Nenana**	**40.42**	**37**	P	**P**	**00 59 08.7**	**+1.2**
NEA2	**Nenana** baz=270,SNR=21	**40.42**	**37**	P	**P**	**00 59 07.8**	**+0.2**
SEW	**Seward**	**40.48**	**44**	P	**P**	**00 59 08.6**	**+0.6**
SEW	**Seward** baz=276	**40.48**	**44**	P	**P**	**00 59 08.8**	**+0.8**
MCK	**McKinley**	**40.50**	**38**	P	**P**	**00 59 08.8**	**+0.6**
MCK	comp=Z,14nm,0.8s			IAmb	IAmb	00 59 09.7	
MCK	**McKinley**	**40.50**	**38**	P	**P**	**00 59 08.8**	**+0.6**
MCK	comp=Z,14nm,0.8s			pmax	pmax		
MCK	**McKinley** baz=272,SNR=11	**40.50**	**38**	P	**P**	**00 59 09.0**	**+0.8**
PMR	**Palmer**	**40.52**	**41**	P	**P**	**00 59 09.0**	**+0.7**
	baz=274						
RND	**Reindeer**	**40.55**	**38**	P	**P**	**00 59 09.3**	**+0.7**
RND	comp=Z,15nm,0.9s			IAmb	IAmb	00 59 09.8	
RND	**Reindeer**	**40.55**	**38**	P	**P**	**00 59 09.3**	**+0.7**
RND	comp=Z,15nm,0.9s			pmax	pmax		
GHO	**Glory Hole Cre** comp=Z,11nm,1.1s	**40.60**	**41**	IAmb	IAmb	00 59 10.2	
D24K	**Happy Valley**	**40.68**	**30**	P	**P**	**00 59 10.2**	**+0.6**
D24K	**Happy Valley** baz=265	**40.68**	**30**	P	**P**	**00 59 09.9**	**+0.3**
C24K	**Franklin Bluff** baz=265	**40.77**	**29**	P	**P**	**00 59 09.7**	**-0.6**
MDM	**Murphy Dome**	**40.78**	**36**	P	**P**	**00 59 11.6**	**+1.1**
MDM	comp=Z,11nm,0.7s			IAmb	IAmb	00 59 12.4	
WRH	**Wood River Hil**	**40.85**	**37**	P	**P**	**00 59 11.6**	**+0.5**
WRH	comp=Z,6.1nm,0.6s			IAmb	IAmb	00 59 15.0	
KNK	**Knik Glacier**	**40.85**	**41**	P	**P**	**00 59 12.1**	**+1.0**
KNK	comp=Z,8.1nm,0.8s			IAmb	IAmb	00 59 13.3	
KNK	**Knik Glacier** baz=275	**40.85**	**41**	P	**P**	**00 59 11.9**	**+0.7**
SML	**Sawmill**	**40.88**	**41**	P	**P**	**00 59 12.4**	**+1.1**
SML	**Sawmill**	**40.88**	**41**	P	**P**	**00 59 12.5**	**+1.1**
SML	comp=Z,24nm,1.0s			pmax	pmax		
SML	**Sawmill** baz=274,SNR=9.4	**40.88**	**41**	P	**P**	**00 59 12.2**	**+0.8**
H24K	**Noodor Dome**	**40.92**	**35**	P	**P**	**00 59 13.0**	**+1.4**
H24K	comp=Z,17nm,1.3s			IAmb	IAmb	00 59 14.1	
H24K	**Noodor Dome** baz=270,SNR=8.2	**40.92**	**35**	P	**P**	**00 59 12.1**	**+0.4**
F24K	**Squaw Lake**	**40.94**	**32**	P	**P**	**00 59 12.2**	**+0.4**
F24K	**Squaw Lake** baz=268	**40.94**	**32**	P	**P**	**00 59 12.5**	**+0.7**
COLA	**College**	**40.94**	**36**	P	**P**	**00 59 12.5**	**+0.7**
COLA	**College**	**40.94**	**36**	P	**P**	**00 59 12.5**	**+0.7**
COLA	comp=Z,18nm,0.8s			pmax	pmax		
COLA	**College** baz=271	**40.94**	**36**	P	**P**	**00 59 12.3**	**+0.5**
CCB	**Clear Creek Bu**	**40.97**	**36**	P	**P**	**00 59 12.9**	**+0.9**
G24K	**Hadweenzic Riv** baz=270	**41.08**	**33**	P	**P**	**00 59 13.7**	**+0.7**
POKR	**Poker Plat Res**	**41.11**	**36**	P	**P**	**00 59 14.8**	**+1.6**
POKR	**Poker Plat Res** baz=271,SNR=16	**41.11**	**36**	P	**P**	**00 59 14.0**	**+0.8**
ZALV	**Zalesovo Beam** comp=Z,2.1nm,0.6s,baz=76,slow=2.2,SNR=10	**41.12**	**307**	PcP	**PcP**	**01 01 10.8**	**-1.0**
M23K	**Glacier View** baz=275	**41.17**	**41**	P	**P**	**00 59 14.2**	**+0.5**
HDA	**Harding Lake**	**41.35**	**37**	P	**P**	**00 59 15.4**	**+0.3**
HDA	**Harding Lake** baz=273,SNR=12	**41.35**	**37**	P	**P**	**00 59 15.5**	**+0.3**
SCM	**Sheep Creek Mo**	**41.35**	**41**	P	**P**	**00 59 16.1**	**+0.8**
SCM	comp=Z,8.1nm,0.8s			IAmb	IAmb	00 59 17.0	
SCM	**Sheep Creek Mo**	**41.35**	**41**	P	**P**	**00 59 16.1**	**+0.8**
SCM	comp=Z,8.0nm,0.8s			pmax	pmax		
SCM	**Sheep Creek Mo** baz=275	**41.35**	**41**	P	**P**	**00 59 16.1**	**+0.8**
IL31		**41.36**	**36**	P	**P**	**00 59 16.1**	**+0.9**
IL31	comp=Z,9.0nm,1.0s			IAmb	IAmb	00 59 16.4	
ILAR	**Eielson Array**	**41.36**	**36**	P	**P**	**00 59 16.1**	**+0.9**
ILAR	**Eielson Array** comp=Z,4.2nm,0.7s,baz=270,slow=8.8,SNR=59	**41.36**	**36**	P	**P**	**00 59 15.4**	**+0.2**
ILAR	comp=Z,0.3nm,0.6s,baz=273,slow=3.5,SNR=2.5			PcP	**PcP**	**01 01 11.3**	**-1.2**
IL03	**Eielson Array** comp=Z,4.2nm,0.7s	**41.37**	**36**	P	**P**	**00 59 16.3**	**+0.9**
P23K	**Montague Islan** baz=277	**41.52**	**43**	P	**P**	**00 59 17.7**	**+1.2**
D25K	**Kavik River** baz=268	**41.56**	**29**	P	**P**	**00 59 16.8**	**-0.1**
G25K	**Bearman Lake** baz=271	**41.63**	**33**	P	**P**	**00 59 17.9**	**+0.5**
F25K	**Christian Rive** baz=270	**41.80**	**32**	P	**P**	**00 59 19.2**	**+0.3**
E25K	**Arctic Village** baz=270,SNR=5.6	**41.83**	**31**	P	**P**	**00 59 19.2**	**+0.2**
M24K	**Tolsona, Glenn**	**41.87**	**40**	P	**P**	**00 59 21.2**	**+1.8**
M24K	**Tolsona, Glenn** baz=276,SNR=5.6	**41.87**	**40**	P	**P**	**00 59 20.1**	**+0.6**
K24K	**Donnelly Dome** baz=274,SNR=12	**41.90**	**38**	P	**P**	**00 59 20.2**	**+0.6**
PRP	**Porcupine Dome**	**41.90**	**35**	P	**P**	**00 59 21.2**	**+1.4**
PRP	comp=Z,12nm,0.7s			IAmb	IAmb	00 59 21.7	
PRP	**Porcupine Dome** baz=273,SNR=8.1	**41.90**	**35**	P	**P**	**00 59 20.1**	**+0.3**
HIN	**Hinchinbrook I**	**41.91**	**43**	P	**P**	**00 59 20.1**	**+0.3**
FYU	**Fort Yukon**	**41.98**	**34**	P	**P**	**00 59 21.9**	**+1.7**
FYU	comp=Z,15nm,1.0s			IAmb	IAmb	00 59 22.8	
J25K	**Salcha River,** baz=274,SNR=6.7	**42.02**	**36**	P	**P**	**00 59 20.4**	**-0.3**
KLU	**Klutina**	**42.05**	**41**	IAmb	IAmb	00 59 23.6	
KLU	comp=Z,19nm,1.2s **Klutina** baz=277,SNR=6.2	**42.05**	**41**	P	**P**	**00 59 21.1**	**0.0**
C26K	**Camden Bay** baz=268	**42.10**	**28**	P	**P**	**00 59 21.0**	**-0.1**
PAX	**Paxson**	**42.11**	**39**	P	**P**	**00 59 21.9**	**+0.5**
PAX	**Paxson**	**42.11**	**39**	P	**P**	**00 59 21.9**	**+0.5**
PAX	comp=Z,5.0nm,0.9s			pmax	pmax		
PAX	**Paxson** baz=276	**42.11**	**39**	P	**P**	**00 59 22.0**	**+0.5**
Q23K	**Middleton Isla** baz=279	**42.12**	**44**	P	**P**	**00 59 22.4**	**+0.9**
DIV	**Divide**	**42.17**	**42**	P	**P**	**00 59 22.8**	**+0.8**
DIV	comp=Z,24nm,1.4s			IAmb	IAmb	00 59 24.6	
EYAK	**Cordova Ski Ar** baz=278	**42.26**	**43**	P	**P**	**00 59 23.8**	**+1.2**
HARP	**HAARP** baz=276,SNR=5.3	**42.31**	**40**	P	**P**	**00 59 24.3**	**+1.2**
F26K	**Sheenjek River** baz=271	**42.37**	**32**	P	**P**	**00 59 24.1**	**+0.6**
G26K	**Porcupine Rive** baz=273	**42.54**	**33**	P	**P**	**00 59 25.1**	**+0.3**
N25K	**Chitina, Valde** baz=278	**42.67**	**41**	P	**P**	**00 59 26.8**	**+0.8**
SCRK	**Sand Creek**	**42.67**	**37**	P	**P**	**00 59 26.4**	**+0.3**
SCRK	comp=Z,11nm,0.7s			IAmb	IAmb	00 59 27.0	
SCRK	**Sand Creek** baz=276,SNR=22	**42.67**	**37**	P	**P**	**00 59 26.2**	**+0.2**
BMRM	**Bremner River** baz=278	**42.76**	**42**	P	**P**	**00 59 28.1**	**+1.4**
J26L	**Joseph Creek**	**42.80**	**37**	P	**P**	**00 59 27.3**	**+0.2**
J26L	comp=Z,5.8nm,0.6s			IAmb	IAmb	00 59 28.2	
J26L	**Joseph Creek** baz=276	**42.80**	**37**	P	**P**	**00 59 27.1**	**0.0**
RAGM	**Ragged Mountai**	**42.81**	**43**	P	**P**	**00 59 28.4**	**+1.2**
RAGM	comp=Z,16nm,1.1s			IAmb	IAmb	00 59 46.1	
I26K	**Coal Creek Min**	**42.90**	**35**	P	**P**	**00 59 27.6**	**-0.2**
I26K	**Coal Creek Min** baz=275	**42.90**	**35**	P	**P**	**00 59 27.9**	**+0.1**
MENT	**Mentasta**	**42.91**	**39**	P	**P**	**00 59 29.6**	**+1.7**
HMT	**Hamilton**	**43.02**	**43**	P	**P**	**00 59 29.7**	**+0.9**
HMT	comp=Z,28nm,1.4s			IAmb	IAmb	01 00 03.0	
L26K	**Log Cabin Wild**	**43.06**	**39**	P	**P**	**00 59 30.7**	**+1.5**
L26K	comp=Z,11nm,0.7s			IAmb	IAmb	00 59 31.6	
L26K	**Log Cabin Wild** baz=277,SNR=12	**43.06**	**39**	P	**P**	**00 59 29.9**	**+0.8**
GLB	**Gilahina Butte**	**43.07**	**41**	P	**P**	**00 59 30.7**	**+1.5**
VRDI	**Verde Repeater**	**43.27**	**41**	P	**P**	**00 59 32.1**	**+1.1**
BERG	**Berg Lake**	**43.29**	**43**	P	**P**	**00 59 32.7**	**+1.8**
BERG	comp=Z,19nm,1.2s			IAmb	IAmb	00 59 49.0	
M26K	**Nabesna, AK** comp=Z,15nm,0.9s	**43.31**	**40**	IAmb	IAmb	00 59 33.9	
M26K	**Nabesna, AK** baz=278,SNR=11	**43.31**	**40**	P	**P**	**00 59 31.7**	**+0.6**
MCARA	**McCarthy VSAT**	**43.45**	**41**	P	**P**	**00 59 33.8**	**+1.6**

MCARA IAmb IAmb 00 59 36.6
comp=Z,16nm,1.1s
MCARA McCarthy VSAT 43.45 41 P **P** **00 59 32.9 +0.6**
baz=279
H27K Steamboat Moun 43.49 34 P **P** **00 59 32.7 +0.2**
baz=275
K27K Chicken 43.50 37 P **P** **00 59 33.2 +0.6**
baz=277,SNR=24
I27K Kandik River 43.51 35 P **P** **00 59 33.0 +0.2**
baz=276
CRQE Cirque 43.52 42 P **P** **00 59 34.0 +1.0**
baz=280
WAX Waxell Ridge 43.69 42 P **P** **00 59 35.2 +0.9**
L27K Beaver Creek, 43.74 38 P **P** **00 59 36.7 +2.0**
L27K Beaver Creek, 43.74 38 P **P** **00 59 35.3 +0.6**
baz=278
BCAR Beaver Creek A 43.76 38 P **P** **00 59 36.7 +1.9**
EGAK Eagle 43.80 36 P **P** **00 59 35.5 +0.5**
EGAK IAmb IAmb 00 59 36.2
comp=Z,9.7nm,0.7s
EGAK Eagle 43.80 36 P **P** **00 59 35.5 +0.5**
baz=277,SNR=9.2
M27K Edge Creek, AK 43.83 39 P **P** **00 59 37.3 +1.8**
baz=279
ISLE Juniper Island 43.91 42 P **P** **00 59 36.8 +0.7**
ISLE IAmb IAmb 00 59 55.7
comp=Z,17nm,1.3s
F28M Old Crow 44.01 32 IAmb IAmb 00 59 39.0
comp=Z,6.3nm,0.8s
F28M Old Crow 44.01 32 P **P** **00 59 37.5 +0.8**
baz=275,SNR=10
GRNC Granite Creek 44.17 42 P **P** **00 59 39.9 +1.6**
GRNC IAmb IAmb 00 59 40.5
comp=Z,11nm,0.8s
MESA MESA 44.18 43 P **P** **00 59 40.4 +2.0**
MESA MESA 44.18 43 P **P** **00 59 39.2 +0.8**
baz=281
I28M Miner Creek 44.23 35 P **P** **00 59 39.0 +0.5**
baz=278
D28M Stokes Point 44.27 29 P **P** **00 59 39.7 +1.0**
baz=275
BVCY Beaver Creek 44.29 39 P **P** **00 59 39.8 +0.8**
baz=280
CTG Chitna Glacier 44.33 41 P **P** **00 59 40.3 +0.9**
baz=281
CTGM Chitina Glacie 44.33 41 P **P** **00 59 40.5 +1.1**
CTGM IAmb IAmb 00 59 42.2
comp=Z,15nm,1.2s
YUK3 Moose Creek 44.59 40 P **P** **00 59 41.3 -0.3**
baz=281
DAWY Dawson 44.66 37 P **P** **00 59 43.1 +1.1**
baz=279
E29M Blow River 44.67 31 IAmb IAmb 00 59 44.9
comp=Z,5.4nm,0.7s
E29M Blow River 44.67 31 P **P** **00 59 41.7 -0.2**
baz=276,SNR=12
MK31 Makanchi Array 44.73 298 *i* P **P** **00 59 42.3 -0.4**
MKAR Makanchi Array 44.73 298 P **P** **00 59 43.0 +0.3**
MKAR Makanchi Array 44.73 298 *eP* **P** **00 59 42.5 -0.2**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 44.73 298 P **P** **00 59 42.2 -0.5**
comp=Z,0.7nm,0.6s,baz=80,slow=6.1,SNR=10
MKAR PcP **PcP** **01 01 23.9 -0.2**
comp=Z,0.6nm,0.8s,baz=70,slow=2.0,SNR=4.2
comp=Z,0.7nm,0.6s
MKAR Makanchi Array 44.73 298 *eP* **P** **00 59 42.5 -0.2**
H29M Whitestone 44.76 34 IAmb IAmb 00 59 45.1
comp=Z,8.2nm,0.9s
H29M Whitestone 44.76 34 P **P** **00 59 43.3 +0.6**
baz=278
MAKZ Makanchi 44.92 298 P **P** **00 59 44.4 +0.1**
MAKZ Makanchi 44.92 298 P **P** **00 59 44.4 +0.1**
MAKZ pmax pmax
comp=Z,5.0nm,1.5s
PINM Pinnacle 45.03 42 P **P** **00 59 46.0 +1.0**
baz=283
M29M Somme Creek 45.38 39 P **P** **00 59 49.2 +1.4**
baz=282
L29M L29M 45.39 38 IAmb IAmb 00 59 52.0
comp=Z,5.4nm,0.8s
L29M L29M 45.39 38 P **P** **00 59 48.6 +0.8**
baz=281,SNR=11
EPYK Eagle Plains 45.40 33 P **P** **00 59 49.2 +1.4**
baz=279,SNR=5.5
G30M tAoh Zraii Nji 45.49 32 IAmb IAmb 00 59 50.4
comp=Z,12nm,1.0s
G30M tAoh Zraii Nji 45.49 32 P **P** **00 59 49.6 +1.1**
baz=279,SNR=12
K29M Barlow Dome 45.52 37 IAmb IAmb 00 59 51.1
comp=Z,8.3nm,1.1s
K29M Barlow Dome 45.52 37 P **P** **00 59 49.3 +0.4**
baz=281,SNR=6.6
YUK4 Talbot Arm 45.53 40 P **P** **00 59 49.2 +0.1**
baz=283
F30M Barrier River 45.56 31 P **P** **00 59 49.3 +0.3**
baz=279
KURK Kurchatov 45.66 304 P **P** **00 59 49.5 -0.5**
KURK Kurchatov 45.66 304 *i* P **P** **00 59 48.7 -1.3**
KURK pmax pmax
comp=Z,1.0nm,0.9s
I30M Mount Dempster 45.74 35 P **P** **00 59 51.0 +0.4**
baz=281,SNR=30
KURBB Kurchatov Arra 45.74 304 P **P** **00 59 49.2 -1.4**
comp=Z,0.5nm,0.5s,baz=76,slow=8.8,SNR=5.3
KURBB PcP **PcP** **01 01 27.6 +0.1**
comp=Z,1.0nm,0.6s,baz=75,slow=3.4,SNR=10.0
comp=Z,0.5nm,0.5s
J30M Hart River 45.88 36 IAmb IAmb 00 59 53.8
comp=Z,5.3nm,0.6s
J30M Hart River 45.88 36 P **P** **00 59 52.1 +0.3**
baz=281,SNR=12
M30M Minto, Yukon 46.10 39 P **P** **00 59 54.9 +1.5**
M30M Minto, Yukon 46.10 39 P **P** **00 59 54.6 +1.2**
baz=283
HYT Haines Junctio 46.19 41 P **P** **00 59 55.3 +1.1**
HYT Haines Junctio 46.19 41 P **P** **00 59 56.4 +2.3**
baz=284,SNR=8.0
N30M Aishikik Lake 46.23 40 P **P** **00 59 56.6 +2.2**
baz=284
G31M Satah River 46.26 32 P **P** **00 59 55.4 +0.9**
G31M IAmb IAmb 00 59 55.7
comp=Z,12nm,0.9s
G31M Satah River 46.26 32 P **P** **00 59 54.5 0.0**
baz=281,SNR=9.8
INK Inuvik 46.28 30 P **P** **00 59 55.5 +0.9**
INK IAmb IAmb 00 59 56.8
comp=Z,5.8nm,0.7s
INK Inuvik 46.28 30 P **P** **00 59 55.5 +0.9**
INK pmax pmax
comp=Z,6.0nm,0.7s
INK Inuvik 46.28 30 P **P** **00 59 55.3 +0.7**
baz=280,SNR=6.6
F31M Tsiigehtchic 46.36 32 P **P** **00 59 56.2 +0.9**
F31M Tsiigehtchic 46.36 32 P **P** **00 59 56.0 +0.7**
baz=281,SNR=11
P29M Windy Craggy 46.38 43 P **P** **00 59 57.9 +2.4**
P29M Windy Craggy 46.38 43 P **P** **00 59 56.9 +1.4**
baz=285
H31M Peel River 46.45 34 P **P** **00 59 56.5 +0.4**
baz=282
P30M Million Dollar 46.63 42 P **P** **00 59 59.0 +1.5**
baz=285
O30N Mendenhall 46.87 41 P **P** **01 00 01.0 +1.6**
O30N Mendenhall 46.87 41 P **P** **01 00 01.3 +1.9**
baz=285
M31M Drury Creek, Y 47.28 39 P **P** **01 00 03.9 +1.4**
M31M IAmb IAmb 01 00 05.1
comp=Z,6.6nm,1.1s
M31M Drury Creek, Y 47.28 39 P **P** **01 00 04.0 +1.4**
baz=285
WHY Whitehorse 47.47 41 P **P** **01 00 05.4 +1.2**
WHY IAmb IAmb 01 00 13.7
comp=Z,7.1nm,1.5s
WHY Whitehorse 47.47 41 P **P** **01 00 06.0 +1.8**
baz=286
CMAR Chiang Mai Arr 47.70 254 P **P** **01 00 07.5 +1.1**
comp=Z,0.8nm,0.4s,baz=45,slow=7.9,SNR=1.5
CMAR LR LR 01 20 09.7
comp=Z,28nm,18.2s,baz=200,slow=36
comp=Z,0.8nm,0.4s
FARO Faro, Yukon 47.74 38 P **P** **01 00 07.4 +1.2**
FARO IAmb IAmb 01 00 08.4
comp=Z,3.5nm,0.8s
FARO Faro, Yukon 47.74 38 P **P** **01 00 07.2 +1.0**
baz=286,SNR=6.2
N32M Quiet Lake 48.17 40 P **P** **01 00 10.7 +1.2**
baz=287
A36M Sachs Harbour 48.27 25 IAmb IAmb 01 00 10.8
comp=Z,5.5nm,0.7s
A36M Sachs Harbour 48.27 25 P **P** **01 00 09.6 -0.4**
baz=284,SNR=7.4
MMPY Sheldon Lake, 48.56 38 P **P** **01 00 14.0 +1.4**
MMPY IAmb IAmb 01 00 15.4
comp=Z,4.4nm,1.0s
MMPY Sheldon Lake, 48.56 38 P **P** **01 00 13.5 +1.0**
baz=287
P33M Teslin, Yukon 48.59 41 P **P** **01 00 14.7 +1.9**
P33M IAmb IAmb 01 00 15.3
comp=Z,5.7nm,0.9s
P33M Teslin, Yukon 48.59 41 P **P** **01 00 13.7 +1.0**
baz=288,SNR=5.9
S32K Killisnoo 48.60 45 P **P** **01 00 14.5 +1.8**
baz=289
Q32M Nakina River 49.25 42 P **P** **01 00 19.4 +1.4**
baz=290
C36M Paulatuk 49.37 28 P **P** **01 00 18.7 +0.3**
baz=287,SNR=10
BVAR Borovoye Array 49.62 309 P **P** **01 00 19.0 -1.6**
comp=Z,0.4nm,0.6s,baz=53,slow=7.4,SNR=2.8
BVAR PcP **PcP** **01 01 40.9 -0.4**
comp=Z,0.8nm,0.5s,baz=72,slow=4.7,SNR=5.2
comp=Z,0.4nm,0.6s
R33M Jennings River 49.74 42 P **P** **01 00 23.1 +1.5**
R33M IAmb IAmb 01 00 24.6
comp=Z,4.1nm,0.9s
R33M Jennings River 49.74 42 P **P** **01 00 23.1 +1.5**
baz=290
S34M Telegraph Cree 50.18 43 P **P** **01 00 26.7 +1.9**
S34M Telegraph Cree 50.18 43 P **P** **01 00 26.3 +1.5**
baz=291
TGTN Hyland Airport 50.25 38 P **P** **01 00 26.3 +0.9**
baz=290
DLBC Dease Lake 50.53 43 P **P** **01 00 28.6 +1.1**
DLBC IAmb IAmb 01 00 30.6
comp=Z,7.8nm,1.2s
DLBC Dease Lake 50.53 43 P **P** **01 00 29.5 +1.9**
baz=292
V35K Ketchikan 50.90 47 P **P** **01 00 31.8 +1.5**
baz=293
T35M Bob Quinn 50.97 44 P **P** **01 00 33.6 +2.8**
T35M IAmb IAmb 01 00 34.4
comp=Z,6.8nm,1.0s
T35M Bob Quinn 50.97 44 P **P** **01 00 31.9 +1.1**
baz=292,SNR=5.6
WRGLY Wrigley 51.71 35 P **P** **01 00 37.6 +1.4**
WRGLY IAmb IAmb 01 00 38.6
comp=Z,8.2nm,1.1s
WRGLY Wrigley 51.71 35 P **P** **01 00 37.2 +1.0**
baz=293
KSH Kashi 52.01 292 P **P** **01 00 42.9 +3.9**
KSH pmax pmax
comp=Z,2.0nm,1.0s
GRNB Grenville Isla 52.38 48 P **P** **01 00 42.8 +1.4**
GRNB IAmb IAmb 01 00 44.0
comp=Z,12nm,1.4s
KOTAN Kotaneelee Air 52.70 39 P **P** **01 00 44.9 +1.3**
baz=294
ARSB Arslanbob 53.12 295 P **P** **01 00 48.0 +0.8**
ARSB Arslanbob 53.12 295 P **P** **01 00 48.0 +0.8**
ARSB pmax pmax
comp=Z,2.0nm,0.9s
ARU Arti 54.44 317 *i* P **P** **01 00 56.4 0.0**
ARU pmax pmax
comp=Z,1.0nm,0.9s
ARU Arti 54.44 317 *eP* **P** **01 00 56.4 0.0**
SPITS Spitsbergen Ar 54.78 349 P **P** **01 00 55.5 -3.1**
comp=Z,4.5nm,0.9s,baz=25,slow=4.8,SNR=1.3
HOLB Holberg 54.83 51 P **P** **01 00 59.7 +0.4**
RES Resolute Bay 54.88 17 IAmb IAmb 01 00 59.5
comp=Z,4.7nm,0.9s
YKA Yellowknife Ar 55.68 34 P **P** **01 01 05.1 -0.1**
YKA Yellowknife Ar 55.68 34 *eP* **P** **01 01 05.6 +0.4**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 55.68 34 P **P** **01 01 05.5 +0.3**
comp=Z,2.5nm,0.7s,baz=298,slow=7.0,SNR=29
comp=Z,2.5nm,0.7s
GAR Garm 56.06 294 P **P** **01 01 08.3 -0.2**
GAR IAmb IAmb 01 01 09.9
comp=Z,5.3nm,0.9s
CHGR Chuyangaron 57.01 294 P **P** **01 01 15.1 -0.1**
CHGR Chuyangaron 57.01 294 P **P** **01 01 15.1 -0.1**
CHGR pmax pmax
comp=Z,9.0nm,0.7s
SIMJ Simiganj 57.10 294 P **P** **01 01 15.9 0.0**
SIMJ IAmb IAmb 01 01 16.5
comp=Z,3.9nm,0.8s
OZB Mount Ozzard 57.14 52 P **P** **01 01 16.3 +0.5**
ABKAR Akbulak array 57.18 309 P **P** **01 01 15.9 -0.2**
ABKAR Akbulak array 57.18 309 P **P** **01 01 15.9 -0.2**
ABKAR IAmb IAmb 01 01 29.1
comp=Z,3.8nm,1.4s
C03A Quillayute Air 58.19 52 P **P** **01 01 24.6 +1.4**
BRLDA Berland Lookou 58.77 43 P **P** **01 01 28.3 +1.0**
BRLDA IAmb IAmb 01 01 28.3
comp=Z,4.6nm,0.7s
NLWA Neilton Lookou 58.88 53 P **P** **01 01 28.2 +0.1**
ARCES ARCSS Array B 59.28 340 P **P** **01 01 28.3 -2.1**
comp=Z,6.5nm,1.1s,baz=46,slow=7.7,SNR=2.2
comp=Z,6.5nm,1.1s
EDM Edmonton 61.26 43 P **P** **01 01 44.6 +0.3**
EDM IAmb IAmb 01 01 45.7
comp=Z,5.0nm,0.9s
EDM Edmonton 61.26 43 P **P** **01 01 44.6 +0.3**
EDM pmax pmax
comp=Z,5.0nm,0.9s
H04A Detroit Lake 61.35 54 P **P** **01 01 46.1 +1.1**
H04A IAmb IAmb 01 01 59.2
comp=Z,5.5nm,1.2s
DBO Dodson Butte 61.61 56 P **P** **01 01 47.1 +0.2**
DBO IAmb IAmb 01 02 16.9
comp=Z,9.3nm,1.4s
NEW Newport 62.18 49 P **P** **01 01 51.2 +0.7**
baz=306
PINE Pine Mountain 62.60 55 P **P** **01 01 55.1 +1.5**
PINE IAmb IAmb 01 01 55.6
comp=Z,3.7nm,0.8s
J05D Fort Rock, OR 62.72 55 P **P** **01 01 56.0 +1.7**
J05D IAmb IAmb 01 01 56.6
comp=Z,3.3nm,1.0s
K05A Summer Lake 63.24 56 P **P** **01 01 59.4 +1.4**
SUMG Summit 63.87 2 P **P** **01 02 01.4 -0.4**
SUMG IAmb IAmb 01 02 30.2
comp=Z,12nm,1.5s
SUMG Summit 63.87 2 P **P** **01 02 01.4 -0.4**
SUMG pmax pmax
comp=Z,12nm,1.5s
WB2 Warramunga Arr 64.53 194 P **P** **01 02 05.7 -0.5**
WRA Warramunga Arr 64.53 194 P **P** **01 02 06.4 +0.1**
WRA Warramunga Arr 64.53 194 *eP* **P** **01 02 07.0 +0.8**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 64.53 194 P **P** **01 02 05.9 -0.3**
comp=Z,1.0nm,0.7s,baz=9.5,slow=6.6,SNR=6.1
comp=Z,1.0nm,0.7s
PLID Pearl Lake 64.68 51 P **P** **01 02 07.9 +0.5**
PLID IAmb IAmb 01 02 10.4
comp=Z,5.6nm,1.4s
FITZ Fitzroy Crossi 64.73 203 PP **PP** **01 04 30.0 -0.7**
FIA1 FINESS Array S 64.92 333 P **P** **01 02 07.0 -1.3**
FINES FINESS Array B 64.93 333 P **P** **01 02 07.4 -0.9**
FINES FINESS Array B 64.93 333 P **P** **01 02 07.2 -1.2**
comp=Z,1.7nm,0.5s,baz=42,slow=7.2,SNR=28
comp=Z,1.7nm,0.5s
OBN Obninsk 65.39 324 ǁ *eP* **P** **01 02 11.8 +0.4**
OBN *e* 01 02 44.2
OBN *e* 01 04 37.4
OBN *eS* S 01 11 05.5 +14
OBN pmax pmax
comp=Z,3.0nm,0.9s
OBN Obninsk 65.39 324 *eP* **P** **01 02 11.8 +0.4**
FCC Fort Churchill 65.91 30 P **P** **01 02 14.7 0.0**
FCC IAmb IAmb 01 02 16.2
comp=Z,9.5nm,1.4s
FCC Fort Churchill 65.91 30 P **P** **01 02 14.7 0.0**
FCC pmax pmax
comp=Z,10.0nm,1.4s
PAHR Pah Rah Range 65.96 57 P **P** **01 02 16.0 +0.4**
PAHR IAmb IAmb 01 02 17.4
comp=Z,3.7nm,1.1s
LRM Limekiln Ridge 66.20 49 P **P** **01 02 17.2 0.0**
PNTR Pine Nut 66.21 58 P **P** **01 02 17.9 +0.6**
PNTR IAmb IAmb 01 02 20.2
comp=Z,3.2nm,0.6s
EGMT Eagleton 66.24 46 P **P** **01 02 17.3 +0.1**
EGMT IAmb IAmb 01 02 18.8
comp=Z,4.6nm,0.8s
EGMT Eagleton 66.24 46 P **P** **01 02 17.6 +0.4**
baz=310
CMB Columbia Colle 66.36 59 P **P** **01 02 19.1 +1.0**
CMB Columbia Colle 66.36 59 P **P** **01 02 19.1 +1.0**
CMB pmax pmax
comp=Z,3.0nm,1.4s
YERR Yerington 66.49 58 P **P** **01 02 19.3 +0.2**
YERR IAmb IAmb 01 02 21.1
comp=Z,4.8nm,1.0s
HLID Hailey 66.52 52 P **P** **01 02 19.6 +0.4**
HLID Hailey 66.52 52 P **P** **01 02 19.9 +0.7**
baz=309
WAKR Walker 66.67 59 P **P** **01 02 20.4 +0.2**
BOZ Bozeman (W) 66.79 49 P **P** **01 02 21.1 +0.3**
BOZ IAmb IAmb 01 02 22.5
comp=Z,4.8nm,0.9s
BOZ Bozeman (W) 66.79 49 P **P** **01 02 21.1 +0.3**
BOZ pmax pmax
comp=Z,5.0nm,0.9s
BOZ Bozeman (W) 66.79 49 P **P** **01 02 21.6 +0.8**
baz=309
BMN Battle Mountai 66.82 56 P **P** **01 02 22.1 +1.0**
BMN IAmb IAmb 01 02 22.7
comp=Z,2.4nm,0.6s
BMN Battle Mountai 66.82 56 P **P** **01 02 22.1 +1.0**
BMN pmax pmax
comp=Z,2.0nm,0.6s
BBGB Big Mountain B 66.85 61 P **P** **01 02 20.4 -0.9**
KVN Kaiserville 67.15 57 P **P** **01 02 24.0 +0.7**
KVN IAmb IAmb 01 02 25.2
comp=Z,4.1nm,0.9s
KVN Kaiserville 67.15 57 P **P** **01 02 24.0 +0.7**
KVN pmax pmax
comp=Z,4.0nm,0.9s
LHV Little Huntoon 67.40 58 P **P** **01 02 25.7 +1.2**
LHV IAmb IAmb 01 02 26.8
comp=Z,4.5nm,0.7s
NVAR Mina Array Bea 67.41 58 P **P** **01 02 24.8 -0.1**
NVAR Mina Array Bea 67.41 58 P **P** **01 02 25.8 +0.8**
comp=Z,2.0nm,0.5s,baz=294,slow=7.0,SNR=22
comp=Z,2.0nm,0.5s
H17A Grant Village 68.13 49 P **P** **01 02 30.3 +0.8**
H17A IAmb IAmb 01 02 32.9
comp=Z,4.3nm,1.0s
H17A Grant Village 68.13 49 P **P** **01 02 29.5 +0.1**
baz=310
ASAR Alice Springs 68.25 193 P **P** **01 02 30.6 +0.7**
comp=Z,0.3nm,0.5s,baz=16,slow=4.3,SNR=2.8
comp=Z,0.3nm,0.5s
RLMT Red Lodge 68.37 48 P **P** **01 02 31.6 +0.7**
baz=311
MOOW Moose Ponds 68.45 50 P **P** **01 02 32.5 +1.0**
MOOW IAmb IAmb 01 02 33.8
comp=Z,5.6nm,1.4s
TPAW Teton Pass 68.51 50 P **P** **01 02 32.3 +0.4**
TPAW IAmb IAmb 01 02 33.9
comp=Z,14nm,1.5s
HVU Hansel Valley 68.58 52 P **P** **01 02 32.2 0.0**
HVU IAmb IAmb 01 02 34.7
comp=Z,5.3nm,1.3s
HVU Hansel Valley 68.58 52 P **P** **01 02 32.2 0.0**
HVU pmax pmax
comp=Z,5.0nm,1.3s
PKM Mcpherson Peak 68.68 62 P **P** **01 02 34.2 +1.2**
baz=309
DGMT Dagmar 68.75 43 P **P** **01 02 33.3 +0.3**
baz=313
CWC Cottonwood Cre 68.80 60 P **P** **01 02 34.5 +0.9**
baz=309
GRAC Grapevine Rang 68.89 59 P **P** **01 02 35.3 +1.2**
baz=310
R11B Troy Canyon, C 69.12 57 P **P** **01 02 36.4 +0.8**
R11B Troy Canyon, C 69.12 57 P **P** **01 02 36.2 +0.6**
baz=310
MPMC Manual Prospec 69.41 60 P **P** **01 02 38.6 +1.1**
baz=310
NC405 NORSAR Array S 69.44 339 P **P** **01 02 36.3 -0.7**
FURC Furnace Creek, 69.54 59 P **P** **01 02 39.2 +1.3**
baz=310
NC204 NORSAR Array S 69.55 339 P **P** **01 02 37.0 -0.7**
DUG Dugway, Tooele 69.58 54 P **P** **01 02 39.4 +1.0**
DUG Dugway, Tooele 69.58 54 P **P** **01 02 39.4 +1.0**
DUG pmax pmax
comp=Z,2.0nm,0.7s
DUG Dugway, Tooele 69.58 54 P **P** **01 02 39.6 +1.2**
baz=310
NB201 NORSAR Array S 69.61 339 P **P** **01 02 37.5 -0.5**
NB2 NORSAR Subarra 69.64 339 P **P** **01 02 37.0 -1.2**
comp=Z,0.5nm,0.5s,baz=33,slow=6.5
NOA NORSAR Array B 69.64 339 *eP* **P** **01 02 37.4 -0.8**
NOA pmax pmax
comp=Z,1.0nm,0.4s
NOA NORSAR Array B 69.64 339 P **P** **01 02 37.0 -1.2**
comp=Z,0.9nm,0.6s,baz=31,slow=6.6,SNR=12
comp=Z,0.9nm,0.6s
HFS Hagfors 69.73 337 P **P** **01 02 37.3 -1.4**
comp=Z,1.9nm,0.3s,baz=29,slow=4.1,SNR=22
comp=Z,1.9nm,0.3s
BW06 Boulder Array 69.75 50 P **P** **01 02 40.0 +0.5**
baz=311
PD31 Pinedale Array 69.75 50 P **P** **01 02 40.0 +0.5**
PDAR Pinedale Array 69.75 50 P **P** **01 02 40.1 +0.5**
PDAR Pinedale Array 69.75 50 P **P** **01 02 39.2 -0.3**
comp=Z,1.4nm,0.6s,baz=298,slow=1.9,SNR=15
comp=Z,1.4nm,0.6s
GWY Greenwater Val 69.84 59 P **P** **01 02 41.0 +1.0**
GWY IAmb IAmb 01 02 41.6
comp=Z,2.7nm,0.7s
EDW2 Edwards Air Fo 69.84 61 P **P** **01 02 41.4 +1.4**
baz=310
KIV Kislovodsk 69.87 312 P **P** **01 02 41.2 +1.2**
KIV Kislovodsk 69.87 312 *eP* **P** **01 02 40.2 +0.2**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,34nm,17.0s
KIV Kislovodsk 69.87 312 *eP* **P** **01 02 40.2 +0.2**
KBZ Khabaz 69.91 312 P **P** **01 02 40.9 +0.8**
comp=Z,3.5nm,0.7s,baz=43,slow=6.1,SNR=11
comp=Z,3.5nm,0.7s
PABE Paberze 70.12 330 P **P** **01 02 40.9 -0.3**
MPU Maple Canyon 70.38 53 P **P** **01 02 44.2 +0.9**
MPU IAmb IAmb 01 02 44.7
comp=Z,2.9nm,0.5s
HEC Hector,Ludlow 70.92 60 P **P** **01 02 48.0 +1.4**
baz=310
CCUT Cedar City 70.97 56 P **P** **01 02 48.0 +0.9**
MSU Marysvale 71.05 55 P **P** **01 02 48.7 +1.2**
MSU Marysvale 71.05 55 P **P** **01 02 48.7 +1.2**
RDMU Red Mountain 71.20 52 P **P** **01 02 49.4 +1.0**
RDMU IAmb IAmb 01 02 49.8
comp=Z,5.1nm,0.7s
MTPU Mount Pierson 71.36 55 P **P** **01 02 50.8 +1.3**
ULM Lac du Bonnet 71.37 37 P **P** **01 02 48.0 -0.9**
ULM Lac du Bonnet 71.37 37 P **P** **01 02 48.0 -0.9**
comp=Z,0.7nm,0.4s,baz=317,slow=3.9,SNR=2.4
comp=Z,0.7nm,0.4s
GMRC Granite Mounta 71.37 60 P **P** **01 02 50.2 +0.9**
baz=311
K22A Casper 71.49 48 P **P** **01 02 50.3 +0.3**
baz=313
SRU San Rafael Swe 71.62 53 P **P** **01 02 51.4 +0.5**
SRU IAmb IAmb 01 02 51.9
comp=Z,3.3nm,0.6s
SRU San Rafael Swe 71.62 53 P **P** **01 02 51.4 +0.5**
SRU pmax pmax
comp=Z,3.0nm,0.6s
PFO Pinyon Flats O 71.63 61 P **P** **01 02 51.9 +1.0**
baz=311
AKASG Malin Array Be 71.66 324 *eP* **P** **01 02 50.0 -0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 71.66 324 P **P** **01 02 49.8 -0.9**
comp=Z,2.1nm,0.5s,baz=39,slow=6.1,SNR=13
comp=Z,2.1nm,0.5s
AKBB Malin Array Si 71.66 324 P **P** **01 02 50.2 -0.4**
AKBB IAmb IAmb 01 02 51.3
comp=Z,7.2nm,1.0s
AKBB Malin Array Si 71.66 324 P **P** **01 02 50.2 -0.4**
AKBB pmax pmax
comp=Z,7.0nm,1.0s

KIEV Kiev 71.67 324 P P 01 02 50.0 -0.7
KIEV IAmb IAmb 01 02 51.3
comp=Z,5.9nm,0.9s
KIEV Kiev 71.67 324 P P 01 02 50.0 -0.7
KIEV pmax pmax
comp=Z,6.0nm,1.0s
O20A White River Ci 72.25 51 P P 01 02 55.4 +0.8
baz=313
HMU Henry Mountain 72.28 54 P P 01 02 55.6 +0.6
HMU IAmb IAmb 01 02 56.5
comp=Z,4.3nm,0.6s
PDMCI Parker Dam,Lak 72.63 59 P P 01 02 58.0 +1.3
baz=312
N23A Red Feather La 73.01 49 P P 01 02 59.9 +0.7
baz=314
PV04 Paradox Valley 73.04 53 P P 01 03 00.6 +1.2
PV19 Morning Glory 73.05 53 P P 01 03 00.8 +1.3
PV19 IAmb IAmb 01 03 01.0
comp=Z,3.7nm,0.8s
PV17 East Wray Mesa 73.09 53 P P 01 03 00.7 +1.1
PV17 IAmb IAmb 01 03 01.2
comp=Z,4.8nm,0.6s
PV05 Paradox Valley 73.14 53 P P 01 03 00.5 +0.5
PV03 Paradox Valley 73.17 53 P P 01 03 01.2 +1.1
WUAZ Wupatki 73.52 57 P P 01 03 03.6 +1.4
baz=312
ISCO Idaho Springs 73.95 50 P P 01 03 05.7 +0.9
baz=314
MVCO Mesa Verde 74.08 54 P P 01 03 07.1 +1.6
baz=313
X16A Lo Mia Camp, P 74.22 57 P P 01 03 07.6 +1.3
Q24A Divide 74.78 50 P P 01 03 11.0 +1.3
baz=314
214A Organ Pipe Nat 75.02 60 P P 01 03 12.2 +1.4
baz=312
OGNE Ogallala 75.09 47 P P 01 03 11.6 +0.5
OGNE Ogallala 75.09 47 P P 01 03 11.4 +0.3
baz=316
KWP Kalwaria Pacla 75.18 326 P P 01 03 12.5 +1.1
KWP IAmb IAmb 01 03 39.7
comp=Z,13nm,1.2s
KWP Kalwaria Pacla 75.18 326 P P 01 03 12.5 +1.1
KWP pmax pmax
comp=Z,13nm,1.2s
SDCO Great Sand Dun 75.44 52 P P 01 03 14.1 +0.6
baz=314
BUR08 Bucovina Ar. S 75.70 324 P P 01 03 14.8 +0.3
BURAR Bucovina Array 75.72 324 P P 01 03 15.0 +0.4
T25A Trinidad 76.48 51 P P 01 03 19.1 -0.2
baz=315
ANMO Albuquerque 76.84 54 P P 01 03 21.7 +0.4
baz=314
CLL Collm 77.37 333 *i* P **P 01 03 23.3 -0.4**
CLL pmax pmax
comp=Z,10.0nm,1.0s
CLL Collm 77.37 333 *i* P **P 01 03 23.3 -0.4**
comp=Z,10.0nm,1.0s
BRG Berggiesshubel 77.42 332 *eP* **P 01 03 22.2 -1.9**
BRG Amp 01 03 22.5
comp=Z,17nm,1.6s
BRG Berggiesshubel 77.42 332 *eP* **P 01 03 22.1 -1.9**
BRG pmax pmax
comp=Z,17nm,1.6s
BRG MLR MLR
comp=N,125nm,18.9s
BRG MLR MLR
comp=E,139nm,17.5s
BRG MLR MLR
comp=Z,276nm,18.6s
SCHQ Schefferville 77.53 19 P P 01 03 24.6 -0.1
SCHQ Schefferville 77.53 19 P P 01 03 24.5 -0.1
comp=Z,1.7nm,0.3s,baz=333,slow=8.1,SNR=14
comp=Z,1.7nm,0.3s
VYHS Vyhne 77.61 328 *eP* **P 01 03 25.9 +0.7**
VYHS Vyhne 77.61 328 *eP* **P 01 03 25.9 +0.7**
BRTR Keskin Array B 77.65 314 P P 01 03 26.0 +0.3
BRTR Keskin Array B 77.65 314 P P 01 03 26.0 +0.3
BRTR Keskin Array B 77.65 314 P P 01 03 26.2 +0.5
comp=Z,0.6nm,0.7s,baz=354,slow=4.3,SNR=2.6
comp=Z,0.6nm,0.7s
121A Cookes Peak, D 77.73 57 P P 01 03 26.4 +0.1
baz=314
CBKS Cedar Bluff 77.85 47 P P 01 03 26.0 -0.7
baz=317
EKA Eskdalemuir Ar 78.14 343 P P 01 03 27.6 -0.4
comp=Z,2.5nm,0.6s,baz=22,slow=4.8,SNR=9.1
comp=Z,2.5nm,0.6s
KHC Kasperske Hory 79.02 331 P P 01 03 33.4 +0.5
KHC Kasperske Hory 79.02 331 P P 01 03 33.4 +0.5
KHC pmax pmax
comp=Z,5.0nm,1.2s
GERES GERESS Array B 79.22 331 P P 01 03 33.9 -0.2
GERES GERESS Array B 79.22 331 P P 01 03 33.9 -0.2
GERES GERESS Array B 79.22 331 P P 01 03 33.8 -0.3
comp=Z,0.4nm,0.4s,baz=28,slow=8.9,SNR=4.5
comp=Z,0.4nm,0.4s
MNTX Cornudas Mount 79.76 56 P P 01 03 37.1 -0.2
baz=316
WATA Walderalm 81.25 331 *i* P **P 01 03 45.2 0.0**
comp=Z,2.2nm,0.4s
WTTA Wattenberg 81.29 331 *i* P **P 01 03 45.5 +0.1**
comp=Z,2.8nm,0.5s
WMOK Wichita Mounta 81.36 50 P P 01 03 44.8 -1.0
baz=318
MOTA Moosalm 81.40 332 *eP* **P 01 03 45.8 -0.2**
comp=Z,0.8nm,0.3s
MMAI Mount Meron Ar 81.60 308 P P 01 03 47.7 +0.5
comp=Z,1.3nm,0.7s,baz=38,slow=7.3,SNR=5.1
comp=Z,1.3nm,0.7s
HDIL Hopedale 81.75 40 P P 01 03 46.6 -1.1
baz=322
TUL3 Leonard 82.10 47 P P 01 03 48.4 -1.2
baz=319
TX31 Lajitas Ar. Si 82.48 56 P P 01 03 52.2 +0.3
TX31 **pP 01 04 11.8 +4.2**
TXAR Lajitas Array 82.48 56 P P 01 03 52.6 +0.7
TXAR Lajitas Array 82.48 56 P P 01 03 52.5 +0.6
comp=Z,1.4nm,0.7s,baz=300,slow=4.1,SNR=19
comp=Z,1.4nm,0.7s
TUE Stuetta 82.76 332 P P 01 03 53.4 +0.3
TUE IAmb IAmb 01 04 01.8
comp=Z,6.9nm,1.3s
CCM Cathedral Cave 82.78 43 P P 01 03 52.4 -0.8
baz=322
DRIO Del Rio 84.24 54 P P 01 04 01.0 +0.2
DRIO IAmb IAmb 01 04 24.0
comp=Z,5.8nm,1.0s
TORD Torodi Ar. Bea 115.28 323 PKP PKiKP 01 10 10.0 -0.7
comp=Z,0.6nm,1.1s,baz=16,slow=2.2,SNR=1.8
H03N2 Juan Fernandez 142.79 90 T T 03 50 19.4
baz=304,slow=74,SNR=12
H03N3 Juan Fernandez 142.80 90 T T 03 50 20.3
baz=304,slow=74,SNR=15
H03N1 Juan Fernandez 142.80 90 T T 03 50 20.8
baz=304
BDFB Brasilia 149.03 30 PKPbc PKPbc 01 11 16.7 -0.6
comp=Z,1.1nm,0.4s,baz=5.7,slow=10,SNR=3.8
PLCA Paso Flores 151.91 97 PKPbc PKPbc 01 11 23.7 +0.2
comp=Z,1.6nm,0.8s,baz=278,slow=1.0,SNR=7.4

IDC 06 01:08:16.9±7.5, 19°.31S×177°.37W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=326.0km s-min=41.4km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.36**	**261**	P	P	01 16 37.2	-0.2
	0.8nm,0.4s,baz=97,slow=7.7,SNR=13						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**45.38**	**256**	P	P	01 16 37.4	-0.1
	1.4nm,0.5s,baz=90,slow=8.8,SNR=16						
	1.4nm,0.5s						
ILAR	**Eielson Array**	**87.03**	**13**	P	P	01 21 03.8	-0.1
	0.2nm,0.8s,baz=214,slow=4.8,SNR=1.6						
	0.2nm,0.8s						

IDC 06 01:15:45.2±7.4, 49°.10N×154°.04E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=315.0km s-min=30.1km az=7.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11N2	**WAKE ISLAND Hy**	**31.07**	**156**	T	T	01 54 20.8	
	baz=343						
H11N1	**WAKE ISLAND Hy**	**31.08**	**156**	T	T	01 54 19.7	
	baz=343						
H11N3	**WAKE ISLAND Hy**	**31.08**	**156**	T	T	01 54 20.8	
	baz=343						
H11S1	**WAKE ISLAND Hy**	**32.18**	**157**	T	T	01 55 44.9	
	baz=345,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**32.19**	**157**	T	T	01 55 46.8	
	baz=345,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**32.20**	**157**	T	T	01 55 44.0	
	baz=345,slow=76,SNR=15						
ZALV	**Zalesovo Beam**	**41.78**	**304**	P	P	01 23 35.8	-0.1
	0.5nm,0.6s,baz=64,slow=6.6,SNR=2.3						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**46.45**	**296**	P	P	01 24 13.4	-0.1
	0.6nm,0.6s,baz=65,slow=6.6,SNR=7.3						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**46.71**	**302**	P	P	01 24 15.4	0.0
	0.5nm,0.2s,baz=70,slow=8.4,SNR=1.9						
	0.5nm,0.2s						
BVAR	**Borovoye Array**	**49.87**	**308**	P	P	01 24 39.7	-0.1
	1.0nm,0.4s,baz=60,slow=8.5,SNR=7.6						
	1.0nm,0.4s						
TXAR	**Lajitas Array**	**75.81**	**62**	P	P	01 27 33.2	+0.1
	0.2nm,0.4s,baz=300,slow=5.2,SNR=6.8						
	0.2nm,0.4s						

IDC 06 01:22:09.2±1.6, 4°.07S×126°.39E, h0km, mb3.6/3, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=178.3km s-min=24.6km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.58**	**154**	P	Pn	01 26 15.8	0.0
	0.1nm,0.3s,baz=333,slow=11,SNR=4.3						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**20.79**	**160**	P	P	01 26 51.5	-0.6
	0.9nm,0.6s,baz=336,slow=11,SNR=7.1						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**63.83**	**328**	P	P	01 32 44.0	+0.6
	0.7nm,0.5s,baz=127,slow=8.2,SNR=11						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**68.16**	**329**	P	P	01 33 10.8	-0.4
	0.4nm,0.6s,baz=132,slow=5.2,SNR=7.4						
	0.4nm,0.6s						

*IDC **06** 01:22:59.0±0.7, 28°.67S×62°.32E, h0km, mb4.1/15, mbtmp4.1/15, MS3.6/21, Error ellipse: s-maj=26.7km s-min=20.7km az=41.0*
*NEIC **06** 01:23:01.2±0.9, 28°.6S±0°.1×62°.5E±0°.2, h10km±1km, mb4.4/7, Error ellipse: s-maj=26.3km s-min=18.0km az=126.0*
ISC 06 01:23:01.0±0.6, 28°.6S±0°.1×62°.4E±0°.1, h10km, n58, σ0s60/36, mb4.3/28, MS3.6/20, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABPO	**Ambohimpanom**	**16.81**	**301**		P	**01 26 59.0**	**0.0**
OPO	**Ambohidratompo**	**17.11**	**302**	LR	LR	01 30 56.8	
	comp=Z,139nm,21.6s,baz=2.0,slow=28						
H04N2	**CROZET ISLANDS**	**19.39**	**203**	T	T	01 47 16.2	
	baz=28,slow=74,SNR=151						
H04N1	**CROZET ISLANDS**	**19.39**	**203**	T	T	01 47 23.5	
	baz=28,slow=74,SNR=167						
H04N3	**CROZET ISLANDS**	**19.41**	**203**	T	T	01 47 16.1	
	baz=28,slow=74,SNR=190						
BOSA	**Boshof**	**32.49**	**261**	LR	LR	01 41 25.8	
	comp=Z,46nm,18.1s,baz=194,slow=34						
LBTB	**Lobatse**	**32.92**	**268**	LR	LR	01 41 44.5	
	comp=Z,42nm,19.4s,baz=152,slow=34						
LSZ	**Lusaka**	**34.23**	**285**	P	**P**	**01 29 47.8**	**+0.5**
LSZ				IAmb	IAmb	01 29 48.9	
	comp=Z,3.3nm,0.7s						
LSZ	**Lusaka**	**34.23**	**285**	LR	LR	01 41 34.8	
	comp=Z,55nm,21.1s,baz=142,slow=33						
SUR	**Sutherland**	**35.84**	**253**	LR	LR	01 44 00.9	
	comp=Z,54nm,18.3s,baz=178,slow=35						
MAW	**Mawson**	**39.01**	**180**	LR	LR	01 41 47.8	
	comp=Z,149nm,21.7s,baz=247,slow=29						
PALK	**Pallekele**	**39.83**	**29**	LR	LR	01 42 38.5	
	comp=Z,42nm,21.3s,baz=298,slow=30						
MBAR	**Mbarara**	**41.10**	**307**	LR	LR	01 45 47.7	
	comp=Z,86nm,19.3s,baz=150,slow=33						
TSUM	**Tsumeb**	**41.79**	**273**	LR	LR	01 46 45.0	
	comp=Z,38nm,19.9s,baz=153,slow=34						
WSAR	**Wadi Sarin**	**51.68**	**356**	LR	LR	01 50 16.9	
	comp=Z,58nm,18.9s,baz=210,slow=32						
SNAA	**Sanae**	**55.34**	**200**	P	**P**	**01 32 35.2**	**+0.5**
SNAA				IAmb	IAmb	01 32 56.0	
	comp=Z,5.0nm,1.2s						
CMAR	**Chiang Mai Arr**	**58.66**	**41**	P	**P**	**01 32 59.5**	**+0.7**
	comp=Z,2.5nm,0.3s,baz=224,slow=6.3,SNR=7.2						
CMAR				LR	LR	01 54 01.8	
	comp=Z,20nm,21.2s,baz=270,slow=32						
	comp=Z,2.5nm,0.3s						
QSPA	**South Pole Qui**	**61.53**	**180**	P	**P**	**01 33 18.6**	**+0.5**
QSPA				IAmb	IAmb	01 33 30.0	
	comp=Z,7.2nm,1.1s						
QSPA	**South Pole Qui**	**61.53**	**180**	P	**P**	**01 33 17.6**	**-0.4**
	comp=Z,3.8nm,1.0s,baz=267,slow=16,SNR=6.4						
	comp=Z,3.8nm,1.0s						
ASAR	**Alice Springs**	**63.55**	**104**	P	**P**	**01 33 31.8**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=247,slow=5.8,SNR=8.6						
	comp=Z,0.9nm,0.5s						
EIL	**Elat**	**63.60**	**333**	LR	LR	01 58 56.2	
	comp=Z,19nm,18.5s,baz=245,slow=34						
VNDA	**Vanda**	**64.31**	**166**	LR	LR	02 00 52.5	
	comp=Z,90nm,18.1s,baz=227,slow=35						
WRA	**Warramunga Arr**	**65.33**	**100**	P	**P**	**01 33 43.2**	**-0.5**
	comp=Z,1.9nm,1.0s,baz=246,slow=6.0,SNR=5.8						
	comp=Z,1.9nm,1.0s						
MMAI	**Mount Meron Ar**	**66.42**	**335**	P	**P**	**01 33 50.1**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=147,slow=8.6,SNR=1.8						
	comp=Z,0.4nm,0.5s						
GNI	**Garni**	**70.35**	**346**	LR	LR	02 02 28.7	
	comp=Z,41nm,21.1s,baz=157,slow=34						
TORD	**Torodi Ar. Bea**	**71.83**	**297**	P	**P**	**01 34 24.4**	**+0.1**
TORD				IAmb	IAmb	01 34 42.6	
	comp=Z,2.2nm,1.2s						
TORD	**Torodi Ar. Bea**	**71.83**	**297**	P	**P**	**01 34 24.2**	**-0.1**
	comp=Z,1.1nm,1.0s,baz=100,slow=5.7,SNR=5.1						
TORD				LR	LR	02 05 28.9	
	comp=Z,136nm,18.7s,baz=140,slow=36						
	comp=Z,1.1nm,1.0s						
BRTR	**Keskin Array B**	**73.06**	**337**	P	**P**	**01 34 31.6**	**+0.2**
	comp=Z,1.8nm,1.0s,baz=170,slow=9.7,SNR=5.7						
	comp=Z,1.8nm,1.0s						
DBIC	**Dimbokro**	**73.55**	**287**	P	**P**	**01 34 33.8**	**-0.8**
DBIC	**Dimbokro**	**73.55**	**287**	P	**P**	**01 34 33.8**	**-0.8**
	comp=Z,4.6nm,0.9s,baz=125,slow=8.9,SNR=3.7						
DBIC				LR	LR	02 04 02.4	
	comp=Z,52nm,21.5s,baz=194,slow=34						
	comp=Z,4.6nm,0.9s						
KBZ	**Khabaz**	**74.17**	**345**	LR	LR	02 05 05.3	
	comp=Z,77nm,21.2s,baz=161,slow=34						
MKAR	**Makanchi Array**	**77.19**	**14**	P	**P**	**01 34 54.4**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=196,slow=3.4,SNR=5.1						
	comp=Z,0.6nm,0.8s						
AKTO	**Aktyubinsk**	**78.80**	**357**	LR	LR	02 07 50.2	
	comp=Z,45nm,18.0s,baz=246,slow=34						
KURBB	**Kurchatov Arra**	**80.18**	**10**	P	**P**	**01 35 10.8**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=205,slow=5.7,SNR=6.0						
	comp=Z,0.5nm,0.8s						
BVAR	**Borovoye Array**	**81.60**	**5**	P	**P**	**01 35 18.5**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=181,slow=6.5,SNR=2.8						
	comp=Z,0.4nm,0.5s						
RPZ	**Rata Peaks**	**82.89**	**136**	LR	LR	02 04 09.4	
	comp=Z,80nm,19.1s,baz=230,slow=30						
BURAR	**Bucovina Array**	**82.92**	**336**	P	**P**	**01 35 26.9**	**+1.0**
BURAR				IAmb	IAmb	01 35 28.1	
	comp=Z,2.3nm,0.9s						
AKASG	**Malin Array Be**	**84.24**	**340**	P	**P**	**01 35 32.3**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=149,slow=4.0,SNR=8.8						
	comp=Z,0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**84.50**	**13**	P	**P**	**01 35 33.9**	**+0.3**
ZALV	**Zalesovo Beam**	**84.50**	**13**	P	**P**	**01 35 33.5**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=189,slow=5.5,SNR=9.5						
	comp=Z,1.9nm,0.7s						
SONM	**Songino Array**	**85.77**	**28**	P	**P**	**01 35 40.4**	**0.0**
	comp=Z,1.1nm,0.9s,baz=208,slow=4.9,SNR=4.5						
	comp=Z,1.1nm,0.9s						
ARSA	**Arzberg**	**86.51**	**330**	*i* pP	pP	01 35 47.1	+1.2
	comp=Z,1.8nm,0.6s						
MOA	**Molln**	**87.52**	**330**	*eP*	**P**	**01 35 49.5**	**+0.7**
	comp=Z,0.5nm,0.3s						
KIRV	**Kirov**	**87.54**	**353**	LR	LR	02 13 57.9	
	comp=Z,38nm,19.5s,baz=193,slow=35						
LESA	**Schwarzleotal**	**87.91**	**329**	*eP*	**P**	**01 35 51.5**	**+0.8**
	comp=Z,1.0nm,0.4s						
MDT	**Midelt**	**88.13**	**309**	LR	LR	02 16 28.6	
	comp=Z,83nm,18.1s,baz=357,slow=36						
WTTA	**Wattenberg**	**88.27**	**328**	*i* P	**P**	**01 35 52.4**	**-0.2**
	comp=Z,1.3nm,0.5s						
WATA	**Walderalm**	**88.35**	**328**	*eP*	**P**	**01 35 52.3**	**-0.7**
	comp=Z,1.5nm,0.5s						
SQTA	**Sankt Quirin**	**88.44**	**328**	*i* P	**P**	**01 35 52.9**	**-0.5**
	comp=Z,0.7nm,0.4s						
FETA	**Feichten**	**88.52**	**328**	*eP*	**P**	**01 35 54.8**	**+1.0**
	comp=Z,2.2nm,0.7s						
MOTA	**Moosalm**	**88.58**	**328**	*i* P	**P**	**01 35 54.5**	**+0.5**
	comp=Z,1.5nm,0.6s						
RETA	**Reutte**	**88.84**	**328**	*i* P	**P**	**01 35 55.9**	**+0.8**
	comp=Z,2.7nm,0.7s						
DAVA	**Damuels**	**89.11**	**327**	*i* P	**P**	**01 35 57.4**	**+0.8**
	comp=Z,0.5nm,0.3s						
MJAR	**Matsushiro Arr**	**96.28**	**52**	P	**P**	**01 36 30.1**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=230,slow=5.8,SNR=2.5						
	comp=Z,1.6nm,0.7s						
ILAR	**Eielson Array**	**139.40**	**19**	PKP	**PKPdf**	**01 42 27.8**	**-0.1**
	comp=Z,0.2nm,0.8s,baz=304,slow=5.0,SNR=2.0						
YKA	**Yellowknife Ar**	**146.06**	**357**	PKPbc	**PKPbc**	**01 42 40.2**	**-0.3**
	comp=Z,2.5nm,1.0s,baz=349,slow=3.1,SNR=20						
ULM	**Lac du Bonnet**	**152.81**	**329**	PKPbc	**PKPbc**	**01 42 56.5**	**-1.4**
	comp=Z,2.1nm,0.8s,baz=47,slow=2.8,SNR=3.9						
PDAR	**Pinedale Array**	**164.44**	**337**	PKPab	**PKPab**	**01 43 59.7**	**0.0**
	comp=Z,0.2nm,0.6s,baz=79,slow=4.7,SNR=2.5						

*SFS **06** 01:24:26.5, 38°.64N×9°.37W, h1km, ML2.7/6, ML2.0/8, MLv1.6/8*
*IGIL **06** 01:24:27.9, 38°.69N×9°.28W, h18km, ML1.8*
*INMG **06** 01:24:27.9±1.4, 38°.70N×9°.27W, h17km±4km, ML1.5, Error ellipse: s-maj=4.2km s-min=1.8km az=89.0*
*MDD **06** 01:24:27.4±0.7, 38°.68N×9°.26W, h9km±5km, mb_Lg2.4/1, Error ellipse: s-maj=6.3km s-min=3.4km az=69.0*
ISC 06 01:24:27.4±1.1, 38°.70N±0°.03×9°.29W±0°.05, h18km±4km, n31, σ0s69/53, 1C-1D, Portugal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIS	**Lisbon**	**0.11**	**82**	*i*Pg	**Pg**	**01 24 31.1**	**0.0**
LIS				*e*Sg	**Sg**	**01 24 34.2**	**+0.5**
LIS				A	A	01 24 35.4	
	110nm,0.2s						
LIS	**Lisbon**	**0.11**	**82**	*eP*	**Pg**	**01 24 31.1**	**0.0**
LIS				*eS*	**Sg**	**01 24 34.0**	**+0.3**
LIS				IAML		01 24 35.1	
	comp=N,206nm,0.2s						
PMAFR	**Mafra**	**0.25**	**1**	*i*Pg	**Pg**	**01 24 32.9**	**-0.3**
PMAFR				*e*Sg	**Sg**	**01 24 37.0**	**-0.1**
PMAFR				A	A	01 24 37.5	
	comp=N,62nm,0.2s						
PMAFR	**Mafra**	**0.25**	**1**	Pg	**Pg**	**01 24 32.9**	**-0.3**
PMAFR				Sg	**Sg**	**01 24 37.0**	**-0.1**
PNCL	**Nicolau / Gran**	**0.84**	**134**	*eP*	**Pb**	**01 24 42.7**	**-0.8**
PNCL				*eS*	**Sb**	**01 24 53.6**	**-0.8**
PNCL				A	A	01 24 56.3	
	comp=N,7.3nm,0.3s						
PNCL	**Nicolau / Gran**	**0.84**	**134**	Pg	**Pb**	**01 24 42.6**	**-0.8**
PNCL				Sg	**Sb**	**01 24 53.1**	**-1.3**
PSBE	**So Bento**	**0.90**	**25**	*eP*	**Pb**	**01 24 44.6**	**+0.1**
PSBE				*eS*	**Sb**	**01 24 56.0**	**-0.1**
PSBE				A	A	01 24 57.7	
	comp=N,11nm,0.6s						
PMTG	**Montargil**	**0.91**	**66**	*eP*	**Pb**	**01 24 43.9**	**-0.7**
PMTG				*eS*	**Sb**	**01 24 56.4**	**+0.1**
PMTG				A	A	01 24 58.3	
	comp=N,10nm,0.3s						
MESJ	**Messejana**	**1.21**	**135**	*ePn*	**Pn**	**01 24 48.8**	**-0.6**
MESJ				*eSg*	**Sb**	**01 25 05.0**	**+0.1**
MESJ				A	A	01 25 08.4	
	comp=N,4.9nm,0.4s						
MESJ	**Messejana**	**1.21**	**135**	*ePg*	**Pn**	**01 24 48.7**	**-0.6**
PTEO	**Sao Teotonio**	**1.24**	**159**	*ePg*	**Pn**	**01 24 50.2**	**+0.4**
PTEO				*eSg*	**Sn**	**01 25 06.2**	**+0.2**
PTEO				A	A	01 25 07.9	
	comp=N,9.0nm,0.6s						
PBEJ	**Beja**	**1.31**	**121**	*eSg*	**Sb**	**01 25 07.8**	**0.0**
PBEJ				A	A	01 25 10.0	
	comp=N,2.3nm,0.6s						
PESTR	**Estremoz**	**1.34**	**82**	*ePg*	**Pn**	**01 24 51.7**	**+0.5**
PESTR				*eSg*	**Sb**	**01 25 09.2**	**+0.4**
PESTR				A	A	01 25 11.5	
	comp=N,5.2nm,0.3s						
PESTR	**Estremoz**	**1.34**	**82**	Pn	**Pn**	**01 24 51.7**	**+0.5**
PESTR				Sn	**Sb**	**01 25 09.3**	**+0.6**
PCVE	**Castro Verde**	**1.45**	**137**	*ePg*	**Pn**	**01 24 53.3**	**+0.5**
PCVE				*eSg*	**Sb**	**01 25 12.9**	**+0.8**
PCVE				A	A	01 25 15.4	
	comp=N,3.6nm,0.5s						
PCVE	**Castro Verde**	**1.45**	**137**	Pn	**Pn**	**01 24 52.6**	**-0.1**
PCVE				Sn	**Sb**	**01 25 12.1**	**0.0**
PCAS	**Casmilo, Conde**	**1.48**	**24**	*eSg*	**Sg**	**01 25 14.9**	**-0.4**
PCAS				A	A	01 25 16.4	
	comp=N,3.8nm,0.4s						
MORF	**Marmelete**	**1.48**	**160**	*ePg*	**Pn**	**01 24 53.9**	**+0.7**
MORF				A	A	01 25 14.7	
	comp=N,3.0nm,0.2s						
PFVI	**Vila Bisbo**	**1.61**	**167**	*eSg*	**Sb**	**01 25 17.8**	**+1.2**
PMRV	**Marv??o**	**1.65**	**63**	*ePg*	**Pb**	**01 24 57.4**	**+0.2**
PMRV				*eSg*	**Sb**	**01 25 18.5**	**+0.9**
PMRV				A	A	01 25 21.5	
	comp=N,3.1nm,0.2s						
EBAD	**Badajoz**	**1.78**	**88**	Pn	**Pn**	**01 24 57.7**	**+0.5**
EBAD				Sn	**Sb**	**01 25 21.3**	**-0.2**
EBAD	**Badajoz**	**1.78**	**88**	Pg	**Pb**	**01 25 00.2**	**+0.7**
EBAD				Sg	**Sb**	**01 25 22.7**	**+1.2**
EBAD				*i* Vmb_Lg		01 25 25.3	
PVAQ	**Vaqueiros**	**1.79**	**136**	*ePg*	**Pb**	**01 24 59.6**	**-0.2**
PVAQ				*eSg*	**Sb**	**01 25 22.6**	**+0.7**
PVAQ				A	A	01 25 29.9	
	comp=N,4.7nm,0.7s						
PVAQ	**Vaqueiros**	**1.79**	**136**	Pn	**Pn**	**01 24 56.1**	**-1.4**
PCBR	**Castelo Branco**	**1.81**	**51**	*eSg*	**Sg**	**01 25 24.5**	**-1.2**
PBDV	**Barranco-do-Ve**	**1.81**	**143**	*ePg*	**Pb**	**01 25 00.9**	**+0.9**
PBDV				*eSg*	**Sb**	**01 25 23.8**	**+1.4**
PBDV	**Barranco-do-Ve**	**1.81**	**143**	Pn	**Pn**	**01 24 56.5**	**-1.2**
EGRO	**El Granado**	**1.84**	**129**	Sn	**Sb**	**01 25 23.5**	**+0.3**
EGRO	**El Granado**	**1.84**	**129**	Pn	**Pn**	**01 24 57.1**	**-1.0**
EGRO				Sg	**Sg**	**01 25 26.4**	**-0.4**
PBAR	**Barrancos**	**1.84**	**106**	*ePg*	**Pb**	**01 25 01.4**	**+0.8**
PBAR				*eSg*	**Sb**	**01 25 24.1**	**+0.8**
PBAR				A	A	01 25 30.5	
	comp=N,4.0nm,1.0s						
PBAR	**Barrancos**	**1.84**	**106**	Pn	**Pn**	**01 24 57.6**	**-0.6**
PBAR				Sn	**Sb**	**01 25 23.4**	**+0.1**

IDC 06 01:51:38.3±2.0, 6°.10S×142°.04E, h0km, mb3.6/3, mbtmp3.6/5, ML3.8/2, Error ellipse: s-maj=85.1km s-min=30.8km az=103.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.66**	**208**	Pn	Pn	01 55 18.4	-2.1
	0.3nm,0.3s,baz=31,slow=14,SNR=8.4						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**19.14**	**203**	P	Pn	01 56 03.9	-0.2
	0.5nm,0.3s,baz=33,slow=10,SNR=28						
	2.6nm,0.6s						
MKAR	**Makanchi Array**	**74.48**	**322**	P	P

LUWI	**Luwuk**	**1.52**	**147**	P	**Pn**	**01 52 28.6**	**0.0**
LUWI				S	**S**	**01 52 53.4**	**-1.4**
MPSI	**Mapaga**	**2.04**	**273**	P	**Pn**	**01 52 32.3**	**-1.2**
KMSI	**Cibinong**	**2.08**	**81**	P	**Pn**	**01 52 34.3**	**+0.4**
TTSI	**Tana Toraja**	**3.89**	**213**	P	**Pn**	**01 52 54.4**	**-0.6**
SANI	**Sanana**	**4.65**	**119**	P	**Pn**	**01 53 02.8**	**-1.7**
LBMI	**Labuha**	**5.64**	**99**	P	**Pn**	**01 53 16.2**	**-0.9**
	28nm,0.5s,2μm0.8nm						
NLAI	**Namlea**	**6.21**	**124**	P	**Pn**	**01 53 25.5**	**+0.9**
WRA	**Warramunga Arr**	**23.45**	**149**	P	**P**	**01 56 46.1**	**+0.1**
	1.5nm,0.4s,baz=326,slow=11,SNR=29						
	1.5nm,0.4s						
ASAR	**Alice Springs**	**26.46**	**155**	P	**P**	**01 57 13.5**	**+0.4**
	1.7nm,0.6s,baz=344,slow=13,SNR=18						
	1.7nm,0.6s						
STKA	**Stephens Creek**	**36.97**	**152**	P	**P**	**01 58 45.2**	**+0.7**
	2.9nm,0.7s,baz=323,slow=8.8,SNR=6.1						
	2.9nm,0.7s						
SONM	**Songino Array**	**49.29**	**346**	P	**P**	**02 00 24.2**	**+1.2**
	0.7nm,0.6s,baz=157,slow=7.8,SNR=4.2						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**57.85**	**329**	P	**P**	**02 01 26.1**	**+1.0**
	1.2nm,0.4s,baz=127,slow=8.2,SNR=32						
	1.2nm,0.4s						
KURBB	**Kurchatov Arra**	**62.23**	**330**	P	**P**	**02 01 55.0**	**+0.4**
	0.3nm,0.4s,baz=141,slow=6.0,SNR=8.4						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**67.73**	**329**	P	**P**	**02 02 30.8**	**+0.7**
	0.8nm,0.7s,baz=124,slow=7.2,SNR=4.5						
	0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**119.31**	**285**	PKP	**PKPdf**	**02 10 18.5**	**-2.3**
	0.7nm,0.9s,baz=94,slow=2.2,SNR=5.5						

*ATH **06** 02:16:39.9, 34˙.20N×25˙.74E, h15km±2km, ML3.2/6, Manual Solution by M.Charalampakis This location: 2020/05/20 15:04:20 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km*
*GII **06** 02:16:40.9±0.5, 34˙.198N±0˙.003×26˙.119E±0˙.001, h10km, Mws3.1, confirmed*
*THE **06** 02:16:41.0, 34˙.31N×25˙.69E, h0km±3km, ML2.7/3, Error ellipse: s-maj=5.2km s-min=1.1km az=161.0*

ISC 06 02:16:36.3±1.9, 34˙.14N±0˙.07×25˙.75E±0˙.05, h5km±13km, n42, σ2§18/39, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**0.88**	**359**	P	**Pg**	**02 16 54.8**	**+1.6**
FRMA				S	**Sn**	**02 17 07.1**	**-1.4**
	505nm,0.6s						
FRMA	**Ierapetra Chan**	**0.88**	**359**	P	**Pb**	**02 16 55.6**	**+1.6**
FRMA				S	**Sn**	**02 17 07.0**	**-1.5**
ZKR	**Zakros**	**1.05**	**22**	P	**Pb**	**02 16 59.1**	**+2.0**
ZKR				S	**Sn**	**02 17 12.7**	**-0.1**
	1μm,0.5s						
ZKR	**Zakros**	**1.05**	**22**	P	**Pb**	**02 16 59.1**	**+2.0**
ZKR				S	**Sb**	**02 17 11.8**	**+0.7**
TMBK	**Timbaki Herakl**	**1.24**	**319**	P	**Pn**	**02 17 02.0**	**+1.7**
KSTL	**Kastelli Herak**	**1.29**	**335**	P	**Pb**	**02 16 59.2**	**-1.9**
KSTL				S	**Sg**	**02 17 13.3**	**-4.6**
	242nm,0.6s						
KSTL	**Kastelli Herak**	**1.29**	**335**	P	**Pb**	**02 16 59.5**	**-1.6**
KSTL				S	**Sg**	**02 17 13.0**	**-4.9**
IDI	**Anoyia**	**1.35**	**329**	P	**Pb**	**02 17 03.5**	**+1.3**
IDI	**Anoyia**	**1.35**	**329**	P	**Pb**	**02 17 03.3**	**+1.1**
IDI				S	**Sn**	**02 17 20.6**	**+0.3**
GVD	**Gavdhos**	**1.54**	**298**	P	**Pn**	**02 17 06.7**	**+2.2**
GVD	**Gavdhos**	**1.54**	**298**	P	**Pn**	**02 17 06.3**	**+1.8**
GVD				S	**Sb**	**02 17 26.3**	**+1.1**
IMMV	**Iera Moni Meta**	**1.96**	**313**	P	**Pn**	**02 17 12.2**	**+1.9**
IMMV	**Iera Moni Meta**	**1.96**	**313**	P	**Pn**	**02 17 12.2**	**+1.9**
CSS	**Mathiatis**	**6.31**	**80**	P	**Pn**	**02 18 11.1**	**+1.0**
OFRI	**`Ofer**	**7.87**	**99**	S	**Sn**	**02 19 58.1**	**-3.0**
OFRI	**`Ofer**	**7.87**	**99**	P	**Pn**	02 18 31.5	-0.1
KZIT	**Kziot**	**7.98**	**111**	S	**Sn**	**02 20 01.2**	**-2.5**
KZIT	**Kziot**	**7.98**	**111**	P	**Pn**	02 18 33.7	+0.7
AMAZ	**Amatzia**	**8.14**	**106**	S	**Sn**	**02 20 05.3**	**-2.4**
AMAZ	**Amatzia**	**8.14**	**106**	P	**Pn**	**02 18 35.8**	**+0.6**
YTIR	**Yattir**	**8.36**	**107**	P	**Pn**	02 18 38.6	+0.3
YTIR	**Yattir**	**8.36**	**107**	S	**Sn**	**02 20 11.2**	**-2.0**
NATI	**Neve Ativ**	**8.37**	**93**	P	**Pn**	02 18 38.2	-0.1
NATI	**Neve Ativ**	**8.37**	**93**	S	**Sn**	**02 20 09.5**	**-3.7**
HMDT	**Nahal Hemdat**	**8.41**	**100**	S	**Sn**	02 20 10.1	-4.1
HMDT	**Nahal Hemdat**	**8.41**	**100**	P	**Pn**	02 18 38.3	-0.5
UJAP	**Al Uja**	**8.44**	**102**	P	**Pn**	**02 18 39.7**	**+0.4**
UJAP	**Al Uja**	**8.44**	**102**	S	**Sn**	**02 20 12.5**	**-2.5**
DSI	**Dead Sea**	**8.50**	**105**	S	**Sn**	**02 20 13.8**	**-2.6**
DSI	**Dead Sea**	**8.50**	**105**	P	**Pn**	**02 18 41.0**	**+0.9**
MSBI	**Mazada**	**8.57**	**107**	P	**Pn**	02 18 41.3	+0.2
MSBI	**Mazada**	**8.57**	**107**	S	**Sn**	02 20 14.8	-3.4
KRMI	**Paran Flat**	**8.60**	**115**	P	**Pn**	02 18 42.3	+0.8
KRMI	**Paran Flat**	**8.60**	**115**	S	**Sn**	**02 20 17.2**	**-1.8**
PRNI	**Paran**	**8.70**	**113**	P	**Pn**	**02 18 43.7**	**+0.8**
PRNI	**Paran**	**8.70**	**113**	S	**Sn**	02 20 18.8	-2.6
GHAJ	**Ghor Haditha**	**8.74**	**106**	P	**Pn**	**02 18 44.2**	**+0.8**
GHAJ	**Ghor Haditha**	**8.74**	**106**	S	**Sn**	**02 20 19.9**	**-2.5**
HRFI	**Mount Harif**	**8.88**	**115**	S	**Sn**	**02 20 23.6**	**-2.2**
HRFI	**Mount Harif**	**8.88**	**115**	P	**Pn**	02 18 45.8	+0.5
EIL	**Elat**	**9.00**	**117**	P	**Pn**	**02 18 48.1**	**+1.1**
EIL	**Elat**	**9.00**	**117**	S	**Sn**	**02 20 26.7**	**-2.1**

*AFAD **06** 02:20:36.9±0.0, 41˙.44N×43˙.99E, h6km±2km, ML2.3*
*ISK **06** 02:20:36.8, 41˙.34N×44˙.05E, h4km, ML2.4/9*
*TIF **06** 02:20:36.1, 41˙.42N×44˙.09E, h13km*
*NORS **06** 02:20:37.1, 41˙.57N×44˙.08E, h3km, MPVA3.6*
*DRS **06** 02:20:38.8, 41˙.26N×43˙.95E, h20km*

ISC 06 02:20:36.3±0.8, 41˙.39N±0˙.02×44˙.09E±0˙.02, h14km±5km, n44, σ0§87/82, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMNI	**Dmanisi**	**0.10**	**129**	P	**Pg**	**02 20 39.8**	**+0.2**
DMNI				S	**Sg**	**02 20 41.9**	**+0.1**
TRLG	**Trialeti**	**0.15**	**4**	P	**Pg**	**02 20 39.9**	**-0.4**
TRLG				S	**Sg**	**02 20 42.2**	**-0.7**
BRNG	**Burnasheti**	**0.30**	**320**	P	**Pg**	**02 20 43.1**	**+0.3**
BRNG				S	**Sg**	**02 20 47.8**	**+0.7**
BGD	**Bogdanovka**	**0.39**	**251**	P	**Pb**	**02 20 44.6**	**-0.5**
BGD				S	**Sb**	**02 20 50.4**	**-0.7**
AKH	**Akhalkalaki**	**0.45**	**273**	P	**Pg**	**02 20 45.4**	**+0.1**
AKH				S	**Sg**	**02 20 51.7**	**+0.3**
ALIG	**Mtskhetisjvari**	**0.79**	**335**	P	**Pg**	**02 20 51.0**	**-0.6**
ALIG				S	**Sg**	**02 21 01.8**	**-0.2**
EAK	**Akyaka**	**0.79**	**207**	P	**Pb**	**02 20 51.7**	**-0.3**
EAK				S	**Sb**	**02 21 02.8**	**+0.2**
EAK				*i* AML	AML	02 21 03.0	
	comp=E,138nm,0.4s						
DGRG	**David-gareji**	**0.97**	**86**	P	**Pn**	**02 20 55.1**	**-0.4**
DGRG				S	**Sn**	**02 21 10.2**	**+1.0**
ABS	**Abastumani**	**1.02**	**291**	P	**Pg**	**02 20 55.4**	**-0.7**
ABS				S	**Sg**	**02 21 09.4**	**0.0**
EPOS	**Posof**	**1.03**	**277**	P	**Pg**	**02 20 55.3**	**-0.9**
EPOS				S	**Sg**	**02 21 08.8**	**-0.8**
KARS	**Kars**	**1.08**	**225**	Pg	**Pg**	**02 20 56.9**	**-0.3**
KARS				Sg	**Sn**	**02 21 11.8**	**-0.2**
GUDG	**Gudauri**	**1.11**	**15**	P	**Pb**	**02 20 57.2**	**-0.3**
GUDG				S	**Sb**	**02 21 12.1**	**+0.2**
DIGO	**Kars**	**1.11**	**209**	P	**Pn**	**02 20 57.6**	**-0.1**
DIGO				S	**Sg**	**02 21 12.2**	**-0.3**
AHAN	**Ardahan-Merkez**	**1.13**	**259**	P	**Pb**	**02 20 57.6**	**-0.1**
AHAN				S	**Sn**	**02 21 13.2**	**0.0**
AHAN				*i* AML	AML	02 21 17.0	
	comp=E,79nm,0.4s						
CHRG	**Chargali**	**1.13**	**33**	P	**Pb**	**02 20 57.4**	**-0.3**
CHRG				S	**Sg**	**02 21 12.6**	**-0.2**
BOZK	**Kars-Merkez-Bo**	**1.16**	**227**	P	**Pg**	**02 20 59.0**	**+0.3**
BOZK				S	**Sg**	**02 21 13.4**	**-0.4**
BOZK				*i* AML	AML	02 21 15.0	
	comp=E,76nm,0.9s						
GOLE	**Ardahan-G¶le**	**1.25**	**244**	P	**Pg**	**02 21 00.1**	**-0.5**
GOLE				S	**Sn**	**02 21 17.7**	**+1.3**
TKB	**Tkibuli**	**1.26**	**320**	P	**Pn**	**02 20 59.7**	**+0.1**
TKB				S	**Sg**	**02 21 17.0**	**0.0**
MTEO	**Meteo**	**1.33**	**14**	P	**Pb**	**02 21 01.5**	**+0.2**
MTEO				S	**Sg**	**02 21 19.4**	**+0.1**
TASB	**TASBURUN-IGDIR**	**1.41**	**175**	Pn	**Pg**	**02 21 02.9**	**-0.6**
TASB				Sn	**Sg**	**02 21 22.8**	**+1.0**
SHTL	**Shatili**	**1.49**	**32**	P	**Pb**	**02 21 04.2**	**+0.3**
SHTL				S	**Sg**	**02 21 24.4**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.55**	**238**	Pn	**Pg**	**02 21 05.5**	**-0.7**
SENK				Sn	**Sg**	**02 21 26.1**	**-0.3**
DAGI	**Agillar**	**1.67**	**260**	P	**Pg**	**02 21 07.6**	**-0.8**
DAGI				S	**Sg**	**02 21 29.8**	**-0.2**
DAGI				*i* AML	AML	02 21 30.0	
	comp=N,44nm,0.9s						
DAGI				*i* AML	AML	02 21 31.0	
	comp=E,28nm,0.4s						
LGD	**Lagodekhi**	**1.68**	**74**	P	**Pb**	**02 21 07.1**	**+0.1**
LGD				S	**Sg**	**02 21 30.3**	**0.0**
KOTA	**Agri, Merkez-K**	**1.72**	**203**	P	**Pg**	**02 21 09.4**	**0.0**
KOTA				S	**Sg**	**02 21 33.4**	**+1.6**
VSHL	**Vashlovani**	**1.75**	**95**	P	**Pb**	**02 21 08.5**	**+0.3**
VSHL				S	**Sg**	**02 21 33.7**	**+1.1**
BATM	**Batumi**	**1.81**	**278**	Pn	**Pb**	**02 21 09.1**	**-0.1**
DDEM	**Demirkent**	**1.83**	**255**	P	**Pb**	**02 21 10.3**	**+0.6**
DDEM				S	**Sb**	**02 21 33.5**	**+1.0**
DBAD	**Bademkaya**	**1.84**	**259**	P	**Pb**	**02 21 10.4**	**+0.5**
DBAD				S	**Sb**	**02 21 33.9**	**+1.0**
DBAD				*i* AML	AML	02 21 36.0	
	comp=E,29nm,0.5s						
BCA	**Borcka**	**1.85**	**272**	Pn	**Pb**	**02 21 10.2**	**+0.2**
HOPA	**Hopa-Artvin**	**1.99**	**271**	Pn	**Pb**	**02 21 11.9**	**-0.3**
AGRB	**Hanur-Agry**	**2.00**	**205**	Pn	**Pb**	**02 21 11.7**	**-0.8**
KOPR	**Koprukoy-ERZUR**	**2.20**	**231**	Pn	**Pb**	**02 21 14.7**	**-1.3**
GNBR	**Gunib**	**2.37**	**64**	*e*Pn	**Pb**	**02 21 18.6**	**-0.2**
	8.0nm,0.5s						
GNBR				*e*Sn	**Sb**	**02 21 49.3**	**+1.4**
	34nm,0.4s						
KMKR	**Kumukh**	**2.37**	**71**	*e*Pn	**Pb**	**02 21 18.4**	**-0.5**
	10.0nm,0.3s						
KMKR				*e*Sn	**Sb**	**02 21 49.0**	**+0.9**
	26nm,0.2s						
UNCR	**Uncukul**	**2.41**	**56**	*e*Pn	**Pb**	**02 21 19.9**	**+0.3**
	8.0nm,0.4s						
UNCR				*e*Sn	**Sg**	**02 21 51.6**	**-2.2**
	19nm,0.6s						
ARKR	**Arakani**	**2.48**	**60**	*e*Pn	**Pb**	**02 21 21.4**	**+0.6**
	4.0nm,0.7s						
ARKR				*e*Sn	**Sg**	**02 21 54.1**	**-2.0**
	65nm,0.4s						
CHOM	**Cayeli-Rize**	**2.52**	**264**	Pn	**Pb**	**02 21 19.4**	**-2.0**
DLMR	**Dylym**	**2.53**	**48**	*e*Pn	**Pb**	**02 21 21.4**	**0.0**
	54nm,0.5s						
DLMR				*e*Sn	**Sb**	**02 21 54.6**	**+2.2**
	12nm,0.3s						
KRNR	**Karanay**	**2.54**	**55**	*e*Pn	**Pb**	**02 21 22.0**	**+0.2**
	3.0nm,0.6s						
KRNR				*e*Sn	**Sb**	**02 21 55.2**	**+2.3**
	16nm,0.4s						
DBC	**Dubki**	**2.61**	**50**	*e*Pn	**Pb**	**02 21 23.2**	**+0.3**
	4.0nm,0.6s						
DBC				*e*Sn	**Sg**	**02 21 57.7**	**-2.5**
	20nm,0.5s						
IZDR	**Rize**	**2.73**	**258**	P	**Pb**	**02 21 25.0**	**0.0**
IZDR				S	**Sb**	**02 21 59.8**	**+1.4**
AKT	**Akhty**	**2.74**	**87**	*e*Pn	**Pb**	**02 21 23.5**	**-1.6**
	8.0nm,0.3s						
AKT				*e*Sn	**Sb**	**02 21 58.1**	**-0.5**
	18nm,0.5s						
SGKR	**Sergokala**	**2.87**	**67**	*e*Pn	**Pb**	**02 21 26.1**	**-1.2**
	14nm,1.2s						
SGKR				*e*Sn	**Sb**	**02 22 02.6**	**+0.3**
	18nm,0.5s						

IDC 06 02:22:37.7±4.0, 6˙.18S×142˙.61E, h0km, mb3.7/3, mbtmp3.7/5, ML3.5/2, MS3.5/1, Error ellipse: s-maj=140.1km s-min=26.9km az=102.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.87**	**210**	Pn	Pn	02 26 20.8	-1.8
	0.2nm,0.3s,baz=29,slow=13,SNR=7.4						
WRA				Sn	Sn	02 29 07.2	-12
	baz=30,slow=23,SNR=1.5						
WRA				Lg	Lg	02 31 00.9	
	baz=15,slow=35						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**19.30**	**205**	P	Pn	02 27 05.2	-0.3
	0.3nm,0.3s,baz=35,slow=9.3,SNR=16						
	2.3nm,0.7s						
USRK	**Usuriysk Ar.**	**51.05**	**350**	LR	LR	02 51 36.3	
	comp=Z,41nm,18.9s,baz=120,slow=34						
MKAR	**Makanchi Array**	**74.90**	**322**	P	P	02 34 21.3	+0.8
	0.2nm,0.6s,baz=105,slow=4.9,SNR=2.7						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**76.88**	**329**	P	P	02 34 30.7	-0.9
	0.3nm,0.3s,baz=110,slow=6.6,SNR=2.0						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**84.37**	**325**	P	P	02 35 12.2	+0.4
	0.5nm,0.5s,baz=112,slow=6.9,SNR=2.9						
	0.5nm,0.5s						

IDC 06 02:27:49.4±1.8, 5˙.89S×140˙.50E, h0km, mb3.5/3, mbtmp3.7/5, ML3.8/2, Error ellipse: s-maj=66.1km s-min=23.3km az=101.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.20**	**203**	Pn	Pn	02 31 23.6	-1.9
	0.3nm,0.3s,baz=18,slow=13,SNR=8.7						
WRA				Lg	Lg	02 35 54.3	
	baz=25,slow=31,SNR=1.7						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**18.78**	**199**	P	P	02 32 10.0	-0.5
	0.5nm,0.3s,baz=31,slow=10,SNR=40						
ASAR				Lg	Lg	02 37 46.0	
	baz=20,slow=31						
	5.2nm,0.7s						
MKAR	**Makanchi Array**	**73.38**	**322**	P	P	02 39 25.0	+1.6
	0.6nm,0.7s,baz=120,slow=7.4,SNR=7.4						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**77.33**	**325**	P	P	02 39 44.2	-1.7
	0.2nm,0.4s,baz=110,slow=5.4,SNR=2.3						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**87.97**	**24**	P	P	02 40 40.8	-0.3
	0.2nm,0.9s,baz=251,slow=5.6,SNR=2.2						
	0.2nm,0.9s						

IDC 06 02:36:04.9±2.3, 8˙.06S×129˙.87E, h0km, mb3.5/1, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=124.2km s-min=33.3km az=68.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.58**	**160**	Pn	Pn	02 39 05.0	-0.3
	0.2nm,0.3s,baz=343,slow=13,SNR=10.0						
WRA				Sn	Sn	02 41 19.1	-7.2
	0.2nm,0.3s,baz=11,slow=13,SNR=1.9						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**15.99**	**166**	Pn	Pn	02 39 51.8	+0.3
	0.2nm,0.3s,baz=353,slow=14,SNR=4.7						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**69.04**	**327**	P	P	02 47 12.5	0.0
	0.4nm,0.7s,baz=118,slow=7.2,SNR=3.7						
	0.4nm,0.7s						

*NORS **06** 02:43:38.7, 41˙.42N×43˙.99E, h6km, MPVA3.2*
*TIF **06** 02:43:39.9, 41˙.41N×44˙.08E, h15km*
*AFAD **06** 02:43:40.6±0.0, 41˙.42N×43˙.99E, h7km±1km, ML2.3*
*AZER **06** 02:43:41.9, 41˙.25N×44˙.38E, h2km, ml2.2*
*DRS **06** 02:43:44.6, 41˙.44N×43˙.90E, h22km*

ISC 06 02:43:40.0±0.8, 41˙.42N±0˙.02×44˙.11E±0˙.02, h15km±5km, n45, σ0§97/86, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMNI	**Dmanisi**	**0.11**	**146**	P	**Pg**	**02 43 43.5**	**0.0**
DMNI				S	**Sg**	**02 43 45.7**	**-0.1**
TRLG	**Trialeti**	**0.12**	**358**	P	**Pg**	**02 43 43.7**	**0.0**
TRLG				S	**Sg**	**02 43 46.0**	**-0.2**
BRNG	**Burnasheti**	**0.29**	**314**	P	**Pb**	**02 43 46.9**	**-0.2**
BRNG				S	**Sb**	**02 43 51.4**	**-0.5**
BGD	**Bogdanovka**	**0.41**	**248**	P	**Pg**	**02 43 48.3**	**-0.1**
BGD				S	**Sg**	**02 43 53.1**	**-1.0**
AKH	**Akhalkalaki**	**0.46**	**269**	P	**Pg**	**02 43 48.1**	**-1.2**
AKH				S	**Sg**	**02 43 55.5**	**-0.1**
SEAG	**Tbilisi Sea**	**0.62**	**56**	P	**Pb**	**02 43 52.8**	**+0.2**
SEAG				S	**Sn**	**02 44 02.0**	**-2.2**
ALIG	**Mtskhetisjvari**	**0.77**	**333**	P	**Pb**	**02 43 54.8**	**-0.3**
ALIG				S	**Sb**	**02 44 05.4**	**0.0**
EAK	**Akyaka**	**0.82**	**208**	P	**Pb**	**02 43 55.2**	**-0.9**
EAK				S	**Sb**	**02 44 06.0**	**-1.1**
DGRG	**David-gareji**	**0.95**	**88**	P	**Pn**	**02 43 58.9**	**0.0**
DGRG				S	**Sn**	**02 44 13.8**	**+1.6**
QZX	**Qazax, Azerbai**	**1.02**	**110**	P	**Pb**	**02 43 59.1**	**-0.2**
QZX				S	**Sb**	**02 44 12.6**	**0.0**
ABS	**Abastumani**	**1.03**	**289**	P	**Pb**	**02 43 58.9**	**-0.7**
ABS				S	**Sg**	**02 44 13.4**	**0.0**
EPOS	**Posof**	**1.04**	**275**	P	**Pb**	**02 43 59.0**	**-0.8**
EPOS				S	**Sb**	**02 44 12.6**	**-0.7**
GUDG	**Gudauri**	**1.08**	**15**	P	**Pg**	**02 44 00.9**	**0.0**
GUDG				S	**Sn**	**02 44 16.2**	**+0.5**
CHRG	**Chargali**	**1.09**	**34**	P	**Pg**	**02 44 01.3**	**+0.1**
CHRG				S	**Sn**	**02 44 16.5**	**+0.6**
AHAN	**Ardahan-Merkez**	**1.15**	**258**	P	**Pb**	**02 44 01.8**	**+0.2**
AHAN				S	**Sb**	**02 44 16.6**	**+0.1**
DIGO	**Kars**	**1.15**	**209**	P	**Pn**	**02 44 01.5**	**-0.3**
DIGO				S	**Sb**	**02 44 15.6**	**-0.9**
DIGO				*i* AML	AML	02 44 17.0	
	comp=E,99nm,0.3s						
DIGO				*i* AML	AML	02 44 17.0	
	comp=N,88nm,0.3s						
BOZK	**Kars-Merkez-Bo**	**1.19**	**226**	P	**Pn**	**02 44 02.5**	**+0.2**
BOZK				S	**Sb**	**02 44 17.9**	**+0.1**
TKB	**Tkibuli**	**1.25**	**319**	P	**Pb**	**02 44 03.3**	**0.0**
TKB				S	**Sg**	**02 44 20.3**	**0.0**
GOLE	**Ardahan-G¶le**	**1.28**	**243**	P	**Pn**	**02 44 03.7**	**+0.2**
GOLE				S	**Sn**	**02 44 21.1**	**+0.5**
GOLE				*i* AML	AML	02 44 22.0	
	comp=N,56nm,0.4s						
GOLE				*i* AML	AML	02 44 22.0	
	comp=E,68nm,0.4s						
MTEO	**Meteo**	**1.30**	**14**	P	**Pg**	**02 44 05.2**	**+0.1**
MTEO				S	**Sg**	**02 44 23.1**	**+1.0**
GDB	**GEDABAY**	**1.43**	**119**	P	**Pn**	**02 44 05.6**	**+0.1**
GDB				S	**Sb**	**02 44 24.2**	**-0.2**
SHTL	**Shatili**	**1.46**	**32**	P	**Pg**	**02 44 07.7**	**-0.4**
SHTL				S	**Sg**	**02 44 27.5**	**+0.3**
IGDI	**IGDIR**	**1.55**	**181**	P	**Pn**	**02 44 07.7**	**+0.5**
IGDI				S	**Sb**	**02 44 29.1**	**+1.2**
LGD	**Lagodekhi**	**1.65**	**75**	P	**Pg**	**02 44 10.7**	**-1.1**
LGD				S	**Sg**	**02 44 34.8**	**+1.6**
DAGI	**Agillar**	**1.69**	**259**	P	**Pb**	**02 44 11.2**	**+0.4**
DAGI				S	**Sb**	**02 44 32.8**	**+0.8**
VSHL	**Vashlovani**	**1.74**	**95**	P	**Pg**	**02 44 12.5**	**-0.8**
VSHL				S	**Sg**	**02 44 36.2**	**+0.3**
HYR	**Heyderabad**	**1.79**	**161**	S	**Sb**	**02 44 35.6**	**+0.8**
GANJ	**Ganja**	**1.84**	**114**	P	**Pb**	**02 44 12.7**	**-0.7**
GANJ				S	**Sn**	**02 44 34.5**	**+0.3**
DDEM	**Demirkent**	**1.86**	**254**	P	**Pb**	**02 44 14.1**	**+0.4**
DDEM				S	**Sn**	**02 44 35.8**	**+1.2**
DDEM				*i* AML	AML	02 44 41.0	
	comp=N,38nm,0.5s						
DDEM				*i* AML	AML	02 44 41.0	
	comp=E,27nm,0.6s						
ZKTA	**Zakatala**	**1.90**	**83**	P	**Pb**	**02 44 14.7**	**+0.3**
ZKTA				S	**Sg**	**02 44 39.8**	**-1.3**
XNZR	**Khunzakh**	**2.24**	**59**	*e*Pn	**Pg**	**02 44 21.2**	**-1.7**
	3.0nm,0.5s						
XNZR				*e*Sn	**Sg**	**02 44 51.7**	**-0.3**
	24nm,0.2s						
SBZ	**Shahbuz**	**2.30**	**151**	P	**Pb**	**02 44 20.6**	**-0.7**
SBZ				S	**Sb**	**02 44 48.5**	**-1.1**
SEKA	**Sheki**	**2.34**	**94**	P	**Pb**	**02 44 21.1**	**-0.8**
SEKA				S	**Sb**	**02 44 50.9**	**+0.3**
MNGR	**Mingechevir, A**	**2.34**	**105**	S	**Sb**	**02 44 49.4**	**-1.2**
GNBR	**Gunib**	**2.34**	**65**	*e*Pn	**Pb**	**02 44 22.8**	**+0.8**
	6.0nm,0.7s						
GNBR				*e*Sn	**Sg**	**02 44 54.6**	**-0.7**
	23nm,0.4s						
KMKR	**Kumukh**	**2.35**	**71**	*e*Pn	**Pb**	**02 44 22.6**	**+0.5**
	7.0nm,0.6s						
KMKR				*e*Sn	**Sg**	**02 44 54.3**	**-1.2**
	21nm,0.3s						
UNCR	**Uncukul**	**2.38**	**56**	*e*Pn	**Pg**	**02 44 23.7**	**-1.9**
	4.0nm,0.9s						
UNCR				*e*Sn	**Sg**	**02 44 56.4**	**-0.2**
	10.0nm,0.8s						
ARKR	**Arakani**	**2.45**	**60**	*e*Pn	**Pb**	**02 44 24.6**	**+0.7**
	3.0nm,0.7s						
ARKR				*e*Sn	**Sg**	**02 44 58.2**	**-0.7**
	30nm,0.4s						
NAX	**Nakhchivan**	**2.48**	**154**	S	**Sn**	**02 44 50.8**	**+0.8**
DLMR	**Dylym**	**2.50**	**48**	*e*Pn	**Pb**	**02 44 24.9**	**+0.4**
	28nm,0.8s						
DLMR				*e*Sn	**Sg**	**02 44 58.7**	**-1.5**
	6.0nm,0.4s						
KRNR	**Karanay**	**2.51**	**55**	*e*Pn	**Pb**	**02 44 25.0**	**+0.1**
	2.0nm,0.5s						
KRNR				*e*Sn	**Sg**	**02 44 58.7**	**-2.0**
	7.0nm,0.4s						
DBC	**Dubki**	**2.58**	**51**	*e*Pn	**Pb**	**02 44 26.1**	**+0.2**
	4.0nm,0.1

OBIP IAML 02 46 54.1
comp=E,47nm,5.0s
MLPR Magueyes Islan 2.15 236⇑ *e*P **Pn 02 46 08.5 -0.1**
MLPR Magueyes Islan 2.15 236 *e*S **Sn 02 46 35.4 +1.4**
MLPR Magueyes Islan 2.15 236 **Pn 02 46 08.2 -0.4**
MLPR IAML 02 47 12.4
comp=E,44nm,4.4s
MLPR Magueyes Islan 2.15 236 Sn 02 46 35.4 +1.4
ANBD Bethesda, Anti 3.89 123 *e*P **Pn 02 46 31.3 -1.2**
ANBD Bethesda, Anti 3.89 123 *e*S **Sn 02 47 19.0 +2.1**

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*BJI **06** 02:52:28.3±0.0,6˚.42S×143˚.56E,h23km,mb4.8/53, mB5.1/22,Ms4.9/4,Ms7 4.6/4*
*IDC **06** 02:52:29.2±0.5,6˚.21S×142˚.91E,h0km,mb4.8/16, mbtmp4.7/18,ML3.0/2,MS3.9/9,Error ellipse: s-maj=21.9km s-min=12.8km az=77.0*
*MOS **06** 02:52:30.1±1.0,6˚.25S×142˚.82E,h18km,mb5.0/40,Error ellipse: s-maj=9.5km s-min=5.8km az=118.8*
*NEIC **06** 02:52:30.9±1.3,6˚.23S±0˚.08×142˚.96E±0˚.08,h10km±1km, mb5.0/105,Error ellipse: s-maj=15.0km s-min=12.4km az=44.0*
*DJA **06** 02:52:31.9±0.4,6˚S±4˚×14˚3E±˚,h10km,M5.0/16,mB5.3/8, mb5.0/16,MLv5.5/4,Mw(mB)4.7/8*
ISC 06 02:52:30.8±0.3,**6˚35S**±0˚.04×**142˚.91E**±0˚.05,**h10**km,**n443,** σ1§**45**/449,**mb5.0**/117,**MS3.8**/9,**12C-6D,New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.99**	**303**	P	**Pb**	**02 53 05.8**	**-1.4**
MMPI	**Merauke**	**3.27**	**230**	P	**Pn**	**02 53 20.7**	**-1.5**
GENI	**Genyem**	**4.62**	**324**	P	**Pn**	**02 53 42.6**	**+1.8**
GENI	**Genyem**	**4.62**	**324**	P	**Pn**	**02 53 41.3**	**+0.5**
PMG	**Port Moresby**	**5.19**	**126**	Pn	**Pn**	**02 53 48.1**	**-0.5**
PMG	**Port Moresby**	**5.19**	**126**	P	**Pn**	**02 53 49.4**	**+0.8**
PMG	**Port Moresby**	**5.19**	**126**	P	**Pn**	**02 53 49.5**	**+0.8**
PMG	**Port Moresby**	**5.19**	**126**	*i* P	**Pn**	**02 53 48.6**	**0.0**
PMG	**Port Moresby**	**5.19**	**126**	Pn	**Pn**	**02 53 48.9**	**+0.3**
	8.3nm,0.3s,baz=317,slow=12,SNR=10.0						
PMG				Sn	**Sn**	**02 54 45.9**	**-2.7**
	6.3nm,0.3s,baz=198,slow=20,SNR=3.6						
	64nm,0.8s						
SMPI	**Sarmi**	**6.02**	**316**	P	**Pn**	**02 54 01.6**	**+1.6**
	263nm,0.7s,2.0nm						
COEN	**Coen**	**7.57**	**178**	P	**Pn**	**02 54 21.9**	**+0.6**
	baz=7.6						
COEN	**Coen**	**7.57**	**178**		**Pn**	**02 54 23.5**	**+2.2**
COEN	**Coen**	**7.57**	**178**	P	**Pn**	**02 54 23.5**	**+2.2**
FAKI	**Fak Fak**	**11.16**	**287**	Pn	**Pn**	**02 55 10.8**	**+0.3**
FAKI	**Fak Fak**	**11.16**	**287**	P	**Pn**	**02 55 11.7**	**+1.2**
FAKI	**Fak Fak**	**11.16**	**287**	P	**Pn**	**02 55 06.2**	**-4.3**
SAUI	**Saumlaki**	**11.63**	**261**	Pn	**Pn**	**02 55 17.9**	**+0.8**
SAUI	**Saumlaki**	**11.63**	**261**	P	**Pn**	**02 55 17.0**	**0.0**
	705nm,0.9s						
MTSU	**Mount Surprise**	**11.79**	**173**	P	**Pn**	**02 55 22.5**	**+3.3**
	baz=12,SNR=5.1						
KDU	**Kakadu**	**12.06**	**238**	P	**Pn**	**02 55 21.9**	**-0.9**
	baz=12,SNR=76						
KDU	**Kakadu**	**12.06**	**238**	P	**Pn**	**02 55 22.0**	**-0.9**
SWI	**Sorong**	**12.84**	**295**	P	**Pn**	**02 55 31.1**	**-2.4**
SWI				pmax	pmax		
	comp=Z,46nm,0.8s						
SWI	**Sorong**	**12.84**	**295**	P	**Pn**	**02 55 36.2**	**+2.7**
MTN	**Manton Dam**	**13.28**	**240**	P	**Pn**	**02 55 38.4**	**-1.2**
	baz=13,SNR=47						
MTN	**Manton Dam**	**13.28**	**240**	Pn	**Pn**	**02 55 37.5**	**-2.1**
MTN	**Manton Dam**	**13.28**	**240**	P	**Pn**	**02 55 38.5**	**-1.0**
DRS	**Darwin Rock St**	**13.30**	**242**	P	**Pn**	**02 55 39.7**	**-0.1**
CTA	**Charters Tower**	**14.04**	**167**	Pn	**Pn**	**02 55 52.5**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=335,slow=10,SNR=3.2						
CTA				Sn	**Sn**	**02 58 27.6**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=112,slow=19,SNR=2.0						
CTA				Lg	Lg	03 00 03.0	
	comp=Z,0.2nm,0.3s,baz=270,slow=20,SNR=3.2						
	comp=Z,6.7nm,1.0s						
QIS	**Mount Isa**	**14.48**	**192**	P	**Pn**	**02 55 57.0**	**+1.0**
	baz=15,SNR=9.9						
QIS	**Mount Isa**	**14.48**	**192**	P	**Pn**	**02 55 56.8**	**+0.8**
WB0	**Warramunga Arr**	**15.70**	**211**	P	**Pn**	**02 56 12.7**	**+0.5**
WRAB	**Tennant Creek**	**15.86**	**211**	*i* P	**Pn**	**02 56 12.9**	**-1.4**
WB2	**Warramunga Arr**	**15.87**	**211**	Pn	**Pn**	**02 56 12.6**	**-1.8**
WB2				IAmb	IAmb	02 56 23.8	
	comp=Z,178nm,1.6s						
WC3	**Warramunga Arr**	**15.87**	**211**	P	**Pn**	**02 56 13.2**	**-1.2**
	baz=16						
WRA	**Warramunga Arr**	**15.87**	**211**	Pn	**Pn**	**02 56 13.2**	**-1.3**
WRA	**Warramunga Arr**	**15.87**	**211**	P	**Pn**	**02 56 13.2**	**-1.3**
WRA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
WRA	**Warramunga Arr**	**15.87**	**211**	Pn	**Pn**	**02 56 12.2**	**-2.3**
	comp=Z,1.5nm,0.3s,baz=30,slow=13,SNR=40						
WRA				Sn	**Sn**	**02 59 03.9**	**-6.7**
	comp=Z,0.9nm,0.3s,baz=43,slow=22,SNR=4.0						
WRA				Lg	Lg	03 00 54.9	
	comp=Z,0.6nm,0.3s,baz=154,slow=23,SNR=3.0						
NLAI	**Namlea**	**16.05**	**280**	P	**P**	**02 56 20.2**	**0.0**
KNRA	**Kununurra**	**16.68**	**235**	P	**Pn**	**02 56 23.0**	**-1.9**
	baz=17,SNR=30						
KNRA	**Kununurra**	**16.68**	**235**	Pn	**Pn**	**02 56 22.5**	**-2.4**
KNRA				IAmb	IAmb	02 56 32.0	
	comp=Z,109nm,0.8s						
KNRA	**Kununurra**	**16.68**	**235**	P	**Pn**	**02 56 23.5**	**-1.4**
HNR	**Honiara**	**17.15**	**101**		**Pn**	**02 56 30.4**	**-0.4**
HNR				IAmb	IAmb	02 56 37.2	
	comp=Z,105nm,0.9s						
HNR	**Honiara**	**17.15**	**101**	P	**P**	**02 56 32.4**	**-0.1**
	comp=Z,860nm,0.3s,baz=119,slow=3.7,SNR=5.7						
SANI	**Sanana**	**17.40**	**283**	P	**P**	**02 56 38.4**	**+3.2**
SOEI	**Soe**	**18.76**	**258**		**P**	**02 56 50.6**	**+0.2**
SOEI	**Soe**	**18.76**	**258**	P	**P**	**02 56 51.6**	**+1.2**
	comp=Z,207nm,0.8s,comp=Z,2μm						
AS01	**Alice Springs**	**19.25**	**206**	P	**Pn**	**02 56 57.8**	**+1.2**
AS31	**Alice Springs**	**19.27**	**206**		**P**	**02 56 55.7**	**-0.1**
AS31				IAmb	IAmb	02 57 01.3	
	comp=Z,55nm,0.8s						
ASAR	**Alice Springs**	**19.27**	**206**		**P**	**02 56 56.0**	**+0.2**
ASAR	**Alice Springs**	**19.27**	**206**	P	**P**	**02 56 57.0**	**+1.2**
	comp=Z,206nm,0.9s,baz=32,slow=8.5,SNR=228						
ASAR				S	Sn	03 00 25.0	-8.1
	comp=Z,6.6nm,0.8s,baz=18,slow=28,SNR=4.7						
ASAR				Lg	Lg	03 02 43.9	
	comp=Z,0.2nm,0.3s,baz=34,slow=33,SNR=2.3						
ASAR				LR	LR	03 05 06.1	
	comp=Z,1μm,20.1s,baz=34,slow=39						
ASPA	**Alice Springs**	**19.28**	**206**	P	**Pn**	**02 56 58.6**	**+1.8**
	baz=19						
QLP	**Quilpie**	**20.16**	**177**	P	Pn	02 57 08.6	+1.3
	baz=20,SNR=4.8						
EIDS	**Eidsvold**	**20.47**	**158**	P	**P**	**02 57 10.2**	**+1.4**
	baz=21,SNR=6.8						
EIDS	**Eidsvold**	**20.47**	**158**		**P**	**02 57 09.0**	**+0.2**
EIDS	**Eidsvold**	**20.47**	**158**	P	Pn	02 57 11.2	+0.3
FITZ	**Fitzroy Crossi**	**20.50**	**234**	P	**P**	**02 57 10.3**	**+1.1**
	baz=20,SNR=31						
FITZ	**Fitzroy Crossi**	**20.50**	**234**		**P**	**02 57 09.8**	**+0.6**
FITZ	**Fitzroy Crossi**	**20.50**	**234**	P	**P**	**02 57 10.4**	**+1.2**
MMRI	**Maumere**	**20.62**	**262**	P	**P**	**02 57 10.3**	**-0.2**
MMRI				IAmb	IAmb	02 57 22.2	
	comp=Z,42nm,0.7s						
MMRI	**Maumere**	**20.62**	**262**	P	Pn	02 57 14.7	+1.9
LUWI	**Luwuk**	**20.77**	**284**	P	**P**	**02 57 12.0**	**-0.1**
LUWI	**Luwuk**	**20.77**	**284**	P	Pn	02 57 18.2	+3.7
EDFI	**Ende, Flores**	**21.17**	**262**	P	**P**	**02 57 14.1**	**-2.5**
OOD	**Oodnadatta**	**22.40**	**197**	P	**P**	**02 57 31.2**	**+1.6**
KAPI	**Kappang**	**23.08**	**272**	P	**P**	**02 57 36.4**	**-0.5**
KAPI				IAmb	IAmb	02 57 40.1	
	comp=Z,45nm,0.8s						
KAPI	**Kappang**	**23.08**	**272**	*i* P	**P**	**02 57 37.9**	**+1.0**
KAPI				pmax	pmax		
	comp=Z,58nm,0.9s						
TTSI	**Tana Toraja**	**23.24**	**277**	P	**P**	**02 57 43.5**	**+5.0**
WRKA	**Warakurna**	**23.26**	**215**	P	**P**	**02 57 39.7**	**+0.9**
	baz=23,SNR=72						
WRKA	**Warakurna**	**23.26**	**215**	P	**P**	**02 57 39.6**	**+0.9**
TOLI2	**Tolitoli**	**23.30**	**288**	P	**P**	**02 57 38.6**	**-0.5**
TOLI2				IAmb	IAmb	02 57 45.1	
	comp=Z,36nm,0.9s						
MPSI	**Mapaga**	**23.91**	**285**	P	**P**	**02 57 45.1**	**0.0**
	comp=Z,35nm,0.9s,comp=Z,678nm						
LCRK	**Leigh Creek**	**24.38**	**190**	P	**P**	**02 57 50.1**	**+0.8**
PLAI	**Plampang**	**25.03**	**263**	P	**P**	**02 57 53.5**	**-1.9**
CMSA	**Cobar Meteorol**	**25.20**	**174**	P	**P**	**02 57 58.0**	**+1.4**
	baz=25,SNR=11						

MULG	**Mulgathing**	**25.22**	**198**	P	**P**	**02 57 57.8**	**+0.9**
STKA	**Stephens Creek**	**25.43**	**183**	P	**P**	**02 57 59.8**	**+1.1**
	baz=26,SNR=17						
STKA	**Stephens Creek**	**25.43**	**183**	P	**P**	**02 57 59.0**	**+0.2**
STKA	**Stephens Creek**	**25.43**	**183**	P	**P**	**02 58 00.6**	**+1.8**
STKA	**Stephens Creek**	**25.43**	**183**	*i* P	**P**	**02 58 00.6**	**+1.8**
STKA	**Stephens Creek**	**25.43**	**183**	P	**P**	**02 57 59.3**	**+0.5**
	comp=Z,13nm,0.7s,baz=347,slow=10.0,SNR=21						
STKA				LR	LR	03 09 54.6	
	comp=Z,225nm,19.4s,baz=358,slow=41						
	comp=Z,13nm,0.7s						
TWSI	**Taliwang, Sumb**	**25.91**	**263**	P	**P**	**02 58 05.7**	**+2.4**
PSA00	**Pilbara Seismi**	**26.95**	**234**	P	**P**	**02 58 12.7**	**0.0**
PSA00				IAmb	IAmb	02 58 56.1	
	comp=Z,38nm,1.2s						
PSA00	**Pilbara Seismi**	**26.95**	**234**	P	**P**	**02 58 12.4**	**-0.3**
PSA00				IAmb	IAmb	02 58 40.3	
	comp=Z,11nm,1.1s						
BBOO	**Buckleboo**	**27.09**	**193**	P	**P**	**02 58 14.1**	**+0.3**
	baz=27,SNR=5.6						
BBOO	**Buckleboo**	**27.09**	**193**	P	**P**	**02 58 13.8**	**0.0**
BBOO				IAmb	IAmb	02 58 21.5	
	comp=Z,43nm,1.4s						
BBOO	**Buckleboo**	**27.09**	**193**	P	**P**	**02 58 14.4**	**+0.6**
HTT	**Hallett**	**27.20**	**187**	P	**P**	**02 58 15.9**	**+1.0**
	baz=27,SNR=7.1						
HTT	**Hallett**	**27.20**	**187**	P	**P**	**02 58 16.5**	**+1.6**
DZM	**Mont Dzumac**	**27.59**	**127**	*e*LR	LR	03 05 05.9	
	comp=Z,549nm,24.8s						
FORT	**Forrest**	**28.02**	**208**	P	**P**	**02 58 22.6**	**+0.5**
	baz=28						
FORT	**Forrest**	**28.02**	**208**	P	**P**	**02 58 23.4**	**+1.3**
JAGI	**Jajag, Banyuwa**	**28.59**	**264**	P	**P**	**02 58 26.0**	**-1.5**
MEEK	**Meekatharra**	**30.70**	**226**	P	**P**	**02 58 45.8**	**-0.2**
	baz=31						
KMBL	**Kambalda**	**31.73**	**216**	P	**P**	**02 58 55.4**	**+0.3**
	baz=32						
KPJI	**Karang Pucung**	**33.74**	**266**	P	**P**	**02 59 13.1**	**+0.2**
	comp=Z,38nm,0.8s						
CMJI	**Cimerak**	**34.22**	**266**	P	**P**	**02 59 15.5**	**-1.6**
BLDU	**Balidu**	**34.46**	**222**	P	**P**	**02 59 18.6**	**-0.3**
	baz=34						
LEM	**Lembang**	**35.06**	**267**	P	**P**	**02 59 23.7**	**-0.8**
	comp=Z,26nm,0.6s,baz=101,slow=11,SNR=5.4						
	comp=Z,26nm,0.6s						
NWAO	**Narrogin (SRO)**	**35.63**	**219**	LR	LR	03 14 53.5	
	comp=Z,485nm,21.4s,baz=152,slow=38						
XMIS	**Christmas Isla**	**37.07**	**261**	P	**P**	**02 59 41.8**	**+0.2**
JNU	**Nakatsue**	**40.88**	**345**	LR	LR	03 15 04.2	
	comp=Z,114nm,18.4s,baz=178,slow=33						
QIZ	**Qiongzhong**	**41.20**	**308**	P	**P**	**03 00 16.6**	**+0.6**
QIZ				S	**S**	**03 06 32.6**	**+2.7**
QIZ				SS	**SnSn**	**03 09 37.1**	**-4.2**
QIZ				LR	LR		
	comp=Z,120nm,10.0s						
QIZ				LR	LR		
	comp=Z,230nm,12.2s						
QIZ				LR	LR		
	comp=Z,240nm,14.1s						
MJAR	**Matsushiro Arr**	**42.89**	**354**	P	**P**	**03 00 27.1**	**-2.5**
	comp=Z,7.4nm,1.1s,baz=177,slow=8.1,SNR=5.7						
MJAR				PcP	**PcP**	**03 02 19.7**	**-0.7**
	comp=Z,2.4nm,0.8s,baz=164,slow=3.1,SNR=3.1						
MJAR				LR	LR	03 19 11.8	
	comp=Z,29nm,18.2s,baz=167,slow=38						
	comp=Z,7.4nm,1.1s						
RTZ	**Ruatahuna**	**44.50**	**141**	P	**P**	**03 00 42.2**	**-0.5**
RTZ				IAmb	IAmb	03 00 52.0	
	comp=Z,14nm,0.8s						
NJ2	**Nanjing**	**44.54**	**330**	*e*P	**P**	**03 00 44.9**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
RPSI	**Rantau Prapat**	**44.82**	**280**	P	**P**	**03 00 44.7**	**-0.8**
RPSI				IAmb	IAmb	03 00 48.1	
	comp=Z,12nm,0.7s						
PSI	**Prapat**	**44.85**	**280**	P	**P**	**03 00 44.7**	**-1.1**
PSI				pmax	pmax		
	comp=Z,12nm,0.7s						
KSAR	**Wonju Array Be**	**45.77**	**343**	P	**P**	**03 00 51.6**	**-0.9**
KSAR	**Wonju Array Be**	**45.77**	**343**	P	**P**	**03 00 51.6**	**-0.9**
KSRS	**Korea Array**	**45.77**	**343**	P	**P**	**03 00 52.0**	**-0.5**
	comp=Z,7.5nm,0.8s,baz=164,slow=9.1,SNR=14						
KSRS				PcP	**PcP**	**03 02 29.9**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=160,slow=4.0,SNR=4.7						
KSRS				LR	LR	03 17 46.2	
	comp=Z,32nm,21.0s,baz=165,slow=33						
	comp=Z,7.5nm,0.8s						
GYA	**Guiyang**	**47.94**	**314**⇑	*i* P	**P**	**03 01 13.1**	**+3.2**
GYA				S	**S**	**03 08 14.6**	**+6.7**
GYA				pmax	pmax		
	comp=Z,22nm,0.8s						
GYA				pmax	pmax		
	comp=Z,200nm,3.8s						
PHRA	**Phrae**	**48.79**	**301**	P	**P**	**03 01 15.9**	**-0.6**
LYN	**LuoYang**	**49.81**	**327**	⇓P	**P**	**03 01 23.4**	**-0.6**
LYN				S	**S**	**03 08 39.8**	**+6.1**
LYN				SS	**SS**	**03 12 00.5**	**-6.1**
LYN				pmax	pmax		
	comp=Z,34nm,0.8s						
LYN				pmax	pmax		
	comp=Z,260nm,4.7s						
CMAR	**Chiang Mai Arr**	**49.87**	**300**	*ce*P	**P**	**03 01 25.3**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**49.87**	**300**	P	**P**	**03 01 25.4**	**+0.6**
	comp=Z,4.9nm,0.7s,baz=120,slow=6.1,SNR=15						
CMAR				PcP	**PcP**	**03 02 48.3**	**+3.0**
	comp=Z,1.3nm,0.4s,baz=122,slow=4.1,SNR=1.7						
	comp=Z,4.9nm,0.7s						
CHTO	**Chiang Mai**	**50.02**	**301**	P	**P**	**03 01 25.3**	**-0.6**
CHTO	**Chiang Mai**	**50.02**	**301**	P	**P**	**03 01 25.3**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KMI	**Kunming**	**50.05**	**310**	⇓P	**P**	**03 01 27.6**	**+1.3**
KMI				pmax	pmax		
	comp=Z,15nm,0.7s						
HNS	**HongShan**	**50.86**	**331**	⇓P	**P**	**03 01 33.7**	**+1.8**
HNS				pmax	pmax		
	comp=Z,12nm,0.9s						
USRK	**Ussuriysk Ar.**	**51.27**	**350**	P	**P**	**03 01 33.9**	**-1.0**
	comp=Z,5.6nm,0.8s,baz=193,slow=7.4,SNR=7.7						
	comp=Z,5.6nm,0.8s						
XAN	**Xi'an**	**51.45**	**324**	P	**P**	**03 01 36.0**	**-0.5**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH	**PanZhiHua**	**51.55**	**311**	P	**P**	**03 01 41.0**	**+3.5**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.4s						
CN2	**Changchun**	**52.35**	**344**	P	**P**	**03 01 44.6**	**+1.6**
CN2				PcP	**PcP**	**03 02 57.4**	**+3.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CD2	**Chengdu**	**52.67**	**317**	*e*P	**P**	**03 01 47.0**	**+1.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BNX	**BinXian**	**53.68**	**347**	⇓P	**P**	**03 01 51.4**	**-1.3**
BNX				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BNX				pmax	pmax		
	comp=Z,180nm,4.5s						
HHC	**Hu-ho-hao-te**	**55.08**	**331**	*e*P	**P**	**03 02 06.8**	**+3.6**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,100nm,4.3s						
BTO	**Baotou**	**55.65**	**330**	*e*P	**P**	**03 02 11.3**	**+4.0**
BTO				pP	**sP**	**03 02 15.9**	**+3.8**
BTO				sP	**pP**	**03 02 18.2**	**+7.4**
BTO				S	S	03 10 01.8	+8.2
BTO				SS	**SS**	**03 13 40.3**	**+1.2**
BTO				pmax	pmax		
	comp=Z,14nm,0.6s						
BTO				pmax	pmax		
	comp=Z,210nm,4.7s						
BTO				LR	LR		
	comp=Z,160nm,7.2s						
BTO				LR	LR		
	comp=Z,270nm,4.5s						
BTO				LR	LR		
	comp=Z,280nm,8.3s						
LZH	**Lanzhou**	**55.90**	**322**	*e*P	**P**	**03 02 12.5**	**+3.3**
LZH				pP	sP	03 02 17.2	+3.1
LZH				pmax	pmax		
	comp=Z,22nm,1.2s						

KLR	**Kul'dur**	**56.20**	**351**	*ce*P	**P**	**03 02 08.5**	**-2.4**
KLR				pmax	pmax		
	comp=Z,11nm,1.7s						
HEH	**HeiHe**	**57.95**	**348**	*e*P	**P**	**03 02 22.9**	**-0.4**
GTA	**Gaotai**	**60.47**	**323**	*e*P	**P**	**03 02 41.4**	**+0.2**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PETK	**Petropavlovsk-**	**60.54**	**10**	P	**P**	**03 02 40.8**	**-0.4**
	comp=Z,15nm,1.1s,baz=160,slow=4.6,SNR=5.4						
	comp=Z,15nm,1.1s						
LSA	**Lhasa**	**61.24**	**309**	P	**P**	**03 02 44.0**	**-2.9**
LSA				IAmb	IAmb	03 02 51.7	
	comp=Z,8.8nm,0.6s						
LSA	**Lhasa**	**61.24**	**309**	P	**P**	**03 02 47.0**	**0.0**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
ZEA	**Zeya**	**61.30**	**349**	*e*P	**P**	**03 02 45.6**	**-0.7**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GOMU	**GeErMu**	**61.81**	**317**	P	**P**	**03 02 52.6**	**+2.0**
GOMU				pP	sP	03 02 56.7	+1.2
GOMU				sP	pP	03 02 59.1	+4.9
GOMU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ULN	**Ulaanbaatar**	**62.53**	**334**	P	**P**	**03 02 54.1**	**-0.8**
ULN	**Ulaanbaatar**	**62.53**	**334**	*ce*P	**P**	**03 02 55.0**	**+0.1**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SONM	**Songino Array**	**62.80**	**333**	P	**P**	**03 02 56.4**	**-0.3**
	comp=Z,2.6nm,1.0s,baz=159,slow=7.0,SNR=10						
	comp=Z,2.6nm,1.0s						
PALK	**Palilekele**	**63.51**	**281**	LR	LR	03 33 51.6	
	comp=Z,44nm,19.4s,baz=209,slow=39						
CASY	**Casey**	**63.89**	**194**	P	**P**	**03 03 05.3**	**+1.9**
MA2	**Magadan**	**66.01**	**4**	*ce*P	**P**	**03 03 15.4**	**-1.9**
MA2				pmax	pmax		
	comp=Z,12nm,1.0s						
ZAK	**Zakamensk**	**66.06**	**333**	*e*P	**P**	**03 03 17.1**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
PPT2	**Papeete2**	**66.70**	**106**	*e*S	**S**	**03 12 09.5**	**-5.6**
	comp=Z,29nm,22.5s						
PPT2	**Papeete2**	**66.70**	**106**	*e*LR	LR	03 23 29.0	
	comp=Z,106nm,31.0s						
PPT2				*e*LR	LR	03 23 30.7	
	comp=Z,82nm,24.0s						
TBI	**Tubuai**	**66.99**	**113**	*e*LR	LR	03 23 30.2	
	comp=Z,340nm,29.2s						
MOY	**Mondy**	**67.99**	**333**	*e*P	**P**	**03 03 30.4**	**+0.1**
MOY				pmax	pmax		
	comp=Z,24nm,2.0s						
SEY	**Seymchan**	**69.46**	**5**	*ce*P	**P**	**03 03 37.9**	**-1.1**
SEY				pmax	pmax		
	comp=Z,13nm,1.7s						
WMQ	**Urumqi**	**70.45**	**321**	*e*P	**P**	**03 03 48.1**	**+2.5**
WMQ				pmax	pmax		
	comp=Z,17nm,0.9s						
VNDA	**Vanda**	**71.84**	**176**	P	**P**	**03 03 54.7**	**+1.4**
	comp=Z,2.6nm,0.8s,baz=320,slow=6.3,SNR=6.5						
VNDA				LR	LR	03 34 59.9	
	comp=Z,149nm,18.3s,baz=332,slow=35						
	comp=Z,2.6nm,0.8s						
DGZ	**Jazzator, Alta**	**73.61**	**326**	*i* P	**P**	**03 04 04.2**	**-0.3**
DGZ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZSN	**Zaisan**	**73.95**	**323**	*e*P	**P**	**03 04 05.5**	**-0.9**
ZSN	**Zaisan**	**73.95**	**323**	*e*P	**P**	**03 04 05.6**	**-0.9**
	baz=323						
MK31	**Makanchi Array**	**75.21**	**322**	P	**P**	**03 04 13.6**	**-0.2**
MK31	**Makanchi Array**	**75.21**	**322**	*ce*P	**P**	**03 04 13.7**	**-0.1**
MKAR	**Makanchi Array**	**75.21**	**322**	P	**P**	**03 04 13.3**	**-0.4**
MKAR	**Makanchi Array**	**75.21**	**322**	P	**P**	**03 04 13.6**	**-0.2**
	comp=Z,10nm,0.8s,baz=106,slow=7.3,SNR=66						
	comp=Z,10nm,0.8s						
MAKZ	**Makanchi**	**75.41**	**322**	P	**P**	**03 04 13.5**	**-1.4**
MAKZ				IAmb	IAmb	03 04 18.1	
	comp=Z,12nm,0.8s						
MAKZ	**Makanchi**	**75.41**	**322**	P	**P**	**03 04 13.5**	**-1.4**
MAKZ				pmax	pmax		
	comp=Z,12nm,0.8s						
SHLS	**Shalkode**	**75.50**	**317**	*e*P	**P**	**03 04 13.5**	**-2.1**
SHLS	**Shalkode**	**75.50**	**317**	*e*P	**P**	**03 04 13.6**	**-2.1**
	baz=318						
UZB	**Uzunbulak**	**75.80**	**317**	*e*P	**P**	**03 04 17.0**	**-0.3**
UZB				pmax	pmax		
	comp=Z,6.0nm,0.9s						
UZB	**Uzunbulak**	**75.80**	**317**	*e*P	**P**	**03 04 17.1**	**-0.3**
	comp=Z,6.1nm,0.9s,baz=317						
BILL	**Bilibino**	**76.03**	**9**	P	**P**	**03 04 16.8**	**-1.2**
BILL	**Bilibino**	**76.03**	**9**	⇑*e*P	**P**	**03 04 19.0**	**+1.1**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KPKS	**Kokpek**	**76.15**	**318**	*e*P	**P**	**03 04 19.1**	**-0.2**
KPKS	**Kokpek**	**76.15**	**318**	*e*P	**P**	**03 04 19.1**	**-0.2**
	baz=318						
SATY	**Saty**	**76.18**	**317**	*e*P	**P**	**03 04 19.1**	**-0.4**
SATY				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SATY	**Saty**	**76.18**	**317**	*e*P	**P**	**03 04 19.2**	**-0.4**
	comp=Z,4.7nm,0.8s,baz=317						
TAOE	**Nuku Hiva Isla**

L14K Kuka Creek 79.48 23 P P 03 04 37.4 +0.1
baz=235
N15K Kwethluk River 79.89 25 P P 03 04 39.0 -0.6
N15K IAmb IAmb 03 04 59.9
comp=Z,18nm,1.2s
N15K Kwethluk River 79.89 25 P P 03 04 39.6 0.0
baz=238
L15K Ungalak Mounta 80.14 24 P P 03 04 40.4 -0.5
baz=236
TNA Tin City 80.18 19 P P 03 04 40.7 -0.3
baz=230
ANM Nome 80.39 20 P P 03 04 42.3 +0.1
ANM Nome 80.39 20 P P 03 04 42.3 +0.1
ANM pmax pmax
comp=Z,8.0nm,1.0s
O16K Kokwok River B 80.45 26 P P 03 04 42.7 +0.1
baz=240
K15K Wolf Creek Mou 80.47 23 P P 03 04 42.9 +0.3
baz=236
GAR Garm 80.63 311 P P 03 04 43.5 -0.7
GAR IAmb IAmb 03 04 47.3
comp=Z,14nm,1.0s
F14K Arctic Creek 80.64 19 P P 03 04 43.7 +0.2
baz=231
M16K Timber Creek 80.82 25 P P 03 04 44.0 -0.6
M16K IAmb IAmb 03 04 47.9
comp=Z,14nm,0.9s
M16K Timber Creek 80.82 25 P P 03 04 44.6 +0.1
baz=239
L16K Owhat River 80.97 24 P P 03 04 44.6 -0.7
L16K Owhat River 80.97 24 P P 03 04 45.1 -0.3
baz=238
O17K Koliganek Bris 80.98 26 P P 03 04 45.5 0.0
baz=240
DZA Taraz 81.00 315 eP P 03 04 45.5 -0.5
DZA pmax pmax
comp=Z,4.0nm,0.7s
DZA Taraz 81.00 315 eP P 03 04 45.5 -0.5
comp=Z,4.5nm,0.7s,baz=315
G15K Niukluk 81.11 20 P P 03 04 46.1 0.0
baz=233
N17K Nushagak Hills 81.31 26 P P 03 04 47.7 +0.5
baz=240
F15K North Star Dit 81.34 19 P P 03 04 46.6 -0.6
F15K IAmb IAmb 03 04 50.5
comp=Z,19nm,1.4s
F15K North Star Dit 81.34 19 P P 03 04 47.3 0.0
baz=233
J16K Anvik River 81.37 22 P P 03 04 47.3 -0.1
J16K Anvik River 81.37 22 P P 03 04 48.0 +0.6
baz=237
CHGR Chuyangaron 81.41 311 P P 03 04 47.6 -0.7
CHGR Chuyangaron 81.41 311 P P 03 04 47.7 -0.7
CHGR pmax pmax
comp=Z,34nm,0.9s
SIMJ Simiganj 81.52 310 P P 03 04 48.2 -0.7
SIMJ IAmb IAmb 03 04 52.1
comp=Z,15nm,0.8s
H16K Elim 81.53 21 P P 03 04 48.1 -0.2
baz=235
KK31 Karatay Array 81.64 315 P P 03 04 48.3 -1.1
KK31 Karatay Array 81.64 315 P P 03 04 48.3 -1.1
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 81.64 315 P P 03 04 48.5 -0.9
KKAR Karatay Array 81.64 315 P P 03 04 48.6 -0.8
KKAR IAmb IAmb 03 04 51.9
comp=Z,3.1nm,0.8s
KKAR Karatay Array 81.64 315 P P 03 04 48.6 -0.8
KKAR pmax pmax
comp=Z,3.0nm,0.8s
M17K Holitna River 81.64 25 P P 03 04 50.1 +1.1
baz=240
L17K Donlin 81.66 24 P P 03 04 49.8 +0.8
baz=239
I17K Unalakleet 81.67 22 P P 03 04 49.0 +0.1
I17K IAmb IAmb 03 04 52.7
comp=Z,16nm,0.9s
I17K Unalakleet 81.67 22 P P 03 04 49.5 +0.6
baz=237
IUG luzhnay 81.71 314 eP P 03 04 49.1 -0.8
IUG luzhnay 81.71 314 eP P 03 04 49.1 -0.8
baz=314
G16K Koyuk River 81.92 20 P P 03 04 49.4 -0.9
G16K IAmb IAmb 03 05 04.8
comp=Z,10nm,0.9s
G16K Koyuk River 81.92 20 P P 03 04 50.4 +0.1
baz=235
N18K Kilae Creek 81.95 26 P P 03 04 50.1 -0.5
N18K IAmb IAmb 03 04 59.1
comp=Z,9.2nm,0.8s
N18K Kilae Creek 81.95 26 P P 03 04 50.9 +0.3
baz=242
K17K Iditarod 81.96 23 P P 03 04 51.3 +0.7
baz=239
J17K VABM Dome 82.01 23 P P 03 04 51.4 +0.6
baz=238
CHM Chimkent 82.06 314 eP P 03 04 51.3 -0.3
CHM pmax pmax
comp=Z,4.0nm,0.7s
CHM Chimkent 82.06 314 eP P 03 04 51.4 -0.3
comp=Z,3.6nm,0.7s,baz=314
BRLS Boroldaу 82.09 315 eP P 03 04 50.8 -1.0
BRLS Boroldaу 82.09 315 eP P 03 04 50.8 -1.0
baz=315
BRZS Berezniki 82.35 322 eP P 03 04 51.9 -1.0
BRZS pmax pmax
comp=Z,5.0nm,0.9s
BRZS Berezniki 82.35 322 eP P 03 04 51.9 -1.0
comp=Z,4.8nm,0.9s,baz=322
L18K Granite Mounta 82.36 24 P P 03 04 52.9 +0.2
L18K IAmb IAmb 03 04 56.2
comp=Z,12nm,1.1s
M18K Stony River 82.36 25 P P 03 04 53.0 +0.3
baz=242
H17K Granite Mounta 82.53 21 P P 03 04 53.6 +0.1
baz=237
G17K Kiwalik Mounta 82.57 21 P P 03 04 53.9 +0.2
baz=237
N19K Bonanza Creek 82.62 26 P P 03 04 54.1 -0.1
N19K IAmb IAmb 03 04 57.2
comp=Z,14nm,1.1s
N19K Bonanza Creek 82.62 26 P P 03 04 53.9 -0.3
baz=243
C16K Lisburne Hills 82.69 17 P P 03 04 53.7 -0.5
baz=232
F17K Baldwin Pennin 82.89 20 P P 03 04 55.2 -0.1
F17K IAmb IAmb 03 04 58.4
comp=Z,7.9nm,0.8s
F17K Baldwin Pennin 82.89 20 P P 03 04 55.3 0.0
baz=236
TTA Tatalina 82.98 24 P P 03 04 55.2 -0.8
TTA Tatalina 82.98 24 P P 03 04 55.2 -0.8
TTA pmax pmax
comp=Z,9.0nm,1.2s
D17K Noatak River 83.03 18 P P 03 04 56.2 +0.2
baz=234
L19K White Mountain 83.10 25 P P 03 04 56.3 -0.2
L19K White Mountain 83.10 25 P P 03 04 56.2 -0.4
baz=242
C17K DeLong Mountai 83.46 17 P P 03 04 58.1 -0.2
baz=234
G18K Tagagawik 83.48 21 P P 03 04 57.8 -0.7
baz=238
F18K Selawik 83.52 20 P P 03 04 58.1 -0.5
baz=237
GCSA Galena City Sc 83.53 22 P P 03 04 58.8 +0.1
baz=240
QSPA South Pole Qui 83.62 180 P P 03 04 59.7 +0.3
QSPA South Pole Qui 83.62 180 P P 03 04 59.4 0.0
comp=Z,14nm,0.8s,baz=334,slow=1.3,SNR=6.9
QSPA LR LR 03 42 23.5
comp=Z,192nm,18.4s,baz=12,slow=36
comp=Z,14nm,0.8s
J19K Poorman 83.64 23 P P 03 04 58.8 -0.6
J19K IAmb IAmb 03 05 02.6
comp=Z,15nm,1.4s
J19K Poorman 83.64 23 P P 03 04 59.3 -0.1
baz=241
E18K Tukpahlearik C 83.65 19 P P 03 04 58.2 -1.0
E18K IAmb IAmb 03 05 02.3
comp=Z,10nm,0.8s
E18K Tukpahlearik C 83.65 19 P P 03 04 59.3 0.0
baz=236
M20K Styx River 83.69 25 P P 03 04 58.4 -1.3
M20K Styx River 83.69 25 P P 03 04 59.5 -0.1
baz=244

K20K Telida 83.96 24 P P 03 05 01.3 +0.4
baz=243
H19K Roundabout Mou 84.08 21 P P 03 05 01.4 0.0
baz=240
C18K Utukok River 84.15 18 P P 03 05 01.5 -0.4
C18K Utukok River 84.15 18 P P 03 05 01.4 -0.5
baz=236
G19K Purcell Mounta 84.16 21 P P 03 05 01.8 -0.1
G19K IAmb IAmb 03 05 24.0
comp=Z,13nm,1.1s
G19K Purcell Mounta 84.16 21 P P 03 05 01.8 -0.1
baz=240
F19K Shaleruckik Mo 84.27 20 P P 03 05 01.8 -0.6
F19K IAmb IAmb 03 05 29.4
comp=Z,21nm,1.7s
F19K Shaleruckik Mo 84.27 20 P P 03 05 01.9 -0.6
baz=239
J20K Nowinta River 84.30 23 P P 03 05 03.0 +0.3
baz=243
I20K Naaghedeneel 84.46 22 P P 03 05 03.7 +0.3
baz=242
SUA Susitna One 84.54 26 P P 03 05 02.5 -1.6
SUA IAmb IAmb 03 05 05.4
comp=Z,9.0nm,0.8s
SUA Susitna One 84.54 26 P P 03 05 02.7 -1.3
baz=246
H20K Anotleneega Mo 84.64 22 P P 03 05 04.6 +0.2
baz=242
BVAR Borovoye Array 84.67 325 P P 03 05 04.5 -0.3
comp=Z,58nm,0.8s,baz=112,slow=6.6,SNR=120
comp=Z,58nm,0.8s
BRVK Borovoye 84.75 325 P P 03 05 04.0 -1.1
BRVK Borovoye 84.75 325 ceP P 03 05 03.7 -1.4
BRVK pmax pmax
comp=Z,37nm,0.8s
E19K Redstone River 84.77 20 P P 03 05 05.0 0.0
baz=240
CAST Castle Rocks 84.79 24 P P 03 05 03.9 -1.3
CAST IAmb IAmb 03 05 06.8
comp=Z,6.7nm,0.8s
CAST Castle Rocks 84.79 24 P P 03 05 04.4 -0.7
baz=245
RC01 Rabbit Creek A 84.84 27 P P 03 05 04.8 -0.7
RC01 Rabbit Creek A 84.84 27 P P 03 05 04.4 -1.1
baz=247
C19K Lookout Ridge 84.89 18 P P 03 05 05.0 -0.6
C19K Lookout Ridge 84.89 18 P P 03 05 05.7 +0.1
baz=237
CHUM Lake Minchumin 84.89 24 P P 03 05 05.5 -0.2
baz=244
M22K Willow 84.93 26 P P 03 05 05.2 -0.7
baz=247
D19K Kuna River 85.02 18 P P 03 05 05.2 -1.1
D19K IAmb IAmb 03 05 11.6
comp=Z,12nm,0.9s
D19K Kuna River 85.02 18 P P 03 05 06.0 -0.3
baz=239
F20K Avaraart Lake 85.08 20 P P 03 05 05.6 -0.9
F20K Avaraart Lake 85.08 20 P P 03 05 06.7 +0.2
baz=241
IMAR Indian Mountai 85.28 22 P P 03 05 07.0 -0.5
PMR Palmer 85.30 26 P P 03 05 07.5 -0.2
PMR IAmb IAmb 03 05 09.6
comp=Z,8.4nm,0.8s
PMR Palmer 85.30 26 P P 03 05 07.5 -0.2
PMR pmax pmax
comp=Z,8.0nm,0.8s
PMR Palmer 85.30 26 P P 03 05 06.8 -0.9
baz=248
KTH Kantishna Hill 85.32 24 P P 03 05 07.2 -0.7
H21K Melozitna Rive 85.48 22 P P 03 05 08.3 -0.3
baz=244
E20K Nigu River 85.52 19 P P 03 05 08.7 -0.1
baz=240
KNK Knik Glacier 85.53 27 P P 03 05 08.2 -0.8
KNK Knik Glacier 85.53 27 P P 03 05 08.6 -0.3
baz=248
I21K Tanana 85.58 23 P P 03 05 08.4 -0.6
I21K IAmb IAmb 03 05 12.3
comp=Z,8.4nm,0.9s
I21K Tanana 85.58 23 P P 03 05 09.4 +0.3
baz=245
D20K Etivluk River 85.61 19 P P 03 05 09.3 +0.1
baz=240
G21K Allakaket 85.61 21 P P 03 05 08.6 -0.6
baz=243
SML Sawmill 85.74 26 P P 03 05 09.2 -0.8
SML Sawmill 85.74 26 P P 03 05 09.5 -0.5
SML pmax pmax
comp=Z,17nm,0.8s
SML Sawmill 85.74 26 P P 03 05 09.1 -0.9
baz=248
M23K Glacier View 86.00 26 P P 03 05 10.2 -1.0
baz=249
MLY Manley 86.00 23 P P 03 05 10.5 -0.7
MLY Manley 86.00 23 P P 03 05 10.7 -0.6
baz=246
WAT1 Susitna Watana 86.02 25 P P 03 05 10.2 -1.2
baz=248
B20K Mede River 86.09 17 P P 03 05 11.3 -0.2
baz=240
H22K Ishtalitna Cre 86.11 22 P P 03 05 11.6 -0.2
baz=245
RND Reindeer 86.11 25 P P 03 05 10.0 -1.9
RND Reindeer 86.11 25 P P 03 05 10.0 -1.9
RND pmax pmax
comp=Z,16nm,1.0s
SCM Sheep Creek Mo 86.19 26 P P 03 05 11.3 -1.0
SCM Sheep Creek Mo 86.19 26 P P 03 05 11.3 -1.0
SCM pmax pmax
comp=Z,14nm,0.9s
SCM Sheep Creek Mo 86.19 26 P P 03 05 11.5 -0.7
baz=249
MCK McKinley 86.20 24 P P 03 05 10.9 -1.3
baz=248
WAT6 Susitna Watana 86.28 26 P P 03 05 11.9 -0.9
baz=249
E21K Killik River 86.33 19 P P 03 05 12.0 -0.8
E21K IAmb IAmb 03 05 15.2
comp=Z,9.8nm,0.9s
C21K Knifeblade Rid 86.40 19 P P 03 05 13.2 +0.2
baz=242
NEA2 Nenana 86.48 24 P P 03 05 12.0 -1.6
NEA2 IAmb IAmb 03 05 17.2
comp=Z,8.3nm,0.9s
G22K Bettles 86.50 21 P P 03 05 13.2 -0.4
baz=245
B21K Ikpikpuk River 86.67 18 P P 03 05 13.0 -1.3
B21K IAmb IAmb 03 05 22.3
comp=Z,7.5nm,0.7s
B21K Ikpikpuk River 86.67 18 P P 03 05 14.3 -0.1
baz=242
WRH Wood River Hil 86.83 24 P P 03 05 13.4 -1.8
WRH IAmb IAmb 03 05 16.8
comp=Z,7.5nm,0.8s
E22K Anaktuvuk Pass 86.91 20 P P 03 05 15.7 0.0
baz=245
D22K Ayikyak River 86.95 19 P P 03 05 14.0 -1.8
D22K IAmb IAmb 03 05 26.1
comp=Z,9.4nm,0.8s
D22K Ayikyak River 86.95 19 P P 03 05 16.2 +0.4
baz=244
G23K Bananza Creek 86.95 22 P P 03 05 14.5 -1.4
G23K IAmb IAmb 03 05 19.7
comp=Z,7.7nm,0.8s
G23K Bananza Creek 86.95 22 P P 03 05 15.9 0.0
baz=246
CCB Clear Creek Bu 87.01 24 P P 03 05 13.8 -2.3
CCB IAmb IAmb 03 05 17.4
comp=Z,11nm,0.8s
COLA College 87.07 24 iP P 03 05 14.2 -2.2
COLA pmax pmax
comp=Z,7.0nm,0.8s
BMRM Bremner River 87.13 28 P P 03 05 16.7 -0.1
baz=252
B22K Teshekpuk Lake 87.37 18 P P 03 05 17.5 -0.2
baz=243
H24K Noodor Dome 87.42 23 P P 03 05 17.0 -1.1
H24K Noodor Dome 87.42 23 P P 03 05 17.5 -0.7
baz=248
ILAR Eielson Array 87.42 24 P P 03 05 16.3 -1.8
ILAR Eielson Array 87.42 24 P P 03 05 16.3 -1.8
ILAR Eielson Array 87.42 24 P P 03 05 15.8 -2.3
comp=Z,5.8nm,0.8s,baz=256,slow=5.1,SNR=26
comp=Z,5.8nm,0.8s
E23K Chandalar 87.63 20 P P 03 05 19.2 0.0
baz=247

D23K Nanushuk River 87.64 19 P P 03 05 20.0 +0.9
baz=246
GLB Gilahina Butte 87.65 27 P P 03 05 18.7 -0.6
GLB IAmb IAmb 03 05 28.5
comp=Z,9.3nm,1.0s
CRQE Cirque 87.77 28 P P 03 05 20.2 +0.1
baz=253
G24K Hadweenzic Riv 87.88 22 P P 03 05 20.3 -0.1
baz=249
J25K Salcha River, 87.98 24 P P 03 05 19.7 -1.2
J25K Salcha River, 87.98 24 P P 03 05 20.1 -0.8
baz=251
C23K Itkillik River 88.02 19 P P 03 05 20.3 -0.6
C23K Itkillik River 88.02 19 P P 03 05 21.1 +0.3
baz=246
F24K Squaw Lake 88.03 21 P P 03 05 21.4 +0.3
baz=248
D24K Happy Valley 88.33 19 P P 03 05 22.8 +0.4
baz=247
G25K Bearman Lake 88.42 22 P P 03 05 23.1 +0.3
baz=250
BARN Barnard Glacie 88.53 28 P P 03 05 22.5 -1.2
C24K Franklin Bluff 88.59 19 P P 03 05 23.7 +0.2
baz=248
TABL Table Mountain 88.61 29 P P 03 05 23.2 -1.0
CTG Chitna Glacier 88.66 28 P P 03 05 24.2 -0.1
baz=254
CTGM Chitina Glacie 88.66 28 P P 03 05 22.6 -1.7
FYU Fort Yukon 88.68 22 P P 03 05 23.0 -1.1
M27K Edge Creek, AK 88.79 27 P P 03 05 24.9 0.0
baz=254
F25K Christian Rive 88.87 21 P P 03 05 25.4 +0.3
baz=250
L27K Beaver Creek, 89.00 26 P P 03 05 25.4 -0.3
baz=254
BCAR Beaver Creek A 89.03 26 P P 03 05 24.6 -1.3
E25K Arctic Village 89.07 21 P P 03 05 25.4 -0.6
E25K IAmb IAmb 03 05 38.2
comp=Z,13nm,1.4s
E25K Arctic Village 89.07 21 P P 03 05 26.3 +0.3
baz=250
I26K Coal Creek Min 89.09 24 P P 03 05 26.7 +0.7
baz=253
K27K Chicken 89.17 25 P P 03 05 26.8 +0.4
baz=254
BMAR Burnt Mountain 89.20 22 P P 03 05 26.1 -0.5
BVCY Beaver Creek 89.26 27 P P 03 05 27.0 +0.1
baz=255
PNL Peninsula 89.26 30 P P 03 05 26.8 -0.2
baz=256
YUK3 Moose Creek 89.28 28 P P 03 05 27.0 -0.3
baz=255
G26K Porcupine Rive 89.34 22 P P 03 05 27.7 +0.5
baz=252
F26K Sheenjek River 89.44 21 P P 03 05 28.2 +0.5
baz=252
EGAK Eagle 89.76 25 P P 03 05 28.6 -0.6
EGAK IAmb IAmb 03 05 40.4
comp=Z,13nm,1.3s
EGAK Eagle 89.76 25 P P 03 05 28.8 -0.4
baz=254
GEYT Alibeck 89.76 308 P P 03 05 28.9 -1.0
comp=Z,1.5nm,0.6s,baz=96,slow=9.8,SNR=3.8
comp=Z,1.5nm,0.6s
I27K Kandik River 89.79 24 P P 03 05 29.5 +0.1
baz=254
C26K Camden Bay 89.89 19 P P 03 05 30.6 +1.0
baz=251
H27K Steamboat Moun 90.00 23 P P 03 05 30.7 +0.3
baz=254
ABKAR Akbulak array 90.18 319 P P 03 05 30.3 -1.2
ABKAR Akbulak array 90.18 319 P P 03 05 30.7 -0.8
ABKAR IAmb IAmb 03 05 33.0
comp=Z,6.2nm,0.8s
DAWY Dawson 90.32 25 P P 03 05 31.4 -0.5
DAWY IAmb IAmb 03 05 42.2
comp=Z,13nm,1.3s
DAWY Dawson 90.32 25 P P 03 05 31.8 -0.1
baz=256
M29M Somme Creek 90.35 27 P P 03 05 32.1 0.0
baz=257
I28M Miner Creek 90.43 24 P P 03 05 31.8 -0.6
I28M IAmb IAmb 03 06 24.2
comp=Z,19nm,1.9s
I28M Miner Creek 90.43 24 P P 03 05 32.3 -0.1
baz=256
HYT Haines Junctio 90.44 29 P P 03 05 32.0 -0.6
HYT IAmb IAmb 03 05 42.3
comp=Z,7.2nm,1.0s
HYT Haines Junctio 90.44 29 P P 03 05 32.9 +0.3
baz=258
L29M L29M 90.65 27 P P 03 05 32.8 -0.7
L29M IAmb IAmb 03 05 36.6
comp=Z,6.5nm,0.8s
L29M L29M 90.65 27 P P 03 05 33.7 +0.2
baz=257
N30M Aishikik Lake 90.77 28 P P 03 05 33.8 -0.3
N30M Aishikik Lake 90.77 28 P P 03 05 34.1 0.0
baz=258
J29N Klondike Camp 90.91 25 P P 03 05 35.3 +0.6
baz=257
K29M Barlow Dome 91.07 26 P P 03 05 35.6 +0.1
baz=258
M30M Minto, Yukon 91.14 27 P P 03 05 35.3 -0.4
baz=258
WHY Whitehorse 91.68 29 P P 03 05 38.2 -0.1
baz=260
J30M Hart River 91.73 25 P P 03 05 38.5 0.0
baz=259
I30M Mount Dempster 91.83 25 P P 03 05 38.2 -0.8
I30M IAmb IAmb 03 05 59.5
comp=Z,9.8nm,1.3s
I30M Mount Dempster 91.83 25 P P 03 05 38.4 -0.6
baz=259
EPYK Eagle Plains 91.92 23 P P 03 05 38.7 -0.6
EPYK Eagle Plains 91.92 23 P P 03 05 39.1 -0.1
baz=259
ARU Arti 92.12 326 di P P 03 05 38.6 -1.7
ARU 03 09 19.1
ARU S SKSac 03 16 11.5 -2.0
ARU SS SS 03 22 44.8 -7.3
ARU pmax pmax
comp=Z,9.0nm,1.0s
G30M tAoh Zraii Nji 92.23 23 P P 03 05 40.6 -0.1
G30M tAoh Zraii Nji 92.23 23 P P 03 05 39.9 -0.8
baz=259
ELIB Princess Elisa 92.78 196 dP P 03 05 43.0 -0.3
comp=Z,3.4nm,1.0s
A36M Sachs Harbour 96.57 18 P P 03 05 58.8 -1.6
A36M IAmb IAmb 03 06 10.4
comp=Z,5.4nm,0.9s
BELG Belogornoye 98.22 322 i P P 03 06 06.5 -1.7
BELG pmax pmax
comp=Z,5.0nm,0.9s
YKA Yellowknife Ar 101.36 28 P Pdif 03 06 20.1 -2.0
comp=Z,0.1nm,0.4s,baz=321,slow=2.3,SNR=1.9
CLL Collm 119.06 327 ePKiKP PKiKP 03 11 21.0 +1.0
KHC Kasperske Hory 119.78 324 ciPKiKP PKPdf 03 11 20.1 -1.4
KHC pmax pmax
comp=Z,14nm,2.5s
GERES GERESS Array B 119.83 324 PKiKP PKPdf 03 11 21.0 -0.7
GERES GERESS Array B 119.83 324 PKP PKPdf 03 11 21.0 -0.7
comp=Z,0.4nm,0.5s,baz=45,slow=4.1,SNR=2.2
KBA Koelnbreinsper 120.85 322 ePKiKP PKiKP 03 11 24.5 +0.6
comp=Z,0.2nm,0.2s
LESA Schwarzleotal 121.10 323 ePKiKP PKiKP 03 11 25.3 +1.0
comp=Z,0.3nm,0.2s
ABTA Abfaltersbach 121.51 322 i PKiKP PKiKP 03 11 26.3 +1.2
comp=Z,1.2nm,0.7s
WTTA Wattenberg 121.80 323 ePKiKP PKiKP 03 11 25.7 -0.1
comp=Z,1.8nm,0.5s
MOTA Moosalm 122.08 323 ePKiKP PKPdf 03 11 26.1 0.0
comp=Z,1.4nm,0.4s
DAVA Damuels 122.83 324 epPKP PKiKP 03 11 29.5 +1.7
comp=Z,2.0nm,0.6s
PLCA Paso Flores 123.97 150 PKP PKPdf 03 11 30.2 +0.3
comp=Z,1.7nm,0.8s,baz=136,slow=5.9,SNR=3.5
EKA Eskdalemuir Ar 124.15 337 PKP PKPdf 03 11 29.2 -0.4
comp=Z,2.0nm,0.8s,baz=58,slow=5.0,SNR=3.4
SCHQ Schefferville 126.08 21 PKP PKiKP 03 11 34.0 +0.2
comp=Z,2.2nm,0.9s,baz=203,slow=15,SNR=1.8
TORD Torodi Ar. Bea 141.22 283 PKP PKPdf 03 12 03.9 +1.0
comp=Z,3.3nm,0.8s,baz=69,slow=3.8,SNR=7.9
CZSB Cruzeiro do Su 141.82 111 PKPdf 03 12 02.3 -1.6
LPAZ La Paz 141.93 127 PKP PKPdf 03 12 04.2 -0.6
comp=Z,1.7nm,0.8s,baz=200,slow=2.1,SNR=4.4
CPUP Villa Florida 142.04 150 PKP PKPdf 03 12 03.4 -0.6

comp=Z,2.0nm,0.7s,baz=207,slow=4.5,SNR=2.2
SIV San Ignacio 147.50 133 PKPbc **PKPbc 03 12 17.1 +0.9**
comp=Z,5.3nm,0.8s,baz=228,slow=2.8,SNR=17
DBIC Dimbokro 147.97 272 PKPbc **PKPbc 03 12 16.9 -0.8**
comp=Z,15nm,0.9s,baz=96,slow=3.2,SNR=11

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*SJA **06** 02:59:03.7±0.8,28°.94S×71°.86W,h11km±3km, ML4.7, MW4.4*
*IDC **06** 02:59:06.0±0.6,29°.00S×71°.20W,h0km,mb4.3/9, mbtmp4.2/12, ML3.9/3, MS3.6/11, Error ellipse: s-maj=24.9km s-min=17.2km az=92.0*
*VAO **06** 02:59:07.4±1.3,29°.45S×71°.90W,h62km±7km, mb4.4*
*NEIC **06** 02:59:08.9,29°.01S×71°.59W,h18km*
*GUC **06** 02:59:09.9±0.8,29°.02S×71°.50W,h35km±5km, ML4.4*
*NEIC **06** 02:59:09.6±1.6,29°.01S±0°.04×71°.57W±0°.06, h23km±4km, mb4.7/34, Mwr4.3/44, Error ellipse: s-maj=7.5km s-min=5.7km az=115.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=3.27; Mθθ=0.14; Mφφ=-3.13; Mrθ=0.29; Mrφ=-1.03; Mθφ=-0.43; Fault plane solution: M0 3.40000×10¹⁵ NP1:φ1=199.98000°, δ=49.31000°, λ=93.55000°. NP2:φ2=14.55000°, δ=40.82000°, λ=85.89000°. Principal axes: T 3.3111, Plg85.0000°, Azm140.0000°; N 0.1748, Plg3.0000°, Azm18.0000°; P -3.4859, Plg4.0000°, Azm287.0000°;*
ISC 06 02:59:07.6±1.2,28°.95S±0°.02×71°.56W±0°.04,h14km±7km, n185,σ1=40/215,mb4.7/24,MS3.8/5,6C-6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.75**	**92**			**Pn**	**02 59 23.8**	**-0.2**
LCO					Sg	**Sb**	**02 59 33.7**	**+0.9**
LCO	**Las Campanas**	**0.75**	**92**	*eP*		**Pn**	**02 59 23.8**	**-0.2**
LCO					*e*S	**Sn**	**02 59 34.9**	**-0.4**
LCO				IAML			02 59 39.6	
	comp=Z,87μm,0.5s							
LCO	**Las Campanas**	**0.75**	**92**	*e*P		**Pn**	**02 59 23.8**	**-0.2**
AC04	**Llanos de Chal**	**0.89**	**29**			**Pn**	**02 59 26.2**	**+0.5**
AC04					Sg	**Sn**	**02 59 38.4**	**0.0**
AC04	**Llanos de Chal**	**0.89**	**29**	*e*P		**Pn**	**02 59 25.4**	**-0.3**
AC04					*e*S	**Sn**	**02 59 38.7**	**+0.3**
AC04	**Llanos de Chal**	**0.89**	**29**	⇑*i*P		**Pn**	**02 59 26.2**	**+0.5**
AC04					*e*S	**Sn**	**02 59 38.5**	**0.0**
CO05	**La Serena**	**0.96**	**163**			**Pg**	**02 59 26.7**	**+0.4**
CO05					Sg	**Sb**	**02 59 39.0**	**+0.3**
CO05	**La Serena**	**0.96**	**163**	⇓*i*P		**Pn**	**02 59 26.9**	**+0.2**
CO05					*e*S	**Sb**	**02 59 39.0**	**+0.3**
CO05				IAML			02 59 41.5	
	comp=E,41μm,0.3s							
AC05	**El Transito**	**1.14**	**82**			**Pg**	**02 59 30.1**	**+0.5**
AC05						**Sg**	**02 59 44.7**	**+0.3**
AC05	**El Transito**	**1.14**	**82**	*e*P		**Pg**	**02 59 30.0**	**+0.5**
AC05					*e*S	**Sn**	**02 59 46.0**	**+1.3**
AC05				IAML			02 59 48.1	
	comp=Z,7μm,0.8s							
AC05	**El Transito**	**1.14**	**82**	⇓*i*P		**Pg**	**02 59 30.1**	**+0.5**
AC05					*e*S	**Sg**	**02 59 44.6**	**+0.3**
AC05				IAML			02 59 46.2	
	comp=N,13μm,0.3s							
GO04	**Tololo Observa**	**1.35**	**151**			**Pn**	**02 59 32.7**	**+0.5**
GO04	**Tololo Observa**	**1.35**	**151**	*e*P		**Pn**	**02 59 32.4**	**+0.2**
GO04					*e*S	**Sg**	**02 59 51.2**	**0.0**
GO04				IAML			02 59 53.6	
	comp=Z,33μm,0.5s							
GO04	**Tololo Observa**	**1.35**	**151**	*i*P		**Pb**	**02 59 33.1**	**+0.3**
GO04					*e*S	**Sn**	**02 59 51.1**	**+1.0**
CO01	**Juntas del Tor**	**1.61**	**128**			**Pb**	**02 59 37.1**	**-0.2**
CO01	**Juntas del Tor**	**1.61**	**128**	*e*P		**Pb**	**02 59 37.4**	**+0.2**
CO01					*e*S	**Sb**	**02 59 58.4**	**+0.8**
CO01				IAML			03 00 01.7	
	comp=Z,3μm,0.5s							
CO01	**Juntas del Tor**	**1.61**	**128**	*i*P		**Pb**	**02 59 37.4**	**+0.2**
CO01					*e*S	**Sb**	**02 59 57.7**	**+0.1**
CO01				IAML			02 59 59.7	
	comp=N,4μm,0.4s							
CO06	**Fray Jorge**	**1.68**	**182**			**Pn**	**02 59 36.7**	**+0.2**
CO06	**Fray Jorge**	**1.68**	**182**	⇑*i*P		**Pn**	**02 59 37.0**	**+0.5**
CO06					*e*S	**Sb**	**03 00 00.3**	**+1.0**
CO06				IAML			03 00 06.9	
	comp=E,7μm,0.4s							
GO03	**Copiap**	**1.82**	**40**			**Pn**	**02 59 39.7**	**+1.2**
GO03	**Copiap**	**1.82**	**40**	*e*P		**Pn**	**02 59 39.2**	**+0.7**
GO03					*e*S	**Sg**	**03 00 04.9**	**-1.2**
GO03				IAML			03 00 14.5	
	comp=Z,3μm,0.6s							
GO03	**Copiap**	**1.82**	**40**	⇑*i*P		**Pn**	**02 59 39.7**	**+1.2**
GO03					*e*S	**Sb**	**03 00 04.2**	**+0.9**
GO03				IAML			03 00 10.0	
	comp=E,5μm,0.3s							
AC06	**Mina Casimiro**	**1.94**	**33**			**Pb**	**02 59 42.0**	**-0.9**
AC06	**Mina Casimiro**	**1.94**	**33**	⇑*i*P		**Pb**	**02 59 42.0**	**-0.9**
AC06					*e*S	**Sg**	**03 00 08.9**	**-1.2**
CO03	**El Pedregal**	**1.99**	**158**	Pn		**Pn**	**02 59 42.0**	**+1.0**
CO03	**El Pedregal**	**1.99**	**158**	*e*P		**Pn**	**02 59 41.9**	**+1.0**
CO03					*e*S	**Sb**	**03 00 09.1**	**+0.8**
CO03				IAML			03 00 12.3	
	comp=Z,4μm,0.6s							
CO03	**El Pedregal**	**1.99**	**158**	⇑*i*P		**Pn**	**02 59 42.1**	**+1.2**
CO03					*e*S	**Sn**	**03 00 07.0**	**+1.3**
CO03				IAML			03 00 12.9	
	comp=E,8μm,0.5s							
AROD	**Rodeo**	**2.16**	**123**	*e*P		**Pb**	**02 59 47.0**	**+0.3**
AROD					*e*S	**Sg**	**03 00 18.0**	**+0.9**
CO02	**Combarbal**	**2.26**	**168**			**Pn**	**02 59 45.5**	**+0.8**
CO02	**Combarbal**	**2.26**	**168**	*e*P		**Pn**	**02 59 40.6**	**-4.0**
CO02					*e*P	**Pb**	**02 59 45.0**	**-3.2**
CO02					*e*S	**Sb**	**03 00 16.9**	**+0.8**
CO02				IAML			03 00 26.3	
	comp=Z,7μm,0.5s							
CO02	**Combarbal**	**2.26**	**168**	⇑*i*P		**Pn**	**02 59 45.7**	**+1.1**
ACDV	**Cuesta del Vie**	**2.43**	**120**	*e*P		**Pb**	**02 59 51.1**	**0.0**
ACDV					*e*S	**Sg**	**03 00 25.2**	**-0.5**
ACCO	**Cerro Coronel**	**2.69**	**127**	*e*P		**Pb**	**02 59 54.8**	**-0.9**
ACCO					*e*S	**Sg**	**03 00 35.0**	**+1.0**
AGUA	**GUANDACOL**	**2.73**	**101**	*e*P		**Pb**	**02 59 56.0**	**-0.2**
AGUA					*e*S	**Sb**	**03 00 30.6**	**+1.1**
AGUA				IAML			03 00 40.1	
	comp=Z,2μm,0.7s							
DOCA	**Reserva Natura**	**2.90**	**133**	*e*P		**Pb**	**02 59 57.3**	**-2.0**
DOCA					*e*S	**Sg**	**03 00 42.4**	**+1.5**
DOCA				IAML			03 00 48.1	
	comp=Z,1μm,0.8s							
VCA	**Vinchina**	**2.95**	**86**	*e*P		**Pb**	**02 59 59.4**	**-0.7**
VCA					*e*S	**Sg**	**03 00 40.6**	**-1.8**
VCA				IAML			03 00 51.3	
	comp=Z,3μm,1.1s							
AC01	**Pan de Azucar**	**2.96**	**17**	Pn		**Pn**	**02 59 54.0**	**-0.2**
AC01	**Pan de Azucar**	**2.96**	**17**	*e*P		**Pn**	**02 59 53.9**	**-0.3**
AC01					*e*S	**Sg**	**03 00 44.6**	**+2.0**
AC01				IAML			03 00 47.4	
	comp=Z,1μm,1.1s							
AC02	**Maricunga**	**3.04**	**46**	Pn		**Pn**	**02 59 57.7**	**+2.0**
AC02	**Maricunga**	**3.04**	**46**	*e*P		**Pn**	**02 59 57.5**	**+1.8**
AC02					*e*S	**Sb**	**03 00 37.1**	**-1.8**
AC02				IAML			03 00 51.3	
	comp=Z,1μm,1.1s							
RTLL	**Cerro Villicun**	**3.54**	**132**	*e*P		**Pn**	**03 00 05.9**	**+3.6**
RTLL					*e*S	**Sb**	**03 00 55.6**	**+2.6**
VA06	**Catapilco**	**3.56**	**176**	Pn		**Pn**	**03 00 03.1**	**+0.7**
VA03	**San Esteban**	**3.86**	**167**			**Pn**	**03 00 07.8**	**+1.2**
VA03	**San Esteban**	**3.86**	**167**	*e*P		**Pn**	**03 00 08.1**	**+1.5**
VA03					*e*S	**Sb**	**03 01 01.6**	**-0.5**
VA03				IAML			03 01 10.6	
	comp=Z,2μm,0.5s							
AVFE	**Valle Fertil**	**3.93**	**116**	*e*P		**Pn**	**03 00 11.0**	**+3.3**
AVFE					*e*S	**Sb**	**03 00 59.6**	**-4.6**
AVFE				IAML			03 01 07.5	
	comp=Z,1μm,0.9s							
VA01	**Torpederas**	**4.02**	**181**			**Pn**	**03 00 08.4**	**-0.3**
ACLC	**CERRO LA CRUZ**	**4.05**	**97**	*e*P		**Pn**	**03 00 13.0**	**+3.6**
ACLC					*e*S	**Sb**	**03 01 06.8**	**-1.0**
ACLC				IAML			03 01 07.8	
	comp=Z,2μm,0.8s							
GO02	**Mina Guanaco**	**4.20**	**25**	Pn		**Pn**	**03 00 12.2**	**+0.6**
GO02	**Mina Guanaco**	**4.20**	**25**	*e*P		**Pn**	**03 00 11.7**	**+0.2**
GO02					*e*S	**Sn**	**03 01 03.1**	**+2.6**
GO02					*e*S	**Sb**	**03 01 17.1**	**+5.0**
GO02				IAML			03 01 25.6	
	comp=Z,1μm,0.9s							

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PEL	**Peldehue**	**4.21**	**170**			**Pn**	**03 00 12.0**	**+0.7**
MT02	**Curacav**	**4.27**	**175**			**Pn**	**03 00 12.4**	**+0.3**
MT02	**Curacav**	**4.27**	**175**	*e*P		**Pn**	**03 00 12.6**	**+0.4**
MT02					*e*S	**Sn**	**03 01 05.7**	**+3.9**
MT02				IAML			03 01 30.2	
	comp=Z,811nm,0.8s							
ASAL	**Salagasta**	**4.29**	**148**	*e*P		**Pn**	**03 00 16.6**	**+4.1**
ASAL					*e*S	**Sb**	**03 01 12.1**	**-2.3**
ASAL				IAML			03 01 33.1	
	comp=Z,662nm,0.7s							
MT05	**Renca**	**4.44**	**171**			**Pn**	**03 00 15.2**	**+0.6**
MT05	**Renca**	**4.44**	**171**	*e*P		**Pn**	**03 00 12.1**	**-2.5**
ARCO	**CERRO ARCO**	**4.45**	**150**	*e*S		**Sb**	**03 01 15.1**	**-4.1**
PB14	**IPOC Station P**	**4.47**	**14**	Pn		**Pn**	**03 00 13.7**	**-1.5**
MT16	**CCHEN**	**4.51**	**169**			**Pn**	**03 00 16.8**	**+1.2**
MT03	**Universidad Ad**	**4.58**	**169**			**Pn**	**03 00 17.1**	**+0.6**
APLL	**PUNTA DE LOS L**	**4.59**	**109**	*e*P		**Pn**	**03 00 20.0**	**+3.3**
VA05	**Santo Domingo**	**4.65**	**181**			**Pn**	**03 00 17.1**	**-0.4**
MT09	**Talagante**	**4.79**	**174**			**Pn**	**03 00 20.1**	**+0.6**
MT13	**San Alfonso**	**4.86**	**167**	Pn		**Pn**	**03 00 21.0**	**+0.6**
MT01	**Popeta**	**4.86**	**177**			**Pn**	**03 00 20.6**	**+0.2**
LMEL	**Las Melosas**	**4.98**	**167**			**Pn**	**03 00 22.9**	**+0.9**
BO04	**La Punta**	**5.05**	**171**			**Pn**	**03 00 23.7**	**+0.8**
BO01	**Tunca**	**5.40**	**176**	Pn		**Pn**	**03 00 27.8**	**0.0**
BO02	**Sierra Bellavi**	**5.82**	**174**			**Pn**	**03 00 34.1**	**+0.5**
GO05	**Huala**	**6.01**	**183**			**Pn**	**03 00 34.8**	**-1.3**
PB15	**IPOC Station P**	**6.06**	**19**			**Pn**	**03 00 36.9**	**-0.1**
PB06	**IPOC Station P**	**6.51**	**16**			**Pn**	**03 00 44.0**	**+0.9**
ML02	**Panimavida**	**6.75**	**179**			**Pn**	**03 00 46.1**	**-0.2**
LVC	**Limon Verde**	**6.79**	**21**	Pn		**Pn**	**03 00 47.1**	**0.0**
	comp=Z,1.7nm,0.3s,baz=164,slow=7.0,SNR=13							
LVC					Sn	**Sn**	**03 02 01.9**	**-2.6**
	comp=Z,4.9nm,0.3s,baz=313,slow=19,SNR=3.4							
LVC					Lg	Lg	03 02 26.4	
	comp=Z,9.5nm,0.3s,baz=18,slow=20,SNR=8.0							
LVC					LR	LR	03 03 33.8	
	comp=Z,590nm,18.8s,baz=214,slow=40 comp=Z,3.9nm,0.4s							
LVC	**Limon Verde**	**6.79**	**21**	*e*P		**Pn**	**03 00 50.9**	**+3.8**
H03N1	**Juan Fernandez**	**7.70**	**233**	T		T	03 08 53.1	
	baz=61,slow=72,SNR=3527							
H03N2	**Juan Fernandez**	**7.71**	**233**	T		T	03 08 53.6	
	baz=61,slow=72,SNR=3799							
H03N3	**Juan Fernndez**	**7.72**	**233**	T		T	03 08 52.2	
	baz=61,slow=72,SNR=4420							
VA04	**Juan Fernndez**	**7.76**	**231**	Pn		**Pn**	**03 00 58.3**	**-1.8**
PB01	**IPOC Station P**	**8.13**	**14**			**Pn**	**03 01 04.4**	**-1.0**
VACA	**Villa Angela C**	**9.66**	**85**	*e*P		**Pn**	**03 01 28.5**	**+2.3**
GO06	**Curarrehue**	**10.57**	**180**	Pn		**Pn**	**03 01 38.3**	**-0.4**
LR03	**Panguipulli**	**10.63**	**183**			**Pn**	**03 01 37.6**	**-1.9**
LR05	**Currie**	**11.22**	**182**			**Pn**	**03 01 46.4**	**-1.1**
PLCA	**Paso Flores**	**11.74**	**176**	Pn		**Pn**	**03 01 54.5**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=326,slow=9.4,SNR=20							
PLCA					Lg	Lg	03 05 12.3	
	comp=Z,0.1nm,0.3s,baz=1.7,slow=19,SNR=1.5							
PLCA					LR	LR	03 06 23.5	
	comp=Z,393nm,19.4s,baz=346,slow=37 comp=Z,1.2nm,0.5s							
TRQA	**Tornquist**	**12.06**	**141**	Pn		**Pn**	**03 01 59.2**	**+0.2**
PSAL	**Salomas, Salto**	**12.27**	**103**	*e*P		**Pn**	**03 02 02.2**	**+0.3**
CPUP	**Villa Florida**	**12.89**	**81**	Pn		**Pn**	**03 02 09.6**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=282,slow=14,SNR=4.7							
CPUP					Lg	Lg	03 05 34.4	
	comp=Z,0.3nm,0.3s,baz=324,slow=19,SNR=1.4							
CPUP					LR	LR	03 07 32.0	
	comp=Z,310nm,21.4s,baz=264,slow=40							
LPAZ	**La Paz**	**13.03**	**15**	Pn		**Pn**	**03 02 14.1**	**+1.1**
LPAZ	**La Paz**	**13.03**	**15**	Pn		**Pn**	**03 02 17.1**	**+4.2**
	comp=Z,0.6nm,0.3s,baz=185,slow=4.8,SNR=12							
LPAZ					Lg	Lg	03 05 58.9	
	comp=Z,0.1nm,0.3s,baz=319,slow=20,SNR=1.3							
LPAZ					LR	LR	03 06 45.0	
	comp=Z,150nm,21.5s,baz=136,slow=35							
LPAZ	**La Paz**	**13.03**	**15**	*e*P		**Pn**	**03 02 16.7**	**+3.7**
ITQB	**Itaqui**	**13.05**	**97**	Pn		**Pn**	**03 02 12.3**	**-0.3**
ITQB	**Itaqui**	**13.05**	**97**	*e*P		**Pn**	**03 02 12.0**	**-0.6**
TBOT	**Tacuaremb**	**13.76**	**105**	*e*P		**Pn**	**03 02 22.2**	**0.0**
RODS	**Rosario do Sul**	**14.29**	**99**	*e*P		**Pn**	**03 02 29.2**	**-0.4**
UNIS	**Unistalda (Bra**	**14.43**	**94**	*e*P		**Pn**	**03 02 32.7**	**+1.2**
BBRB	**Robore, Bolivi**	**15.14**	**48**	*e*P		**P**	**03 02 46.4**	**+0.1**
BBSD	**Serra de San D**	**15.46**	**43**	*e*P		**P**	**03 02 48.1**	**-1.7**
PLTB	**Pedras Altas**	**15.74**	**105**	Pn		**Pn**	**03 02 48.7**	**-0.3**
PLTB	**Pedras Altas**	**15.74**	**105**	*e*P		**Pn**	**03 02 47.7**	**-1.2**
CPSB	**Curupaca Do Su**	**15.81**	**100**	*e*P		**Pn**	**03 02 47.8**	**-2.0**
AMBA	**Amaribai (Brazi**	**16.07**	**72**	*e*P		**P**	**03 02 55.6**	**-1.0**
SIV	**San Ignacio**	**16.15**	**39**	Pn		**Pn**	**03 02 51.8**	**-2.5**
	baz=231,slow=11,SNR=3.1							
SIV					LR	LR	03 08 49.1	
	comp=Z,98nm,18.4s,baz=214,slow=36 comp=Z,0.6nm,0.5s							
ALGR	**Alto Alegre (B**	**16.23**	**94**	*e*P		**Pn**	**03 02 56.1**	**+0.8**
COYC	**Coyhaique**	**16.56**	**181**	Pn		**Pn**	**03 03 00.0**	**+0.8**
FRBT	**Francisco Belt**	**16.69**	**84**	*e*P		**Pn**	**03 03 01.4**	**+0.2**
AQDB	**Aquidauana**	**16.70**	**63**	Pn		**Pn**	**03 03 02.4**	**+1.1**
AQDB	**Aquidauana**	**16.70**	**63**	*e*P		**P**	**03 03 02.9**	**-0.6**
NNA	**Nana**	**17.62**	**343**	LR		LR	03 08 06.7	
	comp=Z,130nm,19.2s,baz=182,slow=30							
PTLB	**Pontes e Lacer**	**17.70**	**43**	*e*P		**P**	**03 03 14.7**	**+0.1**
PTGB	**Pitanga**	**17.90**	**81**	*e*P		**Pn**	**03 03 15.4**	**-0.9**
TRCB	**Terra Rica**	**18.10**	**74**			**P**	**03 03 19.2**	**+0.1**
VILB	**Vilhena**	**19.14**	**36**	P		**P**	**03 03 30.8**	**+0.2**
VILB	**Vilhena**	**19.14**	**36**	*e*P		**P**	**03 03 30.7**	**+0.2**
LDASE	**Londrina, Braz**	**19.16**	**78**	*e*P		**P**	**03 03 29.1**	**-1.7**
SALV	**Santo Antonio**	**19.58**	**52**	*e*P		**P**	**03 03 34.2**	**-1.1**
ETMB	**Extrema**	**19.72**	**16**	P		**P**	**03 03 37.7**	**+0.9**
ETMB	**Extrema**	**19.72**	**16**	*e*P		**Pn**	**03 03 38.5**	**+0.1**
PCMB	**Pacaembu**	**19.75**	**73**	*e*P		**P**	**03 03 37.6**	**+0.4**
FRTB	**Fartura**	**20.52**	**79**	*e*P		**P**	**03 03 45.7**	**+0.2**
CZSB	**Cruzeiro do Su**	**21.18**	**357**	P		**P**	**03 03 53.8**	**+1.1**
CZSB						IAmb	IAmb	03 04 05.7
	comp=Z,24nm,0.8s							
CZSB	**Cruzeiro do Su**	**21.18**	**357**	*e*P		**P**	**03 03 52.4**	**-0.2**
ITRB	**Iturama**	**21.39**	**69**	*e*P		**P**	**03 03 54.2**	**-0.7**
SAML	**Samuel**	**21.44**	**23**	P		**P**	**03 03 56.2**	**+0.8**
SPB	**Sao Paulo**	**22.27**	**82**	P		**P**	**03 04 05.1**	**+0.7**
SPB						IAmb	IAmb	03 04 07.0
	comp=Z,20nm,1.1s							
BB19B	**Bebedouro**	**22.28**	**74**	*e*P		**P**	**03 04 03.6**	**-1.0**
RCLB	**Rio Claro- Sao**	**22.59**	**79**	*e*P		**P**	**03 04 06.9**	**-1.1**
TBTG	**Tabatinga, AM**	**24.72**	**4**	*e*P		**P**	**03 04 27.0**	**-1.6**
SNDB	**Serra Nova Dou**	**25.37**	**52**	*e*P		**P**	**03 04 34.4**	**-0.1**
BDFB	**Brasilia**	**25.45**	**64**	P		**P**	**03 04 35.2**	**-0.2**
BDFB						IAmb	IAmb	03 04 35.9
	comp=Z,8.8nm,0.8s							
BDFB	**Brasilia**	**25.45**	**64**	P		**P**	**03 04 32.0**	**-3.3**
	comp=Z,6.5nm,0.7s,baz=236,slow=9.2,SNR=13							
BDFB					LR	LR	03 16 40.9	
	comp=Z,113nm,20.6s,baz=317,slow=42 comp=Z,6.5nm,0.7s							
NPGB	**Novo Progresso**	**26.65**	**38**	*e*P		**P**	**03 04 45.9**	**-0.2**
MACA	**Manacapuru-AM**	**27.69**	**24**	*e*P		**P**	**03 04 54.8**	**-0.6**
JANB	**Januaria**	**28.72**	**67**	*e*P		**P**	**03 05 04.3**	**-0.4**
RPN	**Rapa Nui**	**33.30**	**264**	LR		LR	03 16 01.6	
	comp=Z,103nm,18.1s,baz=84,slow=30							
PMSA	**Palmer Station**	**36.11**	**175**	LR		LR	03 20 01.2	
	comp=Z,165nm,18.6s,baz=11,slow=35							
NBLA	**Lagarto - SE**	**36.25**	**67**	*e*P		**P**	**03 06 08.7**	**-1.9**
BAUV	**El Baul**	**37.87**	**6**	P		**P**	**03 06 24.3**	**+0.1**
BAUV						IAmb	IAmb	03 06 25.3
	comp=Z,18nm,0.9s							
MDP	**Montagnes des**	**38.47**	**31**	LR		LR	03 23 35.9	
	comp=Z,141nm,18.1s,baz=242,slow=38							
NBLV	**Livramento - P**	**39.08**	**63**	*e*P		**P**	**03 06 32.2**	**-2.4**
VNA3	**Neumayer Olymp**	**53.86**	**159**	⇓P		**P**	**03 08 30.1**	**+0.3**
	comp=Z,9.7nm,0.8s							
VNA2	**Neumayer--Watz**	**54.49**	**159**	⇓P		**P**	**03 08 33.8**	**-0.6**
	comp=Z,7.7nm,0.7s,baz=293,slow=9.1							
SNAA	**Sanae**	**56.08**	**159**	P		**P**	**03 08 46.0**	**0.0**
SNAA	**Sanae**	**56.08**	**159**	⇓P		**P**	**03 08 46.1**	**+0.1**
	comp=Z,81nm,0.5s							
SNAA	**Sanae**	**56.08**	**159**	P		**P**	**03 08 45.3**	**-0.6**
	comp=Z,3.2nm,0.6s,baz=278,slow=8.2,SNR=19 comp=Z,3.2nm,0.6s							
TROLL	**Troll, Antarti**	**57.79**	**159**	⇓P		**P**	**03 08 58.4**	**+0.2**
	comp=Z,248nm,0.7s							
QSPA	**South Pole Qui**	**61.23**	**180**	P		**P**	**03 09 22.0**	**0.0**
QSPA						IAmb	IAmb	03 09 23.7
	comp=Z,6.4nm,0.9s							
QSPA	**South Pole Qui**	**61.23**	**180**	P		**P**	**03 09 23.3**	**+1.4**
	comp=Z,3.0nm,0.5s,baz=142,slow=1.5,SNR=5.4 comp=Z,3.0nm,0.5s							
HNDO	**Hondo**	**63.93**	**333**	P		**P**	**03 09 41.8**	**+1.5**
HNDO						IAmb	IAmb	03 09 43.1
	comp=Z,5.0nm,0.8s							

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SAND	**Sanderson**	**65.47**	**331**			**P**	**03 09 49.4**	**-0.9**
SAND					IAmb	IAmb	03 10 01.3	
	comp=Z,6.6nm,1.2s							
TXAR	**Lajitas Array**	**65.61**	**329**	P		**P**	**03 09 53.0**	**+1.7**
	comp=Z,0.8nm,0.7s,baz=160,slow=7.4,SNR=11 comp=Z,0.8nm,0.7s							
WVT	**Waverly**	**66.56**	**346**	P		**P**	**03 09 57.8**	**+0.7**
WVT					IAmb	IAmb	03 09 58.4	
	comp=Z,5.5nm,0.9s							
ABTX	**Abilene, Hawle**	**66.83**	**334**	P		**P**	**03 09 57.8**	**-1.2**
ABTX					IAmb	IAmb	03 10 09.3	
	comp=Z,9.3nm,1.1s							
LCAR	**Lake Charles**	**67.29**	**343**	P		**P**	**03 10 02.5**	**+0.8**
LCAR					IAmb	IAmb	03 10 11.2	
	comp=Z,7.2nm,0.9s							
APMT	**Aspermont**	**67.63**	**334**	P		**P**	**03 10 05.2**	**+1.2**
APMT					IAmb	IAmb	03 10 06.3	
	comp=Z,5.2nm,0.9s							
PBMO	**Poplar Bluff**	**67.78**	**344**	P		**P**	**03 10 05.7**	**+0.8**
S44A	**Carbondale**	**68.38**	**345**	P		**P**	**03 10 09.1**	**+0.6**
SIUC	**Southern Illin**	**68.39**	**345**	P		**P**	**03 10 09.2**	**+0.5**
R40A	**Maddies Statio**	**69.68**	**343**	P		**P**	**03 10 17.5**	**+0.9**
DBIC	**Dimbokro**	**73.23**	**72**	P		**P**	**03 10 37.5**	**-1.2**
	comp=Z,9.1nm,0.8s,baz=206,slow=5.0,SNR=11 comp=Z,9.1nm,0.8s							
ECSD	**EROS Data Cent**	**75.93**	**342**			**P**	**03 10 54.5**	**+0.8**
ECSD					IAmb	IAmb	03 11 03.6	
	comp=Z,10.0nm,1.0s							
HWUT	**Hardware Ranch**	**79.38**	**331**			**P**	**03 11 13.5**	**+0.2**
HWUT					IAmb	IAmb	03 11 23.2	
	comp=Z,4.2nm,0.9s							
PDAR	**Pinedale Array**	**79.51**	**333**	P		**P**	**03 11 15.2**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=136,slow=7.1,SNR=5.1 comp=Z,0.4nm,0.6s							
SPUT	**South Promonto**	**79.52**	**330**	P		**P**	**03 11 15.3**	**+1.4**
SPUT					IAmb	IAmb	03 11 24.0	
	comp=Z,9.8nm,1.4s							
SOE	**Somerset East**	**80.34**	**122**	P		**P**	**03 11 18.7**	**0.0**
GRHM	**Grahamstown, E**	**80.68**	**123**	P		**P**	**03 11 21.2**	**+0.8**
BOSA	**Boshof**	**82.05**	**118**	P		**P**	**03 11 27.7**	**-0.3**
BOSA					IAmb	IAmb	03 11 29.5	
	comp=Z,9.6nm,1.1s							
BOSA	**Boshof**	**82.05**	**118**	P		**P**	**03 11 27.6**	**-0.3**
	comp=Z,5.5nm,0.7s,baz=268,slow=4.4,SNR=16 comp=Z,5.5nm,0.7s							
TOA0	**Torodi Ar. Sit**	**82.13**	**70**	P		**P**	**03 11 28.5**	**+0.2**
TOA0					IAmb	IAmb	03 11 29.2	
	comp=Z,9.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**82.13**	**70**	P		**P**	**03 11 28.5**	**+0.2**
TORD					IAmb	IAmb	03 11 29.2	
	comp=Z,7.9nm,0.8s							
TORD	**Torodi Ar. Bea**	**82.13**	**70**	P		**P**	**03 11 27.9**	**-0.3**
	comp=Z,7.0nm,0.8s,baz=272,slow=4.1,SNR=43 comp=Z,7.0nm,0.8s							
SCHQ	**Schef

comp=E,1.2nm,0.5s
LSA Lhasa 15.85 354 Pn **Pn** **03 10 31.9 -1.5**
ENH Enshi 22.39 40 P **P** **03 11 47.8 -0.2**
ENH IAmb IAmb 03 11 54.1
comp=Z,15nm,1.4s
H08S3 Diego Garcia H 29.42 225 T T 03 43 15.5
baz=43,slow=76,SNR=13
H08S2 Diego Garcia H 29.43 225 T T 03 43 13.5
baz=43,slow=76,SNR=12
H08S1 Diego Garcia H 29.44 225 T T 03 43 16.9
baz=43,slow=76,SNR=6.0
ARSB Arslanbob 32.39 331 P **P** **03 13 18.8 -0.4**
CHGR Chuyangaron 32.41 324 P **P** **03 13 17.4 -2.0**
BTK Batken 32.50 328 P **P** **03 13 19.0 -1.1**
BTK IAmb IAmb 03 13 27.2
comp=Z,1.9nm,0.7s
SIMJ Simiganj 32.50 324 P **P** **03 13 18.2 -2.0**
SIMJ IAmb IAmb 03 13 23.5
comp=Z,4.1nm,1.1s
BJT Baijiatuau 33.12 34 P **P** **03 13 24.4 -1.0**
MK31 Makanchi Array 34.02 347 P **P** **03 13 32.8 -0.4**
MK31 IAmb IAmb 03 13 37.3
comp=Z,2.9nm,1.3s
MKAR Makanchi Array 34.02 347 P **P** **03 13 33.1 -0.1**
MKAR Makanchi Array 34.02 347 P **P** **03 13 35.6 +2.4**
comp=Z,0.3nm,0.5s,baz=151,slow=9.2,SNR=6.3
comp=Z,0.3nm,0.5s
KK31 Karatay Array 34.93 331 P **P** **03 13 41.3 +0.2**
KK31 IAmb IAmb 03 13 44.4
comp=Z,2.7nm,1.3s
KKAR Karatay Array 34.93 331 P **P** **03 13 40.9 -0.2**
KKAR IAmb IAmb 03 13 44.4
comp=Z,2.7nm,1.3s
SONM Songino Array 35.70 16 P **P** **03 13 47.1 -0.6**
KURBB Kurchatov Arra 38.48 345 P **P** **03 14 11.5 +0.2**
comp=Z,1.1nm,0.8s,baz=157,slow=8.4,SNR=7.3
comp=Z,1.1nm,0.8s
GEYT Alibeck 39.05 314 P **P** **03 14 16.5 +0.2**
comp=Z,1.7nm,0.5s,baz=101,slow=3.8,SNR=3.9
comp=Z,1.7nm,0.5s
ZALV Zalesovo Beam 40.50 353 P **P** **03 14 28.3 +0.3**
comp=Z,1.3nm,0.6s,baz=171,slow=10,SNR=6.7
comp=Z,1.3nm,0.6s
ABKAR Akbulak array 44.45 329 P **P** **03 15 00.7 +0.5**
ABKAR Akbulak array 44.45 329 P **P** **03 15 00.8 +0.7**
ABKAR IAmb IAmb 03 15 03.9
comp=Z,2.6nm,1.4s
FITZ Fitzroy Crossi 45.30 134 P **P** **03 15 06.1 -1.2**
WB0 Warramunga Arr 52.77 128 P **P** **03 16 03.3 -1.4**
WRA Warramunga Arr 52.83 129 P **P** **03 16 04.9 -0.2**
comp=Z,1.2nm,0.8s,baz=323,slow=9.7,SNR=5.9
WRA PcP **PcP** **03 17 15.3 +1.1**
comp=Z,0.3nm,0.5s,baz=323,slow=3.0,SNR=1.7
comp=Z,1.2nm,0.8s
WB2 Warramunga Arr 52.84 129 P **P** **03 16 03.0 -2.2**
WB2 IAmb IAmb 03 16 05.4
comp=Z,3.6nm,0.9s
WR0 Warramunga Arr 53.00 128 P **P** **03 16 06.2 0.0**
ASAR Alice Springs 54.77 133 P **P** **03 16 19.3 +0.1**
comp=Z,0.5nm,0.4s,baz=304,slow=6.2,SNR=10
comp=Z,0.5nm,0.4s
BRTR Keskin Array B 57.69 308 P **P** **03 16 40.1 +0.1**
comp=Z,0.9nm,0.8s,baz=106,slow=11,SNR=5.4
comp=Z,0.9nm,0.8s
FINES FINESS Array B 66.89 331 P **P** **03 17 41.8 +0.8**
comp=Z,0.8nm,0.6s,baz=107,slow=9.1,SNR=6.4
comp=Z,0.8nm,0.6s
H04N2 CROZET ISLANDS 70.26 209 T T 04 34 26.6
baz=44,slow=75,SNR=83
H04N1 CROZET ISLANDS 70.27 209 T T 04 34 26.5
baz=44,slow=75,SNR=60
H04N3 CROZET ISLANDS 70.28 209 T T 04 34 24.8
baz=44,slow=75,SNR=65
GERES GERESS Array B 72.60 317 P **P** **03 18 17.7 +1.1**
comp=Z,1.0nm,0.8s,baz=76,slow=8.2,SNR=5.8
comp=Z,1.0nm,0.8s
CLL Collm 73.00 320 *e*pP pP 03 18 27.0 -1.6
TORD Torodi Ar. Bea 88.04 283 P **P** **03 19 40.6 +0.5**
comp=Z,0.4nm,0.7s,baz=60,slow=6.8,SNR=2.9
comp=Z,0.4nm,0.7s

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*SOME **06** 03:07:01.0, 39˚.47N × 73˚.88E, h15km*
*KRNET **06** 03:07:03.7 ± 0.1, 39˚.69N × 74˚.02E, h13km, mb2.8*
*NNC **06** 03:07:07.4 ± 1.7, 39˚.74N × 73˚.96E, h0km, mb3.5, mpv3.1,*
Error ellipse: s-maj=12.9km s-min=6.1km az=170.0
ISC 06 03:07:03.3 ± 1.3, **39˚.65N** ± 0˚.06 × **74˚.04E** ± 0˚.03, **h10km, n29,**
σ 1$ 98/51, 17C-10D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.55**	**312**	↓*e*P	**Pg**	**03 07 13.6**	**-0.5**
SFK	baz=9.0			↓*e*S	**Sg**	**03 07 21.3**	**-0.2**
OHH	**Osh**	**1.30**	**313**	↑*e*P	**Pb**	**03 07 27.7**	**-0.2**
OHH	baz=12			↑*e*S	**Sn**	**03 07 45.2**	**0.0**
DRK	**Karamyk**	**1.74**	**265**	↑*e*P	**Pb**	**03 07 35.9**	**+0.4**
DRK	baz=64			↑*e*S	**Sg**	**03 07 59.6**	**+0.3**
ARSB	**Arslanbob**	**1.86**	**335**	↑*e*P	**Pb**	**03 07 37.3**	**-0.2**
ARSB	baz=34			↑*e*S	**Sg**	**03 08 02.1**	**-1.0**
ARLS	**Aral**	**2.22**	**5**	↑*e*P	**Pb**	**03 07 43.1**	**-0.6**
ARLS	baz=6.0			↑*e*S	**Sb**	**03 08 12.0**	**+0.7**
NRN	**Naryn**	**2.33**	**39**	↑*e*P	**Pb**	**03 07 44.6**	**-0.9**
NRN	baz=40			↑*e*S	**Sb**	**03 08 14.5**	**0.0**
BTK	**Batken**	**2.52**	**280**	↓*e*P	**Pb**	**03 07 47.5**	**-1.1**
BTK	baz=79			↓*e*S	**Sb**	**03 08 19.5**	**-0.1**
ARK	**Arkit**	**2.67**	**324**	↑*e*P	**Pb**	**03 07 49.2**	**-2.0**
ARK	baz=24			↑*e*S	**Sb**	**03 08 22.6**	**-1.5**
TRKS	**Terek-Say**	**2.90**	**311**	↓*e*P	**Pn**	**03 07 51.4**	**+1.7**
TRKS	baz=10.0			↓*e*S	**Sn**	**03 08 26.4**	**+1.7**
GAR	**Garm**	**2.96**	**259**	↑*i*P	**Pb**	**03 07 53.8**	**-2.4**
GAR	baz=58			↑*e*S	**Sb**	**03 08 30.5**	**-2.0**
MNAS	**Manas**	**3.07**	**338**	↑*e*P	**Pb**	**03 07 54.9**	**-3.1**
MNAS	baz=38			↑*e*S	**Sb**	**03 08 32.2**	**-3.4**
MRKS	**Merke**	**3.16**	**349**	*e*P	**Pg**	**03 08 01.2**	**-2.6**
MRKS	3.2nm,0.2s			*e*S	**Sg**	**03 08 44.5**	**-0.2**
MRKS	38nm,0.4s **Merke**	**3.16**	**349**	Pg	**Pg**	**03 08 03.2**	**-0.6**
MRKS	5.8nm,0.5s 36nm,0.4s			Lg	Lg	03 08 44.5	
BOOM	**Boomskoye usch**	**3.18**	**26**	↓*e*P	**Pb**	**03 07 56.7**	**-3.3**
BOOM	baz=27			↓*e*S	**Sb**	**03 08 35.4**	**-3.5**
KST	**Kastek**	**3.69**	**22**	*e*P	**Pg**	**03 08 11.8**	**-2.2**
KST	3.0nm,0.4s 19nm,0.5s			*e*S	**Sg**	**03 09 02.7**	**+0.9**
KST	**Kastek**	**3.69**	**22**	Pg	**Pg**	**03 08 14.3**	**+0.3**
KST	2.9nm,0.4s 19nm,0.8s			Lg	Lg	03 09 03.3	
DGS	**Degeres**	**3.82**	**19**	*e*P	**Pg**	**03 08 14.4**	**-2.1**
DGS	2.8nm,0.3s 11nm,0.6s			*e*S	**Sg**	**03 09 07.2**	**+1.2**
DGS	**Degeres**	**3.82**	**19**	Pg	**Pg**	**03 08 16.5**	**0.0**
DGS	4.2nm,0.5s 11nm,0.6s			Lg	Lg	03 09 07.2	
MTBS	**Maitube**	**3.92**	**27**	*e*P	**Pg**	**03 08 16.8**	**-1.5**
MTBS	3.0nm,0.2s 6.5nm,0.4s			*e*S	**Sg**	**03 09 11.3**	**+2.3**
MTBS	**Maitube**	**3.92**	**27**	Pg	**Pg**	**03 08 18.8**	**+0.5**
MTBS	3.5nm,0.6s 6.6nm,0.7s			Lg	Lg	03 09 11.2	
IUG	**luzhnay**	**3.93**	**311**	*e*P	**Pb**	**03 08 13.1**	**+0.3**
IUG	8.3nm,0.2s 30nm,0.5s			*e*S	**Sg**	**03 09 05.2**	**-4.5**
IUG	**luzhnay**	**3.93**	**311**	Pg	**Pg**	**03 08 17.8**	**-0.8**
IUG	20nm,0.7s 17nm,0.3s			Lg	Lg	03 09 09.8	
TNSS	**Tian-Shan**	**4.03**	**32**	*e*P	**Pg**	**03 08 18.7**	**-1.8**
TNSS	3.4nm,0.2s 3.9nm,0.5s			*e*S	**Sg**	**03 09 14.6**	**+1.7**
TNSS	**Tian-Shan**	**4.03**	**32**	Pg	**Pg**	**03 08 18.8**	**-1.8**
TNSS	3.4nm,0.5s 4.0nm,0.7s			Lg	Lg	03 09 11.3	
KRBS	**Karabastau**	**4.23**	**16**	*e*P	**Pg**	**03 08 21.4**	**-2.9**
KRBS	1.2nm,0.2s 7.2nm,0.6s			*e*S	**Sg**	**03 09 19.4**	**+0.4**
KRBS	**Karabastau**	**4.23**	**16**	Pg	**Pg**	**03 08 23.6**	**-0.7**
KRBS	1.4nm,0.4s 7.3nm,0.6s			Lg	Lg	03 09 19.4	
KK31	**Karatay Array**	**4.36**	**324**	Pn	**Pn**	**03 08 13.4**	**+3.9**
KK31	0.1nm,0.2s,baz=130,slow=12,SNR=12 0.7nm,0.3s,baz=150,slow=16,SNR=5.0			⇓Pg	**Pb**	**03 08 22.3**	**+2.4**
KK31	2.0nm,0.4s,baz=139,slow=23,SNR=2.9			⇑Sn	**Sn**	**03 09 05.1**	**+4.7**
KK31	2.6nm,0.5s,baz=118,slow=28,SNR=3.6			⇓Lg	Lg	03 09 21.0	
KTBS	**Karatobe**	**4.52**	**25**	*e*P	**Pg**	**03 08 26.9**	**-2.9**
KTBS	0.9nm,0.1s 14nm,0.5s			*e*S	**Sg**	**03 09 28.9**	**+0.6**
KTBS	**Karatobe**	**4.52**	**25**	Pg	**Pg**	**03 08 29.1**	**-0.7**
KTBS	2.9nm,0.6s 14nm,0.8s			Lg	Lg	03 09 28.9	

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*IDC **06** 03:18:45.8 ± 1.8, 4˚.26S × 138˚.32E, h0km, mb3.5/3,*
mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=87.0km
s-min=34.7km az=92.0
ISC 06 03:18:46.6 ± 1.5, **4˚.6S** ± 0˚.1 × **138˚.1E** ± 0˚.5, **h10km, n5, σ 2$ 50/6,**
mb3.6/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.71**	**193**	Pn	**Pn**	**03 22 28.7**	**+0.5**
WRA	0.1nm,0.3s,baz=16,slow=13,SNR=2.1 baz=10.0,slow=20,SNR=1.7			Sn	**Sn**	**03 25 19.8**	**-2.6**
ASAR	**Alice Springs**	**19.41**	**192**	P	**Pn**	**03 23 17.5**	**+3.3**
MKAR	0.4nm,0.3s,baz=16,slow=9.8,SNR=20 2.9nm,0.8s **Makanchi Array**	**70.92**	**323**	P	**P**	**03 30 04.4**	**+0.2**
BVAR	0.1nm,0.4s,baz=118,slow=8.6,SNR=1.9 0.1nm,0.4s **Borovoye Array**	**80.52**	**325**	P	**P**	**03 30 58.7**	**-0.3**
ILAR	0.3nm,0.4s,baz=108,slow=4.7,SNR=1.9 0.3nm,0.4s **Eielson Array**	**87.76**	**24**	P	**P**	**03 31 34.8**	**-0.8**
	0.3nm,0.8s,baz=260,slow=5.8,SNR=2.8 0.3nm,0.8s						

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*IDC **06** 03:26:45.9 ± 0.5, 6˚.20S × 142˚.56E, h0km, mb5.0/16,*
mbtmp5.0/19, ML2.8/2, MS4.4/46, Error ellipse:
s-maj=23.8km s-min=12.4km az=75.0
*BJI **06** 03:26:45.7 ± 0.0, 6˚.23S × 143˚.10E, h24km, mb5.1/73,*
mB5.3/43, Ms4.8/34, Ms7 4.5/38
*MOS **06** 03:26:47.2 ± 0.9, 6˚.18S × 142˚.50E, h18km, mb5.4/45, Error*
ellipse: s-maj=9.9km s-min=5.3km az=109.1
*NEIC **06** 03:26:48.4 ± 1.7, 6˚.23S ± 0˚.07 × 142˚.41E ± 0˚.07, h10km ± 1km,*
mb5.5/273, Ms_20 4.9/80, Error ellipse: s-maj=11.7km
s-min=11.3km az=211.0
*DJA **06** 03:26:49.5 ± 0.2, 6˚S ± 2˚ × 142˚.2E ± ˚, h10km, M5.2/48,*
mb5.0/48, mB5.6/27, MLv5.7/5, Mw(mB)5.1/27,
MwMwp4.7/1, Mwp5.1/1
*GCMT **06** 03:26:49.4 ± 0.2, 6˚.29S ± 0˚.01 × 142˚.42E ± 0˚.01, h12km,*
MW5.1/133, Moment Tension Solution. s57,c68;
s133,c202; Duration: 0 Moment tensor: Scale 10^16 Nm;
Mrr 5.03±.09; Mθθ -3.60±.08; Mφφ -1.42±.09; Mrθ 1.39±.30;
Mrφ 2.43±.07; Mθφ -1.19±.32; Best double couple:
M0 5.42000 × 10^16 NP1 φs 126.00000°, δ 55.00000°,
λ 93.00000°. NP2 φs 300.00000°, δ 35.00000°, λ 86.00000°.
Principal axes: T 5.3540, Plg80.0000°, Azm48.0000°; N
0.1430, Plg3.0000°, Azm304.0000°; P -5.4860,
Plg10.0000°, Azm213.0000°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
Triangular moment-rate function
ISC 06 03:26:48.9 ± 0.6, **6˚.28S** ± 0˚.04 × **142˚.47E** ± 0˚.04, **h18km** ± 2km,
n988, σ 1$ 19/835, mb5.4/207, MS4.6/99, 25C-5D, New
Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.60**	**309**	P	**Pn**	**03 27 16.8**	**+0.5**
MMPI	**Merauke**	**3.00**	**223**	P	**Pn**	**03 27 37.0**	**+1.5**
GENI	**Genyem**	**4.32**	**328**	P	**Pn**	**03 27 53.7**	**-0.1**
GENI	**Genyem**	**4.32**	**328**	P	**Pn**	**03 27 54.2**	**+0.4**
PMG	**Port Moresby**	**5.59**	**124**	Pn	**Pn**	**03 28 10.4**	**-0.8**
PMG	**Port Moresby**	**5.59**	**124**	*ce*P	**Pn**	**03 28 09.0**	**-2.2**
PMG	comp=Z,463nm,1.7s			pmax	pmax		
PMG	**Port Moresby**	**5.59**	**124**	Pn	**Pn**	**03 28 10.1**	**-1.1**
PMG	comp=Z,7.1nm,0.3s,baz=314,slow=12,SNR=20 comp=Z,5.6nm,0.3s,baz=268,slow=13,SNR=4.8			Sn	Sn	03 29 02.6	-12
PMG	comp=Z,1μm,18.1s,baz=292,slow=38 comp=Z,101nm,0.7s			LR	LR	03 30 19.0	
SMPI	**Sarmi**	**5.68**	**319**	P	**Pn**	**03 28 12.7**	**+0.3**
MANU	comp=Z,392nm,1.3s,comp=Z,20μm comp=Z,2.7nm **Manus Island**	**6.45**	**49**	Pn	**Pn**	**03 28 23.4**	**+0.3**
MANU	**Manus Island**	**6.45**	**49**	P	**Pn**	**03 28 25.4**	**+2.4**
COEN	**Coen**	**7.66**	**175**	P	**Pn**	**03 28 41.6**	**+1.9**
COEN	baz=7.7,SNR=6.5 **Coen**	**7.66**	**175**	Pn	**Pn**	**03 28 40.8**	**+1.1**
COEN	**Coen**	**7.66**	**175**	P	**Pn**	**03 28 42.5**	**+2.8**
KRVT	**Keravat (AS076**	**9.72**	**79**	LR	LR	03 33 37.4	
RABL	comp=Z,36μm,19.3s,baz=171,slow=43 **Rabaul**	**9.88**	**78**	Pn	**Pn**	**03 29 10.9**	**+0.8**
FAKI	**Fak Fak**	**10.72**	**288**	Pn	**Pn**	**03 29 19.1**	**-2.5**
FAKI	**Fak Fak**	**10.72**	**288**	P	**Pn**	**03 29 21.0**	**-0.6**
FAKI	**Fak Fak**	**10.72**	**288**	P	**Pn**	**03 29 19.0**	**-2.6**
SAUI	**Saumlaki**	**11.21**	**261**	Pn	**Pn**	**03 29 29.2**	**+0.8**
SAUI	**Saumlaki**	**11.21**	**261**	P	**Pn**	**03 29 29.9**	**+1.5**
SAUI	**Saumlaki**	**11.21**	**261**	P	**Pn**	**03 29 28.4**	**0.0**
KDU	comp=Z,1μm,1.4s,comp=Z,15μm **Kakadu**	**11.73**	**236**	P	**Pn**	**03 29 34.9**	**-0.6**
KDU	baz=12,SNR=43 **Kakadu**	**11.73**	**236**	P	**Pn**	**03 29 35.2**	**-0.3**
MTSU	**Mount Surprise**	**11.92**	**171**	P	**Pn**	**03 29 39.1**	**+1.0**
MTSU	baz=12,SNR=5.4 **Mount Surprise**	**11.92**	**171**	P	**Pn**	**03 29 41.1**	**+3.0**
SWI	**Sorong**	**12.41**	**295**	P	**Pn**	**03 29 42.4**	**-2.4**
SWI	comp=Z,113nm,1.7s			pmax	pmax		
SWI	**Sorong**	**12.41**	**295**	P	**Pn**	**03 29 43.4**	**-1.4**
MTN	comp=Z,115nm,1.7s,comp=Z,2μm **Manton Dam**	**12.94**	**239**	P	**Pn**	**03 29 51.2**	**-0.8**
MTN	baz=13,SNR=11 **Manton Dam**	**12.94**	**239**	Pn	**Pn**	**03 29 50.9**	**-1.1**
MTN	**Manton Dam**	**12.94**	**239**	P	**Pn**	**03 29 50.9**	**-1.1**
DRS	**Darwin Rock St**	**12.94**	**241**	P	**Pn**	**03 29 52.0**	**-0.1**
TV1H	**Townsville Har**	**13.57**	**162**	P	**Pn**	**03 30 03.6**	**+3.0**
CTA	**Charters Tower**	**14.21**	**165**	Pn	**Pn**	**03 30 10.1**	**+0.7**
CTA	comp=Z,0.1nm,0.3s,baz=18,slow=19,SNR=7.4 comp=Z,0.4nm,0.3s,baz=246,slow=20,SNR=3.8			Lg	Lg	03 34 11.2	
CTA	comp=Z,3μm,18.1s,baz=352,slow=38 comp=Z,28nm,1.3s			LR	LR	03 35 52.0	
CTAO	**Charters Tower**	**14.21**	**165**	Pn	**Pn**	**03 30 10.0**	**+0.6**
CTAO	**Charters Tower**	**14.21**	**165**	P	**Pn**	**03 30 12.9**	**+3.5**
CTAO	**Charters Tower**	**14.21**	**165**	P	**Pn**	**03 30 10.0**	**+0.6**
QIS	**Mount Isa**	**14.46**	**191**	P	**Pn**	**03 30 12.4**	**-0.5**
QIS	baz=14,SNR=16 **Mount Isa**	**14.46**	**191**	P	**Pn**	**03 30 13.9**	**+1.1**
WB0	**Warramunga Arr**	**15.53**	**210**	Pn	**Pn**	**03 30 24.8**	**-2.4**
NLAI	**Namlea**	**15.61**	**280**	P	**Pn**	**03 30 28.1**	**-0.1**
WR0	comp=Z,34nm,1.7s **Warramunga Arr**	**15.63**	**209**	Pn	**Pn**	**03 30 25.6**	**-2.8**
WR0	comp=Z,231nm,1.2s			IAmb	IAmb	03 30 36.0	
WRAB	**Tennant Creek**	**15.70**	**209**	*i*P	**Pn**	**03 30 30.2**	**+0.9**
WRAB	comp=Z,277nm,1.3s			pmax	pmax		
WB2	**Warramunga Arr**	**15.70**	**209**	Pn	**Pn**	**03 30 27.5**	**-1.9**
WB2	comp=Z,258nm,1.2s			IAmb	IAmb	03 30 37.0	
WC3	**Warramunga Arr**	**15.71**	**209**	P	**Pn**	**03 30 28.0**	**-1.4**
WRA	baz=16 **Warramunga Arr**	**15.71**	**209**	Pn	**Pn**	**03 30 27.6**	**-1.9**
WRA	**Warramunga Arr**	**15.71**	**209**	P	**Pn**	**03 30 27.6**	**-1.9**
WRA	comp=Z,15nm,1.5s			pmax	pmax		
WRA	**Warramunga Arr**	**15.71**	**209**	Pn	**Pn**	**03 30 26.6**	**-2.8**
WRA	comp=Z,2.1nm,0.3s,baz=26,slow=13,SNR=58 comp=Z,1.4nm,0.3s,baz=29,slow=21,SNR=6.2			Sn	**Sn**	**03 33 16.2**	**-7.0**
WRA	comp=Z,0.7nm,0.3s,baz=33,slow=28,SNR=2.9 comp=Z,4μm,21.6s,baz=20,slow=40			Lg	Lg	03 34 59.9	
KNRA	**Kununurra**	**16.36**	**234**	P	**Pn**	**03 30 35.4**	**-2.4**
KNRA	baz=16,SNR=18 **Kununurra**	**16.36**	**234**	Pn	**Pn**	**03 30 35.2**	**-2.6**
KNRA	comp=Z,292nm,1.0s			IAmb	IAmb	03 30 44.1	
SANI	**Sanana**	**16.96**	**284**	P	**Pn**	**03 30 45.6**	**+0.1**
SANI	**Sanana**	**16.96**	**284**	P	**Pn**	**03 30 41.4**	**-4.1**
HNR	**Honiara**	**17.59**	**101**	P	**P**	**03 30 54.9**	**+0.6**
HNR	**Honiara**	**17.59**	**101**	P	**P**	**03 30 53.7**	**-0.5**
SOEI	comp=Z,1μm,0.5s,baz=172,slow=7.1,SNR=8.6 **Soe**	**18.35**	**258**	P	**P**	**03 31 00.4**	**-2.4**
SOEI	comp=Z,439nm,1.0s			IAmb	IAmb	03 31 08.3	
SOEI	**Soe**	**18.35**	**258**	P	**P**	**03 31 03.0**	**+0.2**
SOEI	**Soe**	**18.35**	**258**	P	**P**	**03 31 03.4**	**+0.7**
RK1H	comp=Z,519nm,1.1s,comp=Z,4μm **Rockhampton Ha**	**18.68**	**156**	P	**Pn**	**03 31 09.4**	**+2.8**
AS01	**Alice Springs**	**19.13**	**204**	P	**Pn**	**03 31 13.0**	**+0.9**
AS31	**Alice Springs**	**19.15**	**205**		**Pn**	**03 31 11.5**	**+0.1**
ASAR	**Alice Springs**	**19.15**	**205**	P	**P**	**03 31 11.6**	**+0.2**
ASAR	**Alice Springs**	**19.15**	**205**	P	**P**	**03 31 11.6**	**+0.2**
ASAR	**Alice Springs**	**19.15**	**205**	P	**P**	**03 31 11.4**	**0.0**
ASAR	comp=Z,94nm,0.9s,baz=32,slow=10,SNR=186			S	Sn	03 34 37.9	-8.7
ASAR	comp=Z,4.9nm,0.7s,baz=168,slow=5.4,SNR=3.5			Lg	Lg	03 36 49.6	
ASAR	comp=Z,0.4nm,0.3s,baz=23,slow=26,SNR=4.6 comp=Z,13μm,18.1s,baz=33,slow=39			LR	LR	03 39 14.9	
ASPA	**Alice Springs**	**19.15**	**205**	P	**P**	**03 31 12.1**	**+0.7**
GD1S	baz=19 **Gladstone Soft**	**19.36**	**155**	P	**Pn**	**03 31 16.9**	**+2.1**
KMSI	**Cibinong**	**19.67**	**290**	P	**P**	**03 31 17.7**	**+0.6**
FITZ	comp=Z,358nm,1.5s **Fitzroy Crossi**	**20.19**	**233**	P	**P**	**03 31 23.5**	**+0.8**
MMRI	baz=20,SNR=77 **Maumere**	**20.19**	**262**		**P**	**03 31 22.0**	**-0.8**
MMRI	**Maumere**	**20.19**	**262**	P	**P**	**03 31 24.1**	**+1.2**
MMRI	**Maumere**	**20.19**	**262**	P	**P**	**03 31 23.9**	**+1.0**
QLP	comp=Z,167nm,1.5s **Quilpie**	**20.26**	**175**	P	Pn	03 31 26.1	+0.7
QLP	baz=20,SNR=42 **Quilpie**	**20.26**	**175**	P	Pn	03 31 26.4	+1.0
LUWI	**Luwuk**	**20.33**	**284**		**P**	**03 31 24.1**	**-0.2**
LUWI	**Luwuk**	**20.33**	**284**	P	**P**	**03 31 25.8**	**+1.5**
LUWI	**Luwuk**	**20.33**	**284**	P	**P**	**03 31 25.2**	**+0.9**
PATS	comp=Z,201nm,1.6s,comp=Z,3μm **Pohnpei**	**20.49**	**51**	P	Pn	03 31 27.6	-0.6
PATS	baz=21,SNR=3.7 **Pohnpei**	**20.49**	**51**		Pn	03 31 26.3	-1.9
PATS	**Pohnpei**	**20.49**	**51**	P	Pn	03 31 28.8	+0.6
EIDS	**Eidsvold**	**20.69**	**157**	P	Pn	03 31 29.9	-0.7
EIDS	baz=21,SNR=43 **Eidsvold**	**20.69**	**157**		**P**	**03 31 28.9**	**+0.8**
EIDS	comp=Z,258nm,1.1s			IAmb	IAmb	03 31 36.4	
EIDS	**Eidsvold**	**20.69**	**157**	P	Pn	03 31 31.0	+0.5
INKA	**Innaminka**	**21.41**	**184**	P	**P**	**03 31 38.2**	**+2.4**
DAV	**Davao City (W)**	**21.44**	**308**	LR	LR	03 40 45.4	
MRSI	comp=Z,200nm,19.1s,baz=140,slow=39 **Marisa**	**21.56**	**287**	P	**P**	**03 31 37.9**	**+0.3**
BASI	comp=Z,79nm,1.5s,comp=Z,1μm **Baing, Sumba**	**22.01**	**258**	P	**P**	**03 31 43.3**	**+0.8**
OOD	comp=Z,224nm,0.9s,comp=Z,4μm **Oodnadatta**	**22.34**	**196**	P	**P**	**03 31 47.9**	**+2.0**
KAPI	**Kappang**	**22.64**	**272**	P	**P**	**03 31 48.8**	**-0.4**
KAPI	comp=Z,195nm,1.1s			IAmb	IAmb	03 31 53.7	
KAPI	**Kappang**	**22.64**	**272**	P	**P**	**03 31 49.9**	**+0.7**
KAPI	**Kappang**	**22.64**	**272**	*i*P	**P**	**03 31 49.2**	**0.0**
KAPI	comp=Z,252nm,1.2s			pmax	pmax		
TTSI	**Tana Toraja**	**22.80**	**277**	P	**P**	**03 31 52.1**	**+1.2**
TOLI2	comp=Z,96nm,1.2s **Tolitoli**	**22.86**	**288**	P	**P**	**03 31 50.2**	**-1.3**
TOLI2	**Tolitoli**	**22.86**	**288**	P	**P**	**03 31 51.9**	**+0.4**
WRKA	**Warakurna**	**23.07**	**215**	P	**P**	**03 31 53.4**	**-0.2**
WRKA	baz=23,SNR=58 **Warakurna**	**23.07**	**215**	P	**P**	**03 31 53.6**	**0.0**
MPSI	**Mapaga**	**23.47**	**285**	P	**P**	**03 31 58.3**	**+0.6**
AULRC	comp=Z,29nm,1.5s,comp=Z,962nm **Lightning Ridg**	**23.61**	**168**	P	**P**	**03 32 00.0**	**+1.1**
LCRK	**Leigh Creek**	**24.37**	**189**	P	**P**	**03 32 06.8**	**+0.7**
PLAI	**Plampang**	**24.61**	**263**	P	**P**	**03 32 08.8**	**+0.4**
PLAI	**Plampang**	**24.61**	**263**	P	**P**	**03 32 06.1**	**-2.3**
MULG	**Mulgathing**	**25.15**	**197**	P	**P**	**03 32 15.7**	**+2.6**
CMSA	**Cobar Meteorol**	**25.31**	**174**	P	**P**	**03 32 15.4**	**+0.9**
CMSA	baz=25,SNR=13 **Cobar Meteorol**	**25.31**	**174**	P	**P**	**03 32 16.5**	**+2.0**
KOUNC	**Koumac, New Ca**	**25.47**	**126**	P	**P**	**03 32 17.0**	**+0.8**
KOUNC	**Koumac, New Ca**	**25.47**	**126**	P	**P**	**03 32 19.2**	**+3.0**
STKA	**Stephens Creek**	**25.48**	**182**	P	**P**	**03 32 15.8**	**-0.3**
STKA	baz=26,SNR=22 **Stephens Creek**	**25.48**	**182**	P	**P**	**03 32 16.7**	**+0.6**
STKA	**Stephens Creek**	**25.48**	**182**	P	**P**	**03 32 16.2**	**+0.1**
STKA	**Stephens Creek**	**25.48**	**182**	*i*P	**P**	**03 32 17.0**	**+0.9**
STKA	**Stephens Creek**	**25.48**	**182**	P	**P**	**03 32 15.8**	**-0.3**
STKA	comp=Z,19nm,0.9s,baz=3.7,slow=15,SNR=24			Lg	Lg	03 40 15.6	
STKA	comp=Z,0.1nm,0.3s,baz=346,slow=3.7,SNR=4.8 comp=Z,2μm,18.9s,baz=356,slow=38 comp=Z,19nm,0.9s			LR	LR	03 42 51.8	
TWSI	**Taliwang, Sumb**	**25.48**	**263**	P	**P**	**03 32 14.5**	**-1.8**
ARMA	**Armidale**	**25.51**	**161**	P	**P**	**03 32 17.7**	**+1.2**
ARMA	baz=26 **Armidale**	**25.51**	**161**	IAMs_20	IAMs_20	03 42 18.6	
MBWA	comp=Z,2μm,18.0s **Marble Bar**	**26.52**	**234**	P	**P**	**03 32 24.4**	**-1.3**
MBWA	comp=Z,126nm,1.2s			IAmb	IAmb	03 32 30.9	
MBWA	**Marble Bar**	**26.52**	**234**	IAMs_20	IAMs_20	03 43 29.1	
MBWA	comp=Z,5μm,21.0s **Marble Bar**	**26.52**	**234**	P	**P**	**03 32 27.0**	**+1.3**
PSAC2	**Pilbara Seismi**	**26.59**	**233**	IAMs_20	IAMs_20	03 43 31.0	
PSAB2	comp=Z,5μm,22.0s **Pilbara Seismi**	**26.62**	**233**	IAMs_20	IAMs_20	03 43 07.7	
PSAA2	comp=Z,3μm,21.0s **Pilbara Seismi**	**26.64**	**233**	IAMs_20	IAMs_20	03 42 56.1	
PSAA3	comp=Z,2μm,21.0s **Pilbara Seismi**	**26.64**	**233**	IAMs_20	IAMs_20	03 43 33.2	
PSA00	comp=Z,5μm,22

comp=Z,81nm,1.3s
BBOO Buckleboo 27.06 192 P **P** **03 32 33.1 +2.7**
HTT Hallett 27.21 186 P **P** **03 32 33.1 +1.3**
baz=27,SNR=4.1
HTT Hallett 27.21 186 P **P** **03 32 33.2 +1.3**
FORT Forrest 27.87 207 P **P** **03 32 38.4 +0.7**
baz=28
FORT Forrest 27.87 207 IAMs_20 IAMs_20 03 43 51.1
comp=Z,3µm,20.0s
DZM Mont Dzumac 27.98 127 P **P** **03 32 39.6 +0.8**
DZM IAmb IAmb 03 32 44.6
comp=Z,73nm,1.5s
DZM Mont Dzumac 27.98 127 P **P** **03 32 41.6 +2.7**
DZM Mont Dzumac 27.98 127 LR LR 03 44 09.4
comp=Z,822nm,18.7s,baz=295,slow=37
JAGI Jajag, Banyuwa 28.16 264 P **P** **03 32 38.1 -2.4**
JAGI Jajag, Banyuwa 28.16 264 P **P** **03 32 38.6 -1.9**
JAGI Jajag, Banyuwa 28.16 264 P **P** **03 32 38.1 -2.4**
YNG Young 28.41 170 P **P** **03 32 44.8 +2.3**
TGY Tagaytay City 29.44 314 LR LR 03 44 33.4
comp=Z,262nm,21.8s,baz=144,slow=36
CAN Canberra 29.52 169 P **P** **03 32 52.8 +0.4**
CAN IAmb IAmb 03 32 56.0
comp=Z,128nm,1.8s
CAN IAMs_20 IAMs_20 03 44 04.4
comp=Z,3µm,21.0s
CAN Canberra 29.52 169 P **P** **03 32 54.8 +2.4**
CAN Canberra 29.52 169 P **P** **03 32 52.8 +0.4**
CAN pmax pmax
comp=Z,128nm,1.8s
CAN MLR MLR
comp=Z,2µm,21.0s
ARPS Mount Arapiles 30.35 181 P **P** **03 33 00.6 +0.9**
baz=30
ARPS Mount Arapiles 30.35 181 P **P** **03 33 01.9 +2.3**
MEEK Meekatharra 30.43 226 P **P** **03 33 00.2 -0.4**
baz=30,SNR=3.1
MEEK Meekatharra 30.43 226 P **P** **03 33 00.2 -0.4**
BRAT Ballarat 31.15 178 P **P** **03 33 09.0 +2.3**
TOO Toolangi 31.27 175 P **P** **03 33 08.7 +0.9**
baz=31
TOO Toolangi 31.27 175 P **P** **03 33 07.8 0.0**
TOO Toolangi 31.27 175 P **P** **03 33 10.7 +2.9**
TOO Toolangi 31.27 175 P **P** **03 33 07.8 0.0**
TOO pmax pmax
comp=Z,19nm,1.1s
TOO MLR MLR
comp=Z,1µm,22.0s
SBUM Sibu 31.42 285 P **P** **03 33 07.3 -2.1**
KMBL Kambalda 31.53 215 P **P** **03 33 10.9 +0.7**
baz=32
KMBL Kambalda 31.53 215 P **P** **03 33 09.9 -0.3**
JCJ Chichijima 33.18 360 LR LR 03 46 03.8
comp=Z,349nm,20.9s,baz=115,slow=35
KPJI Karang Pucung 33.31 266 P **P** **03 33 25.7 -0.3**
comp=Z,19nm,1.7s
MORW Morawa 33.71 225 P **P** **03 33 29.4 +0.1**
baz=34,SNR=8.4
MORW Morawa 33.71 225 P **P** **03 33 28.7 -0.6**
MORW IAmb IAmb 03 33 31.3
comp=Z,60nm,1.4s
MORW Morawa 33.71 225 P **P** **03 33 30.0 +0.7**
BBJI Bungbulang 34.58 266 P **P** **03 33 36.1 -1.0**
LEM Lembang 34.62 267 LR LR 03 51 51.5
comp=Z,350nm,18.9s,baz=125,slow=43
GLAD Gladstone 34.91 173 P **P** **03 33 41.4 +1.9**
NWAO Narrogin (SRO) 35.41 218 IAMs_20 IAMs_20 03 47 32.0
comp=Z,2µm,22.0s
NWAO Narrogin (SRO) 35.41 218 LR LR 03 48 57.3
comp=Z,4µm,18.8s,baz=42,slow=38
JOW Kunigami 35.67 338 LR LR 03 45 42.6
comp=Z,622nm,20.4s,baz=294,slow=32
MOO Moorlands 36.25 174 P **P** **03 33 52.5 +1.5**
baz=36
MOO Moorlands 36.25 174 P **P** **03 33 52.7 +1.7**
PPBI Pangkal Pinang 36.45 275 P **P** **03 33 54.5 +1.4**
NACB Ninganchiao 36.48 327 P **P** **03 33 51.6 -1.5**
NACB Ninganchiao 36.48 327 P **P** **03 33 54.4 +1.2**
XMI Christmas Isla 36.60 261 P **P** **03 33 55.3 +0.9**
XMIS Christmas Isla 36.64 261 P **P** **03 33 53.7 -1.1**
XMIS IAmb IAmb 03 33 57.6
comp=Z,48nm,1.0s
XMIS Christmas Isla 36.64 261 P **P** **03 33 55.5 +0.7**
TAU Tasmania Unive 36.73 174 IAMs_20 IAMs_20 03 47 38.1
comp=Z,2µm,19.0s
YHNB Yeheng 36.99 327 P **P** **03 33 58.1 +0.5**
QZH Quanzhou 38.77 324 *i* P **P** **03 34 12.4 -0.2**
JHJ Hachijo jima 2 39.27 356 LR LR 03 47 06.9
comp=Z,1µm,21.0s,baz=178,slow=31
LKBA Tubou, Lakemba 39.56 111 P **P** **03 34 20.6 +1.3**
OUZ Omahuta 40.61 139 IAMs_20 IAMs_20 03 51 50.7
comp=Z,1µm,18.0s
JMN Monobe 40.62 349 IAMs_20 IAMs_20 03 47 39.6
comp=Z,1µm,18.0s
JNU Nakatsue 40.70 345 P **P** **03 34 29.0 +0.4**
JNU Nakatsue 40.70 345 P **P** **03 34 29.7 +1.1**
JNU Nakatsue 40.70 345 LR LR 03 47 48.1
comp=Z,320nm,21.5s,baz=176,slow=31
QIZ Qiongzhong 40.82 309 P **P** **03 34 30.1 +0.4**
QIZ S **S** **03 40 42.9 +2.8**
QIZ pmax pmax
comp=Z,27nm,1.4s
QIZ LR LR
comp=Z,230nm,13.2s
QIZ LR LR
comp=Z,190nm,15.7s
QIZ LR LR
comp=Z,300nm,21.6s
QIZ Qiongzhong 40.82 309 P **P** **03 34 28.9 -0.8**
QIZ Qiongzhong 40.82 309 P **P** **03 34 30.3 +0.6**
JGF Kuroka 41.94 354 P **P** **03 34 38.4 -0.3**
JGF Kuroka 41.94 354 P **P** **03 34 39.3 +0.6**
UBPT Khong Chiam 42.46 301 P **P** **03 34 42.3 -0.9**
UBPT Khong Chiam 42.46 301 P **P** **03 34 42.5 -0.7**
IPM Ipoh 42.73 283 P **P** **03 34 46.2 +0.7**
MJAR Matsushiro Arr 42.78 355 P **P** **03 34 43.4 -2.2**
comp=Z,9.0nm,0.7s,baz=179,slow=8.6,SNR=18
MJAR PcP **PcP** **03 36 36.5 -0.3**
comp=Z,3.5nm,0.9s,baz=158,slow=3.0,SNR=3.4
MJAR LR LR 03 50 40.5
comp=Z,444nm,20.0s,baz=148,slow=34
comp=Z,9.0nm,0.7s
MAJO Matsushiro 42.79 355 P **P** **03 34 44.7 -0.9**
MAJO Matsushiro 42.79 355 P **P** **03 34 44.8 -0.7**
MAJO Matsushiro 42.79 355 P **P** **03 34 44.7 -0.9**
MAJO pmax pmax
comp=Z,60nm,1.2s
MJB9 Matsu-Tunnel 42.79 355 P **P** **03 34 44.8 -0.8**
TOZ Tahuroa Road 43.36 141 P **P** **03 34 51.6 +1.3**
HIZ Hauiti 43.45 142 IAMs_20 IAMs_20 03 53 31.8
comp=Z,666nm,18.0s
RAO Raoul Island 43.78 126 LR LR 03 50 19.2
comp=Z,281nm,19.4s,baz=33,slow=32
JMM Marumori 43.95 358 IAmb IAmb 03 34 56.9
comp=Z,73nm,1.1s
JMM Marumori 43.95 358 P **P** **03 34 55.0 +0.1**
TKNZ Takaka Hill 44.02 146 P **P** **03 34 55.5 0.0**
JCZ Jackson Bay 44.14 153 P **P** **03 34 59.0 +2.4**
MRNZ Matariki Terra 44.16 147 P **P** **03 34 56.9 +0.3**
JSD Sado 44.26 355 P **P** **03 34 56.1 -1.3**
JSD IAmb IAmb 03 34 58.3
comp=Z,69nm,0.9s
NNZ Nelson 44.38 146 IAMs_20 IAMs_20 03 55 34.1
comp=Z,866nm,18.0s
RPSI Rantau Prapat 44.38 280 P **P** **03 34 58.0 -0.8**
RPSI IAmb IAmb 03 35 01.3
comp=Z,70nm,1.1s
PSI Prapat 44.40 280 P **P** **03 34 59.1 0.0**
PSI Prapat 44.40 280 P **P** **03 34 58.0 -1.1**
PSI pmax pmax
comp=Z,70nm,1.1s
URZ Urewera 44.70 140 LR LR 03 53 39.6
comp=Z,257nm,19.5s,baz=317,slow=36
RTZ Ruatahuna 44.83 141 P **P** **03 35 02.5 +0.4**
RTZ IAmb IAmb 03 35 04.9
comp=Z,59nm,1.2s
BKZ Black Stump Fm 44.86 142 P **P** **03 35 02.5 +0.2**
BKZ Black Stump Fm 44.86 142 P **P** **03 35 05.2 +2.9**
MLZ Mavora Lakes 44.86 154 P **P** **03 35 02.6 +0.4**
MLZ IAmb IAmb 03 35 06.2
comp=Z,94nm,1.5s
RPZ Rata Peaks 44.94 151 LR LR 03 53 05.8
comp=Z,717nm,18.4s,baz=309,slow=35
MRZ Mangatainoka R 45.25 144 P **P** **03 35 05.3 -0.1**
MRZ IAmb IAmb 03 35 07.7
comp=Z,39nm,1.2s
WHN Wuhan 45.46 325 *i* P **P** **03 35 09.1 +2.1**
WHN S S 03 41 56.9 +9.0
WHN LR LR
comp=Z,1µm,12.7s
KSAR Wonju Array Be 45.58 344 P **P** **03 35 07.6 -0.3**
KSAR Wonju Array Be 45.58 344 P **P** **03 35 07.6 -0.3**
KSRS Korea Array 45.58 344 P **P** **03 35 07.3 -0.6**
comp=Z,24nm,1.0s,baz=162,slow=8.0,SNR=43
KSRS PcP **PcP** **03 36 47.3 +1.1**
comp=Z,2.3nm,0.8s,baz=164,slow=3.4,SNR=5.4
KSRS LR LR 03 52 44.8
comp=Z,201nm,20.4s,baz=170,slow=34
comp=Z,24nm,1.0s
KS19 Wonju Array Si 45.64 344 P **P** **03 35 07.2 -1.2**
NONG Nongkai 45.73 303 P **P** **03 35 09.7 +0.3**
INCN Inchon 45.98 342 P **P** **03 35 09.8 -1.3**
INCN Inchon 45.98 342 P **P** **03 35 12.4 +1.3**
INCN Inchon 45.98 342 P **P** **03 35 09.8 -1.3**
INCN pmax pmax
comp=Z,244nm,1.7s
JTM Tenmabayashi 46.85 359 P **P** **03 35 16.9 -1.0**
JTM Tenmabayashi 46.85 359 P **P** **03 35 19.1 +1.2**
GYA Guiyang 47.58 315 *i* P **P** **03 35 25.7 +1.7**
GYA S **S** **03 42 19.7 +1.0**
GYA pmax pmax
comp=Z,47nm,1.0s
GYA pmax pmax
comp=Z,190nm,4.7s
ENH Enshi 48.17 321 P **P** **03 35 26.8 -1.6**
ENH Enshi 48.17 321 P **P** **03 35 29.3 +0.9**
PHRA Phrae 48.38 301 P **P** **03 35 29.7 -0.5**
TIA Tai'an 48.50 332 ⇑P **P** **03 35 30.4 -0.4**
TIA pmax pmax
comp=Z,13nm,1.7s
TIA LR LR
comp=Z,150nm,16.2s
TIA LR LR
comp=Z,250nm,17.2s
TIA LR LR
comp=Z,210nm,24.0s
CRAI Chiangrai 49.05 304 P **P** **03 35 35.0 -0.3**
CMAR Chiang Mai Arr 49.46 301 P **P** **03 35 36.8 -1.7**
CMAR PcP **PcP** **03 37 00.4 -0.2**
CMAR Chiang Mai Arr 49.46 301 *ce* P **P** **03 35 39.0 +0.5**
CMAR pmax pmax
comp=Z,6.0nm,0.8s
CMAR Chiang Mai Arr 49.46 301 P **P** **03 35 38.6 +0.2**
comp=Z,5.8nm,0.8s,baz=121,slow=6.1,SNR=22
CMAR PcP **PcP** **03 37 01.6 +1.0**
comp=Z,5.1nm,0.8s,baz=121,slow=2.6,SNR=7.0
CMAR LR LR 04 00 48.9
comp=Z,62nm,18.1s,baz=130,slow=41
comp=Z,5.8nm,0.8s
LYN LuoYang 49.52 327 ⇑P **P** **03 35 39.1 +0.5**
LYN pP pP 03 35 43.1 -1.5
LYN pmax pmax
comp=Z,79nm,1.0s
LYN pmax pmax
comp=Z,190nm,4.5s
LYN LR LR
comp=Z,550nm,16.5s
LYN LR LR
comp=Z,330nm,11.0s
LYN LR LR
comp=Z,470nm,22.3s
CHTO Chiang Mai 49.62 301 P **P** **03 35 39.4 -0.2**
CHTO PcP **PcP** **03 37 01.7 +0.5**
CHTO Chiang Mai 49.62 301 P **P** **03 35 40.1 +0.5**
CHTO Chiang Mai 49.62 301 P **P** **03 35 39.4 -0.2**
CHTO 03 37 01.7
CHTO pmax pmax
comp=Z,11nm,1.0s
KMI Kunming 49.67 311 ⇑P **P** **03 35 41.7 +1.5**
KMI pmax pmax
comp=Z,44nm,1.6s
KMI LR LR
comp=Z,290nm,21.6s
PSTR Posyet 49.84 349 *i* P **P** **03 35 39.7 -1.2**
ASAJ Asahikawa 50.16 0 P **P** **03 35 43.2 -0.1**
ASAJ pmax pmax
comp=Z,48nm,0.9s
JKA Kamikawa-asahi 50.16 0 P **P** **03 35 43.2 -0.1**
JKA IAmb IAmb 03 35 44.9
comp=Z,48nm,0.9s
HNS HongShan 50.59 331 ⇑P **P** **03 35 46.6 -0.1**
HNS S **S** **03 43 00.4 -0.1**
HNS pmax pmax
comp=Z,47nm,1.4s
HNS LR LR
comp=Z,420nm,15.8s
HNS LR LR
comp=Z,380nm,23.3s
USA0B Ussuriysk Arra 51.13 350 P **P** **03 35 50.6 0.0**
USA0B IAmb IAmb 03 35 52.5
comp=Z,50nm,1.1s
USA0B Ussuriysk Arra 51.13 350 *i* P **P** **03 35 50.0 -0.6**
USRK Ussuriysk Ar. 51.13 350 P **P** **03 35 50.0 -0.6**
USRK Ussuriysk Ar. 51.13 350 P **P** **03 35 50.1 -0.5**
comp=Z,22nm,0.8s,baz=168,slow=7.4,SNR=27
USRK LR LR 03 54 13.2
comp=Z,496nm,21.0s,baz=169,slow=32
comp=Z,22nm,0.8s
XAN Xi'an 51.14 324 ⇑P **P** **03 35 50.9 -0.1**
XAN pP pP 03 35 55.0 -2.0
XAN pmax pmax
comp=Z,69nm,1.5s
XAN LR LR
comp=Z,320nm,18.1s
XAN LR LR
comp=Z,290nm,19.4s
XAN LR LR
comp=Z,310nm,18.1s
PZH PanZhiHua 51.18 311 P **P** **03 35 52.2 +0.7**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,130nm,5.7s
MDJ Mudanjiang 51.97 348 P **P** **03 35 56.2 -0.7**
MDJ PcS PcS 03 40 58.8 -8.4
MDJ sS sS 03 43 29.9 +0.8
MDJ pmax pmax
comp=Z,20nm,1.4s
MDJ pmax pmax
comp=Z,280nm,3.8s
MDJ LR LR
comp=Z,470nm,15.0s
MDJ LR LR
comp=Z,350nm,20.2s
MDJ LR LR
comp=Z,850nm,21.4s
MDJ Mudanjiang 51.97 348 P **P** **03 35 55.9 -1.0**
MDJ IAMs_20 IAMs_20 03 53 59.2
comp=Z,695nm,21.0s
MDJ Mudanjiang 51.97 348 P **P** **03 35 57.8 +0.9**
BJT Baijiatuau 52.06 334 P **P** **03 35 57.4 -0.3**
BJT IAmb IAmb 03 35 59.7
comp=Z,49nm,1.3s
BJT Baijiatuau 52.06 334 P **P** **03 35 58.4 +0.7**
BJT Baijiatuau 52.06 334 P **P** **03 35 57.4 -0.3**
BJT pmax pmax
comp=Z,49nm,1.3s
BJI Beijing 52.08 334 P **P** **03 35 57.2 -0.6**
BJI pmax pmax
comp=Z,15nm,1.3s
CN2 Changchun 52.17 344 P **P** **03 35 58.4 0.0**
CN2 PcP **PcP** **03 37 10.9 +0.9**
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,300nm,17.0s
CD2 Chengdu 52.33 317 P **P** **03 36 01.0 +1.1**
CD2 pmax pmax
comp=Z,70nm,0.8s
TNCH TengChong 52.88 308 *e* P **P** **03 36 06.6 +2.4**
TNCH pP pP 03 36 09.7 -0.5
TNCH pmax pmax
comp=Z,84nm,1.0s
TNCH pmax pmax
comp=Z,290nm,4.0s
YSS Yuzh-Sakhalins 53.00 0 *e* P **P** **03 36 03.6 -0.9**
YSS *e* 03 38 06.4
YSS *e*S **S** **03 43 30.5 -2.8**
YSS pmax pmax
comp=Z,30nm,0.9s
MND Mandalay 53.40 303 P **P** **03 36 09.2 +1.3**
BNX BinXian 53.51 347 ⇑P **P** **03 36 07.5 -0.8**
BNX pP **pP** **03 36 11.2 -3.1**
BNX S **S** **03 43 40.9 +0.6**
BNX sS **sS** **03 43 52.3 +2.2**
BNX pmax pmax
comp=Z,69nm,0.9s
BNX pmax pmax
comp=Z,390nm,5.8s
BNX LR LR
comp=Z,290nm,15.9s
BNX LR LR
comp=Z,250nm,13.6s
BNX LR LR
comp=Z,400nm,19.6s
HHC Hu-ho-hao-te 54.81 332 *e* P **P** **03 36 18.7 +0.7**
HHC sP sP 03 36 27.4 +1.1
HHC S **S** **03 44 02.3 +4.0**
HHC ScS **ScS** **03 46 06.5 -0.2**
HHC pmax pmax
comp=Z,19nm,0.6s
HHC pmax pmax
comp=Z,84nm,5.0s
HHC LR LR
comp=Z,200nm,21.8s
HHC LR LR
comp=Z,250nm,20.8s
HHC LR LR
comp=Z,320nm,19.4s
XLT XiLinHaoTe 55.35 337 *e* P **P** **03 36 21.2 -0.6**
XLT pmax pmax
comp=Z,12nm,1.7s
XLT pmax pmax
comp=Z,200nm,5.4s
BTO Baotou 55.37 330 *e* P **P** **03 36 23.6 +1.5**
BTO pP **pP** **03 36 27.9 -0.2**
BTO sP **sP** **03 36 30.7 +0.4**
BTO PP **PP** **03 38 31.2 +5.1**
BTO S **S** **03 44 09.6 +3.8**
BTO SS **SS** **03 47 51.5 +0.8**
BTO pmax pmax
comp=Z,59nm,1.0s
BTO pmax pmax
comp=Z,370nm,7.5s
BTO LR LR
comp=Z,540nm,14.5s
BTO LR LR
comp=Z,450nm,16.5s
BTO LR LR
comp=Z,670nm,14.3s
LZH Lanzhou 55.58 322 ⇑P **P** **03 36 24.9 +1.2**
LZH sP sP 03 36 33.1 +1.0
LZH pmax pmax
comp=Z,49nm,1.2s
LZH LR LR
comp=Z,210nm,12.3s
LZH LR LR
comp=Z,190nm,16.5s
LZH LR LR
comp=Z,340nm,15.8s
KLR Kul'dur 56.07 352 *ce* P **P** **03 36 26.6 -0.1**
KLR pmax pmax
comp=Z,78nm,1.7s
KLR Kul'dur 56.07 352 LR LR 03 57 02.8
comp=Z,389nm,21.5s,baz=202,slow=32
TYV Tymovskoe 56.91 0 *e* P **P** **03 36 32.6 -0.1**
TYV *e*S **S** **03 44 27.6 +2.0**
TYV pmax pmax
comp=Z,200nm,4.4s
TYV pmax pmax
comp=Z,13nm,1.3s
TYV smax smax
comp=N,100nm,5.1s
TYV smax smax
comp=E,100nm,5.1s
RAR Rarotonga 57.73 111 LR LR 03 58 45.0
comp=E,84nm,21.6s,baz=301,slow=33
HEH HeiHe 57.80 349 *e* P **P** **03 36 38.3 -0.7**
HEH PcP **PcP** **03 37 31.9 +0.4**
HEH pmax pmax
comp=E,30nm,1.9s
HEH LR LR
comp=E,470nm,19.0s
HEH LR LR
comp=E,320nm,21.2s
HEH LR LR
comp=E,800nm,20.1s
HIA Hailar 58.77 343 IAMs_20 IAMs_20 04 00 23.9
comp=Z,477nm,20.0s
HIA Hailar 58.77 343 P **P** **03 36 47.6 +1.7**
GTA Gaotai 60.16 323 P **P** **03 36 56.7 +0.9**
GTA sP sP 03 37 04.6 +0.5
GTA pmax pmax
comp=Z,20nm,1.7s
GTA pmax pmax
comp=Z,150nm,4.7s
GTA LR LR
comp=Z,110nm,17.8s
GTA LR LR
comp=Z,89nm,19.3s
GTA LR LR
comp=Z,170nm,18.9s
PEA0B Petropavlovsk- 60.56 10 P **P** **03 36 57.5 -0.6**
PEA0B Petropavlovsk- 60.56 10 *ce* P **P** **03 36 59.1 +1.0**
PETK Petropavlovsk- 60.56 10 P **P** **03 36 57.6 -0.5**
PETK Petropavlovsk- 60.56 10 P **P** **03 36 57.6 -0.5**
PETK Petropavlovsk- 60.56 10 P **P** **03 36 57.2 -0.9**
comp=Z,32nm,0.8s,baz=184,slow=6.2,SNR=24
PETK LR LR 03 59 19.8
comp=Z,207nm,21.9s,baz=208,slow=32
comp=Z,32nm,0.8s
LSA Lhasa 60.86 309 IAmb IAmb 03 37 05.1
comp=Z,58nm,1.2s
ZEA Zeya 61.16 350 *e* P **P** **03 37 01.9 -0.2**
ZEA pmax pmax
comp=N,30nm,1.1s
ZEA pmax pmax
comp=Z,60nm,1.1s
GOMU GeErMu 61.46 317 P **P** **03 37 05.4 +0.4**
GOMU pP pP 03 37 11.1 0.0
GOMU sP sP 03 37 13.1 -0.4
GOMU pmax pmax
comp=Z,11nm,1.3s
ULN Ulaanbaatar 62.28 334 P **P** **03 37 10.1 0.0**
ULN IAmb IAmb 03 37 12.9
comp=Z,22nm,0.9s
ULN Ulaanbaatar 62.28 334 *ce* P **P** **03 37 10.7 +0.7**
ULN pmax pmax
comp=Z,48nm,1.7s
SONM Songino Array 62.55 333 P **P** **03 37 12.1 +0.4**
SONM IAmb IAmb 03 37 14.6
comp=Z,42nm,1.6s
SONM Songino Array 62.55 333 P **P** **03 37 12.2 +0.4**
comp=Z,9.7nm,1.1s,baz=152,slow=4.7,SNR=35
SONM PP **PP** **03 39 31.1 +1.4**
comp=Z,5.2nm,1.2s,baz=152,slow=9.8,SNR=5.0
SONM LR LR 04 03 55.5
comp=Z,335nm,19.8s,baz=154,slow=36
comp=Z,9.7nm,1.1s
PALK Pallekele 63.07 281 P **P** **03 37 15.9 +0.1**
PALK IAmb IAmb 03 37 19.0
comp=Z,38nm,1.2s
PALK Pallekele 63.07 281 *i* P **P** **03 37 15.8 0.0**
PALK pmax pmax
comp=Z,52nm,1.4s
PALK Pallekele 63.07 281 LR LR 04 07 44.6
comp=Z,178nm,20.2s,baz=217,slow=39
CASY Casey 63.85 194 P **P** **03 37 20.3 +0.4**
CASY IAmb IAmb 03 37 22.8
comp=Z,39nm,1.1s
KIP Kipapa 64.51 63 *ce* P **P** **03 37 23.6 -1.5**
KIP pmax pmax
comp=Z,83nm,1.3s
SHEM Shemya Is, Ala 64.63 21 LR LR 04 00 19.1
comp=Z,524nm,20.7s,baz=209,slow=31
ZAK Zakamensk 65.81 334 *e* P **P** **03 37 32.8 -0.3**
ZAK pmax pmax
comp=Z,35nm,1.2s
MA2 Magadan 65.98 5 P **P** **03 37 33.8 -0.1**
MA2 Magadan 65.98 5 P **P** **03 37 34.8 +0.9**
MA2 Magadan 65.98 5 *ce* P **P** **03 37 32.0 -1.9**
MA2 pmax pmax

comp=Z,37nm,1.3s
MA2 Magadan 65.98 5 LR LR 04 03 48.4
comp=Z,144nm,21.5s,baz=148,slow=34
PPT Papeete 67.14 106 LR LR 04 05 13.0
comp=Z,65nm,19.0s,baz=270,slow=34
HYB Hyderabad 67.36 292 *eP* **P 03 37 43.6 0.0**
MOY Mondy 67.74 334 *eP* **P 03 37 46.1 +0.7**
MOY pmax pmax
comp=Z,68nm,1.7s
BOD Bodaibo 67.92 344 *eP* **P 03 37 44.9 -1.4**
BOD pmax pmax
comp=Z,30nm,1.7s
YAK Yakutsk 68.83 354 IAMs_20 IAMs_20 04 04 03.1
comp=Z,464nm,22.0s
YAK Yakutsk 68.83 354 *eP* **P 03 37 51.7 -0.1**
YAK pmax pmax
comp=Z,32nm,1.5s
YAK pmax pmax
comp=N,16nm,1.5s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK Yakutsk 68.83 354 LR LR 04 06 19.4
comp=E,223nm,19.9s,baz=134,slow=34
SEY Seymchan 69.43 5*ceP* **P 03 37 55.4 -0.2**
SEY pmax pmax
comp=Z,35nm,1.7s
SEY Seymchan 69.43 5 LR LR 04 05 58.3
comp=Z,215nm,21.4s,baz=203,slow=34
WMQ Urumqi 70.12 321 *eP* **P 03 38 01.7 +1.4**
WMQ sP sP 03 38 09.6 +0.9
WMQ pmax pmax
comp=Z,39nm,1.1s
WMQ pmax pmax
comp=Z,200nm,5.5s
NIKH Nikolski High 71.92 29 P **P 03 38 09.8 -1.1**
baz=232
VNDA Vanda 71.94 176 P **P 03 38 11.9 +1.2**
VNDA IAmb IAmb 03 38 16.1
comp=Z,66nm,1.9s
VNDA Vanda 71.94 176 P **P 03 38 11.9 +1.2**
VNDA pmax pmax
comp=Z,66nm,2.0s
VNDA Vanda 71.94 176 P **P 03 38 11.4 +0.7**
comp=Z,6.4nm,0.9s,baz=329,slow=7.1,SNR=6.9
VNDA LR LR 04 09 04.5
comp=Z,457nm,18.8s,baz=348,slow=35
comp=Z,6.4nm,0.9s
DGZ Jazzator, Alta 73.31 326*c iP* **P 03 38 19.9 +0.4**
DGZ pmax pmax
comp=Z,27nm,1.1s
UNV Unalaska Valle 73.57 29 P **P 03 38 19.4 -1.3**
baz=234
ZSN Zaisan 73.64 323 *eP* **P 03 38 21.5 +0.1**
ZSN pmax pmax
comp=Z,18nm,1.2s
ZSN Zaisan 73.64 323 *eP* **P 03 38 21.5 +0.1**
comp=Z,18nm,1.2s,baz=323
P08K Saint George I 73.89 25 P **P 03 38 20.4 -2.2**
baz=230
SPIA Saint Paul Isl 73.97 25 P **P 03 38 21.3 -1.7**
baz=230
MK31 Makanchi Array 74.89 322 IAmb IAmb 03 38 31.4
comp=Z,34nm,1.2s
MK31 Makanchi Array 74.89 322*ceP* **P 03 38 29.0 +0.3**
MKAR Makanchi Array 74.89 322 P **P 03 38 29.1 +0.4**
comp=Z,15nm,0.9s,baz=104,slow=7.5,SNR=77
MKAR LR LR 04 12 50.5
comp=Z,58nm,18.5s,baz=68,slow=37
comp=Z,15nm,0.9s
MAKZ Makanchi 75.09 322 P **P 03 38 29.6 -0.2**
MAKZ IAmb IAmb 03 38 32.4
comp=Z,45nm,1.2s
MAKZ Makanchi 75.09 322 P **P 03 38 29.6 -0.2**
MAKZ pmax pmax
comp=Z,45nm,1.2s
SHLS Shalkode 75.16 318 *eP* **P 03 38 28.7 -1.7**
SHLS pmax pmax
comp=Z,19nm,1.0s
SHLS Shalkode 75.16 318 *eP* **P 03 38 28.7 -1.7**
comp=Z,19nm,1.0s,baz=318
UZB Uzynbulak 75.45 317 *eP* **P 03 38 32.6 +0.5**
UZB pmax pmax
comp=Z,14nm,1.0s
UZB Uzynbulak 75.45 317 *eP* **P 03 38 32.6 +0.5**
comp=Z,14nm,1.0s,baz=317
PRZ Przheval'sk 75.62 317 IAmb IAmb 03 38 37.0
comp=Z,43nm,1.0s
FALS False Pass 75.63 29 P **P 03 38 30.2 -2.4**
baz=236
SATY Saty 75.83 317 *eP* **P 03 38 34.7 +0.4**
SATY pmax pmax
comp=Z,20nm,1.7s
SATY Saty 75.83 317 *eP* **P 03 38 34.8 +0.4**
comp=Z,20nm,1.7s,baz=317
ZHN Zhinishke 75.86 317 *eP* **P 03 38 34.5 +0.1**
ZHN pmax pmax
comp=Z,17nm,1.4s
ZHN Zhinishke 75.86 317 *eP* **P 03 38 34.6 +0.1**
comp=Z,17nm,1.4s,baz=317
BILL Bilibino 76.03 9 P **P 03 38 34.9 +0.1**
BILL Bilibino 76.03 9↑ *eP* **P 03 38 33.7 -1.0**
BILL pmax pmax
comp=Z,26nm,1.7s
KSH Kashi 76.24 313 P **P 03 38 39.1 +2.4**
KSH pmax pmax
comp=Z,24nm,0.9s
NIL Nilore 76.45 307 P **P 03 38 37.4 -0.5**
NIL IAmb IAmb 03 38 40.9
comp=Z,51nm,0.9s
NIL Nilore 76.45 307 P **P 03 38 37.4 -0.5**
NIL pmax pmax
comp=Z,51nm,1.0s
TDK Taldyqorghan 76.59 319 *eP* **P 03 38 38.8 +0.4**
TDK Taldyqorghan 76.59 319 *eP* **P 03 38 38.9 +0.4**
baz=319
MDOK Medeo 76.79 317 *eP* **P 03 38 40.0 +0.2**
MDOK Medeo 76.79 317 *eP* **P 03 38 40.0 +0.2**
baz=317
ZALV Zalesovo Beam 76.89 329 P **P 03 38 39.1 -0.8**
comp=Z,5.9nm,0.9s,baz=112,slow=5.8,SNR=15
ZALV LR LR 04 13 34.8
comp=Z,210nm,19.2s,baz=91,slow=36
comp=Z,5.9nm,0.9s
AAA Alma-Ata 76.90 317 *eP* **P 03 38 40.6 +0.3**
AAA pmax pmax
comp=Z,15nm,0.6s
AAA Alma-Ata 76.90 317 *eP* **P 03 38 40.6 +0.3**
comp=Z,15nm,0.6s,baz=317
CHKK Chushkaly 77.09 318 *eP* **P 03 38 41.2 -0.1**
CHKK Chushkaly 77.09 318 *eP* **P 03 38 41.2 -0.1**
baz=318
SDPT Sand Point 77.32 29 P **P 03 38 43.4 +1.2**
SDPT Sand Point 77.32 29 P **P 03 38 40.3 -1.9**
baz=239,SNR=7.0
CHNA Chernabura Isl 77.49 30 P **P 03 38 40.9 -2.3**
baz=240
KUU Kurty 77.54 317 *eP* **P 03 38 43.7 -0.1**
KUU pmax pmax
comp=Z,21nm,0.8s
KUU Kurty 77.54 317 *eP* **P 03 38 43.8 -0.1**
comp=Z,21nm,0.8s,baz=317
M11K Mekoryuk 77.63 23 P **P 03 38 42.0 -1.8**
baz=233
GAMB Gambell 77.86 19 P **P 03 38 43.8 -1.2**
baz=227
S14K Fog Glacier 78.25 29 P **P 03 38 44.9 -2.6**
baz=240
TIXI Tiksi 78.29 356 P **P 03 38 47.1 -0.2**
TIXI Tiksi 78.29 356*ceP* **P 03 38 46.3 -1.0**
TIXI pmax pmax
comp=Z,15nm,1.7s
TIXI Tiksi 78.29 356 LR LR 04 14 19.0
comp=Z,84nm,18.8s,baz=196,slow=36
AAK Ala-Archa 78.36 316 P **P 03 38 48.3 -0.3**
AAK Ala-Archa 78.36 316*ceP* **P 03 38 49.3 +0.7**
AAK pmax pmax
comp=Z,23nm,1.7s
SGDS Sogindy 78.55 317 *eP* **P 03 38 49.5 +0.1**
SGDS Sogindy 78.55 317 *eP* **P 03 38 49.6 +0.1**
baz=316
KURK Kurchatov 78.78 324 P **P 03 38 50.0 -0.5**
KURK IAmb IAmb 03 38 52.8
comp=Z,46nm,1.2s
KURK Kurchatov 78.78 324*ceP* **P 03 38 50.7 +0.3**
KURK pmax pmax
comp=Z,66nm,1.7s
KURBB Kurchatov Arra 78.79 324 P **P 03 38 50.5 0.0**
comp=Z,11nm,0.9s,baz=116,slow=4.7,SNR=45
comp=Z,11nm,0.9s
M13K Dall Lake 78.80 24 P **P 03 38 48.0 -2.3**
baz=235
CHGN Chignik 78.80 29 IAmb IAmb 03 38 51.6
comp=Z,47nm,1.0s
CHGN Chignik 78.80 29 P **P 03 38 48.6 -1.8**
baz=240,SNR=6.9
O14K Tigyukauivet M 79.03 26 IAmb IAmb 03 38 53.9
comp=Z,61nm,1.0s
O14K Tigyukauivet M 79.03 26 P **P 03 38 49.9 -1.7**
baz=237
N14K Kuskokwak Cree 79.21 25 P **P 03 38 50.2 -2.4**
baz=237,SNR=6.1
BTLS Baital 79.48 318 *eP* **P**
BTLS pmax pmax
comp=Z,22nm,1.3s
BTLS Baital 79.48 318 *eP* **P 03 38 54.7 +0.2**
comp=Z,22nm,1.3s,baz=318
M14K Bethel 79.55 24 IAmb IAmb 03 38 56.9
comp=Z,79nm,1.1s
M14K Bethel 79.55 24 P **P 03 38 51.6 -2.8**
baz=236,SNR=12
L14K Kuka Creek 79.59 24 IAmb IAmb 03 38 57.1
comp=Z,60nm,1.0s
L14K Kuka Creek 79.59 24 P **P 03 38 52.4 -2.2**
baz=236
O15K Ungalikthiuk R 79.61 26 P **P 03 38 52.9 -2.0**
baz=239
R16K Pilot Point 79.83 28 P **P 03 38 53.7 -2.2**
baz=241
CHIR Chirikof Islan 79.95 30 P **P 03 38 54.0 -2.8**
baz=243
N15K Kwethluk River 80.02 25 IAmb IAmb 03 38 59.5
comp=Z,72nm,1.1s
N15K Kwethluk River 80.02 25 P **P 03 38 55.6 -1.4**
baz=238
M15K Kasigluk River 80.05 25 P **P 03 38 55.0 -2.1**
baz=238
KBL Kabul 80.05 307 P **P 03 38 56.7 -1.3**
KBL Kabul 80.05 307 P **P 03 38 56.7 -1.3**
KBL pmax pmax
comp=Z,13nm,1.0s
J14K Nanvaranak Lak 80.06 22 IAmb IAmb 03 39 00.0
comp=Z,114nm,1.7s
J14K Nanvaranak Lak 80.06 22 P **P 03 38 55.6 -1.6**
baz=235
GAR Garm 80.25 311 IAmb IAmb 03 39 01.4
comp=Z,45nm,1.1s
L15K Ungalak Mounta 80.26 24 P **P 03 38 56.2 -2.1**
baz=237
MAW Mawson 80.26 202 LR LR 04 13 26.0
comp=Z,493nm,18.0s,baz=76,slow=35
TNA Tin City 80.26 19 P **P 03 38 55.3 -2.9**
baz=230,SNR=9.0
P16K Nushagak River 80.36 27 P **P 03 38 56.3 -2.5**
baz=240,SNR=6.9
ANM Nome 80.48 20 IAmb IAmb 03 39 02.6
comp=Z,62nm,1.4s
ANM Nome 80.48 20 P **P 03 38 57.7 -1.7**
baz=233,SNR=18
K15K Wolf Creek Mou 80.58 23 IAmb IAmb 03 39 02.6
comp=Z,71nm,1.1s
K15K Wolf Creek Mou 80.58 23 P **P 03 38 58.6 -1.4**
baz=237,SNR=12
O16K Kokwok River B 80.59 26 IAMs_20 IAMs_20 04 09 25.0
comp=Z,594nm,21.0s
O16K Kokwok River B 80.59 26 P **P 03 38 58.0 -2.0**
baz=240,SNR=28
DZA Taraz 80.65 315 *eP* **P 03 39 01.0 +0.1**
DZA Taraz 80.65 315 *eP* **P 03 39 01.0 +0.1**
baz=315
F14K Arctic Creek 80.72 19 P **P 03 38 59.0 -1.7**
baz=232
N16K Nishlik Lake 80.74 25 P **P 03 38 59.8 -1.2**
baz=240
Q16K King Salmon 80.79 28 P **P 03 38 59.0 -2.1**
baz=242
M16K Timber Creek 80.94 25 P **P 03 38 60.0 -2.0**
baz=239
Q17K Contact Creek 80.95 28 P **P 03 39 00.4 -1.8**
baz=242,SNR=11
SII Sitkinak Islan 81.00 30 P **P 03 39 00.5 -1.9**
baz=244
CHGR Chuyangaron 81.03 311 IAmb IAmb 03 39 06.1
comp=Z,73nm,1.1s
CHGR Chuyangaron 81.03 311 P **P 03 39 03.4 +0.3**
L16K Owhat River 81.08 24 IAmb IAmb 03 39 04.9
comp=Z,57nm,1.1s
L16K Owhat River 81.08 24 P **P 03 39 00.9 -1.8**
baz=239,SNR=16
O17K Koliganek Bris 81.12 26 P **P 03 39 00.9 -2.0**
baz=241,SNR=47
P17K Kvichak River 81.14 27 P **P 03 39 00.1 -2.9**
baz=242
SIMJ Simiganj 81.14 311 P **P 03 39 02.9 -0.9**
SIMJ IAmb IAmb 03 39 06.8
comp=Z,33nm,1.0s
G15K Niukluk 81.20 20 P **P 03 39 01.3 -1.9**
baz=234,SNR=19
IUG Iuzhnay 81.35 314 *eP* **P 03 39 05.0 +0.3**
IUG pmax pmax
comp=Z,18nm,1.3s
IUG Iuzhnay 81.35 314 *eP* **P 03 39 05.1 +0.3**
comp=Z,18nm,1.3s,baz=314
F15K North Star Dit 81.42 19 IAmb IAmb 03 39 06.8
comp=Z,51nm,1.2s
F15K IAMs_20 IAMs_20 04 08 26.4
comp=Z,503nm,21.0s
F15K North Star Dit 81.42 19 P **P 03 39 02.9 -1.6**
baz=233
N17K Nushagak Hills 81.44 26 IAmb IAmb 03 39 07.3
comp=Z,41nm,1.1s
N17K Nushagak Hills 81.44 26 P **P 03 39 03.8 -0.8**
baz=241,SNR=14
J16K Anvik River 81.48 23 IAmb IAmb 03 39 07.6
comp=Z,62nm,1.2s
J16K Anvik River 81.48 23 P **P 03 39 03.9 -0.9**
baz=237
H16K Elim 81.62 21 P **P 03 39 04.4 -1.1**
baz=236,SNR=16
OHAK Old Harbor 81.73 30 P **P 03 39 08.1 +1.9**
OHAK Old Harbor 81.73 30 P **P 03 39 05.2 -1.0**
baz=245
BRLS Borolday 81.74 315 *eP* **P 03 39 06.7 +0.1**
BRLS Borolday 81.74 315 *eP* **P 03 39 06.7 +0.1**
baz=315
M17K Holitna River 81.77 25 IAmb IAmb 03 39 09.3
comp=Z,61nm,1.1s
M17K Holitna River 81.77 25 P **P 03 39 04.9 -1.5**
baz=241
I17K Unalakleet 81.77 22 IAmb IAmb 03 39 09.2
comp=Z,64nm,1.2s
I17K Unalakleet 81.77 22 P **P 03 39 05.8 -0.5**
baz=237,SNR=12
P18K Big Mountain, 81.78 27 IAMs_20 IAMs_20 04 08 40.5
comp=Z,521nm,21.0s
P18K Big Mountain, 81.78 27 P **P 03 39 04.8 -1.7**
baz=243
L17K Donlin 81.78 24 P **P 03 39 05.1 -1.3**
baz=240
O18K Koktuh Hills 82.00 27 P **P 03 39 06.6 -1.0**
baz=243
G16K Koyuk River 82.01 20 IAmb IAmb 03 39 09.8
comp=Z,50nm,1.1s
G16K Koyuk River 82.01 20 P **P 03 39 06.5 -1.0**
baz=236
BRZS Berezniki 82.03 322 *eP* **P 03 39 07.9 -0.1**
BRZS pmax pmax
comp=Z,14nm,1.2s
BRZS Berezniki 82.03 322 *eP* **P 03 39 07.1 -0.9**
comp=Z,14nm,1.2s,baz=322
K17K Iditarod 82.07 24 P **P 03 39 07.3 -0.7**
baz=240,SNR=30
N18K Kilae Creek 82.08 26 IAmb IAmb 03 39 10.6
comp=Z,27nm,0.9s
N18K IAMs_20 IAMs_20 04 12 14.4
comp=Z,671nm,20.0s
N18K Kilae Creek 82.08 26 P **P 03 39 06.8 -1.2**
baz=242
J17K VABM Dome 82.12 23 IAmb IAmb 03 39 10.9
comp=Z,42nm,1.1s
J17K VABM Dome 82.12 23 P **P 03 39 07.2 -0.9**
baz=239
KDAK Kodiak Island 82.32 29 P **P 03 39 09.6 +0.3**
KDAK Kodiak Island 82.32 29 P **P 03 39 09.6 +0.3**
KDAK pmax pmax
comp=Z,109nm,1.5s
KDAK Kodiak Island 82.32 29 P **P 03 39 08.0 -1.3**
baz=245
KDAK Kodiak Island 82.32 29 LR LR 04 13 36.9
comp=Z,270nm,18.6s,baz=271,slow=34
SVW2 Sparrevohn 82.41 26 IAmb IAmb 03 39 12.8
comp=Z,57nm,1.3s
SVW2 IAMs_20 IAMs_20 04 11 33.8
comp=Z,626nm,21.0s
SVW2 Sparrevohn 82.41 26 P **P 03 39 10.8 +1.1**
L18K Granite Mounta 82.48 24 IAmb IAmb 03 39 12.7
comp=Z,59nm,1.4s
L18K Granite Mounta 82.48 24 P **P 03 39 09.3 -0.7**
baz=241
M18K Stony River 82.49 25 P **P 03 39 08.9 -1.2**
baz=242
O19K Port Alsworth 82.55 27 P **P 03 39 09.1 -1.3**
baz=244
H17K Granite Mounta 82.62 21 IAmb IAmb 03 39 13.2
comp=Z,49nm,1.1s
H17K Granite Mounta 82.62 21 P **P 03 39 10.0 -0.8**
baz=238,SNR=17
G17K Kiwalik Mounta 82.66 21 P **P 03 39 09.8 -1.2**
baz=237
N19K Bonanza Creek 82.76 26 P **P 03 39 10.3 -1.4**
baz=243
C16K Lisburne Hills 82.76 17 IAmb IAmb 03 39 14.9
comp=Z,42nm,1.4s
C16K Lisburne Hills 82.76 17 P **P 03 39 10.3 -1.1**
baz=232
F17K Baldwin Pennin 82.98 20 P **P 03 39 11.1 -1.4**
baz=236
ILSW Iliamna Southw 82.99 27 IAmb IAmb 03 39 14.1
comp=Z,43nm,1.2s
J18K Innoko River 83.07 23 IAmb IAmb 03 39 15.1
comp=Z,34nm,1.2s
J18K Innoko River 83.07 23 P **P 03 39 12.0 -1.1**
baz=241,SNR=19
TTA Tatalina 83.10 24 IAmb IAmb 03 39 15.4
comp=Z,51nm,1.5s
TTA Tatalina 83.10 24 P **P 03 39 15.1 +1.8**
TTA Tatalina 83.10 24 P **P 03 39 11.9 -1.5**
baz=242,SNR=20
D17K Noatak River 83.10 18 P **P 03 39 12.2 -1.0**
baz=235,SNR=34
L19K White Mountain 83.22 25 P **P 03 39 11.9 -2.1**
baz=243
O20K Slope Mountain 83.27 27 P **P 03 39 12.1 -2.2**
baz=245
M19K Big River Lodg 83.29 25 IAmb IAmb 03 39 16.8
comp=Z,31nm,1.1s
M19K Big River Lodg 83.29 25 P **P 03 39 12.1 -2.2**
baz=243
H18K Honhosa River 83.30 21 IAmb IAmb 03 39 16.0
comp=Z,34nm,1.4s
H18K Honhosa River 83.30 21 P **P 03 39 12.2 -2.0**
baz=239
C17K DeLong Mountai 83.53 18 P **P 03 39 14.1 -1.3**
baz=234
G18K Tagagawik 83.57 21 IAmb IAmb 03 39 17.5
comp=Z,27nm,1.1s
G18K Tagagawik 83.57 21 P **P 03 39 13.7 -2.0**
baz=239,SNR=22
F18K Selawik 83.60 20 P **P 03 39 14.2 -1.5**
baz=238,SNR=8.7
GCSA Galena City Sc 83.64 22 P **P 03 39 13.7 -2.2**
baz=241,SNR=6.1
QSPA South Pole Qui 83.69 180 P **P 03 39 16.6 +0.1**
QSPA IAmb IAmb 03 39 18.4
comp=Z,34nm,1.2s
QSPA South Pole Qui 83.69 180 P **P 03 39 16.2 -0.3**
comp=Z,12nm,0.9s,baz=342,slow=2.8,SNR=42
QSPA LR LR 04 16 47.1
comp=Z,980nm,19.6s,baz=16,slow=36
comp=Z,12nm,0.9s
E18K Tukpahlearik C 83.73 19 IAmb IAmb 03 39 19.2
comp=Z,32nm,0.9s
E18K Tukpahlearik C 83.73 19 P **P 03 39 14.6 -1.8**
baz=237
J19K Poorman 83.75 23 IAmb IAmb 03 39 18.9
comp=Z,41nm,1.2s
J19K Poorman 83.75 23 P **P 03 39 15.2 -1.4**
baz=242
L20K Farewell, AK 83.76 25 P **P 03 39 15.5 -1.2**
baz=244,SNR=22
M20K Styx River 83.81 25 IAmb IAmb 03 39 19.1
comp=Z,44nm,1.1s
M20K IAMs_20 IAMs_20 04 09 45.0
comp=Z,550nm,20.0s
M20K Styx River 83.81 25 P **P 03 39 15.7 -1.4**
baz=244
N20K Mount Spurr 83.92 26 P **P 03 39 16.1 -1.5**
baz=245
BRSE Bradley Lake S 83.99 28 P **P 03 39 16.7 -1.2**
baz=247
K20K Telida 84.08 24 P **P 03 39 17.3 -1.0**
baz=244
H19K Roundabout Mou 84.18 22 P **P 03 39 17.0 -1.7**
baz=241
NRIK Noril'sk 84.19 343 P **P 03 39 18.6 -0.1**
comp=Z,38nm,0.9s,baz=125,slow=5.9,SNR=50
NRIK LR LR 04 15 18.7
comp=Z,186nm,21.8s,baz=144,slow=35
comp=Z,38nm,0.9s
CAPN Captain Cook N 84.21 27 P **P 03 39 18.0 -1.0**
baz=246
C18K Utukok River 84.22 18 IAmb IAmb 03 39 22.1
comp=Z,37nm,1.4s
C18K Utukok River 84.22 18 P **P 03 39 17.9 -1.1**
baz=236
G19K Purcell Mounta 84.25 21 IAmb IAmb 03 39 22.1
comp=Z,54nm,1.2s
G19K Purcell Mounta 84.25 21 P **P 03 39 18.5 -0.6**
baz=240
F19K Shaleruckik Mo 84.36 20 IAmb IAmb 03 39 21.4
comp=Z,32nm,1.2s
F19K IAMs_20 IAMs_20 04 13 49.2
comp=Z,404nm,20.0s
F19K Shaleruckik Mo 84.36 20 P **P 03 39 18.3 -1.3**
baz=240
BVAR Borovoye Array 84.37 325 P **P 03 39 20.2 +0.3**
comp=Z,46nm,0.9s,baz=114,slow=6.5,SNR=110
comp=Z,46nm,0.9s
J20K Nowinta River 84.42 23 P **P 03 39 19.2 -0.7**
baz=243,SNR=36
BRVK Borovoye 84.44 325 P **P 03 39 20.5 +0.1**
BRVK Borovoye 84.44 325*ceP* **P 03 39 20.5 +0.1**
BRVK pmax pmax
comp=Z,122nm,1.7s
B18K Kokolik River 84.44 17 P **P 03 39 18.6 -1.4**
baz=236
SKT Skwentna 84.54 26 IAmb IAmb 03 39 21.5
comp=Z,26nm,1.3s
SKT Skwentna 84.54 26 P **P 03 39 18.9 -1.8**
baz=246,SNR=12
I20K Naaghedeneel 84.57 23 IAmb IAmb 03 39 23.7
comp=Z,47nm,1.1s
I20K Naaghedeneel 84.57 23 P **P 03 39 19.7 -1.0**
baz=243
PPLA Purkeypile 84.64 25 P **P 03 39 20.1 -1.2**
baz=245,SNR=12
SUA Susitna One 84.67 26 IAmb IAmb 03 39 22.1
comp=Z,23nm,0.9s
SUA Susitna One 84.67 26 P **P 03 39 19.2 -2.3**
baz=247,SNR=12
SEW Seward 84.73 28 P **P 03 39 19.5 -2.1**
baz=248
H20K Anotleneega Mo 84.74 22 P **P 03 39 20.1 -1.5**
baz=242
O22K Cooper Landing 84.75 27 IAMs_20 IAMs_20 04 11 22.1
comp=Z,531nm,20.0s
O22K Cooper Landing 84.75 27 P **P 03 39 20.0 -1.7**
baz=248,SNR=5.9
E19K Redstone River 84.86 20 IAmb IAmb 03 39 25.0
comp=Z,46nm,1.1s
E19K Redstone River 84.86 20 P **P 03 39 21.4 -0.7**
baz=246,SNR=53
CAST Castle Rocks 84.91 24 IAmb IAmb 03 39 23.8
comp=Z,30nm,1.0s
CAST Castle Rocks 84.91 24 P **P 03 39 21.5 -1.0**
baz=245,SNR=28
C19K Lookout Ridge 84.96 18 IAmb IAmb 03 39 25.3
comp=Z,32nm,0.9s
C19K Lookout Ridge 84.96 18 P **P 03 39 21.9 -0.8**
baz=238
RC01 Rabbit Creek A 84.98 27 P **P 03 39 21.4 -1.5**
baz=248,SNR=24
CHUM Lake Minchumin 85.01 24 P **P 03 39 21.7 -1.2**
baz=245,SNR=55

M22K **Willow** 85.06 26 IAMs_20 IAMs_20 04 10 27.3
comp=Z,512nm,20.0s
M22K **Willow** 85.06 26 P P 03 39 21.4 -1.8
baz=247,SNR=15
D19K **Kuna River** 85.10 19 IAmb IAmb 03 39 25.9
comp=Z,36nm,1.0s
D19K **Kuna River** 85.10 19 P P 03 39 22.0 -1.4
baz=239
F20K **Avaraart Lake** 85.17 20 IAmb IAmb 03 39 26.2
comp=Z,25nm,1.1s
F20K **Avaraart Lake** 85.17 20 P P 03 39 22.6 -1.1
baz=242
CUT **Chulitna** 85.25 26 P P 03 39 22.8 -1.4
baz=247,SNR=5.3
PMR **Palmer** 85.44 26 IAmb IAmb 03 39 26.1
comp=Z,39nm,1.0s
PMR **Palmer** 85.44 26 P P 03 39 25.5 +0.4
PMR **Palmer** 85.44 26 P P 03 39 23.2 -2.0
baz=248,SNR=16
KTH **Kantishna Hill** 85.44 24 IAmb IAmb 03 39 26.6
comp=Z,56nm,1.2s
KTH IAMs_20 IAMs_20 04 11 48.0
comp=Z,613nm,19.0s
H21K **Melozitna Rive** 85.58 22 P P 03 39 23.9 -2.0
baz=244
GHO **Glory Hole Cre** 85.60 26 IAmb IAmb 03 39 27.2
comp=Z,35nm,1.1s
E20K **Nigu River** 85.60 19 P P 03 39 23.9 -2.0
baz=241
BPAW **Bear Paw Mtn.** 85.63 24 IAmb IAmb 03 39 27.9
comp=Z,35nm,1.3s
BPAW **Bear Paw Mtn.** 85.63 24 P P 03 39 24.1 -2.0
baz=246,SNR=12
P23K **Montague Islan** 85.65 28 P P 03 39 24.6 -1.6
baz=250,SNR=6.2
TRF **Thorofare Moun** 85.66 25 IAmb IAmb 03 39 27.0
comp=Z,53nm,1.6s
TRF **Thorofare Moun** 85.66 25 P P 03 39 24.5 -1.9
baz=247,SNR=9.5
KNK **Knik Glacier** 85.67 27 P P 03 39 25.2 -1.1
baz=249,SNR=16
D20K **Etivluk River** 85.69 19 P P 03 39 24.6 -1.7
baz=241
I21K **Tanana** 85.69 23 IAmb IAmb 03 39 28.6
comp=Z,41nm,1.2s
I21K **Tanana** 85.69 23 P P 03 39 25.2 -1.2
baz=245,SNR=25
G21K **Allakaket** 85.70 21 IAMs_20 IAMs_20 04 11 33.8
comp=Z,496nm,20.0s
G21K **Allakaket** 85.70 21 P P 03 39 24.7 -1.7
baz=244
SML **Sawmill** 85.87 26 P P 03 39 25.7 -1.7
baz=249,SNR=24
Q23K **Middleton Isla** 85.96 29 P P 03 39 26.6 -1.2
baz=251
F21K **Alatna River** 86.03 21 P P 03 39 27.1 -0.9
baz=244
MLY **Manley** 86.11 23 IAmb IAmb 03 39 30.2
comp=Z,34nm,1.0s
MLY **Manley** 86.11 23 P P 03 39 27.0 -1.5
baz=246,SNR=40
M23K **Glacier View** 86.14 27 P P 03 39 27.1 -1.5
baz=249,SNR=10
WAT1 **Susitna Watana** 86.15 25 P P 03 39 26.5 -2.2
baz=248
B20K **Meade River** 86.16 17 P P 03 39 28.0 -0.6
baz=240
H22K **Ishtalitna Cre** 86.22 22 P P 03 39 28.2 -0.8
baz=246
RND **Reindeer** 86.24 25 P P 03 39 27.9 -1.3
MCK **McKinley** 86.33 25 P P 03 39 28.3 -1.3
MCK **McKinley** 86.33 25 P P 03 39 28.2 -1.3
baz=248,SNR=27
SCM **Sheep Creek Mo** 86.33 27 P P 03 39 28.7 -1.0
baz=250,SNR=11
WAT6 **Susitna Watana** 86.41 26 P P 03 39 29.1 -1.1
baz=249
E21K **Killik River** 86.41 19 P P 03 39 29.2 -0.7
baz=243
C21K **Knifeblade Rid** 86.48 19 P P 03 39 30.1 -0.1
baz=242
NEA2 **Nenana** 86.60 24 IAmb IAmb 03 39 31.7
comp=Z,37nm,1.3s
NEA2 **Nenana** 86.60 24 P P 03 39 29.2 -1.6
baz=248,SNR=18
G22K **Bettles** 86.60 21 P P 03 39 29.5 -1.3
baz=246
EYAK **Cordova Ski Ar** 86.61 28 P P 03 39 32.4 +1.4
EYAK **Cordova Ski Ar** 86.61 28 P P 03 39 30.1 -0.9
baz=251,SNR=6.3
I23K **Minto, Yukon-K** 86.69 23 IAmb IAmb 03 39 32.9
comp=Z,34nm,1.2s
I23K **Minto, Yukon-K** 86.69 23 P P 03 39 29.8 -1.5
baz=248,SNR=14
B21K **Ikpikpuk River** 86.75 18 IAmb IAmb 03 39 33.8
comp=Z,41nm,1.1s
B21K **Ikpikpuk River** 86.75 18 P P 03 39 30.1 -1.3
baz=242
KLU **Klutina** 86.84 27 IAmb IAmb 03 39 34.0
comp=Z,38nm,1.2s
KLU **Klutina** 86.84 27 P P 03 39 31.2 -1.0
baz=251,SNR=18
M24K **Tolsona, Glenn** 86.93 27 P P 03 39 32.0 -0.6
baz=251,SNR=11
WRH **Wood River Hil** 86.94 24 IAmb IAmb 03 39 33.2
comp=Z,44nm,1.1s
A21K **Barrow** 86.97 16 P P 03 39 31.8 -0.7
baz=240
E22K **Anaktuvuk Pass** 87.00 20 P P 03 39 32.6 -0.2
baz=245
D22K **Ayikyak River** 87.03 19 P P 03 39 33.0 +0.1
baz=244
KAIM **Kayak Island** 87.05 29 P P 03 39 31.8 -1.3
baz=252
G23K **Bananza Creek** 87.05 22 IAmb IAmb 03 39 35.4
comp=Z,50nm,1.6s
G23K **Bananza Creek** 87.05 22 P P 03 39 32.6 -0.5
baz=247
MDM **Murphy Dome** 87.07 23 IAmb IAmb 03 39 33.8
comp=Z,45nm,1.6s
COLA **College** 87.19 24 P P 03 39 32.6 -1.0
COLA IAmb IAmb 03 39 34.2
comp=Z,39nm,1.1s
COLA **College** 87.19 24 P P 03 39 33.5 -0.2
COLA **College** 87.19 24 *i* P P 03 39 33.4 -0.2
COLA pmax pmax
comp=Z,18nm,1.0s
COLA **College** 87.19 24 P P 03 39 32.0 -1.6
baz=249
COLD **Coldfoot** 87.19 21 P P 03 39 33.5 -0.2
baz=247,SNR=29
BMRM **Bremner River** 87.28 28 P P 03 39 33.9 -0.5
baz=252,SNR=13
HDA **Harding Lake** 87.39 24 IAmb IAmb 03 39 37.0
comp=Z,18nm,1.0s
HDA **Harding Lake** 87.39 24 P P 03 39 33.4 -1.3
baz=250,SNR=14
POKR **Poker Plat Res** 87.44 23 P P 03 39 33.6 -1.4
baz=249
B22K **Teshekpuk Lake** 87.44 18 P P 03 39 34.5 -0.3
baz=244
HARP **HAARP** 87.48 26 P P 03 39 34.9 -0.3
baz=252
N25K **Chitina, Valde** 87.48 27 P P 03 39 34.5 -0.8
baz=252,SNR=18
H24K **Noodor Dome** 87.52 23 IAmb IAmb 03 39 37.8
comp=Z,30nm,1.2s
H24K **Noodor Dome** 87.52 23 P P 03 39 34.8 -0.6
baz=249
PAX **Paxson** 87.53 26 P P 03 39 34.5 -1.0
baz=251,SNR=19
ILAR **Eielson Array** 87.54 24 P P 03 39 33.2 -2.2
comp=Z,15nm,0.9s,baz=259,slow=4.0,SNR=83
ILAR LR LR 04 14 25.6
comp=Z,305nm,20.5s,baz=247,slow=33
comp=Z,15nm,0.9s
BGLC **Bering Glacier** 87.65 29 P P 03 39 35.4 -0.6
baz=253
K24K **Donnelly Dome** 87.67 25 P P 03 39 35.3 -0.8
baz=251,SNR=8.8
D23K **Nanushuk River** 87.72 19 P P 03 39 36.9 +0.6
baz=246
E23K **Chandalar** 87.72 20 P P 03 39 36.5 +0.2
baz=247
GLB **Gilahina Butte** 87.79 27 IAmb IAmb 03 39 38.4
comp=Z,38nm,1.0s
VRDI **Verde Repeater** 87.89 28 IAmb IAmb 03 39 39.1
comp=Z,37nm,1.2s

CRQE **Cirque** 87.92 28 P P 03 39 36.1 -1.4
baz=254,SNR=6.4
G24K **Hadweenzic Riv** 87.99 22 P P 03 39 37.5 0.0
baz=249,SNR=34
J25K **Salcha River,** 88.10 24 P P 03 39 36.9 -1.3
baz=251
C23K **Itkillik River** 88.10 19 P P 03 39 37.6 -0.4
baz=246
F24K **Squaw Lake** 88.13 21 P P 03 39 38.1 -0.2
baz=249
MCARA **McCarthy VSAT** 88.13 28 IAmb IAmb 03 39 40.3
comp=Z,25nm,1.0s
MCARA **McCarthy VSAT** 88.13 28 P P 03 39 37.8 -0.6
baz=254,SNR=8.6
MENT **Mentasta** 88.28 26 IAmb IAmb 03 39 40.9
comp=Z,24nm,1.1s
MENT **Mentasta** 88.28 26 P P 03 39 39.4 +0.4
MESA **MESA** 88.31 29 P P 03 39 37.8 -1.6
baz=254
PRP **Porcupine Dome** 88.33 23 P P 03 39 37.9 -1.5
baz=251
D24K **Happy Valley** 88.41 19 P P 03 39 38.6 -0.8
baz=248
M26K **Nabesna, AK** 88.44 27 IAmb IAmb 03 39 41.9
comp=Z,37nm,1.6s
M26K **Nabesna, AK** 88.44 27 P P 03 39 38.9 -0.9
baz=254
SCRK **Sand Creek** 88.47 25 IAmb IAmb 03 39 41.7
comp=Z,27nm,1.2s
SCRK **Sand Creek** 88.47 25 P P 03 39 39.2 -0.8
baz=253,SNR=18
G25K **Bearman Lake** 88.52 22 P P 03 39 40.1 +0.1
baz=251,SNR=18
C24K **Franklin Bluff** 88.67 19 P P 03 39 40.2 -0.4
baz=248
CTG **Chitna Glacier** 88.81 28 P P 03 39 41.2 -0.5
baz=255,SNR=12
J26L **Joseph Creek** 88.81 25 IAmb IAmb 03 39 43.5
comp=Z,45nm,1.1s
J26L **Joseph Creek** 88.81 25 P P 03 39 40.9 -0.6
baz=253
M27K **Edge Creek, AK** 88.93 27 P P 03 39 42.0 -0.2
baz=254,SNR=18
LOGN **Logan Glacier** 88.93 28 IAmb IAmb 03 39 44.4
comp=Z,23nm,0.9s
F25K **Christian Rive** 88.96 21 P P 03 39 41.6 -0.6
baz=251
PINM **Pinnacle** 89.11 29 P P 03 39 42.2 -0.8
baz=256
L27K **Beaver Creek,** 89.14 26 IAmb IAmb 03 39 45.3
comp=Z,54nm,1.4s
L27K **Beaver Creek,** 89.14 26 P P 03 39 42.7 -0.4
baz=254,SNR=30
E25K **Arctic Village** 89.16 21 P P 03 39 42.8 -0.3
baz=251,SNR=28
I26K **Coal Creek Min** 89.21 24 IAmb IAmb 03 39 44.8
comp=Z,23nm,1.1s
I26K **Coal Creek Min** 89.21 24 P P 03 39 42.6 -0.7
baz=253
D25K **Kavik River** 89.29 20 IAmb IAmb 03 39 45.8
comp=Z,28nm,1.3s
D25K IAMs_20 IAMs_20 04 14 23.3
comp=Z,420nm,18.0s
D25K **Kavik River** 89.29 20 P P 03 39 43.1 -0.6
baz=250
K27K **Chicken** 89.29 25 P P 03 39 43.8 0.0
baz=254
BMAR **Burnt Mountain** 89.30 22 P P 03 39 44.6 +0.8
BCPM **Bancas Point** 89.37 29 IAMs_20 IAMs_20 04 13 49.5
comp=Z,458nm,18.0s
GEYT **Alibeck** 89.38 308 IAmb IAmb 03 39 48.4
comp=Z,25nm,1.2s
GEYT **Alibeck** 89.38 308 P P 03 39 43.5 -1.3
comp=Z,6.2nm,0.9s,baz=84,slow=4.5,SNR=13
comp=Z,6.2nm,0.9s
BVCY **Beaver Creek** 89.40 27 P P 03 39 43.8 -0.5
baz=255,SNR=15
YUK3 **Moose Creek** 89.42 28 P P 03 39 43.8 -0.9
baz=256,SNR=16
PNL **Peninsula** 89.42 30 P P 03 39 46.5 +2.0
PNL **Peninsula** 89.42 30 P P 03 39 44.3 -0.2
baz=257
G26K **Porcupine Rive** 89.45 22 P P 03 39 44.6 +0.2
baz=253
F26K **Sheenjek River** 89.54 21 P P 03 39 45.4 +0.5
baz=252
YUK8 **Steele Glacier** 89.62 28 P P 03 39 44.7 -1.0
baz=256
EGAK **Eagle** 89.88 25 IAmb IAmb 03 39 48.4
comp=Z,40nm,1.2s
EGAK **Eagle** 89.88 25 P P 03 39 46.2 -0.2
baz=255,SNR=29
I27K **Kandik River** 89.91 24 P P 03 39 46.6 0.0
baz=255
C26K **Camden Bay** 89.97 19 P P 03 39 46.8 +0.1
baz=252
O29M **Mount Kennedy** 89.97 29 IAmb IAmb 03 39 49.5
comp=Z,20nm,1.1s
O29M **Mount Kennedy** 89.97 29 P P 03 39 46.6 -0.6
baz=257
H27K **Steamboat Moun** 90.11 23 P P 03 39 47.6 0.0
baz=255
YUK4 **Talbot Arm** 90.16 28 P P 03 39 47.3 -0.9
baz=257,SNR=8.4
YUK6 **Outpost Mounta** 90.21 29 P P 03 39 47.7 -0.7
baz=258
P29M **Windy Craggy** 90.24 30 IAmb IAmb 03 39 50.6
comp=Z,26nm,1.1s
P29M **Windy Craggy** 90.24 30 P P 03 39 47.2 -1.1
baz=258
DAWY **Dawson** 90.45 25 P P 03 39 48.9 -0.3
baz=257,SNR=38
M29M **Somme Creek** 90.49 27 IAmb IAmb 03 39 51.8
comp=Z,23nm,1.1s
M29M **Somme Creek** 90.49 27 P P 03 39 49.3 -0.3
baz=258,SNR=18
I28M **Miner Creek** 90.55 24 IAmb IAmb 03 39 51.8
comp=Z,34nm,1.2s
I28M **Miner Creek** 90.55 24 P P 03 39 49.4 -0.3
baz=256
HYT **Haines Junctio** 90.60 29 IAmb IAmb 03 39 52.2
comp=Z,17nm,0.9s
HYT IAMs_20 IAMs_20 04 14 53.8
comp=Z,509nm,21.0s
HYT **Haines Junctio** 90.60 29 P P 03 39 49.8 -0.3
baz=258,SNR=12
S31K **Pelican** 90.68 32 IAmb IAmb 03 39 52.4
comp=Z,23nm,1.2s
S31K **Pelican** 90.68 32 P P 03 39 50.0 -0.3
baz=259
P30M **Million Dollar** 90.72 30 P P 03 39 50.2 -0.4
baz=259
L29M **L29M** 90.78 27 IAmb IAmb 03 39 53.8
comp=Z,37nm,1.1s
L29M **L29M** 90.78 27 P P 03 39 51.2 +0.4
baz=258
PLBC **Pleasant Camp** 90.89 30 P P 03 39 51.4 +0.2
baz=258
N30M **Aishikik Lake** 90.92 28 P P 03 39 51.1 -0.4
baz=259
SIT **Sitka** 91.00 33 P P 03 39 51.2 -0.5
baz=260
J29N **Klondike Camp** 91.03 25 IAmb IAmb 03 39 54.5
comp=Z,33nm,1.3s
J29N **Klondike Camp** 91.03 25 P P 03 39 51.8 -0.2
baz=258,SNR=12
F28M **Old Crow** 91.09 22 P P 03 39 51.5 -0.6
baz=256,SNR=7.0
K29M **Barlow Dome** 91.20 26 IAmb IAmb 03 39 55.7
comp=Z,32nm,1.1s
K29M **Barlow Dome** 91.20 26 P P 03 39 52.0 -0.8
baz=258
O30N **Mendenhall** 91.27 29 P P 03 39 52.5 -0.6
baz=260,SNR=5.8
M30M **Minto, Yukon** 91.28 27 P P 03 39 52.5 -0.6
baz=259,SNR=13
H29M **Whitestone** 91.35 23 P P 03 39 52.7 -0.6
baz=258
SKAG **Skagway** 91.41 30 IAmb IAmb 03 39 55.9
comp=Z,25nm,1.2s
SKAG **Skagway** 91.41 30 P P 03 39 55.4 +1.7
SKAG **Skagway** 91.41 30 P P 03 39 53.6 0.0
baz=260,SNR=5.4
S32K **Killisnoo** 91.47 32 P P 03 39 53.4 -0.6
baz=261
ARU **Arti** 91.82 326 P P 03 39 54.0 -1.7
ARU IAmb IAmb 03 39 56.4
comp=Z,38nm,1.3s

ARU **Arti** 91.82 326 *c i* P P 03 39 54.4 -1.3
ARU 03 43 32.9
ARU S SKSac 03 50 26.7 -0.8
ARU pmax pmax
comp=Z,34nm,1.2s
ARU **Arti** 91.82 326 LR LR 04 23 59.1
comp=Z,50nm,18.5s,baz=105,slow=37
WHY **Whitehorse** 91.83 29 P P 03 39 55.3 -0.5
baz=261,SNR=6.8
J30M **Hart River** 91.86 25 P P 03 39 56.0 +0.1
baz=260
MAYO **Mayo, Yukon** 91.87 26 P P 03 39 55.5 -0.3
baz=260
D28M **Stokes Point** 91.89 20 P P 03 39 55.7 0.0
baz=257
I30M **Mount Dempster** 91.96 25 IAmb IAmb 03 39 58.0
comp=Z,23nm,1.3s
I30M **Mount Dempster** 91.96 25 P P 03 39 55.6 -0.7
baz=259
CRAG **Craig** 91.96 35 IAMs_20 IAMs_20 04 15 54.5
comp=Z,485nm,18.0s
CRAG **Craig** 91.96 35 P P 03 39 55.7 -0.6
baz=262
E29M **Blow River** 91.99 21 P P 03 39 56.9 +0.7
baz=258
DIB **Dawson Inlet,** 92.02 37 IAmb IAmb 03 40 01.3
comp=Z,30nm,1.5s
EPYK **Eagle Plains** 92.03 23 IAmb IAmb 03 39 58.3
comp=Z,38nm,1.3s
EPYK **Eagle Plains** 92.03 23 P P 03 39 55.8 -0.7
baz=259,SNR=12
U33K **Whale Pass** 92.05 34 P P 03 39 56.8 +0.1
baz=262
P32M **Atlin** 92.24 30 P P 03 39 57.7 0.0
baz=262
M31M **Drury Creek, Y** 92.31 28 P P 03 39 57.5 -0.4
baz=261,SNR=7.4
G30M **tAoh Zraii Nji** 92.34 23 P P 03 39 57.2 -0.7
baz=260
WRAK **Wrangell Islan** 92.52 34 P P 03 39 58.3 -0.6
baz=263
F30M **Barrier River** 92.62 22 P P 03 39 58.4 -0.8
baz=260
ELIB **Princess Elisa** 92.73 196 *d* P P 03 40 00.3 +0.5
comp=Z,7.7nm,1.4s
ELIB *dx* x 03 40 01.8
N32M **Quiet Lake** 92.78 29 IAmb IAmb 03 40 02.5
comp=Z,16nm,1.2s
N32M **Quiet Lake** 92.78 29 P P 03 39 59.0 -1.1
baz=262
P33M **Teslin, Yukon** 92.78 30 P P 03 40 00.1 -0.1
baz=262,SNR=5.7
V35K **Ketchikan** 92.79 35 IAmb IAmb 03 40 02.7
comp=Z,16nm,1.2s
V35K IAMs_20 IAMs_20 04 09 43.6
comp=Z,535nm,20.0s
V35K **Ketchikan** 92.79 35 P P 03 39 59.9 -0.3
baz=263
FARO **Faro, Yukon** 92.80 28 IAmb IAmb 03 40 02.7
comp=Z,13nm,1.2s
FARO **Faro, Yukon** 92.80 28 P P 03 39 59.8 -0.4
baz=262,SNR=9.4
Q32M **Nakina River** 92.89 31 IAmb IAmb 03 40 02.1
comp=Z,42nm,1.9s
Q32M **Nakina River** 92.89 31 P P 03 40 00.4 -0.4
baz=263
G31M **Satah River** 93.09 23 P P 03 40 00.7 -0.6
baz=261
S34M **Telegraph Cree** 93.36 32 P P 03 40 03.0 +0.3
baz=264
F31M **Tsiigehtchic** 93.37 23 IAmb IAmb 03 40 04.9
comp=Z,21nm,1.4s
F31M **Tsiigehtchic** 93.37 23 P P 03 40 02.5 0.0
baz=262,SNR=8.6
INK **Inuvik** 93.57 22 P P 03 40 05.2 +1.7
INK **Inuvik** 93.57 22 P P 03 40 03.2 -0.2
baz=262
INK **Inuvik** 93.57 22 LR LR 04 17 06.7
comp=Z,240nm,21.7s,baz=188,slow=32
GRNB **Grenville Isla** 93.59 36 IAmb IAmb 03 40 05.9
comp=Z,18nm,1.4s
R33M **Jennings River** 93.61 31 P P 03 40 03.7 -0.3
baz=264
T35M **Bob Quinn** 93.74 33 P P 03 40 04.1 -0.5
baz=264
U35K **Hyder** 93.75 34 P P 03 40 04.3 -0.3
baz=264
DLBC **Dease Lake** 94.00 32 P P 03 40 05.2 -0.5
baz=265
DLBC **Dease Lake** 94.00 32 LR LR 04 15 07.7
comp=Z,305nm,20.5s,baz=282,slow=31
BBB **Bella Bella** 94.56 38 LR LR 04 20 21.0
comp=Z,235nm,18.1s,baz=246,slow=34
WTLY **Watson Lake, Y** 94.77 30 IAmb IAmb 03 40 11.0
comp=Z,30nm,1.4s
WTLY **Watson Lake, Y** 94.77 30 P P 03 40 08.6 -0.6
baz=266
TGTN **Hyland Airport** 95.12 29 P P 03 40 10.9 0.0
baz=266
OZB **Mount Ozzard** 96.03 41 IAMs_20 IAMs_20 04 14 38.9
comp=Z,487nm,19.0s
A36M **Sachs Harbour** 96.64 18 P P 03 40 17.3 -0.1
baz=270
KIRV **Kirov** 96.91 328 LR LR 04 25 15.2
comp=Z,219nm,20.5s,baz=85,slow=36
NLWA **Neilton Lookou** 97.06 43 IAmb IAmb 03 40 22.4
comp=Z,15nm,1.1s
KOTAN **Kotaneelee Air** 97.14 30 P Pdif 03 40 19.3 -0.8
baz=270
WRGLY **Wrigley** 97.41 27 P Pdif 03 40 20.4 -0.7
baz=271
HUMO **Hull Mountain** 97.58 48 IAmb IAmb 03 40 25.2
comp=Z,8.2nm,1.1s
YBH **Yreka Blue Hor** 97.74 49 P P 03 40 22.0 -1.2
YBH **Yreka Blue Hor** 97.74 49 P P 03 40 22.0 -1.2
YBH pmax pmax
comp=Z,6.0nm,1.2s
YBH **Yreka Blue Hor** 97.74 49 LR LR 04 17 02.7
comp=Z,235nm,21.6s,baz=294,slow=31
GNW **Green Mountain** 97.77 43 P Pdif 03 40 22.7 -0.4
MAK **Makhachkala** 97.87 312 *e* P P 03 40 18.2 -5.4
MAK *e* 03 44 18.0
MAK *e* 03 50 53.2
MAK *e* SSS SSS 04 02 14.1
MAK pmax pmax
comp=Z,107nm,1.0s
BELG **Belogornoye** 97.89 322 *i* P Pdif 03 40 23.7 +0.2
BELG pmax pmax
comp=Z,5.0nm,1.0s
BELG **Belogornoye** 97.89 322 LR LR 04 27 32.3
comp=Z,116nm,19.3s,baz=113,slow=37
I05D **Terrebonne, OR** 98.78 46 IAmb IAmb 03 40 29.8
comp=Z,14nm,1.2s
RAYN **Ar Rayn** 98.85 293 P P 03 40 27.4 -1.2
RAYN **Ar Rayn** 98.85 293 P P 03 40 27.4 -1.2
RAYN pmax pmax
comp=Z,6.0nm,1.0s
J05D **Fort Rock, OR** 98.85 47 P 03 40 26.6 -1.7
J05D IAmb IAmb 03 40 30.5
comp=Z,15nm,1.1s
SNAA **Sanae** 98.94 191 *i* P Pdif 03 40 29.2 +1.2
SNAA pmax pmax
comp=Z,6.0nm,1.3s
PINE **Pine Mountain** 99.07 47 IAmb IAmb 03 40 31.6
comp=Z,15nm,1.1s
K05A **Summer Lake** 99.10 48 IAmb IAmb 03 40 31.7
comp=Z,15nm,1.2s
PKM **Mcpherson Peak** 99.88 56 P Pdif 03 40 32.7 -0.5
baz=269
VES **Vestal, Richgr** 100.49 55 P Pdif 03 40 34.9 -0.6
baz=270
NVAR **Mina Array Bea** 101.10 52 P Pdif 03 40 38.6 +0.1
comp=Z,1.3nm,0.9s,baz=262,slow=6.8,SNR=8.4
KBZ **Khabaz** 101.23 313 *i* P Pdif 03 40 39.1 +0.5
KBZ pmax pmax
comp=Z,3.0nm,1.1s
CWC **Cottonwood Cre** 101.30 54 P Pdif 03 40 38.5 -0.8
baz=271
KIV **Kislovodsk** 101.37 313 *e* P Pdif 03 40 39.6 +0.2
KIV pmax pmax
comp=Z,4.0nm,1.1s
EDW2 **Edwards Air Fo** 101.38 56 P Pdif 03 40 38.8 -0.9
baz=270
YKA **Yellowknife Ar** 101.51 28 P Pdif 03 40 38.5 -0.9
comp=Z,0.9nm,0.9s,baz=275,slow=4.8,SNR=9.7
NEW **Newport** 101.59 42 P Pdif 03 40 40.4 +0.1
baz=274

LRMC	Laurel Mtn Rad	101.63	55	P		Pdif	03 40 40.6	-0.2	
	baz=271								
BMO	Blue Mountains	101.65	46	IAMs_20		IAMs_20	04 14 01.2		
	comp=Z,262nm,22.0s								
MPMC	Manual Prospec	101.78	55	P		Pdif	03 40 41.3	-0.2	
	baz=271								
PFO	Pinyon Flats O	102.66	57	P		Pdif	03 40 45.5	+0.1	
	baz=271								
TPFO	Pinon Flats	102.67	57	P		Pdif	03 40 45.8	+0.3	
	baz=271								
MONP2	Monument Peak	102.70	58	P		Pdif	03 40 46.1	+0.3	
	baz=271								
R11B	Troy Canyon, C	103.24	52	P		Pdif	03 40 48.4	+0.4	
	baz=273								
BC3	Big Chuckawall	103.50	57	P		Pdif	03 40 49.6	+0.5	
	baz=272								
IRM	Iron Mountain	103.74	56	P		Pdif	03 40 50.8	+0.7	
	baz=272								
HLID	Hailey	103.81	47	P		Pdif	03 40 51.1	+0.8	
	baz=275								
ARCES	ARCESS Array B	105.09	341	Pdiff		Pdif	03 40 53.2	-2.0	
	comp=Z,4.6nm,1.1s,baz=48,slow=10,SNR=1.7								
DUG	Dugway, Tooele	105.27	50	P		PKiKP	03 45 11.7	+0.7	
	baz=275								
BOZ	Bozeman (W)	105.58	45	P		PKiKP	03 45 12.4	+0.9	
	baz=277								
TUC	Tucson	107.48	58	P		PKiKP	03 45 15.6	+0.3	
	baz=274								
MVCO	Mesa Verde	108.92	53	P		PKiKP	03 45 18.0	0.0	
	baz=277								
ANTO	Ankara	109.09	310	IAMs_20		IAMs_20	04 22 08.6		
	comp=Z,246nm,21.0s								
MNK	Minsk	109.24	326	*i* P		Pdif	03 41 12.2	-1.8	
MNK				*i*			03 52 27.6		
MNK				*i* SP		SP	03 55 12.4	+1.7	
MNK					pmax	pmax			
	comp=Z,4.0nm,0.9s								
MNK					pmax	pmax			
	comp=N,6.0nm,1.0s								
MNK					pmax	pmax			
	comp=E,3.0nm,0.9s								
MNK					MLR	MLR			
	comp=E,107nm,18.0s								
Y22F	Passcal Instru	110.55	56	P		PKiKP	03 45 21.5	+0.4	
	baz=277								
ISCO	Idaho Springs	110.80	50	P		PKiKP	03 45 21.9	+0.3	
	baz=280								
ANMO	Albuquerque	110.83	55	P		PKiKP	03 45 22.1	+0.5	
	baz=277								
RSSD	Black Hills	111.15	45	P		PKiKP	03 45 22.9	+0.9	
	baz=282								
SDCO	Great Sand Dun	111.21	52	P		PKiKP	03 45 23.1	+0.7	
	baz=279								
MNTX	Cornudas Mount	112.11	58	P		PKiKP	03 45 24.4	+0.5	
	baz=276								
T25A	Trinidad	112.17	53	P		PKiKP	03 45 25.2	+1.0	
	baz=279								
MDND	Maddock	113.20	40	P		PKiKP	03 45 26.8	+1.3	
	baz=287								
MSTX	Muleshoe	113.98	56	P		PKiKP	03 45 28.1	+0.5	
	baz=279								
CBKS	Cedar Bluff	115.47	50	P		PKPdf	03 45 31.8	+1.6	
	baz=283								
WMOK	Wichita Mounta	117.09	54	P		PKiKP	03 45 34.8	+1.4	
	baz=282								
KRLC	Kraliky	117.18	324	*e*PKiKP		PKiKP	03 45 33.7	+0.5	
KRLC	Kraliky	117.18	324	*e*PKP		PKiKP	03 45 33.7	+0.5	
MODS	Modra-Piesok	117.58	322	*e*PKiKP		PKiKP	03 45 34.6	+0.6	
MODS	Modra-Piesok	117.58	322	*e*PKP		PKiKP	03 45 34.6	+0.6	
KSU1	Kansas State U	117.76	49	P		PKiKP	03 45 35.9	+1.4	
	baz=286								
PUK	Puka	118.11	315	IAMs_20		IAMs_20	04 46 26.1		
	comp=Z,189nm,21.0s								
EYMN	Ely	118.27	38	P		PKiKP	03 45 36.3	+1.0	
	baz=294								
OK052	Battle Ridge R	118.39	52	IAMs_20		IAMs_20	04 19 59.6		
	comp=Z,384nm,20.0s								
SPMN	Marine on St.	118.50	41	P		PKiKP	03 45 37.5	+1.7	
	baz=292								
WHTX	Lake Whitney,	118.73	57	P		PKiKP	03 45 37.1	+0.4	
	baz=281								
CLL	Collm	118.77	326	*i* PKiKP		PKiKP	03 45 35.9	-0.2	
CLL					pmax	pmax			
	comp=Z,5.0nm,1.1s								
CLL	Collm	118.77	326	*i* PKiKP		PKiKP	03 45 35.9	-0.2	
	comp=Z,5.0nm,1.1s								
CLL					AMS	AMS	04 36 00.0		
	comp=Z,200nm,21.0s								
ZVC	Zvikov	118.97	324	*e*PKP		PKiKP	03 45 36.9	+0.3	
CKRC	Cesky Krumlov	119.18	323	*e*PKiKP		PKiKP	03 45 37.6	+0.5	
CKRC	Cesky Krumlov	119.18	323	*e*PKP		PKiKP	03 45 37.6	+0.5	
TUL3	Leonard	119.21	52	P		PKiKP	03 45 37.7	+0.2	
	baz=285								
SCIA	State Center	119.38	45	P		PKiKP	03 45 38.4	+0.7	
	baz=290								
KHC	Kasperske Hory	119.47	324	*c i*PKiKP		PKPdf	03 45 36.7	-0.9	
KHC					pmax	pmax			
	comp=Z,25nm,2.5s								
KHC	Kasperske Hory	119.47	324	*e*PKP		PKPdf	03 45 37.0	-0.6	
KHC					AMS	AMS	04 40 00.0		
	comp=Z,300nm,23.4s								
GERES	GERESS Array B	119.52	324	PKP		PKiKP	03 45 38.0	+0.2	
	comp=Z,1.7nm,0.9s,baz=20,slow=3.1,SNR=7.3								
BIOA	Bad Ischl, Aus	120.08	323	*e*PKP		PKPdf	03 45 38.2	-0.6	
	baz=2.3nm,0.8s								
S39A	Bolivar	120.63	50	PKPdf		PKiKP	03 45 40.0	-0.2	
LESA	Schwarzleotal	120.78	323	*e*PKP		PKiKP	03 45 40.3	0.0	
	comp=Z,7.0nm,0.9s								
JFWS	Jewell Farm	121.07	43	P		PKiKP	03 45 41.5	+0.5	
	baz=293								
ABTA	Abfaltersbach	121.19	322	*e*PKP		PKiKP	03 45 41.1	0.0	
	comp=Z,9.8nm,1.0s								
STAL	STALIGIAL	121.29	321			PKiKP	03 45 41.0	-0.3	
MIAR	Mount Ida	121.31	53	P		PKiKP	03 45 41.5	-0.2	
	baz=285								
WTTA	Wattenberg	121.48	323	*e*PKP		PKiKP	03 45 41.9	0.0	
	comp=Z,16nm,1.1s								
SQTA	Sankt Quirin	121.76	323	*e*PKiKP		PKiKP	03 45 44.2	+1.9	
	comp=Z,5.4nm,0.9s								
MOTA	Moosalm	121.77	323	*e*PKP		PKiKP	03 45 42.3	-0.1	
	comp=Z,11nm,1.0s								
CCM	Cathedral Cave	122.08	49	P		PKiKP	03 45 43.3	+0.2	
	baz=289								
FETA	Feichten	122.14	323	*e*PKiKP		PKiKP	03 45 45.0	+1.9	
	comp=Z,4.4nm,0.9s								
HDIL	Hopedale	122.63	45	P		PKiKP	03 45 44.3	+0.2	
	baz=292								
LCAR	Lake Charles	122.78	51	PKPdf		PKPdf	03 45 43.7	-0.6	
BFO	Black Forest	122.88	325	*c i*PKiKP		PKiKP	03 45 46.9	+2.5	
L44A	Lake County Fo	122.95	43	P		PKiKP	03 45 44.9	+0.2	
	baz=294								
TUE	Stuetta	123.24	323			PKiKP	03 45 45.0	-0.3	
GLMI	Grayling	123.92	39	P		PKiKP	03 45 47.2	+0.8	
	baz=299								
SFIN	Lafayette	124.24	45	P		PKiKP	03 45 48.0	+0.8	
	baz=294								
PLCA	Paso Flores	124.25	150			PKiKP	03 45 47.1	-0.4	
PLCA	Paso Flores	124.25	150	PKP		PKiKP	03 45 47.6	+0.2	
	comp=Z,4.1nm,0.9s,baz=225,slow=3.6,SNR=12								
PLCA	Paso Flores	124.25	150	*e*P		PKiKP	03 45 47.0	-0.4	
VBMS	Vicksburg	124.40	55	P		PKiKP	03 45 47.9	+0.1	
	baz=286								
OXF	Oxford	124.62	52	P		PKiKP	03 45 48.2	+0.1	
	baz=288								
WVT	Waverly	125.30	50	P		PKiKP	03 45 49.6	+0.1	
	baz=291								
T47A	Sharon Grove	125.54	49	PKPdf		PKiKP	03 45 49.4	-0.5	
O48B	Farmland	125.64	44	P		PKiKP	03 45 50.2	+0.2	
	baz=296								
WCI	Wyandotte Cave	125.67	47	P		PKiKP	03 45 49.8	-0.3	
	baz=293								
AAM	Ann Arbor	125.73	41	P		PKiKP	03 45 51.0	+0.9	
	baz=298								
P49A	Miami Univ. Ec	126.26	45	P		PKiKP	03 45 51.7	+0.4	
	baz=296								
LRAL	Lakeview Retre	126.99	53	P		PKiKP	03 45 53.3	+0.4	
	baz=289								
ACSO	Alum Creek Sta	127.14	43	P		PKiKP	03 45 53.6	+0.6	
	baz=298								
BRAL	Brewton	127.53	55	P		PKiKP	03 45 54.1	+0.1	
	baz=288								
P52A	Corning	128.00	43	P		PKiKP	03 45 54.8	0.0	
	baz=298								
M53A	Wi Miller and	128.10	41	P		PKiKP	03 45 55.2	+0.2	
	baz=300								
ERPA	Erie	128.19	40	P		PKiKP	03 45 54.9	-0.2	
	baz=302								
O53A	New Philadelph	128.33	42	P		PKiKP	03 45 54.6	-0.8	
	baz=299								
TZTN	Tazewell	128.34	48	P		PKiKP	03 45 55.1	-0.4	
	baz=294								
MCWV	Mont Chateau	129.54	42	P		PKiKP	03 45 57.4	-0.4	
	baz=300								
GOGA	Godfrey	129.63	51	P		PKiKP	03 45 57.6	-0.6	
	baz=292								
LONY	Lake Ozonia	129.99	34	P		PKiKP	03 45 59.0	+0.4	
	baz=309								
TIGA	Tifton	130.24	54	P		PKiKP	03 46 00.0	+0.5	
	baz=290								
BLA	Blacksburg	130.31	45	P		PKiKP	03 45 59.7	+0.2	
	baz=298								
SSPA	Standing Stone	130.32	40	P		PKiKP	03 45 59.4	0.0	
	baz=303								
TRQA	Tornquist	130.36	155			PKPdf	03 45 58.4	-0.4	
TRQA	Tornquist	130.36	155	PKIKP		PKPdf	03 45 58.4	-0.4	
KMSC	Kings Mountain	130.56	48	P		PKiKP	03 45 59.9	-0.2	
	baz=295								
BINY	Binghamton	130.63	38	P		PKiKP	03 45 59.9	-0.1	
	baz=306								
LBNH	Lisbon	131.69	33	P		PKiKP	03 46 01.5	-0.5	
	baz=312								
CBN	Corbin Frederi	131.93	43	P		PKiKP	03 46 02.2	-0.5	
	baz=301								
NHSC	New Hope	132.28	50	P		PKiKP	03 46 03.1	-0.4	
	baz=295								
PKME	Peaks-Kenny Pk	132.37	30	P		PKiKP	03 46 02.4	-0.9	
	baz=315								
L61B	Northampton	132.43	35	P		PKiKP	03 46 03.0	-0.5	
	baz=309								
HRV	Adam Dziewonsk	133.03	34	P		PKiKP	03 46 04.5	-0.3	
	baz=311								
CNNC	Cliffs of the	133.04	46	P		PKiKP	03 46 04.7	-0.3	
	baz=298								
DWPF	Disney Wildern	133.13	57	P		PKiKP	03 46 05.0	-0.4	
	baz=289								
M65A	Busby, Falmout	134.16	35	P		PKiKP	03 46 06.8	-0.2	
	baz=311								
PSAL	Palomas, Salto	138.18	154	*e*P		PKiKP	03 46 14.4	-1.3	
OTAV	Otavalo	138.73	97	*e*P		PKPdf	03 46 15.7	+0.1	
PLTB	Pedras Altas	139.18	159	*e*P		PKPdf	03 46 16.0	+0.6	
CPSB	Cacapava Do Su	140.46	158	*e*P		PKiKP	03 46 19.2	-1.1	
SCCA	San Cayetano,	140.65	150	*e*P		PKiKP	03 46 19.6	-1.1	
TICA	Tres Isletas	140.68	147	*e*P		PKiKP	03 46 21.0	+0.1	
TOA0	Torodi Ar. Sit	140.78	283			PKPdf	03 46 17.9	-0.8	
TORD	Torodi Ar. Bea	140.78	283			PKPdf	03 46 18.2	-0.5	
TORD						IAMs_20	IAMs_20	03 46 03.4	
	comp=Z,159nm,20.0s								
TORD	Torodi Ar. Bea	140.78	283	PKhKP		PKPpre	03 46 11.4		
	comp=Z,1.7nm,0.8s,baz=41,slow=2.5,SNR=8.3								
UNIS	Unistalda (Bra	141.01	155	*e*P		PKiKP	03 46 20.3	-1.2	
AZCA	Azaras, Argent	141.47	153	*e*P		PKiKP	03 46 21.3	-1.2	
ALGR	Alto Alegre (B	142.06	158	*e*P		PKPdf	03 46 21.9	+1.0	
CPUP	Villa Florida	142.32	150	PKPdf		PKPdf	03 46 21.7	+0.5	
CPUP	Villa Florida	142.32	150	PKIKP		PKPdf	03 46 21.7	+0.5	
CPUP	Villa Florida	142.32	150	PKP		PKPdf	03 46 22.1	+0.9	
	comp=Z,9.6nm,1.0s,baz=293,slow=1.7,SNR=12								
CPUP	Villa Florida	142.32	150	*e*P		PKPdf	03 46 22.0	+0.8	
LPAZ	La Paz	142.32	127	PKhKP		PKPpre	03 46 18.8		
	comp=Z,1.1nm,0.8s,baz=3.7,slow=6.8,SNR=3.2								
LPAZ	La Paz	142.32	127	*e*P		PKPdf	03 46 21.6	-0.7	
CRSM	Crissiumal (Br	142.82	155	*e*P		PKPdf	03 46 22.3	+0.2	
ESFA	Espinillo Form	142.85	147	*e*P		PKPdf	03 46 21.6	-0.6	
ROSC	El Rosal	143.36	90	PKPdf		PKPbc	03 46 21.8	+0.8	
ROSC	El Rosal	143.36	90	PKIKP		PKPbc	03 46 21.8	+0.8	
ROSC	El Rosal	143.36	90	PKP		PKPbc	03 46 20.9	-0.1	
	comp=Z,8.6nm,0.5s,baz=39,slow=3.2,SNR=17								
CHAP	Chapeco	143.49	156	*e*P		PKPdf	03 46 23.6	+0.3	
TER01	Tubaro-SC	143.63	163	*e*P		PKPdf	03 46 22.4	-1.1	
ITAB	Concordia	143.81	158	PKPdf		PKPbc	03 46 22.3	+0.9	
ITAB	Concordia	143.81	158	*e*P		PKPbc	03 46 21.9	+0.6	
FRBT	Francisco Belt	144.57	155	*e*P		PKPbc	03 46 23.9	+0.1	
SDDR	Presa de Saban	144.81	66	PKPdf		PKPab	03 46 23.9	-0.8	
MCR1	Marechal Candi	145.47	153	*e*P		PKPab	03 46 27.0	0.0	
MURT	Porto Murtinho	145.96	145	*e*P		PKPdf	03 46 27.6	-0.1	
TBTG	Tabatinga, AM	146.04	107	*e*P		PKPdf	03 46 27.4	-0.6	
PTGB	Pitanga	146.09	156	*e*P		PKPbc	03 46 28.4	-0.3	
AMBA	Amambai (Brazi	146.32	150	*e*P		PKPbc	03 46 28.7	-0.7	
ANTJ	Antonio Joao (	146.57	148	*e*P		PKPbc	03 46 29.6	-0.6	
SDV	Santo Domingo	147.09	83			PKPbc	03 46 30.9	-1.2	
SDV	Santo Domingo	147.09	83	*e*P		PKPdf	03 46 29.9	-0.2	
BBRB	Robore, Bolivi	147.16	138	*e*P		PKPdf	03 46 29.8	0.0	
ETMB	Extrema	147.25	119			PKPbc	03 46 31.3	-1.0	
ETMB	Extrema	147.25	119	*e*P		PKPdf	03 46 29.7	-0.4	
BBSD	Serra de San D	147.38	136	*e*P		PKPdf	03 46 29.7	-0.5	
BDQN	Bodoquena, MS	147.41	145	*e*P		PKPdf	03 46 30.4	+0.2	
BBLB	La Banda, Boli	147.53	140	*e*P		PKPdf	03 46 30.7	+0.3	
DBIC	Dimbokro	147.53	273	PKPab		PKPbc	03 46 32.8	-0.3	
DBIC	Dimbokro	147.53	273	PKP2		PKPbc	03 46 32.8	-0.3	
DBIC	Dimbokro	147.53	273	PKPbc		PKPbc	03 46 33.7	+0.6	
	comp=Z,41nm,1.0s,baz=80,slow=2.9,SNR=24								
TRCB	Terra Rica	147.54	153	*e*P		PKPdf	03 46 30.3	-0.1	
LDASE	Londrina, Braz	147.66	156	*e*P		PKPdf	03 46 30.9	+0.4	
AQDB	Aquidauana	147.97	147			PKPbc	03 46 32.8	-1.3	
AQDB	Aquidauana	147.97	147	*e*P		PKPdf	03 46 31.2	+0.1	
PET01	Itanhaem-SP	148.16	163	*e*P		PKPdf	03 46 31.6	+0.3	
FRTB	Fartura	148.29	159	*e*P		PKPdf	03 46 31.7	+0.1	
JIR01	Jirau	148.62	120	*e*P		PKPdf	03 46 32.4	+0.1	
PANT	Pantanal (Braz	148.63	144	*e*P		PKPbc	03 46 34.0	-1.9	
SPB	Sao Paulo	148.77	162	PKPdf		PKPdf	03 46 31.6	-0.7	
SPB	Sao Paulo	148.77	162	*e*P		PKPdf	03 46 33.3	+1.0	
RPRD	Ribas do Rio P	149.02	150	*e*P		PKPdf	03 46 33.6	+0.8	
PCMB	Pacaembu	149.19	154	*e*P		PKPdf	03 46 33.5	+0.4	
VAO	Valinhos	149.47	163	*e*P		PKPdf	03 46 33.9	+0.3	
PARB	Paraibuna	149.52	165	*e*P		PKPdf	03 46 33.0	-0.7	
RVDE	Rio Verde (Bra	149.56	146	*e*P		PKPdf	03 46 35.2	+1.4	
VBST	Vila Bela da S	149.59	133	*e*P		PKPdf	03 46 34.5	+0.7	
PTLB	Pontes e Lacer	149.60	135	*e*P		PKPdf	03 46 33.9	+0.1	
SLP01	Ubatuba-SP	149.65	166	*e*P		PKPdf	03 46 35.2	+1.3	
RCLB	Rio Claro- Sao	149.84	161	*e*P		PKPdf	03 46 34.9	+0.7	
HUMP	Col San Antoni	149.97	64	PKPdf		PKPdf	03 46 32.9	-1.4	
SAML	Samuel	150.29	120	PKPdf		PKPdf	03 46 33.4	-1.6	
SAML	Samuel	150.29	120	PKIKP		PKPdf	03 46 33.4	-1.6	
SAML	Samuel	150.29	120	*e*P		PKPdf	03 46 33.9	-1.1	
MAN01	Angra dos Reis	150.36	168	*e*P		PKPdf	03 46 35.0	+0.1	
POCN	Pocone	150.36	140	*e*P		PKPdf	03 46 35.4	+0.5	
VILB	Vilhena	150.46	130	PKPdf		PKPdf	03 46 35.0	-0.2	
VILB	Vilhena	150.46	130	*e*P		PKPdf	03 46 34.6	-0.6	
PP1B	Ponte de Pedra	150.73	144	*e*P		PKPdf	03 46 35.6	0.0	
BB19B	Bebedouro	150.76	159	*e*P		PKPdf	03 46 35.9	+0.3	
PTET	Porto Estrela	150.99	138	*e*P		PKPdf	03 46 35.4	-0.6	
VAS01	Vassouras-RJ	151.03	169	*e*P		PKPdf	03 46 36.1	+0.2	
TEFE	Tefe	151.24	109	*e*P		PKPdf	03 46 34.8	-1.7	
ITRB	Iturama	151.26	154	*e*P		PKPdf	03 46 36.4	0.0	
DUB01	Friburgo-RJ	151.42	171	*e*P		PKPdf	03 46 36.1	-0.5	
SALV	Santo Antonio	151.55	141	*e*P		PKPdf	03 46 36.3	-0.6	
CAM01	Campos-RJ	151.78	172	*e*P		PKPdf	03 46 38.9	+1.9	
BSCB	Bom Sucesso	151.97	165	*e*P		PKPdf	03 46 38.5	+1.0	
NBRS	Nobres	152.67	139	*e*P		PKPdf	03 46 37.4	-1.2	
DVLD	Doverlandia	153.02	148	*e*P		PKPdf	03 46 39.3	+0.3	
ALF01	Guarapari-ES	153.09	173	*e*P		PKPdf	03 46 38.9	-0.1	
IPMB	Ipameri, GO	153.69	157	*e*P		PKPdf	03 46 39.9	-0.2	
PDRB	Porto dos Gac	153.91	133	*e*P		PKPdf	03 46 39.9	-0.5	
ARAG	Araguaiana, MT	153.97	147	*e*P		PKPdf	03 46 40.1	-0.3	
RIB01	Linhares ES	154.41	174	*e*P		PKPdf	03 46 40.2	-0.8	
DIAM	Diamantina, MG	154.84	166	*e*P		PKPdf	03 46 41.3	-0.5	
SJMB	Sao Joao De Ma	154.91	172	*e*P		PKPdf	03 46 41.8	+0.2	
MACA	Manacapuru-AM	155.05	111	*e*P		PKPdf	03 46 40.5	-1.5	
BDFB	Brasilia	155.87	155	PKPdf		PKPdf	03 46 41.6	-1.6	
BDFB				PKPab		PKPab	03 47 09.0	-0.7	
BDFB	Brasilia	155.87	155	PKIKP		PKPdf	03 46 43.0	-0.1	
BDFB	Brasilia	155.87	155	PKP		PKPdf	03 46 43.0	-0.1	
	comp=Z,4.1nm,1.1s,baz=211,slow=1.4,SNR=4.6								
BDFB				PKPab		PKPab	03 47 10.8	+1.1	
	comp=Z,4.9nm,1.0s,baz=233,slow=3.5,SNR=4.3								
BDFB	Brasilia	155.87	155	*e*P		PKPdf	03 46 43.1	-0.1	
ABR01	Abrolhos, BA	155.88	177	*e*P		PKPdf	03 46 42.8	-0.2	
JANB	Januaria	157.76	162	*e*P		PKPdf	03 46 44.7	-0.8	
NPGB	Novo Progresso	157.83	126	*e*P		PKPdf	03 46 45.2	-0.5	
NBIT	Itapeh - BA	158.84	175	*e*P		PKPdf	03 46 46.8	+0.1	
ITTB	Itaituba	158.97	120	*e*P		PKPdf	03 46 46.8	-0.2	
GDU01	Guandu, BA	160.03	174	*e*P		PKPdf	03 46 48.1	-0.1	
SDBA	SAO DESIDERIO	160.04	158	*e*P		PKPdf	03 46 48.8	+0.5	
MALB	Monte Alegre	161.44	115	*e*P		PKPdf	03 46 49.3	-0.4	
SMTB	Santa Maria do	161.92	146	*e*P		PKPdf	03 46 49.0	-1.2	
NBPN	Ponto Novo - B	162.78	171	*e*P		PKPdf	03 46 51.0	-0.1	
NBLA	Lagarto - SE	162.84	179	*e*P		PKPdf	03 46 51.5	+0.4	
MCPB	Macapa, AP	164.07	114	*e*P		PKPdf	03 46 51.8	-0.5	
NBAN	Anadia - AL	164.10	185	*e*P		PKPdf	03 46 52.2	-0.1	
NBTA	Tacaratu-PE	164.69	178	*e*P		PKPdf	03 46 52.2	-0.7	
NBBL	Bica de Lurdes	164.95	189	*e*P		PKPdf	03 46 52.8	-0.3	
NBCA	Caruaru-PE	165.51	186	*e*P		PKPdf	03 46 53.9	+0.3	
TMAB	Tom-Au,PA,Br	166.39	129	*e*P		PKPdf	03 46 54.3	0.0	
NBLV	Livramento - P	166.44	183	*e*P		PKPdf	03 46 52.9	-1.5	
NBPV	Pedro Velho	167.19	190	*e*P		PKPdf	03 46 52.7	-2.2	

IDC 06 03:48:35.7±1.9, 6.06S×142.45E, h0km, mb3.6/2, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=88.7km s-min=27.5km az=109.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	15.90	209	Pn	Pn	03 52 19.4	-1.6
	0.2nm,0.3s,baz=30,slow=11,SNR=5.3						
WRA				Sn	Sn	03 55 02.7	-15
	0.1nm,0.3s,baz=34,slow=14,SNR=1.7						
WRA				Lg	Lg	03 56 56.5	
	baz=36,slow=26,SNR=3.6						
	0.6nm,0.4s						
ASAR	Alice Springs	19.34	204	P	P	03 53 03.3	+0.4
	0.2nm,0.3s,baz=31,slow=10.0,SNR=29						
ASAR				S	Sn	03 56 30.1	-12
	0.4nm,0.7s,baz=24,slow=16,SNR=1.8						
ASAR				Lg	Lg	03 58 50.3	
	0.1nm,0.3s,baz=225,slow=39,SNR=2.3						
	3.0nm,0.8s						
MKAR	Makanchi Array	74.70	322	P	P	04 00 17.7	+0.3
	0.3nm,0.7s,baz=122,slow=7.0,SNR=2.8						
	0.3nm,0.7s						
ILAR	Eielson Array	87.34	24	P	P	04 01 24.2	-0.1
	0.5nm,0.8s,baz=248,slow=4.8,SNR=5.5						
	0.5nm,0.8s						

IDC 06 04:13:16.9±3.4, 10.24S×161.58E, h64km±25km, mb3.3/3, mbtmp3.8/4, ML4.2/1, MS3.2/2, Error ellipse: s-maj=44.3km s-min=20.6km az=48.0
NEIC 06 04:13:19.8±1.1, 10.5S±0.1×161.2E±0.1, h68km±8km, mb4.1/13, Error ellipse: s-maj=21.4km s-min=4.9km az=222.0

ISC 06 04:13:18.3±0.8, 10.55S±0.09×161.3E±0.1, h61km, n25, σ1s72/27, mb3.9/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	1.71	310		Pn	04 13 44.2	-1.7
HNR				Sn	Sn	04 14 06.0	-0.9
HNR	Honiara	1.71	310	P	Pn	04 13 44.5	-1.4
	9µm,0.3s,baz=158,slow=10,SNR=36						
HNR				S	Sn	04 14 08.0	+1.2
	38µm,0.4s,baz=356,slow=20,SNR=7.9						
HNR				LR	LR	04 14 37.1	
	comp=Z,6µm,18.6s,baz=95,slow=45						
KOUNC	Koumac, New Ca	10.36	164	Pn	Pn	04 15 46.5	+2.3
LIFNC	LIFOU	11.68	151	Pn	Pn	04 16 02.6	+0.4
DZM	Mont Dzumac	12.48	157	Pn	Pn	04 16 15.4	+2.1
DZM	Mont Dzumac	12.48	157	P	Pn	04 16 14.8	+1.5
	1.4nm,0.3s,baz=357,slow=17,SNR=14		

BANI				IAML			04 14 59.0	
	comp=N,45nm,1.9s							
LSP	**Las Mesas**	**1.75**	**120**⇑	*eP*		**Pn**	**04 14 27.5**	**+2.1**
LSP	**Las Mesas**	**1.75**	**120**	*eS*		**Sb**	**04 14 49.5**	**-0.6**
LSP	**Las Mesas**	**1.75**	**120**			**Pn**	**04 14 27.5**	**+2.1**
LSP						**Sb**	**04 14 49.5**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.82**	**125**⇑	*eP*		**Pn**	**04 14 28.5**	**+2.2**
CRPR	**Cabo Rojo, PR**	**1.82**	**125**	*eS*		**Sb**	**04 14 51.4**	**-0.7**
CRPR	**Cabo Rojo, PR**	**1.82**	**125**			**Pn**	**04 14 27.3**	**+1.0**
CRPR				IAML			04 15 00.1	
	comp=E,38nm,4.1s							
CRPR				IAML			04 15 04.2	
	comp=N,36nm,4.2s							
CRPR	**Cabo Rojo, PR**	**1.82**	**125**			**Sb**	**04 14 51.4**	**-0.7**
CRPR	**Cabo Rojo, PR**	**1.82**	**125**	*e*Pg		**Pn**	**04 14 28.2**	**+1.9**
CRPR				*e*Sg		**Sn**	**04 14 49.0**	**+0.6**
CRPR				IAML			04 15 13.2	
	comp=N,52nm,2.4s							
CRPR	**Cabo Rojo, PR**	**1.82**	**125**	*e*Pg		Pb	04 14 38.3	+8.5
MLPR	**Magueyes Islan**	**1.89**	**124**⇓	*eP*		**Pn**	**04 14 29.5**	**+2.1**
MLPR	**Magueyes Islan**	**1.89**	**124**	*eS*		**Sb**	**04 14 53.5**	**-0.7**
MLPR	**Magueyes Islan**	**1.89**	**124**			**Pn**	**04 14 29.0**	**+1.7**
MLPR						**Sb**	**04 14 53.1**	**-1.1**
MLPR	**Magueyes Islan**	**1.89**	**124**	*e*Pg		**Pn**	**04 14 28.9**	**+1.7**
MLPR				*e*Sg		**Sb**	**04 14 52.8**	**-1.4**
MLPR				IAML			04 15 14.4	
	comp=N,44nm,4.5s							
MLPR	**Magueyes Islan**	**1.89**	**124**	*e*Pg		Pb	04 14 39.9	+8.9
AOPR	**Arecibo Observ**	**1.96**	**111**⇑	*eP*		**Pn**	**04 14 29.5**	**+1.2**
AOPR	**Arecibo Observ**	**1.96**	**111**			**Pn**	**04 14 29.3**	**+1.0**
AOPR						**Sb**	**04 14 55.0**	**-1.2**
AOPR	**Arecibo Observ**	**1.96**	**111**	*e*Pg		Pb	04 14 41.9	+10
AOPR				IAML			04 15 37.7	
	comp=N,39nm,4.5s							
OBIP	**Obispado Ponce**	**2.21**	**117**⇑	*eP*		**Pn**	**04 14 32.0**	**+0.3**
OBIP	**Obispado Ponce**	**2.21**	**117**	*eS*		**Sn**	**04 14 59.8**	**+1.8**
OBIP	**Obispado Ponce**	**2.21**	**117**			**Pn**	**04 14 31.8**	**+0.1**
OBIP						**Sb**	**04 15 01.4**	**-2.0**
OBIP				IAML			04 15 17.5	
	comp=E,43nm,4.7s							
OBIP				IAML			04 15 59.0	
	comp=N,39nm,4.5s							
CELP	**Cerrillos**	**2.22**	**116**⇑	*eP*		**Pn**	**04 14 33.5**	**+1.6**
CELP	**Cerrillos**	**2.22**	**116**			**Pn**	**04 14 32.8**	**+1.0**
CELP				IAML			04 15 09.6	
	comp=N,46nm,3.2s							
CELP				IAML			04 15 55.9	
	comp=E,38nm,4.0s							
CELP	**Cerrillos**	**2.22**	**116**	*e*Pg		**Pn**	**04 14 32.9**	**+1.0**
CELP				*e*Sg		**Sb**	**04 15 02.2**	**-1.4**
SDDR	**Presa de Saban**	**2.47**	**269**	Pn		Pn	04 14 30.6	-4.7
SDDR				IAML			04 15 15.2	
	comp=E,35nm,5.0s							
SDDR	**Presa de Saban**	**2.47**	**269**	*e*Pg		**Pb**	**04 14 40.2**	**-0.6**
SDDR				*e*Sg		**Sb**	**04 15 10.4**	**-0.4**
SDDR				IAML			04 15 10.8	
	comp=N,30nm,3.4s							
LOBA2	**Hotel Casa Bon**	**2.48**	**247**	*e*Pg		**Pn**	**04 14 38.1**	**+2.6**
LOBA2				*e*Sg		**Sb**	**04 15 09.9**	**-1.3**
HUMP	**Col San Antoni**	**2.83**	**108**	Pn		**Pn**	**04 14 41.7**	**+1.4**

IDC 06 04:21:18.2±28.0, 21°.85N×147°.11E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=724.8km s-min=53.2km az=172.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy**	**18.62**	**93**	T	T	04 45 17.3	
	baz=274,slow=75,SNR=8.2						
H11N2	**WAKE ISLAND Hy**	**18.62**	**93**	T	T	04 45 13.6	
	baz=274,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**18.64**	**93**	T	T	04 45 14.3	
	baz=274,slow=75,SNR=5.7						
H11S3	**WAKE ISLAND Hy**	**18.68**	**97**	T	T	04 45 11.4	
	baz=279						
H11S1	**WAKE ISLAND Hy**	**18.69**	**97**	T	T	04 45 14.9	
	baz=279						
H11S2	**WAKE ISLAND Hy**	**18.70**	**97**	T	T	04 45 17.7	
	baz=279						
ZALV	**Zalesovo Beam**	**56.37**	**321**	P	P	04 31 01.1	0.0
	0.4nm,0.3s,baz=104,slow=9.1,SNR=1.5						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**57.28**	**312**	P	P	04 31 07.2	-0.5
	0.4nm,0.7s,baz=94,slow=5.9,SNR=2.9						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**59.90**	**317**	P	P	04 31 26.1	+0.2
	0.4nm,0.5s,baz=90,slow=7.7,SNR=7.1						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**60.25**	**27**	P	P	04 31 28.0	-0.1
	1.4nm,1.2s,baz=242,slow=7.8,SNR=3.1						
	1.4nm,1.2s						

IDC 06 04:31:45.2±2.5, 6°.03S×130°.40E, h0km, mb3.6/1, mbtmp3.4/3, ML3.2/2, Error ellipse: s-maj=156.6km s-min=32.5km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.35**	**165**	Pn	Pn	04 35 09.7	0.0
	0.1nm,0.3s,baz=348,slow=13,SNR=5.1						
WRA				Sn	Sn	04 37 36.1	-14
	0.3nm,0.3s,baz=351,slow=19,SNR=9.8						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**17.86**	**169**	P	Pn	04 35 55.3	0.0
	0.1nm,0.3s,baz=343,slow=9.3,SNR=5.4						
ASAR				S	Sn	04 39 02.0	-13
	0.3nm,0.7s,baz=305,slow=36,SNR=3.0						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**67.64**	**326**	P	P	04 42 44.0	0.0
	0.3nm,0.4s,baz=144,slow=5.2,SNR=4.6						
	0.3nm,0.4s						

*IDC **06** 04:36:18.2±5.4, 29°.06N×130°.99E, h0km, mb3.7/5, mbtmp3.8/6, ML3.6/1, Error ellipse: s-maj=123.1km s-min=39.0km az=113.0*
*JMA **06** 04:36:23.8±0.1, 29°.0N±0°.2×130°.8E±0°.6, h67km±2km, MV3.6/28, NEAR AMAMI-OSHIMA ISLAND*
ISC 06 04:36:20.2±1.7, 28°.98N±0°.05×130°.96E±0°.09, h16km±10km, n21, σ1°23/34, mb3.9/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**1.09**	**233**	P	**Pg**	**04 36 42.4**	**+1.0**
JNN	**Nakanoshima**	**1.27**	**312**	*i* P	**Pb**	**04 36 43.9**	**0.0**
JNN				*eS*	**Sb**	**04 36 58.5**	**-1.4**
JYAK	**Yakushimahirau**	**1.31**	**343**	*i* P	**Pg**	**04 36 45.3**	**-0.2**
JYAK				*eS*	**Sb**	**04 37 00.3**	**-0.6**
JAM	**Amami Oshima**	**1.32**	**245**	P	**Pb**	**04 36 44.6**	**+0.1**
JMTN	**Minamitane**	**1.41**	**358**	P	**Pg**	**04 36 47.0**	**-0.4**
JMTN				*eS*	**Sb**	**04 37 04.0**	**+0.2**
JKC	**Kuchinoerabu**	**1.61**	**336**	*eP*	**Pb**	**04 36 49.2**	**-0.5**
JKC				S	**Sn**	**04 37 07.5**	**-1.0**
JTN	**Tanegashima 3**	**1.67**	**1**	*i* P	**Pb**	**04 36 50.5**	**0.0**
JTN				*eS*	**Sn**	**04 37 10.2**	**+0.4**
JAMN	**Amaminishikomi**	**1.73**	**245**	*i* P	**Pb**	**04 36 50.8**	**-0.9**
JAMN				S	**Sn**	**04 37 10.8**	**-0.6**
JTK	**Tokunoshima**	**2.13**	**236**	P	**Pn**	**04 36 56.5**	**+1.3**
JTK				*eS*	**Sn**	**04 37 21.2**	**-0.1**
JTSR	**Tashiro 2**	**2.18**	**359**	P	**Pb**	**04 36 57.9**	**-1.4**
JTSR				*eS*	**Sn**	**04 37 23.1**	**+0.7**
JNAR	**Kushima--Naru**	**2.55**	**6**	*eP*	**Pb**	**04 37 03.5**	**-2.1**
JNAR				*eS*	**Sn**	**04 37 32.6**	**+1.1**
JSU	**Suzuyama**	**2.55**	**350**	P	**Pn**	**04 37 02.2**	**+1.2**
JOKE	**Okinoerabujima**	**2.66**	**233**	P	**Pn**	**04 37 03.4**	**+1.1**
JOKE				*eS*	**Sn**	**04 37 32.8**	**-1.4**
JNKG	**Nichinankitago**	**2.69**	**8**	*i* P	**Pb**	**04 37 05.6**	**-2.5**
JNKG				S	**Sn**	**04 37 35.7**	**+0.6**
JYRO	**Yoronjima**	**2.95**	**229**	P	**Pn**	**04 37 07.4**	**+1.0**
JYRO				S	**Sn**	**04 37 39.1**	**-2.4**
JOW	**Kunigami**	**3.20**	**229**	Pn	**Pn**	**04 37 10.7**	**+0.8**
	12nm,0.3s,baz=133,slow=26,SNR=32						
JOW				Sn	**Sn**	**04 37 44.5**	**-3.1**
	32nm,0.3s,baz=146,slow=24,SNR=17						
	36nm,0.2s						
MKAR	**Makanchi Array**	**41.60**	**309**	P	**P**	**04 44 07.9**	**+0.5**
	0.2nm,0.6s,baz=91,slow=7.8,SNR=2.2						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**44.61**	**314**	P	**P**	**04 44 31.8**	**+0.2**
	0.9nm,0.5s,baz=95,slow=8.5,SNR=6.3						
	0.9nm,0.5s						
BVAR	**Borovoye Array**	**49.89**	**317**	P	**P**	**04 45 12.3**	**-0.5**
	0.4nm,0.4s,baz=95,slow=12,SNR=2.7						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**71.66**	**331**	P	**P**	**04 47 41.4**	**+0.6**
	0.7nm,0.7s,baz=39,slow=7.1,SNR=6.1						
	0.7nm,0.7s						
AKASG	**Malin Array Be**	**75.00**	**320**	P	**P**	**04 48 01.1**	**+0.4**
	0.7nm,0.4s,baz=59,slow=5.6,SNR=4.5						
	0.7nm,0.4s						

*BJI **06** 04:40:02.3±0.0, 6°.70N×94°.07E, h85km, mb4.8/55, mB4.9/26, Ms4.3/7, Ms7 4.1/7*
*IDC **06** 04:40:03.9±0.6, 7°.02N×94°.18E, h69km±4km, mb4.5/32, mbtmp4.8/34, MS3.5/19, Error ellipse: s-maj=13.2km s-min=9.7km az=66.0*
*MOS **06** 04:40:03.2±0.8, 6°.93N×94°.17E, h79km, mb5.0/50, Error ellipse: s-maj=8.0km s-min=3.9km az=109.5*
*DJA **06** 04:40:05.4±0.4, 7°.N±3°×9°.4E±°, h74km±4km, M5.0/27, mB5.4/13, mb5.0/27, MLv5.2/10, Mw(mB)4.9/13*
*NEIC **06** 04:40:05.0±1.0, 6°.95N±0°.08×94°.18E±0°.08, h72km±5km, mb5.1/118, Error ellipse: s-maj=12.2km s-min=10.4km az=47.0*
ISC 06 04:40:04.4±0.4, 6°.96N±0°.04×94°.13E±0°.04, h75km±2km, h75km:pP-P, n591, σ1s20/624, mb5.0/177, 23C-23D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.28**	**121**	Pn	**Pn**	**04 40 55.0**	**+1.5**
LHMI	**Lhok Sumawe**	**3.28**	**121**	P	**Pn**	**04 40 55.4**	**+1.9**
LHMI	**Lhok Sumawe**	**3.28**	**121**	P	**Pn**	**04 40 55.0**	**+1.5**
MLSI	**Meulaboh, Aceh**	**3.50**	**140**	P	**Pn**	**04 40 57.0**	**+0.5**
KCSI	**Kotacane, Aceh**	**4.98**	**133**	P	**Pn**	**04 41 16.8**	**+0.1**
SRIT	**Nakonsritamara**	**5.66**	**73**	Pn	**Pn**	**04 41 26.8**	**+0.8**
DGPR	**DIGLIPUR**	**6.29**	**349**	*eP*	**Pn**	**04 41 35.0**	**+0.4**
DGPR				*eS*	**Sn**	**04 42 42.6**	**-2.5**
PSI	**Prapat**	**6.31**	**131**	P	**Pn**	**04 41 36.6**	**+1.6**
PSI	**Prapat**	**6.31**	**131**	P	**Pn**	**04 41 36.1**	**+1.1**
RPSI	**Rantau Prapat**	**6.38**	**131**	Pn	**Pn**	**04 41 36.1**	**+0.2**
SKLT	**Songkhla**	**6.44**	**88**	P	Pn	04 41 40.9	+4.3
GSI	**Gunungsitoli**	**6.58**	**148**	Pn	**Pn**	**04 41 35.0**	**-3.6**
GSI	**Gunungsitoli**	**6.58**	**148**	P	**Pn**	**04 41 37.2**	**-1.4**
	85nm,0.7s,8µm0.5nm						
KULM	**Kulim**	**6.69**	**104**	Pn	**Pn**	**04 41 38.5**	**-1.5**
IPM	**Ipoh**	**7.29**	**109**	Pn	**Pn**	**04 41 48.4**	**+0.1**
PBSI	**Pulau Batu**	**8.10**	**149**	P	**Pn**	**04 41 58.1**	**-1.2**
	109nm,1.2s,0.6nm						
SISI	**Saibi**	**9.60**	**149**	P	**Pn**	**04 42 18.0**	**-1.8**
	45nm,0.7s						
PDSI	**Padang**	**10.05**	**141**	P	**Pn**	**04 42 24.0**	**-2.0**
	27nm,0.5s,6µm						
NAYO	**Nakonayok**	**10.16**	**43**	P	**Pn**	**04 42 30.4**	**+2.9**
MYKOM	**Kota Tinggi**	**10.96**	**117**	Pn	**Pn**	**04 42 38.5**	**0.0**
CM31	**Chiang Mai Arr**	**12.35**	**22**		**Pn**	**04 42 57.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**12.35**	**22**	Pn	**Pn**	**04 42 59.7**	**+2.3**
CMAR	**Chiang Mai Arr**	**12.35**	**22**	P	**Pn**	**04 42 59.7**	**+2.3**
CMAR	**Chiang Mai Arr**	**12.35**	**22**	P	**Pn**	**04 42 57.8**	**+0.4**
	7.9nm,0.6s,baz=209,slow=13,SNR=21						
CMAR				LR	LR	04 47 55.8	
	comp=Z,124nm,19.0s,baz=210,slow=38						
CHTO	**Chiang Mai**	**12.68**	**21**	Pn	**Pn**	**04 43 02.3**	**+0.5**
CHTO	**Chiang Mai**	**12.68**	**21**	P	**Pn**	**04 43 02.3**	**+0.5**
PALK	**Pallekele**	**13.33**	**272**	Pn	**Pn**	**04 43 11.6**	**+1.0**
PALK	**Pallekele**	**13.33**	**272**	*i* P	**Pn**	**04 43 11.6**	**+1.0**
PALK	**Pallekele**	**13.33**	**272**	P	**Pn**	**04 43 11.3**	**+0.7**
	6.0nm,0.3s,baz=198,slow=9.4,SNR=16						
PALK				S	Sn	04 45 25.8	-11
	14nm,0.3s,baz=302,slow=23,SNR=13						
PALK				LR	LR	04 47 46.2	
	comp=Z,171nm,22.0s,baz=198,slow=35						
MNAI	**Manna**	**14.28**	**142**	P	**Pn**	**04 43 21.1**	**-1.9**
	212nm,1.3s						
MNAI	**Manna**	**14.28**	**142**	P	**Pn**	**04 43 20.2**	**-2.8**
MDRS	**Chennai**	**14.96**	**295**	*eP*	**P**	**04 43 33.4**	**-2.1**
VIS	**Vishakhapatnam**	**15.02**	**316**	*eP*	**Pn**	**04 43 32.7**	**+0.2**
VIS				IAmb	IAmb	04 43 34.8	
	comp=Z,82nm,0.6s						
MND	**Mandalay**	**15.09**	**7**		**Pn**	**04 43 35.2**	**+1.7**
SAIH	**SAIHA**	**15.48**	**356**	*eP*	**Pn**	**04 43 36.2**	**-2.4**
KASI	**Kota Agung**	**16.14**	**140**	P	**Pn**	**04 43 45.4**	**-1.4**
	comp=Z,37nm,0.7s						
VJD	**Vijayawada**	**16.25**	**307**	*ex*	x	04 46 33.3	
AZL	**Aizawl**	**16.74**	**355**	*eP*	**Pn**	**04 43 51.9**	**-2.5**
KOD	**Kodaikanal**	**16.80**	**282**	*eP*	**P**	**04 43 59.9**	**+3.6**
SLVN	**Son La**	**17.13**	**32**		**Pn**	**04 43 59.4**	**+0.3**
IMP	**Imphal**	**17.77**	**359**	*eP*	**P**	**04 44 07.0**	**+0.2**
JHSG	**JHARSUGUGA**	**17.80**	**327**	*ex*	x	04 44 12.4	
HYB	**Hyderabad**	**18.42**	**306**	*eP*	**Pn**	**04 44 15.6**	**+0.7**
HYB	**Hyderabad**	**18.42**	**306**	*eP*	**Pn**	**04 44 15.2**	**+0.4**
BOK	**Bokaro**	**18.52**	**336**	*eP*	**P**	**04 44 16.1**	**+1.2**
BOK				IAmb	IAmb	04 44 18.5	
	comp=Z,88nm,0.4s						
SHL	**Shillong**	**18.63**	**354**	*eP*	**P**	**04 44 13.7**	**-2.6**
SHL				IVmB_BB		04 44 24.2	
	comp=Z,259nm,0.2s						
KOHI	**KOHIMA**	**18.66**	**360**	*eP*	**P**	**04 44 16.7**	**+0.2**
LEM	**Lembang**	**19.20**	**135**	LR	LR	04 51 31.0	
	comp=Z,201nm,20.3s,baz=258,slow=36						
COCO	**West Island**	**19.21**	**172**	P	**Pn**	**04 44 21.5**	**-2.6**
COCO				IAmb	IAmb	04 44 28.2	
	comp=Z,112nm,1.0s						
COCO	**West Island**	**19.21**	**172**	P	**Pn**	**04 44 21.5**	**-2.6**
COCO				pmax	pmax		
	comp=Z,112nm,1.0s						
QIZ	**Qiongzhong**	**19.43**	**50**	P	**P**	**04 44 25.2**	**+0.3**
QIZ				S	**S**	**04 48 01.5**	**+0.7**
QIZ				LR	LR		
	comp=Z,250nm,12.8s						
QIZ				LR	LR		
	comp=Z,170nm,7.5s						
QIZ				LR	LR		
	comp=Z,140nm,10.3s						
BBJI	**Bungbulang**	**19.67**	**136**	P	**P**	**04 44 26.4**	**-1.2**
PZH	**PanZhiHua**	**20.75**	**20**	P	Pn	04 44 42.4	+0.1
PZH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
GTK	**Tadong**	**20.92**	**346**	*eP*	**P**	**04 44 39.5**	**-1.7**
UWJI	**Ujung Watu**	**21.40**	**128**	P	**P**	**04 44 47.3**	**+1.1**
	comp=Z,202nm,0.8s,comp=Z,8µm						
NGJI	**Ngawi**	**22.39**	**129**	P	P	04 45 10.1	+13
GYA	**Guiyang**	**22.77**	**30**⇑	*iP*	**P**	**04 45 02.7**	**+1.8**
GYA				S	**S**	**04 49 09.2**	**+4.9**
GYA				pmax	pmax		
	comp=Z,13nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,4.6s						
LSA	**Lhasa**	**22.80**	**353**	P	**P**	**04 45 00.0**	**-1.5**
LSA				IAmb	IAmb	04 45 03.9	
	comp=Z,63nm,0.9s						
LSA	**Lhasa**	**22.80**	**353**	P	**P**	**04 45 00.0**	**-1.5**
LSA				pmax	pmax		
	comp=Z,63nm,0.9s						
KMMI	**Kalianget**	**24.19**	**125**	P	**P**	**04 45 14.8**	**+0.8**
	comp=Z,54nm,0.8s						
BLJI	**Banyuglugur**	**24.29**	**127**	P	**P**	**04 45 14.8**	**-0.1**
	comp=Z,232nm,0.7s,comp=Z,3µm						
ABJI	**Asem Bagus**	**24.83**	**126**	P	**P**	**04 45 21.0**	**+1.1**
	comp=Z,119nm,0.8s						
JAGI	**Jajag, Banyuwa**	**25.16**	**127**	P	**P**	**04 45 22.3**	**-0.6**
JAGI	**Jajag, Banyuwa**	**25.16**	**127**	P	**P**	**04 45 24.0**	**+1.1**
	comp=Z,27nm,0.8s						
CD2	**Chengdu**	**25.48**	**20**	P	**P**	**04 45 26.2**	**+0.5**
CD2				pmax	pmax		
	comp=Z,30nm,0.4s						
DGAR	**Diego Garcia**	**25.91**	**237**	*i* P	**P**	**04 45 29.6**	**-0.1**
DGAR				pmax	pmax		
	comp=Z,134nm,1.4s						
LGTI	**Lohaghat**	**25.92**	**331**	*eP*	**P**	**04 45 30.9**	**+1.3**
TOLI2	**Tolitoli**	**27.20**	**101**	P	**P**	**04 45 41.2**	**-0.1**
GOMU	**GeErMu**	**29.11**	**1**	P	**P**	**04 45 58.2**	**-0.3**
GOMU				pmax	pmax		
	comp=Z,12nm,0.6s						
LUWI	**Luwuk**	**29.66**	**104**	P	**P**	**04 46 03.9**	**+0.7**
LUWI				IAmb	IAmb	04 46 04.7	
	comp=Z,47nm,0.6s						
DHRM	**DHARAMSHALA**	**30.16**	**329**	*eP*	**P**	**04 46 08.4**	**+0.8**
WHN	**Wuhan**	**30.17**	**36**	P	P	04 46 13.1	+5.6
XAN	**Xi'an**	**30.22**	**25**	P	**P**	**04 46 07.8**	**-0.3**
XAN				S	**S**	**04 50 59.2**	**-3.0**
XAN				pmax	pmax		
	comp=Z,25nm,0.9s						
XAN	**Xi'an**	**30.22**	**25**	P	**P**	**04 46 07.7**	**-0.3**
XAN				pP	**pP**	**04 46 22.7**	**-2.3**
LZH	**Lanzhou**	**30.33**	**16**	⇑P	**P**	**04 46 10.0**	**+0.9**
LZH				pmax	pmax		
	comp=Z,21nm,1.1s						
LYN	**LuoYang**	**32.25**	**29**	⇓P	**P**	**04 46 27.2**	**+1.4**
LYN				pP	pP	04 46 43.4	+0.6
LYN				sP	sP	04 46 54.4	+3.1
LYN				pmax	pmax		
	comp=Z,21nm,0.8s						
LYN				pmax	pmax		
	comp=Z,150nm,3.7s						
GTA	**Gaotai**	**32.71**	**8**	P	**P**	**04 46 30.2**	**+0.2**
GTA				ScP	**ScP**	**04 52 51.0**	**-0.6**
GTA				pmax	pmax		
	comp=Z,17nm,0.6s						
NIL	**Nilore**	**32.85**	**327**	P	**P**	**04 46 31.9**	**+0.8**
NIL	**Nilore**	**32.85**	**327**	P	**P**	**04 46 31.9**	**+0.8**
NIL				pmax	pmax		
	comp=Z,59nm,0.6s						
NIL	**Nilore**	**32.85**	**327**	P	**P**	**04 46 31.6**	**+0.5**
NJ2	**Nanjing**	**33.97**	**39**	*eP*	**P**	**04 46 42.7**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HNS	**HongShan**	**35.62**	**29**	⇑P	**P**	**04 46 56.6**	**+1.7**
HNS				pmax	pmax		
	comp=Z,26nm,0.8s						
KSH	**Kashi**	**36.30**	**336**	P	**P**	**04 47 00.0**	**-0.9**
KSH				S	**S**	**04 52 31.9**	**-4.6**
KSH				pmax	pmax		
	comp=Z,26nm,0.7s						
BTO	**Baotou**	**36.39**	**21**	*eP*	**P**	**04 47 01.1**	**-0.6**
BTO				pP	**pP**	**04 47 19.0**	**+0.1**
BTO				sP	**sP**	**04 47 28.4**	**+1.1**
BTO				PP	**PnPn**	**04 48 27.2**	**+1.0**
BTO				S	**Sn**	**04 52 36.5**	**-1.3**
BTO				SS	**SnSn**	**04 55 06.1**	**-6.7**
BTO				pmax	pmax		
	comp=Z,17nm,0.6s						
BTO				pmax	pmax		
	comp=Z,270nm,4.1s						
BTO				LR	LR		
	comp=Z,190nm,5.0s						
BTO				LR	LR		
	comp=Z,190nm,7.5s						
WUS	**Wushi**	**36.60**	**341**	P	**P**	**04 47 04.0**	**+0.5**
WUS				pP	**pP**	**04 47 18.6**	**-2.6**
WMQ	**Urumqi**	**37.15**	**352**	*eP*	**P**	**04 47 09.5**	**+1.5**
WMQ				pP	pP	04 47 24.2	-1.4
WMQ				pmax	pmax		
	comp=Z,18nm,0.7s						
HHC	**Hu-ho-hao-te**	**37.16**	**22**	*eP*	**P**	**04 47 12.6**	**+4.4**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,76nm,6.1s						
HHC				LR	LR		
	comp=Z,120nm,16.9s						
HHC				LR	LR		
	comp=Z,130nm,16.1s						
HHC				LR	LR		
	comp=Z,140nm,18.2s						
TARG	**Taragay, Kyrgy**	**37.54**	**340**	P	**P**	**04 47 11.9**	**+0.1**
TARG	**Taragay, Kyrgy**	**37.54**	**340**	P	**P**	**04 47 11.9**	**+0.1**
TARG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WSAR	**Wadi Sarin**	**37.76**	**299**	LR	LR	05 01 49.5	
	comp=Z,49nm,19.9s,baz=112,slow=35						
NRN	**Naryn**	**37.93**	**338**	P	**P**	**04 47 15.5**	**+0.5**
NRN	**Naryn**	**37.93**	**338**	P	**P**	**04 47 15.5**	**+0.5**
NRN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
DRK	**Karamyk**	**38.10**	**332**	P	**P**	**04 47 18.3**	**+1.8**
SHLS	**Shalkode**	**38.30**	**343**	*eP*	**P**	**04 47 16.7**	**-1.1**
SHLS				pmax	pmax		
	comp=Z,12nm,1.3s						
SHLS	**Shalkode**	**38.30**	**343**	*eP*	**P**	**04 47 16.8**	**-1.1**
	comp=Z,12nm,1.3s,baz=343						
BJT	**Baijiatuan**	**38.39**	**28**	P	**P**	**04 47 19.8**	**+1.3**
BJT	**Baijiatuan**	**38.39**	**28**	P	**P**	**04 47 19.8**	**+1.3**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BJI	**Beijing**	**38.41**	**28**	P	**P**	**04 47 20.7**	**+2.1**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
UZB	**Uzynbulak**	**38.42**	**342**	*eP*	**P**	**04 47 18.8**	**0.0**
UZB				pmax	pmax		
	comp=Z,12nm,1.3s						
UZB	**Uzynbulak**	**38.42**	**342**	*eP*	**P**	**04 47 18.9**	**0.0**
	comp=Z,12nm,1.3s,baz=342						
GAR	**Garm**	**38.46**	**330**	P	**P**	**04 47 19.7**	**+0.6**
SATY	**Saty**	**38.53**	**341**	*eP*	**P**	**04 47 19.5**	**-0.2**
SATY	**Saty**	**38.53**	**341**	*eP*	**P**	**04 47 19.6**	**-0.2**
	baz=341						
ULHL	**Ulahol**	**38.55**	**339**	P	**P**	**04 47 20.7**	**+0.7**
	SNR=5.4						
ZHN	**Zhinishke**	**38.62**	**342**	*eP*	**P**	**04 47 20.6**	**+0.1**
ZHN	**Zhinishke**	**38.62**	**342**	*eP*	**P**	**04 47 20.7**	**+0.1**
	baz=342						
CHGR	**Chuyangaron**	**38.79**	**328**	P	**P**	**04 47 22.3**	**+0.4**
CHGR				IAmb	IAmb	04 47 22.6

USP Ospenovka 40.08 338 P **P** **04 47 33.5 +1.0**
SNR=24
SGDS Sogindy 40.19 338 *eP* **P** **04 47 33.0 -0.5**
SGDS Sogindy 40.19 338 *eP* **P** **04 47 33.0 -0.5**
baz=338
TDK Taldyqorghan 40.29 343 *eP* **P** **04 47 34.3 0.0**
TDK pmax pmax
comp=Z,8.0nm,0.5s
TDK Taldyqorghan 40.29 343 *eP* **P** **04 47 34.4 +0.1**
comp=Z,7.5nm,0.5s,baz=343
MEEK Meekatharra 40.97 146 P **P** **04 47 41.3 +1.2**
baz=41,SNR=5.7
MK31 Makanchi Array 40.98 348 P **P** **04 47 40.4 +0.5**
MK31 IAmb IAmb 04 47 41.0
comp=Z,15nm,0.8s
MK31 Makanchi Array 40.98 348 *ceP* **P** **04 47 40.1 +0.2**
MKAR Makanchi Array 40.98 348 P **P** **04 47 40.1 +0.3**
comp=Z,16nm,0.6s,baz=166,slow=8.0,SNR=208
MKAR PcP **PcP** **04 49 38.8 0.0**
comp=Z,1.0nm,0.5s,baz=134,slow=4.2,SNR=2.2
MKAR ScP **ScP** **04 53 20.9 -1.1**
comp=Z,1.0nm,1.1s,baz=127,slow=6.2,SNR=2.7
MKAR S **S** **04 53 44.5 -2.0**
comp=Z,0.5nm,0.8s,baz=171,slow=11,SNR=2.2
comp=Z,16nm,0.6s
KNRA Kununurra 41.01 123 P **P** **04 47 38.9 -1.7**
baz=41,SNR=5.4
KNRA Kununurra 41.01 123 P **P** **04 47 38.9 -1.7**
KNRA IAmb IAmb 04 47 39.4
comp=Z,18nm,1.1s
IUG luzhnay 41.03 332 *eP* **P** **04 47 40.5 0.0**
IUG pmax pmax
comp=Z,12nm,0.6s
IUG luzhnay 41.03 332 *eP* **P** **04 47 40.5 0.0**
comp=Z,12nm,0.6s,baz=332
DZA Taraz 41.05 334 *eP* **P** **04 47 40.4 -0.1**
DZA pmax pmax
comp=Z,6.0nm,0.5s
DZA Taraz 41.05 334 *eP* **P** **04 47 40.4 -0.1**
comp=Z,6.3nm,0.5s,baz=334
MAKZ Makanchi 41.06 347 P **P** **04 47 41.0 +0.5**
MAKZ IAmb IAmb 04 47 41.5
comp=Z,18nm,0.6s
MAKZ Makanchi 41.06 347 P **P** **04 47 41.0 +0.5**
MAKZ pmax pmax
comp=Z,18nm,0.6s
MAKZ Makanchi 41.06 347 P **P** **04 47 40.8 +0.3**
MAKZ pP **pP** **04 47 56.1 -2.3**
MAKZ PcP **PcP** **04 49 39.4 +0.4**
ZSN Zaisan 41.12 350 *eP* **P** **04 47 41.4 +0.4**
ZSN Zaisan 41.12 350 *eP* **P** **04 47 41.5 +0.4**
baz=350
MORW Morawa 41.57 151 P **P** **04 47 45.9 +1.0**
baz=42,SNR=4.9
KK31 Karatay Array 41.58 334 P **P** **04 47 45.7 +0.8**
KK31 IAmb IAmb 04 47 46.8
comp=Z,24nm,0.9s
KK31 Karatay Array 41.58 334 *i* P **P** **04 47 45.3 +0.5**
KKAR Karatay Array 41.58 334 P **P** **04 47 45.8 +1.0**
KKAR IAmb IAmb 04 47 46.8
comp=Z,24nm,0.9s
KKAR Karatay Array 41.58 334 P **P** **04 47 45.6 +0.8**
KKAR Karatay Array 41.58 334 P **P** **04 47 45.6 +0.8**
KKAR pmax pmax
comp=Z,24nm,0.9s
MTN Manton Dam 41.70 118 P **P** **04 47 44.3 -1.9**
baz=42,SNR=8.7
MTN Manton Dam 41.70 118 P **P** **04 47 44.6 -1.5**
MTN IAmb IAmb 04 47 44.9
comp=Z,22nm,0.5s
BTLS Baital 41.77 339 *eP* **P** **04 47 46.2 -0.1**
BTLS Baital 41.77 339 *eP* **P** **04 47 46.2 -0.1**
baz=338
BRLS Borolday 41.82 333 *eP* **P** **04 47 45.4 -1.4**
BRLS Borolday 41.82 333 *eP* **P** **04 47 45.4 -1.4**
baz=333
SONM Songino Array 42.05 12 P **P** **04 47 49.1 +0.3**
comp=Z,6.1nm,0.7s,baz=194,slow=8.5,SNR=47
SONM PcP **PcP** **04 49 42.8 +0.4**
comp=Z,3.5nm,0.7s,baz=196,slow=3.8,SNR=8.5
SONM ScP **ScP** **04 53 25.0 -1.5**
comp=Z,2.4nm,0.8s,baz=182,slow=4.4,SNR=12
SONM LR LR 05 06 04.4
comp=Z,72nm,21.5s,baz=208,slow=37
comp=Z,6.1nm,0.7s
ULN Ulaanbaatar 42.23 13 P **P** **04 47 50.7 +0.5**
ULN Ulaanbaatar 42.23 13 *ceP* **P** **04 47 50.2 0.0**
ULN pmax pmax
comp=Z,3.0nm,0.6s
KDU Kakadu 42.81 117 P **P** **04 47 53.6 -1.6**
baz=43,SNR=4.1
JNU Nakatsue 42.86 48 LR LR 05 06 07.0
comp=Z,29nm,21.7s,baz=160,slow=36
DGZ Jazzator, Alta 42.97 354 *eP* **P** **04 47 56.9 +0.7**
DGZ pmax pmax
comp=Z,6.0nm,0.5s
KSRS Korea Array 43.16 40 P **P** **04 47 58.0 +0.3**
comp=Z,2.4nm,0.8s,baz=230,slow=9.4,SNR=6.5
KSRS PcP **PcP** **04 49 46.3 +0.2**
comp=Z,1.3nm,0.6s,baz=224,slow=2.2,SNR=4.2
KSRS LR LR 05 06 54.2
comp=Z,19nm,20.0s,baz=235,slow=37
comp=Z,2.4nm,0.8s
ZAK Zakamensk 43.95 8 *eP* **P** **04 48 03.8 -0.2**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
MUN Mundaring 44.08 153 P **P** **04 48 05.8 +0.6**
baz=44,SNR=3.3
KLBR Kellerberrin 44.48 151 P **P** **04 48 09.0 +0.6**
baz=45,SNR=5.0
GEYT Alibeck 44.88 319 P **P** **04 48 12.4 +0.8**
GEYT IAmb IAmb 04 48 13.5
comp=Z,15nm,0.6s
GEYT Alibeck 44.88 319 P **P** **04 48 13.1 +1.5**
comp=Z,14nm,0.4s,baz=155,slow=8.5,SNR=20
GEYT LR LR 05 08 41.7
comp=Z,48nm,21.0s,baz=141,slow=38
comp=Z,14nm,0.4s
GYA0 ALIBECK ARRAY 44.88 319 P **P** **04 48 13.2 +1.6**
GYA0B ALIBECK ARRAY 44.88 319 P **P** **04 48 12.6 +1.0**
GYA0B IAmb IAmb 04 48 13.7
comp=Z,18nm,0.5s
OTUK Ortayu 45.12 339 P **P** **04 48 13.8 +0.5**
NWAO Narrogin (SRO) 45.34 152 P **P** **04 48 15.8 +0.6**
baz=46,SNR=5.1
NWAO P **P** **04 48 15.8 +0.6**
baz=46,SNR=5.1
KURBB Kurchatov Arra 45.43 346 P **P** **04 48 16.0 +0.4**
KURBB Kurchatov Arra 45.43 346 P **P** **04 48 16.4 +0.8**
comp=Z,15nm,0.7s,baz=178,slow=7.0,SNR=107
KURBB pP **pP** **04 48 31.4 -2.4**
comp=Z,4.6nm,0.4s,baz=172,slow=7.1,SNR=7.0
KURBB PcP **PcP** **04 49 54.2 +0.5**
comp=Z,2.9nm,0.7s,baz=158,slow=2.7,SNR=5.9
KURBB ScP **ScP** **04 53 38.5 -1.5**
comp=Z,1.7nm,0.9s,baz=165,slow=3.7,SNR=7.6
KURBB S **S** **04 54 45.2 -6.1**
comp=Z,0.1nm,0.3s,baz=156,slow=14,SNR=1.5
KURBB LR LR 05 10 31.6
comp=Z,43nm,18.8s,baz=174,slow=40
comp=Z,15nm,0.7s
KURK Kurchatov 45.49 346 P **P** **04 48 17.1 +0.9**
KURK IAmb IAmb 04 48 18.7
comp=Z,41nm,1.2s
KURK Kurchatov 45.49 346 *ceP* **P** **04 48 16.9 +0.8**
KURK pmax pmax
comp=Z,30nm,1.0s
KURK Kurchatov 45.49 346 P **P** **04 48 17.0 +0.9**
KURK pP **pP** **04 48 32.5 -1.8**
KURK PcP **PcP** **04 49 54.2 +0.3**
CN2 Changchun 45.81 32 P **P** **04 48 19.3 +0.6**
CN2 PcP **PcP** **04 49 54.5 -0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
WRKA Warakurna 46.01 135 P **P** **04 48 20.9 +0.2**
baz=46,SNR=33
BRZS Berezniki 46.50 341 *eP* **P** **04 48 24.4 +0.3**
BRZS pmax pmax
comp=Z,8.0nm,0.9s
BRZS Berezniki 46.50 341 *eP* **P** **04 48 24.4 +0.3**
comp=Z,7.7nm,0.9s,baz=341
HIA Hailar 47.36 23 P **P** **04 48 31.5 +0.6**
HIA Hailar 47.36 23 P **P** **04 48 31.5 +0.6**
HIA pmax pmax
comp=Z,8.0nm,0.7s
ZAA0 Zalesovo Array 47.46 353 P **P** **04 48 32.0 +0.6**
ZAA0 IAmb IAmb 04 48 33.1
comp=Z,26nm,0.9s
ZALV Zalesovo Beam 47.46 353 P **P** **04 48 32.0 +0.5**
ZALV Zalesovo Beam 47.46 353 P **P** **04 48 32.0 +0.5**
comp=Z,15nm,0.3s,baz=175,slow=7.3,SNR=97
ZALV pP **pP** **04 48 47.4 -2.3**
comp=Z,10.0nm,0.4s,baz=182,slow=8.1,SNR=9.7
ZALV ScP **ScP** **04 53 46.3 -2.1**
comp=Z,1.1nm,0.7s,baz=168,slow=7.4,SNR=4.3
ZALV S **S** **04 55 17.6 -2.7**
comp=Z,0.4nm,0.3s,baz=157,slow=7.8,SNR=1.9
ZALV LR LR 05 11 30.9
comp=Z,47nm,18.4s,baz=295,slow=40
comp=Z,15nm,0.3s
WB0 Warramunga Arr 47.70 125 P **P** **04 48 33.1 -0.7**
WRA Warramunga Arr 47.74 125 P **P** **04 48 33.4 -0.8**
WRA Warramunga Arr 47.74 125 P **P** **04 48 33.5 -0.7**
comp=Z,18nm,0.6s,baz=306,slow=8.5,SNR=259
WRA PcP **PcP** **04 50 02.8 +0.4**
comp=Z,3.3nm,0.6s,baz=313,slow=2.9,SNR=7.9
WRA ScP **ScP** **04 53 47.4 -2.9**
comp=Z,1.3nm,0.8s,baz=314,slow=3.9,SNR=6.5
WRA S S 04 55 16.4 -8.9
comp=Z,1.1nm,1.0s,baz=303,slow=16,SNR=4.5
comp=Z,18nm,0.6s
WRAB Tennant Creek 47.75 125 P **P** **04 48 33.8 -0.4**
WRAB IAmb IAmb 04 48 34.4
comp=Z,30nm,0.7s
WRAB Tennant Creek 47.75 125 *c i* P **P** **04 48 33.1 -1.1**
WRAB pmax pmax
comp=Z,31nm,0.7s
WB2 Warramunga Arr 47.75 125 P **P** **04 48 33.6 -0.7**
baz=48
WB2 Warramunga Arr 47.75 125 P **P** **04 48 33.8 -0.5**
WR0 Warramunga Arr 47.91 125 P **P** **04 48 35.0 -0.5**
BNX BinXian 48.15 31 ⇓P **P** **04 48 37.6 +0.6**
BNX pmax pmax
comp=Z,11nm,0.7s
BNX pmax pmax
comp=Z,220nm,4.3s
MSHR Mys Shultsa 48.20 37 *i* P **P** **04 48 37.3 -0.1**
MSHR pmax pmax
comp=Z,18nm,1.0s
ASPA Alice Springs 49.34 129 P **P** **04 48 46.0 -0.5**
baz=49
ASAR Alice Springs 49.34 129 P **P** **04 48 46.2 -0.3**
ASAR Alice Springs 49.34 129 P **P** **04 48 46.2 -0.3**
ASAR Alice Springs 49.34 129 P **P** **04 48 46.0 -0.5**
comp=Z,14nm,0.8s,baz=308,slow=7.5,SNR=111
ASAR PcP **PcP** **04 50 07.9 -0.3**
comp=Z,4.4nm,0.7s,baz=307,slow=3.9,SNR=9.5
ASAR ScP **ScP** **04 53 53.8 -3.2**
comp=Z,0.5nm,0.6s,baz=312,slow=4.3,SNR=4.9
ASAR S **S** **04 55 40.6 -7.2**
comp=Z,0.7nm,0.9s,baz=308,slow=16,SNR=4.5
comp=Z,14nm,0.8s
AS31 Alice Springs 49.34 129 P **P** **04 48 46.2 -0.3**
RAYN Ar Rayn 49.46 295 P **P** **04 48 48.1 +0.6**
RAYN Ar Rayn 49.46 295 P **P** **04 48 48.1 +0.6**
RAYN pmax pmax
comp=Z,4.0nm,0.7s
FORT Forrest 49.63 141 P **P** **04 48 49.4 +0.8**
baz=50,SNR=12
FORT Forrest 49.63 141 P **P** **04 48 48.5 -0.1**
MJAR Matsushiro Arr 49.78 47 P **P** **04 48 51.1 +1.5**
comp=Z,3.4nm,0.7s,baz=247,slow=8.1,SNR=5.8
MJAR PcP **PcP** **04 50 09.6 0.0**
comp=Z,4.5nm,0.9s,baz=266,slow=5.0,SNR=4.6
MJAR LR LR 05 11 13.7
comp=Z,31nm,18.6s,baz=250,slow=38
comp=Z,3.4nm,0.7s
BVA0 Borovoye Array 49.85 341 *i* P **P** **04 48 50.1 +0.2**
BVAR Borovoye Array 49.85 341 P **P** **04 48 50.1 +0.2**
comp=Z,23nm,0.7s,baz=146,slow=9.5,SNR=96
BVAR PcP **PcP** **04 50 09.6 +0.2**
comp=Z,3.9nm,0.7s,baz=141,slow=5.7,SNR=3.6
BVAR ScP **ScP** **04 53 57.9 -0.7**
comp=Z,0.6nm,0.5s,baz=124,slow=7.7,SNR=4.2
BVAR S **S** **04 55 51.2 -2.8**
comp=Z,1.5nm,0.7s,baz=150,slow=26,SNR=7.2
comp=Z,23nm,0.7s
BRVK Borovoye 49.91 341 P **P** **04 48 50.8 +0.5**
BRVK IAmb IAmb 04 48 51.6
comp=Z,22nm,0.7s
BRVK Borovoye 49.91 341 *ceP* **P** **04 48 50.6 +0.3**
BRVK pmax pmax
comp=Z,25nm,0.8s
BRVK Borovoye 49.91 341 ⇓P **P** **04 48 50.7 +0.3**
AB31 Akbulak array 51.03 332 *eP* **P** **04 48 59.2 +0.4**
ABKAR Akbulak array 51.03 332 P **P** **04 48 59.7 +0.9**
ABKAR Akbulak array 51.03 332 P **P** **04 48 59.7 +0.9**
ABKAR IAmb IAmb 04 49 00.8
comp=Z,36nm,1.2s
HEH HeiHe 51.32 27 *eP* **P** **04 49 01.4 +0.5**
QIS Mount Isa 52.38 123 P **P** **04 49 08.7 -0.7**
baz=52,SNR=9.2
KLR Kul'dur 52.67 30 *i* P **P** **04 49 11.6 +0.6**
KLR pmax pmax
comp=Z,2.0nm,1.1s
AKTO Aktyubinsk 52.75 332 P **P** **04 49 11.3 -0.3**
BOD Bodaibo 53.04 13 *eP* **P** **04 49 13.8 +0.3**
BOD pmax pmax
comp=Z,11nm,0.8s
GNI Garni 55.07 315 *ceP* **P** **04 49 29.9 +1.0**
GNI pmax pmax
comp=Z,8.0nm,1.3s
MTSU Mount Surprise 55.44 118 P **P** **04 49 31.2 -0.5**
baz=55,SNR=8.2
ASAJ Asahikawa 56.11 41 LR LR 05 15 34.2
comp=Z,54nm,18.4s,baz=80,slow=38
BBOO Buckleboo 56.14 137 P **P** **04 49 36.3 -0.2**
baz=56,SNR=24
BBOO Buckleboo 56.14 137 P **P** **04 49 36.4 0.0**
BBOO IAmb IAmb 04 49 37.0
comp=Z,22nm,0.8s
SVE Sverdlovsk 56.25 339 *c i* P **P** **04 49 37.9 +1.1**
SVE pmax pmax
comp=Z,44nm,0.6s
ARU Arti 56.73 337 P **P** **04 49 40.9 +0.7**
ARU IAmb IAmb 04 49 41.7
comp=Z,21nm,0.7s
ARU Arti 56.73 337 *d i* P **P** **04 49 40.7 +0.5**
ARU *PP **pP** **04 49 56.4 -2.7**
ARU S **S** **04 57 27.3 +0.1**
ARU SS **SS** **05 01 14.7 -1.3**
ARU pmax pmax
comp=Z,22nm,0.7s
ARU Arti 56.73 337 LR LR 05 16 09.5
comp=Z,46nm,19.6s,baz=183,slow=38
KBZ Khabaz 57.76 318 *ceP* **P** **04 49 48.3 +0.6**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 57.76 318 P **P** **04 49 47.3 -0.4**
comp=Z,4.8nm,0.9s,baz=142,slow=7.4,SNR=7.6
KBZ PcP **PcP** **04 50 39.9 +0.2**
comp=Z,3.0nm,0.8s,baz=102,slow=3.5,SNR=4.2
comp=Z,4.8nm,0.9s
CTA Charters Tower 57.87 119 P **P** **04 49 48.6 -0.3**
baz=58
CTA Charters Tower 57.87 119 LR LR 05 19 06.0
comp=Z,42nm,18.2s,baz=278,slow=40
KIV Kislovodsk 57.99 318 *eP* **P** **04 49 49.5 0.0**
KIV pmax pmax
comp=Z,10.0nm,1.0s
HTT Hallett 58.45 136 P **P** **04 49 53.1 +0.3**
baz=58,SNR=5.6
QLP Quilpie 58.89 127 P **P** **04 49 55.7 -0.2**
baz=59,SNR=3.6
BELG Belogornoye 59.08 329 *i* P **P** **04 49 56.9 +0.2**
BELG pmax pmax
comp=Z,2.0nm,0.9s
STKA Stephens Creek 59.48 133 P **P** **04 50 00.1 +0.2**
baz=60,SNR=8.3
STKA Stephens Creek 59.48 133 P **P** **04 50 00.1 +0.2**
STKA Stephens Creek 59.48 133 *i* P **P** **04 49 59.0 -0.9**
STKA Stephens Creek 59.48 133 P **P** **04 49 59.9 -0.1**
comp=Z,8.8nm,0.7s,baz=291,slow=9.7,SNR=14
comp=Z,8.8nm,0.7s
EIL Elat 59.88 300 LR LR 05 19 02.0
comp=Z,47nm,18.1s,baz=248,slow=39
YAK Yakutsk 60.86 18 P **P** **04 50 08.7 -0.1**
YAK Yakutsk 60.86 18 *eP* **P** **04 50 08.3 -0.5**
YAK pmax pmax
comp=Z,14nm,0.6s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,0.9s
VRH Novokhopyorsk 61.67 326 *eP* **P** **04 50 12.5 -1.9**
VRH pmax pmax
comp=Z,10.0nm,0.6s
KIRV Kirov 61.84 335 *ceP* **P** **04 50 15.8 +0.4**
CMSA Cobar Meteorol 62.33 131 P **P** **04 50 20.0 +0.8**
baz=62,SNR=17
NRIK Noril'sk 62.45 357 P **P** **04 50 19.9 +0.5**
NRIK IAmb IAmb 04 50 20.2
comp=Z,13nm,0.6s
NRIK Noril'sk 62.45 357 *ceP* **P** **04 50 19.3 0.0**
NRIK pmax pmax
comp=Z,10.0nm,0.6s
NRIK Noril'sk 62.45 357 P **P** **04 50 19.5 +0.2**
comp=Z,10.0nm,0.5s,baz=133,slow=6.1,SNR=21
comp=Z,10.0nm,0.5s
VORD Divnogorie 62.95 325 *eP* **P** **04 50 20.8 -2.2**
VORD pmax pmax
comp=Z,10.0nm,0.7s
BRTR Keskin Array B 63.02 311 *i* P **P** **04 50 23.2 -0.7**
BRTR pmax pmax
comp=Z,6.0nm,0.7s
BRTR Keskin Array B 63.02 311 P **P** **04 50 23.2 -0.7**
comp=Z,5.3nm,0.7s,baz=126,slow=7.5,SNR=13
BRTR LR LR 05 19 30.9
comp=Z,68nm,21.4s,baz=165,slow=38
comp=Z,5.3nm,0.7s
VSR Storozhevoye 63.13 325 *eP* **P** **04 50 21.5 -2.7**
VSR pmax pmax
comp=Z,8.0nm,0.7s
VORR Voronezh 63.30 325 *eP* P 04 50 19.0 -6.3
VORR pmax pmax
comp=Z,90nm,0.4s
LPSR Galich'ya Gora 63.84 326 *eP* **P** **04 50 27.0 -1.8**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
H04N2 CROZET ISLANDS 64.94 211 T T 06 01 17.6
baz=48,slow=75,SNR=170
H04N1 CROZET ISLANDS 64.95 211 T T 06 01 18.3
baz=48,slow=75,SNR=203
H04N3 CROZET ISLANDS 64.96 211 T T 06 01 15.2
baz=48,slow=75,SNR=192
TOO Toolangi 65.20 137 P **P** **04 50 39.4 +1.4**
baz=65,SNR=4.9
TOO Toolangi 65.20 137 P **P** **04 50 38.3 +0.3**
TOO IAmb IAmb 04 50 40.3
comp=Z,11nm,0.8s
TOO Toolangi 65.20 137 P **P** **04 50 38.3 +0.3**
TOO pmax pmax
comp=Z,11nm,0.8s
H04S3 CROZET ISLANDS 65.35 211 T T 06 01 43.9
baz=96,slow=74,SNR=4.8
H04S2 CROZET ISLANDS 65.36 211 T T 06 01 45.2
baz=49,slow=74,SNR=3.0
OBN Obninsk 66.15 328 ⇓ *eP* **P** **04 50 43.4 -0.3**
OBN *e* 04 51 15.4
OBN *e* 04 53 09.2
OBN *eS* S 04 59 18.7 -7.8
OBN pmax pmax
comp=Z,5.0nm,0.7s
OBN MLR MLR
comp=Z,57nm,16.0s
CAN Canberra 66.55 133 P **P** **04 50 47.5 +0.7**
MA2 Magadan 67.58 27 P **P** **04 50 53.3 +0.5**
MA2 IAmb IAmb 04 50 53.9
comp=Z,25nm,0.7s
MA2 Magadan 67.58 27 *ceP* **P** **04 50 52.7 -0.1**
MA2 pmax pmax
comp=Z,66nm,2.5s
MA2 Magadan 67.58 27 P **P** **04 50 52.0 -0.7**
comp=Z,27nm,0.5s,baz=215,slow=8.2,SNR=7.8
comp=Z,27nm,0.5s
MA2 Magadan 67.58 27 P **P** **04 50 53.2 +0.5**
TIXI Tiksi 68.13 11 P **P** **04 50 55.8 -0.2**
TIXI Tiksi 68.13 11 P **P** **04 50 55.8 -0.2**
TIXI pmax pmax
comp=Z,33nm,0.5s
TIXI Tiksi 68.13 11 P **P** **04 50 55.4 -0.6**
comp=Z,28nm,0.5s,baz=235,slow=5.0,SNR=104
comp=Z,28nm,0.5s
TIXI Tiksi 68.13 11 P **P** **04 50 55.4 -0.6**
MILM Milestii Mici 68.18 318 *eP* **P** **04 50 55.0 -1.8**
comp=Z,9.0nm,0.5s
MILM Milestii Mici 68.18 318 *eP* **P** **04 50 55.0 -1.8**
MILM pmax pmax
comp=Z,9.0nm,0.5s
PETK Petropavlovsk- 68.75 35 P **P** **04 51 00.1 -0.2**
comp=Z,1.8nm,0.9s,baz=283,slow=5.2,SNR=1.1
comp=Z,1.8nm,0.9s
SORM Soroca 68.77 319 ⇓P **P** **04 50 59.8 -0.6**
SORM Soroca 68.77 319 ⇓P **P** **04 50 59.8 -0.6**
MOO Moorlands 68.85 141 P **P** **04 51 02.1 +1.1**
baz=69
AKASG Malin Array Be 68.86 322 P **P** **04 50 59.9 -1.1**
comp=Z,1.3nm,0.5s,baz=92,slow=5.1,SNR=14
comp=Z,1.3nm,0.5s
AKBB Malin Array Si 68.86 322 P **P** **04 51 00.3 -0.6**
AKBB Malin Array Si 68.86 322 *ceP* **P** **04 51 00.2 -0.8**
AKBB pmax pmax
comp=Z,4.0nm,0.9s
KIEV Kiev 68.87 322 ⇑P **P** **04 51 00.3 -0.7**
KIEV Kiev 68.87 322 P **P** **04 51 00.3 -0.7**
KIEV IAmb IAmb 04 51 46.5
comp=Z,31nm,2.0s
KIEV Kiev 68.87 322 ⇑P **P** **04 51 00.3 -0.7**
LSZ Lusaka 68.96 251 P **P** **04 51 02.6 +0.2**
LSZ Lusaka 68.96 251 P **P** **04 51 02.6 +0.2**
LSZ pmax pmax
comp=Z,9.0nm,0.8s
LSZ Lusaka 68.96 251 P **P** **04 51 04.5 +2.2**
VRI Vrincioaia 69.35 316 ⇓P **P** **04 51 05.0 +0.8**
VRI Vrincioaia 69.35 316 ⇓P **P** **04 51 05.0 +0.8**
PLOR Plostina 69.40 316 ⇓P **P** **04 51 05.4 +0.9**
PLOR Plostina 69.40 316 ⇓P **P** **04 51 05.4 +0.9**
TESR Tescani 69.54 317 ⇓P **P** **04 51 05.6 +0.3**
SEY Seymchan 69.76 24 *ceP* **P** **04 51 06.0 -0.3**
SEY pmax pmax
comp=Z,20nm,2.5s
SEY Seymchan 69.76 24 P **P** **04 51 06.2 -0.1**
comp=Z,5.4nm,0.4s,baz=249,slow=14,SNR=21
comp=Z,5.4nm,0.4s
MLR Muntele Rosu 69.82 316 ⇓P **P** **04 51 07.6 +0.5**
MLR Muntele Rosu 69.82 316 P **P** **04 51 08.2 +1.0**
MLR IAmb IAmb 04 51 08.9
comp=Z,15nm,1.2s
MLR Muntele Rosu 69.82 316 P **P** **04 51 08.2 +1.0**
MLR pmax pmax
comp=Z,15nm,1.2s
PLVB Pleven 70.39 314 ⇓P **P** **04 51 11.1 +0.6**
VOIR 70.43 316 ⇓P **P** **04 51 10.9 0.0**
VOIR 70.43 316 ⇓P **P** **04 51 10.9 0.0**
MNK Minsk 70.67 326 *i* P **P** **04 51 12.2 +0.2**
MNK *i* 04 51 32.4
MNK *i* *PP **PcP** **04 51 33.1 +0.5**
MNK *i* *SP **sP** **04 51 42.2 +2.5**
MNK *i* 04 53 49.5
MNK *i* PPP PPP 04 55 32.8
MNK *i* S **S** **05 00 20.7 +0.4**
MNK *i* *SS **sS** **05 00 56.9 +3.2**
MNK pmax pmax
comp=Z,13nm,0.8s
MNK pmax pmax
comp=N,11nm,0.9s
MNK pmax pmax
comp=E,10.0nm,0.9s
ARR Arges 70.70 316 ⇑P **P** **04 51 12.2 -0.3**
BURAR Bucovina Array 70.72 318 ⇓P **P** **04 51 13.2 +0.6**
BURAR Bucovina Array 70.72 318 P **P** **04 51 13.0 +0.5**
BURAR Bucovina Array 70.72 318 ⇓P **P** **04 51 13.2 +0.6**
BUR08 Bucovina Ar. S 70.73 318 P **P** **04 51 13.3 +0.6**
VALR Valaam 71.29 333 *i* P **P** **04 51 15.8 +0.2**
VALR pmax pmax
comp=Z,13nm,0.9s
MARR Marisel-Cluj 71.96 317 ⇓P **P** **04 51 20.8 +0.7**
DRGR 72.26 317 ⇓P **P** **04 51 22.1 +0.2**
DRGR 72.26 317 ⇓P **P** **04 51 22.1 +0.2**
KWP Kalwaria Pacla 72.72 320 P **P** **04 51 25.1 +0.7**
KWP IAmb IAmb 04 52 41.6
comp=Z,32nm,1.7s
KWP Kalwaria Pacla 72.72 320 P **P** **04 51 25.1 +0.7**
KWP pmax pmax
comp=Z,32nm,1.7s
KOLS Kolonicke sedl 72.89 319 *eP* **P** **04 51 26.7 +1.3**
KOLS pmax pmax

comp=Z,6.0nm,0.9s
KOLS Kolonicke sedl 72.89 319 *e*P **P 04 51 26.7 +1.3**
PABE Paberze 73.11 326 *e*P **P 04 51 26.6 +0.1**
FIA1 FINESS Array S 73.51 332 P **P 04 51 29.1 +0.3**
FINES FINESS Array B 73.51 332 P **P 04 51 29.1 +0.2**
comp=Z,5.7nm,0.4s,baz=93,slow=4.9,SNR=84
FINES pP **PcP 04 51 46.0 +1.5**
comp=Z,4.1nm,0.7s,baz=100,slow=7.2,SNR=4.9
comp=Z,5.7nm,0.4s
LBTB Lobatse 73.80 242 P **P 04 51 32.9 +1.5**
LBTB Lobatse 73.80 242 P **P 04 51 32.9 +1.5**
LBTB pmax pmax
comp=Z,10.0nm,0.8s
MTSE Matsula 73.91 329 *e*P **P 04 51 31.5 +0.3**
MEF Metsahovi 73.98 331 *e*P **P 04 51 31.9 +0.3**
PBUR Paburge 74.34 326 *e*P **P 04 51 34.2 +0.5**
OJC Ojcow 74.67 320 *e*P **P 04 51 36.3 +0.5**
OJC Ojcow 74.67 320 P **P 04 51 36.1 +0.3**
OJC IAmb IAmb 04 51 36.8
comp=Z,8.7nm,0.6s
OJC Ojcow 74.67 320 P **P 04 51 36.1 +0.3**
OJC pmax pmax
comp=Z,9.0nm,0.6s
LANS Liptovska Anna 74.74 319 *e*P **P 04 51 37.3 +1.0**
LANS Liptovska Anna 74.74 319 *e*P **P 04 51 37.3 +1.0**
MORH Mrgy, Hungar 74.97 316 ⇓P **P 04 51 37.7 +0.1**
VADS Vadso 75.06 341 *e*P **P 04 51 38.5 +0.8**
VADS IAmb IAmb 04 51 38.7
comp=Z,23nm,1.1s
VYHS Vyhne 75.08 318 *e*P **P 04 51 38.5 +0.2**
VYHS Vyhne 75.08 318 *e*P **P 04 51 38.5 +0.2**
BOSA Boshof 75.09 238 P **P 04 51 40.5 +1.7**
BOSA IAmb IAmb 04 51 41.4
comp=Z,14nm,0.7s
BOSA Boshof 75.09 238 P **P 04 51 40.6 +1.7**
comp=Z,12nm,0.6s,baz=81,slow=4.4,SNR=45
comp=Z,12nm,0.6s
RAF Rauma 75.43 331 *e*P **P 04 51 40.0 +0.1**
MAUC Maruska 75.84 319 *e*P **P 04 51 43.4 +0.8**
MORC Moravsky Berou 76.06 319 ⇑P **P 04 51 44.5 +0.6**
MORC Moravsky Berou 76.06 319 P **P 04 51 44.0 +0.1**
MORC Moravsky Berou 76.06 319 *e*P **P 04 51 44.3 +0.4**
MORC Moravsky Berou 76.06 319 ⇑P **P 04 51 44.5 +0.6**
ARA0 ARCESS Array S 76.12 340 *e*P **P 04 51 44.7 +0.9**
ARA0 IAmb IAmb 04 51 45.0
comp=Z,30nm,1.2s
ARCES ARCESS Array B 76.12 340 P **P 04 51 44.2 +0.4**
comp=Z,1.6nm,0.4s,baz=98,slow=6.6,SNR=49
ARCES LR LR 05 27 58.7
comp=Z,62nm,18.9s,baz=274,slow=38
comp=Z,1.6nm,0.4s
KRLC Kraliky 76.58 320 *e*P **P 04 51 47.9 +1.1**
KRLC Kraliky 76.58 320 *e*P **P 04 51 47.9 +1.1**
VRAC Vranov 76.63 319 *e*P **P 04 51 47.8 +0.7**
KOGS Kog 76.64 316 *i* P **P 04 51 47.6 +0.5**
KRUC Moravsky 76.74 319 *e*P **P 04 51 48.0 +0.3**
KTK1 Kautokeino 76.74 340 *e*P **P 04 51 47.2 -0.1**
KTK1 IAmb IAmb 04 51 48.6
comp=Z,0.1nm,0.2s
DPC Dobruska-Polom 76.90 320 *e*P **P 04 51 49.7 +1.1**
DPC Dobruska-Polom 76.90 320 *e*P **P 04 51 49.7 +1.1**
BILL Bilibino 76.94 22 P **P 04 51 48.3 -0.1**
BILL Bilibino 76.94 22⇑ *e*P **P 04 51 48.6 +0.2**
BILL pmax pmax
comp=Z,7.0nm,1.4s
KSP Ksiaz 76.96 320 *e*P **P 04 51 49.9 +1.1**
KSP Ksiaz 76.96 320 P **P 04 51 49.7 +0.8**
HAMF Hammerfest 77.04 341 *e*P **P 04 51 49.9 +0.9**
HAMF IAmb IAmb 04 51 50.6
comp=Z,15nm,0.9s
ZAVS Zavodnje 77.49 316 *e*P **P 04 51 52.6 +0.6**
SOKA Soboth 77.50 316 *i* P **P 04 51 52.6 +0.5**
comp=Z,3.4nm,0.7s,SNR=4.6
OBKA Obir 77.82 316 *e*P **P 04 51 54.5 +0.6**
comp=Z,3.2nm,0.6s
JETT Jettan, Norway 77.85 340 *e*P **P 04 51 53.7 +0.2**
JETT IAmb IAmb 04 51 55.1
comp=Z,18nm,0.8s
CRNS Crni Vrh 78.00 316 *i* P **P 04 51 55.5 +0.7**
CKRC Cesky Krumlov 78.10 318 *e*P **P 04 51 56.6 +1.3**
CKRC Cesky Krumlov 78.10 318 *e*P **P 04 51 56.6 +1.3**
BSD Bornholm Skovb 78.16 325 *e*P **P 04 51 55.7 +0.3**
GORS Gorjuse 78.19 316 *i* P **P 04 51 56.7 +0.7**
ZVC Zvikov 78.21 319 *e*P **P 04 51 56.4 +0.5**
TRO Tromso 78.38 340 *e*P **P 04 51 56.6 +0.3**
TRO IAmb IAmb 04 51 57.4
comp=Z,10nm,0.8s
MYKA Terra Mystica 78.45 316 *e*P **P 04 51 57.5 +0.2**
comp=Z,7.9nm,1.2s
HOPEN Hopen 78.46 347 *e*P **P 04 51 57.6 +0.9**
HOPEN IAmb IAmb 04 52 01.2
comp=Z,201nm,1.8s
BIOA Bad Ischl, Aus 78.49 317 *e*P **P 04 51 57.7 +0.2**
comp=Z,2.1nm,0.4s
PRED Cave del Predi 78.50 316 P **P 04 51 58.1 +0.5**
GEC2 GERESS Array S 78.50 318 P **P 04 51 58.4 +0.7**
GERES GERESS Array B 78.50 318 P **P 04 51 58.2 +0.6**
comp=Z,5.5nm,0.7s,baz=78,slow=7.0,SNR=23
comp=Z,5.5nm,0.7s
KHC Kasperske Hory 78.59 319 *e*P **P 04 51 58.4 +0.3**
KHC Kasperske Hory 78.59 319 *e*P **P 04 51 58.4 +0.3**
KBA Koelnbreinsper 78.67 317 *i* P **P 04 51 58.6 -0.1**
comp=Z,3.1nm,0.6s
DEL Delary 78.86 326 *i* P P 04 51 53.0 -6.2
STAL STALIGIAL 79.08 316 P **P 04 52 00.9 +0.1**
STAL IAmb IAmb 04 52 01.6
comp=Z,8.2nm,0.6s
LESA Schwarzleotal 79.14 317 *i* P **P 04 52 00.8 -0.3**
comp=Z,7.1nm,0.4s
ABTA Abfaltersbach 79.23 316 *i* P **P 04 52 01.4 -0.3**
comp=Z,3.7nm,0.7s
HFS Hagfors 79.24 330 P **P 04 52 01.6 +0.3**
comp=Z,3.7nm,0.4s,baz=98,slow=6.1,SNR=49
HFS LR LR 05 31 03.2
comp=Z,39nm,18.1s,baz=250,slow=39
comp=Z,3.7nm,0.4s
FAUS Fauske 79.32 337 *e*P **P 04 52 01.9 +0.3**
FAUS IAmb IAmb 04 52 02.5
comp=Z,29nm,0.5s
STEI Steigen 79.42 338 *e*P **P 04 52 02.6 +0.5**
STEI IAmb IAmb 04 52 03.5
comp=Z,14nm,0.7s
MOR8 Moi Rana 79.51 336 *e*P **P 04 52 02.7 0.0**
MOR8 IAmb IAmb 04 52 03.2
comp=Z,20nm,0.9s
WTTA Wattenberg 79.84 317 *i* P **P 04 52 05.1 +0.1**
comp=Z,6.8nm,0.4s
WATA Walderalm 79.88 317 *i* P **P 04 52 04.4 -0.8**
comp=Z,5.4nm,0.5s
KONS Konsvik 80.07 336 *e*P **P 04 52 06.7 +1.1**
KONS IAmb IAmb 04 52 10.2
comp=Z,81nm,1.6s
LOF Lofoten 80.08 338 *e*P **P 04 52 05.6 0.0**
SQTA Sankt Quirin 80.13 317 *e*P **P 04 52 06.3 -0.3**
comp=Z,8.3nm,0.5s,SNR=8.3
MOTA Moosalm 80.20 317 *e*P **P 04 52 06.6 -0.4**
comp=Z,4.4nm,0.6s,SNR=4.3
NC405 NORSAR Array S 80.28 331 P **P 04 52 07.4 +0.5**
NC405 IAmb IAmb 04 54 31.6
comp=Z,45nm,1.6s
NC602 NORSAR Array S 80.35 330 *e*P **P 04 52 07.1 -0.2**
NC602 IAmb IAmb 04 52 08.2
comp=Z,42nm,1.3s
NORES NORESS Array B 80.35 330 P **P 04 52 07.1 -0.2**
NSS Namsos 80.39 334 *e*P **P 04 52 07.8 +0.5**
NSS IAmb IAmb 04 52 09.7
comp=Z,285nm,2.6s
RETA Reutte 80.44 317 *i* P **P 04 52 08.2 0.0**
comp=Z,9.5nm,0.5s,SNR=13
FETA Feichten 80.46 316 *e*P **P 04 52 08.7 +0.3**
comp=Z,2.6nm,0.5s
NB2 NORSAR Subarra 80.52 331 P **P 04 52 05.5 -2.8**
NB2 NORSAR Subarra 80.52 331 P **P 04 52 07.9 -0.4**
comp=Z,1.8nm,0.6s,baz=90,slow=5.9
NB2 NORSAR Subarra 80.52 331 P **P 04 52 07.9 -0.4**
baz=90,slow=5.9
NOA NORSAR Array B 80.52 331 P **P 04 52 07.3 -1.0**
comp=Z,2.3nm,0.7s,baz=94,slow=5.6,SNR=14
NOA LR LR 05 30 42.7
comp=Z,30nm,19.6s,baz=285,slow=38
comp=Z,2.3nm,0.7s
SPB2 Spitsbergen Ar 80.72 348 P **P 04 52 09.7 +0.7**
SPA0 Spitsbergen Ar 80.73 348 *e*P **P 04 52 09.6 +0.6**
SPA0 IAmb IAmb 04 52 10.0
comp=Z,20nm,0.6s
SPITS Spitsbergen Ar 80.73 348 P **P 04 52 09.6 +0.6**
comp=Z,17nm,0.4s,baz=99,slow=10,SNR=148
comp=Z,17nm,0.4s
FUORN Ofenpass-Fuorn 80.78 316 P **P 04 52 10.8 +0.6**
DAVA Damuels 81.04 317 *e*P **P 04 52 11.8 +0.3**
comp=Z,3.0nm,0.6s
KONO Kongsberg 81.28 329 *e*P **P 04 52 11.1 -1.2**
TUE Stuetta 81.41 316 P **P 04 52 13.8 +0.3**
DOMB Dombas 81.58 332 *e*P **P 04 52 14.0 +0.1**
DOMB IAmb IAmb 04 52 14.8
comp=Z,4.0nm,0.6s
KBS Kingsbay 81.71 349 *e*P **P 04 52 14.1 -0.1**
KBS IAmb IAmb 04 52 17.4
comp=Z,47nm,1.6s
KEST Kesra 81.76 305 P **P 04 52 16.7 +1.3**
comp=Z,4.4nm,0.6s,baz=314,slow=3.1,SNR=6.6
comp=Z,4.4nm,0.6s
AKN Aaknes 82.56 332 *e*P **P 04 52 19.4 +0.5**
BLS5 Blasjo 82.88 329 *e*P **P 04 52 21.4 +0.7**
TNA Tin City 87.00 24 P **P 04 52 41.5 +0.3**
baz=280
C16K Lisburne Hills 87.47 21 P **P 04 52 43.9 +0.6**
C16K Lisburne Hills 87.47 21 P **P 04 52 44.0 +0.6**
baz=282
F14K Arctic Creek 87.67 24 P **P 04 52 45.2 +0.8**
baz=282
C17K DeLong Mountai 88.20 21 P **P 04 52 47.6 +0.7**
baz=284
F15K North Star Dit 88.30 24 P **P 04 52 48.4 +1.0**
F15K IAmb IAmb 04 52 48.7
comp=Z,6.1nm,0.7s
F15K North Star Dit 88.30 24 P **P 04 52 47.9 +0.4**
baz=283
D17K Noatak River 88.43 22 P **P 04 52 48.8 +0.8**
baz=284
B18K Kokolik River 88.45 20 P **P 04 52 49.5 +1.5**
baz=286
EKA Eskdalemuir Ar 88.47 325 P **P 04 52 48.9 +0.5**
comp=Z,3.8nm,0.6s,baz=93,slow=5.2,SNR=10
EKA pP **pP 04 53 07.0 -1.4**
comp=Z,1.2nm,0.6s,baz=91,slow=5.7,SNR=1.5
comp=Z,3.8nm,0.6s
C18K Utukok River 88.86 21 P **P 04 52 51.0 +0.9**
C18K Utukok River 88.86 21 P **P 04 52 50.8 +0.7**
baz=286
C19K Lookout Ridge 89.28 20 P **P 04 52 53.4 +1.3**
C19K Lookout Ridge 89.28 20 P **P 04 52 53.3 +1.3**
baz=288
G16K Koyuk River 89.30 24 P **P 04 52 53.1 +1.0**
G16K IAmb IAmb 04 52 53.7
comp=Z,8.3nm,0.8s
G16K Koyuk River 89.30 24 P **P 04 52 53.0 +1.0**
baz=285
E18K Tukpahlearik C 89.42 22 P **P 04 52 53.8 +1.2**
E18K IAmb IAmb 04 52 54.5
comp=Z,9.3nm,0.8s
E18K Tukpahlearik C 89.42 22 P **P 04 52 53.5 +0.9**
baz=287
F17K Baldwin Pennin 89.46 23 P **P 04 52 53.9 +1.1**
F17K IAmb IAmb 04 52 54.8
comp=Z,12nm,0.7s
F17K Baldwin Pennin 89.46 23 P **P 04 52 53.9 +1.1**
baz=286
H16K Elim 89.55 25 P **P 04 52 53.7 +0.4**
baz=285
B20K Meade River 89.80 19 P **P 04 52 55.4 +1.0**
B20K IAmb IAmb 04 52 56.1
comp=Z,6.4nm,0.8s
B20K Meade River 89.80 19 P **P 04 52 55.3 +1.0**
baz=290
G17K Kiwalik Mounta 89.96 24 P **P 04 52 56.0 +0.9**
baz=287
D19K Kuna River 89.99 21 P **P 04 52 56.4 +1.1**
D19K Kuna River 89.99 21 P **P 04 52 56.1 +0.8**
baz=289
F18K Selawik 90.02 23 P **P 04 52 56.4 +1.0**
baz=288
H17K Granite Mounta 90.42 24 P **P 04 52 58.3 +0.9**
H17K IAmb IAmb 04 52 59.1
comp=Z,6.6nm,0.8s
H17K Granite Mounta 90.42 24 P **P 04 52 58.3 +0.9**
baz=287
D20K Etivluk River 90.43 20 P **P 04 52 58.2 +0.8**
baz=290
G18K Tagagawik 90.63 23 P **P 04 52 59.2 +0.9**
baz=288
E19K Redstone River 90.65 21 P **P 04 52 59.3 +1.0**
E19K Redstone River 90.65 21 P **P 04 52 59.2 +0.8**
baz=290
F19K Shaleruckik Mo 90.66 22 P **P 04 52 59.0 +0.6**
F19K IAmb IAmb 04 52 59.8
comp=Z,6.3nm,0.8s
F19K Shaleruckik Mo 90.66 22 P **P 04 52 59.1 +0.6**
baz=289
ELIB Princess Elisa 90.72 197 *d*P **P 04 53 01.5 +2.9**
comp=Z,6.5nm,0.8s
E20K Nigu River 90.74 21 P **P 04 52 59.7 +0.8**
baz=291
B21K Ikpikpuk River 90.77 19 P **P 04 52 59.9 +1.1**
B21K IAmb IAmb 04 53 00.6
comp=Z,9.4nm,0.6s
B21K Ikpikpuk River 90.77 19 P **P 04 52 59.7 +0.9**
baz=292
TORD Torodi Ar. Bea 90.80 283 P **P 04 52 59.6 -0.5**
TORD Torodi Ar. Bea 90.80 283 P **P 04 53 00.4 +0.3**
comp=Z,1.5nm,0.6s,baz=80,slow=5.1,SNR=18
TORD pP **pP 04 53 19.5 -0.9**
comp=Z,0.5nm,0.6s,baz=90,slow=5.1,SNR=2.7
comp=Z,1.5nm,0.6s
B22K Teshekpuk Lake 90.86 18 P **P 04 52 59.9 +0.6**
B22K IAmb IAmb 04 53 00.3
comp=Z,5.0nm,0.7s
B22K Teshekpuk Lake 90.86 18 P **P 04 53 00.1 +0.8**
baz=293
C21K Knifeblade Rid 90.89 20 P **P 04 53 00.5 +1.1**
baz=292
H18K Honhosa River 90.98 24 P **P 04 53 00.6 +0.6**
H18K IAmb IAmb 04 53 01.5
comp=Z,5.9nm,0.8s
H18K Honhosa River 90.98 24 P **P 04 53 00.8 +0.9**
baz=289
G19K Purcell Mounta 91.15 23 P **P 04 53 01.8 +1.0**
G19K Purcell Mounta 91.15 23 P **P 04 53 01.6 +0.9**
baz=290
F20K Avaraart Lake 91.34 22 P **P 04 53 02.5 +1.0**
F20K Avaraart Lake 91.34 22 P **P 04 53 02.2 +0.7**
baz=291
E21K Killik River 91.43 20 P **P 04 53 02.8 +0.8**
E21K IAmb IAmb 04 53 03.4
comp=Z,11nm,0.7s
E21K Killik River 91.43 20 P **P 04 53 02.6 +0.5**
baz=293
H19K Roundabout Mou 91.61 23 P **P 04 53 04.2 +1.3**
H19K Roundabout Mou 91.61 23 P **P 04 53 04.1 +1.3**
baz=290
D22K Ayikyak River 91.69 19 P **P 04 53 04.3 +1.1**
D22K IAmb IAmb 04 53 04.9
comp=Z,8.8nm,0.6s
D22K Ayikyak River 91.69 19 P **P 04 53 04.1 +0.9**
baz=294
K17K Iditarod 91.79 26 P **P 04 53 04.8 +1.0**
K17K IAmb IAmb 04 53 06.1
comp=Z,8.4nm,0.8s
K17K Iditarod 91.79 26 P **P 04 53 05.4 +1.6**
baz=289
ESDC Sonseca Array 91.80 310 P **P 04 53 04.6 +0.2**
comp=Z,3.2nm,0.8s,baz=64,slow=4.2,SNR=18
ESDC pP **pP 04 53 23.2 -1.5**
comp=Z,1.4nm,0.8s,baz=65,slow=4.3,SNR=4.0
comp=Z,3.2nm,0.8s
C23K Itkillik River 91.95 18 P **P 04 53 05.2 +0.9**
C23K Itkillik River 91.95 18 P **P 04 53 05.0 +0.7**
baz=296
F21K Alatna River 92.08 21 P **P 04 53 05.5 +0.5**
F21K IAmb IAmb 04 53 06.4
comp=Z,3.6nm,0.8s
F21K Alatna River 92.08 21 P **P 04 53 05.6 +0.5**
baz=293
J18K Innoko River 92.22 25 P **P 04 53 06.8 +1.0**
baz=290
H20K Anotleneega Mo 92.23 23 P **P 04 53 06.8 +1.0**
baz=292
E22K Anaktuvuk Pass 92.29 20 P **P 04 53 06.6 +0.5**
baz=295
N16K Nishlik Lake 92.30 28 P **P 04 53 07.1 +0.9**
baz=288
D23K Nanushuk River 92.31 19 P **P 04 53 07.1 +1.0**
baz=296
G21K Allakaket 92.36 22 P **P 04 53 07.0 +0.7**
G21K Allakaket 92.36 22 P **P 04 53 06.9 +0.6**
baz=293
IMAR Indian Mountai 92.47 22 P **P 04 53 07.7 +0.9**
J19K Poorman 92.49 24 P **P 04 53 08.0 +1.1**
J19K IAmb IAmb 04 53 09.4
comp=Z,7.7nm,0.9s
J19K Poorman 92.49 24 P **P 04 53 08.0 +1.1**
baz=291
C24K Franklin Bluff 92.59 18 P **P 04 53 08.0 +0.7**
baz=298
I20K Naaghedeneel 92.65 24 P **P 04 53 08.8 +1.2**
I20K Naaghedeneel 92.65 24 P **P 04 53 09.2 +1.6**
baz=292
D24K Happy Valley 92.82 19 P **P 04 53 09.2 +0.8**
D24K Happy Valley 92.82 19 P **P 04 53 09.1 +0.7**
baz=298
G22K Bettles 92.91 21 P **P 04 53 09.5 +0.7**
baz=295
H21K Melozitna Rive 92.96 22 P **P 04 53 10.3 +1.2**
H21K IAmb IAmb 04 53 11.9
comp=Z,8.2nm,1.4s
H21K Melozitna Rive 92.96 22 P **P 04 53 10.4 +1.2**
baz=294
J20K Nowinta River 93.02 24 P **P 04 53 10.6 +1.2**
J20K IAmb IAmb 04 53 11.5
comp=Z,7.8nm,0.6s
J20K Nowinta River 93.02 24 P **P 04 53 10.5 +1.2**
baz=292
E23K Chandalar 93.07 20 P **P 04 53 10.5 +0.9**
baz=297
COLD Coldfoot 93.24 21 P **P 04 53 11.1 +0.8**
baz=296
K20K Telida 93.37 25 P **P 04 53 12.5 +1.4**
K20K Telida 93.37 25 P **P 04 53 12.2 +1.2**
baz=292
H22K Ishtalitna Cre 93.40 22 P **P 04 53 12.8 +1.6**
baz=295
L19K White Mountain 93.48 26 P **P 04 53 13.0 +1.4**
baz=292
D25K Kavik River 93.50 18 P **P 04 53 12.5 +0.9**
D25K Kavik River 93.50 18 P **P 04 53 12.3 +0.7**
baz=300
C26K Camden Bay 93.64 17 P **P 04 53 13.4 +1.3**
baz=301
M19K Big River Lodg 93.79 26 P **P 04 53 14.6 +1.6**
baz=292
L20K Farewell, AK 93.79 26 P **P 04 53 14.4 +1.4**
baz=293
CHUM Lake Minchumin 93.88 24 P **P 04 53 14.9 +1.5**
baz=294
F24K Squaw Lake 93.90 20 P **P 04 53 14.3 +0.9**
F24K Squaw Lake 93.90 20 P **P 04 53 14.4 +0.9**
baz=298
N19K Bonanza Creek 94.16 27 P **P 04 53 15.4 +0.6**
N19K IAmb IAmb 04 53 16.9
comp=Z,12nm,0.8s
N19K Bonanza Creek 94.16 27 P **P 04 53 15.7 +0.9**
baz=292
CAST Castle Rocks 94.17 24 P **P 04 53 15.9 +1.2**
CAST IAmb IAmb 04 53 16.8
comp=Z,6.5nm,0.7s
CAST Castle Rocks 94.17 24 P **P 04 53 16.2 +1.4**
baz=294
O18K Koktuh Hills 94.18 28 P **P 04 53 15.7 +0.8**
baz=291
M20K Styx River 94.35 26 P **P 04 53 16.4 +0.7**
baz=293
E25K Arctic Village 94.37 19 P **P 04 53 16.3 +0.8**
E25K IAmb IAmb 04 53 16.9
comp=Z,2.4nm,0.6s
E25K Arctic Village 94.37 19 P **P 04 53 16.5 +0.9**
baz=301
G24K Hadweenzic Riv 94.44 21 P **P 04 53 16.9 +1.1**
baz=299
O19K Port Alsworth 94.47 28 P **P 04 53 16.7 +0.7**
baz=292
I23K Minto, Yukon-K 94.48 22 P **P 04 53 18.0 +2.0**
baz=297
F25K Christian Rive 94.61 19 P **P 04 53 18.3 +1.6**
baz=301
H24K Noodor Dome 94.71 21 P **P 04 53 19.3 +2.1**
baz=298
NEA2 Nenana 94.85 23 P **P 04 53 19.8 +2.0**
baz=297
G25K Bearman Lake 94.88 20 P **P 04 53 19.0 +1.2**
baz=300
SKT Skwentna 95.00 26 P **P 04 53 18.6 0.0**
F26K Sheenjek River 95.05 19 P **P 04 53 19.6 +0.9**
baz=302
SUA Susitna One 95.56 26 P **P 04 53 21.8 +0.5**
baz=295
G26K Porcupine Rive 95.57 20 P **P 04 53 22.3 +1.3**
baz=302
ILAR Eielson Array 95.59 22 P **P 04 53 20.4 -0.7**
comp=Z,1.0nm,0.6s,baz=303,slow=4.6,SNR=16
ILAR PP **PP 04 57 15.6 +2.9**
comp=Z,0.3nm,0.8s,baz=300,slow=6.7,SNR=4.5
comp=Z,1.0nm,0.6s
M22K Willow 95.70 26 P **P 04 53 22.5 +0.8**
M22K Willow 95.70 26 P **P 04 53 22.1 +0.4**
baz=296
D28M Stokes Point 95.76 17 P **P 04 53 23.1 +1.3**
baz=307
E29M Blow River 96.57 17 P **P 04 53 26.2 +0.6**
E29M IAmb IAmb 04 53 27.3
comp=Z,4.1nm,1.1s
E29M Blow River 96.57 17 P **P 04 53 26.3 +0.8**
baz=308
I26K Coal Creek Min 96.67 21 P **P 04 53 26.5 +0.4**
I26K IAmb IAmb 04 57 16.1
comp=Z,14nm,1.8s
I26K Coal Creek Min 96.67 21 P **P 04 53 26.9 +0.8**
baz=303
H27K Steamboat Moun 96.72 20 P **P 04 53 27.0 +0.7**
baz=304
QSPA South Pole Qui 96.86 180 P **P 04 53 27.6 +0.6**
comp=Z,0.8nm,0.8s,baz=360,slow=1.6,SNR=5.4
comp=Z,0.8nm,0.8s
J26L Joseph Creek 96.96 22 P **P 04 53 27.6 +0.1**
J26L IAmb IAmb 04 53 45.5
comp=Z,11nm,1.8s
J26L Joseph Creek 96.96 22 P **P 04 53 28.0 +0.4**
baz=302
SCRK Sand Creek 97.08 22 P Pdif 04 53 28.6 +0.5
baz=302
A36M Sachs Harbour 97.14 11 P **P 04 53 28.4 +0.3**
A36M Sachs Harbour 97.14 11 P Pdif 04 53 28.6 +0.5
baz=321
F30M Barrier River 97.68 17 P Pdif 04 53 31.4 +0.8
baz=310
I28M Miner Creek 97.71 20 P **P 04 53 31.1 +0.2**
I28M IAmb IAmb 04 56 42.4
comp=Z,13nm,1.8s
I28M Miner Creek 97.71 20 P Pdif 04 53 31.4 +0.5
baz=306
INK Inuvik 97.87 16 P **P 04 53 31.4 0.0**
INK IAmb IAmb 04 53 41.3
comp=Z,15nm,1.8s
INK Inuvik 97.87 16 P **P 04 53 31.4 0.0**
INK pmax pmax
comp=Z,15nm,1.8s
INK Inuvik 97.87 16 P **P 04 53 31.8 +0.5**
baz=312
G30M tAoh Zraii Nji 97.96 18 P **P 04 53 32.1 +0.2**
baz=309
EPYK Eagle Plains 98.19 18 P **P 04 53 33.0 0.0**
EPYK Eagle Plains 98.19 18 P **P 04 53 33.0 0.0**
baz=309
RES Resolute Bay 98.31 2 P Pdif 04 53 34.1 +0.9
RES IAmb IAmb 04 53 35.6
comp=Z,3.6nm,0.9s
RES Resolute Bay 98.31 2 P Pdif 04 53 34.1 +0.8
F31M Tsiigehtchic 98.39 17 P **P 04 53 33.8 +0.1**
baz=312
G31M Satah River 98.58 17 P **P 04 53 34.6 0.0**
baz=311
DAWY Dawson 98.71 21 P **P 04 53 35.6 +0.3**
baz=306
J29N Klondike Camp 98.89 20 P **Pdif 04 53 37.3 +1.2**
baz=307
I30M Mount Dempster 99.03 19 P **Pdif 04 53 36.9 +0.1**
I30M IAmb IAmb 04 55 27.0
comp=Z,14nm,1.9s
I30M Mount Dempster 99.03 19 P **Pdif 04 53 37.0 +0.1**
baz=309

C36M	**Paulatuk**	**99.45**	**13**	P		**Pdif**	**04 53 38.7**	**+0.2**
	baz=322								
YKA	**Yellowknife Ar**	**107.31**	**14**	PP		**PP**	**04 58 40.4**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=335,slow=7.4,SNR=3.9								
SCHQ	**Schefferville**	**116.41**	**348**	PKP		**PKPdf**	**04 58 39.1**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=21,slow=5.0,SNR=7.7								
PLID	**Pearl Lake**	**121.55**	**25**			**PKPdf**	**04 58 49.7**	**-0.3**
ULM	**Lac du Bonnet**	**122.37**	**8**	PKP		**PKPdf**	**04 58 50.3**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=351,slow=2.5,SNR=7.4								
BOZ	**Bozeman (W)**	**122.82**	**21**	P		**PKiKP**	**04 58 52.9**	**+0.4**
	baz=329								
HLID	**Hailey**	**123.45**	**25**	P		**PKiKP**	**04 58 54.4**	**+0.6**
	baz=325								
REDW	**Red Top Meadow**	**125.03**	**22**			**PKPdf**	**04 58 56.7**	**0.0**
NVAR	**Mina Array Bea**	**125.70**	**31**	PKP		**PKiKP**	**04 58 58.8**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=262,slow=2.2,SNR=8.5								
PDAR	**Pinedale Array**	**126.02**	**21**	PKP		**PKPdf**	**04 58 57.8**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=46,slow=2.6,SNR=6.9								
R11B	**Troy Canyon, C**	**127.12**	**29**	P		**PKiKP**	**04 59 02.3**	**+1.0**
	baz=322								
TXAR	**Lajitas Array**	**140.06**	**25**	PKhKP	PKPpre		04 59 16.2		
	comp=Z,0.3nm,0.6s,baz=217,slow=2.0,SNR=3.8								
TXAR				PKP		**PKPdf**	**04 59 26.4**	**+1.3**	
	comp=Z,0.4nm,0.5s,baz=262,slow=0.4,SNR=7.9								
TXAR				SKPbc		**SKPbc**	**05 02 52.5**	**-2.2**	
	comp=Z,0.6nm,0.7s,baz=5.7,slow=1.8,SNR=5.7								
BDFB	**Brasília**	**141.95**	**254**	PKhKP	PKPpre		04 59 23.6		
	comp=Z,1.5nm,0.7s,baz=74,slow=13,SNR=2.5								
PLCA	**Paso Flores**	**143.69**	**200**	PKPdf		**PKPdf**	**04 59 30.4**	**-0.9**
PLCA	**Paso Flores**	**143.69**	**200**	PKIKP		**PKPdf**	**04 59 30.4**	**-0.9**
PLCA	**Paso Flores**	**143.69**	**200**	PKP	PKPbc		04 59 28.7	-0.2	
	comp=Z,3.0nm,0.6s,baz=184,slow=3.1,SNR=18								
PLCA				SKPbc		**SKPbc**	**05 03 01.3**	**-2.2**	
	comp=Z,2.3nm,0.9s,baz=109,slow=4.5,SNR=4.1								
ITQB	**Itaqui**	**144.40**	**227**			**PKPdf**	**04 59 32.4**	**-0.3**
LR05	**Currie**	**144.62**	**198**	PKPdf		**PKPdf**	**04 59 32.4**	**-0.3**
CPUP	**Villa Florida**	**146.69**	**231**			**PKPab**	**04 59 39.1**	**-0.6**
CPUP	**Villa Florida**	**146.69**	**231**	PKPbc		**PKPab**	**04 59 38.9**	**-0.8**
	comp=Z,4.7nm,0.7s,baz=115,slow=4.5,SNR=13								
LPAZ	**La Paz**	**160.32**	**240**	PKP		**PKPdf**	**04 59 57.9**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=244,slow=2.5,SNR=4.7								
LPAZ				PKPab		**PKPab**	**05 00 38.0**	**0.0**	
	comp=Z,1.7nm,0.8s,baz=40,slow=2.0,SNR=3.9								

*IDC **06** 04:53:37.9±0.9,5.74S×142.76E,h0km,mb4.0/6, mbtmp4.0/8,ML1.6/1,MS3.2/1,Error ellipse: s-maj=35.3km s-min=20.6km az=73.0*

ISC 06 04:53:42.8±0.8,6.12S±0.08×142.45E±0.10,h35km,n10, σ2s35/12,mb4.0/6,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.70**	**125**	Pn	**Pn**	**04 55 03.6**	**-1.3**
	1.2nm,0.3s,baz=92,slow=14,SNR=1.4						
PMG				Sn	**Sn**	**04 56 10.0**	**+0.9**
	1.3nm,0.3s,baz=193,slow=19,SNR=1.1						
	5.3nm,0.4s						
CTA	**Charters Tower**	**14.37**	**165**	LR	LR	05 03 28.7	
	comp=Z,7.7nm,18.1s,baz=78,slow=40						
WRA	**Warramunga Arr**	**15.84**	**209**	Pn	**P**	**04 57 24.9**	**-1.7**
	0.4nm,0.3s,baz=26,slow=13,SNR=17						
WRA				Sn	**Sn**	**05 00 16.3**	**-1.5**
	0.4nm,0.3s,baz=22,slow=22,SNR=7.4						
WRA				Lg	Lg	05 02 11.8	
	0.2nm,0.3s,baz=123,slow=8.7,SNR=2.5						
ASAR	**Alice Springs**	**19.28**	**204**	P	**Pn**	**04 58 10.6**	**+4.7**
	8.9nm,0.8s,baz=33,slow=11,SNR=59						
ASAR				S	**S**	**05 01 38.1**	**-3.1**
	1.0nm,0.5s,baz=21,slow=27,SNR=3.9						
ASAR				Lg	Lg	05 04 02.5	
	baz=21,slow=32						
SONM	**Songino Array**	**62.40**	**333**	P	**P**	**05 04 02.5**	**+0.2**
	0.2nm,0.4s,baz=152,slow=6.5,SNR=2.1						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**74.75**	**322**	P	**P**	**05 05 18.9**	**-0.4**
	0.6nm,0.6s,baz=122,slow=6.1,SNR=8.0						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**78.65**	**324**	P	**P**	**05 05 40.7**	**-0.5**
	0.3nm,0.4s,baz=104,slow=6.8,SNR=1.5						
	0.3nm,0.4s						
QSPA	**South Pole Qui**	**83.85**	**180**	P	**P**	**05 06 11.1**	**+2.4**
	1.9nm,0.7s,baz=342,slow=6.4,SNR=12						
	1.9nm,0.7s						
BVAR	**Borovoye Array**	**84.23**	**325**	P	**P**	**05 06 11.2**	**+0.5**
	2.2nm,0.8s,baz=111,slow=6.3,SNR=11						
	2.2nm,0.8s						
ILAR	**Eielson Array**	**87.40**	**24**	P	**P**	**05 06 24.2**	**-1.9**
	1.1nm,0.7s,baz=262,slow=4.8,SNR=21						
	1.1nm,0.7s						

IDC 06 05:04:10.9±2.9,1.51S×134.07E,h0km,mb3.3/2, mbtmp3.4/3,ML3.3/1,MS4.3/1,Error ellipse: s-maj=130.4km s-min=29.9km az=76.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.32**	**179**	P	Pn	05 08 25.6	-1.1
	0.1nm,0.3s,baz=358,slow=12,SNR=5.4						
WRA				LR	LR	05 16 53.7	
	comp=Z,914nm,20.4s,baz=336,slow=42						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**22.03**	**180**	P	P	05 09 07.8	+0.7
	1.0nm,0.6s,baz=7.2,slow=11,SNR=11						
	1.0nm,0.6s						
MKAR	**Makanchi Array**	**66.05**	**324**	P	P	05 14 59.5	-0.2
	0.1nm,0.5s,baz=108,slow=4.7,SNR=2.1						
	0.1nm,0.5s						

*ATH **06** 05:09:58.4,37.79N×23.88E,h9km±2km,ML2.7/6,Error ellipse: s-maj=2.4km s-min=0.9km az=317.0*
*THE **06** 05:09:58.5,37.79N×23.86E,h8km±1km,ML2.6/9,Error ellipse: s-maj=1.6km s-min=0.9km az=325.0*

ISC 06 05:09:57.6±0.9,37.78N±0.03×23.87E±0.03,h13km±7km, n29,σ0s49/46,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATHU	**Athens Univers**	**0.20**	**340**	P	**Pg**	**05 10 02.1**	**+0.1**
ATHU				S	**Sg**	**05 10 04.4**	**-0.6**
	2µm,0.2s						
ATHU	**Athens Univers**	**0.20**	**340**	P	**Pg**	**05 10 02.1**	**+0.1**
ATHU				S	**Sg**	**05 10 04.9**	**-0.1**
ATHU				AML	AML	05 10 04.9	
	comp=E,4132µm,0.3s						
ATHU				AML	AML	05 10 05.2	
	comp=N,3102µm,0.1s						
ATH	**Athens Observa**	**0.22**	**327**	P	**Pb**	**05 10 02.8**	**-0.7**
ATH				S	**Sg**	**05 10 05.4**	**-0.3**
	comp=N,4µm,0.2s						
ATH	**Athens Observa**	**0.22**	**327**	P	**Pb**	**05 10 02.8**	**-0.7**
ATH				S	**Sg**	**05 10 05.8**	**+0.1**
ATH				AML	AML	05 10 06.2	
	comp=E,8803µm,0.3s						
ATH				AML	AML	05 10 06.2	
	comp=N,6522µm,0.2s						
PTL	**Penteli**	**0.27**	**359**	P	**Pb**	**05 10 04.2**	**-0.1**
PTL				S	**Sb**	**05 10 07.8**	**-0.9**
	comp=N,1µm,0.1s						
PTL	**Penteli**	**0.27**	**359**	P	**Pb**	**05 10 04.2**	**-0.1**
PTL				S	**Sg**	**05 10 07.6**	**+0.6**
DION	**Dionisos Attik**	**0.30**	**10**	P	**Pb**	**05 10 04.9**	**+0.1**
DION				S	**Sg**	**05 10 08.4**	**+0.5**
	comp=N,2µm,0.2s						
DION	**Dionisos Attik**	**0.30**	**10**	P	**Pb**	**05 10 04.8**	**0.0**
DION				S	**Sg**	**05 10 08.7**	**+0.8**
DION				AML	AML	05 10 09.0	
	comp=N,2419µm,0.3s						
DION				AML	AML	05 10 10.4	
	comp=E,3529µm,0.2s						
YDRA	**Hydra**	**0.54**	**217**	P	**Pb**	**05 10 08.7**	**-0.1**
YDRA				S	**Sb**	**05 10 16.6**	**0.0**
YDRA				AML	AML	05 10 18.4	
	comp=E,7022µm,0.3s						
YDRA				AML	AML	05 10 18.9	
	comp=N,3506µm,0.2s						
VILL	**Villia**	**0.58**	**311**	P	**Pb**	**05 10 09.5**	**-0.2**
VILL				S	**Sb**	**05 10 17.9**	**0.0**
	comp=N,680nm,0.2s						
VIL2	**Platees**	**0.64**	**312**	P	**Pg**	**05 10 09.4**	**-0.6**
VIL2				S	**Sg**	**05 10 17.3**	**-1.2**
VIL2				AML	AML	05 10 21.3	
	comp=E,1110µm,0.2s						
VIL2				AML	AML	05 10 24.6	
	comp=N,1064µm,0.3s						
KRND	**KRANIDI**	**0.70**	**235**	P	**Pb**	**05 10 11.5**	**-0.1**
KRND				S	**Sb**	**05 10 21.2**	**+0.1**
	comp=N,482nm,0.3s						
KRND	**KRANIDI**	**0.70**	**235**	P	**Pb**	**05 10 11.4**	**-0.1**
KRND				S	**Sb**	**05 10 21.8**	**+0.7**
KYMI	**Kymi, Euboea I**	**0.87**	**12**	P	**Pb**	**05 10 14.6**	**+0.1**
KYMI	**Kymi, Euboea I**	**0.87**	**12**	P	**Pb**	**05 10 14.5**	**0.0**
KYMI				S	**Sb**	**05 10 25.9**	**-0.1**
KYMI				AML	AML	05 10 28.0	
	comp=E,1326µm,0.3s						
KYMI				AML	AML	05 10 29.7	
	comp=N,1296µm,0.2s						
THAL	**Thalero**	**0.99**	**285**	P	**Pn**	**05 10 17.6**	**+0.5**
THAL				S	**Sn**	**05 10 31.9**	**+0.9**
	comp=N,652nm,0.2s						
THAL	**Thalero**	**0.99**	**285**	P	**Pn**	**05 10 17.4**	**+0.3**
TNSA	**Tinos**	**1.05**	**103**	P	**Pg**	**05 10 17.4**	**-0.5**
SKY	**Skiros Island**	**1.22**	**26**	P	**Pb**	**05 10 20.4**	**-0.1**
SKY	**Skiros Island**	**1.22**	**26**	P	**Pn**	**05 10 20.2**	**-0.1**
VLI	**Veliai**	**1.30**	**215**	P	**Pb**	**05 10 21.6**	**-0.2**
VLI	**Veliai**	**1.30**	**215**	P	**Pb**	**05 10 21.5**	**-0.4**
AXAR	**Agios Charalam**	**1.37**	**316**	P	**Pg**	**05 10 23.4**	**-0.5**
AXAR				S	**Sg**	**05 10 41.7**	**0.0**
	comp=N,452nm,0.4s						
AXAR	**Agios Charalam**	**1.37**	**316**	P	**Pb**	**05 10 23.0**	**0.0**
KLV	**Kalavryta, Ach**	**1.39**	**281**	P	**Pb**	**05 10 23.4**	**+0.1**
APE	**Apeiranthos**	**1.50**	**118**	P	**Pb**	**05 10 24.7**	**-0.6**
NEO	**Neokhori**	**1.60**	**342**	P	**Pn**	**05 10 26.3**	**+0.6**
AGG	**Agios Georgios**	**1.73**	**316**	P	**Pb**	**05 10 28.6**	**-0.6**
AGG				S	**Sn**	**05 10 49.8**	**+0.4**
	comp=N,60nm,1.2s						
AGG	**Agios Georgios**	**1.73**	**316**	P	**Pb**	**05 10 28.4**	**-0.8**

IDC 06 05:12:53.2±7.1,27.53S×23.23E,h0km,mbtmp1.8/1, ML1.7/1,Error ellipse: s-maj=43.4km s-min=41.8km az=27.0,South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I47ZA	**BOSHOF INFRASO**	**2.08**	**122**	I	I	05 25 00.0	
	baz=302,slow=321,SNR=1.4						
BOSA	**Boshof**	**2.09**	**122**	Pn	Pn	05 13 29.9	+0.3
	0.2nm,0.3s,baz=302,slow=18,SNR=1.7						
BOSA				Sn	Sn	05 13 55.5	-1.0
	0.2nm,0.3s,baz=329,slow=21,SNR=2.4						
BOSA				Lg	Lg	05 14 00.1	
	0.8nm,0.3s,baz=213,slow=18,SNR=14						
BOSA				Rg	Rg	05 14 12.2	
	20nm,0.9s,baz=184,slow=3.0,SNR=10						
	0.5nm,0.3s						
I35NA	**TSUMEB INFRASO**	**9.79**	**327**	I	I	06 10 00.0	
	baz=152,slow=328,SNR=2.2						

*IDC **06** 05:16:15.4±2.7,7.41S×155.04E,h0km,mb3.6/5, mbtmp3.6/5,Error ellipse: s-maj=113.8km s-min=29.9km az=125.0*

ISC 06 05:16:20.1±2.4,7.4S±0.5×155.0E±0.6,h31km,n6,σ0s90/6, mb3.5/5,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.60**	**236**	P	**P**	**05 21 27.8**	**-0.9**
	1.1nm,0.7s,baz=58,slow=9.5,SNR=8.7						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**25.91**	**229**	P	**P**	**05 21 50.0**	**+0.3**
	0.4nm,0.6s,baz=59,slow=11,SNR=3.6						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**83.77**	**319**	P	**P**	**05 28 47.1**	**+0.7**
	0.3nm,0.7s,baz=111,slow=6.3,SNR=3.0						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**83.77**	**21**	P	**P**	**05 28 45.6**	**-0.4**
	0.3nm,0.8s,baz=252,slow=4.6,SNR=2.6						
	0.3nm,0.8s						
ZALV	**Zalesovo Beam**	**84.58**	**326**	P	**P**	**05 28 49.9**	**-0.5**
	0.7nm,0.5s,baz=129,slow=4.6,SNR=2.6						
	0.7nm,0.5s						
TORD	**Torodi Ar. Bea**	**153.19**	**284**	PKPbc	**PKiKP**	**05 36 17.0**	**+0.9**
	0.4nm,0.6s,baz=53,slow=4.1,SNR=2.6						

*SKHL **06** 05:17:10.6±0.1,48.90N×155.20E,h70km±5km,mb5.1/6*
*KRSC **06** 05:17:10.5±1.9,48.94N×156.43E,h7km±27km,Ml4.4*
*MOS **06** 05:17:10.7±0.9,48.93N×155.12E,h75km,mb4.3/4,Error ellipse: s-maj=12.8km s-min=4.4km az=71.8*
*IDC **06** 05:17:12.3±2.8,48.95N×154.88E,h75km±25km,mb3.4/17, mbtmp3.8/20,MS3.4/3,Error ellipse: s-maj=24.2km s-min=12.3km az=142.0*
*NEIC **06** 05:17:15.4±1.1,49.2N±0.2×154.6E±0.3,h91km±15km, mb4.3/17,Error ellipse: s-maj=41.2km s-min=12.4km az=136.0*

ISC 06 05:17:11.5±1.1,48.92N±0.08×155.15E±0.07,h65km±9km, n133,σ1s53/148,mb3.8/28,1C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.87**	**19**	*e*PN	**Pn**	**05 17 40.0**	**-1.2**
SKR				*e*S	**Sn**	**05 18 02.6**	**-1.2**
SKR				pmax	pmax		
	comp=Z,240nm,0.3s						
SKR				smax	smax		
	comp=E,2µm,0.3s						
SKR				smax	smax		
	comp=N,2µm,0.4s						
SKR	**Severo-Kuril's**	**1.87**	**19**	*e*P	**Pn**	**05 17 40.6**	**-0.6**
SKR				*e*S	**Sn**	**05 18 02.9**	**-1.0**
SKR	**Severo-Kuril's**	**1.87**	**19**	*e*P	**Pn**	**05 17 40.5**	**-0.7**
SKR				AMB	AMB	05 17 41.1	
	comp=N,240nm,0.3s						
SKR				*e*S	**Sn**	**05 18 03.0**	**-0.8**
SKR				A	A	05 18 09.3	
	comp=N,2µm,0.4s						
SKR				A	A	05 18 09.3	
	comp=N,2µm,0.4s						
PAU	**Pauzhetka**	**2.76**	**22**	PN	**Pn**	**05 17 54.4**	**+1.1**
PAU				S	**Sn**	**05 18 26.2**	**+0.7**
PAU	**Pauzhetka**	**2.76**	**22**	*e*P	**Pn**	**05 17 54.4**	**+1.1**
PAU				*e*S	**Sn**	**05 18 26.2**	**+0.7**
PAU	**Pauzhetka**	**2.76**	**22**	*e*P	**Pn**	**05 17 53.5**	**+0.2**
PAU				AMB	AMB	05 17 57.4	
	comp=N,60nm,0.2s						
PAU				*e*S	**Sn**	**05 18 25.6**	**+0.1**
PAU				A	A	05 18 30.9	
	comp=N,990nm,0.2s						
PAU				A	A	05 18 30.9	
	comp=N,630nm,0.2s						
KDTR	**Khodutka, Kamc**	**3.45**	**32**	PN	**Pn**	**05 18 01.8**	**-0.8**
KDTR				S	**Sn**	**05 18 38.6**	**-3.6**
KDTR	**Khodutka, Kamc**	**3.45**	**32**	*e*P	**Pn**	**05 18 01.8**	**-0.8**
KDTR				*e*S	**Sn**	**05 18 38.6**	**-3.6**
ASAK	**Asacha**	**3.88**	**26**	PN	**Pn**	**05 18 09.8**	**+1.1**
ASAK	**Asacha**	**3.88**	**26**	*e*P	**Pn**	**05 18 09.8**	**+1.1**
MTVR	**Mutnovka**	**4.05**	**27**	PN	**Pn**	**05 18 11.8**	**+0.7**
MTVR				S	**Sn**	**05 18 56.5**	**-0.8**
MTVR	**Mutnovka**	**4.05**	**27**	*e*P	**Pn**	**05 18 11.8**	**+0.7**
MTVR				*e*S	**Sn**	**05 18 56.5**	**-0.8**
GRL	**Gorelyy**	**4.08**	**26**	PN	**Pn**	**05 18 12.6**	**+1.1**
GRL				S	**Sn**	**05 18 58.2**	**+0.2**
GRL	**Gorelyy**	**4.08**	**26**	*e*P	**Pn**	**05 18 12.6**	**+1.1**
GRL				*e*S	**Sn**	**05 18 58.2**	**+0.2**
RUS	**Russkaya**	**4.12**	**30**	PN	**Pn**	**05 18 11.3**	**-0.5**
RUS				S	**Sn**	**05 18 56.2**	**-2.4**
RUS	**Russkaya**	**4.12**	**30**	*e*P	**Pn**	**05 18 11.3**	**-0.5**
RUS				*e*S	**Sn**	**05 18 56.2**	**-2.4**
APC	**Apacha**	**4.21**	**17**	PN	**Pn**	**05 18 15.7**	**+2.7**
APC	**Apacha**	**4.21**	**17**	*e*P	**Pn**	**05 18 15.7**	**+2.7**
KRMR	**Karymshinskiy**	**4.35**	**25**	PN	**Pn**	**05 18 16.3**	**+1.4**
KRMR				S	**Sn**	**05 19 06.9**	**+2.7**
KRMR	**Karymshinskiy**	**4.35**	**25**	*e*P	**Pn**	**05 18 16.3**	**+1.4**
KRMR				*e*S	**Sn**	**05 19 06.9**	**+2.7**
PEA0B	**Petropavlovsk-**	**4.49**	**20**	Pn	**Pn**	**05 18 18.9**	**+2.0**
PEA0B	**Petropavlovsk-**	**4.49**	**20**	*i* PN	**Pn**	**05 18 18.7**	**+1.8**
PETK	**Petropavlovsk-**	**4.49**	**20**	Pn	**Pn**	**05 18 19.1**	**+2.1**
PETK	**Petropavlovsk-**	**4.49**	**20**	PN	**Pn**	**05 18 17.0**	**+0.1**
PETK	**Petropavlovsk-**	**4.49**	**20**	P	**Pn**	**05 18 17.0**	**+0.1**
	comp=N,16nm,0.8s,baz=182,slow=11,SNR=12						
PETK				S	**Sn**	**05 19 03.0**	**-4.8**
	comp=N,4.6nm,0.5s,baz=174,slow=16,SNR=1.5						
PET	**Petropavlovsk**	**4.67**	**27**	Pn	**Pn**	**05 18 21.6**	**+2.4**
PET	**Petropavlovsk**	**4.67**	**27**	*e*PN	**Pn**	**05 18 19.4**	**+0.1**
PET				*e*S	**Sn**	**05 19 09.5**	**-2.6**
PET				smax	smax		
	comp=N,121nm,0.7s						
PET				smax	smax		
	comp=E,148nm,0.6s						
PET	**Petropavlovsk**	**4.67**	**27**	*e*P	**Pn**	**05 18 20.0**	**+0.7**
PET	**Petropavlovsk**	**4.67**	**27**	*e*P	**Pn**	**05 18 19.8**	**+0.5**
PET				*e*S	**Sn**	**05 19 11.8**	**-0.3**
PET				A	A	05 19 24.8	
	comp=E,100nm,0.6s						
PET				A	A	05 19 24.8	
	comp=E,150nm,0.6s						
DALK	**Dalny**	**4.70**	**28**	PN	**Pn**	**05 18 20.5**	**+0.7**
DALK				S	**Sn**	**05 19 13.9**	**+0.9**
DALK	**Dalny**	**4.70**	**28**	*e*P	**Pn**	**05 18 20.5**	**+0.7**
DALK				*e*S	**Sn**	**05 19 13.9**	**+0.9**
KOK	**Koryaka**	**4.90**	**25**	PN	**Pn**	**05 18 24.7**	**+2.1**
KOK	**Koryaka**	**4.90**	**25**	*e*P	**Pn**	**05 18 24.7**	**+2.1**
AVH	**Avacha**	**4.90**	**26**	PN	**Pn**	**05 18 24.4**	**+1.8**
AVH	**Avacha**	**4.90**	**26**	*e*P	**Pn**	**05 18 24.4**	**+1.8**
SMAR	**Somma**	**4.92**	**27**	PN	**Pn**	**05 18 24.0**	**+1.0**
SMAR	**Somma**	**4.92**	**27**	*e*P	**Pn**	**05 18 24.0**	**+1.0**
KRER	**Koryakskii**	**4.94**	**26**	PN	**Pn**	**05 18 23.9**	**+0.7**
KRER	**Koryakskii**	**4.94**	**26**	*e*P	**Pn**	**05 18 23.9**	**+0.7**
KRX	**Arik**	**4.96**	**25**	PN	**Pn**	**05 18 25.0**	**+1.5**
KRX	**Arik**	**4.96**	**25**	*e*P	**Pn**	**05 18 25.0**	**+1.5**
NLC	**Nalytchevo**	**5.01**	**30**	*e*S	**Sn**	**05 19 16.7**	**-3.8**
GNL	**Ganaly**	**5.09**	**19**	PN	**Pn**	**05 18 27.4**	**+2.2**
GNL	**Ganaly**	**5.09**	**19**	*e*P	**Pn**	**05 18 27.4**	**+2.2**
SPN	**Mys Shipunski**	**5.19**	**35**	PN	**Pn**	**05 18 26.1**	**-0.4**
SPN				S	**Sn**	**05 19 23.5**	**-1.5**
SPN	**Mys Shipunski**	**5.19**	**35**	*e*P	**Pn**	**05 18 26.1**	**-0.4**
SPN				*e*S	**Sn**	**05 19 23.5**	**-1.5**
KUR	**Kuril'sk**	**6.19**	**236**	*i* PN	**Pn**	**05 18 41.5**	**+1.4**
KUR	**Kuril'sk**	**6.19**	**236**	*e*P	**Pn**	**05 18 39.8**	**-0.3**
KUR				AMB	AMB	05 18 42.0	
TUMD	**Tumrok D**	**7.07**	**25**	*e*P	**Pn**	**05 18 56.0**	**+3.8**
TUMD				*e*S	**Sn**	**05 20 11.4**	**+0.3**
TUMR	**Tumrok**	**7.08**	**24**	PN	**Pn**	**05 18 56.0**	**+3.7**
TUMR				S	**Sn**	**05 20 11.4**	**+0.1**
TUMR	**Tumrok**	**7.08**	**24**	*e*P	**Pn**	**05 18 55.9**	**+3.5**
YUK	**Yuzh-Kuril'sk**	**8.06**	**236**	*i* PN	**Pn**	**05 19 07.2**	**+1.5**
YUK	**Yuzh-Kuril'sk**	**8.06**	**236**	*e*P	**Pn**	**05 19 05.9**	**+0.2**
YUK				AMB	AMB	05 19 08.0	
	comp=E,190nm,0.3s						
TYV	**Tymovskoe**	**8.30**	**288**	*e*P	**Pn**	**05 19 09.5**	**+0.6**
YSS	**Yuzh-Sakhalins**	**8.55**	**261**	*e*PN	**Pn**	**05 19 12.5**	**+0.1**
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS	**Yuzh-Sakhalins**	**8.55**	**261**	*e*P	**Pn**	**05 19 12.5**	**+0.1**
YSS				AMB	AMB	05 19 13.1	
	comp=Z,20nm,0.6s						
NMR	**Nemuro--Hokkai**	**8.57**	**233**	*e*P	Pn	05 19 08.7	-4.0
NMR				AMB	AMB	05 19 09.6	
	comp=Z,20nm,0.6s						
JKA	**Kamikawa-asahi**	**9.89**	**246**	Pn	**Pn**	**05 19 31.1**	**+0.4**
ASAJ	**Asahikawa**	**9.89**	**246**	PN	**Pn**	**05 19 31.1**	**+0.3**
ASAJ	**Asahikawa**	**9.89**	**246**	P	**Pn**	**05 19 30.1**	**-0.7**
	comp=Z,14nm,0.6s,baz=82,slow=14,SNR=12						
ERM	**Erimo**	**10.88**	**235**	*i* PN	**Pn**	**05 19 47.5**	**+3.3**
TEY	**Ternei**	**13.24**	**260**	*e*P	**Pn**	**05 20 14.1**	**-2.2**
SEY	**Seymchan**	**14.13**	**355**	*i* P	**Pn**	**05 20 27.0**	**-1.0**
SEY				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SEY	**Seymchan**	**14.13**	**355**	*e*P	**Pn**	**05 20 27.0**	**-1.0**
EKMR	**Ekimchan**	**14.56**	**295**	*e*P	**Pn**	**05 20 31.5**	**-2.3**
KLR	**Kl'dar**	**15.33**	**280**	P	**P**	**05 20 48.0**	**+1.0**
	comp=Z,1.3nm,0.5s,baz=73,slow=12,SNR=8.8						
USRK	**Ussuriysk Ar.**	**16.59**	**262**	P	**Pn**	**05 20 59.2**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=67,slow=10,SNR=4.7						
ZEA	**Zeya**	**18.02**	**296**	*i* P	**Pn**	**05 21 18.1**	**+0.9**
ZEA	**Zeya**	**18.02**	**296**	*e*P	**P**	**05 21 16.5**	**-0.4**
YAK	**Yakutsk**	**19.33**	**322**	*e*P	**Pn**	**05 21 32.5**	**-0.3**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.3s						
YAK	**Yakutsk**	**19.33**	**322**	LR	LR	05 28 26.4	
	comp=E,60nm,18.3s,baz=129,slow=35						
YAK	**Yakutsk**	**19.33**	**322**	*e*P	**Pn**	**05 21 32.5**	**-0.3**
BILL	**Bilibino**	**19.97**	**12**	*i* P	**P**	**05 21 37.5**	**-0.5**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KSRS	**Korea Array**	**22.79**	**250**	P	**P**	**05 22 07.8**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=43,slow=8.0,SNR=4.5						
	comp=Z,0.8nm,0.4s						
C16K	**Lisburne Hills**	**27.50**	**31**	P	**P**	**05 22 51.7**	**+0.5**
C18K	**

YKA					pmax		pmax	
	comp=Z,1.0nm,0.8s							
YKA	**Yellowknife Ar**	**48.37**	**38**	P		**P**	**05 25 46.9**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=298,slow=7.5,SNR=8.8							
	comp=Z,0.7nm,0.8s							
BRVK	**Borovoye**	**50.59**	**309**	*i* P		**P**	**05 26 03.5**	**+0.3**
BRVK					pmax	pmax		
	comp=Z,1.0nm,1.2s							
BRVK	**Borovoye**	**50.59**	**309**	*e*P		**P**	**05 26 03.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**54.21**	**257**	*e*P		**P**	**05 26 30.6**	**+0.2**
CMAR					pmax	pmax		
	comp=Z,2.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**54.21**	**257**	P		**P**	**05 26 29.8**	**-0.6**
	comp=Z,1.8nm,0.3s,baz=32,slow=7.7,SNR=8.3							
	comp=Z,1.8nm,0.3s							
ARU	**Arti**	**54.34**	**317**	*c i*P		**P**	**05 26 30.4**	**-0.5**
ARU					S	**S**	**05 34 03.3**	**-0.3**
ARU					SS	**SKiKP**	**05 37 37.2**	**+2.8**
ARU					pmax	pmax		
	comp=Z,7.0nm,1.4s							
NVAR	**Mina Array Bea**	**60.24**	**65**	P		**P**	**05 27 13.0**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=310,slow=13,SNR=2.6							
	comp=Z,0.2nm,0.5s							
PDAR	**Pinedale Array**	**62.38**	**56**	P		**P**	**05 27 27.6**	**+0.3**
	comp=Z,0.8nm,1.0s,baz=301,slow=7.0,SNR=3.6							
	comp=Z,0.8nm,1.0s							
NOA	**NORSAR Array B**	**66.60**	**342**	P		**P**	**05 27 52.3**	**-2.0**
	comp=Z,0.8nm,0.9s,baz=21,slow=7.8,SNR=2.6							
	comp=Z,0.8nm,0.9s							
BORG	**Borgarnes**	**66.64**	**358**	*i* P		**P**	**05 27 53.4**	**-1.0**
GEYT	**Alibeck**	**66.66**	**301**	LR		LR	05 58 50.2	
	comp=Z,38nm,19.3s,baz=236,slow=38							
AKASG	**Malin Array Be**	**70.49**	**327**	P		**P**	**05 28 17.0**	**-1.7**
AKASG	**Malin Array Be**	**70.49**	**327**	P		**P**	**05 28 17.0**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=33,slow=6.7,SNR=2.7							
	comp=Z,0.2nm,0.4s							
SCHQ	**Schefferville**	**70.77**	**24**	P		**P**	**05 28 20.9**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=331,slow=10,SNR=6.3							
	comp=Z,1.3nm,0.5s							
WRA	**Warramunga Arr**	**71.02**	**201**	P		**P**	**05 28 20.7**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=17,slow=6.6,SNR=5.6							
	comp=Z,0.7nm,0.7s							
EKA	**Eskdalemuir Ar**	**74.53**	**347**	P		**P**	**05 28 42.7**	**0.0**
	comp=Z,0.7nm,0.5s,baz=0.8,slow=15,SNR=1.9							
	comp=Z,0.7nm,0.5s							
ASAR	**Alice Springs**	**74.71**	**200**	P		**P**	**05 28 43.4**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=13,slow=5.7,SNR=6.5							
	comp=Z,0.5nm,0.5s							
TXAR	**Lajitas Array**	**75.25**	**62**	P		**P**	**05 28 48.5**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=305,slow=3.2,SNR=4.4							
	comp=Z,0.4nm,0.6s							
H03N2	**Juan Fernandez**	**137.38**	**89**	T		T	08 09 23.2	
	baz=311,slow=77,SNR=24							
H03N1	**Juan Fernandez**	**137.39**	**89**	T		T	08 09 21.9	
	baz=311,slow=77,SNR=23							
H03N3	**Juan Fernandez**	**137.39**	**89**	T		T	08 09 28.4	
	baz=311,slow=77,SNR=25							

IDC 06 05:42:00.4±2.1, 6°.04S×142°.63E, *h*0km, mb3.4/2, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=94.2km s-min=31.2km az=108.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.99**	**209**	Pn	Pn	05 45 42.6	-4.4
	0.2nm,0.3s,baz=29,slow=13,SNR=12						
WRA				Sn	Sn	05 48 30.5	-15
	0.1nm,0.3s,baz=36,slow=21,SNR=2.5						
WRA				Lg	Lg	05 50 24.7	
	baz=36,slow=22,SNR=1.5						
ASAR	**Alice Springs**	**19.43**	**205**	P	P	05 46 29.1	+0.5
	0.2nm,0.3s,baz=33,slow=9.9,SNR=12						
ASAR				S	Sn	05 49 57.1	-11
	0.1nm,0.3s,baz=25,slow=22,SNR=1.3						
ASAR				Lg	Lg	05 52 14.9	
	baz=18,slow=28						
	1.2nm,0.6s						
MKAR	**Makanchi Array**	**74.80**	**322**	P	P	05 53 42.8	+0.2
	0.3nm,0.6s,baz=101,slow=4.6,SNR=2.9						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**87.26**	**24**	P	P	05 54 48.3	-0.3
	0.2nm,0.8s,baz=251,slow=5.4,SNR=2.4						
	0.2nm,0.8s						

JMA 06 05:42:30.1±0.2, 24°.3N±0°.3×123°.8E±0°.4, *h*15km±1km, MV1.3/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.13**	**312**	P	Pg	05 42 33.7	0.0
IRIF				*e*S	Sg	05 42 36.3	+0.2
JKRS	**Kuro-shima**	**0.16**	**94**	P	Pg	05 42 34.1	0.0
JKRS				*e*S	Sg	05 42 37.3	+0.5
HATJ	**Hateruma jima**	**0.19**	**188**	*i* P	Pg	05 42 34.5	-0.1
HATJ				*e*S	Sg	05 42 37.9	+0.3
JIJ	**Ishigaki jima**	**0.30**	**68**	P	Pg	05 42 36.2	-0.3
JIJ				*e*S	Sg	05 42 40.5	-0.3
JISG	**Ishigakijimahi**	**0.55**	**52**	*e*P	Pg	05 42 41.1	+0.1
JISG				*e*S	Sb	05 42 48.8	-0.4
JTJ	**Tarama**	**0.88**	**64**	*e*P	Pb	05 42 47.1	-0.1
JTJ				*e*S	Sg	05 42 59.3	+0.4

TAP 06 05:42:41.2, 24°.84N×121°.93E, *h*10km±1km, ML1.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.01**	**0**	P	Pg	05 42 43.4	+0.4
	baz=53						
EGS				S	Sg	05 42 45.0	+0.7
	baz=53						
TIPB	**Shuangxi**	**0.17**	**325**	P	Pb	05 42 45.9	-0.6
	baz=324						
TIPB				S	Sg	05 42 48.8	+1.4
	baz=324						
TWB1	**Santiao Chiao**	**0.18**	**16**	P	Pg	05 42 45.3	+0.3
	baz=19						
TWB1				*i* S	Sg	05 42 47.7	0.0
	baz=19						
TWC	**Suao**	**0.24**	**199**	P	Pb	05 42 46.9	-0.6
	baz=196						
SXI1	**Grass Mountain**	**0.26**	**349**	*i* P	Pb	05 42 47.5	-0.6
	baz=348						
SXI1				S	Sb	05 42 52.3	-0.4
	baz=348						
TWE	**Neicheng**	**0.27**	**245**	*e*P	Pb	05 42 47.5	-0.6
	baz=242						
TWE				*e*S	Sb	05 42 52.0	-0.7
	baz=242						
NWF	**Wu-fen Shan**	**0.27**	**330**	*e*P	Pb	05 42 47.7	-0.5
	baz=329						
NWF				*e*S	Sb	05 42 52.6	-0.4
	baz=329						
WFSB	**Wu-fen Shan**	**0.27**	**330**	*e*P	Pb	05 42 48.0	-0.2
	baz=329						
WFSB				*e*S	Sb	05 42 52.8	-0.1
	baz=329						
FUSB	**Fushanzhiwuyua**	**0.32**	**257**	*e*P	Pb	05 42 48.8	-0.3
	baz=256						
FUSB				S	Sb	05 42 53.4	-1.0
	baz=256						
ENTT	**Nioudou**	**0.39**	**240**	P	Pb	05 42 50.1	0.0
	baz=238						
ENTT				*e*S	Sb	05 42 55.2	-0.9
	baz=238						
NWLT	**Wulai**	**0.40**	**262**	*e*P	Pb	05 42 50.1	-0.2
	baz=261						
NWLT				S	Sb	05 42 55.4	-1.0
	baz=261						
YM01	**YM01**	**0.45**	**313**	P	Pb	05 42 51.9	+0.6
	baz=313						
YM01				*e*S	Sb	05 42 58.2	+0.1
	baz=313						
LATG	**Datong**	**0.47**	**231**	*e*P	Pb	05 42 51.6	-0.1
	baz=231						
LATG				*e*S	Sb	05 42 59.0	+0.3
	baz=231						
YHNB	**Yeheng**	**0.53**	**252**	*e*P	Pb	05 42 52.4	-0.2
	baz=251						
YHNB				*e*S	Sg	05 42 59.0	+0.4
	baz=251						
NSK	**Sanguang**	**0.55**	**253**	*e*P	Pb	05 42 52.6	-0.2
	baz=252						
NSK				*e*S	Sg	05 42 59.6	+0.6
	baz=252						

TAP 06 05:53:47.9, 24°.47N×121°.81E, *h*11km±1km, ML1.7, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.04**	**233**	P	Pg	05 53 50.6	+0.7
	baz=232						
EWUT				S	Sg	05 53 51.6	+0.4
	baz=232						
ENA	**Nanau**	**0.07**	**238**	P	Pg	05 53 51.3	+1.0
	baz=233						
ENA				*e*S	Sg	05 53 52.8	+0.9
	baz=233						
ESAO	**Su ao**	**0.11**	**16**	P	Pb	05 53 51.6	-0.5
	baz=15						
ESAO				S	Sg	05 53 53.2	+0.5
	baz=15						
TWC	**Suao**	**0.14**	**14**	P	Pb	05 53 52.2	-0.4
	baz=17						
TWC				S	Sg	05 53 54.4	+0.9
	baz=17						
EAHA	**Aohua**	**0.15**	**205**	*e*P	Pb	05 53 52.4	-0.4
	baz=205						
EAHA				*e*S	Sg	05 53 54.8	+1.1
	baz=205						
NDS	**Dongshan**	**0.19**	**332**	*e*P	Pb	05 53 53.4	0.0
	baz=332						
NDS				*e*S	Sg	05 53 56.4	+1.7
	baz=332						
LATG	**Datong**	**0.27**	**285**	*e*P	Pb	05 53 55.0	+0.2
	baz=284						
LATG				*e*S	Sb	05 53 58.4	-1.1
	baz=284						
ENTT	**Nioudou**	**0.28**	**308**	*e*S	Sb	05 53 59.1	-0.7
	baz=307						
ETL	**Fush Village**	**0.35**	**209**	*e*S	Sb	05 54 01.4	-0.5
	baz=209						
FUSB	**Fushanzhiwuyua**	**0.35**	**325**	*e*S	Sb	05 54 01.5	-0.4
	baz=324						
NWLT	**Wulai**	**0.42**	**318**	*e*S	Sb	05 54 03.6	-0.1
	baz=317						
YHNB	**Yeheng**	**0.44**	**297**	*e*S	Sb	05 54 04.7	+0.2
	baz=296						
NSK	**Sanguang**	**0.46**	**297**	*e*S	Sb	05 54 05.0	0.0
	baz=296						
LXIB	**Xiulin Townshi**	**0.57**	**219**	*e*S	Sb	05 54 08.8	+0.4
	baz=219						

JMA 06 05:54:23.4±0.1, 24°.3N±0°.4×123°.8E±0°.3, *h*15km±1km, MV2.8/10, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.10**	**321**	P	Pg	05 54 26.6	-0.1
IRIF				S	Sg	05 54 29.1	+0.2
JKRS	**Kuro-shima**	**0.19**	**95**	P	Pg	05 54 28.1	+0.2
JKRS				S	Sb	05 54 31.7	-0.4
HATJ	**Hateruma jima**	**0.20**	**179**	P	Pg	05 54 27.8	-0.2
HATJ				S	Sg	05 54 31.1	+0.1
JIJ	**Ishigaki jima**	**0.33**	**71**	P	Pg	05 54 29.9	-0.3
JIJ				S	Sg	05 54 34.9	0.0
JISG	**Ishigakijimahi**	**0.57**	**54**	*i* P	Pg	05 54 34.5	-0.2
JISG				S	Sb	05 54 43.1	0.0
YOJ	**Yonaguni jima**	**0.75**	**286**	P	Pg	05 54 37.9	-0.1
YOJ				S	Sb	05 54 48.3	+0.1
JYNG	**Yonagunijimaku**	**0.80**	**284**	P	Pg	05 54 38.8	-0.3
JYNG				S	Sb	05 54 50.2	+0.4
JTJ	**Tarama**	**0.91**	**65**	P	Pb	05 54 40.8	0.0
JTJ				S	Sg	05 54 53.3	+0.4

*KRNET **06** 06:08:15.8±0.1, 41°.81N×70°.27E, *h*17km, mb2.8*
*SOME **06** 06:08:16.4, 41°.85N×70°.23E, *h*10km*
*NNC **06** 06:08:16.9±1.2, 41°.87N×70°.25E, *h*0km, mb3.0, mpv3.0, Error ellipse: s-maj=7.6km s-min=4.6km az=28.0*
*ISU **06** 06:08:17.1, 41°.78N×70°.09E, *h*17km*
ISC 06 06:08:14.9±1.0, 41°.82N±0°.02×69°.89E±0°.05, *h*29km±6km, n27, σ1$81/49, 9C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHRV	**Charvak**	**0.18**	**166**	P	**Pb**	**06 08 21.9**	**+1.0**
CHRV				S	**Sb**	**06 08 25.5**	**+0.6**
CHMG	**Chimgan**	**0.28**	**162**	P	**Pb**	**06 08 22.7**	**+0.6**
CHMG				S	**Sb**	**06 08 26.9**	**-0.1**
IUG	**Iuzhnay**	**0.34**	**17**	*e*P	**Pb**	**06 08 23.3**	**+0.3**
	241nm,0.1s						
IUG				*e*S	**Sb**	**06 08 28.9**	**+0.3**
	239nm,0.1s						
IUG	**Iuzhnay**	**0.34**	**17**	P	**Pb**	**06 08 23.3**	**+0.3**
	241nm,0.1s						
IUG				S	**Sb**	**06 08 28.9**	**+0.3**
	429nm,0.4s						
IUG	**Iuzhnay**	**0.34**	**17**	*e*P	**Pb**	**06 08 23.3**	**+0.3**
	baz=32						
IUG				*e*S	**Sb**	**06 08 28.8**	**+0.3**
	baz=32						
PSK	**Pskem**	**0.38**	**73**	P	**Pb**	**06 08 23.1**	**-0.3**
PSK				S	**Sb**	**06 08 27.6**	**-1.6**
TRKS	**Terek-Say**	**0.98**	**107**	⇑*i*P	**Pn**	**06 08 30.6**	**-2.3**
	baz=17						
TRKS				⇑*i*S	**Sb**	**06 08 40.7**	**-5.3**
	baz=17						
CHDK	**Chadak**	**1.06**	**142**	P	**Pn**	**06 08 35.1**	**+1.1**
CHDK				S	**Sn**	**06 08 48.4**	**+0.5**
BRLS	**Borolday**	**1.21**	**358**	*e*P	**Pn**	**06 08 35.3**	**-0.7**
	5.6nm,0.1s						
BRLS				*e*S	**Sn**	**06 08 49.4**	**-2.1**
	33nm,0.1s						
BRLS	**Borolday**	**1.21**	**358**	P	**Pn**	**06 08 35.3**	**-0.7**
	5.6nm,0.1s						
BRLS				S	**Sn**	**06 08 49.4**	**-2.1**
	33nm,0.1s						
BRLS	**Borolday**	**1.21**	**358**	*e*P	**Pn**	**06 08 35.3**	**-0.7**
	baz=40						
BRLS				*e*S	**Sn**	**06 08 49.4**	**-2.1**
	baz=40						
KK31	**Karatay Array**	**1.36**	**19**	P	**Pb**	**06 08 40.8**	**+1.0**
	0.5nm,0.2s,baz=195,slow=18,SNR=33						
KK31				⇓S	**Sb**	**06 08 57.6**	**+0.7**
	2.2nm,0.2s,baz=195,slow=30,SNR=16						
KKAR	**Karatay Array**	**1.36**	**19**	⇓*i*P	**Pb**	**06 08 40.5**	**+0.7**
	baz=8.0						
KKAR				⇓*i*S	**Sb**	**06 08 57.7**	**+0.8**
	baz=8.0						
ARK	**Arkit**	**1.55**	**90**	⇑*i*P	**Pn**	**06 08 39.6**	**-1.1**
	baz=90						
ARK				⇑*i*S	**Sn**	**06 08 56.3**	**-3.6**
	baz=90						
BTK	**Batken**	**1.89**	**158**	⇑*e*P	**Pb**	**06 08 49.0**	**+0.2**
	baz=67						
BTK				⇑*e*S	**Sb**	**06 09 12.5**	**+0.4**
	baz=67						
CHMI	**Chimion**	**1.98**	**141**	P	**Pb**	**06 08 50.9**	**+0.6**
CHMI				S	**Sb**	**06 09 16.0**	**+1.5**
MNAS	**Manas**	**2.05**	**70**	⇑*e*P	**Pn**	**06 08 48.9**	**+1.2**
	baz=67						
MNAS				⇑*e*S	**Sn**	**06 09 12.4**	**0.0**
	baz=67						
TSTA	**Tashata**	**2.31**	**122**	P	**Pb**	**06 08 55.9**	**0.0**
TSTA				S	**Sb**	**06 09 25.1**	**+1.1**
MRKS	**Merke**	**2.64**	**68**	*e*P	**Pb**	**06 09 01.1**	**-0.5**
	2.2nm,0.3s						
MRKS				*e*S	**Sb**	**06 09 33.1**	**-0.5**
	26nm,0.3s						
MRKS	**Merke**	**2.64**	**68**	Pg	**Pb**	**06 09 01.1**	**-0.5**
	2.2nm,0.3s						
MRKS				Lg	Lg	06 09 33.1	
	26nm,0.4s						
TKM2	**Tokmak 2**	**4.37**	**73**	⇓Pg	**Pb**	**06 09 29.5**	**-1.5**
	4.3nm,0.9s						
TKM2				⇑Lg	Lg	06 10 25.6	
	4.2nm,0.6s						
DGS	**Degeres**	**4.57**	**70**	*e*P	**Pb**	**06 09 36.2**	**+1.8**
	1.2nm,0.3s						
DGS				*e*S	**Sb**	**06 10 33.8**	**+4.7**
	4.7nm,0.5s						
DGS	**Degeres**	**4.57**	**70**	Pg	**Pb**	**06 09 36.2**	**+1.8**
	1.2nm,0.6s						
DGS				Lg	Lg	06 10 33.8	
	4.7nm,0.8s						

KRBS	**Karabastau**	**4.65**	**64**	*e*P		**Pb**	**06 09 37.4**	**+1.5**
	0.4nm,0.2s							
KRBS				*e*S		**Sb**	**06 10 35.7**	**+4.3**
	1.2nm,0.5s							
KRBS	**Karabastau**	**4.65**	**64**	Pg		**Pb**	**06 09 37.4**	**+1.5**
	0.3nm,0.3s							
KRBS				Lg	Lg		06 10 35.7	
	1.2nm,0.5s							
KST	**Kastek**	**4.66**	**73**	*e*P		**Pb**	**06 09 37.1**	**+1.2**
	0.3nm,0.1s							
KST				*e*S		**Sb**	**06 10 35.4**	**+3.8**
	3.6nm,0.5s							
KST	**Kastek**	**4.66**	**73**	Pg		**Pb**	**06 09 37.1**	**+1.2**
	0.8nm,0.5s							
KST				Lg	Lg		06 10 35.3	
	3.7nm,0.6s							

*AFAD **06** 06:09:05.3±0.0, 38°.84N×26°.09E, *h*7km±2km, ML2.4*
*ATH **06** 06:09:06.0, 38°.84N×26°.12E, *h*9km±1km, ML2.7/8, Error ellipse: s-maj=2.3km s-min=1.0km az=104.0*
*THE **06** 06:09:05.8, 38°.86N×26°.12E, *h*13km±1km, ML2.6/6, Error ellipse: s-maj=1.6km s-min=0.7km az=62.0*
ISC 06 06:09:05.7±1.0, 38°.85N±0°.02×26°.12E±0°.03, *h*14km±8km, n28, σ0$52/48, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.30**	**129**	P	**Pg**	**06 09 11.9**	**0.0**
KARB				S	**Sg**	**06 09 15.9**	**-0.2**
KARB				*i* AML	AML	06 09 17.0	
	comp=N,353nm,0.3s						
KARB				*i* AML	AML	06 09 17.0	
	comp=E,673nm,0.2s						
EAG2	**Marmaro, Chios**	**0.31**	**181**	P	**Pg**	**06 09 12.0**	**0.0**
EAG2				AML	AML	06 09 19.6	
	comp=E,7024μm,0.3s						
EAG2				AML	AML	06 09 20.9	
	comp=N,14074μm,0.3s						
PRK	**Paraskevi**	**0.41**	**17**	P	**Pg**	**06 09 13.9**	**-0.1**
PRK				S	**Sg**	**06 09 19.9**	**+0.3**
	comp=N,842nm,0.4s						
PRK	**Paraskevi**	**0.41**	**17**	P	**Pg**	**06 09 13.8**	**-0.1**
PRK				S	**Sg**	**06 09 20.0**	**+0.3**
PRK				AML	AML	06 09 22.2	
	comp=N,1886μm,0.4s						
PRK				AML	AML	06 09 23.2	
	comp=E,1475μm,0.5s						
SIGR	**SIGRI**	**0.41**	**331**	P	**Pg**	**06 09 14.1**	**+0.1**
SIGR				S	**Sg**	**06 09 19.8**	**+0.2**
	comp=E,1μm,0.3s						
SIGR	**SIGRI**	**0.41**	**331**	P	**Pg**	**06 09 14.0**	**+0.1**
SIGR				AML	AML	06 09 20.1	
	comp=E,2278μm,0.4s						
SIGR				AML	AML	06 09 22.4	
	comp=N,1981μm,0.2s						
EAG3	**Mitilini, Lesv**	**0.42**	**56**	P	**Pg**	**06 09 14.4**	**+0.2**
EAG3				S	**Sg**	**06 09 20.1**	**+0.2**
EAG3				AML	AML	06 09 20.6	
	comp=E,4587μm,0.3s						
EAG3				AML	AML	06 09 21.3	
	comp=N,3099μm,0.4s						
CHOS	**Chios island**	**0.47**	**186**	P	**Pg**	**06 09 14.8**	**-0.2**
CHOS	**Chios island**	**0.47**	**186**	P	**Pg**	**06 09 14.6**	**-0.4**
CHOS				S	**Sg**	**06 09 21.3**	**0.0**
CHOS				AML	AML	06 09 23.6	
	comp=N,730μm,0.2s						
CHOS				AML	AML	06 09 26.2	
	comp=E,975μm,0.2s						
PSRA	**Psara**	**0.53**	**235**	P	**Pg**	**06 09 16.1**	**-0.1**
PSRA				AML	AML	06 09 26.0	
	comp=N,2065μm,0.2s						
PSRA				AML	AML	06 09 27.0	
	comp=E,2350μm,0.2s						
AYVA	**Ayvalik**	**0.64**	**44**	P	**Pg**	**06 09 17.9**	**-0.4**
AYVA				S	**Sb**	**06 09 27.7**	**+0.2**
AYVA				*i* AML	AML	06 09 30.0	
	comp=E,199nm,0.6s						
AYVA				*i* AML	AML	06 09 31.0	
	comp=E,148nm,0.3s						
IZMD	**zmir-Dikili-**	**0.65**	**78**	P	**Pg**	**06 09 18.2**	**-0.2**
IZMD				S	**Sb**	**06 09 28.0**	**+0.2**
KOCA	**Canakkale, Ayv**	**0.65**	**2**	P	**Pg**	**06 09 18.5**	**0.0**
KOCA				S	**Sb**	**06 09 29.6**	**+1.7**
ZEDA	**zmir-Bergama**	**0.76**	**81**	P	**Pg**	**06 09 20.2**	**-0.3**
ZEDA				*i* AML	AML	06 09 31.0	
	comp=E,80nm,0.3s						
ZEDA				S	**Sb**	**06 09 31.3**	**+0.3**
ZEDA				*i* AML	AML	06 09 32.0	
	comp=E,156nm,0.2s						
BLCB	**Balcova**	**0.86**	**122**	P	**Pg**	**06 09 22.5**	**+0.1**
BLCB				S	**Sg**	**06 09 33.7**	**0.0**
BAYC	**CANAKKALE_Bayr**	**0.95**	**20**	P	**Pg**	**06 09 23.5**	**-0.6**
BAYC				S	**Sb**	**06 09 37.1**	**+0.7**
BAYC				*i* AML	AML	06 09 39.0	
	comp=E,72nm,0.2s						
BAYC				*i* AML	AML	06 09 39.0	
	comp=E,114nm,0.2s						
EZN	**Ezine**	**0.99**	**9**	P	**Pg**	**06 09 24.2**	**-0.6**
EZN				S	**Sg**	**06 09 37.8**	**+0.1**
	comp=E,612nm,0.5s						
BUHA	**Balikesir, Bur**	**0.99**	**49**	P	**Pg**	**06 09 24.3**	**-0.5**
BUHA				S	**Sb**	**06 09 38.4**	**+0.8**
BUHA				*i* AML	AML	06 09 40.0	
	comp=E,140nm,0.7s						
BUHA				*i* AML	AML	06 09 45.0	
	comp=E,75nm,0.6s						
BOZC	**Bozcaada**	**0.99**	**357**	P	**Pg**	**06 09 24.4**	**-0.5**
BOZC				S	**Sg**	**06 09 37.5**	**-0.4**
BOZC				*i* AML	AML	06 09 39.0	
	comp=E,133nm,0.6s						
BOZC				*i* AML	AML	06 09 39.0	
	comp=E,170nm,0.2s						
SKY	**Skiros Island**	**1.22**	**272**	P	**Pg**	**06 09 29.3**	**0.0**
LIA	**Limnos Island**	**1.27**	**326**	P	**Pn**	**06 09 28.3**	**-0.8**
LIA				S	**Sb**	**06 09 44.7**	**-1.0**
	comp=E,472nm,0.7s						
LIA	**Limnos Island**	**1.27**	**326**	P	**Pn**	**06 09 28.6**	**-0.5**
LIA				S	**Sb**	**06 09 46.7**	**+1.0**
LIA				AML	AML	06 09 48.3	
	comp=E,1163μm,0.6s						
LIA				AML	AML	06 09 50.0	
	comp=N,759μm,0.7s						
SMG	**Samos**	**1.27**	**153**	P	**Pn**	**06 09 28.8**	**-0.3**
SMG				S	**Sb**	**06 09 46.3**	**+0.5**
	comp=N,195nm,0.5s						
SMG	**Samos**	**1.27**	**153**	P	**Pn**	**06 09 28.7**	**-0.5**
SMG				S	**Sb**	**06 09 46.3**	**+0.5**
SMG				AML	AML	06 09 53.9	
	comp=N,286μm,0.5s						
SMG				AML	AML	06 09 56.7	
	comp=E,466μm,0.5s						
SMTH	**Samothraki Isl**	**1.68**	**345**	P	**Pn**	**06 09 34.0**	**-0.7**
SMTH	**Samothraki Isl**	**1.68**	**345**	P	**Pn**	**06 09 34.0**	**-0.7**
SMTH				S	**Sn**	**06 09 56.7**	**+0.7**
ALN	**Alexandroupoli**	**2.04**	**359**	P	**Pn**	**06 09 39.4**	**-0.3**
ALN	**Alexandroupoli**	**2.04**	**359**	P	**Pn**	**06 09 39.2**	**-0.5**

*IDC **06** 06:19:05.3±3.3, 55°.31N×149°.91W, *h*0km, mb3.1/1, mbtmp3.2/5, ML2.9/4, MS3.5/3, Error ellipse: s-maj=54.8km s-min=27.7km az=49.0*
*NEIC **06** 06:19:10.9±1.9, 55°.98N±0°.09×149°.8W±0°.1, *h*8km±8km, ML3.4/38, ML3.2(AEIC), Error ellipse: s-maj=13.9km s-min=8.8km az=154.0*
*AEIC **06** 06:19:16.2±1.6, 56°.1N±0°.1×149°.8W±0°.1, *h*10km±8km, Error ellipse: s-maj=16.3km s-min=9.8km az=156.0*
ISC 06 06:19:09.3±1.3, 55°.98N±0°.08×149°.77W±0°.05, *h*10km, n136, σ1$96/137, Gulf of Alaska

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

2.5nm,0.3s,baz=145,slow=6.6,SNR=182
KDAK Sn **Sn** 06 20 16.0 -1.5
6.4nm,0.3s,baz=29,slow=20,SNR=16
KDAK LR LR 06 21 01.6
comp=Z,334nm,19.0s,baz=206,slow=40
7.9nm,0.2s
SII Sitkinak Islan 2.53 285 **Pn** **06 19 52.1 +1.6**
SII **Sn** **06 20 19.8 -1.6**
SII Sitkinak Islan 2.53 285 IAML 06 20 21.5
comp=E,202nm,0.7s
SII IAML 06 20 23.7
comp=N,134nm,0.8s
SII Sitkinak Islan 2.53 285 P **Pn** **06 19 52.1 +1.6**
SII Sitkinak Islan 2.53 285 P **Pn** **06 19 52.3 +1.9**
baz=100
SII S **Sn** **06 20 21.1 -0.2**
baz=100
CHIR Chirikof Islan 3.30 270 **Pn** **06 20 02.4 +1.4**
CHIR **Sn** **06 20 38.0 -2.3**
CHIR Chirikof Islan 3.30 270 IAML 06 20 39.3
comp=E,130nm,0.9s
CHIR IAML 06 20 41.8
comp=N,87nm,1.3s
CHIR Chirikof Islan 3.30 270 P **Pn** **06 20 02.4 +1.4**
baz=83
CHIR S **Sn** **06 20 38.8 -1.4**
baz=83
CNPM China Poot 3.64 348 **Pn** **06 20 06.3 +0.6**
CNPM **Sn** **06 20 47.2 -1.6**
KAKN Katmai Knife C 3.70 311 **Pn** **06 20 08.8 +2.2**
KCE Katmai Mt Cerb 3.72 310 **Pn** **06 20 10.4 +3.5**
ACHA Angle Creek He 3.77 309 **Pn** **06 20 09.7 +2.2**
BRSE Bradley Lake S 3.81 353 **Pn** **06 20 08.4 +0.4**
BRSE **Sn** **06 20 51.1 -1.8**
BRSE Bradley Lake S 3.81 353 P **Pn** **06 20 08.6 +0.5**
baz=172
BRSE S **Sn** **06 20 51.1 -1.8**
baz=172
ANCK Angle Creek 3.83 308 **Pn** **06 20 10.7 +2.3**
BRLK Bradley Lake 3.84 352 **Pn** **06 20 08.8 +0.3**
BRLK Bradley Lake 3.84 352 IAML 06 20 55.2
comp=N,43nm,1.5s
BRLK IAML 06 20 58.7
comp=E,36nm,0.6s
KAHC Katmai Hardscr 3.90 315 **Pn** **06 20 11.9 +2.5**
KAHC Katmai Hardscr 3.90 315 P **Pn** **06 20 12.2 +2.7**
baz=130
AUJK Augustine Jueg 3.91 331 **Pn** **06 20 11.2 +1.8**
Q23K Middleton Isla 3.92 27 **Pn** **06 20 10.1 +0.7**
Q23K Middleton Isla 3.92 27 IAML 06 22 13.7
comp=N,87nm,1.5s
MID Middleton Isla 3.92 27 **Pn** **06 20 10.1 +0.7**
MID Middleton Isla 3.92 27 IAML 06 22 11.3
comp=E,89nm,1.4s
MID IAML 06 22 31.3
comp=N,79nm,1.3s
MID Middleton Isla 3.92 27 P **Pn** **06 20 10.4 +0.9**
AUL Augustine Lava 3.94 332 **Pn** **06 20 12.5 +2.7**
CNTC Contact Creek 4.04 307 **Pn** **06 20 13.4 +2.1**
Q17K Contact Creek 4.04 307 P **Pn** **06 20 13.6 +2.2**
baz=121
SEW Seward 4.14 2 **Pn** **06 20 12.9 +0.4**
P23K Montague Islan 4.22 16 P **Pn** **06 20 14.8 +1.1**
baz=199
O20K Slope Mountain 4.38 341 **Pn** **06 20 17.0 +1.0**
O20K Slope Mountain 4.38 341 P **Pn** **06 20 17.0 +1.0**
baz=158
ILSW Iliamna Southw 4.40 337 **Pn** **06 20 17.4 +1.2**
ILSW Iliamna Southw 4.40 337 IAML 06 21 15.2
comp=N,21nm,1.4s
P18K Big Mountain, 4.50 322 **Pn** **06 20 18.9 +1.3**
P18K Big Mountain, 4.50 322 P **Pn** **06 20 19.1 +1.5**
baz=137
SLKM Skilak Lake 4.55 357 **Pn** **06 20 18.3 +0.1**
Q16K King Salmon 4.61 309 **Pn** **06 20 21.2 +2.3**
Q16K King Salmon 4.61 309 P **Pn** **06 20 21.6 +2.7**
baz=122
HIN Hinchinbrook I 4.75 20 **Pn** **06 20 22.4 +1.4**
HIN Hinchinbrook I 4.75 20 IAML 06 21 15.2
comp=N,40nm,1.2s
HIN IAML 06 21 19.9
comp=E,44nm,1.1s
RSO Redoubt South 4.76 342 Pn **Pn** **06 20 23.9 +2.6**
RDT Redoubt 4.81 344 **Pn** **06 20 22.4 +0.6**
P17K Kvichak River 4.82 315 **Pn** **06 20 24.0 +2.1**
P17K Kvichak River 4.82 315 P **Pn** **06 20 24.0 +2.1**
baz=128
CHGN Chignik 4.85 277 Pn **Pn** **06 20 23.2 +0.9**
CHGN IAML 06 21 22.0
comp=E,22nm,0.6s
CHGN IAML 06 21 35.7
comp=N,23nm,1.2s
O18K Koktuh Hills 4.85 326 **Pn** **06 20 23.8 +1.5**
O18K IAML 06 21 19.5
comp=N,21nm,0.9s
O18K IAML 06 21 32.2
comp=E,18nm,1.4s
O18K Koktuh Hills 4.85 326 P **Pn** **06 20 23.7 +1.4**
baz=140
O19K Port Alsworth 4.87 332 Pn **Pn** **06 20 24.7 +2.2**
KAIM Kayak Island 4.88 34 **Pn** **06 20 24.5 +1.8**
KAIM Kayak Island 4.88 34 IAML 06 21 20.8
comp=E,50nm,1.3s
KAIM IAML 06 21 22.9
comp=N,44nm,1.4s
KAIM Kayak Island 4.88 34 P **Pn** **06 20 24.5 +1.8**
baz=219
EYAK Cordova Ski Ar 5.05 23 P **Pn** **06 20 26.6 +1.6**
EYAK Cordova Ski Ar 5.05 23 P **Pn** **06 20 26.5 +1.6**
baz=207
RC01 Rabbit Creek A 5.13 0 Pn **Pn** **06 20 27.4 +1.3**
RC01 IAML 06 21 24.6
comp=N,15nm,0.3s
RC01 IAML 06 21 26.0
comp=E,17nm,0.5s
RAGM Ragged Mountai 5.18 29 **Pn** **06 20 28.6 +1.8**
SUCK Suckling Hills 5.19 35 Pn **Pn** **06 20 29.4 +2.4**
HMT Hamilton 5.25 31 Pn **Pn** **06 20 30.2 +2.4**
NICHA Nichawak Mount 5.26 33 **Pn** **06 20 29.7 +1.8**
GOAT Goat Mountain 5.33 28 **Pn** **06 20 30.6 +1.8**
P16K Nushagak River 5.39 308 P **Pn** **06 20 31.9 +2.3**
baz=120
BGLC Bering Glacier 5.39 37 **Pn** **06 20 31.9 +2.2**
BGLC Bering Glacier 5.39 37 P **Pn** **06 20 31.9 +2.2**
baz=223
N19K Bonanza Creek 5.44 335 **Pn** **06 20 31.0 +0.5**
O17K Koliganek Bris 5.45 317 **Pn** **06 20 32.3 +1.8**
O17K Koliganek Bris 5.45 317 P **Pn** **06 20 32.5 +2.0**
baz=131
BERG Berg Lake 5.46 33 **Pn** **06 20 32.1 +1.3**
KNK Knik Glacier 5.49 7 Pn **Pn** **06 20 31.7 +0.6**
GRIN Grindle Hills 5.50 36 **Pn** **06 20 33.0 +1.7**
SUA Susitna One 5.53 355 Pn **Pn** **06 20 32.2 +0.5**
PMR Palmer 5.64 3 P **Pn** **06 20 35.6 +2.5**
STLK Strandline Lak 5.64 350 **Pn** **06 20 33.8 +0.6**
KHIT Khitrov Hills 5.65 35 **Pn** **06 20 34.7 +1.4**
BMRM Bremner River 5.69 26 **Pn** **06 20 35.3 +1.5**
BMRM Bremner River 5.69 26 P **Pn** **06 20 35.3 +1.5**
baz=211
N18K Kilae Creek 5.71 328 Pn **Pn** **06 20 35.3 +1.2**
O16K Kokwok River B 5.74 313 **Pn** **06 20 36.8 +2.3**
GHO Glory Hole Cre 5.83 4 **Pn** **06 20 37.6 +1.8**
KLU Klutina 5.88 18 **Pn** **06 20 38.4 +1.9**
KLU Klutina 5.88 18 P **Pn** **06 20 38.5 +1.9**
baz=202
SML Sawmill 5.89 7 **Pn** **06 20 38.5 +1.9**
CRQM Cirque 5.92 33 **Pn** **06 20 38.7 +1.5**
CRQE Cirque 5.94 34 P **Pn** **06 20 38.7 +1.4**
baz=220
SVW2 Sparrevohn 5.97 332 Pn **Pn** **06 20 38.6 +1.0**
SVW2 Sparrevohn 5.97 332 P **Pn** **06 20 38.8 +1.2**
SCM Sheep Creek Mo 6.01 11 **Pn** **06 20 40.4 +2.2**
SCM Sheep Creek Mo 6.01 11 P **Pn** **06 20 40.4 +2.2**
baz=194
TGL Tana Glacier 6.02 34 **Pn** **06 20 40.2 +1.8**
ISLE Juniper Island 6.07 37 **Pn** **06 20 41.0 +1.8**
BAGL Bagley Icefiel 6.07 39 **Pn** **06 20 40.9 +1.9**
SKT Skwentna 6.09 352 Pn **Pn** **06 20 41.1 +1.8**
M20K Styx River 6.17 345 Pn **Pn** **06 20 42.9 +2.4**
VRDI Verde Repeater 6.21 29 Pn **Pn** **06 20 43.0 +1.8**
N25K Chitina, Valde 6.25 23 **Pn** **06 20 43.4 +1.8**
N25K Chitina, Valde 6.25 23 P **Pn** **06 20 43.4 +1.8**
baz=208
GLB Gilahina Butte 6.29 27 **Pn** **06 20 44.0 +1.8**

KIAG Kiagna River 6.30 35 **Pn** **06 20 44.1 +1.7**
GRNC Granite Creek 6.36 38 **Pn** **06 20 44.8 +1.6**
M19K Big River Lodg 6.40 340 Pn **Pn** **06 20 45.1 +1.5**
M24K Tolsona, Glenn 6.42 15 Pn **Pn** **06 20 46.5 +2.6**
MCARA **McCarthy VSAT 6.46 30** **Pn** **06 20 46.1 +1.7**
MCARA **McCarthy VSAT 6.46 30** P **Pn** **06 20 46.5 +2.1**
baz=216
PCA Pinnacle 6.52 47 **Pn** **06 20 47.5 +2.2**
PINM Pinnacle 6.52 47 P **Pn** **06 20 47.5 +2.2**
baz=236
N16K Nishlik Lake 6.55 317 P **Pn** **06 20 48.0 +2.4**
baz=129
BARN Barnard Glacie 6.63 36 **Pn** **06 20 48.9 +2.0**
PNL Peninsula 6.66 52 P **Pn** **06 20 49.8 +2.7**
PNL Peninsula 6.66 52 P **Pn** **06 20 49.6 +2.5**
baz=241
CTG Chitna Glacier 6.67 38 P **Pn** **06 20 49.1 +1.7**
baz=226
CTGM Chitina Glacie 6.67 38 **Pn** **06 20 49.0 +1.6**
LOGN Logan Glacier 6.69 40 **Pn** **06 20 49.6 +1.9**
BCPM Bancas Point 6.70 49 **Pn** **06 20 49.9 +2.2**
L19K White Mountain 6.75 339 Pn **Pn** **06 20 49.3 +0.9**
N15K Kwethluk River 6.90 312 **Pn** **06 20 53.0 +2.6**
O29M Mount Kennedy 7.34 49 **Pn** **06 20 58.7 +2.2**
P29M Windy Craggy 7.39 55 **Pn** **06 20 59.7 +2.4**
CAST Castle Rocks 7.55 352 Pn **Pn** **06 21 02.7 +3.3**
KTH Kantishna Hill 7.62 356 Pn **Pn** **06 21 03.5 +3.1**
TTA Tatalina 7.66 338 Pn **Pn** **06 21 03.1 +2.2**
RIDG Independent Ri 8.17 16 Pn **Pn** **06 21 10.3 +2.5**
BCAR Beaver Creek A 8.18 26 Pn **Pn** **06 21 11.1 +3.1**
IL31 8.94 8 Pn **Pn** **06 21 21.8 +3.5**
ILAR Eielson Array 8.94 8 Pn **Pn** **06 21 21.0 +2.7**
ILAR Eielson Array 8.94 8 Pn **Pn** **06 21 21.2 +2.9**
comp=E,0.1nm,0.3s,baz=190,slow=13,SNR=7.6
ILAR Sn **Sn** **06 22 55.9 -3.0**
comp=E,0.2nm,0.3s,baz=273,slow=22,SNR=6.7
comp=E,0.2nm,0.4s
WHY Whitehorse 9.12 53 Pn **Pn** **06 21 23.0 +2.0**
DLBC Dease Lake 10.98 69 Pn **Pn** **06 21 47.7 +1.4**
comp=E,0.1nm,0.3s,baz=278,slow=7.1,SNR=1.9
DLBC Sn Sn 06 23 38.2 -11
baz=134,slow=27,SNR=0.9
comp=E,0.8nm,0.8s
YKA Yellowknife Ar 18.94 55 P **Pn** **06 23 33.5 +2.8**
baz=264,slow=11,SNR=5.1
comp=E,0.7nm,1.1s
NVAR Mina Array Bea 27.31 117 P **P** **06 24 49.6 -4.7**
comp=E,0.2nm,0.7s,baz=289,slow=11,SNR=2.8
comp=E,0.2nm,0.7s
MA2 Magadan 30.98 302 LR LR 06 39 15.0
comp=E,88nm,18.1s,baz=117,slow=39
FRB Frobisher Bay 38.84 44 LR LR 06 44 13.3
comp=E,105nm,18.5s,baz=289,slow=38

IDC 06 06:20:37.9±2.0, 6°39S×143°21E, h0km, mb3.6/3, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=85.7km s-min=36.5km az=107.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.00**	**212**	Pn	Pn	06 24 20.2	-4.3
	0.1nm,0.3s,baz=30,slow=11,SNR=1.4						
WRA				Lg	Lg	06 28 58.9	
	baz=33,slow=24,SNR=2.1						
ASAR	**Alice Springs**	**19.37**	**207**	P	P	06 25 05.3	-0.2
	0.2nm,0.3s,baz=31,slow=11,SNR=14						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**75.43**	**322**	P	P	06 32 23.6	-0.2
	0.2nm,0.8s,baz=99,slow=4.5,SNR=1.9						
	0.2nm,0.8s						
BVAR	**Borovoye Array**	**84.88**	**325**	P	P	06 33 15.4	+0.7
	0.8nm,0.7s,baz=103,slow=6.4,SNR=4.1						
	0.8nm,0.7s						
ILAR	**Eielson Array**	**87.33**	**24**	P	P	06 33 26.1	-0.4
	0.3nm,0.7s,baz=266,slow=5.5,SNR=4.7						
	0.3nm,0.7s						

*IDC **06** 06:39:22.0±1.2, 6°33S×143°41E, h0km, mb3.7/4, mbtmp3.8/6, ML1.8/1, MS3.1/1, Error ellipse: s-maj=36.5km s-min=24.7km az=73.0*
ISC 06 06:39:23.4±0.9, 6°6S±0°1×143°3E±0°1, h10km, n8, σ1§87/8, mb3.7/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.79**	**127**	Pn	**Pn**	**06 40 35.7**	**+0.1**
	3.0nm,0.3s,baz=337,slow=7.7,SNR=2.6						
PMG				Sn	**Sn**	**06 41 30.3**	**-0.9**
	1.6nm,0.3s,baz=180,slow=20,SNR=1.4						
	8.2nm,0.4s						
WRA	**Warramunga Arr**	**15.88**	**212**	Pn	**Pn**	**06 43 04.7**	**-2.6**
	0.3nm,0.3s,baz=34,slow=12,SNR=6.3						
WRA				Sn	Sn	06 45 54.3	-9.3
	baz=32,slow=21						
WRA				Lg	Lg	06 47 47.0	
	0.1nm,0.3s,baz=31,slow=32,SNR=1.7						
ASAR	**Alice Springs**	**19.25**	**207**	P	**Pn**	**06 43 51.8**	**+2.6**
	2.7nm,0.7s,baz=34,slow=10,SNR=34						
ASAR				Lg	Lg	06 49 44.0	
	baz=27,slow=29,SNR=2.0						
LEM	**Lembang**	**35.40**	**267**	LR	LR	07 04 04.8	
	comp=Z,25nm,18.2s,baz=132,slow=42						
MKAR	**Makanchi Array**	**75.59**	**322**	P	**P**	**06 51 07.1**	**-1.5**
	0.3nm,0.7s,baz=111,slow=6.6,SNR=4.2						
	0.3nm,0.7s						
QSPA	**South Pole Qui**	**83.42**	**180**	P	**P**	**06 51 51.8**	**+0.8**
	2.0nm,0.9s,baz=338,slow=0.8,SNR=3.4						
	2.0nm,0.9s						
BVAR	**Borovoye Array**	**85.05**	**325**	P	**P**	**06 51 59.9**	**+0.6**
	0.7nm,0.8s,baz=107,slow=5.0,SNR=2.2						
	0.7nm,0.8s						
ILAR	**Eielson Array**	**87.46**	**24**	P	**P**	**06 52 11.3**	**+0.4**
	0.2nm,0.8s,baz=265,slow=4.5,SNR=2.2						
	0.2nm,0.8s						

*TEH **06** 06:40:01.4, 37°50N×46°78E, h5km, ML3.7*
ISC 06 06:40:01.6±0.8, 37°50N±0°03×46°76E±0°03, h10km, n32, σ1§87/36, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHSH	**Hashtrud**	**0.44**	**115**	Pg	**Pg**	**06 40 09.8**	**-0.5**
IHSH				Sg	**Sg**	**06 40 16.4**	**+0.1**
IAZR	**Azarshahr**	**0.65**	**287**	Pg	**Pg**	**06 40 14.6**	**+0.4**
ISRB	**Sarab**	**0.79**	**65**	Pg	**Pg**	**06 40 16.1**	**-0.8**
ISRB				Sg	**Sg**	**06 40 27.1**	**-0.2**
IHRS	**Heris**	**0.85**	**15**	Pg	**Pg**	**06 40 17.4**	**-0.6**
ITBZ	**Tabriz**	**0.88**	**327**	Pg	**Pg**	**06 40 17.8**	**-0.8**
ITBZ				Sg	**Sb**	**06 40 31.4**	**+0.3**
MAHB	**Mahabad**	**1.11**	**230**	Pg	**Pb**	**06 40 22.6**	**-0.4**
MAHB				Sg	**Sb**	**06 40 37.8**	**+0.2**
ISHB	**Shabestar**	**1.20**	**311**	Pg	**Pb**	**06 40 23.7**	**-0.8**
IMRD	**Marand**	**1.47**	**326**	Pg	**Pn**	**06 40 28.6**	**+0.2**
GRMI	**Germi**	**1.58**	**34**	Pg	**Pb**	**06 40 30.5**	**-0.6**
SDS1	**Sardasht. Az.**	**1.69**	**218**	Pg	**Pb**	**06 40 32.8**	**0.0**
CSN1	**Caspian**	**1.86**	**87**	Pn	**Pb**	**06 40 35.5**	**-0.1**
GAS1	**Astara - Iran**	**1.87**	**61**	Pn	**Pb**	**06 40 35.4**	**-0.4**
MAKU	**Maku**	**2.47**	**319**	Pn	**Pb**	**06 40 45.0**	**-1.2**
JIR1	**Jirandeh**	**2.56**	**107**	Pn	**Pb**	**06 40 45.3**	**-2.3**
LHJ2	**Lahijan - Gila**	**2.65**	**96**	Pn	**Pb**	**06 40 46.7**	**-2.4**
IDHR	**Dehrash**	**2.81**	**186**	Pn	**Pb**	**06 40 49.8**	**-2.2**
IBZA	**Bozab**	**3.15**	**163**	Pn	**Pb**	**06 40 54.6**	**-3.2**
IRAZ	**Razeghan**	**3.30**	**128**	Pn	**Pn**	**06 40 55.7**	**+2.2**
KLST	**Kelardasht - M**	**3.58**	**105**	Pn	**Pn**	**06 40 59.3**	**+1.9**
IMHD	**Mahdasht**	**3.63**	**119**	Pn	**Pn**	**06 40 60.0**	**+2.1**
ILBA	**Ilam Banvizeh**	**3.89**	**187**	Pn	**Pn**	**06 41 04.4**	**+3.0**
DGRG	**David-gareji**	**4.09**	**345**	P	**Pb**	**06 41 16.5**	**+2.8**
DMNI	**Dmanisi**	**4.31**	**333**	P	**Pg**	**06 41 20.9**	**-3.4**
TRLG	**Trialeti**	**4.53**	**334**	P	**Pg**	**06 41 26.1**	**-2.3**
IDMV	**Damavand**	**4.66**	**113**	Pn	**Pn**	**06 41 14.8**	**+2.5**
IVRN	**Varamin**	**4.73**	**120**	Pn	**Pn**	**06 41 15.4**	**+2.4**
CHRG	**Chargali**	**5.03**	**344**	P	**Pb**	**06 41 27.7**	**-2.0**
IALA	**Alasht**	**5.06**	**104**	Pn	**Pn**	**06 41 20.3**	**+2.6**
SHTL	**Shatili**	**5.30**	**347**	P	**Pb**	**06 41 34.9**	**+0.6**
ISFB	**Sefidab**	**5.44**	**124**	Pn	**Pn**	**06 41 24.4**	**+1.5**
MTEO	**Meteo**	**5.45**	**342**	P	**Pg**	**06 41 44.3**	**-1.7**
IGLO	**Ghaloghah**	**5.74**	**98**	Pn	**Pn**	**06 41 30.2**	**+3.1**

TRN 06 06:40:47.2, 17°05N×62°12W, h134km, MD4.0, 2C, East of Antigua., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANDO	**Antigua, Disas**	**0.29**	**78**	*iP*	Pn	06 41 07.3	+1.5
ANDO				*eS*	Sn	06 41 20.9	+1.1
MBFL	**Flemmings, Mon**	**0.31**	**196**	*eP*	Pn	06 41 07.0	+1.0
MBFL				*eS*	Sn	06 41 20.8	+0.7
ANBD	**Bethesda, Anti**	**0.34**	**91**	*iP*	Pn	06 41 07.5	+1.6
ANBD				*eS*	Sn	06 41 21.0	+0.9
ABD	**La Joyeuse, An**	**0.84**	**133**	*eP*	Pn	06 41 10.7	+1.6
ABD				*eS*	Sn	06 41 27.3	+1.7
FDF	**Fort de France**	**2.49**	**158**	*eP*	Pn	06 41 27.7	+0.2
FDF				*eS*	Sn	06 41 58.9	+0.4
MPOM	**Morne Pois Mar**	**2.86**	**155**	*eP*	Pn	06 41 32.5	+0.3
MPOM				*eS*	Sn	06 42 07.5	+0.5

IDC 06 06:45:30.6±2.8, 53°87N×87°03E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=24.6km s-min=14.5km az=70.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.31**	**274**	I	I	06 54 10.0	
	0.3nm,1.1s,baz=91,slow=315,SNR=7.7						
ZALV	**Zalesovo Beam**	**1.31**	**274**	Pg	Pg	06 45 55.6	-0.2
	0.9nm,0.3s,baz=97,slow=18,SNR=8.6						
ZALV				Lg	Lg	06 46 12.5	
	0.9nm,0.3s,baz=90,slow=33,SNR=7.8						
ZALV				Rg	Rg	06 46 19.7	
	1.5nm,0.3s,baz=96,slow=28,SNR=7.4						
KURBB	**Kurchatov Arra**	**6.15**	**242**	Pn	Pn	06 47 03.6	+1.0
	0.1nm,0.3s,baz=57,slow=13,SNR=3.2						
KURBB				Lg	Lg	06 48 44.9	
	baz=58,slow=30,SNR=1.8						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.70**	**205**	Pn	Pn	06 47 25.1	+1.1
	0.1nm,0.3s,baz=24,slow=13,SNR=5.4						
MKAR				Sn	Sn	06 48 50.8	-1.1
	0.1nm,0.3s,baz=25,slow=22,SNR=1.7						
MKAR				Lg	Lg	06 49 36.9	
	baz=20,slow=30,SNR=2.2						
	0.1nm,0.3s						

*IDC **06** 06:46:04.7±1.3, 19°62N×65°05W, h0km, mb3.2/4, mbtmp3.5/6, ML3.2/2, Error ellipse: s-maj=39.4km s-min=27.1km az=70.0*
*RSPR **06** 06:46:09.9, 19°34N×65°25W, h78km±12km, MD3.7/9*
*NEIC **06** 06:46:09.4±1.0, 19°36N±0°09×65°20W±0°02, h35km±2km, ML3.6/26, Md3.7/9(RSPR), Error ellipse: s-maj=15.6km s-min=3.2km az=1.0*
ISC 06 06:46:07.8±0.8, 19°34N±0°06×65°20W±0°03, h23km, n72, σ1§45/71, mb3.4/4, 8C-5D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUMP	**Col San Antoni**	**1.34**	**207**	*eP*	**Pn**	**06 46 31.4**	**+0.2**
HUMP	**Col San Antoni**	**1.34**	**207**	*eS*	**Sn**	**06 46 49.4**	**+1.0**
HUMP	**Col San Antoni**	**1.34**	**207**		**Pn**	**06 46 31.4**	**+0.2**
HUMP					**Sn**	**06 46 49.4**	**+1.0**
HUMP	**Col San Antoni**	**1.34**	**207**	IAML		06 46 51.7	
	comp=E,822nm,0.2s						
HUMP				IAML		06 46 51.9	
	comp=N,1µm,0.5s						
AOPR	**Arecibo Observ**	**1.78**	**236**	*eP*	**Pn**	**06 46 36.7**	**-0.4**
AOPR	**Arecibo Observ**	**1.78**	**236**	*eS*	**Sn**	**06 46 59.8**	**+0.7**
AOPR	**Arecibo Observ**	**1.78**	**236**		**Sn**	**06 46 59.8**	**+0.7**
AOPR	**Arecibo Observ**	**1.78**	**236**	Pn	**Pn**	**06 46 36.8**	**-0.4**
AOPR	**Arecibo Observ**	**1.78**	**236**	IAML		06 47 04.2	
	comp=E,2µm,0.8s						
AOPR				IAML		06 47 06.1	
	comp=N,935nm,0.5s						
AOPR	**Arecibo Observ**	**1.78**	**236**	*eP*	**Pn**	**06 46 36.5**	**-0.7**
AOPR				*eS*	**Sb**	**06 47 01.0**	**-0.5**
CELP	**Cerrillos**	**1.82**	**226**	*eP*	**Pn**	**06 46 37.5**	**-0.3**
CELP	**Cerrillos**	**1.82**	**226**	*eS*	**Sn**	**06 46 59.9**	**-0.2**
CELP	**Cerrillos**	**1.82**	**226**		**Pn**	**06 46 37.5**	**-0.3**
CELP					**Sn**	**06 46 59.9**	**-0.2**
CELP	**Cerrillos**	**1.82**	**226**	IAML		06 47 17.8	
	comp=N,381nm,0.7s						
OBIP	**Obispado Ponce**	**1.86**	**226**	*eP*	**Pn**	**06 46 36.9**	**-1.3**
OBIP	**Obispado Ponce**	**1.86**	**226**	*eS*	**Sn**	**06 46 59.7**	**-1.4**
OBIP	**Obispado Ponce**	**1.86**	**226**	Pn	**Pn**	**06 46 36.9**	**-1.3**
OBIP	**Obispado Ponce**	**1.86**	**226**		**Sn**	**06 46 59.7**	**-1.4**
OBIP	**Obispado Ponce**	**1.86**	**226**	IAML		06 47 05.1	
	comp=E,443nm,0.6s						
OBIP				IAML		06 47 05.9	
	comp=N,358nm,0.8s						
AGPR	**Aguadilla, PR**	**2.01**	**245**	Pn	**Pn**	**06 46 41.0**	**+0.7**
AGPR				IAML		06 47 10.0	
	comp=E,339nm,0.8s						
AGPR				IAML		06 47 25.2	
	comp=N,352nm,1.0s						
GBPR	**Guanica, Bosqu**	**2.10**	**230**	*eP*	**Pn**	**06 46 42.3**	**+0.8**
GBPR	**Guanica, Bosqu**	**2.10**	**230**		**Pn**	**06 46 42.3**	**+0.8**
LSP	**Las Mesas**	**2.13**	**237**	*eP*	**Pn**	**06 46 42.4**	**+0.3**
LSP	**Las Mesas**	**2.13**	**237**	*eS*	**Sn**	**06 47 07.8**	**0.0**
LSP	**Las Mesas**	**2.13**	**237**		**Sn**	**06 46 42.4**	**+0.3**
LSP					**Sn**	**06 47 07.8**	**0.0**
PRSN	**Puerto Rico Se**	**2.16**	**239**	*eP*	**Pn**	**06 46 43.2**	**+0.8**
PRSN	**Puerto Rico Se**	**2.16**	**239**	*eS*	**Sn**	**06 47 08.6**	**+0.2**
PRSN	**Puerto Rico Se**	**2.16**	**239**		**Sn**	**06 47 08.6**	**+0.2**
PRSN	**Puerto Rico Se**	**2.16**	**239**	Pn	**Pn**	**06 46 42.8**	**+0.4**
PRSN	**Puerto Rico Se**	**2.16**	**239**	IAML		06 47 19.3	
	comp=N,300nm,0.3s						
PRSN				IAML		06 47 20.9	
	comp=E,320nm,0.3s						
MLPR	**Magueyes Islan**	**2.22**	**232**	*eP*	**Pn**	**06 46 43.4**	**+0.2**
MLPR	**Magueyes Islan**	**2.22**	**232**	*eS*	**Sn**	**06 47 10.7**	**+0.7**
MLPR	**Magueyes Islan**	**2.22**	**232**		**Sn**	**06 47 10.7**	**+0.7**
MLPR	**Magueyes Islan**	**2.22**	**232**	Pn	**Pn**	**06 46 43.6**	**+0.4**
MLPR	**Magueyes Islan**	**2.22**	**232**	IAML		06 47 18.0	
	comp=N,170nm,0.9s						
MLPR				IAML		06 47 21.2	
	comp=E,179nm,0.7s						
CRPR	**Cabo Rojo, PR**	**2.25**	**234**	*eP*	**Pn**	**06 46 44.0**	**+0.4**
CRPR	**Cabo Rojo, PR**	**2.25**	**234**	*eS*	**Sn**	**06 47 11.0**	**+0.3**
CRPR	**Cabo Rojo, PR**	**2.25**	**234**		**Sn**	**06 47 11.0**	**+0.3**
CRPR	**Cabo Rojo, PR**	**2.25**	**234**	Pn	**Pn**	**06 46 44.4**	**+0.8**
CRPR	**Cabo Rojo, PR**	**2.25**	**234**	IAML		06 47 17.9	
	comp=E,140nm,0.6s						
CRPR				IAML		06 47 26.4	
	comp=N,161nm,0.8s						
SMRT	**St. Maarten**	**2.39**	**122**	*eP*	**Pn**	**06 46 46.6**	**+1.1**
SMRT	**St. Maarten**	**2.39**	**122**	*eS*	**Sn**	**06 47 16.5**	**+2.4**
SMRT	**St. Maarten**	**2.39**	**122**		**Sn**	**06 47 16.5**	**+2.4**
SMRT	**St. Maarten**	**2.39**	**122**	Pn	**Pn**	**06 46 46.8**	**+1.2**
SMRT	**St. Maarten**	**2.39**	**122**	IAML		06 47 23.8	
	comp=E,456nm,0.6s						
SMRT				IAML		06 47 27.9	
	comp=N,387nm,0.6s						
SABA	**Saba**	**2.52**	**132**	*eP*	**Pn**	**06 46 45.9**	**-1.5**
SABA	**Saba**	**2.52**	**132**		**Pn**	**06 46 45.9**	**-1.5**
SABA	**Saba**	**2.52**	**132**	IAML		06 47 45.1	
	comp=N,444nm,0.7s						
PCDR	**Punta Cana, DR**	**3.12**	**255**	*eP*	**Pn**	**06 46 56.1**	**+0.4**
PCDR	**Punta Cana, DR**	**3.12**	**255**	*eS*	**Sn**	**06 47 32.1**	**-0.2**
PCDR	**Punta Cana, DR**	**3.12**	**255**		**Pn**	**06 46 56.1**	**+0.4**
PCDR					**Sn**	**06 47 32.1**	**-0.2**
PCDR	**Punta Cana, DR**	**3.12**	**255**	IAML		06 47

SDV	**Santo Domingo**	**11.65**	**208**	Pn		**Pn**	**06 48 57.3**	**+4.3**
	comp=N,0.8nm,0.3s,baz=55,slow=10,SNR=9.4							
SDV				Sn		**Sn**	**06 51 02.9**	**+0.3**
	comp=N,0.4nm,0.3s,baz=293,slow=16,SNR=1.7							
	comp=N,2.5nm,0.5s							
BOAV	**Boa Vista**	**17.45**	**164**	Pn		**Pn**	**06 50 08.4**	**-1.5**
PDAR	**Pinedale Array**	**43.95**	**312**	P		**P**	**06 54 13.3**	**-0.2**
	comp=N,0.2nm,0.4s,baz=116,slow=8.4,SNR=4.9							
	comp=N,0.2nm,0.4s							
YKA	**Yellowknife Ar**	**54.77**	**334**	P		**P**	**06 55 34.5**	**-0.9**
	comp=N,0.1nm,0.6s,baz=109,slow=7.3,SNR=5.2							
	comp=N,0.1nm,0.6s							
TORD	**Torodi Ar. Bea**	**64.19**	**84**	P		**P**	**06 56 40.9**	**-0.4**
	comp=N,0.4nm,0.9s,baz=290,slow=5.8,SNR=1.7							
	comp=N,0.4nm,0.9s							
ILAR	**Eielson Array**	**69.15**	**333**	P		**P**	**06 57 11.2**	**-0.8**
	comp=N,0.2nm,0.5s,baz=100,slow=4.7,SNR=5.7							
	comp=N,0.2nm,0.5s							

IDC 06 06:48:04.5±1.1, 15°15S×173°63W, h0km, mb3.9/5, mbtmp3.9/5, MS3.1/3, Error ellipse: s-maj=47.4km s-min=27.3km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**20.09**	**247**	LR	LR	06 58 05.6	
	comp=Z,19nm,20.6s,baz=230,slow=30						
URZ	**Urewera**	**24.43**	**198**	LR	LR	07 01 31.5	
	comp=Z,126nm,18.6s,baz=118,slow=33						
H11S2	**WAKE ISLAND Hy**	**38.63**	**329**	T	T	07 36 19.1	
	baz=146,slow=76,SNR=9.5						
H11S3	**WAKE ISLAND Hy**	**38.65**	**329**	T	T	07 36 20.2	
	baz=146,slow=76,SNR=10						
H11S1	**WAKE ISLAND Hy**	**38.65**	**329**	T	T	07 36 18.4	
	baz=146,slow=76,SNR=6.3						
H11N3	**WAKE ISLAND Hy**	**39.58**	**330**	T	T	07 37 20.0	
	baz=147,slow=76,SNR=3.4						
H11N1	**WAKE ISLAND Hy**	**39.59**	**330**	T	T	07 37 25.0	
	baz=147,slow=76,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**39.60**	**330**	T	T	07 37 21.2	
	baz=147,slow=76,SNR=4.6						
WRA	**Warramunga Ar**	**49.69**	**257**	P	P	06 56 58.5	-0.2
	1.2nm,0.7s,baz=90,slow=6.6,SNR=4.8						
	1.2nm,0.7s						
ASAR	**Alice Springs**	**49.98**	**252**	P	P	06 57 00.8	-0.1
	2.1nm,0.6s,baz=87,slow=8.3,SNR=26						
	2.1nm,0.6s						
NVAR	**Mina Array Bea**	**74.29**	**42**	P	P	06 59 44.4	+0.3
	0.3nm,0.7s,baz=227,slow=8.5,SNR=2.2						
	0.3nm,0.7s						
QSPA	**South Pole Qui**	**74.89**	**180**	P	P	06 59 47.1	+0.1
	2.1nm,0.7s,baz=55,slow=1.3,SNR=13						
	2.1nm,0.7s						
KSRS	**Korea Array**	**75.83**	**316**	LR	LR	07 28 52.3	
	comp=Z,11nm,20.9s,baz=10.0,slow=32						
PDAR	**Pinedale Array**	**82.23**	**42**	P	P	07 00 27.7	-0.3
	0.4nm,0.8s,baz=238,slow=5.2,SNR=3.7						
	0.4nm,0.8s						

*IDC **06** 06:48:09.1±2.1, 15°.40N×95°.60W, h0km, mb3.9/6, mbtmp4.0/7, ML4.0/1, MS3.6/4, Error ellipse: s-maj=38.2km s-min=32.1km az=3.0*
*MEX **06** 06:48:10.7±0.7, 15°.27N×95°.82W, h10km, MD4.5*
*NEIC **06** 06:48:10.4±2.5, 15°.34N±0°.06×95°.77W±0°.04, h10km±2km, mb4.3/74, Md4.5/37(MEX), Error ellipse: s-maj=10.8km s-min=5.2km az=211.0*

ISC 06 06:48:09.9±1.4, 15°26N±0°.05×95°79W±0°.03, h13km±8km, n122, σ1§86/139, mb4.3/22, MS3.6/3, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.59**	**329**		**Pg**	**06 48 20.7**	**-0.8**
HUIG					**Sg**	**06 48 28.4**	**-0.9**
HUIG	**Huatulco**	**0.59**	**329**	*i* P	**Pg**	**06 48 20.7**	**-0.8**
HUIG				*i* S	**Sg**	**06 48 28.4**	**-0.9**
PEIG	**Puerto Escondi**	**1.50**	**299**		**Pn**	**06 48 34.5**	**-2.0**
PEIG	**Puerto Escondi**	**1.50**	**299**	*e*P	**Pn**	**06 48 34.2**	**-2.3**
PEIG				*e*S	**Sn**	**06 48 52.1**	**-3.8**
NILT	**Santiago Nilte**	**1.72**	**41**	*e*P	**Pn**	**06 48 37.6**	**-1.9**
NILT				*e*S	**Sn**	**06 48 59.1**	**-2.2**
OXBJ	**Oaxaca**	**2.00**	**334**	*e*S	**Sn**	**06 49 06.5**	**-2.3**
OXIG	**Oaxaca**	**2.01**	**333**		**Pn**	**06 48 43.3**	**-0.5**
OXIG					**Sn**	**06 49 07.0**	**-2.0**
VHO	**Vista Hermosa**	**2.01**	**333**	*e*P	**Pn**	**06 48 43.3**	**-0.5**
VHO				*e*S	**Sn**	**06 49 07.0**	**-2.0**
CMIG	**Matias Romero**	**2.02**	**26**		**Pn**	**06 48 41.6**	**-2.0**
CMIG					**Sn**	**06 49 07.1**	**-1.6**
CMIG	**Matias Romero**	**2.02**	**26**	Pn	**Pn**	**06 48 42.1**	**-1.5**
	82nm,0.3s,baz=197,slow=10,SNR=884						
CMIG				Sn	**Sn**	**06 49 06.3**	**-2.4**
	90nm,0.3s,baz=338,slow=14,SNR=7.0						
CMIG				LR	LR	06 49 10.4	
	comp=Z,380nm,18.1s,baz=136,slow=34						
CMIG	**Matias Romero**	**2.02**	**26**	*e*P	**Pn**	**06 48 41.6**	**-2.0**
CMIG				*e*S	**Sn**	**06 49 07.1**	**-1.6**
CARR	**Arriaga**	**2.06**	**61**	*e*P	**Pn**	**06 48 42.3**	**-1.9**
CARR				*e*S	**Sn**	**06 49 06.4**	**-3.3**
YOIG	**Yosondua**	**2.31**	**313**		**Pn**	**06 48 48.0**	**0.0**
YOIG					**Sn**	**06 49 15.0**	**-1.5**
YOIG	**Yosondua**	**2.31**	**313**	*e*P	**Pn**	**06 48 48.0**	**0.0**
YOIG				*e*S	**Sn**	**06 49 15.0**	**-1.5**
NEUV	**Arroyo Zacate**	**2.44**	**360**	*e*P	**Pn**	**06 48 48.9**	**-0.5**
NEUV				*e*S	**Sn**	**06 49 18.5**	**-0.6**
PNIG	**Pinotepa**	**2.51**	**297**		**Pn**	**06 48 49.5**	**-1.0**
PNIG	**Pinotepa**	**2.51**	**297**	*i* P	**Pn**	**06 48 49.5**	**-1.0**
PNIG				*e*S	**Sn**	**06 49 16.1**	**-4.9**
PCIG		**2.52**	**80**	*e*P	**Pn**	**06 48 48.4**	**-2.2**
PCIG				*e*S	**Sn**	**06 49 17.4**	**-3.7**
TXIG	**Tlaxiaco**	**2.74**	**316**		**Pn**	**06 48 54.1**	**+0.2**
TXIG					**Sn**	**06 49 24.6**	**-2.4**
TXIG	**Tlaxiaco**	**2.74**	**316**	*e*P	**Pn**	**06 48 54.1**	**+0.2**
TXIG				*e*S	**Sn**	**06 49 24.6**	**-2.4**
TGIG		**2.98**	**59**		**Pn**	**06 48 56.0**	**-0.9**
TGIG					**Sn**	**06 49 32.1**	**-0.4**
TGIG		**2.98**	**59**	*e*P	**Pn**	**06 48 56.0**	**-0.9**
TGIG				*e*S	**Sn**	**06 49 32.1**	**-0.4**
TGBT	**Tuxtla Gutierr**	**3.00**	**60**	*e*S	**Sn**	**06 49 33.7**	**+0.6**
TOIG	**Toxpalan**	**3.07**	**337**		**Pn**	**06 49 00.3**	**+2.1**
TOIG					**Sn**	**06 49 32.7**	**-2.2**
TOIG	**Toxpalan**	**3.07**	**337**	*e*P	**Pn**	**06 49 00.3**	**+2.1**
TOIG				*e*S	**Sn**	**06 49 32.7**	**-2.2**
HLIG	**Huajuapan de L**	**3.20**	**323**		**Pn**	**06 49 01.5**	**+1.4**
HLIG					**Sn**	**06 49 38.3**	**0.0**
HLIG	**Huajuapan de L**	**3.20**	**323**	*e*P	**Pn**	**06 49 01.5**	**+1.4**
HLIG				*e*S	**Sn**	**06 49 38.3**	**0.0**
PMUV	**Sontecomapan**	**3.33**	**11**	*e*P	**Pn**	**06 48 59.1**	**-2.7**
PMUV				*e*S	**Sn**	**06 49 37.5**	**-3.7**
MGIG	**Malinaltepec**	**3.36**	**306**	*e*P	**Pn**	**06 49 02.8**	**+0.5**
MGIG				*e*S	**Sn**	**06 49 40.0**	**-2.1**
PATR	**El Naranjo**	**3.44**	**92**	*e*P	**Pn**	**06 49 02.8**	**-0.7**
PATR				*e*S	**Sn**	**06 49 43.8**	**-0.4**
FTIG	**Fresnillo de T**	**3.46**	**320**		**Pn**	**06 49 05.0**	**+1.4**
FTIG	**Fresnillo de T**	**3.46**	**320**	*e*P	**Pn**	**06 49 05.0**	**+1.4**
FTIG				*e*S	**Sn**	**06 49 42.7**	**-1.8**
TPIG	**Tehuac#an**	**3.48**	**335**		**Pb**	**06 49 12.3**	**+0.8**
TPIG	**Tehuac#an**	**3.48**	**335**	*e*S	**Sn**	**06 49 45.2**	**+0.1**
PAVE	**Pavencul**	**3.49**	**91**	*e*P	**Pn**	**06 49 03.3**	**-0.8**
PAVE				*e*S	**Sn**	**06 49 42.2**	**-3.2**
TLIG	**Tlapa**	**3.51**	**311**		**Pn**	**06 49 05.1**	**+0.8**
TLIG	**Tlapa**	**3.51**	**311**	*e*P	**Pn**	**06 49 05.0**	**+0.7**
TLIG				*e*S	**Sn**	**06 49 43.6**	**-2.2**
CRIG	**Cruz Grande**	**3.53**	**295**		**Pn**	**06 49 03.7**	**-0.8**
CRIG	**Cruz Grande**	**3.53**	**295**	*e*P	**Pn**	**06 49 03.7**	**-0.8**
CRIG				*e*S	**Sn**	**06 49 40.4**	**-5.7**
CHUJ	**Union Juarez**	**3.56**	**92**	*e*P	**Pn**	**06 49 03.9**	**-1.3**
CHUJ				*e*S	**Sn**	**06 49 42.9**	**-4.3**
CCIG	**Comitan**	**3.66**	**73**		**Pn**	**06 49 06.2**	**-0.3**
CCIG	**Comitan**	**3.66**	**73**	*e*P	**Pn**	**06 49 06.1**	**-0.3**
CCIG				*e*S	**Sn**	**06 49 46.1**	**-3.5**
SMSP	**San Marcos**	**3.88**	**94**	*e*S	**Sn**	**06 49 51.4**	**-3.9**
HUEH	**Huehuetenango**	**4.14**	**89**		**Pn**	**06 49 14.7**	**+1.6**
HUEH	**Huehuetenango**	**4.14**	**89**	*e*P	**Pn**	**06 49 10.6**	**-2.5**
HUEH				*e*S	**Sn**	**06 50 03.9**	**+2.4**
JAUV	**Jalcomulco**	**4.19**	**347**	*e*P	**Pn**	**06 49 12.8**	**-0.9**
JAUV				*e*S	**Sn**	**06 49 58.9**	**-3.7**
LVIG	**Laguna Verde**	**4.47**	**352**	*e*S	**Sn**	**06 50 04.6**	**-4.8**
PPM	**Popocatepetl**	**4.65**	**325**	*e*P	**Pn**	**06 49 23.6**	**+3.2**
UNM	**Universidad Na**	**5.18**	**322**	Pn	**Pn**	**06 49 28.5**	**+1.1**
SCIG	**Sabancuy**	**5.74**	**49**	*e*P	**Pn**	**06 49 33.5**	**-1.3**
SCIG				*e*S	**Sn**	**06 50 35.6**	**-5.1**
PETF	**Flores**	**5.93**	**73**		**Pn**	**06 49 37.0**	**-0.5**
PETF	**Flores**	**5.93**	**73**	*e*P	**Pn**	**06 49 36.7**	**-0.8**
PETF				*e*S	**Sn**	**06 50 43.7**	**-1.6**
ESQI	**Esquipulas**	**6.28**	**96**	Pn	**Pn**	**06 49 43.8**	**+1.4**
MTO3	**Montecristo**	**6.28**	**97**		**Pn**	**06 49 44.0**	**+1.5**
CTUV	**Llano Grande**	**6.64**	**339**	*e*P	**Pn**	**06 49 49.0**	**+1.8**
CTUV				*e*S	**Sn**	**06 51 00.0**	**-2.7**
TEIG	**Tepich**	**8.70**	**54**	Pn	**Pn**	**06 50 13.1**	**-2.3**
JTS	**Las Juntas de**	**11.67**	**114**	Pn	**Pn**	**06 50 57.8**	**+1.5**
ARE1	**Arenal 1**	**11.80**	**113**		**Pn**	**06 50 58.6**	**+0.5**
RIMA	**Rio Macho**	**12.86**	**114**	Pn	**Pn**	**06 51 16.0**	**+3.3**
SAND	**Sanderson**	**15.74**	**339**		**Pn**	**06 51 51.5**	**+0.1**
TXAR	**Lajitas Array**	**15.78**	**334**	Pn	**Pn**	**06 51 52.8**	**+0.8**
TXAR	**Lajitas Array**	**15.78**	**334**	Pn	**Pn**	**06 51 53.8**	**+1.8**
	0.1nm,0.3s,baz=150,slow=13,SNR=18						
TXAR				LR	LR	06 57 54.4	
	comp=Z,73nm,20.2s,baz=150,slow=37						
	3.5nm,0.9s						
TX31	**Lajitas Ar. Si**	**15.78**	**334**	Pn	**Pn**	**06 51 52.7**	**+0.7**
BRDY	**Brady**	**16.22**	**350**	P	**Pn**	**06 51 57.7**	**+0.1**
OZNA	**Ozona**	**16.34**	**343**	P	**Pn**	**06 52 00.2**	**+1.0**
ALPN	**Alpine**	**16.68**	**336**	P	**P**	**06 52 05.7**	**-0.2**
ALPN				IAmb	IAmb	06 52 09.4	
	comp=Z,19nm,0.9s						
MNHN	**Monahans**	**17.23**	**339**	P	**Pn**	**06 52 11.2**	**+0.8**
SGCY	**Sterling City**	**17.28**	**345**		**Pn**	**06 52 11.0**	**0.0**
SGCY				IAmb	IAmb	06 52 18.7	
	comp=Z,12nm,0.9s						
PLPT	**Palo Pinto**	**17.62**	**353**		**Pn**	**06 52 15.3**	**+0.1**
ABTX	**Abilene, Hawle**	**17.64**	**349**	P	**Pn**	**06 52 15.1**	**-0.3**
FW06	**Azle**	**17.70**	**355**	P	**Pn**	**06 52 14.4**	**-1.8**
FW06				IAmb	IAmb	06 52 18.8	
	comp=Z,12nm,0.8s						
ODSA	**Odessa**	**17.88**	**341**	P	**Pn**	**06 52 17.9**	**-0.6**
ODSA				IAmb	IAmb	06 52 22.8	
	comp=Z,14nm,0.9s						
Z38A	**Mt. Pleasant**	**17.93**	**2**	P	**Pn**	**06 52 19.1**	**0.0**
Z38A				IAmb	IAmb	06 52 29.5	
	comp=Z,22nm,0.8s						
APMT	**Aspermont**	**18.41**	**348**		**P**	**06 52 24.6**	**-0.2**
DKNS	**Dickens**	**18.90**	**347**	P	**P**	**06 52 30.3**	**-0.1**
DKNS				IAmb	IAmb	06 52 37.1	
	comp=Z,8.3nm,0.7s						
X37A	**Clayton**	**19.25**	**1**	P	**P**	**06 52 34.4**	**+0.3**
X37A				IAmb	IAmb	06 52 47.6	
	comp=Z,12nm,0.8s						
MIAR	**Mount Ida**	**19.30**	**6**		**P**	**06 52 34.1**	**-0.5**
MSTX	**Muleshoe**	**19.66**	**343**	IAmb	IAmb	06 52 41.2	
	comp=Z,19nm,0.8s						
W35A	**Tecumseh**	**19.83**	**357**	P	**P**	**06 52 40.8**	**+0.3**
W35A				IAmb	IAmb	06 52 50.2	
	comp=Z,27nm,1.0s						
SMWD	**Samnorwood**	**20.16**	**349**	P	Pn	06 52 45.7	-0.3
SMWD				IAmb	IAmb	06 52 59.6	
	comp=Z,18nm,1.2s						
AMTX	**Amarillo**	**20.24**	**346**	IAmb	IAmb	06 52 54.1	
	comp=Z,7.3nm,0.8s						
121A	**Cookes Peak, D**	**20.36**	**330**	P	Pn	06 52 48.5	+0.1
121A				IAmb	IAmb	06 52 58.7	
	comp=Z,19nm,1.0s						
TUL3	**Leonard**	**20.56**	**0**	IAmb	IAmb	06 52 56.1	
	comp=Z,12nm,0.8s						
OK033	**Mehan**	**20.72**	**357**	IAmb	IAmb	06 52 53.2	
	comp=Z,18nm,0.8s						
FCAR	**Ozark Folk Cen**	**20.80**	**8**	P	**P**	**06 52 50.5**	**-0.5**
FCAR				IAmb	IAmb	06 52 52.4	
	comp=Z,9.5nm,0.7s						
RLO	**Rose Lookout**	**20.83**	**2**	IAmb	IAmb	06 52 54.0	
	comp=Z,10nm,0.9s						
QUOK	**Quay**	**20.84**	**358**		**P**	**06 52 51.7**	**+0.4**
HHAR	**Hobbs**	**21.00**	**4**	IAmb	IAmb	06 52 57.2	
	comp=Z,7.2nm,0.9s						
OK048	**Pawnee Station**	**21.09**	**357**		**P**	**06 52 54.0**	**-0.1**
U38A	**Gravette**	**21.13**	**3**	IAmb	IAmb	06 52 58.6	
	comp=Z,15nm,0.8s						
LCAR	**Lake Charles**	**21.13**	**10**	P	**P**	**06 52 53.2**	**-1.3**
CROK	**Carrier**	**21.25**	**355**		**P**	**06 52 56.1**	**+0.3**
OK038	**West end E0370**	**21.29**	**353**		**P**	**06 52 57.3**	**+1.0**
BLOK	**Blackwell**	**21.45**	**357**		**P**	**06 52 57.4**	**-0.5**
TUC	**Tucson**	**21.78**	**324**	P	**P**	**06 53 01.4**	**-0.3**
TUC				IAmb	IAmb	06 53 14.4	
	comp=Z,7.8nm,1.1s						
ANMO	**Albuquerque**	**21.82**	**336**	P	**P**	**06 53 00.7**	**-1.4**
ANMO	**Albuquerque**	**21.82**	**336**	P	**P**	**06 53 03.3**	**+1.1**
	comp=Z,2.6nm,1.0s,baz=135,slow=16,SNR=4.4						
	comp=Z,2.6nm,1.0s						
PBMO	**Poplar Bluff**	**21.95**	**12**	IAmb	IAmb	06 53 06.1	
	comp=Z,10nm,0.8s						
RTBA	**Rita Blanca**	**21.98**	**345**	IAmb	IAmb	06 53 05.8	
	comp=Z,12nm,1.0s						
MGMO	**Mountain Grove**	**22.03**	**8**	IAmb	IAmb	06 53 06.7	
	comp=Z,12nm,0.7s						
S39A	**Bolivar**	**22.45**	**5**	P	**P**	**06 53 08.8**	**+0.1**
S39A				IAmb	IAmb	06 53 13.2	
	comp=Z,5.6nm,0.7s						
X18A	**Snowflake**	**23.04**	**329**	P	**P**	**06 53 16.6**	**+1.4**
X18A				IAmb	IAmb	06 53 20.1	
	comp=Z,9.6nm,1.1s						
ROSC	**El Rosal**	**23.52**	**114**	P	**P**	**06 53 19.8**	**-0.6**
X16A	**Lo Mia Camp, P**	**23.72**	**326**	P	**P**	**06 53 24.6**	**+2.7**
X16A				IAmb	IAmb	06 53 33.7	
	comp=Z,5.3nm,0.8s						
KSU1	**Kansas State U**	**23.76**	**358**	P	**P**	**06 53 21.7**	**-0.3**
SDCO	**Great Sand Dun**	**23.99**	**341**	P	**P**	**06 53 24.6**	**0.0**
P40A	**Paris**	**24.40**	**7**	IAmb	IAmb	06 53 41.9	
	comp=Z,11nm,0.9s						
MVCO	**Mesa Verde**	**24.60**	**335**	P	**P**	**06 53 28.8**	**-1.4**
MVCO				IAmb	IAmb	06 53 34.1	
	comp=Z,9.9nm,1.1s						
TCUT	**Toone Canyon**	**29.11**	**335**	P	**P**	**06 54 12.5**	**+1.8**
TCUT				IAmb	IAmb	06 54 14.4	
	comp=Z,8.2nm,0.9s						
NV11	**Mina Array Sit**	**30.35**	**324**	P	**P**	**06 54 21.1**	**-0.5**
NV11				IAmb	IAmb	06 54 34.0	
	comp=Z,7.8nm,1.4s						
NVAR	**Mina Array Bea**	**30.43**	**324**	P	**P**	**06 54 24.2**	**+1.7**
	comp=Z,1.6nm,0.8s,baz=143,slow=8.9,SNR=13						
	comp=Z,1.6nm,0.8s						
ELK	**Elko**	**30.50**	**330**	LR	LR	07 07 18.9	
	comp=Z,133nm,18.8s,baz=132,slow=38						
SNOW	**Snow King Moun**	**30.88**	**339**	IAmb	IAmb	06 54 29.5	
	comp=Z,5.7nm,0.8s						
LOHW	**Long Hollow**	**30.96**	**339**	IAmb	IAmb	06 54 34.6	
	comp=Z,3.3nm,1.1s						
PLID	**Pearl Lake**	**34.28**	**334**	IAmb	IAmb	06 54 58.4	
	comp=Z,4.4nm,1.1s						
YBH	**Yreka Blue Hor**	**35.15**	**324**	LR	LR	07 11 28.7	
	comp=Z,96nm,18.4s,baz=161,slow=40						
F10A	**Beach Ranch, E**	**35.51**	**334**	IAmb	IAmb	06 55 16.4	
	comp=Z,4.2nm,1.1s						
MDP	**Montagnes des**	**43.57**	**99**	LR	LR	07 15 06.3	
	comp=Z,134nm,18.2s,baz=208,slow=37						
YKA	**Yellowknife Ar**	**49.01**	**349**	P	**P**	**06 56 56.0**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=154,slow=7.2,SNR=14						
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**60.25**	**337**	P	**P**	**06 58 18.4**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=138,slow=5.9,SNR=10						
	comp=Z,1.0nm,0.8s						
EKA	**Eskdalemuir Ar**	**79.08**	**36**	P	**P**	**07 00 13.6**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=286,slow=5.0,SNR=2.4						
	comp=Z,0.8nm,0.5s						
ESDC	**Sonseca Array**	**81.80**	**51**	P	**P**	**07 00 29.8**	**+0.8**
	comp=Z,2.6nm,0.9s,baz=284,slow=5.1,SNR=6.5						
	comp=Z,2.6nm,0.9s						

IDC 06 06:49:09.6±2.0, 6°00S×141°81E, h0km, mb3.6/2, mbtmp3.8/3, ML3.9/1, Error ellipse: s-maj=83.5km s-min=30.3km az=104.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.64**	**207**	Pn	Pn	06 52 49.0	-2.6
	0.4nm,0.3s,baz=30,slow=13,SNR=16						
WRA				Sn	Sn	06 55 38.6	-7.2
	0.2nm,0.3s,baz=26,slow=22,SNR=2.8						
WRA				Lg	Lg	06 57 30.6	
	0.1nm,0.3s,baz=27,slow=24,SNR=1.9						
ASAR	**Alice Springs**	**19.14**	**203**	P	P	06 53 34.7	+0.1
	0.4nm,0.3s,baz=32,slow=11,SNR=31						
ASAR				Lg	Lg	06 59 16.1	
	baz=19,slow=30,SNR=1.4						
	5.4nm,0.8s						
MKAR	**Makanchi Array**	**74.27**	**322**	P	P	07 00 49.2	+0.4
	0.5nm,0.6s,baz=126,slow=7.4,SNR=6.7						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**87.55**	**24**	P	P	07 01 58.6	-0.6
	0.3nm,0.8s,baz=251,slow=5.6,SNR=2.2						
	0.3nm,0.8s						

*IDC **06** 07:12:10.3±1.8, 5°.97S×142°.91E, h0km, mb3.9/4, mbtmp4.0/5, ML3.9/1, Error ellipse: s-maj=68.8km s-min=29.3km az=105.0*

ISC 06 07:12:10.9±1.8, 6°.2S±0°.2×143°.0E±0°.5, h10km, n6, σ1§74/7, mb3.8/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.02**	**211**	Pn	**Pn**	**07 15 54.6**	**-1.9**
	0.1nm,0.3s,baz=30,slow=10,SNR=4.8						
WRA				Sn	Sn	07 18 45.5	-8.9
	0.1nm,0.3s,baz=26,slow=21,SNR=3.8						
WRA				Lg	Lg	07 20 40.5	
	baz=30,slow=28,SNR=1.7						
ASAR	**Alice Springs**	**19.43**	**206**	P	**Pn**	**07 16 41.0**	**+2.3**
	0.4nm,0.3s,baz=33,slow=9.9,SNR=27						
ASAR				S	**S**	**07 20 17.1**	**-0.3**
	0.5nm,0.8s,baz=15,slow=25,SNR=2.0						
ASAR				Lg	Lg	07 22 29.5	
	baz=24,slow=30,SNR=2.1						
	9.9nm,1.1s						
MKAR	**Makanchi Array**	**75.14**	**322**	P	**P**	**07 23 52.4**	**-1.0**
	0.6nm,0.8s,baz=117,slow=6.9,SNR=5.0						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**79.02**	**324**	P	**P**	**07 24 15.7**	**+0.6**
	0.6nm,0.8s,baz=111,slow=5.2,SNR=4.7						
	0.6nm,0.8s						
BVAR	**Borovoye Array**	**84.59**	**325**	P	**P**	**07 24 45.5**	**+1.0**
	2.6nm,0.8s,baz=120,slow=6.0,SNR=11						
	2.6nm,0.8s						
ILAR	**Eielson Array**	**87.27**	**24**	P	**P**	**07 24 56.6**	**-0.8**
	0.7nm,1.0s,baz=255,slow=5.3,SNR=6.7						
	0.7nm,1.0s						

*IDC **06** 07:14:00.2±4.8, 22°.89N×121°.82E, h0km, mb3.5/4, mbtmp3.6/5, ML3.6/1, MS2.9/2, Error ellipse: s-maj=102.7km s-min=54.2km az=5.0*
*JMA **06** 07:14:06.2±0.1, 23°.9N±0°.3×12°2E±°, h1km, MV3.3/13, TAIWAN REGION*
*ASIES **06** 07:14:06.7, 23°.89N×121°.58E, h8km, ML3.9, Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10²¹Nm; Mrr-3.36; Mθθ2.85; Mφφ0.51; Mrθ-0.21; Mrφ-4.26; Mθφ3.21; Fault plane solution: M06.19090×10²¹ NP1: φs158.92000°, δ67.23000°, λ-49.34000°. NP2: φs273.17000°, δ45.62000°, λ-147.22000°. Principal axes: T Plg12.7640°, Azm220.7280°; N Plg36.9350°, Azm320.5340°; P Plg50.1910°, Azm114.9560°;*
*TAP **06** 07:14:06.7, 23°.89N×121°.58E, h8km, ML3.9, C*

ISC 06 07:14:06.9±0.8, 23°.88N±0°.01×121°.63E±0°.02, h7km±5km, n183, σ0§96/331, mb3.4/4, 1C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.10**	**346**	*i* P	**Pg**	**07 14 09.7**	**+0.4**
	baz=14						
HWA				*i* S	**Sg**	**07 14 12.3**	**+1.4**
	baz=14						
SHUL	**Shoufeng**	**0.11**	**216**	P	**Pg**	**07 14 09.8**	**+0.5**
	baz=189						
SHUL				S	**Sg**	**07 14 13.1**	**+2.2**
	baz=189						
ETM	**Tongmen**	**0.15**	**305**	⇓P	**Pg**	**07 14 09.5**	**-0.6**
	baz=305						
ETM				*e*S	**Sg**	**07 14 11.7**	**-0.6**
	baz=305						
ESL	**Shilin**	**0.19**	**251**	⇑ *i*P	**Pg**	**07 14 10.1**	**-0.7**
	baz=249						
ESL				*i* S	**Sg**	**07 14 12.4**	**-1.0**
	baz=249						
TWD	**Chiawan**	**0.20**	**351**	*i* P	**Pg**	**07 14 11.0**	**-0.1**
	baz=352						
TWD				*i* S	**Sg**	**07 14 13.9**	**0.0**
	baz=352						
LXIB	**Xiulin Townshi**	**0.25**	**306**	P	**Pg**	**07 14 11.1**	**-0.7**
	baz=310						
LXIB				S	**Sg**	**07 14 14.6**	**-0.6**
	baz=310						
WARBT	**Fenglin Townsh**	**0.28**	**235**	P	**Pg**	**07 14 11.8**	**-0.6**
	baz=235						
WARBT				S	**Sg**	**07 14 15.2**	**-0.8**
	baz=235						
EGFH	**Guangfu**

ECBN eS Sb 07 14 28.8 +0.9
baz=178
EWUT Wuta 0.58 13 P Pg 07 14 18.3 +0.1
baz=5.0
EWUT S Sb 07 14 26.9 -1.0
baz=5.0
NNSB Datong 0.59 338 ⇓P Pg 07 14 18.1 -0.3
baz=332
NNSB S Sg 07 14 26.5 +0.3
baz=332
NNSH Datong 0.59 338 P Pg 07 14 18.3 -0.2
baz=334
NNSH S Sg 07 14 25.8 -0.5
baz=334
EYUL Yuli 0.60 209 P Pg 07 14 18.6 +0.1
baz=219
EYUL eS Sb 07 14 28.3 -0.2
baz=219
TWF1 Yuli 0.60 211 iP Pg 07 14 18.5 -0.1
baz=218
TWF1 eS Sg 07 14 27.3 +0.8
baz=218
NNS Nan Shan 0.61 337 iP Pg 07 14 18.4 -0.3
baz=332
NNS iS Sb 07 14 27.1 -1.7
baz=332
SSLB Suanglung 0.63 262 P Pg 07 14 18.8 -0.2
SSLB Suanglung 0.63 262 ⇓P Pg 07 14 18.7 -0.3
baz=269
SSLB S Sg 07 14 26.2 -1.0
baz=269
WPL Puli Township 0.63 282 P Pg 07 14 19.2 +0.1
baz=283
WPL S Sg 07 14 27.1 -0.2
baz=283
LATG Datong 0.66 352 P Pg 07 14 19.6 -0.1
baz=344
LATG eS Sb 07 14 30.7 +0.4
baz=344
DPDB Guoxing 0.66 284 P Pg 07 14 19.8 +0.1
baz=284
DPDB S Sg 07 14 27.8 -0.6
baz=284
SMLT Sun Moon Lake 0.67 271 iP Pg 07 14 19.7 -0.2
baz=271
SMLT iS Sg 07 14 28.4 -0.2
baz=271
WCS Beigang Elemen 0.68 285 P Pg 07 14 20.2 +0.1
baz=286
WCS S Sg 07 14 29.2 +0.3
baz=286
TYC Yuchr 0.71 272 iP Pg 07 14 20.3 -0.3
baz=282
TYC iS Sg 07 14 29.5 -0.4
baz=282
CHKH Chenggong 0.71 198 P Pb 07 14 21.6 -0.2
baz=182
CHKH S Sb 07 14 32.7 +1.0
baz=182
ESAO Su ao 0.72 16 P Pb 07 14 21.5 -0.4
baz=7.0
ESAO S Sb 07 14 31.7 -0.3
baz=7.0
NDT Datong Townshi 0.73 351 P Pb 07 14 21.2 -0.8
baz=344
NDT S Sg 07 14 30.5 0.0
baz=344
WHYT Xinyi Township 0.73 256 P Pb 07 14 21.4 -0.7
baz=262
WHYT S Sg 07 14 30.2 -0.4
baz=262
FULB Fuli 0.74 205 P Pb 07 14 22.4 +0.2
baz=221
FULB eS Sn 07 14 34.3 -1.1
baz=221
WHP Taichung City 0.74 303 P Pb 07 14 21.4 -0.9
baz=295
WHP S Sb 07 14 31.4 -1.2
baz=295
TWC Suao 0.76 15 iP Pb 07 14 21.8 -0.6
baz=8.0
TWC iS Sb 07 14 33.0 +0.1
baz=8.0
NDS Dongshan 0.76 6 P Pb 07 14 21.7 -0.8
baz=6.0
NDS S Sb 07 14 32.2 -0.8
baz=6.0
ENTT Nioudou 0.76 355 iP Pg 07 14 21.6 -0.1
baz=356
ENTT iS Sb 07 14 32.7 -0.5
baz=356
CHKT Chengkung 0.81 198 iP Pb 07 14 22.9 -0.4
baz=183
CHKT iS Sn 07 14 37.0 0.0
baz=183
EHD Haiduan 0.82 208 P Pg 07 14 22.9 +0.1
baz=220
EHD eS Sb 07 14 35.1 +0.3
baz=220
YHNB Yeheng 0.82 344 P Pb 07 14 23.3 -0.3
YHNB Yeheng 0.82 344 P Pb 07 14 22.9 -0.7
YHNB Yeheng 0.82 344 P Pg 07 14 22.7 -0.1
baz=344
YHNB S Sb 07 14 33.7 -1.2
baz=344
WJS Zhushan 0.83 266 P Pn 07 14 24.0 -1.1
baz=273
WJS S Sb 07 14 35.7 +0.6
baz=273
NSK Sanguang 0.83 343 iP Pg 07 14 22.9 -0.1
baz=343
NSK iS Sb 07 14 34.2 -1.0
baz=343
ALS Alishan 0.84 244 iP Pg 07 14 23.3 +0.1
baz=245
ALS S Sb 07 14 34.6 -1.1
baz=245
TWE Neicheng 0.84 2 iP Pb 07 14 23.4 -0.5
baz=3.0
TWE iS Sb 07 14 35.1 -0.3
baz=3.0
ECS Chishang 0.86 206 P Pb 07 14 24.5 +0.2
baz=219
ECS eS Sb 07 14 36.6 +0.6
baz=219
WNT Mingjian 0.87 270 iP Pn 07 14 24.6 -1.0
baz=276
WNT iS Sn 07 14 37.2 -1.3
baz=276
WWF Wufeng 0.87 281 P Pn 07 14 25.0 -0.6
baz=287
WWF eS Sn 07 14 37.1 -1.4
baz=287
WNT1 Nantou City 0.87 272 P Pn 07 14 25.1 -0.5
baz=278
WNT1 S Sn 07 14 37.5 -1.0
baz=278
FUSB Fushanzhiwuyua 0.88 357 P Pb 07 14 24.1 -0.5
baz=357
FUSB S Sb 07 14 36.6 0.0
baz=357
NFF Wufeng Townshi 0.89 328 P Pb 07 14 23.9 -0.8
baz=328
NFF S Sb 07 14 35.5 -1.2
baz=328
ELDTW Lidau 0.89 220 iP Pg 07 14 23.3 -0.6
baz=219
ELDTW S Sg 07 14 35.4 -0.1
baz=219
ILA Ilan 0.89 7 P Pg 07 14 23.4 -0.7
baz=6.0
ILA S Sn 07 14 38.1 -1.0
baz=6.0
NWLT Wulai 0.90 353 P Pb 07 14 24.5 -0.5
baz=352
NWLT S Sb 07 14 36.5 -0.7
baz=352
TWQ1 Liyutan 0.91 301 iP Pn 07 14 25.4 -0.8
baz=302
TWQ1 S Sn 07 14 38.0 -1.7
baz=302
TCU Taichung 0.92 287 iP Pn 07 14 25.9 -0.3
baz=283
TCU S Sn 07 14 37.9 -1.8
baz=283
CHN5 Tsauling 0.92 253 iP Pb 07 14 25.2 0.0
baz=242
CHN5 iS Sn 07 14 38.8 -1.0
baz=242
NSTT Nanjuang 0.95 323 iP Pb 07 14 25.3 -0.4
baz=323
NSTT iS Sb 07 14 37.6 -0.8
baz=323
EDH Donghe 0.95 199 P Pg 07 14 23.8 -1.4
baz=191
EDH S Sn 07 14 39.4 -1.0
baz=191
LIOB Emei 0.95 324 P Pb 07 14 25.7 0.0
baz=324
LIOB S Sb 07 14 38.2 -0.3
baz=324
WYL Yuanlin Townsh 0.97 275 eP Pb 07 14 26.0 0.0
baz=276
WYL S Sn 07 14 40.4 -0.4
baz=276
NJD Zhudong 0.99 330 P Pn 07 14 27.4 +0.1
baz=329
NJD S Sn 07 14 41.0 -0.5
baz=329
WGK Gukeng 1.00 259 iP Pn 07 14 27.1 -0.3
baz=261
WGK iS Sn 07 14 41.8 +0.2
baz=261
EGS 1.00 16 iP Pn 07 14 28.1 +0.7
baz=15
EGS eS Sb 07 14 39.9 -0.1
baz=15
WCHH Zhanghua 1.00 282 P Pn 07 14 27.4 0.0
baz=283
WCHH S Sn 07 14 42.4 +0.6
baz=283
NMLH Miaoli 1.01 311 P Pn 07 14 27.4 -0.2
baz=321
NMLH S Sb 07 14 40.3 0.0
baz=321
WDLH Douliu 1.02 260 P Pn 07 14 27.3 -0.3
baz=262
WDLH S Sn 07 14 41.9 -0.3
baz=262
WDJ Dajia District 1.02 298 P Pn 07 14 27.8 +0.2
baz=298
WDJ S Sn 07 14 41.8 -0.4
baz=298
WCKO Fanlu 1.04 245 P Pn 07 14 27.5 -0.4
baz=247
WCKO S Sb 07 14 41.3 +0.3
baz=247
STYH Taoyuan 1.05 228 P Pb 07 14 27.3 -0.2
baz=234
STYH S Sn 07 14 42.6 -0.5
baz=234
HSN1 Hsinchu 1.06 328 P Pn 07 14 28.1 -0.1
baz=327
HSN1 S Sn 07 14 42.3 -0.9
baz=327
NJN Zhunan 1.06 319 eP Pn 07 14 28.0 -0.3
baz=319
NJN eS Sb 07 14 41.7 0.0
baz=319
LONT Longtian 1.07 206 P Pg 07 14 26.3 -1.2
baz=209
LONT eS Sb 07 14 42.1 +0.1
baz=209
STYT Tauyuan 1.07 229 iP Pb 07 14 27.6 -0.3
baz=235
STYT iS Sb 07 14 42.1 0.0
baz=235
TPUB Ta-pu 1.08 238 P Pn 07 14 28.1 -0.5
TPUB Ta-pu 1.08 238 P Pn 07 14 28.3 -0.3
TPUB Ta-pu 1.08 238 P Pn 07 14 28.4 -0.1
baz=240
TPUB eS Sn 07 14 43.5 -0.3
baz=240
SBCB Hsinchu 1.09 327 P Pn 07 14 29.1 +0.5
baz=326
SBCB eS Sn 07 14 44.0 +0.2
baz=326
CHN4 Tsaushan 1.09 241 iP Pn 07 14 28.4 -0.2
baz=236
CHN4 iS Sb 07 14 42.7 +0.2
baz=236
HSN Hsinchu 1.10 327 iP Pn 07 14 28.7 -0.1
baz=337
HSN S Sn 07 14 44.2 -0.1
baz=337
TATO Taipei 1.10 353 P Pn 07 14 28.7 -0.1
TATO Taipei 1.10 353 P Pn 07 14 28.9 +0.1
TATO Taipei 1.10 353 P Pn 07 14 28.4 -0.3
baz=351
TATO S Sn 07 14 43.0 -1.3
baz=351
TIPB Shuangxi 1.10 9 P Pn 07 14 28.3 -0.6
baz=358
TIPB S Sb 07 14 42.3 -0.7
baz=358
WTP Ta-pu 1.12 236 iP Pb 07 14 28.6 -0.1
baz=239
WTP S Sn 07 14 44.4 -0.5
baz=239
WRL Guolierlin Hig 1.15 271 P Pn 07 14 29.3 -0.1
baz=273
WRL S Sn 07 14 46.0 +0.6
baz=273
WTK Tuku 1.15 261 P Pn 07 14 29.1 -0.4
baz=263
WTK S Sn 07 14 46.9 +1.3
baz=263
NTY Taoyuan 1.16 345 eP Pn 07 14 31.8 +2.2
baz=343
NTY eS Sn 07 14 48.8 +3.1
baz=343
NCUH Zhongli 1.16 340 P Pn 07 14 30.0 +0.4
baz=338
NCUH S Sn 07 14 47.4 +1.7
baz=338
RLNB Erlin 1.17 271 P Pn 07 14 30.2 +0.6
baz=273
RLNB S Sn 07 14 46.0 +0.2
baz=273
CHY Chiayi 1.17 251 P Pb 07 14 28.5 -0.9
baz=254
CHY S Sn 07 14 46.7 +0.8
baz=254
TWG Pinlang 1.17 206 iP Pb 07 14 28.7 -0.8
baz=210
TWG eS Sn 07 14 45.9 0.0
baz=210
TWGBT Beinan 1.17 206 P Pn 07 14 30.5 +0.8
TWGBT Beinan 1.17 206 P Pn 07 14 30.7 +1.0
TWGBT Beinan 1.17 206 P Pb 07 14 26.9 -2.6
baz=210
TWGBT eS Sb 07 14 44.8 0.0
baz=210
TWB1 Santiao Chiao 1.17 16 iP Pn 07 14 30.3 +0.5
baz=6.0
TWB1 eS Sn 07 14 46.6 +0.6
baz=6.0
NWF Wu-fen Shan 1.20 6 iP Pn 07 14 30.0 -0.2
baz=3.0
NWF eS Sn 07 14 47.1 +0.4
baz=3.0
WFSB Wu-fen Shan 1.20 6 P Pn 07 14 30.6 +0.5
baz=3.0
WFSB eS Sn 07 14 47.1 +0.5
baz=3.0
LDUT Ludao 1.21 187 P Pb 07 14 27.7 -2.4
baz=169
LDUT S Sb 07 14 45.5 -0.4
baz=169
TWK Hsinying 1.21 240 iP Pn 07 14 30.4 +0.1
baz=244
TWK iS Sn 07 14 47.7 +0.7
baz=244
CHN1 Nanshi 1.23 236 iP Pg 07 14 30.8 +0.3
baz=240
CHN1 iS Sn 07 14 48.9 +1.6
baz=240
SNST Tainan City 1.23 238 P Pg 07 14 31.1 +0.6
baz=242
SNST S Sn 07 14 49.2 +1.8
baz=242
SXI1 Grass Mountain 1.23 10 P Pg 07 14 31.5 +0.9
baz=349
SXI1 S Sn 07 14 49.1 +1.5
baz=349
TWS1 Kuangyinshan 1.23 351 iP Pg 07 14 31.1 +0.5
baz=348
TWS1 S Sn 07 14 48.8 +1.2
baz=348
WTCT Ta-ch'eng 1.24 270 eP Pn 07 14 29.5 -1.1
baz=271
WTCT S Sn 07 14 47.4 -0.2
baz=271
SGST Jiashian 1.25 231 iP Pn 07 14 30.1 -0.7
baz=233
SGST iS Sn 07 14 48.9 +1.0
baz=233
SLGT Liugui 1.26 226 P Pg 07 14 31.1 -0.1
baz=232
SLGT S Sn 07 14 50.5 +2.3
baz=232
YM01 YM01 1.27 357 P Pg 07 14 31.8 +0.5
baz=354
YM01 eS Sn 07 14 47.9 -0.4
baz=354
TNOU National Taiwa 1.27 6 eP Pn 07 14 30.6 -0.6
baz=2.0
TNOU S Sn 07 14 48.6 +0.1
baz=2.0
NTST Danshui 1.29 353 P Pg 07 14 32.0 +0.3
baz=5.0
NTST S Sn 07 14 51.8 +2.9
baz=5.0
ANP Anpu 1.31 356 iP Pg 07 14 32.3 +0.3
baz=353
ANP eS Sn 07 14 49.1 -0.4
baz=353
WSL Shuilin Townsh 1.33 255 P Pg 07 14 33.4 +0.9
baz=271
WSL S Sg 07 14 52.6 +2.8
baz=271
ICHU Yijhu 1.34 248 P Pg 07 14 33.0 +0.4
baz=252
ICHU S Sg 07 14 52.9 +2.8
baz=252
YOJ Yonaguni jima 1.39 65 P Pn 07 14 32.4 -0.2
baz=69
YOJ eS Sg 07 14 52.5 +0.9
baz=69
YOJ Yonaguni jima 1.39 65 eP Pn 07 14 32.5 -0.2
YOJ S Sg 07 14 51.7 +0.1
CHN8 Yiju 1.41 248 P Pg 07 14 33.5 -0.4
baz=253
CHN8 iS Sg 07 14 53.6 +1.4
baz=253
ECL Taimali 1.42 206 P Pn 07 14 32.2 -0.9
baz=186
ECL eS Sn 07 14 51.4 -0.7
baz=186
SCST Cishan 1.44 227 P Pg 07 14 34.7 +0.2
baz=235
SCST S Sg 07 14 55.4 +2.2
baz=235
SSD Sandimen 1.45 219 iP Pn 07 14 33.5 -0.1
baz=225
SSD S Sg 07 14 55.1 +1.4
baz=225
SHHT Tainan City 1.45 234 P Pg 07 14 35.8 +1.0
baz=241
SHHT S Sg 07 14 56.6 +2.9
baz=241
TSMG Majia 1.48 218 P Pg 07 14 34.9 -0.4
baz=224
TSMG S Sg 07 14 56.0 +1.6
baz=224
TWM1 Shoushan 1.53 227 iP Pg 07 14 36.8 +0.5
baz=235
TWM1 eS Sg 07 14 58.7 +2.7
baz=235
MASBT Mashibuluo 1.56 216 P Pb 07 14 35.4 -0.7
baz=226
MASBT S Sg 07 14 59.8 +2.7
baz=226
TSCK Chigu Township 1.59 243 P Pb 07 14 35.8 -0.9
baz=249
TSCK S Sg 07 14 59.4 +1.2
baz=249
EAST Anshuo 1.65 206 iP Pg 07 14 38.1 -0.5
baz=186
EAST eS Sn 07 14 56.8 -1.1
baz=186
TAWH Dawu Township 1.68 204 P Pn 07 14 36.1 -0.6
baz=210
TAWH eS Sb 07 14 58.7 -0.7
baz=210
WSSB Gushan 1.76 226 eP Pb 07 14 39.3 -0.2
baz=238
WSSB eS Sg 07 15 04.8 +1.3
baz=238
SCZT Fangliau 1.76 212 iP Pb 07 14 39.2 -0.4
baz=187
SCZT S Sg 07 15 02.8 -0.9
baz=187
SLIU Shizi 1.82 205 P Pn 07 14 38.1 -0.6
baz=215
SLIU eS Sn 07 15 02.2 +0.2
baz=215
LAY Lan-yu 1.83 182 iP Pn 07 14 36.6 -2.2
baz=163
LAY S Sn 07 15 01.5 -0.8
baz=163
LYUB Lan-yu 1.87 181 P Pn 07 14 35.8 -3.5
baz=162
LYUB eS Sn 07 14 59.0 -4.2
baz=162
WDGT Dungji 1.91 252 iP Pn 07 14 40.1 +0.2
baz=258
WDGT S Sb 07 15 05.6 -0.6
baz=258
PHUB P'eng-hu 1.92 260 P Pn 07 14 40.3 +0.2
baz=264
PHUB S Sb 07 15 05.9 -0.6
baz=264
PNG Penghu 1.93 261 iP Pn 07 14 40.5 +0.4
baz=266
PNG iS Sb 07 15 05.5 -1.2
baz=266
IRIF Iriomote-Funau 1.97 76 eP Pn 07 14 40.7 -0.1
IRIF S Sb 07 15 06.7 -1.2
HATJ Hateruma jima 2.00 84 eS Sn 07 15 07.1 +0.8
HEN Hengchun 2.04 204 eP Pn 07 14 42.7 +1.1
baz=180
HEN eS Sb 07 15 09.0 -0.8
baz=180
TWK1 Hengchun 2.07 202 eP Pn 07 14 41.9 -0.2
baz=211
TWK1 eS Sn 07 15 07.5 -0.7
baz=211
TWKBT Hengchun 2.07 202 eP Pn 07 14 39.6 -2.5
baz=211
TWKBT eS Sb 07 15 10.2 -0.6
baz=211
VCHM Qimei 2.13 252 P Pb 07 14 44.0 -1.8
baz=258
VCHM S Sb 07 15 11.2 -1.2
baz=258
JKRS Kuro-shima 2.20 80 eP Pn 07 14 44.8 +0.9
VWUC VWUC 2.28 300 P Pn 07 14 44.0 -0.9
baz=299
VWUC eS Sn 07 15 13.9 +0.7
baz=299
JIJ Ishigaki jima 2.34 78 P Pn 07 14 45.5 -0.4
JIJ S Sn 07 15 14.1 -0.8
JISG Ishigakijimahi 2.55 73 P Pn 07 14 48.6 -0.1
JISG S Sn 07 15 20.3 +0.4
PTMZ Houxiangcun 2.56 297 P Pn 07 14 47.9 -1.0
baz=297
PTMZ eS Sn 07 15 20.1 -0.2
baz=297
MATB Ma-tsu 2.73 326 P Pn 07 14 50.2 -1.0
baz=309
MATB S Sn 07 15 25.4 +0.9
baz=309
KNM Kinmen 2.97 281 P Pn 07 14 55.5 +1.0
baz=282
KNM eS Sb 07 15 34.3 -2.4
baz=282
KNMB Chin-men Tao 3.02 282 P Pn 07 14 54.8 -0.3
baz=283
KNMB eS Sn 07 15 32.7 +1.1
baz=283
LYJJ Jianjiangzhen 3.16 328 P Pn 07 14 57.5 +0.5
baz=312
LYJJ eS Sn 07 15 36.2 +1.2

baz=312
MHZQ Yeshan 3.24 314 P **Pn** **07 14 58.0 -0.2**
baz=311
MHZQ *e*S **Sn** **07 15 37.8 +0.9**
baz=311
XPSS Dashiqiu 3.31 337 P **Pn** **07 14 59.2 +0.1**
baz=332
XPSS *e*S **Sn** **07 15 40.6 +1.9**
baz=332
AXDP Jialang 3.49 288 P **Pn** **07 15 01.4 -0.3**
baz=288
AXDP *e*S **Sn** **07 15 43.5 +0.2**
baz=288
ZPLA Ao Xicun 3.55 272 *e*P **Pn** **07 15 03.2 +0.7**
baz=274
ZPLA *e*S **Sn** **07 15 46.3 +1.5**
baz=274
KSRS Korea Array 14.57 20 Pn **P** **07 17 38.4 -1.7**
0.2nm,0.3s,baz=199,slow=12,SNR=2.2
1.1nm,0.5s
MJAR Matsushiro Arr 19.06 45 LR LR 07 26 12.9
comp=Z,37nm,18.9s,baz=249,slow=37
CMAR Chiang Mai Arr 21.82 260 LR LR 07 28 41.7
comp=Z,23nm,18.2s,baz=105,slow=40
SONM Songino Array 26.81 337 P **P** **07 19 51.2 +3.3**
0.2nm,0.3s,baz=146,slow=10,SNR=2.7
0.2nm,0.3s
MKAR Makanchi Array 38.84 316 P **P** **07 21 33.5 +0.8**
0.5nm,0.8s,baz=105,slow=7.6,SNR=4.6
0.5nm,0.8s
ZALV Zalesovo Beam 40.72 327 P **P** **07 21 50.1 +1.9**
0.4nm,0.3s,baz=126,slow=7.3,SNR=1.3
0.4nm,0.3s
H11N1 WAKE ISLAND Hy 42.10 87 T T 08 07 13.2
baz=280,slow=75
H11N2 WAKE ISLAND Hy 42.10 87 T T 08 07 11.2
baz=280,slow=75
H11N3 WAKE ISLAND Hy 42.11 87 T T 08 06 56.1
baz=280,slow=75
H11S3 WAKE ISLAND Hy 42.22 88 T T 08 07 01.0
baz=284,slow=75,SNR=109
H11S1 WAKE ISLAND Hy 42.23 88 T T 08 07 02.6
baz=284,slow=75,SNR=72
H11S2 WAKE ISLAND Hy 42.23 88 T T 08 07 03.3
baz=284,slow=75,SNR=66
YKA Yellowknife Ar 83.09 23 P **P** **07 26 31.9 -1.2**
0.2nm,0.6s,baz=313,slow=4.5,SNR=5.7
0.2nm,0.6s

TAP 06 07:19:04.6, 23.90N×121.53E, h12km, ML1.7, 1C-1D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETM	**Tongmen**	**0.07**	**335**	P	Pg	07 19 07.9	+0.9
	baz=334						
ETM				S	Sg	07 19 09.7	+0.8
	baz=334						
HWA	**Hwalien**	**0.10**	**44**	P	Pb	07 19 08.1	-0.5
	baz=47						
HWA				S	Sg	07 19 10.5	+1.0
	baz=47						
SHUL	**Shoufeng**	**0.12**	**163**	P	Pb	07 19 08.2	-0.5
	baz=163						
SHUL				S	Sg	07 19 10.8	+1.0
	baz=163						
ESL	**Shilin**	**0.12**	**225**	P	Pb	07 19 08.5	-0.3
	baz=220						
ESL				S	Sg	07 19 10.7	+0.7
	baz=220						
TWD	**Chiawan**	**0.19**	**20**	⇓P	Pb	07 19 09.4	-0.6
	baz=21						
TWD				*e*S	Sg	07 19 13.3	+1.7
	baz=21						
WARBT	**Fenglin Townsh**	**0.22**	**215**	⇑*i*P	Pb	07 19 10.2	-0.4
	baz=214						
WARBT				*e*S	Sg	07 19 13.6	+1.1
	baz=214						
OWD	**Renai**	**0.33**	**280**	*e*P	Pb	07 19 11.9	-0.5
	baz=279						
OWD				*e*S	Sb	07 19 16.8	-0.9
	baz=279						
OWD	**Renai**	**0.33**	**280**	*e*P	Pb	07 19 12.0	-0.4
	baz=231						
VWDT	**VWDT**	**0.38**	**247**	*e*P	Pb	07 19 14.1	+0.8
	baz=247						
VWDT				*e*S	Sb	07 19 19.9	+0.7
	baz=247						
WUSB	**Renai**	**0.39**	**284**	P	Pg	07 19 12.7	+0.4
	baz=283						
WUSB				*e*S	Sb	07 19 19.0	-0.4
	baz=283						
WUSB	**Renai**	**0.39**	**284**	*i*P	Pg	07 19 12.7	+0.4
	baz=244						
EHY	**Hungye**	**0.43**	**205**	*e*P	Pb	07 19 14.0	-0.2
	baz=204						
SSLB	**Suanglung**	**0.54**	**258**	P	Pb	07 19 16.7	+0.7
	baz=257						
SSLB				*e*S	Sb	07 19 23.8	+0.1
	baz=257						
YULB	**Yu-li**	**0.55**	**203**	*e*P	Pb	07 19 16.5	+0.3
	baz=202						
YULB				*e*S	Sb	07 19 24.1	+0.1
	baz=202						

TAP 06 07:19:07.2, 24.11N×121.40E, h6km, ML1.6, 1C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LXIB	**Xiulin Townshi**	**0.09**	**170**	*i*P	Pg	07 19 09.2	-0.1
	baz=169						
LXIB				*i*S	Sg	07 19 10.7	0.0
	baz=169						
ETLH	**Xiulin Townshi**	**0.12**	**40**	⇑*i*P	Pg	07 19 09.6	-0.2
	baz=40						
ETLH				S	Sg	07 19 11.6	+0.1
	baz=40						
WHF	**Hehuan Shan**	**0.12**	**285**	*i*P	Pg	07 19 09.6	-0.4
	baz=285						
WHF				S	Sg	07 19 11.4	-0.5
	baz=285						
FUSS	**Fushou**	**0.19**	**314**	P	Pg	07 19 11.1	0.0
	baz=314						
FUSS				*i*S	Sg	07 19 13.9	+0.2
	baz=314						
NACB	**Ninganchiao**	**0.19**	**71**	*e*P	Pg	07 19 10.9	-0.1
	baz=71						
NACB				*e*S	Sg	07 19 13.8	+0.2
	baz=71						
CHGB	**Renai**	**0.21**	**256**	*i*P	Pg	07 19 11.3	0.0
	baz=255						
CHGB				S	Sg	07 19 14.2	0.0
	baz=255						
ETL	**Fush Village**	**0.21**	**77**	*e*P	Pg	07 19 11.8	+0.4
	baz=77						
ETL				S	Sg	07 19 14.4	+0.2
	baz=77						
TWT	**Tachien**	**0.24**	**305**	*e*P	Pg	07 19 11.7	-0.3
	baz=302						
TWT				*e*S	Sg	07 19 15.7	+0.4
	baz=302						
TDCB	**Techi**	**0.26**	**303**	*e*P	Pg	07 19 12.3	+0.1
	baz=302						
TDCB				*e*S	Sg	07 19 15.8	+0.1
	baz=302						
WUSB	**Renai**	**0.28**	**245**	*e*S	Sg	07 19 16.4	-0.1
	baz=244						
SMLT	**Sun Moon Lake**	**0.51**	**243**	*e*P	Pg	07 19 17.0	+0.1
	baz=242						
YHNB	**Yeheng**	**0.56**	**358**	*e*P	Pg	07 19 18.0	+0.1
	baz=358						

CATAC 06 07:20:17.8, 13.11N×88.83W, h35km, ML1.9, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.43**	**6**	*i*P	Pn	07 20 28.4	+0.9
TECO				*i*S	Sn	07 20 36.1	+1.9
TECO				IAML		07 20 38.1	
	comp=Z,46nm,1.0s						
COEG	**Centro de Oper**	**0.51**	**354**	*i*P	Pn	07 20 30.2	+1.5
COEG				*i*S	Sn	07 20 38.7	+2.4
COEG				IAML		07 20 41.5	
	comp=Z,27nm,1.0s						
SJTE	**Alcalda de S**	**0.53**	**341**	*i*P	Pn	07 20 31.0	+2.0
SJTE				*i*S	Sn	07 20 38.8	+2.0
SJTE				IAML		07 20 39.7	
	comp=Z,48nm,1.0s						
PQSS	**Presa 15 de Se**	**0.57**	**27**	*i*P	Pn	07 20 31.2	+1.7
PQSS				*i*S	Sn	07 20 39.1	+1.4
PQSS				IAML		07 20 39.3	
	comp=Z,65nm,1.0s						
SCLA	**Alcaldia de Sa**	**0.60**	**9**	*i*P	Pn	07 20 31.0	+1.1
SCLA				*i*S	Sn	07 20 40.8	+2.4
SCLA				IAML		07 20 44.2	
	comp=Z,18nm,1.0s						
JAYA	**Jayaque - finc**	**0.81**	**312**	*i*P	Pn	07 20 33.0	+0.1
JAYA				*i*S	Sn	07 20 44.7	+0.8
JAYA				IAML		07 20 53.6	
	comp=Z,140nm,1.0s						
NUBE	**Las Nubes**	**1.22**	**310**	*i*P	Pn	07 20 36.6	-1.9
NUBE				*i*S	Sn	07 20 55.5	+1.7
NUBE				IAML		07 21 37.4	
	comp=Z,92nm,1.0s						

*IDC **06** 07:20:48.1±3.6, 5.60S×152.47E, h44km±28km, mb3.5/8, mbtmp3.7/9, ML1.8/1, MS2.9/2, Error ellipse: s-maj=40.5km s-min=11.3km az=106.0*
ISC 06 07:20:47.8±1.0, **5.58S**±0.08×**152.5E**±0.1, **h40**km, **n12**, σ**0.79/13**, **mb3.7/8**, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.34**	**341**	P	**Pn**	**07 21 09.5**	**-0.5**
	10μm,0.4s,baz=116,slow=0.2,SNR=11						
KRVT				S	**Sn**	**07 21 27.6**	**+1.0**
	2μm,0.3s,baz=100,slow=0.8,SNR=7.9						
PMG	**Port Moresby**	**6.49**	**234**	P	**Pn**	**07 22 20.3**	**-0.6**
	1.3nm,0.3s,baz=309,slow=16,SNR=1.6						
PMG				S	**Sn**	**07 23 34.7**	**+1.0**
	18nm,0.3s,baz=357,slow=5.3,SNR=4.0						
PMG				LR	LR	07 24 59.5	
	comp=Z,52nm,21.7s,baz=80,slow=39						
	3.5nm,0.3s						
DZM	**Mont Dzumac**	**21.25**	**142**	LR	LR	07 33 11.3	
	comp=Z,71nm,18.6s,baz=1.0,slow=35						
WRA	**Warrunga Arr**	**22.68**	**229**	P	**P**	**07 25 45.8**	**-0.3**
	0.6nm,0.8s,baz=56,slow=10,SNR=3.1						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**25.36**	**223**	P	**P**	**07 26 12.0**	**+0.7**
	0.9nm,0.7s,baz=60,slow=9.4,SNR=6.5						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**80.69**	**319**	P	**P**	**07 32 56.8**	**-0.1**
	0.3nm,0.6s,baz=103,slow=6.1,SNR=4.5						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**83.00**	**22**	P	**P**	**07 33 07.7**	**-0.9**
	1.1nm,0.8s,baz=247,slow=5.4,SNR=5.8						
	1.1nm,0.8s						
KURBB	**Kurchatov Arra**	**84.20**	**322**	P	**P**	**07 33 14.7**	**-0.3**
	0.3nm,0.4s,baz=124,slow=3.6,SNR=4.3						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**89.66**	**323**	P	**P**	**07 33 40.7**	**-0.8**
	1.1nm,0.7s,baz=106,slow=4.8,SNR=5.3						
	1.1nm,0.7s						
NVAR	**Mina Array Bea**	**92.83**	**52**	P	**P**	**07 33 58.0**	**+1.2**
	0.2nm,0.6s,baz=269,slow=4.4,SNR=2.0						
	0.2nm,0.6s						
YKA	**Yellowknife Ar**	**96.27**	**28**	P	**P**	**07 34 12.1**	**+0.4**
	0.3nm,1.0s,baz=276,slow=5.5,SNR=2.1						
	0.3nm,1.0s						
TORD	**Torodi Ar. Bea**	**150.22**	**287**	PKPbc	**PKPbc**	**07 40 35.3**	**-0.3**
	0.5nm,0.7s,baz=79,slow=2.2,SNR=2.9						

SNET 06 07:21:12.6±0.5, **13.84N×88.96W, h143**km±3km, **ML2.1, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAVA	**Las Pavas**	**0.12**	**168**	*e*P	Pn	07 21 32.6	+0.5
PAVA				*e*S	Sn	07 21 47.5	+0.8
SJTE	**Alcalda de S**	**0.23**	**191**	*e*P	Pn	07 21 32.2	0.0
COEG	**Centro de Oper**	**0.23**	**160**	*e*P	Pn	07 21 32.5	+0.3
COEG				*e*S	Sn	07 21 47.9	+0.8
COEG				*e*S		07 21 48.0	
COEG				IAML		07 21 56.8	
	comp=Z,22nm,0.5s						
SCLA	**Alcaldia de Sa**	**0.26**	**120**	*e*P	Pn	07 21 33.0	+0.8
SCLA				*e*S	Sn	07 21 48.5	+1.4
PQSS	**Presa 15 de Se**	**0.44**	**118**	*e*P	Pn	07 21 33.1	+0.2
JAYA	**Jayaque - finc**	**0.51**	**249**	*e*P	Pn	07 21 33.1	-0.3
JAYA				*e*S	Sn	07 21 49.3	+0.2
SNJE	**San Jose**	**0.62**	**273**	*e*P	Pn	07 21 34.4	+0.3
SLOZ	**Alcaldia de Sa**	**0.82**	**283**	*e*P	Pn	07 21 35.6	+0.4
LCND	**La Caada**	**1.17**	**117**	*e*P	Pn	07 21 38.3	0.0
LCND				IAML		07 22 09.5	
	comp=Z,31nm,0.4s						
YUSH	**Yuscaran**	**2.06**	**86**	*e*P	Pn	07 21 48.8	+0.6

*IDC **06** 07:26:29.6±2.8, 55.98N×149.69W, h0km, mb3.6/1, mbtmp3.6/6, ML3.1/5, MS3.6/27, Error ellipse: s-maj=39.8km s-min=26.4km az=180.0*
*NEIC **06** 07:26:31.6±1.9, 56.03N±0.08×149.86W±0.10, h21km±8km, ML3.9/44, ML3.7(AEIC), Error ellipse: s-maj=12.0km s-min=7.1km az=158.0*
*AEIC **06** 07:26:35.5±1.8, 56.07N±0.08×149.77W±0.09, h11km±7km, Error ellipse: s-maj=11.7km s-min=7.0km az=170.0*
ISC 06 07:26:31.0±1.2, **56.13N**±0.08×**149.89W**±0.06, **h10**km, **n274**, σ**1.91**1/256, **MS3.7**/21, **Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.17**	**302**	Pn	**Pn**	**07 27 06.8**	**-0.3**
OHAK				Sn	**Sn**	**07 27 32.2**	**-1.8**
OHAK	**Old Harbor**	**2.17**	**302**	P	**Pn**	**07 27 07.1**	**0.0**
OHAK	**Old Harbor**	**2.17**	**302**	P	**Pn**	**07 27 07.2**	**0.0**
	baz=121						
OHAK				S	**Sn**	**07 27 32.9**	**-1.2**
	baz=121						
KDAK	**Kodiak Island**	**2.22**	**320**	Pn	**Pn**	**07 27 07.9**	**+0.1**
KDAK				Sn	**Sn**	**07 27 33.5**	**-1.8**
KDAK	**Kodiak Island**	**2.22**	**320**	P	**Pn**	**07 27 08.2**	**+0.3**
	baz=138						
KDAK				S	**Sn**	**07 27 34.4**	**-0.9**
	baz=138						
KDAK	**Kodiak Island**	**2.22**	**320**	Pn	**Pn**	**07 27 08.1**	**+0.3**
	4.6nm,0.3s,baz=126,slow=5.1,SNR=381						
KDAK				Sn	**Sn**	**07 27 33.9**	**-1.3**
	28nm,0.3s,baz=27,slow=19,SNR=30						
KDAK				LR	LR	07 28 19.3	
	comp=Z,2μm,18.4s,baz=206,slow=46						
	33nm,0.7s						
SII	**Sitkinak Islan**	**2.43**	**282**	Pn	**Pn**	**07 27 10.4**	**-0.3**
SII				Sn	**Sn**	**07 27 38.0**	**-2.4**
SII				IAML		07 27 40.2	
	comp=E,427nm,0.8s						
SII	**Sitkinak Islan**	**2.43**	**282**	P	**Pn**	**07 27 10.3**	**-0.3**
SII	**Sitkinak Islan**	**2.43**	**282**	P	**Pn**	**07 27 10.4**	**-0.3**
	baz=101						
SII				S	**Sn**	**07 27 39.7**	**-0.7**
	baz=101						
CHIR	**Chirikof Islan**	**3.23**	**267**	Pn	**Pn**	**07 27 20.6**	**-1.1**
CHIR				IAML		07 27 58.2	
	comp=E,181nm,0.8s						
CHIR	**Chirikof Islan**	**3.23**	**267**		**Sn**	**07 27 57.7**	**-2.6**
CHIR	**Chirikof Islan**	**3.23**	**267**	P	**Pn**	**07 27 21.5**	**-0.2**
	baz=84						
CHIR				S	**Sn**	**07 27 57.7**	**-2.6**
	baz=84						
KAPH	**Katmai Pasha**	**3.46**	**318**		**Pn**	**07 27 26.4**	**+1.6**
CNPM	**China Poot**	**3.48**	**349**		**Pn**	**07 27 24.9**	**-0.3**
CNPM					**Sn**	**07 28 04.5**	**-1.9**
CNPM	**China Poot**	**3.48**	**349**	IAML		07 28 06.5	
	comp=E,215nm,0.8s						
CNPM				IAML		07 28 07.4	
	comp=N,145nm,0.4s						
KAKN	**Katmai Knife C**	**3.55**	**310**		**Pn**	**07 27 27.5**	**+1.3**
KCE	**Katmai Mt Cerb**	**3.58**	**309**		**Pn**	**07 27 28.6**	**+2.1**
ACHA	**Angle Creek He**	**3.62**	**307**		**Pn**	**07 27 28.4**	**+1.3**
BRSE	**Bradley Lake S**	**3.65**	**353**		**Pn**	**07 27 27.1**	**-0.4**
BRSE					**Sn**	**07 28 09.9**	**-0.7**
BRSE	**Bradley Lake S**	**3.65**	**353**	P	**Pn**	**07 27 27.1**	**-0.4**
	baz=172						
BRSE				S	**Sn**	**07 28 09.9**	**-0.7**
	baz=172						
BRLK	**Bradley Lake**	**3.69**	**352**	Pn	**Pn**	**07 27 27.7**	**-0.3**
BRLK				IAML		07 28 14.1	
	comp=N,265nm,0.9s						
BRLK				IAML		07 28 14.9	
	comp=E,186nm,0.6s						
BRLK	**Bradley Lake**	**3.69**	**352**		**Sn**	**07 28 09.8**	**-1.7**
ANCK	**Angle Creek**	**3.69**	**307**		**Pn**	**07 27 29.4**	**+1.4**
KVTA	**Katmai Vly 10**	**3.70**	**310**		**Pn**	**07 27 30.1**	**+1.9**
KAHC	**Katmai Hardscr**	**3.75**	**315**		**Pn**	**07 27 30.7**	**+1.8**
KAHC	**Katmai Hardscr**	**3.75**	**315**	P	**Pn**	**07 27 30.7**	**+1.8**
	baz=131						
AUL	**Augustine Lava**	**3.77**	**331**		**Pn**	**07 27 31.2**	**+2.0**
Q23K	**Middleton Isla**	**3.82**	**28**	Pn	**Pn**	**07 27 28.7**	**-1.0**
Q23K				IAML		07 28 20.3	
	comp=N,134nm,1.7s						
Q23K				IAML		07 28 51.0	
	comp=E,160nm,1.8s						
Q23K	**Middleton Isla**	**3.82**	**28**	P	**Pn**	**07 27 28.8**	**-0.9**
	baz=210						
MID	**Middleton Isla**	**3.82**	**28**	Pn	**Pn**	**07 27 28.4**	**-1.3**
MID				IAML		07 28 14.1	
	comp=N,145nm,1.4s						
MID				IAML		07 28 50.9	
	comp=E,147nm,1.7s						
MID	**Middleton Isla**	**3.82**	**28**	P	**Pn**	**07 27 28.9**	**-0.8**
CNTC	**Contact Creek**	**3.90**	**306**		**Pn**	**07 27 32.3**	**+1.4**
Q17K	**Contact Creek**	**3.90**	**306**	P	**Pn**	**07 27 32.3**	**+1.3**
	baz=122						
KELA	**Mount Kelaz**	**3.93**	**309**		**Pn**	**07 27 32.6**	**+1.2**
SEW	**Seward**	**4.00**	**3**		**Pn**	**07 27 31.4**	**-0.7**
SEW	**Seward**	**4.00**	**3**	P	**Pn**	**07 27 31.4**	**-0.7**
	baz=183						
PLK1	**Peulik 1**	**4.04**	**297**		**Pn**	**07 27 34.2**	**+1.4**
P23K	**Montague Islan**	**4.10**	**18**		**Pn**	**07 27 33.2**	**-0.4**
P23K	**Montague Islan**	**4.10**	**18**	P	**Pn**	**07 27 33.2**	**-0.4**
	baz=199						
O20K	**Slope Mountain**	**4.22**	**341**		**Pn**	**07 27 35.5**	**+0.1**
O20K	**Slope Mountain**	**4.22**	**341**	P	**Pn**	**07 27 35.4**	**+0.1**
	baz=159						
P18K	**Big Mountain,**	**4.34**	**321**		**Pn**	**07 27 37.4**	**+0.3**
P18K	**Big Mountain,**	**4.34**	**321**	P	**Pn**	**07 27 37.6**	**+0.6**
	baz=137						
Q22K	**Cooper Landing**	**4.37**	**1**		**Pn**	**07 27 38.0**	**+0.7**
SLKM	**Skilak Lake**	**4.40**	**358**		**Pn**	**07 27 37.4**	**-0.3**
R16K	**Pilot Point**	**4.46**	**292**		**Pn**	**07 27 40.5**	**+2.0**
R16K	**Pilot Point**	**4.46**	**292**	IAML		07 29 08.8	
	comp=E,115nm,1.4s						
R16K				IAML		07 29 55.4	
	comp=N,123nm,4.3s						
R16K	**Pilot Point**	**4.46**	**292**	P	**Pn**	**07 27 40.5**	**+2.0**
	baz=107						
Q16K	**King Salmon**	**4.46**	**308**		**Pn**	**07 27 40.1**	**+1.5**
Q16K	**King Salmon**	**4.46**	**308**	P	**Pn**	**07 27 40.1**	**+1.5**
	baz=123						
RDSO	**Redoubt South**	**4.59**	**342**		**Pn**	**07 27 39.8**	**-0.7**
RSO	**Redoubt South**	**4.60**	**342**		**Pn**	**07 27 41.2**	**+0.5**
HIN	**Hinchinbrook I**	**4.64**	**21**		**Pn**	**07 27 41.0**	**-0.1**
HIN				IAML		07 28 40.3	
	comp=E,217nm,1.0s						
HIN				IAML		07 28 43.5	
	comp=N,177nm,0.9s						
RDT	**Redoubt**	**4.65**	**345**		**Pn**	**07 27 40.8**	**-0.5**
P17K	**Kvichak River**	**4.67**	**314**		**Pn**	**07 27 43.0**	**+1.5**
P17K	**Kvichak River**	**4.67**	**314**	P	**Pn**	**07 27 43.0**	**+1.5**
	baz=129						
O18K	**Koktuh Hills**	**4.69**	**325**		**Pn**	**07 27 42.1**	**+0.4**
O18K	**Koktuh Hills**	**4.69**	**325**	IAML		07 28 38.1	
	comp=N,83nm,0.9s						
O18K				IAML		07 28 59.5	
	comp=E,70nm,2.0s						
O18K	**Koktuh Hills**	**4.69**	**325**	P	**Pn**	**07 27 42.1**	**+0.4**
	baz=141						
CAPN	**Captain Cook N**	**4.70**	**352**		**Pn**	**07 27 41.3**	**-0.6**
O19K	**Port Alsworth**	**4.70**	**332**	Pn	**Pn**	**07 27 42.2**	**+0.3**
O19K	**Port Alsworth**	**4.70**	**332**	P	**Pn**	**07 27 42.4**	**+0.5**
	baz=149						
NCT	**North Crescent**	**4.72**	**341**		**Pn**	**07 27 41.8**	**-0.6**
CHGN	**Chignik**	**4.76**	**276**	Pn	**Pn**	**07 27 44.2**	**+1.5**
KAIM	**Kayak Island**	**4.79**	**35**	Pn	**Pn**	**07 27 42.9**	**-0.2**
KAIM				IAML		07 28 46.9	
	comp=N,190nm,1.3s						
EYAK	**Cordova Ski Ar**	**4.94**	**24**		**Pn**	**07 27 45.0**	**-0.2**
EYAK	**Cordova Ski Ar**	**4.94**	**24**	P	**Pn**	**07 27 45.0**	**-0.2**
RC01	**Rabbit Creek A**	**4.98**	**1**	Pn	**Pn**	**07 27 46.1**	**+0.4**
RC01				IAML		07 28 45.2	
	comp=E,99nm,0.7s						
RC01				IAML		07 28 48.9	
	comp=N,75nm,0.6s						
RC01	**Rabbit Creek A**	**4.98**	**1**	P	**Pn**	**07 27 45.5**	**-0.2**
	baz=181						
RAGM	**Ragged Mountai**	**5.08**	**31**		**Pn**	**07 27 47.1**	**-0.1**
SUCK	**Suckling Hills**	**5.11**	**37**		**Pn**	**07 27 47.8**	**+0.2**
SUCK				IAML		07 28 44.4	
	comp=N,136nm,0.4s						
SUCK				IAML		07 29 08.4	
	comp=E,112nm,1.2s						
HMT	**Hamilton**	**5.16**	**33**		**Pn**	**07 27 48.3**	**+0.1**
NICHA	**Nichawak Mount**	**5.18**	**35**		**Pn**	**07 27 48.6**	**+0.1**
GOAT	**Goat Mountain**	**5.23**	**29**		**Pn**	**07 27 49.2**	**0.0**
P16K	**Nushagak River**	**5.24**	**307**		**Pn**	**07 27 50.7**	**+1.5**
P16K	**Nushagak River**	**5.24**	**307**	P	**Pn**	**07 27 50.7**	**+1.5**
	baz=121						
N19K	**Bonanza Creek**	**5.28**	**335**	Pn	**Pn**	**07 27 50.3**	**+0.4**
N19K				IAML		07 29 21.5	
	comp=N,39nm,1.0s						
N19K	**Bonanza Creek**	**5.28**	**335**	P	**Pn**	**07 27 50.0**	**0.0**
	baz=151						
SPCP	**Crater Peak Br**	**5.29**	**348**		**Pn**	**07 27 50.0**	**-0.1**
O17K	**Koliganek Bris**	**5.30**	**317**		**Pn**	**07 27 51.1**	**+1.1**
O17K	**Koliganek Bris**	**5.30**	**317**	P	**Pn**	**07 27 51.1**	**+1.1**
	baz=131						
KNK	**Knik Glacier**	**5.35**	**7**	Pn	**Pn**	**07 27 51.3**	**+0.4**
KNK	**Knik Glacier**	**5.35**	**7**	P	**Pn**	**07 27 51.3**	**+0.4**
	baz=188						
SUA	**Susitna One**	**5.37**	**356**	Pn	**Pn**	**07 27 51.1**	**-0.1**
BERG	**Berg Lake**	**5.38**	**35**	Pn	**Pn**	**07 27 50.8**	**-0.4**
GRIN	**Grindle Hills**	**5.42**	**37**		**Pn**	**07 27 51.8**	**0.0**
STLK	**Strandline Lak**	**5.48**	**350**		**Pn**	**07 27 52.8**	**+0.2**
PMR	**Palmer**	**5.50**	**4**	Pn	**Pn**	**07 27 53.5**	**+0.7**
PMR	**Palmer**	**5.50**	**4**	P	**Pn**	**07 27 53.4**	**+0.7**
SNH	**Sunshine Point**	**5.52**	**40**		**Pn**	**07 27 53.1**	**-0.1**
N18K	**Kilae Creek**	**5.55**	**328**	Pn	**Pn**	**07 27 54.0**	**+0.5**
N18K	**Kilae Creek**	**5.55**	**328**	P	**Pn**	**07 27 54.1**	**+0.5**
	baz=143						
KHIT	**Khitrov Hills**	**5.57**	**36**		**Pn**	**07 27 53.1**	**-0.8**
BMRM	**Bremner River**	**5.59**	**28**		**Pn**	**07 27 54.0**	**-0.1**
BMRM	**Bremner River**	**5.59**	**28**	P	**Pn**	**07 27 54.0**	**-0.1**
	baz=211						
O16K	**Kokwok River B**	**5.59**	**312**	Pn	**Pn**	**07 27 54.6**	**+0.6**
CNBA	**Chernabura Isl**	**5.67**	**261**	Pn	**Pn**	**07 27 53.9**	**-1.3**
GHO	**Glory Hole Cre**	**5.68**	**5**		**Pn**	**07 27 56.4**	**+0.9**
WAX	**Waxell Ridge**	**5.71**	**38**		**Pn**	**07 27 55.3**	**-0.4**
SML	**Sawmill**	**5.75**	**7**	Pn	**Pn**	**07 27 57.2**	**+0.8**
SML	**Sawmill**	**5.75**	**7**	P	**Pn**	**07 27 57.1**	**+0.8**
	baz=188						
KLU	**Klutina**	**5.76**	**19**		**Pn**	**07 27 56.9**	**+0.4**
KLU	**Klutina**	**5.76**	**19**	P	**Pn**	**07 27 56.5**	**0.0**
	baz=202						
BARK	**Barkley Ridge**	**5.80**	**39**		**Pn**	**07 27 56.6**	**-0.4**
SVW2	**Sparrevohn**	**5.80**	**332**	Pn	**Pn**	**07 27 57.4**	**+0.4**
SVW2	**Sparrevohn**	**5.80**	**332**	P	**Pn**	**07 27 57.2**	**+0.2**
CRQM	**Cirque**	**5.84**	**35**		**Pn**	**07 27 57.6**	**-0.1**
MESA	**MESA**	**5.84**	**43**		**Pn**	**07 27 58.4**	**+0.7**
MESA	**MESA**	**5.

GRNC **Granite Creek** 6.29 39 Pn Pn 07 28 03.7 -0.2
M24K **Tolsona, Glenn** 6.29 16 Pn Pn 07 28 04.6 +0.8
TABL **Table Mountain** 6.32 43 Pn 07 28 04.2 -0.1
MCARA **McCarthy VSAT** 6.37 31 Pn 07 28 04.8 0.0
MCARA **McCarthy VSAT** 6.37 31 P Pn 07 28 04.7 0.0
baz=216
PTPK **Patty Peak** 6.38 34 Pn 07 28 05.5 +0.4
PCA **Pinnacle** 6.47 48 Pn 07 28 06.6 +0.4
PINM **Pinnacle** 6.47 48 P Pn 07 28 06.6 +0.3
baz=236
BARN **Barnard Glacie** 6.55 38 Pn Pn 07 28 07.5 0.0
M17K **Holitna River** 6.58 327 Pn Pn 07 28 08.5 +0.8
L19K **White Mountain** 6.58 339 Pn 07 28 08.0 +0.3
CTG **Chitna Glacier** 6.60 39 P Pn 07 28 07.8 -0.2
baz=226
CTGM **Chitina Glacie** 6.60 39 Pn Pn 07 28 07.9 -0.2
PNL **Peninsula** 6.62 53 Pn 07 28 08.3 0.0
PNL **Peninsula** 6.62 53 P Pn 07 28 08.4 0.0
PNL **Peninsula** 6.62 53 P Pn 07 28 08.3 0.0
baz=241
BCPM **Bancas Point** 6.66 51 Pn 07 28 08.9 +0.2
N15K **Kwethluk River** 6.75 311 Pn 07 28 11.5 +1.5
N15K **Kwethluk River** 6.75 311 P Pn 07 28 11.5 +1.5
baz=123
M16K **Timber Creek** 6.82 320 Pn Pn 07 28 13.0 +2.1
O14K **Tigyukauivet M** 6.85 302 Pn Pn 07 28 13.1 +1.7
L18K **Granite Mounta** 7.03 333 Pn Pn 07 28 13.8 -0.1
M26K **Nabesna, AK** 7.21 26 Pn 07 28 17.5 +1.1
PAX **Paxson** 7.22 16 Pn 07 28 17.9 +1.4
PAX **Paxson** 7.22 16 P Pn 07 28 17.9 +1.4
baz=200
O29M **Mount Kennedy** 7.29 50 Pn 07 28 17.6 +0.1
RND **Reindeer** 7.32 4 Pn 07 28 18.4 +0.5
TRF **Thorofare Moun** 7.35 359 Pn Pn 07 28 20.4 +2.1
YUK2 **White River** 7.35 36 Pn 07 28 19.1 +0.8
P29M **Windy Craggy** 7.37 57 Pn 07 28 18.1 -0.4
CAST **Castle Rocks** 7.40 352 Pn 07 28 20.0 +1.1
CAST **Castle Rocks** 7.40 352 P Pn 07 28 20.0 +1.1
baz=170
KTH **Kantishna Hill** 7.47 356 Pn 07 28 22.5 +2.6
YUK3 **Moose Creek** 7.47 37 Pn 07 28 20.8 +0.8
YUK3 **Moose Creek** 7.47 37 P Pn 07 28 20.8 +0.8
baz=224
L16K **Owhat River** 7.47 322 Pn Pn 07 28 21.1 +1.2
L16K **Owhat River** 7.47 322 P Pn 07 28 20.8 +0.9
baz=135
M27K **Edge Creek, AK** 7.47 30 Pn Pn 07 28 21.0 +1.0
TTA **Tatalina** 7.50 338 Pn 07 28 19.7 -0.6
MENT **Mentasta** 7.51 22 Pn 07 28 20.5 0.0
K20K **Telida** 7.55 346 Pn 07 28 20.4 -0.6
YUK7 **Dusty Glacier** 7.55 50 Pn 07 28 21.7 0.0
L26K **Log Cabin Wild** 7.67 23 Pn Pn 07 28 22.7 0.0
S31K **Pelican** 7.67 71 Pn 07 28 20.4 -2.3
YUK6 **Outpost Mounta** 7.72 47 Pn 07 28 23.7 +0.1
YUK6 **Outpost Mounta** 7.72 47 P Pn 07 28 23.7 +0.1
baz=236
M14K **Bethel** 7.84 311 Pn Pn 07 28 26.2 +1.3
YUK4 **Talbot Arm** 7.84 44 P Pn 07 28 27.0 +1.8
baz=232
K17K **Iditarod** 7.87 331 Pn Pn 07 28 25.7 +0.4
HYT **Haines Junctio** 8.02 49 Pn 07 28 26.7 -0.7
BPAW **Bear Paw Mtn.** 8.02 357 Pn 07 28 27.4 +0.1
RIDG **Independent Ri** 8.04 16 Pn 07 28 28.7 +1.0
L27K **Beaver Creek,** 8.06 27 Pn Pn 07 28 28.2 +0.2
BCAR **Beaver Creek A** 8.08 27 Pn 07 28 28.2 0.0
SIT **Sitka** 8.10 77 Pn 07 28 25.5 -2.9
J18K **Innoko River** 8.12 338 Pn 07 28 29.3 +0.5
M13K **Dall Lake** 8.29 307 Pn Pn 07 28 31.9 +0.9
J20K **Nowinta River** 8.35 347 Pn Pn 07 28 32.6 +0.8
J19K **Poorman** 8.39 342 Pn Pn 07 28 33.2 +0.8
SCRK **Sand Creek** 8.41 18 Pn Pn 07 28 33.4 +0.6
WRH **Wood River Hil** 8.42 5 Pn Pn 07 28 34.9 +2.0
HDA **Harding Lake** 8.44 9 Pn 07 28 34.9 +1.8
L14K **Kuka Creek** 8.45 313 Pn Pn 07 28 35.4 +2.2
SKAG **Skagway** 8.46 61 Pn Pn 07 28 32.9 -0.6
SKAG **Skagway** 8.46 61 P Pn 07 28 33.3 -0.2
N30M **Aishikik Lake** 8.52 46 Pn 07 28 34.6 +0.3
K15K **Wolf Creek Mou** 8.58 321 Pn Pn 07 28 36.8 +1.7
O30N **Mendenhall** 8.60 52 Pn Pn 07 28 36.0 +0.6
CCB **Clear Creek Bu** 8.61 6 Pn Pn 07 28 37.9 +2.4
M29M **Somme Creek** 8.61 38 Pn Pn 07 28 36.6 +1.0
JIS **Juneau Island** 8.69 69 Pn Pn 07 28 36.0 -0.6
JIS **Juneau Island** 8.69 69 P Pn 07 28 35.9 -0.6
IL31 8.80 8 Pn 07 28 40.3 +2.3
ILAR **Eielson Array** 8.80 8 Pn 07 28 39.4 +1.4
ILAR **Eielson Array** 8.80 8 Pn Pn 07 28 37.0 -1.0
comp=N,0.2nm,0.3s,baz=188,slow=14,SNR=14
ILAR Sn Sn 07 30 12.5 -4.6
comp=N,1.1nm,0.3s,baz=196,slow=17,SNR=8.6
ILAR LR LR 07 31 27.2
comp=N,77nm,19.6s,baz=262,slow=33
comp=N,0.7nm,0.6s
J25K **Salcha River,** 8.80 13 Pn Pn 07 28 39.2 +1.1
COLA **College** 8.83 6 Pn 07 28 39.9 +1.4
COLA **College** 8.83 6 P Pn 07 28 39.9 +1.4
MDM **Murphy Dome** 8.90 5 Pn Pn 07 28 41.2 +1.8
MLY **Manley** 8.94 358 Pn Pn 07 28 39.7 -0.4
J26L **Joseph Creek** 8.96 18 Pn Pn 07 28 40.6 +0.2
J16K **Anvik River** 8.98 327 Pn Pn 07 28 41.5 +1.0
I23K **Minto, Yukon-K** 9.05 1 Pn 07 28 42.3 +0.8
WHY **Whitehorse** 9.09 54 Pn Pn 07 28 42.9 +0.8
POKR **Poker Plat Res** 9.10 7 Pn 07 28 41.6 -0.6
I21K **Tanana** 9.14 354 Pn 07 28 42.8 +0.1
L29M **L29M** 9.18 36 Pn Pn 07 28 44.0 +0.6
M30M **Minto, Yukon** 9.29 41 Pn Pn 07 28 45.0 +0.2
P32M **Atlin** 9.29 61 Pn 07 28 44.3 -0.6
DAWY **Dawson** 9.52 29 Pn Pn 07 28 48.4 +0.4
J14K **Nanvaranak Lak** 9.60 319 Pn Pn 07 28 50.5 +1.5
H21K **Melozitna Rive** 9.66 353 Pn Pn 07 28 49.2 -0.8
EGAK **Eagle** 9.66 23 Pn 07 28 51.9 +1.8
H24K **Noodor Dome** 9.79 5 Pn Pn 07 28 54.1 +2.4
Q32M **Nakina River** 9.88 66 Pn Pn 07 28 53.2 +0.1
K29M **Barlow Dome** 9.90 34 Pn Pn 07 28 54.0 +0.8
P33M **Teslin, Yukon** 9.90 59 Pn Pn 07 28 52.6 -0.6
H18K **Honhosa River** 9.95 339 Pn Pn 07 28 56.4 +2.5
M31M **Drury Creek, Y** 10.00 46 Pn 07 28 55.3 +0.7
IMAR **Indian Mountai** 10.06 351 Pn Pn 07 28 56.3 +1.0
FARO **Faro, Yukon** 10.44 47 Pn 07 29 01.3 +0.7
I28M **Miner Creek** 10.52 23 Pn Pn 07 29 03.9 +2.1
R33M **Jennings River** 10.62 64 Pn Pn 07 29 02.8 -0.3
G23K **Bananza Creek** 10.62 360 Pn 07 29 04.2 +1.2
FYU **Fort Yukon** 10.71 10 Pn Pn 07 29 05.5 +1.4
J30M **Hart River** 10.79 33 Pn Pn 07 29 07.5 +2.1
DLBC **Dease Lake** 10.99 70 Pn Pn 07 29 07.5 -0.7
DLBC **Dease Lake** 10.99 70 Pn Pn 07 29 07.7 -0.5
comp=N,0.2nm,0.3s,baz=228,slow=10.0,SNR=6.4
DLBC LR LR 07 32 37.3
comp=N,262nm,21.2s,baz=299,slow=34
comp=N,0.5nm,0.3s
F21K **Alatna River** 11.26 353 Pn Pn 07 29 12.3 +0.5
BMAR **Burnt Mountain** 11.61 10 Pn Pn 07 29 17.3 +0.7
F17K **Baldwin Pennin** 11.67 337 Pn Pn 07 29 19.3 +1.9
E19K **Redstone River** 11.87 346 Pn Pn 07 29 22.0 +1.9
E25K **Arctic Village** 12.20 8 Pn Pn 07 29 27.3 +2.7
G31M **Satah River** 13.09 28 Pn Pn 07 29 37.0 +0.4
BBB **Bella Bella** 13.34 98 LR LR 07 33 21.6
comp=N,203nm,21.9s,baz=310,slow=31
INK **Inuvik** 14.33 25 Pn Pn 07 29 53.1 -0.5
INK **Inuvik** 14.33 25 Pn Pn 07 29 54.4 +0.8
baz=210,slow=13,SNR=7.5
INK LR LR 07 35 23.3
comp=N,255nm,20.2s,baz=183,slow=37
comp=N,4.8nm,1.2s
B22K **Teshekpuk Lake** 14.35 355 Pn Pn 07 29 53.1 -0.7
YKA **Yellowknife Ar** 18.91 56 P P 07 30 51.2 -0.2
baz=265,slow=11,SNR=14
YKA LR LR 07 37 30.5
comp=N,183nm,19.1s,baz=306,slow=35
comp=N,1.9nm,1.0s
A36M **Sachs Harbour** 18.96 24 Pn 07 30 54.2 +1.7
NEW **Newport** 21.41 98 LR LR 07 37 53.5
comp=N,139nm,21.8s,baz=284,slow=32
YBH **Yreka Blue Hor** 22.74 118 LR LR 07 38 08.3
comp=N,198nm,20.6s,baz=341,slow=31
ELK **Elko** 27.30 110 LR LR 07 42 03.2
comp=N,60nm,18.1s,baz=334,slow=34
NVAR **Mina Array Bea** 27.45 117 LR LR 07 41 25.3
comp=N,190nm,18.7s,baz=329,slow=33
RES **Resolute Bay** 27.86 28 LR LR 07 43 13.1
comp=N,111nm,20.1s,baz=24,slow=36
SEY **Seymchan** 29.13 307 LR LR 07 45 19.9
comp=N,156nm,18.6s,baz=342,slow=39
MA2 **Magadan** 30.85 301 LR LR 07 47 03.8
comp=N,117nm,18.0s,baz=98,slow=40
PFO **Pinyon Flats O** 32.17 120 LR LR 07 43 13.8
comp=N,122nm,20.3s,baz=352,slow=31
TIXI **Tiksi** 35.62 327 LR LR 07 50 08.6
comp=N,82nm,19.5s,baz=24,slow=40
FRB **Frobisher Bay** 38.78 45 LR LR 07 50 11.8
comp=N,233nm,19.4s,baz=308,slow=37
YAK **Yakutsk** 39.23 313 LR LR 07 50 37.8
comp=N,65nm,20.3s,baz=86,slow=37
TXAR **Lajitas Array** 42.09 110 LR LR 07 51 15.4
comp=N,63nm,18.1s,baz=34,slow=35
LPIG **La Paz** 43.05 121 LR LR 07 49 51.5
comp=N,100nm,18.2s,baz=342,slow=33
SFJD **Kangerlussuaq** 43.41 34 LR LR 07 51 59.2
comp=N,91nm,20.1s,baz=268,slow=35
KLR **Kul'dur** 45.59 296 LR LR 07 55 53.2
comp=N,80nm,18.6s,baz=347,slow=38
NRIK **Noril'sk** 48.11 336 LR LR 07 57 12.5
comp=N,87nm,20.1s,baz=338,slow=38
H11N2 **WAKE ISLAND Hy** 48.51 239 T T 08 28 04.9
baz=30,slow=74
H11N3 **WAKE ISLAND Hy** 48.52 239 T T 08 27 59.2
baz=30,slow=74
H11N1 **WAKE ISLAND Hy** 48.53 239 T T 08 28 04.8
baz=30
USRK **Usuriysk Ar.** 48.81 291 LR LR 07 54 47.7
comp=N,27nm,21.3s,baz=127,slow=35
H11S1 **WAKE ISLAND Hy** 49.65 239 T T 08 29 25.3
baz=31,slow=74
H11S2 **WAKE ISLAND Hy** 49.66 239 T T 08 29 33.1
baz=31
H11S3 **WAKE ISLAND Hy** 49.67 239 T T 08 29 30.4
baz=31,slow=74
SONM **Songino Array** 58.48 310 P P 07 36 28.2 +1.3
comp=N,0.5nm,0.8s,baz=60,slow=5.7,SNR=1.6
SONM LR LR 08 04 60.0
comp=N,88nm,18.2s,baz=90,slow=39
comp=N,0.5nm,0.8s
BVAR **Borovoye Array** 66.28 335 LR LR 08 10 27.5
comp=N,68nm,18.0s,baz=36,slow=40
AKTO **Aktyubinsk** 71.30 342 LR LR 08 12 34.1
comp=N,37nm,18.1s,baz=33,slow=39
AAK **Ala-Archa** 74.70 328 LR LR 08 14 02.8
comp=N,53nm,18.2s,baz=180,slow=38

*IDC **06** 07:34:49.2±0.4,55˚.24S×29˚.20W,h0^{km},mb4.8/14, mbtmp4.9/16,ML4.7/2,MS4.3/35,Error ellipse: s-maj=17.6km s-min=12.9km az=48.0*
*NEIC **06** 07:34:51.3±1.8,55˚.32S±0˚.08×29˚.4W±0˚.1,h10^{km}±1^{km}, mb5.3/77,Error ellipse: s-maj=14.0km s-min=12.8km az=139.0*
*GCMT **06** 07:34:55.3±0.2,55˚.29S±0˚.01×29˚.18W±0˚.02,h23^{km}±1^{km}, MW5.2/124,Moment Tensor Solution. s51,c67; s124,c185; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.16±.17; $M_{\theta\theta}$-4.71±.15; $M_{\phi\phi}$3.55±.15; $M_{r\theta}$-1.31±.23; $M_{\theta\phi}$3.81±.12; $M_{\phi r}$4.31±.33; Best double couple: M_o7.27100×10^{16} NP1:ϕ_s333.00000°,δ83.00000°, λ141.00000°. NP2:ϕ_s69.00000°,δ51.00000°,λ10.00000°. Principal axes: T 7.2920, Plg32.0000°, Azm284.0000°; N -0.0410, Plg50.0000°, Azm144.0000°; P -7.2510, Plg21.0000°, Azm28.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 07:34:51.5±0.9,55˚.30S±0˚.06×29˚.30W±0˚.06,h14^{km}±5^{km}, n605,σ0^{s}96/589,mb5.2/71,MS4.3/34,11C-2D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.28**	**281**			**Pn**	**07 35 54.9**	**-1.2**
HOPE					Sn	**Sn**	**07 36 43.4**	**-2.6**
ORCD	**Orcadas**	**9.83**	**230**		Pn	Pn	07 37 08.2	-3.9
EFI	**East Falkland**	**17.44**	**270**			**Pn**	**07 38 53.8**	**-0.2**
VNA1	**Neumayer--Stat**	**17.95**	**157**	⇑P		**P**	**07 39 02.6**	**+1.8**
	comp=Z,73nm,0.6s							
VNA3	**Neumayer Olymp**	**18.11**	**160**	⇑P		**P**	**07 39 05.7**	**+3.1**
	comp=Z,177nm,0.9s							
VNA2	**Neumayer--Watz**	**18.35**	**157**	⇑P		**P**	**07 39 05.7**	**+0.5**
	comp=Z,44nm,0.6s,baz=312,slow=11							
VNA2				⇑PcP		**PcP**	**07 43 34.3**	**-1.4**
	comp=Z,6.5nm,0.6s,baz=328,slow=6.7							
PMSA	**Palmer Station**	**19.52**	**227**	P		**P**	**07 39 17.7**	**-0.3**
PMSA					IAmb	IAmb	07 39 30.9	
	comp=Z,140nm,1.2s							
PMSA	**Palmer Station**	**19.52**	**227**	P		**Pn**	**07 39 19.5**	**+0.2**
	comp=Z,1.9nm,0.3s,baz=60,slow=9.4,SNR=6.9							
PMSA					LR	LR	07 45 25.5	
	comp=Z,912nm,18.9s,baz=74,slow=32							
	comp=Z,29nm,0.7s							
SNAA	**Sanae**	**19.92**	**156**	P		**P**	**07 39 22.2**	**-0.3**
SNAA					IAmb	IAmb	07 39 26.2	
	comp=Z,83nm,0.8s							
SNAA	**Sanae**	**19.92**	**156**	*e*P		**P**	**07 39 21.2**	**-1.2**
SNAA	**Sanae**	**19.92**	**156**	⇑P		**P**	**07 39 22.7**	**+0.2**
	comp=Z,2μm,0.9s							
SNAA				⇑PcP		**PcP**	**07 43 36.3**	**-2.3**
	comp=Z,60nm,0.6s							
SNAA	**Sanae**	**19.92**	**156**	P		**P**	**07 39 22.2**	**-0.3**
	comp=Z,3.0nm,0.3s,baz=311,slow=10,SNR=60							
SNAA					LR	LR	07 45 49.0	
	comp=Z,384nm,21.1s,baz=312,slow=33							
	comp=Z,73nm,0.7s							
TROLL	**Troll, Antarti**	**21.46**	**153**	⇑P		**P**	**07 39 39.1**	**-0.1**
	comp=Z,3μm,0.8s							
TROLL				⇑PcP		**PcP**	**07 43 41.5**	**0.0**
	comp=Z,180nm,0.8s							
SMAI	**San Martin Ant**	**21.59**	**219**	P		**P**	**07 39 43.0**	**+2.6**
SMAI					IAmb	IAmb	07 39 59.1	
	comp=Z,193nm,1.6s							
BELA	**Belgrano 2**	**22.76**	**183**	P		**P**	**07 39 52.6**	**-0.2**
MG02	**Cerro Sombrero**	**23.36**	**260**	P		**P**	**07 39 59.9**	**+0.7**
MG03	**Isla Dawson**	**23.66**	**256**	P		**P**	**07 40 02.2**	**0.0**
GO10	**Punta Arenas**	**24.24**	**258**	P		**P**	**07 40 08.4**	**+0.7**
MG05	**Puerto Natales**	**25.65**	**260**	P		**P**	**07 40 19.9**	**-0.5**
GO09	**Cerro Castillo**	**25.73**	**261**	P		**P**	**07 40 20.7**	**-0.5**
GO09					IAmb	IAmb	07 40 22.2	
	comp=Z,95nm,0.8s							
GO08	**Villa O'Higgin**	**27.20**	**266**	P		**P**	**07 40 35.3**	**+0.8**
GO08					IAmb	IAmb	07 40 36.2	
	comp=Z,112nm,1.1s							
ELIB	**Princess Elisa**	**27.43**	**147**	*d*P		**P**	**07 40 35.1**	**-1.3**
	comp=Z,13nm,0.7s							
ELIB				*d*PcP		**PcP**	**07 43 54.2**	**-0.4**
TRQA	**Tornquist**	**27.92**	**294**	P		**P**	**07 40 41.7**	**+0.6**
TRQA					IAmb	IAmb	07 40 43.2	
	comp=Z,95nm,1.7s							
COYC	**Coyhaique**	**28.51**	**272**	P		**P**	**07 40 45.1**	**-1.1**
COYC					IAmb	IAmb	07 40 47.7	
	comp=Z,62nm,1.1s							
AY02	**Valle Explorad**	**28.63**	**269**	P		**P**	**07 40 48.6**	**+1.4**
PLTB	**Pedras Altas**	**29.11**	**314**	P		**P**	**07 40 53.0**	**+1.3**
AY01	**Puyuhuapi**	**29.52**	**273**	P		**P**	**07 40 54.3**	**-0.9**
AY01					IAmb	IAmb	07 40 55.8	
	comp=Z,51nm,1.2s							
LL02	**Futaleuf**	**29.82**	**276**	P		**P**	**07 40 56.8**	**-1.0**
TBOT	**Tacuaremb**	**30.17**	**310**	*e*P		**P**	**07 41 01.5**	**+0.5**
CNLB	**Canela**	**30.22**	**320**	*e*P		**P**	**07 41 02.9**	**+1.3**
CPSB	**Cacapava Do Su**	**30.23**	**315**	*e*P		**P**	**07 41 02.4**	**+0.8**
TER01	**Tubaro-SC**	**30.32**	**324**	*e*P		**P**	**07 41 03.3**	**+0.8**
PLCA	**Paso Flores**	**30.69**	**281**	P		**P**	**07 41 04.6**	**-1.0**
PLCA	**Paso Flores**	**30.69**	**281**	P		**P**	**07 41 05.0**	**-0.7**
	comp=Z,9.7nm,1.0s,baz=172,slow=6.1,SNR=14							
PLCA				PcP		**PcP**	**07 44 03.6**	**+0.4**
	comp=Z,3.2nm,0.7s,baz=148,slow=5.8,SNR=5.4							
PLCA					LR	LR	07 53 30.6	
	comp=Z,435nm,20.0s,baz=129,slow=36							
	comp=Z,9.7nm,1.0s							
PLCA	**Paso Flores**	**30.69**	**281**	*e*P		**P**	**07 41 04.6**	**-1.0**
RODS	**Rosario do Sul**	**31.00**	**313**	*e*P		**P**	**07 41 09.1**	**+0.7**
PSAL	**Palomas, Salto**	**31.42**	**309**	*e*P		**P**	**07 41 12.4**	**+0.4**
ALGR	**Alto Alegre (B**	**31.50**	**317**	*e*P		**P**	**07 41 14.1**	**+1.3**
UNIS	**Unistalda (Bra**	**32.07**	**314**	*e*P		**P**	**07 41 18.1**	**+0.3**
ITQB	**Itaqui**	**32.20**	**311**	P		**P**	**07 41 18.5**	**-0.4**
ITQB					IAmb	IAmb	07 41 20.1	
	comp=Z,84nm,1.4s							
ITQB	**Itaqui**	**32.20**	**311**	*e*P		**P**	**07 41 19.1**	**+0.2**
ITAB	**Concordia**	**32.57**	**320**	P		**P**	**07 41 23.2**	**+1.1**
ITAB	**Concordia**	**32.57**	**320**	*e*P		**P**	**07 41 23.3**	**+1.1**
CRSM	**Crissiumal (Br**	**33.06**	**317**	*e*P		**P**	**07 41 26.5**	**0.0**
PET01	**Itanhaem-SP**	**33.70**	**329**	*e*P		**P**	**07 41 34.1**	**+2.1**
FRBT	**Francisco Belt**	**34.06**	**320**	*e*P		**P**	**07 41 35.7**	**+0.4**
PARB	**Paraibuna**	**34.15**	**333**	*e*P		**P**	**07 41 36.2**	**+0.2**

MAN01 **Angra dos Reis** 34.18 335 *e*P P 07 41 37.7 +1.4
SPB **Sao Paulo** 34.40 330 P P 07 41 39.3 +1.1
SPB IAmb IAmb 07 41 41.8
comp=Z,50nm,1.4s
SPB **Sao Paulo** 34.40 330 *e*P P 07 41 40.3 +2.2
DUB01 **Friburgo-RJ** 34.58 338 *e*P P 07 41 41.9 +2.1
VAS01 **Vassouras-RJ** 34.62 337 *e*P P 07 41 42.0 +1.9
CAM01 **Campos-RJ** 34.68 340 *e*P P 07 41 43.1 +2.5
ML02 **Panimavida** 34.68 287 P P 07 41 39.3 -1.3
ML02 IAmb IAmb 07 41 54.2
comp=Z,59nm,1.5s
VAO **Valinhos** 34.83 331 *e*P P 07 41 43.6 +1.6
PTGB **Pitanga** 34.84 322 *e*P P 07 41 42.9 +0.8
QSPA **South Pole Qui** 34.96 180 P P 07 41 43.4 +0.6
QSPA IAmb IAmb 07 41 59.1
comp=Z,109nm,1.7s
QSPA **South Pole Qui** 34.96 180 P P 07 41 43.1 +0.3
comp=Z,6.1nm,0.6s,baz=194,slow=2.9,SNR=54
QSPA LR LR 07 54 44.9
comp=Z,478nm,21.5s,baz=190,slow=34
comp=Z,6.1nm,0.6s
BO02 **Sierra Bellavi** 35.06 288 P P 07 41 44.0 +0.2
FRTB **Fartura** 35.28 327 *e*P P 07 41 47.9 +2.1
CPUP **Villa Florida** 35.42 313 P P 07 41 47.2 +0.3
CPUP IAmb IAmb 07 41 48.0
comp=Z,82nm,1.6s
CPUP **Villa Florida** 35.42 313 P P 07 41 46.8 -0.1
comp=Z,14nm,0.8s,baz=157,slow=7.9,SNR=28
CPUP LR LR 07 54 58.9
comp=Z,407nm,21.1s,baz=156,slow=34
comp=Z,14nm,0.8s
CPUP **Villa Florida** 35.42 313 *e*P P 07 41 46.5 -0.4
LMEL **Las Melosas** 35.46 290 P P 07 41 47.2 -0.2
LMEL IAmb IAmb 07 41 50.9
comp=Z,39nm,1.1s
GO05 **Huala** 35.52 287 P P 07 41 46.9 -0.9
GO05 IAmb IAmb 07 41 50.3
comp=Z,73nm,1.3s
BO01 **Tunca** 35.52 288 P P 07 41 47.4 -0.4
RCLB **Rio Claro- Sao** 35.54 330 *e*P P 07 41 50.0 +1.9
BO04 **La Punta** 35.57 289 P P 07 41 47.6 -0.6
MT13 **San Alfonso** 35.58 290 P P 07 41 48.1 -0.4
MT13 IAmb IAmb 07 41 57.0
comp=Z,28nm,0.9s
ALF01 **Guarapari-ES** 35.68 341 *e*P P 07 41 50.5 +1.3
LDASE **Londrina, Braz** 35.74 324 *e*P P 07 41 50.5 +0.7
VACA **Villa Angela C** 35.75 308 *e*P P 07 41 50.0 +0.3
MCR1 **Marechal Candi** 35.80 319 *e*P P 07 41 51.4 +1.2
MT09 **Talagante** 35.94 289 P P 07 41 50.8 -0.7
MT09 IAmb IAmb 07 41 52.7
comp=Z,86nm,1.1s
MT01 **Popeta** 36.01 289 P P 07 41 51.5 -0.5
MT01 IAmb IAmb 07 41 52.6
comp=Z,55nm,0.9s
BSCB **Bom Sucesso** 36.17 335 *e*P P 07 41 55.7 +2.2
PEL **Peldehue** 36.26 290 P P 07 41 54.1 0.0
VA05 **Santo Domingo** 36.37 289 P P 07 41 54.9 -0.1
VA03 **San Esteban** 36.48 291 P P 07 41 56.1 0.0
TICA **Tres Isletas** 36.68 309 *e*P P 07 41 58.2 +0.5
TRCB **Terra Rica** 36.81 322 P P 07 41 59.3 +0.4
TRCB IAmb IAmb 07 42 01.4
comp=Z,111nm,1.5s
TRCB **Terra Rica** 36.81 322 *e*P P 07 41 58.9 0.0
RIB01 **Linhares ES** 36.90 342 *e*P P 07 42 01.2 +1.6
VA06 **Catapilco** 37.03 290 P P 07 42 00.8 +0.1
BB19B **Bebedouro** 37.11 329 *e*P P 07 42 02.7 +1.3
ESFA **Espinillo Form** 37.12 313 *e*P P 07 42 02.2 +0.8
PCMB **Pacaembu** 37.45 325 *e*P P 07 42 04.8 +0.5
AMBA **Amambai (Brazi** 37.54 319 *e*P P 07 42 04.6 -0.5
SJMB **Sao Joao De Ma** 37.63 341 *e*P P 07 42 07.4 +1.5
CO02 **Combarbal** 37.93 292 P P 07 42 09.5 +1.1
CO03 **El Pedregal** 38.05 293 P P 07 42 09.1 -0.3
CO03 IAmb IAmb 07 42 13.6
comp=Z,38nm,0.8s
NAN01 **Guarapari, ES** 38.29 343 *e*P P 07 42 12.6 +1.2
DIAM **Diamantina, MG** 38.53 338 *e*P P 07 42 15.2 +1.6
ANTJ **Antonio Joao (** 38.77 318 *e*P P 07 42 15.0 -0.5
ITRB **Iturama** 38.94 327 *e*P P 07 42 17.8 +0.9
PMNB **Patos De Minas** 38.95 334 *e*P P 07 42 18.1 +1.1
AC05 **El Transito** 39.43 295 P P 07 42 21.7 +0.7
AC05 IAmb IAmb 07 42 22.9
comp=Z,108nm,1.2s
GUA01 **Guaratinga, BA** 39.47 344 *e*P P 07 42 22.7 +1.4
LCO **Las Campanas** 39.51 294 P P 07 42 21.1 -0.7
LCO IAmb IAmb 07 42 23.1
comp=Z,41nm,0.9s
IPMB **Ipameri, GO** 39.95 331 *e*P P 07 42 26.2 +0.9
CER **Ceres** 40.04 77 *e*P P 07 42 28.0 +2.0
CER IAmb IAmb 07 42 28.7
comp=Z,355nm,2.8s
AQDB **Aquidauana** 40.04 320 P P 07 42 25.0 -1.0
AQDB IAmb IAmb 07 42 27.6
comp=Z,108nm,1.5s
AC04 **Llanos de Chal** 40.35 295 P P 07 42 28.8 +0.2
AC04 IAmb IAmb 07 42 30.3
comp=Z,121nm,1.1s
BDQN **Bodoquena, MS** 40.46 318 *e*P P 07 42 28.4 -1.1
CMC01 **Camacan, BA** 40.63 345 *e*P P 07 42 31.5 +0.6
MAW **Mawson** 41.46 145 P P 07 42 37.8 +0.6
comp=Z,10.0nm,0.8s,baz=256,slow=12,SNR=4.1
MAW LR LR 07 57 51.6
comp=Z,405nm,19.3s,baz=252,slow=33
comp=Z,10.0nm,0.8s
SUR **Sutherland** 41.62 78 *e*P P 07 42 39.7 +0.5
SUR IAmb IAmb 07 42 47.2
comp=Z,574nm,2.9s
SUR **Sutherland** 41.62 78 LR LR 07 55 44.2
comp=Z,247nm,19.6s,baz=218,slow=30
CVNA **Calvinia** 41.71 76 *e*P P 07 42 39.7 -0.2
CVNA IAmb IAmb 07 42 43.8
comp=Z,365nm,2.8s
AC01 **Pan de Azucar** 41.78 297 P P 07 42 40.0 -0.3
AC01 IAmb IAmb 07 42 41.8
comp=Z,102nm,1.1s
MERW **Merweville** 41.80 79 *e*P P 07 42 44.0 +3.5
JANB **Januaria** 41.80 338 *e*P P 07 42 41.2 +0.5
GO02 **Mina Guanaco** 42.08 299 P P 07 42 43.8 +0.6
BDFB **Brasilia** 42.13 333 P P 07 42 43.4 +0.1
BDFB **Brasilia** 42.13 333 P P 07 42 43.8 +0.4
comp=Z,6.3nm,0.6s,baz=140,slow=6.0,SNR=16
BDFB LR LR 07 59 33.4
comp=Z,319nm,18.2s,baz=148,slow=35
comp=Z,6.3nm,0.6s
FRAZ **Fraserburg** 42.29 78 *e*P P 07 42 44.3 -0.3
FRAZ IAmb IAmb 07 43 05.2
comp=Z,61nm,1.5s
GRAN **Grantham** 42.44 79 *e*P P 07 42 45.4 -0.4
GRAN IAmb IAmb 07 42 52.0
comp=Z,15nm,1.1s
BUFB **Buffelsbos** 42.53 83 *e*P P 07 42 47.6 +1.2
BUFB IAmb IAmb 07 42 53.5
comp=Z,13nm,1.1s
ARAG **Araguaiana, MT** 43.15 327 *e*P P 07 42 51.9 +0.3
BRAK **Brakfontein** 43.24 79 *e*P P 07 42 50.6 -1.6
AF01 **San Pedro de A** 43.24 302 P P 07 42 53.2 +0.6
BBRB **Robore, Bolivi** 43.62 316 *e*P P 07 42 54.8 -0.6
BFON **Badsfontein, M** 43.67 80 *e*P P 07 42 54.8 -1.0
BFON IAmb IAmb 07 43 04.1
comp=Z,305nm,2.7s
GRAF **Camdeboo Natio** 43.77 81 *e*P P 07 42 54.5 -2.0
LVC **Limon Verde** 43.89 302 P P 07 42 57.9 +0.1
LVC IAmb IAmb 07 43 05.9
comp=Z,29nm,0.7s
LVC **Limon Verde** 43.89 302 *e*P P 07 42 58.8 +0.9
GRHM **Grahamstown, E** 44.10 84 *e*P P 07 42 58.3 -0.9
GRHM IAmb IAmb 07 43 03.0
comp=Z,370nm,2.8s
SALV **Santo Antonio** 44.25 322 *e*P P 07 43 00.5 +0.1
SDBA **SAO DESIDERIO** 44.50 338 *e*P P 07 43 04.1 +1.7
NBLA **Lagarto - SE** 44.70 348 *e*P P 07 43 05.5 +1.5
BBSD **Serra de San D** 44.93 315 *e*P P 07 43 04.8 -1.0
PB07 **IPOC Station P** 45.11 301 P P 07 43 07.1 -0.4
PB07 IAmb IAmb 07 43 11.2
comp=Z,27nm,0.9s
HVD **Gariep Dam** 45.59 80 *e*P P 07 43 09.7 -1.4
HVD IAmb IAmb 07 43 15.5
comp=Z,25nm,1.1s
NBAN **Anadia - AL** 45.84 350 *e*P P 07 43 13.8 +0.7
PTLB **Pontes e Lacer** 45.93 318 P P 07 43 13.1 -0.6
PTLB **Pontes e Lacer** 45.93 318 *e*P P 07 43

BOSA **Boshof** 46.97 78 P **P** 07 43 21.8 -0.2
BOSA **Boshof** 46.97 78 *e*P **P** 07 43 21.4 -0.6
BOSA IAmb IAmb 07 43 24.8
comp=Z,8.7nm,0.7s
BOSA **Boshof** 46.97 78 P **P** 07 43 21.5 -0.5
comp=Z,8.4nm,0.6s,baz=210,slow=7.1,SNR=31
BOSA LR LR 07 59 19.7
comp=Z,515nm,19.4s,baz=222,slow=31
comp=Z,8.4nm,0.6s
VNDA **Vanda** 47.27 183 P **P** 07 43 23.2 -0.3
VNDA **Vanda** 47.27 183 P **P** 07 43 24.3 +0.8
comp=Z,3.7nm,0.8s,baz=195,slow=4.7,SNR=4.9
comp=Z,3.7nm,0.8s
KSTD **Kokstad** 47.74 84 *e*P **P** 07 43 28.4 +0.5
KSTD IAmb IAmb 07 43 33.0
comp=Z,150nm,2.4s
SWZ **Schweizer** 48.11 77 *e*P **P** 07 43 30.2 -0.7
SWZ IAmb IAmb 07 43 31.5
comp=Z,14nm,1.0s
NBLV **Livramento - P** 48.19 350 *e*P **P** 07 43 32.0 +0.6
PDRB **Porto dos Gac** 48.59 323 *e*P **P** 07 43 34.5 -0.1
VILB **Vilhena** 48.62 318 P **P** 07 43 34.5 -0.2
VILB **Vilhena** 48.62 318 *e*P **P** 07 43 34.5 -0.2
SNKL **Senekal, Frees** 48.64 81 *e*P **P** 07 43 33.9 -1.1
SNKL IAmb IAmb 07 43 38.3
comp=Z,18nm,0.8s
H10N1 **ASCENSION HYDR** 48.77 20 T T 08 36 36.4
baz=190,slow=75
H10N3 **ASCENSION HYDR** 48.77 20 T T 08 36 45.5
baz=190,slow=75
H10N2 **ASCENSION HYDR** 48.79 20 T T 08 36 35.7
baz=190,slow=75
H04S2 **CROZET ISLANDS** 48.95 116 T T 08 36 52.9
baz=230,slow=75,SNR=4.3
H04S3 **CROZET ISLANDS** 48.96 116 T T 08 36 59.1
baz=230,slow=75,SNR=4.1
LPAZ **La Paz** 48.97 307 P **P** 07 43 38.3 +0.3
LPAZ **La Paz** 48.97 307 P **P** 07 43 38.5 +0.4
comp=Z,37nm,0.6s,baz=144,slow=5.1,SNR=106
LPAZ LR LR 08 06 11.6
comp=Z,216nm,19.4s,baz=150,slow=38
comp=Z,37nm,0.6s
LPAZ **La Paz** 48.97 307 *e*P **P** 07 43 38.6 +0.5
H04S1 **CROZET ISLANDS** 48.97 116 T T 08 36 58.8
baz=230,slow=75,SNR=5.4
PMBG **Pietermaritzbu** 49.25 84 *e*P **P** 07 43 39.9 +0.4
PRYS **Parys** 49.45 79 *e*P **P** 07 43 40.1 -1.1
PRYS IAmb IAmb 07 43 53.6
comp=Z,17nm,1.0s
RCBR **Riachuelo** 49.61 351 LR LR 08 01 42.7
comp=Z,215nm,19.0s,baz=192,slow=33
LBTB **Lobatse** 49.96 76 P **P** 07 43 44.8 -0.2
LBTB **Lobatse** 49.96 76 *e*P **P** 07 43 44.5 -0.5
LBTB IAmb IAmb 07 43 58.5
comp=Z,19nm,0.9s
LBTB **Lobatse** 49.96 76 LR LR 08 02 56.0
comp=Z,216nm,18.3s,baz=212,slow=34
KSR **Koster** 50.02 78 *e*P **P** 07 43 45.2 -0.4
KSR IAmb IAmb 07 44 24.4
comp=Z,23nm,1.0s
NBPB **Pedra_Branca-C** 50.29 347 *e*P **P** 07 43 48.9 +1.4
TSUM **Tsumeb** 50.39 64 *e*P **P** 07 43 47.2 -1.1
TSUM IAmb IAmb 07 43 49.0
comp=Z,12nm,1.1s
TSUM **Tsumeb** 50.39 64 LR LR 08 02 41.9
comp=Z,158nm,18.1s,baz=168,slow=33
HRAO **HartRAO** 50.44 78 *e*P **P** 07 43 47.4 -1.3
CRLN **Carolina, Mapu** 51.67 81 *e*P **P** 07 43 58.1 +0.2
CRLN IAmb IAmb 07 44 00.7
comp=Z,9.8nm,0.8s
LEPH **Lephalale, Lim** 52.09 77 *e*P **P** 07 43 59.7 -1.4
LEPH IAmb IAmb 07 44 13.1
comp=Z,15nm,0.9s
DULL **Dullstroom, Mp** 52.24 80 *e*P **P** 07 44 01.3 -1.0
DULL IAmb IAmb 07 44 06.2
comp=Z,21nm,1.0s
NPGB **Novo Progresso** 52.42 327 *e*P **P** 07 44 03.2 -0.2
PILG **Pilgrimsrest,** 52.88 80 *e*P **P** 07 44 06.2 -0.8
PILG IAmb IAmb 07 44 10.4
comp=Z,19nm,0.8s
HOED **Hoedspruit, Li** 53.41 80 *e*P **P** 07 44 09.4 -1.3
HOED IAmb IAmb 07 44 22.7
comp=Z,24nm,1.1s
SAML **Samuel** 53.43 317 P **P** 07 44 10.2 -0.6
SAML IAmb IAmb 07 44 12.0
comp=Z,79nm,1.6s
SAML **Samuel** 53.43 317 *e*P **P** 07 44 10.3 -0.6
ETMB **Extrema** 53.87 313 P **P** 07 44 13.7 -0.5
ETMB IAmb IAmb 07 44 16.1
comp=Z,63nm,1.6s
ETMB **Extrema** 53.87 313 *e*P **P** 07 44 13.9 -0.2
MOPA **Mopani** 54.38 80 *e*P **P** 07 44 16.9 -0.9
MOPA IAmb IAmb 07 44 21.8
comp=Z,561nm,2.6s
MUSN **Musina, Limpop** 54.49 78 *e*P **P** 07 44 17.8 -0.8
MUSN IAmb IAmb 07 44 30.9
comp=Z,12nm,0.7s
TMAB **Tom-Au,PA,Br** 54.92 337 *e*P **P** 07 44 23.2 +1.5
ITTB **Itaituba** 55.06 327 *e*P **P** 07 44 23.1 +0.3
NNA **Nana** 56.84 300 P **P** 07 44 35.4 -0.2
comp=Z,18nm,1.0s,baz=155,slow=5.9,SNR=3.9
NNA LR LR 08 11 11.5
comp=Z,182nm,18.4s,baz=140,slow=38
comp=Z,18nm,1.0s
MCPB **Macapa, AP** 57.83 333 *e*P **P** 07 44 44.6 +2.2
MACA **Manacapuru-AM** 57.83 322 P **P** 07 44 41.3 -1.2
MACA IAmb IAmb 07 44 48.3
comp=Z,16nm,0.6s
MACA **Manacapuru-AM** 57.83 322 *e*P **P** 07 44 41.2 -1.2
CZSB **Cruzeiro do Su** 58.58 307 P **P** 07 44 46.5 -1.2
CZSB IAmb IAmb 07 44 52.9
comp=Z,21nm,0.9s
CZSB **Cruzeiro do Su** 58.58 307 *e*P **P** 07 44 46.7 -1.0
KRI **Karoi** 58.74 74 *e*P **P** 07 44 49.4 +0.3
TEFE **Tefe** 58.97 318 *e*P **P** 07 44 50.3 -0.1
LSZ **Lusaka** 59.24 71 P **P** 07 44 51.9 -0.6
LSZ **Lusaka** 59.24 71 LR LR 08 06 26.6
comp=Z,279nm,19.4s,baz=215,slow=32
TBTG **Tabatinga, AM** 60.49 312 *e*P **P** 07 45 00.7 -0.3
ATAH **Atahualpa** 61.78 302 P **P** 07 45 11.3 +1.1
comp=Z,14nm,1.0s,baz=158,slow=4.0,SNR=13
ATAH LR LR 08 13 13.0
comp=Z,162nm,20.1s,baz=142,slow=37
comp=Z,14nm,1.0s
BOAV **Boa Vista** 62.96 324 P **P** 07 45 16.6 -0.9
BOAV IAmb IAmb 07 45 20.0
comp=Z,41nm,1.6s
BOAV **Boa Vista** 62.96 324 *e*P **P** 07 45 16.7 -0.9
MDP **Montagnes des** 63.22 334 LR LR 08 12 05.5
comp=Z,254nm,18.3s,baz=132,slow=35
MCRA **Macar, Loja** 64.94 302 P **P** 07 45 29.9 -0.7
DBIC **Dimbokro** 65.00 27 P **P** 07 45 30.6 -0.3
DBIC IAmb IAmb 07 45 32.6
comp=Z,14nm,0.9s
DBIC **Dimbokro** 65.00 27 *e*P **P** 07 45 30.6 -0.3
DBIC **Dimbokro** 65.00 27 P **P** 07 45 30.7 -0.3
comp=Z,14nm,1.0s,baz=205,slow=6.6,SNR=8.3
comp=Z,14nm,1.0s
OPO **Ambohidratompo** 67.27 90 LR LR 08 11 53.2
comp=Z,234nm,19.1s,baz=342,slow=33
OTAV **Otavalo** 68.24 305 P **P** 07 45 51.8 -0.4
OTAV IAmb IAmb 07 46 06.7
comp=Z,38nm,1.5s
ROSC **El Rosal** 70.48 312 P **P** 07 46 06.4 +0.4
comp=Z,7.7nm,0.7s,baz=168,slow=19,SNR=5.2
ROSC LR LR 08 17 22.2
comp=Z,306nm,21.1s,baz=205,slow=36
comp=Z,7.7nm,0.7s
PCRV **Puerto La Cruz** 71.62 323 LR LR 08 18 11.4
comp=Z,271nm,19.6s,slow=36
BAUV **El Baul** 71.70 319 P **P** 07 46 11.3 -1.5
BAUV IAmb IAmb 07 46 37.4
comp=Z,38nm,1.0s
SDV **Santo Domingo** 72.64 317 P **P** 07 46 18.5 -0.2
SDV IAmb IAmb 07 46 40.7
comp=Z,22nm,1.1s
SDV **Santo Domingo** 72.64 317 LR LR 08 19 38.8
comp=Z,752nm,19.4s,baz=137,slow=37
SDV **Santo Domingo** 72.64 317 *e*P **P** 07 46 18.8 +0.1
MBAR **Mbarara** 72.89 65 LR LR 08 14 18.6
comp=Z,240nm,21.2s,baz=214,slow=32
TOA0 **Torodi Ar. Sit** 73.01 32 P **P** 07 46 21.1 +0.4
TORD **Torodi Ar. Bea** 73.01 32 P **P** 07 46 21.0 +0.3
TORD **Torodi Ar. Bea** 73.01 32 P **P** 07 46 20.2 -0.4
comp=Z,13nm,0.8s,baz=202,slow=6.1,SNR=44
TORD LR LR 08 13 43.6
comp=Z,424nm,18.2s,baz=182,slow=32
comp=Z,13nm,0.8s
GDHS **Morne Mazeau,** 76.41 328 P **P** 07 46 40.5 +0.1
LCR2 **La Lucha 2** 79.17 305 P **P** 07 46 53.7 -2.3
RPZ **Rata Peaks** 79.86 195 LR LR 08 19 31.1
comp=Z,145nm,19.5s,baz=176,slow=34
COVE **Coope Vega, Sa** 80.21 305 P **P** 07 47 01.7 +0.2
COVE IAmb IAmb 07 47 13.7
comp=Z,90nm,1.5s
ACON **Acoyapa** 81.67 305 P **P** 07 47 08.4 -0.8
ACON IAmb IAmb 07 47 14.9
comp=Z,24nm,0.9s
BOAB **BOACO BROADBAND** 82.32 305 P **P** 07 47 11.1 -1.5
MATN **Matagalpa** 82.86 305 P **P** 07 47 15.6 +0.1
URZ **Urewera** 84.11 201 LR LR 08 21 18.5
comp=Z,152nm,19.0s,baz=303,slow=33
MTO3 **Montecristo** 85.76 303 P **P** 07 47 29.2 -1.2
ESQI **Esquipulas** 85.89 303 P **P** 07 47 30.9 0.0
TBI **Tubuai** 86.61 233 *e*LR LR 08 15 01.8
comp=Z,911nm,29.8s
NWAO **Narrogin (SRO)** 87.56 152 P **P** 07 47 38.7 -0.2
comp=Z,9.6nm,0.9s,baz=211,slow=5.5,SNR=3.0
comp=Z,9.6nm,0.9s
ATD **Arta Tunnel** 89.49 69 LR LR 08 24 09.9
comp=Z,16nm,21.6s,baz=186,slow=33
MDT **Midelt** 90.28 21 LR LR 08 21 22.1
comp=Z,231nm,21.9s,baz=159,slow=31
TEIG **Tepich** 90.30 306 LR LR 08 34 32.9
comp=Z,2um,18.1s,baz=190,slow=40
CMIG **Matias Romero** 90.78 299 LR LR 08 23 41.5
comp=Z,88nm,21.4s,baz=145,slow=32
RAO **Raoul Island** 91.60 207 LR LR 08 24 51.4
comp=Z,110nm,18.1s,baz=104,slow=33
PPT2 **Papeete2** 91.64 235 *e*LR LR 08 16 59.2
comp=Z,170nm,23.2s
PPT2 *e*LR LR 08 17 20.3
comp=Z,163nm,25.5s
STKA **Stephens Creek** 92.83 172 LR LR 08 27 43.0
comp=Z,235nm,20.7s,baz=195,slow=34
RAR **Rarotonga** 92.94 225 LR LR 08 24 10.7
comp=Z,55nm,20.0s,baz=160,slow=32
KEST **Kesra** 96.52 31 LR LR 08 28 53.8
comp=Z,390nm,18.1s,baz=179,slow=34
ESDC **Sonseca Array** 97.05 19 LR LR 08 23 54.6
comp=Z,146nm,20.6s,baz=181,slow=30
VAE **Valguarnera** 99.68 34 LR LR 08 28 21.0
comp=Z,140nm,19.7s,baz=161,slow=32
ASAR **Alice Springs** 100.05 164 P **Pdif** 07 48 35.0 -1.5
comp=Z,1.4nm,0.9s,baz=191,slow=3.1,SNR=8.4
ASAR PKKP **PKKPdf** 08 04 55.2 -0.1
comp=Z,0.4nm,0.6s,baz=10,slow=2.8,SNR=4.5
P52A **Corning** 104.73 320 P **PP** 07 53 15.0 -2.0
baz=152
MIAR **Mount Ida** 104.96 310 P **PKiKP** 07 53 15.3 +2.8
baz=148
ANMO **Albuquerque** 111.31 301 P **PKiKP** 07 53 24.4 -0.1
baz=143
TUC **Tucson** 111.39 296 P **PKiKP** 07 53 24.4 -0.2
baz=143
CLL **Collm** 111.90 27 *e*PS PS 08 03 36.0 -5.0
CLL *e*PPS PPS 08 05 00.0
CLL *e*SS SS 08 10 00.0 +14
T25A **Trinidad** 112.07 304 P **PKiKP** 07 53 25.8 -0.2
baz=144
214A **Organ Pipe Nat** 112.16 294 P **PKiKP** 07 53 25.3 -0.8
baz=142
SDCO **Great Sand Dun** 113.08 303 P **PKiKP** 07 53 27.3 -0.7
baz=143
IRM **Iron Mountain** 115.09 294 P **PKiKP** 07 53 32.3 +0.7
baz=141
109C **Camp Elliot, M** 115.14 292 P **PKPdf** 07 53 31.8 +0.1
baz=141
NEE2 **Needles Airpor** 115.29 295 P **PKPdf** 07 53 31.9 0.0
baz=141
TPFO **Pinon Flats** 115.36 293 P **PKPdf** 07 53 32.5 +0.2
baz=141
PFO **Pinyon Flats O** 115.36 293 P **PKPdf** 07 53 31.9 -0.4
baz=141
BELC **Belle Mtn. Jos** 115.42 293 P **PKiKP** 07 53 33.5 +1.1
baz=141
N23A **Red Feather La** 115.78 305 P **PKPdf** 07 53 33.0 0.0
baz=142
GMRC **Granite Mounta** 115.85 294 P **PKPdf** 07 53 33.3 +0.1
baz=141
CIS **Catalina Islan** 116.24 291 P **PKPdf** 07 53 33.8 -0.1
baz=141
O20A **White River Ci** 116.27 303 P **PKiKP** 07 53 34.7 +0.8
baz=141
AKASG **Malin Array Be** 116.31 37 PKP **PKPdf** 07 53 33.0 -0.3
comp=Z,1.2nm,0.6s,baz=255,slow=0.9,SNR=3.1
FMP **Fort Macarthur** 116.41 291 P **PKiKP** 07 53 34.7 +0.6
baz=140
GSC **Goldstone, Bar** 116.84 294 P **PKPdf** 07 53 34.9 -0.2
baz=140
SHOC **Shoshone, Teco** 117.03 294 P **PKiKP** 07 53 36.0 +0.7
baz=140
EDW2 **Edwards Air Fo** 117.15 293 P **PKiKP** 07 53 36.2 +0.6
baz=140
RSSD **Black Hills** 117.43 308 P **PKiKP** 07 53 37.4 +1.3
baz=142
LRMC **Laurel Mtn Rad** 117.44 293 P **PKPdf** 07 53 36.6 +0.3
baz=140
SBC **Santa Barbara** 117.73 291 P **PKiKP** 07 53 37.7 +1.0
baz=140
FURC **Furnace Creek,** 117.77 294 P **PKiKP** 07 53 37.3 +0.7
baz=140
MPMC **Manual Prospec** 117.78 294 P **PKiKP** 07 53 37.6 +0.6
baz=140
ISA **Isabella, Lake** 118.00 293 P **PKiKP** 07 53 37.9 +0.6
baz=140
PKM **Mcpherson Peak** 118.12 291 P **PKPdf** 07 53 37.7 +0.1
baz=140
CWC **Cottonwood Cre** 118.38 294 P **PKPdf** 07 53 38.6 +0.5
baz=140
GRAC **Grapevine Rang** 118.43 295 P **PKPdf** 07 53 37.9 -0.1
baz=140
R11B **Troy Canyon, C** 118.54 297 P **PKPdf** 07 53 38.6 +0.3
baz=140
DUG **Dugway, Tooele** 118.55 300 PKPdf **PKPdf** 07 53 38.8 +0.5
DUG **Dugway, Tooele** 118.55 300 P **PKiKP** 07 53 39.0 +0.7
baz=140
ULM **Lac du Bonnet** 118.88 318 PKP **PKPdf** 07 53 37.4 -1.0
comp=Z,1.9nm,0.8s,baz=195,slow=5.0,SNR=3.3
PDAR **Pinedale Array** 118.93 304 PKPdf **PKPdf** 07 53 36.8 -2.3
PDAR **Pinedale Array** 118.93 304 PKP **PKPdf** 07 53 37.6 -1.4
comp=Z,0.5nm,0.5s,baz=142,slow=5.3,SNR=7.1
BW06 **Boulder Array** 118.93 304 P **PKiKP** 07 53 39.8 +0.8
baz=140
NVAR **Mina Array Bea** 120.00 295 PKP **PKPdf** 07 53 40.4 -0.8
comp=Z,1.0nm,0.7s,baz=154,slow=2.4,SNR=9.9
HFS **Hagfors** 120.05 23 PKP **PKPdf** 07 53 39.7 -0.5
comp=Z,1.3nm,0.7s,baz=218,slow=8.5,SNR=2.1
NB2 **NORSAR Subarra** 120.33 21 PKPdf **PKiKP** 07 53 43.1 +2.2
comp=Z,2.2nm,0.9s,baz=206,slow=2.0
NOA **NORSAR Array B** 120.33 21 PKP **PKPdf** 07 53 40.9 0.0
comp=Z,0.6nm,0.6s,baz=210,slow=2.2,SNR=3.8
LAO **LASA Array** 120.39 309 P **PKiKP** 07 53 42.8 +1.2
baz=140
RLMT **Red Lodge** 120.58 306 P **PKiKP** 07 53 44.1 +1.9
baz=139
H17A **Grant Village** 120.65 305 P **PKiKP** 07 53 45.8 +3.4
baz=139
DGMT **Dagmar** 120.87 312 P **PKiKP** 07 53 43.9 +1.6
baz=140
PAHR **Pah Rah Range** 121.51 295 **PKPdf** 07 53 44.0 0.0
HLID **Hailey** 121.86 301 P **PKPdf** 07 53 45.1 +0.5
baz=138
BOZ **Bozeman (W)** 122.04 305 P **PKiKP** 07 53 45.9 +1.0
baz=138
EGMT **Eagleton** 122.98 308 P **PKiKP** 07 53 47.8 +1.2
baz=138
NIL **Nilore** 123.79 78 PKPdf **PKiKP** 07 53 48.8 +0.2
BMO **Blue Mountains** 124.23 301 PKPdf **PKPdf** 07 53 49.2 +0.3
FINES **FINESS Array B** 124.28 29 PKPdf **PKiKP** 07 53 49.9 +1.3
FINES **FINESS Array B** 124.28 29 PKP **PKPdf** 07 53 47.8 -0.5
comp=Z,6.0nm,0.6s,baz=180,slow=2.8,SNR=25
FIA1 **FINESS Array S** 124.28 29 PKPdf **PKiKP** 07 53 49.2 +0.6
FCC **Fort Churchill** 124.97 325 **PKPdf** 07 53 48.8 -0.9
GAR **Garm** 126.06 72 **PKiKP** 07 53 53.9 +0.8
CMAR **Chiang Mai Arr** 126.45 112 PKPdf **PKPdf** 07 53 53.6 -0.3
CMAR **Chiang Mai Arr** 126.45 112 PKP **PKPdf** 07 53 53.5 -0.4
comp=Z,1.0nm,0.3s,baz=236,slow=3.8,SNR=12
NEW **Newport** 126.57 304 P **PKiKP** 07 53 55.5 +1.8
baz=135
ABKAR **Akbulak array** 127.93 56 PKPdf **PKPdf** 07 53 55.7 0.0
EDM **Edmonton** 128.30 310 PKPdf **PKPdf** 07 53 56.0 -0.3
KK31 **Karatay Array** 129.04 68 PKPdf **PKPdf** 07 53 58.1 0.0
KKAR **Karatay Array** 129.04 68 PKPdf **PKPdf** 07 53 58.1 0.0
ARSB **Arslanbob** 129.14 72 PKPdf **PKPdf** 07 53 58.9 +0.4
KSH **Kashi** 129.52 75 PKP **PKiKP** 07 54 01.2 +1.2
ARCES **ARCESS Array B** 130.69 22 PKP **PKPdf** 07 53 59.5 -0.8
comp=Z,3.3nm,0.6s,baz=186,slow=1.2,SNR=14
AAK **Ala-Archa** 130.86 71 PKPdf **PKPdf** 07 54 01.3 -0.4
NRN **Naryn** 130.86 74 PKPdf **PKiKP** 07 54 04.1 +1.2
BOOM **Boomskoye usch** 131.55 72 PKPdf **PKiKP** 07 54 04.6 +0.5
ARU **Arti** 132.08 48 PKP **PKPdf** 07 54 02.8 -0.6
comp=Z,5.7nm,0.2s,baz=223,slow=2.6,SNR=7.3
KMI **Kunming** 133.91 111 ⇑PKP **PKPdf** 07 54 08.0 -0.1
KMI sPKP 07 54 13.6
PZH **PanZhiHua** 134.47 109 PKP **PKPdf** 07 54 09.7 +0.7
YKA **Yellowknife Ar** 134.81 319 PKPdf **PKPdf** 07 54 07.9 -0.4
YKA **Yellowknife Ar** 134.81 319 PKhKP PKPpre 07 54 01.2
comp=Z,0.2nm,0.6s,baz=121,slow=3.6,SNR=4.0
YKA PKP **PKPdf** 07 54 07.5 -0.8
comp=Z,2.0nm,0.6s,baz=128,slow=2.3,SNR=22
YKA SKPbc **SKPbc** 07 57 37.4 -0.5
comp=Z,3.7nm,1.1s,baz=109,slow=3.8,SNR=6.9
BRVK **Borovoye** 135.36 58 PKPdf **PKPdf** 07 54 10.2 +0.6
BVAR **Borovoye Array** 135.39 58 PKP **PKPdf** 07 54 09.8 +0.1
comp=Z,6.7nm,0.6s,baz=236,slow=1.6,SNR=16
BVAR SKPbc **SKPbc** 07 57 38.8 -1.2
comp=Z,2.5nm,1.0s,baz=224,slow=4.0,SNR=4.1
DIB **Dawson Inlet,** 137.20 300 **PKPdf** 07 54 13.8 +0.8
KOTAN **Kotaneelee Dir** 137.21 313 P **PKPdf** 07 54 14.2 +1.3
baz=123
MK31 **Makanchi Array** 137.78 72 PKPdf **PKPdf** 07 54 14.7 +0.3
MKAR **Makanchi Array** 137.78 72 PKPdf **PKPdf** 07 54 14.5 +0.1
MKAR **Makanchi Array** 137.78 72 PKhKP PKPpre 07 54 03.1
comp=Z,0.2nm,0.5s,baz=251,slow=3.7,SNR=2.0
MKAR SKPbc **SKPbc** 07 57 45.5 -2.0
comp=Z,1.7nm,1.1s,baz=267,slow=2.7,SNR=3.9
GOMU **GeErMu** 137.88 93 PKP **PKPdf** 07 54 14.0 -1.4
V35K **Ketchikan** 137.98 303 P **PKiKP** 07 54 18.7 +2.3
baz=124
KURBB **Kurchatov Arra** 138.06 65 PKhKP PKPpre 07 54 03.0
comp=Z,0.9nm,0.3s,baz=33,slow=23,SNR=0.7
KURBB SKPbc **SKPbc** 07 57 46.7 -1.5
comp=Z,0.9nm,0.2s,baz=254,slow=4.4,SNR=4.7
KURK **Kurchatov** 138.16 65 PKPdf **PKiKP** 07 54 16.7 -0.2
T35M **Bob Quinn** 138.24 306 P **PKiKP** 07 54 19.3 +2.3
baz=123
WRGLY **Wrigley** 138.60 317 P **PKiKP** 07 54 20.8 +3.3
baz=120
CRAG **Craig** 138.78 303 P **PKiKP** 07 54 19.7 +1.7
baz=123
WMQ **Urumqi** 138.93 79 *e*PKP **PKiKP** 07 54 18.1 -0.8
CD2 **Chengdu** 139.02 107 PKP **PKPdf** 07 54 18.0 +0.8
S34M **Telegraph Cree** 139.14 307 P **PKiKP** 07 54 20.7 +2.0
baz=121
WTLY **Watson Lake, Y** 139.23 311 P **PKiKP** 07 54 20.9 +2.1
baz=120
TGTN **Hyland Airport** 139.71 313 P **PKiKP** 07 54 21.9 +2.1
baz=119
R33M **Jennings River** 139.82 309 P **PKiKP** 07 54 21.8 +1.5
baz=120
N32M **Quiet Lake** 141.58 311 **PKPdf** 07 54 20.0 -0.9
WHY **Whitehorse** 142.15 309 PKPdf **PKPdf** 07 54 20.0 -1.9
GTA **Gaotai** 142.96 94 *e*PKP **PKPdf** 07 54 23.4 -0.8
ZAA0 **Zalesovo Array** 143.11 64 PKPdf PKPbc 07 54 21.8 +1.1
ZALV **Zalesovo Beam** 143.11 64 PKPdf PKPbc 07 54 21.4 +0.6
ZALV **Zalesovo Beam** 143.11 64 PKP PKPbc 07 54 21.8 +1.0
comp=Z,5.7nm,0.6s,baz=244,slow=4.1,SNR=24
HYT **Haines Junctio** 143.38 309 PKPdf PKPbc 07 54 22.2 +0.8
XAN **Xi'an** 144.21 109 ⇑PKP **PKPab** 07 54 23.3 -0.9
G31M **Satah River** 144.31 319 PKPdf **PKPab** 07 54 23.5 +0.1
J30M **Hart River** 144.32 315 PKPdf **PKPab** 07 54 24.5 +0.7
M29M **Somme Creek** 144.44 311 **PKPab** 07 54 24.6 +0.3
M29M **Somme Creek** 144.44 311 P **PKPab** 07 54 24.7 +0.4
baz=112
INK **Inuvik** 144.47 322 P **PKPab** 07 54 24.2 +0.2
baz=108,SNR=28
INK **Inuvik** 144.47 322 PKP **PKPab** 07 54 24.2 +0.2
comp=Z,15nm,0.8s,baz=86,slow=3.7,SNR=94
INK SKPbc **SKPbc** 07 58 03.5 -0.5
comp=Z,8.0nm,1.2s,baz=82,slow=0.8,SNR=4.1
L29M **L29M** 144.54 312 PKPdf **PKPab** 07 54 25.0 +0.4
L29M **L29M** 144.54 312 P **PKPab** 07 54 24.9 +0.3
baz=111
K29M **Barlow Dome** 144.55 313 PKPdf **PKPab** 07 54 24.7 0.0
K29M **Barlow Dome** 144.55 313 P **PKPab** 07 54 24.6 -0.1
baz=111,SNR=47
I30M **Mount Dempster** 144.56 316 PKPdf **PKPab** 07 54 24.6 -0.1
I30M **Mount Dempster** 144.56 316 P **PKPab** 07 54 24.5 -0.2
baz=110
YUK8 **Steele Glacier** 144.58 309 P **PKPab** 07 54 25.5 +0.4
baz=112
LOGN **Logan Glacier** 144.96 308 PKPbc 07 54 26.6 +0.2
J29N **Klondike Camp** 145.04 314 **PKPbc** 07 54 26.4 +0.1
J29N **Klondike Camp** 145.04 314 P **PKPbc** 07 54 26.5 +0.1
baz=109,SNR=18
G30M **tAoh Zraii Nji** 145.05 319 **PKPbc** 07 54 26.9 +0.6
G30M **tAoh Zraii Nji** 145.05 319 P **PKPbc** 07 54 26.1 -0.2
baz=107
EPYK **Eagle Plains** 145.06 318 **PKPbc** 07 54 26.2 -0.1
EPYK **Eagle Plains** 145.06 318 P **PKPbc** 07 54 26.2 -0.1
baz=108,SNR=16
YUK3 **Moose Creek** 145.07 309 P **PKPbc** 07 54 26.7 0.0
baz=111,SNR=19
F30M **Barrier River** 145.08 320 P **PKPbc** 07 54 26.3 0.0
baz=107,SNR=32
MESA **MESA** 145.14 306 **PKPbc** 07 54 27.2 +0.2
MESA **MESA** 145.14 306 P **PKPbc** 07 54 27.2 +0.2
baz=113
CTGM **Chitina Glacie** 145.16 308 **PKPab** 07 54 27.7 +0.6
CTG **Chitna Glacier** 145.16 308 P **PKPbc** 07 54 27.2 +0.3
baz=112,SNR=12
GRNC **Granite Creek** 145.26 307 **PKPbc** 07 54 27.6 +0.2
BARN **Barnard Glacie** 145.34 308 **PKPbc** 07 54 27.6 0.0
DAWY **Dawson** 145.40 313 **PKPdf** 07 54 26.8 -0.7
DAWY **Dawson** 145.40 313 P **PKPdf** 07 54 27.3 -0.2
baz=109,SNR=30
BVCY **Beaver Creek** 145.47 310 P **PKPdf** 07 54 28.1 +0.4
baz=110,SNR=33
H29M **Whitestone** 145.65 317 **PKPdf** 07 54 27.8 0.0
H29M **Whitestone** 145.65 317 P **PKPdf** 07 54 28.3 +0.5
baz=107
BGLC **Bering Glacier** 145.74 306 P **PKPdf** 07 54 28.7 +0.7
baz=112
TGL **Tana Glacier** 145.76 307 **PKPab** 07 54 29.8 +0.5
CRQE **Cirque** 145.88 307 P **PKPdf** 07 54 29.1 +0.6
baz=111
M27K **Edge Creek, AK** 145.90 310 PKPdf **PKPdf** 07 54 28.5 -0.1
M27K **Edge Creek, AK** 145.90 310 P **PKPdf** 07 54 29.2 +0.7
baz=110
CRQM **Cirque** 145.91 307 **PKPbc** 07 54 29.8 +0.4
I28M **Miner Creek** 146.05 316 **PKPdf** 07 54 28.6 -0.1
I28M **Miner Creek** 146.05 316 P **PKPdf** 07 54 29.4 +0.8
baz=107
E29M **Blow River** 146.05 321 **PKPbc** 07 54 29.4 +0.1
E29M **Blow River** 146.05 321 P **PKPdf** 07 54 29.1 +0.7
baz=104
MCARA **McCarthy VSAT** 146.08 308 **PKPbc** 07 54 30.1 +0.5
MCARA **McCarthy VSAT** 146.08 308 P **PKPdf** 07 54 29.4 +0.8
baz=110
BCAR **Beaver Creek A** 146.09 311 PKPdf **PKPdf** 07 54 29.6 +0.9
L27K **Beaver Creek,** 146.11 311 PKPdf **PKPdf** 07 54 29.1 +0.4
L27K **Beaver Creek,** 146.11 311 P **PKPdf** 07 54 29.7 +0.9
baz=109
KAIM **Kayak Island** 146.20 305 P **PKPdf** 07 54 29.5 +0.7
baz=112
VRDI **Verde Repeater** 146.22 307 PKPdf **PKPbc** 07 54 30.5 +0.2
EGAK **Eagle** 146.35 314 PKPdf **PKPdf** 07 54 29.5 +0.5
EGAK **Eagle** 146.35 314 P **PKPdf** 07 54 29.9 +0.9
baz=107,SNR=9.2
M26K **Nabesna, AK** 146.41 310 **PKPbc** 07 54 30.6 -0.1
M26K **Nabesna, AK** 146.41 310 P **PKPdf** 07 54 30.1 +0.8
baz=109
LYN **LuoYang** 146.50 112 PKPbc **PKPdf** 07 54 31.2 +0.9
K27K **Chicken** 146.51 313 **PKPdf** 07 54 29.9 +0.6
K27K **Chicken** 146.51 313 P **PKPbc** 07 54 30.9 0.0
baz=107
D28M **Stokes Point** 146.56 323 P **PKPbc** 07 54 30.9 +0.2
baz=102
F28M **Old Crow** 146.59 319 **PKPbc** 07 54 30.9 -0.1
F28M **Old Crow** 146.59 319 P **PKPbc** 07 54 30.9 -0.1
baz=104
BMRM **Bremner River** 146.65 307 P **PKPdf** 07 54 31.1 +1.4
baz=110
L26K **Log Cabin Wild** 146.75 311 **PKPbc** 07 54 31.5 -0.1
L26K **Log Cabin Wild** 146.75 311 P **PKPbc** 07 54 31.5 -0.1
baz=108
I27K **Kandik River** 146.76 315 P **PKPbc** 07 54 31.7 +0.1

baz=105
N25K **Chitina, Valde** 146.86 308 P PKPbc 07 54 32.2 +0.2
baz=109
H27K **Steamboat Moun** 146.89 317 P PKPbc 07 54 32.3 +0.3
baz=104
MENT **Mentasta** 146.89 310 PKPdf 07 54 30.8 +0.8
Q23K **Middleton Isla** 146.93 303 P PKPab 07 54 33.5 -0.1
baz=111
EYAK **Cordova Ski Ar** 147.04 306 P PKPbc 07 54 32.8 +0.4
baz=110
J26L **Joseph Creek** 147.27 313 PKPbc 07 54 33.2 +0.1
J26L **Joseph Creek** 147.27 313 P PKPbc 07 54 33.2 +0.1
baz=106
SCRK **Sand Creek** 147.31 312 PKPbc 07 54 33.3 +0.1
SCRK **Sand Creek** 147.31 312 P PKPbc 07 54 33.4 +0.1
baz=106,SNR=38
I26K **Coal Creek Min** 147.31 315 PKPbc 07 54 32.8 -0.3
I26K **Coal Creek Min** 147.31 315 P PKPbc 07 54 33.3 +0.2
baz=104
HARP **HAARP** 147.36 309 P PKPbc 07 54 33.5 +0.2
baz=108
KLU **Klutina** 147.43 307 P PKPbc 07 54 34.2 +0.6
baz=108,SNR=15
P23K **Montague Islan** 147.63 304 P PKPbc 07 54 34.2 +0.2
baz=110
PAX **Paxson** 147.66 310 P PKPbc 07 54 34.3 +0.1
baz=106,SNR=45
M24K **Tolsona, Glenn** 147.73 308 P PKPbc 07 54 35.1 +0.7
baz=107,SNR=7.3
NJ2 **Nanjing** 147.75 123 *e*PKPbc PKPdf 07 54 32.7 +0.3
NJ2 pPKP **pPKPbc** 07 54 37.1 -1.1
G26K **Porcupine Rive** 147.93 318 P PKPbc 07 54 35.1 +0.4
baz=102
K24K **Donnelly Dome** 148.02 311 P PKPbc 07 54 35.4 +0.3
baz=105,SNR=8.3
J25K **Salcha River,** 148.05 313 P PKPbc 07 54 35.4 +0.2
baz=104
SCM **Sheep Creek Mo** 148.17 307 PKPbc 07 54 35.5 0.0
SCM **Sheep Creek Mo** 148.17 307 P PKPbc 07 54 36.1 +0.5
baz=107,SNR=11
F26K **Sheenjek River** 148.20 319 P PKPbc 07 54 36.2 +0.8
baz=100
BMAR **Burnt Mountain** 148.32 318 PKPbc 07 54 35.8 +0.1
PRP **Porcupine Dome** 148.32 315 PKPbc 07 54 36.1 +0.1
PRP **Porcupine Dome** 148.32 315 P PKPbc 07 54 36.3 +0.3
baz=102
M23K **Glacier View** 148.34 307 P PKPbc 07 54 36.4 +0.5
baz=107,SNR=8.3
WAT6 **Susitna Watana** 148.56 309 P PKPbc 07 54 37.0 +0.3
baz=106
KNK **Knik Glacier** 148.56 306 P PKPbc 07 54 36.8 +0.3
baz=107
SML **Sawmill** 148.62 307 P PKPbc 07 54 36.9 +0.2
baz=106,SNR=6.5
SEW **Seward** 148.64 304 P PKPbc 07 54 36.9 +0.2
baz=108
HDA **Harding Lake** 148.67 312 P PKPbc 07 54 36.8 +0.1
baz=103,SNR=12
IL31 148.72 313 PKPdf PKPdf 07 54 31.9 -1.0
ILAR **Eielson Array** 148.72 313 PKPbc PKPbc 07 54 36.6 -0.2
comp=Z,27nm,0.7s,baz=133,slow=2.2,SNR=22
F25K **Christian Rive** 148.75 319 P PKPbc 07 54 37.6 +0.7
baz=99
C26K **Camden Bay** 148.78 323 P PKPbc 07 54 37.7 +0.9
baz=96
G25K **Bearman Lake** 148.79 317 P PKPbc 07 54 37.9 +1.0
baz=100
E25K **Arctic Village** 148.80 320 P PKPbc 07 54 37.8 +0.8
baz=98
O22K **Cooper Landing** 148.88 304 P PKPbc 07 54 38.1 +0.8
baz=108
PMR **Palmer** 148.93 307 P PKPbc 07 54 38.0 +0.7
baz=106
POKR **Poker Plat Res** 149.02 314 P PKPbc 07 54 38.5 +0.9
baz=102,SNR=12
RC01 **Rabbit Creek A** 149.06 305 P PKPbc 07 54 38.5 +0.7
baz=106
BRSE **Bradley Lake S** 149.14 303 P PKPbc 07 54 38.4 +0.3
baz=108
COLA **College** 149.15 313 P PKPbc 07 54 38.2 +0.4
baz=102
NRIK **Noril'sk** 149.16 38 PKPbc PKPbc 07 54 37.8 0.0
comp=Z,5.6nm,0.7s,baz=47,slow=3.1,SNR=12
D25K **Kavik River** 149.24 322 P PKPbc 07 54 38.2 +0.2
baz=96
G24K **Hadweenzic Riv** 149.32 317 P PKPbc 07 54 38.8 +0.5
baz=99
H24K **Noodor Dome** 149.34 315 P PKPbc 07 54 38.5 +0.1
baz=100
MCK **McKinley** 149.37 311 P PKPbc 07 54 38.9 +0.4
baz=103
KDAK **Kodiak Island** 149.41 298 P PKPbc 07 54 39.1 +0.4
baz=110
KDAK **Kodiak Island** 149.41 298 PKPbc PKPbc 07 54 39.1 +0.4
comp=Z,44nm,0.7s,baz=199,slow=3.2,SNR=19
M22K **Willow** 149.42 307 P PKPbc 07 54 38.8 +0.3
baz=105,SNR=14
BTO **Baotou** 149.55 102 *e*PKPbc PKPdf 07 54 32.3 -2.9
BTO pPKP **sPKPbc** 07 54 42.8 -0.9
BTO PKPab PKPab 07 54 44.4 -0.5
OHAK **Old Harbor** 149.57 297 P PKPbc 07 54 39.4 +0.3
baz=111
F24K **Squaw Lake** 149.59 318 P PKPbc 07 54 39.7 +0.7
baz=97
NEA2 **Nenana** 149.60 312 P PKPbc 07 54 38.9 -0.1
baz=101,SNR=16
SUA **Susitna One** 149.64 306 P PKPbc 07 54 39.7 +0.3
baz=105,SNR=15
CAPN **Captain Cook N** 149.64 304 P PKPbc 07 54 39.7 +0.6
baz=106
CUT **Chulitna** 149.65 308 P PKPbc 07 54 39.3 +0.1
baz=104,SNR=7.7
SII **Sitkinak Islan** 149.79 295 P PKPbc 07 54 40.2 +0.4
baz=111
I23K **Minto, Yukon-K** 149.83 313 P PKPbc 07 54 39.4 -0.1
baz=100,SNR=6.8
HNS **HongShan** 149.84 111 ⇑PKPbc PKPbc 07 54 40.0 -0.4
TRF **Thorofare Moun** 149.90 310 PKPdf 07 54 33.0 -2.1
TRF **Thorofare Moun** 149.90 310 P PKPbc 07 54 40.3 +0.3
baz=102
C24K **Franklin Bluff** 150.08 322 P PKPbc 07 54 40.2 +0.2
baz=93
D24K **Happy Valley** 150.09 321 P PKPbc 07 54 40.2 +0.2
baz=94
SKT **Skwentna** 150.13 307 P PKPbc 07 54 40.4 0.0
baz=104,SNR=14
O20K **Slope Mountain** 150.15 303 P PKPbc 07 54 40.9 +0.3
baz=106
TIA **Tai'an** 150.21 116 *e*PKPbc PKPbc 07 54 40.0 -1.4
N20K **Mount Spurr** 150.25 305 P PKPbc 07 54 40.9 +0.1
baz=105
CHIR **Chirikof Islan** 150.27 294 P PKPbc 07 54 41.1 +0.3
baz=112
E23K **Chandalar** 150.31 319 P PKPbc 07 54 41.4 +0.7
baz=95
G23K **Bananza Creek** 150.33 316 PKPdf PKPdf 07 54 34.9 -0.6
G23K PKPbc **PKiKP** 07 54 42.2 +0.7
G23K **Bananza Creek** 150.33 316 P PKPbc 07 54 41.4 +0.7
baz=97
BPAW **Bear Paw Mtn.** 150.33 311 P PKPbc 07 54 40.9 +0.1
baz=101,SNR=28
MLY **Manley** 150.39 313 P PKPbc 07 54 40.6 -0.3
baz=99,SNR=8.1
COLD **Coldfoot** 150.45 317 P PKPbc 07 54 41.8 +0.8
baz=96
HHC **Hu-ho-hao-te** 150.57 103 *e*PKPbc PKPdf 07 54 33.1 -3.7
PPLA **Purkeypile** 150.63 308 P PKPbc 07 54 41.8 +0.1
baz=102,SNR=7.9
CAST **Castle Rocks** 150.69 309 P PKPbc 07 54 41.1 -0.6
baz=101,SNR=15
C23K **Itkillik River** 150.75 323 P PKPbc 07 54 42.1 +0.5
baz=91
D23K **Nanushuk River** 150.75 321 P PKPbc 07 54 42.4 +0.8
baz=92
H22K **Ishtalitna Cre** 150.77 315 P PKPbc 07 54 42.3 +0.5
baz=97
M20K **Styx River** 150.84 306 P PKPbc 07 54 42.0 -0.2
baz=103
CHUM **Lake Minchumin** 150.87 310 P PKPbc 07 54 42.1 +0.1
baz=100,SNR=13
I21K **Tanana** 150.93 313 P PKPbc 07 54 42.2 +0.1
baz=98
G22K **Bettles** 150.93 317 P PKPbc 07 54 42.6 +0.5
baz=95
O19K **Port Alsworth** 151.00 302 P PKPbc 07 54 41.9 -0.5
baz=105
E22K **Anaktuvuk Pass** 151.13 319 P PKPbc 07 54 42.8 +0.1
baz=93
P18K **Big Mountain,** 151.22 301 P PKPbc 07 54 42.6 -0.4
baz=106
N19K **Bonanza Creek** 151.23 304 P PKPbc 07 54 42.5 -0.6
baz=104
Q17K **Contact Creek** 151.23 298 P PKPbc 07 54 43.1 -0.1
baz=108
L20K **Farewell, AK** 151.31 307 P PKPbc 07 54 42.6 -0.6
baz=101
H21K **Melozitna Rive** 151.33 314 P PKPbc 07 54 43.4 +0.3
baz=96
O18K **Koktuh Hills** 151.34 302 P PKPbc 07 54 43.2 -0.1
baz=105
M19K **Big River Lodg** 151.43 306 P PKPbc 07 54 43.3 -0.1
baz=102
D22K **Ayikyak River** 151.47 321 P PKiKP 07 54 44.3 +0.5
baz=91
K20K **Telida** 151.55 309 PKPdf PKPdf 07 54 37.2 -0.3
K20K PKPbc PKPbc 07 54 44.3 +0.6
K20K PKPab PKPab 07 54 52.5 0.0
K20K **Telida** 151.55 309 P PKPbc 07 54 43.5 -0.2
baz=100
G21K **Allakaket** 151.69 316 P PKPbc 07 54 44.1 +0.2
baz=94
L19K **White Mountain** 151.70 306 P PKPbc 07 54 43.9 -0.2
baz=101
B22K **Teshekpuk Lake** 151.70 324 PKPdf PKPdf 07 54 35.8 -1.7
B22K PKPbc 07 54 43.7 -0.1
B22K **Teshekpuk Lake** 151.70 324 P PKPbc 07 54 44.1 +0.3
baz=87
J20K **Nowinta River** 151.71 311 P PKPbc 07 54 44.1 +0.1
baz=98
F21K **Alatna River** 151.73 317 PKPdf PKPdf 07 54 35.3 -2.4
F21K PKPbc **PKiKP** 07 54 45.4 +1.0
F21K **Alatna River** 151.73 317 P PKPbc 07 54 44.4 +0.4
baz=93
Q16K **King Salmon** 151.74 299 P PKPbc 07 54 44.0 -0.1
baz=106
IMAR **Indian Mountai** 151.75 315 PKPdf PKPdf 07 54 35.6 -2.1
IMAR PKPbc PKPbc 07 54 44.6 +0.6
P17K **Kvichak River** 151.77 300 P PKPbc 07 54 44.2 0.0
baz=106
N18K **Kilae Creek** 151.87 303 P PKPbc 07 54 44.4 -0.1
baz=103
SONM **Songino Array** 151.88 87 PKPbc PKPbc 07 54 45.0 -0.1
comp=Z,10nm,0.8s,baz=228,slow=2.4,SNR=32
R16K **Pilot Point** 151.88 296 P PKPbc 07 54 44.6 +0.1
baz=108
CHGN **Chignik** 151.91 293 P PKPbc 07 54 44.9 +0.2
baz=110
I20K **Naaghedeneel** 151.93 312 P PKPbc 07 54 45.1 +0.6
baz=97
E21K **Killik River** 151.94 320 P PKPbc 07 54 44.9 +0.4
baz=90
M18K **Stony River** 152.01 305 P PKPbc 07 54 44.8 +0.1
baz=102
CHNA **Chernabura Isl** 152.01 290 P PKPbc 07 54 44.5 -0.4
baz=112
B21K **Ikpikpuk River** 152.15 322 P PKPbc 07 54 45.3 +0.5
baz=87
H20K **Anotleneega Mo** 152.17 313 P PKPbc 07 54 45.6 +0.6
baz=95
C21K **Knifeblade Rid** 152.23 321 P PKPbc 07 54 45.6 +0.5
baz=88
O17K **Koliganek Bris** 152.24 301 P PKPbc 07 54 45.8 +0.5
baz=104
J19K **Poorman** 152.33 310 P PKPbc 07 54 46.1 +0.7
baz=97
TTA **Tatalina** 152.36 308 P PKPbc 07 54 46.2 +0.6
baz=99
N17K **Nushagak Hills** 152.46 302 P PKPbc 07 54 46.2 +0.4
baz=103
P16K **Nushagak River** 152.50 299 P PKPbc 07 54 46.1 +0.2
baz=105
S14K **Fog Glacier** 152.50 293 P PKPbc 07 54 46.3 +0.2
baz=109
L18K **Granite Mounta** 152.55 306 P PiKiP 07 54 46.9 +0.7
baz=100
F20K **Avaraart Lake** 152.60 317 P PiKiP 07 54 46.8 +0.7
baz=91
A21K **Barrow** 152.66 326 P PKPbc 07 54 46.1 +0.2
baz=82
SDPT **Sand Point** 152.68 291 P PKPbc 07 54 46.1 -0.3
baz=110
O16K **Kokwok River B** 152.69 300 P PKiKP 07 54 47.1 +0.5
baz=104
J18K **Innoko River** 152.75 309 PKPdf 07 54 38.9 -0.3
J18K **Innoko River** 152.75 309 P PiKiP 07 54 47.2 +0.6
baz=97
M17K **Holitna River** 152.75 304 P PiKiP 07 54 47.3 +0.7
baz=101
E20K **Nigu River** 152.77 319 P PiKiP 07 54 47.6 +1.1
baz=88
H19K **Roundabout Mou** 152.83 313 P PiKiP 07 54 47.1 +0.5
baz=94
D20K **Etivluk River** 152.91 320 P PKPbc 07 54 47.1 +0.5
baz=87
GCSA **Galena City Sc** 152.95 312 P PiKiP 07 54 47.5 +0.6
baz=95
B20K **Meade River** 153.00 323 PKPdf 07 54 39.5 +0.1
B20K **Meade River** 153.00 323 P PKPbc 07 54 47.1 +0.4
baz=84
G19K **Purcell Mounta** 153.12 315 P PiKiP 07 54 48.0 +0.8
baz=92
E19K **Redstone River** 153.18 318 PKPdf PKPdf 07 54 38.1 -1.7
E19K PKPab **PKPab** 07 55 00.5 +1.3
E19K **Redstone River** 153.18 318 P PiKiP 07 54 48.1 +0.7
baz=89
N16K **Nishlik Lake** 153.21 302 P PiKiP 07 54 48.3 +0.6
baz=102
L17K **Donlin** 153.28 306 P PiKiP 07 54 48.5 +0.8
baz=99
K17K **Iditarod** 153.37 307 PKPdf PKPdf 07 54 39.0 -1.1
K17K PiKiP 07 54 48.8 +0.9
K17K **Iditarod** 153.37 307 P PiKiP 07 54 48.5 +0.7
baz=98
F19K **Shaleruckik Mo** 153.40 316 P PKPbc 07 54 48.2 +0.6
baz=90
M16K **Timber Creek** 153.41 303 P PKPbc 07 54 48.4 +0.5
baz=100
O15K **Ungalikthiuk R** 153.45 299 P PiKiP 07 54 48.6 +0.5
baz=104
D19K **Kuna River** 153.47 320 P PiKiP 07 54 48.5 +0.5
baz=86
H18K **Honnosa River** 153.61 312 P PiKiP 07 54 49.0 +0.7
baz=93
G18K **Tagagawik** 153.75 314 P PiKiP 07 54 49.2 +0.6
baz=91
L16K **Owhat River** 153.77 305 P PiKiP 07 54 49.3 +0.6
baz=99
J17K **VABM Dome** 153.79 308 P PiKiP 07 54 49.5 +0.8
baz=96
N15K **Kwethluk River** 153.80 301 P PiKiP 07 54 49.5 +0.7
baz=101
C19K **Lookout Ridge** 153.95 321 PKPdf 07 54 39.9 -1.0
C19K PKPab **PKPab** 07 55 03.1 +0.7
C19K **Lookout Ridge** 153.95 321 P PiKiP 07 54 49.8 +0.8
baz=84
FALS **False Pass** 154.09 288 P PKPbc 07 54 50.0 +0.5
baz=110
F18K **Selawik** 154.15 316 P PiKiP 07 54 50.4 +1.1
baz=88
M15K **Kasigluk River** 154.19 302 P PiKiP 07 54 50.8 +1.2
baz=100
O14K **Tigyukauivet M** 154.19 299 P PiKiP 07 54 50.7 +1.0
baz=102
H17K **Granite Mounta** 154.26 312 P PiKiP 07 54 50.5 +0.8
baz=92
J16K **Anvik River** 154.47 308 P PiKiP 07 54 50.8 +0.7
baz=95
E18K **Tukpahlearik C** 154.48 318 P PiKiP 07 54 50.5 +0.5
baz=86
I17K **Unalakleet** 154.55 309 P PKPbc 07 54 50.6 +0.4
baz=93
G17K **Kiwalik Mounta** 154.58 313 P PiKiP 07 54 51.0 +0.7
baz=90
C18K **Utukok River** 154.58 321 PKPdf 07 54 41.1 -0.7
C18K PKPab **PKPab** 07 55 04.6 -0.5
C18K **Utukok River** 154.58 321 P PiKiP 07 54 51.2 +0.9
baz=83
B18K **Kokolik River** 154.69 322 P PiKiP 07 54 51.8 +1.4
baz=81
L15K **Ungalak Mounta** 154.71 304 P PiKiP 07 54 51.4 +0.8
baz=97
F17K **Baldwin Pennin** 154.80 315 P PiKiP 07 54 51.8 +1.1
baz=87
K15K **Wolf Creek Mou** 154.81 306 P PiKiP 07 54 52.1 +1.3
baz=96
M14K **Bethel** 154.81 302 PKPdf PKPdf 07 54 42.5 +0.4
M14K PKPab 07 55 06.4 +0.2
M14K **Bethel** 154.81 302 P PiKiP 07 54 52.6 +1.7
baz=99
L14K **Kuka Creek** 155.24 303 P PKPdf 07 54 53.4 +11
baz=97
H16K **Elim** 155.25 311 P PKPdf 07 54 53.7 +11
baz=90
G16K **Koyuk River** 155.29 313 P PKPdf 07 54 53.4 +11
baz=89
C17K **DeLong Mountai** 155.33 320 P PKPab 07 55 09.5 +1.3
baz=81
D17K **Noatak River** 155.40 319 P PKPab 07 55 09.6 +1.1
baz=83
UNV **Unalaska Valle** 155.43 284 P PKPab 07 55 09.9 +0.8
baz=111
M13K **Dall Lake** 155.44 301 P PKPab 07 55 10.2 +1.3
baz=99
J14K **Nanvaranak Lak** 155.78 307 P PKPab 07 55 11.5 +1.3
baz=93
G15K **Niukluk** 156.01 312 P PKPab 07 55 12.2 +1.0
baz=88
C16K **Lisburne Hills** 156.15 320 PKPdf PKPdf 07 54 43.5 -0.3
C16K PKPab 07 55 12.6 +0.9
C16K **Lisburne Hills** 156.15 320 P PKPab 07 55 12.7 +0.9
baz=79
F15K **North Star Dit** 156.23 314 P PKPab 07 55 13.4 +1.3
baz=86
KSRS **Korea Array** 156.40 130 PKPab PKPab 07 55 14.6 +1.0
comp=Z,1.9nm,0.8s,baz=216,slow=4.6,SNR=5.8
NIKH **Nikolski High** 156.42 281 P PKPab 07 55 13.9 +0.6
baz=112
M11K **Mekoryuk** 156.84 300 P PKPab 07 55 15.6 +0.7
baz=97
F14K **Arctic Creek** 156.94 313 P PKPab 07 55 16.6 +1.4
baz=85
TNA **Tin City** 157.59 314 P PKPab 07 55 18.6 +0.6
baz=83
P08K **Saint George I** 157.91 290 P PKPab 07 55 20.7 +1.1
baz=104
SPIA **Saint Paul Isl** 158.41 291 P PKPab 07 55 21.4 -0.4
baz=102
GAMB **Gambell** 159.43 310 P PKPab 07 55 23.3 -2.7
baz=83
CN2 **Changchun** 160.11 115 PKP PKPdf 07 54 42.7 -6.7
KLR **Kul'dur** 166.92 110 PKPab PKPab 07 55 59.5 +0.2
comp=Z,1.5nm,0.6s,baz=252,slow=3.2,SNR=6.2

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*IDC **06** 07:47:05.5±0.8,6°.13S±142°.96E,h0km,mb4.3/11, mbtmp4.3/13,ML2.1/1,MS3.7/16,Error ellipse: s-maj=30.6km s-min=16.7km az=75.0*
*NEIC **06** 07:47:08.4±2.1,6°.09S±0°.09×142°.78E±0°.10,h10km±1km, mb4.7/43,Error ellipse: s-maj=17.6km s-min=13.9km az=54.0*

ISC 06 07:47:07.6±0.5,**6°.12S**±0°.07×**142°.85E**±0°.08,**h10**km,**n81,** σ1°.**65**/69,**mb4.6**/31,**MS3.6**/13,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.38**	**128**	Pn	**Pn**	**07 48 27.3**	**-0.6**
PMG	**Port Moresby**	**5.38**	**128**	Pn	**Pn**	**07 48 26.7**	**-1.2**
	4.7nm,0.3s,baz=332,slow=3.2,SNR=16						
PMG				Sn	**Sn**	**07 49 28.2**	**-1.8**
	11nm,0.3s,baz=46,slow=20,SNR=5.7						
PMG				LR	LR	07 50 19.0	
	comp=Z,164nm,21.0s,baz=273,slow=37						
	33nm,0.6s						
COEN	**Coen**	**7.80**	**178**	Pn	**Pn**	**07 49 05.9**	**+4.6**
FAKI	**Fak Fak**	**11.03**	**286**	Pn	**Pn**	**07 49 44.9**	**-0.7**
MTN	**Manton Dam**	**13.35**	**239**	Pn	**Pn**	**07 50 13.1**	**-4.1**
CTA	**Charters Tower**	**14.28**	**167**	Lg	Lg	07 54 38.5	
	0.4nm,0.3s,baz=66,slow=20,SNR=1.6						
CTA				LR	LR	07 56 33.7	
	comp=Z,356nm,18.8s,baz=356,slow=40						
WB0	**Warramunga Arr**	**15.87**	**210**	Pn	**Pn**	**07 50 47.9**	**-3.3**
WR0	**Warramunga Arr**	**15.96**	**210**	Pn	**Pn**	**07 50 47.5**	**-4.8**
WR0				IAmb	IAmb	07 50 58.0	
	comp=Z,32nm,0.8s						
WRAB	**Tennant Creek**	**16.03**	**210**		**Pn**	**07 50 54.6**	**+1.3**
WB2	**Warramunga Arr**	**16.04**	**210**		**Pn**	**07 50 54.3**	**+0.9**
WRA	**Warramunga Arr**	**16.04**	**210**	Pn	**Pn**	**07 50 54.4**	**+0.9**
WRA	**Warramunga Arr**	**16.04**	**210**	Pn	**Pn**	**07 50 48.1**	**-5.3**
	comp=Z,0.9nm,0.3s,baz=14,slow=13,SNR=46						
WRA				Sn	Sn	07 53 37.0	-15
	comp=Z,0.6nm,0.3s,baz=26,slow=22,SNR=4.2						
WRA				Lg	Lg	07 55 26.0	
	comp=Z,0.8nm,0.3s,baz=18,slow=28,SNR=4.7						
KNRA	**Kununurra**	**16.77**	**234**	Pn	**Pn**	**07 50 58.0**	**-4.7**
KNRA				IAmb	IAmb	07 51 26.4	
	comp=Z,28nm,0.7s						
AS31	**Alice Springs**	**19.46**	**205**		**P**	**07 51 34.4**	**-0.2**
ASAR	**Alice Springs**	**19.46**	**205**	P	**P**	**07 51 35.0**	**+0.4**
ASAR	**Alice Springs**	**19.46**	**205**	P	**P**	**07 51 34.0**	**-0.6**
	comp=Z,36nm,0.8s,baz=34,slow=9.5,SNR=156						
ASAR				S	Sn	07 55 02.4	-12
	comp=Z,2.9nm,0.6s,baz=14,slow=28,SNR=4.5						
ASAR				Lg	Lg	07 57 22.1	
	comp=Z,0.2nm,0.3s,baz=20,slow=29,SNR=4.4						
ASAR				LR	LR	07 59 47.4	
	comp=Z,772nm,20.1s,baz=33,slow=39						
FITZ	**Fitzroy Crossi**	**20.59**	**233**		**P**	**07 51 45.8**	**-1.1**
EIDS	**Eidsvold**	**20.70**	**159**	P	**P**	**07 51 50.0**	**+1.8**
DAV	**Davao City (W)**	**21.64**	**307**	LR	LR	08 01 02.9	
	comp=Z,81nm,19.6s,baz=69,slow=38						
STKA	**Stephens Creek**	**25.66**	**182**	P	**P**	**07 52 34.4**	**-3.2**
STKA	**Stephens Creek**	**25.66**	**182**	P	**P**	**07 52 37.2**	**-0.4**
	comp=Z,2.7nm,0.6s,baz=7.4,slow=8.7,SNR=4.6						
STKA				LR	LR	08 04 01.9	
	comp=Z,274nm,19.4s,baz=3.7,slow=40						
	comp=Z,2.7nm,0.6s						
PSA00	**Pilbara Seismi**	**27.05**	**233**	P	**P**	**07 52 50.4**	**+0.1**
BBOO	**Buckleboo**	**27.30**	**193**	P	**P**	**07 52 53.8**	**+1.3**
BBOO				IAmb	IAmb	07 53 29.3	
	comp=Z,32nm,1.4s						
DZM	**Mont Dzumac**	**27.77**	**127**	LR	LR	08 04 22.3	
	comp=Z,142nm,19.5s,baz=328,slow=38						
FORT	**Forrest**	**28.20**	**208**	P	**P**	**07 53 01.3**	**+0.8**
FORT				IAmb	IAmb	07 53 28.6	
	comp=Z,18nm,0.8s						
LEM	**Lembang**	**35.01**	**267**	LR	LR	08 10 27.0	
	comp=Z,90nm,21.4s,baz=90,slow=40						
NWAO	**Narrogin (SRO)**	**35.77**	**218**	LR	LR	08 09 31.6	
	comp=Z,336nm,18.5s,baz=67,slow=38						
MJAR	**Matsushiro Arr**	**42.65**	**354**	LR	LR	08 11 00.1	
	comp=Z,52nm,18.6s,baz=148,slow=34						
JSD	**Sado**	**44.13**	**355**	P	**P**	**07 55 17.6**	**+1.2**
RTZ	**Ruatahuna**	**44.72**	**141**	P	**P**	**07 55 22.2**	**+1.0**
JTM	**Tenmabayashi**	**46.70**	**358**	P	**P**	**07 55 36.6**	**0.0**
CMAR	**Chiang Mai Arr**	**49.70**	**300**	P	**P**	**07 56 00.6**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=128,slow=5.7,SNR=5.5						
	comp=Z,1.2nm,0.3s						
ASAJ	**Asahikawa**	**50.00**	**360**	LR	LR	08 21 12.4	
	comp=Z,23nm,18.9s,baz=106,slow=41						
USRK	**Usuriysk Ar.**	**51.03**	**350**	P	**P**	**07 56 09.6**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=178,slow=8.7,SNR=3.0						
USRK				LR	LR	08 17 00.5	
	comp=Z,26nm,18.2s,baz=166,slow=35						
	comp=Z,1.9nm,0.7s						
LSA	**Lhasa**	**61.05**	**309**	P	**P**	**07 57 23.2**	**+0.7**
LSA				IAmb	IAmb	07 57 27.5	
	comp=Z,13nm,1.3s						
SONM	**Songino Array**	**62.57**	**333**	P	**P**	**07 57 31.6**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=132,slow=6.0,SNR=2.6						
	comp=Z,0.7nm,0.5s						
YAK	**Yakutsk**	**68.70**	**353**	P	P	07 58 06.9	-4.2
YAK	**Yakutsk**	**68.70**	**353**	LR	LR	08 29 04.4	
	comp=Z,30nm,18.1s,baz=109,slow=37						
VNDA	**Vanda**	**72.07**	**176**	LR	LR	08 29 17.3	
	comp=Z,112nm,18.4s,baz=306,slow=35						
MKAR	**Makanchi Array**	**74.99**	**322**	P	**P**	**07 58 49.6**	**+0.3**
MKAR	**Makanchi Array**	**74.99**	**322**	P	**P**	**07 58 49.8**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=102,slow=6.7,SNR=7.4						
	comp=Z,1.1nm,0.8s						
ZALV	**Zalesovo Beam**	**76.95**	**329**	P	**P**	**07 58 59.6**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=99,slow=7.6,SNR=2.5						
	comp=Z,1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**78.88**	**324**	P	**P**	**07 59 10.9**	**-0.1**
	comp=Z,1.5nm,0.2s,baz=122,slow=4.6,SNR=1.9						
	comp=Z,1.5nm,0.2s						
KKAR	**Karatay Array**	**81.44**	**315**	P	**P**	**07 59 25.8**	**+0.7**
M17K	**Holitna River**	**81.46**	**25**	P	**P**	**07 59 25.7**	**+1.0**
M17K				IAmb	IAmb	07 59 43.2	
	comp=Z,14nm,1.2s						
N18K	**Kilae Creek**	**81.77**	**26**	P	**P**	**07 59 27.1**	**+0.7**

N18K					IAmb	IAmb	07 59 30.8	
	comp=Z,14nm,1.4s							
J17K	**VABM Dome**	**81.82**	**23**		P	**P**	**07 59 27.6**	**+1.0**
J17K					IAmb	IAmb	08 00 01.7	
	comp=Z,6.0nm,1.1s							
N19K	**Bonanza Creek**	**82.44**	**26**		P	**P**	**07 59 30.9**	**+0.8**
N19K					IAmb	IAmb	08 00 06.5	
	comp=Z,13nm,1.4s							
QSPA	**South Pole Qui**	**83.85**	**180**		P	**P**	**07 59 37.9**	**+0.5**
QSPA					IAmb	IAmb	07 59 44.5	
	comp=Z,4.8nm,0.9s							
QSPA	**South Pole Qui**	**83.85**	**180**		P	**P**	**07 59 36.5**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=290,slow=1.7,SNR=10							
QSPA					LR	LR	08 37 35.5	
	comp=Z,183nm,18.5s,baz=282,slow=36 comp=Z,1.5nm,0.6s							
NRIK	**Noril'sk**	**84.14**	**343**		P	**P**	**07 59 38.7**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=166,slow=3.3,SNR=4.0 comp=Z,1.6nm,0.7s							
BVAR	**Borovoye Array**	**84.45**	**325**		P	**P**	**07 59 40.7**	**+0.2**
	comp=Z,5.5nm,0.7s,baz=113,slow=6.5,SNR=20 comp=Z,5.5nm,0.7s							
BRVK	**Borovoye**	**84.52**	**325**		P	**P**	**07 59 41.0**	**+0.2**
BRVK					IAmb	IAmb	07 59 46.3	
	comp=Z,7.2nm,1.1s							
CAST	**Castle Rocks**	**84.60**	**24**		P	**P**	**07 59 40.9**	**-0.1**
CAST					IAmb	IAmb	07 59 50.9	
	comp=Z,10nm,1.5s							
F20K	**Avaraart Lake**	**84.88**	**20**		P	**P**	**07 59 42.9**	**+0.6**
F20K					IAmb	IAmb	08 00 00.3	
	comp=Z,5.4nm,1.4s							
IMAR	**Indian Mountai**	**85.08**	**22**		P	**P**	**07 59 43.5**	**+0.1**
H21K	**Melozitna Rive**	**85.29**	**22**		P	**P**	**07 59 44.5**	**+0.1**
H21K					IAmb	IAmb	07 59 50.7	
	comp=Z,5.1nm,1.3s							
SML	**Sawmill**	**85.55**	**26**		P	**P**	**07 59 45.5**	**-0.4**
MLY	**Manley**	**85.81**	**23**		P	**P**	**07 59 46.7**	**-0.4**
MLY					IAmb	IAmb	07 59 53.3	
	comp=Z,2.9nm,1.0s							
RND	**Reindeer**	**85.93**	**25**		P	**P**	**07 59 46.0**	**-1.7**
RND					IAmb	IAmb	07 59 48.5	
	comp=Z,8.0nm,1.0s							
B21K	**Ikpikpuk River**	**86.47**	**18**		P	**P**	**07 59 51.1**	**+1.0**
B21K					IAmb	IAmb	08 00 04.8	
	comp=Z,3.0nm,0.8s							
E22K	**Anaktuvuk Pass**	**86.71**	**20**		P	**P**	**07 59 52.0**	**+0.5**
E22K					IAmb	IAmb	07 59 59.4	
	comp=Z,4.1nm,1.0s							
G23K	**Bananza Creek**	**86.75**	**22**		P	**P**	**07 59 52.0**	**+0.3**
CCB	**Clear Creek Bu**	**86.82**	**24**		P	**P**	**07 59 50.4**	**-1.6**
B22K	**Teshekpuk Lake**	**87.17**	**18**		P	**P**	**07 59 53.3**	**-0.2**
IL31		**87.23**	**24**		P	**P**	**07 59 52.9**	**-1.0**
IL31					IAmb	IAmb	07 59 54.2	
	comp=Z,2.5nm,0.9s							
ILAR	**Eielson Array**	**87.23**	**24**		P	**P**	**07 59 52.4**	**-1.6**
ILAR	**Eielson Array**	**87.23**	**24**		P	**P**	**07 59 52.9**	**-1.1**
	comp=Z,1.6nm,0.7s,baz=257,slow=4.7,SNR=19 comp=Z,1.6nm,0.7s							
J25K	**Salcha River,**	**87.79**	**24**		P	**P**	**07 59 57.2**	**+0.4**
J25K					IAmb	IAmb	08 00 02.5	
	comp=Z,2.7nm,0.8s							
C23K	**Itkillik River**	**87.82**	**19**		P	**P**	**07 59 57.5**	**+0.8**
F24K	**Squaw Lake**	**87.84**	**21**		P	**P**	**07 59 58.5**	**+1.5**
F24K					IAmb	IAmb	07 59 59.8	
	comp=Z,3.9nm,0.9s							
D24K	**Happy Valley**	**88.13**	**19**		P	**P**	**07 59 59.3**	**+1.1**
BARN	**Barnard Glacie**	**88.35**	**28**		P	**P**	**07 59 60.0**	**+0.3**
E25K	**Arctic Village**	**88.87**	**21**		P	**P**	**08 00 02.1**	**+0.3**
E25K					IAmb	IAmb	08 00 04.7	
	comp=Z,7.5nm,1.4s							
K27K	**Chicken**	**88.98**	**25**		P	**P**	**08 00 03.7**	**+1.4**
K27K					IAmb	IAmb	08 00 05.2	
	comp=Z,6.8nm,1.2s							
BMAR	**Burnt Mountain**	**89.00**	**22**		P	**P**	**08 00 03.6**	**+1.1**
GEYT	**Alibeck**	**89.58**	**308**		LR	LR	08 45 11.6	
	comp=Z,84nm,18.1s,baz=249,slow=39							
ABKAR	**Akbulak array**	**89.97**	**319**		P	**P**	**08 00 07.9**	**+0.6**
YBH	**Yreka Blue Hor**	**97.34**	**49**		LR	LR	08 40 34.6	
	comp=Z,64nm,18.4s,baz=173,slow=33							
TORD	**Torodi Ar. Bea**	**141.11**	**283**		PKhKP	PKPpre	08 06 34.0	
	comp=Z,0.3nm,0.6s,baz=105,slow=1.4,SNR=2.7							
DBIC	**Dimbokro**	**147.91**	**273**		PKPbc	**PKPbc**	**08 06 54.4**	**+0.2**
	comp=Z,3.8nm,0.8s,baz=45,slow=2.3,SNR=4.1							

*NEIC **06** 08:01:38.4±1.0,56°.50N±0°.07×148°.7W±0°.1, h24km±8km, ML3.4/68, ML2.9(AEIC), Error ellipse: s-maj=12.4km s-min=7.0km az=145.0*
*AEIC **06** 08:01:40.7±0.9,56°.4N±0°.1×148°.7W±0°.1, h7km±8km, Error ellipse: s-maj=15.8km s-min=9.4km az=159.0*

ISC 06 08:01:35.6±1.7, 56°.54N±0°.09×148°.66W±0°.05, h10km, n131, σ1s98/135, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.48**	**302**		**Pn**	**08 02 16.9**	**+1.0**
KDAK					**Sn**	**08 02 45.9**	**-0.3**
KDAK	**Kodiak Island**	**2.48**	**302**	P	**Pn**	**08 02 16.9**	**+1.0**
	baz=119						
OHAK	**Old Harbor**	**2.63**	**287**		**Pn**	**08 02 18.5**	**+0.5**
OHAK					**Sn**	**08 02 48.1**	**-1.9**
OHAK	**Old Harbor**	**2.63**	**287**	P	**Pn**	**08 02 18.5**	**+0.5**
	baz=104						
OHAK				S	**Sn**	**08 02 48.1**	**-1.9**
	baz=104						
SII	**Sitkinak Islan**	**3.06**	**273**		**Pn**	**08 02 25.2**	**+1.2**
SII					**Sn**	**08 02 57.7**	**-2.9**
SII	**Sitkinak Islan**	**3.06**	**273**	IAML		08 03 32.1	
	comp=N,104nm,1.0s						
SII				IAML		08 03 41.8	
	comp=E,86nm,1.0s						
SII	**Sitkinak Islan**	**3.06**	**273**	S	**Sn**	**08 02 58.3**	**-2.3**
	baz=89						
Q23K	**Middleton Isla**	**3.15**	**22**		**Pn**	**08 02 26.3**	**+1.2**
Q23K					**Sn**	**08 02 58.9**	**-3.8**
Q23K	**Middleton Isla**	**3.15**	**22**	IAML		08 03 37.0	
	comp=E,120nm,0.6s						
Q23K				IAML		08 04 17.8	
	comp=N,70nm,1.2s						
Q23K	**Middleton Isla**	**3.15**	**22**	P	**Pn**	**08 02 26.3**	**+1.2**
	baz=204						
Q23K				S	**Sn**	**08 03 00.0**	**-2.7**
	baz=204						
MID	**Middleton Isla**	**3.15**	**22**		**Pn**	**08 02 26.4**	**+1.2**
MID					**Sn**	**08 02 59.0**	**-3.7**
MID	**Middleton Isla**	**3.15**	**22**	IAML		08 03 37.0	
	comp=E,116nm,0.7s						
MID				IAML		08 04 18.4	
	comp=N,68nm,1.2s						
CNPM	**China Poot**	**3.29**	**336**		**Pn**	**08 02 29.3**	**+2.1**
BRSE	**Bradley Lake S**	**3.40**	**342**		**Pn**	**08 02 30.4**	**+1.8**
BRSE					Sn	08 03 03.1	-5.8
BRSE	**Bradley Lake S**	**3.40**	**342**	P	**Pn**	**08 02 30.8**	**+2.2**
	baz=160						
BRSE				S	**Sn**	**08 03 04.2**	**-4.7**
	baz=160						
BRLK	**Bradley Lake**	**3.44**	**341**		**Pn**	**08 02 31.1**	**+1.9**
BRLK					Sn	08 03 03.8	-6.3
P23K	**Montague Islan**	**3.53**	**10**		**Pn**	**08 02 32.1**	**+1.7**
P23K					**Sn**	**08 03 12.3**	**+0.1**
P23K	**Montague Islan**	**3.53**	**10**	P	**Pn**	**08 02 32.1**	**+1.7**
	baz=191						
SEW	**Seward**	**3.60**	**354**		**Pn**	**08 02 33.1**	**+1.7**
SEW	**Seward**	**3.60**	**354**	P	**Pn**	**08 02 33.1**	**+1.7**
	baz=173						
KAKN	**Katmai Knife C**	**3.88**	**300**		**Pn**	**08 02 37.6**	**+2.2**
CHIR	**Chirikof Islan**	**3.96**	**262**		**Pn**	**08 02 36.1**	**-0.2**
ACHA	**Angle Creek He**	**3.98**	**298**		**Pn**	**08 02 39.2**	**+2.5**
O22K	**Cooper Landing**	**3.99**	**352**		**Pn**	**08 02 36.6**	**-0.2**
HIN	**Hinchinbrook I**	**4.03**	**15**		**Pn**	**08 02 39.2**	**+1.8**
SLKM	**Skilak Lake**	**4.06**	**349**		**Pn**	**08 02 39.7**	**+1.9**
KAIM	**Kayak Island**	**4.07**	**32**		**Pn**	**08 02 39.3**	**+1.5**
O20K	**Slope Mountain**	**4.12**	**331**		**Pn**	**08 02 40.8**	**+2.2**
O20K	**Slope Mountain**	**4.12**	**331**	P	**Pn**	**08 02 40.8**	**+2.2**
	baz=148						
ILSW	**Iliamna Southw**	**4.19**	**327**		**Pn**	**08 02 41.6**	**+2.1**
CNTC	**Contact Creek**	**4.27**	**297**		**Pn**	**08 02 43.1**	**+2.4**
EYAK	**Cordova Ski Ar**	**4.30**	**20**		**Pn**	**08 02 43.0**	**+2.0**
EYAK	**Cordova Ski Ar**	**4.30**	**20**	P	**Pn**	**08 02 43.2**	**+2.2**
EYAK	**Cordova Ski Ar**	**4.30**	**20**	P	**Pn**	**08 02 42.9**	**+2.0**
	baz=202						
SUCK	**Suckling Hills**	**4.38**	**34**		**Pn**	**08 02 44.0**	**+1.9**
RAGM	**Ragged Mountai**	**4.39**	**27**		**Pn**	**08 02 43.8**	**+1.5**
CAPN	**Captain Cook N**	**4.44**	**344**	Pn	**Pn**	**08 02 44.4**	**+1.6**
HMT	**Hamilton**	**4.45**	**29**		**Pn**	**08 02 45.1**	**+1.9**
NICHA	**Nichawak Mount**	**4.45**	**32**		**Pn**	**08 02 45.1**	**+2.0**
RSO	**Redoubt South**	**4.48**	**333**	Pn	**Pn**	**08 02 44.2**	**+0.5**
P18K	**Big Mountain,**	**4.52**	**312**		**Pn**	**08 02 45.6**	**+1.6**
P18K	**Big Mountain,**	**4.52**	**312**	P	**Pn**	**08 02 45.6**	**+1.6**
	baz=127						
GOAT	**Goat Mountain**	**4.55**	**25**		**Pn**	**08 02 46.2**	**+1.8**
RC01	**Rabbit Creek A**	**4.60**	**353**		**Pn**	**08 02 47.4**	**+2.3**
RC01	**Rabbit Creek A**	**4.60**	**353**	P	**Pn**	**08 02 47.6**	**+2.5**
	baz=173						
BERG	**Berg Lake**	**4.66**	**32**		**Pn**	**08 02 47.4**	**+1.5**
GRIN	**Grindle Hills**	**4.69**	**35**		**Pn**	**08 02 48.2**	**+1.9**
O19K	**Port Alsworth**	**4.72**	**323**	Pn	**Pn**	**08 02 47.2**	**+0.5**
SNH	**Sunshine Point**	**4.77**	**38**		**Pn**	**08 02 49.0**	**+1.5**
O18K	**Koktuh Hills**	**4.80**	**317**		**Pn**	**08 02 49.5**	**+1.6**
O18K	**Koktuh Hills**	**4.80**	**317**	P	**Pn**	**08 02 49.5**	**+1.6**
	baz=131						
KHIT	**Khitrov Hills**	**4.83**	**34**		**Pn**	**08 02 50.0**	**+1.6**
KNK	**Knik Glacier**	**4.89**	**1**		**Pn**	**08 02 51.5**	**+2.4**
KNK	**Knik Glacier**	**4.89**	**1**	IAML		08 04 23.0	
	comp=E,24nm,0.7s						
KNK				IAML		08 04 30.0	
	comp=N,18nm,0.7s						
KNK	**Knik Glacier**	**4.89**	**1**	P	**Pn**	**08 02 51.5**	**+2.4**
	baz=181						
BMRM	**Bremner River**	**4.92**	**24**		**Pn**	**08 02 51.6**	**+2.1**
BMRM	**Bremner River**	**4.92**	**24**	P	**Pn**	**08 02 51.6**	**+2.1**
	baz=207						
P17K	**Kvichak River**	**4.93**	**306**		**Pn**	**08 02 52.0**	**+2.4**
P17K	**Kvichak River**	**4.93**	**306**	P	**Pn**	**08 02 52.0**	**+2.4**
	baz=120						
WAX	**Waxell Ridge**	**4.96**	**35**		**Pn**	**08 02 51.6**	**+1.4**
BARK	**Barkley Ridge**	**5.05**	**37**		**Pn**	**08 02 52.9**	**+1.6**
SUA	**Susitna One**	**5.06**	**349**	Pn	**Pn**	**08 02 53.4**	**+1.9**
PMR	**Palmer**	**5.08**	**357**	Pn	**Pn**	**08 02 53.2**	**+1.6**
PMR				IAML		08 04 35.0	
	comp=N,15nm,1.0s						
PMR				IAML		08 04 35.8	
	comp=E,16nm,0.9s						
CRQM	**Cirque**	**5.12**	**32**		**Pn**	**08 02 54.0**	**+1.7**
CRQE	**Cirque**	**5.13**	**32**	P	**Pn**	**08 02 54.0**	**+1.6**
	baz=217						
KLU	**Klutina**	**5.17**	**15**		**Pn**	**08 02 55.1**	**+2.1**
KLU	**Klutina**	**5.17**	**15**	P	**Pn**	**08 02 55.1**	**+2.1**
	baz=197						
TGL	**Tana Glacier**	**5.21**	**33**		**Pn**	**08 02 55.2**	**+1.7**
ISLE	**Juniper Island**	**5.25**	**36**		**Pn**	**08 02 55.6**	**+1.5**
GHO	**Glory Hole Cre**	**5.25**	**359**		**Pn**	**08 02 56.9**	**+2.7**
N19K	**Bonanza Creek**	**5.25**	**327**	Pn	**Pn**	**08 02 56.0**	**+1.9**
SML	**Sawmill**	**5.29**	**2**		**Pn**	**08 02 56.9**	**+2.3**
SML	**Sawmill**	**5.29**	**2**	IAML		08 04 35.8	
	comp=E,23nm,1.0s						
SML				IAML		08 04 40.3	
	comp=N,24nm,0.7s						
SML	**Sawmill**	**5.29**	**2**	P	**Pn**	**08 02 56.9**	**+2.3**
	baz=182						
SCM	**Sheep Creek Mo**	**5.35**	**7**		**Pn**	**08 02 56.1**	**+0.6**
SCM				IAML		08 04 07.4	
	comp=N,28nm,1.2s						
SCM				IAML		08 04 43.2	
	comp=E,26nm,0.7s						
VRDI	**Verde Repeater**	**5.42**	**28**		**Pn**	**08 02 58.4**	**+1.9**
CHGN	**Chignik**	**5.42**	**272**	Pn	**Pn**	**08 02 57.9**	**+1.6**
KIAG	**Kiagna River**	**5.49**	**34**		**Pn**	**08 02 59.1**	**+1.7**
N25K	**Chitina, Valde**	**5.50**	**21**		**Pn**	**08 02 60.0**	**+2.5**
N25K	**Chitina, Valde**	**5.50**	**21**	P	**Pn**	**08 02 60.0**	**+2.5**
	baz=204						
GLB	**Gilahina Butte**	**5.52**	**25**		**Pn**	**08 02 59.3**	**+1.5**
GRNC	**Granite Creek**	**5.54**	**38**	Pn	**Pn**	**08 02 59.0**	**+0.8**
TABL	**Table Mountain**	**5.55**	**42**		**Pn**	**08 03 00.0**	**+1.7**
N18K	**Kilae Creek**	**5.61**	**321**	Pn	**Pn**	**08 03 00.5**	**+1.5**
SKT	**Skwentna**	**5.65**	**346**		**Pn**	**08 03 02.6**	**+3.1**
PTPK	**Patty Peak**	**5.66**	**32**		**Pn**	**08 03 01.7**	**+1.8**
MCARA	**McCarthy VSAT**	**5.66**	**29**		**Pn**	**08 03 01.9**	**+2.2**
MCARA	**McCarthy VSAT**	**5.66**	**29**	P	**Pn**	**08 03 01.9**	**+2.2**
	baz=213						
M24K	**Tolsona, Glenn**	**5.73**	**12**		**Pn**	**08 03 03.6**	**+2.9**
BARN	**Barnard Glacie**	**5.81**	**36**	Pn	**Pn**	**08 03 03.4**	**+1.5**
SVW2	**Sparrevohn**	**5.81**	**325**	Pn	**Pn**	**08 03 03.2**	**+1.4**
PNL	**Peninsula**	**5.83**	**54**		**Pn**	**08 03 03.5**	**+1.6**
PNL	**Peninsula**	**5.83**	**54**	P	**Pn**	**08 03 03.8**	**+1.8**
PNL	**Peninsula**	**5.83**	**54**	P	**Pn**	**08 03 03.5**	**+1.6**
	baz=241						
M20K	**Styx River**	**5.83**	**339**	Pn	**Pn**	**08 03 04.4**	**+2.4**
CTG	**Chitna Glacier**	**5.85**	**38**	P	**Pn**	**08 03 03.9**	**+1.5**
	baz=224						
CTGM	**Chitina Glacie**	**5.85**	**38**		**Pn**	**08 03 03.9**	**+1.5**
LOGN	**Logan Glacier**	**5.86**	**40**		**Pn**	**08 03 04.0**	**+1.4**
BCPM	**Bancas Point**	**5.87**	**51**		**Pn**	**08 03 03.9**	**+1.5**
O16K	**Kokwok River B**	**5.87**	**305**	Pn	**Pn**	**08 03 03.7**	**+1.2**
N17K	**Nushagak Hills**	**5.99**	**315**	Pn	**Pn**	**08 03 05.9**	**+1.7**
M19K	**Big River Lodg**	**6.13**	**334**	Pn	**Pn**	**08 03 07.0**	**+0.9**
HARP	**HAARP**	**6.14**	**15**		**Pn**	**08 03 09.0**	**+2.7**
HARP	**HAARP**	**6.14**	**15**	P	**Pn**	**08 03 09.0**	**+2.7**
	baz=198						
CNBA	**Chernabura Isl**	**6.42**	**259**	Pn	**Pn**	**08 03 09.5**	**-0.6**
L19K	**White Mountain**	**6.48**	**333**	Pn	**Pn**	**08 03 12.7**	**+1.8**
O29M	**Mount Kennedy**	**6.50**	**50**		**Pn**	**08 03 13.5**	**+2.2**
M26K	**Nabesna, AK**	**6.55**	**24**	Pn	**Pn**	**08 03 14.5**	**+2.7**
P29M	**Windy Craggy**	**6.57**	**57**		**Pn**	**08 03 13.4**	**+1.3**
P29M	**Windy Craggy**	**6.57**	**57**	P	**Pn**	**08 03 13.4**	**+1.3**
	baz=246						
YUK2	**White River**	**6.62**	**34**		**Pn**	**08 03 14.8**	**+1.9**
M17K	**Holitna River**	**6.66**	**321**	Pn	**Pn**	**08 03 15.5**	**+2.2**
M27K	**Edge Creek, AK**	**6.78**	**28**	Pn	**Pn**	**08 03 17.3**	**+2.1**
YUK7	**Dusty Glacier**	**6.80**	**50**		**Pn**	**08 03 17.3**	**+1.8**
RND	**Reindeer**	**6.89**	**359**		**Pn**	**08 03 19.4**	**+2.8**
YUK6	**Outpost Mounta**	**6.94**	**46**		**Pn**	**08 03 19.2**	**+1.8**
YUK6	**Outpost Mounta**	**6.94**	**46**	P	**Pn**	**08 03 19.2**	**+1.8**
	baz=235						
M16K	**Timber Creek**	**6.99**	**314**	Pn	**Pn**	**08 03 20.2**	**+2.4**
L18K	**Granite Mounta**	**7.01**	**328**	Pn	**Pn**	**08 03 19.6**	**+1.4**
N15K	**Kwethluk River**	**7.03**	**306**	Pn	**Pn**	**08 03 21.2**	**+2.7**
YUK4	**Talbot Arm**	**7.07**	**43**	P	**Pn**	**08 03 22.4**	**+3.2**
	baz=231						
CAST	**Castle Rocks**	**7.11**	**347**	Pn	**Pn**	**08 03 22.9**	**+3.3**
HYT	**Haines Junctio**	**7.22**	**49**	Pn	**Pn**	**08 03 22.5**	**+1.3**
K20K	**Telida**	**7.36**	**341**	Pn	**Pn**	**08 03 24.3**	**+1.4**
L27K	**Beaver Creek,**	**7.39**	**25**	Pn	**Pn**	**08 03 24.1**	**+0.7**
BCAR	**Beaver Creek A**	**7.40**	**25**	Pn	**Pn**	**08 03 24.3**	**+0.7**
TTA	**Tatalina**	**7.40**	**333**	Pn	**Pn**	**08 03 24.3**	**+0.7**
L16K	**Owhat River**	**7.60**	**317**	Pn	**Pn**	**08 03 28.0**	**+1.8**
SKAG	**Skagway**	**7.66**	**62**	P	**Pn**	**08 03 29.7**	**+2.6**
O30N	**Mendenhall**	**7.80**	**52**	Pn	**Pn**	**08 03 29.3**	**+0.2**
M29M	**Somme Creek**	**7.87**	**37**	Pn	**Pn**	**08 03 32.1**	**+2.1**

*NEIC **06** 08:02:10.3±0.9,56°.41N±0°.10×148°.6W±0°.1, h21km±10km, ML3.5/48, ML3.1(AEIC), Error ellipse: s-maj=16.3km s-min=3.4km az=151.0*
*AEIC **06** 08:02:14.8±1.3,56°.5N±0°.1×148°.7W±0°.1, h12km±8km, Error ellipse: s-maj=17.0km s-min=8.0km az=151.0*

ISC 06 08:02:08.7±1.8, 56°.4N±0°.1×148°.66W±0°.06, h10km, n84, σ1s20/77, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.53**	**304**		**Sn**	**08 03 17.4**	**-3.1**
KDAK	**Kodiak Island**	**2.53**	**304**	Pn	**Pn**	**08 02 49.0**	**-0.8**
SII	**Sitkinak Islan**	**3.06**	**274**		**Sn**	**08 03 31.2**	**-2.6**
Q23K	**Middleton Isla**	**3.24**	**21**		**Sn**	**08 03 35.3**	**-2.8**
MID	**Middleton Isla**	**3.24**	**22**		**Sn**	**08 03 34.8**	**-3.3**
MID	**Middleton Isla**	**3.24**	**22**	P	**Pn**	**08 02 59.7**	**+0.2**
CNPM	**China Poot**	**3.38**	**337**		**Pn**	**08 03 02.2**	**+0.7**
CNPM	**China Poot**	**3.38**	**337**	IAML		08 03 48.0	
	comp=N,28nm,0.7s						
CNPM				IAML		08 03 49.1	
	comp=E,33nm,0.7s						
P23K	**Montague Islan**	**3.63**	**10**		**Pn**	**08 03 04.7**	**-0.1**
SEW	**Seward**	**3.69**	**354**		**Pn**	**08 03 05.8**	**0.0**
AUL	**Augustine Lava**	**3.89**	**321**		**Pn**	**08 03 10.2**	**+1.7**
KAKN	**Katmai Knife C**	**3.93**	**301**		**Pn**	**08 03 10.6**	**+1.5**
CHIR	**Chirikof Islan**	**3.94**	**264**	Pn	**Pn**	**08 03 09.4**	**+0.2**
CHIR				IAML		08 03 56.5	
	comp=E,40nm,0.9s						
CHIR				IAML		08 04 09.0	
	comp=N,41nm,1.1s						
ACHA	**Angle Creek He**	**4.02**	**299**		**Pn**	**08 03 12.2**	**+1.9**
ANCK	**Angle Creek**	**4.10**	**298**		**Pn**	**08 03 13.6**	**+2.2**
HIN	**Hinchinbrook I**	**4.12**	**15**		**Pn**	**08 03 12.1**	**+0.4**
HIN	**Hinchinbrook I**	**4.12**	**15**	IAML		08 03 58.9	
	comp=E,74nm,0.9s						
KAIM	**Kayak Island**	**4.15**	**31**		**Pn**	**08 03 13.0**	**+0.9**
KAIM					**Pg**	**08 03 28.9**	**+0.8**
KAIM	**Kayak Island**	**4.15**	**31**	IAML		08 04 07.2	
	comp=N,81nm,0.6s						
KAIM				IAML		08 04 07.7	
	comp=E,52nm,0.7s						
ILSW	**Iliamna Southw**	**4.27**	**328**		**Pn**	**08 03 14.7**	**+1.0**
ILSW				IAML		08 04 11.0	
	comp=E,30nm,0.5s						
CNTC	**Contact Creek**	**4.32**	**298**		**Pn**	**08 03 15.7**	**+1.3**
EYAK	**Cordova Ski Ar**	**4.39**	**19**		**Pn**	**08 03 15.9**	**+0.6**
SUCK	**Suckling Hills**	**4.46**	**33**		**Pn**	**08 03 16.7**	**+0.4**
SUCK	**Suckling Hills**	**4.46**	**33**	IAML		08 04 11.6	
	comp=E,47nm,1.2s						
SUCK				IAML		08 04 28.0	
	comp=N,42nm,0.8s						
RAGM	**Ragged Mountai**	**4.47**	**26**		**Pn**	**08 03 16.8**	**+0.2**
CAPN	**Captain Cook N**	**4.53**	**344**	Pn	**Pn**	**08 03 19.1**	**+1.9**
RED	**Redoubt Volcan**	**4.53**	**333**		**Pn**	**08 03 17.9**	**+0.6**
NICHA	**Nichawak Mount**	**4.54**	**31**		**Pn**	**08 03 17.9**	**+0.5**
NICHA					**Pg**	**08 03 36.3**	**+0.8**
HMT	**Hamilton**	**4.54**	**29**		**Pn**	**08 03 18.0**	**+0.6**
HMT	**Hamilton**	**4.54**	**29**	IAML		08 04 17.5	
	comp=E,180nm,0.6s						
HMT				IAML		08 04 18.0	
	comp=N,112nm,0.7s						
RSO	**Redoubt South**	**4.57**	**334**	Pn	**Pn**	**08 03 17.5**	**-0.4**
P18K	**Big Mountain,**	**4.58**	**313**		**Pn**	**08 03 18.5**	**+0.4**
P18K	**Big Mountain,**	**4.58**	**313**	IAML		08 04 14.3	
	comp=E,11nm,1.2s						
P18K				IAML		08 04 25.5	
	comp=N,8.9nm,1.2s						
GOAT	**Goat Mountain**	**4.63**	**25**		**Pn**	**08 03 19.1**	**+0.3**
RC01	**Rabbit Creek A**	**4.69**	**354**	Pn	**Pn**	**08 03 20.3**	**+0.8**
RC01				IAML		08 04 16.6	
	comp=E,29nm,0.6s						
RC01				IAML		08 04 18.4	
	comp=N,27nm,0.9s						
BERG	**Berg Lake**	**4.74**	**31**		**Pn**	**08 03 20.4**	**+0.2**
BERG	**Berg Lake**	**4.74**	**31**	IAML		08 04 17.2	
	comp=N,54nm,0.8s						
GRIN	**Grindle Hills**	**4.77**	**34**		**Pn**	**08 03 21.0**	**+0.5**
GRIN					**Pg**	**08 03 41.2**	**+1.4**
FIS	**Fire Island**	**4.78**	**351**		**Pn**	**08 03 21.9**	**+1.2**
O19K	**Port Alsworth**	**4.80**	**324**	Pn	**Pn**	**08 03 22.3**	**+1.4**
SNH	**Sunshine Point**	**4.84**	**37**		**Pn**	**08 03 21.5**	**-0.1**
SNH	**Sunshine Point**	**4.84**	**37**	IAML		08 04 26.7	
	comp=N,25nm,1.0s						
SNH				IAML		08 04 48.8	
	comp=E,22nm,1.1s						
O18K	**Koktuh Hills**	**4.87**	**317**	Pn	**Pn**	**08 03 22.5**	**+0.5**
KHIT	**Khitrov Hills**	**4.92**	**33**		**Pn**	**08 03 22.6**	**0.0**
P17K	**Kvichak River**	**4.99**	**307**		**Pn**	**08 03 24.8**	**+1.2**
BMRM	**Bremner River**	**5.00**	**23**		**Pn**	**08 03 24.5**	**+0.7**
WAX	**Waxell Ridge**	**5.04**	**35**		**Pn**	**08 03 24.6**	**+0.2**
WAX	**Waxell Ridge**	**5.04**	**35**	IAML		08 04 28.2	
	comp=E,42nm,0.9s						
WAX				IAML		08 04 42.0	
	comp=N,43nm,1.2s						
BARK	**Barkley Ridge**	**5.12**	**37**		**Pn**	**08 03 25.3**	**-0.2**
CRQM	**Cirque**	**5.20**	**31**		**Pn**	**08 03 27.1**	**+0.4**
CRQM	**Cirque**	**5.20**	**31**	IAML		08 04 27.7	
	comp=N,38nm,0.8s						
CRQM				IAML		08 04 29.6	
	comp=E,24nm,0.8s						
KLU	**Klutina**	**5.26**	**14**	Pn	**Pn**	**08 03 28.5**	**+1.2**
KLU				IAML		08 04 27.3	
	comp=N,23nm,0.4s						
KLU				IAML		08 04 28.6	
	comp=E,21nm,1.1s						
TGL	**Tana Glacier**	**5.29**	**33**		**Pn**	**08 03 28.3**	**+0.5**

PQL	**Pirkuli**	**1.25**	**267**	P	**Pn**	**08 16 37.5**	**-0.6**
PQL				S	**Sn**	**08 16 54.5**	**-0.4**
ALIB	**&Aumlli-Bayram**	**1.30**	**227**	Pg	**Pn**	**08 16 40.7**	**+2.1**
ALIB	**&Aumlli-Bayram**	**1.30**	**227**	Pn	**Pn**	**08 16 40.7**	**+2.1**
ALIB				Sg	**Sn**	**08 17 01.3**	**+5.5**
QUBA	**Quba, Azerbaij**	**1.41**	**291**	Pg	**Pn**	**08 16 39.7**	**-0.3**
QUBA				Sn	**Sn**	**08 16 57.6**	**-0.7**
IML	**Ismayilli**	**1.56**	**268**	Pg	**Pn**	**08 16 44.5**	**+2.4**
IML				Sn	**Sn**	**08 17 01.1**	**-0.8**
XNQ	**Khinaliq**	**1.62**	**282**	Pn	**Pn**	**08 16 42.4**	**-0.5**
XNQ				Sn	**Sn**	**08 17 02.1**	**-1.3**
QSAR	**Qusar**	**1.63**	**294**	Pn	**Pn**	**08 16 41.0**	**-1.9**
QSAR				Sn	**Sn**	**08 17 00.5**	**-2.9**
KDMR	**Kurdemir**	**1.64**	**254**	Sn	**Sn**	**08 17 04.6**	**+1.1**
SAAT	**Saatly**	**1.71**	**235**	Sn	**Sn**	**08 17 08.2**	**+3.1**
KSMR	**Kasumkent** 239nm,0.3s	**1.76**	**296**	*e*Pg	**Pn**	**08 16 48.1**	**+3.6**
KSMR				*e*Sg	**Sn**	**08 17 11.5**	**+5.1**
	310nm,0.2s						
QBL	**Gabala**	**1.82**	**273**	Pg	**Pn**	**08 16 47.5**	**+2.1**
QBL				Sn	**Sn**	**08 17 06.8**	**-1.1**
DRN	**Derbent** 171nm,0.2s	**1.85**	**310**	*e*Pg	**Pn**	**08 16 47.1**	**+1.4**
DRN				*e*Sg	**Sn**	**08 17 10.6**	**+2.1**
	1.0nm,0.5s						
AKT	**Akhty** 82nm,0.4s	**2.00**	**289**	*e*Pn	**Pn**	**08 16 51.2**	**+3.5**
AKT				*e*Sn	**Sn**	**08 17 17.4**	**+5.3**
	389nm,0.3s						
ZRD	**Zardab**	**2.03**	**254**	Pn	**Pn**	**08 16 48.3**	**+0.2**
ZRD				Sn	**Sn**	**08 17 13.8**	**+1.0**
GLBA	**Clilabad**	**2.15**	**222**	Pn	**Pn**	**08 16 51.5**	**+1.8**
GLBA				Sn	**Sn**	**08 17 15.6**	**0.0**
SEKA	**Sheki**	**2.33**	**280**	Pn	**Pn**	**08 16 50.3**	**-1.8**
SEKA				Sn	**Sn**	**08 17 17.8**	**-2.2**
BLQ	**Beylaqan**	**2.35**	**242**	Sn	**Sn**	**08 17 18.6**	**-1.7**
URKR	**Urkarakh** 61nm,0.2s	**2.35**	**304**	*e*Pn	**Pn**	**08 16 54.5**	**+2.0**
URKR				*e*Sn	**Sn**	**08 17 23.1**	**+2.5**
	286nm,0.2s						
MNGR	**Mingechevir, A**	**2.40**	**269**	Sn	**Sn**	**08 17 21.2**	**-0.2**
BRDA	**Brd**	**2.41**	**257**	Sn	**Sn**	**08 17 20.9**	**-0.9**
LKRN	**Lenkeran, Azer**	**2.43**	**208**	Pn	**Pn**	**08 16 57.7**	**+4.3**
LKRN				Sn	**Sn**	**08 17 21.8**	**-0.4**
YRD	**Yardimli**	**2.48**	**219**	Pg	Pn	08 17 02.2	+7.9
YRD				Sn	**Sn**	**08 17 22.6**	**-1.1**
AGDM	**Agdam**	**2.51**	**254**	S	**Sn**	**08 17 24.0**	**-0.2**
SGKR	**Sergokala** 48nm,0.4s	**2.51**	**310**	*e*Pn	**Pn**	**08 16 56.3**	**+1.8**
SGKR				*e*Sn	**Sn**	**08 17 26.2**	**+1.9**
	405nm,0.2s						
ASTR	**Astara**	**2.56**	**206**	Sn	**Sn**	**08 17 24.2**	**-1.1**
QRD	**Qoradiz**	**2.64**	**239**	Pn	**Pn**	**08 16 55.8**	**-0.5**
QRD				Sn	**Sn**	**08 17 24.9**	**-2.4**
LRK	**Lerik**	**2.66**	**214**	Pg	Pn	08 17 06.4	+10
LRK				Sn	**Sn**	**08 17 26.6**	**-1.4**
KMKR	**Kumukh** 37nm,0.2s	**2.68**	**299**	*e*Pn	**Pn**	**08 16 58.7**	**+1.7**
KMKR				*e*Sn	**Sn**	**08 17 30.9**	**+2.3**
	181nm,0.3s						
GRMI	**Germi**	**2.73**	**222**	Pn	**Pn**	**08 16 56.5**	**-1.1**
ZKTA	**Zakatala**	**2.84**	**287**	Pn	**Pn**	**08 16 59.2**	**+0.2**
ZKTA				Sn	**Sn**	**08 17 31.9**	**-0.3**
GNBR	**Gunib** 41nm,0.7s	**2.89**	**303**	*e*Pn	**Pn**	**08 17 01.0**	**+1.3**
GNBR				*e*Sn	**Sn**	**08 17 35.4**	**+1.9**
	115nm,0.3s						
GANJ	**Ganja**	**2.99**	**267**	Pn	Pn	**08 16 59.5**	**-1.4**
GANJ				Sn	**Sn**	**08 17 31.7**	**-4.1**
ARKR	**Arakani** 14nm,0.2s	**2.99**	**307**	*e*Pn	**Pn**	**08 17 02.5**	**+1.5**
ARKR				*e*Sn	**Sn**	**08 17 37.7**	**+1.8**
	92nm,0.5s						
XNZR	**Khunzakh** 21nm,0.4s	**3.14**	**304**	*e*Pn	**Pn**	**08 17 05.0**	**+1.9**
XNZR				*e*Sn	**Sn**	**08 17 42.4**	**+2.8**
	65nm,0.4s						
KRNR	**Karanay** 17nm,0.4s	**3.17**	**309**	*e*Pn	**Pn**	**08 17 05.3**	**+1.7**
KRNR				*e*Sn	**Sn**	**08 17 42.7**	**+2.3**
	65nm,0.4s						
UNCR	**Uncukul** 20nm,0.5s	**3.17**	**307**	*e*Pn	**Pn**	**08 17 04.5**	**+1.0**
UNCR				*e*Sn	**Sn**	**08 17 41.2**	**+0.9**
	50nm,0.4s						
GDB	**GEDABAY**	**3.41**	**269**	Pn	**Pn**	**08 17 05.5**	**-1.3**
GDB				Sn	**Sn**	**08 17 42.0**	**-4.3**
IHRS	**Heris**	**3.54**	**225**	Pn	**Pn**	**08 17 08.5**	**-0.2**
QZX	**Qazax, Azerbai**	**3.69**	**275**	Pn	**Pn**	**08 17 10.0**	**-0.5**
QZX				Sn	**Sn**	**08 17 49.1**	**-3.9**
ORD	**Ordubad**	**3.79**	**241**	Pn	**Pn**	**08 17 12.4**	**+0.4**
ORD				Sn	**Sn**	**08 17 53.5**	**-2.1**
SBZ	**Shahbuz**	**3.88**	**249**	Sn	**Sn**	**08 17 57.7**	**+0.1**
NAX	**Nakhchivan**	**4.01**	**247**	Sn	**Sn**	**08 18 02.7**	**+1.8**
IMRD	**Marand**	**4.10**	**240**	Pn	**Pn**	**08 17 15.2**	**-1.1**
JIR1	**Jirandeh**	**4.16**	**185**	Pn	**Pn**	**08 17 16.5**	**-0.6**
KLST	**Kelardasht - M**	**4.38**	**171**	Pn	**Pn**	**08 17 20.5**	**+0.3**
MZPU	**Pul - Mazandar**	**4.54**	**166**	Pn	**Pn**	**08 17 22.7**	**+0.6**
IPRN	**Peran**	**4.89**	**160**	Pn	**Pn**	**08 17 27.3**	**+0.2**
IALA	**Alasht**	**5.18**	**156**	Pn	**Pn**	**08 17 31.6**	**+0.6**
IGLO	**Ghaloghah**	**5.18**	**146**	Pn	**Pn**	**08 17 31.8**	**+0.8**
KBZ	**Khabaz** 0.8nm,0.5s,baz=102,slow=9.3,SNR=1.4	**6.15**	**300**	Pn	**Pn**	**08 17 43.1**	**-0.8**
KBZ				Sn	**Sn**	**08 18 47.5**	**-5.4**
	0.4nm,0.3s,baz=278,slow=14,SNR=1.9						
GEYT	**Alibeck** 0.7nm,0.3s,baz=290,slow=12,SNR=9.0	**6.76**	**113**	Pn	**Pn**	**08 17 52.4**	**0.0**
GEYT				Sn	**Sn**	**08 19 04.5**	**-3.5**
	0.4nm,0.3s,baz=230,slow=51,SNR=1.5						
	1.7nm,0.2s						
IEMG	**Emamgholi**	**7.38**	**115**	Pn	**Pn**	**08 18 01.2**	**+0.1**
AB31	**Akbulak array** 0.5nm,0.4s,baz=213,slow=14,SNR=21	**10.83**	**36**	P	**Pn**	**08 18 45.6**	**-2.2**
AB31				⇑S	**Sn**	**08 20 41.0**	**-6.1**
	0.9nm,0.3s,baz=213,slow=22,SNR=5.9						
AKTO	**Aktyubinsk** 0.5nm,0.3s,baz=211,slow=6.5,SNR=7.9	**11.01**	**27**	Pn	**Pn**	**08 18 49.5**	**-0.7**
AKTO				Sn	**Sn**	**08 20 44.2**	**-7.0**
	0.6nm,0.3s,baz=350,slow=18,SNR=3.7						
	1.1nm,0.3s						
AKTO	**Aktyubinsk** 2.1nm,0.7s	**11.01**	**27**	⇓P	**Pn**	**08 18 49.6**	**-0.5**
AKTO				⇑S	**Sn**	**08 20 47.1**	**-4.1**
	4.4nm,0.7s						
BELG	**Belogornoye** 2.8nm,0.3s,baz=36,slow=1.0,SNR=9.7	**11.68**	**352**	Pn	**Pn**	**08 18 58.1**	**-1.0**
BELG				Sn	Sn	08 20 56.8	-11
	0.9nm,0.3s,baz=274,slow=19,SNR=1.6						
	5.6nm,0.3s						
AKASG	**Malin Array Be** 0.9nm,0.3s,baz=103,slow=9.7,SNR=4.4	**17.60**	**311**	P	**Pn**	**08 20 16.4**	**+1.0**
	0.7nm,0.4s						
BVAR	**Borovoye Array** baz=232,slow=14,SNR=2.9	**18.29**	**42**	P	**Pn**	**08 20 24.6**	**+0.8**
BVAR				S	**S**	**08 23 41.8**	**-5.2**
	2.1nm,0.7s,baz=234,slow=25,SNR=7.4						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra** 0.5nm,0.2s,baz=256,slow=11,SNR=2.3	**21.90**	**54**	P	**P**	**08 21 05.1**	**+3.1**
	0.5nm,0.2s						
MKAR	**Makanchi Array** 0.6nm,0.4s,baz=259,slow=9.9,SNR=13	**23.76**	**65**	P	**P**	**08 21 24.6**	**+4.0**
	0.6nm,0.4s						
FINES	**FINESS Array B** 0.9nm,0.4s,baz=145,slow=10,SNR=6.9	**25.30**	**333**	P	**P**	**08 21 35.7**	**+1.3**
	0.9nm,0.4s						
TORD	**Torodi Ar. Bea** 0.1nm,0.4s,baz=26,slow=9.1,SNR=1.8	**50.48**	**251**	P	**P**	**08 25 07.9**	**+2.4**
	0.1nm,0.4s						

*KRNET **06** 08:44:01.6±0.1,40°.69N×78°.42E,mb2.9*
*SOME **06** 08:44:02.4,40°.85N×78°.43E,h0km*
*NNC **06** 08:44:03.3±0.9,40°.79N×78°.42E,h0km,mb4.0,mpv3.7,*
Error ellipse: s-maj=5.8km s-min=4.0km az=167.0
ISC 06 08:44:04.2±1.8,40°.80N±0°.08×78°.34E±0°.04,h10km,n61,
σ1s47/92,18C-7D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay** baz=28	**1.59**	**327**	⇑*i*P	**Pb**	**08 44 33.3**	**-0.5**
KDJ				⇑*i*S	**Sg**	**08 44 56.2**	**+0.9**
PRZ	**Przheval'sk**	**1.68**	**2**	⇓*e*P	**Pb**	**08 44 34.8**	**-0.6**
	baz=60						
PRZ				⇓*e*S	**Sg**	**08 44 59.5**	**+1.2**
	baz=60						
NRN	**Naryn** baz=92	**1.88**	**290**	⇑*i*P	**Pb**	**08 44 38.3**	**-0.4**
NRN				⇑*i*S	**Sb**	**08 45 04.5**	**+2.1**
	baz=92						
ANVS	**Anan'yevo** baz=45	**2.04**	**346**	⇓*i*P	**Pb**	**08 44 40.6**	**-0.9**
ANVS				⇓*i*S	**Sg**	**08 45 09.1**	**-0.8**
	baz=45						
ULHL	**Ulahol** baz=14	**2.13**	**313**	⇑*i*P	**Pb**	**08 44 41.8**	**-1.3**
ULHL				⇑*i*S	**Sb**	**08 45 11.2**	**+1.5**
	baz=14						
SATY	**Saty** 31nm,0.3s	**2.26**	**1**	*e*P	**Pb**	**08 44 45.3**	**+0.1**
SATY				*e*S	**Sg**	**08 45 16.4**	**-0.4**
	195nm,0.3s						
SATY	**Saty** 31nm,0.5s	**2.26**	**1**	Pg	**Pb**	**08 44 45.3**	**+0.1**
SATY				Lg	Lg	08 45 16.4	
	228nm,1.0s						
ZHN	**Zhinishke** 28nm,0.3s	**2.37**	**2**	*e*P	**Pb**	**08 44 47.3**	**+0.3**
ZHN				*e*S	**Sg**	**08 45 19.7**	**-0.5**
	154nm,0.2s						
ZHN	**Zhinishke** 28nm,0.3s	**2.37**	**2**	Pg	**Pb**	**08 44 47.3**	**+0.3**
ZHN				Lg	Lg	08 45 19.7	
	155nm,0.5s						
UZB	**Uzynbulak** 15nm,0.3s	**2.40**	**12**	*e*P	**Pb**	**08 44 46.9**	**-0.7**
UZB				*e*S	**Sg**	**08 45 19.0**	**-2.3**
	99nm,0.4s						
UZB	**Uzynbulak** 16nm,0.6s	**2.40**	**12**	Pg	**Pb**	**08 44 46.9**	**-0.7**
UZB				Lg	Lg	08 45 19.0	
	100nm,0.8s						
TNSS	**Tian-Shan** 54nm,0.2s	**2.46**	**336**	*e*P	**Pb**	**08 44 49.4**	**+0.5**
TNSS				*e*S	**Sg**	**08 45 23.5**	**+0.2**
	103nm,0.3s						
TNSS	**Tian-Shan** 54nm,0.5s	**2.46**	**336**	Pg	**Pb**	**08 44 49.4**	**+0.5**
TNSS				Lg	Lg	08 45 23.5	
	103nm,0.5s						
BOOM	**Boomskoye usch** baz=15	**2.46**	**314**	⇑*i*P	**Pb**	**08 44 47.1**	**-1.6**
BOOM				⇑*i*S	**Sb**	**08 45 19.7**	**+0.5**
	baz=15						
SHLS	**Shalkode** 65nm,0.3s	**2.50**	**19**	*e*P	**Pg**	**08 44 51.4**	**-0.7**
SHLS				*e*S	**Sg**	**08 45 27.0**	**+2.5**
	176nm,0.5s						
SHLS	**Shalkode** 66nm,0.6s	**2.50**	**19**	Pg	**Pg**	**08 44 51.4**	**-0.7**
SHLS				Lg	Lg	08 45 27.0	
	176nm,0.5s						
MDOK	**Medeo** 39nm,0.5s	**2.55**	**338**	*e*P	**Pb**	**08 44 50.6**	**+0.5**
MDOK				*e*S	**Sg**	**08 45 25.1**	**-0.9**
	192nm,0.5s						
MDOK	**Medeo** 30nm,0.6s	**2.55**	**338**	Pg	**Pb**	**08 44 50.3**	**+0.2**
MDOK				Pg	**Pb**	**08 44 50.6**	**+0.5**
	39nm,0.5s						
MDOK				Lg	Lg	08 45 25.1	
	192nm,0.7s						
MDOK				⇓Lg	Lg	08 45 26.1	
	167nm,0.6s						
IZV	**Izvestkoviy** 16nm,0.3s	**2.58**	**331**	*e*P	**Pg**	**08 44 52.3**	**-1.3**
IZV				*e*S	**Sg**	**08 45 28.1**	**+1.0**
	184nm,0.3s						
IZV	**Izvestkoviy** 16nm,0.3s	**2.58**	**331**	Pg	**Pg**	**08 44 52.3**	**-1.3**
IZV				Lg	Lg	08 45 28.0	
	169nm,0.5s						
KOTS	**Kotyrbulak** 39nm,0.2s	**2.60**	**340**	*e*P	**Pb**	**08 44 52.0**	**+1.0**
KOTS				*e*S	**Sg**	**08 45 27.9**	**+0.2**
	193nm,0.5s						
KOTS	**Kotyrbulak** 39nm,0.3s	**2.60**	**340**	Pg	**Pb**	**08 44 52.0**	**+1.0**
KOTS				Lg	Lg	08 45 27.9	
	193nm,0.5s						
AAA	**Alma-Ata** 132nm,0.1s	**2.63**	**337**	*e*P	**Pg**	**08 44 52.9**	**-1.7**
AAA				*e*S	**Sg**	**08 45 29.4**	**+0.8**
	301nm,0.3s						
AAA	**Alma-Ata** 160nm,0.4s	**2.63**	**337**	Pg	**Pg**	**08 44 52.9**	**-1.7**
AAA				Lg	Lg	08 45 29.4	
	301nm,0.3s						
PDGK	**Podgornoye** 5.0nm,0.4s	**2.67**	**18**	Pg	**Pb**	**08 44 50.9**	**-1.2**
PDGK				Lg	Lg	08 45 25.5	
	179nm,0.6s						
PDGK	**Podgornoye** 19nm,0.6s	**2.67**	**18**	⇑Pg	**Pb**	**08 44 50.1**	**-2.0**
PDGK				⇓Lg	Lg	08 45 28.0	
	302nm,0.6s						
KPKS	**Kokpek** 11nm,0.1s	**2.67**	**5**	*e*P	**Pg**	**08 44 53.1**	**-2.4**
KPKS				*e*S	**Sg**	**08 45 29.4**	**-0.7**
	378nm,0.3s						
KPKS	**Kokpek** 11nm,0.1s	**2.67**	**5**	Pg	**Pg**	**08 44 53.1**	**-2.4**
KPKS				Lg	Lg	08 45 29.4	
	378nm,0.5s						
KURS	**Kuram** 27nm,0.4s	**2.69**	**357**	*e*P	**Pb**	**08 44 53.1**	**+0.7**
KURS				*e*S	**Sg**	**08 45 29.6**	**-0.9**
	109nm,0.3s						
KURS	**Kuram** 27nm,0.5s	**2.69**	**357**	Pg	**Pb**	**08 44 53.1**	**+0.7**
KURS				Lg	Lg	08 45 29.6	
	109nm,0.7s						
MTBS	**Maitube** 14nm,0.2s	**2.73**	**329**	*e*P	**Pb**	**08 44 54.0**	**+0.9**
MTBS				*e*S	**Sg**	**08 45 30.9**	**-0.9**
	77nm,0.5s						
MTBS	**Maitube** 14nm,0.5s	**2.73**	**329**	Pg	**Pb**	**08 44 54.0**	**+0.9**
MTBS				Lg	Lg	08 45 30.9	
	86nm,0.8s						
KST	**Kastek** 16nm,0.3s	**2.85**	**322**	*e*P	**Pb**	**08 44 56.3**	**+0.9**
KST				*e*S	**Sg**	**08 45 34.8**	**-1.1**
	91nm,0.4s						
KST	**Kastek** 16nm,0.6s	**2.85**	**322**	Pg	**Pb**	**08 44 56.3**	**+0.9**
KST				Lg	Lg	08 45 34.8	
	91nm,0.6s						
TKM2	**Tokmak 2** 5.1nm,0.4s	**2.94**	**317**	⇓Pg	**Pb**	**08 44 56.7**	**-0.3**
TKM2				⇑Lg	Lg	08 45 38.7	
	55nm,0.7s						
TKM2	**Tokmak 2** baz=17	**2.94**	**317**	⇑*e*P	**Pn**	**08 44 53.5**	**+2.2**
TKM2				⇑*e*S	**Sb**	**08 45 31.4**	**-1.6**
	baz=17						
KTMS	**Ketmen** 17nm,0.3s	**3.04**	**29**	*e*P	**Pb**	**08 44 57.6**	**-0.8**
KTMS				*e*S	**Sb**	**08 45 37.1**	**+1.4**
	56nm,0.4s						
KTMS	**Ketmen** 17nm,0.5s	**3.04**	**29**	Pg	**Pb**	**08 44 57.6**	**-0.8**
KTMS				Lg	Lg	08 45 37.1	
	56nm,0.7s						
DGS	**Degeres** 11nm,0.5s	**3.10**	**323**	*e*P	**Pb**	**08 45 00.4**	**+1.0**
DGS				*e*S	**Sg**	**08 45 42.3**	**-1.4**
	98nm,0.3s						
DGS	**Degeres** 11nm,0.5s	**3.10**	**323**	Pg	**Pb**	**08 45 00.4**	**+1.0**
DGS				Lg	Lg	08 45 42.3	
	98nm,0.7s						
KTBS	**Karatobe** 14nm,0.3s	**3.16**	**338**	*e*P	**Pb**	**08 45 01.5**	**+1.1**
KTBS				*e*S	**Sg**	**08 45 43.7**	**-1.9**
	79nm,0.2s						
KTBS	**Karatobe** 14nm,0.5s	**3.16**	**338**	Pg	**Pb**	**08 45 01.5**	**+1.1**
KTBS				Lg	Lg	08 45 43.7	
	79nm,0.3s						
CHKK	**Chushkaly** 17nm,0.3s	**3.21**	**342**	*e*P	**Pb**	**08 45 02.9**	**+1.6**
CHKK				*e*S	**Sg**	**08 45 46.7**	**-0.6**
	133nm,0.4s						
CHKK	**Chushkaly** 17nm,0.4s	**3.21**	**342**	Pg	**Pb**	**08 45 02.9**	**+1.6**
CHKK				Lg	Lg	08 45 46.7	
	133nm,0.4s						
BLB	**Baldybastay** 60nm,0.5s	**3.29**	**2**	Pg	**Pb**	**08 45 03.7**	**+0.8**
BLB				Lg	Lg	08 45 47.9	
	37nm,0.6s						
KUU	**Kurty** 10nm,0.5s	**3.43**	**335**	*e*P	**Pb**	**08 45 06.2**	**+1.2**
KUU				*e*S	**Sg**	**08 45 51.8**	**-2.4**
	23nm,0.4s						
KUU	**Kurty** 10nm,0.5s	**3.43**	**335**	Pg	**Pb**	**08 45 06.2**	**+1.2**
KUU				Lg	Lg	08 45 51.8	
	23nm,0.5s						
ARXS	**Arharly** 7.6nm,0.2s	**3.43**	**354**	*e*P	**Pb**	**08 45 06.2**	**+1.1**
ARXS				*e*S	**Sg**	**08 45 52.3**	**-2.1**
	68nm,0.3s						
ARXS	**Arharly** 7.5nm,0.3s	**3.43**	**354**	Pg	**Pb**	**08 45 06.2**	**+1.1**
ARXS				Lg	Lg	08 45 52.3	
	68nm,0.6s						
CHMS	**Chumysh** 3.8nm,0.5s	**3.46**	**311**	⇑Pg	**Pb**	**08 45 06.5**	**+0.9**
CHMS				⇑Lg	Lg	08 45 55.1	
	76nm,1.1s						
KRBS	**Karabastau** 7.6nm,0.4s	**3.50**	**327**	*e*P	**Pb**	**08 45 07.8**	**+1.4**
KRBS				*e*S	**Sg**	**08 45 54.9**	**-1.8**
	49nm,0.7s						
KRBS	**Karabastau** 7.3nm,0.6s	**3.50**	**327**	Pg	**Pb**	**08 45 07.8**	**+1.4**
KRBS				Lg	Lg	08 45 54.9	
	48nm,1.1s						
KNOS	**Konyrlen** 13nm,0.4s	**3.61**	**10**	Pg	**Pb**	**08 45 08.6**	**+0.4**
KNOS				Lg	Lg	08 45 56.0	
	41nm,0.4s						
DJR	**Jarkent** 4.2nm,0.2s	**3.69**	**16**	*e*P	**Pb**	**08 45 10.3**	**+0.8**
DJR				*e*S	**Sg**	**08 45 59.3**	**-3.3**
	66nm,0.5s						
DJR	**Jarkent** 4.2nm,0.4s	**3.69**	**16**	Pg	**Pb**	**08 45 10.3**	**+0.8**
DJR				Lg	Lg	08 45 59.3	
	66nm,0.5s						
MRKS	**Merke** 3.3nm,0.4s	**4.29**	**299**	*e*P	**Pb**	**08 45 22.0**	**+2.2**
MRKS				*e*S	**Sg**	**08 46 18.8**	**-3.1**
	11nm,0.4s						
MRKS	**Merke** 3.0nm,0.6s	**4.29**	**299**	Pg	**Pb**	**08 45 22.0**	**+2.2**
MRKS				Lg	Lg	08 46 18.8	
	11nm,0.6s						
KAPS	**Kapalarasan** 3.8nm,0.3s	**4.54**	**9**	*e*P	**Pb**	**08 45 26.1**	**+2.0**
KAPS				*e*S	**Sg**	**08 46 25.9**	**-4.1**
	19nm,0.5s						
KAPS	**Kapalarasan** 3.8nm,0.3s	**4.54**	**9**	Pg	**Pb**	**08 45 26.1**	**+2.0**
KAPS				Lg	Lg	08 46 25.9	
	20nm,0.7s						
KK31	**Karatay Array** 1.3nm,0.7s,baz=123,slow=14,SNR=4.3	**6.27**	**294**	⇑Pg	**Pg**	**08 46 01.0**	**-3.3**
KK31				⇑Lg	Lg	08 47 27.1	
	1.4nm,0.5s,baz=112,slow=25,SNR=5.6						
MK31	**Makanchi Array** 0.4nm,0.5s,baz=208,slow=16,SNR=3.8	**6.64**	**24**	⇑Pn	**Pn**	**08 45 44.0**	**+2.2**
MK31				⇑Lg	Lg	08 47 34.0	
	2.2nm,0.6s,baz=207,slow=26,SNR=4.5						

*IDC **06** 09:18:45.1±3.2,31°.94S×179°.57E,h423km±34km,mb3.4/4,*
mbtmp4.2/5,Error ellipse: s-maj=34.0km s-min=25.4km
az=13.0.
*WEL **06** 09:18:47.1±0.6,32°.S±.6°×18°.0W±1°.4,h409km±9km,*
M4.2/48,mB4.8/37,ML5.4/42,MLv5.3/48,Mw(mB)4.0/37,
Error ellipse: s-maj=0.0km s-min=0.0km az=109.3
ISC 06 09:18:44.8±0.7,32°.01S±0°.08×180°.0W±0°.1,h400km,n80,
σ2s00/94,mb3.6/4,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.25**	**33**	P	**Pn**	**09 19 52.1**	**+1.9**
GLKZ				S	**S**	**09 20 45.7**	**+2.7**
WMGZ	**Waiomatatini S**	**5.95**	**193**	P	**Pn**	**09 20 20.9**	**+2.2**
WMGZ				S	**S**	**09 21 34.6**	**+2.9**
WIZ	**White Island**	**5.99**	**202**	P	**Pn**	**09 20 21.4**	**+4.3**
HAZ	**Te Kaha**	**6.03**	**197**	P	**Pn**	**09 20 19.1**	**+1.6**
HAZ				S	**S**	**09 21 35.1**	**+1.9**
PKGZ	**Pakihiroa**	**6.09**	**195**	P	**Pn**	**09 20 21.2**	**+2.9**
WCZ	**Waipu Caves**	**6.15**	**229**	P	**Pn**	**09 20 22.3**	**+3.3**
PUZ	**Puketiti**	**6.22**	**193**	P	**Pn**	**09 20 22.2**	**+2.4**
PUZ				S	**S**	**09 21 37.8**	**+0.5**
RUGZ	**Raukumara Rang**	**6.25**	**198**	P	**Pn**	**09 20 22.8**	**+2.6**
RUGZ				S	**S**	**09 21 38.1**	**+0.1**
OUZ	**Omahuta**	**6.27**	**238**	P	**Pn**	**09 20 22.7**	**+2.5**
TWGZ	**Tauwhareparae**	**6.38**	**195**	P	Pn	**09 20 24.0**	**+2.5**
TWGZ				S	**S**	**09 21 42.7**	**+2.2**
TGRZ	**Tauranga**	**6.50**	**208**	P	Pn	09 20 27.7	+4.9
CNGZ	**Carnagh Statio**	**6.63**	**193**	P	**P**	**09 20 27.0**	**+2.2**
MWZ	**Matawai**	**6.64**	**197**	P	**P**	**09 20 26.3**	**+1.3**
MWZ				S	**S**	**09 21 46.8**	**+1.2**
TKGZ	**Te Karaka**	**6.66**	**195**	P	**P**	**09 20 26.7**	**+1.6**
TKGZ				S	**S**	**09 21 46.2**	**+0.2**
URZ	**Urewera** 350nm,0.3s,baz=104,slow=5.0,SNR=171	**6.69**	**200**	P	**P**	**09 20 25.7**	**+0.4**
URZ				S	**S**	**09 21 46.5**	**0.0**
	121nm,0.3s,baz=0.0,slow=20,SNR=20						
URZ	**Urewera**	**6.69**	**200**	P	**P**	**09 20 25.9**	**+0.5**
URZ				S	**S**	**09 21 45.8**	**-0.7**
RAGZ	**Rawiri**	**6.82**	**198**	P	**P**	**09 20 28.2**	**+1.2**
RAGZ				S	**S**	**09 21 50.1**	**+0.7**
TOZ	**Tahuroa Road**	**6.82**	**212**	P	**P**	**09 20 31.1**	**+4.2**
RIGZ	**Rimuhau**	**6.94**	**195**	P	**P**	**09 20 30.6**	**+2.4**
RIGZ				S	**S**	**09 21 50.5**	**-1.2**
MUGZ	**Murupara**	**6.99**	**202**	P	**P**	**09 20 30.2**	**+1.4**
MUGZ				S	**S**	**09 21 52.8**	**0.0**
HSRZ	**Hossack Road**	**7.02**	**205**	P	**P**	**09 20 33.2**	**+4.1**
HRRZ	**Handcock Road**	**7.07**	**205**	P	**P**	**09 20 33.1**	**+3.4**
SNGZ	**Shannon Statio**	**7.11**	**197**	P	**P**	**09 20 32.0**	**+1.8**
SNGZ				S	**S**	**09 21 55.2**	**-0.1**
TLZ	**Tolley Road**	**7.31**	**209**	P	**P**	**09 20 34.5**	**+2.2**
WHHZ	**Waihua**	**7.42**	**197**	P	**P**	**09 20 36.0**	**+2.5**
WHHZ				S	**S**	**09 22 01.4**	**-0.1**
RATZ	**Rangitukua**	**7.68**	**206**	P	**P**	**09 20 38.1**	**+1.6**
HIZ	**Hauiti**	**7.76**	**212**	P	**P**	**09 20 39.6**	**+2.3**
MCHZ	**McNeill Hill**	**7.90**	**199**	P	**Pn**	**09 20 36.9**	**-1.6**
MCHZ				S	**S**	**09 22 10.6**	**-1.1**
NTVZ	**North Tongarir

TSZ	**Takapari Road**	**8.69**	**201**	P	**Pn**	**09 20 47.1**	**-0.4**	
PRHZ	**Porangahau**	**8.69**	**198**	P	**P**	**09 20 48.1**	**+0.5**	
PKE	**Pukeiti**	**8.70**	**213**	P	**P**	**09 20 51.7**	**+3.8**	
NEZ	**North Egmont**	**8.71**	**212**	P	**P**	**09 20 51.6**	**+3.6**	
LREZ	**Lake Rotokare**	**8.74**	**210**	P	**P**	**09 20 51.1**	**+2.9**	
WAZ	**Wanganui**	**8.75**	**207**	P	**P**	**09 20 49.0**	**+0.6**	
DVHZ	**Dannevirke**	**8.85**	**200**	P	**P**	**09 20 49.9**	**+0.5**	
ANWZ	**Angora Road**	**8.91**	**198**	P	**P**	**09 20 51.2**	**+1.1**	
POWZ	**Post Office Ro**	**9.05**	**201**	P	**P**	**09 20 52.6**	**+0.9**	
PRWZ	**Pori Road**	**9.14**	**200**	P	**Pn**	**09 20 53.5**	**+0.8**	
BFZ	**Birch Farm**	**9.18**	**198**	P	**Pn**	**09 20 53.5**	**+0.4**	
MRZ	**Mangatainoka R**	**9.36**	**201**	P	**P**	**09 20 53.6**	**-1.4**	
RPZ	**Rata Peaks**	**13.67**	**209**	P	**P**	**09 21 40.7**	**-1.9**	
	7.4nm,0.8s,baz=8.7,slow=13,SNR=1.9							
RPZ				S	**S**	**09 24 04.4**	**-5.3**	
	10.0nm,0.6s,baz=22,slow=19,SNR=8.8							
ASAR	**Alice Springs**	**41.39**	**270**	P	P	09 25 49.7	-4.5	
	1.1nm,0.6s,baz=102,slow=7.1,SNR=12							
	1.1nm,0.6s							
WRA	**Warramunga Arr**	**42.53**	**275**	P	P	09 25 58.1	-5.1	
	1.8nm,0.5s,baz=114,slow=7.8,SNR=23							
	1.8nm,0.5s							
PETK	**Petropavlovsk-**	**86.97**	**347**	P	**P**	**09 30 43.0**	**-2.4**	
	2.8nm,0.6s,baz=113,slow=8.9,SNR=10.0							
	2.8nm,0.6s							
NVAR	**Mina Array Bea**	**90.55**	**44**	P	**P**	**09 31 01.4**	**-1.4**	
	0.6nm,0.9s,baz=202,slow=6.7,SNR=3.8							
	0.6nm,0.9s							
MKAR	**Makanchi Array**	**117.52**	**310**	PKP	**PKPdf**	**09 36 39.5**	**-4.0**	
	0.2nm,0.6s,baz=243,slow=1.0,SNR=2.1							
KBZ	**Khabaz**	**144.58**	**302**	PKP	PKPbc	09 37 31.2	-2.7	
	2.0nm,0.9s,baz=90,slow=3.0,SNR=4.1							
FINES	**FINESS Array B**	**146.04**	**338**	PKPbc	**PKPdf**	**09 37 34.4**	**-1.7**	
	4.1nm,0.5s,baz=44,slow=4.2,SNR=47							
MMAI	**Mount Meron Ar**	**150.26**	**282**	PKPbc	**PKPbc**	**09 37 47.8**	**-1.8**	
	2.0nm,0.4s,baz=88,slow=4.9,SNR=3.7							
AKASG	**Malin Array Be**	**151.50**	**319**	PKPbc	**PKPdf**	**09 37 47.5**	**+2.3**	
	0.3nm,0.4s,baz=76,slow=1.2,SNR=4.0							
TORD	**Torodi Ar. Bea**	**161.17**	**185**	PKPab	**PKPab**	**09 38 42.9**	**-1.5**	
	0.2nm,0.5s,baz=169,slow=1.5,SNR=1.9							

*NEIC **06** 09:24:09.9±1.5, 19°.4N±0°.1×65°.28W±0°.05, h35km±2km, ML2.6/18, Md3.4/6(RSPR), Error ellipse: s-maj=18.4km s-min=7.5km az=345.0*

*RSPR **06** 09:24:09.9, 19°.45N×65°.31W, h17km±9km, MD3.4/6*

ISC 06 09:24:04.2±2.7, 19°.4N±0°.1×65°.20W±0°.03, h10km±12km, n26, σ0°76/33, 8C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**1.38**	**217**	*eP*	**Pg**	**09 24 30.8**	**0.0**
GCPR	**Guaynabo City**	**1.38**	**217**		**Pg**	**09 24 30.8**	**0.0**
GCPR				IAML		09 24 51.3	
	comp=N,75nm,4.2s						
HUMP	**Col San Antoni**	**1.41**	**206**	*eP*	**Pg**	**09 24 31.8**	**+0.5**
HUMP	**Col San Antoni**	**1.41**	**206**	*eS*	**Sg**	**09 24 49.5**	**-0.1**
HUMP	**Col San Antoni**	**1.41**	**206**		**Pg**	**09 24 31.0**	**-0.2**
HUMP					**Sg**	**09 24 49.6**	**+0.1**
HUMP				IAML		09 24 54.1	
	comp=E,91nm,0.2s						
IGPR	**InterUniversit**	**1.68**	**211**	*eP*	**Pb**	**09 24 35.0**	**-0.1**
IGPR	**InterUniversit**	**1.68**	**211**		**Pb**	**09 24 35.0**	**-0.1**
IGPR				IAML		09 24 57.9	
	comp=N,130nm,0.3s						
IGPR				IAML		09 24 59.6	
	comp=E,127nm,0.3s						
AOPR	**Arecibo Observ**	**1.82**	**234**	*eP*	**Pb**	**09 24 37.0**	**-0.5**
AOPR	**Arecibo Observ**	**1.82**	**234**	*eS*	**Sn**	**09 24 59.1**	**+0.6**
AOPR	**Arecibo Observ**	**1.82**	**234**		**Pb**	**09 24 37.2**	**-0.3**
AOPR					**Sn**	**09 24 58.3**	**-0.3**
AOPR	**Arecibo Observ**	**1.82**	**234**	*eP*	**Pb**	**09 24 37.3**	**-0.3**
AOPR				*eS*	**Sb**	**09 25 00.6**	**+0.3**
CELP	**Cerrillos**	**1.87**	**225**	*eP*	**Pb**	**09 24 37.7**	**-0.6**
CELP	**Cerrillos**	**1.87**	**225**	*eS*	**Sn**	**09 24 59.3**	**-0.5**
CELP	**Cerrillos**	**1.87**	**225**		**Pb**	**09 24 38.0**	**-0.3**
CELP					**Sn**	**09 25 00.2**	**+0.4**
CELP				IAML		09 25 04.5	
	comp=E,67nm,4.8s						
OBIP	**Obispado Ponce**	**1.91**	**225**		**Pn**	**09 24 37.6**	**+0.9**
OBIP				IAML		09 25 13.8	
	comp=E,49nm,4.5s						
LSP	**Las Mesas**	**2.17**	**236**	*eP*	**Pb**	**09 24 42.4**	**-1.2**
LSP	**Las Mesas**	**2.17**	**236**		**Pb**	**09 24 42.4**	**-1.2**
MLPR	**Magueyes Islan**	**2.26**	**231**	*eP*	**Pb**	**09 24 43.9**	**-1.2**
MLPR	**Magueyes Islan**	**2.26**	**231**	*eS*	**Sn**	**09 25 09.0**	**-0.5**
MLPR	**Magueyes Islan**	**2.26**	**231**		**Pb**	**09 24 44.3**	**-0.8**
MLPR					**Sn**	**09 25 10.1**	**+0.5**
MLPR				IAML		09 25 19.9	
	comp=E,32nm,1.9s						
MLPR				IAML		09 25 25.5	
	comp=N,52nm,4.6s						
CRPR	**Cabo Rojo, PR**	**2.29**	**233**	*eP*	**Pn**	**09 24 42.9**	**+1.0**
CRPR	**Cabo Rojo, PR**	**2.29**	**233**		**Pb**	**09 24 44.0**	**-1.6**
CRPR				IAML		09 25 23.4	
	comp=E,27nm,4.2s						
CRPR				IAML		09 25 54.8	
	comp=N,40nm,4.5s						
SMRT	**St. Maarten**	**2.43**	**124**	*eP*	**Pb**	**09 24 48.0**	**+0.1**
SMRT	**St. Maarten**	**2.43**	**124**	*eS*	**Sb**	**09 25 17.3**	**-0.6**
SMRT	**St. Maarten**	**2.43**	**124**		**Pb**	**09 24 48.0**	**+0.1**
SMRT					**Sb**	**09 25 16.6**	**-1.4**
ANBD	**Bethesda, Anti**	**4.02**	**125**	*eP*	**Pn**	**09 25 06.9**	**+1.1**
ANBD				*eS*	**Sn**	**09 25 51.9**	**-1.1**

*CATAC **06** 09:31:25.5±0.4, 8°.48N×83°.29W, h6km±2km, ML3.0*
*UPA **06** 09:31:26.4±1.5, 8°.57N×83°.21W, h0km±6km, MD3.6, MW3.4*

ISC 06 09:31:25.3±0.9, 8°.51N±0°.04×83°.26W±0°.04, h13km±9km, n27, σ0°98/43, 1C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIRO	**Carate, Puerto**	**0.13**	**217**	*iP*	**Pg**	**09 31 28.3**	**-0.4**
PIRO				*iS*	**Sg**	**09 31 31.0**	**0.0**
PIRO				IAML		09 31 33.6	
	comp=Z,8μm,1.0s						
CDITO	**Canoas**	**0.39**	**80**	*eP*	**Pb**	**09 31 34.1**	**0.0**
CDITO				*eS*	**Sb**	**09 31 40.4**	**+0.4**
CDITO	**Canoas**	**0.39**	**80**	*iP*	**Pb**	**09 31 34.1**	**0.0**
CDITO				*iS*	**Sb**	**09 31 41.3**	**+1.3**
CDITO				IAML		09 31 53.7	
	comp=Z,630nm,1.0s						
PLAN	**Los Planes de**	**0.45**	**291**	*iP*	**Pg**	**09 31 34.3**	**+0.1**
PLAN				*iS*	**Sg**	**09 31 41.5**	**+1.3**
PLAN				IAML		09 31 43.3	
	comp=Z,1μm,1.0s						
PTPM	**Petroterminale**	**0.48**	**129**	*eP*	**Pn**	**09 31 37.0**	**-0.9**
PTPM				*eS*	**Sb**	**09 31 46.4**	**+3.7**
MLIR3	**Monte Lirio, C**	**0.52**	**57**	*eP*	**Pb**	**09 31 36.5**	**+0.2**
MLIR3				*eS*	**Sb**	**09 31 44.5**	**+0.7**
POTG	**Potrero Grande**	**0.56**	**14**	*iP*	**Pb**	**09 31 36.7**	**-0.4**
POTG				*iS*	**Sb**	**09 31 45.9**	**+0.9**
POTG				IAML		09 31 47.6	
	comp=Z,1μm,1.0s						
BRU2	**Volcan**	**0.63**	**63**	*eP*	**Pb**	**09 31 38.6**	**+0.2**
BRU2				*eS*	**Sn**	**09 31 48.4**	**-1.8**
BRU2	**Volcan**	**0.63**	**63**	*iP*	**Pb**	**09 31 38.5**	**+0.2**
BRU2				*iS*	**Sn**	**09 31 48.9**	**-1.3**
BRU2				IAML		09 31 51.3	
	comp=Z,420nm,1.0s						
OCHAL	**Ojochal**	**0.70**	**327**	*iP*	**Pg**	**09 31 38.0**	**-1.0**
OCHAL				IAML		09 31 50.6	
	comp=Z,4.5nm,1.0s						
BC3P	**Paso Ancho**	**0.71**	**64**	*eP*	**Pb**	**09 31 39.8**	**+0.1**
BCO2	**Palmira**	**0.75**	**74**	*eP*	**Pn**	**09 31 40.8**	**-1.1**
BCO2				*eS*	**Sn**	**09 31 52.0**	**-1.2**
PTAR3	**Potrerillos Ar**	**0.78**	**76**	*eP*	**Pn**	**09 31 41.8**	**-0.4**
DVD	**David**	**0.80**	**95**	*eP*	**Pn**	**09 31 42.1**	**-0.2**
LNBQ3	**Los Naranjos,**	**0.86**	**71**	*eP*	**Pn**	**09 31 42.5**	**-0.7**
PEZE	**Perez Zeledon,**	**0.96**	**335**	*iP*	**Pg**	**09 31 43.5**	**-0.5**
PEZE				*iS*	**Sg**	**09 31 56.7**	**+0.1**
PEZE				IAML		09 31 59.3	
	comp=Z,400nm,1.0s						
CDM	**Cerro de Muert**	**1.15**	**334**	*iP*	**Pb**	**09 31 46.3**	**-1.1**
CDM				IAML		09 32 05.9	
	comp=Z,220nm,1.0s						
CHGR2	**Aguacate**	**1.18**	**69**	*eP*	**Pn**	**09 31 48.6**	**+1.0**
CNI2	**El Empalme, Bo**	**1.20**	**40**	*eP*	**Pg**	**09 31 48.3**	**-0.1**
CNI2				*eS*	**Sn**	**09 32 04.3**	**+0.4**
RIMA	**Rio Macho**	**1.39**	**335**	*iP*	**Pn**	**09 31 49.9**	**-0.7**
RIMA				IAML		09 32 11.8	
	comp=Z,110nm,1.0s						
LCR2	**La Lucha 2**	**1.43**	**329**	*iP*	**Pn**	**09 31 51.2**	**0.0**
LCR2				*iS*	**Sg**	**09 32 12.2**	**+0.7**
LCR2				IAML		09 32 12.8	
	comp=Z,120nm,1.0s						
VTCV	**VTCV, Calle Va**	**1.54**	**343**	*iP*	**Pn**	**09 31 53.4**	**+0.7**
VTCV				*iS*	**Sb**	**09 32 14.5**	**+1.2**
VTCV				IAML		09 32 20.2	
	comp=Z,250nm,1.0s						
OCM	**Ochomogo**	**1.54**	**333**	*iP*	**Pn**	**09 31 53.3**	**+0.5**
OCM				*iS*	**Sg**	**09 32 15.4**	**+0.3**
OCM				IAML		09 32 17.7	
	comp=Z,170nm,1.0s						
HDC3	**Heredia 3**	**1.71**	**331**	*iP*	**Pn**	**09 31 55.2**	**+0.2**
HDC3				*iS*	**Sg**	**09 32 20.4**	**+0.1**
HDC3				IAML		09 32 26.0	
	comp=Z,220nm,1.0s						
TRT1	**Tortuguero**	**2.12**	**348**	*iP*	**Pn**	**09 32 01.6**	**+1.1**
GMAL	**Guarumal, Vera**	**2.14**	**110**	*eP*	**Pb**	**09 32 03.0**	**-1.0**
COVE	**Coope Vega, Sa**	**2.47**	**333**	*iP*	**Pn**	**09 32 04.7**	**-0.6**
COVE				IAML		09 33 23.6	
	comp=Z,180nm,1.0s						

*PGC **06** 09:38:24.4±0.0, 49°.52N×127°.59W, h10km, MLSn3.5/42, Mw4.1, 108km west of Gold R., Bc Vancouver Island, Canada Region*

*NEIC **06** 09:38:24.4, 49°.52N×127°.59W, h9km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.61; $M_{\theta\theta}$-1.68; $M_{\phi\phi}$1.22; $M_{r\theta}$0.69; $M_{\theta\phi}$0.16; $M_{\phi r}$1.09; Fault plane solution: M_o2.00000×10^{15} NP1:ϕ_s53.00000°, δ76.00000°, λ41.00000°. NP2:ϕ_s312.00000°, δ50.00000°, λ162.00000°. Principal axes: T 2.0738, Plg38.0000°, Azm281.0000°; N -0.1429, Plg47.0000°, Azm68.0000°; P -1.9309, Plg17.0000°, Azm177.0000°;*

*NEIC **06** 09:38:26.4±2.2, 49°.81N±0°.05×127°.33W±0°.02, h10km±1km, mb4.0/28, ML3.4/43, Mwr4.1(OTT) Error ellipse: s-maj=7.7km s-min=3.2km az=182.0*

ISC 06 09:38:23.9±1.1, 49°.58N±0°.02×127°.54W±0°.03, h7km±8km, n197, σ2°22/202, mb4.1/4, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**0.41**	**42**	P	**Pb**	**09 38 33.5**	**+0.2**
EDB				S	**Sb**	**09 38 39.4**	**-0.4**
ETB	**Estevan Point**	**0.69**	**106**	P	**Pg**	**09 38 37.8**	**+0.7**
WOSB	**Woss**	**0.86**	**47**	P	**Pb**	**09 38 40.6**	**-0.5**
WOSB				S	**Sb**	**09 38 51.7**	**-1.2**
PACB	**Port Alice, BC**	**0.86**	**2**	P	**Pb**	**09 38 40.8**	**-0.3**
PACB				S	**Sb**	**09 38 51.9**	**-0.9**
MAYB	**Maynard**	**0.86**	**16**	P	**Pb**	**09 38 41.0**	**-0.2**
NC89	**ODP889**	**1.01**	**153**	S	**Sg**	**09 38 55.3**	**-1.1**
HOLB	**Holberg**	**1.13**	**341**		**Pg**	**09 38 44.8**	**-0.8**
HOLB				Sn	**Sg**	**09 38 59.5**	**-0.8**
HOLB	**Holberg**	**1.13**	**341**	P	**Pg**	**09 38 44.8**	**-0.8**
HOLB				S	**Sg**	**09 38 58.8**	**-1.5**
PHC	**Port Hardy**	**1.14**	**4**	P	**Pg**	**09 38 45.0**	**-0.7**
PHC				S	**Sb**	**09 38 59.4**	**-1.3**
SPLB	**Strathcona Par**	**1.27**	**75**	P	**Pb**	**09 38 46.3**	**-1.7**
NCSB	**Newcastle Ridg**	**1.27**	**49**	P	**Pb**	**09 38 46.9**	**-1.2**
NCSB	**Newcastle Ridg**	**1.27**	**49**	S	**Sb**	**09 39 02.9**	**-1.8**
NCBC	**Barkley Canyon**	**1.46**	**141**	S	**Sn**	**09 39 04.9**	**-4.8**
B012	**Ucluelet**	**1.46**	**116**	P	**Pn**	**09 38 48.5**	**-2.1**
OZB	**Mount Ozzard**	**1.48**	**114**	Pn	**Pn**	**09 38 48.9**	**-2.0**
OZB	**Mount Ozzard**	**1.48**	**114**	P	**Pn**	**09 38 48.8**	**-2.0**
OZB	**Mount Ozzard**	**1.48**	**114**	S	**Sn**	**09 39 05.8**	**-4.6**
CBB	**Campbell River**	**1.48**	**71**	Pn	**Pn**	**09 38 49.6**	**-1.3**
CBB				IAML		09 39 21.6	
	comp=E,677nm,0.9s						
CBB	**Campbell River**	**1.48**	**71**		**Pn**	**09 38 49.5**	**-1.3**
CBB	**Campbell River**	**1.48**	**71**		**Sn**	**09 39 07.9**	**-2.6**
BFSB	**Bamfield**	**1.75**	**114**		**Pn**	**09 38 52.3**	**-2.1**
B928	**Bamfield**	**1.75**	**114**		**Sn**	**09 39 14.0**	**-2.9**
NC27	**ODP1027**	**1.82**	**185**		**Pn**	**09 38 53.1**	**-2.1**
NC27	**ODP1027**	**1.82**	**185**		**Sn**	**09 39 12.8**	**-5.5**
B927	**Port Alberni**	**1.82**	**100**		**Pn**	**09 38 53.7**	**-1.8**
NCHR	**NEPTUNE Canada**	**1.90**	**213**		**Pn**	**09 38 54.2**	**-2.1**
NCHR	**NEPTUNE Canada**	**1.90**	**213**		**Sn**	**09 39 15.5**	**-4.8**
KEMF	**NEPTUNE Canada**	**1.93**	**213**		**Pn**	**09 38 54.1**	**-2.6**
KEMF	**NEPTUNE Canada**	**1.93**	**213**		**Sn**	**09 39 16.5**	**-4.4**
KEMO	**NEPTUNE Canada**	**1.95**	**213**		**Pn**	**09 38 55.0**	**-2.0**
KEMO	**NEPTUNE Canada**	**1.95**	**213**		**Sn**	**09 39 16.7**	**-4.8**
PFB	**Port Renfrew**	**2.27**	**115**		**Pn**	**09 38 60.0**	**-1.8**
PFB	**Port Renfrew**	**2.27**	**115**		**Sn**	**09 39 26.1**	**-3.9**
PTRF	**Port Renfrew**	**2.30**	**115**		**Pn**	**09 39 01.1**	**-1.1**
PTRF					**Sn**	**09 39 27.9**	**-2.8**
OCP	**Olym-Cheeka Pk**	**2.31**	**122**		**Pn**	**09 39 01.2**	**-1.1**
NLLB	**Nanaimo Lost L**	**2.35**	**97**		**Pn**	**09 39 01.6**	**-1.2**
B926	**Mesachie Lake**	**2.36**	**107**		**Pn**	**09 39 01.7**	**-1.3**
B926					**Sn**	**09 39 28.6**	**-3.6**
CLRS	**Cowichan Lake**	**2.36**	**107**		**Pn**	**09 39 04.6**	**+1.7**
CLRS				IAML		09 39 55.3	
	comp=E,267nm,0.8s						
CLRS	**Cowichan Lake**	**2.36**	**107**	Pn	**Pn**	**09 39 01.3**	**-1.7**
CLRS				Sn	**Sn**	**09 39 27.7**	**-4.5**
SHB	**Sechelt**	**2.39**	**88**	Pn	**Pn**	**09 39 02.0**	**-1.4**
SHB				Sn	**Sn**	**09 39 32.4**	**-0.5**
C03A	**Quillayute Air**	**2.56**	**128**	Pn	**Pn**	**09 39 07.0**	**+1.4**
C03A				IAML		09 40 27.8	
	comp=N,121nm,1.4s						
C03A				IAML		09 40 28.0	
	comp=E,178nm,1.0s						
BBB	**Bella Bella**	**2.64**	**352**		**Pn**	**09 39 06.3**	**-0.4**
BBB				Sn	**Sn**	**09 39 36.3**	**-2.6**
BBB	**Bella Bella**	**2.64**	**352**	Pn	**Pn**	**09 39 06.0**	**-0.8**
BBB				Sn	**Sn**	**09 39 36.1**	**-2.8**
SYMB	**Survey Mountai**	**2.66**	**111**	Pn	**Pn**	**09 39 06.2**	**-1.0**
GOBB	**Galiano Island**	**2.71**	**102**	Pn	**Pn**	**09 39 07.5**	**-0.3**
OBC	**Olympics--Boni**	**2.76**	**123**	Pn	**Pn**	**09 39 07.0**	**-1.5**
BIB	**Bowen Island**	**2.77**	**92**	Pn	**Pn**	**09 39 07.0**	**-1.5**
WPB	**Watts Point**	**2.82**	**87**	Pn	**Pn**	**09 39 08.3**	**-0.9**
B010	**North Saanich**	**2.84**	**107**	Pn	**Pn**	**09 39 09.4**	**-0.2**
B009	**North Saanich**	**2.84**	**107**	Pn	**Pn**	**09 39 09.3**	**-0.3**
PGC	**Sidney**	**2.84**	**107**		**Pn**	**09 39 10.4**	**+0.8**
PGC				IAML		09 40 12.2	
	comp=E,173nm,0.9s						
PGC				IAML		09 40 16.2	
	comp=N,187nm,1.2s						
PGC	**Sidney**	**2.84**	**107**	Pn	**Pn**	**09 39 08.8**	**-0.7**
SNB	**Saturna Island**	**2.98**	**104**	Pn	**Pn**	**09 39 11.8**	**+0.3**
VGZ	**Gonzales**	**3.01**	**111**	Pn	**Pn**	**09 39 11.4**	**-0.5**
B04A	**Port Angeles**	**3.07**	**118**	Pn	**Pn**	**09 39 14.8**	**+2.1**
B04A				IAML		09 40 37.0	
	comp=E,92nm,0.9s						
OSD	**Olympics--Snow**	**3.09**	**123**	Pn	**Pn**	**09 39 13.1**	**-0.1**
MCW	**Mount Constitu**	**3.22**	**104**	Pn	**Pn**	**09 39 14.4**	**-0.4**
HNBB	**Haney**	**3.26**	**93**	Pn	**Pn**	**09 39 14.2**	**-1.1**
NLWA	**Neilton Lookou**	**3.28**	**130**		**Pn**	**09 39 16.8**	**+1.1**
WISH	**Wishkah**	**3.52**	**133**		**Pn**	**09 39 21.3**	**+2.5**
WISH	**Wishkah**	**3.52**	**133**	Pn	**Pn**	**09 39 10.7**	**-0.1**
WISH				Sn	**Sn**	**09 39 56.8**	**-3.8**
BUTB	**Butedale**	**3.54**	**351**	Pn	**Pn**	**09 39 18.7**	**-0.5**
BUTB				Sn	**Sn**	**09 39 58.8**	**-2.6**
GNW	**Green Mountain**	**3.72**	**121**		**Pn**	**09 39 24.1**	**+2.4**
GNW				IAML		09 40 46.9	
	comp=N,47nm,1.2s						
GNW				IAML		09 40 53.6	
	comp=E,43nm,1.4s						
GNW	**Green Mountain**	**3.72**	**121**	Pn	**Pn**	**09 39 21.5**	**-0.2**
MBW	**Mount Baker**	**3.79**	**100**	Pn	**Pn**	**09 39 22.6**	**-0.2**
LLLB	**Lillooet**	**3.79**	**72**	Pn	**Pn**	**09 39 22.2**	**-0.4**
GRIB	**Gribbell Islan**	**3.90**	**346**	Pn	**Pn**	**09 39 23.5**	**-0.6**
GRIB	**Gribbell Islan**	**3.90**	**346**	Sn	**Sn**	**09 40 07.1**	**-3.0**
CPW	**Capitol Peak**	**3.93**	**130**	Pn	**Pn**	**09 39 23.8**	**-0.7**
JCW	**Jim Creek**	**3.95**	**108**	Pn	**Pn**	**09 39 24.8**	**-0.1**
BNB	**Barry Inlet**	**4.01**	**320**	Pn	**Pn**	**09 39 24.9**	**-0.7**
BAIB	**Barry Inlet**	**4.01**	**320**	Pn	**Pn**	**09 39 25.0**	**-0.7**
BAIB	**Barry Inlet**	**4.01**	**320**	Sn	**Sn**	**09 40 09.1**	**-3.8**
RADR	**Rader Ridge**	**4.03**	**140**	Pn	**Pn**	**09 39 26.6**	**+0.6**
RADR				IAML		09 40 40.5	
	comp=E,36nm,2.2s						
E03A	**Lebam**	**4.04**	**137**	Pn	**Pn**	**09 39 27.1**	**+1.1**
E03A	**Lebam**	**4.04**	**137**	Pn	**Pn**	**09 39 25.2**	**-0.7**
E03A	**Lebam**	**4.04**	**137**	Sn	**Sn**	**09 40 08.8**	**-4.6**
RPW	**Rockport**	**4.13**	**104**	Pn	**Pn**	**09 39 27.2**	**-0.1**
HWKB	**Hawksbury Isla**	**4.15**	**347**	Pn	**Pn**	**09 39 27.3**	**-0.3**
HWKB	**Hawksbury Isla**	**4.15**	**347**	Sn	**Sn**	**09 40 13.4**	**-3.0**
BNAB	**Bonilla**	**4.37**	**335**	Sn	**Sn**	**09 40 17.9**	**-3.8**
D05A	**Enumclaw**	**4.41**	**121**	Pn	**Pn**	**09 39 33.4**	**+2.4**
D05A				IAML		09 41 14.7	
	comp=N,40nm,1.3s						
D05A				IAML		09 41 33.1	
	comp=E,44nm,1.4s						
D05A	**Enumclaw**	**4.41**	**121**	Sn	**Sn**	**09 40 18.9**	**-3.6**
HG1B	**Mitchell Dam**	**4.43**	**321**	Pn	**Pn**	**09 39 30.5**	**-0.8**
HG1B	**Mitchell Dam**	**4.43**	**321**	Sn	**Sn**	**09 40 18.9**	**-4.1**
MBLB	**Minette Bay Lo**	**4.52**	**352**	Sn	**Sn**	**09 40 23.1**	**-2.1**
F03A	**Seaside**	**4.53**	**142**	Pn	**Pn**	**09 39 34.1**	**+1.4**
F03A				IAML		09 40 25.6	
	comp=N,39nm,0.5s						
F03A				IAML		09 41 54.4	
	comp=E,28nm,2.2s						
GRNB	**Grenville Isla**	**4.53**	**342**	Pn	**Pn**	**09 39 32.9**	**0.0**
GRNB				IAML		09 41 03.5	
	comp=N,57nm,0.9s						
GRNB	**Grenville Isla**	**4.53**	**342**	Pn	**Pn**	**09 39 32.6**	**-0.2**
GRNB	**Grenville Isla**	**4.53**	**342**	Sn	**Sn**	**09 40 22.5**	**-3.2**
KITB	**Kitimat**	**4.56**	**352**	Pn	**Pn**	**09 39 33.5**	**+0.3**
KITB	**Kitimat**	**4.56**	**352**	Sn	**Sn**	**09 40 24.5**	**-1.8**
LON	**Longmire**	**4.76**	**124**		**Pn**	**09 39 38.0**	**+1.9**
LON	**Longmire**	**4.76**	**124**	Pn	**Pn**	**09 39 35.3**	**-0.8**
LON	**Longmire**	**4.76**	**124**	Sn	**Sn**	**09 40 28.3**	**-3.2**
DIB	**Dawson Inlet,**	**4.77**	**322**	Pn	**Pn**	**09 39 37.6**	**+1.6**
DIB				IAML		09 41 08.6	
	comp=E,22nm,1.0s						
DIB	**Dawson Inlet,**	**4.77**	**322**	Pn	**Pn**	**09 39 35.4**	**-0.6**
F04A	**Amboy**	**5.02**	**135**		**Pn**	**09 39 41.3**	**+1.8**
F04A				IAML		09 40 39.0	
	comp=N,20nm,1.3s						
F04A				IAML		09 40 43.1	
	comp=E,19nm,0.9s						
RUBB	**Prince Rupert**	**5.04**	**342**	Pn	**Pn**	**09 39 37.1**	**-2.6**
RUBB				IAML		09 41 14.2	
	comp=N,21nm,1.0s						
RUBB				IAML		09 41 27.6	
	comp=E,32nm,1.3s						
RUBB	**Prince Rupert**	**5.04**	**342**	Pn	**Pn**	**09 39 40.0**	**+0.2**
RUBB	**Prince Rupert**	**5.04**	**342**	Sn	**Sn**	**09 40 35.4**	**-2.8**
LTY	**Liberty**	**5.13**	**114**		**Pn**	**09 39 42.0**	**+0.9**
LTY				IAML		09 40 41.2	
	comp=E,28nm,1.5s						
LTY				IAML		09 41 31.9	
	comp=N,22nm,1.3s						
LTY	**Liberty**	**5.13**	**114**	Pn	**Pn**	**09 39 40.7**	**-0.4**
LTY	**Liberty**	**5.13**	**114**	Sn	**Sn**	**09 40 40.0**	**-0.5**
PNT	**Penticton**	**5.18**	**90**	Pn	**Pn**	**09 39 41.8**	**+0.1**
G03D	**McMinnville, O**	**5.24**	**145**		**Pn**	**09 39 44.8**	**+2.2**
G03D				IAML		09 42 31.7	
	comp=N,28nm,0.2s						
FSJB	**Fort St James**	**5.29**	**21**	Pn	**Pn**	**09 39 43.7**	**+0.5**
NDB	**Naden**	**5.52**	**325**	Pn	**Pn**	**09 39 46.3**	**-0.1**
B08A	**Colville Reser**	**5.54**	**100**	Pn	**Pn**	**09 39 44.6**	**-2.1**
B08A	**Colville Reser**	**5.54**	**100**	Pn	**Pn**	**09 39 46.5**	**-0.2**
MXC	**Moxie City**	**5.71**	**119**	Pn	**Pn**	**09 39 51.8**	**+2.8**
COR	**Corvallis**	**5.77**	**148**	Pn	**Pn**	**09 39 52.5**	**+2.7**
HOOD	**Mount Hood Mea**	**5.84**	**135**		**Pn**	**09 39 52.3**	**+1.5**
E07A	**Sunnyside**	**5.97**	**117**	Pn	**Pn**	**09 39 55.2**	**+2.6**
H04D	**Lebanon**	**6.03**	**145**		**Pn**	**09 39 57.6**	**+4.3**
H04A	**Detroit Lake**	**6.11**	**141**	Pn	**Pn**	**09 39 57.0**	**+2.6**
BUCK	**Buck Mountain**	**6.

G40A	**Rib Lake**	**25.45**	**85**	P	**P**	**09 43 52.8 +0.7**
T35A	**Sooner Cattle**	**25.70**	**108**	P	**P**	**09 43 55.8 +1.3**
SN07	**Snyder 07**	**25.72**	**120**	P	**P**	**09 43 56.5 +1.8**
SN07				IAmb	IAmb	09 44 03.6
	comp=Z,3.1nm,0.7s					
COWI	**Conover**	**25.82**	**83**	P	**P**	**09 43 56.2 +0.8**

*BJI **06** 09:42:09.2±0.0,24.7′78N×121.7′85E,h68km,mb4.2/28, mB4.4/11,ML4.1/9*
*NEIC **06** 09:42:09.9±1.7,24.7′68N±0.7′04×121.7′89E±0.7′04,h83km±4km, mb4.4/157,Error ellipse: s-maj=6.1km s-min=5.5km az=170.0*
*JMA **06** 09:42:10.0±0.2,24.7′70N±0.7′6×121.7′9E±0.7′6,h83km±2km, MD3.8/19,MV4.1/19,TAIWAN REGION*
*ASIES **06** 09:42:10.1,24.7′70N×121.7′87E,h82km,ML5.0,Mw4.2, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}0.33; $M_{\theta\theta}$0.51; $M_{\phi\phi}$-0.84; $M_{r\theta}$1.28; $M_{\theta\phi}$0.05; $M_{\phi r}$-2.43; Fault plane solution: M_o2.84042×10^{22} NP1: ϕ_s151.62000°,δ85.38000°,λ79.21000°. NP2:ϕ_s38.71000°, δ11.72000°,λ156.66000°. Principal axes: T Plg48.5270°, Azm50.0900°; N Plg10.7490°, Azm152.4920°; P Plg39.4540°, Azm251.4810°;*
*TAP **06** 09:42:10.1,24.7′70N×121.7′87E,h82km,ML5.0,B*
*NIED **06** 09:42:10.0,24.7′65N×121.7′86E,h83km,MW4.4,Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.41; $M_{\theta\theta}$3.15; $M_{\phi\phi}$-1.74; $M_{r\theta}$2.54; $M_{\theta\phi}$-0.46; $M_{\phi r}$-1.76; Fault plane solution: M_o4.09000×10^{15} NP1: ϕ_s306.00000°,δ77.00000°,λ-59.00000°. NP2:ϕ_s56.00000°, δ33.00000°,λ-156.00000°.*
*IDC **06** 09:42:11.7±2.5,24.7′76N×122.7′06E,h107km±23km, mb3.8/20,mbtmp4.1/22,MS3.0/6 Error ellipse: s-maj=14.7km s-min=12.2km az=61.0*
ISC 06 09:42:10.2±0.5,**24.7′3N**±0.7′02×**121.7′87E**±0.7′02,**h88**km±3km, **n417**,σ0**98**/601,**mb4.3**/97,**52C-17D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILA	**Ilan**	**0.12**	**289**	*i* P	**Pn**	**09 42 22.9**	**+0.3**
	baz=311						
ILA				*i* S	**Sn**	**09 42 31.9**	**-0.1**
	baz=311						
TWC	**Suao**	**0.12**	**190**	⇓*i* P	**Pn**	**09 42 22.6**	**-0.1**
	baz=182						
TWC				*i* S	**Sn**	**09 42 31.3**	**-0.7**
	baz=182						
EGS		**0.13**	**25**	⇓*i* P	**Pn**	**09 42 22.3**	**-0.4**
	baz=39						
EGS				S	**Sn**	**09 42 31.0**	**-1.0**
	baz=39						
NTC	**Toucheng**	**0.13**	**344**	P	**Pn**	**09 42 22.6**	**-0.1**
	baz=360						
NTC				S	**Sn**	**09 42 31.4**	**-0.6**
	baz=360						
ESAO	**Su ao**	**0.15**	**189**	P	**Pn**	**09 42 22.8**	**0.0**
	baz=187						
ESAO				S	**Sn**	**09 42 31.6**	**-0.5**
	baz=187						
NDS	**Dongshan**	**0.17**	**237**	⇑P	**Pn**	**09 42 23.0**	**+0.1**
	baz=250						
NDS				S	**Sn**	**09 42 32.1**	**-0.1**
	baz=250						
TWE	**Neicheng**	**0.18**	**268**	⇑*i* P	**Pn**	**09 42 22.9**	**0.0**
	baz=283						
TWE				*i* S	**Sn**	**09 42 32.1**	**-0.1**
	baz=283						
TIPB	**Shuangxi**	**0.25**	**350**	⇓P	**Pn**	**09 42 22.9**	**-0.3**
	baz=354						
TIPB				S	**Sn**	**09 42 31.9**	**-1.0**
	baz=354						
FUSB	**Fushanzhiwuyua**	**0.26**	**277**	⇑P	**Pn**	**09 42 23.1**	**-0.2**
	baz=283						
FUSB				S	**Sn**	**09 42 32.2**	**-0.8**
	baz=283						
ENTT	**Nioudou**	**0.29**	**253**	⇑*i* P	**Pn**	**09 42 23.3**	**0.0**
	baz=256						
ENTT				*i* S	**Sn**	**09 42 33.1**	**-0.1**
	baz=256						
EWUT	**Wuta**	**0.29**	**197**	⇑P	**Pn**	**09 42 23.2**	**-0.2**
	baz=191						
EWUT				S	**Sn**	**09 42 32.7**	**-0.4**
	baz=191						
TWB1	**Santiao Chiao**	**0.30**	**21**	⇓*i* P	**Pn**	**09 42 23.0**	**-0.4**
	baz=26						
TWB1				*i* S	**Sn**	**09 42 32.0**	**-1.2**
	baz=26						
ENA	**Nanau**	**0.32**	**202**	⇑*i* P	**Pn**	**09 42 23.3**	**-0.2**
	baz=196						
ENA				*i* S	**Sn**	**09 42 33.2**	**-0.1**
	baz=196						
NWLT	**Wulai**	**0.34**	**279**	⇑P	**Pn**	**09 42 23.2**	**-0.5**
	baz=283						
NWLT				S	**Sn**	**09 42 32.6**	**-1.0**
	baz=283						
NDT	**Datong Townshi**	**0.35**	**249**	⇑P	**Pn**	**09 42 23.5**	**-0.2**
	baz=262						
NDT				S	**Sn**	**09 42 33.0**	**-0.7**
	baz=262						
NWF	**Wu-fen Shan**	**0.35**	**347**	⇓*i* P	**Pn**	**09 42 23.5**	**-0.3**
	baz=356						
NWF				*i* S	**Sn**	**09 42 33.0**	**-0.9**
	baz=356						
WFSB	**Wu-fen Shan**	**0.35**	**347**	⇓P	**Pn**	**09 42 23.5**	**-0.2**
	baz=355						
WFSB				S	**Sn**	**09 42 33.0**	**-0.7**
	baz=355						
TWA	**Mucha**	**0.36**	**314**	⇑*i* P	**Pn**	**09 42 23.5**	**-0.3**
	baz=322						
TWA				*i* S	**Sn**	**09 42 33.4**	**-0.5**
	baz=322						
SXI1	**Grass Mountain**	**0.37**	**1**	⇓P	**Pn**	**09 42 23.3**	**-0.6**
	baz=2.0						
SXI1				S	**Sn**	**09 42 32.9**	**-1.1**
	baz=2.0						
LATG	**Datong**	**0.37**	**239**	⇑P	**Pn**	**09 42 23.8**	**-0.1**
	baz=253						
LATG				S	**Sn**	**09 42 34.1**	**0.0**
	baz=253						
NHDH	**Xindian Distri**	**0.39**	**307**	⇑P	**Pn**	**09 42 23.7**	**-0.2**
	baz=304						
NHDH				S	**Sn**	**09 42 33.5**	**-0.7**
	baz=304						
EAHA	**Aohua**	**0.41**	**197**	⇑P	**Pn**	**09 42 23.5**	**-0.6**
	baz=203						
EAHA				*e*S	**Sn**	**09 42 35.7**	**+1.3**
	baz=203						
NHY	**Taipei**	**0.41**	**319**	P	**Pn**	**09 42 24.0**	**-0.1**
	baz=328						
NHY				S	**Sn**	**09 42 34.4**	**0.0**
	baz=328						
TATO	**Taipei**	**0.43**	**306**		**Pn**	**09 42 23.9**	**-0.3**
TATO				Sn	**Sn**	**09 42 33.9**	**-0.7**
TATO	**Taipei**	**0.43**	**306**	P	**Pn**	**09 42 23.8**	**-0.3**
TATO	**Taipei**	**0.43**	**306**	⇑P	**Pn**	**09 42 23.8**	**-0.3**
	baz=302						
TATO				S	**Sn**	**09 42 33.9**	**-0.7**
	baz=302						
EHP	**Heping Village**	**0.43**	**196**	P	**Pn**	**09 42 24.0**	**-0.3**
	baz=201						
EHP				S	**Sn**	**09 42 35.9**	**+1.2**
	baz=201						
TNOU	**National Taiwa**	**0.43**	**348**	⇓P	**Pn**	**09 42 23.8**	**-0.4**
	baz=358						
TNOU				S	**Sn**	**09 42 33.7**	**-0.9**
	baz=358						
EOS2	**EOS2**	**0.45**	**133**	*e*P	**Pn**	**09 42 24.2**	**0.0**
	baz=129						
YHNB	**Yeheng**	**0.45**	**263**		**Pn**	**09 42 23.9**	**-0.6**
YHNB				Sn	**Sn**	**09 42 33.5**	**-1.5**
YHNB	**Yeheng**	**0.45**	**263**	P	**Pn**	**09 42 23.6**	**-0.9**
YHNB	**Yeheng**	**0.45**	**263**	⇑P	**Pn**	**09 42 23.9**	**-0.6**
	baz=266						
YHNB				S	**Sn**	**09 42 33.6**	**-1.5**
	baz=266						
TAP	**Taipei**	**0.46**	**313**	⇑*i* P	**Pn**	**09 42 24.1**	**-0.3**
	baz=311						
TAP				*i* S	**Sn**	**09 42 34.4**	**-0.5**
	baz=311						
NSK	**Sanguang**	**0.47**	**264**	⇑*i* P	**Pn**	**09 42 23.9**	**-0.6**
	baz=266						
NSK				*i* S	**Sn**	**09 42 33.7**	**-1.5**
	baz=266						
BACT	**New Taipei Cit**	**0.47**	**305**	P	**Pn**	**09 42 24.4**	**-0.1**
	baz=304						
BACT				S	**Sn**	**09 42 34.5**	**-0.6**
	baz=304						
YM01	**YM01**	**0.50**	**327**	⇓P	**Pn**	**09 42 24.5**	**-0.2**
	baz=334						
YM01				S	**Sn**	**09 42 35.0**	**-0.6**
	baz=334						
NWRT	**Kuosheng**	**0.51**	**338**	P	**Pn**	**09 42 24.5**	**-0.3**
	baz=347						
NWRT				S	**Sn**	**09 42 34.9**	**-0.8**
	baz=347						
YM08	**YM08**	**0.53**	**331**	⇓P	**Pn**	**09 42 24.5**	**-0.5**
	baz=338						
YM08				S	**Sn**	**09 42 34.7**	**-1.3**
	baz=338						
NNSH	**Datong**	**0.53**	**236**	⇑P	**Pn**	**09 42 24.9**	**-0.2**
	baz=244						
NNSH				S	**Sn**	**09 42 35.3**	**-1.0**
	baz=244						
NNSB	**Datong**	**0.54**	**236**	⇑P	**Pn**	**09 42 24.9**	**-0.2**
	baz=243						
NNSB				S	**Sn**	**09 42 35.8**	**-0.4**
	baz=243						
NNS	**Nan Shan**	**0.54**	**238**	⇑*i* P	**Pn**	**09 42 24.9**	**-0.2**
	baz=244						
NNS				*i* S	**Sn**	**09 42 35.7**	**-0.6**
	baz=244						
TWS1	**Kuangyinshan**	**0.56**	**312**	⇑*i* P	**Pn**	**09 42 25.2**	**+0.1**
	baz=304						
TWS1				*i* S	**Sn**	**09 42 36.4**	**+0.1**
	baz=304						
ANP	**Anpu**	**0.56**	**325**	⇑*i* P	**Pn**	**09 42 24.9**	**-0.4**
	baz=328						
ANP				*i* S	**Sn**	**09 42 35.8**	**-0.8**
	baz=328						
NTST	**Danshui**	**0.58**	**319**	⇑P	**Pn**	**09 42 25.4**	**0.0**
	baz=326						
NTST				S	**Sn**	**09 42 36.6**	**-0.1**
	baz=326						
NTY	**Taoyuan**	**0.59**	**298**	P	**Pn**	**09 42 25.4**	**-0.1**
	baz=301						
NTY				S	**Sn**	**09 42 37.0**	**+0.2**
	baz=301						
EOS3	**EOS3**	**0.60**	**137**	⇑*e*P	**Pn**	**09 42 25.6**	**+0.3**
	baz=132						
TWY	**Chenhua**	**0.60**	**336**	*i* P	**Pn**	**09 42 25.5**	**-0.1**
	baz=345						
TWY				*i* S	**Sn**	**09 42 36.8**	**-0.2**
	baz=345						
NACB	**Ninganchiao**	**0.60**	**205**		**Pn**	**09 42 24.6**	**-1.1**
NACB				Sn	**Sn**	**09 42 35.2**	**-1.9**
NACB	**Ninganchiao**	**0.60**	**205**	P	**Pn**	**09 42 24.5**	**-1.1**
NACB	**Ninganchiao**	**0.60**	**205**	⇑P	**Pn**	**09 42 24.6**	**-1.1**
	baz=215						
NACB				S	**Sn**	**09 42 36.1**	**-1.0**
	baz=215						
ETL	**Fush Village**	**0.61**	**202**	P	**Pn**	**09 42 24.7**	**-1.0**
	baz=211						
ETL				S	**Sn**	**09 42 36.4**	**-0.9**
	baz=211						
NSM	**Shimen**	**0.61**	**335**	P	**Pn**	**09 42 25.9**	**+0.1**
	baz=344						
NSM				S	**Sn**	**09 42 37.5**	**+0.3**
	baz=344						
ETLH	**Xiulin Townshi**	**0.63**	**214**	P	**Pn**	**09 42 25.3**	**-0.7**
	baz=223						
ETLH				S	**Sn**	**09 42 36.3**	**-1.4**
	baz=223						
NCU	**National Centr**	**0.67**	**291**	⇑P	**Pn**	**09 42 26.1**	**-0.1**
	baz=285						
NCU				S	**Sn**	**09 42 37.7**	**-0.4**
	baz=285						
NCUH	**Zhongli**	**0.67**	**291**	⇑P	**Pn**	**09 42 26.1**	**-0.1**
	baz=286						
NCUH				S	**Sn**	**09 42 37.5**	**-0.7**
	baz=286						
TWD	**Chiawan**	**0.69**	**201**	⇑*i* P	**Pn**	**09 42 25.3**	**-1.1**
	baz=209						
TWD				*i* S	**Sn**	**09 42 37.4**	**-1.1**
	baz=209						
NFF	**Wufeng Townshi**	**0.69**	**262**	P	**Pn**	**09 42 26.0**	**-0.5**
	baz=273						
NFF				S	**Sn**	**09 42 37.3**	**-1.4**
	baz=273						
NJD	**Zhudong**	**0.71**	**271**	P	**Pn**	**09 42 26.6**	**0.0**
	baz=273						
NJD				S	**Sn**	**09 42 38.2**	**-0.7**
	baz=273						
EOS4	**EOS4**	**0.73**	**146**	*e*P	**Pn**	**09 42 26.0**	**-0.3**
	baz=144						
EOS4				*e*S	**Sn**	**09 42 37.8**	**-0.7**
	baz=144						
FUSS	**Fushou**	**0.74**	**230**	⇑P	**Pn**	**09 42 27.4**	**+0.1**
	baz=224						
FUSS				S	**Sn**	**09 42 39.4**	**-0.6**
	baz=224						
LIOB	**Emei**	**0.78**	**264**	⇑P	**Pn**	**09 42 27.1**	**-0.2**
	baz=266						
LIOB				S	**Sn**	**09 42 39.2**	**-1.0**
	baz=266						
HWA	**Hwalien**	**0.79**	**198**	*i* P	**Pn**	**09 42 26.8**	**-0.6**
	baz=207						
HWA				*e*S	**Sn**	**09 42 40.1**	**0.0**
	baz=207						
TWT	**Tachien**	**0.79**	**233**	⇑*i* P	**Pn**	**09 42 28.0**	**+0.4**
	baz=229						
TWT				*i* S	**Sn**	**09 42 40.5**	**-0.1**
	baz=229						
NSTT	**Nanjuang**	**0.80**	**263**	⇑*i* P	**Pn**	**09 42 27.1**	**-0.4**
	baz=264						
NSTT				*i* S	**Sn**	**09 42 38.9**	**-1.6**
	baz=264						
NHW	**Xinwu Township**	**0.80**	**291**	⇑*i* P	**Pn**	**09 42 27.4**	**-0.1**
	baz=292						
NHW				S	**Sn**	**09 42 40.0**	**-0.5**
	baz=292						
WHF	**Hehuan Shan**	**0.80**	**224**	⇓*i* P	**Pn**	**09 42 27.8**	**-0.2**
	baz=218						
WHF				*i* S	**Sn**	**09 42 40.8**	**-0.4**
	baz=218						
TDCB	**Techi**	**0.80**	**234**	⇑P	**Pn**	**09 42 28.0**	**+0.3**
	baz=229						
TDCB				S	**Sn**	**09 42 40.5**	**-0.3**
	baz=229						
SBCB	**Hsinchu**	**0.81**	**275**	⇑P	**Pn**	**09 42 27.5**	**-0.1**
	baz=276						
SBCB				S	**Sn**	**09 42 39.8**	**-0.8**
	baz=276						
LXIB	**Xiulin Townshi**	**0.82**	**211**	⇑P	**Pn**	**09 42 26.8**	**-1.1**
	baz=201						
LXIB				S	**Sn**	**09 42 39.9**	**-1.2**
	baz=201						
HSN	**Hsinchu**	**0.82**	**275**	⇑*i* P	**Pn**	**09 42 27.2**	**-0.5**
	baz=279						
HSN				*i* S	**Sn**	**09 42 39.5**	**-1.4**
	baz=279						
ETM	**Tongmen**	**0.83**	**205**	P	**Pn**	**09 42 26.6**	**-1.4**
	baz=204						
ETM				S	**Sn**	**09 42 40.3**	**-0.9**
	baz=204						
NJN	**Zhunan**	**0.91**	**268**	P	**Pn**	**09 42 28.6**	**-0.2**
	baz=269						
NJN				S	**Sn**	**09 42 42.1**	**-0.5**
	baz=269						
PCYT	**Pengchaiyu**	**0.92**	**11**	⇓*i* P	**Pn**	**09 42 28.7**	**-0.1**
	baz=6.0						
PCYT				*e*S	**Sn**	**09 42 44.4**	**+1.6**
	baz=6.0						
CHGB	**Renai**	**0.92**	**224**	⇑P	**Pn**	**09 42 29.2**	**+0.1**
	baz=217						
CHGB				S	**Sn**	**09 42 42.7**	**-0.5**
	baz=217						
WHP	**Taichung City**	**0.95**	**242**	⇑P	**Pn**	**09 42 29.6**	**+0.3**
	baz=251						
WHP				S	**Sn**	**09 42 43.5**	**-0.1**
	baz=251						
SHUL	**Shoufeng**	**0.98**	**197**	⇑P	**Pn**	**09 42 28.9**	**-0.6**
	baz=186						
SHUL				S	**Sn**	**09 42 43.9**	**0.0**
	baz=186						
ESL	**Shilin**	**0.99**	**204**	⇑*i* P	**Pn**	**09 42 28.1**	**-1.6**
	baz=202						
ESL				*i* S	**Sn**	**09 42 42.6**	**-1.7**
	baz=202						
OWD	**Renai**	**1.00**	**220**	⇑P	**Pn**	**09 42 29.7**	**-0.2**
	baz=215						
OWD				*e*S	**Sn**	**09 42 45.1**	**+0.5**
	baz=215						
NMLH	**Miaoli**	**1.00**	**259**	P	**Pn**	**09 42 29.8**	**0.0**
	baz=260						
NMLH				S	**Sn**	**09 42 43.9**	**-0.5**
	baz=260						
JYNG	**Yonagunijimaku**	**1.02**	**105**	P	**Pn**	**09 42 29.6**	**-0.3**
JYNG				*e*S	**Sn**	**09 42 43.8**	**-0.9**
JYNG	**Yonagunijimaku**	**1.02**	**105**	A	A	09 42 29.6	
	comp=E,10.0nm,0.6s,comp=N,9.0nm,0.9s						
NSY	**Sanyi**	**1.06**	**253**	⇑*i* P	**Pn**	**09 42 30.6**	**+0.1**
	baz=253						
NSY				*i* S	**Sn**	**09 42 45.1**	**-0.5**
	baz=253						
TWQ1	**Liyutan**	**1.07**	**250**	⇑*i* P	**Pn**	**09 42 30.4**	**-0.1**
	baz=250						
TWQ1				*i* S	**Sn**	**09 42 45.0**	**-0.9**
	baz=250						
YOJ	**Yonaguni jima**	**1.07**	**104**		**Pn**	**09 42 30.0**	**-0.5**
YOJ				Sn	**Sn**	**09 42 45.2**	**-0.7**
YOJ	**Yonaguni jima**	**1.07**	**104**	P	**Pn**	**09 42 29.8**	**-0.7**
YOJ	**Yonaguni jima**	**1.07**	**104**	⇓P	**Pn**	**09 42 30.1**	**-0.3**
	baz=102						
YOJ				S	**Sn**	**09 42 44.6**	**-1.2**
	baz=102						
YOJ	**Yonaguni jima**	**1.07**	**104**	P	**Pn**	**09 42 30.2**	**-0.3**
YOJ				*e*S	**Sn**	**09 42 44.7**	**-1.2**
YOJ	**Yonaguni jima**	**1.07**	**104**	A	A	09 42 30.2	
	comp=E,5.0nm,1.1s,comp=N,5.0nm,2.1s						
WPL	**Puli Township**	**1.10**	**230**	P	**Pn**	**09 42 31.8**	**+0.9**
	baz=238						
WPL				S	**Sn**	**09 42 47.1**	**+0.7**
	baz=238						
WARBT	**Fenglin Townsh**	**1.10**	**204**	⇑P	**Pn**	**09 42 29.1**	**-1.8**
	baz=200						
WARBT				S	**Sn**	**09 42 44.9**	**-1.6**
	baz=200						
WCS	**Beigang Elemen**	**1.10**	**233**	⇑P	**Pn**	**09 42 31.2**	**+0.3**
	baz=241						
WCS				S	**Sn**	**09 42 46.6**	**+0.2**
	baz=241						
DPDB	**Guoxing**	**1.10**	**231**	P	**Pn**	**09 42 31.2**	**+0.1**
	baz=240						
DPDB				S	**Sn**	**09 42 46.9**	**+0.3**
	baz=240						
EGFH	**Guangfu**	**1.13**	**201**	P	**Pn**	**09 42 29.9**	**-1.3**
	baz=204						
EGFH				S	**Sn**	**09 42 45.8**	**-1.3**
	baz=204						
VWDT	**VWDT**	**1.18**	**215**	⇑P	**Pn**	**09 42 31.8**	**0.0**
	baz=209						
VWDT				S	**Sn**	**09 42 48.3**	**+0.2**
	baz=209						
WDJ	**Dajia District**	**1.18**	**252**	⇑P	**Pn**	**09 42 32.0**	**+0.1**
	baz=252						
WDJ				S	**Sn**	**09 42 47.4**	**-0.8**
	baz=252						
SMLT	**Sun Moon Lake**	**1.22**	**227**	⇑*i* P	**Pn**	**09 42 32.8**	**+0.3**
	baz=235						
SMLT				*i* S	**Sn**	**09 42 50.1**	**+0.9**
	baz=235						
TCU	**Taichung**	**1.23**	**242**	*i* P	**Pn**	**09 42 32.7**	**+0.2**
	baz=251						
TCU				*i* S	**Sn**	**09 42 48.7**	**-0.6**
	baz=251						
TYC	**Yuchr**	**1.24**	**229**	⇑*i* P	**Pn**	**09 42 32.7**	**+0.2**
	baz=236						
TYC				*i* S	**Sn**	**09 42 49.1**	**-0.3**
	baz=236						
SSLB	**Suanglung**	**1.25**	**222**		**Pn**	**09 42 33.0**	**+0.2**
SSLB				Sn	**Sn**	**09 42 49.9**	**0.0**
SSLB	**Suanglung**	**1.25**	**222**	P	**Pn**	**09 42 32.8**	**0.0**
SSLB	**Suanglung**	**1.25**	**222**	⇑P	**Pn**	**09 42 33.0**	**+0.2**
	baz=232						
SSLB				S	**Sn**	**09 42 50.2**	**+0.4**
	baz=232						
WWF	**Wufeng**	**1.27**	**238**	P	**Pn**	**09 42 33.1**	**+0.2**
	baz=246						
WWF				S	**Sn**	**09 42 50.3**	**+0.2**
	baz=246						
HGSD	**Ruisui**	**1.29**	**198**	P	**Pn**	**09 42 32.4**	**-0.9**
	baz=204						
HGSD				S	**Sn**	**09 42 50.0**	**-0.6**
	baz=204						
EHY	**Hungye**	**1.31**	**203**	⇑*i* P	**Pn**	**09 42 31.6**	**-2.0**
	baz=201						
EHY				S	**Sn**	**09 42 49.8**	**-1.3**
	baz=201						
EHYH	**Wanrong**	**1.32**	**201**	P	**Pn**	**09 42 32.2**	**-1.4**
	baz=200						
EHYH				S	**Sn**	**09 42 49.7**	**-1.5**
	baz=200						
WCHH	**Zhanghua**	**1.36**	**242**	P	**Pn**	**09 42 34.0**	**-0.1**
	baz=250						
WCHH				S	**Sn**	**09 42 51.7**	**-0.3**
	baz=250						
WNT1	**Nantou City**	**1.36**	**233**	P	**Pn**	**09 42 34.4**	**+0.3**
	baz=242						
WNT1				S	**Sn**	**09 42 52.3**	**+0.2**
	baz=242						
WJS	**Zhushan**	**1.38**	**229**	P	**Pn**	**09 42 34.8**	**+0.5**
	baz=239						
WJS				S	**Sn**	**09 42 52.7**	**+0.2**
	baz=239						
WHYT	**Xinyi Township**	**1.38**	**222**	P	**Pn**	**09 42 35.3**	**+0.9**
	baz=230						
WHYT				S	**Sn**	**09 42 53.5**	**+0.8**
	baz=230						
WYL	**Yuanlin Townsh**	**1.40**	**237**	*e*P	**Pn**	**09 42 34.8**	**+0.2**
	baz=246						
WYL				*e*S	**Sn**	**09 42 52.8**	**-0.2**
	baz=246						
YULB	**Yu-li**	**1.43**	**202**		**Pn**	**09 42 33.1**	**-1.9**
YULB				Sn	**Sn**	**09 42 52.3**	**-1.3**
YULB	**Yu-li**	**1.43**	**202**	P	**Pn**	**09 42 33.3**	**-1.7**
YULB	**Yu-li**	**1.43**	**202**	P	**Pn**	**09 42 33.0**	**-1.9**
	baz=200						
YULB				*e*S	**Sn**	**09 42 51.9**	**-1.7**
	baz=200						
ECBN	**Changbin**	**1.46**	**195**	P	**Pn**	**09 42 34.7**	**-0.6**
	baz=201						
ECBN				*e*S	**Sn**	**09 42 54.2**	**-0.1**
	baz=201						
EYUL	**Yuli**	**1.46**	**200**	P	**Pn**	**09 42 34.8**	**-0.6**
	baz=204						
EYUL				*e*S	**Sn**	**09 42 53.2**	**-1.2**
	baz=204						
TWF1	**Yuli**	**1.47**	**201**	*i* P	**Pn**	**09 42 33.5**	**-1.9**
	baz=199						
TWF1				*e*S	**Sn**	**09 42 53.9**	**-0.6**
	baz=199						
ALS	**Alishan**	**1.55**	**219**	*i* P	**Pn**	**09 42 37.3**	**+0.5**
	baz=227						
ALS				*i* S	**Sn**	**09 42 58.6**	**+1.6**
	baz=227						
CHN5	**Tsauling**	**1.57**	**224**	*i* P	**Pn**	**09 42 36.9**	**+0.1**
	baz=232						
CHN5				*i* S	**Sn**	**09 42 57.6**	**+0.7**
	baz=232						
WGK	**Gukeng**	**1.58**	**229**	*i* P	**Pn**	**09 42 37.5**	**+0.6**
	baz=238						
WGK				*i* S	**Sn**	**09 42 57.9**	**+0.7**
	baz=238						
CHKH	**Chenggong**	**1.59**	**196**	P	**Pn**	**09 42 36.3**	**-0.7**
	baz=185						
CHKH				S	**Sn**	**09 42 57.5**	**+0.3**
	baz=185						
WRL	**Guolierlin Hig**	**1.59**	**239**	P	**Pn**	**09 42 36.7**	**-0.3**
	baz=238						
WRL				S	**Sn**	**09 42 57.1**	**-0.2**
	baz=238						
WDLH	**Douliu**	**1.60**	**230**	P	**Pn**	**09 42 37.1**	**+0.1**
	baz=238						
WDLH				S	**Sn**	**09 42 57.2**	**-0.3**
	baz=238						
FULB	**Fuli**	**1.61**	**199**	P	**Pn**	**09 42 37.3**	**0.0**
	baz=203						
FULB				*e*S	**Sn**	**09 42 58.1**	**+0.3**
	baz=203						
CHKT	**Chengkung**	**1.69**	**196**	*i* P	**Pn**	**09 42 37.1**	**-1.2**
	baz=194						
CHKT				*i* S	**Sn**	**09 42 58.0**	**-1.4**
	baz=194						
WTCT	**Ta-ch'eng**	**1.69**	**240**	*i* P	**Pn**	**09 42 37.9**	**-0.3**
	baz=239						
WTCT				*i* S	**Sn**	**09 42 58.7**	**-0.8**
	baz=239						
WTK	**Tuku**	**1.70**	**233**	P	**Pn**	**09 42 38.8**	**+0.3**
	baz=232						
WTK				S	**Sn**	**09 43 00.3**	**+0.4**
	baz=232						

ELDTW **Lidau** 1.72 207 *i* P Pn 09 42 38.0 -0.8
baz=197
ELDTW *i* S Sn 09 42 60.0 -0.5
baz=197
WCKO **Fanlu** 1.73 222 P Pn 09 42 39.2 +0.4
baz=221
WCKO S Sn 09 43 01.1 +0.6
baz=221
ECS **Chishang** 1.73 200 P Pn 09 42 38.5 -0.4
baz=198
ECS S Sn 09 43 01.1 +0.6
baz=198
IRIF **Iriomote-Funau** 1.74 103 P Pn 09 42 38.4 -0.4
IRIF S Sn 09 42 59.6 -1.1
IRIF **Iriomote-Funau** 1.74 103 A A 09 42 38.4
comp=E,5.0nm,8.5s,comp=N,5.0nm,0.9s
WMLT **Mailiao** 1.76 239 *e*P Pn 09 42 39.1 -0.1
baz=238
WMLT *e*S Sn 09 43 00.2 -1.0
baz=238
CHN4 **Tsaushan** 1.80 221 *e*P Pn 09 42 40.2 +0.5
baz=219
CHN4 *e*S Sn 09 43 04.4 +2.2
baz=219
CHY **Chiayi** 1.80 228 P Pn 09 42 39.9 +0.2
baz=226
CHY S Sn 09 43 02.9 +0.7
baz=226
TPUB **Ta-pu** 1.82 219 Pn 09 42 40.2 +0.2
TPUB Sn Sn 09 43 03.5 +0.9
TPUB **Ta-pu** 1.82 219 P Pn 09 42 40.4 +0.4
TPUB **Ta-pu** 1.82 219 P Pn 09 42 40.0 +0.1
baz=217
TPUB S Sn 09 43 03.5 +0.9
baz=217
EDH **Donghe** 1.82 197 P Pn 09 42 39.2 -0.8
baz=195
EDH S Sn 09 43 01.6 -1.1
baz=195
STYH **Taoyuan** 1.84 213 P Pn 09 42 41.3 +1.0
baz=222
STYH *e*S Sn 09 43 05.8 +2.6
baz=222
WSF **Szhu** 1.85 235 *i* P Pn 09 42 40.3 -0.1
baz=233
WSF *i* S Sn 09 43 03.1 -0.3
baz=233
STYT **Tauyuan** 1.86 213 *i* P Pn 09 42 41.3 +0.7
baz=222
STYT *i* S Sn 09 43 04.8 +1.2
baz=222
WTP **Ta-pu** 1.87 218 *i* P Pn 09 42 40.8 +0.1
baz=226
WTP *i* S Sn 09 43 04.9 +1.0
baz=226
HATJ **Hateruma jima** 1.89 110 P Pn 09 42 41.0 +0.2
HATJ S Sn 09 43 03.7 -0.4
WSL **Shuilin Townsh** 1.92 232 P Pn 09 42 40.9 -0.4
baz=237
WSL S Sn 09 43 05.5 +0.5
baz=237
TWK **Hsinying** 1.93 221 *i* P Pn 09 42 41.4 -0.1
baz=219
TWK *e*S Sn 09 43 07.5 +2.3
baz=219
LONT **Longtian** 1.94 201 *e*P Pn 09 42 39.4 -2.1
baz=188
LONT *e*S Sn 09 43 04.9 -0.4
baz=188
SNST **Tainan City** 1.96 220 P Pn 09 42 42.1 +0.3
baz=218
SNST S Sn 09 43 06.2 +0.3
baz=218
CHN1 **Nanshi** 1.97 219 *i* P Pn 09 42 42.0 +0.1
baz=217
CHN1 *i* S Sn 09 43 06.7 +0.7
baz=217
ICHU **Yijhu** 1.99 227 P Pn 09 42 42.2 0.0
baz=226
ICHU S Sn 09 43 07.0 +0.3
baz=226
JKRS **Kuro-shima** 2.01 104 P Pn 09 42 42.4 0.0
JKRS S Sn 09 43 06.4 -0.6
SGST **Jiashian** 2.02 216 *e*P Pn 09 42 41.6 -0.9
baz=223
SGST *i* S Sn 09 43 06.8 -0.5
baz=223
TWG **Pinlang** 2.03 201 Pn 09 42 40.9 -1.9
TWG **Pinlang** 2.03 201 *e*P Pn 09 42 40.6 -2.1
baz=189
TWG *i* S Sn 09 43 06.1 -1.6
baz=189
TWGBT **Beinan** 2.03 201 P Pn 09 42 41.0 -1.8
TWGBT **Beinan** 2.03 201 P Pn 09 42 41.1 -1.7
baz=189
TWGBT S Sn 09 43 06.0 -1.6
baz=189
CHN8 **Yiju** 2.05 228 *i* P Pn 09 42 43.0 0.0
baz=226
CHN8 *i* S Sn 09 43 08.3 +0.4
baz=226
SLGT **Liugui** 2.06 213 P Pn 09 42 43.8 +0.7
baz=222
SLGT S Sn 09 43 10.0 +1.8
baz=222
TTN **Taitung** 2.07 199 *e*P Pn 09 42 43.6 +0.3
baz=189
TTN *i* S Sn 09 43 08.1 -0.4
baz=189
JIJ **Ishigaki jima** 2.10 99 P Pn 09 42 43.1 -0.6
JIJ S Sn 09 43 07.8 -1.4
JIJ **Ishigaki jima** 2.10 99 A A 09 42 43.1
comp=E,2.0nm,3.5s,comp=N,2.0nm,1.8s
CHN3 **Shinhua** 2.15 220 P Pn 09 42 45.6 +1.4
baz=228
CHN3 *e*S Sn 09 43 13.0 +2.7
baz=228
SSHA **Shanhua** 2.15 223 *e*P Pn 09 42 44.0 -0.3
baz=221
SSHA S Sn 09 43 11.9 +1.6
baz=221
SCLT **Jiali** 2.18 225 P Pn 09 42 44.0 -0.6
baz=223
SCLT *i* S Sn 09 43 11.9 +0.9
baz=223
SHHT **Tainan City** 2.20 220 P Pn 09 42 46.2 +1.3
baz=228
SHHT S Sn 09 43 13.0 +1.5
baz=228
VWUC **VWUC** 2.22 277⇓ *e*P Pn 09 42 44.3 -0.8
baz=276
JISG **Ishigakijimahi** 2.22 93 *e*P Pn 09 42 45.1 -0.2
JISG *e*S Sn 09 43 11.7 -0.4
SCST **Cishan** 2.23 215 P Pn 09 42 45.8 +0.5
baz=223
SCST *e*S Sn 09 43 15.1 +3.0
baz=223
TAI1 **Yung-k'ang** 2.25 222 *i* S Sn 09 43 13.5 +0.7
baz=230
TSCK **Chigu Township** 2.27 226 P Pn 09 42 45.7 -0.1
baz=225
TSCK *e*S Sn 09 43 12.6 -0.5
baz=225
SSD **Sandimen** 2.27 210 *i* P Pn 09 42 46.4 +0.4
baz=207
SSD S Sn 09 43 15.6 +2.2
baz=207
ECL **Taimali** 2.28 202 *i* P Pn 09 42 44.8 -1.2
baz=191
ECL *i* S Sn 09 43 12.7 -0.7
baz=191
TSMG **Majia** 2.31 209 P Pn 09 42 47.3 +0.9
baz=206
TSMG S Sn 09 43 15.9 +1.9
baz=206
TWM1 **Shoushan** 2.31 215 *i* P Pn 09 42 47.9 +1.4
baz=213
TWM1 S Sn 09 43 17.2 +2.9
baz=213
SGLT **Jiouru** 2.36 213 *e*P Pn 09 42 49.8 +2.7
baz=210
SGLT S Sn 09 43 18.6 +3.3
baz=210
MASBT **Mashibuluo** 2.39 209 P Pn 09 42 48.2 +0.7
baz=205
MASBT *e*S Sn 09 43 18.2 +2.1
baz=205
PNG **Penghu** 2.41 242 *i* P Pn 09 42 47.2 -0.5
baz=240
PNG *i* S Sn 09 43 14.3 -2.2
baz=240
SNJT **Kaohsiung City** 2.42 216 *e*P Pn 09 42 49.8 +2.0
baz=213
SNJT *e*S Sn 09 43 19.9 +3.2
baz=213
PHUB **P'eng-hu** 2.42 241 P Pn 09 42 47.0 -0.9
baz=239
PHUB S Sn 09 43 14.2 -2.6
baz=239
WDGT **Dungji** 2.49 235 *i* P Pn 09 42 48.2 -0.6
baz=233
WDGT *i* S Sn 09 43 17.2 -1.4
baz=233
EAST **Anshuo** 2.52 202 *i* P Pn 09 42 49.5 +0.3
baz=190
EAST S Sn 09 43 18.5 -0.6
baz=190
PTMZ **Houxiangcun** 2.52 278⇓ *e*P Pn 09 42 48.3 -0.9
baz=276
TAW **Tawu** 2.52 201 *i* P Pn 09 42 49.1 -0.1
baz=190
TAW *i* S Sn 09 43 17.6 -1.6
baz=190
TAWH **Dawu Township** 2.54 201 P Pn 09 42 49.1 -0.4
baz=190
TAWH S Sn 09 43 18.1 -1.6
baz=190
WSSB **Gushan** 2.55 216 P Pn 09 42 50.4 +0.8
baz=213
WSSB S Sn 09 43 21.2 +1.4
baz=213
JTJ **Tarama** 2.58 91 P Pn 09 42 50.5 +0.5
JTJ S Sn 09 43 21.0 +0.5
SCZT **Fangliau** 2.61 206 *i* P Pn 09 42 51.3 +0.8
baz=215
SCZT S Sn 09 43 21.7 +0.4
baz=215
LYJJ **Jianjiangzhen** 2.63 314 *e*P Pn 09 42 49.9 -0.8
baz=315
LYJJ *e*S Sn 09 43 20.4 -1.4
baz=315
XPSS **Dashiqiu** 2.67 326⇓ *e*P Pn 09 42 50.5 -0.6
baz=328
XPSS *e*S Sn 09 43 21.2 -1.4
baz=328
SLIU **Shizi** 2.69 202 P Pn 09 42 52.0 +0.5
baz=198
SLIU *e*S Sn 09 43 24.1 +0.9
baz=198
LAY **Lan-yu** 2.69 186 *i* P Pn 09 42 49.6 -2.0
baz=181
LAY *i* S Sn 09 43 20.7 -2.7
baz=181
VCHM **Qimei** 2.70 236 P Pn 09 42 50.7 -0.9
baz=234
VCHM S Sn 09 43 21.6 -1.8
baz=234
LYUB **Lan-yu** 2.73 186 P Pn 09 42 49.7 -2.3
baz=183
LYUB *e*S Sn 09 43 19.9 -4.2
baz=183
HEN **Hengchun** 2.90 201 *i* P Pn 09 42 55.5 +1.1
baz=197
HEN S Sn 09 43 27.9 -0.4
baz=197
MHZQ **Yeshan** 2.91 299 *e*P Pn 09 42 53.4 -1.0
baz=298
MHZQ *e*S Sn 09 43 26.9 -1.6
baz=298
TWK1 **Hengchun** 2.94 200 *i* P Pn 09 42 55.1 +0.3
baz=196
TWK1 S Sn 09 43 28.9 -0.4
baz=196
TWKBT **Hengchun** 2.94 200 *e*P Pn 09 42 54.9 +0.1
baz=197
TWKBT *e*S Sn 09 43 29.2 0.0
baz=197
TSEB **Hengchuen, Pin** 2.95 198 *e*P Pn 09 42 56.6 +1.6
baz=195
TSEB *e*S Sn 09 43 30.6 +1.0
baz=195
QZH **Quanzhou** 2.99 275⇓ *i*P Pn 09 42 54.5 -1.0
QZH S Sn 09 43 26.5 -3.9
QZH smax smax
comp=N,810nm,0.6s
QZH smax smax
comp=N,490nm,0.4s
JIRB **Irabujima** 3.00 87 *e*P Pn 09 42 56.6 +0.9
JIRB *e*S Sn 09 43 31.1 +0.3
JIKM **Ikemajima** 3.08 86 *e*S Sn 09 43 33.0 +0.5
JMJ **Miyako jima 2** 3.11 88 P Pn 09 42 56.7 -0.5
JMJ2 **Miyako jima3** 3.14 89 *e*P Pn 09 42 58.5 +1.0
JMJ2 S Sn 09 43 34.0 -0.1
KNM **Kinmen** 3.15 265 *e*P Pn 09 42 58.5 +1.0
baz=265
KNM *e*S Sn 09 43 35.0 +0.8
baz=265
KNMB **Chin-men Tao** 3.18 266 Pn Pn 09 42 56.9 -1.2
KNMB **Chin-men Tao** 3.18 266 *e*P Pn 09 42 57.1 -1.0
baz=265
KNMB *e*S Sn 09 43 32.5 -2.6
baz=265
JOGS **Gusukube** 3.21 89 *e*P Pn 09 42 59.6 +1.1
JOGS S Sn 09 43 36.9 +1.0
AXDP **Jialang** 3.55 274 *e*P Pn 09 43 02.1 -1.0
baz=272
AXDP *e*S Sn 09 43 41.1 -2.9
baz=272
ZPLA **Ao Xicun** 3.84 259 *e*P Pn 09 43 06.4 -0.6
baz=258
ZPLA *e*S Sn 09 43 48.8 -2.3
baz=258
SXFK **Yanhouchang** 4.16 294 *e*P Pn 09 43 10.2 -1.2
baz=293
SXFK *e*S Sn 09 43 57.9 -1.1
baz=293
DSXP **Dongshan** 4.18 257 *e*P Pn 09 43 10.6 -1.1
baz=256
DSXP *e*S Sn 09 43 56.8 -2.6
baz=256
JOW **Kunigami** 6.14 69 Pn Pn 09 43 38.7 +0.4
JOW **Kunigami** 6.14 69 P Pn 09 43 38.3 0.0
comp=N,71nm,2.1s
JOW **Kunigami** 6.14 69 P Pn 09 43 38.5 +0.2
comp=N,15nm,0.2s,baz=161,slow=21,SNR=7.7
JOW S Sn 09 44 44.2 -3.0
comp=N,13nm,0.3s,baz=119,slow=26,SNR=1.3
GZH **Guangzhou** 7.97 260 P Pn 09 43 57.5 -5.8
GZH S Sn 09 45 21.8 -10
GZH pmax pmax
comp=N,50nm,0.9s
GZH smax smax
comp=N,150nm,1.0s
GZH smax smax
comp=N,85nm,1.1s
TGY **Tagaytay City** 10.61 185 LR LR 09 49 46.0
comp=N,39nm,19.2s,baz=154,slow=43
KSAR **Wonju Array Be** 13.68 21 Pn Pn 09 45 21.1 +0.8
KSRS **Korea Array** 13.70 21 P Pn 09 45 23.2 +2.7
comp=N,32nm,0.6s,baz=196,slow=12,SNR=90
KSRS LR LR 09 51 11.9
comp=N,36nm,20.1s,baz=220,slow=40
KS19 **Wonju Array Si** 13.73 20 Pn Pn 09 45 21.8 +0.8
XAN **Xi'an** 14.60 312 P Pn 09 45 32.8 +0.5
XAN pmax pmax
comp=N,6.0nm,0.8s
KMI **Kunming** 17.36 275 ⇑P P 09 46 08.7 +1.5
KMI pmax pmax
comp=N,17nm,0.5s
HHC **Hu-ho-hao-te** 18.24 334 *e*P Pn 09 46 21.9 +4.4
HHC pmax pmax
comp=N,13nm,1.1s
HHC pmax pmax
comp=N,95nm,4.0s
PZH **PanZhiHua** 18.24 280 P Pn 09 46 18.4 +0.7
PZH pmax pmax
comp=N,6.0nm,0.8s
PZH pmax pmax
comp=N,100nm,4.7s
MJAR **Matsushiro Arr** 18.31 46 P P 09 46 16.0 -1.3
comp=N,1.1nm,0.6s,baz=238,slow=10,SNR=2.8
MJAR LR LR 09 53 22.5
comp=N,51nm,21.3s,baz=214,slow=37
LZH **Lanzhou** 19.20 310 *e*P Pn 09 46 30.1 +1.1
LZH pP pP 09 46 43.1 -1.2
LZH pmax pmax
comp=N,14nm,1.4s
CN2 **Changchun** 19.25 8 P Pn 09 46 30.1 +0.7
CN2 pmax pmax
comp=N,10.0nm,0.7s
MDJ **Mudanjiang** 20.81 16 P P 09 46 44.3 -0.1
MDJ IAmb IAmb 09 46 47.5
comp=Z,7.9nm,0.6s
PHRA **Phrae** 21.04 257 P P 09 46 47.9 +0.8
USA0B **Ussuriysk Arra** 21.11 21 P P 09 46 48.4 +0.8
USRK **Ussuriysk Ar.** 21.11 21 P P 09 46 48.9 +1.3
USRK **Ussuriysk Ar.** 21.11 21 P P 09 46 48.2 +0.6
comp=Z,2.2nm,0.5s,baz=216,slow=10,SNR=10
comp=Z,2.2nm,0.5s
CHTO **Chiang Mai** 22.08 259 P P 09 46 59.2 +1.1
CMAR **Chiang Mai Arr** 22.20 258 P P 09 47 00.5 +1.1
CMAR **Chiang Mai Arr** 22.20 258 P P 09 47 01.0 +1.6
comp=Z,1.8nm,0.3s,baz=60,slow=8.7,SNR=23
CMAR LR LR 09 56 21.8
comp=Z,29nm,21.8s,baz=100,slow=38
comp=Z,1.8nm,0.3s
GTOI **Gorontalo** 23.98 177 P P 09 47 16.3 -0.3
comp=Z,5.8nm,1.0s
SBUM **Sibu** 24.03 204 P P 09 47 16.4 -0.6
SBUM IAmb IAmb 09 47 39.6
comp=Z,14nm,1.0s
KLR **Kul'dur** 25.66 15 LR LR 09 59 38.3
comp=Z,39nm,19.0s,baz=275,slow=41
HEH **HeiHe** 25.84 8 *e*P P 09 47 33.5 +0.3
GOMU **GeErMu** 25.89 303 P P 09 47 36.3 +2.0
GOMU pmax pmax
comp=Z,3.0nm,0.6s
ULN **Ulaanbaatar** 25.91 337 P P 09 47 34.0 0.0
SONM **Songino Array** 26.12 336 P P 09 47 36.1 +0.1
SONM **Songino Array** 26.12 336 P P 09 47 36.3 +0.3
comp=Z,2.2nm,0.6s,baz=154,slow=10,SNR=14
comp=Z,2.2nm,0.6s
WMQ **Urumqi** 33.74 313 *e*P P 09 48 45.8 +2.5
MK31 **Makanchi Array** 38.39 315 P P 09 49 23.5 +0.7
MKAR **Makanchi Array** 38.39 315 P P 09 49 23.2 +0.3
MKAR **Makanchi Array** 38.39 315 P P 09 49 23.5 +0.6
comp=Z,1.3nm,0.4s,baz=99,slow=9.3,SNR=34
comp=Z,1.3nm,0.4s
MAKZ **Makanchi** 38.60 315 P P 09 49 25.3 +0.7
MAKZ IAmb IAmb 09 49 25.8
comp=Z,3.0nm,0.5s
ZAA0 **Zalesovo Array** 40.13 326 P P 09 49 36.7 -0.5
ZAA0 IAmb IAmb 09 49 38.4
comp=Z,2.0nm,0.6s
ZALV **Zalesovo Beam** 40.13 326 P P 09 49 37.5 +0.3
ZALV **Zalesovo Beam** 40.13 326 P P 09 49 36.6 -0.6
comp=Z,2.5nm,0.4s,baz=118,slow=8.7,SNR=11
comp=Z,2.5nm,0.4s
KURK **Kurchatov** 42.08 319 P P 09 49 53.9 +0.7
KURBB **Kurchatov Arra** 42.10 319 P P 09 49 53.3 -0.1
comp=Z,0.6nm,0.4s,baz=116,slow=9.5,SNR=2.0
comp=Z,0.6nm,0.4s
COEN **Coen** 43.71 149 P P 09 50 06.7 -0.1
COEN IAmb IAmb 09 50 25.2
comp=Z,9.8nm,1.2s
KKAR **Karatay Array** 45.64 307 P P 09 50 22.5 +0.6
WB0 **Warramunga Arr** 45.88 163 P P 09 50 23.2 -0.7
WB0 IAmb IAmb 09 50 32.5
comp=Z,8.7nm,1.3s
WRA **Warramunga Arr** 46.03 164 P P 09 50 24.7 -0.4
WRA **Warramunga Arr** 46.03 164 P P 09 50 24.1 -1.0
comp=Z,3.1nm,0.9s,baz=345,slow=8.7,SNR=14
WRA PcP PcP 09 51 59.5 -0.8
comp=Z,0.2nm,0.5s,baz=341,slow=2.8,SNR=1.1
comp=Z,3.1nm,0.9s
WB2 **Warramunga Arr** 46.03 164 P P 09 50 24.5 -0.6
WB2 IAmb IAmb 09 50 47.0
comp=Z,11nm,1.4s
PSA00 **Pilbara Seismi** 46.06 183 P P 09 50 23.3 -2.0
WR0 **Warramunga Arr** 46.10 163 P P 09 50 24.9 -0.8
WR0 IAmb IAmb 09 50 25.5
comp=Z,4.8nm,0.8s
TIXI **Tiksi** 47.12 3 P P 09 50 32.1 -0.9
TIXI **Tiksi** 47.12 3 LR LR 10 12 00.1
comp=Z,47nm,18.8s,baz=16,slow=38
BVAR **Borovoye Array** 47.66 320 P P 09 50 37.9 +0.4
comp=Z,2.8nm,0.5s,baz=108,slow=8.4,SNR=7.0
comp=Z,2.8nm,0.5s
BRVK **Borovoye** 47.73 320 P P 09 50 37.9 -0.1
BRVK IAmb IAmb 09 50 39.0
comp=Z,3.1nm,0.5s
NRIK **Noril'sk** 49.05 345 P P 09 50 46.7 -1.2
NRIK IAmb IAmb 09 50 47.5
comp=Z,5.3nm,1.1s
NRIK **Noril'sk** 49.05 345 P P 09 50 46.6 -1.2
comp=Z,4.3nm,1.0s,baz=134,slow=11,SNR=5.2
comp=Z,4.3nm,1.0s
AS31 **Alice Springs** 49.50 165 P P 09 50 51.9 0.0
ASAR **Alice Springs** 49.50 165 P P 09 50 51.6 -0.3
ASAR **Alice Springs** 49.50 165 P P 09 50 51.3 -0.6
comp=Z,1.8nm,0.7s,baz=341,slow=6.8,SNR=23
ASAR PcP PcP 09 52 11.8 -0.9
comp=Z,0.5nm,0.6s,baz=349,slow=3.8,SNR=4.2
comp=Z,1.8nm,0.7s
BILL **Bilibino** 50.96 20 P P 09 51 02.2 -0.2
ABKAR **Akbulak array** 53.51 314 P P 09 51 22.3 +0.8
ABKAR IAmb IAmb 09 51 23.4
comp=Z,2.5nm,0.8s
MORW **Morawa** 53.78 186 P P 09 51 22.1 -1.5
MORW IAmb IAmb 09 51 45.3
comp=Z,6.2nm,1.1s
GEYT **Alibeck** 55.07 300 P P 09 51 34.9 +1.8
comp=Z,2.2nm,0.6s,baz=85,slow=3.3,SNR=3.6
comp=Z,2.2nm,0.6s
FORT **Forrest** 55.51 174 P P 09 51 35.9 -0.2
STKA **Stephens Creek** 59.36 161 P P 09 52 02.1 -1.0
AKUT **Akutan** 60.10 40 P P 09 52 07.8 -0.2
ANM **Nome** 60.55 28 P P 09 52 11.4 +0.4
ANM IAmb IAmb 09 52 32.3
comp=Z,6.4nm,1.4s
C16K **Lisburne Hills** 60.90 24 P P 09 52 13.0 -0.3
C16K IAmb IAmb 09 52 13.2
comp=Z,3.0nm,1.1s
F15K **North Star Dit** 60.94 27 P P 09 52 14.8 +1.2
L14K **Kuka Creek** 61.67 32 P P 09 52 19.0 +0.5
G16K **Koyuk River** 61.88 27 P P 09 52 21.1 +1.2
G16K IAmb IAmb 09 52 36.2
comp=Z,2.7nm,1.1s
K15K **Wolf Creek Mou** 62.21 31 P P 09 52 23.2 +1.1
F17K **Baldwin Pennin** 62.36 26 P P 09 52 24.1 +1.0
F17K IAmb IAmb 09 52 45.2
comp=Z,8.0nm,1.5s
C18K **Utukok River** 62.46 24 P P 09 52 23.4 -0.4
I17K **Unalakleet** 62.58 29 P P 09 52 25.8 +1.2
J16K **Anvik River** 62.62 30 P P 09 52 26.8 +1.9
J16K IAmb IAmb 09 52 35.3
comp=Z,8.0nm,1.4s
E18K **Tukpahlearik C** 62.64 25 P P 09 52 25.5 +0.5
E18K IAmb IAmb 09 52 26.9
comp=Z,2.4nm,0.8s
H17K **Granite Mounta** 62.91 28 P P 09 52 27.5 +0.7
H17K IAmb IAmb 09 52 28.6
comp=Z,4.0nm,0.8s
N15K **Kwethluk River** 62.97 33 P P 09 52 28.2 +0.9
C19K **Lookout Ridge** 63.06 23 P P 09 52 28.3 +0.5
C19K IAmb IAmb 09 52 28.9
comp=Z,4.8nm,1.2s
L16K **Owhat River** 63.19 32 P P 09 52 29.3 +0.6
L16K IAmb IAmb 09 52 33.4
comp=Z,6.5nm,1.1s
J17K **VABM Dome** 63.31 30 P P 09 52 29.8 +0.4
G18K **Tagagawik** 63.42 27 P P 09 52 29.7 -0.5
M16K **Timber Creek** 63.48 32 P P 09 52 30.0 -0.7
H18K **Honhosa River** 63.56 28 P P 09 52 31.7 +0.6
H18K IAmb IAmb 09 52 34.0
comp=Z,4.1nm,1.1s
D19K **Kuna River** 63.59 24 P P 09 52 31.9 +0.6
D19K IAmb IAmb 09 52 34.0
comp=Z,5.7nm,0.8s
K17K **Iditarod** 63.69 30 P P 09 52 32.6 +0.6
B20K **Meade River** 63.92 22 P P 09 52 33.5 +0.2
B20K IAmb IAmb 09 52 34.0
comp=Z,4.0nm,1.1s
E19K **Redstone River** 63.94 25 P P 09 52 34.1 +0.5
E19K IAmb IAmb 09 52 34.7
comp=Z,3.8nm,1.1s
G19K **Purcell Mounta** 64.05 27 P P 09 52 33.6 -0.7
M17K **Holitna River** 64.19 32 P P 09 52 35.7 +0.4
H19K **Roundabout Mou** 64.34 27 P P 09 52 36.5 +0.4
H19K IAmb IAmb 09 52 37.7

comp=Z,4.3nm,0.8s
J18K Innoko River 64.36 30 P P 09 52 36.7 +0.3
J18K IAmb IAmb 09 53 03.2
comp=Z,5.7nm,1.5s
N17K Nushagak Hills 64.38 33 P P 09 52 37.2 +0.6
N17K IAmb IAmb 09 53 04.3
comp=Z,8.9nm,1.3s
L18K Granite Mounta 64.47 31 P P 09 52 37.8 +0.6
L18K IAmb IAmb 09 52 40.7
comp=Z,10nm,1.4s
TTA Tatalina 64.73 30 P P 09 52 39.2 +0.4
J19K Poorman 64.81 29 P P 09 52 40.2 +0.9
B21K Ikpikpuk River 64.81 23 P P 09 52 39.7 +0.5
SVW2 Sparrevohn 65.11 32 P P 09 52 41.8 +0.5
SVW2 IAmb IAmb 09 52 50.6
comp=Z,8.2nm,1.4s
B22K Teshekpuk Lake 65.18 22 P P 09 52 41.5 0.0
L19K White Mountain 65.33 31 P P 09 52 43.4 +0.7
L19K IAmb IAmb 09 52 45.7
comp=Z,3.2nm,0.9s
F21K Alatna River 65.41 25 P P 09 52 43.1 0.0
IMAR Indian Mountai 65.42 27 P P 09 52 43.1 -0.1
J20K Nowinta River 65.44 29 P P 09 52 44.4 +1.0
J20K IAmb IAmb 09 53 08.7
comp=Z,5.2nm,1.4s
O18K Koktuh Hills 65.44 33 P P 09 52 44.7 +1.2
G21K Allakaket 65.46 26 P P 09 52 44.4 +0.9
D22K Ayikyak River 65.55 23 P P 09 52 43.7 -0.4
K20K Telida 65.56 30 P P 09 52 44.3 +0.1
K20K IAmb IAmb 09 53 01.8
comp=Z,6.9nm,1.4s
M19K Big River Lodg 65.58 31 P P 09 52 46.2 +1.9
M19K IAmb IAmb 09 53 05.1
comp=Z,8.7nm,1.5s
H21K Melozitna Rive 65.84 27 P P 09 52 46.1 +0.2
H21K IAmb IAmb 09 52 47.4
comp=Z,2.8nm,0.8s
E22K Anaktuvuk Pass 65.95 24 P P 09 52 46.9 +0.3
E22K IAmb IAmb 09 52 47.5
comp=Z,4.0nm,1.0s
M20K Styx River 66.18 31 P P 09 52 49.8 +1.5
M20K IAmb IAmb 09 52 51.2
comp=Z,4.3nm,0.9s
C23K Itkillik River 66.18 22 P P 09 52 47.9 -0.1
C23K IAmb IAmb 09 52 48.8
comp=Z,6.2nm,1.1s
I21K Tanana 66.24 27 P P 09 52 48.8 +0.3
CAST Castle Rocks 66.44 29 P P 09 52 50.4 +0.6
CAST IAmb IAmb 09 52 55.3
comp=Z,7.3nm,1.5s
RSO Redoubt South 66.57 33 P P 09 52 50.4 -0.5
G23K Bananza Creek 66.82 26 P P 09 52 52.6 +0.4
BPAW Bear Paw Mtn. 66.82 28 P P 09 52 53.2 +0.9
BPAW IAmb IAmb 09 53 01.4
comp=Z,5.0nm,1.4s
D24K Happy Valley 66.90 23 P P 09 52 52.2 -0.4
D24K IAmb IAmb 09 52 53.8
comp=Z,6.6nm,0.9s
SKT Skwentna 66.91 31 P P 09 52 53.2 +0.4
SKT IAmb IAmb 09 52 56.7
comp=Z,5.1nm,1.1s
KTH Kantishna Hill 66.93 29 P P 09 52 53.1 +0.1
KTH IAmb IAmb 09 52 55.2
comp=Z,5.6nm,1.4s
KDAK Kodiak Island 67.10 35 P P 09 52 53.2 -0.8
I23K Minto, Yukon-K 67.34 27 P P 09 52 55.1 -0.3
I23K IAmb IAmb 09 53 10.2
comp=Z,6.1nm,1.4s
SUA Susitna One 67.37 31 P P 09 52 55.3 -0.6
SUA IAmb IAmb 09 52 56.8
comp=Z,5.2nm,0.8s
F24K Squaw Lake 67.51 25 P P 09 52 56.8 +0.2
F24K IAmb IAmb 09 52 58.3
comp=Z,5.0nm,0.7s
NEA2 Nenana 67.56 28 P P 09 52 56.5 -0.4
NEA2 IAmb IAmb 09 52 57.4
comp=Z,3.2nm,0.9s
G24K Hadweenzic Riv 67.82 25 P P 09 52 59.5 +1.0
G24K IAmb IAmb 09 53 00.0
comp=Z,2.9nm,0.6s
H24K Noodor Dome 67.82 26 P P 09 52 58.9 +0.3
H24K IAmb IAmb 09 53 10.6
comp=Z,5.9nm,1.4s
MDM Murphy Dome 67.85 27 P P 09 52 58.8 +0.1
MDM IAmb IAmb 09 52 59.4
comp=Z,4.5nm,1.1s
RND Reindeer 67.88 29 P P 09 52 58.9 -0.1
RC01 Rabbit Creek A 67.92 32 P P 09 52 58.5 -0.7
RC01 IAmb IAmb 09 53 24.5
comp=Z,5.2nm,1.1s
WRH Wood River Hil 68.00 28 P P 09 53 00.0 +0.4
WRH IAmb IAmb 09 53 25.6
comp=Z,3.7nm,1.1s
CCB Clear Creek Bu 68.08 28 P P 09 53 00.6 +0.5
PMR Palmer 68.10 31 P P 09 53 00.0 -0.3
PMR IAmb IAmb 09 53 01.1
comp=Z,2.7nm,0.8s
SML Sawmill 68.43 31 P P 09 53 02.9 +0.5
SML IAmb IAmb 09 53 06.2
comp=Z,7.3nm,1.0s
ILAR Eielson Array 68.44 27 P P 09 53 01.9 -0.6
ILAR Eielson Array 68.44 27 P P 09 53 00.7 -1.8
comp=Z,0.4nm,0.5s,baz=268,slow=5.1,SNR=14
comp=Z,0.4nm,0.5s
KNK Knik Glacier 68.46 31 P P 09 53 02.8 +0.2
KNK IAmb IAmb 09 53 08.4
comp=Z,9.0nm,1.3s
KEV Kevo 68.71 338 P P 09 53 03.1 -0.9
BMAR Burnt Mountain 68.78 24 P P 09 53 05.2 +0.7
SCM Sheep Creek Mo 68.89 31 P P 09 53 04.9 -0.5
SCM IAmb IAmb 09 53 14.2
comp=Z,7.4nm,1.0s
SPITS Spitsbergen Ar 69.09 348 P P 09 53 05.2 -1.0
comp=Z,4.0nm,0.6s,baz=75,slow=14,SNR=10
comp=Z,4.0nm,0.6s
ARCES ARCESS Array B 69.27 338 P P 09 53 07.2 -0.2
ARCES ARCESS Array B 69.27 338 P P 09 53 07.0 -0.4
comp=Z,2.8nm,0.7s,baz=57,slow=8.7,SNR=9.3
comp=Z,2.8nm,0.7s
M24K Tolsona, Glenn 69.36 30 P P 09 53 07.6 -0.6
HIN Hinchinbrook I 69.62 32 P P 09 53 09.7 -0.1
KLU Klutina 69.62 31 P P 09 53 09.9 0.0
KLU IAmb IAmb 09 53 11.9
comp=Z,3.4nm,0.8s
I26K Coal Creek Min 69.86 26 P P 09 53 10.6 -0.6
SCRK Sand Creek 69.86 28 P P 09 53 11.2 -0.1
J26L Joseph Creek 69.90 27 P P 09 53 10.1 -1.4
N25K Chitina, Valde 70.21 30 P P 09 53 13.5 0.0
N25K IAmb IAmb 09 53 16.1
comp=Z,6.0nm,1.4s
MENT Mentasta 70.25 29 P P 09 53 14.1 +0.5
MENT IAmb IAmb 09 53 16.6
comp=Z,5.1nm,1.2s
F28M Old Crow 70.47 24 P P 09 53 15.0 +0.1
F28M IAmb IAmb 09 53 16.4
comp=Z,3.4nm,1.0s
RAGM Ragged Mountai 70.50 32 P P 09 53 15.1 -0.1
GLB Gilahina Butte 70.62 31 P P 09 53 15.7 -0.2
GLB IAmb IAmb 09 53 17.4
comp=Z,7.5nm,1.3s
EGAK Eagle 70.82 27 P P 09 53 16.5 -0.5
EGAK IAmb IAmb 09 53 37.5
comp=Z,4.5nm,1.2s
E29M Blow River 70.94 23 P P 09 53 17.6 -0.1
MCARA McCarthy VSAT 71.00 30 P P 09 53 18.0 -0.1
MCARA IAmb IAmb 09 53 44.4
comp=Z,7.9nm,1.2s
BCAR Beaver Creek A 71.06 29 P P 09 53 18.9 +0.3
M27K Edge Creek, AK 71.23 29 P P 09 53 19.6 -0.1
M27K IAmb IAmb 09 53 42.4
comp=Z,7.3nm,1.4s
FIA1 FINESS Array S 71.29 330 P P 09 53 20.2 +0.3
FINES FINESS Array B 71.30 330 P P 09 53 19.6 -0.3
FINES FINESS Array B 71.30 330 P P 09 53 19.5 -0.4
comp=Z,2.4nm,0.5s,baz=60,slow=6.2,SNR=28
comp=Z,2.4nm,0.5s
H29M Whitestone 71.47 25 P P 09 53 21.0 0.0
BARN Barnard Glacie 71.72 31 P P 09 53 22.6 -0.1
BARN IAmb IAmb 09 53 29.2
comp=Z,10nm,1.3s
CTGM Chitina Glacie 71.90 31 P P 09 53 24.1 +0.4
EPYK Eagle Plains 72.05 25 P P 09 53 23.9 -0.6
EPYK IAmb IAmb 09 53 25.4
comp=Z,2.6nm,0.8s
INK Inuvik 72.49 22 P P 09 53 25.9 -1.0
comp=Z,2.6nm,0.7s,baz=308,slow=5.8,SNR=22
comp=Z,2.6nm,0.7s
K29M Barlow Dome 72.62 27 P P 09 53 28.0 0.0
F31M Tsiigehtchic 72.75 23 P P 09 53 27.5 -1.0
F31M IAmb IAmb 09 53 28.4
comp=Z,4.3nm,0.7s
G31M Satah River 72.76 24 P P 09 53 27.3 -1.2
J30M Hart River 72.84 26 P P 09 53 29.1 -0.2
AKASG Malin Array Be 72.88 318 P P 09 53 28.9 -0.6
comp=Z,0.2nm,0.3s,baz=66,slow=6.4,SNR=2.5
comp=Z,0.2nm,0.3s
H31M Peel River 73.16 25 P P 09 53 30.3 -0.7
H31M IAmb IAmb 09 53 30.8
comp=Z,4.5nm,1.1s
M30M Minto, Yukon 73.39 28 P P 09 53 32.0 -0.4
A36M Sachs Harbour 73.42 17 P P 09 53 31.5 -0.9
HYT Haines Junctio 73.71 30 P P 09 53 35.1 +0.6
P29M Windy Craggy 74.04 31 P P 09 53 36.9 +0.6
P29M IAmb IAmb 09 53 43.0
comp=Z,8.9nm,1.3s
O30N Mendenhall 74.38 30 P P 09 53 37.7 -0.5
M31M Drury Creek, Y 74.56 28 P P 09 53 38.8 -0.5
WHY Whitehorse 74.97 30 P P 09 53 41.5 -0.2
C36M Paulatuk 75.08 20 P P 09 53 40.8 -1.3
SKAG Skagway 75.24 31 P P 09 53 43.6 +0.5
SKAG IAmb IAmb 09 53 45.1
comp=Z,4.0nm,0.8s
P33M Teslin, Yukon 76.08 30 P P 09 53 47.7 -0.3
Q32M Nakina River 76.88 31 P P 09 53 54.0 +1.2
Q32M IAmb IAmb 09 53 58.3
comp=Z,5.2nm,1.4s
R33M Jennings River 77.28 30 P P 09 53 54.3 -0.6
S34M Telegraph Cree 77.89 31 P P 09 53 59.1 +1.0
WTLY Watson Lake, Y 77.92 29 P P 09 53 58.4 0.0
WTLY IAmb IAmb 09 54 00.2
comp=Z,3.2nm,0.8s
NOA NORSAR Array B 78.04 332 P P 09 53 58.4 -0.6
comp=Z,0.3nm,0.5s,baz=59,slow=9.1,SNR=1.9
comp=Z,0.3nm,0.5s
DLBC Dease Lake 78.16 31 P P 09 54 00.5 +0.8
WRGLY Wrigley 78.52 25 P P 09 54 01.4 -0.1
WRGLY IAmb IAmb 09 54 02.8
comp=Z,3.1nm,0.7s
DIB Dawson Inlet, 79.36 36 P P 09 54 05.7 -0.5
GRNB Grenville Isla 80.38 35 P P 09 54 12.3 +0.5
GRNB IAmb IAmb 09 54 15.9
comp=Z,5.0nm,1.2s
YKA Yellowknife Ar 82.23 23 P P 09 54 20.6 -0.8
YKA Yellowknife Ar 82.23 23 P P 09 54 20.1 -1.3
comp=Z,0.9nm,0.5s,baz=310,slow=5.3,SNR=43
comp=Z,0.9nm,0.5s
F04A Amboy 88.71 39 P P 09 54 53.9 0.0
EDM Edmonton 88.83 30 P P 09 54 55.2 +0.8
LTY Liberty 88.92 37 P P 09 54 55.3 +0.3
KEBM Edson Butte 89.30 42 P P 09 54 57.4 +0.6
DBO Dodson Butte 89.82 42 P P 09 55 00.1 +0.9
DBO IAmb IAmb 09 55 25.1
comp=Z,5.4nm,1.3s
HUMO Hull Mountain 90.29 42 P P 09 55 02.4 +1.0
HUMO IAmb IAmb 09 55 23.4
comp=Z,4.2nm,1.3s
L04D Klamath Falls 90.90 42 P P 09 55 05.1 +0.6
FCC Fort Churchill 91.64 18 P P 09 55 06.2 -1.1
EGMT Eagleton 94.05 32 P P 09 55 18.1 -0.6
PAHR Pah Rah Range 94.17 43 P P 09 55 19.4 -0.2
WAKR Walker 94.86 44 P P 09 55 23.2 +0.5
WAKR IAmb IAmb 09 55 23.9
comp=Z,1.5nm,0.7s
NVAR Mina Array Bea 95.61 43 P P 09 55 26.9 +0.6
NVAR Mina Array Bea 95.61 43 P P 09 55 26.2 -0.1
comp=Z,1.2nm,0.7s,baz=292,slow=4.8,SNR=13
comp=Z,1.2nm,0.7s

*NNC **06** 09:47:22.6±1.4,51.87N×75.53E,h0km,mb3.2,mpv2.8,*
Error ellipse: s-maj=94.4km s-min=6.7km az=26.0,
Suspected Mining explosion.
*IDC **06** 09:47:22.9±1.0,51.73N×75.40E,h0km,mbtmp2.8/2,*
ML2.1/2,Error ellipse: s-maj=23.7km s-min=7.0km
az=28.0
ISC 06 09:47:22.8±1.0,51.6N±0.1×75.24E±0.0°08,h0km,n10,
σ1s17/10,6C-3D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**2.31**	**115**	Pg	**Pn**	**09 48 03.2**	**+1.2**
	0.2nm,0.3s,baz=301,slow=18,SNR=22						
KURBB				Lg	Lg	09 48 32.7	
	0.2nm,0.3s,baz=297,slow=33,SNR=5.3						
KURBB	**Kurchatov Arra**	**2.31**	**115**	⇑Pg	**Pb**	**09 48 04.9**	**-0.3**
	3.3nm,0.6s						
KURBB				⇑Lg	Lg	09 48 35.0	
	33nm,0.7s						
KURK	**Kurchatov**	**2.32**	**112**	⇑Pg	**Pn**	**09 48 03.4**	**+1.2**
	2.1nm,0.6s						
KURK				⇑Lg	Lg	09 48 31.3	
	24nm,1.2s						
BVA0	**Borovoye Array**	**3.29**	**297**	⇓Pg	**Pb**	**09 48 23.0**	**+1.0**
	4.0nm,1.1s,baz=115,slow=18,SNR=10						
BVA0				⇑Lg	Lg	09 49 08.7	
	9.7nm,0.9s,baz=105,slow=27,SNR=10						
BVAR	**Borovoye Array**	**3.29**	**297**	Pg	**Pb**	**09 48 21.3**	**-0.6**
	baz=111,slow=17,SNR=9.8						
BVAR				Sn	**Sn**	**09 48 56.2**	**+0.9**
	0.1nm,0.3s,baz=106,slow=22,SNR=3.0						
BVAR				Lg	Lg	09 49 08.4	
	0.2nm,0.3s,baz=114,slow=28,SNR=14						
BRVK	**Borovoye**	**3.36**	**297**	⇑Pg	**Pg**	**09 48 25.7**	**-1.3**
	5.4nm,1.1s						
BRVK				⇓Lg	Lg	09 49 11.1	
	11nm,0.8s						
I46RU	**ZALESOVO INFRA**	**6.26**	**65**	I	I	10 21 30.0	
	baz=254,slow=336,SNR=16						
ZALV	**Zalesovo Beam**	**6.26**	**65**	Pn	**Pn**	**09 48 56.8**	**+0.5**
	0.2nm,0.3s,baz=257,slow=14,SNR=3.1						
ZALV				Lg	Lg	09 50 37.4	
	baz=249,slow=28						
	1.1nm,0.5s						
MK31	**Makanchi Array**	**6.69**	**134**	⇓Lg	Lg	09 50 53.7	
	2.6nm,0.6s,baz=324,slow=27,SNR=6.8						
MKAR	**Makanchi Array**	**6.69**	**134**	Pn	**Pn**	**09 49 03.2**	**+0.9**
	baz=326,slow=12,SNR=2.9						
MKAR				Sn	**Sn**	**09 50 18.0**	**-1.2**
	baz=318,slow=23,SNR=2.3						
MKAR				Lg	Lg	09 50 54.3	
	0.2nm,0.3s,baz=325,slow=25,SNR=8.6						
	0.2nm,0.5s						

*UPP **06** 10:00:01.6±3.0,64.52N×31.71E,h0km,ML1.6*
*IDC **06** 10:00:06.9±3.0,64.62N×31.54E,h0km,mbtmp3.1/4,*
ML2.2/4,Error ellipse: s-maj=40.3km s-min=10.1km
az=106.0
*KOLA **06** 10:00:08.7,64.76N×30.21E,h0km,ML2.5,Error ellipse:*
s-maj=16.2km s-min=12.9km az=150.0,Karelia,Finland,
Oulu area
*HEL **06** 10:00:11.9±0.2,64.79N×30.67E,h0km,ML2.0,Suspected*
explosion
ISC 06 10:00:09.7±0.9,64.84N±0.02×30.54E±0.04,h0km,n46,
σ1s77/70,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RMF	**Romuvaara**	**0.68**	**203**	PG	**Pb**	**10 00 24.3**	**-0.1**
RMF				MSG		10 00 32.7	
	comp=Z,28nm,0.2s						
KU6	**Riekki**	**1.22**	**348**	PG	**Pn**	**10 00 35.3**	**+1.2**
	baz=165						
KU6				MSG		10 00 50.5	
	comp=Z,13nm,0.2s						
KU6				SB	**Sn**	**10 00 52.2**	**+0.9**
MSF	**Maaselka**	**1.25**	**331**	PG	**Pn**	**10 00 35.8**	**+1.4**
	baz=146						
MSF				SB	**Sn**	**10 00 53.2**	**+1.3**
NIF	**Nilsia**	**1.88**	**221**	PG	**Pg**	**10 00 46.3**	**+0.5**
	baz=42						
JOF	**Joensuu**	**1.96**	**170**	PB	**Pn**	**10 00 45.0**	**+0.8**
JOF				SG	**Sn**	**10 01 10.2**	**+0.8**
RANF	**Ranua**	**1.96**	**309**	SG	**Sg**	**10 01 13.7**	**+1.0**
OUL	**Oulu**	**1.99**	**279**	PG	**Pg**	**10 00 48.2**	**+0.4**
OUL				SB	**Sg**	**10 01 13.4**	**-0.1**
OBF4	**Vikkela, Lumij**	**2.32**	**272**	PB	**Pg**	**10 00 53.9**	**-0.3**
	baz=87						
OBF4				MSG		10 01 22.4	
	comp=Z,8.2nm,0.2s						
OBF4				SG	**Sg**	**10 01 25.8**	**+1.5**
OUF	**Merijarvi**	**2.55**	**262**	PN	**Pn**	**10 00 53.2**	**+1.0**
OUF				SB	**Sb**	**10 01 27.5**	**-0.5**
OUF				MSG		10 01 28.3	
	comp=Z,14nm,0.2s						
RNF	**Rovaniemi**	**2.58**	**316**	PN	**Pn**	**10 00 54.0**	**+1.3**
	baz=128						
RNF				SG	**Sg**	**10 01 32.1**	**-0.4**
OBF0	**Syolatti, Pyha**	**2.73**	**266**	PN	**Pn**	**10 00 56.6**	**+1.9**
OBF0				MSG		10 01 33.8	
	comp=Z,8.6nm,0.2s						
OBF0				SB	**Sg**	**10 01 36.8**	**-0.6**
TOF	**Tornio**	**2.88**	**298**	PN	**Pn**	**10 00 58.4**	**+1.6**
TOF				MSG		10 01 38.4	
	comp=Z,2.9nm,0.2s						
TOF				SB	**Sg**	**10 01 40.4**	**-1.7**
SUF	**Sumiainen**	**2.88**	**224**	PN	**Pb**	**10 01 00.1**	**-1.9**
SUF				MSG		10 01 36.9	
	comp=Z,3.9nm,0.2s						
VRF	**Varrio**	**2.95**	**353**	PN	**Pn**	**10 00 59.4**	**+1.7**
VRF				MSG		10 01 40.3	
	comp=Z,4.1nm,0.2s						
APA0	**Apatity Array**	**2.95**	**19**	P	**Pn**	**10 00 57.6**	**-0.2**
APA0				S	**Sn**	**10 01 34.9**	**+1.0**
SGF	**Sodankyl**	**3.08**	**330**	PN	**Pn**	**10 01 02.4**	**+2.8**
SGF				SB	**Sb**	**10 01 45.5**	**+2.0**
KALU	**Kalix**	**3.18**	**292**	P	**Pn**	**10 01 00.9**	**0.0**
KALU				S	**Sb**	**10 01 45.2**	**-1.0**
KALU	**Kalix**	**3.18**	**292**	PN	**Pb**	**10 01 05.1**	**-1.9**
KALU				SB	**Sg**	**10 01 49.7**	**-2.0**
KAF	**Kangasniemi**	**3.33**	**217**	PB	**Pb**	**10 01 07.7**	**-1.8**
KAF				SB	**Sb**	**10 01 51.8**	**+1.3**
LVZ	**Lovozero**	**3.49**	**26**	PN	**Pn**	**10 01 07.8**	**+2.5**
LVZ				SG	**Sb**	**10 01 58.9**	**+3.6**
KLF	**Kolari**	**3.60**	**315**	PN	**Pn**	**10 01 08.1**	**+1.4**
KEF	**Keuruu**	**3.69**	**226**	PN	**Pn**	**10 01 10.5**	**+2.5**
	baz=38						
KEF				SB	**Sb**	**10 02 01.0**	**0.0**
PAJU	**Pajala**	**3.75**	**309**	P	**Pn**	**10 01 08.3**	**-0.5**
PAJU	**Pajala**	**3.75**	**309**	PN	**Pn**	**10 01 10.3**	**+1.5**
PAJU				SG	**Sg**	**10 02 09.7**	**-0.4**
RAJF	**Raja-Jooseppi**	**3.76**	**347**	PN	**Pn**	**10 01 11.1**	**+2.2**
SJUU	**Sjulsmark**	**3.83**	**284**	P	**Pn**	**10 01 08.8**	**-1.0**
VAF	**Ylistaro**	**3.91**	**246**	PB	**Pb**	**10 01 18.5**	**-1.0**
BURU	**Burvik**	**3.94**	**270**	PN	**Pn**	**10 01 13.9**	**+2.5**
	baz=79						
FIA0	**FINESS Array S**	**3.96**	**213**	PB	**Pb**	**10 01 21.2**	**+0.9**
FIA0				SB	**Sb**	**10 02 11.0**	**+2.3**
FINES	**FINESS Array B**	**3.96**	**213**	Pn	**Pn**	**10 01 10.0**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=40,slow=12,SNR=1.0						
FINES				Lg	Lg	10 02 10.0	
	comp=Z,1.3nm,0.3s,baz=34,slow=28,SNR=7.7						
	comp=Z,0.5nm,0.2s						
MASU	**Masugnsbyn**	**4.35**	**311**	P	**Pn**	**10 01 16.6**	**-0.4**
MASU				S	**Sn**	**10 02 12.3**	**+4.0**
UMAU	**Umeaa**	**4.39**	**262**	PN	**Pn**	**10 01 19.3**	**+1.8**
	baz=75						
UMAU				SG	**Sg**	**10 02 30.2**	**-0.4**
HEF	**Hetta**	**4.51**	**326**	eP	**Pn**	**10 01 18.9**	**-0.3**
HEF	**Hetta**	**4.51**	**326**	PN	**Pn**	**10 01 21.8**	**+2.6**
	baz=136						
HEF				SG	**Sg**	**10 02 33.0**	**-1.5**
VJF	**Virojoki**	**4.53**	**199**	SG	**Sg**	**10 02 31.6**	**-3.4**
KMNF	**Kaamanen**	**4.55**	**344**	PN	**Pn**	**10 01 21.2**	**+1.5**
KMNF				SG	**Sg**	**10 02 32.8**	**-2.8**
LANU	**Lannavaara**	**4.70**	**317**	P	**Pn**	**10 01 20.2**	**-1.7**
LANU	**Lannavaara**	**4.70**	**317**	PN	**Pn**	**10 01 25.2**	**+3.3**
PRVG	**Vayda Guba**	**4.97**	**7**	P	**Pn**	**10 01 24.6**	**-0.9**
PRVG				S	**Sn**	**10 02 21.8**	**-1.8**
ARCES	**ARCESS Array B**	**5.11**	**340**	P	**Pn**	**10 01 25.7**	**-1.7**
ARCES				S	**Sn**	**10 02 22.9**	**-4.1**
ARCES	**ARCESS Array B**	**5.11**	**340**	Pn	**Pn**	**10 01 25.6**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=152,slow=13,SNR=38						
ARCES				Sn	**Sn**	**10 02 28.6**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=158,slow=24,SNR=6.1						
ARCES				Lg	Lg	10 02 49.2	
	comp=Z,0.6nm,0.3s,baz=147,slow=31,SNR=8.4						
	comp=Z,1.3nm,0.2s						
KEV	**Kevo**	**5.12**	**346**	eP	**Pn**	**10 01 26.1**	**-1.5**
VADS	**Vadso**	**5.33**	**356**	P	**Pn**	**10 01 28.6**	**-1.8**
I43RU	**DUBNA INFRASON**	**8.77**	**155**	I	I	10 50 50.0	
	baz=343,slow=337,SNR=2.9						
HFS	**Hagfors**	**9.10**	**247**	Pn	**Pn**	**10 02 20.6**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=65,slow=14,SNR=1.9						
	comp=Z,1.6nm,0.9s						
NOA	**NORSAR Array B**	**9.58**	**255**	Pn	**Pn**	**10 02 28.1**	**-0.6**
	baz=58,slow=13,SNR=6.7						
	comp=Z,0.6nm,0.9s						

*PDG **06** 10:00:25.6±0.2,42.73N×20.29E,h8km,MD3.0/3,*
ML2.9/12,Error ellipse: s-maj=0.5km s-min=0.5km az=0.0
*BEO **06** 10:00:25.9±0.5,42.75N×20.34E,h11km±4km,ML2.8/14*
*RHSSO **06** 10:00:26.0±0.6,42.75N×20.33E,h3km±2km,ML2.8/10*
ISC 06 10:00:25.1±1.1,42.75N±0.02×20.33E±0.02,h1km±10km,
n74,σ0s87/124,24C-10D,Northwestern Balkan
Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVY	**Plav**	**0.32**	**241**	⇓iPg	**Pg**	**10 00 31.2**	**+0.1**
PVY				*i* Sg	**Sg**	**10 00 35.4**	**+0.2**
IVA	**Berane**	**0.35**	**291**	⇑*i*Pg	**Pg**	**10 00 32.0**	**+0.3**
IVA				*i* Sg	**Sg**	**10 00 36.8**	**+0.5**
SJES	**Sjenica**	**0.58**	**333**	*e*Pg	**Pg**	**10 00 36.6**	**+0.4**
SJES				*e*Sg	**Sg**	**10 00 44.4**	**+0.7**
SJES	**Sjenica**	**0.58**	**333**	⇑*i*Pg	**Pg**	**10 00 36.6**	**+0.4**
SJES				*e*Sg	**Sg**	**10 00 44.4**	**+0.7**
KOME	**Kolasin**	**0.61**	**280**	⇑*i*Pg	**Pg**	**10 00 36.6**	**-0.2**
KOME				*i* Sg	**Sg**	**10 00 44.9**	**+0.2**
SELS	**Selova**	**0.74**	**50**	*e*Pg	**Pg**	**10 00 39.3**	**0.0**
SELS				*e*Sg	**Sg**	**10 00 51.2**	**-0.4**
IVAS	**Ivanjica**	**0.84**	**351**	*e*Pg	**Pg**	**10 00 41.1**	**-0.1**
IVAS				*e*Sg	**Sg**	**10 00 52.2**	**+0.2**
PLE	**Pljevlja**	**0.91**	**310**	⇓*i*Pg	**Pg**	**10 00 42.1**	**-0.3**
PLE				*i* Sg	**Sg**	**10 00 53.8**	**-0.4**
NKME	**Niksic**	**1.02**	**272**	⇑*i*Pg	**Pg**	**10 00 43.7**	**-0.9**
NKME				*i* Sg	**Sb**	**10 00 59.2**	**-0.2**
DRME	**Dracevica, Mon**	**1.02**	**237**	*e*Pg	**Pg**	**10 00 43.4**	**-1.1**
DRME				*e*Sg	**Sg**	**10 00 58.3**	**+0.5**
DRME	**Dracevica, Mon**	**1.02**	**237**	⇑*i*Pg	**Pg**	**10 00 43.5**	**-1.1**
DRME				*i* Sg	**Sb**	**10 00 59.1**	**-0.3**
CEME	**Cevo**	**1.06**	**260**	⇓*i*Pg	**Pg**	**10 00 44.3**	**-1.2**
CEME				*i* Sg	**Sg**	**10 00 58.6**	**-0.7**
BARS	**Barje**	**1.09**	**86**	*e*Pg	**Pb**	**10 00 47.3**	**+0.5**
BARS				*e*Sg	**Sg**	**10 01 00.1**	**-0.1**
RUDO	**Rudo**	**1.12**	**321**	⇑*i*Pg	**Pg**	**10 00 45.3**	**-1.2**
RUDO				*e*Sg	**Sg**	**10 01 00.9**	**-0.2**
ULC	**Ulcinj**	**1.12**	**226**	⇑*i*Pg	**Pg**	**10 00 45.7**	**-0.9**
ULC				*i* Sg	**Sb**	**10 01 02.6**	**+0.1**
SKO	**Skopje**	**1.13**	**133**	*i* Pn	**Pg**	**10 00 46.7**	**+0.1**
UPM	**Unac-Piva**	**1.14**	**294**	*e*Pg	**Pg**	**10 00 47.0**	**0.0**
UPM				*e*Sg	**Sg**	**10 01 02.8**	**+1.0**
UPM	**Unac-Piva**	**1.14**	**294**	⇓*i*Pg	**Pg**	**10 00 46.0**	**-1.0**
UPM				*i* Sg	**Sb**	**10 01 02.9**	**-0.3**
BUM	**Brajici-Budva**	**1.16**	**248**	⇑*i*Pg	**Pg**	**10 00 46.1**	**-1.1**
BUM				*i* Sg	**Sb**	**10 01 03.7**	**+0.3**
GRUS	**Gruza**	**1.17**	**14**	*e*Pg	**Pg**	**10 00 47.4**	**-0.2**
GRUS				*e*Sg	**Sg**	**10 01 03.7**	**+0.9**
PRVS	**Prvonek**	**1.31**	**100**	*e*Pg	**Pn**	**10 00 50.1**	**-0.4**
PRVS				*e*Sg	**Sb**	**10 01 06.6**	**-1.2**
BBLS	**Lazi&#263i**	**1.31**	**329**	*e*Pg	**Pn**	**10 00 49.7**	**-0.9**
BBLS				*e*Sg	**Sb**	**10 01 07.2**	**-0.6**
BBLS	**Lazi&#263i**	**1.31**	**329**	⇓*i*Pg	**Pn**	**10 00 49.6**	**-1.0**
BBLS				*e*Sg	**Sn**	**10 01 08.2**	**-0.5**
BRY	**Bratogost**	**1.33**	**277**	*e*Pg	**Pn**	**10 00 49.7**	**-1.2**
BRY				*e*Sg	**Sb**	**10 01 08.3**	**-0.2**
BRY	**Bratogost**	**1.33**	**277**	⇑*i*Pg	**Pn**	**10 00 49.5**	**-1.4**
BRY				*i* Sg	**Sn**	**10 01 09.6**	**+0.2**
BOVS	**Bovan**	**1.34**	**48**	⇑P	**Pb**	**10 00 51.2**	**+0.3**
BOVS				⇑S	**Sb**	**10 01 07.5**	**-1.2**
BOVS	**Bovan**	**1.34**	**48**	*e*Pg	**Pn**	**10 00 50.9**	**0.

TIR				⇓S		**Sg**	**10 01 13.1**	**+1.7**
TREB	**Trebinje**	**1.46**	**269**	*i* Pg		**Pn**	**10 00 52.1**	**-0.5**
TREB				*e*Sg		**Sb**	**10 01 12.4**	**+0.2**
TRUS	**Trudelj**	**1.48**	**2**	*e*Pg		**Pb**	**10 00 53.9**	**+0.6**
TRUS				*e*Sg		**Sb**	**10 01 12.6**	**0.0**
BOSS	**Bosilegrad**	**1.60**	**98**	*e*Pg		**Pn**	**10 00 53.8**	**-0.8**
BOSS				*e*Sg		**Sb**	**10 01 16.0**	**-0.3**
DBRK	**Dubrovnik**	**1.61**	**268**	*e*Pn		**Pn**	**10 00 55.1**	**+0.4**
DBRK				Sn		**Sg**	**10 01 18.5**	**+1.6**
SVIS	**Svilajnac**	**1.65**	**23**	*e*Pg		**Pn**	**10 00 54.6**	**-0.6**
SVIS				*e*Sg		**Sg**	**10 01 18.3**	**+0.3**
OHR	**Ohrid**	**1.67**	**168**	*i* Pn		**Pb**	**10 00 56.3**	**-0.4**
HAPS	**Han Pijesak,BI**	**1.68**	**323**	*e*Pn		**Pn**	**10 00 56.0**	**+0.3**
HAPS				*e*Sn		**Sb**	**10 01 18.4**	**-0.1**
NEVS	**Nevesinje**	**1.73**	**289**	*e*Pn		**Pb**	**10 00 57.2**	**-0.4**
NEVS				*e*Sn		**Sb**	**10 01 19.2**	**-0.7**
ZAGS	**Zajecar**	**1.75**	**52**	*e*Pg		**Pn**	**10 00 55.9**	**-0.7**
ZAGS				*e*Sg		**Sb**	**10 01 21.0**	**+0.6**
ZAPS	**Zavoj**	**1.77**	**72**	*e*Pg		**Pn**	**10 00 57.1**	**+0.2**
ZAPS				*e*Sg		**Sb**	**10 01 21.6**	**+0.6**
TEKS	**Tekeris**	**1.89**	**342**	*e*Pg		**Pb**	**10 01 00.8**	**+0.3**
TEKS				*e*Sg		**Sg**	**10 01 26.0**	**+0.1**
TEKS	**Tekeris**	**1.89**	**342**	*e*Pn		**Pn**	**10 00 59.0**	**+0.4**
TEKS				*e*Sn		**Sb**	**10 01 23.7**	**-0.9**
BLKB	**Belogradchik**	**1.92**	**62**	⇑P		**Pn**	**10 00 59.0**	**0.0**
STON	**Ston**	**1.94**	**275**	*e*Pn		**Pb**	**10 01 00.6**	**-0.7**
STON				Sn		**Sg**	**10 01 28.6**	**+1.2**
STON	**Ston**	**1.94**	**275**	*e*Pn		**Pn**	**10 00 59.8**	**+0.6**
STON				*e*Sn		**Sn**	**10 01 24.5**	**+0.3**
MDVR	**Moldovita**	**2.27**	**26**	⇑P		**Pn**	**10 01 02.8**	**-0.9**
FRGS	**Fruska Gora**	**2.44**	**351**	⇑P		**Pn**	**10 01 06.2**	**+0.1**
FRGS	**Fruska Gora**	**2.44**	**351**	*e*Pn		**Pn**	**10 01 06.6**	**+0.5**
FRGS				*e*Sg		**Sg**	**10 01 43.4**	**0.0**
FRGS	**Fruska Gora**	**2.44**	**351**	*e*Pn		**Pn**	**10 01 06.8**	**+0.7**
FRGS				*e*Sn		**Sn**	**10 01 37.1**	**+0.5**
RICI	**Ricice**	**2.46**	**289**	*e*Pn		**Pb**	**10 01 09.3**	**-0.8**
MAKA	**Makarska**	**2.49**	**284**	*e*Pn		**Pb**	**10 01 08.9**	**-1.6**
MAKA				Sn		**Sb**	**10 01 42.0**	**+0.3**
LSTV	**Lastovo**	**2.54**	**272**	*e*Pn		**Pb**	**10 01 10.4**	**-0.9**
HERR	**Herculane**	**2.61**	**35**	⇑P		**Pn**	**10 01 08.0**	**-0.4**
BANR	**Banloc**	**2.70**	**12**	⇑P		**Pn**	**10 01 09.6**	**0.0**
HVAR	**Hvar**	**2.88**	**280**	*e*Pn		**Pn**	**10 01 14.6**	**+2.4**
MGRS	**Mrkonjic Grad**	**2.89**	**306**	*e*Pn		**Pn**	**10 01 12.8**	**+0.5**
MGRS				*e*Sn		**Sn**	**10 01 48.0**	**+0.2**
BZS	**Buzias**	**3.01**	**17**	⇑P		**Pn**	**10 01 13.8**	**-0.1**
BLY	**Banja Luka**	**3.04**	**312**	*e*Pn		**Pn**	**10 01 15.2**	**+0.9**
BLY				*e*Sn		**Sn**	**10 01 51.6**	**+0.4**
KIJV	**Kijevo**	**3.13**	**295**	*e*Pn		**Pn**	**10 01 18.6**	**+3.1**
GZR	**Gura Zlata**	**3.18**	**33**	⇑P		**Pn**	**10 01 15.8**	**-0.5**
A050A	**Klekovaca**	**3.26**	**303**	*e*Pn		**Pn**	**10 01 18.1**	**+0.7**
A050A				*e*Sn		**Sn**	**10 01 56.4**	**-0.5**
SURR	**Surduc**	**3.27**	**23**	⇑P		**Pn**	**10 01 16.0**	**-1.5**
A051A	**Mrakovica**	**3.36**	**314**	*e*Pn		**Pn**	**10 01 19.2**	**+0.5**
A051A				*e*Sn		**Sn**	**10 01 59.6**	**+0.3**
ZIRJ	**Zirje**	**3.55**	**286**	*e*Pn		**Pn**	**10 01 22.4**	**+1.1**
MORI	**Morici**	**3.56**	**290**	*e*Pn		**Pn**	**10 01 25.2**	**+3.7**
SIRR	**Siria**	**3.65**	**15**	⇑P		**Pn**	**10 01 22.4**	**-0.2**
LOT	**Lotru**	**3.66**	**41**	⇓P		**Pn**	**10 01 21.9**	**-1.1**
MORH	**Mrgy, Hungar**	**3.67**	**341**	⇑P		**Pn**	**10 01 22.6**	**-0.3**
DUGI	**Dugi Otok**	**4.04**	**290**	*e*Pn		**Pn**	**10 01 30.0**	**+1.9**
ARR	**Arges**	**4.06**	**48**	⇓P		**Pn**	**10 01 28.7**	**+0.3**
VOIR		**4.33**	**50**	⇑P		**Pn**	**10 01 32.6**	**+0.4**
DRGR		**4.38**	**22**	⇑P		**Pn**	**10 01 32.3**	**-0.5**

*IDC **06** 10:03:51.6±0.8,6°.09S×142°.66E,h0km,mb4.3/13, mbtmp4.3/15,ML2.1/1,MS3.3/7,Error ellipse: s-maj=32.9km s-min=17.0km az=81.0*
*NEIC **06** 10:03:53.3±1.4,6°.22S±0°.09×142°.42E±0°.09,h10km±1km, mb4.8/77,Error ellipse: s-maj=15.8km s-min=13.1km az=220.0*
*DJA **06** 10:03:54.8±0.4,6°.S±4″×14°.2E±″,h10km,M4.9/9,mB5.1/1, mb4.3/9,MLv5.2/4,Mw(mB)4.5/1*

ISC 06 10:03:53.1±0.4,**6°.33S**±0°.05×**142°.43E**±0°.06,**h10**km,**n146,** σ1**977**/143,**mb4.8**/57,**MS3.2**/5,**1C**,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
TABU	**Tabubil**	**1.59**	**311**	P		**Pg**	**10 04 22.5**	**-1.2**
MMPI	**Merauke**	**2.94**	**223**	P		**Pn**	**10 04 41.3**	**+1.4**
GENI	**Genyem**	**4.34**	**329**	P		**Pn**	**10 05 00.4**	**+1.2**
GENI	**Genyem**	**4.34**	**329**	P		**Pn**	**10 04 59.8**	**+0.6**
GENI				S		**Sn**	**10 05 50.8**	**+0.9**
PMG	**Port Moresby**	**5.60**	**123**			**Pn**	**10 05 17.8**	**+1.3**
PMG	**Port Moresby**	**5.60**	**123**	P		**Pn**	**10 05 20.3**	**+3.8**
PMG	**Port Moresby**	**5.60**	**123**	Pn		**Pn**	**10 05 17.6**	**+1.1**
	3.6nm,0.3s,baz=319,slow=9.0,SNR=12							
PMG				Sn		**Sn**	**10 06 18.8**	**-2.1**
	7.3nm,0.3s,baz=223,slow=22,SNR=7.1							
	36nm,0.6s							
COEN	**Coen**	**7.62**	**175**	Pn		**Pn**	**10 05 46.4**	**+2.1**
FAKI	**Fak Fak**	**10.69**	**288**	Pn		**Pn**	**10 06 25.9**	**-0.6**
KDU	**Kakadu**	**11.67**	**236**	P		**Pn**	**10 06 41.2**	**+1.3**
MTN	**Manton Dam**	**12.88**	**239**			**Pn**	**10 06 56.2**	**-0.2**
MTN	**Manton Dam**	**12.88**	**239**	P		**Pn**	**10 06 57.4**	**+1.0**
CTA	**Charters Tower**	**14.18**	**165**	Lg		Lg	10 11 29.2	
	0.1nm,0.3s,baz=258,slow=20,SNR=4.6							
CTA				LR		LR	10 11 38.9	
	comp=Z,70nm,21.5s,baz=46,slow=33							
QIS	**Mount Isa**	**14.41**	**191**	P		**P**	**10 07 22.5**	**-1.8**
WB0	**Warramunga Arr**	**15.47**	**210**			**Pn**	**10 07 31.9**	**+0.2**
WB0				IAmb		IAmb	10 07 42.0	
	comp=Z,44nm,0.9s							
WR0	**Warramunga Arr**	**15.57**	**209**			**Pn**	**10 07 32.9**	**0.0**
WRAB	**Tennant Creek**	**15.64**	**209**			**Pn**	**10 07 33.9**	**+0.1**
WB2	**Warramunga Arr**	**15.64**	**209**			**Pn**	**10 07 33.8**	**-0.1**
WRA	**Warramunga Arr**	**15.65**	**209**			**Pn**	**10 07 34.1**	**+0.1**
WRA	**Warramunga Arr**	**15.65**	**209**	Pn		**Pn**	**10 07 33.6**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=25,slow=12,SNR=24							
WRA				Sn		**Sn**	**10 10 19.6**	**-8.0**
	comp=Z,0.3nm,0.3s,baz=32,slow=24,SNR=5.0							
WRA				Lg		Lg	10 12 17.6	
	comp=Z,0.5nm,0.3s,baz=39,slow=30,SNR=7.4							
KNRA	**Kununurra**	**16.31**	**234**	Pn		**Pn**	**10 07 41.6**	**-0.7**
KNRA				IAmb		IAmb	10 07 49.0	
	comp=Z,54nm,1.0s							
SANI	**Sanana**	**16.93**	**284**	P		**Pn**	**10 07 50.7**	**+0.3**
	comp=Z,14nm,1.0s							
SOEI	**Soe**	**18.30**	**258**			**Pn**	**10 08 06.4**	**-1.0**
SOEI	**Soe**	**18.30**	**258**	P		**P**	**10 08 11.4**	**+3.8**
SOEI	**Soe**	**18.30**	**258**	P		**P**	**10 08 10.1**	**+2.5**
AS01	**Alice Springs**	**19.07**	**204**	P		**Pn**	**10 08 19.2**	**+2.5**
	comp=Z,29nm,0.7s							
AS31	**Alice Springs**	**19.09**	**205**			**P**	**10 08 16.9**	**+0.8**
ASAR	**Alice Springs**	**19.09**	**205**			**P**	**10 08 17.0**	**+0.8**
ASAR	**Alice Springs**	**19.09**	**205**	P		**Pn**	**10 08 18.9**	**+2.0**
	comp=Z,16nm,0.7s,baz=30,slow=10,SNR=139							
ASAR				S		**Sn**	**10 11 47.7**	**-3.3**
	comp=Z,5.0nm,1.0s,baz=11,slow=27,SNR=5.3							
ASAR				Lg		Lg	10 13 53.8	
	comp=Z,0.1nm,0.3s,baz=26,slow=26,SNR=4.0							
ASAR				LR		LR	10 16 31.7	
	comp=Z,315nm,21.3s,baz=26,slow=39							
FITZ	**Fitzroy Crossi**	**20.13**	**233**	P		**P**	**10 08 28.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**20.13**	**233**	P		Pn	10 08 29.8	+0.5
MMRI	**Maumere**	**20.15**	**262**	P		**P**	**10 08 26.4**	**-1.3**
MMRI				IAmb		IAmb	10 08 53.9	
	comp=Z,70nm,1.3s							
QLP	**Quilpie**	**20.22**	**175**	P		Pn	10 08 33.1	+2.8
LUWI	**Luwuk**	**20.30**	**284**	P		**P**	**10 08 28.6**	**-0.8**
LUWI				IAmb		IAmb	10 08 56.3	
	comp=Z,33nm,0.9s							
PATS	**Pohnpei**	**20.55**	**51**	P		**P**	**10 08 31.9**	**-0.2**
EIDS	**Eidsvold**	**20.67**	**157**	P		**P**	**10 08 34.3**	**+1.0**
EDFI	**Ende, Flores**	**20.70**	**262**	P		**P**	**10 08 34.1**	**+0.3**
	comp=Z,28nm,1.1s							
INKA	**Innaminka**	**21.36**	**184**	P		**P**	**10 08 46.4**	**+5.7**
BKSl	**Bulukumba**	**22.21**	**271**	P		**P**	**10 08 51.7**	**+1.7**
OOD	**Oodnadatta**	**22.29**	**196**	P		**P**	**10 08 54.4**	**+3.7**
KAPI	**Kappang**	**22.60**	**272**	P		**P**	**10 08 53.4**	**-0.8**
KAPI				IAmb		IAmb	10 08 57.8	
	comp=Z,26nm,1.1s							
KAPI	**Kappang**	**22.60**	**272**	P		**P**	**10 08 57.7**	**+3.5**
TTSI	**Tana Toraja**	**22.76**	**277**	P		P	10 09 07.5	+12
TOLI2	**Tolitoli**	**22.84**	**288**	P		**P**	**10 08 55.4**	**-1.3**
WRKA	**Warakurna**	**23.01**	**215**	P		**P**	**10 09 00.8**	**+2.4**
AULRC	**Lightning Ridg**	**23.57**	**168**	P		**P**	**10 09 09.2**	**+5.2**
	comp=Z,32nm,1.3s							
LCRK	**Leigh Creek**	**24.32**	**189**	P		**P**	**10 09 14.0**	**+2.9**
	comp=Z,24nm,0.9s							
MULG	**Mulgathing**	**25.10**	**197**	P		**P**	**10 09 21.9**	**+3.8**

STKA	**Stephens Creek**	**25.43**	**182**	P		**P**	**10 09 22.1**	**+0.9**
STKA	**Stephens Creek**	**25.43**	**182**	P		**P**	**10 09 23.9**	**+2.7**
	comp=Z,2.8nm,0.7s,baz=340,slow=8.7,SNR=5.9							
	comp=Z,2.8nm,0.7s							
MBWA	**Marble Bar**	**26.46**	**234**	P		**P**	**10 09 30.4**	**-0.3**
MBWA				IAmb		IAmb	10 09 49.5	
	comp=Z,26nm,1.3s							
PSA00	**Pilbara Seismi**	**26.58**	**233**	P		**P**	**10 09 30.7**	**-1.0**
PSA00				IAmb		IAmb	10 09 36.3	
	comp=Z,14nm,0.8s							
PSA00	**Pilbara Seismi**	**26.58**	**233**	P		**P**	**10 09 30.9**	**-0.9**
PSA00				IAmb		IAmb	10 09 41.6	
	comp=Z,5.6nm,0.8s							
PSA00	**Pilbara Seismi**	**26.58**	**233**	P		**P**	**10 09 36.2**	**+4.5**
	comp=Z,20nm,0.9s							
NWAO	**Narrogin (SRO)**	**35.35**	**218**	LR		LR	10 26 13.1	
	comp=Z,161nm,20.1s,baz=37,slow=38							
MJAR	**Matsushiro Arr**	**42.82**	**355**	LR		LR	10 28 06.1	
	comp=Z,29nm,19.6s,baz=101,slow=34							
NJ2	**Nanjing**	**44.29**	**331**	*e*P		**P**	**10 12 05.1**	**+1.9**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
URZ	**Urewera**	**44.69**	**140**	LR		LR	10 30 29.3	
	comp=Z,60nm,18.1s,baz=300,slow=36							
WHN	**Wuhan**	**45.47**	**325**	P		**P**	**10 12 16.4**	**+3.7**
KSRS	**Korea Array**	**45.61**	**344**	P		**P**	**10 12 12.9**	**-0.7**
	comp=Z,5.0nm,0.9s,baz=165,slow=9.1,SNR=12							
	comp=Z,5.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**49.45**	**301**	P		**P**	**10 12 45.8**	**+1.9**
	comp=Z,0.8nm,0.5s,baz=118,slow=6.1,SNR=5.1							
CMAR				LR		LR	10 36 34.0	
	comp=Z,11nm,18.1s,baz=75,slow=40							
	comp=Z,0.8nm,0.5s							
XAN	**Xi'an**	**51.15**	**324**	P		**P**	**10 12 58.5**	**+1.9**
XAN				pmax		pmax		
	comp=Z,10.0nm,1.0s							
USRK	**Ussuriysk Ar.**	**51.17**	**350**	P		**P**	**10 12 55.0**	**-1.4**
	comp=Z,5.6nm,1.0s,baz=188,slow=8.3,SNR=5.5							
	comp=Z,5.6nm,1.0s							
PZH	**PanZhiHua**	**51.18**	**311**	P		**P**	**10 12 57.9**	**+0.9**
PZH				pmax		pmax		
	comp=Z,6.0nm,0.9s							
PZH				pmax		pmax		
	comp=Z,100nm,4.2s							
MDJ	**Mudanjiang**	**52.01**	**348**	P		**P**	**10 13 02.3**	**-0.4**
MDJ				pmax		pmax		
	comp=Z,11nm,2.0s							
MDJ				pmax		pmax		
	comp=Z,180nm,4.4s							
CN2	**Changchun**	**52.20**	**344**	P		**P**	**10 13 02.2**	**-2.0**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
BNX	**BinXian**	**53.54**	**347**	⇑P		**P**	**10 13 13.6**	**-0.5**
BNX				pmax		pmax		
	comp=Z,11nm,0.8s							
BNX				pmax		pmax		
	comp=Z,170nm,4.7s							
HHC	**Hu-ho-hao-te**	**54.83**	**332**	*e*P		**P**	**10 13 26.3**	**+2.6**
HHC				pmax		pmax		
	comp=Z,7.0nm,0.5s							
HHC				pmax		pmax		
	comp=Z,54nm,4.5s							
KLR	**Kul'dur**	**56.10**	**352**	P		**P**	**10 13 31.5**	**-1.0**
	comp=Z,1.9nm,0.6s,baz=191,slow=5.8,SNR=9.2							
	comp=Z,1.9nm,0.6s							
RAR	**Rarotonga**	**57.75**	**111**	P		**P**	**10 13 44.0**	**-0.8**
HEH	**HeiHe**	**57.83**	**349**	*e*P		**P**	**10 13 43.8**	**-1.0**
GTA	**Gaotai**	**60.16**	**323**	*e*P		**P**	**10 14 04.7**	**+3.3**
GTA				pP		sP	10 14 08.2	+2.3
GTA				pmax		pmax		
	comp=Z,3.0nm,1.2s							
PETK	**Petropavlovsk-**	**60.61**	**11**	P		**P**	**10 14 01.4**	**-2.5**
PETK	**Petropavlovsk-**	**60.61**	**11**	P		**P**	**10 14 02.7**	**-1.3**
	comp=Z,6.4nm,0.8s,baz=134,slow=6.2,SNR=5.5							
PETK				LR		LR	10 36 35.7	
	comp=Z,11nm,20.6s,baz=75,slow=33							
	comp=Z,6.4nm,0.8s							
SONM	**Songino Array**	**62.57**	**333**	P		**P**	**10 14 16.8**	**-0.7**
SONM	**Songino Array**	**62.57**	**333**	P		**P**	**10 14 17.3**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=153,slow=7.7,SNR=6.4							
	comp=Z,0.7nm,0.7s							
MK31	**Makanchi Array**	**74.90**	**322**	P		**P**	**10 15 33.4**	**-0.9**
MKAR	**Makanchi Array**	**74.90**	**322**	P		**P**	**10 15 33.5**	**-0.8**
MKAR	**Makanchi Array**	**74.90**	**322**	P		**P**	**10 15 34.2**	**-0.1**
	comp=Z,3.1nm,0.9s,baz=115,slow=7.1,SNR=12							
	comp=Z,3.1nm,0.9s							
ZAA0	**Zalesovo Array**	**76.91**	**329**	P		**P**	**10 15 44.3**	**-1.2**
ZALV	**Zalesovo Beam**	**76.91**	**329**	P		**P**	**10 15 43.8**	**-1.8**
ZALV	**Zalesovo Beam**	**76.91**	**329**	P		**P**	**10 15 44.2**	**-1.3**
	comp=Z,0.9nm,0.6s,baz=98,slow=6.5,SNR=5.1							
	comp=Z,0.9nm,0.6s							
BOOM	**Boomskoye usch**	**77.31**	**316**	P		**P**	**10 15 48.0**	**-0.4**
KK31	**Karatay Array**	**81.29**	**315**	P		**P**	**10 16 08.2**	**-1.7**
KKAR	**Karatay Array**	**81.29**	**315**	P		**P**	**10 16 07.4**	**-2.5**
N17K	**Nushagak Hills**	**81.50**	**26**	P		**P**	**10 16 10.2**	**-0.3**
N17K				IAmb		IAmb	10 16 11.5	
	comp=Z,17nm,1.4s							
M17K	**Holitna River**	**81.82**	**25**	P		**P**	**10 16 12.5**	**+0.2**
J17K	**VABM Dome**	**82.18**	**23**	P		**P**	**10 16 14.2**	**+0.2**
H17K	**Grant Mounta**	**82.68**	**21**	P		**P**	**10 16 16.1**	**-0.5**
F17K	**Baldwin Pennin**	**83.03**	**20**	P		**P**	**10 16 18.4**	**0.0**
F17K				IAmb		IAmb	10 16 21.6	
	comp=Z,6.5nm,1.1s							
G18K	**Tagagawik**	**83.63**	**21**	P		**P**	**10 16 20.9**	**-0.7**
G18K				IAmb		IAmb	10 16 24.0	
	comp=Z,7.9nm,1.2s							
QSPA	**South Pole Qui**	**83.64**	**180**	P		**P**	**10 16 22.6**	**+0.7**
QSPA	**South Pole Qui**	**83.64**	**180**	P		**P**	**10 16 22.5**	**+0.7**
	comp=Z,2.8nm,0.9s,baz=294,slow=3.2,SNR=3.2							
	comp=Z,2.8nm,0.9s							
E18K	**Tukpahlearik C**	**83.78**	**19**	P		**P**	**10 16 21.8**	**-0.5**
E18K				IAmb		IAmb	10 16 27.1	
	comp=Z,4.3nm,1.0s							
M20K	**Styx River**	**83.87**	**25**	P		**P**	**10 16 22.7**	**-0.3**
M20K				IAmb		IAmb	10 16 23.3	
	comp=Z,6.6nm,1.1s							
K20K	**Telida**	**84.13**	**24**	P		**P**	**10 16 23.5**	**-0.7**
NRIK	**Noril'sk**	**84.22**	**343**	P		**P**	**10 16 23.8**	**-0.7**
NRIK				IAmb		IAmb	10 16 27.6	
	comp=Z,7.2nm,1.1s							
NRIK	**Noril'sk**	**84.22**	**343**	P		**P**	**10 16 23.3**	**-1.2**
	comp=Z,4.9nm,0.9s,baz=109,slow=7.7,SNR=7.1							
	comp=Z,4.9nm,0.9s							
G19K	**Purcell Mounta**	**84.31**	**21**	P		**P**	**10 16 24.0**	**-1.0**
G19K				IAmb		IAmb	10 16 34.5	
	comp=Z,10nm,1.4s							
BVAR	**Borovoye Array**	**84.38**	**325**	P		**P**	**10 16 25.4**	**-0.3**
	comp=Z,5.5nm,0.8s,baz=116,slow=6.6,SNR=17							
	comp=Z,5.5nm,0.8s							
BRVK	**Borovoye**	**84.45**	**325**	P		**P**	**10 16 24.2**	**-1.8**
J20K	**Nowinta River**	**84.47**	**23**	P		**P**	**10 16 25.9**	**+0.1**
J20K				IAmb		IAmb	10 16 27.2	
	comp=Z,6.7nm,1.2s							
SUA	**Susitna One**	**84.73**	**26**	P		**P**	**10 16 26.1**	**-1.3**
SUA				IAmb		IAmb	10 16 29.0	
	comp=Z,4.0nm,0.9s							
E19K	**Redstone River**	**84.91**	**20**	P		**P**	**10 16 27.9**	**-0.1**
E19K				IAmb		IAmb	10 16 31.2	
	comp=Z,4.2nm,0.9s							
C19K	**Lookout Ridge**	**85.02**	**18**	P		**P**	**10 16 28.5**	**-0.1**
C19K				IAmb		IAmb	10 16 32.1	
	comp=Z,5.6nm,1.1s							
RC01	**Rabbit Creek A**	**85.03**	**27**	P		**P**	**10 16 27.0**	**-1.8**
RC01				IAmb		IAmb	10 16 31.3	
	comp=Z,6.6nm,0.9s							
M22K	**Willow**	**85.12**	**26**	P		**P**	**10 16 27.8**	**-1.3**
D19K	**Kuna River**	**85.15**	**19**	P		**P**	**10 16 28.8**	**-0.5**
D19K				IAmb		IAmb	10 16 31.5	
	comp=Z,7.6nm,1.2s							
F20K	**Avaraart Lake**	**85.22**	**20**	P		**P**	**10 16 29.5**	**0.0**
F20K				IAmb		IAmb	10 16 32.4	
	comp=Z,7.9nm,1.4s							
IMAR	**Indian Mountai**	**85.43**	**22**	P		**P**	**10 16 30.2**	**-0.5**
PMR	**Palmer**	**85.50**	**26**	P		**P**	**10 16 29.4**	**-1.6**
PMR				IAmb		IAmb	10 16 52.5	
	comp=Z,8.0nm,1.2s							
KNK	**Knik Glacier**	**85.73**	**27**	P		**P**	**10 16 31.1**	**-1.1**
MLY	**Manley**	**86.17**	**23**			**P**	**10 16 33.6**	**-0.8**
RND	**Reindeer**	**86.30**	**25**			**P**	**10 16 33.5**	**-1.6**
RND				IAmb		IAmb	10 16 36.8	
	comp=Z,7.5nm,1.0s							
DHY	**Denali Highway**	**86.80**	**25**	P		**P**	**10 16 36.8**	**-0.9**
DHY				IAmb		IAmb	10 16 40.2	
	comp=Z,5.8nm,1.0s							
B21K	**Ikpikpuk River**	**86.80**	**18**	P		**P**	**10 16 37.3**	**0.0**
B21K				IAmb		IAmb	10 16 40.1	

	comp=Z,7.4nm,1.3s							
E22K	**Anaktuvuk Pass**	**87.05**	**20**	P		**P**	**10 16 38.2**	**-0.5**
D22K	**Ayikyak River**	**87.08**	**19**	P		**P**	**10 16 38.6**	**-0.2**
CCB	**Clear Creek Bu**	**87.18**	**24**	P		**P**	**10 16 37.5**	**-1.8**
B22K	**Teshekpuk Lake**	**87.50**	**18**	P		**P**	**10 16 40.2**	**-0.4**
B22K				IAmb		IAmb	10 16 41.0	
	comp=Z,5.3nm,0.9s							
H24K	**Noodor Dome**	**87.58**	**23**	P		**P**	**10 16 40.3**	**-1.0**
H24K				IAmb		IAmb	10 16 41.4	
	comp=Z,5.4nm,1.2s							
IL31		**87.59**	**24**	P		**P**	**10 16 39.0**	**-2.2**
IL31				IAmb		IAmb	10 16 39.7	
	comp=Z,5.1nm,1.0s							
ILAR	**Eielson Array**	**87.59**	**24**	P		**P**	**10 16 39.5**	**-1.8**
ILAR	**Eielson Array**	**87.59**	**24**	P		**P**	**10 16 39.0**	**-2.3**
	comp=Z,2.5nm,0.9s,baz=255,slow=5.4,SNR=20							
	comp=Z,2.5nm,0.9s							
C23K	**Itkillik River**	**88.15**	**19**	P		**P**	**10 16 43.9**	**0.0**
J25K	**Salcha River,**	**88.15**	**24**	P		**P**	**10 16 43.6**	**-0.5**
F24K	**Squaw Lake**	**88.19**	**21**	P		**P**	**10 16 44.3**	**+0.2**
F24K				IAmb		IAmb	10 16 45.2	
	comp=Z,6.2nm,1.1s							
D24K	**Happy Valley**	**88.47**	**19**	P		**P**	**10 16 45.7**	**+0.4**
GRNC	**Granite Creek**	**88.61**	**28**	P		**P**	**10 16 44.5**	**-1.9**
BARN	**Barnard Glacie**	**88.74**	**28**	P		**P**	**10 16 46.8**	**-0.2**
BARN				IAmb		IAmb	10 16 50.3	
	comp=Z,4.7nm,1.0s							
TABL	**Table Mountain**	**88.82**	**29**	P		**P**	**10 16 45.2**	**-2.3**
FYU	**Fort Yukon**	**88.84**	**22**	P		**P**	**10 16 46.8**	**-0.3**
J26L	**Joseph Creek**	**88.86**	**25**	P		**P**	**10 16 47.0**	**-0.5**
J26L				IAmb		IAmb	10 16 48.3	
	comp=Z,6.1nm,1.2s							
CTGM	**Chitina Glacie**	**88.87**	**28**	P		**P**	**10 16 47.3**	**-0.3**
M27K	**Edge Creek, AK**	**88.98**	**27**	P		**P**	**10 16 47.8**	**-0.3**
M27K				IAmb		IAmb	10 16 50.9	
	comp=Z,8.1nm,1.2s							
L27K	**Beaver Creek,**	**89.20**	**26**	P		**P**	**10 16 48.8**	**-0.2**
L27K				IAmb		IAmb	10 16 52.3	
	comp=Z,6.4nm,1.2s							
BCAR	**Beaver Creek A**	**89.22**	**26**	P		**P**	**10 16 48.0**	**-1.1**
K27K	**Chicken**	**89.35**	**25**	P		**P**	**10 16 49.8**	**+0.2**
K27K				IAmb		IAmb	10 16 53.5	
	comp=Z,8.8nm,1.1s							
BMAR	**Burnt Mountain**	**89.35**	**22**	P		**P**	**10 16 49.5**	**-0.2**
EGAK	**Eagle**	**89.93**	**25**	P		**P**	**10 16 51.9**	**-0.4**
EGAK				IAmb		IAmb	10 16 52.5	
	comp=Z,4.5nm,1.0s							
DAWY	**Dawson**	**90.50**	**25**	P		**P**	**10 16 54.5**	**-0.6**
DAWY				IAmb		IAmb	10 16 58.4	
	comp=Z,6.3nm,1.3s			

KHZ	**Kahutara**	**7.52**	**206**	P		**Pn**	**10 07 12.6**	**+2.1**

WEL 06 10:09:36.5±1.0, 35°S×5°×17°9E±1°1, h12km, M3.9/20, ML4.1/25, MLv3.9/20, Error ellipse: s-maj=0.0km s-min=0.0km az=79.4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**2.60**	**185**	P	Pn	10 10 16.8	-1.6
WMGZ				S	Sb	10 10 52.4	-2.5
HAZ	**Te Kaha**	**2.63**	**196**	P	Pn	10 10 17.6	-1.1
HAZ				S	Sb	10 10 53.6	-2.1
PKGZ	**Pakihiroa**	**2.70**	**190**	P	Pn	10 10 17.6	-2.2
RUGZ	**Raukumara Rang**	**2.85**	**196**	P	Pn	10 10 20.5	-1.5
PUZ	**Puketiti**	**2.86**	**187**	P	Pn	10 10 21.5	-0.5
PUZ				S	Sn	10 10 57.5	+1.1
TWGZ	**Tauwhareparae**	**3.00**	**190**	P	Pn	10 10 24.5	+0.5
TWGZ				S	Sn	10 11 02.0	+2.2
MARZ	**Manawahe**	**3.19**	**210**	P	Pb	10 10 29.8	-3.3
MWZ	**Matawai**	**3.24**	**196**	P	Pn	10 10 25.5	-1.7
CNGZ	**Carnagh Statio**	**3.27**	**186**	P	Pn	10 10 27.7	+0.1
CNGZ				S	Sn	10 11 09.1	+2.5
TKGZ	**Te Karaka**	**3.28**	**191**	P	Pn	10 10 28.0	+0.4
TKGZ				S	Sn	10 11 07.2	+0.7
URZ	**Urewera**	**3.28**	**202**	P	Pn	10 10 26.3	-1.4
RAGZ	**Rawiri**	**3.42**	**197**	P	Pn	10 10 29.0	-0.7
RAGZ				S	Sn	10 11 07.1	-3.1
TARZ	**Mount Tarawera**	**3.47**	**209**	P	Pb	10 10 34.4	-3.6
RIGZ	**Rimuhau**	**3.55**	**192**	P	Pn	10 10 31.1	-0.4
RIGZ				S	Sn	10 11 12.4	-1.0
MUGZ	**Murupara**	**3.59**	**205**	P	Pn	10 10 31.3	-0.7
MUGZ				S	Sn	10 11 09.9	-4.4
WCZ	**Waipu Caves**	**3.60**	**257**	P	Pn	10 10 30.0	-2.1
RTZ	**Ruatahuna**	**3.65**	**201**	P	Pn	10 10 31.3	-1.5
SNGZ	**Shannon Statio**	**3.71**	**196**	P	Pn	10 10 34.2	+0.6
SNGZ				S	Sn	10 11 18.5	+1.3
PRRZ	**Plateau Road**	**3.75**	**209**	P	Pn	10 10 36.6	+2.5
ALRZ	**Allen Road**	**3.82**	**209**	P	Pn	10 10 37.7	+2.5
KNZ	**Kokohu**	**3.87**	**192**	P	Pn	10 10 34.4	-1.4
KNZ				S	Sn	10 11 18.2	-3.1
RAHZ	**Arahi**	**3.90**	**199**	P	Pn	10 10 37.1	+0.9
RAHZ				S	Sn	10 11 22.8	+0.8
MTHZ	**Maungataniwha**	**3.91**	**201**	P	Pn	10 10 37.2	+0.9
MHGZ	**Mahia Peninsul**	**3.97**	**189**	P	Pn	10 10 36.0	-1.2
KUTZ	**Kaahu Road**	**3.98**	**214**	P	Pn	10 10 41.2	+3.8
NMHZ	**Naumai**	**4.14**	**201**	P	Pn	10 10 40.4	+0.7
OUZ	**Omahuta**	**4.16**	**269**	P	Pn	10 10 36.2	-3.5
ARHZ	**Aropaoanui**	**4.25**	**198**	P	Pn	10 10 41.0	0.0
BKZ	**Black Stump Fm**	**4.30**	**203**	P	Pn	10 10 42.2	+0.4
RATZ	**Rangitukua**	**4.31**	**212**	P	Pn	10 10 44.6	+2.7
RITZ	**Rihia Road**	**4.37**	**210**	P	Pn	10 10 45.1	+2.3
KATZ	**Kakaramea**	**4.44**	**212**	P	Pn	10 10 46.7	+3.0
MCHZ	**McNeill Hill**	**4.50**	**200**	P	Pn	10 10 44.2	-0.3
NTVZ	**North Tongarir**	**4.55**	**211**	P	Pn	10 10 47.2	+2.0
TMVZ	**Te Maari**	**4.55**	**211**	P	Pn	10 10 46.7	+1.4
KRVZ	**Karewarewa**	**4.56**	**211**	P	Pn	10 10 47.6	+2.2
KWHZ	**Kaweka Forest**	**4.56**	**202**	P	Pn	10 10 45.0	-0.4
ETVZ	**East Tongariro**	**4.56**	**210**	P	Pn	10 10 46.4	+0.9
WTVZ	**West Tongariro**	**4.60**	**211**	P	Pn	10 10 47.9	+2.0
NNVZ	**North Ngauruho**	**4.60**	**211**	P	Pn	10 10 48.2	+2.2
OTVZ	**Oturere**	**4.61**	**211**	P	Pn	10 10 46.9	+0.8
TWVZ	**Taurewa**	**4.63**	**213**	P	Pn	10 10 49.0	+2.7
SNVZ	**South Ngauruho**	**4.64**	**211**	P	Pn	10 10 47.7	+1.2
NGZ	**Ngauruhoe**	**4.64**	**211**	P	Pn	10 10 48.7	+2.1
TUVZ	**Tukino**	**4.70**	**210**	P	Pn	10 10 48.7	+1.4
FWVZ	**Far West T-bar**	**4.73**	**211**	P	Pn	10 10 49.2	+1.3
BHHZ	**Black Hill Sta**	**4.74**	**205**	P	Pn	10 10 47.7	-0.1
MAVZ	**Matarangi**	**4.74**	**211**	P	Pn	10 10 50.2	+2.1
TRVZ	**Turoa**	**4.77**	**211**	P	Pn	10 10 49.6	+1.2
WNVZ	**Wahianoa**	**4.77**	**210**	P	Pn	10 10 49.4	+1.0
KRHZ	**Kereru**	**4.78**	**202**	P	Pn	10 10 47.2	-1.1
MOVZ	**Moawhango**	**4.78**	**208**	P	Pn	10 10 48.6	+0.2
KAHZ	**Kahuranaki**	**4.78**	**197**	P	Pn	10 10 46.9	-1.4
VRZ	**Vera Road**	**4.99**	**218**	P	Pn	10 10 54.1	+2.8
PXZ	**Pawanui**	**5.01**	**196**	P	Pn	10 10 49.1	-2.3
PNHZ	**Pukenui**	**5.08**	**202**	P	Pn	10 10 50.8	-1.7
WPWZ	**Waipukurau**	**5.15**	**199**	P	Pn	10 10 51.2	-2.2
MHEZ	**Mangahewa**	**5.18**	**221**	P	Pn	10 10 59.6	+5.8
TSZ	**Takapari Road**	**5.28**	**203**	P	Pn	10 10 53.3	-2.0
PRHZ	**Porangahau**	**5.29**	**197**	P	Pn	10 10 52.6	-2.7
WAZ	**Wanganui**	**5.39**	**212**	P	Pn	10 10 57.9	+1.1
DVHZ	**Dannevirke**	**5.44**	**201**	P	Pn	10 10 54.7	-2.7
PRWZ	**Pori Road**	**5.74**	**201**	P	Pn	10 10 59.5	-1.9
BFZ	**Birch Farm**	**5.78**	**199**	P	Pn	10 10 58.6	-3.4

*NNC **06** 10:14:59.0±0.6, 51°.71N×75°.39E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=11.4km s-min=3.8km az=22.0, Suspected Mining explosion.*
*IDC **06** 10:15:00.1±1.1, 51°.72N×75°.49E, h0km, mbtmp2.7/2, ML1.8/2, Error ellipse: s-maj=26.0km s-min=8.3km az=27.0.*

ISC 06 10:15:03.9±1.5, 51°8N±0°.1×75°87E±0°.08, h0km, n10, σ1°60/9, 7C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**2.06**	**122**	⇑Pg	**Pn**	**10 15 40.2**	**+0.4**
	4.6nm,0.8s						
KURK				⇑Lg	Lg	10 16 09.6	
	12nm,0.7s						
KURBB	**Kurchatov Arra**	**2.07**	**125**	Pg	**Pn**	**10 15 39.3**	**-0.5**
	0.3nm,0.3s,baz=305,slow=19,SNR=24						
KURBB				Lg	Lg	10 16 11.0	
	0.3nm,0.3s,baz=307,slow=29,SNR=9.7						
KURBB	**Kurchatov Arra**	**2.07**	**125**	⇓Pg	**Pn**	**10 15 40.7**	**+0.9**
	7.2nm,0.8s						
KURBB				⇓Lg	Lg	10 16 11.2	
	34nm,0.7s						
BVA0	**Borovoye Array**	**3.56**	**292**	⇑Pg	**Pn**	**10 15 59.9**	**-0.5**
	2.0nm,0.8s,baz=118,slow=16,SNR=8.1						
BVA0				⇑Lg	Lg	10 16 44.6	
	13nm,1.1s,baz=122,slow=26,SNR=3.8						
BVAR	**Borovoye Array**	**3.56**	**292**	Pg	**Pn**	**10 15 59.5**	**-0.9**
	baz=113,slow=15,SNR=7.5						
BVAR				Lg	Lg	10 16 48.3	
	0.1nm,0.3s,baz=112,slow=31,SNR=8.1						
BRVK	**Borovoye**	**3.63**	**292**	⇑Pg	**Pn**	**10 16 00.5**	**-0.9**
	2.5nm,0.9s						
BRVK				⇓Lg	Lg	10 16 49.3	
	10nm,0.8s						
OTUK	**Ortayu**	**4.25**	**214**	⇑Pg	**Pn**	**10 16 11.9**	**+2.0**
	3.7nm,1.1s						
OTUK				⇑Lg	Lg	10 17 05.7	
	8.9nm,1.0s						
I46RU	**ZALESOVO INFRA**	**5.82**	**65**	I	I	10 49 10.0	
	baz=253,slow=337,SNR=8.8						
ZALV	**Zalesovo Beam**	**5.82**	**65**	Pn	**Pn**	**10 16 33.2**	**+1.9**
	0.1nm,0.3s,baz=250,slow=17,SNR=4.3						
ZALV				Lg	Lg	10 18 12.6	
	0.2nm,0.3s,baz=249,slow=26,SNR=1.6						
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**6.56**	**138**	Pn	**Pn**	**10 16 39.4**	**-2.2**
	baz=328,slow=15,SNR=1.7						
MKAR				Lg	Lg	10 18 28.5	
	0.2nm,0.3s,baz=322,slow=26,SNR=8.3						
	0.3nm,0.6s						

*NEIC **06** 10:19:58.4±0.8, 19°.37N±0°.09×65°.13W±0°.08, h35km±2km, ML2.6/16, Md3.2/3(RSPR), Error ellipse: s-maj=19.6km s-min=3.1km az=138.0*
*RSPR **06** 10:20:01.7, 19°.19N×65°.26W, h14km±13km, MD3.2/3*

ISC 06 10:19:57.7±2.4, 19°3N±0°.2×65°15W±0°.05, h23km, n18, σ0°76/23, 5C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GCPR	**Guaynabo City**	**1.31**	**223**	Pn	**Pn**	**10 20 20.6**	**+0.1**
HUMP	**Col San Antoni**	**1.31**	**210**	⇑eP	**Pn**	**10 20 20.9**	**+0.3**
HUMP	**Col San Antoni**	**1.31**	**210**	eS	**Sn**	**10 20 35.6**	**-1.8**
HUMP	**Col San Antoni**	**1.31**	**210**		**Pn**	**10 20 20.9**	**+0.3**
HUMP					**Sb**	**10 20 39.2**	**+1.2**
EMPR	**Esperanza - Ma**	**1.53**	**239**	Pn	**Pn**	**10 20 24.0**	**+0.4**
IGPR	**InterUniversit**	**1.59**	**215**	Pn	**Pn**	**10 20 25.1**	**+0.7**
IGPR				IAML		10 20 47.7	
	comp=N,67nm,0.3s						
IGPR				IAML		10 20 48.5	
	comp=E,91nm,0.2s						
AOPR	**Arecibo Observ**	**1.78**	**239**	⇑eP	**Pn**	**10 20 27.1**	**0.0**
AOPR	**Arecibo Observ**	**1.78**	**239**		**Pn**	**10 20 26.4**	**-0.6**
AOPR	**Arecibo Observ**	**1.78**	**239**	eP	**Pn**	**10 20 27.6**	**+0.5**
AOPR				eS	**Sb**	**10 20 51.5**	**-0.1**
CELP	**Cerrillos**	**1.81**	**229**	⇑eP	**Pn**	**10 20 27.8**	**+0.3**
CELP	**Cerrillos**	**1.81**	**229**	eS	**Sn**	**10 20 48.7**	**-1.0**
CELP	**Cerrillos**	**1.81**	**229**		**Pn**	**10 20 27.9**	**+0.4**
CELP					**Sn**	**10 20 49.3**	**-0.4**
CELP				IAML		10 20 55.0	
	comp=E,32nm,4.6s						
CELP				IAML		10 20 58.8	
	comp=N,53nm,3.7s						
MLPR	**Magueyes Islan**	**2.22**	**234**	⇑eP	**Pn**	**10 20 33.8**	**+0.7**
MLPR	**Magueyes Islan**	**2.22**	**234**	eS	**Sn**	**10 20 58.4**	**-1.4**
MLPR	**Magueyes Islan**	**2.22**	**234**		**Pn**	**10 20 34.2**	**+1.1**
MLPR					**Sn**	**10 21 00.3**	**+0.5**
MLPR				IAML		10 21 12.6	
	comp=N,35nm,3.7s						
MLPR				IAML		10 21 31.8	
	comp=E,36nm,4.2s						
CRPR	**Cabo Rojo, PR**	**2.25**	**236**	⇑eP	**Pn**	**10 20 33.7**	**+0.2**
CRPR	**Cabo Rojo, PR**	**2.25**	**236**		**Pn**	**10 20 33.9**	**+0.4**
CRPR				IAML		10 20 59.0	
	comp=N,32nm,3.4s						
CRPR				IAML		10 22 05.4	
	comp=E,24nm,4.0s						
ANBD	**Bethesda, Anti**	**3.91**	**124**	eP	**Pn**	**10 20 56.6**	**+0.2**
ANBD				eS	**Sn**	**10 21 41.1**	**-0.5**

IDC 06 10:24:34.5±2.1, 5°97S×142°52E, h0km, mb3.7/2, mbtmp3.6/3, ML3.4/1, MS3.5/2, Error ellipse: s-maj=66.8km s-min=39.0km az=106.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.00**	**209**	Pn	Pn	10 28 17.2	-4.0
	0.1nm,0.3s,baz=30,slow=13,SNR=5.4						
WRA				Sn	Sn	10 31 04.7	-15
	0.1nm,0.3s,baz=26,slow=24,SNR=2.9						
ASAR	**Alice Springs**	**19.45**	**204**	P	P	10 29 02.8	-0.1
	0.1nm,0.3s,baz=35,slow=10,SNR=13						
	0.8nm,0.6s						
TGY	**Tagaytay City**	**29.26**	**313**	LR	LR	10 42 14.5	
	comp=Z,101nm,21.8s,baz=116,slow=36						
CMAR	**Chiang Mai Arr**	**49.34**	**300**	P	P	10 33 25.8	-0.2
	0.5nm,0.3s,baz=101,slow=8.4,SNR=1.6						
	0.5nm,0.3s						
BVAR	**Borovoye Array**	**84.14**	**325**	LR	LR	11 15 17.8	
	comp=Z,26nm,20.6s,baz=176,slow=36						
ILAR	**Eielson Array**	**87.23**	**24**	P	P	10 37 22.8	+0.2
	0.3nm,0.8s,baz=240,slow=5.1,SNR=2.9						
	0.3nm,0.8s						

*SOME **06** 10:36:09.0, 43°.38N×69°.46E*
NNC 06 10:36:07.9±1.2, 43°.61N×69°.63E, h0km, mb3.9, mpv3.4, 1C-3D, Error ellipse: s-maj=10.6km s-min=5.3km az=56.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**0.82**	**127**	⇑P	Pg	10 36 23.6	+0.1
	3.6nm,0.4s,baz=23,slow=32,SNR=215						
KK31				⇓S	Sg	10 36 35.3	+1.2
	23nm,0.4s,baz=308,slow=26,SNR=135						
MRKS	**Merke**	**2.77**	**107**	Pg	Pb	10 36 58.4	0.0
	6.9nm,0.4s						
MRKS				Lg	Lg	10 37 34.3	
	11nm,0.4s						
EKS2	**Erkin-Say**	**3.18**	**106**	P	Pb	10 37 06.2	+0.8
	SNR=12						
BTLS	**Baital**	**3.48**	**64**	Pg	Pg	10 37 13.4	-1.2
	20nm,0.4s						
BTLS				Lg	Lg	10 38 00.7	
	6.8nm,0.5s						
USP	**Ospenovka**	**3.57**	**94**	P	Pg	10 37 14.2	-2.1
	SNR=17						
AAK	**Ala-Archa**	**3.69**	**104**	P	Pb	10 37 15.1	+0.9
	SNR=20						
UCH	**Uchtor**	**3.84**	**109**	P	Pb	10 37 17.6	+0.7
	SNR=8.7						
TKM2	**Tokmak 2**	**4.41**	**97**	P	Pb	10 37 27.7	+1.3
	SNR=7.8						
TKM2	**Tokmak 2**	**4.41**	**97**	⇓Pg	Pb	10 37 27.8	+1.3
	2.9nm,0.6s						
TKM2				⇓Lg	Lg	10 38 25.5	
	13nm,0.8s						
DGS	**Degeres**	**4.49**	**93**	Pg	Pb	10 37 29.9	+2.2
	4.0nm,0.5s						
DGS				Lg	Lg	10 38 28.1	
	12nm,0.8s						
KUU	**Kurty**	**4.87**	**84**	Pg	Pb	10 37 36.0	+1.9
	3.0nm,0.4s						
KUU				Lg	Lg	10 38 39.1	
	9.3nm,0.6s						
TNSS	**Tian-Shan**	**5.37**	**94**	Pg	Pb	10 37 46.4	+3.6
	1.3nm,0.3s						
TNSS				Lg	Lg	10 38 56.4	
	4.0nm,0.5s						
ARXS	**Arharly**	**5.96**	**81**	Pg	Pb	10 37 56.7	+4.1
	2.1nm,0.3s						
ARXS				Lg	Lg	10 39 14.2	
	3.7nm,0.4s						

*IDC **06** 10:37:06.1±0.8, 5°.69S×142°.53E, h0km, mb4.3/9, mbtmp4.3/11, ML2.2/1, MS3.3/10, Error ellipse: s-maj=32.4km s-min=16.8km az=78.0*
*NEIC **06** 10:37:07.6±1.8, 5°.75S±0°.08×142°.29E±0°.08, h10km±1km, mb4.7/87, Error ellipse: s-maj=14.1km s-min=12.8km az=149.0*

ISC 06 10:37:07.7±0.5, 5°85S±0°.06×142°31E±0°.06, h10km, n126, σ1°38/120, mb4.7/51, MS3.4/9, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.22**	**298**	P	**Pn**	**10 37 31.1**	**+0.1**
GENI	**Genyem**	**3.88**	**326**	P	**Pn**	**10 38 09.0**	**+1.6**
PMG	**Port Moresby**	**5.97**	**127**		**Pn**	**10 38 37.4**	**+1.2**
PMG	**Port Moresby**	**5.97**	**127**	P	**Pn**	**10 38 37.2**	**+1.0**
PMG	**Port Moresby**	**5.97**	**127**	Pn	**Pn**	**10 38 36.5**	**+0.4**
	4.0nm,0.3s,baz=349,slow=16,SNR=13						
PMG				Sn	**Sn**	**10 39 43.5**	**-1.1**
	11nm,0.3s,baz=202,slow=18,SNR=7.6						
	19nm,0.5s						
MANU	**Manus Island**	**6.30**	**53**	Pn	**Pn**	**10 38 41.2**	**+0.4**
COEN	**Coen**	**8.10**	**174**	Pn	**Pn**	**10 39 06.8**	**+1.2**
COEN	**Coen**	**8.10**	**174**	P	**Pn**	**10 39 08.5**	**+3.0**
FAKI	**Fak Fak**	**10.44**	**286**	Pn	**Pn**	**10 39 36.1**	**-1.5**
FAKI	**Fak Fak**	**10.44**	**286**	P	**Pn**	**10 39 39.8**	**+2.1**
MTSU	**Mount Surprise**	**12.37**	**171**	P	**Pn**	**10 40 07.9**	**+3.9**
DRS	**Darwin Rock St**	**13.02**	**239**	P	**Pn**	**10 40 17.1**	**+4.2**
	18nm,0.5s						
MTN	**Manton Dam**	**13.03**	**237**	Pn	**Pn**	**10 40 13.6**	**+0.6**
CTA	**Charters Towe**	**14.66**	**165**	LR	LR	10 46 20.2	
	comp=Z,135nm,18.7s,baz=50,slow=38						
WB0	**Warramunga Arr**	**15.83**	**208**	Pn	**Pn**	**10 40 50.2**	**-0.7**
WR0	**Warramunga Arr**	**15.93**	**208**		**Pn**	**10 40 50.9**	**-1.2**
WRAB	**Tennant Creek**	**16.00**	**208**		**Pn**	**10 40 54.3**	**+1.2**
WB2	**Warramunga Arr**	**16.00**	**208**	Pn	**Pn**	**10 40 52.2**	**-0.9**
WRA	**Warramunga Arr**	**16.01**	**208**	Pn	**Pn**	**10 40 51.8**	**-1.4**
WRA	**Warramunga Arr**	**16.01**	**208**	Pn	**Pn**	**10 40 51.6**	**-1.6**
	0.6nm,0.3s,baz=29,slow=13,SNR=33						
WRA				Sn	Sn	10 43 40.4	-10
	0.6nm,0.3s,baz=26,slow=22,SNR=5.2						
WRA				Lg	Lg	10 45 37.4	
	0.4nm,0.3s,baz=33,slow=28,SNR=2.9						
KNRA	**Kununurra**	**16.49**	**233**		**Pn**	**10 40 57.4**	**-2.0**
HNR	**Honiara**	**17.84**	**103**	Pn	**Pn**	**10 41 14.4**	**-1.9**
SOEI	**Soe**	**18.29**	**257**	P	**Pn**	**10 41 21.2**	**-0.7**
SOEI				IAmb	IAmb	10 41 56.2	
	comp=Z,50nm,0.9s						
AS31	**Alice Springs**	**19.47**	**204**	P	**P**	**10 41 34.4**	**-0.6**
ASAR	**Alice Springs**	**19.48**	**204**	P	**Pn**	**10 41 37.2**	**+1.0**
ASAR	**Alice Springs**	**19.48**	**204**	P	**Pn**	**10 41 37.5**	**+1.3**
	comp=Z,19nm,0.9s,baz=34,slow=9.3,SNR=80						
ASAR				S	**Sn**	**10 45 08.4**	**-6.4**
	comp=Z,3.4nm,0.7s,baz=18,slow=27,SNR=5.2						
ASAR				Lg	Lg	10 47 29.8	
	baz=28,slow=32						
ASAR				LR	LR	10 50 26.0	
	comp=Z,86nm,19.9s,baz=31,slow=41						
LUWI	**Luwuk**	**20.07**	**283**	P	**P**	**10 41 40.9**	**-0.6**
LUWI				IAmb	IAmb	10 41 50.9	
	comp=Z,45nm,1.1s						
FITZ	**Fitzroy Crossi**	**20.32**	**232**	P	**P**	**10 41 44.9**	**+0.7**
STKA	**Stephens Creek**	**25.90**	**181**	P	**P**	**10 42 41.8**	**+1.7**
	comp=Z,2.9nm,0.8s,baz=28,slow=7.9,SNR=4.1						
STKA				LR	LR	10 54 20.8	
	comp=Z,142nm,18.9s,baz=6.7,slow=40						
	comp=Z,2.9nm,0.8s						
JCJ	**Chichijima**	**32.75**	**360**	LR	LR	10 56 14.8	
	comp=Z,37nm,20.9s,baz=120,slow=35						
LEM	**Lembang**	**34.49**	**266**	LR	LR	11 00 14.9	
	comp=Z,29nm,19.5s,baz=222,slow=40						
KSRS	**Korea Array**	**45.12**	**344**	P	**P**	**10 45 23.8**	**-0.6**
	comp=Z,4.2nm,1.2s,baz=159,slow=11,SNR=5.4						
KSRS				LR	LR	11 03 52.5	
	comp=Z,16nm,18.6s,baz=160,slow=36						
	comp=Z,4.2nm,1.2s						
URZ	**Urewera**	**45.13**	**141**	LR	LR	11 03 57.4	
	comp=Z,79nm,19.5s,baz=300,slow=36						
CMAR	**Chiang Mai Arr**	**49.11**	**300**	P	**P**	**10 45 56.9**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=106,slow=6.7,SNR=2.1						
	comp=Z,0.8nm,0.3s						
ASAJ	**Asahikawa**	**49.73**	**0**	LR	LR	11 10 03.2	
	comp=Z,15nm,19.2s,baz=182,slow=40						
USRK	**Ussuriysk Ar.**	**50.68**	**350**	P	**P**	**10 46 06.4**	**-0.9**
	comp=Z,3.3nm,0.9s,baz=123,slow=10,SNR=4.3						
	comp=Z,3.3nm,0.9s						
KLR	**Kul'dur**	**55.62**	**352**	LR	LR	11 08 16.3	
	comp=Z,33nm,18.9s,baz=249,slow=34						
BRDH	**Bariadhala**	**57.07**	**302**	LR	LR	11 12 55.8	
	comp=Z,5μm,21.4s,baz=252,slow=38						
PETK	**Petropavlovsk**	**60.16**	**11**	P	**P**	**10 47 15.5**	**0.0**
YAK	**Yakutsk**	**68.38**	**354**	LR	LR	11 16 02.2	
	comp=Z,32nm,18.1s,baz=32,slow=34						
ZALV	**Zalesovo Beam**	**76.44**	**329**	P	**P**	**10 48 57.4**	**-0.1**
ZALV	**Zalesovo Beam**	**76.44**	**329**	P	**P**	**10 48 56.8**	**-0.7**
	comp=Z,57nm,0.5s,baz=147,slow=8.2,SNR=2.6						
	comp=Z,0.7nm,0.5s						
L14K	**Kuka Creek**	**79.26**	**24**	P	**P**	**10 49 12.9**	**-0.2**
K15K	**Wolf Creek Mou**	**80.25**	**23**	P	**P**	**10 49 18.7**	**+0.3**
O16K	**Kokwok River B**	**80.27**	**26**	P	**P**	**10 49 18.3**	**-0.3**
O16K				IAmb	IAmb	10 49 36.4	
	comp=Z,12nm,1.1s						
SIMJ	**Simiganj**	**80.74**	**311**	P	**P**	**10 49 20.9**	**-0.9**
SIMJ				IAmb	IAmb	10 49 30.9	
	comp=Z,4.9nm,0.8s						
L16K	**Owhat River**	**80.76**	**24**	P	**P**	**10 49 21.2**	**+0.1**
L16K				IAmb	IAmb	10 49 36.9	
	comp=Z,12nm,1.5s						
KK31	**Karatay Array**	**80.87**	**315**	P	**P**	**10 49 22.5**	**+0.3**
KK31				IAmb	IAmb	10 49 35.9	
	comp=Z,5.0nm,0.8s						
KKAR	**Karatay Array**	**80.87**	**315**	P	**P**	**10 49 22.5**	**+0.3**
F15K	**North Star Dit**	**81.07**	**20**	P	**P**	**10 49 22.2**	**-0.5**
F15K				IAmb	IAmb	10 49 31.4	
	comp=Z,15nm,1.5s						
N17K	**Nushagak Hills**	**81.13**	**26**	P	**P**	**10 49 23.1**	**-0.1**
N17K				IAmb	IAmb	10 49 30.1	
	comp=Z,9.8nm,1.2s						
J16K	**Anvik River**	**81.14**	**23**	P	**P**	**10 49 23.5**	**+0.4**
OHAK	**Old Harbor**	**81.44**	**30**	P	**P**	**10 49 23.9**	**-0.9**
OHAK				IAmb	IAmb	10 49 27.7	
	comp=Z,11nm,1.2s						
P18K	**Big Mountain,**	**81.47**	**27**	P	**P**	**10 49 24.0**	**-1.0**
P18K				IAmb	IAmb	10 49 48.7	
	comp=Z,12nm,1.4s						
G16K	**Koyuk River**	**81.66**	**20**	P	**P**	**10 49 25.1**	**-0.7**
G16K				IAmb	IAmb	10 49 26.9	
	comp=Z,13nm,1.4s						
O18K	**Koktuh Hills**	**81.69**	**27**	P	**P**	**10 49 23.8**	**-2.4**
O18K				IAmb	IAmb	10 50 01.1	
	comp=Z,13nm,1.4s						
K17K	**Iditarod**	**81.74**	**24**	P	**P**	**10 49 24.4**	**-2.0**
K17K				IAmb	IAmb	10 49 33.4	
	comp=Z,9.8nm,1.1s						
N18K	**Kilae Creek**	**81.76**	**26**	P	**P**	**10 49 24.8**	**-1.8**
N18K				IAmb	IAmb	10 50 07.9	
	comp=Z,12nm,1.4s						
J17K	**VABM Dome**	**81.79**	**23**	P	**P**	**10 49 26.5**	**-0.1**
L18K	**Granite Mounta**	**82.15**	**24**	P	**P**	**10 49 28.4**	**-0.1**
H17K	**Granite Mounta**	**82.28**	**21**	P	**P**	**10 49 29.3**	**+0.2**
F17K	**Baldwin Pennin**	**82.63**	**20**	P	**P**	**10 49 29.5**	**-1.4**
J18K	**Innoko River**	**82.74**	**23**	P	**P**	**10 49 30.6**	**-1.0**
J18K				IAmb	IAmb	10 49 37.3	
	comp=Z,8.5nm,1.4s						
H18K	**Honhosa River**	**82.95**	**21**	P	**P**	**10 49 32.3**	**-0.4**
H18K				IAmb	IAmb	10 49 45.8	
	comp=Z,6.0nm,1.2s						
M19K	**Big River Lodg**	**82.97**	**25**	P	**P**	**10 49 31.8**	**-1.1**
M19K				IAmb	IAmb	10 50 06.9	
	comp=Z,7.5nm,1.4s						
G18K	**Tagagawik**	**83.23**	**21**	P	**P**	**10 49 33.4**	**-0.7**
G18K				IAmb	IAmb	10 49 48.8	
	comp=Z,6.9nm,1

WRH				IAmb	IAmb	10 49 57.8	
	comp=Z,9.0nm,1.3s						
M24K	**Tolsona, Glenn**	**86.62**	**27**	P	**P**	**10 49 50.6**	**-0.6**
E22K	**Anaktuvuk Pass**	**86.65**	**20**	P	**P**	**10 49 50.6**	**-0.7**
D22K	**Ayikyak River**	**86.68**	**19**	P	**P**	**10 49 50.8**	**-0.6**
D22K				IAmb	IAmb	10 49 60.0	
	comp=Z,6.4nm,1.3s						
G23K	**Bananza Creek**	**86.71**	**22**	P	**P**	**10 49 50.8**	**-0.8**
CCB	**Clear Creek Bu**	**86.79**	**24**	P	**P**	**10 49 50.2**	**-1.8**
CCB				IAmb	IAmb	10 49 56.2	
	comp=Z,6.2nm,1.1s						
B22K	**Teshekpuk Lake**	**87.08**	**18**	P	**P**	**10 49 52.6**	**-0.6**
B22K				IAmb	IAmb	10 49 59.4	
	comp=Z,5.0nm,1.0s						
H24K	**Noodor Dome**	**87.19**	**23**	P	**P**	**10 49 53.6**	**-0.3**
IL31		**87.21**	**24**	P	**P**	**10 49 52.3**	**-1.7**
IL31				IAmb	IAmb	10 50 16.7	
	comp=Z,8.4nm,1.4s						
ILAR	**Eielson Array**	**87.21**	**24**	P	**P**	**10 49 52.4**	**-1.7**
ILAR	**Eielson Array**	**87.21**	**24**	P	**P**	**10 49 51.8**	**-2.2**
	comp=Z,1.2nm,0.6s,baz=256,slow=5.5,SNR=12						
	comp=Z,1.2nm,0.6s						
C23K	**Itkillik River**	**87.74**	**19**	P	**P**	**10 49 56.2**	**-0.2**
J25K	**Salcha River,**	**87.77**	**24**	P	**P**	**10 49 55.7**	**-1.2**
J25K				IAmb	IAmb	10 50 02.1	
	comp=Z,6.0nm,1.3s						
MCARA	**McCarthy VSAT**	**87.83**	**28**	P	**P**	**10 49 56.5**	**-0.6**
D24K	**Happy Valley**	**88.06**	**20**	P	**P**	**10 49 57.6**	**-0.5**
BARN	**Barnard Glacie**	**88.38**	**28**	P	**P**	**10 49 59.2**	**-0.8**
J26L	**Joseph Creek**	**88.48**	**25**	P	**P**	**10 49 59.1**	**-1.2**
J26L				IAmb	IAmb	10 50 06.4	
	comp=Z,7.3nm,1.4s						
M27K	**Edge Creek, AK**	**88.61**	**27**	P	**P**	**10 50 00.9**	**-0.1**
M27K				IAmb	IAmb	10 50 01.5	
	comp=Z,6.3nm,1.2s						
L27K	**Beaver Creek,**	**88.82**	**26**	P	**P**	**10 50 01.1**	**-0.7**
BCAR	**Beaver Creek A**	**88.84**	**26**	P	**P**	**10 50 01.7**	**-0.3**
BMAR	**Burnt Mountain**	**88.96**	**22**	P	**P**	**10 50 02.4**	**0.0**
K27K	**Chicken**	**88.97**	**25**	P	**P**	**10 50 01.6**	**-0.8**
K27K				IAmb	IAmb	10 50 03.3	
	comp=Z,3.8nm,1.1s						
M29M	**Somme Creek**	**90.18**	**27**	P	**P**	**10 50 06.5**	**-1.7**
M29M				IAmb	IAmb	10 50 19.7	
	comp=Z,4.8nm,1.2s						
I28M	**Miner Creek**	**90.22**	**24**	P	**P**	**10 50 08.0**	**-0.3**
K29M	**Barlow Dome**	**90.89**	**26**	P	**P**	**10 50 10.5**	**-1.1**
K29M				IAmb	IAmb	10 50 43.4	
	comp=Z,4.4nm,1.4s						
I30M	**Mount Dempster**	**91.63**	**25**	P	**P**	**10 50 14.4**	**-0.6**

*IDC **06** 10:45:03.2±1.1,43°.11N×81°.85E,h0km,mb3.6/4, mbtmp3.5/8,ML3.1/4,Error ellipse: s-maj=21.3km s-min=14.0km az=85.0*
*SOME **06** 10:45:04.1,43°.17N×81°.67E,h5km*
*NNC **06** 10:45:06.2±1.1,43°.21N×81°.63E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=9.6km s-min=3.3km az=145.0*

ISC 06 10:45:05.2±1.6,**43°.07N**±0°.05×**81°.53E**±0°.05,**h12**km±10km, **n55,σ1s76/85,mb3.6/4,10C-8D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**0.94**	**294**	*eP*	**Pg**	**10 45 21.7**	**-1.7**
KTMS	18nm,0.1s			*eS*	**Sg**	**10 45 34.2**	**-1.5**
	69nm,0.2s						
PDGK	**Podgornoye**	**1.52**	**280**	⇑P	**Pg**	**10 45 34.6**	**+0.3**
PDGK	18nm,0.3s			⇑S	**Sg**	**10 45 57.4**	**+3.4**
	138nm,0.4s						
SHLS	**Shalkode**	**1.52**	**274**	*eP*	**Pn**	**10 45 30.3**	**-2.0**
SHLS	31nm,0.4s			*eS*	**Sn**	**10 45 49.1**	**-3.0**
	255nm,0.4s						
SHLS	**Shalkode**	**1.52**	**274**	P	**Pn**	**10 45 30.3**	**-2.0**
SHLS	31nm,0.4s			S	**Sn**	**10 45 49.1**	**-3.0**
	255nm,0.4s						
DJR	**Jarkent**	**1.78**	**315**	*eP*	**Pb**	**10 45 38.1**	**+0.2**
DJR	22nm,0.3s			*eS*	**Sg**	**10 46 03.2**	**+0.6**
	144nm,0.5s						
UZB	**Uzynbulak**	**1.84**	**273**	*eP*	**Pg**	**10 45 40.8**	**+0.2**
UZB	48nm,0.3s			*eS*	**Sg**	**10 46 07.5**	**+3.1**
	272nm,0.6s						
UZB	**Uzynbulak**	**1.84**	**273**	Pg	**Pg**	**10 45 40.8**	**+0.2**
UZB	48nm,0.3s			Lg	Lg	10 46 07.5	
	272nm,0.6s						
KPKS	**Kokpek**	**2.12**	**282**	*eP*	**Pg**	**10 45 45.6**	**-0.2**
KPKS	29nm,0.7s			*eS*	**Sg**	**10 46 16.1**	**+2.8**
	695nm,0.5s						
KPKS	**Kokpek**	**2.12**	**282**	Pg	**Pg**	**10 45 45.6**	**-0.2**
KPKS	29nm,0.7s			Lg	Lg	10 46 16.1	
	695nm,0.5s						
ZHN	**Zhinishke**	**2.27**	**273**	*eP*	**Pg**	**10 45 48.2**	**-0.5**
ZHN	19nm,0.2s			*eS*	**Sg**	**10 46 20.1**	**+2.0**
	204nm,0.3s						
ZHN	**Zhinishke**	**2.27**	**273**	Pg	**Pg**	**10 45 48.2**	**-0.5**
ZHN	19nm,0.2s			Lg	Lg	10 46 20.1	
	204nm,0.3s						
SATY	**Saty**	**2.29**	**271**	*eP*	**Pg**	**10 45 49.2**	**0.0**
SATY	19nm,0.3s			*eS*	**Sg**	**10 46 22.0**	**+3.2**
	252nm,0.5s						
SATY	**Saty**	**2.29**	**271**	Pg	**Pg**	**10 45 49.2**	**0.0**
SATY	19nm,0.3s			Lg	Lg	10 46 22.0	
	252nm,0.5s						
BLB	**Baldybastay**	**2.44**	**296**	Pg	**Pb**	**10 45 49.9**	**+0.7**
BLB	80nm,0.4s			Lg	Lg	10 46 22.9	
	176nm,0.6s						
KURS	**Kuram**	**2.49**	**281**	*eP*	**Pg**	**10 45 51.5**	**-1.5**
KURS	22nm,0.5s			*eS*	**Sg**	**10 46 26.1**	**+0.8**
	104nm,0.6s						
KURS	**Kuram**	**2.49**	**281**	Pg	**Pg**	**10 45 51.5**	**-1.5**
KURS	22nm,0.5s			Lg	Lg	10 46 26.0	
	104nm,0.6s						
KAPS	**Kapalarasan**	**2.71**	**325**	*eP*	**Pb**	**10 45 53.9**	**+0.2**
KAPS	20nm,0.2s			*eS*	**Sb**	**10 46 30.3**	**+3.4**
	71nm,0.5s						
ARXS	**Arharly**	**2.92**	**294**	*eP*	**Pb**	**10 45 58.3**	**+1.0**
ARXS	8.4nm,0.4s			*eS*	**Sg**	**10 46 37.8**	**-1.3**
	137nm,0.6s						
ARXS	**Arharly**	**2.92**	**294**	Pg	**Pb**	**10 45 58.3**	**+1.0**
ARXS	8.4nm,0.4s			Lg	Lg	10 46 37.8	
	137nm,0.6s						
TDK	**Taldyqorghan**	**2.97**	**312**	*eP*	**Pb**	**10 45 59.1**	**+1.1**
TDK	35nm,0.2s			*eS*	**Sg**	**10 46 38.5**	**-2.0**
	212nm,0.6s						
TDK	**Taldyqorghan**	**2.97**	**312**	Pg	**Pb**	**10 45 59.2**	**+1.1**
TDK	35nm,0.2s			Lg	Lg	10 46 38.5	
	212nm,0.6s						
KOTS	**Kotyrbulak**	**3.24**	**274**	*eP*	**Pg**	**10 46 06.1**	**-1.2**
KOTS	9.7nm,0.3s			*eS*	**Sg**	**10 46 50.8**	**+1.6**
	163nm,0.4s						
KOTS	**Kotyrbulak**	**3.24**	**274**	Pg	**Pg**	**10 46 06.1**	**-1.2**
KOTS	9.7nm,0.3s			Lg	Lg	10 46 50.8	
	163nm,0.4s						
MDOK	**Medeo**	**3.28**	**273**	*eP*	**Pg**	**10 46 07.1**	**-1.0**
MDOK	3.7nm,0.3s			*eS*	**Sg**	**10 46 52.7**	**+2.0**
	53nm,0.5s						
MDOK	**Medeo**	**3.28**	**273**	Pg	**Pg**	**10 46 07.1**	**-1.0**
MDOK	3.7nm,0.3s			⇓Pg	Pb	10 46 10.2	+6.7
	7.3nm,0.5s						
MDOK				Lg	Lg	10 46 52.7	
	53nm,0.5s						
MDOK				⇑Lg	Lg	10 46 53.5	
	38nm,0.5s						
TNSS	**Tian-Shan**	**3.36**	**271**	*eP*	**Pg**	**10 46 08.0**	**-1.6**
	5.4nm,0.3s						
TNSS				*eS*	**Sg**	**10 46 53.5**	**+0.4**
	25nm,0.4s						
TNSS	**Tian-Shan**	**3.36**	**271**	Pg	**Pg**	**10 46 08.0**	**-1.6**
	5.4nm,0.3s						
TNSS				Lg	Lg	10 46 53.6	
	25nm,0.4s						
CHKK	**Chushkaly**	**3.40**	**285**	*eP*	**Pb**	**10 46 07.0**	**+1.6**
	1.4nm,0.1s						
CHKK				*eS*	**Sg**	**10 46 52.3**	**-2.1**
	30nm,0.3s						
CHKK	**Chushkaly**	**3.40**	**285**	Pg	**Pb**	**10 46 07.0**	**+1.6**
	1.4nm,0.1s						
CHKK				Lg	Lg	10 46 52.3	
	30nm,0.3s						
KTBS	**Karatobe**	**3.59**	**282**	*eP*	**Pb**	**10 46 10.6**	**+1.9**
	3.9nm,0.4s						
KTBS				*eS*	**Sg**	**10 46 58.4**	**-2.2**
	67nm,0.8s						
MTBS	**Maitube**	**3.74**	**273**	*eP*	**Pg**	**10 46 15.4**	**-1.4**
	8.2nm,0.5s						
MTBS				*eS*	**Sg**	**10 47 06.4**	**+1.2**
	30nm,0.5s						
MTBS	**Maitube**	**3.74**	**273**	Pg	**Pg**	**10 46 15.4**	**-1.4**
	8.2nm,0.5s						
MTBS				Lg	Lg	10 47 06.4	
	30nm,0.5s						
MAKZ	**Makanchi**	**3.75**	**5**	⇑Pn	**Pn**	**10 46 04.0**	**+1.1**
	7.9nm,0.6s						
MAKZ				⇓Sn	**Sn**	**10 46 48.6**	**+1.7**
	6.7nm,0.5s						
MAKZ				⇓Lg	Lg	10 47 00.1	
	22nm,0.5s						
MK31	**Makanchi Array**	**3.76**	**8**	⇓Pn	**Pn**	**10 46 04.1**	**+1.0**
	1.2nm,0.3s,baz=186,slow=13,SNR=105						
MK31				⇑Pg	**Pb**	**10 46 12.8**	**+1.3**
	2.2nm,0.3s,baz=175,slow=17,SNR=24						
MK31				⇑Sn	**Sn**	**10 46 48.4**	**+1.2**
	4.2nm,0.3s,baz=100,slow=30,SNR=3.5						
MK31				⇓Lg	Lg	10 46 59.0	
	24nm,0.5s,baz=188,slow=30,SNR=4.8						
MKAR	**Makanchi Array**	**3.76**	**8**	Pn	**Pn**	**10 46 04.3**	**+1.3**
	2.0nm,0.3s,baz=182,slow=14,SNR=29						
MKAR				Lg	Lg	10 46 59.3	
	6.2nm,0.3s,baz=190,slow=31,SNR=12						
	2.6nm,0.4s						
KUU	**Kurty**	**3.87**	**284**	*eP*	**Pg**	**10 46 17.2**	**-2.1**
	6.2nm,0.4s						
KUU				*eS*	**Sg**	**10 47 10.0**	**+0.6**
	39nm,0.6s						
KUU	**Kurty**	**3.87**	**284**	Pg	**Pg**	**10 46 17.2**	**-2.1**
	6.2nm,0.4s						
KUU				Lg	Lg	10 47 10.0	
	39nm,0.6s						
DGS	**Degeres**	**4.22**	**274**	*eP*	**Pg**	**10 46 22.7**	**-3.3**
	4.8nm,0.3s						
DGS				*eS*	**Sg**	**10 47 19.8**	**-0.9**
	47nm,0.4s						
DGS	**Degeres**	**4.22**	**274**	Pg	**Pg**	**10 46 22.7**	**-3.3**
	4.8nm,0.3s						
DGS				Lg	Lg	10 47 19.8	
	47nm,0.4s						
KRBS	**Karabastau**	**4.31**	**280**	*eP*	**Pg**	**10 46 24.8**	**-3.1**
	6.5nm,0.4s						
KRBS				*eS*	**Sg**	**10 47 23.0**	**-0.7**
	18nm,0.4s						
KRBS	**Karabastau**	**4.31**	**280**	Pg	**Pg**	**10 46 24.8**	**-3.1**
	6.5nm,0.4s						
KRBS				Lg	Lg	10 47 23.0	
	18nm,0.4s						
TKM2	**Tokmak 2**	**4.36**	**270**	⇓Pg	**Pg**	**10 46 28.3**	**-0.4**
	6.2nm,0.5s						
TKM2				⇑Lg	Lg	10 47 26.5	
	15nm,0.5s						
ZSN	**Zaisan**	**4.97**	**27**	*eP*	**Pb**	**10 46 31.6**	**-0.6**
	2.9nm,0.2s						
ZSN				*eS*	**Sb**	**10 47 34.3**	**+2.5**
	46nm,0.6s						
AAK	**Ala-Archa**	**5.19**	**268**	Pg	**Pg**	**10 46 42.0**	**-2.6**
	1.0nm,0.3s,baz=97,slow=14,SNR=7.8						
AAK				Lg	Lg	10 47 50.3	
	1.6nm,0.3s,baz=127,slow=20,SNR=5.7						
BTLS	**Baital**	**5.74**	**293**	*eP*	**Pg**	**10 46 52.0**	**-3.2**
	1.4nm,0.2s						
BTLS				*eS*	**Sg**	**10 48 09.4**	**-0.1**
	5.6nm,0.5s						
MRKS	**Merke**	**6.11**	**270**	*eP*	**Pg**	**10 46 59.3**	**-2.9**
	2.2nm,0.4s						
MRKS				*eS*	**Sg**	**10 48 22.5**	**+1.2**
	11nm,0.5s						
KURBB	**Kurchatov Arra**	**7.83**	**346**	Pn	**Pn**	**10 46 59.1**	**+0.3**
	0.1nm,0.3s,baz=171,slow=12,SNR=7.9						
KURBB				Sn	**Sn**	**10 48 27.4**	**+0.1**
	0.1nm,0.3s,baz=162,slow=22,SNR=5.5						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**7.83**	**346**	⇓Pn	**Pn**	**10 46 58.3**	**-0.5**
	0.3nm,0.3s						
KURBB				⇑Lg	Lg	10 49 15.4	
	14nm,0.7s						
KURK	**Kurchatov**	**7.90**	**346**	⇓Pn	**Pn**	**10 47 01.3**	**+1.5**
	2.4nm,0.7s						
KURK				⇑Sn	**Sn**	**10 48 28.2**	**-0.9**
	5.7nm,0.9s						
KURK				⇑Lg	Lg	10 49 15.9	
	30nm,1.4s						
ZALV	**Zalesovo Beam**	**11.10**	**10**	Pn	**Pn**	**10 47 42.5**	**-1.1**
	0.2nm,0.3s,baz=199,slow=13,SNR=2.4						
ZALV				Lg	Lg	10 50 51.8	
	0.2nm,0.3s,baz=185,slow=27,SNR=2.8						
	0.7nm,0.4s						
SONM	**Songino Array**	**18.05**	**66**	P	**P**	**10 49 14.2**	**-2.1**
	0.4nm,0.3s,baz=255,slow=11,SNR=6.9						
	0.8nm,0.5s						
ARCES	**ARCESS Array B**	**38.65**	**332**	P	**P**	**10 52 28.4**	**+0.4**
	1.5nm,0.8s,baz=103,slow=7.5,SNR=5.1						
	1.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**73.75**	**273**	P	**P**	**10 56 40.9**	**+1.4**
	0.5nm,0.9s,baz=48,slow=5.0,SNR=2.1						
	0.5nm,0.9s						
WRA	**Warramunga Arr**	**79.28**	**130**	P	**P**	**10 57 09.4**	**-1.1**
	0.5nm,0.8s,baz=331,slow=5.7,SNR=2.4						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**82.03**	**133**	P	**P**	**10 57 24.1**	**-1.1**
	0.2nm,0.7s,baz=326,slow=4.8,SNR=2.1						
	0.2nm,0.7s						

DJA 06 10:45:36.2±0.7,**7°S**±3°×**10°6E**±°,**h22**km±6km,**M4.3/13, mb4.6/2,MLv4.1/13,Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKJI	**Sukabumi**	**0.58**	**76**	P	Pn	10 45 48.8	-0.3
SKJI				S	Sn	10 45 57.6	-0.4
DBJI	**Dramaga**	**0.96**	**52**	P	Pb	10 45 54.2	0.0
DBJI				S	Sb	10 46 06.8	+0.4
SBJI	**Serang**	**1.03**	**8**	P	Pb	10 45 55.4	0.0
SBJI				S	Sb	10 46 08.4	-0.1
TNG	**Tangerang**	**1.17**	**34**	P	Sn	10 46 12.9	+0.3
TNG				P	Pn	10 45 57.3	0.0
LEM	**Lembang**	**1.65**	**79**	P	Pn	10 46 03.9	-0.1
KASI	**Kota Agung**	**2.19**	**317**	P	Pn	10 46 12.0	+0.6
CMJI	**Cimerak**	**2.52**	**105**	P	Pn	10 46 15.9	+0.1
KPJI	**Karang Pucung**	**2.92**	**94**	P	Pn	10 46 23.9	+2.5
MNAI	**Manna**	**4.10**	**312**	P	Pn	10 46 38.1	+0.5
UGM	**Wanagama**	**4.56**	**100**	P	Pn	10 46 43.9	0.0
PPSI	**Pulau Pagai**	**7.38**	**306**	P	Pn	10 47 22.5	-0.2
	104nm,1.2s,0.6nm						
SISI	**Saibi**	**8.99**	**310**	P	Pn	10 47 43.3	-1.5

IDC 06 11:04:32.4±1.2,**20°.10N×142°.01E,h0km,mb3.5/4, mbtmp3.6/5,ML3.8/1,Error ellipse: s-maj=120.1km s-min=19.5km az=102.0,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**6.97**	**1**	P	Pn	11 06 14.8	-0.9
	1.9nm,0.3s,baz=270,slow=21,SNR=1.6						
JCJ				Sn	Sn	11 07 38.5	+2.7
	0.7nm,0.3s,baz=22,slow=22,SNR=2.0						
	32nm,0.8s						
WRA	**Warramunga Arr**	**40.49**	**191**	P	P	11 12 13.3	+0.1
	0.7nm,0.3s,baz=13,slow=8.6,SNR=18						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**44.21**	**191**	P	P	11 12 43.1	-0.4
	0.2nm,0.5s,baz=14,slow=6.4,SNR=7.6						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**63.96**	**27**	P	P	11 15 07.8	+0.6
	0.2nm,0.5s,baz=265,slow=4.3,SNR=4.1						
	0.2nm,0.5s						
YKA	**Yellowknife Ar**	**78.38**	**27**	P	P	11 16 34.1	-0.4
	0.2nm,0.6s,baz=293,slow=5.4,SNR=5.0						
	0.2nm,0.6s						

*NOU **06** 11:11:38.2,38°.77S×176°.21E,h125km,MLv4.0/11,North Island, New Zealand*
*IDC **06** 11:11:39.3±1.6,38°.07S×176°.69E,h130km±17km,mb3.1/2, mbtmp3.5/2,Error ellipse: s-maj=105.4km s-min=41.0km az=36.0*
*WEL **06** 11:11:41.1±0.5,39°S±3°×17°6E±°,h87km±5km,M3.5/60, ML3.4/51,MLv3.5/60,Error ellipse: s-maj=0.0km s-min=0.0km az=140.7*

ISC 06 11:11:38.9±1.0,**38°.66S**±0°.04×**176°.13E**±0°.04,**h116**km±6km, **n153,σ0s95/162,North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THQ2	**Tauhara North**	**0.03**	**98**	P	**Pn**	**11 11 54.9**	**+0.1**
POIZ	**Poihipi**	**0.08**	**295**	P	**Pn**	**11 11 55.1**	**+0.2**
WHTZ	**Whakaora**	**0.13**	**269**	P	**Pn**	**11 11 55.2**	**+0.3**
WPRZ	**Whakapapatarin**	**0.15**	**11**	P	**Pn**	**11 11 54.7**	**-0.2**
WPRZ				S	**Sn**	**11 12 06.8**	**-0.2**
ALRZ	**Allen Road**	**0.20**	**59**	P	**Pn**	**11 11 54.6**	**-0.5**
ALRZ				S	**Sn**	**11 12 06.1**	**-1.1**
HATZ	**Hinemaiaia**	**0.23**	**187**	P	**Pn**	**11 11 55.1**	**-0.1**
HATZ				S	**Sn**	**11 12 06.0**	**-1.4**
PRRZ	**Plateau Road**	**0.27**	**52**	P	**Pn**	**11 11 54.8**	**-0.5**
MRHZ	**Matea Rd**	**0.28**	**127**	P	**Pn**	**11 11 54.0**	**-1.3**
MRHZ				S	**Sn**	**11 12 06.1**	**-1.7**
KUTZ	**Kaahu Road**	**0.29**	**306**	P	**Pn**	**11 11 55.3**	**-0.1**
HRRZ	**Handcock Road**	**0.30**	**24**	P	**Pn**	**11 11 55.2**	**-0.2**
WATZ	**Wairara**	**0.31**	**262**	P	**Pn**	**11 11 55.5**	**0.0**
RATZ	**Rangitukua**	**0.34**	**234**	P	**Pn**	**11 11 55.7**	**+0.1**
HSRZ	**Hossack Road**	**0.36**	**15**	P	**Pn**	**11 11 55.5**	**-0.2**
RITZ	**Rihia Road**	**0.38**	**214**	P	**Pn**	**11 11 56.3**	**+0.5**
RRRZ	**Republican Roa**	**0.45**	**43**	P	**Pn**	**11 11 55.8**	**-0.3**
HLRZ	**Highlands Stat**	**0.45**	**23**	P	**Pn**	**11 11 56.5**	**+0.4**
KATZ	**Kakaramea**	**0.46**	**227**	P	**Pn**	**11 11 56.6**	**+0.2**
UTU	**Utuhina**	**0.49**	**6**	P	**Pn**	**11 11 56.4**	**0.0**
TARZ	**Mount Tarawera**	**0.52**	**35**	P	**Pn**	**11 11 56.4**	**-0.3**
MUGZ	**Murupara**	**0.54**	**70**	P	**Pn**	**11 11 56.2**	**-0.5**
MUGZ				S	**Sn**	**11 12 09.1**	**-0.9**
NTVZ	**North Tongarir**	**0.56**	**219**	P	**Pn**	**11 11 57.3**	**+0.4**
TMVZ	**Te Maari**	**0.56**	**216**	P	**Pn**	**11 11 57.4**	**+0.5**
NGRZ	**Ngongotaha**	**0.56**	**5**	P	**Pn**	**11 11 56.8**	**-0.1**
TLZ	**Tolley Road**	**0.57**	**306**	P	**Pn**	**11 11 56.9**	**0.0**
TLZ				S	**Sn**	**11 12 09.9**	**-0.6**
ETVZ	**East Tongariro**	**0.57**	**214**	P	**Pn**	**11 11 57.6**	**+0.5**
KRVZ	**Karewarewa**	**0.57**	**221**	P	**Pn**	**11 11 57.5**	**+0.4**
BKZ	**Black Stump Fm**	**0.58**	**150**	P	**Pn**	**11 11 57.5**	**+0.5**
BKZ	**Black Stump Fm**	**0.58**	**150**	P	**Pn**	**11 11 57.4**	**+0.4**
BKZ				S	**Sn**	**11 12 09.7**	**-0.9**
MKRZ	**Makatiti**	**0.59**	**27**	P	**Pn**	**11 11 57.5**	**+0.3**
OMRZ	**Omania**	**0.59**	**19**	P	**Pn**	**11 11 56.8**	**-0.3**
MTHZ	**Maungataniwha**	**0.59**	**109**	P	**Pn**	**11 11 57.3**	**+0.3**
MTHZ				S	**Sn**	**11 12 10.8**	**+0.1**
NNVZ	**North Ngauruho**	**0.61**	**220**	P	**Pn**	**11 11 57.9**	**+0.5**
OTVZ	**Oturere**	**0.61**	**216**	P	**Pn**	**11 11 58.0**	**+0.6**
WTVZ	**West Tongariro**	**0.61**	**223**	P	**Pn**	**11 11 57.8**	**+0.5**
SNVZ	**South Ngauruho**	**0.65**	**216**	P	**Pn**	**11 11 58.2**	**+0.6**
KARZ	**Kaharoa**	**0.65**	**8**	P	**Pn**	**11 11 57.3**	**-0.2**
NGZ	**Ngauruhoe**	**0.66**	**219**	P	**Pn**	**11 11 58.1**	**+0.5**
RTZ	**Ruatahuna**	**0.67**	**86**	P	**Pn**	**11 11 57.7**	**0.0**
TWVZ	**Taurewa**	**0.67**	**233**	P	**Pn**	**11 11 58.2**	**+0.4**
NMHZ	**Naumai**	**0.69**	**129**	P	**Pn**	**11 11 59.0**	**+1.2**
LIRZ	**Lichensteins R**	**0.69**	**17**	P	**Pn**	**11 11 56.3**	**-1.5**
COVZ	**Chateau Observ**	**0.70**	**220**	P	**Pn**	**11 11 58.4**	**+0.4**
TUVZ	**Tukino**	**0.71**	**211**	P	**Pn**	**11 11 58.9**	**+0.8**
EDRZ	**Edgecumbe**	**0.74**	**41**	P	**Pn**	**11 11 57.8**	**-0.4**
FWVZ	**Far West T-bar**	**0.74**	**217**	P	**Pn**	**11 11 58.9**	**+0.4**
WHVZ	**Whangaehu Hut**	**0.75**	**214**	P	**Pn**	**11 11 59.1**	**+0.6**
MAVZ	**Matarangi**	**0.75**	**216**	P	**Pn**	**11 11 59.0**	**+0.5**
TRVZ	**Turoa**	**0.78**	**215**	P	**Pn**	**11 11 59.3**	**+0.6**
WNVZ	**Wahianoa**	**0.78**	**212**	P	**Pn**	**11 11 59.5**	**+0.8**
RAHZ	**Arahi**	**0.79**	**109**	P	**Pn**	**11 11 59.4**	**+0.7**
KWHZ	**Kaweka Forest**	**0.79**	**163**	P	**Pn**	**11 11 59.5**	**+0.8**
MOVZ	**Moawhango**	**0.80**	**201**	P	**Pn**	**11 11 59.3**	**+0.5**
MARZ	**Manawahe**	**0.80**	**33**	P	**Pn**	**11 11 58.5**	**-0.3**
BHHZ	**Black Hill Sta**	**0.83**	**183**	P	**Pn**	**11 11 59.6**	**+0.6**
KMRZ	**Kaimai**	**0.83**	**350**	P	**Pn**	**11 11 58.9**	**-0.1**
PKVZ	**Pokaka**	**0.87**	**224**	P	**Pn**	**11 12 00.3**	**+0.9**
URZ	**Urewera**	**0.87**	**63**	P	**Pn**	**11 11 58.9**	**-0.4**
URZ	**Urewera**	**0.87**	**63**	P	**Pn**	**11 11 58.9**	**-0.4**
	514nm,0.4s,baz=316,slow=3.7,SNR=1407						
URZ				S	**Sn**	**11 12 13.0**	**-1.7**
	278nm,0.3s,baz=184,slow=15,SNR=30						
URZ	**Urewera**	**0.87**	**63**	P	**Pn**	**11 11 58.9**	**-0.4**
MTVZ	**Mangateitei**	**0.88**	**215**	P	**Pn**	**11 12 00.4**	**+0.9**
MCHZ	**McNeill Hill**	**0.90**	**150**	P	**Pn**	**11 12 01.1**	**+1.5**
ARHZ	**Aropaoanui**	**0.90**	**132**	P	**Pn**	**11 12 00.8**	**+1.2**
TGHZ	**Tauranga**	**0.94**	**7**	P	**Pn**	**11 11 59.9**	**-0.1**
SNGZ	**Shannon Statio**	**0.96**	**97**	P	**Pn**	**11 12 00.8**	**+0.6**
WHHZ	**Waihua**	**0.96**	**116**	P	**Pn**	**11 12 01.0**	**+0.9**
KRHZ	**Kereru**	**1.00**	**169**	P	**Pn**	**11 12 01.5**	**+1.0**
HIZ	**Hauiti**	**1.01**	**278**	P	**Pn**	**11 12 01.1**	**+0.5**
HIZ	**Hauiti**	**1.01**	**278**	P	**Pn**	**11 12 01.1**	**+0.5**
RAGZ	**Rawiri**	**1.02**	**81**	P	**Pn**	**11 12 01.0**	**+0.1**
WHRZ	**Whale Island**	**1.05**	**40**	P	**Pn**	**11 12 01.0**	**-0.1**
**

CAW	**Cannon Point**	**2.57**	**198**	P	**Pn**	**11 12 18.6**	**-0.8**
DUWZ	**D'Urville Isla**	**2.73**	**218**	P	**Pn**	**11 12 20.7**	**-0.9**
TRWZ	**Traveller**	**2.75**	**187**	P	**Pn**	**11 12 20.8**	**-1.0**
PAWZ	**Paruwai Farm**	**2.77**	**191**	P	**Pn**	**11 12 20.9**	**-1.1**
WEL	**Wellington**	**2.82**	**201**	P	**Pn**	**11 12 21.5**	**-1.1**
SNZO	**South Karori**	**2.86**	**202**	P	**Pn**	**11 12 21.8**	**-1.4**
BHW	**Baring Head**	**2.91**	**199**	P	**Pn**	**11 12 22.4**	**-1.3**
TCW	**Tory Channel**	**2.91**	**209**	P	**Pn**	**11 12 22.7**	**-1.2**
PLWZ	**Palliser**	**2.98**	**193**	P	**Pn**	**11 12 23.4**	**-1.4**
TUWZ	**Tuamarina**	**3.23**	**211**	P	**Pn**	**11 12 26.7**	**-1.4**
NNZ	**Nelson**	**3.31**	**219**	P	**Pn**	**11 12 27.6**	**-1.5**
TKNZ	**Takaka Hill**	**3.40**	**225**	P	**Pn**	**11 12 29.0**	**-1.3**
BSWZ	**Blackbirch Sta**	**3.50**	**209**	P	**Pn**	**11 12 30.0**	**-1.6**
MRNZ	**Matariki Terra**	**3.75**	**222**	P	**Pn**	**11 12 33.6**	**-1.5**
THZ	**Tophouse**	**3.96**	**218**	P	**Pn**	**11 12 36.1**	**-1.7**
KHZ	**Kahutara**	**4.24**	**207**	P	**Pn**	**11 12 39.1**	**-2.3**
KHZ	**Kahutara**	**4.24**	**207**	P	**Pn**	**11 12 39.3**	**-2.1**
DSZ	**Denniston Nort**	**4.52**	**226**	P	**Pn**	**11 12 43.2**	**-2.1**
INZ	**Inchbonnie**	**5.39**	**220**	P	**Pn**	**11 12 55.0**	**-2.1**
RPZ	**Rata Peaks**	**6.33**	**216**	P	**Pn**	**11 13 07.5**	**-2.2**
CTZ	**Chatham Island**	**7.46**	**135**	P	**Pn**	**11 13 26.1**	**+1.2**
ODZ	**Otahua Downs**	**7.57**	**211**	P	**Pn**	**11 13 23.2**	**-3.3**
JCZ	**Jackson Bay**	**7.72**	**223**	P	**Pn**	**11 13 29.2**	**+0.6**
ASAR	**Alice Springs**	**38.75**	**280**	P	**P**	**11 18 53.8**	**+1.7**
	0.7nm,0.5s,baz=115,slow=6.5,SNR=18						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**40.53**	**285**	P	**P**	**11 19 07.6**	**+0.8**
	0.2nm,0.3s,baz=125,slow=8.2,SNR=5.6						
	0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**154.11**	**193**	PKPab	**PKPab**	**11 31 40.3**	**+0.9**
	0.4nm,0.8s,baz=189,slow=2.5,SNR=2.5						

JMA ***06*** *11:12:33.6±0.2,43.3N±0.5×146.3E±1.0,h45km,MV3.6/40, OFF NEMURO PENINSULA*
NIED ***06*** *11:12:33.6,43.27N×146.26E,h45km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr1.73; Mθθ-0.35; Mφφ-1.38; Mrθ-0.51; Mθφ-1.28; Mφr1.15; Fault plane solution: M₀2.40000×10¹⁴ NP1:φ₁8.00000°, δ61.00000°,λ58.00000°. NP2:φ₂240.00000°,δ42.00000°, λ134.00000°.*
SKHL ***06*** *11:12:34.2±0.4,43.40N×146.30E,h37km±4km,mb4.4/3*
ISC 06 11:12:31.4±2.6,43.28N±0.07×146.35E±0.06,h20km±7km, n14,σ0962/26,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.45**	**281**	*e*P		**Pn**	**11 12 43.2**	**+0.4**
NEM2				*e*S		**Sn**	**11 12 50.1**	**-0.3**
NMR	**Nemuro--Hokkai**	**0.46**	**282**	*i* P		**Pn**	**11 12 43.2**	**+0.2**
NMR				*e*S		**Sn**	**11 12 50.2**	**-0.5**
SHO	**Shikotan**	**0.69**	**30**	*e*P		**Pn**	**11 12 45.6**	**-0.4**
SHO				AMB		AMB	11 12 46.1	
	50nm,0.2s							
SHO				*e*S		**Sb**	**11 12 54.3**	**+0.5**
SHO				A		A	11 12 54.7	
	850nm,0.2s							
SHO				A		A	11 12 54.7	
	1μm,0.2s							
YUK	**Yuzh-Kuril'sk**	**0.84**	**335**	*i* P		**Pn**	**11 12 47.9**	**-0.2**
YUK				AMB		AMB	11 12 48.2	
	1μm,0.2s							
YUK				*e*S		**Sg**	**11 12 58.3**	**-0.6**
YUK				A		A	11 13 01.7	
	2μm,0.4s							
YUK				A		A	11 13 01.7	
	2μm,0.4s							
JKHN	**Kushirohamanak**	**0.89**	**258**	*e*P		**Pn**	**11 12 49.5**	**+0.6**
JNSB	**Nemuroshibetsu**	**1.10**	**297**	*e*P		**Pb**	**11 12 52.0**	**+0.2**
JNSB				*e*S		**Sb**	**11 13 05.8**	**+0.1**
JRA	**Rausu**	**1.11**	**307**	*e*P		**Pn**	**11 12 52.4**	**+0.6**
JRA				*e*S		**Sb**	**11 13 06.4**	**+0.4**
AKK	**Akkeshi**	**1.14**	**257**	*e*P		**Pn**	**11 12 52.4**	**+0.2**
AKK				*e*S		**Sb**	**11 13 05.8**	**-0.9**
JNK	**Nakash**	**1.23**	**285**	*e*P		**Pn**	**11 12 53.6**	**+0.1**
JNK				*e*S		**Sb**	**11 13 08.7**	**-0.8**
JAK	**Akkeshi**	**1.24**	**257**	*e*P		**Pn**	**11 12 53.8**	**+0.1**
JAK				*e*S		**Sb**	**11 13 09.0**	**-0.9**
JOB	**Onbets**	**1.88**	**259**	*e*P		**Pn**	**11 13 03.2**	**+0.7**
JOB				*e*S		**Sn**	**11 13 25.6**	**0.0**
JAR	**Ashorobuto**	**1.89**	**271**	*e*P		**Pn**	**11 13 03.2**	**+0.7**
JAR				*e*S		**Sn**	**11 13 25.5**	**-0.2**
JTKR	**Abashiri--Toko**	**1.91**	**292**	*e*P		**Pn**	**11 13 04.2**	**+1.4**
KUR	**Kuril'sk**	**2.24**	**29**	*e*P		**Pn**	**11 13 08.1**	**+0.7**
KUR				*e*S		**Sn**	**11 13 33.8**	**-0.6**
KUR				A		A	11 13 38.6	
	140nm,0.4s							
KUR				A		A	11 13 38.6	
	160nm,0.4s							

SKHL ***06*** *11:18:51.7±0.4,46.20N×150.30E,h155km±8km,mb5.0/6, msha5.6/5*
MOS ***06*** *11:18:51.7±0.9,46.39N×150.00E,h167km,mb4.1/4, Error ellipse: s-maj=17.8km s-min=6.8km az=55.9*
NEIC ***06*** *11:18:52.4±1.3,46.5N±0.1×150.0E±0.1,h138km±9km, mb4.1/81, Error ellipse: s-maj=19.8km s-min=11.7km az=146.0*
JMA ***06*** *11:18:53.9±0.5,46.1N±3.3×15.0E±.1,h174km,MV4.0/16, KURILE ISLANDS REGION*
IDC ***06*** *11:18:53.9±1.7,46.52N×149.84E,h172km±16km, mb3.1/11,mbtmp3.8/18,Error ellipse: s-maj=21.8km s-min=10.2km az=135.0*
ISC 06 11:18:51.4±0.6,46.18N±0.08×150.21E±0.07,h152km, n164,σ1969/177,mb4.0/53,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.89**	**241**	*e*PN		**Pn**	**11 19 28.2**	**+2.9**
KUR				*e*S		**Sn**	**11 19 57.6**	**+6.2**
KUR				pmax		pmax		
	comp=Z,99nm,0.5s							
KUR				smax		smax		
	comp=N,381nm,0.4s							
KUR				smax		smax		
	comp=E,273nm,0.4s							
KUR	**Kuril'sk**	**1.89**	**241**	*e*P		**Pn**	**11 19 27.8**	**+2.5**
KUR				AMB		AMB	11 19 28.8	
	comp=E,140nm,0.5s							
KUR				*e*S		**Sn**	**11 19 55.2**	**+3.8**
KUR				A		A	11 19 59.3	
	comp=E,360nm,0.4s							
KUR				A		A	11 19 59.3	
	comp=E,450nm,0.4s							
SHO	**Shikotan**	**3.33**	**227**	*e*PN		**Pn**	**11 19 43.3**	**+0.4**
SHO				*e*S		**Sn**	**11 20 21.3**	**-1.5**
SHO				pmax		pmax		
	comp=N,30nm,0.2s							
SHO				pmax		pmax		
	comp=E,26nm,0.2s							
SHO				pmax		pmax		
	comp=Z,74nm,0.2s							
SHO				smax		smax		
	comp=N,56nm,0.2s							
SHO				smax		smax		
	comp=E,307nm,0.4s							
SHO	**Shikotan**	**3.33**	**227**	*e*P		**Pn**	**11 19 43.3**	**+0.4**
SHO				AMB		AMB	11 19 44.9	
	comp=E,70nm,0.2s							
SHO				*e*S		**Sn**	**11 20 22.0**	**-0.8**
SHO				A		A	11 20 25.1	
	comp=E,60nm,0.2s							
SHO				A		A	11 20 25.1	
	comp=E,310nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**3.75**	**237**	*e*PN		**Pn**	**11 19 49.9**	**+1.5**
YUK				*e*S		**Sn**	**11 20 33.3**	**+0.7**
YUK				pmax		pmax		
	comp=Z,434nm,0.3s							
YUK				pmax		pmax		
	comp=N,47nm,0.2s							
YUK				pmax		pmax		
	comp=E,23nm,0.2s							
YUK				smax		smax		
	comp=N,214nm,0.4s							
YUK				smax		smax		
	comp=E,232nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**3.75**	**237**	*e*P		**Pn**	**11 19 49.9**	**+1.5**
YUK				AMB		AMB	11 19 50.9	
	comp=E,50nm,0.5s							
YUK				AMB		AMB	11 19 50.9	
	comp=E,20nm,0.5s							
YUK				AMB		AMB	11 19 50.9	
	comp=E,430nm,0.5s							
YUK				*e*S		**Sn**	**11 20 33.3**	**+0.7**
YUK				A		A	11 20 41.7	
	comp=E,210nm,0.4s							
YUK				A		A	11 20 41.7	
	comp=E,230nm,0.4s							
RUSJ	**Misakicho**	**4.08**	**241**	*e*PN		**Pn**	**11 19 54.1**	**+1.5**
RUSJ				*e*S		**Sn**	**11 20 46.3**	**+6.1**
JRA	**Rausu**	**4.24**	**240**	*e*P		**Pn**	**11 19 56.7**	**+1.9**
JRA				*e*S		**Sn**	**11 20 45.4**	**+1.3**
NEM2	**Nemuro 2**	**4.25**	**230**	*e*P		**Pn**	**11 19 54.7**	**-0.1**
NEM2				*e*S		**Sn**	**11 20 41.3**	**-2.9**
NMR	**Nemuro--Hokkai**	**4.25**	**230**	*e*PN		**Pn**	**11 19 54.4**	**-0.5**
NMR				*e*S		**Sn**	**11 20 41.1**	**-3.2**
NMR	**Nemuro--Hokkai**	**4.25**	**230**	*e*P		**Pn**	**11 19 54.8**	**-0.1**
JNK	**Nakash**	**4.68**	**238**	*e*P		**Pn**	**11 20 01.8**	**+1.2**
JNK				*e*S		**Sn**	**11 20 55.1**	**+0.6**
AKK	**Akkeshi**	**4.97**	**232**	*e*P		**Pn**	**11 20 04.3**	**0.0**
AKK				AMB		AMB	11 20 04.8	
	comp=E,40nm,0.3s							
JTKR	**Abashiri--Toko**	**4.98**	**246**	*e*P		**Pn**	**11 20 06.1**	**+1.6**
JTKR				*e*S		**Sn**	**11 21 03.2**	**+1.8**
JAK	**Akkeshi**	**5.06**	**233**	*e*P		**Pn**	**11 20 05.5**	**-0.1**
JAK				*e*S		**Sn**	**11 21 00.5**	**-2.9**
YSS	**Yuzh-Sakhalins**	**5.20**	**281**	Pn		**Pn**	**11 20 04.0**	**-3.4**
YSS	**Yuzh-Sakhalins**	**5.20**	**281**	*e*P		**Pn**	**11 20 09.2**	**+1.9**
YSS				AMB		AMB	11 20 11.1	
	comp=E,10.0nm,0.4s							
JAR	**Ashorobuto**	**5.42**	**240**	*e*P		**Pn**	**11 20 11.8**	**+1.5**
JAR				*e*S		**Sn**	**11 21 12.7**	**+0.8**
JOB	**Onbets**	**5.61**	**237**	*e*P		**Pn**	**11 20 13.4**	**+0.6**
JOB				*e*S		**Sn**	**11 21 14.6**	**-1.9**
JKA	**Kamikawa-asahi**	**5.76**	**252**			**Pn**	**11 20 17.3**	**+2.4**
JKA	**Kamikawa-asahi**	**5.76**	**252**	*e*P		**Pn**	**11 20 17.3**	**+2.4**
ASAJ	**Asahikawa**	**5.76**	**252**	PN		**Pn**	**11 20 17.3**	**+2.4**
ASAJ	**Asahikawa**	**5.76**	**252**	P		**Pn**	**11 20 16.6**	**+1.7**
	comp=E,63nm,0.7s,baz=77,slow=13,SNR=25							
ASAJ				S		**Sn**	**11 21 20.4**	**+0.3**
	comp=E,8.4nm,0.7s,baz=5.1,slow=21,SNR=1.4							
JKK2	**Kamakawa 2**	**5.77**	**249**	*e*P		**Pn**	**11 20 17.0**	**+2.1**
JWK2	**Keihoku**	**5.88**	**265**	*e*P		**Pn**	**11 20 19.7**	**+3.3**
SKR	**Severo-Kuril's**	**5.98**	**39**	*e*PN		**Pn**	**11 20 18.2**	**+0.5**
SKR				*e*S		**Sn**	**11 21 23.4**	**-1.8**
SKR				pmax		pmax		
	comp=Z,152nm,0.6s							
SKR				smax		smax		
	comp=E,53nm,0.9s							
SKR				smax		smax		
	comp=N,96nm,0.6s							
SKR				MLR		MLR		
	comp=Z,500nm,12.0s							
SKR	**Severo-Kuril's**	**5.98**	**39**	*e*P		**Pn**	**11 20 18.2**	**+0.5**
SKR				AMB		AMB	11 20 19.1	
	comp=Z,150nm,0.6s							
SKR				*e*S		**Sn**	**11 21 24.4**	**-0.8**
SKR				A		A	11 21 26.9	
	comp=Z,120nm,0.5s							
SKR				A		A	11 21 26.9	
	comp=Z,50nm,0.5s							
JCH	**Churui**	**6.06**	**236**	*e*P		**Pn**	**11 20 18.5**	**-0.3**
JCH				*e*S		**Sn**	**11 21 23.4**	**-3.9**
JAB	**Ashibetsu**	**6.27**	**248**	*e*P		**Pn**	**11 20 24.2**	**+2.5**
ERM	**Erimo**	**6.56**	**233**	Pn		**Pn**	**11 20 27.8**	**+2.3**
ERM	**Erimo**	**6.56**	**233**	PN		**Pn**	**11 20 27.8**	**+2.3**
JNBK	**Urakawa-nobuka**	**6.62**	**237**	*e*P		**Pn**	**11 20 24.9**	**-1.4**
JNBK				*e*S		**Sn**	**11 21 33.7**	**-7.0**
PAU	**Pauzhetka**	**6.85**	**37**	*e*P		**Pn**	**11 20 30.3**	**+1.0**
TYV	**Tymovskoe**	**6.86**	**316**	*e*P		**Pn**	**11 20 31.0**	**+1.6**
TYV				AMB		AMB	11 20 33.0	
	comp=Z,10.0nm,0.6s							
PEA0B	**Petropavlovsk-**	**8.46**	**32**	Pn		**Pn**	**11 20 49.6**	**-1.2**
PEA0B	**Petropavlovsk-**	**8.46**	**32**	PN		**Pn**	**11 20 49.6**	**-1.2**
PETK	**Petropavlovsk-**	**8.46**	**32**	Pn		**Pn**	**11 20 49.2**	**-1.6**
PETK	**Petropavlovsk-**	**8.46**	**32**	P		**Pn**	**11 20 50.8**	**0.0**
	comp=Z,4.3nm,0.7s,baz=190,slow=9.8,SNR=39							
PETK				S		**Sn**	**11 22 24.6**	**-0.2**
	comp=Z,4.5nm,1.0s,baz=244,slow=40,SNR=2.2							
JTM	**Tenmabayashi**	**8.55**	**234**	Pn		**Pn**	**11 20 50.6**	**-1.5**
JANG	**Nango**	**8.59**	**231**	*e*P		**Pn**	**11 20 49.9**	**-2.7**
PET	**Petropavlovsk**	**8.77**	**36**	Pn		Pn	11 20 50.5	-4.3
JMM	**Marumori**	**10.86**	**223**	Pn		**Pn**	**11 21 24.2**	**+1.6**
JSD	**Sado**	**12.03**	**232**	Pn		**Pn**	**11 21 36.3**	**-1.6**
KLR	**Kul'dur**	**12.80**	**290**	*e*P		**Pn**	**11 21 50.8**	**+3.1**
USA0B	**Ussuriysk Arra**	**13.00**	**268**	Pn		**Pn**	**11 21 49.6**	**-0.8**
USA0B	**Ussuriysk Arra**	**13.00**	**268**	PN		**Pn**	**11 21 49.6**	**-0.8**
USRK	**Ussuriysk Ar.**	**13.00**	**268**	Pn		**Pn**	**11 21 49.7**	**-0.7**
USRK	**Ussuriysk Ar.**	**13.00**	**268**	P		**Pn**	**11 21 50.4**	**0.0**
	comp=Z,3.3nm,0.4s,baz=75,slow=11,SNR=9.7							
MJB9	**Matsu-Tunnel**	**13.17**	**227**	Pn		**Pn**	**11 21 54.2**	**+1.6**
MAJO	**Matsushiro**	**13.17**	**227**	Pn		**Pn**	**11 21 53.9**	**+1.2**
MAJO	**Matsushiro**	**13.17**	**227**	PN		**Pn**	**11 21 53.9**	**+1.2**
MJAR	**Matsushiro Arr**	**13.17**	**227**	P		**Pn**	**11 21 53.4**	**+0.7**
	comp=Z,3.2nm,0.9s,baz=28,slow=13,SNR=4.2							
JGF	**Kuroka**	**14.34**	**227**	Pn		**Pn**	**11 22 08.6**	**+1.2**
SEY	**Seymchan**	**16.83**	**3**	P		**P**	**11 22 35.6**	**-1.8**
	comp=Z,2.4nm,0.9s,baz=182,slow=8.5,SNR=7.2							
KSRS	**Korea Array**	**18.71**	**250**	P		**P**	**11 22 59.5**	**+1.4**
	comp=Z,4.5nm,0.6s,baz=52,slow=11,SNR=17							
JNU	**Nakatsue**	**19.72**	**235**	P		**P**	**11 23 10.5**	**+1.3**
JNU	**Nakatsue**	**19.72**	**235**	P		**P**	**11 23 09.9**	**+0.8**
	comp=Z,9.0nm,0.9s,baz=155,slow=15,SNR=1.8							
GSTR	**Great Sitkin T**	**22.71**	**63**	P		**P**	**11 23 42.1**	**+2.1**
H11N2	**WAKE ISLAND Hy**	**29.74**	**147**	T		T	11 55 53.4	
	baz=337,slow=76,SNR=12							
H11N1	**WAKE ISLAND Hy**	**29.75**	**147**	T		T	11 56 05.2	
	baz=337,slow=76,SNR=10							
H11N3	**WAKE ISLAND Hy**	**29.75**	**147**	T		T	11 56 02.3	
	baz=337,slow=76,SNR=11							
H11S1	**WAKE ISLAND Hy**	**30.78**	**148**	T		T	11 57 17.2	
	baz=335,slow=72							
H11S3	**WAKE ISLAND Hy**	**30.79**	**148**	T		T	11 57 38.1	
	baz=335,slow=72							
H11S2	**WAKE ISLAND Hy**	**30.80**	**148**	T		T	11 57 18.5	
	baz=335,slow=72							
C16K	**Lisburne Hills**	**31.55**	**30**	P		**P**	**11 24 58.6**	**-0.2**
C16K				IAmb		IAmb	11 24 59.7	
	comp=Z,3.0nm,0.9s							
F17K	**Baldwin Pennin**	**32.50**	**34**	P		**P**	**11 25 08.4**	**+1.3**
F17K				IAmb		IAmb	11 25 08.5	
	comp=Z,3.3nm,0.9s							
M16K	**Timber Creek**	**32.66**	**44**	P		**P**	**11 25 09.9**	**+1.3**
E18K	**Tukpahlearik C**	**32.99**	**32**	P		**P**	**11 25 12.4**	**+1.1**
E18K				IAmb		IAmb	11 25 21.7	
	comp=Z,4.3nm,1.4s							
C18K	**Utukok River**	**33.12**	**30**	P		**P**	**11 25 12.6**	**0.0**
C18K				IAmb		IAmb	11 25 13.7	
	comp=Z,2.9nm,1.1s							
H18K	**Honhosa River**	**33.40**	**37**	P		**P**	**11 25 16.3**	**+1.4**
G18K	**Tagagawik**	**33.41**	**36**	P		**P**	**11 25 14.9**	**-0.1**
G18K				IAmb		IAmb	11 25 33.3	
	comp=Z,5.5nm,1.5s							
C19K	**Lookout Ridge**	**33.81**	**30**	P		**P**	**11 25 18.4**	**-0.2**
C19K				IAmb		IAmb	11 25 20.9	
	comp=Z,4.6nm,1.2s							
L18K	**Granite Mounta**	**33.82**	**42**	P		**P**	**11 25 20.3**	**+1.7**
L18K				IAmb		IAmb	11 25 26.8	
	comp=Z,7.0nm,1.4s							
J18K	**Innoko River**	**33.90**	**40**	P		**P**	**11 25 20.1**	**+0.8**
F19K	**Shaleruckik Mo**	**33.94**	**34**	P		**P**	**11 25 20.5**	**+0.9**
G19K	**Purcell Mounta**	**34.08**	**35**	P		**P**	**11 25 21.9**	**+1.0**
G19K				IAmb		IAmb	11 25 22.7	
	comp=Z,7.2nm,1.4s							
D19K	**Kuna River**	**34.17**	**31**	P		**P**	**11 25 21.9**	**+0.3**
D19K				IAmb		IAmb	11 25 24.9	
	comp=Z,3.5nm,1.0s							
TTA	**Tatalina**	**34.17**	**41**	P		**P**	**11 25 22.9**	**+1.1**
TTA				IAmb		IAmb	11 25 45.1	
	comp=Z,6.4nm,1.4s							
TTA	**Tatalina**	**34.17**	**41**	P		**P**	**11 25 22.9**	**+1.1**
TTA				pmax		pmax		
	comp=Z,6.0nm,1.4s							
H19K	**Roundabout Mou**	**34.25**	**36**	P		**P**	**11 25 23.0**	**+0.8**
H19K				IAmb		IAmb	11 25 24.4	
	comp=Z,4.4nm,1.1s							
E19K	**Redstone River**	**34.27**	**33**	P		**P**	**11 25 23.7**	**+1.3**
E19K				IAmb		IAmb	11 25 24.4	
	comp=Z,4.4nm,1.1s							
B20K	**Meade River**	**34.88**	**29**	P		**P**	**11 25 27.8**	**+0.2**
J20K	**Nowinta River**	**35.09**	**39**	P		**P**	**11 25 31.4**	**+1.9**
J20K				IAmb		IAmb	11 25 45.3	
	comp=Z,5.1nm,1.4s							
IMAR	**Indian Mountai**	**35.41**	**36**	P		**P**	**11 25 33.0**	**+0.8**
G21K	**Allakaket**	**35.56**	**35**	P		**P**	**11 25 35.1**	**+1.5**
B21K	**Ikpikpuk River**	**35.65**	**30**	P		**P**	**11 25 35.1**	**+0.9**
F21K	**Alatna River**	**35.66**	**34**	P		**P**	**11 25 35.5**	**+1.1**
H21K	**Melozitna Rive**	**35.77**	**36**	P		**P**	**11 25 36.7**	**+1.4**
CAST	**Castle Rocks**	**35.97**	**40**	P		**P**	**11 25 38.7**	**+1.6**
CAST				IAmb		IAmb	11 25 45.9	
	comp=Z,4.2nm,1.5s							
I21K	**Tanana**	**36.08**	**37**	P		**P**	**11 25 39.6**	**+1.7**
I21K				IAmb		IAmb	11 25 56.0	
	comp=Z,5.9nm,1.5s							
D22K	**Ayikyak River**	**36.19**	**31**	P		**P**	**11 25 39.0**	**+0.1**
B22K	**Teshekpuk Lake**	**36.20**	**29**	P		**P**	**11 25 39.1**	**+0.3**
B22K				IAmb		IAmb	11 26 00.2	
	comp=Z,5.1nm,1.5s							
E22K	**Anaktuvuk Pass**	**36.41**	**32**			**P**	**11 25 41.4**	**+0.6**
E22K				IAmb		IAmb	11 25 41.6	
	comp=Z,5.8nm,1.4s							
BPAW	**Bear Paw Mtn.**	**36.47**	**39**	P		**P**	**11 25 42.3**	**+1.0**
BPAW				IAmb		IAmb	11 25 54.4	
	comp=Z,4.6nm,1.4s							
KTH	**Kantishna Hill**	**36.50**	**40**	P		**P**	**11 25 41.8**	**+0.2**
SUA	**Susitna One**	**36.63**	**44**	P		**P**	**11 25 43.6**	**+0.7**
TRF	**Thorofare Moun**	**36.78**	**40**	P		**P**	**11 25 45.8**	**+1.7**
TRF				IAmb		IAmb	11 26 00.1	
	comp=Z,4.1nm,1.2s							
G23K	**Bananza Creek**	**36.97**	**35**	P		**P**	**11 25 46.7**	**+1.2**
G23K				IAmb		IAmb	11 25 46.8	
	comp=Z,4.1nm,1.3s							
C23K	**Itkillik River**	**37.06**	**30**	P		**P**	**11 25 46.6**	**+0.5**
C23K				IAmb		IAmb	11 25 54.0	
	comp=Z,7.2nm,1.5s							
I23K	**Minto, Yukon-K**	**37.18**	**37**	P		**P**	**11 25 48.4**	**+1.2**
I23K				IAmb		IAmb	11 26 06.4	
	comp=Z,4.6nm,1.4s							
NEA2	**Nenana**	**37.31**	**38**	P		**P**	**11 25 49.0**	**+0.7**
NEA2				IAmb		IAmb	11 26 03.8	
	comp=Z,3.4nm,1.4s							
RND	**Reindeer**	**37.43**	**40**	P		**P**	**11 25 50.0**	**+0.5**
RND				IAmb		IAmb	11 25 52.9	
	comp=Z,7.1nm,1.4s							
RND	**Reindeer**	**37.43**	**40**	P		**P**	**11 25 50.0**	**+0.5**
RND				pmax		pmax		
	comp=Z,7.0nm,1.4s							
D24K	**Happy Valley**	**37.61**	**31**	P		**P**	**11 25 51.6**	**+0.8**
WRH	**Wood River Hil**	**37.73**	**39**	P		**P**	**11 25 53.0**	**+1.1**
WRH				IAmb		IAmb	11 26 14.0	
	comp=Z,4.0nm,1.4s							
SML	**Sawmill**	**37.76**	**43**	P		**P**	**11 25 53.3**	**+1.0**
CCB	**Clear Creek Bu**	**37.85**	**38**	P		**P**	**11 25 53.8**	**+0.9**
DHY	**Denali Highway**	**38.11**	**41**	P		**P**	**11 25 55.6**	**+0.3**
HDA	**Harding Lake**	**38.23**	**39**	P		**P**	**11 25 56.4**	**+0.4**
SCM	**Sheep Creek Mo**	**38.23**	**43**	P		**P**	**11 25 56.6**	**+0.4**
SCM	**Sheep Creek Mo**	**38.23**	**43**	P		**P**	**11 25 56.7**	**+0.4**
SCM				pmax		pmax		
	comp=Z,8.0nm,1.3s							
IL31		**38.24**	**38**	P		**P**	**11 25 57.8**	**+1.7**
IL31				IAmb		IAmb	11 25 59.3	
	comp=Z,4.1nm,1.3s							
ILAR	**Eielson Array**	**38.24**	**38**	P		**P**	**11 25 56.3**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=262,slow=7.6,SNR=5.8							
	comp=Z,0.3nm,0.6s							
E25K	**Arctic Village**	**38.74**	**33**	P		**P**	**11 26 00.4**	**+0.1**
E25K				IAmb		IAmb	11 26 22.7	
	comp=Z,5.1nm,1.5s							
M24K	**Tolsona, Glenn**	**38.75**	**42**	P		**P**	**11 25 60.0**	**-0.5**
FYU	**Fort Yukon**	**38.87**	**35**	P		**P**	**11 26 02.4**	**+1.0**
FYU				IAmb		IAmb	11 26 04.3	
	comp=Z,3.6nm,1.0s							
KLU	**Klutina**	**38.94**	**43**	P		**P**	**11 26 02.9**	**+0.8**
BMAR	**Burnt Mountain**	**39.11**	**34**	P		**P**	**11 26 05.3**	**+1.9**
J26L	**Joseph Creek**	**39.69**	**38**	P		**P**	**11 26 08.6**	**+0.3**
J26L				IAmb		IAmb	11 26 31.3	
	comp=Z,4.5nm,1.5s							
M26K	**Nabesna, AK**	**40.19**	**42**	P		**P**	**11 26 13.4**	**+1.0**
M26K				IAmb		IAmb	11 26 20.0	
	comp=Z,3.8nm,1.2s							
K27K	**Chicken**	**40.38**	**39**	P		**P**	**11 26 15.1**	**+1.2**
K27K				IAmb		IAmb	11 26 16.3	
	comp=Z,3.3nm,1.1s							
CRQM	**Cirque**	**40.38**	**44**	P		**P**	**11 26 15.8**	**+1.6**
WAX	**Waxell Ridge**	**40.58**	**45**	P		**P**	**11 26 17.4**	**+1.8**
L27K	**Beaver Creek,**	**40.62**	**40**	P		**P**	**11 26 17.6**	**+1.7**
BCAR	**Beaver Creek A**	**40.64**	**40**	P		**P**	**11 26 17.6**	**+1.5**
EGAK	**Eagle**	**40.69**	**38**	P		**P**	**11 26 17.1

*MOS **06** 11:23:34.4±1.0,55˚.98S×28˚.26W,h126km,mb5.1/10, Error ellipse: s-maj=16.9km s-min=9.8km az=109.9*
*NEIC **06** 11:23:36.3±1.4,55˚.97S±0˚.09×28˚.3W±0˚.1,h127km±4km, mb5.2/104,Error ellipse: s-maj=14.5km s-min=10.4km az=206.0*
*BJI **06** 11:23:37.0±0.0,56˚.00S×28˚.30W,h136km,mB5.0/3*
*IDC **06** 11:23:37.7±0.8,55˚.98S×28˚.19W,h146km±6km,mb4.6/17, mbtmp5.0/19,MS3.9/21,Error ellipse: s-maj=12.4km s-min=8.3km az=68.0*
*GCMT **06** 11:23:37.3±0.2,56˚.05S±0˚.02×27˚.80W±0˚.02,h123km±1km, MW5.1/133,Moment Tensor Solution. s87,c107; s133,c192; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.94±.13; Mθθ-3.38±.21; Mφφ-1.56±.23; Mrθ-0.88±.13; Mθφ1.32±.16; Mφr-4.10±.11; Best double couple: Mo5.72500×10¹⁶ NP1:φs153.00000°,δ62.00000°, λ117.00000°. NP2:φs285.00000°,δ38.00000°,λ50.00000°. Principal axes: T 7.1000, Plg63.0000°, Azm106.0000°; N -2.7500, Plg23.0000°, Azm319.0000°; P -4.3500, Plg13.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 11:23:37.2±0.6,**55˚.99S**±0˚.05×**28˚.30W**±0˚.05,**h142**km±4km, **n785**,σ0ᵉ**95**/846,**mb5.1**/83,**35C-7D,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.00**	**287**		**Pn**	**11 24 49.7**	**-0.6**
HOPE				Sn	**Sn**	**11 25 42.5**	**-4.8**
HOPE	**Hope Point**	**5.00**	**287**	*eP*	**Pn**	**11 24 49.7**	**-0.6**
VNA1	**Neumayer--Stat**	**17.09**	**157**	⇑P	**P**	**11 27 26.1**	**-0.5**
	comp=Z,2.3nm,0.2s						
VNA1				⇓ScP	**ScP**	**11 35 25.2**	**+1.2**
	comp=Z,18nm,1.0s						
VNA3	**Neumayer Olymp**	**17.26**	**160**	⇑P	**P**	**11 27 28.2**	**-0.3**
	comp=Z,51nm,0.7s						
VNA3				⇑ScP	**ScP**	**11 35 24.7**	**+0.2**
	comp=Z,16nm,0.9s						
VNA2	**Neumayer--Watz**	**17.49**	**157**	⇑P	**P**	**11 27 30.6**	**-0.3**
	comp=Z,12nm,0.4s,baz=316,slow=13						
VNA2				⇑ScP	**ScP**	**11 35 25.3**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=319,slow=6.6						
EFI	**East Falkland**	**18.01**	**271**	P	**P**	**11 27 37.8**	**+1.0**
EFI	**East Falkland**	**18.01**	**271**	*eP*	**P**	**11 27 37.5**	**+0.7**
SNAA	**Sanae**	**19.05**	**155**	P	**P**	**11 27 47.8**	**-0.3**
SNAA	**Sanae**	**19.05**	**155**	*c iP*	**P**	**11 27 47.2**	**-0.9**
SNAA				pmax	pmax		
	comp=Z,50nm,0.9s						
SNAA	**Sanae**	**19.05**	**155**	⇑*iP*	**P**	**11 27 47.8**	**-0.3**
SNAA	**Sanae**	**19.05**	**155**	⇑P	**P**	**11 27 47.7**	**-0.3**
	comp=Z,872nm,0.5s						
SNAA				⇑PcP	**PcP**	**11 32 06.6**	**+0.4**
	comp=Z,81nm,0.5s						
SNAA				⇑ScP	**ScP**	**11 35 28.7**	**+0.3**
	comp=Z,183nm,0.7s						
SNAA	**Sanae**	**19.05**	**155**	P	**P**	**11 27 47.7**	**-0.3**
	comp=Z,29nm,0.4s,baz=318,slow=12,SNR=281						
SNAA				S	**S**	**11 31 14.8**	**-1.7**
	comp=Z,3.4nm,0.9s,baz=337,slow=20,SNR=2.3						
SNAA				PcP	**PcP**	**11 32 06.0**	**-0.2**
	comp=Z,2.4nm,0.5s,baz=246,slow=5.6,SNR=6.2						
SNAA				LR	LR	11 33 51.9	
	comp=Z,202nm,19.6s,baz=280,slow=32						
SNAA				ScP	**ScP**	**11 35 28.4**	**0.0**
	comp=Z,16nm,1.1s,baz=296,slow=1.6,SNR=11						
PMSA	**Palmer Station**	**19.47**	**229**	P	**P**	**11 27 53.4**	**+0.9**
PMSA	**Palmer Station**	**19.47**	**229**	P	**P**	**11 27 53.7**	**+1.2**
	comp=Z,27nm,0.8s,baz=111,slow=10,SNR=2.3						
TROLL	**Troll, Antarti**	**20.58**	**153**	⇑P	**P**	**11 28 04.0**	**-0.5**
	comp=Z,4μm,0.6s						
TROLL				⇑PcP	**PcP**	**11 32 10.7**	**+1.6**
	comp=Z,131nm,0.5s						
TROLL				⇓ScP	**ScP**	**11 35 32.5**	**+0.5**
	comp=Z,410nm,0.9s						
BELA	**Belgrano 2**	**22.09**	**184**	P	**P**	**11 28 20.5**	**+0.1**
MG01	**Puerto William**	**22.12**	**256**	P	**P**	**11 28 21.6**	**+0.8**
NVL	**N'lazarevskaya**	**22.66**	**146**	*eP*	**P**	**11 28 23.2**	**-2.7**
NVL				pmax	pmax		
	comp=Z,75nm,1.6s						
MG02	**Cerro Sombrero**	**23.80**	**260**	P	**P**	**11 28 36.8**	**+0.3**
MG03	**Isla Dawson**	**24.06**	**257**	P	**P**	**11 28 39.5**	**+0.7**
MG05	**Puerto Natales**	**26.09**	**261**	P	**P**	**11 28 57.3**	**0.0**
GO08	**Villa O'Higgin**	**27.72**	**267**	P	**P**	**11 29 13.2**	**+1.3**
GO08				IAmb	IAmb	11 29 13.6	
	comp=Z,44nm,0.8s						
AY03	**Cochrane**	**28.41**	**269**	P	**P**	**11 29 18.7**	**+0.7**
AY03				IAmb	IAmb	11 29 36.0	
	comp=Z,26nm,0.9s						
TRQA	**Tornquist**	**28.73**	**294**	P	**P**	**11 29 21.2**	**+0.2**
TRQA	**Tornquist**	**28.73**	**294**	P	**P**	**11 29 21.2**	**+0.2**
TRQA				pmax	pmax		
	comp=Z,17nm,0.7s						
COYC	**Coyhaique**	**29.10**	**272**	P	**P**	**11 29 24.2**	**0.0**
PLTB	**Pedras Altas**	**30.00**	**313**	P	**P**	**11 29 32.6**	**+0.4**
PLTB				IAmb	IAmb	11 29 33.7	
	comp=Z,37nm,0.8s						
PLTB	**Pedras Altas**	**30.00**	**313**	*eP*	**P**	**11 29 33.0**	**+0.8**
AY01	**Puyuhuapi**	**30.13**	**274**	P	**P**	**11 29 33.1**	**-0.1**
AY01				IAmb	IAmb	11 29 33.8	
	comp=Z,22nm,0.8s						
LL02	**Futaleuf**	**30.46**	**276**	P	**P**	**11 29 35.6**	**-0.6**
TBOT	**Tacuaremb**	**31.05**	**310**	*eP*	**P**	**11 29 42.3**	**+0.9**
CNLB	**Canela**	**31.11**	**320**	*eP*	**P**	**11 29 43.1**	**+1.0**
CPSB	**Cacapava Do Su**	**31.12**	**315**	*eP*	**P**	**11 29 43.0**	**+0.8**
LL01	**San Ignacio de**	**31.30**	**277**	P	**P**	**11 29 42.7**	**-0.8**
PLCA	**Paso Flores**	**31.38**	**281**	P	**P**	**11 29 43.6**	**-0.7**
PLCA	**Paso Flores**	**31.38**	**281**	*eP*	**P**	**11 29 43.6**	**-0.7**
PLCA	**Paso Flores**	**31.38**	**281**	P	**P**	**11 29 43.0**	**-1.3**
	comp=Z,8.9nm,0.8s,baz=149,slow=8.4,SNR=21						
PLCA				PcP	**PcP**	**11 32 34.4**	**0.0**
	comp=Z,1.0nm,0.5s,baz=37,slow=1.6,SNR=6.3						
PLCA				ScP	**ScP**	**11 36 04.0**	**0.0**
	comp=Z,7.4nm,0.8s,baz=138,slow=3.1,SNR=18						
PLCA				LR	LR	11 42 45.6	
	comp=Z,145nm,19.0s,baz=139,slow=36						
	comp=Z,8.9nm,0.8s						
PLCA	**Paso Flores**	**31.38**	**281**	*eP*	**P**	**11 29 43.1**	**-1.3**
PLCA	**Paso Flores**	**31.38**	**281**	P	**P**	**11 29 43.2**	**-1.1**
PLCA				pP	**pP**	**11 30 11.9**	**-1.7**
PLCA				PcP	**PcP**	**11 32 34.6**	**+0.2**
PLCA				ScP	**ScP**	**11 36 03.7**	**-0.2**
RODS	**Rosario do Sul**	**31.89**	**312**	*eP*	**P**	**11 29 49.2**	**+0.3**
PSAL	**Palomas, Salto**	**32.29**	**308**	*eP*	**P**	**11 29 52.4**	**+0.1**
ALGR	**Alto Alegre (B**	**32.39**	**317**	*eP*	**P**	**11 29 53.5**	**+0.1**
LR05	**Currie**	**32.53**	**280**	P	**P**	**11 29 53.7**	**-0.6**
UNIS	**Unistalda (Bra**	**32.96**	**314**	*eP*	**P**	**11 29 58.5**	**+0.3**
ITQB	**Itaqui**	**33.08**	**311**	P	**P**	**11 29 58.7**	**-0.5**
ITQB				IAmb	IAmb	11 30 00.8	
	comp=Z,71nm,1.2s						
ITQB	**Itaqui**	**33.08**	**311**	*eP*	**P**	**11 29 59.6**	**+0.4**
ITAB	**Concordia**	**33.47**	**319**	P	**P**	**11 30 03.7**	**+1.1**
ITAB	**Concordia**	**33.47**	**319**	*eP*	**P**	**11 30 03.2**	**+0.6**
CRSM	**Crissiumal (Br**	**33.95**	**316**	*eP*	**P**	**11 30 07.1**	**+0.3**
QSPA	**South Pole Qui**	**34.26**	**180**	P	**P**	**11 30 10.7**	**+1.4**
QSPA	**South Pole Qui**	**34.26**	**180**	*eP*	**P**	**11 30 10.6**	**+1.4**
	comp=Z,49nm,0.6s,baz=202,slow=2.3,SNR=560						
QSPA				PcP	**PcP**	**11 32 42.0**	**-0.1**
	comp=Z,4.8nm,0.6s,baz=189,slow=2.8,SNR=2.6						
QSPA				S	**S**	**11 35 25.1**	**-0.3**
	comp=Z,2.4nm,1.1s,baz=82,slow=6.1,SNR=3.0						
QSPA				ScP	**ScP**	**11 36 12.0**	**-1.6**
	comp=Z,4.5nm,0.6s,baz=136,slow=0.3,SNR=10						
	comp=Z,49nm,0.6s						
QSPA	**South Pole Qui**	**34.26**	**180**	P	**P**	**11 30 10.7**	**+1.4**
QSPA				pP	**pwP**	**11 30 41.6**	**-1.5**
QSPA				PcP	**PcP**	**11 32 41.9**	**-0.1**
QSPA				ScP	**ScP**	**11 36 12.0**	**-1.6**
PET01	**Itanhaem-SP**	**34.59**	**328**	*eP*	**P**	**11 30 13.2**	**+1.0**
FRBT	**Francisco Belt**	**34.95**	**319**	*eP*	**P**	**11 30 16.0**	**+0.5**
PARB	**Paraibuna**	**35.02**	**332**	*eP*	**P**	**11 30 17.0**	**+0.9**
SPB	**Sao Paulo**	**35.29**	**329**	P	**P**	**11 30 19.7**	**+1.4**
SPB				IAmb	IAmb	11 30 20.8	
	comp=Z,30nm,1.0s						
SPB	**Sao Paulo**	**35.29**	**329**	*eP*	**P**	**11 30 20.1**	**+1.9**
ML02	**Panimavida**	**35.42**	**286**	P	**P**	**11 30 19.0**	**-0.4**
ML02				IAmb	IAmb	11 31 33.2	
	comp=Z,78nm,1.6s						
DUB01	**Friburgo-RJ**	**35.44**	**337**	*eP*	**P**	**11 30 20.6**	**+0.9**
VAS01	**Vassouras-RJ**	**35.49**	**335**	*eP*	**P**	**11 30 20.5**	**+0.5**
VAO	**Valinhos**	**35.71**	**330**	*eP*	**P**	**11 30 23.9**	**+1.8**
PTGB	**Pitanga**	**35.74**	**321**	*eP*	**P**	**11 30 22.5**	**+0.3**
FRTB	**Fartura**	**36.17**	**326**	*eP*	**P**	**11 30 26.6**	**+0.7**
GO05	**Huala**	**36.27**	**287**	P	**P**	**11 30 25.4**	**-1.1**
GO05				IAmb	IAmb	11 31 25.7	
	comp=Z,46nm,1.4s						
CPUP	**Villa Florida**	**36.31**	**313**	P	**P**	**11 30 26.9**	**0.0**
CPUP				IAmb	IAmb	11 30 28.4	
	comp=Z,37nm,1.1s						
CPUP	**Villa Florida**	**36.31**	**313**	P	**P**	**11 30 27.0**	**+0.1**
	comp=Z,25nm,0.9s,baz=156,slow=7.6,SNR=34						
CPUP				ScP	**ScP**	**11 36 20.6**	**-0.8**
	comp=Z,21nm,1.0s,baz=150,slow=3.7,SNR=18						
CPUP				LR	LR	11 46 07.4	
	comp=Z,92nm,18.1s,baz=136,slow=37						
	comp=Z,25nm,0.9s						
CPUP	**Villa Florida**	**36.31**	**313**	*eP*	**P**	**11 30 27.0**	**+0.1**
CPUP	**Villa Florida**	**36.31**	**313**	P	**P**	**11 30 26.9**	**0.0**
CPUP				pP	**pP**	**11 30 57.1**	**+1.3**
CPUP				PcP	**PcP**	**11 32 48.1**	**-0.4**
CPUP				ScP	**ScP**	**11 36 20.7**	**-0.7**
ALF01	**Guarapari-ES**	**36.52**	**340**	*eP*	**P**	**11 30 30.1**	**+1.3**
LDASE	**Londrina, Braz**	**36.64**	**323**	*eP*	**P**	**11 30 30.8**	**+1.0**
MT03	**Universidad Ad**	**36.66**	**290**	P	**P**	**11 30 30.2**	**+0.1**
MT03				IAmb	IAmb	11 30 31.5	
	comp=Z,47nm,1.1s						
MT09	**Talagante**	**36.70**	**289**	P	**P**	**11 30 29.6**	**-0.8**
MT09				IAmb	IAmb	11 30 45.1	
	comp=Z,48nm,1.2s						
MT01	**Popeta**	**36.77**	**289**	P	**P**	**11 30 30.3**	**-0.5**
MT01				IAmb	IAmb	11 30 45.1	
	comp=Z,40nm,1.4s						
PEL	**Peldehue**	**37.03**	**290**	P	**P**	**11 30 32.8**	**-0.3**
PEL	**Peldehue**	**37.03**	**290**	P	**P**	**11 30 32.8**	**-0.3**
PEL				pmax	pmax		
	comp=Z,42nm,0.7s						
PEL	**Peldehue**	**37.03**	**290**	P	**P**	**11 30 32.6**	**-0.4**
BSCB	**Bom Sucesso**	**37.04**	**334**	*eP*	**P**	**11 30 34.1**	**+0.8**
VA05	**Santo Domingo**	**37.12**	**289**	P	**P**	**11 30 33.1**	**-0.6**
VA05				IAmb	IAmb	11 30 33.8	
	comp=Z,47nm,0.9s						
MT02	**Curacav**	**37.18**	**289**	P	**P**	**11 30 34.1**	**-0.1**
MT02				IAmb	IAmb	11 30 34.9	
	comp=Z,38nm,0.9s						
VA03	**San Esteban**	**37.25**	**291**	P	**P**	**11 30 34.9**	**-0.1**
VA03				IAmb	IAmb	11 30 36.2	
	comp=Z,26nm,0.7s						
TICA	**Tres Isletas**	**37.56**	**309**	*eP*	**P**	**11 30 38.0**	**+0.5**
TRCB	**Terra Rica**	**37.71**	**322**	P	**P**	**11 30 39.7**	**+0.9**
TRCB				IAmb	IAmb	11 30 40.1	
	comp=Z,27nm,0.7s						
RIB01	**Linhares ES**	**37.73**	**341**	*eP*	**P**	**11 30 39.9**	**+0.9**
VA06	**Catapilco**	**37.80**	**290**	P	**P**	**11 30 39.3**	**-0.2**
VA06				IAmb	IAmb	11 30 40.0	
	comp=Z,35nm,0.8s						
BB19B	**Bebedouro**	**38.00**	**328**	*eP*	**P**	**11 30 42.2**	**+0.9**
PCMB	**Pacaembu**	**38.34**	**324**	*eP*	**P**	**11 30 44.7**	**+0.5**
AMBA	**Amambai (Brazi**	**38.44**	**318**	*eP*	**P**	**11 30 44.6**	**-0.4**
SJMB	**Sao Joao De Ma**	**38.48**	**340**	*eP*	**P**	**11 30 45.9**	**+0.6**
CO02	**Combarbal**	**38.71**	**292**	P	**P**	**11 30 48.2**	**+0.9**
CO03	**El Pedregal**	**38.84**	**292**	P	**P**	**11 30 48.6**	**+0.3**
CO01	**Juntas del Tor**	**39.22**	**294**	P	**P**	**11 30 52.8**	**+1.2**
CO01				IAmb	IAmb	11 30 53.7	
	comp=Z,30nm,0.7s						
DIAM	**Diamantina, MG**	**39.39**	**337**	*eP*	**P**	**11 30 53.6**	**+0.6**
ANTJ	**Antonio Joao (**	**39.66**	**317**	*eP*	**P**	**11 30 54.7**	**-0.5**
PMNB	**Patos De Minas**	**39.82**	**333**	*eP*	**P**	**11 30 57.3**	**+0.7**
ITRB	**Iturama**	**39.83**	**326**	*eP*	**P**	**11 30 57.6**	**+1.0**
CO05	**La Serena**	**39.86**	**293**	P	**P**	**11 30 56.6**	**0.0**
AC05	**El Transito**	**40.23**	**295**	P	**P**	**11 31 00.1**	**+0.2**
AC05				IAmb	IAmb	11 31 01.2	
	comp=Z,50nm,0.8s						
GUA01	**Guaratinga, BA**	**40.30**	**343**	*eP*	**P**	**11 31 00.8**	**+0.4**
LCO	**Las Campanas**	**40.31**	**294**	P	**P**	**11 31 00.6**	**-0.1**
LCO				IAmb	IAmb	11 31 01.8	
	comp=Z,32nm,0.9s						
LCO	**Las Campanas**	**40.31**	**294**	*eP*	**P**	**11 30 59.0**	**-1.7**
LCO	**Las Campanas**	**40.31**	**294**	P	**P**	**11 31 00.5**	**-0.1**
MAW	**Mawson**	**40.57**	**144**	P	**P**	**11 31 02.0**	**+0.1**
MAW	**Mawson**	**40.57**	**144**	P	**P**	**11 31 02.1**	**+0.1**
	comp=Z,9.8nm,0.6s,baz=233,slow=10,SNR=10.0						
MAW				PcP	**PcP**	**11 33 02.1**	**+0.9**
	comp=Z,8.5nm,0.6s,baz=246,slow=6.0,SNR=6.4						
MAW				ScP	**ScP**	**11 36 38.4**	**+1.4**
	comp=Z,15nm,1.0s,baz=250,slow=1.1,SNR=5.0						
MAW				LR	LR	11 45 21.2	
	comp=Z,124nm,20.9s,baz=242,slow=32						
	comp=Z,9.8nm,0.6s						
MURT	**Porto Murtinho**	**40.59**	**316**	*eP*	**P**	**11 31 02.1**	**-0.6**
IPMB	**Ipameri, GO**	**40.83**	**330**	*eP*	**P**	**11 31 05.6**	**+0.9**
AQDB	**Aquidauana**	**40.94**	**319**	P	**P**	**11 31 05.5**	**-0.1**
AC04	**Llanos de Chal**	**41.15**	**294**	P	**P**	**11 31 08.0**	**+0.6**
GO03	**Copiap**	**41.23**	**296**	P	**P**	**11 31 07.8**	**-0.1**
GO03				IAmb	IAmb	11 31 08.6	
	comp=Z,41nm,0.8s						
SUR	**Sutherland**	**41.23**	**76**	LR	LR	11 45 37.6	
	comp=Z,129nm,18.3s,baz=174,slow=32						
AC02	**Maricunga**	**41.29**	**298**	P	**P**	**11 31 10.0**	**+1.0**
CVNA	**Calvinia**	**41.34**	**74**	*eP*	**P**	**11 31 09.2**	**+0.2**
CVNA				IAmb	IAmb	11 31 15.4	
	comp=Z,45nm,1.4s						
BDQN	**Bodoquena, MS**	**41.36**	**317**	*eP*	**P**	**11 31 08.2**	**-0.9**
AC06	**Mina Casimiro**	**41.48**	**296**	P	**P**	**11 31 09.2**	**-0.8**
AC06				IAmb	IAmb	11 31 11.2	
	comp=Z,48nm,1.1s						
FRAZ	**Fraserburg**	**41.90**	**76**	*eP*	**P**	**11 31 13.2**	**-0.2**
FRAZ				IAmb	IAmb	11 31 14.4	
	comp=Z,215nm,2.2s						
JANB	**Januaria**	**42.66**	**337**	*eP*	**P**	**11 31 20.0**	**+0.3**
GO02	**Mina Guanaco**	**42.91**	**299**	P	**P**	**11 31 22.2**	**+0.2**
BDFB	**Brasilia**	**43.01**	**332**	P	**P**	**11 31 22.6**	**0.0**
BDFB	**Brasilia**	**43.01**	**332**	P	**P**	**11 31 23.5**	**+1.0**
	comp=Z,11nm,0.8s,baz=152,slow=3.3,SNR=12						
BDFB				ScP	**ScP**	**11 36 48.5**	**+0.8**
	comp=Z,1.7nm,0.3s,baz=110,slow=6.5,SNR=3.6						
BDFB				LR	LR	11 48 40.3	
	comp=Z,189nm,18.1s,baz=158,slow=35						
	comp=Z,11nm,0.8s						
SHEL	**Horse Pasture**	**43.51**	**32**	P	**P**	**11 31 27.6**	**+1.1**
SHEL	**Horse Pasture**	**43.51**	**32**	P	**P**	**11 31 27.6**	**+1.1**
SHEL				pmax	pmax		
	comp=Z,106nm,1.0s						
SOE	**Somerset East**	**43.59**	**81**	P	**P**	**11 31 26.8**	**-0.3**
SOE				IAmb	IAmb	11 31 27.0	
	comp=Z,32nm,1.1s						
GRHM	**Grahamstown, E**	**43.62**	**82**	P	**P**	**11 31 26.9**	**-0.4**
PB14	**IPOC Station P**	**43.76**	**298**	P	**P**	**11 31 28.3**	**-0.5**
ARAG	**Araguaiana, MT**	**44.04**	**326**	*eP*	**P**	**11 31 31.2**	**+0.5**
PB15	**IPOC Station P**	**44.50**	**300**	P	**P**	**11 31 35.0**	**+0.5**
PB15				IAmb	IAmb	11 31 40.0	
	comp=Z,35nm,1.0s						
BBRB	**Robore, Bolivi**	**44.52**	**315**	*eP*	**P**	**11 31 34.2**	**-0.3**
LVC	**Limon Verde**	**44.73**	**301**	P	**P**	**11 31 37.7**	**+1.1**
LVC				IAmb	IAmb	11 31 40.6	
	comp=Z,51nm,0.8s						
LVC	**Limon Verde**	**44.73**	**301**	*eP*	**P**	**11 31 37.2**	**+0.6**
LVC	**Limon Verde**	**44.73**	**301**	ScP	**ScP**	**11 36 55.0**	**0.0**
	comp=Z,9.3nm,0.8s,baz=75,slow=3.7,SNR=5.9						
LVC	**Limon Verde**	**44.73**	**301**	*eP*	**P**	**11 31 37.6**	**+1.1**
LVC	**Limon Verde**	**44.73**	**301**	P	**P**	**11 31 37.6**	**+1.1**
LVC				ScP	**ScP**	**11 36 55.6**	**+0.6**
PB06	**IPOC Station P**	**44.97**	**300**	P	**P**	**11 31 38.6**	**+0.4**
PB06				IAmb	IAmb	11 31 39.5	
	comp=Z,37nm,1.0s						
SALV	**Santo Antonio**	**45.15**	**321**	*eP*	**P**	**11 31 39.4**	**0.0**
HVD	**Gariep Dam**	**45.15**	**79**	*eP*	**P**	**11 31 38.5**	**-1.1**
HVD				IAmb	IAmb	11 31 39.5	
	comp=Z,16nm,0.9s						
SDBA	**SAO DESIDERIO**	**45.36**	**337**	*eP*	**P**	**11 31 41.4**	**+0.3**
NBLA	**Lagarto - SE**	**45.50**	**347**	*eP*	**P**	**11 31 42.1**	**-0.1**
PB04	**IPOC Station P**	**45.57**	**300**	P	**P**	**11 31 43.6**	**+0.6**
PB09	**IPOC Station P**	**45.59**	**302**	P	**P**	**11 31 44.5**	**+1.5**
BBSD	**Serra de San D**	**45.82**	**315**	*eP*	**P**	**11 31 44.4**	**-0.4**
PB07	**IPOC Station P**	**45.95**	**301**	P	**P**	**11 31 45.8**	**-0.2**
SBA	**Scott Base**	**46.09**	**184**	P	**P**	**11 31 48.2**	**+2.0**
SBA				IAmb	IAmb	11 31 49.3	
	comp=Z,65nm,1.2s						
SBA	**Scott Base**	**46.09**	**184**	P	**P**	**11 31 48.2**	**+2.0**
SBA				pmax	pmax		
	comp=Z,65nm,1.2s						
PB02	**IPOC Station P**	**46.31**	**301**	P	**P**	**11 31 49.2**	**+0.6**
PB02				IAmb	IAmb	11 31 51.1	
	comp=Z,68nm,1.0s						
PB01	**IPOC Station P**	**46.35**	**302**	P	**P**	**11 31 50.1**	**+1.1**
BOSA	**Boshof**	**46.56**	**77**	P	**P**	**11 31 49.4**	**-1.1**
BOSA	**Boshof**	**46.56**	**77**	⇑*iP*	**P**	**11 31 49.5**	**-1.1**
BOSA				IAmb	IAmb	11 31 49.8	
	comp=Z,21nm,0.8s						
BOSA	**Boshof**	**46.56**	**77**	P	**P**	**11 31 49.5**	**-1.1**
	comp=Z,16nm,0.8s,baz=216,slow=7.3,SNR=29						
BOSA				PcP	**PcP**	**11 33 22.3**	**-0.1**
	comp=Z,9.1nm,1.0s,baz=233,slow=4.1,SNR=4.1						
BOSA				ScP	**ScP**	**11 37 00.9**	**-1.3**
	comp=Z,2.7nm,0.8s,baz=200,slow=6.6,SNR=4.4						
BOSA				LR	LR	11 48 06.3	
	comp=Z,257nm,18.2s,baz=198,slow=32						
	comp=Z,16nm,0.8s						
BOSA	**Boshof**	**46.56**	**77**	P	**P**	**11 31 49.4**	**-1.1**
BOSA				PcP	**PcP**	**11 33 22.8**	**+0.4**
BOSA				ScP	**ScP**	**11 37 01.9**	**-0.3**
VNDA	**Vanda**	**46.60**	**183**	P	**P**	**11 31 51.8**	**+1.6**
VNDA				IAmb	IAmb	11 31 52.7	
	comp=Z,35nm,0.7s						
VNDA	**Vanda**	**46.60**	**183**	P	**P**	**11 31 51.8**	**+1.6**
	comp=Z,28nm,0.6s,baz=189,slow=6.4,SNR=94						
VNDA				ScP	**ScP**	**11 37 01.9**	**+0.4**
	comp=Z,3.6nm,1.0s,baz=213,slow=4.6,SNR=3.7						
VNDA				LR	LR	11 51 37.2	
	comp=Z,78nm,18.3s,baz=170,slow=36						
	comp=Z,28nm,0.6s						
VNDA	**Vanda**	**46.60**	**183**	P	**P**	**11 31 51.7**	**+1.6**
VNDA				ScP	**ScP**	**11 37 00.6**	**-0.9**
NBAN	**Anadia - AL**	**46.63**	**349**	*eP*	**P**	**11 31 50.7**	**-0.4**
PTLB	**Pontes e Lacer**	**46.82**	**317**	P	**P**	**11 31 52.6**	**+0.1**
PTLB				IAmb	IAmb	11 31 53.6	
	comp=Z,30nm,0.8s						
PTLB	**Pontes e Lacer**	**46.82**	**317**	*eP*	**P**	**11 31 52.6**	**+0.1**
PATCX	**Punta Patache**	**46.85**	**301**	P	**P**	**11 31 53.2**	**+0.3**
PATCX				IAmb	IAmb	11 31 55.1	
	comp=Z,40nm,0.8s						
PB08	**IPOC Station P**	**46.96**	**303**	P	**P**	**11 31 55.5**	**+1.5**
PB08				IAmb	IAmb	11 31 57.0	
	comp=Z,36nm,0.9s						
SIV	**San Ignacio**	**47.09**	**315**	ScP	**ScP**	**11 37 04.2**	**-0.2**
	comp=Z,15nm,1.0s,baz=132,slow=5.3,SNR=22						
TA02	**Huaiquique**	**47.31**	**302**	P	**P**	**11 31 57.2**	**+0.9**
TA02				IAmb	IAmb	11 32 21.4	
	comp=Z,45nm,0.8s						
GO01	**Chusmiza**	**47.39**	**303**	P	**P**	**11 31 58.7**	**+1.2**
GO01				IAmb	IAmb	11 32 00.1	
	comp=Z,50nm,0.8s						
SNDB	**Serra Nova Dou**	**47.41**	**329**	*eP*	**P**	**11 31 57.9**	**+0.7**
PB11	**IPOC Station P**	**47.53**	**302**	P	**P**	**11 31 58.8**	**+0.6**
SWZ	**Schweizer**	**47.72**	**76**	*eP*	**P**	**11 31 58.2**	**-1.4**
SWZ				IAmb	IAmb	11 31 58.8	
	comp=Z,37nm,0.7s						
CCD	**Concordia, Ant**	**47.84**	**170**	P	**P**	**11 32 00.5**	**+0.3**
CCD				ScP	**ScP**	**11 37 06.2**	**-1.0**
SNKL	**Senekal, Frees**	**48.21**	**79**	⇑*iP*	**P**	**11 32 02.6**	**-0.8**
SNKL				IAmb	IAmb	11 32 03.1	
	comp=Z,45nm,0.9s						
CRZF	**Crozet Islands**	**48.41**	**114**	P	**P**	**11 32 04.0**	**-0.5**
CRZF				IAmb	IAmb	11 32 05.5	
	comp=Z,41nm,0.9s						
PB16	**IPOC Station P**	**48.69**	**304**	P	**P**	**11 32 08.3**	**+0.7**
PB16				IAmb	IAmb	11 32 15.5	
	comp=Z,58nm,1.9s						
NBLV	**Livramento - P**	**48.98**	**349**	*eP*	**P**	**11 32 09.0**	**-0.2**
PRYS	**Parys**	**49.03**	**77**	⇑*iP*	**P**	**11 32 07.9**	**-1.8**
PRYS				IAmb	IAmb	11 32 08.8	
	comp=Z,36nm,0.8s						
H10N1	**ASCENSION HYDR**	**49.25**	**18**	T	T	12 26 22.7	
	baz=189,slow=74						
H10N3	**ASCENSION HYDR**	**49.25**	**18**	T	T	12 25 48.1	
	baz=189						
H10N2	**ASCENSION HYDR**	**

comp=Z,17nm,1.0s
CZSB Cruzeiro do Su 59.45 306 *e*P P **11 33 24.7 -0.2**
TEFE Tefe 59.86 317 *e*P P **11 33 27.7 0.0**
FOMA Nahampoana Res 61.51 93 P P **11 33 39.4 +0.5**
RPN Rapa Nui 63.05 261 LR LR 11 56 57.7
comp=Z,40nm,19.8s,baz=59,slow=32
BOAV Boa Vista 63.86 324 P P **11 33 53.8 -0.6**
BOAV IAmb IAmb 11 33 55.0
comp=Z,32nm,1.2s
BOAV Boa Vista 63.86 324 *e*P P **11 33 53.5 -0.9**
MDP Montagnes des 64.09 333 LR LR 12 01 43.1
comp=Z,132nm,18.7s,baz=122,slow=36
LIC Lamto 64.91 26⍰ *e*P P **11 34 01.1 -0.1**
comp=Z,135nm,0.7s
KIC Kosan Boka 65.11 26⍰ *e*P P **11 34 02.2 -0.3**
comp=Z,71nm,0.8s
TIC Toumodi 65.31 26⍰ *e*P P **11 34 03.6 -0.2**
comp=Z,88nm,0.7s
DBIC Dimbokro 65.38 26 P P **11 34 04.1 -0.1**
DBIC IAmb IAmb 11 34 05.0
comp=Z,36nm,0.9s
DBIC Dimbokro 65.38 26 P P **11 34 04.0 -0.1**
DBIC LR LR 11 56 44.8
comp=Z,88nm,18.1s,baz=167,slow=30
comp=Z,26nm,0.6s
DBIC Dimbokro 65.38 26 P P **11 34 04.0 -0.1**
MCRA Macar, Loja 65.78 301 P P **11 34 07.2 +0.2**
ARNL Arenillas 66.55 301 P P **11 34 13.9 +2.1**
COHC Cochancay 67.11 303 P P **11 34 16.8 +1.5**
CHSH Refugio Sur-Vo 67.78 303 P P **11 34 22.1 +1.8**
OTAV Otavalo 69.11 305 P P **11 34 29.8 +1.4**
OTAV Otavalo 69.11 305 P P **11 34 29.8 +1.4**
OTAV pmax pmax
comp=Z,26nm,1.3s
OTAV Otavalo 69.11 305 *e*P P **11 34 29.4 +1.0**
TULM Tulcn-Chalpat 69.22 306 P P **11 34 30.9 +1.8**
TULM IAmb IAmb 11 34 32.0
comp=Z,30nm,0.9s
ROSC El Rosal 71.37 311 P P **11 34 42.2 +0.2**
comp=Z,7.1nm,0.4s,baz=150,slow=15,SNR=3.7
ROSC LR LR 12 09 43.6
comp=Z,128nm,18.0s,baz=6.0,slow=39
comp=Z,7.1nm,0.4s
PCRV Puerto La Cruz 72.52 322 LR LR 12 09 39.7
comp=Z,94nm,19.0s,slow=38
BAUV El Baul 72.59 319 P P **11 34 49.1 +0.4**
BAUV IAmb IAmb 11 34 50.3
comp=Z,55nm,1.0s
TOA0 Torodi Ar. Sit 73.31 31 P P **11 34 53.1 +0.1**
TORD Torodi Ar. Bea 73.31 31 P P **11 34 53.1 +0.1**
TORD IAmb IAmb 11 34 54.1
comp=Z,50nm,0.9s
TORD Torodi Ar. Bea 73.31 31 P P **11 34 53.1 +0.1**
comp=Z,45nm,0.8s,baz=198,slow=6.1,SNR=280
TORD LR LR 12 02 07.1
comp=Z,81nm,19.7s,baz=182,slow=32
comp=Z,45nm,0.8s
SDV Santo Domingo 73.53 316 P P **11 34 54.8 +0.2**
SDV Santo Domingo 73.53 316 LR LR 12 09 25.4
comp=Z,231nm,18.4s,baz=98,slow=37
SDV Santo Domingo 73.53 316 *e*P P **11 34 54.8 +0.2**
KIBK Kibwezi 75.00 71 P P **11 35 05.9 +2.9**
KIBK IAmb IAmb 11 35 07.5
comp=Z,59nm,1.4s
WHZ Wether Hill Ro 77.57 192 P P **11 35 15.8 -1.2**
MLZ Mavora Lakes 78.07 192 P P **11 35 20.0 +0.2**
RPZ Rata Peaks 79.33 194 P P **11 35 26.8 +0.1**
comp=Z,18nm,1.0s,baz=187,slow=20,SNR=3.1
comp=Z,18nm,1.0s
PEZE Perez Zeledon, 79.57 304 P P **11 35 30.2 +1.9**
LCR2 La Lucha 2 80.03 304 P P **11 35 30.1 -0.9**
JTS Las Juntas de 80.96 304 P P **11 35 36.1 +0.4**
JTS Las Juntas de 80.96 304⍰ *e*P P **11 35 36.3 +0.6**
JTS pmax pmax
comp=Z,28nm,1.3s
JTS Las Juntas de 80.96 304 LR LR 12 14 56.1
comp=Z,118nm,18.5s,baz=60,slow=38
TAM Tamanrasset 83.56 31 P P **11 35 50.8 +1.6**
TAM IAmb IAmb 11 35 52.3
comp=Z,24nm,1.2s
TAM Tamanrasset 83.56 31 P P **11 35 50.8 +1.6**
TAM pmax pmax
comp=Z,24nm,1.2s
URZ Urewera 83.66 200 P P **11 35 49.3 -0.2**
comp=Z,4.5nm,0.8s,baz=307,slow=5.5,SNR=3.5
comp=Z,4.5nm,0.8s
MATN Matagalpa 83.72 304 P P **11 35 50.7 +0.6**
MTO3 Montecristo 86.61 302 P P **11 36 04.9 +0.2**
TBI Tubuai 86.63 232 *e*LR LR 12 03 31.4
comp=Z,958nm,35.0s
TOO Toolangi 86.65 175 P P **11 36 04.7 +0.2**
TOO IAmb IAmb 11 38 26.1
comp=Z,46nm,1.7s
TOO Toolangi 86.65 175 P P **11 36 04.7 +0.2**
TOO pmax pmax
comp=Z,46nm,1.7s
NWAO Narrogin (SRO) 86.68 152 P P **11 36 04.8 +0.1**
NWAO Narrogin (SRO) 86.68 152 P P **11 36 04.8 +0.1**
NWAO pmax pmax
comp=Z,70nm,1.6s
NWAO Narrogin (SRO) 86.68 152 P P **11 36 04.2 -0.5**
comp=Z,8.6nm,0.7s,baz=177,slow=5.3,SNR=8.1
comp=Z,8.6nm,0.7s
PPT2 Papeete2 91.71 235 *e*LR LR 12 05 59.2
comp=Z,208nm,33.0s
PPT2 *e*LR LR 12 06 01.5
comp=Z,153nm,35.5s
STKA Stephens Creek 92.06 171 P P **11 36 30.5 +0.6**
STKA Stephens Creek 92.06 171 P P **11 36 30.7 +0.8**
comp=Z,1.5nm,0.6s,baz=146,slow=8.6,SNR=4.5
comp=Z,1.5nm,0.6s
KEST Kesra 96.83 30 LR LR 12 17 07.0
comp=Z,89nm,18.3s,baz=213,slow=33
ESDC Sonseca Array 97.52 19 P Pdif 11 36 54.6 +0.2
comp=Z,1.1nm,0.8s,baz=268,slow=24,SNR=4.2
ESDC LR LR 12 14 03.3
comp=Z,81nm,19.1s,baz=250,slow=31
comp=Z,1.1nm,0.8s
PSA00 Pilbara Seismi 98.16 150 P P **11 36 57.7 -0.2**
PSA00 IAmb IAmb 11 38 04.6
comp=Z,14nm,1.6s
ASAR Alice Springs 99.23 164 **Pdif 11 37 01.9 -0.8**
ASAR Alice Springs 99.23 164 P **Pdif 11 37 02.1 -0.5**
comp=Z,2.2nm,0.7s,baz=180,slow=4.0,SNR=24
ASAR PP **PP 11 41 04.5 -1.5**
comp=Z,1.7nm,0.9s,baz=184,slow=7.8,SNR=8.3
ASAR PKiKP **PKiKP 11 41 32.9 +1.1**
comp=Z,0.5nm,0.7s,baz=180,slow=1.6,SNR=6.0
ASAR PKKPbc **PKKPbc 11 53 24.8 +1.0**
comp=Z,0.6nm,0.4s,baz=20,slow=2.5,SNR=16
comp=Z,2.2nm,0.7s
AS31 Alice Springs 99.23 164 P **Pdif 11 37 02.2 -0.5**
WRA Warramunga Arr 102.95 163 Pdif **Pdif 11 37 16.6 -2.6**
WRA Warramunga Arr 102.95 163 P **Pdif 11 37 18.3 -0.9**
comp=Z,0.6nm,0.7s,baz=192,slow=4.3,SNR=7.5
WRA PP **PP 11 41 32.8 -1.3**
comp=Z,1.0nm,0.9s,baz=188,slow=7.0,SNR=5.6
WR0 Warramunga Arr 102.97 163 Pdif **Pdif 11 37 20.1 +0.8**
TXAR Lajitas Array 106.21 298 PKKPbc PKKPbc 11 53 04.0 0.0
comp=Z,0.5nm,0.9s,baz=282,slow=1.9,SNR=5.2
MNTX Cornudas Mount 108.99 299 P **PKiKP 11 41 49.8 +0.5**
baz=145
L44A Lake County Fo 110.00 317 P **PKiKP 11 41 50.9 +0.1**
baz=149
121A Cookes Peak, D 110.86 297 P **PKiKP 11 41 53.1 +0.1**
baz=144
SCIA State Center 111.88 313 P **PKiKP 11 41 55.8 +1.5**
baz=147
TUC Tucson 112.20 295 P **PKiKP 11 41 56.2 +0.8**
baz=143
EKA Eskdalemuir Ar 112.84 15 PKiKP **PKiKP 11 41 55.3 -0.4**
comp=Z,0.5nm,0.5s,baz=225,slow=2.2,SNR=4.1
EKA PKKPbc **PKKPbc 11 52 41.5 -1.8**
comp=Z,2.5nm,0.8s,baz=354,slow=3.0,SNR=4.8
SDCO Great Sand Dun 113.93 302 P **PKiKP 11 41 59.4 +0.6**
baz=143
Q24A Divide 114.73 303 P **PKiKP 11 42 01.1 +0.8**
baz=143
SCHQ Schefferville 114.86 337 PKP PKPdf 11 41 58.7 -0.9
comp=Z,1.8nm,0.7s,baz=239,slow=4.6,SNR=4.0
WUAZ Wupatki 115.03 297 P **PKiKP 11 42 01.6 +0.8**
baz=142
IKP In-Ko-Pah, Jac 115.22 291 P **PKiKP 11 42 02.1 +0.9**
baz=142
PDMCI Parker Dam,Lak 115.49 294 P **PKiKP 11 42 02.4 +0.9**
baz=142

MONP2 Monument Peak 115.57 291 P **PKiKP 11 42 02.7 +0.7**
baz=142
IRM Iron Mountain 115.89 293 P **PKiKP 11 42 03.6 +1.2**
baz=142
TPFO Pinon Flats 116.14 292 P **PKiKP 11 42 03.7 +0.8**
baz=141
PFO Pinyon Flats O 116.15 292 P **PKiKP 11 42 04.3 +1.3**
baz=141
BELC Belle Mtn. Jos 116.21 292 P **PKiKP 11 42 04.7 +1.5**
baz=141
AKASG Malin Array Be 116.52 37 PKP **PKPdf 11 42 01.9 -1.1**
comp=Z,1.4nm,0.5s,baz=226,slow=2.1,SNR=6.2
AKBB Malin Array Si 116.52 37 *j* PKiKP **PKPdf 11 42 01.7 -1.2**
GMRC Granite Mounta 116.65 293 P **PKiKP 11 42 04.6 +0.7**
baz=141
O20A White River Ci 117.12 302 P **PKiKP 11 42 05.6 +0.8**
baz=142
BFSC Mount Baldy Ra 117.26 291 P **PKiKP 11 42 06.4 +1.3**
baz=141
SNCC San Nicolas Is 117.48 289 P **PKiKP 11 42 06.7 +1.3**
baz=141
GSC Goldstone, Bar 117.64 293 P **PKiKP 11 42 06.6 +0.8**
baz=141
MVU Marysvale 117.78 298 **PKiKP 11 42 07.5 +1.4**
SHOC Shoshone, Teco 117.83 293 P **PKiKP 11 42 07.5 +1.5**
baz=141
KMY Karmoy 117.93 19 *e*PKPdf **PKPdf 11 42 05.2 -0.1**
EDW2 Edwards Air Fo 117.93 291 P **PKiKP 11 42 07.6 +1.3**
baz=141
QSM Queen of Sheba 118.18 293 PKPdf **PKPdf 11 42 06.0 -0.6**
AGMN Agassiz Nation 118.20 316 P **PKiKP 11 42 07.7 +1.4**
baz=144
LRMC Laurel Mtn Rad 118.23 292 P **PKiKP 11 42 07.9 +0.9**
baz=140
GWY Greenwater Val 118.25 293 **PKiKP 11 42 07.8 +0.8**
K22A Casper 118.28 305 P **PKiKP 11 42 07.7 +0.8**
baz=141
RSSD Black Hills 118.31 308 P **PKiKP 11 42 07.7 +0.8**
baz=142
BLS5 Blasjo 118.35 19 *e*PKPdf **PKiKP 11 42 07.4 +1.1**
SBC Santa Barbara 118.50 290 P **PKiKP 11 42 07.8 +0.5**
baz=140
ARVC Arvin 118.56 291 P **PKiKP 11 42 08.4 +0.9**
baz=140
FURC Furnace Creek, 118.57 293 P **PKiKP 11 42 08.4 +1.0**
baz=140
MPMC Manual Prospec 118.58 293 P **PKiKP 11 42 09.2 +1.5**
baz=140
ISA Isabella, Lake 118.78 292 P **PKiKP 11 42 09.8 +1.8**
baz=140
PKM Mcpherson Peak 118.89 290 P **PKiKP 11 42 09.8 +1.4**
baz=140
KONO Kongsberg 119.17 21 *e*PKPdf **PKiKP 11 42 07.8 0.0**
CWC Cottonwood Cre 119.17 293 P **PKiKP 11 42 10.2 +1.4**
baz=140
VES Vestal, Richgr 119.24 291 P **PKiKP 11 42 09.0 +0.2**
baz=140
MNK Minsk 119.31 34 *i* PKiKP **PKPdf 11 42 07.2 -1.0**
MNK *i* 11 42 41.0
MNK *i* 11 42 55.1
MNK *i* 11 43 33.4
MNK *i* SS SS 11 59 50.1 +7.2
MNK *i* SSS SSS 12 04 17.0
MNK pmax pmax
comp=N,10.0nm,0.9s
MNK pmax pmax
comp=Z,12nm,0.8s
MNK pmax pmax
comp=E,5.0nm,0.8s
SMMC Simmler 119.32 290 P **PKiKP 11 42 09.6 +0.6**
baz=140
R11B Troy Canyon, C 119.35 296 P **PKiKP 11 42 10.0 +0.9**
baz=140
DUG Dugway, Tooele 119.38 299 P **PKiKP 11 42 09.9 +0.8**
baz=140
SUE Sulen 119.58 18 *e*PKPdf **PKPdf 11 42 07.9 -0.5**
ULM Lac du Bonnet 119.78 317 PKP **PKPdf 11 42 07.8 -1.4**
comp=E,2.4nm,0.8s,baz=298,slow=2.3,SNR=3.7
ULM SKP 11 45 30.0
comp=E,2.7nm,1.0s,baz=110,slow=1.1,SNR=3.0
PDAR Pinedale Array 119.78 303 PKP **PKPdf 11 42 08.8 -1.1**
comp=E,0.4nm,0.4s,baz=110,slow=5.0,SNR=9.4
PDAR SKP 11 45 30.0
comp=E,0.6nm,0.7s,baz=126,slow=3.8,SNR=4.3
PDAR PKKPab **PKKPbc 11 52 19.2 +0.3**
comp=E,0.5nm,0.6s,baz=127,slow=0.3,SNR=6.2
BW06 Boulder Array 119.79 303 P **PKiKP 11 42 10.2 +0.3**
baz=140
SKAR Skarslia 119.87 20 *e*PKPdf **PKPdf 11 42 09.1 -0.1**
HYA Hoyanger 119.93 18 *e*PKPdf **PKiKP 11 42 09.7 +0.5**
BGU Big Grassy Mou 120.05 299 PKPdf **PKiKP 11 42 11.4 +1.0**
HFS Hagfors 120.47 23 PKP **PKPdf 11 42 08.8 -1.4**
comp=E,2.3nm,0.5s,baz=145,slow=3.6,SNR=22
MLAC Mammoth, Mammt 120.47 293 P **PKiKP 11 42 11.7 +0.3**
baz=139
NC602 NORSAR Array S 120.56 21 *e*PKPdf **PKPdf 11 42 10.0 -0.4**
NB2 NORSAR Subarra 120.77 21 PKPdf **PKPdf 11 42 10.4 -0.5**
comp=Z,0.5nm,0.4s,baz=202,slow=1.9
NOA NORSAR Array B 120.77 21 PKP **PKPdf 11 42 10.1 -0.8**
comp=Z,0.5nm,0.4s,baz=143,slow=2.2,SNR=16
NVAR Mina Array Bea 120.80 294 PKP **PKPdf 11 42 11.6 -0.3**
comp=Z,0.4nm,0.6s,baz=144,slow=2.6,SNR=7.5
NVAR SKP 11 45 33.9
comp=Z,1.5nm,1.1s,baz=168,slow=2.5,SNR=4.8
NVAR PKKPab **PKKPab 11 52 17.1 +1.1**
comp=Z,0.4nm,0.6s,baz=315,slow=3.9,SNR=5.0
AKN Aaknes 121.02 18 *e*PKPdf **PKPdf 11 42 10.8 -0.5**
LAO LASA Array 121.27 308 P **PKiKP 11 42 13.1 +0.6**
baz=140
DOMB Dombas 121.27 20 *e*PKPdf **PKPdf 11 42 11.5 -0.3**
RLMT Red Lodge 121.45 305 P **PKiKP 11 42 13.2 +0.1**
baz=140
DGMT Dagmar 121.75 311 P **PKiKP 11 42 14.6 +1.2**
baz=140
VSU Vasula 122.31 31 *d i* PKiKP **PKPdf 11 42 13.3 -0.5**
VSU pmax pmax
comp=Z,22nm,1.7s
AFDM Forest Hills D 122.57 292 PKPdf **PKiKP 11 42 16.0 +0.7**
OBN Obninsk 122.68 38⍰ *i* PKiKP **PKPdf 11 42 14.4 -0.2**
OBN *e* 11 43 53.5
OBN *e* PPP PPP 11 46 31.3
OBN pmax pmax
comp=Z,14nm,0.6s
HLID Hailey 122.71 300 PKPdf **PKiKP 11 42 16.6 +1.1**
HLID Hailey 122.71 300 P **PKiKP 11 42 16.7 +1.1**
baz=138
DY2G Dye2 122.89 352 *i* P **PKPdf 11 42 13.7 -1.3**
BOZ Bozeman (W) 122.90 304 P **PKiKP 11 42 16.3 +0.4**
baz=138
NIL Nilore 123.37 78 PKPdf **PKPdf 11 42 16.8 0.0**
NIL Nilore 123.37 78 PKiKP **PKPdf 11 42 16.8 0.0**
SFJD Kangerlussuaq 123.80 350 *i* P **PKPdf 11 42 14.1 -2.3**
EGMT Eagleton 123.85 307 P **PKiKP 11 42 18.4 +0.9**
baz=138
NSS Namsos 124.09 20 *e*PKPdf **PKPdf 11 42 16.5 -0.6**
J08A Circle Bar Ran 124.55 298 PKPdf **PKiKP 11 42 20.3 +1.1**
PLID Pearl Lake 124.60 301 PKPdf **PKiKP 11 42 19.7 +0.4**
FINES FINESS Array B 124.62 28 PKPdf **PKPdf 11 42 17.9 -0.2**
FINES FINESS Array B 124.62 28 PKiKP **PKPdf 11 42 18.0 -0.2**
FINES FINESS Array B 124.62 28 PKP **PKPdf 11 42 17.6 -0.6**
comp=Z,14nm,0.5s,baz=152,slow=2.0,SNR=144
FINES SKP 11 45 38.2
comp=Z,2.1nm,1.0s,baz=132,slow=2.8,SNR=3.7
FIA1 FINESS Array S 124.62 28 P **PKiKP 11 42 18.0 -0.2**
BELG Belogornoye 124.74 46 *d i* PKiKP **PKPdf 11 42 18.3 -0.3**
BELG Belogornoye 124.74 46 PKP **PKPdf 11 42 18.0 -0.7**
comp=Z,20nm,0.8s,baz=80,slow=1.3,SNR=6.0
BELG SKP 11 45 39.1
comp=Z,11nm,0.8s,baz=278,slow=5.7,SNR=3.7
SIMJ Simiganj 124.79 71 PKPdf **PKiKP 11 42 20.0 +0.2**
CHGR Chuyangaron 124.87 71 PKPdf **PKiKP 11 42 19.8 -0.1**
CHGR Chuyangaron 124.87 71 PKiKP **PKiKP 11 42 19.8 -0.1**
ICESG Greenland Ices 125.05 355 *i* P **PKPdf 11 42 17.1 -2.1**
CMAR Chiang Mai Arr 125.67 112 PKPdf **PKPdf 11 42 20.9 -0.7**
CMAR Chiang Mai Arr 125.67 112 PKP **PKPdf 11 42 21.6 0.0**
comp=Z,7.7nm,0.8s,baz=236,slow=3.8,SNR=48
CMAR SKP 11 45 43.2
comp=Z,0.5nm,0.3s,baz=231,slow=3.8,SNR=4.1
GAR Garm 125.73 72 **PKiKP 11 42 21.7 +0.1**
J05D Fort Rock, OR 125.88 296 PKPdf **PKiKP 11 42 22.6 +0.8**
VALR Valaam 125.88 31 *c i* PKiKP **PKPdf 11 42 20.1 -0.4**
CHTO Chiang Mai 125.97 111 PKPdf **PKPdf 11 42 22.1 0.0**
CHTO Chiang Mai 125.97 111 PKiKP **PKPdf 11 42 22.1 0.0**
ILULI Ilulissat 126.00 350 *i* P **PKPdf 11 42 19.5 -1.1**
MOR8 Moi Rana 126.03 20 *e*PKPdf **PKPdf 11 42 20.9 +0.1**
PHRA Phrae 126.37 113 PKPdf **PKPdf 11 42 23.0 +0.1**

K02D Willamette Mer 126.70 294 **PKiKP 11 42 24.0 +0.6**
MND Mandalay 127.08 106 PKPdf **PKPdf 11 42 24.1 -0.1**
E08A Dider Farm, El 127.10 300 PKPdf **PKPdf 11 42 23.7 +0.3**
FAUS Fauske 127.26 20 *e*PKPdf **PKPdf 11 42 23.2 +0.2**
H04A Detroit Lake 127.36 296 PKPdf **PKPdf 11 42 23.8 -0.3**
NEW Newport 127.42 303 P **PKiKP 11 42 25.2 +0.6**
baz=135
LOF Lofoten 127.60 18 *e*PKPdf **PKiKP 11 42 24.4 +0.2**
STEI Steigen 127.73 19 *e*PKPdf **PKPdf 11 42 23.8 -0.1**
CHM Chimkent 127.75 68 *e*PKiKP **PKPdf 11 42 24.1 -0.7**
CHM Chimkent 127.75 68 *e*PKP **PKPdf 11 42 24.1 -0.7**
baz=68
AKTO Aktyubinsk 127.80 54 PKP **PKPdf 11 42 24.4 -0.2**
comp=Z,11nm,0.9s,baz=194,slow=2.5,SNR=24
IUG Iuzhnay 127.85 69 *e*PKiKP **PKPdf 11 42 23.7 -1.4**
IUG Iuzhnay 127.85 69 *e*PKP **PKPdf 11 42 23.8 -1.4**
baz=69
ABKAR Akbulak array 127.85 56 PKPdf **PKPdf 11 42 24.2 -0.6**
CRAI Chiangrai 127.88 112 PKPdf **PKPdf 11 42 25.3 -0.4**
KLMR Klimovskoe 128.13 35 *e*PKiKP **PKPdf 11 42 22.6 -2.3**
KLMR pmax pmax
comp=Z,31nm,1.4s
BRLS Boroldav 128.37 68 *e*PKiKP **PKPdf 11 42 23.8 -2.2**
BRLS Boroldav 128.37 68 *e*PKP **PKPdf 11 42 23.9 -2.2**
baz=68
SUMG Summit 128.47 356 PKPdf **PKPdf 11 42 26.0 +0.3**
SUMG Summit 128.47 356 PKiKP **PKPdf 11 42 26.0 +0.3**
SUMG Summit 128.47 356 *i* P **PKPdf 11 42 25.0 -0.8**
LON Longmire 128.63 299 **PKiKP 11 42 27.3 +0.2**
LON Longmire 128.63 299 PKiKP **PKiKP 11 42 27.3 +0.2**
KKAR Karatay Array 128.77 68 PKPdf **PKPdf 11 42 26.7 -0.1**
KKAR Karatay Array 128.77 68 PKiKP **PKPdf 11 42 26.7 -0.1**
D05A Enumclaw 129.02 299 **PKiKP 11 42 28.6 +0.8**
DZA Taraz 129.05 69 *e*PKiKP **PKPdf 11 42 26.5 -0.8**
DZA Taraz 129.05 69 *e*PKP **PKPdf 11 42 26.6 -0.8**
baz=69
KSH Kashi 129.15 75 PKP **PKPdf 11 42 27.4 -0.3**
GNW Green Mountain 129.69 299 PKPdf **PKPdf 11 42 28.7 +0.4**
TRO Tromso 129.88 20 *e*PKPdf **PKPdf 11 42 28.1 +0.2**
KIRV Kirov 129.94 42 PKP **PKPdf 11 42 28.2 -0.2**
comp=Z,13nm,0.7s,baz=175,slow=3.1,SNR=7.3
JETT Jettan, Norway 130.10 20 *e*PKPdf **PKPdf 11 42 28.5 0.0**
KTK1 Kautokeino 130.22 22 *e*PKPdf **PKPdf 11 42 28.2 -0.5**
LSA Lhasa 130.40 96 **PKiKP 11 42 32.0 +0.3**
LSA Lhasa 130.40 96 PKiKP **PKiKP 11 42 32.0 +0.3**
AAK Ala-Archa 130.55 71 PKP **PKPdf 11 42 30.4 +0.1**
comp=Z,5.8nm,0.7s,baz=195,slow=4.2,SNR=16
AAK SKPab **SKPbc 11 45 39.4 -1.2**
comp=Z,4.0nm,0.9s,baz=207,slow=4.6,SNR=9.1
ARA0 ARCESS Array S 131.12 22 *e*PKPdf **PKPdf 11 42 30.1 -0.2**
ARCES ARCESS Array B 131.12 22 PKPdf **PKPdf 11 42 29.4 -1.0**
ARCES ARCESS Array B 131.12 22 PKP **PKPdf 11 42 30.2 -0.1**
comp=Z,9.2nm,0.5s,baz=186,slow=1.6,SNR=90
ARCES SKPbc **SKPbc 11 45 39.7 -1.9**
comp=Z,6.2nm,0.7s,baz=202,slow=1.3,SNR=7.7
SGDS Sogindy 131.18 71 *e*PKiKP **PKPdf 11 42 29.9 -1.5**
SGDS Sogindy 131.18 71 *e*PKP **PKPdf 11 42 29.9 -1.5**
baz=71
BOOM Boomskoye usch 131.22 72 PKPdf **PKPdf 11 42 31.4 -0.2**
BOOM Boomskoye usch 131.22 72 PKiKP **PKPdf 11 42 31.4 -0.2**
QIZ Qiongzhong 131.61 122 PKP **PKPdf 11 42 33.0 +0.2**
QIZ PP **PP 11 44 54.2 +0.3**
QIZ SS SS 12 02 20.5 +3.9
QIZ LR LR
comp=Z,130nm,13.5s
QIZ LR LR
comp=Z,200nm,11.8s
QIZ LR LR
comp=Z,240nm,11.8s
HAMF Hammerfest 131.64 21 *e*PKPdf **PKPdf 11 42 31.7 +0.4**
BTLS Baital 131.95 69 *e*PKiKP **PKPdf 11 42 31.3 -1.4**
BTLS Baital 131.95 69 *e*PKP **PKPdf 11 42 31.4 -1.4**
baz=69
ARU Arti 132.12 48 PKPdf **PKPdf 11 42 32.8 +0.2**
ARU Arti 132.12 48 *i* PKiKP **PKPdf 11 42 32.4 -0.2**
ARU Arti 132.12 48 PKP **PKPdf 11 42 32.6 0.0**
comp=Z,7.1nm,0.5s,baz=216,slow=1.2,SNR=12
ARU SKPbc **SKPbc 11 45 44.3 -1.3**
comp=Z,4.1nm,0.3s,baz=222,slow=3.5,SNR=6.9
TNSS Tian-Shan 132.13 73 *e*PKiKP **PKPdf 11 42 32.9 -0.7**
TNSS Tian-Shan 132.13 73 *e*PKP **PKPdf 11 42 33.0 -0.7**
baz=73
AAA Alma-Ata 132.23 72 *e*PKiKP **PKPdf 11 42 32.0 -1.4**
AAA Alma-Ata 132.23 72 *e*PKP **PKPdf 11 42 32.0 -1.4**
baz=72
MDOK Medeo 132.27 72 *e*PKiKP **PKPdf 11 42 31.8 -1.8**
MDOK Medeo 132.27 72 *e*PKP **PKPdf 11 42 31.8 -1.8**
baz=73
KUU Kurty 132.39 71 *e*PKiKP **PKPdf 11 42 32.0 -1.6**
KUU Kurty 132.39 71 *e*PKP **PKPdf 11 42 32.0 -1.6**
baz=71
VADS Vadso 132.41 23 *e*PKPdf **PKPdf 11 42 33.1 +0.4**
CHKK Chushkaly 132.71 72 *e*PKiKP **PKPdf 11 42 32.8 -1.4**
CHKK Chushkaly 132.71 72 *e*PKP **PKPdf 11 42 32.9 -1.4**
baz=72
SATY Saty 132.93 73 *e*PKiKP **PKPdf 11 42 33.5 -1.3**
SATY Saty 132.93 73 *e*PKP **PKPdf 11 42 33.6 -1.3**
baz=74
ZHN Zhinishke 133.02 73 *e*PKiKP **PKPdf 11 42 33.2 -1.7**
ZHN Zhinishke 133.02 73 *e*PKP **PKPdf 11 42 33.2 -1.7**
baz=74
SHLS Shalkode 133.57 74 *e*PKiKP **PKPdf 11 42 34.9 -1.0**
SHLS Shalkode 133.57 74 *e*PKP **PKPdf 11 42 35.0 -1.0**
baz=75
PZH PanZhiHua 133.72 108 PKP **PKPdf 11 42 37.4 +0.6**
TDK Taldyqorghan 134.23 72 *e*PKiKP **PKPdf 11 42 35.5 -1.5**
TDK Taldyqorghan 134.23 72 *e*PKP **PKPdf 11 42 35.5 -1.5**
baz=72
HILA High Level 134.25 313 PKPdf **PKPdf 11 42 36.9 +0.4**
BRVK Borovoye 135.25 58 PKPdf **PKPdf 11 42 38.4 -0.1**
BRVK Borovoye 135.25 58 *de*PKiKP **PKPdf 11 42 38.8 +0.2**
BRVK pmax pmax
comp=Z,12nm,1.3s
BVAR Borovoye Array 135.28 58 PKP **PKPdf 11 42 38.8 +0.1**
comp=Z,6.9nm,0.5s,baz=298,slow=3.2,SNR=10
BVAR PP **PP 11 45 14.3 -3.1**
comp=Z,1.7nm,0.7s,baz=235,slow=5.2,SNR=4.2
BVAR SKPbc **SKPbc 11 45 54.2 -1.9**
comp=Z,4.5nm,0.8s,baz=237,slow=4.4,SNR=9.1
YKA Yellowknife Ar 135.71 318 PKP **PKPdf 11 42 39.1 0.0**
comp=Z,0.9nm,0.3s,baz=21,slow=8.2,SNR=34
YKA PP **PP 11 45 15.7 -4.2**
comp=Z,1.0nm,0.9s,baz=118,slow=6.3,SNR=6.3
YKA SKPbc **SKPbc 11 45 55.9 -1.2**
comp=Z,8.4nm,0.9s,baz=125,slow=1.9,SNR=32
YKA PKP **PKKPdf 11 52 19.6 -0.6**
comp=Z,0.4nm,0.9s,baz=304,slow=2.3,SNR=3.7
GYA Guiyang 136.26 113 *e*PKP **PKPdf 11 42 41.6 +0.1**
HOPEN Hopen 136.49 16 *e*PKPdf **PKiKP 11 42 41.3 -0.7**
SPA0 Spitsbergen Ar 136.64 12 *e*PKPdf **PKiKP 11 42 41.8 -0.6**
SPITS Spitsbergen Ar 136.64 12 PKP **PKPdf 11 42 40.4 -0.2**
comp=Z,8.0nm,0.8s,baz=152,slow=4.5,SNR=9.5
KBS Kingsbay 136.77 11 *e*PKPdf **PKiKP 11 42 42.1 -0.5**
GOMU GeErMu 137.28 93 PKP **PKPdf 11 42 43.6 +0.2**
MK31 Makanchi Array 137.46 72 *ce*PKiKP **PKPdf 11 42 41.8 -1.2**
MKAR Makanchi Array 137.46 72 PKhKP PKPpre 11 42 31.3
comp=Z,0.7nm,0.5s,baz=213,slow=1.6,SNR=8.2
MKAR PKP **PKPdf 11 42 43.2 +0.2**
comp=Z,1.7nm,0.5s,baz=217,slow=2.6,SNR=11
MKAR SKPbc **SKPbc 11 46 01.5 -1.4**
comp=Z,3.2nm,0.8s,baz=225,slow=1.8,SNR=12
RES Resolute Bay 137.57 339 PKPdf **PKPdf 11 42 42.5 +0.2**
RES Resolute Bay 137.57 339 PKiKP **PKPdf 11 42 42.5 +0.2**
KURBB Kurchatov Arra 137.84 65 PKhKP PKPpre 11 42 33.7
comp=Z,0.9nm,0.5s,baz=234,slow=3.5,SNR=14
KURBB PKP **PKPdf 11 42 44.5 +1.0**
comp=Z,3.0nm,0.7s,baz=236,slow=3.1,SNR=12
KURBB PP **PP 11 45 35.6 +2.1**
comp=Z,0.3nm,0.6s,baz=239,slow=5.6,SNR=4.0
KURBB SKPbc **SKPbc 11 46 02.8 -1.0**
comp=Z,3.4nm,0.9s,baz=230,slow=3.2,SNR=14
FLDN Fort Liard 137.92 312 PKPdf **PKiKP 11 42 44.7 -0.6**
FLDN Fort Liard 137.92 312 P **PKiKP 11 42 45.2 -0.1**
baz=123
KURK Kurchatov 137.94 65 PKiKP **PKPdf 11 42 44.5 +0.8**
KOTAN Kotaneelee Air 138.10 312 P **PKiKP 11 42 45.5 -0.3**
baz=123
CD2 Chengdu 138.28 106 PKP **PKPdf 11 42 45.5 +0.5**
WMQ Urumqi 138.50 79 *e*PKP **PKPdf 11 42 46.2 +1.2**
T35M Bob Quinn 139.10 305 P **PKiKP 11 42 47.1 -0.8**
baz=123
ZSN Zaisan 139.25 73 *e*PKiKP **PKPdf 11 42 44.7 -1.5**
ZSN Zaisan 139.25 73 *e*PKP **PKPdf 11 42 44.7 -1.5**
baz=73

WRGLY	Wrigley	139.50 316			PKPdf	11 42 46.9	+0.8		
WRGLY	Wrigley baz=120	139.50 316	P		PKiKP	11 42 47.9	-0.6		
CRAG	Craig baz=123	139.63 302	P		PKiKP	11 42 48.3	-0.6		
EUNU	Eureka	139.73 347			PKPdf	11 42 46.8	+0.5		
WRAK	Wrangell Islan baz=122	139.78 303	P		PKiKP	11 42 48.6	-0.7		
DLBC	Dease Lake	139.78 307			PKiKP	11 42 48.3	-1.0		
DLBC	Dease Lake baz=122	139.78 307	P		PKiKP	11 42 48.5	-0.9		
U33K	Whale Pass baz=122	139.98 303	P		PKPdf	11 42 48.4	+1.2		
S34M	Telegraph Cree baz=122	140.01 306	P		PKiKP	11 42 48.6	-1.0		
WTLY	Watson Lake, Y baz=120	140.11 310	P		PKPdf	11 42 48.3	+0.9		
TGTN	Hyland Airport baz=119	140.59 312	P		PKPdf	11 42 49.3	+1.1		
S32K	Killisnoo baz=120	141.37 304	P		PKiKP	11 42 51.2	-1.3		
P33M	Teslin, Yukon baz=118	141.91 308	P		PKPdf	11 42 51.9	+1.2		
P32M	Atlin baz=118	142.01 307	P		PKPdf	11 42 52.2	+1.3		
LZH	Lanzhou	142.23 101	*e*PKP		PKPdf	11 42 47.3	-4.9		
GTA	Gaotai	142.35 94	*e*PKP		PKPdf	11 42 47.7	-4.5		
ZALV	Zalesovo Beam comp=Z,6.3nm,0.5s,baz=232,slow=3.9,SNR=37	142.90 64	PKhKP		PKPpre	11 42 49.1			
ZALV	comp=Z,4.5nm,0.4s,baz=217,slow=4.2,SNR=7.7		PKP		PKPdf	11 42 53.5	+1.0		
ZALV	comp=Z,1.7nm,0.9s,baz=236,slow=6.8,SNR=5.9		PP		PP	11 46 01.9	-2.4		
ZALV	comp=Z,1.7nm,0.3s,baz=243,slow=4.7,SNR=5.0		SKPbc		SKPbc	11 46 14.9	-2.2		
XAN	Xi'an	143.45 109	PKP		PKPab	11 42 51.0	+0.2		
WHN	Wuhan	143.48 118	PKP		PKiKP	11 42 57.4	-0.3		
P29M	Windy Craggy	143.85 306			PKPbc	11 42 52.9	+0.6		
HYT	Haines Junctio	144.26 308	PKPdf		PKPdf	11 42 54.7	-0.1		
HYT	Haines Junctio baz=115,SNR=20	144.26 308	P		PKPdf	11 42 54.5	-0.4		
N30M	Aishikik Lake baz=114	144.34 309	P		PKPbc	11 42 54.4	+0.7		
O29M	Mount Kennedy	144.52 306			PKPdf	11 42 55.5	+0.2		
O29M	Mount Kennedy baz=115	144.52 306	P		PKPdf	11 42 55.2	-0.1		
PNL	Peninsula baz=115	144.63 305	P		PKPbc	11 42 54.8	+0.2		
M30M	Minto, Yukon baz=113,SNR=49	144.66 311	P		PKPbc	11 42 54.8	+0.2		
MAYO	Mayo, Yukon baz=112,SNR=19	144.67 313	P		PKPbc	11 42 54.7	0.0		
YUK6	Outpost Mounta baz=114	144.69 308	P		PKPbc	11 42 55.3	+0.3		
H31M	Peel River	144.85 317			PKPbc	11 42 55.1	-0.1		
H31M	Peel River baz=110	144.85 317	P		PKPdf	11 42 55.5	-0.1		
YUK4	Talbot Arm baz=113,SNR=15	144.98 308	P		PKPdf	11 42 56.5	+0.3		
F31M	Tsiigehtchic baz=108,SNR=34	145.17 319	P		PKPbc	11 42 55.8	-0.2		
PINM	Pinnacle baz=114	145.20 305	P		PKPab	11 42 57.0	+0.3		
G31M	Satah River baz=109,SNR=72	145.20 318	P		PKPdf	11 42 56.2	+0.1		
J30M	Hart River	145.21 314			PKPdf	11 42 56.6	+0.1		
J30M	Hart River baz=110	145.21 314	P		PKPdf	11 42 56.5	+0.1		
M29M	Somme Creek baz=112,SNR=23	145.32 310	P		PKPab	11 42 57.3	+0.1		
INK	Inuvik	145.36 321			PKPab	11 42 57.0	0.0		
INK	Inuvik	145.36 321	PKP2		PKPab	11 42 57.0	0.0		
INK	Inuvik baz=107,SNR=71	145.36 321	P		PKPab	11 42 56.8	-0.2		
L29M	L29M	145.43 311			PKPab	11 42 57.7	+0.2		
L29M	L29M baz=111	145.43 311	P		PKPab	11 42 57.5	0.0		
K29M	Barlow Dome baz=111	145.44 312	P		PKPbc	11 42 57.0	-0.1		
I30M	Mount Dempster baz=110	145.45 315	P		PKPbc	11 42 57.1	-0.1		
YUK8	Steele Glacier baz=113,SNR=9.6	145.45 308	P		PKPbc	11 42 57.7	+0.2		
LYN	LuoYang	145.72 112	⇑PKPbc		PKPdf	11 42 58.5	+0.4		
LYN			PKPab		PKiKP	11 43 02.4	+0.2		
LYN			pPKP		pPKPab	11 43 39.2	+3.6		
TABL	Table Mountain	145.74 306	PKPbc		PKPab	11 42 59.1	+0.1		
J29N	Klondike Camp	145.93 313	PKPbc		PKPbc	11 42 59.0	+0.4		
J29N	Klondike Camp baz=109,SNR=24	145.93 313	P		PKPbc	11 42 58.7	+0.1		
YUK3	Moose Creek baz=112,SNR=9.7	145.94 308	P		PKPdf	11 42 58.1	+0.2		
G30M	tAoh Zraii Nji baz=107	145.95 318	P		PKPbc	11 42 58.3	-0.2		
EPYK	Eagle Plains baz=108,SNR=19	145.95 317	P		PKPdf	11 42 58.0	+0.5		
F30M	Barrier River baz=107	145.97 319	P		PKPbc	11 42 58.6	+0.1		
MESA	MESA	146.01 305			PKPab	11 43 00.3	+0.4		
MESA	MESA baz=113	146.01 305	P		PKPbc	11 42 59.5	+0.4		
CTG	Chitna Glacier baz=112,SNR=6.8	146.03 307	P		PKPbc	11 42 58.9	-0.1		
DAWY	Dawson baz=109,SNR=44	146.29 312	P		PKPbc	11 42 59.5	-0.1		
JOW	Kunigami	146.31 140	PKPbc		PKPbc	11 43 01.0	+0.3		
BVCY	Beaver Creek baz=110,SNR=14	146.35 309	P		PKPbc	11 42 59.6	-0.3		
WAX	Waxell Ridge	146.53 305			PKPab	11 43 01.2	-0.6		
H29M	Whitestone baz=107,SNR=31	146.54 316	P		PKPbc	11 43 00.3	0.0		
BGLC	Bering Glacier baz=112	146.60 304	P		PKPbc	11 43 00.5	-0.1		
CRQE	Cirque baz=112,SNR=5.5	146.75 306	P		PKPbc	11 43 00.9	-0.2		
M27K	Edge Creek, AK baz=110	146.78 309	P		PKPbc	11 43 00.9	-0.3		
NJ2	Nanjing	146.90 122	⇑PKPbc		PKPbc	11 43 02.5	+0.2		
I28M	Miner Creek	146.94 315	PKPbc		PKPbc	11 43 01.4	-0.1		
I28M	Miner Creek baz=107	146.94 315	P		PKPbc	11 43 01.1	-0.4		
E29M	Blow River baz=104	146.95 320	P		PKPbc	11 43 00.9	-0.4		
MCARA	McCarthy VSAT baz=111	146.95 307	P		PKPbc	11 43 01.6	+0.1		
BCAR	Beaver Creek A	146.97 310	PKPbc		PKPbc	11 43 02.1	+0.5		
L27K	Beaver Creek, baz=109	146.99 310	P		PKPbc	11 43 01.4	-0.2		
KAIM	Kayak Island baz=112	147.06 304	P		PKPbc	11 43 01.5	-0.3		
EGAK	Eagle	147.24 313			PKPbc	11 43 02.5	+0.3		
EGAK	Eagle baz=107	147.24 313	P		PKPbc	11 43 01.7	-0.5		
M26K	Nabesna, AK baz=109	147.28 308	P		PKPbc	11 43 02.1	-0.3		
K27K	Chicken	147.40 312	PKPbc		PKPbc	11 43 03.3	+0.7		
K27K	Chicken baz=107	147.40 312	P		PKPbc	11 43 03.2	+0.6		
D28M	Stokes Point baz=102	147.45 322	P		PKPbc	11 43 03.1	+0.5		
F28M	Old Crow baz=104,SNR=54	147.48 318	P		PKPbc	11 43 03.0	+0.2		
BMRM	Bremner River baz=110,SNR=9.5	147.52 305	P		PKPbc	11 43 03.3	+0.2		
L26K	Log Cabin Wild baz=108,SNR=13	147.64 309	P		PKPbc	11 43 03.1	-0.3		
I27K	Kandik River baz=105	147.66 315	P		PKPbc	11 43 03.7	+0.2		
N25K	Chitina, Valde baz=109,SNR=7.0	147.73 307	P		PKPbc	11 43 04.2	+0.5		
MENT	Mentasta	147.77 309			PKPbc	11 43 04.5	+0.8		
H27K	Steamboat Moun baz=104	147.78 316	P		PKPbc	11 43 04.1	+0.4		
Q23K	Middleton Isla baz=112	147.78 302	P		PKPbc	11 43 04.7	+0.9		
EYAK	Cordova Ski Ar baz=110,SNR=6.4	147.90 304	P		PKPbc	11 43 04.7	+0.7		
TIY	Taiyuan	148.09 108	*e*PKPbc		PKPbc	11 43 05.4	0.0		
J26L	Joseph Creek	148.16 312			PKPbc	11 43 05.3	+0.5		
J26L	Joseph Creek baz=106	148.16 312	P		PKPbc	11 43 05.0	+0.2		
SCRK	Sand Creek baz=106	148.19 311	P		PKPbc	11 43 05.1	+0.1		
HIN	Hinchinbrook I	148.20 304			PKPbc	11 43 05.6	+0.7		
I26K	Coal Creek Min baz=105	148.20 314	P		PKPbc	11 43 04.6	-0.1		
HARP	HAARP	148.24 308	P		PKPbc	11 43 05.0	+0.1		
	baz=108,SNR=6.1								
KLU	Klutina baz=109,SNR=15	148.30 306	P		PKPbc	11 43 05.7	+0.5		
P23K	Montague Islan baz=110	148.49 303	P		PKPbc	11 43 05.9	+0.3		
PAX	Paxson baz=107,SNR=36	148.54 309	P		PKPbc	11 43 06.0	+0.2		
M24K	Tolsona, Glenn baz=108,SNR=14	148.60 307	P		PKPbc	11 43 06.7	+0.7		
G26K	Porcupine Rive baz=102	148.82 317	P		PKPbc	11 43 06.3	0.0		
BTO	Baotou	148.85 102	*e*PKPbc		PKPdf	11 43 00.8	-2.4		
BTO			PKPab		PKPab	11 43 11.8	+0.1		
BTO			pPKP		pPKPbc	11 43 43.7	-0.5		
BTO			sPKP			11 43 55.4			
BTO	comp=Z,280nm,4.6s		LR		LR				
BTO	comp=Z,120nm,4.7s		LR		LR				
BTO	comp=Z,170nm,8.6s		LR		LR				
K24K	Donnelly Dome baz=105,SNR=11	148.91 310	P		PKPbc	11 43 07.0	+0.3		
J25K	Salcha River, baz=104	148.94 312	P		PKPbc	11 43 07.1	+0.3		
SCM	Sheep Creek Mo	149.04 306			PKPbc	11 43 07.7	+0.6		
SCM	Sheep Creek Mo	149.04 306	PKP2		PKPbc	11 43 07.7	+0.6		
SCM	Sheep Creek Mo baz=107,SNR=12	149.04 306	P		PKPbc	11 43 07.6	+0.5		
HNS	HongShan	149.06 111	⇑PKPbc		PKPbc	11 43 07.8	0.0		
F26K	Sheenjek River baz=100,SNR=17	149.10 318	P		PKiKP	11 43 07.9	-0.2		
M23K	Glacier View baz=107,SNR=12	149.21 306	P		PKPbc	11 43 07.5	+0.1		
PRP	Porcupine Dome baz=102	149.21 314	P		PKPbc	11 43 07.7	+0.2		
NRIK	Noril'sk comp=Z,18nm,0.9s,baz=338,slow=0.4,SNR=29	149.35 39	PKPbc		PKPbc	11 43 07.5	0.0		
TIA	Tian Shan	149.40 116	⇑PKPbc		PKPbc	11 43 08.5	-0.2		
DHY	Denali Highway	149.41 309			PKiKP	11 43 08.7	-0.4		
DHY	Denali Highway baz=105	149.41 309	P		PKiKP	11 43 09.0	-0.1		
KNK	Knik Glacier baz=107,SNR=6.1	149.43 305	P		PKPbc	11 43 08.3	+0.3		
SML	Sawmill baz=107,SNR=11	149.49 306	P		PKPbc	11 43 08.1	-0.1		
SEW	Seward baz=109	149.49 302	P		PKPbc	11 43 08.3	+0.2		
HDA	Harding Lake baz=103	149.55 311	P		PKPbc	11 43 08.0	-0.1		
ILAR	Eielson Array comp=Z,1.6nm,1.0s,baz=330,slow=2.2,SNR=12	149.61 312	PKP		PKPdf	11 43 01.1	-2.4		
ILAR	comp=Z,47nm,1.0s,baz=125,slow=1.3,SNR=186		PKPbc		PKPbc	11 43 08.3	0.0		
ILAR	comp=Z,0.4nm,0.7s,baz=101,slow=1.0,SNR=1.6		SKP			11 46 21.9			
F25K	Christian Rive baz=99	149.65 318	P		PKPbc	11 43 08.9	+0.5		
C26K	Camden Bay baz=96	149.68 322	P		PKiKP	11 43 09.1	-0.1		
G25K	Bearman Lake baz=100,SNR=26	149.69 316	P		PKiKP	11 43 09.2	-0.2		
E25K	Arctic Village baz=98,SNR=54	149.70 319	P		PKPbc	11 43 08.8	+0.4		
O22K	Cooper Landing baz=108	149.74 303	P		PKPbc	11 43 08.6	-0.1		
PMR	Palmer baz=106,SNR=6.7	149.79 305	P		PKPbc	11 43 09.0	+0.2		
WAT1	Susitna Watana baz=105	149.86 308	P		PKPbc	11 43 09.3	+0.3		
HHC	Hu-ho-hao-te	149.87 103	*e*PKPbc		PKPbc	11 43 09.5	-0.3		
POKR	Poker Plat Res baz=102	149.91 313	P		PKPbc	11 43 08.6	-0.4		
RC01	Rabbit Creek A baz=107,SNR=13	149.93 304	P		PKiKP	11 43 09.8	-0.2		
BRSE	Bradley Lake S baz=108	149.99 301	P		PKPbc	11 43 09.2	-0.2		
COLA	College	150.03 312			PKPbc	11 43 09.4	+0.1		
COLA	College	150.03 312	PKIKP		PKPbc	11 43 09.4	+0.1		
COLA	College baz=102	150.03 312	P		PKPbc	11 43 09.2	0.0		
BRLK	Bradley Lake	150.07 301			PKPbc	11 43 09.6	0.0		
D25K	Kavik River baz=95	150.13 321	P		PKPbc	11 43 09.5	0.0		
FIS	Fire Island	150.17 304			PKiKP	11 43 11.1	+0.7		
G24K	Hadweenzic Riv baz=99,SNR=20	150.22 316	P		PKiKP	11 43 10.4	-0.1		
H24K	Noonday Dome baz=100	150.23 314	P		PKPbc	11 43 10.0	+0.2		
KDAK	Kodiak Island	150.23 297			PKiKP	11 43 10.5	-0.2		
KDAK	Kodiak Island	150.23 297	PKIKP		PKiKP	11 43 10.5	-0.2		
KDAK	Kodiak Island baz=111	150.23 297	P		PKPbc	11 43 10.0	0.0		
MCK	McKinley baz=103,SNR=35	150.25 310	P		PKPbc	11 43 10.1	+0.2		
M22K	Willow	150.29 305			PKPdf	11 43 04.6	0.0		
M22K					PKiKP	11 43 10.8	+0.1		
M22K			PKPab		PKPab	11 43 16.4	-0.4		
M22K	Willow baz=106,SNR=22	150.29 305	P		PKPbc	11 43 10.2	+0.2		
MOY	Mondy	150.32 77	*e*PKIKP		PKPdf	11 43 04.9	-0.3		
MOY	comp=Z,90nm,1.5s		pmax		pmax				
JCJ	Chichijima comp=Z,23nm,0.4s,baz=279,slow=5.7,SNR=9.2	150.32 163	PKP		PKPdf	11 43 05.7	-0.1		
OHAK	Old Harbor baz=111	150.39 296	P		PKiKP	11 43 10.8	-0.2		
F24K	Squaw Lake baz=97	150.49 317	P		PKPbc	11 43 10.7	+0.3		
NEA2	Nenana baz=101	150.49 311	P		PKPbc	11 43 10.3	-0.1		
CAPN	Captain Cook N baz=106	150.50 303	P		PKPbc	11 43 10.8	+0.3		
SUA	Susitna One baz=106,SNR=15	150.50 305	P		PKiKP	11 43 11.4	0.0		
CUT	Chulitna	150.53 307			PKiKP	11 43 11.2	0.0		
CUT	Chulitna baz=104,SNR=18	150.53 307	P		PKiKP	11 43 11.2	0.0		
BWN	Brownie	150.57 310	PKPbc		PKPbc	11 43 10.8	+0.2		
SII	Sitkinak Islan baz=112	150.60 294	P		PKPbc	11 43 11.4	+0.4		
I23K	Minto, Yukon-K baz=100,SNR=11	150.72 312	P		PKPbc	11 43 10.7	-0.2		
TRF	Thorofare Moun baz=102,SNR=12	150.78 309	P		PKPbc	11 43 11.1	-0.3		
ZAK	Zakamensk	150.95 80	*e*PKIKP		PKPbc	11 43 11.3	-0.8		
ZAK	comp=Z,54nm,1.2s		pmax		pmax				
C24K	Franklin Bluff baz=92	150.98 322	P		PKPbc	11 43 11.5	+0.1		
D24K	Happy Valley baz=93	150.99 321	P		PKPbc	11 43 11.6	+0.1		
SKT	Skwentna baz=104,SNR=24	150.99 305	P		PKPbc	11 43 11.8	+0.1		
O20K	Slope Mountain baz=107	151.00 301	P		PKPbc	11 43 12.1	+0.3		
CHIR	Chirikof Islan baz=112	151.06 292	P		PKPbc	11 43 12.0	0.0		
N20K	Mount Spurr baz=105,SNR=11	151.11 304	P		PKPbc	11 43 12.1	0.0		
RSO	Redoubt South	151.17 302			PKPbc	11 43 12.5	+0.1		
E23K	Chandalar baz=95	151.20 318	P		PKPbc	11 43 11.9	-0.2		
BPAW	Bear Paw Mtn. baz=101,SNR=27	151.21 310	P		PKPbc	11 43 12.1	-0.1		
ILSW	Iliamna Southw	151.22 301			PKPbc	11 43 12.5	+0.1		
G23K	Bananza Creek baz=97	151.22 315	P		PKiKP	11 43 12.9	+0.3		
MLY	Manley baz=99,SNR=20	151.27 312	P		PKPbc	11 43 12.2	-0.1		
SONM	Songino Array	151.35 87	PKPdf		PKPdf	11 43 06.5	-0.4		
SONM					PKPbc	11 43 12.8	-0.3		
SONM			PKPab		PKPab	11 43 21.7	-0.3		
SONM	Songino Array	151.35 87	PKIKP		PKPdf	11 43 06.5	-0.4		
SONM						11 43 21.7			
SONM	Songino Array comp=Z,1.7nm,0.8s,baz=207,slow=2.6,SNR=13	151.35 87	PKP		PKPdf	11 43 06.1	-0.8		
SONM	comp=Z,52nm,0.6s,baz=219,slow=3.7,SNR=185		PKPbc		PKPbc	11 43 12.9	-0.3		
SONM	comp=Z,3.8nm,0.7s,baz=247,slow=3.1,SNR=5.4		PKPab		PKPab	11 43 21.6	-0.3		
COLD	Coldfoot baz=96,SNR=18	151.35 316	P		PKiKP	11 43 13.3	+0.6		
PPLA	Purkeypile baz=102,SNR=10	151.50 307	P		PKPbc	11 43 13.2	+0.2		
CAST	Castle Rocks baz=101,SNR=16	151.56 308	P		PKPbc	11 43 12.7	-0.3		
C23K	Itkillik River	151.65 322	PKPdf		PKPdf	11 43 04.8	-1.7		
C23K			PKPbc		PKiKP	11 43 13.3	+0.1		
C23K			PKPab		PKPab	11 43 23.3	+1.0		
C23K	Itkillik River baz=90	151.65 322	P		PKiKP	11 43 13.4	+0.1		
D23K	Nanushuk River baz=92	151.65 320	P		PKiKP	11 43 13.5	+0.1		
H22K	Ishtalitna Cre baz=97	151.66 314	P		PKiKP	11 43 13.6	+0.2		
M20K	Styx River baz=103	151.71 305	P		PKPbc	11 43 13.1	-0.3		
ULN	Ulaanbaatar	151.73 88			PKPbc	11 43 13.6	-0.4		
ULN	Ulaanbaatar	151.73 88	PKIKP		PKPbc	11 43 13.6	-0.4		
CHUM	Lake Minchumin baz=100,SNR=17	151.75 309	P		PKPbc	11 43 13.4	+0.1		
BJT	Baijiatuau	151.76 109			PKPbc	11 43 14.1	0.0		
BJT	Baijiatuau	151.76 109	PKIKP		PKPbc	11 43 14.1	0.0		
I21K	Tanana baz=98,SNR=6.0	151.82 312	P		PKPbc	11 43 13.2	-0.2		
G22K	Bettles baz=95	151.83 316	P		PKiKP	11 43 14.0	+0.3		
O19K	Port Alsworth baz=106,SNR=14	151.84 301	P		PKPbc	11 43 13.0	-0.6		
E22K	Anaktuvuk Pass baz=93	152.03 318	P		PKiKP	11 43 14.2	0.0		
Q17K	Contact Creek baz=108,SNR=7.1	152.05 297	P		PKPbc	11 43 14.1	-0.2		
P18K	Big Mountain, baz=106,SNR=8.1	152.06 299	P		PKPbc	11 43 13.7	-0.6		
N19K	Bonanza Creek baz=104	152.08 302	P		PKPbc	11 43 13.7	-0.6		
L20K	Farewell, AK baz=102	152.18 306	P		PKPbc	11 43 14.3	-0.1		
O18K	Koktuh Hills baz=106,SNR=9.2	152.18 300	P		PKPbc	11 43 14.1	-0.4		
H21K	Melozitna Rive	152.22 313			PKPdf	11 43 07.7	+0.1		
H21K			PKPbc		PKiKP	11 43 14.9	+0.3		
H21K			PKPab		PKPab	11 43 25.8	+0.9		
H21K	Melozitna Rive baz=96	152.22 313	P		PKiKP	11 43 14.7	+0.1		
M19K	Big River Lodg baz=102	152.29 305	P		PKPbc	11 43 14.7	0.0		
D22K	Ayikyak River baz=90	152.37 320	P		PKiKP	11 43 15.0	+0.1		
K20K	Telida baz=100	152.43 308	P		PKiKP	11 43 15.1	0.0		
Q16K	King Salmon baz=107	152.56 297	P		PKPbc	11 43 15.1	-0.2		
L19K	White Mountain baz=102	152.56 305	P		PKPbc	11 43 15.2	-0.1		
G21K	Allakaket baz=94	152.58 315	P		PKiKP	11 43 15.5	+0.1		
J20K	Nowinta River baz=98	152.59 310	P		PKPbc	11 43 15.2	0.0		
B22K	Teshekpuk Lake baz=87,SNR=11	152.60 323	P		PKPbc	11 43 15.0	0.0		
P17K	Kvichak River baz=106,SNR=5.2	152.60 298	P		PKPbc	11 43 15.1	-0.2		
F21K	Alatna River baz=93	152.62 316	P		PKPbc	11 43 15.4	+0.1		
IMAR	Indian Mountai	152.64 313	PKPdf		PKPdf	11 43 06.0	-2.2		
IMAR			PKPbc		PKiKP	11 43 15.9	+0.4		
IMAR			PKPab		PKPab	11 43 25.9	-0.8		
R16K	Pilot Point baz=108	152.69 295	P		PKiKP	11 43 16.1	+0.3		
CHGN	Chignik baz=110	152.70 292	P		PKiKP	11 43 16.3	+0.5		
N18K	Kilae Creek baz=104	152.72 302	P		PKiKP	11 43 16.1	+0.3		
CHNA	Chernabura Isl baz=113	152.78 288	P		PKPbc	11 43 15.9	0.0		
I20K	Naaghedeneel baz=97	152.82 311	P		PKiKP	11 43 16.2	+0.4		
E21K	Killik River baz=90	152.84 319	P		PKPbc	11 43 15.7	0.0		
M18K	Stony River baz=102	152.87 303	P		PKPbc	11 43 15.9	0.0		
JNU	Nakatsue comp=Z,4.1nm,0.3s,baz=345,slow=3.5,SNR=6.6	152.95 139	PKPbc		PKPbc	11 43 17.1	0.0		
B21K	Ikpikpuk River	153.04 321			PKiKP	11 43 16.6	+0.5		
B21K	Ikpikpuk River baz=87	153.04 321	P		PKiKP	11 43 16.3	+0.2		
H20K	Anotleneega Mo baz=95	153.06 312	P		PKiKP	11 43 17.2	+0.8		
O17K	Koliganek Bris baz=105	153.08 299	P		PKiKP	11 43 16.6	+0.1		
C21K	Knifeblade Rid baz=88	153.12 320	P		PKiKP	11 43 16.7	+0.3		
J19K	Poorman baz=97	153.21 309	P		PKiKP	11 43 17.0	+0.3		
TTA	Tatalina	153.23 307			PKiKP	11 43 17.6	+0.7		
TTA	Tatalina	153.23 307	PKIKP		PKiKP	11 43 17.6	+0.7		
TTA	Tatalina baz=99	153.23 307	P		PKiKP	11 43 17.0	+0.1		
S14K	Fog Glacier baz=110	153.29 291	P		PKPbc	11 43 16.7	-0.4		
N17K	Nushagak Hills baz=103	153.31 301	P		PKiKP	11 43 17.4	+0.4		
P16K	Nushgak River baz=106	153.33 298	P		PKiKP	11 43 17.9	+0.9		
L18K	Granite Mounta baz=100	153.41 305	P		PKiKP	11 43 18.4	+1.2		
SDPT	Sand Point baz=111	153.44 289	P		PKiKP	11 43 18.3	+0.9		
F20K	Avaraart Lake baz=91	153.49 316	P		PKiKP	11 43 18.1	+1.0		
O16K	Kokwok River B baz=104	153.52 299	P		PKiKP	11 43 18.4	+1.0		
A21K	Barrow baz=82	153.55 325	P		PKiKP	11 43 18.1	+0.9		
M17K	Holitna River baz=101	153.61 303	P		PKiKP	11 43 18.8	+1.1		
J18K	Innoko River baz=98	153.62 308	P		PKiKP	11 43 18.3	+0.7		
E20K	Nigu River baz=88	153.66 318	P		PKiKP	11 43 18.2	+0.6		
H19K	Roundabout Mou baz=94	153.72 312	P		PKiKP	11 43 18.4	+0.8		
D20K	Etivluk River baz=87	153.80 320	P		PKiKP	11 43 19.2	+1.4		
GCSA	Galena City Sc baz=95	153.84 310	P		PKiKP	11 43 18.6	+0.7		
B20K	Meade River	153.89 323			PKiKP	11 43 18.5	+0.5		
B20K			PKPab		PKPab	11 43 32.4	+0.6		
B20K	Meade River baz=84	153.89 323	P		PKiKP	11 43 18.5	+0.5		
G19K	Purcell Mounta baz=92,SNR=8.4	154.01 314	P		PKiKP	11 43 19.0	+0.7		
N16K	Nishlik Lake baz=102	154.06 301	P		PKiKP	11 43 19.6	+1.0		
E19K	Redstone River	154.08 317			PKiKP	11 43 19.1	+0.7		
E19K					PKPab	11 43 33.8	+1.1		
E19K	Redstone River baz=89	154.08 317	P		PKiKP	11 43 19.6	+1.2		
L17K	Donlin baz=99	154.15 304	P		PKiKP	11 43 19.6	+0.9		
K17K	Iditarod baz=98	154.23 306	P		PKiKP	11 43 20.2	+1.3		
M16K	Timber Creek baz=101	154.26 302	P		PKiKP	11 43 19.9	+0.9		
O15K	Ungalikthiuk R baz=104	154.28 297	P		PKiKP	11 43 19.8	+0.8		
F19K	Shaleruckim Mo baz=90	154.29 315	P		PKiKP	11 43 19.6	+0.8		
D19K	Kuna River baz=86	154.37 319	P		PKiKP	11 43 19.7	+0.7		
XLT	XiLinHaoTe	154.39 103	*e*PKPbc		PKPbc	11 43 19.7	-0.2		
XLT			PKPab		PKPab	11 43 34.5	-0.3		
H18K	Honhosa River baz=93	154.49 311	P		PKiKP	11 43 20.1	+0.7		
L16K	Owhat River baz=99	154.63 303	P		PKiKP	11 43 20.4	+0.7		
N15K	K

	baz=100						
F18K	**Selawik**	**155.04**	**315**	P	**PKPab**	**11 43 36.8**	**0.0**
	baz=88						
H17K	**Granite Mounta**	**155.14**	**311**	P	**PKPab**	**11 43 38.0**	**+0.7**
	baz=92						
J16K	**Anvik River**	**155.34**	**307**	P	**PKPab**	**11 43 39.1**	**+0.9**
	baz=95						
N14K	**Kuskokwak Cree**	**155.37**	**299**	P	**PKPab**	**11 43 39.4**	**+1.0**
	baz=102						
E18K	**Tukpahlearik C**	**155.38**	**317**	P	**PKPab**	**11 43 39.8**	**+1.6**
	baz=86						
I17K	**Unalakleet**	**155.43**	**308**	P	**PKPab**	**11 43 40.0**	**+1.5**
	baz=94						
G17K	**Kiwalik Mounta**	**155.46**	**312**	P	**PKPab**	**11 43 40.2**	**+1.5**
	baz=90						
C18K	**Utukok River**	**155.48**	**320**	P	**PKPab**	**11 43 40.2**	**+1.4**
	baz=82						
KSAR	**Wonju Array Be**	**155.50**	**129**	PKPdf	**PKPdf**	**11 43 12.6**	**-0.4**
KSAR				PKPab	**PKPab**	**11 43 39.4**	**-0.1**
KSAR	**Wonju Array Be**	**155.50**	**129**	PKIKP	**PKPdf**	**11 43 12.6**	**-0.4**
KSAR						11 43 39.4	
KSRS	**Korea Array**	**155.52**	**129**	PKPab	**PKPab**	**11 43 39.0**	**-0.6**
	comp=Z,3.0nm,0.8s,baz=229,slow=3.7,SNR=7.4						
L15K	**Ungalak Mounta**	**155.57**	**303**	P	**PKPab**	**11 43 40.0**	**+0.7**
	baz=98						
B18K	**Kokolik River**	**155.59**	**322**	P	**PKPab**	**11 43 41.1**	**+2.0**
	baz=80						
M14K	**Bethel**	**155.66**	**300**	P	**PKPab**	**11 43 41.5**	**+1.9**
	baz=100						
K15K	**Wolf Creek Mou**	**155.67**	**304**	P	**PKPab**	**11 43 41.5**	**+1.8**
	baz=96						
F17K	**Baldwin Pennin**	**155.69**	**314**	P	**PKPab**	**11 43 41.5**	**+1.9**
	baz=87						
L14K	**Kuka Creek**	**156.09**	**302**	P	**PKPab**	**11 43 42.5**	**+1.0**
	baz=98						
H16K	**Elim**	**156.13**	**310**	P	**PKPab**	**11 43 42.8**	**+1.2**
	baz=90						
UNV	**Unalaska Valle**	**156.15**	**282**	P	**PKPab**	**11 43 43.5**	**+1.6**
	baz=112						
G16K	**Koyuk River**	**156.18**	**312**	P	**PKPab**	**11 43 43.6**	**+1.9**
	baz=89						
C17K	**DeLong Mountai**	**156.22**	**320**	P	**PKPab**	**11 43 44.0**	**+2.1**
	baz=81						
M13K	**Dall Lake**	**156.28**	**299**	P	**PKPab**	**11 43 44.2**	**+1.9**
	baz=99						
D17K	**Noatak River**	**156.30**	**318**	P	**PKPab**	**11 43 44.0**	**+1.8**
	baz=83						
J14K	**Nanvaranak Lak**	**156.64**	**305**	P	**PKPab**	**11 43 45.3**	**+1.5**
	baz=94						
G15K	**Niukluk**	**156.90**	**311**	P	**PKPab**	**11 43 46.0**	**+1.2**
	baz=88						
C16K	**Lisburne Hills**	**157.05**	**319**	PKPdf	**PKPdf**	**11 43 15.4**	**+1.3**
C16K					**PKPab**	**11 43 46.5**	**+1.1**
C16K	**Lisburne Hills**	**157.05**	**319**	P	**PKPab**	**11 43 46.4**	**+1.0**
	baz=79						
F15K	**North Star Dit**	**157.12**	**313**	P	**PKPab**	**11 43 47.4**	**+1.6**
	baz=86						
ANM	**Nome**	**157.48**	**310**	P	**PKPab**	**11 43 48.7**	**+1.3**
	baz=88						
M11K	**Mekoryuk**	**157.67**	**299**	P	**PKPab**	**11 43 48.6**	**+0.3**
	baz=97						
F14K	**Arctic Creek**	**157.83**	**312**	P	**PKPab**	**11 43 50.7**	**+1.8**
	baz=85						
TNA	**Tin City**	**158.48**	**313**	P	**PKPab**	**11 43 53.0**	**+1.3**
	baz=83						
MJAR	**Matsushiro Arr**	**158.50**	**149**	PKPab	**PKPab**	**11 43 52.2**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=187,slow=3.3,SNR=4.1						
SPIA	**Saint Paul Isl**	**159.19**	**289**	P	**PKPab**	**11 43 53.8**	**-1.2**
	baz=103						
CN2	**Changchun**	**159.30**	**115**	PKP	**PKPdf**	**11 43 17.8**	**+0.2**
HIA	**Hailar**	**159.60**	**96**	PKPdf	**PKPdf**	**11 43 16.1**	**-1.7**
HIA				PKPab	**PKPab**	**11 43 56.8**	**-0.3**
HIA	**Hailar**	**159.60**	**96**	PKIKP	**PKPdf**	**11 43 16.1**	**-1.7**
HIA						11 43 56.8	
TIXI	**Tiksi**	**161.56**	**23**	PKPdf	**PKPdf**	**11 43 21.8**	**+2.6**
TIXI				PKPab	**PKPab**	**11 44 05.3**	**+0.4**
TIXI	**Tiksi**	**161.56**	**23**	PKIKP	**PKPdf**	**11 43 21.8**	**+2.6**
TIXI						11 44 05.3	
BNX	**BinXian**	**161.65**	**114**	⇑PKP	**PKPdf**	**11 43 19.4**	**-0.7**
MDJ	**Mudanjiang**	**161.95**	**120**	PKP	**PKPdf**	**11 43 16.6**	**-3.8**
MDJ				PP	**PP**	**11 47 57.3**	**+5.2**
MDJ				SS	SS	12 08 02.8	+3.5
MDJ				AMB	AMB		
	comp=Z,61nm,4.8s						
USRK	**Ussuriysk Ar.**	**162.78**	**125**	PKPdf	**PKPdf**	**11 43 21.6**	**+0.4**
USRK				PKPab	**PKPab**	**11 44 10.0**	**-1.0**
USRK	**Ussuriysk Ar.**	**162.78**	**125**	PKIKP	**PKPdf**	**11 43 21.7**	**+0.4**
USRK						11 44 10.0	
USRK	**Ussuriysk Ar.**	**162.78**	**125**	PKPab	**PKPab**	**11 44 09.2**	**-1.9**
	comp=Z,4.6nm,0.9s,baz=338,slow=2.1,SNR=7.5						
HEH	**HeiHe**	**164.38**	**101**	*e*PKP	**PKPdf**	**11 43 20.9**	**-1.6**
KLR	**Kul'dur**	**166.15**	**111**	PKP	**PKPdf**	**11 43 23.9**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=316,slow=4.9,SNR=6.2						
KLR				PKPab	**PKPab**	**11 44 24.6**	**-1.2**
	comp=Z,5.2nm,0.7s,baz=207,slow=4.2,SNR=18						

*VAO **06** 11:38:43.2±1.2, 17°.57S×68°.72W, h10km, mb4.3*
*IDC **06** 11:38:45.9±1.0, 17°.45S×69°.54W, h150km±8km, mb3.5/8, mbtmp4.1/10, Error ellipse: s-maj=16.3km s-min=11.4km az=100.0*
*NEIC **06** 11:38:46.2±1.7, 17°.40S±0°.08×69°.76W±0°.08, h163km±8km, mb4.2/5, Error ellipse: s-maj=11.8km s-min=10.4km az=164.0*
*GUC **06** 11:38:46.9±0.7, 17°.46S×69°.68W, h152km±4km, ML3.3*
ISC 06 11:38:45.8±0.6, 17°.40S±0°.05×69°.53W±0°.06, h154km±6km, n68, σ1°44/82, mb4.0/9, 1C-2D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB18	**Visviri**	**0.20**	**166**	⇓*i*	P	**Pn**	**11 39 08.8**	**+1.4**
PB18				*e*S		**Sn**	**11 39 25.6**	**+1.8**
PB18				IAML			11 39 27.2	
	comp=E,528nm,0.9s							
PB16	**IPOC Station P**	**0.94**	**179**	Pn		**Pn**	**11 39 12.7**	**+1.5**
PB16				Sn		**Sn**	**11 39 32.5**	**+1.9**
PB16	**IPOC Station P**	**0.94**	**179**	*i* P		**Pn**	**11 39 12.8**	**+1.6**
PB16				*e*S		**Sn**	**11 39 32.7**	**+2.1**
PB12	**IPOC Station P**	**1.43**	**212**			**Pn**	**11 39 15.1**	**0.0**
PB12				Sn		**Sn**	**11 39 37.0**	**-0.7**
PB12	**IPOC Station P**	**1.43**	**212**	*e*P		**Pn**	**11 39 15.1**	**0.0**
PB12				*e*S		**Sn**	**11 39 36.6**	**-1.0**
PB12				IAML			11 39 38.2	
	comp=N,717nm,0.1s							
LPAZ	**La Paz**	**1.73**	**51**	P		**Pn**	**11 39 19.9**	**+1.0**
	comp=N,606nm,0.3s,baz=277,slow=3.2,SNR=2485							
LPAZ				S		**Sn**	**11 39 44.6**	**+0.4**
	comp=N,93nm,0.6s,baz=124,slow=23,SNR=9.9							
GO01	**Chusmiza**	**2.28**	**172**	Pn		**Pn**	**11 39 26.9**	**+1.8**
GO01				Sn		**Sn**	**11 39 56.5**	**+1.1**
PB11	**IPOC Station P**	**2.36**	**183**			**Pn**	**11 39 26.4**	**+0.7**
PB11				Sn		**Sn**	**11 39 56.0**	**-0.3**
PB11	**IPOC Station P**	**2.36**	**183**	⇑*i* P		**Pn**	**11 39 26.3**	**+0.7**
PB11				*e*S		**Sn**	**11 39 56.6**	**+0.3**
PB08	**IPOC Station P**	**2.75**	**173**			**Pn**	**11 39 32.2**	**+1.6**
PB08	**IPOC Station P**	**2.75**	**173**	*e*P		**Pn**	**11 39 32.4**	**+1.7**
PB08				*e*S		**Sn**	**11 40 06.5**	**+1.1**
TA02	**Huaiquique**	**2.92**	**191**	Pn		**Pn**	**11 39 32.5**	**+0.2**
TA01	**Diego Aracena**	**3.21**	**191**	Pn		**Pn**	**11 39 35.7**	**-0.4**
PATCX	**Punta Patache**	**3.46**	**190**	Pn		**Pn**	**11 39 39.8**	**+0.5**
PB01	**IPOC Station P**	**3.63**	**179**			**Pn**	**11 39 42.0**	**+0.5**
PB01	**IPOC Station P**	**3.63**	**179**	⇓*i* P		**Pn**	**11 39 42.1**	**+0.5**
PB01				*e*S		**Sn**	**11 40 22.9**	**-1.9**
PB02	**IPOC Station P**	**3.92**	**185**			**Pn**	**11 39 45.6**	**+0.3**
PB02	**IPOC Station P**	**3.92**	**185**	*e*P		**Pn**	**11 39 45.8**	**+0.5**
PB02				*e*S		**Sn**	**11 40 28.6**	**-2.9**
PB07	**IPOC Station P**	**4.32**	**184**			**Pn**	**11 39 51.3**	**+0.7**
PB09	**IPOC Station P**	**4.39**	**176**			**Pn**	**11 39 52.6**	**+1.2**
PB04	**IPOC Station P**	**4.95**	**187**	Pn		**Pn**	**11 39 59.3**	**+0.5**
LVC	**Limon Verde**	**5.22**	**174**	P		**Pn**	**11 40 03.7**	**+1.1**
	comp=N,12nm,0.2s,baz=38,slow=12,SNR=159							
LVC				S		**Sn**	**11 41 00.5**	**-2.0**
	comp=N,41nm,0.5s,baz=138,slow=22,SNR=14							
PB06	**IPOC Station P**	**5.28**	**180**			**Pn**	**11 40 03.4**	**+0.2**
PB15	**IPOC Station P**	**5.78**	**179**			**Pn**	**11 40 09.9**	**0.0**
PB14	**IPOC Station P**	**7.24**	**186**	Pn		**Pn**	**11 40 29.3**	**-0.1**
GO02	**Mina Guanaco**	**7.73**	**180**	Pn		**Pn**	**11 40 35.4**	**-0.5**
ETMB	**Extrema**	**8.19**	**24**	Pn		**Pn**	**11 40 40.4**	**-1.5**
ETMB	**Extrema**	**8.19**	**24**	*e*P		**Pn**	**11 40 40.0**	**-1.8**
SIV	**San Ignacio**	**8.22**	**81**	P		**Pn**	**11 40 39.6**	**-2.7**
	comp=N,15nm,0.4s,baz=270,slow=9.8,SNR=56							
SIV				S		**Sn**	**11 42 08.7**	**-5.3**
	comp=N,8.1nm,0.8s,baz=342,slow=21,SNR=8.2							

AC01	**Pan de Azucar**	**8.77**	**186**	Pn		**Pn**	**11 40 47.5**	**-2.0**
NNA	**Nana**	**8.88**	**306**	Pn		**Pn**	**11 40 51.0**	**-0.1**
NNA	**Nana**	**8.88**	**306**	P		**Pn**	**11 40 50.4**	**-0.7**
	comp=N,15nm,0.3s,baz=117,slow=12,SNR=9.7							
NNA				S		**Sn**	**11 42 27.5**	**-2.5**
	comp=N,5.3nm,0.3s,baz=57,slow=16,SNR=3.7							
AC02	**Maricunga**	**9.40**	**178**	Pn		**Pn**	**11 40 57.8**	**-0.6**
AC06	**Mina Casimiro**	**9.94**	**184**	Pn		**Pn**	**11 41 06.7**	**+1.6**
VILB	**Vilhena**	**10.03**	**65**	Pn		**Pn**	**11 41 05.4**	**-0.9**
GO03	**Copiap**	**10.17**	**184**	Pn		**Pn**	**11 41 08.1**	**0.0**
SAML	**Samuel**	**10.42**	**37**	Pn		**Pn**	**11 41 10.5**	**-0.9**
SAML	**Samuel**	**10.42**	**37**	*e*P		**Pn**	**11 41 09.8**	**-1.7**
AC04	**Llanos de Chal**	**10.85**	**187**	Pn		**Pn**	**11 41 14.5**	**-2.5**
AC05	**El Transito**	**11.41**	**183**	Pn		**Pn**	**11 41 22.0**	**-2.4**
LCO	**Las Campanas**	**11.61**	**185**	Pn		**Pn**	**11 41 24.4**	**-2.8**
MURT	**Porto Murtinho**	**12.01**	**113**	*e*P		Pn	11 41 23.2	-9.0
BDQN	**Bodoquena, MS**	**12.47**	**106**	*e*P		Pn	11 41 28.8	-9.4
CO01	**Juntas del Tor**	**12.54**	**182**	Pn		**Pn**	**11 41 37.4**	**-1.8**
UNIS	**Unistalda (Bra**	**17.63**	**134**	*e*P		**P**	**11 42 41.2**	**+0.4**
PTGB	**Pitanga**	**17.84**	**117**	*e*P		**P**	**11 42 44.0**	**+0.7**
LDASE	**Londrina, Braz**	**18.26**	**112**	*e*P		**P**	**11 42 48.4**	**+0.6**
RODS	**Rosario do Sul**	**18.36**	**137**	*e*P		**Pn**	**11 42 50.2**	**-0.5**
SNDB	**Serra Nova Dou**	**18.44**	**75**	*e*P		**P**	**11 42 50.3**	**+0.5**
TBOT	**Tacuaremb**	**18.82**	**142**	*e*P		**Pn**	**11 42 55.2**	**-0.8**
ITAB	**Concordia**	**18.82**	**124**	*e*P		**Pn**	**11 42 55.4**	**-0.7**
ALGR	**Alto Alegre (B**	**18.93**	**130**	*e*P		**P**	**11 42 55.6**	**+0.6**
FRTB	**Fartura**	**19.62**	**111**	*e*P		**P**	**11 43 02.7**	**+0.1**
PLTB	**Pedras Altas**	**20.32**	**138**	P		**P**	**11 43 10.5**	**+0.6**
IPMB	**Ipameri, GO**	**20.32**	**95**	*e*P		**P**	**11 43 10.5**	**+0.4**
BDFB	**Brasilia**	**20.70**	**88**	P		**P**	**11 43 16.3**	**+2.0**
BDFB					IAmb	IAmb	11 43 17.1	
	comp=Z,5.6nm,0.5s							
BDFB	**Brasilia**	**20.70**	**88**	P		**P**	**11 43 16.3**	**+2.0**
	comp=Z,4.7nm,0.5s,baz=260,slow=7.9,SNR=7.1							
	comp=Z,4.7nm,0.5s							
TRQA	**Tornquist**	**21.62**	**164**	P		**P**	**11 43 24.8**	**+1.0**
TRQA					IAmb	IAmb	11 43 50.4	
	comp=Z,16nm,1.5s							
PLCA	**Paso Flores**	**23.27**	**182**	P		**P**	**11 43 38.4**	**-1.4**
TXAR	**Lajitas Array**	**56.96**	**324**	P		**P**	**11 48 15.3**	**0.0**
	comp=Z,0.2nm,0.8s,baz=145,slow=7.0,SNR=2.0							
	comp=Z,0.2nm,0.8s							
DBIC	**Dimbokro**	**68.20**	**75**	P		**P**	**11 49 30.5**	**+0.4**
	comp=Z,4.0nm,0.6s,baz=238,slow=4.6,SNR=7.4							
	comp=Z,4.0nm,0.6s							
PDAR	**Pinedale Array**	**70.28**	**330**	P		**P**	**11 49 44.4**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=126,slow=6.9,SNR=2.0							
	comp=Z,0.2nm,0.6s							
ULM	**Lac du Bonnet**	**71.25**	**342**	P		**P**	**11 49 48.2**	**+0.3**
	comp=Z,4.2nm,0.6s,baz=151,slow=6.1,SNR=13							
	comp=Z,4.2nm,0.6s							
NVAR	**Mina Array Bea**	**71.92**	**322**	P		**P**	**11 49 54.7**	**+2.1**
	comp=Z,0.3nm,0.7s,baz=114,slow=7.1,SNR=2.4							
	comp=Z,0.3nm,0.7s							
QSPA	**South Pole Qui**	**72.77**	**180**	P		**P**	**11 49 57.3**	**+0.2**
QSPA					IAmb	IAmb	11 50 21.2	
	comp=Z,5.9nm,1.4s							
TORD	**Torodi Ar. Bea**	**76.57**	**71**	P		**P**	**11 50 19.8**	**0.0**
	comp=Z,2.1nm,0.7s,baz=256,slow=5.2,SNR=16							
	comp=Z,2.1nm,0.7s							
YKA	**Yellowknife Ar**	**87.14**	**341**	P		**P**	**11 51 15.1**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=135,slow=4.4,SNR=15							
	comp=Z,0.8nm,0.7s							
SONM	**Songino Array**	**149.46**	**5**	PKP		**PKPdf**	**11 58 11.4**	**-1.0**
	comp=Z,0.1nm,0.4s,baz=219,slow=1.9,SNR=3.6							
SONM				PKPbc		**PKPbc**	**11 58 17.9**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=140,slow=2.3,SNR=2.3							

*IDC **06** 11:50:28.5±6.4, 23°.94N×123°.69E, h0km, mb3.6/5, mbtmp3.6/5, MS3.0/1, Error ellipse: s-maj=175.5km s-min=50.7km az=12.0*
*JMA **06** 11:50:33.6±0.1, 24°.2N±0°.3×123°.8E±0°.2, h15km±1km, MD4.0/10, MV3.8/10, NEAR ISHIGAKIJIMA ISLAND*
JMA Felt II J1 at NEAR ISHIGAKIJIMA ISLAND.
ISC 06 11:50:33.1±0.9, 24°.24N±0°.06×123°.84E±0°.03, h19km±2km, n25, σ0°62/21, mb3.5/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IRIF	**Iriomote-Funau**	**0.14**	**312**	P		**Pg**	**11 50 37.2**	**-0.2**
IRIF				S		**Sg**	**11 50 40.0**	**-0.2**
IRIF	**Iriomote-Funau**	**0.14**	**312**	A		A	11 50 37.2	
	comp=E,33nm,2.3s,comp=N,24nm,1.5s							
JKRS	**Kuro-shima**	**0.15**	**91**	P		**Pg**	**11 50 37.7**	**+0.2**
JKRS				S		**Sg**	**11 50 40.8**	**+0.4**
JKRS	**Kuro-shima**	**0.15**	**91**	A		A	11 50 37.7	
	comp=E,80nm,0.5s,comp=N,108nm,2.6s							
HATJ	**Hateruma jima**	**0.19**	**191**	P		**Pg**	**11 50 37.9**	**-0.1**
HATJ				S		**Sg**	**11 50 41.2**	**0.0**
HATJ	**Hateruma jima**	**0.19**	**191**	A		A	11 50 37.9	
	comp=E,108nm,0.8s,comp=N,55nm,4.0s							
JIJ	**Ishigaki jima**	**0.30**	**66**	P		**Pb**	**11 50 39.8**	**-0.2**
JIJ				S		**Sb**	**11 50 44.3**	**-0.2**
JIJ	**Ishigaki jima**	**0.30**	**66**	A		A	11 50 39.8	
	comp=E,5.0nm,0.7s,comp=N,12nm,1.2s							
JISG	**Ishigakijimahi**	**0.55**	**51**	*i* P		**Pb**	**11 50 44.3**	**+0.2**
JISG				S		**Sb**	**11 50 52.4**	**+0.8**
JISG	**Ishigakijimahi**	**0.55**	**51**	A		A	11 50 44.3	
	comp=E,19nm,0.4s,comp=N,32nm,0.4s							
YOJ	**Yonaguni jima**	**0.79**	**286**	P		**Pb**	**11 50 48.9**	**+0.6**
YOJ				*e*S		**Sb**	**11 50 59.0**	**+0.4**
YOJ	**Yonaguni jima**	**0.79**	**286**	A		A	11 50 48.9	
	comp=E,11nm,1.3s,comp=N,8.0nm,0.7s							
JYNG	**Yonagunijimaku**	**0.85**	**285**	P		**Pb**	**11 50 49.7**	**+0.5**
JYNG				*e*S		**Sb**	**11 51 01.1**	**+0.8**
JYNG	**Yonagunijimaku**	**0.85**	**285**	A		A	11 50 49.7	
	comp=E,14nm,0.9s,comp=N,19nm,0.6s							
JTJ	**Tarama**	**0.88**	**63**	P		**Pb**	**11 50 50.2**	**+0.4**
JTJ				S		**Sb**	**11 51 02.6**	**+1.4**
JTJ	**Tarama**	**0.88**	**63**	A		A	11 50 50.2	
	comp=E,7.0nm,1.0s,comp=N,6.0nm,1.0s							
KLR	**Kul'dur**	**25.71**	**12**	LR		LR	12 06 32.2	
	comp=N,33nm,21.4s,baz=9.5,slow=37							
SONM	**Songino Array**	**27.32**	**334**	P		**P**	**11 56 17.1**	**+0.2**
	comp=N,0.5nm,0.6s,baz=143,slow=10,SNR=2.6							
	comp=N,0.5nm,0.6s							
MKAR	**Makanchi Array**	**40.00**	**315**	P		**P**	**11 58 06.1**	**-0.7**
	comp=N,0.8nm,0.5s,baz=99,slow=8.8,SNR=11							
	comp=N,0.8nm,0.5s							
H11N1	**WAKE ISLAND Hy**	**40.06**	**88**	T		T	12 40 46.1	
	baz=287,slow=75							
H11N2	**WAKE ISLAND Hy**	**40.06**	**88**	T		T	12 40 47.0	
	baz=287,slow=75							
H11N3	**WAKE ISLAND Hy**	**40.08**	**88**	T		T	12 40 53.0	
	baz=287,slow=75							
KURBB	**Kurchatov Arra**	**43.65**	**319**	P		**P**	**11 58 35.4**	**-1.1**
	comp=N,0.2nm,0.4s,baz=96,slow=9.2,SNR=3.6							
	comp=N,0.2nm,0.4s							
NOA	**NORSAR Array B**	**79.30**	**333**	P		**P**	**12 02 36.9**	**-0.5**
	comp=N,0.4nm,0.6s,baz=56,slow=5.4,SNR=3.4							
	comp=N,0.4nm,0.6s							
YKA	**Yellowknife Ar**	**81.96**	**24**	P		**P**	**12 02 51.8**	**+0.3**
	comp=N,0.4nm,0.8s,baz=309,slow=4.9,SNR=7.1							
	comp=N,0.4nm,0.8s							

*DJA **06** 11:53:36.5±1.3, 0°.5S×6°×13°.3E±°, h26km±15km, M4.6/10, mb4.6/6, mB5.0/2, MLv4.5/10, Mw(mB)4.4/2*
*IDC **06** 11:53:47.3±3.5, 1°.38S×132°.54E, h0km, mb3.9/2, mbtmp3.9/3, ML3.7/1, Error ellipse: s-maj=106.7km s-min=31.5km az=88.0*
ISC 06 11:53:37.2±1.8, 0°.2S×0°.1×133°.15E±0°.09, h10km, n10, σ2°11/13, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SWI	**Sorong**	**1.99**	**251**	P		**Pn**	**11 54 10.2**	**-0.8**
SWI				S		**Sn**	**11 54 36.7**	**+0.6**
FAKI	**Fak Fak**	**2.83**	**198**	P		**Pn**	**11 54 22.5**	**-0.1**
FAKI				S		**Sn**	**11 54 54.9**	**-1.9**
BNDI	**Bandanaira**	**5.37**	**217**	P		**Pn**	**11 54 55.8**	**-1.6**
	352nm,1.2s,1.4nm							
LBMI	**Labuha**	**5.66**	**266**	P		**Pn**	**11 54 59.4**	**-2.1**
	48nm,0.9s,1μm0.2nm							
NLAI	**Namlea**	**6.75**	**244**	P		**Pn**	**11 55 14.6**	**-1.9**
	20nm,0.4s,0.1nm							
SANI	**Sanana**	**7.39**	**256**	P		**Pn**	**11 55 24.2**	**-1.0**
GENI	**Genyem**	**7.40**	**109**	P		**Pn**	**11 55 22.4**	**-3.0**
	62nm,1.9s,0.4nm							
WRA	**Warramunga Arr**	**19.64**	**177**	P		**P**	**11 58 06.4**	**+0.1**
	0.2nm,0.3s,baz=355,slow=11,SNR=15							
WRA				S		S	12 01 34.7	-13
	1.0nm,0.7s,baz=353,slow=23,SNR=3.9							
	1.3nm,0.6s							

ASAR	**Alice Springs**	**23.32**	**178**	P		**P**	**11 58 44.9**	**-0.9**
	5.3nm,1.1s,baz=354,slow=7.8,SNR=12							
ASAR				S		**S**	**12 03 01.4**	**+2.8**
	0.9nm,0.8s,baz=2.8,slow=28,SNR=4.7							
	5.3nm,1.1s							
STKA	**Stephens Creek**	**32.49**	**167**	P		**P**	**12 00 11.3**	**+3.2**
	1.5nm,0.7s,baz=336,slow=10,SNR=4.6							
	1.5nm,0.7s							

*NNC **06** 11:57:13.2±1.4, 37°.27N×68°.86E, h0km, mb5.0, mpv4.9, Error ellipse: s-maj=14.6km s-min=7.5km az=154.0*
*MOS **06** 11:57:13.2±1.0, 37°.19N×69°.13E, h15km, mb5.0/51, MS4.0/8, Error ellipse: s-maj=4.5km s-min=3.1km az=79.0*
*IDC **06** 11:57:15.3±2.5, 37°.08N×69°.14E, h21km±16km, mb4.2/27, mbtmp4.4/34, ML3.9/6, MS3.7/12, Error ellipse: s-maj=11.0km s-min=8.4km az=148.0*
*NEIC **06** 11:57:16.4±1.9, 37°.20N±0°.04×69°.01E±0°.06, h21km±4km, mb4.7/128, Mwr4.6/11, Error ellipse: s-maj=7.2km s-min=6.0km az=55.0, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr=6.10; Mθθ=5.95; Mφφ=0.15; Mrθ=4.47; Mθφ=1.75; Mφr=-3.92; Fault plane solution: M0=8.64000×10^15 NP1=φs=270.25000°, δ=26.55000°, λ=-60.05000°. NP2=φs=57.45000°, δ=67.21000°, λ=-104.01000°. Principal axes: T 8.5034, Plg21.0000°, Azm158.0000°; N 0.2668, Plg13.0000°, Azm63.0000°; P -8.7701, Plg65.0000°, Azm304.0000°;*
*NEIC **06** 11:57:16.4, 37°.20N×69°.01E, h21km*
ISC 06 11:57:14.0±0.3, 37°.14N±0°.03×69°.00E±0°.03, h10km, n441, σ1°71/460, mb4.7/147, MS4.1/22, 33C-19D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SIMJ	**Simiganj**	**1.51**	**0**			**Pb**	**11 57 42.5**	**+0.3**
CHGR	**Chuyangaron**	**1.52**	**5**			**Pb**	**11 57 42.5**	**+0.2**
CHGR	**Chuyangaron**	**1.52**	**5**	PG		**Pb**	**11 57 42.5**	**+0.2**
GAR	**Garm**	**2.13**	**29**			**Pb**	**11 57 51.4**	**-1.3**
KBL	**Kabul**	**2.59**	**179**	Pn		**Pb**	**11 57 59.7**	**-1.0**
KBL	**Kabul**	**2.59**	**179**	PN		**Pb**	**11 57 59.7**	**-1.0**
DRK	**Karamyk**	**3.21**	**42**			**Pn**	**11 58 06.7**	**+1.9**
BTK	**Batken**	**3.24**	**26**			**Pn**	**11 58 07.6**	**+2.6**
BTK	**Batken**	**3.24**	**26**	PN		**Pn**	**11 58 07.6**	**+2.6**
NIL	**Nilore**	**4.92**	**134**			**Pn**	**11 58 30.1**	**+2.1**
NIL	**Nilore**	**4.92**	**134**	PN		**Pn**	**11 58 30.1**	**+2.1**
IUG	**luzhnay**	**5.06**	**9**	*e*PN		**Pn**	**11 58 31.3**	**+1.3**
IUG				*e*S		**Sn**	**11 59 26.3**	**-2.3**
IUG	**luzhnay**	**5.06**	**9**	*e*Pn		**Pn**	**11 58 31.4**	**+1.3**
	baz=8.1							
IUG				*e*S		**Sn**	**11 59 26.3**	**-2.3**
	baz=8.1							
CHM	**Chimkent**	**5.19**	**5**	*e*Pg		**Pb**	**11 58 46.5**	**+1.6**
	baz=4.3							
ARSB	**Arslanbob**	**5.20**	**35**			**Pn**	**11 58 33.6**	**+1.7**
ARSB	**Arslanbob**	**5.20**	**35**	PN		**Pn**	**11 58 33.6**	**+1.7**
BRLS	**Boroldoy**	**5.92**	**6**	*e*PN		**Pn**	**11 58 38.8**	**-2.9**
BRLS	**Boroldoy**	**5.92**	**6**	*e*Pn		**Pn**	**11 58 38.8**	**-2.9**
	baz=4.5							
BRLS				*e*S		**Sn**	**11 59 41.0**	**-8.5**
	baz=4.5							
KSH	**Kashi**	**5.97**	**64**	Pn		**Pn**	**11 58 38.

GYA0	**ALIBECK ARRAY**	**8.68**	**278**	P	**Pn**	**11 59 18.2**	**-1.5**
GYA0				S	**Sn**	**12 00 56.7**	**-0.9**
GYA0B	**ALIBECK ARRAY**	**8.68**	**278**	Pn	**Pn**	**11 59 18.7**	**-1.0**
GYA0B	**ALIBECK ARRAY**	**8.68**	**278**	⇓Pn	**Pn**	**11 59 18.2**	**-1.5**
GYA0B				Sn	**Sn**	**12 00 56.8**	**-0.9**
ANVS	**Anan'yevo**	**8.72**	**47**	P	**Pn**	**11 59 21.1**	**+0.8**
ANVS				pmax	pmax		
	comp=Z,33nm,0.7s						
KUU	**Kurty**	**8.76**	**37**	*e*P	**Pn**	**11 59 19.1**	**-1.5**
KUU	**Kurty**	**8.76**	**37**	*e*Pn	**Pn**	**11 59 19.2**	**-1.5**
	baz=37						
BTLS	**Baital**	**8.76**	**24**	*e*P	**Pn**	**11 59 21.4**	**+0.7**
BTLS				*e*S	**Sn**	**12 00 56.9**	**-2.6**
BTLS	**Baital**	**8.76**	**24**	*e*Pn	**Pn**	**11 59 21.5**	**+0.7**
	baz=24						
BTLS				*e*S	**Sn**	**12 00 57.0**	**-2.6**
	baz=24						
PRZ	**Przheval'sk**	**8.98**	**51**		**Pn**	**11 59 24.1**	**+0.1**
PRZ	**Przheval'sk**	**8.98**	**51**	P	**Pn**	**11 59 24.1**	**+0.1**
SMLA	**Simla**	**9.04**	**129**	*e*P	**Pn**	**11 59 23.9**	**-0.6**
CHKK	**Chushkaly**	**9.05**	**40**	*e*P	**Pn**	**11 59 23.3**	**-1.4**
CHKK	**Chushkaly**	**9.05**	**40**	*e*Pn	**Pn**	**11 59 23.4**	**-1.4**
	baz=40						
SATY	**Saty**	**9.32**	**48**	*e*P	**Pn**	**11 59 27.5**	**-0.9**
SATY	**Saty**	**9.32**	**48**	*e*Pn	**Pn**	**11 59 27.5**	**-0.9**
	baz=48						
ARXS	**Arharly**	**9.73**	**41**	*e*P	**Pn**	**11 59 33.3**	**-0.8**
UZB	**Uzynbulak**	**9.74**	**49**	*e*P	**Pn**	**11 59 32.4**	**-1.8**
UZB	**Uzynbulak**	**9.74**	**49**	*e*Pn	**Pn**	**11 59 32.5**	**-1.8**
	baz=49						
SHLS	**Shalkode**	**10.01**	**50**	*e*P	**Pn**	**11 59 40.0**	**+2.1**
SHLS	**Shalkode**	**10.01**	**50**	*e*Pn	**Pn**	**11 59 40.1**	**+2.1**
	baz=51						
PDGK	**Podgornoye**	**10.12**	**49**	P	**Pn**	**11 59 38.4**	**-1.1**
PDGK	**Podgornoye**	**10.12**	**49**	⇓Pn	**Pn**	**11 59 38.4**	**-1.1**
	comp=Z,25nm,0.8s						
PDGK				⇑Lg	Lg	12 02 35.2	
	comp=Z,45nm,1.2s						
TDK	**Taldyqorghan**	**10.58**	**39**	*e*P	**Pn**	**11 59 45.5**	**-0.1**
TDK	**Taldyqorghan**	**10.58**	**39**	*e*Pn	**Pn**	**11 59 45.5**	**-0.1**
	baz=39						
NDI	**New Delhi**	**10.89**	**138**	*e*P	**Pn**	**11 59 49.9**	**-0.1**
KUDL	**Kundal**	**10.96**	**143**	*e*P	**Pn**	**11 59 49.4**	**-1.5**
KUDL				*ex*	x	12 01 48.9	
OTUK	**Ortayu**	**11.36**	**11**	P	**Pn**	**11 59 56.9**	**+0.5**
OTUK				S	**Sn**	**12 02 02.4**	**-0.9**
OTUK	**Ortayu**	**11.36**	**11**	⇑Pn	**Pn**	**11 59 56.9**	**+0.5**
	comp=Z,16nm,1.0s						
OTUK				Sn	**Sn**	**12 02 02.4**	**-0.9**
	comp=Z,15nm,0.8s						
AJM	**Ajmer**	**11.66**	**154**	*e*P	**Pn**	**11 59 57.8**	**-2.7**
PTH	**Pithoragarh**	**12.05**	**126**	*e*P	**Pn**	**12 00 02.8**	**-3.1**
PTH				*e*P		12 00 03.9	
PTH				*i* x	x	12 02 13.6	
BRZS	**Berezniki**	**13.11**	**11**	*e*P	**Pn**	**12 00 18.6**	**-1.6**
BRZS	**Berezniki**	**13.11**	**11**	*e*Pn	**Pn**	**12 00 18.6**	**-1.6**
	baz=10						
MAKZ	**Makanchi**	**13.64**	**41**		**Pn**	**12 00 26.5**	**-0.9**
MAKZ	**Makanchi**	**13.64**	**41**	P	**Pn**	**12 00 26.5**	**-0.9**
AB31	**Akbulak array**	**13.78**	**334**	P	**Pn**	**12 00 27.6**	**-1.7**
AB31				S	**Sn**	**12 02 57.8**	**-4.5**
AB31	**Akbulak array**	**13.78**	**334**	⇓Pn	**Pn**	**12 00 27.1**	**-2.2**
	comp=Z,29nm,0.6s,baz=153,slow=12,SNR=359						
AB31				Sn	**Sn**	**12 02 57.8**	**-4.5**
	comp=Z,10nm,0.6s						
ABKAR	**Akbulak array**	**13.78**	**334**	Pn	**Pn**	**12 00 27.4**	**-1.9**
ABKAR	**Akbulak array**	**13.78**	**334**	Pn	**Pn**	**12 00 27.2**	**-2.0**
MK31	**Makanchi Array**	**13.79**	**41**		**Pn**	**12 00 28.4**	**-1.1**
MK31	**Makanchi Array**	**13.79**	**41**	⇑*e*P	**Pn**	**12 00 27.9**	**-1.7**
MK31	**Makanchi Array**	**13.79**	**41**	Pn	**Pn**	**12 00 28.1**	**-1.5**
	comp=Z,17nm,0.9s,baz=226,slow=9.5,SNR=58						
MKAR	**Makanchi Array**	**13.79**	**41**	Pn	**Pn**	**12 00 28.1**	**-1.4**
MKAR	**Makanchi Array**	**13.79**	**41**	*i* P	**Pn**	**12 00 28.3**	**-1.3**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MKAR	**Makanchi Array**	**13.79**	**41**	Pn	**Pn**	**12 00 27.9**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=235,slow=15,SNR=27						
MKAR				Lg	Lg	12 04 31.9	
	comp=Z,0.1nm,0.3s,baz=235,slow=22,SNR=1.5						
MKAR				LR	LR	12 05 28.3	
	comp=Z,80nm,18.7s,baz=239,slow=36						
	comp=Z,3.0nm,0.6s						
KURBB	**Kurchatov Arra**	**15.11**	**24**	P	**Pn**	**12 00 43.8**	**-3.5**
KURBB	**Kurchatov Arra**	**15.11**	**24**	Pn	**Pn**	**12 00 43.9**	**-3.4**
	comp=Z,0.2nm,0.3s,baz=211,slow=12,SNR=16						
KURBB				Lg	Lg	12 05 11.4	
	comp=Z,0.1nm,0.3s,baz=218,slow=28,SNR=5.8						
	comp=Z,3.1nm,0.7s						
KURBB	**Kurchatov Arra**	**15.11**	**24**	⇓Pn	**Pn**	**12 00 43.9**	**-3.5**
	comp=Z,12nm,0.8s						
KURK	**Kurchatov**	**15.22**	**24**	Pn	**Pn**	**12 00 45.4**	**-3.4**
KURK	**Kurchatov**	**15.22**	**24**	⇑*e*P	**Pn**	**12 00 48.4**	**-0.4**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KURK	**Kurchatov**	**15.22**	**24**	⇑Pn	**Pn**	**12 00 46.3**	**-2.5**
	comp=Z,8.0nm,0.9s						
AKTO	**Aktyubinsk**	**15.45**	**333**	Pn	**Pn**	**12 00 49.6**	**-2.3**
	comp=Z,1.2nm,0.3s,baz=147,slow=13,SNR=25						
AKTO				Sn	**Sn**	**12 03 34.6**	**-8.4**
	comp=Z,0.5nm,0.3s,baz=149,slow=16,SNR=1.3						
AKTO				Lg	Lg	12 05 26.9	
	comp=Z,0.2nm,0.3s,baz=230,slow=14,SNR=1.7						
	comp=Z,23nm,0.7s						
AKTO	**Aktyubinsk**	**15.45**	**333**	⇓Pn	**Pn**	**12 00 49.9**	**-2.0**
	comp=Z,30nm,1.1s						
SEM	**Semipalatinsk**	**15.53**	**28**	*e*P	**Pn**	**12 00 52.5**	**-0.6**
SEM	**Semipalatinsk**	**15.53**	**28**	*e*Pn	**Pn**	**12 00 52.6**	**-0.6**
	baz=28						
ZSN	**Zaisan**	**15.59**	**44**	*e*P	**Pn**	**12 00 52.1**	**-1.6**
ZSN	**Zaisan**	**15.59**	**44**	*e*Pn	**Pn**	**12 00 52.2**	**-1.6**
	baz=44						
WMQ	**Urumqi**	**15.70**	**59**	*e*P	**P**	**12 00 58.6**	**-0.7**
WMQ				PP	sP	12 01 12.8	+9.2
WMQ				S	**Sn**	**12 03 49.7**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,22nm,0.9s						
WMQ				LR	LR		
	comp=N,610nm,12.3s						
WMQ				LR	LR		
	comp=E,510nm,12.3s						
WMQ				LR	LR		
	comp=Z,260nm,18.3s						
BVAR	**Borovoye Array**	**15.91**	**3**	Pn	**Pn**	**12 00 55.2**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=176,slow=8.9,SNR=21						
BVAR				Sn	**Sn**	**12 03 44.0**	**-10**
	baz=137,slow=24						
	comp=Z,4.5nm,0.5s						
BRVK	**Borovoye**	**15.94**	**3**	Pn	**Pn**	**12 00 54.8**	**-3.4**
BRVK	**Borovoye**	**15.94**	**3**	⇓*e*P	**Pn**	**12 00 57.6**	**-0.7**
BRVK	**Borovoye**	**15.94**	**3**	⇓Pn	**Pn**	**12 00 57.6**	**-0.7**
	comp=Z,18nm,1.0s						
WSAR	**Wadi Sarin**	**16.48**	**216**	Pn	**Pn**	**12 01 04.8**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=193,slow=16,SNR=1.9						
	comp=Z,2.7nm,0.7s						
MAK	**Makhachkala**	**17.43**	**296**	*e*P	**Pn**	**12 01 16.3**	**-0.9**
MAK				*e*S	**Sn**	**12 04 30.3**	**-0.9**
MAK				pmax	pmax		
	comp=Z,184nm,1.4s						
MAK				MLR	MLR		
	comp=Z,613nm,10.0s						
DGZ	**Jazzator, Alta**	**18.29**	**41**	*i* P	**Pn**	**12 01 24.9**	**-3.0**
GNI	**Garni**	**19.17**	**286**	⇑*e*P	**Pn**	**12 01 40.7**	**+2.0**
GNI				pmax	pmax		
	comp=Z,9.0nm,0.4s						
GNI	**Garni**	**19.17**	**286**	P	**Pn**	**12 01 40.2**	**+1.5**
	comp=Z,1.2nm,0.3s,baz=161,slow=1.5,SNR=9.4						
	comp=Z,12nm,0.5s						
GTK	**Tadong**	**19.23**	**115**	*e*P	**P**	**12 01 39.5**	**+1.1**
GTK				IAmb	IAmb	12 01 48.3	
	comp=Z,35nm,0.5s						
LSA	**Lhasa**	**19.90**	**105**	P	**P**	**12 01 44.9**	**-1.2**
LSA				IAmb	IAmb	12 01 54.9	
	comp=Z,25nm,0.7s						
LSA	**Lhasa**	**19.90**	**105**	P	**P**	**12 01 44.9**	**-1.2**
LSA				pmax	pmax		
	comp=Z,25nm,0.7s						
ZAA0	**Zalesovo Array**	**20.05**	**28**	P	**P**	**12 01 46.2**	**-0.9**
ZALV	**Zalesovo Beam**	**20.05**	**28**	P	**P**	**12 01 46.4**	**-0.7**
ZALV	**Zalesovo Beam**	**20.05**	**28**	P	**P**	**12 01 46.4**	**-0.7**
ZALV	**Zalesovo Beam**	**20.05**	**28**	P	**P**	**12 01 45.9**	**-1.2**
	comp=Z,11nm,0.6s,baz=221,slow=11,SNR=30						
ZALV				S	**S**	**12 05 30.9**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=246,slow=21,SNR=1.1						
ZALV				LR	LR	12 09 24.4	
	comp=Z,83nm,18.7s,baz=224,slow=36						
	comp=Z,11nm,0.6s						
ONI	**Oni**	**20.31**	**293**	P	**P**	**12 01 50.5**	**+0.4**
ONI				IAmb	IAmb	12 02 13.8	
	comp=Z,20nm,0.8s						
ONI	**Oni**	**20.31**	**293**	P	Pn	12 01 52.4	+0.2
ONI				pmax	pmax		
	comp=Z,20nm,0.8s						
SVE	**Sverdlovsk**	**20.47**	**347**	*e*P	Pn	12 01 55.0	+1.2
SVE				*e*S	**S**	**12 05 42.3**	**+1.7**
SVE				pmax	pmax		
	comp=Z,19nm,0.8s						
SVE				MLR	MLR		
	comp=Z,515nm,11.0s						
ARU	**Arti**	**20.53**	**343**	P	**P**	**12 01 53.4**	**+1.1**
ARU	**Arti**	**20.53**	**343**	*c i* P	**P**	**12 01 53.2**	**+0.9**
ARU						12 02 11.5	
ARU				PPP	PPP	12 02 19.5	
ARU				S	Sn	12 05 45.2	-0.6
ARU				SS	**SnSn**	**12 06 03.2**	**+2.8**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ARU	**Arti**	**20.53**	**343**	P	**P**	**12 01 52.5**	**+0.2**
	comp=Z,3.8nm,0.3s,baz=144,slow=6.9,SNR=6.7						
ARU				S	**S**	**12 05 40.7**	**-1.1**
	comp=Z,2.3nm,0.4s,baz=258,slow=22,SNR=1.6						
	comp=Z,3.8nm,0.3s						
GOMU	**GeErMu**	**20.71**	**85**	P	**P**	**12 01 55.1**	**+0.2**
GOMU				pP	pP	12 01 58.8	+0.9
GOMU				sP	sP	12 02 01.7	+2.4
GOMU				S	Sn	12 05 50.3	-0.8
GOMU				sS	pS	12 06 08.0	+12
GOMU				pmax	pmax		
	comp=Z,5.0nm,0.5s						
GOMU				LR	LR		
	comp=N,250nm,9.5s						
GOMU				LR	LR		
	comp=E,170nm,12.3s						
GOMU				LR	LR		
	comp=Z,530nm,11.9s						
KBZ	**Khabaz**	**20.88**	**297**	*i* P	**P**	**12 01 56.3**	**+0.2**
KBZ				pmax	pmax		
	comp=Z,11nm,0.8s						
KBZ	**Khabaz**	**20.88**	**297**	P	**P**	**12 01 56.3**	**+0.2**
	comp=Z,14nm,0.6s,baz=119,slow=6.3,SNR=37						
KBZ				S	Sn	12 05 53.6	-0.7
	comp=Z,2.5nm,0.6s,baz=122,slow=13,SNR=2.3						
KBZ				LR	LR	12 11 40.0	
	comp=Z,127nm,18.8s,baz=96,slow=41						
	comp=Z,14nm,0.6s						
KIV	**Kislovodsk**	**21.07**	**297**	P	**P**	**12 01 59.0**	**+0.7**
KIV	**Kislovodsk**	**21.07**	**297**	*e*P	**P**	**12 01 58.6**	**+0.3**
KIV				*e*S	**S**	**12 05 54.3**	**+1.5**
KIV				pmax	pmax		
	comp=Z,33nm,1.0s						
KIV				MLR	MLR		
	comp=Z,149nm,14.0s						
GURO	**Guroymak-BITLI**	**21.32**	**282**	P	**P**	**12 02 01.3**	**+0.2**
BELG	**Belogornoye**	**21.39**	**322**	*d i* P	**P**	**12 02 01.3**	**-0.3**
BELG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BELG	**Belogornoye**	**21.39**	**322**	P	**P**	**12 02 01.7**	**+0.1**
	comp=Z,118nm,0.7s,baz=339,slow=0.7,SNR=23						
BELG				S	**S**	**12 05 54.4**	**-4.5**
	comp=Z,11nm,0.8s,baz=54,slow=23,SNR=2.3						
SOC	**Sochi**	**23.15**	**295**	*e*P	**P**	**12 02 20.1**	**-0.3**
SOC				*e*		12 02 46.6	
SOC				*e*PPP	PPP	12 02 55.4	
SOC				*e*S	**S**	**12 06 33.3**	**+1.5**
SOC				*e*SSS	SSS	12 07 20.0	
SOC				MLR	MLR		
	comp=Z,114nm,17.0s						
VRH	**Novokhopyorsk**	**23.91**	**315**	*e*P	**P**	**12 02 33.5**	**+5.6**
VRH				pmax	pmax		
	comp=Z,30nm,0.9s						
ARPR	**Arapgir-MALATY**	**24.15**	**284**	P	**P**	**12 02 32.5**	**+2.1**
ARPR				IAmb	IAmb	12 02 46.2	
	comp=Z,31nm,1.3s						
MOKO	**MOKOCHONG**	**24.16**	**109**	*e*P	**P**	**12 02 30.1**	**-0.5**
KOHI	**KOHIMA**	**24.19**	**111**	*e*P	**P**	**12 02 30.9**	**0.0**
KOHI				IAmb	IAmb	12 02 33.7	
	comp=Z,41nm,1.4s						
GTA	**Gaotai**	**24.24**	**75**	*e*P	**P**	**12 02 30.9**	**-0.3**
GTA				pP	pP	12 02 34.8	+0.4
GTA				sS	sS	12 06 59.8	+4.8
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA				LR	LR		
	comp=N,290nm,11.3s						
GTA				LR	LR		
	comp=E,510nm,15.3s						
GTA				LR	LR		
	comp=Z,610nm,13.8s						
RAYN	**Ar Rayn**	**24.32**	**243**	P	**P**	**12 02 31.9**	**0.0**
RAYN				IAmb	IAmb	12 02 33.8	
	comp=Z,20nm,1.2s						
RAYN	**Ar Rayn**	**24.32**	**243**	P	**P**	**12 02 32.5**	**+0.5**
IMP	**Imphal**	**24.58**	**113**	*e*P	**P**	**12 02 35.6**	**+1.3**
ANN	**Anapa**	**24.92**	**298**	*e*P	**P**	**12 02 40.0**	**+2.9**
ANN				pmax	pmax		
	comp=Z,63nm,1.1s						
ANN				MLR	MLR		
	comp=Z,453nm,16.0s						
KIRV	**Kirov**	**24.98**	**335**	⇓*e*P	**P**	**12 02 38.5**	**+1.0**
KIRV	**Kirov**	**24.98**	**335**	P	**P**	**12 02 39.3**	**+1.9**
	comp=Z,30nm,0.8s,baz=129,slow=7.6,SNR=10						
	comp=Z,30nm,0.8s						
VORD	**Divnogorie**	**25.23**	**313**	*e*P	**P**	**12 02 37.5**	**-2.3**
VORD				pmax	pmax		
	comp=Z,20nm,0.9s						
GAZ	**Gaziantep**	**25.28**	**280**	P	**P**	**12 02 41.2**	**+0.7**
GAZ				IAmb	IAmb	12 02 48.3	
	comp=Z,29nm,1.2s						
SAIH	**SAIHA**	**25.33**	**118**	*e*P	**P**	**12 02 42.3**	**+1.1**
SAIH				IAmb	IAmb	12 02 45.1	
	comp=Z,21nm,0.5s						
VSR	**Storozhevoye**	**25.39**	**313**	*e*P	**P**	**12 02 41.1**	**-0.2**
VSR				pmax	pmax		
	comp=Z,30nm,0.9s						
LPSR	**Galich'ya Gora**	**26.07**	**316**	*e*P	**P**	**12 02 48.5**	**+1.0**
LPSR				pmax	pmax		
	comp=Z,20nm,0.9s						
MOY	**Mondy**	**26.82**	**47**	*e*P	**P**	**12 02 55.1**	**+0.7**
MOY				pmax	pmax		
	comp=Z,13nm,1.7s						
BR131	**Keskin Array S**	**27.71**	**286**	P	**P**	**12 03 03.6**	**+1.0**
BR131				IAmb	IAmb	12 03 09.4	
	comp=Z,18nm,1.4s						
BR131	**Keskin Array S**	**27.71**	**286**	P	**P**	**12 03 03.6**	**+1.0**
BR131				pmax	pmax		
	comp=Z,18nm,1.4s						
BRTR	**Keskin Array B**	**27.71**	**286**	P	**P**	**12 03 03.5**	**+1.0**
BRTR	**Keskin Array B**	**27.71**	**286**	P	**P**	**12 03 03.5**	**+0.9**
BRTR	**Keskin Array B**	**27.71**	**286**	P	**P**	**12 03 04.2**	**+1.6**
	comp=Z,3.6nm,0.6s,baz=101,slow=9.1,SNR=9.7						
	comp=Z,3.6nm,0.6s						
MMAI	**Mount Meron Ar**	**27.71**	**272**	P	**P**	**12 03 01.8**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=274,slow=11,SNR=1.4						
	comp=Z,0.6nm,0.3s						
ZAK	**Zakamensk**	**27.80**	**51**	*e*P	**P**	**12 03 05.9**	**+2.7**
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MOS	**Moscow**	**28.16**	**321**	*e*P	**P**	**12 03 07.6**	**+1.4**
MOS				*e*		12 03 51.5	
MOS				*e*		12 04 06.3	
OBN	**Obninsk**	**28.41**	**320**	⇑*e*P	**P**	**12 03 09.1**	**+0.7**
OBN				*e*		12 04 00.8	
OBN				pmax	pmax		
	comp=Z,11nm,0.9s						
OBN				MLR	MLR		
	comp=Z,118nm,15.0s						
OBN	**Obninsk**	**28.41**	**320**	LR	LR	12 17 25.1	
	comp=Z,121nm,18.5s,baz=206,slow=42						
CSS	**Mathiatis**	**28.82**	**277**	P	**P**	**12 03 12.7**	**+0.4**
EIL	**Elat**	**29.27**	**265**	LR	LR	12 18 06.4	
	comp=Z,154nm,18.7s,baz=69,slow=43						
SONM	**Songino Array**	**29.31**	**57**	P	**P**	**12 03 16.7**	**0.0**
	comp=Z,0.8nm,0.6s,baz=268,slow=8.4,SNR=5.7						
SONM				LR	LR	12 16 17.7	
	comp=Z,455nm,18.9s,baz=250,slow=39						
	comp=Z,0.8nm,0.6s						
PZH	**PanZhiHua**	**29.64**	**101**	P	**P**	**12 03 21.5**	**+1.6**
PZH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,4.5s						
ULN	**Ulaanbaatar**	**29.75**	**57**	P	**P**	**12 03 20.3**	**-0.3**
ULN	**Ulaanbaatar**	**29.75**	**57**	⇓*e*P	**P**	**12 03 20.4**	**-0.3**
ULN				pmax	pmax		
	comp=Z,9.0nm,2.7s						
KLMR	**Klimovskoe**	**30.14**	**331**	*e*P	**P**	**12 03 23.7**	**0.0**
KLMR				*e*		12 04 21.0	
KLMR				pmax	pmax		
	comp=Z,21nm,1.5s						
ELL	**Elmali**	**31.10**	**281**	P	**P**	**12 03 34.2**	**+1.6**
ELL	**Elmali**	**31.10**	**281**	P	**P**	**12 03 34.2**	**+1.6**
ELL				pmax	pmax		
	comp=Z,44nm,0.8s						
AKASG	**Malin Array Be**	**31.29**	**308**	P	**P**	**12 03 33.2**	**-0.8**
AKASG	**Malin Array Be**	**31.29**	**308**	P	**P**	**12 03 34.5**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=83,slow=7.3,SNR=14						
	comp=Z,1.9nm,0.5s						
AKBB	**Malin Array Si**	**31.29**	**308**	P	**P**	**12 03 32.8**	**-1.2**
AKBB				IAmb	IAmb	12 03 39.1	
	comp=Z,18nm,1.2s						
AKBB	**Malin Array Si**	**31.29**	**308**	⇑*e*P	**P**	**12 03 33.2**	**-0.8**
KIEV	**Kiev**	**31.30**	**308**	P	**P**	**12 03 32.8**	**-1.3**
KIEV				IAmb	IAmb	12 03 39.2	
	comp=Z,16nm,1.2s						
KIEV	**Kiev**	**31.30**	**308**	P	**P**	**12 03 32.8**	**-1.3**
KIEV				pmax	pmax		
	comp=Z,16nm,1.3s						
CHTO	**Chiang Mai**	**31.94**	**117**	P	**P**	**12 03 39.6**	**-0.4**
CHTO	**Chiang Mai**	**31.94**	**117**	P	**P**	**12 03 39.6**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CRAI	**Chiangrai**	**32.08**	**113**	P	**P**	**12 03 40.2**	**-1.0**
CMAR	**Chiang Mai Arr**	**32.17**	**117**	P	**P**	**12 03 42.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**32.17**	**117**	P	**P**	**12 03 42.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**32.17**	**117**	P	**P**	**12 03 40.6**	**-1.4**
	comp=Z,2.5nm,0.6s,baz=300,slow=8.0,SNR=28						
	comp=Z,2.5nm,0.6s						
PLOR	**Plostina**	**32.57**	**299**	⇑P	**P**	**12 03 47.1**	**+1.7**
PLOR	**Plostina**	**32.57**	**299**	P	**P**	**12 03 47.1**	**+1.7**
TESR	**Tescani**	**32.58**	**300**	⇑P	**P**	**12 03 47.3**	**+1.9**
COVR	**Voineasa-Covas**	**32.88**	**299**	⇑P	**P**	**12 03 50.6**	**+2.5**
TURR	**Turia**	**33.01**	**299**	⇑P	**P**	**12 03 51.7**	**+2.5**
HHC	**Hu-ho-hao-te**	**33.05**	**70**	*e*P	**P**	**12 03 51.2**	**+1.5**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,46nm,5.2s						
HHC				LR	LR		
	comp=N,240nm,14.9s						
HHC				LR	LR		
	comp=E,300nm,15.2s						
HHC				LR	LR		
	comp=Z,310nm,14.5s						
MLR	**Muntele Rosu**	**33.06**	**298**	⇑P	**P**	**12 03 51.2**	**+1.3**
MLR	**Muntele Rosu**	**33.06**	**298**	P	**P**	**12 03 48.7**	**-1.1**
MLR	**Muntele Rosu**	**33.06**	**298**	P	**P**	**12 03 51.1**	**+1.3**
PHRA	**Phrae**	**33.07**	**116**	P	**P**	**12 03 48.3**	**-1.7**
ELND	**Elena**	**33.24**	**294**	⇑P	**P**	**12 03 53.3**	**+2.1**
GYA	**Guiyang**	**33.54**	**98**	*e*P	**P**	**12 03 56.3**	**+2.1**
GYA				pmax	pmax		
	comp=Z,15nm,0.8s						
GYA				pmax	pmax		
	comp=Z,220nm,4.7s						
BURAR	**Bucovina Array**	**33.59**	**302**	⇑P	**P**	**12 03 56.1**	**+1.8**
BURAR	**Bucovina Array**	**33.59**	**302**	P	**P**	**12 03 53.2**	**-1.1**
BURAR				IAmb	IAmb	12 04 00.6	
	comp=Z,5.4nm,0.8s						
BURAR	**Bucovina Array**	**33.59**	**302**	P	**P**	**12 03 56.1**	**+1.8**
BUR08	**Bucovina Ar. S**	**33.60**	**302**	P	**P**	**12 03 54.2**	**-0.3**
BUR08				IAmb	IAmb	12 04 00.5	
	comp=Z,7.6nm,1.0s						
NACGM	**Naroch**	**33.63**	**316**	*e*P	**P**	**12 03 55.3**	**+0.9**
	comp=Z,18nm,1.0s,baz=104						
RDO	**Rodhopi**	**33.68**	**290**	P	**P**	**12 03 54.9**	**-0.2**
RDO				IAmb	IAmb	12 04 31.1	
	comp=Z,14nm,1.5s						
VOIR		**33.70**	**298**	⇑P	**P**	**12 03 57.3**	**+2.0**
VOIR		**33.70**	**298**	P	**P**	**12 03 57.2**	**+2.0**
NRIK	**Noril'sk**	**33.81**	**12**	P	**P**	**12 03 54.7**	**-1.1**
NRIK				IAmb	IAmb	12 04 27.4	
	comp=Z,7.3nm,0.8s						
NRIK	**Noril'sk**	**33.81**	**12**	⇓*e*P	**P**	**12 03 56.3**	**+0.5**
NRIK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NRIK	**Noril'sk**	**33.81**	**12**	P	**P**	**12 03 56.6**	**+0.8**
	comp=Z,2.2nm,0.5s,baz=185,slow=5.4,SNR=3.1						
	comp=Z,2.2nm,0.5s						
VALR	**Valaam**	**33.93**	**328**	⇑*e*P	**P**	**12 03 58.6**	**+1.7**
VALR				pmax	pmax		
	comp=Z,16nm,0.9s						
ARR	**Arges**	**33.99**	**298**	⇑P	**P**	**12 04 00.0**	**+2.2**
ENH	**Enshi**	**34.18**	**89**	P	**P**	**12 03 58.5**	**-1.0**
ENH				IAmb	IAmb	12 04 38.1	
	comp=Z,19nm,1.3s						
LVV	**L'vov**	**34.49**	**306**	*e*P	**P**	**12 04 03.0**	**+1.0**
LVV				*e*S	**S**	**12 09 30.9**	**+0.6**
LVV				MLR	MLR		
	comp=Z,200nm,12.0s						
LOT	**Lotru**	**34.60**	**298**	⇑P	**P**	**12 04 04.9**	**+1.8**
VSU	**Vasula**	**34.69**	**322**	*de*P	**P**	**12 04 03.3**	**-0.

DPC Dobruska-Polom 39.46 307 *e*P **P** **12 04 46.1 +1.8**
RONA Rosalia, Austr 39.61 303 *i* P **P** **12 04 45.7 +0.1**
comp=Z,8.6nm,1.0s
CHVC Chvalec 39.63 307 *e*P **P** **12 04 48.8 +3.1**
CHVC Chvalec 39.63 307 *e*P **P** **12 04 48.8 +3.1**
CONA Conrad Observa 39.88 303 *e*P **P** **12 04 49.5 +1.6**
comp=Z,12nm,1.7s
ARCES ARCESS Array B 39.94 338 P **P** **12 04 47.1 -0.9**
ARCES IAmb IAmb 12 05 17.9
comp=Z,22nm,1.4s
ARCES ARCESS Array B 39.94 338 P **P** **12 04 48.8 +0.7**
comp=Z,4.0nm,0.8s,baz=115,slow=5.5,SNR=7.8
comp=Z,4.0nm,0.8s
SOKA Soboth 40.57 301 *e*P **P** **12 04 55.0 +1.4**
comp=Z,5.8nm,0.6s
PRU Pruhonice 40.62 306 *e*P **P** **12 04 55.4 +1.5**
PRU Pruhonice 40.62 306 *e*P **P** **12 04 55.4 +1.5**
CKRC Cesky Krumlov 40.85 304 *e*P **P** **12 04 57.7 +1.9**
CKRC Cesky Krumlov 40.85 304 *e*P **P** **12 04 57.7 +1.9**
ZVC Zvikov 40.88 305 *e*P **P** **12 04 57.5 +1.5**
BRG Berggiesshubel 40.96 308 *i* P **P** **12 04 58.5 +1.7**
BRG Amp 12 04 59.0
comp=Z,5.9nm,0.5s
BRG Berggiesshubel 40.96 308 P P 12 05 02.2 +5.5
BRG Amp 12 05 03.3
comp=Z,10nm,0.9s
BRG Amp 12 26 20.0
comp=Z,0.3nm,13.9s
BRG Berggiesshubel 40.96 308 ⇑ *i* P **P** **12 04 58.4 +1.7**
BRG 12 05 02.2
BRG pmax pmax
comp=Z,6.0nm,0.5s
BRG pmax pmax
comp=Z,10.0nm,0.9s
BRG MLR MLR
comp=Z,300nm,13.9s
NJ2 Nanjing 40.98 82 *e*P **P** **12 04 58.5 +1.5**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
NJ2 pmax pmax
comp=Z,200nm,5.2s
CUC Castrocucco 41.17 291 P **P** **12 04 58.5 -0.1**
GERES GERESS Array B 41.25 305 P **P** **12 04 59.8 +0.6**
comp=Z,1.0nm,0.6s,baz=64,slow=10,SNR=2.9
GERES LR LR 12 23 17.2
comp=Z,82nm,19.2s,baz=111,slow=38
comp=Z,1.0nm,0.6s
KHC Kasperske Hory 41.30 305 P **P** **12 04 59.5 -0.1**
KHC Kasperske Hory 41.30 305 ⇑ *e*P **P** **12 05 01.0 +1.4**
KHC pmax pmax
comp=Z,23nm,2.5s
KHC Kasperske Hory 41.30 305 *e*P **P** **12 05 01.4 +1.8**
RGN Rugen 41.31 313 P **P** **12 05 01.1 +1.6**
MYKA Terra Mystica 41.52 301 *e*P **P** **12 05 03.4 +2.0**
comp=Z,3.3nm,0.6s
CLL Collm 41.54 308 *i* P P 12 05 06.3 +4.9
CLL pmax pmax
comp=Z,5.0nm,0.8s
HFS Hagfors 41.57 322 P **P** **12 05 02.5 +0.9**
comp=Z,9.0nm,0.8s,baz=93,slow=10,SNR=14
comp=Z,9.0nm,0.8s
PRED Cave del Predi 41.60 301 P **P** **12 05 02.3 +0.2**
KBA Koelnbreinsper 41.67 302 *e*P **P** **12 05 04.3 +1.5**
comp=Z,2.9nm,0.5s
LESA Schwarzleotal 42.08 303 *i* P **P** **12 05 07.0 +1.0**
comp=Z,3.1nm,0.4s
STAL STALIGIAL 42.21 301 P **P** **12 05 05.8 -1.3**
STAL IAmb IAmb 12 05 12.8
comp=Z,16nm,1.2s
ABTA Abfaltersbach 42.28 302 *e*pP pP 12 05 11.1 +0.2
comp=Z,1.8nm,0.5s
NC405 NORSAR Array S 42.67 323 P **P** **12 05 10.5 0.0**
NC405 IAmb IAmb 12 05 15.1
comp=Z,11nm,0.9s
NC602 NORSAR Array S 42.71 322 P **P** **12 05 11.5 +0.7**
NC602 IAmb IAmb 12 05 15.3
comp=Z,10nm,1.0s
NORES NORESS Array B 42.71 322 P **P** **12 05 11.0 +0.2**
WTTA Wattenberg 42.80 302 *e*P **P** **12 05 12.5 +0.6**
comp=Z,8.2nm,0.7s
ZEA Zeya 42.83 48 *e*P P 12 05 17.3 +5.4
ZEA MLR MLR
comp=Z,200nm,14.0s
NC303 NORSAR Array S 42.85 323 P **P** **12 05 12.4 +0.5**
NC303 IAmb IAmb 12 05 16.9
comp=Z,12nm,0.8s
NB201 NORSAR Array S 42.86 323 P **P** **12 05 12.5 +0.4**
NB2 NORSAR Subarra 42.90 323 P **P** **12 05 11.6 -0.9**
NB2 NORSAR Subarra 42.90 323 P **P** **12 05 12.4 -0.1**
comp=Z,5.6nm,0.7s,baz=98,slow=8.6
NOA NORSAR Array B 42.90 323 P **P** **12 05 12.7 +0.2**
comp=Z,6.0nm,0.8s,baz=97,slow=8.1,SNR=14
comp=Z,6.0nm,0.8s
CTI Castel Tesino 42.97 301 P **P** **12 05 14.0 +0.7**
CTI Castel Tesino 42.97 301 P **P** **12 05 14.0 +0.7**
CTI pmax pmax
comp=Z,7.0nm,0.9s
SQTA Sankt Quirin 43.09 302 *e*pP pP 12 05 17.0 -0.6
comp=Z,3.7nm,0.5s
NBO00 NORSAR Array S 43.11 323 P **P** **12 05 14.8 +0.6**
NBO00 IAmb IAmb 12 05 18.6
comp=Z,14nm,1.1s
HEH HeiHe 43.14 53 *e*P **P** **12 05 14.2 -0.3**
HEH pmax pmax
comp=Z,9.0nm,0.7s
HEH LR LR
comp=N,300nm,12.0s
HEH LR LR
comp=E,88nm,12.6s
HEH LR LR
comp=Z,300nm,11.4s
NC204 NORSAR Array S 43.15 323 P **P** **12 05 15.0 +0.5**
NC204 IAmb IAmb 12 05 19.7
comp=Z,12nm,0.9s
MOTA Moosalm 43.15 303 *i* P **P** **12 05 14.7 -0.1**
comp=Z,5.0nm,0.7s
RETA Reutte 43.36 303 *e*pP pP 12 05 20.7 +1.0
FETA Feichten 43.45 302 *e*P **P** **12 05 17.9 +0.6**
comp=Z,4.9nm,0.9s
PSI Prapat 43.87 134 P **P** **12 05 21.0 +0.2**
PSI pmax pmax
comp=Z,5.0nm,0.7s
RPSI Rantau Prapat 43.95 134 P **P** **12 05 21.0 -0.4**
DAVA Damuels 43.98 303 *i* P **P** **12 05 22.2 +0.7**
comp=Z,7.0nm,0.5s
YAK Yakutsk 44.38 36 P **P** **12 05 23.8 -0.5**
YAK Yakutsk 44.38 36 *e*P **P** **12 05 23.1 -1.2**
YAK *e**PP **sP** **12 05 34.3 +5.5**
YAK *e* 12 07 06.5
YAK *e*PPP PPP 12 07 41.3
YAK *e*S **S** **12 11 57.5 -1.0**
YAK *e**SS **sS** **12 12 07.8 +4.0**
YAK *e*SS **SS** **12 15 12.0 -4.9**
YAK *e*SSS SSS 12 15 57.5
YAK pmax pmax
comp=Z,29nm,0.9s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK pmax pmax
comp=Z,138nm,5.3s
YAK pmax pmax
comp=N,119nm,4.5s
YAK pmax pmax
comp=E,102nm,4.7s
YAK smax smax
comp=E,130nm,4.9s
YAK smax smax
comp=N,63nm,3.3s
MDJ Mudanjiang 45.49 61 P P 12 05 39.6 +6.2
MDJ pP sP 12 05 44.2 +6.2
MDJ sP pP 12 05 46.1 +9.4
MDJ PcP **PP** **12 07 19.8 +0.2**
MDJ PP **PP** **12 07 22.6 +3.0**
MDJ PcS **PcS** **12 11 09.9 +3.8**
MDJ ScP **ScP** **12 11 12.3 +7.3**
MDJ S **S** **12 12 16.1 +1.1**
MDJ sS sS 12 12 26.2 +5.8
MDJ SS **SS** **12 15 38.0 -0.2**
MDJ pmax pmax
comp=Z,11nm,1.9s
MDJ pmax pmax
comp=Z,280nm,4.6s
MDJ LR LR
comp=E,340nm,12.5s
MDJ LR LR
comp=Z,480nm,14.3s
PGF Pioggiola 45.55 296 *e*P **P** **12 05 38.2 +4.2**
PGF pmax pmax
comp=Z,30nm,1.2s
TIXI Tiksi 45.79 22 P **P** **12 05 35.2 -0.1**
TIXI IAmb IAmb 12 05 44.9
comp=Z,8.7nm,0.9s
TIXI Tiksi 45.79 22 ⇓ *e*P **P** **12 05 35.6 +0.3**
TIXI pmax pmax
comp=Z,7.0nm,0.7s
SENIN Lac Senin/Sane 45.89 302 P **P** **12 05 36.4 -0.3**
KSAR Wonju Array Be 46.16 71 P **P** **12 05 37.6 -1.2**
KSAR Wonju Array Be 46.16 71 P **P** **12 05 37.6 -1.2**
KSRS Korea Array 46.19 71 P **P** **12 05 38.5 -0.4**
comp=Z,1.8nm,0.8s,baz=280,slow=6.5,SNR=4.1
comp=Z,1.8nm,0.8s
SBF Sospel 46.34 298 *e*P **P** **12 05 44.8 +4.6**
SBF pmax pmax
comp=Z,22nm,1.0s
LPL La Plagne 46.45 301 *e*P **P** **12 05 42.3 +1.1**
LPL pmax pmax
comp=Z,3.0nm,0.5s
SPITS Spitsbergen Ar 46.50 347 P **P** **12 05 41.6 +0.7**
comp=Z,12nm,1.1s,baz=135,slow=9.5,SNR=6.4
comp=Z,12nm,1.1s
MBDF Montbardon 46.60 300 *e*P **P** **12 05 42.6 +0.3**
MBDF pmax pmax
comp=Z,28nm,1.5s
CABF La Chapelle 46.66 302 *e*P **P** **12 05 43.8 +1.1**
CABF pmax pmax
comp=Z,19nm,1.1s
ORIF Oris-en-Rattie 47.17 300 *e*P **P** **12 05 46.6 -0.1**
ORIF pmax pmax
comp=Z,18nm,1.3s
BAIF Baives 47.23 307 *e*P **P** **12 05 48.4 +1.4**
BAIF pmax pmax
comp=Z,19nm,1.2s
USA0B Ussuriysk Arra 47.26 61 P **P** **12 05 46.8 -0.5**
USA0B IAmb IAmb 12 06 15.8
comp=Z,7.4nm,0.7s
USA0B Ussuriysk Arra 47.26 61 P **P** **12 05 46.8 -0.5**
USA0B pmax pmax
comp=Z,7.0nm,0.7s
USRK Ussuriysk Ar. 47.26 61 P **P** **12 05 46.2 -1.0**
comp=Z,2.1nm,0.6s,baz=250,slow=14,SNR=4.5
comp=Z,2.1nm,0.6s
KEST Kesra 47.31 287 P **P** **12 05 49.0 +1.1**
comp=Z,6.2nm,0.5s,baz=359,slow=2.8,SNR=7.0
comp=Z,6.2nm,0.5s
SMF Signal de Mont 48.16 303 *e*P **P** **12 05 54.8 +0.5**
SMF pmax pmax
comp=Z,9.0nm,0.8s
AVF Avril sur Loir 48.45 303 *e*P **P** **12 05 57.0 +0.5**
AVF pmax pmax
comp=Z,10.0nm,0.8s
CAF Calviac 49.79 301 *e*P **P** **12 06 08.2 +1.4**
CAF pmax pmax
comp=Z,17nm,1.1s
FLN La Foliniere 50.50 307 *e*P **P** **12 06 16.1 +4.0**
FLN pmax pmax
comp=Z,25nm,1.2s
EKA Eskdalemuir Ar 50.71 315 P **P** **12 06 13.8 +0.2**
comp=Z,4.2nm,0.6s,baz=92,slow=7.3,SNR=14
comp=Z,4.2nm,0.6s
EKB Eskdalemuir 50.73 315 P **P** **12 06 13.5 -0.2**
ESK Eskdalemuir 50.73 315 P **P** **12 06 13.6 -0.1**
ESK Eskdalemuir 50.73 315 P **P** **12 06 13.6 -0.1**
ESK pmax pmax
comp=Z,40nm,1.3s
CEST Esterri de Car 51.03 298 P **P** **12 06 17.1 +0.7**
CEST IAmb IAmb 12 06 25.4
comp=Z,24nm,1.3s
EPF Esparros 51.54 299 *e*P **P** **12 06 20.3 +0.3**
EPF pmax pmax
comp=Z,24nm,1.6s
MBAR Mbarara 51.60 232 LR LR 12 31 02.7
comp=Z,173nm,18.1s,baz=100,slow=39
SGMF Saint Gilles 51.96 306 *e*P **P** **12 06 27.4 +4.3**
SGMF pmax pmax
comp=Z,22nm,1.2s
ETSF Etsaut 52.20 299 *e*P **P** **12 06 25.7 +0.6**
ETSF pmax pmax
comp=Z,4.0nm,0.4s
ROSF Rostrenen 52.40 307 *e*P P 12 06 31.3 +5.0
ROSF pmax pmax
comp=Z,42nm,1.5s
JGF Kuroka 53.94 70 P **P** **12 06 37.0 -1.0**
JGF IAmb IAmb 12 06 53.1
comp=Z,8.6nm,1.0s
MJAR Matsushiro Arr 54.21 68 P **P** **12 06 39.1 -0.8**
comp=Z,1.7nm,0.7s,baz=294,slow=11,SNR=4.2
comp=Z,1.7nm,0.7s
ASAJ Asahikawa 54.58 58 LR LR 12 31 59.2
comp=Z,275nm,19.4s,baz=240,slow=38
JMM Marumori 55.59 66 P **P** **12 06 49.2 -0.6**
ESDC Sonseca Array 55.74 297 P **P** **12 06 51.5 +0.6**
comp=Z,2.0nm,0.7s,baz=55,slow=7.6,SNR=15
comp=Z,2.0nm,0.7s
PAB San Pablo 56.06 297 P **P** **12 06 53.3 +0.1**
PAB San Pablo 56.06 297 P **P** **12 06 53.3 +0.1**
PAB pmax pmax
comp=Z,18nm,1.5s
SUMG Summit 59.93 341 P **P** **12 07 21.0 +0.7**
SUMG Summit 59.93 341 P **P** **12 07 21.0 +0.7**
SUMG pmax pmax
comp=Z,10.0nm,1.0s
SUMG Summit 59.93 341 *i* P P 12 07 27.0 +6.8
TOA0 Torodi Ar. Sit 64.14 267 P **P** **12 07 48.2 -0.6**
TORD Torodi Ar. Bea 64.14 267 P **P** **12 07 48.5 -0.4**
TORD IAmb IAmb 12 07 53.0
comp=Z,4.5nm,0.8s
TORD Torodi Ar. Bea 64.14 267 P **P** **12 07 48.3 -0.5**
comp=Z,6.6nm,0.5s,baz=50,slow=6.5,SNR=126
comp=Z,6.6nm,0.5s
DY2G Dye2 65.56 336 *i* P P 12 08 05.3 +7.6
C16K Lisburne Hills 67.38 19 P **P** **12 08 09.3 +0.4**
C16K IAmb IAmb 12 08 45.2
comp=Z,5.0nm,0.9s
C18K Utukok River 68.16 18 P **P** **12 08 14.6 +0.7**
C18K IAmb IAmb 12 08 21.8
comp=Z,5.9nm,0.9s
C19K Lookout Ridge 68.19 17 P **P** **12 08 15.4 +1.3**
B22K Teshekpuk Lake 68.53 14 P **P** **12 08 17.0 +0.9**
B22K IAmb IAmb 12 08 21.9
comp=Z,9.1nm,1.1s
B21K Ikpikpuk River 68.87 15 P **P** **12 08 19.7 +1.4**
B21K IAmb IAmb 12 08 24.6
comp=Z,5.2nm,0.8s
D19K Kuna River 69.00 17 P **P** **12 08 20.1 +0.8**
D19K IAmb IAmb 12 08 27.1
comp=Z,6.1nm,0.7s
E18K Tukpahlearik C 69.23 18 P **P** **12 08 21.4 +0.8**
E18K IAmb IAmb 12 08 26.6
comp=Z,9.9nm,1.1s
C23K Itkillik River 69.49 14 IAmb IAmb 12 08 28.3
comp=Z,9.3nm,1.1s
F17K Baldwin Pennin 69.81 19 P **P** **12 08 25.3 +1.2**
F17K IAmb IAmb 12 08 29.2
comp=Z,12nm,1.2s
D22K Ayikyak River 69.88 15 P **P** **12 08 25.4 +0.8**
D22K IAmb IAmb 12 08 35.6
comp=Z,4.9nm,0.9s
E19K Redstone River 70.03 17 P **P** **12 08 26.4 +0.9**
E19K IAmb IAmb 12 08 33.2
comp=Z,5.8nm,1.3s
E22K Anaktuvuk Pass 70.68 15 IAmb IAmb 12 08 37.5
comp=Z,5.6nm,1.0s
A36M Sachs Harbour 70.71 5 P **P** **12 08 30.4 +0.9**
F21K Alatna River 71.08 16 P **P** **12 08 32.5 +0.6**
F21K IAmb IAmb 12 08 38.9
comp=Z,7.2nm,1.2s
G19K Purcell Mounta 71.11 18 P **P** **12 08 33.0 +0.9**
G19K IAmb IAmb 12 08 36.7
comp=Z,8.4nm,1.2s
G23K Bananza Creek 72.25 15 P **P** **12 08 39.8 +0.7**
H21K Melozitna Rive 72.53 17 P **P** **12 08 41.8 +1.1**
BMAR Burnt Mountain 72.69 13 P **P** **12 08 42.4 +0.7**
E29M Blow River 72.88 10 IAmb IAmb 12 08 48.8
comp=Z,7.3nm,1.2s
DBIC Dimbokro 73.14 266 P **P** **12 08 44.6 -0.5**
comp=Z,5.4nm,0.6s,baz=36,slow=6.2,SNR=11
DBIC LR LR 12 46 43.3
comp=Z,54nm,18.0s,baz=339,slow=40
comp=Z,5.4nm,0.6s
C36M Paulatuk 73.39 5 P **P** **12 08 45.0 -0.6**
C36M IAmb IAmb 12 08 50.7
comp=Z,6.7nm,0.9s
H24K Noodor Dome 73.45 15 P **P** **12 08 47.7 +1.5**
INK Inuvik 73.52 9 P **P** **12 08 47.0 +0.5**
INK IAmb IAmb 12 08 52.3
comp=Z,12nm,1.4s
INK Inuvik 73.52 9 P **P** **12 08 47.0 +0.5**
INK pmax pmax
comp=Z,12nm,1.4s
MLY Manley 73.53 16 P **P** **12 08 46.3 -0.4**
TSUM Tsumeb 74.07 230 P **P** **12 08 50.6 +0.1**
TSUM IAmb IAmb 12 09 29.6
comp=Z,9.8nm,1.4s
LBTB Lobatse 74.10 220 P **P** **12 08 50.5 0.0**
LBTB IAmb IAmb 12 08 53.6
comp=Z,9.3nm,0.9s
LBTB Lobatse 74.10 220 P **P** **12 08 50.5 0.0**
LBTB pmax pmax
comp=Z,9.0nm,1.0s
K20K Telida 74.13 19 P **P** **12 08 51.0 +0.8**
NEA2 Nenana 74.28 16 P **P** **12 08 50.9 -0.1**
NEA2 IAmb IAmb 12 08 56.2
comp=Z,5.7nm,1.0s
F31M Tsiigehtchic 74.32 9 P **P** **12 08 51.7 +0.6**
F31M IAmb IAmb 12 08 58.3
comp=Z,8.4nm,1.1s
G30M tAoh Zraii Nji 74.43 10 IAmb IAmb 12 09 02.9
comp=Z,5.7nm,1.1s
ILAR Eielson Array 74.59 15 P **P** **12 08 52.1 -0.7**
comp=Z,1.0nm,1.0s,baz=328,slow=4.9,SNR=12
comp=Z,1.0nm,1.0s
H29M Whitestone 74.82 11 IAmb IAmb 12 09 17.3
comp=Z,4.6nm,0.7s
I26K Coal Creek Min 74.85 13 P **P** **12 08 55.2 +1.0**
J25K Salcha River, 75.04 15 P **P** **12 08 55.7 +0.2**
J25K IAmb IAmb 12 09 00.4
comp=Z,7.5nm,1.4s
I28M Miner Creek 75.28 12 P **P** **12 08 57.0 +0.1**
I28M IAmb IAmb 12 09 03.3
comp=Z,4.4nm,0.7s
H31M Peel River 75.80 10 IAmb IAmb 12 09 08.0
comp=Z,16nm,1.5s
SCRK Sand Creek 75.88 14 P **P** **12 08 58.9 -1.5**
SKT Skwentna 75.93 18 P **P** **12 09 00.0 -0.6**
SKT IAmb IAmb 12 09 09.8
comp=Z,7.6nm,1.0s
I30M Mount Dempster 76.06 11 P **P** **12 09 01.0 -0.3**
I30M IAmb IAmb 12 09 07.2
comp=Z,3.9nm,0.8s
K27K Chicken 76.20 14 P **P** **12 09 02.1 +0.1**
DAWY Dawson 76.65 12 P **P** **12 09 05.0 +0.3**
J30M Hart River 76.67 11 P **P** **12 09 04.9 0.0**
J30M IAmb IAmb 12 09 12.6
comp=Z,9.2nm,1.4s
SCM Sheep Creek Mo 77.07 17 P **P** **12 09 04.9 -2.2**
SCM IAmb IAmb 12 09 09.5
comp=Z,9.6nm,1.0s
SCM Sheep Creek Mo 77.07 17 P **P** **12 09 04.9 -2.2**
SCM pmax pmax
comp=Z,10.0nm,1.0s
M24K Tolsona, Glenn 77.09 16 P **P** **12 09 07.7 +0.5**
L27K Beaver Creek, 77.13 14 P **P** **12 09 06.6 -0.8**
BCAR Beaver Creek A 77.14 14 P **P** **12 09 09.2 +1.7**
K29M Barlow Dome 77.17 12 P **P** **12 09 09.1 +1.4**
K29M IAmb IAmb 12 09 16.0
comp=Z,4.0nm,0.7s
KNK Knik Glacier 77.17 17 P **P** **12 09 08.7 +1.1**
BOSA Boshof 77.22 219 P **P** **12 09 07.9 -0.4**
BOSA IAmb IAmb 12 09 10.7
comp=Z,5.9nm,0.8s
BOSA Boshof 77.22 219 P **P** **12 09 07.9 -0.4**
BOSA pmax pmax
comp=Z,6.0nm,0.9s
BOSA Boshof 77.22 219 P **P** **12 09 07.3 -1.1**
comp=Z,4.8nm,0.8s,baz=36,slow=7.5,SNR=8.5
comp=Z,4.8nm,0.8s
KLU Klutina 77.69 16 P **P** **12 09 10.8 +0.2**
KLU IAmb IAmb 12 09 16.3
comp=Z,11nm,1.3s
L29M L29M 77.76 12 P **P** **12 09 10.5 -0.4**
L29M IAmb IAmb 12 09 17.4
comp=Z,6.3nm,1.1s
M31M Drury Creek, Y 79.21 11 P **P** **12 09 19.6 +0.7**
FARO Faro, Yukon 79.34 10 P **P** **12 09 19.6 0.0**
WRGLY Wrigley 79.47 6 P **P** **12 09 19.5 -0.8**
WRGLY IAmb IAmb 12 09 26.9
comp=Z,4.8nm,0.7s
N30M Aishikik Lake 79.47 12 P **P** **12 09 19.7 -0.7**
YKA Yellowknife Ar 80.67 2 P **P** **12 09 26.8 +0.1**
YKA Yellowknife Ar 80.67 2 P **P** **12 09 26.8 +0.1**
YKA Yellowknife Ar 80.67 2 P **P** **12 09 27.2 +0.5**
comp=Z,2.3nm,0.7s,baz=349,slow=5.7,SNR=41
comp=Z,2.3nm,0.7s
WTLY Watson Lake, Y 81.99 9 P **P** **12 09 33.0 -0.8**
WB0 Warramunga Arr 83.61 121 P **P** **12 09 41.3 -1.5**
S34M Telegraph Cree 83.80 11 P **P** **12 09 45.0 +1.7**
S34M IAmb IAmb 12 10 25.5
comp=Z,4.5nm,0.9s
T35M Bob Quinn 84.83 10 P **P** **12 09 49.4 +0.8**
T35M IAmb IAmb 12 09 49.8
comp=Z,7.8nm,1.4s
EDM Edmonton 89.98 1 P **P** **12 10 13.4 -0.1**
EDM Edmonton 89.98 1 P **P** **12 10 13.4 -0.1**
EDM pmax pmax
comp=Z,6.0nm,0.8s

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*IDC **06** 12:01:22.5±0.6, 6˚.28S×142˚.95E, h0km, mb4.7/15, mbtmp4.7/18, ML2.7/2, MS4.0/18, Error ellipse: s-maj=23.5km s-min=13.0km az=67.0*
*NEIC **06** 12:01:24.5±1.8, 6˚.44S±0˚.07×142˚.70E±0˚.07, h10km±1km, mb5.1/202, Error ellipse: s-maj=11.7km s-min=11.2km az=217.0*
*MOS **06** 12:01:24.1±1.0, 6˚.39S×142˚.73E, h22km, mb5.0/36, Error ellipse: s-maj=10.4km s-min=6.0km az=105.1*
*DJA **06** 12:01:30.1±0.6, 6˚S±3˚×14˚3E±˚, h37km±6km, M5.0/27, mB5.2/9, mb4.7/27, MLv5.9/4, Mw(mB)4.6/9*

ISC 06 12:01:24.0±0.3, 6˚49S±0˚.04×142˚.74E±0˚.05, h10km, n565, σ1s20/525, mb5.1/156, MS4.1/16, 14C-15D, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMPI	**Merauke**	**3.05**	**230**	P	**Pb**	**12 02 16.3**	**-2.1**
GENI	**Genyem**	**4.64**	**326**	P	**Pn**	**12 02 34.5**	**+0.2**
PMG	**Port Moresby**	**5.25**	**124**		**Pn**	**12 02 44.5**	**+1.9**
PMG				Sn	**Sn**	**12 03 43.7**	**+0.4**
PMG	**Port Moresby**	**5.25**	**124**	*d* iP	**Pn**	**12 02 44.3**	**+1.7**
PMG				pmax	pmax		
	comp=Z,69nm,0.6s						
PMG	**Port Moresby**	**5.25**	**124**	Pn	**Pn**	**12 02 42.1**	**-0.6**
	comp=Z,3.4nm,0.3s,baz=310,slow=7.8,SNR=21						
PMG				Sn	**Sn**	**12 03 41.5**	**-1.8**
	comp=Z,15nm,0.3s,baz=233,slow=23,SNR=15						
PMG				Lg	Lg	12 04 07.1	
	comp=Z,8.4nm,0.3s,baz=242,slow=15,SNR=4.1						
PMG				LR	LR	12 05 00.3	
	comp=Z,539nm,19.2s,baz=269,slow=42						
	comp=Z,53nm,0.8s						
MANU	**Manus Island**	**6.39**	**46**	Pn	**Pn**	**12 02 59.4**	**+1.1**
COEN	**Coen**	**7.43**	**177**		**Pn**	**12 03 13.3**	**+0.7**
RABL	**Rabaul**	**9.66**	**77**	Pn	**Pn**	**12 03 43.2**	**0.0**
FAKI	**Fak Fak**	**11.04**	**288**	Pn	**Pn**	**12 04 01.6**	**-0.5**
FAKI	**Fak Fak**	**11.04**	**288**	P	**Pn**	**12 04 03.8**	**+1.7**
	comp=Z,44nm,0.9s						
SAUI	**Saumlaki**	**11.44**	**262**		**Pn**	**12 04 07.1**	**-0.5**
SAUI	**Saumlaki**	**11.44**	**262**	P	**Pn**	**12 04 10.8**	**+3.2**
	comp=Z,409nm,1.0s,comp=Z,13µm						
SWI	**Sorong**	**12.74**	**296**	P	**Pn**	**12 04 24.4**	**-1.0**
SWI				pmax	pmax		
	comp=Z,47nm,1.1s						
MTN	**Manton Dam**	**13.06**	**240**	Pn	**Pn**	**12 04 29.1**	**-0.6**
CTA	**Charters Tower**	**13.94**	**166**	Pn	**Pn**	**12 04 44.0**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=324,slow=12,SNR=1.5						
CTA				Lg	Lg	12 08 46.2	
	comp=Z,0.2nm,0.3s,baz=218,slow=14,SNR=3.8						
CTA				LR	LR	12 10 13.5	
	comp=Z,640nm,18.8s,baz=351,slow=38						
	comp=Z,3.2nm,0.9s						
CTAO	**Charters Tower**	**13.94**	**166**	Pn	**Pn**	**12 04 42.4**	**+0.6**
CTAO	**Charters Tower**	**13.94**	**166**	P	**Pn**	**12 04 42.4**	**+0.6**
WB0	**Warramunga Arr**	**15.49**	**211**	Pn	**Pn**	**12 05 03.1**	**+0.4**
WR0	**Warramunga Arr**	**15.57**	**210**		**Pn**	**12 05 02.8**	**-1.1**
WRAB	**Tennant Creek**	**15.65**	**211**		**Pn**	**12 05 05.2**	**+0.4**

WRAB Tennant Creek 15.65 211 P **Pn** **12 05 05.2 +0.4**
WRAB pmax pmax
comp=Z,82nm,1.2s
WB2 Warramunga Arr 15.65 211 **Pn** **12 05 04.4 -0.5**
WRA Warramunga Arr 15.66 211 **Pn** **12 05 04.7 -0.3**
WRA Warramunga Arr 15.66 211 P **Pn** **12 05 04.7 -0.3**
WRA pmax pmax
comp=Z,7.0nm,1.0s
WRA Warramunga Arr 15.66 211 Pn **Pn** **12 05 04.2 -0.8**
comp=Z,1.3nm,0.3s,baz=32,slow=13,SNR=61
WRA Sn **Sn** **12 07 55.2 -3.5**
comp=Z,1.1nm,0.3s,baz=33,slow=24,SNR=2.2
WRA Lg Lg 12 09 43.1
comp=Z,1.0nm,0.3s,baz=34,slow=28,SNR=5.3
WRA LR LR 12 11 54.2
comp=Z,2µm,19.8s,baz=32,slow=40
KNRA Kununurra 16.46 235 Pn **Pn** **12 05 14.4 -0.8**
SANI Sanana 17.27 284 P **P** **12 05 27.7 +0.7**
comp=Z,32nm,1.1s
SOEI Soe 18.57 259 **Pn** **12 05 42.8 +1.2**
SOEI IAmb IAmb 12 05 51.5
comp=Z,143nm,1.1s
SOEI Soe 18.57 259 P **Pn** **12 05 44.3 +2.7**
comp=Z,163nm,1.2s,comp=Z,2µm
AS31 Alice Springs 19.07 206 P **Pn** **12 05 49.8 +2.2**
ASAR Alice Springs 19.07 206 P **Pn** **12 05 48.7 +1.1**
ASAR Alice Springs 19.07 206 P **Pn** **12 05 48.7 +1.1**
ASAR Alice Springs 19.07 206 P **Pn** **12 05 48.1 +0.5**
comp=Z,57nm,0.9s,baz=30,slow=9.6,SNR=140
ASAR S **Sn** **12 09 19.2 -2.2**
comp=Z,8.1nm,0.8s,baz=15,slow=30,SNR=5.0
ASAR Lg Lg 12 11 33.6
comp=Z,0.2nm,0.3s,baz=21,slow=26,SNR=4.2
ASAR LR LR 12 13 52.6
comp=Z,2µm,19.2s,baz=30,slow=39
FITZ Fitzroy Crossi 20.27 234 P **P** **12 06 01.3 +1.4**
EIDS Eidsvold 20.40 158 P **P** **12 06 02.8 +1.6**
PATS Pohnpei 20.42 50 P **P** **12 06 02.6 +1.1**
LUWI Luwuk 20.64 284 P **P** **12 06 03.7 -0.2**
LUWI Luwuk 20.64 284 P Pn 12 06 05.4 -0.8
comp=Z,84nm,1.2s,comp=Z,2µm
EDFI Ende, Flores 20.98 263 P **P** **12 06 08.8 +1.0**
comp=Z,34nm,1.4s
DAV Davao City (W) 21.78 308 LR LR 12 15 02.3
comp=Z,120nm,19.2s,baz=314,slow=38
BKSI Bulukumba 22.52 272 P **P** **12 06 27.2 +3.0**
comp=Z,40nm,0.9s,comp=Z,473nm
KAPI Kappang 22.91 272⇓*eP* **P** **12 06 28.7 +0.3**
KAPI pmax pmax
comp=Z,20nm,1.0s
TTSI Tana Toraja 23.09 277 P **P** **12 06 32.5 +2.3**
comp=Z,28nm,1.6s,comp=Z,781nm
TOLI2 Tolitoli 23.18 288 P **P** **12 06 31.3 +0.2**
MPSI Mapaga 23.78 286 P **P** **12 06 38.7 +1.6**
comp=Z,20nm,1.1s
ARMA Armidale 25.23 162 P **P** **12 06 49.3 -1.0**
ARMA IAmb IAmb 12 07 09.9
comp=Z,46nm,1.4s
STKA Stephens Creek 25.28 182 P **P** **12 06 49.2 -1.4**
STKA Stephens Creek 25.28 182*c iP* **P** **12 06 52.6 +2.0**
STKA Stephens Creek 25.28 182 P **P** **12 06 52.5 +1.8**
comp=Z,15nm,0.8s,baz=345,slow=9.3,SNR=14
STKA Lg Lg 12 14 57.7
comp=Z,0.1nm,0.3s,baz=282,slow=8.5,SNR=3.2
STKA LR LR 12 17 15.0
comp=Z,369nm,19.6s,baz=11,slow=37
comp=Z,15nm,0.8s
MBWA Marble Bar 26.61 235 P **P** **12 07 00.9 -2.0**
PSA00 Pilbara Seismi 26.73 234 P **P** **12 07 02.9 -1.1**
PSA00 Pilbara Seismi 26.73 234 P **P** **12 07 03.8 -0.1**
PSA00 IAmb IAmb 12 07 10.1
comp=Z,8.0nm,1.1s
BBOO Buckleboo 26.91 192 P **P** **12 07 05.1 -0.4**
DZM Mont Dzumac 27.64 126*e*LR LR 12 14 23.8
comp=Z,368nm,26.1s
DZM Mont Dzumac 27.64 126 LR LR 12 18 31.0
comp=Z,191nm,19.1s,baz=16,slow=37
MTKI Muara Teweh, K 28.31 280 P **P** **12 07 15.4 -2.8**
LEM Lembang 34.88 267 LR LR 12 24 08.1
comp=Z,64nm,21.1s,baz=93,slow=39
NACB Ninganchiao 36.80 327 P **P** **12 08 30.6 -1.7**
MNAI Manna 39.65 271 P **P** **12 08 55.4 -1.2**
MYKOM Kota Tinggi 39.68 281 P **P** **12 08 56.8 0.0**
JMN Monobe 40.87 349 P **P** **12 09 05.7 -0.7**
MJAR Matsushiro Arr 43.02 355 P **P** **12 09 21.1 -2.7**
comp=Z,5.7nm,1.0s,baz=182,slow=9.6,SNR=7.0
comp=Z,5.7nm,1.0s
MAJO Matsushiro 43.02 355⇑*eP* **P** **12 09 21.3 -2.5**
MAJO pmax pmax
comp=Z,12nm,1.5s
KULM Kulim 43.61 285 P **P** **12 09 27.6 -1.4**
JMM Marumori 44.17 358 P **P** **12 09 31.9 -1.1**
JMM IAmb IAmb 12 10 01.4
comp=Z,48nm,1.2s
URZ Urewera 44.37 141 LR LR 12 28 10.5
comp=Z,218nm,18.1s,baz=304,slow=36
RTZ Ruatahuna 44.50 141 P **P** **12 09 37.3 +1.5**
TCW Tory Channel 44.55 146 P **P** **12 09 38.4 +2.3**
NJ2 Nanjing 44.58 331*eP* **P** **12 09 37.2 +0.7**
NJ2 pmax pmax
comp=Z,13nm,0.7s
NJ2 pmax pmax
comp=Z,170nm,3.6s
RPZ Rata Peaks 44.63 151 LR LR 12 27 56.1
comp=Z,165nm,19.0s,baz=286,slow=36
RPSI Rantau Prapat 44.68 280 P **P** **12 09 37.2 -0.4**
PSI Prapat 44.70 281 P **P** **12 09 37.2 -0.7**
PSI pmax pmax
comp=Z,16nm,1.1s
WHN Wuhan 45.78 325 P P 12 09 51.5 +5.5
KSAR Wonju Array Be 45.85 343 P **P** **12 09 45.7 -0.8**
KSAR Wonju Array Be 45.85 343 P **P** **12 09 45.7 -0.8**
KSRS Korea Array 45.85 344 P **P** **12 09 45.7 -0.7**
comp=Z,13nm,1.1s,baz=161,slow=8.7,SNR=17
comp=Z,13nm,1.1s
KS19 Wonju Array Si 45.91 343 P **P** **12 09 46.6 -0.4**
JTM Tenmabayashi 47.07 358 P **P** **12 09 54.7 -1.3**
GYA Guiyang 47.92 315*eP* **P** **12 10 05.2 +2.2**
GYA pmax pmax
comp=Z,12nm,0.8s
GYA pmax pmax
comp=Z,140nm,6.5s
ERM Erimo 48.27 0 P **P** **12 10 04.2 -1.1**
ERM Erimo 48.27 0 P **P** **12 10 04.2 -1.1**
ERM pmax pmax
comp=Z,284nm,1.7s
ENH Enshi 48.50 321 P **P** **12 10 07.1 -0.2**
ENH IAmb IAmb 12 10 39.4
comp=Z,37nm,1.7s
PHRA Phrae 48.72 301 P **P** **12 10 08.1 -1.0**
CRAI Chiangrai 49.39 304 P **P** **12 10 14.3 0.0**
CM31 Chiang Mai Arr 49.80 301 **P** **12 10 17.6 +0.2**
CMAR Chiang Mai Arr 49.80 301 P **P** **12 10 18.0 +0.5**
CMAR Chiang Mai Arr 49.80 301 *i* P **P** **12 10 18.2 +0.8**
CMAR pmax pmax
comp=Z,5.0nm,1.0s
CMAR Chiang Mai Arr 49.80 301 P **P** **12 10 18.2 +0.8**
comp=Z,3.1nm,0.8s,baz=126,slow=5.9,SNR=21
comp=Z,3.1nm,0.8s
LYN LuoYang 49.84 327 ⇓P **P** **12 10 17.6 +0.2**
LYN sP sP 12 10 24.2 +2.1
LYN S **S** **12 17 27.2 -0.1**
LYN LuoYang 49.84 327 SS SS 12 20 49.3 -11
LYN pmax pmax
comp=Z,25nm,0.8s
LYN pmax pmax
comp=Z,210nm,4.7s
LYN LR LR
comp=N,290nm,8.2s
LYN LR LR
comp=E,250nm,10.0s
LYN LR LR
comp=Z,290nm,10.0s
CHTO Chiang Mai 49.95 301 P **P** **12 10 18.8 +0.2**
CHTO Chiang Mai 49.95 301 P **P** **12 10 18.8 +0.2**
CHTO pmax pmax
comp=Z,8.0nm,1.3s
KMI Kunming 50.01 310 ⇓P **P** **12 10 21.2 +2.0**
KMI pmax pmax
comp=Z,18nm,1.3s
USA0B Ussuriysk Arra 51.38 350 P **P** **12 10 27.2 -1.7**
USA0B IAmb IAmb 12 10 33.4
comp=Z,25nm,1.2s
USA0B Ussuriysk Arra 51.38 350⇓*eP* **P** **12 10 26.6 -2.3**
USRK Ussuriysk Ar. 51.38 350 P **P** **12 10 27.8 -1.1**
USRK Ussuriysk Ar. 51.38 350 P **P** **12 10 27.0 -1.9**
comp=Z,7.4nm,0.8s,baz=152,slow=7.5,SNR=12
comp=Z,7.4nm,0.8s
XAN Xi'an 51.47 324⇑P **P** **12 10 29.5 -0.3**
XAN S **S** **12 17 50.9 +0.8**
XAN pmax pmax
comp=Z,15nm,1.1s
PZH PanZhiHua 51.52 311 P **P** **12 10 31.0 +0.5**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.7s
MDJ Mudanjiang 52.23 348 P **P** **12 10 34.0 -1.3**
BJT Baijiatuau 52.37 334 P **P** **12 10 35.7 -0.6**
BJT Baijiatuau 52.37 334 P **P** **12 10 35.7 -0.6**
BJT pmax pmax
comp=Z,25nm,1.5s
CN2 Changchun 52.45 344 P **P** **12 10 36.5 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
YSS Yuzh-Sakhalins 53.21 0*eP* **P** **12 10 41.2 -1.2**
YSS pmax pmax
comp=Z,20nm,1.0s
TNCH TengChong 53.22 308*eP* **P** **12 10 44.3 +1.2**
TNCH pP sP 12 10 48.1 +0.3
TNCH pmax pmax
comp=Z,19nm,0.3s
BNX BinXian 53.77 347⇑P **P** **12 10 45.3 -1.3**
BNX pmax pmax
comp=Z,22nm,1.1s
BNX pmax pmax
comp=Z,200nm,4.2s
HHC Hu-ho-hao-te 55.12 331*eP* **P** **12 10 59.1 +2.4**
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,78nm,4.1s
HHC LR LR
comp=N,130nm,14.6s
HHC LR LR
comp=E,120nm,14.9s
HHC LR LR
comp=Z,130nm,19.8s
BTO Baotou 55.69 330*eP* **P** **12 11 05.2 +4.4**
BTO pP **sP** **12 11 09.4 +4.0**
BTO sP pP 12 11 12.3 +8.2
BTO PP **PP** **12 13 10.5 +5.3**
BTO S **S** **12 18 55.1 +7.8**
BTO Baotou 55.69 330 SS SKiKP 12 22 33.2 +29
BTO pmax pmax
comp=Z,17nm,0.8s
BTO pmax pmax
comp=Z,260nm,4.5s
BTO LR LR
comp=N,240nm,5.8s
BTO LR LR
comp=E,250nm,7.6s
BTO LR LR
comp=Z,180nm,6.5s
LZH Lanzhou 55.90 322*eP* **P** **12 11 03.8 +1.3**
LZH pP sP 12 11 08.0 +0.9
LZH pmax pmax
comp=Z,14nm,1.3s
KLR Kul'dur 56.31 351*ceP* **P** **12 11 04.0 -0.9**
KLR pmax pmax
comp=Z,6.0nm,1.1s
TYV Tymovskoe 57.12 360*eP* **P** **12 11 09.7 -0.9**
TYV pmax pmax
comp=Z,100nm,4.1s
TYV pmax pmax
comp=Z,7.0nm,1.1s
HEH HeiHe 58.06 348*eP* **P** **12 11 16.2 -1.0**
HEH pmax pmax
comp=Z,6.0nm,1.0s
HIA Hailar 59.05 343⇓*eP* **P** **12 11 23.8 -0.4**
HIA pmax pmax
comp=Z,5.0nm,1.2s
GTA Gaotai 60.48 323*eP* **P** **12 11 35.0 +0.6**
GTA pP sP 12 11 39.0 -0.1
GTA pmax pmax
comp=Z,6.0nm,1.2s
PETK Petropavlovsk- 60.72 10 P **P** **12 11 35.5 -0.1**
PETK Petropavlovsk- 60.72 10 P **P** **12 11 35.5 -0.1**
PETK Petropavlovsk- 60.72 10 P **P** **12 11 34.4 -1.2**
comp=Z,8.2nm,0.8s,baz=188,slow=10.0,SNR=7.8
comp=Z,8.2nm,0.8s
ZEA Zeya 61.41 350*eP* **P** **12 11 39.5 -0.8**
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=Z,20nm,1.1s
GOMU GeErMu 61.80 317 P **P** **12 11 44.4 +0.7**
GOMU pP sP 12 11 48.8 +0.4
GOMU sP pP 12 11 50.5 +3.4
GOMU pmax pmax
comp=Z,4.0nm,0.8s
ULN Ulaanbaatar 62.59 334 P **P** **12 11 48.8 +0.3**
ULN Ulaanbaatar 62.59 334 P **P** **12 11 48.8 +0.3**
ULN pmax pmax
comp=Z,7.0nm,0.9s
SONM Songino Array 62.85 333 P **P** **12 11 50.3 0.0**
SONM IAmb IAmb 12 11 51.7
comp=Z,16nm,1.6s
SONM Songino Array 62.85 333 P **P** **12 11 50.4 0.0**
comp=Z,2.4nm,0.8s,baz=157,slow=6.9,SNR=15
comp=Z,2.4nm,0.8s
CASY Casey 63.71 194 P **P** **12 11 57.8 +2.3**
CASY IAmb IAmb 12 11 59.7
comp=Z,18nm,1.1s
SHEM Shemya Is, Ala 64.73 20 LR LR 12 37 08.4
comp=Z,117nm,18.9s,baz=294,slow=33
ZAK Zakamensk 66.11 334*eP* **P** **12 12 11.2 -0.3**
ZAK pmax pmax
comp=Z,13nm,1.3s
MA2 Magadan 66.17 4*deP* **P** **12 12 10.9 -0.6**
MA2 pmax pmax
comp=Z,8.0nm,1.0s
PPT2 Papeete2 66.82 106*e*LR LR 12 32 17.8
comp=Z,77nm,26.2s
TBI Tubuai 67.09 113*e*LR LR 12 32 46.2
comp=Z,676nm,33.8s
MOY Mondy 68.05 333*eP* **P** **12 12 24.2 +0.4**
MOY pmax pmax
comp=Z,43nm,2.2s
SEY Seymchan 69.62 5⇑*eP* **P** **12 12 32.4 -0.8**
SEY pmax pmax
comp=Z,14nm,1.8s
WMQ Urumqi 70.45 321*eP* **P** **12 12 40.0 +1.2**
WMQ pmax pmax
comp=Z,16nm,0.7s
VNDA Vanda 71.71 176 LR LR 12 43 37.5
comp=Z,108nm,18.6s,baz=326,slow=35
DGZ Jazzator, Alta 73.63 326*d iP* **P** **12 12 58.3 +0.4**
DGZ pmax pmax
comp=Z,8.0nm,1.3s
MK31 Makanchi Array 75.22 322 P **P** **12 13 07.4 +0.4**
MK31 Makanchi Array 75.22 322*c iP* **P** **12 13 07.1 +0.1**
MKAR Makanchi Array 75.22 322 P **P** **12 13 07.0 0.0**
MKAR Makanchi Array 75.22 322 P **P** **12 13 07.3 +0.3**
comp=Z,5.8nm,1.0s,baz=108,slow=7.8,SNR=23
comp=Z,5.8nm,1.0s
MAKZ Makanchi 75.42 322 P **P** **12 13 08.8 +0.6**
MAKZ IAmb IAmb 12 13 09.5
comp=Z,24nm,1.4s
MAKZ Makanchi 75.42 322 P **P** **12 13 08.8 +0.6**
MAKZ pmax pmax
comp=Z,24nm,1.5s
BILL Bilibino 76.20 9 P **P** **12 13 12.0 -0.1**
BILL Bilibino 76.20 9⇓*eP* **P** **12 13 11.8 -0.3**
BILL pmax pmax
comp=Z,7.0nm,1.3s
KSH Kashi 76.58 313 P **P** **12 13 16.9 +1.8**
KSH pP sP 12 13 22.4 +2.6
KSH pmax pmax
comp=Z,6.0nm,1.2s
NIL Nilore 76.79 307 P **P** **12 13 16.8 +0.5**
NIL IAmb IAmb 12 13 20.1
comp=Z,19nm,0.8s
NIL Nilore 76.79 307 P **P** **12 13 16.8 +0.5**
NIL pmax pmax
comp=Z,19nm,0.8s
ZAA0 Zalesovo Array 77.21 329 P **P** **12 13 17.1 -1.1**
ZALV Zalesovo Beam 77.21 329 P **P** **12 13 17.6 -0.5**
ZALV Zalesovo Beam 77.21 329 P **P** **12 13 17.1 -1.0**
comp=Z,2.6nm,0.7s,baz=106,slow=5.0,SNR=11
comp=Z,2.6nm,0.7s
M11K Mekoryuk 77.72 23 P **P** **12 13 20.5 -0.3**
baz=232
GAMB Gambell 77.97 19 P **P** **12 13 21.0 -1.1**
baz=226
TIXI Tiksi 78.52 356⇑*eP* **P** **12 13 24.0 -1.0**
TIXI pmax pmax
comp=Z,3.0nm,0.9s
AAK Ala-Archa 78.70 316 P **P** **12 13 26.7 -0.2**
AAK Ala-Archa 78.70 316⇓*eP* **P** **12 13 27.3 +0.4**
AAK pmax pmax
comp=Z,4.0nm,1.0s
CHGN Chignik 78.86 29 P **P** **12 13 27.2 0.0**
CHGN IAmb IAmb 12 13 30.5
comp=Z,25nm,0.8s
CHGN Chignik 78.86 29 P **P** **12 13 26.6 -0.5**
baz=240
M13K Dall Lake 78.88 24 P **P** **12 13 27.1 -0.1**
baz=235
O14K Tigyukauivet M 79.10 26 P **P** **12 13 28.1 -0.4**
baz=237
KURK Kurchatov 79.10 324 P **P** **12 13 28.7 0.0**
KURK IAmb IAmb 12 13 29.9
comp=Z,19nm,1.3s
KURK Kurchatov 79.10 324*deP* **P** **12 13 28.8 +0.1**
KURK pmax pmax
comp=Z,11nm,1.2s
KURBB Kurchatov Arra 79.11 324 P **P** **12 13 28.9 +0.2**
comp=Z,5.3nm,1.0s,baz=115,slow=4.5,SNR=17
comp=Z,5.3nm,1.0s
N14K Kuskokwak Cree 79.29 25 P **P** **12 13 28.5 -0.9**
baz=237
ARSB Arslanbob 79.33 314 P **P** **12 13 30.8 +0.4**
ARSB Arslanbob 79.33 314 P **P** **12 13 30.8 +0.4**
ARSB pmax pmax
comp=Z,9.0nm,1.8s
M14K Bethel 79.63 24 P **P** **12 13 31.6 +0.2**
M14K IAmb IAmb 12 13 32.7
comp=Z,25nm,0.8s
M14K Bethel 79.63 24 P **P** **12 13 30.5 -0.8**
baz=236
L14K Kuka Creek 79.68 24 P **P** **12 13 31.9 +0.4**
L14K IAmb IAmb 12 13 36.5
comp=Z,39nm,1.1s
L14K Kuka Creek 79.68 24 P **P** **12 13 31.0 -0.6**
baz=235
O15K Ungalikthiuk R 79.68 26 P **P** **12 13 30.8 -0.9**
baz=238
N15K Kwethluk River 80.09 25 P **P** **12 13 34.9 +1.0**
N15K IAmb IAmb 12 13 38.9
comp=Z,29nm,1.1s
N15K Kwethluk River 80.09 25 P **P** **12 13 33.8 -0.1**
baz=238
M15K Kasigluk River 80.13 25 P **P** **12 13 34.2 +0.2**
baz=237
J14K Nanvaranak Lak 80.15 22 P **P** **12 13 34.2 +0.1**
baz=234
L15K Umgalak Mounta 80.34 24 P **P** **12 13 34.8 -0.4**
baz=236
TNA Tin City 80.37 19 P **P** **12 13 35.4 +0.2**
TNA IAmb IAmb 12 13 40.4
comp=Z,23nm,1.2s
TNA Tin City 80.37 19 P **P** **12 13 34.8 -0.4**
baz=230
P16K Nushagak River 80.42 27 P **P** **12 13 35.7 0.0**
baz=240
ANM Nome 80.59 20 P **P** **12 13 35.7 -0.8**
ANM IAmb IAmb 12 13 41.5
comp=Z,24nm,1.3s
ANM Nome 80.59 20 P **P** **12 13 35.7 -0.8**
ANM pmax pmax
comp=Z,24nm,1.3s
ANM Nome 80.59 20 P **P** **12 13 36.0 -0.5**
baz=232
GAR Garm 80.59 311 P **P** **12 13 36.2 -1.0**
O16K Kokwok River B 80.66 26 IAmb IAmb 12 13 42.1
comp=Z,29nm,1.1s
O16K Kokwok River B 80.66 26 P **P** **12 13 36.8 -0.1**
baz=240
K15K Wolf Creek Mou 80.67 23 P **P** **12 13 36.9 0.0**
K15K IAmb IAmb 12 13 42.1
comp=Z,28nm,1.1s
K15K Wolf Creek Mou 80.67 23 P **P** **12 13 37.0 0.0**
baz=236
N16K Nishlik Lake 80.81 25 P **P** **12 13 37.5 -0.3**
baz=239
F14K Arctic Creek 80.83 19 P **P** **12 13 38.3 +0.6**
baz=231
Q16K King Salmon 80.85 27 P **P** **12 13 38.2 +0.2**
baz=241
Q17K Contact Creek 81.01 28 P **P** **12 13 38.4 -0.6**
baz=242
M16K Timber Creek 81.02 25 IAmb IAmb 12 13 43.9
comp=Z,30nm,1.0s
M16K Timber Creek 81.02 25 P **P** **12 13 39.2 +0.3**
baz=239
L16K Owhat River 81.17 24 P **P** **12 13 39.5 -0.1**
L16K IAmb IAmb 12 13 40.6
comp=Z,15nm,0.9s
L16K Owhat River 81.17 24 P **P** **12 13 38.8 -0.8**
baz=238
O17K Koliganek Bris 81.19 26 P **P** **12 13 39.5 -0.2**
baz=241
P17K Kvichak River 81.20 27 P **P** **12 13 39.6 -0.2**
baz=241
G15K Niukluk 81.31 20 P **P** **12 13 40.1 -0.1**
baz=234
CHGR Chuyangaron 81.37 311 IAmb IAmb 12 13 44.6
comp=Z,18nm,0.8s
CHGR Chuyangaron 81.37 311 P **P** **12 13 41.7 +0.4**
CHGR pmax pmax
comp=Z,25nm,1.4s
SIMJ Simiganj 81.48 311 P **P** **12 13 41.4 -0.7**
N17K Nushagak Hills 81.52 26 IAmb IAmb 12 13 43.1
comp=Z,16nm,0.8s
N17K Nushagak Hills 81.52 26 P **P** **12 13 41.6 +0.1**
baz=241
F15K North Star Dit 81.53 19 P **P** **12 13 41.6 +0.2**
F15K IAmb IAmb 12 13 43.5
comp=Z,38nm,1.4s
F15K North Star Dit 81.53 19 P **P** **12 13 41.3 -0.2**
baz=233
J16K Anvik River 81.57 22 P **P** **12 13 42.5 +0.8**
J16K Anvik River 81.57 22 P **P** **12 13 41.8 0.0**
baz=237
KKAR Karatay Array 81.62 315 P **P** **12 13 42.8 +0.3**
KKAR Karatay Array 81.62 315 P **P** **12 13 42.8 +0.3**
KKAR pmax pmax
comp=Z,7.0nm,1.3s
H16K Elim 81.72 21 P **P** **12 13 42.6 +0.1**
baz=235,SNR=6.0
OHAK Old Harbor 81.78 30 P **P** **12 13 42.6 -0.4**
baz=244
P18K Big Mountain, 81.84 27 P **P** **12 13 42.4 -0.9**
baz=242
M17K Holitna River 81.84 25 P **P** **12 13 44.3 +1.1**
M17K Holitna River 81.84 25 P **P** **12 13 42.3 -0.9**
baz=240
I17K Unalakleet 81.86 22 P **P** **12 13 43.9 +0.7**
I17K IAmb IAmb 12 13 49.2
comp=Z,27nm,1.1s
I17K Unalakleet 81.86 22 P **P** **12 13 42.5 -0.7**
baz=237,SNR=7.3
L17K Donlin 81.86 24 P **P** **12 13 42.0 -1.2**
baz=239
O18K Koktuh Hills 82.06 27 P **P** **12 13 43.3 -1.1**
baz=242
G16K Koyuk River 82.12 20 P **P** **12 13 44.9 +0.3**
G16K IAmb IAmb 12 13 45.8
comp=Z,19nm,1.0s
G16K Koyuk River 82.12 20 P **P** **12 13 43.6 -0.9**
baz=235
N18K Kilae Creek 82.15 26 P **P** **12 13 45.2 +0.3**
N18K IAmb IAmb 12 13 49.6
comp=Z,15nm,0.8s
N18K Kilae Creek 82.15 26 P **P** **12 13 44.0 -0.9**
baz=242
K17K Iditarod 82.16 23 P **P** **12 13 45.6 +0.8**
K17K IAmb IAmb 12 13 46.5
comp=Z,23nm,0.9s
K17K Iditarod 82.16 23 P **P** **12 13 43.9 -0.9**
baz=239
J17K VABM Dome 82.21 23 P **P** **12 13 46.0 +0.9**
J17K IAmb IAmb 12 13 50.9
comp=Z,22nm,0.9s
J17K VABM Dome 82.21 23 P **P** **12 13 44.3 -0.8**

baz=238
KDAK Kodiak Island 82.37 29 Pe P P 12 13 46.3 +0.3
KDAK pmax pmax
comp=Z,27nm,1.3s
KDAK Kodiak Island 82.37 29 P P 12 13 44.9 -1.1
baz=245
SVW2 Sparrevohn 82.48 26 P P 12 13 47.3 +0.7
SVW2 IAmb IAmb 12 13 52.3
comp=Z,22nm,1.2s
L18K Granite Mounta 82.56 24 P P 12 13 47.6 +0.7
L18K IAmb IAmb 12 13 48.6
comp=Z,12nm,1.1s
L18K Granite Mounta 82.56 24 P P 12 13 45.2 -1.7
baz=241
M18K Stony River 82.57 25 P P 12 13 45.3 -1.7
baz=242
O19K Port Alsworth 82.62 27 P P 12 13 46.7 -0.6
O19K Port Alsworth 82.62 27 P P 12 13 45.8 -1.5
baz=243
H17K Granite Mounta 82.72 21 P P 12 13 47.9 +0.1
H17K IAmb IAmb 12 13 49.1
comp=Z,15nm,0.8s
H17K Granite Mounta 82.72 21 P P 12 13 46.7 -1.0
baz=238
G17K Kiwalik Mounta 82.77 21 P P 12 13 47.0 -1.0
baz=237
N19K Bonanza Creek 82.83 26 P P 12 13 48.5 0.0
N19K IAmb IAmb 12 13 49.5
comp=Z,25nm,1.1s
N19K Bonanza Creek 82.83 26 P P 12 13 47.5 -1.0
baz=243
C16K Lisburne Hills 82.88 17 P P 12 13 48.5 0.0
C16K IAmb IAmb 12 13 54.6
comp=Z,14nm,1.1s
C16K Lisburne Hills 82.88 17 P P 12 13 47.0 -1.5
baz=232
F17K Baldwin Pennin 83.08 20 P P 12 13 49.6 +0.1
F17K IAmb IAmb 12 13 50.8
comp=Z,9.2nm,0.8s
F17K Baldwin Pennin 83.08 20 P P 12 13 48.0 -1.6
baz=236
J18K Innoko River 83.16 23 P P 12 13 50.0 0.0
J18K Innoko River 83.16 23 P P 12 13 48.3 -1.7
baz=241
TTA Tatalina 83.18 24 P P 12 13 50.5 +0.2
TTA Tatalina 83.18 24 P P 12 13 50.5 +0.2
TTA pmax pmax
comp=Z,7.0nm,1.0s
TTA Tatalina 83.18 24 P P 12 13 48.7 -1.6
baz=241
D17K Noatak River 83.22 18 P P 12 13 49.1 -1.2
baz=234,SNR=13
L19K White Mountain 83.30 25 P P 12 13 51.2 +0.4
L19K IAmb IAmb 12 13 52.2
comp=Z,22nm,1.2s
L19K White Mountain 83.30 25 P P 12 13 49.7 -1.1
baz=242
O20K Slope Mountain 83.33 27 P P 12 13 48.8 -2.3
baz=245
M19K Big River Lodg 83.36 25 P P 12 13 51.1 0.0
M19K IAmb IAmb 12 14 06.3
comp=Z,10nm,1.1s
M19K Big River Lodg 83.36 25 P P 12 13 49.6 -1.5
baz=243
H18K Honhosa River 83.39 21 P P 12 13 50.5 -0.7
H18K IAmb IAmb 12 14 14.8
comp=Z,37nm,1.7s
H18K Honhosa River 83.39 21 P P 12 13 49.3 -1.9
baz=239
RSO Redoubt South 83.44 27 P P 12 13 51.8 0.0
QSPA South Pole Qui 83.48 180 P P 12 13 53.0 +1.1
QSPA IAmb IAmb 12 14 09.1
comp=Z,13nm,1.1s
QSPA South Pole Qui 83.48 180 P P 12 13 54.1 +2.2
comp=Z,6.2nm,1.0s,baz=290,slow=1.3,SNR=13
QSPA LR LR 12 51 29.9
comp=Z,286nm,18.6s,baz=30,slow=36
comp=Z,6.2nm,1.0s
C17K DeLong Mountai 83.64 18 P P 12 13 51.3 -1.2
baz=234
G18K Tagagawik 83.68 21 P P 12 13 52.4 -0.3
G18K IAmb IAmb 12 13 57.1
comp=Z,12nm,1.1s
G18K Tagagawik 83.68 21 P P 12 13 51.4 -1.3
baz=239
F18K Selawik 83.71 20 P P 12 13 52.0 -0.7
baz=238
GCSA Galena City Sc 83.73 22 P P 12 13 51.9 -1.0
baz=240
CNPM China Poot 83.73 28 P P 12 13 52.9 -0.2
CNPM IAmb IAmb 12 13 57.1
comp=Z,17nm,0.9s
L20K Farewell, AK 83.84 25 P P 12 13 52.5 -1.1
baz=243
E18K Tukpahlearik C 83.84 19 P P 12 13 53.7 +0.2
E18K Tukpahlearik C 83.84 19 P P 12 13 52.3 -1.2
baz=237
J19K Poorman 83.84 23 IAmb IAmb 12 13 54.9
comp=Z,32nm,1.5s
J19K Poorman 83.84 23 P P 12 13 52.3 -1.3
baz=242
M20K Styx River 83.89 25 P P 12 13 53.9 -0.1
M20K Styx River 83.89 25 P P 12 13 52.6 -1.3
baz=244
N20K Mount Spurr 83.99 26 P P 12 13 53.9 -0.5
baz=245
BRSE Bradley Lake S 84.05 28 P P 12 13 54.0 -0.7
baz=246
K20K Telida 84.16 24 IAmb IAmb 12 14 00.1
comp=Z,14nm,0.9s
K20K Telida 84.16 24 P P 12 13 55.3 +0.1
baz=243
H19K Roundabout Mou 84.28 21 IAmb IAmb 12 14 00.5
comp=Z,22nm,1.1s
H19K Roundabout Mou 84.28 21 P P 12 13 55.6 -0.1
baz=241
CAPN Captain Cook N 84.28 27 P P 12 13 55.2 -0.6
baz=246
C18K Utukok River 84.34 18 P P 12 13 55.6 -0.4
C18K Utukok River 84.34 18 P P 12 13 56.2 +0.2
baz=236
G19K Purcell Mounta 84.35 21 IAmb IAmb 12 14 01.6
comp=Z,18nm,1.1s
G19K Purcell Mounta 84.35 21 P P 12 13 55.5 -0.6
baz=240
F19K Shaleruckik Mo 84.47 20 P P 12 13 56.6 0.0
baz=239,SNR=7.4
NRIK Noril'sk 84.47 343 *c i* **P P 12 13 55.8 -0.8**
NRIK pmax pmax
comp=Z,21nm,1.0s
NRIK Noril'sk 84.47 343 P P 12 13 56.7 +0.1
comp=Z,15nm,0.9s,baz=121,slow=5.5,SNR=21
NRIK LR LR 12 49 59.8
comp=Z,71nm,21.7s,baz=153,slow=35
comp=Z,15nm,0.9s
J20K Nowinta River 84.50 23 IAmb IAmb 12 13 58.3
comp=Z,20nm,1.0s
J20K Nowinta River 84.50 23 P P 12 13 55.8 -1.1
baz=243
B18K Kokolik River 84.57 17 P P 12 13 57.3 +0.2
baz=235
SKT Skwentna 84.61 26 P P 12 13 56.4 -1.2
baz=246
I20K Naaghedeneel 84.66 22 P P 12 13 58.1 +0.5
I20K Naaghedeneel 84.66 22 P P 12 13 56.4 -1.2
baz=243
BVAR Borovoye Array 84.69 325 P P 12 13 58.3 +0.2
comp=Z,19nm,0.8s,baz=104,slow=6.3,SNR=35
comp=Z,19nm,0.8s
PPLA Purkeypile 84.72 25 P P 12 13 57.2 -1.1
baz=245
SUA Susitna One 84.74 26 P P 12 13 57.1 -1.2
SUA IAmb IAmb 12 14 01.5
comp=Z,14nm,0.9s
SUA Susitna One 84.74 26 P P 12 13 56.2 -2.2
baz=246,SNR=9.0
BRVK Borovoye 84.76 325 P P 12 13 59.1 +0.6
BRVK Borovoye 84.76 325 *c i* **P P 12 13 58.5 0.0**
BRVK pmax pmax
comp=Z,20nm,1.0s
SEW Seward 84.79 28 P P 12 13 57.7 -0.7
SEW Seward 84.79 28 P P 12 13 56.0 -2.4
baz=248
O22K Cooper Landing 84.81 27 P P 12 13 57.8 -0.7
O22K Cooper Landing 84.81 27 P P 12 13 56.3 -2.2
baz=247
H20K Anotleneega Mo 84.83 22 P P 12 13 56.9 -1.7
baz=242
E19K Redstone River 84.97 20 P P 12 13 59.4 +0.2
E19K IAmb IAmb 12 14 00.4
comp=Z,16nm,0.8s
E19K Redstone River 84.97 20 P P 12 13 57.0 -2.2
baz=240
CAST Castle Rocks 84.99 24 P P 12 13 58.9 -0.6
CAST IAmb IAmb 12 13 59.7
comp=Z,11nm,0.9s
CAST Castle Rocks 84.99 24 P P 12 13 57.8 -1.6
baz=245,SNR=11
RC01 Rabbit Creek A 85.04 27 P P 12 13 58.8 -0.9
RC01 Rabbit Creek A 85.04 27 P P 12 13 57.2 -2.5
baz=247,SNR=13
C19K Lookout Ridge 85.08 18 P P 12 13 58.7 -1.1
baz=238
CHUM Lake Minchumin 85.09 24 P P 12 13 58.1 -1.7
baz=245,SNR=25
M22K Willow 85.13 26 P P 12 13 57.9 -2.2
baz=247,SNR=9.9
D19K Kuna River 85.21 19 IAmb IAmb 12 14 05.5
comp=Z,20nm,1.0s
D19K Kuna River 85.21 19 P P 12 13 58.9 -1.5
baz=239,SNR=21
F20K Avaraart Lake 85.27 20 P P 12 14 00.9 +0.3
F20K Avaraart Lake 85.27 20 P P 12 13 59.5 -1.1
baz=241
CUT Chitina 85.33 25 P P 12 14 00.4 -0.6
baz=247
IMAR Indian Mountai 85.47 22 P P 12 14 01.5 -0.3
PMR Palmer 85.51 26 P P 12 14 01.3 -0.6
PMR IAmb IAmb 12 14 05.6
comp=Z,19nm,0.9s
PMR Palmer 85.51 26 P P 12 14 01.3 -0.6
PMR pmax pmax
comp=Z,19nm,0.9s
PMR Palmer 85.51 26 P P 12 14 00.4 -1.6
baz=248,SNR=12
GHO Glory Hole Cre 85.67 26 IAmb IAmb 12 14 03.0
comp=Z,13nm,0.8s
H21K Melozitna Rive 85.68 22 P P 12 14 02.7 -0.1
H21K Melozitna Rive 85.68 22 P P 12 14 01.2 -1.6
baz=244,SNR=6.1
E20K Nigu River 85.71 19 P P 12 14 00.9 -2.0
baz=241
P23K Montague Islan 85.71 28 P P 12 14 02.1 -1.0
baz=249
BPAW Bear Paw Mtn. 85.72 24 P P 12 14 02.3 -0.7
BPAW Bear Paw Mtn. 85.72 24 P P 12 14 01.0 -2.0
baz=246,SNR=7.3
KNK Knik Glacier 85.74 27 P P 12 14 01.3 -1.9
baz=248,SNR=9.1
TRF Thorofare Moun 85.74 25 P P 12 14 02.0 -1.3
TRF IAmb IAmb 12 14 22.7
comp=Z,14nm,1.3s
TRF Thorofare Moun 85.74 25 P P 12 14 02.2 -1.1
baz=247
I21K Tanana 85.78 23 IAmb IAmb 12 14 04.5
comp=Z,12nm,1.0s
I21K Tanana 85.78 23 P P 12 14 02.2 -1.1
baz=245,SNR=6.2
D20K Etivluk River 85.80 19 P P 12 14 02.0 -1.3
baz=240,SNR=8.6
G21K Allakaket 85.80 21 P P 12 14 03.5 +0.1
G21K IAmb IAmb 12 14 49.9
comp=Z,21nm,1.6s
G21K Allakaket 85.80 21 P P 12 14 02.1 -1.3
baz=243
SML Sawmill 85.94 26 P P 12 14 03.9 -0.3
SML Sawmill 85.94 26 P P 12 14 02.5 -1.7
baz=248,SNR=8.8
Q23K Middleton Isla 86.01 29 P P 12 14 04.7 +0.2
baz=250
F21K Alatna River 86.13 20 P P 12 14 03.9 -1.1
baz=243
MLY Manley 86.20 23 IAmb IAmb 12 14 06.0
comp=Z,14nm,0.9s
MLY Manley 86.20 23 P P 12 14 04.2 -1.2
baz=246,SNR=21
M23K Glacier View 86.20 26 P P 12 14 04.0 -1.4
baz=249,SNR=7.4
B20K Meade River 86.28 17 P P 12 14 04.7 -0.9
baz=240
H22K Ishtalitna Cre 86.31 22 P P 12 14 04.8 -1.1
baz=245
BWN Browne 86.36 24 P P 12 14 05.3 -0.9
SCM Sheep Creek Mo 86.39 27 P P 12 14 05.7 -0.8
SCM IAmb IAmb 12 14 07.1
comp=Z,20nm,0.9s
SCM Sheep Creek Mo 86.39 27 P P 12 14 05.7 -0.8
SCM pmax pmax
comp=Z,20nm,0.9s
SCM Sheep Creek Mo 86.39 27 P P 12 14 05.0 -1.5
baz=249,SNR=6.4
MCK McKinley 86.41 24 P P 12 14 04.6 -1.9
baz=248,SNR=12
WAT6 Susitna Watana 86.48 26 P P 12 14 05.3 -1.7
baz=243
E21K Killik River 86.52 19 P P 12 14 05.4 -1.5
baz=243
C21K Knifeblade Rid 86.59 19 P P 12 14 06.3 -1.0
baz=242
EYAK Cordova Ski Ar 86.67 28 P P 12 14 06.6 -1.2
baz=251
NEA2 Nenana 86.68 24 IAmb IAmb 12 14 11.8
comp=Z,9.4nm,1.0s
NEA2 Nenana 86.68 24 P P 12 14 05.5 -2.3
baz=248,SNR=9.0
G22K Bettles 86.70 21 P P 12 14 05.7 -2.0
baz=245
I23K Minto, Yukon-K 86.78 23 P P 12 14 07.6 -0.6
I23K IAmb IAmb 12 14 15.0
comp=Z,36nm,1.9s
I23K Minto, Yukon-K 86.78 23 P P 12 14 06.2 -2.0
baz=247
DHY Denali Highway 86.82 25 IAmb IAmb 12 14 09.1
comp=Z,17nm,0.9s
DHY Denali Highway 86.82 25 P P 12 14 06.6 -2.0
baz=249
B21K Ikpikpuk River 86.86 18 P P 12 14 08.5 0.0
B21K Ikpikpuk River 86.86 18 P P 12 14 07.0 -1.5
baz=242
KLU Klutina 86.91 27 IAmb IAmb 12 14 13.5
comp=Z,14nm,1.0s
KLU Klutina 86.91 27 P P 12 14 07.9 -1.1
baz=251,SNR=7.1
M24K Tolsona, Glenn 87.00 26 P P 12 14 08.4 -1.1
baz=250
WRH Wood River Hil 87.03 24 P P 12 14 07.8 -1.6
WRH IAmb IAmb 12 14 09.1
comp=Z,18nm,1.0s
A21K Barrow 87.10 16 P P 12 14 07.9 -1.7
baz=240,SNR=5.2
KAIM Kayak Island 87.10 29 P P 12 14 08.4 -1.5
baz=252
E22K Anaktuvuk Pass 87.11 20 P P 12 14 10.0 +0.2
E22K IAmb IAmb 12 14 12.0
comp=Z,12nm,0.8s
E22K Anaktuvuk Pass 87.11 20 P P 12 14 08.6 -1.2
baz=245
D22K Ayikyak River 87.14 19 IAmb IAmb 12 14 11.9
comp=Z,12nm,0.8s
D22K Ayikyak River 87.14 19 P P 12 14 08.4 -1.6
baz=244
G23K Bananza Creek 87.15 22 IAmb IAmb 12 14 10.7
comp=Z,7.4nm,0.8s
G23K Bananza Creek 87.15 22 P P 12 14 07.5 -2.5
baz=247
MDM Murphy Dome 87.15 23 IAmb IAmb 12 14 15.0
comp=Z,37nm,2.0s
COLA College 87.27 24 P P 12 14 09.6 -0.9
COLA IAmb IAmb 12 14 10.0
comp=Z,12nm,0.8s
COLA College 87.27 24 *de* **P P 12 14 09.4 -1.2**
COLA pmax pmax
comp=Z,10.0nm,0.9s
COLA College 87.27 24 P P 12 14 08.1 -2.5
baz=249
COLD Coldfoot 87.29 21 P P 12 14 10.6 -0.1
COLD Coldfoot 87.29 21 P P 12 14 09.1 -1.6
baz=246,SNR=11
BMRM Bremner River 87.34 28 P P 12 14 11.1 0.0
BMRM Bremner River 87.34 28 P P 12 14 09.8 -1.3
baz=252
HDA Harding Lake 87.47 24 IAmb IAmb 12 14 16.6
comp=Z,12nm,1.1s
HDA Harding Lake 87.47 24 P P 12 14 10.7 -0.9
baz=250
POKR Poker Plat Res 87.53 23 P P 12 14 11.0 -0.9
baz=249
N25K Chitina, Valde 87.54 27 IAmb IAmb 12 14 17.5
comp=Z,9.1nm,1.1s
N25K Chitina, Valde 87.54 27 P P 12 14 11.0 -1.1
baz=252
HARP HAARP 87.55 26 P P 12 14 09.9 -2.1
baz=251
B22K Teshekpuk Lake 87.56 18 P P 12 14 09.7 -2.1
baz=243
PAX Paxson 87.60 26 P P 12 14 10.6 -1.8
baz=251,SNR=6.9
H24K Noodor Dome 87.61 23 P P 12 14 11.5 -0.8
H24K IAmb IAmb 12 14 13.1
comp=Z,9.3nm,0.9s
H24K Noodor Dome 87.61 23 P P 12 14 11.1 -1.2
baz=249
IL31 87.62 24 P P 12 14 10.6 -1.6
IL31 IAmb IAmb 12 14 11.4
comp=Z,13nm,0.8s
ILAR Eielson Array 87.62 24 P P 12 14 10.5 -1.8
ILAR Eielson Array 87.62 24 P P 12 14 10.5 -1.8
ILAR Eielson Array 87.62 24 P P 12 14 10.3 -2.0
comp=Z,9.0nm,0.7s,baz=255,slow=4.9,SNR=88
ILAR LR LR 12 51 03.8
comp=Z,58nm,18.8s,baz=254,slow=34
comp=Z,9.0nm,0.7s
IL03 Eielson Array 87.63 24 P P 12 14 10.6 -1.8
E23K Chandalar 87.83 20 P P 12 14 12.1 -1.3
baz=247
D23K Nanushuk River 87.83 19 P P 12 14 12.7 -0.6
baz=246
GLB Gilahina Butte 87.85 27 P P 12 14 13.3 -0.2
GLB IAmb IAmb 12 14 14.3
comp=Z,11nm,0.8s
VRDI Verde Repeater 87.95 28 P P 12 14 13.5 -0.7
VRDI IAmb IAmb 12 14 21.0
comp=Z,12nm,1.2s
CRQM Cirque 87.96 28 P P 12 14 14.5 +0.3
CRQE Cirque 87.98 28 P P 12 14 13.7 -0.6
baz=253,SNR=6.5
WAX Waxell Ridge 88.00 29 P P 12 14 14.8 +0.4
G24K Hadweenzic Riv 88.08 22 P P 12 14 14.7 +0.2
G24K Hadweenzic Riv 88.08 22 P P 12 14 13.7 -0.8
baz=249
TGL Tana Glacier 88.10 28 P P 12 14 15.0 +0.2
J25K Salcha River, 88.18 24 P P 12 14 13.8 -1.3
baz=251
MCARA McCarthy VSAT 88.20 28 P P 12 14 14.9 -0.2
baz=253
C23K Itkillik River 88.21 19 P P 12 14 14.6 -0.4
baz=246
F24K Squaw Lake 88.23 21 P P 12 14 14.9 -0.3
baz=249
MENT Mentasta 88.35 26 IAmb IAmb 12 14 16.6
comp=Z,7.9nm,0.8s
MESA MESA 88.36 29 P P 12 14 15.5 -0.7
baz=254
M26K Nabesna, AK 88.51 27 P P 12 14 16.1 -0.6
baz=253
D24K Happy Valley 88.52 19 P P 12 14 17.2 +0.7
D24K Happy Valley 88.52 19 P P 12 14 16.5 0.0
baz=248
L26K Log Cabin Wild 88.53 26 P P 12 14 16.3 -0.4
L26K IAmb IAmb 12 14 23.7
comp=Z,14nm,1.3s
L26K Log Cabin Wild 88.53 26 P P 12 14 16.7 0.0
baz=253,SNR=6.1
SCRK Sand Creek 88.55 25 P P 12 14 16.2 -0.7
SCRK IAmb IAmb 12 14 21.0
comp=Z,10nm,1.2s
SCRK Sand Creek 88.55 25 P P 12 14 16.4 -0.5
baz=252,SNR=8.1
GRNC Granite Creek 88.61 28 P P 12 14 17.0 -0.3
GRNC IAmb IAmb 12 14 18.4
comp=Z,14nm,1.0s
G25K Bearman Lake 88.61 22 P P 12 14 16.9 -0.1
baz=250
BARN Barnard Glacie 88.74 28 P P 12 14 18.5 +0.6
C24K Franklin Bluff 88.78 19 P P 12 14 17.2 -0.4
baz=248
CTG Chitna Glacier 88.86 28 P P 12 14 17.9 -0.6
baz=255,SNR=8.0
J26L Joseph Creek 88.89 25 IAmb IAmb 12 14 19.3
comp=Z,12nm,1.0s
J26L Joseph Creek 88.89 25 P P 12 14 17.3 -1.1
baz=253,SNR=18
LOGN Logan Glacier 88.98 28 P P 12 14 18.5 -0.6
LOGN IAmb IAmb 12 14 19.6
comp=Z,11nm,1.0s
M27K Edge Creek, AK 88.99 27 P P 12 14 19.2 +0.2
M27K IAmb IAmb 12 17 34.6
comp=Z,16nm,0.8s
M27K Edge Creek, AK 88.99 27 P P 12 14 18.5 -0.6
baz=254
F25K Christian Rive 89.06 21 P P 12 14 19.2 +0.1
baz=251
PINM Pinnacle 89.16 29 P P 12 14 19.0 -0.8
baz=256
L27K Beaver Creek, 89.21 26 P P 12 14 20.1 +0.2
L27K IAmb IAmb 12 14 25.3
comp=Z,14nm,1.1s
L27K Beaver Creek, 89.21 26 P P 12 14 19.7 -0.2
baz=254
BCAR Beaver Creek A 89.23 26 P P 12 14 19.9 -0.1
E25K Arctic Village 89.27 21 IAmb IAmb 12 14 27.9
comp=Z,17nm,1.2s
E25K Arctic Village 89.27 21 P P 12 14 19.9 -0.1
baz=251,SNR=13
I26K Coal Creek Min 89.29 24 P P 12 14 19.9 -0.3
baz=253
K27K Chicken 89.37 25 P P 12 14 20.5 -0.1
baz=254
BMAR Burnt Mountain 89.39 22 P P 12 14 21.3 +0.6
D25K Kavik River 89.39 20 P P 12 14 20.4 -0.2
baz=250
BVCY Beaver Creek 89.47 27 P P 12 14 20.9 -0.2
baz=255,SNR=6.6
PNL Peninsula 89.47 30 P P 12 14 20.0 -1.2
baz=256
YUK3 Moose Creek 89.48 28 P P 12 14 19.9 -1.6
baz=255,SNR=7.2
G26K Porcupine Rive 89.54 22 P P 12 14 20.8 -0.5
baz=252
F26K Sheenjek River 89.64 21 P P 12 14 21.9 +0.1
baz=252
YUK8 Steele Glacier 89.68 28 P P 12 14 21.5 -1.0
baz=256
EGAK Eagle 89.96 25 P P 12 14 23.5 +0.2
EGAK IAmb IAmb 12 14 24.2
comp=Z,9.9nm,0.9s
EGAK Eagle 89.96 25 P P 12 14 23.2 -0.1
baz=255,SNR=9.6
I27K Kandik River 89.99 24 P P 12 14 23.1 -0.5
baz=254,SNR=25
O29M Mount Kennedy 90.02 29 P P 12 14 23.8 -0.1
O29M Mount Kennedy 90.02 29 P P 12 14 23.5 -0.4
baz=257
C26K Camden Bay 90.08 19 P P 12 14 23.9 +0.2
baz=251
ABKAR Akbulak array 90.18 319 P P 12 14 23.4 -1.3
H27K Steamboat Moun 90.20 23 P P 12 14 24.3 -0.2
baz=254
YUK4 Talbot Arm 90.22 28 P P 12 14 24.5 -0.4
baz=257,SNR=8.8
YUK6 Outpost Mounta 90.27 29 P P 12 14 25.0 -0.1
baz=257
P29M Windy Craggy 90.28 30 IAmb IAmb 12 14 36.9
comp=Z,15nm,1.1s
P29M Windy Craggy 90.28 30 P P 12 14 23.8 -1.2
baz=258
DAWY Dawson 90.52 25 P P 12 14 26.5 +0.5
DAWY IAmb IAmb 12 14 27.3
comp=Z,10nm,1.0s
DAWY Dawson 90.52 25 P P 12 14 26.6 +0.5
baz=256,SNR=10.0
M29M Somme Creek 90.56 27 P P 12 14 26.5 +0.2
M29M IAmb IAmb 12 14 30.6
comp=Z,6.7nm,0.8s
M29M Somme Creek 90.56 27 P P 12 14 26.5 +0.2
baz=257
I28M Miner Creek 90.63 24 IAmb IAmb 12 14 27.7
comp=Z,17nm,1.4s
I28M Miner Creek 90.63 24 P P 12 14 26.6 +0.1
baz=256,SNR=6.9
HYT Haines Junctio 90.65 29 P P 12 14 27.3 +0.5

HYT				IAmb	IAmb	12 14 30.2	
	comp=Z,28nm,1.8s						
HYT	**Haines Junctio**	**90.65**	**29**	P	**P**	**12 14 27.4**	**+0.6**
	baz=258,SNR=5.4						
S31K	**Pelican**	**90.71**	**32**	P	**P**	**12 14 27.7**	**+0.8**
	baz=259						
P30M	**Million Dollar**	**90.77**	**30**	P	**P**	**12 14 27.7**	**+0.4**
	baz=258						
L29M	**L29M**	**90.85**	**27**	IAmb	IAmb	12 14 29.0	
	comp=Z,11nm,0.9s						
L29M	**L29M**	**90.85**	**27**	P	**P**	**12 14 27.7**	**+0.1**
	baz=258						
N30M	**Aishikik Lake**	**90.98**	**28**	IAmb	IAmb	12 15 51.0	
	comp=Z,26nm,1.9s						
N30M	**Aishikik Lake**	**90.98**	**28**	P	**P**	**12 14 28.4**	**+0.1**
	baz=258						
J29N	**Klondike Camp**	**91.11**	**25**	P	**P**	**12 14 29.0**	**+0.2**
J29N				IAmb	IAmb	12 14 30.4	
	comp=Z,13nm,1.2s						
J29N	**Klondike Camp**	**91.11**	**25**	P	**P**	**12 14 29.0**	**+0.2**
	baz=257						
F28M	**Old Crow**	**91.19**	**22**	P	**P**	**12 14 29.3**	**+0.3**
	baz=256						
K29M	**Barlow Dome**	**91.28**	**26**	P	**P**	**12 14 29.7**	**+0.1**
K29M				IAmb	IAmb	12 14 30.9	
	comp=Z,12nm,0.9s						
K29M	**Barlow Dome**	**91.28**	**26**	P	**P**	**12 14 29.7**	**+0.1**
	baz=258						
O30N	**Mendenhall**	**91.32**	**29**	P	**P**	**12 14 29.8**	**0.0**
	baz=259						
M30M	**Minto, Yukon**	**91.34**	**27**	P	**P**	**12 14 29.8**	**-0.1**
	baz=259						
H29M	**Whitestone**	**91.44**	**23**	P	**P**	**12 14 30.8**	**+0.6**
	baz=257						
SKAG	**Skagway**	**91.45**	**30**	P	**P**	**12 14 31.3**	**+0.9**
	baz=260						
WHY	**Whitehorse**	**91.89**	**29**	P	**P**	**12 14 32.9**	**+0.4**
	baz=260						
J30M	**Hart River**	**91.93**	**25**	IAmb	IAmb	12 14 38.9	
	comp=Z,26nm,1.9s						
J30M	**Hart River**	**91.93**	**25**	P	**P**	**12 14 32.6**	**0.0**
	baz=259						
MAYO	**Mayo, Yukon**	**91.94**	**26**	IAmb	IAmb	12 14 37.4	
	comp=Z,11nm,0.9s						
MAYO	**Mayo, Yukon**	**91.94**	**26**	P	**P**	**12 14 32.9**	**+0.3**
	baz=260						
CRAG	**Craig**	**91.98**	**35**	P	**P**	**12 14 32.8**	**-0.1**
	baz=262						
D28M	**Stokes Point**	**92.00**	**20**	P	**P**	**12 14 33.5**	**+0.8**
	baz=257						
I30M	**Mount Dempster**	**92.04**	**25**	P	**P**	**12 14 32.5**	**-0.6**
I30M				IAmb	IAmb	12 14 37.5	
	comp=Z,15nm,1.5s						
I30M	**Mount Dempster**	**92.04**	**25**	P	**P**	**12 14 33.6**	**+0.5**
	baz=259,SNR=6.1						
U33K	**Whale Pass**	**92.08**	**34**	P	**P**	**12 14 33.1**	**-0.2**
	baz=262						
E29M	**Blow River**	**92.09**	**21**	P	**P**	**12 14 33.1**	**0.0**
	baz=258						
EPYK	**Eagle Plains**	**92.12**	**23**	P	**P**	**12 14 33.8**	**+0.4**
EPYK				IAmb	IAmb	12 14 34.2	
	comp=Z,7.6nm,0.9s						
EPYK	**Eagle Plains**	**92.12**	**23**	P	**P**	**12 14 33.4**	**0.0**
	baz=259,SNR=6.2						
ARU	**Arti**	**92.14**	**326**	P	**P**	**12 14 32.0**	**-1.7**
ARU				IAmb	IAmb	12 14 33.3	
	comp=Z,12nm,1.2s						
ARU	**Arti**	**92.14**	**326**‖	*e*P	**P**	**12 14 32.3**	**-1.3**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ARU	**Arti**	**92.14**	**326**	P	**P**	**12 14 31.9**	**-1.7**
	comp=Z,3.5nm,0.5s,baz=297,slow=22,SNR=4.8						
	comp=Z,3.5nm,0.5s						
P32M	**Atlin**	**92.29**	**30**	P	**P**	**12 14 34.9**	**+0.5**
	baz=261						
M31M	**Drury Creek, Y**	**92.37**	**28**	P	**P**	**12 14 34.8**	**+0.2**
	baz=261						
G30M	**tAoh Zraii Nji**	**92.43**	**23**	P	**P**	**12 14 34.8**	**-0.1**
G30M				IAmb	IAmb	12 14 35.2	
	comp=Z,9.9nm,1.2s						
G30M	**tAoh Zraii Nji**	**92.43**	**23**	P	**P**	**12 14 35.0**	**+0.2**
	baz=259						
WRAK	**Wrangell Islan**	**92.55**	**34**	P	**P**	**12 14 35.4**	**-0.1**
	baz=262						
ELIB	**Princess Elisa**	**92.60**	**196**	*d*PcP	**PcP**	**12 14 38.2**	**+1.8**
F30M	**Barrier River**	**92.71**	**22**	P	**P**	**12 14 36.7**	**+0.6**
	baz=260						
V35K	**Ketchikan**	**92.81**	**35**	P	**P**	**12 14 36.4**	**-0.4**
	baz=263						
P33M	**Teslin, Yukon**	**92.83**	**30**	P	**P**	**12 14 37.0**	**+0.1**
	baz=262						
FARO	**Faro, Yukon**	**92.86**	**28**	P	**P**	**12 14 36.0**	**-0.9**
FARO				IAmb	IAmb	12 14 40.5	
	comp=Z,22nm,2.0s						
FARO	**Faro, Yukon**	**92.86**	**28**	P	**P**	**12 14 36.7**	**-0.2**
	baz=262						
G31M	**Satah River**	**93.18**	**23**	IAmb	IAmb	12 14 45.6	
	comp=Z,8.4nm,1.1s						
G31M	**Satah River**	**93.18**	**23**	P	**P**	**12 14 38.0**	**-0.2**
	baz=261						
S34M	**Telegraph Cree**	**93.39**	**32**	IAmb	IAmb	12 15 32.5	
	comp=Z,7.9nm,1.2s						
S34M	**Telegraph Cree**	**93.39**	**32**	P	**P**	**12 14 39.0**	**-0.4**
	baz=263						
F31M	**Tsiigehtchic**	**93.46**	**23**	P	**P**	**12 14 39.3**	**-0.2**
	baz=262						
R33M	**Jennings River**	**93.65**	**31**	P	**P**	**12 14 40.8**	**0.0**
	baz=264						
INK	**Inuvik**	**93.67**	**22**	P	**P**	**12 14 40.6**	**+0.2**
	baz=262						
INK	**Inuvik**	**93.67**	**22**	LR	LR	12 57 60.0	
	comp=Z,61nm,18.0s,baz=180,slow=36						
T35M	**Bob Quinn**	**93.77**	**33**	P	**P**	**12 14 41.4**	**+0.2**
	baz=264						
DLBC	**Dease Lake**	**94.03**	**32**	P	**P**	**12 14 42.4**	**-0.1**
	baz=264						
WTLY	**Watson Lake, Y**	**94.81**	**30**	P	**P**	**12 14 45.3**	**-0.6**
WTLY	**Watson Lake, Y**	**94.81**	**30**	P	**P**	**12 14 45.5**	**-0.5**
	baz=266						
TGTN	**Hyland Airport**	**95.17**	**29**	P	**P**	**12 14 47.1**	**-0.5**
	baz=266						
A36M	**Sachs Harbour**	**96.75**	**18**	P	**P**	**12 14 53.7**	**-0.8**
A36M				IAmb	IAmb	12 18 21.4	
	comp=Z,11nm,1.6s						
A36M	**Sachs Harbour**	**96.75**	**18**	P	**P**	**12 14 54.4**	**-0.1**
	baz=270						
YBH	**Yreka Blue Hor**	**97.67**	**49**	LR	LR	12 51 26.9	
	comp=Z,106nm,20.6s,baz=284,slow=31						
BELG	**Belogornoye**	**98.22**	**322**‖	*e*P	**P**	**12 15 00.9**	**-0.6**
BELG				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BELG	**Belogornoye**	**98.22**	**322**	LR	LR	13 02 03.9	
	comp=Z,48nm,19.3s,baz=132,slow=37						
SNCC	**San Nicolas Is**	**99.99**	**57**	P	**Pdif**	**12 15 09.7**	**-0.2**
	baz=269						
NVAR	**Mina Array Bea**	**101.02**	**52**	P	**Pdif**	**12 15 13.9**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=258,slow=5.0,SNR=4.2						
YKA	**Yellowknife Ar**	**101.57**	**28**	P	**Pdif**	**12 15 15.3**	**-0.9**
	comp=Z,0.6nm,0.9s,baz=280,slow=4.8,SNR=6.2						
MPMC	**Manual Prospec**	**101.69**	**55**	P	**Pdif**	**12 15 16.5**	**-1.1**
	baz=271						
EGMT	**Eagleton**	**106.50**	**42**	P	**PKiKP**	**12 19 48.4**	**-1.1**
	baz=279						
MVCO	**Mesa Verde**	**108.83**	**53**	P	**PKiKP**	**12 19 52.6**	**-1.8**
	baz=276						
MNTX	**Cornudas Mount**	**111.99**	**59**	P	**PKiKP**	**12 19 58.4**	**-1.9**
	baz=276						
HDIL	**Hopedale**	**122.58**	**45**	P	**PKPdf**	**12 20 18.5**	**-1.8**
	baz=292						
GLMI	**Grayling**	**123.92**	**39**	P	**PKPdf**	**12 20 22.1**	**-0.6**
	baz=298						
SFIN	**Lafayette**	**124.20**	**45**	P	**PKPdf**	**12 20 22.5**	**-0.9**
	baz=294						
WVT	**Waverly**	**125.23**	**50**	P	**PKPdf**	**12 20 24.9**	**-0.6**
	baz=290						
O48B	**Farmland**	**125.61**	**44**	P	**PKPdf**	**12 20 25.6**	**-0.5**
	baz=295						
ACSO	**Alum Creek Sta**	**127.11**	**43**	P	**PKPdf**	**12 20 28.2**	**-0.8**
	baz=297						
TZTN	**Tazewell**	**128.29**	**48**	P	**PKPdf**	**12 20 30.4**	**-0.9**
	baz=294						
GOGA	**Godfrey**	**129.55**	**52**	P	**PKPdf**	**12 20 32.0**	**-1.8**
	baz=292						
LONY	**Lake Ozonia**	**130.01**	**34**	P	**PKPdf**	**12 20 33.6**	**-0.8**
	baz=308						
SSPA	**Standing Stone**	**130.30**	**41**	P	**PKPdf**	**12 20 32.2**	**-2.9**
	baz=302						
BINY	**Binghamton**	**130.63**	**38**	P	**PKPdf**	**12 20 32.6**	**-3.1**
	baz=305						
LBNH	**Lisbon**	**131.72**	**33**	P	**PKPdf**	**12 20 32.8**	**-4.8**
	baz=311						
TULM	**Tulcn-Chalpat**	**139.17**	**96**		**PKPdf**	**12 20 52.4**	**-0.6**
TORD	**Torodi Ar. Bea**	**141.08**	**283**		**PKPdf**	**12 20 52.7**	**-3.1**
TORD	**Torodi Ar. Bea**	**141.08**	**283**	PKhKP	PKPpre	12 20 52.0	
	comp=Z,2.5nm,1.1s,baz=65,slow=3.9,SNR=8.0						
TORD				PKP	**PKiKP**	**12 20 57.7**	**-0.8**
	comp=Z,1.5nm,0.9s,baz=45,slow=2.4,SNR=5.4						
LPAZ	**La Paz**	**141.98**	**127**	PKP	**PKPdf**	**12 20 57.1**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=225,slow=1.4,SNR=1.9						
ROSC	**El Rosal**	**143.09**	**91**	PKP	**PKPdf**	**12 21 00.0**	**+0.1**
	comp=Z,6.9nm,0.4s,baz=168,slow=6.1,SNR=3.8						
SDV	**Santo Domingo**	**146.85**	**84**	PKPbc	**PKPbc**	**12 21 08.1**	**+0.1**
TRCB	**Terra Rica**	**147.24**	**153**	PKPbc	**PKPbc**	**12 21 08.7**	**+0.1**
AQDB	**Aquidauana**	**147.65**	**146**	PKPab	**PKiKP**	**12 21 11.8**	**-0.1**
KIC	**Kosan Boka**	**147.68**	**272**‖	*e*PKP1	**PKPbc**	**12 21 10.6**	**+0.5**
	comp=Z,26nm,0.9s						
DBIC	**Dimbokro**	**147.81**	**272**	PKPab	**PKPbc**	**12 21 11.5**	**+1.1**
DBIC	**Dimbokro**	**147.81**	**272**	PKP2	**PKPbc**	**12 21 11.5**	**+1.1**
DBIC	**Dimbokro**	**147.81**	**272**	PKPbc	**PKPbc**	**12 21 10.5**	**+0.1**
	comp=Z,19nm,1.0s,baz=87,slow=3.8,SNR=12						
LIC	**Lamto**	**147.96**	**271**⇑	*e*PKP1	**PKPbc**	**12 21 11.6**	**+0.8**
	comp=Z,75nm,1.0s						
TIC	**Toumodi**	**147.97**	**272**⇑	*e*PKP1	**PKPbc**	**12 21 11.6**	**+0.7**
	comp=Z,64nm,1.2s						
BAUV	**El Baul**	**149.41**	**83**	PKPbc	**PKPdf**	**12 21 12.7**	**+2.6**
HUMP	**Col San Antoni**	**149.82**	**65**	PKPbc	**PKPbc**	**12 21 14.9**	**-0.4**
SAML	**Samuel**	**149.96**	**120**	PKPbc	**PKPbc**	**12 21 16.2**	**+0.3**
SAML	**Samuel**	**149.96**	**120**	PKiKP	**PKPbc**	**12 21 16.2**	**+0.3**
VILB	**Vilhena**	**150.12**	**130**	PKPdf	**PKPdf**	**12 21 09.5**	**-1.7**

MOS ***06*** *12:19:03.2±0.8,26˚.70N×127˚.86E,h45km,mb5.0/32,Error ellipse: s-maj=8.8km s-min=5.7km az=116.6*
IDC ***06*** *12:19:05.0±0.8,26˚.75N×127˚.91E,h46km±10km,mb4.1/21, mbtmp4.3/24,ML3.9/2,MS3.7/15,Error ellipse: s-maj=18.6km s-min=12.8km az=79.0*
NEIC ***06*** *12:19:06.5±2.2,26˚.66N±0˚.07×127˚.81E±0˚.07,h50km±6km, mb4.6/116,Error ellipse: s-maj=11.1km s-min=7.7km az=146.0*
JMA ***06*** *12:19:06.0±0.2,26˚.7N±0˚.5×127˚.8E±0˚.5,h46km±2km, MD4.2/10,MV4.1/10,NEAR OKINAWAJIMA ISLAND*
JMA Felt II J1 at NEAR OKINAWAJIMA ISLAND .
ISC 06 12:19:05.5±0.6,26˚.64N±0˚.04×127˚.82E±0˚.04,h51km±5km, n262,σ1$29/249,mb4.6/108,MS3.8/15,10C-4D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNTH	**Nagotoyohara**	**0.22**	**124**	*i* P	**Pn**	**12 19 14.4**	**+0.3**
JNTH				S	**Sn**	**12 19 20.3**	**+0.1**
JNTH	**Nagotoyohara**	**0.22**	**124**	A	A	12 19 14.4	
	comp=E,37nm,1.0s,comp=N,17nm,0.3s						
JIH	**Iheya**	**0.41**	**19**	P	**Pn**	**12 19 16.0**	**+0.2**
JIH				S	**Sn**	**12 19 23.0**	**-0.2**
JIH	**Iheya**	**0.41**	**19**	A	A	12 19 16.0	
	comp=E,81nm,1.0s,comp=N,19nm,0.3s						
JOW	**Kunigami**	**0.45**	**65**	P	**Pn**	**12 19 16.6**	**+0.3**
JOW				*e*S	**Sn**	**12 19 24.3**	**+0.3**
JOW	**Kunigami**	**0.45**	**65**	A	A	12 19 16.6	
	comp=E,43nm,0.3s,comp=N,35nm,0.5s						
JOW	**Kunigami**	**0.45**	**65**	P	**Pn**	**12 19 16.4**	**+0.1**
	comp=N,8μm,0.3s,baz=168,slow=13,SNR=2998						
JOW				S	**Sn**	**12 19 23.3**	**-0.6**
	comp=N,28μm,0.2s,baz=129,slow=23,SNR=46						
JJT3	**Tamagusuku3**	**0.50**	**184**	*i* P	**Pn**	**12 19 17.9**	**+1.0**
JJT3				*e*S	**Sn**	**12 19 25.5**	**+0.6**
JJT3	**Tamagusuku3**	**0.50**	**184**	A	A	12 19 17.9	
	comp=E,56nm,2.0s,comp=N,32nm,1.4s						
JAGN	**Aguni-jima**	**0.52**	**264**	P	**Pn**	**12 19 16.7**	**-0.3**
JAGN				*e*S	**Sn**	**12 19 24.3**	**-1.0**
JAGN	**Aguni-jima**	**0.52**	**264**	A	A	12 19 16.7	
	comp=E,58nm,0.4s,comp=N,90nm,0.4s						
JYRO	**Yoronjima**	**0.68**	**56**	*i* P	**Pn**	**12 19 19.4**	**+0.3**
JYRO				S	**Sn**	**12 19 29.2**	**+0.3**
JYRO	**Yoronjima**	**0.68**	**56**	A	A	12 19 19.4	
	comp=E,15nm,0.4s,comp=N,19nm,0.7s						
JKE	**Kume jima 2**	**0.98**	**251**	*i* P	**Pn**	**12 19 22.5**	**-0.5**
JKE				*e*S	**Sn**	**12 19 34.5**	**-1.3**
JKE	**Kume jima 2**	**0.98**	**251**	A	A	12 19 22.5	
	comp=E,5.0nm,1.6s,comp=N,7.0nm,0.7s						
JOKE	**Okinoerabujima**	**0.98**	**43**	*i* P	**Pn**	**12 19 23.2**	**+0.2**
JOKE				S	**Sn**	**12 19 35.9**	**-0.1**
JOKE	**Okinoerabujima**	**0.98**	**43**	A	A	12 19 23.2	
	comp=E,13nm,0.2s,comp=N,11nm,0.6s						
JTK	**Tokunoshima**	**1.52**	**41**	A	A	12 19 31.5	
	comp=E,5.0nm,0.6s,comp=N,5.0nm,0.5s						
JAMN	**Amaminishikomi**	**2.00**	**37**	A	A	12 19 38.2	
	comp=E,3.0nm,1.6s,comp=N,4.0nm,3.7s						
JAM	**Amami Oshima**	**2.37**	**42**	A	A	12 19 43.6	
	comp=E,3.0nm,3.2s,comp=N,2.0nm,4.2s						
JMZ	**Minamidaito 2**	**3.17**	**104**	Pn	**Pn**	**12 19 51.7**	**-1.2**
JMZ				Sn	**Sn**	**12 20 25.9**	**-3.5**
YOJ	**Yonaguni jima**	**4.86**	**244**		**Pn**	**12 20 16.0**	**0.0**
YOJ	**Yonaguni jima**	**4.86**	**244**	P	**Pn**	**12 20 16.0**	**0.0**
TATO	**Taipei**	**5.94**	**255**	Pn	**Pn**	**12 20 31.6**	**+0.7**
YHNB	**Yeheng**	**6.14**	**253**	Pn	**Pn**	**12 20 35.5**	**+1.9**
NACB	**Ninganchiao**	**6.14**	**248**		**Pn**	**12 20 32.8**	**-0.9**
YULB	**Yu-li**	**6.74**	**243**	Pn	**Pn**	**12 20 39.4**	**-2.5**
SSLB	**Suanglung**	**6.83**	**247**	Pn	**Pn**	**12 20 42.2**	**-1.1**
JNU	**Nakatsue**	**6.98**	**22**	Pn	**Pn**	**12 20 46.2**	**+1.0**
JNU	**Nakatsue**	**6.98**	**22**	P	**Pn**	**12 20 44.9**	**-0.3**
	comp=N,3.3nm,0.3s,baz=204,slow=8.7,SNR=19						
JNU				S	**Sn**	**12 22 01.8**	**-1.4**
	comp=N,7.3nm,0.7s,baz=306,slow=14,SNR=0.9						
	comp=N,6.7nm,0.3s						
TWG	**Pinlang**	**7.22**	**240**	Pn	**Pn**	**12 20 46.8**	**-1.7**
TPUB	**Ta-pu**	**7.32**	**245**		**Pn**	**12 20 49.4**	**-0.5**
KNMB	**Chin-men Tao**	**8.79**	**258**	Pn	**Pn**	**12 21 10.1**	**+0.1**
JMN	**Monobe**	**8.79**	**35**	Pn	**Pn**	**12 21 09.9**	**-0.1**
NJ2	**Nanjing**	**9.49**	**307**	*e*P	**Pn**	**12 21 21.4**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
TJN	**Taejon**	**9.71**	**358**‖	*e*P	**Pn**	**12 21 24.4**	**+1.9**
KSRS	**Korea Array**	**10.78**	**0**	P	**Pn**	**12 21 34.8**	**-2.3**
	comp=Z,1.3nm,0.9s,baz=176,slow=12,SNR=1.1						
JCJ	**Chichijima**	**12.83**	**85**	LR	LR	12 26 45.7	
	comp=Z,23nm,18.2s,baz=270,slow=36						
MAJO	**Matsushiro**	**13.25**	**39**‖	*e*P	**Pn**	**12 22 11.7**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,8.0nm,1.2s						
MJAR	**Matsushiro Arr**	**13.25**	**39**	P	**Pn**	**12 22 09.8**	**-1.1**
	comp=Z,1.4nm,0.9s,baz=194,slow=10,SNR=1.4						
LYN	**LuoYang**	**15.38**	**305**	*e*P	**P**	**12 22 44.6**	**+1.7**
LYN				pP	pP	12 22 54.2	0.0
LYN				PP	**sP**	**12 22 57.2**	**-3.3**
LYN				sP	Pn	12 23 01.5	+22
LYN				pmax	pmax		
	comp=Z,39nm,0.9s						
LYN				pmax	pmax		
	comp=Z,350nm,5.7s						
USRK	**Ussuriysk Ar.**	**17.84**	**10**	P	**Pn**	**12 23 08.5**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=141,slow=34,SNR=2.1						
	comp=Z,1.4nm,0.6s						
XAN	**Xi'an**	**17.88**	**299**	⇑P	**P**	**12 23 13.0**	**+2.2**
XAN				pmax	pmax		
	comp=Z,14nm,0.7s						
GYA	**Guiyang**	**18.93**	**274**	*e*P	**Pn**	**12 23 24.1**	**+0.7**
GYA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**19.53**	**321**	*e*P	**Pn**	**12 23 30.4**	**-0.1**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,120nm,5.0s						
BTO	**Baotou**	**20.28**	**318**	*e*P	Pn	12 23 42.0	+2.6
BTO				pP	sP	12 23 55.6	+0.8
BTO				sP	pP	12 24 03.4	+15
BTO				PP	**PnPn**	**12 24 04.8**	**+9.4**
BTO				S	Sn	12 27 31.0	+4.0
BTO				SS	SnSn	12 28 00.7	+18
BTO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BTO				pmax	pmax		
	comp=Z,330nm,5.0s						
BTO				LR	LR		
	comp=N,220nm,6.3s						
BTO				LR	LR		
	comp=E,240nm,7.2s						
BTO				LR	LR		
	comp=Z,130nm,6.7s						
PZH	**PanZhiHua**	**23.31**	**276**	P	**P**	**12 24 09.7**	**+0.4**
PZH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
UBPT	**Khong Chiam**	**23.69**	**246**	P	**P**	**12 24 15.2**	**+2.4**
TNTI	**Ternate**	**25.73**	**181**	P	**P**	**12 24 32.4**	**+1.1**
CRAI	**Chiangrai**	**25.95**	**262**	P	**P**	**12 24 34.4**	**+1.1**
TNCH	**TengChong**	**26.39**	**273**	*e*P	**P**	**12 24 37.7**	**+0.2**
TNCH				pP	pP	12 24 51.4	+1.1
TNCH				pmax	pmax		
	comp=Z,14nm,0.4s						
GTA	**Gaotai**	**26.59**	**306**	*e*P	**P**	**12 24 37.3**	**-1.8**
GTA				sP	sP	12 25 01.9	+3.9
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MRSI	**Marisa**	**26.62**	**193**	P	**P**	**12 24 35.8**	**-3.6**
PHRA	**Phrae**	**26.69**	**258**	P	**P**	**12 24 40.8**	**+0.7**
ULN	**Ulaanbaatar**	**26.71**	**328**‖	*e*P	**P**	**12 24 41.4**	**+1.3**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.3s						
SONM	**Songino Array**	**27.01**	**327**	P	**P**	**12 24 42.0**	**-0.8**
SONM	**Songino Array**	**27.01**	**327**	P	**P**	**12 24 42.8**	**+0.1**
	comp=Z,3.6nm,0.6s,baz=140,slow=10,SNR=17						
	comp=Z,3.6nm,0.6s						
CHTO	**Chiang Mai**	**27.70**	**260**	P	**P**	**12 24 48.7**	**-0.4**
CHTO				IAmb	IAmb	12 24 50.5	
	comp=Z,13nm,0.8s						
CHTO	**Chiang Mai**	**27.70**	**260**	P	**P**	**12 24 48.7**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,13nm,0.9s						
CM31	**Chiang Mai Arr**	**27.84**	**259**	P	**P**	**12 24 49.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**27.84**	**259**	P	**P**	**12 24 50.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**27.84**	**259**	P	**P**	**12 24 51.1**	**+0.8**
	comp=Z,3.4nm,0.8s,baz=54,slow=7.6,SNR=33						
CMAR				PcP	**PcP**	**12 28 05.4**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=7.2,slow=1.5,SNR=4.5						
CMAR				LR	LR	12 35 49.9	
	comp=Z,56nm,20.1s,baz=75,slow=36						
	comp=Z,3.4nm,0.8s						
GOMU	**GeErMu**	**29.61**	**297**	P	P	12 24 54.6	-12
GOMU				pP	pP	12 25 00.4	-19
GOMU				sP	sP	12 25 01.9	-23
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SRIT	**Nakonsritamara**	**32.20**	**241**	P	**P**	**12 25 30.1**	**+1.2**
KULM	**Kulim**	**33.51**	**235**	P	**P**	**12 25 41.7**	**+1.3**
KULM				IAmb	IAmb	12 25 58.3	
	comp=Z,7.4nm,0.9s						
YAK	**Yakutsk**	**35.40**	**2**	*i* P	**P**	**12 25 54.3**	**-1.9**
H11N2	**WAKE ISLAND Hy**	**36.47**	**92**	T	T	13 04 27.9	
	baz=290,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**36.47**	**93**	T	T	13 04 28.0	
	baz=290,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**36.48**	**93**	T	T	13 04 29.1	
	baz=290,slow=75,SNR=20						
H11S3	**WAKE ISLAND Hy**	**36.69**	**95**	T	T	13 04 51.2	
	baz=290,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**36.69**	**95**	T	T	13 04 51.7	
	baz=290,slow=75,SNR=10						
H11S2	**WAKE ISLAND Hy**	**36.70**	**95**	T	T	13 04 50.6	
	baz=290,slow=75,SNR=12						
GSI	**Gunungsitoli**	**38.46**	**234**	P	**P**	**12 26 23.9**	**+1.2**
DGZ	**Jazzator, Alta**	**38.57**	**318**‖	*e*P	**P**	**12 26 22.6**	**-0.8**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MK31	**Makanchi Array**	**40.98**	**312**	P	**P**	**12 26 42.7**	**-0.7**
MK31	**Makanchi Array**	**40.98**	**312**	*c* P	**P**	**12 26 43.1**	**-0.3**
MKAR	**Makanchi Array**	**40.98**	**312**	P	**P**	**12 26 42.9**	**-0.6**
	comp=Z,7.3nm,0.7s,baz=100,slow=9.8,SNR=69						
MKAR				PcP	**PcP**	**12 28 43.7**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=154,slow=3.6,SNR=2.5						
MKAR				ScP	**ScP**	**12 32 28.4**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=94,slow=4.3,SNR=2.8						
	comp=Z,7.3nm,0.7s						
MAKZ	**Makanchi**	**41.20**	**312**	P	**P**	**12 26 45.1**	**-0.1**
MAKZ				IAmb	IAmb	12 26 46.4	
	comp=Z,7.6nm,0.8s						
MAKZ	**Makanchi**	**41.20**	**312**	P	**P**	**12 26 45.1**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ZAA0	**Zalesovo Array**	**41.69**	**323**	P	**P**	**12 26 48.7**	**-0.3**
ZAA0				IAmb	IAmb	12 26 49.1	
	comp=Z,5.1nm,0.6s						
ZALV	**Zalesovo Beam**	**41.69**	**323**	P	**P**	**12 26 48.4**	**-0.7**
ZALV	**Zalesovo Beam**	**41.69**	**323**	P	**P**	**12 26 48.7**	**-0.4**
	comp=Z,6.1nm,0.5s,baz=111,slow=8.4,SNR=30						
	comp=Z,6.1nm,0.5s						
COEN	**Coen**	**43.03**	**158**	P	**P**	**12 27 01.1**	**+0.8**
COEN				IAmb	IAmb	12 27 34.0	
	comp=Z,11nm,1.1s						
PRZ	**Przheval'sk**	**43.04**	**305**	P	**P**	**12 27 01.3**	**+0.8**
**TAR

KKAR Karatay Array 48.87 305 P **P** 12 27 46.8 +0.7
KKAR Karatay Array 48.87 305 P **P** 12 27 46.8 +0.7
GAR Garm 49.14 300 P **P** 12 27 48.9 +0.6
BVAR Borovoye Array 49.72 318 P **P** 12 27 52.5 +0.1
comp=Z,2.2nm,0.3s,baz=91,slow=8.9,SNR=23
BVAR PcP **PcP** 12 29 14.4 +1.6
comp=Z,1.2nm,0.4s,baz=91,slow=2.3,SNR=4.0
comp=Z,2.2nm,0.3s
BRVK Borovoye 49.79 318 P **P** 12 27 52.9 -0.1
BRVK Borovoye 49.79 318*c iP* **P** 12 27 52.6 -0.3
BRVK pmax pmax
comp=Z,17nm,1.3s
CHGR Chuyangaron 50.06 299 P **P** 12 27 55.6 +0.2
CHGR Chuyangaron 50.06 299 P **P** 12 27 55.6 +0.2
CHGR pmax pmax
comp=Z,16nm,0.6s
SIMJ Simiganj 50.18 299 P **P** 12 27 56.2 -0.1
AS31 Alice Springs 50.36 173 P **P** 12 27 58.3 +0.7
ASAR Alice Springs 50.36 173 P **P** 12 27 56.9 -0.7
ASAR Alice Springs 50.36 173 P **P** 12 27 58.5 +1.0
comp=Z,1.2nm,0.5s,baz=2.2,slow=12,SNR=42
comp=Z,1.2nm,0.5s
KBL Kabul 50.60 294 P **P** 12 28 00.3 +0.7
KBL Kabul 50.60 294 P **P** 12 28 00.3 +0.7
KBL pmax pmax
comp=Z,13nm,0.7s
HMDM Hanimaadhoo 55.48 259 P **P** 12 28 34.0 -1.6
ABKAR Akbulak array 56.09 313 P **P** 12 28 39.3 -0.2
ABKAR Akbulak array 56.09 313 P **P** 12 28 39.2 -0.2
ANM Nome 56.32 28 P **P** 12 28 40.8 -0.1
ANM Nome 56.32 28 P **P** 12 28 40.8 -0.1
ANM pmax pmax
comp=Z,14nm,1.5s
F15K North Star Dit 56.80 27 P **P** 12 28 45.3 +1.0
F15K IAmb IAmb 12 29 08.2
comp=Z,12nm,1.4s
ARU Arti 56.84 322 LR LR 12 54 20.0
comp=Z,73nm,18.8s,baz=310,slow=37
C16K Lisburne Hills 56.97 24 P **P** 12 28 46.4 +1.0
C16K IAmb IAmb 12 29 09.6
comp=Z,6.7nm,1.4s
G16K Koyuk River 57.70 28 P **P** 12 28 51.3 +0.7
G16K IAmb IAmb 12 29 24.6
comp=Z,11nm,1.5s
F17K Baldwin Pennin 58.27 27 P **P** 12 28 56.3 +1.8
F17K IAmb IAmb 12 29 11.3
comp=Z,4.1nm,0.8s
C18K Utukok River 58.55 24 P **P** 12 28 57.7 +1.2
C18K IAmb IAmb 12 29 19.6
comp=Z,4.2nm,1.1s
E18K Tukpahlearik C 58.62 25 P **P** 12 28 58.5 +1.5
H17K Granite Mounta 58.69 28 P **P** 12 29 00.0 +2.5
GEYT Alibeck 58.76 300 P **P** 12 28 57.9 -0.7
GEYT IAmb IAmb 12 28 59.9
comp=Z,4.4nm,0.7s
GEYT Alibeck 58.76 300 P **P** 12 28 59.1 +0.6
comp=Z,3.8nm,0.7s,baz=75,slow=1.7,SNR=6.3
comp=Z,3.8nm,0.7s
J17K VABM Dome 58.98 30 P **P** 12 29 01.4 +1.9
M16K Timber Creek 58.98 33 P **P** 12 28 58.1 -1.4
C19K Lookout Ridge 59.18 23 P **P** 12 29 00.5 -0.3
C19K IAmb IAmb 12 29 34.2
comp=Z,10.0nm,1.5s
G18K Tagagawik 59.27 27 P **P** 12 29 03.0 +1.5
G18K IAmb IAmb 12 29 25.7
comp=Z,7.2nm,1.4s
K17K Iditarod 59.31 31 P **P** 12 29 01.5 -0.3
K17K IAmb IAmb 12 29 22.2
comp=Z,8.4nm,1.2s
H18K Honhosa River 59.36 28 P **P** 12 29 03.9 +1.7
D19K Kuna River 59.66 24 P **P** 12 29 05.7 +1.6
D19K IAmb IAmb 12 29 31.9
comp=Z,6.2nm,1.1s
F19K Shaleruckik Mo 59.68 26 P **P** 12 29 06.5 +2.2
M17K Holitna River 59.71 33 P **P** 12 29 06.9 +2.3
E19K Redstone River 59.92 25 P **P** 12 29 07.6 +1.6
E19K IAmb IAmb 12 29 32.7
comp=Z,3.9nm,0.8s
G19K Purcell Mounta 59.93 27 P **P** 12 29 06.6 +0.6
G19K IAmb IAmb 12 29 12.9
comp=Z,5.1nm,1.4s
L18K Granite Mounta 60.06 32 P **P** 12 29 09.3 +2.4
L18K IAmb IAmb 12 29 31.1
comp=Z,8.5nm,1.4s
B20K Meade River 60.11 23 P **P** 12 29 09.1 +1.9
H19K Roundabout Mou 60.17 28 P **P** 12 29 08.3 +0.6
F20K Avaraart Lake 60.49 26 P **P** 12 29 12.2 +2.3
J19K Poorman 60.52 30 P **P** 12 29 11.7 +1.6
J19K IAmb IAmb 12 29 35.6
comp=Z,3.8nm,1.0s
P18K Big Mountain, 60.88 35 P **P** 12 29 14.6 +1.9
L19K White Mountain 60.92 32 P **P** 12 29 14.9 +2.0
L19K IAmb IAmb 12 29 58.4
comp=Z,5.8nm,1.2s
B21K Ikpikpuk River 60.97 23 P **P** 12 29 14.7 +1.6
B21K IAmb IAmb 12 29 41.4
comp=Z,5.8nm,1.2s
M19K Big River Lodg 61.15 32 P **P** 12 29 14.7 +0.2
J20K Nowinta River 61.17 29 P **P** 12 29 16.6 +2.1
J20K IAmb IAmb 12 29 31.1
comp=Z,6.2nm,1.4s
K20K Telida 61.23 30 P **P** 12 29 15.1 +0.1
K20K IAmb IAmb 12 29 38.6
comp=Z,4.4nm,1.1s
IMAR Indian Mountai 61.29 27 P **P** 12 29 16.6 +1.4
F21K Alatna River 61.37 26 P **P** 12 29 17.3 +1.4
G21K Allakaket 61.37 27 P **P** 12 29 17.4 +1.6
B22K Teshekpuk Lake 61.40 22 P **P** 12 29 16.9 +1.0
B22K IAmb IAmb 12 29 25.6
comp=Z,4.6nm,1.2s
D22K Ayikyak River 61.65 24 P **P** 12 29 18.9 +1.2
D22K IAmb IAmb 12 29 30.9
comp=Z,4.2nm,1.1s
H21K Melozitna River 61.69 28 P **P** 12 29 20.2 +2.2
H21K IAmb IAmb 12 29 42.6
comp=Z,6.2nm,1.4s
KIRV Kirov 61.69 324↑ *eP* **P** 12 29 17.3 -0.8
M20K Styx River 61.75 32 P **P** 12 29 20.4 +1.8
M20K IAmb IAmb 12 29 25.3
comp=Z,9.0nm,1.4s
E22K Anaktuvuk Pass 61.99 25 P **P** 12 29 22.0 +2.0
E22K IAmb IAmb 12 29 35.1
comp=Z,3.2nm,0.9s
I21K Tanana 62.05 28 P **P** 12 29 22.3 +1.9
I21K IAmb IAmb 12 29 45.1
comp=Z,4.7nm,1.1s
CAST Castle Rocks 62.12 30 P **P** 12 29 22.7 +1.7
CAST IAmb IAmb 12 29 36.8
comp=Z,8.9nm,1.4s
C23K Itkillik River 62.36 23 P **P** 12 29 24.1 +1.7
C23K IAmb IAmb 12 29 42.7
comp=Z,7.0nm,1.4s
SKT Skwentna 62.49 32 P **P** 12 29 24.7 +1.3
SKT IAmb IAmb 12 29 29.0
comp=Z,6.1nm,1.3s
MLY Manley 62.59 28 P **P** 12 29 26.1 +2.0
MLY IAmb IAmb 12 29 54.6
comp=Z,7.9nm,1.5s
KTH Kantishna Hill 62.63 30 P **P** 12 29 24.8 +0.3
G23K Bananza Creek 62.75 26 P **P** 12 29 26.7 +1.5
G23K IAmb IAmb 12 29 50.2
comp=Z,5.5nm,1.5s
SUA Susitna One 62.92 32 P **P** 12 29 27.6 +1.1
SUA IAmb IAmb 12 29 34.5
comp=Z,5.5nm,1.0s
TRF Thorofare Moun 62.92 30 P **P** 12 29 27.4 +0.9
D24K Happy Valley 63.03 24 P **P** 12 29 28.8 +1.9
D24K IAmb IAmb 12 29 36.0
comp=Z,3.2nm,0.6s
I23K Minto, Yukon-K 63.16 28 P **P** 12 29 28.9 +1.1
FIS Fire Island 63.21 33 P **P** 12 29 27.3 -0.9
BWN Browne 63.21 29 P **P** 12 29 26.5 -1.7
NEA2 Nenana 63.34 29 P **P** 12 29 30.2 +1.1
NEA2 IAmb IAmb 12 30 02.0
comp=Z,7.3nm,1.2s
RC01 Rabbit Creek A 63.45 33 P **P** 12 29 29.4 -0.4
F24K Squaw Lake 63.52 25 P **P** 12 29 30.7 +0.5
RND Reindeer 63.57 30 P **P** 12 29 31.2 +0.5
RND IAmb IAmb 12 29 45.3
comp=Z,9.5nm,1.2s
RND Reindeer 63.57 30 P **P** 12 29 31.2 +0.5
RND pmax pmax
comp=Z,10.0nm,1.2s
MDM Murphy Dome 63.66 28 P **P** 12 29 30.9 -0.3
MDM IAmb IAmb 12 29 46.1
comp=Z,4.7nm,0.8s
H24K Noodor Dome 63.70 27 P **P** 12 29 32.3 +0.8
GHO Glory Hole Cre 63.74 32 P **P** 12 29 31.8 0.0
GHO IAmb IAmb 12 29 52.5
comp=Z,10nm,1.4s
WRH Wood River Hil 63.77 29 P **P** 12 29 32.1 +0.2
CCB Clear Creek Bu 63.87 29 P **P** 12 29 33.5 +1.0
SML Sawmill 64.02 32 P **P** 12 29 35.3 +1.7
SML IAmb IAmb 12 30 00.5
comp=Z,5.0nm,0.9s
IL31 64.25 28 P **P** 12 29 35.3 +0.4
ILAR Eielson Array 64.25 28 P **P** 12 29 35.0 +0.1
ILAR Eielson Array 64.25 28 P **P** 12 29 35.1 +0.1
ILAR Eielson Array 64.25 28 P **P** 12 29 34.9 -0.1
comp=Z,0.4nm,0.8s,baz=254,slow=4.6,SNR=10.0
comp=Z,0.4nm,0.8s
HDA Harding Lake 64.27 29 P **P** 12 29 33.6 -1.6
SCM Sheep Creek Mo 64.49 32 P **P** 12 29 36.4 -0.3
SCM Sheep Creek Mo 64.49 32 P **P** 12 29 36.4 -0.3
SCM pmax pmax
comp=Z,20nm,1.5s
BMAR Burnt Mountain 64.79 25 P **P** 12 29 41.1 +2.6
J25K Salcha River, 64.92 28 P **P** 12 29 39.4 -0.1
M24K Tolsona, Glenn 64.98 31 P **P** 12 29 41.7 +1.8
SCRK Sand Creek 65.62 29 P **P** 12 29 44.4 +0.3
J26L Joseph Creek 65.70 28 P **P** 12 29 45.2 +0.6
I26K Coal Creek Min 65.72 27 P **P** 12 29 44.9 +0.3
I26K IAmb IAmb 12 30 07.9
comp=Z,7.1nm,1.4s
MENT Mentasta 65.94 30 P **P** 12 29 47.7 +1.6
MENT IAmb IAmb 12 30 05.5
comp=Z,5.8nm,1.1s
M26K Nabesna, AK 66.38 31 IAmb IAmb 12 30 05.0
comp=Z,5.1nm,0.9s
EPYK Eagle Plains 68.05 26 P **P** 12 29 60.0 +0.6
EPYK IAmb IAmb 12 30 23.1
comp=Z,5.4nm,0.9s
GNI Garni 68.33 305 LR LR 13 03 00.8
comp=Z,35nm,18.1s,baz=157,slow=39
SPITS Spitsbergen Ar 68.35 348 P **P** 12 30 00.5 -0.5
comp=Z,5.9nm,0.7s,baz=90,slow=10.0,SNR=7.4
comp=Z,5.9nm,0.7s
KBZ Khabaz 68.61 309*de*P **P** 12 30 03.7 +0.5
KBZ pmax pmax
comp=Z,11nm,0.9s
KBZ Khabaz 68.61 309 P **P** 12 30 03.0 -0.2
comp=Z,9.4nm,0.8s,baz=95,slow=4.5,SNR=19
KBZ LR LR 13 03 20.5
comp=Z,34nm,18.7s,baz=128,slow=39
comp=Z,9.4nm,0.8s
INK Inuvik 68.66 23 P **P** 12 30 03.9 +0.8
INK IAmb IAmb 12 30 05.9
comp=Z,6.5nm,1.3s
INK Inuvik 68.66 23 P **P** 12 30 03.9 +0.8
INK pmax pmax
comp=Z,7.0nm,1.3s
KIV Kislovodsk 68.69 309 *eP* **P** 12 30 01.4 -2.5
KIV pmax pmax
comp=Z,12nm,1.1s
J30M Hart River 68.72 27 P **P** 12 30 05.3 +1.6
OBN Obninsk 69.28 322 LR LR 13 02 54.8
comp=Z,111nm,19.4s,baz=326,slow=38
ARCES ARCESS Array B 69.49 338 P **P** 12 30 07.5 -0.8
comp=Z,2.1nm,0.7s,baz=57,slow=7.0,SNR=11
ARCES LR LR 13 06 46.5
comp=Z,50nm,18.8s,baz=44,slow=41
comp=Z,2.1nm,0.7s
SGF Sodankyl 69.89 336 P **P** 12 30 10.4 -0.3
SGF pmax pmax
comp=Z,13nm,2.4s
A36M Sachs Harbour 69.95 18 P **P** 12 30 11.9 +0.9
A36M IAmb IAmb 12 30 27.4
comp=Z,7.2nm,0.8s
NOR Nord 70.48 355 P **P** 12 30 13.7 -0.5
NOR pmax pmax
comp=Z,3.0nm,1.1s
OUL Oulu 70.99 334 P **P** 12 30 16.8 -0.6
OUL pmax pmax
comp=Z,15nm,1.2s
FINES FINESS Array B 72.32 330 P **P** 12 30 25.2 -0.3
comp=Z,5.8nm,0.7s,baz=60,slow=5.7,SNR=21
FINES LR LR 13 06 08.2
comp=Z,64nm,19.4s,baz=41,slow=39
comp=Z,5.8nm,0.7s
VSU Vasula 73.20 327 P **P** 12 30 30.8 0.0
VSU pmax pmax
comp=Z,23nm,0.8s
RAYN Ar Rayn 73.33 288 P **P** 12 30 32.4 +0.1
RAYN IAmb IAmb 12 30 34.0
comp=Z,9.4nm,1.1s
RAYN Ar Rayn 73.33 288 P **P** 12 30 32.4 +0.1
RAYN pmax pmax
comp=Z,9.0nm,1.1s
AKASG Malin Array Be 74.98 319 P **P** 12 30 40.4 -0.9
comp=Z,3.3nm,0.5s,baz=59,slow=6.5,SNR=12
AKASG LR LR 13 06 24.1
comp=Z,47nm,18.8s,baz=39,slow=38
comp=Z,3.3nm,0.5s
AKBB Malin Array Si 74.98 319*de*P **P** 12 30 40.7 -0.6
KIEV Kiev 74.99 319 P **P** 12 30 40.7 -0.7
KIEV pmax pmax
comp=Z,32nm,1.1s
RES Resolute Bay 75.21 11 P **P** 12 30 42.6 +0.4
RES Resolute Bay 75.21 11 P **P** 12 30 42.6 +0.4
RES pmax pmax
comp=Z,4.0nm,1.0s
RAO Raoul Island 76.12 133 P P 12 30 43.6 -4.4
BR131 Keskin Array S 76.49 308*de*P **P** 12 30 50.3 -0.1
BRTR Keskin Array B 76.49 308 P **P** 12 30 50.0 -0.4
BRTR Keskin Array B 76.49 308*ce*P **P** 12 30 50.5 +0.1
BRTR pmax pmax
comp=Z,7.0nm,0.9s
BRTR Keskin Array B 76.49 308 P **P** 12 30 49.8 -0.6
comp=Z,7.5nm,1.0s,baz=90,slow=5.2,SNR=11
comp=Z,7.5nm,1.0s
SUW Suwalki 76.90 324 P **P** 12 30 52.2 0.0
SUW pmax pmax
comp=Z,27nm,1.3s
MMAI Mount Meron Ar 77.87 301 LR LR 13 10 38.1
comp=Z,26nm,20.6s,baz=8.5,slow=40
HFS Hagfors 78.28 332 P **P** 12 30 58.6 -1.2
comp=Z,1.0nm,0.4s,baz=60,slow=3.6,SNR=9.7
HFS LR LR 13 09 18.5
comp=Z,70nm,19.3s,baz=66,slow=38
comp=Z,1.0nm,0.4s
NC405 NORSAR Array S 78.54 334 P **P** 12 31 00.3 -0.9
NB2 NORSAR Subarra 78.78 334 P **P** 12 31 02.0 -0.5
comp=Z,1.1nm,0.5s,baz=52,slow=5.9
NOA NORSAR Array B 78.78 334 P **P** 12 31 02.1 -0.5
comp=Z,2.7nm,0.8s,baz=52,slow=5.6,SNR=11
NOA LR LR 13 09 47.0
comp=Z,45nm,18.8s,baz=285,slow=39
comp=Z,2.7nm,0.8s
KWP Kalwaria Pacla 79.21 320 P **P** 12 31 05.8 +0.7
KWP pmax pmax
comp=Z,9.0nm,0.9s
BSD Bornholm Skovb 80.50 328 P **P** 12 31 11.8 -0.2
BSD pmax pmax
comp=Z,21nm,1.3s
SUMG Summit 80.60 356 *i* P **P** 12 31 13.0 +0.3
VYHS Vyhne 81.99 321 *eP* **P** 12 31 20.7 +0.7
VYHS Vyhne 81.99 321 *eP* **P** 12 31 20.7 +0.7
VRAC Vranov 82.81 322 LR LR 13 12 48.3
comp=Z,46nm,18.7s,baz=352,slow=39
PAIG Paliouri 83.28 311 P **P** 12 31 26.8 -0.1
PAIG pmax pmax
comp=Z,20nm,1.0s
CLL Collm 83.60 325 *i* P **P** 12 31 28.6 +0.3
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL Collm 83.60 325 *i* P **P** 12 31 28.6 +0.3
comp=Z,6.0nm,0.8s
GRG Griva 83.62 313 P **P** 12 31 28.4 -0.3
GRG pmax pmax
comp=Z,10.0nm,2.8s
GERES GERESS Array B 84.65 323 P **P** 12 31 34.5 +0.7
comp=Z,1.1nm,0.6s,baz=25,slow=7.3,SNR=4.1
GERES LR LR 13 12 28.5
comp=Z,70nm,20.4s,baz=3.0,slow=38
comp=Z,1.1nm,0.6s
DAVOX Davos/Dischmat 87.95 323 LR LR 13 15 28.2
comp=Z,122nm,19.3s,baz=74,slow=38
EKA Eskdalemuir Ar 88.24 334 P **P** 12 31 50.7 -0.4
comp=Z,1.3nm,0.7s,baz=57,slow=5.3,SNR=1.7
comp=Z,1.3nm,0.7s
PDAR Pinedale Array 93.07 38 P **P** 12 32 12.4 -1.8
comp=Z,0.3nm,0.9s,baz=199,slow=1.9,SNR=1.5
comp=Z,0.3nm,0.9s
TORD Torodi Ar. Bea 114.40 300 PKiKP PKPdf 12 37 39.9 -0.5
comp=Z,0.3nm,0.7s,baz=24,slow=1.8,SNR=2.3

*IDC **06** 12:32:50.8±1.2, 6.°24S×142.°61E, h0km, mb4.1/3, mbtmp3.9/7, ML3.6/3, Error ellipse: s-maj=27.5km s-min=14.9km az=99.0*
ISC 06 12:32:54.7±1.1, **6.°17S**±0.°10×**142.°69E**±0.°10, **h28**km, **n7**, σ**3.902**/10, **mb4.1/3**, **New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.47**	**126**	Pn	**Pn**	**Pn**	**12 34 13.4**	**-1.0**
	5.4nm,0.5s,baz=104,slow=3.2,SNR=3.2							
PMG				Sn		**Sn**	**12 35 19.5**	**+3.0**
	2.0nm,0.3s,baz=88,slow=20,SNR=3.9							
CTA	**Charters Tower**	**14.26**	**166**	Pn	**Pn**	**Pn**	**12 36 12.8**	**-2.1**
	0.1nm,0.3s,baz=1.9,slow=10,SNR=2.3							
CTA				Lg	Lg	Lg	12 40 26.0	
	0.1nm,0.3s,baz=33,slow=17,SNR=1.6							
	4.7nm,1.0s							
WRA	**Warramunga Arr**	**15.91**	**210**	Pn	**Pn**	**Pn**	**12 36 33.1**	**-3.7**
	0.2nm,0.3s,baz=24,slow=13,SNR=9.9							
WRA				Sn		**Sn**	**12 39 38.2**	**+5.7**
	0.2nm,0.3s,baz=22,slow=23,SNR=4.9							
WRA				Lg	Lg	Lg	12 41 16.5	
	0.3nm,0.3s,baz=16,slow=28,SNR=4.7							
	0.8nm,0.9s							
ASAR	**Alice Springs**	**19.34**	**205**	P	**P**	**P**	**12 37 18.8**	**+0.7**
	0.3nm,0.3s,baz=34,slow=8.8,SNR=34							
ASAR				S		**S**	**12 40 54.3**	**-1.2**
	0.9nm,0.8s,baz=45,slow=21,SNR=4.2							
ASAR				Lg	Lg	Lg	12 43 14.2	
	0.1nm,0.3s,baz=22,slow=29,SNR=4.3							
	2.2nm,0.6s							
MKAR	**Makanchi Array**	**74.94**	**322**	P	**P**	**P**	**12 44 34.2**	**+0.9**
	0.6nm,0.8s,baz=107,slow=7.8,SNR=6.1							
	0.6nm,0.8s							
QSPA	**South Pole Qui**	**83.80**	**180**	P	**P**	**P**	**12 45 21.9**	**+0.5**
	1.4nm,1.0s,baz=135,slow=4.3,SNR=3.4							
	1.4nm,1.0s							
BVAR	**Borovoye Array**	**84.41**	**325**	P	**P**	**P**	**12 45 24.9**	**+0.3**
	3.0nm,0.9s,baz=107,slow=5.1,SNR=6.9							
	3.0nm,0.9s							

*NCEDC **06** 12:38:16.7±1.5, 37.°002N±0.°008×121.°46W±0.°01, h8km±6km, Mwr3.3/4, ML3.1/81(NEIC), Error ellipse: s-maj=1.3km s-min=1.2km az=86.0*
*NEIC **06** 12:38:16.1±1.3, 36.°998N±0.°007×121.°46W±0.°01, h15km±2km, Error ellipse: s-maj=1.2km s-min=1.0km az=58.0*
*ANF **06** 12:38:18.0±0.9, 36.°81N×121.°34W, h5km±14km, ML3.4/19, Error ellipse: s-maj=14.9km s-min=4.7km az=111.0*
ISC 06 12:38:16.0±0.8, **37.°00N**±0.°01×**121.°47W**±0.°02, **h13**km±4km, **n242**, σ0.°**79**/262, **Central California**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CDC	**Canada Road**	**0.03**	**336**			**Pg**	**12 38 18.1**	**-0.3**
HCAM	**Canada Road**	**0.03**	**336**			**Pg**	**12 38 18.1**	**-0.3**
HCAM						**Sg**	**12 38 20.2**	**+0.1**
HFEM	**San Felipe**	**0.06**	**106**			**Pg**	**12 38 18.1**	**-0.5**
GHS	**Gilroy Hot Spr**	**0.10**	**11**			**Pg**	**12 38 18.7**	**-0.4**
HLPM	**Lions Peak**	**0.14**	**288**			**Pg**	**12 38 19.6**	**+0.1**
PACP	**Pacheco Peak**	**0.15**	**87**			**Pg**	**12 38 19.5**	**-0.2**
PACP						**Sg**	**12 38 22.1**	**-0.2**
ANZ	**Anzar Road**	**0.15**	**220**			**Pb**	**12 38 20.4**	**-0.3**
HBTM	**San Juan Bauti**	**0.16**	**204**			**Pb**	**12 38 20.8**	**-0.1**
HPCM	**Pacheco Lake**	**0.17**	**69**			**Pg**	**12 38 19.8**	**-0.2**
HCBM	**Chamberlain**	**0.17**	**246**			**Pg**	**12 38 20.4**	**+0.5**
HSFM	**Saint Francis**	**0.19**	**187**			**Pg**	**12 38 20.9**	**+0.6**
CADM	**Anderson Res.**	**0.21**	**323**			**Pg**	**12 38 20.7**	**+0.1**
SLD	**San Luis Dam**	**0.21**	**69**			**Pg**	**12 38 20.6**	**-0.2**
SLD						**Sg**	**12 38 23.9**	**-0.1**
HCOM	**Corn Cob Canyo**	**0.22**	**240**			**Pg**	**12 38 21.6**	**+0.7**
HTUM	**Tustin Road**	**0.22**	**219**			**Pg**	**12 38 21.4**	**+0.6**
HTUM						**Sb**	**12 38 25.4**	**-0.4**
SAO	**San Andreas Ge**	**0.24**	**176**	Pg		**Pb**	**12 38 21.8**	**-0.4**
SAO	**San Andreas Ge**	**0.24**	**176**			**Sg**	**12 38 24.8**	**+0.3**
BSLM	**Silva Ranch**	**0.24**	**156**			**Pg**	**12 38 21.8**	**+0.5**
FRP	**Fremont Peak**	**0.25**	**184**			**Pg**	**12 38 21.9**	**+0.6**
JLAB	**Laurel Hill**	**0.26**	**306**			**Pg**	**12 38 21.8**	**+0.2**
HERM	**Elkhorn Road**	**0.28**	**224**			**Pb**	**12 38 22.6**	**-0.3**
JELB	**Ellicott, Sant**	**0.29**	**256**			**Pb**	**12 38 22.9**	**-0.2**
JELB						**Sb**	**12 38 28.2**	**+0.2**
CCOB	**Coe Ranch Numb**	**0.31**	**328**			**Pg**	**12 38 22.9**	**+0.6**
CCOB						**Sb**	**12 38 29.6**	**+1.2**
BSRM	**Salinas Radio**	**0.34**	**187**			**Pg**	**12 38 23.3**	**+0.5**
BSRM						**Sb**	**12 38 28.7**	**-0.4**
ARN	**Arnold Ranch**	**0.35**	**352**			**Pg**	**12 38 23.4**	**+0.2**
ARN	**Arnold Ranch**	**0.35**	**352**			**Sg**	**12 38 29.0**	**+1.0**
MHC	**Mount Hamilton**	**0.37**	**338**			**Pg**	**12 38 23.7**	**+0.2**
MHC						**Sb**	**12 38 30.5**	**+0.3**
SCKWR	**San Luis Creek**	**0.37**	**60**			**Pb**	**12 38 24.1**	**-0.4**
SCKWR						**Sb**	**12 38 30.0**	**-0.1**
CMPM	**Mikes Peak**	**0.38**	**19**			**Pg**	**12 38 23.9**	**+0.2**
BJOM	**Mount Johnson**	**0.39**	**161**			**Pb**	**12 38 24.6**	**-0.3**
C054	**Valleyhaven Wa**	**0.39**	**314**			**Pg**	**12 38 24.1**	**+0.2**
SCZ	**Santa Cruz**	**0.40**	**172**			**Pg**	**12 38 24.4**	**+0.2**
SCZ						**Sb**	**12 38 30.5**	**-0.7**
C059	**Quail Canyon R**	**0.42**	**325**			**Pb**	**12 38 25.2**	**-0.1**
SCCB	**Santa Clara Co**	**0.43**	**312**			**Pg**	**12 38 24.9**	**+0.4**
BPCNC	**Pine Canyon**	**0.44**	**197**			**Pb**	**12 38 25.4**	**-0.3**
JJOM	**Saint Joseph's**	**0.46**	**297**			**Pg**	**12 38 25.1**	**0.0**
BJCM	**Johnson Can.**	**0.46**	**172**			**Pg**	**12 38 25.3**	**+0.2**
CMMM	**Mount Mocho**	**0.46**	**358**			**Pg**	**12 38 25.3**	**+0.2**
C041	**El Campo Drive**	**0.47**	**323**			**Pb**	**12 38 26.4**	**+0.2**
BVL	**Bear Valley**	**0.48**	**152**			**Pb**	**12 38 26.1**	**-0.3**
C046	**N 16th Street**	**0.48**	**317**			**Pg**	**12 38 26.1**	**+0.5**
CMLM	**Mount Lewis**	**0.50**	**343**			**Pg**	**12 38 26.2**	**+0.3**
BAVM	**Antelope Valle**	**0.50**	**135**			**Pg**	**12 38 25.9**	**0.0**
C016	**Longford Drive**	**0.51**	**321**			**Pb**	**12 38 26.9**	**+0.1**
MTOS	**Mt Oso, Westle**	**0.52**	**13**			**Pg**	**12 38 26.5**	**+0.3**
CALM	**Calaveras Res.**	**0.52**	**330**			**Pg**	**12 38 26.4**	**+0.1**
HMOM	**Monterey**	**0.54**	**222**			**Pg**	**12 38 26.9**	**+0.3**
BBGB	**Big Mountain B**	**0.54**	**140**			**Pg**	**12 38 27.0**	**+0.3**
BPIM	**Pinnacles**	**0.56**	**154**			**Pg**	**12 38 27.2**	**+0.1**
BBNM	**San Benito**	**0.58**	**147**			**Pb**	**12 38 28.1**	**-0.1**
JSJM	**St Joseph**	**0.60**	**304**			**Pg**	**12 38 28.1**	**+0.4**
BSGM	**Shirttail Gulc**	**0.61**	**163**			**Pg**	**12 38 27.8**	**-0.1**
HAST	**Hastings Reser**	**0.61**	**186**			**Pg**	**12 38 28.1**	**+0.1**
BSMM	**Soledad Missio**	**0.62**	**177**			**Pb**	**12 38 28.5**	**-0.2**
C017	**S Grimmer Bl F**	**0.62**	**324**			**Pb**	**12 38 28.8**	**0.0**
BPRM	**Ponciano Ridge**	**0.63**	**200**			**Pg**	**12 38 28.5**	**+0.2**
JBMM	**Black Mountain**	**0.63**	**300**			**Pg**	**12 38 28.1**	**-0.3**
C050	**Festivo Court**	**0.64**	**325**			**Pg**	**12 38 28.9**	**+0.4**
C001	**Firth Court Fr**	**0.64**	**325**			**Pb**	**12 38 29.0**	**0.0**
CSTL	**Corral Hollow**	**0.64**	**358**			**Pb**	**12 38 29.0**	**-0.1**
WENL	**Wente Vineyard**	**0.66**	**340**			**Pg**	**12 38 29.3**	**+0.4**
JFP	**Foothills Park**	**0.68**	**302**			**Pg**	**12 38 29.1**	**-0.2**
LRV	**Little Rabbit**	**0.68**	**148**			**Pb**	**12 38 29.7**	**-0.1**
CVLM	**Vallecito**	**0.69**	**335**			**Pb**	**12 38 29.9**	**0.0**
JSFB	**Stanford Teles**	**0.69**	**306**			**Pg**	**12 38 29.6**	**+0.1**
C015	**Bright Common**	**0.70**	**323**			**Pg**	**12 38 29.5**	**-0.1**
CSAM	**Sandia**	**0.70**	**345**			**Pb**	**12 38 30.4**	**+0.3**
C002	**Farnham Drive**	**0.72**	**321**			**Pb**	**12 38 30.6**	**+0.2**
CBZL	**Buffer Zone**	**0.72**	**344**			**Pb**	**12 38 30.9**	**+0.5**
CBZL	**Buffer Zone**	**0.72**	**344**			**Pb**	**12 38 31.0**	**+0.6**
CNIC	**Niles Canyon**	**0.72**	**327**			**Pg**	**12 38 30.4**	**+0.2**
JPSM		**0.73**	**286**			**Pg**	**12 38 29.9**	**-0.3**
C069	**Rotal Creek Pl**	**0.73**	**332**			**Pb**	**12 38 31.3**	**+0.7**
JRSC	**Jasper Ridge**	**0.73**	**304**			**Pg**	**12 38 29.9**	**-0.4**
CYD1	**Coyote D'meter**	**0.75**	**319**			**Pg**	**12 38 30.4**	**-0.3**
C006	**Lk Pillsbury D**	**0.76**	**322**			**Pg**	**12 38 30.8**	**+0.2**
BGH	**Bear Gulch**	**0.77**	**296**			**Pg**	**12 38 30.9**	**-0.1**
CDOM	**Doolan Road**	**0.79**	**338**			**Pb**	**12 38 32.0**	**+0.5**
LRC	**Lone Oak Road**	**0.83**	**155**			**Pg**	**12 38 31.9**	**-0.1**
CBSNC	**Byron Hot Spri**	**0.83**	**351**			**Pb**	**12 38 32.8**	**+0.5**
C055	**Cottonwood Ave**	**0.83**	**322**			**Pb**	**12 38 32.2**	**-0.2**
C045	**Hawkins Drive**	**0.84**	**333**			**Pg**	**12 38 32.9**	**+0.5**
CMOB	**Morgan Territo**	**0.85**	**342**			**Pb**	**12 38 32.7**	**0.0**
C071	**Via Corta San**	**0.86**	**322**			**Pb**	**12 38 32.7**	**-0.2**
CLCB	**Lake Chabot**	**0.88**	**327**			**Pb**	**12 38 33.1**	**0.0**
C070	**Dillo Street S**	**0.88**	**323**			**Pb**	**12 38 32.9**	**-0.2**
JCHM	**Cahill Ridge**	**0.89**	**306**			**Pb**	**12 38 32.6**	**-0.7**
CSLM	**San Leandro Hi**	**0.89**	**325**			**Pb**	**12 38 33.1**	**-0.3**
MYLM	**Yosemite Lake**	**0.92**	**65**			**Pb**	**12 38 33.3**	**-0.6**

PCCM	**Crazy Canyon**	**0.94**	**165**			**Pb**	**12 38 34.2**	**0.0**
BGC	**Bolinger Road**	**0.94**	**330**			**Pb**	**12 38 33.9**	**-0.4**
C044	**Maitland Drive**	**0.95**	**321**			**Pb**	**12 38 34.2**	**-0.1**
PMPB	**Monarch Peak**	**0.95**	**145**			**Pg**	**12 38 34.4**	**0.0**
SAC	**San Andreas**	**0.95**	**308**			**Pb**	**12 38 33.7**	**-0.7**
CMCM	**Mills College**	**0.96**	**324**			**Pb**	**12 38 34.2**	**-0.4**
C058	**Eastshore Driv**	**0.97**	**322**			**Pb**	**12 38 34.5**	**-0.1**
CRPB	**Russellman Par**	**0.97**	**339**			**Pb**	**12 38 34.0**	**-0.8**
HULI	**Fort Hunter Li**	**0.99**	**169**			**Pb**	**12 38 34.6**	**-0.5**
C013	**Ascot Lane Oak**	**1.00**	**325**			**Pb**	**12 38 35.0**	**-0.3**
C049	**Pacific Avenue**	**1.01**	**321**			**Pb**	**12 38 35.2**	**-0.1**
C005	**Mandana Bl Oak**	**1.01**	**323**			**Pb**	**12 38 35.4**	**0.0**
JMGM	**Milagra Ridge**	**1.02**	**309**			**Pb**	**12 38 34.5**	**-1.1**
PJUM	**Juniper Ridge**	**1.04**	**137**			**Pb**	**12 38 36.0**	**-0.1**
BKS	**Berkeley--Byer**	**1.07**	**325**			**Pb**	**12 38 35.5**	**-0.8**
CVPM	**Vollmer Peak**	**1.07**	**326**			**Pb**	**12 38 36.2**	**-0.2**
VAK	**Adit at Lawren**	**1.07**	**325**			**Pb**	**12 38 35.4**	**-1.1**
BL67	**Building 67, L**	**1.07**	**325**			**Pb**	**12 38 35.7**	**-0.9**
BL88	**Building 88, L**	**1.08**	**325**			**Pb**	**12 38 36.2**	**-0.3**
BRK	**Berkeley--Havi**	**1.08**	**324**			**Pb**	**12 38 35.5**	**-1.1**
CYBM	**Yerba Buena Is**	**1.08**	**319**			**Pb**	**12 38 35.5**	**-1.0**
PSAM	**San Ardo**	**1.08**	**154**			**Pb**	**12 38 36.0**	**-0.6**
J061	**Lakeshore Driv**	**1.10**	**312**			**Pb**	**12 38 36.2**	**-0.6**
PDRM	**Domengine Ranc**	**1.11**	**126**			**Pb**	**12 38 36.8**	**-0.2**
CTAM	**Taylor**	**1.11**	**337**			**Pb**	**12 38 36.4**	**-0.8**
JPRM	**Presidio of Sa**	**1.13**	**315**			**Pb**	**12 38 35.7**	**-1.7**
CPIM	**Pinole Ridge**	**1.15**	**329**			**Pn**	**12 38 37.2**	**-0.6**
PWMM	**Westland Maint**	**1.16**	**119**			**Pb**	**12 38 37.8**	**-0.1**
PSMM	**Smith Mountain**	**1.17**	**143**			**Pg**	**12 38 38.7**	**+0.2**
CPMM	**Point Molate**	**1.21**	**322**			**Pn**	**12 38 37.4**	**-1.2**
PHSB	**Hesperia Broad**	**1.22**	**164**			**Pn**	**12 38 38.1**	**-0.8**
MHDM	**Hidden Dam**	**1.27**	**84**			**Pn**	**12 38 38.4**	**-1.0**
PKD	**Bear Valley Ra**	**1.29**	**144**			**Pn**	**12 38 39.2**	**-0.6**
PANM	**San Antonio Re**	**1.30**	**159**			**Pn**	**12 38 39.4**	**-0.5**
PVCM	**Vineyard Canyo**	**1.31**	**145**			**Pn**	**12 38 39.7**	**-0.5**
PSTM	**Stockdale Moun**	**1.32**	**144**			**Pn**	**12 38 39.7**	**-0.5**
PPO	**Portuguese Can**	**1.32**	**148**			**Pb**	**12 38 40.4**	**-0.4**
CMB	**Columbia Colle**	**1.34**	**40**			**Pn**	**12 38 40.1**	**-0.5**
CMB	**Columbia Colle**	**1.34**	**40**			**Pn**	**12 38 40.0**	**-0.6**
CTM	**Castle Mountai**	**1.40**	**139**			**Pb**	**12 38 42.5**	**+0.3**
FARB	**Farallon Islan**	**1.41**	**300**			**Pn**	**12 38 39.8**	**-1.6**
PHFM	**Heflinger Ranc**	**1.41**	**142**			**Pn**	**12 38 41.3**	**-0.1**
FRI	**Friant**	**1.41**	**90**			**Pn**	**12 38 40.3**	**-1.1**
PWKM	**Work Ranch**	**1.41**	**147**			**Pn**	**12 38 40.9**	**-0.6**
MMIM	**Miami Mountain**	**1.44**	**73**			**Pn**	**12 38 41.7**	**-0.3**
PKEM	**Kettleman Hill**	**1.44**	**130**			**Pn**	**12 38 40.6**	**-1.2**
RAMR	**Ramage Ranch**	**1.45**	**160**			**Pn**	**12 38 41.4**	**-0.5**
PHAM	**Harlan Ranch**	**1.45**	**143**			**Pn**	**12 38 41.4**	**-0.5**
GHC	**Gold Hill**	**1.47**	**142**			**Pn**	**12 38 42.2**	**-0.1**
NOLM	**Olema**	**1.48**	**315**			**Pn**	**12 38 41.2**	**-1.1**
PSRM	**Scobie Ranch**	**1.49**	**140**			**Pn**	**12 38 42.9**	**+0.3**
NADM	**Allendale**	**1.51**	**345**			**Pn**	**12 38 42.1**	**-0.7**
NBRB	**Beebe Ranch Br**	**1.52**	**326**			**Pn**	**12 38 42.0**	**-1.0**
PKLM	**Kerr Lake**	**1.53**	**143**			**Pn**	**12 38 42.4**	**-0.6**
CVS	**Carmenet Viney**	**1.56**	**330**			**Pn**	**12 38 42.2**	**-1.2**
TCHL	**Shandon**	**1.57**	**146**			**Pn**	**12 38 43.6**	**0.0**
TCAS	**Cass Winery, P**	**1.57**	**152**			**Pn**	**12 38 43.4**	**-0.2**
ARDC	**Alexander Ranc**	**1.58**	**165**			**Pn**	**12 38 43.2**	**-0.6**
MCCM	**Marconi Confer**	**1.60**	**316**	Pn		**Pn**	**12 38 42.9**	**-1.1**
MCCM				IAML			12 39 17.6	
	comp=E,328nm,0.8s							
NTYM	**Taylor**	**1.68**	**326**			**Pn**	**12 38 44.7**	**-0.4**
NBPM	**Berryessa Peak**	**1.76**	**341**			**Pn**	**12 38 45.9**	**-0.3**
TRAY	**Twisselman Ran**	**1.81**	**143**			**Pn**	**12 38 45.6**	**-1.3**
PBPM	**Bitterwater Pu**	**1.81**	**141**			**Pn**	**12 38 47.3**	**+0.4**
VOG	**Valley Oaks Go**	**1.81**	**111**	P		**Pn**	**12 38 46.9**	**0.0**
	baz=293							
VOG				S		**Sn**	**12 39 10.2**	**+0.5**
	baz=293							
DPD	**Davis Peak**	**1.85**	**162**			**Pn**	**12 38 46.9**	**-0.6**
NMTM	**Middletown**	**1.96**	**337**			**Pn**	**12 38 48.5**	**-0.5**
AFDM	**Forest Hills D**	**1.98**	**11**			**Pn**	**12 38 48.9**	**-0.4**
AFDM				IAML			12 39 20.5	
	comp=N,93nm,0.5s							
AFDM				IAML			12 39 23.8	
	comp=E,91nm,0.5s							
MDPB	**Devils Postpil**	**2.01**	**71**			**Pn**	**12 38 50.8**	**+0.9**
MRDM	**Red Cones**	**2.01**	**72**			**Pn**	**12 38 51.0**	**+1.0**
MNRC	**McLaughlin Min**	**2.03**	**338**			**Pn**	**12 38 49.6**	**-0.3**
MINS	**Minaret Summit**	**2.03**	**70**			**Pb**	**12 38 51.5**	**-1.5**
MMPM	**Mammoth Pass**	**2.04**	**72**			**Pn**	**12 38 51.6**	**+1.2**
MMSM	**Mammoth Summit**	**2.04**	**71**			**Pb**	**12 38 52.4**	**-0.8**
MRHM	**Rocky Hill**	**2.04**	**110**			**Pn**	**12 38 50.3**	**+0.1**
MLIM	**Lincoln Peak**	**2.06**	**71**			**Pb**	**12 38 52.5**	**-0.9**
MDCM	**Deadman Creek**	**2.06**	**69**			**Pb**	**12 38 52.1**	**-1.4**
SMMC	**Simmler**	**2.06**	**144**			**Pn**	**12 38 50.3**	**-0.1**
SMMC	**Simmler**	**2.06**	**144**	P		**Pn**	**12 38 50.4**	**0.0**
	baz=325,SNR=9.6							
SMMC				S		**Sn**	**12 39 15.8**	**-0.3**
	baz=325							
MDYM	**Dry Creek**	**2.07**	**71**			**Pb**	**12 38 52.4**	**-1.3**
GGPM	**Geyser Peak**	**2.07**	**329**			**Pn**	**12 38 49.6**	**-1.0**
GDXM	**Geysers**	**2.09**	**330**			**Pn**	**12 38 49.9**	**-0.9**
GHCM	**House Creek**	**2.11**	**320**			**Pn**	**12 38 49.7**	**-1.3**
MEMM	**East Mammoth H**	**2.12**	**71**			**Pb**	**12 38 53.3**	**-1.3**
MLCM	**Laurel Creek C**	**2.13**	**73**			**Pn**	**12 38 52.8**	**+1.3**
CARC	**Carrizo Plain**	**2.14**	**142**			**Pn**	**12 38 51.5**	**0.0**
MCBM	**Casa Benchmark**	**2.15**	**72**			**Pb**	**12 38 53.7**	**-1.3**
MCVM	**Convict Lake**	**2.19**	**74**			**Pn**	**12 38 53.9**	**+1.5**
MLAC	**Mammoth, Mammo**	**2.19**	**73**	P		**Pb**	**12 38 54.4**	**-1.3**
	baz=254,SNR=22							
MLAC				S		**Sb**	**12 39 22.7**	**-0.1**
	baz=254							
MDRNC	**Doe Ridge**	**2.19**	**72**			**Pb**	**12 38 55.5**	**-0.3**
SUTB	**Sutter Butte**	**2.24**	**354**			**Pn**	**12 38 51.6**	**-1.2**
VES	**Vestal, Richgr**	**2.25**	**120**	P		**Pn**	**12 38 53.3**	**+0.4**
	baz=302,SNR=29							
VES				S		**Sn**	**12 39 20.2**	**-0.2**
	baz=302							
RCCR	**Rock Creek Can**	**2.25**	**77**			**Pn**	**12 38 54.6**	**+1.4**
EMB	**Emerald Bay**	**2.25**	**28**			**Pn**	**12 38 54.0**	**+0.9**
EMB				IAML			12 39 27.7	
	comp=E,144nm,0.5s							
EMB				IAML			12 39 35.5	
	comp=N,163nm,0.8s							
ORC	**Owens River**	**2.33**	**73**			**Pb**	**12 38 56.7**	**-1.4**
MTUM	**Tungsten Hills**	**2.35**	**80**			**Pn**	**12 38 56.2**	**+1.7**
HOPS	**Hopland Field**	**2.36**	**328**			**Pn**	**12 38 53.5**	**-1.0**
HOPS	**Hopland Field**	**2.36**	**328**	Pn		**Pn**	**12 38 53.2**	**-1.2**
HOPS	**Hopland Field**	**2.36**	**328**	IAML			12 39 59.8	
	comp=N,61nm,3.8s							
GHLM	**Highland Sprin**	**2.38**	**329**			**Pn**	**12 38 53.8**	**-1.0**
CASR	**Casa Diablo Mo**	**2.40**	**75**			**Pb**	**12 38 57.7**	**-1.5**
BENR	**Benton**	**2.42**	**72**			**Pb**	**12 38 57.8**	**-1.7**
GGUM	**Gualala**	**2.45**	**320**			**Pn**	**12 38 54.8**	**-1.0**
PKM	**Mcpherson Peak**	**2.50**	**147**	P		**Pn**	**12 38 56.6**	**0.0**
	baz=328							
PKM				S		**Sn**	**12 39 26.1**	**-0.9**
	baz=328							
ORV	**Oroville**	**2.55**	**359**			**Pn**	**12 38 57.0**	**-0.2**
ORV				IAML			12 39 45.3	
	comp=E,56nm,0.8s							
PNTR	**Pine Nut**	**2.56**	**35**			**Pn**	**12 38 58.6**	**+1.2**
PNTR				IAML			12 39 50.1	
	comp=E,122nm,1.1s							
MPK	**Martis Peak**	**2.56**	**26**	Pn		**Pn**	**12 38 59.3**	**+1.9**
TIN	**Tinemaha, Big**	**2.59**	**88**	P		**Pn**	**12 38 59.9**	**+2.1**
	baz=270,SNR=7.6							
TIN				S		**Sb**	**12 39 31.6**	**-2.7**
	baz=270							
BCW	**Bitter Crk WRg**	**2.65**	**140**			**Pn**	**12 38 59.8**	**+1.2**
BCW				IAML			12 39 59.2	
	comp=N,104nm,1.0s							
BCW				IAML			12 40 11.8	
	comp=E,119nm,1.0s							
YERR	**Yerington**	**2.65**	**41**			**Pn**	**12 38 59.6**	**+1.0**
YERR				IAML			12 39 43.5	
	comp=N,77nm,0.4s							
ISA	**Isabella, Lake**	**2.76**	**118**			**Pn**	**12 39 00.1**	**0.0**
ISA				IAML			12 39 49.3	
	comp=N,81nm,0.4s							
ISA				IAML			12 39 50.2	
	comp=E,65nm,0.5s							
ISA	**Isabella, Lake**	**2.76**	**118**	P		**Pn**	**12 39 00.7**	**+0.6**
	baz=300,SNR=24							
ISA				S		**Sn**	**12 39 32.8**	**-0.6**
	baz=300							
CWC	**Cottonwood Cre**	**2.78**	**101**	P		**Pn**	**12 39 01.7**	**+1.2**
	baz=283							
CWC				S		**Sn**	**12 39 34.6**	**+0.7**
	baz=283							
ARVC	**Arvin**	**2.84**	**130**	P		**Pn**	**12 39 01.8**	**+0.7**
	baz=312,SNR=23							
ARVC				S		**Sn**	**12 39 34.6**	**-0.5**
	baz=312							
RYN	**Ryan**	**2.84**	**54**	Pn		**Pn**	**12 39 01.9**	**+0.6**
RYN				IAML			12 39 47.1	
	comp=N,39nm,0.4s							
NVAR	**Mina Array Bea**	**2.89**	**59**	Pn		**Pn**	**12 39 03.3**	**+1.3**
SBC	**Santa Barbara**	**2.92**	**150**	P		**Pn**	**12 39 02.2**	**0.0**
	baz=332							
LCH	**Last Change Ra**	**3.07**	**84**			**Pn**	**12 39 04.8**	**+0.4**
LCH				IAML			12 39 56.1	
	comp=E,73nm,0.5s							
LCH				IAML			12 39 56.2	
	comp=N,55nm,0.6s							
KCPM	**Cahto Peak**	**3.15**	**329**	Pn		**Pn**	**12 39 07.2**	**+1.6**
KCPM				IAML			12 40 12.0	
	comp=E,48nm,3.7s							
KCPM				IAML			12 40 26.9	
	comp=N,34nm,4.7s							
OSI	**Osito Audit: C**	**3.26**	**136**	Sb		**Sb**	**12 39 53.0**	**-0.5**
	baz=318							
GRAC	**Grapevine Rang**	**3.29**	**89**	Pn		**Pn**	**12 39 07.5**	**+0.2**
GRAC	**Grapevine Rang**	**3.29**	**89**	Pb		**Pb**	**12 39 15.0**	**+0.7**
	baz=271							
MZP	**Montezuma Peak**	**3.33**	**77**	Pn		**Pn**	**12 39 09.1**	**+1.0**
MPMC	**Manual Prospec**	**3.34**	**105**	P		**Pn**	**12 39 10.3**	**+2.1**
	baz=288,SNR=17							
CCAC	**Calif City Air**	**3.35**	**122**			**Pn**	**12 39 09.6**	**+1.5**
KVN	**Kaiserville**	**3.36**	**51**	Pn		**Pn**	**12 39 09.3**	**+0.9**
GMN	**Gold Mountain**	**3.38**	**84**	Pn		**Pn**	**12 39 10.6**	**+1.9**
GMN				IAML			12 40 06.7	
	comp=N,58nm,1.0s							
LRMC	**Laurel Mtn Rad**	**3.42**	**115**	P		**Pn**	**12 39 09.8**	**+0.7**
	baz=298							
EDW2	**Edwards Air Fo**	**3.52**	**126**	P		**Pn**	**12 39 11.7**	**+1.2**
	baz=308,SNR=5.8							
EDW2				S		**Sn**	**12 39 53.5**	**+1.4**
	baz=308							
TPH	**Tonopah**	**3.54**	**71**	Pn		**Pn**	**12 39 10.9**	**-0.1**
QSM	**Queen of Sheba**	**3.85**	**104**	Pn		**Pn**	**12 39 16.3**	**+1.3**
QSM				IAML			12 40 23.3	
	comp=N,25nm,1.0s							
QSM				IAML			12 40 24.7	
	comp=E,18nm,1.7s							
WCT	**Wildcat Mounta**	**3.89**	**92**	Pn		**Pn**	**12 39 16.6**	**+1.0**
WCT				IAML			12 40 21.6	
	comp=N,22nm,0.8s							
WCT				IAML			12 40 24.0	
	comp=E,22nm,0.8s							
PASC	**Pasadena Art C**	**3.89**	**136**	Pn		**Pn**	**12 39 15.7**	**+0.2**
PASC				IAML			12 40 20.6	
	comp=E,20nm,1.0s							
GWY	**Greenwater Val**	**3.95**	**100**	Pn		**Pn**	**12 39 16.6**	**+0.1**
GWY				IAML			12 40 22.9	
	comp=E,25nm,0.8s							
GWY				IAML			12 40 29.6	
	comp=N,24nm,0.9s							
GSC	**Goldstone, Bar**	**4.14**	**113**			**Pn**	**12 39 19.2**	**+0.2**
GSC				IAML			12 40 36.2	
	comp=N,24nm,1.0s							
GSC				IAML			12 40 37.8	
	comp=E,30nm,0.6s							
GSC	**Goldstone, Bar**	**4.14**	**113**	P		**Pn**	**12 39 20.4**	**+1.4**
	baz=296							
BFSC	**Mount Baldy Ra**	**4.15**	**130**	P		**Pn**	**12 39 19.5**	**+0.3**
	baz=313,SNR=5.1							
BFSC				S		**Sn**	**12 40 07.1**	**-0.6**
	baz=313							
BBRC	**Big Bear Solar**	**4.60**	**125**	P		**Pn**	**12 39 26.2**	**+0.7**
	baz=308							
S11A	**Rachel**	**4.61**	**80**	Pn		**Pn**	**12 39 26.2**	**+0.7**
HEC	**Hector,Ludlow**	**4.70**	**116**	P		**Pn**	**12 39 28.1**	**+1.4**
	baz=299							
ELS	**Elsinore Mount**	**4.70**	**134**	Pn		**Pn**	**12 39 26.1**	**-0.6**
R11B	**Troy Canyon, C**	**4.86**	**72**	P		**Pn**	**12 39 31.8**	**+2.8**
	baz=256							
SHPR	**Sheep Range**	**5.09**	**94**	Pn		**Pn**	**12 39 31.4**	**-0.8**
PRN	**Pahroc Range**	**5.14**	**84**	Pn		**Pn**	**12 39 32.8**	**0.0**
PRN				IAML			12 41 11.0	
	comp=N,16nm,0.9s							
PRN				IAML			12 41 20.5	
	comp=E,18nm,0.8s							
GMRC	**Granite Mounta**	**5.21**	**113**	P		**Pn**	**12 39 34.1**	**+0.4**
	baz=297							
PFO	**Pinyon Flats O**	**5.31**	**128**	Pn		**Pn**	**12 39 35.3**	**+0.1**
PFO				IAML			12 40 46.5	
	comp=E,6.1nm,4.8s							
PFO				IAML			12 41 24.1	
	comp=E,7.9nm,4.2s							
PFO	**Pinyon Flats O**	**5.31**	**128**	P		**Pn**	**12 39 35.3**	**+0.1**
	baz=311							
PMD	**Palm Desert**	**5.34**	**127**	Pn		**Pn**	**12 39 35.3**	**-0.1**
PMD				IAML			12 40 51.9	
	comp=E,6.3nm,4.8s							
PMD				IAML			12 41 13.8	
	comp=N,6.1nm,4.8s							
BELC	**Belle Mtn. Jos**	**5.37**	**122**	P		**Pn**	**12 39 35.8**	**-0.2**
	baz=306							
DANC	**Danby, Needles**	**5.48**	**114**			**Pn**	**12 39 39.1**	**+1.8**
KBO	**Bosley Butte**	**5.62**	**339**	Pn		**Pn**	**12 39 40.4**	**+1.0**
MONP2	**Monument Peak**	**5.83**	**133**	P		**Pn**	**12 39 44.1**	**+1.7**
	baz=316							
IRM	**Iron Mountain**	**5.88**	**117**	P		**Pn**	**12 39 43.2**	**+0.3**
	baz=301							
K02D	**Willamette Mer**	**5.93**	**344**	Pn		**Pn**	**12 39 45.8**	**+2.1**

*AEIC **06** 12:45:18±2.4, 54.0°N±0.1°×165.2°W±0.1°, h80km±6km, Error ellipse: s-maj=18.2km s-min=4.9km az=154.0*

NEIC 06 12:45:17.3±1.7, 54.1°N±0.1°×165.3°W±0.1°, h85km±7km, mb3.4/15, ML3.2/8, ML3.0(AEIC)**, Error ellipse: s-maj=19.5km s-min=3.2km az=155.0, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**0.26**	**279**		Pn	12 45 30.2	+0.3
AKSA					Sn	12 45 39.7	+0.5
AKSA	**Akutan Strait**	**0.26**	**279**		Pn	12 45 30.2	+0.3
AKSA					Sn	12 45 39.7	+0.5
AKUT	**Akutan**	**0.30**	**277**		Pn	12 45 30.2	+0.1
AKUT					Sn	12 45 40.1	+0.6
AKUT				IAML		12 45 40.9	
	comp=N,1μm,0.2s						
AKUT	**Akutan**	**0.30**	**277**	P	Pn	12 45 30.3	+0.2
AHB	**Akutan Harbor**	**0.32**	**273**		Pn	12 45 30.4	+0.1
AKBBA	**Akutan Broad B**	**0.39**	**270**		Pn	12 45 30.6	0.0
AKBBA					Sn	12 45 40.7	+0.1
ZRO	**Akutan Zero**	**0.42**	**269**		Pn	12 45 30.9	0.0
LVA	**Lava Point**	**0.46**	**278**		Pn	12 45 31.4	+0.2
LVA					Sn	12 45 42.2	+0.8
WESE	**West Dahl East**	**0.55**	**47**		Pn	12 45 32.0	0.0
WEBT	**Westdahl Beart**	**0.58**	**31**		Pn	12 45 32.0	-0.2
WEBT					Sn	12 45 43.4	+0.1
UNV	**Unalaska Valle**	**0.77**	**251**		Pn	12 45 34.0	-0.1
UNV	**Unalaska Valle**	**0.77**	**251**	P	Pn	12 45 34.0	0.0
MNAT	**Makushin Natee**	**0.86**	**256**		Pn	12 45 35.0	-0.1
MSW	**Makushin Switc**	**0.91**	**259**		Pn	12 45 35.5	-0.1
MSW					Sn	12 45 50.0	+0.7
SSLS	**Shishaldin Sou**	**0.96**	**50**		Pn	12 45 36.1	-0.1
MGOD	**Makushin Gods**	**1.00**	**253**		Pn	12 45 36.9	+0.3
MAPS	**Pakushin South**	**1.03**	**254**		Pn	12 45 37.2	+0.3
ISLZ	**Isanotski Laza**	**1.11**	**55**		Pn	12 45 38.0	+0.1
ISLZ					Sn	12 45 54.5	+1.1
ISNN	**Isanotski Nort**	**1.14**	**49**		Pn	12 45 38.7	+0.4
FALS	**False Pass**	**1.32**	**54**		Pn	12 45 40.6	+0.2
FALS	**False Pass**	**1.32**	**54**	P	Pn	12 45 40.7	+0.2
OKFG	**Magazine Ridge**	**1.71**	**247**		Pn	12 45 46.0	+0.5
OKER	**Okmok East Rim**	**1.77**	**250**		Pn	12 45 47.0	+0.7
HAG	**Hague Volcano**	**2.30**	**57**		Pn	12 45 54.4	+1.1
PS4A	**Pavlof South-4**	**2.34**	**56**		Pn	12 45 54.5	+0.7
PS1A	**Pavlof South-1**	**2.44**	**56**		Pn	12 45 55.6	+0.5
SDPT	**Sand Point**	**3.05**	**64**		Pn	12 46 05.0	+1.8
SDPT				IAML		12 46 53.6	
	comp=N,71nm,0.8s						
SDPT	**Sand Point**	**3.05**	**64**	P	Pn	12 46 04.7	+1.4
CNBA	**Chernabura Isl**	**3.39**	**75**	Pn	Pn	12 46 09.0	+1.1
CHGN	**Chignik**	**4.50**	**58**	Pn	Pn	12 46 23.3	+0.3
CHGN				IAML		12 47 25.2	
	comp=E,25nm,1.2s						
CHGN				IAML		12 47 36.7	
	comp=N,22nm,1.3s						
O14K	**Tigyukauivet M**	**5.62**	**21**	Pn	Pn	12 46 38.6	+0.4
N15K	**Kwethluk River**	**6.71**	**23**	Pn	Pn	12 46 53.9	+1.0
O16K	**Kokwok River B**	**6.77**	**33**	Pn	Pn	12 46 54.9	+1.1
SII	**Sitkinak Islan**	**6.79**	**64**	Pn	Pn	12 46 53.0	-1.2
M14K	**Bethel**	**6.91**	**14**	Pn	Pn	12 46 56.0	+0.4
L14K	**Kuka Creek**	**7.39**	**10**	Pn	Pn	12 47 02.4	+0.1
OHAK	**Old Harbor**	**7.46**	**60**	Pn	Pn	12 47 01.8	-1.5
OHAK	**Old Harbor**	**7.46**	**60**	P	Pn	12 47 01.8	-1.5
P18K	**Big Mountain,**	**7.65**	**42**	Pn	Pn	12 47 07.4	+1.5
M16K	**Timber Creek**	**7.72**	**23**	Pn	Pn	12 47 07.2	+0.3
N17K	**Nushagak Hills**	**7.79**	**31**	Pn	Pn	12 47 08.3	+0.7
O18K	**Koktuh Hills**	**7.96**	**40**	Pn	Pn	12 47 11.1	+1.0
KDAK	**Kodiak Island**	**8.02**	**57**	Pn	Pn	12 47 09.6	-1.3
L16K	**Owhat River**	**8.23**	**20**	Pn	Pn	12 47 13.2	-0.5
N18K	**Kilae Creek**	**8.31**	**34**	Pn	Pn	12 47 15.0	+0.1
M17K	**Holitna River**	**8.43**	**27**	Pn	Pn	12 47 16.9	+0.5
K15K	**Wolf Creek Mou**	**8.45**	**12**	Pn	Pn	12 47 17.4	+0.7
SVW2	**Sparrevohn**	**8.73**	**33**	Pn	Pn	12 47 22.1	+1.6
ILSW	**Iliamna Southw**	**8.85**	**43**	Pn	Pn	12 47 23.9	+1.5
N19K	**Bonanza Creek**	**8.88**	**36**	Pn	Pn	12 47 24.2	+1.5
K17K	**Iditarod**	**9.38**	**20**	Pn	Pn	12 47 29.1	-0.3
CNPM	**China Poot**	**9.41**	**49**	Pn	Pn	12 47 29.4	-0.5
J16K	**Anvik River**	**9.53**	**13**	Pn	Pn	12 47 31.5	+0.2
BRLK	**Bradley Lake**	**9.69**	**48**	Pn	Pn	12 47 33.1	-0.5
M19K	**Big River Lodg**	**9.71**	**32**	Pn	Pn	12 47 35.1	+1.2
L19K	**White Mountain**	**9.78**	**30**	Pn	Pn	12 47 35.4	+0.5
J17K	**VABM Dome**	**9.86**	**16**	Pn	Pn	12 47 35.8	-0.1
TTA	**Tatalina**	**10.08**	**25**	Pn	Pn	12 47 39.4	+0.4
M20K	**Styx River**	**10.10**	**35**	Pn	Pn	12 47 40.5	+1.2
J18K	**Innoko River**	**10.38**	**22**	Pn	Pn	12 47 41.7	-1.3
SUA	**Susitna One**	**10.68**	**41**	Pn	Pn	12 47 47.3	0.0
SKT	**Skwentna**	**10.72**	**37**	Pn	Pn	12 47 49.9	+2.2
RC01	**Rabbit Creek A**	**10.87**	**44**	Pn	Pn	12 47 48.8	-0.8
K20K	**Telida**	**10.94**	**27**	Pn	Pn	12 47 50.2	-0.4
J19K	**Poorman**	**11.08**	**23**	Pn	Pn	12 47 52.0	-0.6
KNK	**Knik Glacier**	**11.56**	**44**	Pn	Pn	12 47 56.8	-2.3
GHO	**Glory Hole Cre**	**11.57**	**42**	Pn	Pn	12 47 58.0	-1.3
J20K	**Nowinta River**	**11.59**	**25**	Pn	Pn	12 47 59.4	+0.1
H18K	**Honhosa River**	**11.62**	**15**	Pn	Pn	12 48 01.0	+1.2
HIN	**Hinchinbrook I**	**11.94**	**51**	Pn	Pn	12 48 02.0	-2.1
SCM	**Sheep Creek Mo**	**12.24**	**44**	Pn	Pn	12 48 06.3	-2.0
H19K	**Roundabout Mou**	**12.28**	**17**	Pn	Pn	12 48 08.4	-0.2
KLU	**Klutina**	**12.66**	**46**	Pn	Pn	12 48 11.8	-2.1
RAGM	**Ragged Mountai**	**12.77**	**52**	Pn	Pn	12 48 14.6	-0.8
M24K	**Tolsona, Glenn**	**12.85**	**44**	Pn	Pn	12 48 14.4	-2.1
DHY	**Denali Highway**	**12.91**	**39**	Pn	Pn	12 48 17.0	-0.4
I21K	**Tanana**	**12.95**	**26**	Pn	Pn	12 48 15.5	-2.2
HMT	**Hamilton**	**12.95**	**53**	Pn	Pn	12 48 15.0	-2.7
H21K	**Melozitna Rive**	**13.14**	**23**	Pn	Pn	12 48 21.4	+1.2
BERG	**Berg Lake**	**13.23**	**53**	Pn	Pn	12 48 19.6	-1.8
N25K	**Chitina, Valde**	**13.28**	**47**	Pn	Pn	12 48 19.1	-3.1
GLB	**Gilahina Butte**	**13.56**	**49**	Pn	Pn	12 48 23.2	-2.6
CRQM	**Cirque**	**13.61**	**52**	Pn	P

LATG	**Datong**	**0.35**	**275**	*e*P		Pg	12 53 29.6	+0.4
	baz=275							
LATG				S		Sg	12 53 34.8	+0.8
	baz=275							
NDT	**Datong Townshi**	**0.37**	**285**	*e*P		Pb	12 53 30.3	-0.3
	baz=285							
NDT				*e*S		Sb	12 53 35.6	-0.6
	baz=285							
FUSB	**Fushanzhiwuyua**	**0.39**	**311**	*e*P		Pb	12 53 30.6	-0.2
	baz=311							
FUSB				S		Sb	12 53 35.9	-0.8
	baz=311							
ETL	**Fush Village**	**0.43**	**217**	*e*P		Pg	12 53 30.5	-0.2
	baz=216							
ETL				*e*S		Sg	12 53 36.9	+0.4
	baz=216							
EOS3	**EOS3**	**0.43**	**120**	*e*P		Pg	12 53 29.9	-0.8
	baz=127							
EOS3				*e*S		Sg	12 53 35.8	-0.6
	baz=127							
NACB	**Ninganchiao**	**0.44**	**221**	P		Pg	12 53 30.4	-0.4
	baz=220							
NACB				S		Sg	12 53 36.6	0.0
	baz=220							
NWLT	**Wulai**	**0.46**	**306**	*e*P		Pb	12 53 32.2	+0.2
	baz=306							
TIPB	**Shuangxi**	**0.47**	**351**	*e*P		Pb	12 53 31.8	-0.4
TIPB				*e*S		Sb	12 53 39.5	+0.4
NNSB	**Datong**	**0.48**	**261**	P		Pg	12 53 31.8	+0.1
	baz=261							
NNSB				S		Sb	12 53 39.2	-0.4
	baz=261							
ETLH	**Xiulin Townshi**	**0.49**	**233**	*e*P		Pg	12 53 31.5	-0.2
	baz=232							
ETLH				*e*S		Sb	12 53 39.3	-0.4
	baz=232							
NNS	**Nan Shan**	**0.49**	**262**	P		Pg	12 53 32.1	+0.3
	baz=262							
NNS				S		Sb	12 53 39.2	-0.6
	baz=262							
TWB1	**Santiao Chiao**	**0.51**	**8**	*e*P		Pg	12 53 32.2	+0.1
	baz=1.0							
TWD	**Chiawan**	**0.51**	**214**	*e*P		Pg	12 53 31.6	-0.5
	baz=213							
TWD				*e*S		Sg	12 53 37.4	-1.5
	baz=213							
YHNB	**Yeheng**	**0.51**	**289**	P		Pb	12 53 32.9	-0.1
	baz=295							
YHNB				S		Sb	12 53 39.7	-0.6
	baz=295							
NSK	**Sanguang**	**0.53**	**289**	*e*P		Pb	12 53 33.5	+0.2
	baz=289							
NSK				*e*S		Sb	12 53 40.3	-0.5
	baz=289							
EOS4	**EOS4**	**0.54**	**136**	*e*P		Pg	12 53 32.2	-0.2
	baz=128							
SXI1	**Grass Mountain**	**0.59**	**357**	*e*P		Pg	12 53 33.9	+0.3
	baz=2.0							
FUSS	**Fushou**	**0.66**	**247**	*e*P		Pb	12 53 35.3	-0.2
	baz=247							
FUSS				*e*S		Sb	12 53 45.6	+0.9
	baz=247							
LXIB	**Xiulin Townshi**	**0.66**	**223**	*e*P		Pg	12 53 34.4	-0.6
	baz=223							
LXIB				S		Sb	12 53 44.5	-0.2
	baz=223							
WHF	**Hehuan Shan**	**0.69**	**239**	*e*P		Pg	12 53 35.6	0.0
	baz=238							
CHGB	**Renai**	**0.80**	**237**	*e*P		Pg	12 53 37.8	+0.1
	baz=236							
LIOB	**Emei**	**0.82**	**280**	*e*P		Pb	12 53 38.2	0.0
	baz=279							
NSTT	**Nanjuang**	**0.83**	**279**	*e*P		Pn	12 53 39.0	-0.5
	baz=278							
OWD	**Renai**	**0.86**	**231**	*e*P		Pg	12 53 38.4	-0.5
	baz=221							
WHP	**Taichung City**	**0.91**	**256**	*e*P		Pn	12 53 41.0	+0.4
	baz=255							
WARBT	**Fenglin Townsh**	**0.92**	**211**	*e*P		Pg	12 53 39.1	-0.7
	baz=217							
WARBT				*e*S		Sg	12 53 50.4	-1.5
	baz=217							
VWDT	**VWDT**	**1.03**	**223**	*e*P		Pg	12 53 41.8	0.0
	baz=230							
VWDT				*e*S		Sn	12 53 56.0	-0.4
	baz=230							
SSLB	**Suanglung**	**1.13**	**231**	*e*P		Pb	12 53 43.5	0.0
	baz=229							

*IDC **06** 12:53:37.7±0.8,30°.57S×178°.32W,h0km,mb4.1/7, mbtmp4.1/10,ML3.3/2,MS3.4/4,Error ellipse: s-maj=26.2km s-min=16.8km az=116.0*
*NEIC **06** 12:53:39.1±1.9,30°.59S±0°.07×178°.11W±0°.05,h10km±2km, mb4.4/11,Error ellipse: s-maj=11.9km s-min=7.1km az=165.0*

ISC 06 12:53:38.9±0.7,30°.58S±0°.07×178°.3W±0°.1,h10km,n35, σ1s55/38,mb4.2/12,MS3.4/3,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.36**	**13**		**Pb**	**12 54 04.4**	**-0.1**
RAO				Sn	**Sb**	**12 54 21.0**	**-0.8**
RAO	**Raoul Island**	**1.36**	**13**	Pn	**Pn**	**12 54 03.8**	**-0.1**
	211nm,0.3s,baz=26,slow=13,SNR=16						
RAO				Sn	**Sb**	**12 54 20.1**	**-1.8**
	1μm,0.3s,baz=221,slow=22,SNR=18						
RAO				LR	LR	12 54 27.4	
	comp=Z,110nm,19.8s,baz=94,slow=36						
URZ	**Urewera**	**8.56**	**205**	Pn	**Pn**	**12 55 42.7**	**-0.2**
	0.4nm,0.3s,baz=359,slow=5.5,SNR=7.9						
URZ				Sn	**Sn**	**12 57 20.1**	**+0.7**
	1.5nm,0.3s,baz=305,slow=18,SNR=9.5 3.2nm,0.7s						
NNZ	**Nelson**	**12.58**	**210**	Pn	**Pn**	**12 56 38.0**	**+0.1**
RPZ	**Rata Peaks**	**15.61**	**210**	Pn	**Pn**	**12 57 19.0**	**0.0**
	5.1nm,0.6s,baz=114,slow=15,SNR=1.4						
RPZ				Sn	**Sn**	**13 00 04.9**	**-7.1**
	0.3nm,0.3s,baz=146,slow=14,SNR=1.7						
DZM	**Mont Dzumac**	**16.09**	**298**	Pn	**Pn**	**12 57 23.7**	**-1.7**
	0.1nm,0.3s,baz=229,slow=19,SNR=1.5						
DZM				LR	LR	13 02 24.0	
	comp=Z,95nm,19.4s,baz=286,slow=33 7.7nm,1.0s						
CTA	**Charters Tower**	**33.59**	**280**	LR	LR	13 11 45.2	
	comp=Z,44nm,20.5s,baz=84,slow=32						
CTAO	**Charters Tower**	**33.59**	**280**	P	**P**	**13 00 21.5**	**+2.0**
STKA	**Stephens Creek**	**34.20**	**257**	P	**P**	**13 00 26.6**	**+1.8**
STKA				IAmb	IAmb	13 00 28.5	
	comp=Z,1.2nm,0.7s						
STKA	**Stephens Creek**	**34.20**	**257**	P	**P**	**13 00 25.9**	**+1.2**
	comp=Z,4.7nm,0.7s,baz=99,slow=10,SNR=12						
STKA				LR	LR	13 13 10.4	
	comp=Z,68nm,18.7s,baz=204,slow=34 comp=Z,4.7nm,0.7s						
BBOO	**Buckleboo**	**38.69**	**254**	P	**P**	**13 01 04.0**	**+1.0**
BBOO				IAmb	IAmb	13 01 04.1	
	comp=Z,16nm,1.1s						
COEN	**Coen**	**39.09**	**286**	P	**P**	**13 01 07.9**	**+1.4**
COEN				IAmb	IAmb	13 01 22.1	
	comp=Z,27nm,1.5s						
AS31	**Alice Springs**	**42.86**	**267**	P	**P**	**13 01 37.5**	**-0.2**
ASAR	**Alice Springs**	**42.86**	**267**	P	**P**	**13 01 37.5**	**-0.1**
ASAR	**Alice Springs**	**42.86**	**267**	P	**P**	**13 01 37.1**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=106,slow=7.4,SNR=18 comp=Z,0.6nm,0.4s						
WR0	**Warramunga Arr**	**43.69**	**273**	P	**P**	**13 01 44.1**	**-0.2**
WR0				IAmb	IAmb	13 02 07.9	
	comp=Z,6.6nm,1.4s						
WB2	**Warramunga Ar**	**43.85**	**272**	P	**P**	**13 01 45.2**	**-0.4**
WB2				IAmb	IAmb	13 01 54.9	
	comp=Z,16nm,1.5s						
WRA	**Warramunga Arr**	**43.87**	**272**	P	**P**	**13 01 45.5**	**-0.2**
WRA	**Warramunga Arr**	**43.87**	**272**	P	**P**	**13 01 45.3**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=111,slow=8.0,SNR=36 comp=Z,1.6nm,0.3s						
KNRA	**Kununurra**	**50.48**	**275**	P	**P**	**13 02 37.7**	**+0.3**
FITZ	**Fitzroy Crossi**	**52.12**	**270**	P	**P**	**13 02 51.0**	**+1.4**
FITZ				IAmb	IAmb	13 03 20.1	
	comp=Z,3.3nm,1.5s						
QSPA	**South Pole Qui**	**59.53**	**180**		**P**	**13 03 42.5**	**+0.2**
QSPA				IAmb	IAmb	13 04 03.4	
	comp=Z,10nm,1.5s						
QSPA	**South Pole Qui**	**59.53**	**180**	P	**P**	**13 03 43.2**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=8.4,slow=9.3,SNR=1.9 comp=Z,0.8nm,0.6s						
SNAA	**Sanae**	**77.98**	**179**	P	**P**	**13 05 37.4**	**+0.3**

	comp=Z,1.4nm,0.8s,baz=25,slow=23,SNR=1.8 comp=Z,1.4nm,0.8s							
H03S2	**Juan Fernandez**	**80.56**	**124**	T		T	14 34 54.4	
	baz=238,slow=74,SNR=5.9							
H03S1	**Juan Fernandez**	**80.58**	**124**	T		T	14 34 58.9	
	baz=238,slow=74,SNR=5.7							
H03S3	**Juan Fernandez**	**80.58**	**124**	T		T	14 34 54.1	
	baz=238,slow=74,SNR=6.4							
PETK	**Petropavlovsk-**	**85.92**	**346**	P		**P**	**13 06 19.3**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=108,slow=9.5,SNR=1.6 comp=Z,1.7nm,0.6s							
NVAR	**Mina Array Bea**	**88.53**	**43**	P		**P**	**13 06 32.2**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=224,slow=8.8,SNR=2.1 comp=Z,0.2nm,0.5s							
MA2	**Magadan**	**93.40**	**345**	LR		LR	13 52 38.0	
	comp=Z,30nm,18.5s,baz=94,slow=38							
FINES	**FINESS Array B**	**145.23**	**340**	PKP		**PKPbc**	**13 13 13.0**	**-2.8**
	comp=Z,4.1nm,0.4s,baz=56,slow=3.8,SNR=23							
FINES				PKPbc		**PKPab**	**13 13 15.5**	**-0.4**
	comp=Z,4.1nm,0.4s,baz=61,slow=4.1,SNR=9.9							
NOA	**NORSAR Array B**	**148.89**	**351**	PKP		**PKPdf**	**13 13 23.1**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=14,slow=4.1,SNR=2.1							
NOA				PKPbc		**sPKPdf**	**13 13 26.1**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=15,slow=4.3,SNR=4.9							
HFS	**Hagfors**	**149.37**	**348**	PKP		**PKPdf**	**13 13 23.7**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=169,slow=2.9,SNR=2.4							
HFS				PKPbc		**PKPbc**	**13 13 27.8**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=72,slow=4.8,SNR=3.0							
HFS				PKPab		**PKPab**	**13 13 32.2**	**0.0**
	comp=Z,0.6nm,0.4s,baz=58,slow=5.8,SNR=5.6							
AKASG	**Malin Array Be**	**151.29**	**322**	PKPbc		**PKPbc**	**13 13 32.5**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=49,slow=2.5,SNR=6.9							
TORD	**Torodi Ar. Bea**	**162.65**	**180**	PKPab		**PKPab**	**13 14 28.9**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=165,slow=2.9,SNR=2.5							

WEL 06 12:56:09.3±0.4,43°.5S±3°×17°.3E±°,h26km±4km,M2.6/6, ML2.7/11,MLv2.6/6,Error ellipse: s-maj=0.0km s-min=0.0km az=115.1,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTZ	**Lake Taylor**	**0.22**	**280**	P	Pn	12 56 17.1	+0.2
LTZ				S	Sb	12 56 21.8	+2.3
AMBC	**Amberley HDC**	**0.36**	**160**	P	Pn	12 56 18.4	-0.4
AMBC				S	Sn	12 56 25.1	0.0
AMCZ	**Amberley**	**0.36**	**170**	P	Pn	12 56 19.7	+0.8
AMCZ				S	Sn	12 56 26.2	+1.0
GVZ	**Greta Valley S**	**0.38**	**113**	P	Pn	12 56 19.4	+0.2
GVZ				S	Sn	12 56 26.1	+0.5
WTMC	**Te Mara Farm W**	**0.41**	**61**	P	Pn	12 56 19.5	0.0
WTMC				S	Sn	12 56 26.5	+0.1
ASHY	**Ashley**	**0.46**	**177**	P	Pb	12 56 19.3	+0.4
SMHS	**Summerhill**	**0.47**	**200**	P	Pn	12 56 21.3	+0.8
CECS	**Cheviot Emerge**	**0.53**	**90**	P	Pn	12 56 21.3	+0.2
SJFS	**Springs Juncti**	**0.56**	**330**	P	Pn	12 56 21.2	-0.4
OXZ	**Oxford**	**0.64**	**217**	P	Pn	12 56 22.6	-0.1
OXZ				S	Sn	12 56 31.6	-0.3
CBGS	**Christchurch**	**0.71**	**177**	S	Sn	12 56 33.8	0.0
CSHS	**Castle Hill**	**0.74**	**236**	P	Pn	12 56 24.4	+0.2
HUHS	**Huntsburg**	**0.76**	**175**	P	Pn	12 56 24.6	+0.2
KHZ	**Kahutara**	**0.83**	**61**	P	Pb	12 56 25.1	+0.1
INZ	**Inchbonnie**	**0.83**	**276**	P	Pn	12 56 25.4	+0.1
MQZ	**McQueen's Vall**	**0.89**	**176**	P	Pn	12 56 25.7	-0.4
RACZ	**Rakaia**	**0.96**	**199**	P	Pn	12 56 26.8	-0.3
MHCZ	**Mount Hutt**	**1.02**	**225**	P	Pn	12 56 27.8	-0.2
AKCZ	**Akaroa Harbour**	**1.08**	**167**	P	Pn	12 56 28.7	-0.1
THZ	**Tophouse**	**1.09**	**14**	P	Pn	12 56 28.3	-0.6
DSZ	**Denniston Nort**	**1.21**	**332**	P	Pn	12 56 30.7	+0.1
WACZ	**Wakanui South**	**1.24**	**205**	P	Pn	12 56 30.7	-0.3
WVZ	**Waitaha Valley**	**1.36**	**259**	P	Pb	12 56 33.5	-0.7
RPZ	**Rata Peaks**	**1.42**	**230**	P	Pn	12 56 33.5	+0.1
MRNZ	**Matariki Terra**	**1.43**	**6**	P	Pn	12 56 33.8	+0.3
BSWZ	**Blackbirch Sta**	**1.47**	**42**	P	Pn	12 56 34.4	+0.3
ARCZ	**Arundel**	**1.51**	**221**	P	Pn	12 56 34.7	-0.1
TUWZ	**Tuamarina**	**1.73**	**37**	P	Pn	12 56 37.9	+0.3
TKNZ	**Takaka Hill**	**1.81**	**10**	P	Pn	12 56 39.6	+0.8
TMZ	**Timaru**	**1.93**	**215**	P	Pn	12 56 38.9	-1.6
TCW	**Tory Channel**	**2.05**	**39**	P	Pn	12 56 41.6	-0.5
FOZ	**Fox Glacier**	**2.13**	**250**	P	Pn	12 56 44.3	+1.1
CAW	**Cannon Point**	**2.53**	**48**	P	Pn	12 56 47.7	-1.0
ODZ	**Otahua Downs**	**2.62**	**211**	P	Pn	12 56 49.5	-0.4
MRZ	**Mangatainoka R**	**3.12**	**47**	P	Pn	12 56 55.1	-1.7
PKE	**Pukeiti**	**3.78**	**17**	P	Pn	12 57 07.3	+1.4

*VIE **06** 12:56:24.4±0.1,47°.33N×11°.44E,h11km±1km,mb1.3/4, ml2.1/13,Error ellipse: s-maj=1.1km s-min=0.7km az=2.0*
*BUG **06** 12:56:25.5,47°.35N×11°.38E,h4km±2km,MD2.3/4,ML2.6/7*
*BGR **06** 12:56:25.6±0.2,47°.37N×11°.43E,h10km,ML2.0/16,Error ellipse: s-maj=4.4km s-min=2.2km az=174.0*

ISC 06 12:56:24.7±0.8,47°.35N±0°.03×11°.44E±0°.01,h11km±6km, n37,σ0°67/69,Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATA	**Walderalm**	**0.10**	**100**	*i* Pg	**Pg**	**12 56 27.3**	**-0.3**
	79nm,0.1s,SNR=222						
WATA				*i* Sg	**Sg**	**12 56 29.4**	**-0.2**
	528nm,0.1s						
WTTA	**Wattenberg**	**0.16**	**123**	*i* Pg	**Pg**	**12 56 28.3**	**-0.2**
	25nm,0.1s,SNR=65						
WTTA				*i* Sg	**Sg**	**12 56 31.0**	**-0.1**
	127nm,0.2s						
WTTA	**Wattenberg**	**0.16**	**123**	*e*Pg	**Pg**	**12 56 28.4**	**-0.1**
WTTA				*e*Sg	**Sg**	**12 56 31.1**	**-0.1**
SQTA	**Sankt Quirin**	**0.20**	**230**	*i* Pg	**Pg**	**12 56 28.8**	**-0.4**
	30nm,0.1s,SNR=44						
SQTA				*i* Sg	**Sg**	**12 56 32.0**	**-0.1**
	99nm,0.2s						
MOTA	**Moosalm**	**0.23**	**268**	*e*Pg	**Pg**	**12 56 29.1**	**-0.5**
	5.6nm,0.1s,SNR=22						
MOTA				*i* Sg	**Sg**	**12 56 33.0**	**+0.2**
	21nm,0.1s						
ZUGS	**Zugspitze, Sch**	**0.32**	**282**	*e*Pg	**Pg**	**12 56 31.1**	**-0.1**
ZUGS				*e*Sg	**Sg**	**12 56 36.0**	**+0.5**
RETA	**Reutte**	**0.48**	**287**	*i* Pg	**Pg**	**12 56 34.0**	**0.0**
	3.4nm,0.1s						
RETA				*e*Sg	**Sg**	**12 56 40.7**	**+0.3**
	26nm,0.2s,SNR=8.1						
BE1	**Monatshausen**	**0.58**	**346**	*e*Pg	**Pg**	**12 56 36.2**	**+0.3**
BE1				*e*Sg	**Sb**	**12 56 45.0**	**-0.1**
FETA	**Feichten**	**0.58**	**236**	*e*Pg	**Pg**	**12 56 35.7**	**-0.4**
	1.0nm,0.1s						
FETA				*e*Sg	**Sg**	**12 56 43.4**	**-0.5**
	1.9nm,0.1s,SNR=5.0						
A105A	**Obersdorf, Sch**	**0.78**	**274**	Pg	**Pg**	**12 56 39.8**	**+0.1**
A105A				Sg	**Sb**	**12 56 50.5**	**-0.3**
OBER	**Oberstdorf**	**0.78**	**274**	*e*Pg	**Pb**	**12 56 40.7**	**+0.4**
OBER				*e*Sg	**Sb**	**12 56 51.3**	**+0.5**
FUR	**Furstenfeldbru**	**0.82**	**353**	*e*Pg	**Pb**	**12 56 40.9**	**-0.1**
FUR				Sg	**Sn**	**12 56 53.4**	**-1.0**
LESA	**Schwarzleotal**	**0.85**	**85**	*i* Pg	**Pg**	**12 56 41.1**	**+0.1**
	1.7nm,0.2s						
LESA				Sg	**Sb**	**12 56 53.2**	**+0.3**
	8.1nm,0.2s						
ABTA	**Abfaltersbach**	**0.95**	**129**	*e*Sg	**Sg**	**12 56 55.0**	**-0.5**
	5.8nm,0.3s						
UBR	**Ueberruh**	**0.96**	**291**	*e*Pg	**Pb**	**12 56 43.5**	**+0.2**
UBR				*e*Sg	**Sb**	**12 56 56.4**	**+0.3**
RJOB	**Jochberg**	**1.00**	**67**	*e*Pg	**Pn**	**12 56 45.5**	**+0.8**
RJOB				*e*Sg	**Sn**	**12 56 58.9**	**+0.1**
DAVA	**Damuels**	**1.06**	**267**	*e*Pg	**Pb**	**12 56 45.4**	**+0.2**
	5.5nm,0.2s						
DAVA				*e*Sg	**Sn**	**12 57 00.4**	**0.0**
	6.4nm,0.2s,SNR=6.2						
DAVA	**Damuels**	**1.06**	**267**	*e*Pg	**Pn**	**12 56 46.9**	**+1.3**
DAVA				*e*Sg	**Sn**	**12 57 00.5**	**0.0**
A107C	**Memmingen - Ei**	**1.07**	**309**	Pg	**Pg**	**12 56 45.4**	**+0.2**
KBA	**Koelnbreinsper**	**1.33**	**101**	*i* Pn	**Pn**	**12 56 49.1**	**-0.3**
	1.0nm,0.2s						
KBA				*e*Sn	**Sb**	**12 57 06.6**	**-0.2**
	7.0nm,0.3s,SNR=4.3						
KBA	**Koelnbreinsper**	**1.33**	**101**	*e*Pn	**Pb**	**12 56 49.6**	**-0.1**
KBA				*e*Sn	**Sb**	**12 57 06.6**	**-0.2**
A104C	**Biberach, Ahle**	**1.43**	**303**	Pg	**Pb**	**12 56 51.7**	**+0.4**
A104C				Sg	**Sg**	**12 57 10.8**	**+0.2**
NORI	**Noerdlinger Ri**	**1.47**	**339**	*e*Pn	**Pb**	**12 56 52.2**	**+0.1**
NORI				*e*Sg	**Sg**	**12 57 12.3**	**+0.2**
BIOA	**Bad Ischl, Aus**	**1.53**	**76**	*e*Pg	**Pb**	**12 56 53.0**	**0.0**
	0.4nm,0.1s						
BIOA				*e*Sg	**Sg**	**12 57 15.5**	**+1.6**
	2.3nm,0.1s						
WALHA	**Wallhausen, DE**	**1.62**	**285**	*e*Sg	**Sg**	**12 57 16.5**	**-0.2**

A102A	**Sigmaringen, J**	**1.70**	**298**	Pn		**Pb**	**12 56 56.5**	**+0.5**
A102A				Sn		**Sb**	**12 57 18.3**	**+0.9**
WILA	**Wila**	**1.72**	**273**	*e*Sg		**Sg**	**12 57 19.9**	**0.0**
A109A	**Bad Urach, See**	**1.72**	**310**	Pn		**Pn**	**12 56 53.4**	**-1.2**
A109A				Sn		**Sg**	**12 57 19.5**	**-0.5**
EMING	**Emmingen-Lipti**	**1.83**	**288**	*e*Sg		**Sg**	**12 57 22.8**	**-0.9**
MOA	**Molln**	**1.98**	**74**	*e*Pg		**Pg**	**12 57 02.4**	**-0.2**
	0.8nm,0.2s							
MOA				*e*Sg		**Sg**	**12 57 27.7**	**-0.5**
	3.0nm,0.2s							
SLE	**Schleitheim**	**2.04**	**283**	*e*Pg		**Pg**	**12 57 03.2**	**-0.5**
SLE				*e*Sg		**Sg**	**12 57 28.7**	**-1.4**
WET	**Wettzell**	**2.04**	**28**	*e*Pn		**Pn**	**12 56 58.4**	**-0.5**
WET				*e*Pg		**Pg**	**12 57 03.3**	**-0.4**
WET				*e*Sn		**Sn**	**12 57 23.5**	**-0.8**
WET				*e*Sg		**Sb**	**12 57 28.4**	**+1.3**
GEC2	**GERESS Array S**	**2.13**	**45**	*e*Sg		**Sb**	**12 57 31.5**	**+1.7**
METMA	**Mettma DE**	**2.19**	**281**	*e*Sg		**Sb**	**12 57 33.1**	**+1.8**
BERGE	**Lenzkirch (DE)**	**2.26**	**284**	*e*Sg		**Sg**	**12 57 35.9**	**-1.6**
BFO	**Black Forest**	**2.31**	**296**	Pn		**Pb**	**12 57 07.3**	**+0.9**
BFO				*e*Sn		**Sn**	**12 57 30.9**	**-0.2**
BFO				*e*Sg		**Sg**	**12 57 37.5**	**-1.3**
GRF	**Grafenberg Arr**	**2.35**	**357**	*e*Pg		**Pg**	**12 57 09.1**	**-0.6**
GRF				*e*Sg		**Sg**	**12 57 39.3**	**-0.7**

IDC 06 13:13:39.7±7.0,6°.78S×141°.88E,h0km,mb3.3/1, mbtmp3.3/3,ML3.4/1,Error ellipse: s-maj=241.8km s-min=37.6km az=96.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.00**	**208**	Pn	Pn	13 17 12.8	-0.3
	0.4nm,0.9s,baz=28,slow=11,SNR=1.8						
ASAR	**Alice Springs**	**18.46**	**204**	P	Pn	13 17 56.9	-0.3
	0.1nm,0.3s,baz=32,slow=11,SNR=13 1.2nm,0.8s						
MKAR	**Makanchi Array**	**74.91**	**322**	P	P	13 25 22.7	+0.1
	0.1nm,0.3s,baz=106,slow=4.7,SNR=1.9 0.1nm,0.3s						

*IDC **06** 13:14:56.0±5.6,8°.03S×116°.69E,h0km,mb3.3/3, mbtmp3.4/3,Error ellipse: s-maj=263.2km s-min=29.1km az=57.0*
*DJA **06** 13:15:24.6±0.6,8°.5±7°×11°.8E±°,h232km±5km,M3.1/7, MLv3.1/7*

ISC 06 13:15:23.6±1.1,8°.0S±0°.2×117°.72E±0°.08,h250km,n10, σ1s0/12,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.81**	**176**	P	**Pn**	**13 15 57.6**	**-0.1**
PLAI				S	**S**	**13 16 23.3**	**-1.3**
TWSI	**Taliwang, Sumb**	**1.10**	**229**	P	**Pn**	**13 15 59.1**	**-0.1**
TWSI				S	**S**	**13 16 26.5**	**-0.7**
WBSI	**Waikabubak, Su**	**2.31**	**134**	P	**Pn**	**13 16 09.0**	**-0.1**
JAGI	**Jajag, Banyuwa**	**3.56**	**262**	P	**Pn**	**13 16 22.3**	**-0.1**
BASI	**Baing, Sumba**	**3.57**	**128**	P	**Pn**	**13 16 22.9**	**+0.4**
KMMI	**Kalianget**	**3.84**	**284**	P	**Pn**	**13 16 26.7**	**+1.1**
EDFI	**Ende, Flores**	**4.00**	**101**	P	**Pn**	**13 16 27.6**	**+0.1**
WRA	**Warramunga Arr**	**19.99**	**128**	P	**P**	**13 19 38.5**	**+0.8**
	0.2nm,0.2s,baz=301,slow=12,SNR=9.9 0.2nm,0.2s						
ASAR	**Alice Springs**	**21.98**	**137**	P	**P**	**13 19 59.5**	**+2.0**
	0.5nm,0.4s,baz=309,slow=9.1,SNR=26 0.5nm,0.4s						
SONM	**Songino Array**	**56.50**	**351**	P	**P**	**13 24 39.1**	**-0.9**
	0.3nm,0.4s,baz=183,slow=5.8,SNR=1.5 0.3nm,0.4s						

*NOU **06** 13:33:06.8,20°.68S×169°.70E,h25km,MLv4.4/11, Vanuatu Islands*
*IDC **06** 13:33:06.7±5.5,20°.91S×169°.72E,h92km±35km,mb3.6/4, mbtmp4.0/5,Error ellipse: s-maj=68.8km s-min=25.1km az=12.0*
*NEIC **06** 13:33:07.3±2.0,20°.8S±0°.1×169°.74E±0°.09,h73km±10km, mb4.2/10,Error ellipse: s-maj=16.5km s-min=12.6km az=189.0*

ISC 06 13:33:06.9±1.2,20°.7S±0°.1×169°.72E±0°.08,h100km,n33, σ1s53/35,mb3.8/7,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.75**	**244**		**Pn**	**13 33 35.0**	**-1.2**
MARNC				Sn	**Sn**	**13 33 56.4**	**-2.2**
MARNC	**Mare, Loyalty**	**1.75**	**244**	P	**Pn**	**13 33 35.7**	**-0.5**
LIFNC	**LIFOU**	**2.32**	**268**		**Pn**	**13 33 42.2**	**-1.4**
LIFNC	**LIFOU**	**2.32**	**268**	P	**Pn**	**13 33 42.6**	**-1.0**
PINNC	**Pines Island,**	**2.83**	**228**		**Pn**	**13 33 50.1**	**-0.3**
PINNC				Sn	**Sn**	**13 34 20.4**	**-3.5**
PINNC	**Pines Island,**	**2.83**	**228**	P	**Pn**	**13 33 50.4**	**0.0**
OUENC	**Ouen Island, N**	**3.17**	**237**		**Pn**	**13 33 55.0**	**+0.2**
OUENC	**Ou

*IDC **06** 13:45:50.1±1.6,0.°63N×125.°82E,h0km,mb3.7/4, mbtmp3.8/4,Error ellipse: s-maj=163.7km s-min=20.9km az=65.0*

*DJA **06** 13:45:52.5±1.0,1.°1N±3.°×12.°6E±.°,h18km±8km,M3.7/7, MLv3.7/7*

ISC 06 13:45:51.8±0.8,0.°**82N**±0.°05×**126.°24E**±0.°05,**h10**km,**n11**, σ0**98**/**17**,**mb3.8/4**,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.13**	**93**	P	**Pb**	**13 46 14.0**	**+0.5**
TNTI				S	**Sb**	**13 46 29.7**	**+1.4**
LBMI	**Labuha**	**1.93**	**139**	P	**Pn**	**13 46 24.0**	**-0.7**
LBMI				S	**Sn**	**13 46 49.8**	**+0.8**
KMSI	**Cibinong**	**2.27**	**264**	P	**Pn**	**13 46 28.6**	**-0.8**
KMSI				S	**Sn**	**13 46 57.1**	**-0.4**
SANI	**Sanana**	**2.86**	**185**	P	**Pn**	**13 46 37.8**	**+0.2**
SANI				S	**Sn**	**13 47 12.2**	**0.0**
SGSI	**Sangihe**	**2.93**	**346**	P	**Pn**	**13 46 38.2**	**-0.3**
SGSI				S	**Sn**	**13 47 13.9**	**+0.1**
GTOI	**Gorontalo**	**3.23**	**267**	P	**Pn**	**13 46 43.9**	**+1.3**
GTOI				S	**Sn**	**13 47 23.4**	**+2.2**
LUWI	**Luwuk**	**3.93**	**242**	P	**Pn**	**13 46 51.7**	**-0.6**
WRA	**Warramunga Arr**	**22.11**	**159**	P	**P**	**13 50 46.4**	**-1.3**
	1.7nm,0.5s,baz=336,slow=11,SNR=16						
	1.7nm,0.5s						
ASAR	**Alice Springs**	**25.46**	**163**	P	**P**	**13 51 19.9**	**-0.4**
	0.7nm,0.4s,baz=347,slow=12,SNR=45						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**59.67**	**326**	P	**P**	**13 55 55.7**	**-0.8**
	0.4nm,0.5s,baz=126,slow=8.7,SNR=5.8						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**63.92**	**328**	P	**P**	**13 56 24.6**	**-0.4**
	0.6nm,0.6s,baz=127,slow=6.1,SNR=7.2						
	0.6nm,0.6s						

*BJI **06** 14:13:04.3±0.0,6.°32S×142.°66E,h10km,mb5.6/95, mB6.4/83,Ms6.5/98,Ms7 6.5/93*

*IDC **06** 14:13:05.6±0.4,6.°09S×142.°17E,h0km,mb5.4/26, mbtmp5.4/28,ML4.2/2,MS6.5/50,Error ellipse: s-maj=15.8km s-min=9.4km az=89.0*

*MOS **06** 14:13:05.4±1.0,5.°95S×142.°61E,h10km,mb6.4/40, MS6.5/24,Error ellipse: s-maj=8.9km s-min=4.5km az=115.0*

*NEIC **06** 14:13:07.7±2.0,6.°30S±0.°04×142.°61E±0.°06,h20km±2km, mb6.3/334,Ms_20 6.9/1179,Mww6.7/68,Error ellipse: s-maj=9.3km s-min=5.2km az=73.0*

*DJA **06** 14:13:08.1±0.1,6.°5S±2.°×14.°3E±.°,h10km,M6.5/115, mb6.0/115,mB6.8/113,MLv7.2/6,Mw6.7/65, Mw(mB)6.6/113,MwMwp6.3/101,Mwp6.3/101*

*IPGP **06** 14:13:09.0,6.°30S×142.°61E,h11km,Mw6.7,Fault plane solution: NP1:ϕs128.00000°,δ74.00000°,λ101.00000°. NP2:ϕs274.00000°,δ20.00000°,λ57.00000°.*

*NEIC **06** 14:13:09,6.°28S×142.°62E,h12km*

*NEIC **06** 14:13:09,6.°28S×142.°42E,h12km,Moment Tensor Solution. Duration: 11s1 Moment tensor: Scale 10**19**Nm; Mrr0.90; Mθθ-0.66; Mϕϕ-0.23; Mrθ0.83; Mθϕ0.38; Mϕr-0.07; Fault plane solution: M0 1.22000×10**19** NP1: ϕs103.98000°,δ66.82000°,λ77.32000°. NP2: ϕs313.74000°,δ26.25000°,λ117.15000°. Principal axes: T 1.2618, Plg66.0000°, Azm352.0000°; N -0.0877, Plg12.0000°, Azm109.0000°; P -1.1741, Plg21.0000°, Azm204.0000°;*

*GCMT **06** 14:13:22.7±0.0,6.°43S×142.°49E,h12km,MW6.7/179, Moment Tensor Solution. s174,c404; s179,c823; Duration: 5s3 Moment tensor: Scale 10**19**Nm; Mrr0.83±.00; Mθθ-0.64±.00; Mϕϕ-0.19±.00; Mrθ0.80±.01; Mθϕ0.39±.00; Mϕr-0.58±.01; Best double couple: M0 1.30400×10**19** NP1:ϕs124.00000°,δ70.00000°, λ93.00000°. NP2:ϕs295.00000°,δ20.00000°,λ82.00000°. Principal axes: T 1.2900, Plg65.0000°, Azm40.0000°; N 0.0270, Plg3.0000°, Azm303.0000°; P -1.3180, Plg25.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 06 14:13:07.9±0.3,**6.°24S**±0.°03×**142.°67E**±0.°03,**h17**km±1km, **h17**km:**pP-P,n2257,**σ2**s11**/1960,**mb6.2**/321,**MS6.9**/699, **50C-29D,New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.73**	**304**	P	**Pb**	**14 13 38.2**	**-1.1**
MMPI	**Merauke**	**3.17**	**226**	P	**Pn**	**14 13 57.2**	**+0.2**
GENI	**Genyem**	**4.40**	**325**	P	**Pn**	**14 14 14.1**	**+0.2**
GENI	**Genyem**	**4.40**	**325**	P	**Pn**	**14 14 13.9**	**0.0**
PMG	**Port Moresby**	**5.45**	**126**	Pn	**Pn**	**14 14 26.9**	**-1.5**
PMG	**Port Moresby**	**5.45**	**126**	P	**Pn**	**14 14 29.0**	**+0.6**
PMG	**Port Moresby**	**5.45**	**126**	P	**Pn**	**14 14 29.3**	**+0.9**
PMG	**Port Moresby**	**5.45**	**126**	*c iP*	**Pn**	**14 14 26.9**	**-1.5**
PMG				MLR	MLR		
	comp=Z,1201μm,12.0s						
PMG	**Port Moresby**	**5.45**	**126**	Pn	**Pn**	**14 14 28.6**	**+0.2**
	comp=Z,31nm,0.3s,baz=314,slow=14,SNR=76						
PMG				Sn	**Sn**	**14 15 32.0**	**+1.3**
	comp=Z,154nm,0.3s,baz=247,slow=22,SNR=6.0						
MANU	**Manus Island**	**6.27**	**49**	Pn	**Pn**	**14 14 40.2**	**+0.4**
MANU	**Manus Island**	**6.27**	**49**	P	**Pn**	**14 14 41.3**	**+1.6**
BULU	**Kimbe**	**7.64**	**85**	P	**Pn**	**14 15 02.1**	**+3.6**
COEN	**Coen**	**7.69**	**176**	P	**Pn**	**14 14 59.6**	**+0.5**
	baz=7.7,SNR=26						
COEN	**Coen**	**7.69**	**176**	Pn	**Pn**	**14 14 57.3**	**-1.8**
COEN	**Coen**	**7.69**	**176**	P	**Pn**	**14 15 01.7**	**+2.6**
I40PG	**Keravat**	**9.50**	**79**	Pn	Pn	14 15 30.0	+5.9
	baz=214,slow=103						
RABL	**Rabaul**	**9.67**	**78**	Pn	**Pn**	**14 15 26.4**	**0.0**
RABL	**Rabaul**	**9.67**	**78**	P	**Pn**	**14 15 28.8**	**+2.4**
FAKI	**Fak Fak**	**10.90**	**287**	Pn	**Pn**	**14 15 41.7**	**-1.6**
FAKI	**Fak Fak**	**10.90**	**287**	P	**Pn**	**14 15 42.4**	**-0.8**
FAKI	**Fak Fak**	**10.90**	**287**	P	**Pn**	**14 15 41.9**	**-1.3**
	comp=Z,1μm,1.1s,comp=Z,36μmcomp=Z,205μm						
SAUI	**Saumlaki**	**11.41**	**261**	Pn	**Pn**	**14 15 48.3**	**-2.0**
SAUI	**Saumlaki**	**11.41**	**261**	P	**Pn**	**14 15 50.0**	**-0.3**
SAUI	**Saumlaki**	**11.41**	**261**	P	**Pn**	**14 15 49.8**	**-0.5**
	comp=Z,16μm,1.5s,comp=Z,188μmcomp=Z,417μm						
KDU	**Kakadu**	**11.92**	**237**	P	**Pn**	**14 15 54.0**	**-3.2**
	baz=12						
KDU	**Kakadu**	**11.92**	**237**	P	**Pn**	**14 15 54.1**	**-3.2**
MTSU	**Mount Surprise**	**11.93**	**172**	P	**Pn**	**14 15 58.8**	**+1.5**
	baz=12,SNR=14						
MTSU	**Mount Surprise**	**11.93**	**172**	P	**Pn**	**14 15 58.1**	**+0.7**
SWI	**Sorong**	**12.57**	**295**	P	**Pn**	**14 16 02.6**	**-3.6**
SWI				pmax	pmax		
	comp=Z,2μm,1.6s						
SWI	**Sorong**	**12.57**	**295**	P	**Pn**	**14 16 04.7**	**-1.5**
	comp=Z,2μm,1.6s,comp=Z,26μmcomp=Z,142μm						
BNDI	**Bandanaira**	**12.82**	**277**	P	**Pn**	**14 16 09.1**	**-0.5**
BNDI	**Bandanaira**	**12.82**	**277**	P	**Pn**	**14 16 09.3**	**-0.3**
	comp=Z,4μm,1.7s,comp=Z,92μmcomp=Z,219μm						
MTN	**Manton Dam**	**13.13**	**239**	P	**Pn**	**14 16 10.7**	**-3.0**
	baz=13						
MTN	**Manton Dam**	**13.13**	**239**	Pn	**Pn**	**14 16 10.0**	**-3.8**
MTN	**Manton Dam**	**13.13**	**239**	P	**Pn**	**14 16 10.4**	**-3.3**
DRS	**Darwin Rock St**	**13.14**	**241**	P	**Pn**	**14 16 11.6**	**-2.3**
TV1H	**Townsville Har**	**13.55**	**163**	P	**Pn**	**14 16 22.8**	**+3.3**
AUAYR	**Ayr State High**	**14.04**	**161**	P	**Pn**	**14 16 28.5**	**+2.4**
CTA	**Charters Tower**	**14.20**	**166**	P	**Pn**	**14 16 30.5**	**+2.1**
CTA	**Charters Tower**	**14.20**	**166**	P	**Pn**	**14 16 30.4**	**+2.1**
CTA	**Charters Tower**	**14.20**	**166**	Pn	**Pn**	**14 16 30.4**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=338,slow=13,SNR=7.0						
CTA				LR	LR	14 23 02.5	
	comp=Z,265μm,18.6s,baz=352,slow=41						
	comp=Z,16nm,1.0s						
CTAO	**Charters Tower**	**14.20**	**166**		**P**	**14 16 32.1**	**-3.6**
CTAO	**Charters Tower**	**14.20**	**166**	P	**Pn**	**14 16 30.8**	**+2.4**
CTAO	**Charters Tower**	**14.20**	**166**	P	**P**	**14 16 32.1**	**-3.6**
QIS	**Mount Isa**	**14.54**	**192**	P	**Pn**	**14 16 30.0**	**-3.1**
	baz=15,SNR=71						
QIS	**Mount Isa**	**14.54**	**192**	P	**Pn**	**14 16 31.8**	**-1.3**
WB0	**Warramunga Arr**	**15.67**	**210**	Pn	**Pn**	**14 16 43.9**	**-4.1**
WR0	**Warramunga Arr**	**15.76**	**209**	Pn	**Pn**	**14 16 45.1**	**-4.2**
NLAI	**Namlea**	**15.80**	**280**	P	**Pn**	**14 16 47.5**	**-2.3**
	comp=Z,419nm,1.2s,comp=Z,20μm						
WRAB	**Tennant Creek**	**15.83**	**210**	*e iP*	**Pn**	**14 16 45.5**	**-4.7**
WRAB				pmax	pmax		
	comp=Z,49nm,2.1s						
WRAB				MLR	MLR		
	comp=Z,1319μm,14.0s						
WB2	**Warramunga Arr**	**15.84**	**210**	P	**Pn**	**14 16 45.8**	**-4.4**
	baz=16						
WB2	**Warramunga Arr**	**15.84**	**210**	Pn	**Pn**	**14 16 46.2**	**-4.1**
WRA	**Warramunga Arr**	**15.84**	**210**		**Pn**	**14 16 46.1**	**-4.2**
WRA	**Warramunga Arr**	**15.84**	**210**	P	**Pn**	**14 16 46.1**	**-4.2**
WRA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WRA	**Warramunga Arr**	**15.84**	**210**	Pn	**Pn**	**14 16 45.8**	**-4.5**
	comp=Z,3.8nm,0.3s,baz=29,slow=14,SNR=79						
WRA				Sn	**Sn**	**14 19 36.7**	**-9.0**
	comp=Z,5.0nm,0.3s,baz=339,slow=40,SNR=1.6						
WRA				Lg	Lg	14 21 24.5	
	baz=30,slow=23						
I39PW	**PALAU INFRASON**	**15.90**	**329**	I	I	15 48 50.0	
	baz=151,slow=309,SNR=0.9						
LBMI	**Labuha**	**16.13**	**290**	P	**Pn**	**14 16 52.5**	**-1.5**
	comp=Z,2μm,1.2s,comp=Z,39μm						
KNRA	**Kununurra**	**16.55**	**234**	P	**Pn**	**14 16 55.4**	**-3.9**
	baz=16						
KNRA	**Kununurra**	**16.55**	**234**	Pn	**Pn**	**14 16 55.1**	**-4.2**
KNRA				IAmb	IAmb	14 17 05.9	
	comp=Z,2μm,1.2s						
KNRA	**Kununurra**	**16.55**	**234**	P	**Pn**	**14 16 54.8**	**-4.6**
TNTI	**Ternate**	**16.79**	**294**	Pn	**Pn**	**14 16 59.1**	**-3.3**
TNTI	**Ternate**	**16.79**	**294**	P	**Pn**	**14 17 01.8**	**-0.6**
TNTI	**Ternate**	**16.79**	**294**	P	**Pn**	**14 17 01.8**	**-0.6**
	comp=Z,758nm,1.4s,comp=Z,25μmcomp=Z,43μm						
SANI	**Sanana**	**17.15**	**283**	P	**Pn**	**14 17 02.2**	**-4.7**
SANI	**Sanana**	**17.15**	**283**	P	**Pn**	**14 17 00.8**	**-6.1**
HNR	**Honiara**	**17.41**	**102**	P	**Pn**	**14 17 10.5**	**+0.3**
HNR	**Honiara**	**17.41**	**102**	P	**P**	**14 17 11.4**	**0.0**
HNR	**Honiara**	**17.41**	**102**	P	**Pn**	**14 17 10.5**	**+0.3**
HNR				pmax	pmax		
	comp=Z,506nm,1.0s						
HNR	**Honiara**	**17.41**	**102**	P	**P**	**14 17 12.8**	**+1.4**
	comp=Z,4μm,1.1s,baz=282,slow=12,SNR=23						
SOEI	**Soe**	**18.55**	**258**	P	**P**	**14 17 20.4**	**-3.7**
SOEI	**Soe**	**18.55**	**258**	P	**Pn**	**14 17 24.6**	**+0.2**
SOEI	**Soe**	**18.55**	**258**	P	**P**	**14 17 21.7**	**-2.4**
SOEI	**Soe**	**18.55**	**258**	P	**P**	**14 17 21.8**	**-2.4**
	comp=Z,6μm,1.3s,comp=Z,107μmcomp=Z,252μm						
RK1H	**Rockhampton Ha**	**18.64**	**157**	P	**Pn**	**14 17 27.9**	**+2.7**
AS01	**Alice Springs**	**19.25**	**205**	P	**P**	**14 17 31.3**	**-0.3**
ASAR	**Alice Springs**	**19.27**	**205**	P	**P**	**14 17 29.6**	**-2.3**
ASAR	**Alice Springs**	**19.27**	**205**	P	**P**	**14 17 30.7**	**-1.2**
ASAR				S	**Sn**	**14 21 08.9**	**+0.2**
ASAR	**Alice Springs**	**19.27**	**205**	P	**P**	**14 17 30.7**	**-1.2**
	comp=Z,6.2nm,0.3s,baz=31,slow=7.9,SNR=335						
ASAR				S	**Sn**	**14 21 08.9**	**+0.2**
	comp=Z,86nm,0.9s,baz=22,slow=22,SNR=2.2						
ASAR				Lg	Lg	14 23 13.8	
	comp=Z,6.8nm,0.3s,baz=16,slow=28,SNR=4.4						
	comp=Z,134nm,0.6s						
ASPA	**Alice Springs**	**19.27**	**205**	P	**P**	**14 17 31.7**	**-0.2**
	baz=19						
GD1S	**Gladstone Soft**	**19.32**	**156**	P	**Pn**	**14 17 35.5**	**+2.1**
SGSI	**Sangihe**	**19.75**	**300**	P	**P**	**14 17 37.3**	**+0.1**
	comp=Z,2μm,1.3s,comp=Z,51μmcomp=Z,75μm						
KMSI	**Cibinong**	**19.84**	**289**	P	**P**	**14 17 38.7**	**+0.5**
	comp=Z,3μm,1.2s,comp=Z,78μmcomp=Z,101μm						
BBSI	**Bau Bau**	**20.01**	**271**	P	Pn	14 17 48.8	+7.0
QLP	**Quilpie**	**20.29**	**176**	P	Pn	14 17 44.0	-0.9
	baz=20,SNR=112						
QLP	**Quilpie**	**20.29**	**176**	P	**P**	**14 17 43.7**	**+0.8**
PATS	**Pohnpei**	**20.31**	**50**	P	**P**	**14 17 42.5**	**-0.7**
	baz=20,SNR=9.6						
PATS	**Pohnpei**	**20.31**	**50**	P	**P**	**14 17 41.7**	**-1.5**
PATS				IAMs_20	IAMs_20	14 24 33.1	
	comp=Z,534μm,21.0s						
PATS	**Pohnpei**	**20.31**	**50**	P	**P**	**14 17 41.9**	**-1.3**
FITZ	**Fitzroy Crossi**	**20.37**	**233**	P	**P**	**14 17 42.6**	**-1.3**
	baz=20,SNR=59						
FITZ	**Fitzroy Crossi**	**20.37**	**233**	P	**P**	**14 17 42.7**	**-1.2**
MMRI	**Maumere**	**20.40**	**262**	P	**P**	**14 17 42.1**	**-2.1**
MMRI				IAmb	IAmb	14 17 55.2	
	comp=Z,5μm,2.0s						
MMRI	**Maumere**	**20.40**	**262**	P	**P**	**14 17 44.1**	**-0.1**
MMRI	**Maumere**	**20.40**	**262**	P	**P**	**14 17 43.8**	**-0.4**
	comp=Z,2μm,1.3s,comp=Z,58μmcomp=Z,180μm						
LUWI	**Luwuk**	**20.51**	**284**	P	**P**	**14 17 43.4**	**-2.1**
LUWI				IAmb	IAmb	14 17 50.5	
	comp=Z,3μm,1.6s						
LUWI	**Luwuk**	**20.51**	**284**	P	**P**	**14 17 45.5**	**0.0**
LUWI	**Luwuk**	**20.51**	**284**	P	**P**	**14 17 44.3**	**-1.2**
LUWI	**Luwuk**	**20.51**	**284**	P	Pn	14 17 46.6	-1.1
	comp=Z,2μm,1.7s,comp=Z,45μmcomp=Z,125μm						
EIDS	**Eidsvold**	**20.66**	**158**	P	**P**	**14 17 48.1**	**+1.2**
	baz=20,SNR=44						
EIDS	**Eidsvold**	**20.66**	**158**	P	**P**	**14 17 45.9**	**-1.1**
EIDS				IAmb	IAmb	14 17 57.4	
	comp=Z,4μm,2.0s						
EIDS	**Eidsvold**	**20.66**	**158**	P	Pn	14 17 49.5	+0.2
EDFI	**Ende, Flores**	**20.95**	**262**	P	**P**	**14 17 48.7**	**-1.6**
	comp=Z,2μm,1.3s,comp=Z,43μmcomp=Z,173μm						
RMQ	**Roma**	**20.95**	**165**	P	**P**	**14 17 51.1**	**+0.9**
	baz=21,SNR=17						
RMQ	**Roma**	**20.95**	**165**	P	Pn	14 17 53.4	+0.6
INKA	**Innaminka**	**21.46**	**185**	P	**P**	**14 17 55.6**	**0.0**
DAV	**Davao City (W)**	**21.58**	**308**	P	**P**	**14 17 58.8**	**+1.8**
DAV	**Davao City (W)**	**21.58**	**308**	P	**P**	**14 17 57.3**	**+0.3**
	comp=Z,142nm,0.4s,baz=85,slow=14,SNR=9.8						
DAV				LR	LR	14 26 57.5	
	comp=Z,62μm,18.1s,baz=122,slow=39						
DAV	**Davao City (W)**	**21.58**	**308**	*i iP*	**P**	**14 18 03.0**	**+6.0**
DAV	**Davao City (W)**	**21.58**	**308**	P	**P**	**14 17 59.3**	**+2.4**
DAV				P	**P**	**14 17 59.3**	**+2.4**
MRSI	**Marisa**	**21.74**	**287**	P	**P**	**14 17 59.2**	**+0.5**
	comp=Z,711nm,1.3s,comp=Z,23μmcomp=Z,87μm						
BASI	**Baing, Sumba**	**22.21**	**258**	P	**P**	**14 18 04.4**	**+0.6**
	comp=Z,3μm,1.5s,comp=Z,90μmcomp=Z,187μm						
OOD	**Oodnadatta**	**22.44**	**196**	P	**P**	**14 18 06.2**	**+0.1**
BKSI	**Bulukumba**	**22.45**	**271**	P	**P**	**14 18 06.0**	**-0.4**
	comp=Z,2μm,1.6s,comp=Z,59μmcomp=Z,129μm						
KAPI	**Kappang**	**22.84**	**272**	P	**P**	**14 18 07.5**	**-3.0**
KAPI	**Kappang**	**22.84**	**272**	P	**P**	**14 18 10.4**	**-0.1**
KAPI	**Kappang**	**22.84**	**272**	*d iP*	**P**	**14 18 09.4**	**-1.1**
KAPI				pmax	pmax		
	comp=Z,2μm,1.4s						
KAPI				MLR	MLR		
	comp=Z,103μm,21.0s						
KAPI	**Kappang**	**22.84**	**272**	P	**P**	**14 18 09.8**	**-0.7**
KAPI				P	**P**	**14 18 09.8**	**-0.7**
KAPI				P	**P**	**14 18 09.8**	**-0.7**
KAPI				S	**S**	**14 22 22.6**	**+3.2**
KAPI				S	**S**	**14 22 22.6**	**+3.2**
KAPI				S	**S**	**14 22 22.6**	**+3.2**
TTSI	**Tana Toraja**	**22.99**	**277**	P	**P**	**14 18 12.0**	**-0.1**
	comp=Z,1μm,1.3s,comp=Z,50μmcomp=Z,91μm						
TOLI2	**Tolitoli**	**23.04**	**288**	P	**P**	**14 18 11.5**	**-1.1**
TOLI2				IAmb	IAmb	14 18 30.6	
	comp=Z,1μm,1.2s						
TOLI2	**Tolitoli**	**23.04**	**288**	P	**P**	**14 18 12.8**	**+0.2**
WRKA	**Warakurna**	**23.21**	**215**	P	**P**	**14 18 12.6**	**-1.7**
	baz=23,SNR=73						
WRKA	**Warakurna**	**23.21**	**215**	P	**P**	**14 18 12.0**	**-2.3**
AULRC	**Lightning Ridg**	**23.61**	**168**	P	**P**	**14 18 16.5**	**-1.5**
MPSI	**Mapaga**	**23.65**	**285**	P	**P**	**14 18 19.5**	**+0.9**
	comp=Z,483nm,1.1s,comp=Z,23μmcomp=Z,64μm						
GC1S	**Gold Coast 1 S**	**24.11**	**156**	P	**P**	**14 18 26.2**	**+3.4**
LCRK	**Leigh Creek**	**24.44**	**189**	P	**P**	**14 18 24.7**	**-1.2**
PLAI	**Plampang**	**24.81**	**263**	P	**P**	**14 18 29.3**	**-0.1**
PLAI	**Plampang**	**24.81**	**263**	P	**P**	**14 18 29.1**	**-0.3**
	comp=Z,823nm,1.5s,comp=Z,12μmcomp=Z,70μm						
MULG	**Mulgathing**	**25.25**	**198**	P	**P**	**14 18 33.0**	**-0.2**
CMSA	**Cobar Meteorol**	**25.33**	**174**	P	**P**	**14 18 32.9**	**-1.0**
	baz=26,SNR=51						
CMSA	**Cobar Meteorol**	**25.33**	**174**	P	**P**	**14 18 33.6**	**-0.3**
KOUNC	**Koumac, New Ca**	**25.34**	**126**	P	**P**	**14 18 33.7**	**-0.4**
KOUNC				IAmb	IAmb	14 18 59.4	
	comp=Z,542nm,1.1s						
KOUNC	**Koumac, New Ca**	**25.34**	**126**	P	**P**	**14 18 37.5**	**+3.4**
ARMA	**Armidale**	**25.48**	**162**	P	**P**	**14 18 36.2**	**+0.7**
	baz=26,SNR=13						
ARMA	**Armidale**	**25.48**	**162**	P	**P**	**14 18 37.7**	**+2.2**
STKA	**Stephens Creek**	**25.53**	**182**	P	**P**	**14 18 36.2**	**+0.5**
	baz=26,SNR=41						
STKA	**Stephens Creek**	**25.53**	**182**	P	**P**	**14 18 33.6**	**-2.0**
STKA	**Stephens Creek**	**25.53**	**182**	P	**P**	**14 18 34.0**	**-1.7**
STKA	**Stephens Creek**	**25.53**	**182**	*d iP*	**P**	**14 18 33.7**	**-2.0**
STKA	**Stephens Creek**	**25.53**	**182**	P	**P**	**14 18 36.6**	**+0.9**
	comp=Z,95nm,0.9s,baz=352,slow=9.4,SNR=27						
STKA				LR	LR	14 29 22.4	
	comp=Z,191μm,21.3s,baz=356,slow=38						
	comp=Z,95nm,0.9s						
TWSI	**Taliwang, Sumb**	**25.68**	**263**	P	**P**	**14 18 38.3**	**+1.0**
	comp=Z,184nm,0.7s,comp=Z,10μmcomp=Z,58μm						
AUPHS	**Peel High Scho**	**25.91**	**164**	P	**P**	**14 18 39.4**	**+0.2**
BKB	**Balikpapan**	**26.18**	**280**	IAmb	IAmb	14 19 05.8	
	comp=Z,957nm,1.0s						
BKB	**Balikpapan**	**26.18**	**280**	P	**P**	**14 18 44.4**	**+2.5**
BKB	**Balikpapan**	**26.18**	**280**	P	**P**	**14 18 46.3**	**+4.4**
	comp=Z,998nm,1.1s,comp=Z,31μmcomp=Z,109μm						
AUDCS	**Dubbo College**	**26.45**	**169**	P	**P**	**14 18 45.2**	**+1.1**
MBWA	**Marble Bar**	**26.71**	**234**	P	**P**	**14 18 43.3**	**-3.2**
MBWA				IAmb	IAmb	14 19 09.1	
	comp=Z,541nm,1.1s						
MBWA	**Marble Bar**	**26.71**	**234**	IAMs_20	IAMs_20	14 30 00.6	
	comp=Z,347μm,21.0s						
MBWA	**Marble Bar**	**26.71**	**234**	P	**P**	**14 18 46.4**	**-0.1**
MBWA	**Marble Bar**	**26.71**	**234**	P	**P**	**14 18 47.6**	**+1.0**
MBWA				P	**P**	**14 18 47.6**	**+1.0**
MBWA				S	**S**	**14 23 29.6**	**+8.1**
MBWA				S	**S**	**14 23 29.6**	**+8.1**
PSAD2	**Pilbara Seismi**	**26.76**	**233**	IAMs_20	IAMs_20	14 30 03.9	
	comp=Z,504μm,20.0s						
PSAC2	**Pilbara Seismi**	**26.78**	**233**	IAMs_20	IAMs_20	14 30 04.5	
	comp=Z,492μm,21.0s						
PSAD1	**Pilbara Seismi**	**26.78**	**233**	IAMs_20	IAMs_20	14 30 04.5	
	comp=Z,463μm,21.0s						
PSAB2	**Pilbara Seismi**	**26.81**	**233**	IAMs_20	IAMs_20	14 30 05.2	
	comp=Z,479μm,20.0s						
PSAA2	**Pilbara Seismi**	**26.82**	**233**	IAMs_20	IAMs_20	14 30 05.6	
	comp=Z,469μm,20.0s						
PSAA3	**Pilbara Seismi**	**26.82**	**233**	IAMs_20	IAMs_20	14 30 05.6	
	comp=Z,484μm,20.0s						
PSA00	**Pilbara Seismi**	**26.83**	**233**	P	**P**	**14 18 45.0**	**-2.6**
PSA00	**Pilbara Seismi**	**26.83**	**233**	IAmb	IAmb	14 19 10.9	
	comp=Z,522nm,1.0s						
PSA00				IAMs_20	IAMs_20	14 30 05.7	
	comp=Z,474μm,20.0s						
PSA00	**Pilbara Seismi**	**26.83**	**233**	P	**P**	**14 18 45.9**	**-1.7**
PSAB3	**Pilbara Seismi**	**26.83**	**233**	IAMs_20	IAMs_20	14 30 06.8	
	comp=Z,498μm,20.0s						
PSAC1	**Pilbara Seismi**	**26.84**	**233**	IAMs_20	IAMs_20	14 30 06.0	
	comp=Z,472μm,20.0s						
PSAA1	**Pilbara Seismi**	**26.84**	**233**	IAMs_20	IAMs_20	14 30 06.0	
	comp=Z,480μm,20.0s						
PSAB1	**Pilbara Seismi**	**26.84**	**233**	IAMs_20	IAMs_20	14 30 06.2	
	comp=Z,416μm,20.0s						
WHYH	**Whyalla**	**27.08**	**189**	P	**P**	**14 18 50.9**	**+1.2**
BBOO	**Buckleboo**	**27.14**	**192**	P	**P**	**14 18 51.2**	**+0.8**
	baz=27,SNR=12						
BBOO	**Buckleboo**	**27.14**	**192**	P	**P**	**14 18 47.0**	**-3.3**
BBOO				IAmb	IAmb	14 19 14.2	
	comp=Z,656nm,1.1s						
BBOO				IAMs_20	IAMs_20	14 29 56.4	
	comp=Z,232μm,19.0s						
BBOO	**Buckleboo**	**27.14**	**192**	P	**P**	**14 18 51.0**	**+0.7**
HTT	**Hallett**	**27.28**	**187**	P	**P**	**14 18 52.6**	**+1.0**
	baz=27,SNR=19						
HTT	**Hallett**	**27.28**	**187**	P	**P**	**14 18 51.8**	**+0.2**
HTT	**Hallett**	**27.28**	**187**	P	**P**	**14 18 49.8**	**-1.8**
SRBI	**Singaraja**	**27.30**	**264**	P	**P**	**14 18 50.2**	**-1.8**
	comp=Z,173nm,1.4s,comp=Z,8μmcomp=Z,48μm						
NTLH	**Newcastle Hard**	**27.83**	**164**	P	**P**	**14 18 59.4**	**+3.0**
DZM	**Mont Dzumac**	**27.84**	**127**	P	**P**	**14 18 54.6**	**-2.2**
DZM	**Mont Dzumac**	**27.84**	**127**	P	**P**	**14 18 59.3**	**+2.5**
DZM	**Mont Dzumac**	**27.84**	**127**	*eP*	**P**	**14 18 59.0**	**+2.2**
	comp=Z,646nm,1.3s						
DZM				*eS*	**S**	**14 23 43.9**	**+4.3**
	comp=Z,21μm,24.4s						
DZM				*e*LR	LR	14 26 09.6	
	comp=Z,182μm,27.9s						
DZM	**Mont Dzumac**	**27.84**	**127**	P	**P**	**14 19 00.3**

comp=Z,580nm,1.3s,comp=Z,10μmcomp=Z,17μm
SZP Santa 32.25 317 P **P** **14 19 36.4 +0.6**
NFK Norfolk Island 32.93 137 P **P** **14 19 43.9 +2.3**
JCJ Chichijima 33.14 359 P **P** **14 19 40.0 -3.4**
JCJ IAmb IAmb 14 20 40.3
comp=Z,267nm,1.0s
JCJ Chichijima 33.14 359 P **P** **14 19 46.7 +3.3**
JCJ Chichijima 33.14 359 P P 14 19 35.7 -7.8
comp=Z,39nm,0.4s,baz=184,slow=14,SNR=6.8
JCJ LR LR 14 30 48.8
comp=Z,44μm,21.1s,baz=170,slow=32
KPJI Karang Pucung 33.52 266 P **P** **14 19 46.8 -0.1**
comp=Z,480nm,1.6s,comp=Z,8μm
MORW Morawa 33.88 225 P **P** **14 19 49.8 -0.2**
baz=34,SNR=8.1
MORW Morawa 33.88 225 P **P** **14 19 49.9 -0.1**
CMJI Cimerak 33.99 265 P **P** **14 19 53.4 +2.3**
comp=Z,628nm,1.1s,comp=Z,8μmcomp=Z,29μm
JCJI Jatiwangi 34.18 268 P P 14 20 04.6 +12
KLBR Kellerberrin 34.34 220 P **P** **14 19 53.7 -0.2**
baz=34,SNR=9.8
KLBR Kellerberrin 34.34 220 P **P** **14 19 54.6 +0.7**
BLDU Ballidu 34.38 222 P **P** **14 19 54.3 0.0**
baz=34,SNR=17
BLDU Ballidu 34.38 222 P **P** **14 19 53.5 -0.8**
BBJI Bungbulang 34.78 266 P **P** **14 19 55.2 -2.8**
LEM Lembang 34.82 267 P **P** **14 19 54.8 -3.7**
LEM Lembang 34.82 267 P **P** **14 19 54.8 -3.7**
comp=Z,25nm,0.8s,baz=57,slow=6.9,SNR=8.2
LEM LR LR 14 37 01.4
comp=Z,44μm,21.8s,baz=108,slow=42
comp=Z,25nm,0.8s
GLAD Gladstone 34.92 173 P **P** **14 20 01.5 +2.7**
AULHS Lilydale High 35.10 174 P **P** **14 20 02.6 +2.3**
JMJ Miyako jima 2 35.20 332 P **P** **14 20 01.7 +0.4**
CORO Coronation Par 35.29 174 P **P** **14 20 04.6 +2.7**
NWAO Narrogin (SRO) 35.56 218 P **P** **14 20 04.0 -0.4**
baz=36,SNR=5.2
NWAO P **P** **14 20 04.0 -0.4**
baz=36,SNR=5.2
NWAO Narrogin (SRO) 35.56 218 P **P** **14 20 01.8 -2.7**
NWAO Narrogin (SRO) 35.56 218 P **P** **14 20 04.6 +0.2**
NWAO Narrogin (SRO) 35.56 218 P **P** **14 20 03.8 -0.6**
NWAO Narrogin (SRO) 35.56 218 P **P** **14 20 01.8 -2.7**
NWAO pmax pmax
comp=Z,149nm,1.1s
NWAO MLR MLR
comp=Z,364μm,19.0s
NWAO Narrogin (SRO) 35.56 218 LR LR 14 35 20.9
comp=Z,309μm,18.6s,baz=32,slow=38
NWAO Narrogin (SRO) 35.56 218 P **P** **14 20 06.6 +2.2**
NWAO P **P** **14 20 06.6 +2.2**
NWAO S **S** **14 25 46.5 +6.8**
NWAO S **S** **14 25 46.5 +6.8**
MUN Mundaring 35.58 221 P **P** **14 20 04.6 0.0**
baz=36,SNR=4.2
MUN Mundaring 35.58 221 P **P** **14 20 06.1 +1.5**
MUN Mundaring 35.58 221 P **P** **14 20 02.9 -1.7**
CBJI Citeko 35.60 268 P **P** **14 20 04.4 -0.6**
comp=Z,246nm,0.9s,comp=Z,10μmcomp=Z,32μm
DBJI Dramaga 35.69 267 P **P** **14 20 09.6 +3.8**
comp=Z,128nm,0.9s,comp=Z,25μm
JOW Kunigami 35.71 338 IAmb IAmb 14 20 27.0
comp=Z,759nm,1.4s
JOW Kunigami 35.71 338 P **P** **14 20 03.7 -2.0**
JOW Kunigami 35.71 338 P **P** **14 20 05.8 0.0**
JOW Kunigami 35.71 338 P **P** **14 20 03.7 -2.0**
comp=Z,238nm,1.3s,baz=163,slow=12,SNR=7.2
JOW LR LR 14 32 57.5
comp=Z,97μm,19.6s,baz=150,slow=34
comp=Z,238nm,1.3s
MTKN Mount Kenneth 35.84 221 P **P** **14 20 10.3 +3.5**
SKJI Sukabumi 35.87 267 P **P** **14 20 12.0 +4.6**
comp=Z,621nm,0.9s,comp=Z,16μmcomp=Z,25μm
YOJ Yonaguni jima 36.03 329 P **P** **14 20 09.0 +0.5**
YOJ Yonaguni jima 36.03 329 P **P** **14 20 08.2 -0.3**
YOJ pmax pmax
comp=Z,747nm,1.4s
YULB Yu-li 36.10 325 P **P** **14 20 09.2 +0.1**
MOO Moorlands 36.27 174 P **P** **14 20 12.4 +2.0**
baz=36,SNR=10
MOO Moorlands 36.27 174 P **P** **14 20 10.6 +0.2**
FUNA Funafuti 36.29 96 P **P** **14 20 09.4 -1.5**
FUNA IAmb IAmb 14 20 35.2
comp=Z,804nm,1.4s
FUNA Funafuti 36.29 96 P **P** **14 20 10.8 -0.1**
TPUB Ta-pu 36.41 324 IAmb IAmb 14 20 42.7
comp=Z,949nm,1.4s
TPUB Ta-pu 36.41 324 P **P** **14 20 08.1 -3.7**
NACB Ninganchiao 36.55 327 P **P** **14 20 11.8 -1.2**
SSLB Suanglung 36.61 325 P **P** **14 20 13.7 +0.2**
PPBI Pangkal Pinang 36.65 275 P **P** **14 20 13.4 -0.6**
comp=Z,361nm,1.5s,comp=Z,18μmcomp=Z,29μm
JAM Amami Oshima 36.68 341 P **P** **14 20 14.5 +0.6**
TAU Tasmania Unive 36.75 174 P **P** **14 20 13.0 -1.4**
TAU Tasmania Unive 36.75 174 P **P** **14 20 16.1 +1.7**
TAU Tasmania Unive 36.75 174 P **P** **14 20 13.0 -1.4**
TAU pmax pmax
comp=Z,300nm,1.6s
TAU MLR MLR
comp=Z,102μm,19.0s
XMI Christmas Isla 36.81 261 P **P** **14 20 15.8 +0.4**
XMIS Christmas Isla 36.85 261 IAmb IAmb 14 20 38.0
comp=Z,523nm,1.1s
XMIS Christmas Isla 36.85 261 P **P** **14 20 16.1 +0.4**
RKGY Rocky Gully 36.87 217 P **P** **14 20 17.3 +1.7**
YHNB Yeheng 37.07 327 P **P** **14 20 17.7 +0.2**
TATO Taipei 37.25 327 P **P** **14 20 17.9 -1.1**
TATO Taipei 37.25 327 P **P** **14 20 19.2 +0.3**
TATO Taipei 37.25 327 P **P** **14 20 20.2 +1.3**
TATO P **P** **14 20 20.2 +1.3**
TATO S **S** **14 26 05.7 +0.2**
TATO S **S** **14 26 05.7 +0.2**
DGTI Dogotuki 37.64 109 P **P** **14 20 22.7 +0.3**
PMBI Palembang 37.91 273 P **P** **14 20 26.7 +2.0**
PMBI Palembang 37.91 273 P **P** **14 20 26.2 +1.5**
comp=Z,991nm,1.4s,comp=Z,19μmcomp=Z,30μm
KASI Kota Agung 37.97 269 P **P** **14 20 28.2 +3.0**
comp=Z,145nm,1.1s,comp=Z,5μmcomp=Z,20μm
TAVE Taveuni 38.05 109 P **P** **14 20 28.6 +2.8**
DSRI Dabo 38.44 277 P **P** **14 20 30.3 +1.2**
comp=Z,253nm,1.9s,comp=Z,13μmcomp=Z,27μm
LWLI Liwa 38.44 270 P **P** **14 20 28.1 -1.2**
comp=Z,410nm,0.9s,comp=Z,11μmcomp=Z,23μm
KNMB Chin-men Tao 38.62 323 P **P** **14 20 29.8 -0.7**
TPRI Tanjung Pinang 38.73 279 P **P** **14 20 33.6 +2.0**
comp=Z,302nm,1.2s,comp=Z,14μmcomp=Z,28μm
QZH Quanzhou 38.86 324⇑*i*P **P** **14 20 32.1 -0.4**
QZH S **S** **14 26 30.8 +0.9**
QZH pmax pmax
comp=Z,460nm,1.9s
QZH pmax pmax
comp=Z,8μm,4.1s
QZH LR LR
comp=Z,42μm,18.9s
QZH LR LR
comp=Z,47μm,23.4s
QZH LR LR
comp=Z,87μm,28.5s
JMBI JAMBI 39.19 275 P **P** **14 20 37.2 +1.7**
comp=Z,228nm,1.9s,comp=Z,16μmcomp=Z,268μm
JHJ Hachijo jima 2 39.24 356 LR LR 14 34 04.3
comp=Z,176μm,21.1s,baz=191,slow=32
JMN Monobe 40.61 349 IAmb IAmb 14 21 06.7
comp=Z,895nm,1.5s
JMN Monobe 40.61 349 P **P** **14 20 45.3 -1.7**
JMN Monobe 40.61 349 P **P** **14 20 44.7 -2.3**
JNU Nakatsue 40.72 345 P **P** **14 20 45.9 -2.0**
JNU Nakatsue 40.72 345 P **P** **14 20 45.1 -2.7**
JNU Nakatsue 40.72 345 P **P** **14 20 45.1 -2.7**
comp=Z,47nm,1.0s,baz=145,slow=2.8,SNR=8.2
JNU LR LR 14 37 03.9
comp=Z,42μm,18.8s,baz=159,slow=36
comp=Z,47nm,1.0s
GZH Guangzhou 40.88 316 P **P** **14 20 50.9 +1.6**
GZH PP **PP** **14 22 25.2 +1.4**
GZH PcP **PcP** **14 22 53.4 +3.4**
GZH S **S** **14 27 03.8 +3.6**
GZH pmax pmax
comp=Z,120nm,1.4s
GZH LR LR
comp=Z,4μm,17.1s
GZH LR LR
comp=Z,6μm,13.5s
QIZ Qiongzhong 40.95 309 P **P** **14 20 49.2 -0.7**
QIZ PP **PP** **14 22 23.1 -1.5**
QIZ S **S** **14 27 02.4 +1.0**
QIZ pmax pmax
comp=Z,130nm,1.7s
QIZ pmax pmax
comp=Z,1μm,4.9s
QIZ LR LR
comp=Z,16μm,21.2s
QIZ LR LR
comp=Z,26μm,18.6s
QIZ LR LR
comp=Z,41μm,21.4s
QIZ Qiongzhong 40.95 309 P **P** **14 20 48.8 -1.1**
KRJI Kerinci 41.29 274 P **P** **14 20 53.9 +0.9**
comp=Z,1μm,1.2s,comp=Z,33μmcomp=Z,30μm
INU Inuyama 41.71 353 IAmb IAmb 14 21 15.9
comp=Z,726nm,1.8s
INU Inuyama 41.71 353 P **P** **14 20 53.2 -2.7**
JAD Aida 41.74 349 P **P** **14 20 54.2 -1.9**
JWT Wachi 41.86 351 *e*P **P** **14 20 56.1 -1.1**
JGF Kuroka 41.92 354 P **P** **14 20 55.1 -2.6**
JHS Saijyo 41.99 348 P **P** **14 20 57.0 -1.3**
BKNI Bangkinang 42.06 277 P **P** **14 21 00.5 +1.3**
BKNI Bangkinang 42.06 277 P **P** **14 20 57.5 -1.7**
BKNI Bangkinang 42.06 277 P **P** **14 21 01.6 +2.4**
comp=Z,926nm,1.2s,comp=Z,16μmcomp=Z,32μm
JRY Ryogami san 42.18 355 P **P** **14 20 57.1 -2.8**
SSE Sheshan 42.43 332 P **P** **14 21 01.6 -0.3**
SSE pP **pP** **14 21 04.9 -2.6**
SSE sP **sP** **14 21 06.2 -3.5**
SSE S **S** **14 27 24.2 +1.2**
SSE pmax pmax
comp=Z,120nm,1.3s
SSE pmax pmax
comp=Z,2μm,5.2s
SSE LR LR
comp=Z,6μm,22.0s
PDSI Padang 42.44 275 P **P** **14 21 02.8 +0.5**
comp=Z,246nm,1.3s,comp=Z,13μmcomp=Z,24μm
WIAZ Waiheke Island 42.46 140 P **P** **14 21 00.5 -1.6**
JGN Niukaw 42.54 354 P **P** **14 21 00.2 -2.5**
PPSI Pulau Pagai 42.66 273 P **P** **14 21 05.1 +1.0**
comp=Z,295nm,1.6s,comp=Z,15μmcomp=Z,20μm
MJAR Matsushiro Arr 42.76 355 P **P** **14 21 02.0 -2.5**
MJAR Matsushiro Arr 42.76 355 P **P** **14 21 02.0 -2.5**
comp=Z,36nm,1.0s,baz=182,slow=8.4,SNR=36
MJAR LR LR 14 37 16.3
comp=Z,77μm,20.4s,baz=152,slow=34
comp=Z,36nm,1.0s
MAJO Matsushiro 42.76 355 P **P** **14 21 01.5 -3.1**
MAJO IAmb IAmb 14 21 22.7
comp=Z,754nm,1.6s
MAJO Matsushiro 42.76 355 P **P** **14 21 02.1 -2.4**
MAJO Matsushiro 42.76 355*c i*P **P** **14 21 01.3 -3.2**
MAJO pmax pmax
comp=Z,483nm,1.6s
MAT Matsushiro 42.76 355 P **P** **14 21 02.1 -2.4**
MJB9 Matsu-Tunnel 42.77 355 IAmb IAmb 14 21 23.7
comp=Z,743nm,1.6s
TOZ Tahuroa Road 43.27 141 P **P** **14 21 07.2 -1.5**
TOZ IAmb IAmb 14 21 42.0
comp=Z,592nm,1.5s
HIZ Hauiti 43.36 143 P P 14 21 14.7 +5.3
MYRZ Mayor Island 43.46 140 P **P** **14 21 11.7 +1.4**
KULM Kulim 43.48 284 P **P** **14 21 08.2 -2.5**
RAO Raoul Island 43.64 126 LR LR 14 39 28.0
comp=Z,28μm,18.5s,baz=300,slow=36
SISI Saibi 43.74 275 P **P** **14 21 14.6 +1.8**
comp=Z,305nm,1.9s,comp=Z,13μmcomp=Z,28μm
DSZ Denniston Nort 43.83 148 IAMs_20 IAMs_20 14 40 26.5
comp=Z,105μm,18.0s
JMM Marumori 43.91 358 P **P** **14 21 12.0 -1.8**
LIRZ Lichensteins R 43.99 141 P P 14 21 20.3 +5.8
SKLT Songkhla 44.02 287 P **P** **14 21 16.5 +1.5**
JCZ Jackson Bay 44.09 153 P **P** **14 21 19.6 +4.3**
WTVZ West Tongariro 44.19 143 P **P** **14 21 20.8 +4.6**
COVZ Chateau Observ 44.21 143 P P 14 21 22.9 +6.5
NTVZ North Tongarir 44.23 143 P P 14 21 24.0 +7.5
NGZ Ngauruhoe 44.23 143 P **P** **14 21 19.6 +3.0**
JSD Sado 44.24 355 IAmb IAmb 14 21 36.6
comp=Z,360nm,0.9s
JSD Sado 44.24 355 P **P** **14 21 15.6 -0.8**
FWVZ Far West T-bar 44.25 143 P **P** **14 21 19.7 +2.9**
TMVZ Te Maari 44.26 143 P P 14 21 22.2 +5.4
SNVZ South Ngauruho 44.26 143 P **P** **14 21 18.4 +1.5**
OTVZ Oturere 44.26 143 P **P** **14 21 20.8 +3.9**
NJ2 Nanjing 44.33 331 *e*P **P** **14 21 20.6 +3.4**
NJ2 pmax pmax
comp=Z,140nm,1.4s
NJ2 Nanjing 44.33 331⇑P **P** **14 21 17.1 -0.1**
NJ2 sP **sP** **14 21 26.0 +0.9**
NJ2 S **S** **14 27 54.9 +4.1**
NJ2 pmax pmax
comp=Z,74nm,1.4s
NJ2 pmax pmax
comp=Z,6μm,5.0s
NJ2 LR LR
comp=Z,35μm,22.7s
NJ2 LR LR
comp=Z,29μm,18.0s
NJ2 LR LR
comp=Z,56μm,18.9s
GULI GuiLin 44.37 316⇑P **P** **14 21 17.7 0.0**
GULI S **S** **14 27 47.1 -4.6**
GULI pmax pmax
comp=Z,270nm,1.7s
GULI LR LR
comp=Z,33μm,20.1s
GULI LR LR
comp=Z,30μm,17.9s
GULI LR LR
comp=Z,40μm,21.7s
RPSI Rantau Prapat 44.57 280 P **P** **14 21 17.7 -1.7**
RPSI IAmb IAmb 14 21 44.7
comp=Z,402nm,1.1s
PSI Prapat 44.59 280 P **P** **14 21 18.1 -1.7**
PSI Prapat 44.59 280 P **P** **14 21 17.7 -2.1**
PSI pmax pmax
comp=Z,402nm,1.1s
URZ Urewera 44.60 141 LR LR 14 39 48.1
comp=Z,55μm,20.6s,baz=36,slow=36
URZ Urewera 44.60 141 P **P** **14 21 23.4 +4.0**
PBSI Pulau Batu 44.72 276 P **P** **14 21 22.6 +1.9**
comp=Z,356nm,1.5s,comp=Z,22μmcomp=Z,34μm
HAZ Te Kaha 44.73 140 P **P** **14 21 22.3 +1.9**
RTZ Ruatahuna 44.73 141 P **P** **14 21 19.2 -1.3**
TJN Taejon 44.76 342 P **P** **14 21 20.2 -0.4**
TJN Taejon 44.76 342⇑*e*P **P** **14 21 18.4 -2.2**
BKZ Black Stump Fm 44.77 142 P **P** **14 21 19.2 -1.6**
BKZ Black Stump Fm 44.77 142 P **P** **14 21 23.8 +3.0**
BKZ Black Stump Fm 44.77 142 P **P** **14 21 24.6 +3.9**
MTHZ Maungataniwha 44.79 141 P **P** **14 21 21.9 +1.0**
PYZ Puysegur Point 44.87 156 P **P** **14 21 25.9 +4.6**
RPZ Rata Peaks 44.88 151 LR LR 14 39 32.8
comp=Z,68μm,18.9s,baz=308,slow=35
MWZ Matawai 44.91 140 P **P** **14 21 25.7 +3.8**
RAGZ Rawiri 44.93 141 P **P** **14 21 25.9 +3.8**
MXZ Matakaoa Point 44.96 139 P **P** **14 21 26.3 +4.1**
SNZO South Karori 45.10 146 P **P** **14 21 27.1 +3.9**
MRZ Mangatainoka R 45.17 144 IAmb IAmb 14 21 37.2
comp=Z,358nm,1.3s
GVZ Greta Valley S 45.34 149 IAMs_20 IAMs_20 14 41 23.5
comp=Z,93nm,18.0s
SRIT Nakonsritamara 45.40 288 P **P** **14 21 26.7 +0.7**
AFI Afiamalu 45.43 103 P **P** **14 21 29.2 +2.8**
AFI Afiamalu 45.43 103 P **P** **14 21 29.5 +3.1**
AFI pmax pmax
comp=Z,227nm,1.1s
JOM Ohasama 45.50 359 P **P** **14 21 24.4 -2.0**
WHN Wuhan 45.54 325⇑*i*P **P** **14 21 27.2 +0.3**
WHN sP **sP** **14 21 36.2 +1.5**
WHN S **S** **14 28 08.8 +0.5**
WHN pmax pmax
comp=Z,2μm,1.6s
WHN pmax pmax
comp=Z,11μm,5.0s
WHN LR LR
comp=Z,87μm,16.3s
WHN LR LR
comp=Z,61μm,18.3s
WHN LR LR
comp=Z,141μm,19.2s
SURA Surathani 45.54 289 P **P** **14 21 27.5 +0.3**
BFZ Birch Farm 45.57 144 P **P** **14 21 29.7 +2.6**
KSAR Wonju Array Be 45.60 343 P **P** **14 21 26.3 -0.9**
KSAR Wonju Array Be 45.60 343 P **P** **14 21 26.3 -0.9**
KSRS Korea Array 45.60 344 P **P** **14 21 25.5 -1.7**
KSRS Korea Array 45.60 344 P **P** **14 21 25.5 -1.7**
comp=Z,64nm,1.1s,baz=161,slow=8.5,SNR=82
KSRS LR LR 14 39 20.6
comp=Z,43μm,19.4s,baz=145,slow=35
comp=Z,64nm,1.1s
GSI Gunungsitoli 45.64 278 P **P** **14 21 25.4 -2.6**
GSI Gunungsitoli 45.64 278 P **P** **14 21 27.5 -0.5**
GSI Gunungsitoli 45.64 278 P **P** **14 21 27.7 -0.3**
comp=Z,158nm,0.9s,comp=Z,10μmcomp=Z,25μm
KS19 Wonju Array Si 45.66 343 IAmb IAmb 14 21 47.7
comp=Z,634nm,1.4s
NAYO Nakonayok 45.82 297 P **P** **14 21 30.1 +0.8**
KCSI Kotacane, Aceh 45.87 281 P **P** **14 21 29.2 -0.6**
comp=Z,209nm,1.7s,comp=Z,8μm
NONG Nongkai 45.87 302 P **P** **14 21 28.4 -1.3**
INCN Inchon 46.00 342 P **P** **14 21 28.7 -1.8**
INCN Inchon 46.00 342 P **P** **14 21 29.5 -1.0**
INCN Inchon 46.00 342 P **P** **14 21 28.7 -1.8**
INCN pmax pmax
comp=Z,1μm,1.8s
INCN Inchon 46.00 342 P **P** **14 21 29.7 -0.8**
INCN P **P** **14 21 29.7 -0.8**
INCN P **P** **14 21 29.7 -0.8**
INCN S **S** **14 28 14.6 -0.3**
INCN S **S** **14 28 14.6 -0.3**
INCN S **S** **14 28 14.6 -0.3**
HJU Haeju 46.80 342 P **P** **14 21 35.9 -0.8**
HJU S **S** **14 28 26.0 -0.2**
HJU AmB
comp=Z,7μm,4.5s
HJU AMS AMS
comp=Z,61μm,22.9s
JTM Tenmabayashi 46.82 358 P **P** **14 21 34.8 -2.0**
JTM Tenmabayashi 46.82 358 P **P** **14 21 34.5 -2.3**
LHMI Lhok Sumawe 47.04 283 P **P** **14 21 39.9 +0.9**
LHMI Lhok Sumawe 47.04 283 P **P** **14 21 40.8 +1.8**
comp=Z,707nm,1.3s,comp=Z,25μmcomp=Z,40μm
SNSI Sinabang, Aceh 47.06 279 P **P** **14 21 39.9 +0.7**
comp=Z,580nm,1.6s,comp=Z,19μmcomp=Z,34μm
MLSI Meulaboh, Aceh 47.36 282 P **P** **14 21 41.0 -0.5**
comp=Z,294nm,0.8s,comp=Z,844nm
JOT Ohata 47.41 358 P **P** **14 21 40.4 -1.0**
GYA Guiyang 47.69 315⇑*i*P **P** **14 21 44.4 +0.4**
GYA pP pP 14 21 47.6 -2.1
GYA PP **PP** **14 23 37.8 +1.9**
GYA S **S** **14 28 43.0 +3.4**
GYA sS sS 14 28 48.5 -0.5
GYA pmax pmax
comp=Z,310nm,1.6s
GYA pmax pmax
comp=Z,4μm,5.2s
GYA LR LR
comp=Z,15μm,19.6s
GYA LR LR
comp=Z,12μm,18.5s
GYA LR LR
comp=Z,18μm,20.4s
PYAG Pyongyang 47.71 342 P **P** **14 21 43.0 -0.8**
PYAG S **S** **14 28 39.1 0.0**
PYAG AmB
comp=Z,2μm,2.4s
PYAG AMS AMS
comp=Z,62μm,18.4s
SRDT SRDT 47.80 296 P **P** **14 21 44.5 -0.3**
NIUE Niue 47.82 110 P **P** **14 21 45.5 +0.5**
baz=48,SNR=3.6
NIUE Niue 47.82 110 P **P** **14 21 48.2 +3.2**
HHU Hamhung 48.02 344 P **P** **14 21 45.4 -0.7**
HHU S **S** **14 28 43.4 -0.1**
HHU AmB
comp=Z,5μm,5.0s
HHU AMS AMS
comp=Z,44μm,20.0s
ERM Erimo 48.02 0⇑*e*P **P** **14 21 44.6 -1.5**
ERM pmax pmax
comp=Z,248nm,1.0s
ENH Enshi 48.27 321 IAmb IAmb 14 22 07.5
comp=Z,460nm,1.2s
ENH Enshi 48.27 321 P **P** **14 21 48.3 0.0**
TIA Tai'an 48.55 332⇓P **P** **14 21 49.4 -1.0**
TIA S **S** **14 28 51.4 +0.1**
TIA pmax pmax
comp=Z,52nm,1.7s
TIA pmax pmax
comp=Z,2μm,9.3s
TIA LR LR
comp=Z,20μm,22.1s
TIA LR LR
comp=Z,13μm,25.0s
TIA LR LR
comp=Z,35μm,23.5s
JSH Shimam 48.71 357 P **P** **14 21 49.4 -2.0**
JEW Eniwo 48.86 359 P **P** **14 21 51.1 -1.5**
DL2 Dalian 48.97 338 P **P** **14 21 56.0 +2.5**
DL2 S **S** **14 28 59.9 +2.9**
DL2 pmax pmax
comp=Z,98nm,1.7s
DL2 pmax pmax
comp=Z,4μm,8.6s
DL2 LR LR
comp=Z,27μm,19.0s
DL2 LR LR
comp=Z,31μm,19.2s
DL2 LR LR
comp=Z,42μm,22.6s
SUJ Sinuiju 49.06 342 P **P** **14 21 53.5 -0.7**
SUJ S **S** **14 28 58.0 -0.3**
SUJ AmB
comp=Z,3μm,2.4s
SUJ AMS AMS
comp=Z,80μm,20.4s
CRAI Chiangrai 49.20 303 IAmb IAmb 14 22 19.7
comp=Z,432nm,1.4s
LYN LuoYang 49.59 327⇑P **P** **14 21 57.6 -0.7**
LYN sP pP 14 22 04.3 +0.3
LYN S **S** **14 29 08.6 +2.7**
LYN pmax pmax
comp=Z,310nm,1.6s
LYN pmax pmax
comp=Z,6μm,5.3s
LYN LR LR
comp=Z,56μm,23.0s
LYN LR LR
comp=Z,32μm,22.0s
LYN LR LR
comp=Z,72μm,21.0s
CM31 Chiang Mai Arr 49.61 301 IAmb IAmb 14 22 29.2
comp=Z,254nm,1.1s
CMAR Chiang Mai Arr 49.61 301 P **P** **14 21 57.8 -1.0**
CMAR Chiang Mai Arr 49.61 301 P **P** **14 21 57.8 -1.0**
CMAR Chiang Mai Arr 49.61 301 P **P** **14 21 56.0 -2.8**
comp=Z,16nm,0.9s,baz=126,slow=6.1,SNR=86
CMAR LR LR 14 41 35.1
comp=Z,16μm,22.0s,baz=125,slow=35
CMAR PKPPKP **P'P'df** **14 52 53.9 -1.6**
comp=Z,4.2nm,1.2s,baz=331,slow=4.5,SNR=5.6
comp=Z,16nm,0.9s
MSHR Mys Shultsa 49.71 349*c i*P **P** **14 21 57.9 -1.1**
MSHR pmax pmax
comp=Z,681nm,2.4s
CHTO Chiang Mai 49.77 301 P **P** **14 21 58.4 -1.6**
CHTO Chiang Mai 49.77 301 P **P** **14 21 59.4 -0.6**
CHTO Chiang Mai 49.77 301 P **P** **14 21 58.4 -1.6**
CHTO pmax pmax
comp=Z,118nm,1.0s
CHTO Chiang Mai 49.77 301 P **P** **14 22 00.4 +0.4**
CHTO P **P** **14 22 00.4 +0.4**
CHTO S **S** **14 29 05.8 -3.1**
CHTO S **S** **14 29 05.8 -3.1**
KMI Kunming 49.80 310⇑P **P** **14 22 01.2 +0.8**
KMI S **S** **14 29 09.9 +0.3**
KMI ScS **ScS** **14 31 52.1 +0.2**
KMI pmax pmax
comp=Z,490nm,1.6s
KMI pmax pmax
comp=Z,5μm,14.9s
KMI LR LR
comp=Z,23μm,20.6s
KMI LR LR
comp=Z,26μm,23.0s
KMI LR LR
comp=Z,50μm,21.8s

PSTR Posyet 49.84 349*c i*P P **14 21 58.3 -1.8**
MCQ Macquarie Isla 49.88 168 P P **14 22 03.1 +2.9**
baz=50
MCQ Macquarie Isla 49.88 168 P P **14 22 03.1 +2.9**
JMP Maruseppu 50.02 1 P P **14 21 59.8 -1.6**
VLA Vladivostok 50.09 350 *i*P P **14 22 01.0 -1.0**
VLA pmax pmax
comp=Z,634nm,1.6s
ASAJ Asahikawa 50.12 360 P P **14 22 00.8 -1.4**
ASAJ Asahikawa 50.12 360 P P **14 22 00.8 -1.4**
ASAJ Asahikawa 50.12 360 P P **14 22 00.8 -1.4**
comp=Z,172nm,1.3s,baz=180,slow=20,SNR=16
ASAJ LR LR 14 47 17.1
comp=Z,19μm,18.8s,baz=182,slow=41
comp=Z,172nm,1.3s
JKA Kamikawa-asahi 50.12 360 P P **14 22 00.3 -1.8**
JKA IAmb IAmb 14 22 25.4
comp=Z,380nm,1.1s
YUK Yuzh-Kuril'sk 50.12 3*c i*P P **14 22 00.5 -1.7**
YUK 14 23 21.0
YUK 14 23 54.7
YUK *e*S **S** **14 29 10.3 -2.7**
YUK pmax pmax
comp=Z,1μm,1.3s
HNS HongShan 50.65 331 ⇑P P **14 22 05.4 -0.9**
HNS PP **PP** **14 24 06.7 +4.2**
HNS S **S** **14 29 21.6 +1.0**
HNS pmax pmax
comp=Z,210nm,1.6s
HNS pmax pmax
comp=Z,4μm,7.3s
HNS LR LR
comp=Z,48μm,20.8s
HNS LR LR
comp=Z,15μm,20.6s
HNS LR LR
comp=Z,58μm,24.1s
SNY Shenyang 50.92 342 ⇑P P **14 22 07.0 -1.2**
SNY S **S** **14 29 26.7 +2.6**
SNY pmax pmax
comp=Z,50nm,1.3s
SNY pmax pmax
comp=Z,3μm,7.2s
SNY LR LR
comp=Z,38μm,19.4s
SNY LR LR
comp=Z,26μm,19.4s
SNY LR LR
comp=Z,74μm,20.7s
USA0B Ussuriysk Arra 51.12 350 IAmb IAmb 14 22 29.8
comp=Z,586nm,1.4s
USA0B Ussuriysk Arra 51.12 350*ce*P P **14 22 08.0 -1.7**
USRK Ussuriysk Ar. 51.12 350 P P **14 22 08.4 -1.3**
USRK Ussuriysk Ar. 51.12 350 P P **14 22 08.4 -1.3**
USRK Ussuriysk Ar. 51.12 350 P P **14 22 08.4 -1.3**
comp=Z,60nm,0.9s,baz=167,slow=7.0,SNR=70
USRK LR LR 14 40 49.9
comp=Z,84μm,21.3s,baz=165,slow=33
comp=Z,60nm,0.9s
XAN Xi'an 51.23 324 ⇑P P **14 22 09.5 -1.3**
XAN pP pP 14 22 13.2 -3.3
XAN S **S** **14 29 29.8 +1.0**
XAN pmax pmax
comp=Z,280nm,1.6s
XAN pmax pmax
comp=Z,6μm,6.9s
XAN LR LR
comp=Z,39μm,21.3s
XAN LR LR
comp=Z,40μm,21.3s
XAN LR LR
comp=Z,60μm,21.6s
PZH PanZhiHua 51.31 311 P P **14 22 11.4 -0.2**
PZH sP **sP** **14 22 24.4 +4.8**
PZH PP **PP** **14 24 12.1 +3.3**
PZH S **S** **14 29 28.7 -1.6**
PZH sS **sS** **14 29 39.7 0.0**
PZH ScS **ScS** **14 31 57.7 -4.3**
PZH pmax pmax
comp=Z,240nm,1.7s
PZH pmax pmax
comp=Z,3μm,6.7s
PZH LR LR
comp=Z,20μm,20.0s
PZH LR LR
comp=Z,21μm,22.4s
PZH LR LR
comp=Z,29μm,21.4s
TEY Ternei 51.33 354*de*P P **14 22 06.5 -4.8**
TEY *e* 14 22 08.4
TEY 14 29 29.0
KUR Kuril'sk 51.45 5 *e*P P **14 22 10.6 -1.6**
KUR *e* 14 23 24.4
KUR *e* 14 24 08.8
KUR *e*PPP PPP 14 25 08.7
KUR *e*S **S** **14 29 31.7 +0.4**
KUR pmax pmax
comp=E,371nm,1.2s
KUR pmax pmax
comp=Z,981nm,1.2s
KUR pmax pmax
comp=N,354nm,1.5s
KUR MLR MLR
comp=Z,20μm,18.0s
KUR MLR MLR
comp=E,12μm,21.0s
KUR MLR MLR
comp=N,7μm,19.0s
MIDW Midway 51.56 46 P P **14 22 12.7 -0.6**
MIDW IAmb IAmb 14 22 33.6
comp=Z,622nm,1.2s
MIDW Midway 51.56 46 P P **14 22 13.6 +0.3**
CTZ Chatham Island 51.64 143 P P **14 22 16.6 +2.9**
MDJ Mudanjiang 51.98 348 P P **14 22 14.6 -1.5**
MDJ S **S** **14 29 39.7 +1.1**
MDJ pmax pmax
comp=Z,49nm,1.5s
MDJ pmax pmax
comp=Z,3μm,7.3s
MDJ LR LR
comp=Z,57μm,17.8s
MDJ LR LR
comp=Z,54μm,20.7s
MDJ LR LR
comp=Z,129μm,21.5s
MDJ Mudanjiang 51.98 348 IAMs_20 IAMs_20 14 40 35.8
comp=Z,114μm,22.0s
MDJ Mudanjiang 51.98 348 P P **14 22 15.0 -1.1**
TIY Taiyuan 52.02 330 ⇓P P **14 22 16.4 -0.3**
TIY S **S** **14 29 45.6 +6.0**
TIY pmax pmax
comp=Z,95nm,1.5s
TIY pmax pmax
comp=Z,3μm,6.9s
TIY LR LR
comp=Z,29μm,22.0s
TIY LR LR
comp=Z,29μm,19.2s
TIY LR LR
comp=Z,44μm,21.3s
BJT Baijiatuau 52.11 334 IAmb IAmb 14 22 34.6
comp=Z,604nm,1.4s
BJT Baijiatuau 52.11 334 P P **14 22 16.2 -1.0**
BJI Beijing 52.13 334 P P **14 22 16.2 -1.1**
BJI S **S** **14 29 45.6 +4.7**
BJI pmax pmax
comp=Z,59nm,1.6s
BJI LR LR
comp=Z,23μm,19.6s
BJI LR LR
comp=Z,12μm,19.1s
BJI LR LR
comp=Z,29μm,19.5s
CN2 Changchun 52.19 344 P P **14 22 16.5 -1.2**
CN2 S **S** **14 29 36.7 -4.9**
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 pmax pmax
comp=Z,6μm,7.0s
CN2 LR LR
comp=Z,28μm,18.0s
CN2 LR LR
comp=Z,35μm,18.0s
CN2 LR LR
comp=Z,35μm,22.0s
CD2 Chengdu 52.43 317 P P **14 22 20.4 +0.5**
CD2 sP pP 14 22 26.3 +0.7
CD2 PP **PP** **14 24 23.3 +4.4**
CD2 S **S** **14 29 48.1 +2.6**
CD2 pmax pmax
comp=Z,190nm,1.2s
CD2 pmax pmax
comp=Z,3μm,5.2s
CD2 LR LR
comp=Z,18μm,17.6s
CD2 LR LR
comp=Z,26μm,17.8s
CD2 LR LR
comp=Z,29μm,17.5s
JOHN Johnston Islan 52.49 63 IAMs_20 IAMs_20 14 41 28.2
comp=Z,145μm,20.0s
PBA Port Blair 52.75 290 *e*P P 14 22 28.0 +5.6
YSS Yuzh-Sakhalins 52.96 0 P **P** **14 22 21.2 -2.1**
YSS Yuzh-Sakhalins 52.96 0 P **P** **14 22 21.9 -1.5**
YSS Yuzh-Sakhalins 52.96 0*c i*P **P** **14 22 22.1 -1.3**
YSS *e* 14 23 30.8
YSS *e* 14 24 20.2
YSS *e*S **S** **14 29 52.4 +0.4**
YSS pmax pmax
comp=Z,7μm,7.2s
YSS pmax pmax
comp=N,3μm,7.5s
YSS pmax pmax
comp=Z,230nm,1.0s
YSS smax smax
comp=E,4μm,6.2s
TNCH TengChong 53.01 308 P **P** **14 22 25.5 +1.1**
TNCH pP pP 14 22 28.1 -2.1
TNCH S **S** **14 29 53.2 -0.6**
TNCH ScS **ScS** **14 32 12.0 -2.0**
TNCH pmax pmax
comp=E,400nm,1.6s
TNCH pmax pmax
comp=E,3μm,4.6s
TNCH LR LR
comp=E,4μm,17.8s
TNCH LR LR
comp=E,10μm,23.6s
TNCH LR LR
comp=E,33μm,22.6s
DGPR DIGLIPUR 53.03 292 *e*P **P** **14 22 23.9 -0.6**
BNX BinXian 53.52 347 ⇑P **P** **14 22 25.7 -1.8**
BNX sP **pP** **14 22 32.2 -1.0**
BNX PcP **PcP** **14 23 30.2 -4.0**
BNX S **S** **14 29 57.5 -2.1**
BNX pmax pmax
comp=E,140nm,1.2s
BNX pmax pmax
comp=E,5μm,5.7s
BNX LR LR
comp=E,37μm,19.6s
BNX LR LR
comp=E,31μm,19.2s
BNX LR LR
comp=E,62μm,19.3s
MND Mandalay 53.55 303 P **P** **14 22 28.0 -0.2**
HHC Hu-ho-hao-te 54.87 331 *i*P **P** **14 22 37.0 -0.7**
HHC sP sP 14 22 47.7 +2.1
HHC PP **PP** **14 24 42.9 +2.1**
HHC S **S** **14 30 13.3 -5.1**
HHC sS pS 14 30 26.1 +0.6
HHC ScS **ScS** **14 32 20.6 -5.8**
HHC SS **SS** **14 33 59.2 -3.0**
HHC pmax pmax
comp=E,54nm,1.0s
HHC pmax pmax
comp=E,3μm,5.2s
HHC LR LR
comp=E,24μm,20.6s
HHC LR LR
comp=E,28μm,20.6s
HHC LR LR
comp=E,50μm,21.7s
UGL Uglegorsk 55.09 360 *e*P **P** **14 22 37.6 -1.3**
UGL *e*S **S** **14 30 22.6 +1.9**
UGL pmax pmax
comp=Z,8μm,5.0s
UGL pmax pmax
comp=Z,380nm,1.4s
UGL smax smax
comp=E,12μm,15.0s
UGL smax smax
comp=N,11μm,16.0s
XLT XiLinHaoTe 55.39 337 *e*P **P** **14 22 40.6 -0.7**
XLT sP sP 14 22 47.8 -1.4
XLT S **S** **14 30 32.1 +7.0**
XLT pmax pmax
comp=N,45nm,1.7s
XLT pmax pmax
comp=N,3μm,7.1s
XLT LR LR
comp=N,30μm,20.4s
XLT LR LR
comp=N,43μm,19.8s
BTO Baotou 55.44 330 *e*P **P** **14 22 42.3 +0.6**
BTO pP **sP** **14 22 52.7 +3.0**
BTO PP **PP** **14 24 49.9 +4.1**
BTO S **S** **14 30 28.2 +2.2**
BTO SS **SS** **14 34 12.8 +1.8**
BTO pmax pmax
comp=N,110nm,1.3s
BTO pmax pmax
comp=N,8μm,6.2s
BTO LR LR
comp=N,74μm,20.2s
BTO LR LR
comp=N,49μm,18.8s
BTO LR LR
comp=N,98μm,18.1s
LZH Lanzhou 55.66 322 ⇑P **P** **14 22 43.8 +0.3**
LZH pP sP 14 22 51.5 0.0
LZH S **S** **14 30 27.8 -1.5**
LZH pmax pmax
comp=N,89nm,1.4s
LZH pmax pmax
comp=N,4μm,5.8s
LZH LR LR
comp=N,21μm,18.9s
LZH LR LR
comp=N,24μm,19.2s
LZH LR LR
comp=N,48μm,19.9s
KLR Kul'dur 56.06 351*c i*P **P** **14 22 44.6 -1.3**
KLR pmax pmax
comp=Z,667nm,1.9s
KLR Kul'dur 56.06 351 LR LR 14 43 50.5
comp=Z,54μm,21.5s,baz=162,slow=33
SAIH SAIHA 56.37 302 *e*P **P** **14 22 49.6 +0.8**
IMP Imphal 56.58 305 *e*P **P** **14 22 50.3 +0.1**
KOHI KOHIMA 56.84 306 *e*P **P** **14 22 51.8 -0.3**
TYV Tymovskoe 56.87 360 *e*P **P** **14 22 50.8 -0.8**
TYV *e*S **S** **14 30 46.9 +2.5**
TYV pmax pmax
comp=Z,3μm,7.4s
TYV pmax pmax
comp=Z,63nm,1.4s
TYV smax smax
comp=N,5μm,9.3s
TYV smax smax
comp=E,6μm,9.3s
GRNR Gornyy 57.03 355⇑*i*P **P** **14 22 51.7 -1.1**
GRNR *e*S **S** **14 30 50.2 +3.6**
GRNR smax smax
comp=N,2.0nm,1.0s
RAR Rarotonga 57.56 111 P **P** **14 22 58.9 +1.8**
RAR Rarotonga 57.56 111 P **P** **14 22 57.4 +0.3**
RAR pmax pmax
comp=Z,166nm,1.6s
RAR Rarotonga 57.56 111 LR LR 14 45 03.5
comp=Z,6μm,21.9s,baz=272,slow=33
HEH HeiHe 57.80 348 *e*P **P** **14 22 56.3 -1.9**
HEH ScP **ScP** **14 27 44.0 -6.2**
HEH S **S** **14 30 52.5 -4.1**
HEH pmax pmax
comp=Z,51nm,1.5s
HEH pmax pmax
comp=Z,5μm,6.6s
HEH LR LR
comp=Z,78μm,20.8s
HEH LR LR
comp=Z,46μm,19.6s
HEH LR LR
comp=Z,132μm,21.5s
ITAN ITANAGAR 57.80 307 *e*P **P** **14 23 00.5 +1.8**
SKR Severo-Kuril's 57.87 10 *e*P **P** **14 22 57.2 -1.5**
SKR *e*S **S** **14 30 58.9 +1.4**
SKR pmax pmax
comp=Z,216nm,1.2s
SKR pmax pmax
comp=Z,3μm,4.5s
SKR smax smax
comp=N,7μm,7.8s
SKR smax smax
comp=E,9μm,10.7s
ZIRO ZIRO 57.88 308 *e*P **P** **14 23 01.2 +1.7**
BELO BELONIA 57.97 302 *e*P **P** **14 23 03.1 +3.1**
SHL Shillong 58.58 305 *e*P **P** **14 23 05.3 +1.0**
HIA Hailar 58.79 343 IAmb IAmb 14 23 24.4
comp=Z,328nm,1.6s
HIA Hailar 58.79 343 IAMs_20 IAMs_20 14 47 01.0
comp=Z,79μm,21.0s
HIA Hailar 58.79 343 P **P** **14 23 04.4 -0.8**
NKL Nikolayevsk 59.19 359 *e*P **P** **14 23 05.0 -2.8**
NKL *e*S **S** **14 31 15.4 +0.8**
NKL pmax pmax
comp=E,144nm,1.2s
NKL pmax pmax
comp=N,113nm,0.9s
NKL pmax pmax
comp=Z,658nm,1.4s
NKL smax smax
comp=E,4μm,5.2s
NKL smax smax
comp=N,751nm,4.8s
GTA Gaotai 60.24 323 P **P** **14 23 15.5 -0.1**
GTA sP sP 14 23 22.3 -1.2
GTA S **S** **14 31 32.2 +3.1**
GTA pmax pmax
comp=N,41nm,1.4s
GTA pmax pmax
comp=N,3μm,5.9s
GTA LR LR
comp=N,15μm,18.5s
GTA LR LR
comp=N,12μm,20.4s
GTA LR LR
comp=N,20μm,18.5s
XMAS Kiritimati 60.35 84 IAMs_20 IAMs_20 14 45 53.4
comp=Z,71μm,21.0s
PEA0B Petropavlovsk- 60.48 10 P **P** **14 23 15.3 -1.5**
PEA0B Petropavlovsk- 60.48 10*c i*P **P** **14 23 15.3 -1.5**
PETK Petropavlovsk- 60.48 10 P **P** **14 23 15.3 -1.5**
PETK Petropavlovsk- 60.48 10 P **P** **14 23 16.0 -0.7**
PETK 14 24 04.2
PETK Petropavlovsk- 60.48 10 P **P** **14 23 16.0 -0.7**
comp=Z,52nm,0.9s,baz=178,slow=4.0,SNR=35
PETK PcP **PcP** **14 24 04.2 +2.8**
comp=Z,78nm,0.9s,baz=152,slow=6.7,SNR=4.1
PETK LR LR 14 49 18.4
comp=Z,34μm,19.6s,baz=201,slow=36
comp=Z,52nm,0.9s
PET Petropavlovsk 60.58 11 P **P** **14 23 14.8 -2.6**
PET IAmb IAmb 14 23 37.2
comp=Z,469nm,1.5s
PET Petropavlovsk 60.58 11 P **P** **14 23 17.1 -0.2**
PET Petropavlovsk 60.58 11*ce*P **P** **14 23 15.0 -2.3**
PET *e*S **S** **14 31 30.4 -2.1**
PET *e* 14 33 01.5
PET pmax pmax
comp=Z,6μm,15.7s
PET pmax pmax
comp=Z,266nm,1.7s
PET pmax pmax
comp=Z,8μm,13.7s
PET MLR MLR
comp=Z,21μm,18.0s
LSA Lhasa 60.99 309 *i*P **P** **14 23 21.6 +0.3**
SNR=62
ZEA Zeya 61.15 350 *e*P **P** **14 23 20.2 -1.1**
ZEA *e*S **S** **14 31 42.6 +2.7**
ZEA pmax pmax
comp=E,500nm,8.5s
ZEA pmax pmax
comp=N,1μm,5.2s
ZEA pmax pmax
comp=Z,2μm,8.7s
ZEA pmax pmax
comp=N,280nm,1.2s
ZEA pmax pmax
comp=Z,450nm,1.3s
ZEA smax smax
comp=E,4μm,11.8s
GOMU GeErMu 61.57 317 P **P** **14 23 24.3 -0.6**
GOMU pP pP 14 23 30.6 -0.2
GOMU sP sP 14 23 33.5 +0.6
GOMU S **S** **14 31 52.7 +6.1**
GOMU sS sS 14 32 02.2 +6.0
GOMU pmax pmax
comp=E,18nm,1.1s
GOMU LR LR
comp=E,12μm,17.6s
GOMU LR LR
comp=E,14μm,17.4s
GOMU LR LR
comp=E,21μm,18.4s
ULN Ulaanbaatar 62.33 334 P **P** **14 23 28.8 -0.7**
ULN IAmb IAmb 14 23 47.9
comp=Z,490nm,1.5s
ULN Ulaanbaatar 62.33 334*c i*P **P** **14 23 29.2 -0.4**
ULN pmax pmax
comp=Z,366nm,1.6s
ULN MLR MLR
comp=Z,46μm,19.0s
ULN Ulaanbaatar 62.33 334 P **P** **14 23 29.1 -0.4**
ULN P **P** **14 23 29.1 -0.4**
ULN P **P** **14 23 29.1 -0.4**
ULN S **S** **14 31 59.4 +4.0**
ULN S **S** **14 31 59.4 +4.0**
ULN S **S** **14 31 59.4 +4.0**
SONM Songino Array 62.60 333 P **P** **14 23 30.0 -1.3**
SONM IAmb IAmb 14 23 49.6
comp=Z,252nm,1.3s
SONM Songino Array 62.60 333 P **P** **14 23 30.3 -1.0**
SONM Songino Array 62.60 333 P **P** **14 23 30.3 -1.0**
comp=Z,24nm,1.0s,baz=158,slow=5.3,SNR=61
SONM LR LR 14 50 22.1
comp=Z,64μm,20.2s,baz=136,slow=36
SONM PKP2bc 14 52 43.5
comp=Z,0.4nm,0.4s,baz=354,slow=3.0,SNR=3.7
comp=Z,24nm,1.0s
BOK Bokaro 62.90 301 *e*P **P** **14 23 35.5 +1.8**
BOK IAmb IAmb 14 23 40.5
comp=Z,108nm,0.6s
BOK IAMs_20 IAMs_20 14 57 34.7
comp=Z,23μm,24.2s
CIT Chita 63.14 340 *e*P **P** **14 23 34.5 -0.2**
CIT *e* 14 24 17.8
CIT *e*S S 14 32 14.9 +10
CIT *e* 14 33 17.0
CIT pmax pmax
comp=Z,839nm,2.0s
VIS Vishakhapatnam 63.22 293 *e*P **P** **14 23 36.4 +0.5**
VIS IAMs_20 IAMs_20 14 52 12.4
comp=Z,23μm,28.3s
PALK Pallekele 63.26 281 P **P** **14 23 34.8 -1.5**
PALK IAmb IAmb 14 24 20.9
comp=Z,333nm,1.6s
PALK Pallekele 63.26 281*de*P **P** **14 23 35.8 -0.5**
PALK pmax pmax
comp=Z,263nm,1.9s
PALK MLR MLR
comp=Z,43nm,23.0s
PALK Pallekele 63.26 281 LR LR 14 53 07.6
comp=Z,19μm,20.8s,baz=214,slow=38
PALK Pallekele 63.26 281 P **P** **14 23 36.4 +0.2**
PALK P **P** **14 23 36.4 +0.2**
PALK P **P** **14 23 36.4 +0.2**
PALK P **P** **14 23 37.8 +1.5**
PALK P **P** **14 23 37.8 +1.5**
PALK P **P** **14 23 37.8 +1.5**
PALK S **S** **14 32 09.9 +1.9**
PALK S **S** **14 32 09.9 +1.9**
PALK S **S** **14 32 09.9 +1.9**
MALK Mahakanadarawa 63.63 283 P **P** **14 23 38.5 -0.2**
CASY Casey 63.94 194 P **P** **14 23 38.3 -1.4**
CASY Casey 63.94 194 IAMs_20 IAMs_20 14 50 24.8

comp=Z,57µm,19.0s
JHSG JHARSUGUGA 64.05 298 *e*P **P** **14 23 43.0 +1.8**
JHSG IAmb IAmb 14 23 52.4
comp=Z,794nm,1.5s
KIP Kipapa 64.31 63 P **P** **14 23 41.6 -1.4**
KIP IAmb IAmb 14 24 18.7
comp=Z,443nm,1.2s
KIP Kipapa 64.31 63 P **P** **14 23 42.9 -0.1**
KIP Kipapa 64.31 63 P **P** **14 23 42.8 -0.2**
KIP Kipapa 64.31 63*c**e*P **P** **14 23 42.5 -0.5**
KIP pmax pmax
comp=Z,344nm,1.1s
SHEM Shemya Is, Ala 64.52 21 LR LR 14 47 05.0
comp=Z,89µm,22.0s,baz=200,slow=32
MDRS Chennai 64.90 287 *e*P **P** **14 23 48.0 +1.1**
MDRS IAMs_20 IAMs_20 14 48 53.4
comp=Z,32µm,32.3s
VJD Vijayawada 65.36 291 *e*P **P** **14 23 51.0 +1.1**
HLK Haleakala 65.68 64 IAMs_20 IAMs_20 14 47 38.7
comp=Z,105µm,21.0s
ZAK Zakamensk 65.86 334 *e*P **P** **14 23 51.8 -0.8**
ZAK pmax pmax
comp=Z,315nm,1.3s
VAR Varanasi 65.87 301 *e*P **P** **14 23 54.7 +1.6**
MA2 Magadan 65.92 5 P **P** **14 23 50.6 -2.1**
MA2 IAmb IAmb 14 24 18.4
comp=Z,412nm,1.2s
MA2 Magadan 65.92 5 P **P** **14 23 51.2 -1.5**
MA2 Magadan 65.92 5*c**e*P **P** **14 23 51.2 -1.5**
MA2 pmax pmax
comp=Z,185nm,1.1s
POHA Pohakuloa 66.03 65 P **P** **14 23 52.4 -2.1**
POHA IAmb IAmb 14 24 24.9
comp=Z,329nm,0.9s
POHA Pohakuloa 66.03 65 P **P** **14 23 53.5 -1.0**
IRK Irkutsk 66.80 335 *e*P **P** **14 23 57.2 -1.3**
IRK *e*S **S** **14 32 53.8 +3.7**
IRK pmax pmax
comp=Z,594nm,3.1s
ALBI Allahabad 66.91 301 *e*P **P** **14 23 59.8 +0.1**
ALBI IAmb IAmb 14 24 04.7
comp=Z,386nm,1.2s
PAE Paea 66.95 106 *e*PKIKP **P** **14 24 01.6 +1.4**
comp=Z,94nm,1.4s
PPT Papeete 66.96 106 pP 14 24 04.6 -1.4
PPT Papeete 66.96 106 P pP 14 24 04.6 -1.4
PPT Papeete 66.96 106 P **pP** **14 24 04.6 -1.4**
comp=Z,36nm,0.9s,baz=226,slow=0.9,SNR=3.9
PPT LR LR 14 49 55.9
comp=Z,7µm,20.9s,baz=268,slow=33
comp=Z,36nm,0.9s
PPT2 Papeete2 66.96 106 *e*PKIKP **P** **14 24 04.4 +4.1**
comp=Z,4µm,23.8s
PPT2 *e*S S 14 33 10.0 +17
comp=Z,9µm,25.5s
PPT2 *e*SS **SS** **14 37 16.8 +4.7**
comp=Z,17µm,26.2s
PPT2 *e*LQ LQ 14 41 21.2
comp=Z,86µm,32.5s
PPT2 *e*LR LR 14 44 12.9
comp=Z,33µm,30.5s
PPT2 *e*LR LR 14 44 21.7
comp=Z,20µm,34.5s
KOD Kodaikanal 66.96 284 *e*P **P** **14 24 02.4 +1.7**
KOD IAmb IAmb 14 24 22.4
comp=Z,1µm,2.2s
PPTF Pamatai, Papee 66.97 106 P **P** **14 24 04.7 +4.3**
TRD Trivandrum 67.13 282 *e*P **P** **14 24 03.2 +1.9**
TRD IAMs_20 IAMs_20 14 52 11.4
comp=Z,29µm,28.3s
TBI Tubuai 67.25 113 *e*P **P** **14 24 03.8 +1.9**
comp=Z,441nm,1.4s
TVO Taravao 67.27 107 *e*PKIKP **P** **14 24 04.9 +2.7**
comp=Z,156nm,1.4s
ADK Adak 67.49 26 P **P** **14 24 02.5 -0.3**
ADK Adak 67.49 26 IAMs_20 IAMs_20 14 49 04.6
comp=Z,91µm,20.0s
ADK Adak 67.49 26 P **P** **14 24 03.2 +0.3**
ADK Adak 67.49 26 P **P** **14 24 02.6 -0.3**
ADK pmax pmax
comp=Z,782nm,1.4s
HYB Hyderabad 67.53 292 *e*P **P** **14 24 03.1 -0.8**
HYB IVmB_BB 14 24 20.5
comp=Z,4µm,5.1s
HYB *e*S **S** **14 32 58.5 -1.7**
HYB IVMs_BB IVMs_BB 14 55 18.5
comp=Z,5µm,24.0s
HYB Hyderabad 67.53 292 *e*P **P** **14 24 06.2 +2.4**
MOY Mondy 67.79 333 *e*P **P** **14 24 04.7 -0.2**
MOY pmax pmax
comp=Z,637nm,1.9s
BOD Bodaibo 67.94 344 *e*P **P** **14 24 04.2 -1.4**
BOD pmax pmax
comp=Z,272nm,1.6s
PMOR Pomariorio Ree 68.58 104 *e*P **P** **14 24 12.1 +1.7**
comp=Z,400nm,1.3s
YAK Yakutsk 68.81 353 P **P** **14 24 08.3 -2.6**
YAK Yakutsk 68.81 353 IAMs_20 IAMs_20 14 51 01.1
comp=Z,63µm,22.0s
YAK Yakutsk 68.81 353 *e*P **P** **14 24 09.3 -1.6**
YAK *e* 14 24 34.7
YAK *e* 14 26 41.1
YAK *e*PPP PPP 14 28 16.9
YAK *e*S **S** **14 33 13.4 -0.3**
YAK *e**SS **sS** **14 33 30.0 +6.7**
YAK *e* 14 34 10.7
YAK pmax pmax
comp=Z,88nm,1.5s
YAK pmax pmax
comp=N,57nm,1.8s
YAK pmax pmax
comp=E,19nm,1.6s
YAK pmax pmax
comp=Z,1µm,4.7s
YAK pmax pmax
comp=N,2µm,5.1s
YAK pmax pmax
comp=E,469nm,4.1s
YAK smax smax
comp=E,7µm,6.9s
YAK smax smax
comp=N,4µm,7.4s
YAK MLR MLR
comp=Z,21µm,21.0s
YAK MLR MLR
comp=N,12µm,21.0s
YAK MLR MLR
comp=E,5µm,20.0s
YAK Yakutsk 68.81 353 LR LR 14 52 54.9
comp=E,35µm,20.4s,baz=164,slow=35
ATKA Atka Island 68.81 27 IAMs_20 IAMs_20 14 49 42.6
comp=Z,96µm,21.0s
VAH Vaihoa 68.83 104 *e*P **P** **14 24 14.7 +2.7**
comp=Z,167nm,1.4s
SEY Seymchan 69.38 5⇓ *e*P **P** **14 24 12.6 -1.8**
SEY pmax pmax
comp=Z,337nm,1.9s
SEY Seymchan 69.38 5 LR LR 14 52 34.2
comp=Z,38µm,21.2s,baz=192,slow=34
LGTI Lohaghat 69.60 304 *e*P **P** **14 24 17.4 +1.0**
PTH Pithoragarh 69.66 305 *e*P **P** **14 24 17.3 +0.1**
DGAR Diego Garcia 69.66 264⇑ *e*P **P** **14 24 13.9 -3.3**
DGAR pmax pmax
comp=Z,777nm,1.5s
DGAR Diego Garcia 69.66 264 P **P** **14 24 19.8 +2.6**
DGAR P **P** **14 24 19.8 +2.6**
JHNI Jhansi 69.76 300 *e*P **P** **14 24 15.8 -1.8**
JHNI IAmb IAmb 14 24 29.6
comp=Z,119nm,0.8s
AKL Akola 69.77 295 *e*P **P** **14 24 18.5 +0.7**
AKL IAmb IAmb 14 24 36.6
comp=Z,920nm,2.0s
KAAM Kaadhehdhoo 69.86 273 P **P** **14 24 20.2 +1.8**
WMQ Urumqi 70.21 321⇑ *i*P **P** **14 24 20.1 0.0**
WMQ PcP **PcP** **14 24 36.8 -5.1**
WMQ S **S** **14 33 31.2 0.0**
WMQ pmax pmax
comp=Z,170nm,1.3s
WMQ pmax pmax
comp=Z,3µm,5.3s
WMQ LR LR
comp=Z,20µm,19.5s
WMQ LR LR
comp=Z,14µm,17.9s
WMQ LR LR
comp=Z,11µm,23.5s

MNCY Minicoy 70.91 281 *e*P **P** **14 24 26.2 +1.3**
GOA Goa 71.50 289 *e*P **P** **14 24 28.8 +0.5**
GOA IAMs_20 IAMs_20 14 57 35.7
comp=Z,21µm,24.2s
KAD Karad 71.56 290 *e*P **P** **14 24 29.0 +0.2**
DDI Dehra Dun 71.68 305 *e*P **P** **14 24 32.2 +2.9**
DDI IAMs_20 IAMs_20 14 56 58.3
comp=Z,14µm,24.2s
NIKH Nikolski High 71.78 28 P **P** **14 24 31.1 +1.8**
NIKH Nikolski High 71.78 28 P **P** **14 24 27.6 -1.8**
baz=232
NDI New Delhi 71.86 303 *e*P **P** **14 24 29.2 -1.1**
NDI *i*x x 14 33 49.8
VNDA Vanda 71.96 176 IAMs_20 IAMs_20 14 56 05.1
comp=Z,73µm,18.0s
VNDA Vanda 71.96 176 P **P** **14 24 32.8 +2.7**
VNDA Vanda 71.96 176 P **P** **14 24 32.8 +2.7**
comp=Z,13nm,0.7s,baz=326,slow=6.1,SNR=18
VNDA LR LR 14 56 15.4
comp=Z,67µm,18.0s,baz=349,slow=36
comp=Z,13nm,0.7s
POO Poona 72.14 292 *e*P **P** **14 24 32.8 +0.5**
POO IAmb IAmb 14 24 37.2
comp=Z,98nm,0.6s
POO IAMs_20 IAMs_20 14 57 36.7
comp=Z,21µm,22.2s
KUDL Kundal 72.31 302 *e*P **P** **14 24 31.7 -1.3**
KKR Kurukshetra 72.58 304 *e*P **P** **14 24 34.2 -0.5**
SMLA Simla 72.67 305 *e*P **P** **14 24 35.8 +0.7**
SMLA IAMs_20 IAMs_20 14 55 10.2
comp=Z,19µm,26.3s
SBA Scott Base 72.68 175 P **P** **14 24 38.9 +4.6**
BHK Bhakra 73.36 305 *e*P **P** **14 24 41.0 +1.8**
BHK IAmb IAmb 14 24 42.6
comp=Z,192nm,1.2s
DGZ Jazzator, Alta 73.39 326*c* *i*P **P** **14 24 38.4 -0.8**
DGZ pmax pmax
comp=Z,261nm,1.2s
AJM Ajmer 73.41 300 *e*P **P** **14 24 40.4 +0.8**
AJM IAmb IAmb 14 25 05.1
comp=Z,463nm,1.6s
UNV Unalaska Valle 73.43 29 P **P** **14 24 37.9 -1.2**
DHRM DHARAMSHALA 73.72 306 *e*P **P** **14 24 41.4 -0.2**
DHRM IAMs_20 IAMs_20 14 57 38.7
comp=Z,11µm,30.3s
ZSN Zaisan 73.73 323 *e*P **P** **14 24 40.1 -0.9**
ZSN *e*S **S** **14 34 11.8 +0.5**
ZSN Zaisan 73.73 323 *e*P **P** **14 24 40.1 -0.9**
baz=323
ZSN *e*S **S** **14 34 11.8 +0.5**
baz=323
P08K Saint George I 73.77 25 P **P** **14 24 40.5 -0.6**
baz=230
SPIA Saint Paul Isl 73.85 25 P **P** **14 24 40.2 -1.2**
baz=229
PAF Port-aux-Franc 73.88 220 IAMs_20 IAMs_20 14 53 38.1
comp=Z,52µm,21.0s
AKUT Akutan 73.95 29 P **P** **14 24 42.2 +0.1**
THN Thein Dam 74.25 306 *e*P **P** **14 24 44.1 -0.3**
MK31 Makanchi Array 74.98 322 IAmb IAmb 14 25 09.8
comp=Z,224nm,1.1s
MK31 Makanchi Array 74.98 322*c* *i*P **P** **14 24 47.7 -0.7**
MKAR Makanchi Array 74.98 322 P **P** **14 24 47.8 -0.6**
MKAR Makanchi Array 74.98 322 P **P** **14 24 47.9 -0.5**
MKAR Makanchi Array 74.98 322 P **P** **14 24 47.9 -0.5**
comp=Z,36nm,0.9s,baz=110,slow=6.6,SNR=119
MKAR LR LR 14 58 22.5
comp=Z,11µm,20.2s,baz=100,slow=36
comp=Z,36nm,0.9s
JMU Jammu 74.99 306 *e*P **P** **14 24 51.9 +3.2**
MAKZ Makanchi 75.18 322 P **P** **14 24 48.5 -1.1**
MAKZ IAmb IAmb 14 25 10.8
comp=Z,296nm,1.1s
MAKZ Makanchi 75.18 322 P **P** **14 24 49.2 -0.3**
SHLS Shalkode 75.27 318 *e*P **P** **14 24 47.6 -2.6**
SHLS *e*S **S** **14 34 26.2 -2.7**
SHLS Shalkode 75.27 318 *e*P **P** **14 24 47.7 -2.6**
baz=318
SHLS *e*S **S** **14 34 26.3 -2.7**
baz=318
PDGK Podgornoye 75.31 318 P **P** **14 24 50.1 -0.4**
FALS False Pass 75.49 29 P **P** **14 24 51.0 -0.1**
FALS False Pass 75.49 29 P **P** **14 24 50.1 -0.9**
baz=236
UZB Uzunbulak 75.56 317 *e*P **P** **14 24 50.9 -1.0**
UZB *e*S **S** **14 34 32.4 +0.2**
UZB Uzunbulak 75.56 317 *e*P **P** **14 24 51.0 -1.0**
baz=317
UZB *e*S **S** **14 34 32.4 +0.2**
baz=317
SATY Saty 75.94 317 *e*P **P** **14 24 53.1 -1.0**
SATY *e*S **S** **14 34 36.7 +0.3**
SATY Saty 75.94 317 *e*P **P** **14 24 53.2 -1.0**
baz=317
SATY *e*S **S** **14 34 36.8 +0.3**
baz=317
BILL Bilibino 75.96 9 P **P** **14 24 51.6 -1.9**
BILL IAmb IAmb 14 25 13.6
comp=Z,397nm,1.7s
BILL Bilibino 75.96 9 *i*P **P** **14 24 52.2 -1.3**
BILL pmax pmax
comp=Z,250nm,1.7s
ZHN Zhinishke 75.96 317 *e*P **P** **14 24 53.1 -1.1**
ZHN *e*S **S** **14 34 37.1 +0.5**
ZHN Zhinishke 75.96 317 *e*P **P** **14 24 53.2 -1.1**
baz=317
ZHN *e*S **S** **14 34 37.1 +0.5**
baz=317
KSH Kashi 76.36 313 P **P** **14 24 57.3 +0.7**
KSH pP pP 14 25 00.8 -1.7
KSH S **S** **14 34 43.9 +2.7**
KSH pmax pmax
comp=Z,120nm,1.6s
KSH pmax pmax
comp=Z,2µm,4.5s
KSH LR LR
comp=Z,18µm,20.6s
KSH LR LR
comp=Z,22µm,19.9s
KSH LR LR
comp=Z,36µm,25.5s
TAOE Nuku Hiva Isla 76.44 98 *e*PKIKP **P** **14 25 02.0 +4.5**
comp=Z,3µm,23.6s
NIL Nilore 76.59 307 P **P** **14 24 57.0 -0.9**
NIL Nilore 76.59 307 P **P** **14 24 57.0 -0.9**
NIL pmax pmax
comp=Z,855nm,1.5s
NIL Nilore 76.59 307 P **P** **14 24 57.8 0.0**
TDK Taldyqorghan 76.69 319 *e*P **P** **14 24 57.5 -0.7**
TDK *e*S **S** **14 34 45.0 +0.6**
TDK pmax pmax
comp=Z,341nm,1.5s
TDK MLR MLR
comp=Z,7µm,18.0s
TDK Taldyqorghan 76.69 319 *e*P **P** **14 24 57.6 -0.7**
comp=Z,342nm,1.5s,baz=319
TDK *e*S **S** **14 34 45.1 +0.6**
baz=319
TDK LR LR 15 01 24.2
comp=Z,7µm,18.0s,baz=319
JASL Jaisalmer 76.76 299 *e*P **P** **14 25 00.3 +1.4**
ARXS Arharly 76.77 318 *e*P **P** **14 24 57.7 -1.0**
MDOK Medeo 76.90 317 *e*P **P** **14 24 58.8 -0.8**
MDOK *e*S **S** **14 34 47.6 +0.6**
MDOK Medeo 76.90 317 *e*P **P** **14 24 58.9 -0.8**
baz=317
MDOK *e*S **S** **14 34 47.6 +0.6**
baz=317
TNSS Tian-Shan 76.92 317 *e*P **P** **14 24 58.9 -1.1**
TNSS Tian-Shan 76.92 317 *e*P **P** **14 24 58.9 -1.1**
baz=317
ZALV Zalesovo Beam 76.96 329 P **P** **14 24 57.5 -1.9**
ZALV Zalesovo Beam 76.96 329 P **P** **14 24 58.3 -1.2**
ZALV Zalesovo Beam 76.96 329 P **P** **14 24 58.2 -1.2**
comp=Z,17nm,0.9s,baz=107,slow=5.1,SNR=58
ZALV PKKPbc **PKKPbc** **14 44 11.8 +1.2**
comp=Z,0.4nm,0.3s,baz=162,slow=33,SNR=2.2
ZALV LR LR 15 00 20.5
comp=Z,34µm,18.9s,baz=114,slow=37
comp=Z,17nm,0.9s
AAA Alma-Ata 77.01 317 *e*P **P** **14 24 59.3 -0.8**
AAA pmax pmax
comp=Z,350nm,1.0s
AAA Alma-Ata 77.01 317 *e*P **P** **14 24 59.3 -0.8**
comp=Z,350nm,1.0s,baz=317

BHUJ Bhuj 77.01 295 *e*P **P** **14 25 03.5 +3.1**
BHUJ IAmb IAmb 14 25 10.8
comp=Z,115nm,1.2s
ULHL Ulahol 77.12 316 P **P** **14 25 01.3 +0.4**
SNR=29
SDPT Sand Point 77.18 29 IAmb IAmb 14 25 18.1
comp=Z,353nm,0.8s
SDPT Sand Point 77.18 29 P **P** **14 25 00.7 +0.1**
SDPT Sand Point 77.18 29 P **P** **14 24 59.2 -1.5**
baz=239
CHKK Chushkaly 77.19 317 *e*P **P** **14 24 59.7 -1.4**
CHKK Chushkaly 77.19 317 *e*P **P** **14 24 59.7 -1.4**
baz=318
CHNA Chernabura Isl 77.35 30 P **P** **14 25 00.5 -1.1**
baz=240
M11K Mekoryuk 77.52 23 P **P** **14 25 01.8 -0.6**
baz=232
KUU Kurty 77.65 317 *e*P **P** **14 25 02.5 -1.1**
KUU *e*S **S** **14 34 55.5 +0.7**
KUU pmax pmax
comp=Z,463nm,2.0s
KUU Kurty 77.65 317 *e*P **P** **14 25 02.5 -1.1**
comp=Z,463nm,2.0s,baz=317
KUU *e*S **S** **14 34 55.5 +0.7**
baz=317
KUU LR LR 15 02 09.0
comp=Z,4µm,14.2s,baz=317
GAMB Gambell 77.75 19 P **P** **14 25 03.3 -0.3**
baz=227
TKM2 Tokmak 2 77.81 316 P **P** **14 25 05.0 +0.3**
SNR=12
TKM2 Tokmak 2 77.81 316 P **P** **14 25 05.3 +0.6**
ROCAM Rodrigues Isla 77.87 251 IAMs_20 IAMs_20 14 56 22.4
comp=Z,56µm,21.0s
S14K Fog Glacier 78.11 29 P **P** **14 25 04.8 -1.2**
baz=239
KBK Karagaybulak 78.16 316 P **P** **14 25 07.1 +0.4**
SNR=16
TIXI Tiksi 78.27 356⇑ *e*P **P** **14 25 03.6 -2.8**
TIXI pmax pmax
comp=Z,150nm,1.1s
TIXI MLR MLR
comp=Z,23µm,19.0s
TIXI Tiksi 78.27 356 LR LR 14 58 58.5
comp=Z,21µm,19.8s,baz=185,slow=35
UCH Uchtor 78.32 315 P **P** **14 25 08.1 +0.2**
SNR=67
CHMS Chumysh 78.42 316 P **P** **14 25 07.9 0.0**
SNR=29
AAK Ala-Archa 78.47 316 P **P** **14 25 08.9 +0.5**
SNR=43
AAK Ala-Archa 78.47 316 P **P** **14 25 07.1 -1.2**
AAK Ala-Archa 78.47 316*d* *i*P **P** **14 25 07.3 -1.1**
AAK pmax pmax
comp=Z,177nm,1.4s
AAK Ala-Archa 78.47 316 *i* P **P** **14 25 06.9 -1.5**
SNR=62
AAK Ala-Archa 78.47 316 P **P** **14 25 07.1 -1.2**
comp=Z,92nm,1.4s,baz=118,slow=5.5,SNR=28
AAK LR LR 15 01 45.8
comp=Z,8µm,21.9s,baz=110,slow=37
comp=Z,92nm,1.4s
AAK Ala-Archa 78.47 316 P **P** **14 25 08.1 -0.3**
AAK P **P** **14 25 08.1 -0.3**
AAK S **S** **14 35 06.2 +2.2**
AAK S **S** **14 35 06.2 +2.2**
SGDS Sogindy 78.65 316 *e*P **P** **14 25 07.7 -1.5**
SGDS Sogindy 78.65 316 *e*P **P** **14 25 07.8 -1.5**
baz=316
CHGN Chignik 78.67 29 IAmb IAmb 14 25 26.2
comp=Z,209nm,0.8s
CHGN Chignik 78.67 29 P **P** **14 25 07.6 -1.3**
baz=240,SNR=6.8
M13K Dall Lake 78.67 24 IAMs_20 IAMs_20 14 55 39.2
comp=Z,59µm,21.0s
M13K Dall Lake 78.67 24 P **P** **14 25 07.8 -1.0**
baz=235
USP Ospenovka 78.68 316 P **P** **14 25 09.6 +0.2**
SNR=66
KURK Kurchatov 78.86 324 P **P** **14 25 08.9 -1.2**
KURK IAmb IAmb 14 25 30.4
comp=Z,351nm,1.2s
KURK Kurchatov 78.86 324*c* *i*P **P** **14 25 09.3 -0.8**
KURK pmax pmax
comp=Z,615nm,2.0s
KURK MLR MLR
comp=Z,22µm,19.0s
KURK Kurchatov 78.86 324 P **P** **14 25 09.5 -0.6**
KURK P **P** **14 25 09.5 -0.6**
KURK S **S** **14 35 06.7 -0.8**
KURK S **S** **14 35 06.7 -0.8**
KURBB Kurchatov Arra 78.87 324 P **P** **14 25 09.9 -0.3**
KURBB Kurchatov Arra 78.87 324 P **P** **14 25 09.2 -0.9**
comp=Z,83nm,1.2s,baz=123,slow=4.4,SNR=90
KURBB PKKPbc **PKKPbc** **14 44 05.9 -0.2**
comp=Z,0.8nm,0.9s,baz=300,slow=4.9,SNR=2.9
comp=Z,83nm,1.2s
O14K Tigyukauivet M 78.90 26 IAmb IAmb 14 25 30.7
comp=Z,453nm,1.1s
O14K IAMs_20 IAMs_20 14 55 22.3
comp=Z,73µm,21.0s
O14K Tigyukauivet M 78.90 26 P **P** **14 25 09.1 -1.0**
baz=237
EKS2 Erkin-Say 78.98 315 P **P** **14 25 11.8 +0.7**
SNR=46
N14K Kuskokwak Cree 79.09 25 P **P** **14 25 10.6 -0.5**
baz=237,SNR=7.1
M14K Bethel 79.43 24 IAMs_20 IAMs_20 14 54 58.3
comp=Z,68µm,22.0s
M14K Bethel 79.43 24 P **P** **14 25 12.5 -0.5**
baz=236,SNR=14
L14K Kuka Creek 79.47 24 IAmb IAmb 14 25 31.7
comp=Z,338nm,0.8s
L14K IAMs_20 IAMs_20 14 56 15.3
comp=Z,63µm,20.0s
L14K Kuka Creek 79.47 24 P **P** **14 25 13.0 -0.1**
baz=236
O15K Ungalikthiuk R 79.49 26 P **P** **14 25 12.9 -0.5**
baz=238
BTLS Baital 79.59 318 *e*P **P** **14 25 12.9 -1.3**
BTLS *e*S **S** **14 35 15.7 +0.2**
BTLS Baital 79.59 318 *e*P **P** **14 25 13.0 -1.3**
baz=318
BTLS *e*S **S** **14 35 15.8 +0.2**
baz=318
R16K Pilot Point 79.70 28 P **P** **14 25 13.3 -1.2**
baz=241
CHIR Chirikof Islan 79.82 30 IAMs_20 IAMs_20 14 58 39.8
comp=Z,40µm,20.0s
CHIR Chirikof Islan 79.82 30 P **P** **14 25 14.3 -0.9**
baz=243
N15K Kwethluk River 79.89 25 IAmb IAmb 14 25 36.4
comp=Z,677nm,1.3s
N15K IAMs_20 IAMs_20 14 55 53.5
comp=Z,86µm,21.0s
N15K Kwethluk River 79.89 25 P **P** **14 25 15.1 -0.5**
baz=238,SNR=14
M15K Kasigluk River 79.93 25 P **P** **14 25 15.0 -0.7**
baz=238
J14K Nanvaranak Lak 79.95 22 IAmb IAmb 14 25 37.1
comp=Z,753nm,1.6s
J14K IAMs_20 IAMs_20 14 57 42.7
comp=Z,41µm,20.0s
J14K Nanvaranak Lak 79.95 22 P **P** **14 25 15.4 -0.4**
baz=234
KBU Kabul Universi 80.11 307 P **P** **14 25 13.9 -3.7**
L15K Ungalak Mounta 80.14 24 P **P** **14 25 16.0 -0.8**
baz=237
TNA Tin City 80.16 19 P **P** **14 25 16.1 -0.7**
baz=230,SNR=19
KBL Kabul 80.19 307 P **P** **14 25 16.2 -1.8**
KBL Kabul 80.19 307 P **P** **14 25 16.2 -1.8**
KBL pmax pmax
comp=Z,170nm,1.3s
KBL Kabul 80.19 307 P **P** **14 25 16.4 -1.6**
SNR=49
KBL S **S** **14 35 21.2 -1.5**
P16K Nushagak River 80.23 27 P **P** **14 25 16.2 -1.2**
baz=240,SNR=10.0
MAW Mawson 80.37 202 P **P** **14 25 18.5 +0.5**
MAW Mawson 80.37 202 P **P** **14 25 18.5 +0.5**
comp=Z,44nm,1.3s,baz=80,slow=7.7,SNR=2.8
MAW LR LR 14 57 27.9
comp=Z,36µm,21.1s,baz=82,slow=33
comp=Z,44nm,1.3s
ANM Nome 80.38 20 IAmb IAmb 14 25 39.0
comp=Z,610nm,1.5s

ANM						IAMs_20	IAMs_20	14 55 28.0		
	comp=Z,68µm,21.0s									
ANM	**Nome**	**80.38**	**20**		P	**P**		**14 25 17.7**	**-0.4**	
	baz=233,SNR=26									
K15K	**Wolf Creek Mou**	**80.46**	**23**		IAmb	IAmb		14 25 39.5		
	comp=Z,454nm,1.1s									
K15K						IAMs_20	IAMs_20	14 56 45.4		
	comp=Z,77µm,21.0s									
K15K	**Wolf Creek Mou**	**80.46**	**23**		P	**P**		**14 25 18.3**	**-0.2**	
	baz=236									
O16K	**Kokwok River B**	**80.46**	**26**		IAMs_20	IAMs_20		14 59 58.6		
	comp=Z,61µm,20.0s									
O16K	**Kokwok River B**	**80.46**	**26**		P	**P**		**14 25 17.9**	**-0.7**	
	baz=240,SNR=31									
N16K	**Nishlik Lake**	**80.62**	**25**		P	**P**		**14 25 19.3**	**-0.1**	
	baz=239,SNR=26									
F14K	**Arctic Creek**	**80.62**	**19**		P	**P**		**14 25 19.0**	**-0.3**	
	baz=232,SNR=27									
Q16K	**King Salmon**	**80.66**	**27**		P	**P**		**14 25 18.6**	**-1.1**	
	baz=241									
DZA	**Taraz**	**80.76**	**315**		*e*P	**P**		**14 25 19.3**	**-1.3**	
DZA	**Taraz**	**80.76**	**315**		*e*P	**P**		**14 25 19.4**	**-1.3**	
	baz=315									
M16K	**Timber Creek**	**80.82**	**25**		IAmb	IAmb		14 25 39.1		
	comp=Z,272nm,0.8s									
M16K						IAMs_20	IAMs_20	14 56 33.9		
	comp=Z,67µm,21.0s									
M16K	**Timber Creek**	**80.82**	**25**		P	**P**		**14 25 19.9**	**-0.6**	
	baz=239									
Q17K	**Contact Creek**	**80.82**	**28**		P	**P**		**14 25 18.6**	**-2.1**	
	baz=242,SNR=23									
SII	**Sitkinak Islan**	**80.87**	**30**		IAmb	IAmb		14 25 40.6		
	comp=Z,318nm,1.0s									
SII	**Sitkinak Islan**	**80.87**	**30**		P	**P**		**14 25 21.1**	**+0.2**	
SII	**Sitkinak Islan**	**80.87**	**30**		P	**P**		**14 25 19.4**	**-1.5**	
	baz=244									
L16K	**Owhat River**	**80.97**	**24**		IAmb	IAmb		14 25 41.9		
	comp=Z,562nm,1.4s									
L16K						IAMs_20	IAMs_20	14 56 07.7		
	comp=Z,77µm,22.0s									
L16K	**Owhat River**	**80.97**	**24**		P	**P**		**14 25 20.3**	**-0.9**	
	baz=238,SNR=27									
O17K	**Koliganek Bris**	**80.99**	**26**		P	**P**		**14 25 20.8**	**-0.7**	
	baz=241,SNR=66									
P17K	**Kvichak River**	**81.01**	**27**		P	**P**		**14 25 19.5**	**-2.0**	
	baz=242									
G15K	**Niukluk**	**81.09**	**20**		P	**P**		**14 25 20.8**	**-1.1**	
	baz=234									
CHGR	**Chuyangaron**	**81.16**	**311**		P	**P**		**14 25 22.6**	**-0.3**	
SIMJ	**Simiganj**	**81.27**	**311**		P	**P**		**14 25 23.1**	**-0.6**	
SIMJ						IAmb	IAmb	14 26 12.3		
	comp=Z,224nm,1.1s									
F15K	**North Star Dit**	**81.31**	**19**		IAmb	IAmb		14 26 00.2		
	comp=Z,274nm,1.2s									
F15K						IAMs_20	IAMs_20	14 55 21.7		
	comp=Z,73µm,22.0s									
F15K	**North Star Dit**	**81.31**	**19**		P	**P**		**14 25 22.6**	**-0.5**	
	baz=233,SNR=34									
N17K	**Nushagak Hills**	**81.32**	**26**		IAmb	IAmb		14 25 44.2		
	comp=Z,281nm,1.1s									
N17K						IAMs_20	IAMs_20	14 58 40.3		
	comp=Z,72µm,20.0s									
N17K	**Nushagak Hills**	**81.32**	**26**		P	**P**		**14 25 23.2**	**0.0**	
	baz=241,SNR=24									
J16K	**Anvik River**	**81.36**	**22**		IAMs_20	IAMs_20		14 58 06.2		
	comp=Z,42µm,20.0s									
J16K	**Anvik River**	**81.36**	**22**		P	**P**		**14 25 23.2**	**-0.1**	
	baz=237									
KK31	**Karatay Array**	**81.40**	**315**	*i*	P	**P**		**14 25 23.6**	**-0.4**	
KKAR	**Karatay Array**	**81.40**	**315**		P	**P**		**14 25 23.1**	**-0.9**	
KKAR	**Karatay Array**	**81.40**	**315**		P	**P**		**14 25 23.1**	**-0.9**	
IUG	**luzhnay**	**81.46**	**314**		*e*P	**P**		**14 25 23.4**	**-1.1**	
IUG					*e*S	**S**		**14 35 35.6**	**+0.1**	
IUG	**luzhnay**	**81.46**	**314**		*e*P	**P**		**14 25 23.4**	**-1.1**	
	baz=314									
IUG					*e*S	**S**		**14 35 35.6**	**+0.1**	
	baz=314									
H16K	**Elim**	**81.51**	**21**		P	**P**		**14 25 23.4**	**-0.7**	
	baz=236,SNR=24									
OHAK	**Old Harbor**	**81.60**	**30**		IAmb	IAmb		14 25 45.0		
	comp=Z,828nm,1.7s									
OHAK	**Old Harbor**	**81.60**	**30**		P	**P**		**14 25 24.4**	**-0.3**	
OHAK	**Old Harbor**	**81.60**	**30**		P	**P**		**14 25 23.7**	**-1.0**	
	baz=245									
M17K	**Holitna River**	**81.65**	**25**		IAmb	IAmb		14 25 50.5		
	comp=Z,370nm,1.1s									
M17K						IAMs_20	IAMs_20	14 57 09.8		
	comp=Z,67µm,21.0s									
M17K	**Holitna River**	**81.65**	**25**		P	**P**		**14 25 24.2**	**-0.7**	
	baz=240									
P18K	**Big Mountain,**	**81.65**	**27**		IAMs_20	IAMs_20		14 56 13.0		
	comp=Z,71µm,22.0s									
P18K	**Big Mountain,**	**81.65**	**27**		P	**P**		**14 25 23.1**	**-1.9**	
	baz=243,SNR=8.8									
I17K	**Unalakleet**	**81.66**	**22**		IAmb	IAmb		14 25 45.5		
	comp=Z,672nm,1.4s									
I17K						IAMs_20	IAMs_20	14 55 47.9		
	comp=Z,60µm,22.0s									
I17K	**Unalakleet**	**81.66**	**22**		P	**P**		**14 25 24.7**	**-0.1**	
	baz=237,SNR=24									
L17K	**Donlin**	**81.66**	**24**		P	**P**		**14 25 24.8**	**-0.2**	
	baz=240									
OTUK	**Ortayu**	**81.76**	**321**		P	**P**		**14 25 25.5**	**-0.3**	
BRLS	**Boroldav**	**81.85**	**315**		*e*P	**P**		**14 25 25.1**	**-1.3**	
BRLS	**Boroldav**	**81.85**	**315**		*e*P	**P**		**14 25 25.1**	**-1.3**	
	baz=315									
O18K	**Koktuh Hills**	**81.87**	**27**		IAMs_20	IAMs_20		14 57 23.8		
	comp=Z,68µm,21.0s									
O18K	**Koktuh Hills**	**81.87**	**27**		P	**P**		**14 25 25.1**	**-1.1**	
	baz=243,SNR=20									
G16K	**Koyuk River**	**81.90**	**20**		IAmb	IAmb		14 25 46.9		
	comp=Z,314nm,1.1s									
G16K						IAMs_20	IAMs_20	14 56 15.4		
	comp=Z,68µm,22.0s									
G16K	**Koyuk River**	**81.90**	**20**		P	**P**		**14 25 25.8**	**-0.3**	
	baz=235									
K17K	**Iditarod**	**81.96**	**24**		IAmb	IAmb		14 25 52.4		
	comp=Z,490nm,1.2s									
K17K						IAMs_20	IAMs_20	14 57 31.9		
	comp=Z,78µm,21.0s									
K17K	**Iditarod**	**81.96**	**24**		P	**P**		**14 25 26.1**	**-0.4**	
	baz=239,SNR=32									
N18K	**Kilae Creek**	**81.96**	**26**		IAmb	IAmb		14 25 45.2		
	comp=Z,182nm,0.8s									
N18K						IAMs_20	IAMs_20	14 58 29.1		
	comp=Z,66µm,20.0s									
N18K	**Kilae Creek**	**81.96**	**26**		P	**P**		**14 25 26.5**	**-0.1**	
	baz=242									
J17K	**VABM Dome**	**82.00**	**23**		IAMs_20	IAMs_20		14 58 14.8		
	comp=Z,37µm,20.0s									
J17K	**VABM Dome**	**82.00**	**23**		P	**P**		**14 25 26.6**	**-0.2**	
	baz=239									
BRZS	**Berezniki**	**82.12**	**322**		*e*P	**P**		**14 25 26.1**	**-1.5**	
BRZS	**Berezniki**	**82.12**	**322**		*e*P	**P**		**14 25 26.1**	**-1.5**	
	baz=322									
KDAK	**Kodiak Island**	**82.18**	**29**		P	**P**		**14 25 26.2**	**-1.6**	
KDAK						IAmb	IAmb	14 25 48.1		
	comp=Z,323nm,1.1s									
KDAK	**Kodiak Island**	**82.18**	**29**		IAMs_20	IAMs_20		14 55 53.2		
	comp=Z,57µm,22.0s									
KDAK	**Kodiak Island**	**82.18**	**29**	*c*	*i*P	**P**		**14 25 26.5**	**-1.2**	
KDAK						pmax	pmax			
	comp=Z,167nm,1.4s									
KDAK	**Kodiak Island**	**82.18**	**29**		P	**P**		**14 25 26.5**	**-1.2**	
	baz=245									
KDAK	**Kodiak Island**	**82.18**	**29**		LR	LR		14 59 42.7		
	comp=Z,41µm,19.7s,baz=261,slow=34									
SVW2	**Sparrevohn**	**82.29**	**26**		IAmb	IAmb		14 25 49.1		
	comp=Z,306nm,1.2s									
SVW2						IAMs_20	IAMs_20	14 58 50.4		
	comp=Z,67µm,20.0s									
SVW2	**Sparrevohn**	**82.29**	**26**		P	**P**		**14 25 28.1**	**-0.2**	
L18K	**Granite Mounta**	**82.36**	**24**		IAmb	IAmb		14 25 49.6		
	comp=Z,223nm,1.1s									
L18K						IAMs_20	IAMs_20	14 57 00.6		
	comp=Z,79µm,22.0s									
L18K	**Granite Mounta**	**82.36**	**24**		P	**P**		**14 25 28.6**	**0.0**	
	baz=241									
M18K	**Stony River**	**82.37**	**25**		P	**P**		**14 25 28.3**	**-0.3**	
	baz=242,SNR=25									
O19K	**Port Alsworth**	**82.42**	**27**		IAMs_20	IAMs_20		14 58 01.5		
	comp=Z,61µm,20.0s									
O19K	**Port Alsworth**	**82.42**	**27**		P	**P**		**14 25 27.4**	**-1.6**	
	baz=243,SNR=17									
H17K	**Granite Mounta**	**82.51**	**21**		IAmb	IAmb		14 25 50.2		
	comp=Z,443nm,1.2s									
H17K						IAMs_20	IAMs_20	14 56 35.5		
	comp=Z,62µm,22.0s									
H17K	**Granite Mounta**	**82.51**	**21**		P	**P**		**14 25 29.0**	**-0.4**	
	baz=238									
G17K	**Kiwalik Mounta**	**82.56**	**21**		P	**P**		**14 25 29.2**	**-0.3**	
	baz=237,SNR=54									
N19K	**Bonanza Creek**	**82.63**	**26**		IAmb	IAmb		14 25 50.5		
	comp=Z,360nm,1.0s									
N19K						IAMs_20	IAMs_20	14 57 37.9		
	comp=Z,71µm,21.0s									
N19K	**Bonanza Creek**	**82.63**	**26**		P	**P**		**14 25 28.8**	**-1.4**	
	baz=243									
C16K	**Lisburne Hills**	**82.66**	**17**		P	**P**		**14 25 29.1**	**-1.0**	
	baz=232									
F17K	**Baldwin Pennin**	**82.87**	**20**		IAmb	IAmb		14 25 51.1		
	comp=Z,598nm,1.7s									
F17K						IAMs_20	IAMs_20	14 56 08.9		
	comp=Z,66µm,22.0s									
F17K	**Baldwin Pennin**	**82.87**	**20**		P	**P**		**14 25 30.5**	**-0.7**	
	baz=236									
J18K	**Innoko River**	**82.96**	**23**		IAmb	IAmb		14 25 51.3		
	comp=Z,547nm,1.6s									
J18K						IAMs_20	IAMs_20	14 58 12.3		
	comp=Z,64µm,21.0s									
J18K	**Innoko River**	**82.96**	**23**		P	**P**		**14 25 30.9**	**-0.8**	
	baz=241									
TTA	**Tatalina**	**82.98**	**24**		IAmb	IAmb		14 25 57.3		
	comp=Z,310nm,1.4s									
TTA						IAMs_20	IAMs_20	14 58 03.9		
	comp=Z,80µm,21.0s									
TTA	**Tatalina**	**82.98**	**24**		P	**P**		**14 25 31.2**	**-0.7**	
TTA	**Tatalina**	**82.98**	**24**		P	**P**		**14 25 30.9**	**-1.1**	
	baz=242,SNR=37									
D17K	**Noatak River**	**83.00**	**18**		P	**P**		**14 25 31.3**	**-0.5**	
	baz=234,SNR=93									
L19K	**White Mountain**	**83.10**	**25**		IAmb	IAmb		14 25 53.2		
	comp=Z,451nm,1.4s									
L19K						IAMs_20	IAMs_20	14 58 26.2		
	comp=Z,53µm,21.0s									
L19K	**White Mountain**	**83.10**	**25**		P	**P**		**14 25 31.9**	**-0.7**	
	baz=243									
O20K	**Slope Mountain**	**83.14**	**27**		P	**P**		**14 25 30.7**	**-2.1**	
	baz=245									
M19K	**Big River Lodg**	**83.17**	**25**		IAmb	IAmb		14 25 56.9		
	comp=Z,537nm,1.6s									
M19K						IAMs_20	IAMs_20	14 59 19.0		
	comp=Z,69µm,20.0s									
M19K	**Big River Lodg**	**83.17**	**25**		P	**P**		**14 25 32.6**	**-0.3**	
	baz=243,SNR=24									
H18K	**Honhosa River**	**83.18**	**21**		IAmb	IAmb		14 25 53.0		
	comp=Z,230nm,1.3s									
H18K						IAMs_20	IAMs_20	14 56 56.3		
	comp=Z,69µm,22.0s									
H18K	**Honhosa River**	**83.18**	**21**		P	**P**		**14 25 31.8**	**-1.0**	
	baz=239									
C17K	**DeLong Mountai**	**83.43**	**18**		P	**P**		**14 25 33.2**	**-0.9**	
	baz=234									
G18K	**Tagagawik**	**83.47**	**21**		IAmb	IAmb		14 25 52.2		
	comp=Z,124nm,0.8s									
G18K						IAMs_20	IAMs_20	14 59 10.7		
	comp=Z,57µm,20.0s									
G18K	**Tagagawik**	**83.47**	**21**		P	**P**		**14 25 33.3**	**-1.0**	
	baz=239									
F18K	**Selawik**	**83.50**	**20**		P	**P**		**14 25 33.2**	**-1.2**	
	baz=238,SNR=25									
GCSA	**Selena City Sc**	**83.53**	**22**		P	**P**		**14 25 33.7**	**-0.9**	
	baz=240,SNR=12									
CNPM	**China Poot**	**83.55**	**28**		IAMs_20	IAMs_20		15 01 33.1		
	comp=Z,57µm,20.0s									
E18K	**Tukpahlearik C**	**83.63**	**19**		IAmb	IAmb		14 26 00.5		
	comp=Z,250nm,1.1s									
E18K						IAMs_20	IAMs_20	14 57 28.8		
	comp=Z,58µm,22.0s									
E18K	**Tukpahlearik C**	**83.63**	**19**		P	**P**		**14 25 34.5**	**-0.6**	
	baz=237,SNR=96									
J19K	**Poorman**	**83.64**	**23**		IAMs_20	IAMs_20		14 59 05.4		
	comp=Z,50µm,20.0s									
J19K	**Poorman**	**83.64**	**23**		P	**P**		**14 25 34.6**	**-0.6**	
	baz=242									
L20K	**Farewell, AK**	**83.64**	**25**		P	**P**		**14 25 34.6**	**-0.7**	
	baz=244,SNR=38									
M20K	**Styx River**	**83.69**	**25**		IAMs_20	IAMs_20		14 58 44.5		
	comp=Z,62µm,20.0s									
M20K	**Styx River**	**83.69**	**25**		P	**P**		**14 25 35.0**	**-0.7**	
	baz=244									
QSPA	**South Pole Qui**	**83.73**	**180**		P	**P**		**14 25 34.2**	**-1.6**	
QSPA						IAmb	IAmb	14 26 06.9		
	comp=Z,367nm,1.2s									
QSPA	**South Pole Qui**	**83.73**	**180**		P	**P**		**14 25 34.0**	**-1.9**	
	comp=Z,18nm,0.6s,baz=352,slow=2.7,SNR=22									
QSPA						LR	LR	15 04 10.4		
	comp=Z,104µm,18.1s,baz=10,slow=36									
N20K	**Mount Spurr**	**83.80**	**26**		P	**P**		**14 25 33.9**	**-2.3**	
	baz=245,SNR=23									
BRLK	**Bradley Lake**	**83.80**	**28**		IAmb	IAmb		14 25 57.1		
	comp=Z,154nm,0.9s									
BRLK						IAMs_20	IAMs_20	14 57 20.6		
	comp=Z,62µm,22.0s									
BRSE	**Bradley Lake S**	**83.86**	**28**		P	**P**		**14 25 34.8**	**-1.7**	
	baz=247,SNR=11									
K20K	**Telida**	**83.96**	**24**		P	**P**		**14 25 36.0**	**-0.9**	
	baz=243									
H19K	**Roundabout Mou**	**84.07**	**21**		IAMs_20	IAMs_20		15 00 50.2		
	comp=Z,57µm,20.0s									
H19K	**Roundabout Mou**	**84.07**	**21**		P	**P**		**14 25 36.6**	**-0.8**	
	baz=241									
CAPN	**Captain Cook N**	**84.09**	**27**		IAMs_20	IAMs_20		14 58 43.4		
	comp=Z,57µm,21.0s									
CAPN	**Captain Cook N**	**84.09**	**27**		P	**P**		**14 25 36.6**	**-0.9**	
	baz=246									
C18K	**Utukok River**	**84.12**	**18**		IAmb	IAmb		14 25 57.0		
	comp=Z,546nm,1.7s									
C18K						IAMs_20	IAMs_20	14 57 36.9		
	comp=Z,41µm,22.0s									
C18K	**Utukok River**	**84.12**	**18**		P	**P**		**14 25 36.7**	**-1.0**	
	baz=236									
G19K	**Purcell Mounta**	**84.14**	**21**		IAMs_20	IAMs_20		14 57 01.6		
	comp=Z,66µm,22.0s									
G19K	**Purcell Mounta**	**84.14**	**21**		P	**P**		**14 25 37.1**	**-0.7**	
	baz=240,SNR=57									
NRIK	**Noril'sk**	**84.21**	**343**	*c*	*i*P	**P**		**14 25 36.8**	**-1.2**	
NRIK						pmax	pmax			
	comp=Z,993nm,1.4s									
NRIK	**Noril'sk**	**84.21**	**343**		P	**P**		**14 25 36.9**	**-1.1**	
	comp=Z,201nm,1.2s,baz=124,slow=5.3,SNR=95									
NRIK						LR	LR	15 01 54.8		
	comp=Z,33µm,22.0s,baz=120,slow=35									
	comp=Z,201nm,1.2s									
F19K	**Shaleruckik Mo**	**84.25**	**20**		IAmb	IAmb		14 25 57.8		
	comp=Z,258nm,1.2s									
F19K						IAMs_20	IAMs_20	14 57 14.5		
	comp=Z,70µm,22.0s									
F19K	**Shaleruckik Mo**	**84.25**	**20**		P	**P**		**14 25 37.2**	**-1.1**	
	baz=240									
J20K	**Nowinta River**	**84.30**	**23**		IAMs_20	IAMs_20		14 59 25.8		
	comp=Z,52µm,20.0s									
J20K	**Nowinta River**	**84.30**	**23**		P	**P**		**14 25 38.1**	**-0.4**	
	baz=243,SNR=76									
B18K	**Kokolik River**	**84.35**	**17**		P	**P**		**14 25 38.2**	**-0.5**	
	baz=236									
SKT	**Skwentna**	**84.42**	**26**		IAmb	IAmb		14 25 57.8		
	comp=Z,120nm,0.9s									
SKT						IAMs_20	IAMs_20	14 58 57.1		
	comp=Z,66µm,21.0s									
SKT	**Skwentna**	**84.42**	**26**		P	**P**		**14 25 36.9**	**-2.3**	
	baz=246,SNR=22									
BVA0	**Borovoye Array**	**84.45**	**325**		P	**P**		**14 25 39.3**	**-0.3**	
BVAR	**Borovoye Array**	**84.45**	**325**		P	**P**		**14 25 38.5**	**-1.1**	
BVAR	**Borovoye Array**	**84.45**	**325**		P	**P**		**14 25 38.5**	**-1.1**	
	comp=Z,85nm,0.8s,baz=111,slow=6.5,SNR=280									
	comp=Z,85nm,0.8s									
I20K	**Naaghedeneel**	**84.45**	**23**		IAmb	IAmb		14 25 59.4		
	comp=Z,260nm,0.9s									
I20K						IAMs_20	IAMs_20	15 00 32.9		
	comp=Z,43µm,20.0s									
I20K	**Naaghedeneel**	**84.45**	**23**		P	**P**		**14 25 38.8**	**-0.5**	
	baz=243									
BRVK	**Borovoye**	**84.52**	**325**		P	**P**		**14 25 38.9**	**-1.0**	
BRVK	**Borovoye**	**84.52**	**325**	*c*	*i*P	**P**		**14 25 39.2**	**-0.7**	
BRVK						pmax	pmax			
	comp=Z,767nm,1.3s									
BRVK						MLR	MLR			
	comp=Z,25µm,22.0s									
BRVK	**Borovoye**	**84.52**	**325**		P	**P**		**14 25 39.5**	**-0.5**	
BRVK						P	**P**	**14 25 39.5**	**-0.5**	
BRVK						S	**S**	**14 36 04.6**	**-1.3**	
BRVK						S	**S**	**14 36 04.6**	**-1.3**	
PPLA	**Purkeypile**	**84.52**	**25**		P	**P**		**14 25 37.9**	**-2.0**	
	baz=245,SNR=28									
SUA	**Susitna One**	**84.55**	**26**		IAmb	IAmb		14 25 57.8		
	comp=Z,209nm,0.9s									
SUA						IAMs_20	IAMs_20	14 57 22.6		
	comp=Z,60µm,22.0s									
SUA	**Susitna One**	**84.55**	**26**		P	**P**		**14 25 37.9**	**-2.2**	
	baz=246,SNR=37									
SEW	**Seward**	**84.60**	**28**		P	**P**		**14 25 38.4**	**-1.7**	
	baz=248,SNR=26									
O22K	**Cooper Landing**	**84.62**	**27**		IAMs_20	IAMs_20		14 57 47.6		
	comp=Z,58µm,22.0s									
O22K	**Cooper Landing**	**84.62**	**27**		P	**P**		**14 25 38.6**	**-1.6**	
	baz=247,SNR=19									
H20K	**Anotleneega Mo**	**84.63**	**22**		P	**P**		**14 25 39.6**	**-0.7**	
	baz=242									
FIS	**Fire Island**	**84.66**	**27**		IAMs_20	IAMs_20		14 57 25.1		
	comp=Z,68µm,22.0s									
E19K	**Redstone River**	**84.75**	**20**		IAmb	IAmb		14 26 17.3		
	comp=Z,391nm,1.2s									
E19K	**Redstone River**	**84.75**	**20**		P	**P**		**14 25 40.2**	**-0.6**	
	baz=240									
CAST	**Castle Rocks**	**84.79**	**24**		IAmb	IAmb		14 26 00.7		
	comp=Z,316nm,1.2s									
CAST						IAMs_20	IAMs_20	14 59 09.8		
	comp=Z,70µm,21.0s									
CAST	**Castle Rocks**	**84.79**	**24**		P	**P**		**14 25 39.5**	**-1.6**	
	baz=245,SNR=68									
RC01	**Rabbit Creek A**	**84.85**	**27**		IAmb	IAmb		14 26 00.9		
	comp=Z,284nm,0.9s									
RC01						IAMs_20	IAMs_20	14 59 38.6		
	comp=Z,42µm,21.0s									
RC01	**Rabbit Creek A**	**84.85**	**27**		P	**P**		**14 25 39.7**	**-1.7**	
	baz=247,SNR=59									
C19K	**Lookout Ridge**	**84.86**	**18**		IAmb	IAmb		14 25 57.5		
	comp=Z,218nm,0.9s									
C19K	**Lookout Ridge**	**84.86**	**18**		P	**P**		**14 25 40.9**	**-0.5**	
	baz=238									
CHUM	**Lake Minchumin**	**84.89**	**24**		P	**P**		**14 25 40.8**	**-0.7**	
	baz=245,SNR=109									
M22K	**Willow**	**84.94**	**26**		IAMs_20	IAMs_20		14 59 02.9		
	comp=Z,58µm,21.0s									
M22K	**Willow**	**84.94**	**26**		P	**P**		**14 25 39.5**	**-2.3**	
	baz=247,SNR=69									
D19K	**Kuna River**	**85.00**	**19**		IAMs_20	IAMs_20		14 58 15.0		
	comp=Z,66µm,22.0s									
D19K	**Kuna River**	**85.00**	**19**		P	**P**		**14 25 41.4**	**-0.6**	
	baz=239									
NGCH	**Negor - Chabah**	**85.04**	**296**		P	**P**		**14 25 44.8**	**+1.6**	
	SNR=16									
NGCH						S	**SKSac**	**14 36 05.5**	**-2.0**	
F20K	**Avaraart Lake**	**85.06**	**20**		IAMs_20	IAMs_20		14 57 40.5		
	comp=Z,65µm,22.0s									
F20K	**Avaraart Lake**	**85.06**	**20**		P	**P**		**14 25 41.8**	**-0.6**	
	baz=241									
CUT	**Chulitna**	**85.13**	**25**		IAMs_20	IAMs_20		15 00 32.1		
	comp=Z,61µm,20.0s									
CUT	**Chulitna**	**85.13**	**25**		P	**P**		**14 25 40.6**	**-2.2**	
	baz=247,SNR=27									
IMAR	**Indian Mountai**	**85.27**	**22**		P	**P**		**14 25 42.0**	**-1.5**	
PMR	**Palmer**	**85.31**	**26**		IAmb	IAmb		14 26 00.8		
	comp=Z,187nm,0.8s									
PMR						IAMs_20	IAMs_20	14 58 29.8		
	comp=Z,65µm,22.0s									
PMR	**Palmer**	**85.31**	**26**		P	**P**		**14 25 41.4**	**-2.3**	
PMR	**Palmer**	**85.31**	**26**		P	**P**		**14 25 41.8**	**-1.9**	
	baz=248,SNR=41									
KTH	**Kantishna Hill**	**85.32**	**24**		IAmb	IAmb		14 26 02.9		
	comp=Z,286nm,1.2s									
KTH						IAMs_20	IAMs_20	14 59 25.8		
	comp=Z,66µm,21.0s									
H21K	**Melozitna Rive**	**85.47**	**22**		IAmb	IAmb		14 26 08.8		
	comp=Z,367nm,1.8s									
H21K						IAMs_20	IAMs_20	15 01 03.7		
	comp=Z,54µm,20.0s									
H21K	**Melozitna Rive**	**85.47**	**22**		P	**P**		**14 25 44.1**	**-0.4**	
	baz=244									
GHO	**Glory Hole Cre**	**85.47**	**26**		IAmb	IAmb		14 26 04.2		
	comp=Z,202nm,0.8s									
GHO						IAMs_20	IAMs_20	14 58 36.0		
	comp=Z,73µm,22.0s									
E20K	**Nigu River**	**85.49**	**19**		P	**P**		**14 25 44.0**	**-0.6**	
	baz=241									
BPAW	**Bear Paw Mtn.**

baz=245
I23K Minto, Yukon-K 86.58 23 IAmb IAmb 14 26 15.8
comp=Z,348nm,1.4s
I23K IAMs_20 IAMs_20 15 00 14.0
comp=Z,67µm,21.0s
I23K Minto, Yukon-K 86.58 23 P **P** **14 25 48.5 -1.4**
baz=247,SNR=30
WBK Wadi Bani Khal 86.59 293 P **P** **14 25 52.8 +1.9**
SNR=74
WBK P **P** **14 25 52.8 +1.9**
SNR=74
WBK S **SKSac** **14 36 17.8 +0.3**
WBK S **SKSac** **14 36 17.8 +0.3**
DHY Denali Highway 86.62 25 IAMs_20 IAMs_20 14 58 40.9
comp=Z,52µm,22.0s
DHY Denali Highway 86.62 25 P **P** **14 25 49.2 -1.2**
baz=249
B21K Ikpikpuk River 86.65 18 IAMs_20 IAMs_20 14 59 31.2
comp=Z,43µm,22.0s
B21K Ikpikpuk River 86.65 18 P **P** **14 25 49.5 -0.6**
baz=242
KLU Klutina 86.71 27 IAmb IAmb 14 26 16.9
comp=Z,219nm,0.9s
KLU IAMs_20 IAMs_20 14 58 40.9
comp=Z,63µm,22.0s
KLU Klutina 86.71 27 P **P** **14 25 50.0 -0.8**
baz=251,SNR=9.2
M24K Tolsona, Glenn 86.81 26 IAMs_20 IAMs_20 14 59 10.3
comp=Z,63µm,21.0s
M24K Tolsona, Glenn 86.81 26 P **P** **14 25 50.3 -0.9**
baz=250,SNR=33
WRH Wood River Hil 86.83 24 IAmb IAmb 14 26 10.2
comp=Z,204nm,0.9s
WRH IAMs_20 IAMs_20 15 00 52.6
comp=Z,67µm,21.0s
A21K Barrow 86.88 16 P **P** **14 25 50.4 -0.8**
baz=240
E22K Anaktuvuk Pass 86.89 20 IAmb IAmb 14 26 08.3
comp=Z,168nm,0.9s
E22K IAMs_20 IAMs_20 14 59 23.2
comp=Z,57µm,22.0s
E22K Anaktuvuk Pass 86.89 20 P **P** **14 25 51.2 -0.3**
baz=245
KAIM Kayak Island 86.91 29 IAmb IAmb 14 26 12.2
comp=Z,293nm,1.0s
KAIM IAMs_20 IAMs_20 14 59 24.3
comp=Z,57µm,22.0s
KAIM Kayak Island 86.91 29 P **P** **14 25 51.0 -0.6**
baz=252,SNR=6.4
D22K Ayikyak River 86.92 19 IAMs_20 IAMs_20 14 59 49.0
comp=Z,66µm,22.0s
D22K Ayikyak River 86.92 19 P **P** **14 25 51.1 -0.5**
baz=244
RAGM Ragged Mountai 86.94 28 IAMs_20 IAMs_20 15 03 39.8
comp=Z,48µm,19.0s
G23K Bananza Creek 86.94 22 IAmb IAmb 14 26 10.0
comp=Z,116nm,0.8s
G23K IAMs_20 IAMs_20 14 59 02.5
comp=Z,75µm,22.0s
G23K Bananza Creek 86.94 22 P **P** **14 25 51.1 -0.6**
baz=247,SNR=54
MDM Murphy Dome 86.95 23 IAmb IAmb 14 26 08.4
comp=Z,595nm,1.9s
MDM IAMs_20 IAMs_20 15 00 34.9
comp=Z,49µm,21.0s
WSAR Wadi Sarin 86.98 294 P **P** **14 25 52.6 -0.2**
comp=Z,217nm,1.5s,baz=89,slow=4.0,SNR=23
WSAR LR LR 15 06 58.7
comp=Z,6µm,22.0s,baz=126,slow=37
comp=Z,217nm,1.5s
CCB Clear Creek Bu 87.00 24 IAMs_20 IAMs_20 15 00 46.4
comp=Z,58µm,21.0s
COLA College 87.07 24 P **P** **14 25 49.2 -3.1**
COLA IAmb IAmb 14 26 08.9
comp=Z,236nm,0.8s
COLA College 87.07 24 IAMs_20 IAMs_20 15 00 49.9
comp=Z,53µm,21.0s
COLA College 87.07 24 P **P** **14 25 49.9 -2.4**
COLA College 87.07 24 *c i* P **P** **14 25 49.6 -2.7**
COLA pmax pmax
comp=Z,261nm,0.9s
COLA College 87.07 24 P **P** **14 25 50.1 -2.2**
baz=249
COLD Coldfoot 87.08 21 P **P** **14 25 51.9 -0.5**
baz=246,SNR=31
HMT Hamilton 87.11 28 IAMs_20 IAMs_20 15 00 04.6
comp=Z,50µm,21.0s
BMRM Bremner River 87.15 28 P **P** **14 25 51.8 -1.1**
baz=252,SNR=28
HDA Harding Lake 87.27 24 IAmb IAmb 14 26 11.7
comp=Z,158nm,0.8s
HDA IAMs_20 IAMs_20 15 00 56.3
comp=Z,52µm,21.0s
HDA Harding Lake 87.27 24 P **P** **14 25 51.0 -2.3**
baz=250,SNR=43
SUCK Suckling Hills 87.27 29 IAMs_20 IAMs_20 14 59 24.6
comp=Z,52µm,22.0s
MHTO MHTO 87.29 291 P **P** **14 25 55.4 +1.1**
SNR=69
MHTO P **P** **14 25 55.4 +1.1**
SNR=69
MHTO S **SKSac** **14 36 21.2 -0.5**
MHTO S **SKSac** **14 36 21.2 -0.5**
POKR Poker Plat Res 87.32 23 IAMs_20 IAMs_20 15 00 56.7
comp=Z,50µm,20.0s
POKR Poker Plat Res 87.32 23 P **P** **14 25 50.8 -2.7**
baz=249
B22K Teshekpuk Lake 87.34 18 P **P** **14 25 52.6 -0.9**
baz=243
JMDO Jabal Madar 87.35 293 P **P** **14 25 57.5 +2.8**
SNR=22
JMDO P **P** **14 25 57.5 +2.8**
SNR=22
JMDO S **SKSac** **14 36 23.5 +1.3**
JMDO S **SKSac** **14 36 23.5 +1.3**
N25K Chitina, Valde 87.35 27 P **P** **14 25 52.7 -1.2**
baz=252,SNR=35
HARP HAARP 87.35 26 P **P** **14 25 52.7 -1.1**
baz=251,SNR=9.9
BERG Berg Lake 87.40 28 IAMs_20 IAMs_20 15 00 03.1
comp=Z,53µm,21.0s
PAX Paxson 87.40 26 P **P** **14 25 52.5 -1.6**
baz=251,SNR=47
H24K Noodor Dome 87.41 23 IAmb IAmb 14 26 14.2
comp=Z,168nm,1.1s
H24K Noodor Dome 87.41 23 P **P** **14 25 52.7 -1.3**
baz=249
IL31 87.42 24 IAmb IAmb 14 26 10.2
comp=Z,185nm,0.8s
ILAR Eielson Array 87.42 24 P **P** **14 25 51.2 -2.8**
ILAR Eielson Array 87.42 24 P **P** **14 25 51.2 -2.8**
ILAR Eielson Arrary 87.42 24 P **P** **14 25 51.1 -2.9**
comp=Z,28nm,0.7s,baz=256,slow=3.8,SNR=192
ILAR PKKPbc **PKKPbc** **14 43 46.7 -0.1**
comp=Z,0.7nm,0.8s,baz=44,slow=1.3,SNR=6.9
ILAR LR LR 15 01 00.3
comp=Z,48µm,21.6s,baz=236,slow=33
BIDO Bidbid 87.48 294 P **P** **14 25 56.7 +1.4**
SNR=56
BIDO P **P** **14 25 56.7 +1.4**
SNR=56
BIDO S **SKSac** **14 36 20.9 -2.0**
BIDO S **SKSac** **14 36 20.9 -2.0**
SMDO Samad 87.49 293 P **P** **14 25 58.0 +2.6**
SNR=18
SMDO P **P** **14 25 58.0 +2.6**
SNR=18
SMDO S **SKSac** **14 36 20.5 -2.7**
SMDO S **SKSac** **14 36 20.5 -2.7**
BGLC Bering Glacier 87.52 29 P **P** **14 25 53.8 -0.7**
baz=253
K24K Donnelly Dome 87.54 25 P **P** **14 25 53.3 -1.4**
baz=251,SNR=22
DQM DQM 87.55 290 P **P** **14 25 56.8 +1.2**
SNR=20
DQM P **P** **14 25 56.8 +1.2**
SNR=20
DQM S **SKSac** **14 36 24.4 +1.1**
DQM S **SKSac** **14 36 24.4 +1.1**
E23K Chandalar 87.61 20 P **P** **14 25 55.0 -0.1**
baz=247
D23K Nanushuk River 87.62 19 P **P** **14 25 55.1 +0.2**
baz=246
GLB Gilahina Butte 87.66 27 IAmb IAmb 14 26 13.1
comp=Z,174nm,0.8s
GLB IAMs_20 IAMs_20 14 59 23.9
comp=Z,38µm,22.0s
SNH Sunshine Point 87.75 29 IAMs_20 IAMs_20 15 00 58.3
comp=Z,51µm,21.0s
VRDI Verde Repeater 87.76 28 IAMs_20 IAMs_20 14 59 25.6
comp=Z,40µm,22.0s
CRQM Cirque 87.77 28 IAMs_20 IAMs_20 15 04 17.4
comp=Z,37µm,20.0s
CRQE Cirque 87.79 28 P **P** **14 25 55.2 -0.9**
baz=253,SNR=30
WAX Waxell Ridge 87.82 29 IAMs_20 IAMs_20 15 00 15.1
comp=Z,44µm,22.0s
G24K Hadweenzic Riv 87.87 22 IAMs_20 IAMs_20 15 00 16.2
comp=Z,51µm,22.0s
G24K Hadweenzic Riv 87.87 22 P **P** **14 25 55.5 -0.7**
baz=249,SNR=74
J25K Salcha River, 87.98 24 IAMs_20 IAMs_20 15 01 40.1
comp=Z,64µm,21.0s
J25K Salcha River, 87.98 24 P **P** **14 25 54.8 -2.0**
baz=251
C23K Itkillik River 88.00 19 IAMs_20 IAMs_20 15 00 24.3
comp=Z,58µm,22.0s
C23K Itkillik River 88.00 19 P **P** **14 25 56.1 -0.5**
baz=246,SNR=202
MCARA McCarthy VSAT 88.00 28 IAMs_20 IAMs_20 14 59 33.1
comp=Z,42µm,22.0s
MCARA McCarthy VSAT 88.00 28 P **P** **14 25 56.1 -0.8**
baz=253,SNR=11
F24K Squaw Lake 88.02 21 P **P** **14 25 56.7 -0.2**
baz=249
JASK Jask - Hormozg 88.03 296 P **P** **14 26 00.5 +2.6**
SNR=13
JASK S **SKSac** **14 36 27.8 +1.7**
ISLE Juniper Island 88.10 28 IAMs_20 IAMs_20 15 00 57.7
comp=Z,39µm,22.0s
MENT Mentasta 88.15 26 IAmb IAmb 14 26 15.4
comp=Z,161nm,0.8s
MENT IAMs_20 IAMs_20 15 02 06.8
comp=Z,53µm,20.0s
MESA MESA 88.17 29 IAMs_20 IAMs_20 15 00 49.6
comp=Z,57µm,21.0s
MESA MESA 88.17 29 P **P** **14 25 56.9 -1.1**
baz=254,SNR=10
PRP Porcupine Dome 88.21 23 IAMs_20 IAMs_20 15 01 24.3
comp=Z,55µm,21.0s
PRP Porcupine Dome 88.21 23 P **P** **14 25 55.3 -2.7**
baz=251,SNR=9.2
BSY Bisya 88.22 293 P **P** **14 25 59.4 +0.5**
SNR=18
BSY P **P** **14 25 59.4 +0.5**
SNR=18
BSY S **SKSac** **14 36 29.3 +1.9**
BSY S **SKSac** **14 36 29.3 +1.9**
HOQ Hoqain 88.23 294 P **P** **14 25 59.7 +0.8**
SNR=23
HOQ S **SKSac** **14 36 27.7 +0.3**
D24K Happy Valley 88.31 19 IAMs_20 IAMs_20 15 00 22.5
comp=Z,53µm,22.0s
D24K Happy Valley 88.31 19 P **P** **14 25 58.2 0.0**
baz=248
M26K Nabesna, AK 88.31 27 IAmb IAmb 14 26 22.9
comp=Z,226nm,1.4s
M26K Nabesna, AK 88.31 27 P **P** **14 25 57.3 -1.1**
baz=253
L26K Log Cabin Wild 88.34 26 IAmb IAmb 14 26 16.4
comp=Z,125nm,0.8s
L26K IAMs_20 IAMs_20 15 02 11.8
comp=Z,56µm,20.0s
L26K Log Cabin Wild 88.34 26 P **P** **14 25 57.5 -1.0**
baz=253,SNR=27
SCRK Sand Creek 88.35 25 IAmb IAmb 14 26 16.2
comp=Z,128nm,1.0s
SCRK Sand Creek 88.35 25 P **P** **14 25 57.7 -0.9**
baz=252,SNR=40
G25K Bearman Lake 88.41 22 P **P** **14 25 58.5 -0.2**
baz=250
GRNC Granite Creek 88.42 28 IAmb IAmb 14 26 19.5
comp=Z,254nm,1.0s
C24K Franklin Bluff 88.56 19 P **P** **14 25 58.8 -0.5**
baz=248
TABL Table Mountain 88.63 29 IAMs_20 IAMs_20 15 01 13.6
comp=Z,62µm,22.0s
FYU Fort Yukon 88.67 22 IAMs_20 IAMs_20 15 03 12.2
comp=Z,60µm,20.0s
CTG Chitna Glacier 88.67 28 P **P** **14 25 59.7 -0.5**
baz=255,SNR=44
J26L Joseph Creek 88.69 25 IAMs_20 IAMs_20 15 02 02.8
comp=Z,58µm,20.0s
J26L Joseph Creek 88.69 25 P **P** **14 25 59.5 -0.7**
baz=253
LOGN Logan Glacier 88.80 28 IAmb IAmb 14 26 33.1
comp=Z,171nm,0.9s
M27K Edge Creek, AK 88.80 27 IAmb IAmb 14 26 19.1
comp=Z,219nm,0.8s
M27K IAMs_20 IAMs_20 15 00 23.0
comp=Z,74nm,22.0s
M27K Edge Creek, AK 88.80 27 P **P** **14 26 00.3 -0.6**
baz=254
F25K Christian Rive 88.85 21 P **P** **14 26 00.8 -0.1**
baz=251
ARQ Araqi 88.92 293 P **P** **14 26 03.4 +1.3**
SNR=20
ARQ P **P** **14 26 03.4 +1.3**
SNR=20
ARQ S **SKSac** **14 36 31.7 +0.1**
ARQ S **SKSac** **14 36 31.7 +0.1**
PINM Pinnacle 88.97 29 P **P** **14 26 01.0 -0.6**
baz=256,SNR=13
SOHO SOHO 89.01 294 *i* P **P** **14 26 02.2 -0.2**
SNR=16
SOHO SOHO 89.01 294 P **P** **14 26 03.8 +1.3**
SOHO S **SKSac** **14 36 31.3 -0.7**
L27K Beaver Creek, 89.01 26 IAmb IAmb 14 26 22.2
comp=Z,237nm,1.2s
L27K IAMs_20 IAMs_20 15 02 42.6
comp=Z,58µm,20.0s
L27K Beaver Creek, 89.01 26 P **P** **14 26 00.9 -0.8**
baz=254
BCAR Beaver Creek A 89.03 26 P **P** **14 26 00.8 -1.1**
E25K Arctic Village 89.05 21 IAmb IAmb 14 26 20.6
comp=Z,231nm,1.1s
E25K IAMs_20 IAMs_20 15 02 08.4
comp=Z,56µm,20.0s
E25K Arctic Village 89.05 21 P **P** **14 26 01.4 -0.4**
baz=251
I26K Coal Creek Min 89.09 24 IAMs_20 IAMs_20 15 01 30.1
comp=Z,48µm,21.0s
I26K Coal Creek Min 89.09 24 P **P** **14 26 00.6 -1.3**
baz=253
SHAO Shalim 89.11 288 *i* P **P** **14 26 04.2 +1.1**
SNR=14
SHAO Shalim 89.11 288 P **P** **14 26 04.9 +1.8**
SNR=8.2
SHAO P **P** **14 26 04.9 +1.8**
SNR=8.2
SHAO S **SKSac** **14 36 33.5 +0.7**
SHAO S **SKSac** **14 36 33.5 +0.7**
K27K Chicken 89.17 25 P **P** **14 26 02.1 -0.2**
baz=254
D25K Kavik River 89.18 20 IAmb IAmb 14 26 31.4
comp=Z,139nm,1.0s
D25K IAMs_20 IAMs_20 15 01 11.3
comp=Z,40µm,22.0s
D25K Kavik River 89.18 20 P **P** **14 26 01.4 -1.0**
baz=250
BMAR Burnt Mountain 89.19 22 P **P** **14 26 02.1 -0.3**
BCPM Bancas Point 89.24 29 IAMs_20 IAMs_20 15 00 36.8
comp=Z,43µm,22.0s
BVCY Beaver Creek 89.27 27 P **P** **14 26 02.5 -0.4**
baz=255,SNR=19
PNL Peninsula 89.29 30 P **P** **14 26 03.0 0.0**
PNL Peninsula 89.29 30 P **P** **14 26 02.4 -0.6**
baz=256,SNR=11
YUK3 Moose Creek 89.29 28 P **P** **14 26 02.5 -0.8**
baz=256,SNR=54
G26K Porcupine Rive 89.33 22 P **P** **14 26 02.9 -0.1**
baz=252,SNR=166
MDH Madha 89.36 295 *i* P **P** **14 26 05.1 +0.9**
SNR=6.7
MDH Madha 89.36 295 P **P** **14 26 05.5 +1.4**
MDH P **P** **14 26 05.5 +1.4**
MDH S **SKSac** **14 36 34.0 -0.1**
MDH S **SKSac** **14 36 34.0 -0.1**
UOSS Minazif 89.41 295 P **P** **14 26 02.4 -2.0**
UOSS Minazif 89.41 295 *i* P **P** **14 26 03.5 -0.8**
SNR=8.0
UOSS Minazif 89.41 295 P **P** **14 26 05.4 +1.1**
UOSS P **P** **14 26 05.4 +1.1**
UOSS S **SKSac** **14 36 35.9 +1.5**
UOSS S **SKSac** **14 36 35.9 +1.5**
F26K Sheenjek River 89.43 21 P **P** **14 26 03.7 +0.1**
baz=252
HATD Hatta, Dubai 89.46 295 *i* P **P** **14 26 03.9 -0.7**
SNR=5.4
HATD Hatta, Dubai 89.46 295 P **P** **14 26 05.8 +1.2**
SNR=8.0
HATD P **P** **14 26 05.8 +1.2**
SNR=8.0
HATD S **SKSac** **14 36 35.3 +0.6**
HATD S **SKSac** **14 36 35.3 +0.6**
YUK8 Steele Glacier 89.50 28 P **P** **14 26 03.7 -0.5**
baz=256,SNR=21
ASHO Ashiyiah 89.51 295 *i* P **P** **14 26 04.7 -0.1**
SNR=9.7
ASHO Ashiyiah 89.51 295 P **P** **14 26 06.1 +1.2**
SNR=12
ASHO P **P** **14 26 06.1 +1.2**
SNR=12
ASHO S **SKSac** **14 36 36.8 +1.7**
ASHO S **SKSac** **14 36 36.8 +1.7**
GEYT Alibeck 89.51 308 P **P** **14 26 03.0 -1.6**
GEYT IAmb IAmb 14 26 28.1
comp=Z,168nm,1.3s
GEYT Alibeck 89.51 308 P **P** **14 26 03.8 -0.8**
GEYT Alibeck 89.51 308 P **P** **14 26 03.8 -0.8**
comp=Z,34nm,1.2s,baz=82,slow=5.1,SNR=27
GEYT LR LR 15 08 56.7
comp=Z,13µm,21.9s,baz=110,slow=38
comp=Z,34nm,1.2s
SHME Shamm 89.60 296 *i* P **P** **14 26 06.0 +0.7**
SNR=8.3
SHME Shamm 89.60 296 P **P** **14 26 07.6 +2.4**
SHME S **SKSac** **14 36 35.7 +0.3**
ALNE Al Ain 89.71 294 *i* P **P** **14 26 05.5 -0.3**
SNR=18
ALNE Al Ain 89.71 294 P **P** **14 26 07.4 +1.6**
SNR=35
ALNE P **P** **14 26 07.4 +1.6**
SNR=35
ALNE S **SKSac** **14 36 38.1 +1.9**
ALNE S **SKSac** **14 36 38.1 +1.9**
DMTO DMTO 89.71 288 P **P** **14 26 07.0 +1.1**
SNR=12
DMTO S **SKSac** **14 36 35.4 -0.9**
EGAK Eagle 89.76 25 IAmb IAmb 14 26 30.1
comp=Z,187nm,1.0s
EGAK Eagle 89.76 25 P **P** **14 26 04.0 -1.1**
baz=255,SNR=65
I27K Kandik River 89.79 24 P **P** **14 26 04.8 -0.5**
baz=254
O29M Mount Kennedy 89.83 29 IAMs_20 IAMs_20 15 01 30.1
comp=Z,57µm,22.0s
O29M Mount Kennedy 89.83 29 P **P** **14 26 05.2 -0.5**
baz=257
C26K Camden Bay 89.86 19 P **P** **14 26 05.5 0.0**
baz=251
NAZ Nazwa, Dubai 89.90 295 *i* P **P** **14 26 06.5 -0.2**
SNR=7.3
NAZ Nazwa, Dubai 89.90 295 P **P** **14 26 08.0 +1.3**
SNR=16
NAZ P **P** **14 26 08.0 +1.3**
SNR=16
NAZ S **SKSac** **14 36 35.7 -1.5**
NAZ S **SKSac** **14 36 35.7 -1.5**
FAQ Al Faqa, Dubai 89.93 295 *i* P **P** **14 26 05.5 -1.3**
SNR=14
FAQ Al Faqa, Dubai 89.93 295 P **P** **14 26 08.0 +1.1**
SNR=17
FAQ P **P** **14 26 08.0 +1.1**
SNR=17
FAQ S **SKSac** **14 36 39.6 +2.2**
FAQ S **SKSac** **14 36 39.6 +2.2**
AB31 Akbulak array 89.95 319 *i* P **P** **14 26 04.3 -2.0**
ABKAR Akbulak array 89.95 319 P **P** **14 26 04.0 -2.3**
UMQ Umm Al-Quwin 89.96 296 P **P** **14 26 08.7 +1.8**
UMQ P **P** **14 26 08.7 +1.8**
H27K Steamboat Moun 89.99 23 P **P** **14 26 06.0 -0.3**
baz=255
YUK4 Talbot Arm 90.03 28 P **P** **14 26 06.6 -0.2**
baz=257,SNR=29
YUK6 Outpost Mounta 90.08 29 P **P** **14 26 06.2 -0.8**
baz=257,SNR=7.3
UMZA Um Al Zommool 90.09 293 P **P** **14 26 09.2 +1.6**
UMZA P **P** **14 26 09.2 +1.6**
UMZA S **SKSac** **14 36 39.5 +1.2**
UMZA S **SKSac** **14 36 39.5 +1.2**
P29M Windy Craggy 90.10 30 P **P** **14 26 06.3 -0.5**
baz=258
ASUD Al Ashush, Dub 90.16 295 *i* P **P** **14 26 08.0 +0.2**
SNR=11
ASUD Al Ashush, Dub 90.16 295 P **P** **14 26 09.2 +1.3**
SNR=17
ASUD S **SKSac** **14 36 40.2 +1.5**
DAWY Dawson 90.32 25 IAmb IAmb 14 26 28.4
comp=Z,277nm,1.1s
DAWY Dawson 90.32 25 P **P** **14 26 06.9 -0.9**
baz=256,SNR=74
M29M Somme Creek 90.36 27 IAmb IAmb 14 26 26.3
comp=Z,122nm,0.8s
M29M IAMs_20 IAMs_20 15 00 58.4
comp=Z,64µm,22.0s
M29M Somme Creek 90.36 27 P **P** **14 26 07.3 -0.8**
baz=257
RBK Rabkut 90.39 287 P **P** **14 26 10.3 +1.2**
SNR=28
RBK S **SKSac** **14 36 41.5 +1.0**
I28M Miner Creek 90.43 24 IAMs_20 IAMs_20 15 05 58.9
comp=Z,37µm,20.0s
I28M Miner Creek 90.43 24 P **P** **14 26 07.7 -0.6**
baz=256
AJN Ajban 90.46 295 *i* P **P** **14 26 09.8 +0.5**
SNR=13
AJN Ajban 90.46 295 P **P** **14 26 10.3 +1.1**
SNR=13
AJN P **P** **14 26 10.3 +1.1**
SNR=13
AJN S **SKSac** **14 36 42.0 +1.5**
AJN S **SKSac** **14 36 42.0 +1.5**
HYT Haines Junctio 90.46 29 IAmb IAmb 14 26 28.4
comp=Z,144nm,0.9s
HYT Haines Junctio 90.46 29 P **P** **14 26 07.9 -0.7**
baz=258,SNR=22
S31K Pelican 90.54 32 P **P** **14 26 08.2 -0.6**
baz=259
P30M Million Dollar 90.58 30 P **P** **14 26 08.6 -0.6**
baz=259,SNR=13
DOK Doka 90.59 289 P **P** **14 26 11.2 +1.2**
SNR=28
DOK P **P** **14 26 11.2 +1.2**
SNR=28
DOK S **SKSac** **14 36 44.0 +2.6**
DOK S **SKSac** **14 36 44.0 +2.6**
L29M L29M 90.66 27 IAmb IAmb 14 26 27.9
comp=Z,174nm,0.8s
L29M IAMs_20 IAMs_20 15 03 33.1
comp=Z,39µm,20.0s
L29M L29M 90.66 27 P **P** **14 26 08.8 -0.6**
baz=258
PLBC Pleasant Camp 90.75 30 P **P** **14 26 08.8 -1.1**
baz=259
N30M Aishikik Lake 90.79 28 IAMs_20 IAMs_20 15 02 16.7
comp=Z,33µm,21.0s
N30M Aishikik Lake 90.79 28 P **P** **14 26 09.2 -0.9**
baz=258
SVE Sverdlovsk 90.83 327 *de* P **P** **14 26 08.6 -1.6**
SVE *e* S **SKSac** **14 36 41.7 +0.5**
SVE pmax pmax
comp=Z,255nm,1.6s
SVE MLR MLR
comp=Z,22µm,19.0s
SVE MLR MLR
comp=E,16µm,18.0s
WHFO Wadi Hawf 90.85 288 P **P** **14 26 12.2 +1.0**
SNR=19
WHFO S **SKSac** **14 36 43.2 +0.1**
SIT Sitka 90.85 33 IAmb IAmb 14 26 31.1
comp=Z,264nm,1.7s
SIT IAMs_20 IAMs_20 15 00 04.7
comp=Z,54µm,21.0s
SIT Sitka 90.85 33 P **P** **14 26 10.5 +0.2**
SIT Sitka 90.85 33 P **P** **14 26 09.7 -0.6**
baz=260
R31K City Hall, Gus 90.88 31 P **P** **14 26 09.8 -0.6**
baz=260
J29N Klondike Camp 90.91 25 IAmb IAmb 14 26 31.5
comp=Z,145nm,1.1s
J29N IAMs_20 IAMs_20 15 03 12.7

comp=Z,92µm,21.0s
J29N Klondike Camp 90.91 25 P **P** 14 26 10.3 -0.2
baz=258,SNR=24
F28M Old Crow 90.98 22 P **P** 14 26 09.9 -0.8
baz=256
K29M Barlow Dome 91.08 26 IAmb IAmb 14 26 32.0
K29M comp=Z,198nm,1.1s IAMs_20 IAMs_20 15 01 30.2
K29M Barlow Dome 91.08 26 P **P** 14 26 11.0 -0.5
comp=Z,66µm,22.0s
baz=258
O30N Mendenhall 91.13 29 IAmb IAmb 14 26 29.7
O30N comp=Z,394nm,1.9s IAMs_20 IAMs_20 15 01 59.8
O30N Mendenhall 91.13 29 P **P** 14 26 10.8 -0.8
comp=Z,58µm,22.0s
baz=259,SNR=16
M30M Minto, Yukon 91.15 27 IAMs_20 IAMs_20 15 03 21.1
comp=Z,49µm,20.0s
M30M Minto, Yukon 91.15 27 P **P** 14 26 11.3 -0.4
baz=259,SNR=13
H29M Whitestone 91.23 23 IAMs_20 IAMs_20 15 07 27.1
comp=Z,37µm,20.0s
H29M Whitestone 91.23 23 P **P** 14 26 11.3 -0.6
baz=257
ABTO Aybut 91.24 287 P **P** 14 26 14.4 +1.3
SNR=23
ABTO S **SKSac** 14 36 46.6 +1.3
SKAG Skagway 91.27 30 IAmb IAmb 14 26 35.2
comp=Z,141nm,1.1s
SKAG IAMs_20 IAMs_20 15 01 55.6
comp=Z,46µm,21.0s
SKAG Skagway 91.27 30 P **P** 14 26 11.7 -0.6
SKAG Skagway 91.27 30 P **P** 14 26 11.6 -0.6
baz=260,SNR=21
S32K Killisnoo 91.32 32 IAmb IAmb 14 26 33.0
S32K comp=Z,214nm,1.4s IAMs_20 IAMs_20 15 00 19.1
comp=Z,50µm,21.0s
S32K Killisnoo 91.32 32 P **P** 14 26 11.5 -1.0
baz=261
AKTO Aktyubinsk 91.36 320 P **P** 14 26 11.2 -1.7
MZWR Madinat Zayed 91.38 294 P **P** 14 26 14.9 +1.3
MZWR P **P** 14 26 14.9 +1.3
MZWR S **SKSac** 14 36 47.9 +2.2
MZWR S **SKSac** 14 36 47.9 +2.2
R32K Eaglecrest 91.49 32 P **P** 14 26 12.4 -0.9
baz=261,SNR=6.2
JIS Juneau Island 91.56 32 IAmb IAmb 14 26 36.4
comp=Z,208nm,1.6s
JIS Juneau Island 91.56 32 P **P** 14 26 13.9 +0.3
WHY Whitehorse 91.70 29 IAmb IAmb 14 26 45.5
comp=Z,279nm,2.0s
WHY IAMs_20 IAMs_20 15 03 46.8
comp=Z,46µm,21.0s
WHY Whitehorse 91.70 29 P **P** 14 26 13.5 -0.9
baz=260,SNR=11
J30M Hart River 91.73 25 P **P** 14 26 13.7 -0.7
baz=259
MAYO Mayo, Yukon 91.74 26 IAmb IAmb 14 26 46.9
comp=Z,164nm,1.0s
MAYO IAMs_20 IAMs_20 15 01 52.8
comp=Z,65µm,22.0s
MAYO Mayo, Yukon 91.74 26 P **P** 14 26 13.9 -0.5
baz=260,SNR=15
D28M Stokes Point 91.78 20 P **P** 14 26 13.6 -0.8
baz=257
CRAG Craig 91.81 35 IAmb IAmb 14 26 35.5
comp=Z,129nm,1.3s
CRAG IAMs_20 IAMs_20 15 03 52.2
comp=Z,48µm,19.0s
CRAG Craig 91.81 35 P **P** 14 26 15.5 +0.7
CRAG Craig 91.81 35 P **P** 14 26 14.0 -0.8
baz=262
I30M Mount Dempster 91.84 25 IAMs_20 IAMs_20 15 02 56.2
comp=Z,49µm,22.0s
I30M Mount Dempster 91.84 25 P **P** 14 26 14.0 -0.9
baz=259
DIB Dawson Inlet, 91.87 37 IAmb IAmb 14 26 37.5
comp=Z,98nm,1.1s
DIB IAMs_20 IAMs_20 15 00 09.9
comp=Z,50µm,21.0s
E29M Blow River 91.88 21 IAMs_20 IAMs_20 15 02 30.0
comp=Z,58µm,22.0s
E29M Blow River 91.88 21 P **P** 14 26 15.0 +0.1
baz=258
ARU Arti 91.90 326 P **P** 14 26 12.4 -2.8
ARU Arti 91.90 326 *c i*P **P** 14 26 12.6 -2.6
ARU 14 29 51.7
ARU S **SKSac** 14 36 45.5 -1.8
ARU SP **SPn** 14 38 27.2 +1.3
ARU SS **SS** 14 43 23.4 -0.8
ARU SSS SSS 14 47 06.5
ARU pmax pmax
comp=Z,140nm,1.5s
ARU MLR MLR
comp=Z,20µm,20.0s
ARU Arti 91.90 326 LR LR 15 09 58.5
comp=Z,14µm,18.9s,baz=92,slow=37
U33K Whale Pass 91.91 34 IAMs_20 IAMs_20 15 01 12.6
comp=Z,63µm,20.0s
U33K Whale Pass 91.91 34 P **P** 14 26 14.0 -1.3
baz=262
EPYK Eagle Plains 91.92 23 IAmb IAmb 14 26 33.0
comp=Z,168nm,1.0s
EPYK IAMs_20 IAMs_20 15 07 07.2
comp=Z,37µm,20.0s
EPYK Eagle Plains 91.92 23 P **P** 14 26 13.8 -1.3
baz=259,SNR=43
T33K Petersburg 92.10 33 P **P** 14 26 14.7 -1.4
baz=262
P32M Atlin 92.11 30 IAMs_20 IAMs_20 15 02 51.6
comp=Z,53µm,21.0s
P32M Atlin 92.11 30 P **P** 14 26 15.1 -1.1
baz=261,SNR=8.6
M31M Drury Creek, Y 92.18 28 IAmb IAmb 14 27 02.0
comp=Z,170nm,1.8s
M31M IAMs_20 IAMs_20 15 05 48.5
comp=Z,47µm,20.0s
M31M Drury Creek, Y 92.18 28 P **P** 14 26 14.9 -1.6
baz=261,SNR=9.7
G30M tAoh Zraii Nji 92.23 23 IAmb IAmb 14 26 36.2
comp=Z,192nm,1.4s
G30M IAMs_20 IAMs_20 15 03 52.3
comp=Z,64µm,21.0s
G30M tAoh Zraii Nji 92.23 23 P **P** 14 26 15.1 -1.5
baz=259
GHWR Ruwais 92.31 294 P **P** 14 26 19.2 +1.3
GHWR P **P** 14 26 19.2 +1.3
GHWR S **SKSac** 14 36 53.7 +2.7
GHWR S **SKSac** 14 36 53.7 +2.7
WRAK Wrangell Islan 92.38 34 IAmb IAmb 14 26 42.7
comp=Z,259nm,1.6s
WRAK Wrangell Islan 92.38 34 IAMs_20 IAMs_20 15 02 07.6
comp=Z,57µm,20.0s
WRAK Wrangell Islan 92.38 34 P **P** 14 26 16.0 -1.4
baz=262
JRN Qarnain Island 92.43 295 P **P** 14 26 19.4 +1.0
SNR=8.5
F30M Barrier River 92.51 22 P **P** 14 26 16.1 -1.7
baz=260
P33M Teslin, Yukon 92.64 30 IAMs_20 IAMs_20 15 03 22.8
comp=Z,55µm,21.0s
P33M Teslin, Yukon 92.64 30 P **P** 14 26 17.0 -1.7
baz=262,SNR=17
N32M Quiet Lake 92.64 29 P **P** 14 26 17.5 -1.2
baz=262
V35K Ketchikan 92.65 35 IAmb IAmb 14 26 41.9
comp=Z,93nm,1.1s
V35K IAMs_20 IAMs_20 14 59 32.3
comp=Z,49µm,22.0s
V35K Ketchikan 92.65 35 P **P** 14 26 17.0 -1.7
baz=263,SNR=6.3
FARO Faro, Yukon 92.67 28 IAMs_20 IAMs_20 15 05 13.4
comp=Z,36µm,20.0s
FARO Faro, Yukon 92.67 28 P **P** 14 26 16.6 -2.2
baz=262,SNR=23
Q32M Nakina River 92.75 31 P **P** 14 26 17.0 -2.3
baz=263
H31M Peel River 92.77 24 IAMs_20 IAMs_20 15 03 12.5
comp=Z,40µm,22.0s
H31M Peel River 92.77 24 P **P** 14 26 16.9 -2.2
baz=261
ELIB Princess Elisa 92.82 196 *d*P **P** 14 26 18.6 -0.9
comp=Z,52nm,1.4s
ELIB *d*PP **PP** 14 29 58.8 -2.5
G31M Satah River 92.97 23 P **P** 14 26 18.5 -1.4
baz=261,SNR=18
VOI Vohitsoka 93.12 248 IAMs_20 IAMs_20 15 05 50.3
comp=Z,33µm,20.0s
VOI Vohitsoka 93.12 248 P P 14 26 28.3 +6.4
OPO Ambohidratompo 93.20 251 P **P** 14 26 22.1 -0.2
OPO Ambohidratompo 93.20 251 P **P** 14 26 22.1 -0.2
OPO comp=Z,2.9nm,0.8s,baz=84,slow=6.6,SNR=1.9 LR LR 15 02 46.5
comp=Z,7µm,21.7s,baz=298,slow=32
comp=Z,2.9nm,0.8s
S34M Telegraph Cree 93.22 32 IAMs_20 IAMs_20 15 01 29.2
comp=Z,48µm,21.0s
S34M Telegraph Cree 93.22 32 P **P** 14 26 20.2 -1.1
baz=264,SNR=11
F31M Tsiigehtchic 93.25 23 P **P** 14 26 18.7 -2.6
baz=262,SNR=30
RUBB Prince Rupert 93.32 36 IAmb IAmb 14 26 42.2
comp=Z,94nm,1.2s
RUBB IAMs_20 IAMs_20 15 00 23.0
comp=Z,57µm,22.0s
SLWR Sila 93.40 294 P **P** 14 26 24.0 +1.1
SLWR P **P** 14 26 24.0 +1.1
SLWR S **SKSac** 14 36 58.5 +1.5
SLWR S **SKSac** 14 36 58.5 +1.5
INK Inuvik 93.46 22 IAMs_20 IAMs_20 15 03 07.9
comp=Z,49µm,22.0s
INK Inuvik 93.46 22 P **P** 14 26 20.2 -2.0
baz=262,SNR=18
INK Inuvik 93.46 22 LR LR 15 04 03.4
comp=Z,34µm,21.8s,baz=248,slow=33
R33M Jennings River 93.47 31 IAMs_20 IAMs_20 15 03 28.7
comp=Z,37µm,21.0s
R33M Jennings River 93.47 31 P **P** 14 26 21.0 -1.6
baz=264
T35M Bob Quinn 93.59 33 IAMs_20 IAMs_20 15 01 57.1
comp=Z,64µm,21.0s
T35M Bob Quinn 93.59 33 P **P** 14 26 21.6 -1.5
baz=264,SNR=14
U35K Hyder 93.61 34 IAMs_20 IAMs_20 15 03 03.7
comp=Z,56µm,20.0s
U35K Hyder 93.61 34 P **P** 14 26 21.4 -1.7
baz=264
DLBC Dease Lake 93.86 32 IAMs_20 IAMs_20 15 01 09.0
comp=Z,48µm,22.0s
DLBC Dease Lake 93.86 32 P **P** 14 26 23.4 -0.9
baz=264,SNR=13
DLBC Dease Lake 93.86 32 LR LR 15 01 41.4
comp=Z,40µm,21.4s,baz=278,slow=31
TRNA Turayna 93.89 294 P **P** 14 26 26.0 +0.8
SNR=8.4
SHMA Al-Shehemyia 94.21 295 P **P** 14 26 28.4 +1.8
SNR=5.3
SMRA Abu-Samra 94.25 294 P **P** 14 26 26.2 -0.6
SNR=12
SMRA S **SKSac** 14 37 04.8 +3.2
HOLB Holberg 94.27 40 IAmb IAmb 14 26 46.9
comp=Z,148nm,1.3s
HOLB IAMs_20 IAMs_20 15 00 01.5
comp=Z,46µm,22.0s
BBB Bella Bella 94.40 38 IAmb IAmb 14 26 50.2
comp=Z,184nm,1.6s
BBB IAMs_20 IAMs_20 15 02 39.9
comp=Z,40µm,21.0s
BBB Bella Bella 94.40 38 LR LR 15 03 21.3
comp=Z,32µm,19.9s,baz=264,slow=32
SAKB Bahrain 94.61 296 P **P** 14 26 29.2 +0.8
SAKB S **SKSac** 14 37 04.8 +1.3
WTLY Watson Lake, Y 94.63 30 IAmb IAmb 14 26 48.0
comp=Z,124nm,1.1s
WTLY IAMs_20 IAMs_20 15 04 09.4
comp=Z,59µm,22.0s
WTLY Watson Lake, Y 94.63 30 P **P** 14 26 26.5 -1.3
baz=266,SNR=43
TGTN Hyland Airport 94.99 29 P **P** 14 26 28.0 -1.4
baz=266,SNR=11
OZB Mount Ozzard 95.87 41 IAMs_20 IAMs_20 15 13 32.9
comp=Z,32µm,18.0s
BELA Belgrano 2 95.99 181 P **P** 14 26 32.0 -1.7
CBB Campbell River 96.00 40 P **P** 14 26 33.6 -0.6
CBB IAMs_20 IAMs_20 15 01 05.4
comp=Z,51µm,22.0s
TOAD Toad River Com 96.38 32 P **P** 14 26 33.8 -2.0
baz=269
KEBM Edson Butte 96.40 48 IAMs_20 IAMs_20 15 03 44.4
comp=Z,36µm,20.0s
C03A Quinsyute Air 96.44 43 IAmb IAmb 14 26 59.9
comp=Z,127nm,1.1s
KMPM Mount Pierce 96.44 50 IAmb IAmb 14 27 03.7
comp=Z,197nm,1.5s
KMPM IAMs_20 IAMs_20 15 04 20.9
comp=Z,30µm,20.0s
KBO Bosley Butte 96.45 48 IAMs_20 IAMs_20 15 03 44.8
comp=Z,39µm,20.0s
NVL N'lazarevskaya 96.52 195 *e*P **P** 14 26 35.4 -0.8
NVL *e*S **SKSac** 14 37 11.3 -0.7
NVL *e*PS **PS** 14 39 19.4 +1.5
NVL pmax pmax
comp=Z,59nm,1.6s
NVL smax smax
comp=E,3µm,10.2s
NVL MLR MLR
comp=Z,65µm,17.0s
JCC Jacoby Creek, 96.53 50 IAMs_20 IAMs_20 15 02 15.2
comp=Z,52µm,21.0s
A36M Sachs Harbour 96.54 18 IAMs_20 IAMs_20 15 07 41.0
comp=Z,35µm,21.0s
A36M Sachs Harbour 96.54 18 P **P** 14 26 34.8 -1.3
baz=270
KSXB Camp Six Broad 96.69 49 IAMs_20 IAMs_20 15 07 06.3
comp=Z,49µm,19.0s
J01E Myrtle Point 96.70 47 IAMs_20 IAMs_20 15 02 54.5
comp=Z,47µm,21.0s
KMRM Mail Ridge 96.75 50 IAmb IAmb 14 27 12.6
comp=Z,214nm,1.7s
KMRM IAMs_20 IAMs_20 15 04 07.0
comp=Z,32µm,20.0s
KHMM Horse Mountain 96.76 50 IAmb IAmb 14 27 04.2
comp=Z,78nm,1.3s
KHMM IAMs_20 IAMs_20 15 04 14.2
comp=Z,57µm,20.0s
KCPM Cahto Peak 96.83 51 IAmb IAmb 14 27 01.3
comp=Z,242nm,1.6s
KCPM IAMs_20 IAMs_20 15 02 39.0
comp=Z,35µm,21.0s
K02D Willamette Mer 96.88 48 IAMs_20 IAMs_20 15 03 40.3
comp=Z,52µm,20.0s
NLWA Neilton Lookou 96.89 43 IAmb IAmb 14 27 01.6
comp=Z,130nm,1.4s
HEBO Mount Hebo 96.91 45 IAMs_20 IAMs_20 15 01 49.7
comp=Z,42µm,22.0s
RADR Rader Ridge 96.91 44 IAMs_20 IAMs_20 15 02 54.8
comp=Z,40µm,22.0s
L02F Cave Junction 96.93 48 IAMs_20 IAMs_20 15 04 08.6
comp=Z,57µm,20.0s
C36M Paulatuk 96.95 21 IAMs_20 IAMs_20 15 06 20.1
comp=Z,56µm,22.0s
C36M Paulatuk 96.95 21 P **P** 14 26 35.8 -2.3
baz=271
KIRV Kirov 96.98 328⇑ *e*P **P** 14 26 37.1 -1.3
KIRV Kirov 96.98 328 LR LR 15 12 01.3
comp=Z,34µm,20.2s,baz=88,slow=37
KOTAN Kotaneelee Air 97.00 30 P **P** 14 26 36.5 -2.1
F03A Seaside 97.06 45 IAmb IAmb 14 26 59.6
comp=Z,130nm,1.0s
F03A IAMs_20 IAMs_20 15 03 38.8
comp=Z,33µm,20.0s
E03A Lebam 97.08 44 IAmb IAmb 14 27 14.9
comp=Z,131nm,1.1s
E03A IAMs_20 IAMs_20 15 02 50.2
comp=Z,38µm,22.0s
I03D Drain, OR 97.15 47 IAMs_20 IAMs_20 15 03 00.2
comp=Z,48µm,22.0s
B04A Port Angeles 97.16 42 IAMs_20 IAMs_20 15 08 12.2
comp=Z,38µm,19.0s
HOPS Hopland Field 97.19 52 IAMs_20 IAMs_20 15 03 53.8
comp=Z,53µm,20.0s
DBO Dodson Butte 97.21 47 IAMs_20 IAMs_20 15 03 41.8
comp=Z,55µm,20.0s
G03D McMinnville, O 97.25 45 IAMs_20 IAMs_20 15 01 48.9
comp=Z,49µm,21.0s
WRGLY Wrigley 97.28 27 IAmb IAmb 14 27 23.4
comp=Z,132nm,2.0s
WRGLY IAMs_20 IAMs_20 15 06 32.1
comp=Z,35µm,21.0s
WRGLY Wrigley 97.28 27 P **P** 14 26 38.2 -1.5
baz=271
FLDN Fort Liard 97.29 30 IAMs_20 IAMs_20 15 09 19.8
comp=Z,30µm,20.0s
FLDN Fort Liard 97.29 30 P **P** 14 26 38.6 -1.3
baz=270
HUMO Hull Mountain 97.40 48 IAmb IAmb 14 27 10.2
comp=Z,73nm,1.1s
HUMO IAMs_20 IAMs_20 15 05 05.0
comp=Z,57µm,20.0s
BUCK Buck Mountain 97.42 46 IAmb IAmb 14 27 14.3
comp=Z,183nm,1.5s
F04D Rainier, OR 97.45 44 IAMs_20 IAMs_20 15 03 00.0
comp=Z,38µm,22.0s
YBH Yreka Blue Hor 97.56 49 P Pdif 14 26 41.7 0.0
YBH Yreka Blue Hor 97.56 49 P **P** 14 26 41.7 0.0
comp=Z,4.6nm,1.1s,baz=249,slow=7.1,SNR=6.5
YBH PP **PP** 14 30 40.5 +1.3
comp=Z,2.0nm,0.9s,baz=233,slow=8.1,SNR=2.2
YBH LR LR 15 03 13.4
comp=Z,77µm,21.8s,baz=313,slow=31
comp=Z,4.6nm,1.1s
H04D Lebanon 97.61 46 IAmb IAmb 14 27 14.0
comp=Z,94nm,1.1s
H04D IAMs_20 IAMs_20 15 03 12.4
comp=Z,59µm,21.0s
TROLL Troll, Antarti 97.73 192 ⇑P Pdif 14 26 45.2 +3.3
comp=Z,498nm,0.8s
I04A Tendick Farm, 97.83 47 IAmb IAmb 14 27 02.7
comp=Z,101nm,1.3s
I04A IAMs_20 IAMs_20 15 03 40.2
comp=Z,49µm,21.0s
F04A Amboy 97.86 45 IAmb IAmb 14 27 05.4
comp=Z,203nm,1.7s
F04A IAMs_20 IAMs_20 15 03 01.9
comp=Z,31µm,21.0s
BELG Belogornoye 97.98 322 *de*P **P** 14 26 41.3 -1.8
BELG pmax pmax
comp=Z,52nm,1.3s
BELG MLR MLR
comp=Z,3µm,19.0s
BELG Belogornoye 97.98 322 LR LR 15 14 08.5
comp=Z,21µm,19.2s,baz=77,slow=38
MAK Makhachkala 97.99 312 *e*P **P** 14 26 38.6 -4.8
MAK *e* 14 30 38.0
MAK *e* 14 37 13.5
MAK *e*SS SS 14 44 52.9 +1.3
MAK *e*SSS SSS 14 48 29.5
MAK pmax pmax
comp=Z,212nm,1.1s
H04A Detroit Lake 98.00 46 IAMs_20 IAMs_20 15 03 03.9
comp=Z,52µm,21.0s
D05A Enumclaw 98.17 43 IAmb IAmb 14 27 09.0
comp=Z,111nm,1.3s
K04D Chiloquin, OR 98.29 48 IAmb IAmb 14 27 05.3
comp=Z,75nm,1.1s
K04D IAMs_20 IAMs_20 15 05 06.5
comp=Z,50µm,20.0s
LON Longmire 98.29 44 IAMs_20 IAMs_20 15 03 37.2
comp=Z,35µm,22.0s
HOOD Mount Hood Mea 98.39 45 IAmb IAmb 14 27 07.9
comp=Z,171nm,1.4s
HOOD IAMs_20 IAMs_20 15 02 36.0
comp=Z,47µm,22.0s
I05D Terrebonne, OR 98.61 46 IAmb IAmb 14 27 09.0
comp=Z,116nm,1.3s
I05D IAMs_20 IAMs_20 15 03 55.8
comp=Z,50µm,21.0s
G05A Wamic 98.63 45 IAmb IAmb 14 27 10.3
comp=Z,89nm,0.9s
G05A IAMs_20 IAMs_20 15 02 54.3
comp=Z,49µm,22.0s
J05D Fort Rock, OR 98.68 47 IAmb IAmb 14 27 16.0
comp=Z,74nm,1.1s
J05D IAMs_20 IAMs_20 15 04 19.7
comp=Z,54µm,20.0s
AFDM Forest Hills D 98.83 52 IAMs_20 IAMs_20 15 02 41.1
comp=Z,54µm,21.0s
PINE Pine Mountain 98.89 47 IAMs_20 IAMs_20 15 04 16.4
comp=Z,54µm,21.0s
K05A Summer Lake 98.92 48 IAmb IAmb 14 27 17.1
comp=Z,222nm,1.5s
RAYN Ar Rayn 99.01 293 P **Pdif** 14 26 46.9 -1.6
RAYN Ar Rayn 99.01 293 P **Pdif** 14 26 46.9 -1.6
RAYN pmax pmax
comp=Z,56nm,1.5s
RAYN Ar Rayn 99.01 293 *i* Pdiff **Pdif** 14 26 48.8 +0.3
SNR=6.1
RAYN Ar Rayn 99.01 293 P **Pdif** 14 26 49.4 +0.9
RAYN S **SKSac** 14 37 24.7 -2.0
SNAA Sanae 99.02 190 P **Pdif** 14 26 48.1 +0.5
SNAA Sanae 99.02 190 ⇓P **Pdif** 14 26 49.2 +1.6
comp=Z,90nm,0.9s
SNAA Sanae 99.02 190 P **Pdif** 14 26 48.1 +0.5
comp=Z,7.1nm,1.2s,baz=119,slow=19,SNR=4.7
SNAA PP **PP** 14 30 48.0 -1.1
comp=Z,15nm,1.2s,baz=171,slow=5.8,SNR=2.8
SNAA LR LR 15 11 09.2
comp=Z,66µm,20.4s,baz=136,slow=35
comp=Z,7.1nm,1.2s
LTY Liberty 99.07 43 IAmb IAmb 14 27 50.3
comp=Z,143nm,1.9s
G06A Carlson Farm, 99.11 45 IAMs_20 IAMs_20 15 03 51.0
comp=Z,50µm,21.0s
MXC Moxie City 99.33 44 IAMs_20 IAMs_20 15 04 10.8
comp=Z,32µm,22.0s
SMMC Simmler 99.55 55 Pdiff **Pdif** 14 26 47.7 -3.0
baz=269
MPK Martis Peak 99.56 51 IAMs_20 IAMs_20 15 03 05.4
comp=Z,56µm,22.0s
F07A Phinny Hill Vi 99.60 45 IAMs_20 IAMs_20 15 04 07.9
comp=Z,31µm,22.0s
E07A Sunnyside 99.64 44 IAMs_20 IAMs_20 15 04 41.9
comp=Z,31µm,21.0s
PKM Mcpherson Peak 99.69 56 Pdiff **Pdif** 14 26 48.8 -2.7
baz=269
SBC Santa Barbara 99.77 56 Pdiff **Pdif** 14 26 49.3 -2.2
baz=269
SCZ2 Santa Cruz Isl 99.83 57 Pdiff **Pdif** 14 26 49.1 -2.8
baz=269
SNCC San Nicolas Is 99.91 57 IAMs_20 IAMs_20 15 03 59.1
comp=Z,40µm,21.0s
SNCC San Nicolas Is 99.91 57 Pdiff **Pdif** 14 26 50.2 -2.0
baz=269
I07A Izee 99.93 46 IAMs_20 IAMs_20 15 04 59.8
comp=Z,49µm,21.0s
BCW Bitter Crk WRg 100.03 56 IAMs_20 IAMs_20 15 05 13.0
comp=Z,40µm,20.0s
GNI Garni 100.05 310 LR LR 15 20 12.0
comp=Z,4µm,18.0s,baz=80,slow=40
GNI Garni 100.05 310 P **Pdif** 14 26 54.5 +1.6
VOG Valley Oaks Go 100.06 54 Pdiff **Pdif** 14 26 51.4 -1.4
baz=270
YERR Yerington 100.18 52 IAMs_20 IAMs_20 15 04 58.8
comp=Z,53µm,21.0s
E08A Dider Farm, El 100.19 44 IAMs_20 IAMs_20 15 04 47.5
comp=Z,34µm,21.0s
G08A Pilot Rock 100.29 45 IAMs_20 IAMs_20 15 04 28.3
comp=Z,54µm,22.0s
VES Vestal, Richgr 100.30 55 Pdiff **Pdif** 14 26 53.3 -0.6
baz=270
MLAC Mammoth, Mammt 100.50 53 Pdiff **Pdif** 14 26 53.6 -1.5
baz=270
ARVC Arvin 100.50 56 Pdiff **Pdif** 14 26 52.8 -2.0
baz=270
OSI Osito Audit: C 100.59 56 Pdiff **Pdif** 14 26 54.3 -1.0
baz=270
WVOR Wild Horse Val 100.59 48 IAMs_20 IAMs_20 15 07 09.1
comp=Z,50µm,20.0s
C09A Chrisman Ranch 100.68 43 IAMs_20 IAMs_20 15 11 07.3
comp=Z,26µm,19.0s
SCI2 San Clemente I 100.73 58 Pdiff **Pdif** 14 26 55.0 -0.9
baz=270
ISA Isabella, Lake 100.80 55 Pdiff **Pdif** 14 26 54.9 -1.3
baz=270
E09A Wood Farm, Sta 100.82 44 IAMs_20 IAMs_20 15 05 59.1
comp=Z,28µm,21.0s
CIS Catalina Islan 100.84 57 Pdiff **Pdif** 14 26 55.1 -1.3
baz=270
BRLDA Berland Lookou 100.85 36 IAMs_20 IAMs_20 15 09 51.3
comp=Z,34µm,20.0s
DECC Green Verdugo 100.91 56 Pdiff **Pdif** 14 26 55.0 -1.7
baz=270
NVAR Mina Array Bea 100.92 52 P **Pdif** 14 26 57.2 +0.3
comp=Z,2.0nm,0.9s,baz=250,slow=4.1,SNR=11
NVAR PP **PP** 14 31 06.4 +1.3
comp=Z,4.1nm,1.0s,baz=261,slow=5.5,SNR=3.6
NVAR PKKP **PKKPdf** 14 43 16.2 +0.1
comp=Z,0.9nm,0.8s,baz=123,slow=3.9,SNR=3.9
FMP Fort Macarthur 100.94 57 Pdiff **Pdif** 14 26 55.6 -1.2
baz=270

TIN	Tinemaha, Big	100.99	54	Pdiff	Pdiff		14 26 55.8	-1.3	
	baz=270								
PASC	Pasadena Art C	101.03	57	IAMs_20	IAMs_20		15 04 57.8		
	comp=Z,36µm,21.0s								
KVN	Kaiserville	101.06	52	IAMs_20	IAMs_20		15 04 03.3		
	comp=Z,44µm,22.0s								
CWC	Cottonwood Cre	101.11	54	Pdiff	Pdiff		14 26 56.2	-1.5	
	baz=270								
CCAC	Calif City Air	101.17	56	IAMs_20	IAMs_20		15 06 00.4		
	comp=Z,45µm,20.0s								
EDW2	Edwards Air Fo	101.19	56	Pdiff	Pdiff		14 26 57.1	-0.9	
	baz=270								
KBZ	Khabaz	101.34	313		Pdiff		14 26 56.5	-1.8	
KBZ	Khabaz	101.34	313	*c i* P	Pdiff		14 26 57.4	-0.9	
KBZ	Khabaz	101.34	313	P	Pdiff		14 26 56.5	-1.8	
	comp=Z,4.0nm,1.1s,baz=70,slow=4.9,SNR=10								
YKAW3	Yellowknife Wh	101.37	27	IAMs_20	IAMs_20		15 08 04.3		
	comp=Z,65µm,22.0s								
YKA	Yellowknife Ar	101.38	28	P	Pdiff		14 26 57.1	-0.9	
YKA	Yellowknife Ar	101.38	28	P	Pdiff		14 26 57.1	-0.9	
	comp=Z,1.5nm,0.8s,baz=277,slow=4.4,SNR=23								
YKA				PP	PP		14 31 07.4	-0.1	
	comp=Z,1.3nm,1.0s,baz=268,slow=29,SNR=4.6								
YKA				PKKPbc	PKKPbc		14 43 08.7	-0.8	
	comp=Z,1.6nm,0.8s,baz=97,slow=3.0,SNR=14								
NEW	Newport	101.42	42	IAMs_20	IAMs_20		15 09 15.6		
	comp=Z,29µm,19.0s								
NEW	Newport	101.42	42	P	Pdiff		14 26 58.0	-0.6	
NEW	Newport	101.42	42	Pdiff	Pdiff		14 26 57.3	-1.4	
	baz=274								
NEW	Newport	101.42	42	P	Pdiff		14 26 58.0	-0.6	
	comp=Z,1.1nm,0.3s,baz=259,slow=5.2,SNR=6.5								
YKAW1	Yellowknife Wh	101.44	28	IAMs_20	IAMs_20		15 07 45.1		
	comp=Z,62µm,22.0s								
LRMC	Laurel Mtn Rad	101.44	55	Pdiff	Pdiff		14 26 57.5	-1.6	
	baz=270								
BFSC	Mount Baldy Ra	101.47	56	Pdiff	Pdiff		14 26 57.2	-2.1	
	baz=270								
BMO	Blue Mountains	101.48	46	IAMs_20	IAMs_20		15 05 15.3		
	comp=Z,42µm,21.0s								
F10A	Beach Ranch, E	101.48	44	IAMs_20	IAMs_20		15 04 12.7		
	comp=Z,41µm,22.0s								
KIV	Kislovodsk	101.49	313	⇓P	PP		14 31 12.8	+3.8	
KIV	Kislovodsk	101.49	313	*e*P	Pdiff		14 26 58.8	-0.3	
KIV				*e*			14 31 08.8		
KIV				*e*			14 37 38.3		
KIV				*e*SS	SS		14 45 42.5	+1.9	
KIV				pmax	pmax				
	comp=Z,5.0nm,1.0s								
KIV	Kislovodsk	101.49	313	P	Pdiff		14 27 00.6	+1.5	
MPMC	Manual Prospec	101.59	55	Pdiff	Pdiff		14 26 57.3	-2.6	
	baz=271								
MZP	Montezuma Peak	101.65	53	IAMs_20	IAMs_20		15 04 29.9		
	comp=Z,55µm,22.0s								
ELS	Elsinore Mount	101.67	57	IAMs_20	IAMs_20		15 05 14.6		
	comp=Z,43µm,22.0s								
GRAC	Grapevine Rang	101.68	54	Pdiff	Pdiff		14 26 58.8	-1.2	
	baz=271								
VRH	Novokhopyorsk	101.69	321	*e*P	Pdiff		14 26 56.5	-3.2	
VRH				*e*			14 31 05.7		
VRH				*e*SP	SP		14 40 10.5	-1.5	
VRH				pmax	pmax				
	comp=Z,60nm,1.2s								
VRH				MLR	MLR				
	comp=Z,25µm,19.0s								
BMN	Battle Mountai	101.71	50	IAMs_20	IAMs_20		15 04 40.2		
	comp=Z,31µm,21.0s								
GMN	Gold Mountain	101.76	53	IAMs_20	IAMs_20		15 04 30.7		
	comp=Z,58µm,22.0s								
KLMR	Klimovskoe	101.82	331	*e*P	Pdiff		14 26 55.4	-4.6	
KLMR				S	SKSac		14 37 34.8	-3.8	
KLMR				SS	SS		14 45 42.2	-1.8	
KLMR				pmax	pmax				
	comp=Z,44nm,1.3s								
KLMR				MLR	MLR				
	comp=Z,30µm,20.0s								
MURC	Murrieta	101.86	57	Pdiff	Pdiff		14 26 59.0	-1.9	
	baz=270								
109C	Camp Elliot, M	101.94	58	IAMs_20	IAMs_20		15 05 28.8		
	comp=Z,69µm,20.0s								
109C	Camp Elliot, M	101.94	58	Pdiff	Pdiff		14 26 60.0	-1.3	
	baz=270								
TJX	Tijuana	101.98	58	IAMs_20	IAMs_20		15 06 09.0		
	comp=Z,46µm,20.0s								
RRX	Edison Barstow	102.01	56	Pdiff	Pdiff		14 26 59.8	-1.8	
	baz=271								
BBRC	Big Bear Solar	102.08	56	Pdiff	Pdiff		14 27 00.2	-1.9	
	baz=271								
FURC	Furnace Creek,	102.09	54	Pdiff	Pdiff		14 26 58.8	-3.0	
	baz=271								
GSC	Goldstone, Bar	102.16	55	IAMs_20	IAMs_20		15 05 00.6		
	comp=Z,41µm,20.0s								
GSC	Goldstone, Bar	102.16	55	Pdiff	Pdiff		14 26 59.5	-2.9	
	baz=271								
BAR	Barrett	102.30	58	IAMs_20	IAMs_20		15 06 19.5		
	comp=Z,47µm,20.0s								
CCX	Cicese	102.32	59	IAMs_20	IAMs_20		15 04 14.9		
	comp=Z,44µm,22.0s								
HOPEN	Hopen	102.32	348	*e*P	Pdiff		14 27 00.2	-1.7	
HOPEN				IVmB_BB			14 27 02.4		
	comp=Z,670nm,2.5s								
HOPEN				*e*PP	PP		14 31 14.3	+0.1	
HOPEN				*e*SKSac	SKSac		14 37 42.5	+2.0	
HOPEN				*e*SP	SP		14 40 20.4	+3.1	
HOPEN				*e*SS	SS		14 45 50.9	+0.9	
HOPEN				IVMs_BB	IVMs_BB		15 13 29.4		
	comp=Z,9µm,17.4s								
TKX	Tecate	102.36	58	IAMs_20	IAMs_20		15 06 20.0		
	comp=Z,56µm,21.0s								
PFO	Pinyon Flats O	102.47	57	IAMs_20	IAMs_20		15 09 08.0		
	comp=Z,39µm,20.0s								
PFO	Pinyon Flats O	102.47	57	P	Pdiff		14 27 03.8	0.0	
PFO	Pinyon Flats O	102.47	57	Pdiff	Pdiff		14 27 00.8	-3.0	
	baz=271								
PFO	Pinyon Flats O	102.47	57	P	Pdiff		14 27 03.8	0.0	
	comp=Z,1.0nm,0.8s,baz=297,slow=5.6,SNR=1.4								
TPFO	Pinon Flats	102.48	57	Pdiff	Pdiff		14 27 00.8	-3.0	
	baz=271								
LVZ	Lovozero	102.49	338	*d i* P	Pdiff		14 27 02.9	-0.1	
LVZ				MLR	MLR				
	comp=Z,27µm,21.0s								
MONP2	Monument Peak	102.51	58	Pdiff	Pdiff		14 27 00.4	-3.6	
	baz=271								
PMD	Palm Desert	102.54	57	IAMs_20	IAMs_20		15 09 02.7		
	comp=Z,39µm,20.0s								
HEC	Hector,Ludlow	102.56	56	Pdiff	Pdiff		14 27 00.9	-3.2	
	baz=271								
SHOC	Shoshone, Teco	102.58	55	Pdiff	Pdiff		14 27 02.1	-2.0	
	baz=271								
IKP	In-Ko-Pah, Jac	102.78	58	Pdiff	Pdiff		14 27 03.2	-1.9	
	baz=271								
BELC	Belle Mtn. Jos	102.85	57	Pdiff	Pdiff		14 27 03.9	-1.6	
	baz=271								
TUQ	Turquoise Moun	102.88	55	Pdiff	Pdiff		14 27 03.1	-2.5	
	baz=272								
ERBR	Yeremizino-Bor	102.95	315	*i* P	Pdiff		14 27 06.9	+1.5	
ERBR				*e*			14 31 22.2		
ERBR				*e*S	Sdif		14 38 50.0	-1.0	
ERBR				*e*SS	SS		14 46 10.9	+10	
ERBR				pmax	pmax				
	comp=Z,107nm,2.0s								
SWSC	Sam W. Stewart	103.03	58	Pdiff	Pdiff		14 27 04.3	-1.8	
	baz=271								
APA	Apatity	103.04	338	⇓*i*P	Pdiff		14 27 11.6	+6.3	
APA				*i*			14 31 18.0		
APA				*i*			14 37 46.0		
APA				*i* PPS	PPS		14 41 18.0		
APA				*i* SS	SS		14 45 59.0	-1.4	
APA				pmax	pmax				
	comp=Z,28nm,1.0s								
R11B	Troy Canyon, C	103.05	52	Pdiff	Pdiff		14 27 04.2	-2.1	
	baz=272								
VTX	Valle De La Tr	103.07	59	IAMs_20	IAMs_20		15 04 37.9		
	comp=Z,47µm,22.0s								
GMRC	Granite Mounta	103.11	56	Pdiff	Pdiff		14 27 05.3	-1.4	
	baz=272								
SPA0	Spitsbergen Ar	103.12	350	*e*P	Pdiff		14 27 04.6	-0.9	
SPA0				IVmBBB			14 27 06.2		
	comp=Z,509nm,2.1s								
SPA0				*e*PP	PP		14 31 15.1	-5.1	
SPA0				*e*SKSac	SKSac		14 37 42.0	-2.3	
SPA0				*e*SP	SP		14 40 28.9	+3.0	
SPA0				IVMs_BB	IVMs_BB		15 12 23.4		
	comp=Z,9µm,19.9s								
SPITS	Spitsbergen Ar	103.12	350	Pdiff	Pdiff		14 27 04.2	-1.3	
	comp=Z,7.9nm,1.0s,baz=145,slow=16,SNR=2.1								
ELK	Elko	103.20	50	IAMs_20	IAMs_20		15 06 32.3		
	comp=Z,30µm,21.0s								
VORD	Divnogorie	103.24	321	*e*P	Pdiff		14 27 04.2	-2.4	
VORD				pmax	pmax				
	comp=Z,10.0nm,0.4s								
VORD				MLR	MLR				
	comp=Z,14µm,17.0s								
LPSR	Galich'ya Gora	103.27	323	*e*P	Pdiff		14 27 04.3	-2.4	
LPSR				pmax	pmax				
	comp=Z,50nm,1.6s								
LPSR				MLR	MLR				
	comp=Z,23µm,22.0s								
VSR	Storozhevoye	103.29	321	*e*P	Pdiff		14 27 04.1	-2.7	
VSR				*e*SP	SP		14 40 29.5	+0.6	
VSR				pmax	pmax				
	comp=Z,40nm,1.7s								
BC3	Big Chuckawall	103.31	57	Pdiff	Pdiff		14 27 06.3	-1.2	
	baz=271								
EDM	Edmonton	103.34	37	IAMs_20	IAMs_20		15 10 13.2		
	comp=Z,38µm,20.0s								
UABX	UABC, Campus M	103.34	58	IAMs_20	IAMs_20		15 07 01.0		
	comp=Z,36µm,20.0s								
KBS	Kingsbay	103.38	351	*e*P	Pdiff		14 27 04.5	-2.1	
KBS				IVmB_BB			14 27 25.6		
	comp=Z,624nm,2.4s								
KBS				*e*PP	PP		14 31 19.5	-2.5	
KBS				*e*SKSac	SKSac		14 37 40.1	-5.3	
KBS				*e*SP	SP		14 40 30.8	+2.3	
KBS				*e*SS	SS		14 46 08.9	+4.3	
KBS				IVMs_BB	IVMs_BB		15 10 04.7		
	comp=Z,8µm,23.6s								
CPBX	Cerro Prieto	103.46	58	IAMs_20	IAMs_20		15 04 40.2		
	comp=Z,32µm,21.0s								
SHPR	Sheep Range	103.46	54	IAMs_20	IAMs_20		15 05 24.0		
	comp=Z,53µm,22.0s								
MOS	Moscow	103.59	326	*i* P	Pdiff		14 27 07.5	-0.5	
MOS				*e*			14 31 24.6		
MOS				*e*			14 37 47.1		
MOS				*e*S	Sdif		14 38 53.0	-2.9	
MOS				*e*PS	PS		14 40 31.9	-2.7	
MOS				*e*SS	SS		14 46 10.9	+2.3	
Q12A	Willow Creek R	103.61	51	IAMs_20	IAMs_20		15 05 46.6		
	comp=Z,51µm,22.0s								
HLID	Hailey	103.63	47	Pdiff	Pdiff		14 27 06.4	-2.4	
	baz=274								
VADS	Vadso	103.65	341	*e*P	Pdiff		14 27 07.2	-0.8	
VADS				IVmB_BB			14 27 12.2		
	comp=Z,544nm,2.2s								
VADS				*e*PP	PP		14 31 20.9	-3.4	
VADS				*e*SKSac	SKSac		14 37 47.0	+0.1	
VADS				*e*SP	SP		14 40 29.9	-1.7	
VADS				*e*SS	SS		14 46 16.4	+7.7	
VADS				IVMs_BB	IVMs_BB		15 17 33.7		
	comp=Z,10µm,18.2s								
SOC	Sochi	103.66	313	*i* P	Pdiff		14 27 06.9	-1.7	
SOC				*i*			14 31 24.1		
SOC				*e*SS	SS		14 45 59.6	-11	
GUVIX	Guadalupe Vict	103.66	58	IAMs_20	IAMs_20		15 05 05.4		
	comp=Z,38µm,21.0s								
V12A	Nelson	103.74	55	IAMs_20	IAMs_20		15 05 18.4		
	comp=Z,55µm,22.0s								
SFX	San Felipe	103.88	60	IAMs_20	IAMs_20		15 04 50.2		
	comp=Z,34µm,21.0s								
DESE	Dese	103.93	280	*e*P	Pdiff		14 27 14.3	+3.4	
NEE2	Needles Airpor	103.97	56	Pdiff	Pdiff		14 27 09.1	-1.2	
	baz=272								
BLYC	Blythe	104.08	57	IAMs_20	IAMs_20		15 10 09.5		
	comp=Z,28µm,21.0s								
KIBK	Kibwezi	104.26	266	P	Pdiff		14 27 13.2	+1.1	
KIBK	Kibwezi	104.26	266	P	Pdiff		14 27 15.2	+3.0	
	SNR=5.4								
OBN	Obninsk	104.29	325	⇓*i*P	Pdiff		14 27 09.4	-1.7	
OBN				*i*			14 31 28.0		
OBN				*e*PPP	PPP		14 33 39.1		
OBN				*i*			14 37 55.1		
PDMCI	Parker Dam,Lak	104.38	56	Pdiff	Pdiff		14 27 10.4	-1.6	
	baz=272								
KEV	Kevo	104.54	341	IAMs_20	IAMs_20		15 18 22.3		
	comp=Z,32µm,20.0s								
W13A	Hualapai Mount	104.56	55	IAMs_20	IAMs_20		15 08 32.0		
	comp=Z,35µm,21.0s								
BJO1	Bjornoya	104.61	347	*e*P	Pdiff		14 27 10.6	-1.6	
BJO1				IVmB_BB			14 27 12.6		
	comp=Z,1µm,1.4s								
BJO1				*e*PP	PKiKP		14 31 28.7	+0.9	
BJO1				*e*SKSac	SKSac		14 37 49.0	-2.1	
BJO1				*e*SS	SS		14 46 19.9	-1.7	
BJO1				IVMs_BB	IVMs_BB		15 15 01.1		
	comp=Z,7µm,21.8s								
113A	Mohawk Valley,	104.75	58	IAMs_20	IAMs_20		15 06 33.3		
	comp=Z,45µm,21.0s								
BGU	Big Grassy Mou	104.86	49	IAMs_20	IAMs_20		15 06 30.7		
	comp=Z,27µm,21.0s								
HVU	Hansel Valley	104.98	49	IAMs_20	IAMs_20		15 14 01.8		
	comp=Z,25µm,19.0s								
PIX	Pinacate	105.05	59	IAMs_20	IAMs_20		15 06 51.4		
	comp=Z,34µm,20.0s								
DUG	Duguay, Tooele	105.09	50	PKiKP	PKiKP		14 31 27.2	-2.7	
	baz=275								
ARA0	ARCESS Array S	105.11	341	*e*P	Pdiff		14 27 11.2	-3.4	
ARA0				IVmBBB			14 27 16.6		
	comp=Z,919nm,2.4s								
ARA0				*e*PP	PP		14 31 32.9	-2.3	
ARA0				*e*SKSac	SKSac		14 37 55.0	+1.4	
ARA0				*e*SP	SP		14 40 49.6	+2.7	
ARA0				IVMs_BB	IVMs_BB		15 18 37.2		
	comp=Z,11µm,19.0s								
ARCES	ARCESS Array B	105.11	341	Pdif	Pdif		14 27 13.2	-1.3	
ARCES	ARCESS Array B	105.11	341	P	Pdif		14 27 13.2	-1.3	
ARCES	ARCESS Array B	105.11	341	Pdiff	Pdif		14 27 13.0	-1.6	
	comp=Z,8.9nm,0.9s,baz=71,slow=7.8,SNR=8.8								
HAMF	Hammerfest	105.22	342	*e*P	Pdif		14 27 13.0	-2.0	
HAMF				IVmBBB			14 27 14.9		
	comp=Z,1µm,2.0s								
HAMF				*e*PP	PP		14 31 33.7	-2.1	
HAMF				*e*SKSac	SKSac		14 37 54.2	+0.2	
HAMF				*e*SS	SS		14 46 30.2	+0.2	
HAMF				IVMs_BB	IVMs_BB		15 15 03.3		
	comp=Z,12µm,21.1s								
SPUT	South Promonto	105.27	49	IAMs_20	IAMs_20		15 06 22.3		
	comp=Z,31µm,22.0s								
Y14A	Wickenburg	105.34	57	IAMs_20	IAMs_20		15 07 06.8		
	comp=Z,33µm,22.0s								
BOZ	Bozeman (W)	105.41	45	IAMs_20	IAMs_20		15 07 41.3		
	comp=Z,34µm,21.0s								
BOZ	Bozeman (W)	105.41	45	PKiKP	PKiKP		14 31 27.9	-2.5	
	baz=277								
214A	Organ Pipe Nat	105.59	59	IAMs_20	IAMs_20		15 06 03.6		
	comp=Z,51µm,22.0s								
214A	Organ Pipe Nat	105.59	59	PKiKP	PKiKP		14 31 29.1	-1.8	
	baz=272								
NLU	North Lily Min	105.67	50	IAMs_20	IAMs_20		15 10 37.1		
	comp=Z,26µm,20.0s								
HWUT	Hardware Ranch	105.90	49	IAMs_20	IAMs_20		15 15 06.6		
	comp=Z,28µm,19.0s								
KTK1	Kautokeino	106.06	341	*e*P	Pdif		14 27 18.6	-0.2	
KTK1				IVmBBB			14 27 18.9		
	comp=Z,636nm,1.9s								
KTK1				*e*PP	PP		14 31 43.5	+1.3	
KTK1				*e*SKSac	SKSac		14 37 59.1	+1.2	
KTK1				*e*SP	SP		14 40 57.1	+0.3	
KTK1				*e*SS	SS		14 46 42.1	+0.3	
KTK1				IVMs_BB	IVMs_BB		15 13 39.0		
	comp=Z,7µm,25.0s								
TCUT	Toone Canyon	106.07	49	IAMs_20	IAMs_20		15 10 32.5		
	comp=Z,31µm,20.0s								
YNM	Yellowstone No	106.17	45	IAMs_20	IAMs_20		15 09 39.9		
	comp=Z,34µm,20.0s								
YNR	Norris Junctio	106.19	45	IAMs_20	IAMs_20		15 07 16.4		
	comp=Z,37µm,22.0s								
SRIG	Santa Rosalia	106.23	63	IAMs_20	IAMs_20		15 05 58.9		
	comp=Z,32µm,22.0s								
FLWY	Flagg Ranch	106.26	46	IAMs_20	IAMs_20		15 08 15.2		
	comp=Z,40µm,22.0s								
H17A	Grant Village	106.30	46	PKiKP	PKiKP		14 31 30.1	-2.1	
	baz=277								
EGMT	Eagleton	106.35	42	PKiKP	PKiKP		14 31 29.5	-2.4	
	baz=279								
LKWY	Lake	106.41	45	IAMs_20	IAMs_20		15 10 46.7		
	comp=Z,43µm,21.0s								
YMP	Mirror Lake Pl	106.56	45	IAMs_20	IAMs_20		15 11 13.1		
	comp=Z,34µm,20.0s								
WUAZ	Wupatki	106.58	55	IAMs_20	IAMs_20		15 10 00.2		
	comp=Z,32µm,20.0s								
WUAZ	Wupatki	106.58	55	PKiKP	PKiKP		14 31 30.3	-2.5	
	baz=274								
X16A	Lo Mia Camp, P	106.61	56	IAMs_20	IAMs_20		15 08 32.3		
	comp=Z,36µm,21.0s								
BSUT	Blindstream Ca	106.62	50	IAMs_20	IAMs_20		15 10 52.1		
	comp=Z,24µm,20.0s								
JETT	Jettan, Norway	106.71	342	*e*P	Pdif		14 27 17.1	-4.6	
JETT				IVmB_BB			14 27 26.0		
	comp=Z,815nm,3.2s								
JETT				*e*PP	PP		14 31 40.2	-6.7	
JETT				*e*SKSac	SKSac		14 37 57.7	-3.1	
JETT				*e*PS	PS		14 41 09.9	+3.3	
JETT				IVMs_BB	IVMs_BB		15 15 46.2		
	comp=Z,14µm,21.9s								
P17A	Butcher Ranch,	106.74	51	IAMs_20	IAMs_20		15 07 41.5		
	comp=Z,31µm,22.0s								
SRU	San Rafael Swe	106.95	51	IAMs_20	IAMs_20		15 07 56.9		
	comp=Z,48µm,22.0s								
P18A	Preston Nutter	107.11	51	IAMs_20	IAMs_20		15 07 55.1		
	comp=Z,32µm,22.0s								
TRO	Tromso	107.13	342	*e*P	Pdif		14 27 24.0	+0.5	
TRO				IVmBBB			14 27 27.0		
	comp=Z,911nm,2.6s								
TRO				*e*PP	PP		14 31 44.5	-5.3	
TRO				*e*SKSac	SKSac		14 38 02.5	+0.1	
TRO				*e*SP	SP		14 41 09.7	+2.1	
TRO				*e*SS	SS		14 46 55.1	-0.9	
TRO				IVMs_BB	IVMs_BB		15 17 52.8		
	comp=Z,11µm,23.4s								
RLMT	Red Lodge	107.13	45	IAMs_20	IAMs_20		15 08 56.7		
	comp=Z,32µm,21.0s								
RLMT	Red Lodge	107.13	45	PKiKP	PKiKP		14 31 32.0	-1.7	
	baz=276								
BW06	Boulder Array	107.25	47	PKiKP	PKiKP		14 31 32.0	-2.0	
	baz=278								
PDAR	Pinedale Array	107.25	47	Pdiff	Pdif		14 27 25.3	+0.3	
	comp=Z,0.8nm,0.9s,baz=204,slow=3.3,SNR=5.7								
PDAR				PKiKP	PKiKP		14 31 35.2	+1.2	
	comp=Z,2.7nm,1.0s,baz=291,slow=2.8,SNR=5.4								
TUC	Tucson	107.29	58	IAMs_20	IAMs_20		15 08 31.5		
	comp=Z,51µm,21.0s								
TUC	Tucson	107.29	58	PKiKP	PKiKP		14 31 32.4	-1.7	
	baz=274								
HSIG		107.32	62	IAMs_20	IAMs_20		15 09 12.6		
	comp=Z,32µm,20.0s								
SIM	Simferopol'	107.50	315	P	Pdif		14 27 40.2	+15	
SIM				*e*SS	SS		14 47 16.0	+13	
RDMU	Red Mountain	107.52	50	IAMs_20	IAMs_20		15 12 09.9		
	comp=Z,30µm,20.0s								
X18A	Snowflake	107.83	56	IAMs_20	IAMs_20		15 09 10.6		
	comp=Z,31µm,21.0s								
W18A	Petrified Fore	107.95	55	IAMs_20	IAMs_20		15 09 50.8		
	comp=Z,34µm,21.0s								
W18A	Petrified Fore	107.95	55	PKiKP	PKiKP		14 31 34.1	-1.3	
	baz=275								
FINES	FINESS Array B	107.97	333	Pdiff	Pdif		14 27 25.4	-2.0	
	comp=Z,4.9nm,1.1s,baz=215,slow=9.0,SNR=7.4								
FINES				PP	PP		14 31 52.8	-3.5	
	comp=Z,4.4nm,0.8s,baz=72,slow=6.2,SNR=4.0								
O20A	White River Ci	108.58	50	IAMs_20	IAMs_20		15 08 44.0		
	comp=Z,30µm,22.0s								
O20A	White River Ci	108.58	50	PKiKP	PKiKP		14 31 35.1	-1.3	
	baz=278								
319A	Douglas	108.63	59	IAMs_20	IAMs_20		15 07 26.0		
	comp=Z,46µm,22.0s								
MVCO	Mesa Verde	108.74	53	PKiKP	PKiKP		14 31 35.7	-1.2	
	baz=276								
SOE	Somerset East	108.89	232	IAMs_20	IAMs_20		15 12 06.6		
	comp=Z,38µm,20.0s								
LAO	LASA Array	108.95	43	PKiKP	PKiKP		14 31 35.5	-1.3	
	baz=281								
LAO	LASA Array	108.95	43	P	PKiKP		14 31 36.3	-0.5	
	baz=281								
RWWY	Rawlins	109.13	48	IAMs_20	IAMs_20		15 10 42.4		
	comp=Z,31µm,22.0s								
STEI	Steigen	109.17	341	*e*P	Pdif		14 27 31.6	-1.0	
STEI				IVmB_BB			14 27 33.6		
	comp=Z,725nm,1.5s								
STEI				*e*PP	PP		14 32 03.4	-1.4	
STEI				*e*SKSac	SKSac		14 38 10.5	-0.8	
STEI				IVMs_BB	IVMs_BB		15 19 28.3		
	comp=Z,17µm,20.0s								
MNK	Minsk	109.32	326	*i* P	Pdif		14 27 32.9	-0.6	
MNK				*i*			14 32 05.5		
MNK				*i* PPP	PPP		14 34 23.5		
MNK				*i*			14 38 05.7		
MNK				*i* SP	SP		14 42 29.7	+59	
MNK				*i* PS	PKKPbc		14 42 36.9	-8.0	
MNK				*i* SS	SS		14 47 27.5	+1.0	
MNK				pmax	pmax				
	comp=N,20nm,0.8s								
MNK				pmax	pmax				
	comp=Z,11nm,0.8s								
MNK				pmax	pmax				

comp=Z,7µm,21.6s
EPT El Paso 110.95 58 IAMs_20 IAMs_20 15 11 08.6
comp=Z,36µm,20.0s
RSSD Black Hills 110.98 45 IAMs_20 IAMs_20 15 14 27.1
comp=Z,26µm,20.0s
RSSD Black Hills 110.98 45 PKiKP **PKiKP** **14 31 39.8 -1.1**
baz=282
SDCO Great Sand Dun 111.03 52 PKiKP **PKiKP** **14 31 39.5 -1.8**
baz=279
SDCO Great Sand Dun 111.03 52 P **PKiKP** **14 31 39.8 -1.5**
baz=279
Q24A Divide 111.11 51 IAMs_20 IAMs_20 15 10 02.2
comp=Z,43µm,22.0s
Q24A Divide 111.11 51 PKiKP **PKiKP** **14 31 40.1 -1.4**
baz=279
PABE Paberze 111.13 328 IAMs_20 IAMs_20 15 21 17.9
comp=Z,37µm,21.0s
BRIGG Briggsdale 111.47 49 IAMs_20 IAMs_20 15 12 18.4
comp=Z,26µm,21.0s
MNTX Cornudas Mount 111.91 58 PKiKP **PKiKP** **14 31 41.9 -0.9**
baz=276
T25A Trinidad 111.98 53 PKiKP **PKiKP** **14 31 41.3 -1.7**
baz=279
SUW Suwalki 112.08 326 IAMs_20 IAMs_20 15 21 56.4
comp=Z,28µm,20.0s
HPIG 112.11 64 IAMs_20 IAMs_20 15 09 32.5
comp=Z,41µm,21.0s
NSS Namsos 112.19 339 *e*P **Pdif** **14 27 43.1 -2.9**
NSS IVmB_BB 14 27 52.3
comp=Z,967nm,3.2s
NSS *e*PP **PP** **14 32 25.4 -1.2**
NSS *e*SKSac **SKSac** **14 38 18.2 -5.7**
NSS *e*SP **SP** **14 42 00.6 +3.3**
NSS *e*SS **SS** **14 48 09.3 +5.2**
NSS IVMs_BB IVMs_BB 15 21 27.5
comp=Z,12µm,22.2s
E28A Huff 112.68 42 IAMs_20 IAMs_20 15 16 01.9
comp=Z,26µm,20.0s
SUR Sutherland 112.73 231 IAMs_20 IAMs_20 15 16 24.2
comp=Z,32µm,19.0s
JMIC Jan Mayen 112.80 350 *e*P **Pdif** **14 27 49.2 +0.5**
JMIC IVmB_BB 14 27 50.0
comp=Z,2µm,1.9s
JMIC *e*PP **PP** **14 32 30.6 -0.1**
JMIC *e*SP SP 14 42 01.5 -0.9
JMIC *e*SS **SS** **14 48 16.0 +4.2**
JMIC IVMs_BB IVMs_BB 15 09 52.4
comp=Z,6µm,35.4s
JMI Jan Mayen 112.89 350 *e*P **Pdif** **14 27 49.2 +0.1**
JMI IVmB_BB 14 27 53.3
comp=Z,4µm,2.2s
JMI *e*PP **PP** **14 32 31.2 -0.2**
JMI *e*SP SP 14 42 03.7 +0.4
JMI *e*SS **SS** **14 48 20.3 +7.4**
JMI IVMs_BB IVMs_BB 15 20 17.8
comp=Z,7µm,3.4s
BURAR Bucovina Array 112.93 319 ⇑P **PKiKP** **14 31 50.4 +6.0**
BURAR Bucovina Array 112.93 319 ⇑PKiKP **PKiKP** **14 31 50.4 +6.0**
LVV L'vov 113.01 322 *i* PKiKP **PKiKP** **14 31 46.1 +1.8**
LVV *e* 14 32 31.3
LVV *e*PPP PPP 14 35 00.0
LVV *e* 14 38 26.7
LVV *e*PS **PS** **14 42 09.9 +1.3**
LVV *e*SS SS 14 48 32.8 +17
LVV MLR MLR
comp=E,20µm,21.0s
LVV MLR MLR
comp=N,11µm,22.0s
LVV MLR MLR
comp=Z,9µm,22.0s
MLR Muntele Rosu 113.03 317 ⇓P **PKiKP** **14 31 46.9 +2.3**
MLR Muntele Rosu 113.03 317 IAMs_20 IAMs_20 15 23 54.0
comp=Z,28µm,21.0s
MLR Muntele Rosu 113.03 317 ⇓PKiKP **PKiKP** **14 31 46.9 +2.3**
MDND Maddock 113.04 40 IAMs_20 IAMs_20 15 19 41.2
comp=Z,31µm,20.0s
MDND Maddock 113.04 40 PKiKP **PKiKP** **14 31 43.2 -1.2**
baz=287
KSCO Kaye Shedlock' 113.04 50 IAMs_20 IAMs_20 15 11 42.2
comp=Z,46µm,22.0s
KSCO Kaye Shedlock' 113.04 50 PKiKP **PKiKP** **14 31 43.6 -1.3**
baz=281
OGNE Ogallala 113.10 48 IAMs_20 IAMs_20 15 16 00.0
comp=Z,25µm,20.0s
OGNE Ogallala 113.10 48 PKiKP **PKiKP** **14 31 41.6 -3.2**
baz=282
TBLU Trondheim 113.56 339 *e*P **Pdif** **14 27 48.5 -3.8**
TBLU *e*PP **PP** **14 32 32.8 -3.6**
TBLU *e*SKSac **SKSac** **14 38 31.8 +2.3**
TBLU *e*SP **SP** **14 42 09.2 -0.6**
TBLU IVMs_BB IVMs_BB 15 20 51.1
comp=Z,11µm,21.9s
TX31 Lajitas Ar. Si 113.64 61 P **PKiKP** **14 31 44.5 -1.8**
baz=276
TXAR Lajitas Array 113.64 61 PKiKP **PKiKP** **14 31 47.9 +1.7**
TXAR Lajitas Array 113.64 61 Pdiff **Pdif** **14 27 54.9 +1.4**
comp=Z,0.1nm,0.3s,baz=228,slow=40,SNR=1.5
TXAR PKP **PKiKP** **14 31 47.9 +1.7**
comp=Z,3.1nm,1.0s,baz=29,slow=2.9,SNR=8.4
TXAR PKKPab **PKKPab** **14 42 36.2 -0.3**
comp=Z,3.8nm,0.9s,baz=123,slow=4.6,SNR=6.8
SUMG Summit 113.73 0 PP **PP** **14 32 36.1 -1.7**
SUMG Summit 113.73 0 *i* P **PKiKP** **14 31 48.5 +2.9**
MSTX Muleshoe 113.79 56 IAMs_20 IAMs_20 15 11 46.6
comp=Z,32µm,21.0s
MSTX Muleshoe 113.79 56 PKiKP **PKiKP** **14 31 42.6 -3.8**
baz=279
KWP Kalwaria Pacla 113.88 322 IAMs_20 IAMs_20 15 22 42.2
comp=Z,35µm,22.0s
HFS Hagfors 113.98 335 Pdiff **Pdif** **14 27 52.3 -1.8**
comp=Z,0.4nm,0.3s,baz=178,slow=40,SNR=1.5
KOLS Kolonicke sedl 114.39 321 *e*PKiKP **PKiKP** **14 31 49.7 +2.7**
KOLS Kolonicke sedl 114.39 321 *e*PKP **PKiKP** **14 31 49.7 +2.7**
SUSD Miller 114.44 44 IAMs_20 IAMs_20 15 18 04.6
comp=Z,29µm,21.0s
SUSD Miller 114.44 44 PKiKP PKPdf 14 31 45.8 -1.4
baz=286
K30B Basset 114.45 46 IAMs_20 IAMs_20 15 13 57.1
comp=Z,46µm,21.0s
NB2 NORSAR Subarra 114.50 336 PKPdf PKPdf 14 31 50.5 +3.6
comp=Z,36nm,2.5s,baz=39,slow=1.9
NB2 NORSAR Subarra 114.50 336 PKPdf PKPdf 14 31 50.5 +3.6
baz=39,slow=1.9
NOA NORSAR Array B 114.50 336 PKiKP PKPdf 14 31 47.2 +0.3
NOA NORSAR Array B 114.50 336 PKP PKPdf 14 31 47.2 +0.3
comp=Z,1.1nm,0.8s,baz=68,slow=1.8,SNR=2.2
NOA PKKPbc **PKKPab** **14 42 30.4 -1.6**
comp=Z,0.7nm,0.8s,baz=55,slow=3.3,SNR=2.9
AMTX Amarillo 114.54 55 IAMs_20 IAMs_20 15 13 49.7
comp=Z,25µm,20.0s
AMTX Amarillo 114.54 55 PKiKP PKPdf 14 31 45.5 -2.3
baz=280
NC602 NORSAR Array S 114.54 336 *e*P **Pdif** **14 27 55.9 -0.7**
NC602 IVmB_BB 14 28 04.2
comp=Z,671nm,3.2s
NC602 *e*PP **PP** **14 32 39.2 -4.2**
NC602 *e*SKSac **SKSac** **14 38 31.4 -1.9**
NC602 *e*SP **SP** **14 42 20.3 +1.3**
NC602 *e*SS **SS** **14 48 42.0 +6.6**
NC602 IVMs_BB IVMs_BB 15 21 09.5
comp=Z,14µm,20.3s
ULM Lac du Bonnet 114.57 37 IAMs_20 IAMs_20 15 12 08.3
comp=Z,49µm,22.0s
ULM Lac du Bonnet 114.57 37 PKiKP PKPdf 14 31 47.7 +0.5
ULM Lac du Bonnet 114.57 37 PKP PKPdf 14 31 47.7 +0.5
comp=Z,2.3nm,0.6s,baz=334,slow=1.3,SNR=4.7
ULM PKKPbc **PKKPbc** **14 42 24.8 -2.6**
comp=Z,2.2nm,0.9s,baz=15,slow=20,SNR=2.1
DOMB Dombas 114.73 338 *e*P **Pdif** **14 27 56.8 -0.8**
DOMB *e*PP **PP** **14 32 42.5 -2.2**
DOMB *e*SP SP 14 42 17.9 -2.8
DOMB IVMs_BB IVMs_BB 15 21 23.7
comp=Z,13µm,20.6s
DRGR 114.81 319 ⇓P PKPdf 14 31 51.1 +3.2
DRGR 114.81 319 ⇓PKiKP PKPdf 14 31 51.1 +3.2
CRVS Cervenica-Dubn 114.90 322 *e*PDIFF **Pdif** **14 28 07.3 +8.8**
D32A Dogwood Acres, 114.93 41 IAMs_20 IAMs_20 15 21 42.1
comp=Z,26µm,19.0s
MG05 Puerto Natales 114.93 157 IAMs_20 IAMs_20 15 17 27.0
comp=Z,21µm,18.0s
MOL Molde 114.96 339 *e*P **Pdif** **14 27 52.5 -6.0**
MOL *e*PKPdf **PKiKP** **14 31 44.4 -3.2**
MOL *e*SP SP 14 42 22.1 -0.5
MOL IVMs_BB IVMs_BB 15 19 05.4
comp=Z,7µm,26.0s
GZR Gura Zlata 115.20 318 ⇓P **PKiKP** **14 31 48.0 -0.7**
GZR Gura Zlata 115.20 318 ⇓PKiKP **PKiKP** **14 31 48.0 -0.7**
AGMN Agassiz Nation 115.27 39 IAMs_20 IAMs_20 15 13 16.7
comp=Z,33µm,21.0s
AGMN Agassiz Nation 115.27 39 PKiKP **PKiKP** **14 31 48.0 -0.7**
baz=290
CBKS Cedar Bluff 115.29 50 PKiKP **PKiKP** **14 31 47.9 -1.2**
baz=283
GO09 Cerro Castillo 115.31 157 IAMs_20 IAMs_20 15 17 47.1
comp=Z,20µm,18.0s
AKN Aaknes 115.41 339 *e*P **Pdif** **14 28 00.5 0.0**
AKN *e*PP **PP** **14 32 51.2 +1.8**
AKN *e*PS **PS** **14 42 29.8 -0.3**
AKN *e*SS SS 14 48 50.7 +4.0
AKN IVMs_BB IVMs_BB 15 19 30.4
comp=Z,8µm,25.4s
NIE Niedzica 115.43 322 *e*PKiKP **PKPdf** **14 31 52.5 +3.5**
BLKB Belogradchik 115.80 316 ⇓P **PKPdf** **14 31 50.6 +0.7**
F33A 5 Mile Ranch, 115.82 42 IAMs_20 IAMs_20 15 19 10.8
comp=Z,26µm,20.0s
BGNE Belgrade 115.83 47 IAMs_20 IAMs_20 15 16 01.7
comp=Z,40µm,20.0s
BGNE Belgrade 115.83 47 PKiKP **PKiKP** **14 31 48.9 -1.1**
baz=285
SKAR Skarslia 115.86 337 *e*P **Pdif** **14 28 04.7 +2.1**
SKAR *e*PP **PP** **14 32 54.4 +1.7**
SKAR *e*SKSac **SKSac** **14 38 39.3 +0.8**
SKAR *e*SP **SP** **14 42 31.1 +0.1**
SKAR *e*SS **SS** **14 48 54.6 +1.9**
SKAR IVMs_BB IVMs_BB 15 21 40.3
comp=Z,11µm,22.6s
BZS Buzias 115.90 318 ⇓P **PKiKP** **14 31 47.9 -2.0**
BZS Buzias 115.90 318 ⇓PKiKP **PKiKP** **14 31 47.9 -2.0**
KONO Kongsberg 115.96 336 IAMs_20 IAMs_20 15 25 35.4
comp=Z,24µm,20.0s
LANS Liptovska Anna 116.03 322 *e*PKiKP **PKPdf** **14 31 53.9 +3.7**
LANS Liptovska Anna 116.03 322 *e*PKP **PKPdf** **14 31 53.9 +3.7**
ELIS Ellis County 116.13 53 IAMs_20 IAMs_20 15 16 23.1
comp=Z,30µm,21.0s
PSZ Piszkesteto 116.23 321 ⇑P **PKiKP** **14 31 50.9 +0.3**
PSZ Piszkesteto 116.23 321 IAMs_20 IAMs_20 15 24 13.2
comp=Z,25µm,22.0s
PSZ Piszkesteto 116.23 321 ⇑PKiKP **PKiKP** **14 31 50.9 +0.3**
ECSD EROS Data Cent 116.26 44 **PKPdf** **14 31 49.3 -1.5**
ECSD IAMs_20 IAMs_20 15 15 03.4
comp=Z,41µm,21.0s
HYA Hoyanger 116.35 338 *e*P **Pdif** **14 28 04.9 +0.3**
HYA *e*PP **PP** **14 32 54.8 -1.3**
HYA *e*SP SP 14 42 34.5 -0.9
HYA IVMs_BB IVMs_BB 15 19 48.9
comp=Z,9µm,23.5s
ILULI Ilulissat 116.46 5 *i* P **PKPdf** **14 31 48.4 -1.9**
FOO Floro 116.49 339 *e*P **Pdif** **14 28 04.0 -1.3**
FOO *e*PP **PP** **14 32 56.5 -0.4**
FOO *e*SP SP 14 42 38.2 +1.7
FOO IVMs_BB IVMs_BB 15 17 55.3
comp=Z,5µm,22.3s
N33A a Bar K, Exete 116.52 47 IAMs_20 IAMs_20 15 13 40.0
comp=Z,29µm,22.0s
OKC Ostrava-Krasne 116.56 323 *e*S **Sdif** **14 40 47.9 +3.5**
OKC AMS AMS 15 25 00.0
comp=Z,23µm,20.0s
B35A Bob, Littlefor 116.58 38 P **PKPdf** **14 31 50.9 -0.3**
baz=292
VYHS Vyhne 116.67 322 *e*PKiKP **PKiKP** **14 31 54.1 +2.7**
VYHS *e* 14 33 01.9
VYHS Vyhne 116.67 322 *e*PKP **PKiKP** **14 31 54.1 +2.7**
VYHS *e*PP **PP** **14 33 01.9 +3.0**
JCT Junction City 116.82 59 PKiKP **PKPdf** **14 31 50.8 -1.4**
baz=279
JCT Junction City 116.82 59 P **PKPdf** **14 31 52.2 -0.1**
baz=279
WMOK Wichita Mounta 116.91 54 **PKPdf** **14 31 50.4 -1.9**
WMOK Wichita Mounta 116.91 54 PKiKP **PKPdf** **14 31 50.4 -1.9**
WMOK Wichita Mounta 116.91 54 PKiKP **PKPdf** **14 31 50.5 -1.8**
baz=282
WMOK Wichita Mounta 116.91 54 P **PKPdf** **14 31 51.1 -1.2**
baz=282
MORC Moravsky Berou 116.94 324 ⇓P **PKiKP** **14 31 53.3 +1.4**
MORC Moravsky Berou 116.94 324 *e*PKP **PKiKP** **14 31 53.3 +1.4**
MORC Moravsky Berou 116.94 324 ⇓PKiKP **PKiKP** **14 31 53.3 +1.4**
SUE Sulen 116.95 339 *e*P **Pdif** **14 28 06.5 -0.8**
SUE IVmB_BB 14 28 17.1
comp=Z,1µm,3.7s
SUE *e*PP **PP** **14 33 00.1 -0.1**
SUE *e*SKSac **SKSac** **14 38 44.7 +2.4**
SUE *e*PS **PS** **14 42 43.5 -0.5**
SUE *e*SS **SS** **14 49 09.8 +3.1**
SUE IVMs_BB IVMs_BB 15 20 03.0
comp=Z,7µm,25.2s
L34A Svendsen Farm, 116.95 46 IAMs_20 IAMs_20 15 15 13.3
comp=Z,45µm,21.0s
ODD1 Odda 116.99 337 *e*P **Pdif** **14 28 09.9 +2.3**
ODD1 *e*PP **PP** **14 32 59.9 -0.8**
ODD1 *e*SKSac **SKSac** **14 38 44.4 +1.7**
ODD1 *e*PS **PS** **14 42 44.0 -0.6**
ODD1 IVMs_BB IVMs_BB 15 18 21.2
comp=Z,7µm,29.1s
RGN Rugen 117.06 330 IAMs_20 IAMs_20 15 23 48.9
comp=Z,33µm,20.0s
BER Bergen 117.18 338 *e*PP **PP** **14 33 04.0 +2.2**
BER *e*SKSac **SKSac** **14 38 40.6 -2.7**
BER *e*SP **SP** **14 42 42.8 -0.1**
BER IVMs_BB IVMs_BB 15 20 09.6
comp=Z,8µm,30.3s
KSP Ksiaz 117.21 325 *e*PKiKP **PKiKP** **14 31 55.1 +2.7**
ICESG Greenland Ices 117.22 1 *i* P **PKiKP** **14 31 55.6 +3.3**
JAVC Velka Javorina 117.24 323 *e*PKP **PKiKP** **14 31 53.2 +0.7**
HOMB Homborsund 117.24 335 *e*P **Pdif** **14 28 10.3 +1.6**
HOMB IVmBBB 14 28 10.7
comp=Z,785nm,2.5s
HOMB *e*PP **PP** **14 33 01.6 -0.8**
HOMB *e*SKSac **SKSac** **14 38 42.6 -0.9**
HOMB *e*SP **SP** **14 42 44.5 +1.0**
HOMB *e*SS **SS** **14 49 18.0 +7.3**
HOMB IVMs_BB IVMs_BB 15 21 06.1
comp=Z,7µm,22.9s
SRO Srobarova 117.25 321 *e*PKiKP **PKiKP** **14 31 55.3 +2.8**
SRO Srobarova 117.25 321 *e*PKP **PKiKP** **14 31 55.3 +2.8**
FRGS Fruska Gora 117.25 318 ⇑P **PKPdf** **14 31 52.4 -0.3**
KRLC Kraliky 117.26 324 AMS AMS 15 26 50.0
comp=Z,18µm,18.7s
BLS5 Blasjo 117.37 337 *e*P **Pdif** **14 28 08.5 -0.8**
BLS5 IVmBBB 14 28 18.7
comp=Z,748nm,3.2s
BLS5 *e*PP **PP** **14 33 05.3 +2.1**
BLS5 *e*SKSac **SKSac** **14 38 44.2 +0.1**
BLS5 *e*SP **SP** **14 42 44.5 -0.1**
BLS5 IVMs_BB IVMs_BB 15 18 33.8
comp=Z,8µm,26.1s
GO08 Villa O'Higgin 117.38 154 IAMs_20 IAMs_20 15 15 51.2
comp=Z,22µm,20.0s
OSTC Ostas 117.38 325 *ex* x 14 40 57.7
OSTC AMS AMS 15 25 20.0
comp=Z,31µm,20.5s
DPC Dobruska-Polom 117.41 324 *e*S **Sdif** **14 40 53.6 +2.0**
CHVC Chvalec 117.46 325 AMS AMS 15 25 20.0
comp=Z,30µm,20.5s
833A Chaparral WMA, 117.49 61 IAMs_20 IAMs_20 15 15 44.9
comp=Z,29µm,20.0s
833A Chaparral WMA, 117.49 61 PKiKP **PKPdf** **14 31 51.9 -1.7**
baz=278
UPC Upice 117.52 325 AMS AMS 15 25 20.0
comp=Z,32µm,20.5s
KSU1 Kansas State U 117.58 49 IAMs_20 IAMs_20 15 23 23.8
comp=Z,24µm,21.0s
KSU1 Kansas State U 117.58 49 PKiKP **PKPdf** **14 31 52.4 -1.0**
baz=285
F36A Milaca 117.63 41 IAMs_20 IAMs_20 15 19 28.7
comp=Z,29µm,20.0s
MORH Mrgy, Hungar 117.64 319 ⇑P **PKPdf** **14 31 52.7 -0.5**
MODS Modra-Piesok 117.67 322 *e*PKiKP **PKiKP** **14 31 56.1 +2.8**
MODS Modra-Piesok 117.67 322 *e*PKP **PKiKP** **14 31 56.1 +2.8**
VRAC Vranov 117.70 323 *e*PKP **PKiKP** **14 31 54.0 +0.7**
OK029 Liberty Lake 117.74 53 IAMs_20 IAMs_20 15 14 41.8
comp=Z,26µm,22.0s
N35A Tabor 117.81 47 IAMs_20 IAMs_20 15 17 41.9
comp=Z,40µm,20.0s
FNO Franklin 117.91 53 IAMs_20 IAMs_20 15 17 38.2
comp=Z,33µm,20.0s
KRUC Moravsky 117.92 323 *e*PKP **PKiKP** **14 31 54.4 +0.6**
EYMN Ely 118.11 38 PKiKP **PKPdf** **14 31 53.7 -0.5**
baz=294
FW06 Azle 118.26 56 IAMs_20 IAMs_20 15 17 36.8
comp=Z,22µm,20.0s
AY03 Cochrane 118.29 153 IAMs_20 IAMs_20 15 18 00.3
comp=Z,16µm,20.0s
SPMN Marine on St. 118.33 41 IAMs_20 IAMs_20 15 19 52.3
comp=Z,21µm,21.0s
SPMN Marine on St. 118.33 41 PKiKP **PKPdf** **14 31 54.4 -0.3**
baz=292
PVCC Panska Ves 118.34 325 AMS AMS 15 25 40.0
comp=Z,33µm,21.1s
W35A Tecumseh 118.35 53 IAMs_20 IAMs_20 15 17 58.9
comp=Z,26µm,20.0s
LOOK Love County 118.36 55 IAMs_20 IAMs_20 15 14 33.3
comp=Z,46µm,22.0s
TREC Trest 118.36 324 AMS AMS 15 26 00.0
comp=Z,24µm,20.3s
I37B Waseca 118.37 43 P **PKPdf** **14 31 53.6 -1.2**
baz=290
I37A Lemond, Waseca 118.37 43 **PKPdf** **14 31 53.0 -1.8**
I37A IAMs_20 IAMs_20 15 15 48.4
comp=Z,35µm,22.0s
Z35A Perchaven, San 118.44 55 IAMs_20 IAMs_20 15 19 15.5
comp=Z,27µm,20.0s
TIR Tirane 118.46 314 IAMs_20 IAMs_20 15 28 17.0
comp=Z,22µm,22.0s
GOPC GO Pecny, Ondr 118.49 325 *e*S **Sdif** **14 41 02.2 +1.6**
GOPC AMS AMS 15 26 00.0
comp=Z,29µm,20.6s
BRG Berggiesshubel 118.53 326 P PKPpre 14 31 45.3
BRG Amp 14 31 47.1
comp=Z,7.4nm,1.2s
BRG Berggiesshubel 118.53 326 PKP **PKiKP** **14 31 57.4 +2.5**
BRG Amp 14 32 00.1
comp=Z,14nm,1.0s
BRG Berggiesshubel 118.53 326 PKIKP **PKiKP** **14 31 57.4 +2.5**
BRG 14 33 14.5
BRG pmax pmax
comp=Z,14nm,1.0s
BRG pmax pmax
comp=Z,29nm,1.3s
BRG pmax pmax
comp=N,2µm,21.3s
BRG Berggiesshubel 118.53 326 *e*PKPdf **PKiKP** **14 31 57.2 +2.3**
baz=60,slow=2.1
WHTX Lake Whitney, 118.54 57 IAMs_20 IAMs_20 15 17 19.2
comp=Z,29µm,20.0s
WHTX Lake Whitney, 118.54 57 PKiKP **PKPdf** **14 31 55.3 -0.1**
baz=281
RONA Rosalia, Austr 118.55 322 *e*PKiKP **PKPdf** **14 31 54.6 -0.4**
comp=Z,2nm,1.5s
UNM Universidad Na 118.59 71 IAMs_20 IAMs_20 15 19 38.6
comp=Z,33µm,19.0s
RICC Richard 118.59 325 AMS AMS 15 24 10.0
comp=Z,34µm,21.3s
PRU Pruhonice 118.60 325 AMS AMS 15 26 00.0
comp=Z,33µm,20.5s
E38A The Farm, Brul 118.61 40 IAMs_20 IAMs_20 15 15 50.6
comp=Z,27µm,21.0s
PRA Prague 118.62 325 AMS AMS 15 26 00.0
comp=Z,35µm,20.2s
435B Jarrell 118.65 58 IAMs_20 IAMs_20 15 16 12.4
comp=Z,42µm,20.0s
435B Jarrell 118.65 58 PKiKP **PKiKP** **14 31 56.0 +0.3**
baz=280
SFJD Kangerlussuaq 118.66 6 *i* P **PKPdf** **14 31 53.4 -1.2**
CONA Conrad Observa 118.72 322 *e*PKP **PKPdf** **14 31 52.4 -3.0**
comp=Z,10nm,1.5s
735A Kenedy 118.79 61 IAMs_20 IAMs_20 15 16 47.2
comp=Z,26µm,21.0s
CLL Collm 118.84 327 IAMs_20 IAMs_20 15 25 08.0
comp=Z,24µm,21.0s
CLL Collm 118.84 327 *e*PKiKP **PKiKP** **14 31 57.0 +1.5**
CLL *i* 14 32 01.4
CLL *e* 14 33 11.0
CLL pmax pmax
comp=Z,30nm,1.5s
CLL MLR MLR
comp=Z,22µm,19.1s
CLL Collm 118.84 327 *e*PKPdf **PKiKP** **14 31 57.9 +2.4**
baz=60,slow=2.1
KVTX Kingsville 118.92 62 IAMs_20 IAMs_20 15 21 47.3
comp=Z,22µm,19.0s
HSKC Hora Svate Kat 118.94 326 AMS AMS 15 25 30.0
comp=Z,34µm,19.7s
TUL3 Leonard 119.03 52 PKiKP **PKPdf** **14 31 54.3 -1.9**
baz=284
ZVC Zvikov 119.05 324 *e*PKP **PKiKP** **14 31 57.0 +1.0**
ZVC AMS AMS 15 26 20.0
comp=Z,24µm,19.8s
KOGS Kog 119.08 320 *e*PKiKP **PKiKP** **14 31 58.0 +1.9**
ARSA Arzberg 119.21 322 *ep*PKP **PKiKP** **14 31 56.9 +0.5**
comp=Z,14nm,1.6s
SCIA State Center 119.21 45 IAMs_20 IAMs_20 15 16 05.6
comp=Z,27µm,22.0s
SCIA State Center 119.21 45 PKiKP **PKPdf** **14 31 55.5 -1.0**
baz=290
TLIG Tlapa 119.26 73 IAMs_20 IAMs_20 15 25 44.5
comp=Z,23µm,18.0s
CKRC Cesky Krumlov 119.26 324 *e*PKiKP **PKiKP** **14 31 56.4 0.0**
CKRC MLR MLR
comp=Z,22µm,19.8s
CKRC Cesky Krumlov 119.26 324 *e*PKP **PKiKP** **14 31 56.4 0.0**
CKRC *ex* x 14 41 11.9
CKRC AMS AMS 15 26 30.0
comp=Z,22µm,19.8s
FLTG Flechtingen 119.27 328 *e*PKPdf **PKiKP** **14 31 58.6 +2.3**
baz=60,slow=2.1
DY2G Dye2 119.55 4 *i* P **PKPdf** **14 31 54.4 -2.3**
KHC Kasperske Hory 119.55 324 **PKPdf** **14 31 55.1 -1.8**
KHC Kasperske Hory 119.55 324 *e*PKiKP **PKPdf** **14 31 56.4 -0.5**
KHC MLR MLR
comp=Z,30µm,20.0s
KHC Kasperske Hory 119.55 324 *e*PKP **PKPdf** **14 31 56.4 -0.5**
KHC *ex* x 14 33 33.5
KHC *e*S **Sdif** **14 41 14.9 +5.4**
KHC AMS AMS 15 26 40.0
comp=Z,30µm,20.0s
N38A Joes South For 119.56 46 IAMs_20 IAMs_20 15 16 44.4
comp=Z,40µm,22.0s
RLO Rose Lookout 119.56 52 IAMs_20 IAMs_20 15 15 14.9
comp=Z,48µm,21.0s
TANN Tannenbergstha 119.58 326 *e*PKPdf **PKiKP** **14 31 59.5 +2.5**
baz=60,slow=2.1
GEC2 GERESS Array S 119.61 324 *e*PKPdf **PKiKP** **14 31 59.3 +2.1**
baz=60,slow=2.1
GERES GERESS Array B 119.61 324 PKIKP **PKiKP** **14 31 57.6 +0.4**
GERES GERESS Array B 119.61 324 PKP **PKiKP** **14 31 57.5 +0.4**
comp=Z,3.5nm,0.9s,baz=0.0,slow=4.5,SNR=9.4
NKC Novy Kostel 119.67 326 AMS AMS 15 25 40.0
comp=Z,31µm,19.0s
X37A Clayton 119.68 54 IAMs_20 IAMs_20 15 15 09.3
comp=Z,29µm,22.0s
X37A Clayton 119.68 54 P **PKiKP** **14 31 57.7 0.0**
baz=284
HOPE Hope Point 119.70 181 IAMs_20 IAMs_20 15 26 35.3
comp=Z,33µm,19.0s
PLN Plauen 119.71 326 *e*PKPdf **PKiKP** **14 31 59.6 +2.4**
baz=60,slow=2.1
P38A Dawn 119.72 48 IAMs_20 IAMs_20 15 16 23.6
comp=Z,36µm,22.0s
P38A Dawn 119.72 48 P **PKPdf** **14 31 57.0 -0.5**
baz=288
MOA Molln 119.72 323 *ep*PKP **PKiKP** **14 31 59.2 +1.9**
comp=Z,21nm,1.6s
SOKA Soboth 119.75 321 *e*PKiKP **PKPdf** **14 31 57.1 -0.3**
comp=Z,36nm,1.7s,SNR=5.2
237A Washetta, Mont 119.91 57 IAMs_20 IAMs_20 15 17 44.5
comp=Z,29µm,21.0s
MOX Moxa 119.93 326 *e*PKPdf **PKiKP** **14 32 00.1 +2.4**
baz=60,slow=2.1
MOX *e*L L 15 28 21.3
comp=Z,20µm,18.5s
WET Wettzell 119.95 324 *e*PKPdf **PKiKP** **14 32 00.2 +2.5**
baz=60,slow=2.1
CLZ Clausthal 119.98 328 *e*PKPdf **PKiKP** **14 32 00.4 +2.6**
baz=60,slow=2.1
MANZ Manzenberg 119.98 326 *e*PKPdf **PKiKP** **14 32 00.1 +2.3**
baz=60,slow=2.1
U38A Gravette 119.99 51 P **PKPdf** **14 31 57.4 -0.7**
baz=286
G40A Rib Lake 120.02 41 IAMs_20 IAMs_20 15 25 14.7
comp=Z,29µm,20.0s
OBKA Obir 120.13 321 *e*PKiKP **PKiKP** **14 31 58.6 +0.3**
comp=Z,16nm,1.6s
BIOA Bad Ischl, Aus 120.17 323 *e*PKiKP **PKPdf** **14 31 57.3 -0.9**
comp=Z,19nm,1.5s
I40A Norwalk 120.28 42 IAMs_20 IAMs_20 15 19 27.0
comp=Z,37µm,20.0s
Z38A Mt. Pleasant 120.31 55 IAMs_20 IAMs_20 15 15 31.9

	comp=Z,36µm,22.0s									
TSUM	**Tsumeb**	**120.31**	**244**		IAMs_20	IAMs_20	15 17 20.3			
	comp=Z,28µm,22.0s									
LJU	**Ljubljana**	**120.34**	**321**	*i*	PKiKP	**PKiKP**	**14 32 00.6**	**+2.0**		
COWI	**Conover**	**120.35**	**39**		IAMs_20	IAMs_20	15 16 22.0			
	comp=Z,35µm,22.0s									
COWI	**Conover**	**120.35**	**39**		P	**PKPdf**	**14 31 57.4**	**-1.1**		
	baz=295									
GTTG	**Gottingen**	**120.36**	**328**	*e*	PKPdf	**PKiKP**	**14 32 01.1**	**+2.7**		
	baz=60,slow=2.1									
S39A	**Bolivar**	**120.45**	**50**			**PKPdf**	**14 31 57.1**	**-1.9**		
S39A	**Bolivar**	**120.45**	**50**		P	**PKPdf**	**14 31 57.9**	**-1.1**		
	baz=287									
L40A	**Anamosa**	**120.55**	**44**		IAMs_20	IAMs_20	15 17 34.4			
	comp=Z,33µm,21.0s									
L40A	**Anamosa**	**120.55**	**44**		P	**PKPdf**	**14 31 58.0**	**-1.0**		
	baz=291									
KBA	**Koelnbreinsper**	**120.62**	**322**	*i*	PKiKP	**PKPdf**	**14 31 58.6**	**-0.7**		
	comp=Z,19nm,1.6s									
GRA1	**Grafenberg Arr**	**120.63**	**326**		IAMs_20	IAMs_20	15 26 17.4			
	comp=Z,27µm,21.0s									
GRF	**Grafenberg Arr**	**120.63**	**326**	*e*	L	L	15 26 06.7			
	comp=Z,25µm,21.5s									
GRFO	**Grafenberg**	**120.63**	**326**		IAMs_20	IAMs_20	15 26 06.4			
	comp=Z,29µm,22.0s									
MYKA	**Terra Mystica**	**120.64**	**322**	*i*	pPKiKP	**PKiKP**	**14 32 01.6**	**+2.3**		
	comp=Z,19nm,1.5s									
VOJS	**Vojsko**	**120.75**	**321**	*e*	PKiKP	**PKiKP**	**14 31 59.6**	**0.0**		
P40A	**Paris**	**120.83**	**47**		IAMs_20	IAMs_20	15 17 26.1			
	comp=Z,40µm,21.0s									
P40A	**Paris**	**120.83**	**47**		P	**PKPdf**	**14 31 57.6**	**-2.1**		
	baz=289									
LESA	**Schwarzleotal**	**120.87**	**323**	*i*	PKiKP	**PKPdf**	**14 31 59.4**	**-0.2**		
	comp=Z,26nm,1.2s									
JFWS	**Jewell Farm**	**120.91**	**43**		IAMs_20	IAMs_20	15 17 27.1			
	comp=Z,42µm,22.0s									
JFWS	**Jewell Farm**	**120.91**	**43**		PKiKP	**PKPdf**	**14 31 58.8**	**-0.9**		
	baz=292									
JFWS	**Jewell Farm**	**120.91**	**43**		P	**PKPdf**	**14 31 58.3**	**-1.3**		
	baz=292									
NATX	**Nacogdoches**	**120.91**	**57**		IAMs_20	IAMs_20	15 19 33.7			
	comp=Z,30µm,20.0s									
NATX	**Nacogdoches**	**120.91**	**57**		PKiKP	**PKPdf**	**14 31 58.4**	**-1.6**		
	baz=283									
R40A	**Maddies Statio**	**121.07**	**49**		IAMs_20	IAMs_20	15 18 42.4			
	comp=Z,21µm,20.0s									
R40A	**Maddies Statio**	**121.07**	**49**		P	**PKPdf**	**14 31 58.8**	**-1.3**		
	baz=288									
MIAR	**Mount Ida**	**121.13**	**53**		PKiKP	**PKPdf**	**14 31 59.0**	**-1.3**		
	baz=285									
MIAR	**Mount Ida**	**121.13**	**53**		P	**PKPdf**	**14 31 59.1**	**-1.3**		
	baz=285									
F42A	**Maple Grove Fa**	**121.13**	**39**		IAMs_20	IAMs_20	15 17 08.0			
	comp=Z,38µm,22.0s									
U40A	**Yellville**	**121.20**	**51**		P	**PKPdf**	**14 31 59.3**	**-1.2**		
	baz=287									
U40A					P	**PKPdf**	**14 31 59.3**	**-1.2**		
	baz=287									
ABTA	**Abfaltersbach**	**121.28**	**322**	*e*	PKiKP	**PKPdf**	**14 32 00.0**	**-0.4**		
	comp=Z,35nm,1.5s,SNR=7.8									
N41A	**Harden Midland**	**121.30**	**46**		IAMs_20	IAMs_20	15 19 12.1			
	comp=Z,27µm,21.0s									
STAL	**STALIGIAL**	**121.38**	**321**			**PKPdf**	**14 31 59.0**	**-1.6**		
TIP	**Timpagrande**	**121.41**	**312**		IAMs_20	IAMs_20	15 30 47.0			
	comp=Z,25µm,21.0s									
I42A	**Draeger Farm,**	**121.42**	**42**		IAMs_20	IAMs_20	15 19 20.9			
	comp=Z,30µm,21.0s									
WTTA	**Wattenberg**	**121.57**	**323**	*i*	pPKP	**PKiKP**	**14 32 01.9**	**+0.7**		
	comp=Z,74nm,1.4s,SNR=12									
WATA	**Walderalm**	**121.57**	**323**	*e*	pPKP	**PKiKP**	**14 32 01.5**	**+0.3**		
	comp=Z,66nm,1.8s,SNR=9.1									
L42A	**Oliver, Polo**	**121.65**	**44**		P	**PKPdf**	**14 32 00.1**	**-1.0**		
	baz=292									
WLAR	**White Oak Lake**	**121.72**	**54**		IAMs_20	IAMs_20	15 18 53.3			
	comp=Z,31µm,21.0s									
X40A	**Basin Creek Fa**	**121.73**	**53**		IAMs_20	IAMs_20	15 16 54.5			
	comp=Z,40µm,22.0s									
BIGH	**Upper Bighouse**	**121.85**	**340**	*e*	P	**PKiKP**	**14 32 07.7**	**+6.6**		
BIGH					IAMs_20	IAMs_20	15 24 56.4			
	comp=Z,38µm,24.2s									
SQTA	**Sankt Quirin**	**121.85**	**323**	*e*	pPKP	**PKiKP**	**14 32 02.2**	**+0.5**		
	comp=Z,40nm,1.5s,SNR=11									
MOTA	**Moosalm**	**121.85**	**323**	*e*	PKiKP	**PKPdf**	**14 32 01.6**	**+0.1**		
	comp=Z,43nm,1.4s,SNR=7.8									
FCAR	**Ozark Folk Cen**	**121.90**	**51**		IAMs_20	IAMs_20	15 16 58.8			
	comp=Z,43µm,22.0s									
CCM	**Cathedral Cave**	**121.91**	**49**			**PKPdf**	**14 31 59.7**	**-2.0**		
CCM	**Cathedral Cave**	**121.91**	**49**		IAMs_20	IAMs_20	15 18 56.7			
	comp=Z,20µm,20.0s									
CCM	**Cathedral Cave**	**121.91**	**49**		PKiKP	**PKPdf**	**14 31 59.7**	**-2.0**		
CCM	**Cathedral Cave**	**121.91**	**49**		PKiKP	**PKPdf**	**14 32 00.2**	**-1.6**		
	baz=289									
CCM	**Cathedral Cave**	**121.91**	**49**		P	**PKPdf**	**14 32 00.6**	**-1.1**		
	baz=289									
H43A	**Windswept, Lux**	**121.92**	**41**		IAMs_20	IAMs_20	15 22 00.1			
	comp=Z,31µm,20.0s									
WHAR	**Wooly Hollow**	**121.94**	**52**		IAMs_20	IAMs_20	15 16 46.0			
	comp=Z,33µm,22.0s									
RETA	**Reutte**	**121.98**	**323**	*e*	pPKP	**PKiKP**	**14 32 03.3**	**+1.4**		
	comp=Z,22nm,1.4s									
UALR	**University of**	**122.04**	**53**		IAMs_20	IAMs_20	15 21 54.7			
	comp=Z,35µm,20.0s									
Z41A	**Richland Creek**	**122.08**	**55**		IAMs_20	IAMs_20	15 17 18.8			
	comp=Z,33µm,22.0s									
FETA	**Feichten**	**122.23**	**323**	*e*	pPKP	**PKiKP**	**14 32 02.7**	**+0.2**		
	comp=Z,34nm,1.5s,SNR=6.1									
STU	**Stuttgart**	**122.24**	**325**		IAMs_20	IAMs_20	15 30 29.1			
	comp=Z,26µm,19.0s									
K43A	**Burlington**	**122.28**	**43**		IAMs_20	IAMs_20	15 18 30.0			
	comp=Z,36µm,22.0s									
441A	**DeRidder**	**122.36**	**58**		IAMs_20	IAMs_20	15 19 39.6			
	comp=Z,27µm,20.0s									
HDIL	**Hopedale**	**122.46**	**45**		IAMs_20	IAMs_20	15 23 19.4			
	comp=Z,23µm,20.0s									
HDIL	**Hopedale**	**122.46**	**45**		PKiKP	**PKPdf**	**14 32 01.5**	**-1.2**		
	baz=292									
DRUM	**Mains of Drumt**	**122.53**	**338**	*e*	P	PKiKP	14 32 12.6	+10		
DRUM					IAMs_20	IAMs_20	15 30 01.4			
	comp=Z,31µm,19.0s									
FVM	**French Village**	**122.54**	**49**		IAMs_20	IAMs_20	15 25 33.4			
	comp=Z,20µm,19.0s									
FVM	**French Village**	**122.54**	**49**		P	**PKPdf**	**14 32 01.8**	**-1.1**		
	baz=290									
DAVA	**Damuels**	**122.61**	**324**	*e*	pPKP	**PKiKP**	**14 32 03.4**	**+0.2**		
	comp=Z,31nm,1.5s,SNR=7.3									
P43A	**Skaggs, Pawnee**	**122.63**	**46**		IAMs_20	IAMs_20	15 18 28.6			
	comp=Z,31µm,21.0s									
FUORN	**Ofenpass-Fuorn**	**122.71**	**323**		IAMs_20	IAMs_20	15 29 09.6			
	comp=Z,21µm,20.0s									
CCAR	**Cane Creek**	**122.73**	**54**		IAMs_20	IAMs_20	15 17 45.1			
	comp=Z,33µm,21.0s									
L44A	**Lake County Fo**	**122.78**	**43**		IAMs_20	IAMs_20	15 18 34.2			
	comp=Z,29µm,22.0s									
L44A	**Lake County Fo**	**122.78**	**43**		PKiKP	**PKPdf**	**14 32 02.9**	**-0.4**		
	baz=294									
HQIL	**Hanson Quary C**	**122.98**	**43**		IAMs_20	IAMs_20	15 18 16.4			
	comp=Z,40µm,22.0s									
M44A	**Midewin, Midew**	**123.01**	**44**		IAMs_20	IAMs_20	15 19 39.4			
	comp=Z,37µm,21.0s									
I45A	**Fountain**	**123.10**	**40**		IAMs_20	IAMs_20	15 27 58.3			
	comp=Z,24µm,19.0s									
O44A	**Mansfield**	**123.19**	**45**		IAMs_20	IAMs_20	15 23 39.4			
	comp=Z,36µm,20.0s									
O44A	**Mansfield**	**123.19**	**45**		P	**PKPdf**	**14 32 03.8**	**-0.3**		
	baz=292									
E46A	**Sault Ste Mari**	**123.20**	**37**		P	**PKPdf**	**14 32 02.7**	**-1.2**		
	baz=300									
Q44A	**Meyer Farm, Va**	**123.26**	**47**		IAMs_20	IAMs_20	15 27 22.3			
	comp=Z,26µm,20.0s									
TUE	**Stuetta**	**123.33**	**323**		IAMs_20	IAMs_20	15 27 27.0			
	comp=Z,29µm,20.0s									
KPL	**Plockton**	**123.33**	**340**	*e*	P	PKiKP	14 32 18.7	+15		
KPL					IAMs_20	IAMs_20	15 25 37.5			
	comp=Z,34µm,24.7s									
WLF	**Walferdange**	**123.42**	**328**		IAMs_20	IAMs_20	15 30 02.1			
	comp=Z,31µm,20.0s									
WLF	**Walferdange**	**123.42**	**328**		PKP	**PKiKP**	**14 32 06.5**	**+2.0**		
WLF	**Walferdange**	**123.42**	**328**	*e*	PKPdf	**PKiKP**	**14 32 07.4**	**+2.9**		
	baz=60,slow=2.1									
S44A	**Carbondale**	**123.51**	**48**		IAMs_20	IAMs_20	15 19 57.1			
	comp=Z,28µm,20.0s									
S44A	**Carbondale**	**123.51**	**48**		P	**PKPdf**	**14 32 04.1**	**-0.7**		
	baz=290									
EDI	**Edinburgh**	**123.53**	**338**	*e*	P	**PKiKP**	**14 32 04.7**	**+0.2**		
EDI					IAMs_20	IAMs_20	15 29 43.1			
	comp=Z,22µm,19.4s									
SIUC	**Southern Illin**	**123.53**	**48**		IAMs_20	IAMs_20	15 20 07.7			
	comp=Z,28µm,20.0s									
GDLE	**Glaisdale, N Y**	**123.68**	**335**	*e*	P	**PKiKP**	**14 32 12.2**	**+7.3**		
GDLE					IAMs_20	IAMs_20	15 22 55.0			
	comp=Z,33µm,26.0s									
HDBT	**Hernando Brdge**	**123.73**	**52**		IAMs_20	IAMs_20	15 22 56.2			
	comp=Z,21µm,21.0s									
GLMI	**Grayling**	**123.76**	**39**		IAMs_20	IAMs_20	15 24 11.3			
	comp=Z,36µm,21.0s									
GLMI	**Grayling**	**123.76**	**39**		PKiKP	**PKPdf**	**14 32 03.1**	**-2.1**		
	baz=299									
VLC	**Villacollemand**	**123.81**	**320**		PKP	**PKiKP**	**14 32 06.7**	**+1.2**		
MET	**Memphis--Engin**	**123.83**	**52**		IAMs_20	IAMs_20	15 22 48.0			
	comp=Z,25µm,20.0s									
EDMD	**Edmundbyers**	**123.86**	**336**	*e*	P	**PKPdf**	**14 32 01.0**	**-3.9**		
EDMD					IAMs_20	IAMs_20	15 23 34.3			
	comp=Z,31µm,24.1s									
L46A	**Eue Claire**	**123.94**	**43**		IAMs_20	IAMs_20	15 18 27.0			
	comp=Z,35µm,22.0s									
EKA	**Eskdalemuir Ar**	**123.96**	**337**		PKiKP	**PKiKP**	**14 32 05.7**	**+0.3**		
EKA	**Eskdalemuir Ar**	**123.96**	**337**		PKP	**PKiKP**	**14 32 05.7**	**+0.3**		
	comp=Z,5.0nm,0.9s,baz=21,slow=7.2,SNR=5.9									
EKA					PKKPbc	**PKKPbc**	**14 41 54.5**	**+1.5**		
	comp=Z,1.6nm,0.7s,baz=225,slow=3.3,SNR=4.9									
OLIL	**Olney**	**123.99**	**47**		IAMs_20	IAMs_20	15 23 19.6			
	comp=Z,26µm,20.0s									
SFIN	**Lafayette**	**124.07**	**45**		IAMs_20	IAMs_20	15 21 22.5			
	comp=Z,32µm,20.0s									
SFIN	**Lafayette**	**124.07**	**45**		PKiKP	**PKPdf**	**14 32 04.8**	**-1.0**		
	baz=294									
SFIN	**Lafayette**	**124.07**	**45**		P	**PKPdf**	**14 32 05.1**	**-0.7**		
	baz=294									
PLCA	**Paso Flores**	**124.18**	**150**		PKiKP	**PKiKP**	**14 32 07.0**	**+0.5**		
PLCA	**Paso Flores**	**124.18**	**150**		PKP	**PKiKP**	**14 32 07.0**	**+0.5**		
	comp=Z,5.6nm,1.0s,baz=234,slow=6.1,SNR=7.2									
PLCA	**Paso Flores**	**124.18**	**150**	*e*	P	**PKiKP**	**14 32 06.5**	**+0.1**		
VBMS	**Vicksburg**	**124.21**	**55**		IAMs_20	IAMs_20	15 18 44.9			
	comp=Z,33µm,22.0s									
VBMS	**Vicksburg**	**124.21**	**55**		PKiKP	**PKPdf**	**14 32 04.5**	**-1.8**		
	baz=286									
WACR	**West Acre**	**124.23**	**333**	*e*	P	PKiKP	14 32 17.7	+12		
WACR					IAMs_20	IAMs_20	15 29 08.0			
	comp=Z,32µm,19.7s									
P46A	**Rosedale**	**124.30**	**46**		IAMs_20	IAMs_20	15 19 09.5			
	comp=Z,30µm,22.0s									
P46A	**Rosedale**	**124.30**	**46**		P	**PKPdf**	**14 32 05.4**	**-0.9**		
	baz=293									
J47A	**Sunmer**	**124.38**	**41**		IAMs_20	IAMs_20	15 19 09.1			
	comp=Z,26µm,21.0s									
OXF	**Oxford**	**124.43**	**52**		IAMs_20	IAMs_20	15 18 51.5			
	comp=Z,21µm,22.0s									
OXF	**Oxford**	**124.43**	**52**		PKiKP	**PKPdf**	**14 32 05.1**	**-1.6**		
	baz=288									
OXF	**Oxford**	**124.43**	**52**		P	**PKPdf**	**14 32 05.4**	**-1.3**		
	baz=288									
ELMS	**Elmsett, Ipswi**	**124.48**	**332**	*e*	P	**PKiKP**	**14 32 11.6**	**+5.1**		
ELMS					IAMs_20	IAMs_20	15 28 58.1			
	comp=Z,31µm,20.0s									
KESW	**Keswick, Cumbr**	**124.49**	**337**	*e*	P	**PKiKP**	**14 32 06.4**	**-0.1**		
KESW					IAMs_20	IAMs_20	15 28 32.0			
	comp=Z,30µm,19.8s									
Y45A	**Yeager Farm, C**	**124.52**	**53**		IAMs_20	IAMs_20	15 18 06.4			
	comp=Z,31µm,22.0s									
IVI	**Ivigtut**	**124.56**	**6**	*i*	P	**PKPdf**	**14 32 05.6**	**-0.5**		
N47A	**Urbana**	**124.84**	**44**		IAMs_20	IAMs_20	15 19 43.7			
	comp=Z,32µm,22.0s									
N47A	**Urbana**	**124.84**	**44**		P	**PKPdf**	**14 32 05.4**	**-1.9**		
	baz=295									
N47A					P	**PKPdf**	**14 32 05.4**	**-1.9**		
	baz=295									
NRS	**Narsarsuaq**	**124.87**	**5**	*i*	P	**PKPdf**	**14 32 05.9**	**-0.8**		
BLO	**Bloomington**	**124.96**	**46**		IAMs_20	IAMs_20	15 24 43.1			
	comp=Z,28µm,22.0s									
ELSH	**Elham, Standar**	**125.04**	**331**	*e*	P	**PKPdf**	**14 32 05.2**	**-2.2**		
ELSH					IAMs_20	IAMs_20	15 24 01.6			
	comp=Z,32µm,26.2s									
CWF	**Charnwood Fore**	**125.07**	**334**	*e*	P	**PKiKP**	**14 32 13.5**	**+5.8**		
CWF					IAMs_20	IAMs_20	15 26 48.8			
	comp=Z,34µm,23.8s									
WVT	**Waverly**	**125.12**	**50**			**PKPdf**	**14 32 05.7**	**-2.3**		
WVT	**Waverly**	**125.12**	**50**		PKiKP	**PKPdf**	**14 32 05.7**	**-2.3**		
WVT	**Waverly**	**125.12**	**50**		PKiKP	**PKPdf**	**14 32 06.8**	**-1.2**		
	baz=290									
WVT	**Waverly**	**125.12**	**50**		P	**PKPdf**	**14 32 06.9**	**-1.1**		
	baz=290									
L48A	**N Adams**	**125.22**	**42**		IAMs_20	IAMs_20	15 25 44.7			
	comp=Z,32µm,20.0s									
L48A	**N Adams**	**125.22**	**42**		P	**PKPdf**	**14 32 06.7**	**-1.4**		
	baz=297									
L48A					P	**PKPdf**	**14 32 06.7**	**-1.4**		
	baz=297									
146A	**Union**	**125.28**	**54**		IAMs_20	IAMs_20	15 23 45.5			
	comp=Z,35µm,20.0s									
346A	**Big Creek Wild**	**125.30**	**56**		IAMs_20	IAMs_20	15 21 43.2			
	comp=Z,31µm,20.0s									
PLAL	**Pickwick Lake**	**125.32**	**51**		IAMs_20	IAMs_20	15 24 28.9			
	comp=Z,18µm,20.0s									
T47A	**Sharon Grove**	**125.36**	**49**		IAMs_20	IAMs_20	15 19 05.1			
	comp=Z,33µm,22.0s									
T47A	**Sharon Grove**	**125.36**	**49**		P	**PKPdf**	**14 32 07.9**	**-0.6**		
	baz=292									
O48B	**Farmland**	**125.47**	**44**		IAMs_20	IAMs_20	15 24 38.6			
	comp=Z,34µm,20.0s									
O48B	**Farmland**	**125.47**	**44**		PKiKP	**PKPdf**	**14 32 07.6**	**-0.9**		
	baz=295									
O48B	**Farmland**	**125.47**	**44**		P	**PKPdf**	**14 32 07.7**	**-0.8**		
	baz=295									
WCI	**Wyandotte Cave**	**125.49**	**47**		IAMs_20	IAMs_20	15 27 30.4			
	comp=Z,30µm,19.0s									
WCI	**Wyandotte Cave**	**125.49**	**47**		PKiKP	**PKPdf**	**14 32 07.4**	**-1.2**		
	baz=293									
WCI	**Wyandotte Cave**	**125.49**	**47**		P	**PKPdf**	**14 32 07.6**	**-1.0**		
	baz=293									
AAM	**Ann Arbor**	**125.57**	**41**		IAMs_20	IAMs_20	15 22 59.4			
	comp=Z,32µm,20.0s									
AAM	**Ann Arbor**	**125.57**	**41**		PKiKP	**PKPdf**	**14 32 07.6**	**-1.0**		
	baz=298									
HMNX	**Herstmonceux**	**125.61**	**332**	*e*	P	**PKiKP**	**14 32 16.5**	**+7.7**		
HMNX					IAMs_20	IAMs_20	15 29 06.4			
	comp=Z,24µm,19.9s									
P48A	**Milroy**	**125.62**	**45**		IAMs_20	IAMs_20	15 22 07.5			
	comp=Z,24µm,21.0s									
P48A	**Milroy**	**125.62**	**45**		P	**PKPdf**	**14 32 08.5**	**-0.3**		
	baz=295									
P48A					P	**PKPdf**	**14 32 08.5**	**-0.3**		
	baz=295									
BNI	**Bardonecchia**	**125.66**	**323**		IAMs_20	IAMs_20	15 30 02.8			
	comp=Z,35µm,20.0s									
N49A	**Columbus Grove**	**125.85**	**43**		P	**PKPdf**	**14 32 08.4**	**-0.8**		
	baz=297									
N49A					P	**PKPdf**	**14 32 08.4**	**-0.8**		
	baz=297									
HLM1	**Long Mynd**	**125.90**	**335**	*e*	P	**PKiKP**	**14 32 16.6**	**+7.2**		
HLM1					IAMs_20	IAMs_20	15 23 16.0			
	comp=Z,37µm,27.1s									
WPS	**Cemaes, Angles**	**125.92**	**336**	*e*	P	**PKiKP**	**14 32 14.0**	**+4.7**		
WPS					IAMs_20	IAMs_20	15 29 34.4			
	comp=Z,24µm,20.2s									
V48A	**Smith Brothers**	**126.03**	**50**		P	**PKPdf**	**14 32 08.3**	**-1.4**		
	baz=291									
SCHQ	**Schefferville**	**126.06**	**21**			**PKPdf**	**14 32 08.3**	**-1.0**		
SCHQ	**Schefferville**	**126.06**	**21**		PKP	**PKPdf**	**14 32 07.9**	**-1.4**		
	comp=Z,14nm,1.0s,baz=318,slow=6.0,SNR=6.1									
O49A	**Covington**	**126.07**	**44**		IAMs_20	IAMs_20	15 25 25.3			
	comp=Z,30µm,20.0s									
O49A	**Covington**	**126.07**	**44**		P	**PKPdf**	**14 32 08.9**	**-0.8**		
	baz=296									
O49A					P	**PKPdf**	**14 32 08.9**	**-0.8**		
	baz=296									
P49A	**Miami Univ. Ec**	**126.09**	**45**		IAMs_20	IAMs_20	15 22 52.8			
	comp=Z,31µm,20.0s									
P49A	**Miami Univ. Ec**	**126.09**	**45**		PKiKP	**PKPdf**	**14 32 08.6**	**-1.1**		
	baz=295									
P49A	**Miami Univ. Ec**	**126.09**	**45**		P	**PKPdf**	**14 32 08.8**	**-1.0**		
	baz=295									
R49A	**Shelbyville**	**126.28**	**46**		IAMs_20	IAMs_20	15 27 30.1			
	comp=Z,22µm,20.0s									
R49A	**Shelbyville**	**126.28**	**46**		P	**PKPdf**	**14 32 10.1**	**0.0**		
	baz=294									
R49A					P	**PKPdf**	**14 32 10.1**	**0.0**		
	baz=294									
X48A	**Hartselle**	**126.30**	**51**		P	**PKPdf**	**14 32 09.3**	**-0.9**		
	baz=290									
OLDB	**Oldbury-Upon-S**	**126.38**	**334**	*e*	P	PKiKP	14 32 19.0	+8.7		
OLDB					IAMs_20	IAMs_20	15 28 28.9			
	comp=Z,33µm,22.6s									
U49A	**Red Boiling Sp**	**126.53**	**49**		P	**PKPdf**	**14 32 09.7**	**-1.0**		
	baz=292									
LRAL	**Lakeview Retre**	**126.81**	**53**		IAMs_20	IAMs_20	15 19 52.3			
	comp=Z,40µm,22.0s									
LRAL	**Lakeview Retre**	**126.81**	**53**		PKiKP	**PKPdf**	**14 32 10.5**	**-0.8**		
	baz=289									
LRAL	**Lakeview Retre**	**126.81**	**53**		P	**PKPdf**	**14 32 09.7**	**-1.5**		
	baz=289,SNR=7.1									
R50A	**Paris**	**126.89**	**46**		IAMs_20	IAMs_20	15 23 17.2			
	comp=Z,22µm,21.0s									
R50A	**Paris**	**126.89**	**46**		P	**PKPdf**	**14 32 10.0**	**-1.3**		
	baz=295									
R50A					P	**PKPdf**	**14 32 10.0**	**-1.3**		
	baz=295									
ACSO	**Alum Creek Sta**	**126.98**	**43**		IAMs_20	IAMs_20	15 21 32.8			
	comp=Z,32µm,21.0s									
ACSO	**Alum Creek Sta**	**126.98**	**43**		PKiKP	**PKPdf**	**14 32 10.7**	**-0.7**		
	baz=297									
ACSO	**Alum Creek Sta**	**126.98**	**43**		P	**PKPdf**	**14 32 10.1**	**-1.3**		
	baz=297									
T50A	**Nancy**	**127.03**	**48**		P	**PKPdf**	**14 32 10.9**	**-0.7**		
	baz=293									
T50A					P	**PKPdf**	**14 32 10.9**	**-0.7**		
	baz=293									
N51A	**Ashland**	**127.07**	**42**		IAMs_20	IAMs_20	15 22 20.6			
	comp=Z,35µm,20.0s									
N51A	**Ashland**	**127.07**	**42**		P	**PKPdf**	**14 32 10.7**	**-0.9**		
	baz=298									
N51A					P	**PKPdf**	**14 32 10.7**	**-0.9**		
	baz=298									
RSBS	**Rosebush, Pemb**	**127.10**	**335**	*e*	P	**PKiKP**	**14 32 17.8**	**+6.1**		
RSBS					IAMs_20	IAMs_20	15 23 47.9			
	comp=Z,24µm,25.2s									
SADO	**Sadowa**	**127.13**	**37**		IAMs_20	IAMs_20	15 19 31.5			
	comp=Z,40µm,22.0s									
P51A	**Williamsport**	**127.26**	**44**		IAMs_20	IAMs_20	15 26 19.9			
	comp=Z,29µm,20.0s									
P51A	**Williamsport**	**127.26**	**44**		P	**PKPdf**	**14 32 11.7**	**-0.3**		
	baz=297									
P51A					P	**PKPdf**	**14 32 11.7**	**-0.3**		
	baz=297									
Q51A	**Peebles**	**127.27**	**45**		IAMs_20	IAMs_20	15 22 19.0			
	comp=Z,39µm,21.0s									
BRAL	**Brewton**	**127.34**	**55**		IAMs_20	IAMs_20	15 25 23.8			
	comp=Z,27µm,20.0s									
BRAL	**Brewton**	**127.34**	**55**		PKiKP	**PKPdf**	**14 32 10.6**	**-1.7**		
	baz=288									
W50A	**Signal Mountai**	**127.37**	**50**		P	**PKPdf**	**14 32 11.0**	**-1.4**		
	baz=292,SNR=12									
FPAL	**Fort Paine**	**127.38**	**51**		IAMs_20	IAMs_20	15 19 59.8

CASEE	Lake Jocassee	129.25	49	P		PKPdf	14 32 15.3	-0.7
	baz=294							
J56A	Wolcott	129.33	37			PKPdf	14 32 14.2	-1.6
MCWV	Mont Chateau	129.37	42	PKiKP		PKPdf	14 32 14.7	-1.3
	baz=300							
U54A	Nelsons Funny	129.44	47	P		PKPdf	14 32 15.8	-0.5
	baz=296							
U54A				P		PKPdf	14 32 15.8	-0.5
	baz=296							
GOGA	Godfrey	129.45	51	IAMs_20	IAMs_20		15 30 13.2	
	comp=Z,23µm,20.0s							
GOGA	Godfrey	129.45	51	PKiKP		PKPdf	14 32 14.8	-1.5
	baz=292							
GOGA	Godfrey	129.45	51	P		PKPdf	14 32 15.7	-0.6
	baz=292							
L56A	Greenwood	129.55	39	P		PKPdf	14 32 15.8	-0.5
	baz=304							
L56A				P		PKPdf	14 32 15.8	-0.5
	baz=304							
J57A	Williamstown	129.76	36	IAMs_20	IAMs_20		15 31 20.2	
	comp=Z,36µm,20.0s							
553A	Crawfordville	129.79	56	IAMs_20	IAMs_20		15 28 12.1	
	comp=Z,23µm,20.0s							
LONY	Lake Ozonia	129.84	34	IAMs_20	IAMs_20		15 24 56.6	
	comp=Z,37µm,21.0s							
LONY	Lake Ozonia	129.84	34	PKiKP		PKPdf	14 32 15.0	-1.7
	baz=308							
K57A	Scipio Center	129.85	37			PKPdf	14 32 14.3	-2.5
R55A	Marlinton	129.85	44	IAMs_20	IAMs_20		15 25 09.4	
	comp=Z,35µm,20.0s							
R55A	Marlinton	129.85	44	P		PKPdf	14 32 17.0	0.0
	baz=298,SNR=6.7							
R55A				P		PKPdf	14 32 17.0	0.0
	baz=298,SNR=6.7							
154A	Montrose	130.03	52	IAMs_20	IAMs_20		15 22 15.0	
	comp=Z,32µm,22.0s							
TIGA	Tifton	130.06	54	IAMs_20	IAMs_20		15 22 01.0	
	comp=Z,33µm,22.0s							
TIGA	Tifton	130.06	54	PKiKP		PKPdf	14 32 16.1	-1.4
	baz=290							
HODGE	Hodges	130.06	50	P		PKPdf	14 32 16.6	-0.8
	baz=294,SNR=6.0							
BLA	Blacksburg	130.14	46	IAMs_20	IAMs_20		15 24 55.8	
	comp=Z,25µm,22.0s							
BLA	Blacksburg	130.14	46	PKiKP		PKPdf	14 32 16.0	-1.6
	baz=297							
BLA	Blacksburg	130.14	46	P		PKPdf	14 32 16.5	-1.1
	baz=297							
SSPA	Standing Stone	130.16	40			PKPdf	14 32 15.5	-1.9
SSPA	Standing Stone	130.16	40	PKiKP		PKPdf	14 32 16.2	-1.2
	baz=302							
SSPA	Standing Stone	130.16	40	P		PKPdf	14 32 16.6	-0.8
	baz=302							
PAULI	Pauline	130.16	49	P		PKPdf	14 32 17.2	-0.5
	baz=294							
J58A	Remsen	130.21	36	IAMs_20	IAMs_20		15 26 36.0	
	comp=Z,33µm,21.0s							
M57A	Sunshine Farm,	130.26	39	P		PKPdf	14 32 17.3	-0.4
	baz=304							
M57A				P		PKPdf	14 32 17.3	-0.4
	baz=304							
TRQA	Tornquist	130.32	154	IAMs_20	IAMs_20		15 26 39.4	
	comp=Z,18µm,21.0s							
TRQA	Tornquist	130.32	154	eP		PKPdf	14 32 16.2	-1.7
KMSC	Kings Mountain	130.39	48	PKiKP		PKPdf	14 32 16.9	-1.2
	baz=295							
NCB	Newcomb	130.45	35	IAMs_20	IAMs_20		15 27 19.1	
	comp=Z,27µm,20.0s							
NCB	Newcomb	130.45	35	P		PKPdf	14 32 17.5	-0.4
	baz=308							
BINY	Binghamton	130.48	38	PKiKP		PKPdf	14 32 17.5	-0.6
	baz=305							
J59A	Piesco	130.60	35	IAMs_20	IAMs_20		15 28 53.2	
	comp=Z,26µm,20.0s							
CRIN	San Cristobal	130.60	79	IAMs_20	IAMs_20		15 18 13.3	
	comp=Z,23µm,22.0s							
P57A	Homestead Farm	130.68	42	IAMs_20	IAMs_20		15 28 35.1	
	comp=Z,32µm,20.0s							
255A	Hazlehurst	130.77	53	IAMs_20	IAMs_20		15 23 38.8	
	comp=Z,38µm,22.0s							
JSC	Jenkinsville	130.80	49	P		PKPdf	14 32 17.5	-1.4
	baz=294							
CNGN	Cerro Negro	130.96	79	IAMs_20	IAMs_20		15 19 19.6	
	comp=Z,24µm,22.0s							
T57A	Hurt	131.06	45	P		PKPdf	14 32 18.8	-0.5
	baz=298							
T57A				P		PKPdf	14 32 18.8	-0.5
	baz=298							
ACCN	Adirondack Com	131.13	35	IAMs_20	IAMs_20		15 27 38.2	
	comp=Z,31µm,20.0s							
TRY	Troy	131.53	36	IAMs_20	IAMs_20		15 29 22.0	
	comp=Z,31µm,20.0s							
LBNH	Lisbon	131.55	33	PKiKP		PKPdf	14 32 19.5	-0.5
	baz=311							
456A	Hilliard	131.57	54	IAMs_20	IAMs_20		15 26 09.0	
	comp=Z,20µm,20.0s							
656A	Willston	131.61	56	IAMs_20	IAMs_20		15 29 45.5	
	comp=Z,21µm,19.0s							
CBN	Corbin Frederi	131.77	43	PKiKP		PKPdf	14 32 20.4	-0.2
	baz=301							
257A	Skidaway Islan	131.90	52	IAMs_20	IAMs_20		15 32 16.5	
	comp=Z,27µm,20.0s							
BOAB	BOACO BROADBAN	131.97	79	PKP		PKiKP	14 32 23.6	+1.0
WUPA	West Chester U	132.00	40	IAMs_20	IAMs_20		15 23 54.8	
	comp=Z,31µm,22.0s							
HZTE	Horizontes, Gu	132.09	81	IAMs_20	IAMs_20		15 20 25.8	
	comp=Z,24µm,21.0s							
NHSC	New Hope	132.10	50	PKiKP		PKPdf	14 32 20.1	-1.2
	baz=294							
PKME	Peaks-Kenny Pk	132.23	30	PKiKP		PKPdf	14 32 20.4	-0.8
	baz=315							
ORTG	Ortega, Santa	132.24	82	IAMs_20	IAMs_20		15 19 59.6	
	comp=Z,25µm,22.0s							
T59A	Double "B" Far	132.27	44	IAMs_20	IAMs_20		15 26 00.4	
	comp=Z,34µm,20.0s							
L61B	Northampton	132.28	35	PKiKP		PKPdf	14 32 21.4	0.0
	baz=309							
PAL	Palisades	132.44	38	PKiKP		PKPdf	14 32 21.4	-0.4
	baz=307							
QUA2	Belchertown	132.58	35	IAMs_20	IAMs_20		15 30 30.5	
	comp=Z,33µm,19.0s							
WSPT	Westport, CT	132.69	37	IAMs_20	IAMs_20		15 23 47.7	
	comp=Z,38µm,22.0s							
JTS	Las Juntas de	132.74	82	IAMs_20	IAMs_20		15 20 32.8	
	comp=Z,21µm,21.0s							
HRV	Adam Dziewonsk	132.88	35	IAMs_20	IAMs_20		15 26 27.5	
	comp=Z,32µm,22.0s							
HRV	Adam Dziewonsk	132.88	35	PKiKP		PKPdf	14 32 21.0	-1.5
	baz=310							
DWPF	Disney Wildern	132.94	57	IAMs_20	IAMs_20		15 37 33.7	
	comp=Z,22µm,19.0s							
DWPF	Disney Wildern	132.94	57	PKiKP		PKPdf	14 32 21.3	-1.8
	baz=289							
UCCT	U. Connecticut	132.96	36	IAMs_20	IAMs_20		15 30 23.6	
	comp=Z,21µm,20.0s							
ARE1	Arenal 1	132.96	82	IAMs_20	IAMs_20		15 21 02.8	
	comp=Z,21µm,21.0s							
JACO	JACO, Garabito	133.03	83	IAMs_20	IAMs_20		15 25 09.7	
	comp=Z,24µm,19.0s							
R61A	Willards	133.06	42	IAMs_20	IAMs_20		15 24 27.0	
	comp=Z,27µm,22.0s							
M63A	Gales Ferry	133.31	36	IAMs_20	IAMs_20		15 34 46.9	
	comp=Z,30µm,20.0s							
ECHE	Chera	133.41	321	PKP		PKiKP	14 32 27.0	+2.0
HDC	Heredia	133.56	82	IAMs_20	IAMs_20		15 34 49.9	
	comp=Z,23µm,19.0s							
L64A	Middleborough	133.66	35	IAMs_20	IAMs_20		15 26 50.1	
	comp=Z,35µm,21.0s							
LCR2	La Lucha 2	133.68	83	IAMs_20	IAMs_20		15 29 07.7	
	comp=Z,17µm,19.0s							
PEZE	Perez Zeledon,	134.00	83	IAMs_20	IAMs_20		15 25 21.4	
	comp=Z,29µm,19.0s							
M65A	Busby, Falmout	134.01	35	IAMs_20	IAMs_20		15 29 34.5	
	comp=Z,29µm,20.0s							
M65A	Busby, Falmout	134.01	35	PKiKP		PKPdf	14 32 24.1	-0.6
	baz=311							
061Z	Ochoppi	134.09	60	IAMs_20	IAMs_20		15 28 54.4	
	comp=Z,26µm,20.0s							
060A	Indiantown	134.19	58	IAMs_20	IAMs_20		15 26 42.9	
	comp=Z,30µm,22.0s							
SRBA	San Rafael, Bu	134.32	83	IAMs_20	IAMs_20		15 25 22.7	
	comp=Z,30µm,19.0s							
CAMR	Camarioca	134.45	64	IAMs_20	IAMs_20		15 25 25.3	
	comp=Z,39µm,22.0s							
CDITO	Canoas	134.80	84	IAMs_20	IAMs_20		15 24 13.5	
	comp=Z,23µm,20.0s							
BRU2	Volcan	134.98	84	IAMs_20	IAMs_20		15 24 27.3	
	comp=Z,26µm,20.0s							

ESDC	Sonseca Array	135.19	323	PKP		PKPdf	14 32 26.9	-0.2
	comp=Z,1.5nm,1.0s,baz=27,slow=3.2,SNR=3.6							
ESDC				PP		PP	14 34 59.6	-2.5
	comp=Z,2.3nm,1.1s,baz=50,slow=16,SNR=3.0							
PBRG	Braganca	135.36	327	ePKPdf		PKPdf	14 32 22.4	-4.9
PBRG	Braganca	135.36	327	ePP		PP	14 35 11.0	+8.0
SALI	Salinas	135.61	100	IAMs_20	IAMs_20		15 24 55.4	
	comp=Z,19µm,20.0s							
MVO	Moncorvo	135.96	327	ePKPdf		PKiKP	14 32 36.1	+6.0
MVO	Moncorvo	135.96	327	ePP		PP	14 35 11.5	+4.7
MVO	Moncorvo	135.96	327	eSS		SS	14 53 41.0	+36
MVO	Moncorvo	135.96	327	eLQ		LQ	15 12 43.7	
MVO				eLR		LR	15 21 12.3	
	comp=Z,28µm,20.0s							
PGAV	Gavieira, Arco	136.06	329	ePKPdf		PKiKP	14 32 37.1	+6.8
PGAV	Gavieira, Arco	136.06	329	ePP		PP	14 35 11.4	+4.0
PGAV	Gavieira, Arco	136.06	329	eSS		SS	14 53 37.0	+31
PGAV	Gavieira, Arco	136.06	329	eLQ		LQ	15 10 30.0	
PGAV				eLR		LR	15 19 14.9	
	comp=Z,13µm,22.0s							
ARNL	Arenillas	136.24	102	IAMs_20	IAMs_20		15 26 29.8	
	comp=Z,17µm,20.0s							
NNA	Nana	136.74	115	PKiKP		PKiKP	14 32 33.3	+1.0
NNA	Nana	136.74	115	PKP		PKiKP	14 32 33.3	+1.0
	comp=Z,44nm,1.0s,baz=252,slow=3.7,SNR=7.2							
PVIS	Viseu	136.74	327	ePKPdf		PKiKP	14 32 33.9	+2.2
PVIS	Viseu	136.74	327	ePP		PP	14 35 19.2	+7.5
MTE	Manteigas	136.77	326	ePKPdf		PKiKP	14 32 37.5	+5.7
MTE	Manteigas	136.77	326	ePP		PP	14 35 19.1	+7.2
MTE	Manteigas	136.77	326	eSS		SS	14 53 43.2	+28
MTE	Manteigas	136.77	326	eLQ		LQ	15 12 31.5	
MTE				eLR		LR	15 19 34.1	
	comp=Z,30µm,20.0s							
MTE	Manteigas	136.77	326	IAMs_20	IAMs_20		15 37 13.5	
	comp=Z,33µm,20.0s							
ATAH	Atahualpa	136.93	107			PKiKP	14 32 32.8	-0.5
ATAH	Atahualpa	136.93	107	PKP		PKiKP	14 32 32.8	-0.5
	comp=Z,32nm,1.0s,baz=233,slow=1.1,SNR=11							
PMRV	Marv??o	137.35	325	ePKPdf		PKiKP	14 32 35.0	+2.1
PMRV	Marv??o	137.35	325	ePP		PP	14 35 20.8	+5.3
PMRV	Marv??o	137.35	325	eSS		SS	14 53 51.6	+30
PMRV	Marv??o	137.35	325	eLQ		LQ	15 13 56.1	
PMRV				eLR		LR	15 19 48.1	
	comp=Z,27µm,20.0s							
COI	Coimbra	137.38	327	ePKPdf		PKiKP	14 32 35.5	+2.6
COI	Coimbra	137.38	327	ePP		PP	14 35 20.7	+5.1
COI	Coimbra	137.38	327	IAMs_20	IAMs_20		15 37 28.5	
	comp=Z,22µm,20.0s							
PCAS	Casmilo, Conde	137.54	327	ePKPdf		PKPdf	14 32 31.8	+0.5
PCAS	Casmilo, Conde	137.54	327	ePP		PP	14 35 21.1	+4.5
PCAS	Casmilo, Conde	137.54	327	eSS		SS	14 53 37.1	+13
BCIP	Isla Barro Col	137.79	83	IAMs_20	IAMs_20		15 27 00.5	
	comp=Z,29µm,20.0s							
CHSH	Refugio Sur-Vo	137.82	99	IAMs_20	IAMs_20		15 25 07.1	
	comp=Z,18µm,21.0s							
LVC	Limon Verde	137.85	134	PKiKP		PKiKP	14 32 34.0	-0.9
LVC	Limon Verde	137.85	134	PKP		PKiKP	14 32 34.0	-0.9
	comp=Z,9.0nm,0.8s,baz=238,slow=3.8,SNR=6.0							
LVC	Limon Verde	137.85	134	eP		PKPdf	14 32 30.6	-2.2
PESTR	Estremoz	137.85	325	ePKPdf		PKiKP	14 32 34.9	+1.0
PESTR	Estremoz	137.85	325	ePP		PP	14 35 23.3	+4.7
PESTR	Estremoz	137.85	325	eSS		SS	14 53 52.6	+25
PBAR	Barrancos	137.99	324	ePKPdf		PKiKP	14 32 36.3	+2.1
PBAR	Barrancos	137.99	324	ePP		PP	14 35 21.7	+2.2
PBAR	Barrancos	137.99	324	eSS		SS	14 53 54.2	+25
PMTG	Montargil	138.07	325	ePKPdf		PKiKP	14 32 36.5	+2.2
PMTG	Montargil	138.07	325	ePP		PP	14 35 22.7	+2.8
PMTG	Montargil	138.07	325	eSS		SS	14 53 43.2	+13
PSBE	So Bento	138.08	326	eSS		SS	14 53 48.9	+19
PB09	IPOC Station P	138.11	133			PKPdf	14 32 30.4	-2.7
PSAL	Palomas, Salto	138.13	154	eP		PKPdf	14 32 31.0	-1.7
TBOT	Tacuaremb	138.31	156	eP		PKPdf	14 32 31.1	-1.9
OTAV	Otavalo	138.54	97	eP		PKPdf	14 32 31.9	-2.6
PBEJ	Beja	138.57	324	ePP		PP	14 35 29.1	+6.0
SFS	San Fernando	138.58	321	IAMs_20	IAMs_20		15 40 38.9	
	comp=Z,29µm,20.0s							
PACT	Alcochete	138.62	326	ePKPdf		PKiKP	14 32 37.3	+1.9
PACT	Alcochete	138.62	326	ePP		PP	14 35 30.0	+6.7
PMAFR	Mafra	138.74	326	ePKPdf		PKiKP	14 32 37.6	+1.9
PMAFR	Mafra	138.74	326	ePP		PP	14 35 30.0	+5.9
PMAFR	Mafra	138.74	326	eSS		SS	14 54 04.2	+26
LIS	Lisbon	138.83	326	ePKIKP		PKPdf	14 32 32.4	-1.3
LIS				e			14 35 24.4	
LIS	Lisbon	138.83	326	ePKPdf		PKPdf	14 32 32.4	-1.3
LIS				ePP		PP	14 35 24.5	-0.2
LIS				IAMs_20	IAMs_20		15 38 31.7	
	comp=Z,25µm,19.1s							
PNCL	Nicolau / Gran	138.90	325	ePKPdf		PKPdf	14 32 27.8	-6.1
PNCL	Nicolau / Gran	138.90	325	ePP		PP	14 35 34.0	+8.9
PNCL	Nicolau / Gran	138.90	325	eSS		SS	14 54 11.8	+32
PVAQ	Vaqueiros	138.90	323	ePKPdf		PKPdf	14 32 27.7	-6.2
PVAQ	Vaqueiros	138.90	323	ePP		PP	14 35 29.4	+4.2
PVAQ	Vaqueiros	138.90	323	eSS		SS	14 54 04.6	+24
PVAQ	Vaqueiros	138.90	323	eLQ		LQ	15 13 53.9	
PVAQ				eLR		LR	15 22 48.4	
	comp=Z,24µm,20.0s							
MESJ	Messejana	138.91	324	ePKPdf		PKiKP	14 32 37.1	+1.0
MESJ	Messejana	138.91	324	ePP		PP	14 35 27.9	+2.7
MESJ	Messejana	138.91	324	ePKIKP		PKPdf	14 32 32.6	-1.3
MESJ				e			14 35 24.8	
MESJ	Messejana	138.91	324	ePKPdf		PKPdf	14 32 32.6	-1.3
MESJ				ePP		PP	14 35 24.9	-0.3
MESJ				eSS		SS	14 53 42.3	+2.1
MESJ				IAMs_20	IAMs_20		15 35 12.5	
	comp=Z,22µm,22.5s							
PCVE	Castro Verde	138.94	324	ePKPdf		PKiKP	14 32 38.8	+2.6
PCVE	Castro Verde	138.94	324	ePP		PP	14 35 27.5	+2.1
PCVE	Castro Verde	138.94	324	eSS		SS	14 54 03.0	+22
PB11	IPOC Station P	139.02	130			PKPdf	14 32 30.4	-4.4
PBDV	Barranco-do-Ve	139.14	323	ePKPdf		PKiKP	14 32 39.4	+2.8
PBDV	Barranco-do-Ve	139.14	323	ePP		PP	14 35 31.5	+4.8
PBDV	Barranco-do-Ve	139.14	323	eSS		SS	14 53 57.5	+15
MORF	Marmelete	139.52	324	ePKPdf		PKiKP	14 32 39.7	+2.3
MORF	Marmelete	139.52	324	ePP		PP	14 35 38.6	+10
MORF	Marmelete	139.52	324	ePKIKP		PKPdf	14 32 33.8	-1.3
MORF				e			14 35 28.7	
MORF	Marmelete	139.52	324	ePKPdf		PKPdf	14 32 33.8	-1.3
MORF				ePP		PP	14 35 28.7	-0.3
MORF				IAMs_20	IAMs_20		15 32 47.7	
	comp=E,21µm,19.9s							
PFVI	Vila Bisbo	139.74	324	ePKPdf		PKiKP	14 32 39.9	+2.1
PFVI	Vila Bisbo	139.74	324	ePP		PP	14 35 34.0	+3.7
PFVI	Vila Bisbo	139.74	324	eSS		SS	14 54 09.1	+19
ITQB	Itaqui	139.77	154	IAMs_20	IAMs_20		15 42 10.9	
	comp=Z,25µm,19.0s							
ITQB	Itaqui	139.77	154	eP		PKPdf	14 32 33.8	-1.9
RODS	Rosario do Sul	139.79	156	eP		PKPdf	14 32 33.2	-2.6
PB16	IPOC Station P	139.95	128			PKPdf	14 32 30.5	-6.6
TICA	Tres Isletas	140.61	146	eP		PKPdf	14 32 35.3	-2.0
GTBY	Guantanamo Bay	140.88	66	IAMs_20	IAMs_20		15 37 20.5	
	comp=Z,19µm,19.0s							
TOA0	Torodi Ar. Sit	140.96	283			PKPdf	14 32 32.7	-5.6
TORD	Torodi Ar. Bea	140.96	283			PKPdf	14 32 34.1	-4.1
TORD	Torodi Ar. Bea	140.96	283	PKhKP		PKPpre	14 32 33.3	
	comp=Z,8.3nm,1.1s,baz=49,slow=3.8,SNR=19							
SHEL	Horse Pasture	141.73	234	IAMs_20	IAMs_20		15 28 56.8	
	comp=Z,22µm,21.0s							
ALGR	Alto Alegre (B	142.02	157	eP		PKPdf	14 32 39.0	-1.0
LPAZ	La Paz	142.19	127			PKPdf	14 32 36.1	-5.0
LPAZ	La Paz	142.19	127	PKiKP		PKPdf	14 32 40.2	-1.0
LPAZ	La Paz	142.19	127	PKP		PKPdf	14 32 40.1	-1.0
	comp=Z,19nm,1.1s,baz=231,slow=4.1,SNR=26							
LPAZ	La Paz	142.19	127	eP		PKPdf	14 32 38.5	-2.7
CPUP	Villa Florida	142.26	150	IAMs_20	IAMs_20		15 41 23.2	
	comp=Z,24µm,19.0s							
CPUP	Villa Florida	142.26	150	PKiKP		PKPdf	14 32 40.5	+0.2
CPUP	Villa Florida	142.26	150	PKP		PKPdf	14 32 40.5	+0.2
	comp=Z,18nm,1.0s,baz=232,slow=2.1,SNR=12							
CPUP	Villa Florida	142.26	150	eP		PKPdf	14 32 38.5	-1.8
CNLB	Canela	142.33	160	eP		PKPdf	14 32 38.7	-1.7
CRSM	Crissiumal (Br	142.77	155	eP		PKPdf	14 32 39.5	-1.7
ESFA	Espinillo Form	142.77	147	eP		PKPdf	14 32 41.3	0.0
ROSC	El Rosal	143.16	90			PKPbc	14 32 39.0	-0.7
ROSC				IAMs_20	IAMs_20		15 35 36.0	
	comp=Z,21µm,19.0s							
ROSC	El Rosal	143.16	90	PKiKP		PKPdf	14 32 43.3	+0.5
ROSC	El Rosal	143.16	90	PKP		PKPdf	14 32 43.2	+0.5
	comp=Z,61nm,0.9s,baz=324,slow=2.8,SNR=5.8							
ITAB	Concordia	143.77	157	eP		PKPdf	14 32 43.3	+0.3
FRBT	Francisco Belt	144.52	155	eP		PKPdf	14 32 44.3	-0.1
MCR1	Marechal Candi	145.41	153	eP		PKPbc	14 32 44.8	-1.0
TBTG	Tabatinga, AM	145.86	107	eP		PKPdf	14 32 46.2	-0.7

MURT	Porto Murtinho	145.88	145	eP		PKPdf	14 32 45.1	-1.7
PTGB	Pitanga	146.05	156	eP		PKPdf	14 32 46.7	-0.4
PGRA	Graciosa	146.28	347	ePKP		PKiKP	14 33 00.0	+8.8
SRBC	Serra Branca	146.29	347	ePKP		PKiKP	14 32 58.1	+6.9
PAGU	Agualva, Azore	146.34	346	ePKP		PKiKP	14 32 56.2	+4.9
PSBA	Serra de Santa	146.38	346	ePKP		PKiKP	14 32 54.8	+3.4
PSCM	Serra do Cume	146.39	345	ePKP		PKiKP	14 32 52.0	+0.6
ADH	Angra Heroismo	146.46	346	ePKP		PKiKP	14 32 53.0	+1.5
ANTJ	Antonio Joao (	146.50	147	eP		PKPdf	14 32 47.3	-0.5
H07S1	FLORES T-PHASE	146.55	351	ePKP		PKiKP	14 33 00.9	+9.1
ROSA	Rosais	146.63	347	ePKP		PKiKP	14 33 00.9	+9.0
PMAN	Manadas	146.68	347	ePKP		PKiKP	14 32 57.2	+5.2
BART	Pico Bartolome	146.71	342	ePKP		PKiKP	14 33 03.2	+11
PGRON	Lagoa das Cont	146.78	343	ePKP		PKiKP	14 32 53.0	+0.7
PCALD	Caldeiras da R	146.79	343	ePKP		PKiKP	14 32 56.7	+4.4
PCED	Cedros	146.82	348	ePKP		PKiKP	14 32 58.1	+5.8
CMLA	Cha da Macela	146.83	343	ePKP		PKiKP	14 33 00.0	+7.6
PSET	Sete Cidades	146.84	343	ePKP		PKiKP	14 33 01.5	+9.1
CALA	Caldeira	146.87	348	ePKP		PKiKP	14 33 01.6	+9.1
PID	Ribeirinha	146.87	347	ePKP		PKiKP	14 32 53.9	+1.4
PDA	Ponta Delgada	146.89	343	ePKP		PKiKP	14 32 55.3	+2.9
SDV	Santo Domingo	146.89	83	PKPbc		PKPdf	14 32 48.2	-0.7
SDV				IAMs_20	IAMs_20		15 29 41.9	
	comp=Z,19µm,22.0s							
HOR	Horta	146.91	347	ePKP		PKiKP	14 32 57.8	+5.3
PMPST	Porto Santo, M	146.92	327	ePKPbc		PKiKP	14 32 53.0	+0.3
PMPS	Porto Santo	146.94	327	ePKPbc		PKPab	14 32 51.6	+0.2
ETMB	Extrema	147.10	119	eP		PKPdf	14 32 48.2	-0.8
BBSD	Serra de San D	147.27	136	eP		PKPdf	14 32 49.0	-0.2
PCDR	Punta Cana, DR	147.38	65	IAMs_20	IAMs_20		15 39 51.0	
	comp=Z,21µm,21.0s							
PSMN	Pico do Norte,	147.40	342	ePKP		PKiKP	14 32 57.6	+4.0
PSMA	Santa Maria	147.42	342	ePKP		PKiKP	14 32 56.4	+2.8
TRCB	Terra Rica	147.49	153	eP		PKPdf	14 32 48.0	-1.5
PMAR	Madeira	147.51	327	ePKPdf		PKPdf	14 32 50.0	+0.6
FUL	Funchal	147.55	327	ePKPbc		PKiKP	14 32 54.9	+0.9
PMOZ	Porto Moniz, M	147.58	327	ePKPbc		PKiKP	14 32 54.8	+0.6
PMOZ	Porto Moniz, M	147.58	327	eSS		SS	14 55 37.3	+17
PMOZ	Porto Moniz, M	147.58	327	eLR		LR	15 24 34.4	
	comp=Z,15µm,20.0s							
KIC	Kosan Boka	147.61	272	eP		PKPbc	14 32 52.3	-0.3
	comp=Z,196nm,1.1s							
LDASE	Londrina, Braz	147.61	156	eP		PKPdf	14 32 48.7	-1.0
DBIC	Dimbokro	147.73	273	PKPab		PKPbc	14 32 52.4	-0.4
DBIC				IAMs_20	IAMs_20		15 40 28.9	
	comp=Z,23µm,20.0s							
DBIC	Dimbokro	147.73	273	PKP2		PKPbc	14 32 52.4	-0.4
DBIC				MLR	MLR			
	comp=Z,23µm,20.0s							
DBIC	Dimbokro	147.73	273	PKPbc		PKPbc	14 32 52.8	0.0
	comp=Z,99nm,1.0s,baz=94,slow=3.0,SNR=33							
SIV	San Ignacio	147.75	133	PKPbc		PKPbc	14 32 53.8	+0.9
	comp=Z,98nm,1.2s,baz=230,slow=3.1,SNR=25							
LIC

*IDC **06** 14:13:21.6±20.0, 6°.56S×131°.28E, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=559.5km s-min=214.0km az=120.0*

ISC 06 14:13:23.5±1.3, **6°.6S**±0°.1×**131°.3E**±0°.3, **h10**km, **n12, σ1°12/9, mb4.0/5, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**3.76**	**14**	P			Pg	14 14 41.9	+6.3
DRS	**Darwin Rock St**	**5.82**	**184**	P			**Pg**	**14 15 15.8**	**+0.7**
KDU	**Kakadu**	**6.16**	**170**	P			**Pg**	**14 15 22.7**	**+1.1**
MTN	**Manton Dam**	**6.22**	**182**	P			**Pg**	**14 15 21.0**	**-1.7**
SANI	**Sanana**	**6.98**	**310**	P			Pn	14 15 11.4	+5.4
TOLI2	**Tolitoli**	**13.02**	**306**	P			**Pn**	**14 16 29.6**	**+0.9**
LAE	**Lae**	**15.47**	**91**	P			P	14 17 16.4	+10
SONM	**Songino Array**	**58.49**	**341**	P			**P**	**14 23 19.5**	**-0.5**
	0.5nm,0.4s,baz=161,slow=8.2,SNR=3.9								
	0.5nm,0.4s								
MKAR	**Makanchi Array**	**68.62**	**326**	P			**P**	**14 24 26.6**	**-0.4**
	1.8nm,0.6s,baz=128,slow=7.7,SNR=29								
	1.8nm,0.6s								
ZALV	**Zalesovo Beam**	**71.81**	**333**	P			**P**	**14 24 45.4**	**-0.9**
	0.5nm,0.3s,baz=122,slow=7.4,SNR=3.5								
	0.5nm,0.3s								
KURBB	**Kurchatov Arra**	**72.86**	**328**	P			**P**	**14 24 51.6**	**-1.0**
	0.7nm,0.6s,baz=128,slow=5.1,SNR=7.4								
	0.7nm,0.6s								
BVAR	**Borovoye Array**	**78.43**	**327**	P			**P**	**14 25 24.6**	**+0.1**
	0.9nm,0.9s,baz=126,slow=7.3,SNR=2.7								
	0.9nm,0.9s								

*SJA **06** 14:13:53.3±0.5, 31°.92S×68°.43W, h118km±1km, ML4.4, MW4.3, Fault plane solution: NP1:φs=8.7000°, δ54.06000°, λ=-86.29000°.*
*VAO **06** 14:13:53.3±1.4, 31°.75S×68°.15W, h73km±6km, mb4.6*
*NEIC **06** 14:13:54.7±1.4, 31°.94S±0°.05×68°.48W±0°.10, h121km±6km, mb4.7/150, Error ellipse: s-maj=12.3km s-min=8.0km az=90.0*
*IDC **06** 14:13:54.3±0.5, 31°.91S×68°.40W, h120km±4km, mb4.1/17, mbtmp4.5/20, Error ellipse: s-maj=17.3km s-min=11.8km az=61.0*

ISC 06 14:13:53.8±0.4, **31°.90S**±0°.04×**68°.41W**±0°.04, **h118**km±3km, **h118**km:**pP-P, n312, σ1°18/335, mb4.7**/85, **26C-10D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SJA	**San Juan**	**0.39**	**341**	⇓*eP*			**Pn**	**14 14 11.4**	**+0.4**
SJA				*eS*			**Sn**	**14 14 24.2**	**+0.3**
SJA				IAML				14 14 25.5	
	comp=Z,9μm,0.2s								
RTLL	**Cerro Villicun**	**0.57**	**354**	⇓*eP*			**Pn**	**14 14 12.3**	**+0.3**
RTLL				*eS*			**Sn**	**14 14 26.1**	**+0.3**
RTLL				IAML				14 14 28.3	
	comp=Z,8μm,0.8s								
RTLS	**Leoncito**	**0.76**	**277**	⇑*eP*			**Pn**	**14 14 14.3**	**+0.5**
RTLS				*eS*			**Sn**	**14 14 29.8**	**+0.9**
RTLS				IAML				14 14 30.7	
	comp=Z,24μm,0.6s								
ASAL	**Salagasta**	**0.78**	**208**	⇓*eP*			**Pn**	**14 14 13.8**	**0.0**
ARCO	**CERRO ARCO**	**1.04**	**205**	⇓*eP*			**Pn**	**14 14 16.4**	**+0.1**
ARCO				⇑*eS*			**Sn**	**14 14 33.5**	**+0.2**
ARCO				IAML				14 14 34.2	
	comp=Z,10μm,0.4s								
DOCA	**Reserva Natura**	**1.11**	**328**	⇑*eP*			**Pn**	**14 14 17.6**	**+0.4**
DOCA				*eS*			**Sn**	**14 14 35.8**	**+0.9**
AAGR	**Agrelo**	**1.23**	**197**	⇓*eP*			**Pn**	**14 14 18.5**	**+0.3**
ACCO	**Cerro Coronel**	**1.42**	**337**	⇑*eP*			**Pn**	**14 14 21.5**	**+0.9**
AVFE	**Valle Fertil**	**1.48**	**34**	*eP*			**Pn**	**14 14 21.6**	**+0.6**
AVFE				*eS*			**Sn**	**14 14 43.0**	**+1.4**
AVFE				IAML				14 14 46.0	
	comp=Z,2μm,0.5s								
AVIZ	**Vizcacheras**	**1.57**	**183**	⇓*eP*			**Pn**	**14 14 22.6**	**+0.5**
ACHE	**Chepes**	**1.66**	**64**	⇑*eP*			**Pn**	**14 14 24.0**	**+0.8**
ACDV	**Cuesta del Vie**	**1.83**	**340**	*eP*			**Pn**	**14 14 26.1**	**+0.9**
ACDV				*eS*			**Sn**	**14 14 50.2**	**+1.1**
ACDV				IAML				14 14 51.2	
	comp=Z,2μm,0.7s								
AROD	**Rodeo**	**1.95**	**332**	⇑*eP*			**Pn**	**14 14 28.0**	**+1.1**
VA03	**San Esteban**	**2.01**	**244**				**Pn**	**14 14 27.6**	**+0.3**
VA03	**San Esteban**	**2.01**	**244**	*eP*			**Pn**	**14 14 27.7**	**+0.4**
VA03				*eS*			**Sn**	**14 14 55.4**	**+2.4**
VA03				IAML				14 14 58.1	
	comp=Z,2μm,0.9s								
APLL	**PUNTA DE LOS L**	**2.20**	**48**	*eP*			**Pn**	**14 14 30.4**	**+0.6**
APLL				*eS*			**Sn**	**14 14 58.3**	**+1.1**
CO03	**El Pedregal**	**2.22**	**298**				**Pn**	**14 14 30.7**	**+0.7**
CO03	**El Pedregal**	**2.22**	**298**	⇑*eP*			**Pn**	**14 14 30.8**	**+0.7**
CO03				IAML				14 15 01.0	
	comp=Z,2μm,0.6s								
PEL	**Peldehue**	**2.29**	**237**				**Pn**	**14 14 30.6**	**-0.3**
PEL	**Peldehue**	**2.29**	**237**	⇑*eP*			**Pn**	**14 14 30.8**	**0.0**
PEL				*eS*			**Sn**	**14 15 00.0**	**+0.7**
CO02	**Combarbal**	**2.32**	**287**				**Pn**	**14 14 31.5**	**+0.2**
CO02	**Combarbal**	**2.32**	**287**	⇑*eP*			**Pn**	**14 14 31.5**	**+0.2**
CO02				IAML				14 15 06.6	
	comp=Z,3μm,0.3s								
MT16	**CCHEN**	**2.35**	**229**				**Pn**	**14 14 31.8**	**+0.2**
MT03	**Universidad Ad**	**2.38**	**228**				**Pn**	**14 14 32.2**	**+0.1**
MT03	**Universidad Ad**	**2.38**	**228**	⇑*eP*			**Pn**	**14 14 32.5**	**+0.4**
MT03				IAML				14 15 07.9	
	comp=Z,2μm,0.6s								
CO01	**Juntas del Tor**	**2.40**	**322**				**Pn**	**14 14 34.3**	**+1.8**
CO01	**Juntas del Tor**	**2.40**	**322**	⇑*eP*			**Pn**	**14 14 34.3**	**+1.8**
CO01				IAML				14 15 09.0	
	comp=Z,667nm,0.6s								
AGUA	**GUANDACOL**	**2.41**	**358**	⇑*eP*			**Pn**	**14 14 33.5**	**+1.1**
AGUA				IAML				14 15 06.7	
	comp=Z,1μm,0.3s								
MT13	**San Alfonso**	**2.43**	**220**	Pn			**Pn**	**14 14 33.0**	**+0.3**
ROC1	**El Roble**	**2.45**	**243**	*eP*			**Pn**	**14 14 32.3**	**-0.8**
ROC1				*eS*			**Sn**	**14 15 03.2**	**-0.1**
LMEL	**Las Melosas**	**2.46**	**217**				**Pn**	**14 14 33.6**	**+0.4**
MT05	**Renca**	**2.47**	**232**				**Pn**	**14 14 33.3**	**+0.2**
MT05	**Renca**	**2.47**	**232**	*eP*			**Pn**	**14 14 33.5**	**+0.4**
MT05				*eS*			**Sn**	**14 15 04.5**	**+1.2**
MT05				IAML				14 15 11.0	
	comp=Z,1μm,0.5s								
VA06	**Catapilco**	**2.54**	**254**				**Pn**	**14 14 32.4**	**-1.5**
MT02	**Curacav**	**2.67**	**239**				**Pn**	**14 14 34.5**	**-1.2**
MT02	**Curacav**	**2.67**	**239**	⇑*eP*			**Pn**	**14 14 34.8**	**-0.9**
MT02				IAML				14 15 09.8	
	comp=Z,560nm,0.6s								
GO04	**Tololo Observa**	**2.68**	**309**				**Pn**	**14 14 36.0**	**0.0**
GO04	**Tololo Observa**	**2.68**	**309**	⇑*eP*			**Pn**	**14 14 36.8**	**+0.7**
GO04				*eS*			**Sn**	**14 15 10.8**	**+2.3**
ACLC	**CERRO LA CRUZ**	**2.77**	**27**	⇑*eP*			**Pn**	**14 14 37.7**	**+0.6**
ACLC				*eS*			**Sn**	**14 15 11.4**	**+1.0**
ACLC				IAML				14 15 13.6	
	comp=Z,2μm,0.2s								
BO04	**La Punta**	**2.79**	**221**				**Pn**	**14 14 37.1**	**-0.1**
MT09	**Talagante**	**2.87**	**229**				**Pn**	**14 14 37.5**	**-0.9**
VA01	**Torpederas**	**2.96**	**247**				**Pn**	**14 14 37.9**	**-1.6**
VA01	**Torpederas**	**2.96**	**247**	*eP*			**Pn**	**14 14 37.7**	**-1.8**
VA01				IAML				14 15 19.8	
	comp=Z,444nm,0.5s								
CO06	**Fray Jorge**	**3.02**	**293**				**Pn**	**14 14 38.6**	**-1.6**
MT01	**Popeta**	**3.09**	**230**				**Pn**	**14 14 39.4**	**-1.8**
MT01	**Popeta**	**3.09**	**230**	⇑*eS*			**Sn**	**14 15 15.7**	**-2.1**
MT01				IAML				14 15 16.4	
	comp=Z,577nm,0.2s								
CO05	**La Serena**	**3.13**	**308**				**Pn**	**14 14 41.1**	**-0.7**
VCA	**Vinchina**	**3.16**	**3**	⇑*eP*			**Pn**	**14 14 43.4**	**+1.1**
VCA				IAML				14 15 24.9	
	comp=Z,1μm,0.2s								
VA05	**Santo Domingo**	**3.22**	**236**				**Pn**	**14 14 41.1**	**-1.8**
BO01	**Tunca**	**3.35**	**221**	Pn			**Pn**	**14 14 43.2**	**-1.5**
BO01	**Tunca**	**3.35**	**221**	⇑*eP*			**Pn**	**14 14 43.6**	**-1.0**
BO01				*eS*			**Sn**	**14 15 23.1**	**-0.9**
BO01				IAML				14 15 28.4	
	comp=Z,296nm,0.5s								
AC05	**El Transito**	**3.45**	**332**	⇑*iP*			**Pn**	**14 14 47.6**	**+1.4**
AC05				IAML				14 15 32.1	
	comp=Z,604nm,1.0s								
LCO	**Las Campanas**	**3.49**	**325**	Pn			**Pn**	**14 14 46.5**	**-0.3**
LCO	**Las Campanas**	**3.49**	**325**	⇑*iP*			**Pn**	**14 14 46.9**	**+0.1**
BO02	**Sierra Bellavi**	**3.50**	**214**				**Pn**	**14 14 46.6**	**-0.1**
BO02	**Sierra Bellavi**	**3.50**	**214**	⇑*eP*			**Pn**	**14 14 47.1**	**+0.3**
CYA	**Choya**	**4.12**	**34**	IAML				14 16 00.2	
	comp=Z,631nm,0.7s								
GO05	**Huala**	**4.28**	**223**				**Pn**	**14 14 54.0**	**-3.0**
GO05	**Huala**	**4.28**	**223**	*eP*			**Pn**	**14 14 54.0**	**-3.0**
AC04	**Llanos de Chal**	**4.35**	**327**	Pn			**Pn**	**14 14 56.8**	**-1.2**
AC04	**Llanos de Chal**	**4.35**	**327**	⇑*iP*			**Pn**	**14 14 57.1**	**-0.9**
GO03	**Copiap**	**4.58**	**339**				**Pn**	**14 15 00.8**	**-0.2**
ML02	**Panimavida**	**4.60**	**212**				**Pn**	**14 14 59.5**	**-1.8**
AC06	**Mina Casimiro**	**4.83**	**339**				**Pn**	**14 15 03.9**	**-0.6**
AC02	**Maricunga**	**5.08**	**353**	Pn			**Pn**	**14 15 08.6**	**+0.2**
AC01	**Pan de Azucar**	**6.04**	**341**	Pn			**Pn**	**14 15 19.7**	**-1.1**
GO02	**Mina Guanaco**	**6.79**	**351**	Pn			**Pn**	**14 15 30.4**	**-0.8**
PB14	**IPOC Station P**	**7.46**	**346**	Pn			**Pn**	**14 15 38.5**	**-1.7**
GO06	**Curarrehue**	**8.06**	**197**	Pn			**Pn**	**14 15 45.5**	**-2.7**
TRQA	**Tornquist**	**8.10**	**141**	Pn			**Pn**	**14 15 47.6**	**-0.9**
PB15	**IPOC Station P**	**8.71**	**354**				**Pn**	**14 15 55.1**	**-2.0**
VA04	**Juan Fernndez**	**8.95**	**256**	Pn			**Pn**	**14 15 58.3**	**-1.7**
PLCA	**Paso Flores**	**8.98**	**190**	Pn			**Pn**	**14 15 59.1**	**-1.4**
PLCA	**Paso Flores**	**8.98**	**190**	P			**Pn**	**14 15 59.2**	**-1.3**
	comp=Z,3.0nm,0.5s,baz=9.0,slow=12,SNR=35								
PB06	**IPOC Station P**	**9.21**	**353**				**Pn**	**14 16 01.2**	**-2.7**
PSAL	**Palomas, Salto**	**9.26**	**88**	*eP*			**Pn**	**14 16 02.2**	**-2.0**
LVC	**Limon Verde**	**9.26**	**357**	Pn			**Pn**	**14 16 01.5**	**-3.2**
LVC	**Limon Verde**	**9.26**	**357**	P			**Pn**	**14 16 02.3**	**-2.4**
	comp=Z,11nm,0.3s,baz=178,slow=7.4,SNR=24								
LVC				S			**Sn**	**14 17 43.8**	**-3.6**
	comp=Z,10nm,0.4s,baz=24,slow=19,SNR=3.3								
LVC	**Limon Verde**	**9.26**	**357**	*eP*			**Pn**	**14 16 02.9**	**-1.8**
PB09	**IPOC Station P**	**10.09**	**356**				**Pn**	**14 16 13.6**	**-2.1**
ITQB	**Itaqui**	**10.38**	**81**	Pn			**Pn**	**14 16 16.3**	**-3.0**
ITQB	**Itaqui**	**10.38**	**81**	*eP*			**Pn**	**14 16 16.9**	**-2.4**
TBOT	**Tacuaremb**	**10.62**	**92**	*eP*			**Pn**	**14 16 20.1**	**-2.5**
PB02	**IPOC Station P**	**10.62**	**352**				**Pn**	**14 16 18.8**	**-4.0**
PB01	**IPOC Station P**	**10.86**	**355**				**Pn**	**14 16 22.0**	**-3.9**
LL01	**San Ignacio de**	**10.94**	**196**				Pn	14 16 22.3	-4.5
ESFA	**Espinillo Form**	**11.13**	**54**	*eP*			Pn	14 16 24.2	-5.3
CPUP	**Villa Florida**	**11.16**	**63**	Pn			**Pn**	**14 16 27.2**	**-2.7**
CPUP	**Villa Florida**	**11.16**	**63**	P			**Pn**	**14 16 26.7**	**-3.2**
	comp=Z,4.3nm,0.4s,baz=249,slow=13,SNR=14								
CPUP				S			**Sn**	**14 18 32.7**	**-0.1**
	comp=Z,6.6nm,0.4s,baz=219,slow=16,SNR=1.3								
CPUP	**Villa Florida**	**11.16**	**63**	*eP*			Pn	14 16 24.8	-5.2
RODS	**Rosario do Sul**	**11.43**	**86**	*eP*			**Pn**	**14 16 30.5**	**-2.9**
PB08	**IPOC Station P**	**11.73**	**357**	Pn			**Pn**	**14 16 33.8**	**-4.1**
UNIS	**Unistalda (Bra**	**11.84**	**80**	*eP*			Pn	14 16 35.7	-3.3
GO01	**Chusmiza**	**12.20**	**356**				Pn	14 16 39.7	-4.4
PLTB	**Pedras Altas**	**12.59**	**93**	Pn			**Pn**	**14 16 45.0**	**-3.8**
PLTB	**Pedras Altas**	**12.59**	**93**	*eP*			**Pn**	**14 16 45.4**	**-3.4**
CPSB	**Cacapava Do Su**	**12.91**	**87**	*eP*			**Pn**	**14 16 49.5**	**-3.4**
CRSM	**Crissiumal (Br**	**13.23**	**74**	*eP*			**Pn**	**14 16 56.8**	**-0.4**
PB16	**IPOC Station P**	**13.54**	**356**	Pn			**Pn**	**14 16 60.0**	**-1.7**
ALGR	**Alto Alegre (B**	**13.64**	**81**	*eP*			**Pn**	**14 17 00.1**	**-2.3**
MURT	**Porto Murtinho**	**14.03**	**46**	*eP*			**Pn**	**14 17 04.0**	**-3.4**
FRBT	**Francisco Belt**	**14.67**	**70**	*eP*			**Pn**	**14 17 13.3**	**-2.3**
ANTJ	**Antonio Joao (**	**14.80**	**51**	*eP*			**Pn**	**14 17 15.0**	**-2.3**
AMBA	**Amambai (Brazi**	**14.88**	**56**	*eP*			**Pn**	**14 17 15.9**	**-2.4**
ITAB	**Concordia**	**14.90**	**76**	*eP*			**Pn**	**14 17 16.9**	**-1.6**
BDQN	**Bodoquena, MS**	**15.46**	**45**	*eP*			**Pn**	**14 17 24.7**	**-0.9**
LPAZ	**La Paz**	**15.54**	**1**	Pn			**Pn**	**14 17 27.0**	**-0.1**
LPAZ	**La Paz**	**15.54**	**1**	P			**Pn**	**14 17 25.9**	**-1.2**
	comp=Z,8.5nm,0.6s,baz=167,slow=6.8,SNR=21								
LPAZ	**La Paz**	**15.54**	**1**	*eP*			**Pn**	**14 17 26.4**	**-0.8**
BBRB	**Robore, Bolivi**	**15.63**	**32**	*eP*			**Pn**	**14 17 27.2**	**-0.4**
PTGB	**Pitanga**	**16.06**	**68**	*eP*			**Pn**	**14 17 32.2**	**-0.8**
AQDB	**Aquidauana**	**16.09**	**48**	*eP*			**Pn**	**14 17 32.8**	**-0.6**
BBSD	**Serra de San D**	**16.26**	**28**	*eP*			**Pn**	**14 17 35.3**	**-0.1**
TRCB	**Terra Rica**	**16.68**	**61**	*eP*			**Pn**	**14 17 39.3**	**-1.3**
GO08	**Villa O'Higgin**	**16.84**	**190**	Pn			**Pn**	**14 17 40.2**	**-2.1**
SIV	**San Ignacio**	**17.19**	**25**	P			**P**	**14 17 46.6**	**+0.1**
	comp=Z,9.0nm,0.5s,baz=199,slow=11,SNR=43								
LDASE	**Londrina, Braz**	**17.49**	**65**	*eP*			**P**	**14 17 49.0**	**-0.9**
PCMB	**Pacaembu**	**18.40**	**60**	*eP*			**P**	**14 18 00.6**	**+0.8**
PTLB	**Pontes e Lacer**	**18.43**	**29**	*eP*			**Pn**	**14 18 01.6**	**0.0**
FRTB	**Fartura**	**18.73**	**68**	*eP*			**P**	**14 18 03.9**	**+0.5**
SALV	**Santo Antonio**	**19.69**	**39**	*eP*			**P**	**14 18 14.1**	**+0.3**
PET01	**Itanhaem-SP**	**20.11**	**73**	*eP*			**P**	**14 18 18.4**	**+0.1**
ITRB	**Iturama**	**20.25**	**57**	*eP*			**P**	**14 18 20.0**	**+0.1**
SPB	**Sao Paulo**	**20.30**	**71**	P			**P**	**14 18 20.9**	**+0.5**
SPB				IAmb		IAmb		14 18 25.4	
	comp=Z,20nm,0.9s								
SPB	**Sao Paulo**	**20.30**	**71**	*eP*			**P**	**14 18 21.5**	**+1.1**
VILB	**Vilhena**	**20.31**	**24**	P			**P**	**14 18 20.2**	**-0.3**
VILB	**Vilhena**	**20.31**	**24**	*eP*			**P**	**14 18 20.7**	**+0.2**
BB19B	**Bebedouro**	**20.77**	**64**	*eP*			**P**	**14 18 25.8**	**+0.2**
RCLB	**Rio Claro- Sao**	**20.81**	**68**	*eP*			**P**	**14 18 26.2**	**+0.3**
VAO	**Valinhos**	**20.96**	**70**	*eP*			**P**	**14 18 28.0**	**+0.4**
MG04	**Isla Riesco**	**21.07**	**185**	P			**P**	**14 18 29.4**	**+1.1**
EFI	**East Falkland**	**21.17**	**162**	P			**P**	**14 18 27.7**	**-1.8**
EFI				IAmb		IAmb		14 18 33.5	
	comp=Z,34nm,0.8s								
GO10	**Punta Arenas**	**21.33**	**184**	P			**P**	**14 18 32.4**	**+1.2**
PARB	**Paraibuna**	**21.89**	**73**	*eP*			**P**	**14 18 37.7**	**+0.3**
MG03	**Isla Dawson**	**21.99**	**183**	P			**P**	**14 18 37.9**	**-0.1**
MG03				IAmb		IAmb		14 18 38.1	
	comp=Z,83nm,1.4s								
ETMB	**Extrema**	**22.07**	**6**	*eP*			**P**	**14 18 39.8**	**+0.6**
ARAG	**Araguaiana, MT**	**22.10**	**47**	*eP*			**P**	**14 18 38.8**	**-0.8**
PDRB	**Porto dos Gac**	**22.88**	**31**	*eP*			**P**	**14 18 48.6**	**+1.2**
IPMB	**Ipameri, GO**	**22.91**	**58**	*eP*			**P**	**14 18 47.4**	**-0.3**
SAML	**Samuel**	**23.35**	**13**	P			**P**	**14 18 51.8**	**+0.1**
SAML				IAmb		IAmb		14 18 53.6	
	comp=Z,25nm,1.2s								
SAML	**Samuel**	**23.35**	**13**	*eP*			**P**	**14 18 51.8**	**+0.1**
BDFB	**Brasilia**	**24.63**	**54**	P			**P**	**14 19 03.4**	**-0.1**
	comp=Z,2.2nm,0.4s,baz=238,slow=13,SNR=2.4								
	comp=Z,2.2nm,0.4s								
TBTG	**Tabatinga, AM**	**27.60**	**357**	P			**P**	**14 19 30.5**	**+0.4**
MCRA	**Macar, Loja**	**29.45**	**336**	P			**P**	**14 19 46.3**	**-0.3**
OTAV	**Otavalo**	**33.35**	**342**	P			**P**	**14 20 19.9**	**-1.4**
BCIP	**Isla Barro Col**	**42.27**	**343**	P			**P**	**14 21 36.9**	**+1.3**
BELA	**Belgrano 2**	**48.44**	**171**	P			**P**	**14 22 24.8**	**+1.2**
BELA				IAmb		IAmb		14 22 30.4	
	comp=Z,9.5nm,0.6s								
MLPR	**Magueyes Islan**	**49.60**	**2**	P			**P**	**14 22 33.6**	**+0.5**
OBIP	**Obispado Ponce**	**49.69**	**2**	P			**P**	**14 22 32.5**	**-1.2**
CELP	**Cerrillos**	**49.72**	**2**	P			**P**	**14 22 33.6**	**-0.4**
VNA3	**Neumayer Olymp**	**50.18**	**159**	⇑P			**P**	**14 22 38.0**	**+1.0**
	comp=Z,15nm,0.6s								
VNA3				⇓pP			**pP**	**14 23 05.5**	**+0.7**
	comp=Z,8.9nm,0.6s								
MTO3	**Montecristo**	**50.23**	**333**	P			**P**	**14 22 39.0**	**+0.8**
MTO3				IAmb		IAmb		14 22 40.0	
	comp=Z,5.2nm,0.8s								
VNA2	**Neumayer--Watz**	**50.79**	**158**	⇑P			**P**	**14 22 42.4**	**+0.9**
	comp=Z,11nm,0.5s,baz=284,slow=6.5								
VNA2				⇓pP			**pP**	**14 23 10.4**	**+1.0**
	comp=Z,8.0nm,0.6s,baz=278,slow=8.8								
SNAA	**Sanae**	**52.40**	**159**	P			**P**	**14 22 54.1**	**+0.5**
SNAA				IAmb		IAmb		14 23 23.1	
	comp=Z,19nm,1.1s								
SNAA	**Sanae**	**52.40**	**159**	⇑P			**P**	**14 22 54.2**	**+0.7**
	comp=Z,98nm,0.4s								
SNAA				⇓pP			**pP**	**14 23 21.4**	**-0.1**
	comp=Z,154nm,0.6s								
SNAA	**Sanae**	**52.40**	**159**	P			**P**	**14 22 53.9**	**+0.3**
	comp=Z,6.7nm,0.7s,baz=286,slow=6.7,SNR=13								
	comp=Z,6.7nm,0.7s								
TROLL	**Troll, Antarti**	**54.12**	**159**	⇑P			**P**	**14 23 06.9**	**+0.8**
	comp=Z,131nm,0.6s								
TROLL				⇓pP			**pP**	**14 23 34.6**	**+0.3**
	comp=Z,612nm,0.8s								
TEIG	**Tepich**	**55.22**	**337**	P			**P**	**14 23 14.9**	**+0.4**
SOR	**Soroa**	**56.15**	**344**	P			**P**	**14 23 21.1**	**-0.1**
QSPA	**South Pole Qui**	**58.33**	**180**	P			**P**	**14 23 36.8**	**+0.6**
QSPA				IAmb		IAmb		14 24 06.6	
	comp=Z,9.8nm,1.1s								
QSPA	**South Pole Qui**	**58.33**	**180**	P			**P**	**14 23 36.6**	**+0.4**
	comp=Z,5.7nm,0.7s,baz=171,slow=5.1,SNR=48								
	comp=Z,5.7nm,0.7s								
061Z	**Ochoppi**	**58.67**	**347**	P			**P**	**14 23 39.2**	**+0.4**
656A	**Willston**	**62.39**	**346**	P			**P**	**14 24 04.0**	**0.0**
VNDA	**Vanda**	**66.73**	**190**	P			**P**	**14 24 31.2**	**-0.5**
143A	**Socs Landing,**	**67.83**	**339**	P			**P**	**14 24 39.4**	**+0.4**
X51A	**Calhoun**	**67.90**	**345**	P			**P**	**14 24 39.6**	**+0.1**
FPAL	**Fort Paine**	**68.04**	**345**	P			**P**	**14 24 39.9**	**-0.5**
FPAL				IAmb		IAmb		14 24 41.0	
	comp=Z,6.1nm,0.7s								
V58A	**Windy Hill, Pi**	**68.08**	**351**	P			**P**	**14 24 40.7**	**+0.1**
V58A				IAmb		IAmb		14 24 41.1	
	comp=Z,11nm,0.6s								
X48A	**Hartselle**	**68.29**	**343**	P			**P**	**14 24 42.0**	**+0.1**
X48A				IAmb		IAmb		14 24 42.9	
	comp=Z,8.2nm,0.8s								
Y45A	**Yeager Farm, C**	**68.38**	**341**	P			**P**	**14 24 42.9**	**+0.4**
V55A	**Taylorsville**	**68.46**	**349**	P			**P**	**14 24 43.0**	**0.0**
V55A				IAmb		IAmb		14 24 43.9	
	comp=Z,9.9nm,1.0s								
V53A	**Saluda**	**68.56**	**347**	P			**P**	**14 24 43.1**	**-0.6**
V53A				IAmb		IAmb		14 24 43.8	
	comp=Z,5.5nm,0.6s								
W50A	**Signal Mountai**	**68.61**	**345**	P			**P**	**14 24 43.3**	**-0.6**
W50A				IAmb		IAmb		14 24 44.3	
	comp=Z,11nm,0.8s								
TKL	**Tuckaleechee C**	**68.73**	**347**	P			**P**	**14 24 43.8**	**-0.8**
	comp=Z,4.5nm,0.6s,baz=182,slow=8.6,SNR=5.6								
	comp=Z,4.5nm,0.6s								
SWET	**Sewanee**	**68.76**	**345**	P			**P**	**14 24 44.8**	**-0.1**
SWET				IAmb		IAmb		14 24 45.2	
	comp=Z,12nm,0.7s								
V52A	**Sevierville**	**68.88**	**347**	P			**P**	**14 24 45.4**	**-0.2**
V52A				IAmb		IAmb		14 24 45.9	
	comp=Z,25nm,1.4s								
BRDY	**Brady**	**69.20**	**332**	P			**P**	**14 24 47.4**	**-0.3**
BRDY				IAmb		IAmb		14 24 49.1	
	comp=Z,13nm,1.1s								
SAND	**Sanderson**	**69.34**	**329**	P			**P**	**14 24 49.2**	**+0.6**
SAND				IAmb		IAmb		14 24 50.1	
	comp=Z,10nm,0.7s								
V48A	**Smith Brothers**	**69.47**	**344**	P			**P**	**14 24 49.0**	**-0.2**
V48A				IAmb		IAmb		14 24 49.9	
	comp=Z,13nm,0.7s								
TX31	**Lajitas Ar. Si**	**69.50**	**327**	P			**P**	**14 24 50.0**	**+0.3**
TXAR	**Lajitas Array**	**69.50**	**327**	P			**P**	**14 24 50.2**	**+0.5**
TXAR	**Lajitas Array**	**69.50**	**327**	P			**P**	**14 24 50.1**	**+0.4**
	comp=Z,2.9nm,0.7s,baz=151,slow=8.0,SNR=24								
	comp=Z,2.9nm,0.7s								
OZNA	**Ozona**	**69.75**	**330**	P			**P**	**14 24 51.3**	**+0.1**
OZNA				IAmb		IAmb		14 24 52.5	
	comp

LBTB				IAmb	IAmb	14 26 23.5	
	comp=Z,6.3nm,0.8s						
LBTB	**Lobatse**	**80.37**	**113**	P	**P**	**14 25 52.8**	**+0.3**
	comp=Z,4.3nm,0.4s,baz=249,slow=7.0,SNR=12						
LBTB				pP	**pP**	**14 26 21.8**	**-0.9**
	comp=Z,6.1nm,0.7s,baz=233,slow=6.1,SNR=4.8						
	comp=Z,4.3nm,0.4s						
TOA0	**Torodi Ar. Sit**	**80.61**	**68**	P	**P**	**14 25 54.6**	**+0.9**
TOA0				IAmb	IAmb	14 25 55.2	
	comp=Z,8.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**80.61**	**68**	P	**P**	**14 25 54.3**	**+0.6**
TORD				IAmb	IAmb	14 25 55.2	
	comp=Z,7.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**80.61**	**68**	P	**P**	**14 25 53.6**	**-0.1**
	comp=Z,6.1nm,0.7s,baz=229,slow=3.3,SNR=37						
TORD				pP	**pP**	**14 26 23.7**	**-0.3**
	comp=Z,4.1nm,0.8s,baz=278,slow=4.2,SNR=6.6						
TORD				sP	**sP**	**14 26 36.7**	**0.0**
	comp=Z,2.8nm,0.7s,baz=273,slow=4.1,SNR=4.0						
	comp=Z,6.1nm,0.7s						
O20A	**White River Ci**	**80.61**	**330**	P	**P**	**14 25 54.2**	**+0.8**
MTPU	**Mount Pierson**	**80.67**	**326**	P	**P**	**14 25 54.6**	**+0.7**
SRU	**San Rafael Swe**	**80.77**	**328**	P	**P**	**14 25 54.8**	**+0.6**
SRU				IAmb	IAmb	14 25 55.8	
	comp=Z,9.8nm,1.2s						
CCUT	**Cedar City**	**80.84**	**325**	P	**P**	**14 25 56.0**	**+1.3**
Q16A	**Castle Valley**	**80.90**	**328**	P	**P**	**14 25 55.9**	**+0.9**
Q16A				IAmb	IAmb	14 25 57.0	
	comp=Z,10nm,1.3s						
SHPR	**Sheep Range**	**80.91**	**324**	P	**P**	**14 25 55.9**	**+0.9**
MSU	**Marysvale**	**81.04**	**327**	P	**P**	**14 25 56.5**	**+0.8**
MVU	**Marysvale**	**81.05**	**327**	P	**P**	**14 25 56.5**	**+0.7**
MVU				IAmb	IAmb	14 25 58.1	
	comp=Z,21nm,1.0s						
P18A	**Preston Nutter**	**81.06**	**329**	P	**P**	**14 25 56.7**	**+0.8**
P18A				IAmb	IAmb	14 25 58.0	
	comp=Z,17nm,1.4s						
QSM	**Queen of Sheba**	**81.37**	**322**	P	**P**	**14 25 57.9**	**+0.6**
DRLN	**Deer Lake**	**81.38**	**7**	P	**P**	**14 25 57.5**	**+0.6**
RWWY	**Rawlins**	**81.49**	**332**	P	**P**	**14 25 57.7**	**-0.4**
RWWY				IAmb	IAmb	14 25 59.1	
	comp=Z,20nm,1.1s						
PSUT	**Pine Spring**	**81.85**	**326**	P	**P**	**14 26 00.7**	**+0.7**
WCT	**Wildcat Mounta**	**81.87**	**323**	P	**P**	**14 26 01.5**	**+1.5**
BSUT	**Blindstream Ca**	**82.03**	**329**	P	**P**	**14 26 01.6**	**+0.5**
R11B	**Troy Canyon, C**	**82.55**	**324**	P	**P**	**14 26 04.8**	**+1.2**
R11B				IAmb	IAmb	14 26 06.0	
	comp=Z,8.7nm,1.3s						
GMN	**Gold Mountain**	**82.59**	**323**	P	**P**	**14 26 05.0**	**+1.1**
LCH	**Last Change Ra**	**82.74**	**322**	P	**P**	**14 26 05.0**	**+0.5**
MZP	**Montezuma Peak**	**82.96**	**323**	P	**P**	**14 26 06.8**	**+0.9**
B35A	**Bob, Littlefor**	**83.05**	**343**	P	**P**	**14 26 05.6**	**-0.1**
B35A				IAmb	IAmb	14 26 06.0	
	comp=Z,5.9nm,0.6s						
HWUT	**Hardware Ranch**	**83.25**	**329**	P	**P**	**14 26 07.3**	**+0.2**
PD31	**Pinedale Array**	**83.35**	**331**	P	**P**	**14 26 07.8**	**+0.1**
PDAR	**Pinedale Array**	**83.35**	**331**	P	**P**	**14 26 07.8**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=137,slow=5.1,SNR=18						
PDAR				pP	**pP**	**14 26 39.3**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=132,slow=8.2,SNR=2.6						
	comp=Z,1.9nm,0.7s						
BGU	**Big Grassy Mou**	**83.36**	**328**	P	**P**	**14 26 08.1**	**+0.4**
SPUT	**South Promonto**	**83.41**	**328**	P	**P**	**14 26 07.8**	**-0.1**
SPUT				IAmb	IAmb	14 26 08.9	
	comp=Z,5.3nm,0.8s						
HVU	**Hansel Valley**	**83.93**	**328**	P	**P**	**14 26 10.9**	**+0.4**
HVU				IAmb	IAmb	14 26 11.8	
	comp=Z,5.2nm,0.8s						
LHV	**Little Huntoon**	**83.95**	**323**	P	**P**	**14 26 12.0**	**+1.5**
LHV				IAmb	IAmb	14 26 13.0	
	comp=Z,7.3nm,1.0s						
NVAR	**Mina Array Bea**	**83.98**	**323**	P	**P**	**14 26 12.2**	**+1.2**
NVAR	**Mina Array Bea**	**83.98**	**323**	P	**P**	**14 26 11.9**	**+0.9**
	comp=Z,2.8nm,0.8s,baz=154,slow=6.0,SNR=22						
NVAR				pP	**pP**	**14 26 42.7**	**+1.2**
	comp=Z,1.0nm,0.9s,baz=120,slow=5.3,SNR=2.8						
	comp=Z,2.8nm,0.8s						
ELK	**Elko**	**84.25**	**326**	P	**P**	**14 26 12.5**	**+0.2**
ELK	**Elko**	**84.25**	**326**	P	**P**	**14 26 12.4**	**+0.1**
	comp=Z,2.8nm,0.8s,baz=131,slow=5.1,SNR=16						
	comp=Z,2.8nm,0.8s						
KVN	**Kaiserville**	**84.35**	**323**	P	**P**	**14 26 13.0**	**+0.2**
LOHW	**Long Hollow**	**84.48**	**331**	P	**P**	**14 26 14.0**	**+0.6**
WAKR	**Walker**	**84.62**	**322**	P	**P**	**14 26 15.1**	**+0.9**
WAKR				IAmb	IAmb	14 26 16.9	
	comp=Z,10nm,1.3s						
MOOW	**Moose Ponds**	**84.65**	**331**	P	**P**	**14 26 14.4**	**+0.2**
FLWY	**Flagg Ranch**	**84.90**	**331**	P	**P**	**14 26 15.9**	**+0.5**
FLWY				IAmb	IAmb	14 26 17.4	
	comp=Z,11nm,1.2s						
PNTR	**Pine Nut**	**85.15**	**323**	P	**P**	**14 26 17.6**	**+0.8**
PNTR				IAmb	IAmb	14 26 19.1	
	comp=Z,10nm,0.8s						
RLMT	**Red Lodge**	**85.18**	**332**	P	**P**	**14 26 17.5**	**+0.6**
RLMT				IAmb	IAmb	14 26 18.0	
	comp=Z,4.4nm,0.6s						
ULM	**Lac du Bonnet**	**85.34**	**343**	P	**P**	**14 26 16.9**	**-0.2**
ULM				IAmb	IAmb	14 26 17.7	
	comp=Z,6.7nm,0.8s						
ULM	**Lac du Bonnet**	**85.34**	**343**	P	**P**	**14 26 16.5**	**-0.7**
	comp=Z,4.7nm,0.8s,baz=163,slow=4.1,SNR=7.8						
	comp=Z,4.7nm,0.8s						
LAO	**LASA Array**	**85.35**	**335**	P	**P**	**14 26 17.7**	**+0.3**
LAO				IAmb	IAmb	14 26 18.8	
	comp=Z,14nm,1.3s						
PAHR	**Pah Rah Range**	**85.50**	**323**	P	**P**	**14 26 19.6**	**+1.2**
PAHR				IAmb	IAmb	14 26 58.9	
	comp=Z,17nm,1.4s						
YHH	**Holmes Hill**	**85.54**	**331**	P	**P**	**14 26 19.8**	**+1.1**
HLID	**Hailey**	**86.08**	**328**	P	**P**	**14 26 21.9**	**+0.6**
HLID				IAmb	IAmb	14 26 23.5	
	comp=Z,11nm,1.2s						
EGMT	**Eagleton**	**87.77**	**334**	P	**P**	**14 26 29.4**	**+0.1**
PLID	**Pearl Lake**	**87.98**	**328**	P	**P**	**14 26 31.1**	**+0.6**
PLID				IAmb	IAmb	14 27 06.2	
	comp=Z,17nm,1.3s						
K05A	**Summer Lake**	**88.50**	**324**	P	**P**	**14 26 34.1**	**+1.1**
YBH	**Yreka Blue Hor**	**88.70**	**323**	P	**P**	**14 26 34.1**	**+0.4**
YBH	**Yreka Blue Hor**	**88.70**	**323**	P	**P**	**14 26 34.1**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=126,slow=5.7,SNR=5.4						
	comp=Z,1.3nm,0.6s						
I07A	**Izee**	**88.83**	**326**	P	**P**	**14 26 34.8**	**+0.4**
J05D	**Fort Rock, OR**	**89.08**	**324**	P	**P**	**14 26 36.3**	**+0.7**
PINE	**Pine Mountain**	**89.31**	**325**	P	**P**	**14 26 37.6**	**+0.9**
FCC	**Fort Churchill**	**92.83**	**347**	P	**P**	**14 26 52.3**	**0.0**
ESDC	**Sonseca Array**	**92.94**	**44**	P	**P**	**14 26 54.2**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=270,slow=3.8,SNR=2.4						
	comp=Z,0.7nm,0.7s						
ASAR	**Alice Springs**	**120.77**	**204**	PKP	**PKPdf**	**14 32 30.9**	**-1.6**
	comp=Z,3.4nm,1.0s,baz=159,slow=2.3,SNR=1.1						
ARCES	**ARCESS Array B**	**120.84**	**24**	PKP	**PKPdf**	**14 32 29.6**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=252,slow=1.8,SNR=0.7						
WRA	**Warramunga Arr**	**124.03**	**206**	PKP	**PKPdf**	**14 32 38.1**	**-0.7**
	comp=Z,10nm,0.9s,baz=177,slow=2.5,SNR=0.9						
PETK	**Petropavlovsk-**	**140.81**	**317**	PKP	**PKPdf**	**14 33 09.3**	**+0.2**
	comp=Z,6.4nm,1.0s,baz=47,slow=4.9,SNR=2.7						
BVAR	**Borovoye Array**	**143.67**	**42**	PKP	PKPbc	14 33 13.3	+1.2
	comp=Z,2.8nm,0.7s,baz=311,slow=3.3,SNR=4.5						
AAK	**Ala-Archa**	**148.82**	**59**	PKPbc	**PKPbc**	**14 33 28.1**	**+0.6**
	comp=Z,11nm,0.6s,baz=243,slow=3.9,SNR=16						
KURBB	**Kurchatov Arra**	**149.25**	**43**	PKPbc	**PKPbc**	**14 33 28.9**	**+0.8**
	comp=Z,9.1nm,0.8s,baz=296,slow=3.2,SNR=12						
KURBB				pPKPbc	**pPKPbc**	**14 34 01.4**	**+1.4**
	comp=Z,3.9nm,0.6s,baz=298,slow=3.1,SNR=3.7						
ZALV	**Zalesovo Beam**	**150.81**	**33**	PKPbc	**PKiKP**	**14 33 32.4**	**0.0**
	comp=Z,20nm,0.6s,baz=316,slow=3.2,SNR=28						
ZALV				pPKPbc	**pPKPbc**	**14 34 04.8**	**+1.0**
	comp=Z,9.9nm,0.7s,baz=302,slow=2.9,SNR=7.0						
MKAR	**Makanchi Array**	**153.09**	**48**	PKPbc	**PKPbc**	**14 33 36.7**	**-0.5**
	comp=Z,2.8nm,0.7s,baz=280,slow=1.0,SNR=2.7						
MKAR				PKPab	**PKPab**	**14 33 49.8**	**+0.5**
	comp=Z,3.6nm,0.7s,baz=290,slow=2.9,SNR=10.0						
MJAR	**Matsushiro Arr**	**157.54**	**289**	PKPab	**PKPab**	**14 34 08.7**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=82,slow=1.7,SNR=5.0						

*IDC **06** 14:25:28.2±0.8, 6°.19S×142°.98E, h0km, mb4.3/10, mbtmp4.4/13, ML4.1/2, Error ellipse: s-maj=28.4km s-min=18.5km az=82.0*
*NEIC **06** 14:25:30.6±1.6, 6°.1S±0°.1×142°.92E±0°.10, h10km±1km, mb5.2/36, Error ellipse: s-maj=21.6km s-min=14.0km az=29.0*
ISC 06 14:25:30.3±0.6, 6°.20S±0°.09×142°.87E±0°.09, h10km, n72, σ0s88/72, mb5.1/22, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.32**	**127**	Pn	**Pn**		**14 26 49.8**	**0.0**
PMG	**Port Moresby**	**5.32**	**127**	Pn	**Pn**		**14 26 48.7**	**-1.1**
	37nm,0.6s,baz=66,slow=14,SNR=3.1							
PMG				Sn	**Sn**		**14 27 51.2**	**0.0**
	4.6nm,0.3s,baz=205,slow=15,SNR=2.0							
FAKI	**Fak Fak**	**11.07**	**287**	Pn	**Pn**		**14 28 07.4**	**-1.6**
WB0	**Warramunga Arr**	**15.81**	**211**	Pn	**Pn**		**14 29 13.0**	**-0.2**
WR0	**Warramunga Arr**	**15.90**	**210**	Pn	**Pn**		**14 29 14.0**	**-0.3**
WB2	**Warramunga Arr**	**15.98**	**210**	Pn	**Pn**		**14 29 17.1**	**+1.8**
WRA	**Warramunga Arr**	**15.98**	**210**	Pn	**Pn**		**14 29 14.0**	**-1.4**
	0.6nm,0.3s,baz=31,slow=13,SNR=1.0							
WRA				Lg	Lg		14 33 56.5	
	0.4nm,0.3s,baz=15,slow=36,SNR=1.3							
	16nm,0.9s							
AS31	**Alice Springs**	**19.39**	**205**	Pn	**Pn**		**14 29 59.1**	**+1.4**
ASAR	**Alice Springs**	**19.39**	**205**	P	**P**		**14 29 57.8**	**+1.1**
	1.1nm,0.3s,baz=27,slow=11,SNR=4.9							
ASAR				Lg	Lg		14 35 46.7	
	baz=25,slow=31							
	28nm,0.8s							
LUWI	**Luwuk**	**20.69**	**284**	Pn	Pn		14 30 13.0	-0.3
TOLI2	**Tolitoli**	**23.21**	**287**	P	**P**		**14 30 38.2**	**+0.4**
KSAR	**Wonju Array Be**	**45.61**	**343**	P	**P**		**14 33 50.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**49.76**	**300**	P	**P**		**14 34 24.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**49.76**	**300**	P	**P**		**14 34 23.5**	**0.0**
	2.0nm,0.7s,baz=117,slow=5.8,SNR=7.1							
	2.0nm,0.7s							
USRK	**Ussuriysk Ar.**	**51.11**	**350**	P	**P**		**14 34 32.6**	**-0.6**
	2.0nm,0.8s,baz=181,slow=13,SNR=3.3							
	2.0nm,0.8s							
SONM	**Songino Array**	**62.65**	**333**	P	**P**		**14 35 56.7**	**+1.4**
	0.8nm,0.6s,baz=150,slow=6.4,SNR=1.6							
	0.8nm,0.6s							
MK31	**Makanchi Array**	**75.07**	**322**	P	**P**		**14 37 12.5**	**0.0**
MKAR	**Makanchi Array**	**75.07**	**322**	P	**P**		**14 37 12.6**	**+0.1**
MKAR	**Makanchi Array**	**75.07**	**322**	P	**P**		**14 37 12.2**	**-0.3**
	2.4nm,0.7s,baz=104,slow=7.3,SNR=4.6							
	2.4nm,0.7s							
ZALV	**Zalesovo Beam**	**77.03**	**329**	P	**P**		**14 37 22.6**	**-0.8**
	1.3nm,0.7s,baz=123,slow=5.3,SNR=2.7							
	1.3nm,0.7s							
KURBB	**Kurchatov Arra**	**78.95**	**324**	P	**P**		**14 37 34.0**	**-0.2**
	1.8nm,0.8s,baz=114,slow=5.0,SNR=2.9							
	1.8nm,0.8s							
J17K	**VABM Dome**	**81.89**	**23**	P	**P**		**14 37 50.2**	**+0.5**
J17K				IAmb	IAmb		14 39 25.1	
	comp=Z,47nm,1.9s							
H17K	**Granite Mounta**	**82.40**	**21**	P	**P**		**14 37 51.4**	**-1.0**
H17K				IAmb	IAmb		14 38 24.4	
	comp=Z,44nm,1.9s							
F17K	**Baldwin Pennin**	**82.76**	**20**	P	**P**		**14 37 53.6**	**-0.6**
G18K	**Tagagawik**	**83.35**	**21**	P	**P**		**14 37 56.7**	**-0.6**
CNPM	**China Poot**	**83.41**	**28**	P	**P**		**14 37 57.5**	**-0.3**
M20K	**Styx River**	**83.56**	**25**	P	**P**		**14 37 59.0**	**+0.4**
M20K				IAmb	IAmb		14 41 00.1	
	comp=Z,38nm,2.0s							
QSPA	**South Pole Qui**	**83.77**	**180**	P	**P**		**14 37 59.2**	**-0.5**
QSPA				IAmb	IAmb		14 38 24.1	
	comp=Z,37nm,1.6s							
QSPA	**South Pole Qui**	**83.77**	**180**	P	**P**		**14 37 58.8**	**-0.9**
	comp=Z,3.5nm,1.0s,baz=284,slow=4.2,SNR=5.6							
	comp=Z,3.5nm,1.0s							
H19K	**Roundabout Mou**	**83.95**	**21**	P	**P**		**14 38 00.6**	**+0.2**
J20K	**Nowinta River**	**84.18**	**23**	P	**P**		**14 38 03.0**	**+1.4**
	baz=243							
NRIK	**Noril'sk**	**84.23**	**343**	P	**P**		**14 38 01.4**	**-0.3**
	comp=Z,4.1nm,0.8s,baz=141,slow=5.3,SNR=3.5							
	comp=Z,4.1nm,0.8s							
SKT	**Skwentna**	**84.29**	**26**	P	**P**		**14 38 01.3**	**-1.0**
H20K	**Anotleneega Mo**	**84.51**	**22**	P	**P**		**14 38 04.4**	**+1.1**
	baz=242							
BVAR	**Borovoye Array**	**84.53**	**325**	P	**P**		**14 38 03.8**	**+0.2**
	comp=Z,9.4nm,0.7s,baz=113,slow=7.0,SNR=20							
	comp=Z,9.4nm,0.7s							
BRVK	**Borovoye**	**84.60**	**325**	P	**P**		**14 38 04.3**	**+0.4**
E19K	**Redstone River**	**84.64**	**20**	P	**P**		**14 38 04.0**	**+0.1**
E19K				IAmb	IAmb		14 38 27.8	
	comp=Z,22nm,1.6s							
E19K	**Redstone River**	**84.64**	**20**	P	**P**		**14 38 04.8**	**+0.9**
	baz=240							
RC01	**Rabbit Creek A**	**84.72**	**27**	P	**P**		**14 38 03.6**	**-0.8**
RC01	**Rabbit Creek A**	**84.72**	**27**	P	**P**		**14 38 04.3**	**-0.1**
	baz=247							
CHUM	**Lake Minchumin**	**84.77**	**24**	P	**P**		**14 38 05.7**	**+1.1**
	baz=245							
D19K	**Kuna River**	**84.89**	**19**	P	**P**		**14 38 05.6**	**+0.5**
D19K				IAmb	IAmb		14 38 19.0	
	comp=Z,26nm,1.6s							
KTH	**Kantishna Hill**	**85.20**	**24**	P	**P**		**14 38 05.8**	**-1.0**
KTH				IAmb	IAmb		14 38 36.1	
	comp=Z,29nm,1.6s							
GHO	**Glory Hole Cre**	**85.34**	**26**	P	**P**		**14 38 07.2**	**-0.4**
BPAW	**Bear Paw Mtn.**	**85.39**	**24**	P	**P**		**14 38 07.1**	**-0.6**
BPAW				IAmb	IAmb		14 40 06.3	
	comp=Z,37nm,1.9s							
TRF	**Thorofare Moun**	**85.42**	**24**	P	**P**		**14 38 07.1**	**-1.0**
TRF				IAmb	IAmb		14 39 21.9	
	comp=Z,44nm,1.9s							
KNK	**Knik Glacier**	**85.42**	**27**	P	**P**		**14 38 09.3**	**+1.3**
	baz=248							
SML	**Sawmill**	**85.62**	**26**	P	**P**		**14 38 08.6**	**-0.3**
SML	**Sawmill**	**85.62**	**26**	P	**P**		**14 38 09.4**	**+0.5**
	baz=248							
MLY	**Manley**	**85.88**	**23**	P	**P**		**14 38 09.5**	**-0.6**
MLY				IAmb	IAmb		14 39 39.5	
	comp=Z,30nm,2.0s							
RND	**Reindeer**	**85.99**	**25**	P	**P**		**14 38 09.7**	**-1.1**
RND				IAmb	IAmb		14 38 34.0	
	comp=Z,33nm,1.6s							
SCM	**Sheep Creek Mo**	**86.07**	**27**	P	**P**		**14 38 10.7**	**-0.5**
NEA2	**Nenana**	**86.36**	**24**	P	**P**		**14 38 11.9**	**-0.6**
NEA2				IAmb	IAmb		14 38 57.9	
	comp=Z,37nm,1.9s							
DHY	**Denali Highway**	**86.49**	**25**	P	**P**		**14 38 13.1**	**-0.3**
DHY				IAmb	IAmb		14 38 21.6	
	comp=Z,32nm,1.8s							
DHY	**Denali Highway**	**86.49**	**25**	P	**P**		**14 38 13.8**	**+0.4**
	baz=249							
B21K	**Ikpikpuk River**	**86.54**	**18**	P	**P**		**14 38 14.3**	**+1.0**
	baz=242							
M24K	**Tolsona, Glenn**	**86.68**	**26**	P	**P**		**14 38 14.0**	**-0.2**
CCB	**Clear Creek Bu**	**86.88**	**24**	P	**P**		**14 38 13.9**	**-1.1**
B22K	**Teshekpuk Lake**	**87.24**	**18**	P	**P**		**14 38 16.8**	**+0.2**
ILAR	**Eielson Array**	**87.30**	**24**	P	**P**		**14 38 15.7**	**-1.4**
	comp=Z,2.0nm,0.7s,baz=255,slow=4.6,SNR=18							
	comp=Z,2.0nm,0.7s							
CRQM	**Cirque**	**87.64**	**28**	P	**P**		**14 38 18.9**	**-0.2**
C23K	**Itkillik River**	**87.89**	**19**	P	**P**		**14 38 21.2**	**+1.4**
	baz=246							
TABL	**Table Mountain**	**88.50**	**29**	P	**P**		**14 38 22.2**	**-1.0**
CTG	**Chitna Glacier**	**88.54**	**28**	P	**P**		**14 38 24.4**	**+1.1**
	baz=255							
M27K	**Edge Creek, AK**	**88.67**	**27**	P	**P**		**14 38 23.8**	**0.0**
G26K	**Porcupine Rive**	**89.22**	**22**	P	**P**		**14 38 27.1**	**+1.0**
	baz=252							
F26K	**Sheenjek River**	**89.31**	**21**	P	**P**		**14 38 28.4**	**+1.8**
	baz=252							
I27K	**Kandik River**	**89.67**	**24**	P	**P**		**14 38 29.5**	**+1.2**
	baz=254							
H27K	**Steamboat Moun**	**89.88**	**23**	P	**P**		**14 38 30.6**	**+1.2**
	baz=257							
YUK4	**Talbot Arm**	**89.90**	**28**	P	**P**		**14 38 31.1**	**+1.4**
	baz=257							
M29M	**Somme Creek**	**90.23**	**27**	P	**P**		**14 38 32.1**	**+1.0**
	baz=257							
K29M	**Barlow Dome**	**90.95**	**26**	P	**P**		**14 38 35.4**	**+0.9**
	baz=258							

*IDC **06** 14:28:17.5±0.9, 6°.28S×142°.64E, h0km, mb4.1/10, mbtmp4.2/12, ML1.6/1, Error ellipse: s-maj=32.9km s-min=20.5km az=71.0*
ISC 06 14:28:19.2±0.7, 6°.3S±0°.1×142°.6E±0°.1, h10km, n13, σ0s70/14, mb4.1/10, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.51**	**124**	Pn	**Pn**		**14 29 42.1**	**+0.7**
	1.2nm,0.3s,baz=235,slow=20,SNR=2.1							
PMG				Sn	**Sn**		**14 30 44.9**	**+0.1**
	1.7nm,0.3s,baz=82,slow=19,SNR=1.3							
	49nm,0.9s							
WRA	**Warramunga Arr**	**15.74**	**210**	Pn	**Pn**		**14 32 00.8**	**-0.3**
	0.9nm,0.3s,baz=29,slow=13,SNR=1.5							

ASAR	**Alice Springs**	**19.17**	**205**	P	**Pn**	**14 32 44.3**	**+0.4**
	8.8nm,0.7s,baz=33,slow=10,SNR=8.8						
KSRS	**Korea Array**	**45.62**	**344**	P	**P**	**14 36 40.8**	**+1.1**
	2.3nm,1.0s,baz=156,slow=7.8,SNR=4.5						
	2.3nm,1.0s						
CMAR	**Chiang Mai Arr**	**49.54**	**301**	P	**P**	**14 37 11.3**	**+0.6**
	0.8nm,0.4s,baz=104,slow=7.5,SNR=2.5						
	0.8nm,0.4s						
USRK	**Ussuriysk Ar.**	**51.16**	**350**	P	**P**	**14 37 21.8**	**-0.6**
	3.7nm,0.9s,baz=153,slow=11,SNR=4.4						
	3.7nm,0.9s						
MKAR	**Makanchi Array**	**74.95**	**322**	P	**P**	**14 40 01.4**	**+0.8**
	1.4nm,0.8s,baz=134,slow=6.2,SNR=4.2						
	1.4nm,0.8s						
ZALV	**Zalesovo Beam**	**76.95**	**329**	P	**P**	**14 40 11.5**	**-0.3**
	0.5nm,0.6s,baz=96,slow=4.3,SNR=1.9						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**78.85**	**324**	P	**P**	**14 40 22.7**	**+0.3**
	0.9nm,0.8s,baz=116,slow=4.9,SNR=2.2						
	0.9nm,0.8s						
QSPA	**South Pole Qui**	**83.67**	**180**	P	**P**	**14 40 47.1**	**-0.9**
	1.2nm,0.9s,baz=67,slow=13,SNR=1.7						
	1.2nm,0.9s						
NRIK	**Noril'sk**	**84.23**	**343**	P	**P**	**14 40 50.4**	**-0.2**
	3.1nm,0.8s,baz=111,slow=4.1,SNR=4.8						
	3.1nm,0.8s						
BVAR	**Borovoye Array**	**84.43**	**325**	P	**P**	**14 40 52.1**	**+0.2**
	4.1nm,0.7s,baz=115,slow=6.4,SNR=8.5						
	4.1nm,0.7s						
ILAR	**Eielson Array**	**87.52**	**24**	P	**P**	**14 41 06.0**	**-1.0**
	1.0nm,0.8s,baz=258,slow=5.0,SNR=5.9						
	1.0nm,0.8s						

*PRU **06** 14:30:37.2, 50°.03N×18°.49E, h0km*
IPEC 06 14:30:36.5±0.1, 50°.03N×18°.52E, h1km, ML1.8/4, Error ellipse: s-maj=1.8km s-min=0.7km az=163.0, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.31**	**232**	*e*Pg	Pg		14 30 42.8	+0.4
OKC				*e*Sg	Sg		14 30 47.4	+1.0
	comp=Z,32nm,0.4s							
MORC	**Moravsky Berou**	**0.68**	**249**	*e*Pg	Pg		14 30 49.3	-0.3
	baz=68							
MORC				*e*Sg	Sg		14 30 57.9	-0.5
	31nm,0.4s,baz=68							
MAUC	**Maruska**	**0.80**	**214**	*e*PG	Pg		14 30 52.1	+0.2
OJC	**Ojcow**	**0.84**	**76**	*e*Pg	Pg		14 30 52.2	-0.4
OJC				*e*Sg	Sg		14 31 04.4	+0.9
LANS	**Liptovska Anna**	**1.07**	**145**	*e*PG	Pg		14 30 57.3	+0.3
LANS				*e*SG	Sn		14 31 13.6	-0.7
LANS				*e*LG	Lg		14 31 16.8	
KRLC	**Kraliky**	**1.12**	**273**	*e*PG	Pg		14 30 56.8	-1.2
KRLC				*e*SG	Sg		14 31 11.2	-1.4
	comp=Z,17nm,0.4s							
JAVC	**Velka Javorina**	**1.30**	**206**	*e*Pg	Pg		14 31 01.2	-0.1
	baz=25							
JAVC	**Velka Javorina**	**1.30**	**206**	*e*PG	Pb		14 31 01.6	-0.1
NIE	**Niedzica**	**1.30**	**117**	*e*Pg	Pg		14 31 01.3	-0.2
NIE				*e*Sg	Sn		14 31 20.9	+1.0
VRAC	**Vranov**	**1.45**	**241**	*e*Pg	Pn		14 31 03.2	-0.6
	baz=59							
VRAC				*e*Sg	Sg		14 31 21.8	-1.2
	14nm,0.4s,baz=59							
DPC	**Dobruska-Polom**	**1.45**	**284**	*e*PG	Pn		14 31 03.1	-0.8
DPC				*e*SG	Sg		14 31 22.3	-0.8
	comp=Z,7.5nm,0.5s							
VYHS	**Vyhne**	**1.55**	**172**	*e*PG	Pn		14 31 04.5	-0.8
VYHS				*e*SG	Sg		14 31 26.5	+0.2
VYHS				*e*			14 42 35.5	
OSTC	**Ostas**	**1.57**	**290**	*e*PG	Pn		14 31 04.

ILAR Eielson Array 87.54 24 P **P** **14 48 03.8 -1.1**
0.5nm,0.9s,baz=264,slow=5.0,SNR=4.3
0.5nm,0.9s

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*BJI **06** 14:39:59.2±0.0,6˚58S×143˚42E,h12km,mb4.7/47*
*MOS **06** 14:40:00.0±0.8,6˚60S×143˚07E,h10km,mb5.0/22,Error ellipse: s-maj=18.1km s-min=8.7km az=116.0*
*NEIC **06** 14:40:01.4±1.1,6˚94S±0˚07×142˚75E±0˚09,h10km±1km, mb5.1/46,Error ellipse: s-maj=15.6km s-min=11.8km az=100.0*
*IDC **06** 14:40:02.1±0.7,6˚26S×143˚00E,h0km,mb4.5/13, mbtmp4.5/16,ML4.4/2,Error ellipse: s-maj=27.8km s-min=15.7km az=78.0*
*DJA **06** 14:40:12.6±0.3,6˚S±3˚×14˚3E±˚,h77km±4km,M5.3/31, mb4.7/31,MLv5.6/6,MwMwp7.1/1,Mwp6.9/1*
ISC 06 14:40:01.2±0.4,6˚98S±0˚05×142˚82E±0˚06,h10km,n244, σ1ˢ77/208,mb4.8/71,16C-12D,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MMPI	**Merauke**	**2.83**	**238**	P		Pg	14 41 05.7	+10
PMG	**Port Moresby**	**4.93**	**120**	Pn		**Pn**	**14 41 15.7**	**+0.3**
PMG	**Port Moresby**	**4.93**	**120**	⇓*eP*		**Pn**	**14 41 15.1**	**-0.3**
PMG				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PMG	**Port Moresby**	**4.93**	**120**	Pn		Pn	14 41 10.1	-5.4
	comp=Z,6.5nm,0.8s,baz=304,slow=7.3,SNR=2.5							
PMG				Sn		**Sn**	**14 42 12.5**	**-0.1**
	comp=Z,1.3nm,0.3s,baz=312,slow=11,SNR=1.5							
PMG	**Port Moresby**	**4.93**	**120**	Pn		Pn	14 41 21.7	+6.3
	comp=Z,16nm,0.5s,baz=273,slow=8.9,SNR=12							
PMG				Sn		**Sn**	**14 42 20.4**	**+7.8**
	comp=Z,5.9nm,0.3s,baz=20,slow=19,SNR=9.3							
GENI	**Genyem**	**5.09**	**329**	P		**Pn**	**14 41 18.8**	**+1.1**
COEN	**Coen**	**6.95**	**177**	P		Pb	14 41 55.5	-6.6
	baz=7.6							
COEN	**Coen**	**6.95**	**177**	Pn		**Pb**	**14 41 59.2**	**-2.9**
FAKI	**Fak Fak**	**11.27**	**290**	Pn		**Pn**	**14 42 39.8**	**-2.8**
KDU	**Kakadu**	**11.66**	**240**	P		Pn	14 42 54.0	+6.2
	baz=12,SNR=9.2							
MTN	**Manton Dam**	**12.90**	**242**	P		Pn	14 43 10.5	+5.7
	baz=13,SNR=5.7							
SWI	**Sorong**	**13.03**	**297**	P		Pn	14 43 13.9	+7.3
	comp=Z,48nm,1.0s							
CTA	**Charters Tower**	**13.45**	**166**	Lg		Lg	14 47 29.9	
	comp=Z,0.3nm,0.3s,baz=8.7,slow=20,SNR=2.2							
WB0	**Warramunga Arr**	**15.12**	**212**	Pn		**Pn**	**14 43 34.8**	**-0.3**
WR0	**Warramunga Arr**	**15.20**	**211**	Pn		**Pn**	**14 43 35.1**	**-1.1**
WRAB	**Tennant Creek**	**15.28**	**212**	⇓*eP*		**Pn**	**14 43 37.4**	**+0.2**
WRAB				pmax		pmax		
	comp=Z,19nm,0.8s							
WB2	**Warramunga Arr**	**15.29**	**212**	P		**P**	**14 43 46.4**	**+4.3**
	baz=16							
WRA	**Warramunga Arr**	**15.29**	**212**	*i* P		**Pn**	**14 43 37.7**	**+0.3**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
WRA	**Warramunga Arr**	**15.29**	**212**	Pn		**Pn**	**14 43 36.1**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=30,slow=12,SNR=5.3							
WRA				Sn		**S**	**14 46 36.0**	**-7.7**
	comp=Z,0.4nm,0.3s,baz=28,slow=24,SNR=3.3							
	comp=Z,0.7nm,0.3s							
WRA	**Warramunga Arr**	**15.29**	**212**	Pn		**P**	**14 43 46.6**	**+4.4**
	comp=Z,1.3nm,0.3s,baz=30,slow=13,SNR=9.5							
WRA				Lg		Lg	14 48 23.9	
	comp=Z,0.9nm,0.3s,baz=127,slow=50,SNR=2.1							
	comp=Z,6.8nm,0.6s							
NLAI	**Namlea**	**16.09**	**283**	P		**P**	**14 43 55.1**	**+4.0**
	comp=Z,22nm,0.9s							
KNRA	**Kununurra**	**16.26**	**237**	P		**P**	**14 43 56.8**	**+3.9**
	baz=17,SNR=5.0							
KNRA	**Kununurra**	**16.26**	**237**	Pn		**P**	**14 43 58.5**	**+5.5**
KNRA				IAmb		IAmb	14 44 27.4	
	comp=Z,59nm,0.8s							
LBMI	**Labuha**	**16.52**	**292**	P		**P**	**14 44 00.2**	**+4.3**
	comp=Z,59nm,1.0s							
TNTI	**Ternate**	**17.23**	**296**	P		**P**	**14 44 06.7**	**+2.9**
	comp=Z,23nm,1.2s							
SANI	**Sanana**	**17.47**	**285**	P		P	14 44 13.1	+6.7
	comp=Z,33nm,0.9s							
SOEI	**Soe**	**18.56**	**260**	P		**P**	**14 44 15.9**	**-2.7**
SOEI	**Soe**	**18.56**	**260**	P		Pn	14 44 27.2	+8.4
	comp=Z,139nm,0.9s							
AS31	**Alice Springs**	**18.67**	**206**	P		**P**	**14 44 18.8**	**-0.9**
AS31	**Alice Springs**	**18.67**	**206**	P		Pn	14 44 30.8	+11
AS31				IAmb		IAmb	14 44 34.2	
	comp=Z,11nm,0.7s							
ASAR	**Alice Springs**	**18.67**	**206**	P		**P**	**14 44 19.9**	**+0.2**
ASAR	**Alice Springs**	**18.67**	**206**	P		Pn	14 44 30.9	+11
ASAR	**Alice Springs**	**18.67**	**206**	P		**P**	**14 44 19.9**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=29,slow=11,SNR=9.7							
ASAR				S		**S**	**14 47 58.3**	**+5.7**
	comp=Z,2.4nm,0.7s,baz=14,slow=29,SNR=2.1							
	comp=Z,3.2nm,0.6s							
ASAR	**Alice Springs**	**18.67**	**206**	P		Pn	14 44 30.6	+11
	comp=Z,2.3nm,0.3s,baz=28,slow=12,SNR=30							
ASAR				Lg		Lg	14 50 12.8	
	comp=Z,0.3nm,0.3s,baz=15,slow=30,SNR=2.8							
	comp=Z,36nm,0.7s							
ASPA	**Alice Springs**	**18.68**	**206**	P		**Pn**	**14 44 22.9**	**+2.9**
	baz=19							
QLP	**Quilpie**	**19.55**	**176**	P		**Pn**	**14 44 33.4**	**+3.0**
	baz=20,SNR=4.9							
EIDS	**Eidsvold**	**19.92**	**158**	P		Pn	14 44 45.4	+10
EIDS				IAmb		IAmb	14 45 07.8	
	comp=Z,26nm,1.2s							
FITZ	**Fitzroy Crossi**	**20.06**	**235**	P		Pn	14 44 43.0	+6.4
	baz=20,SNR=4.1							
FITZ	**Fitzroy Crossi**	**20.06**	**235**	P		**P**	**14 44 33.9**	**-1.0**
FITZ	**Fitzroy Crossi**	**20.06**	**235**	P		Pn	14 44 42.9	+6.2
FITZ				IAmb		IAmb	14 44 51.3	
	comp=Z,8.3nm,0.9s							
BBSI	**Bau Bau**	**20.18**	**273**	P		Pn	14 44 44.3	+6.2
	comp=Z,67nm,1.0s							
KMSI	**Cibinong**	**20.24**	**291**	P		Pn	14 44 41.4	+2.7
	comp=Z,119nm,1.0s							
SGSI	**Sangihe**	**20.25**	**301**	P		Pn	14 44 40.4	+1.5
	comp=Z,286nm,0.6s							
MMRI	**Maumere**	**20.46**	**264**	P		Pn	14 44 47.8	+6.5
	comp=Z,56nm,0.8s							
PATS	**Pohnpei**	**20.67**	**49**	P		**P**	**14 44 40.9**	**-0.6**
LUWI	**Luwuk**	**20.84**	**286**	P		Pn	14 44 45.0	-0.8
LUWI				IAmb		IAmb	14 44 57.3	
	comp=Z,75nm,0.9s							
LUWI	**Luwuk**	**20.84**	**286**	P		Pn	14 44 48.1	+2.3
	comp=Z,90nm,0.9s							
EDFI	**Ende, Flores**	**21.00**	**264**	P			14 44 48.8	
GTOI	**Gorontalo**	**21.16**	**290**	P		**P**	**14 44 53.3**	**+6.5**
	comp=Z,36nm,0.7s							
BKSI	**Bulukumba**	**22.62**	**273**	P		**P**	**14 45 08.8**	**+6.2**
	comp=Z,37nm,1.0s							
WRKA	**Warakurna**	**22.70**	**216**	P		P	14 45 12.6	+9.2
	baz=23,SNR=7.6							
KAPI	**Kappang**	**23.02**	**274**	⇓*eP*		**P**	**14 45 08.3**	**+1.6**
KAPI				pmax		pmax		
	comp=Z,34nm,1.0s							
KAPI				pmax		pmax		
	comp=Z,10.0nm,0.7s							
TTSI	**Tana Toraja**	**23.24**	**279**	P		P	14 45 16.0	+7.1
	comp=Z,23nm,0.9s							
TOLI2	**Tolitoli**	**23.41**	**289**	P		**P**	**14 45 11.4**	**+0.7**
MPSI	**Mapaga**	**23.99**	**287**	P		**P**	**14 45 20.0**	**+3.7**
	comp=Z,19nm,0.9s							
ARMA	**Armidale**	**24.74**	**162**	P		P	14 45 33.5	+10
STKA	**Stephens Creek**	**24.80**	**182**	P		P	14 45 33.8	+10
STKA	**Stephens Creek**	**24.80**	**182**	P		P	14 45 32.9	+9.3
	comp=Z,7.6nm,0.9s,baz=0.3,slow=9.7,SNR=5.5							
	comp=Z,7.6nm,0.9s							
PLAI	**Plampang**	**24.87**	**264**	P		P	14 45 31.3	+6.9
	comp=Z,28nm,1.7s							
PSA00	**Pilbara Seismi**	**26.51**	**234**	P		P	14 45 47.0	+7.8
MAJO	**Matsushiro**	**43.51**	**355**	⇑*eP*		**P**	**14 48 02.0**	**-3.0**
MAJO				pmax		pmax		
	comp=Z,9.0nm,1.2s							
NJ2	**Nanjing**	**45.04**	**331**	*eP*		**P**	**14 48 18.3**	**+0.9**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.5s							
KSRS	**Korea Array**	**46.34**	**344**	P		**P**	**14 48 25.6**	**-2.0**
KSRS	**Korea Array**	**46.34**	**344**	P		**P**	**14 48 25.6**	**-2.0**
	comp=Z,5.0nm,1.0s,baz=156,slow=9.4,SNR=8.4							
	comp=Z,5.0nm,1.0s							
GYA	**Guiyang**	**48.31**	**315**	⇑*iP*		**P**	**14 48 45.5**	**+2.2**
GYA				pmax		pmax		
	comp=Z,11nm,1.1s							
PHRA	**Phrae**	**49.04**	**302**	P		**P**	**14 48 48.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**50.11**	**301**	P		**P**	**14 48 56.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**50.11**	**301**	pmax		pmax		
	comp=Z,6.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**50.11**	**301**	P		**P**	**14 48 57.8**	**+0.7**
	comp=Z,5.3nm,0.9s,baz=123,slow=5.9,SNR=26							
	comp=Z,5.3nm,0.9s							
CMAR	**Chiang Mai Arr**	**50.11**	**301**	*ce*P		**P**	**14 48 58.2**	**+1.1**
CHTO	**Chiang Mai**	**50.27**	**301**	P		**P**	**14 48 57.5**	**-0.7**
CHTO	**Chiang Mai**	**50.27**	**301**	P		**P**	**14 48 57.6**	**-0.7**
CHTO				pmax		pmax		
	comp=Z,4.0nm,0.8s							
LYN	**LuoYang**	**50.29**	**327**	⇑P		**P**	**14 48 57.0**	**-1.1**
LYN				pP		sP	14 49 05.8	+3.3
LYN				sP		pP	14 49 10.1	+8.8
LYN				pmax		pmax		
	comp=Z,27nm,0.5s							
KMI	**Kunming**	**50.39**	**311**	⇑P		**P**	**14 49 00.3**	**+1.0**
KMI				pmax		pmax		
	comp=Z,15nm,1.4s							
SNY	**Shenyang**	**51.66**	**342**	⇓P		**P**	**14 49 06.2**	**-2.1**
SNY				pmax		pmax		
	comp=Z,9.0nm,1.0s							
USA0B	**Ussuriysk Arra**	**51.87**	**350**	IAmb		IAmb	14 49 18.1	
	comp=Z,12nm,1.1s							
USA0B	**Ussuriysk Arra**	**51.87**	**350**	⇓*eP*		**P**	**14 49 08.1**	**-1.7**
USA0B	**Ussuriysk Arra**	**51.87**	**350**	P		**P**	**14 49 08.4**	**-1.4**
USRK	**Ussuriysk Ar.**	**51.87**	**350**	P		**P**	**14 49 08.0**	**-1.8**
USRK	**Ussuriysk Ar.**	**51.87**	**350**	P		**P**	**14 49 07.5**	**-2.3**
	comp=Z,3.9nm,0.8s,baz=182,slow=7.7,SNR=6.6							
	comp=Z,3.9nm,0.8s							
PZH	**PanZhiHua**	**51.90**	**312**	P		**P**	**14 49 12.9**	**+2.4**
PZH				pmax		pmax		
	comp=Z,10.0nm,1.0s							
XAN	**Xi'an**	**51.90**	**324**	⇑P		**P**	**14 49 09.0**	**-1.3**
XAN				pmax		pmax		
	comp=Z,10.0nm,1.3s							
CD2	**Chengdu**	**53.07**	**317**	*eP*		**P**	**14 49 19.0**	**0.0**
YSS	**Yuzh-Sakhalins**	**53.69**	**360**	*eP*		**P**	**14 49 20.7**	**-2.5**
YSS				pmax		pmax		
	comp=Z,10.0nm,0.5s							
BNX	**BinXian**	**54.26**	**347**	⇓P		**P**	**14 49 25.2**	**-2.2**
BNX				pmax		pmax		
	comp=Z,13nm,1.8s							
HHC	**Hu-ho-hao-te**	**55.59**	**332**	*eP*		**P**	**14 49 36.8**	**-0.5**
HHC				pmax		pmax		
	comp=Z,18nm,0.5s							
BTO	**Baotou**	**56.15**	**330**	*eP*		**P**	**14 49 44.2**	**+2.9**
BTO				PP		**PP**	**14 51 51.6**	**+5.0**
BTO				S		**S**	**14 57 35.0**	**+4.4**
BTO				pmax		pmax		
	comp=Z,15nm,0.7s							
LZH	**Lanzhou**	**56.33**	**322**	*eP*		**P**	**14 49 43.4**	**+0.6**
LZH				pP		sP	14 49 50.0	+2.8
LZH				pmax		pmax		
	comp=Z,15nm,1.2s							
KLR	**Kul'dur**	**56.80**	**351**	⇓*eP*		**P**	**14 49 44.1**	**-1.5**
KLR				pmax		pmax		
	comp=Z,4.0nm,0.8s							
HEH	**HeiHe**	**58.55**	**348**	*eP*		P	14 49 53.0	-4.9
GTA	**Gaotai**	**60.91**	**323**	*eP*		**P**	**14 50 14.8**	**+0.2**
GTA				sP		sP	14 50 21.6	+2.5
GTA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
PETK	**Petropavlovsk-**	**61.17**	**10**	P		**P**	**14 50 15.3**	**-0.6**
PETK	**Petropavlovsk-**	**61.17**	**10**	P		**P**	**14 50 13.6**	**-2.3**
	comp=Z,3.5nm,0.8s,baz=99,slow=17,SNR=5.8							
	comp=Z,3.5nm,0.8s							
ZEA	**Zeya**	**61.90**	**350**	*eP*		**P**	**14 50 19.4**	**-1.4**
GOMU	**GeErMu**	**62.21**	**317**	P		**P**	**14 50 23.7**	**0.0**
GOMU				pP		sP	14 50 27.8	-0.4
GOMU				sP		pP	14 50 31.0	+4.0
GOMU				pmax		pmax		
	comp=Z,4.0nm,1.6s							
ULN	**Ulaanbaatar**	**63.05**	**334**	⇓*eP*		**P**	**14 50 29.1**	**+0.2**
ULN				pmax		pmax		
	comp=Z,3.0nm,0.9s							
SONM	**Songino Array**	**63.32**	**333**	P		**P**	**14 50 30.7**	**+0.1**
SONM				IAmb		IAmb	14 52 48.1	
	comp=Z,26nm,1.6s							
SONM	**Songino Array**	**63.32**	**333**	P		**P**	**14 50 30.0**	**-0.6**
SONM	**Songino Array**	**63.32**	**333**					
	comp=Z,1.4nm,0.7s							
SONM	**Songino Array**	**63.32**	**333**	P		**P**	**14 50 30.0**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=162,slow=7.5,SNR=5.1							
ZAK	**Zakamensk**	**66.58**	**334**	*eP*		**P**	**14 50 50.1**	**-1.7**
ZAK				pmax		pmax		
	comp=Z,6.0nm,1.0s							
MA2	**Magadan**	**66.64**	**4**	⇑*eP*		**P**	**14 50 50.0**	**-1.8**
MA2				pmax		pmax		
	comp=Z,19nm,1.9s							
MOY	**Mondy**	**68.51**	**333**	*eP*		**P**	**14 51 03.8**	**-0.1**
MOY				pmax		pmax		
	comp=Z,35nm,2.9s							
DGAR	**Diego Garcia**	**69.74**	**265**	P		**P**	**14 51 11.1**	**-1.1**
DGAR	**Diego Garcia**	**69.74**	**265**	P		**P**	**14 51 11.1**	**-1.1**
DGAR				pmax		pmax		
	comp=Z,762nm,2.0s							
SEY	**Seymchan**	**70.09**	**5**	⇓*eP*		**P**	**14 51 12.0**	**-1.3**
SEY				pmax		pmax		
	comp=Z,12nm,2.2s							
WMQ	**Urumqi**	**70.88**	**321**	*eP*		**P**	**14 51 19.4**	**+0.8**
WMQ				pmax		pmax		
	comp=Z,10.0nm,0.9s							
DGZ	**Jazzator, Alta**	**74.08**	**326**	⇑*eP*		**P**	**14 51 37.3**	**-0.4**
DGZ				pmax		pmax		
	comp=Z,17nm,2.1s							
MK31	**Makanchi Array**	**75.65**	**322**	P		**P**	**14 51 46.5**	**-0.3**
MK31	**Makanchi Array**	**75.65**	**322**	*ce*P		**P**	**14 51 47.1**	**+0.4**
MKAR	**Makanchi Array**	**75.65**	**322**	P		**P**	**14 51 46.4**	**-0.3**
MKAR	**Makanchi Array**	**75.65**	**322**	*i* P		**P**	**14 51 47.0**	**+0.3**
MKAR				pmax		pmax		
	comp=Z,6.0nm,1.0s							
MKAR	**Makanchi Array**	**75.65**	**322**	P		P	14 51 34.9	-12
	comp=Z,0.3nm,0.7s,baz=104,slow=6.3,SNR=2.7							
	comp=Z,0.3nm,0.7s							
MKAR	**Makanchi Array**	**75.65**	**322**					
	comp=Z,5.5nm,1.0s							
MKAR	**Makanchi Array**	**75.65**	**322**	P		**P**	**14 51 46.8**	**+0.1**
	comp=Z,5.5nm,1.0s,baz=110,slow=6.5,SNR=23							
MAKZ	**Makanchi**	**75.85**	**322**	P		**P**	**14 51 47.9**	**0.0**
MAKZ	**Makanchi**	**75.85**	**322**	P		**P**	**14 51 47.9**	**0.0**
MAKZ				pmax		pmax		
	comp=Z,6.0nm,0.8s							
BILL	**Bilibino**	**76.66**	**9**	⇓*eP*		**P**	**14 51 50.7**	**-1.3**
BILL				pmax		pmax		
	comp=Z,20nm,3.3s							
KSH	**Kashi**	**76.97**	**313**	P		**P**	**14 51 56.2**	**+1.7**
KSH				pmax		pmax		
	comp=Z,5.0nm,0.9s							
ZAA0	**Zalesovo Array**	**77.67**	**329**	P		**P**	**14 51 56.6**	**-1.3**
ZAA0				IAmb		IAmb	14 52 36.4	
	comp=Z,20nm,1.6s							
ZALV	**Zalesovo Beam**	**77.67**	**329**	P		**P**	**14 51 56.6**	**-1.3**
ZALV	**Zalesovo Beam**	**77.67**	**329**	*i* P		**P**	**14 51 57.0**	**-0.9**
ZALV				pmax		pmax		
	comp=Z,3.0nm,0.7s							
ZALV	**Zalesovo Beam**	**77.67**	**329**					
	comp=Z,2.5nm,0.7s							
ZALV	**Zalesovo Beam**	**77.67**	**329**	P		**P**	**14 51 56.8**	**-1.1**
	comp=Z,2.5nm,0.7s,baz=108,slow=4.8,SNR=9.3							
TIXI	**Tiksi**	**79.01**	**356**	⇑*eP*		**P**	**14 52 03.9**	**-1.0**
AAK	**Ala-Archa**	**79.10**	**316**	P		**P**	**14 52 05.8**	**-0.6**
AAK				IAmb		IAmb	14 52 33.4	
	comp=Z,36nm,1.8s							
AAK	**Ala-Archa**	**79.10**	**316**	⇑*eP*		**P**	**14 52 06.1**	**-0.2**
AAK				pmax		pmax		
	comp=Z,6.0nm,1.7s							
KURK	**Kurchatov**	**79.54**	**324**	P		**P**	**14 52 07.9**	**-0.4**
KURK				IAmb		IAmb	14 52 40.7	
	comp=Z,34nm,1.8s							
KURK	**Kurchatov**	**79.54**	**324**	⇑*eP*		**P**	**14 52 08.1**	**-0.2**
KURK				pmax		pmax		
	comp=Z,31nm,3.0s							
KURBB	**Kurchatov Arra**	**79.55**	**324**	P		**P**	**14 52 08.3**	**-0.1**
	comp=Z,3.9nm,1.0s,baz=118,slow=4.7,SNR=18							
	comp=Z,3.9nm,1.0s							
M14K	**Bethel**	**80.04**	**24**	P		**P**	**14 52 10.6**	**-0.1**
M14K				IAmb		IAmb	14 52 44.4	
	comp=Z,37nm,1.3s							
L14K	**Kuka Creek**	**80.08**	**23**	P		**P**	**14 52 10.7**	**-0.3**
L14K				IAmb		IAmb	14 53 06.9	
	comp=Z,39nm,1.4s							
L14K	**Kuka Creek**	**80.08**	**23**	P		**P**	**14 52 11.4**	**+0.4**
	baz=235							
M16K	**Timber Creek**	**81.42**	**25**	P		**P**	**14 52 18.4**	**+0.2**
M16K				IAmb		IAmb	14 55 14.7	
	comp=Z,30nm,1.4s							
M16K	**Timber Creek**	**81.42**	**25**	P		**P**	**14 52 19.2**	**+1.0**
	baz=239							
O17K	**Koliganek Bris**	**81.58**	**26**	P		**P**	**14 52 19.9**	**+0.9**
	baz=240							
F15K	**North Star Dit**	**81.95**	**19**	P		**P**	**14 52 20.5**	**-0.4**
J16K	**Anvik River**	**81.98**	**22**	P		**P**	**14 52 20.9**	**-0.2**
J16K	**Anvik River**	**81.98**	**22**	P		**P**	**14 52 21.9**	**+0.7**
	baz=237							
KKAR	**Karatay Array**	**82.02**	**315**	P		**P**	**14 52 21.6**	**-0.2**
KKAR	**Karatay Array**	**82.02**	**315**	P		**P**	**14 52 21.6**	**-0.2**
H16K	**Elim**	**82.14**	**21**	P		**P**	**14 52 22.6**	**+0.6**
	baz=235							
M17K	**Holitna River**	**82.25**	**25**	P		**P**	**14 52 22.6**	**+0.1**
G16K	**Koyuk River**	**82.54**	**20**	P		**P**	**14 52 24.2**	**+0.2**
K17K	**Iditarod**	**82.57**	**23**	P		**P**	**14 52 24.8**	**+0.6**
	baz=239							
J17K	**VABM Dome**	**82.62**	**23**	P		**P**	**14 52 25.1**	**+0.6**
	baz=238							
M18K	**Stony River**	**82.97**	**25**	P		**P**	**14 52 26.0**	**-0.3**
	baz=241							
QSPA	**South Pole Qui**	**83.00**	**180**	P		**P**	**14 52 22.9**	**-3.8**
	comp=Z,6.9nm,1.3s,baz=2.2,slow=14,SNR=2.5							
	comp=Z,6.9nm,1.3s							
QSPA	**South Pole Qui**	**83.00**	**180**	P		P	14 52 33.4	+6.8
	comp=Z,5.9nm,1.0s,baz=345,slow=1.8,SNR=5.0							
	comp=Z,5.9nm,1.0s							
O19K	**Port Alsworth**	**83.01**	**27**	P		**P**	**14 52 26.2**	**-0.3**
	baz=243							
H17K	**Granite Mounta**	**83.14**	**21**	P		**P**	**14 52 27.7**	**+0.6**
	baz=237							
G17K	**Kiwalik Mounta**	**83.19**	**21**	P		**P**	**14 52 28.3**	**+0.9**
	baz=237							
N19K	**Bonanza Creek**	**83.22**	**26**	P		**P**	**14 52 27.7**	**-0.1**
N19K				IAmb		IAmb	14 52 35.2	
	comp=Z,18nm,1.3s							
H18K	**Honhosa River**	**83.81**	**21**	P		**P**	**14 52 30.3**	**-0.3**
C17K	**DeLong Mountai**	**84.08**	**17**	P		**P**	**14 52 32.5**	**+0.6**
	baz=234							
G18K	**Tagagawik**	**84.10**	**21**	P		**P**	**14 52 31.4**	**-0.7**
G18K				IAmb		IAmb	14 52 41.4	
	comp=Z,27nm,1.6s							
E18K	**Tukpahlearik C**	**84.27**	**19**	P		**P**	**14 52 33.0**	**+0.1**
E18K				IAmb		IAmb	14 52 39.9	
	comp=Z,24nm,1.6s							
E18K	**Tukpahlearik C**	**84.27**	**19**	P		**P**	**14 52 33.3**	**+0.5**
	baz=236							
M20K	**Styx River**	**84.29**	**25**	P		**P**	**14 52 33.1**	**-0.1**
	baz=244							
C18K	**Utukok River**	**84.78**	**18**	P		**P**	**14 52 35.2**	**-0.3**
C18K				IAmb		IAmb	14 52 40.1	
	comp=Z,19nm,1.6s							
G19K	**Purcell Mounta**	**84.78**	**21**	P		**P**	**14 52 35.7**	**+0.2**
G19K				IAmb		IAmb	14 52 40.6	
	comp=Z,22nm,1.4s							
F19K	**Shaleruckik Mo**	**84.89**	**20**	P		**P**	**14 52 35.6**	**-0.4**
F19K				IAmb		IAmb	14 52 41.8	
	comp=Z,16nm,1.6s							
J20K	**Nowinta River**	**84.91**	**23**	P		**P**	**14 52 36.2**	**0.0**
J20K				IAmb		IAmb	14 52 43.6	
	comp=Z,19nm,1.4s							
J20K	**Nowinta River**	**84.91**	**23**	P		**P**	**14 52 37.3**	**+1.1**
	baz=243							
NRIK	**Noril'sk**	**84.95**	**343**			**P**	**14 52 35.7**	**-0.5**
NRIK				IAmb		IAmb	14 52 43.5	
	comp=Z,16nm,1.1s							
NRIK	**Noril'sk**	**84.95**	**343**	⇑*eP*		**P**	**14 52 35.8**	**-0.5**
NRIK				pmax		pmax		
	comp=Z,11nm,0.8s							
NRIK	**Noril'sk**	**84.95**	**343**					
	comp=Z,7.5nm,0.8s							
NRIK	**Noril'sk**	**84.95**	**343**	P		**P**	**14 52 35.8**	**-0.5**
	comp=Z,7.5nm,0.8s,baz=123,slow=5.1,SNR=18							
BVAR	**Borovoye Array**	**85.13**	**325**	P		P	14 52 27.7	-10
	comp=Z,1.3nm,0.6s,baz=102,slow=4.9,SNR=5.8							
	comp=Z,1.3nm,0.6s							
BVAR	**Borovoye Array**	**85.13**	**325**	P		**P**	**14 52 37.8**	**+0.2**
	comp=Z,19nm,0.8s,baz=104,slow=6.3,SNR=48							
	comp=Z,19nm,0.8s							
BRVK	**Borovoye**	**85.20**	**325**	P		**P**	**14 52 38.2**	**+0.3**
BRVK	**Borovoye**	**85.20**	**325**	⇓*eP*		**P**	**14 52 38.7**	**+0.8**
BRVK				pmax		pmax		
	comp=Z,16nm,1.0s							
E19K	**Redstone River**	**85.39**	**20**	P		**P**	**14 52 39.0**	**+0.4**
E19K	**Redstone River**	**85.39**	**20**	P		**P**	**14 52 39.0**	**+0.4**
	baz=240							
CAST	**Castle Rocks**	**85.39**	**24**	P		**P**	**14 52 38.6**	**-0.1**
	baz=245							
RC01	**Rabbit Creek A**	**85.44**	**27**	P		**P**	**14 52 38.8**	**-0.1**

baz=253
L26K **Log Cabin Wild** 88.93 26 P P 14 52 56.2 +0.3
baz=252
D24K **Happy Valley** 88.95 19 P P 14 52 56.3 +0.6
D24K **Happy Valley** 88.95 19 P P 14 52 56.9 +1.2
baz=247
G25K **Bearman Lake** 89.03 22 P P 14 52 56.8 +0.7
baz=250
C24K **Franklin Bluff** 89.21 19 P P 14 52 57.7 +0.8
baz=248
CTG **Chitna Glacier** 89.25 28 P P 14 52 58.1 +0.6
baz=254
FYU **Fort Yukon** 89.29 22 P P 14 52 57.8 +0.5
FYU IAmb IAmb 14 53 05.5
comp=Z,22nm,1.2s
J26L **Joseph Creek** 89.29 25 P P 14 52 58.2 +0.6
baz=252
M27K **Edge Creek, AK** 89.39 27 P P 14 52 58.8 +0.7
baz=254
F25K **Christian Rive** 89.48 21 P P 14 52 59.6 +1.2
baz=250
E25K **Arctic Village** 89.69 21 P P 14 53 00.4 +1.1
baz=250
K27K **Chicken** 89.77 25 P P 14 52 59.7 0.0
K27K IAmb IAmb 14 53 08.3
comp=Z,13nm,1.1s
K27K **Chicken** 89.77 25 P P 14 53 00.9 +1.2
baz=254
BVCY **Beaver Creek** 89.86 27 P P 14 53 01.2 +1.1
baz=255
YUK3 **Moose Creek** 89.87 28 P P 14 53 01.1 +0.6
baz=255
G26K **Porcupine Rive** 89.96 22 P P 14 53 01.8 +1.3
baz=252
F26K **Sheenjek River** 90.06 21 P P 14 53 02.7 +1.7
baz=252
I27K **Kandik River** 90.40 24 P P 14 53 03.4 +0.7
baz=254
C26K **Camden Bay** 90.50 19 P P 14 53 04.9 +1.9
baz=251
H27K **Steamboat Moun** 90.61 23 P P 14 53 04.6 +1.0
baz=254
DAWY **Dawson** 90.92 25 P P 14 53 05.2 0.0
DAWY IAmb IAmb 14 53 11.9
comp=Z,12nm,1.4s
DAWY **Dawson** 90.92 25 P P 14 53 05.8 +0.7
baz=256
M29M **Somme Creek** 90.95 27 P P 14 53 05.9 +0.6
baz=257
L29M **L29M** 91.25 27 P P 14 53 07.1 +0.4
L29M IAmb IAmb 14 53 11.6
comp=Z,12nm,1.4s
L29M **L29M** 91.25 27 P P 14 53 07.7 +1.1
baz=257
K29M **Barlow Dome** 91.67 26 P P 14 53 09.5 +0.8
baz=258
EPYK **Eagle Plains** 92.53 23 P P 14 53 13.0 +0.5
baz=259
TORD **Torodi Ar. Bea** 141.27 282 PKhKP PKPpre 14 59 30.4
comp=Z,0.7nm,0.8s,baz=90,slow=1.4,SNR=4.5
KIC **Kosan Boka** 147.78 271 ⇓*i*PKP2 **PKPab** 14 59 51.8 +1.9
comp=Z,26nm,1.1s
DBIC **Dimbokro** 147.91 271 PKPbc **PKPbc** 14 59 48.8 +0.9
comp=Z,8.8nm,0.9s,baz=84,slow=3.9,SNR=8.2
LIC **Lamto** 148.05 271⇑*e*PKP2 **PKiKP** 14 59 50.5 +0.4
comp=Z,7.1nm,0.3s
TIC **Toumodi** 148.07 271⇑*i*PKP2 **PKPab** 14 59 51.3 +0.2
comp=Z,3.9nm,0.3s

*IDC **06** 14:41:47.6±0.9,6˚.29S×142˚.82E, h0km, mb4.3/8, mbtmp4.4/11, ML4.3/2, Error ellipse: s-maj=30.0km s-min=20.1km az=78.0*
*NEIC **06** 14:41:48.8±0.8,6˚.25S±0˚.06×142˚.6E±0˚.1, h10km±1km, mb5.0/22, Error ellipse: s-maj=25.0km s-min=8.7km az=257.0*
ISC 06 14:41:49.4±0.6,6˚.40S±0˚.09×142˚.64E±0˚.10, h10km, n71, σ1s10/72, mb4.8/13, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.38**	**124**	Pn	**Pn**	**14 43 10.8**	**+1.0**
PMG	**Port Moresby**	**5.38**	**124**	Pn	**Pn**	**14 43 09.5**	**-0.3**
	24nm,0.4s,baz=302,slow=19,SNR=1.8						
PMG				Sn	**Sn**	**14 44 11.5**	**-0.4**
	3.3nm,0.3s,baz=348,slow=23,SNR=1.7						
WR0	**Warramunga Arr**	**15.61**	**210**	Pn	**Pn**	**14 45 29.9**	**+0.2**
WB2	**Warramunga Arr**	**15.69**	**210**	Pn	**Pn**	**14 45 31.0**	**+0.3**
WB2				IAmb	IAmb	14 45 32.8	
	comp=Z,263nm,1.9s						
WRA	**Warramunga Arr**	**15.70**	**210**	Pn	**Pn**	**14 45 30.9**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=24,slow=14,SNR=1.6						
WRA				Lg	Lg	14 50 11.1	
	comp=Z,0.2nm,0.3s,baz=25,slow=29,SNR=1.0						
	comp=Z,7.0nm,0.9s						
KNRA	**Kununurra**	**16.44**	**235**		**P**	**14 45 41.6**	**-1.5**
AS31	**Alice Springs**	**19.12**	**205**	P	**P**	**14 46 11.9**	**-0.8**
ASAR	**Alice Springs**	**19.12**	**205**	P	**Pn**	**14 46 15.3**	**+1.8**
	comp=Z,2.1nm,0.3s,baz=30,slow=11,SNR=6.7						
	comp=Z,22nm,0.9s						
JTM	**Tenmabayashi**	**46.97**	**358**	P	**P**	**14 50 18.8**	**-1.8**
CMAR	**Chiang Mai Arr**	**49.67**	**301**	P	**P**	**14 50 43.1**	**+1.3**
	comp=Z,1.5nm,0.7s,baz=124,slow=6.7,SNR=4.8						
	comp=Z,1.5nm,0.7s						
USRK	**Ussuriysk Ar.**	**51.27**	**350**	P	**P**	**14 50 53.5**	**+0.1**
	comp=Z,3.3nm,0.9s,baz=138,slow=8.9,SNR=3.0						
	comp=Z,3.3nm,0.9s						
MKAR	**Makanchi Array**	**75.08**	**322**	P	**P**	**14 53 30.8**	**-0.8**
	comp=Z,2.1nm,0.9s,baz=116,slow=8.4,SNR=3.8						
	comp=Z,2.1nm,0.9s						
KURBB	**Kurchatov Arra**	**78.98**	**324**	P	**P**	**14 53 53.6**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=116,slow=4.0,SNR=4.3						
	comp=Z,1.6nm,0.9s						
M14K	**Bethel**	**79.58**	**24**	P	**P**	**14 53 55.3**	**-1.1**
O17K	**Koliganek Bris**	**81.14**	**26**	P	**P**	**14 54 06.1**	**+1.3**
	baz=241						
G15K	**Niukluk**	**81.25**	**20**	P	**P**	**14 54 06.2**	**+0.9**
	baz=234						
N18K	**Kilae Creek**	**82.11**	**26**	P	**P**	**14 54 11.1**	**+1.1**
	baz=242						
J17K	**VABM Dome**	**82.16**	**23**	P	**P**	**14 54 08.9**	**-1.3**
SVW2	**Sparrevohn**	**82.44**	**26**	P	**P**	**14 54 09.3**	**-2.5**
SVW2				IAmb	IAmb	14 57 09.4	
	comp=Z,14nm,1.1s						
G17K	**Kiwalik Mounta**	**82.71**	**21**	P	**P**	**14 54 13.9**	**+0.8**
	baz=237						
QSPA	**South Pole Qui**	**83.58**	**180**	P	**P**	**14 54 17.9**	**+0.1**
QSPA				IAmb	IAmb	14 55 49.3	
	comp=Z,27nm,1.8s						
QSPA	**South Pole Qui**	**83.58**	**180**	P	**P**	**14 54 17.8**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=307,slow=1.3,SNR=5.8						
	comp=Z,1.9nm,0.8s						
C17K	**DeLong Mountai**	**83.58**	**18**	P	**P**	**14 54 17.8**	**+0.3**
	baz=234						
J19K	**Poorman**	**83.79**	**23**	P	**P**	**14 54 20.2**	**+1.5**
	baz=242						
M20K	**Styx River**	**83.84**	**25**	P	**P**	**14 54 19.6**	**+0.5**
	baz=244						
K20K	**Telida**	**84.11**	**24**	P	**P**	**14 54 19.1**	**-1.3**
K20K				IAmb	IAmb	14 54 22.9	
	comp=Z,9.5nm,1.2s						
K20K	**Telida**	**84.11**	**24**	P	**P**	**14 54 20.8**	**+0.5**
	baz=243						
C18K	**Utukok River**	**84.28**	**18**	P	**P**	**14 54 22.0**	**+0.9**
	baz=236						
G19K	**Purcell Mounta**	**84.30**	**21**	P	**P**	**14 54 22.0**	**+0.8**
	baz=240						
NRIK	**Norilsk**	**84.35**	**343**	P	**P**	**14 54 21.2**	**-0.2**
	comp=Z,6.8nm,1.1s,baz=125,slow=3.7,SNR=4.0						
	comp=Z,6.8nm,1.1s						
J20K	**Nowinta River**	**84.45**	**23**	P	**P**	**14 54 22.9**	**+0.9**
	baz=243						
BVAR	**Borovoye Array**	**84.56**	**325**	P	**P**	**14 54 22.5**	**-0.3**
	comp=Z,6.2nm,0.9s,baz=110,slow=6.5,SNR=5.3						
	comp=Z,6.2nm,0.9s						
SKT	**Skwentna**	**84.57**	**26**	P	**P**	**14 54 21.4**	**-1.3**
H20K	**Anotleneega Mo**	**84.78**	**22**	P	**P**	**14 54 23.6**	**-0.1**
	baz=242						
E19K	**Redstone River**	**84.91**	**20**	P	**P**	**14 54 24.8**	**+0.5**
	baz=240						
CAST	**Castle Rocks**	**84.94**	**24**	P	**P**	**14 54 23.6**	**-1.0**
	baz=245						
RC01	**Rabbit Creek A**	**85.00**	**27**	P	**P**	**14 54 23.4**	**-1.4**
C19K	**Lookout Ridge**	**85.02**	**18**	P	**P**	**14 54 25.8**	**+1.0**
	baz=238						
CHUM	**Lake Minchumin**	**85.05**	**24**	P	**P**	**14 54 25.6**	**+0.7**
	baz=245						
KTH	**Kantishna Hill**	**85.47**	**24**	P	**P**	**14 54 25.6**	**-1.6**
KTH				IAmb	IAmb	14 54 28.9	
	comp=Z,19nm,1.4s						
H21K	**Melozitna Rive**	**85.62**	**22**	P	**P**	**14 54 28.2**	**+0.3**
	baz=244						
TRF	**Thorofare Moun**	**85.69**	**25**	P	**P**	**14 54 26.8**	**-1.6**
TRF				IAmb	IAmb	14 55 15.0	
	comp=Z,25nm,1.8s						
SML	**Sawmill**	**85.90**	**26**	P	**P**	**14 54 27.9**	**-1.5**
SML	**Sawmill**	**85.90**	**26**	P	**P**	**14 54 28.9**	**-0.5**
	baz=249						
MLY	**Manley**	**86.14**	**23**	P	**P**	**14 54 29.4**	**-1.2**
RND	**Reindeer**	**86.27**	**25**	P	**P**	**14 54 29.5**	**-1.7**
NEA2	**Nenana**	**86.63**	**24**	P	**P**	**14 54 31.7**	**-1.1**
NEA2				IAmb	IAmb	14 55 50.5	
	comp=Z,14nm,1.8s						
DHY	**Denali Highway**	**86.77**	**25**	P	**P**	**14 54 32.1**	**-1.7**
B21K	**Ikpikpuk River**	**86.80**	**18**	P	**P**	**14 54 34.1**	**+0.5**
	baz=242						
E22K	**Anaktuvuk Pass**	**87.05**	**20**	P	**P**	**14 54 36.5**	**+1.6**
	baz=245						
D22K	**Ayikyak River**	**87.08**	**19**	P	**P**	**14 54 36.1**	**+1.1**
	baz=244						
CCB	**Clear Creek Bu**	**87.16**	**24**	P	**P**	**14 54 33.8**	**-1.6**
B22K	**Teshekpuk Lake**	**87.50**	**18**	P	**P**	**14 54 35.9**	**-1.0**
B22K	**Teshekpuk Lake**	**87.50**	**18**	P	**P**	**14 54 37.5**	**+0.6**
	baz=243						
ILAR	**Eielson Array**	**87.57**	**24**	P	**P**	**14 54 35.5**	**-1.9**
	comp=Z,2.4nm,0.8s,baz=252,slow=4.5,SNR=6.7						
	comp=Z,2.4nm,0.8s						
D23K	**Nanushuk River**	**87.77**	**19**	P	**P**	**14 54 40.0**	**+1.7**
	baz=246						
G24K	**Hadweenzic Riv**	**88.03**	**22**	P	**P**	**14 54 41.0**	**+1.4**
	baz=249						
J25K	**Salcha River,**	**88.13**	**24**	P	**P**	**14 54 40.2**	**0.0**
	baz=251						
C23K	**Itkillik River**	**88.15**	**19**	P	**P**	**14 54 38.7**	**-1.3**
C23K	**Itkillik River**	**88.15**	**19**	P	**P**	**14 54 40.7**	**+0.6**
	baz=246						
F24K	**Squaw Lake**	**88.17**	**21**	P	**P**	**14 54 41.6**	**+1.3**
	baz=249						
D24K	**Happy Valley**	**88.46**	**19**	P	**P**	**14 54 42.9**	**+1.3**
	baz=248						
M27K	**Edge Creek, AK**	**88.95**	**27**	P	**P**	**14 54 44.9**	**+0.7**
	baz=254						
F25K	**Christian Rive**	**89.01**	**21**	P	**P**	**14 54 45.0**	**+0.7**
	baz=251						
K27K	**Chicken**	**89.32**	**25**	P	**P**	**14 54 44.5**	**-1.2**
G26K	**Porcupine Rive**	**89.49**	**22**	P	**P**	**14 54 47.6**	**+1.1**
	baz=252						
F26K	**Sheenjek River**	**89.58**	**21**	P	**P**	**14 54 48.1**	**+1.2**
	baz=252						
I27K	**Kandik River**	**89.94**	**24**	P	**P**	**14 54 49.5**	**+0.8**
	baz=254						
H27K	**Steamboat Moun**	**90.15**	**23**	P	**P**	**14 54 49.9**	**+0.3**
	baz=255						
DAWY	**Dawson**	**90.47**	**25**	P	**P**	**14 54 52.1**	**+0.9**
	baz=256						
WTLY	**Watson Lake, Y**	**94.78**	**30**	P	**P**	**14 55 11.3**	**+0.2**
	baz=266						

*IDC **06** 14:45:44.2±0.9,8˚.95S×108˚.99W, h0km, mb4.1/9, mbtmp4.1/9, Error ellipse: s-maj=43.8km s-min=18.9km az=74.0*
*NEIC **06** 14:45:48.4±1.6,8˚.9S±0˚.2×108˚.9W±0˚.2, h10km±2km, mb4.9/218, Error ellipse: s-maj=36.2km s-min=21.4km az=242.0*
ISC 06 14:45:46.4±0.8,9˚.0S±0˚.1×109˚.0W±0˚.2, h10km, n431, σ0s66/334, mb4.9/111, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H03N2	**Juan Fernandez**	**36.84**	**136**	T	T	15 31 47.8	
	baz=308,slow=77,SNR=28						
H03N1	**Juan Fernandez**	**36.85**	**136**	T	T	15 31 49.2	
	baz=308,slow=77,SNR=33						
H03N3	**Juan Fernandez**	**36.85**	**136**	T	T	15 31 51.8	
	baz=308,slow=77,SNR=37						
833A	**Chaparral WMA,**	**38.26**	**14**	P	**P**	**14 53 07.8**	**+0.8**
	baz=195						
TXAR	**Lajitas Array**	**38.47**	**7**	P	**P**	**14 53 05.7**	**-3.2**
	0.6nm,0.8s,baz=188,slow=12,SNR=2.0						
	0.6nm,0.8s						
SAND	**Sanderson**	**39.30**	**9**	P	**P**	**14 53 16.2**	**+0.5**
VHRN	**Van Horn**	**39.76**	**5**		**P**	**14 53 19.7**	**0.0**
VHRN				IAmb	IAmb	14 53 22.1	
	comp=Z,35nm,1.9s						
PB01	**IPOC Station P**	**39.86**	**112**	P	**P**	**14 53 20.7**	**+0.1**
319A	**Douglas**	**40.16**	**360**	P	**P**	**14 53 23.3**	**+0.3**
JCT	**Junction City**	**40.24**	**12**	P	**P**	**14 53 23.2**	**-0.4**
JCT				IAmb	IAmb	14 53 25.9	
	comp=Z,41nm,1.8s						
JCT	**Junction City**	**40.24**	**12**	P	**P**	**14 53 23.5**	**-0.1**
	baz=194						
LPAZ	**La Paz**	**40.45**	**104**	P	**P**	**14 53 26.6**	**+0.4**
LPAZ	**La Paz**	**40.45**	**104**	P	**P**	**14 53 26.3**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=270,slow=10,SNR=2.7						
	comp=Z,0.9nm,0.6s						
MNHN	**Monahans**	**40.56**	**8**	P	**P**	**14 53 26.8**	**+0.5**
MNTX	**Cornudas Mount**	**40.63**	**5**	P	**P**	**14 53 27.3**	**+0.6**
	baz=185						
214A	**Organ Pipe Nat**	**40.90**	**355**	P	**P**	**14 53 28.5**	**-0.5**
214A	**Organ Pipe Nat**	**40.90**	**355**	P	**P**	**14 53 29.6**	**+0.6**
	baz=174						
TUC	**Tucson**	**41.13**	**358**	P	**P**	**14 53 31.5**	**+0.6**
	baz=177						
BRDY	**Brady**	**41.20**	**13**	P	**P**	**14 53 31.1**	**-0.4**
121A	**Cookes Peak, D**	**41.33**	**2**	P	**P**	**14 53 33.8**	**+1.1**
	baz=182						
DUN6	**Lazy B Ranch**	**41.33**	**360**	P	**P**	**14 53 32.4**	**-0.3**
AC02	**Maricunga**	**41.62**	**120**	P	P	14 53 40.9	+5.2
113A	**Mohawk Valley,**	**41.80**	**354**	P	**P**	**14 53 36.7**	**+0.4**
IKP	**In-Ko-Pah, Jac**	**41.98**	**351**	P	**P**	**14 53 38.4**	**+0.5**
	baz=169						
BAR	**Barrett**	**42.10**	**350**	P	**P**	**14 53 38.9**	**+0.1**
SWSC	**Sam W. Stewart**	**42.23**	**351**	P	**P**	**14 53 40.7**	**+0.8**
	baz=170						
WHTX	**Lake Whitney,**	**42.24**	**15**	P	**P**	**14 53 40.2**	**+0.3**
	baz=197						
MONP2	**Monument Peak**	**42.27**	**351**	P	**P**	**14 53 41.1**	**+0.7**
	baz=169						
ABTX	**Abilene, Hawle**	**42.35**	**12**	P	**P**	**14 53 40.9**	**0.0**
	baz=194						
POST	**Post**	**42.45**	**9**	P	**P**	**14 53 41.5**	**-0.2**
SCI2	**San Clemente I**	**42.74**	**348**	P	**P**	**14 53 44.9**	**+0.9**
	baz=166						
BC3	**Big Chuckawall**	**42.88**	**352**	P	**P**	**14 53 46.3**	**+1.0**
	baz=170						
Y14A	**Wickenburg**	**42.89**	**355**	P	**P**	**14 53 46.0**	**+0.8**
TPFO	**Pinon Flats**	**42.98**	**351**	P	**P**	**14 53 47.4**	**+1.4**
	baz=169						
PFO	**Pinyon Flats O**	**42.98**	**351**	P	**P**	**14 53 47.4**	**+1.3**
	baz=169						
MURC	**Murrieta**	**43.09**	**350**	P	**P**	**14 53 48.5**	**+1.6**
	baz=168						
CIS	**Catalina Islan**	**43.13**	**348**	P	**P**	**14 53 48.0**	**+0.8**
	baz=166						
MSTX	**Muleshoe**	**43.15**	**8**	P	**P**	**14 53 47.7**	**+0.2**
	baz=189						
SNCC	**San Nicolas Is**	**43.21**	**347**	P	**P**	**14 53 47.8**	**+0.1**
	baz=165						
X16A	**Lo Mia Camp, P**	**43.26**	**357**	P	**P**	**14 53 48.1**	**-0.3**
BELC	**Belle Mtn. Jos**	**43.29**	**351**	P	**P**	**14 53 49.0**	**+0.3**
	baz=170						
IRM	**Iron Mountain**	**43.33**	**353**	P	**P**	**14 53 49.6**	**+0.8**
	baz=171						
PDMCI	**Parker Dam,Lak**	**43.36**	**354**	P	**P**	**14 53 50.2**	**+1.2**
	baz=172						
ANMO	**Albuquerque**	**43.78**	**3**	P	**P**	**14 53 53.4**	**+0.8**
	baz=184						
BFSC	**Mount Baldy Ra**	**43.80**	**350**	P	**P**	**14 53 53.8**	**+1.2**
	baz=168						
W18A	**Petrified Fore**	**43.90**	**359**	P	**P**	**14 53 54.4**	**+0.8**
	baz=179						
GMRC	**Granite Mounta**	**44.02**	**352**	P	**P**	**14 53 55.4**	**+0.9**
	baz=170						
HEC	**Hector,Ludlow**	**44.16**	**351**	P	**P**	**14 53 56.3**	**+0.8**
	baz=170						
WUAZ	**Wupatki**	**44.35**	**357**	P	**P**	**14 53 58.5**	**+1.3**
	baz=176						
SBC	**Santa Barbara**	**44.40**	**347**	P	**P**	**14 53 58.6**	**+1.2**
	baz=165						
EDW2	**Edwards Air Fo**	**44.48**	**349**	P	**P**	**14 53 59.0**	**+0.9**
	baz=167						
SMWD	**Samnorwood**	**44.65**	**10**	P	**P**	**14 53 59.5**	**0.0**
GSC	**Goldstone, Bar**	**44.69**	**351**	P	**P**	**14 54 00.5**	**+0.7**
GSC	**Goldstone, Bar**	**44.69**	**351**	P	**P**	**14 54 01.0**	**+1.2**
	baz=169						
BCW	**Bitter Crk WRg**	**44.82**	**348**	P	**P**	**14 54 01.5**	**+0.7**
BCW				IAmb	IAmb	14 54 14.0	
	comp=Z,32nm,1.4s						
LRMC	**Laurel Mtn Rad**	**45.01**	**350**	P	**P**	**14 54 03.7**	**+1.3**
	baz=168						
BRAL	**Brewton**	**45.15**	**27**	P	**P**	**14 54 05.0**	**+1.7**
	baz=211						
SAML	**Samuel**	**45.21**	**94**	P	**P**	**14 54 04.1**	**-0.1**
U15A	**North Rim**	**45.31**	**356**	IAmb	IAmb	14 54 15.4	
	comp=Z,22nm,1.7s						
ISA	**Isabella, Lake**	**45.33**	**349**	P	**P**	**14 54 06.0**	**+1.1**
	baz=167						
QSM	**Queen of Sheba**	**45.35**	**351**	P	**P**	**14 54 05.6**	**+0.6**
QSM				IAmb	IAmb	14 54 06.8	
	comp=Z,11nm,1.1s						
DWPF	**Disney Wildern**	**45.52**	**35**	P	**P**	**14 54 07.3**	**+1.0**
	baz=220						
GWY	**Greenwater Val**	**45.54**	**351**	P	**P**	**14 54 06.6**	**0.0**
MPMC	**Manual Prospec**	**45.54**	**350**	P	**P**	**14 54 07.6**	**+0.9**
	baz=168						
SHPR	**Sheep Range**	**45.65**	**353**	P	**P**	**14 54 07.8**	**+0.3**
SHPR				IAmb	IAmb	14 54 09.7	
	comp=Z,14nm,1.5s						
MIAR	**Mount Ida**	**45.71**	**18**	P	**P**	**14 54 07.3**	**-0.5**
MIAR	**Mount Ida**	**45.71**	**18**	P	**P**	**14 54 07.9**	**+0.1**
	baz=201						
FURC	**Furnace Creek,**	**45.84**	**351**	P	**P**	**14 54 10.0**	**+1.3**
	baz=169						
MVCO	**Mesa Verde**	**45.98**	**1**	P	**P**	**14 54 10.2**	**0.0**
MVCO	**Mesa Verde**	**45.98**	**1**	P	**P**	**14 54 11.3**	**+1.2**
	baz=181						
CWC	**Cottonwood Cre**	**46.02**	**350**	P	**P**	**14 54 11.0**	**+0.6**
	baz=167						
T25A	**Trinidad**	**46.11**	**5**	P	**P**	**14 54 11.7**	**+0.5**
	baz=186						
WCT	**Wildcat Mounta**	**46.13**	**351**	IAmb	IAmb	14 54 13.4	
	comp=Z,16nm,1.3s						
PLCA	**Paso Flores**	**46.43**	**139**	P	**P**	**14 54 14.8**	**+1.3**
PLCA				IAmb	IAmb	14 54 20.3	
	comp=Z,22nm,1.4s						
PLCA	**Paso Flores**	**46.43**	**139**	P	**P**	**14 54 13.8**	**+0.3**
	comp=Z,3.3nm,1.0s,baz=292,slow=8.6,SNR=4.7						
	comp=Z,3.3nm,1.0s						
SZCU	**Shurtz Canyon**	**46.52**	**356**	IAmb	IAmb	14 54 17.7	
	comp=Z,11nm,1.4s						
PRN	**Pahroc Range**	**46.52**	**353**	IAmb	IAmb	14 54 26.7	
	comp=Z,14nm,1.0s						
SDCO	**Great Sand Dun**	**46.63**	**4**	IAmb	IAmb	14 54 26.2	
	comp=Z,24nm,1.6s						
SDCO	**Great Sand Dun**	**46.63**	**4**	P	**P**	**14 54 16.4**	**+1.1**
	baz=185						
LRAL	**Lakeview Retre**	**46.77**	**26**	P	**P**	**14 54 15.7**	**-0.4**
LRAL				IAmb	IAmb	14 54 22.1	
	comp=Z,9.9nm,0.9s						
LRAL	**Lakeview Retre**	**46.77**	**26**	P	**P**	**14 54 16.4**	**+0.3**
	baz=210						
MTPU	**Mount Pierson**	**46.91**	**357**	IAmb	IAmb	14 54 32.9	
	comp=Z,12nm,1.5s						
OXF	**Oxford**	**47.09**	**22**	P	**P**	**14 54 19.1**	**+0.5**
	baz=207						
R11B	**Troy Canyon, C**	**47.52**	**353**	P	**P**	**14 54 23.6**	**+1.4**
	baz=171,SNR=8.3						
Q16A	**Castle Valley**	**47.73**	**358**	IAmb	IAmb	14 54 34.8	
	comp=Z,24nm,1.6s						
LHV	**Little Huntoon**	**47.85**	**350**	IAmb	IAmb	14 54 26.9	
	comp=Z,18nm,1.2s						
Q24A	**Divide**	**47.86**	**4**	P	**P**	**14 54 24.8**	**-0.2**
	baz=185						
SRU	**San Rafael Swe**	**47.90**	**358**	IAmb	IAmb	14 54 36.3	
	comp=Z,7.7nm,0.9s						
NV11	**Mina Array Sit**	**47.97**	**350**	IAmb	IAmb	14 54 28.4	
	comp=Z,12nm,1.4s						
NVAR	**Mina Array Bea**	**47.99**	**350**	P	**P**	**14 54 26.5**	**+0.6**
	comp=Z,5.2nm,0.9s,baz=177,slow=11,SNR=28						
	comp=Z,5.2nm,0.9s						
RYN	**Ryan**	**48.22**	**350**	IAmb	IAmb	14 54 29.7	
	comp=Z,16nm,1.0s						
P17A	**Butcher Ranch,**	**48.27**	**358**	IAmb	IAmb	14 54 29.4	
	comp=Z,18nm,1.1s						
P18A	**Preston Nutter**	**48.41**	**359**	IAmb	IAmb	14 54 30.7	
	comp=Z,16nm,1.2s						
KVN	**Kaiserville**	**48.56**	**351**	IAmb	IAmb	14 54 37.8	
	comp=Z,6.6nm,0.8s						
ISCO	**Idaho Springs**	**48.67**	**3**	P	**P**	**14 54 31.6**	**+0.5**
	baz=184						
GOGA	**Godfrey**	**48.67**	**29**	P	**P**	**14 54 31.0**	**+0.1**
	baz=214						
PNTR	**Pine Nut**	**48.87**	**349**	IAmb	IAmb	14 54 34.8	
	comp=Z,14nm,1.1s						
O20A	**White River Ci**	**48.91**	**1**	P	**P**	**14 54 33.6**	**+0.8**
	baz=181						
PTLB	**Pontes e Lacer**	**49.04**	**103**	P	**P**	**14 54 34.5**	**+0.5**
SWET	**Sewanee**	**49.09**	**25**	IAmb	IAmb	14 54 47.6	
	comp=Z,23nm,1.4s						
DUG	**Dugway, Tooele**	**49.09**	**356**	IAmb	IAmb	14 54 46.0	
	comp=Z,13nm,1.1s						
DUG	**Dugway, Tooele**	**49.09**	**356**	P	**P**	**14 54 34.8**	**+0.7**
	baz=175,SNR=7.3						
WVT	**Waverly**	**49.12**	**23**	P	**P**	**14 54 33.7**	**-0.6**
	baz=208						
KSU1	**Kansas State U**	**49.23**	**13**	P	**P**	**14 54 35.3**	**+0.2**
	baz=196						
BSUT	**Blindstream Ca**	**49.33**	**358**	IAmb	IAmb	14 54 51.6	
	comp=Z,11nm,1.3s						
PAHR	**Pah Rah Range**	**49.42**	**349**	IAmb	IAmb	14 54 38.8	
	comp=Z,15nm,1.3s						
CCM	**Cathedral Cave**	**49.67**	**18**	P	**P**	**14 54 38.0**	**-0.5**
	baz=203						
N23A	**Red Feather La**	**49.74**	**3**	P	**P**	**14 54 39.8**	**+0.5**
	baz=184						
ELK	**Elko**	**49.85**	**354**	IAmb	IAmb	14 54 42.0	
	comp=Z,12nm,1.1s						
TCUT	**Toone Canyon**	**49.93**	**358**	IAmb	IAmb	14 54 47.4	
	comp=Z,12nm,0.9s						
SPUT	**South Promonto**	**50.17**	**357**	IAmb	IAmb	14 54 49.2	
	comp=Z,14nm,0.9s						
HWUT	**Hardware Ranch**	**50.43**	**357**	IAmb	IAmb	14 54 55.4	
	comp=Z,9.6nm,0.9s						
HVU	**Hansel Valley**	**50.66**	**356**	IAmb	IAmb	14 54 54.8	
	comp=Z,34nm,2.0s						
TZTN	**Tazewell**	**51.23**	**26**	P	**P**	**14 54 50.1**	**-0.3**
	baz=213						
K22A	**Casper**	**51.46**	**2**	IAmb	IAmb	14 55 03.3	
	comp=Z,17nm,1.2s						
K22A	**Casper**	**51.46**	**2**	P	**P**	**14 54 52.3**	**+0.2**
	baz=183						
BW06	**Boulder Array**	**51.53**	**359**	P	**P**	**14 54 51.7**	**-1.0**
	baz=179						
PDAR	**Pinedale Array**	**51.53**	**359**	P	**P**	**14 54 51.7**	**-1.1**
	comp=Z,1.9nm,0.8s,baz=161,slow=6.8,SNR=13						
	comp=Z,1.9nm,0.8s						
WCI	**Wyandotte Cave**	**51.55**	**23**	P	**P**	**14 54 52.3**	**-0.3**
	baz=209						
WVOR	**Wild Horse Val**	**51.95**	**351**	IAmb	IAmb	14 55 11.0	
	comp=Z,27nm,1.6s						
TPAW	**Teton Pass**	**52.28**	**358**	IAmb	IAmb	14 54 57.9	
	comp=Z,34nm,1.7s						
HLID	**Hailey**	**52.56**	**355**	IAmb	IAmb	14 55 07.4	
	comp=Z,13nm,0.8s						
HLID	**Hailey**	**52.56**	**355**	P	**P**	**14 55 00.8**	**+0.5**
	baz=173						
K05A	**Summer Lake**	**52.

G08A	Pilot Rock comp=Z,12nm,1.0s	54.80	351	IAmb	IAmb	14 55 23.9		
G06A	Carlson Farm, comp=Z,9.4nm,1.1s	55.01	350	IAmb	IAmb	14 55 24.2		
G05A	Wamic comp=Z,15nm,0.9s	55.14	349	IAmb	IAmb	14 55 33.7		
O53A	New Philadelph baz=214	55.33	26	P	P	14 55 19.6	-0.8	
LAO	LASA Array comp=Z,13nm,0.9s	55.51	2	IAmb	IAmb	14 55 32.4		
LAO	LASA Array baz=183	55.51	2	P	P	14 55 21.3	-0.3	
E07A	Sunnyside comp=Z,7.5nm,0.9s	56.17	351	IAmb	IAmb	14 55 33.0		
MXC	Moxie City comp=Z,10nm,1.1s	56.26	351	IAmb	IAmb	14 55 28.5		
D08A	Wollman Farm, comp=Z,20nm,1.5s	56.52	352	IAmb	IAmb	14 55 29.9		
LON	Longmire comp=Z,9.2nm,1.1s	56.68	349	IAmb	IAmb	14 55 31.0		
EGMT	Eagleton baz=179	56.79	359	P	P	14 55 30.2	-0.6	
MDND	Maddock baz=191	57.22	7	P	P	14 55 33.5	-0.3	
DGMT	Dagmar baz=186	57.39	4	P	P	14 55 35.2	+0.2	
NEW	Newport baz=170	57.48	354	P	P	14 55 35.9	+0.2	
NLWA	Neilton Lookou comp=Z,16nm,0.9s	57.70	348	IAmb	IAmb	14 55 44.3		
AGMN	Agassiz Nation baz=195	58.23	10	P	P	14 55 40.0	-0.9	
PGC	Sidney comp=Z,13nm,1.0s	58.82	349	IAmb	IAmb	14 55 46.2		
CLRS	Cowichan Lake comp=Z,10.0nm,1.2s	59.11	348	IAmb	IAmb	14 55 50.8		
ULM	Lac du Bonnet comp=Z,9.8nm,1.1s	60.11	10	IAmb	IAmb	14 55 53.3		
ULM	Lac du Bonnet comp=Z,4.3nm,0.8s,baz=204,slow=6.2,SNR=6.9 comp=Z,4.3nm,0.8s	60.11	10	P	P	14 55 51.6	-2.3	
LONY	Lake Ozonia baz=219	61.76	27	P	P	14 56 04.8	-0.5	
EDM	Edmonton	62.10	357	P	P	14 56 06.5	-0.9	
FFC	Flin Flon	63.77	5	P	P	14 56 16.7	-1.7	
FFC	comp=Z,17nm,1.6s			IAmb	IAmb	14 56 17.8		
PKME	Peaks-Kenny Pk baz=224	64.75	30	P	P	14 56 24.8	-0.1	
GRNB	Grenville Isla comp=Z,7.8nm,0.8s	65.09	346	IAmb	IAmb	14 56 34.2		
V35K	Ketchikan baz=156	66.84	346	P	P	14 56 38.4	+0.2	
T35M	Bob Quinn baz=157	68.06	348	P	P	14 56 46.3	+0.3	
FCC	Fort Churchill	68.61	8	P	P	14 56 48.1	-1.3	
FCC	comp=Z,7.2nm,0.8s			IAmb	IAmb	14 56 54.4		
S34M	Telegraph Cree baz=156	69.10	348	P	P	14 56 52.6	+0.1	
SIT	Sitka baz=152	69.31	345	P	P	14 56 54.0	+0.3	
DLBC	Dease Lake baz=158	69.36	348	P	P	14 56 54.5	+0.4	
S32K	Killisnoo baz=153	69.49	346	P	P	14 56 55.2	+0.4	
KOTAN	Kotaneelee Air baz=164	69.96	352	P	P	14 56 57.8	0.0	
R32K	Eaglecrest baz=153	70.19	346	P	P	14 57 00.6	+1.4	
Q32M	Nakina River comp=Z,12nm,0.9s	70.30	347	IAmb	IAmb	14 57 08.1		
Q32M	Nakina River baz=155	70.30	347	P	P	14 57 01.2	+1.1	
S31K	Pelican baz=151	70.34	345	P	P	14 57 01.7	+1.6	
R33M	Jennings River comp=Z,14nm,1.2s	70.43	348	IAmb	IAmb	14 57 02.5		
R33M	Jennings River baz=157	70.43	348	P	P	14 57 02.0	+1.2	
R31K	City Hall, Gus baz=152	70.62	345	P	P	14 57 02.7	+1.0	
WTLY	Watson Lake, Y baz=159	70.69	350	P	P	14 57 03.6	+1.3	
P32M	Atlin baz=154	71.19	347	P	P	14 57 06.5	+1.2	
YKA	Yellowknife Ar comp=Z,0.8nm,0.8s,baz=171,slow=5.6,SNR=14 comp=Z,0.8nm,0.8s	71.42	357	P	P	14 57 05.3	-1.3	
SKAG	Skagway baz=152	71.45	346	P	P	14 57 08.0	+1.3	
P33M	Teslin, Yukon baz=155	71.56	348	P	P	14 57 07.8	+0.2	
PLBC	Pleasant Camp baz=151	71.69	346	P	P	14 57 08.6	+0.3	
TGTN	Hyland Airport baz=160	71.93	350	P	P	14 57 10.5	+0.7	
P29M	Windy Craggy baz=150	72.19	345	P	P	14 57 12.0	+0.7	
WHY	Whitehorse baz=153	72.41	347	P	P	14 57 13.1	+0.4	
P30M	Million Dollar baz=151	72.42	346	P	P	14 57 13.1	+0.4	
PNL	Peninsula baz=148	72.65	344	P	P	14 57 14.7	+0.6	
O30N	Mendenhall baz=152	72.79	346	P	P	14 57 15.1	+0.2	
WRGLY	Wrigley baz=165	72.88	353	P	P	14 57 15.3	0.0	
O29M	Mount Kennedy baz=149	72.98	345	P	P	14 57 15.7	-0.4	
HYT	Haines Junctio comp=Z,16nm,1.1s	73.17	346	IAmb	IAmb	14 57 28.8		
HYT	Haines Junctio baz=150	73.17	346	P	P	14 57 17.3	0.0	
YUK6	Outpost Mounta baz=150	73.48	346	P	P	14 57 19.5	+0.2	
FARO	Faro, Yukon baz=155	73.50	348	P	P	14 57 19.2	+0.2	
N30M	Aishikik Lake baz=151	73.62	346	P	P	14 57 20.0	+0.1	
M31M	Drury Creek, Y baz=154	73.69	348	P	P	14 57 20.5	+0.3	
MESA	MESA baz=146	73.78	344	P	P	14 57 20.7	-0.2	
YUK4	Talbot Arm baz=150	73.90	346	P	P	14 57 22.0	+0.3	
YUK8	Steele Glacier baz=148	74.12	345	P	P	14 57 23.0	0.0	
CTG	Chitna Glacier baz=147	74.27	344	P	P	14 57 23.6	-0.1	
KAIM	Kayak Island baz=143	74.29	342	P	P	14 57 23.5	-0.2	
Q23K	Middleton Isla baz=142	74.49	341	P	P	14 57 24.6	-0.2	
M30M	Minto, Yukon baz=151	74.54	347	P	P	14 57 26.0	+0.8	
CRQE	Cirque baz=145	74.57	343	P	P	14 57 25.6	+0.1	
CRQM	Cirque comp=Z,14nm,0.9s	74.59	343	IAmb	IAmb	14 57 33.5		
YUK3	Moose Creek baz=148	74.72	345	P	P	14 57 27.1	+0.7	
M29M	Somme Creek baz=150	74.81	346	P	P	14 57 27.5	+0.7	
VRDI	Verde Repeater comp=Z,11nm,1.0s	75.06	344	IAmb	IAmb	14 57 43.4		
MCARA	McCarthy VSAT comp=Z,20nm,1.1s	75.07	344	IAmb	IAmb	14 57 29.4		
MCARA	McCarthy VSAT baz=145	75.07	344	P	P	14 57 28.9	+0.7	
BMRM	Bremner River baz=143	75.18	343	P	P	14 57 29.4	+0.5	
EYAK	Cordova Ski Ar baz=142	75.18	342	P	P	14 57 29.1	+0.3	
CHIR	Chirikof Islan baz=132	75.27	335	P	P	14 57 29.5	+0.1	
OHAK	Old Harbor baz=134	75.29	337	P	P	14 57 29.9	+0.4	
L29M	L29M baz=150	75.31	347	P	P	14 57 30.1	+0.6	
BVCY	Beaver Creek baz=147	75.36	345	P	P	14 57 30.5	+0.6	
KDAK	Kodiak Island baz=135	75.42	338	P	P	14 57 30.4	+0.1	
M27K	Edge Creek, AK comp=Z,15nm,1.1s	75.57	345	IAmb	IAmb	14 57 37.4		
M27K	Edge Creek, AK baz=146	75.57	345	P	P	14 57 31.2	0.0	
N25K	Chitina, Valde baz=144	75.69	343	P	P	14 57 31.9	0.0	
K29M	Barlow Dome comp=Z,12nm,1.0s	75.81	347	IAmb	IAmb	14 57 43.6		
K29M	Barlow Dome baz=151	75.81	347	P	P	14 57 32.6	0.0	
M26K	Nabesna, AK baz=145	75.90	344	P	P	14 57 32.9	-0.1	
KLU	Klutina baz=142	75.98	343	P	P	14 57 33.6	0.0	
SEW	Seward baz=139	76.01	340	P	P	14 57 33.7	+0.2	
L27K	Beaver Creek, comp=Z,9.1nm,0.9s	76.15	345	IAmb	IAmb	14 57 45.3		
L27K	Beaver Creek, baz=146	76.15	345	P	P	14 57 34.4	0.0	
BRSE	Bradley Lake S baz=137	76.18	340	P	P	14 57 34.6	0.0	
J30M	Hart River baz=152	76.21	348	P	P	14 57 34.6	-0.2	
DAWY	Dawson	76.42	347	P	P	14 57 35.5	-0.4	
DAWY	comp=Z,14nm,1.1s			IAmb	IAmb	14 57 46.6		
DAWY	Dawson baz=149	76.42	347	P	P	14 57 36.3	+0.3	
HARP	HAARP baz=143	76.49	344	P	P	14 57 36.5	+0.2	
J29N	Klondike Camp baz=150	76.50	347	P	P	14 57 36.3	0.0	
L26K	Log Cabin Wild baz=145	76.51	345	P	P	14 57 36.4	0.0	
M24K	Tolsona, Glenn baz=142	76.55	343	P	P	14 57 36.6	-0.1	
SCM	Sheep Creek Mo baz=141	76.67	342	P	P	14 57 37.2	-0.2	
KNK	Knik Glacier baz=140	76.69	342	P	P	14 57 37.3	-0.1	
M23K	Glacier View baz=140	76.76	342	P	P	14 57 37.7	-0.1	
CHGN	Chignik baz=130	76.77	334	P	P	14 57 37.8	-0.1	
I30M	Mount Dempster comp=Z,23nm,1.8s	76.80	349	IAmb	IAmb	14 57 39.2		
I30M	Mount Dempster baz=152	76.80	349	P	P	14 57 37.9	-0.2	
RC01	Rabbit Creek A baz=138	76.85	341	P	P	14 57 38.4	+0.1	
H31M	Peel River baz=154	76.94	350	P	P	14 57 38.2	-0.5	
SML	Sawmill baz=140	76.95	342	P	P	14 57 38.8	-0.2	
K27K	Chicken comp=Z,12nm,1.1s	77.02	346	IAmb	IAmb	14 57 45.9		
K27K	Chicken baz=146	77.02	346	P	P	14 57 39.2	-0.1	
Q17K	Contact Creek baz=132	77.02	337	P	P	14 57 39.1	-0.4	
PAX	Paxson baz=143	77.03	344	P	P	14 57 38.8	-0.7	
PMR	Palmer comp=Z,13nm,0.9s	77.03	342	IAmb	IAmb	14 57 45.3		
PMR	Palmer baz=139	77.03	342	P	P	14 57 38.9	-0.4	
GHO	Glory Hole Cre comp=Z,13nm,1.0s	77.11	342	IAmb	IAmb	14 57 45.8		
R16K	Pilot Point baz=130	77.24	336	P	P	14 57 39.3	-1.3	
S14K	Fog Glacier baz=128	77.25	334	P	P	14 57 39.8	-1.0	
EGAK	Eagle comp=Z,14nm,1.3s	77.43	346	IAmb	IAmb	14 57 52.0		
EGAK	Eagle baz=147	77.43	346	P	P	14 57 40.9	-0.6	
SUA	Susitna One baz=138	77.45	341	P	P	14 57 41.1	-0.7	
SCRK	Sand Creek comp=Z,7.0nm,1.0s	77.45	345	IAmb	IAmb	14 57 47.3		
SCRK	Sand Creek baz=144,SNR=7.7	77.45	345	P	P	14 57 41.5	-0.3	
M22K	Willow baz=138	77.47	341	P	P	14 57 41.8	+0.1	
P18K	Big Mountain, baz=133	77.54	338	P	P	14 57 42.2	-0.1	
Q16K	King Salmon baz=132	77.60	337	P	P	14 57 41.6	-0.9	
DHY	Denali Highway baz=141	77.65	343	P	P	14 57 42.5	-0.5	
I28M	Miner Creek baz=149	77.73	347	P	P	14 57 42.9	-0.4	
N20K	Mount Spurr baz=136	77.74	340	P	P	14 57 42.8	-0.7	
O19K	Port Alsworth baz=134	77.76	339	P	P	14 57 43.2	-0.2	
J26L	Joseph Creek baz=145	77.78	345	P	P	14 57 43.5	-0.1	
K24K	Donnelly Dome baz=143	77.78	344	P	P	14 57 42.8	-0.8	
WAT1	Susitna Watana baz=140	77.80	343	P	P	14 57 43.3	-0.4	
O18K	Koktuh Hills baz=133	77.85	338	P	P	14 57 43.5	-0.5	
P17K	Kvichak River baz=132	77.86	337	P	P	14 57 43.5	-0.5	
EPYK	Eagle Plains baz=152,SNR=8.5	77.88	349	P	P	14 57 43.9	-0.2	
G31M	Satah River baz=154,SNR=8.1	77.94	350	P	P	14 57 44.2	0.0	
CUT	Chuina baz=138	78.00	342	P	P	14 57 44.2	-0.5	
H29M	Whitestone comp=Z,16nm,1.1s	78.07	348	IAmb	IAmb	14 57 55.5		
H29M	Whitestone baz=150	78.07	348	P	P	14 57 45.0	-0.1	
SKT	Skwentna comp=Z,13nm,1.1s	78.09	341	IAmb	IAmb	14 57 50.8		
SKT	Skwentna baz=137	78.09	341	P	P	14 57 45.2	0.0	
I27K	Kandik River baz=147	78.23	347	P	P	14 57 45.6	-0.5	
N19K	Bonanza Creek baz=134	78.25	339	P	P	14 57 45.7	-0.6	
F31M	Tsiigehtchic comp=Z,20nm,1.4s	78.32	351	IAmb	IAmb	14 57 58.3		
F31M	Tsiigehtchic baz=155	78.32	351	P	P	14 57 46.0	-0.4	
J25K	Salcha River, baz=143	78.33	345	P	P	14 57 46.1	-0.5	
G30M	tAoh Zrai Nji baz=152	78.33	349	P	P	14 57 46.0	-0.6	
I26K	Coal Creek Min baz=145	78.34	346	P	P	14 57 46.1	-0.5	
P16K	Nushagak River baz=130	78.36	337	P	P	14 57 46.2	-0.6	
O17K	Koliganek Bris baz=131	78.50	337	P	P	14 57 47.2	-0.4	
M20K	Styx River baz=135	78.54	340	P	P	14 57 47.4	-0.5	
HDA	Harding Lake baz=142	78.58	344	P	P	14 57 47.7	-0.2	
MCK	McKinley baz=140,SNR=5.6	78.61	343	P	P	14 57 48.2	+0.1	
N18K	Kilae Creek baz=133	78.66	338	P	P	14 57 48.3	-0.2	
H27K	Steamboat Moun baz=147	78.74	347	P	P	14 57 48.8	0.0	
O16K	Kokwok River B baz=130	78.76	337	P	P	14 57 49.0	0.0	
TRF	Thorofare Moun comp=Z,12nm,1.0s	78.79	342	IAmb	IAmb	14 57 58.0		
TRF	Thorofare Moun baz=138	78.79	342	P	P	14 57 48.9	-0.5	
F30M	Barrier River baz=153	78.81	350	P	P	14 57 49.0	-0.2	
SVW2	Sparrevohn comp=Z,9.8nm,0.8s	78.83	339	IAmb	IAmb	14 57 55.1		
ILAR	Eielson Array comp=Z,1.0nm,0.8s,baz=164,slow=4.9,SNR=8.4 comp=Z,1.0nm,0.8s	78.85	344	P	P	14 57 48.4	-1.1	
C36M	Paulatuk baz=165	78.88	355	P	P	14 57 49.3	-0.1	
WRH	Wood River Hil	78.94	344	P	P	14 57 48.9	-1.0	
WRH	comp=Z,16nm,1.0s			IAmb	IAmb	14 58 00.7		
PPLA	Purkeypile baz=136,SNR=6.8	78.97	341	P	P	14 57 49.8	-0.4	
M19K	Big River Lodg baz=134	78.98	340	P	P	14 57 49.8	-0.4	
N17K	Nushagak Hills baz=131	79.03	338	P	P	14 57 49.9	-0.6	
INK	Inuvik baz=155,SNR=7.1	79.07	351	P	P	14 57 50.2	-0.3	
PRP	Porcupine Dome baz=143,SNR=5.8	79.09	345	P	P	14 57 50.7	-0.2	
UNV	Unalaska Valle baz=122	79.11	329	P	P	14 57 50.7	-0.4	
O15K	Ungalikthiuk R baz=129	79.18	336	P	P	14 57 51.1	-0.2	
M18K	Stony River baz=133	79.19	339	P	P	14 57 50.6	-0.7	
L20K	Farewell, AK baz=135	79.21	340	P	P	14 57 50.7	-0.8	
POKR	Poker Plat Res baz=141	79.27	344	P	P	14 57 51.0	-0.7	
NEA2	Nenana comp=Z,14nm,1.2s	79.31	344	IAmb	IAmb	14 57 52.1		
NEA2	Nenana baz=140	79.31	344	P	P	14 57 51.3	-0.6	
CAST	Castle Rocks comp=Z,13nm,1.1s	79.31	342	IAmb	IAmb	14 57 57.2		
CAST	Castle Rocks baz=137,SNR=8.6	79.31	342	P	P	14 57 51.1	-0.9	
L19K	White Mountain baz=134	79.33	340	P	P	14 57 51.5	-0.7	
MDM	Murphy Dome comp=Z,14nm,1.4s	79.36	344	IAmb	IAmb	14 57 58.1		
BPAW	Bear Paw Mtn. comp=Z,24nm,1.8s	79.48	343	IAmb	IAmb	14 58 09.6		
BPAW	Bear Paw Mtn. baz=138	79.48	343	P	P	14 57 52.5	-0.4	
F28M	Old Crow baz=149,SNR=8.6	79.58	348	P	P	14 57 52.6	-0.8	
N16K	Nishlik Lake baz=130	79.59	337	P	P	14 57 52.3	-1.3	
M17K	Holitna River baz=131	79.70	339	P	P	14 57 53.6	-0.5	
CHUM	Lake Minchumin baz=136	79.72	342	P	P	14 57 53.7	-0.5	
I23K	Minto, Yukon-K comp=Z,8.3nm,0.9s	79.81	344	IAmb	IAmb	14 58 00.4		
I23K	Minto, Yukon-K baz=139,SNR=7.0	79.81	344	P	P	14 57 54.5	0.0	
O14K	Tigyukauivet M baz=127	79.81	336	P	P	14 57 54.6	-0.1	
G26K	Porcupine Rive baz=145	79.85	347	P	P	14 57 54.5	-0.3	
E29M	Blow River baz=151	79.88	350	P	P	14 57 54.6	-0.3	
K20K	Telida comp=Z,19nm,1.0s	79.89	341	IAmb	IAmb	14 58 00.6		
K20K	Telida baz=135	79.89	341	P	P	14 57 54.5	-0.6	
N15K	Kwethluk River baz=129	79.91	337	P	P	14 57 55.2	-0.1	
H24K	Noodor Dome baz=141	79.94	345	P	P	14 57 55.3	-0.1	
L18K	Granite Mounta baz=132	79.98	339	P	P	14 57 55.6	-0.1	
M16K	Timber Creek baz=130	80.02	338	P	P	14 57 55.5	-0.3	
MLY	Manley comp=Z,12nm,1.1s	80.11	343	IAmb	IAmb	14 58 01.7		
MLY	Manley baz=138,SNR=8.0	80.11	343	P	P	14 57 55.9	-0.4	
G25K	Bearman Lake baz=143	80.23	346	P	P	14 57 57.0	+0.1	
TTA	Tatalina baz=133	80.23	340	P	P	14 57 57.0	-0.1	
M15K	Kasigluk River baz=128	80.47	337	P	P	14 57 58.2	-0.1	
L17K	Donlin baz=130	80.50	339	P	P	14 57 58.2	-0.2	
J20K	Nowinta River comp=Z,12nm,1.2s	80.50	342	IAmb	IAmb	14 57 57.8		
J20K	Nowinta River baz=135	80.50	342	P	P	14 57 57.9	-0.5	
G24K	Hadweenzic Riv comp=Z,15nm,1.3s	80.52	345	IAmb	IAmb	14 57 59.2		
G24K	Hadweenzic Riv baz=141	80.52	345	P	P	14 57 58.9	+0.4	
F26K	Sheenjek River baz=145	80.54	347	P	P	14 57 59.1	+0.5	
I21K	Tanana comp=Z,9.4nm,1.1s	80.57	343	IAmb	IAmb	14 58 04.2		
I21K	Tanana baz=137	80.57	343	P	P	14 57 58.7	0.0	
L16K	Owhat River baz=129	80.65	338	P	P	14 57 59.7	+0.5	
F25K	Christian Rive baz=143	80.79	347	P	P	14 58 00.2	+0.2	
J18K	Innoko River baz=132	80.83	340	P	P	14 57 60.0	-0.2	
D28M	Stokes Point baz=150	80.85	350	P	P	14 57 59.6	-0.5	
K17K	Iditarod baz=131	80.88	339	P	P	14 58 00.1	-0.3	
H22K	Ishtalitna Cre baz=138	80.93	344	P	P	14 58 00.5	-0.2	
M14K	Bethel baz=127	81.00	337	P	P	14 58 00.9	-0.2	
I20K	Naaghedeneel baz=134	81.04	342	P	P	14 58 00.8	-0.4	
QSPA	South Pole Qui comp=Z,4.2nm,0.7s,baz=95,slow=0.9,SNR=15 comp=Z,4.2nm,0.7s	81.06	180	P	P	14 58 00.5	-1.2	
H21K	Melozitna Rive comp=Z,7.9nm,0.9s	81.16	343	IAmb	IAmb	14 58 07.3		
H21K	Melozitna Rive baz=136	81.16	343	P	P	14 58 01.9	0.0	
G23K	Bananza Creek comp=Z,18nm,1.8s	81.18	345	IAmb	IAmb	14 58 02.2		
G23K	Bananza Creek baz=139	81.18	345	P	P	14 58 02.2	+0.2	
E25K	Arctic Village baz=143,SNR=6.6	81.20	347	P	P	14 58 02.6	+0.5	
F24K	Squaw Lake baz=141	81.26	346	P	P	14 58 02.7	+0.2	
M13K	Dall Lake baz=126	81.35	336	P	P	14 58 03.2	+0.3	
L15K	Ungalak Mounta baz=128	81.38	337	P	P	14 58 03.3	+0.2	
A36M	Sachs Harbour comp=Z,8.6nm,0.9s	81.54	355	IAmb	IAmb	14 58 09.1		
A36M	Sachs Harbour baz=164	81.54	355	P	P	14 58 03.7	-0.1	
J17K	VABM Dome baz=130	81.59	340	P	P	14 58 04.7	+0.5	
COLD	Coldfoot baz=139,SNR=14	81.61	345	P	P	14 58 04.8	+0.6	
L14K	Kuka Creek baz=126	81.63	337	P	P	14 58 04.1	-0.3	
H20K	Anotleneega Mo baz=134	81.65	342	P	P	14 58 04.4	-0.1	
G22K	Bettles baz=138	81.72	344	P	P	14 58 04.1	-0.7	
GCSA	Galena City Sc baz=132,SNR=7.9	81.75	341	P	P	14 58 05.4	+0.5	
K15K	Wolf Creek Mou baz=128	81.77	338	P	P	14 58 05.6	+0.5	
G21K	Allakaket comp=Z,10nm,0.9s	81.97	344	IAmb	IAmb	14 58 12.1		
G21K	Allakaket baz=136	81.97	344	P	P	14 58 06.7	+0.5	
P08K	Saint George I baz=120	82.03	331	P	P	14 58 07.3	+0.7	
J16K	Anvik River baz=128	82.05	339	P	P	14 58 07.4	+0.8	
E23K	Chandalar baz=139,SNR=7.1	82.10	346	P	P	14 58 07.6	+0.7	
H19K	Roundabout Mou baz=133	82.15	342	P	P	14 58 07.6	+0.5	
D25K	Kavik River comp=Z,9.2nm,1.0s	82.34	347	IAmb	IAmb	14 58 14.4		
D25K	Kavik River baz=143	82.34	347	P	P	14 58 08.5	+0.3	
I17K	Unalakleet baz=128	82.46	339	P	P	14 58 09.1	+0.4	
F21K	Alatna River comp=Z,7.5nm,0.9s	82.48	344	IAmb	IAmb	14 58 17.5		
F21K	Alatna River baz=136	82.48	344	P	P	14 58 09.5	+0.7	
H18K	Honhosa River baz=131	82.49	341	P	P	14 58 09.6	+0.7	
C26K	Camden Bay baz=144	82.52	348	P	P	14 58 09.7	+0.8	
SPIA	Saint Paul Isl baz=119	82.64	331	P	P	14 58 10.4	+0.6	

E22K	**Anaktuvuk Pass**	**82.70**	**345**	IAmb	IAmb	14 58 16.5
	comp=Z,5.7nm,0.8s					
E22K	**Anaktuvuk Pass**	**82.70**	**345**	P	**P**	**14 58 10.7 +0.7**
	baz=137					
D24K	**Happy Valley**	**82.75**	**347**	P	**P**	**14 58 10.6 +0.4**
	baz=140					
G19K	**Purcell Mounta**	**82.76**	**342**	IAmb	IAmb	14 58 11.7
	comp=Z,20nm,1.5s					
G19K	**Purcell Mounta**	**82.76**	**342**	P	**P**	**14 58 11.0 +0.7**
	baz=132					
J14K	**Nanvaranak Lak**	**82.80**	**338**	P	**P**	**14 58 10.7 +0.2**
	baz=126					
H17K	**Granite Mounta**	**82.86**	**341**	P	**P**	**14 58 11.6 +0.8**
	baz=129					
F20K	**Avaraart Lake**	**82.98**	**343**	P	**P**	**14 58 12.2 +0.9**
	baz=134					
D23K	**Nanushuk River**	**83.04**	**346**	P	**P**	**14 58 12.2 +0.5**
	baz=138					
G18K	**Tagagawik**	**83.07**	**342**	IAmb	IAmb	14 58 18.8
	comp=Z,12nm,1.1s					
G18K	**Tagagawik**	**83.07**	**342**	P	**P**	**14 58 11.8 -0.1**
	baz=131					
C24K	**Franklin Bluff**	**83.17**	**347**	P	**P**	**14 58 12.5 +0.2**
	baz=140					
F19K	**Shaleruckim Mo**	**83.42**	**343**	IAmb	IAmb	14 58 20.7
	comp=Z,8.6nm,1.0s					
F19K	**Shaleruckik Mo**	**83.42**	**343**	P	**P**	**14 58 13.9 +0.3**
	baz=132					
H16K	**Elim**	**83.45**	**340**	P	**P**	**14 58 13.9 0.0**
	baz=127					
G17K	**Kiwalik Mounta**	**83.46**	**341**	P	**P**	**14 58 13.8 -0.1**
	baz=129					
D22K	**Ayikyak River**	**83.47**	**345**	IAmb	IAmb	14 58 20.4
	comp=Z,8.8nm,0.9s					
D22K	**Ayikyak River**	**83.47**	**345**	P	**P**	**14 58 13.9 0.0**
	baz=136					
C23K	**Itkillik River**	**83.68**	**347**	IAmb	IAmb	14 58 25.8
	comp=Z,9.3nm,1.1s					
C23K	**Itkillik River**	**83.68**	**347**	P	**P**	**14 58 14.9 -0.1**
	baz=139					
E19K	**Redstone River**	**83.69**	**343**	IAmb	IAmb	14 58 22.0
	comp=Z,7.1nm,0.9s					
E19K	**Redstone River**	**83.69**	**343**	P	**P**	**14 58 15.2 +0.1**
	baz=132					
F18K	**Selawik**	**83.84**	**342**	P	**P**	**14 58 16.1 +0.3**
	baz=130					
E20K	**Nigu River**	**83.94**	**344**	P	**P**	**14 58 16.7 +0.3**
	baz=133					
G16K	**Koyuk River**	**83.95**	**340**	P	**P**	**14 58 16.7 +0.3**
	baz=127					
C21K	**Knifeblade Rid**	**84.20**	**345**	P	**P**	**14 58 18.1 +0.4**
	baz=135					
F17K	**Baldwin Pennin**	**84.24**	**341**	P	**P**	**14 58 18.4 +0.6**
	baz=128					
G15K	**Niukluk**	**84.29**	**340**	P	**P**	**14 58 18.8 +0.6**
	baz=126					
D20K	**Etivluk River**	**84.37**	**344**	P	**P**	**14 58 19.3 +0.7**
	baz=133					
B21K	**Ikpikpuk River**	**84.48**	**345**	P	**P**	**14 58 19.9 +0.8**
	baz=135					
ANM	**Nome**	**84.51**	**339**	P	**P**	**14 58 20.1 +0.8**
	baz=124					
D19K	**Kuna River**	**84.63**	**344**	P	**P**	**14 58 20.6 +0.7**
	baz=131					
E18K	**Tukpahlearik C**	**84.65**	**342**	P	**P**	**14 58 20.7 +0.8**
	baz=129					
B22K	**Teshekpuk Lake**	**84.71**	**346**	P	**P**	**14 58 20.9 +0.7**
	baz=136					
F15K	**North Star Dit**	**84.91**	**340**	P	**P**	**14 58 22.0 +0.7**
	baz=125					
F14K	**Arctic Creek**	**85.35**	**339**	P	**P**	**14 58 24.2 +0.7**
	baz=123					
B20K	**Meade River**	**85.39**	**345**	P	**P**	**14 58 24.4 +0.8**
	baz=132					
C19K	**Lookout Ridge**	**85.43**	**344**	P	**P**	**14 58 24.8 +0.9**
	baz=130					
D17K	**Noatak River**	**85.57**	**342**	P	**P**	**14 58 25.5 +1.0**
	baz=126					
C18K	**Utukok River**	**85.59**	**343**	P	**P**	**14 58 25.6 +0.9**
	baz=128					
TNA	**Tin City**	**85.96**	**339**	P	**P**	**14 58 27.6 +1.1**
	baz=122					
C17K	**DeLong Mountai**	**86.07**	**343**	P	**P**	**14 58 28.5 +1.5**
	baz=126					
A21K	**Barrow**	**86.15**	**346**	P	**P**	**14 58 28.8 +1.5**
	baz=133					
B18K	**Kokolik River**	**86.21**	**344**	P	**P**	**14 58 29.1 +1.4**
	baz=128					
C16K	**Lisburne Hills**	**86.60**	**342**	P	**P**	**14 58 30.0 +0.4**
	baz=124					
GEYT	**Allbeck**	**148.95**	**20**	PKPbc	**PKPbc**	**15 05 34.7 -0.4**
	comp=Z,1.8nm,0.8s,baz=5.3,slow=7.8,SNR=4.9					
CMAR	**Chiang Mai Arr**	**151.34**	**292**	PKPbc	**PKPbc**	**15 05 41.2 -0.2**
	comp=Z,1.3nm,0.8s,baz=95,slow=0.4,SNR=8.0					

*IDC **06** 14:48:06.8±1.2,6˚.13S×142˚.59E,h0km,mb3.7/4, mbtmp3.8/7,ML1.7/1,Error ellipse: s-maj=38.0km s-min=25.7km az=60.0*

ISC 06 14:48:11.0±1.0,6˚.2S±0˚.1×142˚.5E±0˚.1,h28km,n7,σ0s98/8, mb3.6/4,New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.58**	**125**	Pn		**Pn**	**Pn**	**14 49 32.5**	**+0.3**
	1.4nm,0.3s,baz=221,slow=9.0,SNR=1.5								
PMG				Sn		**Sn**	**Sn**	**14 50 35.5**	**0.0**
	1.2nm,0.3s,baz=359,slow=20,SNR=1.6								
	3.9nm,0.4s								
WRA	**Warramunga Arr**	**15.79**	**209**	Pn		**Pn**	**Pn**	**14 51 50.2**	**-1.3**
	2.4nm,0.7s,baz=31,slow=12,SNR=0.7								
ASAR	**Alice Springs**	**19.23**	**205**	P		**P**	**P**	**14 52 34.2**	**+1.1**
	4.8nm,0.8s,baz=34,slow=10.0,SNR=2.2								
MKAR	**Makanchi Array**	**74.87**	**322**	P		**P**	**P**	**14 59 49.8**	**+0.6**
	0.6nm,0.9s,baz=121,slow=5.9,SNR=4.0								
	0.6nm,0.9s								
KURBB	**Kurchatov Arra**	**78.77**	**324**	P		**P**	**P**	**15 00 11.0**	**0.0**
	0.1nm,0.4s,baz=128,slow=5.1,SNR=2.7								
	0.1nm,0.4s								
BVAR	**Borovoye Array**	**84.34**	**325**	P		**P**	**P**	**15 00 40.8**	**+0.4**
	1.6nm,0.9s,baz=114,slow=3.7,SNR=5.4								
	1.6nm,0.9s								
ILAR	**Eielson Array**	**87.46**	**24**	P		**P**	**P**	**15 00 54.5**	**-1.1**
	0.3nm,0.8s,baz=266,slow=4.8,SNR=2.9								
	0.3nm,0.8s								

*IDC **06** 14:50:53.4±0.7,6˚.20S×142˚.94E,h0km,mb4.5/13, mbtmp4.5/15,ML2.3/1,MS5.2/1,Error ellipse: s-maj=26.6km s-min=16.5km az=80.0*

*NEIC **06** 14:50:54.2±1.6,6˚.31S±0˚.10×142˚.78E±0˚.08,h10km±1km, mb5.2/115,Error ellipse: s-maj=18.7km s-min=11.0km az=212.0*

*DJA **06** 14:51:04.0±0.3,6˚.5S±2˚×14˚.3E±˚,h72km±4km,M5.4/27, mb4.7/27,MLv5.7/5*

ISC 06 14:50:55.0±0.4,6˚.34S±0˚.04×142˚.83E±0˚.05,h10km,n395, σ1s16/342,mb5.1/92,4C-2D,New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MMPI	**Merauke**	**3.22**	**229**	P		**Pg**	**Pg**	**14 51 55.2**	**-1.6**
MMPI				S		**Sg**	**Sg**	**14 52 38.0**	**-0.6**
GENI	**Genyem**	**4.57**	**324**	P		Pn	**Pn**	14 52 07.6	+3.3
GENI				S		**Sn**	**Sn**	**14 52 57.8**	**+0.3**
PMG	**Port Moresby**	**5.26**	**126**			**Pn**	**Pn**	**14 52 14.0**	**+0.3**
PMG	**Port Moresby**	**5.26**	**126**	Pn		**Pn**	**Pn**	**14 52 14.4**	**+0.7**
	7.8nm,0.3s,baz=319,slow=15,SNR=20								
PMG				Sn		**Sn**	**Sn**	**14 53 14.9**	**+0.5**
	16nm,0.3s,baz=284,slow=7.5,SNR=19								
	95nm,0.8s								
COEN	**Coen**	**7.58**	**177**	P		**Pg**	**Pg**	**14 53 22.1**	**+1.9**
	106nm,0.7s								
RABL	**Rabaul**	**9.53**	**78**	Pn		**Pn**	**Pn**	**14 53 08.3**	**-4.2**
FAKI	**Fak Fak**	**11.08**	**287**	Pn		**Pn**	**Pn**	**14 53 31.8**	**-1.9**
FAKI	**Fak Fak**	**11.08**	**287**	P		Pn	Pn	14 53 38.7	+5.0
	48nm,1.3s								
SAUI	**Saumlaki**	**11.56**	**261**	Pn		**Pn**	**Pn**	**14 53 37.8**	**-2.4**
SAUI	**Saumlaki**	**11.56**	**261**	P		Pn	Pn	14 53 48.6	+8.4
	386nm,1.5s								
KDU	**Kakadu**	**12.01**	**238**	P		**Pn**	**Pn**	**14 53 45.0**	**-1.3**
	baz=12,SNR=9.2								
KDU	**Kakadu**	**12.01**	**238**	P		**Pn**	**Pn**	**14 53 45.1**	**-1.2**
MTN	**Manton Dam**	**13.22**	**240**	P		**Pn**	**Pn**	**14 54 01.2**	**-1.8**
	baz=13,SNR=7.5								
MTN	**Manton Dam**	**13.22**	**240**	Pn		**Pn**	**Pn**	**14 54 01.3**	**-1.6**
MTN	**Manton Dam**	**13.22**	**240**	P		**Pn**	**Pn**	**14 54 02.0**	**-0.9**
DRS	**Darwin Rock St**	**13.24**	**242**	P		**Pn**	**Pn**	**14 54 03.8**	**+0.7**

CTA	**Charters Tower**	**14.07**	**167**	Lg	Lg	14 58 26.2
	0.1nm,0.3s,baz=66,slow=16,SNR=3.1					
QIS	**Mount Isa**	**14.48**	**192**	P	**Pn**	**14 54 22.6 +2.4**
	baz=14,SNR=3.7					
WB0	**Warramunga Arr**	**15.67**	**211**	Pn	**Pn**	**14 54 34.7 -1.3**
WR0	**Warramunga Arr**	**15.76**	**210**	Pn	**Pn**	**14 54 35.2 -1.9**
WB2	**Warramunga Arr**	**15.84**	**211**	P	**Pn**	**14 54 37.8 -0.4**
	baz=16					
WB2	**Warramunga Arr**	**15.84**	**211**	Pn	**Pn**	**14 54 36.3 -1.9**
WRA	**Warramunga Arr**	**15.84**	**211**	Pn	**Pn**	**14 54 36.3 -2.0**
	1.1nm,0.3s,baz=31,slow=13,SNR=8.9					
WRA				Sn	Sn	14 57 22.4 -12
	0.4nm,0.3s,baz=32,slow=24,SNR=1.5					
WRA				Lg	Lg	14 59 19.3
	0.8nm,0.3s,baz=34,slow=27,SNR=6.1					
KNRA	**Kununurra**	**16.63**	**235**	P	**Pn**	**14 54 46.0 -2.3**
	baz=16,SNR=9.4					
KNRA	**Kununurra**	**16.63**	**235**	Pn	**Pn**	**14 54 46.0 -2.3**
KNRA	**Kununurra**	**16.63**	**235**	P	**Pn**	**14 54 45.1 -3.3**
TNTI	**Ternate**	**16.98**	**294**	P	**P**	**14 54 57.0 +2.3**
	34nm,1.2s					
HNR	**Honiara**	**17.23**	**101**		**Pn**	**14 54 54.8 -1.1**
SOEI	**Soe**	**18.69**	**258**	P	**P**	**14 55 12.1 -1.6**
SOEI	**Soe**	**18.69**	**258**	P	**Pn**	**14 55 18.8 +4.7**
	146nm,1.0s					
AS01	**Alice Springs**	**19.23**	**205**	P	**Pn**	**14 55 21.8 +1.3**
	94nm,0.9s					
AS31	**Alice Springs**	**19.25**	**206**		**P**	**14 55 19.3 -0.4**
ASAR	**Alice Springs**	**19.25**	**206**		**P**	**14 55 19.1 -0.6**
ASAR	**Alice Springs**	**19.25**	**206**	P	**Pn**	**14 55 21.1 +0.4**
	14nm,0.5s,baz=32,slow=10,SNR=47					
ASAR				S	**Sn**	**14 58 50.5 -6.3**
	2.1nm,0.8s,baz=73,slow=38,SNR=2.1					
ASAR				Lg	Lg	15 01 10.5
	0.2nm,0.3s,baz=22,slow=26,SNR=5.7					
ASPA	**Alice Springs**	**19.25**	**206**	P	**Pn**	**14 55 21.0 +0.2**
	baz=19					
KMSI	**Cibinong**	**20.03**	**289**	P	**Pn**	**14 55 31.7 +1.6**
	105nm,1.3s					
QLP	**Quilpie**	**20.18**	**176**	P	Pn	14 55 33.3 +1.6
	baz=20,SNR=5.7					
PATS	**Pohnpei**	**20.24**	**50**	P	Pn	14 55 34.4 +1.8
	baz=20,SNR=3.7					
FITZ	**Fitzroy Crossi**	**20.44**	**234**	P	Pn	14 55 33.0 -1.9
	baz=20,SNR=10					
FITZ	**Fitzroy Crossi**	**20.44**	**234**	P	**P**	**14 55 32.1 -0.6**
EIDS	**Eidsvold**	**20.50**	**158**	P	Pn	14 55 36.2 +0.7
	baz=21,SNR=3.3					
MMRI	**Maumere**	**20.55**	**262**	P	**P**	**14 55 32.7 -1.3**
MMRI	**Maumere**	**20.55**	**262**	P	Pn	14 55 37.2 +1.1
	38nm,1.2s					
GTOI	**Gorontalo**	**20.96**	**289**	P	Pn	14 55 44.6 +3.6
	36nm,0.9s					
EDFI	**Ende, Flores**	**21.09**	**262**	P	**P**	**14 55 44.8 +4.8**
	33nm,1.6s					
BKSI	**Bulukumba**	**22.62**	**271**	P	**P**	**14 55 59.3 +3.1**
	29nm,1.0s					
KAPI	**Kappang**	**23.01**	**272**	P	**P**	**14 55 58.3 -2.0**
TTSI	**Tana Toraja**	**23.17**	**277**	P	**P**	**14 56 05.6 +3.6**
	18nm,1.0s					
WRKA	**Warakurna**	**23.23**	**215**	P	**P**	**14 56 03.3 +0.8**
	baz=23,SNR=6.5					
WRKA	**Warakurna**	**23.23**	**215**	P	**P**	**14 56 03.3 +0.8**
MPSI	**Mapaga**	**23.83**	**285**	P	**P**	**14 56 10.5 +1.9**
	24nm,1.5s					
PLAI	**Plampang**	**24.96**	**263**	P	**P**	**14 56 22.3 +3.4**
	26nm,1.0s					
STKA	**Stephens Creek**	**25.43**	**182**	P	**P**	**14 56 26.1 +3.1**
	baz=26					
STKA	**Stephens Creek**	**25.43**	**182**	P	**P**	**14 56 24.2 +1.2**
	9.9nm,0.8s,baz=351,slow=8.7,SNR=6.0					
	9.9nm,0.8s					
LEM	**Lembang**	**34.98**	**267**	LR	LR	15 14 34.6
	comp=Z,3µm,20.0s,baz=118,slow=40					
MJAR	**Matsushiro Arr**	**42.87**	**355**	P	**P**	**14 58 51.9 -1.7**
	2.2nm,0.8s,baz=188,slow=8.5,SNR=4.6					
	2.2nm,0.8s					
NJ2	**Nanjing**	**44.50**	**331**	*e*P	**P**	**14 59 09.1 +2.4**
NJ2				pmax	pmax	
	comp=Z,6.0nm,0.6s					
WHN	**Wuhan**	**45.71**	**325**	P	P	14 59 25.0 +8.6
KSAR	**Wonju Array Be**	**45.73**	**343**	P	**P**	**14 59 13.6 -2.9**
KSRS	**Korea Array**	**45.74**	**343**	P	**P**	**14 59 16.3 -0.2**
	5.6nm,1.0s,baz=164,slow=9.8,SNR=10					
	5.6nm,1.0s					
GYA	**Guiyang**	**47.88**	**314**	P	**P**	**14 59 34.4 +0.7**
GYA				pmax	pmax	
	comp=Z,11nm,1.2s					
PHRA	**Phrae**	**48.72**	**301**	P	**P**	**14 59 37.9 -2.3**
CRAI	**Chiangrai**	**49.39**	**303**	P	**P**	**14 59 43.6 -1.6**
LYN	**LuoYang**	**49.76**	**327**	⇓P	**P**	**14 59 48.3 +0.5**
LYN				pmax	pmax	
	comp=Z,22nm,0.4s					
CMAR	**Chiang Mai Arr**	**49.80**	**301**	P	**P**	**14 59 49.1 +0.7**
	1.0nm,0.4s,baz=107,slow=5.9,SNR=3.0					
	1.0nm,0.4s					
KMI	**Kunming**	**49.99**	**310**	⇑P	**P**	**14 59 51.3 +1.3**
KMI				pmax	pmax	
	comp=Z,15nm,1.6s					
USRK	**Ussuriysk Ar.**	**51.25**	**350**	P	P	14 59 53.0 -5.9
USRK	**Ussuriysk Ar.**	**51.25**	**350**	P	**P**	**14 59 57.9 -1.0**
	7.2nm,1.0s,baz=180,slow=6.5,SNR=7.6					
	7.2nm,1.0s					
XAN	**Xi'an**	**51.40**	**324**	P	**P**	**14 59 59.5 -0.8**
XAN				pmax	pmax	
	comp=Z,16nm,1.5s					
PZH	**PanZhiHua**	**51.49**	**311**	P	**P**	**15 00 01.4 +0.2**
PZH				pmax	pmax	
	comp=Z,9.0nm,0.9s					
MDJ	**Mudanjiang**	**52.10**	**348**	P	**P**	**15 00 07.3 +2.0**
MDJ				pmax	pmax	
	comp=Z,7.0nm,1.4s					
CN2	**Changchun**	**52.33**	**344**	P	P	15 00 11.8 +4.9
CN2				pmax	pmax	
	comp=Z,10.0nm,0.6s					
CD2	**Chengdu**	**52.62**	**317**	*e*P	**P**	**15 00 09.0 -0.4**
TNCH	**TengChong**	**53.20**	**308**	*e*P	**P**	**15 00 15.0 +1.0**
TNCH				pP	sP	15 00 17.9 -0.9
TNCH				pmax	pmax	
	comp=Z,19nm,0.6s					
BNX	**BinXian**	**53.65**	**347**	⇓P	**P**	**15 00 15.9 -0.8**
BNX				pmax	pmax	
	comp=Z,15nm,1.2s					
HHC	**Hu-ho-hao-te**	**55.04**	**331**	*e*P	**P**	**15 00 28.0 +1.0**
HHC				pmax	pmax	
	comp=Z,5.0nm,0.6s					
BTO	**Baotou**	**55.60**	**330**	*e*P	**P**	**15 00 32.3 +1.2**
BTO				pP	**sP**	**15 00 37.2 +1.3**
BTO				sP	**pP**	**15 00 39.3 +4.7**
BTO				PP	**PP**	**15 02 34.3 -1.1**
BTO				S	**S**	**15 08 21.1 +4.0**
BTO				pmax	pmax	
	comp=Z,19nm,0.9s					
LZH	**Lanzhou**	**55.84**	**322**	*e*P	**P**	**15 00 33.6 +0.6**
LZH				pP	sP	15 00 41.4 +3.6
LZH				pmax	pmax	
	comp=Z,10.0nm,1.2s					
GTA	**Gaotai**	**60.42**	**323**	*e*P	**P**	**15 01 05.9 +0.9**
GTA				pmax	pmax	
	comp=Z,4.0nm,1.3s					
PETK	**Petropavlovsk-**	**60.55**	**10**	P	**P**	**15 01 05.2 -0.2**
	12nm,1.2s,baz=159,slow=6.5,SNR=8.3					
	12nm,1.2s					
ULN	**Ulaanbaatar**	**62.49**	**334**	P	**P**	**15 01 18.9 +0.1**
ULN				IAmb	IAmb	15 01 53.5
	comp=Z,32nm,2.0s					
SONM	**Songino Array**	**62.76**	**333**	P	P	15 01 10.9 -10
SONM	**Songino Array**	**62.76**	**333**	P	**P**	**15 01 19.9 -0.8**
	comp=Z,1.9nm,0.9s,baz=154,slow=7.6,SNR=7.0					
	comp=Z,1.9nm,0.9s					
MA2	**Magadan**	**66.01**	**4**	P	**P**	**15 01 40.2 -1.2**
MA2				IAmb	IAmb	15 01 42.1
	comp=Z,23nm,1.4s					
WMQ	**Urumqi**	**70.39**	**321**	*e*P	**P**	**15 02 10.4 +1.0**
WMQ				pmax	pmax	
	comp=Z,13nm,1.5s					
NIKH	**Nikolski High**	**71.79**	**28**	P	**P**	**15 02 17.8 +0.2**
	baz=231					
UNV	**Unalaska Valle**	**73.44**	**29**	P	**P**	**15 02 27.8 +0.4**
	baz=233					
MK31	**Makanchi Array**	**75.16**	**322**	P	**P**	**15 02 37.0 -0.7**
MK31				IAmb	IAmb	15 02 42.7
	comp=Z,30nm,1.8s					
MKAR	**Makanchi Array**	**75.16**	**322**	P	**P**	**15 02 36.0 -1.6**
MKAR	**Makanchi Array**	**75.16**	**322**	P	**P**	**15 02 37.7 +0.1**
	comp=Z,2.4nm,0.6s,baz=102,slow=6.8,SNR=30					
	comp=Z,2.4nm,0.6s					
MAKZ	**Makanchi**	**75.36**	**322**	P	**P**	**15 02 37.3 -1.4**
MAKZ				IAmb	IAmb	15 02 40.2
	comp=Z,23nm,1.5s					
KSH	**Kashi**	**76.55**	**313**	P	**P**	**15 02 47.2 +1.3**
KSH				pmax	pmax	
	comp=Z,5.0nm,1.3s					
ZAA0	**Zalesovo Array**	**77.13**	**329**	P	**P**	**15 02 46.3 -2.3**
ZALV	**Zalesovo Beam**	**77.13**	**329**	P	**P**	**15 02 46.9 -1.7**
ZALV	**Zalesovo Beam**	**77.13**	**329**	P	**P**	**15 02 48.0 -0.7**
	comp=Z,1.8nm,0.5s,baz=111,slow=5.4,SNR=10.0					
	comp=Z,1.8nm,0.5s					
SDPT	**Sand Point**	**77.19**	**29**	P	**P**	**15 02 48.9 0.0**
	baz=238					
M11K	**Mekoryuk**	**77.54**	**23**	P	**P**	**15 02 50.8 0.0**
	baz=232					
GAMB	**Gambell**	**77.79**	**19**	P	**P**	**15 02 52.3 +0.2**
	baz=226					
AAK	**Ala-Archa**	**78.66**	**316**	P	**P**	**15 02 56.0 -1.6**
CHGN	**Chignik**	**78.68**	**29**	P	**P**	**15 02 56.9 -0.3**
	baz=240					
M13K	**Dall Lake**	**78.70**	**24**	P	**P**	**15 02 57.5 +0.3**
	baz=235					
O14K	**Tigyukauivet M**	**78.92**	**26**	P	**P**	**15 02 58.1 -0.3**
	baz=237					
KURK	**Kurchatov**	**79.03**	**324**	P	**P**	**15 02 58.0 -1.2**
KURK				IAmb	IAmb	15 03 00.4
	comp=Z,23nm,1.4s					
KURBB	**Kurchatov Arra**	**79.05**	**324**	P	**P**	**15 02 58.9 -0.4**
	comp=Z,4.7nm,1.1s,baz=112,slow=4.6,SNR=18					
	comp=Z,4.7nm,1.1s					
N14K	**Kuskokwak Cree**	**79.11**	**25**	P	**P**	**15 02 59.8 +0.4**
	baz=236					
M14K	**Bethel**	**79.45**	**24**	P	**P**	**15 03 01.5 +0.2**
	baz=236					
L14K	**Kuka Creek**	**79.50**	**24**	P	**P**	**15 03 02.0 +0.4**
	baz=235					
O15K	**Ungalikthiuk R**	**79.50**	**26**	P	**P**	**15 03 01.5 -0.2**
	baz=238					
R16K	**Pilot Point**	**79.70**	**28**	P	**P**	**15 03 02.7 0.0**
	baz=241					
CHIR	**Chirikof Islan**	**79.82**	**30**	P	**P**	**15 03 02.7 -0.8**
	baz=243					
N15K	**Kwethluk River**	**79.91**	**25**	P	**P**	**15 03 03.8 -0.1**
	baz=238					
M15K	**Kasigluk River**	**79.95**	**25**	P	**P**	**15 03 04.3 +0.2**
	baz=237					
J14K	**Nanvaranak Lak**	**79.97**	**22**	P	**P**	**15 03 04.4 +0.3**
	baz=234					
L15K	**Ungalak Mounta**	**80.16**	**24**	P	**P**	**15 03 05.6 +0.5**
	baz=236					
TNA	**Tin City**	**80.20**	**19**	P	**P**	**15 03 05.1 -0.1**
	baz=230					
P16K	**Nushagak River**	**80.24**	**27**	P	**P**	**15 03 05.6 0.0**
	baz=240					
KBL	**Kabul**	**80.38**	**306**	P	**P**	**15 03 05.6 -1.7**
ANM	**Nome**	**80.41**	**20**	P	**P**	**15 03 06.6 +0.1**
	baz=232					
O16K	**Kokwok River B**	**80.48**	**26**	IAmb	IAmb	15 03 08.2
	comp=Z,35nm,1.3s					
O16K	**Kokwok River B**	**80.48**	**26**	P	**P**	**15 03 07.1 +0.2**
	baz=240					
K15K	**Wolf Creek Mou**	**80.49**	**23**	P	**P**	**15 03 07.1 +0.2**
	baz=236					
GAR	**Garm**	**80.56**	**311**	P	**P**	**15 03 07.1 -0.9**
GAR				IAmb	IAmb	15 05 44.2
	comp=Z,31nm,1.1s					
N16K	**Nishlik Lake**	**80.63**	**25**	P	**P**	**15 03 07.9 +0.1**
	baz=239					
F14K	**Arctic Creek**	**80.66**	**19**	P	**P**	**15 03 08.2 +0.4**
	baz=231					
Q16K	**King Salmon**	**80.67**	**27**	P	**P**	**15 03 07.2 -0.7**
	baz=241					
Q17K	**Contact Creek**	**80.83**	**28**	P	**P**	**15 03 08.3 -0.7**
	baz=242					
M16K	**Timber Creek**	**80.84**	**25**	P	**P**	**15 03 09.0 +0.2**
	baz=239					
L16K	**Owhat River**	**80.99**	**24**	P	**P**	**15 03 09.8 +0.2**
	baz=238					
O17K	**Koliganek Bris**	**81.01**	**26**	P	**P**	**15 03 10.6 +0.8**
	baz=241,SNR=12					
P17K	**Kvichak River**	**81.02**	**27**	P	**P**	**15 03 10.2 +0.4**
	baz=241					
G15K	**Niukluk**	**81.13**	**20**	P	**P**	**15 03 10.6 +0.2**
	baz=234					
N17K	**Nushagak Hills**	**81.34**	**26**	P	**P**	**15 03 11.9 +0.4**
	baz=241					
CHGR	**Chuyangaron**	**81.34**	**311**	P	**P**	**15 03 10.7 -1.5**
CHGR				IAmb	IAmb	15 05 44.1
	comp=Z,20nm,1.0s					
F15K	**North Star Dit**	**81.35**	**19**	P	**P**	**15 03 11.7 +0.2**
	baz=233					
J16K	**Anvik River**	**81.39**	**22**	P	**P**	**15 03 12.3 +0.5**
	baz=237					
SIMJ	**Simiganj**	**81.46**	**311**	P	**P**	**15 03 11.7 -1.2**
H16K	**Elim**	**81.55**	**21**	P	**P**	**15 03 13.1 +0.6**
	baz=235,SNR=5.1					
OHAK	**Old Harbor**	**81.60**	**30**	P	**P**	**15 03 13.3 +0.3**
	baz=244					
P18K	**Big Mountain,**	**81.66**	**27**	P	**P**	**15 03 13.5 +0.2**
	baz=242					
M17K	**Holitna River**	**81.67**	**25**	P	**P**	**15 03 13.9 +0.7**
	baz=240					
L17K	**Donlin**	**81.68**	**24**	P	**P**	**15 03 13.7 +0.4**
	baz=239					
I17K	**Unalakleet**	**81.68**	**22**	P	**P**	**15 03 12.3 -1.0**
I17K				IAmb	IAmb	15 03 15.4
	comp=Z,30nm,1.3s					
I17K	**Unalakleet**	**81.68**	**22**	P	**P**	**15 03 13.8 +0.6**
	baz=237					
O18K	**Koktuh Hills**	**81.88**	**27**	P	**P**	**15 03 14.1 -0.4**
	baz=242					
G16K	**Koyuk River**	**81.94**	**20**	IAmb	IAmb	15 03 16.1
	comp=Z,20nm,1.2s					
G16K	**Koyuk River**	**81.94**	**20**	P	**P**	**15 03 14.8 +0.2**
	baz=235,SNR=5.8					
N18K	**Kilae Creek**	**81.97**	**26**	P	**P**	**15 03 15.3 +0.4**
	baz=242					
K17K	**Iditarod**	**81.98**	**23**	IAmb	IAmb	15 03 16.6
	comp=Z,41nm,1.3s					
K17K	**Iditarod**	**81.98**	**23**	P	**P**	**15 03

baz=238
GCSA Galena City Sc 83.55 22 P P 15 03 23.4 +0.5
baz=240,SNR=7.5
L20K Farewell, AK 83.66 25 P P 15 03 23.9 +0.2
baz=243
J19K Poorman 83.66 23 IAmb IAmb 15 03 25.2
comp=Z,26nm,1.4s
J19K Poorman 83.66 23 P P 15 03 23.7 +0.1
baz=242,SNR=7.8
E18K Tukpahlearik C 83.67 19 IAmb IAmb 15 03 24.9
comp=Z,28nm,1.4s
E18K Tukpahlearik C 83.67 19 P P 15 03 23.6 +0.1
baz=237
M20K Styx River 83.71 25 P P 15 03 24.0 0.0
baz=244
N20K Mount Spurr 83.81 26 P P 15 03 23.7 -0.9
baz=245
BRSE Bradley Lake S 83.87 28 P P 15 03 24.6 -0.1
baz=246
K20K Telida 83.98 24 P P 15 03 25.3 0.0
baz=243
H19K Roundabout Mou 84.10 21 P P 15 03 26.2 +0.5
baz=241
CAPN Captain Cook N 84.10 27 P P 15 03 26.1 +0.3
baz=246
C18K Utukok River 84.17 18 IAmb IAmb 15 03 28.3
comp=Z,19nm,1.4s
C18K Utukok River 84.17 18 P P 15 03 26.0 -0.2
baz=236
G19K Purcell Mounta 84.18 21 IAmb IAmb 15 03 27.7
comp=Z,24nm,1.3s
G19K Purcell Mounta 84.18 21 P P 15 03 26.3 +0.1
baz=240
F19K Shaleruckik Mo 84.29 20 P P 15 03 26.5 -0.2
baz=239
J20K Nowinta River 84.32 23 IAmb IAmb 15 03 29.2
comp=Z,22nm,1.1s
J20K Nowinta River 84.32 23 P P 15 03 27.0 +0.1
baz=243
NRIK Noril'sk 84.35 343 P P 15 03 25.6 -1.4
NRIK Noril'sk 84.35 343 P P 15 03 26.1 -0.9
comp=Z,12nm,1.0s,baz=118,slow=5.2,SNR=15
comp=Z,12nm,1.0s
B18K Kokolik River 84.39 17 P P 15 03 27.8 +0.6
baz=235
SKT Skwentna 84.43 26 P P 15 03 26.9 -0.7
baz=246
I20K Naaghedeneel 84.48 22 P P 15 03 27.7 0.0
baz=243
PPLA Purkeypile 84.54 25 P P 15 03 28.1 -0.2
baz=245
SUA Susitna One 84.56 26 P P 15 03 27.4 -0.9
baz=246
SEW Seward 84.61 28 P P 15 03 28.4 -0.1
baz=248
BVAR Borovoye Array 84.62 325 P P 15 03 28.6 -0.1
comp=Z,14nm,0.8s,baz=112,slow=6.6,SNR=52
comp=Z,14nm,0.8s
O22K Cooper Landing 84.63 27 P P 15 03 25.2 -3.3
O22K Cooper Landing 84.63 27 P P 15 03 28.6 0.0
baz=247
H20K Anotleneega Mo 84.66 22 P P 15 03 28.7 +0.1
baz=242,SNR=9.1
BRVK Borovoye 84.69 325 P P 15 03 28.1 -1.0
E19K Redstone River 84.79 20 P P 15 03 29.4 +0.1
baz=240,SNR=19
CAST Castle Rocks 84.81 24 P P 15 03 28.3 -1.2
CAST IAmb IAmb 15 03 29.9
comp=Z,20nm,1.3s
CAST Castle Rocks 84.81 24 P P 15 03 29.2 -0.3
baz=245,SNR=9.1
RC01 Rabbit Creek A 84.86 27 P P 15 03 28.1 -1.6
RC01 Rabbit Creek A 84.86 27 P P 15 03 29.4 -0.4
baz=247,SNR=10
C19K Lookout Ridge 84.90 18 IAmb IAmb 15 03 48.0
comp=Z,17nm,0.9s
C19K Lookout Ridge 84.90 18 P P 15 03 30.2 +0.3
baz=237
CHUM Lake Minchumin 84.92 24 P P 15 03 30.1 +0.1
baz=245,SNR=20
M22K Willow 84.95 26 P P 15 03 29.2 -1.0
M22K Willow 84.95 26 P P 15 03 29.9 -0.3
baz=247,SNR=6.4
D19K Kuna River 85.03 19 IAmb IAmb 15 03 32.8
comp=Z,22nm,1.2s
D19K Kuna River 85.03 19 P P 15 03 30.9 +0.3
baz=239,SNR=13
F20K Avaraart Lake 85.10 20 P P 15 03 31.0 +0.2
baz=241
CUT Chulitna 85.15 25 P P 15 03 29.2 -1.9
CUT Chulitna 85.15 25 P P 15 03 30.6 -0.5
baz=247
IMAR Indian Mountai 85.30 22 P P 15 03 30.6 -1.3
PMR Palmer 85.33 26 P P 15 03 30.1 -2.0
PMR IAmb IAmb 15 03 32.3
comp=Z,18nm,1.2s
PMR Palmer 85.33 26 P P 15 03 31.5 -0.5
baz=248,SNR=7.7
KTH Kantishna Hill 85.34 24 P P 15 03 30.2 -2.0
KTH IAmb IAmb 15 03 32.8
comp=Z,21nm,1.2s
GHO Glory Hole Cre 85.49 26 P P 15 03 31.4 -1.5
H21K Melozitna Rive 85.50 22 P P 15 03 32.8 -0.1
baz=244
P23K Montague Islan 85.53 28 P P 15 03 33.2 +0.1
baz=249
E20K Nigu River 85.53 19 P P 15 03 33.4 +0.3
baz=241
BPAW Bear Paw Mtn. 85.54 24 IAmb IAmb 15 03 34.1
comp=Z,17nm,1.4s
BPAW Bear Paw Mtn. 85.54 24 P P 15 03 33.5 +0.4
baz=246,SNR=9.7
KNK Knik Glacier 85.56 27 IAmb IAmb 15 03 35.1
comp=Z,16nm,0.9s
KNK Knik Glacier 85.56 27 P P 15 03 33.3 +0.1
baz=248,SNR=7.3
TRF Thorofare Moun 85.56 24 P P 15 03 32.6 -0.8
baz=246
I21K Tanana 85.60 23 P P 15 03 33.1 -0.3
baz=245,SNR=6.1
D20K Etivluk River 85.62 19 P P 15 03 33.5 +0.1
baz=240
G21K Allakaket 85.63 21 P P 15 03 33.1 -0.4
baz=243
SML Sawmill 85.76 26 P P 15 03 34.2 -0.1
baz=248,SNR=10
F21K Alatna River 85.95 20 P P 15 03 34.6 -0.6
baz=243
MLY Manley 86.02 23 IAmb IAmb 15 03 36.3
comp=Z,21nm,1.3s
MLY Manley 86.02 23 P P 15 03 35.4 -0.1
baz=246,SNR=13
M23K Glacier View 86.02 26 P P 15 03 34.6 -1.0
baz=249
WAT1 Susitna Watana 86.05 25 P P 15 03 34.6 -1.1
baz=248
B20K Meade River 86.11 17 P P 15 03 35.3 -0.4
baz=240
H22K Ishtalitna Cre 86.13 22 P P 15 03 36.1 +0.1
baz=245
RND Reindeer 86.14 25 IAmb IAmb 15 03 36.6
comp=Z,16nm,1.0s
SCM Sheep Creek Mo 86.21 27 P P 15 03 36.2 -0.4
baz=249
MCK McKinley 86.23 24 P P 15 03 36.0 -0.5
baz=248,SNR=10
E21K Killik River 86.34 19 P P 15 03 36.8 -0.2
baz=243
C21K Knifebiade Rid 86.42 19 P P 15 03 37.8 +0.5
baz=242
EYAK Cordova Ski Ar 86.49 28 P P 15 03 37.7 -0.2
baz=251
NEA2 Nenana 86.50 24 IAmb IAmb 15 03 38.0
comp=Z,20nm,1.4s
NEA2 Nenana 86.50 24 P P 15 03 37.2 -0.7
baz=248,SNR=5.9
G22K Bettles 86.52 21 P P 15 03 37.2 -0.6
baz=245
I23K Minto, Yukon-K 86.60 23 P P 15 03 38.2 -0.1
baz=247,SNR=7.0
DHY Denali Highway 86.64 25 P P 15 03 38.6 -0.1
baz=249
B21K Ikpikpuk River 86.69 18 P P 15 03 38.8 +0.2
baz=242
KLU Klutina 86.73 27 IAmb IAmb 15 03 40.8
comp=Z,21nm,1.2s
KLU Klutina 86.73 27 P P 15 03 38.9 -0.2
baz=251,SNR=7.6

M24K Tolsona, Glenn 86.82 26 P P 15 03 39.3 -0.3
baz=250
WRH Wood River Hil 86.85 24 IAmb IAmb 15 03 40.0
comp=Z,17nm,1.1s
KAIM Kayak Island 86.92 29 P P 15 03 40.7 +0.7
baz=252
A21K Barrow 86.92 16 P P 15 03 40.5 +0.8
baz=240
E22K Anaktuvuk Pass 86.93 20 P P 15 03 40.3 +0.4
baz=245,SNR=8.0
D22K Ayikyak River 86.96 19 IAmb IAmb 15 03 42.0
comp=Z,11nm,0.8s
D22K Ayikyak River 86.96 19 P P 15 03 40.7 +0.7
baz=244,SNR=12
G23K Bananza Creek 86.97 22 IAmb IAmb 15 03 41.7
comp=Z,26nm,1.6s
G23K Bananza Creek 86.97 22 P P 15 03 40.4 +0.3
baz=247
MDM Murphy Dome 86.97 23 IAmb IAmb 15 03 44.4
comp=Z,24nm,1.7s
COLA College 87.09 24 P P 15 03 38.1 -2.5
COLA College 87.09 24 P P 15 03 40.4 -0.2
baz=249
COLD Coldfoot 87.11 21 P P 15 03 41.3 +0.6
baz=246,SNR=10
BMRM Bremner River 87.16 28 P P 15 03 41.3 +0.2
baz=252,SNR=6.7
HDA Harding Lake 87.29 24 P P 15 03 40.6 -1.1
baz=250
POKR Poker Plat Res 87.34 23 P P 15 03 41.2 -0.7
baz=249
N25K Chitina, Valde 87.36 27 IAmb IAmb 15 03 43.5
comp=Z,14nm,1.2s
N25K Chitina, Valde 87.36 27 P P 15 03 41.9 -0.3
baz=252
HARP HAARP 87.37 26 P P 15 03 41.9 -0.2
baz=251
B22K Teshekpuk Lake 87.39 18 P P 15 03 42.1 +0.1
baz=243
PAX Paxson 87.42 26 P P 15 03 42.3 -0.2
baz=251,SNR=6.8
H24K Noodor Dome 87.43 23 IAmb IAmb 15 03 47.8
comp=Z,28nm,1.7s
H24K Noodor Dome 87.43 23 P P 15 03 42.0 -0.4
baz=249
IL31 87.44 24 IAmb IAmb 15 03 42.3
comp=Z,7.2nm,0.8s
ILAR Eielson Array 87.44 24 P P 15 03 40.5 -2.0
comp=Z,4.5nm,0.7s,baz=256,slow=4.8,SNR=45
comp=Z,4.5nm,0.7s
K24K Donnelly Dome 87.56 25 P P 15 03 42.8 -0.2
baz=251
E23K Chandalar 87.65 20 P P 15 03 43.8 +0.3
baz=247
D23K Nanushuk River 87.66 19 P P 15 03 44.3 +0.9
baz=246
GLB Gilahina Butte 87.67 27 IAmb IAmb 15 03 45.2
comp=Z,16nm,1.1s
CRQE Cirque 87.80 28 P P 15 03 44.6 +0.2
baz=253,SNR=5.9
G24K Hadweenzic Riv 87.90 22 IAmb IAmb 15 03 46.6
comp=Z,17nm,1.1s
G24K Hadweenzic Riv 87.90 22 P P 15 03 44.8 +0.2
baz=249
J25K Salcha River, 88.00 24 P P 15 03 43.6 -1.6
J25K Salcha River, 88.00 24 P P 15 03 44.7 -0.5
baz=251,SNR=19
MCARA McCarthy VSAT 88.02 28 P P 15 03 45.2 0.0
baz=253
C23K Itkillik River 88.03 19 P P 15 03 45.6 +0.5
baz=246
F24K Squaw Lake 88.05 21 P P 15 03 45.9 +0.6
baz=248
MENT Mentasta 88.17 26 IAmb IAmb 15 03 46.9
comp=Z,16nm,1.4s
MESA MESA 88.18 29 P P 15 03 46.0 -0.3
baz=254
PRP Porcupine Dome 88.24 23 P P 15 03 45.5 -0.8
baz=251
M26K Nabesna, AK 88.33 27 P P 15 03 46.4 -0.3
baz=253
D24K Happy Valley 88.34 19 P P 15 03 47.3 +0.7
baz=248
L26K Log Cabin Wild 88.35 26 IAmb IAmb 15 03 47.7
comp=Z,21nm,1.6s
L26K Log Cabin Wild 88.35 26 P P 15 03 47.2 +0.3
baz=253,SNR=6.2
SCRK Sand Creek 88.37 25 IAmb IAmb 15 03 47.7
comp=Z,14nm,1.4s
SCRK Sand Creek 88.37 25 P P 15 03 46.9 -0.1
baz=255,SNR=5.6
G25K Bearman Lake 88.44 22 P P 15 03 47.4 +0.3
baz=250
C24K Franklin Bluff 88.60 19 P P 15 03 48.5 +0.7
baz=248
CTG Chitna Glacier 88.68 28 P P 15 03 48.5 0.0
baz=255,SNR=9.9
J26L Joseph Creek 88.70 25 IAmb IAmb 15 03 50.2
comp=Z,23nm,1.3s
J26L Joseph Creek 88.70 25 P P 15 03 48.5 0.0
baz=253
M27K Edge Creek, AK 88.81 27 P P 15 03 49.5 +0.3
baz=254
F25K Christian Rive 88.88 21 P P 15 03 50.0 +0.8
baz=251
PINM Pinnacle 88.98 29 P P 15 03 50.8 +0.9
baz=256
L27K Beaver Creek, 89.03 26 IAmb IAmb 15 03 52.1
comp=Z,18nm,1.2s
L27K Beaver Creek, 89.03 26 P P 15 03 50.6 +0.6
baz=254
E25K Arctic Village 89.09 21 IAmb IAmb 15 03 52.2
comp=Z,22nm,1.4s
E25K Arctic Village 89.09 21 P P 15 03 51.3 +1.1
baz=251,SNR=12
I26K Coal Creek Min 89.11 24 P P 15 03 50.4 +0.1
baz=253
K27K Chicken 89.19 25 P P 15 03 51.4 +0.7
baz=254
D25K Kavik River 89.22 20 IAmb IAmb 15 03 52.2
comp=Z,26nm,1.5s
D25K Kavik River 89.22 20 P P 15 03 51.0 +0.2
baz=250
BVCY Beaver Creek 89.28 27 P P 15 03 51.6 +0.3
baz=255,SNR=5.8
PNL Peninsula 89.29 30 P P 15 03 51.3 0.0
baz=256
YUK3 Moose Creek 89.30 28 P P 15 03 51.8 +0.2
baz=255,SNR=9.2
G26K Porcupine Rive 89.36 22 P P 15 03 52.2 +0.7
baz=252
F26K Sheenjek River 89.46 21 P P 15 03 53.0 +1.0
baz=252
YUK8 Steele Glacier 89.50 28 P P 15 03 52.9 +0.4
baz=256
EGAK Eagle 89.78 25 IAmb IAmb 15 03 54.4
comp=Z,23nm,1.4s
EGAK Eagle 89.78 25 P P 15 03 53.6 +0.2
baz=255,SNR=5.8
I27K Kandik River 89.81 24 P P 15 03 54.5 +0.8
baz=254
O29M Mount Kennedy 89.84 29 P P 15 03 54.3 +0.3
baz=257
C26K Camden Bay 89.90 19 P P 15 03 54.8 +0.9
baz=251
H27K Steamboat Moun 90.02 23 P P 15 03 55.1 +0.5
baz=254
YUK4 Talbot Arm 90.04 28 P P 15 03 55.5 +0.5
baz=257
P29M Windy Craggy 90.10 30 P P 15 03 55.4 +0.3
baz=258
DAWY Dawson 90.34 25 IAmb IAmb 15 03 57.6
comp=Z,22nm,1.4s
DAWY Dawson 90.34 25 P P 15 03 56.8 +0.7
baz=256,SNR=12
M29M Somme Creek 90.37 27 IAmb IAmb 15 03 57.9
comp=Z,21nm,1.5s
M29M Somme Creek 90.37 27 P P 15 03 56.8 +0.3
baz=257
I28M Miner Creek 90.45 24 IAmb IAmb 15 03 58.0
comp=Z,15nm,1.4s
I28M Miner Creek 90.45 24 P P 15 03 57.0 +0.3
baz=256
HYT Haines Junctio 90.47 29 P P 15 03 57.1 +0.2
baz=258
P30M Million Dollar 90.59 30 P P 15 03 58.1 +0.7
baz=258
L29M L29M 90.67 27 IAmb IAmb 15 03 59.9
comp=Z,14nm,1.1s
L29M L29M 90.67 27 P P 15 03 58.2 +0.5
baz=257,SNR=9.0
N30M Aishikik Lake 90.80 28 P P 15 03 58.5 +0.1
baz=258
J29N Klondike Camp 90.93 25 P P 15 03 59.9 +1.0
baz=257,SNR=5.0
F28M Old Crow 91.01 22 P P 15 03 59.7 +0.5
baz=256
K29M Barlow Dome 91.10 26 IAmb IAmb 15 04 01.2
comp=Z,20nm,1.4s
K29M Barlow Dome 91.10 26 P P 15 04 00.2 +0.4
baz=258
O30N Mendenhall 91.14 29 P P 15 03 59.8 -0.1
baz=259
M30M Minto, Yukon 91.16 27 P P 15 04 00.4 +0.4
baz=259
H29M Whitestone 91.26 23 P P 15 04 00.5 +0.1
baz=257
SKAG Skagway 91.27 30 P P 15 04 01.1 +0.7
baz=260
S32K Killisnoo 91.32 32 P P 15 04 00.1 -0.6
baz=260
R32K Eaglecrest 91.48 32 P P 15 04 02.3 +0.8
baz=260
WHY Whitehorse 91.70 29 P P 15 04 02.9 +0.2
baz=260
J30M Hart River 91.75 25 IAmb IAmb 15 04 04.3
comp=Z,14nm,1.4s
J30M Hart River 91.75 25 P P 15 04 03.2 +0.4
baz=259
CRAG Craig 91.80 35 P P 15 04 03.7 +0.7
baz=262
D28M Stokes Point 91.82 20 P P 15 04 03.5 +0.7
baz=257
I30M Mount Dempster 91.86 25 IAmb IAmb 15 04 04.9
comp=Z,11nm,1.2s
I30M Mount Dempster 91.86 25 P P 15 04 03.5 +0.2
baz=259
E29M Blow River 91.91 21 P P 15 04 02.7 -0.6
baz=258
EPYK Eagle Plains 91.94 23 IAmb IAmb 15 04 04.4
comp=Z,16nm,1.2s
EPYK Eagle Plains 91.94 23 P P 15 04 03.8 +0.3
baz=259
P32M Atlin 92.11 30 P P 15 04 04.9 +0.4
baz=261
M31M Drury Creek, Y 92.19 28 P P 15 04 04.7 -0.1
baz=261
G30M tAoh Zraii Nji 92.25 23 IAmb IAmb 15 04 05.4
comp=Z,11nm,1.4s
G30M tAoh Zraii Nji 92.25 23 P P 15 04 05.3 +0.3
baz=259
F30M Barrier River 92.53 22 P P 15 04 06.2 0.0
baz=260
P33M Teslin, Yukon 92.64 30 P P 15 04 06.5 -0.5
baz=262
FARO Faro, Yukon 92.68 28 IAmb IAmb 15 04 07.6
comp=Z,10nm,1.4s
FARO Faro, Yukon 92.68 28 P P 15 04 06.9 -0.1
baz=262
Q32M Nakina River 92.75 31 P P 15 04 07.2 -0.4
baz=262
G31M Satah River 93.00 23 P P 15 04 07.9 -0.4
baz=261
S34M Telegraph Cree 93.21 32 P P 15 04 09.4 -0.2
baz=263
F31M Tsiigehtchic 93.28 23 P P 15 04 09.9 +0.3
baz=262
R33M Jennings River 93.47 31 P P 15 04 10.8 -0.1
baz=264
INK Inuvik 93.49 22 P P 15 04 10.7 +0.2
baz=262
T35M Bob Quinn 93.58 33 P P 15 04 11.2 -0.1
baz=264
WTLY Watson Lake, Y 94.63 30 P P 15 04 16.3 +0.2
baz=266
A36M Sachs Harbour 96.58 18 P P 15 04 24.3 -0.3
baz=270
NVAR Mina Array Bea 100.84 52 P Pdif 15 04 45.1 +0.3
comp=Z,0.1nm,0.3s,baz=277,slow=7.2,SNR=2.6
YKA Yellowknife Ar 101.39 28 P Pdif 15 04 44.8 -1.5
comp=Z,0.3nm,0.8s,baz=288,slow=4.2,SNR=4.7
JFWS Jewell Farm 120.86 43 P PKPdf 15 09 47.0 -0.9
baz=292
CCM Cathedral Cave 121.85 49 P PKPdf 15 09 49.0 -1.0
baz=289
OXF Oxford 124.36 52 P PKPdf 15 09 53.9 -1.0
baz=288
LONY Lake Ozonia 129.83 34 P PKPdf 15 10 04.4 -0.6
baz=308
LBNH Lisbon 131.54 33 P PKPdf 15 10 08.0 -0.3
baz=311
PKME Peaks-Kenny Pk 132.23 30 P PKPdf 15 10 08.7 -0.8
baz=315
L61B Northampton 132.26 36 P PKPdf 15 10 08.4 -1.2
baz=309
PAL Palisades 132.41 38 P PKPdf 15 10 08.9 -1.1
baz=306
KIC Kosan Boka 147.78 272⇑*e*PKP1 PKPbc 15 10 41.4 +0.1
comp=Z,22nm,0.9s
DBIC Dimbokro 147.90 272 PKPbc PKiKP 15 10 41.7 -1.8
comp=Z,11nm,0.9s,baz=94,slow=3.3,SNR=10
LIC Lamto 148.06 272⇑*i*PKP1 PKiKP 15 10 42.3 -1.6
comp=Z,42nm,1.0s
TIC Toumodi 148.06 272⇑*i*PKP1 PKiKP 15 10 42.4 -1.5
comp=Z,6.5nm,0.3s

IDC ***06*** *14:59:28.6±0.9,6°.23S×142°.65E,h0km,mb4.0/9, mbtmp4.1/12,ML4.3/2,Error ellipse: s-maj=29.9km s-min=17.8km az=87.0*
NEIC ***06*** *14:59:31.1±1.5,6°.2S±0°.1×142°.51E±0°.09,h10km±1km, mb4.7/34,Error ellipse: s-maj=17.6km s-min=15.3km az=26.0*
ISC 06 14:59:30.2±0.5,**6°.30S**±0°.06×**142°.48E**±0°.07,**h10**km,**n65,**
σ1§**59**/67,**mb4.7**/25,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
TABU	Tabubil	1.61	309	P	P	Pg	15 00 01.6	+0.4
GENI	Genyem	4.34	328	P	P	Pb	15 00 43.6	-3.1
PMG	Port Moresby	5.57	124	Pn	Pn	Pn	15 00 53.2	0.0
PMG	Port Moresby	5.57	124	Pn	Pn	Pn	15 00 53.0	-0.3
	6.9nm,0.3s,baz=16,slow=7.0,SNR=6.7							
PMG				Sn	Sn	Sn	15 01 55.1	-2.4
	2.1nm,0.3s,baz=331,slow=22,SNR=6.0							
FAKI	Fak Fak	10.73	288	Pn	Pn	Pn	15 02 04.3	+0.2
SAUI	Saumlaki	11.21	261	Pn	Pn	Pn	15 02 11.7	+0.9
KDU	Kakadu	11.73	237	P	Pn	Pn	15 02 18.9	+1.2
MTN	Manton Dam	12.93	239	Pn	Pn	Pn	15 02 36.0	+1.8
MTN	Manton Dam	12.93	239	P	Pn	Pn	15 02 34.6	+0.4
DRS	Darwin Rock St	12.94	241	P	Pn	Pn	15 02 35.3	+1.0
CTA	Charters Tower	14.19	165	Lg	Lg		15 07 03.7	
	0.2nm,0.3s,baz=226,slow=18,SNR=1.6							
WB0	Warramunga Arr	15.52	210	Pn	Pn	Pn	15 03 10.2	+0.8
WB0				IAmb	IAmb		15 03 39.5	
	comp=Z,64nm,1.2s							
WR0	Warramunga Arr	15.61	209	Pn	Pn	Pn	15 03 09.7	-0.9
WR0				IAmb	IAmb		15 03 14.7	
	comp=Z,82nm,1.5s							
WB2	Warramunga Arr	15.69	209	Pn	Pn	Pn	15 03 11.9	+0.4
WB2				IAmb	IAmb		15 03 18.8	
	comp=Z,68nm,1.4s							
WRA	Warramunga Arr	15.70	209	Pn	Pn	Pn	15 03 11.2	-0.4
	comp=Z,1.1nm,0.3s,baz=21,slow=13,SNR=11							
WRA				Sn	Sn	Sn	15 05 58.3	-7.5
	comp=Z,0.3nm,0.3s,baz=99,slow=30,SNR=3.8							
WRA				Lg	Lg		15 07 50.0	
	comp=Z,0.1nm,0.3s,baz=31,slow=25,SNR=4.5							
	comp=Z,3.7nm,0.5s							
KNRA	Kununurra	16.36	234	Pn	Pn	Pn	15 03 19.8	-0.4
KNRA	Kununurra	16.36	234	P	Pn	Pn	15 03 20.7	+0.5
AS01	Alice Springs	19.11	205	P	Pn	Pn	15 03 57.1	+2.8
AS31	Alice Springs	19.13	205	Pn	Pn	Pn	15 03 56.7	+2.1
ASAR	Alice Springs	19.13	205	Pn	Pn	Pn	15 03 56.3	+1.7
ASAR	Alice Springs	19.13	205	P	P	P	15 03 55.8	+2.1
	comp=Z,1.3nm,0.3s,baz=33,slow=9.0,SNR=16							
ASAR				S	Sn	Sn	15 07 25.6	-3.6
	comp=Z,2.1nm,0.8s,baz=19,slow=27,SNR=3.0							
ASAR				Lg	Lg		15 09 41.2	
	comp=Z,0.1nm,0.3s,baz=22,slow=30,SNR=1.3							
	comp=Z,9.3nm,0.7s							
FITZ	Fitzroy Crossi	20.18	233	P	P		15 04 06.9	+1.7
WRKA	Warakurna	23.05	215	P	P		15 04 37.9	+1.9
LCRK	Leigh Creek	24.35	189	P	P		15 04 52.7	+4.2
	comp=Z,112nm,1.2s							

KOUNC	**Koumac, New Ca**	**25.46**	**126**	P		**P**	**15 04 59.9**	**+1.3**
STKA	**Stephens Creek**	**25.46**	**182**	P		**P**	**15 04 59.2**	**+0.7**
STKA	**Stephens Creek**	**25.46**	**182**	P		**P**	**15 04 56.2**	**-2.3**
	comp=Z,33nm,1.2s,baz=0.0,slow=9.1,SNR=7.0							
GIRL	**Giralia**	**31.71**	**236**	P		**P**	**15 05 54.2**	**-0.2**
MJAR	**Matsushiro Arr**	**42.80**	**355**	P		**P**	**15 07 26.7**	**-1.6**
	comp=Z,2.5nm,0.9s,baz=172,slow=9.8,SNR=2.7							
	comp=Z,2.5nm,0.9s							
KSRS	**Korea Array**	**45.60**	**344**	P		**P**	**15 07 50.5**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=171,slow=8.5,SNR=4.9							
	comp=Z,1.7nm,0.9s							
USRK	**Ussuriysk Ar.**	**51.15**	**350**	P		**P**	**15 08 33.4**	**0.0**
	comp=Z,2.2nm,0.9s,baz=152,slow=43,SNR=3.8							
	comp=Z,2.2nm,0.9s							
KIWB	**Kanaga Island**	**67.41**	**26**	P		**P**	**15 10 25.7**	**-0.2**
MKAR	**Makanchi Array**	**74.91**	**322**	P		**P**	**15 11 12.1**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=106,slow=7.7,SNR=4.2							
	comp=Z,0.5nm,0.7s							
KURBB	**Kurchatov Arra**	**78.81**	**324**	P		**P**	**15 11 33.4**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=114,slow=4.3,SNR=7.4							
	comp=Z,0.3nm,0.7s							
M14K	**Bethel**	**79.57**	**24**	P		**P**	**15 11 38.1**	**+0.9**
J16K	**Anvik River**	**81.49**	**23**	P		**P**	**15 11 48.5**	**+1.0**
J16K				IAmb		IAmb	15 11 49.8	
	comp=Z,7.4nm,1.1s							
M17K	**Holitna River**	**81.78**	**25**	P		**P**	**15 11 49.8**	**+0.7**
J17K	**VABM Dome**	**82.14**	**23**	P		**P**	**15 11 51.4**	**+0.5**
F17K	**Baldwin Pennin**	**82.99**	**20**	P		**P**	**15 11 56.2**	**+0.9**
F17K				IAmb		IAmb	15 12 18.1	
	comp=Z,9.2nm,1.4s							
M19K	**Big River Lodg**	**83.30**	**25**	P		**P**	**15 11 57.7**	**+0.7**
M19K				IAmb		IAmb	15 12 07.2	
	comp=Z,7.6nm,1.4s							
G18K	**Tagagawik**	**83.59**	**21**	P		**P**	**15 11 58.5**	**0.0**
G18K				IAmb		IAmb	15 12 26.0	
	comp=Z,7.8nm,1.5s							
QSPA	**South Pole Qui**	**83.67**	**180**	P		**P**	**15 11 60.0**	**+0.9**
QSPA				IAmb		IAmb	15 12 24.4	
	comp=Z,6.7nm,1.5s							
QSPA	**South Pole Qui**	**83.67**	**180**	P		**P**	**15 11 59.5**	**+0.4**
	comp=Z,1.6nm,1.0s,baz=327,slow=3.0,SNR=2.9							
	comp=Z,1.6nm,1.0s							
K20K	**Telida**	**84.09**	**24**	P		**P**	**15 12 01.6**	**+0.5**
K20K				IAmb		IAmb	15 12 02.2	
	comp=Z,4.9nm,1.1s							
NRIK	**Noril'sk**	**84.21**	**343**	P		**P**	**15 12 02.1**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=127,slow=3.9,SNR=3.7							
	comp=Z,1.6nm,0.7s							
BVAR	**Borovoye Array**	**84.39**	**325**	P		**P**	**15 12 03.7**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=105,slow=7.9,SNR=7.7							
	comp=Z,1.2nm,0.6s							
SUA	**Susitna One**	**84.69**	**26**	P		**P**	**15 12 03.7**	**-0.6**
SUA				IAmb		IAmb	15 12 29.7	
	comp=Z,7.6nm,1.4s							
E19K	**Redstone River**	**84.88**	**20**	P		**P**	**15 12 05.3**	**+0.3**
GHO	**Glory Hole Cre**	**85.61**	**26**	P		**P**	**15 12 08.5**	**-0.4**
GHO				IAmb		IAmb	15 12 33.2	
	comp=Z,5.2nm,1.1s							
KNK	**Knik Glacier**	**85.69**	**27**	P		**P**	**15 12 08.8**	**-0.3**
KNK				IAmb		IAmb	15 12 10.6	
	comp=Z,4.8nm,0.9s							
SML	**Sawmill**	**85.89**	**26**	P		**P**	**15 12 09.9**	**-0.3**
MLY	**Manley**	**86.12**	**23**	P		**P**	**15 12 11.0**	**-0.3**
RND	**Reindeer**	**86.25**	**25**	P		**P**	**15 12 11.1**	**-0.9**
RND				IAmb		IAmb	15 12 11.8	
	comp=Z,3.2nm,0.7s							
DHY	**Denali Highway**	**86.76**	**25**	P		**P**	**15 12 14.5**	**-0.1**
DHY				IAmb		IAmb	15 12 15.2	
	comp=Z,2.8nm,0.8s							
B21K	**Ikpikpuk River**	**86.77**	**18**	P		**P**	**15 12 14.7**	**+0.4**
B21K				IAmb		IAmb	15 12 54.2	
	comp=Z,9.1nm,1.5s							
CCB	**Clear Creek Bu**	**87.14**	**24**	P		**P**	**15 12 15.2**	**-1.0**
B22K	**Teshekpuk Lake**	**87.46**	**18**	P		**P**	**15 12 17.7**	**+0.1**
B22K				IAmb		IAmb	15 12 18.8	
	comp=Z,4.0nm,0.9s							
H24K	**Noodor Dome**	**87.54**	**23**	P		**P**	**15 12 18.0**	**-0.2**
IL31		**87.55**	**24**	P		**P**	**15 12 17.1**	**-1.0**
ILAR	**Eielson Array**	**87.55**	**24**	P		**P**	**15 12 16.8**	**-1.5**
	comp=Z,1.6nm,0.8s,baz=258,slow=5.0,SNR=17							
	comp=Z,1.6nm,0.8s							
C23K	**Itkillik River**	**88.11**	**19**	P		**P**	**15 12 21.3**	**+0.5**
BARN	**Barnard Glacie**	**88.69**	**28**	P		**P**	**15 12 24.1**	**+0.2**
BARN				IAmb		IAmb	15 12 24.9	
	comp=Z,3.3nm,0.7s							
M27K	**Edge Creek, AK**	**88.94**	**27**	P		**P**	**15 12 25.5**	**+0.5**
M27K				IAmb		IAmb	15 12 26.4	
	comp=Z,3.2nm,0.9s							
BCAR	**Beaver Creek A**	**89.17**	**26**	P		**P**	**15 12 26.6**	**+0.6**
BMAR	**Burnt Mountain**	**89.31**	**22**	P		**P**	**15 12 27.4**	**+0.9**

*IDC **06** 15:13:29.5±1.0,6°.36S×142°.89E, h0km, mb3.7/6, mbtmp3.7/9, ML3.5/2, Error ellipse: s-maj=30.1km s-min=22.7km az=73.0*

ISC 06 15:13:30.9±0.9, 6°.5S±0°.1×142°.75E±0°.10, h10km, n10, σ1§52/11, mb3.7/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.23**	**124**	Pn		**Pn**	**15 14 49.8**	**+0.7**
	6.4nm,0.4s,baz=358,slow=6.3,SNR=9.4							
PMG				Sn		**Sn**	**15 15 49.0**	**-0.6**
	2.8nm,0.3s,baz=246,slow=19,SNR=7.6							
CTA	**Charters Tower**	**13.91**	**166**	Lg		Lg	15 20 52.2	
	0.1nm,0.3s,baz=24,slow=10.0,SNR=1.5							
WRA	**Warramunga Arr**	**15.64**	**211**	Pn		**Pn**	**15 17 13.2**	**+1.5**
	0.2nm,0.3s,baz=31,slow=13,SNR=4.9							
WRA				Sn		**Sn**	**15 20 02.4**	**-2.8**
	0.2nm,0.3s,baz=33,slow=24,SNR=4.4							
WRA				Lg		Lg	15 21 51.8	
	0.1nm,0.3s,baz=23,slow=27,SNR=2.5							
	0.2nm,0.4s							
ASAR	**Alice Springs**	**19.05**	**206**	P		**Pn**	**15 17 56.0**	**+1.8**
	0.3nm,0.3s,baz=34,slow=9.5,SNR=20							
ASAR				Lg		Lg	15 23 35.3	
	baz=322,slow=36							
	1.5nm,0.7s							
CMAR	**Chiang Mai Arr**	**49.82**	**301**	P		**P**	**15 22 24.3**	**-0.2**
	0.2nm,0.5s,baz=128,slow=5.8,SNR=2.8							
	0.2nm,0.5s							
MKAR	**Makanchi Array**	**75.24**	**322**	P		**P**	**15 25 14.4**	**+0.3**
	0.5nm,0.8s,baz=103,slow=6.5,SNR=5.6							
	0.5nm,0.8s							
ZALV	**Zalesovo Beam**	**77.24**	**329**	P		**P**	**15 25 24.7**	**-0.5**
	0.3nm,0.3s,baz=96,slow=11,SNR=1.8							
	0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**79.14**	**324**	P		**P**	**15 25 36.5**	**+0.7**
	0.4nm,0.7s,baz=115,slow=4.4,SNR=3.1							
	0.4nm,0.7s							
BVAR	**Borovoye Array**	**84.72**	**325**	P		**P**	**15 26 05.9**	**+0.8**
	1.9nm,0.8s,baz=112,slow=6.4,SNR=8.7							
	1.9nm,0.8s							
ILAR	**Eielson Array**	**87.64**	**24**	P		**P**	**15 26 17.6**	**-1.7**
	0.5nm,0.8s,baz=261,slow=3.9,SNR=6.0							
	0.5nm,0.8s							

*IDC **06** 15:23:05.0±1.4, 17°.24S×177°.88W, h381km±13km, mb3.9/18, mbtmp4.6/20, Error ellipse: s-maj=12.7km s-min=10.9km az=161.0*

*NEIC **06** 15:23:06.3±2.2, 17°.4S±0°.1×177°.7W±0°.1, h386km±7km, mb4.5/133, Error ellipse: s-maj=21.1km s-min=16.1km az=148.0*

*NOU **06** 15:23:07.2, 17°.46S×177°.50W, h406km, mb4.7/27, Fiji Islands Region*

ISC 06 15:23:06.2±0.3, 17°.36S±0°.05×177°.62W±0°.06, h392km, n394, σ1§32/362, mb4.5/88, 5C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**2.28**	**286**	P		**Pn**	**15 24 07.0**	**+3.7**
DGTI	**Dogotuki**	**2.74**	**292**	P		**Pn**	**15 24 09.6**	**+2.8**
YSA	**Yasawairara**	**4.64**	**277**	P		**Pn**	**15 24 26.9**	**+2.7**
AFI	**Afiamalu**	**6.59**	**59**			**Pn**	**15 24 43.3**	**-2.0**
AFI	**Afiamalu**	**6.59**	**59**	P		**Pn**	**15 24 44.8**	**-0.5**
NIUE	**Niue**	**7.51**	**104**			**P**	**15 24 56.2**	**0.0**
NIUE	**Niue**	**7.51**	**104**	P		**P**	**15 24 56.6**	**+0.5**
RIZ	**Raoul Island**	**11.83**	**181**	S		**S**	**15 27 51.8**	**-3.0**
RAO	**Raoul Island**	**11.84**	**181**	P		**P**	**15 25 44.5**	**+0.3**
	206nm,0.3s,baz=74,slow=20,SNR=2.7							
RAO				S		**S**	**15 27 50.9**	**-4.0**
	256nm,0.4s,baz=77,slow=22,SNR=2.3							
GLKZ	**Green Lake**	**11.85**	**181**	P		**P**	**15 25 43.8**	**-0.6**
GLKZ				S		**S**	**15 27 51.8**	**-3.3**
LIFNC	**LIFOU**	**14.71**	**254**	P		**P**	**15 26 15.7**	**-0.2**
PINNC	**Pines Island,**	**14.97**	**247**	P		**P**	**15 26 19.2**	**+0.5**
DZM	**Mont Dzumac**	**15.71**	**250**	P		**P**	**15 26 26.7**	**-0.2**
DZM	**Mont Dzumac**	**15.71**	**250**	P		**P**	**15 26 28.3**	**+1.4**
DZM	**Mont Dzumac**	**15.71**	**250**	P		**P**	**15 26 23.8**	**-3.1**
	8.5nm,0.8s,baz=38,slow=20,SNR=2.3							
RAR	**Rarotonga**	**17.28**	**106**	P		**P**	**15 26 44.8**	**+1.3**
	36nm,0.8s,baz=237,slow=10,SNR=6.0							
MXZ	**Matakaoa Point**	**20.44**	**189**	P		**P**	**15 27 16.2**	**+1.1**
MXZ				S		**S**	**15 30 43.1**	**+4.8**
WMGZ	**Waiomatatini S**	**20.67**	**189**	P		**P**	**15 27 17.6**	**+0.4**
WMGZ				S		**S**	**15 30 50.3**	**+8.2**
HAZ	**Te Kaha**	**20.71**	**190**	P		**P**	**15 27 16.8**	**-0.8**
HAZ				S		**S**	**15 30 50.5**	**+7.8**
PKGZ	**Pakihiroa**	**20.79**	**190**	P		**P**	**15 27 20.2**	**+1.8**
RUGZ	**Raukumara Rang**	**20.94**	**190**	P		**P**	**15 27 18.9**	**-0.9**
RUGZ				S		S	15 31 01.0	+14
TGRZ	**Tauranga**	**20.99**	**194**	P		**P**	**15 27 21.8**	**+1.6**
TWGZ	**Tauwhareparae**	**21.09**	**190**	P		**P**	**15 27 21.4**	**+0.3**
TWGZ				S		S	15 31 00.8	+12
TOZ	**Tahuroa Road**	**21.17**	**195**	P		**P**	**15 27 22.3**	**+0.5**
MWZ	**Matawai**	**21.32**	**191**	P		**P**	**15 27 21.8**	**-1.4**
MWZ				S		S	15 31 10.1	+17
URZ	**Urewera**	**21.32**	**191**	P		**P**	**15 27 21.3**	**-1.8**
URZ	**Urewera**	**21.32**	**191**	P		**P**	**15 27 20.1**	**-3.0**
	80nm,0.7s,baz=85,slow=5.0,SNR=71							
URZ				S		**S**	**15 30 47.9**	**-4.7**
	8.5nm,0.7s,baz=307,slow=17,SNR=4.1							
TKGZ	**Te Karaka**	**21.37**	**190**	P		**P**	**15 27 23.9**	**+0.3**
MUGZ	**Murupara**	**21.60**	**192**	P		**P**	**15 27 24.9**	**-0.7**
RTZ	**Ruatahuna**	**21.69**	**192**	P		**P**	**15 27 24.7**	**-1.9**
BKZ	**Black Stump Fm**	**22.32**	**192**	P		**P**	**15 27 30.6**	**-1.8**
BKZ				IAmb		IAmb	15 27 36.4	
	comp=Z,18nm,0.6s							
BKZ	**Black Stump Fm**	**22.32**	**192**	P		**P**	**15 27 30.5**	**-1.8**
BFZ	**Birch Farm**	**23.83**	**192**	P		**P**	**15 27 44.4**	**-1.4**
MRZ	**Mangatainoka R**	**23.95**	**193**	P		**P**	**15 27 45.0**	**-1.9**
MRZ				IAmb		IAmb	15 27 50.9	
	comp=Z,21nm,0.9s							
TUWZ	**Tuamarina**	**25.06**	**195**	P		**P**	**15 27 55.5**	**-1.3**
THZ	**Tophouse**	**25.64**	**197**	P		**P**	**15 28 01.0**	**-1.0**
KHZ	**Kahutara**	**26.09**	**195**	P		**P**	**15 28 04.5**	**-1.4**
PPT	**Papeete**	**26.74**	**95**	P		**P**	**15 28 13.3**	**+1.2**
	comp=Z,51nm,0.8s,baz=225,slow=1.4,SNR=6.3							
	comp=Z,51nm,0.8s							
LTZ	**Lake Taylor**	**26.76**	**197**	P		**P**	**15 28 10.9**	**-1.1**
INZ	**Inchbonnie**	**26.94**	**198**	P		**P**	**15 28 12.6**	**-0.9**
OXZ	**Oxford**	**27.33**	**197**	P		**P**	**15 28 15.5**	**-1.4**
FOZ	**Fox Glacier**	**28.18**	**200**	P		**P**	**15 28 23.6**	**-0.7**
JCZ	**Jackson Bay**	**29.00**	**200**	P		**P**	**15 28 31.6**	**-0.1**
ODZ	**Otahua Downs**	**29.30**	**197**	P		**P**	**15 28 34.8**	**+0.6**
WKZ	**Wanaka**	**29.59**	**199**	P		**P**	**15 28 35.8**	**-1.0**
MLZ	**Mavora Lakes**	**30.36**	**200**	P		**P**	**15 28 44.3**	**+0.7**
WHZ	**Wether Hill Ro**	**30.88**	**200**	P		**P**	**15 28 48.5**	**+0.4**
PMG	**Port Moresby**	**35.12**	**278**	P		**P**	**15 29 26.6**	**+1.9**
PMG	**Port Moresby**	**35.12**	**278**	P		**P**	**15 29 21.3**	**-3.4**
	comp=Z,8.3nm,0.9s,baz=171,slow=4.2,SNR=2.7							
	comp=Z,8.3nm,0.9s							
CMSA	**Cobar Meteorol**	**36.07**	**240**	P		**P**	**15 29 32.1**	**-0.5**
QLP	**Quilpie**	**36.43**	**249**	P		**P**	**15 29 37.4**	**+1.8**
TOO	**Toolangi**	**38.09**	**231**	P		**P**	**15 29 49.7**	**+0.4**
TOO				IAmb		IAmb	15 29 50.4	
	comp=Z,28nm,0.9s							
TOO	**Toolangi**	**38.09**	**231**	P		**P**	**15 29 49.6**	**+0.3**
CORO	**Coronation Par**	**38.56**	**224**	P		**P**	**15 29 54.1**	**+1.1**
	comp=Z,28nm,1.0s							
BRAT	**Ballarat**	**39.24**	**231**	P		**P**	**15 29 59.8**	**+1.1**
STKA	**Stephens Creek**	**39.55**	**241**	P		**P**	**15 30 01.5**	**+0.2**
STKA	**Stephens Creek**	**39.55**	**241**	P		**P**	**15 29 58.8**	**-2.5**
	comp=Z,5.7nm,0.8s,baz=66,slow=10.0,SNR=6.8							
	comp=Z,5.7nm,0.8s							
INKA	**Innaminka**	**39.65**	**247**	P		**P**	**15 30 02.4**	**+0.3**
LCRK	**Leigh Creek**	**42.17**	**244**	P		**P**	**15 30 22.0**	**-0.4**
WRA	**Warramunga Arr**	**45.47**	**259**	P		**P**	**15 30 45.8**	**-2.8**
	comp=Z,0.6nm,0.3s,baz=92,slow=8.2,SNR=31							
WRA				ScP		**ScP**	**15 35 34.2**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=92,slow=4.1,SNR=4.6							
WRA				S		**S**	**15 36 54.7**	**-5.6**
	comp=Z,0.5nm,0.8s,baz=104,slow=14,SNR=3.0							
	comp=Z,0.6nm,0.3s							
AS01	**Alice Springs**	**45.62**	**254**	P		**P**	**15 30 48.5**	**-1.2**
AS31	**Alice Springs**	**45.66**	**254**	P		**P**	**15 30 48.7**	**-1.3**
ASAR	**Alice Springs**	**45.66**	**254**	P		**P**	**15 30 48.0**	**-2.0**
ASAR	**Alice Springs**	**45.66**	**254**	P		**P**	**15 30 48.8**	**-1.2**
	comp=Z,7.7nm,0.4s,baz=90,slow=7.8,SNR=198							
ASAR				ScP		**ScP**	**15 35 36.3**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=99,slow=4.6,SNR=2.7							
ASAR				S		**S**	**15 36 57.5**	**-5.5**
	comp=Z,3.9nm,0.9s,baz=86,slow=15,SNR=13							
	comp=Z,7.7nm,0.4s							
MULG	**Mulgathing**	**45.72**	**244**	P		**P**	**15 30 49.6**	**-0.7**
WRKA	**Warakurna**	**50.73**	**252**	P		**P**	**15 31 27.5**	**-0.7**
VNDA	**Vanda**	**61.05**	**185**	P		**P**	**15 32 41.1**	**+1.5**
	comp=Z,3.8nm,1.0s,baz=349,slow=8.2,SNR=6.4							
	comp=Z,3.8nm,1.0s							
MJAR	**Matsushiro Arr**	**67.93**	**323**	P		**P**	**15 33 22.9**	**-1.3**
	comp=Z,5.1nm,0.8s,baz=151,slow=5.9,SNR=11							
	comp=Z,5.1nm,0.8s							
QSPA	**South Pole Qui**	**72.69**	**180**	P		**P**	**15 33 53.4**	**+1.1**
	comp=Z,14nm,0.9s,baz=22,slow=1.1,SNR=65							
	comp=Z,14nm,0.9s							
PETK	**Petropavlovsk-**	**73.35**	**345**	P		**P**	**15 33 54.9**	**-1.3**
	comp=Z,5.2nm,0.6s,baz=103,slow=8.5,SNR=23							
	comp=Z,5.2nm,0.6s							
SDPT	**Sand Point**	**73.87**	**10**	P		**P**	**15 34 01.0**	**+2.0**
	baz=197							
P08K	**Saint George I**	**73.99**	**5**	P		**P**	**15 34 02.1**	**+2.4**
	baz=188							
SPIA	**Saint Paul Isl**	**74.51**	**4**	P		**P**	**15 34 04.6**	**+1.9**
	baz=187							
KSRS	**Korea Array**	**74.80**	**318**	P		**P**	**15 34 04.0**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=122,slow=6.5,SNR=7.8							
	comp=Z,1.2nm,0.6s							
KMRM	**Mail Ridge**	**76.12**	**40**	P		**P**	**15 34 13.6**	**+1.4**
KHMM	**Horse Mountain**	**76.50**	**39**	P		**P**	**15 34 16.3**	**+1.8**
KHMM				IAmb		IAmb	15 34 18.1	
	comp=Z,17nm,1.2s							
VTX	**Valle De La Tr**	**76.60**	**51**	P		**P**	**15 34 17.3**	**+2.2**
VTX				IAmb		IAmb	15 34 21.9	
	comp=Z,10nm,1.2s							
ISA	**Isabella, Lake**	**76.90**	**46**	P		**P**	**15 34 18.3**	**+1.6**
	baz=237							
CMB	**Columbia Colle**	**76.93**	**43**	P		**P**	**15 34 17.4**	**+0.6**
AFDM	**Forest Hills D**	**77.07**	**42**	P		**P**	**15 34 18.3**	**+0.8**
MDPB	**Devils Postpil**	**77.56**	**44**	P		**P**	**15 34 20.8**	**+0.3**
MDPB				IAmb		IAmb	15 34 22.5	
	comp=Z,6.0nm,0.8s							
CWC	**Cottonwood Cre**	**77.59**	**45**	P		**P**	**15 34 20.9**	**+0.3**
	baz=237							
YBH	**Yreka Blue Hor**	**77.63**	**39**	P		**P**	**15 34 21.2**	**+0.7**
MPMC	**Manual Prospec**	**77.79**	**46**	P		**P**	**15 34 22.9**	**+1.2**
	baz=238							
WAKR	**Walker**	**77.81**	**43**	P		**P**	**15 34 21.6**	**-0.2**
GSC	**Goldstone, Bar**	**77.86**	**47**	P		**P**	**15 34 23.0**	**+1.0**
	baz=238							
MPK	**Martis Peak**	**77.87**	**42**	P		**P**	**15 34 22.2**	**0.0**
MPK				IAmb		IAmb	15 34 24.3	
	comp=Z,15nm,1.1s							
PNTR	**Pine Nut**	**78.03**	**42**	P		**P**	**15 34 23.8**	**+0.8**
PNTR				IAmb		IAmb	15 34 25.1	
	comp=Z,11nm,0.8s							
NJ2	**Nanjing**	**78.18**	**309**	*eP*		**P**	**15 34 26.7**	**+3.1**
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.5s							
YERR	**Yerington**	**78.21**	**43**	P		**P**	**15 34 24.6**	**+0.7**
YERR				IAmb		IAmb	15 34 25.8	
	comp=Z,8.6nm,0.9s							
P17K	**Kvichak River**	**78.23**	**11**	P		**P**	**15 34 23.1**	**-0.2**
	baz=201							
LHV	**Little Huntoon**	**78.28**	**44**	P		**P**	**15 34 25.2**	**+1.1**
LHV				IAmb		IAmb	15 34 26.5	
	comp=Z,9.8nm,0.9s							
LCH	**Last Change Ra**	**78.31**	**45**	P		**P**	**15 34 24.6**	**+0.1**
GRAC	**Grapevine Rang**	**78.37**	**45**	P		**P**	**15 34 26.1**	**+1.4**
	baz=238							
NVAR	**Mina Array Bea**	**78.51**	**44**	P		**P**	**15 34 26.6**	**+1.0**
	comp=Z,6.2nm,0.7s,baz=225,slow=8.5,SNR=55							
	comp=Z,6.2nm,0.7s							
NV11	**Mina Array Sit**	**78.61**	**44**	P		**P**	**15 34 26.8**	**+0.7**
NV11				IAmb		IAmb	15 34 28.1	
	comp=Z,6.6nm,0.8s							
P18K	**Big Mountain,**	**78.64**	**11**	P		**P**	**15 34 24.3**	**-1.2**
P18K	**Big Mountain,**	**78.64**	**11**	P		**P**	**15 34 25.1**	**-0.5**
	baz=202,SNR=5.6							
113A	**Mohawk Valley,**	**78.77**	**50**	IAmb		IAmb	15 34 29.3	
	comp=Z,7.1nm,0.9s							
KVN	**Kaiserville**	**78.98**	**43**	P		**P**	**15 34 28.5**	**+0.4**
KVN				IAmb		IAmb	15 34 29.9	
	comp=Z,7.4nm,0.8s							
O18K	**Koktuh Hills**	**79.07**	**11**	P		**P**	**15 34 28.0**	**+0.2**
	baz=202							
214A	**Organ Pipe Nat**	**79.09**	**52**	P		**P**	**15 34 30.3**	**+1.7**
	baz=242							
K05A	**Summer Lake**	**79.31**	**39**	P		**P**	**15 34 30.8**	**+1.0**
K05A				IAmb		IAmb	15 34 32.3	
	comp=Z,11nm,1.1s							
N17K	**Nushagak Hills**	**79.35**	**10**	P		**P**	**15 34 29.6**	**+0.3**
	baz=200							
J05D	**Fort Rock, OR**	**79.43**	**38**	P		**P**	**15 34 31.2**	**+0.8**
M16K	**Timber Creek**	**79.54**	**9**	P		**P**	**15 34 30.9**	**+0.6**
	baz=198							
O19K	**Port Alsworth**	**79.56**	**12**	P		**P**	**15 34 30.5**	**+0.2**
	baz=203,SNR=6.7							
H04A	**Detroit Lake**	**79.71**	**37**	P		**P**	**15 34 31.8**	**+0.2**
H04A				IAmb		IAmb	15 34 33.0	
	comp=Z,7.8nm,0.9s							
N18K	**Kilae Creek**	**79.72**	**11**	P		**P**	**15 34 30.8**	**-0.5**
	baz=201							
L15K	**Ungalak Mounta**	**79.82**	**8**	P		**P**	**15 34 31.3**	**-0.4**
	baz=196							
BRSE	**Bradley Lake S**	**79.89**	**13**	P		**P**	**15 34 31.9**	**-0.3**
	baz=206							
PINE	**Pine Mountain**	**79.90**	**38**	P		**P**	**15 34 33.8**	**+0.9**
PINE				IAmb		IAmb	15 34 35.1	
	comp=Z,11nm,0.8s							
N19K	**Bonanza Creek**	**80.10**	**11**	P		**P**	**15 34 33.2**	**-0.2**
	baz=202							
L16K	**Owhat River**	**80.12**	**9**	P		**P**	**15 34 33.6**	**+0.3**
	baz=198							
M17K	**Holitna River**	**80.14**	**10**	P		**P**	**15 34 33.9**	**+0.5**
	baz=200							
PRN	**Pahroc Range**	**80.16**	**46**	IAmb		IAmb	15 34 36.8	
	comp=Z,8.5nm,1.0s							
R11B	**Troy Canyon, C**	**80.28**	**45**	P		**P**	**15 34 35.3**	**+0.3**
	baz=239							
HOOD	**Mount Hood Mea**	**80.39**	**36**	IAmb		IAmb	15 34 36.9	
	comp=Z,12nm,1.0s							
K15K	**Wolf Creek Mou**	**80.41**	**8**	P		**P**	**15 34 35.8**	**+1.0**
	baz=196							
M18K	**Stony River**	**80.49**	**10**	P		**P**	**15 34 35.5**	**+0.2**
	baz=201							
SEW	**Seward**	**80.50**	**14**	P		**P**	**15 34 35.5**	**+0.2**
	baz=207							
WVOR	**Wild Horse Val**	**80.51**	**40**	IAmb		IAmb	15 34 38.0	
	comp=Z,9.9nm,1.0s							
L17K	**Donlin**	**80.70**	**9**	P		**P**	**15 34 36.9**	**+0.5**
	baz=199							
TUC	**Tucson**	**80.77**	**52**	P		**P**	**15 34 39.4**	**+1.8**
TUC				IAmb		IAmb	15 34 40.6	
	comp=Z,13nm,0.9s							
TUC	**Tucson**	**80.77**	**52**	P		**P**	**15 34 39.3**	**+1.8**
	baz=243							
N20K	**Mount Spurr**	**80.90**	**12**	P		**P**	**15 34 36.9**	**-0.6**
	baz=205							
I07A	**Izee**	**80.92**	**38**	IAmb		IAmb	15 34 40.1	
	comp=Z,8.0nm,0.9s							
GAMB	**Gambell**	**81.01**	**3**	P		**P**	**15 34 37.0**	**-0.9**
	baz=186							
L18K	**Granite Mounta**	**81.03**	**10**	P		**P**	**15 34 37.9**	**-0.3**
	baz=200							
J08A	**Circle Bar Ran**	**81.12**	**39**	IAmb		IAmb	15 34 41.2	
	comp=Z,11nm,1.1s							
M19K	**Big River Lodg**	**81.13**	**11**	P		**P**	**15 34 38.3**	**-0.3**
	baz=202							
X16A	**Lo Mia Camp, P**	**81.26**	**50**	IAmb		IAmb	15 34 43.0	

121A	**Cookes Peak, D** comp=Z,7.6nm,0.8s	83.15	53	IAmb	IAmb	15 34 53.0
121A	**Cookes Peak, D** baz=244	83.15	53	P	**P**	**15 34 51.7 +1.8**
H17K	**Granite Mounta** baz=197	83.16	7	P	**P**	**15 34 49.1 +0.2**
J20K	**Nowinta River** baz=203,SNR=6.8	83.28	10	P	**P**	**15 34 49.6 0.0**
P29M	**Windy Craggy** baz=218	83.29	19	P	**P**	**15 34 50.1 +0.3**
KTH	**Kantishna Hill** comp=Z,7.2nm,1.0s	83.29	12	IAmb	IAmb	15 34 49.4
CTG	**Chitna Glacier** baz=215	83.30	17	P	**P**	**15 34 49.5 -0.4**
F10A	**Beach Ranch, E** comp=Z,10nm,0.9s	83.31	38	IAmb	IAmb	15 34 51.7
G16K	**Koyuk River** baz=195	83.32	6	P	**P**	**15 34 49.3 -0.4**
TRF	**Thorofare Moun** baz=206,SNR=12	83.32	12	P	**P**	**15 34 49.2 -0.8**
CHUM	**Lake Minchumin** baz=204,SNR=5.2	83.33	11	P	**P**	**15 34 49.0 -0.8**
GCSA	**Galena City Sc** baz=200	83.39	9	P	**P**	**15 34 50.3 +0.2**
F15K	**North Star Dit** baz=192	83.40	5	P	**P**	**15 34 49.7 -0.4**
HARP	**HAARP** baz=211	83.52	15	P	**P**	**15 34 49.7 -1.2**
H18K	**Honhosa River** baz=198	83.56	8	P	**P**	**15 34 50.4 -0.6**
DHY	**Denali Highway** baz=209	83.60	13	P	**P**	**15 34 50.6 -0.9**
G17K	**Kiwalik Mounta** baz=196	83.61	7	P	**P**	**15 34 50.7 -0.6**
HLID	**Hailey** comp=Z,9.4nm,0.9s	83.73	41	IAmb	IAmb	15 34 54.8
HLID	**Hailey** baz=239,SNR=12	83.73	41	P	**P**	**15 34 53.9 +1.3**
BPAW	**Bear Paw Mtn.** baz=206	83.77	11	P	**P**	**15 34 51.2 -0.9**
I20K	**Naaghedeneel** baz=202	83.80	10	P	**P**	**15 34 51.6 -0.6**
MCK	**McKinley** baz=208,SNR=7.8	83.85	12	P	**P**	**15 34 51.9 -0.6**
SPUT	**South Promonto** comp=Z,7.6nm,1.0s	83.86	43	IAmb	IAmb	15 34 55.2
HVU	**Hansel Valley** comp=Z,6.2nm,0.8s	83.87	43	IAmb	IAmb	15 34 55.2
P30M	**Million Dollar** baz=219	83.92	19	P	**P**	**15 34 53.5 +0.5**
T35M	**Bob Quinn** baz=225	83.92	24	P	**P**	**15 34 53.1 0.0**
PAX	**Paxson** baz=211	83.94	14	P	**P**	**15 34 52.4 -0.7**
YUK8	**Steele Glacier** baz=216,SNR=5.5	84.01	17	P	**P**	**15 34 54.2 +0.6**
M26K	**Nabesna, AK** baz=213	84.06	15	P	**P**	**15 34 54.0 +0.4**
SRU	**San Rafael Swe** comp=Z,8.3nm,0.9s	84.10	46	IAmb	IAmb	15 34 56.5
H19K	**Roundabout Mou** baz=200	84.19	9	P	**P**	**15 34 54.9 +0.9**
YUK3	**Moose Creek** baz=216,SNR=9.1	84.21	17	P	**P**	**15 34 55.0 +0.4**
G18K	**Tagagawik** baz=198	84.23	8	P	**P**	**15 34 54.5 +0.1**
S34M	**Telegraph Cree** comp=Z,6.7nm,0.8s	84.25	23	IAmb	IAmb	15 34 56.4
S34M	**Telegraph Cree** baz=224	84.25	23	P	**P**	**15 34 55.6 +1.0**
HYT	**Haines Junctio** baz=218	84.30	18	P	**P**	**15 34 56.2 +1.2**
M27K	**Edge Creek, AK** comp=Z,7.4nm,0.8s	84.31	16	IAmb	IAmb	15 34 56.2
M27K	**Edge Creek, AK** baz=214,SNR=5.2	84.31	16	P	**P**	**15 34 55.7 +0.7**
MENT	**Mentasta** comp=Z,5.1nm,0.6s	84.33	15	IAmb	IAmb	15 34 55.4
YUK4	**Talbot Arm** baz=217	84.38	18	P	**P**	**15 34 56.3 +0.9**
H20K	**Anotleneega Mo** baz=202	84.39	9	P	**P**	**15 34 55.4 +0.3**
TCUT	**Toone Canyon** comp=Z,12nm,0.9s	84.45	44	IAmb	IAmb	15 34 58.4
F17K	**Baldwin Pennin** baz=196	84.45	7	P	**P**	**15 34 56.0 +0.7**
L26K	**Log Cabin Wild** baz=213	84.50	15	P	**P**	**15 34 55.3 -0.5**
P32M	**Atlin** baz=222	84.57	21	P	**P**	**15 34 54.4 -1.8**
I21K	**Tanana** baz=205,SNR=7.2	84.58	11	P	**P**	**15 34 56.0 0.0**
NEA2	**Nenana** baz=207	84.59	12	P	**P**	**15 34 54.7 -1.4**
K24K	**Donnelly Dome** baz=210,SNR=8.8	84.59	14	P	**P**	**15 34 56.2 0.0**
VHRN	**Van Horn** comp=Z,11nm,1.0s	84.59	56	IAmb	IAmb	15 34 60.0
Q32M	**Nakina River** baz=223	84.60	22	P	**P**	**15 34 57.3 +0.8**
BVCY	**Beaver Creek** baz=215,SNR=10	84.63	16	P	**P**	**15 34 56.7 +0.3**
NEW	**Newport** baz=237	84.63	36	P	**P**	**15 34 57.3 +0.5**
MNTX	**Cornudas Mount** baz=246,SNR=13	84.65	55	P	**P**	**15 34 58.8 +1.6**
MVCO	**Mesa Verde** baz=244	84.66	49	P	**P**	**15 34 58.3 +0.9**
MLY	**Manley** baz=206,SNR=5.9	84.66	11	P	**P**	**15 34 55.8 -0.8**
G19K	**Purcell Mounta** baz=200	84.68	8	P	**P**	**15 34 56.9 +0.3**
WRH	**Wood River Hil** comp=Z,14nm,1.2s	84.68	12	IAmb	IAmb	15 34 57.4
O30N	**Mendenhall** comp=Z,7.1nm,0.8s	84.69	19	IAmb	IAmb	15 34 58.0
O30N	**Mendenhall** baz=220,SNR=6.6	84.69	19	P	**P**	**15 34 57.3 +0.5**
F18K	**Selawik** baz=197	84.78	7	P	**P**	**15 34 56.9 -0.1**
HDA	**Harding Lake** baz=209,SNR=13	84.86	13	P	**P**	**15 34 57.2 -0.3**
H21K	**Melozitna Rive** baz=204	84.87	10	P	**P**	**15 34 57.6 0.0**
L27K	**Beaver Creek,** baz=214	84.91	16	P	**P**	**15 34 57.7 -0.1**
N30M	**Aishikik Lake** baz=219	84.93	18	P	**P**	**15 34 58.5 +0.5**
WHY	**Whitehorse** baz=221,SNR=5.2	84.99	20	P	**P**	**15 34 59.1 +0.7**
I23K	**Minto, Yukon-K** baz=207	85.03	12	P	**P**	**15 35 00.2 +2.0**
DLBC	**Dease Lake** baz=225	85.04	23	P	**P**	**15 34 59.2 +0.6**
TXAR	**Lajitas Array** comp=Z,9.5nm,0.9s,baz=223,slow=5.1,SNR=54 comp=Z,9.5nm,0.9s	85.07	57	P	**P**	**15 35 01.4 +1.9**
MDM	**Murphy Dome** comp=Z,6.8nm,0.9s	85.08	12	IAmb	IAmb	15 34 58.5
SCRK	**Sand Creek** baz=212,SNR=6.1	85.15	14	P	**P**	**15 34 59.0 -0.1**
ANMO	**Albuquerque** baz=245	85.17	51	P	**P**	**15 35 00.8 +0.8**
IL31	comp=Z,9.2nm,1.1s	85.19	13	IAmb	IAmb	15 34 59.3
ILAR	**Eielson Array** comp=Z,3.0nm,0.7s,baz=225,slow=5.5,SNR=52	85.19	13	P	**P**	**15 34 58.0 -1.1**
ILAR	comp=Z,0.9nm,1.0s,baz=214,slow=6.3,SNR=4.2 comp=Z,3.0nm,0.7s			PP	**PP**	**15 38 19.4 -4.1**
F19K	**Shaleruckik Mo** baz=199	85.24	8	P	**P**	**15 35 00.1 +0.9**
M29M	**Somme Creek** baz=217	85.31	17	P	**P**	**15 35 00.1 +0.2**
H22K	**Ishtalitna Cre** baz=205	85.33	10	P	**P**	**15 34 59.8 0.0**
P33M	**Teslin, Yukon** baz=222	85.33	21	P	**P**	**15 35 00.2 +0.2**
R33M	**Jennings River** baz=224	85.38	22	P	**P**	**15 35 00.5 +0.1**
J25K	**Salcha River,** baz=211	85.38	13	P	**P**	**15 35 00.0 -0.1**
POKR	**Poker Plat Res** baz=209	85.38	12	P	**P**	**15 34 59.3 -0.7**
E18K	**Tukpahlearik C** baz=196	85.47	7	P	**P**	**15 34 59.8 -0.6**
D17K	**Noatak River** baz=194	85.49	6	P	**P**	**15 35 00.6 +0.1**
ALPN	**Alpine** comp=Z,16nm,1.4s	85.50	56	IAmb	IAmb	15 35 04.2
G21K	**Allakaket** baz=203	85.55	9	P	**P**	**15 35 00.6 -0.2**
K27K	**Chicken** baz=214	85.65	15	P	**P**	**15 35 01.5 +0.1**
J26L	**Joseph Creek** comp=Z,6.5nm,0.8s	85.69	14	IAmb	IAmb	15 35 02.9
J26L	**Joseph Creek** baz=212	85.69	14	P	**P**	**15 35 01.8 +0.1**
F20K	**Avaraart Lake** baz=201	85.72	8	P	**P**	**15 35 01.7 +0.1**
TPAW	**Teton Pass** comp=Z,8.8nm,1.2s	85.88	42	IAmb	IAmb	15 35 04.3
M30M	**Minto, Yukon** comp=Z,6.1nm,0.8s	85.89	18	IAmb	IAmb	15 35 03.5
M30M	**Minto, Yukon** baz=219,SNR=8.9	85.89	18	P	**P**	**15 35 02.7 +0.1**
E19K	**Redstone River** baz=200	85.90	8	P	**P**	**15 35 02.1 -0.4**
L29M	**L29M** baz=218	85.93	17	P	**P**	**15 35 03.4 +0.5**
PRP	**Porcupine Dome** baz=211	86.13	13	P	**P**	**15 35 04.3 +0.5**
O20A	**White River Ci** baz=244	86.14	46	P	**P**	**15 35 04.8 +0.3**
F21K	**Alatna River** baz=203	86.21	9	P	**P**	**15 35 03.5 -0.5**
G23K	**Bananza Creek** baz=206	86.31	11	P	**P**	**15 35 03.5 -1.0**
M31M	**Drury Creek, Y** baz=221	86.32	19	P	**P**	**15 35 04.6 0.0**
DAWY	**Dawson** baz=216	86.36	16	P	**P**	**15 35 05.1 +0.3**
BW06	**Boulder Array** baz=242	86.44	43	P	**P**	**15 35 05.9 -0.1**
PDAR	**Pinedale Array** comp=Z,1.8nm,0.9s,baz=210,slow=2.8,SNR=14 comp=Z,1.8nm,0.9s	86.44	43	P	**P**	**15 35 06.0 0.0**
BOZ	**Bozeman (W)** comp=Z,7.3nm,1.2s	86.47	40	IAmb	IAmb	15 35 08.5
BOZ	**Bozeman (W)** baz=241,SNR=5.7	86.47	40	P	**P**	**15 35 07.4 +1.5**
I26K	**Coal Creek Min** baz=213	86.47	14	P	**P**	**15 35 05.9 +0.7**
EGAK	**Eagle** baz=215	86.50	15	P	**P**	**15 35 06.0 +0.6**
H17A	**Grant Village** comp=Z,5.6nm,0.8s	86.55	41	IAmb	IAmb	15 35 10.0
H17A	**Grant Village** baz=242,SNR=6.1	86.55	41	P	**P**	**15 35 09.1 +2.6**
SAND	**Sanderson** comp=Z,6.2nm,1.0s	86.55	57	IAmb	IAmb	15 35 08.8
WTLY	**Watson Lake, Y** baz=226	86.67	22	P	**P**	**15 35 06.5 +0.1**
K29M	**Barlow Dome** baz=218	86.68	17	P	**P**	**15 35 06.7 +0.2**
LKWY	**Lake** comp=Z,8.0nm,0.9s	86.74	41	IAmb	IAmb	15 35 10.6
COLD	**Coldfoot** baz=206	86.74	10	P	**P**	**15 35 06.8 +0.2**
G24K	**Hadweenzic Riv** baz=209	86.77	12	P	**P**	**15 35 06.1 -0.6**
D19K	**Kuna River** baz=199	86.78	7	P	**P**	**15 35 06.1 -0.7**
E20K	**Nigu River** baz=200	86.79	8	P	**P**	**15 35 06.8 -0.1**
SDCO	**Great Sand Dun** baz=246	87.04	49	P	**P**	**15 35 09.6 +0.6**
D20K	**Etivluk River** baz=200	87.17	8	P	**P**	**15 35 08.0 -0.5**
C19K	**Lookout Ridge** baz=197	87.20	6	P	**P**	**15 35 08.2 -0.5**
E22K	**Anaktuvuk Pass** baz=205	87.30	9	P	**P**	**15 35 08.7 -0.6**
I28M	**Miner Creek** baz=216	87.35	15	P	**P**	**15 35 08.8 -0.7**
F24K	**Squaw Lake** baz=208	87.41	11	P	**P**	**15 35 09.5 -0.3**
HHC	**Hu-ho-hao-te**	87.43	314	*e*P	**P**	**15 35 12.5 +1.9**
HHC	comp=Z,13nm,0.6s			pmax	pmax	
HHC	comp=Z,200nm,5.9s			pmax	pmax	
MSTX	**Muleshoe** baz=247	87.56	53	P	**P**	**15 35 11.9 +0.5**
J30M	**Hart River** baz=219	87.58	17	P	**P**	**15 35 10.5 -0.2**
T25A	**Trinidad** baz=246	87.58	50	P	**P**	**15 35 11.4 -0.1**
E23K	**Chandalar** baz=207	87.59	10	P	**P**	**15 35 10.7 0.0**
H27K	**Steamboat Moun** baz=214	87.61	14	P	**P**	**15 35 11.3 +0.5**
RLMT	**Red Lodge** baz=243,SNR=6.6	87.71	41	P	**P**	**15 35 13.5 +1.6**
G26K	**Porcupine Rive** baz=212	87.72	13	P	**P**	**15 35 11.4 +0.2**
Q24A	**Divide** baz=246	87.80	48	P	**P**	**15 35 13.3 +0.7**
C21K	**Hifleblade Rid** baz=202	87.82	8	P	**P**	**15 35 12.0 +0.4**
TGTN	**Hyland Airport** baz=226	87.83	21	P	**P**	**15 35 12.4 +0.5**
D22K	**Ayikyak River** baz=204	87.86	9	P	**P**	**15 35 11.7 -0.1**
F25K	**Christian Rive** baz=210	87.90	12	P	**P**	**15 35 12.4 +0.4**
I30M	**Mount Dempster** baz=219	88.07	16	P	**P**	**15 35 12.9 -0.1**
D23K	**Nanushuk River** baz=206	88.24	9	P	**P**	**15 35 13.6 +0.1**
B21K	**Ikpikpuk River** baz=202	88.28	8	P	**P**	**15 35 13.9 +0.2**
F26K	**Sheenjek River** baz=212	88.28	12	P	**P**	**15 35 13.9 +0.1**
B20K	**Meade River** baz=200	88.33	7	P	**P**	**15 35 13.8 -0.1**
H29M	**Whitestone** baz=217	88.35	15	P	**P**	**15 35 14.7 +0.6**
E25K	**Arctic Village** baz=210	88.37	11	P	**P**	**15 35 14.1 -0.1**
K22A	**Casper** baz=245	88.39	44	P	**P**	**15 35 14.7 -0.4**
D24K	**Happy Valley** baz=207	88.70	10	P	**P**	**15 35 15.9 +0.2**
AMTX	**Amarillo** baz=248	88.75	53	P	**P**	**15 35 16.9 +0.1**
EPYK	**Eagle Plains** baz=219	88.88	15	P	**P**	**15 35 16.4 -0.2**
C23K	**Itkillik River** baz=206	89.04	9	P	**P**	**15 35 17.2 0.0**
H31M	**Peel River** baz=221	89.07	16	P	**P**	**15 35 16.9 -0.7**
B22K	**Teshekpuk Lake** baz=203	89.10	8	P	**P**	**15 35 17.5 0.0**
F28M	**Old Crow** baz=216	89.13	14	P	**P**	**15 35 18.5 +0.8**
C24K	**Franklin Bluff** baz=208	89.23	10	P	**P**	**15 35 18.1 0.0**
G30M	**tAoh Zraii Nji** baz=219	89.48	15	P	**P**	**15 35 19.2 -0.3**
PZH	**PanZhiHua**	89.57	298	P	**P**	**15 35 22.7 +1.8**
PZH	comp=Z,6.0nm,0.7s			pmax	pmax	
PZH	comp=Z,100nm,4.8s			pmax	pmax	
ELIB	**Princess Elisa** comp=Z,8.2nm,0.7s	89.78	186	*d*P	**P**	**15 35 20.2 -0.9**
ELIB				*d*PcP	**PcP**	**15 35 21.0 -1.1**
G31M	**Satah River** baz=221	89.93	16	P	**P**	**15 35 20.9 -0.5**
C26K	**Camden Bay** baz=211	90.05	11	P	**P**	**15 35 22.7 +0.8**
F30M	**Barrier River** baz=220	90.08	15	P	**P**	**15 35 23.7 +1.6**
LAO	**LASA Array** comp=Z,10.0nm,1.0s	90.31	41	IAmb	IAmb	15 35 26.3
LAO	**LASA Array** baz=245	90.31	41	P	**P**	**15 35 24.7 +0.9**
F31M	**Tsiigehtchic** baz=222,SNR=8.1	90.46	16	P	**P**	**15 35 23.6 -0.3**
RSSD	**Black Hills**	90.65	44	P	**P**	**15 35 25.9 +0.2**
RSSD	comp=Z,9.1nm,1.1s			IAmb	IAmb	15 35 26.9
RSSD	**Black Hills** baz=246	90.65	44	P	**P**	**15 35 26.6 +1.0**
TROLL	**Troll, Antarti** comp=Z,158nm,0.5s	90.85	180	⇑P	**P**	**15 35 25.9 -0.1**
SNAA	**Sanae** comp=Z,36nm,0.6s	91.12	178	⇑P	**P**	**15 35 26.9 -0.3**
SNAA	**Sanae** comp=Z,2.4nm,0.8s,baz=207,slow=9.0,SNR=2.5 comp=Z,2.4nm,0.8s	91.12	178	P	**P**	**15 35 26.7 -0.4**
PLCA	**Paso Flores** comp=Z,3.9nm,0.8s,baz=226,slow=6.4,SNR=9.3 comp=Z,3.9nm,0.8s	91.16	133	P	**P**	**15 35 29.3 +1.3**
INK	**Inuvik** baz=222	91.17	15	P	**P**	**15 35 27.2 +0.1**
VNA3	**Neumayer Olymp** comp=Z,3.3nm,0.6s	91.23	176	⇑P	**P**	**15 35 28.1 +0.5**
VNA2	**Neumayer--Watz** comp=Z,8.4nm,0.6s,baz=182,slow=2.2	91.68	177	⇑P	**P**	**15 35 30.5 +0.8**
DGMT	**Dagmar** baz=246	92.30	40	P	**P**	**15 35 33.6 +0.7**
YKA	**Yellowknife Ar** comp=Z,1.1nm,0.8s,baz=246,slow=4.6,SNR=19 comp=Z,1.1nm,0.8s	93.53	24	P	**P**	**15 35 37.6 -0.5**
SONM	**Songino Array** comp=Z,0.3nm,0.6s,baz=112,slow=1.6,SNR=1.2 comp=Z,0.3nm,0.6s	93.63	319	P	**P**	**15 35 37.8 -1.4**
A36M	**Sachs Harbour** baz=230	95.77	14	P	**P**	**15 35 47.8 -0.3**
MKAR	**Makanchi Array** comp=Z,0.1nm,0.4s,baz=73,slow=1.4,SNR=2.6	109.30	314	PKiKP	**PKiKP**	**15 40 48.8 -1.7**
KURBB	**Kurchatov Arra** comp=Z,0.5nm,0.7s,baz=98,slow=2.3,SNR=5.7	111.98	318	PKiKP	**PKiKP**	**15 40 53.5 -1.9**
BVAR	**Borovoye Array** comp=Z,0.8nm,0.5s,baz=29,slow=3.4,SNR=4.6	116.90	321	PKP	**PKPdf**	**15 41 02.4 -2.3**
SPITS	**Spitsbergen Ar** comp=Z,7.7nm,0.9s,baz=45,slow=12,SNR=2.3	118.77	357	PKP	**PKPdf**	**15 41 07.0 -0.7**
ARCES	**ARCESS Array B** comp=Z,3.5nm,0.8s,baz=77,slow=0.9,SNR=16	125.91	350	PKP	**PKPdf**	**15 41 20.9 -0.7**
FINES	**FINESS Array B** comp=Z,1.4nm,0.7s,baz=116,slow=3.2,SNR=4.9	132.87	345	PKP	**PKPdf**	**15 41 33.9 -1.1**
FINES	comp=Z,1.7nm,0.8s,baz=297,slow=9.1,SNR=5.5			SKPbc	**SKPbc**	**15 44 23.7 -1.4**
NOA	**NORSAR Array B** comp=Z,0.9nm,1.0s,baz=25,slow=4.3,SNR=3.4	135.92	354	PKP	**PKPdf**	**15 41 40.4 -0.4**
NOA	comp=Z,0.2nm,0.5s,baz=282,slow=2.6,SNR=1.3			SKPbc	**SKPbc**	**15 44 34.1 -0.8**
BNN	**Bunyan**	143.84	313		PKPbc	15 41 54.8 +0.3
BUR08	**Bucovina Ar. S**	144.46	333		PKPbc	15 41 55.9 -0.3
BURAR	**Bucovina Array**	144.48	333	⇓P	PKPbc	15 41 56.3 +0.1
STHS	**Stebnicka Huta**	144.57	339	*e*PKP	**PKPdf**	**15 41 58.4 +1.7**
KOLS	**Kolonicke sedl**	144.60	337	*e*PKP	**PKPab**	**15 41 56.8 +0.1**
BRTR	**Keskin Array B** comp=Z,2.7nm,0.8s,baz=145,slow=4.5,SNR=4.8	144.93	316	PKP	**PKPdf**	**15 41 56.7 -1.1**
CHVC	**Chvalec**	145.09	345	*e*PKP	**PKPbc**	**15 41 58.1 +0.1**
UPC	**Upice**	145.17	345	*e*PKP	**PKiKP**	**15 42 03.0 +1.3**
DPC	**Dobruska-Polom**	145.24	344	*e*PKP	**PKPbc**	**15 41 58.6 +0.1**
KRLC	**Kraliky**	145.37	344	*e*PKP	**PKPbc**	**15 41 58.9 0.0**
TLBR	**Topalu**	145.37	327	⇑P	**PKPbc**	**15 41 58.9 -0.1**
PVCC	**Panska Ves**	145.50	346	*e*PKP	**PKPbc**	**15 41 59.4 +0.2**
HSKC	**Hora Svate Kat**	145.67	347	*e*PKP	**PKPbc**	**15 41 59.8 +0.1**
PRU	**Pruhonice**	146.01	346	*e*PKP	**PKPbc**	**15 42 00.5 -0.2**
KHC	**Kasperske Hory**	147.03	346	*e*PKP	**PKPbc**	**15 42 03.3 -0.2**
CKRC	**Cesky Krumlov**	147.16	345	*e*PKP	**PKPbc**	**15 42 04.1 -0.2**
GERES	**GERESS Array B** comp=Z,1.8nm,0.7s,baz=28,slow=6.0,SNR=8.1	147.28	346	PKPbc	**PKPbc**	**15 42 03.9 -0.4**
CONA	**Conrad Observa** comp=Z,7.7nm,1.0s	147.57	343	*i* PKP	**PKPbc**	**15 42 04.9 -0.2**
RONA	**Rosalia, Austr** comp=Z,7.5nm,1.0s	147.66	342	*i* PKP	**PKPbc**	**15 42 05.6 +0.3**
BIOA	**Bad Ischl, Aus** comp=Z,8.8nm,0.8s	148.37	345	*e*PKP	**PKPab**	**15 42 12.1 +0.5**
LESA	**Schwarzleotal** comp=Z,7.0nm,1.4s	148.84	346	*e*PKP	**PKPbc**	**15 42 07.9 -0.5**
SOKA	**Soboth** comp=Z,1.7nm,0.4s	148.95	343	*i* PKP	**PKPbc**	**15 42 08.0 -0.7**
KBA	**Koelnbreinsper** comp=Z,4.7nm,0.8s	149.01	345	*e*PKP	**PKPbc**	**15 42 08.1 -0.8**
RETA	**Reutte** comp=Z,2.5nm,0.6s	149.18	349	*e*PKP	**PKPbc**	**15 42 09.6 +0.4**
WTTA	**Wattenberg** comp=Z,16nm,0.9s	149.22	348	*e*PKP	**PKPbc**	**15 42 09.2 -0.2**
MOTA	**Moosalm** comp=Z,7.1nm,0.8s	149.25	348	*i* PKP	**PKPbc**	**15 42 09.3 -0.2**
SQTA	**Sankt Quirin** comp=Z,4.6nm,0.6s	149.35	348	*e*PKP	**PKPbc**	**15 42 09.5 -0.2**
MYKA	**Terra Mystica** comp=Z,5.2nm,0.7s	149.36	345	*e*PKP	**PKPbc**	**15 42 08.8 -0.9**
ABTA	**Abfaltersbach** comp=Z,8.3nm,0.7s	149.52	346	*i* PKP	**PKPbc**	**15 42 09.1 -1.0**
DAVA	**Damuels** comp=Z,11nm,0.9s	149.53	350	*e*PKP	**PKPbc**	**15 42 09.7 -0.5**
FETA	**Feichten** comp=Z,5.3nm,0.7s	149.63	349	*i* PKP	**PKPbc**	**15 42 10.0 -0.4**
STAL	**STALIGIAL**	149.93	346		**PKPbc**	**15 42 10.1 -0.9**
FUORN	**Ofenpass-Fuorn**	150.10	349		**PKPbc**	**15 42 11.7 +0.1**
TORD	**Torodi Ar. Bea** comp=Z,0.2nm,0.4s,baz=180,slow=0.2,SNR=3.4	175.76	171	PKP	**PKPdf**	**15 42 29.8 -1.1**
TORD	comp=Z,0.9nm,1.0s,baz=169,slow=1.1,SNR=3.5			PKPab	**PKPab**	**15 44 11.5 +0.1**

RSNC 06 15:24:26.8±0.0,7˚N±2˚×7˚7W±˚,h0km±4km, mb4.1,ML2.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
APAC	**Apartado, Choc**	**1.07**	**9**	P		Pg	15 24 46.1	-1.2
APAC				S		Sg	15 24 59.8	-1.3
PTAC	**Punta Ardita,**	**1.09**	**286**	P		Pg	15 24 45.5	-2.3
PTAC				S		Sg	15 25 02.3	+0.3
CBOC	**Ciudad Bolivar**	**1.22**	**143**	P		Pg	15 24 46.6	-3.5
CBOC				S		Sg	15 25 04.0	-1.9
HELC	**Santa Helena**	**1.37**	**118**	P		Pg	15 24 48.7	-4.5
HELC				S		Sg	15 25 09.6	-1.4
UREC	**San Jos de Ur**	**1.51**	**53**	P		Pn	15 24 51.0	-4.1
UREC				S		Sg	15 25 11.2	-4.2
CAPC	**Capurgana**	**1.88**	**342**	P		Pn	15 24 58.1	-2.1
CAPC				S		Sn	15 25 22.4	-2.3
PLMC	**San Jos del P**	**1.98**	**166**	P		Pn	15 24 59.1	-2.5
PLMC				S		Sb	15 25 29.7	+0.7
GUY2C	**Guyana, Caldas**	**2.12**	**139**	P		Pn	15 25 03.1	-0.8
GUY2C				S		Sn	15 25 31.3	+0.2
NORC	**Norcasia**	**2.26**	**124**	P		Pn	15 25 03.9	-1.6
NORC				S		Sn	15 25 34.6	+0.5
PTBC	**PUERTO BERRIO,**	**2.30**	**97**	P		Pn	15 25 04.1	-1.9
PTBC				S		Sn	15 25 34.1	-0.9
ANIL	**Santa Ana**	**2.69**	**150**	P		Pn	15 25 09.2	-2.5
YOTC	**Yotoco, Valle**	**2.87**	**172**	P		Pn	15 25 09.4	-4.5
YOTC				S		Sn	15 25 43.9	-5.3
SPBC	**San Pablo de B**	**2.91**	**114**	P		Pn	15 25 13.3	-1.2
SPBC				S		Sb	15 25 55.0	-0.9
ORTC	**Ortega, Tolima**	**3.27**	**153**	P		Pn	15 25 21.6	+2.1
SJCC	**San Jacinto, C**	**3.41**	**27**	P		Pn	15 25 20.6	-0.8
BARC	**Barichara**	**3.55**	**94**	P		Pn	15 25 23.0	-0.5
BARC				S		Sn	15 26 05.7	-0.6
RUSC	**La Rusia**	**3.76**	**104**	P		Pn	15 25 27.4	+0.8
RUSC				S		Sb	15 26 19.6	-1.3
PAMC	**Pamplona, Colo**	**4.05**	**83**	P		Pn	15 25 30.2	-0.3
PAMC				S		Sn	15 26 18.5	-0.5
CRJC	**Cerrejon, Guaj**	**5.64**	**42**	P		Pn	15 25 49.6	-2.5

*IDC **06** 15:35:26.9±0.6,6˚28S×142˚93E, h0km, mb4.5/16, mbtmp4.6/19, ML2.4/1, Error ellipse: s-maj=25.2km s-min=14.6km az=74.0*
*BJI **06** 15:35:27.7±0.0,6˚32S×143˚26E, h22km, mb4.7/57, mB5.5/8, Ms5.4/6, Ms7 5.2/6*
*MOS **06** 15:35:27.5±0.7,6˚30S×142˚75E, h9km, mb5.0/33, Error ellipse: s-maj=11.0km s-min=6.4km az=110.5*
*DJA **06** 15:35:30.8±0.2,6˚S±2˚×14˚3E±˚, h10km, M5.1/41, mb4.6/41, mB5.5/4, MLv5.4/5, Mw(mB)5.0/4, MwMwp7.6/1, Mwp7.3/1*
*NEIC **06** 15:35:30.7±1.9,6˚27S±0˚09×142˚64E±0˚05, h10km±1km, mb5.2/121, Error ellipse: s-maj=15.0km s-min=7.8km az=190.0*

ISC 06 15:35:29.4±0.3,6˚38S±0˚04×142˚74E±0˚05, h10km, n468, σ1§06/412, mb5.0/126, 22C-8D, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**1.87**	**306**	P		**Pb**	**15 36 02.4**	**-1.3**
MMPI	**Merauke**	**3.12**	**228**	P		**Pn**	**15 36 21.0**	**+2.3**
MMPI				S		**Sg**	**15 37 09.7**	**-0.1**
GENI	**Genyem**	**4.55**	**326**	P		**Pn**	**15 36 40.7**	**+2.3**
GENI	**Genyem**	**4.55**	**326**	P		**Pn**	**15 36 39.3**	**+0.9**
GENI				S		**Sn**	**15 37 30.0**	**-1.4**
PMG	**Port Moresby**	**5.31**	**125**			**Pn**	**15 36 49.5**	**+0.7**

PMG Port Moresby 5.31 125 P **Pn** **15 36 49.6 +0.8**
PMG Port Moresby 5.31 125 *ce*P **Pn** **15 36 49.2 +0.4**
PMG pmax pmax
comp=Z,91nm,1.3s
PMG Port Moresby 5.31 125 Pn Pn 15 36 46.3 -2.5
comp=Z,9.0nm,0.3s,baz=353,slow=8.1,SNR=34
PMG Sn **Sn** **15 37 48.9 -1.2**
comp=Z,26nm,0.3s,baz=30,slow=20,SNR=9.7
comp=Z,23nm,0.3s
MANU Manus Island 6.31 47 Pn **Pn** **15 37 03.9 +1.3**
COEN Coen 7.54 177 P **Pn** **15 37 20.3 +0.8**
baz=7.6
FAKI Fak Fak 11.01 288 Pn **Pn** **15 38 04.4 -2.6**
FAKI Fak Fak 11.01 288 P **Pn** **15 38 06.9 -0.1**
FAKI Fak Fak 11.01 288 P **Pn** **15 38 07.2 +0.2**
comp=Z,57nm,0.9s
SAUI Saumlaki 11.46 261 P **Pn** **15 38 16.5 +3.2**
comp=Z,228nm,1.2s
KDU Kakadu 11.90 237 P **Pn** **15 38 17.9 -1.3**
baz=12,SNR=20
KDU Kakadu 11.90 237 P **Pn** **15 38 18.0 -1.3**
SWI Sorong 12.70 295 P **Pn** **15 38 27.1 -3.1**
MTN Manton Dam 13.12 240 P **Pn** **15 38 34.1 -1.8**
baz=13,SNR=18
MTN Manton Dam 13.12 240 Pn **Pn** **15 38 34.0 -1.8**
MTN Manton Dam 13.12 240 P **Pn** **15 38 34.3 -1.6**
DRS Darwin Rock St 13.13 242 P **Pn** **15 38 35.8 -0.3**
CTA Charters Tower 14.05 166 Lg Lg 15 42 50.1
comp=Z,0.2nm,0.3s,baz=23,slow=22,SNR=1.8
QIS Mount Isa 14.42 192 P **Pn** **15 38 54.6 +0.9**
baz=14,SNR=7.0
WB0 Warramunga Arr 15.58 211 Pn **Pn** **15 39 08.3 -1.1**
WR0 Warramunga Arr 15.67 210 **Pn** **15 39 08.7 -1.8**
WRAB Tennant Creek 15.74 210⇑ *e*P **Pn** **15 39 13.6 +2.2**
WRAB pmax pmax
comp=Z,12nm,0.8s
WB2 Warramunga Arr 15.75 210 P **Pn** **15 39 09.9 -1.6**
baz=16
WB2 Warramunga Arr 15.75 210 Pn **Pn** **15 39 09.8 -1.7**
WRA Warramunga Arr 15.76 210 **Pn** **15 39 09.8 -1.7**
WRA Warramunga Arr 15.76 210 *i* P **Pn** **15 39 10.3 -1.3**
WRA pmax pmax
comp=Z,2.0nm,0.3s
WRA Warramunga Arr 15.76 210 Pn **Pn** **15 39 09.1 -2.5**
comp=Z,1.0nm,0.3s,baz=30,slow=13,SNR=30
WRA Sn **Sn** **15 41 59.6 -6.8**
comp=Z,0.7nm,0.3s,baz=127,slow=14,SNR=5.8
WRA Lg Lg 15 43 50.5
comp=Z,0.4nm,0.3s,baz=34,slow=28,SNR=6.1
NLAI Namlea 15.89 281 P **P** **15 39 15.6 -1.4**
comp=Z,17nm,1.0s,comp=Z,3μm
LBMI Labuha 16.24 290 P **Pn** **15 39 18.9 +1.1**
comp=Z,52nm,1.1s
KNRA Kununurra 16.53 235 P **Pn** **15 39 19.5 -1.9**
baz=16,SNR=9.9
KNRA Kununurra 16.53 235 Pn **Pn** **15 39 19.1 -2.4**
TNTI Ternate 16.91 294 P **P** **15 39 28.7 +0.4**
comp=Z,34nm,1.2s
SANI Sanana 17.25 284 P **P** **15 39 32.1 0.0**
comp=Z,24nm,1.2s
HNR Honiara 17.31 101 P **Pn** **15 39 27.9 -3.5**
comp=Z,281nm,0.9s,baz=234,slow=8.7,SNR=1.4
SOEI Soe 18.59 258 **Pn** **15 39 47.8 +0.5**
SOEI Soe 18.59 258 P **Pn** **15 39 49.9 +2.6**
comp=Z,141nm,1.3s
AS01 Alice Springs 19.15 205 P **P** **15 39 54.2 +1.1**
AS31 Alice Springs 19.17 205 P **P** **15 39 54.3 +1.0**
ASAR Alice Springs 19.17 205 **P** **15 39 54.1 +0.8**
ASAR Alice Springs 19.17 205 P **P** **15 39 54.3 +1.0**
comp=Z,16nm,0.7s,baz=31,slow=9.9,SNR=92
ASAR Lg Lg 15 45 39.3
baz=21,slow=28
ASPA Alice Springs 19.17 205 P **P** **15 39 54.2 +0.9**
baz=19
SGSI Sangihe 19.88 300 P **Pn** **15 40 03.2 +0.5**
comp=Z,261nm,0.4s
QLP Quilpie 20.14 176 P **P** **15 40 06.8 +3.1**
baz=20,SNR=14
QLP Quilpie 20.14 176 P **P** **15 40 05.1 +1.3**
FITZ Fitzroy Crossi 20.34 234 P **P** **15 40 06.8 +0.7**
baz=20,SNR=18
FITZ Fitzroy Crossi 20.34 234 P **P** **15 40 06.6 +0.5**
FITZ Fitzroy Crossi 20.34 234 P **P** **15 40 06.6 +0.5**
MMRI Maumere 20.45 262 P Pn 15 40 10.0 +0.6
comp=Z,69nm,2.2s,comp=Z,2μm
EIDS Eidsvold 20.50 158 P **P** **15 40 11.7 +4.0**
baz=21,SNR=3.3
LUWI Luwuk 20.61 284 P Pn 15 40 10.5 -0.8
comp=Z,52nm,1.2s,comp=Z,2μm
GTOI Gorontalo 20.89 289 P Pn 15 40 13.9 -0.6
comp=Z,21nm,0.8s
EDFI Ende, Flores 21.00 262 P Pn 15 40 15.1 -0.8
comp=Z,91nm,1.2s
BASI Baing, Sumba 22.25 259 P **P** **15 40 28.7 +2.0**
comp=Z,97nm,0.8s
OOD Oodnadatta 22.32 197 P **P** **15 40 28.5 +1.2**
BKSI Bulukumba 22.52 271 P **P** **15 40 31.7 +2.1**
comp=Z,29nm,0.9s
KAPI Kappang 22.91 272 P **P** **15 40 33.9 +0.1**
KAPI Kappang 22.91 272⇑ *e*P **P** **15 40 32.6 -1.1**
KAPI pmax pmax
comp=Z,28nm,1.4s
TTSI Tana Toraja 23.08 277 P **P** **15 40 36.7 +1.2**
comp=Z,25nm,1.1s
WRKA Warakurna 23.14 215 P **P** **15 40 36.1 0.0**
baz=23,SNR=25
WRKA Warakurna 23.14 215 P **P** **15 40 36.3 +0.3**
TOLI2 Tolitoli 23.15 288 P **P** **15 40 35.7 -0.5**
TOLI2 Tolitoli 23.15 288 P **P** **15 40 36.9 +0.7**
MPSI Mapaga 23.75 285 P **P** **15 40 44.0 +1.8**
comp=Z,18nm,1.2s
LCRK Leigh Creek 24.32 190 P **P** **15 40 48.1 +0.8**
PLAI Plampang 24.86 263 P **P** **15 40 54.8 +2.4**
comp=Z,16nm,0.8s
MULG Mulgathing 25.14 198 P **P** **15 40 55.6 +0.9**
CMSA Cobar Meteorol 25.18 174 P **P** **15 40 56.7 +1.6**
baz=25,SNR=5.2
STKA Stephens Creek 25.39 182⇑ *e*P **P** **15 40 58.4 +1.4**
STKA Stephens Creek 25.39 182 P **P** **15 40 56.7 -0.3**
comp=Z,2.4nm,0.7s,baz=342,slow=15,SNR=4.6
STKA Lg Lg 15 48 58.1
comp=Z,0.1nm,0.3s,baz=45,slow=17,SNR=1.8
comp=Z,2.4nm,0.7s
TWSI Taliwang, Sumb 25.74 263 P **P** **15 41 02.2 +1.8**
comp=Z,9.3nm,1.8s
PSA00 Pilbara Seismi 26.80 233 P **P** **15 41 10.9 +1.0**
BBOO Buckleboo 27.02 192 P **P** **15 41 12.9 +1.1**
JHJ Hachijo jima 2 39.38 356 P **P** **15 42 56.7 -2.6**
comp=Z,216nm,0.6s,baz=89,slow=15,SNR=1.9
MJAR Matsushiro Arr 42.91 355 P **P** **15 43 24.9 -3.4**
comp=Z,4.0nm,1.0s,baz=184,slow=7.3,SNR=5.3
comp=Z,4.0nm,1.0s
NJ2 Nanjing 44.49 331 *e*P **P** **15 43 42.6 +1.5**
NJ2 pmax pmax
comp=Z,14nm,0.7s
RPSI Rantau Prapat 44.66 280 P **P** **15 43 41.8 -1.0**
RPSI IAmb IAmb 15 43 45.8
comp=Z,47nm,1.6s
PSI Prapat 44.69 280 P **P** **15 43 41.8 -1.3**
PSI pmax pmax
comp=Z,47nm,1.6s
WHN Wuhan 45.69 325 P **P** **15 43 52.2 +1.5**
KSAR Wonju Array Be 45.75 343 P **P** **15 43 50.5 -0.5**
KSAR Wonju Array Be 45.75 343 P **P** **15 43 50.5 -0.5**
KSRS Korea Array 45.75 343 P **P** **15 43 50.5 -0.4**
comp=Z,5.7nm,0.9s,baz=161,slow=9.2,SNR=14
KSRS PcP **PcP** **15 45 28.6 -0.2**
comp=Z,1.0nm,0.9s,baz=155,slow=4.2,SNR=2.8
comp=Z,5.7nm,0.9s
GYA Guiyang 47.84 315 ⇓P **P** **15 44 09.4 +1.6**
GYA pmax pmax
comp=Z,16nm,1.4s
PHRA Phrae 48.67 301 P **P** **15 44 13.9 -0.2**
CMAR Chiang Mai Arr 49.74 301 *i* P **P** **15 44 22.8 +0.4**
CMAR pmax pmax
comp=Z,4.0nm,1.0s
CMAR Chiang Mai Arr 49.74 301 P **P** **15 44 22.1 -0.3**
comp=Z,3.0nm,1.0s,baz=128,slow=5.8,SNR=22
comp=Z,3.0nm,1.0s
LYN LuoYang 49.75 327 ⇑P **P** **15 44 22.1 0.0**
LYN pP sP 15 44 32.8 +6.1
LYN pmax pmax
comp=Z,24nm,0.6s
CHTO Chiang Mai 49.90 301 **P** **15 44 23.1 -0.5**
CHTO Chiang Mai 49.90 301 P **P** **15 44 23.1 -0.5**
CHTO pmax pmax
comp=Z,13nm,1.5s
KMI Kunming 49.94 310 ⇑P **P** **15 44 25.5 +1.4**
KMI pmax pmax
comp=Z,19nm,1.8s
SNY Shenyang 51.08 342 ⇑P **P** **15 44 31.4 -0.6**
SNY pmax pmax
comp=Z,10.0nm,0.8s
USA0B Ussuriysk Arra 51.27 350 *de*P **P** **15 44 33.3 -0.2**
USRK Ussuriysk Ar. 51.27 350 P **P** **15 44 33.0 -0.5**
USRK Ussuriysk Ar. 51.27 350 P **P** **15 44 33.0 -0.5**
comp=Z,5.7nm,0.9s,baz=158,slow=6.2,SNR=8.1
comp=Z,5.7nm,0.9s
XAN Xi'an 51.38 324 ⇑P **P** **15 44 34.2 -0.3**
XAN pmax pmax
comp=Z,17nm,1.5s
PZH PanZhiHua 51.45 311 P **P** **15 44 35.6 +0.3**
PZH pmax pmax
comp=Z,10.0nm,1.6s
PZH pmax pmax
comp=Z,150nm,5.3s
BJI Beijing 52.29 334 P **P** **15 44 40.8 -0.3**
BJI pmax pmax
comp=Z,4.0nm,1.4s
CD2 Chengdu 52.58 317 *e*P **P** **15 44 44.0 +0.4**
YSS Yuzh-Sakhalins 53.10 0 *e*P **P** **15 44 46.6 -0.4**
YSS pmax pmax
comp=Z,20nm,1.3s
TNCH TengChong 53.15 308 P **P** **15 44 48.8 +0.8**
TNCH pmax pmax
comp=Z,24nm,1.6s
BNX BinXian 53.67 347 ⇑P **P** **15 44 50.3 -0.9**
BNX pmax pmax
comp=Z,19nm,1.1s
HHC Hu-ho-hao-te 55.03 331 *e*P **P** **15 45 03.8 +2.4**
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,450nm,5.9s
BTO Baotou 55.59 330 *e*P **P** **15 45 09.0 +3.5**
BTO pP sP 15 45 18.7 +8.6
BTO PP **PP** **15 47 15.0 +5.2**
BTO pmax pmax
comp=Z,17nm,0.6s
BTO pmax pmax
comp=Z,2μm,11.6s
BTO LR LR
comp=Z,2μm,17.3s
BTO LR LR
comp=Z,2μm,17.1s
BTO LR LR
comp=Z,2μm,14.7s
LZH Lanzhou 55.82 322 *e*P **P** **15 45 10.4 +3.2**
LZH sP sP 15 45 21.3 +9.4
LZH pmax pmax
comp=Z,15nm,1.4s
KLR Kul'dur 56.21 351⇓ *e*P **P** **15 45 09.5 0.0**
KLR pmax pmax
comp=Z,12nm,1.3s
TYV Tymovskoe 57.01 360 *e*P **P** **15 45 14.7 -0.5**
TYV pmax pmax
comp=Z,4.0nm,1.0s
TYV pmax pmax
comp=Z,200nm,7.0s
HEH HeiHe 57.95 348 *e*P **P** **15 45 20.2 -1.6**
HEH pmax pmax
comp=Z,6.0nm,1.1s
GTA Gaotai 60.40 323 *e*P **P** **15 45 39.9 +0.7**
GTA sP sP 15 45 48.4 +4.5
GTA pmax pmax
comp=Z,6.0nm,1.5s
PEA0B Petropavlovsk- 60.61 10⇑ *e*P **P** **15 45 40.0 -0.2**
PETK Petropavlovsk- 60.61 10 P **P** **15 45 38.5 -1.7**
comp=Z,11nm,1.0s,baz=130,slow=6.1,SNR=4.9
comp=Z,11nm,1.0s
ZEA Zeya 61.30 350 *e*P **P** **15 45 44.6 -0.3**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
GOMU GeErMu 61.72 317 P **P** **15 45 49.3 +0.7**
GOMU pP sP 15 45 54.3 +1.1
GOMU pmax pmax
comp=Z,5.0nm,1.3s
ULN Ulaanbaatar 62.49 334 P **P** **15 45 53.3 +0.1**
ULN IAmb IAmb 15 45 56.6
comp=Z,17nm,1.4s
ULN Ulaanbaatar 62.49 334⇑ *e*P **P** **15 45 54.0 +0.8**
ULN pmax pmax
comp=Z,22nm,2.5s
SONM Songino Array 62.76 333 P **P** **15 45 55.1 +0.1**
SONM Songino Array 62.76 333 P **P** **15 45 55.1 +0.1**
SONM pmax pmax
comp=Z,7.0nm,1.2s
SONM Songino Array 62.76 333 P **P** **15 45 54.0 -1.0**
comp=Z,4.1nm,1.1s,baz=157,slow=7.6,SNR=14
comp=Z,4.1nm,1.1s
ZAK Zakamensk 66.02 334 *e*P **P** **15 46 16.0 -0.3**
ZAK pmax pmax
comp=Z,11nm,1.2s
MA2 Magadan 66.06 4 P **P** **15 46 15.7 -0.5**
MA2 IAmb IAmb 15 46 18.7
comp=Z,22nm,1.5s
MA2 Magadan 66.06 4⇑ *e*P **P** **15 46 16.8 +0.6**
MA2 pmax pmax
comp=Z,21nm,2.5s
MOY Mondy 67.95 333 *e*P **P** **15 46 28.9 +0.3**
MOY pmax pmax
comp=Z,42nm,2.7s
YAK Yakutsk 68.96 353⇓ *e*P **P** **15 46 34.3 -0.1**
YAK pmax pmax
comp=Z,14nm,1.7s
SEY Seymchan 69.51 5⇑ *e*P **P** **15 46 37.4 -0.5**
SEY pmax pmax
comp=Z,10.0nm,1.7s
WMQ Urumqi 70.37 321 *e*P **P** **15 46 44.8 +1.1**
WMQ PcP **PcP** **15 47 06.6 +1.4**
WMQ pmax pmax
comp=Z,13nm,1.3s
DGZ Jazzator, Alta 73.54 326⇑ *i*P **P** **15 47 02.3 -0.4**
DGZ pmax pmax
comp=Z,9.0nm,0.9s
P08K Saint George I 73.87 25 P **P** **15 47 04.7 +0.5**
baz=230
ZSN Zaisan 73.88 323 *e*P **P** **15 47 04.7 +0.1**
ZSN pmax pmax
comp=Z,18nm,1.5s
ZSN Zaisan 73.88 323 *e*P **P** **15 47 04.8 +0.1**
comp=Z,18nm,1.5s,baz=323
SPIA Saint Paul Isl 73.95 24 P **P** **15 47 05.2 +0.5**
baz=229
MK31 Makanchi Array 75.13 322 *ce*P **P** **15 47 12.0 +0.1**
MKAR Makanchi Array 75.13 322 *i* P **P** **15 47 12.1 +0.2**
MKAR pmax pmax
comp=Z,4.0nm,0.9s
MKAR Makanchi Array 75.13 322 P **P** **15 47 11.5 -0.4**
comp=Z,3.9nm,1.0s,baz=108,slow=7.8,SNR=31
comp=Z,3.9nm,1.0s
MAKZ Makanchi 75.33 322 P **P** **15 47 12.3 -0.8**
MAKZ IAmb IAmb 15 47 17.1
comp=Z,29nm,1.5s
MAKZ Makanchi 75.33 322 P **P** **15 47 12.3 -0.8**
MAKZ pmax pmax
comp=Z,29nm,1.5s
SHLS Shalkode 75.42 318 *e*P **P** **15 47 11.9 -1.8**
SHLS pmax pmax
comp=Z,10.0nm,1.4s
SHLS Shalkode 75.42 318 *e*P **P** **15 47 11.9 -1.8**
comp=Z,10nm,1.4s,baz=318
UZB Uzynbulak 75.71 317 *e*P **P** **15 47 15.1 -0.3**
UZB Uzynbulak 75.71 317 *e*P **P** **15 47 15.2 -0.3**
baz=317
BILL Bilibino 76.09 9 P **P** **15 47 16.4 -0.5**
BILL Bilibino 76.09 9⇓ *e*P **P** **15 47 16.8 -0.1**
BILL pmax pmax
comp=Z,4.0nm,1.2s
SATY Saty 76.09 317 *e*P **P** **15 47 17.6 0.0**
SATY pmax pmax
comp=Z,12nm,1.3s
SATY Saty 76.09 317 *e*P **P** **15 47 17.6 0.0**
comp=Z,12nm,1.3s,baz=317
ZHN Zhinishke 76.11 317 *e*P **P** **15 47 17.6 -0.1**
ZHN pmax pmax
comp=Z,9.0nm,1.0s
ZHN Zhinishke 76.11 317 *e*P **P** **15 47 17.6 -0.1**
comp=Z,9.4nm,1.0s,baz=317
KSH Kashi 76.51 313 P **P** **15 47 21.9 +1.8**
KSH pP sP 15 47 25.8 +1.0
KSH pmax pmax
comp=Z,6.0nm,1.2s
TDK Taldyqorghan 76.84 319 *e*P **P** **15 47 21.2 -0.5**
TDK pmax pmax
comp=Z,5.0nm,0.8s
TDK Taldyqorghan 76.84 319 *e*P **P** **15 47 21.2 -0.5**
comp=Z,5.5nm,0.8s,baz=319
MDOK Medeo 77.05 317 *e*P **P** **15 47 22.6 -0.5**
MDOK Medeo 77.05 317 *e*P **P** **15 47 22.6 -0.5**
baz=317
TNSS Tian-Shan 77.07 317 *e*P **P** **15 47 23.0 -0.5**
TNSS Tian-Shan 77.07 317 *e*P **P** **15 47 23.1 -0.5**
baz=317
ZALV Zalesovo Beam 77.12 329 *i* P **P** **15 47 22.3 -0.7**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 77.12 329 P **P** **15 47 22.0 -1.0**
comp=Z,1.3nm,0.5s,baz=114,slow=3.7,SNR=8.4
comp=Z,1.3nm,0.5s
AAA Alma-Ata 77.16 317 *e*P **P** **15 47 23.7 +0.2**
AAA Alma-Ata 77.16 317 *e*P **P** **15 47 23.8 +0.2**
baz=317
CHKK Chushkaly 77.35 317 *e*P **P** **15 47 24.0 -0.5**
CHKK Chushkaly 77.35 317 *e*P **P** **15 47 24.0 -0.5**
baz=318
M11K Mekoryuk 77.62 23 P **P** **15 47 25.8 +0.2**
baz=232
KUU Kurty 77.80 317 *e*P **P** **15 47 26.8 -0.2**
KUU pmax pmax
comp=Z,18nm,1.6s
KUU Kurty 77.80 317 *e*P **P** **15 47 26.8 -0.2**
comp=Z,18nm,1.6s,baz=317
TIXI Tiksi 78.41 356⇓ *e*P **P** **15 47 28.2 -1.6**
TIXI pmax pmax
comp=Z,4.0nm,1.1s
AAK Ala-Archa 78.62 316 P **P** **15 47 31.8 0.0**
AAK Ala-Archa 78.62 316⇓ *e*P **P** **15 47 32.8 +1.0**
AAK pmax pmax
comp=Z,9.0nm,1.4s
M13K Dall Lake 78.78 24 P **P** **15 47 32.5 +0.5**
baz=235
O14K Tigyukauivet M 79.00 26 P **P** **15 47 33.9 +0.6**
baz=237
KURK Kurchatov 79.01 324 P **P** **15 47 33.1 -0.5**
KURK IAmb IAmb 15 47 37.3
comp=Z,30nm,1.4s
KURK Kurchatov 79.01 324⇑ *e*P **P** **15 47 33.1 -0.5**
KURK pmax pmax
comp=Z,41nm,2.5s
KURBB Kurchatov Arra 79.03 324 P **P** **15 47 33.5 -0.2**
comp=Z,8.7nm,1.2s,baz=116,slow=4.7,SNR=18
comp=Z,8.7nm,1.2s
N14K Kuskokwak Cree 79.19 25 P **P** **15 47 34.6 +0.3**
baz=237
M14K Bethel 79.53 24 P **P** **15 47 37.1 +1.0**
baz=236
L14K Kuka Creek 79.57 24 P **P** **15 47 37.2 +0.9**
baz=236
O15K Ungalikthiuk R 79.58 26 P **P** **15 47 36.6 +0.1**
baz=238
BTLS Baital 79.74 318 *e*P **P** **15 47 37.8 +0.1**
BTLS Baital 79.74 318 *e*P **P** **15 47 37.8 +0.1**
baz=318
N15K Kwethluk River 79.99 25 P **P** **15 47 38.5 -0.3**
baz=238
M15K Kasigluk River 80.02 25 P **P** **15 47 39.7 +0.8**
baz=238
J14K Nanvaranak Lak 80.05 22 P **P** **15 47 38.8 -0.2**
baz=234
L15K Ungalak Mounta 80.24 24 P **P** **15 47 40.5 +0.5**
baz=237
TNA Tin City 80.27 19 P **P** **15 47 40.4 +0.3**
baz=230
P16K Nushagak River 80.32 27 P **P** **15 47 41.1 +0.7**
baz=240
ANM Nome 80.48 20 IAmb IAmb 15 47 44.8
comp=Z,32nm,1.4s
ANM Nome 80.48 20 P **P** **15 47 41.9 +0.6**
baz=233
O16K Kokwok River B 80.56 26 IAmb IAmb 15 47 45.5
comp=Z,32nm,1.2s
O16K Kokwok River B 80.56 26 P **P** **15 47 42.2 +0.4**
baz=240
K15K Wolf Creek Mou 80.56 23 IAmb IAmb 15 47 43.1
comp=Z,22nm,1.0s
K15K Wolf Creek Mou 80.56 23 P **P** **15 47 42.1 +0.3**
baz=236
N16K Nishlik Lake 80.71 25 P **P** **15 47 42.9 +0.3**
baz=239
F14K Arctic Creek 80.73 19 P **P** **15 47 43.4 +0.8**
baz=232
DZA Taraz 80.91 315 *e*P **P** **15 47 43.8 -0.3**
DZA Taraz 80.91 315 *e*P **P** **15 47 43.8 -0.3**
baz=315
Q17K Contact Creek 80.91 28 P **P** **15 47 43.7 -0.1**
baz=242
M16K Timber Creek 80.92 25 IAmb IAmb 15 47 45.5
comp=Z,44nm,1.3s
M16K Timber Creek 80.92 25 P **P** **15 47 44.4 +0.7**
baz=239
SII Sitkinak Islan 80.95 30 P **P** **15 47 44.6 +0.6**
baz=244
L16K Owhat River 81.06 24 P **P** **15 47 45.1 +0.7**
baz=238
O17K Koliganek Bris 81.09 26 P **P** **15 47 45.2 +0.6**
baz=241
P17K Kvichak River 81.10 27 P **P** **15 47 45.5 +0.9**
baz=242
G15K Niukluk 81.20 20 P **P** **15 47 45.6 +0.5**
baz=234
N17K Nushagak Hills 81.42 26 P **P** **15 47 47.2 +0.8**
baz=241
F15K North Star Dit 81.42 19 IAmb IAmb 15 47 48.0
comp=Z,33nm,1.4s
F15K North Star Dit 81.42 19 P **P** **15 47 46.3 0.0**
baz=233
J16K Anvik River 81.47 22 P **P** **15 47 47.4 +0.9**
baz=237
IUG Iuzhnay 81.61 314 *e*P **P** **15 47 47.8 -0.1**
IUG pmax pmax
comp=Z,16nm,1.6s
IUG Iuzhnay 81.61 314 *e*P **P** **15 47 47.8 -0.1**
comp=Z,16nm,1.6s,baz=314
H16K Elim 81.62 21 P **P** **15 47 47.4 +0.1**
baz=236
OHAK Old Harbor 81.69 30 P **P** **15 47 48.3 +0.5**
baz=245
P18K Big Mountain, 81.74 27 P **P** **15 47 47.4 -0.7**
baz=243
M17K Holitna River 81.74 25 IAmb IAmb 15 47 50.2
comp=Z,22nm,1.1s
M17K Holitna River 81.74 25 P **P** **15 47 48.7 +0.6**
baz=240
I17K Unalakleet 81.76 22 P **P** **15 47 48.2 +0.1**
baz=237
L17K Donlin 81.76 24 P **P** **15 47 48.3 +0.2**
baz=240
CHM Chimkent 81.97 314 *e*P **P** **15 47 49.8 +0.1**
CHM Chimkent 81.97 314 *e*P **P** **15 47 49.8 +0.1**
baz=314
O18K Koktuh Hills 81.97 27 P **P** **15 47 49.5 +0.2**
baz=243
BRLS Borolday 82.00 315 *e*P **P** **15 47 49.2 -0.6**
BRLS pmax pmax
comp=Z,17nm,2.6s
BRLS Borolday 82.00 315 *e*P **P** **15 47 49.3 -0.6**
comp=Z,17nm,2.6s,baz=315
G16K Koyuk River 82.01 20 IAmb IAmb 15 47 51.0
comp=Z,18nm,1.2s
G16K Koyuk River 82.01 20 P **P** **15 47 49.7 +0.3**
baz=235
N18K Kilae Creek 82.05 26 P **P** **15 47 49.8 +0.1**
baz=242
K17K Iditarod 82.06 23 IAmb IAmb 15 47 51.6
comp=Z,34nm,1.2s
K17K Iditarod 82.06 23 P **P** **15 47 50.3 +0.6**
baz=239
J17K VABM Dome 82.11 23 P **P** **15 47 50.3 +0.4**
baz=239
KDAK Kodiak Island 82.27 29 P **P** **15 47 52.1 +1.2**
baz=245
BRZS Berezniki 82.27 322 *e*P **P** **15 47 50.3 -0.8**
BRZS Berezniki 82.27 322 *e*P **P** **15 47 50.4 -0.8**
baz=322
SVW2 Sparrevohn 82.38 26 IAmb IAmb 15 47 53.2
comp=Z,39nm,1.6s
L18K Granite Mounta 82.46 24 IAmb IAmb 15 47 53.8
comp=Z,23nm,1.4s
L18K Granite Mounta 82.46 24 P **P** **15 47 52.8 +1.1**

	baz=241								
M18K	**Stony River**	82.47	25	P	P	15 47 52.5	+0.7		
	baz=242								
O19K	**Port Alsworth**	82.52	27	P	P	15 47 52.3	+0.1		
	baz=243								
H17K	**Granite Mounta**	82.62	21	P	P	15 47 53.4	+0.8		
	baz=238,SNR=7.2								
G17K	**Kiwalik Mounta**	82.66	21	P	P	15 47 53.4	+0.6		
	baz=237								
N19K	**Bonanza Creek**	82.73	26	IAmb	IAmb	15 47 57.1			
	comp=Z,26nm,1.1s								
N19K	**Bonanza Creek**	82.73	26	P	P	15 47 53.6	+0.2		
	baz=243								
C16K	**Lisburne Hills**	82.78	17	P	P	15 47 53.6	+0.4		
	baz=232								
F17K	**Baldwin Pennin**	82.98	20	IAmb	IAmb	15 47 57.5			
	comp=Z,22nm,1.4s								
F17K	**Baldwin Pennin**	82.98	20	P	P	15 47 55.0	+0.7		
	baz=236								
J18K	**Innoko River**	83.06	23	P	P	15 47 55.5	+0.6		
	baz=241								
TTA	**Tatalina**	83.08	24	P	P	15 47 54.8	-0.3		
TTA				IAmb	IAmb	15 47 59.6			
	comp=Z,21nm,1.6s								
TTA	**Tatalina**	83.08	24	P	P	15 47 54.8	-0.3		
TTA				pmax	pmax				
	comp=Z,21nm,1.6s								
TTA	**Tatalina**	83.08	24	P	P	15 47 55.2	+0.1		
	baz=242								
D17K	**Noatak River**	83.11	18	P	P	15 47 55.6	+0.6		
	baz=234,SNR=8.8								
L19K	**White Mountain**	83.20	25	IAmb	IAmb	15 47 59.0			
	comp=Z,15nm,1.1s								
L19K	**White Mountain**	83.20	25	P	P	15 47 55.9	+0.2		
	baz=243								
M19K	**Big River Lodg**	83.26	25	P	P	15 47 56.4	+0.4		
	baz=243								
H18K	**Honhosa River**	83.29	21	P	P	15 47 56.6	+0.6		
	baz=239								
C17K	**DeLong Mountai**	83.54	18	P	P	15 47 58.2	+0.9		
	baz=234								
G18K	**Tagagawik**	83.57	21	IAmb	IAmb	15 47 58.6			
	comp=Z,12nm,1.1s								
G18K	**Tagagawik**	83.57	21	P	P	15 47 57.6	+0.1		
	baz=239,SNR=6.8								
QSPA	**South Pole Qui**	83.59	180	P	P	15 47 57.5	-0.3		
	comp=Z,5.4nm,1.1s,baz=49,slow=2.1,SNR=10.0								
	comp=Z,5.4nm,1.1s								
F18K	**Selawik**	83.60	20	P	P	15 47 57.6	0.0		
	baz=238								
GCSA	**Galena City Sc**	83.63	22	P	P	15 47 58.0	+0.3		
	baz=240,SNR=7.8								
E18K	**Tukpahlearik C**	83.74	19	IAmb	IAmb	15 48 03.0			
	comp=Z,26nm,1.4s								
E18K	**Tukpahlearik C**	83.74	19	P	P	15 47 58.5	+0.2		
	baz=237								
L20K	**Farewell, AK**	83.74	25	P	P	15 47 59.0	+0.5		
	baz=244								
J19K	**Poorman**	83.74	23	IAmb	IAmb	15 48 00.0			
	comp=Z,26nm,1.4s								
J19K	**Poorman**	83.74	23	P	P	15 47 59.0	+0.6		
	baz=242								
M20K	**Styx River**	83.79	25	P	P	15 47 59.3	+0.5		
	baz=244								
N20K	**Mount Spurr**	83.89	26	P	P	15 47 59.2	-0.2		
	baz=245								
BRSE	**Bradley Lake S**	83.95	28	P	P	15 48 00.2	+0.6		
	baz=247								
K20K	**Telida**	84.06	24	IAmb	IAmb	15 48 01.7			
	comp=Z,28nm,1.6s								
K20K	**Telida**	84.06	24	P	P	15 48 00.6	+0.5		
	baz=243,SNR=6.7								
H19K	**Roundabout Mou**	84.17	21	P	P	15 48 01.0	+0.5		
	baz=241								
CAPN	**Captain Cook N**	84.18	27	P	P	15 48 01.0	+0.3		
	baz=246								
C18K	**Utukok River**	84.24	18	IAmb	IAmb	15 48 03.8			
	comp=Z,12nm,1.1s								
C18K	**Utukok River**	84.24	18	P	P	15 48 01.2	+0.3		
	baz=236,SNR=10.0								
G19K	**Purcell Mounta**	84.25	21	IAmb	IAmb	15 48 02.6			
	comp=Z,28nm,1.4s								
G19K	**Purcell Mounta**	84.25	21	P	P	15 48 01.3	+0.3		
	baz=240								
F19K	**Shaleruckik Mo**	84.36	20	IAmb	IAmb	15 48 02.6			
	comp=Z,27nm,1.7s								
F19K	**Shaleruckik Mo**	84.36	20	P	P	15 48 01.5	0.0		
	baz=240								
NRIK	**Noril'sk**	84.37	343	IAmb	IAmb	15 48 02.5			
	comp=Z,26nm,1.2s								
NRIK	**Noril'sk**	84.37	343	*ce*P	P	15 48 01.2	-0.3		
NRIK				pmax	pmax				
	comp=Z,27nm,1.3s								
NRIK	**Noril'sk**	84.37	343	P	P	15 48 00.8	-0.6		
	comp=Z,15nm,1.0s,baz=125,slow=4.9,SNR=20								
	comp=Z,15nm,1.0s								
J20K	**Nowinta River**	84.40	23	P	P	15 48 01.8	+0.1		
	baz=243								
B18K	**Kokolik River**	84.46	17	P	P	15 48 02.4	+0.4		
	baz=235,SNR=8.5								
SKT	**Skwentna**	84.51	26	P	P	15 48 01.3	-1.1		
	baz=246								
I20K	**Naaghedeneel**	84.56	22	P	P	15 48 02.8	+0.4		
	baz=243								
BVAR	**Borovoye Array**	84.61	325	P	P	15 48 02.8	-0.2		
	comp=Z,16nm,0.9s,baz=106,slow=5.3,SNR=66								
	comp=Z,16nm,0.9s								
PPLA	**Purkeypile**	84.62	25	P	P	15 48 03.1	0.0		
	baz=245								
SUA	**Susitna One**	84.64	26	IAmb	IAmb	15 48 04.7			
	comp=Z,16nm,1.0s								
SUA	**Susitna One**	84.64	26	P	P	15 48 02.2	-1.0		
	baz=246								
BRVK	**Borovoye**	84.68	325	P	P	15 48 03.6	+0.2		
BRVK	**Borovoye**	84.68	325	*ci*P	P	15 48 03.3	-0.1		
BRVK				pmax	pmax				
	comp=Z,20nm,1.1s								
SEW	**Seward**	84.69	28	P	P	15 48 02.8	-0.5		
	baz=248								
H20K	**Anotleneega Mo**	84.73	22	P	P	15 48 03.5	+0.1		
	baz=242								
E19K	**Redstone River**	84.86	20	IAmb	IAmb	15 48 05.5			
	comp=Z,11nm,0.9s								
E19K	**Redstone River**	84.86	20	P	P	15 48 04.4	+0.3		
	baz=240								
CAST	**Castle Rocks**	84.89	24	IAmb	IAmb	15 48 04.8			
	comp=Z,11nm,1.1s								
CAST	**Castle Rocks**	84.89	24	P	P	15 48 04.1	-0.2		
	baz=245,SNR=7.1								
RC01	**Rabbit Creek A**	84.94	27	P	P	15 48 03.7	-0.8		
	baz=247,SNR=13								
C19K	**Lookout Ridge**	84.97	18	IAmb	IAmb	15 48 08.1			
	comp=Z,29nm,1.3s								
C19K	**Lookout Ridge**	84.97	18	P	P	15 48 05.4	+0.7		
	baz=238								
CHUM	**Lake Minchumin**	84.99	24	P	P	15 48 05.1	+0.4		
	baz=245,SNR=16								
M22K	**Willow**	85.03	26	P	P	15 48 04.3	-0.6		
	baz=247,SNR=8.8								
D19K	**Kuna River**	85.11	19	P	P	15 48 05.7	+0.4		
	baz=239								
F20K	**Avaraart Lake**	85.17	20	P	P	15 48 06.0	+0.5		
	baz=241								
CUT	**Chulitna**	85.23	25	P	P	15 48 05.2	-0.7		
	baz=247								
PMR	**Palmer**	85.41	26	IAmb	IAmb	15 48 07.1			
	comp=Z,13nm,1.0s								
PMR	**Palmer**	85.41	26	P	P	15 48 06.0	-0.8		
	baz=248,SNR=6.3								
KTH	**Kantishna Hill**	85.42	24	IAmb	IAmb	15 48 09.5			
	comp=Z,25nm,1.2s								
GHO	**Glory Hole Cre**	85.57	26	IAmb	IAmb	15 48 13.4			
	comp=Z,18nm,1.2s								
H21K	**Melozitna Rive**	85.58	22	P	P	15 48 07.8	+0.1		
	baz=244								
E20K	**Nigu River**	85.60	19	P	P	15 48 08.0	+0.2		
	baz=241								
P23K	**Montague Islan**	85.61	28	P	P	15 48 08.2	+0.3		
	baz=250								
BPAW	**Bear Paw Mtn.**	85.62	24	IAmb	IAmb	15 48 10.1			
	comp=Z,15nm,1.4s								
BPAW	**Bear Paw Mtn.**	85.62	24	P	P	15 48 07.6	-0.3		
	baz=246,SNR=6.1								
TRF	**Thorofare Moun**	85.64	25	P	P	15 48 07.8	-0.4		
	baz=247								
KNK	**Knik Glacier**	85.64	27	IAmb	IAmb	15 48 08.9			
	comp=Z,21nm,1.0s								
KNK	**Knik Glacier**	85.64	27	P	P	15 48 08.2	+0.1		
	baz=248,SNR=8.0								
I21K	**Tanana**	85.68	23	P	P	15 48 08.4	+0.3		
	baz=245,SNR=6.2								
D20K	**Etivluk River**	85.69	19	P	P	15 48 08.5	+0.3		
	baz=240								
G21K	**Allakaket**	85.70	21	P	P	15 48 08.4	+0.2		
	baz=244								
SML	**Sawmill**	85.84	26	P	P	15 48 08.8	-0.3		
	baz=248,SNR=7.1								
F21K	**Alatna River**	86.03	20	P	P	15 48 09.9	0.0		
	baz=243								
MLY	**Manley**	86.09	23	IAmb	IAmb	15 48 11.2			
	comp=Z,15nm,1.1s								
MLY	**Manley**	86.09	23	P	P	15 48 10.2	-0.1		
	baz=246,SNR=12								
M23K	**Glacier View**	86.10	26	P	P	15 48 10.1	-0.3		
	baz=249								
WAT1	**Susitna Watana**	86.12	25	P	P	15 48 10.0	-0.5		
	baz=248								
B20K	**Meade River**	86.17	17	P	P	15 48 10.9	+0.5		
	baz=240								
H22K	**Ishtalitna Cre**	86.21	22	P	P	15 48 10.6	-0.2		
	baz=246								
RND	**Reindeer**	86.22	25	IAmb	IAmb	15 48 10.9			
	comp=Z,16nm,0.9s								
SCM	**Sheep Creek Mo**	86.30	27	P	P	15 48 11.6	+0.2		
	baz=249,SNR=7.6								
MCK	**McKinley**	86.31	24	P	P	15 48 10.4	-1.0		
	baz=248,SNR=12								
C21K	**Knifeblade Rid**	86.49	19	P	P	15 48 12.7	+0.6		
	baz=242								
EYAK	**Cordova Ski Ar**	86.57	28	P	P	15 48 12.1	-0.6		
	baz=251								
NEA2	**Nenana**	86.58	24	IAmb	IAmb	15 48 15.1			
	comp=Z,23nm,1.4s								
NEA2	**Nenana**	86.58	24	P	P	15 48 12.1	-0.5		
	baz=248,SNR=8.1								
G22K	**Bettles**	86.59	21	P	P	15 48 12.6	-0.1		
	baz=245								
I23K	**Minto, Yukon-K**	86.68	23	P	P	15 48 12.6	-0.4		
	baz=247								
DHY	**Denali Highway**	86.72	25	P	P	15 48 13.2	-0.3		
	baz=249								
B21K	**Ikpikpuk River**	86.76	18	IAmb	IAmb	15 48 17.3			
	comp=Z,27nm,1.3s								
B21K	**Ikpikpuk River**	86.76	18	P	P	15 48 13.9	+0.6		
	baz=242								
KLU	**Klutina**	86.81	27	P	P	15 48 14.1	+0.2		
	baz=251,SNR=6.2								
M24K	**Tolsona, Glenn**	86.90	26	P	P	15 48 14.5	+0.2		
	baz=250								
WRH	**Wood River Hil**	86.93	24	IAmb	IAmb	15 48 14.2			
	comp=Z,25nm,1.3s								
A21K	**Barrow**	86.99	16	P	P	15 48 14.9	+0.5		
	baz=240								
E22K	**Anaktuvuk Pass**	87.00	20	P	P	15 48 15.2	+0.5		
	baz=245,SNR=12								
KAIM	**Kayak Island**	87.00	29	P	P	15 48 15.1	+0.3		
	baz=252								
RAGM	**Ragged Mountai**	87.03	28	IAmb	IAmb	15 48 15.6			
	comp=Z,24nm,1.1s								
D22K	**Ayikyak River**	87.03	19	IAmb	IAmb	15 48 16.9			
	comp=Z,3nm,0.9s								
D22K	**Ayikyak River**	87.03	19	P	P	15 48 15.5	+0.7		
	baz=244								
G23K	**Bananza Creek**	87.04	22	P	P	15 48 15.4	+0.5		
	baz=247								
MDM	**Murphy Dome**	87.05	23	IAmb	IAmb	15 48 18.2			
	comp=Z,16nm,1.5s								
COLA	**College**	87.17	24	*de*P	P	15 48 14.5	-0.9		
COLA				pmax	pmax				
	comp=Z,8.0nm,0.9s								
COLD	**Coldfoot**	87.19	21	P	P	15 48 15.5	0.0		
	baz=246								
BMRM	**Bremner River**	87.24	28	P	P	15 48 16.0	0.0		
	baz=252,SNR=6.7								
HDA	**Harding Lake**	87.37	24	P	P	15 48 16.1	-0.4		
	baz=250								
POKR	**Poker Plat Res**	87.42	23	P	P	15 48 16.6	-0.2		
	baz=249								
N25K	**Chitina, Valde**	87.44	27	P	P	15 48 17.2	+0.2		
	baz=252								
HARP	**HAARP**	87.45	26	P	P	15 48 16.7	-0.2		
	baz=251								
B22K	**Teshekpuk Lake**	87.45	18	P	P	15 48 17.1	+0.4		
	baz=243								
PAX	**Paxson**	87.50	26	P	P	15 48 17.5	+0.3		
	baz=251,SNR=5.1								
H24K	**Noodor Dome**	87.51	23	IAmb	IAmb	15 48 18.2			
	comp=Z,22nm,1.6s								
H24K	**Noodor Dome**	87.51	23	P	P	15 48 17.2	0.0		
	baz=249								
IL31		87.52	24	IAmb	IAmb	15 48 16.5			
	comp=Z,8.8nm,0.8s								
ILAR	**Eielson Array**	87.52	24	P	P	15 48 15.3	-1.9		
	comp=Z,5.5nm,0.7s,baz=256,slow=4.9,SNR=67								
	comp=Z,5.5nm,0.7s								
K24K	**Donnelly Dome**	87.64	25	P	P	15 48 17.6	-0.2		
	baz=251								
E23K	**Chanlalar**	87.72	20	P	P	15 48 18.2	0.0		
	baz=247								
D23K	**Nanushuk River**	87.73	19	P	P	15 48 19.4	+1.2		
	baz=246								
GLB	**Gilahina Butte**	87.75	27	IAmb	IAmb	15 48 18.8			
	comp=Z,9.9nm,1.0s								
CRQE	**Cirque**	87.88	28	P	P	15 48 19.0	-0.2		
	baz=253								
G24K	**Hadweenzic Riv**	87.98	22	IAmb	IAmb	15 48 20.9			
	comp=Z,21nm,1.3s								
G24K	**Hadweenzic Riv**	87.98	22	P	P	15 48 19.6	+0.3		
	baz=249								
J25K	**Salcha River,**	88.08	24	P	P	15 48 19.3	-0.6		
	baz=251								
MCARA	**McCarthy VSAT**	88.10	28	P	P	15 48 20.0	0.0		
	baz=253								
C23K	**Itkillik River**	88.11	19	P	P	15 48 20.3	+0.5		
	baz=246								
F24K	**Sqaw Lake**	88.12	21	P	P	15 48 21.2	+1.2		
	baz=249								
MESA	**MESA**	88.26	29	P	P	15 48 21.9	+0.9		
	baz=254								
PRP	**Porcupine Dome**	88.31	23	P	P	15 48 19.3	-1.8		
	baz=251								
M26K	**Nabesna, AK**	88.41	27	P	P	15 48 21.7	+0.2		
	baz=253								
D24K	**Happy Valley**	88.42	19	P	P	15 48 22.3	+0.9		
	baz=248,SNR=25								
L26K	**Log Cabin Wild**	88.43	26	P	P	15 48 21.5	-0.1		
	baz=253								
SCRK	**Sand Creek**	88.45	25	IAmb	IAmb	15 48 29.2			
	comp=Z,20nm,1.8s								
SCRK	**Sand Creek**	88.45	25	P	P	15 48 21.4	-0.4		
	baz=252								
G25K	**Bearman Lake**	88.51	22	P	P	15 48 22.4	+0.6		
	baz=250,SNR=6.9								
C24K	**Franklin Bluff**	88.67	19	P	P	15 48 23.3	+0.8		
	baz=248								
CTG	**Chitna Glacier**	88.76	28	P	P	15 48 23.6	+0.2		
	baz=255								
J26L	**Joseph Creek**	88.78	25	IAmb	IAmb	15 48 26.9			
	comp=Z,22nm,1.2s								
J26L	**Joseph Creek**	88.78	25	P	P	15 48 24.0	+0.7		
	baz=253								
M27K	**Edge Creek, AK**	88.89	27	P	P	15 48 24.4	+0.5		
	baz=254								
F25K	**Christian Rive**	88.96	21	P	P	15 48 25.0	+1.0		
	baz=251								
PINM	**Pinnacle**	89.06	29	P	P	15 48 25.1	+0.4		
	baz=256								
L27K	**Beaver Creek,**	89.11	26	IAmb	IAmb	15 48 26.4			
	comp=Z,31nm,1.6s								
L27K	**Beaver Creek,**	89.11	26	P	P	15 48 25.3	+0.5		
	baz=254,SNR=14								
E25K	**Arctic Village**	89.16	21	IAmb	IAmb	15 48 27.0			
	comp=Z,25nm,1.4s								
E25K	**Arctic Village**	89.16	21	P	P	15 48 26.2	+1.3		
	baz=251,SNR=11								
I26K	**Coal Creek Min**	89.19	24	P	P	15 48 25.2	+0.1		
	baz=253								
K27K	**Chicken**	89.27	25	P	P	15 48 26.3	+0.8		
	baz=254								
D25K	**Kavik River**	89.29	20	IAmb	IAmb	15 48 27.1			
	comp=Z,32nm,1.6s								
D25K	**Kavik River**	89.29	20	P	P	15 48 26.0	+0.4		
	baz=250								
BVCY	**Beaver Creek**	89.37	27	P	P	15 48 26.9	+0.9		
	baz=255,SNR=6.3								
YUK3	**Moose Creek**	89.38	28	P	P	15 48 26.7	+0.3		
	baz=256,SNR=6.5								
G26K	**Porcupine Rive**	89.44	22	P	P	15 48 27.4	+1.2		
	baz=252								
F26K	**Sheenjek River**	89.53	21	P	P	15 48 28.1	+1.4		
	baz=252								
YUK8	**Steele Glacier**	89.58	28	P	P	15 48 27.8	+0.4		
	baz=256								
EGAK	**Eagle**	89.86	25	IAmb	IAmb	15 48 29.4			
	comp=Z,14nm,1.2s								
EGAK	**Eagle**	89.86	25	P	P	15 48 28.6	+0.5		
	baz=255,SNR=8.7								
I27K	**Kandik River**	89.89	24	P	P	15 48 28.9	+0.5		
	baz=254								
O29M	**Mount Kennedy**	89.92	29	P	P	15 48 29.2	+0.4		
	baz=257								
C26K	**Camden Bay**	89.97	19	P	P	15 48 29.7	+1.1		
	baz=251								
H27K	**Steamboat Moun**	90.10	23	P	P	15 48 30.2	+0.9		
	baz=254,SNR=21								
ABKAR	**Akbulak array**	90.10	319	P	P	15 48 27.7	-2.0		
ABKAR	**Akbulak array**	90.10	319	IAmb	IAmb	15 48 33.9			
	comp=Z,4.5nm,1.4s								
YUK4	**Talbot Arm**	90.12	28	P	P	15 48 30.8	+1.0		
	baz=257								
YUK6	**Outpost Mounta**	90.17	29	P	P	15 48 30.4	+0.3		
	baz=257								
P29M	**Windy Craggy**	90.19	30	P	P	15 48 30.6	+0.7		
	baz=258								
DAWY	**Dawson**	90.42	25	P	P	15 48 31.4	+0.5		
	baz=256,SNR=11								
M29M	**Somme Creek**	90.46	27	IAmb	IAmb	15 48 32.6			
	comp=Z,21nm,1.6s								
M29M	**Somme Creek**	90.46	27	P	P	15 48 32.0	+0.8		
	baz=257,SNR=6.0								
I28M	**Miner Creek**	90.53	24	IAmb	IAmb	15 48 36.4			
	comp=Z,19nm,1.6s								
I28M	**Miner Creek**	90.53	24	P	P	15 48 31.9	+0.4		
	baz=256								
HYT	**Haines Junctio**	90.55	29	IAmb	IAmb	15 48 33.1			
	comp=Z,35nm,1.9s								
HYT	**Haines Junctio**	90.55	29	P	P	15 48 32.7	+1.0		
	baz=258								
S31K	**Pelican**	90.62	32	P	P	15 48 33.2	+1.3		
	baz=259								
P30M	**Million Dollar**	90.67	30	P	P	15 48 32.9	+0.7		
	baz=259								
L29M	**L29M**	90.75	27	IAmb	IAmb	15 48 34.1			
	comp=Z,18nm,1.2s								
L29M	**L29M**	90.75	27	P	P	15 48 33.4	+0.9		
	baz=258								
SIT	**Sitka**	90.93	33	P	P	15 48 32.8	-0.5		
	baz=260								
J29N	**Klondike Camp**	91.01	25	IAmb	IAmb	15 48 38.0			
	comp=Z,11nm,1.1s								
J29N	**Klondike Camp**	91.01	25	P	P	15 48 34.2	+0.5		
	baz=258								
F28M	**Old Crow**	91.08	22	P	P	15 48 34.5	+0.6		
	baz=256								
K29M	**Barlow Dome**	91.18	26	IAmb	IAmb	15 48 36.1			
	comp=Z,16nm,1.4s								
K29M	**Barlow Dome**	91.18	26	P	P	15 48 34.9	+0.4		
	baz=258,SNR=8.4								
O30N	**Mendenhall**	91.22	29	P	P	15 48 34.9	+0.2		
	baz=259								
M30M	**Minto, Yukon**	91.24	27	P	P	15 48 35.4	+0.7		
	baz=259								
H29M	**Whitestone**	91.33	23	P	P	15 48 35.7	+0.6		
	baz=257								
AKTO	**Aktyubinsk**	91.51	320	P	P	15 48 34.2	-2.1		
	comp=Z,1.7nm,1.0s,baz=142,slow=11,SNR=2.5								
	comp=Z,1.7nm,1.0s								
WHY	**Whitehorse**	91.79	29	P	P	15 48 37.3	-0.2		
	baz=260								
J30M	**Hart River**	91.83	25	IAmb	IAmb	15 48 42.4			
	comp=Z,18nm,1.5s								
J30M	**Hart River**	91.83	25	P	P	15 48 37.9	+0.3		
	baz=259,SNR=9.3								
D28M	**Stokes Point**	91.89	20	P	P	15 48 37.6	0.0		
	baz=257								
I30M	**Mount Dempster**	91.94	25	P	P	15 48 38.1	+0.1		
	baz=259								
E29M	**Blow River**	91.98	21	P	P	15 48 38.3	+0.3		
	baz=258								
EPYK	**Eagle Plains**	92.02	23	P	P	15 48 38.0	-0.3		
	baz=259								
ARU	**Arti**	92.05	326	*ci*P	P	15 48 36.9	-1.7		
ARU						15 52 14.9			
ARU				S	SKSac	15 59 09.2	-2.5		
ARU				pmax	pmax				
	comp=Z,16nm,1.4s								
ARU	**Arti**	92.05	326	P	P	15 48 35.9	-2.7		
	comp=Z,1.6nm,0.5s,baz=135,slow=1.4,SNR=2.3								
	comp=Z,1.6nm,0.5s								
P32M	**Atlin**	92.19	30	P	P	15 48 39.8	+0.6		
	baz=261								
M31M	**Drury Creek, Y**	92.28	28	P	P	15 48 39.6	+0.1		
	baz=261								
G30M	**tAoh Zraii Nji**	92.33	23	P	P	15 48 39.8	+0.1		
	baz=259								
WRAK	**Wrangell Islan**	92.45	34	P	P	15 48 40.5	+0.1		
	baz=262								
F30M	**Barrier River**	92.61	22	P	P	15 48 41.0	0.0		
	baz=260								
V35K	**Ketchikan**	92.72	35	P	P	15 48 42.0	+0.3		
	baz=263								
P33M	**Teslin, Yukon**	92.73	30	P	P	15 48 41.6	-0.2		
	baz=262								
N32M	**Quiet Lake**	92.73	29	P	P	15 48 42.4	+0.7		
	baz=262								
FARO	**Faro, Yukon**	92.76	28	P	P	15 48 41.7	-0.1		
	baz=262								
G31M	**Satah River**	93.08	23	P	P	15 48 42.8	-0.3		
	baz=261								
S34M	**Telegraph Cree**	93.30	32	P	P	15 48 44.6	+0.2		
	baz=264								
F31M	**Tsiigehtchic**	93.36	23	P	P	15 48 44.9	+0.5		
	baz=262								
R33M	**Jennings River**	93.55	31	P	P	15 48 45.6	0.0		
	baz=264								
INK	**Inuvik**	93.56	22	P	P	15 48 45.8	+0.5		
	baz=262								
T35M	**Bob Quinn**	93.67	33	P	P	15 48 47.0	+0.9		
	baz=264								
YKA	**Yellowknife Ar**	101.47	28	*i* P	Pdif	15 49 21.7	+0.6		
MPMC	**Manual Prospec**	101.62	55	P	Pdif	15 49 22.8	+0.1		
	baz=271								
KIV	**Kislovodsk**	101.63	313	*ei*P	Pdif	15 49 23.0	+0.6

WR0	**Warramunga Arr**	**15.87**	**210**	Pn	**Pn**	**15 42 44.4**	**-1.0**
WR0				IAmb	IAmb	15 43 12.6	
	comp=Z,38nm,0.8s						
WB2	**Warramunga Arr**	**15.95**	**210**	Pn	**Pn**	**15 42 46.2**	**-0.3**
WB2				IAmb	IAmb	15 43 22.6	
	comp=Z,104nm,1.2s						
WRA	**Warramunga Arr**	**15.96**	**210**	Pn	**Pn**	**15 42 44.9**	**-1.7**
	comp=Z,1.5nm,0.3s,baz=22,slow=13,SNR=5.5						
	comp=Z,17nm,1.1s						
SOEI	**Soe**	**18.69**	**258**	P	**P**	**15 43 21.3**	**+0.8**
SOEI				IAmb	IAmb	15 43 48.6	
	comp=Z,74nm,0.9s						
AS31	**Alice Springs**	**19.37**	**205**	Pn	**Pn**	**15 43 29.3**	**+0.3**
ASAR	**Alice Springs**	**19.37**	**205**		**P**	**15 43 28.7**	**+0.8**
ASAR	**Alice Springs**	**19.37**	**205**	P	**Pn**	**15 43 29.4**	**+0.3**
	comp=Z,27nm,0.6s,baz=29,slow=12,SNR=28						
FITZ	**Fitzroy Crossi**	**20.50**	**233**	P	**P**	**15 43 40.4**	**+0.1**
TOLI2	**Tolitoli**	**23.14**	**288**	P	**P**	**15 44 09.0**	**+0.4**
ARMA	**Armidale**	**25.50**	**162**	P	**P**	**15 44 28.9**	**-1.7**
ARMA				IAmb	IAmb	15 44 34.7	
	comp=Z,26nm,1.4s						
STKA	**Stephens Creek**	**25.59**	**182**	P	**P**	**15 44 29.4**	**-1.9**
	comp=Z,2.6nm,0.8s,baz=0.0,slow=2.0,SNR=2.0						
	comp=Z,2.6nm,0.8s						
MJAR	**Matsushiro Arr**	**42.72**	**355**	P	**P**	**15 46 57.1**	**-2.0**
	comp=Z,0.8nm,0.6s,baz=131,slow=8.7,SNR=1.5						
	comp=Z,0.8nm,0.6s						
KSRS	**Korea Array**	**45.58**	**343**	P	**P**	**15 47 22.7**	**+0.7**
	comp=Z,3.5nm,1.1s,baz=160,slow=7.8,SNR=4.6						
	comp=Z,3.5nm,1.1s						
JTM	**Tenmabayashi**	**46.77**	**358**	P	**P**	**15 47 30.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**49.69**	**300**	P	**P**	**15 47 54.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**49.69**	**300**	P	**P**	**15 47 55.5**	**+1.1**
	comp=Z,2.7nm,1.1s,baz=119,slow=5.8,SNR=4.7						
	comp=Z,2.7nm,1.1s						
USA0B	**Ussuriysk Arra**	**51.09**	**350**	P	**P**	**15 48 04.8**	**+0.3**
USA0B				IAmb	IAmb	15 48 22.2	
	comp=Z,6.4nm,1.1s						
USRK	**Ussuriysk Ar.**	**51.09**	**350**	P	**P**	**15 48 04.3**	**-0.2**
USRK	**Ussuriysk Ar.**	**51.09**	**350**	P	**P**	**15 48 04.5**	**0.0**
	comp=Z,3.8nm,0.8s,baz=186,slow=8.1,SNR=7.2						
	comp=Z,3.8nm,0.8s						
SONM	**Songino Array**	**62.61**	**333**	P	**P**	**15 49 25.9**	**-0.5**
SONM	**Songino Array**	**62.61**	**333**	P	**P**	**15 49 27.1**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=129,slow=3.9,SNR=2.8						
	comp=Z,1.2nm,0.8s						
VNDA	**Vanda**	**72.01**	**176**	P	**P**	**15 50 25.1**	**-0.3**
VNDA				IAmb	IAmb	15 50 38.7	
	comp=Z,13nm,1.4s						
MK31	**Makanchi Array**	**75.01**	**322**	P	**P**	**15 50 44.0**	**+0.4**
MKAR	**Makanchi Array**	**75.01**	**322**	P	**P**	**15 50 44.1**	**+0.5**
MKAR	**Makanchi Array**	**75.01**	**322**	P	**P**	**15 50 44.5**	**+0.9**
	comp=Z,2.7nm,0.9s,baz=111,slow=6.8,SNR=6.2						
	comp=Z,2.7nm,0.9s						
ZAA0	**Zalesovo Array**	**76.98**	**329**	P	**P**	**15 50 53.3**	**-1.3**
ZALV	**Zalesovo Beam**	**76.98**	**329**	P	**P**	**15 50 53.2**	**-1.4**
ZALV	**Zalesovo Beam**	**76.98**	**329**	P	**P**	**15 50 53.4**	**-1.2**
	comp=Z,1.5nm,0.7s,baz=115,slow=5.6,SNR=5.5						
	comp=Z,1.5nm,0.7s						
KURBB	**Kurchatov Arra**	**78.90**	**324**	P	**P**	**15 51 05.2**	**-0.2**
	comp=Z,2.2nm,1.1s,baz=115,slow=4.4,SNR=6.2						
	comp=Z,2.2nm,1.1s						
F17K	**Baldwin Pennin**	**82.78**	**20**	P	**P**	**15 51 25.9**	**+0.1**
F17K				IAmb	IAmb	15 52 03.6	
	comp=Z,9.5nm,1.4s						
CNPM	**China Poot**	**83.44**	**28**	P	**P**	**15 51 28.9**	**-0.5**
QSPA	**South Pole Qui**	**83.78**	**180**	P	**P**	**15 51 31.8**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=86,slow=9.9,SNR=9.3						
	comp=Z,0.7nm,0.5s						
H19K	**Roundabout Mou**	**83.97**	**21**	P	**P**	**15 51 32.0**	**+0.1**
H19K				IAmb	IAmb	15 51 35.0	
	comp=Z,4.4nm,1.1s						
NRIK	**Noril'sk**	**84.19**	**343**	P	**P**	**15 51 33.4**	**+0.4**
	comp=Z,1.4nm,0.4s,baz=133,slow=5.5,SNR=5.7						
	comp=Z,1.4nm,0.4s						
SUA	**Susitna One**	**84.44**	**26**	P	**P**	**15 51 34.6**	**0.0**
SUA				IAmb	IAmb	15 51 37.6	
	comp=Z,4.2nm,1.1s						
BVAR	**Borovoye Array**	**84.48**	**325**	P	**P**	**15 51 35.2**	**+0.4**
	comp=Z,8.4nm,0.7s,baz=112,slow=6.9,SNR=26						
	comp=Z,8.4nm,0.7s						
BRVK	**Borovoye**	**84.55**	**325**	P	**P**	**15 51 36.0**	**+0.8**
E19K	**Redstone River**	**84.66**	**20**	P	**P**	**15 51 36.0**	**+0.5**
E19K				IAmb	IAmb	15 51 37.6	
	comp=Z,3.6nm,0.9s						
RC01	**Rabbit Creek A**	**84.74**	**27**	P	**P**	**15 51 36.2**	**+0.2**
RC01				IAmb	IAmb	15 51 41.6	
	comp=Z,5.6nm,0.9s						
GHO	**Glory Hole Cre**	**85.37**	**26**	P	**P**	**15 51 39.0**	**-0.2**
SML	**Sawmill**	**85.64**	**26**	P	**P**	**15 51 40.9**	**+0.3**
MLY	**Manley**	**85.89**	**23**	P	**P**	**15 51 41.6**	**-0.1**
MLY				IAmb	IAmb	15 51 44.5	
	comp=Z,3.8nm,1.0s						
MCK	**McKinley**	**86.10**	**24**	P	**P**	**15 51 42.0**	**-0.8**
MCK				IAmb	IAmb	15 52 06.4	
	comp=Z,5.9nm,1.3s						
B21K	**Ikpikpuk River**	**86.56**	**18**	P	**P**	**15 51 45.3**	**+0.5**
M24K	**Tolsona, Glenn**	**86.70**	**26**	P	**P**	**15 51 45.9**	**+0.1**
CCB	**Clear Creek Bu**	**86.90**	**24**		**P**	**15 51 46.2**	**-0.4**
CCB				IAmb	IAmb	15 51 47.7	
	comp=Z,3.3nm,0.9s						
IL31		**87.32**	**24**		**P**	**15 51 47.8**	**-0.8**
IL31				IAmb	IAmb	15 51 52.0	
	comp=Z,3.1nm,0.9s						
ILAR	**Eielson Array**	**87.32**	**24**		**P**	**15 51 47.6**	**-1.0**
ILAR	**Eielson Array**	**87.32**	**24**	P	**P**	**15 51 47.9**	**-0.7**
	comp=Z,2.1nm,0.7s,baz=255,slow=5.2,SNR=18						
	comp=Z,2.1nm,0.7s						
J25K	**Salcha River,**	**87.88**	**24**		**P**	**15 51 51.1**	**-0.3**
J25K				IAmb	IAmb	15 52 18.4	
	comp=Z,6.0nm,1.4s						
BARN	**Barnard Glacie**	**88.44**	**28**	P	**P**	**15 51 53.9**	**-0.4**
DBIC	**Dimbokro**	**147.85**	**273**	PKPbc	**PKPbc**	**15 58 48.9**	**+0.6**
	comp=Z,3.4nm,0.8s,baz=79,slow=3.5,SNR=3.4						

IDC 06 15:53:08.1±9.3, 23°.03N×11°.56W, h0km, mb3.8/3, mbtmp3.8/4, ML3.0/1, Error ellipse: s-maj=216.3km s-min=35.4km az=56.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**15.97**	**126**	Pn	Pn	15 56 54.3	0.0
	0.1nm,0.3s,baz=312,slow=12,SNR=2.9						
TORD				Lg	Lg	16 01 35.3	
	baz=319,slow=22,SNR=1.3						
	0.9nm,0.4s						
HFS	**Hagfors**	**41.08**	**19**	P	P	16 00 52.7	-0.6
	1.5nm,0.5s,baz=218,slow=9.1,SNR=7.3						
	1.5nm,0.5s						
FINES	**FINESS Array B**	**46.23**	**24**	P	P	16 01 35.1	+0.4
	0.4nm,0.5s,baz=234,slow=7.6,SNR=5.6						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**76.11**	**45**	P	P	16 04 57.8	+0.1
	0.4nm,0.5s,baz=286,slow=5.5,SNR=9.9						
	0.4nm,0.5s						

SCB 06 15:55:47.9±1.0, 20°.39S×66°.95W, h234km±7km, ML3.5/6, MW3.8, Error ellipse: s-maj=3.4km s-min=2.6km az=2.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.50**	**125**	Pg	Pn	15 56 25.9	+0.6
MOCB				Sg	S	15 56 53.9	-0.6
MOCB				IAML		15 56 55.5	
	172nm,0.6s						
SOEO	**Opoqueri**	**2.02**	**334**	Pg	Pn	15 56 30.9	+1.0
PB08	**IPOC Station P**	**2.08**	**276**	Pg	Pn	15 56 31.2	+0.9
PB01	**IPOC Station P**	**2.46**	**254**	Pg	Pn	15 56 34.4	+0.6
PB01				Sg	S	15 57 09.0	-0.7
PB01				IAML		15 57 10.6	
	64nm,0.3s						
SOET	**ToroToro**	**2.50**	**26**	Pg	Pn	15 56 34.7	+0.2
PB09	**IPOC Station P**	**2.56**	**236**	Pg	Pn	15 56 35.9	+1.1
PB11	**IPOC Station P**	**2.62**	**283**	Pg	Pn	15 56 36.0	+0.5
PB11				Sg	S	15 57 12.0	-0.8
PB11				IAML		15 57 13.6	
	40nm,0.3s						
AOEA	**Aiquile**	**2.73**	**37**	Pg	Pn	15 56 36.8	-0.1
LVC	**Limon Verde**	**2.87**	**219**	Pg	Pn	15 56 39.1	+0.7
PB02	**IPOC Station P**	**2.91**	**251**	Pg	Pn	15 56 39.1	+0.6
PB02				Sg	S	15 57 17.5	-0.8
PB02				IAML		15 57 18.6	
	88nm,0.9s						
TA02	**Huaiquique**	**2.99**	**272**	Pg	Pn	15 56 39.5	+0.2
TA01	**Diego Aracena**	**3.03**	**266**	Pg	Pn	15 56 40.2	+0.4
PB07	**IPOC Station P**	**3.05**	**244**	Pg	Pn	15 56 41.0	+0.8
PB16	**IPOC Station P**	**3.16**	**310**	Pg	Pn	15 56 43.3	+1.4
PB06	**IPOC Station P**	**3.36**	**226**	Pg	Pn	15 56 44.5	+0.9
PB04	**IPOC Station P**	**3.56**	**236**	Pg	Pn	15 56 46.6	+0.7
PB04				Sg	S	15 57 30.5	-1.2
PB04				IAML		15 57 33.9	
	37nm,0.3s						
PB12	**IPOC Station P**	**3.64**	**298**	Pg	Pn	15 56 46.9	0.0
PB15	**IPOC Station P**	**3.66**	**219**	Pg	Pn	15 56 48.3	+1.1
PB15				Sg	S	15 57 32.7	-1.2
PB15				IAML		15 57 38.3	
	293nm,0.3s						
BBOE	**La Paz, Chanca**	**3.69**	**344**	Pg	Pn	15 56 48.7	+0.7
LPAZ	**La Paz**	**4.23**	**344**	Pg	Pn	15 56 55.2	+0.7
GO02	**Mina Guanaco**	**5.34**	**207**	P	Pn	15 57 07.9	+0.2

*CRAAG **06** 15:59:32.8, 35°.68N×1°.60W, Ml3.5, Algerie 43km NW Bou-Zadjar*
*MDD **06** 15:59:32.8±0.4, 35°.69N×1°.72W, h18km±4km, mb_Lg3.4/49, Error ellipse: s-maj=3.8km s-min=1.7km az=158.0*
*INMG **06** 15:59:33.1±1.3, 35°.72N×1°.74W, h20km±7km, ML2.8, Error ellipse: s-maj=4.9km s-min=2.8km az=136.0*
*CNRM **06** 15:59:33.6, 35°.92N×1°.85W, h32km, ML3.3*
*IGIL **06** 15:59:33.4, 35°.69N×1°.72W, h18km*
*LDG **06** 15:59:34.0±0.2, 35°.78N×1°.78W, h40km, Ml3.0/3, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*

ISC 06 15:59:30.4±0.8, 35°.78N±0°.02×1°.76W±0°.02, h10km, n138, σ1°71/216, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OLHC	**Oulhaca**	**0.60**	**152**	P	**Pb**	**15 59 43.3**	**+0.3**
CHAS	**Isla Isabel II**	**0.81**	**223**	Pg	**Pn**	**15 59 47.5**	**-0.4**
CHAS				Sg	**Sb**	**15 59 57.8**	**+0.3**
OSBL	**Sidi Abdelli**	**0.86**	**144**	P	**Pn**	**15 59 48.0**	**-0.6**
OTSS	**Djebel Tessala**	**0.94**	**122**	P	**Pn**	**15 59 49.6**	**-0.1**
USTO	**Oran**	**0.99**	**92**	P	**Sn**	**16 00 10.1**	**+5.8**
WMELI	**Melilla**	**1.07**	**245**	Pg	**Pn**	**15 59 51.8**	**+0.3**
WMELI				Sg	**Sg**	**16 00 05.2**	**+0.2**
EMLI	**Melilla**	**1.08**	**244**	Pg	**Pn**	**15 59 51.9**	**+0.3**
EMLI				Sg	**Sb**	**16 00 06.0**	**+0.7**
EMEL	**Melilla**	**1.08**	**244**	Pg	**Pn**	**15 59 51.9**	**+0.3**
EMEL				Sg	**Sb**	**16 00 06.0**	**+0.5**
EMEL				*i* Vmb_Lg		16 00 11.0	
TAF	**Taforalt**	**1.10**	**209**	S	**Sn**	**16 00 09.5**	**+2.2**
GOG	**Mont Gurugu**	**1.15**	**241**	P	**Pn**	**15 59 52.9**	**+0.2**
GOG	**Mont Gurugu**	**1.15**	**241**	S	**Sn**	**16 00 08.9**	**+0.5**
ENIJ	**Nijar**	**1.24**	**343**	Pn	**Pn**	**15 59 54.2**	**+0.3**
ENIJ				Sn	**Sb**	**16 00 09.5**	**-0.5**
ENIJ	**Nijar**	**1.24**	**343**	Pn	**Pn**	**15 59 54.2**	**+0.3**
ENIJ				Sn	**Sb**	**16 00 09.6**	**-0.5**
ENIJ				*i* Vmb_Lg		16 00 11.7	
ODJA	**Bouhanifia**	**1.39**	**108**	P	**Pg**	**15 59 57.7**	**+0.6**
EBER	**Berja**	**1.44**	**321**	Pn	**Pb**	**15 59 57.6**	**+0.1**
EBER				Sn	**Sn**	**16 00 15.0**	**-0.8**
EBER	**Berja**	**1.44**	**321**	Pn	**Pb**	**15 59 58.1**	**+0.6**
EBER				Sn	**Sb**	**16 00 16.5**	**+0.6**
EBER				*i* Vmb_Lg		16 00 20.9	
OFRG	**Douar Fergoug**	**1.49**	**100**	P	**Pg**	**15 59 58.6**	**-0.5**
OJBR	**Djebel Berber**	**1.73**	**96**	P	**Pg**	**16 00 03.0**	**-0.6**
ELGU	**Los Guajares,**	**1.85**	**306**	Pn	**Pn**	**16 00 02.6**	**+0.3**
ELGU				Sn	**Sn**	**16 00 24.9**	**-1.0**
ELGU	**Los Guajares,**	**1.85**	**306**	Pn	**Pn**	**16 00 03.0**	**+0.6**
ELGU				Sn	**Sn**	**16 00 25.8**	**0.0**
ELGU				*i* Vmb_Lg		16 00 30.4	
ELOR	**Lorca, Murcia**	**1.85**	**0**	Pn	**Pn**	**16 00 02.9**	**+0.7**
ELOR				Sn	**Sn**	**16 00 25.1**	**-0.7**
ELOR				*i* Vmb_Lg		16 00 26.3	
PALE	**Palemas**	**1.86**	**253**	P	**Pn**	**16 00 02.9**	**+0.5**
PALE	**Palemas**	**1.86**	**253**	S	**Sn**	**16 00 25.4**	**-0.6**
TLOR	**Lorca, Murcia**	**1.87**	**2**	Pn	**Pn**	**16 00 03.5**	**+0.9**
TLOR	**Lorca, Murcia**	**1.87**	**2**	Pn	**Pn**	**16 00 03.3**	**+0.8**
TLOR				Sn	**Sn**	**16 00 26.9**	**+0.7**
CART	**Cartagena**	**1.90**	**19**	Sn	**Sn**	**16 00 22.8**	**-4.2**
CART	**Cartagena**	**1.90**	**19**	P	**Pn**	**16 00 02.5**	**-0.5**
CART	**Cartagena**	**1.90**	**19**	S	**Sn**	**16 00 23.4**	**-3.6**
CART	**Cartagena**	**1.90**	**19**	Pn	**Pn**	**16 00 02.7**	**-0.3**
EQUE	**Quentar**	**1.96**	**317**	Pn	**Pb**	**16 00 06.3**	**+0.1**
EQUE				Sn	**Sn**	**16 00 29.6**	**+1.0**
EQUE				*i* Vmb_Lg		16 00 31.7	
EQTA	**Presa de Quent**	**1.96**	**317**	Pn	**Pb**	**16 00 06.2**	**-0.1**
EQTA				Sn	**Sn**	**16 00 29.6**	**+1.0**
OKGL	**Djebel Kef Gue**	**1.97**	**82**	P	**Sn**	**16 00 28.0**	**-0.7**
EZAR	**Zarzadilla de**	**2.09**	**2**	Pn	**Pn**	**16 00 06.6**	**+1.0**
EZAR				Sn	**Sn**	**16 00 32.1**	**+0.4**
EZAR				*i* Vmb_Lg		16 00 35.8	
EMUR	**La Murta**	**2.10**	**11**	Pn	**Pn**	**16 00 06.0**	**+0.3**
EMUR	**La Murta**	**2.10**	**11**	Pn	**Pn**	**16 00 05.0**	**+0.2**
EMUR				Sn	**Sn**	**16 00 31.8**	**-0.1**
EMUR				*i* Vmb_Lg		16 00 33.5	
E001A	**Albudeite (Mur**	**2.25**	**7**	Pn	**Pn**	**16 00 08.5**	**+0.7**
E001A				Sn	**Sn**	**16 00 35.5**	**-0.1**
EQES	**Quesada**	**2.27**	**333**	Pn	**Pb**	**16 00 11.4**	**-0.3**
EQES				Sn	**Sn**	**16 00 38.2**	**+1.9**
EQES				*i* Vmb_Lg		16 00 41.6	
E1002	**Yechar (Murcia**	**2.30**	**6**	Pn	**Pn**	**16 00 09.7**	**+1.3**
E1002				Sn	**Sn**	**16 00 36.2**	**-0.6**
EGOR	**Sierra Gorda,**	**2.31**	**306**	Pn	**Pn**	**16 00 09.1**	**+0.4**
EGOR	**Sierra Gorda,**	**2.31**	**306**	Pn	**Pn**	**16 00 10.0**	**+1.3**
EGOR				Sn	**Sn**	**16 00 37.9**	**+0.6**
EGOR				*i* Vmb_Lg		16 00 45.8	
EMAL	**Malaga-Limoner**	**2.37**	**295**	Pn	**Pn**	**16 00 09.3**	**0.0**
EMAL				Sn	**Sn**	**16 00 35.6**	**-2.7**
EMIJ	**Mijas**	**2.56**	**289**	Sn	**Sn**	**16 00 42.7**	**-0.4**
EMIJ				Pn	**Pn**	**16 00 11.4**	**-0.6**
EMIJ	**Mijas**	**2.56**	**289**	Pn	**Pn**	**16 00 11.9**	**-0.1**
EMIJ				Sn	**Sn**	**16 00 41.6**	**-1.5**
EMIJ				*i* Vmb_Lg		16 00 45.7	
ETOB	**Tobarra**	**2.86**	**3**	Pn	**Pn**	**16 00 18.2**	**+2.0**
ETOB				Sn	**Sn**	**16 00 50.5**	**-0.3**
ETOB	**Tobarra**	**2.86**	**3**	Pn	**Pn**	**16 00 18.5**	**+2.3**
ETOB				Sn	**Sn**	**16 00 50.5**	**-0.3**
ETOB				*i* Vmb_Lg		16 00 55.4	
CEU	**Ceuta**	**2.94**	**273**	Pn	**Pn**	**16 00 15.7**	**-1.4**
ECEU	**Ceuta**	**2.94**	**273**	Pn	**Pn**	**16 00 17.8**	**+0.6**
ECEU				Sn	**Sn**	**16 00 50.8**	**-1.7**
ECEU				*i* Vmb_Lg		16 01 00.9	
SMIR	**Smir Dam**	**2.94**	**269**	P	**Pn**	**16 00 16.8**	**-0.4**
SMIR				P	Pb	16 00 17.0	-6.0
SMIR	**Smir Dam**	**2.94**	**269**	S	**Sn**	**16 00 51.0**	**-1.6**
AFON	**Font Roja**	**3.04**	**18**	Pn	**Pn**	**16 00 20.7**	**+2.0**
AFON				Sn	**Sn**	**16 00 55.7**	**+0.5**
AFON				*i* Vmb_Lg		16 01 01.2	
EJIF	**Jimena Fronter**	**3.07**	**284**	Pn	**Pn**	**16 00 20.3**	**+1.2**
EJIF				Sn	**Sn**	**16 00 54.7**	**-1.2**
EBEN2	**Beniarda presa**	**3.15**	**23**	Pn	**Pn**	**16 00 21.5**	**+1.4**
EBEN2				Sn	**Sn**	**16 00 55.8**	**-2.0**
EBEN2				*i* Vmb_Lg		16 00 59.5	
EADA	**Adamuz**	**3.28**	**317**	Pn	**Pn**	**16 00 23.5**	**+1.6**
EADA				Sn	**Sn**	**16 01 00.8**	**-0.2**
EADA	**Adamuz**	**3.28**	**317**	Pn	**Pn**	**16 00 23.5**	**+1.6**
EADA				Sn	**Sn**	**16 01 02.1**	**+1.1**
EADA				*i* Vmb_Lg		16 01 14.5	
LCRM	**LCR**	**3.29**	**232**	P	**Pn**	**16 00 24.2**	**+2.0**
LCRM	**LCR**	**3.29**	**232**	S	**Sb**	**16 01 06.4**	**-2.9**
PSIM	**Granatula de C**	**3.42**	**333**	Pn	**Pn**	**16 00 25.9**	**+2.0**
PSIM				Sn	**Sn**	**16 01 04.0**	**-0.6**
ESPR	**Espera**	**3.48**	**289**	Pn	**Pn**	**16 00 25.3**	**+0.7**
ESPR				Sn	**Sn**	**16 01 04.2**	**-1.6**
ESPR				*i* Vmb_Lg		16 01 27.8	
EVIV	**Cofrentes, Val**	**3.52**	**8**	Pn	**Pn**	**16 00 27.1**	**+1.9**
EVIV				Sn	**Sn**	**16 01 07.5**	**+0.6**
EVIV				*i* Vmb_Lg		16 01 10.4	
IFR	**Ifrane**	**3.58**	**232**	Pn	**Pn**	**16 00 27.1**	**+1.0**
IFR				Sn	**Sn**	**16 01 05.5**	**-3.0**
FIGM	**Figuig**	**3.66**	**173**	P	**Pn**	**16 00 31.2**	**+3.9**
FIGM	**Figuig**	**3.66**	**173**	S	**Sb**	**16 01 16.3**	**-3.6**
ECAB	**El Cabril**	**3.72**	**309**	Pn	**Pn**	**16 00 29.1**	**+1.2**
ECAB				Sn	**Sn**	**16 01 08.6**	**-3.2**
ECAB	**El Cabril**	**3.72**	**309**	Pn	**Pn**	**16 00 29.2**	**+1.3**
ECAB				Sn	**Sn**	**16 01 11.9**	**+0.1**
ECAB				*i* Vmb_Lg		16 01 20.6	
MDT	**Midelt**	**3.78**	**219**	P	**Pn**	**16 00 30.6**	**+1.7**
MDT	**Midelt**	**3.78**	**219**	S	**Sn**	**16 01 14.2**	**+0.8**
MD31	**MD31**	**3.82**	**221**	P	**Pn**	**16 00 31.0**	**+1.6**
MD31	**MD31**	**3.82**	**221**	S	**Sn**	**16 01 17.4**	**+3.0**
ECHE	**Chera**	**3.85**	**9**	Pn	**Pn**	**16 00 32.1**	**+2.3**
ECHE	**Chera**	**3.85**	**9**	Pn	**Pn**	**16 00 31.9**	**+2.1**
ECHE				Sn	**Sn**	**16 01 15.4**	**+0.2**
ECHE				*i* Vmb_Lg		16 01 42.8	
EIBI	**Ibiza**	**4.08**	**36**	Pn	**Pn**	**16 00 32.9**	**+0.1**
EIBI	**Ibiza**	**4.08**	**36**	Pn	**Pn**	**16 00 33.0**	**+0.1**
EIBI				Sn	**Sn**	**16 01 17.0**	**-3.6**
EIBI				*i* Vmb_Lg		16 01 23.7	
PAB	**San Pablo**	**4.28**	**332**	Pn	**Pn**	**16 00 37.7**	**+2.0**
PAB				Sn	**Sn**	**16 01 24.8**	**-0.9**
PAB				*i* Vmb_Lg		16 01 42.1	
EMIN	**Mina Concepcio**	**4.41**	**298**	Pn	**Pn**	**16 00 38.0**	**+0.6**
EMIN	**Mina Concepcio**	**4.41**	**298**	Pn	**Pn**	**16 00 37.7**	**+0.3**
EMIN				Sn	**Sn**	**16 01 28.3**	**-0.5**
EMIN				*i* Vmb_Lg		16 01 33.4	
ZHG	**ZHG**	**4.65**	**241**	P	**Pn**	**16 00 43.2**	**+2.4**
EMOS	**Mosqueruela**	**4.69**	**12**	Pn	**Pn**	**16 00 43.4**	**+2.0**
EMOS				Sn	**Sn**	**16 01 35.6**	**-0.4**
EMOS				*i* Vmb_Lg		16 01 39.6	
PBAR	**Barrancos**	**4.85**	**301**	*eP*	**Pn**	**16 00 44.9**	**+1.4**
PBAR				*eS*	**Sn**	**16 01 38.5**	**-1.2**
PBAR				A	A	16 01 42.2	
	5.4nm,0.4s						
PBAR	**Barrancos**	**4.85**	**301**	Pn	**Pn**	**16 00 44.8**	**+1.4**
PBAR				Sn	**Sn**	**16 01 38.2**	**-1.5**
EGRO	**El Granado**	**4.92**	**293**	Pn	**Pn**	**16 00 45.0**	**+0.7**
EGRO	**El Granado**	**4.92**	**293**	Pn	**Pn**	**16 00 45.3**	**+0.9**
EGRO				Sn	**Sn**	**16 01 41.0**	**-0.4**
EGRO				*i* Vmb_Lg		16 01 43.0	
PVAQ	**Vaqueiros**	**5.06**	**290**	*eP*	**Pn**	**16 00 47.3**	**+1.0**
PVAQ				*eS*	**Sn**	**16 01 43.8**	**-0.9**
PVAQ				A	A	16 01 47.8	
	6.8nm,0.5s						
PVAQ	**Vaqueiros**	**5.06**	**290**	Pn	**Pn**	**16 00 47.3**	**+1.0**
PVAQ				Sn	**Sn**	**16 01 42.1**	**-2.7**
PVAQ	**Vaqueiros**	**5.06**	**290**	P	**Pn**	**16 00 47.2**	**+1.0**
PVAQ	**Vaqueiros**	**5.06**	**290**	S	**Sn**	**16 01 42.9**	**-1.9**
EBAD	**Badajoz**	**5.13**	**307**	Pn	**Pn**	**16 00 48.2**	**+0.9**
EBAD				Sn	**Sn**	**16 01 43.7**	**-2.9**
EBAD	**Badajoz**	**5.13**	**307**	Pn	**Pn**	**16 00 47.9**	**+0.6**
EBAD				Sn	**Sn**	**16 01 44.5**	**-2.1**
EBAD				*i* Vmb_Lg		16 01 49.4	
PBDV	**Barranco-do-Ve**	**5.18**	**288**	*eP*	**Pn**	**16 00 49.3**	**+1.3**
PBDV				*eS*	**Sn**	**16 01 47.9**	**+0.1**
PBDV				A	A	16 01 55.0	
	8.2nm,0.3s						
PBDV	**Barranco-do-Ve**	**5.18**	**288**	Pn	**Pn**	**16 00 48.9**	**+0.9**
GUD	**Guadarrama**	**5.21**	**340**	Pn	**Pn**	**16 00 50.4**	**+1.9**
GUD				Sn	**Sn**	**16 01 47.2**	**-1.5**
GUD				*i* Vmb_Lg		16 02 12.6	
PCVE	**Castro Verde**	**5.37**	**292**	*eP*	**Pn**	**16 00 52.1**	**+1.5**
PCVE				*eS*	**Sn**	**16 01 51.7**	**-0.8**
PCVE				A	A	16 01 58.6	
	4.9nm,0.5s						
PCVE	**Castro Verde**	**5.37**	**292**	Pn	**Pn**	**16 00 51.7**	**+1.1**
PBEJ	**Beja**	**5.38**	**296**	*eP*	**Pn**	**16 00 52.1**	**+1.4**
PBEJ				*eS*	**Sn**	**16 01 51.5**	**-1.2**
PBEJ				A	A	16 02 00.8	
	3.4nm,0.7s						
ETOS	**Mallorca**	**5.38**	**41**	Pn	**Pn**	**16 00 51.7**	**+0.9**
ETOS				Sn	**Sn**	**16 01 49.4**	**-3.4**
ETOS	**Mallorca**	**5.38**	**41**	Pn	**Pn**	**16 00 51.4**	**+0.6**
ETOS				Sn	**Sn**	**16

PGAV	Gavieira, Arco	7.99	323	*e*P	Pn	16 01 29.2	+2.6
LMR	La Mourre	9.88	38	*e*P	Pn	16 01 55.6	+3.2

*IDC **06** 16:01:34.4±1.0,6˚.28S×142˚.76E, h0km, mb3.8/6, mbtmp3.8/9,ML3.6/1, Error ellipse: s-maj=32.2km s-min=21.2km az=92.0*

ISC 06 16:01:35.6±0.8,**6˚.3S**±0˚.1×**142˚.77E**±0˚.09,**h10**km,**n16**, σ1§**33**/17,**mb3.7/6,New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**1.84**	**303**	P	Pb	**16 02 07.8**	**-1.6**
PMG	**Port Moresby**	**5.34**	**126**	Pn	Pn	**16 02 55.7**	**+0.2**
	9.5nm,0.7s,baz=339,slow=12,SNR=3.3						
PMG				Sn	Sn	**16 03 55.0**	**-2.3**
	2.9nm,0.3s,baz=234,slow=21,SNR=2.9						
KDU	**Kakadu**	**11.99**	**237**	P	Pn	**16 04 25.6**	**-1.1**
MTN	**Manton Dam**	**13.20**	**240**	P	Pn	**16 04 42.0**	**-1.3**
WRA	**Warramunga Arr**	**15.87**	**210**	Pn	Pn	**16 05 18.2**	**-1.0**
	0.3nm,0.3s,baz=31,slow=12,SNR=6.8						
WRA				Lg	Lg	16 09 58.3	
	0.1nm,0.3s,baz=26,slow=28,SNR=4.7						
	0.7nm,0.7s						
KNRA	**Kununurra**	**16.62**	**235**	P	Pn	**16 05 27.6**	**-1.3**
AS01	**Alice Springs**	**19.26**	**205**	P	Pn	**16 06 03.0**	**+1.5**
ASAR	**Alice Springs**	**19.28**	**205**	P	Pn	**16 06 01.2**	**-0.6**
	5.5nm,0.7s,baz=29,slow=12,SNR=68						
ASAR				Lg	Lg	16 11 43.7	
	baz=31,slow=29,SNR=2.8						
OOD	**Oodnadatta**	**22.44**	**197**	P	P	**16 06 37.0**	**+2.2**
WRKA	**Warakurna**	**23.25**	**215**	P	P	**16 06 43.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**49.72**	**300**	P	P	**16 10 29.5**	**+1.0**
	0.3nm,0.5s,baz=103,slow=6.8,SNR=1.7						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**75.07**	**322**	P	P	**16 13 18.9**	**+1.1**
	0.3nm,0.7s,baz=118,slow=6.4,SNR=3.7						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**78.96**	**324**	P	P	**16 13 40.1**	**+0.5**
	0.1nm,0.2s,baz=116,slow=4.2,SNR=1.7						
	0.1nm,0.2s						
QSPA	**South Pole Qui**	**83.70**	**180**	P	P	**16 14 05.2**	**+0.6**
	1.5nm,0.9s,baz=4.6,slow=5.0,SNR=3.2						
	1.5nm,0.9s						
BVAR	**Borovoye Array**	**84.54**	**325**	P	P	**16 14 09.6**	**+0.6**
	1.2nm,0.7s,baz=116,slow=5.8,SNR=7.5						
	1.2nm,0.7s						
ILAR	**Eielson Array**	**87.41**	**24**	P	P	**16 14 22.1**	**-0.8**
	0.5nm,0.7s,baz=264,slow=5.1,SNR=9.8						
	0.5nm,0.7s						

*IDC **06** 16:12:33.3±1.2,6˚.22S×142˚.46E, h0km, mb3.7/4, mbtmp3.7/7, ML3.5/2, Error ellipse: s-maj=36.7km s-min=22.7km az=98.0*

ISC 06 16:12:34.7±0.9,**6˚.3S**±0˚.1×**142˚.5E**±0˚.1,**h10**km,**n7**,σ1§**25**/8, **mb3.8**/4,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.55**	**124**	Pn	Pn	**16 13 58.7**	**+1.2**
	3.3nm,0.3s,baz=324,slow=12,SNR=1.9						
PMG				Sn	Sn	**16 15 00.3**	**-1.2**
	baz=336,slow=20						
WRA	**Warramunga Arr**	**15.74**	**210**	Pn	Pn	**16 16 15.4**	**-1.3**
	0.1nm,0.3s,baz=30,slow=14,SNR=7.2						
WRA				Lg	Lg	16 20 51.7	
	0.1nm,0.3s,baz=30,slow=37,SNR=4.0						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**19.17**	**205**	P	Pn	**16 16 59.7**	**+0.1**
	0.2nm,0.3s,baz=33,slow=9.8,SNR=26						
ASAR				Lg	Lg	16 22 42.0	
	baz=34,slow=25,SNR=1.8						
	1.7nm,0.6s						
MKAR	**Makanchi Array**	**74.91**	**322**	P	P	**16 24 16.5**	**+0.5**
	0.3nm,0.7s,baz=123,slow=5.3,SNR=3.1						
	0.3nm,0.7s						
QSPA	**South Pole Qui**	**83.69**	**180**	P	P	**16 25 04.4**	**+0.7**
	0.8nm,0.9s,baz=0.0,slow=1.0,SNR=1.6						
	0.8nm,0.9s						
BVAR	**Borovoye Array**	**84.39**	**325**	P	P	**16 25 07.6**	**+0.3**
	0.7nm,0.6s,baz=111,slow=6.5,SNR=5.0						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**87.51**	**24**	P	P	**16 25 21.0**	**-1.5**
	0.3nm,0.7s,baz=258,slow=4.2,SNR=3.0						
	0.3nm,0.7s						

*NEIC **06** 16:18:36.2±1.0,44˚.99N×0˚.07×106˚.86W±0˚.07, h0km±1km, ML2.9/34, Error ellipse: s-maj=14.1km s-min=2.7km az=212.0*

*IDC **06** 16:18:37.0±1.3,44˚.98N×106˚.79W, h0km, mbtmp3.3/2, ML1.9/1, Error ellipse: s-maj=54.1km s-min=9.4km az=136.0*

ISC 06 16:18:36.9±1.1,**45˚.11N**±0˚.06×**106˚.77W**±0˚.06,**h0**km,**n28**, σ1§**07**/27,**Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**1.62**	**13**		Pg	**16 19 09.0**	**+1.0**
LAO				IAML		16 19 38.1	
	212nm,0.7s						
LAO				IAML		16 19 48.6	
	164nm,0.9s						
RLMT	**Red Lodge**	**1.77**	**271**		Pb	**16 19 09.9**	**-0.5**
RLMT				IAML		16 19 55.3	
	87nm,0.7s						
GCMT	**Greycliff**	**2.15**	**289**	Pn	Pn	**16 19 14.3**	**+0.2**
RSSD	**Black Hills**	**2.19**	**116**		Pn	**16 19 14.8**	**+0.1**
YMP	**Mirror Lake Pl**	**2.44**	**262**		Pn	**16 19 17.9**	**-0.3**
K22A	**Casper**	**2.47**	**176**		Pn	**16 19 18.2**	**-0.3**
K22A				IAML		16 19 55.9	
	comp=E,96nm,0.6s						
K22A				IAML		16 20 00.3	
	comp=N,115nm,0.6s						
LKWY	**Lake**	**2.64**	**259**		Pn	**16 19 20.1**	**-0.9**
LKWY				IAML		16 20 05.2	
	comp=N,50nm,0.6s						
LKWY				IAML		16 20 29.9	
	comp=N,35nm,3.4s						
H17A	**Grant Village**	**2.81**	**257**		Pn	**16 19 22.8**	**-0.5**
YNR	**Norris Junctio**	**2.81**	**263**	Pn	Pn	**16 19 22.7**	**-0.6**
YNR				IAML		16 20 12.4	
	comp=E,30nm,0.5s						
YHH	**Holmes Hill**	**2.92**	**265**		Pn	**16 19 23.8**	**-1.0**
FLWY	**Flagg Ranch**	**2.99**	**251**		Pn	**16 19 24.8**	**-1.0**
FLWY				IAML		16 20 30.8	
	comp=E,50nm,1.8s						
FLWY				IAML		16 20 42.8	
	comp=E,32nm,1.0s						
BW06	**Boulder Array**	**3.09**	**222**	Pn	Pn	**16 19 26.4**	**-0.7**
BW06				IAML		16 20 18.0	
	comp=E,24nm,1.6s						
BW06				IAML		16 20 21.8	
	comp=E,26nm,0.9s						
PD31	**Pinedale Array**	**3.09**	**222**		Pn	**16 19 26.0**	**-1.1**
PDAR	**Pinedale Array**	**3.09**	**222**	Pn	Pn	**16 19 29.6**	**+2.5**
	comp=E,3.1nm,0.3s,baz=52,slow=18,SNR=56						
PDAR				Lg	Lg	16 20 08.2	
	comp=E,3.8nm,0.3s,baz=44,slow=33,SNR=3.5						
LOHW	**Long Hollow**	**3.13**	**243**		Pn	**16 19 25.9**	**-1.8**
MOOW	**Moose Ponds**	**3.16**	**246**		Pn	**16 19 27.5**	**-0.6**
REDW	**Red Top Meadow**	**3.42**	**241**	Pn	Pn	**16 19 31.6**	**0.0**
RWWY	**Rawlins**	**3.44**	**186**	Pn	Pn	**16 19 31.6**	**-0.3**
RWWY				IAML		16 20 29.9	
	comp=E,34nm,0.9s						
RWWY				IAML		16 20 53.5	
	comp=E,40nm,4.0s						
AHID	**Auburn Hatcher**	**3.91**	**235**	Pn	Pn	**16 19 37.2**	**-1.2**
PHWY	**Pilot Hill**	**3.93**	**165**	Pn	Pn	**16 19 38.0**	**-0.7**
PHWY				IAML		16 20 47.8	
	comp=E,18nm,0.5s						
PHWY				IAML		16 20 48.6	
	comp=E,26nm,0.6s						
N23A	**Red Feather La**	**4.26**	**172**	Pn	Pn	**16 19 42.2**	**-1.0**
BPMT	**Black Pine Rid**	**4.86**	**288**	Pn	Pn	**16 19 52.2**	**+0.8**
HWUT	**Hardware Ranch**	**4.95**	**227**	Pn	Pn	**16 19 54.7**	**+2.0**
HWUT				IAML		16 21 37.4	
	comp=E,10nm,3.2s						
HWUT				IAML		16 21 44.0	
	comp=E,14nm,2.6s						
SRU	**San Rafael Swe**	**6.61**	**206**	Pn	Pn	**16 20 16.6**	**+1.2**
HMU	**Henry Mountain**	**7.76**	**204**	Pn	Pn	**16 20 32.0**	**+0.7**
MVCO	**Mesa Verde**	**8.00**	**190**	Pn	Pn	**16 20 35.2**	**+0.6**
I10CA	**LAC DU BONNET**	**8.86**	**51**	I	I	17 13 50.0	
	baz=237,slow=335,SNR=1.9						
ULM	**Lac du Bonnet**	**8.96**	**51**	Pn	Pn	**16 20 46.4**	**-1.1**
	comp=E,0.2nm,0.3s,baz=233,slow=10,SNR=7.0						
ULM				Lg	Lg	16 23 15.7	
	comp=E,0.3nm,0.3s,baz=141,slow=11,SNR=1.5						
	comp=E,0.8nm,0.3s						

IDC 06 16:21:23.1±2.1,**6˚.33S×142˚.82E, h0km, mb3.7**/2, **mbtmp3.6**/4,**ML3.1**/2,**Error ellipse: s-maj=108.7km s-min=33.2km az=110.0,New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.85**	**211**	Pn	Pn	16 25 05.8	-1.9
	baz=31,slow=13,SNR=1.6						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**19.26**	**206**	P	Pn	16 25 50.1	-0.2
	0.2nm,0.3s,baz=31,slow=11,SNR=8.5						
	1.7nm,0.7s						
BVAR	**Borovoye Array**	**84.61**	**325**	P	P	16 33 59.0	+0.5
	0.8nm,0.6s,baz=111,slow=6.5,SNR=3.3						
	0.8nm,0.6s						
ILAR	**Eielson Array**	**87.44**	**24**	P	P	16 34 11.6	-0.6
	0.2nm,0.8s,baz=242,slow=5.0,SNR=1.6						
	0.2nm,0.8s						

*IDC **06** 16:21:25.5±1.3,5˚.34S×102˚.28E, h0km, mb4.3/11, mbtmp4.3/12, ML4.7/1, Error ellipse: s-maj=48.5km s-min=14.6km az=54.0*

*NEIC **06** 16:21:31.8±1.3,5˚.31S±0˚.07×102˚.38E±0˚.07, h32km±6km, mb4.6/30, Error ellipse: s-maj=11.1km s-min=9.5km az=61.0*

*DJA **06** 16:21:31.3±0.3,5˚S±3˚×10˚2E±˚, h27km±3km, M4.8/33, mB5.5/6, mb4.8/33, MLv4.7/19, Mw(mB)4.9/6*

ISC 06 16:21:31.4±0.5,**5˚.38S**±0˚.06×**102˚.36E**±0˚.07,**h34**km,**n119**, σ1§**15**/106,**mb4.6**/34,**1D,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.17**	**30**		Pn	**16 21 50.6**	**-0.7**
MNAI	**Manna**	**1.17**	**30**	P	Pn	**16 21 50.3**	**-1.1**
MNAI				S	Sb	**16 22 08.6**	**+0.6**
LWLI	**Liwa**	**1.73**	**78**	P	Pn	**16 21 58.8**	**-0.3**
LHSI	**Lahat**	**1.93**	**37**	P	Pn	**16 22 02.9**	**+1.1**
KASI	**Kota Agung**	**2.13**	**94**	P	Pn	**16 22 04.5**	**-0.1**
KRJI	**Kerinci**	**3.38**	**345**	P	Pn	**16 22 22.0**	**+0.1**
PPSI	**Pulau Pagai**	**3.50**	**318**	P	Pn	**16 22 25.0**	**+1.6**
SBJI	**Serang**	**3.82**	**101**	P	Pn	**16 22 29.0**	**+1.2**
JMBI	**JAMBI**	**3.93**	**19**	P	Pb	16 22 50.0	+10
SKJI	**Sukabumi**	**4.47**	**111**	P	Pn	**16 22 37.7**	**+0.9**
DBJI	**Dramaga**	**4.52**	**105**	P	Pn	**16 22 37.6**	**+0.1**
CBJI	**Citeko**	**4.58**	**103**	P	Pn	**16 22 41.2**	**+2.9**
PDSI	**Padang**	**4.82**	**337**	P	Pn	**16 22 40.8**	**-0.8**
PPBI	**Pangkal Pinang**	**4.94**	**50**	P	Pn	**16 22 44.0**	**+0.8**
SISI	**Saibi**	**5.18**	**321**	P	Pn	**16 22 46.7**	**+0.2**
	40nm,0.7s,0.3nm						
DSRI	**Dabo**	**5.34**	**25**	P	Pn	**16 22 49.0**	**+0.2**
	49nm,0.6s,0.2nm						
LEM	**Lembang**	**5.42**	**106**	Pn	Pn	**16 22 50.7**	**+0.7**
	21nm,0.3s,baz=301,slow=12,SNR=29						
	72nm,0.5s						
LEM	**Lembang**	**5.42**	**106**	P	Pn	**16 22 52.9**	**+2.9**
	126nm,1.2s,1μm0.5nm						
XMIS	**Christmas Isla**	**6.03**	**147**	Pn	Pn	16 22 52.8	-5.4
CMJI	**Cimerak**	**6.50**	**112**	P	Pn	**16 23 04.0**	**-0.7**
	139nm,0.6s,3μm0.7nm						
PBSI	**Pulau Batu**	**6.67**	**322**	P	Pn	**16 23 07.6**	**+0.5**
	83nm,1.5s,0.5nm						
KPJI	**Karang Pucung**	**6.81**	**107**	P	Pn	**16 23 09.9**	**+0.9**
	76nm,0.5s,0.3nm						
MYKOM	**Kota Tinggi**	**7.27**	**12**	Pn	Pn	**16 23 14.9**	**-0.4**
GSI	**Gunungsitoli**	**8.18**	**324**	Pn	Pn	**16 23 27.5**	**-0.3**
UGM	**Wanagama**	**8.49**	**108**	Pn	Pn	**16 23 31.8**	**-0.2**
UGM	**Wanagama**	**8.49**	**108**	P	Pn	**16 23 32.9**	**+0.9**
	190nm,0.6s						
COCO	**West Island**	**8.70**	**219**	Pn	Pn	**16 23 34.8**	**0.0**
RPSI	**Rantau Prapat**	**8.72**	**337**	Pn	Pn	**16 23 34.5**	**-0.7**
NGJI	**Ngawi**	**9.26**	**103**	P	Pn	**16 23 43.6**	**+1.1**
PWJI	**Pagerwojo**	**9.74**	**106**	P	Pn	**16 23 49.6**	**+0.4**
	38nm,0.8s						
STKI	**Sinkun**	**10.59**	**60**	P	Pn	16 24 10.7	+10
BLJI	**Banyuglugur**	**11.41**	**103**	P	Pn	**16 24 11.9**	**-0.1**
	46nm,0.5s						
KMMI	**Kalianget**	**11.66**	**99**	P	Pn	**16 24 16.8**	**+1.4**
	29nm,0.6s						
ABJI	**Asem Bagus**	**12.04**	**102**	P	Pn	**16 24 21.9**	**+1.3**
	66nm,0.5s						
JAGI	**Jajag, Banyuwa**	**12.10**	**105**	Pn	Pn	**16 24 21.1**	**-0.5**
JAGI	**Jajag, Banyuwa**	**12.10**	**105**	P	Pn	**16 24 21.7**	**+0.2**
	62nm,1.0s						
SBUM	**Sibu**	**12.55**	**52**		Pn	**16 24 27.4**	**-0.2**
SRBI	**Singaraja**	**13.04**	**103**	P	Pn	**16 24 34.1**	**-0.3**
	30nm,0.5s						
TWSI	**Taliwang, Sumb**	**14.79**	**104**	P	Pn	**16 24 58.2**	**0.0**
	20nm,1.2s						
BKB	**Balikpapan**	**15.07**	**75**	P	P	**16 25 07.5**	**+0.6**
PLAI	**Plampang**	**15.68**	**104**	P	Pn	**16 25 08.1**	**-1.8**
	48nm,0.6s						
TTSI	**Tana Toraja**	**17.56**	**83**	P	P	**16 25 35.8**	**+1.3**
	19nm,1.1s						
MPSI	**Mapaga**	**18.41**	**73**	P	Pn	**16 25 45.4**	**+1.3**
	28nm,0.8s						
EDFI	**Ende, Flores**	**19.47**	**101**	P	P	**16 25 56.4**	**+0.8**
	15nm,0.6s						
TOLI2	**Tolitoli**	**19.50**	**71**		P	**16 25 55.4**	**-0.3**
TOLI2				IAmb	IAmb	16 25 57.1	
	comp=Z,50nm,1.4s						
MMRI	**Maumere**	**19.99**	**100**		P	**16 25 60.0**	**-1.2**
MMRI	**Maumere**	**19.99**	**100**	P	P	**16 26 01.7**	**+0.5**
MRSI	**Marisa**	**20.40**	**74**	P	P	**16 26 05.8**	**+0.2**
	comp=Z,33nm,0.8s						
UBPT	**Khong Chiam**	**20.75**	**8**	P	P	**16 26 07.6**	**-1.8**
UBPT				IAmb	IAmb	16 26 09.0	
	comp=Z,18nm,0.9s						
LUWI	**Luwuk**	**20.82**	**79**	P	P	**16 26 09.1**	**-1.1**
LUWI	**Luwuk**	**20.82**	**79**	P	P	**16 26 11.0**	**+0.8**
	comp=Z,39nm,0.7s,comp=Z,1μm						
GTOI	**Gorontalo**	**21.47**	**74**	P	P	**16 26 16.8**	**-0.4**
	comp=Z,11nm,1.2s						
SOEI	**Soe**	**22.14**	**103**	P	P	**16 26 23.0**	**-1.6**
SOEI				IAmb	IAmb	16 26 40.2	
	comp=Z,25nm,0.7s						
SOEI	**Soe**	**22.14**	**103**	P	P	**16 26 25.0**	**+0.5**
	comp=Z,35nm,0.8s						
MBWA	**Marble Bar**	**23.02**	**135**	P	P	**16 26 34.2**	**+0.5**
MBWA				IAmb	IAmb	16 26 51.1	
	comp=Z,13nm,1.1s						
CM31	**Chiang Mai Arr**	**23.92**	**352**	P	P	**16 26 42.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**23.92**	**352**	P	P	**16 26 42.3**	**0.0**
CMAR	**Chiang Mai Arr**	**23.92**	**352**	P	P	**16 26 41.0**	**-1.4**
	comp=Z,1.8nm,0.7s,baz=181,slow=9.2,SNR=20						
	comp=Z,1.8nm,0.7s						
CHTO	**Chiang Mai**	**24.27**	**352**	P	P	**16 26 44.2**	**-1.4**
CRAI	**Chiangrai**	**25.52**	**356**	P	P	**16 26 56.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**26.02**	**121**	P	P	**16 27 00.9**	**-0.6**
SLVN	**Son La**	**26.59**	**3**	P	P	**16 27 06.2**	**-0.5**
KNRA	**Kununurra**	**27.87**	**114**	P	P	**16 27 17.5**	**-0.7**
KNRA				IAmb	IAmb	16 27 18.0	
	comp=Z,11nm,0.6s						
MTN	**Manton Dam**	**29.34**	**107**	P	P	**16 27 31.0**	**-0.3**
H08S2	**Diego Garcia H**	**29.76**	**264**	T	T	16 58 33.3	
	baz=87,slow=76,SNR=44						
H08S3	**Diego Garcia H**	**29.76**	**264**	T	T	16 58 34.0	
	baz=87,slow=76,SNR=70						
H08S1	**Diego Carcia H**	**29.77**	**264**	T	T	16 58 24.6	
	baz=87,slow=76,SNR=33						
H01W3	**Cape Leeuwin H**	**31.32**	**161**	T	T	17 00 37.8	
	baz=338,slow=76,SNR=23						
H01W2	**Cape Leeuwin H**	**31.33**	**161**	T	T	17 00 37.7	
	baz=338,slow=76,SNR=23						
H01W1	**Cape Leeuwin H**	**31.33**	**161**	T	T	17 00 38.4	
	baz=338,slow=76,SNR=23						
PZH	**PanZhiHua**	**31.70**	**359**	P	P	**16 27 55.1**	**+3.0**
PZH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
WB0	**Warramunga Arr**	**34.29**	**118**	P	P	**16 28 14.0**	**-0.8**
WB0				IAmb	IAmb	16 28 27.4	
	comp=Z,6.7nm,0.9s						
WRA	**Warramunga Arr**	**34.30**	**118**	P	P	**16 28 13.0**	**-1.8**
	comp=Z,1.9nm,0.7s,baz=287,slow=11,SNR=9.0						
	comp=Z,1.9nm,0.7s						
WB2	**Warramunga Arr**	**34.31**	**118**	P	P	**16 28 14.5**	**-0.4**
WB2				IAmb	IAmb	16 28 18.1	
	comp=Z,12nm,1.1s						
WR0	**Warramunga Arr**	**34.48**	**118**	P	P	**16 28 16.4**	**0.0**
WR0				IAmb	IAmb	16 28 26.7	
	comp=Z,7.8nm,0.8s						
ASAR	**Alice Springs**	**35.40**	**124**	P	P	**16 28 24.6**	**+0.3**
ASAR	**Alice Springs**	**35.40**	**124**	P	P	**16 28 24.4**	**+0.1**
	comp=Z,3.4nm,0.7s,baz=293,slow=7.3,SNR=43						
	comp=Z,3.4nm,0.7s						
AS31	**Alice Springs**	**35.40**	**124**	P	P	**16 28 24.4**	**+0.1**
XAN	**Xi'an**	**39.69**	**9**	P	P	**16 28 58.8**	**-1.7**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NJ2	**Nanjing**	**40.40**	**22**	*e*P	P	**16 29 09.6**	**+3.3**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
GOMU	**GeErMu**	**41.96**	**351**	P	P	**16 29 18.8**	**-0.7**
GOMU				pP	pP	16 29 22.8	-6.4
GOMU				sP	sP	16 29 25.0	-8.4
GOMU				pmax	pmax		
	comp=Z,2.0nm,1.1s						
PMG	**Port Moresby**	**44.58**	**98**	P	P	**16 29 39.5**	**-1.2**
PMG				IAmb	IAmb	16 30 23.8	
	comp=Z,12nm,0.8s						
GTA	**Gaotai**	**44.62**	**357**	*e*P	P	**16 29 41.0**	**+0.3**
GTA				sP	sP	16 29 55.3	+0.6
GTA				pmax	pmax		
	comp=Z,5.0nm,1.4s						
CTAO	**Charters Tower**	**45.08**	**113**	P	P	**16 29 45.0**	**+0.4**
STKA	**Stephens Creek**	**45.17**	**131**	P	P	**16 29 45.8**	**+0.7**
STKA				IAmb	IAmb	16 29 47.1	
	comp=Z,3.5nm,0.6s						
STKA	**Stephens Creek**	**45.17**	**131**	P	P	**16 29 45.5**	**+0.4**
	comp=Z,15nm,0.5s,baz=306,slow=8.0,SNR=44						
	comp=Z,15nm,0.5s						
HHC	**Hu-ho-hao-te**	**46.77**	**10**	*e*P	P	**16 30 00.0**	**+2.4**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,360nm,5.9s						
KSRS	**Korea Array**	**48.82**	**27**	P	P	**16 30 12.6**	**-0.9**
	comp=Z,1.7nm,0.5s,baz=224,slow=7.3,SNR=9.9						
	comp=Z,1.7nm,0.5s						
WMQ	**Urumqi**	**50.73**	**346**	*e*P	P	**16 30 29.0**	**+1.0**
WMQ				pP	pP	16 30 38.8	+0.6
WMQ				pmax	pmax		
	comp=Z,16nm,0.9s						
KSH	**Kashi**	**50.88**	**334**	P	P	**16 30 33.5**	**+4.2**
KSH				pP	sP	16 30 41.7	-1.7
KSH				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**53.10**	**3**	P	P	**16 30 45.9**	**+0.3**
SONM				IAmb	IAmb	16 30 47.0	
	comp=Z,7.0nm,0.9s						
SONM	**Songino Array**	**53.10**	**3**	P	P	**16 30 45.4**	**-0.3**
	comp=Z,7.3nm,0.8s,baz=181,slow=9.4,SNR=44						
SONM				PcP	PcP	**16 31 53.5**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=182,slow=4.3,SNR=1.1						
	comp=Z,7.3nm,0.8s						
ULN	**Ulaanbaatar**	**53.18**	**4**	P	P	**16 30 46.1**	**-0.1**
ULN				IAmb	IAmb	16 30 47.3	
	comp=Z,4.6nm,0.9s						
CN2	**Changchun**	**53.20**	**21**	P	P	**16 30 45.1**	**-1.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MK31	**Makanchi Array**	**54.91**	**343**	P	P	**16 30 58.7**	**0.0**
MKAR	**Makanchi Array**	**54.91**	**343**	P	P	**16 30 58.3**	**-0.4**
MKAR	**Makanchi Array**	**54.91**	**343**	P	P	**16 30 57.9**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=148,slow=8.5,SNR=16						
	comp=Z,1.0nm,0.6s						
BNX	**BinXian**	**55.58**	**21**	⇓P	P	**16 31 02.9**	**-0.6**
BNX				pmax	pmax		
	comp=Z,18nm,0.9s						
BNX				pmax	pmax		
	comp=Z,260nm,9.6s						
USA0B	**Ussuriysk Arra**	**56.09**	**25**	P	P	**16 31 05.9**	**-1.3**
USA0B				IAmb	IAmb	16 31 07.0	
	comp=Z,6.5nm,0.7s						
USRK	**Ussuriysk Ar.**	**56.09**	**25**	P	P	**16 31 06.2**	**-1.0**
USRK	**Ussuriysk Ar.**	**56.09**	**25**	P	P	**16 31 05.7**	**-1.6**
	comp=Z,5.3nm,0.6s,baz=211,slow=6.1,SNR=24						
	comp=Z,5.3nm,0.6s						
HNR	**Honiara**	**57.20**	**98**	P	P	**16 31 15.3**	**-0.4**
KURBB	**Kurchatov Arra**	**59.44**	**343**	P	P	**16 31 29.1**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=159,slow=6.5,SNR=7.5						
	comp=Z,0.8nm,0.8s						
HEH	**HeiHe**	**59.49**	**18**	*e*P	P	**16 31 30.3**	**-0.7**
HEH				pmax	pmax		
	comp=Z,9.0nm,0.9s						
H04N2	**CROZET ISLANDS**	**59.56**	**218**	T	T	17 36 10.4	
	baz=62,slow=75,SNR=108						
H04N1	**CROZET ISLANDS**	**59.58**	**219**	T	T	17 36 12.8	
	baz=62,slow=75,SNR=112						
H04N3	**CROZET ISLANDS**	**59.58**	**218**	T	T	17 36 09.4	
	baz=62,slow=75,SNR=90						
H04S1	**CROZET ISLANDS**	**59.81**	**218**	T	T	17 36 24.3	
	baz=63,slow=75,SNR=84						
H04S3	**CROZET ISLANDS**	**59.82**	**218**	T	T	17 36 23.9	
	baz=63,slow=75,SNR=199						
H04S2	**CROZET ISLANDS**	**59.82**	**218**	T	T	17 36 25.2	
	baz=63,slow=75,SNR=139						
ZAA0	**Zalesovo Array**	**60.92**	**348**	P	P	**16 31 39.3**	**-1.4**
ZAA0				IAmb	IAmb	16 31 41.8	
	comp=Z,3.7nm,0.7s						
ZALV	**Zalesovo Beam**	**60.92**	**348**	P	P	**16 31 39.2**	**-1.5**
ZALV	**Zalesovo Beam**	**60.92**	**348**	P	P	**16 31 39.5**	**-1.2**
	comp=Z,4.1nm,0.8s,baz=166,slow=4.9,SNR=18						
	comp=Z,4.1nm,0.8s						
BVAR	**Borovoye Array**	**64.15**	**339**	P	P	**16 32 01.3**	**-1.0**
	comp=Z,2.4nm,0.7s,baz=139,slow=8.2,SNR=11						
	comp=Z,2.4nm,0.7s						
ABKAR	**Akbulak array**	**65.72**	**331**	P	P	**16 32 12.6**	**0.0**
RTZ	**Ruatahuna**	**74.65**	**128**	P	P	**16 33 07.8**	**+0.1**
TIXI	**Tiksi**	**78.82**	**8**	P	P	**16 33 28.9**	**-1.4**
TIXI				IAmb	IAmb	16 33 29.9	
	comp=Z,3.3nm,1.1s						
YKA	**Yellowknife Ar**	**116.86**	**18**	PKP	PKPdf	**16 40 10.6**	**-1.

comp=Z,0.4nm,0.8s,baz=251,slow=5.6,SNR=4.4
comp=Z,0.4nm,0.8s

*SJA **06** 16:24:36.5±0.5,35°35S×71°34W,h99km±2km, ML4.4, MW4.1*
*NEIC **06** 16:24:37.7±1.7,35°37S±0°05×71°32W±0°08,h91km±5km, mb4.3/14, Error ellipse: s-maj=9.4km s-min=7.0km az=116.0*
*IDC **06** 16:24:37.8±0.7,35°33S×70°88W,h95km±6km, mb3.7/8, mbtmp4.0/12, Error ellipse: s-maj=27.5km s-min=14.4km az=94.0*
*GUC **06** 16:24:38.2±0.8,35°31S×71°47W,h92km±4km, ML4.5*

ISC 06 16:24:37.2±0.5,35°35S±0°03×71°30W±0°04,h95km±4km, n123,σ1§10/166,mb4.1/11,18C-2D,Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ML02	**Panimavida**	**0.42**	**193**				**Pn**	**16 24 52.3**	**+0.3**
ML02						Sn	**Sn**	**16 25 02.2**	**-0.7**
ML02	**Panimavida**	**0.42**	**193**	**⇑**	*iP*		**Pn**	**16 24 52.4**	**+0.5**
ML02					*i* S		**Sn**	**16 25 03.2**	**+0.3**
GO05	**Huala**	**0.62**	**303**				**Pn**	**16 24 54.1**	**+0.7**
GO05	**Huala**	**0.62**	**303**		*eP*		**Pn**	**16 24 53.9**	**+0.5**
GO05					*eS*		**Sn**	**16 25 06.3**	**+0.7**
GO05	**Huala**	**0.62**	**303**	**⇑**	*eP*		**Pn**	**16 24 54.0**	**+0.5**
GO05					*i* S		**Sn**	**16 25 06.2**	**+0.6**
BO02	**Sierra Bellavi**	**0.70**	**37**				**Pn**	**16 24 54.6**	**+0.3**
BO02						Sn	**Sn**	**16 25 06.8**	**-0.2**
BO02	**Sierra Bellavi**	**0.70**	**37**		*eP*		**Pn**	**16 24 54.7**	**+0.4**
BO02					*eS*		**Sn**	**16 25 08.5**	**+1.5**
BO02					IAML			16 25 10.7	
	comp=Z,24µm,0.2s								
BO02	**Sierra Bellavi**	**0.70**	**37**	**⇓**	*iP*		**Pn**	**16 24 54.7**	**+0.4**
BO02					*i* S		**Sn**	**16 25 07.4**	**+0.4**
BO01	**Tunca**	**0.97**	**10**		Pn		**Pn**	**16 24 57.3**	**+0.3**
BO01	**Tunca**	**0.97**	**10**		*eP*		**Pn**	**16 24 57.5**	**+0.5**
BO01					*eS*		**Sn**	**16 25 12.3**	**+0.5**
BO01					IAML			16 25 13.4	
	comp=Z,5µm,0.3s								
BO01	**Tunca**	**0.97**	**10**	**⇓**	*iP*		**Pn**	**16 24 57.4**	**+0.5**
BO01					*i* S		**Sn**	**16 25 11.9**	**+0.1**
BO01					IAML			16 25 12.8	
	comp=N,12µm,0.2s								
BO03	**Pichilemu**	**1.01**	**327**		*eP*		**Pn**	**16 24 58.5**	**+1.1**
BO03					*i* S		**Sn**	**16 25 13.8**	**+1.2**
BI02	**San Fabin de**	**1.31**	**179**	**⇑**	*iP*		**Pn**	**16 25 01.5**	**+0.6**
BI02					*i* S		**Sn**	**16 25 18.7**	**-0.1**
BO04	**La Punta**	**1.47**	**23**				**Pn**	**16 25 03.5**	**+0.6**
BO04	**La Punta**	**1.47**	**23**		*eP*		**Pn**	**16 25 03.7**	**+0.7**
BO04					*i* S		**Sn**	**16 25 23.2**	**+0.8**
MT01	**Popeta**	**1.48**	**2**				**Pn**	**16 25 03.5**	**+0.5**
MT01	**Popeta**	**1.48**	**2**		*eP*		**Pn**	**16 25 03.5**	**+0.5**
MT01					*eS*		**Sn**	**16 25 23.0**	**+0.4**
MT01					IAML			16 25 24.5	
	comp=Z,4µm,0.2s								
MT01	**Popeta**	**1.48**	**2**	**⇑**	*iP*		**Pn**	**16 25 03.5**	**+0.5**
MT01					*i* S		**Sn**	**16 25 22.3**	**-0.3**
MT01					IAML			16 25 24.2	
	comp=E,10µm,0.2s								
MT09	**Talagante**	**1.59**	**9**				**Pn**	**16 25 04.8**	**+0.2**
MT09	**Talagante**	**1.59**	**9**	**⇑**	*iP*		**Pn**	**16 25 05.0**	**+0.5**
MT09					*i* S		**Sn**	**16 25 25.3**	**+0.1**
MT09					IAML			16 25 27.0	
	comp=N,7µm,0.3s								
EDS3	**Malargue**	**1.60**	**106**		*eP*		**Pn**	**16 25 05.6**	**+0.9**
VA05	**Santo Domingo**	**1.71**	**351**		Pn		**Pn**	**16 25 06.2**	**+0.3**
VA05	**Santo Domingo**	**1.71**	**351**		*eP*		**Pn**	**16 25 06.3**	**+0.4**
VA05					*i* S		**Sn**	**16 25 27.3**	**-0.3**
VA05					IAML			16 25 32.5	
	comp=E,6µm,0.4s								
MT12	**Pirque**	**1.73**	**21**		*eP*		**Pn**	**16 25 06.8**	**+0.6**
MT12					*i* S		**Sn**	**16 25 28.8**	**+0.6**
MT12					IAML			16 25 32.5	
	comp=E,10µm,0.4s								
LMEL	**Las Melosas**	**1.75**	**31**				**Pn**	**16 25 07.7**	**+1.1**
LMEL	**Las Melosas**	**1.75**	**31**	**⇑**	*iP*		**Pn**	**16 25 08.0**	**+1.4**
LMEL					*i* S		**Sn**	**16 25 31.2**	**+2.3**
LMEL					IAML			16 25 34.0	
	comp=N,6µm,0.1s								
MT13	**San Alfonso**	**1.81**	**28**				**Pn**	**16 25 08.5**	**+1.2**
MT13	**San Alfonso**	**1.81**	**28**	**⇑**	*iP*		**Pn**	**16 25 08.6**	**+1.4**
MT13					*i* S		**Sn**	**16 25 32.0**	**+1.9**
MT13					IAML			16 25 33.5	
	comp=N,5µm,0.5s								
MT15	**Las Vizcachas**	**1.87**	**21**	**⇑**	*iP*		**Pn**	**16 25 08.8**	**+0.8**
MT15					*i* S		**Sn**	**16 25 31.8**	**+0.4**
MT15					IAML			16 25 34.5	
	comp=N,10µm,0.4s								
MT03	**Universidad Ad**	**1.96**	**20**				**Pn**	**16 25 10.0**	**+0.7**
MT03	**Universidad Ad**	**1.96**	**20**		*eP*		**Pn**	**16 25 10.1**	**+0.8**
MT03					*eS*		**Sn**	**16 25 35.7**	**+2.1**
MT03					IAML			16 25 37.3	
	comp=Z,3µm,0.3s								
MT03	**Universidad Ad**	**1.96**	**20**		*eP*		**Pn**	**16 25 09.7**	**+0.4**
MT03					*i* S		**Sn**	**16 25 34.1**	**+0.5**
MT03					IAML			16 25 38.9	
	comp=E,6µm,0.2s								
MT05	**Renca**	**2.01**	**14**				**Pn**	**16 25 10.4**	**+0.6**
MT05	**Renca**	**2.01**	**14**		*eP*		**Pn**	**16 25 10.7**	**+0.8**
MT05					*eS*		**Sn**	**16 25 35.9**	**+1.3**
MT05					IAML			16 25 41.6	
	comp=Z,2µm,0.2s								
MT05	**Renca**	**2.01**	**14**	**⇑**	*eP*		**Pn**	**16 25 10.3**	**+0.5**
MT05					*i* S		**Sn**	**16 25 34.5**	**-0.2**
MT05					IAML			16 25 36.4	
	comp=E,4µm,0.3s								
MT16	**CCHEN**	**2.02**	**19**				**Pn**	**16 25 10.6**	**+0.6**
MT16	**CCHEN**	**2.02**	**19**	**⇑**	*eP*		**Pn**	**16 25 10.6**	**+0.6**
MT16					*i* S		**Sn**	**16 25 35.4**	**+0.5**
MT16					IAML			16 25 40.0	
	comp=E,2µm,0.3s								
MT14	**Cerro Calן**	**2.05**	**18**	**⇑**	*iP*		**Pn**	**16 25 11.1**	**+0.7**
MT14					*i* S		**Sn**	**16 25 36.0**	**+0.4**
MT14					IAML			16 25 38.5	
	comp=E,6µm,0.6s								
BI05	**Punta Hualpn**	**2.07**	**227**				**Pn**	**16 25 09.9**	**-0.5**
BI05	**Punta Hualpn**	**2.07**	**227**		*eP*		**Pn**	**16 25 10.0**	**-0.5**
MT02	**Curacav**	**2.09**	**4**				**Pn**	**16 25 11.3**	**+0.5**
MT02	**Curacav**	**2.09**	**4**		*eP*		**Pn**	**16 25 11.5**	**+0.7**
MT02					IAML			16 25 40.3	
	comp=Z,1µm,0.5s								
MT02	**Curacav**	**2.09**	**4**	**⇑**	*iP*		**Pn**	**16 25 11.5**	**+0.7**
MT02					*i* S		**Sn**	**16 25 35.8**	**-0.7**
MT02					IAML			16 25 37.8	
	comp=N,2µm,0.4s								
MT04	**Ro Olivares**	**2.17**	**27**	**⇑**	*iP*		**Pn**	**16 25 13.2**	**+1.1**
MT04					*i* S		**Sn**	**16 25 40.5**	**+1.9**
MT04					IAML			16 25 42.2	
	comp=E,6µm,0.6s								
MT10	**Hacienda Santa**	**2.17**	**17**	**⇑**	*iP*		**Pn**	**16 25 12.7**	**+0.8**
MT10					*i* S		**Sn**	**16 25 38.5**	**0.0**
MT10					IAML			16 25 43.1	
	comp=E,6µm,0.5s								
FCH	**Farellones**	**2.19**	**23**	**⇑**	*iP*		**Pn**	**16 25 13.2**	**+0.8**
FCH					*i* S		**Sn**	**16 25 40.0**	**+0.9**
FCH					IAML			16 25 43.5	
	comp=N,5µm,0.3s								
PEL	**Peldehue**	**2.26**	**13**				**Pn**	**16 25 13.9**	**+0.9**
PEL	**Peldehue**	**2.26**	**13**		*eP*		**Pn**	**16 25 14.1**	**+1.0**
PEL					*eS*		**Sn**	**16 25 42.5**	**+2.0**
PEL	**Peldehue**	**2.26**	**13**	**⇑**	*iP*		**Pn**	**16 25 14.0**	**+0.9**
PEL					*i* S		**Sn**	**16 25 40.9**	**+0.4**
PEL					IAML			16 25 43.6	
	comp=E,3µm,0.4s								
VA01	**Torpederas**	**2.34**	**353**				**Pn**	**16 25 14.5**	**+0.4**
VA01	**Torpederas**	**2.34**	**353**		*eP*		**Pn**	**16 25 14.4**	**+0.4**
VA01					IAML			16 25 46.3	
	comp=Z,898nm,0.2s								
VA01	**Torpederas**	**2.34**	**353**		*eP*		**Pn**	**16 25 14.6**	**+0.4**
VA01					*i* S		**Sn**	**16 25 40.0**	**-2.3**
VA01					IAML			16 25 43.5	
	comp=E,2µm,0.4s								
ROC1	**El Roble**	**2.38**	**6**		*eP*		**Pn**	**16 25 15.5**	**+0.6**
ROC1					*eS*		**Sn**	**16 25 43.7**	**+0.1**
ROCH	**El Roble**	**2.39**	**6**	**⇑**	*iP*		**Pn**	**16 25 15.4**	**+0.5**
ROCH					*i* S		**Sn**	**16 25 43.2**	**-0.5**
ROCH					IAML			16 25 47.2	
	comp=E,4µm,0.3s								
VA03	**San Esteban**	**2.66**	**14**				**Pn**	**16 25 18.8**	**+0.4**
VA03	**San Esteban**	**2.66**	**14**		*eP*		**Pn**	**16 25 19.1**	**+0.8**
VA03					*eS*		**Sn**	**16 25 52.5**	**+2.5**
VA03					IAML			16 25 54.5	
	comp=Z,1µm,0.3s								
VA03	**San Esteban**	**2.66**	**14**	**⇑**	*iP*		**Pn**	**16 25 18.9**	**+0.5**
VA03					*i* S		**Sn**	**16 25 50.1**	**+0.1**
VA06	**Catapilco**	**2.78**	**0**		Pn		**Pn**	**16 25 20.1**	**+0.1**
AAGR	**Agrelo**	**3.05**	**43**		*eP*		**Pn**	**16 25 25.3**	**+1.7**
AAGR					*eS*		**Sn**	**16 25 54.7**	**-4.7**
ARCO	**CERRO ARCO**	**3.18**	**39**		*eP*		**Pn**	**16 25 26.6**	**+1.2**
ASAL	**Salagasta**	**3.43**	**37**		*eP*		**Pn**	**16 25 30.0**	**+1.2**
LC02	**Puerto Saavedr**	**3.82**	**205**		*eP*		**Pn**	**16 25 33.0**	**-0.8**
RTLS	**Leoncito**	**3.92**	**26**		*eP*		**Pn**	**16 25 37.0**	**+1.5**
RTLS					IAML			16 26 50.9	
	comp=Z,275nm,0.7s								
CO02	**Combarbal**	**4.14**	**4**				**Pn**	**16 25 38.0**	**-0.4**
CO02	**Combarbal**	**4.14**	**4**		*eP*		**Pn**	**16 25 38.2**	**-0.3**
CO02					IAML			16 26 35.0	
	comp=Z,688nm,0.4s								
CO02	**Combarbal**	**4.14**	**4**		*eP*		**Pn**	**16 25 38.1**	**-0.3**
GO06	**Curarrehue**	**4.23**	**182**		Pn		**Pn**	**16 25 39.6**	**+0.1**
LR03	**Panguipulli**	**4.35**	**191**				**Pn**	**16 25 40.5**	**-0.6**
CO03	**El Pedregal**	**4.53**	**7**		Pn		**Pn**	**16 25 43.7**	**0.0**
CO03	**El Pedregal**	**4.53**	**7**		*eP*		**Pn**	**16 25 44.0**	**+0.4**
CO03					IAML			16 26 39.4	
	comp=Z,318nm,0.6s								
CO03	**El Pedregal**	**4.53**	**7**		*eP*		**Pn**	**16 25 43.9**	**+0.2**
RTLL	**Cerro Villicun**	**4.66**	**31**		*eP*		**Pn**	**16 25 45.6**	**+0.3**
RTLL					*eS*		**Sn**	**16 26 39.2**	**+1.0**
CO06	**Fray Jorge**	**4.67**	**356**				**Pn**	**16 25 44.8**	**-0.7**
CO06	**Fray Jorge**	**4.67**	**356**		*eP*		**Pn**	**16 25 44.9**	**-0.6**
DOCA	**Reserva Natura**	**4.77**	**24**		*eP*		**Pn**	**16 25 47.2**	**+0.1**
DOCA					*eS*		**Sn**	**16 26 41.7**	**+0.4**
DOCA					IAML			16 27 08.2	
	comp=Z,369nm,0.6s								
LR05	**Currie**	**4.90**	**186**		Pn		**Pn**	**16 25 48.2**	**-0.3**
ACCO	**Cerro Coronel**	**5.11**	**22**		*eP*		**Pn**	**16 25 51.7**	**0.0**
GO04	**Tololo Observa**	**5.18**	**5**				**Pn**	**16 25 51.7**	**-0.9**
GO04	**Tololo Observa**	**5.18**	**5**		*eP*		**Pn**	**16 25 52.6**	**0.0**
PLCA	**Paso Flores**	**5.40**	**174**		Pn		**Pn**	**16 25 56.1**	**+0.6**
PLCA	**Paso Flores**	**5.40**	**174**		P		**Pn**	**16 25 55.6**	**+0.2**
	comp=Z,4.4nm,0.5s,baz=346,slow=11,SNR=40								
CO05	**La Serena**	**5.42**			1		**Pn**	**16 25 55.0**	**-0.6**
CO01	**Juntas del Tor**	**5.46**	**11**				**Pn**	**16 25 56.2**	**-0.2**
LCO	**Las Campanas**	**6.34**	**5**		Pn		**Pn**	**16 26 06.9**	**-1.5**
AC04	**Llanos de Chal**	**7.13**	**2**		Pn		**Pn**	**16 26 17.4**	**-1.5**
GO03	**Copiap**	**7.79**	**7**		Pn		**Pn**	**16 26 26.1**	**-1.8**
TRQA	**Tornquist**	**7.96**	**113**		Pn		**Pn**	**16 26 29.9**	**-0.2**
AC06	**Mina Casimiro**	**8.01**	**6**				**Pn**	**16 26 28.4**	**-2.5**
AC02	**Maricunga**	**8.69**	**13**		Pn		**Pn**	**16 26 38.9**	**-1.7**
GO02	**Mina Guanaco**	**10.26**	**9**		Pn		**Pn**	**16 26 58.0**	**-3.9**
LVC	**Limon Verde**	**12.87**	**10**		Pn		**Pn**	**16 27 35.3**	**-1.6**
LVC	**Limon Verde**	**12.87**	**10**		P		**Pn**	**16 27 35.4**	**-1.5**
	comp=Z,6.2nm,0.6s,baz=236,slow=6.5,SNR=5.2								
PB09	**IPOC Station P**	**13.63**	**8**		Pn		**Pn**	**16 27 47.8**	**+1.1**
PB02	**IPOC Station P**	**14.04**	**5**				**Pn**	**16 27 51.5**	**-0.5**
PB01	**IPOC Station P**	**14.35**	**7**		P		**Pn**	**16 28 01.9**	**+1.7**
CPUP	**Villa Florida**	**14.98**	**57**		P		**Pn**	**16 28 00.7**	**-3.2**
	comp=Z,0.8nm,0.5s,baz=267,slow=4.1,SNR=1.5								
PLTB	**Pedras Altas**	**15.18**	**81**		Pn		**Pn**	**16 28 07.3**	**+0.9**
PB11	**IPOC Station P**	**15.60**	**6**		P		**P**	**16 28 15.6**	**+1.4**
PB11					IAmb		IAmb	16 28 16.7	
	comp=Z,24nm,0.8s								
PB16	**IPOC Station P**	**17.02**	**6**		P		**P**	**16 28 30.9**	**+0.5**
PB16					IAmb		IAmb	16 28 33.1	
	comp=Z,12nm,0.9s								
ITAB	**Concordia**	**18.25**	**69**		P		**P**	**16 28 42.6**	**-0.7**
ITAB					IAmb		IAmb	16 28 43.5	
	comp=Z,8.9nm,0.6s								
MG03	**Isla Dawson**	**18.50**	**178**		P		**Pn**	**16 28 47.3**	**+0.3**
MG03					IAmb		IAmb	16 28 52.4	
	comp=Z,76nm,1.4s								
LPAZ	**La Paz**	**19.20**	**9**		P		**P**	**16 28 55.0**	**+0.7**
LPAZ					IAmb		IAmb	16 29 00.1	
	comp=Z,6.8nm,0.8s								
LPAZ	**La Paz**	**19.20**	**9**		P		**P**	**16 28 54.9**	**+0.7**
	comp=Z,5.6nm,0.6s,baz=182,slow=6.5,SNR=16								
AQDB	**Aquidauana**	**20.20**	**47**		P		**P**	**16 29 04.3**	**-0.2**
TRCB	**Terra Rica**	**20.52**	**57**		P		Pn	16 29 09.5	-1.4
SIV	**San Ignacio**	**21.34**	**28**		P		**P**	**16 29 16.1**	**-0.7**
	comp=Z,13nm,0.8s,baz=196,slow=8.4,SNR=33								
	comp=Z,13nm,0.8s								
PTLB	**Pontes e Lacer**	**22.62**	**32**		P		**P**	**16 29 30.2**	**-0.1**
ETMB	**Extrema**	**25.84**	**12**		P		**P**	**16 30 01.4**	**+1.6**
ETMB					IAmb		IAmb	16 30 04.8	
	comp=Z,3.8nm,0.7s								
BDFB	**Brasilia**	**28.63**	**53**		P		**P**	**16 30 23.1**	**-1.8**
	comp=Z,2.3nm,0.5s,baz=150,slow=10,SNR=3.1								
	comp=Z,2.3nm,0.5s								
BOAV	**Boa Vista**	**38.88**	**17**		P		**P**	**16 31 52.8**	**-0.7**
BOAV					IAmb		IAmb	16 32 01.5	
	comp=Z,8.0nm,1.4s								
BAUV	**El Baul**	**44.16**	**5**		P		**P**	**16 32 36.6**	**0.0**
BAUV					IAmb		IAmb	16 32 37.6	
	comp=Z,12nm,0.8s								
SNAA	**Sanae**	**50.10**	**157**		P		**P**	**16 33 22.3**	**+0.1**
SNAA	**Sanae**	**50.10**	**157**		P		**P**	**16 33 22.5**	**+0.3**
	comp=Z,2.3nm,0.9s,baz=284,slow=8.3,SNR=1.7								
	comp=Z,2.3nm,0.8s								
QSPA	**South Pole Qui**	**54.89**	**180**		P		**P**	**16 33 58.9**	**+1.2**
	comp=Z,3.2nm,0.7s,baz=106,slow=10,SNR=36								
QSPA						sP	**sP**	**16 34 32.2**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=133,slow=5.4,SNR=3.8								
	comp=Z,3.2nm,0.7s								
TXAR	**Lajitas Array**	**71.21**	**330**		P		**P**	**16 35 47.6**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=157,slow=9.3,SNR=8.7								
	comp=Z,0.5nm,0.5s								
TX31	**Lajitas Ar. Si**	**71.21**	**330**		P		**P**	**16 35 47.7**	**+1.6**
TORD	**Torodi Ar. Bea**	**84.11**	**69**		P		**P**	**16 36 57.5**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=316,slow=4.1,SNR=3.5								
TORD						pP	**pP**	**16 37 20.6**	**-2.6**
	comp=Z,0.7nm,0.6s,baz=223,slow=1.2,SNR=3.9								
	comp=Z,0.7nm,0.8s								
PDAR	**Pinedale Array**	**85.24**	**333**		P		**P**	**16 37 04.5**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=168,slow=4.6,SNR=2.5								
PDAR						pP	**pP**	**16 37 30.1**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=150,slow=7.3,SNR=3.5								
	comp=Z,0.3nm,0.5s								
NVAR	**Mina Array Bea**	**85.34**	**325**		P		**P**	**16 37 04.9**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=132,slow=5.0,SNR=3.2								
	comp=Z,0.4nm,0.7s								
BVAR	**Borovoye Array**	**147.83**	**45**		PKPbc		**PKPdf**	**16 44 08.1**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=225,slow=1.0,SNR=1.6								
BVAR						pPKPbc	**pPKPbc**	**16 44 36.1**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=305,slow=2.5,SNR=2.8								
KURBB	**Kurchatov Arra**	**153.41**	**46**		PKPbc		**PKPbc**	**16 44 21.8**	**-2.1**
	comp=Z,0.3nm,0.8s,baz=316,slow=5.2,SNR=2.2								
PZH	**PanZhiHua**	**169.35**	**144**		PKP		**PKPdf**	**16 44 33.4**	**-0.4**
HHC	**Hu-ho-hao-te**	**174.07**	**338**		*eP*		**PKPdf**	**16 44 34.8**	**-0.8**

*IDC **06** 16:35:12.6±0.8,6°15S×142°79E,h0km, mb4.0/11, mbtmp4.0/14, ML4.2/2, Error ellipse: s-maj=29.7km s-min=18.0km az=77.0*
*NEIC **06** 16:35:13.7±2.0,6°4S±0°1×142°51E±0°09,h10km±2km, mb4.1/10, Error ellipse: s-maj=20.8km s-min=14.4km az=21.0*

ISC 06 16:35:13.8±0.6,6°40S±0°06×142°52E±0°07,h10km,n37, σ1§56/39,mb4.0/13,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**		**1.71**	**311**		P	**Pb**	**16 35 45.5**	**+0.2**
GENI	**Genyem**		**4.45**	**328**		P	**Pn**	**16 36 21.4**	**+0.1**
PMG	**Port Moresby**		**5.48**	**123**		Pn	**Pn**	**16 36 35.5**	**0.0**
PMG	**Port Moresby**		**5.48**	**123**		P	**Pn**	**16 36 37.2**	**+1.7**
PMG	**Port Moresby**		**5.48**	**123**		P	**Pn**	**16 36 37.0**	**+1.5**
PMG	**Port Moresby**		**5.48**	**123**		Pn	**Pn**	**16 36 36.1**	**+0.6**
	17nm,0.6s,baz=295,slow=9.6,SNR=15								
PMG						Sn	**Sn**	**16 37 38.9**	**+0.2**
	16nm,0.3s,baz=275,slow=23,SNR=12								
COEN	**Coen**		**7.54**	**175**		P	Pn	16 37 10.6	+6.7
RABL	**Rabaul**		**9.85**	**78**		P	**Pn**	**16 37 34.4**	**-1.1**
FAKI	**Fak Fak**		**10.80**	**288**		Pn	**Pn**	**16 37 48.6**	**-0.1**
FAKI	**Fak Fak**		**10.80**	**288**		P	**Pn**	**16 37 52.1**	**+3.4**
MTN	**Manton Dam**		**12.93**	**239**			**Pn**	**16 38 17.0**	**-0.7**
WB0	**Warramunga Arr**		**15.46**	**210**		Pn	**Pn**	**16 38 51.8**	**-0.3**
WB0						IAmb	IAmb	16 39 06.7	
	comp=Z,14nm,1.1s								
WR0	**Warramunga Arr**		**15.55**	**209**		P	**P**	**16 38 55.6**	**-2.1**
WR0						IAmb	IAmb	16 39 20.4	
	comp=Z,9.9nm,0.8s								
WB2	**Warramunga Arr**		**15.63**	**210**		P	**P**	**16 38 56.8**	**-1.7**
WB2						IAmb	IAmb	16 39 25.4	
	comp=Z,7.6nm,0.8s								
WRA	**Warramunga Arr**		**15.64**	**210**		P	**P**	**16 38 57.2**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=28,slow=14,SNR=25								
WRA						Sn	**Sn**	**16 41 46.4**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=14,slow=35,SNR=3.2								
WRA						Lg	Lg	16 43 29.8	
	comp=Z,0.2nm,0.3s,baz=101,slow=15,SNR=2.2								
	comp=Z,1.1nm,0.4s								
KNRA	**Kununurra**		**16.34**	**235**		P	**P**	**16 39 05.4**	**-1.0**
KNRA						IAmb	IAmb	16 39 27.7	
	comp=Z,18nm,0.8s								
SOEI	**Soe**		**18.38**	**258**		P	**Pn**	**16 39 27.2**	**-1.8**
SOEI						IAmb	IAmb	16 39 40.1	
	comp=Z,25nm,1.0s								
AS31	**Alice Springs**		**19.07**	**205**		Pn	**Pn**	**16 39 36.8**	**-0.5**
AS31						IAmb	IAmb	16 39 49.9	
	comp=Z,6.7nm,0.8s								
ASAR	**Alice Springs**		**19.07**	**205**		P	**P**	**16 39 36.1**	**-0.4**
ASAR	**Alice Springs**		**19.07**	**205**		P	**Pn**	**16 39 40.9**	**+3.6**
	comp=Z,0.9nm,0.3s,baz=32,slow=9.5,SNR=53								
ASAR						S	**Sn**	**16 43 09.6**	**-1.5**
	comp=Z,1.1nm,0.7s,baz=15,slow=27,SNR=2.7								
ASAR						Lg	Lg	16 45 26.8	
	baz=198,slow=16,SNR=1.9								
	comp=Z,11nm,0.6s								
FITZ	**Fitzroy Crossi**		**20.16**	**233**		P	**P**	**16 39 47.0**	**-1.5**
MMRI	**Maumere**		**20.23**	**262**		P	**P**	**16 39 46.8**	**-2.5**
KSRS	**Korea Array**		**45.70**	**344**		P	**P**	**16 43 35.1**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=163,slow=9.0,SNR=2.3								
	comp=Z,1.2nm,0.8s								
CMAR	**Chiang Mai Ar**		**49.57**	**301**		P	**P**	**16 44 06.5**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=179,slow=12,SNR=2.0								
	comp=Z,0.3nm,0.8s								
USRK	**Ussuriysk Ar.**		**51.25**	**350**		P	**P**	**16 44 16.7**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=173,slow=10,SNR=4.8								
	comp=Z,1.2nm,0.7s								
PZH	**PanZhiHua**		**51.30**	**311**		P	**P**	**16 44 20.5**	**+2.0**
PZH						pmax	pmax		
	comp=Z,7.0nm,0.6s								
PZH						pmax	pmax		
	comp=Z,100nm,4.3s								
HHC	**Hu-ho-hao-te**		**54.94**	**332**		*eP*	**P**	**16 44 47.4**	**+2.3**
HHC						pmax	pmax		
	comp=Z,7.0nm,0.5s								
HHC						pmax	pmax		
	comp=Z,140nm,8.0s								
SONM	**Songino Array**		**62.67**	**333**		P	**P**	**16 45 39.7**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=151,slow=6.6,SNR=1.8								
	comp=Z,0.3nm,0.5s								
MKAR	**Makanchi Array**		**75.01**	**322**		P	**P**	**16 46 56.1**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=101,slow=6.3,SNR=9.2								
	comp=Z,1.0nm,0.8s								
ZALV	**Zalesovo Beam**		**77.02**	**329**		P	**P**	**16 47 06.7**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=104,slow=6.3,SNR=3.5								
	comp=Z,0.8nm,0.6s								
KURBB	**Kurchatov Arra**		**78.91**	**324**		P	**P**	**16 47 17.8**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=111,slow=5.2,SNR=4.2

ODZ	**Otahua Downs**	**70.99**	**160**	P		**P**	**16 47 17.7**	**-0.3**
YKA	**Yellowknife Ar**	**76.49**	**28**	P		**P**	**16 47 50.0**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=290,slow=5.9,SNR=7.6							
	comp=Z,0.6nm,0.6s							
ARCES	**ARCESS Array B**	**78.92**	**341**	P		**P**	**16 48 03.6**	**+0.8**
ARCES	**ARCESS Array B**	**78.92**	**341**	P		**P**	**16 48 03.3**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=79,slow=6.3,SNR=8.1							
	comp=Z,1.3nm,0.6s							
YERR	**Yerington**	**82.30**	**51**	P		**P**	**16 48 20.6**	**-1.0**
FINES	**FINESS Array B**	**83.17**	**334**	P		**P**	**16 48 24.9**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=67,slow=3.4,SNR=9.4							
	comp=Z,0.4nm,0.3s							
NVAR	**Mina Array Bea**	**83.19**	**51**	P		**P**	**16 48 26.2**	**0.0**
	comp=Z,0.5nm,0.7s,baz=279,slow=5.4,SNR=4.3							
	comp=Z,0.5nm,0.7s							
SUMG	**Summit**	**85.98**	**0**			**P**	**16 48 40.8**	**+1.2**
SUMG					IAmb	IAmb	16 49 18.9	
	comp=Z,4.5nm,1.3s							
PLCA	**Paso Flores**	**145.78**	**131**	PKPbc		**PKPab**	**16 55 37.3**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=253,slow=4.4,SNR=8.9							
LPAZ	**La Paz**	**149.99**	**85**	PKPbc		**PKPbc**	**16 55 48.3**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=342,slow=3.2,SNR=2.6							

*IDC **06** 16:43:15.7±1.5,5.°13S×102.°49E,h0km,mb4.0/12, mbtmp4.0/13,ML3.5/1,Error ellipse: s-maj=51.0km s-min=14.9km az=53.0*
*NEIC **06** 16:43:16.7±1.2,5.°53S±0.°06×102.°42E±0.°06,h13km±6km, mb4.5/11,Error ellipse: s-maj=9.9km s-min=8.8km az=221.0*
*DJA **06** 16:43:20.9±0.3,5.°S±3.°×10.°2E±.°,h30km±3km,M4.5/18, mb4.6/8,MLv4.5/18*

ISC 06 16:43:16.3±0.6,5.°47S±0.°05×102.°38E±0.°05,h10km,n72, σt§63/64,mb4.2/15,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**1.24**	**28**		**Pn**	**16 43 40.2**	**+0.5**
MNAI	**Manna**	**1.24**	**28**	P	**Pn**	**16 43 40.5**	**+0.8**
MNAI	**Manna**	**1.24**	**28**	P	**Pn**	**16 43 40.5**	**+0.8**
MNAI				S	**Sb**	**16 43 57.5**	**+1.6**
LWLI	**Liwa**	**1.73**	**75**	P	**Pb**	**16 43 48.2**	**0.0**
LWLI				S	**Sg**	**16 44 12.1**	**+0.1**
LHSI	**Lahat**	**1.99**	**35**	P	**Pb**	**16 43 52.6**	**0.0**
KASI	**Kota Agung**	**2.11**	**92**	P	**Pb**	**16 43 54.8**	**+0.2**
KASI				S	**Sb**	**16 44 21.3**	**+0.5**
PMBI	**Palembang**	**3.47**	**43**	Pn	**Pn**	**16 44 10.8**	**+0.4**
KRJI	**Kerinci**	**3.48**	**345**	P	**Pn**	**16 44 10.4**	**-0.2**
KRJI				S	**Sn**	**16 44 51.8**	**-0.1**
PPSI	**Pulau Pagai**	**3.58**	**319**	P	**Pn**	**16 44 13.9**	**+2.0**
SKJI	**Sukabumi**	**4.42**	**110**	P	**Pn**	**16 44 27.1**	**+3.6**
CBJI	**Citeko**	**4.55**	**102**	P	Pn	16 44 29.9	+4.7
PDSI	**Padang**	**4.91**	**337**	P	**Pn**	**16 44 31.3**	**+1.0**
PPBI	**Pangkal Pinang**	**4.98**	**49**	P	**Pn**	**16 44 33.3**	**+2.1**
SISI	**Saibi**	**5.26**	**321**	P	**Pn**	**16 44 37.2**	**+2.2**
	19nm,0.5s,0.2nm						
LEM	**Lembang**	**5.38**	**105**	Pn	**Pn**	**16 44 35.5**	**-1.3**
	1.5nm,0.3s,baz=304,slow=22,SNR=1.6						
LEM					Sn	**Sn**	**16 45 37.7**	**-1.2**
	2.7nm,0.3s,baz=300,slow=23,SNR=1.1							
	4.2nm,0.4s							
LEM	**Lembang**	**5.38**	**105**	P	**Pn**	**16 44 40.7**	**+3.9**
	36nm,0.7s,0.2nm							
DSRI	**Dabo**	**5.42**	**24**	P	**Pn**	**16 44 39.5**	**+2.3**
	20nm,0.5s,0.1nm							
BBJI	**Bungbulang**	**5.60**	**111**	P	**Pn**	**16 44 42.7**	**+3.0**
BKNI	**Bangkinang**	**5.91**	**347**	P	**Pn**	**16 44 44.5**	**+0.6**
	41nm,0.4s,0.4nm							
XMI	**Christmas Isla**	**5.94**	**147**	P	**Pn**	**16 44 46.6**	**+2.3**
XMIS	**Christmas Isla**	**5.94**	**147**	Pn	**Pn**	**16 44 42.6**	**-1.8**
XMIS	**Christmas Isla**	**5.94**	**147**	P	**Pn**	**16 44 42.9**	**-1.5**
CMJI	**Cimerak**	**6.45**	**111**	P	**Pn**	**16 44 53.6**	**+2.2**
	56nm,0.6s,0.2nm							
PBSI	**Pulau Batu**	**6.76**	**323**	P	**Pn**	**16 44 57.6**	**+2.0**
	43nm,1.2s,0.3nm							
KPJI	**Karang Pucung**	**6.77**	**106**	P	Pn	16 45 00.3	+4.6
	20nm,0.5s,0.1nm							
GSI	**Gunungsitoli**	**8.26**	**324**	Pn	**Pn**	**16 45 16.9**	**+0.7**
UGM	**Wanagama**	**8.45**	**107**	Pn	**Pn**	**16 45 18.0**	**-0.8**
UGM	**Wanagama**	**8.45**	**107**	P	**Pn**	**16 45 22.4**	**+3.6**
UGM	**Wanagama**	**8.45**	**107**	P	**Pn**	**16 45 21.7**	**+2.9**
COCO	**West Island**	**8.64**	**219**	Pn	**Pn**	**16 45 20.9**	**-0.5**
LHMI	**Lhok Sumawe**	**11.93**	**333**	Pn	**Pn**	**16 46 06.4**	**-0.2**
JAGI	**Jajag, Banyuwa**	**12.06**	**105**	Pn	**Pn**	**16 46 06.6**	**-1.8**
TOLI2	**Tolitoli**	**19.51**	**71**	Pn	**Pn**	**16 47 45.0**	**-0.1**
TOLI2					IAmb	IAmb	16 48 12.7	
	comp=Z,10nm,1.0s							
MMRI	**Maumere**	**19.95**	**100**	P	**P**	**16 47 47.0**	**-1.8**
MMRI					IAmb	IAmb	16 47 47.4	
	comp=Z,36nm,1.2s							
UBPT	**Khong Chiam**	**20.84**	**8**	P	**P**	**16 47 57.6**	**-0.7**
SOEI	**Soe**	**22.10**	**102**	P	**P**	**16 48 09.1**	**-3.1**
SOEI					IAmb	IAmb	16 48 40.5	
	comp=Z,15nm,1.0s							
PHRA	**Phrae**	**23.91**	**355**	P	**P**	**16 48 30.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**24.01**	**352**	P	**P**	**16 48 31.2**	**-0.3**
CMAR	**Chiang Mai Arr**	**24.01**	**352**	P	**P**	**16 48 28.6**	**-2.9**
	comp=Z,0.4nm,0.5s,baz=179,slow=9.3,SNR=8.1							
	comp=Z,0.4nm,0.5s							
QIZ	**Qiongzhong**	**25.43**	**17**	P	**P**	**16 48 43.4**	**-0.9**
H08S2	**Diego Garcia H**	**29.77**	**264**	T	T	17 20 21.9	
	baz=87,slow=76,SNR=91							
H08S3	**Diego Garcia H**	**29.77**	**264**	T	T	17 20 24.7	
	baz=87,slow=76,SNR=120							
H08S1	**Diego Carcia H**	**29.79**	**264**	T	T	17 20 25.6	
	baz=87,slow=76,SNR=42							
H01W3	**Cape Leeuwin H**	**31.22**	**161**	T	T	17 22 33.3	
	baz=338,slow=76,SNR=10							
H01W2	**Cape Leeuwin H**	**31.24**	**161**	T	T	17 22 28.8	
	baz=338,slow=76,SNR=15							
H01W1	**Cape Leeuwin H**	**31.24**	**161**	T	T	17 22 34.4	
	baz=338,slow=76,SNR=11							
TPUB	**Ta-pu**	**33.69**	**31**	P	**P**	**16 49 57.5**	**-0.3**
WRA	**Warramunga Arr**	**34.24**	**118**	P	**P**	**16 50 03.6**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=305,slow=8.8,SNR=3.3							
	comp=Z,0.4nm,0.3s							
WB2	**Warramunga Arr**	**34.25**	**118**	P	**P**	**16 50 01.7**	**-1.0**
WB2					IAmb	IAmb	16 50 25.9	
	comp=Z,14nm,1.3s							
ASAR	**Alice Springs**	**35.33**	**124**	P	**P**	**16 50 13.6**	**+1.6**
	comp=Z,0.9nm,0.4s,baz=294,slow=7.3,SNR=28							
	comp=Z,0.9nm,0.4s							
PMG	**Port Moresby**	**44.55**	**98**	P	**P**	**16 51 28.3**	**-0.5**
	comp=Z,5.9nm,0.6s,baz=290,slow=12,SNR=1.8							
	comp=Z,5.9nm,0.6s							
STKA	**Stephens Creek**	**45.09**	**131**	P	**P**	**16 51 35.2**	**+2.3**
	comp=Z,4.8nm,0.5s,baz=298,slow=8.8,SNR=13							
	comp=Z,4.8nm,0.5s							
KSRS	**Korea Array**	**48.89**	**27**	P	**P**	**16 52 01.1**	**-1.3**
	comp=Z,1.0nm,0.5s,baz=224,slow=7.1,SNR=7.8							
	comp=Z,1.0nm,0.5s							
SONM	**Songino Array**	**53.19**	**3**	P	**P**	**16 52 34.2**	**-0.5**
SONM					IAmb	IAmb	16 52 36.7	
	comp=Z,2.4nm,0.8s							
SONM	**Songino Array**	**53.19**	**3**	P	**P**	**16 52 34.0**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=181,slow=9.7,SNR=18							
SONM				PcP	**PcP**	**16 53 44.1**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=175,slow=4.7,SNR=1.3							
	comp=Z,2.3nm,0.7s							
MK31	**Makanchi Array**	**55.00**	**343**	P	**P**	**16 52 47.5**	**-0.4**
MKAR	**Makanchi Array**	**55.00**	**343**	P	**P**	**16 52 47.9**	**0.0**
MKAR	**Makanchi Array**	**55.00**	**343**	P	**P**	**16 52 46.4**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=146,slow=9.1,SNR=18							
	comp=Z,0.5nm,0.4s							
USA0B	**Ussuriysk Arra**	**56.17**	**25**	P	**P**	**16 52 55.9**	**-0.3**
USA0B					IAmb	IAmb	16 52 56.3	
	comp=Z,11nm,1.4s							
USRK	**Ussuriysk Ar.**	**56.17**	**25**	P	**P**	**16 52 55.7**	**-0.5**
USRK	**Ussuriysk Ar.**	**56.17**	**25**	P	**P**	**16 52 54.5**	**-1.7**
	comp=Z,2.2nm,0.6s,baz=217,slow=5.8,SNR=14							
	comp=Z,2.2nm,0.6s							
H04N2	**CROZET ISLANDS**	**59.51**	**219**	T	T	17 57 50.4	
	baz=62,slow=74,SNR=99							
H04N1	**CROZET ISLANDS**	**59.52**	**219**	T	T	17 57 42.0	
	baz=62,slow=74,SNR=112							
H04N3	**CROZET ISLANDS**	**59.52**	**219**	T	T	17 57 40.7	
	baz=62,slow=74,SNR=98							
KURBB	**Kurchatov Arra**	**59.54**	**343**	P	**P**	**16 53 17.9**	**-1.8**
	comp=Z,0.5nm,0.8s,baz=159,slow=6.3,SNR=4.5							
	comp=Z,0.5nm,0.8s							
H04S1	**CROZET ISLANDS**	**59.75**	**218**	T	T	17 57 56.8	
	baz=63,slow=75,SNR=64							
H04S3	**CROZET ISLANDS**	**59.76**	**218**	T	T	17 57 56.5	
	baz=63,slow=75,SNR=197							
H04S2	**CROZET ISLANDS**	**59.77**	**218**	T	T	17 57 57.7	
	baz=63,slow=75,SNR=141							
ZALV	**Zalesovo Beam**	**61.01**	**348**	P	**P**	**16 53 27.8**	**-2.0**
	comp=Z,0.7nm,0.4s,baz=160,slow=4.7,SNR=5.5							
	comp=Z,0.7nm,0.4s							
BVAR	**Borovoye Array**	**64.24**	**339**	P	**P**	**16 53 50.0**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=160,slow=13,SNR=4.9							
	comp=Z,0.7nm,0.5s							
ABKAR	**Akbulak array**	**65.80**	**331**	P	**P**	**16 54 01.6**	**-0.1**
TXAR	**Lajitas Array**	**145.80**	**43**	PKPbc	**PKPab**	**17 02 57.6**	**+0.6**
	comp=Z,1.3nm,0.4s,baz=278,slow=0.9,SNR=25							

*TAP **06** 16:51:08.9,24.°72N×122.°97E,h127km,ML2.5,C*
*JMA **06** 16:51:10.0±0.2,25.°N±3.°×123.°1E±0.°8,h106km±3km, MV1.6/7,NW OFF ISHIGAKIJIMA IS*

ISC 06 16:51:08.9±1.9,24.°67N±0.°08×123.°02E±0.°03, h125km±12km,n49,σ0§99/73,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.20**	**182**	*eS*	**Sn**	**16 51 40.0**	**+0.8**
	baz=164						
IRIF	**Iriomote-Funau**	**0.73**	**117**	*eS*	**Sn**	**16 51 43.4**	**-0.7**
EOS3	**EOS3**	**0.74**	**239**	P	**Pn**	**16 51 30.0**	**+1.1**
	baz=230						
EOS3				S	**Sn**	**16 51 45.1**	**+1.1**
	baz=230						
EOS2	**EOS2**	**0.76**	**251**	P	**Pn**	**16 51 29.7**	**+0.7**
	baz=248						
EOS2				S	**Sn**	**16 51 44.9**	**+0.6**
	baz=248						
EOS4	**EOS4**	**0.84**	**230**	S	**Sn**	**16 51 45.9**	**+0.9**
	baz=225						
HATJ	**Hateruma jima**	**0.94**	**130**	S	**Sn**	**16 51 47.4**	**+0.1**
JKRS	**Kuro-shima**	**1.00**	**115**	P	**Pn**	**16 51 32.0**	**+0.7**
JKRS				*eS*	**Sn**	**16 51 48.1**	**-0.2**
JIJ	**Ishigaki jima**	**1.07**	**106**	P	**Pn**	**16 51 32.1**	**+0.1**
JIJ				S	**Sn**	**16 51 48.2**	**-1.4**
JISG	**Ishigakijimahi**	**1.18**	**94**	*eP*	**Pn**	**16 51 32.9**	**-0.3**
JISG				*eS*	**Sn**	**16 51 50.4**	**-1.1**
ENA	**Nanau**	**1.19**	**259**	P	**Pn**	**16 51 33.2**	**0.0**
	baz=251						
ENA				S	**Sn**	**16 51 51.2**	**-0.5**
	baz=251						
FUSB	**Fushanzhiwuyua**	**1.30**	**274**	P	**Pn**	**16 51 34.3**	**-0.2**
	baz=272						
FUSB				S	**Sn**	**16 51 52.5**	**-1.5**
	baz=272						
ENTT	**Nioudou**	**1.32**	**269**	*eP*	**Pn**	**16 51 34.6**	**0.0**
	baz=263						
LATG	**Datong**	**1.36**	**265**	P	**Pn**	**16 51 35.8**	**+0.6**
	baz=259						
LATG				S	**Sn**	**16 51 55.1**	**-0.2**
	baz=259						
NDT	**Datong Townshi**	**1.37**	**268**	S	**Sn**	**16 51 55.3**	**+0.1**
	baz=263						
NWLT	**Wulai**	**1.38**	**275**	S	**Sn**	**16 51 55.2**	**-0.3**
	baz=273						
NACB	**Ninganchiao**	**1.39**	**250**	S	**Sn**	**16 51 54.1**	**-1.4**
	baz=241						
TWD	**Chiawan**	**1.42**	**246**	P	**Pn**	**16 51 35.3**	**-0.5**
	baz=238						
TWD				S	**Sn**	**16 51 54.9**	**-1.3**
	baz=238						
HWA	**Hwalien**	**1.46**	**242**	*eS*	**Sn**	**16 51 56.4**	**-0.6**
	baz=239						
ETLH	**Xiulin Townshi**	**1.47**	**252**	*eS*	**Sn**	**16 51 56.2**	**-1.1**
	baz=249						
YHNB	**Yeheng**	**1.49**	**270**	*eP*	**Pn**	**16 51 37.0**	**+0.4**
	baz=273						
YHNB				S	**Sn**	**16 51 56.9**	**-0.9**
	baz=273						
NNSB	**Datong**	**1.51**	**261**	S	**Sn**	**16 51 57.4**	**-0.7**
	baz=253						
NSK	**Sanguang**	**1.51**	**271**	S	**Sn**	**16 51 56.8**	**-1.3**
	baz=273						
ETM	**Tongmen**	**1.56**	**244**	P	**Pn**	**16 51 36.9**	**-0.4**
	baz=239						
ETM				S	**Sn**	**16 51 57.5**	**-1.4**
	baz=239						
SHUL	**Shoufeng**	**1.59**	**237**	S	**Sn**	**16 51 59.7**	**+0.1**
	baz=234						
LXIB	**Xiulin Townshi**	**1.60**	**247**	P	**Pn**	**16 51 37.4**	**-0.5**
	baz=244						
LXIB				*eS*	**Sn**	**16 51 58.4**	**-1.7**
	baz=244						
FUSS	**Fushou**	**1.67**	**256**	*eP*	**Pn**	**16 51 39.3**	**+0.4**
	baz=250						
FUSS				S	**Sn**	**16 52 00.8**	**-0.9**
	baz=250						
ESL	**Shilin**	**1.68**	**240**	P	**Pn**	**16 51 38.5**	**-0.2**
	baz=237						
ESL				S	**Sn**	**16 51 59.9**	**-1.5**
	baz=237						
WHF	**Hehuan Shan**	**1.68**	**252**	*eP*	**Pn**	**16 51 38.9**	**-0.2**
	baz=250						
WHF				S	**Sn**	**16 52 00.6**	**-1.6**
	baz=250						
NFF	**Wufeng Townshi**	**1.73**	**269**	*eS*	**Sn**	**16 52 01.6**	**-1.0**
	baz=272						
WARBT	**Fenglin Townsh**	**1.76**	**238**	P	**Pn**	**16 51 39.4**	**-0.4**
	baz=235						
WARBT				S	**Sn**	**16 52 01.6**	**-1.7**
	baz=235						
CHGB	**Renai**	**1.79**	**251**	P	**Pn**	**16 51 40.4**	**+0.2**
	baz=242						
CHGB				S	**Sn**	**16 52 02.9**	**-1.2**
	baz=242						
OWD	**Renai**	**1.82**	**248**	S	**Sn**	**16 52 03.8**	**-1.0**
	baz=241						
HGSD	**Ruisui**	**1.87**	**232**	P	**Pn**	**16 51 40.9**	**-0.1**
	baz=227						
HGSD				S	**Sn**	**16 52 04.8**	**-0.7**
	baz=227						
WHP	**Taichung City**	**1.93**	**259**	*eS*	**Sn**	**16 52 07.7**	**+0.8**
	baz=255						
EHY	**Hungye**	**1.93**	**234**	P	**Pn**	**16 51 41.8**	**0.0**
	baz=231						
EHY				S	**Sn**	**16 52 05.2**	**-1.7**
	baz=231						
VWDT	**VWDT**	**1.94**	**242**	P	**Pn**	**16 51 42.1**	**+0.3**
	baz=236						
VWDT				S	**Sn**	**16 52 06.1**	**-0.9**
	baz=236						
DPDB	**Guoxing**	**2.01**	**252**	*eS*	**Sn**	**16 52 10.3**	**+1.7**
	baz=249						
WCS	**Beigang Elemen**	**2.01**	**253**	*eS*	**Sn**	**16 52 09.3**	**+0.6**
	baz=254						
YULB	**Yu-li**	**2.02**	**231**	P	**Pn**	**16 51 42.6**	**-0.3**
	baz=235						
YULB				S	**Sn**	**16 52 07.2**	**-1.7**
	baz=235						
EYUL	**Yuli**	**2.03**	**230**	*eP*	**Pn**	**16 51 44.2**	**+1.1**
	baz=221						
EYUL				S	**Sn**	**16 52 08.9**	**-0.2**
	baz=221						
TWF1	**Yuli**	**2.05**	**231**	P	**Pn**	**16 51 43.1**	**-0.1**
	baz=235						
TWF1				S	**Sn**	**16 52 08.5**	**-1.0**
	baz=235						
JMJ	**Miyako jima 2**	**2.08**	**85**	*eP*	**Pn**	**16 51 44.4**	**+0.9**
	baz=86						
SSLB	**Suanglung**	**2.08**	**246**	*eS*	**Sn**	**16 52 09.7**	**-0.4**
	baz=241						
SMLT	**Sun Moon Lake**	**2.08**	**248**	*eS*	**Sn**	**16 52 11.9**	**+1.5**
	baz=241						
TYC	**Yuchr**	**2.11**	**249**	*eS*	**Sn**	**16 52 11.8**	**+0.9**
	baz=242						
WHYT	**Xinyi Township**	**2.20**	**244**	S	**Sn**	**16 52 14.2**	**+1.3**
	baz=242						
ALS	**Alishan**	**2.33**	**241**	*eP*	**Pn**	**16 51 49.6**	**+2.6**
	baz=234						
ALS				*eS*	**Sn**	**16 52 16.6**	**+0.5**
	baz=234						
ELDTW	**Lidau**	**2.35**	**232**	*eS*	**Sn**	**16 52 15.2**	**-1.2**
	baz=226						
CHN5	**Tsauling**	**2.39**	**244**	*eS*	**Sn**	**16 52 18.7**	**+1.5**
	baz=242						

IDC 06 16:53:36.5±2.1,5.°71S×141.°67E,h0km,mb3.5/1, mbtmp3.5/3,ML3.6/2,Error ellipse: s-maj=249.1km s-min=35.0km az=114.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.84**	**206**	Pn	Pn	16 57 18.9	-2.2
	0.2nm,0.3s,baz=29,slow=13,SNR=7.5						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**19.35**	**202**	P	Pn	16 58 04.5	-0.3
	0.3nm,0.3s,baz=31,slow=10,SNR=32						
	1.2nm,0.6s						
ILAR	**Eielson Array**	**87.34**	**24**	P	P	17 06 25.2	+0.1
	0.3nm,1.0s,baz=256,slow=5.5,SNR=1.9						
	0.3nm,1.0s						

*IDC **06** 16:54:57.3±1.0,6.°03S×142.°54E,h0km,mb3.8/5, mbtmp3.9/8,ML4.2/2,Error ellipse: s-maj=34.9km s-min=20.8km az=94.0*

ISC 06 16:54:58.6±0.8,6.°27S±0.°10×142.°4E±0.°1,h10km,n8, σ2§33/10,mb3.9/5,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.66**	**124**	Pn	**Pn**	**16 56 23.6**	**+0.8**
	12nm,0.4s,baz=34,slow=3.9,SNR=12						
PMG				Sn	**Sn**	**16 57 26.4**	**-1.4**
	1.6nm,0.3s,baz=250,slow=12,SNR=3.1						
WRA	**Warramunga Arr**	**15.68**	**209**	Pn	**Pn**	**16 58 41.3**	**+1.5**
	0.7nm,0.3s,baz=27,slow=13,SNR=11						
WRA				Sn	**Sn**	**17 01 29.7**	**-4.1**
	0.2nm,0.3s,baz=41,slow=23,SNR=2.2						
WRA				Lg	Lg	17 03 25.1	
	0.2nm,0.3s,baz=31,slow=26,SNR=3.6						
	1.5nm,0.5s						
ASAR	**Alice Springs**	**19.13**	**204**	P	**Pn**	**16 59 26.2**	**+3.4**
	1.1nm,0.3s,baz=32,slow=10,SNR=35						
ASAR				Lg	Lg	17 05 14.4	
	0.2nm,0.3s,baz=32,slow=11,SNR=4.7						
	3.9nm,0.5s						
SONM	**Songino Array**	**62.51**	**333**	P	**P**	**17 05 21.1**	**-1.4**
	0.1nm,0.3s,baz=151,slow=3.3,SNR=1.3						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**74.84**	**322**	P	**P**	**17 06 40.5**	**+1.1**
	0.4nm,0.7s,baz=111,slow=6.6,SNR=4.4						
	0.4nm,0.7s						
QSPA	**South Pole Qui**	**83.70**	**180**	P	**P**	**17 07 28.2**	**+0.7**
	1.1nm,0.7s,baz=355,slow=11,SNR=3.0						
	1.1nm,0.7s						
BVAR	**Borovoye Array**	**84.32**	**325**	P	**P**	**17 07 30.5**	**-0.3**
	1.5nm,0.8s,baz=100,slow=5.6,SNR=5.0						
	1.5nm,0.8s						
ILAR	**Eielson Array**	**87.56**	**24**	P	**P**	**17 07 45.6**	**-1.0**
	0.5nm,0.7s,baz=246,slow=4.7,SNR=10						
	0.5nm,0.7s						

*NEIC **06** 17:02:37.2±1.4,5.°80S±0.°05×142.°89E±0.°10,h10km±2km, mb4.0/7,Error ellipse: s-maj=16.3km s-min=8.5km az=262.0*
*IDC **06** 17:02:43.6±1.1,6.°34S×143.°02E,h0km,mb3.8/4, mbtmp3.8/7,ML3.6/1,Error ellipse: s-maj=35.9km s-min=25.3km az=72.0*

ISC 06 17:02:44.4±0.9,6.°4S±0.°1×142.°86E±0.°08,h10km,n19, σ1§47/19,mb3.9/4,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.17**	**125**	Pn	**Pn**	**17 04 00.1**	**-1.9**
PMG				Sn	**Sn**	**17 05 01.9**	**+0.1**
PMG	**Port Moresby**	**5.17**	**125**	Pn	**Pn**	**17 04 00.0**	**-1.9**
	9.1nm,1.0s,baz=271,slow=15,SNR=1.1						
PMG				Sn	**Sn**	**17 05 02.3**	**+0.6**
	0.6nm,0.3s,baz=238,slow=8.7,SNR=2.2						
COEN	**Coen**	**7.47**	**178**	Pn	**Pn**	**17 04 34.6**	**+1.0**
RABL	**Rabaul**	**9.53**	**77**	Pn	Pn	17 04 52.1	-10
MTN	**Manton Dam**	**13.19**	**240**	Pn	**Pn**	**17 05 48.9**	**-3.1**
WB0	**Warramunga Arr**	**15.59**	**211**	Pn	**Pn**	**17 06 24.1**	**-0.4**
WB0				IAmb	IAmb	17 06 35.2	
	comp=Z,22nm,1.4s						
WR0	**Warramunga Arr**	**15.68**	**210**	Pn	**Pn**	**17 06 25.0**	**-0.6**
WR0				IAmb	IAmb	17 07 00.5	
	comp=Z,15nm,1.2s						
WB2	**Warramunga Arr**	**15.76**	**211**	Pn	**Pn**	**17 06 26.7**	**+0.1**
WB2				IAmb	IAmb	17 06 35.7	
	comp=Z,18nm,1.4s						
WRA	**Warramunga Arr**	**15.77**	**211**	Pn	**Pn**	**17 06 27.2**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=30,slow=13,SNR=1.9						
	comp=Z,1.0nm,0.6s						
KNRA	**Kununurra**	**16.59**	**235**		**Pn**	**17 06 36.2**	**-1.1**
KNRA				IAmb	IAmb	17 06 41.8	
	comp=Z,27nm,1.4s						
SOEI	**Soe**	**18.70**	**259**		P	17 06 56.1	-7.1
AS31	**Alice Springs**	**19.17**	**206**		**P**	**17 07 07.3**	**-0.9**
ASAR	**Alice Springs**	**19.17**	**206**	P	**P**	**17 07 07.3**	**-0.9**
ASAR	**Alice Springs**	**19.17**	**206**	P	**Pn**	**17 07 11.4**	**+2.2**
	comp=Z,2.9nm,0.6s,baz=30,slow=11,SNR=15						
FITZ	**Fitzroy Crossi**	**20.41**	**234**	P	**P**	**17 07 20.3**	**-1.5**
FITZ				IAmb	IAmb	17 07 36.7	
	comp=Z,5.3nm,1.4s						
MKAR	**Makanchi Array**	**75.26**	**322**	P	**P**	**17 14 28.1**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=104,slow=4.6,SNR=2.7						
	comp=Z,0.2nm,0.6s						
QSPA	**South Pole Qui**	**83.53**	**180**	P	**P**	**17 15 14.6**	**+2.1**
	comp=Z,0.8nm,0.9s,baz=304,slow=3.6,SNR=1.0						
	comp=Z,0.8nm,0.9s						
BVAR	**Borovoye Array**	**84.72**	**325**	P	**P**	**17 15 19.9**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=91,slow=6.4,SNR=4.1						
	comp=Z,1.1nm,0.8s						
ILAR	**Eielson Array**	**87.52**

comp=N,40nm,2.1s
REDW Red Top Meadow 3.98 270 Pn Pn 17 05 59.7 +1.8
YNR Norris Junctio 4.01 290 Pn **Pn 17 05 58.9 +0.7**
YNR IAML 17 08 15.1
comp=E,30nm,4.7s
TPAW Teton Pass 4.05 272 Pn 17 05 59.4 +0.6
TPAW IAML 17 07 20.7
comp=E,20nm,0.8s
YFT Old Faithful 4.05 286 Pn 17 05 59.5 +0.7
YFT IAML 17 06 33.1
comp=N,25nm,2.2s
YHH Holmes Hill 4.15 290 Pn **Pn 17 06 00.7 +0.5**
AHID Auburn Hatcher 4.25 262 Pn 17 06 02.6 +1.2
AHID IAML 17 06 34.9
comp=N,30nm,1.0s
AHID IAML 17 07 24.6
comp=N,33nm,0.9s
RDMU Red Mountain 4.26 228 Pn 17 06 02.3 +0.6
RDMU IAML 17 07 26.1
comp=E,26nm,1.2s
RDMU IAML 17 07 32.6
comp=N,26nm,0.7s
SMCO Snowmass 4.46 196 Pn 17 06 06.2 +1.6
SMCO IAML 17 07 33.1
comp=N,22nm,1.2s
Q24A Divide 4.51 178 Pn 17 06 06.0 +0.8
E28A Huff 4.54 45 Pn 17 06 05.1 -0.2
BOZ Bozeman (W) 4.94 298 Pn 17 06 10.0 -0.9
BOZ IAML 17 07 45.8
comp=N,13nm,0.8s
BOZ IAML 17 09 10.6
comp=N,18nm,4.7s
DGMT Dagmar 5.06 9 Pn 17 06 11.9 -0.5
EGMT Eagleton 5.48 328 Pn 17 06 19.1 +0.9
ECSD EROS Data Cent 6.37 85 Pn 17 06 31.8 +1.3
I10CA LAC DU BONNET 9.29 40 I I 17 58 55.0
comp=N,0.2nm,1.1s,baz=224,slow=335,SNR=8.0
ULM Lac du Bonnet 9.39 41 Pn **Pn 17 07 11.1 -0.7**
comp=N,0.3nm,0.3s,baz=231,slow=13,SNR=2.6
ULM Lg Lg 17 09 46.3
comp=N,0.2nm,0.3s,baz=286,slow=7.9,SNR=2.1
comp=N,0.9nm,0.3s
YKA Yellowknife Ar 19.80 347 P **Pn 17 09 31.2 +2.8**
comp=N,0.4nm,0.7s,baz=150,slow=10.0,SNR=6.3
comp=N,0.4nm,0.7s

*NEIC **06** 17:08:31.6±1.6,5.91S±0.10×154.7E±0.1,h165km±7km, mb4.5/64, Error ellipse: s-maj=17.1km s-min=13.1km az=63.0*
*IDC **06** 17:08:34.9±2.2,5.95S×154.75E,h211km±20km, mb3.8/17, mbtmp4.3/20, Error ellipse: s-maj=16.0km s-min=11.9km az=80.0*

ISC 06 17:08:29.0±0.5,5.85S±0.06×154.78E±0.08,h150km,n114, σ1s50/115,mb4.4/46,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.08**	**302**		**Pn**	**17 09 19.3**	**+1.9**
PMG	**Port Moresby**	**8.34**	**244**		**Pn**	**17 10 26.8**	**-0.1**
PMG	**Port Moresby**	**8.34**	**244**	P	**Pn**	**17 10 31.5**	**+4.7**
	43nm,0.8s,baz=12,slow=1.9,SNR=6.1						
CTA	**Charters Tower**	**16.40**	**210**	P	**Pn**	**17 12 10.5**	**-0.2**
	2.1nm,0.6s,baz=19,slow=11,SNR=1.3						
DZM	**Mont Dzumac**	**19.68**	**146**		**P**	**17 12 48.0**	**+1.4**
DZM				IAmb	IAmb	17 12 50.1	
	comp=Z,12nm,0.9s						
DZM	**Mont Dzumac**	**19.68**	**146**	P	**P**	**17 12 48.5**	**+1.8**
DZM	**Mont Dzumac**	**19.68**	**146**	P	**P**	**17 12 47.7**	**+1.1**
	comp=Z,12nm,0.5s,baz=260,slow=8.6,SNR=21						
EIDS	**Eidsvold**	**19.73**	**190**	P	**P**	**17 12 49.4**	**+2.4**
EIDS				IAmb	IAmb	17 13 33.8	
	comp=Z,20nm,1.1s						
QIS	**Mount Isa**	**20.75**	**224**	P	**P**	**17 13 00.6**	**+2.5**
FAKI	**Fak Fak**	**22.65**	**276**	P	**P**	**17 13 17.1**	**-0.6**
FAKI	**Fak Fak**	**22.65**	**276**	P	**P**	**17 13 17.4**	**-0.3**
KDU	**Kakadu**	**23.02**	**251**	P	**P**	**17 13 21.2**	**+0.1**
WR0	**Warramunga Arr**	**24.16**	**233**	P	**P**	**17 13 31.4**	**-0.1**
WR0				IAmb	IAmb	17 13 32.3	
	comp=Z,15nm,1.1s						
WB0	**Warramunga Arr**	**24.17**	**233**	P	**P**	**17 13 31.4**	**-0.1**
WB0				IAmb	IAmb	17 13 44.4	
	comp=Z,23nm,1.5s						
WB2	**Warramunga Arr**	**24.30**	**233**	P	**P**	**17 13 32.9**	**+0.2**
WB2				IAmb	IAmb	17 13 33.4	
	comp=Z,32nm,1.5s						
WRA	**Warramunga Arr**	**24.31**	**233**	P	**P**	**17 13 32.7**	**-0.1**
	comp=Z,4.7nm,0.5s,baz=58,slow=9.8,SNR=31						
WRA				PcP	**PcP**	**17 17 08.2**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=57,slow=2.3,SNR=5.2						
	comp=Z,4.7nm,0.5s						
MTN	**Manton Dam**	**24.33**	**252**	P	**P**	**17 13 33.5**	**+0.5**
MTN				IAmb	IAmb	17 14 15.5	
	comp=Z,25nm,1.2s						
ARMA	**Armidale**	**24.62**	**187**	P	**P**	**17 13 36.5**	**+0.9**
ARMA				IAmb	IAmb	17 14 09.8	
	comp=Z,38nm,1.4s						
ARMA	**Armidale**	**24.62**	**187**	P	**P**	**17 13 36.9**	**+1.3**
INKA	**Innaminka**	**25.53**	**210**	P	**P**	**17 13 43.4**	**-0.3**
AS31	**Alice Springs**	**26.78**	**226**	P	**P**	**17 13 54.2**	**-0.9**
ASAR	**Alice Springs**	**26.78**	**226**	P	**P**	**17 13 54.4**	**-0.7**
	comp=Z,1.7nm,0.4s,baz=56,slow=9.4,SNR=15						
ASAR				PcP	**PcP**	**17 17 14.1**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=52,slow=2.7,SNR=7.6						
ASAR				ScP	**ScP**	**17 20 32.5**	**-8.3**
	comp=Z,0.4nm,0.6s,baz=32,slow=11,SNR=6.2						
	comp=Z,1.7nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**26.89**	**26**	T	T	17 42 59.8	
	baz=242,slow=74,SNR=4.9						
H11S1	**WAKE ISLAND Hy**	**26.91**	**26**	T	T	17 42 59.9	
	baz=204,slow=74,SNR=9.9						
CMSA	**Cobar Meteorol**	**26.93**	**197**	P	**P**	**17 13 59.4**	**+3.1**
STKA	**Stephens Creek**	**28.68**	**204**	P	**P**	**17 14 11.5**	**-0.3**
STKA	**Stephens Creek**	**28.68**	**204**	P	**P**	**17 14 11.7**	**-0.2**
	comp=Z,2.5nm,0.9s,baz=28,slow=12,SNR=3.0						
	comp=Z,2.5nm,0.9s						
LCRK	**Leigh Creek**	**29.01**	**211**	P	**P**	**17 14 14.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**30.93**	**244**	P	**P**	**17 14 30.6**	**-1.3**
BBOO	**Buckleboo**	**32.00**	**211**	P	**P**	**17 14 39.7**	**-1.4**
MMRI	**Maumere**	**32.39**	**263**	P	**P**	**17 14 44.3**	**-0.5**
TOO	**Toolangi**	**32.69**	**194**	P	**P**	**17 14 48.6**	**+1.5**
TOO				IAmb	IAmb	17 14 56.3	
	comp=Z,12nm,1.2s						
TOLI2	**Tolitoli**	**34.64**	**280**	P	**P**	**17 15 03.2**	**-1.1**
TOLI2				IAmb	IAmb	17 15 05.4	
	comp=Z,8.7nm,0.6s						
TOLI2	**Tolitoli**	**34.64**	**280**	P	**P**	**17 15 03.6**	**-0.7**
FORT	**Forrest**	**35.28**	**222**	P	**P**	**17 15 11.2**	**+1.7**
TAU	**Tasmania Unive**	**37.49**	**189**	P	**P**	**17 15 28.5**	**+0.4**
TAU				IAmb	IAmb	17 15 32.1	
	comp=Z,13nm,1.1s						
MXZ	**Matakaoa Point**	**38.16**	**149**	P	**P**	**17 15 34.5**	**+0.7**
MXZ	**Matakaoa Point**	**38.16**	**149**	P	**P**	**17 15 35.2**	**+1.4**
RTZ	**Ruatahuna**	**38.32**	**151**	P	**P**	**17 15 35.3**	**+0.1**
RTZ				IAmb	IAmb	17 15 47.5	
	comp=Z,20nm,1.2s						
MRNZ	**Matariki Terra**	**38.87**	**158**	P	**P**	**17 15 40.5**	**+0.9**
MRZ	**Mangatainoka R**	**39.35**	**155**	P	**P**	**17 15 43.5**	**-0.2**
BFZ	**Birch Farm**	**39.66**	**154**	P	**P**	**17 15 45.6**	**-0.7**
BFZ	**Birch Farm**	**39.66**	**154**	P	**P**	**17 15 46.8**	**+0.6**
KHZ	**Kahutara**	**40.04**	**158**	P	**P**	**17 15 50.1**	**+0.8**
MEEK	**Meekatharra**	**40.18**	**235**	P	**P**	**17 15 50.7**	**-0.1**
OXZ	**Oxford**	**40.31**	**160**	P	**P**	**17 15 50.5**	**-1.1**
RPZ	**Rata Peaks**	**40.34**	**162**	P	**P**	**17 15 52.9**	**+1.1**
MQZ	**McQueen's Vall**	**40.85**	**160**	P	**P**	**17 15 55.8**	**-0.2**
KLBR	**Kellerberrin**	**43.06**	**229**	P	**P**	**17 16 12.7**	**-1.5**
MORW	**Morawa**	**43.26**	**233**	P	**P**	**17 16 14.2**	**-1.6**
MORW				IAmb	IAmb	17 16 18.3	
	comp=Z,16nm,1.2s						
MORW	**Morawa**	**43.26**	**233**	P	**P**	**17 16 14.8**	**-1.0**
BLDU	**Ballidu**	**43.40**	**231**	P	**P**	**17 16 15.9**	**-1.0**
YULB	**Yu-li**	**43.75**	**313**	P	**P**	**17 16 19.8**	**+0.1**
YULB				IAmb	IAmb	17 16 41.2	
	comp=Z,22nm,1.1s						
TPUB	**Ta-pu**	**44.18**	**312**	P	**P**	**17 16 23.2**	**0.0**
SSLB	**Suanglung**	**44.23**	**313**	P	**P**	**17 16 23.8**	**+0.1**
BBJI	**Bungbulang**	**46.82**	**265**	P	**P**	**17 16 45.1**	**+0.9**
GSI	**Gunungsitoli**	**57.56**	**275**	P	**P**	**17 18 03.0**	**-0.4**
GSI				IAmb	IAmb	17 18 37.0	
	comp=Z,12nm,1.0s						
PEA0B	**Petropavlovsk-**	**58.79**	**2**	P	**P**	**17 18 12.7**	**+1.5**
PETK	**Petropavlovsk-**	**58.79**	**2**	P	**P**	**17 18 12.1**	**+0.8**
	comp=Z,4.0nm,0.8s,baz=161,slow=6.0,SNR=6.3						
	comp=Z,4.0nm,0.8s						
PHRA	**Phrae**	**58.96**	**296**	P	**P**	**17 18 13.5**	**+0.4**
CRAI	**Chiangrai**	**59.40**	**297**	P	**P**	**17 18 16.4**	**+0.3**
CM31	**Chiang Mai Arr**	**60.10**	**295**	P	**P**	**17 18 20.6**	**-0.3**
CM31				IAmb	IAmb	17 18 22.8	
	comp=Z,4.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**60.10**	**295**	P	**P**	**17 18 21.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**60.10**	**295**	P	**P**	**17 18 21.8**	**+0.9**
	comp=Z,3.7nm,0.9s,baz=116,slow=5.4,SNR=28						
	comp=Z,3.7nm,0.9s						
SONM	**Songino Array**	**68.26**	**327**	P	**P**	**17 19 13.6**	**-0.1**
SONM	**Songino Array**	**68.26**	**327**	P	**P**	**17 19 14.1**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=142,slow=5.1,SNR=10						
	comp=Z,1.3nm,0.5s						
VNDA	**Vanda**	**71.72**	**178**	P	**P**	**17 19 32.5**	**-1.7**
VNDA	**Vanda**	**71.72**	**178**	P	**P**	**17 19 32.8**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=322,slow=3.5,SNR=6.5						
	comp=Z,0.9nm,0.5s						
BILL	**Bilibino**	**74.17**	**4**	P	**P**	**17 19 49.8**	**+1.2**
BILL				IAmb	IAmb	17 19 50.3	
	comp=Z,2.9nm,0.7s						
M14K	**Bethel**	**74.48**	**20**	P	**P**	**17 19 52.3**	**+1.8**
L14K	**Kuka Creek**	**74.66**	**20**	P	**P**	**17 19 53.1**	**+1.6**
L14K				IAmb	IAmb	17 20 26.1	
	comp=Z,26nm,1.4s						
PALK	**Pallekele**	**75.05**	**279**	P	**P**	**17 19 55.4**	**+0.5**
PALK				IAmb	IAmb	17 19 57.7	
	comp=Z,20nm,1.4s						
K15K	**Wolf Creek Mou**	**75.72**	**19**	P	**P**	**17 19 59.1**	**+1.5**
K15K				IAmb	IAmb	17 20 28.8	
	comp=Z,29nm,1.5s						
M16K	**Timber Creek**	**75.73**	**21**	P	**P**	**17 19 59.5**	**+1.7**
ANM	**Nome**	**76.20**	**17**	P	**P**	**17 20 01.9**	**+1.6**
ANM				IAmb	IAmb	17 20 19.0	
	comp=Z,16nm,1.4s						
M17K	**Holitna River**	**76.53**	**21**	P	**P**	**17 20 03.9**	**+1.6**
M17K				IAmb	IAmb	17 20 33.0	
	comp=Z,19nm,1.4s						
N18K	**Kilae Creek**	**76.65**	**23**	P	**P**	**17 20 01.7**	**-1.3**
N18K				IAmb	IAmb	17 20 14.1	
	comp=Z,14nm,1.5s						
J16K	**Anvik River**	**76.72**	**19**	P	**P**	**17 20 03.2**	**-0.1**
J16K				IAmb	IAmb	17 20 07.2	
	comp=Z,11nm,1.2s						
SVW2	**Sparrevohn**	**77.03**	**22**	P	**P**	**17 20 05.3**	**+0.2**
J17K	**VABM Dome**	**77.30**	**19**	P	**P**	**17 20 08.7**	**+2.2**
J17K				IAmb	IAmb	17 20 22.4	
	comp=Z,13nm,1.5s						
G16K	**Koyuk River**	**77.68**	**17**	P	**P**	**17 20 09.9**	**+1.4**
G16K				IAmb	IAmb	17 20 46.4	
	comp=Z,11nm,1.4s						
RSO	**Redoubt South**	**77.74**	**24**	P	**P**	**17 20 11.6**	**+2.3**
L19K	**White Mountain**	**77.98**	**22**	P	**P**	**17 20 11.9**	**+1.5**
L19K				IAmb	IAmb	17 20 12.2	
	comp=Z,18nm,1.5s						
SUA	**Susitna One**	**79.12**	**23**	P	**P**	**17 20 16.8**	**+0.1**
SUA				IAmb	IAmb	17 20 18.3	
	comp=Z,5.5nm,1.1s						
H19K	**Roundabout Mou**	**79.57**	**19**	P	**P**	**17 20 20.4**	**+1.5**
H19K				IAmb	IAmb	17 21 02.3	
	comp=Z,11nm,1.4s						
CAST	**Castle Rocks**	**79.75**	**21**	P	**P**	**17 20 20.8**	**+0.8**
E19K	**Redstone River**	**80.60**	**17**	P	**P**	**17 20 25.8**	**+1.3**
IMAR	**Indian Mountai**	**80.72**	**19**	P	**P**	**17 20 26.5**	**+1.4**
D19K	**Kuna River**	**81.05**	**16**	P	**P**	**17 20 28.0**	**+1.1**
D19K				IAmb	IAmb	17 20 29.4	
	comp=Z,6.6nm,1.4s						
G21K	**Allakaket**	**81.13**	**19**	P	**P**	**17 20 28.9**	**+1.6**
B20K	**Meade River**	**82.32**	**15**	P	**P**	**17 20 34.2**	**+0.8**
ILAR	**Eielson Array**	**82.40**	**22**	P	**P**	**17 20 33.0**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=260,slow=5.3,SNR=9.0						
	comp=Z,0.6nm,0.8s						
MK31	**Makanchi Array**	**82.41**	**319**	P	**P**	**17 20 34.1**	**-0.3**
MKAR	**Makanchi Array**	**82.41**	**319**	P	**P**	**17 20 34.1**	**-0.3**
MKAR	**Makanchi Array**	**82.41**	**319**	P	**P**	**17 20 33.3**	**-1.1**
	comp=Z,2.1nm,0.8s,baz=99,slow=5.9,SNR=31						
	comp=Z,2.1nm,0.6s						
D22K	**Ayikyak River**	**82.82**	**17**	P	**P**	**17 20 37.8**	**+1.7**
ZAA0	**Zalesovo Array**	**83.12**	**326**	P	**P**	**17 20 36.8**	**-1.1**
ZALV	**Zalesovo Beam**	**83.12**	**326**	P	**P**	**17 20 36.6**	**-1.3**
ZALV	**Zalesovo Beam**	**83.12**	**326**	P	**P**	**17 20 35.8**	**-2.0**
	comp=Z,2.0nm,0.7s,baz=105,slow=5.6,SNR=10						
	comp=Z,2.0nm,0.7s						
B22K	**Teshekpuk Lake**	**83.52**	**16**	P	**P**	**17 20 40.5**	**+1.0**
B22K				IAmb	IAmb	17 20 41.2	
	comp=Z,4.7nm,1.1s						
C23K	**Itkillik River**	**83.98**	**17**	P	**P**	**17 20 43.1**	**+1.2**
C23K				IAmb	IAmb	17 21 20.0	
	comp=Z,5.1nm,1.4s						
QSPA	**South Pole Qui**	**84.12**	**180**	P	**P**	**17 20 42.6**	**-0.3**
QSPA	**South Pole Qui**	**84.12**	**180**	P	**P**	**17 20 41.1**	**-1.8**
	comp=Z,3.7nm,0.8s,baz=318,slow=0.7,SNR=29						
	comp=Z,3.7nm,0.8s						
BMAR	**Burnt Mountain**	**84.56**	**20**	P	**P**	**17 20 45.5**	**+0.5**
MAW	**Mawson**	**85.36**	**203**	P	**P**	**17 20 48.3**	**-0.6**
MAW	**Mawson**	**85.36**	**203**	P	**P**	**17 20 47.5**	**-1.4**
	comp=Z,5.7nm,0.7s,baz=116,slow=4.7,SNR=7.1						
	comp=Z,5.7nm,0.7s						
KURK	**Kurchatov**	**85.81**	**322**	P	**P**	**17 20 50.5**	**-1.0**
KURBB	**Kurchatov Arra**	**85.84**	**322**	P	**P**	**17 20 51.0**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=100,slow=4.6,SNR=8.6						
	comp=Z,0.7nm,0.5s						
NRIK	**Noril'sk**	**87.59**	**341**	P	**P**	**17 20 57.8**	**-2.0**
	comp=Z,1.7nm,0.4s,baz=136,slow=5.4,SNR=5.7						
	comp=Z,1.7nm,0.4s						
NVAR	**Mina Array Bea**	**91.19**	**52**	P	**P**	**17 21 17.8**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=249,slow=6.7,SNR=9.2						
	comp=Z,1.7nm,0.9s						
BVAR	**Borovoye Array**	**91.26**	**323**	P	**P**	**17 21 15.2**	**-2.1**
	comp=Z,1.9nm,0.6s,baz=106,slow=5.3,SNR=9.2						
	comp=Z,1.9nm,0.6s						
PDAR	**Pinedale Array**	**98.10**	**48**	P	**P**	**17 21 48.7**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=222,slow=2.0,SNR=3.4						
	comp=Z,0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**152.50**	**287**	PKPbc	**PKPdf**	**17 28 05.0**	**+3.4**
	comp=Z,0.5nm,0.5s,baz=22,slow=4.1,SNR=3.5						
DBIC	**Dimbokro**	**159.74**	**273**	PKP	**PKPdf**	**17 28 09.8**	**-1.2**
	comp=Z,2.6nm,0.9s,baz=135,slow=5.7,SNR=2.0						

IDC 06 17:08:31.6±2.1,4.59S×142.61E,h0km,mb3.3/2, mbtmp3.5/4,ML2.5/2,Error ellipse: s-maj=55.7km s-min=34.9km az=107.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.58**	**137**	Pn	Pn	17 10 10.9	+1.3
	0.8nm,0.3s,baz=315,slow=10.0,SNR=1.6						
	3.9nm,0.4s						
WRA	**Warramunga Arr**	**17.26**	**207**	Pn	Pn	17 12 33.7	-0.5
	0.1nm,0.3s,baz=32,slow=11,SNR=1.6						
	1.1nm,0.9s						
ASAR	**Alice Springs**	**20.74**	**203**	P	P	17 13 13.9	-0.2
	0.6nm,0.5s,baz=33,slow=10,SNR=2.4						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**85.94**	**24**	P	P	17 21 13.2	-0.2
	0.3nm,0.8s,baz=240,slow=5.7,SNR=1.9						
	0.3nm,0.8s						

JMA 06 17:26:14.5±0.2,24.3N±0.6×123.8E±0.6,h16km±1km, MV0.6/6,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.09**	**332**	P	Pg	17 26 17.8	-0.1
IRIF				S	Sg	17 26 20.3	+0.2
HATJ	**Hateruma jima**	**0.20**	**172**	S	Sg	17 26 22.5	-0.1
JKRS	**Kuro-shima**	**0.22**	**96**	P	Pg	17 26 19.5	0.0
JKRS				S	Sg	17 26 23.3	+0.4
JIJ	**Ishigaki jima**	**0.35**	**73**	P	Pg	17 26 21.7	-0.2
JIJ				S	Sg	17 26 26.4	-0.4
JISG	**Ishigakijimahi**	**0.59**	**56**	P	Pg	17 26 26.2	+0.1

JMA 06 17:26:49.4±0.2,24.2N±0.4×123.8E±0.4,h16km±1km, MV0.8/6,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.14**	**316**	eP	Pg	17 26 53.3	0.0
IRIF				eS	Sg	17 26 55.9	+0.1
JKRS	**Kuro-shima**	**0.16**	**90**	P	Pg	17 26 53.6	0.0
JKRS				eS	Sg	17 26 56.7	+0.3
HATJ	**Hateruma jima**	**0.18**	**188**	*i* P	Pg	17 26 53.8	-0.1
HATJ				eS	Sg	17 26 57.1	+0.2
JIJ	**Ishigaki jima**	**0.31**	**66**	eP	Pg	17 26 55.7	-0.3
JIJ				eS	Sg	17 27 00.2	-0.3
JISG	**Ishigakijimahi**	**0.56**	**51**	P	Pg	17 27 00.5	0.0
JISG				eS	Sg	17 27 08.1	+0.2

TAP 06 17:27:12.8,24.37N×121.84E,h18km,ML1.9,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.10**	**323**	*i* P	Pg	17 27 16.7	+0.3
	baz=323						
EWUT				*e*S	Sg	17 27 19.9	+1.1
	baz=323						
EAHA	**Aohua**	**0.10**	**247**	P	Pg	17 27 16.8	+0.4
	baz=246						
EHP	**Heping Village**	**0.11**	**237**	P	Pg	17 27 16.8	+0.3
	baz=233						
EHP				S	Sg	17 27 19.9	+0.8
	baz=233						
ENA	**Nanau**	**0.11**	**303**	*i* P	Pg	17 27 16.9	+0.3
	baz=304						
ENA				S	Sg	17 27 20.1	+1.0
	baz=304						
ESAO	**Su ao**	**0.21**	**1**	P	Pg	17 27 18.2	+0.4
NDS	**Dongshan**	**0.29**	**337**	P	Pb	17 27 19.7	+0.3
	baz=336						
NACB	**Ninganchiao**	**0.30**	**229**	*e*P	Pb	17 27 19.8	+0.3
	baz=229						
NACB				S	Sb	17 27 25.2	+1.1
	baz=229						
LATG	**Datong**	**0.33**	**300**	P	Pb	17 27 20.6	+0.3
	baz=300						
TWD	**Chiawan**	**0.36**	**218**	P	Pb	17 27 20.8	0.0
	baz=216						
ETLH	**Xiulin Townshi**	**0.36**	**244**	P	Pb	17 27 21.0	+0.2
	baz=243						
ENTT	**Nioudou**	**0.37**	**317**	P	Pb	17 27 21.2	+0.4
	baz=317						
ENTT				S	Sb	17 27 27.2	+0.9
	baz=317						
NDT	**Datong Townshi**	**0.38**	**308**	P	Pb	17 27 21.5	+0.5
	baz=307						
NDT				S	Sb	17 27 27.4	+0.8
	baz=307						
TWE	**Neicheng**	**0.39**	**336**	P	Pb	17 27 21.4	+0.2
	baz=337						
TWE				S	Sb	17 27 27.1	+0.3
	baz=337						
NNSB	**Datong**	**0.42**	**278**	P	Pb	17 27 22.2	+0.4
	baz=278						
NNSB				*e*S	Sb	17 27 28.6	+0.6
	baz=278						
FUSB	**Fushanzhiwuyua**	**0.45**	**329**	P	Pb	17 27 22.7	+0.4
	baz=329						
FUSB				*e*S	Sb	17 27 29.5	+0.7
	baz=329						
YHNB	**Yeheng**	**0.52**	**305**	P	Pb	17 27 24.1	+0.7
	baz=305						
YHNB				S	Sb	17 27 31.5	+0.9
	baz=305						
LXIB	**Xiulin Townshi**	**0.52**	**229**	P	Pb	17 27 23.7	+0.2
	baz=228						
NSK	**Sanguang**	**0.54**	**305**	P	Pb	17 27 24.4	+0.7
	baz=305						
NSK				S	Sb	17 27 31.8	+0.7
	baz=305						

TAP 06 17:27:15.4,24.39N×121.84E,h15km,ML1.9,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.08**	**317**	*i* P	Pg	17 27 19.1	+0.6
	baz=316						
EWUT				*i* S	Sg	17 27 21.6	+1.0
	baz=316						
ENA	**Nanau**	**0.10**	**294**	*i* P	Pg	17 27 19.3	+0.5
	baz=295						
ENA				*i* S	Sg	17 27 21.7	+0.8
	baz=295						
EAHA	**Aohua**	**0.11**	**237**	P	Pb	17 27 19.2	0.0
	baz=236						
EAHA				S	Sb	17 27 21.9	+0.2
	baz=236						
EHP	**Heping Village**	**0.12**	**228**	P	Pg	17 27 19.1	+0.2
	baz=225						
EHP				S	Sb	17 27 22.2	+0.2
	baz=225						
TWC	**Suao**	**0.22**	**3**	P	Pb	17 27 20.9	-0.2
	baz=5.0						
TWC				S	Sg	17 27 24.4	+0.5
	baz=5.0						
NDS	**Dongshan**	**0.27**	**336**	P	Pb	17 27 22.0	0.0
	baz=335						
NDS				S	Sb	17 27 26.2	-0.1
	baz=335						
ETL	**Fush Village**	**0.30**	**221**	*e*P	Pb	17 27 22.5	0.0
	baz=220						
ETL				*e*S	Sb	17 27 27.6	+0.3
	baz=220						
NACB	**Ninganchiao**	**0.31**	**226**	*e*P	Pb	17 27 22.6	0.0
	baz=226						
NACB				*e*S	Sb	17 27 27.3	-0.1
	baz=226						
LATG	**Datong**	**0.32**	**297**	P	Pb	17 27 23.1	+0.2
	baz=297						
LATG				S	Sb	17 27 27.9	0.0
	baz=297						
ENTT	**Nioudou**	**0.35**	**316**	P	Pb	17 27 23.6	+0.2
	baz=315						
ENTT				S	Sb	17 27 29.2	+0.4
	baz=315						
EOS2	**EOS2**	**0.36**	**85**	*e*P	Pb	17 27 23.6	+0.1
	baz=85						
EOS2				S	Sb	17 27 29.3	+0.4
	baz=85						
NDT	**Datong Townshi**	**0.36**	**306**	P	Pb	17 27 24.0	+0.4
	baz=305						
NDT				S	Sb	17 27 29.6	+0.5
	baz=305						
TWE	**Neicheng**	**0.37**	**335**	P	Pb	17 27 23.8	+0.1
	baz=336						
TWE				S	Sb	17 27 29.4	+0.2
	baz=336						
ETLH	**Xiulin Townshi**	**0.37**	**241**	*e*S	Sb	17 27 29.7	+0.3
	baz=240						
TWD	**Chiawan**	**0.38**	**216**	*e*P	Pb	17 27 23.5	-0.3
	baz=214						
NNSB	**Datong**	**0.42**	**276**	P	Pb	17 27 24.9	+0.3
	baz=275						
NNSB				*e*S	Sb

TIPB				S	Sb	17 27 35.7	+0.3	
	baz=358							
CHGB	**Renai**	**0.69**	**242**	*e*S	Sb	17 27 39.3	+0.7	
	baz=241							
WARBT	**Fenglin Townsh**	**0.78**	**212**	P	Pn	17 27 31.6	-0.4	
	baz=211							
WARBT				S	Sn	17 27 43.0	-0.4	
	baz=211							

IDC ***06*** *17:30:43.9±1.9,6˚.50S×142˚.93E,h0km,mb3.7/5, mbtmp3.6/7,ML3.2/2,Error ellipse: s-maj=73.4km s-min=29.5km az=105.0*

ISC 06 17:30:45.2±1.8,6˚.6S±0˚.2×142˚.9E±0˚.5,h10km,n7,σ1§02/7, mb3.9/5,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.69**	**211**	Pn		**Pn**	**17 34 25.8**	**-0.7**
	0.1nm,0.3s,baz=33,slow=12,SNR=2.2 0.4nm,0.6s							
ASAR	**Alice Springs**	**19.08**	**206**	P		**Pn**	**17 35 09.2**	**+0.4**
	0.2nm,0.3s,baz=32,slow=11,SNR=15 0.6nm,0.4s							
SONM	**Songino Array**	**63.02**	**333**	P		**P**	**17 41 11.3**	**-1.3**
	0.2nm,0.2s,baz=138,slow=5.2,SNR=2.4 0.2nm,0.2s							
MKAR	**Makanchi Array**	**75.41**	**322**	P		**P**	**17 42 30.4**	**+1.1**
	0.3nm,0.8s,baz=109,slow=5.6,SNR=2.3 0.3nm,0.8s							
ZALV	**Zalesovo Beam**	**77.39**	**329**	P		**P**	**17 42 39.8**	**-0.6**
	0.4nm,0.4s,baz=108,slow=4.7,SNR=1.9 0.4nm,0.4s							
BVAR	**Borovoye Array**	**84.88**	**325**	P		**P**	**17 43 20.9**	**+0.6**
	0.6nm,0.6s,baz=108,slow=4.8,SNR=4.2 0.6nm,0.6s							
ILAR	**Eielson Array**	**87.62**	**24**	P		**P**	**17 43 33.5**	**0.0**
	0.7nm,0.7s,baz=257,slow=5.2,SNR=8.7 0.7nm,0.7s							

IDC ***06*** *17:31:51.1±1.4,6˚.10S×143˚.10E,h0km,mb3.7/3, mbtmp3.7/6,ML3.2/1,Error ellipse: s-maj=43.2km s-min=29.6km az=87.0*

ISC 06 17:31:51.7±0.9,6˚.1S±0˚.1×143˚.0E±0˚.2,h10km,n7,σ1§94/7, mb3.9/4,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.28**	**128**	Pn		**Pn**	**17 33 10.7**	**0.0**
	21nm,1.0s,baz=331,slow=19,SNR=1.9							
WRA	**Warramunga Arr**	**16.08**	**211**	Pn		**P**	**17 35 40.7**	**-0.8**
	0.1nm,0.3s,baz=29,slow=14,SNR=1.6 0.8nm,0.6s							
ASAR	**Alice Springs**	**19.49**	**206**	P		**Pn**	**17 36 20.4**	**+0.1**
	2.1nm,0.5s,baz=30,slow=12,SNR=9.4							
NJ2	**Nanjing**	**44.38**	**330**	*e*P		**P**	**17 39 59.9**	**-2.7**
NJ2	comp=Z,10.0nm,1.3s			pmax	pmax			
MKAR	**Makanchi Array**	**75.08**	**322**	P		**P**	**17 43 36.2**	**+2.3**
	comp=Z,0.3nm,0.8s,baz=123,slow=5.3,SNR=2.2 comp=Z,0.3nm,0.8s							
BVAR	**Borovoye Array**	**84.53**	**325**	P		**P**	**17 44 26.4**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=104,slow=6.1,SNR=3.6 comp=Z,0.7nm,0.6s							
ILAR	**Eielson Array**	**87.20**	**24**	P		**P**	**17 44 37.6**	**-0.4**
	comp=Z,0.4nm,0.9s,baz=247,slow=3.7,SNR=2.7 comp=Z,0.4nm,0.9s							

IDC ***06*** *17:32:41.2±0.6,6˚.42S×143˚.31E,h0km,mb4.6/15, mbtmp4.7/17,ML2.0/1,MS4.4/1,Error ellipse: s-maj=24.0km s-min=13.7km az=73.0*

MOS ***06*** *17:32:41.7±0.8,6˚.34S×143˚.26E,h14km,mb5.0/41,Error ellipse: s-maj=12.3km s-min=6.6km az=121.2*

NEIC ***06*** *17:32:43.9±1.5,6˚.53S±0˚.07×143˚.08E±0˚.09,h10km±1km, mb5.0/125,Error ellipse: s-maj=14.9km s-min=10.6km az=70.0*

BJI ***06*** *17:32:44.0±0.0,6˚.26S×143˚.25E,h13km,mb4.7/48, mB5.4/16,Ms4.6/7,Ms7 4.5/7*

DJA ***06*** *17:32:47.2±1.6,6˚.5S±3˚×14˚.3E±˚,h15km±11km,M5.0/32, mB5.3/6,mb4.8/32,MLv5.3/5,Mw(mB)4.7/6*

ISC 06 17:32:43.8±0.3,6˚.55S±0˚.05×143˚.17E±0˚.05,h10km,n413, σ1§38/377,mb4.9/121,MS4.5/4,16C-10D,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MMPI	**Merauke**	**3.36**	**235**	P		**Pb**	**17 33 40.0**	**-3.4**
PMG	**Port Moresby**	**4.87**	**126**	Pn		**Pn**	**17 33 57.9**	**+0.9**
PMG	**Port Moresby**	**4.87**	**126**	P		**Pn**	**17 33 58.3**	**+1.2**
PMG	**Port Moresby**	**4.87**	**126**	*ce*P		**Pn**	**17 33 58.2**	**+1.2**
PMG	**Port Moresby**	**4.87**	**126**	Pn		**Pn**	**17 33 53.9**	**-3.1**
	4.6nm,0.3s,baz=307,slow=15,SNR=7.3							
PMG					Sn	**Sn**	**17 34 53.5**	**0.0**
	9.2nm,0.3s,baz=273,slow=19,SNR=2.0							
GENI	**Genyem**	**4.94**	**323**	P		**Pn**	**17 33 57.5**	**-0.6**
MANU	**Manus Island**	**6.12**	**43**	Pn		**Pn**	**17 34 16.6**	**+2.2**
COEN	**Coen**	**7.37**	**180**	P		**Pn**	**17 34 33.1**	**+1.7**
	baz=7.6,SNR=7.2							
COEN	**Coen**	**7.37**	**180**	Pn		**Pn**	**17 34 32.6**	**+1.2**
FAKI	**Fak Fak**	**11.46**	**288**	P		**Pn**	**17 35 26.2**	**-1.5**
KDU	**Kakadu**	**12.18**	**239**	P		**Pn**	**17 35 35.2**	**-2.3**
	baz=12,SNR=12							
KDU	**Kakadu**	**12.18**	**239**	P		**Pn**	**17 35 36.8**	**-0.7**
MTN	**Manton Dam**	**13.41**	**241**	P		**Pn**	**17 35 53.6**	**-0.7**
	baz=13,SNR=8.2							
MTN	**Manton Dam**	**13.41**	**241**	Pn		**Pn**	**17 35 51.9**	**-2.4**
MTN	**Manton Dam**	**13.41**	**241**	P		**Pn**	**17 35 53.6**	**-0.7**
DRS	**Darwin Rock St**	**13.44**	**243**	P		**Pn**	**17 35 54.9**	**+0.2**
CTA	**Charters Tower**	**13.79**	**168**	Pn		Pn	17 35 54.9	-4.6
	0.1nm,0.3s,baz=85,slow=9.0,SNR=1.9							
QIS	**Mount Isa**	**14.35**	**194**	P		**Pn**	**17 36 09.0**	**+1.8**
	baz=14,SNR=7.6							
WB0	**Warramunga Arr**	**15.67**	**212**	Pn		**Pn**	**17 36 21.7**	**-3.1**
WR0	**Warramunga Arr**	**15.75**	**211**			**Pn**	**17 36 22.8**	**-3.1**
WRAB	**Tennant Creek**	**15.83**	**212**			**Pn**	**17 36 23.3**	**-3.5**
WRAB	**Tennant Creek**	**15.83**	**212**	*i* P		**P**	**17 36 31.1**	**+0.4**
WB2	**Warramunga Arr**	**15.83**	**212**	Pn		**Pn**	**17 36 23.4**	**-3.6**
WB2	comp=Z,236nm,2.0s			IAmb		IAmb	17 36 35.1	
WRA	**Warramunga Arr**	**15.84**	**212**	Pn		**Pn**	**17 36 22.8**	**-4.3**
WRA	**Warramunga Arr**	**15.84**	**212**	Pn		**Pn**	**17 36 22.8**	**-4.3**
	comp=Z,0.9nm,0.3s,baz=34,slow=13,SNR=26							
WRA	comp=Z,0.2nm,0.3s,baz=130,slow=46,SNR=3.1			Lg		Lg	17 41 04.7	
LBMI	**Labuha**	**16.70**	**290**	P		**P**	**17 36 38.6**	**-1.8**
	comp=Z,57nm,1.0s							
KNRA	**Kununurra**	**16.79**	**236**	P		**Pn**	**17 36 36.1**	**-3.1**
	baz=17,SNR=15							
KNRA	**Kununurra**	**16.79**	**236**	Pn		**Pn**	**17 36 34.5**	**-4.7**
KNRA	comp=Z,297nm,2.0s			IAmb		IAmb	17 36 46.8	
KNRA	**Kununurra**	**16.79**	**236**	P		**Pn**	**17 36 39.1**	**-0.1**
HNR	**Honiara**	**16.86**	**101**			**Pn**	**17 36 40.0**	**0.0**
HNR	comp=Z,138nm,1.1s			IAmb		IAmb	17 36 49.5	
HNR	**Honiara**	**16.86**	**101**	P		**Pn**	**17 36 40.1**	**0.0**
HNR	comp=Z,138nm,1.2s			pmax	pmax			
HNR	**Honiara**	**16.86**	**101**	Pn		**Pn**	**17 36 37.4**	**-2.7**
	comp=Z,97nm,0.4s,baz=196,slow=20,SNR=1.4							
SANI	**Sanana**	**17.70**	**284**	P		**P**	**17 36 51.9**	**+0.4**
	comp=Z,38nm,1.1s							
SOEI	**Soe**	**18.98**	**259**	P		**P**	**17 37 02.5**	**-3.3**
SOEI	**Soe**	**18.98**	**259**	P		**Pn**	**17 37 07.7**	**+1.3**
	comp=Z,97nm,1.1s							
AS01	**Alice Springs**	**19.19**	**207**	P		**Pn**	**17 37 10.3**	**+1.5**
AS31	**Alice Springs**	**19.21**	**207**			**P**	**17 37 07.6**	**-0.6**
ASAR	**Alice Springs**	**19.21**	**207**			**P**	**17 37 07.3**	**-0.8**
ASAR	**Alice Springs**	**19.21**	**207**	P		**P**	**17 37 08.3**	**+0.1**
	comp=Z,24nm,0.8s,baz=33,slow=10,SNR=35							
QLP	**Quilpie**	**19.95**	**177**	P		**Pn**	**17 37 19.7**	**+1.9**
	baz=20,SNR=13							
QLP	**Quilpie**	**19.95**	**177**	P		**Pn**	**17 37 18.6**	**+0.8**
PATS	**Pohnpei**	**20.12**	**49**	P		**P**	**17 37 17.3**	**-0.8**
	baz=20,SNR=3.3							
EIDS	**Eidsvold**	**20.19**	**159**	P		Pn	17 37 22.1	+1.5
	baz=20,SNR=3.3							
EIDS	**Eidsvold**	**20.19**	**159**			**P**	**17 37 19.9**	**+1.2**
KMSI	**Cibinong**	**20.42**	**290**	P		Pn	17 37 24.0	+0.6
	comp=Z,221nm,1.0s,comp=Z,2μm							
FITZ	**Fitzroy Crossi**	**20.59**	**235**	P		**P**	**17 37 23.4**	**+0.2**
	baz=21,SNR=16							
FITZ	**Fitzroy Crossi**	**20.59**	**235**			**P**	**17 37 22.6**	**-0.6**
FITZ	**Fitzroy Crossi**	**20.59**	**235**	P		**P**	**17 37 23.6**	**+0.4**
MMRI	**Maumere**	**20.85**	**263**	P		Pn	17 37 26.5	-2.0
	comp=Z,25nm,1.0s							
LUWI	**Luwuk**	**21.07**	**284**	P		**P**	**17 37 28.4**	**0.0**
	comp=Z,78nm,0.9s,comp=Z,858nm							
GTOI	**Gorontalo**	**21.35**	**289**	P		**P**	**17 37 36.4**	**+5.0**
	comp=Z,56nm,0.8s,comp=Z,472nm							
EDFI	**Ende, Flores**	**21.40**	**263**	P		**P**	**17 37 34.3**	**+2.2**
	comp=Z,20nm,1.1s							
OOD	**Oodnadatta**	**22.30**	**198**	P		**P**	**17 37 43.6**	**+2.2**
MRSI	**Marisa**	**22.31**	**287**	P		**P**	**17 37 42.2**	**+0.5**
	comp=Z,47nm,1.0s							
BASI	**Baing, Sumba**	**22.64**	**259**	P		**P**	**17 37 48.1**	**+2.8**
	comp=Z,107nm,1.0s							
BKSI	**Bulukumba**	**22.96**	**272**	P		**P**	**17 37 52.1**	**+3.5**
	comp=Z,42nm,0.9s							
WRKA	**Warakurna**	**23.26**	**216**	P		**P**	**17 37 52.6**	**+1.0**
	baz=23,SNR=43							
WRKA	**Warakurna**	**23.26**	**216**	P		**P**	**17 37 52.8**	**+1.2**
KAPI	**Kappang**	**23.35**	**272**	P		**P**	**17 37 52.1**	**-0.5**
KAPI	comp=Z,45nm,1.1s			IAmb		IAmb	17 37 57.0	
KAPI	**Kappang**	**23.35**	**272**	*ce*P		**P**	**17 37 53.9**	**+1.3**
KAPI	comp=Z,38nm,1.1s			pmax		pmax		
TTSI	**Tana Toraja**	**23.52**	**277**	P		**P**	**17 37 57.4**	**+3.1**
	comp=Z,32nm,1.0s							
TOLI2	**Tolitoli**	**23.61**	**288**	P		**P**	**17 37 54.4**	**-0.8**
TOLI2	comp=Z,49nm,0.9s			IAmb		IAmb	17 37 58.3	
MPSI	**Mapaga**	**24.21**	**286**	P		**P**	**17 38 02.6**	**+1.7**
	comp=Z,19nm,1.0s							
LCRK	**Leigh Creek**	**24.23**	**190**	P		**P**	**17 38 02.2**	**+1.3**
MULG	**Mulgathing**	**25.12**	**199**	P		**P**	**17 38 10.8**	**+1.8**
STKA	**Stephens Creek**	**25.25**	**183**	P		**P**	**17 38 10.9**	**+0.8**
	baz=26,SNR=9.9							
STKA	**Stephens Creek**	**25.25**	**183**	P		**P**	**17 38 11.1**	**+1.0**
STKA	**Stephens Creek**	**25.25**	**183**	P		**P**	**17 38 12.6**	**+2.5**
STKA	**Stephens Creek**	**25.25**	**183**	*eP*		**P**	**17 38 10.8**	**+0.7**
STKA	**Stephens Creek**	**25.25**	**183**	P		**P**	**17 38 09.5**	**-0.6**
	comp=Z,7.1nm,0.7s,baz=354,slow=8.6,SNR=11							
STKA				Lg		Lg	17 46 07.2	
	comp=Z,0.2nm,0.3s,baz=310,slow=17,SNR=1.8 comp=Z,7.1nm,0.7s							
BBOO	**Buckleboo**	**26.96**	**193**	P		**P**	**17 38 27.5**	**+1.9**
HTT	**Hallett**	**27.04**	**188**	P		**P**	**17 38 28.9**	**+2.5**
	baz=27,SNR=4.1							
HTT	**Hallett**	**27.04**	**188**	P		**P**	**17 38 28.3**	**+1.9**
PSA00	**Pilbara Seismi**	**27.05**	**234**	P		**P**	**17 38 25.5**	**-1.1**
JHS	**Saijyo**	**42.40**	**348**	P		**P**	**17 40 36.9**	**-1.6**
MJAR	**Matsushiro Arr**	**43.11**	**354**	P		**P**	**17 40 42.5**	**-1.9**
	comp=Z,2.8nm,1.0s,baz=177,slow=8.6,SNR=3.0							
MJAR				PcP		**PcP**	**17 42 34.1**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=189,slow=4.2,SNR=3.0							
MJAR				LR		LR	17 58 09.1	
	comp=Z,470nm,20.4s,baz=178,slow=36 comp=Z,2.8nm,1.0s							
KSRS	**Korea Array**	**46.03**	**343**	P		**P**	**17 41 06.3**	**-1.2**
	comp=Z,4.4nm,1.0s,baz=157,slow=7.6,SNR=6.9 comp=Z,4.4nm,1.0s							
WHN	**Wuhan**	**46.07**	**325**	P		**P**	**17 41 11.9**	**+3.8**
GYA	**Guiyang**	**48.26**	**314**	⇓P		**P**	**17 41 26.9**	**+1.5**
GYA	comp=Z,22nm,1.0s			pmax		pmax		
ENH	**Enshi**	**48.82**	**320**	P		**P**	**17 41 29.4**	**-0.1**
ENH	comp=Z,12nm,1.0s			IAmb		IAmb	17 41 32.8	
PHRA	**Phrae**	**49.12**	**301**	P		**P**	**17 41 31.8**	**-0.2**
CRAI	**Chiangrai**	**49.78**	**303**	P		**P**	**17 41 37.1**	**+0.1**
LYN	**LuoYang**	**50.12**	**327**	⇑P		**P**	**17 41 40.3**	**+1.0**
LYN				pP		sP	17 41 51.7	+7.8
LYN	comp=Z,37nm,0.8s			pmax		pmax		
LYN	comp=Z,230nm,5.1s			pmax		pmax		
CM31	**Chiang Mai Arr**	**50.20**	**300**	P		**P**	**17 41 39.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**50.20**	**300**	P		**P**	**17 41 38.3**	**-1.9**
CMAR	**Chiang Mai Arr**	**50.20**	**300**	*i* P		**P**	**17 41 41.5**	**+1.3**
CMAR	comp=Z,4.0nm,0.8s			pmax		pmax		
CMAR	**Chiang Mai Arr**	**50.20**	**300**	P		**P**	**17 41 39.6**	**-0.6**
	comp=Z,3.6nm,0.8s,baz=122,slow=6.1,SNR=27 comp=Z,3.6nm,0.8s							
CHTO	**Chiang Mai**	**50.35**	**301**	P		**P**	**17 41 40.3**	**-1.1**
CHTO	**Chiang Mai**	**50.35**	**301**	P		**P**	**17 41 40.3**	**-1.1**
CHTO	comp=Z,4.0nm,0.8s			pmax		pmax		
KMI	**Kunming**	**50.38**	**310**	⇑P		**P**	**17 41 44.0**	**+2.3**
KMI	comp=Z,13nm,1.2s			pmax		pmax		
USA0B	**Ussuriysk Arra**	**51.51**	**350**	⇓*e*P		**P**	**17 41 50.5**	**+0.9**
USRK	**Ussuriysk Ar.**	**51.51**	**350**	P		**P**	**17 41 46.0**	**-3.6**
	comp=Z,2.3nm,0.9s,baz=164,slow=7.0,SNR=3.5 comp=Z,2.3nm,0.9s							
XAN	**Xi'an**	**51.77**	**323**	P		**P**	**17 41 51.2**	**-0.6**
XAN	comp=Z,13nm,1.2s			pmax		pmax		
PZH	**PanZhiHua**	**51.88**	**311**	P		**P**	**17 41 53.6**	**+0.7**
PZH	comp=Z,7.0nm,0.8s			pmax		pmax		
PZH	comp=Z,100nm,4.4s			pmax		pmax		
CD2	**Chengdu**	**52.99**	**317**	*e*P		**P**	**17 42 00.0**	**-1.0**
YSS	**Yuzh-Sakhalins**	**53.27**	**360**	*e*P		**P**	**17 42 06.0**	**+3.4**
YSS	comp=Z,20nm,1.1s			pmax		pmax		
TNCH	**TengChong**	**53.59**	**308**	*e*P		**P**	**17 42 06.7**	**+1.0**
TNCH				pP		sP	17 42 11.8	+1.6
TNCH	comp=Z,10.0nm,1.2s			pmax		pmax		
BNX	**BinXian**	**53.93**	**346**	⇑P		**P**	**17 42 07.8**	**+0.3**
BNX	comp=Z,11nm,1.6s			pmax		pmax		
BNX	comp=Z,480nm,11.9s			pmax		pmax		
HHC	**Hu-ho-hao-te**	**55.38**	**331**	*e*P		**P**	**17 42 21.3**	**+3.0**
HHC	comp=Z,7.0nm,0.7s			pmax		pmax		
HHC	comp=Z,240nm,4.6s			pmax		pmax		
HHC	comp=Z,190nm,17.7s			LR		LR		
HHC	comp=Z,210nm,19.0s			LR		LR		
HHC	comp=Z,300nm,21.6s			LR		LR		
BTO	**Baotou**	**55.95**	**330**	*e*P		P	17 42 27.7	+5.3
BTO				SS		SKiKP	17 53 54.4	+30
BTO	comp=Z,10.0nm,0.5s			pmax		pmax		
BTO	comp=Z,340nm,4.8s			pmax		pmax		
BTO	comp=Z,700nm,15.9s			LR		LR		
BTO	comp=Z,180nm,6.3s			LR		LR		
BTO	comp=Z,670nm,20.2s			LR		LR		
LZH	**Lanzhou**	**56.21**	**322**	*e*P		**P**	**17 42 26.4**	**+2.0**
LZH				pP		sP	17 42 32.0	+3.0
LZH	comp=Z,19nm,1.3s			pmax		pmax		
KLR	**Kul'dur**	**56.43**	**351**	⇓*e*P		**P**	**17 42 25.4**	**-0.1**
KLR	comp=Z,5.0nm,1.0s			pmax		pmax		
TYV	**Tymovskoe**	**57.18**	**360**	*e*P		**P**	**17 42 31.3**	**+0.5**
TYV	comp=Z,6.0nm,0.8s			pmax		pmax		
TYV	comp=Z,100nm,4.1s			pmax		pmax		
HEH	**HeiHe**	**58.20**	**348**	*e*P		**P**	**17 42 39.5**	**+1.5**
PETK	**Petropavlovsk-**	**60.69**	**10**	P		**P**	**17 42 52.7**	**-2.5**
	comp=Z,8.9nm,0.8s,baz=170,slow=5.4,SNR=7.7 comp=Z,8.9nm,0.8s							
GTA	**Gaotai**	**60.79**	**322**	*e*P		**P**	**17 42 57.4**	**+1.1**
GTA				pP		sP	17 43 01.4	+0.5
GTA	comp=Z,6.0nm,1.1s			pmax		pmax		
ZEA	**Zeya**	**61.54**	**349**	*e*P		**P**	**17 43 01.1**	**+0.2**
ZEA	comp=Z,10.0nm,1.2s			pmax		pmax		
LSA	**Lhasa**	**61.57**	**309**	P		**P**	**17 43 01.0**	**-1.2**
LSA	**Lhasa**	**61.57**	**309**	P		**P**	**17 43 01.0**	**-1.2**
LSA	comp=Z,6.0nm,0.9s			pmax		pmax		
GOMU	**GeErMu**	**62.13**	**317**	P		**P**	**17 43 09.7**	**+4.0**
GOMU				pP		sP	17 43 15.3	+5.0
GOMU	comp=Z,5.0nm,1.2s			sP		pP	17 43 16.7	+7.6
GOMU				pmax		pmax		
ULN	**Ulaanbaatar**	**62.83**	**334**	P		**P**	**17 43 08.2**	**-1.7**
ULN	**Ulaanbaatar**	**62.83**	**334**	*de*P		**P**	**17 43 09.1**	**-0.8**
ULN	comp=Z,3.0nm,0.9s			pmax		pmax		
SONM	**Songino Array**	**63.09**	**333**	P		**P**	**17 43 10.5**	**-1.1**
SONM	**Songino Array**	**63.09**	**333**	P		**P**	**17 43 10.5**	**-1.1**
SONM	comp=Z,4.0nm,1.0s			pmax		pmax		
SONM	**Songino Array**	**63.09**	**333**	P		**P**	**17 43 09.3**	**-2.4**
	comp=Z,1.1nm,0.9s,baz=151,slow=14,SNR=5.8 comp=Z,1.1nm,0.9s							
MA2	**Magadan**	**66.19**	**4**	P		**P**	**17 43 30.3**	**-1.1**
MA2				IAmb		IAmb	17 43 34.5	
MA2	**Magadan**	**66.19**	**4**	⇑*e*P		**P**	**17 43 31.2**	**-0.2**
MA2	comp=Z,8.0nm,0.9s			pmax		pmax		
ZAK	**Zakamensk**	**66.36**	**333**	*e*P		**P**	**17 43 31.9**	**-0.9**
ZAK				*e*			17 45 53.9	
ZAK	comp=Z,11nm,1.2s			pmax		pmax		
ZAK	comp=Z,9.0nm,1.2s			pmax		pmax		
MOY	**Mondy**	**68.29**	**333**	*e*P		**P**	**17 43 46.0**	**+0.9**
MOY	comp=Z,12nm,0.9s			pmax		pmax		
YAK	**Yakutsk**	**69.17**	**353**	*e*P		**P**	**17 43 50.3**	**+0.2**
YAK	comp=Z,9.0nm,0.9s			pmax		pmax		
YAK	comp=N,4.0nm,1.0s			pmax		pmax		
YAK	comp=E,1.0nm,1.1s			pmax		pmax		
SEY	**Seymchan**	**69.64**	**4**	⇓*e*P		**P**	**17 43 53.4**	**+0.4**
SEY	comp=Z,7.0nm,1.0s			pmax		pmax		
WMQ	**Urumqi**	**70.76**	**321**	*i* P		**P**	**17 44 00.8**	**+0.3**
WMQ	comp=Z,11nm,1.1s			pmax		pmax		
VNDA	**Vanda**	**71.62**	**176**	P		**P**	**17 44 06.5**	**+1.5**
VNDA	**Vanda**	**71.62**	**176**	P		**P**	**17 44 06.5**	**+1.5**
VNDA	comp=Z,34nm,1.7s			pmax		pmax		
VNDA	**Vanda**	**71.62**	**176**	P		**P**	**17 44 04.6**	**-0.4**
	comp=Z,4.4nm,0.9s,baz=346,slow=5.7,SNR=5.6 comp=Z,4.4nm,0.9s							
DGZ	**Jazzator, Alta**	**73.92**	**326**	*de*P		**P**	**17 44 19.9**	**+0.6**
DGZ	comp=Z,11nm,0.8s			pmax		pmax		
ZSN	**Zaisan**	**74.27**	**323**	*e*P		**P**	**17 44 21.5**	**+0.3**
ZSN	**Zaisan**	**74.27**	**323**	*e*P		**P**	**17 44 21.6**	**+0.3**
	baz=323							
MK31	**Makanchi Array**	**75.53**	**322**	P		**P**	**17 44 27.8**	**-0.8**
MK31	**Makanchi Array**	**75.53**	**322**	*de*P		**P**	**17 44 28.5**	**-0.1**
MKAR	**Makanchi Array**	**75.53**	**322**	P		**P**	**17 44 27.4**	**-1.1**
MKAR	**Makanchi Array**	**75.53**	**322**	*i* P		**P**	**17 44 28.3**	**-0.3**
MKAR	comp=Z,12nm,0.8s			pmax		pmax		
MKAR	**Makanchi Array**	**75.53**	**322**	P		**P**	**17 44 27.8**	**-0.7**
	comp=Z,12nm,0.8s,baz=110,slow=5.9,SNR=58 comp=Z,12nm,0.8s							
MAKZ	**Makanchi**	**75.73**	**322**	P		**P**	**17 44 30.0**	**+0.3**
MAKZ	**Makanchi**	**75.73**	**322**	P		**P**	**17 44 30.0**	**+0.3**
MAKZ	comp=Z,43nm,1.5s			pmax		pmax		
SHLS	**Shalkode**	**75.83**	**317**	*e*P		**P**	**17 44 29.4**	**-1.1**
SHLS	comp=Z,5.0nm,0.8s			pmax		pmax		
SHLS	**Shalkode**	**75.83**	**317**	*e*P		**P**	**17 44 29.4**	**-1.1**
	comp=Z,5.4nm,0.8s,baz=318							
UZB	**Uzynbulak**	**76.12**	**317**	*e*P		**P**	**17 44 32.6**	**+0.4**
UZB	comp=Z,7.0nm,0.7s			pmax		pmax		
UZB	**Uzynbulak**	**76.12**	**317**	*e*P		**P**	**17 44 32.6**	**+0.4**
	comp=Z,7.5nm,0.7s,baz=317							
BILL	**Bilibino**	**76.18**	**9**	⇑*e*P		**P**	**17 44 33.8**	**+2.0**
BILL	comp=Z,8.0nm,1.3s			pmax		pmax		
PRZ	**Przheval'sk**	**76.29**	**316**	P		**P**	**17 44 33.2**	**+0.1**
PRZ				IAmb		IAmb	17 44 37.6	
PRZ	**Przheval'sk**	**76.29**	**316**	P		**P**	**17 44 33.3**	**+0.1**
PRZ	comp=Z,9.7nm,0.8s			pmax		pmax		
SATY	**Saty**	**76.50**	**317**	*e*P		**P**	**17 44 34.6**	**+0.3**
SATY	comp=Z,10.0nm,0.8s			pmax		pmax		
SATY	**Saty**	**76.50**	**317**	*e*P		**P**	**17 44 34.6**	**+0.3**
	comp=Z,8.0nm,1.1s							
ZHN	**Zhinishke**	**76.52**	**317**	*e*P		**P**	**17 44 34.8**	**+0.4**
ZHN	comp=Z,7.8nm,1.1s,baz=317			pmax		pmax		
ZHN	**Zhinishke**	**76.52**	**317**	*e*P		**P**	**17 44 34.9**	**+0.4**
	comp=Z,9.0nm,0.8s							
KSH	**Kashi**	**76.93**	**313**	P		**P**	**17 44 39.9**	**+3.1**
KSH				PcP		**PcP**	**17 44 51.8**	**+3.9**
KSH	comp=Z,8.7nm,0.8s,baz=317			pmax		pmax		
NIL	**Nilore**	**77.17**	**307**	P		**P**	**17 44 37.5**	**-0.7**
NIL	**Nilore**	**77.17**	**307**	P		**P**	**17 44 37.5**	**-0.7**
NIL	comp=Z,10.0nm,1.0s			pmax		pmax		
TDK	**Taldyqorghan**	**77.25**	**319**	*e*P		**P**	**17 44 38.4**	**+0.1**
TDK	comp=Z,23nm,0.8s			pmax		pmax		
TDK	**Taldyqorghan**	**77.25**	**319**	*e*P		**P**	**17 44 38.4**	**+0.1**
	comp=Z,10.0nm,0.9s comp=Z,9.9nm,0.9s,baz=319							
MDOK	**Medeo**	**77.46**	**317**	*e*P		**P**	**17 44 40.3**	**+0.6**
MDOK	**Medeo**	**77.46**	**317**	*e*P		**P**	**17 44 40.4**	**+0.6**
	baz=317							
ZAA0	**Zalesovo Array**	**77.48**	**329**	P		**P**	**17 44 37.9**	**-1.4**
ZALV	**Zalesovo Beam**	**77.48**	**329**	P		**P**	**17 44 38.3**	**-1.1**
ZALV	**Zalesovo Beam**	**77.48**	**329**	*i* P		**P**	**17 44 39.0**	**-0.4**
ZALV	comp=Z,7.0nm,0.9s			pmax		pmax		
ZALV	**Zalesovo Beam**	**77.48**	**329**	P		**P**	**17 44 38.1**	**-1.3**
	comp=Z,6.7nm,0.9s,baz=108,slow=5.5,SNR=19 comp=Z,6.7nm,0.9s							
TNSS	**Tian-Shan**	**77.48**	**317**	*e*P		**P**	**17 44 40.0**	**-0.2**
TNSS	**Tian-Shan**

baz=230
ANM Nome 80.49 20 P P 17 44 55.7 +0.1
baz=232
K15K Wolf Creek Mou 80.55 23 P P 17 44 56.7 +0.7
baz=236
N16K Nishlik Lake 80.68 25 P P 17 44 57.8 +0.9
baz=239
F14K Arctic Creek 80.74 19 P P 17 44 58.3 +1.3
baz=231
Q17K Contact Creek 80.86 28 P P 17 44 58.3 +0.4
baz=242
M16K Timber Creek 80.89 25 P P 17 44 58.8 +1.0
baz=239
G15K Niukluk 81.21 20 P P 17 45 00.5 +1.0
baz=233
DZA Taraz 81.33 315 eP P 17 45 01.5 +0.8
DZA pmax pmax
comp=Z,5.0nm,0.7s
DZA Taraz 81.33 315 eP P 17 45 01.5 +0.8
comp=Z,5.5nm,0.7s,baz=315
N17K Nushagak Hills 81.38 26 P P 17 45 01.6 +1.1
baz=240
F15K North Star Dit 81.44 19 P P 17 45 01.7 +1.0
baz=233
J16K Anvik River 81.45 22 P P 17 45 01.7 +0.9
baz=237
OHAK Old Harbor 81.62 29 P P 17 45 02.4 +0.6
baz=244
H16K Elim 81.62 21 P P 17 45 02.7 +1.0
baz=235
M17K Holitna River 81.71 25 P P 17 45 03.2 +0.9
baz=240
I17K Unalakleet 81.75 22 P P 17 45 04.3 +1.9
baz=237
O18K Koktuh Hills 81.92 27 P P 17 45 05.3 +1.9
baz=242
N18K Kilae Creek 82.01 26 P P 17 45 05.7 +1.8
baz=241
G16K Koyuk River 82.02 20 IAmb IAmb 17 45 09.2
comp=Z,11nm,1.1s
G16K Koyuk River 82.02 20 P P 17 45 05.1 +1.3
baz=235
IUG luzhnay 82.03 314 eP P 17 45 04.0 -0.5
IUG pmax pmax
comp=Z,6.0nm,1.2s
IUG luzhnay 82.03 314 eP P 17 45 04.1 -0.5
comp=Z,6.5nm,1.2s,baz=314
K17K Iditarod 82.04 23 P P 17 45 05.6 +1.6
baz=239
J17K VABM Dome 82.09 23 IAmb IAmb 17 47 30.6
comp=Z,13nm,1.1s
J17K VABM Dome 82.09 23 P P 17 45 05.5 +1.3
baz=238
CHM Chimkent 82.39 314 eP P 17 45 05.4 -0.8
CHM pmax pmax
comp=Z,7.0nm,1.3s
CHM Chimkent 82.39 314 eP P 17 45 05.5 -0.8
comp=Z,7.0nm,1.3s,baz=314
BRLS Borolday 82.42 315 eP P 17 45 07.5 +1.1
BRLS pmax pmax
comp=Z,7.0nm,1.6s
BRLS Borolday 82.42 315 eP P 17 45 07.5 +1.1
comp=Z,7.1nm,1.6s,baz=315
L18K Granite Mounta 82.43 24 P P 17 45 07.7 +1.7
baz=240
M18K Stony River 82.43 25 P P 17 45 07.8 +1.7
baz=241
H17K Granite Mounta 82.61 21 P P 17 45 07.2 +0.3
H17K IAmb IAmb 17 45 30.3
comp=Z,10nm,0.9s
H17K Granite Mounta 82.61 21 P P 17 45 08.8 +1.9
baz=237
BRZS Berezniki 82.66 322 eP P 17 45 08.1 +0.6
BRZS pmax pmax
comp=Z,4.0nm,0.9s
BRZS Berezniki 82.66 322 eP P 17 45 08.2 +0.6
comp=Z,4.0nm,0.9s,baz=322
G17K Kiwalik Mounta 82.66 20 P P 17 45 09.1 +1.9
baz=236
N19K Bonanza Creek 82.68 26 P P 17 45 09.2 +1.7
baz=243
C16K Lisburne Hills 82.81 17 IAmb IAmb 17 45 21.4
comp=Z,20nm,1.5s
C16K Lisburne Hills 82.81 17 P P 17 45 08.4 +0.6
baz=232
F17K Baldwin Pennin 82.99 20 P P 17 45 10.7 +1.9
baz=236
J18K Innoko River 83.04 23 P P 17 45 10.7 +1.5
baz=240
TTA Tatalina 83.05 24 P P 17 45 11.1 +1.7
baz=241
D17K Noatak River 83.13 18 P P 17 45 11.0 +1.4
baz=234
L19K White Mountain 83.17 25 P P 17 45 11.2 +1.3
baz=242
M19K Big River Lodg 83.23 25 P P 17 45 11.5 +1.3
baz=243
QSPA South Pole Qui 83.42 180 P 17 45 11.8 +0.4
QSPA South Pole Qui 83.42 180 P P 17 45 10.8 -0.6
comp=Z,20nm,1.1s,baz=348,slow=2.1,SNR=28
comp=Z,20nm,1.1s
C17K DeLong Mountai 83.56 17 P P 17 45 12.9 +1.1
baz=234
G18K Tagagawik 83.57 21 P P 17 45 11.7 -0.2
G18K IAmb IAmb 17 45 15.5
comp=Z,8.7nm,1.1s
G18K Tagagawik 83.57 21 P P 17 45 12.8 +0.9
baz=238
F18K Selawik 83.61 20 P P 17 45 12.9 +0.8
baz=237
L20K Farewell, AK 83.71 25 P P 17 45 13.5 +0.8
baz=243
J19K Poorman 83.72 23 IAmb IAmb 17 45 18.1
comp=Z,9.8nm,1.1s
J19K Poorman 83.72 23 P P 17 45 13.6 +0.9
baz=241
M20K Styx River 83.75 25 P P 17 45 13.4 +0.4
baz=244
E18K Tukpahlearik C 83.75 19 IAmb IAmb 17 45 16.7
comp=Z,8.6nm,0.9s
E18K Tukpahlearik C 83.75 19 P P 17 45 13.7 +0.9
baz=236
BRSE Bradley Lake S 83.90 28 P P 17 45 15.2 +1.5
baz=246
K20K Telida 84.03 24 IAmb IAmb 17 45 18.4
comp=Z,9.0nm,1.0s
K20K Telida 84.03 24 P P 17 45 15.6 +1.3
baz=243
H19K Roundabout Mou 84.17 21 IAmb IAmb 17 45 18.9
comp=Z,10nm,0.9s
H19K Roundabout Mou 84.17 21 P P 17 45 15.7 +0.8
baz=240
G19K Purcell Mounta 84.25 21 P P 17 45 16.5 +1.2
baz=240
C18K Utukok River 84.26 18 P P 17 45 15.7 +0.3
C18K IAmb IAmb 17 45 41.0
comp=Z,11nm,1.2s
C18K Utukok River 84.26 18 P P 17 45 16.5 +1.0
baz=236
F19K Shaleruckik Mo 84.37 20 P P 17 45 17.1 +1.2
baz=239
J20K Nowinta River 84.38 23 IAmb IAmb 17 45 21.5
comp=Z,12nm,1.1s
J20K Nowinta River 84.38 23 P P 17 45 17.2 +1.2
baz=243
SKT Skwentna 84.48 26 P P 17 45 17.4 +0.8
baz=245
B18K Kokolik River 84.49 17 P P 17 45 17.9 +1.5
baz=235
I20K Naaghedeneel 84.54 22 P P 17 45 16.9 +0.1
I20K Naaghedeneel 84.54 22 P P 17 45 17.8 +1.0
baz=242
PPLA Purkeypile 84.59 25 P P 17 45 18.3 +1.0
baz=244
SUA Susitna One 84.60 26 P P 17 45 17.2 -0.1
baz=246
SEW Seward 84.64 28 P P 17 45 18.1 +0.7
baz=247
NRIK Noril'sk 84.65 343⇑ eP P 17 45 17.2 -0.1
NRIK pmax pmax
comp=Z,16nm,0.9s
NRIK Noril'sk 84.65 343 P P 17 45 15.8 -1.4
comp=Z,16nm,0.9s,baz=120,slow=4.7,SNR=27
comp=Z,16nm,0.9s
H20K Anotleneega Mo 84.72 22 P P 17 45 18.7 +0.9
baz=242
CAST Castle Rocks 84.86 24 IAmb IAmb 17 45 21.5
comp=Z,6.6nm,1.0s
CAST Castle Rocks 84.86 24 P P 17 45 18.8 +0.3
baz=245,SNR=6.1
E19K Redstone River 84.87 20 IAmb IAmb 17 45 22.4
comp=Z,9.2nm,0.9s
E19K Redstone River 84.87 20 P P 17 45 19.2 +0.7
baz=240
RC01 Rabbit Creek A 84.90 27 P P 17 45 19.2 +0.5
baz=247
CHUM Lake Minchumin 84.97 24 P P 17 45 20.1 +1.1
baz=244,SNR=12
BVAR Borovoye Array 84.99 325 P P 17 45 18.0 -1.3
comp=Z,30nm,0.9s,baz=111,slow=6.5,SNR=54
comp=Z,30nm,0.9s
M22K Willow 84.99 26 P P 17 45 19.8 +0.6
baz=246
C19K Lookout Ridge 85.00 18 IAmb IAmb 17 45 22.5
comp=Z,12nm,0.9s
C19K Lookout Ridge 85.00 18 P P 17 45 20.1 +1.0
baz=237
BRVK Borovoye 85.06 325 P P 17 45 18.9 -0.8
BRVK Borovoye 85.06 325 ceP P 17 45 19.0 -0.7
BRVK pmax pmax
comp=Z,18nm,0.9s
D19K Kuna River 85.12 18 IAmb IAmb 17 45 26.5
comp=Z,13nm,1.2s
D19K Kuna River 85.12 18 P P 17 45 20.5 +0.7
baz=239
F20K Avaraart Lake 85.17 20 P P 17 45 20.8 +0.9
baz=241
PMR Palmer 85.36 26 P P 17 45 20.6 -0.4
PMR IAmb IAmb 17 45 48.2
comp=Z,17nm,1.4s
PMR Palmer 85.36 26 P P 17 45 20.6 -0.4
PMR pmax pmax
comp=Z,17nm,1.4s
PMR Palmer 85.36 26 P P 17 45 21.5 +0.5
baz=247
KTH Kantishna Hill 85.39 24 P P 17 45 20.5 -0.8
GHO Glory Hole Cre 85.52 26 IAmb IAmb 17 45 24.8
comp=Z,8.0nm,0.9s
H21K Melozitna Rive 85.56 22 P P 17 45 22.7 +0.7
baz=244
KNK Knik Glacier 85.59 27 P P 17 45 22.7 +0.5
KNK Knik Glacier 85.59 27 P P 17 45 22.6 +0.4
baz=248
BPAW Bear Paw Mtn. 85.59 24 IAmb IAmb 17 48 26.2
comp=Z,19nm,1.7s
BPAW Bear Paw Mtn. 85.59 24 P P 17 45 22.3 +0.1
baz=246
TRF Thorofare Moun 85.61 24 P P 17 45 22.7 +0.2
TRF Thorofare Moun 85.61 24 P P 17 45 23.6 +1.2
baz=246
E20K Nigu River 85.62 19 P P 17 45 23.6 +1.4
baz=240
I21K Tanana 85.66 23 IAmb IAmb 17 45 26.5
comp=Z,11nm,1.0s
I21K Tana 85.66 23 P P 17 45 23.8 +1.4
baz=244,SNR=6.0
G21K Allakaket 85.70 21 IAmb IAmb 17 47 51.9
comp=Z,20nm,1.6s
G21K Allakaket 85.70 21 P P 17 45 22.8 +0.2
baz=243
D20K Etivluk River 85.71 19 P P 17 45 23.7 +1.0
baz=240
SML Sawmill 85.80 26 P P 17 45 23.4 +0.1
baz=248
F21K Alatna River 86.03 20 P P 17 45 24.7 +0.4
baz=243
M23K Glacier View 86.06 26 P P 17 45 24.9 +0.4
baz=249
MLY Manley 86.08 23 P P 17 45 24.3 -0.3
MLY IAmb IAmb 17 45 49.3
comp=Z,9.4nm,1.1s
MLY Manley 86.08 23 P P 17 45 25.2 +0.6
baz=246,SNR=11
WAT1 Susitna Watana 86.09 25 P P 17 45 25.2 +0.5
baz=248
RND Reindeer 86.18 25 IAmb IAmb 17 45 26.3
comp=Z,10nm,0.9s
H22K Ishtalitna Cre 86.20 22 P P 17 45 25.6 +0.4
baz=245
B20K Meade River 86.20 17 IAmb IAmb 17 47 50.1
comp=Z,21nm,1.6s
B20K Meade River 86.20 17 P P 17 45 26.1 +1.1
baz=239
SCM Sheep Creek Mo 86.25 26 P P 17 45 26.0 +0.5
SCM IAmb IAmb 17 47 51.0
comp=Z,9.7nm,0.8s
SCM Sheep Creek Mo 86.25 26 P P 17 45 26.0 +0.5
SCM pmax pmax
comp=Z,10.0nm,0.8s
SCM Sheep Creek Mo 86.25 26 P P 17 45 26.2 +0.6
baz=249
MCK McKinley 86.28 24 P P 17 45 25.0 -0.6
baz=247
E21K Killik River 86.43 19 P P 17 45 28.5 +2.2
baz=242
C21K Knifeblade Rid 86.50 18 P P 17 45 27.3 +0.7
baz=242
NEA2 Nenana 86.56 24 IAmb IAmb 17 45 50.8
comp=Z,8.6nm,1.2s
NEA2 Nenana 86.56 24 P P 17 45 27.1 +0.2
baz=247
I23K Minto, Yukon-K 86.66 23 P P 17 45 27.8 +0.5
baz=247
DHY Denali Highway 86.68 25 P P 17 45 28.3 +0.5
baz=249
KLU Klutina 86.76 27 P P 17 45 28.3 +0.3
baz=250
B21K Ikpikpuk River 86.78 18 IAmb IAmb 17 45 32.5
comp=Z,9.2nm,0.9s
B21K Ikpikpuk River 86.78 18 P P 17 45 28.8 +0.9
baz=242
M24K Tolsona, Glenn 86.86 26 P P 17 45 29.1 +0.6
baz=250
WRH Wood River Hil 86.90 24 IAmb IAmb 17 45 31.5
comp=Z,16nm,1.2s
E22K Anaktuvuk Pass 87.01 20 P P 17 45 28.8 -0.3
E22K Anaktuvuk Pass 87.01 20 P P 17 45 29.8 +0.7
baz=244
G23K Bananza Creek 87.04 21 P P 17 45 30.3 +1.0
baz=246
D22K Alkyak River 87.05 19 P P 17 45 30.4 +1.2
baz=244
CCB Clear Creek Bu 87.08 24 IAmb IAmb 17 45 29.9
comp=Z,8.3nm,0.9s
COLA College 87.15 24⇓ eP P 17 45 29.1 -0.6
COLA pmax pmax
comp=Z,10.0nm,1.1s
COLD Coldfoot 87.18 21 P P 17 45 31.3 +1.4
baz=246
BMRM Bremner River 87.19 28 P P 17 45 31.4 +1.3
baz=251
HDA Harding Lake 87.34 24 P P 17 45 32.1 +1.4
baz=249
N25K Chitina, Valde 87.39 27 P P 17 45 32.6 +1.5
baz=251
PAX Paxson 87.46 26 P P 17 45 32.2 +0.8
baz=251
B22K Teshekpuk Lake 87.48 18 P P 17 45 31.0 -0.2
B22K Teshekpuk Lake 87.48 18 P P 17 45 32.7 +1.4
baz=243
IL31 87.49 24 IAmb IAmb 17 45 33.3
comp=Z,8.5nm,0.9s
ILAR Eielson Array 87.49 24 P P 17 45 29.6 -1.9
comp=Z,5.7nm,0.9s,baz=257,slow=4.9,SNR=38
comp=Z,5.7nm,0.9s
H24K Noodor Dome 87.50 23 IAmb IAmb 17 47 44.0
comp=Z,24nm,1.9s
H24K Noodor Dome 87.50 23 P P 17 45 32.8 +1.3
baz=248
K24K Donnelly Dome 87.61 25 P P 17 45 33.0 +1.0
baz=250
E23K Chandalar 87.72 20 P P 17 45 33.5 +0.9
baz=247
D23K Nanushuk River 87.74 19 P P 17 45 34.1 +1.6
baz=246
CRQE Cirque 87.82 28 P P 17 45 34.1 +0.8
baz=253
TGL Tana Glacier 87.95 28 P P 17 45 34.1 +0.3
G24K Hadweenzic Riv 87.97 22 IAmb IAmb 17 45 38.2
comp=Z,11nm,1.1s
G24K Hadweenzic Riv 87.97 22 P P 17 45 34.4 +0.7
baz=249
J25K Salcha River, 88.05 24 P P 17 45 34.5 +0.3
baz=251
F24K Squaw Lake 88.12 21 IAmb IAmb 17 45 37.1
comp=Z,7.6nm,0.8s
F24K Squaw Lake 88.12 21 P P 17 45 36.3 +1.8
baz=248
C23K Itkillik River 88.12 19 P P 17 45 35.0 +0.6
baz=246
PRP Porcupine Dome 88.29 23 P P 17 45 35.6 +0.2
baz=250
L26K Log Cabin Wild 88.39 26 P P 17 45 36.8 +1.0
baz=252
SCRK Sand Creek 88.42 25 P P 17 45 36.4 +0.4
baz=252
D24K Happy Valley 88.43 19 P P 17 45 37.7 +1.9
baz=247
GRNC Granite Creek 88.45 28 P P 17 45 35.5 -0.9
G25K Bearman Lake 88.50 22 P P 17 45 37.2 +1.0
baz=250,SNR=7.4
BARN Barnard Glacie 88.58 28 P P 17 45 36.1 -0.9
BARN IAmb IAmb 17 45 38.7
comp=Z,8.9nm,0.8s
C24K Franklin Bluff 88.69 19 P P 17 45 37.7 +0.7
baz=247
CTG Chitna Glacier 88.70 28 P P 17 45 37.9 +0.4
baz=254
CTGM Chitina Glacie 88.71 28 P P 17 45 37.3 -0.2
CTGM IAmb IAmb 17 45 41.5
comp=Z,11nm,1.0s
J26L Joseph Creek 88.75 24 P P 17 45 38.1 +0.5
baz=252
M27K Edge Creek, AK 88.84 27 IAmb IAmb 17 45 43.4
comp=Z,9.0nm,0.9s
M27K Edge Creek, AK 88.84 27 P P 17 45 39.0 +0.9
baz=254
F25K Christian Rive 88.95 21 P P 17 45 39.5 +1.1
baz=250
L27K Beaver Creek, 89.07 26 IAmb IAmb 17 45 44.7
comp=Z,15nm,1.4s
L27K Beaver Creek, 89.07 26 P P 17 45 40.2 +1.2
baz=254
BCAR Beaver Creek A 89.09 26 P P 17 45 39.1 0.0
E25K Arctic Village 89.16 21 IAmb IAmb 17 45 44.5
comp=Z,7.4nm,1.1s
E25K Arctic Village 89.16 21 P P 17 45 40.4 +1.1
baz=250,SNR=8.6
I26K Coal Creek Min 89.17 24 IAmb IAmb 17 47 03.6
comp=Z,18nm,1.8s
I26K Coal Creek Min 89.17 24 P P 17 45 40.0 +0.7
baz=253
K27K Chicken 89.23 25 IAmb IAmb 17 45 45.4
comp=Z,11nm,1.1s
K27K Chicken 89.23 25 P P 17 45 41.2 +1.5
baz=254
D25K Kavik River 89.30 20 P P 17 45 41.2 +1.2
baz=250
PNL Peninsula 89.30 30 P P 17 45 41.7 +1.5
baz=256
BVCY Beaver Creek 89.32 27 P P 17 45 41.2 +1.0
baz=255
YUK3 Moose Creek 89.33 28 P P 17 45 41.5 +1.0
baz=255
G26K Porcupine Rive 89.43 22 P P 17 45 42.5 +2.0
baz=252
F26K Sheenjek River 89.53 21 P P 17 45 42.5 +1.4
baz=252,SNR=11
EGAK Eagle 89.83 25 IAmb IAmb 17 45 46.6
comp=Z,12nm,1.3s
EGAK Eagle 89.83 25 P P 17 45 43.0 +0.6
baz=254
I27K Kandik River 89.87 24 P P 17 45 44.2 +1.5
baz=254
C26K Camden Bay 89.98 19 P P 17 45 44.9 +1.8
baz=251
YUK4 Talbot Arm 90.06 28 P P 17 45 45.4 +1.4
baz=257
H27K Steamboat Moun 90.08 23 P P 17 45 45.2 +1.5
baz=254
DAWY Dawson 90.38 25 P P 17 45 46.6 +1.5
baz=256
M29M Somme Creek 90.41 27 P P 17 45 45.1 -0.3
M29M IAmb IAmb 17 46 17.8
comp=Z,6.3nm,1.1s
M29M Somme Creek 90.41 27 P P 17 45 46.3 +0.9
baz=257
HYT Haines Junctio 90.49 29 P P 17 45 46.6 +0.8
baz=258
I28M Miner Creek 90.50 24 P P 17 45 46.4 +0.7
baz=256
ABKAR Akbulak array 90.50 319 P P 17 45 44.1 -1.8
ABKAR Akbulak array 90.50 319 P P 17 45 44.5 -1.5
ABKAR IAmb IAmb 17 45 47.4
comp=Z,3.4nm,0.9s
L29M L29M 90.71 26 P P 17 45 48.1 +1.5
baz=257
N30M Aishikik Lake 90.82 28 P P 17 45 48.1 +0.8
baz=258
SIT Sitka 90.84 33 P P 17 45 48.2 +0.9
baz=260
F28M Old Crow 91.07 22 P P 17 45 49.7 +1.5
baz=256
D27M Malcolm River 91.11 20 P P 17 45 49.8 +1.3
baz=255
K29M Barlow Dome 91.14 26 IAmb IAmb 17 45 50.5
comp=Z,4.6nm,0.8s
K29M Barlow Dome 91.14 26 P P 17 45 49.3 +0.5
baz=258
M30M Minto, Yukon 91.19 27 P P 17 45 50.1 +1.1
baz=258
J30M Hart River 91.80 25 P P 17 45 52.4 +0.6
baz=259
I30M Mount Dempster 91.91 25 IAmb IAmb 17 45 57.4
comp=Z,7.0nm,1.2s
I30M Mount Dempster 91.91 25 P P 17 45 53.3 +1.0
baz=259
EPYK Eagle Plains 92.00 23 P P 17 45 53.7 +1.1
baz=258
G30M tAoh Zraii Nji 92.31 23 P P 17 45 54.9 +0.8
baz=259
ARU Arti 92.42 326 P P 17 45 53.3 -1.4
ARU IAmb IAmb 17 45 55.5
comp=Z,4.2nm,0.8s
ARU Arti 92.42 326 c iP P 17 45 54.0 -0.7
ARU 17 49 36.4
ARU S SKSac 17 56 28.0 -0.2
ARU pmax pmax
comp=Z,21nm,2.6s
F30M Barrier River 92.60 22 P P 17 45 56.5 +1.2
baz=259
ELIB Princess Elisa 92.66 196 dx x 17 45 56.6
H31M Peel River 92.84 24 P P 17 45 56.9 +0.4
baz=261
G31M Satah River 93.06 23 P P 17 45 56.8 -0.6
G31M IAmb IAmb 17 48 26.9
comp=Z,7.4nm,1.2s
G31M Satah River 93.06 23 P P 17 45 58.6 +1.2
baz=261
NVAR Mina Array Bea 100.71 52 P Pdif 17 46 30.1 -2.9
comp=Z,0.1nm,0.5s,baz=284,slow=3.6,SNR=1.7
YKA Yellowknife Ar 101.42 28 P Pdif 17 46 33.5 -1.7
comp=Z,0.1nm,0.3s,baz=285,slow=4.9,SNR=2.5
YKA PP PP 17 50 40.5 -4.2
comp=Z,0.1nm,0.3s,baz=250,slow=10,SNR=2.1
KIV Kislovodsk 102.06 313 eP Pdif 17 46 37.8 -0.9
KIV pmax pmax
comp=Z,5.0nm,1.1s
CLL Collm 119.37 327 ePKiKP PKPdf 17 51 33.0 -0.5
CLL AMS AMS 18 40 00.0
comp=Z,200nm,20.8s
TORD Torodi Ar. Bea 141.52 283 PKhKP PKPpre 17 52 10.7
comp=Z,1.9nm,0.9s,baz=63,slow=4.3,SNR=8.3
SDV Santo Domingo 146.43 84 PKPbc PKPbc 17 52 26.2 -0.3
comp=Z,11nm,0.8s,baz=333,slow=5.9,SNR=8.9
KIC Kosan Boka 148.12 272⇑ ePKP1 PKiKP 17 52 32.4 -0.4
comp=Z,36nm,0.9s
DBIC Dimbokro 148.24 272 PKPbc PKPbc 17 52 31.8 +0.5
comp=Z,30nm,0.9s,baz=83,slow=3.0,SNR=27
LIC Lamto 148.40 271⇑ ePKP1 PKiKP 17 52 33.1 -0.2
comp=Z,82nm,0.9s
TIC Toumodi 148.40 272⇑ ePKP1 PKiKP 17 52 33.1 -0.3
comp=Z,52nm,0.9s

*IDC **06** 17:35:06.2±0.6,5.˚98S×142.˚87E,h0km,mb4.5/15, mbtmp4.6/18,ML1.9/1,Error ellipse: s-maj=24.5km s-min=14.4km az=75.0*
*BJI **06** 17:35:06.9±0.0,5.˚91S×143.˚04E,h8km,mb4.6/48, mB5.4/12,Ms4.8/3,Ms7 4.7/3*
*NEIC **06** 17:35:08.2±1.6,6.˚20S±0.˚08×142.˚56E±0.˚07,h10km±1km, mb4.9/99,Error ellipse: s-maj=12.8km s-min=11.2km*

az=194.0

*DJA **06** 17:35:22.0±1.6,6°S±3″×14″2E±°,h30km±16km,M5.3/19, mB5.6/3,mb4.9/19,MLv5.5/2,Mw(mB)5.1/3*

ISC 06 17:35:08.2±0.3,**6°23S**±0.04×**142°59E**±0.05,**h10**km,**n167,** σ**1**§**45**/161,**mb4.9**/79,**1C-4D,New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMPI	**Merauke**	**3.12**	**225**	P	**Pb**	**17 36 05.5**	**+1.8**
GENI	**Genyem**	**4.35**	**326**	P	**Pb**	**17 36 26.7**	**+1.9**
PMG	**Port Moresby**	**5.51**	**125**	Pn	**Pn**	**17 36 31.1**	**+0.7**
PMG				Sn	**Sn**	**17 37 34.1**	**+0.2**
PMG	**Port Moresby**	**5.51**	**125**	Pn	**Pn**	**17 36 30.2**	**-0.2**
	2.3nm,0.3s,baz=209,slow=18,SNR=1.2						
PMG				Sn	**Sn**	**17 37 33.4**	**-0.5**
	16nm,0.3s,baz=252,slow=3.2,SNR=1.7						
	359nm,1.2s						
MANU	**Manus Island**	**6.32**	**49**	Pn	**Pn**	**17 36 42.0**	**+0.5**
RABL	**Rabaul**	**9.74**	**78**	Pn	**Pn**	**17 37 27.9**	**-0.7**
FAKI	**Fak Fak**	**10.82**	**287**	Pn	**Pn**	**17 37 40.7**	**-2.7**
FAKI	**Fak Fak**	**10.82**	**287**	P	Pn	17 37 53.4	+10
	80nm,1.8s						
SAUI	**Saumlaki**	**11.34**	**261**	Pn	**Pn**	**17 37 48.8**	**-1.6**
SAUI	**Saumlaki**	**11.34**	**261**	P	Pn	17 37 57.7	+7.3
	630nm,1.1s,6μm						
BNDI	**Bandanaira**	**12.75**	**277**	P	Pn	17 38 17.8	+8.2
	385nm,1.4s						
MTN	**Manton Dam**	**13.07**	**239**	Pn	**Pn**	**17 38 11.8**	**-2.2**
CTA	**Charters Tower**	**14.22**	**166**	Pn	**P**	**17 38 41.0**	**+3.7**
	0.1nm,0.3s,baz=17,slow=10,SNR=1.9						
CTA				Lg	Lg	17 42 36.0	
	0.2nm,0.3s,baz=75,slow=23,SNR=1.5						
WB0	**Warramunga Arr**	**15.64**	**210**		**Pn**	**17 38 49.0**	**+0.1**
WR0	**Warramunga Ar**	**15.73**	**209**	Pn	**Pn**	**17 38 50.6**	**+0.6**
WRAB	**Tennant Creek**	**15.80**	**210**	Pn	**Pn**	**17 38 51.3**	**+0.4**
WB2	**Warramunga Arr**	**15.81**	**210**	Pn	**Pn**	**17 38 50.6**	**-0.4**
WRA	**Warramunga Arr**	**15.81**	**210**	Pn	**Pn**	**17 38 51.1**	**+0.1**
WRA	**Warramunga Arr**	**15.81**	**210**	Pn	**Pn**	**17 38 50.9**	**-0.2**
	2.1nm,0.3s,baz=29,slow=14,SNR=8.8						
WRA				Lg	Lg	17 43 33.3	
	0.7nm,0.3s,baz=27,slow=39,SNR=3.0						
LBMI	**Labuha**	**16.05**	**290**	P	P	17 39 05.0	+7.4
	54nm,1.0s						
KNRA	**Kununurra**	**16.49**	**234**	Pn	**Pn**	**17 38 58.4**	**-1.5**
TNTI	**Ternate**	**16.72**	**294**		**Pn**	**17 39 02.6**	**-0.1**
TNTI	**Ternate**	**16.72**	**294**	P	P	17 39 14.3	+9.3
	28nm,1.0s						
HNR	**Honiara**	**17.48**	**102**	P	**Pn**	**17 39 12.1**	**-0.2**
HNR	**Honiara**	**17.48**	**102**	P	**Pn**	**17 39 09.2**	**-3.1**
	271nm,0.8s,baz=191,slow=5.2,SNR=2.0						
SOEI	**Soe**	**18.48**	**258**	P	**P**	**17 39 23.4**	**-1.2**
SOEI				IAmb	IAmb	17 39 34.6	
	comp=Z,161nm,1.3s						
SOEI	**Soe**	**18.48**	**258**	P	Pn	17 39 33.6	+8.9
	comp=Z,128nm,1.1s						
AS31	**Alice Springs**	**19.24**	**205**	P	**P**	**17 39 32.1**	**-0.8**
ASAR	**Alice Springs**	**19.24**	**205**	P	**P**	**17 39 31.6**	**-1.3**
ASAR	**Alice Springs**	**19.24**	**205**	P	**Pn**	**17 39 36.3**	**+2.5**
	comp=Z,60nm,0.9s,baz=34,slow=9.9,SNR=13						
ASAR				Lg	Lg	17 45 30.0	
	comp=Z,0.2nm,0.3s,baz=17,slow=22,SNR=3.3						
FITZ	**Fitzroy Crossi**	**20.32**	**233**	P	**P**	**17 39 43.4**	**-1.1**
FITZ					**S**	**17 43 28.2**	**-4.2**
MMRI	**Maumere**	**20.32**	**262**	P	**P**	**17 39 42.8**	**-1.9**
PATS	**Pohnpei**	**20.36**	**51**	P	**P**	**17 39 44.5**	**-0.6**
LUWI	**Luwuk**	**20.44**	**284**	P	Pn	17 39 56.1	+8.1
	comp=Z,81nm,1.0s						
EIDS	**Eidsvold**	**20.69**	**158**	P	**P**	**17 39 49.3**	**+0.7**
EIDS				IAmb	IAmb	17 40 00.2	
	comp=Z,57nm,1.1s						
GTOI	**Gorontalo**	**20.70**	**289**	P	Pn	17 40 11.9	+21
BKSI	**Bulukumba**	**22.38**	**271**	P	P	17 40 17.1	+10
	comp=Z,50nm,1.0s						
KAPI	**Kappang**	**22.76**	**272**	P	**P**	**17 40 11.1**	**+0.1**
KAPI				IAmb	IAmb	17 40 28.4	
	comp=Z,59nm,1.1s						
TTSI	**Tana Toraja**	**22.92**	**277**	P	P	17 40 23.1	+11
TOLI2	**Tolitoli**	**22.96**	**288**	P	**P**	**17 40 13.3**	**+0.2**
KOUNC	**Koumac, New Ca**	**25.40**	**126**	P	**P**	**17 40 36.6**	**+0.6**
KOUNC				IAmb	IAmb	17 40 43.5	
	comp=Z,33nm,1.0s						
STKA	**Stephens Creek**	**25.53**	**182**	P	**P**	**17 40 38.2**	**+1.1**
STKA	**Stephens Creek**	**25.53**	**182**	P	**P**	**17 40 38.5**	**+1.4**
	comp=Z,7.2nm,0.8s,baz=306,slow=7.4,SNR=3.5						
	comp=Z,7.2nm,0.8s						
MJAR	**Matsushiro Arr**	**42.75**	**355**	P	**P**	**17 43 03.5**	**-2.3**
	comp=Z,6.4nm,1.2s,baz=104,slow=12,SNR=4.9						
	comp=Z,6.4nm,1.2s						
NJ2	**Nanjing**	**44.29**	**331**	*e*P	**P**	**17 43 19.0**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,13nm,1.2s						
RPSI	**Rantau Prapat**	**44.50**	**280**	P	**P**	**17 43 19.4**	**-0.9**
RPSI				IAmb	IAmb	17 43 31.3	
	comp=Z,27nm,1.3s						
DCZ	**Deep Cove**	**44.52**	**155**	P	**P**	**17 43 19.4**	**-0.6**
TUWZ	**Tuamarina**	**44.84**	**146**	P	**P**	**17 43 21.0**	**-1.3**
KSAR	**Wonju Array Be**	**45.57**	**344**	P	**P**	**17 43 27.4**	**-0.9**
KSRS	**Korea Array**	**45.57**	**344**	P	**P**	**17 43 26.9**	**-1.4**
	comp=Z,5.3nm,1.0s,baz=165,slow=9.4,SNR=6.7						
	comp=Z,5.3nm,1.0s						
GYA	**Guiyang**	**47.63**	**315**	P	**P**	**17 43 46.8**	**+1.8**
GYA				pmax	pmax		
	comp=Z,12nm,1.2s						
ENH	**Enshi**	**48.22**	**321**	P	**P**	**17 43 49.2**	**-0.1**
ENH				IAmb	IAmb	17 43 52.5	
	comp=Z,9.0nm,0.9s						
PHRA	**Phrae**	**48.47**	**301**	P	**P**	**17 43 50.9**	**-0.5**
CRAI	**Chiangrai**	**49.13**	**303**	P	**P**	**17 43 57.8**	**+1.3**
CRAI				IAmb	IAmb	17 44 07.0	
	comp=Z,13nm,1.3s						
CM31	**Chiang Mai Arr**	**49.55**	**301**	P	**P**	**17 43 59.4**	**-0.3**
CM31				IAmb	IAmb	17 44 07.5	
	comp=Z,7.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**49.55**	**301**	P	**P**	**17 44 00.3**	**+0.7**
CMAR	**Chiang Mai Arr**	**49.55**	**301**	P	**P**	**17 44 00.5**	**+0.8**
	comp=Z,2.4nm,0.8s,baz=126,slow=6.2,SNR=6.9						
	comp=Z,2.4nm,0.8s						
LYN	**LuoYang**	**49.55**	**327**	⇓P	**P**	**17 44 00.8**	**+1.4**
LYN				sP	sP	17 44 07.2	+3.3
LYN				pmax	pmax		
	comp=Z,26nm,0.8s						
LYN				pmax	pmax		
	comp=Z,220nm,4.0s						
CHTO	**Chiang Mai**	**49.70**	**301**	P	**P**	**17 44 00.3**	**-0.5**
KMI	**Kunming**	**49.74**	**310**	⇑P	**P**	**17 44 03.4**	**+2.1**
KMI				pmax	pmax		
	comp=Z,15nm,1.7s						
USA0B	**Ussuriysk Arra**	**51.10**	**350**	P	**P**	**17 44 10.5**	**-0.5**
USA0B				IAmb	IAmb	17 44 12.4	
	comp=Z,13nm,1.0s						
USRK	**Ussuriysk Ar.**	**51.10**	**350**	P	**P**	**17 44 10.7**	**-0.3**
USRK	**Ussuriysk Ar.**	**51.10**	**350**	P	**P**	**17 44 09.2**	**-1.8**
	comp=Z,8.3nm,0.9s,baz=170,slow=7.9,SNR=8.1						
	comp=Z,8.3nm,0.9s						
XAN	**Xi'an**	**51.18**	**324**	⇓P	**P**	**17 44 13.1**	**+1.3**
XAN				pmax	pmax		
	comp=Z,11nm,1.2s						
PZH	**PanZhiHua**	**51.24**	**311**	P	**P**	**17 44 14.0**	**+1.4**
PZH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
BJT	**Baijiatuau**	**52.08**	**334**	P	**P**	**17 44 17.6**	**-0.8**
BJT				IAmb	IAmb	17 44 20.1	
	comp=Z,26nm,1.8s						
BJI	**Beijing**	**52.09**	**334**	P	**P**	**17 44 19.4**	**+1.0**
BJI				pmax	pmax		
	comp=Z,4.0nm,1.2s						
TNCH	**TengChong**	**52.95**	**308**	P	**P**	**17 44 27.3**	**+2.0**
TNCH				pP	sP	17 44 30.8	+0.9
TNCH				pmax	pmax		
	comp=Z,11nm,1.0s						
BNX	**BinXian**	**53.49**	**347**	⇓P	**P**	**17 44 29.0**	**+0.3**
BNX				pmax	pmax		
	comp=Z,16nm,1.1s						
BNX				pmax	pmax		
	comp=Z,470nm,13.7s						
HHC	**Hu-ho-hao-te**	**54.83**	**331**	*e*P	**P**	**17 44 41.0**	**+2.3**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,74nm,6.3s						
BTO	**Baotou**	**55.39**	**330**	*e*P	**P**	**17 44 46.0**	**+3.2**
BTO				pP	**sP**	**17 44 50.0**	**+2.6**
BTO				sP	**pP**	**17 44 53.0**	**+6.9**
BTO				PP	**PP**	**17 46 52.1**	**+5.3**
BTO				pmax	pmax		
	comp=Z,15nm,0.5s						
BTO				pmax	pmax		
	comp=Z,480nm,4.1s						
BTO				LR	LR		
	comp=Z,120nm,4.2s						
BTO				LR	LR		
	comp=Z,230nm,5.0s						
BTO				LR	LR		
	comp=Z,360nm,11.8s						
LZH	**Lanzhou**	**55.61**	**322**	*e*P	**P**	**17 44 46.4**	**+1.9**
LZH				pP	sP	17 44 52.9	+3.7
LZH				pmax	pmax		
	comp=Z,13nm,1.3s						
HEH	**HeiHe**	**57.78**	**349**	*e*P	**P**	**17 44 58.9**	**-0.5**
HEH				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA	**Gaotai**	**60.19**	**323**	*e*P	**P**	**17 45 18.2**	**+1.6**
GTA				pP	sP	17 45 21.6	+0.4
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
PETK	**Petropavlovsk-**	**60.49**	**10**		**P**	**17 45 15.3**	**-2.9**
PETK	**Petropavlovsk-**	**60.49**	**10**	P	**P**	**17 45 14.2**	**-4.0**
	comp=Z,6.3nm,0.8s,baz=204,slow=3.2,SNR=2.1						
	comp=Z,6.3nm,0.8s						
LSA	**Lhasa**	**60.92**	**309**	P	**P**	**17 45 21.2**	**-1.0**
LSA				IAmb	IAmb	17 45 35.0	
	comp=Z,17nm,1.7s						
GOMU	**GeErMu**	**61.51**	**317**	P	**P**	**17 45 28.1**	**+2.1**
GOMU				pP	sP	17 45 33.6	+3.0
GOMU				sP	pP	17 45 36.3	+7.0
GOMU				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ULN	**Ulaanbaatar**	**62.29**	**334**	P	**P**	**17 45 30.9**	**+0.2**
SONM	**Songino Array**	**62.56**	**333**	P	**P**	**17 45 31.0**	**-1.5**
SONM	**Songino Array**	**62.56**	**333**	P	**P**	**17 45 30.6**	**-1.9**
	comp=Z,1.8nm,1.1s,baz=157,slow=8.4,SNR=4.8						
	comp=Z,1.8nm,1.1s						
MA2	**Magadan**	**65.92**	**5**	P	**P**	**17 45 53.4**	**-0.7**
MA2				IAmb	IAmb	17 46 05.3	
	comp=Z,13nm,1.0s						
YAK	**Yakutsk**	**68.79**	**354**	P	**P**	**17 46 11.7**	**-0.5**
YAK				IAmb	IAmb	17 47 24.6	
	comp=Z,8.2nm,0.6s						
WMQ	**Urumqi**	**70.16**	**321**	*e*P	**P**	**17 46 23.3**	**+2.1**
WMQ				pmax	pmax		
	comp=Z,14nm,1.5s						
VNDA	**Vanda**	**71.97**	**176**	P	**P**	**17 46 30.7**	**-0.8**
VNDA	**Vanda**	**71.97**	**176**	P	**P**	**17 46 31.2**	**-0.3**
	comp=Z,1.4nm,1.0s,baz=346,slow=9.3,SNR=2.0						
	comp=Z,1.4nm,1.0s						
MK31	**Makanchi Array**	**74.93**	**322**	P	**P**	**17 46 48.8**	**-0.7**
MKAR	**Makanchi Array**	**74.93**	**322**	P	**P**	**17 46 48.7**	**-0.8**
MKAR	**Makanchi Array**	**74.93**	**322**	P	**P**	**17 46 49.2**	**-0.3**
	comp=Z,3.7nm,0.9s,baz=114,slow=8.1,SNR=7.0						
	comp=Z,3.7nm,0.9s						
MAKZ	**Makanchi**	**75.13**	**322**	P	**P**	**17 46 50.8**	**+0.2**
MAKZ				IAmb	IAmb	17 46 53.1	
	comp=Z,8.0nm,0.8s						
PRZ	**Przheval'sk**	**75.67**	**317**	P	**P**	**17 46 53.4**	**-0.7**
PRZ				IAmb	IAmb	17 47 05.5	
	comp=Z,21nm,1.4s						
BILL	**Bilibino**	**75.97**	**9**	P	**P**	**17 46 55.3**	**+0.4**
BILL				IAmb	IAmb	17 47 02.5	
	comp=Z,26nm,1.9s						
KSH	**Kashi**	**76.30**	**313**	P	**P**	**17 47 00.4**	**+2.7**
KSH				sP	PcP	17 47 08.5	-1.1
KSH				PcP	sP	17 47 15.6	+13
KSH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
NIL	**Nilore**	**76.52**	**307**	P	**P**	**17 46 57.6**	**-1.3**
ZAA0	**Zalesovo Array**	**76.92**	**329**	P	**P**	**17 46 59.4**	**-1.2**
ZALV	**Zalesovo Beam**	**76.92**	**329**	P	**P**	**17 46 59.3**	**-1.3**
ZALV	**Zalesovo Beam**	**76.92**	**329**	P	**P**	**17 46 59.8**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=122,slow=5.6,SNR=4.9						
	comp=Z,1.6nm,0.7s						
NRN	**Naryn**	**76.95**	**315**	P	**P**	**17 47 00.1**	**-1.5**
KURK	**Kurchatov**	**78.81**	**324**	P	**P**	**17 47 10.6**	**-0.7**
KURBB	**Kurchatov Arra**	**78.82**	**324**	P	**P**	**17 47 10.8**	**-0.6**
	comp=Z,3.7nm,1.0s,baz=117,slow=5.0,SNR=7.1						
	comp=Z,3.7nm,1.0s						
M14K	**Bethel**	**79.46**	**24**	P	**P**	**17 47 14.2**	**-0.4**
L14K	**Kuka Creek**	**79.50**	**24**	P	**P**	**17 47 14.6**	**-0.1**
BTK	**Batken**	**80.24**	**312**	P	**P**	**17 47 18.8**	**-0.6**
CHGR	**Chuyangaron**	**81.09**	**311**	P	**P**	**17 47 24.1**	**0.0**
CHGR				IAmb	IAmb	17 47 34.7	
	comp=Z,17nm,1.1s						
SIMJ	**Simiganj**	**81.21**	**311**	P	**P**	**17 47 23.9**	**-0.8**
KK31	**Karatay Array**	**81.34**	**315**	P	**P**	**17 47 23.9**	**-1.3**
KKAR	**Karatay Array**	**81.34**	**315**	P	**P**	**17 47 24.3**	**-0.8**
KKAR	**Karatay Array**	**81.34**	**315**	P	**P**	**17 47 23.9**	**-1.3**
KKAR				IAmb	IAmb	17 47 33.0	
	comp=Z,8.4nm,1.4s						
N18K	**Kilae Creek**	**81.98**	**26**	P	**P**	**17 47 27.4**	**-0.7**
N18K				IAmb	IAmb	17 48 02.1	
	comp=Z,16nm,1.2s						
SVW2	**Sparrevohn**	**82.31**	**26**	P	**P**	**17 47 29.7**	**-0.2**
SVW2				IAmb	IAmb	17 47 36.5	
	comp=Z,11nm,1.0s						
O19K	**Port Alsworth**	**82.45**	**27**	P	**P**	**17 47 29.4**	**-1.2**
H17K	**Granite Mounta**	**82.53**	**21**		**P**	**17 47 29.9**	**-1.0**
H17K				IAmb	IAmb	17 47 32.5	
	comp=Z,5.1nm,0.8s						
N19K	**Bonanza Creek**	**82.66**	**26**	P	**P**	**17 47 31.1**	**-0.7**
N19K				IAmb	IAmb	17 47 33.5	
	comp=Z,19nm,1.2s						
L19K	**White Mountain**	**83.12**	**25**	P	**P**	**17 47 33.7**	**-0.4**
G18K	**Tagagawik**	**83.49**	**21**	P	**P**	**17 47 35.5**	**-0.4**
G18K				IAmb	IAmb	17 47 53.1	
	comp=Z,9.1nm,1.2s						
E18K	**Tukpahlearik C**	**83.64**	**19**	IAmb	IAmb	17 47 38.5	
	comp=Z,7.9nm,1.1s						
QSPA	**South Pole Qui**	**83.73**	**180**	P	**P**	**17 47 39.0**	**+1.6**
	comp=Z,5.0nm,0.9s,baz=264,slow=1.2,SNR=7.4						
	comp=Z,5.0nm,0.9s						
C18K	**Utukok River**	**84.14**	**18**		**P**	**17 47 39.1**	**-0.1**
C18K				IAmb	IAmb	17 47 47.2	
	comp=Z,17nm,1.6s						
NRIK	**Noril'sk**	**84.18**	**343**		**P**	**17 47 39.3**	**0.0**
NRIK	**Noril'sk**	**84.18**	**343**	P	**P**	**17 47 39.1**	**-0.2**
	comp=Z,11nm,1.0s,baz=124,slow=4.8,SNR=8.1						
	comp=Z,11nm,1.0s						
BVAR	**Borovoye Array**	**84.40**	**325**	P	**P**	**17 47 40.7**	**-0.1**
	comp=Z,15nm,0.9s,baz=107,slow=5.1,SNR=15						
	comp=Z,15nm,0.9s						
BRVK	**Borovoye**	**84.47**	**325**	P	**P**	**17 47 41.9**	**+0.8**
E19K	**Redstone River**	**84.77**	**20**		**P**	**17 47 42.8**	**+0.4**
E19K				IAmb	IAmb	17 47 44.2	
	comp=Z,7.7nm,1.1s						
CAST	**Castle Rocks**	**84.81**	**24**		**P**	**17 47 41.9**	**-0.8**
CAST				IAmb	IAmb	17 48 01.1	
	comp=Z,8.6nm,1.2s						
RC01	**Rabbit Creek A**	**84.88**	**27**		**P**	**17 47 42.6**	**-0.4**
C19K	**Lookout Ridge**	**84.88**	**18**	P	**P**	**17 47 42.9**	**0.0**
F20K	**Avaraart Lake**	**85.08**	**20**	P	**P**	**17 47 44.0**	**+0.1**
F20K				IAmb	IAmb	17 47 58.7	
	comp=Z,9.1nm,1.3s						
PMR	**Palmer**	**85.34**	**26**		**P**	**17 47 44.6**	**-0.7**
PMR				IAmb	IAmb	17 47 45.9	
	comp=Z,12nm,1.2s						
KTH	**Kantishna Hill**	**85.34**	**24**	P	**P**	**17 47 44.3**	**-1.1**
KTH				IAmb	IAmb	17 48 01.7	
	comp=Z,11nm,1.2s						
SML	**Sawmill**	**85.77**	**26**	P	**P**	**17 47 46.7**	**-0.8**
MLY	**Manley**	**86.02**	**23**		**P**	**17 47 48.0**	**-0.7**
MLY				IAmb	IAmb	17 47 50.4	
	comp=Z,7.9nm,1.1s						
RND	**Reindeer**	**86.14**	**25**		**P**	**17 47 48.3**	**-1.1**
RND				IAmb	IAmb	17 47 49.7	
	comp=Z,11nm,1.0s						
NEA2	**Nenana**	**86.50**	**24**	P	**P**	**17 47 50.3**	**-0.7**
NEA2				IAmb	IAmb	17 49 00.2	
	comp=Z,14nm,1.5s						
DHY	**Denali Highway**	**86.64**	**25**		**P**	**17 47 51.0**	**-0.9**
DHY				IAmb	IAmb	17 47 53.2	
	comp=Z,8.9nm,1.1s						
B21K	**Ikpikpuk River**	**86.67**	**18**	P	**P**	**17 47 51.4**	**-0.3**
B21K				IAmb	IAmb	17 47 57.1	
	comp=Z,18nm,1.6s						
WRH	**Wood River Hil**	**86.85**	**24**		**P**	**17 47 51.8**	**-0.9**
WRH				IAmb	IAmb	17 47 53.0	
	comp=Z,12nm,1.2s						
E22K	**Anaktuvuk Pass**	**86.91**	**20**		**P**	**17 47 53.0**	**0.0**
E22K				IAmb	IAmb	17 47 56.0	
	comp=Z,5.6nm,1.0s						
CCB	**Clear Creek Bu**	**87.03**	**24**		**P**	**17 47 51.4**	**-2.2**
CCB				IAmb	IAmb	17 47 53.6	
	comp=Z,9.3nm,1.0s						
B22K	**Teshekpuk Lake**	**87.36**	**18**	P	**P**	**17 47 54.8**	**-0.2**
IL31		**87.44**	**24**		**P**	**17 47 53.7**	**-1.9**
IL31				IAmb	IAmb	17 47 55.2	
	comp=Z,5.9nm,0.9s						
ILAR	**Eielson Array**	**87.44**	**24**		**P**	**17 47 53.2**	**-2.4**
ILAR	**Eielson Array**	**87.44**	**24**	P	**P**	**17 47 53.4**	**-2.2**
	comp=Z,3.5nm,0.9s,baz=262,slow=4.3,SNR=13						
	comp=Z,3.5nm,0.9s						
GLB	**Gilahina Butte**	**87.69**	**27**	P	**P**	**17 47 57.2**	**+0.3**
GLB				IAmb	IAmb	17 47 58.2	
	comp=Z,12nm,1.2s						
CRQM	**Cirque**	**87.80**	**28**	P	**P**	**17 47 57.5**	**-0.1**
J25K	**Salcha River,**	**88.00**	**24**		**P**	**17 47 57.4**	**-1.0**
J25K				IAmb	IAmb	17 47 59.2	
	comp=Z,8.7nm,1.1s						
C23K	**Itkillik River**	**88.01**	**19**		**P**	**17 47 58.0**	**-0.2**
BARN	**Barnard Glacie**	**88.58**	**28**	P	**P**	**17 48 00.7**	**-0.6**
FYU	**Fort Yukon**	**88.69**	**22**		**P**	**17 48 01.6**	**+0.1**
CTGM	**Chitina Glacie**	**88.71**	**28**	P	**P**	**17 48 02.1**	**+0.2**
J26L	**Joseph Creek**	**88.71**	**25**		**P**	**17 48 01.9**	**+0.2**
J26L				IAmb	IAmb	17 48 03.3	
	comp=Z,14nm,1.3s						
L27K	**Beaver Creek,**	**89.04**	**26**		**P**	**17 48 04.0**	**+0.7**
L27K				IAmb	IAmb	17 48 05.2	
	comp=Z,9.7nm,1.3s						
BCAR	**Beaver Creek A**	**89.06**	**26**		**P**	**17 48 03.7**	**+0.3**
E25K	**Arctic Village**	**89.08**	**21**	P	**P**	**17 48 03.9**	**+0.5**
E25K				IAmb	IAmb	17 48 05.8	
	comp=Z,7.1nm,1.2s						
BMAR	**Burnt Mountain**	**89.21**	**22**		**P**	**17 48 04.7**	**+0.8**
EGAK	**Eagle**	**89.78**	**25**	P	**P**	**17 48 07.1**	**+0.4**
EGAK				IAmb	IAmb	17 48 43.3	
	comp=Z,8.2nm,1.2s						
DAWY	**Dawson**	**90.35**	**25**		**P**	**17 48 09.4**	**0.0**
DAWY				IAmb	IAmb	17 48 11.3	
	comp=Z,9.0nm,1.2s						
M29M	**Somme Creek**	**90.39**	**27**	P	**P**	**17 48 09.0**	**-0.7**
M29M				IAmb	IAmb	17 48 16.0	
	comp=Z,5.6nm,1.0s						
L29M	**L29M**	**90.69**	**27**		**P**	**17 48 11.1**	**+0.1**
L29M				IAmb	IAmb	17 48 13.0	
	comp=Z,11nm,1.1s						
K29M	**Barlow Dome**	**91.11**	**26**	P	**P**	**17 48 13.1**	**0.0**
K29M				IAmb	IAmb	17 48 19.3	
	comp=Z,6.7nm,1.1s						
ARU	**Arti**	**91.85**	**326**	P	**P**	**17 48 15.2**	**-1.2**
ARU				IAmb	IAmb	17 48 17.4	
	comp=Z,4.4nm,0.9s						
I30M	**Mount Dempster**	**91.86**	**25**		**P**	**17 48 16.1**	**-0.4**
I30M				IAmb	IAmb	17 49 48.4	
	comp=Z,16nm,1.9s						
ELIB	**Princess Elisa**	**92.81**	**196**	*d*P	**P**	**17 48 21.3**	**+0.5**
NVAR	**Mina Array Bea**	**100.97**	**52**	P	**Pdif**	**17 48 57.0**	**-1.5**
	comp=Z,0.4nm,0.8s,baz=259,slow=1.8,SNR=2.6						
YKA	**Yellowknife Ar**	**101.41**	**28**	P	**Pdif**	**17 48 58.8**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=278,slow=4.3,SNR=2.7						
TORD	**Torodi Ar. Bea**	**140.89**	**283**	PKhKP	PKPpre	17 54 32.9	
	comp=Z,0.2nm,0.4s,baz=23,slow=4.7,SNR=2.4						
SDV	**Santo Domingo**	**146.96**	**83**	PKPbc	**PKPdf**	**17 54 50.9**	**+0.4**
	comp=Z,9.8nm,0.7s,baz=350,slow=3.2,SNR=3.9						
DBIC	**Dimbokro**	**147.66**	**273**	PKPbc	**PKPbc**	**17 54 54.0**	**-0.2**
	comp=Z,4.8nm,0.9s,baz=108,slow=4.0,SNR=3.4						

*SJA **06** 17:41:11.7±0.7,31°54S×71°73W,h8km±3km,ML3.6, MW3.3*

*GUC **06** 17:41:16.5±0.8,31°56S×71°51W,h48km±3km,ML3.7*

ISC 06 17:41:14.8±1.3,**31°60S**±0°02×**71°54W**±0°04,**h5**km±10km, **n40,** σ**1**§**69**/71,**2C-2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO02	**Combarbal**	**0.61**	**49**	*e*P	Pn	17 41 37.5	+7.3
CO02	**Combarbal**	**0.61**	**49**	⇓*i*P	**Pb**	**17 41 28.8**	**+0.8**
CO02				*e*S	**Sb**	**17 41 36.9**	**0.0**
CO06	**Fray Jorge**	**0.93**	**355**	⇑*i*P	**Pg**	**17 41 33.0**	**+0.4**
CO06				*e*S	**Sg**	**17 41 44.8**	**+0.1**
VA06	**Catapilco**	**0.98**	**168**	*e*P	**Pb**	**17 41 34.5**	**+0.3**
VA06				*e*S	**Sb**	**17 41 48.2**	**+0.8**
VA06				IAML		17 41 52.7	
	comp=N,4μm,0.5s						
CO03	**El Pedregal**	**1.05**	**44**	⇓*i*P	**Pg**	**17 41 35.0**	**0.0**
CO03				*e*S	**Sg**	**17 41 48.4**	**-0.2**
CO03				IAML		17 41 49.4	
	comp=E,6μm,0.2s						
VA01	**Torpederas**	**1.42**	**184**	*e*P	**Pn**	**17 41 41.1**	**-0.1**
VA03	**San Esteban**	**1.43**

ACDV	**Cuesta del Vie**	**2.52**	**56**	*e*P		Pn	17 41 44.5	-12
ACDV				IAML			17 42 11.5	
	comp=Z,173nm,0.4s							
RTLL	**Cerro Villicun**	**2.63**	**85**	*e*P		**Pn**	**17 41 59.1**	**+1.2**
RTLL				*e*S		**Sb**	**17 42 35.8**	**+0.7**
LCO	**Las Campanas**	**2.68**	**16**	*e*P		**Pn**	**17 41 58.3**	**-0.6**
LCO				*e*S		**Sn**	**17 42 31.9**	**0.0**
LCO				IAML			17 42 42.1	
	comp=Z,220nm,0.3s							
LCO	**Las Campanas**	**2.68**	**16**	⇑*i*P		**Pn**	**17 41 58.3**	**-0.6**
LCO				*e*S		**Sn**	**17 42 29.5**	**-2.4**
BO02	**Sierra Bellavi**	**3.24**	**169**	*e*P		**Pn**	**17 42 07.1**	**+0.7**
BO02				*e*S		**Sn**	**17 42 48.8**	**+3.3**
BO02				IAML			17 42 55.6	
	comp=Z,175nm,0.2s							
AGUA	**GUANDACOL**	**3.37**	**52**	*e*P		**Pn**	**17 42 10.6**	**+2.4**
AGUA				*e*S		**Sb**	**17 42 54.3**	**-2.1**
AGUA				IAML			17 43 04.3	
	comp=Z,195nm,0.6s							
AC04	**Llanos de Chal**	**3.41**	**7**	*e*P		**Pn**	**17 42 07.8**	**-0.9**
AC04				*e*S		**Sn**	**17 42 52.3**	**+2.8**
AC04				IAML			17 43 04.0	
	comp=Z,109nm,0.6s							
GO05	**Huala**	**3.41**	**185**	*e*P		**Pn**	**17 42 08.0**	**-0.7**
GO05				*e*S		**Sn**	**17 42 47.1**	**-2.5**
AVFE	**Valle Fertil**	**3.62**	**76**	*e*P		**Pn**	**17 42 12.8**	**+1.1**
AVFE				*e*S		**Sb**	**17 43 00.4**	**-3.3**
AVFE				IAML			17 43 05.5	
	comp=Z,91nm,0.5s							
VCA	**Vinchina**	**4.06**	**46**	*e*P		**Pn**	**17 42 19.5**	**+1.8**
VCA				IAML			17 43 23.0	
	comp=Z,214nm,0.5s							
GO03	**Copiap**	**4.15**	**16**	*e*P		**Pn**	**17 42 18.2**	**-0.8**
GO03				*e*S		**Sn**	**17 43 10.8**	**+2.9**
GO03				IAML			17 43 20.0	
	comp=Z,101nm,0.5s							
ACHE	**Chepes**	**4.19**	**85**	*e*P		**Pn**	**17 42 20.2**	**+0.7**
APLL	**PUNTA DE LOS L**	**4.47**	**76**	*e*P		**Pn**	**17 42 24.5**	**+1.3**
ACLC	**CERRO LA CRUZ**	**4.51**	**62**	*e*P		**Pn**	**17 42 25.0**	**+1.1**
AC02	**Maricunga**	**5.20**	**24**	*e*S		**Sn**	**17 43 40.8**	**+6.5**
AC02				IAML			17 44 02.5	
	comp=Z,32nm,0.8s							

*SDD **06** 17:54:23.7±0.8, 19°.60N×64°.75W, h28km±160km, MD3.9, ML3.9, MW4.0*
*IDC **06** 17:54:23.4±0.8, 19°.42N×65°.29W, h0km, mb3.7/10, mbtmp3.8/13, ML3.4/3, MS4.3/1, Error ellipse: s-maj=22.6km s-min=15.6km az=62.0*
*RSPR **06** 17:54:29.8, 19°.27N×65°.24W, h96km±11km, MD4.1/15*
*NEIC **06** 17:54:30.1±1.8, 19°.29N±0°.07×65°.26W±0°.06, h42km±8km, mb4.5/45, ML4.1/38, Md4.1(RSPR), Error ellipse: s-maj=10.3km s-min=8.1km az=176.0*

ISC 06 17:54:27.2±0.5, 19°37N±0°.04×65°21W±0°.04, h23km, n140, σ1§49/144, mb4.4/29, 14C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
GCPR	**Guaynabo City**	**1.34**	**218**	⇑*e*P		**Pn**	**17 54 51.5**		**+1.0**
GCPR	**Guaynabo City**	**1.34**	**218**	*e*S		**Sn**	**17 55 09.3**		**+1.7**
GCPR	**Guaynabo City**	**1.34**	**218**			**Pn**	**17 54 50.5**		**0.0**
GCPR				Sn		**Sn**	**17 55 06.4**		**-1.1**
HUMP	**Col San Antoni**	**1.36**	**207**	⇑*e*P		**Pn**	**17 54 52.3**		**+1.5**
HUMP	**Col San Antoni**	**1.36**	**207**	*e*S		**Sn**	**17 55 09.6**		**+1.5**
HUMP	**Col San Antoni**	**1.36**	**207**			**Pn**	**17 54 50.8**		**+0.1**
HUMP				IAML			17 55 12.8		
	comp=N,2μm,0.5s								
HUMP				IAML			17 55 15.1		
	comp=E,2μm,0.2s								
EMPR	**Esperanza - Ma**	**1.53**	**235**	⇓*e*P		**Pn**	**17 54 53.8**		**+0.6**
EMPR	**Esperanza - Ma**	**1.53**	**235**	*e*S		**Sb**	**17 55 15.2**		**+1.3**
EMPR	**Esperanza - Ma**	**1.53**	**235**	Pn		**Pn**	**17 54 52.9**		**-0.2**
EMPR				IAML			17 55 21.4		
	comp=N,3μm,0.7s								
EMPR				IAML			17 55 28.9		
	comp=E,2μm,0.8s								
IGPR	**InterUniversit**	**1.63**	**212**	⇓*e*P		**Pn**	**17 54 55.9**		**+1.3**
IGPR	**InterUniversit**	**1.63**	**212**	*e*S		**Sb**	**17 55 17.7**		**+1.0**
IGPR	**InterUniversit**	**1.63**	**212**			**Pn**	**17 54 55.1**		**+0.5**
IGPR				Sn		**Sn**	**17 55 11.8**		**-3.0**
IGPR				IAML			17 55 19.8		
	comp=E,3μm,0.3s								
IGPR				IAML			17 55 21.0		
	comp=N,3μm,0.3s								
AOPR	**Arecibo Observ**	**1.78**	**236**	⇑*e*P		**Pn**	**17 54 58.2**		**+1.6**
AOPR	**Arecibo Observ**	**1.78**	**236**	*e*S		**Sb**	**17 55 21.3**		**+0.3**
AOPR	**Arecibo Observ**	**1.78**	**236**			**Pn**	**17 54 57.4**		**+0.9**
AOPR	**Arecibo Observ**	**1.78**	**236**	*e*P		**Pn**	**17 54 57.7**		**+1.1**
AOPR				IAML			17 55 28.9		
	comp=E,4μm,0.3s								
AOPR				IAML			17 55 37.5		
	comp=N,2μm,0.3s								
AOPR	**Arecibo Observ**	**1.78**	**236**	*e*P		**Pn**	**17 54 57.8**		**+1.1**
AOPR				*e*S		**Sn**	**17 55 20.4**		**+1.9**
CELP	**Cerrillos**	**1.82**	**226**	⇑*e*P		**Pn**	**17 54 58.4**		**+1.2**
CELP	**Cerrillos**	**1.82**	**226**	*e*S		**Sn**	**17 55 21.7**		**+2.1**
CELP	**Cerrillos**	**1.82**	**226**			**Pn**	**17 54 58.2**		**+1.0**
CELP	**Cerrillos**	**1.82**	**226**	*e*P		**Pn**	**17 54 58.2**		**+1.0**
CELP				IAML			17 55 38.7		
	comp=N,527nm,0.5s								
OBIP	**Obispado Ponce**	**1.86**	**225**	⇑*i*P		**Pn**	**17 54 58.0**		**+0.3**
OBIP	**Obispado Ponce**	**1.86**	**225**	*e*S		**Sn**	**17 55 20.7**		**+0.1**
OBIP	**Obispado Ponce**	**1.86**	**225**			**Pn**	**17 54 57.8**		**0.0**
OBIP				IAML			17 55 26.9		
	comp=N,1μm,0.8s								
OBIP				IAML			17 55 30.0		
	comp=E,1μm,0.8s								
AGPR	**Aguadilla, PR**	**2.01**	**244**	⇑*e*P		**Pn**	**17 55 01.2**		**+1.5**
AGPR	**Aguadilla, PR**	**2.01**	**244**	*e*S		**Sb**	**17 55 26.8**		**-0.9**
AGPR	**Aguadilla, PR**	**2.01**	**244**	Pn		**Pn**	**17 55 00.2**		**+0.5**
AGPR				IAML			17 55 30.7		
	comp=E,774nm,0.6s								
AGPR	**Aguadilla, PR**	**2.01**	**244**	⇑*e*P		**Pn**	**17 55 01.1**		**+1.5**
AGPR				*e*S		**Sb**	**17 55 29.0**		**+1.4**
AGPR				IAML			17 55 32.6		
	comp=E,571nm,0.8s								
AGPR				IAML			17 55 44.0		
	comp=N,661nm,0.5s								
GBPR	**Guanica, Bosqu**	**2.10**	**229**	⇑*e*P		**Pn**	**17 55 03.0**		**+2.0**
LSP	**Las Mesas**	**2.13**	**237**	⇑*e*P		**Pn**	**17 55 03.4**		**+1.9**
PRSN	**Puerto Rico Se**	**2.16**	**238**			**Pn**	**17 55 01.6**		**-0.2**
PRSN				IAML			17 55 42.1		
	comp=E,899nm,0.3s								
PRSN				IAML			17 55 48.3		
	comp=N,986nm,0.4s								
MLPR	**Magueyes Islan**	**2.22**	**232**	⇑*e*P		**Pn**	**17 55 04.6**		**+1.9**
MLPR	**Magueyes Islan**	**2.22**	**232**	*e*S		**Sn**	**17 55 32.4**		**+3.0**
MLPR	**Magueyes Islan**	**2.22**	**232**	Pn		**Pn**	**17 55 04.1**		**+1.4**
MLPR	**Magueyes Islan**	**2.22**	**232**	*e*P		**Pn**	**17 55 04.4**		**+1.7**
MLPR				IAML			17 55 37.1		
	comp=E,382nm,0.7s								
MLPR				IAML			17 55 53.3		
	comp=N,265nm,1.4s								
CRPR	**Cabo Rojo, PR**	**2.25**	**233**	⇑*e*P		**Pn**	**17 55 04.8**		**+1.7**
CRPR	**Cabo Rojo, PR**	**2.25**	**233**	*e*S		**Sb**	**17 55 34.0**		**-0.6**
CRPR	**Cabo Rojo, PR**	**2.25**	**233**			**Pn**	**17 55 04.5**		**+1.4**
CRPR	**Cabo Rojo, PR**	**2.25**	**233**	*e*P		**Pn**	**17 55 04.8**		**+1.7**
CRPR				IAML			17 55 48.2		
	comp=E,351nm,0.5s								
CRPR				IAML			17 55 56.0		
	comp=N,386nm,0.6s								
SMRT	**St. Maarten**	**2.41**	**123**	⇑*e*P		**Pn**	**17 55 07.5**		**+2.2**
SMRT	**St. Maarten**	**2.41**	**123**	*e*S		**Sn**	**17 55 36.5**		**+2.4**
SMRT	**St. Maarten**	**2.41**	**123**			**Pn**	**17 55 07.7**		**+2.4**
SMRT				IAML			17 55 44.6		
	comp=E,2μm,0.5s								
SMRT				IAML			17 55 50.5		
	comp=N,1μm,0.4s								
SABA	**Saba**	**2.55**	**133**	⇑*e*P		**Pn**	**17 55 08.9**		**+1.7**
SABA	**Saba**	**2.55**	**133**			**Pn**	**17 55 09.1**		**+1.9**
SEUS	**St. Eustatius**	**2.82**	**131**	Pn		**Pn**	**17 55 13.1**		**+2.2**
SEUS				IAML			17 56 05.3		
	comp=N,921nm,0.5s								
SEUS				IAML			17 57 10.2		
	comp=E,948nm,0.2s								
PCDR	**Punta Cana, DR**	**3.12**	**255**	⇑*e*P		**Pn**	**17 55 16.4**		**+1.4**
PCDR	**Punta Cana, DR**	**3.12**	**255**	Pn		**Pn**	**17 55 16.0**		**+1.1**
PCDR				IAML			17 56 14.8		
	comp=E,267nm,0.9s								
PCDR				IAML			17 56 24.4		
	comp=N,328nm,1.1s								
PCDR	**Punta Cana, DR**	**3.12**	**255**	*e*P		**Pn**	**17 55 16.4**		**+1.4**
PCDR				IAML			17 56 19.4		
	comp=N,294nm,0.8s								
MIDR	**Miches**	**3.65**	**265**	*e*P		**Pn**	**17 55 23.5**		**+1.2**
MIDR				⇓*e*			17 55 47.3		
MIDR				IAML			17 56 36.9		
	comp=N,60nm,0.8s								
MBFL	**Flemmings, Mon**	**3.86**	**132**	*e*P		**Pn**	**17 55 27.9**		**+2.6**
HATOM	**Hato Mayor del**	**3.98**	**262**	⇑*e*P		**Pn**	**17 55 28.2**		**+1.3**
HATOM				IAML			17 56 21.2		
	comp=E,52nm,0.4s								
HATOM				IAML			17 57 12.4		
	comp=N,315nm,2.8s								
ANBD	**Bethesda, Anti**	**4.00**	**125**	*e*P		**Pn**	**17 55 27.1**		**-0.1**
ANBD	**Bethesda, Anti**	**4.00**	**125**	*e*S		**Sn**	**17 56 12.3**		**-1.1**
GDHS	**Morne Mazeau,**	**4.50**	**133**			**Pn**	**17 55 35.9**		**+1.9**
ABD	**La Joyeuse, An**	**4.56**	**128**	Pn		**Pn**	**17 55 38.3**		**+3.4**
ABD				IAML			17 56 55.2		
	comp=E,291nm,1.8s								
ABD				IAML			17 57 09.4		
	comp=N,284nm,1.3s								
DR08	**Loma La Naviza**	**4.56**	**266**	*e*P		**Pn**	**17 55 35.2**		**+0.3**
DR08				IAML			17 57 04.8		
	comp=N,86nm,0.4s								
TBG	**Guadaloupe-3**	**4.88**	**135**	*e*P		**Pn**	**17 55 41.6**		**+2.5**
GDSD	**La Dsirade Is**	**4.98**	**127**	Pn		**Pn**	**17 55 43.2**		**+2.6**
H05N1	**Guadeloupe/Mar**	**4.99**	**127**	Pn		**Pn**	**17 55 40.8**		**+0.1**
MAGL	**Barre de l'Ile**	**5.06**	**132**			**Pn**	**17 55 44.4**		**+2.7**
MAGL				IAML			17 56 59.4		
	comp=N,196nm,1.2s								
SDDR	**Presa de Saban**	**5.76**	**267**	⇓*e*P		**Pn**	**17 55 53.9**		**+2.5**
SDDR	**Presa de Saban**	**5.76**	**267**	*e*S		**Sn**	**17 57 00.6**		**+3.9**
SDDR	**Presa de Saban**	**5.76**	**267**			**Pn**	**17 55 52.6**		**+1.3**
SDDR	**Presa de Saban**	**5.76**	**267**	*e*P		**Pn**	**17 55 53.8**		**+2.4**
SDDR	**Presa de Saban**	**5.76**	**267**	*e*S		**Sn**	**17 57 01.5**		**+4.7**
SVN	**Savane Anatole**	**5.93**	**139**	Pn		**Pn**	**17 55 55.6**		**+1.8**
FDF	**Fort de France**	**6.03**	**139**	Pn		**Pn**	**17 55 56.3**		**+1.3**
ILAM	**Ilet Lapin Mar**	**6.17**	**137**	Pn		**Pn**	**17 55 58.1**		**+1.1**
BIM	**Bigot**	**6.24**	**140**	Pn		**Pn**	**17 55 58.5**		**+0.5**
BIM	**Bigot**	**6.24**	**140**	*e*P		**Pn**	**17 56 00.8**		**+2.8**
MPOM	**Morne Pois Mar**	**6.43**	**139**	Pn		**Pn**	**17 56 01.5**		**+1.0**
MPOM	**Morne Pois Mar**	**6.43**	**139**	*e*P		**Pn**	**17 56 02.8**		**+2.3**
H05S1	**Guadeloupe/Mar**	**6.46**	**139**	Pn		**Pn**	**17 56 02.4**		**+1.5**
H05S1				Sn		**Sn**	**17 57 14.4**		**+0.6**
PCRV	**Puerto La Cruz**	**9.15**	**176**	Pn		**Pn**	**17 56 39.5**		**+1.5**
	comp=N,1.3nm,0.3s,baz=22,slow=5.4,SNR=8.3								
	comp=N,12nm,0.9s								
NMDO	**Nuevo Mundo**	**9.27**	**279**	Pn		**Pn**	**17 56 36.8**		**-2.6**
GTBY	**Guantanamo Bay**	**9.35**	**275**	Pn		**Pn**	**17 56 38.8**		**-1.7**
BAUV	**El Baul**	**10.72**	**195**			**Pn**	**17 57 00.3**		**+0.9**
SDV	**Santo Domingo**	**11.67**	**207**			**Pn**	**17 57 12.0**		**-0.6**
SDV	**Santo Domingo**	**11.67**	**207**	Pn		**Pn**	**17 57 12.4**		**-0.2**
	comp=N,1.2nm,0.3s,baz=45,slow=17,SNR=4.3								
SDV				Sn		**Sn**	**17 59 23.9**		**+1.6**
	comp=N,0.6nm,0.3s,baz=337,slow=21,SNR=1.6								
	comp=N,1.6nm,0.4s								
061Z	**Ochoppi**	**15.86**	**297**	Pn		**Pn**	**17 58 09.4**		**+0.3**
ROSC	**El Rosal**	**16.95**	**213**	Pn		**Pn**	**17 58 23.1**		**-0.3**
	comp=N,1.7nm,0.3s,baz=28,slow=15,SNR=1.8								
	comp=N,4.9nm,0.5s								
BOAV	**Boa Vista**	**17.48**	**164**	Pn		**Pn**	**17 58 28.0**		**-1.6**
255A	**Hazlehurst**	**19.93**	**312**	P		**Pn**	**17 58 58.7**		**-0.6**
255A				IAmb		IAmb	17 59 18.2		
	comp=Z,55nm,1.2s								
W57A	**Gilead**	**20.45**	**323**	P		Pn	17 59 07.9		+2.5
W57A				IAmb		IAmb	17 59 17.4		
	comp=Z,11nm,0.8s								
T59A	**Double "B" Far**	**20.61**	**331**	P		**P**	**17 59 05.5**		**+0.7**
T59A				IAmb		IAmb	17 59 17.9		
	comp=Z,11nm,0.8s								
HODGE	**Hodges**	**21.18**	**318**	P		**P**	**17 59 11.8**		**+0.7**
T57A	**Hurt**	**21.45**	**328**	P		**P**	**17 59 12.8**		**-1.1**
T57A				IAmb		IAmb	17 59 44.1		
	comp=Z,8.8nm,0.6s								
R58B	**Mineral**	**21.57**	**332**	P		**P**	**17 59 14.9**		**-0.2**
R58B				IAmb		IAmb	17 59 30.7		
	comp=Z,9.7nm,0.5s								
V55A	**Taylorsville**	**21.65**	**323**	P		**P**	**17 59 16.5**		**+0.4**
V55A				IAmb		IAmb	17 59 44.7		
	comp=Z,25nm,1.4s								
BG3	**Lake Jocassee**	**22.10**	**318**	P		**P**	**17 59 20.8**		**-0.1**
BG3				IAmb		IAmb	17 59 44.9		
	comp=Z,9.9nm,0.4s								
BLA	**Blacksburg**	**22.21**	**326**	P		**P**	**17 59 22.0**		**-0.1**
V53A	**Saluda**	**22.47**	**320**	P		**P**	**17 59 23.7**		**-1.2**
WSPT	**Westport, CT**	**22.81**	**344**	P		**P**	**17 59 27.8**		**-0.7**
R55A	**Marlinton**	**22.88**	**329**	P		**P**	**17 59 28.9**		**-0.3**
TKL	**Tuckaleechee C**	**23.05**	**319**	P		**P**	**17 59 30.9**		**-0.1**
TKL				IAmb		IAmb	18 00 13.6		
	comp=Z,12nm,1.1s								
S54A	**Dingess, Beckl**	**23.11**	**326**	P		**P**	**17 59 33.2**		**+1.5**
S54A				IAmb		IAmb	18 00 01.1		
	comp=Z,21nm,0.9s								
UCCT	**U. Connecticut**	**23.14**	**347**	P		**P**	**17 59 32.7**		**+0.9**
KSCT	**Kent School, K**	**23.38**	**344**	P		**P**	**17 59 33.8**		**-0.4**
KSCT				IAmb		IAmb	18 00 09.9		
	comp=Z,28nm,1.3s								
HRV	**Adam Dziewonsk**	**23.69**	**348**	P		**P**	**17 59 38.3**		**+1.1**
SSPA	**Standing Stone**	**23.82**	**336**	P		**P**	**17 59 37.7**		**-0.8**
SSPA				IAmb		IAmb	17 59 54.8		
	comp=Z,23nm,1.4s								
R53A	**Hurricane**	**23.85**	**326**	P		**P**	**17 59 40.1**		**+1.3**
M57A	**Sunshine Farm,**	**24.15**	**338**	P		**P**	**17 59 41.8**		**+0.2**
M57A				IAmb		IAmb	18 00 09.4		
	comp=Z,13nm,1.1s								
O54A	**Avella**	**24.50**	**331**	P		**P**	**17 59 44.8**		**0.0**
SSFO	**Shawnee State**	**24.78**	**325**	P		**P**	**17 59 48.0**		**+0.6**
O53A	**New Philadelph**	**24.94**	**330**	P		**P**	**17 59 50.5**		**+1.7**
O53A				IAmb		IAmb	18 00 16.6		
	comp=Z,9.5nm,0.7s								
ACCN	**Adirondack Com**	**24.98**	**345**	P		**P**	**17 59 50.3**		**+1.1**
ACCN				IAmb		IAmb	18 00 19.4		
	comp=Z,15nm,0.7s								
Q51A	**Peebles**	**25.10**	**325**	P		**P**	**17 59 49.3**		**-0.9**
Q51A				IAmb		IAmb	18 00 32.6		
	comp=Z,15nm,0.7s								
R50A	**Paris**	**25.12**	**323**	P		**P**	**17 59 50.5**		**0.0**
R50A				IAmb		IAmb	18 00 20.7		
	comp=Z,11nm,0.9s								
J59A	**Piesco**	**25.27**	**344**	P		**P**	**17 59 52.6**		**+0.9**
J59A				IAmb		IAmb	17 59 59.0		
	comp=Z,32nm,1.5s								
NCB	**Newcomb**	**25.67**	**345**	P		**P**	**17 59 56.8**		**+1.4**
NCB				IAmb		IAmb	18 00 39.4		
	comp=Z,15nm,1.3s								
MCRA	**Macar, Loja**	**27.69**	**213**	P		**P**	**18 00 15.1**		**+1.2**
CZSB	**Cruzeiro do Su**	**27.92**	**196**	P		**P**	**18 00 15.2**		**-0.6**
CZSB				IAmb		IAmb	18 00 30.2		
	comp=Z,19nm,1.0s								
SAML	**Samuel**	**28.21**	**176**	P		**P**	**18 00 17.8**		**-0.6**
MGMO	**Mountain Grove**	**29.54**	**313**	P		**P**	**18 00 30.3**		**+0.1**
K43A	**Burlington**	**30.37**	**325**	P		**P**	**18 00 36.1**		**-1.3**
TXAR	**Lajitas Array**	**36.27**	**293**	P		**P**	**18 01 28.4**		**-0.8**
	comp=Z,0.5nm,0.7s,baz=114,slow=13,SNR=6.4								
	comp=Z,0.5nm,0.7s								
ULM	**Lac du Bonnet**	**39.28**	**329**	P		**P**	**18 01 52.5**		**-1.6**
	comp=Z,2.1nm,0.6s,baz=110,slow=12,SNR=4.8								
	comp=Z,2.1nm,0.6s								
SDCO	**Great Sand Dun**	**39.48**	**306**	P		**P**	**18 01 56.6**		**+0.2**
ANMO	**Albuquerque**	**39.55**	**302**	LR		LR	18 19 15.3		
	comp=Z,411nm,20.7s,baz=16,slow=38								
PB07	**IPOC Station P**	**41.09**	**187**	P		**P**	**18 02 07.5**		**-2.1**
PB07				IAmb		IAmb	18 02 21.7		
	comp=Z,8.1nm,0.8s								
PDAR	**Pinedale Array**	**43.93**	**312**	P		**P**	**18 02 32.7**		**0.0**
PDAR	**Pinedale Array**	**43.93**	**312**	P		**P**	**18 02 29.6**		**-3.0**
	comp=Z,0.3nm,0.8s,baz=109,slow=7.7,SNR=1.8								
	comp=Z,0.3nm,0.8s								
FCC	**Fort Churchill**	**44.59**	**339**	P		**P**	**18 02 38.1**		**+0.8**
MOOW	**Moose Ponds**	**45.06**	**313**	P		**P**	**18 02 41.1**		**-0.5**
CPUP	**Vila Florida**	**46.06**	**170**	P		**P**	**18 02 47.6**		**-1.8**
	comp=Z,2.8nm,0.8s,baz=303,slow=5.4,SNR=4.1								
	comp=Z,2.8nm,0.8s								
NVAR	**Mina Array Bea**	**49.51**	**304**	P		**P**	**18 03 15.5**		**-1.0**
	comp=Z,0.6nm,0.6s,baz=83,slow=9.2,SNR=6.0								
	comp=Z,0.6nm,0.6s								
YKA	**Yellowknife Ar**	**54.74**	**334**	P		**P**	**18 03 55.4**		**+0.8**
YKA	**Yellowknife Ar**	**54.74**	**334**	P		**P**	**18 03 54.2**		**-0.5**
	comp=Z,0.3nm,0.5s,baz=110,slow=7.4,SNR=6.7								
	comp=Z,0.3nm,0.5s								
TORD	**Torodi Ar. Bea**	**64.20**	**84**	P		**P**	**18 05 01.5**		**+0.7**
	comp=Z,0.5nm,0.7s,baz=290,slow=7.7,SNR=3.2								
	comp=Z,0.5nm,0.7s								
M30M	**Minto, Yukon**	**64.52**	**331**	P		**P**	**18 05 03.4**		**+1.3**
H29M	**Whitestone**	**65.66**	**335**	P		**P**	**18 05 09.6**		**+0.2**
H29M				IAmb		IAmb	18 05 26.9		
	comp=Z,3.6nm,1.3s								
E28M	**Babbage River**	**66.41**	**337**	P		**P**	**18 05 14.1**		**-0.1**
E28M				IAmb		IAmb	18 05 20.9		
	comp=Z,3.4nm,1.5s								
NOA	**NORSAR Array B**	**66.69**	**31**	P		**P**	**18 05 15.7**		**-0.4**
	comp=Z,0.4nm,0.8s,baz=270,slow=6.6,SNR=2.1								
	comp=Z,0.4nm,0.8s								
BCAR	**Beaver Creek A**	**66.84**	**331**	P		**P**	**18 05 18.9**		**+1.8**
L27K	**Beaver Creek,**	**66.86**	**331**	P		**P**	**18 05 19.0**		**+1.8**
BMAR	**Burnt Mountain**	**68.20**	**336**	P		**P**	**18 05 25.7**		**+0.1**
ILAR	**Eielson Array**	**69.12**	**333**	P		**P**	**18 05 29.9**		**-1.4**
ILAR	**Eielson Array**	**69.12**	**333**	P		**P**	**18 05 31.5**		**+0.2**
	comp=Z,0.4nm,0.6s,baz=111,slow=4.3,SNR=16								
	comp=Z,0.4nm,0.6s								
FINES	**FINESS Array B**	**73.81**	**30**	P		**P**	**18 06 00.3**		**+0.7**
FINES	**FINESS Array B**	**73.81**	**30**	P		**P**	**18 05 58.8**		**-0.8**
	comp=Z,1.8nm,1.0s,baz=242,slow=3.0,SNR=3.4								
	comp=Z,1.8nm,1.0s								

*IDC **06** 17:58:50.6±0.8, 6°.33S×142°.75E, h0km, mb4.2/11, mbtmp4.2/14, ML3.9/1, MS4.0/10, Error ellipse: s-maj=31.6km s-min=15.9km az=88.0*
*NEIC **06** 17:58:53.9±1.5, 6°.39S±0°.07×142°.90E±0°.08, h10km±1km, mb4.7/100, Error ellipse: s-maj=12.7km s-min=11.6km az=281.0*
*DJA **06** 17:59:01.0±0.4, 6°S±3°×14°3E±°, h61km±5km, M4.9/19, mB5.4/2, mb4.5/19, MLv5.1/6, Mw(mB)4.8/2*

ISC 06 17:58:53.3±0.4, 6°43S±0°.05×142°.90E±0°.05, h10km, n156, σ1§48/140, mb4.7/66, MS4.0/8, 1C-2D, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
MMPI	**Merauke**	**3.21**	**231**	P		**Pb**	**17 59 51.5**		**+1.1**
MMPI				S		**Sb**	**18 00 29.7**		**+0.1**
GENI	**Genyem**	**4.69**	**324**	P		**Pn**	**18 00 04.8**		**+0.7**
GENI	**Genyem**	**4.69**	**324**	P		**Pn**	**18 00 04.5**		**+0.4**
GENI				S		**Sn**	**18 00 57.7**		**-0.9**
PMG	**Port Moresby**	**5.15**	**125**	Pn		**Pn**	**18 00 09.5**		**-1.0**
PMG	**Port Moresby**	**5.15**	**125**	Pn		**Pn**	**18 00 12.1**		**+1.6**
	13nm,0.6s,baz=312,slow=9.4,SNR=3.1								
PMG				Sn		**Sn**	**18 01 10.2**		**+0.1**
	4.9nm,0.3s,baz=210,slow=20,SNR=7.5								
PMG				LR		LR	18 02 26.8		
	comp=Z,930nm,18.2s,baz=314,slow=41								
COEN	**Coen**	**7.48**	**178**	Pn		**Pn**	**18 00 42.4**		**-0.1**
FAKI	**Fak Fak**	**11.17**	**288**	Pn		**Pn**	**18 01 30.7**		**-2.5**
KDU	**Kakadu**	**12.01**	**238**	P		**Pn**	**18 01 42.4**		**-2.2**
MTN	**Manton Dam**	**13.23**	**240**	Pn		**Pn**	**18 01 58.0**		**-3.3**
CTA	**Charters Tower**	**13.96**	**167**	Lg		Lg	18 06 11.8		
	0.1nm,0.3s,baz=45,slow=18,SNR=2.0								
CTA				LR		LR	18 07 31.7		
	comp=Z,715nm,18.7s,baz=354,slow=37								
WB0	**Warramunga Arr**	**15.62**	**211**			**Pn**	**18 02 32.0**		**-1.7**
WR0	**

BNX	**BinXian**	**53.76**	**347**	⇓P		**P**	**18 08 16.6**	**+0.8**
BNX				pmax		pmax		
	comp=Z,6.0nm,0.8s							
BNX				pmax		pmax		
	comp=Z,200nm,4.7s							
HHC	**Hu-ho-hao-te**	**55.15**	**331**	*e*P		**P**	**18 08 28.8**	**+2.6**
HHC				pmax		pmax		
	comp=Z,5.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,90nm,3.9s							
HHC				LR		LR		
	comp=N,120nm,17.9s							
HHC				LR		LR		
	comp=E,140nm,16.9s							
HHC				LR		LR		
	comp=Z,220nm,21.6s							
RAR	**Rarotonga**	**57.28**	**111**	P		**P**	**18 08 41.1**	**-0.5**
XMAS	**Kiritimati**	**60.15**	**84**	P		**P**	**18 09 00.2**	**-1.5**
GTA	**Gaotai**	**60.53**	**323**	P		**P**	**18 09 05.6**	**+1.5**
GTA				sP		sP	18 09 17.1	+8.3
GTA				pmax		pmax		
	comp=Z,2.0nm,1.3s							
PETK	**Petropavlovsk-**	**60.63**	**10**	P		**P**	**18 09 03.3**	**-0.9**
LSA	**Lhasa**	**61.28**	**309**	P		**P**	**18 09 08.3**	**-1.5**
LSA				IAmb		IAmb	18 09 30.4	
	comp=Z,7.4nm,1.5s							
ULN	**Ulaanbaatar**	**62.60**	**334**	P		**P**	**18 09 17.4**	**-0.5**
ULN				IAmb		IAmb	18 09 22.6	
	comp=Z,2.7nm,0.8s							
SONM	**Songino Array**	**62.87**	**333**	P		**P**	**18 09 20.0**	**+0.3**
SONM	**Songino Array**	**62.87**	**333**	P		**P**	**18 09 18.2**	**-1.5**
	comp=Z,1.2nm,0.9s,baz=158,slow=6.7,SNR=8.1							
	comp=Z,1.2nm,0.9s							
PALK	**Pallekele**	**63.52**	**281**	P		**P**	**18 09 23.8**	**-0.7**
KIP	**Kipapa**	**64.20**	**63**	P		**P**	**18 09 28.3**	**-0.5**
OPA	**Opana**	**64.29**	**62**	P		**P**	**18 09 28.8**	**-0.5**
SHEM	**Shemya Is, Ala**	**64.62**	**20**	LR		LR	18 31 54.8	
	comp=Z,159nm,21.3s,baz=254,slow=31							
KHLH	**Kahului Airpor**	**65.44**	**64**	P		**P**	**18 09 36.5**	**-0.4**
RIM	**Rim**	**66.04**	**66**	P		**P**	**18 09 39.7**	**-1.2**
YAK	**Yakutsk**	**69.03**	**353**	LR		LR	18 39 25.3	
	comp=Z,63nm,18.5s,baz=172,slow=35							
VNDA	**Vanda**	**71.75**	**176**	LR		LR	18 42 44.6	
	comp=Z,106nm,18.2s,baz=252,slow=37							
MK31	**Makanchi Array**	**75.27**	**322**	P		**P**	**18 10 35.9**	**-0.7**
MKAR	**Makanchi Array**	**75.27**	**322**	P		**P**	**18 10 36.0**	**-0.6**
MKAR	**Makanchi Array**	**75.27**	**322**	P		**P**	**18 10 35.5**	**-1.1**
	comp=Z,4.6nm,1.2s,baz=108,slow=6.9,SNR=17							
	comp=Z,4.6nm,1.2s							
MAKZ	**Makanchi**	**75.47**	**322**	P		**P**	**18 10 38.0**	**+0.2**
MAKZ				IAmb		IAmb	18 10 40.3	
	comp=Z,5.9nm,1.0s							
PRZ	**Przheval'sk**	**76.02**	**317**	P		**P**	**18 10 41.5**	**+0.3**
PRZ				IAmb		IAmb	18 10 44.3	
	comp=Z,4.2nm,0.8s							
BILL	**Bilibino**	**76.11**	**9**			**P**	**18 10 41.5**	**+0.5**
KSH	**Kashi**	**76.66**	**313**	P		**P**	**18 10 47.1**	**+2.3**
KSH				pmax		pmax		
	comp=Z,3.0nm,1.2s							
ZAA0	**Zalesovo Array**	**77.24**	**329**	P		**P**	**18 10 45.8**	**-1.7**
ZALV	**Zalesovo Beam**	**77.24**	**329**	P		**P**	**18 10 45.8**	**-1.7**
ZALV	**Zalesovo Beam**	**77.24**	**329**	P		**P**	**18 10 45.1**	**-2.4**
	comp=Z,0.7nm,0.5s,baz=111,slow=3.3,SNR=5.4							
	comp=Z,0.7nm,0.5s							
NRN	**Naryn**	**77.30**	**315**	P		**P**	**18 10 47.1**	**-1.6**
AAK	**Ala-Archa**	**78.77**	**316**	P		**P**	**18 10 56.0**	**-0.6**
KURK	**Kurchatov**	**79.15**	**324**	P		**P**	**18 10 58.3**	**+0.1**
KURK				IAmb		IAmb	18 11 01.2	
	comp=Z,12nm,1.4s							
KURBB	**Kurchatov Arra**	**79.16**	**324**	P		**P**	**18 10 56.2**	**-2.1**
	comp=Z,2.2nm,1.1s,baz=111,slow=4.7,SNR=11							
	comp=Z,2.2nm,1.1s							
L14K	**Kuka Creek**	**79.56**	**23**	P		**P**	**18 11 01.1**	**+0.9**
ANM	**Nome**	**80.48**	**20**	P		**P**	**18 11 06.2**	**+1.0**
ANM				IAmb		IAmb	18 11 09.3	
	comp=Z,8.9nm,1.2s							
BTK	**Batken**	**80.60**	**312**	P		**P**	**18 11 06.5**	**0.0**
GAR	**Garm**	**80.67**	**311**	P		**P**	**18 11 06.9**	**0.0**
GAR				IAmb		IAmb	18 11 11.0	
	comp=Z,8.9nm,1.5s							
CHGR	**Chuyangaron**	**81.45**	**311**	P		**P**	**18 11 09.8**	**-1.2**
CHGR				IAmb		IAmb	18 11 12.6	
	comp=Z,5.9nm,0.8s							
KK31	**Karatay Array**	**81.69**	**315**	P		**P**	**18 11 11.6**	**-0.6**
KKAR	**Karatay Array**	**81.69**	**315**	P		**P**	**18 11 11.6**	**-0.6**
SVW2	**Sparrevohn**	**82.36**	**26**	P		**P**	**18 11 16.4**	**+1.2**
SVW2				IAmb		IAmb	18 11 42.3	
	comp=Z,11nm,1.3s							
QSPA	**South Pole Qui**	**83.54**	**180**	P		**P**	**18 11 21.6**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=313,slow=1.0,SNR=5.7							
	comp=Z,2.2nm,0.8s							
J19K	**Poorman**	**83.73**	**23**	P		**P**	**18 11 22.9**	**+0.7**
J19K				IAmb		IAmb	18 11 26.5	
	comp=Z,7.8nm,1.3s							
E18K	**Tukpahlearik C**	**83.73**	**19**	P		**P**	**18 11 22.6**	**+0.4**
E18K				IAmb		IAmb	18 11 26.0	
	comp=Z,8.7nm,1.3s							
H19K	**Roundabout Mou**	**84.16**	**21**	IAmb		IAmb	18 11 26.9	
	comp=Z,7.4nm,1.2s							
J20K	**Nowinta River**	**84.39**	**23**	P		**P**	**18 11 26.2**	**+0.6**
J20K				IAmb		IAmb	18 11 29.6	
	comp=Z,8.0nm,1.1s							
NRIK	**Noril'sk**	**84.46**	**343**	P		**P**	**18 11 26.1**	**+0.2**
NRIK				IAmb		IAmb	18 11 27.5	
	comp=Z,7.6nm,1.1s							
NRIK	**Noril'sk**	**84.46**	**343**	P		**P**	**18 11 24.9**	**-0.9**
	comp=Z,5.0nm,0.9s,baz=131,slow=4.5,SNR=6.9							
	comp=Z,5.0nm,0.9s							
SUA	**Susitna One**	**84.62**	**26**	P		**P**	**18 11 26.7**	**-0.2**
BVAR	**Borovoye Array**	**84.74**	**325**	P		**P**	**18 11 26.8**	**-0.8**
	comp=Z,4.5nm,0.8s,baz=104,slow=6.3,SNR=20							
	comp=Z,4.5nm,0.8s							
BRVK	**Borovoye**	**84.81**	**325**	P		**P**	**18 11 27.9**	**0.0**
E19K	**Redstone River**	**84.86**	**20**	P		**P**	**18 11 28.6**	**+0.7**
E19K				IAmb		IAmb	18 11 31.6	
	comp=Z,4.5nm,1.0s							
RC01	**Rabbit Creek A**	**84.92**	**27**	P		**P**	**18 11 28.0**	**-0.3**
C19K	**Lookout Ridge**	**84.97**	**18**	P		**P**	**18 11 29.4**	**+0.8**
M22K	**Willow**	**85.01**	**26**	P		**P**	**18 11 28.9**	**+0.2**
D19K	**Kuna River**	**85.10**	**18**	IAmb		IAmb	18 11 34.9	
	comp=Z,5.7nm,1.0s							
F20K	**Avaraart Lake**	**85.16**	**20**	P		**P**	**18 11 29.5**	**+0.1**
IMAR	**Indian Mountai**	**85.36**	**22**	P		**P**	**18 11 30.6**	**+0.1**
PMR	**Palmer**	**85.38**	**26**	P		**P**	**18 11 31.1**	**+0.5**
PMR				IAmb		IAmb	18 11 35.5	
	comp=Z,4.4nm,0.9s							
KTH	**Kantishna Hill**	**85.40**	**24**	P		**P**	**18 11 31.1**	**+0.4**
H21K	**Melozitna Rive**	**85.56**	**22**			**P**	**18 11 32.4**	**+0.9**
BPAW	**Bear Paw Mtn.**	**85.60**	**24**	P		**P**	**18 11 32.5**	**+0.8**
BPAW				IAmb		IAmb	18 11 34.5	
	comp=Z,9.2nm,1.4s							
KNK	**Knik Glacier**	**85.61**	**27**	P		**P**	**18 11 33.1**	**+1.3**
KNK				IAmb		IAmb	18 11 34.8	
	comp=Z,8.1nm,1.1s							
TRF	**Thorofare Moun**	**85.62**	**24**	P		**P**	**18 11 33.7**	**+1.7**
TRF				IAmb		IAmb	18 12 04.8	
	comp=Z,4.7nm,1.4s							
I21K	**Tanana**	**85.67**	**23**	P		**P**	**18 11 33.0**	**+1.0**
I21K				IAmb		IAmb	18 11 34.6	
	comp=Z,4.4nm,1.1s							
MLY	**Manley**	**86.08**	**23**	P		**P**	**18 11 35.4**	**+1.3**
MLY				IAmb		IAmb	18 11 36.0	
	comp=Z,6.4nm,1.2s							
B20K	**Meade River**	**86.18**	**17**	IAmb		IAmb	18 11 37.5	
	comp=Z,5.5nm,1.1s							
RND	**Reindeer**	**86.19**	**25**	P		**P**	**18 11 34.6**	**-0.2**
RND				IAmb		IAmb	18 11 39.8	
	comp=Z,7.3nm,1.0s							
SCM	**Sheep Creek Mo**	**86.27**	**26**	P		**P**	**18 11 35.7**	**+0.5**
DHY	**Denali Highway**	**86.69**	**25**	P		**P**	**18 11 38.7**	**+1.4**
DHY				IAmb		IAmb	18 11 41.6	
	comp=Z,5.5nm,1.0s							
B21K	**Ikpikpuk River**	**86.76**	**18**	P		**P**	**18 11 37.6**	**+0.3**
B21K				IAmb		IAmb	18 11 43.2	
	comp=Z,5.8nm,1.1s							
WRH	**Wood River Hil**	**86.91**	**24**	P		**P**	**18 11 37.6**	**-0.5**
WRH				IAmb		IAmb	18 11 39.7	
	comp=Z,9.7nm,1.2s							
E22K	**Anaktuvuk Pass**	**87.00**	**20**	P		**P**	**18 11 39.5**	**+0.9**
E22K				IAmb		IAmb	18 11 48.0	
	comp=Z,7.0nm,1.3s							
D22K	**Ayikyak River**	**87.03**	**19**	IAmb		IAmb	18 11 43.0	
	comp=Z,6.3nm,1.2s							
CCB	**Clear Creek Bu**	**87.09**	**24**	P		**P**	**18 11 38.7**	**-0.3**
CCB				IAmb		IAmb	18 11 39.9	
	comp=Z,6.0nm,1.1s							
IL31		**87.50**	**24**	P		**P**	**18 11 39.4**	**-1.6**
IL31				IAmb		IAmb	18 11 41.9	
	comp=Z,9.9nm,1.5s							
ILAR	**Eielson Array**	**87.50**	**24**	P		**P**	**18 11 39.4**	**-1.6**
ILAR	**Eielson Array**	**87.50**	**24**	P		**P**	**18 11 38.0**	**-3.0**
	comp=Z,1.6nm,0.8s,baz=253,slow=4.8,SNR=12							
	comp=Z,1.6nm,0.8s							
GLB	**Gilahina Butte**	**87.73**	**27**	P		**P**	**18 11 40.7**	**-1.5**
G24K	**Hadweenzic Riv**	**87.97**	**22**	IAmb		IAmb	18 11 46.9	
	comp=Z,6.9nm,1.1s							
TGL	**Tana Glacier**	**87.98**	**28**	P		**P**	**18 11 42.7**	**-0.8**
J25K	**Salcha River,**	**88.06**	**24**	P		**P**	**18 11 43.9**	**+0.1**
F24K	**Squaw Lake**	**88.12**	**21**	IAmb		IAmb	18 11 48.1	
	comp=Z,4.8nm,0.9s							
BARN	**Barnard Glacie**	**88.61**	**28**	P		**P**	**18 11 46.7**	**+0.1**
FYU	**Fort Yukon**	**88.76**	**22**	P		**P**	**18 11 47.5**	**+0.6**
J26L	**Joseph Creek**	**88.76**	**25**	IAmb		IAmb	18 11 50.6	
	comp=Z,5.7nm,1.2s							
M27K	**Edge Creek, AK**	**88.87**	**27**	IAmb		IAmb	18 11 58.7	
	comp=Z,5.8nm,1.1s							
L27K	**Beaver Creek,**	**89.08**	**26**	IAmb		IAmb	18 11 51.8	
	comp=Z,4.0nm,1.1s							
BCAR	**Beaver Creek A**	**89.11**	**26**	P		**P**	**18 11 49.0**	**+0.3**
BMAR	**Burnt Mountain**	**89.28**	**22**	P		**P**	**18 11 49.8**	**+0.4**
D25K	**Kavik River**	**89.29**	**20**	IAmb		IAmb	18 11 53.0	
	comp=Z,3.8nm,1.1s							
DAWY	**Dawson**	**90.40**	**25**	P		**P**	**18 11 54.3**	**-0.4**
DAWY				IAmb		IAmb	18 11 58.4	
	comp=Z,5.9nm,1.2s							
DBIC	**Dimbokro**	**147.97**	**272**	PKPbc		**PKPdf**	**18 18 36.5**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=75,slow=13,SNR=2.3							

*TEH **06** 17:59:46.8,34.91N×46.22E,h10km±80km,ML2.5*
*ISN **06** 17:59:46.7±0.8,34.91N×46.15E,h10km±10km,ML2.4*
ISC 06 17:59:47.0±1.4,34.93N±0.07×46.18E±0.05,h10km,n10,
σ1s12/15,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.28**	**143**	Pg	**Pg**	**17 59 52.1**	**-0.6**
IDHR				Sg	**Sg**	**17 59 56.8**	**+0.3**
KGS1	**Ghasr-e-Shirin**	**0.64**	**230**	Pg	**Pb**	**17 59 59.8**	**-0.5**
IGHG	**Ghaleghazi**	**0.67**	**152**	Pg	**Pg**	**17 59 59.6**	**-0.5**
KCHF	**Cheshme Sefid,**	**0.96**	**132**	Pg	**Pg**	**18 00 04.1**	**-1.3**
ILBA	**Ilam Banvizeh**	**1.30**	**179**	Pg	**Pg**	**18 00 11.3**	**-0.6**
IKRK	**Kirkuk**	**1.58**	**288**	*e*Pn	**Pb**	**18 00 16.0**	**-0.3**
IKRK				*e*Sn	**Sg**	**18 00 38.0**	**+0.1**
IBDR	**Badra**	**1.82**	**187**	*e*Pn	**Pb**	**18 00 19.5**	**-0.9**
IBDR				*e*Sn	**Sb**	**18 00 43.0**	**-0.3**
IBDR				AML	AML	18 00 51.1	
	comp=N,44nm,0.6s						
IBDR				AML	AML	18 00 57.9	
	comp=E,40nm,0.5s						
IDOB	**Doab**	**2.00**	**124**	Pn	**Pb**	**18 00 23.2**	**-0.5**
BHD	**Baghdad**	**2.23**	**223**	*e*Pn	**Pn**	**18 00 25.0**	**+1.1**
BHD				*e*Sn	**Sb**	**18 00 53.0**	**-1.9**
RAFI	**Al-Rafai**	**3.19**	**181**	*e*Pn	**Pn**	**18 00 39.0**	**+1.8**
RAFI				*e*Sn	**Sn**	**18 01 17.0**	**+1.6**

*UPP **06** 18:07:01.1±0.1,67.07N×20.93E,h0km,ML2.7,Suspected explosion*
*IDC **06** 18:07:02.2±0.9,67.07N×21.19E,h0km,mbtmp2.7/4, ML2.0/4,Error ellipse: s-maj=17.1km s-min=8.0km az=117.0*
ISC 06 18:07:01.2±1.2,67.07N±0.05×20.93E±0.03,h5km±10km, n15,σ1s11/22,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.15**	**291**	P	**Pg**	**18 07 04.2**	**0.0**
DUNU				S	**Sg**	**18 07 06.6**	**+0.3**
MASU	**Masugnsbyn**	**0.57**	**46**	P	**Pg**	**18 07 11.9**	**-0.3**
MASU				S	**Sg**	**18 07 20.3**	**+0.6**
PAJU	**Pajala**	**0.86**	**92**	P	**Pg**	**18 07 17.1**	**-0.6**
PAJU				S	**Sb**	**18 07 29.2**	**-1.2**
RATU	**Laukkuluspa**	**0.92**	**327**	P	**Pg**	**18 07 17.9**	**-0.9**
RATU				S	**Sg**	**18 07 30.5**	**-0.2**
SALU	**Saltoluokta**	**0.99**	**290**	P	**Pg**	**18 07 19.6**	**-0.7**
LANU	**Lannavaara**	**1.07**	**22**	P	**Pg**	**18 07 20.4**	**-1.2**
KALU	**Kalix**	**1.56**	**140**	P	**Pn**	**18 07 29.7**	**+0.2**
SJUU	**Sjulsmark**	**1.59**	**170**	P	**Pn**	**18 07 30.1**	**+0.2**
HEF	**Hetta**	**1.70**	**36**	*e*P	**Pn**	**18 07 31.4**	**-0.1**
KIF	**Kilpisjarvi**	**1.95**	**359**	*e*P	**Pn**	**18 07 36.9**	**+2.1**
I37NO	**I37NO**	**2.20**	**338**	I	I	18 23 20.0	
	baz=153,slow=324,SNR=1.2						
ARCES	**ARCESS Array B**	**3.01**	**32**	Pn	**Pn**	**18 07 50.6**	**+1.2**
	0.3nm,0.3s,baz=212,slow=14,SNR=55						
ARCES				Sn	**Sn**	**18 08 26.4**	**+0.7**
	0.3nm,0.3s,baz=208,slow=24,SNR=5.0						
	1.2nm,0.2s						
FINES	**FINESS Array B**	**6.07**	**156**	Pn	**Pn**	**18 08 33.1**	**+1.6**
	0.1nm,0.3s,baz=345,slow=13,SNR=11						
FINES				Sn	**Sn**	**18 09 42.3**	**+1.0**
	0.2nm,0.3s,baz=346,slow=16,SNR=5.5						
	0.4nm,0.2s						
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**18 08 51.1**	**+1.5**
	baz=38,slow=10,SNR=7.5						
NOA				Sn	**Sn**	**18 10 11.6**	**-2.1**
	baz=35,slow=8.9,SNR=1.9						
	0.1nm,0.3s						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**18 08 53.6**	**+0.3**
	0.1nm,0.3s,baz=30,slow=12,SNR=5.4						
HFS				Sn	**Sn**	**18 10 19.8**	**-0.6**
	0.1nm,0.3s,baz=24,slow=27,SNR=1.3						
	0.3nm,0.4s						

*IDC **06** 18:08:26.9±1.9,3.29S×128.58E,h0km,mb3.4/3, mbtmp3.4/4,ML2.8/1,Error ellipse: s-maj=146.5km s-min=26.1km az=68.0*
*DJA **06** 18:08:30.1±0.5,4°S±4°×12°8E±°,h10km,M3.7/11,mb3.9/2, MLv3.6/11*
ISC 06 18:08:29.3±1.1,3.91S±0.09×127.67E±0.08,h10km,n10,
σ1s10/13,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.88**	**320**	P	**Pg**	**18 08 45.4**	**-0.8**
NLAI				S	**Sb**	**18 08 58.7**	**+0.3**
BNDI	**Bandanaira**	**2.31**	**105**	P	**Pn**	**18 09 06.2**	**-1.3**
BNDI				S	**Sn**	**18 09 36.1**	**+0.1**
SANI	**Sanana**	**2.50**	**318**	P	**Pn**	**18 09 10.3**	**+0.3**
SANI				S	**Sn**	**18 09 41.4**	**+0.8**
LBMI	**Labuha**	**3.26**	**357**	P	**Pn**	**18 09 21.5**	**+1.0**
LBMI				S	**Sn**	**18 09 58.6**	**-0.8**
FAKI	**Fak Fak**	**4.68**	**78**	P	**Pn**	**18 09 41.6**	**+1.6**
SWI	**Sorong**	**4.70**	**50**	P	**Pn**	**18 09 40.4**	**+0.1**
WRA	**Warramunga Arr**	**17.21**	**158**	P	**Pn**	**18 12 31.8**	**+1.8**
	baz=340,slow=12,SNR=1.2						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**20.54**	**164**	P	Pn	18 13 10.8	+0.4
	1.5nm,0.7s,baz=344,slow=11,SNR=6.9						
	1.5nm,0.7s						
MKAR	**Makanchi Array**	**64.39**	**327**	P	**P**	**18 19 04.8**	**-0.8**
	0.3nm,0.6s,baz=125,slow=7.6,SNR=3.7						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**68.68**	**329**	P	**P**	**18 19 31.9**	**-1.1**
	0.3nm,0.5s,baz=127,slow=5.8,SNR=4.6						
	0.3nm,0.5s						

WEL 06 18:10:53.0±0.9,45°S±5°×167°E±°,h69km±8km,M3.7/10, ML3.9/10,MLv3.7/10,Error ellipse: s-maj=0.0km s-min=0.0km az=122.2,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.15**	**222**	P	Pn	18 11 04.2	+0.9
DCZ				S	Sn	18 11 12.8	+2.0
MLZ	**Mavora Lakes**	**0.58**	**92**	P	Pn	18 11 07.8	+1.2
MLZ				S	Sn	18 11 19.2	+2.7
WHZ	**Wether Hill Ro**	**0.71**	**140**	P	Pn	18 11 08.8	+0.9
WHZ				S	Sn	18 11 20.8	+1.9
MSZ	**Milford Sound**	**0.81**	**34**	P	Pn	18 11 09.7	+0.6
MSZ				S	Sn	18 11 23.0	+2.0
PYZ	**Puysegur Point**	**0.92**	**208**	P	Pn	18 11 10.8	+0.3
PYZ				S	Sn	18 11 24.8	+1.4
WKZ	**Wanaka**	**1.33**	**67**	P	Pn	18 11 16.5	+0.8
WKZ				S	Sn	18 11 33.7	+0.9
EAZ	**Earnscleugh**	**1.43**	**86**	P	Pn	18 11 17.7	+0.7
EAZ				S	Sn	18 11 35.4	+0.5
APZ	**The Paps**	**1.56**	**162**	P	Pn	18 11 18.5	-0.2
APZ				S	Sn	18 11 38.2	+0.1
JCZ	**Jackson Bay**	**1.66**	**40**	P	Pn	18 11 20.2	-0.1
JCZ				S	Sn	18 11 40.5	-0.3
TUZ	**Tuapeka**	**1.75**	**111**	P	Pn	18 11 21.5	+0.3
SYZ	**Scrubby Hill**	**1.75**	**133**	P	Pn	18 11 21.4	+0.2
LBZ	**Lake Benmore**	**2.27**	**66**	P	Pn	18 11 27.2	-1.1
HHSZ	**Highcliff Hill**	**2.38**	**104**	P	Pn	18 11 29.7	-0.1
ODZ	**Otahua Downs**	**2.39**	**84**	P	Pn	18 11 29.0	-0.9
FOZ	**Fox Glacier**	**2.56**	**46**	P	Pn	18 11 30.9	-1.3
TMZ	**Timaru**	**2.81**	**71**	P	Pn	18 11 33.9	-1.7
GCSZ	**Gaunt Creek Bo**	**2.98**	**48**	P	Pn	18 11 36.4	-1.5
ARCZ	**Arundel**	**3.11**	**64**	P	Pn	18 11 37.5	-2.2
RPZ	**Rata Peaks**	**3.15**	**60**	P	Pn	18 11 38.2	-2.1
WVZ	**Waitaha Valley**	**3.36**	**49**	P	Pn	18 11 41.4	-1.8
WACZ	**Wakanui South**	**3.54**	**68**	P	Pn	18 11 43.4	-2.1
MHCZ	**Mount Hutt**	**3.56**	**61**	P	Pn	18 11 43.5	-2.4
OXZ	**Oxford**	**3.96**	**61**	P	Pn	18 11 49.0	-2.3
MQZ	**McQueen's Vall**	**4.17**	**69**	P	Pn	18 11 51.7	-2.4
AKCZ	**Akaroa Harbour**	**4.27**	**72**	P	Pn	18 11 53.7	-1.9
LTZ	**Lake Taylor**	**4.41**	**56**	P	Pn	18 11 54.9	-2.6
AMCZ	**Amberley**	**4.42**	**62**	P	Pn	18 11 55.1	-2.5
GVZ	**Greta Valley S**	**4.77**	**62**	P	Pn	18 11 59.7	-2.7
DSZ	**Denniston Nort**	**4.87**	**44**	P	Pn	18 12 01.0	-2.8
THZ	**Tophouse**	**5.43**	**51**	P	Pn	18 12 08.2	-3.2
MRNZ	**Matariki Terra**	**5.61**	**47**	P	Pn	18 12 12.9	-0.9
TKNZ	**Takaka Hill**	**5.98**	**46**	P	Pn	18 12 18.3	-0.6
PKE	**Pukeiti**	**7.90**	**41**	P	Pn	18 12 45.1	-0.2

*IDC **06** 18:11:01.7±1.3,6.09S×142.65E,h0km,mb3.8/3, mbtmp3.8/5,ML1.6/1,Error ellipse: s-maj=44.1km s-min=31.6km az=74.0*
ISC 06 18:11:02.9±0.8,6.29S±0.09×142.55E±0.08,h10km,n12,
σ1s61/14,mb4.0/3,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.67**	**307**	P	**Pg**	**18 11 33.8**	**-1.1**
PMG	**Port Moresby**	**5.52**	**124**	P	**Pn**	**18 12 26.6**	**+1.4**
PMG	**Port Moresby**	**5.52**	**124**	P	**Pn**	**18 12 26.9**	**+1.7**
PMG	**Port Moresby**	**5.52**	**124**	Pn	**Pn**	**18 12 25.7**	**+0.6**
	1.1nm,0.3s,baz=285,slow=13,SNR=1.6						
PMG				Sn	**Sn**	**18 13 26.9**	**-1.8**
	1.0nm,0.3s,baz=190,slow=18,SNR=1.5						
	11nm,0.8s						
KDU	**Kakadu**	**11.79**	**237**	P	**Pn**	**18 13 52.6**	**+1.3**
MTN	**Manton Dam**	**13.00**	**239**	P	**Pn**	**18 14 08.9**	**+1.1**
WRA	**Warramunga Arr**	**15.74**	**210**	Pn	**Pn**	**18 14 44.0**	**-0.9**
	0.2nm,0.3s,baz=27,slow=14,SNR=1.5						
WRA				Sn	**Sn**	**18 17 36.3**	**-3.3**
	0.1nm,0.3s,baz=37,slow=24,SNR=3.2						
WRA				Lg	Lg	18 19 25.9	
	0.1nm,0.3s,baz=26,slow=29,SNR=5.4						
KNRA	**Kununurra**	**16.43**	**234**	P	**Pn**	**18 14 53.6**	**-0.1**
ASAR	**Alice Springs**	**19.17**	**205**	P	**Pn**	**18 15 29.2**	**+1.5**
	2.2nm,0.8s,baz=30,slow=9.8,SNR=13						
MKAR	**Makanchi Array**	**74.95**	**322**	P	**P**	**18 22 44.7**	**+0.4**
	0.4nm,0.8s,baz=104,slow=6.1,SNR=3.8						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**84.42**	**325**	P	**P**	**18 23 36.0**	**+0.4**
	1.3nm,0.8s,baz=115,slow=6.5,SNR=6.4						
	1.3nm,0.8s						
ILAR	**Eielson Array**	**87.51**	**24**	P	**P**	**18 23 49.4**	**-1.3**
	0.6nm,0.8s,baz=261,slow=4.4,SNR=6.2						
	0.6nm,0.8s						

*INMG **06** 18:24:29.6±1.9,28.51N×10.23W,h5km,ML2.9,Error ellipse: s-maj=16.5km s-min=7.0km az=143.0*
*CNRM **06** 18:24:33.7,28.75N×10.39W,h9km,ML3.5*
ISC 06 18:24:32.9±1.0,28.90N±0.06×10.45W±0.06,h10km,n42,
σ2s04/50,Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TANT	**Tantan**	**0.84**	**235**	P	**Pg**	**18 24 48.8**	**-0.4**
TANT	**Tantan**	**0.84**	**235**	S	**Sg**	**18 24 59.3**	**-0.9**
CGR	**Cap Guir**	**1.80**	**16**	P	**Pb**	**18 25 06.3**	**+0.4**
CGR	**Cap Guir**	**1.80**	**16**	S	**Sg**	**18 25 31.2**	**+0.5**
TTIG	**Tnine Tigouga,**	**2.40**	**46**	P	**Pb**	**18 25 15.8**	**-0.5**
TTIG	**Tnine Tigouga,**	**2.40**	**46**	Sb	**Sg**	**18 25 51

1.5nm,0.9s,baz=109,slow=25,SNR=1.8
MKAR Makanchi Array 13.08 36 P **Pn** **18 29 33.6 +1.2**
0.4nm,0.4s,baz=206,slow=10,SNR=8.5
KURBB Kurchatov Arra 14.95 18 P **Pn** **18 29 57.2 +1.3**
0.7nm,0.6s,baz=207,slow=11,SNR=9.0
AB31 Akbulak array 15.09 330 P **P** **18 30 02.8 +3.5**
0.2nm,0.3s,baz=156,slow=10,SNR=12
AB31 S **Sn** **18 32 48.2 +3.0**
0.9nm,0.6s,baz=154,slow=23,SNR=5.8
BVAR Borovoye Array 16.43 358 P **P** **18 30 13.5 -0.5**
0.5nm,0.3s,baz=149,slow=8.1,SNR=7.1
AKTO Aktyubinsk 16.79 330 P **P** **18 30 18.7 +0.7**
1.7nm,0.4s,baz=137,slow=7.0,SNR=6.8
AKTO S 18 33 18.9 -6.0
1.0nm,0.8s,baz=335,slow=19,SNR=2.3
ZALV Zalesovo Beam 19.73 24 P **P** **18 30 48.8 -1.3**
1.4nm,0.4s,baz=218,slow=11,SNR=6.3
FINES FINESS Array B 37.51 326 P **P** **18 33 30.8 -0.4**
0.3nm,0.4s,baz=118,slow=11,SNR=4.0
0.3nm,0.4s
ARCES ARCESS Array B 41.12 337 P **P** **18 34 00.7 -0.4**
1.4nm,0.8s,baz=113,slow=9.2,SNR=1.7
1.4nm,0.8s
HFS Hagfors 43.11 322 P **P** **18 34 17.2 -0.1**
1.4nm,0.9s,baz=96,slow=13,SNR=1.8
1.4nm,0.9s
JMIC Jan Mayen 52.56 336 LR LR 18 58 12.7
comp=Z,74nm,19.3s,baz=328,slow=36
TORD Torodi Ar. Bea 65.93 269 P **P** **18 37 00.6 -1.9**
0.3nm,0.5s,baz=42,slow=5.5,SNR=2.2
0.3nm,0.5s

*IDC **06** 18:28:17.9±1.1,6˚25S×142˚97E,h0km,mb3.7/6, mbtmp3.8/8,ML1.9/1,MS3.5/1,Error ellipse: s-maj=37.7km s-min=24.1km az=52.0*
ISC 06 18:28:19.2±0.8,**6˚53S**±0˚10×**142˚7E**±0˚1,**h10**km,**n10,** σ1ᵍ**63**/**11**,**mb3.6/6,New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**5.24**	**123**	Pn		**Pn**	**18 29 39.0**	**+1.3**
	2.7nm,0.3s,baz=293,slow=7.7,SNR=9.3							
PMG				Sn		**Sn**	**18 30 37.4**	**-0.8**
	1.1nm,0.3s,baz=221,slow=19,SNR=1.5							
	8.4nm,0.4s							
CTA	**Charters Tower**	**13.91**	**166**	LR		LR	18 36 22.7	
	comp=Z,198nm,20.3s,baz=260,slow=34							
WRA	**Warramunga Arr**	**15.63**	**211**	Pn		**Pn**	**18 31 59.2**	**-0.6**
	0.3nm,0.3s,baz=29,slow=13,SNR=16							
WRA				Sn		Sn	18 34 48.3	-4.8
	0.3nm,0.3s,baz=33,slow=24,SNR=4.7							
WRA				Lg		Lg	18 36 41.0	
	0.4nm,0.3s,baz=29,slow=29,SNR=5.9							
ASAR	**Alice Springs**	**19.04**	**206**	P		**Pn**	**18 32 45.0**	**+2.6**
	5.6nm,0.6s,baz=29,slow=12,SNR=59							
ASAR				S		**Sn**	**18 36 13.6**	**-2.2**
	0.4nm,0.6s,baz=18,slow=28,SNR=2.3							
CMAR	**Chiang Mai Arr**	**49.81**	**301**	P		**P**	**18 37 14.1**	**+1.4**
	0.3nm,0.4s,baz=123,slow=5.7,SNR=4.1							
	0.3nm,0.4s							
SONM	**Songino Array**	**62.88**	**333**	P		**P**	**18 38 45.7**	**+0.1**
	0.3nm,0.6s,baz=138,slow=6.6,SNR=2.3							
	0.3nm,0.6s							
MKAR	**Makanchi Array**	**75.24**	**322**	P		**P**	**18 40 02.6**	**+0.2**
	0.3nm,0.5s,baz=122,slow=5.0,SNR=4.9							
	0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**79.14**	**324**	P		**P**	**18 40 23.3**	**-0.8**
	0.3nm,0.8s,baz=116,slow=4.7,SNR=4.3							
	0.3nm,0.8s							
BVAR	**Borovoye Array**	**84.71**	**325**	P		**P**	**18 40 53.3**	**-0.1**
	2.5nm,0.8s,baz=117,slow=5.5,SNR=11							
	2.5nm,0.8s							
ILAR	**Eielson Array**	**87.65**	**24**	P		**P**	**18 41 05.7**	**-2.0**
	0.9nm,0.7s,baz=253,slow=5.3,SNR=10							
	0.9nm,0.7s							

*WEL **06** 18:40:39.3±0.8,33˚S×6˚×17˚8W±1˚3,h33km,M4.3/18, mB4.9/14,ML4.8/24,MLv4.6/18,Mw(mB)4.2/14,Error ellipse: s-maj=0.0km s-min=0.0km az=110.6*
*IDC **06** 18:40:41.0±0.9,33˚26S×178˚51W,h0km,mb4.5/5, mbtmp4.5/5,MS5.2/1,Error ellipse: s-maj=34.4km s-min=29.4km az=36.0*
*NEIC **06** 18:40:43.1±2.9,33˚41S±0˚07×178˚6W±0˚2,h10km±1km, mb4.8/6,Error ellipse: s-maj=34.2km s-min=4.2km az=110.0*
ISC 06 18:40:40.8±1.0,**33˚45S**±0˚07×**178˚0W**±0˚1,**h35**km,**n61,** σ2ᵍ**58**/**70**,**mb4.7/7,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GLKZ	**Green Lake**	**4.17**	**1**	P		**Pn**	**18 41 41.0**	**-0.9**
GLKZ				S		**Sn**	**18 42 25.8**	**-3.6**
RAO	**Raoul Island**	**4.18**	**1**	Pn		**Pn**	**18 41 42.5**	**+0.5**
MXZ	**Matakaoa Point**	**5.09**	**215**	Pn		**Pn**	**18 41 50.4**	**-4.2**
MXZ	**Matakaoa Point**	**5.09**	**215**	P		**Pn**	**18 41 51.0**	**-3.6**
WMGZ	**Waiomatatini S**	**5.25**	**213**	P		**Pn**	**18 41 56.3**	**-0.4**
PKGZ	**Pakihiroa**	**5.46**	**215**	P		**Pn**	**18 41 55.8**	**-3.9**
HAZ	**Te Kaha**	**5.50**	**217**	P		**Pn**	**18 41 58.3**	**-1.9**
HAZ				S		**Sn**	**18 43 00.8**	**-1.4**
PUZ	**Puketiti**	**5.53**	**212**	S		**Sn**	**18 43 05.0**	**+2.1**
RUGZ	**Raukumara Rang**	**5.72**	**217**	P		**Pn**	**18 42 00.9**	**-2.4**
RUGZ				S		**Sn**	**18 43 06.1**	**-1.6**
TWGZ	**Tauwhareparae**	**5.74**	**214**	P		**Pn**	**18 42 03.2**	**-0.3**
TWGZ				S		**Sn**	**18 43 08.5**	**+0.3**
CNGZ	**Carnagh Statio**	**5.89**	**210**	P		**Pn**	**18 42 01.3**	**-4.3**
CNGZ				S		**Sn**	**18 43 14.0**	**+2.2**
TKGZ	**Te Karaka**	**6.01**	**213**	P		**Pn**	**18 42 09.4**	**+2.2**
TKGZ				S		**Sn**	**18 43 15.2**	**+0.4**
MWZ	**Matawai**	**6.08**	**215**	P		**Pn**	**18 42 06.3**	**-1.9**
MWZ				S		**Sn**	**18 43 15.6**	**-0.9**
URZ	**Urewera**	**6.23**	**218**	Pn		**Pn**	**18 42 07.1**	**-3.1**
	2.0nm,0.3s,baz=351,slow=3.5,SNR=11							
URZ				Sn		**Sn**	**18 43 14.9**	**-5.2**
	baz=81,slow=20							
URZ	**Urewera**	**6.23**	**218**	P		**Pn**	**18 42 06.3**	**-3.9**
URZ				S		**Sn**	**18 43 17.4**	**-2.8**
RAGZ	**Rawiri**	**6.26**	**215**	P		**Pn**	**18 42 07.0**	**-3.7**
RAGZ				S		**Sn**	**18 43 20.0**	**-1.1**
RIGZ	**Rimuhau**	**6.27**	**212**	P		**Pn**	**18 42 13.0**	**+2.2**
RIGZ				S		**Sn**	**18 43 21.8**	**+0.6**
PRGZ	**Paritu Road**	**6.40**	**210**	P		**Pn**	**18 42 10.5**	**-2.0**
PRGZ				S		**Sn**	**18 43 24.6**	**+0.3**
SNGZ	**Shannon Statio**	**6.53**	**214**	P		**Pn**	**18 42 11.2**	**-3.1**
SNGZ				S		**Sn**	**18 43 24.7**	**-2.7**
RTZ	**Ruatahuna**	**6.57**	**217**			**Pn**	**18 42 11.4**	**-3.5**
RTZ	**Ruatahuna**	**6.57**	**217**	P		**Pn**	**18 42 15.2**	**+0.3**
KNZ	**Kokohu**	**6.57**	**211**	P		**Pn**	**18 42 12.8**	**-2.1**
MUGZ	**Murupara**	**6.57**	**219**	P		**Pn**	**18 42 12.5**	**-2.4**
MHGZ	**Mahia Peninsul**	**6.58**	**209**	P		**Pn**	**18 42 15.5**	**+0.4**
RAHZ	**Arahi**	**6.75**	**215**	P		**Pn**	**18 42 19.2**	**+1.8**
RAHZ				S		**Sn**	**18 43 30.8**	**-2.2**
WCZ	**Waipu Caves**	**6.78**	**246**	P		**Pn**	**18 42 19.3**	**+1.5**
MTHZ	**Maungataniwha**	**6.82**	**216**	P		**Pn**	**18 42 16.1**	**-2.3**
MTHZ				S		**Sn**	**18 43 30.2**	**-4.6**
NMHZ	**Naumai**	**7.03**	**215**	P		**Pn**	**18 42 22.1**	**+0.8**
NMHZ				S		**Sn**	**18 43 38.6**	**-1.3**
OUZ	**Omahuta**	**7.18**	**253**	P		**Pn**	**18 42 26.4**	**+3.2**
BKZ	**Black Stump Fm**	**7.24**	**216**	P		**Pn**	**18 42 20.6**	**-3.4**
KWHZ	**Kaweka Forest**	**7.47**	**215**	P		**Pn**	**18 42 28.1**	**+0.8**
TMVZ	**Te Maari**	**7.61**	**220**	P		**Pn**	**18 42 29.2**	**0.0**
OTVZ	**Oturere**	**7.66**	**220**	P		**Pn**	**18 42 31.2**	**+1.3**
BHHZ	**Black Hill Sta**	**7.70**	**217**	P		**Pn**	**18 42 31.9**	**+1.5**
MRZ	**Mangatainoka R**	**8.84**	**214**	Pn		**Pn**	**18 42 43.2**	**-2.8**
MRZ	**Mangatainoka R**	**8.84**	**214**	P		**Pn**	**18 42 44.2**	**-1.8**
CTZ	**Chatham Island**	**10.33**	**174**	Pn		**Pn**	**18 43 07.3**	**+1.0**
LTZ	**Lake Taylor**	**12.06**	**217**	Pn		**Pn**	**18 43 26.6**	**-3.5**
ODZ	**Otahua Downs**	**14.53**	**214**	Pn		**Pn**	**18 44 01.9**	**-1.8**
DZM	**Mont Dzumac**	**17.81**	**306**	P		**P**	**18 44 49.1**	**+2.7**
	10nm,0.8s,baz=140,slow=18,SNR=3.9							
HNR	**Honiara**	**31.36**	**315**	LR		LR	18 57 43.7	
	comp=Z,4μm,19.2s,baz=291,slow=33							
CTA	**Charters Tower**	**34.40**	**284**	P		**P**	**18 47 27.1**	**+2.3**
	7.8nm,0.8s,baz=126,slow=12,SNR=7.0							
	7.8nm,0.8s							
CTAO	**Charters Tower**	**34.40**	**284**	P		**P**	**18 47 26.6**	**+1.7**
CTAO					IAmb	IAmb	18 47 28.3	
	comp=Z,8.5nm,0.8s							
ASAR	**Alice Springs**	**43.03**	**270**	P		**P**	**18 48 38.5**	**+1.3**
	comp=Z,7.8nm,0.7s,baz=107,slow=7.4,SNR=20							
	comp=Z,7.8nm,0.7s							
WRAB	**Tennant Creek**	**44.29**	**275**	P		**P**	**18 48 48.2**	**+0.8**
WRAB					IAmb	IAmb	18 48 49.2	
	comp=Z,9.5nm,0.7s							
WRA	**Warramunga Arr**	**44.30**	**275**	P		**P**	**18 48 48.7**	**+1.3**
	comp=Z,4.9nm,0.6s,baz=115,slow=7.8,SNR=7.4							
	comp=Z,4.9nm,0.6s							
WB0	**Warramunga Arr**	**44.33**	**276**	P		**P**	**18 48 48.4**	**+0.7**
WB0					IAmb	IAmb	18 48 49.6	
	comp=Z,12nm,0.8s							
CASY	**Casey**	**52.47**	**209**	P		P	18 49 54.9	+5.2
QSPA	**South Pole Qui**	**56.67**	**180**	P		P	18 50 27.5	+7.1
QSPA	**South Pole Qui**	**56.67**	**180**	P		P	18 50 27.5	+7.2
	comp=Z,1.6nm,0.9s,baz=90,slow=6.1,SNR=5.7							
	comp=Z,1.6nm,0.9s							
PEA0B	**Petropavlovsk-**	**88.75**	**346**	P		P	18 53 33.8	+3.6
PETK	**Petropavlovsk-**	**88.75**	**346**	P		P	18 53 33.8	+3.6
	comp=Z,6.0nm,0.9s,baz=153,slow=5.2,SNR=7.9							
	comp=Z,6.0nm,0.9s							
KURBB	**Kurchatov Arra**	**123.16**	**312**	PKP		**PKiKP**	**18 59 37.0**	**+3.6**
	comp=Z,0.4nm,0.6s,baz=114,slow=2.3,SNR=1.2							
ARCES	**ARCESS Array B**	**141.55**	**347**	PKhKP		PKPpre	19 00 07.5	
	comp=Z,4.1nm,1.0s,baz=5.7,slow=1.8,SNR=2.2							
KBZ	**Khabaz**	**146.72**	**300**	PKPbc		**PKiKP**	**19 00 22.9**	**+1.5**
	comp=Z,3.1nm,1.0s,baz=99,slow=5.4,SNR=4.2							
FINES	**FINESS Array B**	**147.98**	**338**	PKPbc		**PKPab**	**19 00 25.8**	**+1.5**
	comp=Z,1.2nm,0.4s,baz=40,slow=3.8,SNR=11							
NB2	**NORSAR Subarra**	**151.75**	**351**	PKP		**PKPab**	**19 00 38.2**	**-1.7**
	comp=Z,2.3nm,1.0s,baz=24,slow=2.9							
NOA	**NORSAR Array B**	**151.75**	**351**	PKPbc		**PKPab**	**19 00 37.6**	**-2.3**
	comp=Z,0.5nm,0.6s,baz=15,slow=4.1,SNR=4.8							
MMAI	**Mount Meron Ar**	**152.12**	**278**	PKPbc		**PKPab**	**19 00 38.1**	**-4.3**
	comp=Z,0.8nm,0.3s,baz=85,slow=6.4,SNR=2.0							
HFS	**Hagfors**	**152.22**	**347**	PKPbc		**PKPab**	**19 00 36.8**	**-5.0**
	comp=Z,1.6nm,0.7s,baz=113,slow=3.7,SNR=5.8							
TORD	**Torodi Ar. Bea**	**159.79**	**179**	PKPab		**PKPab**	**19 01 20.8**	**+5.5**
	comp=Z,0.2nm,0.4s,baz=183,slow=4.0,SNR=4.3							

*IDC **06** 18:43:22.2±0.8,6˚11S×142˚72E,h0km,mb4.0/10, mbtmp4.0/12,ML2.1/1,Error ellipse: s-maj=34.0km s-min=18.3km az=68.0*
*NEIC **06** 18:43:24±1.3,6˚2S±0˚1×142˚55E±0˚08,h10km±2km, mb4.2/16,Error ellipse: s-maj=20.8km s-min=8.6km az=216.0*
ISC 06 18:43:23.7±0.6,**6˚19S**±0˚07×**142˚57E**±0˚07,**h10**km,**n45,** σ1ᵍ**51**/**46**,**mb4.1/11,New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TABU	**Tabubil**	**1.62**	**304**	P		**Pb**	**18 43 53.2**	**-0.5**
PMG	**Port Moresby**	**5.56**	**125**	Pn		**Pn**	**18 44 46.6**	**0.0**
PMG	**Port Moresby**	**5.56**	**125**	P		**Pn**	**18 44 47.7**	**+1.2**
PMG	**Port Moresby**	**5.56**	**125**	P		**Pn**	**18 44 47.8**	**+1.2**
PMG	**Port Moresby**	**5.56**	**125**	Pn		**Pn**	**18 44 47.2**	**+0.6**
	3.9nm,0.3s,baz=348,slow=9.3,SNR=14							
PMG				Sn		**Sn**	**18 45 49.8**	**-0.8**
	11nm,0.3s,baz=220,slow=21,SNR=8.5							
	12nm,0.4s							
COEN	**Coen**	**7.75**	**176**	Pn		**Pn**	**18 45 16.1**	**-0.5**
COEN	**Coen**	**7.75**	**176**	P		**Pn**	**18 45 20.3**	**+3.7**
FAKI	**Fak Fak**	**10.78**	**287**	Pn		**Pn**	**18 45 57.2**	**-1.0**
FAKI	**Fak Fak**	**10.78**	**287**	P		**Pn**	**18 45 57.8**	**-0.5**
KDU	**Kakadu**	**11.86**	**236**	P		**Pn**	**18 46 12.8**	**-0.3**
MTN	**Manton Dam**	**13.07**	**239**			**Pn**	**18 46 27.1**	**-2.4**
MTN	**Manton Dam**	**13.07**	**239**	P		**Pn**	**18 46 28.4**	**-1.1**
DRS	**Darwin Rock St**	**13.07**	**241**	P		**Pn**	**18 46 29.7**	**+0.1**
QIS	**Mount Isa**	**14.57**	**191**	P		**Pn**	**18 46 51.3**	**+1.2**
WB0	**Warramunga Arr**	**15.66**	**210**			**Pn**	**18 47 02.5**	**-2.2**
WB0					IAmb	IAmb	18 47 12.3	
	comp=Z,18nm,1.1s							
WR0	**Warramunga Arr**	**15.76**	**209**			**Pn**	**18 47 03.8**	**-2.1**
WR0					IAmb	IAmb	18 47 25.7	
	comp=Z,12nm,1.1s							
WB2	**Warramunga Arr**	**15.83**	**210**			**Pn**	**18 47 04.9**	**-2.0**
WB2					IAmb	IAmb	18 47 17.4	
	comp=Z,11nm,0.8s							
WRA	**Warramunga Arr**	**15.84**	**210**	Pn		**Pn**	**18 47 03.4**	**-3.6**
WRA	**Warramunga Arr**	**15.84**	**210**	Pn		**Pn**	**18 47 03.6**	**-3.4**
	comp=Z,0.8nm,0.3s,baz=26,slow=13,SNR=14							
KNRA	**Kununurra**	**16.50**	**234**	Pn		**Pn**	**18 47 12.5**	**-2.9**
KNRA					IAmb	IAmb	18 47 21.4	
	comp=Z,22nm,0.8s							
SOEI	**Soe**	**18.46**	**258**	P		**P**	**18 47 39.9**	**0.0**
AS31	**Alice Springs**	**19.27**	**205**			**P**	**18 47 48.8**	**+0.1**
ASAR	**Alice Springs**	**19.27**	**205**	P		**P**	**18 47 48.8**	**+0.1**
ASAR	**Alice Springs**	**19.27**	**205**	P		**P**	**18 47 49.6**	**+0.9**
	comp=Z,7.0nm,0.7s,baz=34,slow=9.2,SNR=63							
FITZ	**Fitzroy Crossi**	**20.32**	**233**			**P**	**18 47 58.4**	**-1.7**
TOLI2	**Tolitoli**	**22.92**	**288**	P		**P**	**18 48 27.1**	**-1.0**
TOLI2					IAmb	IAmb	18 48 33.1	
	comp=Z,8.1nm,0.8s							
STKA	**Stephens Creek**	**25.57**	**182**	P		**P**	**18 48 54.0**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=13,slow=12,SNR=3.1							
	comp=Z,1.7nm,0.7s							
PSA00	**Pilbara Seismi**	**26.78**	**233**	P		**P**	**18 49 05.4**	**+1.4**
PSA00					IAmb	IAmb	18 49 07.2	
	comp=Z,3.8nm,0.9s							
JTM	**Tenmabayashi**	**46.76**	**358**	P		**P**	**18 51 52.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**49.50**	**301**	P		**P**	**18 52 16.2**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=125,slow=5.7,SNR=4.2							
	comp=Z,0.7nm,0.3s							
PZH	**PanZhiHua**	**51.19**	**311**	P		**P**	**18 52 30.4**	**+2.7**
PZH					pmax	pmax		
	comp=Z,10.0nm,0.9s							
PZH					pmax	pmax		
	comp=Z,100nm,5.3s							
HHC	**Hu-ho-hao-te**	**54.78**	**331**	*eP*		**P**	**18 52 55.3**	**+1.4**
HHC					pmax	pmax		
	comp=Z,12nm,0.6s							
HHC					pmax	pmax		
	comp=Z,52nm,4.3s							
SONM	**Songino Array**	**62.51**	**333**	P		**P**	**18 53 47.6**	**0.0**
SONM					IAmb	IAmb	18 53 59.5	
	comp=Z,1.1nm,1.1s							
SONM	**Songino Array**	**62.51**	**333**	P		**P**	**18 53 48.1**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=147,slow=6.0,SNR=2.8							
	comp=Z,0.4nm,0.5s							
PALK	**Pallekele**	**63.15**	**281**	P		**P**	**18 53 51.8**	**-0.7**
MK31	**Makanchi Array**	**74.87**	**322**	P		**P**	**18 55 03.9**	**-0.8**
MK31					IAmb	IAmb	18 55 12.0	
	comp=Z,2.7nm,1.4s							
MKAR	**Makanchi Array**	**74.87**	**322**	P		**P**	**18 55 03.9**	**-0.8**
MKAR	**Makanchi Array**	**74.87**	**322**	P		**P**	**18 55 05.6**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=101,slow=6.3,SNR=7.4							
	comp=Z,0.5nm,0.6s							
ZALV	**Zalesovo Beam**	**76.86**	**329**	P		**P**	**18 55 15.1**	**-0.7**
ZALV	**Zalesovo Beam**	**76.86**	**329**	P		**P**	**18 55 15.2**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=126,slow=7.3,SNR=2.1							
	comp=Z,0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**78.77**	**324**	P		**P**	**18 55 27.0**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=109,slow=4.6,SNR=4.6							
	comp=Z,0.5nm,0.9s							
QSPA	**South Pole Qui**	**83.78**	**180**	P		**P**	**18 55 53.2**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=311,slow=1.2,SNR=6.5							
	comp=Z,0.9nm,0.8s							
NRIK	**Noril'sk**	**84.13**	**343**	P		**P**	**18 55 54.8**	**+0.3**
	comp=Z,2.3nm,0.6s,baz=74,slow=3.2,SNR=3.9							
	comp=Z,2.3nm,0.6s							
BVAR	**Borovoye Array**	**84.35**	**325**	P		**P**	**18 55 56.6**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=100,slow=7.7,SNR=6.6							
	comp=Z,1.7nm,0.7s							
ILAR	**Eielson Array**	**87.41**	**24**	P		**P**	**18 56 09.8**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=260,slow=5.3,SNR=14							
	comp=Z,1.3nm,0.7s							

*IDC **06** 18:44:23.4±1.9,6˚19S×142˚84E,h0km,mb4.0/6, mbtmp4.0/7,ML4.2/1,Error ellipse: s-maj=57.2km s-min=35.8km az=115.0*
*NEIC **06** 18:44:25.3±2.3,6˚26S±0˚09×142˚57E±0˚08,h10km±1km, mb4.5/16,Error ellipse: s-maj=15.1km s-min=12.7km az=166.0*
ISC 06 18:44:25.0±0.6,**6˚30S**±0˚08×**142˚54E**±0˚09,**h10**km,**n30,** σ1ᵍ**31**/**30**,**mb4.2/11,New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**5.52**	**124**	Pn		**Pn**	**18 45 48.4**	**+1.2**
COEN	**Coen**	**7.63**	**175**	Pn		**Pn**	**18 46 13.4**	**-3.0**
FAKI	**Fak Fak**	**10.79**	**288**	Pn		**Pn**	**18 46 59.1**	**-0.7**
MTN	**Manton Dam**	**12.99**	**239**	Pn		**Pn**	**18 47 29.5**	**-0.2**
WRA	**Warramunga Arr**	**15.73**	**210**	Pn		**Pn**	**18 48 05.8**	**-1.1**
WRA	**Warramunga Arr**	**15.73**	**210**	Pn		**Pn**	**18 48 04.7**	**-2.1**
	0.5nm,0.3s,baz=26,slow=13,SNR=1.9							
KNRA	**Kununurra**	**16.41**	**234**	Pn		**Pn**	**18 48 14.6**	**-1.0**
KNRA					IAmb	IAmb	18 48 23.2	
	comp=Z,63nm,1.4s							
SOEI	**Soe**	**18.41**	**258**	P		**P**	**18 48 41.4**	**+0.6**
SOEI					IAmb	IAmb	18 48 59.9	
	comp=Z,55nm,0.9s							
AS31	**Alice Springs**	**19.16**	**205**	P		**P**	**18 48 49.9**	**+1.1**
ASAR	**Alice Springs**	**19.16**	**205**	P		**Pn**	**18 48 51.3**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=34,slow=9.8,SNR=2.5							
	comp=Z,6.1nm,0.7s							
FITZ	**Fitzroy Crossi**	**20.23**	**233**	P		**P**	**18 49 01.8**	**+1.3**
TOLI2	**Tolitoli**	**22.94**	**288**	P		**P**	**18 49 31.7**	**+2.1**
TOLI2					IAmb	IAmb	18 49 53.5	
	comp=Z,7.3nm,0.9s							
PSA00	**Pilbara Seismi**	**26.69**	**233**	P		**P**	**18 50 05.2**	**+0.7**
PSA00					IAmb	IAmb	18 50 18.1	
	comp=Z,19nm,1.1s							
YULB	**Yu-li**	**36.08**	**326**	P		**P**	**18 51 25.2**	**-2.0**
TPUB	**Ta-pu**	**36.39**	**325**	P		**P**	**18 51 28.4**	**-1.4**
JTM	**Tenmabayashi**	**46.88**	**358**	P		**P**	**18 52 54.0**	**-1.4**
CMAR	**Chiang Mai Arr**	**49.53**	**301**	P		**P**	**18 53 18.6**	**+2.2**
	comp=Z,0.5nm,0.5s,baz=129,slow=6.0,SNR=1.4							
	comp=Z,0.5nm,0.5s							
PETK	**Petropavlovsk-**	**60.56**	**10**	P		**P**	**18 54 34.9**	**-0.6**
PETK	**Petropavlovsk-**	**60.56**	**10**	P		**P**	**18 54 35.3**	**-0.3**
	comp=Z,3.1nm,0.8s,baz=172,slow=5.3,SNR=2.0							
	comp=Z,3.1nm,0.8s							
ULN	**Ulaanbaatar**	**62.33**	**334**	P		**P**	**18 54 47.8**	**0.0**
ULN					IAmb	IAmb	18 54 51.0	
	comp=Z,1.1nm,0.8s							
CASY	**Casey**	**63.85**	**194**	P		**P**	**18 54 58.1**	**+0.7**
MKAR	**Makanchi Array**	**74.95**	**322**	P		**P**	**18 56 07.1**	**+0.6**
MKAR	**Makanchi Array**	**74.95**	**322**	P		**P**	**18 56 06.7**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=108,slow=7.7,SNR=4.1							
	comp=Z,1.1nm,0.8s							
KURBB	**Kurchatov Arra**	**78.85**	**324**	P		**P**	**18 56 28.3**	**0.0**
	comp=Z,0.5nm,0.8s,baz=109,slow=4.6,SNR=3.0							
	comp=Z,0.5nm,0.8s							
L14K	**Kuka Creek**	**79.58**	**24**	P		**P**	**18 56 31.5**	**-0.5**
J17K	**VABM Dome**	**82.11**	**23**	P		**P**	**18 56 44.5**	**-1.0**
J17K					IAmb	IAmb	18 57 02.5	
	comp=Z,15nm,1.5s							
M19K	**Big River Lodg**	**83.27**	**25**	P		**P**	**18 56 51.6**	**-0.1**
K20K	**Telida**	**84.06**	**24**	P		**P**	**18 56 56.2**	**+0.5**
K20K					IAmb	IAmb	18 57 02.1	
	comp=Z,4.8nm,1.3s							
BVAR	**Borovoye Array**	**84.42**	**325**	P		**P**	**18 56 58.1**	**+0.4**
	comp=Z,2.6nm,0.9s,baz=104,slow=4.6,SNR=4.4							
	comp=Z,2.6nm,0.9s							
ILAR	**Eielson Array**	**87.53**	**24**	P		**P**	**18 57 11.2**	**-1.6**
	comp=Z,0.8nm,0.7s,baz=258,slow=4.9,SNR=4.4							
	comp=Z,0.8nm,0.7s							

*BJI **06** 18:46:17.2±0.0,6˚24S×143˚37E,h14km,mb4.6/49, mB5.1/21,Ms4.7/3,Ms7 4.4/3*
*IDC **06** 18:46:18.5±0.7,6˚35S×142˚91E,h0km,mb4.6/14, mbtmp4.6/17,ML4.4/2,MS3.9/21,Error ellipse: s-maj=29.6km s-min=15.8km az=84.0*
*MOS **06** 18:46:18.3±0.9,6˚40S×142˚72E,h13km,mb4.9/30,Error ellipse: s-maj=11.4km s-min=7.3km az=107.4*
*NEIC **06** 18:46:18.8±1.5,6˚50S±0˚07×142˚75E±0˚08,h10km±1km, mb5.0/130,Error ellipse: s-maj=14.2km s-min=9.7km az=58.0*
*DJA **06** 18:46:30.3±0.3,6˚S±2˚×14˚3E±˚,h59km±4km,M4.8/32, mB5.2/11,mb4.7/32,MLv5.3/6,Mw(mB)4.6/11*
ISC 06 18:46:19.2±0.4,**6˚53S**±0˚05×**142˚78E**±0˚05,**h10**km,**n419,** σ1ᵍ**32**/**382**,**mb4.9/111,MS3.6/18,14C-11D,New Guinea**

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

comp=Z,8.4nm,1.0s
DZM Mont Dzumac 27.58 126 LR LR 19 03 13.1
comp=Z,164nm,20.8s,baz=338,slow=37
FORT Forrest 27.80 208 P **P** **18 52 07.2 -1.4**
FORT IAmb IAmb 18 52 14.5
comp=Z,30nm,0.8s
JCJ Chichijima 33.43 359 LR LR 19 03 37.4
comp=Z,93nm,21.2s,baz=160,slow=31
LEM Lembang 34.92 267 LR LR 19 09 52.1
comp=Z,110nm,22.0s,baz=157,slow=40
NWAO Narrogin (SRO) 35.41 219 LR LR 19 08 59.2
comp=Z,638nm,19.3s,baz=33,slow=38
JOW Kunigami 36.02 338 LR LR 19 05 15.1
comp=Z,204nm,21.2s,baz=278,slow=32
JNU Nakatsue 41.02 345 LR LR 19 08 31.0
comp=Z,65nm,18.9s,baz=158,slow=33
MJAR Matsushiro Arr 43.06 355 P **P** **18 54 18.3 -1.0**
comp=Z,2.0nm,0.7s,baz=184,slow=7.5,SNR=4.9
comp=Z,2.0nm,0.7s
URZ Urewera 44.31 141 LR LR 19 13 57.6
comp=Z,172nm,18.5s,baz=307,slow=37
RPZ Rata Peaks 44.58 151 LR LR 19 13 06.9
comp=Z,214nm,18.2s,baz=274,slow=36
RPSI Rantau Prapat 44.73 280 P **P** **18 54 32.0 -1.1**
RPSI IAmb IAmb 18 54 36.9
comp=Z,28nm,1.3s
PSI Prapat 44.76 281 P **P** **18 54 32.1 -1.4**
PSI pmax pmax
comp=Z,28nm,1.3s
KSRS Korea Array 45.90 343 P **P** **18 54 42.2 +0.2**
comp=Z,8.5nm,1.0s,baz=164,slow=9.4,SNR=11
comp=Z,8.5nm,1.0s
GYA Guiyang 47.98 315 ⇑P **P** **18 55 00.0 +1.4**
GYA pmax pmax
comp=Z,8.0nm,1.0s
GYA pmax pmax
comp=Z,170nm,3.6s
ENH Enshi 48.56 321 P **P** **18 55 01.0 -1.9**
ENH IAmb IAmb 18 55 05.9
comp=Z,10nm,1.1s
PHRA Phrae 48.78 301 P **P** **18 55 03.4 -1.4**
CMAR Chiang Mai Arr 49.86 301 P **P** **18 55 12.0 -1.0**
CMAR Chiang Mai Arr 49.86 301 *i* P **P** **18 55 14.3 +1.3**
CMAR pmax pmax
comp=Z,4.0nm,0.9s
CMAR Chiang Mai Arr 49.86 301 P **P** **18 55 14.3 +1.3**
comp=Z,3.1nm,0.9s,baz=128,slow=6.3,SNR=16
comp=Z,3.1nm,0.9s
LYN LuoYang 49.89 327 ⇓P **P** **18 55 13.6 +0.6**
LYN pP sP 18 55 24.6 +6.9
LYN pmax pmax
comp=Z,24nm,0.5s
LYN pmax pmax
comp=Z,160nm,4.5s
CHTO Chiang Mai 50.01 301 P **P** **18 55 13.3 -0.9**
CHTO Chiang Mai 50.01 301 P **P** **18 55 13.3 -0.9**
CHTO pmax pmax
comp=Z,4.0nm,0.9s
KMI Kunming 50.07 310 ⇑P **P** **18 55 15.6 +0.8**
KMI pmax pmax
comp=Z,19nm,1.0s
ASAJ Asahikawa 50.41 360 LR LR 19 16 04.6
comp=Z,25nm,21.6s,baz=318,slow=36
USA0B Ussuriysk Arra 51.43 350⇑ *e*P **P** **18 55 23.1 -1.3**
USRK Ussuriysk Ar. 51.43 350 P **P** **18 55 23.2 -1.2**
USRK Ussuriysk Ar. 51.43 350 P **P** **18 55 24.1 -0.3**
comp=Z,8.4nm,1.0s,baz=158,slow=7.8,SNR=6.7
comp=Z,8.4nm,1.0s
XAN Xi'an 51.52 324 P **P** **18 55 25.6 +0.2**
XAN pmax pmax
comp=Z,15nm,1.1s
PZH PanZhiHua 51.58 311 P **P** **18 55 27.6 +1.5**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,100nm,5.7s
CN2 Changchun 52.49 344 P **P** **18 55 33.7 +1.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 Chengdu 52.72 317 *e*P **P** **18 55 34.0 -0.4**
TNCH TengChong 53.27 308 P **P** **18 55 40.7 +1.9**
TNCH pP sP 18 55 52.2 +8.4
TNCH pmax pmax
comp=Z,18nm,1.5s
BNX BinXian 53.82 347 ⇓P **P** **18 55 41.8 -0.3**
BNX pmax pmax
comp=Z,12nm,0.8s
BNX pmax pmax
comp=Z,120nm,4.2s
HHC Hu-ho-hao-te 55.18 331 *e*P **P** **18 55 52.7 +0.4**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,110nm,5.1s
HHC LR LR
comp=Z,110nm,13.5s
HHC LR LR
comp=Z,130nm,12.6s
HHC LR LR
comp=Z,120nm,17.5s
BTO Baotou 55.74 330 *e*P **P** **18 56 00.2 +3.9**
BTO PP **PP** **18 58 04.9 +4.0**
BTO pmax pmax
comp=Z,14nm,0.6s
BTO pmax pmax
comp=Z,230nm,5.2s
BTO LR LR
comp=Z,200nm,4.2s
BTO LR LR
comp=Z,180nm,4.9s
BTO LR LR
comp=Z,190nm,8.6s
LZH Lanzhou 55.96 322 *e*P **P** **18 56 00.4 +2.3**
LZH pP sP 18 56 06.2 +3.1
LZH pmax pmax
comp=Z,10.0nm,1.2s
KLR Kul'dur 56.36 351⇓ *e*P **P** **18 56 00.2 -0.2**
KLR pmax pmax
comp=Z,10.0nm,1.7s
KLR Kul'dur 56.36 351 LR LR 19 15 33.9
comp=Z,43nm,20.4s,baz=167,slow=31
RAR Rarotonga 57.35 111 LR LR 19 18 38.3
comp=Z,30nm,18.8s,baz=329,slow=34
HEH HeiHe 58.10 348 *e*P **P** **18 56 08.5 -4.2**
GTA Gaotai 60.54 323 *e*P **P** **18 56 31.1 +1.1**
GTA pmax pmax
comp=Z,3.0nm,1.0s
PETK Petropavlovsk- 60.74 10 P **P** **18 56 31.3 +0.4**
comp=Z,10nm,1.0s,baz=205,slow=9.7,SNR=4.5
PETK LR LR 19 18 47.1
comp=Z,47nm,21.9s,baz=193,slow=32
comp=Z,10nm,1.0s
LSA Lhasa 61.26 309 P **P** **18 56 33.7 -1.8**
LSA IAmb IAmb 18 56 40.2
comp=Z,14nm,1.5s
LSA Lhasa 61.26 309 P **P** **18 56 33.7 -1.8**
LSA pmax pmax
comp=Z,14nm,1.5s
ZEA Zeya 61.45 350 *e*P **P** **18 56 35.7 0.0**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
GOMU GeErMu 61.86 317 P **P** **18 56 40.9 +1.6**
GOMU pP sP 18 56 45.9 +1.5
GOMU sP pP 18 56 47.5 +4.5
GOMU pmax pmax
comp=Z,3.0nm,1.2s
ULN Ulaanbaatar 62.64 334 P **P** **18 56 42.3 -1.8**
ULN IAmb IAmb 18 56 47.6
comp=Z,10nm,1.4s
ULN Ulaanbaatar 62.64 334 *c i* P **P** **18 56 44.7 +0.7**
ULN pmax pmax
comp=Z,8.0nm,1.3s
SONM Songino Array 62.91 333 P **P** **18 56 46.6 +0.8**
comp=Z,2.1nm,0.9s,baz=158,slow=7.6,SNR=9.9
comp=Z,2.1nm,0.9s
ZAK Zakamensk 66.17 334 *e*P **P** **18 57 07.0 -0.1**
ZAK pmax pmax
comp=Z,10.0nm,1.1s
MA2 Magadan 66.20 4 P **P** **18 57 06.0 -0.9**
MA2 IAmb IAmb 18 57 18.2
comp=Z,11nm,1.3s
MA2 Magadan 66.20 4⇓ *e*P **P** **18 57 06.8 -0.1**
MA2 pmax pmax
comp=Z,7.0nm,1.3s
MA2 Magadan 66.20 4 LR LR 19 24 59.7
comp=Z,36nm,19.7s,baz=16,slow=35

MOY Mondy 68.10 333 *e*P **P** **18 57 20.3 +1.0**
MOY pmax pmax
comp=Z,13nm,1.6s
YAK Yakutsk 69.11 353⇓ *e*P **P** **18 57 24.9 -0.3**
YAK pmax pmax
comp=Z,5.0nm,1.0s
SEY Seymchan 69.65 5⇓ *e*P **P** **18 57 29.7 +1.1**
SEY pmax pmax
comp=Z,5.0nm,1.3s
WMQ Urumqi 70.51 321 *e*P **P** **18 57 34.9 +0.5**
WMQ pmax pmax
comp=Z,11nm,1.3s
DGZ Jazzator, Alta 73.69 326⇑ *e*P **P** **18 57 53.4 0.0**
DGZ pmax pmax
comp=Z,7.0nm,1.0s
MK31 Makanchi Array 75.28 322 P **P** **18 58 01.4 -1.1**
MK31 IAmb IAmb 18 58 06.1
comp=Z,13nm,1.3s
MK31 Makanchi Array 75.28 322 *de*P **P** **18 58 03.6 +1.1**
MKAR Makanchi Array 75.28 322 P **P** **18 58 02.2 -0.4**
MKAR Makanchi Array 75.28 322 *i* P **P** **18 58 03.7 +1.2**
MKAR pmax pmax
comp=Z,8.0nm,1.1s
MKAR Makanchi Array 75.28 322 P **P** **18 58 03.4 +0.9**
comp=Z,7.5nm,1.1s,baz=111,slow=6.9,SNR=17
comp=Z,7.5nm,1.1s
PRZ Przheval'sk 76.01 317 P **P** **18 58 06.4 -0.6**
PRZ IAmb IAmb 18 58 11.8
comp=Z,18nm,1.2s
PRZ Przheval'sk 76.01 317 P **P** **18 58 06.4 -0.6**
PRZ pmax pmax
comp=Z,18nm,1.2s
BILL Bilibino 76.22 9⇑ *e*P **P** **18 58 06.9 -0.6**
BILL pmax pmax
comp=Z,3.0nm,1.2s
KSH Kashi 76.64 313 P **P** **18 58 12.9 +2.3**
KSH PcP **PcP** **18 58 26.4 +4.3**
KSH pmax pmax
comp=Z,8.0nm,1.2s
NIL Nilore 76.85 307 P **P** **18 58 12.3 +0.5**
NIL Nilore 76.85 307 P **P** **18 58 12.3 +0.5**
NIL pmax pmax
comp=Z,15nm,0.7s
ZAA0 Zalesovo Array 77.27 329 P **P** **18 58 12.8 -0.9**
ZALV Zalesovo Beam 77.27 329 P **P** **18 58 12.4 -1.2**
ZALV Zalesovo Beam 77.27 329 *i* P **P** **18 58 13.6 0.0**
ZALV pmax pmax
comp=Z,3.0nm,0.8s
ZALV Zalesovo Beam 77.27 329 P **P** **18 58 13.3 -0.3**
comp=Z,2.3nm,0.7s,baz=112,slow=6.0,SNR=10.0
comp=Z,2.3nm,0.7s
NRN Naryn 77.29 315 P **P** **18 58 13.1 -1.3**
NRN Naryn 77.29 315 P **P** **18 58 13.1 -1.3**
NRN pmax pmax
comp=Z,5.0nm,1.3s
S14K Fog Glacier 78.31 29 P **P** **18 58 19.7 +0.1**
baz=239
TIXI Tiksi 78.56 356 P **P** **18 58 18.6 -1.8**
TIXI Tiksi 78.56 356⇑ *i* P **P** **18 58 19.6 -0.8**
TIXI pmax pmax
comp=Z,10.0nm,2.8s
AAK Ala-Archa 78.75 316 P **P** **18 58 20.7 -1.7**
AAK Ala-Archa 78.75 316⇓ *e*P **P** **18 58 23.9 +1.5**
AAK pmax pmax
comp=Z,7.0nm,1.3s
CHGN Chignik 78.87 29 P **P** **18 58 22.4 -0.1**
baz=240
M13K Dall Lake 78.89 24 P **P** **18 58 22.8 +0.3**
baz=235
O14K Tigyukauivet M 79.11 26 P **P** **18 58 23.5 -0.2**
baz=237
KURK Kurchatov 79.16 324 P **P** **18 58 24.2 0.0**
KURK IAmb IAmb 18 58 27.4
comp=Z,15nm,1.2s
KURK Kurchatov 79.16 324 *c i* P **P** **18 58 24.2 0.0**
KURK pmax pmax
comp=Z,14nm,1.3s
KURBB Kurchatov Arra 79.17 324 P **P** **18 58 24.7 +0.4**
comp=Z,4.0nm,1.0s,baz=116,slow=4.7,SNR=21
comp=Z,4.0nm,1.0s
N14K Kuskokwak Cree 79.30 25 P **P** **18 58 24.6 -0.1**
baz=236
M14K Bethel 79.65 24 P **P** **18 58 27.8 +1.2**
baz=236
CHIR Chirikof Islan 80.01 30 P **P** **18 58 29.9 +1.2**
baz=243
N15K Kwethluk River 80.11 25 P **P** **18 58 29.7 +0.5**
baz=238
M15K Kasigluk River 80.14 25 P **P** **18 58 29.5 +0.2**
baz=237
J14K Nanvaranak Lak 80.17 22 P **P** **18 58 29.7 +0.3**
baz=234
L15K Ungalak Mounta 80.36 24 P **P** **18 58 31.5 +1.0**
baz=236
TNA Tin City 80.39 19 P **P** **18 58 31.1 +0.6**
baz=230
P16K Nushagak River 80.43 27 P **P** **18 58 31.2 +0.3**
baz=240
BTK Batken 80.58 312 P **P** **18 58 31.8 -0.5**
BTK Batken 80.58 312 P **P** **18 58 31.8 -0.5**
BTK pmax pmax
comp=Z,12nm,1.6s
ANM Nome 80.61 20 P **P** **18 58 32.1 +0.3**
baz=232
GAR Garm 80.65 311 P **P** **18 58 32.2 -0.6**
GAR IAmb IAmb 18 58 36.1
comp=Z,20nm,1.2s
O16K Kokwok River B 80.67 26 P **P** **18 58 32.7 +0.5**
baz=240
K15K Wolf Creek Mou 80.68 23 P **P** **18 58 32.1 -0.1**
baz=236
N16K Nishlik Lake 80.83 25 P **P** **18 58 32.8 -0.2**
baz=239
F14K Arctic Creek 80.85 19 P **P** **18 58 33.7 +0.7**
baz=231
Q17K Contact Creek 81.02 28 P **P** **18 58 34.3 +0.1**
baz=242
M16K Timber Creek 81.03 25 P **P** **18 58 34.6 +0.5**
baz=239
SII Sitkinak Islan 81.06 30 P **P** **18 58 35.2 +0.8**
baz=244
L16K Owhat River 81.18 24 P **P** **18 58 33.8 -1.1**
L16K IAmb IAmb 18 58 37.4
comp=Z,14nm,1.1s
L16K Owhat River 81.18 24 P **P** **18 58 35.5 +0.7**
baz=238
O17K Koliganek Bris 81.20 26 P **P** **18 58 35.7 +0.7**
baz=241
G15K Niukluk 81.32 20 P **P** **18 58 36.0 +0.4**
baz=234
CHGR Chuyangaron 81.43 311 P **P** **18 58 36.7 -0.2**
CHGR IAmb IAmb 18 58 39.5
comp=Z,18nm,1.0s
CHGR Chuyangaron 81.43 311 P **P** **18 58 36.7 -0.2**
CHGR pmax pmax
comp=Z,18nm,1.0s
N17K Nushagak Hills 81.53 26 P **P** **18 58 37.1 +0.4**
baz=240
SIMJ Simiganj 81.54 311 P **P** **18 58 36.3 -1.2**
SIMJ IAmb IAmb 18 58 40.8
comp=Z,13nm,1.2s
F15K North Star Dit 81.55 19 P **P** **18 58 36.1 -0.6**
F15K IAmb IAmb 18 58 40.1
comp=Z,22nm,1.4s
F15K North Star Dit 81.55 19 P **P** **18 58 37.0 +0.3**
baz=233
J16K Anvik River 81.58 22 P **P** **18 58 38.1 +1.1**
baz=237
KK31 Karatay Array 81.68 315 P **P** **18 58 35.8 -2.2**
KK31 Karatay Array 81.68 315 P **P** **18 58 35.8 -2.2**
KK31 pmax pmax
comp=Z,9.0nm,1.4s
KKAR Karatay Array 81.68 315 P **P** **18 58 35.8 -2.2**
KKAR Karatay Array 81.68 315 P **P** **18 58 36.4 -1.6**
KKAR IAmb IAmb 18 58 41.3
comp=Z,8.6nm,1.4s
KKAR Karatay Array 81.68 315 P **P** **18 58 36.4 -1.6**
KKAR pmax pmax
comp=Z,9.0nm,1.4s
H16K Elim 81.74 21 P **P** **18 58 38.9 +1.2**
baz=235
OHAK Old Harbor 81.79 30 P **P** **18 58 38.4 +0.3**
baz=244
P18K Big Mountain, 81.85 27 P **P** **18 58 39.1 +0.6**
baz=242
M17K Holitna River 81.86 25 P **P** **18 58 38.4 -0.1**
baz=240
L17K Donlin 81.88 24 P **P** **18 58 38.6 +0.1**
baz=239
I17K Unalakleet 81.88 22 P **P** **18 58 38.9 +0.4**
baz=237
G16K Koyuk River 82.13 20 P **P** **18 58 38.6 -1.2**
G16K IAmb IAmb 18 58 43.1
comp=Z,14nm,1.1s
G16K Koyuk River 82.13 20 P **P** **18 58 40.5 +0.6**
baz=235
N18K Kilae Creek 82.17 26 P **P** **18 58 39.5 -0.6**
baz=242
K17K Iditarod 82.17 23 P **P** **18 58 38.9 -1.2**
K17K IAmb IAmb 18 58 43.7
comp=Z,16nm,1.0s
K17K Iditarod 82.17 23 P **P** **18 58 40.6 +0.5**
baz=239
J17K VABM Dome 82.22 23 P **P** **18 58 38.8 -1.6**
J17K IAmb IAmb 18 58 47.5
comp=Z,12nm,1.1s
J17K VABM Dome 82.22 23 P **P** **18 58 41.3 +0.9**
baz=238
KDAK Kodiak Island 82.38 29 P **P** **18 58 41.5 +0.2**
baz=245
KDAK Kodiak Island 82.38 29 LR LR 19 27 26.4
comp=Z,111nm,20.9s,baz=218,slow=30
L18K Granite Mounta 82.57 24 P **P** **18 58 43.1 +0.9**
baz=241
M18K Stony River 82.58 25 P **P** **18 58 43.3 +1.0**
baz=242
O19K Port Alsworth 82.63 27 P **P** **18 58 42.8 +0.3**
baz=243
H17K Granite Mounta 82.74 21 P **P** **18 58 41.2 -1.8**
H17K IAmb IAmb 18 58 44.8
comp=Z,9.5nm,0.8s
H17K Granite Mounta 82.74 21 P **P** **18 58 43.4 +0.4**
baz=238
G17K Kiwalik Mounta 82.78 21 P **P** **18 58 44.2 +0.9**
baz=237
Q20K Shuyak Island 82.82 29 P **P** **18 58 44.0 +0.5**
baz=245
N19K Bonanza Creek 82.84 26 P **P** **18 58 44.4 +0.7**
baz=243
C16K Lisburne Hills 82.90 17 P **P** **18 58 44.1 +0.3**
baz=232
F17K Baldwin Pennin 83.10 20 P **P** **18 58 44.4 -0.4**
F17K Baldwin Pennin 83.10 20 P **P** **18 58 45.8 +1.0**
baz=236
J18K Innoko River 83.17 23 P **P** **18 58 45.3 0.0**
baz=241
TTA Tatalina 83.19 24 P **P** **18 58 45.9 +0.4**
baz=241
D17K Noatak River 83.24 18 P **P** **18 58 46.1 +0.6**
baz=234,SNR=7.4
L19K White Mountain 83.31 25 P **P** **18 58 46.0 0.0**
L19K IAmb IAmb 18 58 48.8
comp=Z,8.8nm,1.0s
L19K White Mountain 83.31 25 P **P** **18 58 47.2 +1.1**
baz=242
M19K Big River Lodg 83.38 25 P **P** **18 58 46.1 -0.3**
baz=243
H18K Honhosa River 83.41 21 P **P** **18 58 46.5 +0.1**
baz=239
QSPA South Pole Qui 83.44 180 P **P** **18 58 46.6 -0.3**
QSPA IAmb IAmb 18 58 55.0
comp=Z,8.3nm,0.9s
QSPA South Pole Qui 83.44 180 P **P** **18 58 48.3 +1.4**
comp=Z,6.2nm,0.9s,baz=65,slow=0.8,SNR=11
comp=Z,6.2nm,0.9s
HOM Homer 83.61 28 P **P** **18 58 48.0 +0.4**
baz=246
C17K DeLong Mountai 83.67 17 P **P** **18 58 47.6 -0.1**
baz=234
G18K Tagagawik 83.69 21 P **P** **18 58 47.6 -0.3**
G18K Tagagawik 83.69 21 P **P** **18 58 48.5 +0.5**
baz=239
F18K Selawik 83.73 20 P **P** **18 58 48.3 +0.3**
baz=238
GCSA Galena City Sc 83.75 22 P **P** **18 58 48.6 +0.4**
baz=240
L20K Farewell, AK 83.85 25 P **P** **18 58 49.1 +0.2**
baz=243
J19K Poorman 83.86 23 P **P** **18 58 48.7 -0.1**
J19K IAmb IAmb 18 58 52.1
comp=Z,7.3nm,1.1s
J19K Poorman 83.86 23 P **P** **18 58 49.3 +0.5**
baz=242
E18K Tukpahlearik C 83.86 19 P **P** **18 58 48.4 -0.4**
E18K IAmb IAmb 18 58 53.4
comp=Z,12nm,1.2s
E18K Tukpahlearik C 83.86 19 P **P** **18 58 49.3 +0.6**
baz=237
M20K Styx River 83.90 25 P **P** **18 58 48.7 -0.5**
M20K Styx River 83.90 25 P **P** **18 58 49.5 +0.3**
baz=244
N20K Mount Spurr 84.00 26 P **P** **18 58 50.0 +0.3**
baz=245
K20K Telida 84.17 24 P **P** **18 58 49.9 -0.6**
K20K IAmb IAmb 18 58 53.2
comp=Z,11nm,1.1s
K20K Telida 84.17 24 P **P** **18 58 51.1 +0.6**
baz=243
CAPN Captain Cook N 84.29 27 P **P** **18 58 51.8 +0.8**
baz=246
H19K Roundabout Mou 84.29 21 IAmb IAmb 18 58 57.2
comp=Z,9.7nm,0.9s
H19K Roundabout Mou 84.29 21 P **P** **18 58 51.3 +0.3**
baz=241
C18K Utukok River 84.36 18 P **P** **18 58 50.2 -1.1**
C18K Utukok River 84.36 18 P **P** **18 58 52.0 +0.7**
baz=236
G19K Purcell Mounta 84.37 21 P **P** **18 58 51.6 +0.2**
G19K IAmb IAmb 18 58 58.3
comp=Z,8.7nm,1.0s
G19K Purcell Mounta 84.37 21 P **P** **18 58 52.1 +0.7**
baz=240
F19K Shaleruckik Mo 84.48 20 P **P** **18 58 52.1 +0.2**
baz=239
J20K Nowinta River 84.52 23 IAmb IAmb 18 58 58.6
comp=Z,7.1nm,0.8s
J20K Nowinta River 84.52 23 P **P** **18 58 52.8 +0.7**
baz=243
NRIK Noril'sk 84.52 343 P **P** **18 58 51.5 -0.6**
NRIK Noril'sk 84.52 343 *c i* P **P** **18 58 52.1 +0.1**
NRIK pmax pmax
comp=Z,17nm,1.1s
NRIK Noril'sk 84.52 343 P **P** **18 58 52.1 +0.1**
comp=Z,13nm,0.9s,baz=118,slow=4.7,SNR=14
comp=Z,13nm,0.9s
B18K Kokolik River 84.59 17 P **P** **18 58 53.4 +1.1**
baz=235
SKT Skwentna 84.63 26 P **P** **18 58 53.2 +0.4**
baz=245
I20K Naaghedeneel 84.67 22 P **P** **18 58 52.3 -0.6**
I20K Naaghedeneel 84.67 22 P **P** **18 58 54.1 +1.2**
baz=242
PPLA Purkeypile 84.74 25 P **P** **18 58 53.7 +0.2**
baz=245
BVAR Borovoye Array 84.75 325 P **P** **18 58 54.5 +0.9**
comp=Z,20nm,0.9s,baz=104,slow=6.3,SNR=34
comp=Z,20nm,0.9s
SUA Susitna One 84.76 26 P **P** **18 58 52.7 -0.9**
SUA Susitna One 84.76 26 P **P** **18 58 52.9 -0.7**
baz=246
SEW Seward 84.80 28 P **P** **18 58 53.7 0.0**
baz=248
BRVK Borovoye 84.82 325 P **P** **18 58 54.2 +0.2**
BRVK Borovoye 84.82 325 *ce* P **P** **18 58 54.6 +0.7**
BRVK pmax pmax
comp=Z,22nm,1.1s
H20K Anotleneega Mo 84.85 22 P **P** **18 58 54.4 +0.6**
baz=242,SNR=7.2
E19K Redstone River 84.98 20 IAmb IAmb 18 58 57.6
comp=Z,8.9nm,0.8s
E19K Redstone River 84.98 20 P **P** **18 58 55.1 +0.6**
baz=240
CAST Castle Rocks 85.00 24 P **P** **18 58 53.9 -0.7**
CAST IAmb IAmb 18 58 56.9
comp=Z,9.4nm,1.1s
CAST Castle Rocks 85.00 24 P **P** **18 58 55.5 +0.8**
baz=245,SNR=6.5
RC01 Rabbit Creek A 85.06 27 P **P** **18 58 56.2 +1.3**
baz=247,SNR=6.5
C19K Lookout Ridge 85.10 18 P **P** **18 58 56.1 +1.0**
baz=237
CHUM Lake Minchumin 85.11 24 P **P** **18 58 56.0 +0.9**
baz=245,SNR=10

M22K	**Willow** baz=247	85.15	26	P	P	18 58 55.6	+0.3
D19K	**Kuna River** baz=239	85.23	19	P	P	18 58 56.4	+0.7
F20K	**Avaraart Lake** baz=241	85.29	20	P	P	18 58 56.5	+0.5
CUT	**Chulitna** baz=247	85.34	25	P	P	18 58 56.7	+0.4
PMR	**Palmer**	85.52	26	P	P	18 58 56.5	-0.7
PMR	comp=Z,7.1nm,0.8s			IAmb	IAmb	18 59 06.0	
PMR	**Palmer**	85.52	26	P	P	18 58 56.5	-0.7
PMR	comp=Z,7.0nm,0.8s			pmax	pmax		
PMR	**Palmer** baz=248	85.52	26	P	P	18 58 57.4	+0.2
KTH	**Kantishna Hill**	85.53	24	P	P	18 58 56.6	-0.8
GHO	**Glory Hole Cre** comp=Z,8.1nm,0.8s	85.68	26	IAmb	IAmb	18 59 03.3	
H21K	**Melozitna Rive** baz=244	85.69	22	P	P	18 58 58.3	+0.3
P23K	**Montague Islan** baz=249	85.72	28	P	P	18 58 59.0	+0.8
E20K	**Nigu River** baz=241,SNR=12	85.73	19	P	P	18 58 59.2	+1.0
BPAW	**Bear Paw Mtn.** baz=246	85.73	24	P	P	18 58 57.8	-0.5
KNK	**Knik Glacier**	85.75	27	P	P	18 58 58.5	+0.1
KNK	**Knik Glacier** baz=248	85.75	27	P	P	18 58 58.7	+0.3
TRF	**Thorofare Moun** comp=Z,21nm,1.7s	85.75	24	IAmb	IAmb	19 00 19.8	
TRF	**Thorofare Moun** baz=246	85.75	24	P	P	18 58 58.8	+0.2
I21K	**Tanana** comp=Z,8.6nm,1.0s	85.80	23	IAmb	IAmb	18 59 01.7	
I21K	**Tanana** baz=245,SNR=6.3	85.80	23	P	P	18 58 58.9	+0.3
D20K	**Etivluk River** baz=240	85.82	19	P	P	18 58 59.4	+0.8
G21K	**Allakaket** baz=243	85.82	21	P	P	18 58 58.6	0.0
HRA	**Herat** comp=Z,24nm,1.9s	85.90	305	IAmb	IAmb	18 59 04.3	
SML	**Sawmill** baz=248	85.95	26	P	P	18 58 59.7	+0.3
Q23K	**Middleton Isla** baz=250	86.02	29	P	P	18 58 59.7	0.0
F21K	**Alatna River** baz=243	86.15	20	P	P	18 59 00.5	+0.3
MLY	**Manley**	86.21	23	P	P	18 59 00.6	-0.1
MLY	comp=Z,9.6nm,1.0s			IAmb	IAmb	18 59 03.3	
MLY	**Manley** baz=246,SNR=12	86.21	23	P	P	18 59 01.1	+0.5
M23K	**Glacier View** baz=249	86.22	26	P	P	18 59 00.7	-0.1
WAT1	**Susitna Watana** baz=248	86.24	25	P	P	18 59 00.8	-0.1
B20K	**Meade River** baz=240	86.30	17	P	P	18 59 01.1	+0.2
H22K	**Ishtalitna Cre** baz=245	86.33	22	P	P	18 59 01.8	+0.6
RND	**Reindeer** comp=Z,12nm,0.9s	86.33	25	IAmb	IAmb	18 59 06.0	
SCM	**Sheep Creek Mo** baz=249	86.41	27	P	P	18 59 01.9	+0.2
MCK	**McKinley** baz=248,SNR=6.1	86.42	24	P	P	18 59 01.3	-0.3
C21K	**Knifeblade Rid** baz=242	86.61	19	P	P	18 59 03.0	+0.5
NEA2	**Nenana** comp=Z,20nm,1.7s	86.69	24	IAmb	IAmb	18 59 04.8	
NEA2	**Nenana** baz=248	86.69	24	P	P	18 59 02.3	-0.7
G22K	**Bettles** baz=245	86.71	21	P	P	18 59 04.1	+1.1
I23K	**Minto, Yukon-K** baz=247	86.80	23	P	P	18 59 03.7	+0.3
DHY	**Denali Highway**	86.83	25	P	P	18 59 03.0	-0.9
DHY	comp=Z,7.9nm,0.9s			IAmb	IAmb	18 59 04.8	
DHY	**Denali Highway** baz=249,SNR=6.2	86.83	25	P	P	18 59 04.0	+0.1
B21K	**Ikpikpuk River** comp=Z,7.7nm,0.8s	86.88	18	IAmb	IAmb	18 59 10.0	
B21K	**Ikpikpuk River** baz=242	86.88	18	P	P	18 59 04.0	+0.2
KLU	**Klutina** comp=Z,12nm,1.2s	86.92	27	IAmb	IAmb	18 59 07.1	
KLU	**Klutina** baz=250	86.92	27	P	P	18 59 04.4	+0.2
M24K	**Tolsona, Glenn** baz=250	87.01	26	P	P	18 59 05.4	+0.8
WRH	**Wood River Hil**	87.04	24	P	P	18 59 03.4	-1.3
WRH	comp=Z,9.6nm,0.9s			IAmb	IAmb	18 59 09.4	
KAIM	**Kayak Island** baz=252	87.11	29	P	P	18 59 05.7	+0.6
A21K	**Barrow** baz=240	87.12	16	P	P	18 59 05.3	+0.4
D22K	**Ayikyak River**	87.16	19	P	P	18 59 04.7	-0.5
D22K	**Ayikyak River** baz=244	87.16	19	P	P	18 59 06.0	+0.8
G23K	**Bananza Creek** baz=246	87.16	22	P	P	18 59 06.4	+1.1
CCB	**Clear Creek Bu** comp=Z,9.6nm,0.9s	87.22	24	IAmb	IAmb	18 59 06.9	
COLA	**College**	87.29	24⇓	*e*P	P	18 59 05.0	-0.8
COLA	comp=Z,8.0nm,1.0s			pmax	pmax		
COLA	**College** baz=249	87.29	24	P	P	18 59 05.3	-0.5
COLD	**Coldfoot** baz=246	87.31	21	P	P	18 59 06.7	+0.8
BMRM	**Bremner River** baz=252	87.35	28	P	P	18 59 07.0	+0.7
HDA	**Harding Lake** baz=249	87.48	24	P	P	18 59 06.8	0.0
POKR	**Poker Plat Res** baz=249	87.54	23	P	P	18 59 07.4	+0.3
N25K	**Chitina, Valde** baz=252	87.55	27	P	P	18 59 07.7	+0.3
HARP	**HAARP** baz=251	87.56	26	P	P	18 59 07.0	-0.3
B22K	**Teshekpuk Lake** baz=243	87.58	18	P	P	18 59 08.0	+0.9
PAX	**Paxson** baz=251	87.61	26	P	P	18 59 07.9	+0.4
H24K	**Noodor Dome** comp=Z,5.7nm,0.9s	87.63	23	IAmb	IAmb	18 59 10.3	
H24K	**Noodor Dome** baz=248	87.63	23	P	P	18 59 08.4	+0.8
IL31		87.63	24	P	P	18 59 05.5	-1.9
IL31	comp=Z,8.3nm,0.8s			IAmb	IAmb	18 59 08.6	
ILAR	**Eielson Array** comp=Z,5.2nm,0.8s,baz=258,slow=4.8,SNR=23	87.63	24	P	P	18 59 06.3	-1.2
BGLC	comp=Z,5.2nm,0.8s **Bering Glacier** baz=253	87.71	29	P	P	18 59 07.9	-0.1
K24K	**Donnelly Dome** baz=250	87.75	25	P	P	18 59 08.5	+0.3
E23K	**Chandalar** baz=247	87.84	20	P	P	18 59 09.1	+0.5
D23K	**Nanushuk River** baz=246	87.85	19	P	P	18 59 09.6	+1.1
GLB	**Gilahina Butte** comp=Z,7.7nm,1.0s	87.86	27	IAmb	IAmb	18 59 14.1	
CRQE	**Cirque** baz=253	87.99	28	P	P	18 59 09.5	0.0
G24K	**Hadweenzic Riv** comp=Z,9.8nm,1.1s	88.10	22	IAmb	IAmb	18 59 12.9	
G24K	**Hadweenzic Riv** baz=249	88.10	22	P	P	18 59 10.4	+0.7
J25K	**Salcha River,**	88.19	24	P	P	18 59 09.3	-1.0
J25K	comp=Z,9.2nm,1.1s			IAmb	IAmb	18 59 12.5	
J25K	**Salcha River,** baz=251	88.19	24	P	P	18 59 10.0	-0.3
C23K	**Itkillik River** baz=246	88.23	19	P	P	18 59 11.3	+1.0
F24K	**Squaw Lake** baz=248	88.25	21	P	P	18 59 11.6	+1.1
MESA	**MESA** baz=254	88.37	29	P	P	18 59 12.3	+0.9
M26K	**Nabesna, AK** baz=253	88.52	27	P	P	18 59 12.6	+0.7
D24K	**Happy Valley** baz=248	88.54	19	P	P	18 59 13.0	+1.3
L26K	**Log Cabin Wild** baz=253	88.55	26	P	P	18 59 11.8	-0.1
SCRK	**Sand Creek** comp=Z,8.5nm,1.4s	88.56	25	IAmb	IAmb	18 59 35.7	
SCRK	**Sand Creek** baz=252	88.56	25	P	P	18 59 12.2	+0.1
H25L	**Birch Creek** baz=250	88.57	23	P	P	18 59 12.7	+0.8
G25K	**Bearman Lake** baz=250	88.63	22	P	P	18 59 12.6	+0.4
BARN	**Barnard Glacie**	88.75	28	P	P	18 59 12.4	-0.7
C24K	**Franklin Bluff** baz=248	88.80	19	P	P	18 59 13.7	+0.8
CTG	**Chitna Glacier** baz=255	88.87	28	P	P	18 59 13.7	0.0
J26L	**Joseph Creek** comp=Z,12nm,1.2s	88.90	25	IAmb	IAmb	18 59 16.5	
J26L	**Joseph Creek** baz=252	88.90	25	P	P	18 59 13.8	+0.2
M27K	**Edge Creek, AK** comp=Z,8.7nm,0.9s	89.00	27	IAmb	IAmb	18 59 17.6	
M27K	**Edge Creek, AK** baz=254	89.00	27	P	P	18 59 14.8	+0.6
F25K	**Christian Rive** baz=251	89.08	21	P	P	18 59 15.6	+1.2
PINM	**Pinnacle** baz=256	89.17	29	P	P	18 59 15.5	+0.5
L27K	**Beaver Creek,** baz=254	89.22	26	P	P	18 59 15.9	+0.7
E25K	**Arctic Village**	89.28	21	P	P	18 59 15.3	0.0
E25K	comp=Z,7.7nm,1.1s			IAmb	IAmb	18 59 19.1	
E25K	**Arctic Village** baz=251	89.28	21	P	P	18 59 16.3	+1.0
I26K	**Coal Creek Min** baz=253	89.31	24	P	P	18 59 15.6	+0.1
K27K	**Chicken** comp=Z,13nm,1.2s	89.38	25	IAmb	IAmb	18 59 18.0	
K27K	**Chicken** baz=254	89.38	25	P	P	18 59 16.4	+0.6
BMAR	**Burnt Mountain**	89.41	22	P	P	18 59 15.2	-0.8
D25K	**Kavik River** baz=250	89.41	20	P	P	18 59 16.8	+0.8
BVCY	**Beaver Creek** baz=255	89.48	27	P	P	18 59 16.9	+0.5
PNL	**Peninsula** baz=256	89.48	30	P	P	18 59 15.8	-0.6
YUK3	**Moose Creek** baz=255	89.49	28	P	P	18 59 17.1	+0.4
G26K	**Porcupine Rive** baz=252	89.56	22	P	P	18 59 17.7	+1.1
F26K	**Sheenjek River** baz=252	89.65	21	P	P	18 59 16.8	-0.3
YUK8	**Steele Glacier** baz=256	89.69	28	P	P	18 59 17.9	+0.2
EGAK	**Eagle** comp=Z,7.2nm,0.9s	89.97	25	IAmb	IAmb	18 59 21.4	
EGAK	**Eagle** baz=255	89.97	25	P	P	18 59 18.8	+0.3
I27K	**Kandik River** baz=254	90.01	24	P	P	18 59 19.5	+0.7
C26K	**Camden Bay** baz=251	90.10	19	P	P	18 59 20.5	+1.5
H27K	**Steamboat Moun** baz=254	90.21	23	P	P	18 59 19.6	-0.2
YUK4	**Talbot Arm** baz=257	90.23	28	P	P	18 59 21.0	+0.9
ABKAR	**Akbulak array**	90.24	319	P	P	18 59 18.8	-1.4
P29M	**Windy Craggy** baz=258	90.29	30	P	P	18 59 20.5	+0.2
DAWY	**Dawson**	90.53	25	P	P	18 59 20.5	-0.7
DAWY	comp=Z,6.5nm,1.1s			IAmb	IAmb	18 59 24.5	
DAWY	**Dawson** baz=256	90.53	25	P	P	18 59 21.8	+0.5
M29M	**Somme Creek** baz=257	90.57	27	P	P	18 59 21.6	0.0
I28M	**Miner Creek** baz=256	90.64	24	P	P	18 59 22.8	+1.0
HYT	**Haines Junctio** baz=258	90.66	29	P	P	18 59 22.7	+0.7
L29M	**L29M** comp=Z,6.6nm,0.9s	90.86	27	IAmb	IAmb	18 59 25.7	
L29M	**L29M** baz=257	90.86	27	P	P	18 59 23.3	+0.5
N30M	**Aishikik Lake** baz=258	90.99	28	P	P	18 59 23.7	+0.2
J29N	**Klondike Camp** baz=257	91.12	25	P	P	18 59 25.0	+1.0
F28M	**Old Crow** baz=256	91.20	22	P	P	18 59 25.2	+1.0
D27M	**Malcolm River** baz=255	91.22	20	P	P	18 59 25.0	+0.6
K29M	**Barlow Dome** comp=Z,11nm,1.4s	91.29	26	IAmb	IAmb	18 59 27.1	
K29M	**Barlow Dome** baz=258	91.29	26	P	P	18 59 25.6	+0.7
O30N	**Mendenhall** baz=259	91.33	29	P	P	18 59 25.2	+0.2
M30M	**Minto, Yukon** baz=259	91.35	27	P	P	18 59 25.2	+0.1
H29M	**Whitestone** baz=257	91.45	23	P	P	18 59 25.8	+0.4
SKAG	**Skagway** baz=260	91.46	30	P	P	18 59 25.9	+0.3
E28M	**Babbage River** baz=256	91.56	21	P	P	18 59 25.4	-0.6
J30M	**Hart River** comp=Z,4.7nm,1.0s	91.94	25	IAmb	IAmb	18 59 37.5	
J30M	**Hart River** baz=259	91.94	25	P	P	18 59 27.9	0.0
D28M	**Stokes Point** baz=257	92.01	20	P	P	18 59 28.0	+0.1
I30M	**Mount Dempster** baz=259	92.05	25	P	P	18 59 28.6	+0.2
U33K	**Whale Pass** baz=262	92.08	34	P	P	18 59 28.0	-0.5
ARU	**Arti**	92.20	326	P	P	18 59 27.5	-1.6
ARU	**Arti**	92.20	326	*d* iP	P	18 59 28.5	-0.6
ARU						19 03 10.2	
ARU				S	SKSac	19 10 01.9	-0.4
ARU				SS	SS	19 16 32.8	-8.9
ARU	comp=Z,13nm,1.3s			pmax	pmax		
P32M	**Atlin** baz=261	92.30	30	P	P	18 59 28.6	-0.9
M31M	**Drury Creek, Y** baz=261	92.38	28	P	P	18 59 30.1	+0.2
G30M	**tAoh Zraii Nji**	92.45	23	P	P	18 59 28.8	-1.3
G30M	comp=Z,8.5nm,1.3s			IAmb	IAmb	18 59 37.0	
G30M	**tAoh Zraii Nji** baz=259	92.45	23	P	P	18 59 30.4	+0.3
F30M	**Barrier River** baz=260	92.73	22	P	P	18 59 31.9	+0.6
FARO	**Faro, Yukon** baz=262	92.87	28	P	P	18 59 31.8	-0.3
Q32M	**Nakina River** baz=262	92.94	31	P	P	18 59 33.2	+0.5
H31M	**Peel River** baz=261	92.99	24	P	P	18 59 32.8	+0.2
G31M	**Satah River** baz=261	93.19	23	P	P	18 59 33.8	+0.4
S34M	**Telegraph Cree** baz=263	93.40	32	P	P	18 59 34.9	+0.3
F31M	**Tsiigehtchic** baz=262	93.48	23	P	P	18 59 34.2	-0.5
A36M	**Sachs Harbour** baz=270	96.78	18	P	P	18 59 49.7	0.0
SNAA	**Sanae** comp=Z,281nm,18.1s,baz=60,slow=37	98.76	190	LR	LR	19 46 51.0	
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.6s,baz=284,slow=5.7,SNR=2.6	101.58	28	P	Pdif	19 00 11.5	+0.1
VRH	**Novokhopyorsk** comp=Z,20nm,0.5s	101.99	321	*e*P pmax	Pdif pmax	19 00 19.7	+6.2
VORD	**Divnogorie**	103.54	321	*e*P	Pdif	19 00 23.3	+2.9
VORD	comp=Z,8.0nm,0.6s			pmax	pmax		
LPSR	**Galich'ya Gora**	103.57	322	*e*P	Pdif	19 00 24.1	+3.6
LPSR	comp=Z,10.0nm,0.9s			pmax	pmax		
VSR	**Storozhevoye**	103.59	321	*e*P	Pdif	19 00 23.8	+3.2
VSR	comp=Z,6.0nm,0.8s			pmax	pmax		
LRAL	**Lakeview Retre** baz=289	126.89	53	P	PKiKP	19 05 24.2	-0.3
TZTN	**Tazewell** baz=294	128.28	48	P	PKPdf	19 05 26.2	-0.3
MCWV	**Mont Chateau** baz=300	129.50	43	P	PKPdf	19 05 28.2	-0.6
GOGA	**Godfrey** baz=292	129.54	52	P	PKPdf	19 05 28.1	-0.8
LONY	**Lake Ozonia** baz=308	130.02	34	P	PKiKP	19 05 29.6	-0.7
TORD	**Torodi Ar. Bea** comp=Z,0.9nm,0.8s,baz=52,slow=2.4,SNR=6.9	141.14	283	PKhKP	PKPpre	19 05 47.7	
KIC	**Kosan Boka** comp=Z,16nm,1.0s	147.73	272⇑	*e*PKP1	PKiKP	19 06 06.4	-1.0
DBIC	**Dimbokro** comp=Z,8.2nm,0.8s,baz=36,slow=3.7,SNR=7.9	147.86	272	PKPbc	PKiKP	19 06 07.0	-0.6
LIC	**Lamto** comp=Z,15nm,0.7s	148.01	271⇑	*e*PKP1	PKiKP	19 06 07.3	-0.7
TIC	**Toumodi** comp=Z,21nm,1.0s	148.02	272	*e*PKP1	PKiKP	19 06 07.5	-0.5

*SSNC **06** 18:49:24.6±1.4, 19°.17N×70°.43W, h20km±19km, MD3.3, ML3.4*
*OSPL **06** 18:49:27.9±2.5, 19°.12N×70°.59W, h0km±12km, ML3.3*
*SDD **06** 18:49:27.5±2.0, 19°.13N×70°.60W, h31km±8km, MD3.6, ML3.7, MW4.2*

ISC 06 18:49:25.3±1.0, 19°.17N±0°.03×70°.59W±0°.02, h20km±8km, n36, σ1§03/52, 9C-5D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SC01	**Santiago de lo**	0.29	334	⇓*e*Pg	Pn	18 49 34.1	-0.3
SC01				⇓*e*Sg	Sn	18 49 39.9	-0.3
SC01				IAML		18 49 40.0	
	comp=E,11μm,0.2s						
SC01				IAML		18 49 40.0	
	comp=N,12μm,0.1s						
SC01				IAML		18 49 40.1	
	comp=N,12μm,0.1s						
SC01	**Santiago de lo**	0.29	334	*i* P	Pn	18 49 34.1	-0.3
SC01				*e*S	Sn	18 49 39.9	-0.3
BON1	**Bonao**	0.29	140⇑	*e*Pg	Pn	18 49 34.2	-0.2
BON1				⇑*e*Sg	Sn	18 49 39.8	-0.4
ABDR	**Alto Bandera**	0.35	185⇓	*e*Pg	Pn	18 49 34.8	-0.8
ABDR				IAML		18 49 42.1	
	comp=E,5μm,0.2s						
ABDR				IAML		18 49 42.2	
	comp=N,7μm,0.1s						
ABDR				IAML		18 49 43.5	
	comp=N,6μm,0.3s						
DR08	**Loma La Naviza**	0.58	111⇑	*e*P	Pb	18 49 36.2	-0.6
DR08				IAML		18 49 48.6	
	comp=N,16μm,0.2s						
DR08				IAML		18 49 48.6	
	comp=N,16μm,0.2s						
SODR	**Sosua Marina B**	0.58	1	*e*Pg	Pn	18 49 39.2	+0.8
SODR				IAML		18 49 51.3	
	comp=N,4μm,0.8s						
SODR				IAML		18 49 51.3	
	comp=N,4μm,0.8s						
SODR				IAML		18 49 58.6	
	comp=E,3μm,0.6s						
SDDR	**Presa de Saban**	0.68	255⇑	*e*Pg	Pb	18 49 39.0	+0.4
SDDR				IAML		18 49 50.5	
	comp=E,2μm,0.5s						
SDDR				IAML		18 49 52.2	
	comp=N,2μm,0.3s						
SDDR				IAML		18 49 52.2	
	comp=N,2μm,0.3s						
SDDR	**Presa de Saban**	0.68	255	*e*P	Pb	18 49 39.0	+0.4
SDDR				*e*S	Sb	18 49 48.6	+0.9
SDDR				IAML		18 49 50.6	
	comp=E,2μm,0.2s						
SDDR				IAML		18 49 51.7	
	comp=Z,1μm,0.3s						
SDDR	**Presa de Saban**	0.68	255	*i* P	Pb	18 49 39.0	+0.4
SDDR				IAML		18 49 50.6	
	comp=Z,2μm,0.3s						
LONA1	**Toro Cenizo, N**	0.72	73	*i* P	Pn	18 49 40.9	+0.6
LONA1				IAML		18 49 59.9	
	comp=Z,1μm,0.4s						
NADR	**Nagua**	0.72	75⇑	*e*Pg	Pn	18 49 40.6	+0.3
NADR				IAML		18 49 54.4	
	comp=N,6μm,0.2s						
NADR				IAML		18 49 54.4	
	comp=N,6μm,0.1s						
NADR				IAML		18 49 56.0	
	comp=E,4μm,0.3s						
LUDR	**Luperon**	0.80	335⇑	*e*Pg	Pn	18 49 42.0	+0.6
LUDR				⇑*e*Sg	Sn	18 49 54.6	+1.9
LUDR				IAML		18 49 58.5	
	comp=N,14μm,0.3s						
LUDR				IAML		18 49 58.5	
	comp=N,13μm,0.3s						
LUDR				IAML		18 49 59.1	
	comp=E,9μm,0.2s						
BANI	**BANI**	0.80	164⇓	*e*Pg	Pn	18 49 42.3	+0.7
BANI				IAML		18 49 55.7	
	comp=N,5μm,0.1s						
BANI				IAML		18 49 55.7	
	comp=N,5μm,0.1s						
BANI				IAML		18 49 56.8	
	comp=E,4μm,0.3s						
LOSC1	**San Cristbal**	0.88	149	*i* P	Pb	18 49 41.4	-0.5
LOSC1				*e*S	Sb	18 49 51.0	-2.3
LOPP1	**Punta Rusia, P**	0.89	320	*e*Pg	Pn	18 49 43.2	+0.6
LOPP1				IAML		18 50 00.4	
	comp=N,2μm,0.4s						
LOPP1	**Punta Rusia, P**	0.89	320	*i* P	Pn	18 49 43.7	+1.0
LOPP1				*e*S	Sn	18 49 56.3	+1.3
LOPP1				IAML		18 49 59.6	
	comp=Z,2μm,0.6s						
SDD	**Santo Domingo**	0.95	138⇑	*e*Pg	Pn	18 49 43.8	+0.2
SDD				IAML		18 49 57.9	
	comp=E,195nm,0.3s						
SDD				IAML		18 49 58.0	
	comp=N,187nm,0.2s						
SDD				IAML		18 49 58.1	
	comp=N,187nm,0.2s						
SDD	**Santo Domingo**	0.95	138	*i* P	Pn	18 49 44.1	+0.5
SDD				*e*S	Sb	18 49 55.6	+0.3
LODA1	**ITESIL, Dajabo**	1.12	290	*i* P	Pn	18 49 45.1	-0.7
LODA1				*e*S	Sb	18 49 58.3	-1.7
LODA1				IAML		18 50 00.2	
	comp=Z,4μm,0.2s						
PODR	**Polo**	1.19	213	*e*Pg	Pb	18 49 47.9	+0.6
PODR				IAML		18 50 09.2	
	comp=N,539nm,0.2s						
PODR				IAML		18 50 11.1	
	comp=E,1μm,0.4s						
PODR				IAML		18 50 14.6	
	comp=N,590nm,0.5s						
PODR	**Polo**	1.19	213	*i* P	Pb	18 49 48.0	+0.6
PODR				*e*S	Sn	18 50 05.2	+2.5
HATOM	**Hato Mayor del**	1.21	108⇑	*e*Pg	Pb	18 49 48.0	+0.5
HATOM				⇓*e*Sg	Sn	18 50 03.0	+0.1
HATOM				IAML		18 50 03.3	
	comp=N,918nm,0.5s						
HATOM				IAML		18 50 04.2	
	comp=N,909nm,0.6s						
HATOM				IAML		18 50 05.1	
	comp=E,1μm,0.2s						
MCDR	**Montecristi**	1.24	306	*e*Pg	Pb	18 49 48.0	0.0
MCDR				IAML		18 50 08.6	
	comp=E,2μm,0.1s						
MCDR				IAML		18 50 11.0	
	comp=N,2μm,0.1s						
MCDR				IAML		18 50 11.1	
	comp=N,2μm,0.1s						
SMDR	**Samana, DR**	1.33	84	*e*Pg	Pb	18 49 51.0	+1.4
SMDR				IAML		18 50 12.2	
	comp=N,518nm,0.4s						
SMDR				IAML		18 50 12.3	
	comp=N,518nm,0.4s						
SMDR				IAML		18 50 15.6	
	comp=E,444nm,0.3s						
MIDR	**Miches**	1.47	97	*e*Pg	Pb	18 49 52.0	+0.1
MIDR				IAML		18 50 15.9	
	comp=E,398nm,0.2s						
MIDR				IAML		18 50 16.2	
	comp=N,514nm,0.6s						
MIDR				IAML		18 50 16.2	
	comp=N,511nm,0.6s						
LOPE2	**Hotel El Peder**	1.57	224	*i* P	Pb	18 49 54.9	+1.3
LOPE2				*e*S	Sb	18 50 14.3	+1.2
SADR	**Isla Saona**	1.97	119	*e*Pg	Pb	18 49 59.8	-0.7

SADR				IAML		18 50 48.4	
	comp=N,422nm,0.6s						
PCDR	**Punta Cana, DR**	**2.19**	**107**	*i* P	**Pb**	**18 50 04.0**	**-0.2**
PCDR				IAML		18 50 37.0	
	comp=Z,340nm,0.4s						
MASC	**Masc**	**3.57**	**287**	*e*P	**Pn**	**18 50 19.4**	**-0.1**
MASC				*e*S	**Sn**	**18 50 59.6**	**-1.6**
MASC				*e*Sg	Sb	18 51 02.1	-8.7
NMDO	**Nuevo Mundo**	**4.36**	**289**	*e*P	**Pn**	**18 50 29.0**	**-1.4**
NMDO				*e*S	**Sn**	**18 51 19.0**	**-1.6**
NMDO				IAML		18 51 22.2	
	comp=N,24nm,0.2s						
NMDO				IAML		18 51 22.3	
	comp=E,28nm,0.2s						
SABCS	**La Quijada**	**4.60**	**286**	*e*P	**Pn**	**18 50 33.7**	**-0.1**
RCC	**Rio Carpintero**	**4.88**	**281**	*e*P	**Pn**	**18 50 37.8**	**+0.2**
PINC	**Pinares de May**	**5.07**	**286**	*e*P	**Pn**	**18 50 39.2**	**-1.0**
PINC				*e*S	**Sn**	**18 51 36.1**	**-1.9**
PINC				IAML		18 51 40.0	
	comp=E,19nm,0.1s						
PINC				IAML		18 51 40.0	
	comp=N,14nm,0.1s						
MARVS	**Santiago de Cu**	**5.07**	**280**	*e*P	**Pn**	**18 50 40.8**	**+0.6**
MARVS				*e*S	**Sn**	**18 51 36.1**	**-2.1**
CHIV	**Chivirico**	**5.55**	**279**	*e*P	**Pn**	**18 50 47.5**	**+0.8**
LMGC	**Las Mercedes**	**6.11**	**279**	*e*P	**Pn**	**18 50 54.1**	**-0.3**

*IDC **06** 18:49:28.9±1.3,5.°98S×142.°63E, h0km, mb4.1/3, mbtmp4.2/5, ML2.7/2, Error ellipse: s-maj=46.6km s-min=32.8km az=70.0*

ISC 06 18:49:30.3±1.0,**6.°1S**±0.°2×**142.°7E**±0.°2,**h10**km,**n5**,σ1°.**19**/6, **mb4.1**/3,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.55**	**127**	Pn	**Pn**		**18 50 54.4**	**+1.3**
	3.1nm,0.3s,baz=287,slow=11,SNR=2.2							
PMG				Sn	**Sn**		18 51 55.8	-1.2
	4.3nm,0.3s,baz=289,slow=21,SNR=1.3							
	126nm,1.0s							
ASAR	**Alice Springs**	**19.44**	**205**	P	**P**		**18 53 56.8**	**-0.4**
	0.2nm,0.3s,baz=24,slow=13,SNR=4.1							
	4.0km,0.6s							
MKAR	**Makanchi Array**	**74.84**	**322**	P	**P**		**19 01 11.5**	**+0.3**
	1.1nm,0.9s,baz=101,slow=7.5,SNR=3.6							
	1.1nm,0.9s							
BVAR	**Borovoye Array**	**84.30**	**325**	P	**P**		**19 02 02.6**	**+0.1**
	1.2nm,0.6s,baz=116,slow=6.6,SNR=5.5							
	1.2nm,0.6s							
ILAR	**Eielson Array**	**87.24**	**24**	P	**P**		**19 02 16.0**	**-0.8**
	0.9nm,0.7s,baz=254,slow=5.0,SNR=5.4							
	0.9nm,0.7s							

*IDC **06** 18:49:55.6±6.5,31.°93S×179.°12W, h0km, mb4.3/2, mbtmp4.3/2, Error ellipse: s-maj=268.5km s-min=66.7km az=158.0*

ISC 06 18:49:58.8±2.7,**33.°5S**±0.°2×**178.°9W**±0.°4,**h35**km,**n15**, σ0°.**68**/15,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.65**	**209**	P	**Pn**		**18 51 05.9**	**-0.6**
WMGZ	**Waiomatatini S**	**4.83**	**206**	P	**Pn**		**18 51 10.1**	**+1.0**
PKGZ	**Pakihiroa**	**5.02**	**208**	P	**Pn**		**18 51 10.7**	**-1.0**
HAZ	**Te Kaha**	**5.04**	**211**	P	**Pn**		**18 51 12.9**	**+1.1**
RUGZ	**Raukumara Rang**	**5.25**	**211**	P	**Pn**		**18 51 14.8**	**-0.1**
TWGZ	**Tauwhareparae**	**5.31**	**208**	P	**Pn**		**18 51 16.4**	**+0.7**
CNGZ	**Carnagh Statio**	**5.50**	**204**	P	**Pn**		**18 51 17.3**	**-0.9**
MWZ	**Matawai**	**5.63**	**210**	P	**Pn**		**18 51 19.7**	**-0.3**
URZ	**Urewera**	**5.75**	**213**	P	**Pn**		**18 51 21.5**	**-0.1**
RAGZ	**Rawiri**	**5.81**	**210**	P	**Pn**		**18 51 22.9**	**+0.3**
MUGZ	**Murupara**	**6.08**	**214**	P	**Pn**		**18 51 26.1**	**-0.1**
SNGZ	**Shannon Statio**	**6.09**	**209**	P	**Pn**		**18 51 26.7**	**+0.4**
ASAR	**Alice Springs**	**42.28**	**271**	P	**P**		**18 57 49.1**	**0.0**
	3.1nm,0.7s,baz=107,slow=7.9,SNR=0.9							
	3.1nm,0.7s							
WRA	**Warramunga Arr**	**43.55**	**276**	P	**P**		**18 57 59.2**	**-0.2**
	4.2nm,0.9s,baz=115,slow=7.8,SNR=1.5							
	4.2nm,0.9s							
FINES	**FINESS Array B**	**147.75**	**338**	PKPbc	**PKPdf**		**19 09 36.3**	**+0.2**
	1.8nm,1.1s,baz=49,slow=4.2,SNR=1.6							

*JMA **06** 18:51:41.3±0.2,25.°N±1.°×122.°4E±0.°4, h103km±1km, TAIWAN REGION*
*TAP **06** 18:51:41.1,24.°72N×122.°37E, h108km, ML2.6,C*

ISC 06 18:51:41.7±1.5,**24.°70N**±0.°06×**122.°39E**±0.°03,**h103**km±9km, **n57**,σ0°.**68**/91,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.32**	**207**	*e*P	**Pn**		**18 51 57.0**	**+0.5**
	baz=215							
EOS2				*e*S	**Sn**		18 52 08.7	+1.1
	baz=215							
EOS3	**EOS3**	**0.42**	**189**	*e*P	**Pn**		**18 51 57.7**	**+0.6**
	baz=201							
EOS3				*e*S	**Sn**		18 52 09.7	+1.2
	baz=201							
TWB1	**Santiao Chiao**	**0.48**	**310**	*e*P	**Pn**		**18 51 57.5**	**-0.1**
	baz=304							
TWC	**Suao**	**0.50**	**259**	P	**Pn**		**18 51 57.6**	**-0.2**
	baz=256							
TWC				S	**Sn**		18 52 09.1	-0.8
	baz=256							
ESAO	**Su ao**	**0.52**	**256**	*e*P	**Pn**		**18 51 57.7**	**-0.1**
	baz=253							
ESAO				*e*S	**Sn**		18 52 09.4	-0.6
	baz=253							
TIPB	**Shuangxi**	**0.58**	**297**	*i* P	**Pn**		**18 51 58.3**	**-0.1**
	baz=294							
TIPB				*i* S	**Sn**		18 52 10.4	-0.5
	baz=294							
EOS4	**EOS4**	**0.58**	**187**	*e*S	**Sn**		**18 52 10.4**	**+0.2**
	baz=192							
YOJ	**Yonaguni jima**	**0.61**	**113**	*e*P	**Pn**		**18 51 58.8**	**+0.2**
	baz=118							
YOJ	**Yonaguni jima**	**0.61**	**113**	*e*P	**Pn**		**18 51 58.5**	**0.0**
YOJ				S	**Sn**		**18 52 10.9**	**-0.4**
EWUT	**Wuta**	**0.62**	**245**	*e*P	**Pn**		**18 51 58.4**	**-0.2**
	baz=243							
EWUT				*e*S	**Sn**		18 52 11.3	0.0
	baz=243							
NDS	**Dongshan**	**0.62**	**264**	P	**Pn**		**18 51 58.9**	**+0.2**
	baz=261							
NDS				S	**Sn**		18 52 11.5	+0.1
	baz=261							
ENA	**Nanau**	**0.65**	**245**	*e*P	**Pn**		**18 51 59.0**	**+0.1**
	baz=242							
ENA				*e*S	**Sn**		18 52 11.8	-0.1
	baz=242							
TWE	**Neicheng**	**0.66**	**272**	P	**Pn**		**18 51 59.0**	**0.0**
	baz=276							
NWF	**Wu-fen Shan**	**0.67**	**303**	*e*P	**Pn**		**18 51 58.7**	**-0.5**
	baz=297							
WFSB	**Wu-fen Shan**	**0.67**	**303**	*e*P	**Pn**		**18 51 58.6**	**-0.4**
	baz=297							
EAHA	**Aohua**	**0.70**	**238**	*e*S	**Sn**		**18 52 12.7**	**+0.1**
	baz=228							
FUSB	**Fushanzhiwuyua**	**0.73**	**275**	*e*P	**Pn**		**18 51 59.6**	**-0.1**
	baz=280							
ENTT	**Nioudou**	**0.76**	**265**	*e*P	**Pn**		**18 52 00.2**	**+0.3**
	baz=269							
TWA	**Mucha**	**0.79**	**291**	*e*P	**Pn**		**18 51 59.7**	**-0.5**
	baz=290							
LATG	**Datong**	**0.81**	**258**	*e*P	**Pn**		**18 52 00.8**	**+0.3**
	baz=251							
LATG				*e*S	**Sn**		18 52 14.7	+0.2
	baz=251							
NDT	**Datong Townshi**	**0.81**	**263**	*e*P	**Pn**		**18 52 00.8**	**+0.4**
	baz=261							
NDT				*i* S	**Sn**		18 52 15.0	+0.6
	baz=261							
NWLT	**Wulai**	**0.81**	**275**	*e*P	**Pn**		**18 52 00.2**	**-0.2**
	baz=279							
NWLT				*e*S	**Sn**		18 52 14.6	+0.1
	baz=279							
YM01	**YM01**	**0.87**	**301**	P	**Pn**		**18 52 00.8**	**-0.2**
	baz=293							
YM08	**YM08**	**0.87**	**304**	*e*P	**Pn**		**18 52 00.6**	**-0.4**
	baz=297							
ETL	**Fush Village**	**0.89**	**232**	*e*P	**Pn**		**18 52 00.5**	**-0.7**
	baz=225							
NACB	**Ninganchiao**	**0.90**	**234**	*e*P	**Pn**		**18 52 00.9**	**-0.3**
	baz=227							
NACB				*e*S	**Sn**		**18 52 15.3**	**-0.7**
	baz=227							
YHNB	**Yeheng**	**0.93**	**268**	*e*P	**Pn**		**18 52 01.7**	**+0.1**
	baz=274							
YHNB				*e*S	**Sn**		18 52 16.7	+0.1
	baz=274							
NSK	**Sanguang**	**0.94**	**269**	*i* P	**Pn**		**18 52 01.8**	**+0.1**
	baz=274							
NSK				*e*S	**Sn**		18 52 16.6	-0.2
	baz=274							
TWD	**Chiawan**	**0.96**	**230**	*e*S	**Sn**		**18 52 16.7**	**-0.3**
	baz=227							
NNSB	**Datong**	**0.96**	**254**	P	**Pn**		**18 52 02.1**	**+0.1**
	baz=247							
NNSB				*e*S	**Sn**		18 52 17.0	-0.3
	baz=247							
NNS	**Nan Shan**	**0.96**	**254**	*e*P	**Pn**		**18 52 02.2**	**+0.1**
	baz=248							
NNS				*e*S	**Sn**		18 52 18.0	+0.6
	baz=248							
ETLH	**Xiulin Townshi**	**0.97**	**239**	*e*P	**Pn**		**18 52 01.9**	**-0.2**
	baz=237							
ETLH				*e*S	**Sn**		18 52 16.7	-0.7
	baz=237							
TWS1	**Kuangyinshan**	**0.97**	**294**	*e*P	**Pn**		**18 52 01.9**	**-0.1**
	baz=294							
HWA	**Hwalien**	**1.02**	**225**	*e*S	**Sn**		**18 52 18.6**	**+0.4**
	baz=215							
LXIB	**Xiulin Townshi**	**1.12**	**233**	*e*S	**Sn**		**18 52 19.4**	**-1.1**
	baz=222							
FUSS	**Fushou**	**1.14**	**247**	*e*P	**Pn**		**18 52 04.4**	**+0.2**
	baz=240							
FUSS				*e*S	**Sn**		18 52 20.6	-0.5
	baz=240							
NFF	**Wufeng Townshi**	**1.16**	**267**	*e*P	**Pn**		**18 52 04.0**	**-0.2**
	baz=275							
NFF				*e*S	**Sn**		18 52 20.8	-0.3
	baz=275							
SHUL	**Shoufeng**	**1.19**	**220**	*e*S	**Sn**		**18 52 21.1**	**-0.4**
	baz=210							
LIOB	**Emei**	**1.25**	**268**	*e*P	**Pn**		**18 52 05.2**	**0.0**
	baz=266							
LIOB				*e*S	**Sn**		18 52 23.1	+0.2
	baz=266							
NSTT	**Nanjuang**	**1.27**	**267**	*e*P	**Pn**		**18 52 05.2**	**-0.1**
	baz=266							
NSTT				*e*S	**Sn**		18 52 22.8	-0.4
	baz=266							
IRIF	**Iriomote-Funau**	**1.27**	**107**	P	**Pn**		**18 52 05.2**	**-0.1**
IRIF				S	**Sn**		**18 52 23.0**	**-0.2**
CHGB	**Renai**	**1.28**	**240**	*e*P	**Pn**		**18 52 05.8**	**+0.1**
	baz=233							
CHGB				*e*S	**Sn**		18 52 23.3	-0.6
	baz=233							
WARBT	**Fenglin Townsh**	**1.34**	**223**	*e*P	**Pn**		**18 52 04.9**	**-1.4**
	baz=228							
WHP	**Taichung City**	**1.39**	**252**	*e*P	**Pn**		**18 52 08.0**	**+1.2**
	baz=251							
VWDT	**VWDT**	**1.48**	**231**	*e*P	**Pn**		**18 52 08.0**	**+0.1**
	baz=224							
VWDT				*e*S	**Sn**		18 52 27.5	-0.2
	baz=224							
WCS	**Beigang Elemen**	**1.50**	**245**	*e*S	**Sn**		**18 52 28.8**	**+0.8**
	baz=238							
EHY	**Hungye**	**1.54**	**220**	*e*S	**Sn**		**18 52 26.5**	**-2.6**
	baz=225							
JKRS	**Kuro-shima**	**1.54**	**107**	P	**Pn**		**18 52 08.8**	**+0.2**
JKRS				S	**Sn**		**18 52 29.4**	**+0.3**
SMLT	**Sun Moon Lake**	**1.59**	**239**	*e*P	**Pn**		**18 52 10.2**	**+0.9**
	baz=234							
SMLT				*e*S	**Sn**		18 52 30.9	+0.6
	baz=234							
SSLB	**Suanglung**	**1.60**	**236**	*e*P	**Pn**		**18 52 10.1**	**+0.8**
	baz=231							
SSLB				*e*S	**Sn**		18 52 30.8	+0.4
	baz=231							
TYC	**Yuchr**	**1.61**	**241**	*e*P	**Pn**		**18 52 10.2**	**+0.8**
	baz=239							
TYC				*e*S	**Sn**		18 52 31.4	+0.9
	baz=239							
JIJ	**Ishigaki jima**	**1.63**	**102**	P	**Pn**		**18 52 09.4**	**-0.2**
JIJ				S	**Sn**		**18 52 30.4**	**-0.5**
WHYT	**Xinyi Township**	**1.73**	**235**	*e*P	**Pn**		**18 52 11.8**	**+0.9**
	baz=227							
WHYT				*e*S	**Sn**		18 52 34.5	+1.2
	baz=227							
JISG	**Ishigakijimahi**	**1.75**	**93**	*e*P	**Pn**		**18 52 11.6**	**+0.4**
JISG				S	**Sn**		**18 52 33.1**	**-0.5**
WJS	**Zhushan**	**1.75**	**240**	*e*S	**Sn**		**18 52 35.3**	**+1.6**
	baz=248							
ELDTW	**Lidau**	**1.96**	**220**	*e*P	**Pn**		**18 52 14.2**	**+0.1**
	baz=218							
ELDTW				*e*S	**Sn**		18 52 35.7	-3.0
	baz=218							
JTJ	**Tarama**	**2.10**	**91**	P	**Pn**		**18 52 16.2**	**+0.5**
JTJ				S	**Sn**		**18 52 41.7**	**0.0**

*NEIC **06** 19:05:28.6±1.1,43.°70N±0.°05×105.°29W±0.°08, h0km±1km, ML3.4/62, Error ellipse: s-maj=10.5km s-min=8.8km az=253.0*
*IDC **06** 19:05:30.2±1.2,44.°06N×105.°75W, h0km, mbtmp3.2/4, ML3.4/3, Error ellipse: s-maj=33.0km s-min=7.3km az=146.0*

ISC 06 19:05:28.0±1.2,**43.°74N**±0.°06×**105.°20W**±0.°07,**h0**km,**n51**, σ1°.**81**/49,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.93**	**65**			**Pn**	**19 05 49.3**	**+0.8**
K22A	**Casper**	**1.46**	**222**			**Pn**	**19 05 54.5**	**-1.2**
K22A					IAML		19 06 21.3	
	comp=N,411nm,0.4s							
K22A					IAML		19 06 21.8	
	comp=E,429nm,0.4s							
PHWY	**Pilot Hill**	**2.44**	**185**			**Pn**	**19 06 11.1**	**+1.6**
RWWY	**Rawlins**	**2.53**	**216**			**Pn**	**19 06 11.6**	**+1.0**
RWWY					IAML		19 06 45.6	
	comp=E,197nm,1.2s							
RWWY					IAML		19 06 47.8	
	comp=E,187nm,1.6s							
N23A	**Red Feather La**	**2.90**	**191**			**Pn**	**19 06 17.1**	**+1.5**
N23A					IAML		19 07 01.8	
	comp=N,121nm,0.8s							
N23A					IAML		19 07 14.0	
	comp=E,104nm,1.1s							
LAO	**LASA Array**	**3.03**	**347**			**Pn**	**19 06 20.0**	**+2.7**
RLMT	**Red Lodge**	**3.22**	**297**			**Pn**	**19 06 21.9**	**+1.8**
RLMT					IAML		19 07 16.6	
	comp=E,82nm,1.3s							
RLMT					IAML		19 07 25.1	
	comp=E,69nm,0.7s							
PD31	**Pinedale Array**	**3.33**	**254**			**Pn**	**19 06 22.3**	**+0.7**
PDAR	**Pinedale Array**	**3.33**	**254**	Pn		**Pn**	**19 06 22.2**	**+0.7**
PDAR	**Pinedale Array**	**3.33**	**254**	Pn		**Pn**	**19 06 22.6**	**+1.1**
	comp=E,4.2nm,0.3s,baz=68,slow=15,SNR=67							
PDAR				Lg		Lg	19 07 05.8	
	comp=E,9.6nm,0.3s,baz=67,slow=20,SNR=8.0							
	comp=E,6.2nm,0.3s							
YMP	**Mirror Lake Pl**	**3.70**	**287**			**Pn**	**19 06 28.6**	**+1.9**
YMP					IAML		19 07 29.3	
	comp=N,96nm,0.9s							
LKWY	**Lake**	**3.83**	**284**			**Pn**	**19 06 30.4**	**+2.0**
LKWY					IAML		19 06 55.0	
	comp=N,61nm,1.6s							
LKWY					IAML		19 07 55.4	
	comp=N,42nm,2.0s							
LOHW	**Long Hollow**	**3.92**	**270**			**Pn**	**19 06 31.4**	**+1.7**
H17A	**Grant Village**	**3.93**	**281**	Pn		**Pn**	**19 06 31.1**	**+1.3**
H17A					IAML		19 07 35.5	
	comp=E,44nm,1.6s							
H17A					IAML		19 07 36.3	
	comp=N,48nm,1.1s							
ISCO	**Idaho Springs**	**3.95**	**185**			**Pn**	**19 06 30.7**	**+0.5**
FLWY	**Flagg Ranch**	**3.99**	**277**			**Pn**	**19 06 31.8**	**+1.3**
MOOW	**Moose Ponds**	**4.02**	**272**			**Pn**	**19 06 32.5**	**+1.5**
SNOW	**Snow King Moun**	**4.04**	**268**			**Pn**	**19 06 32.0**	**+0.6**
SNOW					IAML		19 07 48.3	
	comp=N,70nm,1.3s							
YNR	**Norris Junctio**	**4.05**	**286**			**Pn**	**19 06 33.2**	**+1.7**
YFT	**Old Faithful**	**4.12**	**282**			**Pn**	**19 06 34.1**	**+1.7**
YFT					IAML		19 07 47.5	
	comp=E,36nm,1.1s							
REDW	**Red Top Meadow**	**4.12**	**267**			**Pn**	**19 06 33.6**	**+1.2**
TPAW	**Teton Pass**	**4.18**	**269**			**Pn**	**19 06 35.1**	**+1.8**
TPAW					IAML		19 08 08.9	
	comp=E,48nm,1.1s							
YHH	**Holmes Hill**	**4.19**	**286**			**Pn**	**19 06 35.5**	**+2.0**
O20A	**White River Ci**	**4.26**	**213**	Pn		**Pn**	**19 06 36.4**	**+2.1**
O20A					IAML		19 08 20.2	
	comp=E,70nm,2.6s							
AHID	**Auburn Hatcher**	**4.42**	**259**			**Pn**	**19 06 36.9**	**+0.4**
AHID					IAML		19 07 59.0	
	comp=E,49nm,1.1s							
RDMU	**Red Mountain**	**4.54**	**227**			**Pn**	**19 06 39.4**	**+1.3**
RDMU					IAML		19 08 24.9	
	comp=N,39nm,1.4s							
RDMU					IAML		19 08 25.1	
	comp=E,40nm,1.2s							
SUSD	**Miller**	**4.55**	**79**			**Pn**	**19 06 41.5**	**+3.3**
SMCO	**Snowmass**	**4.75**	**197**			**Pn**	**19 06 42.3**	**+1.0**
SMCO					IAML		19 08 08.1	
	comp=E,48nm,1.3s							
SMCO					IAML		19 09 24.9	
	comp=E,31nm,4.5s							
Q24A	**Divide**	**4.77**	**179**			**Pn**	**19 06 42.9**	**+1.4**
DGMT	**Dagmar**	**4.78**	**8**			**Pn**	**19 06 45.3**	**+4.0**
BOZ	**Bozeman (W)**	**4.95**	**294**			**Pn**	**19 06 45.3**	**+1.6**
BOZ					IAML		19 08 04.1	
	comp=E,25nm,2.1s							
BOZ					IAML		19 08 54.1	
	comp=E,22nm,4.5s							
HWUT	**Hardware Ranch**	**5.15**	**248**			**Pn**	**19 06 47.8**	**+1.3**
BSUT	**Blindstream Ca**	**5.23**	**234**	Pn		**Pn**	**19 06 48.2**	**+0.5**
BSUT					IAML		19 08 37.6	
	comp=E,22nm,3.7s							
BSUT					IAML		19 08 39.4	
	comp=N,22nm,2.0s							
EGMT	**Eagleton**	**5.33**	**325**	Pn		**Pn**	**19 06 51.4**	**+2.4**
P18A	**Preston Nutter**	**5.58**	**224**			**Pn**	**19 06 54.1**	**+1.5**
MDND	**Maddock**	**5.67**	**42**			**Pn**	**19 06 56.1**	**+2.6**
CTU	**Camp Tracy**	**5.74**	**240**			**Pn**	**19 06 56.9**	**+2.3**
P17A	**Butcher Ranch,**	**5.95**	**226**			**Pn**	**19 06 57.6**	**+0.1**
MPU	**Maple Canyon**	**6.07**	**234**			**Pn**	**19 06 59.0**	**-0.2**
SRU	**San Rafael Swe**	**6.11**	**223**	Pn		**Pn**	**19 07 00.7**	**+0.9**
ECSD	**EROS Data Cent**	**6.22**	**87**	Pn		**Pn**	**19 07 04.2**	**+3.2**
NLU	**North Lily Min**	**6.37**	**236**			**Pn**	**19 07 04.0**	**+0.6**
BPMT	**Black Pine Rid**	**6.43**	**298**			**Pn**	**19 07 05.0**	**+0.9**
BGU	**Big Grassy Mou**	**6.45**	**247**			**Pn**	**19 07 05.7**	**+1.4**
HMU	**Henry Mountain**	**7.16**	**218**			**Pn**	**19 07 14.2**	**0.0**
ELK	**Elko**	**8.03**	**252**	Pn		**Pn**	**19 07 27.2**	**+1.1**
	comp=N,0.1nm,0.3s,baz=61,slow=15,SNR=1.7							
ELK				Lg		Lg	19 09 34.0	
	comp=N,0.1nm,0.3s,baz=122,slow=7.8,SNR=2.1							
	comp=N,0.3nm,0.3s							
I10CA	**LAC DU BONNET**	**9.00**	**41**	I		I	19 58 50.0	
	comp=N,0.1nm,1.3s,baz=224,slow=333,SNR=4.0							
ULM	**Lac du Bonnet**	**9.11**	**41**	Pn		**Pn**	**19 07 41.8**	**+1.2**
	comp=N,1.6nm,0.3s,baz=234,slow=11,SNR=12							
ULM				Sn		**Sn**	**19 09 19.6**	**-4.2**
	comp=N,0.2nm,0.3s,baz=258,slow=22,SNR=1.4							
ULM				Lg		Lg	19 10 11.2	
	baz=329,slow=20							
	comp=N,2.8nm,0.3s							
NEW	**Newport**	**9.45**	**303**	Lg		Lg	19 10 05.5	
	comp=N,0.2nm,0.3s,baz=293,slow=22,SNR=1.7							
TXAR	**Lajitas Array**	**14.43**	**175**	Pg		P	19 10 00.7	+60
	comp=N,0.1nm,0.3s,baz=358,slow=15,SNR=4.7							
TXAR				Lg		Lg	19 13 09.5	
	comp=N,0.1nm,0.3s,baz=354,slow=24,SNR=3.6							
YKA	**Yellowknife Ar**	**19.57**	**347**	P		**P**	**19 09 55.1**	**-2.1**
	comp=N,0.1nm,0.3s,baz=154,slow=8.7,SNR=1.3							

*CATAC **06** 19:18:39.6±0.4, 12.°55N×88.°08W, h33km±7km, ML3.3*
*SNET **06** 19:18:41.0±0.8, 12.°64N×88.°05W, h50km, ML3.6*

ISC 06 19:18:40.0±1.4,**12.°54N**±0.°07×**88.°08W**±0.°05,**h47**km±32km, **n28**,σ0°.**43**/49,**Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.67**	**49**	*i* P	**Pn**		**19 18 53.3**	**-0.1**
CSGN					IAML		19 19 09.4	
	comp=Z,6μm,1.0s							
JUCU	**Jucuarįn**	**0.73**	**347**	*i* P	**Pn**		**19 18 53.4**	**-0.8**
JUCU				*i* S	**Sn**		**19 19 04.0**	**-0.4**
JUCU					IAML		19 19 06.3	
	comp=Z,1μm,1.0s							
CNCH	**Conchagua**	**0.77**	**18**	*e*P	**Pn**		**19 18 54.9**	**+0.1**
CNCH				*e*P			19 18 57.6	
CNCH				*e*S	**Sn**		**19 19 06.0**	**+0.5**
CNCH	**Conchagua**	**0.77**	**18**	*i* P	**Pn**		**19 18 54.7**	**-0.1**
CNCH				*i* S	**Sn**		**19 19 05.7**	**+0.2**
CNCH				IAML			19 19 10.5	
	comp=Z,4μm,1.0s							
LCND	**La Caada**	**0.79**	**14**	*i* P	**Pn**		**19 18 55.1**	**+0.2**
LCND				*i* S	**Sn**		**19 19 05.4**	**-0.3**
LCND				IAML			19 19 07.6	
	comp=Z,2μm,1.0s							
LCY	**Lacayo**	**0.91**	**347**	*e*P	**Pn**		**19 18 56.7**	**+0.1**
BLLM	**Bellamira**	**0.91**	**350**	*e*P	**Pn**		**19 18 56.6**	**0.0**
RANC	**El Ranchito**	**0.91**	**347**	*i* P	**Pn**		**19 18 56.5**	**-0.2**
RANC				*i* S	**Sn**		**19 19 09.0**	**+0.1**
RANC				IAML			19 19 10.8	
	comp=Z,730nm,1.0s							
PACA	**Pacayal**	**0.96**	**346**	*e*P	**Pn**		**19 18 57.6**	**+0.3**
PACA				*e*S	**Sn**		**19 19 10.1**	**+0.2**
PACA	**Pacayal**	**0.96**	**346**	*i* P	**Pn**		**19 18 56.7**	**-0.6**
PACA				*i* S	**Sn**		**19 19 09.7**	**-0.2**
PACA				IAML			19 19 12.8	
	comp=Z,3μm,1.0s							
CRIN	**San Cristobal**	**1.02**	**81**	*i* P	**Pn**		**19 18 57.7**	**-0.3**
CRIN				*i* S	**Sn**		**19 19 12.4**	**+1.1**
CRIN				IAML			19 19 16.3	
	comp=Z,2μm,1.0s							
TECA	**Tecapa**	**1.04**	**337**	*e*P	**Pn**		**19 18 58.0**	**-0.5**
PKGN	**Cerro Pekin**	**1.08**	**83**	*i* P	**Pn**		**19 18 59.2**	**+0.3**
PKGN				*i* S	**Sn**		**19 19 12.8**	**0.0**
PKGN				IAML			19 19 16.3	
	comp=Z,2μm,1.0s				

SAJU **San Juanillo,** 3.38 136 *i* P Pn 19 19 29.8 -0.5
SAJU IAML 19 19 57.1
comp=Z,42nm,1.0s
SAJU *i* S Sn 19 20 09.3 +0.1

IDC **06** *19:18:52.7±0.7,6˚23S×142˚96E,h0km,mb4.5/14, mbtmp4.6/16,ML2.5/1,MS4.0/14,Error ellipse: s-maj=27.9km s-min=15.0km az=76.0*
MOS **06** *19:18:52.2±0.8,6˚27S×142˚88E,h11km,mb5.1/32,Error ellipse: s-maj=10.5km s-min=6.2km az=116.0*
NEIC **06** *19:18:53.6±1.7,6˚26S±0˚08×142˚83E±0˚07,h10km±1km, mb5.1/149,Error ellipse: s-maj=13.1km s-min=12.2km az=197.0*
BJI **06** *19:18:56.0±0.0,6˚23S×143˚27E,h47km,mb4.7/59, mBS.2/27,Ms4.7/13,Ms7 4.4/13*
DJA **06** *19:18:57.0±0.9,6˚S±2˚×14˚3E±˚,h11km±6km,M5.0/67, mBS.4/29,mb4.9/67,MLv5.6/6,Mw(mB)4.9/29*
ISC 06 19:18:53.3±0.3,6˚36S±0˚04×142˚83E±0˚05,h10km,n500, σ1§38/468,mb5.0/146,MS4.1/13,22C-7D,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**1.93**	**304**	P		**Pb**	**19 19 27.7**	**-1.0**
MMPI	**Merauke**	**3.20**	**229**	P		**Pn**	**19 19 46.5**	**+2.8**
MMPI				S		**Sn**	**19 20 25.4**	**+3.4**
GENI	**Genyem**	**4.59**	**325**	P		**Pn**	**19 20 04.9**	**+2.1**
GENI				S		**Sn**	**19 20 56.0**	**-0.2**
PMG	**Port Moresby**	**5.25**	**125**	Pn		**Pn**	**19 20 13.8**	**+2.0**
PMG	**Port Moresby**	**5.25**	**125**	P		**Pn**	**19 20 15.0**	**+3.1**
PMG	**Port Moresby**	**5.25**	**125**	*ce*P		**Pn**	**19 20 13.9**	**+2.0**
PMG	**Port Moresby**	**5.25**	**125**	Pn		**Pn**	**19 20 14.3**	**+2.4**
	10nm,0.3s,baz=320,slow=12,SNR=32							
PMG				Sn		**Sn**	**19 21 14.0**	**+1.5**
	16nm,0.3s,baz=208,slow=23,SNR=14							
PMG				LR		LR	19 22 43.7	
	comp=Z,262nm,18.9s,baz=267,slow=44							
	89nm,0.8s							
MANU	**Manus Island**	**6.23**	**47**	Pn		**Pn**	**19 20 24.5**	**-0.9**
COEN	**Coen**	**7.56**	**177**	Pn		**Pn**	**19 20 46.0**	**+2.3**
RABL	**Rabaul**	**9.54**	**77**	Pn		**Pn**	**19 21 08.0**	**-2.9**
FAKI	**Fak Fak**	**11.08**	**287**	Pn		**Pn**	**19 21 28.5**	**-3.6**
FAKI	**Fak Fak**	**11.08**	**287**	P		**Pn**	**19 21 32.4**	**+0.4**
FAKI	**Fak Fak**	**11.08**	**287**	P		**Pn**	**19 21 31.9**	**-0.1**
	73nm,0.8s							
SAUI	**Saumlaki**	**11.55**	**261**			**Pn**	**19 21 35.3**	**-3.1**
SAUI	**Saumlaki**	**11.55**	**261**	P		**Pn**	**19 21 38.3**	**-0.1**
	1μm,1.3s,10μm							
KDU	**Kakadu**	**11.99**	**238**	P		**Pn**	**19 21 43.0**	**-1.4**
	baz=12,SNR=53							
KDU	**Kakadu**	**11.99**	**238**	P		**Pn**	**19 21 43.2**	**-1.2**
SWI	**Sorong**	**12.77**	**295**	P		**Pn**	**19 21 55.4**	**+0.3**
	80nm,1.0s							
BNDI	**Bandanaira**	**12.99**	**277**	P		**Pn**	**19 21 59.0**	**+0.8**
	622nm,1.9s							
MTN	**Manton Dam**	**13.21**	**240**	P		**Pn**	**19 21 59.0**	**-2.0**
	baz=13,SNR=15							
MTN	**Manton Dam**	**13.21**	**240**			**Pn**	**19 21 58.1**	**-2.9**
MTN	**Manton Dam**	**13.21**	**240**	P		**Pn**	**19 21 59.4**	**-1.6**
DRS	**Darwin Rock St**	**13.22**	**242**	P		**Pn**	**19 22 00.5**	**-0.7**
CTA	**Charters Tower**	**14.04**	**167**	Lg		Lg	19 26 23.7	
	0.4nm,0.3s,baz=74,slow=20,SNR=2.0							
CTA				LR		LR	19 27 13.1	
	comp=Z,589nm,19.3s,baz=353,slow=35							
CTAO	**Charters Tower**	**14.04**	**167**	Pn		**Pn**	**19 22 11.2**	**-1.3**
CTAO	**Charters Tower**	**14.04**	**167**	P		**Pn**	**19 22 11.2**	**-1.3**
QIS	**Mount Isa**	**14.46**	**192**	P		**Pn**	**19 22 19.3**	**+1.2**
	baz=14,SNR=9.1							
QIS	**Mount Isa**	**14.46**	**192**	P		**Pn**	**19 22 19.4**	**+1.2**
WB0	**Warramunga Arr**	**15.65**	**211**			**Pn**	**19 22 32.3**	**-1.8**
WR0	**Warramunga Arr**	**15.73**	**210**			**Pn**	**19 22 32.0**	**-3.1**
WRAB	**Tennant Creek**	**15.81**	**211**			**Pn**	**19 22 33.3**	**-2.8**
WRAB	**Tennant Creek**	**15.81**	**211**	*i*eP		**Pn**	**19 22 36.6**	**+0.5**
WB2	**Warramunga Arr**	**15.81**	**211**			**Pn**	**19 22 34.0**	**-2.2**
WRA	**Warramunga Arr**	**15.82**	**211**	Pn		**Pn**	**19 22 34.2**	**-2.1**
	1.2nm,0.3s,baz=36,slow=13,SNR=29							
WRA				Sn		**Sn**	**19 25 25.3**	**-6.6**
	1.1nm,0.3s,baz=26,slow=23,SNR=5.9							
WRA				Lg		Lg	19 27 15.7	
	0.8nm,0.3s,baz=32,slow=28,SNR=6.3							
WRA				LR		LR	19 29 25.8	
	comp=Z,3μm,20.1s,baz=12,slow=40							
NLAI	**Nanlea**	**15.98**	**280**	P		**P**	**19 22 41.1**	**-0.8**
	24nm,0.9s							
LBMI	**Labuha**	**16.32**	**290**	P		**P**	**19 22 44.6**	**-1.1**
	61nm,1.1s,1μm							
KNRA	**Kununurra**	**16.61**	**235**	P		**Pn**	**19 22 44.5**	**-2.0**
	baz=16,SNR=33							
KNRA	**Kununurra**	**16.61**	**235**	Pn		**Pn**	**19 22 42.5**	**-4.0**
KNRA				IAmb		IAmb	19 22 53.2	
	comp=Z,137nm,1.1s							
KNRA	**Kununurra**	**16.61**	**235**	P		**Pn**	**19 22 44.7**	**-1.7**
TNTI	**Ternate**	**16.98**	**294**			**Pn**	**19 22 46.2**	**-5.0**
TNTI	**Ternate**	**16.98**	**294**	P		**Pn**	**19 22 51.2**	**0.0**
	comp=Z,28nm,1.2s							
HNR	**Honiara**	**17.23**	**101**	P		**Pn**	**19 22 52.9**	**-1.4**
HNR	**Honiara**	**17.23**	**101**	P		**Pn**	**19 22 52.9**	**-1.4**
HNR				pmax		pmax		
	comp=Z,103nm,1.2s							
SANI	**Sanana**	**17.33**	**284**	P		**Pn**	**19 22 56.1**	**+0.6**
	comp=Z,30nm,1.1s							
SOEI	**Soe**	**18.68**	**258**			**P**	**19 23 12.0**	**0.0**
SOEI				IAmb		IAmb	19 23 25.0	
	comp=Z,138nm,0.9s							
SOEI	**Soe**	**18.68**	**258**	P		**Pn**	**19 23 15.2**	**+2.9**
	comp=Z,260nm,0.9s,comp=Z,2μm							
AS31	**Alice Springs**	**19.23**	**206**			**P**	**19 23 18.8**	**+1.0**
ASAR	**Alice Springs**	**19.23**	**206**			**P**	**19 23 19.1**	**+1.2**
ASAR	**Alice Springs**	**19.23**	**206**	P		**Pn**	**19 23 20.1**	**+1.4**
	comp=Z,46nm,0.8s,baz=31,slow=10,SNR=112							
ASAR				S		**Sn**	**19 26 46.4**	**-8.1**
	comp=Z,10nm,0.7s,baz=18,slow=26,SNR=5.3							
ASAR				LR		LR	19 31 24.7	
	comp=Z,2μm,20.1s,baz=33,slow=39							
SGSI	**Sangihe**	**19.95**	**300**	P		**Pn**	**19 23 26.3**	**-1.1**
	comp=Z,247nm,0.4s							
KMSI	**Cibinong**	**20.04**	**289**	P		**Pn**	**19 23 27.5**	**-0.9**
	comp=Z,138nm,1.1s,comp=Z,2μm							
QLP	**Quilpie**	**20.15**	**176**	P		Pn	19 23 32.7	+3.0
	baz=20,SNR=24							
FITZ	**Fitzroy Crossi**	**20.43**	**234**	P		**P**	**19 23 32.1**	**+1.2**
	baz=20,SNR=38							
FITZ	**Fitzroy Crossi**	**20.43**	**234**			**P**	**19 23 30.9**	**0.0**
FITZ				IAmb		IAmb	19 23 35.9	
	comp=Z,132nm,1.7s							
EIDS	**Eidsvold**	**20.48**	**158**	P		Pn	19 23 36.3	+2.7
	baz=21,SNR=6.7							
EIDS	**Eidsvold**	**20.48**	**158**			**P**	**19 23 33.8**	**+2.3**
EIDS				IAmb		IAmb	19 23 43.1	
	comp=Z,196nm,1.5s							
MMRI	**Maumere**	**20.54**	**262**	P		**P**	**19 23 30.9**	**-1.2**
MMRI				IAmb		IAmb	19 23 43.2	
	comp=Z,86nm,1.1s							
MMRI	**Maumere**	**20.54**	**262**	P		Pn	19 23 34.6	+0.2
	comp=Z,76nm,0.9s,comp=Z,1μm							
LUWI	**Luwuk**	**20.69**	**284**	P		**P**	**19 23 33.0**	**-0.9**
LUWI				IAmb		IAmb	19 23 36.8	
	comp=Z,92nm,1.0s							
LUWI	**Luwuk**	**20.69**	**284**	P		Pn	19 23 35.9	-0.3
	comp=Z,109nm,1.2s							
GTOI	**Gorontalo**	**20.97**	**289**	P		Pn	19 23 41.3	+1.9
	comp=Z,42nm,1.1s,comp=Z,397nm							
EDFI	**Ende, Flores**	**21.09**	**262**	P		**P**	**19 23 38.5**	**+0.3**
	comp=Z,92nm,1.0s,comp=Z,960nm							
BASI	**Baing, Sumba**	**22.35**	**259**	P		**P**	**19 23 51.6**	**0.0**
	comp=Z,145nm,1.0s,comp=Z,2μm							
BKSI	**Bulukumba**	**22.61**	**271**	P		**P**	**19 23 57.2**	**+2.7**
	comp=Z,68nm,1.2s,comp=Z,846nm							
KAPI	**Kappang**	**23.00**	**272**	P		**P**	**19 23 57.5**	**-1.0**
KAPI	**Kappang**	**23.00**	**272**	*ce*P		**P**	**19 24 00.3**	**+1.7**
KAPI				pmax		pmax		
	comp=Z,144nm,1.6s							
TTSI	**Tana Toraja**	**23.16**	**277**	P		**P**	**19 24 03.2**	**+2.9**
	comp=Z,48nm,1.2s,comp=Z,920nm							
WRKA	**Warakurna**	**23.21**	**215**	P		**P**	**19 24 01.8**	**+1.2**
	baz=23,SNR=40							
TOLI2	**Tolitoli**	**23.23**	**288**	P		**P**	**19 23 59.6**	**-1.3**
TOLI2				IAmb		IAmb	19 24 04.3	
	comp=Z,83nm,1.3s							
WBSI	**Waikabubak, Su**	**23.43**	**260**	P		**P**	**19 24 05.3**	**+2.3**
	comp=Z,0.1nm,0.7s							
MPSI	**Mapaga**	**23.83**	**285**	P		**P**	**19 24 09.3**	**+2.4**
	comp=Z,28nm,1.6s,comp=Z,461nm							
PLAI	**Plampang**	**24.95**	**263**	P		**P**	**19 24 19.0**	**+1.8**
	comp=Z,31nm,1.0s							
CMSA	**Cobar Meteorol**	**25.19**	**174**	P		**P**	**19 24 23.9**	**+4.8**
	baz=25,SNR=7.5							
STKA	**Stephens Creek**	**25.41**	**182**	P		**P**	**19 24 24.2**	**+3.1**
	baz=26,SNR=6.8							
STKA	**Stephens Creek**	**25.41**	**182**	P		**P**	**19 24 22.6**	**+1.6**
STKA	**Stephens Creek**	**25.41**	**182**	P		**P**	**19 24 22.8**	**+1.6**
	comp=Z,13nm,0.9s,baz=348,slow=10,SNR=16							
	comp=Z,13nm,0.9s							
TWSI	**Taliwang, Sumb**	**25.83**	**263**	P		**P**	**19 24 25.5**	**+0.4**
	comp=Z,12nm,0.8s							
BKB	**Balikpapan**	**26.36**	**280**	P		**P**	**19 24 33.7**	**+3.8**
	comp=Z,66nm,0.6s							
KBKI	**Kotabaru**	**26.74**	**275**	P		**P**	**19 24 33.6**	**+0.3**
	comp=Z,1μm,1.0s,comp=Z,46μm							
MBWA	**Marble Bar**	**26.77**	**234**	P		**P**	**19 24 33.2**	**-0.3**
MBWA				IAmb		IAmb	19 24 39.7	
	comp=Z,40nm,1.1s							
PSA00	**Pilbara Seismi**	**26.88**	**233**	P		**P**	**19 24 34.1**	**-0.5**
PSA00				IAmb		IAmb	19 24 41.0	
	comp=Z,50nm,1.2s							
PSA00	**Pilbara Seismi**	**26.88**	**233**	P		**P**	**19 24 34.4**	**-0.2**
PSA00				IAmb		IAmb	19 24 40.9	
	comp=Z,15nm,1.1s							
SRBI	**Singaraja**	**27.45**	**265**	P		**P**	**19 24 40.5**	**+0.8**
	comp=Z,14nm,1.0s							
DZM	**Mont Dzumac**	**27.64**	**127**	*e*LR		LR	19 31 57.1	
	comp=Z,523nm,27.1s							
MTKI	**Muara Teweh, K**	**28.38**	**280**	P		**P**	**19 24 49.2**	**+1.1**
	comp=Z,13nm,0.5s,comp=Z,2μm							
ABJI	**Asem Bagus**	**28.41**	**265**	P		**P**	**19 24 49.4**	**+1.1**
	comp=Z,23nm,0.5s							
MEEK	**Meekatharra**	**30.64**	**226**	P		**P**	**19 25 10.3**	**+2.3**
	baz=31,SNR=3.3							
PWJI	**Pagerwojo**	**30.82**	**265**	P		**P**	**19 25 11.3**	**+1.6**
	comp=Z,11nm,1.4s							
JCJ	**Chichijima**	**33.26**	**359**	LR		LR	19 37 22.1	
	comp=Z,93nm,20.9s,baz=171,slow=34							
KPJI	**Karang Pucung**	**33.66**	**266**	P		**P**	**19 25 37.3**	**+2.6**
	comp=Z,17nm,1.1s							
SBJI	**Serang**	**36.48**	**268**	P		**P**	**19 26 00.1**	**+1.1**
	comp=Z,293nm,0.8s,comp=Z,11μm							
PPBI	**Pangkal Pinang**	**36.82**	**275**	P		**P**	**19 26 02.4**	**+0.5**
PMBI	**Palembang**	**38.08**	**273**	P		**P**	**19 26 14.1**	**+1.5**
	comp=Z,204nm,0.4s							
LWLI	**Liwa**	**38.60**	**270**	P		**P**	**19 26 17.9**	**+0.8**
	comp=Z,29nm,0.9s,comp=Z,2μm							
TPRI	**Tanjung Pinang**	**38.91**	**279**	P		**P**	**19 26 21.2**	**+1.6**
	comp=Z,37nm,1.4s							
MYKOM	**Kota Tinggi**	**39.75**	**280**	P		**P**	**19 26 26.5**	**-0.1**
QIZ	**Qiongzhong**	**41.15**	**308**	P		**P**	**19 26 38.7**	**+0.6**
QIZ				S		**S**	**19 32 51.3**	**-0.3**
QIZ				LR		LR		
	comp=Z,170nm,8.6s							
QIZ				LR		LR		
	comp=Z,190nm,8.1s							
QIZ				LR		LR		
	comp=Z,130nm,15.7s							
KRJI	**Kerinci**	**41.46**	**274**	P		**P**	**19 26 44.6**	**+3.7**
	comp=Z,75nm,1.0s							
BKNI	**Bangkinang**	**42.23**	**277**	P		**P**	**19 26 48.5**	**+1.4**
	comp=Z,57nm,0.4s							
MJAR	**Matsushiro Arr**	**42.90**	**355**	P		**P**	**19 26 51.1**	**-1.0**
	comp=Z,6.7nm,1.2s,baz=173,slow=10,SNR=4.7							
MJAR				LR		LR	19 42 09.0	
	comp=Z,61nm,21.9s,baz=162,slow=33							
	comp=Z,6.7nm,1.2s							
MAJO	**Matsushiro**	**42.90**	**355**	*i*eP		**P**	**19 26 52.6**	**+0.5**
MAJO				pmax		pmax		
	comp=Z,7.0nm,0.9s							
RAO	**Raoul Island**	**43.44**	**126**	LR		LR	19 42 09.4	
	comp=Z,285nm,19.4s,baz=43,slow=32							
NJ2	**Nanjing**	**44.52**	**331**	*e*P		**P**	**19 27 06.8**	**+1.6**
NJ2				pmax		pmax		
	comp=Z,15nm,1.2s							
NJ2				pmax		pmax		
	comp=Z,240nm,4.5s							
RPSI	**Rantau Prapat**	**44.75**	**280**	P		**P**	**19 27 07.5**	**+0.1**
RPSI				IAmb		IAmb	19 27 10.4	
	comp=Z,36nm,1.1s							
PSI	**Prapat**	**44.77**	**280**	P		**P**	**19 27 07.5**	**-0.2**
PSI				pmax		pmax		
	comp=Z,36nm,1.1s							
MSWZ	**Moikau Station**	**45.29**	**145**	P		**P**	**19 27 10.9**	**-0.4**
SRIT	**Nakonsritamara**	**45.59**	**289**	P		**P**	**19 27 13.9**	**-0.1**
SRIT				IAmb		IAmb	19 27 17.6	
	comp=Z,49nm,1.7s							
WHN	**Wuhan**	**45.73**	**325**	P		**P**	**19 27 17.1**	**+2.2**
KSAR	**Wonju Array Be**	**45.76**	**343**	P		**P**	**19 27 14.3**	**-0.7**
KSAR	**Wonju Array Be**	**45.76**	**343**	P		**P**	**19 27 14.3**	**-0.7**
KSRS	**Korea Array**	**45.76**	**343**	P		**P**	**19 27 15.5**	**+0.5**
	comp=Z,5.2nm,1.0s,baz=162,slow=9.0,SNR=9.9							
	comp=Z,5.2nm,1.0s							
GYA	**Guiyang**	**47.89**	**315**	*i*P		**P**	**19 27 34.2**	**+2.1**
GYA				pmax		pmax		
	comp=Z,20nm,1.7s							
GYA				pmax		pmax		
	comp=Z,200nm,6.3s							
PHRA	**Phrae**	**48.73**	**301**	P		**P**	**19 27 37.9**	**-0.6**
CRAI	**Chiangrai**	**49.40**	**303**	P		**P**	**19 27 43.0**	**-0.6**
LYN	**LuoYang**	**49.78**	**327**	P		**P**	**19 27 47.3**	**+1.0**
LYN				pP		sP	19 27 59.2	+8.1
LYN				sP		pP	19 28 05.5	+16
LYN				pmax		pmax		
	comp=Z,26nm,1.0s							
LYN				pmax		pmax		
	comp=Z,130nm,4.5s							
LYN				LR		LR		
	comp=Z,200nm,8.4s							
LYN				LR		LR		
	comp=Z,200nm,10.6s							
LYN				LR		LR		
	comp=Z,270nm,15.3s							
CMAR	**Chiang Mai Arr**	**49.81**	**301**	P		**P**	**19 27 45.7**	**-1.1**
CMAR	**Chiang Mai Arr**	**49.81**	**301**	P		**P**	**19 27 48.8**	**+1.9**
	comp=Z,3.5nm,1.0s,baz=126,slow=6.1,SNR=28							
	comp=Z,3.5nm,1.0s							
CHTO	**Chiang Mai**	**49.96**	**301**	P		**P**	**19 27 46.6**	**-1.4**
CHTO	**Chiang Mai**	**49.96**	**301**	P		**P**	**19 27 46.6**	**-1.4**
CHTO				pmax		pmax		
	comp=Z,7.0nm,1.1s							
KMI	**Kunming**	**50.00**	**310**	P		**P**	**19 27 51.0**	**+2.6**
KMI				pmax		pmax		
	comp=Z,27nm,1.4s							
ASAJ	**Asahikawa**	**50.24**	**360**	LR		LR	19 52 51.4	
	comp=Z,43nm,19.0s,baz=180,slow=41							
HNS	**HongShan**	**50.84**	**331**	P		**P**	**19 27 55.3**	**+1.1**
HNS				pmax		pmax		
	comp=Z,15nm,1.5s							
USA0B	**Ussuriysk Arra**	**51.27**	**350**	*e*P		**P**	**19 27 57.3**	**0.0**
USRK	**Ussuriysk Ar.**	**51.27**	**350**	P		**P**	**19 27 56.3**	**-1.0**
USRK	**Ussuriysk Ar.**	**51.27**	**350**	P		**P**	**19 27 57.6**	**+0.3**
	comp=Z,4.6nm,0.8s,baz=145,slow=6.4,SNR=8.4							
USRK				LR		LR	19 46 25.6	
	comp=Z,104nm,21.6s,baz=177,slow=32							
	comp=Z,4.6nm,0.8s							
XAN	**Xi'an**	**51.42**	**324**	P		**P**	**19 27 59.3**	**+0.6**
XAN				pP		sP	19 28 10.2	+6.7
XAN				pmax		pmax		
	comp=Z,22nm,1.3s							
PZH	**PanZhiHua**	**51.50**	**311**	P		**P**	**19 28 00.3**	**+0.7**
PZH				pmax		pmax		
	comp=Z,11nm,1.3s							
PZH				pmax		pmax		
	comp=Z,100nm,5.5s							
MDJ	**Mudanjiang**	**52.12**	**348**	P		**P**	**19 28 05.9**	**+2.2**
MDJ				pmax		pmax		
	comp=Z,9.0nm,2.3s							
MDJ				pmax		pmax		
	comp=Z,160nm,5.5s							
CD2	**Chengdu**	**52.63**	**317**	*e*P		**P**	**19 28 08.0**	**+0.2**
YSS	**Yuzh-Sakhalins**	**53.08**	**360**	*e*P		**P**	**19 28 11.7**	**+0.9**
YSS				pmax		pmax		
	comp=Z,30nm,1.2s							
TNCH	**TengChong**	**53.21**	**308**	P		**P**	**19 28 14.4**	**+2.0**
TNCH				pP		sP	19 28 25.0	+7.9
TNCH				pmax		pmax		
	comp=Z,32nm,1.6s							
TNCH				pmax		pmax		
	comp=Z,120nm,4.7s							
BNX	**BinXian**	**53.67**	**347**	P		**P**	**19 28 14.2**	**-0.9**
BNX				pmax		pmax		
	comp=Z,12nm,1.2s							
BNX				pmax		pmax		
	comp=Z,230nm,4.7s							
HHC	**Hu-ho-hao-te**	**55.05**	**331**	*e*P		**P**	**19 28 28.5**	**+3.0**
HHC				pmax		pmax		
	comp=Z,10.0nm,0.5s							
HHC				pmax		pmax		
	comp=Z,54nm,4.2s							
HHC				LR		LR		
	comp=Z,85nm,12.3s							
HHC				LR		LR		
	comp=Z,97nm,11.9s							
HHC				LR		LR		
	comp=Z,100nm,17.1s							
BTO	**Baotou**	**55.62**	**330**	*e*P		**P**	**19 28 31.6**	**+2.0**
BTO				pP		sP	19 28 44.0	+10
BTO				sP		pP	19 28 49.2	+16
BTO				PP		**PP**	**19 30 37.5**	**+3.6**
BTO				pmax		pmax		
	comp=Z,20nm,1.0s							
BTO				pmax		pmax		
	comp=Z,130nm,4.1s							
BTO				LR		LR		
	comp=Z,240nm,5.1s							
BTO				LR		LR		
	comp=Z,160nm,6.4s							
BTO				LR		LR		
	comp=Z,240nm,5.3s							
LZH	**Lanzhou**	**55.86**	**322**	*e*P		**P**	**19 28 33.1**	**+1.7**
LZH				pP		sP	19 28 42.4	+6.3
LZH				S		**S**	**19 36 10.4**	**-8.7**
LZH				pmax		pmax		
	comp=Z,13nm,1.4s							
KLR	**Kul'dur**	**56.20**	**351**	*ce*P		**P**	**19 28 33.7**	**+0.3**
KLR				pmax		pmax		
	comp=Z,19nm,2.5s							
TYV	**Tymovskoe**	**56.99**	**360**	*e*P		**P**	**19 28 39.7**	**+0.7**
TYV				pmax		pmax		
	comp=Z,4.0nm,1.1s							
TYV				pmax		pmax		
	comp=Z,100nm,3.6s							
HEH	**HeiHe**	**57.95**	**348**	*e*P		**P**	**19 28 45.2**	**-0.5**
HEH				pmax		pmax		
	comp=Z,10.0nm,1.8s							
GTA	**Gaotai**	**60.44**	**323**	P		**P**	**19 29 04.6**	**+1.2**
GTA				sP		sP	19 29 18.1	+10
GTA				pmax		pmax		
	comp=Z,5.0nm,1.4s							
PETK	**Petropavlovsk-**	**60.57**	**10**	P		**P**	**19 29 04.8**	**+0.9**
	comp=Z,6.6nm,0.9s,baz=216,slow=7.3,SNR=3.8							
	comp=Z,6.6nm,0.9s							
LSA	**Lhasa**	**61.19**	**309**	P		**P**	**19 29 08.4**	**-0.7**
LSA	**Lhasa**	**61.19**	**309**	P		**P**	**19 29 08.4**	**-0.7**
LSA				pmax		pmax		
	comp=Z,14nm,1.3s							
ZEA	**Zeya**	**61.30**	**350**	*e*P		**P**	**19 29 09.5**	**+0.7**
ZEA				pmax		pmax		
	comp=Z,10.0nm,0.9s							
GOMU	**GeErMu**	**61.77**	**317**	P		**P**	**19 29 14.9**	**+2.1**
GOMU				pmax		pmax		
	comp=Z,4.0nm,1.3s							
ULN	**Ulaanbaatar**	**62.51**	**334**	P		**P**	**19 29 17.4**	**+0.1**
ULN	**Ulaanbaatar**	**62.51**	**334**	*ce*P		**P**	**19 29 18.3**	**+1.0**
ULN				pmax		pmax		
	comp=Z,18nm,2.5s							
SONM	**Songino Array**	**62.78**	**333**	P		**P**	**19 29 19.0**	**-0.1**
SONM	**Songino Array**	**62.78**	**333**	P		**P**	**19 29 19.9**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=145,slow=5.3,SNR=12							
	comp=Z,2.2nm,0.9s							
SHEM	**Shemya Is, Ala**	**64.58**	**20**	LR		LR	19 51 28.7	
	comp=Z,118nm,20.3s,baz=156,slow=30							
MA2	**Magadan**	**66.03**	**4**	*i*eP		**P**	**19 29 40.2**	**+0.3**
MA2				pmax		pmax		
	comp=Z,22nm,2.5s							
ZAK	**Zakamensk**	**66.04**	**334**	*e*P		**P**	**19 29 40.7**	**+0.4**
ZAK				pmax		pmax		
	comp=Z,9.0nm,1.2s							
PPT2	**Papeete2**	**66.77**	**106**	*e*LR		LR	19 50 02.6	
	comp=Z,108nm,24.5s							
MOY	**Mondy**	**67.97**	**333**	*e*P		**P**	**19 29 53.7**	**+1.1**
MOY				pmax		pmax		
	comp=Z,33nm,3.0s							
YAK	**Yakutsk**	**68.95**	**353**	*ce*P		**P**	**19 29 58.2**	**-0.1**
YAK				pmax		pmax		
	comp=Z,5.0nm,1.1s							
SEY	**Seymchan**	**69.48**	**5**	*i*eP		**P**	**19 30 02.0**	**+0.4**
SEY				pmax		pmax		
	comp=Z,3.0nm,1.2s							
WMQ	**Urumqi**	**70.41**	**321**	*e*P		**P**	**19 30 09.6**	**+1.8**
WMQ				pP		sP	19 30 19.4	+6.8
WMQ				pmax		pmax		
	comp=Z,16nm,1.3s							
DGZ	**Jazzator, Alta**	**73.57**	**326**	*i*eP		**P**	**19 30 26.7**	**-0.1**
DGZ				pmax		pmax		
	comp=Z,10.0nm,1.0s							
ZSN	**Zaisan**	**73.92**	**323**	*e*P		**P**	**19 30 29.1**	**+0.4**
ZSN				pmax		pmax		
	comp=Z,8.0nm,1.5s							
ZSN	**Zaisan**	**73.92**	**323**	*e*P		**P**	**19 30 29.2**	**+0.4**
	comp=Z,8.4nm,1.5s,baz=323							
MK31	**Makanchi Array**	**75.17**	**322**	P		**P**	**19 30 35.4**	**-0.6**
MK31				IAmb		IAmb	19 30 41.3	
	comp=Z,47nm,2.0s							
MK31	**Makanchi Array**	**75.17**	**322**	*c i*P		**P**	**19 30 36.9**	**+0.9**
MKAR	**Makanchi Array**	**75.17**	**322**	P		**P**	**19 30 35.3**	**-0.7**
MKAR	**Makanchi Array**	**75.17**	**322**	P		**P**	**19 30 37.2**	**+1.1**
	comp=Z,5.2nm,1.0s,baz=114,slow=5.9,SNR=30							
	comp=Z,5.2nm,1

SGDS **Sogindy** 78.85 316 *e*P P 19 30 57.0 +0.1
baz=316
O14K **Tigyukauivet M** 78.94 26 P P 19 30 57.6 +0.7
baz=237
KURK **Kurchatov** 79.05 324 P P 19 30 57.5 -0.2
KURK **Kurchatov** 79.05 324 *e*P P 19 30 58.3 +0.6
KURK pmax pmax
comp=Z,23nm,1.7s
KURBB **Kurchatov Arra** 79.06 324 P P 19 30 58.3 +0.5
comp=Z,4.7nm,1.0s,baz=119,slow=4.7,SNR=18
comp=Z,4.7nm,1.0s
N14K **Kuskokwak Cree** 79.13 25 P P 19 30 59.2 +1.3
baz=236
M14K **Bethel** 79.48 24 P P 19 31 00.5 +0.8
baz=236
L14K **Kuka Creek** 79.52 24 IAmb IAmb 19 31 02.6
comp=Z,19nm,0.9s
L14K **Kuka Creek** 79.52 24 P P 19 31 01.4 +1.4
baz=235
DRK **Karamyk** 79.61 312 P P 19 31 00.1 -1.3
BTLS **Baital** 79.78 318 *e*P P 19 31 01.9 +0.1
BTLS pmax pmax
comp=Z,13nm,1.5s
BTLS **Baital** 79.78 318 *e*P P 19 31 01.9 +0.1
comp=Z,13nm,1.5s,baz=318
N15K **Kwethluk River** 79.94 25 P P 19 31 03.0 +0.6
baz=238
M15K **Kasigluk River** 79.97 25 P P 19 31 03.9 +1.5
baz=237
J14K **Nanvaranak Lak** 80.00 22 P P 19 31 04.3 +1.7
baz=234
L15K **Ungalak Mounta** 80.18 24 P P 19 31 04.8 +1.2
baz=236
TNA **Tin City** 80.22 19 P P 19 31 04.8 +1.1
baz=230
P16K **Nushagak River** 80.26 27 P P 19 31 04.3 +0.2
baz=240
MAW **Mawson** 80.32 203 LR LR 20 05 00.8
comp=Z,87nm,18.1s,baz=299,slow=34
KBL **Kabul** 80.39 306 P P 19 31 05.0 -0.6
KBL IAmb IAmb 19 31 10.5
comp=Z,28nm,1.1s
KBL **Kabul** 80.39 306 P P 19 31 05.0 -0.6
KBL pmax pmax
comp=Z,28nm,1.2s
ANM **Nome** 80.43 20 P P 19 31 04.2 -0.7
ANM IAmb IAmb 19 31 12.5
comp=Z,57nm,2.0s
ANM **Nome** 80.43 20 P P 19 31 04.2 -0.7
ANM pmax pmax
comp=Z,57nm,2.0s
ANM **Nome** 80.43 20 P P 19 31 05.5 +0.5
baz=232
BTK **Batken** 80.50 312 P P 19 31 04.6 -1.3
BTK IAmb IAmb 19 31 40.8
comp=Z,21nm,1.0s
BTK **Batken** 80.50 312 P P 19 31 04.6 -1.3
BTK pmax pmax
comp=Z,21nm,1.0s
O16K **Kokwok River B** 80.50 26 P P 19 31 05.9 +0.5
baz=240
K15K **Wolf Creek Mou** 80.51 23 P P 19 31 04.0 -1.4
K15K **Wolf Creek Mou** 80.51 23 P P 19 31 05.9 +0.5
baz=236
GAR **Garm** 80.58 311 P P 19 31 05.2 -1.2
F14K **Arctic Creek** 80.68 19 P P 19 31 07.3 +1.0
baz=231
Q17K **Contact Creek** 80.85 28 P P 19 31 07.7 +0.3
baz=242
M16K **Timber Creek** 80.86 25 P P 19 31 07.7 +0.4
M16K IAmb IAmb 19 31 10.1
comp=Z,25nm,1.1s
M16K **Timber Creek** 80.86 25 P P 19 31 08.0 +0.7
baz=239
DZA **Taraz** 80.96 315 *e*P P 19 31 08.8 +0.5
DZA **Taraz** 80.96 315 *e*P P 19 31 08.8 +0.5
baz=315
L16K **Owhat River** 81.01 24 P P 19 31 08.0 0.0
baz=238
O17K **Koliganek Bris** 81.03 26 P P 19 31 08.1 -0.1
baz=241
G15K **Niukluk** 81.15 20 P P 19 31 09.6 +0.9
baz=234
CHGR **Chuyangaron** 81.35 311 P P 19 31 09.9 -0.6
CHGR IAmb IAmb 19 31 32.2
comp=Z,22nm,1.1s
CHGR **Chuyangaron** 81.35 311 P P 19 31 10.0 -0.6
CHGR pmax pmax
comp=Z,22nm,1.1s
N17K **Nushagak Hills** 81.36 26 P P 19 31 10.1 +0.1
baz=240
F15K **North Star Dit** 81.37 19 P P 19 31 11.1 +1.2
baz=233
J16K **Anvik River** 81.41 22 P P 19 31 11.1 +0.9
baz=237
SIMJ **Simiganj** 81.47 311 P P 19 31 10.9 -0.3
H16K **Elim** 81.57 21 P P 19 31 11.3 +0.4
baz=235
KKAR **Karatay Array** 81.59 315 P P 19 31 09.8 -1.8
KKAR **Karatay Array** 81.59 315 P P 19 31 09.8 -1.8
IUG **luzhnay** 81.66 314 *e*P P 19 31 13.0 +0.9
IUG pmax pmax
comp=Z,12nm,1.1s
IUG **luzhnay** 81.66 314 *e*P P 19 31 13.0 +0.9
comp=Z,12nm,1.1s,baz=314
M17K **Holitna River** 81.69 25 P P 19 31 13.2 +1.5
baz=240
L17K **Donlin** 81.71 24 P P 19 31 12.5 +0.7
baz=239
G16K **Koyuk River** 81.96 20 P P 19 31 14.4 +1.3
baz=235
N18K **Kilae Creek** 82.00 26 P P 19 31 12.8 -0.5
baz=242
K17K **Iditarod** 82.00 23 P P 19 31 12.2 -1.2
K17K IAmb IAmb 19 31 16.2
comp=Z,18nm,1.1s
K17K **Iditarod** 82.00 23 P P 19 31 13.9 +0.6
baz=239
BRLS **Boroldaу** 82.05 315 *e*P P 19 31 14.7 +0.7
BRLS **Boroldaу** 82.05 315 *e*P P 19 31 14.8 +0.7
baz=315
J17K **VABM Dome** 82.05 23 P P 19 31 13.2 -0.4
J17K IAmb IAmb 19 31 19.9
comp=Z,28nm,1.4s
J17K **VABM Dome** 82.05 23 P P 19 31 13.5 -0.1
baz=238
KDAK **Kodiak Island** 82.21 29 P P 19 31 14.3 -0.2
baz=245
BRZS **Berezniki** 82.31 322 *e*P P 19 31 15.8 +0.6
BRZS **Berezniki** 82.31 322 *e*P P 19 31 15.8 +0.6
baz=322
L18K **Granite Mounta** 82.40 24 P P 19 31 16.6 +1.2
baz=241
M18K **Stony River** 82.41 25 P P 19 31 15.3 -0.1
baz=242
H17K **Granite Mounta** 82.56 21 P P 19 31 16.1 -0.1
H17K IAmb IAmb 19 31 23.1
comp=Z,24nm,1.4s
H17K **Granite Mounta** 82.56 21 P P 19 31 17.0 +0.8
baz=238
G17K **Kiwalik Mounta** 82.61 21 P P 19 31 17.6 +1.1
baz=237
N19K **Bonanza Creek** 82.67 26 IAmb IAmb 19 31 19.3
comp=Z,22nm,1.1s
N19K **Bonanza Creek** 82.67 26 P P 19 31 18.0 +1.0
baz=243
P19K **Oil Pt** 82.71 27 P P 19 31 18.3 +1.2
baz=244
C16K **Lisburne Hills** 82.73 17 P P 19 31 17.3 +0.3
C16K IAmb IAmb 19 31 20.6
comp=Z,19nm,1.4s
C16K **Lisburne Hills** 82.73 17 P P 19 31 18.5 +1.6
baz=232
F17K **Baldwin Pennin** 82.93 20 P P 19 31 19.4 +1.3
baz=236
J18K **Innoko River** 83.00 23 P P 19 31 17.9 -0.7
J18K **Innoko River** 83.00 23 P P 19 31 19.4 +0.8
baz=241
TTA **Tatalina** 83.02 24 P P 19 31 18.1 -0.6
TTA IAmb IAmb 19 31 21.2
comp=Z,18nm,1.5s
TTA **Tatalina** 83.02 24 P P 19 31 18.1 -0.6
TTA pmax pmax
comp=Z,18nm,1.5s
TTA **Tatalina** 83.02 24 P P 19 31 19.3 +0.6
baz=241
D17K **Noatak River** 83.06 18 P P 19 31 19.5 +0.8
baz=234,SNR=8.6
L19K **White Mountain** 83.14 25 P P 19 31 20.6 +1.3
baz=242
M19K **Big River Lodg** 83.21 25 P P 19 31 21.1 +1.4
baz=243
H18K **Honhosa River** 83.24 21 P P 19 31 21.1 +1.4
baz=239
C17K **DeLong Mountai** 83.49 17 P P 19 31 22.0 +1.0
baz=234
G18K **Tagagawik** 83.52 21 IAmb IAmb 19 31 27.4
comp=Z,14nm,1.2s
G18K **Tagagawik** 83.52 21 P P 19 31 21.5 +0.3
baz=239
F18K **Selawik** 83.55 20 P P 19 31 22.1 +0.9
baz=238
QSPA **South Pole Qui** 83.61 180 P P 19 31 23.7 +1.8
comp=Z,3.5nm,0.8s,baz=342,slow=1.0,SNR=10.0
QSPA LR LR 20 08 51.6
comp=Z,302nm,19.0s,baz=285,slow=36
comp=Z,3.5nm,0.8s
L20K **Farewell, AK** 83.68 25 P P 19 31 22.7 +0.6
baz=243
J19K **Poorman** 83.69 23 P P 19 31 22.9 +0.9
baz=242
E18K **Tukpahlearik C** 83.69 19 P P 19 31 21.6 -0.4
E18K **Tukpahlearik C** 83.69 19 P P 19 31 22.3 +0.3
baz=237,SNR=11
M20K **Styx River** 83.73 25 IAmb IAmb 19 31 28.9
comp=Z,17nm,1.1s
M20K **Styx River** 83.73 25 P P 19 31 22.5 0.0
baz=244,SNR=7.3
N20K **Mount Spurr** 83.83 26 P P 19 31 23.4 +0.4
baz=245
BRSE **Bradley Lake S** 83.89 28 P P 19 31 24.2 +1.0
baz=246
K20K **Telida** 84.00 24 IAmb IAmb 19 31 30.4
comp=Z,25nm,1.3s
K20K **Telida** 84.00 24 P P 19 31 24.7 +1.0
baz=243
H19K **Roundabout Mou** 84.12 21 IAmb IAmb 19 31 26.8
comp=Z,26nm,1.4s
H19K **Roundabout Mou** 84.12 21 P P 19 31 25.3 +1.1
baz=241
C18K **Utukok River** 84.19 18 IAmb IAmb 19 31 28.8
comp=Z,20nm,1.5s
C18K **Utukok River** 84.19 18 P P 19 31 25.3 +0.7
baz=236
G19K **Purcell Mounta** 84.20 21 IAmb IAmb 19 31 27.2
comp=Z,21nm,1.4s
G19K **Purcell Mounta** 84.20 21 P P 19 31 25.1 +0.5
baz=240,SNR=7.1
F19K **Shaleruckik Mo** 84.31 20 P P 19 31 25.8 +0.6
baz=239
J20K **Nowinta River** 84.35 23 P P 19 31 25.9 +0.5
J20K **Nowinta River** 84.35 23 P P 19 31 26.1 +0.8
baz=243,SNR=8.9
NRIK **Noril'sk** 84.37 343 P P 19 31 25.6 +0.2
NRIK IAmb IAmb 19 31 29.3
comp=Z,21nm,1.1s
NRIK **Noril'sk** 84.37 343 *ce*P P 19 31 25.8 +0.4
NRIK pmax pmax
comp=Z,21nm,1.1s
NRIK **Noril'sk** 84.37 343 P P 19 31 25.7 +0.3
comp=Z,11nm,0.9s,baz=118,slow=5.1,SNR=18
comp=Z,11nm,0.9s
B18K **Kokolik River** 84.42 17 P P 19 31 25.8 +0.2
baz=235
SKT **Skwentna** 84.46 26 P P 19 31 26.1 +0.1
baz=246
I20K **Naaghedeneel** 84.50 22 P P 19 31 26.8 +0.7
baz=242
PPLA **Purkeypile** 84.57 25 P P 19 31 26.3 -0.4
baz=245
SUA **Susitna One** 84.59 26 P P 19 31 26.9 +0.1
baz=246
SEW **Seward** 84.63 28 P P 19 31 27.1 +0.3
baz=248
BVAR **Borovoye Array** 84.64 325 P P 19 31 28.1 +0.9
comp=Z,18nm,0.8s,baz=104,slow=6.3,SNR=62
comp=Z,18nm,0.8s
H20K **Anotleneega Mo** 84.68 22 P P 19 31 28.1 +1.0
baz=242
BRVK **Borovoye** 84.71 325 P P 19 31 27.5 0.0
BRVK **Borovoye** 84.71 325 *ce*P P 19 31 28.0 +0.5
BRVK pmax pmax
comp=Z,52nm,1.7s
E19K **Redstone River** 84.81 20 IAmb IAmb 19 31 32.3
comp=Z,12nm,1.1s
E19K **Redstone River** 84.81 20 P P 19 31 28.8 +1.1
baz=240
CAST **Castle Rocks** 84.83 24 P P 19 31 27.9 0.0
baz=245,SNR=8.3
RC01 **Rabbit Creek A** 84.89 27 IAmb IAmb 19 31 34.2
comp=Z,18nm,1.0s
RC01 **Rabbit Creek A** 84.89 27 P P 19 31 28.4 +0.2
baz=247,SNR=6.6
C19K **Lookout Ridge** 84.93 18 P P 19 31 28.7 +0.4
C19K IAmb IAmb 19 31 34.5
comp=Z,15nm,1.0s
C19K **Lookout Ridge** 84.93 18 P P 19 31 28.7 +0.4
baz=237,SNR=15
CHUM **La Minchumin** 84.94 24 P P 19 31 28.7 +0.3
baz=245,SNR=12
M22K **Willow** 84.98 26 P P 19 31 29.5 +0.9
baz=247
D19K **Kuna River** 85.06 19 IAmb IAmb 19 31 33.2
comp=Z,22nm,1.1s
D19K **Kuna River** 85.06 19 P P 19 31 30.0 +1.0
baz=239
A19K **Wainwright** 85.10 16 P P 19 31 29.9 +0.9
baz=236
F20K **Avaraart Lake** 85.12 20 P P 19 31 29.3 +0.1
F20K **Avaraart Lake** 85.12 20 P P 19 31 30.0 +0.8
baz=241,SNR=10.0
CUT **Chulitna** 85.17 25 P P 19 31 30.2 +0.6
baz=247
PMR **Palmer** 85.35 26 P P 19 31 30.0 -0.4
PMR IAmb IAmb 19 31 31.7
comp=Z,14nm,1.1s
PMR **Palmer** 85.35 26 P P 19 31 30.0 -0.4
PMR pmax pmax
comp=Z,15nm,1.1s
PMR **Palmer** 85.35 26 P P 19 31 31.0 +0.6
baz=248
KTH **Kantishna Hill** 85.36 24 IAmb IAmb 19 31 32.6
comp=Z,17nm,1.2s
GHO **Glory Hole Cre** 85.51 26 IAmb IAmb 19 31 36.8
comp=Z,28nm,1.6s
H21K **Melozitna Rive** 85.52 22 P P 19 31 32.1 +0.8
baz=244
P23K **Montague Islan** 85.55 28 P P 19 31 31.7 +0.2
baz=249
E20K **Nigu River** 85.56 19 P P 19 31 32.8 +1.3
baz=241
BPAW **Bear Paw Mtn.** 85.56 24 P P 19 31 31.2 -0.3
BPAW IAmb IAmb 19 31 33.1
comp=Z,32nm,1.8s
BPAW **Bear Paw Mtn.** 85.56 24 P P 19 31 32.3 +0.7
baz=246
KNK **Knik Glacier** 85.58 27 P P 19 31 31.5 -0.1
KNK IAmb IAmb 19 31 38.1
comp=Z,17nm,1.0s
KNK **Knik Glacier** 85.58 27 P P 19 31 32.3 +0.6
baz=248,SNR=7.9
TRF **Thorofare Moun** 85.58 24 P P 19 31 31.9 0.0
baz=246
I21K **Tanana** 85.63 23 IAmb IAmb 19 31 38.3
comp=Z,20nm,1.4s
I21K **Tanana** 85.63 23 P P 19 31 32.3 +0.5
baz=245
D20K **Etivluk River** 85.64 19 P P 19 31 33.0 +1.2
baz=240
G21K **Allakaket** 85.65 21 P P 19 31 32.9 +1.0
baz=243
SML **Sawmill** 85.78 26 IAmb IAmb 19 31 41.0
comp=Z,15nm,0.8s
SML **Sawmill** 85.78 26 P P 19 31 33.4 +0.7
baz=248,SNR=6.6
Q23K **Middleton Isla** 85.85 29 P P 19 31 32.5 -0.5
baz=250
MLY **Manley** 86.04 23 P P 19 31 32.9 -1.1
MLY IAmb IAmb 19 31 39.9
comp=Z,27nm,1.5s
MLY **Manley** 86.04 23 P P 19 31 34.0 0.0
baz=246,SNR=9.4
M23K **Glacier View** 86.05 26 P P 19 31 34.3 +0.4
baz=249
WAT1 **Susitna Watana** 86.07 25 P P 19 31 34.3 +0.2
baz=248
B20K **Meade River** 86.13 17 P P 19 31 35.1 +1.0
baz=240
H22K **Ishtalitna Cre** 86.16 22 P P 19 31 34.7 +0.2
baz=245
RND **Reindeer** 86.16 25 P P 19 31 33.8 -0.8
RND IAmb IAmb 19 31 35.5
comp=Z,14nm,0.9s
RND **Reindeer** 86.16 25 P P 19 31 33.8 -0.8
RND pmax pmax
comp=Z,14nm,0.9s
BWN **Browne** 86.20 24 P P 19 31 33.8 -0.9
SCM **Sheep Creek Mo** 86.24 27 P P 19 31 35.1 +0.1
baz=249
MCK **McKinley** 86.25 24 P P 19 31 35.0 0.0
baz=248,SNR=8.7
C21K **Knifeblade Rid** 86.44 19 P P 19 31 36.9 +1.2
baz=242
EYAK **Cordova Ski Ar** 86.51 28 P P 19 31 36.2 -0.1
baz=251
NEA2 **Nenana** 86.52 24 P P 19 31 35.5 -0.8
NEA2 IAmb IAmb 19 31 41.5
comp=Z,26nm,1.7s
NEA2 **Nenana** 86.52 24 P P 19 31 37.0 +0.7
baz=248
I23K **Minto, Yukon-K** 86.62 23 P P 19 31 37.4 +0.7
baz=247
DHY **Denali Highway** 86.66 25 IAmb IAmb 19 31 39.9
comp=Z,10nm,0.9s
DHY **Denali Highway** 86.66 25 P P 19 31 37.6 +0.4
baz=249,SNR=12
B21K **Ikpikpuk River** 86.71 18 P P 19 31 37.6 +0.6
baz=242,SNR=8.7
KLU **Klutina** 86.75 27 IAmb IAmb 19 31 43.7
comp=Z,14nm,1.2s
KLU **Klutina** 86.75 27 P P 19 31 38.0 +0.5
baz=250
M24K **Tolsona, Glenn** 86.84 26 P P 19 31 38.5 +0.6
baz=250
WRH **Wood River Hil** 86.87 24 P P 19 31 37.4 -0.5
WRH IAmb IAmb 19 31 42.8
comp=Z,31nm,1.6s
KAIM **Kayak Island** 86.94 29 P P 19 31 39.0 +0.6
baz=252
A21K **Barrow** 86.95 16 P P 19 31 39.3 +1.1
baz=240
D22K **Ayikyak River** 86.99 19 IAmb IAmb 19 31 45.5
comp=Z,22nm,1.2s
D22K **Ayikyak River** 86.99 19 P P 19 31 39.6 +1.2
baz=244
G23K **Bananza Creek** 86.99 22 P P 19 31 39.3 +0.7
baz=246,SNR=7.5
MDM **Murphy Dome** 87.00 23 P P 19 31 37.1 -1.5
CCB **Clear Creek Bu** 87.05 24 IAmb IAmb 19 31 40.6
comp=Z,12nm,1.0s
COLA **College** 87.11 24 ⇓ *e*P P 19 31 39.0 -0.1
COLA pmax pmax
comp=Z,12nm,1.1s
COLD **Coldfoot** 87.14 21 P P 19 31 40.5 +1.3
baz=246
BMRM **Bremner River** 87.18 28 P P 19 31 40.4 +0.8
baz=252
HDA **Harding Lake** 87.31 24 P P 19 31 41.0 +0.9
baz=250
POKR **Poker Plat Res** 87.37 23 P P 19 31 41.5 +1.1
baz=249
N25K **Chitina, Valde** 87.39 27 P P 19 31 41.1 +0.5
baz=252
B22K **Teshekpuk Lake** 87.41 18 P P 19 31 41.6 +1.2
baz=243
PAX **Paxson** 87.44 26 P P 19 31 41.6 +0.7
baz=251
H24K **Noodor Dome** 87.46 23 P P 19 31 41.7 +0.8
baz=249
IL31 **** 87.46 24 P P 19 31 39.6 -1.2
IL31 IAmb IAmb 19 31 45.2
comp=Z,28nm,1.6s
ILAR **Eielson Array** 87.46 24 P P 19 31 39.4 -1.4
ILAR **Eielson Array** 87.46 24 P P 19 31 40.0 -0.8
comp=Z,4.1nm,0.8s,baz=256,slow=5.0,SNR=46
ILAR LR LR 20 06 08.9
comp=Z,62nm,21.1s,baz=76,slow=32
comp=Z,4.1nm,0.8s
BGLC **Bering Glacier** 87.55 29 P P 19 31 43.2 +1.9
baz=253
E23K **Chandalar** 87.67 20 P P 19 31 43.3 +1.4
baz=247
D23K **Nanushuk River** 87.68 19 P P 19 31 43.2 +1.4
baz=246
GLB **Gilahina Butte** 87.69 27 P P 19 31 40.9 -1.2
GLB IAmb IAmb 19 34 06.0
comp=Z,7.8nm,0.6s
CRQE **Cirque** 87.82 28 P P 19 31 42.4 -0.4
baz=253
G24K **Hadweenzic Riv** 87.92 22 P P 19 31 43.4 +0.4
G24K **Hadweenzic Riv** 87.92 22 P P 19 31 43.5 +0.5
baz=249,SNR=9.1
TGL **Tana Glacier** 87.95 28 P P 19 31 42.6 -0.8
J25K **Salcha River,** 88.02 24 P P 19 31 43.1 -0.5
J25K **Salcha River,** 88.02 24 P P 19 31 44.0 +0.4
baz=251
C23K **Itkillik River** 88.06 19 P P 19 31 44.5 +1.0
baz=246
F24K **Squaw Lake** 88.07 21 P P 19 31 45.1 +1.3
baz=248
MENT **Mentasta** 88.19 26 IAmb IAmb 19 31 52.7
comp=Z,6.5nm,0.8s
PRP **Porcupine Dome** 88.26 23 P P 19 31 45.7 +0.9
baz=251
M26K **Nabesna, AK** 88.35 27 P P 19 31 45.7 +0.5
baz=253
D24K **Happy Valley** 88.37 19 P P 19 31 46.8 +1.7
baz=248
L26K **Log Cabin Wild** 88.38 26 P P 19 31 44.8 -0.5
L26K IAmb IAmb 19 31 51.5
comp=Z,14nm,1.4s
L26K **Log Cabin Wild** 88.38 26 P P 19 31 46.3 +1.0
baz=253
SCRK **Sand Creek** 88.39 25 P P 19 31 44.9 -0.6
SCRK IAmb IAmb 19 31 51.4
comp=Z,12nm,1.4s
SCRK **Sand Creek** 88.39 25 P P 19 31 46.5 +1.0
baz=252,SNR=7.2
H25L **Birch Creek** 88.40 23 P P 19 31 46.1 +0.9
baz=250
GRNC **Granite Creek** 88.45 28 P P 19 31 43.5 -2.3
G25K **Bearman Lake** 88.46 22 P P 19 31 46.8 +1.3
baz=250
BARN **Barnard Glacie** 88.58 28 P P 19 31 45.5 -1.0
BARN IAmb IAmb 19 31 48.5
comp=Z,14nm,0.9s
C24K **Franklin Bluff** 88.62 19 P P 19 31 47.3 +1.1
baz=248
CTG **Chitna Glacier** 88.70 28 P P 19 31 47.7 +0.7
baz=255,SNR=6.4
CTGM **Chitina Glacie** 88.71 28 P P 19 31 46.4 -0.6
CTGM IAmb IAmb 19 31 51.7
comp=Z,17nm,1.0s
J26L **Joseph Creek** 88.73 25 P P 19 31 47.7 +0.7
baz=252
M27K **Edge Creek, AK** 88.83 27 P P 19 31 47.9 +0.3
baz=254,SNR=7.2
F25K **Christian Rive** 88.91 21 P P 19 31 48.8 +1.1
baz=251,SNR=5.6
L27K **Beaver Creek,** 89.05 26 P P 19 31 47.7 -0.7
L27K IAmb IAmb 19 31 52.5
comp=Z,15nm,1.4s
L27K **Beaver Creek,** 89.05 26 P P 19 31 48.8 +0.3
baz=254
E25K **Arctic Village** 89.11 21 IAmb IAmb 19 31 55.8
comp=Z,21nm,1.4s
E25K **Arctic Village** 89.11 21 P P 19 31 49.3 +0.7
baz=251,SNR=12
I26K **Coal Creek Min** 89.14 24 P P 19 31 49.6 +0.8
baz=253
K27K **Chicken** 89.21 25 P P 19 31 50.5 +1.4
baz=254
BMAR **Burnt Mountain** 89.24 22 P P 19 31 49.4 +0.1
D25K **Kavik River** 89.24 20 IAmb IAmb 19 31 51.7
comp=Z,25nm,1.7s
D25K **Kavik River** 89.24 20 P P 19 31 50.7 +1.5
baz=250
BVCY **Beaver Creek** 89.31 27 P P 19 31 50.5 +0.9
baz=255
YUK3 **Moose Creek** 89.33 28 P P 19 31 49.7 -0.3
baz=255
G26K **Porcupine Rive** 89.39 22 P P 19 31 50.8 +1.0

	baz=252,SNR=19						
F26K	**Sheenjek River**	**89.48**	**21**	P	**P**	**19 31 51.6**	**+1.3**
	baz=252,SNR=16						
YUK8	**Steele Glacier**	**89.53**	**28**	P	**P**	**19 31 52.1**	**+1.1**
	baz=256						
EGAK	**Eagle**	**89.80**	**25**	P	**P**	**19 31 53.0**	**+1.1**
	baz=255,SNR=5.7						
I27K	**Kandik River**	**89.84**	**24**	P	**P**	**19 31 53.0**	**+0.9**
	baz=254						
O29M	**Mount Kennedy**	**89.86**	**29**	P	**P**	**19 31 53.1**	**+0.6**
	baz=257						
C26K	**Camden Bay**	**89.92**	**19**	P	**P**	**19 31 53.2**	**+0.9**
	baz=251						
H27K	**Steamboat Moun**	**90.04**	**23**	P	**P**	**19 31 54.4**	**+1.4**
	baz=254						
YUK4	**Talbot Arm**	**90.06**	**28**	P	**P**	**19 31 53.9**	**+0.5**
	baz=257						
YUK6	**Outpost Mounta**	**90.11**	**29**	P	**P**	**19 31 54.3**	**+0.6**
	baz=257						
P29M	**Windy Craggy**	**90.12**	**30**	P	**P**	**19 31 54.3**	**+0.7**
	baz=258						
DAWY	**Dawson**	**90.36**	**25**	P	**P**	**19 31 54.2**	**-0.4**
DAWY	**Dawson**	**90.36**	**25**	P	**P**	**19 31 55.0**	**+0.4**
	baz=256,SNR=8.4						
M29M	**Somme Creek**	**90.40**	**27**	P	**P**	**19 31 54.0**	**-0.9**
M29M				IAmb	IAmb	19 32 01.4	
	comp=Z,21nm,1.6s						
M29M	**Somme Creek**	**90.40**	**27**	P	**P**	**19 31 55.3**	**+0.4**
	baz=257						
I28M	**Miner Creek**	**90.47**	**24**	IAmb	IAmb	19 32 00.8	
	comp=Z,13nm,1.4s						
I28M	**Miner Creek**	**90.47**	**24**	P	**P**	**19 31 55.8**	**+0.6**
	baz=256						
HYT	**Haines Junctio**	**90.49**	**29**	P	**P**	**19 31 55.6**	**+0.2**
	baz=258						
P30M	**Million Dollar**	**90.61**	**30**	P	**P**	**19 31 56.7**	**+0.9**
	baz=258						
L29M	**L29M**	**90.69**	**27**	IAmb	IAmb	19 31 58.8	
	comp=Z,11nm,1.1s						
L29M	**L29M**	**90.69**	**27**	P	**P**	**19 31 57.1**	**+0.9**
	baz=257						
N30M	**Aishikik Lake**	**90.82**	**28**	P	**P**	**19 31 56.6**	**-0.2**
N30M				IAmb	IAmb	19 35 00.2	
	comp=Z,15nm,1.6s						
N30M	**Aishikik Lake**	**90.82**	**28**	P	**P**	**19 31 58.1**	**+1.3**
	baz=258						
J29N	**Klondike Camp**	**90.95**	**25**	IAmb	IAmb	19 32 00.3	
	comp=Z,23nm,1.8s						
J29N	**Klondike Camp**	**90.95**	**25**	P	**P**	**19 31 57.7**	**+0.4**
	baz=257						
F28M	**Old Crow**	**91.03**	**22**	P	**P**	**19 31 58.1**	**+0.6**
	baz=256						
K29M	**Barlow Dome**	**91.12**	**26**	P	**P**	**19 31 58.9**	**+0.7**
	baz=258						
O30N	**Mendenhall**	**91.16**	**29**	P	**P**	**19 31 58.9**	**+0.5**
	baz=259						
M30M	**Minto, Yukon**	**91.18**	**27**	P	**P**	**19 31 58.7**	**+0.2**
	baz=259						
H29M	**Whitestone**	**91.28**	**23**	P	**P**	**19 31 57.6**	**-1.1**
H29M				IAmb	IAmb	19 32 44.5	
	comp=Z,9.9nm,1.2s						
H29M	**Whitestone**	**91.28**	**23**	P	**P**	**19 31 59.2**	**+0.5**
	baz=257						
E28M	**Babbage River**	**91.39**	**21**	P	**P**	**19 32 00.8**	**+1.6**
	baz=256						
J30M	**Hart River**	**91.78**	**25**	P	**P**	**19 32 02.4**	**+1.1**
	baz=259						
I30M	**Mount Dempster**	**91.88**	**25**	IAmb	IAmb	19 32 03.9	
	comp=Z,15nm,1.6s						
I30M	**Mount Dempster**	**91.88**	**25**	P	**P**	**19 32 02.2**	**+0.5**
	baz=259						
E29M	**Blow River**	**91.93**	**21**	P	**P**	**19 32 02.6**	**+0.9**
	baz=258						
EPYK	**Eagle Plains**	**91.96**	**23**	P	**P**	**19 32 02.4**	**+0.4**
	baz=259						
ARU	**Arti**	**92.08**	**326**	P	**P**	**19 32 01.1**	**-1.6**
ARU				IAmb	IAmb	19 32 05.1	
	comp=Z,7.8nm,1.0s						
ARU	**Arti**	**92.08**	**326**	*c i*P	**P**	**19 32 02.3**	**-0.3**
ARU						19 35 43.0	
ARU				S	**SKSac**	**19 42 35.3**	**-0.5**
ARU				SS	**SS**	**19 49 15.4**	**+1.3**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.0s						
M31M	**Drury Creek, Y**	**92.22**	**28**	P	**P**	**19 32 03.6**	**+0.4**
	baz=261						
G30M	**tAoh Zraii Nji**	**92.28**	**23**	P	**P**	**19 32 04.1**	**+0.7**
	baz=259						
F30M	**Barrier River**	**92.56**	**22**	P	**P**	**19 32 04.7**	**+0.1**
	baz=260						
FARO	**Faro, Yukon**	**92.70**	**28**	P	**P**	**19 32 05.8**	**+0.4**
	baz=262						
ELIB	**Princess Elisa**	**92.75**	**196**	*d*P	**P**	**19 32 05.4**	**-0.3**
H31M	**Peel River**	**92.82**	**24**	P	**P**	**19 32 06.7**	**+0.8**
	baz=261						
G31M	**Satah River**	**93.02**	**23**	P	**P**	**19 32 07.3**	**+0.5**
	baz=261						
S34M	**Telegraph Cree**	**93.23**	**32**	P	**P**	**19 32 08.4**	**+0.5**
	baz=263						
F31M	**Tsiigehtchic**	**93.31**	**23**	IAmb	IAmb	19 34 00.6	
	comp=Z,15nm,1.6s						
F31M	**Tsiigehtchic**	**93.31**	**23**	P	**P**	**19 32 09.0**	**+1.0**
	baz=262						
R33M	**Jennings River**	**93.49**	**31**	P	**P**	**19 32 09.8**	**+0.5**
	baz=264						
INK	**Inuvik**	**93.51**	**22**	P	**P**	**19 32 09.8**	**+0.8**
	baz=262						
MMPY	**Sheldon Lake,**	**93.72**	**28**	P	**P**	**19 32 10.0**	**-0.1**
	baz=264						
DLBC	**Dease Lake**	**93.87**	**32**	P	**P**	**19 32 11.8**	**+0.8**
	baz=264						
DLBC	**Dease Lake**	**93.87**	**32**	LR	LR	20 06 03.6	
	comp=Z,87nm,21.9s,baz=291,slow=30						
WTLY	**Watson Lake, Y**	**94.66**	**30**	P	**P**	**19 32 15.2**	**+0.7**
	baz=266						
TGTN	**Hyland Airport**	**95.02**	**29**	P	**P**	**19 32 17.0**	**+0.8**
	baz=266						
YKA	**Yellowknife Ar**	**101.41**	**28**	P	**Pdif**	**19 32 45.5**	**+0.7**
	comp=Z,0.4nm,0.9s,baz=276,slow=4.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**141.15**	**283**	PKhKP	PKPpre	19 38 21.2	
	comp=Z,2.6nm,1.2s,baz=78,slow=4.5,SNR=4.2						
ROSC	**El Rosal**	**143.00**	**90**	PKP	**PKPdf**	**19 38 28.6**	**-0.4**
	comp=Z,5.6nm,0.3s,baz=230,slow=16,SNR=5.9						
KIC	**Kosan Boka**	**147.77**	**272**	*e*P	**PKiKP**	**19 38 40.9**	**-0.7**
	comp=Z,26nm,1.2s						
DBIC	**Dimbokro**	**147.90**	**272**		**PKPdf**	**19 38 35.0**	**-1.9**
DBIC	**Dimbokro**	**147.90**	**272**	PKIKP	**PKPdf**	**19 38 35.0**	**-1.9**
DBIC	**Dimbokro**	**147.90**	**272**	PKPbc	**PKiKP**	**19 38 42.1**	**+0.3**
	comp=Z,8.0nm,1.1s,baz=147,slow=2.3,SNR=7.0						
LIC	**Lamto**	**148.05**	**272**	*i*P	**PKiKP**	**19 38 42.7**	**+0.5**
	comp=Z,29nm,0.8s						
TIC	**Toumodi**	**148.06**	**272**	*i*P	**PKiKP**	**19 38 42.7**	**+0.5**
	comp=Z,36nm,1.3s						
PTLB	**Pontes e Lacer**	**149.29**	**135**		**PKPdf**	**19 38 37.1**	**-2.0**
BAUV	**El Baul**	**149.30**	**83**		**PKPdf**	**19 38 36.8**	**-2.4**
HUMP	**Col San Antoni**	**149.68**	**65**		**PKPdf**	**19 38 35.7**	**-4.0**
SAML	**Samuel**	**149.94**	**120**		**PKPdf**	**19 38 38.7**	**-1.5**
SAML	**Samuel**	**149.94**	**120**	PKIKP	**PKPdf**	**19 38 38.7**	**-1.5**
VILB	**Vilhena**	**150.14**	**130**		**PKPdf**	**19 38 40.0**	**-0.5**

*IDC **06** 19:19:31.6±0.7,39.°09S×77.°75E, h0km, mb4.4/9, mbtmp4.4/9,MS4.2/34, Error ellipse: s-maj=25.0km s-min=24.2km az=121.0*
*NEIC **06** 19:19:33.0±1.6,39.°02S±0.°06×78.°0E±0.°1, h10km±1km, mb4.9/37, Error ellipse: s-maj=18.5km s-min=10.9km az=100.0*
*GCMT **06** 19:19:36.0±0.4,38.°83S±0.°03×78.°02E±0.°03, h22km±1km, MW5.0/68,Moment Tensor Solution. s11,c12; s68,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr-1.82±.39; Mθθ-3.27±.24; Mφφ5.09±.32; Mrθ-0.82±.39; Mθφ1.22±.18; Mφr0.77±.37; Best double couple: M=4.59500×10^{16} NP1:φs146.00000°,δ77.00000°,λ-158.00000°. NP2: φs51.00000°,δ69.00000°,λ-14.00000°. Principal axes: T 5.3240, Plg5.0000°, Azm278.0000°; N -1.4570, Plg65.0000°, Azm176.0000°; P -3.8660, Plg25.0000°, Azm10.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 19:19:32.8±0.5,38.°95S±0.°10×77.°99E±0.°09,h10km,n92, σ1§15/53,**mb4.8**/24,**MS4.3**/36,**2C,Mid-Indian Ridge**

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

H04N2	**CROZET ISLANDS**	**20.53**	**241**	T	T	19 45 43.4	
	baz=78,slow=75,SNR=2010						
H04N1	**CROZET ISLANDS**	**20.55**	**241**	T	T	19 45 43.4	
	baz=78,slow=75,SNR=3902						
H04N3	**CROZET ISLANDS**	**20.55**	**241**	T	T	19 45 42.2	
	baz=78,slow=75,SNR=4269						
H04S1	**CROZET ISLANDS**	**20.60**	**239**	T	T	19 45 53.4	
	baz=340,slow=76,SNR=6.4						
H04S2	**CROZET ISLANDS**	**20.61**	**239**	T	T	19 45 51.0	
	baz=340,slow=76,SNR=7.3						
H04S3	**CROZET ISLANDS**	**20.61**	**239**	T	T	19 45 35.8	
	baz=340,slow=76,SNR=7.8						
H01W2	**Cape Leeuwin H**	**29.06**	**93**	T	T	19 55 48.8	
	baz=252,slow=75,SNR=684						
H01W3	**Cape Leeuwin H**	**29.07**	**93**	T	T	19 55 49.2	
	baz=252,slow=75,SNR=961						
H01W1	**Cape Leeuwin H**	**29.08**	**93**	T	T	19 55 50.1	
	baz=252,slow=75,SNR=893						
MAW	**Mawson**	**29.92**	**192**	LR	LR	19 35 42.5	
	comp=Z,471nm,18.0s,baz=0.0,slow=33						
H08S2	**Diego Garcia H**	**31.56**	**350**	T	T	19 58 49.1	
	baz=172,slow=76,SNR=147						
H08S1	**Diego Garcia H**	**31.56**	**350**	T	T	19 58 49.4	
	baz=172,slow=76,SNR=89						
H08S3	**Diego Garcia H**	**31.57**	**350**	T	T	19 58 50.6	
	baz=172,slow=76,SNR=342						
NWAO	**Narrogin (SRO)**	**32.16**	**92**	LR	LR	19 35 52.1	
	comp=Z,752nm,21.4s,baz=260,slow=30						
MORW	**Morawa**	**32.85**	**84**	P	**P**	**19 26 04.9**	**-1.8**
ABPO	**Ambohimpanom**	**33.20**	**298**	P	**P**	**19 26 09.3**	**-0.8**
OPO	**Ambohidratompo**	**33.53**	**298**	LR	LR	19 36 49.8	
	comp=Z,179nm,21.8s,baz=355,slow=31						
KAAM	**Kaadhehdhoo**	**39.52**	**352**	P	**P**	**19 27 04.1**	**+0.3**
PSA00	**Pilbara Seismi**	**39.70**	**77**	P	**P**	**19 27 03.9**	**-1.5**
FORT	**Forrest**	**41.45**	**94**	P	**P**	**19 27 18.4**	**-1.3**
FORT				IAmb	IAmb	19 27 28.2	
	comp=Z,30nm,0.8s						
GRHM	**Grahamstown, E**	**41.62**	**261**	P	**P**	**19 27 21.1**	**-0.1**
GRHM				IAmb	IAmb	19 27 26.6	
	comp=Z,25nm,0.8s						
SOE	**Somerset East**	**42.47**	**262**	P	**P**	**19 27 26.6**	**-1.6**
BOSA	**Boshof**	**44.48**	**267**	P	**P**	**19 27 43.2**	**-1.3**
BOSA				IAmb	IAmb	19 27 49.4	
	comp=Z,19nm,0.9s						
BOSA	**Boshof**	**44.48**	**267**	P	**P**	**19 27 43.6**	**-0.9**
	comp=Z,7.2nm,0.9s,baz=120,slow=10.0,SNR=14						
BOSA				LR	LR	19 42 47.8	
	comp=Z,308nm,18.4s,baz=142,slow=32						
	comp=Z,7.2nm,0.9s						
LBTB	**Lobatse**	**45.97**	**271**	LR	LR	19 43 32.5	
	comp=Z,434nm,19.6s,baz=120,slow=32						
PALK	**Pallekele**	**46.05**	**4**	LR	LR	19 42 26.1	
	comp=Z,324nm,22.0s,baz=277,slow=30						
SUR	**Sutherland**	**46.26**	**260**	P	**P**	**19 27 59.6**	**+1.0**
SUR	**Sutherland**	**46.26**	**260**	LR	LR	19 42 36.9	
	comp=Z,371nm,21.8s,baz=116,slow=30						
TROLL	**Troll, Antarti**	**49.01**	**203**	⇑P	**P**	**19 28 21.6**	**+2.1**
	comp=Z,232nm,0.8s						
ASAR	**Alice Springs**	**49.42**	**89**	LR	LR	19 47 14.4	
	comp=Z,179nm,18.0s,baz=270,slow=34						
LSZ	**Lusaka**	**49.48**	**284**	P	**P**	**19 28 23.3**	**-0.3**
LSZ				IAmb	IAmb	19 28 28.2	
	comp=Z,9.0nm,0.9s						
LSZ	**Lusaka**	**49.48**	**284**	LR	LR	19 45 32.1	
	comp=Z,301nm,21.3s,baz=146,slow=32						
SNAA	**Sanae**	**50.71**	**204**	P	**P**	**19 28 32.1**	**-0.1**
SNAA				IAmb	IAmb	19 29 45.3	
	comp=Z,21nm,1.5s						
SNAA	**Sanae**	**50.71**	**204**	⇑P	**P**	**19 28 34.7**	**+2.5**
	comp=Z,56nm,1.0s						
QSPA	**South Pole Qui**	**51.21**	**180**	P	**P**	**19 28 35.4**	**-0.8**
QSPA				IAmb	IAmb	19 28 46.8	
	comp=Z,13nm,1.1s						
QSPA	**South Pole Qui**	**51.21**	**180**	P	**P**	**19 28 35.7**	**-0.5**
	comp=Z,9.4nm,1.0s,baz=284,slow=4.0,SNR=12						
QSPA				LR	LR	19 48 57.3	
	comp=Z,621nm,18.6s,baz=298,slow=35						
	comp=Z,9.4nm,1.0s						
SRIT	**Nakonsritamara**	**51.40**	**28**	P	**P**	**19 28 37.5**	**-0.3**
SRIT				IAmb	IAmb	19 28 41.2	
	comp=Z,15nm,1.2s						
STKA	**Stephens Creek**	**51.40**	**103**	P	**P**	**19 28 37.8**	**-0.1**
STKA	**Stephens Creek**	**51.40**	**103**	P	**P**	**19 28 38.5**	**+0.6**
	comp=Z,12nm,0.7s,baz=252,slow=6.3,SNR=8.6						
STKA				LR	LR	19 46 16.8	
	comp=Z,370nm,20.4s,baz=257,slow=31						
	comp=Z,12nm,0.7s						
SBUM	**Sibu**	**51.87**	**46**	P	**P**	**19 28 41.0**	**-0.4**
SBUM				IAmb	IAmb	19 28 47.1	
	comp=Z,32nm,1.7s						
TSUM	**Tsumeb**	**55.34**	**273**	P	**P**	**19 29 06.4**	**-0.8**
TSUM	**Tsumeb**	**55.34**	**273**	LR	LR	19 49 18.1	
	comp=Z,584nm,19.4s,baz=123,slow=32						
TOLI2	**Tolitoli**	**55.94**	**55**	P	**P**	**19 29 10.7**	**-0.6**
TOLI2				IAmb	IAmb	19 29 15.3	
	comp=Z,10nm,0.8s						
BELA	**Belgrano 2**	**56.73**	**193**	P	**P**	**19 29 17.2**	**+1.0**
BELA				IAmb	IAmb	19 29 34.9	
	comp=Z,17nm,1.7s						
MBAR	**Mbarara**	**57.60**	**300**	P	**P**	**19 29 22.6**	**-0.7**
MBAR	**Mbarara**	**57.60**	**300**	LR	LR	19 50 23.0	
	comp=Z,299nm,19.9s,baz=127,slow=32						
LODK	**Lodwar**	**57.61**	**307**	P	**P**	**19 29 23.1**	**-0.1**
UBPT	**Khong Chiam**	**59.76**	**31**	P	**P**	**19 29 37.3**	**-0.7**
ATD	**Arta Tunnel**	**59.96**	**319**	LR	LR	19 52 05.9	
	comp=Z,7.4nm,18.1s,baz=144,slow=33						
CM31	**Chiang Mai Arr**	**60.38**	**23**	P	**P**	**19 29 42.7**	**+0.4**
CM31				IAmb	IAmb	19 29 45.4	
	comp=Z,18nm,1.4s						
CMAR	**Chiang Mai Arr**	**60.38**	**23**	P	**P**	**19 29 42.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**60.38**	**23**	P	**P**	**19 29 43.7**	**+1.4**
	comp=Z,3.5nm,1.1s,baz=209,slow=6.7,SNR=13						
CMAR				LR	LR	19 51 29.9	
	comp=Z,95nm,20.9s,baz=145,slow=32						
	comp=Z,3.5nm,1.1s						
CHTO	**Chiang Mai**	**60.72**	**23**	P	**P**	**19 29 44.8**	**+0.3**
CHTO				IAmb	IAmb	19 29 47.4	
	comp=Z,8.5nm,1.4s						
PHRA	**Phrae**	**60.83**	**24**		**P**	**19 29 45.9**	**+0.6**
CTA	**Charters Tower**	**60.98**	**93**	LR	LR	19 54 08.8	
	comp=Z,366nm,19.1s,baz=262,slow=34						
CRAI	**Chiangrai**	**62.49**	**24**	P	**P**	**19 29 56.6**	**+0.2**
CRAI				IAmb	IAmb	19 30 04.3	
	comp=Z,9.6nm,1.4s						
DAV	**Davao City (W)**	**63.55**	**55**	LR	LR	19 59 54.1	
	comp=Z,29nm,18.3s,baz=332,slow=38						
RPZ	**Rata Peaks**	**66.37**	**128**	LR	LR	19 53 16.1	
	comp=Z,272nm,18.5s,baz=248,slow=30						
PMG	**Port Moresby**	**67.96**	**84**	LR	LR	19 57 54.5	
	comp=Z,146nm,19.1s,baz=231,slow=34						
RAYN	**Ar Rayn**	**69.19**	**328**	P	**P**	**19 30 40.3**	**+0.6**
RAYN				IAmb	IAmb	19 30 59.3	
	comp=Z,7.1nm,1.3s						
LSA	**Lhasa**	**69.39**	**12**	P	**P**	**19 30 41.5**	**+0.3**
LSA				IAmb	IAmb	19 30 44.9	
	comp=Z,14nm,1.3s						
PMSA	**Palmer Station**	**72.41**	**196**	LR	LR	20 00 05.6	
	comp=Z,158nm,21.0s,baz=146,slow=34						
URZ	**Urewera**	**73.22**	**126**	LR	LR	19 58 29.2	
	comp=Z,136nm,18.1s,baz=301,slow=32						
DZM	**Mont Dzumac**	**75.32**	**107**	LR	LR	19 59 16.1	
	comp=Z,103nm,19.6s,baz=226,slow=32						
HNR	**Honiara**	**77.91**	**92**	LR	LR	20 03 07.8	
	comp=Z,1μm,19.2s,baz=220,slow=34						
KSH	**Kashi**	**78.11**	**358**	P	**P**	**19 31 31.1**	**-0.7**
KSH				pmax	pmax		
	comp=Z,8.0nm,1.3s						
GEYT	**Alibeck**	**78.66**	**344**	P	**P**	**19 31 35.6**	**+0.8**
GEYT				IAmb	IAmb	19 31 39.0	
	comp=Z,13nm,1.3s						
GEYT	**Alibeck**	**78.66**	**344**	P	**P**	**19 31 36.0**	**+1.2**
	comp=Z,3.5nm,1.0s,baz=179,slow=5.8,SNR=6.4						
	comp=Z,3.5nm,1.0s						
BTK	**Batken**	**78.90**	**354**	P	**P**	**19 31 37.0**	**+0.8**
EIL	**Elat**	**79.18**	**323**	LR	LR	20 00 53.7	
	comp=Z,48nm,18.6s,baz=229,slow=31						
NRN	**Naryn**	**80.02**	**358**	P	**P**	**19 31 43.9**	**+1.4**
AAK	**Ala-Archa**	**81.27**	**357**	LR	LR	20 03 38.5	
	comp=Z,182nm,21.9s,baz=191,slow=32						
MMAI	**Mount Meron Ar**	**81.78**	**325**	LR	LR	20 03 18.6	
	comp=Z,74nm,19.9s,baz=103,slow=32						
KK31	**Karatay Array**	**81.95**	**354**	P	**P**	**19 31 52.5**	**+0.1**
KKAR	**Karatay Array**	**81.95**	**354**	P	**P**	**19 31 50.9**	**-1.5**
KKAR	**Karatay Array**	**81.95**	**354**	P	**P**	**19 31 51.5**	**-0.8**
KKAR				IAmb	IAmb	19 31 58.2	
	comp=Z,6.2nm,1.0s						
GURO	**Guroymak-BITLI**	**83.89**	**332**	P	**P**	**19 32 01.6**	**-1.1**
GURO				IAmb	IAmb	19 32 08.2	
	comp=Z,9.6nm,1.3s						
GNI	**Garni**	**84.39**	**335**	LR	LR	20 05 18.0	
	comp=Z,79nm,20.7s,baz=152,slow=32						
MKAR	**Makanchi Array**	**85.45**	**3**	P	**P**	**19 32 12.0**	**+1.8**
	comp=Z,3.1nm,0.8s,baz=169,slow=6.3,SNR=6.1						
MKAR				LR	LR	20 07 20.3	
	comp=Z,114nm,20.6s,baz=198,slow=34						
	comp=Z,3.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**87.79**	**289**	P	**P**	**19 32 20.7**	**-1.7**
	comp=Z,0.5nm,0.8s,baz=122,slow=3.1,SNR=5.0						
TORD				LR	LR	20 08 27.0	
	comp=Z,228nm,21.8s,baz=142,slow=34						
	comp=Z,0.5nm,0.8s						
KBZ	**Khabaz**	**88.20**	**335**	LR	LR	20 08 31.4	
	comp=Z,56nm,20.9s,baz=144,slow=33						
DBIC	**Dimbokro**	**88.61**	**280**	LR	LR	20 09 30.2	
	comp=Z,145nm,18.1s,baz=138,slow=34						
KURBB	**Kurchatov Arra**	**89.19**	**0**	P	**P**	**19 32 28.4**	**+0.2**
	comp=Z,2.3nm,1.0s,baz=196,slow=5.0,SNR=7.9						
KURBB				LR	LR	20 10 34.3	
	comp=Z,134nm,18.2s,baz=179,slow=34						
	comp=Z,2.3nm,1.0s						
SONM	**Songino Array**	**90.03**	**19**	P	**P**	**19 32 34.5**	**+2.1**
	comp=Z,1.5nm,0.8s,baz=187,slow=5.9,SNR=6.3						
SONM				LR	LR	20 10 46.9	
	comp=Z,65nm,21.1s,baz=192,slow=34						
	comp=Z,1.5nm,0.8s						
ZALV	**Zalesovo Beam**	**92.71**	**4**	LR	LR	20 12 32.2	
	comp=Z,85nm,20.1s,baz=230,slow=34						
KEST	**Kesra**	**97.64**	**310**	LR	LR	20 16 03.0	
	comp=Z,123nm,18.8s,baz=320,slow=35						
RAR	**Rarotonga**	**99.38**	**127**	LR	LR	20 09 53.3	
	comp=Z,43nm,19.7s,baz=123,slow=30						
ILAR	**Eielson Array**	**143.37**	**30**	PKP	PKPbc	19 39 04.5	+0.9
	comp=Z,0.8nm,0.8s,baz=292,slow=3.5,SNR=5.4						
RES	**Resolute Bay**	**144.02**	**357**	PKP	**PKPdf**	**19 39 06.9**	**-0.4**
	comp=Z,3.5nm,1.0s,baz=30,slow=5.2,SNR=8.7						
YKA	**Yellowknife Ar**	**155.21**	**14**	PKP	**PKPdf**	**19 39 24.8**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=318,slow=1.6,SNR=4.0						
YKA				PP	**PP**	**19 43 29.5**	**+3.0**
	comp=Z,0.6nm,0.9s,baz=342,slow=6.0,SNR=6.0						
NVAR	**Mina Array Bea**	**167.26**	**87**	PKPab	**PKPab**	**19 40 45.4**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=246,slow=7.8,SNR=3.9						
PDAR	**Pinedale Array**	**173.13**	**54**	PKP	**PKPdf**	**19 39 43.1**	**+0.8**
	comp=Z,0.8nm,0.9s,baz=122,slow=1.9,SNR=5.5						
PDAR				PKPab	**pPKPab**	**19 41 11.5**	**-1.0**
	comp=Z,0.8nm,1.0s,baz=338,slow=1.9,SNR=3.2						

*ISN **06** 19:22:26.2±0.6,34.°71N×45.°47E,h14km±3km, ML2.4*
*TEH **06** 19:22:27.4,34.°68N×45.°50E,h10km±223km, ML2.5*
ISC 06 19:22:27.9±1.1,34.°70N±0.°05×45.°50E±0.°05,h18km,n8, σ1§07/13,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.21**	**159**	Pg	**Pb**	**19 22 32.1**	**-0.9**
KGS1				Sg	**Sb**	**19 22 34.8**	**-1.5**
IDHR	**Dehrash**	**0.73**	**90**	Pg	**Pb**	**19 22 41.5**	**-0.8**
IKRK	**Kirkuk**	**1.18**	**307**	*e*Pn	**Pg**	**19 22 50.0**	**-0.7**
IKRK				*e*Sn	**Sg**	**19 23 07.0**	**+0.8**
IKRK				AML	AML	19 23 17.4	
	comp=N,92nm,0.1s						
IKRK				AML	AML	19 23 23.1	
	comp=E,74nm,0.3s						
ILBA	**Ilam Banvizeh**	**1.22**	**151**	Pg	**Pb**	**19 22 50.1**	**-0.5**
KCHF	**Cheshme Sefid,**	**1.34**	**108**	Pg	**Pg**	**19 22 53.7**	**-0.2**
IBDR	**Badra**	**1.63**	**167**	*e*Pg	**Pb**	**19 22 56.0**	**-1.4**
IBDR				*e*Sg	**Sb**	**19 23 18.0**	**+0.4**
IBDR				AML	AML	19 23 22.9	
	comp=E,56nm,0.5s						
IBDR				AML	AML	19 23 30.9	
	comp=N,40nm,0.8s						
BHD	**Baghdad**	**1.71**	**213**	*e*Pn	**Pn**	**19 22 57.0**	**+0.3**
BHD				*e*Sn	**Sb**	**19 23 20.0**	**+0.2**
RAFI	**Al-Rafai**	**3.02**	**170**	*e*Pn	**Pn**	**19 23 16.0**	**+1.2**
RAFI				*e*Sn	**Sn**	**19 23 52.0**	**+1.6**

*IDC **06** 19:29:59.7±0.7,6.°18S×142.°89E, h0km, mb4.3/14, mbtmp4.4/16,ML2.5/1,Error ellipse: s-maj=32.4km s-min=16.0km az=81.0*
*NEIC **06** 19:30:00.1±1.6,6.°40S±0.°07×142.°62E±0.°07, h10km±1km, mb4.9/83, Error ellipse: s-maj=12.8km s-min=11.8km az=235.0*
*BJI **06** 19:30:02.1±0.0,6.°14S×142.°97E, h27km, mb4.4/30, mB5.0/16, Ms4.9/2, Ms7 4.5/2*
ISC 06 19:30:00.0±0.4,6.°42S±0.°05×142.°67E±0.°05,h10km,n143, σ1§93/130,**mb4.9**/64,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**1.83**	**308**	P	**Pg**	**19 30 33.9**	**-1.3**
GENI	**Genyem**	**4.54**	**327**	P	**Pn**	**19 31 10.2**	**+1.3**
PMG	**Port Moresby**	**5.35**	**124**		**Pn**	**19 31 20.9**	**+0.8**
PMG	**Port Moresby**	**5.35**	**124**	P	**Pn**	**19 31 22.6**	**+2.6**
PMG	**Port Mo

UGM	**Wanagama**	**31.92**	**265**	P	**P**	**19 36 23.7**	**-2.6**
JCJ	**Chichijima**	**33.31**	**359**	P	**P**	**19 36 37.0**	**-1.2**
TPUB	**Ta-pu**	**36.55**	**325**	P	**P**	**19 37 05.7**	**-0.5**
TAU	**Tasmania Unive**	**36.58**	**174**	P	**P**	**19 37 05.7**	**-0.4**
TAU				IAmb	IAmb	19 37 37.6	
	comp=Z,66nm,1.8s						
NACB	**Ninganchiao**	**36.70**	**327**	P	**P**	**19 37 06.1**	**-1.3**
NACB				IAmb	IAmb	19 38 26.3	
	comp=Z,30nm,1.0s						
SSLB	**Suanglung**	**36.75**	**325**	P	**P**	**19 37 06.9**	**-1.0**
YHNB	**Yeheng**	**37.21**	**327**	P	**P**	**19 37 10.2**	**-1.7**
JMN	**Monobe**	**40.78**	**349**	P	**P**	**19 37 40.8**	**-0.9**
JNU	**Nakatsue**	**40.88**	**345**	P	**P**	**19 37 40.7**	**-1.8**
JGF	**Kuroka**	**42.09**	**354**	P	**P**	**19 37 50.4**	**-1.9**
MJAR	**Matsushiro Arr**	**42.93**	**355**	P	**P**	**19 37 58.1**	**-1.1**
	comp=Z,2.0nm,0.6s,baz=172,slow=9.3,SNR=8.2						
	comp=Z,2.0nm,0.6s						
MAJO	**Matsushiro**	**42.94**	**355**	P	**P**	**19 37 57.2**	**-2.0**
MAJO				IAmb	IAmb	19 38 38.6	
	comp=Z,22nm,1.3s						
MJB9	**Matsu-Tunnel**	**42.94**	**355**	P	**P**	**19 37 57.9**	**-1.3**
MJB9				IAmb	IAmb	19 38 39.6	
	comp=Z,20nm,1.3s						
JMM	**Marumori**	**44.09**	**358**	P	**P**	**19 38 05.9**	**-2.5**
NNZ	**Nelson**	**44.16**	**146**	P	**P**	**19 38 07.6**	**-1.4**
JSD	**Sado**	**44.41**	**355**	P	**P**	**19 38 09.7**	**-1.4**
NJ2	**Nanjing**	**44.48**	**331**	*e*P	**P**	**19 38 13.1**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,170nm,3.5s						
RTZ	**Ruatahuna**	**44.60**	**141**	P	**P**	**19 38 11.6**	**-1.1**
RTZ				IAmb	IAmb	19 38 22.8	
	comp=Z,29nm,1.3s						
TCW	**Tory Channel**	**44.65**	**146**	P	**P**	**19 38 12.1**	**-0.9**
KSRS	**Korea Array**	**45.76**	**344**	P	**P**	**19 38 22.4**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=167,slow=8.7,SNR=7.3						
	comp=Z,2.5nm,0.8s						
JTM	**Tenmabayashi**	**46.99**	**358**	P	**P**	**19 38 31.0**	**-0.4**
GYA	**Guiyang**	**47.81**	**315**	*e*P	**P**	**19 38 40.0**	**+1.8**
GYA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
PHRA	**Phrae**	**48.62**	**301**	P	**P**	**19 38 43.3**	**-1.1**
CMAR	**Chiang Mai Arr**	**49.70**	**301**	P	**P**	**19 38 50.8**	**-1.9**
CMAR	**Chiang Mai Arr**	**49.70**	**301**	P	**P**	**19 38 54.6**	**+1.9**
	comp=Z,0.9nm,0.7s,baz=122,slow=5.8,SNR=5.2						
	comp=Z,0.9nm,0.7s						
USRK	**Ussuriysk Ar.**	**51.29**	**350**	P	**P**	**19 39 01.0**	**-3.3**
USRK	**Ussuriysk Ar.**	**51.29**	**350**	P	**P**	**19 39 04.3**	**0.0**
	comp=Z,3.3nm,0.8s,baz=164,slow=9.0,SNR=5.9						
	comp=Z,3.3nm,0.8s						
XAN	**Xi'an**	**51.36**	**324**	P	**P**	**19 39 05.5**	**+0.4**
XAN				pmax	pmax		
	comp=Z,8.0nm,1.1s						
PZH	**PanZhiHua**	**51.42**	**311**	P	**P**	**19 39 07.9**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
HHC	**Hu-ho-hao-te**	**55.02**	**331**	*e*P	**P**	**19 39 34.3**	**+2.3**
HHC				pmax	pmax		
	comp=Z,17nm,0.7s						
HHC				pmax	pmax		
	comp=Z,82nm,4.6s						
BTO	**Baotou**	**55.59**	**330**	*e*P	P	19 39 40.8	+4.7
BTO				pP	sP	19 39 50.6	+10
BTO				sP	pP	19 39 54.9	+15
BTO				PP	**PP**	**19 41 47.3**	**+6.9**
BTO				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BTO				pmax	pmax		
	comp=Z,280nm,5.4s						
BTO				LR	LR		
	comp=Z,220nm,4.8s						
BTO				LR	LR		
	comp=Z,190nm,3.9s						
BTO				LR	LR		
	comp=Z,240nm,7.1s						
RAR	**Rarotonga**	**57.50**	**111**	P	**P**	**19 39 48.5**	**-1.5**
HEH	**HeiHe**	**57.97**	**349**	*e*P	**P**	**19 39 50.0**	**-2.6**
GTA	**Gaotai**	**60.38**	**323**	*e*P	**P**	**19 40 10.4**	**+0.6**
GTA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PETK	**Petropavlovsk-**	**60.65**	**10**	P	**P**	**19 40 10.4**	**-0.8**
	comp=Z,6.4nm,0.9s,baz=189,slow=8.0,SNR=3.7						
	comp=Z,6.4nm,0.9s						
ULN	**Ulaanbaatar**	**62.48**	**334**	P	**P**	**19 40 25.1**	**+1.2**
SONM	**Songino Array**	**62.75**	**333**	P	**P**	**19 40 26.3**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=180,slow=5.3,SNR=3.5						
	comp=Z,0.3nm,0.4s						
WMQ	**Urumqi**	**70.35**	**321**	*e*P	**P**	**19 41 15.4**	**+1.2**
WMQ				LR	LR		
	comp=Z,150nm,16.3s						
MK31	**Makanchi Array**	**75.11**	**322**	P	**P**	**19 41 42.5**	**0.0**
MKAR	**Makanchi Array**	**75.11**	**322**	P	**P**	**19 41 41.6**	**-0.9**
MKAR	**Makanchi Array**	**75.11**	**322**	P	**P**	**19 41 43.8**	**+1.3**
	comp=Z,2.4nm,0.9s,baz=105,slow=7.4,SNR=15						
	comp=Z,2.4nm,0.9s						
KSH	**Kashi**	**76.48**	**313**	P	**P**	**19 41 53.2**	**+2.6**
KSH				pmax	pmax		
	comp=Z,2.0nm,1.5s						
ZALV	**Zalesovo Beam**	**77.11**	**329**	P	**P**	**19 41 53.3**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=113,slow=6.8,SNR=5.7						
	comp=Z,1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**79.01**	**324**	P	**P**	**19 42 04.9**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=113,slow=4.7,SNR=4.9						
	comp=Z,1.0nm,0.3s						
CHGR	**Chuyangaron**	**81.27**	**311**	P	**P**	**19 42 15.9**	**-0.9**
CHGR				IAmb	IAmb	19 42 22.6	
	comp=Z,5.5nm,0.6s						
SIMJ	**Simiganj**	**81.38**	**311**	P	**P**	**19 42 16.9**	**-0.6**
J17K	**VABM Dome**	**82.17**	**23**	P	**P**	**19 42 21.4**	**+0.5**
J17K				IAmb	IAmb	19 42 40.0	
	comp=Z,23nm,1.4s						
QSPA	**South Pole Qui**	**83.56**	**180**	P	**P**	**19 42 29.4**	**+1.0**
QSPA				IAmb	IAmb	19 42 32.2	
	comp=Z,26nm,1.9s						
QSPA	**South Pole Qui**	**83.56**	**180**	P	**P**	**19 42 30.0**	**+1.6**
	comp=Z,2.5nm,0.6s,baz=1.7,slow=0.9,SNR=13						
	comp=Z,2.5nm,0.6s						
K20K	**Telida**	**84.12**	**24**	P	**P**	**19 42 30.7**	**-0.4**
K20K				IAmb	IAmb	19 42 33.0	
	comp=Z,7.8nm,1.1s						
G19K	**Purcell Mounta**	**84.31**	**21**	P	**P**	**19 42 31.1**	**-0.9**
G19K				IAmb	IAmb	19 42 34.0	
	comp=Z,9.3nm,1.2s						
NRIK	**Noril'sk**	**84.38**	**343**	P	**P**	**19 42 32.1**	**-0.1**
NRIK				IAmb	IAmb	19 42 33.8	
	comp=Z,7.7nm,1.1s						
NRIK	**Noril'sk**	**84.38**	**343**	P	**P**	**19 42 32.7**	**+0.5**
	comp=Z,4.7nm,0.8s,baz=100,slow=6.0,SNR=4.7						
	comp=Z,4.7nm,0.8s						
J20K	**Nowinta River**	**84.46**	**23**	P	**P**	**19 42 33.9**	**+1.2**
J20K				IAmb	IAmb	19 42 34.4	
	comp=Z,8.9nm,1.1s						
BVAR	**Borovoye Array**	**84.59**	**325**	P	**P**	**19 42 35.0**	**+1.4**
	comp=Z,6.6nm,0.7s,baz=102,slow=6.2,SNR=23						
	comp=Z,6.6nm,0.7s						
E19K	**Redstone River**	**84.92**	**20**	IAmb	IAmb	19 42 36.9	
	comp=Z,5.1nm,0.9s						
CAST	**Castle Rocks**	**84.95**	**24**	P	**P**	**19 42 35.3**	**+0.1**
CAST				IAmb	IAmb	19 42 37.7	
	comp=Z,20nm,1.8s						
RC01	**Rabbit Creek A**	**85.00**	**27**	P	**P**	**19 42 35.0**	**-0.6**
RC01				IAmb	IAmb	19 42 35.9	
	comp=Z,9.1nm,0.5s						
C19K	**Lookout Ridge**	**85.03**	**18**	IAmb	IAmb	19 42 37.9	
	comp=Z,7.7nm,1.1s						
D19K	**Kuna River**	**85.16**	**19**	IAmb	IAmb	19 42 41.1	
	comp=Z,8.0nm,1.2s						
KNK	**Knik Glacier**	**85.70**	**27**	P	**P**	**19 42 38.9**	**-0.1**
SML	**Sawmill**	**85.90**	**26**	P	**P**	**19 42 40.3**	**+0.2**
SML				IAmb	IAmb	19 42 50.1	
	comp=Z,7.2nm,0.8s						
MLY	**Manley**	**86.15**	**23**	P	**P**	**19 42 41.0**	**-0.3**
MLY				IAmb	IAmb	19 42 42.6	
	comp=Z,6.4nm,1.1s						
RND	**Reindeer**	**86.28**	**25**	P	**P**	**19 42 40.9**	**-1.0**
RND				IAmb	IAmb	19 42 41.9	
	comp=Z,5.7nm,0.6s						
DHY	**Denali Highway**	**86.78**	**25**	P	**P**	**19 42 42.9**	**-1.6**
DHY				IAmb	IAmb	19 42 45.6	
	comp=Z,5.0nm,0.6s						
B21K	**Ikpikpuk River**	**86.81**	**18**	IAmb	IAmb	19 42 46.1	
	comp=Z,4.6nm,0.6s						
WRH	**Wood River Hil**	**86.98**	**24**	P	**P**	**19 42 44.4**	**-0.9**
WRH				IAmb	IAmb	19 42 51.1	
	comp=Z,7.6nm,1.0s						
D22K	**Ayikyak River**	**87.09**	**19**	P	**P**	**19 42 46.7**	**+1.0**
D22K				IAmb	IAmb	19 42 47.6	
	comp=Z,14nm,1.6s						
G23K	**Bananza Creek**	**87.10**	**22**	P	**P**	**19 42 45.7**	**-0.1**
CCB	**Clear Creek Bu**	**87.16**	**24**	P	**P**	**19 42 44.4**	**-1.7**
CCB				IAmb	IAmb	19 42 46.3	
	comp=Z,6.0nm,0.8s						
B22K	**Teshekpuk Lake**	**87.51**	**18**	P	**P**	**19 42 47.3**	**-0.3**
B22K				IAmb	IAmb	19 42 49.4	
	comp=Z,14nm,1.2s						
IL31		**87.58**	**24**	P	**P**	**19 42 47.1**	**-1.0**
IL31				IAmb	IAmb	19 42 48.0	
	comp=Z,4.9nm,0.7s						
ILAR	**Eielson Array**	**87.58**	**24**	P	**P**	**19 42 46.8**	**-1.3**
ILAR	**Eielson Array**	**87.58**	**24**	P	**P**	**19 42 47.2**	**-0.9**
	comp=Z,3.8nm,0.7s,baz=255,slow=4.8,SNR=44						
	comp=Z,3.8nm,0.7s						
CRQM	**Cirque**	**87.92**	**28**	P	**P**	**19 42 50.3**	**+0.2**
CRQM				IAmb	IAmb	19 43 01.2	
	comp=Z,8.1nm,0.8s						
G24K	**Hadweenzic Riv**	**88.03**	**22**	P	**P**	**19 42 49.4**	**-0.9**
G24K				IAmb	IAmb	19 44 36.4	
	comp=Z,24nm,2.0s						
J25K	**Salcha River,**	**88.14**	**24**	IAmb	IAmb	19 42 51.7	
	comp=Z,7.7nm,1.1s						
C23K	**Itkillik River**	**88.16**	**19**	P	**P**	**19 42 51.2**	**+0.4**
F24K	**Squaw Lake**	**88.18**	**21**	IAmb	IAmb	19 42 53.6	
	comp=Z,8.9nm,1.1s						
D24K	**Happy Valley**	**88.47**	**19**	IAmb	IAmb	19 43 03.9	
	comp=Z,12nm,1.1s						
BARN	**Barnard Glacie**	**88.70**	**28**	P	**P**	**19 42 53.3**	**-0.5**
J26L	**Joseph Creek**	**88.84**	**25**	IAmb	IAmb	19 42 55.9	
	comp=Z,12nm,1.6s						
M27K	**Edge Creek, AK**	**88.95**	**27**	P	**P**	**19 42 54.9**	**0.0**
M27K				IAmb	IAmb	19 42 56.9	
	comp=Z,6.4nm,1.0s						
L27K	**Beaver Creek,**	**89.17**	**26**	P	**P**	**19 42 56.4**	**+0.6**
L27K				IAmb	IAmb	19 43 03.7	
	comp=Z,6.6nm,1.2s						
K27K	**Chicken**	**89.33**	**25**	IAmb	IAmb	19 43 03.6	
	comp=Z,8.0nm,1.1s						
BMAR	**Burnt Mountain**	**89.35**	**22**	P	**P**	**19 42 57.0**	**+0.5**
M29M	**Somme Creek**	**90.52**	**27**	IAmb	IAmb	19 43 04.0	
	comp=Z,3.2nm,0.6s						
L29M	**L29M**	**90.81**	**27**	IAmb	IAmb	19 43 05.5	
	comp=Z,6.0nm,1.1s						
K29M	**Barlow Dome**	**91.24**	**26**	IAmb	IAmb	19 43 07.1	
	comp=Z,3.3nm,0.7s						
J30M	**Hart River**	**91.89**	**25**	P	**P**	**19 43 07.4**	**-1.1**
J30M				IAmb	IAmb	19 43 16.0	
	comp=Z,13nm,1.5s						
TORD	**Torodi Ar. Bea**	**141.00**	**283**	PKhKP	PKPpre	19 49 29.1	
	comp=Z,0.5nm,0.9s,baz=77,slow=4.6,SNR=2.6						
DBIC	**Dimbokro**	**147.74**	**272**	PKPbc	**PKPab**	**19 49 48.8**	**+0.2**
	comp=Z,4.6nm,0.8s,baz=106,slow=1.6,SNR=4.8						

*BER **06** 19:36:50.3±2.8, 80.40N×0.12E, h10km, mb(Pn)4.1, ML3.6(NAO), Confirmed Earthquake*
*IDC **06** 19:36:50.4±2.5, 80.06N×0.91W, h0km, mb3.7/6, mbtmp3.9/8, ML5.0/2, MS3.7/3, Error ellipse: s-maj=43.2km s-min=24.9km az=125.0*
*DNK **06** 19:36:50.8±1.5, 80.42N×0.54E, h29km±12km, ML1.9*
*FCIAR **06** 19:36:54.0, 79.95N×0.93E, h10km, station ZFI2 has station magnitude of 3.70 station OMEGA has station magnitude of 3.90*
*KOLA **06** 19:36:56.6, 80.54N×4.79E, h0km, ML2.7, Error ellipse: s-maj=95.9km s-min=28.8km az=40.0, Greenland sea*

ISC 06 19:36:49.3±0.7, 80°24'N±0'06×0°33'W±0'05, h10km, n62, σ3§10/82, mb3.9/4, MS3.7/3, 1C, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.59**	**114**	P		**Pn**	**Pn**	**19 37 30.1**	**-0.9**
KBS				S		**Sn**	**Sn**	**19 37 55.9**	**-6.6**
KBS	**Kingsbay**	**2.59**	**114**	*e*P		**Pn**	**Pn**	**19 37 30.4**	**-0.6**
KBS				*e*S		**Sn**	**Sn**	**19 37 57.9**	**-4.6**
KBS				IAML				19 37 59.8	
	comp=Z,81nm,0.6s								
KBS	**Kingsbay**	**2.59**	**114**	*i* P		**Pn**	**Pn**	**19 37 30.5**	**-0.6**
KBS				*e*S		**Sn**	**Sn**	**19 37 58.1**	**-4.4**
KBS	**Kingsbay**	**2.59**	**114**	Pn		**Pn**	**Pn**	**19 37 30.5**	**-0.6**
KBS				Sn		**Sn**	**Sn**	**19 37 58.1**	**-4.4**
KBS	**Kingsbay**	**2.59**	**114**	*e*P		**Pn**	**Pn**	**19 37 30.2**	**-0.9**
KBS				*e*S		**Sn**	**Sn**	**19 37 57.6**	**-4.9**
NOR	**Nord**	**2.92**	**306**	*e*		**Pn**	**Pn**	**19 37 32.7**	**-2.9**
	baz=99,slow=18								
NOR				*i* P		Pb	Pn	19 37 35.4	-6.0
NOR				*i* S		**Sn**	**Sn**	**19 38 08.1**	**-2.7**
NOR				IAML				19 38 11.8	
	comp=Z,8.7nm,0.4s								
NOR	**Nord**	**2.92**	**306**	*e*		**Pn**	**Pn**	**19 37 32.7**	**-2.9**
	baz=99,slow=18								
NOR				*i* P		Pb	Pn	19 37 35.4	-6.0
NOR				*i* S		**Sn**	**Sn**	**19 38 08.1**	**-2.7**
NOR				IAML				19 38 11.8	
	comp=Z,8.7nm,0.4s								
NOR	**Nord**	**2.92**	**306**	Pn		**Pn**	**Pn**	**19 37 35.3**	**-0.4**
NOR				Sn		**Sn**	**Sn**	**19 38 08.2**	**-2.6**
BRBB	**Barentsburg B**	**3.48**	**121**	P		**Pn**	**Pn**	**19 37 43.7**	**+0.4**
BRBB				S		**Sn**	**Sn**	**19 38 21.2**	**-3.3**
BRBB	**Barentsburg B**	**3.48**	**121**	*e*P		**Pn**	**Pn**	**19 37 43.8**	**+0.5**
BRBB				*e*S		**Sn**	**Sn**	**19 38 21.9**	**-2.5**
BRBB	**Barentsburg B**	**3.48**	**121**	Pn		**Pn**	**Pn**	**19 37 44.0**	**+0.6**
BRBB				Sn		**Sn**	**Sn**	**19 38 22.4**	**-2.1**
BRBA	**Barentsburg A**	**3.51**	**121**	*e*P		**Pn**	**Pn**	**19 37 44.4**	**+0.7**
BRBA				*e*S		**Sn**	**Sn**	**19 38 22.5**	**-2.6**
BRBA				IAML				19 38 25.3	
	comp=Z,72nm,0.3s								
BRBA	**Barentsburg A**	**3.51**	**121**	Pn		**Pn**	**Pn**	**19 37 44.7**	**+1.0**
BRBA				Sn		**Sn**	**Sn**	**19 38 22.9**	**-2.2**
SPA0	**Spitsbergen Ar**	**3.75**	**115**	Pn		**Pn**	**Pn**	**19 37 47.1**	**0.0**
	baz=321,slow=10								
SPA0				Sn		**Sn**	**Sn**	**19 38 27.0**	**-4.1**
	baz=327,slow=16								
SPA0	**Spitsbergen Ar**	**3.75**	**115**	Pn		**Pn**	**Pn**	**19 37 47.1**	**0.0**
	baz=321,slow=10								
SPA0				Sn		**Sn**	**Sn**	**19 38 27.0**	**-4.1**
	baz=327,slow=16								
SPA0	**Spitsbergen Ar**	**3.75**	**115**	i/*i* P		**Pn**	**Pn**	**19 37 47.1**	**0.0**
SPA0				*i* S		**Sn**	**Sn**	**19 38 26.2**	**-4.9**
SPITS	**Spitsbergen Ar**	**3.75**	**115**	P		**Pn**	**Pn**	**19 37 47.0**	**0.0**
SPITS				S		**Sn**	**Sn**	**19 38 24.2**	**-7.0**
SPITS	**Spitsbergen Ar**	**3.75**	**115**	Pn		**Pn**	**Pn**	**19 37 47.2**	**+0.2**
	baz=322,slow=9.1								
SPITS				Sn		**Sn**	**Sn**	**19 38 26.5**	**-4.6**
	baz=313,slow=25								
	comp=Z,54nm,0.3s								
HSPB	**Hornsund (broa**	**4.50**	**128**	*e*P		**Pn**	**Pn**	**19 37 57.5**	**+0.2**
HSPB				*e*S		**Sn**	**Sn**	**19 38 45.0**	**-4.7**
HSPB				IAML				19 38 51.8	
	comp=Z,66nm,0.5s								
HSPB	**Hornsund (broa**	**4.50**	**128**	Pn		**Pn**	**Pn**	**19 37 57.3**	**-0.1**
HSPB				Sn		**Sn**	**Sn**	**19 38 46.1**	**-3.5**
HOPEN	**Hopen**	**6.28**	**113**	*e*P		**Pn**	**Pn**	**19 38 21.2**	**-0.5**
HOPEN				*e*S		**Sn**	**Sn**	**19 39 27.4**	**-5.9**
HOPEN				IAML				19 39 31.8	
	comp=Z,42nm,0.2s								
HOPEN	**Hopen**	**6.28**	**113**	Pn		**Pn**	**Pn**	**19 38 21.3**	**-0.4**
HOPEN				Sn		**Sn**	**Sn**	**19 39 27.7**	**-5.6**
HOPEN	**Hopen**	**6.28**	**113**	*e*P		**Pn**	**Pn**	**19 38 21.0**	**-0.7**
HOPEN				*e*S		**Sn**	**Sn**	**19 39 26.5**	**-6.8**
BJO1	**Bjornoya**	**7.09**	**134**	*e*P		**Pn**	**Pn**	**19 38 33.7**	**+0.8**
BJO1				*e*S		**Sn**	**Sn**	**19 39 49.1**	**-4.3**
BJO1				IAML				19 39 54.6	
	comp=Z,8.4nm,0.4s								
BJO1	**Bjornoya**	**7.09**	**134**	Pn		**Pn**	**Pn**	**19 38 33.8**	**+1.0**
BJO1				Sn		**Sn**	**Sn**	**19 39 49.3**	**-4.1**
ZFI2	**Zemlya Franca-**	**7.75**	**62**	*e*P		**Pn**	**Pn**	**19 38 42.6**	**+0.8**
ZFI2				*e*S		**Sn**	**Sn**	**19 40 02.3**	**-7.0**
	comp=Z,23nm,0.4s								
OMEGA	**Omega**	**7.77**	**63**	*e*P		**Pn**	**Pn**	**19 38 42.7**	**+0.7**
OMEGA				*e*S		**Sn**	**Sn**	**19 40 03.0**	**-6.8**
	comp=Z,33nm,0.6s								
JMIC	**Jan Mayen**	**9.51**	**196**	*e*P		**Pn**	**Pn**	**19 39 05.2**	**-0.7**
JMIC				*e*S		Sn	Sn	19 40 42.7	-10
JMIC				IAML				19 40 48.6	
	comp=Z,36nm,0.6s								
JMIC	**Jan Mayen**	**9.51**	**196**	Pn		**Pn**	**Pn**	**19 39 05.5**	**-0.4**
	comp=Z,23nm,0.3s,baz=339,slow=8.6,SNR=8.7								
JMI	**Jan Mayen**	**9.57**	**197**	*e*P		**Pn**	**Pn**	**19 39 06.5**	**-0.3**
JMI				IAML				19 40 58.5	
	comp=Z,34nm,0.5s								
NEEM	**North Greenlan**	**9.91**	**280**	*e*P		**Pn**	**Pn**	**19 39 09.2**	**-2.5**
NEEM				*i* S		Sn	Sn	19 40 52.6	-10
NEEM				IAML				19 40 59.0	
	comp=Z,4.0nm,0.3s								
NEEM	**North Greenlan**	**9.91**	**280**	*e*P		**Pn**	**Pn**	**19 39 09.2**	**-2.5**
NEEM				*i* S		Sn	Sn	19 40 52.6	-10
NEEM				IAML				19 40 59.0	
	comp=Z,4.0nm,0.3s								
SCO	**Scoresbysund**	**11.09**	**220**	*e*P		**Pn**	**Pn**	**19 39 26.3**	**-1.2**
SCO				*i* S		Sn	Sn	19 41 21.0	-10
SCO				IAML				19 41 25.1	
	comp=Z,1.5nm,0.4s								
SCO	**Scoresbysund**	**11.09**	**220**	*e*P		**Pn**	**Pn**	**19 39 26.3**	**-1.2**
SCO				*i* S		Sn	Sn	19 41 21.0	-10
SCO				IAML				19 41 25.1	
	comp=Z,1.5nm,0.4s								
HAMF	**Hammerfest**	**11.21**	**136**	Pn		**Pn**	**Pn**	**19 39 29.9**	**+0.7**
HAMF				Sn		Sn	Sn	19 41 28.0	-6.4
SUMG	**Summit**	**11.48**	**249**	*i* P		Pn	Pn	19 39 30.4	-2.8
SUMG				*i* S		Sn	Sn	19 41 31.0	-10
SUMG				IAML				19 41 31.7	
	comp=Z,2.5nm,0.4s								
SUMG	**Summit**	**11.48**	**249**	*i* P		Pn	Pn	19 39 30.4	-2.8
SUMG				*i* S		Sn	Sn	19 41 31.0	-10
SUMG				IAML				19 41 31.7	
	comp=Z,2.5nm,0.4s								
VADS	**Vadso**	**12.42**	**128**	*e*P		Pn	Pn	19 39 40.5	-5.2
VADS				*e*S		Sn	Sn	19 41 54.5	-9.3
VADS				IAML				19 41 56.7	
	comp=Z,3.8nm,0.6s								
KIF	**Kilpisjarvi**	**12.45**	**143**	*e*P		**Pn**	**Pn**	**19 39 46.8**	**+0.7**
KEV	**Kevo**	**12.45**	**132**	*e*P		**Pn**	**Pn**	**19 39 45.9**	**-0.3**
KEV				*e*S		Sn	Sn	19 41 53.0	-12
KEV	**Kevo**	**12.45**	**132**	Pn		**Pn**	**Pn**	**19 39 48.2**	**+2.1**
KEV				Sn		Sn	Sn	19 41 56.2	-8.5
ARA0	**ARCESS Array S**	**12.47**	**135**	Pn		**Pn**	**Pn**	**19 39 47.8**	**+1.3**
	baz=344,slow=14								
ARA0				Sn		Sn	Sn	19 41 56.8	-8.5
	baz=342,slow=8.6								
ARA0				IAML				19 42 21.9	
	comp=Z,2.0nm,1.0s								
ARA0	**ARCESS Array S**	**12.47**	**135**	Pn		**Pn**	**Pn**	**19 39 47.9**	**+1.3**
	baz=344,slow=14								
ARA0				Sn		Sn	Sn	19 41 56.8	-8.5
	baz=342,slow=8.6								
ARCES	**ARCESS Array B**	**12.47**	**135**	Pn		**Pn**	**Pn**	**19 39 46.9**	**+0.4**
	comp=Z,4.7nm,1.0s,baz=343,slow=15,SNR=7.9								
ARCES				Sn		Sn	Sn	19 41 57.2	-8.0
	comp=Z,0.1nm,0.3s,baz=333,slow=23,SNR=1.4								
LOF	**Lofoten**	**12.67**	**156**	*e*P		**Pn**	**Pn**	**19 39 50.7**	**+1.5**
LOF				IAML				19 42 31.1	
	comp=Z,6.4nm,0.8s								
STEI	**Steigen**	**13.00**	**153**	*e*P		**Pn**	**Pn**	**19 39 56.0**	**+2.4**
FAUS	**Fauske**	**13.54**	**154**	*e*P		**Pn**	**Pn**	**19 40 02.7**	**+1.7**
FAUS				IAML				19 42 52.6	
	comp=Z,3.1nm,1.0s								
SALU	**Saltoluokta**	**13.81**	**148**	*e*P		**Pn**	**Pn**	**19 40 08.2**	**+3.5**
KONS	**Konsvik**	**14.26**	**158**	*e*P		**Pn**	**Pn**	**19 40 13.8**	**+3.0**
SFJD	**Kangerlussuaq**	**18.40**	**253**	P		**P**	**P**	**19 40 59.3**	**-4.6**
	comp=Z,4.9nm,0.6s,baz=16,slow=13,SNR=5.1								
RES	**Resolute Bay**	**18.86**	**305**	S		Sn	Sn	19 44 21.7	-18
	comp=Z,0.2nm,0.3s,baz=324,slow=23,SNR=1.7								
FIA0	**FINESS Array S**	**20.35**	**142**	P		**P**	**P**	**19 41 27.6**	**+2.3**
	slow=14								
FIA0	**FINESS Array S**	**20.35**	**142**	P		**P**	**P**	**19 41 27.6**	**+2.3**
	slow=14								
FINES	**FINESS Array B**	**20.35**	**142**	P		**P**	**P**	**19 41 27.6**	**+2.3**
	comp=Z,1.4nm,0.8s,baz=334,slow=9.3,SNR=4.8								
	comp=Z,1.4nm,0.8s								
HFS	**Hagfors**	**20.62**	**160**	P		**P**	**P**	**19 41 30.4**	**+2.1**
	comp=Z,2.1nm,0.8s,baz=350,slow=7.3,SNR=2.7								
	comp=Z,2.1nm,0.8s								
NRIK	**Noril'sk**	**22.57**	**68**	P		**P**	**P**	**19 41 53.

GC02 **Grant County #** 0.37 99 Pg **Pg** **19 46 20.3 +0.2**
GC02 Sg **Sg** **19 46 25.7 +0.6**
OK035 E0210 Rd and N 0.38 237 **Pg** **19 46 20.0 -0.2**
OK035 Sg **Sg** **19 46 25.3 +0.1**
OK035 IAML 19 46 32.6
comp=N,11µm,0.5s
KAN05 Bluff City Nor 0.41 61 Pg **Pg** **19 46 20.6 -0.2**
KAN05 Sg **Sg** **19 46 27.0 +0.7**
KAN05 IAML 19 46 28.5
comp=N,15µm,0.2s
KAN05 IAML 19 46 29.0
comp=E,15µm,0.2s
KAN08 Anthony NE Sta 0.42 41 **Pg** **19 46 21.2 +0.2**
KAN08 Sg **Sg** **19 46 27.1 +0.5**
KAN17 Caldwell West 0.46 73 **Pg** **19 46 22.0 +0.2**
KAN17 Sg **Sg** **19 46 28.4 +0.4**
KAN17 IAML 19 46 34.8
comp=E,10µm,0.4s
KAN17 IAML 19 46 35.4
comp=N,12µm,0.3s
KAN12 Harper NE Stat 0.46 33 Pg **Pg** **19 46 21.9 +0.1**
KAN12 Sg **Sg** **19 46 28.6 +0.6**
KAN12 IAML 19 46 29.3
comp=N,18µm,0.5s
KAN12 IAML 19 46 38.6
comp=E,16µm,0.4s
CROK Carrier 0.49 147 **Pg** **19 46 22.3 0.0**
CROK Sg **Sg** **19 46 28.8 +0.1**
KAN06 Argonia West S 0.50 47 Pg **Pg** **19 46 22.6 +0.1**
KAN06 Sg **Sg** **19 46 29.5 +0.4**
KAN01 Argonia South 0.51 61 **Pg** **19 46 22.7 0.0**
OK038 West end E0370 0.55 219 Pg **Pg** **19 46 23.4 -0.2**
OK038 Sg **Sg** **19 46 30.3 -0.5**
KAN09 Caldwell North 0.60 68 Pg **Pg** **19 46 24.7 +0.2**
KAN09 Sg **Sg** **19 46 33.1 +0.7**
KAN09 IAML 19 46 39.7
comp=E,14µm,0.3s
KAN09 IAML 19 46 42.6
comp=N,15µm,0.2s
KS21 Milan North St 0.64 54 IAML 19 46 40.3
comp=N,6µm,0.3s
KS21 IAML 19 46 41.0
comp=N,7µm,0.1s
KS21 Milan North St 0.64 54 Pg **Pg** **19 46 25.1 -0.1**
KAN13 South Haven SW 0.68 81 Pg **Pg** **19 46 26.1 +0.1**
KAN13 Sg **Sg** **19 46 35.2 +0.3**
KAN13 IAML 19 46 35.7
comp=E,19µm,0.3s
KAN13 IAML 19 46 38.9
comp=N,14µm,0.3s
U32A Winter Ranch, 0.77 226 **Pg** **19 46 26.9 -0.6**
U32A Sg **Sg** **19 46 36.7 -0.9**
U32A IAML 19 46 42.6
comp=E,7µm,0.5s
U32A IAML 19 46 47.8
comp=N,6µm,0.7s
U32A Winter Ranch, 0.77 226 P **Pg** **19 46 26.9 -0.6**
baz=45,SNR=72
U32A S **Sg** **19 46 37.7 +0.1**
baz=45
BLOK Blackwell 0.90 99 Pg **Pg** **19 46 29.7 -0.3**
BLOK Sg **Sg** **19 46 41.9 +0.1**
OK048 Pawnee Station 1.21 114 **Pb** **19 46 35.4 -0.3**
OK048 Sg **Sg** **19 46 51.1 -0.6**
OK048 IAML 19 46 58.3
comp=N,8µm,0.6s
ELIS Ellis County 1.23 227 **Pb** **19 46 35.4 -0.6**
ELIS Sg **Sg** **19 46 51.8 -0.4**
ELIS IAML 19 47 06.3
comp=N,6µm,0.3s
CSTR Hydro, Custer 1.30 194 **Pn** **19 46 37.0 +0.1**
CSTR **Sb** **19 46 54.2 +0.4**
OK029 Liberty Lake 1.31 148 **Pn** **19 46 36.9 -0.2**
OK033 Mehan 1.41 128 **Pn** **19 46 38.8 +0.5**
T35A Sooner Cattle 1.45 89 Pg **Pn** **19 46 39.4 +0.5**
T35B Sooner Cattle 1.45 89 P **Pn** **19 46 39.5 +0.6**
baz=270,SNR=157
T35B S **Sb** **19 46 58.7 +0.6**
baz=270
ADOK Arcadia Dam 1.47 148 **Pn** **19 46 39.6 +0.4**
QUOK Quay 1.49 119 **Pn** **19 46 39.9 +0.4**
OK009 Oakdale Elemen 1.51 151 **Pn** **19 46 39.8 +0.1**
OK052 Battle Ridge R 1.52 126 **Pn** **19 46 40.6 +0.7**
R32A Long Quarter, 1.54 348 **Pn** **19 46 41.0 +0.8**
R32A IAmb_Lg 19 47 03.5
comp=Z,1µm,0.7s
R32A Long Quarter, 1.54 348 P **Pb** **19 46 41.2 -0.2**
baz=168
R32A S **Sg** **19 47 01.6 -0.7**
baz=168
OKCSW OKLAHOMA CITY 1.66 154 Pg **Pn** **19 46 42.8 +0.9**
FNO Franklin 1.81 156 **Pn** **19 46 44.8 +0.9**
DEOK Depew 1.81 125 **Pn** **19 46 44.5 +0.6**
OK011 Prague 1.94 137 Pn **Pn** **19 46 46.6 +1.0**
W35A Tecumseh 2.11 146 **Pn** **19 46 48.7 +0.8**
WMOK Wichita Mounta 2.20 190 Pn **Pn** **19 46 49.7 +0.5**
WMOK IAmb_Lg 19 47 23.6
comp=Z,1µm,0.7s
WMOK Wichita Mounta 2.20 190 P **Pn** **19 46 49.8 +0.5**
baz=9.4,SNR=172
WMOK Sb **Sb** **19 47 21.0 +1.1**
baz=9.4
WMOK Wichita Mounta 2.20 190 P **Pn** **19 46 49.9 +0.7**
baz=9.4,SNR=491
WMOK S **Sn** **19 47 18.6 +2.1**
baz=9.4
CBKS Cedar Bluff 2.21 330 **Pn** **19 46 50.0 +0.6**
CBKS IAmb_Lg 19 47 25.2
comp=Z,940nm,0.7s
CBKS Cedar Bluff 2.21 330 P **Pn** **19 46 50.4 +1.0**
baz=149,SNR=61
CBKS Sb **Sb** **19 47 21.3 +1.2**
baz=149
CBKS Cedar Bluff 2.21 330 P **Pn** **19 46 50.7 +1.4**
baz=149,SNR=23
CBKS S **Sb** **19 47 21.2 +1.1**
baz=149
TUL3 Leonard 2.27 115 Pn **Pn** **19 46 50.7 +0.5**
TUL3 Leonard 2.27 115 P **Pn** **19 46 50.9 +0.8**
baz=297,SNR=111
TUL3 Sb **Sb** **19 47 23.1 +1.4**
baz=297
TUL3 Leonard 2.27 115 P **Pn** **19 46 50.7 +0.5**
baz=297
TUL3 S **Sn** **19 47 19.9 +1.8**
baz=297
SMWD Samnorwood 2.38 221 **Pn** **19 46 53.3 +1.5**
SMWD IAmb_Lg 19 47 27.7
comp=Z,1µm,0.9s
KSU1 Kansas State U 2.57 31 **Pn** **19 46 55.6 +1.3**
KSU1 IAmb_Lg 19 47 35.6
comp=Z,1µm,1.1s
KSU1 Kansas State U 2.57 31 P **Pn** **19 46 55.7 +1.3**
baz=212,SNR=41
KSU1 Sb **Sb** **19 47 31.8 +1.4**
baz=212
KSU1 Kansas State U 2.57 31 P **Pn** **19 46 55.8 +1.5**
baz=212,SNR=15
KSU1 S **Sb** **19 47 32.0 +1.6**
baz=212
RLO Rose Lookout 2.75 105 **Pn** **19 46 58.1 +1.2**
LOOK Love County 3.06 162 Pn **Pn** **19 47 02.1 +1.1**
LOOK IAmb_Lg 19 47 53.3
comp=Z,938nm,0.7s
WTFS Witchita Falls 3.14 182 Pn **Pn** **19 47 03.2 +1.0**
U38A Gravette 3.19 97 Pn **Pn** **19 47 04.2 +1.2**
U38A IAmb_Lg 19 48 01.9
comp=Z,775nm,0.7s
U38A Gravette 3.19 97 P **Pn** **19 47 04.3 +1.4**
baz=280,SNR=28
X37A Clayton 3.33 133 Pn **Pn** **19 47 05.8 +1.0**
X37A Clayton 3.33 133 P **Pn** **19 47 05.9 +1.1**
baz=315,SNR=189
X37A S **Sn** **19 47 45.8 +1.5**
baz=315
AMTX Amarillo 3.40 234 **Pn** **19 47 07.3 +1.5**
AMTX IAmb_Lg 19 48 08.1
comp=Z,736nm,0.8s
AMTX Amarillo 3.40 234 P **Pn** **19 47 07.0 +1.2**
baz=52
AMTX Amarillo 3.40 234 P **Pn** **19 47 06.7 +0.8**
baz=52,SNR=41
HHAR Hobbs 3.58 99 Pn **Pn** **19 47 09.2 +1.0**
HHAR IAmb_Lg 19 48 09.7
comp=Z,591nm,0.8s
HHAR Hobbs 3.58 99 P **Pn** **19 47 09.0 +0.8**
baz=281
RTBA Rita Blanca 3.59 264 **Pn** **19 47 09.8 +1.4**
Z35A Perchaven, San 3.68 166 **Pn** **19 47 10.3 +0.7**
Z35A IAmb_Lg 19 48 17.7
comp=Z,564nm,1.1s
Z35A Perchaven, San 3.68 166 P **Pn** **19 47 10.4 +0.9**
baz=346,SNR=19
Z35A S **Sn** **19 47 53.9 +1.0**
baz=346
FW03 Perrin-Whitt E 3.87 177 **Pn** **19 47 13.2 +1.1**
FW03 IAmb_Lg 19 48 15.4
comp=Z,715nm,0.8s
APMT Aspermont 3.87 203 **Pn** **19 47 13.3 +1.1**
APMT IAmb_Lg 19 48 18.9
comp=Z,764nm,1.2s
DKNS Dickens 3.88 214 **Pn** **19 47 13.6 +1.2**
DKNS IAmb_Lg 19 48 15.8
comp=Z,504nm,0.8s
N33B J Bar K, Exete 3.88 10 P **Pn** **19 47 13.0 +0.6**
baz=190
N33B S **Sn** **19 47 58.9 +1.0**
baz=190
N33A J Bar K, Exete 3.88 10 **Pn** **19 47 12.4 +0.1**
N33A IAmb_Lg 19 48 25.8
comp=Z,730nm,0.9s
FW06 Azle 3.98 171 **Pn** **19 47 14.6 +0.9**
FW06 IAmb_Lg 19 48 25.3
comp=Z,408nm,0.8s
KSCO Kaye Shedlock' 4.00 303 **Pn** **19 47 15.1 +1.0**
KSCO IAmb_Lg 19 48 21.0
comp=Z,709nm,1.1s
KSCO Kaye Shedlock' 4.00 303 P **Pn** **19 47 15.2 +1.0**
baz=120
S39A Bolivar 4.06 77 Pn **Pn** **19 47 15.3 +0.5**
S39A Bolivar 4.06 77 P **Pn** **19 47 15.3 +0.5**
baz=260,SNR=56
S39A S **Sn** **19 48 02.5 +0.3**
baz=260
PLPT Palo Pinto 4.09 180 Pn **Pn** **19 47 15.6 +0.3**
PLPT IAmb_Lg 19 48 31.2
comp=Z,475nm,0.9s
FW07 Weatherford 4.22 174 **Pn** **19 47 17.9 +0.9**
FW07 IAmb_Lg 19 48 33.5
comp=Z,458nm,0.9s
SN07 Snyder 07 4.36 210 **Pn** **19 47 19.5 +0.6**
SN07 IAmb_Lg 19 48 33.4
comp=Z,388nm,0.8s
ABTX Abilene, Hawle 4.42 195 **Pn** **19 47 19.9 +0.1**
ABTX Abilene, Hawle 4.42 195 P **Pn** **19 47 20.5 +0.7**
baz=14,SNR=11
ABTX Abilene, Hawle 4.42 195 P **Pn** **19 47 20.0 +0.3**
baz=14,SNR=24
N35A Tabor 4.46 27 **Pn** **19 47 20.6 +0.3**
BGNE Belgrade 4.49 2 Pn **Pn** **19 47 20.4 -0.3**
BGNE Belgrade 4.49 2 P **Pn** **19 47 21.4 +0.6**
baz=182,SNR=12
BGNE S **Sn** **19 48 13.4 +0.3**
baz=182
BGNE Belgrade 4.49 2 P **Pn** **19 47 21.8 +1.1**
baz=182
BGNE S **Sn** **19 48 13.8 +0.8**
baz=182
MIAR Mount Ida 4.52 120 Pn **Pn** **19 47 21.2 0.0**
MIAR Mount Ida 4.52 120 P **Pn** **19 47 21.7 +0.6**
baz=303,SNR=22
MIAR S **Sn** **19 48 13.9 +0.2**
baz=303
MIAR Mount Ida 4.52 120 P **Pn** **19 47 22.0 +0.8**
baz=303,SNR=41
MIAR S **Sn** **19 48 14.3 +0.6**
baz=303
SN05 Snyder 5 4.54 208 **Pn** **19 47 21.0 -0.5**
SN05 IAmb_Lg 19 48 43.2
comp=Z,414nm,0.8s
Z38A Mt. Pleasant 4.55 142 Pn **Pn** **19 47 21.8 +0.2**
Z38A IAmb_Lg 19 48 39.0
comp=Z,705nm,0.8s
Z38A Mt. Pleasant 4.55 142 P **Pn** **19 47 22.5 +1.0**
baz=324,SNR=9.6
Z38A S **Sn** **19 48 14.8 +0.3**
baz=324
TREL Terrell 4.55 156 **Pn** **19 47 21.9 +0.3**
TREL IAmb_Lg 19 48 41.2
comp=Z,576nm,0.8s
FW16 Waxahatchie 4.57 165 **Pn** **19 47 22.2 +0.4**
FW16 IAmb_Lg 19 48 43.9
comp=Z,585nm,0.8s
FW14 Alvarado 4.60 168 **Pn** **19 47 22.6 +0.5**
FW13 Cleburne 4.61 171 **Pn** **19 47 23.2 +0.9**
FW13 IAmb_Lg 19 48 43.8
comp=Z,506nm,1.2s
P38A Dawn 4.64 53 Pn **Pn** **19 47 24.0 +1.3**
P38A Dawn 4.64 53 P **Pn** **19 47 23.9 +1.1**
baz=236,SNR=10
POST Post 4.64 215 **Pn** **19 47 24.2 +1.3**
MSTX Muleshoe 4.67 232 Pn **Pn** **19 47 24.5 +1.1**
MSTX IAmb_Lg 19 48 46.3
comp=Z,417nm,1.1s
MSTX Muleshoe 4.67 232 P **Pn** **19 47 24.2 +0.9**
baz=50,SNR=11
MSTX Muleshoe 4.67 232 P **Pn** **19 47 24.6 +1.2**
baz=50,SNR=16
MGMO Mountain Grove 4.84 85 IAmb_Lg 19 48 58.7
comp=Z,383nm,0.7s
T25A Trinidad 4.88 274 **Pn** **19 47 27.2 +0.9**
T25A IAmb_Lg 19 48 56.1
comp=Z,541nm,0.8s
T25A Trinidad 4.88 274 P **Pn** **19 47 27.0 +0.7**
baz=91,SNR=9.0
T25A S **Sn** **19 48 23.0 +0.1**
baz=91
WHTX Lake Whitney, 4.96 172 **Pn** **19 47 27.7 +0.5**
WHTX Lake Whitney, 4.96 172 P **Pn** **19 47 27.6 +0.5**
baz=352,SNR=30
WHTX Sb **Sb** **19 48 44.9 +5.7**
baz=352
WHTX Lake Whitney, 4.96 172 P **Pn** **19 47 27.7 +0.5**
baz=352,SNR=64
OGNE Ogallala 4.96 325 **Pn** **19 47 28.6 +1.3**
OGNE IAmb_Lg 19 48 51.5
comp=Z,552nm,0.8s
OGNE Ogallala 4.96 325 P **Pn** **19 47 27.7 +0.4**
baz=143,SNR=6.3
OGNE Ogallala 4.96 325 P **Pn** **19 47 29.9 +2.7**
baz=143,SNR=6.0
R40A Maddies Statio 5.00 72 Pn **Pn** **19 47 28.1 +0.5**
R40A Maddies Statio 5.00 72 P **Pn** **19 47 28.4 +0.8**
baz=256,SNR=7.2
X40A Basin Creek Fa 5.07 117 **Pn** **19 47 28.5 -0.2**
X40A IAmb_Lg 19 48 57.3
comp=Z,502nm,0.8s
X40A Basin Creek Fa 5.07 117 P **Pn** **19 47 28.6 -0.1**
baz=300,SNR=31
X40A P **Pn** **19 47 28.6 -0.1**
baz=300,SNR=31
FCAR Ozark Folk Cen 5.10 100 IAmb_Lg 19 48 57.2
comp=Z,572nm,0.8s
WHAR Wooly Hollow 5.14 107 Pn **Pn** **19 47 29.5 -0.2**
L34A Svendsen Farm, 5.27 16 **Pn** **19 47 31.4 0.0**
UALR University of 5.30 112 Pn **Pn** **19 47 32.9 +1.1**
UALR IAmb_Lg 19 49 15.7
comp=Z,518nm,0.9s
237A Washetta, Mont 5.32 156 Pn **Pn** **19 47 31.9 -0.1**
237A IAmb_Lg 19 49 12.5
comp=Z,503nm,1.0s
237A Washetta, Mont 5.32 156 P **Pn** **19 47 32.0 -0.1**
baz=338,SNR=46
237A S **Sn** **19 48 31.9 -1.5**
baz=338
WLAR White Oak Lake 5.33 126 Pn **Pn** **19 47 32.7 +0.4**
WLAR IAmb_Lg 19 48 59.3
comp=Z,390nm,0.8s
SGCY Sterling City 5.50 206 Pn **Pn** **19 47 34.6 0.0**
SGCY IAmb_Lg 19 49 17.6
comp=Z,479nm,0.9s
N38A Joes South For 5.54 44 Pn **Pn** **19 47 34.8 -0.4**
P40A Paris 5.58 60 Pn **Pn** **19 47 35.6 -0.1**
P40A IAmb_Lg 19 49 15.1
comp=Z,417nm,1.0s
BRDY Brady 5.64 186 Pn **Pn** **19 47 36.1 -0.4**
BRDY IAmb_Lg 19 49 14.5
comp=Z,544nm,1.1s
CCM Cathedral Cave 5.74 76 Pn **Pn** **19 47 38.0 +0.2**
CCM IAmb_Lg 19 49 22.9
comp=Z,266nm,0.8s
CCM Cathedral Cave 5.74 76 P **Pn** **19 47 37.9 0.0**
baz=261
CCM Cathedral Cave 5.74 76 P **Pn** **19 47 38.0 +0.2**
baz=261
Q24A Divide 5.78 293 **Pn** **19 47 38.4 -0.3**
Q24A IAmb_Lg 19 49 19.3
comp=Z,316nm,0.8s
Q24A Divide 5.78 293 P **Pn** **19 47 39.2 +0.5**
baz=109,SNR=10
SDCO Great Sand Dun 5.79 280 P **Pn** **19 47 40.0 +1.2**
baz=96,SNR=17
Z41A Richland Creek 5.81 127 P **Pn** **19 47 38.0 -0.8**
baz=310
Z41A P **Pn** **19 47 38.0 -0.8**
baz=310
LCAR Lake Charles 5.83 96 Pn **Pn** **19 47 39.7 +0.5**
LCAR IAmb_Lg 19 49 21.5
comp=Z,456nm,1.1s
K30B Basset 5.84 351 Pn **Pn** **19 47 40.2 +0.9**
K30B Basset 5.84 351 P **Pn** **19 47 40.8 +1.5**
baz=170,SNR=7.6
ODSA Odessa 5.92 217 Pn **Pn** **19 47 41.8 +1.4**
BRIGG Briggsdale 5.95 310 **Pn** **19 47 41.7 +0.8**
BRIGG IAmb_Lg 19 49 22.4
comp=Z,397nm,0.9s
NATX Nacogdoches 5.96 148 **Pn** **19 47 39.5 -1.4**
NATX IAmb_Lg 19 49 38.3
comp=Z,258nm,0.8s
NATX Nacogdoches 5.96 148 P **Pn** **19 47 41.2 +0.2**
baz=331
NATX S **Sn** **19 48 47.7 -1.5**
baz=331
CCAR Cane Creek 6.12 117 P **Pn** **19 47 42.8 -0.3**
baz=301,SNR=5.6
435B Jarrell 6.14 174 Pn **Pn** **19 47 42.6 -0.9**
435B IAmb_Lg 19 49 27.3
comp=Z,468nm,0.7s
435B Jarrell 6.14 174 P **Pn** **19 47 43.2 -0.2**
baz=354
435B Jarrell 6.14 174 P **Pn** **19 47 43.2 -0.2**
baz=354,SNR=6.8
HBAR Harrisburg 6.34 100 Pn **Pn** **19 47 45.2 -0.9**
SCIA State Center 6.36 37 IAmb_Lg 19 49 39.0
comp=Z,396nm,0.8s
FVM French Village 6.37 78 **Pn** **19 47 46.6 0.0**
FVM IAmb_Lg 19 49 36.8
comp=Z,445nm,1.0s
FVM French Village 6.37 78 P **Pn** **19 47 46.5 0.0**
baz=263,SNR=7.2
OZNA Ozona 6.41 202 Pn **Pn** **19 47 46.1 -1.1**
ISCO Idaho Springs 6.42 299 Pn **Pn** **19 47 47.2 -0.3**
ISCO Idaho Springs 6.42 299 P **Pn** **19 47 48.2 +0.7**
baz=114,SNR=11
ISCO Idaho Springs 6.42 299 P **Pn** **19 47 48.2 +0.7**
baz=114
JCT Junction City 6.53 191 Pn **Pn** **19 47 48.6 -0.2**
JCT Junction City 6.53 191 P **Pn** **19 47 49.3 +0.5**
baz=10
SLM Saint Louis 6.63 73 Pn **Pn** **19 47 48.2 -1.9**
SLM IAmb_Lg 19 49 41.2
comp=Z,362nm,0.9s
MNHN Monahans 6.67 215 **Pn** **19 47 49.7 -1.0**
GNAR Gosnell 6.76 96 Pn **Pn** **19 47 51.8 -0.1**
PEBM Pemiscott Bayo 6.86 94 Pn **Pn** **19 47 52.8 -0.4**
ANMO Albuquerque 6.89 256 **Pn** **19 47 54.0 +0.1**
ANMO Albuquerque 6.89 256 IAmb_Lg 19 50 04.2
comp=Z,66nm,0.8s
ANMO Albuquerque 6.89 256 P **Pn** **19 47 54.6 +0.7**
baz=71
ANMO Albuquerque 6.89 256 Pn **Pn** **19 47 54.2 +0.3**
comp=Z,0.2nm,0.3s,baz=121,slow=19,SNR=2.3
ANMO Lg Lg 19 49 45.8
comp=Z,7.8nm,0.3s,baz=67,slow=20,SNR=14
ECSD EROS Data Cent 6.94 10 Pn **Pn** **19 47 53.7 -0.7**
ECSD IAmb_Lg 19 50 04.9
comp=Z,203nm,0.9s
N41A Harden Midland 6.95 55 **Pn** **19 47 54.8 +0.3**
N41A IAmb_Lg 19 50 04.2
comp=Z,309nm,0.8s
MET Memphis--Engin 7.02 102 Pn **Pn** **19 47 54.8 -0.7**
PHWY Pilot Hill 7.07 310 IAmb_Lg 19 49 58.3
comp=Z,237nm,0.9s
K38A Parkersburg 7.14 35 IAmb_Lg 19 50 19.9
comp=Z,402nm,0.8s
N23A Red Feather La 7.15 306 P **Pn** **19 47 58.4 +0.9**
baz=122,SNR=20
MLDN Muldoon 7.19 171 **Pn** **19 47 57.7 0.0**
PECS Pecos 7.19 221 **Pn** **19 47 58.5 +0.6**
HKT Hockley 7.25 163 **Pn** **19 47 57.5 -1.0**
S44A Carbondale 7.26 81 **Pn** **19 47 59.2 +0.4**
S44A IAmb_Lg 19 50 05.1
comp=Z,392nm,0.7s
SIUC Southern Illin 7.29 81 **Pn** **19 47 59.3 +0.1**
SIUC IAmb_Lg 19 50 12.8
comp=Z,289nm,0.7s
HNDO Hondo 7.41 187 **Pn** **19 48 00.2 -0.6**
L40A Anamosa 7.52 45 **Pn** **19 48 02.4 +0.1**
SUSD Miller 7.54 357 Pn **Pn** **19 48 02.8 +0.2**
SUSD IAmb_Lg 19 50 25.0
comp=Z,271nm,0.9s
SUSD Miller 7.54 357 P **Pn** **19 48 03.3 +0.7**
baz=176
Y22D IRIS PASSCAL I 7.57 251 IAmb_Lg 19 50 19.1
comp=Z,283nm,1.0s
Q44A Meyer Farm, Va 7.62 72 **Pn** **19 48 03.1 -0.6**
OXF Oxford 7.63 106 Pn **Pn** **19 48 03.2 -0.6**
OXF IAmb_Lg 19 50 19.0
comp=Z,321nm,0.8s
OXF Oxford 7.63 106 P **Pn** **19 48 03.7 -0.2**
baz=291,SNR=9.1
OXF Oxford 7.63 106 P **Pn** **19 48 03.9 +0.1**
baz=291
SAND Sanderson 7.63 206 Pn **Pn** **19 48 03.0 -0.9**
DRIO Del Rio 7.71 195 Pn **Pn** **19 48 03.9 -1.1**
EF01 Eagle Ford 01 7.76 180 Pn **Pn** **19 48 05.7 0.0**
EF01 IAmb_Lg 19 50 34.4
comp=Z,286nm,0.9s
Y45A Yeager Farm, C 7.78 110 Pn **Pn** **19 48 06.1 +0.2**
MNTX Cornudas Mount 7.82 230 P **Pn** **19 48 07.0 +0.4**
baz=46,SNR=36
MNTX Cornudas Mount 7.82 230 P **Pn** **19 48 07.1 +0.5**
baz=46,SNR=30
ALPN Alpine 7.88 216 Pn **Pn** **19 48 07.3 -0.2**
HDIL Hopedale 7.93 60 Pn **Pn** **19 48 08.1 +0.1**
HDIL IAmb_Lg 19 50 30.8
comp=Z,266nm,0.7s
HDIL Hopedale 7.93 60 P **Pn** **19 48 08.2 +0.2**
baz=246,SNR=10
HDIL Hopedale 7.93 60 P **Pn** **19 48 08.1 +0.1**
baz=246
I37A Lemond, Waseca 8.02 26 IAmb_Lg 19 50 36.3
comp=Z,227nm,0.9s
735A Kenedy 8.04 177 IAmb_Lg 19 50 40.3
comp=Z,158nm,0.8s
VHRN Van Horn 8.25 224 Pn **Pn** **19 48 12.9 +0.5**
OLIL Olney 8.29 74 Pn **Pn** **19 48 13.0 +0.2**
RWWY Rawlins 8.38 307 IAmb_Lg 19 50 46.6
comp=Z,170nm,0.9s
L42A Oliver, Polo 8.40 50 IAmb_Lg 19 50 44.7
comp=Z,262nm,0.8s
RSSD Black Hills 8.41 331 Pn **Pn** **19 48 15.5 +0.7**
RSSD Black Hills 8.41 331 P **Pn** **19 48 15.8 +1.0**
baz=147
RSSD Black Hills 8.41 331 P **Pn** **19 48 16.3 +1.5**
baz=147,SNR=5.7
WVT Waverly 8.48 92 P **Pn** **19 48 16.0 +0.6**
baz=278
K22A Casper 8.53 315 **Pn** **19 48 15.9 -0.5**
K22A IAmb_Lg 19 51 07.7
comp=Z,212nm,0.8s
K22A Casper 8.53 315 P **Pn** **19 48 16.8 +0.4**
baz=130,SNR=6.3
K22A Casper 8.53 315 P **Pn** **19 48 16.7 +0.4**
baz=130,SNR=7.2
833A Chaparral WMA, 8.61 186 IAmb_Lg 19 51 08.8
comp=Z,158nm,0.9s
JFWS Jewell Farm 8.62 43 Pn **Pn** **19 48 16.7 -0.7**
JFWS IAmb_Lg 19 50 45.3
comp=Z,240nm,0.9s
JFWS Jewell Farm 8.62 43 P **Pn** **19 48 17.8 +0.4**
baz=229,SNR=6.2
146A Union 8.73 117 IAmb_Lg 19 51 14.3
comp=Z,201nm,1.1s
146A Union 8.73 117 P **Pn** **19 48 19.1 +0.2**
baz=302
TX31 Lajitas Ar. Si 8.79 212 Pn **Pn** **19 48 19.4 -0.4**

TX31	**Lajitas Ar. Si**	**8.79**	**212**	P		**Pn**	**19 48 20.0**	**+0.1**
	baz=29,SNR=23							
TXAR	**Lajitas Array**	**8.79**	**212**	Pn		**Pn**	**19 48 19.4**	**-0.4**
TXAR	**Lajitas Array**	**8.79**	**212**	Pn		**Pn**	**19 48 19.6**	**-0.2**
	comp=Z,7.5nm,0.3s,baz=36,slow=11,SNR=82							
TXAR				Lg		Lg	19 50 45.7	
	comp=Z,4.1nm,0.3s,baz=27,slow=30,SNR=4.8							
F33A	**5 Mile Ranch,**	**9.05**	**9**	Pn		**Pn**	**19 48 22.1**	**-1.1**
F33A				IAmb_Lg			19 50 60.0	
	comp=Z,133nm,0.9s							
M44A	**Midewin, Midew**	**9.14**	**58**			**Pn**	**19 48 24.0**	**-0.6**
BLO	**Bloomington**	**9.57**	**73**			**Pn**	**19 48 29.3**	**-1.2**
K43A	**Burlington**	**9.61**	**50**	IAmb_Lg			19 51 20.2	
	comp=Z,200nm,1.0s							
F36A	**Milaca**	**9.64**	**20**	Pn		**Pn**	**19 48 29.2**	**-2.1**
E28A	**Huff**	**9.82**	**350**	Pn		**Pn**	**19 48 31.9**	**-1.9**
E28A				IAmb_Lg			19 51 47.8	
	comp=Z,154nm,0.8s							
U49A	**Red Boiling Sp**	**10.07**	**89**			**Pn**	**19 48 35.5**	**-1.8**
U49A	**Red Boiling Sp**	**10.07**	**89**	P		**Pn**	**19 48 37.4**	**0.0**
	baz=276							
G40A	**Rib Lake**	**10.35**	**34**	Pn		**Pn**	**19 48 40.0**	**-1.1**
BW06	**Boulder Array**	**10.43**	**308**	P		**Pn**	**19 48 42.2**	**-0.3**
	baz=120							
PD31	**Pinedale Array**	**10.43**	**308**			**Pn**	**19 48 40.2**	**-2.2**
PDAR	**Pinedale Array**	**10.43**	**308**	Pn		**Pn**	**19 48 39.5**	**-3.0**
PDAR	**Pinedale Array**	**10.43**	**308**	Pn		**Pn**	**19 48 41.5**	**-0.9**
	comp=Z,2.4nm,0.5s,baz=116,slow=15,SNR=23							
PDAR				Lg		Lg	19 51 35.7	
	comp=Z,1.4nm,0.3s,baz=108,slow=35,SNR=2.8							
PDAR				LR		LR	19 53 11.2	
	comp=Z,152nm,18.5s,baz=120,slow=41							
O48B	**Farmland**	**10.83**	**68**	P		**Pn**	**19 48 46.9**	**-0.7**
	baz=256							
E38A	**The Farm, Brul**	**10.92**	**25**			**Pn**	**19 48 47.3**	**-1.6**
BRAL	**Brewton**	**10.96**	**118**	P		**Pn**	**19 48 48.6**	**-0.8**
	baz=305							
X51A	**Calhoun**	**11.19**	**98**			**Pn**	**19 48 52.1**	**-0.5**
LAO	**LASA Array**	**11.41**	**331**	Pn		**Pn**	**19 48 54.2**	**-1.4**
LAO	**LASA Array**	**11.41**	**331**	P		**Pn**	**19 48 55.3**	**-0.3**
	baz=146,SNR=8.4							
AHID	**Auburn Hatcher**	**11.43**	**305**			**Pn**	**19 48 54.4**	**-1.7**
AGMN	**Agassiz Nation**	**11.52**	**8**	P		**Pn**	**19 48 56.1**	**-1.1**
	baz=190							
RLMT	**Red Lodge**	**11.64**	**318**	Pn		**Pn**	**19 48 56.8**	**-2.2**
RLMT	**Red Lodge**	**11.64**	**318**	P		**Pn**	**19 48 58.0**	**-0.9**
	baz=131							
N49A	**Columbus Grove**	**11.71**	**66**			**Pn**	**19 48 57.7**	**-2.0**
S51A	**Beattyville**	**11.75**	**82**			**Pn**	**19 48 59.1**	**-1.2**
TKL	**Tuckaleechee C**	**11.80**	**92**	Pn		**Pn**	**19 49 02.4**	**+1.4**
	comp=Z,1.3nm,0.3s,baz=217,slow=10,SNR=7.2							
TKL				Sn		**Sn**	**19 51 08.2**	**-4.6**
	comp=Z,0.9nm,0.3s,baz=267,slow=19,SNR=1.8							
TKL				Lg		Lg	19 52 17.6	
	comp=Z,3.7nm,0.3s,baz=188,slow=23,SNR=6.4							
	comp=Z,7.2nm,0.5s							
B35A	**Bob, Littlefor**	**11.93**	**15**	Pn		**Pn**	**19 48 59.3**	**-3.3**
LCMT	**Little Creek M**	**11.95**	**275**	Pn		**Pn**	**19 49 01.5**	**-1.6**
EYMN	**Ely**	**12.12**	**22**	P		**Pn**	**19 49 03.0**	**-2.3**
	baz=207							
DGMT	**Dagmar**	**12.33**	**341**	Pn		**Pn**	**19 49 06.2**	**-2.0**
DGMT	**Dagmar**	**12.33**	**341**	P		**Pn**	**19 49 06.5**	**-1.7**
	baz=158,SNR=9.5							
M50A	**Fremont**	**12.67**	**65**			**Pn**	**19 49 11.1**	**-1.8**
N51A	**Ashland**	**13.04**	**67**			**Pn**	**19 49 16.2**	**-1.7**
R53A	**Hurricane**	**13.05**	**79**	Pn		**Pn**	**19 49 16.9**	**-1.2**
BOZ	**Bozeman (W)**	**13.24**	**315**	Pn		**Pn**	**19 49 19.3**	**-1.4**
U54A	**Nelsons Funny**	**13.24**	**87**	Pn		**Pn**	**19 49 20.1**	**-0.7**
O52A	**Adamsville**	**13.30**	**71**	Pn		**Pn**	**19 49 20.1**	**-1.3**
553A	**Crawfordville**	**13.37**	**116**	Pn		**Pn**	**19 49 20.4**	**-2.1**
ULM	**Lac du Bonnet**	**13.45**	**7**			Pn	19 49 18.7	-4.8
ULM	**Lac du Bonnet**	**13.45**	**7**	Pn		Pn	19 49 18.9	-4.6
	comp=Z,0.9nm,0.3s,baz=185,slow=12,SNR=9.0							
ULM				Sn		Sn	19 51 39.0	-14
	comp=Z,1.1nm,0.3s,baz=103,slow=18,SNR=4.6							
ULM				Lg		Lg	19 53 05.0	
	comp=Z,0.5nm,0.3s,baz=285,slow=20,SNR=3.5							
	comp=Z,2.3nm,0.4s							
P53A	**Whipple**	**13.56**	**74**	Pn		Pn	19 49 20.5	-4.5
ELK	**Elko**	**13.74**	**291**	Lg		Lg	19 53 11.8	
	baz=177,slow=19,SNR=1.7							
O53A	**New Philadelph**	**13.79**	**71**	Pn		**Pn**	**19 49 24.5**	**-3.6**
KMSC	**Kings Mountain**	**13.86**	**92**	Pn		**Pn**	**19 49 26.8**	**-2.3**
EGMT	**Eagleton**	**13.93**	**326**	Pn		**Pn**	**19 49 28.1**	**-2.0**
EGMT	**Eagleton**	**13.93**	**326**	P		**Pn**	**19 49 28.8**	**-1.3**
	baz=139,SNR=8.8							
E46A	**Sault Ste Mari**	**14.09**	**44**	Pn		**Pn**	**19 48 29.9**	**-3.2**
N53A	**Lisbon**	**14.16**	**69**	Pn		**Pn**	**19 49 30.0**	**-3.2**
RCRC	**Randolf Colleg**	**15.20**	**82**	Pn		**Pn**	**19 49 46.1**	**-1.2**
T57A	**Hurt**	**15.24**	**84**	Pn		**Pn**	**19 49 45.2**	**-2.7**
DSP	**Deep Springs**	**15.68**	**278**	P		**P**	**19 49 55.9**	**-1.8**
NVAR	**Mina Array Bea**	**15.90**	**282**	Pn		**P**	**19 49 59.2**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=95,slow=10.0,SNR=3.6							
	comp=Z,0.4nm,0.6s							
LHV	**Little Huntoon**	**16.06**	**281**	P		**Pn**	**19 49 59.8**	**+1.3**
R58B	**Mineral**	**16.27**	**80**	P		**Pn**	**19 50 01.8**	**+0.6**
R58B				IAmb		IAmb	19 50 12.5	
	comp=Z,24nm,1.4s							
SADO	**Sadowa**	**16.47**	**56**	Sn		**Sn**	**19 52 56.9**	**-10**
	comp=Z,0.6nm,0.3s,baz=324,slow=19,SNR=2.3							
SADO				Lg		Lg	19 54 42.5	
	comp=Z,0.3nm,0.3s,baz=162,slow=19,SNR=3.7							
T59A	**Double "B" Far**	**16.60**	**84**	Pn		**Pn**	**19 50 04.7**	**-0.7**
T59A				IAmb		IAmb	19 50 06.3	
	comp=Z,19nm,1.4s							
L56A	**Greenwood**	**16.83**	**66**	Pn		**Pn**	**19 50 06.7**	**-1.6**
L56A				IAmb		IAmb	19 50 29.4	
	comp=Z,25nm,1.4s							
M57A	**Sunshine Farm,**	**17.02**	**68**	P		**Pn**	**19 50 11.2**	**+0.6**
M57A				IAmb		IAmb	19 50 33.1	
	comp=Z,24nm,1.3s							
NEW	**Newport**	**17.85**	**315**	P		**P**	**19 50 23.5**	**+1.8**
	comp=Z,2.1nm,0.7s,baz=118,slow=14,SNR=4.4							
FFC	**Flin Flon**	**17.99**	**353**	Pn		**Pn**	**19 50 20.6**	**-2.0**
J57A	**Williamstown**	**18.23**	**62**	P		**Pn**	**19 50 22.6**	**-3.0**
J57A				IAmb		IAmb	19 50 41.0	
	comp=Z,19nm,1.3s							
C09A	**Chrisman Ranch**	**18.27**	**313**	P		**P**	**19 50 27.6**	**+1.2**
C09A				IAmb		IAmb	19 50 31.4	
	comp=Z,13nm,0.7s							
PINE	**Pine Mountain**	**18.53**	**299**	P		**Pn**	**19 50 31.2**	**+1.6**
TEIG	**Tepich**	**18.80**	**149**	P		**P**	**19 50 29.9**	**-2.3**
TEIG				IAmb		IAmb	19 50 30.4	
	comp=Z,17nm,1.1s							
EDM	**Edmonton**	**19.39**	**332**	P		**P**	**19 50 37.6**	**-1.0**
EDM				IAmb		IAmb	19 50 44.0	
	comp=Z,8.7nm,0.9s							
YBH	**Yreka Blue Hor**	**19.45**	**292**	P		**Pn**	**19 50 40.5**	**-0.1**
YBH	**Yreka Blue Hor**	**19.45**	**292**	P		**Pn**	**19 50 41.2**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=103,slow=5.5,SNR=9.5							
	comp=Z,3.4nm,0.9s							
CMIG	**Matias Romero**	**19.98**	**170**	P		**Pn**	**19 50 49.8**	**+3.0**
	comp=Z,3.3nm,0.6s,baz=14,slow=8.2,SNR=7.7							
	comp=Z,3.3nm,0.6s							
LON	**Longmire**	**20.01**	**307**	P		Pn	19 50 48.0	+0.9
CAMR	**Camarioca**	**20.11**	**129**	P		**P**	**19 50 45.5**	**-1.0**
CAMR				IAmb		IAmb	19 50 51.3	
	comp=Z,89nm,0.6s							
KMRM	**Mail Ridge**	**20.11**	**287**	P		**P**	**19 50 45.6**	**-0.9**
KMRM				IAmb		IAmb	19 51 20.9	
	comp=Z,11nm,1.2s							
FCC	**Fort Churchill**	**22.04**	**6**	P		**P**	**19 51 06.3**	**-0.7**
FCC				IAmb		IAmb	19 51 12.7	
	comp=Z,6.2nm,0.8s							
E62A	**Clayton Lake**	**23.45**	**57**	P		**P**	**19 51 23.2**	**+1.2**
MTO3	**Montecristo**	**23.80**	**158**	P		**P**	**19 51 25.8**	**-0.1**
MTO3				IAmb		IAmb	19 51 31.2	
	comp=Z,8.2nm,1.2s							
F64A	**Sherman**	**24.08**	**59**	P		**P**	**19 51 26.9**	**-1.2**
YKAB2	**New Yellowknif**	**27.46**	**344**	P		**P**	**19 51 59.4**	**+0.9**
YKA	**Yellowknife Ar**	**27.52**	**344**	P		**P**	**19 51 59.5**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=146,slow=9.2,SNR=22							
YKA				PcP		**PcP**	**19 55 19.7**	**+2.9**
	comp=Z,0.4nm,0.7s,baz=142,slow=3.1,SNR=3.7							
	comp=Z,1.8nm,0.8s							
SCHQ	**Schefferville**	**27.97**	**40**	P		**P**	**19 52 02.7**	**-0.5**
SCHQ	**Schefferville**	**27.97**	**40**	P		**P**	**19 52 03.7**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=252,slow=9.6,SNR=5.3							
	comp=Z,2.1nm,0.6s							
ILAR	**Eielson Array**	**39.86**	**330**	P		**P**	**19 53 47.9**	**+1.9**
ILAR	**Eielson Array**	**39.86**	**330**	P		**P**	**19 53 48.1**	**+2.1**
	comp=Z,4.3nm,0.8s,baz=108,slow=6.6,SNR=46							
ILAR				PcP		**PcP**	**19 55 53.0**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=158,slow=1.8,SNR=7.7							
	comp=Z,4.3nm,0.8s							
CCB	**Clear Creek Bu**	**40.19**	**330**	P		**P**	**19 53 50.5**	**+1.8**
CCB				IAmb		IAmb	19 53 52.7	
	comp=Z,5.6nm,1.0s							
EKA	**Eskdalemuir Ar**	**63.28**	**40**	P		**P**	**19 56 41.3**	**+0.1**
	comp=Z,5.4nm,1.1s,baz=306,slow=7.8,SNR=3.2							
	comp=Z,5.4nm,1.1s							
TIXI	**Tiksi**	**66.75**	**345**	LR		LR	20 27 03.4	
	comp=Z,43nm,20.8s,baz=221,slow=37							
NOA	**NORSAR Array B**	**66.92**	**30**	LR		LR	20 27 27.8	
	comp=Z,27nm,18.6s,baz=315,slow=37							
HFS	**Hagfors**	**68.45**	**30**	LR		LR	20 25 57.4	
	comp=Z,59nm,19.9s,baz=78,slow=35							
FINES	**FINESS Array B**	**72.13**	**25**	P		**P**	**19 57 38.0**	**+1.1**
	comp=Z,1.9nm,0.8s,baz=333,slow=5.2,SNR=5.0							
	comp=Z,1.9nm,0.8s							
AKASG	**Malin Array Be**	**81.32**	**31**	P		**P**	**19 58 29.3**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=300,slow=4.7,SNR=7.2							
	comp=Z,0.9nm,0.6s							
ZALV	**Zalesovo Beam**	**89.47**	**358**	P		**P**	**19 59 10.7**	**+1.1**
	comp=Z,1.6nm,0.6s,baz=15,slow=4.9,SNR=9.5							
	comp=Z,1.6nm,0.6s							
BVAR	**Borovoye Array**	**89.90**	**7**	P		**P**	**19 59 13.5**	**+1.9**
	comp=Z,0.7nm,0.6s,baz=7.6,slow=4.4,SNR=4.2							
	comp=Z,0.7nm,0.6s							
MKAR	**Makanchi Array**	**96.67**	**360**	P		**P**	**19 59 43.8**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=354,slow=3.3,SNR=7.5							
	comp=Z,0.6nm,0.7s							
QSPA	**South Pole Qui**	**126.76**	**180**	PKP		**PKiKP**	**20 05 16.8**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=90,slow=7.1,SNR=4.2							

DJA 06 19:53:00.4±0.8, 9°S±3°×11°1E±°, h17km±7km, M3.9/18, mb4.1/3, mB5.1/1, MLv3.8/18, Mw(mB)4.4/1, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.02**	**347**	P		P	Pb	19 53 19.7	+0.1
UGM				S		S	Sb	19 53 32.8	+0.1
YOGI	**Yogyakarta**	**1.18**	**337**	P		Pn		19 53 22.1	0.0
YOGI				S		S	Sb	19 53 36.6	-0.7
PWJI	**Pagerwojo**	**1.37**	**50**	P		Pn		19 53 24.2	-0.5
PWJI				S		S	Sn	19 53 40.9	-1.5
NGJI	**Ngawi**	**1.69**	**25**	P		Pb		19 53 31.1	+0.1
SMRI	**Semarang**	**1.87**	**351**	P		Pb		19 53 33.1	-1.1
SMRI				S		S	Sn	19 53 56.1	+1.1
KPJI	**Karang Pucung**	**2.39**	**311**	P		Pn		19 53 39.5	+0.7
KPJI				S		S	Sn	19 54 09.3	+1.7
CMJI	**Cimerak**	**2.54**	**296**	P		Pn		19 53 40.5	-0.3
GRJI	**Gresik**	**2.62**	**41**	P		Pn		19 53 40.7	-1.3
BLJI	**Banyuglugur**	**3.04**	**68**	P		Pn		19 53 48.0	+0.2
JAGI	**Jajag, Banyuwa**	**3.39**	**83**	P		Pn		19 53 52.3	-0.3
BWJI	**Bawean**	**3.58**	**32**	P		Pn		19 53 55.3	+0.1
ABJI	**Asem Bagus**	**3.62**	**72**	P		Pn		19 53 56.1	+0.4
KMMI	**Kalianget**	**3.68**	**60**	P		Pn		19 53 56.1	-0.5
SRBI	**Singaraja**	**4.49**	**80**	P		Pn		19 54 09.1	+1.4
TWSI	**Taliwang, Sumb**	**6.06**	**89**	P		P		19 54 30.9	+1.6

*IDC **06** 20:07:33.5±3.3, 53°.28N×163°.42W, h0km, mb3.7/10, mbtmp3.7/12, ML3.2/2, MS3.9/2, Error ellipse: s-maj=82.3km s-min=22.2km az=157.0*

*NEIC **06** 20:07:37.1±2.3, 53°.51N±0°.02×163°.56W±0°.06, h10km±1km, mb3.9/5, ML3.3/8, ML3.1(AEIC), Error ellipse: s-maj=6.6km s-min=3.9km az=104.0*

*AEIC **06** 20:07:40.9±3.5, 53°.57N±0°.07×163°.70W±0°.08, h37km±7km, Error ellipse: s-maj=10.4km s-min=5.4km az=155.0*

ISC 06 20:07:36.8±2.2, 53°.50N±0°.09×163°.46W±0°.04, h13km±11km, n88, σ1s27/89, mb4.0/9, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BRPK	**Brown Peak**	**1.16**	**352**				**Pn**	**20 07 60.0**	**+1.3**
WESE	**West Dahl East**	**1.18**	**326**				**Pn**	**20 07 59.8**	**+0.8**
WESE							**Sg**	**20 08 12.8**	**-2.1**
ISLZ	**Isanotski Laza**	**1.24**	**353**				**Pg**	**20 08 01.0**	**+0.3**
SSLS	**Shishaldin Sou**	**1.26**	**346**				**Pg**	**20 08 01.5**	**+0.5**
SSLS							**Sb**	**20 08 16.1**	**-0.3**
ISNN	**Isanotski Nort**	**1.35**	**352**				**Pg**	**20 08 03.2**	**+0.5**
FALS	**False Pass**	**1.36**	**1**				**Pg**	**20 08 02.9**	**-0.1**
AKSA	**Akutan Strait**	**1.47**	**297**				**Pn**	**20 08 03.0**	**+0.1**
AKSA							**Sn**	**20 08 20.2**	**-1.8**
AKUT	**Akutan**	**1.51**	**296**	Pn			**Pn**	**20 08 03.6**	**+0.2**
AKUT				Sn			**Sn**	**20 08 21.8**	**-1.1**
AHB	**Akutan Harbor**	**1.53**	**295**				**Pn**	**20 08 04.0**	**+0.3**
ZRO	**Akutan Zero**	**1.61**	**293**				**Pn**	**20 08 05.0**	**+0.2**
MNAT	**Makushin Natee**	**1.95**	**283**				**Pn**	**20 08 09.9**	**+0.4**
MSW	**Makushin Switc**	**2.02**	**283**				**Pn**	**20 08 10.6**	**+0.1**
MSW							**Sn**	**20 08 35.5**	**0.0**
MGOD	**Makushin Gods**	**2.05**	**280**				**Pn**	**20 08 11.6**	**+0.6**
PS4A	**Pavlof South-4**	**2.08**	**26**				**Pb**	**20 08 13.9**	**-0.3**
MAPS	**Pakushin South**	**2.09**	**280**				**Pn**	**20 08 12.1**	**+0.6**
PVV	**Pavlof Volcano**	**2.12**	**27**				**Pb**	**20 08 14.9**	**-0.1**
PVV							**Sb**	**20 08 41.9**	**+0.8**
PN7A	**Pavlof North-7**	**2.12**	**23**				**Pb**	**20 08 15.5**	**+0.5**
PS1A	**Pavlof South-1**	**2.17**	**27**				**Pb**	**20 08 15.8**	**-0.1**
SDPT	**Sand Point**	**2.55**	**42**	Pn			**Pn**	**20 08 20.1**	**+2.4**
SDPT				Sn			**Sn**	**20 08 49.5**	**+1.1**
SDPT				IAML				20 09 10.5	
	comp=N,136nm,0.8s								
CNBA	**Chernabura Isl**	**2.63**	**58**	Pn			**Pn**	**20 08 20.4**	**+1.5**
CNBA				Sn			**Sn**	**20 08 50.6**	**0.0**
CNBA				IAML				20 08 53.1	
	comp=N,86nm,0.4s								
CNBA				IAML				20 08 53.6	
	comp=E,122nm,0.4s								
OKTU	**Okmok Mt. Tuli**	**2.74**	**269**				**Pn**	**20 08 20.9**	**+0.5**
VNKR	**Veniaminof 5**	**3.47**	**41**				**Pn**	**20 08 33.5**	**+3.1**
CHGN	**Chignik**	**4.05**	**44**	Pn			**Pn**	**20 08 40.9**	**+2.6**
CHGN				IAML				20 09 34.3	
	comp=N,43nm,0.4s								
OHAK	**Old Harbor**	**6.89**	**53**	Pn			**Pn**	**20 09 18.1**	**+0.7**
M14K	**Bethel**	**7.32**	**6**	Pn			**Pn**	**20 09 26.0**	**+2.9**
P18K	**Big Mountain,**	**7.46**	**34**	Pn			**Pn**	**20 09 26.0**	**+0.8**
KDAK	**Kodiak Island**	**7.50**	**51**	Pn			**Pn**	**20 09 26.4**	**+0.7**
KDAK	**Kodiak Island**	**7.50**	**51**	Pn			**Pn**	**20 09 25.3**	**-0.4**
	comp=N,0.7nm,0.3s,baz=193,slow=4.4,SNR=33								
KDAK				Sn			**Sn**	**20 10 44.7**	**-5.8**
	comp=N,0.4nm,0.3s,baz=180,slow=23,SNR=6.0								
	comp=N,2.2nm,0.3s								
O18K	**Koktuh Hills**	**7.82**	**32**	Pn			**Pn**	**20 09 33.1**	**+3.0**
N19K	**Bonanza Creek**	**8.80**	**30**	Pn			**Pn**	**20 09 45.6**	**+2.0**
CNPM	**China Poot**	**9.05**	**43**	Pn			**Pn**	**20 09 48.4**	**+1.3**
BRLK	**Bradley Lake**	**9.34**	**43**	Pn			**Pn**	**20 09 50.4**	**-0.5**
M20K	**Styx River**	**10.05**	**29**	Pn			**Pn**	**20 10 02.6**	**+2.0**
J17K	**VABM Dome**	**10.19**	**11**	Pn			**Pn**	**20 10 04.2**	**+1.7**
SUA	**Susitna One**	**10.50**	**35**	Pn			**Pn**	**20 10 07.9**	**+1.0**
SKT	**Skwentna**	**10.61**	**32**	Pn			**Pn**	**20 10 08.8**	**+0.5**
RC01	**Rabbit Creek A**	**10.61**	**39**	Pn			**Pn**	**20 10 09.2**	**+0.9**
KNK	**Knik Glacier**	**11.30**	**39**	Pn			**Pn**	**20 10 18.1**	**+0.4**
GHO	**Glory Hole Cre**	**11.35**	**37**	Pn			**Pn**	**20 10 18.2**	**-0.2**
HIN	**Hinchinbrook I**	**11.53**	**46**	Pn			**Pn**	**20 10 21.5**	**+0.6**
CAST	**Castle Rocks**	**11.57**	**26**	Pn			**Pn**	**20 10 21.9**	**+0.5**
SCM	**Sheep Creek Mo**	**11.98**	**39**	Pn			**Pn**	**20 10 26.8**	**-0.3**
KTH	**Kantishna Hill**	**11.99**	**28**	Pn			**Pn**	**20 10 28.7**	**+1.5**
TRF	**Thorofare Moun**	**12.10**	**29**	Pn			**Pn**	**20 10 30.1**	**+1.4**
KAIM	**Kayak Island**	**12.26**	**51**	Pn			**Pn**	**20 10 30.9**	**+0.2**
RAGM	**Ragged Mountai**	**12.33**	**49**	Pn			**Pn**	**20 10 32.5**	**+0.7**
KLU	**Klutina**	**12.34**	**43**				**Pn**	**20 10 31.6**	**-0.4**
BPAW	**Bear Paw Mtn.**	**12.41**	**26**	Pn			**Pn**	**20 10 35.0**	**+2.1**
HMT	**Hamilton**	**12.49**	**49**	Pn			**Pn**	**20 10 35.0**	**+0.9**
M24K	**Tolsona, Glenn**	**12.58**	**40**	Pn			**Pn**	**20 10 35.2**	**-0.1**
N25K	**Chitina, Valde**	**12.94**	**44**	Pn			**Pn**	**20 10 39.8**	**-0.3**
I21K	**Tanana**	**13.07**	**22**	Pn			**Pn**	**20 10 41.7**	**-0.1**
SNH	**Sunshine Point**	**13.09**	**51**	Pn			**Pn**	**20 10 43.3**	**+1.2**
WAX	**Wasilla Ridge**	**13.18**	**50**	Pn			**Pn**	**20 10 43.8**	**+0.3**
GLB	**Gilahina Butte**	**13.19**	**45**	Pn			**Pn**	**20 10 42.3**	**-1.2**
MLY	**Manley**	**13.23**	**24**	Pn			**Pn**	**20 10 45.1**	**+1.0**
VRDI	**Verde Repeater**	**13.24**	**46**	Pn			**Pn**	**20 10 44.6**	**+0.3**
H21K	**Melozitna Rive**	**13.31**	**19**	Pn			**Pn**	**20 10 45.9**	**+0.8**
TGL	**Tana Glacier**	**13.31**	**49**	Pn			**Pn**	**20 10 44.6**	**-0.7**
ISLE	**Juniper Island**	**13.47**	**50**	Pn			**Pn**	**20 10 47.6**	**+0.1**
I23K	**Minto, Yukon-K**	**13.67**	**26**	Pn			**Pn**	**20 10 49.2**	**-0.8**
ILAR	**Eielson Array**	**14.08**	**30**	Pn			**Pn**	**20 10 55.5**	**-0.2**
	comp=N,0.1nm,0.3s,baz=218,slow=12,SNR=2.0								
	comp=N,0.2nm,0.4s								
G23K	**Bananza Creek**	**14.79**	**21**				**Pn**	**20 11 06.6**	**+1.2**
L29M	**L29M**	**16.31**	**44**				**Pn**	**20 11 25.3**	**+0.1**
L29M				IAmb			IAmb	20 11 33.9	
	comp=Z,12nm,0.9s								
I28M	**Miner Creek**	**16.78**	**35**	P			**Pn**	**20 11 32.0**	**+0.8**
K29M	**Barlow Dome**	**16.87**	**42**	P			**Pn**	**20 11 34.3**	**+1.9**
K29M				IAmb			IAmb	20 11 39.1	
	comp=Z,9.5nm,1.2s								
INK	**Inuvik**	**20.46**	**32**	P			**P**	**20 12 12.4**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=241,slow=6.4,SNR=2.5								
	comp=Z,0.4nm,0.3s								
MA2	**Magadan**	**25.53**	**302**	LR			LR	20 24 11.5	
	comp=Z,57nm,19.3s,baz=298,slow=39								
YKA	**Yellowknife Ar**	**26.78**	**51**	P			**P**	**20 13 16.7**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=270,slow=9.7,SNR=3.4								
	comp=Z,0.3nm,0.4s								
H11N2	**WAKE ISLAND Hy**	**40.69**	**226**	T			T	20 58 57.9	
	baz=26,slow=76,SNR=34								
H11N3	**WAKE ISLAND Hy**	**40.70**	**226**	T			T	20 58 55.7	
	baz=26,slow=76,SNR=40								
H11N1	**WAKE ISLAND Hy**	**40.71**	**226**	T			T	20 58 55.1	
	baz=26,slow=76,SNR=25								
H11S1	**WAKE ISLAND Hy**	**41.86**	**225**	T			T	21 00 21.8	
	baz=25,slow=76,SNR=44								
H11S2	**WAKE ISLAND Hy**	**41.87**	**225**	T			T	21 00 19.6	
	baz=25,slow=76,SNR=32								
H11S3	**WAKE ISLAND Hy**	**41.88**	**225**	T			T	21 00 20.7	
	baz=25,slow=76,SNR=39								
SONM	**Songino Array**	**53.73**	**303**	P			**P**	**20 16 58.4**	**0.0**
SONM	**Songino Array**	**53.73**	**303**	P			**P**	**20 16 58.7**	**+0.4**
	comp=Z,1.0nm,0.9s,baz=40,slow=6.4,SNR=5.8								
	comp=Z,1.0nm,0.9s								
KURK	**Kurchatov**	**63.82**	**321**	P			**P**	**20 18 08.6**	**+0.4**
BVAR	**Borovoye Array**	**64.77**	**327**	P			**P**	**20 18 15.6**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=38,slow=7.5,SNR=6.0								
	comp=Z,1.4nm,0.6s								
FINES	**FINESS Array B**	**65.15**	**355**	P			**P**	**20 18 16.3**	**-0.5**
FINES	**FINESS Array B**	**65.15**	**355**	P			**P**	**20 18 16.5**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=8.6,slow=10,SNR=2.5								
	comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**	**65.54**	**317**	P			**P**	**20 18 19.1**	**-0.4**
MKAR	**Makanchi Array**	**65.54**	**317**	P			**P**	**20 18 19.0**	**-

comp=E,138μm,0.5s
A105A Obersdorf, Sch 0.76 276 Pg **Pn** 20 10 35.1 0.0
OBER Oberstdorf 0.76 276 *e*Pg **Pn** 20 10 35.0 -0.2
FUR Furstenfeldbru 0.84 354 *e*Pg **Pg** 20 10 35.8 +0.3
FUR *e*Sg **Sn** 20 10 48.1 0.0
LESA Schwarzleotal 0.87 83 *e*Pg **Pg** 20 10 36.0 -0.2
comp=E,3.9nm,0.2s
LESA Sg **Sb** 20 10 46.3 -0.9
comp=E,4.9nm,0.3s
MOSI Grossmontoni 0.92 220 P **Pn** 20 10 38.2 +0.7
MOSI S **Sn** 20 10 51.2 +0.7
UBR Ueberruh 0.95 292 *e*Pg **Pn** 20 10 38.5 +0.8
UBR *e*Sg **Sn** 20 10 51.5 +0.7
ABTA Abfaltersbach 0.96 127 *e*Pg **Pg** 20 10 37.5 -0.3
comp=E,4.4nm,0.3s,SNR=11
ABTA Sg **Sb** 20 10 49.5 -0.2
comp=E,14nm,0.2s
OZOL Ozolo 0.96 195 P **Pn** 20 10 38.4 +0.5
OZOL S **Sn** 20 10 51.9 +0.7
OZOL AML AML
comp=E,518μm,1.5s
OZOL AML AML
comp=N,395μm,0.5s
OZOL AML AML
comp=E,518μm,1.5s
OZOL AML AML
comp=N,394μm,0.5s
OZOL AML AML
comp=N,394μm,1.5s
OZOL AML AML
comp=E,518μm,0.5s
OZOL AML AML
comp=E,635μm,1.1s
OZOL AML AML
comp=N,486μm,0.5s
OZOL AML AML
comp=N,395μm,0.5s
OZOL AML AML
comp=E,517μm,0.4s
RJOB Jochberg 1.03 66 *e*Pg **Pn** 20 10 40.0 +1.2
CARE Lago del Cares 1.03 208 P **Pn** 20 10 40.1 +1.1
DAVA Damuels 1.04 268 Pg **Pg** 20 10 40.1 +0.9
comp=E,15nm,0.2s,SNR=30
DAVA Sg **Sn** 20 10 55.4 +2.2
comp=E,44nm,0.2s
DAVA Damuels 1.04 268 *e*Pg **Pg** 20 10 40.5 +1.2
DAVA *e*Sg **Sn** 20 10 55.4 +2.2
FUORN Ofenpass-Fuorn 1.06 228 P **Pg** 20 10 40.1 +0.4
ZIAN Ziano 1.06 174 P **Pg** 20 10 40.2 +0.4
ZIAN AML AML
comp=E,196μm,0.4s
ZIAN AML AML
comp=N,202μm,0.3s
ZIAN AML AML
comp=E,188μm,1.3s
ZIAN AML AML
comp=N,186μm,0.4s
ZIAN AML AML
comp=E,196μm,0.4s
ZIAN AML AML
comp=N,186μm,0.4s
ZIAN AML AML
comp=E,189μm,1.3s
ZIAN AML AML
comp=N,202μm,1.7s
ZIAN AML AML
comp=N,186μm,0.5s
ZIAN AML AML
comp=E,196μm,0.5s
ZIAN AML AML
comp=N,202μm,0.3s
ZIAN AML AML
comp=E,175μm,0.3s
A107C Memmingen - Ei 1.07 311 Pg **Pg** 20 10 40.5 +0.7
BRMO Bormio 1.11 220 P **Pg** 20 10 42.4 +1.7
KW1 Garching a.d. 1.13 45 *e*Pg **Pg** 20 10 41.7 +0.7
KW1 *e*Sg **Sg** 20 10 56.7 +0.9
DAVOX Davos/Dischmat 1.18 243 P **Pg** 20 10 42.0 +0.1
FVI Forni Avoltri 1.20 127 P **Pg** 20 10 42.1 -0.1
FVI AML AML
comp=E,77μm,0.3s
FVI AML AML
comp=N,79μm,0.4s
FVI AML AML
comp=E,77μm,0.3s
FVI AML AML
comp=N,79μm,0.4s
CIMO Cimolais 1.25 145 AML AML
comp=N,37μm,0.3s
CIMO AML AML
comp=N,49μm,0.9s
CIMO AML AML
comp=E,32μm,0.5s
CIMO AML AML
comp=N,49μm,1.1s
CIMO AML AML
comp=E,29μm,0.3s
CIMO AML AML
comp=E,36μm,0.3s
CIMO AML AML
comp=N,43μm,0.5s
PANI Panarotta 1.28 182↑ *e*P **Pg** 20 10 44.3 +0.3
PANI Panarotta 1.28 182 P **Pg** 20 10 44.2 +0.3
PANI AML AML
comp=E,132μm,0.3s
PANI AML AML
comp=N,180μm,0.3s
PANI AML AML
comp=E,132μm,1.7s
PANI AML AML
comp=N,180μm,0.3s
PANI AML AML
comp=E,133μm,0.3s
GAGG Gaggia 1.29 194 P **Pg** 20 10 44.7 +0.7
GAGG S **Sg** 20 11 01.9 +1.1
GAGG AML AML
comp=E,125μm,0.9s
GAGG AML AML
comp=N,87μm,1.6s
GAGG AML AML
comp=E,125μm,1.1s
GAGG AML AML
comp=N,87μm,0.4s
GAGG AML AML
comp=N,104μm,0.4s
GAGG AML AML
comp=E,88μm,0.4s
GAGG AML AML
comp=E,88μm,0.4s
GAGG AML AML
comp=N,79μm,0.3s
CTI Castel Tesino 1.29 172 P **Pg** 20 10 44.3 +0.1
CTI S **Sg** 20 11 02.2 +1.1
CTI AML AML
comp=N,355μm,1.3s
CTI AML AML
comp=E,364μm,0.3s
CTI AML AML
comp=N,355μm,0.7s
CTI AML AML
comp=N,352μm,0.3s
CTI AML AML
comp=E,364μm,0.3s
ZOU Zoufplan 1.32 125 AML AML
comp=N,74μm,0.9s
ZOU AML AML
comp=E,104μm,0.5s
ZOU AML AML
comp=N,61μm,0.5s
ZOU AML AML
comp=E,103μm,0.5s
ZOU AML AML
comp=E,105μm,0.7s
ZOU AML AML
comp=N,61μm,0.5s
KBA Koelnbreinsper 1.35 100 Pn **Pn** 20 10 43.2 -0.1
comp=N,1.5nm,0.2s
KBA Sn **Sg** 20 11 01.7 -1.0
comp=N,14nm,0.5s,SNR=4.8
KBA Koelnbreinsper 1.35 100 *e*Pn **Pg** 20 10 44.4 -0.7
KBA *e*Pg **Pb** 20 10 45.7 +1.7
KBA *e*Sg **Sg** 20 11 01.7 -1.0
A104C Biberach, Ahle 1.42 305 Pg **Pg** 20 10 46.9 +0.3
A104C Sg **Sg** 20 11 06.2 +1.0
VARN Col Varnada, M 1.42 160 AML AML
comp=E,320μm,1.6s
VARN AML AML
comp=E,321μm,0.4s
VARN AML AML
comp=N,193μm,0.3s
VARN AML AML
comp=E,320μm,0.4s
VARN AML AML
comp=N,197μm,1.4s
VARN AML AML
comp=N,197μm,0.6s
VARN AML AML
comp=E,321μm,1.6s
VARN AML AML
comp=N,192μm,0.3s
VARN AML AML
comp=N,193μm,0.3s
VARN AML AML
comp=E,321μm,0.4s
VARN AML AML
comp=E,321μm,0.4s
A108A Ulm, Ringingen 1.47 314 Pn **Pg** 20 10 47.5 +0.1
A108A Sn **Sg** 20 11 07.9 +1.3
CGRP Cima Grappa 1.48 169 AML AML
comp=N,260μm,0.5s
CGRP AML AML
comp=E,252μm,0.5s
CGRP AML AML
comp=N,262μm,0.5s
CGRP AML AML
comp=E,281μm,0.6s
CGRP AML AML
comp=N,260μm,1.5s
CGRP AML AML
comp=N,261μm,0.5s
CGRP AML AML
comp=N,262μm,0.5s
CGRP AML AML
comp=E,281μm,0.6s
CGRP AML AML
comp=E,252μm,0.5s
NORI Noerdlinger Ri 1.48 340 *e*Sg **Sg** 20 11 07.1 0.0
MPRI Monte Prat 1.54 134 AML AML
comp=E,122μm,1.2s
MPRI AML AML
comp=N,176μm,0.4s
MPRI AML AML
comp=E,93μm,1.3s
MPRI AML AML
comp=N,228μm,0.4s
MPRI AML AML
comp=E,93μm,0.7s
MPRI AML AML
comp=E,93μm,0.4s
MPRI AML AML
comp=E,114μm,0.5s
MPRI AML AML
comp=N,176μm,0.4s
MPRI AML AML
comp=N,228μm,0.4s
BIOA Bad Ischl, Aus 1.56 76 *e*Pg **Pg** 20 10 49.0 -0.1
comp=N,3.8nm,0.3s,SNR=6.3
BIOA Sg **Sg** 20 11 09.3 -0.1
comp=N,13nm,0.3s,SNR=5.0
WALHA Wallhausen, DE 1.60 286 *e*Pg **Pg** 20 10 50.2 +0.2
WALHA *e*Sg **Sg** 20 11 11.0 +0.2
MYKA Terra Mystica 1.69 114 *e*Pg **Pg** 20 10 51.1 -0.4
comp=N,2.0nm,0.2s,SNR=4.6
MYKA Sn **Sb** 20 11 11.1 +0.5
comp=N,6.8nm,0.3s,SNR=5.7
WILA Wila 1.70 274 *e*Pg **Pg** 20 10 52.0 +0.2
WILA *e*Sg **Sg** 20 11 15.2 +1.3
GUT Gutenstein 1.71 296 S **Sg** 20 11 13.9 -0.5
GUT Gutenstein 1.71 296 Pn **Pb** 20 10 50.4 +0.2
GUT Pg **Pg** 20 10 52.0 -0.1
A109A Bad Urach, See 1.72 311 Pn **Pb** 20 10 51.6 +1.3
A106B Goeppingen, Ma 1.82 322 Pn **Pn** 20 10 49.4 -0.2
EMING Emmingen-Lipti 1.82 289 *e*Sg **Sg** 20 11 17.9 0.0
ZUR Degenried 1.92 272 P **Pb** 20 10 54.1 +0.4
ZUR Degenried 1.92 272 S **Sg** 20 11 21.3 +0.4
ZUR Degenried 1.92 272 Pg **Pg** 20 10 56.2 +0.1
TEOL Teolo 1.98 175 AML AML
comp=N,216μm,0.4s
TEOL AML AML
comp=E,320μm,0.5s
TEOL AML AML
comp=N,216μm,0.4s
TEOL AML AML
comp=E,320μm,0.5s
MOA Molln 2.00 74 *e*Pn **Pn** 20 10 51.5 -0.8
comp=E,7.7nm,0.4s
MOA *e*Sg **Sg** 20 11 22.4 -1.3
comp=E,12nm,0.3s
A100A Rottenburg, We 2.01 305 Pn **Pg** 20 10 57.4 -0.4
SLE Schleitheim 2.02 283 P **Pb** 20 10 54.5 -0.9
SLE Schleitheim 2.02 283 S **Sg** 20 11 23.8 -0.3
SLE Schleitheim 2.02 283 Pg **Pg** 20 10 58.0 +0.1
SLE Schleitheim 2.02 283 *e*Sg **Sg** 20 11 24.0 -0.2
WET Wettzell 2.06 28 *e*Pn **Pn** 20 10 53.5 +0.5
WET *e*Pg **Pg** 20 10 58.4 -0.4
WET *e*Sn **Sn** 20 11 18.6 +0.2
WET *e*Sg **Sb** 20 11 23.4 +1.9
A101B Rottweil, Deis 2.08 293 Pn **Pb** 20 10 57.1 +0.6
GEC2 GERESS Array S 2.16 45 *e*Pn **Pn** 20 10 55.4 +1.0
GEC2 *e*Sg **Sg** 20 11 26.8 -1.8
METMA Mettma DE 2.17 281 *e*Sg **Sg** 20 11 28.2 -0.7
SULZ Cheisacher 2.24 276 S **Sg** 20 11 30.6 -0.8
SULZ Cheisacher 2.24 276 P **Pb** 20 10 58.3 -0.9
SULZ Cheisacher 2.24 276 *e*Sg **Sg** 20 11 31.0 -0.3
BERGE Lenzkirch (DE) 2.25 285 *e*Sg **Sg** 20 11 31.0 -0.5
BFO Black Forest 2.30 297 Pn **Pb** 20 10 58.7 -1.4
BFO *e*Pg **Pg** 20 11 03.3 +0.1
BFO *e*Sg **Sg** 20 11 32.7 -0.4
OBKA Obir 2.31 110 Pg **Pb** 20 11 01.6 +1.2
comp=E,2.8nm,0.5s
KHC Kasperske Hory 2.31 38 *e*PG **Pb** 20 11 01.7 +1.3
KHC *e*SG **Sb** 20 11 31.0 +2.3
comp=E,11nm,0.3s
FELD Feldberg im Sc 2.37 285 S **Sg** 20 11 34.6 -0.6
FELD Feldberg im Sc 2.37 285 Pg **Pg** 20 11 04.5 0.0
FELD Feldberg im Sc 2.37 285 Pn **Pn** 20 10 59.7 +2.4
GRF Grafenberg Arr 2.37 357 *e*Pg **Pg** 20 11 04.1 -0.4
GRF *e*Sg **Sg** 20 11 34.4 -0.8
KIZ Kirchzarten 2.44 286 S **Sg** 20 11 36.9 -0.7
KIZ Kirchzarten 2.44 286 P **Pn** 20 11 00.1 +2.0
OPP Oppenau 2.46 299 P **Pn** 20 11 00.3 +1.9
ROTZ Rotzenmuhle 2.50 12 *e*Pg **Pg** 20 11 06.2 -0.8
ROTZ *e*Sg **Sb** 20 11 35.6 +1.8
ENDD Endenburg 2.51 280 S **Sg** 20 11 38.6 -1.3
ENDD Endenburg 2.51 280 P **Pn** 20 11 01.2 +1.9
BALST Balsthal 2.52 271 P **Pn** 20 11 01.9 +2.6
BALST Balsthal 2.52 271 S **Sg** 20 11 40.9 +0.6
BABA Baden-Baden-Ne 2.56 304 P **Pn** 20 11 02.1 +2.2
MANZ Manzenberg 2.70 10 *e*Pg **Pg** 20 11 10.1 -0.7
MANZ *e*Sn **Sn** 20 11 32.8 -1.1
MANZ *e*Sg **Sg** 20 11 44.0 -1.8
ZVC Zvikov 2.81 40 *e*SG **Sg** 20 11 46.6 -2.8
BOURR Bourrignon 2.84 273 S **Sg** 20 11 50.4 +0.1
BOURR Bourrignon 2.84 273 P **Pn** 20 11 04.9 +1.2
CDF Champ du Feu 2.98 293 *e*Pn **Pn** 20 11 06.5 +0.8
CDF Champ du Feu 2.98 293 *e*Pg **Pg** 20 11 15.6 -0.7
CDF *e*Sn **Sn** 20 11 40.6 -0.5
CDF *e*Sg **Sg** 20 11 54.1 -0.8
comp=E,3.2nm,0.3s
NKC Novy Kostel 2.98 13 *e*PG **Pb** 20 11 13.5 +1.7
NKC *e*SG **Sg** 20 11 53.2 -1.8
comp=E,11nm,0.3s
ECH Echery 3.00 289 P **Pn** 20 11 07.5 +1.7
ECH S **Sg** 20 11 54.5 -0.9
ECH Echery 3.00 289 *e*Sg **Sg** 20 11 54.7 -0.7
HINF Hinteralfeld 3.12 281 *e*Pn **Pn** 20 11 08.3 +0.8
HINF *e*Sn **Sn** 20 11 43.8 -0.6
HINF *e*Sg **Sg** 20 11 58.3 -1.0
comp=E,2.9nm,0.3s
RONF Ronchamp 3.25 278 P **Pn** 20 11 11.3 +2.1
PRU Pruhonice 3.38 37 *e*SG **Sg** 20 12 05.1 -2.4
HAU Haudompre 3.48 283 *e*Pn **Pn** 20 11 13.7 +1.2
HAU Haudompre 3.48 283 *e*Pg **Pg** 20 11 24.8 -1.1
HAU *e*Sn **Sn** 20 11 52.6 -0.7
HAU *e*Sg **Sg** 20 12 09.8 -1.2
comp=E,11nm,0.3s
TNS Taunus Mts 3.49 327 Pn **Pn** 20 11 14.1 +1.4
HSKC Hora Svate Kat 3.54 21 *e*SG **Sg** 20 12 10.4 -2.4
comp=E,4.8nm,0.4s
ABH Alteburg 3.61 316 P **Pn** 20 11 16.0 +1.7
LPG La Plagne 3.70 242 *e*Pn **Pn** 20 11 16.6 +0.8
LPG *e*Sg **Sg** 20 12 17.0 -1.1
comp=E,0.4nm,0.2s
LPL La Plagne 3.71 242 *e*Pn **Pn** 20 11 16.6 +0.8
LPL *e*Sg **Sg** 20 12 16.9 -1.3
comp=E,0.6nm,0.3s
CABF La Chapelle 3.71 261 *e*Pn **Pn** 20 11 16.4 +0.7
CABF La Chapelle 3.71 261 *e*Pg **Pg** 20 11 29.1 -1.1
CABF *e*Sg **Sg** 20 12 17.0 -1.3
comp=E,1.1nm,0.2s
KRUC Moravsky 3.76 61 *e*SN **Sn** 20 11 58.9 -1.2
KRUC *e*SG **Sb** 20 12 15.0 +4.7
PAGF Fort de Pagny 4.01 290 *e*Pn **Pn** 20 11 20.2 +0.5
PAGF Fort de Pagny 4.01 290 *e*Pg **Pg** 20 11 34.5 -1.4
baz=104
PAGF *e*Sg **Sg** 20 12 26.2 -1.6
comp=E,3.3nm,0.3s
CLL Collm 4.12 14 *e*Pg **Pg** 20 11 37.0 -0.9
CLL *e*Sn **Sn** 20 12 07.0 -1.8
CLL *e*Sg **Sg** 20 12 29.0 -2.2
comp=Z,7.0nm,1.0s
SFTF Sexfontaines 4.38 284 *e*Pn **Pn** 20 11 25.4 +0.6
SFTF Sexfontaines 4.38 284 *e*Pg **Pg** 20 11 41.6 -1.4
SFTF *e*Sn **Sn** 20 12 14.0 -1.4
SFTF *e*Sg **Sg** 20 12 37.8 -1.9
ORIF Oris-en-Rattie 4.54 240 *e*Pn **Pn** 20 11 27.8 +0.7
ORIF *e*Sn **Sn** 20 12 17.8 -1.6
comp=Z,0.5nm,0.3s
LOR Lormes 5.13 272 *e*Pn **Pn** 20 11 35.8 +0.6
LOR Lormes 5.13 272 *e*Pg **Pg** 20 11 55.8 -1.6
baz=87
LOR *e*Sn **Sn** 20 12 31.8 -2.2
LOR *e*Sg **Sg** 20 13 01.3 -2.6
comp=Z,1.2nm,0.3s
SMF Signal de Mont 5.22 265 *e*Pn **Pn** 20 11 37.2 +0.8
SMF Signal de Mont 5.22 265 *e*Pg **Pg** 20 11 56.8 -2.3
SMF *e*Sn **Sn** 20 12 33.9 -2.2
SMF *e*Sg **Sg** 20 13 03.9 -2.7
comp=Z,1.9nm,0.3s
VIVF Saint-Julien-l 5.30 245 *e*Pn **Pn** 20 11 38.3 +0.9
VIVF *e*Sn **Sn** 20 12 35.8 -2.2
comp=Z,1.3nm,0.3s
VIVF *e*Sg **Sg** 20 13 06.4 -2.7
comp=Z,1.5nm,0.3s
LASF Ste Croix 6.21 241 *e*Pn **Pn** 20 11 50.7 +0.8
LASF *e*Sn **Sn** 20 12 57.9 -2.5
comp=Z,2.3nm,0.4s

TAP 06 20:21:27.5, 24.°17N × 122.°18E, h21 km ± 1 km, ML1.8, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
EOS4	**EOS4**	**0.14**	**109**	*e*P		Pb	20 21 32.6	-0.8
	baz=109							
EOS4				*e*S		Sb	20 21 35.8	-1.7
	baz=109							
EOS3	**EOS3**	**0.18**	**46**	*i* P		Pb	20 21 32.7	-0.6
	baz=46							
EOS3				*i* S		Sb	20 21 36.9	-0.4
	baz=46							
EOS2	**EOS2**	**0.26**	**11**	P		Pb	20 21 33.9	+0.3
	baz=10.0							
EOS2				S		Sb	20 21 39.0	+1.2
	baz=10.0							
EHP	**Heping Village**	**0.42**	**290**	*e*P		Pn	20 21 37.3	-1.1
	baz=289							
ENA	**Nanau**	**0.48**	**303**	*e*P		Pb	20 21 37.4	+0.3
	baz=303							
ENA				*e*S		Sb	20 21 44.9	+1.2
	baz=303							
TWD	**Chiawan**	**0.54**	**261**	*e*P		Pn	20 21 39.2	-0.7
	baz=260							
LATG	**Datong**	**0.70**	**302**	*e*P		Pb	20 21 41.0	-0.1
	baz=301							
LATG				S		Sn	20 21 52.2	-0.3
	baz=301							
ENTT	**Nioudou**	**0.73**	**310**	*e*P		Pb	20 21 42.1	+0.5
	baz=310							
NDT	**Datong Townshi**	**0.75**	**306**	*e*P		Pn	20 21 42.4	-0.5
	baz=305							
NDT				*e*S		Sn	20 21 53.3	-0.3
	baz=305							
FUSB	**Fushanzhiwuyua**	**0.80**	**318**	*e*P		Pb	20 21 42.8	0.0
	baz=317							
TWB1	**Santiao Chiao**	**0.86**	**348**	*e*P		Pb	20 21 41.9	-1.8
	baz=348							
SXI1	**Grass Mountain**	**0.96**	**343**	*e*P		Pn	20 21 46.0	+0.2
	baz=343							

JMA 06 20:22:26.3 ± 0.1, 24.°2N ± 0.°3 × 123.°8E ± 0.°3, h15 km ± 1 km, MV1.0/9, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
IRIF	**Iriomote-Funau**	**0.12**	**320**	P		Pg	20 22 29.9	0.0
JKRS	**Kuro-shima**	**0.18**	**92**	*i* P		Pg	20 22 30.6	0.0
JKRS				*e*S		Sg	20 22 34.1	+0.6
HATJ	**Hateruma jima**	**0.19**	**183**	*i* P		Pg	20 22 30.6	-0.1
JIJ	**Ishigaki jima**	**0.32**	**68**	P		Pg	20 22 32.9	-0.2
JIJ				*e*S		Sg	20 22 37.3	-0.3
JISG	**Ishigakijimahi**	**0.57**	**53**	P		Pg	20 22 37.5	-0.1
JISG				*e*S		Sb	20 22 45.5	-0.4
YOJ	**Yonaguni jima**	**0.77**	**287**	*e*S		Sg	20 22 51.0	-0.4
JTJ	**Tarama**	**0.90**	**64**	*e*P		Pb	20 22 43.6	0.0
JTJ				*e*S		Sg	20 22 55.9	+0.3

*IDC **06** 20:27:10.9 ± 7.3, 20.°26S × 177.°77W, h516 km ± 73 km, mb3.3/8, mbtmp4.2/8, Error ellipse: s-maj=40.8km s-min=24.2km az=73.0*
*NEIC **06** 20:27:11.5 ± 0.8, 20.°3S ± 0.°2 × 177.°8W ± 0.°1, h521 km ± 5 km, mb4.4/25, Error ellipse: s-maj=23.1km s-min=18.7km az=191.0*
ISC 06 20:27:09.9 ± 0.7, 20.°3S ± 0.°1 × 177.°9W ± 0.°1, h500 km, n40, σ0 89/41, mb4.2/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
NIUE	**Niue**	**7.56**	**82**	P		P	20 29 02.9	+1.1
CTA	**Charters Tower**	**33.65**	**264**	P		P	20 33 09.7	+1.0
	4.5nm,0.5s,baz=90,slow=9.9,SNR=7.1							
	4.5nm,0.5s							
CTAO	**Charters Tower**	**33.65**	**264**	P		P	20 33 09.7	+1.0
STKA	**Stephens Creek**	**38.01**	**244**	P		P	20 33 45.2	+0.5
STKA	**Stephens Creek**	**38.01**	**244**	P		P	20 33 44.9	+0.2
	0.9nm,0.5s,baz=89,slow=10,SNR=5.1							
	0.9nm,0.5s							
BBOO	**Buckleboo**	**42.77**	**243**	P		P	20 34 22.7	-0.1
WR0	**Warramunga Arr**	**44.58**	**262**	P		P	20 34 37.5	+0.3
AS31	**Alice Springs**	**44.70**	**257**	P		P	20 34 37.8	-0.3
ASAR	**Alice Springs**	**44.71**	**257**	P		P	20 34 38.1	0.0
ASAR	**Alice Springs**	**44.71**	**257**	P		P	20 34 38.4	+0.3
	3.7nm,0.6s,baz=97,slow=7.5,SNR=52							
ASAR				PcP		PcP	20 36 09.3	-0.8
	0.8nm,0.6s,baz=105,slow=3.9,SNR=6.9							
	3.7nm,0.6s							
WB0	**Warramunga Arr**	**44.75**	**262**	P		P	20 34 38.3	-0.1
WB0				IAmb	IAmb		20 35 22.0	
	comp=Z,8.8nm,1.1s							
WRA	**Warramunga Arr**	**44.77**	**262**	P		P	20 34 37.6	-1.0
WRA	**Warramunga Arr**	**44.77**	**262**	P		P	20 34 38.5	-0.2
	comp=Z,1.2nm,0.4s,baz=96,slow=7.5,SNR=42							
WRA				PcP		PcP	20 36 09.3	-1.0
	comp=Z,0.3nm,0.6s,baz=99,slow=5.9,SNR=1.7							
	comp=Z,1.2nm,0.4s							
MTN	**Manton Dam**	**49.30**	**270**	P		P	20 35 13.0	0.0
MTN				IAmb	IAmb		20 35 19.8	
	comp=Z,30nm,1.4s							
FORT	**Forrest**	**49.51**	**246**	P		P	20 35 13.8	-0.4
FORT				IAmb	IAmb		20 35 38.7	
	comp=Z,22nm,1.1s							
KNRA	**Kununurra**	**50.82**	**266**	P		P	20 35 24.0	-0.1
FITZ	**Fitzroy Crossi**	**53.20**	**262**	P		P	20 35 41.6	+0.4
SOEI	**Soe**	**56.64**	**272**	P		P	20 36 07.3	+1.7
SOEI				IAmb	IAmb		20 36 16.2	
	comp=Z,33nm,1.1s							
PSA00	**Pilbara Seismi**	**57.85**	**257**	P		P	20 36 13.2	-0.5
PSA00				IAmb	IAmb		20 36 19.6	
	comp=Z,16nm,1.2s							
PSA00	**Pilbara Seismi**	**57.85**	**257**	P		P	20 36 12.6	-1.0
PSA00				IAmb	IAmb		20 36 44.9	
	comp=Z,4.9nm,1.4s							

MBWA	**Marble Bar**	**58.04**	**257**	P	**P**	**20**	**36**	**14.3 -0.6**
MBWA				IAmb	IAmb	20	36	47.0
	comp=Z,29nm,1.5s							
MORW	**Morawa**	**60.04**	**248**	P	**P**	**20**	**36**	**27.9 -0.3**
MORW				IAmb	IAmb	20	36	44.6
	comp=Z,18nm,1.4s							
JCJ	**Chichijima**	**60.98**	**319**	P	**P**	**20**	**36**	**36.1 +1.8**
GIRL	**Giralia**	**62.74**	**254**	P	**P**	**20**	**36**	**46.1 +0.1**
CASY	**Casey**	**64.21**	**205**	P	**P**	**20**	**36**	**54.6 -0.1**
CASY				IAmb	IAmb	20	37	21.8
	comp=Z,15nm,1.4s							
QSPA	**South Pole Qui**	**69.77**	**180**	P	**P**	**20**	**37**	**29.6 +0.4**
QSPA	**South Pole Qui**	**69.77**	**180**	P	**P**	**20**	**37**	**29.4 +0.2**
	comp=Z,1.2nm,0.6s,baz=31,slow=13,SNR=8.3							
	comp=Z,1.2nm,0.6s							
UGM	**Wanagama**	**70.11**	**269**	P	**P**	**20**	**37**	**31.2 -0.9**
MJAR	**Matsushiro Arr**	**70.13**	**324**	P	**P**	**20**	**37**	**31.3 -0.3**
	comp=Z,2.1nm,0.7s,baz=169,slow=4.6,SNR=7.2							
	comp=Z,2.1nm,0.7s							
SSLB	**Suanglung**	**73.98**	**303**	P	**P**	**20**	**37**	**53.2 -1.1**
GHO	**Glory Hole Cre**	**84.99**	**13**	P	**P**	**20**	**38**	**51.7 0.0**
GHO				IAmb	IAmb	20	39	02.7
	comp=Z,10nm,1.4s							
SCM	**Sheep Creek Mo**	**85.40**	**14**	P	**P**	**20**	**38**	**53.3 -0.3**
SCM				IAmb	IAmb	20	39	22.8
	comp=Z,15nm,1.5s							
RND	**Reindeer**	**86.47**	**13**	P	**P**	**20**	**38**	**58.6 -0.1**
RND				IAmb	IAmb	20	39	13.0
	comp=Z,6.8nm,1.5s							
ILAR	**Eielson Array**	**88.08**	**13**	P	**P**	**20**	**39**	**05.2 -0.9**
	comp=Z,0.5nm,0.6s,baz=216,slow=5.3,SNR=4.8							
	comp=Z,0.5nm,0.6s							
CMAR	**Chiang Mai Arr**	**90.18**	**290**	P	**P**	**20**	**39**	**17.6 +0.6**
	comp=Z,1.4nm,0.9s,baz=128,slow=3.4,SNR=8.4							
	comp=Z,1.4nm,0.9s							
BVAR	**Borovoye Array**	**119.01**	**320**	PKP	**PKPdf**	**20**	**44**	**58.6 -2.5**
	comp=Z,0.7nm,0.4s,baz=150,slow=3.3,SNR=4.1							
AKASG	**Malin Array Be**	**142.90**	**331**	PKhKP	PKPpre	20	45	41.7
	comp=Z,1.8nm,0.5s,baz=42,slow=4.4,SNR=17							
EKA	**Eskdalemuir Ar**	**144.79**	**5**	PKP	**PKPdf**	**20**	**45**	**47.1 -2.1**
	comp=Z,0.9nm,0.6s,baz=337,slow=1.6,SNR=2.1							
BRTR	**Keskin Array B**	**146.81**	**313**	PKPbc	**PKPdf**	**20**	**45**	**54.5 +1.3**
	comp=Z,0.7nm,0.5s,baz=64,slow=3.4,SNR=2.1							
MMAI	**Mount Meron Ar**	**147.84**	**300**	PKPbc	**PKPbc**	**20**	**45**	**58.9 +0.1**
	comp=Z,1.7nm,0.5s,baz=62,slow=6.1,SNR=6.5							

*REN **06** 20:30:53.0±1.0,39.°12N±0.°02×114.°11W±0.°02,h0km±1km, Error ellipse: s-maj=2.5km s-min=2.2km az=180.0*
*NEIC **06** 20:30:53.0±1.8,39.°16N±0.°02×114.°10W±0.°02,h2km±1km, Error ellipse: s-maj=2.1km s-min=2.1km az=160.0*
UUSS 06 20:30:53.6±1.1,39.°13N±0.°02×114.°10W±0.°01,h1km±1km, ML2.6/8,ML2.7/4(REN),ML2.6/108(NEIC),Error ellipse: s-maj=2.4km s-min=1.2km az=195.0,Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q12A	**Willow Creek R**	**0.57**	**262**		Pg	20 31 04.9	+0.3
Q12A					Sg	20 31 12.5	+0.4
Q12A	**Willow Creek R**	**0.57**	**262**	IAML		20 31 12.7	
	comp=N,257nm,0.7s						
Q12A				IAML		20 31 22.7	
	comp=E,272nm,0.7s						
PSUT	**Pine Spring**	**0.62**	**162**		Pg	20 31 05.6	+0.1
PSUT					Sg	20 31 14.4	+0.8
FSU	**Fish Springs**	**0.81**	**42**		Pg	20 31 09.2	0.0
IMU	**Iron Mountain**	**0.89**	**123**		Pb	20 31 11.3	-0.6
DWU	**Dry Willow Pea**	**1.34**	**139**		Pn	20 31 20.3	+0.7
TCRU	**Three Creeks R**	**1.39**	**111**		Pg	20 31 19.5	-0.8
TCRU				IAML		20 31 42.5	
	comp=E,56nm,0.7s						
R11B	**Troy Canyon, C**	**1.40**	**237**		Pg	20 31 19.7	-0.7
R11B	**Troy Canyon, C**	**1.40**	**237**	IAML		20 31 38.7	
	comp=N,144nm,0.2s						
R11B				IAML		20 31 41.4	
	comp=E,104nm,0.6s						
ARUT	**Antelope Range**	**1.43**	**159**		Pb	20 31 21.4	+0.2
DUG	**Dugway, Tooele**	**1.46**	**43**		Pn	20 31 20.5	-0.7
DUG	**Dugway, Tooele**	**1.46**	**43**	IAML		20 31 42.9	
	comp=E,144nm,0.7s						
DUG				IAML		20 31 43.7	
	comp=E,128nm,0.7s						
FLU	**Fool Peak**	**1.52**	**80**		Pn	20 31 21.6	-0.6
MVU	**Marysvale**	**1.60**	**112**		Pn	20 31 23.2	-0.1
MVU				IAML		20 31 56.0	
	comp=E,125nm,1.7s						
MSU	**Marysvale**	**1.62**	**112**		Pn	20 31 23.4	-0.2
CCUT	**Cedar City**	**1.68**	**160**	Pg	Pg	20 31 25.8	0.0
CCUT				IAML		20 31 50.9	
	comp=N,42nm,0.8s						
SZCU	**Shurtz Canyon**	**1.72**	**152**		Pb	20 31 25.6	-0.6
SZCU				IAML		20 31 53.3	
	comp=N,91nm,0.3s						
SZCU				IAML		20 31 53.4	
	comp=E,95nm,0.3s						
NLU	**North Lily Min**	**1.77**	**61**	Pg	Pn	20 31 25.3	-0.3
ELK	**Elko**	**1.84**	**332**	Pn	Pn	20 31 25.1	-1.5
MTPU	**Mount Pierson**	**1.85**	**125**	Pn	Pn	20 31 26.5	-0.3
PRN	**Pahroc Range**	**1.87**	**204**		Pb	20 31 28.0	-0.7
PRN	**Pahroc Range**	**1.87**	**204**		Sb	20 31 52.3	-0.4
S11A	**Rachel**	**1.96**	**222**		Pn	20 31 27.4	-0.8
S11A	**Rachel**	**1.96**	**222**		Sg	20 31 57.0	+0.3
BGU	**Big Grassy Mou**	**1.98**	**24**		Pn	20 31 27.6	-0.8
BGU				IAML		20 31 58.9	
	comp=E,53nm,0.6s						
BGU				IAML		20 31 59.7	
	comp=N,31nm,0.6s						
PKCU	**Pink Cliffs**	**2.19**	**139**	Pn	Pn	20 31 30.1	-1.4
LCMT	**Little Creek M**	**2.22**	**162**	Pn	Pn	20 31 30.0	-1.7
LCMT				IAML		20 32 06.3	
	comp=E,30nm,0.4s						
Q16A	**Castle Valley**	**2.29**	**94**		Pn	20 31 32.2	-0.6
KNB	**Kanab**	**2.33**	**154**		Pn	20 31 32.6	-0.7
KNB				IAML		20 32 10.1	
	comp=N,23nm,0.6s						
KNB				IAML		20 32 10.2	
	comp=E,23nm,0.6s						
CTU	**Camp Tracy**	**2.39**	**48**	Pn	Pn	20 31 33.4	-0.7
CTU				IAML		20 32 12.9	
	comp=N,19nm,0.6s						
Q09A	**Carvers**	**2.42**	**264**		Pn	20 31 33.3	-1.2
SPUT	**South Promonto**	**2.52**	**30**		Pn	20 31 35.8	-0.1
SPUT				IAML		20 32 15.3	
	comp=N,42nm,0.5s						
SPUT				IAML		20 32 16.2	
	comp=E,24nm,0.6s						
P17A	**Butcher Ranch,**	**2.63**	**81**		Pn	20 31 37.3	-0.1
CPY	**CP-1**	**2.68**	**216**		Pg	20 31 45.2	+0.2
BMN	**Battle Mountai**	**2.74**	**299**		Pn	20 31 38.5	-0.3
BMN				IAML		20 32 21.7	
	comp=E,48nm,0.6s						
SRU	**San Rafael Swe**	**2.78**	**89**		Pn	20 31 38.9	-0.5
SRU				IAML		20 32 25.2	
	comp=N,13nm,0.8s						
HVU	**Hansel Valley**	**2.84**	**20**		Pn	20 31 39.7	-0.5
HVU				IAML		20 32 32.3	
	comp=N,46nm,0.7s						
HVU				IAML		20 32 32.5	
	comp=E,39nm,0.5s						
TCUT	**Toone Canyon**	**2.87**	**45**		Pn	20 31 40.1	-0.6
HMU	**Henry Mountain**	**2.89**	**113**		Pn	20 31 40.6	-0.4
HMU				IAML		20 32 44.0	
	comp=N,12nm,2.2s						
NSP	**Numbskull Pass**	**2.92**	**216**		Pg	20 31 49.9	+0.3
BSUT	**Blindstream Ca**	**2.93**	**60**		Pn	20 31 41.3	-0.4
P18A	**Preston Nutter**	**3.03**	**79**		Pn	20 31 41.7	-1.3
P18A				IAML		20 32 41.5	
	comp=E,13nm,4.6s						
U15A	**North Rim**	**3.05**	**151**		Pn	20 31 42.2	-1.0
U15A				IAML		20 32 35.5	
	comp=E,21nm,1.5s						
U15A				IAML		20 32 43.6	
	comp=N,14nm,0.9s						
KVN	**Kaiserville**	**3.11**	**270**		Pn	20 31 43.2	-0.8
KVN				IAML		20 32 32.3	
	comp=E,31nm,0.8s						
KVN				IAML		20 32 33.1	
	comp=N,30nm,0.7s						
HWUT	**Hardware Ranch**	**3.15**	**37**	Pn	Pn	20 31 44.5	0.0
HWUT				IAML		20 32 40.6	
	comp=N,9.6nm,0.8s						
SGV	**South Grapevin**	**3.15**	**228**		Pb	20 31 51.3	+0.8
AMDNV	**Amargosa**	**3.18**	**214**		Pg	20 31 55.1	+0.6
NV11	**Mina Array Sit**	**3.24**	**259**		Pn	20 31 45.4	-0.3
NV11				IAML		20 32 46.7	
	comp=N,10nm,0.8s						
LCH	**Last Change Ra**	**3.37**	**237**		Pn	20 31 46.2	-1.3
LCH				IAML		20 32 46.4	
	comp=E,16nm,1.4s						
LCH				IAML		20 32 49.0	
	comp=N,8.3nm,2.0s						
NV08	**Mina Array Sit**	**3.37**	**259**		Pb	20 31 55.5	+1.1
NV09	**Mina Array Sit**	**3.38**	**260**		Pb	20 31 55.6	+1.2
V12A	**Nelson**	**3.44**	**190**		Pn	20 31 46.0	-2.5
V12A				IAML		20 32 44.9	
	comp=N,11nm,0.5s						
V12A				IAML		20 32 47.8	
	comp=E,9.1nm,0.8s						
RYN	**Ryan**	**3.49**	**263**		Pn	20 31 47.3	-1.8
DSP	**Deep Springs**	**3.51**	**241**		Pn	20 31 47.7	-1.6
LHV	**Little Huntoon**	**3.55**	**257**		Pn	20 31 48.8	-1.1
GWY	**Greenwater Val**	**3.57**	**216**		Pn	20 31 49.1	-1.2
QSM	**Queen of Sheba**	**3.84**	**216**		Pn	20 31 52.4	-1.5
QSM				IAML		20 32 56.6	
	comp=N,18nm,0.6s						
QSM				IAML		20 32 56.9	
	comp=E,18nm,0.9s						
ORC	**Owens River**	**3.88**	**249**		Pg	20 32 08.0	+0.1
YERR	**Yerington**	**4.00**	**270**		Pn	20 31 54.1	-2.2
YERR				IAML		20 33 02.2	
	comp=N,17nm,0.6s						
PAHR	**Pah Rah Range**	**4.13**	**280**		Pn	20 31 56.0	-2.0
PAHR				IAML		20 33 06.2	
	comp=N,11nm,0.9s						
PAHR				IAML		20 33 07.5	
	comp=E,9.7nm,0.9s						
WUAZ	**Wupatki**	**4.21**	**148**		Pn	20 31 56.6	-2.4
WAKR	**Walker**	**4.21**	**263**		Pn	20 31 57.6	-1.6
WAKR				IAML		20 33 07.8	
	comp=E,9.3nm,0.8s						
WAKR				IAML		20 33 56.2	
	comp=N,7.2nm,4.7s						
PNTR	**Pine Nut**	**4.28**	**271**		Pn	20 31 59.5	-0.5
HLID	**Hailey**	**4.44**	**357**		Pn	20 32 00.4	-1.8
HLID				IAML		20 33 14.9	
	comp=N,5.7nm,1.2s						
HLID				IAML		20 33 31.1	
	comp=N,6.8nm,4.6s						
EMB	**Emerald Bay**	**4.67**	**270**		Pn	20 32 03.5	-2.0
EMB				IAML		20 33 18.7	
	comp=N,8.4nm,5.0s						
EMB				IAML		20 33 30.0	
	comp=E,9.4nm,4.2s						
PD31	**Pinedale Array**	**5.01**	**42**	Pn	Pn	20 32 08.9	-1.2
X18A	**Snowflake**	**5.67**	**143**		Pn	20 32 17.4	-1.7

*DJA **06** 20:31:15.0±0.6,6.°N±4.°×12.°7E±.°,h133km±9km,M4.4/11, mB4.7/4,mb4.2/11,MLv4.5/9,Mw(mB)3.9/4*
*NEIC **06** 20:31:17.0±1.5,6.°18N±0.°07×126.°9E±0.°1,h68km±6km, mb4.2/15,Error ellipse: s-maj=17.9km s-min=7.1km az=65.0*
*IDC **06** 20:31:19.5±4.2,5.°97N×126.°78E,h89km±33km,mb3.6/9, mbtmp3.9/9,Error ellipse: s-maj=108.8km s-min=12.7km az=64.0*
ISC 06 20:31:17.9±0.6,6.°12N±0.°06×126.°93E±0.°09,h83km,n49, σ1s47/50,mb4.1/14,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.64**	**305**		**Pn**	**20**	**31**	**43.3 -1.9**
DAV				Sn	**Sn**	**20**	**32**	**02.8 -3.0**
DAV	**Davao City (W)**	**1.64**	**305**	P	**Pn**	**20**	**31**	**45.6 +0.5**
	292nm,0.4s,baz=227,slow=1.2,SNR=11							
DAV				S	**Sn**	**20**	**32**	**07.6 +1.8**
	2µm,0.7s,baz=140,slow=1.5,SNR=20							
SGSI	**Sangihe**	**2.79**	**210**	P	**Pn**	**20**	**31**	**59.8 -0.7**
SGSI				S	**Sn**	**20**	**32**	**35.7 +2.4**
TNTI	**Ternate**	**5.33**	**175**		**Pn**	**20**	**32**	**34.7 -0.3**
TNTI	**Ternate**	**5.33**	**175**	P	**Pn**	**20**	**32**	**34.3 -0.7**
	42nm,0.8s,0.1nm							
TNTI				S	**Sn**	**20**	**33**	**36.2 +1.1**
	42nm,0.8s,0.1nm							
KMSI	**Cibinong**	**6.25**	**208**	P	**Pn**	**20**	**32**	**46.6 -0.9**
	95nm,1.3s,0.4nm							
GTOI	**Gorontalo**	**6.71**	**216**	P	**Pn**	**20**	**32**	**52.4 -1.4**
	14nm,0.7s,224nm0.1nm							
LBMI	**Labuha**	**6.74**	**175**	P	**Pn**	**20**	**32**	**53.4 -0.8**
	37nm,0.7s,0.2nm							
MRSI	**Marisa**	**7.50**	**222**	P	**Pn**	**20**	**33**	**04.8 +0.2**
	37nm,0.6s,449nm0.2nm							
TOLI2	**Tolitoli**	**7.90**	**231**		**Pn**	**20**	**33**	**07.6 -2.4**
SANI	**Sanana**	**8.17**	**187**	P	**Pn**	**20**	**33**	**09.7 -4.1**
	14nm,0.9s							
LUWI	**Luwuk**	**8.24**	**210**	P	**Pn**	**20**	**33**	**17.6 +2.9**
MPSI	**Mapaga**	**9.07**	**231**	P	**Pn**	**20**	**33**	**23.6 -2.4**
	4.9nm,0.7s							
NLAI	**Namlea**	**9.30**	**179**	P	**Pn**	**20**	**33**	**27.3 -1.9**
FAKI	**Fak Fak**	**10.43**	**149**	Pn	**Pn**	**20**	**33**	**42.1 -2.6**
SAUI	**Saumlaki**	**14.67**	**163**	P	**P**	**20**	**34**	**42.7 -2.6**
SBUM	**Sibu**	**15.11**	**257**	P	**P**	**20**	**34**	**50.0 -0.2**
SBUM				IAmb	IAmb	20	34	54.4
	comp=Z,9.2nm,1.1s							
MTN	**Manton Dam**	**19.30**	**168**	P	**Pn**	**20**	**35**	**37.4 -0.8**
MTN				IAmb	IAmb	20	36	02.0
	comp=Z,20nm,1.3s							
JAGI	**Jajag, Banyuwa**	**19.30**	**221**	P	**Pn**	**20**	**35**	**38.3 +0.1**
JAGI				IAmb	IAmb	20	36	18.6
	comp=Z,16nm,1.2s							
KNRA	**Kununurra**	**21.73**	**175**	P	**P**	**20**	**36**	**03.4 +0.8**
KNRA				IAmb	IAmb	20	36	06.8
	comp=Z,9.1nm,0.7s							
FITZ	**Fitzroy Crossi**	**24.10**	**183**	P	**P**	**20**	**36**	**26.7 +0.8**
WB0	**Warramunga Arr**	**26.75**	**164**	P	**P**	**20**	**36**	**49.8 -0.2**
WB0				IAmb	IAmb	20	36	51.5
	comp=Z,11nm,1.4s							
WRA	**Warramunga Arr**	**26.91**	**164**	P	**P**	**20**	**36**	**51.4 +0.1**
WRA	**Warramunga Arr**	**26.91**	**164**	P	**P**	**20**	**36**	**51.5 +0.1**
	comp=Z,0.6nm,0.4s,baz=343,slow=10,SNR=11							
	comp=Z,0.6nm,0.4s							
WB2	**Warramunga Arr**	**26.91**	**164**	P	**P**	**20**	**36**	**51.9 +0.5**
WB2				IAmb	IAmb	20	37	06.6
	comp=Z,14nm,1.4s							
WR0	**Warramunga Arr**	**26.98**	**164**	P	**P**	**20**	**36**	**52.0 +0.1**
WR0				IAmb	IAmb	20	37	34.2
	comp=Z,12nm,1.4s							
ASAR	**Alice Springs**	**30.38**	**167**	P	**P**	**20**	**37**	**21.9 -0.3**
	comp=Z,0.5nm,0.5s,baz=344,slow=7.2,SNR=9.0							
ASAR				PcP	**PcP**	**20**	**40**	**21.0 +0.6**
	comp=Z,0.4nm,0.7s,baz=355,slow=2.4,SNR=2.7							
	comp=Z,0.5nm,0.5s							
BBOO	**Ikeboo**	**39.68**	**168**	P	**P**	**20**	**38**	**42.9 +0.9**
NWAO	**Narrogin (SRO)**	**39.91**	**193**	P	**P**	**20**	**38**	**44.6 +0.8**
STKA	**Stephens Creek**	**40.29**	**161**	P	**P**	**20**	**38**	**47.3 +0.3**
STKA	**Stephens Creek**	**40.29**	**161**	P	**P**	**20**	**38**	**47.5 +0.4**
	comp=Z,2.8nm,0.5s,baz=336,slow=9.4,SNR=14							
	comp=Z,2.8nm,0.5s							
H11S3	**WAKE ISLAND Hy**	**40.64**	**69**	T	T	21	22	49.9
	baz=257,slow=75,SNR=12							
H11S1	**WAKE ISLAND Hy**	**40.65**	**69**	T	T	21	22	51.0
	baz=257,slow=75,SNR=14							
H11S2	**WAKE ISLAND Hy**	**40.65**	**69**	T	T	21	22	52.9
	baz=257,slow=75,SNR=17							
H11N1	**WAKE ISLAND Hy**	**41.10**	**67**	T	T	21	23	36.3
	baz=254							
H11N2	**WAKE ISLAND Hy**	**41.11**	**67**	T	T	21	23	34.6
	baz=254							
H11N3	**WAKE ISLAND Hy**	**41.12**	**67**	T	T	21	23	31.8
	baz=254							
SONM	**Songino Array**	**45.12**	**341**	P	P	20	39	28.5 +2.5
	comp=Z,0.2nm,0.4s,baz=142,slow=7.2,SNR=2.8							
	comp=Z,0.2nm,0.4s							
MK31	**Makanchi Array**	**55.73**	**324**	P	**P**	**20**	**40**	**45.8 -0.2**
MK31				IAmb	IAmb	20	40	55.8
	comp=Z,1.4nm,1.3s							
MK31				PcP	**PcP**	**20**	**41**	**46.0 +1.7**
MKAR	**Makanchi Array**	**55.73**	**324**	P	**P**	**20**	**40**	**46.9 +0.9**
MKAR				PcP	**PcP**	**20**	**41**	**45.7 +1.4**
MKAR	**Makanchi Array**	**55.73**	**324**	P	**P**	**20**	**40**	**46.6 +0.6**
	comp=Z,0.6nm,0.6s,baz=115,slow=7.0,SNR=7.9							
MKAR				PcP	**PcP**	**20**	**41**	**45.6 +1.3**
	comp=Z,0.6nm,0.6s,baz=114,slow=4.4,SNR=6.2							
	comp=Z,0.6nm,0.6s							
KURBB	**Kurchatov Arra**	**59.86**	**327**	P	**P**	**20**	**41**	**15.9 +1.1**
	comp=Z,0.8nm,0.3s,baz=119,slow=7.7,SNR=4.7							
	comp=Z,0.8nm,0.3s							
GAR	**Garm**	**60.48**	**312**	P	**P**	**20**	**41**	**19.8 +0.3**
BVAR	**Borovoye Array**	**65.45**	**326**	P	**P**	**20**	**41**	**52.5 +0.6**
	comp=Z,0.6nm,0.6s,baz=90,slow=5.8,SNR=2.8							
	comp=Z,0.6nm,0.6s							
ABKAR	**Akbulak array**	**70.44**	**320**	P	**P**	**20**	**42**	**22.5 -0.9**
FINES	**FINESS Array B**	**89.83**	**332**	P	**P**	**20**	**44**	**08.6 +1.4**
	comp=Z,0.5nm,0.5s,baz=44,slow=5.8,SNR=6.6							
	comp=Z,0.5nm,0.5s							
NOA	**NORSAR Array B**	**96.75**	**334**	P	**P**	**20**	**44**	**39.8 +0.7**
	comp=Z,0.6nm,0.7s,baz=61,slow=4.6,SNR=3.6							
	comp=Z,0.6nm,0.7s							
DEOK	**Depew**	**121.67**	**41**		**PKiKP**	**20**	**50**	**01.0 -1.8**
TORD	**Torodi Ar. Bea**	**122.34**	**290**	PKP	**PKiKP**	**20**	**50**	**05.1 +0.4**
	comp=Z,0.9nm,1.0s,baz=37,slow=2.6,SNR=5.4							

*IDC **06** 20:38:21.5±0.8,6.°10S×142.°64E,h0km,mb3.9/11, mbtmp4.0/13,ML2.1/1,MS3.3/2,Error ellipse: s-maj=36.3km s-min=17.5km az=78.0*
*NEIC **06** 20:38:23.8±3.0,6.°11S±0.°09×142.°50E±0.°05,h10km±1km, mb4.5/29,Error ellipse: s-maj=17.3km s-min=4.9km az=203.0*
ISC 06 20:38:22.5±0.5,6.°17S±0.°07×142.°62E±0.°07,h10km,n64, σ1s76/63,mb4.4/17,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**1.65**	**303**	P	**Pg**	**20**	**38**	**54.7 +0.4**
PMG	**Port Moresby**	**5.53**	**126**	Pn	**Pn**	**20**	**39**	**46.2 +1.2**
PMG	**Port Moresby**	**5.53**	**126**	P	**Pn**	**20**	**39**	**47.3 +2.3**
PMG	**Port Moresby**	**5.53**	**126**	P	**Pn**	**20**	**39**	**47.4 +2.4**
PMG	**Port Moresby**	**5.53**	**126**	Pn	**Pn**	**20**	**39**	**46.7 +1.7**
	3.9nm,0.3s,baz=23,slow=4.5,SNR=7.8							
PMG				Sn	**Sn**	**20**	**40**	**45.9 -2.8**
	4.4nm,0.3s,baz=319,slow=20,SNR=3.8							
	12nm,0.4s							
COEN	**Coen**	**7.76**	**176**	Pn	**Pn**	**20**	**40**	**17.0 +1.4**
FAKI	**Fak Fak**	**10.83**	**287**	Pn	**Pn**	**20**	**40**	**53.2 -4.6**
FAKI	**Fak Fak**	**10.83**	**287**	P	**Pn**	**20**	**40**	**59.3 +1.5**
KDU	**Kakadu**	**11.92**	**236**	P	**Pn**	**20**	**41**	**12.3 -0.4**
MTN	**Manton Dam**	**13.12**	**239**	Pn	**Pn**	**20**	**41**	**26.8 -2.4**
MTN	**Manton Dam**	**13.12**	**239**	P	**Pn**	**20**	**41**	**28.2 -0.9**
DRS	**Darwin Rock St**	**13.13**	**241**	P	**Pn**	**20**	**41**	**29.6 +0.4**
QIS	**Mount Isa**	**14.60**	**191**	P	**Pn**	**20**	**41**	**49.3 -0.1**
WB0	**Warramunga Arr**	**15.71**	**210**		**Pn**	**20**	**42**	**00.6 -3.5**
WR0	**Warramunga Arr**	**15.80**	**209**		**Pn**	**20**	**42**	**02.9 -2.3**
WB2	**Warramunga Arr**	**15.87**	**210**		**Pn**	**20**	**42**	**03.3 -2.9**
WB2				IAmb	IAmb	20	42	16.7
	comp=Z,16nm,1.1s							
WRA	**Warramunga Arr**	**15.88**	**210**	Pn	**Pn**	**20**	**42**	**03.8 -2.6**
WRA	**Warramunga Arr**	**15.88**	**210**	Pn	**Pn**	**20**	**42**	**04.0 -2.4**
	comp=Z,0.8nm,0.3s,baz=26,slow=13,SNR=31							
WRA				Sn	Sn	20	44	50.9 -12
	comp=Z,0.3nm,0.3s,baz=27,slow=22,SNR=3.7							
WRA				Lg	Lg	20	46	44.5
	comp=Z,0.4nm,0.3s,baz=31,slow=30,SNR=2.7							
KNRA	**Kununurra**	**16.55**	**234**		**Pn**	**20**	**42**	**12.0 -2.9**
KNRA				IAmb	IAmb	20	42	48.5
	comp=Z,18nm,0.7s							
SOEI	**Soe**	**18.52**	**258**	P	**P**	**20**	**42**	**39.2 -0.2**
SOEI				IAmb	IAmb	20	43	14.2
	comp=Z,34nm,0.8s							
SOEI	**Soe**	**18.52**	**258**	P	**Pn**	**20**	**42**	**40.3 +0.7**
AS01	**Alice Springs**	**19.29**	**205**	P	**P**	**20**	**42**	**48.3 +0.5**
AS31	**Alice Springs**	**19.31**	**205**	P	**P**	**20**	**42**	**47.7 -0.3**
ASAR	**Alice Springs**	**19.31**	**205**	P	**P**	**20**	**42**	**48.8 +0.8**
ASAR	**Alice Springs**	**19.31**	**205**	P	**P**	**20**	**42**	**49.8 +1.8**
	comp=Z,16nm,0.9s,baz=34,slow=9.6,SNR=86							
ASAR				S	Sn	20	46	16.0 -10
	comp=Z,2.2nm,0.7s,baz=17,slow=29,SNR=4.7							
ASAR				Lg	Lg	20	48	31.4
	comp=Z,0.1nm,0.3s,baz=21,slow=29,SNR=1.2							
FITZ	**Fitzroy Crossi**	**20.37**	**233**	P	**P**	**20**	**42**	**59.9 +0.3**
OOD	**Oodnadatta**	**22.49**	**196**	P	**P**	**20**	**43**	**22.7 +0.4**
WRKA	**Warakurna**	**23.24**	**215**	P	**P**	**20**	**43**	**30.8 +0.5**
LCRK	**Leigh Creek**	**24.50**	**189**	P	**P**	**20**	**43**	**43.5 +1.3**
STKA	**Stephens Creek**	**25.59**	**182**	P	**P**	**20**	**43**	**52.6 +0.5**
	comp=Z,2.4nm,0.6s,baz=354,slow=13,SNR=7.3							
	comp=Z,2.4nm,0.6s							
PSA00	**Pilbara Seismi**	**26.83**	**233**	P	**P**	**20**	**44**	**05.4 +2.1**
PSA00				IAmb	IAmb	20	44	47.2
	comp=Z,4.1nm,0.7s							
PSA00	**Pilbara Seismi**	**26.83**	**233**	P	**P**	**20**	**44**	**04.3 +1.0**
PSA00				IAmb	IAmb	20	44	09.4
	comp=Z,13nm,1.0s							
LHI	**Lord Howe Isla**	**29.55**	**151**		**P**	**20**	**44**	**26.5 -1.0**
NWAO	**Narrogin (SRO)**

NILT				eS	Sn	20 40 44.1	-1.2		
HUIG	**Huatulco**	**1.74**	**283**	eP	Pn	20 40 35.4	-2.0		
HUIG				eS	Sn	20 40 53.3	-5.0		
CMIG	**Matias Romero**	**1.78**	**343**	P	**Pn**	**20 40 38.0**	**+0.1**		
	102nm,0.3s,baz=173,slow=13,SNR=327								
CMIG				S	**Sn**	**20 40 59.0**	**-0.4**		
	710nm,0.3s,baz=113,slow=22,SNR=27								
CMIG	**Matias Romero**	**1.78**	**343**	eP	**Pn**	**20 40 38.0**	**+0.1**		
CMIG				eS	**Sn**	**20 40 58.9**	**-0.4**		
TGIG		**1.83**	**40**	eP	**Pn**	**20 40 39.7**	**+1.1**		
TGIG				eS	**Sn**	**20 41 02.1**	**+1.5**		
TGBT	**Tuxtla Gutierr**	**1.85**	**41**	eP	**Pn**	**20 40 39.8**	**+1.0**		
TGBT				eS	**Sn**	**20 41 02.8**	**+1.8**		
PATR	**El Naranjo**	**2.06**	**97**	eP	**Pn**	**20 40 41.7**	**-0.2**		
PATR				eS	**Sn**	**20 41 04.5**	**-2.1**		
THIG		**2.07**	**103**	eP	**Pn**	**20 40 42.0**	**+0.1**		
THIG				eS	**Sn**	**20 41 05.7**	**-0.7**		
PAVE	**Pavencul**	**2.11**	**95**	eP	**Pn**	**20 40 42.4**	**-0.2**		
PAVE				eS	**Sn**	**20 41 06.0**	**-1.6**		
CHUJ	**Union Juarez**	**2.18**	**97**	eP	**Pn**	**20 40 43.4**	**-0.3**		
CHUJ				eS	**Sn**	**20 41 08.7**	**-0.9**		
CCIG	**Comitan**	**2.31**	**67**	eP	Pn	20 40 46.8	+1.4		
CCIG				eS	Sn	20 41 17.0	+4.2		
SMSP	**San Marcos**	**2.51**	**99**	eS	**Sn**	**20 41 16.6**	**-1.2**		
RTAL	**Retalhuleu**	**2.70**	**108**	eP	**Pn**	**20 40 51.3**	**+0.8**		
RTAL				eS	**Sn**	**20 41 21.6**	**-0.5**		
NEUV	**Arroyo Zacate**	**2.71**	**329**	eP	**Pn**	**20 40 50.2**	**-0.4**		
NEUV				eS	**Sn**	**20 41 23.6**	**+1.4**		
HUEH	**Huehuetenango**	**2.75**	**91**	eP	**Pn**	**20 40 52.7**	**+1.3**		
HUEH				eS	Sn	20 41 26.5	+2.9		
PEIG	**Puerto Escondi**	**2.76**	**283**	eP	Pn	20 40 49.6	-1.8		
PEIG				eS	Sn	20 41 17.2	-6.4		
VHO	**Vista Hermosa**	**2.84**	**307**	eP	**Pn**	**20 40 53.7**	**+1.0**		
VHO				eS	**Sn**	**20 41 24.0**	**-1.9**		
PMUV	**Sontecomapan**	**3.24**	**347**	eP	**Pn**	**20 40 56.9**	**-1.2**		
PMUV				eS	**Sn**	**20 41 33.4**	**-1.9**		
YOIG	**Yosondua**	**3.41**	**296**	eP	**Pn**	**20 41 01.3**	**+0.9**		
YOIG				eS	Sn	20 41 36.0	-3.8		
PNIG	**Pinotepa**	**3.77**	**286**	eP	**Pn**	**20 41 04.5**	**-0.8**		
PNIG				eS	Sn	20 41 41.2	-7.3		
TXIG	**Tlaxiaco**	**3.77**	**300**	eP	**Pn**	**20 41 06.8**	**+1.2**		
TXIG				eS	Sn	20 41 44.0	-4.9		
HLIG	**Huajuapan de L**	**4.11**	**307**	eP	**Pn**	**20 41 11.6**	**+1.5**		
HLIG				eS	**Sn**	**20 41 54.3**	**-2.9**		
FTIG	**Fresnillo de T**	**4.41**	**305**	eP	**Pn**	**20 41 16.0**	**+1.8**		
FTIG				eS	**Sn**	**20 42 01.2**	**-3.2**		
MGIG	**Malinaltepec**	**4.51**	**295**	eP	**Pn**	**20 41 16.6**	**+1.0**		
MGIG				eS	Sn	20 42 00.8	-6.0		
PETF	**Flores**	**4.57**	**70**	eP	**Pn**	**20 41 17.2**	**+0.9**		
PETF				eS	**Sn**	**20 42 08.4**	**+0.2**		
TLIG	**Tlapa**	**4.59**	**299**	eP	**Pn**	**20 41 17.0**	**+0.4**		
TLIG				eS	Sn	20 42 02.9	-5.9		
JAUV	**Jalcomulco**	**4.61**	**330**	eP	**Pn**	**20 41 15.5**	**-1.3**		
JAUV				eS	**Sn**	**20 42 08.0**	**-1.1**		
SCIG	**Sabancuy**	**4.68**	**40**	eP	**Pn**	**20 41 17.8**	**0.0**		
SCIG				eS	**Sn**	**20 42 09.2**	**-1.7**		
LVIG	**Laguna Verde**	**4.75**	**336**	eP	**Pn**	**20 41 18.5**	**-0.2**		
LVIG				eS	**Sn**	**20 42 08.4**	**-4.2**		
CRIG	**Cruz Grande**	**4.79**	**287**	eP	**Pn**	**20 41 18.7**	**-0.6**		
CRIG				eS	Sn	20 42 05.2	-8.4		
DAIG	**Los Arroyos**	**5.35**	**289**	eP	**Pn**	**20 41 27.0**	**+0.1**		
DAIG				eS	Sn	20 42 16.6	-11		
PPM	**Popocatepetl**	**5.49**	**313**	eP	Pn	20 41 24.9	-4.5		
PPM				eS	**Sn**	**20 42 33.8**	**+2.3**		
YAIG	**Yautepec**	**5.69**	**308**	eP	**Pn**	**20 41 34.2**	**+2.4**		
YAIG				eS	Sn	20 42 27.9	-8.0		
PLIG	**Platanillo**	**5.77**	**302**	eP	**Pn**	**20 41 35.4**	**+2.5**		
PLIG				eS	Sn	20 42 27.6	-10		
CAIG	**El Cayaco**	**5.92**	**287**	eP	**Pn**	**20 41 34.9**	**+0.1**		
CAIG				eS	Sn	20 42 30.8	-11		
ARIG	**Puente Sto Nin**	**6.43**	**298**	eP	**Pn**	**20 41 43.9**	**+2.1**		
ARIG				eS	Sn	20 42 47.8	-6.1		
ZIIG	**Zihuatanejo**	**7.18**	**289**	eP	**Pn**	**20 41 52.8**	**+0.8**		
MMIG	**Aquila**	**9.09**	**290**	eP	**Pn**	**20 42 19.5**	**+1.3**		
COIG	**Colima**	**9.69**	**294**	eP	**Pn**	**20 42 28.6**	**+2.0**		
JUBC	**Volcan de Coli**	**9.71**	**296**	eP	Pn	20 42 32.1	+5.0		
EZ5V		**9.73**	**296**	eP	**Pn**	**20 42 27.6**	**+0.3**		
INCO	**Volcan de Coli**	**9.75**	**296**	eP	Pn	20 42 32.6	+4.9		
SOMAC	**Volcano de Col**	**9.77**	**296**	eP	**Pn**	**20 42 32.2**	**+4.3**		
CEGR	**Campo Tres**	**9.91**	**295**	eP	**Pn**	**20 42 33.0**	**+3.3**		
TXAR	**Lajitas Array**	**16.33**	**330**	P	**Pn**	**20 43 56.1**	**+0.1**		
	0.1nm,0.3s,baz=154,slow=13,SNR=4.7 0.7nm,0.6s								
NVAR	**Mina Array Bea**	**31.19**	**322**	P	**P**	**20 46 26.6**	**+1.5**		
	0.8nm,0.8s,baz=148,slow=10,SNR=7.0 0.8nm,0.8s								
YKA	**Yellowknife Ar**	**49.19**	**348**	P	**P**	**20 48 54.0**	**+0.7**		
	0.3nm,0.6s,baz=155,slow=6.8,SNR=5.2 0.3nm,0.6s								
ILAR	**Eielson Array**	**60.69**	**337**	P	**P**	**20 50 16.1**	**-0.3**		
	0.4nm,1.0s,baz=144,slow=4.4,SNR=4.2 0.4nm,1.0s								
EKA	**Eskdalemuir Ar**	**78.18**	**36**	P	**P**	**20 52 03.2**	**-1.4**		
	2.5nm,0.8s,baz=286,slow=6.0,SNR=5.8 2.5nm,0.8s								
NOA	**NORSAR Array B**	**84.02**	**28**	P	**P**	**20 52 34.9**	**-0.7**		
	0.5nm,0.7s,baz=299,slow=5.3,SNR=2.0 0.5nm,0.7s								
ARCES	**ARCESS Array B**	**85.54**	**18**	P	**P**	**20 52 43.4**	**+0.3**		
	2.0nm,0.8s,baz=287,slow=4.2,SNR=6.3 2.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**143.92**	**338**	PKP	PKPbc	20 59 40.7	+1.5		
	0.8nm,0.3s,baz=11,slow=3.2,SNR=4.8								

*IDC **06** 20:41:21.9±2.1, 15°.40N×94°.19W, h41km±17km, mb4.3/25, mbtmp4.5/28, ML4.8/3, MS4.0/17, Error ellipse: s-maj=22.0km s-min=11.0km az=59.0*

*GCG **06** 20:41:22.3±3.8, 15°.53N×94°.35W, h52km, MD5.1*

*MEX **06** 20:41:23.2±0.8, 15°.36N×94°.47W, h18km±16km, MD4.9*

*NEIC **06** 20:41:23.4±2.5, 15°.43N±0°.06×94°.35W±0°.04, h52km±6km, mb4.8/437, Md4.9/148(MEX), Error ellipse: s-maj=8.4km s-min=5.5km az=198.0*

*GCMT **06** 20:41:24.4±0.6, 15°.66N±0°.04×94°.24W±0°.03, h69km±5km, MW4.9/73, Moment Tensor Solution. s16,c18; s73,c90; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.65±.20; Mθθ=0.82±.17; Mϕϕ=-0.17±.20; Mrθ=0.26±.08; Mrϕ=-1.71±.14; Mθϕ=-1.92±.08; Best double couple: M=2.69000×10^16^ NP1:ϕs=346.00000°, δ81.00000°, λ=-49.00000°. NP2: ϕs=87.00000°, δ42.00000°, λ=-166.00000°. Principal axes: T 2.7350, Plg25.0000°, Azm46.0000°; N -0.0880, Plg40.0000°, Azm158.0000°; P -2.6450, Plg40.0000°, Azm293.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **06** 20:41:36.4, 15°.30N×90°.87W, h50km±5km, mb5.2*

ISC 06 20:41:22.8±0.4, **15°.36N**±0°.04×**94°.36W**±0°.03, **h52**km±3km, **h52**km:**pP-P, n961**, σ1**974**/937, **mb4.9**/266, **MS4.0**/17, **4C-16D, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**0.98**	**26**	eP		**Pn**		**20 41 40.0**	**-0.3**
CARR				eS		**Sn**		**20 41 51.9**	**-1.4**
PCIG		**1.15**	**73**			**Pn**		**20 41 42.6**	**0.0**
PCIG						**Sn**		**20 41 57.0**	**-0.3**
PCIG		**1.15**	**73**	eP		**Pn**		**20 41 42.6**	**0.0**
PCIG				eS		**Sn**		**20 41 57.0**	**-0.3**
NILT	**Santiago Nilte**	**1.22**	**348**	eP		**Pn**		**20 41 43.1**	**-0.4**
NILT				eS		**Sn**		**20 41 57.8**	**-1.3**
HUIG	**Huatulco**	**1.73**	**284**			**Pn**		**20 41 48.8**	**-1.7**
HUIG						**Sn**		**20 42 06.3**	**-5.1**
HUIG	**Huatulco**	**1.73**	**284**	eP		**Pn**		**20 41 48.8**	**-1.7**
HUIG				eS		**Sn**		**20 42 06.3**	**-5.1**
CMIG	**Matias Romero**	**1.79**	**344**			**Pn**		**20 41 51.4**	**0.0**
CMIG						**Sn**		**20 42 11.5**	**-1.5**
CMIG	**Matias Romero**	**1.79**	**344**	P		**Pn**		**20 41 51.4**	**0.0**
	914nm,0.3s,baz=179,slow=13,SNR=17								
CMIG				S		**Sn**		**20 42 12.1**	**-0.9**
	5μm,0.3s,baz=180,slow=15,SNR=8.1								
CMIG				LR		LR		20 42 31.7	
	comp=Z,723nm,18.1s,baz=166,slow=38								
CMIG	**Matias Romero**	**1.79**	**344**	eP		**Pn**		**20 41 51.4**	**0.0**
CMIG				eS		**Sn**		**20 42 11.5**	**-1.5**
TGIG		**1.85**	**40**			**Pn**		**20 41 52.9**	**+0.8**
TGIG						**Sn**		**20 42 16.7**	**+2.3**
TGIG		**1.85**	**40**	eP		**Pn**		**20 41 52.9**	**+0.8**
TGIG				eS		**Sn**		**20 42 16.7**	**+2.3**
TGBT	**Tuxtla Gutierr**	**1.87**	**41**			**Pn**		**20 41 53.1**	**+0.8**
TGBT						**Sn**		**20 42 17.0**	**+2.3**
TGBT	**Tuxtla Gutierr**	**1.87**	**41**	eP		**Pn**		**20 41 53.1**	**+0.8**
TGBT				eS		**Sn**		**20 42 17.0**	**+2.3**
PATR	**El Naranjo**	**2.07**	**96**	eP		**Pn**		**20 41 55.1**	**-0.2**
PATR				eS		**Sn**		**20 42 15.4**	**-4.7**
THIG		**2.08**	**102**			**Pn**		**20 41 55.1**	**-0.1**
THIG						**Sn**		**20 42 17.4**	**-2.4**
THIG		**2.08**	**102**	eP		**Pn**		**20 41 55.1**	**-0.1**
THIG				eS		**Sn**		**20 42 17.4**	**-2.4**
PAVE	**Pavencul**	**2.12**	**94**	eP		**Pn**		**20 41 56.8**	**+0.8**
PAVE				eS		**Sn**		**20 42 20.6**	**-0.6**
CHUJ	**Union Juarez**	**2.19**	**97**	eP		**Pn**		**20 41 57.0**	**0.0**
CHUJ				eS		**Sn**		**20 42 22.0**	**-1.1**
CCIG	**Comitan**	**2.33**	**67**	eP	Pn	**Pn**		**20 42 00.3**	**+1.4**
CCIG	**Comitan**	**2.33**	**67**	eP		**Pn**		**20 42 01.3**	**+2.4**
CCIG				eS		**Sn**		**20 42 29.9**	**+3.5**
MIHL	**Minatitlan**	**2.62**	**356**	eP		**Pn**		**20 42 04.2**	**+1.5**
MIHL				eS		**Sn**		**20 42 34.6**	**+1.4**
TUIG	**Tuzandepetl**	**2.66**	**359**	eP		**Pn**		**20 42 03.9**	**+0.7**
TUIG				eS		**Sn**		**20 42 32.7**	**-1.5**
RTAL	**Retalhuleu**	**2.71**	**108**	Pn		**Pn**		**20 42 03.7**	**-0.2**
NEUV	**Arroyo Zacate**	**2.72**	**330**	eP		**Pn**		**20 42 03.7**	**-0.3**
NEUV				eS		**Sn**		**20 42 35.5**	**-0.2**
PEIG	**Puerto Escondi**	**2.76**	**284**			**Pn**		**20 42 02.7**	**-1.8**
PEIG						Sn		20 42 30.4	-6.2
PEIG	**Puerto Escondi**	**2.76**	**284**	eP		**Pn**		**20 42 02.7**	**-1.8**
PEIG				eS		Sn		20 42 30.4	-6.2
HUEH	**Huehuetenango**	**2.76**	**90**	Pn		**Pn**		**20 42 06.0**	**+1.2**
STG3	**Santiaguito 3,**	**2.77**	**103**	eP		Pn		20 42 13.3	+8.4
OXBJ	**Oaxaca**	**2.83**	**307**			**Pn**		**20 42 06.7**	**+1.0**
OXBJ						**Sn**		**20 42 37.4**	**-1.4**
OXBJ	**Oaxaca**	**2.83**	**307**	eP		**Pn**		**20 42 06.7**	**+1.0**
OXBJ				eS		**Sn**		**20 42 37.4**	**-1.4**
OXIG	**Oaxaca**	**2.84**	**307**			**Pn**		**20 42 07.0**	**+1.1**
OXIG						**Sn**		**20 42 37.1**	**-1.9**
VHO	**Vista Hermosa**	**2.84**	**307**	eP		**Pn**		**20 42 07.0**	**+1.1**
VHO				eS		**Sn**		**20 42 37.1**	**-1.9**
SULM	**Suchitepequez,**	**2.90**	**111**	eP		**Pn**		**20 42 06.1**	**-0.4**
VHSA	**Villahermosa**	**2.94**	**27**	eP		**Pn**		**20 42 09.8**	**+2.7**
VHSA				eS		**Sn**		**20 42 42.6**	**+1.4**
PMUV	**Sontecomapan**	**3.25**	**347**	eP		**Pn**		**20 42 09.6**	**-1.8**
PMUV				eS		**Sn**		**20 42 43.0**	**-5.9**
YOIG	**Yosondua**	**3.40**	**296**			**Pn**		**20 42 15.2**	**+1.6**
YOIG						**Sn**		**20 42 49.5**	**-3.5**
YOIG	**Yosondua**	**3.40**	**296**	eP		**Pn**		**20 42 15.2**	**+1.6**
YOIG				eS		**Sn**		**20 42 49.5**	**-3.5**
FUG	**Fuego 3**	**3.52**	**104**	eP		Pn		20 42 23.5	+8.3
PCG	**Pacaya**	**3.76**	**104**	eP		**Pn**		**20 42 18.8**	**+0.3**
PNIG	**Pinotepa**	**3.77**	**286**			**Pn**		**20 42 17.9**	**-0.5**
PNIG						Sn		20 42 54.9	-6.6
PNIG	**Pinotepa**	**3.77**	**286**	eP		**Pn**		**20 42 17.9**	**-0.5**
PNIG				eS		Sn		20 42 54.9	-6.6
TXIG	**Tlaxiaco**	**3.77**	**300**			**Pn**		**20 42 19.5**	**+0.8**
TXIG						**Sn**		**20 42 55.9**	**-6.2**
TXIG	**Tlaxiaco**	**3.77**	**300**	eP		**Pn**		**20 42 19.5**	**+0.8**
TXIG				eS		**Sn**		**20 42 55.9**	**-6.2**
APG	**El Apazote**	**3.78**	**95**	LR		LR		20 43 26.0	
	comp=Z,63nm,18.2s,baz=224,slow=34								
NBG	**Las Nubes**	**3.96**	**101**	eP		**Pn**		**20 42 23.5**	**+2.3**
HLIG	**Huajuapan de L**	**4.11**	**307**			**Pn**		**20 42 25.4**	**+2.1**
HLIG						**Sn**		**20 43 07.3**	**-3.0**
HLIG	**Huajuapan de L**	**4.11**	**307**	eP		**Pn**		**20 42 25.4**	**+2.1**
HLIG				eS		**Sn**		**20 43 07.3**	**-3.0**
TPIG	**Tehuac#an**	**4.18**	**317**			Pn		20 42 20.3	-4.0
TPIG						**Sn**		**20 43 14.3**	**+2.3**
TPIG	**Tehuac#an**	**4.18**	**317**	eP		Pn		20 42 20.3	-4.0
TPIG				eS		**Sn**		**20 43 14.3**	**+2.3**
FTIG	**Fresnillo de T**	**4.41**	**306**			**Pn**		**20 42 29.1**	**+1.8**
FTIG						**Sn**		**20 43 13.8**	**-3.7**
FTIG	**Fresnillo de T**	**4.41**	**306**	eP		**Pn**		**20 42 29.1**	**+1.8**
FTIG				eS		**Sn**		**20 43 13.8**	**-3.7**
MGIG	**Malinaltepec**	**4.50**	**295**			**Pn**		**20 42 29.3**	**+0.6**
MGIG						**Sn**		**20 43 15.2**	**-4.7**
MGIG	**Malinaltepec**	**4.50**	**295**	eP		**Pn**		**20 42 29.3**	**+0.6**
MGIG				eS		**Sn**		**20 43 15.2**	**-4.7**
MRL	**Marmol**	**4.53**	**93**	eP		**Pn**		**20 42 27.8**	**-1.2**
PETF	**Flores**	**4.59**	**70**	Pn		**Pn**		**20 42 30.1**	**+0.4**
PETF	**Flores**	**4.59**	**70**	eS		**Sn**		**20 43 21.9**	**+0.2**
TLIG	**Tlapa**	**4.59**	**299**	Pn		**Pn**		**20 42 30.5**	**+0.7**
TLIG	**Tlapa**	**4.59**	**299**	eP		**Pn**		**20 42 31.4**	**+1.6**
TLIG				eS		Sn		20 43 14.0	-8.0
JAUV	**Jalcomulco**	**4.62**	**330**	eP		**Pn**		**20 42 26.4**	**-3.6**
JAUV				eS		**Sn**		**20 42 47.8**	**-6.2**
HMTT	**Tlapaneco**	**4.70**	**302**			**Pn**		**20 42 34.4**	**+3.1**
HMTT						**Sn**		**20 43 18.8**	**-5.7**
HMTT	**Tlapaneco**	**4.70**	**302**	eP		**Pn**		**20 42 34.4**	**+3.1**
HMTT				eS		**Sn**		**20 43 18.8**	**-5.7**
SCIG	**Sabancuy**	**4.70**	**40**	eP		**Pn**		**20 42 31.5**	**+0.4**
SCIG				eS		**Sn**		**20 43 22.6**	**-1.8**
LVIG	**Laguna Verde**	**4.76**	**336**	eP		**Pn**		**20 42 30.8**	**-1.3**
LVIG				eS		**Sn**		**20 43 18.9**	**-7.0**
CRIG	**Cruz Grande**	**4.79**	**287**			**Pn**		**20 42 32.2**	**-0.2**
CRIG						Sn		20 43 18.4	-8.2
CRIG	**Cruz Grande**	**4.79**	**287**	eP		**Pn**		**20 42 32.2**	**-0.2**
CRIG				eS		Sn		20 43 18.4	-8.2
ESQI	**Esquipulas**	**4.92**	**99**	Pn		**Pn**		**20 42 35.3**	**+1.0**
MTO3	**Montecristo**	**4.93**	**101**	Pn		**Pn**		**20 42 35.1**	**+0.6**
SNET	**Serv Nac Est T**	**5.24**	**108**	Pn		**Pn**		**20 42 37.6**	**-1.1**
DAIG	**Los Arroyos**	**5.34**	**289**			**Pn**		**20 42 40.2**	**+0.2**
DAIG						Sn		20 43 32.2	-8.1
DAIG	**Los Arroyos**	**5.34**	**289**	eP		**Pn**		**20 42 40.2**	**+0.2**
DAIG				eS		Sn		20 43 32.2	-8.1
PPM	**Popocatepetl**	**5.49**	**313**	eP		**Pn**		**20 42 42.7**	**+0.2**
PPM				eS		**Sn**		**20 43 47.7**	**+2.9**
PPIG	**Popocatepetl**	**5.50**	**313**			**Pn**		**20 42 42.7**	**+0.1**
PPIG						**Sn**		**20 43 47.7**	**+2.9**
ACP2	**Acapulco**	**5.52**	**287**	eS		Sn		20 43 36.3	-8.3
MEIG	**Mezcala**	**5.65**	**298**			**Pn**		**20 42 46.1**	**+1.8**
MEIG						**Sn**		**20 43 43.1**	**-4.8**
MEIG	**Mezcala**	**5.65**	**298**	eP		**Pn**		**20 42 46.1**	**+1.8**
MEIG				eS		**Sn**		**20 43 43.1**	**-4.8**
YAIG	**Yautepec**	**5.69**	**308**			**Pn**		**20 42 47.2**	**+2.3**
YAIG						**Sn**		**20 43 44.8**	**-4.3**
YAIG	**Yautepec**	**5.69**	**308**	eP		**Pn**		**20 42 47.2**	**+2.3**
YAIG				eS		**Sn**		**20 43 44.8**	**-4.3**
PLIG	**Platanillo**	**5.77**	**302**			**Pn**		**20 42 47.8**	**+1.8**
PLIG						**Sn**		**20 43 44.4**	**-6.6**
PLIG	**Platanillo**	**5.77**	**302**	eP		**Pn**		**20 42 47.8**	**+1.8**
PLIG				eS		**Sn**		**20 43 44.4**	**-6.6**
MPVM	**San Francisco**	**5.86**	**311**	eP		**Pn**		**20 42 48.4**	**+1.1**
MPVM				eS		**Sn**		**20 43 60.0**	**+6.7**
CAIG	**El Cayaco**	**5.92**	**287**			**Pn**		**20 42 48.1**	**+0.2**
CAIG						Sn		20 43 45.3	-9.1
CAIG	**El Cayaco**	**5.92**	**287**	eP		**Pn**		**20 42 48.1**	**+0.2**
CAIG				eS		Sn		20 43 45.3	-9.1
TLVM	**San Miguel Top**	**5.97**	**311**	eP		**Pn**		**20 42 49.0**	**+0.1**
TLVM				eS		**Sn**		**20 43 57.3**	**+1.2**
XCVM	**Xochimilco**	**5.97**	**311**	eP		**Pn**		**20 42 47.0**	**-1.8**
XCVM				eS		**Sn**		**20 43 57.0**	**+0.9**
UNM	**Universidad Na**	**6.06**	**311**	Pn		**Pn**		**20 42 48.0**	**-2.1**
UNM	**Universidad Na**	**6.06**	**311**	eS		**Sn**		**20 43 52.5**	**-5.8**
PBVM	**Pinon**	**6.07**	**313**			**Pn**		**20 42 52.2**	**+2.3**
PBVM						**Sn**		**20 44 05.7**	**+7.6**
PBVM	**Pinon**	**6.07**	**313**	eP		**Pn**		**20 42 52.2**	**+2.3**
PBVM				eS		**Sn**		**20 44 00.8**	**+2.8**
AOVM	**Tlapan**	**6.13**	**310**	eP		**Pn**		**20 42 49.3**	**-1.9**
AOVM				eS		**Sn**		**20 44 00.4**	**+0.2**
CJVM	**Cuajimalpa**	**6.16**	**311**	eS		**Sn**		**20 44 03.3**	**+2.6**
INVM	**La Marquesa**	**6.19**	**310**	eP		**Pn**		**20 42 55.1**	**+3.1**
INVM				eS		**Sn**		**20 44 05.0**	**+3.4**
PTVM	**Pico Tres Padr**	**6.19**	**314**			**Pn**		**20 42 52.2**	**+0.4**
PTVM						**Sn**		**20 44 06.1**	**+4.7**
PTVM	**Pico Tres Padr**	**6.19**	**314**	eP		**Pn**		**20 42 52.2**	**+0.4**
PTVM				eS		**Sn**		**20 44 06.1**	**+4.7**
ARIG	**Puente Sto Nin**	**6.42**	**298**			**Pn**		**20 42 56.4**	**+1.5**
ARIG						Sn		20 43 60.0	-7.0
ARIG	**Puente Sto Nin**	**6.42**	**298**	eP		**Pn**		**20 42 56.4**	**+1.5**
ARIG				eS		Sn		20 43 60.0	-7.0
DHIG	**Demacu**	**6.63**	**319**			**Pn**		**20 43 01.1**	**+3.2**
DHIG						**Sn**		**20 44 12.2**	**0.0**
DEIG	**Demacu**	**6.63**	**319**	eP		**Pn**		**20 43 01.1**	**+3.2**
DEIG				eS		**Sn**		**20 44 12.2**	**0.0**
TGUH	**Tegucigalpa,Un**	**6.98**	**100**			**Pn**		**20 43 03.0**	**+0.4**
ACIG	**Acambay**	**6.98**	**312**			**Pn**		**20 43 04.3**	**+1.6**
ACIG						**Sn**		**20 44 22.4**	**+1.5**
ACIG	**Acambay**	**6.98**	**312**	eP		**Pn**		**20 43 04.3**	**+1.6**
ACIG				eS		**Sn**		**20 44 23.3**	**+2.4**
MYIG	**Mrida**	**7.09**	**38**	eP		**Pn**		**20 43 04.5**	**+0.5**
MYIG				eS		**Sn**		**20 44 22.1**	**-1.2**
CTUV	**Llano Grande**	**7.16**	**329**	eP		**Pn**		**20 43 07.2**	**+2.3**
CTUV				eS		**Sn**		**20 44 16.9**	**-8.1**
ZIIG	**Zihuatanejo**	**7.17**	**289**			**Pn**		**20 43 06.5**	**+1.4**
ZIIG						Sn		20 44 15.9	-9.3
ZIIG	**Zihuatanejo**	**7.17**	**289**	eP		**Pn**		**20 43 06.5**	**+1.4**
ZIIG				eS		Sn		20 44 15.9	-9.3
TEIG	**Tepich**	**7.55**	**49**	Pn		**Pn**		**20 43 09.1**	**-1.2**
TEIG	**Tepich**	**7.55**	**49**	LR		LR		20 46 35.3	
	comp=Z,15μm,19.8s,baz=9.0,slow=42								
CRIN	**San Cristobal**	**7.57**	**110**			**Pn**		**20 43 11.6**	**+0.9**
MOIG	**Morelia**	**7.80**	**304**			**Pn**		**20 43 17.3**	**+3.4**
MOIG	**Morelia**	**7.80**	**304**	eP		**Pn**		**20 43 17.3**	**+3.5**
MOIG				eS		**Sn**		**20 44 36.4**	**-4.6**
JRQG	**Juriquilla Cam**	**7.86**	**313**	Pn		**Pn**		**20 43 17.0**	**+2.3**
CNGN	**Cerro Negro**	**7.96**	**110**			**Pn**		**20 43 15.8**	**-0.2**
RPIG	**Rio Verde**	**8.39**	**321**			**Pn**		**20 43 20.4**	**-1.6**
RPIG						**Sn**		**20 44 48.7**	**-6.8**
RPIG	**Rio Verde**	**8.39**	**321**	eP		**Pn**		**20 43 20.4**	**-1.6**
RPIG				eS		**Sn**		**20 44 48.7**	**-6.8**
MATN	**Matagalpa**	**8.53**	**105**			**Pn**		**20 43 24.1**	**+0.2**
GTIG	**Gomez Farias**	**8.91**	**330**			**Pn**		**20 43 31.4**	**+2.4**
GTIG						Sn		20 44 56.2	-12
GTIG	**Gomez Farias**	**8.91**	**330**	eP		**Pn**		**20 43 31.4**	**+2.4**
GTIG				eS		**Sn**		**20 45 04.9**	**-3.0**
BOAB	**BOACO BROADBAN**	**8.93**	**108**			**Pn**		**20 43 29.2**	**+0.1**
MMIG	**Aquila**	**9.08**	**290**			**Pn**		**20 43 32.8**	**+1.6**
MMIG						Sn		20 45 05.7	-6.4
MMIG	**Aquila**	**9.08**	**290**	eP		**Pn**		**20 43 32.8**	**+1.6**
MMIG				eS		Sn		20 45 05.7	-6.4
COIG	**Colima**	**9.69**	**294**	eP		**Pn**		**20 43 42.7**	**+3.1**
COIG				eS		**Sn**		**20 45 21.9**	**-5.2**
JUBC	**Volcan de Coli**	**9.71**	**297**	eP		**Pn**		**20 43 44.2**	**+4.1**
JUBC				eS		**Sn**		**20 45 33.1**	**+5.1**
HZTE	**Horizontes, Gu**	**9.71**	**117**			**Pn**		**20 43 41.6**	**+1.7**
EZ5V		**9.72**	**296**			**Pn**		**20 43 44.5**	**+4.2**
EZ5V		**9.72**	**296**	eP		**Pn**		**20 43 44.5**

Z47A Carrollton 18.65 17 P P 20 45 35.4 -1.0
Z47A IAmb IAmb 20 45 37.8
comp=Z,46nm,0.7s
WTFS Witchita Falls 18.70 349 IAmb IAmb 20 45 47.4
comp=Z,45nm,0.8s
LOOK Love County 18.73 353 IAmb IAmb 20 45 49.4
comp=Z,44nm,0.7s
POST Post 18.78 341 P P 20 45 37.3 -0.6
POST IAmb IAmb 20 45 45.3
comp=Z,36nm,0.8s
TIGA Tifton 18.79 30 P P 20 45 37.0 -1.0
baz=214,SNR=6.7
LRAL Lakeview Retre 18.82 19 P 20 45 37.1 -1.2
LRAL Lakeview Retre 18.82 19 P P 20 45 37.0 -1.2
baz=202,SNR=6.2
GTBY Guantanamo Bay 18.90 73 P P 20 45 37.0 -2.2
GTBY IAmb IAmb 20 45 39.4
comp=Z,74nm,0.8s
MIAR Mount Ida 19.12 2 P P 20 45 40.4 -1.1
MIAR Mount Ida 19.12 2 P P 20 45 40.9 -0.6
baz=182,SNR=9.1
MNTX Cornudas Mount 19.12 330 P P 20 45 42.0 +0.4
baz=145,SNR=14
NMDO Nuevo Mundo 19.14 71 P P 20 45 39.1 -2.8
NMDO IAmb IAmb 20 45 54.4
comp=Z,23nm,0.5s
DKNS Dickens 19.17 343 IAmb IAmb 20 45 46.0
comp=Z,52nm,0.9s
152A Waverly Hall 19.33 25 IAmb IAmb 20 45 48.6
comp=Z,77nm,1.1s
UALR University of 19.42 5 P P 20 45 43.2 -1.6
OXF Oxford 19.59 12 P P 20 45 44.1 -2.5
baz=194
WMOK Wichita Mounta 19.70 349 P P 20 45 48.3 +0.4
baz=167
255A Hazlehurst 19.73 31 P P 20 45 47.8 -0.5
Y49A Blount Mountai 19.77 20 P P 20 45 47.4 -1.2
W35A Tecumseh 19.84 354 IAmb IAmb 20 45 57.9
comp=Z,48nm,0.8s
WHAR Wooly Hollow 19.93 5 P 20 45 49.7 -0.7
154A Montrose 19.99 29 P P 20 45 48.1 -3.0
FNO Franklin 20.00 353 P 20 45 50.4 -0.8
MSTX Muleshoe 20.02 339 P P 20 45 52.1 +0.6
MSTX IAmb IAmb 20 45 57.7
comp=Z,88nm,1.1s
MSTX Muleshoe 20.02 339 P P 20 45 52.5 +0.9
baz=155,SNR=11
X48A Hartselle 20.12 18 P P 20 45 50.3 -2.1
SMWD Samnorwood 20.36 346 P P 20 45 55.2 +0.1
HSIG 20.48 314 P P 20 45 57.5 +1.1
HSIG IAmb IAmb 20 46 00.1
comp=Z,55nm,1.1s
DEOK Depew 20.49 355 P P 20 45 55.5 -0.9
DEOK IAmb IAmb 20 46 02.1
comp=Z,49nm,0.7s
GOGA Godfrey 20.50 27 P P 20 45 55.8 -0.7
GOGA Godfrey 20.50 27 P P 20 45 55.6 -0.9
baz=211,SNR=14
TUL3 Leonard 20.50 357 IAmb IAmb 20 46 02.8
comp=Z,40nm,0.8s
TUL3 Leonard 20.50 357 P P 20 45 56.3 -0.3
baz=175
AMTX Amarillo 20.52 343 P P 20 45 58.1 +1.2
baz=159
Y52A Lilburn 20.64 25 P P 20 45 56.5 -1.6
Y52A IAmb IAmb 20 46 04.8
comp=Z,72nm,1.1s
FPAL Fort Paine 20.66 21 P P 20 45 56.6 -1.8
FPAL IAmb IAmb 20 46 04.9
comp=Z,90nm,1.1s
OK052 Battle Ridge R 20.66 354 IAmb IAmb 20 46 04.2
comp=Z,64nm,0.8s
OK033 Mehan 20.73 354 IAmb IAmb 20 46 18.2
comp=Z,56nm,0.9s
LCAR Lake Charles 20.82 7 P P 20 45 58.2 -1.8
LCAR IAmb IAmb 20 46 14.4
comp=Z,56nm,1.5s
HHAR Hobbs 20.84 1 IAmb IAmb 20 46 03.9
comp=Z,31nm,0.5s
X51A Calhoun 20.95 22 P P 20 45 59.8 -1.6
319A Douglas 20.98 322 IAmb IAmb 20 46 05.9
comp=Z,66nm,1.0s
U38A Gravette 20.99 360 IAmb IAmb 20 46 07.3
comp=Z,22nm,0.6s
121A Cookes Peak, D 21.00 327 P P 20 46 03.2 +0.9
baz=141,SNR=67
ELIS Ellis County 21.11 349 P P 20 46 03.3 +0.2
U32A Winter Ranch, 21.34 350 IAmb IAmb 20 46 24.4
comp=Z,42nm,0.8s
WVT Waverly 21.49 15 P P 20 46 05.4 -1.8
WVT Waverly 21.49 15 P P 20 46 06.9 -0.3
baz=197
T35A Sooner Cattle 21.55 355 IAmb IAmb 20 46 23.9
comp=Z,30nm,0.7s
PBMO Poplar Bluff 21.62 9 IAmb IAmb 20 46 11.0
comp=Z,21nm,0.6s
DUN6 Lazy B Ranch 21.73 325 P P 20 46 10.7 +0.8
HODGE Hodges 21.73 28 P P 20 46 07.8 -1.9
HODGE IAmb IAmb 20 46 16.7
comp=Z,94nm,1.7s
OTAV Otavalo 21.75 132 P P 20 46 11.2 +0.6
OTAV Otavalo 21.75 132 eP P 20 46 11.1 +0.6
W52A Murphy 21.77 24 P P 20 46 08.3 -1.9
W52A IAmb IAmb 20 46 19.1
comp=Z,47nm,1.3s
NHSC New Hope 21.85 34 P 20 46 10.9 -0.2
NHSC New Hope 21.85 34 P P 20 46 09.9 -1.2
baz=219
CLTN Cedars of Leba 21.86 18 IAmb IAmb 20 46 18.6
comp=Z,65nm,1.5s
CPCT Cooper Cave 21.86 22 P P 20 46 08.9 -2.3
CPCT IAmb IAmb 20 46 19.4
comp=Z,110nm,1.8s
IMBA Imbabura, San 21.90 132 P P 20 46 12.4 +0.2
BG3 Lake Jocassee 22.08 26 IAmb IAmb 20 46 22.1
comp=Z,56nm,1.1s
V51A Loudon 22.24 22 P P 20 46 12.4 -2.8
V51A IAmb IAmb 20 46 23.9
comp=Z,68nm,1.1s
S39A Bolivar 22.26 2 IAmb IAmb 20 46 18.6
comp=Z,30nm,0.9s
ROSC El Rosal 22.30 116 P P 20 46 18.2 +1.7
ROSC El Rosal 22.30 116 P P 20 46 18.0 +1.4
comp=Z,79nm,0.9s,baz=348,slow=5.2,SNR=31
ANMO Albuquerque 22.33 333 P P 20 46 16.7 +0.3
ANMO Albuquerque 22.33 333 P P 20 46 17.6 +1.2
baz=147
ANMO Albuquerque 22.33 333 P P 20 46 17.0 +0.6
comp=Z,5.0nm,0.7s,baz=233,slow=10,SNR=12
ANMO LR LR 20 56 09.1
comp=Z,205nm,20.4s,baz=238,slow=40
comp=Z,5.0nm,0.7s
TKL Tuckaleechee C 22.33 23 P P 20 46 14.8 -1.4
TKL Tuckaleechee C 22.33 23 P P 20 46 14.6 -1.6
comp=Z,12nm,0.9s,baz=201,slow=6.8,SNR=5.8
TKL S S 20 50 13.2 -5.3
comp=Z,4.0nm,0.8s,baz=184,slow=13,SNR=1.7
TKL LR LR 20 57 21.2
comp=Z,348nm,18.1s,baz=212,slow=43
comp=Z,12nm,0.9s
SDDR Presa de Saban 22.33 77 P P 20 46 14.4 -2.1
SDDR IAmb IAmb 20 46 30.8
comp=Z,41nm,0.7s
SLOR San Lorenzo - 22.40 134 P 20 46 18.4 +0.8
U49A Red Boiling Sp 22.41 18 IAmb IAmb 20 46 24.1
comp=Z,63nm,1.4s
T47A Sharon Grove 22.49 15 IAmb IAmb 20 46 35.0
comp=Z,54nm,1.1s
TUC Tucson 22.54 321 P P 20 46 19.2 +0.6
TUC IAmb IAmb 20 46 36.6
comp=Z,52nm,1.5s
TUC Tucson 22.54 321 P P 20 46 19.9 +1.3
baz=134
S44A Carbondale 22.70 11 P P 20 46 18.0 -2.1
S44A IAmb IAmb 20 46 29.1
comp=Z,38nm,0.9s
V53A Saluda 22.71 25 P P 20 46 19.2 -1.2
V53A IAmb IAmb 20 46 29.9
comp=Z,53nm,0.9s
SIUC Southern Illin 22.73 11 IAmb IAmb 20 46 29.3
comp=Z,35nm,0.8s
CCM Cathedral Cave 22.77 6 P P 20 46 17.9 -3.0
CCM Cathedral Cave 22.77 6 P P 20 46 20.3 -0.6
baz=187
KMSC Kings Mountain 22.91 28 P P 20 46 21.0 -1.3
baz=214

R40A Maddies Statio 22.92 4 IAmb IAmb 20 46 23.4
comp=Z,25nm,0.7s
BIRD Birdtown, Kers 22.92 31 IAmb IAmb 20 46 39.4
comp=Z,78nm,1.4s
T50A Nancy 23.18 20 P P 20 46 22.0 -3.0
T50A IAmb IAmb 20 46 34.5
comp=Z,22nm,0.8s
TZTN Tazewell 23.20 23 P P 20 46 23.5 -1.7
TZTN IAmb IAmb 20 46 43.9
comp=Z,42nm,0.9s
TZTN Tazewell 23.20 23 P P 20 46 24.0 -1.2
baz=207
USIN University of 23.28 13 IAmb IAmb 20 46 27.0
comp=Z,44nm,0.7s
T25A Trinidad 23.46 339 IAmb IAmb 20 46 47.4
comp=Z,40nm,0.9s
T25A Trinidad 23.46 339 P P 20 46 29.7 +1.7
baz=154,SNR=22
V55A Taylorsville 23.55 28 P P 20 46 27.6 -1.0
V55A IAmb IAmb 20 46 41.5
comp=Z,116nm,1.9s
W57A Gilead 23.55 31 P P 20 46 26.9 -1.7
W57A IAmb IAmb 20 46 39.0
comp=Z,53nm,1.0s
214A Organ Pipe Nat 23.57 318 P P 20 46 29.9 +1.1
214A Organ Pipe Nat 23.57 318 P P 20 46 30.2 +1.3
baz=130
X18A Snowflake 23.69 326 IAmb IAmb 20 46 34.2
comp=Z,30nm,1.2s
KSU1 Kansas State U 23.73 356 IAmb IAmb 20 46 32.9
comp=Z,26nm,0.7s
KSU1 Kansas State U 23.73 356 P P 20 46 29.6 -0.7
baz=174
CBKS Cedar Bluff 23.84 350 P P 20 46 30.2 -1.1
baz=166
WCI Wyandotte Cave 23.87 16 P P 20 46 29.5 -2.0
WCI IAmb IAmb 20 46 43.0
comp=Z,30nm,0.8s
WCI Wyandotte Cave 23.87 16 P P 20 46 30.6 -0.9
baz=199
Q44A Meyer Farm, Va 23.92 10 IAmb IAmb 20 46 33.9
comp=Z,34nm,0.8s
OLIL Olney 23.93 12 P P 20 46 29.8 -2.2
OLIL IAmb IAmb 20 46 32.3
comp=Z,45nm,0.8s
W18A Petrified Fore 24.03 328 P P 20 46 33.4 +0.1
baz=140
SDV Santo Domingo 24.06 103 P P 20 46 32.2 -1.6
SDV IAmb IAmb 20 46 36.3
comp=Z,27nm,0.8s
SDV Santo Domingo 24.06 103 LR LR 20 56 29.1
comp=Z,502nm,21.1s,baz=279,slow=38
P38A Dawn 24.18 2 IAmb IAmb 20 46 36.5
comp=Z,27nm,0.8s
U56A King 24.34 28 P P 20 46 34.3 -1.5
U56A IAmb IAmb 20 46 50.9
comp=Z,58nm,1.4s
SDCO Great Sand Dun 24.38 338 P P 20 46 37.7 +1.2
baz=153,SNR=6.5
X16A Lo Mia Camp, P 24.43 324 IAmb IAmb 20 46 41.8
comp=Z,48nm,1.1s
V58A Windy Hill, Pi 24.50 31 P P 20 46 35.8 -1.5
V58A IAmb IAmb 20 46 51.4
comp=Z,50nm,1.4s
BLO Bloomington 24.70 15 P P 20 46 36.8 -2.3
BLO IAmb IAmb 20 46 39.1
comp=Z,39nm,0.7s
113A Mohawk Valley, 24.71 318 IAmb IAmb 20 46 43.9
comp=Z,35nm,1.0s
Y14A Wickenburg 25.01 321 P P 20 46 42.9 +0.9
Y14A IAmb IAmb 20 46 47.1
comp=Z,53nm,1.2s
BLA Blacksburg 25.04 27 P P 20 46 41.0 -1.2
baz=213
MVCO Mesa Verde 25.12 333 P P 20 46 43.7 +0.5
baz=146,SNR=9.6
WUAZ Wupatki 25.20 326 IAmb IAmb 20 46 49.5
comp=Z,41nm,1.1s
WUAZ Wupatki 25.20 326 P P 20 46 44.9 +1.0
baz=138,SNR=17
SSFO Shawnee State 25.24 21 P P 20 46 41.5 -2.5
P48A Milroy 25.26 16 IAmb IAmb 20 46 43.1
comp=Z,43nm,0.8s
Q24A Divide 25.36 340 P P 20 46 45.0 -0.4
baz=154
N38A Joes South For 25.36 2 P P 20 46 44.1 -0.9
N41A Harden Midland 25.44 6 IAmb IAmb 20 46 46.0
comp=Z,37nm,0.9s
Q51A Peeles 25.49 20 IAmb IAmb 20 47 16.2
comp=Z,56nm,1.1s
HDIL Hopedale 25.49 9 IAmb IAmb 20 47 22.5
comp=Z,38nm,0.9s
HDIL Hopedale 25.49 9 P P 20 46 45.5 -0.7
baz=191
P49A Miami Univ. Ec 25.52 18 P P 20 46 43.8 -2.7
P49A IAmb IAmb 20 46 45.4
comp=Z,24nm,1.0s
P49A Miami Univ. Ec 25.52 18 P P 20 46 45.2 -1.3
baz=202
SFIN Lafayette 25.72 13 IAmb IAmb 20 47 08.8
comp=Z,86nm,1.7s
SFIN Lafayette 25.72 13 P P 20 46 46.6 -1.7
baz=196
Q52A Bidwell 25.80 22 IAmb IAmb 20 47 10.8
comp=Z,42nm,1.1s
PDMCI Parker Dam,Lak 25.95 320 P P 20 46 51.6 +1.2
baz=131,SNR=5.8
O48B Farmland 26.07 16 P P 20 46 48.8 -2.6
O48B IAmb IAmb 20 46 51.0
comp=Z,27nm,0.8s
O48B Farmland 26.07 16 P P 20 46 48.9 -2.6
baz=200,SNR=6.7
SWSC Sam W. Stewart 26.16 316 P P 20 46 52.9 +0.5
baz=126
BGNE Belgrade 26.16 354 P P 20 46 51.9 -0.5
baz=171
IKP In-Ko-Pah, Jac 26.20 315 P P 20 46 53.9 +1.1
baz=125,SNR=5.8
O49A Covington 26.24 18 P P 20 46 49.8 -3.2
O49A IAmb IAmb 20 46 52.5
comp=Z,32nm,0.8s
ISCO Idaho Springs 26.26 340 P P 20 46 53.6 0.0
baz=154
OGNE Ogallala 26.35 347 P P 20 46 52.9 -1.2
baz=163
BC3 Big Chuckawall 26.36 317 P P 20 46 55.6 +1.2
baz=128,SNR=14
U15A North Rim 26.38 326 IAmb IAmb 20 47 35.5
comp=Z,76nm,2.0s
CBX Cerro Bola 26.39 314 IAmb IAmb 20 46 58.1
comp=Z,23nm,1.0s
P52A Corning 26.45 22 P P 20 46 53.9 -1.0
baz=207
SCIA State Center 26.47 2 P P 20 46 54.1 -1.0
SCIA State Center 26.47 2 P P 20 46 53.8 -1.3
baz=182
IRM Iron Mountain 26.48 319 P P 20 46 55.0 -0.3
baz=129,SNR=9.8
BAUV El Baul 26.49 101 P P 20 46 54.0 -1.5
BAUV IAmb IAmb 20 47 12.7
comp=Z,21nm,0.7s
N47A Urbana 26.52 15 IAmb IAmb 20 47 17.7
comp=Z,28nm,0.9s
MONP2 Monument Peak 26.55 315 P P 20 46 57.0 +0.8
baz=125
ACSO Alum Creek Sta 26.70 20 P P 20 46 55.6 -1.6
baz=205
HMU Henry Mountain 26.75 330 P P 20 46 58.4 +0.5
HMU IAmb IAmb 20 47 01.4
comp=Z,38nm,1.3s
L42A Oliver, Polo 26.86 8 P P 20 46 57.2 -1.3
BELC Belle Mtn. Jos 26.93 317 P P 20 47 00.4 +0.8
baz=128,SNR=6.3
TPFO Pinon Flats 27.00 316 P P 20 47 01.4 +1.3
baz=126
PFO Pinyon Flats O 27.00 316 P P 20 47 01.3 +1.2
PFO Pinyon Flats O 27.00 316 P P 20 47 01.7 +1.6
baz=126
109C Camp Elliot, M 27.02 314 P P 20 47 01.2 +1.1
baz=124
GMRC Granite Mounta 27.21 319 P P 20 47 04.3 +2.3
baz=129,SNR=9.3
K38A Parkersburg 27.23 3 IAmb IAmb 20 47 01.6
comp=Z,48nm,1.1s
L44A Lake County Fo 27.30 10 P P 20 47 02.2 -0.3
baz=193
O53A New Philadelph 27.32 22 P P 20 47 00.7 -2.1

O53A IAmb IAmb 20 47 47.5
comp=Z,55nm,1.6s
O53A New Philadelph 27.32 22 P P 20 46 59.9 -2.9
baz=208
V12A Nelson 27.33 322 IAmb IAmb 20 47 06.4
comp=Z,19nm,0.9s
MCWV Mont Chateau 27.34 25 P P 20 47 00.8 -2.1
baz=211
N23A Red Feather La 27.36 341 P P 20 47 05.0 +1.6
baz=154
MURC Murrieta 27.49 315 P P 20 47 06.3 +1.9
baz=125
O20A White River Ci 27.50 337 P P 20 47 05.2 +0.7
baz=149
MTPU Mount Pierson 27.54 328 P P 20 47 06.9 +1.8
SZCU Shurtz Canyon 27.67 327 IAmb IAmb 20 47 19.0
comp=Z,16nm,0.4s
HEC Hector,Ludlow 27.67 318 P P 20 47 08.0 +2.0
baz=126,SNR=5.0
JFWS Jewell Farm 27.69 7 P P 20 47 05.3 -0.6
baz=188,SNR=7.0
BBRC Big Bear Solar 27.70 317 P P 20 47 07.9 +1.4
baz=127
CCUT Cedar City 27.78 326 P P 20 47 09.2 +2.0
TUQ Turquoise Moun 27.80 320 P P 20 47 08.7 +1.4
baz=130
L48A N Adams 27.84 16 IAmb IAmb 20 48 09.2
comp=Z,24nm,0.8s
P18A Preston Nutter 27.89 333 P P 20 47 08.6 +0.4
MVU Marysvale 27.91 329 IAmb IAmb 20 47 12.0
comp=Z,58nm,1.6s
SHPR Sheep Range 28.05 323 P P 20 47 09.7 +0.2
TCRU Three Creeks R 28.11 329 IAmb IAmb 20 48 04.1
comp=Z,9.4nm,0.5s
BFSC Mount Baldy Ra 28.18 316 P P 20 47 11.8 +1.2
baz=126
CIS Catalina Islan 28.21 314 P P 20 47 12.3 +1.4
baz=123
ECSD EROS Data Cent 28.34 357 P P 20 47 10.7 -1.2
ECSD IAmb IAmb 20 47 56.1
comp=Z,29nm,1.3s
M53A WI Miller and 28.56 22 P P 20 47 12.4 -1.4
baz=208
I37A Lemond, Waseca 28.57 1 P P 20 47 12.4 -1.5
I37A IAmb IAmb 20 47 15.2
comp=Z,23nm,0.9s
GWY Greenwater Val 28.74 320 P P 20 47 16.4 +0.7
PSUT Pine Spring 28.77 327 P P 20 47 17.2 +1.3
EDW2 Edwards Air Fo 28.78 317 P P 20 47 17.1 +1.2
baz=126
LRMC Laurel Mtn Rad 28.94 318 P P 20 47 19.3 +1.9
baz=127
SSPA Standing Stone 28.98 26 P P 20 47 16.3 -1.2
baz=214
FURC Furnace Creek, 29.04 321 P P 20 47 19.7 +1.6
baz=130
WCT Wildcat Mounta 29.11 321 P P 20 47 20.5 +1.6
K22A Casper 29.14 341 P P 20 47 20.2 +1.1
baz=155
S11A Rachel 29.17 324 IAmb IAmb 20 47 23.6
comp=Z,30nm,1.2s
MPMC Manual Prospec 29.17 319 P P 20 47 20.9 +1.4
baz=128,SNR=11
SCZ2 Santa Cruz Isl 29.39 314 P P 20 47 21.7 +0.4
baz=122
ERPA Erie 29.40 22 P P 20 47 20.7 -0.6
baz=209
PCRV Puerto La Cruz 29.43 97 LR LR 21 00 40.7
comp=Z,224nm,18.1s,slow=40
ARVC Arvin 29.48 316 P P 20 47 23.6 +1.6
baz=125
DUG Dugway, Tooele 29.52 331 P P 20 47 24.3 +1.8
baz=141
ISA Isabella, Lake 29.56 318 P P 20 47 23.8 +1.0
baz=126
R11B Troy Canyon, C 29.57 325 P P 20 47 24.1 +1.0
baz=134,SNR=10.0
TCUT Toone Canyon 29.62 333 IAmb IAmb 20 47 31.1
comp=Z,24nm,0.9s
GRAC Grapevine Rang 29.69 321 IAmb IAmb 20 47 28.0
comp=Z,14nm,0.9s
GRAC Grapevine Rang 29.69 321 P P 20 47 25.4 +1.4
baz=130,SNR=6.8
CWC Cottonwood Cre 29.78 319 P P 20 47 27.1 +2.2
baz=128
SPMN Marine on St. 29.80 2 P P 20 47 23.8 -1.0
SPMN Marine on St. 29.80 2 P P 20 47 24.2 -0.5
baz=183,SNR=16
PKM Mcpherson Peak 30.00 315 P P 20 47 28.4 +1.5
baz=124,SNR=7.0
VES Vestal, Richgr 30.06 317 P P 20 47 29.1 +1.9
baz=126
HWUT Hardware Ranch 30.09 334 P P 20 47 27.9 +0.3
MZP Montezuma Peak 30.16 322 P P 20 47 29.7 +1.3
BW06 Boulder Array 30.27 337 P P 20 47 30.3 +1.1
baz=149
PDAR Pinedale Array 30.27 337 P P 20 47 29.4 +0.2
PDAR Pinedale Array 30.27 337 P P 20 47 30.6 +1.4
comp=Z,2.5nm,0.9s,baz=142,slow=7.9,SNR=15
PDAR PcP PcP 20 50 28.4 -0.5
comp=Z,0.4nm,0.6s,baz=145,slow=4.9,SNR=2.4
comp=Z,2.5nm,0.9s
F36A Milaca 30.41 1 IAmb IAmb 20 47 31.9
comp=Z,22nm,0.9s
F33A 5 Mile Ranch, 30.43 357 P P 20 47 29.2 -1.0
GLMI Grayling 30.51 14 P P 20 47 29.7 -1.3
baz=198
HVU Hansel Valley 30.76 332 IAmb IAmb 20 47 36.7
comp=Z,14nm,0.8s
BINY Binghamton 31.08 27 P P 20 47 35.0 -1.1
baz=216
NV11 Mina Array Sit 31.10 322 IAmb IAmb 20 47 40.6
comp=Z,22nm,1.1s
PAL Palisades 31.11 31 P P 20 47 35.2 -1.2
baz=220
ELK Elko 31.13 328 P P 20 47 38.2 +1.4
ELK IAmb IAmb 20 47 40.4
comp=Z,14nm,0.9s
ELK Elko 31.13 328 LR LR 21 02 20.6
comp=Z,590nm,18.5s,baz=138,slow=40
MDPB Devils Postpil 31.15 320 P P 20 47 38.5 +1.4
MDPB IAmb IAmb 20 47 40.8
comp=Z,12nm,0.9s
NVAR Mina Array Bea 31.19 322 P P 20 47 40.2 +2.8
NVAR Mina Array Bea 31.19 322 P P 20 47 39.6 +2.2
comp=Z,12nm,0.8s,baz=141,slow=9.0,SNR=56
NVAR PcP PcP 20 50 31.0 -0.3
comp=Z,1.9nm,0.9s,baz=144,slow=3.4,SNR=4.4
comp=Z,12nm,0.8s
REDW Red Top Meadow 31.27 336 P P 20 47 39.0 +1.0
TPAW Teton Pass 31.41 337 IAmb IAmb 20 47 43.9
comp=Z,13nm,1.0s
CZSB Cruzeiro do Su 31.41 135 P P 20 47 40.9 +1.6
CZSB IAmb IAmb 20 47 57.0
comp=Z,16nm,0.8s
PMPB Monarch Peak 31.41 316 IAmb IAmb 20 47 42.6
comp=Z,19nm,0.9s
E28A Huff 31.57 352 P P 20 47 40.2 -0.1
BMN Battle Mountai 31.94 326 IAmb IAmb 20 47 47.5
comp=Z,14nm,1.1s
SADO Sadowa 32.02 21 LR LR 21 01 02.7
comp=Z,200nm,20.5s,baz=316,slow=37
H17A Grant Village 32.05 338 IAmb IAmb 20 47 54.4
comp=Z,19nm,1.6s
H17A Grant Village 32.05 338 P P 20 47 45.7 +0.8
baz=149
YERR Yerington 32.11 322 P P 20 47 46.7 +1.3
RLMT Red Lodge 32.23 340 IAmb IAmb 20 48 04.1
comp=Z,21nm,1.4s
RLMT Red Lodge 32.23 340 P P 20 47 47.7 +1.3
baz=152
PNTR Pine Nut 32.39 322 IAmb IAmb 20 47 51.8
comp=Z,15nm,0.9s
EYMN Ely 32.58 4 P P 20 47 47.2 -2.0
EYMN IAmb IAmb 20 47 48.4
comp=Z,14nm,0.6s
EYMN Ely 32.58 4 P P 20 47 48.1 -1.1
baz=185
EMB Emerald Bay 32.62 321 IAmb IAmb 20 47 54.0
comp=Z,23nm,0.9s
PAHR Pah Rah Range 32.66 323 IAmb IAmb 20 47 53.9
comp=Z,43nm,2.0s
MDND Maddock 32.68 353 P P 20 47 50.3 +0.2
baz=170
LAO LASA Array 32.77 345 P P 20 47 50.8 -0.1
baz=158
MPK Martis Peak 32.78 322 IAmb IAmb 20 47 55.4

comp=Z,25nm,1.0s
AGMN Agassiz Nation 32.87 358 P P 20 47 50.9 -0.8
AGMN Agassiz Nation 32.87 358 P P 20 47 51.1 -0.5
baz=177,SNR=23
HLID Hailey 32.91 333 P P 20 47 53.0 +0.7
baz=142,SNR=12
MFID Camas Ranch 33.44 331 P P 20 47 57.4 +0.5
MFID IAmb IAmb 20 48 04.6
comp=Z,24nm,1.9s
BOZ Bozeman (W) 33.46 338 P P 20 47 57.9 +0.8
baz=148
LONY Lake Ozonia 33.64 26 P P 20 47 57.8 -0.6
baz=216
DGMT Dagmar 34.00 348 P P 20 48 01.6 0.0
baz=162
PLID Pearl Lake 34.81 333 P P 20 48 09.6 +0.7
PLID IAmb IAmb 20 48 11.5
comp=Z,16nm,1.0s
ULM Lac du Bonnet 34.82 358 P P 20 48 06.9 -1.7
ULM IAmb IAmb 20 48 10.7
comp=Z,17nm,0.8s
ULM Lac du Bonnet 34.82 358 P P 20 48 07.2 -1.3
comp=Z,14nm,0.7s,baz=178,slow=8.8,SNR=18
comp=Z,14nm,0.7s
TEFE Tefe 34.89 120 *eP* **P 20 48 10.0 +0.4**
EGMT Eagleton 34.97 342 P P 20 48 10.8 +0.8
baz=153
K05A Summer Lake 35.51 325 IAmb IAmb 20 48 20.0
comp=Z,16nm,1.3s
KMRM Mail Ridge 35.59 320 P P 20 48 16.9 +1.5
KMRM IAmb IAmb 20 48 19.0
comp=Z,12nm,0.9s
BOAV Boa Vista 35.75 108 P P 20 48 15.8 -1.3
BOAV IAmb IAmb 20 48 17.3
comp=Z,10nm,0.8s
YBH Yreka Blue Hor 35.90 323 P P 20 48 18.1 0.0
KMPM Mount Pierce 35.96 320 IAmb IAmb 20 48 22.0
comp=Z,12nm,0.8s
L04D Klamath Falls 35.97 324 IAmb IAmb 20 48 21.3
comp=Z,21nm,1.1s
KHMM Horse Mountain 35.99 321 P P 20 48 19.9 +1.0
KHMM IAmb IAmb 20 48 22.1
comp=Z,21nm,1.0s
F10A Beach Ranch, E 36.04 333 IAmb IAmb 20 48 21.5
comp=Z,20nm,1.1s
G08A Pilot Rock 36.33 330 P P 20 48 21.9 +0.1
I05D Terrebonne, OR 36.84 327 IAmb IAmb 20 48 28.8
comp=Z,7.9nm,0.8s
I04A Tendick Farm, 37.05 326 P P 20 48 28.7 +0.8
I04A IAmb IAmb 20 48 30.1
comp=Z,13nm,1.0s
G05A Wamic 37.45 328 IAmb IAmb 20 48 35.0
comp=Z,20nm,1.1s
ETMB Extrema 37.46 130 P P 20 48 31.2 -0.3
BUCK Buck Mountain 37.63 326 P P 20 48 33.7 +0.9
NEW Newport 37.79 335 P P 20 48 34.3 +0.2
baz=142
NEW Newport 37.79 335 LR LR 21 06 51.3
comp=Z,330nm,18.7s,baz=138,slow=40
C09A Chrisman Ranch 37.91 334 IAmb IAmb 20 48 38.1
comp=Z,18nm,1.4s
MACA Manacapuru-AM 38.08 116 P P 20 48 35.9 -1.0
MACA Manacapuru-AM 38.08 116 *eP* **P 20 48 38.2 +1.4**
LTY Liberty 38.58 331 IAmb IAmb 20 49 07.8
comp=Z,22nm,1.4s
LON Longmire 38.76 330 IAmb IAmb 20 48 44.8
comp=Z,9.8nm,0.9s
D05A Enumclaw 39.15 330 IAmb IAmb 20 48 50.1
comp=Z,19nm,1.0s
SAML Samuel 39.22 126 P P 20 48 44.8 -1.6
SAML IAmb IAmb 20 49 02.7
comp=Z,10nm,0.8s
SAML Samuel 39.22 126 P P 20 48 45.1 -1.2
SAML pP **pP 20 48 58.4 -1.4**
E03A Lebam 39.49 328 IAmb IAmb 20 48 51.7
comp=Z,28nm,1.0s
FFC Flin Flon 39.73 353 P P 20 48 50.3 +0.2
FFC IAmb IAmb 20 48 52.7
comp=Z,9.9nm,0.7s
FFC Flin Flon 39.73 353 P P 20 48 50.5 +0.4
FFC pP **pP 20 49 03.5 -0.1**
NLWA Neilton Lookou 40.22 329 P P 20 48 55.6 +1.3
NLWA IAmb IAmb 20 48 57.3
comp=Z,19nm,1.1s
EDM Edmonton 40.64 343 P P 20 48 57.6 -0.2
EDM IAmb IAmb 20 49 14.6
comp=Z,16nm,1.0s
LPAZ La Paz 40.74 139 P P 20 48 60.0 +0.3
comp=Z,0.8nm,0.6s,baz=290,slow=12,SNR=2.0
comp=Z,0.8nm,0.6s
PGC Sidney 40.88 330 P P 20 49 00.1 +0.4
MALB Monte Alegre 43.19 110 *eP* **P 20 49 18.4 -0.6**
FCC Fort Churchill 43.33 0 P P 20 49 19.1 -0.4
FCC IAmb IAmb 20 49 21.9
comp=Z,17nm,0.6s
VILB Vilhena 43.98 128 *eP* **P 20 49 28.0 +2.6**
SCHQ Schefferville 44.79 22 P P 20 49 30.3 -1.1
comp=Z,3.4nm,0.7s,baz=237,slow=5.8,SNR=8.3
SCHQ PcP **PcP 20 51 11.4 -1.2**
comp=Z,2.4nm,0.5s,baz=228,slow=7.0,SNR=1.9
comp=Z,3.4nm,0.7s
SIV San Ignacio 45.29 132 LR LR 21 06 43.2
comp=Z,145nm,18.7s,baz=339,slow=34
PDRB Porto dos Gac 45.90 124 *eP* **P 20 49 41.7 +1.0**
CLDB Colider 46.24 122 *eP* **P 20 49 43.9 +0.6**
PTLB Pontes e Lacer 46.35 130 P P 20 49 43.4 -0.7
PTLB IAmb IAmb 20 50 00.9
comp=Z,9.0nm,0.9s
AC02 Maricunga 48.58 149 P P 20 50 02.8 +0.9
AC02 IAmb IAmb 20 50 18.0
comp=Z,8.7nm,0.8s
YKA Yellowknife Ar 49.20 348 P P 20 50 06.0 +0.4
YKA Yellowknife Ar 49.20 348 P P 20 50 06.2 +0.6
comp=Z,3.8nm,0.6s,baz=155,slow=7.0,SNR=28
comp=Z,3.8nm,0.6s
T35M Bob Quinn 49.59 335 P P 20 50 09.2 +0.4
baz=132
KOTAN Kotaneelee Air 49.66 341 P P 20 50 10.4 +1.3
baz=141
LCO Las Campanas 49.69 153 P P 20 50 11.7 +1.7
LCO pP **pP 20 50 25.0 +1.2**
CRAG Craig 49.85 332 P P 20 50 11.8 +1.1
baz=128
DLBC Dease Lake 50.49 337 IAmb IAmb 20 50 34.3
comp=Z,21nm,1.4s
DLBC Dease Lake 50.49 337 P P 20 50 17.1 +1.5
baz=133,SNR=5.9
SNDB Serra Nova Dou 50.55 120 *eP* **P 20 50 16.2 -0.4**
S34M Telegraph Cree 50.57 336 IAmb IAmb 20 50 19.8
comp=Z,9.4nm,1.1s
S34M Telegraph Cree 50.57 336 P P 20 50 17.3 +1.3
baz=131
WTLY Watson Lake, Y 51.22 339 P P 20 50 21.9 +1.0
WTLY IAmb IAmb 20 50 25.6
comp=Z,10nm,1.0s
WTLY Watson Lake, Y 51.22 339 P P 20 50 21.6 +0.7
baz=135,SNR=7.0
BDQN Bodoquena, MS 51.30 133 *eP* **P 20 50 24.9 +2.9**
R33M Jennings River 51.51 337 IAmb IAmb 20 50 56.7
comp=Z,15nm,1.4s
R33M Jennings River 51.51 337 P P 20 50 23.5 +0.2
baz=132
Q32M Nakina River 51.72 336 IAmb IAmb 20 50 28.6
comp=Z,10nm,1.1s
Q32M Nakina River 51.72 336 P P 20 50 24.6 -0.3
baz=131
SIT Sitka 51.79 333 P P 20 50 25.7 +0.5
baz=126
TGTN Hyland Airport 52.07 340 P P 20 50 27.7 +0.4
baz=137,SNR=6.1
SMTB Santa Maria do 52.22 114 *eP* **P 20 50 29.0 0.0**
P32M Atlin 52.69 336 P P 20 50 32.3 +0.4
P32M IAmb IAmb 20 50 49.6
comp=Z,6.7nm,0.9s
P32M Atlin 52.69 336 P P 20 50 32.0 +0.1
baz=129
P33M Teslin, Yukon 52.75 337 IAmb IAmb 20 50 56.5
comp=Z,18nm,1.4s
P33M Teslin, Yukon 52.75 337 P P 20 50 31.7 -0.7
baz=131
ANTJ Antonio Joao (52.84 134 *eP* **P 20 50 35.0 +1.4**
SKAG Skagway 53.25 335 P P 20 50 35.9 0.0
baz=128
PLBC Pleasant Camp 53.67 335 P P 20 50 40.1 +1.1
baz=126
WHY Whitehorse 53.82 337 P P 20 50 40.4 +0.1
baz=129
MMPY Sheldon Lake, 53.84 340 IAmb IAmb 20 50 58.3
comp=Z,7.5nm,1.0s
MMPY Sheldon Lake, 53.84 340 P P 20 50 41.8 +1.5
baz=134,SNR=5.7
P30M Million Dollar 54.31 335 P P 20 50 43.9 +0.1
baz=126
P29M Windy Craggy 54.34 335 P P 20 50 44.3 +0.4
baz=125
O30N Mendenhall 54.36 336 P P 20 50 45.5 +1.3
baz=128
M31M Drury Creek, Y 54.63 338 P P 20 50 46.6 +0.5
baz=130
CPUP Villa Florida 54.90 139 P P 20 50 47.5 -0.9
comp=Z,1.4nm,0.6s,baz=50,slow=14,SNR=2.5
comp=Z,1.4nm,0.6s
HYT Haines Junctio 54.94 336 P P 20 50 49.6 +1.1
baz=126
O29M Mount Kennedy 55.07 335 P P 20 50 50.2 +0.8
baz=124
BDFB Brasilia 55.18 122 P P 20 50 50.5 -0.3
BDFB Brasilia 55.18 122 P P 20 50 50.6 -0.1
comp=Z,14nm,0.6s,baz=294,slow=10.0,SNR=16
BDFB LR LR 21 15 03.6
comp=Z,106nm,19.8s,baz=303,slow=37
comp=Z,14nm,0.6s
YUK6 Outpost Mounta 55.35 336 P P 20 50 52.1 +0.5
baz=125
PINM Pinnacle 55.65 334 P P 20 50 53.8 +0.3
baz=123
YUK4 Talbot Arm 55.70 336 P P 20 50 55.1 +1.1
baz=125
M30M Minto, Yukon 55.74 338 IAmb IAmb 20 51 28.8
comp=Z,25nm,1.8s
M30M Minto, Yukon 55.74 338 P P 20 50 54.9 +0.8
baz=128
YUK8 Steele Glacier 56.11 336 P P 20 50 56.8 -0.2
baz=124
SDBA SAO DESIDERIO 56.19 117 *eP* **P 20 50 58.0 0.0**
IPMB Ipameri, GO 56.27 124 *eP* **P 20 51 00.9 +2.4**
M29M Somme Creek 56.27 337 IAmb IAmb 20 51 15.6
comp=Z,12nm,0.9s
M29M Somme Creek 56.27 337 P P 20 50 59.6 +1.7
baz=126,SNR=14
L29M L29M 56.55 338 IAmb IAmb 20 51 44.8
comp=Z,6.3nm,0.8s
L29M L29M 56.55 338 P P 20 51 00.5 +0.7
baz=127
CTG Chitna Glacier 56.57 335 P P 20 51 00.6 +0.4
baz=122
GRNC Granite Creek 56.62 334 IAmb IAmb 20 51 03.7
comp=Z,8.6nm,0.9s
YUK3 Moose Creek 56.66 336 P P 20 51 02.4 +1.6
baz=123
BARN Barnard Glacie 56.75 335 IAmb IAmb 20 51 18.1
comp=Z,6.5nm,0.6s
K29M Barlow Dome 56.78 339 IAmb IAmb 20 51 21.3
comp=Z,14nm,1.7s
K29M Barlow Dome 56.78 339 P P 20 51 02.9 +1.4
baz=128
NUUK Nuuk 56.81 21 *i* **P P 20 51 01.4 -0.1**
NUUK IAmb IAmb 20 51 03.0
comp=Z,24nm,0.9s
J30M Hart River 56.83 340 P P 20 51 03.5 +1.6
baz=129
BGLC Bering Glacier 56.96 333 P P 20 51 04.5 +1.8
baz=120
BVCY Beaver Creek 57.17 336 P P 20 51 05.8 +1.6
baz=123
CRQE Cirque 57.19 334 P P 20 51 05.2 +0.7
baz=120
LDASE Londrina, Braz 57.20 132 *eP* **P 20 51 08.2 +3.2**
I30M Mount Dempster 57.26 340 P P 20 51 05.7 +0.8
baz=130
MCARA McCarthy VSAT 57.49 335 P P 20 51 08.2 +1.7
baz=120,SNR=5.5
NRS Narsarsuaq 57.49 26 *i* **P P 20 51 04.0 -2.4**
NRS IAmb IAmb 20 51 06.5
comp=Z,13nm,0.6s
M27K Edge Creek, AK 57.54 336 P P 20 51 07.8 +0.9
baz=122
DAWY Dawson 57.57 338 P P 20 51 08.5 +1.5
baz=126
BB19B Bebedouro 57.74 128 *eP* **P 20 51 11.7 +2.8**
G31M Satah River 57.75 343 IAmb IAmb 20 51 24.1
comp=Z,12nm,0.9s
G31M Satah River 57.75 343 P P 20 51 09.0 +0.9
baz=133,SNR=6.4
GLB Gilahina Butte 57.84 334 P P 20 51 10.5 +1.5
GLB IAmb IAmb 20 51 11.9
comp=Z,11nm,1.0s
BCAR Beaver Creek A 57.89 337 P P 20 51 10.2 +0.9
L27K Beaver Creek, 57.90 337 IAmb IAmb 20 51 29.3
comp=Z,20nm,1.8s
L27K Beaver Creek, 57.90 337 P P 20 51 10.3 +1.0
baz=123
BMRM Bremner River 57.94 334 P P 20 51 11.5 +1.8
baz=119
F31M Tsiigehtchic 57.96 343 IAmb IAmb 20 51 25.4
comp=Z,5.5nm,0.8s
F31M Tsiigehtchic 57.96 343 P P 20 51 10.1 +0.5
baz=134
JANB Jaiaria 57.96 119 *eP* **P 20 51 12.7 +2.2**
M26K Nabesna, AK 58.00 336 IAmb IAmb 20 51 13.4
comp=Z,6.7nm,1.1s
M26K Nabesna, AK 58.00 336 P P 20 51 11.9 +1.8
baz=121
EPYK Eagle Plains 58.11 341 P P 20 51 11.4 +0.7
baz=130
EYAK Cordova Ski Ar 58.24 333 P P 20 51 13.0 +1.3
baz=117
N25K Chitina, Valde 58.25 334 IAmb IAmb 20 51 17.2
comp=Z,6.4nm,0.8s
N25K Chitina, Valde 58.25 334 P P 20 51 14.3 +2.4
baz=119,SNR=5.2
FRTB Fartura 58.30 130 *eP* **P 20 51 16.6 +3.9**
G30M tAoh Zraii Nji 58.36 342 P P 20 51 14.0 +1.5
baz=131
L26K Log Cabin Wild 58.47 336 IAmb IAmb 20 51 16.5
comp=Z,6.7nm,1.0s
L26K Log Cabin Wild 58.47 336 P P 20 51 14.7 +1.4
baz=121
INK Inuvik 58.50 344 P P 20 51 13.3 0.0
INK Inuvik 58.50 344 P P 20 51 14.8 +1.4
baz=134,SNR=9.7
K27K Chicken 58.52 338 IAmb IAmb 20 51 21.2
comp=Z,4.2nm,0.8s
K27K Chicken 58.52 338 P P 20 51 15.1 +1.5
baz=123
H29M Whitestone 58.53 341 P P 20 51 14.4 +0.8
H29M IAmb IAmb 20 51 33.8
comp=Z,7.4nm,1.1s
H29M Whitestone 58.53 341 P P 20 51 14.9 +1.3
baz=128
I28M Miner Creek 58.58 340 P P 20 51 14.5 +0.4
baz=126
EGAK Eagle 58.61 339 P P 20 51 15.2 +1.0
baz=124
F30M Barrier River 58.65 343 P P 20 51 14.1 -0.4
baz=131
P23K Montague Islan 58.73 332 P P 20 51 16.1 +1.0
baz=115
KLU Klutina 58.76 334 IAmb IAmb 20 51 20.4
comp=Z,10nm,1.0s
KLU Klutina 58.76 334 P P 20 51 16.7 +1.3
baz=118,SNR=5.9
HARP HAARP 58.87 335 P P 20 51 17.0 +0.9
baz=119
M24K Tolsona, Glenn 59.15 334 P P 20 51 18.9 +0.8
baz=118
SCRK Sand Creek 59.21 337 IAmb IAmb 20 51 41.9
comp=Z,24nm,2.0s
SCRK Sand Creek 59.21 337 P P 20 51 20.2 +1.6
baz=121
I27K Kandik River 59.24 339 P P 20 51 20.3 +1.7
baz=124
PAX Paxson 59.28 336 P P 20 51 20.2 +1.2
baz=119,SNR=5.0
RCLB Rio Claro- Sao 59.28 128 *eP* **P 20 51 23.3 +3.8**
J26L Joseph Creek 59.33 338 IAmb IAmb 20 51 24.5
comp=Z,13nm,1.4s
J26L Joseph Creek 59.33 338 P P 20 51 20.5 +1.2
baz=122
RES Resolute Bay 59.33 360 P P 20 51 18.4 -0.6
RES IAmb IAmb 20 51 22.3
comp=Z,4.9nm,0.8s
A36M Sachs Harbour 59.48 349 P P 20 51 20.9 +0.8
baz=145
SCM Sheep Creek Mo 59.51 334 P P 20 51 22.4 +1.9
baz=116
H27K Steamboat Moun 59.57 340 P P 20 51 21.8 +0.9
baz=125,SNR=10.0
I26K Coal Creek Min 59.61 339 P P 20 51 22.1 +1.0
baz=122
M23K Glacier View 59.66 334 P P 20 51 23.3 +1.7
baz=116
E29M Blow River 59.76 343 IAmb IAmb 20 51 39.0
comp=Z,5.0nm,0.8s
E29M Blow River 59.76 343 P P 20 51 23.0 +0.9
baz=129
K24K Donnelly Dome 59.81 336 P P 20 51 24.2 +1.7
baz=119,SNR=5.7
KNK Knik Glacier 59.81 333 P P 20 51 23.7 +1.1
baz=115
F28M Old Crow 59.86 342 IAmb IAmb 20 51 30.6
comp=Z,7.3nm,0.7s
F28M Old Crow 59.86 342 P P 20 51 23.9 +1.0
baz=127,SNR=16
SML Sawmill 59.92 334 P P 20 51 23.9 +0.5
baz=115
DY2G Dye2 60.02 20 *i* **P P 20 51 22.6 -1.6**
DY2G IAmb IAmb 20 51 24.5
comp=Z,9.2nm,0.7s
SPB Sao Paulo 60.02 129 P 20 51 25.9 +1.3
PLCA Paso Flores 60.03 159 P P 20 51 25.1 +0.7
PLCA IAmb IAmb 20 51 44.8
comp=Z,7.9nm,1.1s
PLCA Paso Flores 60.03 159 P P 20 51 24.5 +0.2
comp=Z,4.3nm,1.0s,baz=348,slow=8.6,SNR=6.7
comp=Z,4.3nm,1.0s
PLCA Paso Flores 60.03 159 P P 20 51 24.9 +0.5
PLCA pP **pP 20 51 38.6 0.0**
J25K Salcha River, 60.05 337 P P 20 51 24.5 +0.2
baz=120
DHY Denali Highway 60.09 335 P P 20 51 25.5 +0.8
baz=117
BRSE Bradley Lake S 60.16 331 P P 20 51 25.8 +0.7
baz=112
PMR Palmer 60.18 333 P P 20 51 25.8 +0.8
PMR IAmb IAmb 20 51 44.3
comp=Z,16nm,1.3s
PMR Palmer 60.18 333 P P 20 51 25.1 +0.1
baz=114
RC01 Rabbit Creek A 60.23 333 IAmb IAmb 20 51 27.5
comp=Z,11nm,0.9s
RC01 Rabbit Creek A 60.23 333 P P 20 51 26.1 +0.6
baz=114
KDAK Kodiak Island 60.37 328 P P 20 51 27.3 +0.9
baz=109
WAT1 Susitna Watana 60.46 335 P P 20 51 27.9 +0.9
baz=116
OHAK Old Harbor 60.54 328 P P 20 51 27.6 -0.1
baz=108
HDA Harding Lake 60.55 337 P P 20 51 28.2 +0.6
baz=118
PRP Porcupine Dome 60.57 338 P P 20 51 28.5 +0.6
PRP IAmb IAmb 20 51 45.0
comp=Z,6.9nm,0.8s
PRP Porcupine Dome 60.57 338 P P 20 51 27.9 0.0
baz=120,SNR=6.6
D28M Stokes Point 60.60 343 P P 20 51 27.9 +0.1
baz=129
M22K Willow 60.67 333 P P 20 51 28.6 +0.2
baz=114
IL31 60.70 337 IAmb IAmb 20 51 30.4
comp=Z,7.8nm,0.9s
ILAR Eielson Array 60.70 337 P P 20 51 28.7 +0.1
comp=Z,5.4nm,1.0s,baz=138,slow=4.4,SNR=28
comp=Z,5.4nm,1.0s
G26K Porcupine Rive 60.72 340 P P 20 51 29.2 +0.5
baz=122
CAPN Captain Cook N 60.74 332 P P 20 51 29.1 +0.2
baz=112
SII Sitkinak Islan 60.81 327 P P 20 51 30.2 +0.7
baz=107
SUA Susitna One 60.83 333 P P 20 51 30.5 +0.8
baz=113,SNR=7.2
CCB Clear Creek Bu 60.99 337 P P 20 51 30.4 -0.1
CCB IAmb IAmb 20 52 05.0
comp=Z,24nm,2.0s
CUT Chulitna 61.00 334 P P 20 51 31.5 +0.8
baz=114
MCK McKinley 61.02 336 P P 20 51 31.3 +0.5
baz=116
H25L Birch Creek 61.05 339 P P 20 51 31.8 +0.9
baz=120
POKR Poker Plat Res 61.07 337 IAmb IAmb 20 51 33.6
comp=Z,11nm,1.3s
POKR Poker Plat Res 61.07 337 P P 20 51 31.7 +0.6
baz=118
COLA College 61.11 337 P P 20 51 32.4 +1.1
baz=117
COLA College 61.11 337 P P 20 51 32.0 +0.6
COLA pP **pP 20 51 46.3 +0.7**
O20K Slope Mountain 61.17 331 P P 20 51 33.1 +1.1
baz=110
BMAR Burnt Mountain 61.24 340 P P 20 51 32.7 +0.4
F26K Sheenjek River 61.24 341 P P 20 51 33.6 +1.3
baz=122
NUUG Nuugaatsiaq 61.26 14 *i* **P P 20 51 31.3 -0.9**
NUUG IAmb IAmb 20 51 33.4
comp=Z,9.1nm,0.9s
Q19K Cape Douglas, 61.27 329 P P 20 51 34.1 +1.5
baz=109
SKT Skwentna 61.38 333 P P 20 51 33.9 +0.6
SKT IAmb IAmb 20 51 37.4
comp=Z,8.3nm,0.7s
SKT Skwentna 61.38 333 P P 20 51 34.4 +1.1
baz=112,SNR=7.1
N20K Mount Spurr 61.38 332 P P 20 51 34.1 +0.7
baz=111
G25K Bearman Lake 61.40 339 P P 20 51 34.2 +0.9
baz=120
TRF Thorofare Moun 61.44 335 P P 20 51 34.3 +0.5
baz=114,SNR=7.1
NEA2 Nenana 61.45 336 P P 20 51 33.9 +0.2
baz=116
UPNV Upernavik 61.51 12 *i* **P P 20 51 32.5 -1.4**
UPNV IAmb IAmb 20 51 34.8
comp=Z,8.3nm,0.8s
H24K Noodor Dome 61.57 338 P P 20 51 35.7 +1.1
baz=118
RCBR Riachuelo 61.61 105 P P 20 51 35.0 -0.6
RCBR Riachuelo 61.61 105 P P 20 51 35.2 -0.5
RCBR pP **pP 20 51 50.0 +0.1**
F25K Christian River 61.67 340 P P 20 51 36.6 +1.4
baz=121
I23K Minto, Yukon-K 61.81 337 IAmb IAmb 20 51 40.2
comp=Z,9.7nm,0.8s
I23K Minto, Yukon-K 61.81 337 P P 20 51 37.2 +1.2
baz=116,SNR=9.9
G24K Hadweenzic Riv 61.84 339 IAmb IAmb 20 51 53.4
comp=Z,8.7nm,1.1s
G24K Hadweenzic Riv 61.84 339 P P 20 51 37.0 +0.7
baz=119
E25K Arctic Village 61.93 341 IAmb IAmb 20 51 41.9
comp=Z,10nm,1.4s
E25K Arctic Village 61.93 341 P P 20 51 38.1 +1.2
baz=121
BPAW Bear Paw Mtn. 61.99 335 P P 20 51 37.6 +0.2
BPAW IAmb IAmb 20 52 22.3
comp=Z,7.0nm,1.0s
BPAW Bear Paw Mtn. 61.99 335 P P 20 51 37.3 -0.1
baz=114,SNR=5.9
O19K Port Alsworth 62.01 331 P P 20 51 37.3 -0.1
baz=109
PPLA Purkeypile 62.01 334 P P 20 51 37.1 -0.5
baz=112
M20K Styx River 62.04 333 IAmb IAmb 20 51 53.7
comp=Z,8.4nm,0.8s
M20K Styx River 62.04 333 P P 20 51 38.5 +0.7
baz=111
ISOG Isortoq, Green 62.13 23 *i* **P P 20 51 36.7 -1.5**
ISOG IAmb IAmb 20 51 38.2
comp=Z,26nm,0.5s
CAST Castle Rocks 62.17 335 P P 20 51 38.2 -0.4
baz=112,SNR=8.2
Q17K Contact Creek 62.19 328 P P 20 51 39.1 +0.2
baz=106
P18K Big Mountain, 62.19 330 P P 20 51 40.1 +1.3
baz=107
MLY Manley 62.28 336 IAmb IAmb 20 51 43.2
comp=Z,9.8nm,0.8s
MLY Manley 62.28 336 P P 20 51 40.3 +0.9
baz=114,SNR=13

N19K Bonanza Creek 62.29 331 P P 20 51 39.3 -0.2
baz=109
O18K Koktuh Hills 62.33 330 P P 20 51 39.8 +0.1
baz=108
SJMB Sao Joao De Ma 62.35 121 *e*P P 20 51 43.3 +2.9
NBCA Caruaru-PE 62.38 108 *e*P P 20 51 41.9 +1.1
F24K Squaw Lake 62.38 340 P P 20 51 40.7 +0.7
baz=119
CHUM Lake Minchumin 62.44 335 P P 20 51 40.5 +0.1
baz=112
GUA01 Guaratinga, BA 62.50 118 *e*P P 20 51 44.1 +2.7
L20K Farewell, AK 62.58 333 P P 20 51 42.2 +0.9
baz=110
M19K Big River Lodg 62.61 332 P P 20 51 42.3 +0.8
baz=109
KULLO Kullorsuaq 62.65 10 *i* P P 20 51 40.8 -0.7
KULLO IAmb IAmb 20 51 42.9
comp=Z,8.3nm,0.9s
ANGG Ammassalik, Gr 62.66 23 *i* P P 20 51 40.1 -1.6
ANGG IAmb IAmb 20 51 41.6
comp=Z,23nm,0.6s
Q16K King Salmon 62.69 329 P P 20 51 43.4 +1.4
baz=106
C26K Camden Bay 62.69 343 P P 20 51 42.9 +1.0
baz=123
P17K Kvichak River 62.73 329 P P 20 51 42.0 -0.3
baz=106
G23K Bananza Creek 62.75 338 IAmb IAmb 20 51 59.8
comp=Z,11nm,1.2s
G23K Bananza Creek 62.75 338 P P 20 51 43.3 +0.9
baz=116
D25K Kavik River 62.81 342 P P 20 51 42.7 -0.1
D25K IAmb IAmb 20 51 59.4
comp=Z,7.1nm,0.8s
D25K Kavik River 62.81 342 P P 20 51 43.4 +0.6
baz=121
I21K Tanana 62.83 336 IAmb IAmb 20 52 19.6
comp=Z,9.5nm,1.2s
I21K Tanana 62.83 336 P P 20 51 42.2 -0.7
baz=113
H22K Ishtalitna Cre 62.89 337 P P 20 51 44.0 +0.7
baz=114,SNR=5.3
N18K Kilae Creek 62.90 331 P P 20 51 43.7 +0.2
baz=107
L19K White Mountain 62.91 333 P P 20 51 44.2 +0.6
baz=109
K20K Telida 62.98 334 IAmb IAmb 20 51 44.9
comp=Z,8.7nm,0.9s
K20K Telida 62.98 334 P P 20 51 44.6 +0.6
baz=110
CHGN Chignik 63.01 326 P P 20 51 44.7 +0.5
baz=103
COLD Coldfoot 63.04 339 P P 20 51 44.4 +0.1
baz=116
M18K Stony River 63.12 332 P P 20 51 45.4 +0.5
baz=108
O17K Koliganek Bris 63.21 330 P P 20 51 45.7 +0.2
baz=106
E23K Chandalar 63.22 340 P P 20 51 47.0 +1.5
baz=117
RIB01 Linhares ES 63.30 121 *e*P P 20 51 49.0 +2.3
J20K Nowinta River 63.30 335 IAmb IAmb 20 51 47.4
comp=Z,8.3nm,1.1s
J20K Nowinta River 63.30 335 P P 20 51 46.7 +0.7
baz=111
H21K Melozitna Rive 63.33 337 pP pP 20 52 01.2 +0.7
H21K Melozitna Rive 63.33 337 P P 20 51 46.7 +0.5
baz=113
CHNA Chernabura Isl 63.35 324 P P 20 51 47.7 +1.2
baz=101
G22K Bettles 63.37 338 P P 20 51 47.2 +0.7
baz=115
D24K Happy Valley 63.48 341 P P 20 51 48.0 +0.9
baz=118
ICESG Greenland Ices 63.53 19 *i* P P 20 51 46.2 -1.7
ICESG IAmb IAmb 20 51 48.9
comp=Z,16nm,0.9s
O16K Kokwok River B 63.65 329 P P 20 51 49.0 +0.5
baz=105
I20K Naaghedeneel 63.66 336 P P 20 51 48.9 +0.6
baz=111
TTA Tatalina 63.66 333 P P 20 51 48.2 -0.3
TTA IAmb IAmb 20 51 49.5
comp=Z,7.2nm,1.0s
TTA Tatalina 63.66 333 P P 20 51 48.5 -0.1
baz=108
ALF01 Guarapari-ES 63.66 123 *e*P P 20 51 51.7 +2.6
C24K Franklin Bluff 63.72 342 P P 20 51 49.8 +1.1
baz=119
L18K Granite Mounta 63.74 332 P P 20 51 50.1 +1.1
baz=107
M17K Holitna River 63.84 331 P P 20 51 50.3 +0.7
baz=106
J19K Poorman 63.85 334 IAmb IAmb 20 51 50.8
comp=Z,15nm,0.9s
J19K Poorman 63.85 334 P P 20 51 49.1 -0.6
baz=109
G21K Allakaket 63.93 337 IAmb IAmb 20 51 51.9
comp=Z,9.3nm,1.1s
G21K Allakaket 63.93 337 P P 20 51 51.3 +1.2
baz=112
D23K Nanushuk River 63.98 340 P P 20 51 50.7 +0.2
baz=116
H20K Anotleneega Mo 64.07 336 P P 20 51 51.7 +0.6
baz=111
J18K Innoko River 64.14 334 P P 20 51 52.7 +1.1
baz=108
F21K Alatna River 64.20 338 P P 20 51 53.0 +1.0
baz=113
N16K Nishlik Lake 64.21 330 P P 20 51 52.7 +0.6
baz=105
C23K Itkillik River 64.36 341 P P 20 51 54.0 +1.1
C23K IAmb IAmb 20 52 20.8
comp=Z,22nm,1.2s
C23K Itkillik River 64.36 341 P P 20 51 54.0 +1.1
baz=117
O15K Ungalikthiuk R 64.41 329 P P 20 51 54.7 +1.3
baz=103
L17K Donlin 64.44 332 P P 20 51 54.0 +0.5
baz=106
D22K Ayikyak River 64.60 340 IAmb IAmb 20 52 11.8
comp=Z,11nm,0.9s
D22K Ayikyak River 64.60 340 P P 20 51 56.0 +1.4
baz=114
K17K Iditarod 64.60 333 P P 20 51 55.4 +0.8
baz=106
H19K Roundabout Mou 64.69 336 pP 20 52 10.1 +0.6
H19K IAmb IAmb 20 52 11.9
comp=Z,9.3nm,0.9s
H19K Roundabout Mou 64.69 336 P P 20 51 55.2 +0.1
baz=109
EUNU Eureka 64.83 2 P P 20 51 55.7 -0.2
L16K Owhat River 64.86 331 P P 20 51 57.3 +1.0
baz=104
F20K Avaraart Lake 64.95 338 IAmb IAmb 20 52 13.8
comp=Z,7.6nm,0.8s
F20K Avaraart Lake 64.95 338 P P 20 51 57.7 +1.0
baz=110
G19K Purcell Mounta 65.15 337 IAmb IAmb 20 51 59.7
comp=Z,7.8nm,1.1s
G19K Purcell Mounta 65.15 337 P P 20 51 58.7 +0.6
baz=109
H18K Honhosa River 65.34 335 P P 20 52 00.6 +1.2
baz=107
C21K Knifeblade Rid 65.40 340 P P 20 52 00.8 +1.1
baz=112
B22K Teshekpuk Lake 65.44 341 IAmb IAmb 20 52 16.7
comp=Z,13nm,0.9s
B22K Teshekpuk Lake 65.44 341 P P 20 52 01.1 +1.1
baz=114
B21K Ikpikpuk River 65.53 340 P P 20 52 01.5 +1.0
baz=113
FALS False Pass 65.53 324 P P 20 52 00.9 +0.2
baz=98
E20K Nigu River 65.54 339 P P 20 52 02.1 +1.4
baz=111
SUMG Summit 65.55 16 P P 20 51 59.9 -1.2
SUMG Summit 65.55 16 *i* P P 20 52 01.0 -0.1
SUMG IAmb IAmb 20 52 03.0
comp=Z,5.6nm,0.6s
F19K Shaleruckik Mo 65.63 337 P P 20 52 01.1 -0.1
F19K Shaleruckik Mo 65.63 337 P P 20 52 01.9 +0.7
baz=108
E19K Redstone River 65.64 338 P P 20 52 02.4 +1.1
baz=109
G18K Tagagawik 65.68 336 IAmb IAmb 20 52 30.8
comp=Z,8.9nm,1.2s

G18K Tagagawik 65.68 336 P P 20 52 02.5 +0.9
baz=107
J16K Anvik River 65.76 333 P P 20 52 03.0 +0.9
baz=104
NEEM North Greenlan 65.77 9 *i* P P 20 52 02.0 -0.3
NEEM IAmb IAmb 20 52 03.7
comp=Z,9.4nm,0.7s
L15K Ungalak Mounta 65.78 331 P P 20 52 02.8 +0.6
baz=103
M14K Bethel 65.80 330 P P 20 52 02.2 -0.2
baz=102
D20K Etivluk River 65.85 339 P P 20 52 03.6 +1.0
baz=110
H17K Granite Mounta 65.91 335 IAmb IAmb 20 52 05.4
comp=Z,13nm,1.2s
H17K pP 20 52 19.8 +2.4
H17K Granite Mounta 65.91 335 P P 20 52 04.3 +1.3
baz=106
SOEG Soedalen 65.93 21 *i* P P 20 52 02.3 -0.8
SOEG IAmb IAmb 20 52 06.0
comp=Z,9.6nm,0.8s
K15K Wolf Creek Mou 65.94 332 P P 20 52 04.5 +1.2
baz=103
A22K Sinclair Lake 66.19 342 P P 20 52 04.8 +0.1
baz=113,SNR=7.5
L14K Kuka Creek 66.27 331 P P 20 52 06.6 +1.2
baz=101
F18K Selawik 66.27 337 P P 20 52 05.4 +0.1
baz=106
D19K Kuna River 66.30 339 pP 20 52 19.4 -0.5
D19K IAmb IAmb 20 52 22.3
comp=Z,11nm,1.0s
D19K Kuna River 66.30 339 P P 20 52 06.5 +0.9
baz=109
G17K Kiwalik Mounta 66.36 335 P P 20 52 07.1 +1.2
baz=105
M13K Dall Lake 66.41 330 P P 20 52 07.6 +1.3
baz=100
H16K Elim 66.79 334 P P 20 52 10.2 +1.5
baz=103
A21K Barrow 66.80 342 P P 20 52 09.5 +0.9
baz=111
F17K Baldwin Pennin 66.84 336 P P 20 52 10.2 +1.2
baz=105
E18K Tukpahlearik C 66.86 337 IAmb IAmb 20 52 25.7
comp=Z,6.9nm,0.9s
E18K Tukpahlearik C 66.86 337 P P 20 52 09.9 +0.8
baz=106
J14K Nanvaranak Lak 66.95 332 P P 20 52 10.9 +1.1
baz=101
C19K Lookout Ridge 67.00 339 IAmb IAmb 20 52 14.6
comp=Z,9.8nm,1.1s
C19K Lookout Ridge 67.00 339 P P 20 52 11.2 +1.1
baz=108
G16K Koyuk River 67.02 335 pP pP 20 52 26.3 +1.8
G16K IAmb IAmb 20 52 27.3
comp=Z,7.2nm,0.8s
G16K Koyuk River 67.02 335 P P 20 52 11.3 +1.2
baz=103
UNV Unalaska Valle 67.21 322 P P 20 52 12.1 +0.6
baz=95
C18K Utukok River 67.42 339 pP pP 20 52 27.7 +0.6
C18K Utukok River 67.42 339 P P 20 52 13.2 +0.5
baz=106
G15K Niukluk 67.62 334 P P 20 52 14.1 +0.2
baz=102
M11K Mekoryuk 67.80 329 P P 20 52 15.8 +0.7
baz=98
B18K Kokolik River 67.83 339 P P 20 52 16.1 +0.9
baz=106
D17K Noatak River 67.86 337 P P 20 52 16.2 +0.8
baz=104
F15K North Star Dit 68.02 335 pP 20 52 32.5 +1.6
F15K IAmb IAmb 20 52 33.8
comp=Z,9.2nm,0.8s
F15K North Star Dit 68.02 335 P P 20 52 17.7 +1.3
baz=101
C17K DeLong Mountai 68.08 338 P P 20 52 17.8 +1.0
baz=104
ANM Nome 68.10 334 P P 20 52 18.6 +1.6
baz=100
NIKH Nikolski High 68.55 321 P P 20 52 21.1 +1.1
baz=92
F14K Arctic Creek 68.66 335 P P 20 52 22.2 +1.7
baz=100
C16K Lisburne Hills 68.82 338 P P 20 52 22.5 +1.1
baz=102
P08K Saint George I 69.16 325 P P 20 52 24.6 +0.9
baz=93
TNA Tin City 69.33 335 P P 20 52 26.2 +1.6
baz=98
SPIA Saint Paul Isl 69.58 326 P P 20 52 26.9 +0.6
baz=93
NOR Nord 73.10 9 *i* P P 20 52 45.7 -1.4
NOR IAmb IAmb 20 52 50.3
comp=Z,4.4nm,0.7s
KPL Plockton 76.53 34 *e*P P 20 53 06.6 -0.7
PGBU Glenifferbraes 77.38 35 *e*P P 20 53 12.5 +0.3
INVG Invergeldie, C 77.53 35 *e*P P 20 53 12.1 -0.9
IOMK Kirk Michael 77.57 37 *e*P P 20 53 12.2 -1.1
NEWG New Galloway 77.63 36 *e*P P 20 53 13.2 -0.3
NEWG IAmb IAmb 20 53 14.8
comp=Z,34nm,0.9s
KBS Kingsbay 78.12 11 *e*P P 20 53 17.4 +1.5
ESK Eskdalemuir 78.18 36 P P 20 53 16.3 -0.3
ESK Eskdalemuir 78.18 36 *e*P P 20 53 16.1 -0.6
ESK IAmb IAmb 20 53 17.7
comp=Z,39nm,0.8s
EKA Eskdalemuir Ar 78.20 36 P P 20 53 16.6 -0.2
comp=Z,21nm,0.8s,baz=286,slow=5.5,SNR=43
comp=Z,21nm,0.8s
FOEL Foel Wylfa 78.61 38 *e*P P 20 53 17.9 -1.1
FOEL IAmb IAmb 20 53 18.9
comp=Z,28nm,1.0s
MCH1 Michaelchurch 78.89 39 *e*P P 20 53 19.6 -1.0
EDMD Edmundbyers 78.97 36 *e*P P 20 53 21.0 0.0
EDMD IAmb IAmb 20 53 22.0
comp=Z,73nm,1.0s
SPA0 Spitsbergen Ar 79.21 11 *e*P P 20 53 24.0 +2.1
SPITS Spitsbergen Ar 79.21 11 P P 20 53 23.1 +1.2
comp=Z,3.7nm,0.5s,baz=236,slow=0.3,SNR=13
comp=Z,3.7nm,0.5s
BILL Bilibino 79.35 338 P P 20 53 22.9 +0.1
BILL IAmb IAmb 20 53 24.9
comp=Z,9.7nm,0.9s
LBWR Ladybower, Pea 79.38 37 *e*P P 20 53 23.3 0.0
LBWR IAmb IAmb 20 53 25.0
comp=Z,51nm,1.0s
ESDC Sonseca Array 80.67 51 P P 20 53 29.1 -1.4
ESDC IAmb IAmb 20 53 32.6
comp=Z,16nm,1.6s
ESDC Sonseca Array 80.67 51 P P 20 53 29.8 -0.7
comp=Z,2.8nm,0.8s,baz=292,slow=4.6,SNR=13
comp=Z,2.8nm,0.8s
ELMS Elmsett, Ipswi 81.28 38 *e*P P 20 53 33.6 +0.1
ELMS IAmb IAmb 20 53 34.2
comp=Z,28nm,0.6s
BER Bergen 81.50 30 *e*P P 20 53 34.7 +0.2
AKN Aaknes 81.76 28 *e*P P 20 53 36.6 +0.8
AKN IAmb IAmb 20 53 38.4
comp=Z,11nm,1.0s
KMY Karmoy 81.78 31 *e*P P 20 53 35.6 -0.4
KMY IAmb IAmb 20 53 36.5
comp=Z,85nm,1.7s
BLS5 Blasjo 82.32 30 *e*P P 20 53 39.5 +0.6
BLS5 IAmb IAmb 20 53 39.8
comp=Z,44nm,1.5s
DOMB Dombas 82.73 28 *e*P P 20 53 42.0 +1.1
DOMB IAmb IAmb 20 53 43.8
comp=Z,16nm,0.9s
SKAR Skarslia 82.82 29 *e*P P 20 53 42.1 +0.7
SKAR IAmb IAmb 20 53 44.0
comp=Z,6.0nm,0.8s
SNART Snartemo 83.02 31 *e*P P 20 53 43.1 +0.7
SNART IAmb IAmb 20 53 43.8
comp=Z,115nm,1.1s
STEI Steigen 83.03 21 *e*P P 20 53 43.4 +1.1
STEI IAmb IAmb 20 53 45.5
comp=Z,14nm,0.9s
NSS Namsos 83.10 25 *e*P P 20 53 44.8 +2.0
NSS IAmb IAmb 20 53 47.3
comp=Z,67nm,1.9s
FAUS Fauske 83.27 22 *e*P P 20 53 45.5 +1.9
FAUS IAmb IAmb 20 53 47.0
comp=Z,23nm,1.0s
MOR8 Moi Rana 83.44 23 *e*P P 20 53 46.1 +1.6
MOR8 IAmb IAmb 20 53 46.7
comp=Z,14nm,1.0s
TRO Tromso 83.51 19 *e*P P 20 53 44.6 -0.1
KONO Kongsberg 83.77 30 *e*P P 20 53 46.2 -0.1
NBO00 NORSAR Array S 83.84 28 P P 20 53 46.7 0.0
NAO01 NORSAR Array S 83.96 28 P P 20 53 47.2 -0.1
DOU Dourbes 83.99 40 *d*P P 20 53 48.0 +0.4
comp=Z,10nm,0.9s
DOU *d*pP pP 20 54 02.8 +0.3
JETT Jettan, Norway 84.01 19 *e*P P 20 53 49.5 +2.1
NB2 NORSAR Subarra 84.04 28 P P 20 53 48.7 +1.0
comp=Z,23nm,1.0s,baz=292,slow=5.1
NB2 NORSAR Subarra 84.04 28 P P 20 53 48.7 +1.0
baz=292,slow=5.1
NOA NORSAR Array B 84.04 28 P P 20 53 48.5 +0.8
comp=Z,8.3nm,0.9s,baz=292,slow=5.1,SNR=26
comp=Z,8.3nm,0.9s
BMRD Maredsous 84.04 40 *d*P P 20 53 47.9 0.0
comp=Z,7.9nm,0.9s
BMRD *d*pP pP 20 54 03.5 +0.8
NC303 NORSAR Array S 84.04 28 P P 20 53 47.3 -0.4
NC303 IAmb IAmb 20 54 04.2
comp=Z,20nm,1.1s
NB201 NORSAR Array S 84.07 28 P P 20 53 48.1 +0.3
OSL Oslo 84.20 29 *e*P P 20 53 48.9 +0.4
BGES Gesves 84.21 39 *d*P P 20 53 49.1 +0.3
comp=Z,21nm,0.9s
BGES *d*pP pP 20 54 03.9 +0.3
NC602 NORSAR Array S 84.30 28 *e*P P 20 53 50.1 +1.2
NC602 IAmb IAmb 20 53 53.5
comp=Z,17nm,0.9s
BCLA Clavier 84.33 39 *d*P P 20 53 49.6 +0.3
comp=Z,14nm,0.8s
BCLA *d*pP pP 20 54 04.7 +0.5
RCHB Rochefort 84.37 40 *d*P P 20 53 50.0 +0.4
comp=Z,14nm,0.9s
RCHB *d*pP pP 20 54 04.7 +0.4
BSTI Sart Tilman 84.45 39 *d*P P 20 53 50.5 +0.6
comp=Z,4.0nm,0.8s
BSTI *d*pP pP 20 54 05.3 +0.6
MEM Membach 84.71 39 *d*P P 20 53 51.6 +0.3
comp=Z,14nm,0.9s
BTNL Ternell 84.79 39 *d*P P 20 53 51.9 +0.1
comp=Z,8.8nm,1.1s
WLF Walferdange 85.08 40 P P 20 53 53.2 0.0
WLF Walferdange 85.08 40 *d*P P 20 53 54.1 +0.9
comp=Z,19nm,0.8s
WLF *d*pP pP 20 54 09.7 +1.6
WLF Walferdange 85.08 40 *e*P P 20 53 53.8 +0.6
comp=Z,29nm,1.1s,baz=289,slow=5.0
WLF *e*pP pP 20 54 09.6 +1.6
baz=289,slow=5.0
KTK1 Kautokeino 85.15 19 *e*P P 20 53 53.2 +0.1
KTK1 IAmb IAmb 20 53 55.4
comp=Z,21nm,1.3s
AHRW Bad Neuenahr-A 85.38 39 *e*P P 20 53 55.6 +1.0
comp=Z,22nm,1.1s,baz=289,slow=5.0
AHRW *e*pP pP 20 54 10.7 +1.2
baz=289,slow=5.0
HFS Hagfors 85.51 29 P P 20 53 55.4 +0.3
comp=Z,5.0nm,0.8s,baz=202,slow=0.8,SNR=9.6
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 85.56 18 P P 20 53 56.9 +1.7
comp=Z,3.1nm,0.5s,baz=289,slow=4.6,SNR=32
comp=Z,3.1nm,0.5s
RETH Rethem/Aller, 86.00 36 *e*P P 20 53 59.6 +2.0
comp=Z,26nm,0.9s,baz=289,slow=5.0
RETH *e*pP pP 20 54 13.6 +1.2
baz=289,slow=5.0
BSEG Bad Segeberg 86.12 35 *e*P P 20 53 59.9 +1.7
comp=Z,20nm,0.8s,baz=289,slow=5.0
BSEG *e*pP pP 20 54 13.8 +0.8
baz=289,slow=5.0
ECH Echery 86.17 41 P P 20 53 57.8 -0.9
TNS Taunus Mts 86.31 39 *e*P P 20 54 00.7 +1.4
comp=Z,24nm,0.8s,baz=289,slow=5.0
TNS *e*pP pP 20 54 15.1 +0.9
baz=289,slow=5.0
NRDL Niedersach Rie 86.51 36 *e*P P 20 54 02.0 +1.9
comp=Z,14nm,0.9s,baz=289,slow=5.0
NRDL *e*pP pP 20 54 15.9 +0.9
baz=289,slow=5.0
GTTG Gottingen 86.76 37 *e*P P 20 54 03.3 +1.9
comp=Z,18nm,0.8s,baz=289,slow=5.0
GTTG *e*pP pP 20 54 17.4 +1.1
baz=289,slow=5.0
SENIN Lac Senin/Sane 86.86 43 P P 20 54 01.8 -0.5
BFO Black Forest 86.87 41 P P 20 54 01.5 -0.6
CLZ Clausthal 86.89 37 *e*P P 20 54 03.9 +1.8
comp=Z,13nm,0.8s,baz=289,slow=5.0
CLZ *e*pP pP 20 54 17.7 +0.7
baz=289,slow=5.0
ASSE Asse, Remlinge 86.96 37 *e*P P 20 54 04.2 +1.9
comp=Z,8.0nm,0.8s,baz=289,slow=5.0
FLTG Flechtingen 87.21 36 *e*P P 20 54 04.9 +1.3
comp=Z,11nm,0.9s,baz=289,slow=5.0
FLTG *e*pP pP 20 54 19.0 +0.5
baz=289,slow=5.0
TIC Toumodi 87.64 84⇑ *i*P P 20 54 05.9 -0.5
comp=Z,14nm,0.9s
LIC Lamto 87.74 84⇑ *e*P P 20 54 06.4 -0.5
comp=Z,26nm,0.8s
DBIC Dimbokro 87.79 84 P P 20 54 06.1 -1.0
comp=Z,5.4nm,0.9s,baz=262,slow=4.3,SNR=6.2
comp=Z,5.4nm,0.9s
KIC Kosan Boka 87.98 84⇑ *e*P P 20 54 07.7 -0.3
comp=Z,20nm,0.7s
GRA1 Grafenberg Arr 88.17 39 P P 20 54 06.8 -1.5
GRFO Grafenberg 88.17 39 P P 20 54 07.5 -0.7
DAVA Damuels 88.21 41 *e*PcP PcP 20 54 09.7 -0.7
comp=Z,14nm,1.0s
DAVA *e*pP pP 20 54 24.1 +0.5
comp=Z,20nm,0.9s
PETK Petropavlovsk- 88.23 325 P P 20 54 10.6 +2.2
comp=Z,3.0nm,0.8s,baz=36,slow=7.5,SNR=4.0
comp=Z,3.0nm,0.8s
TIXI Tiksi 88.45 347 P P 20 54 09.0 -0.1
CLL Collm 88.61 37 P P 20 54 10.0 -0.3
CLL IAmb IAmb 20 54 13.2
comp=Z,6.7nm,0.8s
CLL Collm 88.61 37 *e*P P 20 54 11.0 +0.7
comp=Z,8.0nm,0.9s
CLL *i* pP pP 20 54 25.3 +0.1
CLL *i* (sP) sP 20 54 33.4 +2.5
FUORN Ofenpass-Fuorn 88.69 42 P P 20 54 10.5 -0.7
RETA Reutte 88.70 41 *e*PcP P 20 54 11.2 +0.3
comp=Z,13nm,1.1s
RETA *e*pP pP 20 54 26.2 +0.4
comp=Z,16nm,1.3s
NKC Novy Kostel 88.70 38 *e*P P 20 54 11.7 +0.9
NKC *e*pP pP 20 54 26.3 +0.6
FETA Feichten 88.85 41 *e*PcP PcP 20 54 12.6 -0.6
comp=Z,9.3nm,1.1s,SNR=5.9
FETA *e*pP pP 20 54 27.1 +0.5
comp=Z,7.9nm,0.7s
MOTA Moosalm 88.97 41 *e*PcP P 20 54 12.9 +0.7
comp=Z,4.6nm,0.8s,SNR=5.2
MOTA *e*pP pP 20 54 27.0 -0.2
comp=Z,7.5nm,0.9s
SQTA Sankt Quirin 89.08 41 *e*PcP P 20 54 12.9 +0.1
comp=Z,3.6nm,0.9s
SQTA *e*pP pP 20 54 28.1 +0.4
comp=Z,4.0nm,0.8s
WATA Walderalm 89.27 41 *e*pP pP 20 54 28.8 +0.2
comp=Z,3.4nm,0.5s
BRG Berggiesshubel 89.33 37 *e*P P 20 54 15.1 +1.5
BRG Amp 20 54 16.2
comp=Z,4.1nm,0.8s
BRG pP pP 20 54 28.9 +0.3
BRG Amp 20 54 30.3
comp=Z,8.5nm,0.9s
WET Wettzell 89.38 39 *e*P P 20 54 15.5 +1.5
comp=Z,4.2nm,0.7s,baz=289,slow=5.0
KHC Kasperske Hory 89.81 39 pP pP 20 54 30.3 -0.7
KHC Kasperske Hory 89.81 39 *e*P P 20 54 16.3 +0.3
KHC *e*pP pP 20 54 31.0 0.0
ZCCA Zocca 89.98 44 pP 20 54 32.5 +0.6
GEC2 GERESS Array S 90.00 39 P 20 54 15.9 -1.1
GERES GERESS Array B 90.00 39 P 20 54 16.5 -0.5
GERES GERESS Array B 90.00 39 P P 20 54 17.3 +0.3
comp=Z,1.8nm,0.7s,baz=330,slow=5.1,SNR=7.0
comp=Z,1.8nm,0.7s
PRU Pruhonice 90.04 38 *e*P P 20 54 18.3 +1.3
ZVC Zvikov 90.06 38 *e*P P 20 54 17.5 +0.4
ABTA Abfaltersbach 90.08 41 *e*PcP PcP 20 54 18.5 -0.1
comp=Z,4.2nm,0.9s
FINES FINESS Array B 90.23 24 P P 20 54 18.6 +0.9
comp=Z,3.2nm,0.7s,baz=336,slow=4.2,SNR=7.8

	comp=Z,3.2nm,0.7s							
BIOA	**Bad Ischl, Aus**	**90.42**	**40**	*e*PpP		pP	20 54 34.2	+0.4
	comp=Z,7.2nm,1.1s							
KBA	**Koelnbreinsper**	**90.48**	**41**	*e*PcP		**PcP**	**20 54 20.6**	**+0.2**
	comp=Z,3.4nm,0.7s							
KBA				*e*pP		**pP**	**20 54 34.5**	**+0.2**
	comp=Z,8.1nm,0.8s							
MOA	**Molln**	**90.75**	**40**	*i* pP		pP	20 54 35.6	+0.2
	comp=Z,6.6nm,0.8s,SNR=5.9							
OSTC	**Ostas**	**90.78**	**37**	*e*P		**P**	**20 54 21.3**	**+0.8**
OSTC				*e*pP		**pP**	**20 54 36.0**	**+0.6**
MYKA	**Terra Mystica**	**90.84**	**41**	*e*pP		pP	20 54 36.5	+0.6
	comp=Z,4.9nm,0.9s							
PRED	**Cave del Predi**	**90.87**	**41**	P		**P**	**20 54 19.8**	**-1.3**
DPC	**Dobruska-Polom**	**90.93**	**37**	*e*P		**P**	**20 54 22.4**	**+1.2**
DPC				*e*pP		**pP**	**20 54 36.7**	**+0.5**
OBKA	**Obir**	**91.47**	**41**	*e*pP		pP	20 54 38.8	0.0
	comp=Z,6.1nm,0.9s							
KRUC	**Moravsky**	**91.53**	**38**	*e*P		**P**	**20 54 24.3**	**+0.4**
KRUC				*e*pP		**pP**	**20 54 38.5**	**-0.4**
VRAC	**Vranov**	**91.54**	**38**	*e*P		**P**	**20 54 23.6**	**-0.4**
VRAC				*e*pP		**pP**	**20 54 39.1**	**+0.1**
VRAC	**Vranov**	**91.54**	**38**	LR		LR	21 33 18.1	
	comp=Z,41nm,19.0s,baz=317,slow=34							
CONA	**Conrad Observa**	**91.69**	**39**	*e*PcP		**PcP**	**20 54 25.6**	**-0.1**
	comp=Z,2.9nm,0.7s							
CONA				*e*pP		**pP**	**20 54 39.8**	**0.0**
	comp=Z,5.7nm,0.8s,SNR=5.1							
SOKA	**Soboth**	**91.70**	**41**	*e*pP		pP	20 54 39.6	-0.3
	comp=Z,10nm,1.4s							
ARSA	**Arzberg**	**91.77**	**40**	*e*PcP		**PcP**	**20 54 26.3**	**+0.3**
	comp=Z,3.0nm,0.7s							
ARSA				*e*pP		**pP**	**20 54 40.0**	**-0.1**
	comp=Z,5.1nm,0.7s							
MORC	**Moravsky Berou**	**91.89**	**37**			**P**	**20 54 23.9**	**-1.8**
MORC	**Moravsky Berou**	**91.89**	**37**	*e*P		**P**	**20 54 26.4**	**+0.7**
MORC				*e*pP		**pP**	**20 54 41.1**	**+0.5**
KEST	**Kesra**	**91.89**	**52**	P		**P**	**20 54 25.7**	**-0.3**
	comp=Z,5.6nm,0.9s,baz=207,slow=2.3,SNR=2.5							
KEST				LR		LR	21 30 33.2	
	comp=Z,77nm,19.7s,baz=290,slow=32							
	comp=Z,5.6nm,0.9s							
RONA	**Rosalia, Austr**	**92.05**	**39**	*e*PcP		**PcP**	**20 54 27.0**	**-0.3**
	comp=Z,3.2nm,0.6s							
RONA				*e*pP		**pP**	**20 54 42.0**	**+0.5**
	comp=Z,11nm,0.8s,SNR=7.2							
TORD	**Torodi Ar. Bea**	**92.27**	**76**	P		**P**	**20 54 26.1**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=305,slow=4.8,SNR=4.7							
TORD				LR		LR	21 32 39.1	
	comp=Z,73nm,18.5s,baz=268,slow=33							
	comp=Z,0.5nm,0.6s							
MODS	**Modra-Piesok**	**92.35**	**38**	*e*P		**P**	**20 54 30.3**	**+2.5**
MODS				*e*			20 54 43.7	
TAM	**Tamanrasset**	**92.95**	**66**	IAmb		IAmb	20 54 33.4	
	comp=Z,3.8nm,1.2s							
OJC	**Ojcow**	**92.98**	**36**	*e*P		**P**	**20 54 31.6**	**+0.9**
OJC	**Ojcow**	**92.98**	**36**	P		**P**	**20 54 28.8**	**-1.8**
VYHS	**Vyhne**	**93.22**	**38**	*e*P		**P**	**20 54 34.1**	**+2.3**
VYHS				*e*			20 54 47.8	
LANS	**Liptovska Anna**	**93.29**	**37**	*e*P		**P**	**20 54 35.0**	**+2.8**
LANS				*e*			20 54 48.8	
VAE	**Valguarnera**	**95.02**	**49**	LR		LR	21 33 42.3	
	comp=Z,141nm,18.1s,baz=326,slow=33							
YAK	**Yakutsk**	**95.44**	**341**	LR		LR	21 44 42.4	
	comp=Z,45nm,18.3s,baz=63,slow=40							
AKASG	**Malin Array Be**	**97.83**	**32**	P		**P**	**20 54 51.8**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=286,slow=4.3,SNR=2.2							
AKASG				LR		LR	21 41 56.3	
	comp=Z,55nm,18.3s,baz=234,slow=37							
	comp=Z,0.3nm,0.4s							
OBN	**Obninsk**	**98.49**	**26**	LR		LR	21 42 15.5	
	comp=Z,71nm,18.1s,baz=354,slow=37							
MLR	**Muntele Rosu**	**98.94**	**38**	LR		LR	21 37 41.8	
	comp=Z,58nm,20.7s,baz=284,slow=34							
KURBB	**Kurchatov Arra**	**114.01**	**5**	PKiKP		**PKiKP**	**20 59 55.1**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=339,slow=1.9,SNR=5.9							
SONM	**Songino Array**	**114.41**	**345**	PKP		**PKiKP**	**20 59 55.4**	**-1.8**
	comp=Z,0.4nm,0.8s,baz=62,slow=3.7,SNR=2.8							
MKAR	**Makanchi Array**	**118.06**	**3**	PKP		**PKPdf**	**21 00 03.0**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=28,slow=2.8,SNR=7.4							
HHC	**Hu-ho-hao-te**	**119.12**	**338**	*e*P		**PKiKP**	**21 00 10.5**	**+4.0**
BOSA	**Boshof**	**123.00**	**114**	PKP		**PKPdf**	**21 00 13.2**	**-1.0**
	comp=Z,6.0nm,0.8s,baz=306,slow=5.2,SNR=7.8							
GTA	**Gaotai**	**123.93**	**347**	*e*PKP		**PKiKP**	**21 00 22.7**	**+6.6**
KSH	**Kashi**	**124.67**	**9**	PKP		**PKiKP**	**21 00 18.3**	**+0.8**
XAN	**Xi'an**	**126.10**	**336**	⇑P		**PKiKP**	**21 00 22.8**	**+2.4**
XAN				pmax		pmax		
	comp=Z,5.0nm,0.8s							
STKA	**Stephens Creek**	**126.71**	**242**	PKP		**PKPdf**	**21 00 20.9**	**-0.1**
	comp=Z,2.5nm,0.9s,baz=173,slow=1.0,SNR=4.7							
WRA	**Warramunga Arr**	**133.49**	**257**	PKP		**PKPdf**	**21 00 33.9**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=89,slow=2.5,SNR=11							
ASAR	**Alice Springs**	**133.94**	**252**	PKP		**PKPdf**	**21 00 34.8**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=80,slow=1.8,SNR=8.4							
PZH	**PanZhiHua**	**135.54**	**339**	PKP		**PKPdf**	**21 00 38.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**143.93**	**338**	PKP		PKPab	21 00 51.2	+0.6
	comp=Z,2.6nm,0.9s,baz=346,slow=3.8,SNR=13							

IDC 06 20:41:44.1±5.7, 50.07N×113.77W, h0km, mbtmp3.2/1, ML3.2/1, Error ellipse: s-maj=88.0km s-min=42.3km az=77.0, Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I56US	**NEWPORT INFRAS**	**2.85**	**232**	I	I	21 00 30.0	
	baz=49,slow=317,SNR=2.0						
I10CA	**LAC DU BONNET**	**11.39**	**83**	I	I	21 56 50.9	
	baz=275,slow=326,SNR=3.4						
YKA	**Yellowknife Ar**	**12.46**	**358**	Pn	Pn	20 44 38.5	-4.0
	0.2nm,0.3s,baz=177,slow=13,SNR=6.4						
YKA				Sn	Sn	20 46 51.7	-10
	0.1nm,0.3s,baz=179,slow=21,SNR=4.4						
YKA				Lg	Lg	20 48 09.9	
	baz=171,slow=25,SNR=4.5						
	0.3nm,0.5s						

IDC 06 20:51:57.0±2.1, 5.97S×142.44E, h0km, mb3.6/1, mbtmp3.5/3, ML3.4/2, Error ellipse: s-maj=350.6km s-min=35.4km az=115.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.80**	**126**	Sn	Sn	20 54 18.0	-14
	0.7nm,0.3s,baz=317,slow=16,SNR=1.5						
WRA	**Warramunga Arr**	**15.97**	**209**	Pn	Pn	20 55 42.0	-1.2
	0.1nm,0.3s,baz=30,slow=12,SNR=1.9						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**19.42**	**204**	P	P	20 56 25.6	+0.5
	0.3nm,0.3s,baz=29,slow=12,SNR=19						
	1.0nm,0.4s						
ILAR	**Eielson Array**	**87.26**	**24**	P	P	21 04 45.2	-0.1
	0.3nm,0.7s,baz=236,slow=6.4,SNR=1.8						
	0.3nm,0.7s						

*VIE **06** 21:07:23.2±0.1, 47.34N×11.45E, h15km±1km, mb1.2/7, ml2.2/14, Error ellipse: s-maj=1.2km s-min=0.8km az=9.0*
*BGR **06** 21:07:24.1±0.2, 47.38N×11.46E, h10km, ML2.1/17, Error ellipse: s-maj=3.3km s-min=2.2km az=173.0*
*LDG **06** 21:07:24.4±0.2, 47.31N×11.40E, h2km, Ml2.3/4, Error ellipse: s-maj=4.5km s-min=3.4km az=59.0*
*BUG **06** 21:07:24.2, 47.36N×11.44E, h4km±2km, MD2.9/11, ML2.7/11*
*PRU **06** 21:07:24.2, 47.37N×11.51E, h10km, Hall In Tirol*

ISC 06 21:07:23.7±0.8, 47.33N±0.02×11.45E±0.01, h16km±4km, n58, σ1°35/99, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATA	**Walderalm**	**0.09**	**87**	*e*Pg	**Pg**	**21 07 26.5**	**-0.7**
	52nm,0.1s,SNR=580						
WATA				*e*Sg	**Sg**	**21 07 28.6**	**-0.9**
	307nm,0.1s						
WTTA	**Wattenberg**	**0.14**	**118**	*i* Pg	**Pg**	**21 07 27.5**	**-0.4**
	52nm,0.1s,SNR=157						
WTTA				*e*Sg	**Sg**	**21 07 30.0**	**-0.6**
	98nm,0.1s						
WTTA	**Wattenberg**	**0.14**	**118**	*e*Pg	**Pg**	**21 07 27.5**	**-0.4**
WTTA				*e*Sg	**Sg**	**21 07 30.3**	**-0.3**
SQTA	**Sankt Quirin**	**0.20**	**236**	*e*Pg	**Pg**	**21 07 28.0**	**-0.6**
	44nm,0.3s,SNR=99						
SQTA				*e*Sg	**Sg**	**21 07 31.6**	**-0.2**
	150nm,0.2s						
MOTA	**Moosalm**	**0.23**	**274**	*e*Pg	**Pg**	**21 07 28.2**	**-0.9**
	6.5nm,0.1s,SNR=60						
MOTA				*e*Sg	**Sg**	**21 07 32.1**	**-0.7**
	47nm,0.2s						
ZUGS	**Zugspitze, Sch**	**0.33**	**285**	*e*Pg	**Pg**	**21 07 29.9**	**-1.0**
ZUGS				*e*Sg	**Sg**	**21 07 35.2**	**-0.4**
RETA	**Reutte**	**0.49**	**289**	*e*Pg	**Pg**	**21 07 32.8**	**-0.8**
	1.1nm,0.1s,SNR=5.4						
RETA				Sg	**Sg**	**21 07 40.1**	**-0.2**
	6.9nm,0.1s,SNR=8.7						
FETA	**Feichten**	**0.58**	**238**	*e*Pg	**Pg**	**21 07 34.8**	**-0.5**
	0.9nm,0.1s,SNR=8.3						
FETA				*e*Sg	**Sg**	**21 07 42.6**	**-0.4**
	2.8nm,0.1s,SNR=10						
BE1	**Monatshausen**	**0.60**	**345**	*e*Pg	**Pg**	**21 07 35.4**	**-0.2**
BE1				*e*Sg	**Sg**	**21 07 43.9**	**+0.3**
A105A	**Obersdorf, Sch**	**0.79**	**276**	Pg	**Pg**	**21 07 39.2**	**+0.1**
A105A				Sg	**Sb**	**21 07 51.1**	**+1.5**
OBER	**Oberstdorf**	**0.79**	**276**	*e*Pg	**Pg**	**21 07 39.2**	**0.0**
OBER				*e*Sg	**Sb**	**21 07 50.9**	**+1.2**
LESA	**Schwarzleotal**	**0.84**	**83**	Pg	**Pg**	**21 07 39.8**	**-0.3**
	2.3nm,0.2s						
LESA				Sg	**Sb**	**21 07 51.7**	**+0.6**
	4.3nm,0.2s						
FUR	**Furstenfeldbru**	**0.84**	**352**	*e*Pg	**Pg**	**21 07 39.9**	**-0.2**
ABTA	**Abfaltersbach**	**0.93**	**128**	Pg	**Pg**	**21 07 40.9**	**-0.9**
	2.1nm,0.3s,SNR=5.4						
ABTA				*e*Sg	**Sg**	**21 07 53.6**	**-0.5**
	4.1nm,0.2s,SNR=6.3						
UBR	**Ueberruh**	**0.97**	**292**	*e*Pg	**Pg**	**21 07 42.4**	**-0.2**
UBR				*e*Sg	**Sb**	**21 07 55.6**	**+0.7**
RJOB	**Jochberg**	**1.00**	**65**	*e*Pg	**Pn**	**21 07 44.5**	**+1.3**
DAVA	**Damuels**	**1.07**	**268**	*e*Pg	**Pb**	**21 07 44.4**	**+0.4**
	7.5nm,0.3s,SNR=20						
DAVA				Sg	**Sn**	**21 07 59.6**	**+0.8**
	23nm,0.2s,SNR=10.0						
DAVA	**Damuels**	**1.07**	**268**	*e*Pg	**Pg**	**21 07 44.5**	**+0.1**
DAVA				*e*Sg	**Sn**	**21 07 59.5**	**+0.7**
A107C	**Memmingen - Ei**	**1.09**	**310**	Pg	**Pg**	**21 07 44.8**	**-0.1**
A107C				Sg	**Sn**	**21 07 59.5**	**+0.4**
KBA	**Koelnbreinsper**	**1.32**	**100**	*e*Pn	**Pn**	**21 07 47.9**	**+0.2**
	1.3nm,0.2s,SNR=8.9						
KBA				Sn	**Sb**	**21 08 05.6**	**+0.7**
	7.6nm,0.6s,SNR=4.7						
KBA	**Koelnbreinsper**	**1.32**	**100**	*e*Pg	**Pb**	**21 07 48.7**	**+0.5**
KBA				*e*Sg	**Sn**	**21 08 05.7**	**+0.8**
PLONS	**Plons/SG**	**1.44**	**259**	*e*Pg	**Pg**	**21 07 51.6**	**+0.1**
PLONS				*e*Sg	**Sg**	**21 08 11.0**	**+0.8**
A104C	**Biberach, Ahle**	**1.45**	**304**	Pn	**Pb**	**21 07 50.9**	**+0.5**
A104C				Sn	**Sg**	**21 08 10.3**	**-0.2**
A108A	**Ulm, Ringingen**	**1.49**	**314**	Pn	**Pb**	**21 07 51.5**	**+0.5**
A108A				Sn	**Sg**	**21 08 11.9**	**0.0**
NORI	**Noerdlinger Ri**	**1.50**	**339**	*e*Pg	**Pb**	**21 07 51.4**	**+0.3**
NORI				*e*Sg	**Sb**	**21 08 11.1**	**+1.2**
BIOA	**Bad Ischl, Aus**	**1.53**	**76**	Pg	**Pg**	**21 07 52.8**	**-0.4**
	1.0nm,0.2s						
BIOA				Sg	**Sg**	**21 08 14.5**	**+1.5**
	4.2nm,0.2s						
WALHA	**Wallhausen, DE**	**1.63**	**286**	*e*Pg	**Pb**	**21 07 54.2**	**+0.7**
WALHA				*e*Sg	**Sb**	**21 08 14.9**	**+1.2**
A102A	**Sigmaringen, J**	**1.72**	**299**	Pn	**Pb**	**21 07 55.2**	**+0.2**
WILA	**Wila**	**1.73**	**274**	*e*Pg	**Pb**	**21 07 56.1**	**+1.0**
WILA				*e*Sg	**Sg**	**21 08 19.2**	**-0.3**
A109A	**Bad Urach, See**	**1.74**	**310**	Pn	**Pb**	**21 07 56.0**	**+0.7**
A109A				Sn	**Sb**	**21 08 18.6**	**+1.6**
A106B	**Goeppingen, Ma**	**1.84**	**321**	Pn	**Pb**	**21 07 58.1**	**+1.1**
A106B				Sn	**Sb**	**21 08 21.4**	**+1.8**
MOA	**Molln**	**1.98**	**74**	*e*Pg	**Pb**	**21 07 59.8**	**+0.4**
	0.2nm,0.1s						
MOA				Sg	**Sg**	**21 08 26.5**	**-0.8**
	3.5nm,0.1s						
MOA	**Molln**	**1.98**	**74**	*e*Pg	**Pb**	**21 08 00.1**	**+0.7**
MOA				*e*Sg	**Sg**	**21 08 26.7**	**-0.6**
A100A	**Rottenburg, We**	**2.04**	**304**	Pn	**Pb**	**21 08 00.9**	**+0.6**
SLE	**Schleitheim**	**2.05**	**283**	*e*Sg	**Sb**	**21 08 27.9**	**+2.1**
WET	**Wettzell**	**2.05**	**27**	*e*Pn	**Pn**	**21 07 57.5**	**0.0**
WET				*e*Sg	**Sb**	**21 08 27.4**	**+1.5**
A101B	**Rottweil, Deis**	**2.11**	**293**	Pn	**Pn**	**21 07 59.7**	**+1.3**
GEC2	**GERESS Array S**	**2.14**	**44**	*e*Sg	**Sg**	**21 08 30.9**	**-1.7**
BERGE	**Lenzkirch (DE)**	**2.28**	**285**	*e*Sg	**Sb**	**21 08 35.0**	**+2.6**
KHC	**Kasperske Hory**	**2.30**	**38**	*e*PG	**Pb**	**21 08 04.9**	**+0.1**
KHC				*e*SG	**Sb**	**21 08 34.9**	**+2.0**
	comp=Z,6.8nm,0.2s						
BFO	**Black Forest**	**2.33**	**297**	Pn	**Pn**	**21 08 02.7**	**+1.3**
BFO				*e*Pg	**Pg**	**21 08 07.4**	**-1.0**
BFO				*e*Sg	**Sg**	**21 08 37.1**	**-1.5**
GRF	**Grafenberg Arr**	**2.37**	**356**	*e*Pg	**Pg**	**21 08 08.1**	**-1.0**
GRF				*e*Sg	**Sb**	**21 08 37.0**	**+2.0**
CKRC	**Cesky Krumlov**	**2.43**	**51**	*e*SG	**Sg**	**21 08 39.9**	**-1.9**
ROTZ	**Rotzenmuhle**	**2.49**	**11**	*e*Sg	**Sb**	**21 08 40.1**	**+1.6**
ZVC	**Zvikov**	**2.79**	**40**	*e*SG	**Sb**	**21 08 50.3**	**+3.1**
NKC	**Novy Kostel**	**2.98**	**12**	*e*SG	**Sg**	**21 08 57.9**	**-1.5**
	comp=Z,5.2nm,0.3s						
CDF	**Champ du Feu**	**3.01**	**293**	*e*Pn	**Pn**	**21 08 11.4**	**+0.6**
CDF				*e*Sg	**Sg**	**21 08 58.8**	**-1.6**
HINF	**Hinteralfeld**	**3.15**	**281**	*e*Pn	**Pn**	**21 08 12.9**	**+0.2**
HINF				*e*Sn	**Sn**	**21 08 48.3**	**-1.7**
HINF				*e*Sg	**Sg**	**21 09 02.2**	**-2.7**
	2.6nm,0.3s						
PRU	**Pruhonice**	**3.36**	**36**	*e*SG	**Sg**	**21 09 10.0**	**-1.5**
TNS	**Taunus Mts**	**3.51**	**327**	Pn	**Pn**	**21 08 17.9**	**+0.3**
HAU	**Haudompre**	**3.51**	**283**	*e*Pn	**Pn**	**21 08 18.5**	**+0.8**
HAU	**Haudompre**	**3.51**	**283**	*e*Pg	**Pg**	**21 08 28.8**	**-2.2**
HAU				*e*Sg	**Sg**	**21 09 13.9**	**-2.6**
	7.0nm,0.3s						
KRUC	**Moravsky**	**3.73**	**61**	*e*SG	**Sg**	**21 09 19.8**	**-3.8**
CABF	**La Chapelle**	**3.74**	**261**	*e*Pg	**Pg**	**21 08 33.2**	**-2.2**
CABF				*e*Sg	**Sg**	**21 09 21.2**	**-2.6**
	0.7nm,0.2s						
BRG	**Berggiesshubel**	**3.91**	**24**	Sg	**Sg**	**21 09 26.9**	**-2.2**
BRG				Amp		21 09 28.6	
	comp=Z,1.3nm,0.5s						
BRG				Amp		21 25 35.0	
	comp=Z,0.2nm,16.9s						
PAGF	**Fort de Pagny**	**4.04**	**290**	*e*Pg	**Pg**	**21 08 38.5**	**-2.5**
DPC	**Dobruska-Polom**	**4.41**	**45**	*e*SG	**Sg**	**21 09 41.3**	**-4.1**
ORIF	**Oris-en-Rattie**	**4.56**	**240**	*e*Pn	**Pn**	**21 08 31.9**	**-0.3**
ORIF				*e*Sn	**Sn**	**21 09 22.5**	**-2.4**
	comp=Z,0.7nm,0.3s						

*NEIC **06** 21:34:05.8±1.0, 19.35N±0.08×65.20W±0.09, h35km±2km, ML2.4/12, Md3.5/3(RSPR), Error ellipse: s-maj=15.3km s-min=12.9km az=51.0*

RSPR 06 21:34:04.3, 18.84N×65.01W, h136km±4km, MD3.5/3, 6C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.06**	**229**	*e*P	Pn	21 34 28.2	0.0
HUMP	**Col San Antoni**	**1.06**	**229**		Pn	21 34 28.0	-0.3
HUMP				IAML		21 34 49.2	
	comp=E,37nm,0.2s						
HUMP	**Col San Antoni**	**1.06**	**229**	⇑*e*P	Pn	21 34 28.2	0.0
HUMP				*e*S	Sn	21 34 46.3	-0.2
GCPR	**Guaynabo City**	**1.15**	**243**	Pn	Pn	21 34 27.3	-1.8
CELP	**Cerrillos**	**1.67**	**243**	*i*P	Pn	21 34 34.5	-0.2
CELP	**Cerrillos**	**1.67**	**243**		Pn	21 34 34.4	-0.4
CELP				IAML		21 34 48.6	
	comp=E,25nm,3.6s						
CELP					Sn	21 34 56.4	-1.6
CELP				IAML		21 35 02.9	
	comp=N,35nm,3.1s						
CELP	**Cerrillos**	**1.67**	**243**	⇑*e*P	Pn	21 34 34.5	-0.2
CELP				*e*S	Sn	21 34 58.3	+0.3
OBIP	**Obispado Ponce**	**1.71**	**243**	Pn	Pn	21 34 33.9	-1.3
OBIP				IAML		21 35 11.7	
	comp=N,38nm,4.8s						
OBIP				IAML		21 35 13.3	
	comp=E,26nm,3.5s						
AOPR	**Arecibo Observ**	**1.72**	**254**	*i*P	Pn	21 34 34.8	-0.6
AOPR	**Arecibo Observ**	**1.72**	**254**		Pn	21 34 34.0	-1.3
AOPR	**Arecibo Observ**	**1.72**	**254**	*i*P	Pn	21 34 34.8	-0.6
AOPR				*e*S	Sn	21 34 59.5	+0.4
MLPR	**Magueyes Islan**	**2.12**	**246**	⇓*e*P	Pn	21 34 40.1	+0.1
MLPR	**Magueyes Islan**	**2.12**	**246**	*e*S	Sn	21 35 07.5	+0.2
MLPR	**Magueyes Islan**	**2.12**	**246**		Pn	21 34 40.5	+0.6
MLPR	**Magueyes Islan**	**2.12**	**246**		Sn	21 35 07.5	+0.2
MLPR	**Magueyes Islan**	**2.12**	**246**	IAML		21 35 08.2	
	comp=E,31nm,3.9s						
MLPR				IAML		21 35 44.4	
	comp=N,29nm,4.5s						

*NEIC **06** 21:39:43.7±1.3, 5.96S±0.09×127.3E±0.1, h460km±10km, mb4.2/11, Error ellipse: s-maj=21.1km s-min=11.1km az=64.0*
*IDC **06** 21:39:44.5±5.2, 5.85S×127.55E, h475km±70km, mb3.2/7, mbtmp4.1/9, Error ellipse: s-maj=66.1km s-min=17.2km az=78.0*

ISC 06 21:39:42.8±0.6, 5.94S±0.07×127.35E±0.09, h450km, n39, σ0°94/40, mb3.7/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**4.10**	**341**	P	**P**	**21 40 58.3**	**-0.6**
SOEI	**Soe**	**4.87**	**219**	P	**P**	**21 41 06.1**	**0.0**
SOEI	**Soe**	**4.87**	**219**	P	**P**	**21 41 06.4**	**+0.3**
FAKI	**Fak Fak**	**5.73**	**59**		**P**	**21 41 16.1**	**+1.6**
FAKI	**Fak Fak**	**5.73**	**59**	P	**P**	**21 41 16.4**	**+1.9**
MMRI	**Maumere**	**5.74**	**242**		**P**	**21 41 14.2**	**-0.3**
MTN	**Manton Dam**	**7.81**	**152**	P	**P**	**21 41 36.8**	**+0.6**
MTN	**Manton Dam**	**7.81**	**152**	P	**P**	**21 41 37.2**	**+1.0**
KDU	**Kakadu**	**8.39**	**143**	P	**P**	**21 41 43.4**	**+0.9**
TOLI2	**Tolitoli**	**9.60**	**317**		**P**	**21 41 55.6**	**-0.1**
TOLI2	**Tolitoli**	**9.60**	**317**	P	**P**	**21 41 56.4**	**+0.7**
KNRA	**Kununurra**	**9.77**	**172**	P	**P**	**21 41 58.3**	**+0.8**
KNRA	**Kununurra**	**9.77**	**172**	P	**P**	**21 41 58.3**	**+0.8**
FITZ	**Fitzroy Crossi**	**12.20**	**188**	P	**P**	**21 42 23.9**	**0.0**
JAGI	**Jajag, Banyuwa**	**13.33**	**258**	P	**P**	**21 42 37.0**	**+0.8**
JAGI	**Jajag, Banyuwa**	**13.33**	**258**	P	**P**	**21 42 37.3**	**+1.1**
WB0	**Warramunga Arr**	**15.35**	**154**	P	**P**	**21 42 57.6**	**-0.2**
WRA	**Warramunga Arr**	**15.49**	**155**	P	**P**	**21 42 57.5**	**-1.7**
WRA	**Warramunga Arr**	**15.49**	**155**	P	**P**	**21 42 59.0**	**-0.2**
	3.9nm,0.4s,baz=331,slow=11,SNR=51						
WRA				S	**S**	**21 45 38.5**	**-2.9**
	2.4nm,0.8s,baz=333,slow=21,SNR=6.8						
PSA00	**Pilbara Seismi**	**17.15**	**204**	P	**P**	**21 43 16.6**	**-0.1**
PSA00				IAmb	IAmb	21 43 59.9	
	comp=Z,11nm,1.1s						
COEN	**Coen**	**17.49**	**118**	P	**P**	**21 43 19.7**	**-0.7**
COEN				IAmb	IAmb	21 43 36.7	
	comp=Z,21nm,1.4s						
AS31	**Alice Springs**	**18.72**	**161**	P	**P**	**21 43 32.9**	**+0.4**
ASAR	**Alice Springs**	**18.72**	**161**	P	**P**	**21 43 32.5**	**0.0**
ASAR	**Alice Springs**	**18.72**	**161**	P	**P**	**21 43 33.0**	**+0.4**
	comp=Z,4.0nm,0.4s,baz=352,slow=13,SNR=119						
FORT	**Forrest**	**24.72**	**179**	P	**P**	**21 44 26.7**	**0.0**
FORT				IAmb	IAmb	21 44 27.3	
	comp=Z,18nm,0.7s						
BBOO	**Buckleboo**	**27.94**	**164**	P	**P**	**21 44 55.4**	**+0.2**
BBOO				IAmb	IAmb	21 45 17.8	
	comp=Z,14nm,1.2s						
STKA	**Stephens Creek**	**29.04**	**154**	P	**P**	**21 45 05.4**	**+0.5**
STKA	**Stephens Creek**	**29.04**	**154**	P	**P**	**21 45 05.5**	**+0.7**
	comp=Z,4.3nm,0.5s,baz=325,slow=7.8,SNR=13						
	comp=Z,4.3nm,0.5s						
MJAR	**Matsushiro Arr**	**43.47**	**13**	P	**P**	**21 47 03.3**	**-1.5**
	comp=Z,2.1nm,0.7s,baz=184,slow=7.7,SNR=4.3						
	comp=Z,2.1nm,0.7s						
SONM	**Songino Array**	**56.64**	**343**	P	**P**	**21 48 41.3**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=162,slow=7.0,SNR=3.9						
	comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**65.92**	**328**	P	**P**	**21 49 42.8**	**-0.3**
MKAR	**Makanchi Array**	**65.92**	**328**	P	**P**	**21 49 43.1**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=120,slow=8.2,SNR=25						
	comp=Z,0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**69.49**	**335**	P	**P**	**21 50 03.0**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=133,slow=7.1,SNR=4.3						
	comp=Z,0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**70.25**	**329**	P	**P**	**21 50 09.3**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=134,slow=5.1,SNR=9.2						
	comp=Z,0.7nm,0.5s						
QSPA

PB09	**IPOC Station P**	**1.33 349**	*e*P		**Pn**	**22 21 46.5 +1.0**		
PB09			*e*S		**Sn**	**22 22 05.0 +0.9**		
PB09			IAML			22 22 06.5		
	comp=N,2μm,0.3s							
PB04	**IPOC Station P**	**1.33 305**			**Pn**	**22 21 46.0 +0.5**		
PB04			Sn		**Sn**	**22 22 04.8 +0.5**		
PB04	**IPOC Station P**	**1.33 305**	*e*P		Pn	22 21 40.7 -4.8		
PB04			*e*P			22 21 46.1		
PB04			*e*S		**Sn**	**22 22 06.3 +2.1**		
PB04			IAML			22 22 11.9		
	comp=Z,882nm,0.2s							
PB04	**IPOC Station P**	**1.33 305**	*e*P		**Pn**	**22 21 46.0 +0.5**		
PB04			*e*S		**Sn**	**22 22 04.7 +0.5**		
PB04			IAML			22 22 08.7		
	comp=N,2μm,0.1s							
PB07	**IPOC Station P**	**1.62 328**			**Pn**	**22 21 49.4 +0.5**		
PB07			Sn		**Sn**	**22 22 10.1 -0.1**		
PB07	**IPOC Station P**	**1.62 328**	*e*P		**Pn**	**22 21 49.2 +0.3**		
PB07			*e*S		**Sn**	**22 22 11.4 +1.1**		
PB07			IAML			22 22 12.2		
	comp=Z,1μm,0.3s							
PB07	**IPOC Station P**	**1.62 328**	⇓ *i*P		**Pn**	**22 21 49.5 +0.5**		
PB07			*e*S		**Sn**	**22 22 10.4 +0.1**		
PB07			IAML			22 22 12.6		
	comp=E,2μm,0.2s							
PB02	**IPOC Station P**	**1.98 334**			**Pn**	**22 21 54.0 +0.6**		
PB02	**IPOC Station P**	**1.98 334**	*e*P		**Pn**	**22 21 53.8 +0.4**		
PB02			*e*S		**Sn**	**22 22 19.2 +0.9**		
PB02			IAML			22 22 22.1		
	comp=Z,1μm,0.2s							
PB02	**IPOC Station P**	**1.98 334**	*e*P		**Pn**	**22 21 53.8 +0.4**		
PB02			*e*S		**Sn**	**22 22 18.0 -0.3**		
PB02			IAML			22 22 24.0		
	comp=E,1μm,0.2s							
PB14	**IPOC Station P**	**2.00 221**			**Pn**	**22 21 54.2 +0.4**		
PB14	**IPOC Station P**	**2.00 221**	*e*P		**Pn**	**22 21 54.1 +0.3**		
PB14			*e*S		**Sn**	**22 22 19.0 0.0**		
PB14			IAML			22 22 20.5		
	comp=E,346nm,0.5s							
PB01	**IPOC Station P**	**2.11 347**			**Pn**	**22 21 55.6 +0.5**		
PB01	**IPOC Station P**	**2.11 347**	*e*P		**Pn**	**22 21 55.4 +0.3**		
PB01			*e*S		**Sn**	**22 22 21.9 +0.5**		
PB01			IAML			22 22 22.8		
	comp=Z,736nm,0.3s							
PB01	**IPOC Station P**	**2.11 347** ⇑	*i*P		**Pn**	**22 21 55.4 +0.3**		
PB01			IAML			22 22 23.5		
	comp=N,1μm,0.3s							
GO02	**Mina Guanaco**	**2.12 195**			**Pn**	**22 21 55.8 +0.4**		
GO02	**Mina Guanaco**	**2.12 195**	*e*P		**Pn**	**22 21 55.1 -0.3**		
GO02			*e*S		**Sn**	**22 22 23.1 +1.3**		
GO02			IAML			22 22 24.9		
	comp=Z,487nm,0.3s							
GO02	**Mina Guanaco**	**2.12 195** ⇑	*i*P		**Pn**	**22 21 55.8 +0.4**		
GO02			*e*S		**Sn**	**22 22 22.1 +0.3**		
GO02			IAML			22 22 23.9		
	comp=N,883nm,0.4s							
PATCX	**Punta Patache**	**2.53 334**			**Pn**	**22 22 00.6 +0.1**		
TA01	**Diego Aracena**	**2.77 336**			**Pn**	**22 22 04.0 +0.4**		
TA01	**Diego Aracena**	**2.77 336**	*e*P		Pn	22 21 52.6 -11		
TA01			*e*S		Sn	22 22 26.7 -10		
TA01			IAML			22 22 56.6		
	comp=Z,154nm,0.3s							
PB08	**IPOC Station P**	**2.96 357**	Pn		**Pn**	**22 22 06.7 +0.2**		
PB08	**IPOC Station P**	**2.96 357**	*e*P		**Pn**	**22 22 06.5 0.0**		
PB08			*e*S		Sn	22 22 29.7 -12		
TA02	**Huaiquique**	**3.02 339**			**Pn**	**22 22 08.6 +1.6**		
YJA	**Yavi**	**3.33 74**	*e*P		**Pn**	**22 22 13.4 +2.0**		
AC01	**Pan de Azucar**	**3.37 206**			**Pn**	**22 22 10.7 -0.9**		
AC01	**Pan de Azucar**	**3.37 206**	*e*P		**Pn**	**22 22 10.6 -0.9**		
AC01			*e*S		**Sn**	**22 22 49.9 -0.9**		
AC01			IAML			22 22 51.3		
	comp=Z,96nm,0.2s							
PB11	**IPOC Station P**	**3.39 349**			**Pn**	**22 22 11.0 -1.1**		
GO01	**Chusmiza**	**3.43 356**			**Pn**	**22 22 12.6 -0.2**		
GO01	**Chusmiza**	**3.43 356**	*e*P		**Pn**	**22 22 12.7 -0.2**		
GO01			*e*S		**Sn**	**22 22 53.4 +0.4**		
GO01			IAML			22 22 56.4		
	comp=Z,122nm,0.5s							
AC02	**Maricunga**	**3.71 182**			**Pn**	**22 22 16.9 +0.3**		
AC02	**Maricunga**	**3.71 182**	*e*P		**Pn**	**22 22 16.4 -0.2**		
AC02			*e*S		Sn	22 22 40.7 -19		
AC06	**Mina Casimiro**	**4.41 196**			**Pn**	**22 22 23.7 -1.9**		
GO03	**Copiap**	**4.61 194**			**Pn**	**22 22 27.0 -1.3**		
GO03	**Copiap**	**4.61 194**	*e*P		**Pn**	**22 22 26.7 -1.6**		
GO03			*e*P			22 22 26.9		
GO03			*e*S		**Sn**	**22 23 24.5 +3.7**		
GO03			IAML			22 23 54.6		
	comp=Z,65nm,0.3s							
PB12	**IPOC Station P**	**4.65 344**	*e*P		**Pn**	**22 22 27.1 -1.9**		
PB12			*e*S		**Sn**	**22 23 19.9 -2.0**		
PB12			IAML			22 23 57.6		
	comp=Z,67nm,0.7s							
PB16	**IPOC Station P**	**4.78 354**			**Pn**	**22 22 30.6 -0.5**		
PB16	**IPOC Station P**	**4.78 354**	*e*P		**Pn**	**22 22 31.2 +0.1**		
PB16			*e*S		Sn	22 23 04.7 -21		
PB16			IAML			22 23 51.1		
	comp=Z,37nm,0.8s							
AC04	**Llanos de Chal**	**5.42 200**	Pn		**Pn**	**22 22 35.5 -3.6**		
AC05	**El Transito**	**5.82 191**	Pn		**Pn**	**22 22 42.6 -2.1**		
LCO	**Las Campanas**	**6.08 194**			**Pn**	**22 22 45.4 -3.0**		
LPAZ	**La Paz**	**6.83 7**	Pn		**Pn**	**22 22 59.4 +0.4**		
LPAZ	**La Paz**	**6.83 7**	P		**Pn**	**22 22 59.2 +0.2**		
	comp=Z,3.3nm,0.3s,baz=186,slow=8.7,SNR=36							
LPAZ			S		Sn	22 23 50.5 -25		
	comp=Z,2.2nm,0.6s,baz=196,slow=11,SNR=1.7							
CO01	**Juntas del Tor**	**6.91 188**			**Pn**	**22 22 57.8 -1.9**		
NNA	**Nana**	**13.36 325**	Pn		**Pn**	**22 24 25.9 -0.5**		
TRCB	**Terra Rica**	**15.05 92**			**Pn**	**22 24 49.1 +1.0**		
TRCB			IAmb		IAmb	22 24 51.3		
	comp=Z,21nm,0.5s							
ITAB	**Concordia**	**15.79 109**	Pn		**Pn**	**22 24 55.8 -1.4**		
ITAB			IAmb		IAmb	22 25 17.8		
	comp=Z,28nm,1.4s							
BDFB	**Brasilia**	**21.11 73**	P		**P**	**22 25 59.1 +1.9**		
	comp=Z,1.2nm,0.4s,baz=286,slow=20,SNR=3.5							
BOAV	**Boa Vista**	**26.66 19**	P		**P**	**22 26 49.1 -0.8**		
SNAA	**Sanae**	**60.78 161**	P		**P**	**22 31 21.6 +0.2**		
TXAR	**Lajitas Array**	**61.92 326**	P		**P**	**22 31 27.5 -2.0**		
	comp=Z,0.3nm,0.7s,baz=153,slow=10,SNR=2.6							
	comp=Z,0.3nm,0.7s							
QSPA	**South Pole Qui**	**67.09 180**	P		**P**	**22 32 03.6 +0.8**		
QSPA			IAmb		IAmb	22 32 22.9		
	comp=Z,6.0nm,1.4s							
TOA0	**Torodi Ar. Sit**	**77.95 70**	P		**P**	**22 33 07.3 -0.6**		
TOA0			IAmb		IAmb	22 33 08.0		
	comp=Z,3.1nm,0.6s							
TORD	**Torodi Ar. Bea**	**77.95 70**	P		**P**	**22 33 07.3 -0.5**		
TORD			IAmb		IAmb	22 33 08.0		
	comp=Z,2.5nm,0.6s							
TORD	**Torodi Ar. Bea**	**77.95 70**	P		**P**	**22 33 07.3 -0.5**		
	comp=Z,2.5nm,0.5s,baz=257,slow=4.9,SNR=35							
	comp=Z,2.5nm,0.5s							
MKAR	**Makanchi Array**	**146.96 37**	PKP		**PKPdf**	**22 40 50.0 +1.0**		
	comp=Z,0.6nm,0.7s,baz=295,slow=2.8,SNR=6.2							

*IDC **06** 22:21:43.4±0.8,22°.45S×170°.54E,h0km,mb4.3/12, mbtmp4.3/14,ML4.1/2,MS3.9/24,Error ellipse: s-maj=23.2km s-min=19.7km az=92.0*
*NOU **06** 22:21:43.3,22°.51S×170°.62E,h0km,MLv4.3/7,Southeast of Loyalty Islands*
*NEIC **06** 22:21:46.0±1.3,22°.47S±0°.10×170°.5E±0°.1,h10km±1km, mb4.8/26,Error ellipse: s-maj=19.0km s-min=13.8km az=42.0*
*GCMT **06** 22:21:51.0±0.3,22°.59S±0°.03×170°.37E±0°.04,h21km±1km, MW4.9/67,Moment Tensor Solution. s32,c35; s67,c87; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.94±.22; Mθθ-2.49±.15; Mϕϕ-0.45±.14; Mrθ0.66±.24; Mϕθ1.10±.09; Mϕr-0.28±.27; Best double couple: Mo3.04100×10¹⁶ NP1:ϕs114.00000°,δ52.00000°,λ90.00000°. NP2: ϕs294.00000°,δ38.00000°,λ90.00000°. Principal axes: T 3.0260, Plg83.0000°, Azm23.0000°; N 0.0300, Plg0.0000°, Azm114.0000°; P -3.0560, Plg7.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 22:21:45.6±0.5,22°.49S±0°.08×170°.47E±0°.08,h10km,n94, σ0s90/77,mb4.6/27,MS4.0/20,1D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.47**	**293**		**Pn**	**22 22 26.3**	**+0.3**
MARNC	**Mare, Loyalty**	**2.47**	**293**	P	**Pn**	**22 22 26.8**	**+0.8**
PINNC	**Pines Island,**	**2.80**	**267**		**Pn**	**22 22 30.5**	**+0.1**
PINNC	**Pines Island,**	**2.80**	**267**	P	**Pn**	**22 22 31.2**	**+0.8**
OUENC	**Ouen Island, N**	**3.36**	**270**		**Pn**	**22 22 38.0**	**-0.2**
OUENC	**Ouen Island, N**	**3.36**	**270**	P	**Pn**	**22 22 38.4**	**+0.3**
LIFNC	**LIFOU**	**3.45**	**299**		**Pn**	**22 22 39.5**	**+0.1**
LIFNC	**LIFOU**	**3.45**	**299**	P	**Pn**	**22 22 39.9**	**+0.5**
ONTNC	**Ouen Toro**	**3.72**	**272**		**Pn**	**22 22 43.5**	**+0.3**
ONTNC	**Ouen Toro**	**3.72**	**272**	P	**Pn**	**22 22 44.2**	**+1.1**
DZM	**Mont Dzumac**	**3.75**	**276**	P	**Pn**	**22 22 44.1**	**+0.5**
DZM	**Mont Dzumac**	**3.75**	**276**	Pn	**Pn**	**22 22 44.1**	**+0.5**
	19nm,0.3s,baz=122,slow=17,SNR=133						
DZM				LR	LR	22 23 25.6	
	comp=Z,289nm,20.0s,baz=110,slow=27						
DZM				Sn	**Sn**	**22 23 26.8**	**-1.1**
	22nm,0.3s,baz=108,slow=21,SNR=8.5						
	108nm,0.5s						
KOUNC	**Koumac, New Ca**	**6.07**	**287**		**Pn**	**22 23 17.2**	**+1.8**
RAO	**Raoul Island**	**12.43**	**125**	LR	LR	22 28 40.2	
	comp=Z,415nm,18.2s,baz=71,slow=34						
HNR	**Honiara**	**16.44**	**320**	Pn	**Pn**	**22 25 34.6**	**-2.0**
HNR	**Honiara**	**16.44**	**320**	LR	LR	22 30 58.4	
	comp=Z,2μm,20.7s,baz=142,slow=34						
URZ	**Urewera**	**16.73**	**162**	Pn	**Pn**	**22 25 40.0**	**0.0**
	0.4nm,0.3s,baz=359,slow=15,SNR=2.2						
URZ				LR	LR	22 31 07.4	
	comp=Z,604nm,18.3s,baz=110,slow=34						
	18nm,1.0s						
RTZ	**Ruatahuna**	**17.02**	**162**		**Pn**	**22 25 43.8**	**0.0**
EIDS	**Eidsvold**	**17.95**	**257**		**Pn**	**22 25 55.3**	**-0.1**
MRZ	**Mangatainoka R**	**18.63**	**168**	P	**P**	**22 26 01.7**	**-1.7**
MRZ				IAmb	IAmb	22 26 08.4	
	comp=Z,48nm,1.0s						
RPZ	**Rata Peaks**	**21.18**	**179**	P	**P**	**22 26 32.2**	**+1.1**
RPZ				IAmb	IAmb	22 26 53.9	
	comp=Z,36nm,1.0s						
RPZ	**Rata Peaks**	**21.18**	**179**	P	**P**	**22 26 31.6**	**+0.5**
	comp=Z,18nm,0.8s,baz=89,slow=2.5,SNR=5.8						
RPZ				LR	LR	22 33 42.0	
	comp=Z,277nm,18.1s,baz=354,slow=34						
	comp=Z,18nm,0.8s						
CAN	**Canberra**	**22.68**	**231**	P	**P**	**22 26 48.6**	**+1.3**
CAN				IAmb	IAmb	22 26 53.3	
	comp=Z,47nm,1.4s						
CTA	**Charters Tower**	**22.68**	**272**	LR	LR	22 35 27.6	
	comp=Z,209nm,18.2s,baz=90,slow=36						
CTAO	**Charters Tower**	**22.68**	**272**	P	**P**	**22 26 48.0**	**+0.6**
CTAO				IAmb	IAmb	22 27 05.9	
	comp=Z,29nm,1.3s						
PMG	**Port Moresby**	**25.86**	**296**	LR	LR	22 36 01.5	
	comp=Z,176nm,18.1s,baz=128,slow=33						
COEN	**Coen**	**27.24**	**283**	P	**P**	**22 27 30.6**	**+0.4**
COEN				IAmb	IAmb	22 27 36.7	
	comp=Z,17nm,0.9s						
STKA	**Stephens Creek**	**27.27**	**244**	P	**P**	**22 27 30.2**	**0.0**
STKA	**Stephens Creek**	**27.27**	**244**	P	**P**	**22 27 30.6**	**+0.3**
	comp=Z,4.6nm,0.8s,baz=81,slow=10.0,SNR=5.3						
STKA				LR	LR	22 37 37.6	
	comp=Z,292nm,18.3s,baz=63,slow=35						
	comp=Z,4.6nm,0.8s						
RAR	**Rarotonga**	**27.63**	**93**	LR	LR	22 36 14.8	
	comp=Z,53nm,20.2s,baz=21,slow=32						
BBOO	**Buckleboo**	**32.05**	**244**	P	**P**	**22 28 12.3**	**-0.3**
AS31	**Alice Springs**	**33.60**	**261**	P	**P**	**22 28 26.5**	**+0.1**
ASAR	**Alice Springs**	**33.60**	**261**	P	**P**	**22 28 25.9**	**-0.5**
ASAR	**Alice Springs**	**33.60**	**261**	P	**P**	**22 28 26.6**	**+0.2**
	comp=Z,14nm,0.9s,baz=87,slow=8.5,SNR=37						
ASAR				PcP	**PcP**	**22 31 05.8**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=149,slow=0.5,SNR=3.2						
	comp=Z,14nm,0.9s						
WRA	**Waramunga Arr**	**33.73**	**267**	P	**P**	**22 28 26.5**	**-1.0**
WRA	**Warramunga Arr**	**33.73**	**267**	P	**P**	**22 28 26.5**	**-1.0**
	comp=Z,4.2nm,0.9s,baz=101,slow=9.6,SNR=11						
	comp=Z,4.2nm,0.9s						
KNRA	**Kununurra**	**39.89**	**272**	P	**P**	**22 29 19.5**	**-0.5**
KNRA				IAmb	IAmb	22 29 24.0	
	comp=Z,20nm,0.9s						
FITZ	**Fitzroy Crossi**	**42.16**	**268**	P	**P**	**22 29 38.5**	**-0.1**
MBWA	**Marble Bar**	**46.94**	**262**	P	**P**	**22 30 16.5**	**-0.3**
NWAO	**Narrogin (SRO)**	**47.83**	**245**	LR	LR	22 49 01.9	
	comp=Z,324nm,21.2s,baz=64,slow=34						
KAPI	**Kappang**	**51.95**	**282**	P	**P**	**22 30 55.2**	**0.0**
KAPI				IAmb	IAmb	22 31 06.1	
	comp=Z,15nm,1.1s						
TOLI2	**Tolitoli**	**53.78**	**289**	P	**P**	**22 31 08.5**	**-0.2**
TOLI2				IAmb	IAmb	22 31 10.0	
	comp=Z,8.6nm,1.0s						
VNDA	**Vanda**	**55.24**	**182**	LR	LR	22 51 10.3	
	comp=Z,245nm,19.4s,baz=10,slow=32						
JAGI	**Jajag, Banyuwa**	**55.73**	**275**	P	**P**	**22 31 22.0**	**-0.9**
JAGI				IAmb	IAmb	22 31 26.7	
	comp=Z,16nm,0.8s						
MJAR	**Matsushiro Arr**	**66.14**	**332**	P	**P**	**22 32 31.4**	**-1.8**
	comp=Z,2.3nm,0.8s,baz=159,slow=6.8,SNR=5.0						
	comp=Z,2.3nm,0.8s						
QSPA	**South Pole Qui**	**67.59**	**180**	P	**P**	**22 32 42.6**	**+0.4**
QSPA				IAmb	IAmb	22 32 53.8	
	comp=Z,8.8nm,1.1s						
QSPA	**South Pole Qui**	**67.59**	**180**	P	**P**	**22 32 41.0**	**-1.3**
	comp=Z,3.7nm,1.0s,baz=49,slow=1.3,SNR=8.6						
QSPA				LR	LR	22 57 46.4	
	comp=Z,136nm,21.0s,baz=204,slow=32						
	comp=Z,3.7nm,1.0s						
KSRS	**Korea Array**	**71.82**	**326**	P	**P**	**22 33 08.7**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=140,slow=3.3,SNR=3.4						
	comp=Z,1.7nm,0.8s						
NJ2	**Nanjing**	**73.33**	**316**	*e*P	**P**	**22 33 18.0**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,250nm,3.5s						
USRK	**Ussuriysk Ar.**	**75.13**	**332**	P	**P**	**22 33 28.8**	**+0.9**
USRK	**Ussuriysk Ar.**	**75.13**	**332**	P	**P**	**22 33 26.2**	**-1.6**
	comp=Z,1.2nm,0.7s,baz=152,slow=6.5,SNR=2.2						
	comp=Z,1.2nm,0.7s						
MAW	**Mawson**	**75.87**	**202**	LR	LR	23 04 07.8	
	comp=Z,136nm,18.1s,baz=224,slow=34						
PETK	**Petropavlovsk-**	**76.09**	**352**	LR	LR	23 01 43.5	
	comp=Z,120nm,19.2s,baz=122,slow=32						
GYA	**Guiyang**	**78.61**	**305**	*e*P	**P**	**22 33 48.7**	**+0.6**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GYA				pmax	pmax		
	comp=Z,68nm,3.8s						
ENH	**Enshi**	**78.61**	**309**	P	**P**	**22 33 47.7**	**-0.2**
PHRA	**Phrae**	**79.82**	**295**	P	**P**	**22 33 54.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**80.88**	**294**	P	**P**	**22 34 00.7**	**+0.3**
	comp=Z,2.2nm,0.3s,baz=142,slow=3.8,SNR=11						
	comp=Z,2.2nm,0.3s						
KMI	**Kunming**	**80.96**	**302**	⇓P	**P**	**22 34 03.9**	**+2.9**
KMI				pmax	pmax		
	comp=Z,11nm,1.7s						
CHTO	**Chiang Mai**	**81.04**	**295**	P	**P**	**22 34 01.1**	**-0.2**
CHTO				IAmb	IAmb	22 34 07.2	
	comp=Z,5.2nm,1.0s						
HEH	**HeiHe**	**81.82**	**334**	*e*P	**P**	**22 34 05.2**	**+0.6**
HEH				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PZH	**PanZhiHua**	**82.42**	**303**	P	**P**	**22 34 10.4**	**+1.9**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.5s						
MA2	**Magadan**	**83.35**	**350**	LR	LR	23 05 59.9	
	comp=Z,97nm,20.6s,baz=134,slow=32						
HHC	**Hu-ho-hao-te**	**83.42**	**319**	*e*P	**P**	**22 34 15.5**	**+2.1**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,100nm,4.5s						
SEY	**Seymchan**	**86.33**	**352**	LR	LR	23 07 06.0	
	comp=Z,128nm,21.7s,baz=342,slow=32						
PFO	**Pinyon Flats O**	**89.13**	**53**	LR	LR	23 13 16.5	
	comp=Z,50nm,18.1s,baz=228,slow=35						
NVAR	**Mina Array Bea**	**90.09**	**48**	P	**P**	**22 34 46.1**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=226,slow=7.4,SNR=5.1						
NVAR				LR	LR	23 09 50.6	
	comp=Z,66nm,18.5s,baz=252,slow=32						
	comp=Z,0.4nm,0.5s						
SONM	**Songino Array**	**90.49**	**323**	P	**P**	**22 34 48.2**	**+0.5**
	comp=Z,1.5nm,0.9s,baz=133,slow=3.8,SNR=7.9						
	comp=Z,1.5nm,0.9s						
E19K	**Redstone River**	**92.83**	**12**	P	**P**	**22 34 57.9**	**0.0**
E19K				IAmb	IAmb	22 35 07.0	
	comp=Z,4.5nm,0.9s						
ILAR	**Eielson Array**	**92.98**	**17**	P	**P**	**22 34 56.9**	**-1.8**
	comp=Z,0.5nm,1.0s,baz=248,slow=3.1,SNR=4.7						
	comp=Z,0.5nm,1.0s						
ELK	**Elko**	**93.27**	**47**	LR	LR	23 15 33.5	
	comp=Z,48nm,18.1s,baz=249,slow=35						
DLBC	**Dease Lake**	**94.39**	**27**	LR	LR	23 15 17.8	
	comp=Z,71nm,18.0s,baz=238,slow=34						
NEW	**Newport**	**95.52**	**40**	LR	LR	23 08 40.9	
	comp=Z,52nm,20.4s,baz=260,slow=30						
BMAR	**Burnt Mountain**	**95.63**	**16**	P	**P**	**22 35 10.6**	**-0.2**
ANMO	**Albuquerque**	**97.19**	**55**	LR	LR	23 17 17.1	
	comp=Z,59nm,18.1s,baz=346,slow=34						
TXAR	**Lajitas Array**	**97.30**	**61**	LR	LR	23 11 40.8	
	comp=Z,34nm,18.5s,baz=246,slow=31						
PDAR	**Pinedale Array**	**97.97**	**47**	LR	LR	23 10 48.1	
	comp=Z,48nm,21.3s,baz=283,slow=30						
CHVC	**Chvalec**	**145.56**	**331**	*e*PKP	**PKPab**	**22 41 25.5**	**+1.1**
DPC	**Dobruska-Podem**	**145.61**	**330**	*e*PKP	**PKPab**	**22 41 25.7**	**+1.1**
EKA	**Eskdalemuir Ar**	**146.85**	**353**	PKPbc	**PKPdf**	**22 41 26.5**	**+0.5**
	comp=Z,2.4nm,0.6s,baz=352,slow=2.1,SNR=9.3						
ZVC	**Zvikov**	**147.22**	**331**	*e*PKP	**PKPbc**	**22 41 29.8**	**+0.7**
RONA	**Rosalia, Austr**	**147.43**	**327**	*e*pPKP	**PKiKP**	**22 41 33.0**	**+1.0**
	comp=Z,4.0nm,1.0s						
CONA	**Conrad Observa**	**147.49**	**328**	*e*PKiKP	**PKPab**	**22 41 32.4**	**+0.4**
	comp=Z,9.3nm,1.4s						
CKRC	**Cesky Krumlov**	**147.62**	**330**	*e*PKP	**PKPdf**	**22 41 27.5**	**0.0**
KHC	**Kasperske Hory**	**147.72**	**331**	*e*PKP	**PKPab**	**22 41 33.2**	**+0.4**
GERES	**GERESS Array B**	**147.88**	**331**	PKPbc	**PKPbc**	**22 41 31.1**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=32,slow=3.8,SNR=6.8						
SOKA	**Soboth**	**148.75**	**327**	*e*PKP	**PKPab**	**22 41 36.9**	**-0.1**
	comp=Z,3.9nm,1.4s						
KBA	**Koelnbreinsper**	**149.31**	**329**	*e*PKiKP	**PKiKP**	**22 41 36.4**	**+0.3**
	comp=Z,5.5nm,0.9s						
LESA	**Schwarzleotal**	**149.38**	**330**	*e*PKiKP	**PKiKP**	**22 41 36.6**	**+0.6**
	comp=Z,4.9nm,1.4s						
ABTA	**Abfaltersbach**	**149.95**	**329**	*e*pPKP	pPKPdf	22 41 33.7	+0.2
	comp=Z,4.1nm,1.2s						
WATA	**Walderalm**	**149.95**	**331**	*e*PKP	**PKPbc**	**22 41 36.2**	**-0.1**
	comp=Z,12nm,1.4s						
MOTA	**Moosalm**	**150.16**	**331**	*e*PKiKP	**PKiKP**	**22 41 38.5**	**+0.7**
	comp=Z,5.8nm,1.1s						
SQTA	**Sankt Quirin**	**150.21**	**331**	*e*PKP	**PKPbc**	**22 41 37.0**	**0.0**
	comp=Z,5.3nm,1.1s						
FETA	**Feichten**	**150.57**	**331**	*e*PKiKP	**PKiKP**	**22 41 39.3**	**+0.7**
	comp=Z,8.4nm,1.2s						
TORD	**Torodi Ar. Bea**	**165.85**	**231**	PKPab	**PKPab**	**22 42 50.0**	**-1.1**
	comp=Z,2.0nm,1.1s,baz=118,slow=2.7,SNR=5.2						

*IDC **06** 22:31:30.3±1.1,6°.18S×142°.69E,h0km,mb4.0/4, mbtmp3.9/7,ML3.8/2,Error ellipse: s-maj=36.0km s-min=24.7km az=70.0*
ISC 06 22:31:31.9±0.9,6°.4S±0°.1×142°.5E±0°.1,h10km,n8,σ2s00/9, mb4.1/4,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.51**	**123**	Pn	**Pn**	**22 32 54.4**	**+0.4**
	5.8nm,0.3s,baz=274,slow=16,SNR=1.9						
PMG				Sn	**Sn**	**22 33 57.0**	**-0.5**
	0.9nm,0.3s,baz=292,slow=18,SNR=2.0						
WRA	**Warramunga Arr**	**15.64**	**210**	Pn	**Pn**	**22 35 13.6**	**+1.0**
	0.4nm,0.3s,baz=33,slow=12,SNR=9.0						
WRA				Sn	Sn	22 37 59.4	-6.7
	0.2nm,0.3s,baz=30,slow=24,SNR=4.4						
WRA				Lg	Lg	22 39 50.9	
	baz=25,slow=35						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**19.07**	**205**	P	**Pn**	**22 35 58.0**	**+2.4**
	0.2nm,0.3s,baz=35,slow=11,SNR=5.0						
ASAR				S	**Sn**	**22 39 25.9**	**-3.5**
	1.2nm,0.9s,baz=31,slow=22,SNR=4.6						
ASAR				Lg	Lg	22 41 42.3	
	baz=26,slow=28						
	2.2nm,0.5s						
HHC	**Hu-ho-hao-te**	**54.91**	**332**	*e*P	P	22 41 08.6	+5.5
MKAR	**Makanchi Array**	**74.98**	**322**	P	**P**	**22 43 13.6**	**+0.1**
	0.6nm,0.8s,baz=120,slow=6.4,SNR=5.6						
	0.6nm,0.8s						
QSPA	**South Pole Qui**	**83.59**	**180**	P	**P**	**22 44 01.5**	**+1.1**
	1.3nm,1.0s,baz=338,slow=15,SNR=2.2						
	1.3nm,1.0s						
BVAR	**Borovoye Array**	**84.46**	**325**	P

STKA				LR	LR	23 01 41.6	
	comp=Z,164nm,19.9s,baz=359,slow=36						
	comp=Z,3.9nm,0.7s						
PSA00	**Pilbara Seismi**	**26.75**	**233**	P	**P**	**22 52 03.0**	**-0.2**
BBOO	**Buckleboo**	**27.16**	**192**	P	**P**	**22 52 08.2**	**+1.4**
BBOO				IAmb	IAmb	22 52 22.9	
	comp=Z,16nm,1.1s						
JCJ	**Chichijima**	**33.09**	**359**	LR	LR	23 04 07.6	
	comp=Z,81nm,20.2s,baz=130,slow=32						
LEM	**Lembang**	**34.69**	**267**	LR	LR	23 10 11.6	
	comp=Z,113nm,20.3s,baz=59,slow=41						
NWAO	**Narrogin (SRO)**	**35.52**	**218**	LR	LR	23 08 40.4	
	comp=Z,207nm,18.8s,baz=140,slow=38						
JNU	**Nakatsue**	**40.64**	**345**	LR	LR	23 09 55.2	
	comp=Z,50nm,18.6s,baz=165,slow=35						
MJAR	**Matsushiro Ar**	**42.70**	**355**	P	**P**	**22 54 20.4**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=179,slow=7.3,SNR=1.9						
MJAR				LR	LR	23 10 22.3	
	comp=Z,65nm,18.8s,baz=166,slow=34						
	comp=Z,1.1nm,0.6s						
URZ	**Urewera**	**44.72**	**141**	LR	LR	23 14 05.8	
	comp=Z,186nm,19.3s,baz=290,slow=37						
RPZ	**Rata Peaks**	**44.99**	**151**	LR	LR	23 11 44.1	
	comp=Z,160nm,21.9s,baz=270,slow=34						
KSRS	**Korea Array**	**45.52**	**344**	P	**P**	**22 54 43.2**	**+0.2**
	comp=Z,2.2nm,1.0s,baz=172,slow=9.7,SNR=6.4						
KSRS				LR	LR	23 11 30.8	
	comp=Z,26nm,21.9s,baz=135,slow=33						
	comp=Z,2.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**49.48**	**301**	P	**P**	**22 55 14.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**49.48**	**301**	P	**P**	**22 55 15.8**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=115,slow=6.1,SNR=1.8						
	comp=Z,0.3nm,0.3s						
LYN	**LuoYang**	**49.48**	**327**	⇑P	P	22 55 18.8	+4.9
LYN				sP	sP	22 55 25.6	+6.9
LYN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LYN				pmax	pmax		
	comp=Z,250nm,4.3s						
PZH	**PanZhiHua**	**51.17**	**311**	P	**P**	**22 55 28.8**	**+1.7**
PZH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.4s						
BNX	**BinXian**	**53.44**	**347**	⇑P	**P**	**22 55 43.6**	**+0.2**
BNX				pmax	pmax		
	comp=Z,8.0nm,2.1s						
BNX				pmax	pmax		
	comp=Z,190nm,4.6s						
HHC	**Hu-ho-hao-te**	**54.77**	**331**	*e*P	**P**	**22 55 54.1**	**+0.8**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,70nm,4.9s						
KLR	**Kul'dur**	**55.99**	**351**	LR	LR	23 16 32.9	
	comp=Z,66nm,21.8s,baz=153,slow=32						
SONM	**Songino Array**	**62.50**	**333**	P	**P**	**22 56 47.4**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=131,slow=6.5,SNR=1.6						
SONM				LR	LR	23 23 37.1	
	comp=Z,57nm,20.4s,baz=166,slow=36						
	comp=Z,0.2nm,0.3s						
PPT	**Papeete**	**67.10**	**106**	LR	LR	23 22 58.2	
	comp=Z,48nm,20.1s,baz=352,slow=33						
WMQ	**Urumqi**	**70.09**	**321**	*e*P	**P**	**22 57 35.6**	**-0.2**
WMQ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
VNDA	**Vanda**	**72.02**	**176**	LR	LR	23 27 58.0	
	comp=Z,141nm,20.4s,baz=234,slow=35						
MK31	**Makanchi Array**	**74.86**	**322**		**P**	**22 58 04.1**	**0.0**
MK31				IAmb	IAmb	22 58 17.3	
	comp=Z,2.0nm,1.1s						
MKAR	**Makanchi Array**	**74.86**	**322**	P	**P**	**22 58 04.0**	**-0.2**
MKAR	**Makanchi Array**	**74.86**	**322**	P	**P**	**22 58 04.8**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=98,slow=7.5,SNR=8.7						
	comp=Z,1.0nm,0.8s						
ZALV	**Zalesovo Beam**	**76.85**	**329**	P	**P**	**22 58 13.7**	**-1.6**
KURK	**Kurchatov**	**78.74**	**324**	P	**P**	**22 58 24.0**	**-1.9**
KURK				IAmb	IAmb	22 58 33.9	
	comp=Z,7.0nm,1.5s						
KDAK	**Kodiak Island**	**82.21**	**29**	LR	LR	23 29 10.7	
	comp=Z,72nm,21.1s,baz=244,slow=31						
QSPA	**South Pole Qui**	**83.77**	**180**	P	**P**	**22 58 52.9**	**+0.3**
QSPA	**South Pole Qui**	**83.77**	**180**	P	**P**	**22 58 52.8**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=333,slow=11,SNR=5.5						
	comp=Z,2.5nm,0.7s						
C18K	**Utukok River**	**84.12**	**18**	P	**P**	**22 58 54.5**	**+0.3**
C18K				IAmb	IAmb	22 59 20.5	
	comp=Z,6.0nm,1.4s						
BVAR	**Borovoye Array**	**84.33**	**325**	P	**P**	**22 58 55.1**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=101,slow=7.7,SNR=10.0						
	comp=Z,2.5nm,0.7s						
B21K	**Ikpikpuk River**	**86.65**	**18**	P	**P**	**22 59 06.3**	**-0.3**
B21K				IAmb	IAmb	22 59 14.4	
	comp=Z,1.5nm,0.8s						
D22K	**Ayikyak River**	**86.93**	**19**	P	**P**	**22 59 07.8**	**-0.3**
D22K				IAmb	IAmb	22 59 30.6	
	comp=Z,3.6nm,1.1s						
ILAR	**Eielson Array**	**87.43**	**24**	P	**P**	**22 59 08.2**	**-2.4**
	comp=Z,0.8nm,0.8s,baz=258,slow=4.3,SNR=6.2						
ILAR				LR	LR	23 33 57.9	
	comp=Z,52nm,20.2s,baz=234,slow=33						
	comp=Z,0.8nm,0.8s						
BMAR	**Burnt Mountain**	**89.19**	**22**	P	**P**	**22 59 19.0**	**+0.1**
BBB	**Bella Bella**	**94.45**	**38**	LR	LR	23 38 59.8	
	comp=Z,38nm,18.1s,baz=330,slow=34						
YBH	**Yreka Blue Hor**	**97.63**	**49**	LR	LR	23 36 53.2	
	comp=Z,56nm,20.1s,baz=308,slow=31						
TORD	**Torodi Ar. Bea**	**140.82**	**283**	PKhKP	PKPpre	23 05 50.0	
	comp=Z,0.6nm,1.0s,baz=52,slow=5.3,SNR=2.5						
DBIC	**Dimbokro**	**147.60**	**273**	PKPbc	**PKPbc**	**23 06 08.2**	**-0.8**
	comp=Z,2.5nm,0.8s,baz=63,slow=11,SNR=3.2						

*IDC **06** 22:51:26.4±0.9,6°.13S×142°.60E, h0km, mb4.0/8, mbtmp4.0/10, ML2.1/1, Error ellipse: s-maj=43.4km s-min=20.1km az=78.0*
*NEIC **06** 22:51:28.7±1.1,6°.2S±0°.1×142°.5E±0°.1, h10km±1km, mb4.5/6, Error ellipse: s-maj=25.1km s-min=16.6km az=36.0*
ISC 06 22:51:28.0±0.7,**6°.35S**±0°.08×**142°.43E**±0°.09,**h10**km,**n21,** σ1§**81**/23,**mb4.0**/11,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.59**	**123**	Pn	**Pn**	**22 52 52.4**	**+1.1**
PMG	**Port Moresby**	**5.59**	**123**	Pn	**Pn**	**22 52 52.0**	**+0.8**
	3.6nm,0.3s,baz=270,slow=8.1,SNR=2.2						
PMG				Sn	**Sn**	**22 53 53.3**	**-2.3**
	2.1nm,0.3s,baz=242,slow=17,SNR=2.4						
	9.9nm,0.3s						
FAKI	**Fak Fak**	**10.70**	**288**	Pn	**Pn**	**22 54 02.0**	**+0.5**
WR0	**Warramunga Arr**	**15.55**	**209**	Pn	**Pn**	**22 55 09.3**	**+1.7**
WRA	**Warramunga Arr**	**15.63**	**209**	Pn	**Pn**	**22 55 06.5**	**-2.1**
	0.8nm,0.3s,baz=25,slow=30,SNR=6.8						
WRA				Sn	Sn	22 57 54.2	-7.8
	0.2nm,0.3s,baz=25,slow=23,SNR=0.9						
WRA				Lg	Lg	22 59 47.5	
	0.1nm,0.3s,baz=34,slow=28,SNR=2.0						
ASAR	**Alice Springs**	**19.07**	**205**	P	**Pn**	**22 55 54.1**	**+2.5**
	8.2nm,0.6s,baz=35,slow=9.9,SNR=9.8						
ASAR				S	**Sn**	**22 59 20.8**	**-4.7**
	1.8nm,0.9s,baz=22,slow=27,SNR=1.7						
ASAR				Lg	Lg	23 01 37.1	
	0.1nm,0.3s,baz=27,slow=29,SNR=3.1						
STKA	**Stephens Creek**	**25.41**	**182**	P	**P**	**22 56 58.9**	**+3.0**
STKA	**Stephens Creek**	**25.41**	**182**	P	**P**	**22 56 56.6**	**+0.7**
	2.0nm,0.6s,baz=14,slow=12,SNR=1.5						
	2.0nm,0.6s						
KSRS	**Korea Array**	**45.63**	**344**	P	**P**	**22 59 47.3**	**-1.4**
	0.7nm,0.4s,baz=148,slow=9.6,SNR=2.4						
	0.7nm,0.4s						
SONM	**Songino Array**	**62.59**	**333**	P	**P**	**23 01 52.5**	**-0.1**
	0.2nm,0.3s,baz=157,slow=6.4,SNR=1.6						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**74.92**	**322**	P	**P**	**23 03 08.8**	**-0.5**
MKAR	**Makanchi Array**	**74.92**	**322**	P	**P**	**23 03 09.0**	**-0.3**
	0.6nm,0.7s,baz=97,slow=7.9,SNR=7.3						
	0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**76.93**	**329**	P	**P**	**23 03 19.9**	**-0.7**
	0.7nm,0.6s,baz=125,slow=6.1,SNR=3.9						
	0.7nm,0.6s						
J16K	**Anvik River**	**81.55**	**23**	P	**P**	**23 03 45.1**	**-0.6**
J16K				IAmb	IAmb	23 04 04.7	
	comp=Z,12nm,1.3s						
QSPA	**South Pole Qui**	**83.62**	**180**	P	**P**	**23 03 58.0**	**+1.4**
QSPA				IAmb	IAmb	23 04 12.2	
	comp=Z,3.6nm,1.1s						
QSPA	**South Pole Qui**	**83.62**	**180**	P	**P**	**23 03 58.2**	**+1.6**
	comp=Z,2.6nm,1.0s,baz=329,slow=5.3,SNR=3.5						
	comp=Z,2.6nm,1.0s						
BVAR	**Borovoye Array**	**84.40**	**325**	P	**P**	**23 04 00.6**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=124,slow=8.7,SNR=7.5						
	comp=Z,1.4nm,0.6s						
E19K	**Redstone River**	**84.93**	**20**	P	**P**	**23 04 02.3**	**-0.8**
E19K				IAmb	IAmb	23 04 06.9	
	comp=Z,1.9nm,0.8s						
D19K	**Kuna River**	**85.17**	**19**	P	**P**	**23 04 04.4**	**+0.2**
D19K				IAmb	IAmb	23 04 11.1	
	comp=Z,3.5nm,1.2s						
ILAR	**Eielson Array**	**87.61**	**24**	P	**P**	**23 04 14.3**	**-2.0**
	comp=Z,0.8nm,0.9s,baz=276,slow=4.6,SNR=6.7						
	comp=Z,0.8nm,0.9s						
BMAR	**Burnt Mountain**	**89.37**	**22**	P	**P**	**23 04 25.1**	**+0.5**

*GII **06** 23:00:37.7±0.3,28°.740N±0°.004×34°.727E±0°.001, h11km, Md3.2/4, Mws2.7/4, confirmed*
*SGS **06** 23:00:40.5,28°.81N×34°.74E, h15km, Ml2.7*
ISC 06 23:00:39.0±1.0,**28°.80N**±0°.02×**34°.73E**±0°.07,**h10**km,**n56,** σ0§**61**/59,**Egypt**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAYS	**Tayyib Ism**	**0.28**	**153**	P	**Pb**	**23 00 46.3**	**+0.2**
TAYS	**Tayyib Ism**	**0.28**	**153**	S	**Sb**	**23 00 50.7**	**-0.1**
HAQS	**Haql**	**0.30**	**34**	S	**Sb**	**23 00 51.0**	**-0.6**
HAQS				P	Pb	**23 00 46.5**	**-0.1**
BDAS	**Al Bad`**	**0.49**	**138**	S	**Sb**	**23 00 56.7**	**-0.3**
BDAS	**Al Bad`**	**0.49**	**138**	P	**Pb**	**23 00 49.7**	**-0.1**
JMOS	**Jabal al Moall**	**0.50**	**42**	S	**Sb**	**23 00 56.6**	**-0.6**
JMOS				P	**Pb**	**23 00 49.6**	**-0.3**
RSHS		**0.50**	**173**	S	**Sb**	**23 00 57.5**	**+0.2**
RSHS		**0.50**	**173**	P	**Pb**	**23 00 50.2**	**+0.2**
HQLS		**0.58**	**30**	P	**Pb**	**23 00 51.1**	**-0.2**
JLOS		**0.67**	**95**	P	**Pb**	**23 00 52.6**	**-0.4**
AYUS	**`Aynunah**	**0.77**	**142**	P	**Pb**	**23 00 54.6**	**+0.1**
KRABS	**KRABS**	**0.83**	**146**	P	**Pn**	**23 00 55.7**	**-1.1**
EIL	**Elat**	**0.89**	**13**	P	**Pg**	**23 00 56.1**	**-0.1**
EIL				S	**Sb**	**23 01 09.3**	**+0.7**
EIL	**Elat**	**0.89**	**13**	S	**Sg**	**23 01 08.6**	**+0.7**
EIL	**Elat**	**0.89**	**13**	P	**Pg**	**23 00 55.7**	**-0.5**
AQBJ	**Aqaba**	**0.97**	**17**	P	**Pg**	**23 00 57.9**	**+0.2**
MBRI	**Mt Berech**	**1.01**	**9**	P	**Pg**	**23 00 58.2**	**-0.2**
MBRI	**Mt Berech**	**1.01**	**9**	P	**Pg**	**23 00 57.8**	**-0.6**
MBRI	**Mt Berech**	**1.01**	**9**	S	**Sb**	**23 01 13.0**	**+1.0**
MWLHS	**Almuwaylih**	**1.26**	**146**	P	**Pn**	**23 01 01.4**	**-1.2**
WTBKS	**WTBKS**	**1.26**	**124**	P	**Pn**	**23 01 02.1**	**-0.7**
HRFI	**Mount Harif**	**1.26**	**12**	P	**Pn**	**23 01 01.3**	**-1.5**
HRFI	**Mount Harif**	**1.26**	**12**	S	**Sb**	**23 01 19.1**	**-0.2**
HRFI	**Mount Harif**	**1.26**	**12**	P	**Pn**	**23 01 01.2**	**-1.6**
KRMI	**Paran Flat**	**1.31**	**360**	P	**Pn**	**23 01 02.9**	**-0.6**
KRMI	**Paran Flat**	**1.31**	**360**	S	**Sb**	**23 01 21.2**	**+0.4**
KRMI	**Paran Flat**	**1.31**	**360**	P	**Pn**	**23 01 02.6**	**-0.9**
NDEBA	**Dheba**	**1.56**	**148**	P	**Pn**	**23 01 06.1**	**-0.8**
PRNI	**Paran**	**1.57**	**9**	P	**Pn**	**23 01 06.3**	**-0.7**
PRNI	**Paran**	**1.57**	**9**	S	**Sn**	**23 01 28.0**	**+0.6**
PRNI	**Paran**	**1.57**	**9**	P	**Pn**	**23 01 06.0**	**-1.0**
TBKS	**Tabuk**	**1.69**	**109**	P	**Pn**	**23 01 08.4**	**-0.3**
ZFRI	**Zfri**	**1.79**	**12**	P	**Pn**	**23 01 09.5**	**-0.6**
ZFRI	**Zfri**	**1.79**	**12**	S	**Sn**	**23 01 33.8**	**+0.9**
ZFRI	**Zfri**	**1.79**	**12**	P	**Pn**	**23 01 09.5**	**-0.6**
URD07	**Al Anba**	**1.98**	**123**	P	**Pn**	**23 01 12.9**	**0.0**
KZIT	**Kziot**	**2.12**	**352**	P	**Pn**	**23 01 14.0**	**-0.6**
URD10	**Hayder**	**2.18**	**106**	P	**Pn**	**23 01 15.0**	**-0.4**
URD06	**Shuwaq**	**2.24**	**126**	P	**Pn**	**23 01 16.3**	**-0.1**
URD12	**Shuwaq**	**2.30**	**116**	P	**Pn**	**23 01 17.1**	**-0.1**
LISJ	**El Lisan**	**2.52**	**15**	P	**Pn**	**23 01 20.3**	**+0.3**
WJHS		**2.53**	**144**	P	**Pn**	**23 01 19.6**	**-0.6**
URD11	**Tayma**	**2.55**	**109**	P	**Pn**	**23 01 20.2**	**-0.4**
MSBI	**Mazada**	**2.56**	**12**	P	**Pn**	**23 01 20.3**	**-0.4**
YTIR	**Yattir**	**2.58**	**7**	P	**Pn**	**23 01 21.2**	**+0.2**
GHAJ	**Ghor Haditha**	**2.60**	**16**	P	**Pn**	**23 01 22.1**	**+1.0**
GHAJ	**Ghor Haditha**	**2.60**	**16**	P	**Pn**	**23 01 20.7**	**-0.4**
URD13	**Abu Rakah**	**2.73**	**117**	P	**Pn**	**23 01 23.0**	**0.0**
BIDS	**Bi'r al Bayda'**	**2.76**	**134**	P	**Pn**	**23 01 23.5**	**+0.2**
URD04	**Abu Rakah**	**2.82**	**127**	P	**Pn**	**23 01 24.5**	**+0.2**
DSI	**Dead Sea**	**2.82**	**11**	P	**Pn**	**23 01 23.6**	**-0.6**
URD15	**Abu Rakah**	**2.86**	**122**	P	**Pn**	**23 01 25.2**	**+0.3**
EWJHS	**Al Wajh**	**3.14**	**147**	P	**Pn**	**23 01 27.9**	**-0.6**
URD03	**Al Ula**	**3.21**	**131**	P	**Pn**	**23 01 30.1**	**+0.5**
HMDT	**Nahal Hemdat**	**3.51**	**11**	P	**Pn**	**23 01 33.4**	**-0.2**
OLAS	**OLAS**	**3.62**	**134**	P	**Pn**	**23 01 35.3**	**+0.1**

*DNK **06** 23:03:14.9±0.9,51°.39N×15°.76E, h18km±39km, ML1.8*
*VIE **06** 23:03:16.1±0.5,51°.51N×16°.14E, h0km, mb2.4/3, ml2.8/3, Error ellipse: s-maj=6.3km s-min=2.6km az=48.0, Suspected Mining induced.*
*IPEC **06** 23:03:16.3±0.2,51°.50N×16°.21E, h1km, ML2.4/4, Error ellipse: s-maj=1.7km s-min=1.0km az=34.0*
*PRU **06** 23:03:19.1,51°.42N×16°.09E, h0km*
ISC 06 23:03:15.0±0.8,**51°.59N**±0°.03×**16°.14E**±0°.03,**h0**km,**n35,** σ0§**99**/68,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.76**	**173**	*e*Pg	**Pg**	**23 03 29.4**	**-0.1**
KSP				*e*Sg	**Sg**	**23 03 38.4**	**-0.8**
CHVC	**Chvalec**	**1.01**	**183**	*e*PG	**Pg**	**23 03 34.2**	**0.0**
CHVC				*e*SG	**Sg**	**23 03 46.4**	**-0.8**
	comp=Z,42nm,0.4s						
OSTC	**Ostas**	**1.04**	**177**	*e*PG	**Pg**	**23 03 34.8**	**0.0**
OSTC				*e*SG	**Sg**	**23 03 47.5**	**-0.8**
	comp=Z,47nm,0.2s						
UPC	**Upice**	**1.09**	**184**	*e*Pg	**Pg**	**23 03 35.7**	**-0.1**
UPC				*e*SG	**Sg**	**23 03 48.9**	**-1.0**
DPC	**Dobruska-Polom**	**1.25**	**175**	*e*PG	**Pg**	**23 03 38.3**	**-0.6**
DPC				*e*SG	**Sg**	**23 03 53.6**	**-1.4**
	comp=Z,25nm,0.3s						
PVCC	**Panska Ves**	**1.45**	**224**	*e*PG	**Pn**	**23 03 42.5**	**0.0**
PVCC				*e*SG	**Sg**	**23 04 01.2**	**-0.4**
BRG	**Berggiesshubel**	**1.56**	**243**	Pg	**Pg**	**23 03 44.9**	**+0.1**
BRG				Sg	**Sg**	**23 04 05.4**	**+0.5**
BRG				Amp		23 04 07.3	
	comp=Z,43nm,0.4s						
KRLC	**Kraliky**	**1.57**	**165**	*e*PG	**Pn**	**23 03 43.7**	**-0.5**
KRLC				*e*SG	**Sn**	**23 04 03.8**	**-1.4**
RICC	**Richard**	**1.66**	**232**	*e*SG	**Sb**	**23 04 08.0**	**+0.1**
PRA	**Prague**	**1.87**	**216**	*e*PN	**Pn**	**23 03 48.0**	**-0.2**
PRA				*e*SG	**Sn**	**23 04 13.0**	**+0.6**
PRU	**Pruhonice**	**1.90**	**213**	*e*PG	**Pb**	**23 03 50.4**	**-0.1**
PRU				*e*SG	**Sb**	**23 04 14.2**	**-0.5**
	comp=Z,29nm,0.4s						
HSKC	**Hora Svate Kat**	**1.97**	**241**	*e*PG	**Pb**	**23 03 51.7**	**0.0**
HSKC				*e*SG	**Sb**	**23 04 17.4**	**+0.6**
	comp=Z,24nm,0.4s						
CLL	**Collm**	**1.98**	**263**	*e*Pn	**Pn**	**23 03 50.0**	**+0.2**
CLL				*e*Pg	**Pb**	**23 03 52.0**	**+0.1**
CLL				*i* x	x	23 03 55.9	
CLL				*e*Sg	**Sg**	**23 04 20.0**	**+1.4**
	comp=Z,13nm,0.4s						
MORC	**Moravsky Berou**	**2.02**	**153**	*e*Pn	**Pn**	**23 03 50.1**	**-0.3**
	baz=334						
MORC				*e*Sg	**Sn**	**23 04 16.7**	**+0.3**
	comp=Z,26nm,0.6s,baz=334						
MORC	**Moravsky Berou**	**2.02**	**153**	*e*PN	**Pn**	**23 03 50.2**	**-0.2**
MORC				*e*SG	**Sn**	**23 04 16.8**	**+0.3**
OKC	**Ostrava-Krasne**	**2.17**	**143**	*e*PG	**Pg**	**23 03 55.9**	**-0.7**
VRAC	**Vranov**	**2.30**	**173**	*e*Pn	**Pn**	**23 03 54.1**	**-0.1**
	baz=354						
VRAC				*e*Sg	**Sb**	**23 04 25.5**	**-0.9**
	comp=Z,20nm,0.6s,baz=354						
ZVC	**Zvikov**	**2.49**	**211**	*e*PN	**Pn**	**23 03 56.7**	**0.0**
KRUC	**Moravsky**	**2.54**	**176**	*e*Pn	**Pn**	**23 03 57.4**	**0.0**
	baz=357						
KRUC				*e*Sg	**Sb**	**23 04 32.8**	**-0.3**
	comp=Z,20nm,0.6s,baz=357						
OJC	**Ojcow**	**2.69**	**119**	*e*Pg	**Pg**	**23 04 06.7**	**+0.1**
OJC				*e*Sg	**Sg**	**23 04 41.4**	**-0.1**
NKC	**Novy Kostel**	**2.70**	**241**	*e*PN	**Pn**	**23 04 00.7**	**+1.0**
NKC				*e*PG	**Pg**	**23 04 06.5**	**-0.2**
KHC	**Kasperske Hory**	**2.96**	**215**	*e*PN	**Pn**	**23 04 03.2**	**0.0**
KHC				*e*PG	**Pb**	**23 04 09.3**	**+0.7**
KHC				*e*SN	**Sn**	**23 04 37.6**	**-1.8**
KHC				*e*SG	**Sb**	**23 04 47.0**	**+1.7**
	comp=Z,11nm,0.6s						
CKRC	**Cesky Krumlov**	**3.01**	**204**	*e*PN	**Pn**	**23 04 04.5**	**+0.5**
CKRC				*e*PG	**Pb**	**23 04 10.5**	**+1.0**
LANS	**Liptovska Anna**	**3.24**	**138**	*e*PN	**Pn**	**23 04 07.9**	**+0.8**
LANS				*e*PG	**Pg**	**23 04 19.6**	**+2.5**
LANS				*e*SG	**Sg**	**23 04 58.5**	**-0.6**
MODS	**Modra-Piesok**	**3.30**	**167**	*e*SG	**Sg**	**23 05 01.1**	**0.0**
NIE	**Niedzica**	**3.43**	**128**	*e*Pg	**Pg**	**23 04 20.2**	**-0.6**
NIE				*e*Sg	**Sg**	**23 05 03.6**	**-1.6**
VYHS	**Vyhne**	**3.56**	**150**	*e*PN	**Pn**	**23 04 11.5**	**+0.1**
VYHS				*e*PG	**Pg**	**23 04 23.3**	**+0.2**
VYHS				*e*SG	**Sb**	**23 05 05.8**	**+3.4**
BSD	**Bornholm Skovb**	**3.60**	**349**	*i* P	**Pn**	**23 04 12.5**	**+0.4**
BSD				*i* S	**Sn**	**23 04 55.2**	**0.0**
BSD				IAML		23 05 05.8	
	comp=Z,1.0nm,0.2s						
CONA	**Conrad Observa**	**3.67**	**183**	*i* Pn	**Pn**	**23 04 13.9**	**+0.9**
	comp=Z,0.8nm,0.2s						
RONA	**Rosalia, Austr**	**3.90**	**178**	Pg	**Pg**	**23 04 29.4**	**-0.2**
	comp=Z,0.5nm,0.2s						
MOA	**Molln**	**3.94**	**199**	*i* Pn	**Pn**	**23 04 16.9**	**+0.3**
	comp=Z,0.1nm,0.1s						
LUNU	**Lund**	**4.35**	**339**	*i* P	**Pn**	**23 04 22.4**	**+0.1**
LUNU				*e*S	**Sn**	**23 05 12.2**	**-1.5**
BLEU	**Blekinge**	**4.73**	**358**	*i* P	**Pn**	**23 04 28.6**	**+1.2**
BLEU				*i* S	**Sn**	**23 05 22.3**	**-0.5**
BJUU	**Bjuv**	**4.86**	**339**	*e*P	**Pn**	**23 04 29.4**	**+0.2**
BJUU				*i* S	**Sn**	**23 05 22.8**	**-3.2**
DEL	**Delary**	**5.07**	**346**	*i* P	**Pn**	**23 04 32.7**	**+0.5**
DEL				*i* S	**Sn**	**23 05 29.1**	**-2.2**

*IDC **06** 23:16:54.2±2.1,6°.07S×142°.34E, h0km, mb3.7/2, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=112.4km s-min=32.9km az=109.0*
ISC 06 23:16:54.8±1.3,**6°.4S**±0°.1×**142°.5E**±0°.1,**h10**km,**n5,** σ3§**24**/6,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.51**	**123**	Sn	**Sn**	**23 19 20.1**	**-0.4**
	1.5nm,0.3s,baz=192,slow=23,SNR=1.2						
WRA	**Warramunga Arr**	**15.60**	**210**	Pn	**Pn**	**23 20 36.5**	**+1.6**
	0.2nm,0.3s,baz=29,slow=14,SNR=7.5						
WRA				Sn	**Sn**	**23 23 24.2**	**-3.7**
	0.1nm,0.3s,baz=34,slow=24,SNR=1.2						
WRA				Lg	Lg	23 25 11.4	
	baz=40,slow=31,SNR=1.8						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**19.03**	**205**	P	**Pn**	**23 21 21.7**	**+3.8**
	0.4nm,0.3s,baz=29,slow=12,SNR=10.0						
	0.6nm,0.3s						
BVAR	**Borovoye Array**	**84.48**	**325**	P	**P**	**23 29 27.2**	**-0.6**
	0.4nm,0.6s,baz=114,slow=2.0,SNR=1.7						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**87.66**	**24**	P	**P**	**23 29 42.8**	**-0.5**
	0.3nm,0.7s,baz=239,slow=5.1,SNR=2.8						
	0.3nm,0.7s						

*AEIC **06** 23:17:42.6±2.6,51°.15N±0°.05×178°.45W±0°.05, h27km±5km, Error ellipse: s-maj=8.1km s-min=4.1km az=166.0*
*NEIC **06** 23:17:42.6±2.4,51°.18N±0°.06×178°.46W±0°.05, h35km±2km, mb4.3/136, ML4.1(AEIC), Error ellipse: s-maj=10.4km s-min=4.9km az=171.0*
*IDC **06** 23:17:46.3±2.8,51°.59N×178°.53W, h64km±23km, mb3.7/25, mbtmp4.0/26, MS3.2/12, Error ellipse: s-maj=19.3km s-min=11.2km az=170.0*
ISC 06 23:17:44.5±1.2,**51°.35N**±0°.10×**178°.48W**±0°.03,**h54**km±8km, **n238,** σ1§**06**/232,**mb4.2**/89,**MS3.4**/9,**1C, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.45**	**336**		**Pn**	**23 17 55.4**	**-0.1**
GAEA	**Gareloi East**	**0.46**	**339**		**Pn**	**23 17 55.5**	**-0.1**
GASW	**Gareloi Southw**	**0.49**	**332**		**Pn**	**23 17 55.5**	**-0.3**
GANO	**Gareloi North**	**0.51**	**337**		**Pn**	**23 17 55.8**	**-0.4**
TASE	**Tanaga Southea**	**0.56**	**30**		**Pn**	**23 17 56.3**	**-0.5**
TAFP	**Tanaga Falls P**	**0.63**	**29**		**Pn**	**23 17 57.1**	**-0.5**
TAFP					**Sn**	**23 18 07.1**	**0.0**
KIMD	**Kanaga

TRF Thorofare Moun 19.22 40 P Pn 23 22 04.7 -0.6
TRF IAmb IAmb 23 22 33.5
comp=Z,11nm,1.0s
BPAW Bear Paw Mtn. 19.25 38 P Pn 23 22 05.3 -0.2
KNK Knik Glacier 19.25 47 P Pn 23 22 04.9 -0.6
IMAR Indian Mountai 19.30 31 P Pn 23 22 05.8 -0.2
SEY Seymchan 19.40 318 P Pn 23 22 07.8 +0.6
comp=Z,0.8nm,0.2s,baz=22,slow=16,SNR=1.2
SEY LR LR 23 28 37.0
comp=Z,102nm,21.4s,baz=360,slow=34
SML Sawmill 19.43 46 P P 23 22 06.8 +0.6
RND Reindeer 19.79 41 P P 23 22 10.1 +0.1
RND IAmb IAmb 23 22 14.0
comp=Z,7.4nm,0.8s
MLY Manley 19.80 36 P Pn 23 22 11.1 -0.9
SCM Sheep Creek Mo 19.89 46 P P 23 22 08.9 -2.3
SCM IAmb IAmb 23 22 20.1
comp=Z,22nm,1.3s
HIN Hinchinbrook I 19.91 51 P P 23 22 11.7 +0.5
F21K Alatna River 20.15 29 P Pn 23 22 15.1 -1.1
NEA2 Nenana 20.22 38 P P 23 22 14.8 +0.3
NEA2 IAmb IAmb 23 22 20.0
comp=Z,8.7nm,1.0s
I23K Minto, Yukon-K 20.37 36 P P 23 22 16.2 +0.1
I23K IAmb IAmb 23 22 22.3
comp=Z,6.5nm,0.7s
KLU Klutina 20.44 48 P P 23 22 18.0 +0.9
KLU IAmb IAmb 23 22 29.9
comp=Z,16nm,1.4s
M24K Tolsona, Glenn 20.50 46 P P 23 22 17.1 -0.6
M24K IAmb IAmb 23 22 38.7
comp=Z,27nm,1.3s
WRH Wood River Hil 20.54 39 P P 23 22 18.4 +0.3
WRH IAmb IAmb 23 22 24.6
comp=Z,9.4nm,1.3s
MDM Murphy Dome 20.70 37 P P 23 22 20.5 +0.7
MDM IAmb IAmb 23 22 26.5
comp=Z,6.1nm,0.8s
CCB Clear Creek Bu 20.73 38 P P 23 22 20.5 +0.5
HDA Harding Lake 20.97 39 P Pn 23 22 24.8 -1.0
HDA IAmb IAmb 23 22 54.8
comp=Z,9.1nm,1.2s
POKR Poker Plat Res 21.08 37 P P 23 22 25.1 +1.3
N25K Chitina, Valde 21.09 48 P P 23 22 24.6 +0.6
IL31 21.14 39 P P 23 22 23.2 -1.2
ILAR Eielson Array 21.14 39 P P 23 22 22.5 -2.0
ILAR Eielson Array 21.14 39 P P 23 22 23.4 -1.1
comp=Z,0.7nm,0.5s,baz=239,slow=8.9,SNR=18
ILAR PcP PcP 23 26 28.1 -0.1
comp=Z,0.6nm,0.5s,baz=271,slow=4.2,SNR=9.2
comp=Z,0.7nm,0.5s
GLB Gilahina Butte 21.42 48 P P 23 22 26.0 -1.5
B21K Ikpikpuk River 21.49 23 IAmb IAmb 23 22 47.8
comp=Z,10nm,1.1s
VRDI Verde Repeater 21.54 49 P P 23 22 29.6 +0.6
VRDI IAmb IAmb 23 22 50.5
comp=Z,12nm,1.4s
WAX Waxell Ridge 21.69 51 P P 23 22 29.2 -1.3
WAX IAmb IAmb 23 22 39.3
comp=Z,8.9nm,1.0s
TGL Tana Glacier 21.75 51 P P 23 22 29.3 -1.9
TGL IAmb IAmb 23 22 47.9
comp=Z,9.8nm,1.2s
G24K Hadweenzic Riv 21.80 33 IAmb IAmb 23 22 50.5
comp=Z,9.4nm,1.0s
MENT Mentasta 21.82 45 P P 23 22 33.1 +1.3
MENT IAmb IAmb 23 22 48.6
comp=Z,5.2nm,0.7s
ISLE Juniper Island 21.97 51 P P 23 22 34.1 +0.5
ISLE IAmb IAmb 23 23 10.1
comp=Z,14nm,1.1s
PRP Porcupine Dome 21.97 37 P P 23 22 32.5 -1.1
PRP IAmb IAmb 23 23 10.1
comp=Z,8.2nm,1.3s
L26K Log Cabin Wild 22.01 44 P P 23 22 34.7 +0.8
L26K IAmb IAmb 23 22 51.2
comp=Z,5.6nm,0.7s
SCRK Sand Creek 22.02 42 P P 23 22 32.7 -1.3
GRNC Granite Creek 22.27 51 P P 23 22 36.9 0.0
GRNC IAmb IAmb 23 22 50.7
comp=Z,14nm,1.4s
BARN Barnard Glacie 22.37 50 P P 23 22 38.2 +0.3
J26L Joseph Creek 22.37 41 IAmb IAmb 23 22 40.6
comp=Z,5.1nm,0.6s
M27K Edge Creek, AK 22.51 47 IAmb IAmb 23 22 44.9
comp=Z,7.5nm,1.1s
CTGM Chitina Glacie 22.51 50 P P 23 22 37.9 -1.5
TABL Table Mountain 22.53 52 P P 23 22 39.0 -0.7
TABL IAmb IAmb 23 23 14.2
comp=Z,21nm,1.3s
LOGN Logan Glacier 22.65 51 P P 23 22 41.4 +0.6
LOGN IAmb IAmb 23 23 00.5
comp=Z,8.0nm,1.2s
C23K Itkillik River 22.66 25 IAmb IAmb 23 22 41.7
comp=Z,6.9nm,0.7s
BCAR Beaver Creek A 22.71 45 P P 23 22 40.5 -0.9
BMAR Burnt Mountain 23.15 33 P P 23 22 45.5 -0.3
E25K Arctic Village 23.15 31 P P 23 22 45.9 +0.1
EGAK Eagle 23.44 41 P P 23 22 48.4 0.0
EGAK IAmb IAmb 23 23 00.3
comp=Z,14nm,1.4s
D25K Kavik River 23.53 28 P P 23 22 48.9 -0.6
DAWY Dawson 23.99 43 P P 23 22 52.8 -0.9
M29M Somme Creek 24.09 47 IAmb IAmb 23 23 15.7
comp=Z,9.4nm,1.4s
I28M Miner Creek 24.13 40 P P 23 22 54.2 -0.8
I28M IAmb IAmb 23 22 59.5
comp=Z,6.1nm,0.7s
K29M Barlow Dome 24.75 44 P P 23 23 00.3 -0.4
K29M IAmb IAmb 23 23 01.9
comp=Z,4.8nm,0.9s
G31M Satah River 26.74 38 P P 23 23 16.6 -1.8
ASAJ Asahikawa 26.91 270 LR LR 23 33 50.4
comp=Z,30nm,20.5s,baz=115,slow=36
INK Inuvik 27.36 35 P P 23 23 23.4 -0.6
INK IAmb IAmb 23 23 29.6
comp=Z,6.3nm,1.4s
A36M Sachs Harbour 31.01 29 P P 23 23 56.4 +0.1
A36M IAmb IAmb 23 24 04.8
comp=Z,4.8nm,0.9s
OZB Mount Ozzard 33.42 73 P P 23 24 19.3 +1.6
USA0B Ussuriysk Arra 33.50 278 P P 23 24 17.7 -0.6
USA0B IAmb IAmb 23 24 19.2
comp=Z,5.1nm,0.6s
USRK Ussuriysk Ar. 33.50 278 P P 23 24 18.8 +0.5
USRK Ussuriysk Ar. 33.50 278 P P 23 24 18.7 +0.3
comp=Z,3.8nm,0.7s,baz=72,slow=11,SNR=5.0
comp=Z,3.8nm,0.7s
MJAR Matsushiro Arr 33.98 261 P P 23 24 23.2 +0.6
comp=Z,1.9nm,0.8s,baz=51,slow=9.5,SNR=4.4
MJAR LR LR 23 37 40.9
comp=Z,22nm,19.1s,baz=52,slow=35
comp=Z,1.9nm,0.8s
H11S1 WAKE ISLAND Hy 34.81 205 T T 00 01 43.0
baz=17,slow=76,SNR=866
H11S2 WAKE ISLAND Hy 34.83 205 T T 00 01 44.2
baz=17,slow=76,SNR=423
H11S3 WAKE ISLAND Hy 34.83 205 T T 00 01 45.3
baz=17,slow=76,SNR=467
YKA Yellowknife Ar 35.10 46 P P 23 24 31.2 -0.9
comp=Z,0.5nm,0.5s,baz=281,slow=8.6,SNR=11
YKA PcP PcP 23 27 03.5 +1.1
comp=Z,0.3nm,0.4s,baz=287,slow=3.1,SNR=8.7
comp=Z,0.5nm,0.5s
BNX BinXian 35.57 283 ⇑P P 23 24 36.0 -0.2
BNX pmax pmax
comp=Z,8.0nm,1.1s
BNX pmax pmax
comp=Z,130nm,4.8s
LON Longmire 36.63 74 P P 23 24 46.0 +0.6
LON IAmb IAmb 23 24 49.6
comp=Z,2.1nm,0.8s
H04A Detroit Lake 37.43 78 P P 23 24 53.9 +1.8
H04A IAmb IAmb 23 24 55.4
comp=Z,15nm,1.4s
I04A Tendick Farm, 37.75 79 P P 23 24 56.5 +1.6
I04A IAmb IAmb 23 24 57.8
comp=Z,8.5nm,0.9s
NEW Newport 38.70 70 P P 23 25 03.2 +0.4
NEW IAmb IAmb 23 25 04.6
comp=Z,6.7nm,0.7s
J05D Fort Rock, OR 38.75 79 P P 23 25 05.2 +1.9
J05D IAmb IAmb 23 25 15.7
comp=Z,4.1nm,1.0s
K05A Summer Lake 39.26 79 P P 23 25 09.9 +2.2
K05A IAmb IAmb 23 25 20.2
comp=Z,7.4nm,1.1s
I07A Izee 39.38 77 P P 23 25 10.2 +1.5
I07A IAmb IAmb 23 25 11.3
comp=Z,3.5nm,0.7s
F10A Beach Ranch, E 39.77 73 P P 23 25 12.2 +0.4
KSRS Korea Array 39.84 271 P P 23 25 13.6 +1.3
comp=Z,2.9nm,0.8s,baz=56,slow=11,SNR=6.1
KSRS LR LR 23 39 29.6
comp=Z,8.3nm,21.9s,baz=175,slow=33
comp=Z,2.9nm,0.8s
EUNU Eureka 40.26 16 P P 23 25 15.8 +0.3
JNU Nakatsue 40.77 264 LR LR 23 39 53.9
comp=Z,24nm,21.9s,baz=50,slow=33
WVOR Wild Horse Val 40.81 78 P P 23 25 19.8 -0.7
WVOR IAmb IAmb 23 25 23.1
comp=Z,4.0nm,0.7s
BPMT Black Pine Rid 41.78 70 P P 23 25 28.5 0.0
HLID Hailey 42.76 74 P P 23 25 36.7 +0.2
BMN Battle Mountai 42.83 80 P P 23 25 38.6 +1.5
BMN IAmb IAmb 23 25 39.4
comp=Z,3.3nm,0.7s
BOZ Bozeman (W) 43.30 70 P P 23 25 41.0 +0.2
BOZ IAmb IAmb 23 25 42.4
comp=Z,6.5nm,0.6s
NVAR Mina Array Bea 43.36 83 P P 23 25 42.8 +1.4
comp=Z,0.5nm,0.6s,baz=297,slow=9.0,SNR=5.1
comp=Z,0.5nm,0.6s
ELK Elko 43.87 78 P P 23 25 47.0 +1.5
ELK IAmb IAmb 23 25 47.8
comp=Z,3.0nm,0.8s
YHH Holmes Hill 44.20 71 P P 23 25 49.2 +1.0
GMN Gold Mountain 44.70 84 P P 23 25 52.7 +0.5
HVU Hansel Valley 44.76 75 P P 23 25 53.3 +0.7
HVU IAmb IAmb 23 25 54.7
comp=Z,3.6nm,0.8s
RLMT Red Lodge 44.95 70 P P 23 25 55.0 +0.9
RLMT IAmb IAmb 23 25 56.8
comp=Z,6.8nm,0.8s
R11B Troy Canyon, C 45.09 81 P P 23 25 56.0 +0.7
R11B IAmb IAmb 23 26 31.6
comp=Z,4.7nm,1.1s
DUG Dugway, Tooele 45.68 77 P P 23 26 01.0 +1.1
DUG IAmb IAmb 23 26 03.3
comp=Z,8.9nm,1.1s
FCC Fort Churchill 45.84 46 P P 23 25 59.1 -1.4
FCC IAmb IAmb 23 26 16.8
comp=Z,5.6nm,1.5s
LAO LASA Array 45.85 66 P P 23 26 01.2 +0.3
LAO IAmb IAmb 23 26 09.3
comp=Z,9.4nm,1.3s
PDAR Pinedale Array 46.13 72 P P 23 26 03.9 +0.5
PDAR Pinedale Array 46.13 72 P P 23 26 04.3 +0.9
comp=Z,2.6nm,0.5s,baz=338,slow=3.1,SNR=49
comp=Z,2.6nm,0.5s
SONM Songino Array 46.84 297 P P 23 26 09.2 +0.5
comp=Z,0.4nm,0.5s,baz=46,slow=4.7,SNR=4.6
SONM PcP PcP 23 27 42.3 +1.4
comp=Z,0.7nm,0.4s,baz=71,slow=2.2,SNR=7.1
SONM LR LR 23 46 46.9
comp=Z,46nm,20.1s,baz=56,slow=37
comp=Z,0.4nm,0.5s
MSU Marysvale 47.10 79 P P 23 26 12.8 +1.7
SRU San Rafael Swe 47.74 77 P P 23 26 16.9 +0.9
SRU IAmb IAmb 23 26 18.9
comp=Z,5.7nm,0.9s
HHC Hu-ho-hao-te 47.89 286 eP P 23 26 18.4 +1.4
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,76nm,5.8s
HHC LR LR
comp=N,110nm,15.7s
HHC LR LR
comp=E,79nm,14.9s
HHC LR LR
comp=Z,100nm,14.0s
HMU Henry Mountain 48.34 78 P P 23 26 21.0 +0.3
U15A North Rim 48.34 81 P P 23 26 21.9 +1.1
U15A IAmb IAmb 23 26 23.1
comp=Z,3.8nm,0.9s
O20A White River Ci 48.50 74 P P 23 26 22.2 +0.4
ULM Lac du Bonnet 49.53 57 PcP PcP 23 27 50.4 0.0
comp=Z,1.6nm,0.7s,baz=40,slow=6.5,SNR=4.0
KBS Kingsbay 49.83 357 P P 23 26 31.8 +0.5
SPITS Spitsbergen Ar 50.42 356 P P 23 26 35.2 -0.5
comp=Z,2.0nm,0.4s,baz=30,slow=7.0,SNR=32
comp=Z,2.0nm,0.4s
SPB2 Spitsbergen Ar 50.42 356 P P 23 26 34.7 -1.0
EYMN Ely 53.22 57 P P 23 26 56.7 -0.3
ZALV Zalesovo Beam 54.20 314 PcP PcP 23 28 08.0 +0.2
comp=Z,1.3nm,0.5s,baz=32,slow=4.4,SNR=6.3
ZALV LR LR 23 52 57.1
comp=Z,35nm,18.2s,baz=59,slow=39
LZH Lanzhou 55.58 286 eP P 23 27 15.9 +1.4
LZH pP pP 23 27 22.9 -6.1
LZH pmax pmax
comp=Z,16nm,1.3s
COWI Conover 55.64 57 P P 23 27 13.8 -0.7
GTA Gaotai 55.76 292 eP P 23 27 16.6 +0.9
GTA pmax pmax
comp=Z,7.0nm,0.7s
E43A Lone Tree Farm 56.58 56 P P 23 27 21.4 +0.1
ARCES ARCESS Array B 58.15 350 P P 23 27 30.8 -1.2
ARCES ARCESS Array B 58.15 350 P P 23 27 31.1 -0.9
comp=Z,1.3nm,0.5s,baz=24,slow=7.5,SNR=16
comp=Z,1.3nm,0.5s
P40A Paris 58.40 65 P P 23 27 33.6 -0.6
TXAR Lajitas Array 58.46 81 P P 23 27 35.3 +0.5
TXAR Lajitas Array 58.46 81 P P 23 27 35.6 +0.8
comp=Z,0.7nm,0.5s,baz=309,slow=4.4,SNR=9.2
comp=Z,0.7nm,0.5s
KURK Kurchatov 59.18 314 P P 23 27 38.4 -1.0
KURK IAmb IAmb 23 28 01.2
comp=Z,4.4nm,1.4s
KURBB Kurchatov Arra 59.29 314 P P 23 27 39.3 -0.8
comp=Z,1.0nm,0.6s,baz=42,slow=6.4,SNR=13
KURBB PcP PcP 23 28 28.1 +0.3
comp=Z,0.4nm,0.6s,baz=40,slow=4.4,SNR=6.2
comp=Z,1.0nm,0.6s
WMQ Urumqi 59.52 303 eP P 23 27 44.2 +2.2
WMQ pmax pmax
comp=Z,20nm,1.1s
CCM Cathedral Cave 59.87 66 P P 23 27 43.4 -0.9
CCM IAmb IAmb 23 27 44.4
comp=Z,3.8nm,0.7s
MKAR Makanchi Array 60.21 309 P P 23 27 45.0 -1.5
MKAR Makanchi Array 60.21 309 P P 23 27 44.8 -1.8
comp=Z,0.3nm,0.4s,baz=49,slow=6.3,SNR=9.6
MKAR PcP PcP 23 28 31.9 +0.4
comp=Z,0.4nm,0.5s,baz=42,slow=4.0,SNR=4.9
comp=Z,0.3nm,0.4s
GOMU GeErMu 60.85 292 P P 23 27 52.4 +0.9
GOMU pP pP 23 27 57.2 -9.0
GOMU sP sP 23 28 00.1 -12
GOMU pmax pmax
comp=Z,5.0nm,0.9s
BVAR Borovoye Array 61.04 320 P P 23 27 51.7 -0.4
comp=Z,1.1nm,0.4s,baz=52,slow=6.7,SNR=11
BVAR PcP PcP 23 28 34.7 0.0
comp=Z,0.7nm,0.3s,baz=55,slow=2.9,SNR=5.0
BVAR LR LR 23 56 02.4
comp=Z,45nm,19.6s,baz=55,slow=38
comp=Z,1.1nm,0.4s
H06E1 SOCORRO T-PHAS 61.57 95 T T 00 34 45.4
Q48B Farmland 61.73 60 P P 23 27 55.9 -1.0
WVT Waverly 63.16 65 P P 23 28 07.1 +0.6
WVT IAmb IAmb 23 28 07.9
comp=Z,4.5nm,0.8s
PZH PanZhiHua 63.55 280 P P 23 28 10.3 +0.9
PZH pmax pmax
comp=Z,6.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.1s
WVNY West Valley, N 63.66 55 P P 23 28 09.7 -0.1
KIRV Kirov 63.69 334 LR LR 23 58 37.6
comp=Z,33nm,19.8s,baz=27,slow=39
U49A Red Boiling Sp 64.05 64 P P 23 28 13.0 +0.6
T50A Nancy 64.21 63 P P 23 28 13.9 +0.5
L56A Greenwood 64.39 54 P P 23 28 14.6 0.0
SWET Sewanee 64.89 65 P P 23 28 17.3 -0.7
Z47A Carrollton 65.12 68 P P 23 28 19.6 +0.2
CPCT Cooper Cave 65.52 64 P P 23 28 21.9 -0.1
FPAL Fort Paine 65.56 65 P P 23 28 21.9 -0.4
TKL Tuckaleechee C 65.78 63 P P 23 28 24.0 +0.3
FINES FINESS Array B 65.85 347 P P 23 28 22.2 -1.5
FINES FINESS Array B 65.85 347 P P 23 28 22.0 -1.7
comp=Z,1.0nm,0.4s,baz=18,slow=8.0,SNR=16
comp=Z,1.0nm,0.4s
BG3 Lake Jocassee 66.74 63 P P 23 28 29.9 +0.1
NC204 NORSAR Array S 67.48 355 P P 23 28 32.5 -1.6
GOGA Godfrey 67.60 64 P P 23 28 34.6 -0.7
NB201 NORSAR Array S 67.68 355 P P 23 28 34.7 -0.7
NB2 NORSAR Subarra 67.69 355 P P 23 28 35.0 -0.5
comp=Z,0.5nm,0.5s,baz=5.9,slow=6.5
NOA NORSAR Array B 67.69 355 P P 23 28 35.0 -0.5
comp=Z,0.3nm,0.5s,baz=250,slow=3.4,SNR=7.4
comp=Z,0.3nm,0.5s
ABKAR Akbulak array 68.08 323 P P 23 28 36.8 -1.2
JSC Jenkinsville 68.19 62 P P 23 28 39.4 +0.4
HFS Hagfors 68.44 353 P P 23 28 39.0 -1.0
comp=Z,0.8nm,0.4s,baz=52,slow=5.8,SNR=7.5
comp=Z,0.8nm,0.4s
KSH Kashi 68.68 307 P P 23 28 46.4 +4.3
KSH pmax pmax
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 71.22 276 P P 23 28 58.3 +0.5
comp=Z,3.1nm,0.3s,baz=27,slow=7.3,SNR=6.9
comp=Z,3.1nm,0.3s
GAR Garm 71.85 310 P P 23 29 01.1 -0.4
GAR IAmb IAmb 23 29 05.5
comp=Z,10nm,1.4s
EKA Eskdalemuir Ar 73.61 3 P P 23 29 10.3 -1.2
comp=Z,0.6nm,0.5s,baz=1.7,slow=5.4,SNR=8.3
comp=Z,0.6nm,0.5s
AKASG Malin Array Be 75.64 342 P P 23 29 22.6 -0.6
comp=Z,1.0nm,0.4s,baz=20,slow=6.5,SNR=7.8
comp=Z,1.0nm,0.4s
KIEV Kiev 75.64 342 P P 23 29 21.7 -1.6
KIEV IAmb IAmb 23 29 58.0
comp=Z,8.9nm,1.4s
KWP Kalwaria Pacla 77.78 346 P P 23 29 35.9 +0.4
BUR08 Bucovina Ar. S 79.31 344 P P 23 29 44.2 +0.3
BUR08 IAmb IAmb 23 29 50.0
comp=Z,5.1nm,1.2s
BURAR Bucovina Array 79.33 344 P P 23 29 44.4 +0.3
BURAR IAmb IAmb 23 29 45.8
comp=Z,2.0nm,0.6s
GERES GERESS Array B 79.64 352 P P 23 29 45.7 0.0
comp=Z,0.6nm,0.6s,baz=44,slow=5.8,SNR=3.0
comp=Z,0.6nm,0.6s
MOTA Moosalm 81.34 353 eP P 23 29 55.5 +0.6
comp=Z,0.3nm,0.2s
WTTA Wattenberg 81.38 353 eP P 23 29 56.2 +1.0
comp=Z,1.7nm,0.4s
KBA Koelnbreinsper 81.42 352 eP P 23 29 56.3 +0.9
comp=Z,3.4nm,0.6s
SQTA Sankt Quirin 81.45 353 i P P 23 29 56.5 +1.0
comp=Z,0.6nm,0.2s
SOKA Soboth 81.66 351 i P P 23 29 57.5 +1.0
comp=Z,0.6nm,0.4s
FETA Feichten 81.69 354 eP P 23 29 57.5 +0.7
comp=Z,0.6nm,0.4s
ABTA Abfaltersbach 81.82 352 eP P 23 29 57.8 +0.3
comp=Z,0.6nm,0.5s
OBKA Obir 81.88 351 eP P 23 29 58.0 +0.3
comp=Z,1.0nm,0.6s
PRED Cave del Predi 82.03 352 P P 23 29 57.2 -1.3
WRA Warramunga Arr 82.13 224 P P 23 29 59.2 0.0
comp=Z,0.5nm,0.6s,baz=33,slow=6.0,SNR=2.6
comp=Z,0.5nm,0.6s
TEOL Teolo 83.27 353 P P 23 30 05.3 +0.4
BRTR Keskin Array B 85.05 336 P P 23 30 14.0 -0.3
comp=Z,1.3nm,0.7s,baz=312,slow=40,SNR=4.1
comp=Z,1.3nm,0.7s
ASAR Alice Springs 85.60 223 P P 23 30 17.7 +0.9
comp=Z,1.0nm,0.7s,baz=23,slow=5.5,SNR=6.6
comp=Z,1.0nm,0.7s
ESDC Sonseca Array 89.22 4 P P 23 30 32.7 -1.6
comp=Z,0.4nm,0.5s,baz=348,slow=4.2,SNR=4.6
comp=Z,0.4nm,0.5s
TORD Torodi Ar. Bea 115.77 360 PKP PKiKP 23 36 20.1 -0.9
comp=Z,0.2nm,0.4s,baz=1.7,slow=3.2,SNR=5.3
H03N2 Juan Fernandez 120.94 106 T T 01 49 17.1
baz=317,slow=77,SNR=57
H03N1 Juan Fernandez 120.96 106 T T 01 49 18.4
baz=317,slow=77,SNR=77
H03N3 Juan Fernandez 120.96 106 T T 01 49 17.7
baz=317,slow=77,SNR=82
DBIC Dimbokro 121.95 7 PKP PKPdf 23 36 31.5 -1.3
comp=Z,1.4nm,0.5s,baz=298,slow=3.7,SNR=1.9
QSPA South Pole Qui 141.10 180 PKhKP PKPpre 23 37 03.6
comp=Z,0.6nm,0.7s,baz=259,slow=1.9,SNR=3.1
BOSA Boshof 151.14 313 PKPbc PKiKP 23 37 31.9 0.0
comp=Z,4.4nm,0.7s,baz=72,slow=1.2,SNR=13

*IDC **06** 23:27:44.9±1.1, 30.77S×177.61W, h0km, mb3.8/4, mbtmp3.8/5, ML3.5/1, Error ellipse: s-maj=33.6km s-min=20.3km az=95.0*
ISC 06 23:27:46.6±1.1, 30.87S±0.08×177.8W±0.2, h10km, n19, σ1s79/15, mb3.9/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.62**	**355**	Pn	**Pn**	**23 28 14.2**	**-1.0**
	65nm,0.3s,baz=118,slow=18,SNR=2.0						
RAO				Sn	**Sn**	**23 28 35.3**	**-0.8**
	230nm,0.3s,baz=102,slow=20,SNR=5.4						
URZ	**Urewera**	**8.49**	**208**	Pn	**Pn**	**23 29 50.7**	**+1.1**
	0.6nm,0.3s,baz=90,slow=13,SNR=1.6						
URZ				Sn	**Sn**	**23 31 20.8**	**-4.6**
	2.2nm,0.3s,baz=47,slow=21,SNR=7.1						
	3.3nm,0.5s						
STKA	**Stephens Creek**	**34.57**	**258**	P	**P**	**23 34 38.1**	**+2.5**
	0.6nm,0.4s,baz=111,slow=14,SNR=3.2						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**43.29**	**267**	P	**P**	**23 35 49.5**	**+0.7**
	0.5nm,0.5s,baz=108,slow=8.0,SNR=5.0						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**44.32**	**273**	P	**P**	**23 35 57.1**	**+0.1**
	0.6nm,0.4s,baz=111,slow=8.0,SNR=9.2						
	0.6nm,0.4s						
QSPA	**South Pole Qui**	**59.24**	**180**	P	**P**	**23 37 49.1**	**+1.2**
	0.8nm,0.5s,baz=320,slow=0.5,SNR=7.0						
	0.8nm,0.5s						
H03S2	**Juan Fernandez**	**80.03**	**123**	T	T	01 08 57.3	
	baz=240						
H03S1	**Juan Fernandez**	**80.05**	**123**	T	T	01 08 54.5	
	baz=240						
H03S3	**Juan Fernandez**	**80.05**	**123**	T	T	01 08 53.3	
	baz=240						
H03N3	**Juan Fernandez**	**80.23**	**123**	T	T	01 09 09.2	
	baz=240						
H03N2	**Juan Fernandez**	**80.23**	**123**	T	T	01 09 11.5	
	baz=240						
H03N1	**Juan Fernandez**	**80.25**	**123**	T	T	01 09 15.3	
	baz=240						
MKAR	**Makanchi Array**	**118.23**	**310**	PKP	**PKPdf**	**23 46 33.2**	**-0.6**
	0.3nm,0.8s,baz=122,slow=2.6,SNR=2.7						
KURBB	**Kurchatov Arra**	**121.56**	**313**	PKP	**PKPdf**	**23 46 38.0**	**-2.0**
	0.1nm,0.3s,baz=103,slow=2.4,SNR=5.4						
BVAR	**Borovoye Array**	**126.89**	**315**	PKP	**PKPdf**	**23 46 49.8**	**-0.3**
	0.4nm,0.4s,baz=68,slow=3.9,SNR=2.7						
FINES	**FINESS Array B**	**145.66**	**340**	PKPbc	**PKPdf**	**23 47 24.6**	**+0.1**
	3.5nm,0.7s,baz=57,slow=4.6,SNR=20						
NB2	**NORSAR Subarra**	**149.25**	**351**	PKP	**PKPbc**	**23 47 35.1**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=14,slow=2.7						
NOA	**NORSAR Array B**	**149.25**	**351**	PKPbc	**PKPbc**	**23 47 34.0**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=17,slow=4.2,SNR=4.3						
HFS	**Hagfors**	**149.75**	**349**	PKPbc	**PKPbc**	**23 47 35.4**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=48,slow=2.3,SNR=2.2						

*KRNET **06** 23:38:11.6±0.1, 40.98N×74.54E, h16km, mb3.0*
*NNC **06** 23:38:12.7±1.0, 40.98N×74.59E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=7.9km s-min=4.6km az=170.0*
*SOME **06** 23:38:12.4, 41.07N×74.53E, h5km*
*KNET **06** 23:38:14.3±0.6, 41.12N×74.64E, h5km±4km, ml2.6, Error ellipse: s-maj=5.0km s-min=3.9km az=21.0*
ISC 06 23:38:10.4±1.2, 40.95N±0.03×74.55E±0.02, h11km±12km, n77, σ1s78/127, 51C-18D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARLS	**Aral**	**0.93**	**350**	⇑*i*P	**Pb**	**23 38 28.6**	**-0.1**
	baz=50						
ARLS				⇑*i*S	**Sg**	**23 38 40.9**	**+0.4**
	baz=50						
NRN	**Naryn**	**1.20**	**66**	⇑*i*P	**Pn**	**23 38 33.7**	**+0.2**
	baz=67						
NRN				⇑*i*S	**Sn**	**23 38 50.1**	**+0.2**

baz=67
SFK Sufi-Kurgan 1.22 221 ⇓*i*P Pb 23 38 34.9 +1.2
baz=20
SFK ⇓*i*S **Sg 23 38 52.5 +2.7**
baz=20
UCH Uchtor 1.28 359 ⇓P Pg 23 38 35.6 +0.6
22nm,0.1s,SNR=118
UCH ⇑S **Sg 23 38 52.6 +0.9**
127nm,0.4s
UCH Uchtor 1.28 359 ⇑*i*P Pb 23 38 35.3 +0.5
baz=59
UCH ⇑*i*S **Sg 23 38 52.6 +0.9**
baz=59
OHH Osh 1.40 253 ⇓*i*P Pb 23 38 38.0 +1.4
baz=52
OHH ⇓*i*S **Sg 23 38 57.4 +1.9**
baz=52
AAK Ala-Archa 1.69 359 ⇑P Pg 23 38 43.0 +0.2
46nm,0.2s,SNR=70
AAK ⇑S **Sg 23 39 05.3 +0.5**
37nm,0.2s
AAK Ala-Archa 1.69 359 ⇑*i*P Pb 23 38 42.6 +1.0
baz=59
AAK ⇑*i*S **Sg 23 39 05.1 +0.3**
baz=59
KBK Karagaybulak 1.74 10 ⇓P Pg 23 38 44.0 +0.3
72nm,0.2s,SNR=51
KBK ⇑S **Sg 23 39 07.2 +0.9**
53nm,0.2s
KBK Karagaybulak 1.74 10 ⇑*i*P Pb 23 38 43.3 +0.9
baz=10.0
KBK ⇑*i*S **Sg 23 39 06.5 +0.3**
baz=10.0
EKS2 Erkin-Say 1.81 342 ⇓P Pg 23 38 45.2 +0.1
7.8nm,0.2s,SNR=27
EKS2 ⇓S **Sg 23 39 09.0 +0.5**
32nm,0.4s
EKS2 Erkin-Say 1.81 342 ⇑*i*P Pb 23 38 44.5 +0.9
baz=42
EKS2 ⇑*i*S **Sg 23 39 08.7 +0.1**
baz=42
ULHL Ulahol 1.82 44 ⇓P Pb 23 38 44.9 +1.0
12nm,0.2s,SNR=87
ULHL ⇓S **Sg 23 39 08.2 -0.7**
81nm,0.2s
ULHL Ulahol 1.82 44 ⇑*i*P Pb 23 38 45.0 +1.2
baz=45
ULHL ⇑*i*S **Sg 23 39 08.9 0.0**
baz=45
FRU1 Bishkek 1.86 2 ⇑*i*P Pg 23 38 46.0 -0.1
baz=2.0
FRU1 ⇑*i*S **Sg 23 39 11.1 +0.8**
baz=2.0
MRKS Merke 2.05 332 *e*P Pg 23 38 49.6 -0.1
32nm,0.3s
MRKS *e*S **Sg 23 39 16.1 -0.2**
104nm,0.5s
MRKS Merke 2.05 332 Pg Pg 23 38 49.6 -0.1
32nm,0.3s
MRKS Lg Lg 23 39 16.1
104nm,0.5s
CHMS Chumysh 2.06 4 ⇓P Pg 23 38 49.6 -0.3
8.5nm,0.2s,SNR=8.7
CHMS ⇑S **Sg 23 39 16.7 +0.1**
29nm,0.3s
CHMS Chumysh 2.06 4 ⇑Pn Pg 23 38 49.5 -0.4
8.7nm,0.6s
CHMS ⇑Sn **Sg 23 39 16.6 +0.1**
22nm,0.6s
CHMS Chumysh 2.06 4 ⇑*i*P Pb 23 38 48.7 +0.9
baz=4.0
CHMS ⇑*i*S **Sg 23 39 15.7 -0.8**
baz=4.0
ARK Arkit 2.12 295 ⇑*i*P Pb 23 38 49.9 +1.0
baz=94
ARK ⇑*i*S **Sg 23 39 17.6 -1.0**
baz=94
TKM2 Tokmak 2 2.12 21 ⇓P Pg 23 38 50.6 -0.5
18nm,0.2s,SNR=28
TKM2 ⇑S **Sg 23 39 18.7 0.0**
86nm,0.2s
TKM2 Tokmak 2 2.12 21 ⇑Pg Pg 23 38 50.8 -0.3
4.0nm,0.2s
TKM2 ⇓Lg Lg 23 39 19.2
91nm,0.4s
TKM2 Tokmak 2 2.12 21 ⇑*i*P Pb 23 38 49.9 +0.9
baz=22
TKM2 ⇑*i*S **Sg 23 39 17.8 -0.9**
baz=22
MNAS Manas 2.17 316 ⇑*i*P Pb 23 38 50.4 +0.6
baz=15
MNAS ⇑*i*S **Sg 23 39 18.8 -1.3**
baz=15
KDJ Kajisay 2.31 58 ⇑*i*P Pb 23 38 52.6 +0.5
baz=59
KDJ ⇑*i*S **Sb 23 39 22.8 +2.1**
baz=59
USP Ospenovka 2.32 359 ⇑P Pb 23 38 53.7 +1.4
42nm,0.2s,SNR=104
USP ⇓S **Sg 23 39 24.7 -0.3**
40nm,0.3s
USP Ospenovka 2.32 359 ⇑*i*P Pb 23 38 52.2 -0.1
baz=59
USP ⇑*i*S **Sb 23 39 22.0 +1.0**
baz=59
KST Kastek 2.35 26 *e*P Pg 23 38 54.8 -0.6
20nm,0.3s
KST *e*S **Sg 23 39 25.4 -0.4**
79nm,0.4s
KST Kastek 2.35 26 Pg Pg 23 38 54.8 -0.6
20nm,0.3s
KST Lg Lg 23 39 25.4
79nm,0.4s
DGS Degeres 2.47 21 *e*P Pb 23 38 56.8 +1.9
43nm,0.5s
DGS *e*S **Sg 23 39 28.9 -0.9**
69nm,0.3s
DGS Degeres 2.47 21 Pg Pb 23 38 56.8 +1.9
43nm,0.5s
DGS Lg Lg 23 39 28.8
69nm,0.3s
DRK Karamyk 2.56 236 ⇑*i*P Pb 23 38 56.4 -0.1
baz=35
DRK ⇑*i*S **Sb 23 39 29.5 +1.3**
baz=35
MTBS Maitube 2.59 32 *e*P Pg 23 38 59.3 -0.8
16nm,0.2s
MTBS *e*S **Sg 23 39 33.1 -0.7**
110nm,0.4s
MTBS Maitube 2.59 32 Pg Pg 23 38 59.3 -0.8
16nm,0.2s
MTBS Lg Lg 23 39 33.1
110nm,0.4s
TRKS Terek-Say 2.63 284 ⇑*i*P Pb 23 38 56.6 -1.1
baz=82
TRKS ⇑*i*S **Sb 23 39 29.3 -0.8**
baz=82
TNSS Tian-Shan 2.75 40 *e*P Pb 23 39 02.0 +2.2
23nm,0.3s
TNSS *e*S **Sg 23 39 37.7 -1.1**
35nm,0.4s
TNSS Tian-Shan 2.75 40 Pg Pb 23 39 02.0 +2.2
23nm,0.3s
TNSS Lg Lg 23 39 37.7
35nm,0.4s
KASK Kaskelen 2.75 34 ⇑Pg Pb 23 39 01.6 +1.9
KASK ⇓Lg Lg 23 39 39.4
KRBS Karabastau 2.87 17 *e*P Pb 23 39 03.5 +1.8
29nm,0.3s
KRBS *e*S **Sg 23 39 41.4 -1.3**
62nm,0.4s
KRBS Karabastau 2.87 17 Pg Pb 23 39 03.5 +1.8
29nm,0.3s
KRBS Lg Lg 23 39 41.4
62nm,0.4s
MDOK Medeo 2.90 39 *e*P Pb 23 39 04.5 +2.4
14nm,0.4s
MDOK *e*S **Sg 23 39 41.8 -1.6**
31nm,0.4s
MDOK Medeo 2.90 39 ⇓Pg Pb 23 39 04.4 +2.2
6.8nm,0.4s
MDOK Pg **Pb 23 39 04.5 +2.4**
14nm,0.4s
MDOK Lg Lg 23 39 41.8
31nm,0.4s
MDOK Lg Lg 23 39 42.7
41nm,0.9s
KNDC Almaty 2.90 38 ⇑Pg Pb 23 39 04.4 +2.3
16nm,0.5s
KNDC ⇑Lg Lg 23 39 43.6
77nm,0.4s
ANVS Anan'yevo 2.97 51 ⇑*e*P Pb 23 39 01.7 -1.7
baz=51
ANVS ⇑*e*S **Sb 23 39 37.9 -1.8**
baz=51
BTK Batken 2.98 254 ⇑*i*P Pb 23 39 02.0 -1.5
baz=53
BTK ⇑*i*S **Sb 23 39 38.9 -1.0**
baz=53
KOTS Kotyrbulak 2.98 39 *e*P Pg 23 39 06.2 -1.3
12nm,0.3s
KOTS *e*S **Sg 23 39 44.7 -1.4**
89nm,0.7s
KOTS Kotyrbulak 2.98 39 Pg Pg 23 39 06.2 -1.3
12nm,0.3s
KOTS Lg Lg 23 39 44.7
89nm,0.7s
DZA Taraz 3.09 310 *e*P Pg 23 39 08.7 -0.9
26nm,0.1s
DZA *e*S **Sg 23 39 48.9 -0.6**
54nm,0.4s
KTBS Karatobe 3.19 29 *e*P Pb 23 39 09.7 +2.7
13nm,0.3s
KTBS *e*S **Sg 23 39 50.7 -2.0**
62nm,0.4s
KTBS Karatobe 3.19 29 Pg Pb 23 39 09.7 +2.7
13nm,0.3s
KTBS Lg Lg 23 39 50.7
62nm,0.4s
KUU Kurty 3.23 24 *e*P Pb 23 39 10.0 +2.2
11nm,0.4s
KUU *e*S **Sg 23 39 51.3 -2.8**
56nm,0.6s
KUU Kurty 3.23 24 Pg Pb 23 39 10.0 +2.2
11nm,0.4s
KUU Lg Lg 23 39 51.3
56nm,0.6s
CHKK Chushkaly 3.42 31 *e*P Pb 23 39 14.0 +3.0
6.3nm,0.1s
CHKK *e*S **Sg 23 39 58.4 -1.9**
89nm,0.3s
CHKK Chushkaly 3.42 31 Pg Pb 23 39 14.0 +3.0
6.3nm,0.1s
CHKK Lg Lg 23 39 58.4
89nm,0.3s
SATY Saty 3.57 52 *e*P Pg 23 39 17.1 -1.6
3.0nm,0.2s
SATY *e*S **Sg 23 40 03.7 -1.3**
26nm,0.3s
SATY Saty 3.57 52 Pg Pg 23 39 17.1 -1.6
3.0nm,0.2s
SATY Lg Lg 23 40 03.7
26nm,0.3s
IUG Iuzhnay 3.59 291 *e*P Pg 23 39 18.7 -0.6
16nm,0.3s
IUG *e*S **Sg 23 40 06.1 +0.3**
41nm,0.4s
IUG Iuzhnay 3.59 291 Pg Pg 23 39 18.7 -0.6
16nm,0.3s
IUG Lg Lg 23 40 06.1
41nm,0.4s
KK31 Karatay Array 3.70 307 Pg Pb 23 39 18.4 +2.6
0.9nm,0.3s,baz=126,slow=15,SNR=21
KK31 Lg Lg 23 40 06.8
2.4nm,0.3s,baz=124,slow=29,SNR=7.8
KURS Kuram 3.70 45 *e*P Pb 23 39 18.9 +3.1
3.2nm,0.7s
KURS *e*S **Sg 23 40 06.4 -2.8**
8.4nm,1.0s
KURS Kuram 3.70 45 Pg Pb 23 39 18.9 +3.1
3.2nm,0.7s
KURS Lg Lg 23 40 06.4
8.4nm,1.0s
KPKS Kokpek 3.97 49 *e*P Pg 23 39 24.6 -1.9
24nm,1.1s
KPKS *e*S **Sg 23 40 16.3 -1.6**
30nm,0.4s
KPKS Kokpek 3.97 49 Pg Pg 23 39 24.6 -1.9
24nm,1.1s
KPKS Lg Lg 23 40 16.3
30nm,0.4s
ARXS Arharly 4.07 35 *e*P Pb 23 39 25.4 +3.3
7.3nm,0.3s
ARXS *e*S **Sg 23 40 17.4 -3.5**
28nm,0.5s
ARXS Arharly 4.07 35 Pg Pb 23 39 25.3 +3.3
7.3nm,0.3s
ARXS Lg Lg 23 40 17.4
28nm,0.5s
BRLS Borolday 4.08 302 *e*P Pg 23 39 26.1 -2.5
0.8nm,0.2s
BRLS *e*S **Sg 23 40 18.9 -2.5**
4.8nm,0.4s
BRLS Borolday 4.08 302 Pg Pg 23 39 26.1 -2.5
0.8nm,0.2s
BRLS Lg Lg 23 40 18.9
4.8nm,0.4s
BTLS Baital 4.11 355 *e*P Pb 23 39 25.5 +2.8
0.8nm,0.2s
BTLS *e*S **Sg 23 40 18.1 -4.2**
9.2nm,0.6s
BLB Baldybastay 4.29 41 Pg Pb 23 39 29.4 +3.6
4.6nm,0.1s
BLB Lg Lg 23 40 24.8
12nm,0.2s
PDGK Podgornoye 4.38 55 Pg Pb 23 39 30.5 +3.1
0.7nm,0.4s
PDGK Lg Lg 23 40 26.4
5.5nm,1.1s
PDGK Podgornoye 4.38 55 ⇑Pg Pg 23 39 34.4 +0.1
3.2nm,0.8s
PDGK ⇓Lg Lg 23 40 29.7
10nm,0.7s
DJR Jarkent 5.14 47 *e*P Pg 23 39 46.2 -2.6
0.9nm,0.1s
DJR *e*S **Sg 23 40 53.4 -2.0**
6.0nm,0.4s
DJR Jarkent 5.14 47 Pg Pg 23 39 44.5 +4.2
0.7nm,0.1s
DJR Lg Lg 23 40 50.8
6.0nm,0.4s
KAPS Kapalarasan 5.59 37 *e*P Pg 23 39 54.3 -3.0
2.1nm,0.3s
KAPS *e*S **Sg 23 41 07.1 -2.5**
6.0nm,0.3s
KAPS Kapalarasan 5.59 37 Pg Pb 23 39 52.3 +4.4
0.3nm,0.0s
KAPS Lg Lg 23 41 03.9
6.1nm,0.5s
MK31 Makanchi Array 8.09 41 ⇑Pn Pn 23 40 12.7 +4.9
0.4nm,0.6s,baz=225,slow=14,SNR=5.3
MK31 ⇓Lg Lg 23 42 30.4
0.6nm,0.6s,baz=222,slow=30,SNR=4.4

*MOS **06** 23:46:36.9±1.0, 43°.88N×146°.94E, h111km, mb4.2/1, Error ellipse: s-maj=19.9km s-min=16.4km az=75.2*
*SKHL **06** 23:46:37.4±0.2, 43°.80N×147°.00E, h109km±4km, mb5.0/4, msha5.8/3*
*JMA **06** 23:46:39.0±0.2, 43°.8N±0°.8×14 7°.7E±°, h94km±2km, MV3.6/31, NEAR KUNASHIRI ISLAND*
*IDC **06** 23:46:50.8±10.0, 44°.24N×146°.78E, h206km±98km, mb3.1/11, mbtmp3.7/11, MS3.6/1, Error ellipse: s-maj=70.9km s-min=16.5km az=174.0*
ISC 06 23:46:37.6±0.8, 43°.81N±0°.07×147°.05E±0°.06, h98km±6km, n41, σ0$71/59, mb3.5/11, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
SHO	**Shikotan**	**0.17**	**290**	**⇑*i*P**		**Pn**	**23 46 51.9**	**+0.5**
SHO				*e*S		**Sn**	**23 47 01.7**	**0.0**
SHO				pmax	pmax			
	comp=N,202nm,0.2s							
SHO				pmax	pmax			
	comp=E,212nm,0.2s							
SHO				pmax	pmax			
	comp=Z,908nm,0.2s							
SHO				smax	smax			
	comp=E,6μm,0.2s							
SHO				smax	smax			
	comp=N,6μm,0.4s							
SHO	**Shikotan**	**0.17**	**290**	***i*P**		**Pn**	**23 46 51.9**	**+0.5**
SHO				AMB	AMB		23 46 52.1	
	comp=N,200nm,0.4s							
SHO				AMB	AMB		23 46 52.1	
	comp=N,210nm,0.4s							
SHO				AMB	AMB		23 46 52.1	
	comp=N,910nm,0.4s							
SHO				*e*S		**Sn**	**23 47 01.7**	**0.0**
SHO				A	A		23 47 02.2	
	comp=N,6μm,0.4s							
SHO				A	A		23 47 02.2	
	comp=N,6μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**0.89**	**285**	***e*PN**		**Pn**	**23 46 56.8**	**+0.2**
YUK				*e*S		**Sn**	**23 47 09.9**	**-1.1**
YUK				pmax	pmax			
	comp=N,104nm,0.2s							
YUK				pmax	pmax			
	comp=E,115nm,0.2s							
YUK				pmax	pmax			
	comp=Z,1μm,0.2s							
YUK				smax	smax			
	comp=E,2μm,0.4s							
YUK				smax	smax			
	comp=N,2μm,0.3s							
YUK	**Yuzh-Kuril'sk**	**0.89**	**285**	***e*P**		**Pn**	**23 46 56.8**	**+0.2**
YUK				AMB	AMB		23 46 57.3	
	comp=N,100nm,0.4s							
YUK				AMB	AMB		23 46 57.3	
	comp=N,120nm,0.4s							
YUK				AMB	AMB		23 46 57.3	
	comp=N,1μm,0.4s							
YUK				*e*S		**Sn**	**23 47 10.2**	**-0.8**
YUK				A	A		23 47 10.7	
	comp=N,2μm,0.3s							
YUK				A	A		23 47 10.7	
	comp=N,2μm,0.3s							
NEM2	**Nemuro 2**	**1.05**	**245**	***e*P**		**Pn**	**23 46 58.9**	**+0.5**
NEM2				*e*S		**Sn**	**23 47 13.6**	**-0.4**
NMR	**Nemuro--Hokkai**	**1.06**	**246**	**⇑*i*PN**		**Pn**	**23 46 58.9**	**+0.5**
NMR				*e*S		**Sn**	**23 47 13.5**	**-0.7**
NMR	**Nemuro--Hokkai**	**1.06**	**246**	***i*P**		**Pn**	**23 46 58.9**	**+0.5**
NMR				*e*S		**Sn**	**23 47 14.0**	**-0.2**
RUSJ	**Misakicho**	**1.34**	**283**	***e*PN**		**Pn**	**23 47 02.6**	**+0.9**
RUSJ				*e*S		**Sn**	**23 47 20.7**	**+0.8**
JRA	**Rausu**	**1.40**	**276**	***e*P**		**Pn**	**23 47 03.3**	**+0.9**
JRA				*e*S		**Sn**	**23 47 21.8**	**+0.4**
JNSB	**Nemuroshibetsu**	**1.48**	**269**	**P**		**Pn**	**23 47 04.6**	**+1.1**
JNSB				*e*S		**Sn**	**23 47 24.0**	**+0.8**
KUR	**Kuril'sk**	**1.54**	**22**	***e*PN**		**Pn**	**23 47 04.5**	**+0.4**
KUR				*i* S		**Sn**	**23 47 24.4**	**+0.1**
KUR				pmax	pmax			
	comp=Z,352nm,0.4s							
KUR				pmax	pmax			
	comp=N,185nm,0.7s							
KUR				smax	smax			
	comp=N,442nm,0.4s							
KUR				smax	smax			
	comp=E,186nm,0.3s							
KUR	**Kuril'sk**	**1.54**	**22**	***e*P**		**Pn**	**23 47 04.7**	**+0.6**
KUR				AMB	AMB		23 47 05.1	
	comp=E,350nm,0.4s							
KUR				*i* S		**Sn**	**23 47 24.2**	**-0.1**
KUR				A	A		23 47 25.1	
	comp=E,450nm,0.3s							
KUR				A	A		23 47 25.1	
	comp=E,320nm,0.3s							
JKHN	**Kushirohamanak**	**1.56**	**243**	***i*P**		**Pn**	**23 47 05.3**	**+0.9**
JKHN				*e*S		**Sn**	**23 47 24.7**	**0.0**
JNK	**Nakash**	**1.71**	**263**	***e*P**		**Pn**	**23 47 06.7**	**+0.4**
JNK				*e*S		**Sn**	**23 47 27.6**	**-0.6**
AKK	**Akkeshi**	**1.80**	**245**	***e*P**		**Pn**	**23 47 07.8**	**+0.4**
JAK	**Akkeshi**	**1.90**	**245**	***e*P**		**Pn**	**23 47 09.2**	**+0.5**
JAK				*e*S		**Sn**	**23 47 31.8**	**-0.7**
JTKR	**Abashiri--Toko**	**2.28**	**275**	***e*P**		**Pn**	**23 47 14.5**	**+0.8**
JTKR				*e*S		**Sn**	**23 47 41.4**	**+0.1**
JAR	**Ashorobuto**	**2.44**	**259**	***e*P**		**Pn**	**23 47 17.1**	**+1.3**
JAR				*e*S		**Sn**	**23 47 45.7**	**+0.6**
JOB	**Onbets**	**2.52**	**250**	***e*P**		**Pn**	**23 47 18.0**	**+1.2**
JOB				*e*S		**Sn**	**23 47 46.5**	**-0.4**
JMP	**Maruseppu**	**2.68**	**276**	***e*P**		**Pn**	**23 47 19.9**	**+0.9**
JMP				*e*S		**Sn**	**23 47 51.0**	**+0.2**
JCH	**Churui**	**2.95**	**247**	***e*P**		**Pn**	**23 47 23.1**	**+0.5**
JNBK	**Urakawa-nobuka**	**3.50**	**246**	***e*P**		**Pn**	**23 47 30.2**	**+0.3**
YSS	**Yuzh-Sakhalins**	**4.37**	**318**	***e*P**		**Pn**	**23 47 41.9**	**+0.3**
YSS				AMB	AMB		23 47 42.7	
	comp=E,30nm,0.2s							
JHJ	**Hachijo jima 2**	**12.09**	**210**	LR	LR		23 54 19.2	
	comp=E,315nm,21.0s,baz=296,slow=36							
SONM	**Songino Array**	**28.38**	**293**	P		**P**	**23 52 22.2**	**-0.4**
	comp=E,0.2nm,0.5s,baz=79,slow=7.5,SNR=1.9							
	comp=E,0.2nm,0.5s							
ILAR	**Eielson Array**	**41.48**	**36**	P		**P**	**23 54 15.0**	**+0.6**
ILAR	**Eielson Array**	**41.48**	**36**	P		**P**	**23 54 14.9**	**+0.6**
	comp=E,0.4nm,0.5s,baz=276,slow=8.7,SNR=6.8							
	comp=E,0.4nm,0.5s							
MKAR	**Makanchi Array**	**44.50**	**298**	P		**P**	**23 54 39.0**	**0.0**
MKAR	**Makanchi Array**	**44.50**	**298**	P		**P**	**23 54 39.0**	**0.0**
	comp=E,0.4nm,0.5s,baz=75,slow=8.7,SNR=9.0							
	comp=E,0.4nm,0.5s							
MKAR	**Makanchi Array**	**44.50**	**298**	*e*P		**P**	**23 54 39.0**	**0.0**
KURK	**Kurchatov**	**45.44**	**304**	P		**P**	**23 54 46.1**	**-0.2**
KURK	**Kurchatov**	**45.44**	**304**	*e*P		**P**	**23 54 46.1**	**-0.2**
KURBB	**Kurchatov Arra**	**45.52**	**304**	P		**P**	**23 54 46.1**	**-0.9**
	comp=E,0.6nm,0.6s,baz=73,slow=8.3,SNR=4.1							
	comp=E,0.6nm,0.6s							
INK	**Inuvik**	**46.38**	**30**	P		**P**	**23 54 53.9**	**+0.4**
	comp=E,0.9nm,0.3s,baz=284,slow=8.2,SNR=9.4							
	comp=E,0.9nm,0.3s							
YKA	**Yellowknife Ar**	**55.79**	**34**	P		**P**	**23 56 04.1**	**+0.2**
	comp=E,0.3nm,0.7s,baz=299,slow=7.1,SNR=4.2							
	comp=E,0.3nm,0.7s							
FINES	**FINESS Array B**	**64.79**	**333**	P		**P**	**23 57 03.4**	**-1.8**
	comp=E,0.7nm,0.5s,baz=51,slow=10.0,SNR=10							
	comp=E,0.7nm,0.5s							
NVAR	**Mina Array Bea**	**67.61**	**58**	P		**P**	**23 57 25.2**	**+1.2**
	comp=E,0.3nm,0.6s,baz=300,slow=7.9,SNR=2.6							
	comp=E,0.3nm,0.6s							
NB2	**NORSAR Subarra**	**69.52**	**339**	P		**P**	**23 57 34.4**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=31,slow=6.5							
NOA	**NORSAR Array B**	**69.52**	**339**	P		**P**	**23 57 34.1**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=33,slow=6.5,SNR=8.6							
	comp=Z,0.6nm,0.5s							
HFS	**Hagfors**	**69.61**	**337**	P		**P**	**23 57 34.1**	**-1.6**
	comp=Z,1.0nm,0.4s,baz=52,slow=5.8,SNR=11							
	comp=Z,1.0nm,0.4s							
PDAR	**Pinedale Array**	**69.92**	**50**	P		**P**	**23 57 38.7**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=337,slow=2.1,SNR=4.4							
	comp=Z,0.2nm,0.5s							

*SJA **06** 23:50:01.6±0.9, 22°.34S×68°.55W, h123km±5km, ML4.1, MW4.0*
*IDC **06** 23:50:02.7±0.6, 22°.42S×68°.21W, h92km±8km, mb3.8/7, mbtmp4.0/11, Error ellipse: s-maj=21.8km s-min=16.7km az=132.0*
*NEIC **06** 23:50:03.6±1.7, 22°.36S±0°.04×68°.65W±0°.04, h118km±5km, mb4.2/12, Error ellipse: s-maj=6.2km s-min=5.4km az=205.0*
*GUC **06** 23:50:04.3±0.5, 22°.33S×68°.65W, h118km±4km, ML4.3*
*VAO **06** 23:50:05.7±0.6, 22°.23S×68°.37W, h82km±8km, mb4.5*
ISC 06 23:50:03.0±0.6, 22°.34S±0°.03×68°.63W±0°.05, h117km±5km, n111, σ1$66/136, mb4.1/8, 6C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
LVC	**Limon Verde**	**0.38**	**224**	Pn		**Pn**	**23 50 20.9**	**+0.5**
LVC				Sn		**Sn**	**23 50 32.9**	**-0.6**
LVC	**Limon Verde**	**0.38**	**224**	***e*P**		**Pn**	**23 50 20.7**	**+0.3**
LVC				IAML			23 50 33.9	
	comp=Z,3μm,0.2s							
LVC				*e*S		**Sn**	**23 50 33.9**	**+0.4**
LVC	**Limon Verde**	**0.38**	**224**	P		**Pn**	**23 50 20.7**	**+0.3**
	comp=Z,4μm,0.3s,baz=47,slow=4.4							
LVC				S		**Sn**	**23 50 33.3**	**-0.2**
	comp=Z,2μm,0.3s,baz=162,slow=22,SNR=18							
LVC				LR		LR	23 50 41.4	
	comp=Z,159nm,22.0s,baz=299,slow=57							
LVC	**Limon Verde**	**0.38**	**224**	***e*P**		**Pn**	**23 50 20.9**	**+0.5**
AF01	**San Pedro de A**	**0.74**	**146**	Pn		**Pn**	**23 50 23.4**	**+0.7**
AF01				Sn		**Sn**	**23 50 38.2**	**+0.7**
AF01	**San Pedro de A**	**0.74**	**146**	**⇑*i*P**		**Pn**	**23 50 23.6**	**+0.8**
PB09	**IPOC Station P**	**0.79**	**313**	Pn		**Pn**	**23 50 24.0**	**+1.0**
PB09				Sn		**Sn**	**23 50 38.7**	**+0.7**
PB09	**IPOC Station P**	**0.79**	**313**	***e*P**		**Pn**	**23 50 23.5**	**+0.5**
PB09				*e*S		**Sn**	**23 50 39.9**	**+1.9**
PB09				IAML			23 50 40.1	
	comp=Z,3μm,0.4s							
PB09	**IPOC Station P**	**0.79**	**313**	**⇑*i*P**		**Pn**	**23 50 24.2**	**+1.2**

PB09 *i* S **Sn** **23 50 38.9 +0.9**
PB09 IAML 23 50 40.0
comp=N,7μm,0.5s
PB06 **IPOC Station P** **0.95 247** Pn **Pn** **23 50 25.0 +0.5**
PB06 Sn **Sn** **23 50 40.9 +0.2**
PB06 **IPOC Station P** **0.95 247** *eP* **Pn** **23 50 24.5 +0.1**
PB06 *eS* **Sn** **23 50 42.1 +1.5**
PB06 IAML 23 50 45.6
comp=Z,3μm,0.1s
PB06 **IPOC Station P** **0.95 247** ⇑*iP* **Pn** **23 50 25.2 +0.7**
PB06 *i* S **Sn** **23 50 41.1 +0.5**
PB06 IAML 23 50 41.6
comp=N,4μm,0.7s
PB15 **IPOC Station P** **1.17 222** Pn **Pn** **23 50 27.8 +1.0**
PB15 Sn **Sn** **23 50 45.5 +0.8**
PB15 **IPOC Station P** **1.17 222** *eP* **Pn** **23 50 27.2 +0.5**
PB15 *eS* **Sn** **23 50 46.1 +1.4**
PB15 **IPOC Station P** **1.17 222** *eP* **Pn** **23 50 27.7 +1.0**
PB15 *i* S **Sn** **23 50 45.7 +1.0**
PB07 **IPOC Station P** **1.32 297** Pn **Pn** **23 50 29.1 +0.7**
PB07 Sn **Sn** **23 50 47.8 +0.2**
PB07 **IPOC Station P** **1.32 297** *eP* **Pn** **23 50 29.4 +1.0**
PB07 *eS* **Sn** **23 50 48.8 +1.2**
PB07 IAML 23 50 49.5
comp=Z,2μm,0.3s
PB07 **IPOC Station P** **1.32 297** ⇑*iP* **Pn** **23 50 29.4 +1.0**
PB07 *i* S **Sn** **23 50 48.1 +0.6**
PB07 IAML 23 50 48.8
comp=N,11μm,0.3s
PB04 **IPOC Station P** **1.41 270** Pn **Pn** **23 50 30.0 +0.6**
PB04 Sn **Sn** **23 50 49.5 +0.1**
PB04 **IPOC Station P** **1.41 270** *eP* **Pn** **23 50 29.5 +0.1**
PB04 *eS* **Sn** **23 50 51.2 +1.8**
PB04 IAML 23 50 52.6
comp=Z,2μm,0.2s
PB04 **IPOC Station P** **1.41 270** ⇑*iP* **Pn** **23 50 30.2 +0.8**
PB04 *i* S **Sn** **23 50 50.2 +0.8**
PB01 **IPOC Station P** **1.52 328** Pn **Pn** **23 50 31.6 +1.0**
PB01 **IPOC Station P** **1.52 328** *eP* **Pn** **23 50 30.9 +0.3**
PB01 *eS* **Sn** **23 50 52.3 +0.8**
PB01 IAML 23 50 53.7
comp=Z,2μm,0.2s
PB01 **IPOC Station P** **1.52 328** *eP* **Pn** **23 50 31.6 +1.0**
PB01 *i* S **Sn** **23 50 52.0 +0.4**
PB01 IAML 23 50 53.0
comp=E,7μm,0.2s
PB02 **IPOC Station P** **1.56 310** Pn **Pn** **23 50 32.0 +1.0**
PB02 **IPOC Station P** **1.56 310** *eP* **Pn** **23 50 31.3 +0.3**
PB02 *eS* **Sn** **23 50 53.4 +1.1**
PB02 IAML 23 50 55.0
comp=Z,4μm,0.4s
PB02 **IPOC Station P** **1.56 310** ⇑*iP* **Pn** **23 50 32.0 +1.0**
PB02 *i* S **Sn** **23 50 52.5 +0.2**
PB02 IAML 23 50 54.2
comp=E,5μm,0.4s
PATCX **Punta Patache** **2.07 316** Pn **Pn** **23 50 37.4 0.0**
PATCX **Punta Patache** **2.07 316** *eP* **Pn** **23 50 37.8 +0.4**
PATCX *i* S **Sn** **23 51 03.5 -0.1**
PATCX IAML 23 51 11.0
comp=E,3μm,0.3s
PB08 **IPOC Station P** **2.24 347** Pn **Pn** **23 50 41.3 +1.5**
PB08 **IPOC Station P** **2.24 347** *eP* **Pn** **23 50 40.9 +1.1**
PB08 *eS* **Sn** **23 51 05.6 -2.3**
PB08 **IPOC Station P** **2.24 347** *eP* **Pn** **23 50 41.4 +1.6**
PB08 *i* S **Sn** **23 51 09.9 +2.0**
PB08 IAML 23 51 14.2
comp=N,726nm,0.1s
TA01 **Diego Aracena** **2.28 320** Pn **Pn** **23 50 40.0 0.0**
TA01 **Diego Aracena** **2.28 320** *eP* **Pn** **23 50 39.9 0.0**
TA01 *eS* **Sn** **23 51 02.1 -6.1**
TA01 IAML 23 51 10.3
comp=Z,715nm,0.7s
GO01 **Chusmiza** **2.71 349** Pn **Pn** **23 50 47.0 +1.1**
GO01 **Chusmiza** **2.71 349** *eP* **Pn** **23 50 46.6 +0.7**
GO01 *eS* **Sn** **23 51 20.6 +1.8**
GO01 IAML 23 51 25.3
comp=Z,332nm,0.2s
PB11 **IPOC Station P** **2.74 339** Pn **Pn** **23 50 46.3 +0.2**
PB11 **IPOC Station P** **2.74 339** *eP* **Pn** **23 50 45.6 -0.4**
PB11 *eS* **Sn** **23 51 17.5 -1.5**
PB11 IAML 23 51 22.1
comp=Z,543nm,0.2s
PB11 **IPOC Station P** **2.74 339** *eP* **Pn** **23 50 46.2 +0.2**
PB11 *i* S **Sn** **23 51 19.2 +0.1**
PB11 IAML 23 51 21.1
comp=E,1μm,0.3s
GO02 **Mina Guanaco** **2.95 197** Pn **Pn** **23 50 49.0 +0.1**
GO02 **Mina Guanaco** **2.95 197** *eP* **Pn** **23 50 48.5 -0.3**
GO02 *eS* **Sn** **23 51 26.0 +1.9**
GO02 IAML 23 51 27.8
comp=Z,432nm,0.2s
PB12 **IPOC Station P** **4.04 336** Pn **Pn** **23 51 02.7 -0.4**
PB12 **IPOC Station P** **4.04 336** *eS* Sn 23 51 34.1 -16
PB12 IAML 23 52 05.3
comp=Z,189nm,0.8s
PB16 **IPOC Station P** **4.07 348** Pn **Pn** **23 51 04.5 +0.5**
PB16 **IPOC Station P** **4.07 348** *eS* **Sn** **23 51 56.2 +5.1**
AC01 **Pan de Azucar** **4.20 205** Pn **Pn** **23 51 03.9 -1.3**
AC01 **Pan de Azucar** **4.20 205** *eS* **Sn** **23 51 50.5 -2.9**
AC01 IAML 23 51 51.8
comp=Z,157nm,0.4s
AC02 **Maricunga** **4.50 186** Pn **Pn** **23 51 09.7 0.0**
AC02 **Maricunga** **4.50 186** *eP* **Pn** **23 51 09.4 -0.3**
AC02 *eS* **Sn** **23 52 07.7 +6.3**
AC02 IAML 23 52 35.1
comp=Z,95nm,0.8s
AC06 **Mina Casimiro** **5.24 197** Pn **Pn** **23 51 16.4 -2.8**
GO03 **Copiap** **5.43 195** Pn **Pn** **23 51 19.7 -2.1**
GO03 **Copiap** **5.43 195** *eP* **Pn** **23 51 20.3 -1.5**
GO03 *eS* **Sn** **23 52 21.4 -1.8**
GO03 IAML 23 53 10.6
comp=Z,94nm,0.5s
LPAZ **La Paz** **6.04 5** Pn **Pn** **23 51 32.5 +1.9**
LPAZ **La Paz** **6.04 5** P **Pn** **23 51 32.9 +2.3**
comp=Z,6.8nm,0.4s,baz=180,slow=5.8,SNR=33
LPAZ S Sn 23 52 26.5 -12
comp=Z,12nm,0.8s,baz=193,slow=10,SNR=3.7
LPAZ **La Paz** **6.04 5** *eP* **Pn** **23 51 32.9 +2.3**
AC04 **Llanos de Chal** **6.25 200** Pn Pn 23 51 28.8 -4.0
LCO **Las Campanas** **6.90 195** Pn **Pn** **23 51 38.5 -3.4**
CO01 **Juntas del Tor** **7.72 190** Pn **Pn** **23 51 50.5 -2.5**
TICA **Tres Isletas** **8.53 120** *eP* **Pn** **23 52 04.9 +1.3**
CO03 **El Pedregal** **8.66 192** Pn **Pn** **23 52 01.8 -3.8**
CO06 **Fray Jorge** **8.73 197** Pn Pn 23 52 00.5 -5.8
CO02 **Combarbal** **9.08 193** Pn Pn 23 52 06.3 -4.9
BBSD **Serra de San D** **9.12 57** *eP* **Pn** **23 52 09.7 -2.1**
BBRB **Robore, Bolivi** **9.21 66** *eP* **Pn** **23 52 09.4 -3.5**
SIV **San Ignacio** **9.53 50** P **Pn** **23 52 13.4 -3.9**
comp=Z,2.1nm,0.3s,baz=251,slow=7.7,SNR=17
SIV S Sn 23 53 52.3 -10
comp=Z,1.5nm,0.4s,baz=222,slow=7.0,SNR=3.1
CPUP **Villa Florida** **11.04 113** P **Pn** **23 52 33.2 -4.3**
comp=Z,1.6nm,0.8s,baz=292,slow=9.5,SNR=3.2
MT02 **Curacav** **11.10 191** Pn Pn 23 52 32.5 -5.9
PTLB **Pontes e Lacer** **11.29 54** Pn **Pn** **23 52 36.9 -4.1**
MT01 **Popeta** **11.71 191** Pn Pn 23 52 39.1 -7.4
AQDB **Aquidauana** **12.18 84** *eP* **Pn** **23 52 54.2 +1.4**
BO02 **Sierra Bellavi** **12.55 188** Pn Pn 23 52 52.8 -4.8
ETMB **Extrema** **12.66 11** Pn **Pn** **23 52 56.5 -2.7**
MCR1 **Marechal Candi** **13.56 102** *eP* **Pn** **23 53 12.7 +2.0**
SALV **Santo Antonio** **13.79 65** *eP* **Pn** **23 53 15.2 +1.5**
UNIS **Unistalda (Bra** **13.93 122** *eP* **P** **23 53 18.5 -1.2**
CRSM **Crissiumal (Br** **14.19 114** *eP* **P** **23 53 21.7 -0.9**
RODS **Rosario do Sul** **14.43 126** *eP* **P** **23 53 24.7 -0.6**
FRBT **Francisco Belt** **14.66 107** *eP* **P** **23 53 28.6 +0.7**
TRCB **Terra Rica** **14.78 95** P **P** **23 53 30.4 +1.2**
TRCB **Terra Rica** **14.78 95** *eP* **P** **23 53 29.0 -0.3**
PTGB **Pitanga** **15.37 102** *eP* **P** **23 53 36.9 +1.0**
ALGR **Alto Alegre (B** **15.47 118** *eP* **P** **23 53 37.5 +0.6**
PDRB **Porto dos Gac** **15.58 49** *eP* **P** **23 53 38.6 +0.4**
ITAB **Concordia** **15.75 111** Pn **Pn** **23 53 38.1 -0.3**
ITAB IAmb IAmb 23 54 10.6
comp=Z,25nm,1.4s
ITAB **Concordia** **15.75 111** *eP* **P** **23 53 40.0 +0.1**
CPSB **Cacapava Do Su** **15.79 124** *eP* **P** **23 53 40.2 -0.1**
PCMB **Pacaembu** **16.13 91** *eP* **P** **23 53 44.4 +0.2**
LDASE **Londrina, Braz** **16.17 97** *eP* **P** **23 53 45.6 +1.0**
PLTB **Pedras Altas** **16.33 128** **Pn** **23 53 45.6 +0.1**
PLTB IAmb IAmb 23 53 58.5
comp=Z,20nm,1.5s
TRQA **Tornquist** **16.68 161** **P** **23 53 51.0 +0.9**
ITRB **Iturama** **17.25 85** *eP* **Pn** **23 53 57.2 +0.3**

GO06 **Curarrehue** **17.36 187** P **P** **23 53 57.0 -0.7**
GO06 IAmb IAmb 23 54 00.9
comp=Z,18nm,1.4s
FRTB **Fartura** **17.60 97** *eP* **P** **23 53 59.2 -1.2**
PLCA **Paso Flores** **18.41 185** P **P** **23 54 08.2 -1.0**
PLCA **Paso Flores** **18.41 185** P **P** **23 54 09.4 +0.2**
comp=Z,1.0nm,0.4s,baz=350,slow=11,SNR=9.5
BB19B **Bebedouro** **18.72 90** *eP* **Pn** **23 54 13.6 -0.9**
LL01 **San Ignacio de** **20.23 188** P **P** **23 54 28.5 -0.3**
LL01 IAmb IAmb 23 54 30.9
comp=Z,15nm,1.0s
MACA **Manacapuru-AM** **20.56 23** P **P** **23 54 31.3 -1.3**
BDFB **Brasilia** **20.59 75** P **P** **23 54 32.1 -0.9**
BDFB **Brasilia** **20.59 75** P **P** **23 54 29.6 -3.4**
comp=Z,4.2nm,0.5s,baz=256,slow=14,SNR=8.3
comp=Z,4.2nm,0.5s
BOAV **Boa Vista** **25.83 19** P **P** **23 55 25.1 +1.5**
BOAV IAmb IAmb 23 55 31.5
comp=Z,13nm,1.4s
RCBR **Riachuelo** **35.61 67** P **P** **23 56 50.2 +0.5**
BELA **Belgrano 2** **57.88 172** P **P** **23 59 42.9 +0.6**
BELA IAmb IAmb 23 59 43.8
comp=Z,2.4nm,0.9s
QSPA **South Pole Qui** **67.86 180** P **P** **00 00 51.0 +2.4**
comp=Z,1.1nm,0.5s,baz=274,slow=1.4,SNR=12
comp=Z,1.1nm,0.5s
DBIC **Dimbokro** **68.72 73** P **P** **00 00 54.1 -0.6**
DBIC **Dimbokro** **68.72 73** P **P** **00 00 55.3 +0.6**
comp=Z,5.8nm,0.9s,baz=226,slow=6.0,SNR=5.7
comp=Z,5.8nm,0.8s
NVAR **Mina Array Bea** **76.31 322** P P 00 01 44.6 +5.2
comp=Z,0.2nm,0.6s,baz=108,slow=2.9,SNR=2.0
comp=Z,0.2nm,0.6s
TORD **Torodi Ar. Bea** **77.39 70** P **P** **00 01 46.3 +0.6**
comp=Z,2.3nm,0.4s,baz=261,slow=5.8,SNR=25
comp=Z,2.3nm,0.4s
BOSA **Boshof** **82.82 118** P **P** **00 02 15.8 +0.9**
comp=Z,2.3nm,0.9s,baz=297,slow=2.3,SNR=3.9
comp=Z,2.3nm,0.9s
YKA **Yellowknife Ar** **92.06 340** P **P** **00 02 60.0 +1.6**
comp=Z,0.2nm,0.6s,baz=140,slow=3.8,SNR=5.1
comp=Z,0.2nm,0.6s
MKAR **Makanchi Array** **146.15 37** PKPbc **PKPab** **00 09 30.7 +0.2**
comp=Z,1.3nm,0.8s,baz=308,slow=2.5,SNR=11

IDC 06 23:52:43.4±6.2, 5.95S×142.13E, h0km, mb3.5/2, mbtmp3.7/4, ML3.7/2, MS3.1/1, Error ellipse: s-maj=232.7km s-min=33.2km az=96.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.84**	**208**	Pn	Pn	23 56 26.6	-1.4
	0.2nm,0.3s,baz=31,slow=13,SNR=4.8						
WRA				Sn	Sn	23 59 13.0	-11
	0.1nm,0.3s,baz=30,slow=22,SNR=1.5 1.6nm,1.1s						
ASAR	**Alice Springs**	**19.32**	**203**	P	P	23 57 10.8	+0.5
	0.6nm,0.3s,baz=32,slow=10,SNR=39						
ASAR				LR	LR	00 05 57.6	
	comp=Z,60nm,19.7s,baz=202,slow=41 4.4nm,0.6s						
MKAR	**Makanchi Array**	**74.42**	**322**	P	P	00 04 23.5	0.0
	0.2nm,0.7s,baz=119,slow=5.1,SNR=1.9 0.2nm,0.7s						
BVAR	**Borovoye Array**	**83.90**	**325**	P	P	00 05 15.2	+0.1
	0.8nm,0.9s,baz=104,slow=6.1,SNR=2.2 0.8nm,0.9s						

*IDC **06** 23:54:24.8±1.3, 53.82N×160.32E, h0km, mb3.3/6, mbtmp3.3/6, Error ellipse: s-maj=56.1km s-min=17.3km az=163.0*
*KRSC **06** 23:54:27.9±1.2, 52.98N×160.54E, h43km±10km, Ml4.1*
ISC 06 23:54:24.9±1.7, 52.94N±0.04×160.74E±0.05, h16km±11km, n44, σ1°46/62, mb3.4/6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.46**	**290**	*eP*	**Pn**	**23 54 38.0**	**+1.2**
SPN				*eS*	**Sb**	**23 54 43.3**	**+2.2**
NLC	**Nalytchevo**	**0.87**	**286**	*eP*	**Pn**	**23 54 43.2**	**+0.8**
NLC				*eS*	**Sb**	**23 54 52.2**	**-0.8**
DALK	**Dalny**	**1.20**	**275**	*eP*	**Pn**	**23 54 47.7**	**+0.7**
DALK				*eS*	**Sb**	**23 55 01.3**	**-1.2**
SMAR	**Somma**	**1.21**	**286**	*eP*	**Pb**	**23 54 48.3**	**+0.7**
SMAR				*eS*	**Sb**	**23 55 02.7**	**-0.3**
AVH	**Avacha**	**1.25**	**286**	*eP*	**Pg**	**23 54 49.2**	**+0.2**
AVH				*eS*	**Sb**	**23 55 03.6**	**-0.3**
KRER	**Koryakskii**	**1.25**	**287**	*eP*	**Pg**	**23 54 49.6**	**+0.5**
KRER				*eS*	**Sb**	**23 55 04.1**	**-0.1**
PET	**Petropavlovsk**	**1.27**	**274**	*eP*	**Pn**	**23 54 48.6**	**+0.7**
PET				*eS*	**Sb**	**23 55 02.5**	**-1.8**
KOK	**Koryaka**	**1.31**	**286**	*eP*	**Pb**	**23 54 49.9**	**+0.7**
KOK				*eS*	**Sn**	**23 55 05.3**	**-0.6**
KRX	**Arik**	**1.33**	**289**	*eP*	**Pb**	**23 54 49.9**	**+0.4**
KRX				*eS*	**Sn**	**23 55 04.6**	**-1.6**
KII	**Karymskiy**	**1.34**	**325**	*eP*	**Pg**	**23 54 50.6**	**0.0**
KII				*eS*	**Sn**	**23 55 06.1**	**-0.3**
RUS	**Russkaya**	**1.45**	**250**	*eP*	**Pb**	**23 54 51.6**	**+0.2**
RUS				*eS*	**Sn**	**23 55 08.1**	**-0.9**
KRMR	**Karymshinskiy**	**1.59**	**267**	*eP*	**Pn**	**23 54 53.3**	**+1.0**
KRMR				*eS*	**Sn**	**23 55 11.4**	**-1.0**
MTVR	**Mutnovka**	**1.62**	**254**	*eP*	**Pb**	**23 54 54.4**	**-0.1**
MTVR				*eS*	**Sn**	**23 55 12.9**	**-0.6**
GRL	**Gorelyy**	**1.67**	**257**	*eP*	**Pb**	**23 54 55.4**	**+0.2**
GRL				*eS*	**Sn**	**23 55 14.3**	**-0.3**
ASAK	**Asacha**	**1.82**	**253**	*eP*	**Pb**	**23 54 57.8**	**0.0**
ASAK				*eS*	**Sn**	**23 55 19.7**	**+0.9**
GNL	**Ganaly**	**1.84**	**295**	*eP*	**Pb**	**23 54 57.9**	**-0.2**
GNL				*eS*	**Sn**	**23 55 19.8**	**+1.0**
PETK	**Petropavlovsk-**	**1.84**	**276**	Pn	**Pn**	**23 54 56.8**	**+1.0**
	102nm,0.3s,baz=65,slow=9.7,SNR=898						
PETK				Sn	**Sn**	**23 55 18.9**	**+0.1**
	62nm,0.3s,baz=82,slow=33,SNR=13						
PETK				LR	LR	23 55 54.3	
	comp=Z,65nm,19.8s,baz=75,slow=52						
KDTR	**Khodutka, Kamc**	**1.99**	**236**	*eP*	**Pn**	**23 54 59.7**	**+1.9**
KDTR				*eS*	**Sn**	**23 55 21.1**	**-1.2**
APC	**Apacha**	**2.17**	**271**	*eP*	**Pb**	**23 55 03.0**	**-0.7**
APC				*eS*	**Sn**	**23 55 26.7**	**0.0**
TUMD	**Tumrok D**	**2.27**	**355**	*eP*	**Pb**	**23 55 04.7**	**-0.7**
TUMD				*eS*	**Sn**	**23 55 29.9**	**+0.6**
TUMR	**Tumrok**	**2.37**	**352**	*eP*	**Pb**	**23 55 06.9**	**-0.3**
TUMR				*eS*	**Sn**	**23 55 33.8**	**+1.9**
KMNR	**Kamenistaya**	**2.83**	**354**	*eP*	**Pb**	**23 55 13.7**	**-1.4**
PAU	**Pauzhetka**	**2.83**	**240**	*eP*	**Pb**	**23 55 13.6**	**-1.4**
BZP	**Bezymyannyi-Pe**	**2.98**	**358**	*eP*	**Pb**	**23 55 15.8**	**-1.8**
BZMR	**Bezymyannaya**	**3.00**	**357**	*eP*	**Pb**	**23 55 16.1**	**-1.8**
BZGR	**Bezymyannyi-Gr**	**3.00**	**360**	*eP*	**Pb**	**23 55 16.4**	**-1.6**
KIRR	**Kirishev**	**3.02**	**356**	*eP*	**Pb**	**23 55 16.6**	**-1.8**
BZWR	**Bezymyannyi-We**	**3.03**	**357**	*eP*	**Pb**	**23 55 16.8**	**-1.7**
KPT	**Kopyto**	**3.04**	**354**	*eP*	**Pb**	**23 55 16.8**	**-1.9**
LGNR	**Loginova**	**3.15**	**359**	*eP*	**Pb**	**23 55 19.1**	**-1.4**
ESO	**Esso**	**3.22**	**339**	*eP*	**Pn**	**23 55 17.6**	**+2.9**
KRSR	**Krestovskiy**	**3.28**	**358**	*eP*	**Pb**	**23 55 20.0**	**-2.7**
KLY	**Klyuchi**	**3.38**	**359**	*eP*	**Pn**	**23 55 19.3**	**+2.4**
SRDR	**Sredinnyy**	**3.43**	**350**	*eP*	**Pn**	**23 55 20.1**	**+2.5**
BDR	**Baidarnaya**	**3.64**	**4**	*eP*	**Pb**	**23 55 25.3**	**-3.5**
H11S1	**WAKE ISLAND Hy**	**34.68**	**170**	T	T	00 38 54.2	
	baz=352						
H11S3	**WAKE ISLAND Hy**	**34.69**	**170**	T	T	00 38 55.1	
	baz=352						
H11S2	**WAKE ISLAND Hy**	**34.70**	**170**	T	T	00 38 55.6	
	baz=352						
YKA	**Yellowknife Ar**	**43.01**	**43**	P	**P**	**00 02 22.8**	**-0.1**
	0.2nm,0.4s,baz=304,slow=8.9,SNR=3.7 0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**48.24**	**302**	P	**P**	**00 03 01.4**	**-3.1**
	0.3nm,0.4s,baz=59,slow=7.4,SNR=4.2 0.3nm,0.4s						
MKAR	**Makanchi Array**	**48.57**	**296**	P	**P**	**00 03 04.2**	**-2.9**
	0.1nm,0.6s,baz=47,slow=6.5,SNR=1.5 0.1nm,0.6s						
NVAR	**Mina Array Bea**	**55.42**	**70**	P	**P**	**00 03 59.9**	**+1.4**
	0.3nm,0.7s,baz=312,slow=7.4,SNR=3.6 0.3nm,0.7s						
PDAR	**Pinedale Array**	**57.25**	**61**	P	**P**	**00 04 11.8**	**+0.3**
	0.2nm,0.6s,baz=311,slow=3.5,SNR=2.3 0.2nm,0.6s						
TXAR	**Lajitas Array**	**70.33**	**67**	P	**P**	**00 05 39.9**	**+2.2**
	0.5nm,0.8s,baz=296,slow=4.3,SNR=4.5 0.5nm,0.8s						

*SOME **06** 23:54:32.9, 42.08N×83.82E, h5km*
*NNC **06** 23:54:38.1±2.1, 42.19N×83.65E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=16.8km s-min=10.3km az=156.0*
ISC 06 23:54:39.9±2.2, 42.32N±0.10×83.63E±0.07, h10km, n29, σ1°73/40, 3C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.18**	**287**	*eP*	**Pn**	**23 55 31.6**	**+1.5**
	10nm,0.3s						
SHLS				*eS*	**Sb**	**23 56 14.0**	**-1.3**
	74nm,0.5s						
SHLS	**Shalkode**	**3.18**	**287**	Pg	**Pn**	**23 55 31.6**	**+1.5**
	10nm,0.3s						
SHLS				Lg	Lg	23 56 14.0	
	74nm,0.5s						
PDGK	**Podgornoye**	**3.21**	**290**	Pg	**Pb**	**23 55 36.5**	**-0.5**
	1.9nm,0.4s						
PDGK				Lg	Lg	23 56 22.3	
	23nm,0.9s						
PDGK	**Podgornoye**	**3.21**	**290**	⇓Pg	**Pg**	**23 55 39.4**	**-1.9**
	6.4nm,0.7s						
PDGK				⇓Lg	Lg	23 56 22.1	
	68nm,1.0s						
DJR	**Jarkent**	**3.45**	**307**	*eP*	**Pb**	**23 55 41.0**	**0.0**
	2.6nm,0.2s						
DJR				*eS*	**Sg**	**23 56 30.9**	**+0.3**
	13nm,0.5s						
DJR	**Jarkent**	**3.45**	**307**	Pg	**Pb**	**23 55 41.1**	**0.0**
	2.6nm,0.2s						
DJR				Lg	Lg	23 56 30.9	
	13nm,0.5s						
UZB	**Uzynbulak**	**3.49**	**285**	*eP*	**Pb**	**23 55 41.1**	**-0.8**
	2.5nm,0.2s						
UZB				*eS*	**Sg**	**23 56 30.6**	**-1.4**
	18nm,0.5s						
UZB	**Uzynbulak**	**3.49**	**285**	Pg	**Pb**	**23 55 41.1**	**-0.8**
	2.5nm,0.2s						
UZB				Lg	Lg	23 56 30.6	
	18nm,0.5s						
KPKS	**Kokpek**	**3.81**	**289**	*eP*	**Pb**	**23 55 46.9**	**-0.3**
	9.9nm,0.5s						
KPKS				*eS*	**Sg**	**23 56 40.0**	**-2.2**
	26nm,0.6s						
KPKS	**Kokpek**	**3.81**	**289**	Pg	**Pb**	**23 55 46.9**	**-0.3**
	9.9nm,0.5s						
KPKS				Lg	Lg	23 56 40.0	
	26nm,0.6s						
SATY	**Saty**	**3.92**	**283**	*eP*	**Pb**	**23 55 50.2**	**+1.0**
	2.9nm,0.4s						
SATY				*eS*	**Sg**	**23 56 46.3**	**+0.6**
	33nm,0.3s						
SATY	**Saty**	**3.92**	**283**	Pg	**Pb**	**23 55 50.2**	**+1.0**
	2.9nm,0.4s						
SATY				Lg	Lg	23 56 46.3	
	33nm,0.3s						
BLB	**Baldybastay**	**4.16**	**297**	Pg	**Pb**	**23 55 55.2**	**+1.9**
	4.7nm,0.1s						
BLB				Lg	Lg	23 56 54.8	
	5.0nm,0.2s						
KURS	**Kuram**	**4.17**	**288**	*eP*	**Pb**	**23 55 53.7**	**+0.2**
	2.2nm,0.5s						
KURS				*eS*	**Sg**	**23 56 52.5**	**-1.4**
	14nm,0.8s						
KURS	**Kuram**	**4.17**	**288**	Pg	**Pb**	**23 55 53.7**	**+0.2**
	2.2nm,0.5s						
KURS				Lg	Lg	23 56 52.5	
	14nm,0.8s						
KAPS	**Kapalarasan**	**4.28**	**315**	*eP*	**Pb**	**23 55 54.7**	**-0.6**
	4.8nm,0.3s						
KAPS				*eS*	**Sb**	**23 56 53.3**	**+6.2**
	6.4nm,0.4s						
KAPS	**Kapalarasan**	**4.28**	**315**	Pg	**Pb**	**23 55 54.7**	**-0.6**
	4.8nm,0.3s						
KAPS				Lg	Lg	23 56 53.3	
	6.4nm,0.4s						
MK31	**Makanchi Array**	**4.58**	**348**	⇑Pn	**Pn**	**23 55 50.6**	**+1.5**
	0.1nm,0.2s,baz=159,slow=14,SNR=7.5						
MK31				⇓Pg	**Pg**	**23 56 05.0**	**-2.5**
	5.2nm,0.7s,baz=165,slow=16,SNR=23						
MK31				⇓Lg	Lg	23 57 06.6	
	14nm,0.7s,baz=164,slow=30,SNR=4.9						
ARXS	**Arharly**	**4.64**	**296**	*eP*	**Pb**	**23 56 02.5**	**+1.2**
	3.2nm,0.4s						
ARXS				*eS*	**Sg**	**23 57 07.3**	**-1.4**
	17nm,0.7s						
MAKZ	**Makanchi**	**4.64**	**346**	⇑Pg	**Pg**	**23 56 07.7**	**-1.1**
	7.4nm,1.0s						
MAKZ				⇓Lg	Lg	23 57 11.4	
	12nm,1.0s						
KOTS	**Kotyrbulak**	**4.88**	**283**	*eP*	**Pb**	**23 56 06.7**	**+1.1**
	1.8nm,0.2s						
KOTS				*eS*	**Sg**	**23 57 14.2**	**-2.3**
	23nm,0.6s						
KOTS	**Kotyrbulak**	**4.88**	**283**	Pg	**Pb**	**23 56 06.7**	**+1.1**
	1.8nm,0.2s						
KOTS				Lg	Lg	23 57 14.2	
	23nm,0.6s						
MDOK	**Medeo**	**4.92**	**282**	Pg	**Pg**	**23 56 11.9**	**-2.1**
	2.2nm,0.4s						
MDOK				Lg	Lg	23 57 19.8	
	27nm,0.9s						
TNSS	**Tian-Shan**	**4.98**	**281**	*eP*	**Pb**	**23 56 08.6**	**+1.3**
	1.6nm,0.3s						
TNSS				*eS*	**Sg**	**23 57 17.6**	**-2.1**
	3.7nm,1.0s						
TNSS	**Tian-Shan**	**4.98**	**281**	Pg	**Pb**	**23 56 08.6**	**+1.3**
	1.6nm,0.3s						
TNSS				Lg	Lg	23 57 17.6	
	3.7nm,1.0s						
ZSN	**Zaisan**	**5.21**	**9**	*eP*	**Pb**	**23 56 12.0**	**+1.0**
	2.4nm,0.2s						
ZSN				*eS*	**Sg**	**23 57 24.1**	**-2.9**
	17nm,1.0s						
DGS	**Degeres**	**5.85**	**282**	*eP*	Pg	23 56 26.4	-5.5
	0.8nm,0.3s						
DGS				*eS*	**Sg**	**23 57 48.4**	**+0.6**
	13nm,1.0s						
DGS	**Degeres**	**5.85**	**282**	Pg	Pg	23 56 26.4	-5.5
	0.8nm,0.3s						
DGS				Lg	Lg	23 57 48.4	
	13nm,1.0s						
TKM2	**Tokmak 2**	**5.96**	**279**	⇑Pn	**Pn**	**23 56 09.3**	**+1.0**
	2.8nm,1.1s						
TKM2				⇓Lg	Lg	23 57 47.9	
	8.0nm,1.3s						

*IDC **06** 23:56:47.1±4.6, 17.39N×92.24W, h0km, mb3.3/2, mbtmp3.3/4, ML3.4/2, Error ellipse: s-maj=74.1km s-min=29.4km az=140.0*
*MEX **06** 23:56:53.5±0.7, 17.83N×92.69W, h10km, MD4.3*
ISC 06 23:56:50.1±1.3, 17.67N±0.03×92.58W±0.03, h11km±10km, n28, σ2°43/51, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHSA	**Villahermosa**	**0.46**	**312**	*eP*	**Pn**	**23 57 03.8**	**+1.1**
VHSA				*i* S	**Sb**	**23 57 08.0**	**+0.8**
TGBT	**Tuxtla Gutierr**	**1.01**	**209**	*eP*	**Pn**	**23 57 11.8**	**+1.4**
TGBT				*eS*	**Sn**	**23 57 27.9**	**+3.3**
TGIG		**1.03**	**210**	*eP*	**Pn**	**23 57 10.4**	**-0.2**
TGIG				*i* S	**Sn**	**23 57 26.0

PAVE	**Pavencul**	**2.49 171**	*eP*	**Pn**	**23 57 31.1 +0.3**
PAVE			*eS*	**Sn**	**23 58 02.7 +1.2**
PATR	**El Naranjo**	**2.56 173**	*eP*	**Pn**	**23 57 31.7 -0.2**
PATR			*eP*	**Pb**	**23 57 32.5 -3.8**
PATR			*eS*	**Sn**	**23 58 04.5 +1.4**
CHUJ	**Union Juarez**	**2.60 170**	*eP*	**Pn**	**23 57 33.2 +0.8**
CHUJ			*eS*	**Sb**	**23 58 06.5 -2.6**
NEUV	**Arroyo Zacate**	**3.07 271**	*eP*	**Pb**	**23 57 42.2 -2.6**
HUIG	**Huatulco**	**3.88 241**	*eP*	**Pn**	**23 57 49.2 -0.5**
HUIG			*eS*	**Sn**	**23 58 30.7 -4.6**
MYIG	**Mrida**	**4.23 39**	*eP*	**Pb**	**23 58 02.9 -1.7**
MYIG			*eS*	**Sn**	**23 58 44.6 +0.6**
TOIG	**Toxpalan**	**4.29 276**	*eP*	**Pn**	**23 57 55.5 -0.1**
TOIG			*eS*	**Sn**	**23 58 45.4 -0.3**
JAUV	**Jalcomulco**	**4.35 293**	*eP*	**Pn**	**23 57 56.8 +0.5**
PEIG	**Puerto Escondi**	**4.68 250**	*eS*	**Sn**	**23 58 53.3 -1.9**
TEIG	**Tepich**	**4.80 57**	*eP*	**Pn**	**23 58 00.4 -2.0**
TEIG			*eS*	**Sn**	**23 58 53.2 -4.8**
YOIG	**Yosondua**	**4.81 261**	*eP*	**Pn**	**23 58 01.5 -1.4**
YOIG			*eS*	**Sn**	**23 58 51.5 -7.3**
TXIG	**Tlaxiaco**	**4.97 266**	*eP*	**Pn**	**23 58 03.5 -1.6**
TXIG			*eS*	**Sn**	**23 59 08.1 +5.3**
HLIG	**Huajuapan de L**	**4.98 273**	*eP*	**Pn**	**23 58 06.3 +1.2**
FTIG	**Fresnillo de T**	**5.30 273**	*eP*	**Pn**	**23 58 11.5 +2.1**
FTIG			*eS*	**Sn**	**23 59 06.0 -4.5**
TXAR	**Lajitas Array**	**15.42 321**	Pn	**P**	**00 00 34.0 +1.5**
	baz=146,slow=16,SNR=1.9				
	0.1nm,0.4s				
NVAR	**Mina Array Bea**	**30.53 318**	P	**P**	**00 03 06.7 +2.8**
	0.3nm,0.5s,baz=126,slow=8.6,SNR=1.9				
	0.3nm,0.5s				
YKA	**Yellowknife Ar**	**47.35 346**	P	**P**	**00 05 24.9 +1.1**
	0.2nm,0.6s,baz=149,slow=7.4,SNR=5.2				
	0.2nm,0.6s				

*IDC **07** 23:57:12.4±1.6,6˚56S×143˚05E,h0km,mb3.8/2, mbtmp3.8/5,ML3.6/2,Error ellipse: s-maj=39.1km s-min=25.2km az=96.0*

ISC 06 23:57:13.6±1.2,6˚38S±0˚1×143˚1E±0˚1,h10km,n5,σ2s49/7, New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.80**	**123**	Pn		**Pn**	**Pn**	**23 58 26.2**	**+0.3**
	21nm,0.8s,baz=281,slow=9.9,SNR=4.1								
PMG				Sn		**Sn**	**Sn**	**23 59 20.8**	**-0.9**
	2.3nm,0.3s,baz=270,slow=1.0,SNR=2.3								
WRA	**Warramunga Arr**	**15.59**	**212**	Pn		**Pn**	**Pn**	**00 00 54.6**	**+1.0**
	0.2nm,0.3s,baz=31,slow=13,SNR=6.8								
WRA				Sn		**Sn**	**Sn**	**00 03 43.5**	**-3.0**
	0.2nm,0.3s,baz=36,slow=22,SNR=2.0								
WRA				Lg		Lg	Lg	00 05 31.6	
	baz=32,slow=26								
	1.5nm,0.9s								
ASAR	**Alice Springs**	**18.96**	**207**	P		**Pn**	**Pn**	**00 01 39.3**	**+3.5**
	0.3nm,0.3s,baz=33,slow=10.0,SNR=22								
ASAR				Lg		Lg	Lg	00 07 18.5	
	baz=26,slow=30,SNR=1.8								
	2.7nm,0.7s								
MKAR	**Makanchi Array**	**75.67**	**322**	P		**P**	**P**	**00 08 57.9**	**-1.2**
	0.4nm,0.8s,baz=123,slow=4.2,SNR=4.3								
	0.4nm,0.8s								
BVAR	**Borovoye Array**	**85.14**	**325**	P		**P**	**P**	**00 09 50.2**	**+0.3**
	1.1nm,0.8s,baz=115,slow=5.3,SNR=3.2								
	1.1nm,0.8s								

IDC 07 00:15:24.7±5.3,18˚65N×145˚78E,h0km,mb3.6/6, mbtmp3.6/6,Error ellipse: s-maj=162.9km s-min=34.1km az=6.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**58.10**	**323**	P		P	P	00 25 18.8	-1.0
	0.3nm,0.3s,baz=111,slow=7.9,SNR=2.6								
	0.3nm,0.3s								
MKAR	**Makanchi Array**	**58.55**	**314**	P		P	P	00 25 23.6	+0.5
	0.2nm,0.4s,baz=86,slow=9.3,SNR=4.9								
	0.2nm,0.4s								
KURBB	**Kurchatov Arra**	**61.40**	**318**	P		P	P	00 25 42.9	+0.3
	0.7nm,0.5s,baz=97,slow=7.1,SNR=5.4								
ILAR	**Eielson Array**	**63.65**	**26**	P		P	P	00 25 57.6	+0.2
	0.2nm,0.5s,baz=257,slow=5.4,SNR=4.3								
	0.2nm,0.5s								
BVAR	**Borovoye Array**	**66.56**	**320**	P		P	P	00 26 16.2	-0.3
	0.8nm,0.4s,baz=101,slow=7.5,SNR=5.9								
	0.8nm,0.4s								
NVAR	**Mina Array Bea**	**83.11**	**52**	P		P	P	00 27 51.7	-1.3
	0.4nm,0.5s,baz=269,slow=6.3,SNR=2.4								
	0.4nm,0.5s								
PDAR	**Pinedale Array**	**87.80**	**45**	P		P	P	00 28 17.6	+1.3
	0.2nm,0.7s,baz=270,slow=5.4,SNR=1.8								
	0.2nm,0.7s								

*SOME **07** 00:16:12.1,41˚65N×84˚05E,h10km*
*NNC **07** 00:16:32.3±2.9,42˚26N×83˚51E,h19km±14km,mb3.6, mpv3.3,Error ellipse: s-maj=18.7km s-min=9.0km az=148.0*

ISC 07 00:16:30.4±1.3,42˚18N±0˚08×83˚46E±0˚04,h10km,n43, σ2s45/45,5C-4D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.10**	**290**	*eP*		Pn	Pn	00 17 15.5	-4.1
	5.5nm,0.3s								
SHLS				*eS*		**Sn**	**Sn**	**00 18 01.7**	**+5.0**
	36nm,0.5s								
SHLS	**Shalkode**	**3.10**	**290**	Pg		**Pn**	**Pn**	**00 17 17.2**	**-2.4**
	16nm,0.5s								
SHLS				Lg		Lg	Lg	00 18 04.4	
	36nm,0.5s								
PDGK	**Podgornoye**	**3.14**	**293**	Pg		**Pn**	**Pn**	**00 17 21.4**	**+1.3**
	1.4nm,0.4s								
PDGK				Lg		Lg	Lg	00 18 11.8	
	11nm,0.6s								
PDGK	**Podgornoye**	**3.14**	**293**	⇑Pn		**Pn**	**Pn**	**00 17 21.1**	**+1.1**
	0.8nm,0.6s								
PDGK				⇑Pg		**Pg**	**Pg**	**00 17 31.0**	**+0.5**
	2.2nm,0.4s								
PDGK				⇑Lg		Lg	Lg	00 18 15.1	
	42nm,1.0s								
UZB	**Uzynbulak**	**3.41**	**288**	*eP*		**Pn**	**Pn**	**00 17 25.8**	**+2.0**
	5.5nm,0.4s								
UZB				*eS*		**Sg**	**Sg**	**00 18 19.3**	**-0.6**
	18nm,0.5s								
UZB	**Uzynbulak**	**3.41**	**288**	Pg		**Pn**	**Pn**	**00 17 25.8**	**+2.0**
	5.5nm,0.4s								
UZB				Lg		Lg	Lg	00 18 19.3	
	18nm,0.5s								
DJR	**Jarkent**	**3.43**	**310**	*eP*		**Pn**	**Pn**	**00 17 27.4**	**+3.3**
	8.1nm,0.5s								
DJR				*eS*		**Sg**	**Sg**	**00 18 22.0**	**+1.4**
	7.0nm,0.7s								
DJR	**Jarkent**	**3.43**	**310**	Pg		**Pn**	**Pn**	**00 17 27.4**	**+3.3**
	8.1nm,0.5s								
DJR				Lg		Lg	Lg	00 18 22.0	
	7.0nm,0.7s								
KPKS	**Kokpek**	**3.74**	**292**	*eP*		**Pn**	**Pn**	**00 17 31.8**	**+3.5**
	14nm,0.7s								
KPKS				*eS*		**Sg**	**Sg**	**00 18 29.7**	**-0.7**
	17nm,0.4s								
KPKS	**Kokpek**	**3.74**	**292**	Pg		**Pn**	**Pn**	**00 17 31.8**	**+3.5**
	14nm,0.7s								
KPKS				Lg		Lg	Lg	00 18 29.7	
	17nm,0.4s								
SATY	**Saty**	**3.83**	**285**	*eP*		**Pn**	**Pn**	**00 17 32.0**	**+2.5**
	4.1nm,0.6s								
SATY				*eS*		**Sb**	**Sb**	**00 18 29.7**	**+5.1**
	21nm,0.4s								
SATY	**Saty**	**3.83**	**285**	Pg		**Pn**	**Pn**	**00 17 32.0**	**+2.5**
	4.1nm,0.6s								
SATY				Lg		Lg	Lg	00 18 29.7	
	21nm,0.4s								
ZHN	**Zhinishke**	**3.83**	**287**	*eP*		**Pn**	**Pn**	**00 17 33.8**	**+4.2**
	7.0nm,0.3s								
ZHN				*eS*		**Sg**	**Sg**	**00 18 33.0**	**-0.4**
	9.6nm,0.1s								
ZHN	**Zhinishke**	**3.83**	**287**	Pg		Pn	Pn	00 17 35.4	+5.9
	2.7nm,0.1s								
ZHN				Lg		Lg	Lg	00 18 36.1	
	14nm,0.3s								
KURS	**Kuram**	**4.10**	**290**	*eP*		Pn	Pn	00 17 38.8	+5.6
	2.5nm,0.8s								
KURS				*eS*		**Sg**	**Sg**	**00 18 41.5**	**-0.6**
	5.6nm,1.3s								
KURS	**Kuram**	**4.10**	**290**	Pg		Pn	Pn	00 17 38.8	+5.6
	2.5nm,0.8s								
KURS				Lg		Lg	Lg	00 18 41.5	
	5.6nm,1.3s								
KAPS	**Kapalarasan**	**4.29**	**318**	*eP*		**Pb**	**Pb**	**00 17 44.5**	**-1.5**
	6.6nm,0.8s								
KAPS				*eS*		**Sg**	**Sg**	**00 18 51.4**	**+3.1**
	7.0nm,0.6s								
KAPS	**Kapalarasan**	**4.29**	**318**	Pg		**Pb**	**Pb**	**00 17 44.5**	**-1.5**
	6.6nm,0.8s								
KAPS				Lg		Lg	Lg	00 18 51.4	
	7.0nm,0.6s								
ARXS	**Arharly**	**4.59**	**298**	*eP*		Pb	Pb	00 17 47.8	-3.2
ARXS				*eS*		**Sg**	**Sg**	**00 18 57.3**	**-0.4**
	11nm,0.7s								
ARXS	**Arharly**	**4.59**	**298**	Pg		Pb	Pb	00 17 47.8	-3.2
ARXS				Lg		Lg	Lg	00 18 57.3	
	11nm,0.7s								
MK31	**Makanchi Array**	**4.69**	**350**	⇑Pn		**Pn**	**Pn**	**00 17 40.8**	**-0.4**
	baz=153,slow=14,SNR=8.1								
MK31				Pg		**Pb**	**Pb**	**00 17 54.8**	**+2.2**
	1.5nm,0.5s,baz=162,slow=16,SNR=22								
MK31				⇓Lg		Lg	Lg	00 19 01.2	
	7.4nm,0.7s,baz=160,slow=28,SNR=5.0								
MAKZ	**Makanchi**	**4.75**	**348**	⇓Lg		Lg	Lg	00 19 01.8	
	6.2nm,0.9s								
KOTS	**Kotyrbulak**	**4.79**	**285**	*eP*		Pb	Pb	00 17 51.3	-3.2
	1.9nm,0.3s								
KOTS				*eS*		**Sg**	**Sg**	**00 19 03.3**	**-0.9**
	12nm,0.7s								
KOTS	**Kotyrbulak**	**4.79**	**285**	Pg		Pb	Pb	00 17 51.3	-3.2
	1.9nm,0.3s								
KOTS				Lg		Lg	Lg	00 19 03.3	
	12nm,0.7s								
MDOK	**Medeo**	**4.83**	**284**	*eP*		**Pb**	**Pb**	**00 17 53.1**	**-2.1**
	1.5nm,0.2s								
MDOK				*eS*		**Sg**	**Sg**	**00 19 06.0**	**+0.7**
	7.3nm,0.5s								
MDOK	**Medeo**	**4.83**	**284**	Pg		Pn	Pn	00 17 49.7	+6.4
	2.1nm,0.5s								
MDOK				⇓Pg		Pb	Pb	00 18 01.1	+5.9
	2.3nm,0.8s								
MDOK				Lg		Lg	Lg	00 19 00.4	
	7.2nm,0.9s								
MDOK				Lg		Lg	Lg	00 19 07.5	
	18nm,0.9s								
TNSS	**Tian-Shan**	**4.88**	**282**	*eP*		Pb	Pb	00 17 53.2	-3.0
	2.9nm,0.6s								
TNSS				*eS*		**Sg**	**Sg**	**00 19 06.0**	**-1.1**
	4.1nm,0.6s								
TNSS	**Tian-Shan**	**4.88**	**282**	Pg		Pb	Pb	00 17 53.2	-3.0
	2.9nm,0.6s								
TNSS				Lg		Lg	Lg	00 19 06.1	
	4.1nm,0.6s								
KTBS	**Karatobe**	**5.20**	**289**	*eP*		**Pb**	**Pb**	**00 17 59.1**	**-2.4**
	1.2nm,0.4s								
KTBS				*eS*		**Sg**	**Sg**	**00 19 16.4**	**-1.0**
	12nm,0.7s								
KTBS	**Karatobe**	**5.20**	**289**	Pg		**Pb**	**Pb**	**00 17 59.1**	**-2.4**
	1.2nm,0.4s								
KTBS				Lg		Lg	Lg	00 19 16.4	
	12nm,0.7s								
MTBS	**Maitube**	**5.27**	**283**	*eP*		Pb	Pb	00 18 00.1	-2.6
	1.0nm,0.1s								
MTBS				*eS*		**Sg**	**Sg**	**00 19 18.2**	**-1.4**
	3.8nm,0.3s								
MTBS	**Maitube**	**5.27**	**283**	Pg		Pb	Pb	00 18 00.1	-2.6
	1.0nm,0.1s								
MTBS				Lg		Lg	Lg	00 19 18.2	
	3.8nm,0.3s								
ZSN	**Zaisan**	**5.36**	**10**	*eP*		Pb	Pb	00 17 59.0	-5.1
	2.3nm,0.4s								
ZSN				*eS*		**Sg**	**Sg**	**00 19 16.5**	**-6.0**
	8.6nm,1.1s								
ZSN	**Zaisan**	**5.36**	**10**	Pg		Pb	Pb	00 17 59.0	-5.1
	2.3nm,0.4s								
ZSN				Lg		Lg	Lg	00 19 16.5	
	8.6nm,1.1s								
KUU	**Kurty**	**5.49**	**291**	*eP*		**Pb**	**Pb**	**00 18 04.7**	**-1.7**
	1.0nm,0.2s								
KUU				*eS*		**Sg**	**Sg**	**00 19 25.9**	**-0.7**
	3.9nm,0.5s								
KUU	**Kurty**	**5.49**	**291**	Pg		**Pb**	**Pb**	**00 18 04.7**	**-1.7**
	1.0nm,0.2s								
KUU				Lg		Lg	Lg	00 19 25.9	
	3.9nm,0.5s								
KST	**Kastek**	**5.60**	**281**	*eP*		Pb	Pb	00 18 05.3	-2.9
	1.9nm,0.5s								
KST				*eS*		**Sg**	**Sg**	**00 19 27.4**	**-2.7**
	4.2nm,0.8s								
KST	**Kastek**	**5.60**	**281**	Pg		Pb	Pb	00 18 05.3	-2.9
	1.9nm,0.5s								
KST				Lg		Lg	Lg	00 19 27.4	
	4.2nm,0.8s								
DGS	**Degeres**	**5.76**	**283**	*eP*		**Pb**	**Pb**	**00 18 09.1**	**-1.9**
	0.8nm,0.5s								
DGS				*eS*		**Sg**	**Sg**	**00 19 33.9**	**-1.4**
	7.4nm,0.8s								
DGS	**Degeres**	**5.76**	**283**	Pg		**Pb**	**Pb**	**00 18 09.1**	**-1.9**
	0.8nm,0.5s								
DGS				Lg		Lg	Lg	00 19 33.9	
	7.4nm,0.8s								
TKM2	**Tokmak 2**	**5.85**	**280**	⇑Pg		Pg	Pg	00 18 20.0	-2.5
	2.2nm,1.0s								
TKM2				⇓Lg		Lg	Lg	00 19 41.8	
	4.7nm,0.8s								
KRBS	**Karabastau**	**5.91**	**287**	*eP*		**Pb**	**Pb**	**00 18 12.1**	**-1.4**
	1.0nm,0.5s								
KRBS				*eS*		**Sg**	**Sg**	**00 19 38.9**	**-1.2**
	1.6nm,0.7s								
KRBS	**Karabastau**	**5.91**	**287**	Pg		**Pb**	**Pb**	**00 18 12.1**	**-1.4**
	1.0nm,0.5s								
KRBS				Lg		Lg	Lg	00 19 38.9	
	1.6nm,0.7s								

*IDC **07** 00:25:24.8±0.8,6˚25S×142˚85E,h0km,mb4.1/11, mbtmp4.2/13,ML2.0/1,MS3.6/12,Error ellipse: s-maj=32.3km s-min=17.0km az=72.0*
*NEIC **07** 00:25:25.6±1.8,6˚4S±0˚1×142˚55E±0˚10,h10km±1km, mb4.7/39,Error ellipse: s-maj=18.6km s-min=14.8km az=217.0*
*DJA **07** 00:25:30.5±0.3,6˚S±2˚×14˚3E±˚,h51km±4km,M4.9/26, mB5.5/6,mb4.5/26,MLv5.1/5,Mw(mB)5.0/6*

ISC 07 00:25:26.3±0.5,6˚30S±0˚05×142˚71E±0˚06,h10km,n111, σ1s96/104,mb4.6/39,MS3.5/10,1D,New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MMPI	**Merauke**	**3.15**	**227**	P		**Pb**	**Pb**	**00 26 24.0**	**+1.5**
MMPI				S		**Sb**	**Sb**	**00 27 04.1**	**+3.1**
GENI	**Genyem**	**4.47**	**325**	P		**Pn**	**Pn**	**00 26 36.9**	**+2.8**
GENI	**Genyem**	**4.47**	**325**	P		Pn	Pn	00 26 29.7	-4.4
GENI				S		Sn	Sn	00 27 18.3	-7.9
PMG	**Port Moresby**	**5.38**	**125**	Pn		**Pn**	**Pn**	**00 26 45.5**	**-1.2**
PMG	**Port Moresby**	**5.38**	**125**	Pn		**Pn**	**Pn**	**00 26 46.3**	**-0.4**
	3.3nm,0.3s,baz=354,slow=19,SNR=2.3								
PMG				Sn		**Sn**	**Sn**	**00 27 48.0**	**-0.9**
	3.9nm,0.3s,baz=318,slow=16,SNR=1.5								
	8.0nm,0.3s								
SMPI	**Sarmi**	**5.85**	**317**	P		**Pn**	**Pn**	**00 26 51.8**	**-1.3**
	77nm,1.1s,10μm0.8nm								
COEN	**Coen**	**7.63**	**177**	Pn		Pn	Pn	00 27 14.4	-3.1
COEN	**Coen**	**7.63**	**177**	P		**Pn**	**Pn**	**00 27 21.6**	**+4.0**
FAKI	**Fak Fak**	**10.95**	**287**	Pn		Pn	Pn	00 27 59.0	-4.1
SAUI	**Saumlaki**	**11.44**	**261**	P		**Pn**	**Pn**	**00 28 11.0**	**+1.1**
	201nm,0.7s,12μm								
KDU	**Kakadu**	**11.92**	**237**	P		**Pn**	**Pn**	**00 28 15.0**	**-1.5**
MTN	**Manton Dam**	**13.13**	**239**	Pn		**Pn**	**Pn**	**00 28 29.7**	**-3.3**
CTA	**Charters Tower**	**14.13**	**166**	Lg		Lg	Lg	00 32 54.7	
	0.1nm,0.3s,baz=89,slow=8.9,SNR=1.8								
CTA				LR		LR	LR	00 33 45.8	
	comp=Z,292nm,21.7s,baz=304,slow=35								
QIS	**Mount Isa**	**14.49**	**192**	P		**Pn**	**Pn**	**00 28 53.4**	**+1.7**
WB0	**Warramunga Arr**	**15.64**	**210**	Pn		**Pn**	**Pn**	**00 29 03.8**	**-3.2**
WB0						IAmb	IAmb	00 29 14.2	
	comp=Z,36nm,1.2s								
WR0	**Warramunga Arr**	**15.73**	**210**	Pn		**Pn**	**Pn**	**00 29 05.2**	**-2.9**
WR0						IAmb	IAmb	00 29 15.3	
	comp=Z,33nm,1.1s								
WRAB	**Tennant Creek**	**15.80**	**210**	Pn		**Pn**	**Pn**	**00 29 05.5**	**-3.5**
WRAB						IAmb	IAmb	00 29 18.9	
	comp=Z,30nm,1.1s								
WB2	**Warramunga Arr**	**15.81**	**210**	Pn		**Pn**	**Pn**	**00 29 07.1**	**-2.1**
WB2						IAmb	IAmb	00 29 19.0	
	comp=Z,31nm,1.1s								
WRA	**Warramunga Arr**	**15.81**	**210**	Pn		**Pn**	**Pn**	**00 29 06.7**	**-2.5**
WRA	**Warramunga Arr**	**15.81**	**210**	Pn		**Pn**	**Pn**	**00 29 04.1**	**-5.1**
	comp=Z,0.4nm,0.3s,baz=29,slow=14,SNR=8.6								
WRA				Sn		Sn	Sn	00 31 53.9	-11
	comp=Z,0.2nm,0.3s,baz=28,slow=25,SNR=3.1								
WRA				Lg		Lg	Lg	00 33 43.4	
	comp=Z,0.3nm,0.3s,baz=39,slow=27,SNR=2.1								
KNRA	**Kununurra**	**16.55**	**235**	Pn		**Pn**	**Pn**	**00 29 14.9**	**-3.7**
KNRA				IAmb		IAmb	IAmb	00 29 31.5	
	comp=Z,39nm,0.9s								
SOEI	**Soe**	**18.58**	**258**	P		**P**	**P**	**00 29 39.6**	**-4.2**
SOEI				IAmb		IAmb	IAmb	00 29 58.5	
	comp=Z,51nm,0.9s								
SOEI	**Soe**	**18.58**	**258**	P		**P**	**P**	**00 29 43.6**	**-0.2**
SOEI	**Soe**	**18.58**	**258**	P		**Pn**	**Pn**	**00 29 45.7**	**+1.7**
	comp=Z,74nm,1.5s,comp=Z,928nm								
AS31	**Alice Springs**	**19.23**	**205**	P		**P**	**P**	**00 29 47.7**	**-3.2**
ASAR	**Alice Springs**	**19.23**	**205**	P		**P**	**P**	**00 29 49.6**	**-1.3**
ASAR	**Alice Springs**	**19.23**	**205**	P		**P**	**P**	**00 29 52.0**	**+1.1**
	comp=Z,20nm,0.9s,baz=30,slow=10,SNR=40								
ASAR				S		**Sn**	**Sn**	**00 33 20.9**	**-6.7**
	comp=Z,2.4nm,0.8s,baz=18,slow=27,SNR=4.8								
ASAR				Lg		Lg	Lg	00 35 36.0	
	comp=Z,0.1nm,0.3s,baz=16,slow=28,SNR=1.5								
ASAR				LR		LR	LR	00 38 03.1	
	comp=Z,764nm,19.7s,baz=24,slow=39								
QLP	**Quilpie**	**20.23**	**176**	P		Pn	Pn	00 30 05.9	+2.3
FITZ	**Fitzroy Crossi**	**20.37**	**233**	P		**P**	**P**	**00 30 00.8**	**-2.4**
FITZ	**Fitzroy Crossi**	**20.37**	**233**	P		**P**	**P**	**00 30 03.6**	**+0.4**
MMRI	**Maumere**	**20.43**	**262**	P		**P**	**P**	**00 30 03.9**	**-0.1**
	comp=Z,32nm,1.0s								
LUWI	**Luwuk**	**20.56**	**284**	P		**P**	**P**	**00 30 04.1**	**-1.3**
	comp=Z,47nm,0.9s								
GTOI	**Gorontalo**	**20.83**	**289**	P		**P**	**P**	**00 30 07.1**	**-1.2**
	comp=Z,14nm,1.3s,comp=Z,173nm								
EDFI	**Ende, Flores**	**20.98**	**262**	P		**P**	**P**	**00 30 09.0**	**-1.0**
	comp=Z,26nm,1.3s								
INKA	**Innaminka**	**21.41**	**185**	P		**P**	**P**	**00 30 16.5**	**+2.1**
OOD	**Oodnadatta**	**22.39**	**197**	P		**P**	**P**	**00 30 27.4**	**+2.4**
KAPI	**Kappang**	**22.88**	**272**	P		**P**	**P**	**00 30 26.9**	**-3.4**
KAPI				IAmb		IAmb	IAmb	00 30 39.4	
	comp=Z,38nm,1.5s								
KAPI	**Kappang**	**22.88**	**272**	P		**P**	**P**	**00 30 30.1**	**-0.2**
TTSI	**Tana Toraja**	**23.04**	**277**	P		**P**	**P**	**00 30 31.6**	**-0.3**
	comp=Z,26nm,1.3s								
TOLI2	**Tolitoli**	**23.09**	**288**	P		**P**	**P**	**00 30 29.4**	**-3.1**
TOLI2	**Tolitoli**	**23.09**	**288**	P		**P**	**P**	**00 30 33.4**	**+0.9**
WRKA	**Warakurna**	**23.19**	**215**	P		**P**	**P**	**00 30 33.3**	**-0.2**
AULRC	**Lightning Ridg**	**23.54**	**168**	P		**P**	**P**	**00 30 40.6**	**+3.7**
	comp=Z,59nm,0.5s								
MULG	**Mulgathing**	**25.21**	**198**	P		**P**	**P**	**00 30 54.9**	**+2.6**
CMSA	**Cobar Meteorol**	**25.27**	**174**	P		**P**	**P**	**00 30 56.6**	**+3.8**
STKA	**Stephens Creek**	**25.47**	**182**	P		**P**	**P**	**00 30 56.6**	**+1.9**
STKA	**Stephens Creek**	**25.47**	**182**	P		**P**	**P**	**00 30 55.4**	**+0.8**
	comp=Z,4.9nm,0.9s,baz=333,slow=5.3,SNR=7.4								
	comp=Z,4.9nm,0.9s								
JCJ	**Chichijima**	**33.20**	**359**	LR		LR	LR	00 44 04.5	
	comp=Z,50nm,21.6s,baz=130,slow=34								
LEM	**Lembang**	**34.86**	**267**	LR		LR	LR	00 50 14.6	
	comp=Z,79nm,18.3s,baz=334,slow=43								
JOW	**Kunigami**	**35.78**	**338**	P		**P**	**P**	**00 32 24.8**	**-1.0**
JOW	**Kunigami**	**35.78**	**338**	LR		LR	LR	00 43 32.9	
	comp=Z,87nm,21.3s,baz=163,slow=30								
JNU	**Nakatsue**	**40.78**	**345**	LR		LR	LR	00 47 12.8	
	comp=Z,30nm,19.0s,baz=164,slow=32								
MJAR	**Matsushiro Arr**	**42.82**	**355**	LR		LR	LR	00 49 31.4	
	comp=Z,66nm,18.2s,baz=156,slow=34								
NJ2	**Nanjing**	**44.40**	**331**	*eP*		**P**	**P**	**00 33 36.9**	**-0.4**
NJ2				pP		**pP**	**pP**	**00 33 41.0**	**+0.4**
NJ2				pmax		pmax	pmax		
	comp=Z,10.0nm,0.5s								
KSAR	**Wonju Array Be**	**45.66**	**343**	P		**P**	**P**	**00 33 45.2**	**-2.1**
KSRS	**Korea Array**	**45.66**	**344**	P		**P**	**P**	**00 33 48.3**	**+1.1**
	comp=Z,1.5nm,0.9s,baz=144,slow=10,SNR=2.4								
KSRS				LR		LR	LR	00 52 12.8	
	comp=Z,26nm,18.5s,baz=150,slow=35								
	comp=Z,1.5nm,0.9s								
GYA	**Guiyang**	**47.76**	**315**	*eP*		**P**	**P**	**00 34 04.0**	**-0.1**
GYA				pmax		pmax	pmax		
	comp=Z,13nm,0.7s								
GYA				pmax		pmax	pmax		
	comp=Z,250nm,5.2s								
PHRA	**Phrae**	**48.59**

comp=Z,1.5nm,0.3s
BVAR Borovoye Array 84.52 325 P **P** **00 38 00.4 +0.9**
comp=Z,5.0nm,0.9s,baz=107,slow=5.0,SNR=19
comp=Z,5.0nm,0.9s
BRVK Borovoye 84.59 325 P **P** **00 37 59.8 -0.1**
BRVK IAmb IAmb 00 38 03.0
comp=Z,7.8nm,1.1s
CAST Castle Rocks 84.83 24 P **P** **00 38 00.4 -0.5**
C19K Lookout Ridge 84.91 18 P **P** **00 38 01.6 +0.5**
C19K IAmb IAmb 00 38 06.2
comp=Z,6.2nm,1.1s
MLY Manley 86.03 23 P **P** **00 38 06.5 -0.4**
MLY IAmb IAmb 00 38 09.6
comp=Z,5.2nm,1.1s
RND Reindeer 86.15 25 P **P** **00 38 05.6 -2.0**
RND IAmb IAmb 00 38 09.8
comp=Z,4.3nm,0.9s
B21K Ikpikpuk River 86.69 18 P **P** **00 38 09.6 -0.4**
B21K IAmb IAmb 00 38 11.3
comp=Z,5.3nm,1.1s
WRH Wood River Hil 86.86 24 P **P** **00 38 10.4 -0.5**
WRH IAmb IAmb 00 38 32.4
comp=Z,9.3nm,1.4s
IL31 87.45 24 P **P** **00 38 12.2 -1.5**
IL31 IAmb IAmb 00 38 18.4
comp=Z,4.9nm,1.3s
ILAR Eielson Array 87.45 24 P **P** **00 38 12.1 -1.7**
ILAR Eielson Array 87.45 24 P **P** **00 38 12.8 -1.0**
comp=Z,1.7nm,0.8s,baz=257,slow=4.4,SNR=14
comp=Z,1.7nm,0.8s
G24K Hadweenzic Riv 87.91 22 P **P** **00 38 16.9 +0.9**
G24K IAmb IAmb 00 38 19.3
comp=Z,7.3nm,1.2s
C23K Itkillik River 88.04 19 P **P** **00 38 16.6 +0.2**
FYU Fort Yukon 88.71 22 P **P** **00 38 20.3 +0.6**
J26L Joseph Creek 88.72 25 P **P** **00 38 18.6 -1.4**
J26L IAmb IAmb 00 38 22.5
comp=Z,9.1nm,1.4s
L27K Beaver Creek, 89.05 26 P **P** **00 38 21.2 -0.3**
L27K IAmb IAmb 00 38 22.7
comp=Z,5.6nm,1.4s
BCAR Beaver Creek A 89.07 26 P **P** **00 38 21.7 +0.1**
K27K Chicken 89.21 25 P **P** **00 38 22.2 +0.1**
BMAR Burnt Mountain 89.23 22 P **P** **00 38 22.5 +0.3**
DAWY Dawson 90.36 25 P **P** **00 38 28.3 +0.7**
DAWY IAmb IAmb 00 38 30.9
comp=Z,7.5nm,1.3s
KIRV Kirov 97.05 328 LR LR 01 23 58.3
comp=Z,29nm,20.5s,baz=84,slow=36
DBIC Dimbokro 147.77 273 PKPbc **PKPdf** **00 45 12.6 +2.8**
comp=Z,5.6nm,1.0s,baz=198,slow=8.7,SNR=3.2

*IDC **07** 00:30:21.8±0.7,22˚.38S×170˚.45E,h0km,mb4.3/11, mbtmp4.4/13,ML4.2/2,MS3.9/23,Error ellipse: s-maj=23.0km s-min=20.0km az=100.0*
*NEIC **07** 00:30:24.1±2.4,22˚.5S±0˚.1×170˚.38E±0˚.08,h10km±1km, mb4.7/17,Error ellipse: s-maj=17.7km s-min=12.1km az=172.0*
*NOU **07** 00:30:25.2,22˚.29S×170˚.31E,h0km,mb4.8/18,Southeast of Loyalty Islands*
*GCMT **07** 00:30:29.1±0.4,22˚.61S±0˚.03×170˚.42E±0˚.04,h21km±1km, MW4.9/65,Moment Tensor Solution. s25,c27; s65,c79; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.70±.21; Mθθ-2.12±.14; Mϕϕ-0.57±.12; Mrθ0.74±.23; Mϕθ0.52±.07; Mϕr-0.33±.23; Best double couple: Mo2.61900×10¹⁶ NP1:ϕs109.00000°,δ54.00000°,λ92.00000°. NP2: ϕs285.00000°,δ36.00000°,λ87.00000°. Principal axes: T 2.8300, Plg81.0000°, Azm28.0000°; N -0.4180, Plg2.0000°, Azm288.0000°; P -2.4070, Plg9.0000°, Azm197.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 07 00:30:26.5±0.4,22˚.42S±0˚.07×170˚.39E±0˚.06,h33km,n140, σ1s85/124,mb4.5/23,MS4.0/21,3C-2D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.38**	**293**		**Pn**	**00 31 02.8**	**-0.5**
MARNC	**Mare, Loyalty**	**2.38**	**293**	P	**Pn**	**00 31 03.2**	**-0.1**
PINNC	**Pines Island,**	**2.73**	**265**	Pn	**Pn**	**00 31 07.0**	**-1.1**
PINNC	**Pines Island,**	**2.73**	**265**	P	**Pn**	**00 31 07.9**	**-0.2**
OUENC	**Ouen Island, N**	**3.29**	**269**	Pn	**Pn**	**00 31 14.8**	**-1.0**
OUENC	**Ouen Island, N**	**3.29**	**269**	P	**Pn**	**00 31 15.3**	**-0.4**
LIFNC	**LIFOU**	**3.36**	**299**	Pn	**Pn**	**00 31 15.8**	**-0.9**
ONTNC	**Ouen Toro**	**3.65**	**271**	P	**Pn**	**00 31 24.1**	**+3.4**
DZM	**Mont Dzumac**	**3.67**	**275**	Pn	**Pn**	**00 31 21.1**	**0.0**
DZM	**Mont Dzumac**	**3.67**	**275**	P	**Pn**	**00 31 21.3**	**+0.1**
DZM	**Mont Dzumac** 262nm,1.4s	**3.67**	**275**	*e*Pn	**Pn**	**00 31 20.9**	**-0.3**
DZM	878nm,1.3s			*e*Sn	**Sn**	**00 31 58.8**	**-4.6**
DZM	**Mont Dzumac** 37nm,0.3s,baz=107,slow=18,SNR=216	**3.67**	**275**	Pn	**Pn**	**00 31 21.3**	**+0.1**
DZM	38nm,0.3s,baz=288,slow=24,SNR=10			Sn	**Sn**	**00 32 04.0**	**+0.6**
NOUC	**Port Laguerre** 112nm,0.4s	**3.80**	**274**	P	**Pn**	**00 31 22.7**	**-0.1**
KOUNC	**Koumac, New Ca**	**5.98**	**287**	Pn	**Pn**	**00 31 53.0**	**+0.2**
KOUNC	**Koumac, New Ca**	**5.98**	**287**	P	**Pn**	**00 31 54.3**	**+1.5**
MSVF	**Nonsavu**	**8.57**	**58**	Pn	**Pn**	**00 32 28.3**	**-0.1**
DGTI	**Dogotuki**	**10.71**	**57**	P	**Pn**	**00 33 00.0**	**+2.3**
RAO	**Raoul Island**	**12.53**	**125**	LR	LR	00 37 17.4	
	comp=Z,284nm,18.8s,baz=4,slow=33						
HNR	**Honiara**	**16.35**	**321**	LR	LR	00 38 30.3	
	comp=Z,2μm,20.3s,baz=122,slow=30						
URZ	**Urewera** 0.4nm,0.3s,baz=103,slow=11,SNR=4.7	**16.81**	**161**	Pn	**Pn**	**00 34 19.3**	**-0.1**
URZ	comp=Z,460nm,19.3s,baz=116,slow=33 18nm,1.0s			LR	LR	00 39 44.2	
RTZ	**Ruatahuna**	**17.10**	**162**		**Pn**	**00 34 23.4**	**+0.3**
RTZ	comp=Z,48nm,1.1s			IAmb	IAmb	00 34 27.9	
BKZ	**Black Stump Fm**	**17.49**	**164**	P	**P**	**00 34 30.4**	**+1.6**
EIDS	**Eidsvold**	**17.90**	**257**	P	**Pn**	**00 34 33.0**	**-0.1**
MRZ	**Mangatainoka R**	**18.71**	**168**	P	**P**	**00 34 41.0**	**-1.2**
MRZ	comp=Z,49nm,0.9s			IAmb	IAmb	00 34 53.1	
THZ	**Tophouse**	**19.40**	**174**	P	**Pn**	**00 34 50.6**	**-0.5**
RPZ	**Rata Peaks** comp=Z,14nm,0.9s,baz=156,slow=14,SNR=3.5	**21.25**	**179**	P	**P**	**00 35 09.7**	**-0.1**
RPZ	comp=Z,330nm,21.2s,baz=348,slow=33 comp=Z,14nm,0.9s			LR	LR	00 41 60.0	
CTA	**Charters Tower** comp=Z,218nm,19.5s,baz=78,slow=34	**22.61**	**271**	LR	LR	00 43 05.5	
YNG	**Young**	**22.64**	**234**	P	**P**	**00 35 27.4**	**+2.6**
CMSA	**Cobar Meteorol**	**23.77**	**242**	P	**P**	**00 35 40.0**	**+3.8**
QLP	**Quilpie**	**24.14**	**255**	P	**P**	**00 35 43.5**	**+3.8**
TOO	**Toolangi**	**26.22**	**229**	P	**P**	**00 36 00.1**	**+1.6**
TOO	comp=Z,21nm,1.1s			IAmb	IAmb	00 36 02.5	
TOO	**Toolangi** comp=Z,17nm,1.7s	**26.22**	**229**	P	**P**	**00 36 02.3**	**+3.8**
STKA	**Stephens Creek**	**27.23**	**244**	P	**P**	**00 36 07.3**	**-0.4**
STKA	**Stephens Creek**	**27.23**	**244**	P	**P**	**00 36 10.5**	**+2.9**
STKA	**Stephens Creek** comp=Z,5.9nm,0.9s,baz=79,slow=10,SNR=7.4	**27.23**	**244**	P	**P**	**00 36 08.7**	**+1.0**
STKA	comp=Z,246nm,21.2s,baz=41,slow=33 comp=Z,5.9nm,0.9s			LR	LR	00 45 32.0	
BRAT	**Ballarat** comp=Z,8.7nm,1.1s	**27.31**	**231**	P	**P**	**00 36 12.9**	**+4.7**
INKA	**Innaminka**	**27.33**	**253**	P	**P**	**00 36 13.0**	**+4.5**
OOD	**Oodnadatta**	**31.81**	**253**	P	**P**	**00 36 50.7**	**+2.4**
BBOO	**Buckleboo**	**32.01**	**244**	P	**P**	**00 36 54.4**	**+4.4**
MULG	**Mulgathing**	**33.38**	**249**	P	**P**	**00 37 04.5**	**+2.5**
ASAR	**Alice Springs** comp=Z,9.9nm,0.8s,baz=82,slow=9.1,SNR=7.5	**33.55**	**261**	P	**P**	**00 37 03.5**	**-0.1**
ASAR	comp=Z,137nm,19.8s,baz=104,slow=36 comp=Z,9.9nm,0.8s			LR	LR	00 50 24.1	
WRA	**Warramunga Arr** comp=Z,3.8nm,1.0s,baz=96,slow=8.6,SNR=6.4 comp=Z,3.8nm,1.0s	**33.66**	**267**	P	**P**	**00 37 03.5**	**-1.1**
PPT2	**Papeete2** comp=Z,48nm,21.2s	**37.84**	**90**	*e*LR	LR	00 48 03.9	
WRKA	**Warakurna**	**38.52**	**258**	P	**P**	**00 37 50.3**	**+4.2**
KNRA	**Kununurra**	**39.82**	**272**	P	**P**	**00 37 56.6**	**-0.4**
KNRA	comp=Z,25nm,0.9s			IAmb	IAmb	00 38 00.8	
PSA00	**Pilbara Seismi**	**46.69**	**261**	P	**P**	**00 38 52.1**	**-0.5**
PSA00	comp=Z,7.9nm,1.2s			IAmb	IAmb	00 39 06.5	
MBWA	**Marble Bar**	**46.88**	**262**	P	**P**	**00 38 53.7**	**-0.3**
VNDA	**Vanda** comp=Z,172nm,18.8s,baz=16,slow=34	**55.31**	**182**	LR	LR	01 01 27.6	
LEM	**Lembang** comp=Z,87nm,18.3s,baz=329,slow=37	**62.28**	**274**	LR	LR	01 08 56.7	
MJAR	**Matsushiro Arr** comp=Z,3.4nm,0.9s,baz=180,slow=8.0,SNR=5.1 comp=Z,3.4nm,0.9s	**66.05**	**332**	P	**P**	**00 41 10.0**	**-0.2**
JNU	**Nakatsue** comp=Z,21nm,20.5s,baz=165,slow=33	**66.87**	**325**	LR	LR	01 07 37.1	
QSPA	**South Pole Qui**	**67.65**	**180**	P	**P**	**00 41 18.8**	**-1.4**
QSPA	comp=Z,9.8nm,1.1s			IAmb	IAmb	00 41 45.1	
QSPA	**South Pole Qui** comp=Z,5.0nm,1.1s,baz=43,slow=1.9,SNR=7.3 comp=Z,5.0nm,1.1s	**67.65**	**180**	P	**P**	**00 41 20.9**	**+0.8**
ASAJ	**Asahikawa** comp=Z,71nm,21.4s,baz=84,slow=31	**70.94**	**339**	LR	LR	01 07 30.4	
KSRS	**Korea Array** comp=Z,1.5nm,0.8s,baz=142,slow=6.3,SNR=6.0 comp=Z,1.5nm,0.8s	**71.73**	**326**	P	**P**	**00 41 45.1**	**-0.2**
KSAR	**Wonju Array Be**	**71.74**	**326**	P	**P**	**00 41 47.5**	**+2.1**
RPSI	**Rantau Prapat**	**73.98**	**280**	P	**P**	**00 41 57.5**	**-1.7**
RPSI	comp=Z,8.9nm,1.1s			IAmb	IAmb	00 42 00.3	
WHN	**Wuhan**	**75.28**	**312**	P	**P**	**00 42 11.2**	**+4.8**
MAW	**Mawson** comp=Z,130nm,18.8s,baz=248,slow=33	**75.91**	**202**	LR	LR	01 11 45.8	
PETK	**Petropavlovsk-** comp=Z,102nm,20.7s,baz=118,slow=31	**76.01**	**352**	LR	LR	01 09 59.8	
TIA	**Tai'an**	**77.03**	**318**	⇓P	**P**	**00 42 17.7**	**+1.4**
TIA	comp=Z,6.0nm,1.0s			pmax	pmax		
CN2	**Changchun**	**77.72**	**328**	*e*P	**P**	**00 42 21.1**	**+1.1**
CN2	comp=Z,10.0nm,0.5s			pmax	pmax		
BNX	**BinXian**	**78.27**	**331**	⇑P	**P**	**00 42 26.0**	**+3.1**
BNX	comp=Z,7.0nm,0.9s			pmax	pmax		
BNX	comp=Z,110nm,5.4s			pmax	pmax		
BELA	**Belgrano 2**	**78.85**	**175**	P	**P**	**00 42 23.5**	**-2.4**
PHRA	**Phrae**	**79.72**	**295**	P	**P**	**00 42 32.7**	**+1.1**
CMAR	**Chiang Mai Arr** comp=Z,1.3nm,0.5s,baz=140,slow=3.9,SNR=16 comp=Z,1.3nm,0.5s	**80.79**	**294**	P	**P**	**00 42 39.4**	**+2.1**
KMI	**Kunming**	**80.86**	**302**	⇓P	**P**	**00 42 40.9**	**+3.1**
KMI	comp=Z,17nm,1.2s			pmax	pmax		
CHTO	**Chiang Mai**	**80.95**	**295**	P	**P**	**00 42 39.2**	**+1.0**
CHTO	comp=Z,5.5nm,0.8s			IAmb	IAmb	00 42 41.1	
HEH	**HeiHe**	**81.73**	**334**	*e*P	**P**	**00 42 42.3**	**+0.7**
XLT	**XiLinHaoTe**	**82.64**	**324**	*e*P	**P**	**00 42 47.6**	**+1.0**
XLT	comp=Z,5.0nm,1.6s			pmax	pmax		
XLT	comp=Z,110nm,4.8s			pmax	pmax		
BTO	**Baotou**	**84.12**	**318**	*e*P	P	00 42 46.1	-8.2
BTO				pP	**PcP**	**00 42 50.6**	**-7.5**
BTO				sP	pP	00 42 53.0	-10
BTO				PP	**PP**	**00 46 02.0**	**-7.1**
BTO	**Baotou**	**84.12**	**318**	SS	SS	00 58 46.7	-0.1
BTO	comp=Z,12nm,0.6s			pmax	pmax		
BTO	comp=Z,400nm,4.4s			pmax	pmax		
BTO	comp=N,840nm,22.9s			LR	LR		
BTO	comp=E,770nm,24.1s			LR	LR		
BTO	comp=Z,250nm,8.1s			LR	LR		
TROLL	**Troll, Antarti** comp=Z,158nm,0.8s	**85.45**	**184**	⇑P	**P**	**00 42 59.0**	**-1.7**
SNAA	**Sanae** comp=Z,71nm,0.9s	**86.04**	**182**	⇑P	**P**	**00 43 00.5**	**-3.1**
PFO	**Pinon Flats O** comp=Z,58nm,19.2s,baz=257,slow=32	**89.14**	**53**	LR	LR	01 17 23.2	
NVAR	**Mina Array Bea** comp=Z,1.1nm,0.8s,baz=225,slow=8.0,SNR=5.9	**90.10**	**48**	P	**P**	**00 43 23.7**	**+0.2**
NVAR	comp=Z,89nm,18.1s,baz=247,slow=32 comp=Z,1.1nm,0.8s			LR	LR	01 18 53.8	
YAK	**Yakutsk** comp=Z,47nm,19.3s,baz=84,slow=34	**90.21**	**342**	LR	LR	01 22 18.1	
SONM	**Songino Array** comp=Z,2.8nm,0.9s,baz=146,slow=5.1,SNR=12 comp=Z,2.8nm,0.9s	**90.40**	**323**	P	**P**	**00 43 26.0**	**+1.4**
E19K	**Redstone River**	**92.78**	**12**	P	**P**	**00 43 35.3**	**+0.3**
ILAR	**Eielson Array** comp=Z,0.9nm,1.0s,baz=214,slow=6.6,SNR=5.7	**92.94**	**17**	P	**P**	**00 43 34.6**	**-1.2**
ILAR	comp=Z,45nm,18.2s,baz=225,slow=34 comp=Z,0.9nm,1.0s			LR	LR	01 23 50.5	
ELK	**Elko** comp=Z,65nm,21.1s,baz=236,slow=30	**93.27**	**47**	LR	LR	01 16 56.9	
D19K	**Kuna River**	**93.53**	**11**	P	**P**	**00 43 38.5**	**0.0**
DLBC	**Dease Lake** comp=Z,57nm,18.2s,baz=278,slow=33	**94.36**	**27**	LR	LR	01 21 55.3	
NEW	**Newport** comp=Z,60nm,18.7s,baz=218,slow=31	**95.51**	**40**	LR	LR	01 20 23.6	
ANMO	**Albuquerque** comp=Z,11nm,19.4s,baz=324,slow=30	**97.21**	**55**	LR	LR	01 18 07.0	
PDAR	**Pinedale Arry** comp=Z,40nm,18.6s,baz=246,slow=32	**97.98**	**47**	LR	LR	01 22 31.8	
TIXI	**Tiksi** comp=Z,31nm,18.9s,baz=196,slow=34	**98.06**	**348**	LR	LR	01 26 46.7	
PQI	**Presque Isle**	**127.50**	**48**	PKPdf	**PKPdf**	**00 49 26.8**	**-1.2**
ARCES	**ARCESS Array B** comp=Z,3.4nm,1.0s,baz=64,slow=2.8,SNR=5.1	**128.40**	**345**	PKP	**PKPdf**	**00 49 29.0**	**-0.1**
FINES	**FINESS Array B** comp=Z,1.9nm,0.9s,baz=131,slow=4.2,SNR=3.7	**133.92**	**337**	PKP	**PKPdf**	**00 49 38.5**	**-1.2**
BURAR	**Buryvina Array**	**142.48**	**321**	PKPdf	**PKPdf**	**00 49 57.4**	**+1.3**
KOLS	**Kolonicke sedl**	**143.44**	**324**	*e*	**PKiKP**	**00 50 01.2**	**+0.3**
KSP	**Ksiaz**	**145.18**	**331**	*e*PKP	**PKPdf**	**00 50 00.8**	**+0.2**
MORC	**Moravsky Berou**	**145.34**	**329**		**PKPbc**	**00 50 00.5**	**-0.2**
MORC	**Moravsky Berou**	**145.34**	**329**	*e*PKP	**PKPbc**	**00 50 00.6**	**-0.1**
OSTC	**Ostas**	**145.42**	**331**	*e*PKP	**PKPab**	**00 50 01.8**	**+0.6**
CHVC	**Chvalec**	**145.47**	**331**	*e*PKP	**PKPab**	**00 50 01.7**	**+0.3**
MAUC	**Maruska**	**145.47**	**328**	*e*PKP	**PKiKP**	**00 50 03.9**	**-1.2**
KRLC	**Kraliky**	**145.49**	**330**	*e*PKP	**PKPab**	**00 50 01.9**	**+0.4**
DPC	**Dobruska-Polom**	**145.52**	**330**	*e*PKP	**PKPab**	**00 50 02.2**	**+0.6**
JAVC	**Velka Javorina**	**145.88**	**327**	*e*PKP	**PKPab**	**00 50 03.6**	**+0.6**
VRAC	**Vranov**	**146.11**	**329**	*e*PKP	**PKPbc**	**00 50 03.2**	**+0.1**
VRAC	**Vranov** comp=Z,3.1nm,0.8s,baz=174,slow=7.2,SNR=7.0	**146.11**	**329**	PKPbc	**PKPab**	**00 50 04.4**	**+0.7**
PVCC	**Panska Ves**	**146.17**	**332**	*e*PKP	**PKiKP**	**00 50 05.7**	**-0.8**
BRG	**Berggiesshubel**	**146.18**	**333**	*e*PKP	**PKPab**	**00 50 04.0**	**+0.1**
BRG	comp=Z,13nm,1.1s			Amp		00 50 06.2	
BRG	**Berggiesshubel**	**146.18**	**333**	P	PKiKP	00 50 16.6	+10
BRG	comp=Z,17nm,1.3s			Amp		00 50 17.7	
CLL	**Collm**	**146.24**	**334**	PKPdf	**PKPbc**	**00 50 03.4**	**0.0**
CLL	**Collm** comp=Z,46nm,1.9s	**146.24**	**334**	*i* PKPbc	**PKPbc**	**00 50 03.9**	**+0.5**
CLL	comp=Z,12nm,1.0s			*i* PKPab	**PKiKP**	**00 50 06.5**	**-0.1**
KRUC	**Moravsky**	**146.37**	**329**	*e*PKP	**PKPbc**	**00 50 04.0**	**+0.1**
GOPC	**GO Pecny, Ondr**	**146.52**	**331**	*e*PKP	**PKPab**	**00 50 06.1**	**+0.8**
PRU	**Pruhonice**	**146.58**	**331**	*e*PKP	**PKPab**	**00 50 06.2**	**+0.7**
HSKC	**Hora Svate Kat**	**146.60**	**333**	*e*PKP	**PKPbc**	**00 50 04.4**	**-0.1**
EKA	**Eskdalemuir Ar** comp=Z,7.4nm,0.8s,baz=359,slow=2.9,SNR=11	**146.78**	**353**	PKPbc	**PKPbc**	**00 50 04.5**	**-0.4**
EKB	**Eskdalemuir**	**146.78**	**353**	PKPdf	**PKPdf**	**00 50 03.6**	**+0.5**
ESK	**Eskdalemuir**	**146.80**	**353**	PKPdf	**PKPdf**	**00 50 02.9**	**-0.3**
NKC	**Novy Kostel**	**147.29**	**333**	*e*PKP	**PKPab**	**00 50 08.4**	**+0.1**
RONA	**Rosalia, Austr** comp=Z,1.6nm,0.5s	**147.34**	**327**	*e*PKP	**PKiKP**	**00 50 09.1**	**+0.1**
CONA	**Conrad Observa** comp=Z,3.8nm,0.9s	**147.40**	**328**	*e*PKP	**PKPab**	**00 50 09.1**	**+0.1**
CKRC	**Cesky Krumlov**	**147.53**	**330**	*e*PKP	**PKPbc**	**00 50 07.5**	**+0.3**
KHC	**Kasperske Hory**	**147.63**	**331**	PKPbc	**PKPbc**	**00 50 08.6**	**+1.1**
KHC	**Kasperske Hory**	**147.63**	**331**	*e*PKP	**PKPbc**	**00 50 07.8**	**+0.3**
GERES	**GERESS Array B**	**147.78**	**331**	PKPbc	**PKPbc**	**00 50 08.2**	**+0.2**
GERES	**GERESS Array B** comp=Z,4.5nm,0.9s,baz=46,slow=5.8,SNR=9.7	**147.78**	**331**	PKPbc	**PKPbc**	**00 50 08.6**	**+0.6**
AGG	**Agios Georgios**	**148.15**	**309**	PKPdf	**PKPdf**	**00 50 04.7**	**-1.3**
MOA	**Molln** comp=Z,0.7nm,0.5s	**148.23**	**329**	*e*PKP	**PKPab**	**00 50 13.1**	**+0.9**
SOKA	**Soboth** comp=Z,1.2nm,0.7s	**148.66**	**327**	*e*PKiKP	**PKiKP**	**00 50 11.8**	**0.0**
OBKA	**Obir** comp=Z,0.9nm,0.5s	**149.02**	**327**	*e*PKiKP	**PKiKP**	**00 50 12.9**	**+0.3**
KBA	**Koelnbreinsper** comp=Z,3.5nm,0.8s	**149.22**	**329**	*e*PKiKP	**PKiKP**	**00 50 13.0**	**-0.1**
LESA	**Schwarzleotal** comp=Z,1.8nm,0.5s	**149.29**	**330**	*e*PKiKP	**PKiKP**	**00 50 13.3**	**+0.2**
ABTA	**Abfaltersbach** comp=Z,2.3nm,0.7s	**149.86**	**329**	*e*PKP	**PKPdf**	**00 50 08.9**	**+0.4**
SABO	**M.te Sabotino**	**149.86**	**327**	PKPbc	**PKPbc**	**00 50 13.4**	**+0.1**
WTTA	**Wattenberg** comp=Z,3.2nm,0.7s	**149.89**	**331**	*e*PKP	**PKPbc**	**00 50 13.9**	**+0.4**
MOTA	**Moosalm** comp=Z,6.7nm,0.9s	**150.07**	**331**	*e*PKiKP	**PKiKP**	**00 50 15.3**	**+0.5**
RETA	**Reutte** comp=Z,1.0nm,0.5s	**150.11**	**332**	*e*PKiKP	**PKiKP**	**00 50 15.4**	**+0.6**
SQTA	**Sankt Quirin** comp=Z,4.3nm,0.8s	**150.11**	**331**	*e*PKiKP	**PKiKP**	**00 50 15.7**	**+0.8**
FETA	**Feichten** comp=Z,6.4nm,0.9s	**150.48**	**331**	*e*PKP	**PKiKP**	**00 50 15.8**	**+0.1**
DAVA	**Damuels** comp=Z,4.4nm,0.6s	**150.65**	**332**	*e*PKP	**PKPab**	**00 50 23.4**	**+1.2**
SGRT	**San Giovanni R**	**151.31**	**318**	PKPbc	**PKPbc**	**00 50 16.6**	**-0.3**
TUE	**Stuetta**	**151.51**	**332**	PKPbc	**PKiKP**	**00 50 17.9**	**0.0**
TORD	**Torodi Ar. Bea** comp=Z,2.3nm,1.0s,baz=111,slow=6.2,SNR=7.3	**165.84**	**231**	PKPab	**PKPab**	**00 51 28.0**	**-0.4**

*ISK **07** 00:33:52.4,39˚.09N×40˚.30E,h9km,ML4.2/22*
*MED_RC **07** 00:33:52.0±0.4,39˚.07N×40˚.18E,h24km±1km,MW4.3/14, Moment Tensor Solution.Mantle waves: s14,c19; Duration: 1s0 Moment tensor: Scale 1015Nm; Mrr-1.37±.54; Mθθ-2.89±.29; Mϕϕ4.26±.41; Mrθ1.24±.27; Mθϕ0.69±.24; Mϕr0.89±.31; Best double couple: Mo4.05000×1015 NP1:ϕs226.00000°,δ77.00000°, λ-28.00000°. NP2:ϕs323.00000°,δ62.00000°, λ-166.00000°. Principal axes: T 4.5000, Plg10.0000°, Azm277.0000°; N -0.9200, Plg59.0000°, Azm24.0000°; P -3.5900, Plg29.0000°, Azm181.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*AFAD **07** 00:33:52.0±0.0,39˚.07N×40˚.28E,h13km±4km,MW4.2*
*IDC **07** 00:33:53.4±0.9,39˚.17N×40˚.30E,h0km,mb3.8/9, mbtmp3.7/16,ML3.3/7,MS3.3/24,Error ellipse: s-maj=17.9km s-min=8.4km az=169.0*
*NEIC **07** 00:33:54.5±1.9,39˚.03N±0˚.06×40˚.31E±0˚.05,h10km±1km, mb4.3/25,Error ellipse: s-maj=9.4km s-min=7.1km az=175.0*
ISC 07 00:33:54.1±0.4,39˚.06N±0˚.02×40˚.29E±0˚.01,h10km,n183, σ1s56/218,mb4.2/24,MS3.3/16,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGB	**Bingl**	**0.31**	**103**	Pg	**Pg**	**00 33 58.9**	**-1.5**
BNGB				Sg	**Sg**	**00 34 03.8**	**-0.8**
KOVA	**Elazig, Kovanc**	**0.52**	**226**	P	**Pb**	**00 34 03.7**	**-1.7**
KOVA				S	**Sb**	**00 34 11.7**	**-1.2**
KOVA	comp=E,2μm,0.9s			*i* AML	AML	00 34 13.0	
KOVA	comp=N,1μm,0.5s			*i* AML	AML	00 34 15.0	
SLHN	**Bingol, Solhan**	**0.58**	**100**	P	**Pg**	**00 34 04.4**	**-1.0**
SLHN				S	**Sb**	**00 34 13.2**	**-1.6**
SLHN	comp=E,3μm,0.7s			*i* AML	AML	00 34 14.0	
SLHN	comp=N,2μm,0.6s			*i* AML	AML	00 34 16.0	
TNCL	**Tunceli-Merkez**	**0.58**	**275**	P	**Pg**	**00 34 04.0**	**-1.5**
TNCL	comp=E,2μm,0.7s			*i* AML	AML	00 34 13.0	
TNCL				S	**Sb**	**00 34 13.0**	**-1.9**
KARO	**Karliova-Bingo**	**0.64**	**67**	Pg	**Pg**	**00 34 04.9**	**-1.6**
KARO				Sg	**Sg**	**00 34 14.3**	**-0.6**
HANI	**Diyarbakir_Han**	**0.65**	**173**	P	**Pb**	**00 34 06.2**	**-1.5**
HANI				S	**Sn**	**00 34 17.1**	**-2.8**
ERZN	**Erzincan**	**0.68**	**320**	Pg	**Pg**	**00 34 05.6**	**-1.8**
ERZN				Sg	**Sg**	**00 34 15.5**	**-0.9**
PTK	**Pertek**	**0.72**	**257**	Pg	**Pg**	**00 34 06.7**	**-1.4**
PTK				Sg	**Sb**	**00 34 17.5**	**-1.4**
ECAT	**Cat-ERZURUM**	**0.76**	**44**	P	**Pg**	**00 34 06.5**	**-2.3**
ECAT				S	**Sb**	**00 34 19.2**	**-0.8**
EUZM	**Uzumlu**	**0.79**	**325**	P	**Pg**	**00 34 07.4**	**-2.0**
EUZM				S	**Sb**	**00 34 20.6**	**-0.3**
VRTB	**Varto-Mus**	**0.91**	**84**	Pg	**Pg**	**00 34 09.1**	**-2.6**
VRTB	**Varto-Mus**	**0.91**	**84**	P	**Pg**	**00 34 09.1**	**-2.6**
VRTB				S	**Sb**	**00 34 23.3**	**-1.0**
KOPT	**Kop Dagi**	**0.97**	**9**	P	**Pg**	**00 34 10.7**	**-2.0**
KOPT				S	**Sn**	**00 34 27.4**	**-0.6**
ETEKE	**Tekederesi - E**	**0.98**	**42**	P	**Pg**	**00 34 10.9**	**-2.1**
ETEKE				S	**Sn**	**00 34 27.0**	**-1.2**
MUSM	**Mu-Merkez**	**1.01**	**109**	P	**Pg**	**00 34 11.2**	**-2.4**
MUSM				S	**Sg**	**00 34 25.5**	**-1.2**
MUSM	comp=N,3μm,0.5s			*i* AML	AML	00 34 26.0	
MUSM	comp=E,2μm,0.5s			*i* AML	AML	00 34 27.0	
EKONA	**Konakl - Erz**	**1.02**	**45**	P	**Pg**	**00 34 11.3**	**-2.4**
EKONA				S	**Sb**	**00 34 27.5**	**-0.1**
EJDE	**Erzurum, Palan**	**1.10**	**45**	P	**Pg**	**00 34 13.2**	**-2.1**
EJDE				S	**Sn**	**00 34 30.9**	**-0.4**
DYBB	**Diyarbakir**	**1.12**	**186**	Pn	**Pn**	**00 34 15.5**	**-0.4**
EDAM	**Erzurum-Paland**	**1.12**	**42**	Pn	**Pb**	**00 34 13.8**	**-2.0**
DIYA	**Diyarbakir**	**1.15**	**187**	P	**Pn**	**00 34 16.1**	**-0.2**
DIYA				S	**Sn**	**00 34 33.0**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.16**	**142**	Pn	**Pn**	**00 34 15.4**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.16**	**142**	P	**Pn**	**00 34 15.6**	**-0.8**
SVAN				S	**Sn**	**00 34 31.5**	**-0.7**
ERZM	**Erzurum**	**1.18**	**44**	P	**Pb**	**00 34 14.9**	**-2.0**
ERZM				S	**Sn**	**00 34 34.1**	**+0.8**
BAYB	**BAYBURT**	**1.19**	**359**	P	**Pb**	**00 34 14.3**	**-2.7**
BAYB				S	**Sn**	**00 34 35.8**	**+2.3**
BAYT	**Aydıntepe-Bayb**	**1.33**	**355**	Pn	**Pn**	**00 34 16.9**	**-2.1**
KELT	**Kelkit**	**1.35**	**324**	P	**Pn**	**00 34 17.2**	**-2.0**
KELT				S	**Sg**	**00 34 38.5**	**+1.0**
KELT	comp=E,2μm,1.2s			*i* AML	AML	00 34 40.0	
KRIK	**Erzurum-spir**	**1.36**	**21**	P	**Pn**	**00 34 18.3**	**-1.1**
KRIK				S	**Sg**	**00 34 39.4**	**+1.3**
ILIC	**ilic-Erzincan**	**1.39**	**287**	Pn	**Pn**	**00 34 18.3**	**-1.4**

MIDY	**Mardin/Midyat-**	**1.87**	**152**	P	**Pn**	**00 34 26.0**	**-0.2**
MIDY				S	**Sg**	**00 34 53.6**	**-0.7**
MIDY				*i* AML	AML	00 34 55.0	
	comp=N,2µm,0.4s						
EATA	**Eleskirt**	**1.88**	**64**	P	**Pn**	**00 34 26.6**	**0.0**
EATA				S	**Sg**	**00 34 55.7**	**+1.1**
MACK	**Trabzon**	**1.92**	**348**	P	**Pn**	**00 34 26.8**	**-0.1**
DORK	**Agr/Tutak/Do**	**1.96**	**80**	P	**Pn**	**00 34 27.1**	**-0.5**
KTUT	**Trabzon**	**1.96**	**348**	Pn	**Pn**	**00 34 26.5**	**-0.9**
SUSE	**Susehri**	**1.98**	**306**	P	**Pb**	**00 34 28.4**	**-1.9**
SUSE				S	**Sg**	**00 34 56.1**	**-1.5**
SUSE				*i* AML	AML	00 35 00.0	
	comp=N,2µm,0.7s						
AKCD	**Akcadag**	**2.01**	**248**	P	**Pb**	**00 34 28.2**	**-2.6**
AKCD				S	**Sg**	**00 34 56.2**	**-2.4**
AZEY	**Adyaman-Merk**	**2.03**	**233**	P	**Pb**	**00 34 29.9**	**-1.3**
AZEY				S	**Sg**	**00 35 01.3**	**+1.8**
CHOM	**Cayeli-Rize**	**2.06**	**10**	Pn	**Pn**	**00 34 27.9**	**-0.9**
PERV	**Siirt/Pervari-**	**2.09**	**122**	P	**Pb**	**00 34 30.7**	**-1.5**
PERV				S	**Sg**	**00 35 00.4**	**-0.8**
PERV				*i* AML	AML	00 35 02.0	
	comp=E,4µm,1.0s						
CUZAR	**Zara_SIVAS**	**2.12**	**294**	P	**Pb**	**00 34 31.1**	**-1.6**
CUZAR				S	**Sg**	**00 35 01.1**	**-1.1**
SANL	**SANLIURFA_Merk**	**2.15**	**209**	P	**Pb**	**00 34 30.9**	**-2.3**
SANL				S	**Sg**	**00 35 03.2**	**0.0**
AGRB	**Hanur-Agry**	**2.16**	**75**	Pn	**Pn**	**00 34 29.6**	**-0.7**
SENK	**Senkaya-Erzuru**	**2.18**	**46**	Pn	**Pn**	**00 34 29.8**	**-0.8**
CUKAN	**kangal_SIVAS**	**2.21**	**277**	P	**Pb**	**00 34 31.3**	**-3.0**
CUKAN				S	**Sg**	**00 35 05.1**	**0.0**
CUKAN				*i* AML	AML	00 35 09.0	
	comp=E,1µm,0.6s						
AKDM	**Akdamar-Van**	**2.23**	**108**	Pn	**Pn**	**00 34 30.8**	**-0.5**
DBAD	**Bademkaya**	**2.23**	**28**	P	**Pb**	**00 34 32.5**	**-2.1**
ATAB	**Bozova**	**2.24**	**225**	P	**Pb**	**00 34 31.7**	**-2.9**
ATAB				S	**Sg**	**00 35 05.3**	**-0.7**
GEVA	**Gevas**	**2.29**	**108**	P	**Pb**	**00 34 34.3**	**-1.4**
DAGI	**Agillar**	**2.37**	**31**	P	**Pn**	**00 34 31.5**	**-1.6**
ERCV	**ERCIS-VAN**	**2.37**	**90**	Pn	**Pn**	**00 34 32.7**	**-0.6**
KOTA	**Agri, Merkez-K**	**2.37**	**71**	P	**Pb**	**00 34 35.9**	**-1.2**
CUGUR	**Gurin_SVAS**	**2.38**	**263**	P	**Pb**	**00 34 33.8**	**-3.3**
CUGUR				S	**Sg**	**00 35 09.7**	**-0.9**
CUGUR				*i* AML	AML	00 35 21.0	
	comp=E,2µm,0.5s						
AKCA	**Adyaman/G¶l**	**2.41**	**239**	P	**Pn**	**00 34 33.7**	**+0.1**
AKCA				S	**Sg**	**00 35 12.1**	**+0.7**
VANB	**Van**	**2.46**	**100**	Pn	**Pn**	**00 34 34.6**	**+0.1**
TVAN	**Van**	**2.49**	**101**	P	**Pb**	**00 34 36.5**	**-2.6**
GOLE	**Ardahan-G¶le**	**2.50**	**44**	P	**Pn**	**00 34 36.2**	**+1.1**
SURC	**SANLIURFA_SURC**	**2.55**	**212**	P	**Pn**	**00 34 36.3**	**+0.6**
SURC				S	**Sg**	**00 35 16.8**	**+0.7**
VMUR	**Van-Muradiye**	**2.56**	**91**	P	**Pb**	**00 34 39.9**	**-0.2**
ELBS	**KAHRAMANMARAS**	**2.58**	**254**	P	**Pn**	**00 34 36.7**	**+0.6**
KARS	**Kars**	**2.65**	**53**	Pn	**Pn**	**00 34 37.0**	**-0.1**
ORDU	**Ordu-Boztepe**	**2.68**	**317**	P	**Pb**	**00 34 39.2**	**-3.0**
GZT	**Gaziantep**	**2.74**	**232**	P	**Pb**	**00 34 39.4**	**-4.0**
GZT				S	**Sg**	**00 35 22.4**	**+0.2**
CUAYA	**Sivas-Altinyay**	**2.76**	**275**	P	**Pn**	**00 34 39.8**	**+0.8**
CUAYA				S	**Sg**	**00 35 21.5**	**-1.4**
NZIP	**Nizip/Gaziante**	**2.89**	**226**	P	**Pn**	**00 34 41.4**	**+1.1**
NZIP				S	**Sg**	**00 35 24.3**	**-2.6**
NZIP				*i* AML	AML	00 35 34.0	
	comp=N,1µm,0.8s						
GAZ	**Gaziantep**	**3.08**	**233**	Pn	**Pn**	**00 34 43.3**	**+0.5**
HCB	**Kahramanmara**	**3.17**	**238**	P	**Pn**	**00 34 45.7**	**+1.6**
KHMR	**Kahramanmara**	**3.17**	**238**	P	**Pb**	**00 34 46.0**	**-4.6**
BNN	**Bunyan**	**3.47**	**268**	Pn	**Pn**	**00 34 48.4**	**+0.1**
GNI	**Garni**	**3.60**	**71**	Pn	**Pn**	**00 34 50.6**	**+0.4**
GNI	**Garni**	**3.60**	**71**	Pn	**Pn**	**00 34 50.7**	**+0.5**
	1.8nm,0.3s,baz=284,slow=5.6,SNR=15						
GNI				Pg	**Pg**	**00 34 59.7**	**-3.4**
	6.9nm,0.3s,baz=244,slow=2.1,SNR=83						
	17nm,0.7s						
ONI	**Oni**	**4.26**	**33**	Pn	**Pn**	**00 34 58.8**	**-0.3**
KBZ	**Khabaz**	**5.06**	**22**	Pn	**Pn**	**00 35 10.9**	**+1.0**
	0.3nm,0.3s,baz=203,slow=12,SNR=7.6						
KBZ				LR	LR	00 37 20.5	
	comp=Z,225nm,20.9s,baz=202,slow=42						
	0.7nm,0.5s						
BR131	**Keskin Array S**	**5.20**	**279**	Pn	**Pn**	**00 35 11.8**	**-0.2**
BRTR	**Keskin Array B**	**5.20**	**279**	Pn	**Pn**	**00 35 11.9**	**-0.1**
BRTR	**Keskin Array B**	**5.20**	**279**	Pn	**Pn**	**00 35 12.9**	**+0.9**
	2.2nm,0.3s,baz=104,slow=13,SNR=20						
BRTR				LR	LR	00 37 18.0	
	comp=Z,166nm,20.3s,baz=126,slow=39						
	5.5nm,0.4s						
KIV	**Kislovodsk**	**5.21**	**19**	Pn	**Pn**	**00 35 13.5**	**+1.4**
KVAR	**Kislovodsk Arr**	**5.21**	**19**	Pn	**Pn**	**00 35 13.1**	**+0.9**
	baz=52,slow=19						
	2.2nm,0.5s						
ANTO	**Ankara**	**5.86**	**280**	Pn	**Pn**	**00 35 21.2**	**+0.1**
BR231	**Keskin MP Arra**	**5.87**	**280**	Pn	**Pn**	**00 35 22.1**	**+0.9**
NATI	**Neve Ativ**	**6.86**	**214**	P	**Pn**	**00 35 37.1**	**+2.3**
MDUB	**Mudurnu**	**7.14**	**284**	Pn	**Pn**	**00 35 38.8**	**0.0**
MMAI	**Mount Meron Ar**	**7.22**	**215**	Pn	**Pn**	**00 35 41.1**	**+1.3**
	2.4nm,0.3s,baz=63,slow=15,SNR=19						
MMAI				Lg	Lg	00 37 43.6	
	2.5nm,0.3s,baz=27,slow=26,SNR=2.4						
	4.6nm,0.5s						
SHMJ	**Saham**	**7.31**	**212**	P	**Pn**	**00 35 43.7**	**+2.7**
ASF	**Jabal al Asfar**	**7.41**	**203**	Pn	**Pn**	**00 35 39.3**	**-3.1**
	0.5nm,0.3s,baz=181,slow=0.6,SNR=8.2						
ASF				Lg	Lg	00 37 50.9	
	1.6nm,0.3s,baz=333,slow=17,SNR=5.6						
ASF	**Jabal al Asfar**	**7.41**	**203**	P	**Pn**	**00 35 44.5**	**+2.1**
QRNJ	**Al-Qirein**	**7.73**	**211**	P	**Pn**	**00 35 48.6**	**+1.9**
HMDT	**Nahal Hemdat**	**7.82**	**211**	P	**Pn**	**00 35 50.9**	**+2.9**
GHAJ	**Ghor Haditha**	**8.65**	**208**	Pn	**Pn**	**00 35 58.5**	**-0.8**
EIL	**Elat**	**10.36**	**207**	Lg	Lg	00 39 32.3	
	0.2nm,0.3s,baz=90,slow=20,SNR=2.3						
EIL				LR	LR	00 40 19.2	
	comp=Z,131nm,21.0s,baz=334,slow=37						
MLR	**Muntele Rosu**	**12.41**	**306**	LR	LR	00 42 01.5	
	comp=Z,132nm,21.1s,baz=132,slow=40						
BURAR	**Bucovina Array**	**13.89**	**313**	Pn	**Pn**	**00 37 10.7**	**-0.3**
BUR08	**Bucovina Ar. S**	**13.91**	**313**	Pn	**Pn**	**00 37 10.1**	**-1.2**
AKASG	**Malin Array Be**	**14.01**	**330**	Pn	**Pn**	**00 37 11.4**	**-1.2**
	0.5nm,0.3s,baz=139,slow=12,SNR=12						
AKASG				LR	LR	00 44 03.7	
	comp=Z,82nm,19.3s,baz=158,slow=44						
	0.5nm,0.5s						
BELG	**Belogornoye**	**14.27**	**19**	LR	LR	00 43 20.9	
	comp=Z,38nm,19.9s,baz=212,slow=40						
RAYN	**Ar Rayn**	**16.11**	**163**	Pn	**Pn**	**00 37 40.0**	**-0.8**
CRVS	**Cervenica-Dubn**	**16.70**	**312**	*eP*	**P**	**00 37 52.1**	**+1.6**
AKTO	**Aktyubinsk**	**16.91**	**42**	Pn	**Pn**	**00 37 48.7**	**-2.1**
	0.1nm,0.3s,baz=237,slow=9.1,SNR=4.8						
AKTO				LR	LR	00 46 03.5	
	comp=Z,170nm,18.4s,baz=182,slow=43						
	1.4nm,0.8s						
STHS	**Stebnicka Huta**	**17.08**	**313**	*eP*	**Pn**	**00 37 52.1**	**-0.8**
ABKAR	**Akbulak array**	**17.35**	**48**	Pn	**Pn**	**00 37 54.7**	**-1.5**
LANS	**Liptovska Anna**	**17.98**	**311**	*e*PN	Pn	00 37 52.3	-12
VYHS	**Vyhne**	**18.08**	**308**	*eP*	**P**	**00 38 09.6**	**+3.9**
VYHS				*e*		00 50 02.6	
NACGM	**Naroch**	**18.28**	**335**	*eP*	**P**	**00 38 09.2**	**+1.4**
SUW	**Suwalki**	**18.95**	**328**	P	**P**	**00 38 13.6**	**-1.6**
SUW				IAmb	IAmb	00 38 20.4	
	comp=Z,15nm,0.8s						
SUW	**Suwalki**	**18.95**	**328**	*eP*	**Pn**	**00 38 14.7**	**-1.2**
MODS	**Modra-Piesok**	**19.00**	**307**	*eP*	**Pn**	**00 38 17.7**	**+1.2**
MODS				*e*		00 50 05.7	
ISAL	**Salakas**	**19.04**	**335**	*eP*	**Pn**	**00 38 16.3**	**-0.6**
MORC	**Moravsky Berou**	**19.38**	**311**	*eP*	**Pn**	**00 38 24.7**	**+3.5**
UOSS	**Minazif**	**19.46**	**132**	P	**P**	**00 38 19.9**	**-1.1**
PABE	**Paberze**	**19.74**	**332**	P	**Pn**	**00 38 24.0**	**-1.3**
PABE				IAmb	IAmb	00 38 30.3	
	comp=Z,14nm,0.9s						
PABE	**Paberze**	**19.74**	**332**	*eP*	**Pn**	**00 38 23.5**	**-1.8**
VRAC	**Vranov**	**19.76**	**309**	LR	LR	00 46 17.2	
	comp=Z,62nm,19.1s,baz=128,slow=38						
KRUC	**Moravsky**	**19.79**	**308**	*eP*	**Pn**	**00 38 29.9**	**+3.9**
VSVD	**Vaisvydziai**	**20.12**	**333**	*eP*	**P**	**00 38 27.6**	**-0.3**
KIRV	**Kirov**	**20.40**	**14**	P	**P**	**00 38 30.4**	**-0.6**
	comp=Z,9.2nm,0.5s,baz=160,slow=1.0,SNR=8.7						
KIRV				LR	LR	00 47 31.8	
	comp=Z,48nm,18.9s,baz=213,slow=40						
	comp=Z,9.2nm,0.5s						
PBUR	**Paburge**	**20.90**	**330**	*eP*	**P**	**00 38 35.8**	**-0.6**
ARU	**Arti**	**21.16**	**29**	P	**P**	**00 38 37.6**	**-1.6**
ARU				IAmb	IAmb	00 38 50.4	
	comp=Z,11nm,1.1s						
ARU	**Arti**	**21.16**	**29**	P	**P**	**00 38 39.5**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=208,slow=9.9,SNR=5.1						
ARU				LR	LR	00 48 50.7	
	comp=Z,68nm,18.5s,baz=280,slow=43						
	comp=Z,2.1nm,0.6s						
GERES	**GERESS Array B**	**21.40**	**306**	P	**P**	**00 38 44.5**	**+2.5**
	comp=Z,0.7nm,0.6s,baz=106,slow=9.8,SNR=4.2						
WSAR	**Wadi Sarin**	**22.19**	**130**	LR	LR	00 48 37.8	
	comp=Z,198nm,19.6s,baz=320,slow=40						
CLL	**Collm**	**22.65**	**312**	P	**P**	**00 38 55.6**	**+0.4**
CLL	**Collm**	**22.65**	**312**	*i* P	**P**	**00 38 57.4**	**+2.2**
	comp=Z,6.0nm,1.0s						
KK31	**Karatay Array**	**23.07**	**70**	P	**P**	**00 38 59.7**	**-0.1**
KKAR	**Karatay Array**	**23.07**	**70**	P	**P**	**00 38 59.8**	**+0.1**
GAR	**Garm**	**23.28**	**81**	P	**P**	**00 39 02.5**	**+0.5**
GAR				IAmb	IAmb	00 39 13.7	
	comp=Z,11nm,1.0s						
MEF	**Metsahovi**	**23.42**	**340**	*eP*	**P**	**00 39 03.0**	**-0.1**
DAVOX	**Davos/Dischmat**	**23.46**	**299**	LR	LR	00 50 04.8	
	comp=Z,88nm,18.1s,baz=92,slow=42						
FINES	**FINESS Array B**	**24.07**	**343**	P	**P**	**00 39 08.7**	**-0.6**
FINES	**FINESS Array B**	**24.07**	**343**	P	**P**	**00 39 09.4**	**+0.1**
	comp=Z,5.8nm,0.7s,baz=134,slow=11,SNR=18						
FINES				LR	LR	00 50 16.7	
	comp=Z,56nm,21.3s,baz=150,slow=41						
	comp=Z,5.8nm,0.7s						
KEST	**Kesra**	**24.75**	**272**	P	**P**	**00 39 17.1**	**+1.2**
KEST	**Kesra**	**24.75**	**272**	P	**P**	**00 39 17.5**	**+1.6**
	comp=Z,5.7nm,1.0s,baz=355,slow=0.9,SNR=5.3						
	comp=Z,5.7nm,1.0s						
RAF	**Rauma**	**24.82**	**338**	*eP*	**P**	**00 39 15.5**	**-0.6**
BVAR	**Borovoye Array**	**24.90**	**46**	LR	LR	00 51 04.4	
	comp=Z,89nm,18.3s,baz=252,slow=42						
SENIN	**Lac Senin/Sane**	**25.18**	**298**	P	**P**	**00 39 20.9**	**+1.1**
AAK	**Ala-Archa**	**26.01**	**71**	LR	LR	00 52 36.9	
	comp=Z,40nm,18.8s,baz=255,slow=43						
HFS	**Hagfors**	**26.90**	**330**	P	**P**	**00 39 37.6**	**+2.6**
	comp=Z,5.3nm,0.9s,baz=132,slow=11,SNR=5.7						
NOA	**NORSAR Array B**	**28.43**	**330**	P	**P**	**00 39 49.4**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=117,slow=6.2,SNR=3.6						
NOA				LR	LR	00 51 37.9	
	comp=Z,46nm,21.1s,baz=135,slow=38						
	comp=Z,0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**29.15**	**54**	P	**P**	**00 39 56.4**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=265,slow=8.8,SNR=3.7						
KURBB				LR	LR	00 53 34.5	
	comp=Z,74nm,19.2s,baz=161,slow=41						
MKAR	**Makanchi Array**	**31.40**	**62**	P	**P**	**00 40 15.8**	**+0.6**
MKAR	**Makanchi Array**	**31.40**	**62**	P	**P**	**00 40 16.1**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=264,slow=6.0,SNR=4.7						
MKAR				LR	LR	00 55 08.1	
	comp=Z,34nm,18.4s,baz=245,slow=41						
	comp=Z,0.5nm,0.8s						
ARCES	**ARCESS Array B**	**31.54**	**350**	LR	LR	00 54 00.6	
	comp=Z,42nm,20.1s,baz=111,slow=38						
ZALV	**Zalesovo Beam**	**33.45**	**49**	LR	LR	00 56 09.7	
	comp=Z,64nm,18.6s,baz=255,slow=40						
ESDC	**Sonseca Array**	**33.96**	**285**	P	**P**	**00 40 38.9**	**+1.2**
	comp=Z,1.0nm,0.9s,baz=66,slow=7.3,SNR=3.6						
	comp=Z,1.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**42.73**	**244**	P	**P**	**00 41 54.3**	**+2.7**
	comp=Z,0.7nm,1.0s,baz=37,slow=9.8,SNR=3.4						
	comp=Z,0.7nm,1.0s						
PALK	**Pallekele**	**48.16**	**120**	LR	LR	01 01 43.0	
	comp=Z,59nm,21.7s,baz=274,slow=35						
PZH	**PanZhiHua**	**52.27**	**84**	P	**P**	**00 43 08.1**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,120nm,6.2s						
HHC	**Hu-ho-hao-te**	**53.23**	**64**	*eP*	**P**	**00 43 12.4**	**-0.4**
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,81nm,4.7s						
MDJ	**Mudanjiang**	**63.51**	**53**	P	**P**	**00 44 22.8**	**-1.6**
MDJ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,110nm,7.1s						
KSRS	**Korea Array**	**66.07**	**60**	LR	LR	01 16 56.4	
	comp=Z,35nm,19.1s,baz=60,slow=39						
A36M	**Sachs Harbour**	**68.78**	**355**	P	**P**	**00 44 59.5**	**+1.8**
A36M				IAmb	IAmb	00 45 04.7	
	comp=Z,2.8nm,1.1s						
E25K	**Arctic Village**	**73.05**	**2**	P	**P**	**00 45 25.4**	**+1.6**
F28M	**Old Crow**	**73.65**	**0**	P	**P**	**00 45 28.7**	**+1.4**
F31M	**Tsiigehtchic**	**73.72**	**358**	P	**P**	**00 45 28.8**	**+1.0**
F31M				IAmb	IAmb	00 45 33.0	
	comp=Z,5.3nm,1.4s						
BMAR	**Burnt Mountain**	**73.77**	**2**	P	**P**	**00 45 30.1**	**+2.0**
G31M	**Satah River**	**74.26**	**358**	P	**P**	**00 45 31.6**	**+0.8**
G31M				IAmb	IAmb	00 45 33.9	
	comp=Z,3.3nm,1.2s						
IMAR	**Indian Mountai**	**74.72**	**6**	P	**P**	**00 45 34.6**	**+0.9**
MLY	**Manley**	**75.88**	**5**	P	**P**	**00 45 40.5**	**+0.2**
MLY				IAmb	IAmb	00 46 06.2	
	comp=Z,2.9nm,1.2s						
MDM	**Murphy Dome**	**76.10**	**4**	P	**P**	**00 45 43.1**	**+1.6**
MDM				IAmb	IAmb	00 46 15.8	
	comp=Z,4.9nm,1.4s						
CCB	**Clear Creek Bu**	**76.43**	**4**	P	**P**	**00 45 44.5**	**+1.1**
CCB				IAmb	IAmb	00 45 48.1	
	comp=Z,3.0nm,0.8s						
WRH	**Wood River Hil**	**76.59**	**4**	P	**P**	**00 45 44.0**	**-0.3**
WRH				IAmb	IAmb	00 45 48.4	
	comp=Z,1.8nm,0.8s						
YKA	**Yellowknife Ar**	**76.79**	**348**	P	**P**	**00 45 45.7**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=22,slow=6.0,SNR=6.3						
YKA				LR	LR	01 22 26.5	
	comp=Z,104nm,18.7s,baz=286,slow=38						
	comp=Z,0.4nm,0.8s						
CAST	**Castle Rocks**	**77.38**	**6**	P	**P**	**00 45 50.1**	**+1.3**
CAST				IAmb	IAmb	00 45 53.7	
	comp=Z,2.9nm,0.8s						
BCAR	**Beaver Creek A**	**78.20**	**1**	P	**P**	**00 45 54.6**	**+1.1**
SKT	**Skwentna**	**78.85**	**6**	P	**P**	**00 45 57.3**	**+0.3**
SCM	**Sheep Creek Mo**	**79.26**	**4**	P	**P**	**00 45 59.2**	**-0.2**
SUA	**Susitna One**	**79.42**	**5**	P	**P**	**00 46 01.3**	**+1.0**
ULM	**Lac du Bonnet**	**83.07**	**333**	LR	LR	01 23 43.3	
	comp=Z,60nm,18.9s,baz=303,slow=36						

NEIC ***07*** *00:38:09.4±1.3,39°.44N±0°.01×111°.900W±0°.005,*
h16km±6km, Error ellipse: s-maj=1.9km s-min=0.4km
az=168.0

UUSS 07 00:38:09.5±1.8, 39°.41N±0°.01×111°.89W±0°.02, h13km±5km,
ML2.6/12, ML2.7/112(NEIC), Error ellipse: s-maj=2.1km
s-min=1.8km az=100.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEVU	**Levan**	**0.11**	**30**		Pg	00 38 13.1	+0.2
LEVU	**Levan**	**0.11**	**30**		Sg	00 38 15.4	+0.2
FLU	**Fool Peak**	**0.22**	**262**		Pg	00 38 14.7	+0.3
FLU	**Fool Peak**	**0.22**	**262**		Sg	00 38 18.3	+0.5
WCU	**Willow Creek**	**0.47**	**200**		Pg	00 38 19.3	+0.4
WCU					Sb	00 38 26.2	-0.6
SUU	**Santaquin Cany**	**0.48**	**9**		Pg	00 38 19.2	+0.1
NLU	**North Lily Min**	**0.56**	**345**		Pg	00 38 20.6	0.0
NLU				Sg	Sg	00 38 27.7	-0.4
NLU				IAML		00 38 28.4	
	comp=E,238nm,0.4s						
NLU				IAML		00 38 28.8	
	comp=N,293nm,0.6s						
ELU	**Electric Lake**	**0.58**	**66**		Pb	00 38 21.5	-0.2
DBD	**Des Bee Dove**	**0.62**	**99**		Pb	00 38 22.1	-0.3
MPU	**Maple Canyon**	**0.64**	**18**	Pg	Pg	00 38 21.8	-0.2
MPU				Sg	Sg	00 38 29.9	-0.5
WMUT	**West Mountain**	**0.67**	**4**		Pg	00 38 22.8	+0.3
OWUT	**Old Woman Plat**	**0.73**	**150**		Pb	00 38 24.2	+0.1
Q16A	**Castle Valley**	**0.74**	**131**		Pg	00 38 24.1	+0.2
Q16A	**Castle Valley**	**0.74**	**131**	IAML		00 38 34.2	
	comp=E,342nm,0.3s						
Q16A				IAML		00 38 34.5	
	comp=N,466nm,0.5s						
P17A	**Butcher Ranch,**	**0.89**	**86**	Pg	Pg	00 38 26.6	-0.1
P17A				Sg	Sg	00 38 37.9	-0.6
P17A				IAML		00 38 38.9	
	comp=E,273nm,0.8s						
P17A				IAML		00 38 39.0	
	comp=N,315nm,0.5s						
TCRU	**Three Creeks R**	**0.91**	**209**	Pg	Pg	00 38 27.0	-0.2
TCRU				Sg	Sg	00 38 39.0	-0.1
TCRU				IAML		00 38 43.0	
	comp=E,370nm,0.6s						
TCRU				IAML		00 38 43.5	
	comp=N,196nm,0.5s						
EMUT	**Emma Park**	**0.92**	**64**		Pb	00 38 27.5	0.0
MSU	**Marysvale**	**0.93**	**194**	Pg	Pn	00 38 28.1	-0.3
MVU	**Marysvale**	**0.94**	**196**	Pg	Pb	00 38 28.1	+0.3
CWU	**Camp Williams**	**1.05**	**351**		Pb	00 38 29.7	0.0
DCM	**Dugout Coal Mi**	**1.05**	**74**		Pg	00 38 29.8	0.0
DUG	**Dugway, Tooele**	**1.06**	**318**	Pg	Pb	00 38 28.8	-1.0
DUG				Sg	Sb	00 38 42.3	-1.4
SRU	**San Rafael Swe**	**1.10**	**105**	Pg	Pb	00 38 30.1	-0.4
SRU				Sg	Sb	00 38 44.0	-0.8
SRU				IAML		00 38 44.6	
	comp=E,296nm,0.5s						
SRU				IAML		00 38 45.4	
	comp=N,321nm,0.3s						
ARGU	**Argyle Ridge**	**1.12**	**68**		Pn	00 38 31.3	+0.1
BCE	**Book Cliffs Ea**	**1.16**	**80**		Pg	00 38 31.9	0.0
FSU	**Fish Springs**	**1.20**	**285**		Pb	00 38 31.5	-0.6
CTU	**Camp Tracy**	**1.28**	**5**	Pg	Pn	00 38 33.3	0.0
CTU				Sg	Sb	00 38 48.9	-1.3
CTU				IAML		00 38 52.5	
	comp=E,77nm,0.6s						
P18A	**Preston Nutter**	**1.29**	**80**	Pg	Pb	00 38 34.0	+0.2
P18A				Sg	Sb	00 38 50.4	0.0
P18A				IAML		00 38 51.3	
	comp=N,166nm,0.6s						
MMU	**Miners Mountai**	**1.30**	**159**		Pb	00 38 34.0	+0.1
MTPU	**Mount Pierson**	**1.39**	**190**	Pn	Pg	00 38 35.9	-0.3
BSUT	**Blindstream Ca**	**1.42**	**37**		Pn	00 38 35.7	+0.3
HMU	**Henry Mountain**	**1.72**	**148**	Pn	Pb	00 38 41.3	+0.2
HMU				IAML		00 39 05.2	
	comp=N,142nm,0.5s						
TCUT	**Toone Canyon**	**1.74**	**12**	Pn	Pn	00 38 38.6	-1.1
TCUT				IAML		00 39 09.4	
	comp=N,71nm,0.3s						
TCUT				IAML		00 39 10.3	
	comp=E,94nm,0.5s						
BGU	**Big Grassy Mou**	**1.75**	**330**	Pn	Pn	00 38 38.4	-1.3
BGU				IAML		00 39 07.5	
	comp=E,48nm,0.3s						
PSUT	**Pine Spring**	**1.77**	**241**	Pn	Pb	00 38 41.1	-0.7
PSUT				IAML		00 39 09.5	
	comp=N,78nm,0.5s						
PSUT				IAML		00 39 09.9	
	comp=E,61nm,0.8s						
SPUT	**South Promonto**	**1.94**	**347**	Pn	Pn	00 38 42.1	-0.3
PKCU	**Pink Cliffs**	**1.99**	**190**	Pn	Pb	00 38 46.3	+0.5
PKCU				IAML		00 39 19.2	
	comp=N,30nm,0.4s						
PKCU				IAML		00 39 20.2	
	comp=E,54nm,0.3s						
SZCU	**Shurtz Canyon**	**2.04**	**208**	Pn	Pb	00 38 46.5	-0.1
SZCU				IAML		00 39 22.9	
	comp=E,38nm,0.3s						
RDMU	**Red Mountain**	**2.12**	**56**	Pn	Pn	00 38 46.0	+1.1
RDMU				IAML		00 39 17.5	
	comp=E,31nm,0.6s						
RDMU				IAML		00 39 18.0	
	comp=N,43nm,0.4s						
CCUT	**Cedar City**	**2.19**	**212**	Pn	Pb	00 38 48.7	-0.3
HWUT	**Hardware Ranch**	**2.21**	**6**	Pn	Pn	00 38 45.3	-0.8
Q12A	**Willow Creek R**	**2.32**	**262**	Pn	Pn	00 38 48.8	+1.3
Q12A				IAML		00 39 27.1	
	comp=N,68nm,0.7s						
Q12A				IAML		00 39 30.7	
	comp=E,38nm,0.7s						
HVU	**Hansel Valley**	**2.46**	**344**	Pn	Pn	00 38 48.7	-0.8
KNB	**Kanab**	**2.50**	**197**	Pn	Pn	00 38 52.2	+2.1
LCMT	**Little Creek M**	**2.62**	**204**	Pn	Pn	00 38 53.4	+1.7
LCMT				IAML		00 39 33.3	
	comp=E,20nm,0.3s						
ELK	**Elko**	**2.90**	**298**	Pn	Pn	00 38 56.2	+0.7
ELK				IAML		00 39 40.8	
	comp=E,13nm,0.4s						

*NEIC **07** 01:02:40.7±1.6,55.74N±0.08×149.27W±0.1,h10km±2km, ML3.5/42,ML3.2(AEIC),Error ellipse: s-maj=14.2km s-min=10.6km az=170.0*
*AEIC **07** 01:02:44.6±1.7,55.64N±0.10×149.27W±0.1,h7km±8km, Error ellipse: s-maj=14.7km s-min=9.3km az=171.0*

ISC 07 01:02:40.4±2.4,55.7N±0.1×149.27W±0.07,h10km,n145, σ0.98/150,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.68**	**305**		**Pn**	**01 03 23.8**	**+0.3**
OHAK					**Sn**	**01 03 54.5**	**-1.5**
OHAK	**Old Harbor** baz=122	**2.68**	**305**	P	**Pn**	**01 03 24.2**	**+0.7**
OHAK	baz=122			S	**Sn**	**01 03 55.1**	**-0.9**
KDAK	**Kodiak Island**	**2.75**	**320**	Pn	**Pn**	**01 03 25.1**	**+0.6**
KDAK				Sn	**Sn**	**01 03 55.9**	**-1.8**
SII	**Sitkinak Islan**	**2.87**	**289**	Pn	**Pn**	**01 03 26.5**	**+0.3**
SII	comp=E,121nm,1.4s			IAML		01 04 02.4	
SII	comp=N,97nm,1.9s			IAML		01 04 05.7	
SII	**Sitkinak Islan** baz=104	**2.87**	**289**	P	**Pn**	**01 03 26.9**	**+0.7**
SYI	**Shuyak Island**	**3.34**	**331**	Pn	**Pn**	**01 03 33.0**	**+0.3**
SYI				Sn	**Sn**	**01 04 11.9**	**-0.4**
Q20K	**Shuyak Island** baz=148	**3.35**	**331**	P	**Pn**	**01 03 33.7**	**+1.0**
Q20K	baz=148			S	**Sn**	**01 04 12.6**	**+0.2**
CHIR	**Chirikof Islan**	**3.59**	**274**	Pn	**Pn**	**01 03 36.5**	**+0.5**
CHIR	comp=N,133nm,2.0s			IAML		01 04 02.2	
CHIR	comp=E,92nm,2.3s			IAML		01 04 20.0	
CNPM	**China Poot**	**3.94**	**345**	Pn	**Pn**	**01 03 41.2**	**+0.3**
CNPM	comp=N,40nm,2.2s			IAML		01 04 18.8	
CNPM	comp=E,41nm,2.5s			IAML		01 04 19.9	
CNPM				Sn	**Sn**	**01 04 26.2**	**-1.0**
Q19K	**Cape Douglas,**	**3.98**	**325**	Pn	**Pn**	**01 03 42.2**	**+0.8**
Q19K	**Cape Douglas,** baz=141	**3.98**	**325**	P	**Pn**	**01 03 43.1**	**+1.6**
Q23K	**Middleton Isla**	**4.02**	**22**	Pn	**Pn**	**01 03 41.4**	**-0.5**
Q23K	comp=E,106nm,1.8s			IAML		01 04 44.5	
Q23K	**Middleton Isla** baz=204	**4.02**	**22**	P	**Pn**	**01 03 41.9**	**0.0**
MID	**Middleton Isla**	**4.02**	**22**	Pn	**Pn**	**01 03 41.7**	**-0.3**
MID	comp=N,105nm,1.8s			IAML		01 04 32.8	
MID	comp=E,103nm,1.8s			IAML		01 04 44.4	
KAKN	**Katmai Knife C**	**4.08**	**311**		**Pn**	**01 03 44.7**	**+1.9**
BRSE	**Bradley Lake S**	**4.09**	**349**		**Pn**	**01 03 43.2**	**+0.3**
BRSE	**Bradley Lake S** baz=168	**4.09**	**349**	P	**Pn**	**01 03 43.2**	**+0.3**
BRLK	**Bradley Lake**	**4.13**	**349**	Pn	**Pn**	**01 03 42.8**	**-0.6**
BRLK				Sn	**Sn**	**01 04 31.1**	**-0.7**
SEW	**Seward**	**4.38**	**359**	Pn	**Pn**	**01 03 46.2**	**-0.6**
SEW	**Seward** baz=178	**4.38**	**359**	P	**Pn**	**01 03 47.0**	**+0.1**
P23K	**Montague Islan**	**4.39**	**12**		**Pn**	**01 03 47.0**	**+0.1**
P23K	**Montague Islan** baz=194	**4.39**	**12**	P	**Pn**	**01 03 47.0**	**+0.1**
CNTC	**Contact Creek**	**4.42**	**308**		**Pn**	**01 03 49.1**	**+1.7**
Q17K	**Contact Creek** baz=122	**4.42**	**308**	P	**Pn**	**01 03 49.1**	**+1.7**
P19K	**Oil Pt**	**4.46**	**333**	Pn	**Pn**	**01 03 49.0**	**+0.9**
P19K	**Oil Pt** baz=150	**4.46**	**333**	P	**Pn**	**01 03 49.4**	**+1.3**
ILSW	**Iliamna Southw**	**4.73**	**336**	Pn	**Pn**	**01 03 52.2**	**+0.4**
ILSW	comp=E,38nm,2.2s			IAML		01 04 55.9	
ILSW	comp=N,38nm,2.2s			IAML		01 04 56.8	
O22K	**Cooper Landing**	**4.76**	**357**	Pn	**Pn**	**01 03 51.6**	**-0.5**
O22K	comp=E,57nm,0.9s			IAML		01 04 55.8	
O22K	comp=N,56nm,1.1s			IAML		01 04 58.2	
SLKM	**Skilak Lake**	**4.81**	**354**		**Pn**	**01 03 53.1**	**+0.3**
P18K	**Big Mountain,**	**4.87**	**321**	Pn	**Pn**	**01 03 53.7**	**0.0**
P18K	comp=E,25nm,2.5s			IAML		01 06 02.9	
P18K	**Big Mountain,** baz=136	**4.87**	**321**	P	**Pn**	**01 03 54.6**	**+0.9**
HIN	**Hinchinbrook I**	**4.90**	**16**	Pn	**Pn**	**01 03 53.1**	**-0.9**
HIN	comp=N,47nm,2.2s			IAML		01 04 58.0	
HIN	comp=E,46nm,1.6s			IAML		01 05 39.1	
KAIM	**Kayak Island**	**4.94**	**30**	Pn	**Pn**	**01 03 54.0**	**-0.5**
RSO	**Redoubt South**	**5.09**	**340**	Pn	**Pn**	**01 03 55.6**	**-1.1**
CHGN	**Chignik**	**5.16**	**280**	Pn	**Pn**	**01 03 57.7**	**+0.1**
CHGN	comp=E,32nm,2.6s			IAML		01 04 42.2	
CHGN	comp=N,32nm,3.4s			IAML		01 06 27.0	
EYAK	**Cordova Ski Ar**	**5.17**	**20**	Pn	**Pn**	**01 03 57.7**	**0.0**
EYAK	**Cordova Ski Ar** baz=202	**5.17**	**20**	P	**Pn**	**01 03 57.9**	**+0.2**
P17K	**Kvichak River**	**5.20**	**315**		**Pn**	**01 04 00.1**	**+2.0**
P17K	**Kvichak River** baz=129	**5.20**	**315**	P	**Pn**	**01 04 00.1**	**+2.0**
O18K	**Koktuh Hills**	**5.21**	**325**	Pn	**Pn**	**01 03 58.7**	**+0.4**
O18K	comp=E,24nm,2.6s			IAML		01 05 06.1	
O18K	comp=N,19nm,2.4s			IAML		01 06 26.5	
O18K	**Koktuh Hills** baz=140	**5.21**	**325**	P	**Pn**	**01 03 59.1**	**+0.8**
SUCK	**Suckling Hills**	**5.24**	**32**	Pn	**Pn**	**01 03 59.0**	**+0.3**
SUCK	comp=N,44nm,2.5s			IAML		01 05 54.6	
NICHA	**Nichawak Mount**	**5.32**	**30**		**Pn**	**01 04 00.1**	**+0.4**
HMT	**Hamilton**	**5.32**	**28**	Pn	**Pn**	**01 03 59.4**	**-0.4**
RC01	**Rabbit Creek A**	**5.37**	**358**	Pn	**Pn**	**01 04 01.5**	**+1.0**
RC01	comp=E,13nm,2.8s			IAML		01 04 50.5	
GOAT	**Goat Mountain**	**5.42**	**24**		**Pn**	**01 04 01.7**	**+0.5**
BERG	**Berg Lake**	**5.52**	**30**	Pn	**Pn**	**01 04 02.5**	**0.0**
GRIN	**Grindle Hills**	**5.54**	**32**		**Pn**	**01 04 03.5**	**+0.6**
SNH	**Sunshine Point**	**5.62**	**35**	Pn	**Pn**	**01 04 04.0**	**+0.1**
KHIT	**Khitrov Hills**	**5.70**	**32**		**Pn**	**01 04 05.0**	**0.0**
KNK	**Knik Glacier**	**5.71**	**4**	Pn	**Pn**	**01 04 04.8**	**-0.4**
KNK	**Knik Glacier** baz=184	**5.71**	**4**	P	**Pn**	**01 04 05.9**	**+0.7**
P16K	**Nushagak River**	**5.76**	**309**		**Pn**	**01 04 07.5**	**+1.8**
P16K	**Nushagak River** baz=121	**5.76**	**309**	P	**Pn**	**01 04 07.5**	**+1.8**
N19K	**Bonanza Creek**	**5.79**	**334**	Pn	**Pn**	**01 04 06.6**	**+0.3**
SUA	**Susitna One**	**5.80**	**353**	Pn	**Pn**	**01 04 06.8**	**+0.4**
SUA	**Susitna One** baz=172	**5.80**	**353**	P	**Pn**	**01 04 07.8**	**+1.4**
WAX	**Waxell Ridge**	**5.82**	**33**	Pn	**Pn**	**01 04 06.8**	**0.0**
O17K	**Koliganek Bris**	**5.82**	**317**		**Pn**	**01 04 08.7**	**+2.0**
O17K	**Koliganek Bris** baz=130	**5.82**	**317**	P	**Pn**	**01 04 08.7**	**+2.0**
BARK	**Barkley Ridge**	**5.90**	**35**		**Pn**	**01 04 07.9**	**+0.1**
MESA	**MESA**	**5.91**	**38**	Pn	**Pn**	**01 04 07.7**	**-0.4**
CRQM	**Cirque**	**5.98**	**30**	Pn	**Pn**	**01 04 09.1**	**+0.1**
CRQE	**Cirque** baz=216	**5.99**	**30**	P	**Pn**	**01 04 09.2**	**+0.1**
KLU	**Klutina**	**6.03**	**15**	Pn	**Pn**	**01 04 10.4**	**+0.8**
KLU	**Klutina** baz=198	**6.03**	**15**	P	**Pn**	**01 04 10.4**	**+0.8**
GHO	**Glory Hole Cre**	**6.06**	**2**	Pn	**Pn**	**01 04 11.4**	**+1.5**
N18K	**Kilae Creek**	**6.07**	**328**	Pn	**Pn**	**01 04 08.9**	**-1.1**
TGL	**Tana Glacier**	**6.07**	**31**	Pn	**Pn**	**01 04 09.4**	**-0.8**
BAGL	**Bagley Icefiel**	**6.09**	**36**		**Pn**	**01 04 10.5**	**+0.1**
ISLE	**Juniper Island**	**6.10**	**34**	Pn	**Pn**	**01 04 10.2**	**-0.4**
SML	**Sawmill**	**6.11**	**4**	Pn	**Pn**	**01 04 11.6**	**+0.9**
O16K	**Kokwok River B**	**6.11**	**313**	Pn	**Pn**	**01 04 11.5**	**+0.8**
O16K	**Kokwok River B** baz=125	**6.11**	**313**	P	**Pn**	**01 04 12.2**	**+1.5**
SCM	**Sheep Creek Mo**	**6.20**	**9**	Pn	**Pn**	**01 04 13.2**	**+1.3**
VRDI	**Verde Repeater**	**6.29**	**27**	Pn	**Pn**	**01 04 13.3**	**0.0**
SVW2	**Sparrevohn**	**6.31**	**331**	Pn	**Pn**	**01 04 13.2**	**-0.2**
KIAG	**Kiagna River**	**6.34**	**32**		**Pn**	**01 04 14.0**	**0.0**
N25K	**Chitina, Valde**	**6.37**	**21**	Pn	**Pn**	**01 04 15.2**	**+1.0**
N25K	**Chitina, Valde** baz=204	**6.37**	**21**	P	**Pn**	**01 04 15.1**	**+0.8**
SKT	**Skwentna**	**6.37**	**350**	Pn	**Pn**	**01 04 15.0**	**+0.8**
TABL	**Table Mountain**	**6.38**	**39**	Pn	**Pn**	**01 04 15.2**	**+0.6**
GRNC	**Granite Creek**	**6.39**	**35**	Pn	**Pn**	**01 04 14.6**	**0.0**
GLB	**Gilahina Butte**	**6.39**	**24**	Pn	**Pn**	**01 04 14.6**	**+0.1**
M20K	**Styx River**	**6.48**	**344**	Pn	**Pn**	**01 04 16.0**	**+0.2**
PCA	**Pinnacle**	**6.49**	**44**	Pn	**Pn**	**01 04 16.5**	**+0.6**
PINM	**Pinnacle** baz=232	**6.49**	**44**	P	**Pn**	**01 04 16.4**	**+0.5**
MCARA	**McCarthy VSAT**	**6.53**	**27**	Pn	**Pn**	**01 04 16.9**	**+0.4**
MCARA	**McCarthy VSAT** baz=212	**6.53**	**27**	P	**Pn**	**01 04 17.5**	**+1.0**
M24K	**Tolsona, Glenn**	**6.59**	**13**	Pn	**Pn**	**01 04 18.5**	**+1.3**
M24K	**Tolsona, Glenn** baz=195	**6.59**	**13**	P	**Pn**	**01 04 19.3**	**+2.1**
PNL	**Peninsula**	**6.59**	**49**		**Pn**	**01 04 17.9**	**+0.6**
PNL	**Peninsula** baz=237	**6.59**	**49**	P	**Pn**	**01 04 17.9**	**+0.6**
BCPM	**Bancas Point**	**6.65**	**47**	Pn	**Pn**	**01 04 18.1**	**0.0**
O15K	**Ungalikthiuk R**	**6.66**	**306**		**Pn**	**01 04 19.9**	**+1.8**
O15K	**Ungalikthiuk R** baz=117	**6.66**	**306**	P	**Pn**	**01 04 20.0**	**+1.8**
BARN	**Barnard Glacie**	**6.67**	**34**	Pn	**Pn**	**01 04 17.9**	**-0.5**
CTGM	**Chitina Glacie**	**6.70**	**35**	Pn	**Pn**	**01 04 18.3**	**-0.5**
LOGN	**Logan Glacier**	**6.71**	**37**	Pn	**Pn**	**01 04 19.0**	**+0.1**
M18K	**Stony River**	**6.71**	**332**		**Pn**	**01 04 18.9**	**+0.1**
M18K	**Stony River** baz=146	**6.71**	**332**	P	**Pn**	**01 04 18.9**	**+0.1**
M19K	**Big River Lodg**	**6.73**	**339**	Pn	**Pn**	**01 04 19.2**	**0.0**
N16K	**Nishlik Lake**	**6.92**	**317**		**Pn**	**01 04 23.4**	**+1.7**
N16K	**Nishlik Lake** baz=129	**6.92**	**317**	P	**Pn**	**01 04 23.4**	**+1.7**
L19K	**White Mountain**	**7.08**	**338**	Pn	**Pn**	**01 04 22.8**	**-1.1**
M17K	**Holitna River**	**7.10**	**326**	Pn	**Pn**	**01 04 25.6**	**+1.4**
N15K	**Kwethluk River**	**7.27**	**312**	Pn	**Pn**	**01 04 26.4**	**-0.1**
N15K	**Kwethluk River** baz=123	**7.27**	**312**	P	**Pn**	**01 04 28.5**	**+2.0**
O29M	**Mount Kennedy**	**7.29**	**47**	Pn	**Pn**	**01 04 27.1**	**+0.2**
P29M	**Windy Craggy**	**7.31**	**53**	Pn	**Pn**	**01 04 27.1**	**0.0**
P29M	**Windy Craggy** baz=243	**7.31**	**53**	P	**Pn**	**01 04 27.3**	**+0.2**
M16K	**Timber Creek**	**7.35**	**320**	Pn	**Pn**	**01 04 28.3**	**+0.7**
S31K	**Pelican**	**7.49**	**67**	Pn	Pn	01 04 26.8	-2.7
L18K	**Granite Mounta**	**7.54**	**333**	Pn	**Pn**	**01 04 28.9**	**-1.3**
M27K	**Edge Creek, AK**	**7.65**	**27**	Pn	**Pn**	**01 04 32.5**	**+0.6**
RND	**Reindeer**	**7.70**	**1**	Pn	**Pn**	**01 04 32.0**	**-0.4**
MENT	**Mentasta**	**7.76**	**19**	Pn	**Pn**	**01 04 32.8**	**-0.4**
CAST	**Castle Rocks**	**7.84**	**351**	Pn	**Pn**	**01 04 33.3**	**-1.0**
KTH	**Kantishna Hill**	**7.89**	**355**	Pn	**Pn**	**01 04 35.7**	**+0.7**
TTA	**Tatalina**	**7.99**	**337**	Pn	**Pn**	**01 04 36.0**	**-0.4**
L16K	**Owhat River**	**8.00**	**323**	Pn	**Pn**	**01 04 37.5**	**+1.0**
HYT	**Haines Junctio**	**8.02**	**46**	Pn	**Pn**	**01 04 37.1**	**+0.2**
BCAR	**Beaver Creek A**	**8.28**	**24**	Pn	**Pn**	**01 04 40.9**	**+0.5**
S32K	**Killisnoo**	**8.29**	**72**	Pn	Pn	01 04 37.8	-2.6
BPAW	**Bear Paw Mtn.**	**8.43**	**355**	Pn	**Pn**	**01 04 43.8**	**+1.3**
N30M	**Aishikik Lake**	**8.55**	**43**	Pn	**Pn**	**01 04 44.8**	**+0.6**
SCRK	**Sand Creek**	**8.68**	**16**	Pn	**Pn**	**01 04 46.6**	**+0.7**
M29M	**Somme Creek**	**8.72**	**35**	Pn	**Pn**	**01 04 47.5**	**+1.1**
J20K	**Nowinta River**	**8.81**	**346**	Pn	**Pn**	**01 04 49.3**	**+1.7**
L14K	**Kuka Creek**	**8.98**	**314**	Pn	**Pn**	**01 04 51.1**	**+1.2**
WHY	**Whitehorse**	**9.05**	**51**	Pn	**Pn**	**01 04 51.2**	**+0.2**
ILAR	**Eielson Array**	**9.14**	**6**	Pn	**Pn**	**01 04 51.9**	**-0.3**
P32M	**Atlin**	**9.18**	**59**	Pn	**Pn**	**01 04 52.4**	**-0.3**
J26L	**Joseph Creek**	**9.24**	**16**	Pn	**Pn**	**01 04 53.6**	**+0.1**
L29M	**Mail**	**9.31**	**33**	Pn	**Pn**	**01 04 55.5**	**+1.0**
MLY	**Manley**	**9.35**	**356**	Pn	**Pn**	**01 04 57.2**	**+2.1**
M30M	**Minto, Yukon**	**9.37**	**38**	Pn	**Pn**	**01 04 54.9**	**-0.5**
I21K	**Tanana**	**9.57**	**353**	Pn	**Pn**	**01 04 58.8**	**+0.8**
M31M	**Drury Creek, Y**	**10.03**	**44**	Pn	**Pn**	**01 05 05.8**	**+1.4**
K29M	**Barlow Dome**	**10.04**	**31**	Pn	**Pn**	**01 05 05.1**	**+0.5**
H24K	**Noodor Dome**	**10.16**	**3**	Pn	**Pn**	**01 05 08.9**	**+2.8**
R33M	**Jennings River**	**10.48**	**62**	Pn	**Pn**	**01 05 09.7**	**-0.9**
J30M	**Hart River**	**10.93**	**31**	Pn	**Pn**	**01 05 19.1**	**+2.3**
MMPY	**Sheldon Lake,**	**11.49**	**46**	Pn	**Pn**	**01 05 25.1**	**+0.7**
BMAR	**Burnt Mountain**	**11.94**	**9**	Pn	**Pn**	**01 05 31.4**	**+1.0**

*IDC **07** 01:05:26.1±7.7,37.29N×71.31E,h59km±41km,mb3.4/1, mbtmp3.5/5,ML2.8/4,Error ellipse: s-maj=122.8km s-min=25.2km az=161.0*
*NNC **07** 01:05:31.1±8.3,37.44N×71.40E,h107km±157km,mb2.8, mpv3.2,Error ellipse: s-maj=106.6km s-min=41.2km az=49.0*

ISC 07 01:05:28.2±2.1,37.3N±0.2×71.3E±0.1,h100km,n10, σ1.50/12,4C,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array** 0.3nm,0.2s,baz=183,slow=16,SNR=18	**5.87**	**355**	P	**Pn**	**01 06 53.9**	**+1.2**
KK31	1.4nm,0.3s,baz=189,slow=26,SNR=8.0			⇑S	**Sn**	**01 07 58.0**	**-0.7**
CHMS	**Chumysh** 1.8nm,0.3s	**6.33**	**24**	⇑P	**Pn**	**01 06 58.6**	**-0.4**
TKM2	**Tokmak 2** 0.9nm,0.4s	**6.56**	**29**	⇑P	**Pn**	**01 07 02.2**	**-0.2**
GEYT	**Alibeck** 0.2nm,0.3s,baz=93,slow=8.4,SNR=4.2	**10.45**	**278**	P	**Pn**	**01 07 54.3**	**-0.7**
GEYT	0.9nm,0.3s,baz=12,slow=25,SNR=3.9 0.9nm,0.7s			S	**Sn**	**01 09 48.5**	**-1.6**
MKAR	**Makanchi Array** baz=226,slow=13,SNR=5.9 0.4nm,0.7s	**12.56**	**37**	P	**Pn**	**01 08 21.8**	**-1.5**
AB31	**Akbulak array** 0.1nm,0.2s,baz=144,slow=14,SNR=21	**14.53**	**329**	P	**Pn**	**01 08 47.9**	**-1.0**
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=167,slow=13,SNR=8.3 0.5nm,0.4s	**15.78**	**358**	P	**Pn**	**01 09 04.3**	**-0.3**
AKTO	**Aktyubinsk** 0.9nm,0.5s	**16.24**	**328**	⇑P	**P**	**01 09 13.9**	**+2.4**
ZALV	**Zalesovo Beam** 0.1nm,0.3s,baz=221,slow=12,SNR=4.5 0.6nm,0.4s	**19.14**	**25**	P	**P**	**01 09 42.5**	**-0.9**
HFS	**Hagfors** 0.6nm,0.5s,baz=112,slow=11,SNR=4.8 0.6nm,0.5s	**42.60**	**321**	P	**P**	**01 13 16.4**	**+2.3**

*NEIC **07** 01:09:56.0±0.7,19.17N±0.02×155.612W±0.006, h13km±4km,Error ellipse: s-maj=2.3km s-min=0.5km az=195.0*

HVO 07 01:09:56.2±1.0,19.16N±0.01×155.61W±0.01,h9km±3km, ML2.5/8,ML2.4/42(NEIC),Error ellipse: s-maj=2.0km s-min=1.6km az=182.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHU	**Kahuku**	**0.08**	**357**		Pg	01 09 58.8	+0.1
KHU					Sg	01 10 00.9	+0.4
HTC	**Hot Caves**	**0.21**	**70**		Pg	01 10 00.9	+0.2
HLP	**Hilina Pali**	**0.32**	**65**	Pg	Pg	01 10 02.9	+0.4
HLP				Sg	Sg	01 10 08.0	+1.2
HLP	comp=E,564nm,1.2s			IAML		01 10 12.2	
HLP	comp=N,448nm,0.7s			IAML		01 10 13.6	
MWH	**Moku'aweowe**	**0.32**	**2**	Pg	Pg	01 10 02.2	-0.7
MWH				Sg	Sg	01 10 07.9	+0.7
MLOA	**Mauna Loa Obse**	**0.37**	**5**	Pg	Pg	01 10 03.1	-0.6
MLOA				Sg	Sg	01 10 09.2	+0.5
MLOA	comp=N,533nm,0.4s			IAML		01 10 10.1	
MLOA	comp=E,377nm,0.2s			IAML		01 10 10.0	
SDHHI	**Sand Hill**	**0.38**	**53**	Pg	Pg	01 10 03.2	-0.5
SDHHI				Sg	Sg	01 10 08.6	-0.1
SDHHI	comp=E,584nm,0.6s			IAML		01 10 11.2	
ALEP	**Alea Permanent**	**0.38**	**355**		Pg	01 10 03.4	-0.5
ALEP					Sg	01 10 09.5	+0.6
WRMHI	**West Rim**	**0.38**	**50**	Pg	Pg	01 10 03.3	-0.5
WRMHI				Sg	Sg	01 10 08.8	-0.1
MLH	**Mauna Loa**	**0.39**	**33**	Pg	Pg	01 10 04.0	-0.1
MLH				Sg	Sg	01 10 09.7	+0.5
MLH	comp=E,376nm,0.6s			IAML		01 10 16.2	
MLH	comp=N,333nm,0.8s			IAML		01 10 16.4	
UWE	**Uwekahuna**	**0.40**	**49**	Pg	Pg	01 10 03.7	-0.4
UWE				Sg	Sg	01 10 09.8	+0.5
NPH	**North Pit**	**0.40**	**51**	Pg	Pg	01 10 03.9	-0.2
NPH	comp=N,337nm,1.6s			IAML		01 10 10.2	
KKO	**Keanakako'i**	**0.40**	**54**	Pg	Pg	01 10 03.8	-0.4
KKO				Sg	Sg	01 10 09.0	-0.5
UWB	**Uwekahuna B**	**0.41**	**50**	Pg	Pg	01 10 03.9	-0.4
UWB				Sg	Sg	01 10 08.9	-0.9
BYL	**Byron's Ledge**	**0.41**	**53**	Pg	Pg	01 10 03.8	-0.6
BYL	comp=N,341nm,2.3s			IAML		01 10 14.7	
BYL	comp=E,328nm,2.2s			IAML		01 10 17.3	
SBLHI	**Steaming Bluff**	**0.42**	**51**	Pg	Pg	01 10 04.0	-0.5
SBLHI	comp=N,321nm,1.6s			IAML		01 10 17.9	
HATHI	**Halema'uma'u T**	**0.42**	**52**	Pg	Pg	01 10 04.1	-0.4
HATHI				Sg	Sg	01 10 09.9	-0.1
HATHI	comp=N,409nm,1.3s			IAML		01 10 10.1	
HATHI	comp=E,435nm,1.1s			IAML		01 10 10.8	
PUH	**Pauahi**	**0.43**	**60**	Pg	Pg	01 10 04.0	-0.6
PUH	comp=N,286nm,2.7s			IAML		01 10 08.2	
PUH				Sg	Sg	01 10 10.2	-0.1
RSD	**Rainshed**	**0.43**	**46**	Pg	Pg	01 10 04.4	-0.4
RSD	comp=N,325nm,2.8s			IAML		01 10 11.1	
CPH	**Captain Cook**	**0.43**	**318**		Pg	01 10 04.5	-0.3
HMH	**Humu'ula Sheep**	**0.46**	**15**	Pg	Pg	01 10 05.2	-0.1
HMH	comp=N,454nm,0.3s			IAML		01 10 14.4	
HMH	comp=E,426nm,0.2s			IAML		01 10 14.6	
KHLU	**Kahalu`u**	**0.50**	**328**	Pg	Pg	01 10 05.6	-0.5
KHLU	comp=N,315nm,0.1s			IAML		01 10 16.9	
KHLU	comp=E,238nm,0.3s			IAML		01 10 17.0	
STCH	**Steam Cracks**	**0.51**	**64**	Pg	Pg	01 10 05.7	-0.5
STCH	comp=E,282nm,0.7s			IAML		01 10 14.8	
STCH	comp=N,324nm,1.2s			IAML		01 10 19.2	
NPOC	**North of Pu'u**	**0.53**	**64**	Pg	Pg	01 10 06.3	-0.2
NPOC	comp=N,330nm,2.6s			IAML		01 10 16.0	
HUH	**Hualalai**	**0.56**	**338**	Pg	Pg	01 10 07.0	-0.3

IDC 07 01:11:40.0±7.2,1.93S×133.71E,h0km,mb3.5/2, mbtmp3.5/3,ML3.3/1,Error ellipse: s-maj=417.5km s-min=29.0km az=76.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=355,slow=12,SNR=4.0 0.6nm,0.6s	**17.92**	**178**	P	Pn	01 15 50.4	-0.3
ASAR	**Alice Springs** 1.0nm,0.6s,baz=5.3,slow=12,SNR=8.7 1.0nm,0.6s	**21.61**	**180**	P	P	01 16 31.9	+0.2
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=111,slow=7.6,SNR=4.8 0.3nm,0.4s	**66.17**	**324**	P	P	01 22 29.5	0.0

*IDC **07** 01:36:38.7±0.7,6.25S×143.48E,h0km,mb4.3/11, mbtmp4.4/13,ML2.0/1,MS3.2/2,Error ellipse: s-maj=32.6km s-min=17.2km az=74.0*
*NEIC **07** 01:36:40.8±1.9,6.33S±0.08×143.2E±0.1,h10km±1km, mb4.5/25,Error ellipse: s-maj=19.0km s-min=13.5km az=106.0*

ISC 07 01:36:43.7±0.5,6.43S±0.06×143.26E±0.08,h35km,n55, σ1.50/56,mb4.6/25,1C,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.86**	**128**		**Pn**	**01 37 53.6**	**-0.7**
PMG	**Port Moresby** 4.1nm,0.3s,baz=45,slow=5.7,SNR=3.6	**4.86**	**128**	Pn	**Pn**	**01 37 54.3**	**-0.1**
PMG	9.2nm,0.3s,baz=96,slow=23,SNR=9.9 8.1nm,0.3s			Sn	**Sn**	**01 38 49.3**	**-0.1**
MANU	**Manus Island**	**5.98**	**43**	Pn	**Pn**	**01 38 08.5**	**-1.3**
COEN	**Coen**	**7.48**	**181**	Pn	**Pn**	**01 38 31.8**	**+1.5**
WB0	**Warramunga Arr**	**15.81**	**212**	Pn	**Pn**	**01 40 22.4**	**-1.4**
WR0	**Warramunga Arr**	**15.89**	**211**	Pn	**Pn**	**01 40 22.5**	**-2.4**
WRAB	**Tennant Creek**	**15.97**	**212**	Pn	**Pn**	**01 40 25.0**	**-0.9**
WRAB	comp=Z,26nm,0.5s			IAmb	IAmb	01 40 49.0	
WB2	**Warramunga Arr**	**15.98**	**212**	Pn	**Pn**	**01 40 24.0**	**-2.0**
WRA	**Warramunga Arr**	**15.98**	**212**	Pn	**Pn**	**01 40 24.0**	**-2.0**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.3s,baz=34,slow=13,SNR=18	**15.98**	**212**	Pn	**Pn**	**01 40 23.6**	**-2.4**
WRA	comp=Z,0.3nm,0.3s,baz=34,slow=22,SNR=2.9			Sn	**Sn**	**01 43 16.9**	**-5.4**
WRA	comp=Z,0.1nm,0.3s,baz=30,slow=29,SNR=1.9			Lg	Lg	01 45 12.5	
KNRA	**Kununurra**	**16.93**	**236**	Pn	**Pn**	**01 40 36.0**	**-2.0**
KNRA	comp=Z,20nm,0.7s			IAmb	IAmb	01 40 48.8	
SOEI	**Soe**	**19.09**	**259**	P	**P**	**01 41 04.1**	**+0.4**
AS31	**Alice Springs**	**19.35**	**207**	P	**Pn**	**01 41 09.4**	**+1.7**
ASAR	**Alice Springs**	**19.35**	**207**	P	**Pn**	**01 41 09.5**	**+1.8**
ASAR	**Alice Springs** comp=Z,27nm,0.7s,baz=32,slow=10,SNR=131	**19.35**	**207**	P	**Pn**	**01 41 09.3**	**+1.6**
ASAR	baz=15,slow=31			Lg	Lg	01 46 49.4	
ASAR	comp=Z,58nm,21.4s,baz=222,slow=35			LR	LR	01 48 09.1	
FITZ	**Fitzroy Crossi**	**20.73**	**234**	P	**P**	**01 41 22.6**	**+1.1**
KAPI	**Kappang**	**23.44**	**272**		**P**	**01 41 50.7**	**+0.7**
KAPI	comp=Z,17nm,0.9s			IAmb	IAmb	01 41 52.8	
STKA	**Stephens Creek** comp=Z,2.4nm,0.8s,baz=351,slow=13,SNR=2.4 comp=Z,2.4nm,0.8s	**25.36**	**183**	P	**P**	**01 42 08.3**	**+0.7**
NWAO	**Narrogin (SRO)** comp=Z,53nm,20.3s,baz=90,slow=39	**35.78**	**219**	LR	LR	02 00 08.9	
NJ2	**Nanjing**	**44.79**	**330**	*e*P	**P**	**01 44 55.1**	**+0.9**
NJ2				sP	**pP**	**01 44 59.9**	**-5.0**
NJ2	comp=Z,8.0nm,0.5s		

MKAR	**Makanchi Array**	**75.50**	**322**	P		**P**	**01 48 25.1**	**+0.6**
	comp=Z,3.9nm,0.7s,baz=106,slow=7.2,SNR=41							
	comp=Z,3.9nm,0.7s							
MAKZ	**Makanchi**	**75.70**	**322**	P		**P**	**01 48 25.8**	**+0.1**
MAKZ				IAmb		IAmb	01 48 27.1	
	comp=Z,6.7nm,1.0s							
ZALV	**Zalesovo Beam**	**77.43**	**329**	P		**P**	**01 48 34.5**	**-0.8**
ZALV	**Zalesovo Beam**	**77.43**	**329**	P		**P**	**01 48 34.8**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=108,slow=4.8,SNR=6.9							
	comp=Z,1.1nm,0.5s							
BOOM	**Boomskoye usch**	**77.97**	**316**	P		**P**	**01 48 39.0**	**+0.3**
BOOM				IAmb		IAmb	01 48 40.5	
	comp=Z,3.2nm,0.6s							
AAK	**Ala-Archa**	**79.02**	**316**	P		**P**	**01 48 44.7**	**+0.2**
AAK				IAmb		IAmb	01 48 46.4	
	comp=Z,3.4nm,1.1s							
AAK	**Ala-Archa**	**79.02**	**316**	P		**P**	**01 48 45.3**	**+0.7**
	comp=Z,1.7nm,0.9s,baz=121,slow=12,SNR=4.1							
	comp=Z,1.7nm,0.9s							
KURK	**Kurchatov**	**79.36**	**324**	P		**P**	**01 48 45.6**	**-0.4**
KURK				IAmb		IAmb	01 48 47.2	
	comp=Z,5.3nm,1.1s							
KURBB	**Kurchatov Arra**	**79.38**	**324**	P		**P**	**01 48 46.2**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=116,slow=4.5,SNR=10							
	comp=Z,1.2nm,0.6s							
CHGR	**Chuyangaron**	**81.73**	**310**	P		**P**	**01 48 58.8**	**-0.3**
K17K	**Iditarod**	**81.90**	**23**	P		**P**	**01 48 59.4**	**+0.1**
KK31	**Karatay Array**	**81.95**	**315**	P		**P**	**01 48 59.8**	**-0.3**
KK31				IAmb		IAmb	01 49 00.8	
	comp=Z,2.0nm,0.8s							
KKAR	**Karatay Array**	**81.95**	**315**	P		**P**	**01 48 59.5**	**-0.5**
QSPA	**South Pole Qui**	**83.54**	**180**	P		**P**	**01 49 09.0**	**+1.0**
QSPA	**South Pole Qui**	**83.54**	**180**	P		**P**	**01 49 09.2**	**+1.2**
	comp=Z,5.8nm,0.6s,baz=217,slow=0.4,SNR=55							
	comp=Z,5.8nm,0.6s							
NRIK	**Noril'sk**	**84.57**	**343**	P		**P**	**01 49 13.0**	**0.0**
NRIK	**Noril'sk**	**84.57**	**343**	P		**P**	**01 49 13.4**	**+0.4**
	comp=Z,6.6nm,0.8s,baz=124,slow=4.9,SNR=13							
	comp=Z,6.6nm,0.8s							
BVAR	**Borovoye Array**	**84.95**	**325**	P		**P**	**01 49 15.9**	**+0.7**
	comp=Z,6.6nm,0.8s,baz=111,slow=6.5,SNR=34							
	comp=Z,6.6nm,0.8s							
BRVK	**Borovoye**	**85.02**	**325**	P		**P**	**01 49 16.0**	**+0.4**
BRVK				IAmb		IAmb	01 49 17.5	
	comp=Z,7.6nm,1.0s							
ILAR	**Eielson Array**	**87.36**	**24**	P		**P**	**01 49 25.4**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=253,slow=4.8,SNR=7.8							
	comp=Z,0.9nm,0.8s							
NVAR	**Mina Array Bea**	**100.57**	**52**	P		**Pdif**	**01 50 27.5**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=297,slow=4.0,SNR=2.9							
TORD	**Torodi Ar. Bea**	**141.58**	**283**	PKhKP		PKPpre	01 56 08.1	
	comp=Z,0.5nm,0.7s,baz=72,slow=4.6,SNR=2.8							
DBIC	**Dimbokro**	**148.33**	**272**	PKPbc		**PKiKP**	**01 56 28.8**	**-0.4**
	comp=Z,14nm,0.9s,baz=103,slow=4.6,SNR=11							

ISK ***07*** *01:40:34.3,38.7′71N×43.7′16E,h7km,ML1.7/7*
AFAD 07 01:40:34.5±0.0,38.70N×43.14E,h7km±1km,ML1.8,
Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.22**	**118**	Pg	Pg	01 40 40.3	+1.4
VANB				Sg	Sg	01 40 44.6	+2.7
TVAN	**Van**	**0.27**	**129**	P	Pg	01 40 40.2	+0.4
ADCV	**BITLIS_Adilcev**	**0.34**	**289**	P	Pb	01 40 42.9	-0.2
ADCV				S	Sb	01 40 49.9	+1.1
ERCV	**ERCIS-VAN**	**0.36**	**25**	Pg	Pg	01 40 41.6	+0.1
ERCV				Sg	Sg	01 40 46.5	+0.2
AKDM	**Akdamar-Van**	**0.39**	**199**	Pg	Pg	01 40 42.9	+0.7
GEVA	**Gevas**	**0.39**	**190**	P	Pg	01 40 42.7	+0.6
VMUR	**Van-Muradiye**	**0.44**	**49**	P	Pg	01 40 43.4	+0.2
VMUR				S	Sg	01 40 49.9	+0.9
VMUR				*i* AML	AML	01 40 52.0	
	comp=E,75nm,0.3s						
MLAZ	**Malazgirt-MUS**	**0.64**	**314**	Pg	Pb	01 40 47.5	-0.6
OZAP	**Van, Özalp-Mer**	**0.67**	**93**	P	Pb	01 40 48.4	-0.2
DORK	**Agr/Tutak/Do**	**0.74**	**338**	P	Pg	01 40 49.0	+0.2
BLIS	**Bitlis-Merkez**	**0.85**	**251**	P	Pg	01 40 51.1	+0.2
BLIS				S	Sg	01 41 01.8	-0.2
BLIS				*i* AML	AML	01 41 05.0	
	comp=N,26nm,0.4s						
GURO	**Guroymak-BITLI**	**0.88**	**261**	Pg	Pb	01 40 52.1	-0.1
GURO				Sg	Sb	01 41 04.7	+0.4
AGRB	**Hanur-Agry**	**0.88**	**352**	Pg	Pg	01 40 51.6	+0.1
AGRB				Sg	Sb	01 41 04.1	-0.3
HAKT	**HAKKARI**	**1.22**	**158**	P	Pg	01 40 58.0	0.0
MUSM	**Mu-Merkez**	**1.28**	**272**	P	Pg	01 40 59.6	+0.6
CUKT	**Cukurca**	**1.49**	**166**	Pn	Pb	01 41 02.4	-0.3

NSSP ***07*** *01:41:11.5,41.′15N×46.′13E,h10km,Ms3.0*
AZER ***07*** *01:41:12.2,41.′24N×46.′17E,h19km,ml3.1*
TIF ***07*** *01:41:12.8,41.′25N×46.′09E,h38km*
MOS ***07*** *01:41:12.0,41.′25N×46.′20E,h30km,MPVA3.9*
NORS ***07*** *01:41:12.8,41.′32N×46.′16E,h3km,MPVA3.5*
DRS ***07*** *01:41:16.3,41.′31N×46.′01E,h22km*
ISC 07 01:41:15.4±0.9,41.′28N±0.′01×46.′14E±0.′01,h25km±7km,
n140,σ1s35/232,9C-4D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSHL	**Vashlovani**	**0.20**	**104**	P	**Pb**	**01 41 21.0**	**-0.2**
VSHL				S	**Sb**	**01 41 27.1**	**+1.9**
ZKTA	**Zakatala**	**0.51**	**45**	PG	**Pb**	**01 41 23.9**	**-1.9**
ZKTA	**Zakatala**	**0.51**	**45**	P	**Pb**	**01 41 24.0**	**-1.9**
ZKTA				S	**Sb**	**01 41 32.6**	**-0.4**
LGD	**Lagodekhi**	**0.56**	**8**	PG	**Pb**	**01 41 24.8**	**-1.9**
LGD				S	**Sb**	**01 41 34.3**	**0.0**
LGD	**Lagodekhi**	**0.56**	**8**	P	**Pb**	**01 41 24.9**	**-1.9**
LGD				S	**Sb**	**01 41 34.3**	**0.0**
LGD	**Lagodekhi**	**0.56**	**8**	*e*Pg	**Pb**	**01 41 24.9**	**-1.9**
LGD				*e*Sg	**Sb**	**01 41 34.3**	**0.0**
DGRG	**David-gareji**	**0.60**	**287**	*e*PG	**Pb**	**01 41 26.3**	**-1.1**
DGRG				*e*S	**Sb**	**01 41 36.3**	**+0.8**
DGRG	**David-gareji**	**0.60**	**287**	S	**Sb**	**01 41 36.3**	**+0.8**
DGRG	**David-gareji**	**0.60**	**287**	*e*Pg	**Pb**	**01 41 26.3**	**-1.1**
DGRG				*e*Sg	**Sb**	**01 41 36.3**	**+0.8**
DGRG	**David-gareji**	**0.60**	**287**	P	**Pb**	**01 41 26.3**	**-1.1**
QZX	**Qazax, Azerbai**	**0.62**	**249**	P	**Pb**	**01 41 25.3**	**-2.4**
QZX				S	**Sb**	**01 41 34.6**	**-1.4**
GDB	**GEDABAY**	**0.63**	**208**	P	**Pb**	**01 41 25.3**	**-2.7**
GDB				S	**Sb**	**01 41 34.1**	**-2.3**
GANJ	**Ganja**	**0.65**	**168**	PG	**Pb**	**01 41 25.7**	**-2.5**
GANJ	**Ganja**	**0.65**	**168**	P	**Pb**	**01 41 25.7**	**-2.5**
GANJ				S	**Sb**	**01 41 35.0**	**-1.9**
SEKA	**Sheki**	**0.80**	**95**	PG	Pn	01 41 28.4	-2.8
SEKA	**Sheki**	**0.80**	**95**	P	Pn	01 41 28.5	-2.8
SEKA				S	**Sb**	**01 41 42.0**	**+0.8**
MNGR	**Mingechevir, A**	**0.88**	**125**	PG	**Pn**	**01 41 30.6**	**-1.6**
MNGR	**Mingechevir, A**	**0.88**	**125**	P	**Pn**	**01 41 30.6**	**-1.6**
MNGR				S	**Sn**	**01 41 44.8**	**+0.7**
KMKR	**Kumukh**	**1.11**	**40**	*i*PG	**Pn**	**01 41 34.0**	**-1.6**
KMKR				*e*S	**Sn**	**01 41 48.8**	**-1.5**
KMKR				pmax	pmax		
	comp=Z,95nm,0.1s						
KMKR				smax	smax		
	comp=E,342nm,0.2s						
KMKR	**Kumukh**	**1.11**	**40**	*i* Pg	**Pn**	**01 41 34.1**	**-1.6**
	comp=E,94nm,0.1s						
KMKR				*e*Sg	**Sn**	**01 41 48.5**	**-1.8**
	comp=E,538nm,0.4s						
SEAG	**Tbilisi Sea**	**1.11**	**296**	PG	**Pn**	**01 41 33.4**	**-2.1**
SEAG				S	**Sn**	**01 41 49.0**	**-1.0**
SEAG	**Tbilisi Sea**	**1.11**	**296**	P	**Pn**	**01 41 33.4**	**-2.1**
SEAG				S	**Sn**	**01 41 49.1**	**-1.0**
AKT	**Akhty**	**1.21**	**80**	*i* PG	**Pn**	**01 41 35.3**	**-1.6**
AKT				*e*S	**Sn**	**01 41 51.2**	**-1.4**
AKT	**Akhty**	**1.21**	**80**	*i* Pg	**Pn**	**01 41 35.3**	**-1.6**
	comp=E,41nm,0.2s						
AKT				*e*Sg	**Sn**	**01 41 51.6**	**-1.0**
	comp=E,140nm,0.5s						
GNBR	**Gunib**	**1.27**	**29**	*e*PG	**Pn**	**01 41 36.9**	**-0.7**
GNBR				*e*S	**Sn**	**01 41 53.8**	**-0.1**
GNBR	**Gunib**	**1.27**	**29**	*e*Pg	**Pn**	**01 41 36.9**	**-0.7**
	comp=E,26nm,0.2s						
GNBR				*e*Sg	**Sn**	**01 41 53.8**	**-0.1**
	comp=E,72nm,0.4s						
BRDA	**Brd**	**1.29**	**142**	P	**Pn**	**01 41 37.3**	**-0.5**
BRDA				S	**Sb**	**01 41 57.7**	**+2.6**
QBL	**Gabala**	**1.33**	**104**	P	**Pn**	**01 41 37.0**	**-1.4**
QBL				S	**Sn**	**01 41 55.9**	**+0.7**
XNZR	**Khunzakh**	**1.33**	**18**	*e*Pg	**Pn**	**01 41 38.1**	**-0.5**
XNZR				*e*Sg	**Sn**	**01 41 56.1**	**+0.5**
STEZ	**Stepenevan**	**1.34**	**259**	⇑*i*P	**Pn**	**01 41 36.8**	**-1.9**
STEZ				⇑*i*S	**Sn**	**01 41 54.8**	**-1.0**
HNZR	**Khunzah**	**1.35**	**18**	*e*PG	**Pn**	**01 41 38.5**	**-0.3**
HNZR				*e*S	**Sn**	**01 41 56.8**	**+0.8**
AGDM	**Agdam**	**1.38**	**147**	P	**Pn**	**01 41 38.2**	**-0.9**
AGDM				S	**Sn**	**01 41 58.2**	**+1.5**
CHRG	**Chargali**	**1.39**	**320**	P	**Pn**	**01 41 37.6**	**-1.7**
CHRG				S	**Sn**	**01 41 56.3**	**-0.6**
URKR	**Urkarakh**	**1.43**	**51**	*e*PG	**Pn**	**01 41 39.7**	**-0.2**
URKR				*e*S	**Sn**	**01 41 58.8**	**+0.9**
URKR	**Urkarakh**	**1.43**	**51**	*e*Pg	**Pn**	**01 41 40.1**	**+0.2**
	comp=E,30nm,0.3s						
URKR				*e*Sg	**Sn**	**01 41 58.8**	**+0.9**
	comp=E,87nm,0.5s						
KAPZ	**Kaputan**	**1.45**	**229**	⇑*i*P	**Pn**	**01 41 39.6**	**-0.7**
KAPZ				⇑*i*S		01 42 58.9	
ARKR	**Arakani**	**1.47**	**26**	*e*PG	**Pn**	**01 41 40.2**	**-0.2**
ARKR				*e*S	**Sn**	**01 41 59.4**	**+0.6**
ARKR	**Arakani**	**1.47**	**26**	*e*Pg	**Pn**	**01 41 40.2**	**-0.2**
	comp=E,14nm,0.2s						
ARKR				*e*Sg	**Sn**	**01 41 59.4**	**+0.6**
	comp=E,144nm,0.5s						
DMNI	**Dmanisi**	**1.47**	**273**	PG	**Pn**	**01 41 38.1**	**-2.3**
DMNI	**Dmanisi**	**1.47**	**273**	P	**Pn**	**01 41 38.1**	**-2.3**
DMNI				S	**Sn**	**01 41 57.5**	**-1.4**
UNCR	**Uncukul**	**1.51**	**19**	*e*PG	**Pn**	**01 41 40.8**	**-0.2**
UNCR				*e*S	**Sn**	**01 42 01.0**	**+1.1**
UNCR	**Uncukul**	**1.51**	**19**	*e*Pg	**Pn**	**01 41 40.8**	**-0.2**
	comp=E,20nm,0.2s						
UNCR				*e*Sg	**Sn**	**01 42 00.6**	**+0.7**
	comp=E,2.0nm,0.7s						
XNQ	**Khinaliq**	**1.51**	**93**	P	**Pn**	**01 41 40.4**	**-0.8**
XNQ				S	**Sn**	**01 42 00.5**	**+0.3**
KSMR	**Kasumkent**	**1.53**	**77**	*e*PG	**Pn**	**01 41 41.1**	**-0.1**
KSMR				*e*S	**Sn**	**01 42 01.3**	**+1.0**
KSMR	**Kasumkent**	**1.53**	**77**	*e*Pg	**Pn**	**01 41 41.1**	**-0.1**
	comp=E,20nm,0.2s						
KSMR				*e*Sg	**Sn**	**01 42 01.3**	**+1.0**
	comp=E,50nm,0.6s						
ZRD	**Zardab**	**1.54**	**130**	P	**Pn**	**01 41 40.9**	**-0.4**
ZRD				S	**Sb**	**01 42 03.9**	**+1.5**
GNI	**Garni**	**1.55**	**224**	⇑*i*P	**Pn**	**01 41 41.6**	**0.0**
GNI				⇑S	**Sn**	**01 42 02.9**	**+2.0**
GNI	**Garni**	**1.55**	**224**	*d i*PG	**Pn**	**01 41 41.5**	**-0.1**
GNI	**Garni**	**1.55**	**224**	*e*Pg	**Pn**	**01 41 41.6**	**0.0**
GNI				*e*Sg	**Sn**	**01 42 03.0**	**+2.0**
TRLG	**Trialeti**	**1.55**	**280**	*e*PG	**Pn**	**01 41 39.6**	**-2.1**
TRLG	**Trialeti**	**1.55**	**280**	P	**Pn**	**01 41 39.6**	**-2.1**
TRLG				S	**Sn**	**01 41 59.5**	**-1.6**
SHTL	**Shatili**	**1.56**	**332**	PG	**Pn**	**01 41 40.3**	**-1.4**
SHTL	**Shatili**	**1.56**	**332**	S	**Sn**	**01 42 00.8**	**-0.3**
SHTL	**Shatili**	**1.56**	**332**	P	**Pn**	**01 41 40.3**	**-1.4**
QSAR	**Qusar**	**1.62**	**81**	P	**Pn**	**01 41 42.9**	**+0.6**
QSAR				S	**Sb**	**01 42 05.1**	**+0.5**
IML	**Ismayilli**	**1.62**	**107**	P	**Pn**	**01 41 41.4**	**-1.1**
IML				S	**Sn**	**01 42 03.7**	**+1.1**
SGKR	**Sergokala**	**1.64**	**43**	*e*PN	**Pn**	**01 41 43.2**	**+0.6**
SGKR	**Sergokala**	**1.64**	**43**	*e*Pg	**Pn**	**01 41 42.8**	**+0.1**
	comp=E,57nm,0.2s						
SGKR				*e*Sg	**Sn**	**01 42 04.2**	**+1.3**
	comp=E,65nm,0.3s						
KRNR	**Karanay**	**1.65**	**20**	*e*PN	**Pn**	**01 41 42.8**	**-0.1**
KRNR	**Karanay**	**1.65**	**20**	*e*Pg	**Pn**	**01 41 42.8**	**-0.1**
	comp=E,10.0nm,0.3s						
KRNR				*e*Sg	**Sn**	**01 42 04.4**	**+1.1**
	comp=E,173nm,0.4s						
DVE	**Vedeno**	**1.68**	**360**	*e*PN	**Pn**	**01 41 43.7**	**+0.5**
DVE				*e*S	**Sb**	**01 42 06.8**	**+0.5**
DVE	**Vedeno**	**1.68**	**360**	*e*Pg	**Pn**	**01 41 43.7**	**+0.5**
DVE				*e*Sg	**Sb**	**01 42 06.8**	**+0.5**
AMBZ	**Amberd**	**1.68**	**239**	*e*P	**Pn**	**01 41 42.8**	**-0.6**
AMBZ				*e*S	**Sn**	**01 42 06.2**	**+1.8**
BUJR	**Buynaksk**	**1.70**	**25**	*e*PN	**Pn**	**01 41 42.8**	**-0.8**
BUJR	**Buynaksk**	**1.70**	**25**	*e*Pg	**Pn**	**01 41 42.8**	**-0.8**
	comp=E,17nm,0.3s						
BUJR				*e*Sg	**Sn**	**01 42 05.2**	**+0.6**
	comp=E,179nm,0.6s						
NRKZ	**NAREK**	**1.70**	**222**	*e*P	**Pn**	**01 41 44.0**	**+0.3**
NRKZ				*e*S	**Sn**	**01 42 07.0**	**+2.3**
GUDG	**Gudauri**	**1.71**	**314**	*e*PN	**Pn**	**01 41 42.8**	**-1.1**
GUDG	**Gudauri**	**1.71**	**314**	S	**Sn**	**01 42 06.1**	**+1.0**
GUDG	**Gudauri**	**1.71**	**314**	*e*Pg	**Pn**	**01 41 42.8**	**-1.1**
GUDG				*e*Sg	**Sn**	**01 42 06.1**	**+1.0**
GUDG	**Gudauri**	**1.71**	**314**	P	**Pn**	**01 41 42.8**	**-1.1**
BRNG	**Burnasheti**	**1.77**	**282**	*e*PN	**Pn**	**01 41 43.4**	**-1.3**
BRNG	**Burnasheti**	**1.77**	**282**	P	**Pn**	**01 41 43.4**	**-1.3**
BRNG				S	**Sn**	**01 42 07.9**	**+1.4**
BRNG	**Burnasheti**	**1.77**	**282**	*e*Pg	**Pn**	**01 41 43.4**	**-1.3**
BRNG				*e*Sg	**Sn**	**01 42 07.9**	**+1.4**
QUBA	**Quba, Azerbaij**	**1.77**	**87**	P	**Pn**	**01 41 44.9**	**+0.3**
QUBA				S	**Sb**	**01 42 08.9**	**-0.3**
KDMR	**Kurdemir**	**1.80**	**120**	P	**Pn**	**01 41 43.7**	**-1.1**
KDMR				S	**Sn**	**01 42 07.7**	**+0.9**
DRN	**Derbent**	**1.81**	**65**	*e*PN	**Pn**	**01 41 45.9**	**+1.0**
DRN				*e*S	**Sb**	**01 42 10.9**	**+1.0**
DRN				pmax	pmax		
	comp=Z,56nm,0.6s						
DRN				smax	smax		
	comp=E,129nm,0.6s						
DRN	**Derbent**	**1.81**	**65**	*e*Pg	**Pn**	**01 41 44.9**	**0.0**
DRN				*e*Sg	**Sn**	**01 42 08.3**	**+1.3**
DBC	**Dubki**	**1.81**	**16**	*e*PN	**Pn**	**01 41 45.2**	**+0.1**
DBC	**Dubki**	**1.81**	**16**	*e*Pg	**Pn**	**01 41 44.1**	**-1.0**
	comp=E,8.0nm,0.1s						
DBC				*e*Sg	**Sn**	**01 42 07.8**	**+0.5**
	comp=E,275nm,0.4s						
DLMR	**Dylym**	**1.82**	**11**	*e*PN	**Pn**	**01 41 45.4**	**+0.2**
DLMR	**Dylym**	**1.82**	**11**	*e*Pg	**Pn**	**01 41 45.4**	**+0.2**
	comp=E,54nm,0.3s						
DLMR				*e*Sg	**Sn**	**01 42 09.2**	**+1.6**
MTEO	**Meteo**	**1.84**	**320**	PN	**Pn**	**01 41 44.6**	**-1.2**
MTEO	**Meteo**	**1.84**	**320**	P	**Pn**	**01 41 44.7**	**-1.2**
HYR	**Heyderabad**	**1.84**	**213**	P	**Pn**	**01 41 46.5**	**+1.0**
HYR				S	**Sb**	**01 42 11.8**	**+0.7**
ARUZ	**Aruch**	**1.85**	**238**	*e*P	**Pn**	**01 41 45.6**	**0.0**
ARUZ				*e*S	**Sb**	**01 42 11.2**	**-0.1**
BGD	**Bogdanovka**	**1.91**	**270**	*e*PN	**Pn**	**01 41 46.3**	**-0.4**
BGD	**Bogdanovka**	**1.91**	**270**	P	**Pn**	**01 41 46.3**	**-0.4**
BGD				S	**Sn**	**01 42 11.2**	**+1.1**
BGD	**Bogdanovka**	**1.91**	**270**	*e*Pg	**Pn**	**01 41 46.3**	**-0.4**
BGD				*e*Sg	**Sn**	**01 42 11.2**	**+1.1**
PQL	**Pirkuli**	**1.92**	**104**	P	**Pn**	**01 41 46.5**	**-0.2**
PQL				S	**Sn**	**01 42 12.7**	**+2.6**
SBZ	**Shahbuz**	**1.93**	**194**	P	**Pn**	**01 41 47.7**	**+0.9**
SBZ				S	**Sb**	**01 42 13.8**	**0.0**
GROC	**Groznyy**	**1.94**	**353**	*e*PN	**Pn**	**01 41 48.5**	**+1.7**
GROC				*e*		01 42 16.9	
GROC				pmax	pmax		
	comp=Z,17nm,0.2s						
GROC				smax	smax		
	comp=N,47nm,0.3s						
GROC				smax	smax		
	comp=E,57nm,0.4s						
GROC				smax	smax		
	comp=E,46nm,0.4s						
GROC	**Groznyy**	**1.94**	**353**	*e*Pg	**Pn**	**01 41 47.8**	**+1.0**
GROC				*e*Sg	**Sb**	**01 42 12.8**	**-1.0**
MAK	**Makhachkala**	**1.96**	**31**	⇑*e*PN	**Pn**	**01 41 47.7**	**+0.6**
MAK				pmax	pmax		
	comp=Z,200nm,1.1s						
AKH	**Akhalkalaki**	**2.00**	**275**	*e*PN	**Pn**	**01 41 47.8**	**0.0**
AKH	**Akhalkalaki**	**2.00**	**275**	P	**Pn**	**01 41 47.8**	**0.0**
AKH				S	**Sn**	**01 42 13.1**	**+1.0**
AKH	**Akhalkalaki**	**2.00**	**275**	*e*Pg	**Pn**	**01 41 47.8**	**0.0**
AKH				*e*Sg	**Sn**	**01 42 13.1**	**+1.0**
KMGR	**Komgaron**	**2.01**	**332**	*e*PN	**Pn**	**01 41 47.5**	**-0.3**
KMGR	**Komgaron**	**2.01**	**332**	*e*Pg	**Pn**	**01 41 47.5**	**-0.3**
KMGR				*e*Sg	**Sb**	**01 42 17.1**	**+1.2**
QRD	**Qoradiz**	**2.03**	**153**	P	**Pn**	**01 41 47.7**	**-0.3**
QRD				S	**Sb**	**01 42 16.2**	**-0.2**
ALIG	**Mtskhetisjvari**	**2.04**	**295**	PN	**Pn**	**01 41 46.8**	**-1.4**
ALIG	**Mtskhetisjvari**	**2.04**	**295**	P	**Pn**	**01 41 46.8**	**-1.4**
LACR	**Lac**	**2.07**	**319**	*e*PN	**Pn**	**01 41 48.5**	**-0.1**
LACR				*e*S	**Sb**	**01 42 16.8**	**-0.8**
LACR	**Lac**	**2.07**	**319**	*e*Pg	**Pn**	**01 41 48.3**	**-0.3**
LACR				*e*Sg	**Sb**	**01 42 16.8**	**-0.8**
VLKR	**Vladikavkaz**	**2.07**	**329**	*e*PN	**Pn**	**01 41 50.1**	**+1.4**
VLKR				*e*S	**Sb**	**01 42 17.0**	**-0.7**
VLKR	**Vladikavkaz**	**2.07**	**329**	*e*Pg	**Pn**	**01 41 50.1**	**+1.4**
VLKR				*e*Sg	**Sb**	**01 42 17.0**	**-0.7**
VNNZ	**Vanand**	**2.12**	**237**	*e*P	**Pn**	**01 41 51.1**	**+1.8**
VNNZ				*e*S	**Sb**	**01 42 20.1**	**+1.0**
ATGJ	**Altiaghaj**	**2.16**	**100**	P	**Pn**	**01 41 50.3**	**+0.4**
ATGJ				S	**Sn**	**01 42 17.6**	**+1.7**
NAX	**Nakhchivan**	**2.16**	**193**	PN	**Pn**	**01 41 51.5**	**+1.6**
NAX	**Nakhchivan**	**2.16**	**193**	P	**Pn**	**01 41 51.6**	**+1.6**
NAX				S	**Sb**	**01 42 20.7**	**+0.4**
GBS	**Qobustan**	**2.25**	**108**	P	**Pn**	**01 41 52.2**	**+1.0**
GBS				S	**Sb**	**01 42 22.1**	**-0.8**
ARNR	**Ardon**	**2.34**	**325**	*e*PN	**Pn**	**01 41 53.9**	**+1.5**
ARNR				*e*S	**Sb**	**01 42 24.6**	**-0.9**
ARNR	**Ardon**	**2.34**	**325**	*e*Pn	**Pn**	**01 41 53.3**	**+0.9**
ARNR				*e*Sn	**Sn**	**01 42 22.6**	**+2.2**
ORD	**Ordubad**	**2.35**	**183**	P	**Pn**	**01 41 53.9**	**+1.4**
ORD				S	**Sb**	**01 42 25.1**	**-0.7**
KORR	**Kora**	**2.37**	**320**	*e*PN	Pn	01 41 55.8	+3.0
KORR				*e*S	**Sb**	**01 42 24.7**	**-1.6**
KORR	**Kora**	**2.37**	**320**	*e*Pn	**Pn**	**01 41 53.5**	**+0.7**
KORR				*e*Sn	**Sn**	**01 42 23.9**	**+2.8**
ONI	**Oni**	**2.39**	**304**	PN	**Pn**	**01 41 52.4**	**-0.7**
ONI	**Oni**	**2.39**	**304**	P	**Pn**	**01 41 52.5**	**-0.7**
BTKR	**Batakoyurt**	**2.40**	**331**	*e*PN	**Pn**	**01 41 55.3**	**+2.1**
BTKR				*e*S	**Sb**	**01 42 26.1**	**-1.1**
BTKR	**Batakoyurt**	**2.40**	**331**	*e*Pn	**Pn**	**01 41 55.3**	**+2.1**
BTKR				*e*Sn	**Sb**	**01 42 26.1**	**-1.1**
DIGR	**Digorskoe uzhe**	**2.50**	**311**	*e*PN	**Pn**	**01 41 53.9**	**-0.8**
DIGR				*e*S	**Sn**	**01 42 26.4**	**+2.0**
DIGR	**Digorskoe uzhe**	**2.50**	**311**	*e*Pn	**Pn**	**01 41 53.9**	**-0.8**
DIGR				*e*Sn	**Sn**	**01 42 26.4**	**+2.0**
ABS	**Abastumani**	**2.54**	**282**	PN	**Pn**	**01 41 56.0**	**+0.8**
ABS	**Abastumani**	**2.54**	**282**	P	**Pn**	**01 41 56.1**	**+0.8**
TKB	**Tkibuli**	**2.58**	**296**	*e*PN	**Pn**	**01 41 56.8**	**+1.1**
TKB				*e*S	**Sn**	**01 42 29.3**	**+3.1**
TKB	**Tkibuli**	**2.58**	**296**	P	**Pn**	**01 41 56.8**	**+1.1**
TKB				S	**Sn**	**01 42 29.3**	**+3.1**
TKB	**Tkibuli**	**2.58**	**296**	*e*Pn	**Pn**	**01 41 56.8**	**+1.1**
TKB				*e*Sn	**Sn**	**01 42 29.3**	**+3.1**
LSNR	**Lesken**	**2.63**	**320**	*e*PN	**Pn**	**01 41 57.0**	**+0.6**
LSNR				*e*S	**Sn**	**01 42 31.3**	**+3.8**
LSNR	**Lesken**	**2.63**	**320**	*e*Pn	**Pn**	**01 41 56.7**	**+0.3**
LSNR				*e*Sn	**Sn**	**01 42 29.0**	**+1.5**
GLBA	**Clilabad**	**2.67**	**139**	S	**Sn**	**01 42 32.0**	**+3.7**
YRD	**Yardimli**	**2.86**	**145**	P	**Pn**	**01 41 58.5**	**-1.2**
YRD				S	**Sn**	**01 42 33.7**	**+0.4**
LRK	**Lerik**	**3.13**	**147**	P	**Pn**	**01 42 02.5**	**-0.9**
LRK				S	**Sn**	**01 42 40.0**	**0.0**
NEUR	**Neytrino**	**3.23**	**309**	*e*PN	Pn	01 42 08.6	+3.9
NEUR				*e*S	**Sn**	**01 42 45.5**	**+3.1**
KBTC	**Kuba-Taba**	**3.24**	**322**	*e*PN	Pn	01 42 07.9	+3.2
KBTC				*e*S	**Sb**	**01 42 53.6**	**+2.3**
ASTR	**Astara**	**3.40**	**142**	P	**Pn**	**01 42 05.7**	**-1.1**
ASTR				S	**Sn**	**01 42 47.1**	**+0.8**

YAK smax smax
comp=E,25nm,0.5s
YAK smax smax
comp=N,16nm,0.4s
YAK Yakutsk 7.75 346 Lg Lg 01 51 02.9
comp=N,11nm,0.3s,baz=76,slow=23,SNR=16
YAK LR LR 01 52 03.3
comp=N,153nm,18.7s,baz=158,slow=38
YAK Yakutsk 7.75 346 *e*Pn Pn 01 48 57.3 -3.3
TUP Tupik 7.92 274 *e*Pn **Pn** **01 49 01.2 -1.8**
TUP *e*Pg **Pb** **01 49 29.4 +4.2**
TUP AMB AMB 01 49 33.3
comp=N,42nm,0.8s
TUP *e*Sg Sb 01 51 13.1 +14
BNX BinXian 9.68 207 ⇑P **Pn** **01 49 26.2 -0.9**
BNX LR LR
comp=N,240nm,0.9s
BNX LR LR
comp=E,300nm,1.0s
HIA Hailar 10.05 244⇑ *e*P **Pn** **01 49 30.0 -2.1**
HIA pmax pmax
comp=Z,3.0nm,0.3s
USA0B Ussuriysk Arra 10.43 186 Pn **Pn** **01 49 39.9 +2.5**
USA0B Ussuriysk Arra 10.43 186⇑ *e*P **Pn** **01 49 35.0 -2.4**
USRK Ussuriysk Ar. 10.43 186 Pn **Pn** **01 49 37.5 +0.2**
comp=Z,0.1nm,0.3s,baz=351,slow=18,SNR=2.7
USRK Lg Lg 01 52 31.5
comp=Z,0.5nm,0.3s,baz=19,slow=29,SNR=2.2
USRK LR LR 01 53 53.6
comp=Z,154nm,20.9s,baz=358,slow=39
comp=Z,0.7nm,0.6s
MA2 Magadan 10.61 55 Pn **Pn** **01 49 40.7 +0.9**
MA2 Magadan 10.61 55⇑ *e*P Pn 01 49 36.9 -2.8
MA2 pmax pmax
comp=Z,1.0nm,0.2s
MA2 Magadan 10.61 55 Pn **Pn** **01 49 41.7 +1.9**
comp=Z,8.0nm,0.4s,baz=257,slow=13,SNR=12
MA2 Lg Lg 01 52 32.0
comp=Z,0.5nm,0.3s,baz=226,slow=5.5,SNR=3.7
MA2 LR LR 01 54 00.9
comp=Z,90nm,18.4s,baz=352,slow=38
VLA Vladivostok 11.52 186⇑ *e*P Pn 01 49 49.0 -3.2
VLA pmax pmax
comp=Z,16nm,0.7s
ASAJ Asahikawa 12.00 147 LR LR 01 54 56.2
comp=Z,68nm,21.2s,baz=118,slow=39
MSHR Mys Shultsa 12.11 188⇑ *e*P **Pn** **01 49 58.2 -2.0**
MSHR pmax pmax
comp=Z,21nm,0.9s
SEY Seymchan 12.82 42⇑ *e*P Pn 01 50 08.3 -1.6
SEY pmax pmax
comp=Z,2.0nm,1.1s
ERM Erimo 14.08 149⇓ *e*P Pn 01 50 23.0 -4.1
ERM pmax pmax
comp=Z,13nm,0.7s
PETK Petropavlovsk- 14.31 86 Pn **Pn** **01 50 32.8 +2.5**
PETK Petropavlovsk- 14.31 86 P **Pn** **01 50 32.8 +2.5**
PETK Petropavlovsk- 14.31 86 Pn **Pn** **01 50 33.1 +2.8**
comp=Z,0.8nm,0.3s,baz=336,slow=10,SNR=5.1
TIXI Tiksi 17.26 355 Pn **Pn** **01 51 07.9 -0.7**
TIXI Tiksi 17.26 355⇑ *e*P **Pn** **01 51 05.8 -2.8**
TIXI pmax pmax
comp=Z,3.0nm,1.1s
TIXI Tiksi 17.26 355 P **Pn** **01 51 08.9 +0.3**
comp=Z,0.3nm,0.3s,baz=165,slow=13,SNR=13
TIXI Lg Lg 01 55 59.0
comp=Z,0.3nm,0.3s,baz=224,slow=12,SNR=3.1
TIXI LR LR 01 59 07.3
comp=Z,17nm,18.1s,baz=200,slow=42
comp=Z,3.2nm,0.3s
TIXI Tiksi 17.26 355 P **Pn** **01 51 05.8 -2.8**
JMM Marumori 17.43 161 **Pn** **01 51 12.2 +1.3**
KSRS Korea Array 17.55 195 LR LR 01 56 53.9
comp=Z,36nm,19.1s,baz=15,slow=34
ULN Ulaanbaatar 17.84 259⇑ *e*P **Pn** **01 51 13.5 -2.6**
ULN pmax pmax
comp=Z,6.0nm,2.6s
ULN Ulaanbaatar 17.84 259 P **Pn** **01 51 13.5 -2.6**
SONM Songino Array 18.23 259 **Pn** **01 51 21.4 +0.5**
SONM Songino Array 18.23 259 P **Pn** **01 51 21.4 +0.5**
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 18.23 259 P **Pn** **01 51 20.5 -0.4**
comp=Z,0.1nm,0.3s,baz=68,slow=9.6,SNR=4.7
SONM Lg Lg 01 56 34.0
comp=Z,0.1nm,0.3s,baz=61,slow=24,SNR=8.1
SONM LR LR 01 58 42.5
comp=Z,54nm,19.9s,baz=350,slow=38
comp=Z,0.4nm,0.4s
MJAR Matsushiro Arr 18.32 168 P **Pn** **01 51 21.2 -0.7**
comp=Z,0.1nm,0.3s,baz=342,slow=11,SNR=2.7
comp=Z,1.9nm,0.6s
ZAK Zakamensk 18.83 270 *e*P **Pn** **01 51 31.1 +2.9**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
MOY Mondy 19.66 275 *e*P **Pn** **01 51 41.2 +3.0**
BILL Bilibino 20.35 36⇑ *e*P **P** **01 51 43.4 -0.6**
BILL pmax pmax
comp=Z,3.0nm,1.2s
NRIK Noril'sk 25.36 323⇑ *e*P **P** **01 52 33.1 -1.5**
NRIK pmax pmax
comp=Z,3.0nm,1.4s
ZALV Zalesovo Beam 28.02 289 PcP **PcP** **01 56 11.2 -1.9**
comp=Z,0.9nm,0.5s,baz=94,slow=1.9,SNR=3.9
C16K Lisburne Hills 30.76 40 P **P** **01 53 22.1 -0.7**
C16K IAmb IAmb 01 53 27.2
comp=Z,4.6nm,1.1s
C18K Utukok River 32.24 39 P **P** **01 53 34.9 -1.0**
C18K IAmb IAmb 01 54 15.1
comp=Z,3.8nm,1.2s
F17K Baldwin Pennin 32.58 43 P **P** **01 53 38.6 -0.2**
MK31 Makanchi Array 32.75 278⇓ *e*P **P** **01 53 38.6 -2.0**
MKAR Makanchi Array 32.75 278 *i*P **P** **01 53 42.5 +1.9**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 32.75 278 P **P** **01 53 39.9 -0.7**
comp=Z,0.5nm,0.6s,baz=57,slow=4.5,SNR=4.6
comp=Z,0.5nm,0.6s
MKAR Makanchi Array 32.75 278 P **P** **01 53 42.5 +1.9**
C19K Lookout Ridge 32.76 38 P **P** **01 53 39.8 -0.6**
KURK Kurchatov 32.84 286⇑ *e*P P 01 53 38.1 -3.2
KURK pmax pmax
comp=Z,3.0nm,0.9s
KURBB Kurchatov Arra 32.93 286 P **P** **01 53 41.5 -0.6**
comp=Z,2.4nm,0.7s,baz=66,slow=8.8,SNR=18
D19K Kuna River 33.38 39 P **P** **01 53 45.3 -0.6**
B20K Meade River 33.46 36 P **P** **01 53 46.6 +0.1**
B20K IAmb IAmb 01 53 51.4
comp=Z,3.4nm,0.9s
F19K Shaleruckik Mo 33.85 41 P **P** **01 53 49.3 -0.7**
F19K IAmb IAmb 01 53 54.5
comp=Z,2.9nm,0.8s
E19K Redstone River 33.92 40 P **P** **01 53 49.6 -1.0**
E19K IAmb IAmb 01 53 59.7
comp=Z,3.3nm,1.1s
B21K Ikpikpuk River 34.40 36 P **P** **01 53 55.1 +0.4**
B22K Teshekpuk Lake 34.66 35 P **P** **01 53 57.2 +0.4**
F21K Alatna River 35.38 40 P **P** **01 54 03.2 0.0**
F21K IAmb IAmb 01 54 07.9
comp=Z,3.6nm,0.7s
IMAR Indian Mountai 35.64 42 P **P** **01 54 05.2 -0.3**
H21K Melozitna Rive 36.11 42 P **P** **01 54 09.5 0.0**
H21K IAmb IAmb 01 54 33.7
comp=Z,4.3nm,1.4s
BVAR Borovoye Array 36.23 294 P **P** **01 54 09.8 -0.8**
comp=Z,1.0nm,0.7s,baz=62,slow=10,SNR=4.9
comp=Z,1.0nm,0.7s
F24K Squaw Lake 37.35 38 P **P** **01 54 20.1 +0.1**
F24K IAmb IAmb 01 54 24.9
comp=Z,2.7nm,0.7s
E25K Arctic Village 37.97 37 P **P** **01 54 25.6 +0.4**
MDM Murphy Dome 38.16 42 P **P** **01 54 26.7 -0.1**
MDM IAmb IAmb 01 54 31.4
comp=Z,2.7nm,0.6s
WRH Wood River Hil 38.40 43 P **P** **01 54 29.4 +0.5**
BMAR Burnt Mountain 38.57 38 P **P** **01 54 31.2 +0.8**
ILAR Eielson Array 38.76 42 P **P** **01 54 32.2 +0.4**
comp=Z,1.3nm,0.7s,baz=288,slow=7.5,SNR=12
comp=Z,1.3nm,0.7s
SML Sawmill 39.43 47 P **P** **01 54 37.4 -0.2**
SML IAmb IAmb 01 55 04.2
comp=Z,13nm,1.4s
AAK Ala-Archa 39.69 278⇑ *e*P **P** **01 54 39.5 -0.6**
AAK pmax pmax
comp=Z,1.0nm,1.0s
AAK Ala-Archa 39.69 278 P **P** **01 54 39.5 -0.6**

F28M Old Crow 40.15 36 P **P** **01 54 44.0 +0.5**
F28M IAmb IAmb 01 54 48.7
comp=Z,3.5nm,0.8s
ARU Arti 40.56 304*c i*P **P** **01 54 45.1 -1.8**
ARU S **S** **02 00 57.0 +1.2**
ARU SS **SS** **02 03 54.4 -0.7**
ARU pmax pmax
comp=Z,9.0nm,2.6s
ARU Arti 40.56 304 LR LR 02 12 04.2
comp=Z,77nm,18.8s,baz=310,slow=37
ARU Arti 40.56 304 P **P** **01 54 45.1 -1.8**
I28M Miner Creek 41.11 39 P **P** **01 54 52.1 +0.6**
BCAR Beaver Creek A 41.54 43 P **P** **01 54 55.1 +0.1**
MCARA McCarthy VSAT 41.87 46 P **P** **01 54 58.0 +0.4**
INK Inuvik 41.95 34 P **P** **01 54 58.8 +0.6**
INK Inuvik 41.95 34 P **P** **01 54 58.8 +0.6**
INK pmax pmax
comp=Z,3.0nm,1.1s
G31M Satah River 42.40 36 P **P** **01 55 02.1 +0.3**
G31M IAmb IAmb 01 55 32.0
comp=Z,8.8nm,1.4s
J30M Hart River 42.87 39 P **P** **01 55 05.1 -0.8**
M29M Somme Creek 43.17 43 P **P** **01 55 08.7 +0.3**
ABKAR Akbulak array 43.80 295 P **P** **01 55 12.7 -0.7**
GAR Garm 44.45 277 P **P** **01 55 18.2 -0.7**
GAR IAmb IAmb 01 55 28.5
comp=Z,5.8nm,1.0s
CMAR Chiang Mai Arr 44.71 230 LR LR 02 16 03.6
comp=Z,36nm,19.1s,baz=165,slow=39
MMPY Sheldon Lake, 45.85 40 P **P** **01 55 30.4 +0.8**
MMPY IAmb IAmb 01 55 35.5
comp=Z,5.0nm,1.4s
RES Resolute Bay 47.07 16 P **P** **01 55 37.8 -1.2**
RES IAmb IAmb 01 55 43.4
comp=Z,3.7nm,0.9s
RES Resolute Bay 47.07 16 P **P** **01 55 37.8 -1.2**
RES pmax pmax
comp=Z,4.0nm,0.9s
R33M Jennings River 47.92 43 P **P** **01 55 47.0 +0.9**
R33M IAmb IAmb 01 55 51.9
comp=Z,3.3nm,1.1s
NEEM North Greenlan 48.22 1 *i*P **P** **01 55 50.2 +2.0**
NEEM IAmb IAmb 01 55 52.4
comp=Z,2.6nm,0.8s
FIA1 FINESS Array S 51.03 324 P **P** **01 56 08.2 -1.2**
FINES FINESS Array B 51.03 324 P **P** **01 56 08.2 -1.2**
FINES FINESS Array B 51.03 324 P **P** **01 56 08.8 -0.7**
comp=Z,1.7nm,0.7s,baz=79,slow=7.2,SNR=3.0
comp=Z,1.7nm,0.7s
OBN Obninsk 51.34 313 *e*P P 01 56 08.8 -3.1
OBN *e* 01 57 24.6
OBN *e* 01 58 02.5
OBN *e*PPP PPP 01 59 06.0
OBN pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 51.72 33 P **P** **01 56 14.7 +0.1**
comp=Z,0.3nm,0.8s,baz=310,slow=6.7,SNR=5.7
comp=Z,0.3nm,0.8s
SUMG Summit 53.02 357 P **P** **01 56 25.9 +1.2**
SUMG Summit 53.02 357 P **P** **01 56 25.9 +1.2**
SUMG pmax pmax
comp=Z,11nm,1.5s
SUMG Summit 53.02 357 *i*P **P** **01 56 27.0 +2.3**
SUMG IAmb IAmb 01 56 28.7
comp=Z,4.9nm,0.7s
HFS Hagfors 56.03 328 P **P** **01 56 45.3 -0.9**
comp=Z,0.8nm,0.6s,baz=71,slow=11,SNR=2.3
comp=Z,0.8nm,0.6s
NB2 NORSAR Subarra 56.04 330 P **P** **01 56 45.2 -1.1**
comp=Z,7.8nm,1.7s,baz=37,slow=7.4
NOA NORSAR Array B 56.04 330 P **P** **01 56 45.2 -1.1**
comp=Z,0.2nm,0.3s,baz=36,slow=6.8,SNR=2.6
comp=Z,0.2nm,0.3s
ICESG Greenland Ices 56.55 357 *i*P **P** **01 56 51.6 +1.5**
ICESG IAmb IAmb 01 56 54.3
comp=Z,4.9nm,0.8s
SFJD Kangerlussuaq 58.71 2 *i*P **P** **01 57 06.1 +1.1**
SFJD IAmb IAmb 01 57 08.5
comp=Z,7.0nm,0.8s
DY2G Dye2 59.28 360 *i*P **P** **01 57 11.3 +2.1**
DY2G IAML 01 57 13.3
comp=Z,6.0nm,0.7s
DY2G IAmb IAmb 01 57 13.3
comp=Z,6.0nm,0.7s
FCC Fort Churchill 60.70 26 P **P** **01 57 17.2 -1.6**
FCC IAmb IAmb 01 57 36.2
comp=Z,3.2nm,1.5s
FCC Fort Churchill 60.70 26 P **P** **01 57 17.2 -1.6**
FCC pmax pmax
comp=Z,3.0nm,1.5s
BUR08 Bucovina Ar. S 61.65 313 P **P** **01 57 27.1 +1.6**
BURAR Bucovina Array 61.66 313 P **P** **01 57 24.0 -1.6**
FFC Flin Flon 61.89 33*ce*P P 01 57 23.5 -3.5
F10A Beach Ranch, E 63.32 47 P **P** **01 57 36.8 +0.1**
F10A IAmb IAmb 01 57 46.5
comp=Z,2.8nm,1.1s
BPMT Black Pine Rid 64.54 45 P **P** **01 57 43.9 -1.1**
PLID Pearl Lake 64.55 47 P **P** **01 57 44.2 -0.8**
PLID IAmb IAmb 01 57 49.6
comp=Z,1.6nm,0.6s
RLMT Red Lodge 67.30 43 P **P** **01 58 01.8 -0.9**
RLMT IAmb IAmb 01 58 19.7
comp=Z,3.9nm,1.4s
FXWY Fox Creek 67.81 45 P **P** **01 58 07.0 +1.0**
FXWY IAmb IAmb 01 58 11.6
comp=Z,1.3nm,0.7s
NVAR Mina Array Bea 68.85 53 P **P** **01 58 13.2 +0.7**
comp=Z,0.2nm,0.5s,baz=342,slow=4.8,SNR=2.4
comp=Z,0.2nm,0.5s
PDAR Pinedale Array 69.14 45 P **P** **01 58 13.5 -0.8**
PDAR Pinedale Array 69.14 45 P **P** **01 58 14.1 -0.2**
comp=Z,0.3nm,0.6s,baz=354,slow=2.4,SNR=4.1
comp=Z,0.3nm,0.6s
SCHQ Schefferville 69.67 12 P **P** **01 58 15.8 -1.3**
SCHQ Schefferville 69.67 12 P **P** **01 58 16.2 -0.9**
comp=Z,1.4nm,0.4s,baz=301,slow=5.9,SNR=7.1
comp=Z,1.4nm,0.4s
ECSD EROS Data Cent 73.16 36 P **P** **01 58 37.3 -1.0**
ECSD IAmb IAmb 01 59 04.6
comp=Z,1.7nm,0.9s
SMCO Snowmass 73.21 45 P **P** **01 58 38.7 -0.5**
SMCO IAmb IAmb 01 58 43.9
comp=Z,1.4nm,0.7s
ESDC Sonseca Array 79.31 328 P **P** **01 59 13.3 -0.1**
comp=Z,1.0nm,1.0s,baz=13,slow=5.9,SNR=3.3
comp=Z,1.0nm,1.0s
QSPA South Pole Qui 144.32 180 PKP **PKPab** **02 06 39.4 -1.3**
comp=Z,1.3nm,0.6s,baz=248,slow=1.7,SNR=12

*NEIC **07** 01:50:18.6±1.8, 19°.2S±0°.1×175°.60W±0°.10, h201km±6km, mb4.7/44, Error ellipse: s-maj=16.1km s-min=12.6km az=154.0*
*PPT **07** 01:50:21.4±0.6, 19°.02S×175°.35W, h250km±7km, mb4.9/9, MLv5.1/2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NOU **07** 01:50:21.0, 19°.24S×175°.36W, h235km, mb4.9/24, Tonga Islands*
*IDC **07** 01:50:21.8±2.5, 19°.36S×175°.81W, h223km±23km, mb3.9/15, mbtmp4.5/16, MS3.0/1, Error ellipse: s-maj=13.4km s-min=9.7km az=119.0*
ISC 07 01:50:21.0±0.4,**19°.36S**±0°.07×**175°.58W**±0°.07,**h223km, n135,σ1§25/**137,**mb4.6**/44,**6C-1D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**3.26**	**290**	P	**Pn**	**01 51 17.0**	**+2.1**
TAVE	**Taveuni**	**4.89**	**302**	P	**Pn**	**01 51 36.3**	**+1.7**
NIUE	**Niue**	**5.35**	**88**	Pn	**Pn**	**01 51 37.5**	**-2.9**
NIUE	**Niue**	**5.35**	**88**	P	**Pn**	**01 51 38.3**	**-2.1**
DGTI	**Dogotuki**	**5.40**	**304**	P	**Pn**	**01 51 42.2**	**+1.2**
MSVF	**Nonsavu**	**6.25**	**284**	Pn	**Pn**	**01 51 54.5**	**+2.5**
MSVF	**Nonsavu**	**6.25**	**284**	P	**Pn**	**01 51 55.2**	**+3.2**
AFI	**Afiamalu**	**6.54**	**35**	Pn	Pn	01 51 48.6	-6.0
RAO	**Raoul Island**	**10.07**	**192**	LR	LR	01 56 09.5	
	comp=Z,86nm,19.6s,baz=8.5,slow=35						
MARNC	**Mare, Loyalty**	**15.50**	**259**		**Pn**	**01 53 48.3**	**-0.1**
MARNC	**Mare, Loyalty**	**15.50**	**259**	P	**Pn**	**01 53 50.7**	**+2.3**
PINNC	**Pines Island,**	**16.17**	**256**	Pn	**Pn**	**01 53 57.2**	**+0.9**
LIFNC	**LIFOU**	**16.20**	**262**		**P**	**01 53 54.1**	**-1.6**
OUENC	**Ouen Island, N**	**16.70**	**256**	P	**Pn**	**01 54 01.0**	**-1.7**
OUENC				IAmb	IAmb	01 54 06.7	
	comp=Z,48nm,1.0s						
DZM	**Mont Dzumac**	**17.03**	**258**	P	**P**	**01 54 03.9**	**-1.1**
DZM				IAmb	IAmb	01 54 08.6	
	comp=Z,52nm,1.1s						
DZM	**Mont Dzumac**	**17.03**	**258**	P	**Pn**	**01 54 07.0**	**+0.4**
DZM	**Mont Dzumac**	**17.03**	**258**	*e*P	**Pn**	**01 54 06.6**	**0.0**
	comp=Z,106nm,1.1s						
DZM	**Mont Dzumac**	**17.03**	**258**	P	**Pn**	**01 54 07.7**	**+1.1**
	comp=Z,29nm,0.9s,baz=68,slow=18,SNR=14						
MXZ	**Matakaoa Point**	**18.90**	**195**	P	**P**	**01 54 26.1**	**+1.2**
MXZ				IAmb	IAmb	01 54 27.0	
	comp=Z,54nm,1.2s						
URZ	**Urewera**	**19.87**	**197**	P	**P**	**01 54 35.3**	**0.0**
	comp=Z,17nm,0.5s,baz=106,slow=1.1,SNR=17						
URZ				S	**S**	**01 58 05.1**	**-1.6**
	comp=Z,9.2nm,0.7s,baz=358,slow=24,SNR=6.0						
RTZ	**Ruatahuna**	**20.24**	**197**	P	**P**	**01 54 38.1**	**-1.3**
RTZ				IAmb	IAmb	01 54 41.0	
	comp=Z,14nm,0.7s						
HIZ	**Hauiti**	**20.81**	**202**	P	**P**	**01 54 46.2**	**+0.9**
MRZ	**Mangatainoka R**	**22.54**	**198**	P	**P**	**01 55 01.0**	**-1.1**
MRZ				IAmb	IAmb	01 55 05.4	
	comp=Z,22nm,1.1s						
PPT2	**Papeete2**	**24.72**	**90**	*es*S	sS	02 00 44.8	-0.3
	comp=Z,84nm,25.0s						
DSZ	**Denniston Nort**	**24.76**	**203**	P	**P**	**01 55 23.3**	**+1.0**
DSZ				IAmb	IAmb	01 55 25.4	
	comp=Z,34nm,1.0s						
LTZ	**Lake Taylor**	**25.50**	**201**	P	**P**	**01 55 30.3**	**+1.3**
LTZ				IAmb	IAmb	01 55 53.6	
	comp=Z,24nm,1.1s						
INZ	**Inchbonnie**	**25.74**	**202**	P	**P**	**01 55 31.5**	**+0.5**
DCZ	**Deep Cove**	**29.70**	**205**	P	**P**	**01 56 07.6**	**+1.5**
DCZ				IAmb	IAmb	01 56 07.7	
	comp=Z,12nm,1.0s						
EIDS	**Eidsvold**	**31.35**	**253**	P	**P**	**01 56 20.5**	**-0.4**
EIDS				IAmb	IAmb	01 56 22.6	
	comp=Z,8.1nm,0.8s						
ARMA	**Armidale**	**31.61**	**243**	P	**P**	**01 56 23.2**	**-0.1**
ARMA				IAmb	IAmb	01 56 35.2	
	comp=Z,9.4nm,1.0s						
RK1H	**Rockhampton Ha**	**31.80**	**257**	P	**P**	**01 56 24.9**	**+0.1**
CTA	**Charters Tower**	**35.88**	**262**	P	**P**	**01 57 00.1**	**+0.1**
	comp=Z,70nm,0.7s,baz=92,slow=9.8,SNR=61						
CTAO	**Charters Tower**	**35.88**	**262**	P	**P**	**01 56 59.5**	**-0.5**
CTAO	**Charters Tower**	**35.88**	**262**	P	**P**	**01 57 00.3**	**+0.2**
CMSA	**Cobar Meteorol**	**36.82**	**243**	P	**P**	**01 57 08.4**	**+0.5**
PMG	**Port Moresby**	**37.34**	**280**	P	**P**	**01 57 13.4**	**+1.0**
PMG	**Port Moresby**	**37.34**	**280**	P	**P**	**01 57 09.5**	**-2.9**
	comp=Z,34nm,0.9s,baz=58,slow=9.4,SNR=5.8						
	comp=Z,34nm,0.9s						
QLP	**Quilpie**	**37.57**	**251**	P	**P**	**01 57 14.9**	**+0.7**
MTSU	**Mount Surprise**	**37.93**	**265**	P	**P**	**01 57 19.0**	**+1.6**
TOO	**Toolangi**	**38.40**	**233**	P	**P**	**01 57 21.5**	**+0.5**
COEN	**Coen**	**39.80**	**271**	P	**P**	**01 57 30.8**	**-2.1**
COEN				IAmb	IAmb	01 57 33.5	
	comp=Z,15nm,0.7s						
STKA	**Stephens Creek**	**40.33**	**243**	P	**P**	**01 57 35.4**	**-1.6**
STKA	**Stephens Creek**	**40.33**	**243**	P	**P**	**01 57 37.9**	**+0.9**
STKA	**Stephens Creek**	**40.33**	**243**	P	**P**	**01 57 35.6**	**-1.3**
	comp=Z,5.9nm,0.7s,baz=93,slow=10,SNR=12						
	comp=Z,5.9nm,0.7s						
BBOO	**Buckleboo**	**45.09**	**243**	P	**P**	**01 58 14.2**	**-1.0**
OOD	**Oodnadatta**	**45.20**	**250**	P	**P**	**01 58 17.2**	**+1.1**
MULG	**Mulgathing**	**46.65**	**246**	P	**P**	**01 58 27.6**	**+0.2**
WR0	**Warramunga Arr**	**46.83**	**260**	P	**P**	**01 58 27.3**	**-1.7**
WR0				IAmb	IAmb	01 58 28.7	
	comp=Z,9.7nm,0.7s						
AS01	**Alice Springs**	**46.95**	**255**	P	**P**	**01 58 29.7**	**-0.2**
WB0	**Warramunga Arr**	**46.99**	**261**	P	**P**	**01 58 28.5**	**-1.7**
AS31	**Alice Springs**	**47.00**	**255**	P	**P**	**01 58 29.1**	**-1.1**
AS31				IAmb	IAmb	01 58 31.6	
	comp=Z,35nm,0.6s						
ASAR	**Alice Springs**	**47.00**	**255**	P	**P**	**01 58 29.3**	**-1.0**
ASAR	**Alice Springs**	**47.00**	**255**	P	**P**	**01 58 30.1**	**-0.2**
	comp=Z,100nm,0.6s,baz=90,slow=8.5,SNR=371						
ASAR				S	**S**	**02 05 02.9**	**-1.9**
	comp=Z,1.1nm,0.6s,baz=94,slow=14,SNR=5.5						
WB2	**Warramunga Arr**	**47.01**	**260**	P	**P**	**01 58 28.6**	**-1.7**
WB2				IAmb	IAmb	01 58 30.6	
	comp=Z,29nm,0.5s						
WRAB	**Tennant Creek**	**47.01**	**260**	P	**P**	**01 58 29.0**	**-1.3**
WRAB				IAmb	IAmb	01 58 30.5	
	comp=Z,24nm,0.5s						
WRA	**Warramunga Arr**	**47.02**	**260**	P	**P**	**01 58 28.9**	**-1.6**
WRA	**Warramunga Arr**	**47.02**	**260**	P	**P**	**01 58 29.2**	**-1.2**
	comp=Z,20nm,0.5s,baz=98,slow=6.4,SNR=162						
	comp=Z,20nm,0.5s						
MTN	**Manton Dam**	**51.44**	**269**	P	**P**	**01 59 01.9**	**-2.0**
MTN				IAmb	IAmb	01 59 03.8	
	comp=Z,32nm,0.8s						
MTN	**Manton Dam**	**51.44**	**269**	P	**P**	**01 59 03.3**	**-0.6**
FORT	**Forrest**	**51.83**	**246**	P	**P**	**01 59 05.6**	**-0.9**
FORT	**Forrest**	**51.83**	**246**	P	**P**	**01 59 07.4**	**+0.8**
WRKA	**Warakurna**	**51.97**	**253**	P	**P**	**01 59 07.2**	**-0.5**
KNRA	**Kununurra**	**53.01**	**265**	P	**P**	**01 59 14.6**	**-0.8**
KNRA				IAmb	IAmb	01 59 16.3	
	comp=Z,23nm,0.8s						
KNRA	**Kununurra**	**53.01**	**265**	P	**P**	**01 59 15.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**55.44**	**261**	P	**P**	**01 59 31.7**	**-1.2**
FITZ	**Fitzroy Crossi**	**55.44**	**261**	P	**P**	**01 59 34.0**	**+1.1**
VNDA	**Vanda**	**59.25**	**186**	P	**P**	**02 00 00.7**	**+2.2**
PSA00	**Pilbara Seismi**	**60.14**	**256**	P	**P**	**02 00 04.3**	**-1.3**
PSA00				IAmb	IAmb	02 00 07.5	
	comp=Z,11nm,0.7s						
MBWA	**Marble Bar**	**60.32**	**256**	P	**P**	**02 00 05.0**	**-1.8**
MBWA				IAmb	IAmb	02 00 06.5	
	comp=Z,10.0nm,0.8s						
MORW	**Morawa**	**62.36**	**247**	P	**P**	**02 00 18.6**	**-1.8**
MORW				IAmb	IAmb	02 00 19.7	
	comp=Z,7.9nm,0.9s						
JGF	**Kuroka**	**70.54**	**321**	P	**P**	**02 01 09.5**	**-2.4**
JGF				IAmb	IAmb	02 01 12.4	
	comp=Z,8.0nm,0.7s						
MJAR	**Matsushiro Arr**	**70.68**	**322**	P	**P**	**02 01 12.0**	**-0.7**
	comp=Z,16nm,0.7s,baz=158,slow=5.7,SNR=30						
	comp=Z,16nm,0.7s						
MAJO	**Matsushiro**	**70.68**	**322**	P	**P**	**02 01 09.6**	**-3.1**
MJB9	**Matsu-Tunnel**	**70.69**	**322**	P	**P**	**02 01 11.1**	**-1.6**
QSPA	**South Pole Qui**	**70.70**	**180**	P	**P**	**02 01 12.7**	**+0.2**
QSPA				IAmb	IAmb	02 01 15.4	
	comp=Z,10nm,0.8s						
QSPA	**South Pole Qui**	**70.70**	**180**	P	**P**	**02 01 14.4**	**+1.9**
	comp=Z,9.0nm,0.7s,baz=21,slow=0.8,SNR=42						
	comp=Z,9.0nm,0.7s						
UGM	**Wanagama**	**72.27**	**268**	P	**P**	**02 01 21.6**	**-1.1**
TPUB	**Ta-pu**	**75.30**	**301**	P	**P**	**02 01 38.5**	**-1.6**
PETK	**Petropavlovsk-**	**75.79**	**344**	P	**P**	**02 01 41.8**	**-0.3**
PETK	**Petropavlovsk-**	**75.79**	**344**	P	**P**	**02 01 41.6**	**-0.5**
	comp=Z,7.3nm,0.7s,baz=120,slow=8.8,SNR=7.0						
	comp=Z,7.3nm,0.7s						
KSRS	**Korea Array**	**77.57**	**317**	P	**P**	**02 01 53.1**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=137,slow=5.6,SNR=3.3						
	comp=Z,1.5nm,0.7s						
NVAR	**Mina Array Bea**	**78.65**	**42**	P	**P**	**02 01 58.6**	**0.0**
NVAR	**Mina Array Bea**	**78.65**	**42**	P	**P**	**02 01 60.0**	**+1.3**
	comp=Z,1.7nm,0.7s,baz=224,slow=9.3,SNR=24						
	comp=Z,1.7nm,0.7s						
KVN	**Kaiserville**	**79.14**	**42**	P	**P**	**02 01 59.9**	**-1.3**
USRK	**Ussuriysk Ar.**	**79.33**	**325**	P	**P**	**02 02 02.7**	**+0.9**
	comp=Z,1.8nm,0.5s,baz=113,slow=3.3,SNR=7.7						
	comp=Z,1.8nm,0.5s						
BELA	**Belgrano 2**	**80.38**	**172**	P	**P**	**02 02 06.5**	**-0.6**
MDJ	**Mudanjiang**	**80.92**	**324**	P	**P**	**02 02 11.0**	**+0.6**
MDJ				pmax	pmax		
	comp=Z,12nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,66nm,3.5s						
NJ2	**Nanjing**	**80.93**	**308**	*e*P	**P**	**02 02 10.7**	**0.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BNX	**BinXian**	**82.83**	**324**	⇑P	**P**	**02 02 20.8**	**+0.5**
BNX				pmax	pmax		
	comp=Z,16nm,1.0s						
BNX				pmax	pmax		
	comp=Z,160nm,4.1s						
HLID	**Hailey**	**83.99**	**40**	P	**P**	**02 02 25.2**	**-1.3**
VHRN	**Van Horn**	**84.14**	**55**	P	**P**	**02 02 27.7**	**+0.2**
TXAR	**Lajitas Array**	**84.53**	**56**	P	**P**	**02 02 30.8**	**+1.4**
	comp=Z,1.4nm,0.8s,baz=198,slow=7.9,SNR=8.5						
	comp=Z,1.4nm,0.8s						
HEH	**HeiHe**	**85.56**	**327**	*e*P	**P**	**02 02 32.0**	**-1.9**
PDAR	**Pinedale Array**	**86.59**	**42**	P	**P**	**02 02 40.2**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=153,slow=2.6,SNR=3.7						
	comp=Z,0.3nm,0.8s						
ILAR	**

comp=Z,3.6nm,0.8s

XLT	**XiLinHaoTe**	**88.61**	**318**	*e*P		**P**	**02 02 49.7**	**+0.9**
XLT				pmax		pmax		

comp=Z,9.0nm,1.0s

XLT				pmax		pmax		

comp=Z,98nm,6.3s

TROLL	**Troll, Antarti**	**88.85**	**179**	⇑P		**P**	**02 02 50.3**	**+0.7**

comp=Z,124nm,0.5s

SNAA	**Sanae**	**89.06**	**178**	⇑P		**P**	**02 02 50.8**	**+0.3**

comp=Z,82nm,0.7s

SNAA	**Sanae**	**89.06**	**178**	P		**P**	**02 02 51.4**	**+0.8**

comp=Z,4.0nm,0.8s,baz=211,slow=12,SNR=5.9
comp=Z,4.0nm,0.8s

VNA3	**Neumayer Olymp**	**89.11**	**175**	⇑P		**P**	**02 02 51.4**	**+0.7**

comp=Z,13nm,0.8s

XAN	**Xi'an**	**89.27**	**306**	⇑P		**P**	**02 02 53.4**	**+1.3**
XAN				pmax		pmax		

comp=Z,18nm,0.8s

VNA2	**Neumayer--Watz**	**89.58**	**176**	⇑P		**P**	**02 02 53.8**	**+0.9**

comp=Z,10nm,0.7s,baz=185,slow=3.2

HHC	**Hu-ho-hao-te**	**90.20**	**314**	*e*P		**P**	**02 02 57.4**	**+1.1**
HHC				pmax		pmax		

comp=Z,6.0nm,0.9s

HHC				pmax		pmax		

comp=Z,86nm,5.8s

PZH	**PanZhiHua**	**92.20**	**297**	P		**P**	**02 03 07.3**	**+1.4**
PZH				pmax		pmax		

comp=Z,10.0nm,0.5s

PZH				pmax		pmax		

comp=Z,80nm,4.2s

YKA	**Yellowknife Ar**	**94.54**	**24**	P		**P**	**02 03 15.2**	**-0.4**

comp=Z,0.3nm,0.9s,baz=210,slow=3.6,SNR=4.7
comp=Z,0.3nm,0.9s

SONM	**Songino Array**	**96.40**	**318**	P		**P**	**02 03 25.6**	**+1.0**

comp=Z,0.5nm,0.7s,baz=97,slow=4.6,SNR=2.1
comp=Z,0.5nm,0.7s

MKAR	**Makanchi Array**	**112.07**	**314**	PKiKP		**PKiKP**	**02 08 29.0**	**-0.8**

comp=Z,0.1nm,0.3s,baz=145,slow=1.0,SNR=5.3

ABKAR	**Akbulak array**	**126.81**	**318**	PKPpre		PKPpre	02 08 50.2	
ARCES	**ARCESS Array B**	**128.19**	**351**	PKP		**PKPdf**	**02 09 00.1**	**+0.1**

comp=Z,0.4nm,0.5s,baz=7.4,slow=2.8,SNR=5.7

FINES	**FINESS Array B**	**135.29**	**345**	PKhKP		PKPpre	02 09 08.7	

comp=Z,1.4nm,1.0s,baz=306,slow=3.3,SNR=1.2

FINES				PKP		**PKiKP**	**02 09 15.3**	**+0.2**

comp=Z,0.4nm,0.5s,baz=2.9,slow=5.6,SNR=3.6

LODK	**Lodwar**	**145.88**	**246**	PKPbc		**PKPdf**	**02 09 33.4**	**-0.8**
KWP	**Kalwaria Pacla**	**146.44**	**338**	PKPbc		**PKPdf**	**02 09 33.9**	**0.0**
BNN	**Bunyan**	**146.61**	**312**	PKPbc		**PKPdf**	**02 09 34.6**	**-0.1**
BURAR	**Bucovina Array**	**147.12**	**334**	PKPbc		**PKPdf**	**02 09 35.0**	**-0.3**
KOLS	**Kolonicke sedl**	**147.18**	**338**	*e*PKP		**PKiKP**	**02 09 41.0**	**+1.1**
CLL	**Collm**	**147.41**	**350**	*i* PKPdf		**PKPbc**	**02 09 38.6**	**+0.3**

comp=Z,8.0nm,1.2s

CLL				*i* PKPbc		**PKPab**	**02 09 40.7**	**-0.1**

comp=Z,5.0nm,0.9s

CLL				*i* PKPab		**PKiKP**	**02 09 42.5**	**+2.2**

comp=Z,4.0nm,0.5s

CLL				*i* x		x	02 09 49.0	

comp=Z,4.0nm,0.6s

CLL				*e*pPKPdf		**pPKPdf**	**02 10 30.0**	**-2.2**
CRVS	**Cervenica-Dubn**	**147.49**	**339**	*e*PKP		**PKPab**	**02 09 41.8**	**+0.6**
BRTR	**Keskin Array B**	**147.70**	**315**	PKPbc		**PKPbc**	**02 09 39.8**	**+0.1**

comp=Z,1.8nm,0.7s,baz=125,slow=4.1,SNR=7.2

LANS	**Liptovska Anna**	**147.91**	**341**	*e*PKP		**PKiKP**	**02 09 41.9**	**+0.4**
MMAI	**Mount Meron Ar**	**149.18**	**302**	PKPbc		**PKiKP**	**02 09 44.9**	**+0.2**

comp=Z,3.5nm,0.5s,baz=72,slow=8.0,SNR=11

MODS	**Modra-Piesok**	**149.24**	**343**	*e*PKP		**PKPdf**	**02 09 39.0**	**+0.4**
GERES	**GERESS Array B**	**149.65**	**348**	PKPbc		**PKPbc**	**02 09 44.0**	**-0.2**

comp=Z,0.3nm,0.5s,baz=62,slow=6.8,SNR=2.8

CONA	**Conrad Observa**	**150.02**	**345**	*e*PKP		**PKiKP**	**02 09 45.6**	**-0.4**

comp=Z,3.2nm,1.2s

RONA	**Rosalia, Austr**	**150.12**	**344**	*e*PKiKP		**PKiKP**	**02 09 46.0**	**-0.1**

comp=Z,2.9nm,1.4s

ARSA	**Arzberg**	**150.74**	**344**	*e*PKP		**PKPbc**	**02 09 46.1**	**-0.6**

comp=Z,1.6nm,0.8s

KBA	**Koelnbreinsper**	**151.41**	**347**	*e*PKP		**PKPbc**	**02 09 48.2**	**-0.3**

comp=Z,1.2nm,0.5s

WTTA	**Wattenberg**	**151.55**	**350**	*e*PKP		**PKPbc**	**02 09 49.0**	**+0.1**

comp=Z,2.0nm,0.6s

MOTA	**Moosalm**	**151.56**	**350**	*e*PKiKP		**PKiKP**	**02 09 49.5**	**+0.3**

comp=Z,1.8nm,0.5s

OBKA	**Obir**	**151.67**	**345**	*e*PKiKP		**PKiKP**	**02 09 50.1**	**+0.7**

comp=Z,1.1nm,0.5s

ABTA	**Abfaltersbach**	**151.89**	**348**	*e*PKP		**PKPbc**	**02 09 49.3**	**-0.2**

comp=Z,0.7nm,0.4s

PRED	**Cave del Predi**	**151.96**	**346**	PKPab		**PKPab**	**02 09 59.1**	**-0.7**
FUORN	**Ofenpass-Fuorn**	**152.39**	**351**	PKPbc		**PKPdf**	**02 09 46.0**	**+2.2**
FUORN				PKPbc		**PKPab**	**02 10 01.1**	**-0.7**
BNI	**Bardonecchia**	**154.31**	**356**	PKPab		**PKPab**	**02 10 10.7**	**+0.9**
TORD	**Torodi Ar. Bea**	**173.29**	**157**	PKPab		**PKPab**	**02 11 34.7**	**+1.2**

comp=Z,0.5nm,0.7s,baz=285,slow=1.6,SNR=2.7

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*IDC **07** 01:55:55.1±1.1,5.˝53S×142.˚64E, h0km, mb4.1/3, mbtmp4.1/5, ML2.3/1, MS3.5/1, Error ellipse: s-maj=41.1km s-min=25.0km az=59.0*

ISC 07 01:55:60.0±0.9, 5.˚8S±0.˚1×142.˚5E±0.˚1, h35km, n9, σ1§70/8, mb3.9/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.91**	**128**	Pn	**Pn**	**01 57 25.6**	**+0.6**

5.4nm,0.3s,baz=356,slow=5.5,SNR=6.4

PMG				Sn	**Sn**	**01 58 31.4**	**-0.3**

6.8nm,0.3s,baz=174,slow=23,SNR=7.4
14nm,0.3s

WRA	**Warramunga Arr**	**16.16**	**208**	Pn	**Pn**	**01 59 42.1**	**-2.5**

0.8nm,0.3s,baz=32,slow=12,SNR=4.6

ASAR	**Alice Springs**	**19.62**	**204**	P	**P**	**02 00 27.9**	**+2.3**

4.8nm,0.7s,baz=32,slow=9.6,SNR=11

STKA	**Stephens Creek**	**26.00**	**182**	LR	LR	02 12 48.9		

comp=Z,94nm,19.5s,baz=201,slow=39

MKAR	**Makanchi Array**	**74.47**	**322**	P	**P**	**02 07 35.8**	**+0.9**

0.7nm,0.6s,baz=112,slow=7.0,SNR=10
0.7nm,0.6s

KURBB	**Kurchatov Arra**	**78.36**	**324**	P	**P**	**02 07 57.0**	**+0.3**

0.4nm,0.7s,baz=112,slow=4.0,SNR=4.0

BVAR	**Borovoye Array**	**83.93**	**325**	P	**P**	**02 08 26.6**	**+0.3**

2.2nm,0.6s,baz=104,slow=6.3,SNR=8.5
2.2nm,0.8s

ILAR	**Eielson Array**	**87.06**	**24**	P	**P**	**02 08 40.4**	**-1.3**

0.9nm,0.8s,baz=262,slow=5.0,SNR=9.5
0.9nm,0.8s

TORD	**Torodi Ar. Bea**	**140.64**	**284**	PKhKP	PKPpre	02 15 24.6		

0.4nm,0.8s,baz=112,slow=1.6,SNR=2.8

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*IDC **07** 02:14:20.7±0.8, 6.˚67S×143.˚59E, h0km, mb4.0/10, mbtmp4.1/12, ML2.1/1, MS3.6/24, Error ellipse: s-maj=39.5km s-min=18.2km az=81.0*
*NEIC **07** 02:14:21.3±2.4, 6.˚72S±0.˚08×143.˚56E±0.˚08, h10km±1km, mb4.3/16, Error ellipse: s-maj=17.9km s-min=4.5km az=44.0*

ISC 07 02:14:21.5±0.5, 6.˚77S±0.˚07×143.˚56E±0.˚07, h10km, n58, σ1§20/40, mb4.2/17, MS3.6/22, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.42**	**127**	Pn	**Pn**	**02 15 27.4**	**-1.3**
PMG	**Port Moresby**	**4.42**	**127**	Pn	**Pn**	**02 15 28.6**	**-0.1**

6.8nm,0.3s,baz=328,slow=7.3,SNR=15

PMG				Sn	**Sn**	**02 16 18.8**	**-1.5**

3.6nm,0.3s,baz=236,slow=11,SNR=4.3

PMG				LR	LR	02 17 55.2		

comp=Z,595nm,18.1s,baz=260,slow=48
44nm,0.5s

COEN	**Coen**	**7.15**	**183**	Pn	**Pn**	**02 16 07.0**	**+0.8**
FAKI	**Fak Fak**	**11.90**	**288**	Pn	**Pn**	**02 17 09.7**	**-1.7**
CTA	**Charters Tower**	**13.49**	**169**	LR	LR	02 22 42.7	

comp=Z,378nm,19.5s,baz=346,slow=37

MTN	**Manton Dam**	**13.65**	**243**	Pn	**Pn**	**02 17 33.4**	**-1.8**
WB0	**Warramunga Arr**	**15.69**	**214**	Pn	**Pn**	**02 18 02.7**	**-0.1**
WB0				IAmb	IAmb	02 18 31.6	

comp=Z,28nm,1.4s

WR0	**Warramunga Arr**	**15.76**	**213**	Pn	**Pn**	**02 18 02.4**	**-1.4**
WRAB	**Tennant Creek**	**15.85**	**213**	Pn	**Pn**	**02 18 03.1**	**-1.8**
WRAB				IAmb	IAmb	02 18 15.3	

comp=Z,36nm,1.4s

WB2	**Warramunga Arr**	**15.85**	**213**	Pn	**Pn**	**02 18 03.6**	**-1.3**
WB2				IAmb	IAmb	02 18 17.7	

comp=Z,25nm,1.5s

WRA	**Warramunga Arr**	**15.86**	**213**	Pn	**Pn**	**02 18 03.9**	**-1.1**
WRA	**Warramunga Arr**	**15.86**	**213**	Pn	**Pn**	**02 18 03.5**	**-1.5**

comp=Z,0.4nm,0.3s,baz=31,slow=13,SNR=6.2

WRA				Lg	Lg	02 22 44.3		

comp=Z,0.3nm,0.3s,baz=32,slow=26,SNR=5.8

KNRA	**Kununurra**	**16.99**	**237**	Pn	**Pn**	**02 18 18.2**	**-1.2**
KNRA				IAmb	IAmb	02 18 34.6	

comp=Z,13nm,0.8s

AS31	**Alice Springs**	**19.19**	**208**	P	**P**	**02 18 45.0**	**-0.6**
ASAR	**Alice Springs**	**19.19**	**208**	P	**Pn**	**02 18 46.5**	**-0.1**
ASAR	**Alice Springs**	**19.19**	**208**	P	**Pn**	**02 18 47.4**	**+0.9**

comp=Z,19nm,0.9s,baz=39,slow=9.9,SNR=46

ASAR				Lg	Lg	02 24 31.5		

comp=Z,0.1nm,0.3s,baz=38,slow=34,SNR=3.1

PATS	**Pohnpei**	**19.98**	**48**	P	**P**	**02 18 54.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**20.78**	**236**	P	**P**	**02 19 03.1**	**+0.1**
DAV	**Davao City (W)**	**22.60**	**307**	LR	LR	02 28 41.8	

comp=Z,88nm,20.5s,baz=18,slow=38

KAPI	**Kappang**	**23.74**	**273**	P	**P**	**02 19 34.9**	**+0.7**
KAPI				IAmb	IAmb	02 19 38.9	

comp=Z,17nm,1.1s

TOLI2	**Tolitoli**	**24.04**	**288**	P	**P**	**02 19 37.5**	**+0.5**
STKA	**Stephens Creek**	**25.05**	**184**	P	**P**	**02 19 49.4**	**+3.4**

comp=Z,2.4nm,0.8s,baz=313,slow=12,SNR=3.1

STKA				LR	LR	02 30 24.1		

comp=Z,299nm,18.9s,baz=15,slow=38
comp=Z,2.4nm,0.8s

JOW	**Kunigami**	**36.54**	**337**	LR	LR	02 33 19.6		

comp=Z,90nm,20.5s,baz=136,slow=31

JNU	**Nakatsue**	**41.46**	**344**	LR	LR	02 39 01.3		

comp=Z,61nm,18.3s,baz=162,slow=36

MJAR	**Matsushiro Arr**	**43.38**	**354**	P	**P**	**02 22 25.5**	**+1.3**

comp=Z,2.9nm,0.9s,baz=188,slow=7.4,SNR=4.0
comp=Z,2.9nm,0.9s

RPZ	**Rata Peaks**	**43.99**	**151**	LR	LR	02 38 46.5		

comp=Z,93nm,18.6s,baz=210,slow=33

KSRS	**Korea Array**	**46.36**	**343**	LR	LR	02 41 18.0		

comp=Z,49nm,18.7s,baz=150,slow=35

CMAR	**Chiang Mai Arr**	**50.64**	**300**	LR	LR	02 47 04.3		

comp=Z,19nm,19.7s,baz=135,slow=39

ASAJ	**Asahikawa**	**50.66**	**359**	LR	LR	02 49 21.6		

comp=Z,19nm,18.8s,baz=96,slow=42

CHTO	**Chiang Mai**	**50.79**	**301**	P	**P**	**02 23 20.2**	**-2.3**
USRK	**Ussuriysk Ar.**	**51.80**	**349**	P	**P**	**02 23 27.6**	**-1.9**
USRK	**Ussuriysk Ar.**	**51.80**	**349**	P	**P**	**02 23 30.9**	**+1.4**

comp=Z,2.4nm,0.8s,baz=189,slow=5.9,SNR=6.0

USRK				LR	LR	02 41 24.7		

comp=Z,49nm,19.3s,baz=151,slow=31
comp=Z,2.4nm,0.8s

PZH	**PanZhiHua**	**52.32**	**311**	P	**P**	**02 23 35.6**	**+1.7**
PZH				pmax	pmax		

comp=Z,10.0nm,0.5s

PZH				pmax	pmax			

comp=Z,160nm,4.8s

HHC	**Hu-ho-hao-te**	**55.76**	**331**	*e*P	**P**	**02 23 59.4**	**+0.6**
HHC				pmax	pmax			

comp=Z,11nm,0.6s

HHC				pmax	pmax			

comp=Z,97nm,5.4s

RAR	**Rarotonga**	**56.54**	**111**	LR	LR	02 46 56.1		

comp=Z,44nm,19.8s,baz=176,slow=35

KLR	**Kul'dur**	**56.72**	**351**	LR	LR	02 47 18.9		

comp=Z,44nm,18.9s,baz=197,slow=35

PETK	**Petropavlovsk-**	**60.85**	**10**	LR	LR	02 46 21.3		

comp=Z,31nm,21.4s,baz=160,slow=32

SONM	**Songino Array**	**63.47**	**333**	P	**P**	**02 24 51.9**	**0.0**
SONM				LR	LR	02 52 24.5		

comp=Z,46nm,20.0s,baz=141,slow=36
comp=Z,0.2nm,0.3s

PALK	**Pallekele**	**64.23**	**281**	LR	LR	02 56 45.1		

comp=Z,2nm,18.3s,baz=253,slow=40

SHEM	**Shmya Is, Ala**	**64.71**	**20**	LR	LR	02 49 59.2		

comp=Z,60nm,21.1s,baz=280,slow=33

PPT	**Papeete**	**65.96**	**106**	LR	LR	02 51 18.1		

comp=Z,37nm,19.3s,baz=172,slow=34

MA2	**Magadan**	**66.38**	**4**	LR	LR	02 56 56.5		

comp=Z,20nm,18.0s,baz=138,slow=39

YAK	**Yakutsk**	**69.44**	**353**	LR	LR	02 56 24.8		

comp=Z,33nm,18.5s,baz=76,slow=36

VNDA	**Vanda**	**71.37**	**176**	LR	LR	02 56 26.7		

comp=Z,188nm,18.0s,baz=212,slow=35

MK31	**Makanchi Array**	**75.94**	**322**	P	**P**	**02 26 08.1**	**-0.6**
MK31				IAmb	IAmb	02 26 14.5		

comp=Z,2.8nm,1.2s

MKAR	**Makanchi Array**	**75.94**	**322**	P	**P**	**02 26 08.3**	**-0.3**

comp=Z,0.7nm,0.6s,baz=100,slow=7.2,SNR=9.3
comp=Z,0.7nm,0.6s

MAKZ	**Makanchi**	**76.14**	**322**	P	**P**	**02 26 09.3**	**-0.5**
MAKZ				IAmb	IAmb	02 26 13.3		

comp=Z,3.9nm,1.2s

ZALV	**Zalesovo Beam**	**77.87**	**329**	P	**P**	**02 26 18.9**	**-0.4**
ZALV	**Zalesovo Beam**	**77.87**	**329**	P	**P**	**02 26 19.5**	**+0.2**

comp=Z,0.4nm,0.4s,baz=126,slow=7.3,SNR=2.2
comp=Z,0.4nm,0.4s

KURK	**Kurchatov**	**79.80**	**324**	P	**P**	**02 26 29.9**	**-0.1**
KURK				IAmb	IAmb	02 26 31.7		

comp=Z,5.9nm,1.4s

KURBB	**Kurchatov Arra**	**79.82**	**324**	P	**P**	**02 26 29.8**	**-0.2**

comp=Z,0.3nm,0.5s,baz=108,slow=4.9,SNR=4.2

QSPA	**South Ogle Qui**	**83.20**	**180**	P	**P**	**02 26 48.7**	**+0.7**

comp=Z,3.2nm,0.9s,baz=263,slow=2.5,SNR=5.6

QSPA				LR	LR	03 04 31.9		

comp=Z,171nm,18.6s,baz=224,slow=36
comp=Z,3.2nm,0.9s

NRIK	**Noril'sk**	**84.97**	**343**	P	**P**	**02 26 56.8**	**+0.1**

comp=Z,1.4nm,0.5s,baz=119,slow=3.8,SNR=4.8
comp=Z,1.4nm,0.5s

BVAR	**Borovoye Array**	**85.39**	**325**	P	**P**	**02 26 59.8**	**+0.7**

comp=Z,1.3nm,0.8s,baz=104,slow=7.8,SNR=5.1
comp=Z,1.3nm,0.8s

ILAR	**Eielson Array**	**87.54**	**24**	P	**P**	**02 27 09.4**	**0.0**

comp=Z,0.3nm,0.8s,baz=256,slow=4.8,SNR=5.8

ILAR				LR	LR	03 04 30.3		

comp=Z,37nm,20.2s,baz=161,slow=34
comp=Z,0.3nm,0.8s

YBH	**Yreka Blue Hor**	**97.24**	**49**	LR	LR	03 04 55.7		

comp=Z,48nm,20.2s,baz=324,slow=31

TORD	**Torodi Ar. Bea**	**141.94**	**283**	PKhKP	PKPpre	02 33 51.6		

comp=Z,0.7nm,1.0s,baz=34,slow=0.5,SNR=2.8

DBIC	**Dimbokro**	**148.63**	**272**	PKPbc	**PKiKP**	**02 34 11.4**	**-0.1**

comp=Z,2.2nm,0.6s,baz=45,slow=4.3,SNR=4.1

PLV 07 02:18:19.8±0.2, 15.˚33N×108.˚19E, h8km, ML3.6, Vietnam

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*JMA **07** 02:30:58.4±0.4, 32.˚N×13.˚9E×, h335km, MV3.4/39, FAR S OFF TOKAI DISTRICT*
*IDC **07** 02:31:17.4±2.3, 32.˚42N×138.˚59E, h495km±73km, mb2.5/3, mbtmp3.4/4, Error ellipse: s-maj=194.3km s-min=24.7km az=64.0*

ISC 07 02:31:01.8±1.1, 32.˚3N±0.˚1×138.˚65E±0.˚08, h300km, n19, σ0§89/22, mb3.0/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.25**	**51**	*e*P	**Pn**	**02 31 44.9**	**+1.6**
JMKN	**Mikurajimanish**	**1.74**	**27**	*e*P	**Pn**	**02 31 47.3**	**+0.8**
TTO1	**TONANKAI O.B.S**	**2.02**	**310**	P	**Pn**	**02 31 49.2**	**+0.9**
JIE	**Ise**	**2.62**	**322**	*e*P	**Pn**	**02 31 54.3**	**+0.6**
JKN2	**Miekihoku**	**2.75**	**314**	P	**Pn**	**02 31 55.1**	**+0.1**
BSO3	**Boso 3**	**2.91**	**32**	*e*P	**Pn**	**02 31 55.7**	**-0.5**
JOD2	**Odawara 2**	**2.94**	**7**	*e*P	**Pn**	**02 31 57.6**	**+0.7**
JOD2				*e*S	**S**	**02 32 42.7**	**+1.8**
JTNC	**Tanabenakahech**	**2.95**	**301**	*e*P	**Pn**	**02 31 56.6**	**-0.4**
BSO4	**Boso 4**	**3.00**	**28**	*e*P	**Pn**	**02 31 57.3**	**0.0**
BSO4				*e*S	**S**	**02 32 40.8**	**-0.8**
BSO1	**Boso 1**	**3.02**	**39**	*e*P	**Pn**	**02 31 56.5**	**-0.5**
BSO1				*e*S	**S**	**02 32 41.4**	**0.0**
JHU	**Hanno**	**3.55**	**8**	*e*P	**Pn**	**02 32 02.9**	**-0.2**
JYTA	**Yamagatataniai**	**3.62**	**334**	*e*P	**Pn**	**02 32 04.4**	**+0.7**
JRY	**Ryogami san**	**3.68**	**3**	*e*P	**Pn**	**02 32 05.1**	**+0.7**
JAI	**Aioi**	**3.81**	**294**	*e*P	**Pn**	**02 32 05.5**	**-0.4**
JAG	**Ashikaga**	**4.13**	**9**	*e*P	**Pn**	**02 32 08.3**	**-1.0**
SONM	**Songino Array**	**28.87**	**312**	P	**P**	**02 36 34.3**	**+1.1**

0.3nm,0.5s,baz=109,slow=8.9,SNR=1.8
0.3nm,0.5s

MKAR	**Makanchi Array**	**44.85**	**306**	P	**P**	**02 38 45.7**	**-1.0**

0.3nm,0.4s,baz=88,slow=9.4,SNR=10
0.3nm,0.4s

KURBB	**Kurchatov Arra**	**47.23**	**311**	P	**P**	**02 39 04.0**	**-1.1**

1.3nm,0.5s,baz=92,slow=9.1,SNR=12

WRA	**Warramunga Arr**	**52.14**	**185**	P	**P**	**02 39 41.8**	**-0.3**

0.3nm,0.7s,baz=0.3,slow=7.9,SNR=2.4
0.3nm,0.7s

ROM 07 02:31:52.2±0.0, 43.˚065N±0.˚002×13.˚026E±0.˚004, h8km, ML2.2/72, 5C-1D, Error ellipse: s-maj=0.3km s-min=0.1km az=66.0, Central Italy

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Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEF1	**Sefro**	**0.10**	**325**	P	Pg	02 31 55.1	+0.5
SEF1				S	Sg	02 31 57.0	+0.7
SEF1				AML	AML		

comp=E,9805µm,0.8s

SEF1				AML	AML			

comp=E,9800µm,0.8s

SEF1				AML	AML			

comp=N,8515µm,0.3s

SEF1				AML	AML			

comp=N,7143µm,0.2s

SEF1				AML	AML			

comp=E,9454µm,0.2s

FEMA	**Monte Fema**	**0.10**	**170**	P	Pg	02 31 55.3	+0.5
FEMA				S	Sg	02 31 57.5	+0.9
FEMA				AML	AML		

comp=E,8335µm,1.1s

FEMA				AML	AML			

comp=E,8335µm,1.1s

FEMA				AML	AML			

comp=E,8335µm,0.9s

FEMA				AML	AML			

comp=N,5170µm,0.2s

FEMA				AML	AML			

comp=E,7449µm,0.2s

FEMA				AML	AML			

comp=N,5168µm,0.2s

CESI	**CESI - Serrava**	**0.11**	**236**	⇑P	Pg	02 31

comp=N,1671μm,0.1s
MMO1 Montemonaco 0.28 127 P Pg 02 31 58.2 +0.5
MMO1 S Sg 02 32 02.8 +1.3
FOSV Fossato di Vic 0.30 320 P Pg 02 31 58.7 +0.6
FOSV S Sb 02 32 03.9 -1.1
FOSV AML AML
comp=E,452μm,0.4s
FOSV AML AML
comp=N,476μm,0.8s
FOSV AML AML
comp=E,451μm,0.4s
FOSV AML AML
comp=E,407μm,0.3s
FOSV AML AML
comp=N,399μm,0.3s
MF5 Montefalcone A 0.33 103 P Pb 02 31 59.6 -0.8
MF5 S Sb 02 32 05.4 -0.4
MF5 AML AML
comp=E,920μm,0.5s
MF5 AML AML
comp=N,1250μm,0.2s
MF5 AML AML
comp=E,920μm,1.5s
MF5 AML AML
comp=E,893μm,0.4s
MF5 AML AML
comp=N,1250μm,0.2s
MNTP Montappone 0.33 77 P Pb 02 31 59.8 -0.6
MNTP S Sb 02 32 06.3 +0.4
CING Cingoli 0.33 22 ⇑P Pg 02 31 59.3 +0.5
CING S Sb 02 32 04.9 -1.1
CING AML AML
comp=E,3310μm,0.2s
CING AML AML
comp=N,1430μm,1.1s
CING AML AML
comp=N,1224μm,0.1s
CING AML AML
comp=E,3311μm,0.2s
T1214 Arquata del Tr 0.33 156 P Pg 02 31 59.2 +0.4
T1214 S Sb 02 32 04.8 -1.2
T1214 AML AML
comp=E,980μm,0.5s
T1214 AML AML
comp=N,702μm,1.3s
T1214 AML AML
comp=E,938μm,0.5s
T1214 AML AML
comp=N,748μm,1.3s
T1214 AML AML
comp=N,702μm,1.3s
T1214 AML AML
comp=N,748μm,1.3s
T1214 AML AML
comp=E,942μm,0.5s
T1214 AML AML
comp=N,748μm,0.7s
T1214 AML AML
comp=N,702μm,0.7s
T1214 AML AML
comp=E,830μm,0.2s
T1214 AML AML
comp=N,694μm,0.2s
T1214 AML AML
comp=E,883μm,0.2s
T1214 AML AML
comp=N,692μm,0.2s
MMUR Monte Murano 0.38 357 P Pg 02 32 00.3 +0.6
MMUR S Sb 02 32 06.4 -0.8
GAVE Gavelli 0.39 195 P Pg 02 32 00.3 +0.5
GAVE S Sb 02 32 06.7 -0.8
GAVE AML AML
comp=E,1130μm,0.4s
GAVE AML AML
comp=N,410μm,1.0s
GAVE AML AML
comp=E,1224μm,0.2s
GAVE AML AML
comp=N,1180μm,0.4s
GAVE AML AML
comp=E,1130μm,0.4s
GAVE AML AML
comp=N,410μm,1.0s
GAVE AML AML
comp=N,410μm,1.0s
GAVE AML AML
comp=N,1180μm,1.6s
GAVE AML AML
comp=E,1130μm,1.6s
GAVE AML AML
comp=N,314μm,0.2s
GAVE AML AML
comp=E,1222μm,0.2s
GAVE AML AML
comp=E,1131μm,0.2s
GAVE AML AML
comp=N,928μm,0.2s
SSFR Montelago di S 0.41 334 P Pg 02 32 00.9 +0.6
SSFR S Sb 02 32 08.1 -0.1
SSFR AML AML
comp=E,1385μm,0.8s
SSFR AML AML
comp=N,1030μm,0.6s
SSFR AML AML
comp=E,990μm,0.8s
SSFR AML AML
comp=E,990μm,1.2s
SSFR AML AML
comp=E,1385μm,1.2s
SSFR AML AML
comp=N,1030μm,1.4s
SSFR AML AML
comp=N,838μm,0.2s
SSFR AML AML
comp=N,888μm,0.2s
SSFR AML AML
comp=N,838μm,0.2s
SSFR AML AML
comp=E,1013μm,0.2s
SSFR AML AML
comp=E,968μm,0.2s
ATSC Scheggia e Pas 0.44 325 P Pg 02 32 01.4 +0.7
ATSC S Sb 02 32 08.1 -0.9
ARVD Arcevia 0.44 352 P Pg 02 32 01.1 +0.4
ARVD S Sb 02 32 08.4 -0.5
ARVD AML AML
comp=E,724μm,0.6s
ARVD AML AML
comp=N,450μm,0.3s
ARVD AML AML
comp=N,450μm,0.3s
ARVD AML AML
comp=N,450μm,1.7s
ARVD AML AML
comp=N,441μm,0.2s
ARVD AML AML
comp=E,708μm,0.2s
LNSS Leonessa 0.46 179 P Pg 02 32 01.5 +0.3
LNSS S Sb 02 32 08.7 -1.0
LNSS AML AML
comp=E,875μm,1.3s
LNSS AML AML
comp=N,774μm,0.2s
LNSS AML AML
comp=E,875μm,0.7s
LNSS AML AML
comp=N,773μm,0.2s
LNSS AML AML
comp=E,851μm,0.2s
SMA1 SAN MARTINO 0.49 152 P Pg 02 32 01.9 +0.2
SMA1 S Sb 02 32 09.7 -0.8
SMA1 AML AML
comp=E,394μm,0.2s
SMA1 AML AML
comp=N,356μm,0.5s
SMA1 AML AML
comp=E,394μm,0.2s
SMA1 AML AML
comp=N,356μm,0.5s
FRON Frontone 0.50 334 P Pg 02 32 02.5 +0.6
FRON S Sb 02 32 10.6 -0.3
FRON AML AML
comp=E,214μm,0.5s
FRON AML AML
comp=N,292μm,1.4s
FRON AML AML
comp=N,292μm,0.6s
FRON AML AML
comp=E,156μm,0.1s
FRON AML AML
comp=N,268μm,0.2s
ARRO Arrone 0.52 202 P Pg 02 32 02.6 +0.3
ARRO S Sb 02 32 11.1 -0.2
ARRO AML AML
comp=E,416μm,0.8s
ARRO AML AML
comp=E,416μm,1.2s
ARRO AML AML
comp=N,226μm,0.2s
ARRO AML AML
comp=N,226μm,0.2s
ARRO AML AML
comp=E,340μm,0.2s
CESX Cesi 0.56 216 P Pg 02 32 03.2 +0.1
CESX S Sb 02 32 11.9 -0.5
CESX AML AML
comp=E,332μm,1.3s
CESX AML AML
comp=N,346μm,0.4s
CESX AML AML
comp=E,332μm,0.7s
CESX AML AML
comp=E,326μm,0.4s
CESX AML AML
comp=N,347μm,0.4s
RM33 Pellescritta (0.57 166 P Pg 02 32 03.4 +0.1
RM33 S Sb 02 32 12.5 -0.4
RM33 AML AML
comp=E,230μm,1.4s
RM33 AML AML
comp=N,164μm,1.1s
RM33 AML AML
comp=N,164μm,0.9s
RM33 AML AML
comp=N,170μm,0.3s
RM33 AML AML
comp=E,227μm,0.2s
RM33 AML AML
comp=N,149μm,0.2s
RM33 AML AML
comp=E,222μm,0.2s
PIEI Pieia 0.59 323 P Pg 02 32 04.0 +0.4
PIEI S Sb 02 32 13.4 0.0
PIEI AML AML
comp=N,135μm,0.7s
PIEI AML AML
comp=E,242μm,1.4s
PIEI AML AML
comp=E,242μm,0.6s
PIEI AML AML
comp=N,135μm,1.3s
PIEI AML AML
comp=E,216μm,0.1s
PIEI AML AML
comp=N,119μm,0.2s
TERO Teramo 0.61 136 P Pb 02 32 04.7 -0.6
TERO S Sb 02 32 13.6 -0.4
TERO AML AML
comp=E,176μm,1.5s
TERO AML AML
comp=N,186μm,0.1s
TERO AML AML
comp=N,186μm,0.1s
TERO AML AML
comp=E,171μm,0.2s
TERO AML AML
comp=N,122μm,0.2s
TERO AML AML
comp=E,110μm,0.2s
NARO Abbazia di Nar 0.64 329 P Pg 02 32 04.6 +0.1
NARO S Sb 02 32 14.7 +0.1
NARO AML AML
comp=E,154μm,0.3s
NARO AML AML
comp=N,134μm,0.1s
MGAB Montegabbione 0.69 258 P Pg 02 32 05.7 +0.2
MGAB S Sb 02 32 16.0 -0.1
MGAB AML AML
comp=E,178μm,1.5s
MGAB AML AML
comp=N,192μm,0.7s
MGAB AML AML
comp=E,196μm,1.5s
MGAB AML AML
comp=N,195μm,0.2s
MGAB AML AML
comp=E,196μm,0.5s
MGAB AML AML
comp=E,178μm,0.5s
MGAB AML AML
comp=N,192μm,1.3s
MGAB AML AML
comp=N,195μm,0.2s
MGAB AML AML
comp=E,164μm,0.3s
MGAB AML AML
comp=E,168μm,0.3s
MGAB AML AML
comp=N,160μm,0.2s
BADI Badiali 0.72 308 P Pb 02 32 06.8 -0.3
BADI S Sb 02 32 17.4 +0.2
BADI AML AML
comp=E,110μm,0.6s
BADI AML AML
comp=N,88μm,1.2s
BADI AML AML
comp=E,110μm,0.6s
BADI AML AML
comp=N,88μm,0.8s
BADI AML AML
comp=N,71μm,0.4s
BADI AML AML
comp=E,97μm,0.2s
FIAM Fiamignano 0.80 175 P Pg 02 32 07.6 0.0
FIAM S Sb 02 32 19.6 +0.2
FIAM AML AML
comp=E,105μm,0.5s
FIAM AML AML
comp=N,147μm,1.2s
FIAM AML AML
comp=N,147μm,0.8s
FIAM AML AML
comp=E,105μm,1.5s
FIAM AML AML
comp=N,123μm,0.3s
FIAM AML AML
comp=E,98μm,3.1s
DUGI Dugi Otok 1.74 57 *e*Pn Pb 02 32 24.1 -0.4
BRJN Brijuni 1.91 16 *e*Pn Pn 02 32 25.5 +0.4
BRJN Sn Sb 02 32 50.9 -0.4
VIRC Vir 1.92 49 *e*Pn Pn 02 32 25.4 +0.3
VIRC Sn Sn 02 32 50.1 +0.8
ZIRJ Zirje 2.00 72 *e*Pn Pb 02 32 27.5 -1.3
NVLJ Novalja 2.01 41 *e*Pn Pn 02 32 26.6 +0.3
RABC Rab 2.11 36 *e*Pn Pn 02 32 28.4 +0.6
RABC Sn Sb 02 32 56.0 -1.0
MORI Morici 2.11 67 *e*Pn Pn 02 32 28.4 +0.6
SMRN Sveta Marina 2.13 22 *e*Pn Pn 02 32 28.4 +0.3
SMRN Sn Sn 02 32 55.1 +0.4
RIY Rijeka 2.49 24 *e*Pn Pn 02 32 33.8 +0.7
RIY Sn Sn 02 33 05.5 +1.9
HVAR Hvar 2.51 86 *e*Pn Pn 02 32 33.7 +0.4
KIJV Kijevo 2.63 68 *e*Pn Pb 02 32 37.3 -2.2

IDC 07 02:32:35.5±7.1,6°.48S×142°.25E,h0km,mb3.4/1, mbtmp3.3/3,ML3.1/2,Error ellipse: s-maj=245.4km s-min=37.6km az=96.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.43**	**209**	Pn	Pn	02 36 13.4	-1.2
	0.1nm,0.3s,baz=29,slow=13,SNR=4.5 0.2nm,0.4s						
ASAR	**Alice Springs**	**18.87**	**204**	P	Pn	02 36 57.9	-0.2
	0.1nm,0.3s,baz=34,slow=11,SNR=7.5 0.5nm,0.5s						
MKAR	**Makanchi Array**	**74.91**	**322**	P	P	02 44 18.5	+0.1
	0.4nm,1.0s,baz=103,slow=5.0,SNR=2.9 0.4nm,1.0s						

ROM 07 02:32:40.0±0.0,43°.063N±0°.002×13°.028E±0°.004,

h8km,ML2.4/87,5C-2D,Error ellipse: s-maj=0.3km s-min=0.1km az=67.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FEMA	**Monte Fema**	**0.10**	**171**	P	Pg	02 32 43.1	+0.6
FEMA				S	Sg	02 32 45.2	+0.9
FEMA				AML	AML		
	comp=E,15950μm,0.4s						
FEMA				AML	AML		
	comp=N,7480μm,0.2s						
FEMA				AML	AML		
	comp=N,7480μm,1.8s						
FEMA				AML	AML		
	comp=E,15950μm,0.4s						
SEF1	**Sefro**	**0.10**	**325**	P	Pg	02 32 43.0	+0.4
SEF1				S	Sg	02 32 44.9	+0.7
SEF1				AML	AML		
	comp=E,10900μm,1.2s						
SEF1				AML	AML		
	comp=N,8370μm,0.8s						
SEF1				AML	AML		
	comp=E,10900μm,1.2s						
CESI	**CESI - Serrava**	**0.11**	**237**	⇑P	Pg	02 32 43.3	+0.8
CESI				S	Sg	02 32 45.5	+1.1
CESI				AML	AML		
	comp=N,3915μm,1.0s						
CESI				AML	AML		
	comp=N,3915μm,1.0s						
CESI				AML	AML		
	comp=E,2595μm,0.3s						
PIO1	**Pioraco**	**0.12**	**344**	P	Pg	02 32 43.1	+0.4
PIO1				S	Sg	02 32 45.3	+0.7
CSP1	**Cessapalombo**	**0.13**	**78**	⇑P	Pg	02 32 43.5	+0.4
CSP1				S	Sg	02 32 45.8	+0.7
CSP1				AML	AML		
	comp=N,1780μm,1.6s						
CSP1				AML	AML		
	comp=E,3225μm,0.4s						
CSP1				AML	AML		
	comp=N,1775μm,1.6s						
FIU1	**Fiuminata**	**0.14**	**331**	P	Pg	02 32 43.6	+0.5
FIU1				S	Sg	02 32 46.2	+0.9
PF6	**Pievefavera**	**0.15**	**55**	P	Pg	02 32 43.6	+0.4
PF6				S	Sg	02 32 46.0	+0.6
PF6				AML	AML		
	comp=E,2300μm,0.4s						
PF6				AML	AML		
	comp=N,1625μm,0.6s						
MDAR	**Monte D'Aria**	**0.15**	**33**	P	Pg	02 32 43.8	+0.4
MDAR				S	Sg	02 32 46.4	+0.8
MDAR				AML	AML		
	comp=N,2190μm,0.8s						
MDAR				AML	AML		
	comp=E,2630μm,0.2s						
MDAR				AML	AML		
	comp=N,2195μm,0.8s						
MDAR				AML	AML		
	comp=N,2195μm,0.8s						
MDAR				AML	AML		
	comp=N,2195μm,1.2s						
GAG1	**Gagliole**	**0.18**	**9**	P	Pg	02 32 44.4	+0.7
GAG1				S	Sg	02 32 47.7	+1.4
GAG1				AML	AML		
	comp=E,6795μm,0.6s						
GAG1				AML	AML		
	comp=E,6800μm,0.6s						
GAG1				AML	AML		
	comp=N,6355μm,0.6s						
MC2	**Monte Cornacci**	**0.19**	**142**	⇓P	Pg	02 32 44.6	+0.6
MC2				S	Sg	02 32 48.4	+1.6
MTL1	**Matelica**	**0.19**	**356**	P	Pg	02 32 44.7	+0.7
MTL1				S	Sg	02 32 48.4	+1.6
SSM1	**San Severino M**	**0.20**	**33**	P	Pg	02 32 44.6	+0.6
SSM1				S	Sg	02 32 48.1	+1.3
SNTG	**Esanatoglia**	**0.20**	**342**	P	Pg	02 32 44.6	+0.4
SNTG				S	Sg	02 32 48.2	+1.2
SNTG				AML	AML		
	comp=E,1665μm,1.2s						
SNTG				AML	AML		
	comp=N,1405μm,0.6s						
SNTG				AML	AML		
	comp=E,1665μm,1.2s						
SNTG				AML	AML		
	comp=N,1535μm,0.2s						
SNTG				AML	AML		
	comp=E,1670μm,1.2s						
SNTG				AML	AML		
	comp=N,1405μm,0.5s						
GUMA	**Gualdo di Mace**	**0.23**	**90**	⇑P	Pg	02 32 45.5	+0.9
GUMA				S	Sg	02 32 49.6	+2.0
GUMA				AML	AML		
	comp=N,12650μm,0.2s						
GUMA				AML	AML		
	comp=E,18000μm,0.3s						
GUMA				AML	AML		
	comp=N,12650μm,0.2s						
GUMA				AML	AML		
	comp=N,7870μm,0.3s						
GUMA				AML	AML		
	comp=E,9655μm,0.2s						
NRCA	**Norcia**	**0.24**	**165**	P	Pg	02 32 45.5	+0.6
NRCA				S	Sg	02 32 49.6	+1.6
NRCA				AML	AML		
	comp=E,6190μm,0.1s						
NRCA				AML	AML		
	comp=N,7470μm,1.0s						
NRCA				AML	AML		
	comp=E,6530μm,0.1s						
NRCA				AML	AML		
	comp=N,7470μm,1.0s						
NRCA				AML	AML		
	comp=N,7965μm,1.0s						
NRCA				AML	AML		
	comp=E,6190μm,0.1s						
EL6	**Elcito**	**0.27**	**11**	⇑P	Pg	02 32 46.0	+0.5
EL6				S	Sg	02 32 50.6	+1.4
EL6				AML	AML		
	comp=N,2480μm,0.3s						
EL6				AML	AML		
	comp=E,3270μm,1.3s						
MMO1	**Montemonaco**	**0.27**	**127**	⇓P	Pg	02 32 46.0	+0.5
MMO1				S	Sg	02 32 50.6	+1.4
FOSV	**Fossato di Vic**	**0.30**	**320**	P	Pg	02 32 46.6	+0.6
FOSV				S	Sb	02 32 51.7	-1.2
FOSV				AML	AML		
	comp=E,822μm,0.5s						
FOSV				AML	AML		
	comp=N,1126μm,0.3s						
FOSV				AML	AML		
	comp=E,822μm,1.5s						
MF5	**Montefalcone A**	**0.33**	**103**	P	Pb	02 32 47.5	-0.7
MF5				S	Sb	02 32 53.3	-0.3
MF5				AML	AML		
	comp=E,1230μm,0.4s						
MF5				AML	AML		
	comp=N,1580μm,0.2s						
T1214	**Arquata del Tr**	**0.33**	**156**	P	Pg	02 32 47.0	+0.4
T1214				S	Sb	02 32 52.6	-1.2
T1214				AML	AML		
	comp=E,1430μm,0.5s						
T1214				AML	AML		
	comp=N,1050μm,0.5s						
T1214				AML	AML		
	comp=E,1425μm,0.5s						
T1214				AML	AML		
	comp=E,1455μm,0.5s						
T1214				AML	AML		
	comp=N,1055μm,0.5s						
MNTP	**Montappone**	**0.33**	**77**	P	Pb	02 32 47.7	-0.5
MNTP				S	Sb	02 32 53.9	+0.2
CING	**Cingoli**	**0.34**	**21**	⇑P	Pg	02 32 47.1	+0.5
CING				S	Sb	02 32 52.8	-1.1
CING				AML	AML		
	comp=N,1350μm,0.9s						
CING				AML	AML		
	comp=E,2830μm,0.2s						
MMUR	**Monte Murano**	**0.38**	**357**	P	Pg	02 32 47.9	+0.4
MMUR				S	Sb	02 32 54.2	-0.9
SSFR	**Montelago di S**	**0.41**	**334**	P	Pg	02 32 48.6	+0.5
SSFR				S	Sb	02 32 55.6	-0.6
SSFR				AML	AML		
	comp=E,1495μm,1.5s						
SSFR				AML	AML		
	comp=E,1315μm,1.5s						
SSFR				AML	AML		

comp=N,1365µm,0.2s
SSFR AML AML
comp=E,1495µm,0.5s
SSFR AML AML
comp=N,1410µm,0.3s
SSFR AML AML
comp=E,1315µm,0.5s
ARVD Arcevia 0.44 352 P Pg 02 32 49.0 +0.3
ARVD S Sb 02 32 56.2 -0.6
ARVD AML AML
comp=E,1675µm,0.2s
ARVD AML AML
comp=N,648µm,0.4s
ATSC Scheggia e Pas 0.44 325 P Pg 02 32 49.1 +0.5
ATSC S Sb 02 32 56.0 -0.8
LNSS Leonessa 0.46 179 P Pg 02 32 49.4 +0.4
LNSS S Sb 02 32 56.7 -0.8
LNSS AML AML
comp=N,1140µm,0.1s
LNSS AML AML
comp=E,1345µm,0.2s
SMA1 SAN MARTINO 0.49 152 P Pg 02 32 49.7 +0.1
SMA1 S Sb 02 32 57.6 -0.7
SMA1 AML AML
comp=N,500µm,0.8s
SMA1 AML AML
comp=E,552µm,0.3s
FRON Frontone 0.51 334 P Pg 02 32 50.1 +0.3
FRON S Sb 02 32 58.3 -0.4
FRON AML AML
comp=N,560µm,0.4s
FRON AML AML
comp=N,560µm,1.6s
FRON AML AML
comp=E,318µm,0.2s
ARRO Arrone 0.52 202 P Pg 02 32 50.5 +0.3
ARRO S Sb 02 32 58.7 -0.4
ARRO AML AML
comp=E,430µm,0.8s
ARRO AML AML
comp=N,311µm,1.6s
ARRO AML AML
comp=N,311µm,0.4s
CESX Cesi 0.56 216 P Pg 02 32 51.1 +0.2
CESX S Sb 02 32 59.7 -0.5
CESX AML AML
comp=E,327µm,1.4s
CESX AML AML
comp=E,327µm,0.6s
CESX AML AML
comp=N,370µm,0.2s
RM33 Pellescritta (0.57 166 P Pg 02 32 51.1 0.0
RM33 S Sb 02 33 00.2 -0.4
RM33 AML AML
comp=N,336µm,0.3s
RM33 AML AML
comp=E,386µm,0.1s
RM33 AML AML
comp=E,395µm,1.4s
RM33 AML AML
comp=N,345µm,1.0s
PIEI Pieia 0.59 323 P Pg 02 32 51.9 +0.4
PIEI S Sb 02 33 01.2 -0.1
PIEI AML AML
comp=E,304µm,0.7s
PIEI AML AML
comp=N,186µm,0.2s
PIEI AML AML
comp=E,304µm,1.3s
CAMP Campotosto 0.60 152 P Pg 02 32 51.5 0.0
CAMP S Sb 02 33 00.7 -0.8
CAMP AML AML
comp=E,291µm,0.2s
CAMP AML AML
comp=N,141µm,0.3s
CAMP AML AML
comp=E,291µm,1.8s
MPAG Monte Paganucc 0.60 341 P Pb 02 32 52.5 -0.3
MPAG S Sb 02 33 02.1 +0.6
MPAG AML AML
comp=E,726µm,0.3s
MPAG AML AML
comp=N,640µm,1.2s
MPAG AML AML
comp=N,376µm,0.3s
MPAG AML AML
comp=E,681µm,0.3s
MPAG AML AML
comp=N,640µm,0.8s
TERO Teramo 0.61 136 P Pg 02 32 51.9 0.0
TERO S Sb 02 33 01.4 -0.3
TERO AML AML
comp=E,230µm,0.9s
TERO AML AML
comp=N,216µm,0.2s
TERO AML AML
comp=N,158µm,0.2s
TERO AML AML
comp=E,230µm,1.1s
TERO AML AML
comp=E,242µm,0.3s
NARO Abbazia di Nar 0.64 329 P Pg 02 32 52.4 +0.1
NARO S Sb 02 33 02.6 +0.1
NARO AML AML
comp=E,248µm,0.4s
NARO AML AML
comp=N,143µm,0.1s
BADI Badiali 0.73 308 P Pb 02 32 54.5 -0.4
BADI S Sb 02 33 06.0 +1.0
BADI AML AML
comp=E,123µm,1.5s
BADI AML AML
comp=N,121µm,1.5s
BADI AML AML
comp=N,120µm,1.5s
BADI AML AML
comp=E,123µm,0.5s
BADI AML AML
comp=N,120µm,0.5s
GIGS Gran Sasso 0.73 147 P Pg 02 32 54.0 -0.1
GIGS S Sb 02 33 05.3 +0.1
GIGS AML AML
comp=E,78µm,0.2s
GIGS AML AML
comp=N,57µm,1.7s
FIAM Fiamignano 0.80 175 P Pg 02 32 55.2 -0.1
FIAM S Sb 02 33 07.4 +0.3
FIAM AML AML
comp=N,180µm,5.6s

IDC 07 02:37:21.7±2.1, 5.74S×141.64E, h0km, mb3.4/1, mbtmp3.4/3, ML3.2/2, Error ellipse: s-maj=262.1km s-min=36.0km az=114.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.80**	**206**	Pn		Pn	02 41 03.8	-2.0
	0.1nm,0.3s,baz=28,slow=14,SNR=1.7 0.3nm,0.5s							
ASAR	**Alice Springs**	**19.32**	**202**	P		Pn	02 41 49.4	-0.2
	0.2nm,0.3s,baz=32,slow=10,SNR=5.7 2.2nm,0.8s							
ILAR	**Eielson Array**	**87.38**	**24**	P		P	02 50 10.5	0.0
	0.2nm,0.8s,baz=235,slow=4.1,SNR=1.9 0.2nm,0.8s							

*IDC **07** 02:37:48.8±2.1, 8.21S×115.73E, h0km, mb3.7/6, mbtmp3.7/6, MS3.6/2, Error ellipse: s-maj=143.0km s-min=19.4km az=53.0*
*DJA **07** 02:37:49.3±0.3, 8.5±4.4×11.6±5.1°, h10km, M3.5/12, mb3.9/1, MLv3.4/12*
ISC 07 02:37:49.5±0.7, 8.41S±0.08×115.52E±0.04, h10km, n18, σ1s00/20, mb3.8/6, Bali region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SRBI	**Singaraja**	**0.44**	**317**	P		**Pg**	**02 37 57.0**	**-1.1**
SRBI				S		**Sg**	**02 38 03.1**	**-0.8**
IGBI	**Denpasar**	**0.55**	**222**	P		**Pb**	**02 38 00.7**	**-0.5**
JAGI	**Jajag, Banyuwa**	**1.35**	**267**	P		**Pn**	**02 38 13.4**	**-1.1**
JAGI				S		**Sb**	**02 38 32.0**	**-0.3**
TWSI	**Taliwang, Sumb**	**1.39**	**104**	P		**Pn**	**02 38 13.9**	**-1.1**
TWSI				S		**Sb**	**02 38 33.3**	**-0.1**
ABJI	**Asem Bagus**	**1.41**	**295**	P		**Pn**	**02 38 14.5**	**-0.7**
ABJI				S		**Sn**	**02 38 34.7**	**+0.9**
BLJI	**Banyuglugur**	**2.01**	**289**	P		**Pn**	**02 38 24.3**	**+0.8**
KMMI	**Kalianget**	**2.04**	**311**	P		**Pn**	**02 38 24.3**	**+0.3**
GMJI	**Gumukmas**	**2.06**	**274**	P		**Pn**	**02 38 23.7**	**-0.4**
PLAI	**Plampang**	**2.27**	**101**	P		**Pn**	**02 38 26.9**	**-0.2**
PWJI	**Pagerwojo**	**3.70**	**276**	P		**Pn**	**02 38 47.6**	**+0.9**
WRA	**Warramunga Arr**	**21.52**	**124**	P		**P**	**02 42 41.0**	**+2.0**
	0.4nm,0.6s,baz=297,slow=12,SNR=2.7 0.4nm,0.6s							
TGY	**Tagaytay City**	**23.00**	**14**	LR		LR	02 52 40.6	
	comp=Z,97nm,21.6s,baz=248,slow=39							
ASAR	**Alice Springs**	**23.25**	**133**	P		**P**	**02 42 56.8**	**-0.5**
	1.2nm,0.8s,baz=306,slow=10.0,SNR=5.0 1.2nm,0.8s							
CMAR	**Chiang Mai Arr**	**31.31**	**329**	P		**P**	**02 44 11.9**	**+1.8**
	1.3nm,0.3s,baz=146,slow=6.6,SNR=6.2 1.3nm,0.3s							
STKA	**Stephens Creek**	**33.66**	**138**	P		**P**	**02 44 31.6**	**+0.9**
	1.0nm,0.5s,baz=333,slow=14,SNR=3.2 1.0nm,0.5s							
SONM	**Songino Array**	**56.58**	**353**	P		**P**	**02 47 31.8**	**-0.7**
	0.6nm,0.6s,baz=173,slow=7.7,SNR=4.7 0.6nm,0.6s							
MKAR	**Makanchi Array**	**62.41**	**335**	P		**P**	**02 48 11.9**	**-0.7**
	0.6nm,0.8s,baz=148,slow=8.5,SNR=4.8 0.6nm,0.8s							
VNDA	**Vanda**	**73.12**	**171**	LR		LR	03 21 17.6	
	comp=Z,71nm,18.4s,baz=190,slow=36							

*SOME **07** 02:46:40.8, 41.75N×83.82E, h5km*
*NNC **07** 02:46:44.8±2.5, 41.79N×83.56E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=19.4km s-min=11.2km az=163.0*
ISC 07 02:46:49.7±2.6, 42.1N±0.1×83.51E±0.08, h15km, n15, σ1s64/22, 4C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.17**	**291**	*e*P		**Pn**	**02 47 39.7**	**+0.4**
	3.1nm,0.2s							
SHLS				*e*S		**Sb**	**02 48 23.0**	**-1.4**
	26nm,0.3s							
SHLS	**Shalkode**	**3.17**	**291**	Pg		**Pn**	**02 47 39.7**	**+0.4**
	11nm,0.5s							
SHLS				Lg		Lg	02 48 23.0	
	26nm,0.3s							
PDGK	**Podgornoye**	**3.21**	**294**	Pg		**Pb**	**02 47 45.8**	**-0.8**
	1.4nm,0.4s							
PDGK				Lg		Lg	02 48 33.4	
	6.3nm,0.8s							
PDGK	**Podgornoye**	**3.21**	**294**	⇑Pg		**Pb**	**02 47 46.4**	**-0.2**
	1.2nm,0.4s							
PDGK				⇑Lg		Lg	02 48 34.5	
	22nm,0.9s							
DJR	**Jarkent**	**3.53**	**311**	*e*P		**Pb**	**02 47 52.3**	**+0.3**
	0.5nm,0.2s							
DJR				*e*S		**Sg**	**02 48 44.4**	**+1.2**
	3.8nm,0.4s							
DJR	**Jarkent**	**3.53**	**311**	Pg		**Pb**	**02 47 52.3**	**+0.3**
	4.3nm,0.7s							
DJR				Lg		Lg	02 48 44.4	
	4.1nm,0.6s							
KURS	**Kuram**	**4.17**	**292**	*e*P		**Pb**	**02 48 04.1**	**+1.2**
	1.3nm,0.2s							
KURS				*e*S		**Sg**	**02 49 04.9**	**+1.1**
	3.3nm,0.3s							
KAPS	**Kapalarasan**	**4.40**	**318**	*e*P		**Pb**	**02 48 08.5**	**+1.8**
	1.5nm,0.2s							
KAPS				*e*S		**Sg**	**02 49 12.7**	**+1.7**
	4.0nm,0.6s							
KAPS	**Kapalarasan**	**4.40**	**318**	Pg		**Pb**	**02 48 08.5**	**+1.8**
	4.0nm,0.5s							
KAPS				Lg		Lg	02 49 12.7	
	4.0nm,0.6s							
ARXS	**Arharly**	**4.67**	**299**	*e*P		**Pb**	**02 48 12.7**	**+1.3**
	1.4nm,0.2s							
ARXS				*e*S		**Sg**	**02 49 19.8**	**+0.1**
	3.4nm,0.3s							
ARXS	**Arharly**	**4.67**	**299**	Pg		**Pb**	**02 48 12.7**	**+1.3**
	1.4nm,0.3s							
ARXS				Lg		Lg	02 49 19.8	
	5.3nm,0.6s							
MK31	**Makanchi Array**	**4.80**	**350**	Pn		**Pn**	**02 48 04.3**	**+2.8**
	baz=33,slow=18,SNR=11							
MK31				⇓Pg		**Pg**	**02 48 18.9**	**-2.8**
	5.5nm,0.9s,baz=164,slow=17,SNR=11							
MK31				⇓Lg		Lg	02 49 24.1	
	4.1nm,0.7s,baz=167,slow=28,SNR=4.9							
MAKZ	**Makanchi**	**4.86**	**348**	⇑Pg		**Pg**	**02 48 20.3**	**-2.5**
	3.8nm,1.1s							
MAKZ				⇑Lg		Lg	02 49 26.2	
	2.0nm,0.6s							
ZSN	**Zaisan**	**5.47**	**10**	*e*P		**Pb**	**02 48 26.3**	**+1.5**
	2.7nm,0.3s							
ZSN				*e*S		**Sg**	**02 49 42.8**	**-2.3**
	5.1nm,0.3s							
ZSN	**Zaisan**	**5.47**	**10**	Pg		**Pb**	**02 48 26.3**	**+1.5**
	3.2nm,0.3s							
ZSN				Lg		Lg	02 49 42.8	
	7.7nm,0.7s							

*IPEC **07** 02:50:42.7±0.3, 51.63N×16.13E, h1km, ML2.2/4, Error ellipse: s-maj=3.1km s-min=1.6km az=69.0*
*VIE **07** 02:50:43.2±0.7, 51.58N×16.05E, h0km, mb2.5/2, ml2.5/3, Error ellipse: s-maj=7.6km s-min=3.2km az=46.0, Suspected Mining induced.*
*PRU **07** 02:50:46.3, 51.48N×15.97E, h0km*
ISC 07 02:50:43.4±1.2, 51.53N±0.06×16.01E±0.03, h0km, n26, σ0s54/50, Poland

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**166**	*e*Pg		**Pb**	**02 50 58.2**	**-0.5**
KSP				*e*Sg		**Sb**	**02 51 08.2**	**-0.9**
CHVC	**Chvalec**	**0.95**	**178**	*e*PG		**Pb**	**02 51 03.1**	**+0.4**
CHVC				*e*SG		**Sb**	**02 51 15.8**	**0.0**
	comp=Z,24nm,0.5s							
OSTC	**Ostas**	**0.99**	**173**	*e*PG		**Pb**	**02 51 03.9**	**+0.5**
OSTC				*e*SG		**Sb**	**02 51 16.9**	**0.0**
	comp=Z,44nm,0.3s							
UPC	**Upice**	**1.03**	**180**	*e*PG		**Pb**	**02 51 04.0**	**-0.1**
UPC				*e*SG		**Sg**	**02 51 17.1**	**+0.7**
	comp=Z,70nm,0.3s							
DPC	**Dobruska-Polom**	**1.20**	**171**	*e*PG		**Pb**	**02 51 07.1**	**+0.1**
DPC				*e*SG		**Sb**	**02 51 23.3**	**+0.2**
	comp=Z,18nm,0.3s							
PVCC	**Panska Ves**	**1.36**	**223**	*e*PG		**Pb**	**02 51 10.1**	**+0.4**
PVCC				*e*SG		**Sn**	**02 51 28.6**	**+0.3**
	comp=Z,73nm,0.2s							
BRG	**Berggiesshubel**	**1.46**	**244**	Pg		**Pb**	**02 51 11.6**	**+0.1**
BRG				Sg		**Sn**	**02 51 31.3**	**+0.4**
BRG				Amp			02 51 32.1	
	comp=Z,38nm,0.4s							
KRLC	**Kraliky**	**1.54**	**161**	*e*PG		**Pn**	**02 51 12.3**	**+0.1**
KRLC				*e*SG		**Sg**	**02 51 32.8**	**0.0**
	comp=Z,30nm,0.5s							
PRA	**Prague**	**1.78**	**215**	*e*PN		**Pn**	**02 51 15.4**	**+0.1**
PRU	**Pruhonice**	**1.81**	**212**	*e*PG		**Pb**	**02 51 17.6**	**+0.2**
PRU				*e*SG		**Sg**	**02 51 41.8**	**+0.4**
	comp=Z,18nm,0.6s							
HSKC	**Hora Svate Kat**	**1.88**	**241**	*e*SG		**Sg**	**02 51 43.1**	**-0.5**
	comp=Z,18nm,0.2s							
CLL	**Collm**	**1.90**	**264**	*e*Pn		**Pn**	**02 51 16.0**	**-1.0**
	comp=Z,6.0nm,0.4s							
CLL				*i* Pg		**Pg**	**02 51 19.7**	**-0.1**
CLL				*i* x		x	02 51 23.0	
CLL				*i* Sg		**Sg**	**02 51 44.2**	**-0.2**
	comp=Z,14nm,0.4s							
MORC	**Moravsky Berou**	**2.01**	**150**	*e*Pn		**Pn**	**02 51 18.4**	**-0.2**
	baz=335							
MORC				*e*Sg		**Sb**	**02 51 47.1**	**+0.7**
	comp=Z,16nm,0.5s,baz=335							
VRAC	**Vranov**	**2.26**	**170**	*e*Pn		**Pn**	**02 51 22.3**	**+0.3**
	baz=353							
VRAC				*e*Sg		**Sg**	**02 51 56.2**	**+0.3**
	comp=Z,12nm,0.5s,baz=353							
KRUC	**Moravsky**	**2.49**	**174**	*e*Pn		**Pn**	**02 51 25.4**	**+0.3**
	baz=356							
KRUC				*e*Sg		**Sg**	**02 52 03.2**	**0.0**
	comp=Z,11nm,0.7s,baz=356							
KRUC	**Moravsky**	**2.49**	**174**	*e*PN		**Pn**	**02 51 25.5**	**+0.3**
KRUC				*e*SG		**Sg**	**02 52 03.3**	**0.0**
NKC	**Novy Kostel**	**2.61**	**241**	*e*PN		**Pn**	**02 51 27.2**	**+0.4**
NKC				*e*PG		**Pg**	**02 51 32.9**	**-0.4**
NKC				*e*SG		**Sg**	**02 52 07.5**	**+0.4**
	comp=Z,18nm,0.4s							
OJC	**Ojcow**	**2.73**	**117**	*e*Pg		**Pg**	**02 51 36.0**	**+0.2**
OJC				*e*Sg		**Sg**	**02 52 11.5**	**+0.3**
KHC	**Kasperske Hory**	**2.87**	**214**	*e*PN		**Pn**	**02 51 30.7**	**+0.3**
KHC				*e*PG		**Pb**	**02 51 36.8**	**+1.4**
KHC				*e*SN		**Sn**	**02 52 05.4**	**-0.2**
KHC				*e*SG		**Sg**	**02 52 14.7**	**-0.8**
	comp=Z,7.9nm,0.6s							
JAVC	**Velka Javorina**	**2.88**	**158**	*e*Pn		**Pn**	**02 51 30.6**	**0.0**
	baz=341							
CKRC	**Cesky Krumlov**	**2.93**	**203**	*e*PG		**Pg**	**02 51 38.2**	**-1.3**
CKRC				*e*SG		**Sg**	**02 52 16.8**	**-0.7**
LANS	**Liptovska Anna**	**3.25**	**136**	*e*PG		**Pg**	**02 51 44.5**	**-1.2**
LANS				*e*SG		**Sg**	**02 52 27.9**	**0.0**
NIE	**Niedzica**	**3.46**	**126**	*e*Pg		**Pg**	**02 51 49.0**	**-0.7**
NIE				*e*Sg		**Sg**	**02 52 34.4**	**-0.1**
CONA	**Conrad Observa**	**3.61**	**182**	*e*Pn		**Pn**	**02 51 40.7**	**0.0**
	comp=Z,0.7nm,0.3s							
MOA	**Molln**	**3.86**	**198**	*e*Pn		**Pn**	**02 51 44.7**	**+0.6**
	comp=Z,1.4nm,0.3s							
KBA	**Koelnbreinsper**	**4.79**	**202**	*e*Pn		**Pn**	**02 51 58.0**	**+1.0**
	comp=Z,1.7nm,0.5s							

*SJA **07** 03:06:10.5±0.7, 23.36S×66.95W, h236km±7km, ML3.5, MW3.4*
*GUC **07** 03:06:14.2±0.6, 23.23S×67.23W, h234km±9km, ML3.7*
ISC 07 03:06:10.7±2.0, 23.34S±0.04×66.98W±0.07, h227km±17km, n29, σ1s43/48, 7C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.78**	**50**	*e*P		**Pn**	**03 06 49.9**	**+0.2**
LVC	**Limon Verde**	**1.92**	**292**	*e*P		**Pn**	**03 06 52.0**	**+1.1**
LVC	**Limon Verde**	**1.92**	**292**	*e*P		**Pn**	**03 06 52.1**	**+1.1**
LVC				*i* S		**S**	**03 07 21.4**	**-0.9**
LVC				IAML			03 07 24.9	
	130nm,0.1s							
SLA	**San Lorenzo**	**1.93**	**136**	*e*P		**Pn**	**03 06 51.6**	**+0.8**
PB06	**IPOC Station P**	**2.47**	**284**	*e*P		**Pn**	**03 06 57.2**	**+1.1**
PB06				*e*S		**S**	**03 07 31.6**	**-0.2**
PB06	**IPOC Station P**	**2.47**	**284**	⇑*i*P		**Pn**	**03 06 57.6**	**+1.4**
PB06				*i* S		**S**	**03 07 30.7**	**-1.0**
PB06				IAML			03 07 35.7	
	comp=E,92nm,0.2s							
PB09	**IPOC Station P**	**2.59**	**306**	*e*P		**Pn**	**03 06 59.0**	**+1.5**
PB09				*e*S		**S**	**03 07 34.6**	**+0.4**
PB09				IAML			03 07 37.5	
	comp=Z,71nm,0.8s							
PB09	**IPOC Station P**	**2.59**	**306**	⇑*i*P		**Pn**	**03 06 59.2**	**+1.7**
PB09				*e*S		**S**	**03 07 33.5**	**-0.6**
PB09				IAML			03 07 36.6	
	comp=N,78nm,0.2s							
FSA	**Cafayete**	**2.91**	**162**	*e*P		**Pn**	**03 07 01.8**	**+0.8**
GO02	**Mina Guanaco**	**3.00**	**232**	*e*P		**Pn**	**03 07 03.2**	**+1.2**
GO02	**Mina Guanaco**	**3.00**	**232**	⇑*i*P		**Pn**	**03 07 03.4**	**+1.4**
GO02				*i* S		**S**	**03 07 42.1**	**-0.2**
PB04	**IPOC Station P**	**3.09**	**288**	*e*P		**Pn**	**03 07 04.4**	**+1.4**
PB04				IAML			03 07 48.3	
	comp=Z,69nm,0.2s							
PB04	**IPOC Station P**	**3.09**	**288**	⇑*i*P		**Pn**	**03 07 04.3**	**+1.3**
PB04				*i* S		**S**	**03 07 42.2**	**-1.7**
PB07	**IPOC Station P**	**3.13**	**300**	*e*P		**Pn**	**03 07 04.4**	**+1.0**
PB07				*e*S		**S**	**03 07 43.0**	**-1.8**
PB07				IAML			03 07 43.6	
	comp=Z,151nm,0.2s							
PB07	**IPOC Station P**	**3.13**	**300**	⇑*i*P		**Pn**	**03 07 04.7**	**+1.2**
PB07				*i* S		**S**	**03 07 42.7**	**-2.1**
PB07				IAML			03 07 43.7	
	comp=N,322nm,0.2s							
PB01	**IPOC Station P**	**3.26**	**314**	*e*P		**Pn**	**03 07 05.9**	**+1.0**
PB01				*e*S		**S**	**03 07 47.1**	**-0.2**
PB01				IAML			03 07 47.5	
	comp=Z,88nm,0.2s							
PB01	**IPOC Station P**	**3.26**	**314**	⇑*i*P		**Pn**	**03 07 05.8**	**+1.0**
PB01				*i* S		**S**	**03 07 45.8**	**-1.5**
PB02	**IPOC Station P**	**3.37**	**306**	*e*P		**Pn**	**03 07 06.9**	**+0.8**
PB02				*e*S		**S**	**03 07 47.9**	**-1.7**
PB02				IAML			03 07 51.6	
	comp=Z,168nm,0.2s							
PB02	**IPOC Station P**	**3.37**	**306**	⇑*i*P		**Pn**	**03 07 07.0**	**+0.8**
PB02				*e*S		**S**	**03 07 47.4**	**-2.2**
PB14	**IPOC Station P**	**3.39**	**247**	*e*P		**Pn**	**03 07 08.2**	**+1.6**
PB14				*e*S		**S**	**03 07 49.5**	**-0.8**
PB14				IAML			03 07 50.6	
	comp=Z,77nm,0.2s							
PB08	**IPOC Station P**	**3.77**	**327**	*e*P		**Pn**	**03 07 13.4**	**+2.3**
PB08				*e*S		**S**	**03 07 59.4**	**+0.7**
PB08				IAML			03 08 01.9	
	comp=Z,34nm,0.3s							
PB08	**IPOC Station P**	**3.77**	**327**	⇓*i*P		**Pn**	**03 07 13.4**	**+2.3**
PB08				IAML			03 08 01.8	
AC02	**Maricunga**	**3.99**	**209**	*e*P		**Pn**	**03 07 15.5**	**+1.7**
TA01	**Diego Aracena**	**4.05**	**312**	*e*P		**Pn**	**03 07 15.0**	**+0.9**
TA01				IAML			03 08 08.8	
	comp=Z,23nm,0.3s							
TA01	**Diego Aracena**	**4.05**	**312**	*e*P		**Pn**	**03 07 15.5**	**+1.3**
TA01				*e*S		**S**	**03 08 02.0**	**-2.2**
TA01				IAML			03 08 05.2	
	comp=E,62nm,0.2s							
HMBC	**Humberstone**	**4.07**	**318**	*e*P		**Pn**	**03 07 14.8**	**+0.3**
HMBC				*i* S		**S**	**03 08 02.0**	**-2.8**
AC01	**Pan de Azucar**	**4.32**	**229**	*e*P		**Pn**	**03 07 17.9**	**+0.5**
AC01				*e*S		**S**	**03 08 07.1**	**-3.0**
AC01				IAML			03 08 09.4	
	comp=Z,31nm,0.2s							
PB11	**IPOC Station P**	**4.34**	**324**	*e*P		**Pn**	**03 07 18.5**	**+0.6**
PB11				IAML			03 08 09.8	
	comp=Z,56nm,0.2s							
PB11				*e*S		**S**	**03 08 09.9**	**-1.0**
GO03	**Copiap**	**5.16**	**214**	*e*P		**Pn**	**03 07 28.6**	**+0.8**

IDC 07 03:26:55.9±7.2, 5.62S×141.04E, h0km, mb3.1/1, mbtmp3.1/3, ML3.1/2, Error ellipse: s-maj=262.4km s-min=37.8km az=92.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.66**	**204**	Pn		Pn	03 30 37.6	-0.5
	0.1nm,0.3s,baz=23,slow=13,SNR=1.3 0.2nm,0.5s							
ASAR	**Alice Springs**	**19.21**	**200**	P		P	03 31 21.9	+0.2
	baz=31,slow=11,SNR=3.3 0.4nm,0.5s							
MKAR	**Makanchi Array**	**73.50**	**322**	P		P	03 38 30.6	0.0
	0.1nm,0.5s,baz=114,slow=6.5,SNR=1.3 0.1nm,0.5s							

*SSNC **07** 03:27:45.0±2.5, 19.75N×70.10W, h5km±267km, MD3.8*
*OSPL **07** 03:27:49.0±1.6, 18.83N×70.27W, h119km±7km, ML2.9*
ISC 07 03:27:47.5±1.4, 18.83N±0.07×70.39W±0.04, h120km±8km, n20, σ1s48/33, 1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LOSC1	**San Cristbal**	**0.49**	**148**	*i* P		**Pn**	**03 28 03.4**	**-2.0**
LOSC1				*e*S		**Sn**	**03 28 15.5**	**-3.4**
SDD	**Santo Domingo**	**0.58**	**129**	*i* P		**Pn**	**03 28 05.3**	**-0.7**
SDD				*e*S		**Sn**	**03 28 17.5**	**-2.4**
SC01	**Santiago de lo**	**0.68**	**332**	*i* P		**Pn**	**03 28 07.7**	**+1.0**
SC01				*e*S		**Sn**	**03 28 22.0**	**+0.8**
SC01				IAML			03 28 23.1	
	comp=Z,654nm,0.1s							
LONA1	**Toro Cenizo, N**	**0.74**	**42**	*i* P		**Pn**	**03 28 06.9**	**-0.3**
LONA1				*e*S		**Sn**	**03 28 21.2**	**-0.9**
LONA1				IAML			03 28 21.4	
	comp=Z,2µm,0.2s							
SDDR	**Presa de Saban**	**0.87**	**280**	*e*P		**Pn**	**03 28 09.1**	**+0.8**
SDDR				*e*S		**Sn**	**03 28 25.8**	**+1.8**
SDDR	**Presa de Saban**	**0.87**	**280**	*i* P		**Pn**	**03 28 09.4**	**+1.1**
SDDR				*e*S		**Sn**	**03 28 24.3**	**+0.2**
SDDR				IAML			03 28 31.0	
	comp=Z,162nm,0.4s							
SDDR	**Presa de Saban**	**0.87**	**280**	*e*P		**Pn**	**03 28 09.1**	**+0.8**
SDDR				*e*S		**Sn**	**03 28 26.5**	**+2.4**
PODR	**Polo**	**1.07**	**232**	⇓*i*P		**Pn**	**03 28 11.7**	**+1.2**
PODR				*e*S		**Sn**	**03 28 29.4**	**+1.5**
LODA1	**ITESIL, Dajabo**	**1.44**	**300**	*i* P		**Pn**	**03 28 15.9**	**+1.8**
LODA1				*e*S		**Sn**	**03 28 34.8**	**+0.3**
LODA1				IAML			03 28 38.1	
	comp=Z,754nm,2.9s							
LOPE2	**Hotel El Peder**	**1.51**	**239**	*i* P		**Pn**	**03 28 17.5**	**+2.5**

LOPE2 IAML 03 28 44.5
comp=Z,38nm,0.6s
AOPR Arecibo Observ 3.48 97 *e*P **Pn 03 28 42.2 +2.1**
AOPR *e*S **Sn 03 29 22.2 +1.4**
MASC Masc 3.87 291 *e*P **Pn 03 28 44.9 -0.3**
MASC *e*S **Sn 03 29 29.2 -0.8**
MASC Masc 3.87 291 *i*P **Pn 03 28 45.3 +0.1**
MASC IAML 03 29 34.6
comp=Z,18nm,1.5s
GTBY Guantanamo Bay 4.59 285 *e*P **Pn 03 28 54.7 -0.2**
GTBY *e*S **Sn 03 29 46.8 -0.6**
GTBY Guantanamo Bay 4.59 285 *i*P **Pn 03 28 55.3 +0.4**
NMDO Nuevo Mundo 4.66 292 *e*P **Pn 03 28 54.7 -1.1**
NMDO *e*S **Sn 03 29 47.4 -1.6**
MOAC Moa 4.68 294 *e*P **Pn 03 28 54.7 -1.3**
RCC Rio Carpintero 5.14 284 *e*P **Pn 03 29 01.9 -0.5**
RCC *e*S **Sn 03 29 59.5 -1.2**
ANBD Bethesda, Anti 8.39 101 *e*P **Pn 03 29 46.8 +0.5**
ANBD Bethesda, Anti 8.39 101 *e*S Sn 03 31 11.2 -8.3

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*KRSC **07** 03:33:14.3±0.9, 55˚.85N×160˚.95E, h210km±7km, Ml4.3*
*MOS **07** 03:33:15.0±0.7, 55˚.95N×160˚.63E, h209km, mb4.0/15, Error ellipse: s-maj=11.1km s-min=5.0km az=84.6*
*NEIC **07** 03:33:15.9±1.0, 55˚.9N±0˚.1×160˚.5E±0˚.2, h200km±11km, mb4.3/63, Error ellipse: s-maj=16.8km s-min=14.9km az=150.0*
*IDC **07** 03:33:16.2±1.0, 55˚.97N×160˚.45E, h202km±10km, mb3.6/28, mbtmp4.1/31, Error ellipse: s-maj=9.7km s-min=8.2km az=145.0*
ISC 07 03:33:16.2±0.5, **55.87N**±0˚.04×**160.75E**±0˚.04, **h209**km±3km, **n216**, σ1§10/284, **mb4.1**/69, **11C-3D, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
BZGR	**Bezymyannyi-Gr**	**0.08**	**339**	Op PN	**Pn**	**03 33 43.0**	**-0.5**
BZGR				*e*S	**S**	**03 34 04.1**	**-1.0**
BZGR	**Bezymyannyi-Gr**	**0.08**	**339**	*e*P	**Pn**	**03 33 43.0**	**-0.5**
BZGR				*e*S	**S**	**03 34 04.1**	**-1.0**
BZP	**Bezymyannyi-Pe**	**0.13**	**292**	*e*P	**Pn**	**03 33 42.5**	**-1.1**
BZP				*e*S	**S**	**03 34 03.7**	**-1.4**
ZLN	**Zelenaya**	**0.15**	**12**	PN	**Pn**	**03 33 43.3**	**-0.3**
ZLN				S	**S**	**03 34 04.8**	**-0.4**
ZLN	**Zelenaya**	**0.15**	**12**	*e*P	**Pn**	**03 33 43.3**	**-0.3**
ZLN				*e*S	**S**	**03 34 04.8**	**-0.4**
BZMR	**Bezymyannaya**	**0.16**	**296**	PN	**Pn**	**03 33 43.0**	**-0.7**
BZMR				S	**S**	**03 34 04.2**	**-1.0**
BZMR	**Bezymyannaya**	**0.16**	**296**	*e*P	**Pn**	**03 33 43.0**	**-0.7**
BZMR				*e*S	**S**	**03 34 04.2**	**-1.0**
BZWR	**Bezymyannyi-We**	**0.17**	**305**	PN	**Pn**	**03 33 43.0**	**-0.7**
BZWR				S	**S**	**03 34 04.6**	**-0.7**
BZWR	**Bezymyannyi-We**	**0.17**	**305**	*e*P	**Pn**	**03 33 43.0**	**-0.7**
BZWR				*e*S	**S**	**03 34 04.6**	**-0.7**
LGNR	**Loginova**	**0.22**	**352**	PN	**Pn**	**03 33 43.5**	**-0.4**
LGNR				S	**S**	**03 34 05.0**	**-0.7**
LGNR	**Loginova**	**0.22**	**352**	*e*P	**Pn**	**03 33 43.5**	**-0.4**
LGNR				*e*S	**S**	**03 34 05.0**	**-0.7**
KIRR	**Kirishev**	**0.24**	**291**	PN	**Pn**	**03 33 42.9**	**-0.9**
KIRR				S	**S**	**03 34 04.1**	**-1.2**
KIRR	**Kirishev**	**0.24**	**291**	*e*P	**Pn**	**03 33 42.9**	**-0.9**
KIRR				*e*S	**S**	**03 34 04.1**	**-1.2**
KMNR	**Kamenistaya**	**0.31**	**249**	PN	**Pn**	**03 33 43.3**	**-0.6**
KMNR				S	**S**	**03 34 04.8**	**-0.6**
KMNR	**Kamenistaya**	**0.31**	**249**	*e*P	**Pn**	**03 33 43.3**	**-0.6**
KMNR				*e*S	**S**	**03 34 04.8**	**-0.6**
KPT	**Kopyto**	**0.31**	**289**	PN	**Pn**	**03 33 42.9**	**-0.9**
KPT				S	**S**	**03 34 04.1**	**-1.3**
KPT	**Kopyto**	**0.31**	**289**	*e*P	**Pn**	**03 33 42.9**	**-0.9**
KPT				*e*S	**S**	**03 34 04.1**	**-1.3**
KRSR	**Krestovskiy**	**0.37**	**344**	PN	**Pn**	**03 33 43.1**	**-0.9**
KRSR				S	**S**	**03 34 03.9**	**-1.9**
KRSR	**Krestovskiy**	**0.37**	**344**	*e*P	**Pn**	**03 33 43.1**	**-0.9**
KRSR				*e*S	**S**	**03 34 03.9**	**-1.9**
KLY	**Klyuchi**	**0.45**	**353**	PN	**Pn**	**03 33 43.1**	**-1.0**
KLY				S	**S**	**03 34 04.6**	**-1.3**
KLY	**Klyuchi**	**0.45**	**353**	*e*P	**Pn**	**03 33 43.1**	**-1.0**
KLY				*e*S	**S**	**03 34 04.6**	**-1.3**
KOZ	**Kozyrevsk**	**0.53**	**292**	PN	**Pn**	**03 33 43.6**	**-0.8**
KOZ				S	**S**	**03 34 05.3**	**-1.1**
KOZ	**Kozyrevsk**	**0.53**	**292**	*e*P	**Pn**	**03 33 43.6**	**-0.8**
KOZ				*e*S	**S**	**03 34 05.3**	**-1.1**
TUMR	**Tumrok**	**0.68**	**210**	PN	**Pn**	**03 33 44.5**	**-0.7**
TUMR				S	**S**	**03 34 06.1**	**-1.5**
TUMR	**Tumrok**	**0.68**	**210**	*e*P	**Pn**	**03 33 45.2**	**0.0**
TUMR				*e*S	**S**	**03 34 07.6**	**0.0**
TUMD	**Tumrok D**	**0.69**	**197**	*e*P	**Pn**	**03 33 44.5**	**-0.7**
TUMD				*e*S	**S**	**03 34 06.1**	**-1.5**
SRDR	**Sredinnyy**	**0.73**	**309**	PN	**Pn**	**03 33 44.4**	**-0.9**
SRDR				S	**S**	**03 34 06.9**	**-1.1**
SRDR	**Sredinnyy**	**0.73**	**309**	*e*P	**Pn**	**03 33 44.4**	**-0.9**
SRDR				*e*S	**S**	**03 34 06.9**	**-1.1**
BDR	**Baidarnaya**	**0.75**	**20**	PN	**Pn**	**03 33 44.5**	**-1.0**
BDR	**Baidarnaya**	**0.75**	**20**	*e*P	**Pn**	**03 33 44.5**	**-1.0**
SMKR	**Semkarok**	**0.82**	**29**	*e*S	**S**	**03 34 08.7**	**-0.3**
ESO	**Esso**	**1.15**	**274**	PN	**Pn**	**03 33 47.4**	**-0.5**
ESO	**Esso**	**1.15**	**274**	*e*P	**Pn**	**03 33 47.4**	**-0.5**
KBG	**Krutoberegovo**	**1.17**	**70**	PN	**Pn**	**03 33 46.0**	**-1.9**
KBG				S	**S**	**03 34 11.0**	**-1.4**
KBG	**Krutoberegovo**	**1.17**	**70**	*e*P	**Pn**	**03 33 46.0**	**-1.9**
KBG				*e*S	**S**	**03 34 11.0**	**-1.4**
TIGL	**Tigil**	**2.22**	**330**	*e*P	**Pn**	**03 33 56.4**	**-1.1**
GNL	**Ganaly**	**2.71**	**218**	PN	**Pn**	**03 34 03.6**	**+0.5**
GNL	**Ganaly**	**2.71**	**218**	*e*P	**Pn**	**03 34 03.6**	**+0.5**
KRX	**Arik**	**2.79**	**207**	PN	**Pn**	**03 34 04.9**	**+0.8**
KRX				S	**S**	**03 34 41.2**	**+0.3**
KRX	**Arik**	**2.79**	**207**	*e*P	**Pn**	**03 34 04.9**	**+0.8**
KRX				*e*S	**S**	**03 34 41.2**	**+0.3**
SPN	**Mys Shipunskii**	**2.81**	**189**	PN	**Pn**	**03 34 02.1**	**-2.0**
SPN				S	**S**	**03 34 37.3**	**-3.6**
SPN	**Mys Shipunskii**	**2.81**	**189**	*e*P	**Pn**	**03 34 02.1**	**-2.0**
SPN				*e*S	**S**	**03 34 37.3**	**-3.6**
NLC	**Nalytchevo**	**2.82**	**197**	PN	**Pn**	**03 34 03.5**	**-0.7**
NLC				S	**S**	**03 34 39.6**	**-1.6**
NLC	**Nalytchevo**	**2.82**	**197**	*e*P	**Pn**	**03 34 03.5**	**-0.7**
NLC				*e*S	**S**	**03 34 39.6**	**-1.6**
SMAR	**Somma**	**2.84**	**204**	PN	**Pn**	**03 34 05.1**	**+0.4**
SMAR				S	**S**	**03 34 43.0**	**+0.9**
SMAR	**Somma**	**2.84**	**204**	*e*P	**Pn**	**03 34 05.1**	**+0.4**
SMAR				*e*S	**S**	**03 34 43.0**	**+0.9**
AVH	**Avacha**	**2.86**	**205**	PN	**Pn**	**03 34 05.4**	**+0.7**
AVH				S	**S**	**03 34 43.0**	**+0.9**
AVH	**Avacha**	**2.86**	**205**	*e*P	**Pn**	**03 34 05.4**	**+0.7**
AVH				*e*S	**S**	**03 34 43.0**	**+0.9**
KOK	**Koryaka**	**2.86**	**206**	PN	**Pn**	**03 34 05.7**	**+1.0**
KOK	**Koryaka**	**2.86**	**206**	*e*P	**Pn**	**03 34 05.7**	**+1.0**
BKI	**Bering**	**3.04**	**100**	PN	**Pn**	**03 34 06.0**	**-0.7**
BKI				S	**S**	**03 34 43.6**	**-2.2**
BKI	**Bering**	**3.04**	**100**	*e*P	**Pn**	**03 34 06.0**	**-0.7**
BKI				*e*S	**S**	**03 34 43.6**	**-2.2**
DALK	**Dalny**	**3.07**	**203**	PN	**Pn**	**03 34 06.9**	**-0.2**
DALK				S	**S**	**03 34 45.5**	**-0.9**
DALK	**Dalny**	**3.07**	**203**	*e*P	**Pn**	**03 34 06.9**	**-0.2**
DALK				*e*S	**S**	**03 34 45.5**	**-0.9**
PET	**Petropavlovsk**	**3.10**	**204**		**Pn**	**03 34 06.6**	**-0.8**
PET					**S**	**03 34 46.9**	**-0.1**
PET	**Petropavlovsk**	**3.10**	**204**	*e*PN	**Pn**	**03 34 07.1**	**-0.3**
PET				*e*S	**S**	**03 34 45.7**	**-1.3**
PET				smax	smax		
	comp=N,186nm,0.7s						
PET				smax	smax		
	comp=E,179nm,0.6s						
PET	**Petropavlovsk**	**3.10**	**204**	*e*P	**Pn**	**03 34 07.5**	**0.0**
PET				*e*S	**S**	**03 34 46.2**	**-0.8**
PALN	**Palana**	**3.26**	**353**	PN	**Pn**	**03 34 08.2**	**-1.0**
PALN	**Palana**	**3.26**	**353**	*e*P	**Pn**	**03 34 08.2**	**-1.0**
PEA0B	**Petropavlovsk-**	**3.29**	**214**	Pn	**Pn**	**03 34 10.3**	**+0.7**
PEA0B	**Petropavlovsk-**	**3.29**	**214**	*de*PN	**Pn**	**03 34 09.7**	**+0.1**
PETK	**Petropavlovsk-**	**3.29**	**214**	PN	**Pn**	**03 34 09.5**	**-0.1**
PETK	**Petropavlovsk-**	**3.29**	**214**	P	**Pn**	**03 34 09.6**	**0.0**
	comp=E,15nm,0.6s,baz=52,slow=17,SNR=19						
PETK				S	**S**	**03 34 50.3**	**-0.7**
	comp=E,33nm,1.2s,baz=72,slow=24,SNR=3.9						
KRMR	**Karymshinskiy**	**3.41**	**208**	PN	**Pn**	**03 34 11.3**	**+0.3**
KRMR				S	**S**	**03 34 54.0**	**+0.5**
KRMR	**Karymshinskiy**	**3.41**	**208**	*e*P	**Pn**	**03 34 11.3**	**+0.3**
KRMR				*e*S	**S**	**03 34 54.0**	**+0.5**
OSSR	**Ossora**	**3.62**	**19**	PN	**Pn**	**03 34 13.0**	**-0.4**
OSSR	**Ossora**	**3.62**	**19**	*e*P	**Pn**	**03 34 13.0**	**-0.4**
APC	**Apacha**	**3.62**	**217**	PN	**Pn**	**03 34 14.3**	**+0.7**
APC				S	**S**	**03 34 57.4**	**-0.7**
APC	**Apacha**	**3.62**	**217**	*e*P	**Pn**	**03 34 14.3**	**+0.7**
APC				*e*S	**S**	**03 34 57.4**	**-0.7**
GRL	**Gorelyy**	**3.67**	**206**	PN	**Pn**	**03 34 15.2**	**+0.8**
GRL	**Gorelyy**	**3.67**	**206**	*e*P	**Pn**	**03 34 15.2**	**+0.8**
RUS	**Russkaya**	**3.68**	**202**	PN	**Pn**	**03 34 13.4**	**-1.0**
RUS				S	**S**	**03 34 57.4**	**-2.1**
RUS	**Russkaya**	**3.68**	**202**	*e*P	**Pn**	**03 34 13.4**	**-1.0**
RUS				*e*S	**S**	**03 34 57.4**	**-2.1**
MTVR	**Mutnovka**	**3.71**	**205**	PN	**Pn**	**03 34 15.1**	**+0.2**
MTVR				S	**S**	**03 35 01.1**	**+0.7**
MTVR	**Mutnovka**	**3.71**	**205**	*e*P	**Pn**	**03 34 15.1**	**+0.2**
MTVR				*e*S	**S**	**03 35 01.1**	**+0.7**
ASAK	**Asacha**	**3.87**	**207**	PN	**Pn**	**03 34 17.1**	**+0.3**
ASAK				S	**S**	**03 35 04.3**	**+0.4**
ASAK	**Asacha**	**3.87**	**207**	*e*P	**Pn**	**03 34 17.1**	**+0.3**
ASAK				*e*S	**S**	**03 35 04.3**	**+0.4**
KDTR	**Khodutka, Kamc**	**4.36**	**202**	PN	**Pn**	**03 34 21.4**	**-1.3**
KDTR				S	**S**	**03 35 10.5**	**-4.2**
KDTR	**Khodutka, Kamc**	**4.36**	**202**	*e*P	**Pn**	**03 34 21.4**	**-1.3**
KDTR				*e*S	**S**	**03 35 10.5**	**-4.2**
MA2	**Magadan**	**6.51**	**309**	Pn	**Pn**	**03 34 49.2**	**-0.8**
MA2	**Magadan**	**6.51**	**309**	*de*PN	**Pn**	**03 34 49.8**	**-0.2**
MA2				pmax	pmax		
	comp=Z,22nm,0.7s						
MA2	**Magadan**	**6.51**	**309**	P	**Pn**	**03 34 49.3**	**-0.7**
	comp=Z,26nm,0.8s,baz=113,slow=9.6,SNR=22						
SEY	**Seymchan**	**8.27**	**332**	*e*PN	**Pn**	**03 35 14.1**	**+1.5**
SEY				pmax	pmax		
	comp=Z,11nm,1.7s						
SEY	**Seymchan**	**8.27**	**332**	P	**Pn**	**03 35 13.5**	**+0.9**
	comp=Z,6.3nm,0.8s,baz=135,slow=12,SNR=23						
BILL	**Bilibino**	**12.48**	**10**	P	**P**	**03 36 10.1**	**-0.2**
ATKA	**Atka Island**	**15.14**	**94**	P	**P**	**03 36 42.2**	**+2.4**
YAK	**Yakutsk**	**17.05**	**304**	*de*P	**Pn**	**03 37 01.3**	**-0.9**
YAK				pmax	pmax		
	comp=Z,21nm,0.8s						
KLR	**Kul'dur**	**18.75**	**261**	*e*P	**Pn**	**03 37 20.2**	**-2.1**
KLR	**Kul'dur**	**18.75**	**261**	P	**P**	**03 37 18.7**	**-0.6**
	comp=Z,2.3nm,0.6s,baz=62,slow=12,SNR=8.9						
UNV	**Unalaska Valle**	**18.87**	**82**	P	**P**	**03 37 22.0**	**+1.5**
TIXI	**Tiksi**	**20.76**	**332**	P	**P**	**03 37 40.1**	**-0.5**
TIXI				IAmb	IAmb	03 37 42.3	
	comp=Z,14nm,1.1s						
TIXI	**Tiksi**	**20.76**	**332**	*ce*P	**P**	**03 37 40.3**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,13nm,1.0s						
TIXI	**Tiksi**	**20.76**	**332**	P	**P**	**03 37 40.2**	**-0.3**
	comp=Z,5.1nm,0.3s,baz=128,slow=8.7,SNR=23						
	comp=Z,5.1nm,0.3s						
N15K	**Kwethluk River**	**20.96**	**62**	P	**P**	**03 37 44.1**	**+1.3**
H17K	**Granite Mounta**	**21.09**	**49**	P	**P**	**03 37 44.7**	**+0.5**
J17K	**VABM Dome**	**21.34**	**53**	P	**P**	**03 37 48.1**	**+1.4**
J17K				IAmb	IAmb	03 37 49.2	
	comp=Z,7.2nm,0.6s						
C18K	**Utukok River**	**21.39**	**38**	P	**P**	**03 37 46.9**	**-0.3**
C18K				IAmb	IAmb	03 37 49.2	
	comp=Z,6.5nm,0.9s						
G18K	**Tagagawik**	**21.74**	**46**	P	**P**	**03 37 51.1**	**+0.4**
G18K				IAmb	IAmb	03 37 52.5	
	comp=Z,8.7nm,0.9s						
C19K	**Lookout Ridge**	**22.08**	**38**	P	**P**	**03 37 54.3**	**+0.2**
F19K	**Shaleruckik Mo**	**22.23**	**44**	P	**P**	**03 37 55.7**	**+0.3**
J18K	**Innoko River**	**22.40**	**53**	P	**P**	**03 37 57.5**	**+0.5**
J18K				IAmb	IAmb	03 37 59.4	
	comp=Z,9.7nm,1.0s						
D19K	**Kuna River**	**22.43**	**39**	P	**P**	**03 37 57.5**	**+0.2**
D19K				IAmb	IAmb	03 37 57.9	
	comp=Z,5.3nm,0.9s						
E19K	**Redstone River**	**22.55**	**42**	P	**P**	**03 37 58.5**	**+0.2**
E19K				IAmb	IAmb	03 38 00.3	
	comp=Z,5.7nm,0.8s						
H19K	**Roundabout Mou**	**22.61**	**47**	P	**P**	**03 37 59.5**	**+0.7**
TTA	**Tatalina**	**22.73**	**54**	P	**P**	**03 38 00.8**	**+0.7**
J19K	**Poorman**	**22.89**	**51**	P	**P**	**03 38 01.5**	**+0.1**
J19K				IAmb	IAmb	03 38 03.1	
	comp=Z,7.6nm,0.7s						
SVW2	**Sparrevohn**	**23.07**	**59**	P	**P**	**03 38 03.8**	**+0.8**
B20K	**Meade River**	**23.16**	**36**	P	**P**	**03 38 04.3**	**+0.6**
J20K	**Nowinta River**	**23.54**	**51**	P	**P**	**03 38 08.1**	**+0.8**
K20K	**Telida**	**23.60**	**53**	P	**P**	**03 38 08.3**	**+0.5**
K20K				IAmb	IAmb	03 38 10.4	
	comp=Z,4.9nm,0.6s						
IMAR	**Indian Mountai**	**23.75**	**46**	P	**P**	**03 38 09.4**	**+0.2**
B21K	**Ikpikpuk River**	**23.92**	**37**	P	**P**	**03 38 11.6**	**+1.0**
F21K	**Alatna River**	**23.95**	**43**	P	**P**	**03 38 11.8**	**+0.8**
H21K	**Melozitna Rive**	**24.12**	**47**	P	**P**	**03 38 12.9**	**+0.4**
D22K	**Ayikyak River**	**24.46**	**39**	P	**P**	**03 38 16.2**	**+0.6**
D22K				IAmb	IAmb	03 38 16.9	
	comp=Z,5.0nm,0.6s						
I21K	**Tanana**	**24.46**	**48**	P	**P**	**03 38 16.6**	**+0.9**
I21K				IAmb	IAmb	03 38 18.9	
	comp=Z,3.9nm,0.7s						
B22K	**Teshekpuk Lake**	**24.47**	**36**	P	**P**	**03 38 15.9**	**+0.3**
B22K				IAmb	IAmb	03 38 18.8	
	comp=Z,17nm,1.4s						
CAST	**Castle Rocks**	**24.48**	**53**	P	**P**	**03 38 16.2**	**+0.3**
RSO	**Redoubt South**	**24.53**	**60**	P	**P**	**03 38 17.3**	**+0.8**
MJAR	**Matsushiro Arr**	**24.64**	**228**	P	**P**	**03 38 17.6**	**+0.1**
	comp=Z,4.3nm,0.8s,baz=22,slow=8.6,SNR=9.3						
	comp=Z,4.3nm,0.8s						
MLY	**Manley**	**24.99**	**49**	P	**P**	**03 38 21.2**	**+0.7**
OHAK	**Old Harbor**	**25.01**	**68**	P	**P**	**03 38 20.9**	**+0.3**
BOD	**Bodaibo**	**25.25**	**294**	*e*P	**P**	**03 38 21.3**	**-1.5**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.1s						
C23K	**Itkillik River**	**25.33**	**37**	P	**P**	**03 38 23.9**	**+0.5**
C23K				IAmb	IAmb	03 38 25.2	
	comp=Z,4.2nm,0.7s						
WRH	**Wood River Hil**	**26.16**	**50**	P	**P**	**03 38 31.7**	**+0.8**
WRH				IAmb	IAmb	03 38 32.2	
	comp=Z,6.9nm,1.1s						
G24K	**Hadweenzic Riv**	**26.29**	**45**	P	**P**	**03 38 33.1**	**+1.0**
IL31		**26.65**	**49**	P	**P**	**03 38 35.5**	**+0.3**
IL31				IAmb	IAmb	03 38 35.7	
	comp=Z,2.3nm,0.6s						
ILAR	**Eielson Array**	**26.65**	**49**	P	**P**	**03 38 35.4**	**+0.1**
	comp=Z,1.8nm,0.5s,baz=260,slow=7.7,SNR=52						
	comp=Z,1.8nm,0.5s						
D25K	**Kavik River**	**26.75**	**39**	P	**P**	**03 38 36.6**	**+0.4**
D25K				IAmb	IAmb	03 38 37.1	
	comp=Z,4.7nm,0.7s						
PRP	**Porcupine Dome**	**27.15**	**47**	P	**P**	**03 38 40.4**	**+0.5**
PRP				IAmb	IAmb	03 38 41.9	
	comp=Z,3.3nm,0.7s						
FYU	**Fort Yukon**	**27.19**	**45**	P	**P**	**03 38 41.1**	**+1.1**
SCRK	**Sand Creek**	**28.00**	**51**	P	**P**	**03 38 46.9**	**-0.6**
SCRK				IAmb	IAmb	03 38 47.2	
	comp=Z,3.9nm,0.6s						
N25K	**Chitina, Valde**	**28.19**	**56**	P	**P**	**03 38 50.0**	**+0.9**
N25K				IAmb	IAmb	03 38 50.6	
	comp=Z,5.8nm,0.6s						
RAGM	**Ragged Mountai**	**28.46**	**58**	P	**P**	**03 38 52.5**	**+1.1**
KSRS	**Korea Array**	**28.70**	**244**	P	**P**	**03 38 53.5**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=36,slow=9.2,SNR=4.9						
	comp=Z,2.5nm,0.8s						
M26K	**Nabesna, AK**	**28.75**	**54**	P	**P**	**03 38 55.4**	**+1.4**
M26K				IAmb	IAmb	03 38 56.2	
	comp=Z,4.0nm,0.7s						
EGAK	**Eagle**	**29.08**	**48**	P	**P**	**03 38 56.7**	**-0.1**
EGAK				IAmb	IAmb	03 38 57.1	
	comp=Z,3.5nm,0.6s						
L27K	**Beaver Creek,**	**29.13**	**52**	P	**P**	**03 38 58.5**	**+1.3**
L27K				IAmb	IAmb	03 38 59.6	
	comp=Z,4.7nm,1.1s						
M27K	**Edge Creek, AK**	**29.26**	**53**	P	**P**	**03 39 00.3**	**+1.7**
BARN	**Barnard Glacie**	**29.70**	**56**	P	**P**	**03 39 03.9**	**+1.3**
BARN				IAmb	IAmb	03 39 05.0	
	comp=Z,5.1nm,0.6s						
CTGM	**Chitina Glacie**	**29.88**	**56**	P	**P**	**03 39 05.5**	**+1.4**
CTGM				IAmb	IAmb	03 39 06.1	
	comp=Z,6.3nm,0.7s						
I30M	**Mount Dempster**	**30.98**	**47**	P	**P**	**03 39 14.3**	**+0.7**
BCPM	**Bancas Point**	**30.99**	**57**	P	**P**	**03 39 14.9**	**+1.2**
PNL	**Peninsula**	**31.20**	**58**	P	**P**	**03 39 16.6**	**+1.1**
HYT	**Haines Junctio**	**31.71**	**55**	P	**P**	**03 39 21.3**	**+1.3**
HYT				IAmb	IAmb	03 39 22.8	
	comp=Z,4.7nm,0.7s						
M31M	**Drury Creek, Y**	**32.66**	**52**	P	**P**	**03 39 30.2**	**+2.0**
SONM	**Songino Array**	**33.72**	**280**	P	**P**	**03 39 37.3**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=63,slow=8.3,SNR=8.4						
SONM				PcP	**PcP**	**03 42 11.9**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=44,slow=2.1,SNR=6.2						
SONM				ScP	**ScP**	**03 45 37.9**	**+1.5**
	comp=Z,1.0nm,1.1s,baz=93,slow=3.1,SNR=4.5						
	comp=Z,0.9nm,0.6s						
EUNU	**Eureka**	**39.16**	**15**	P	**P**	**03 40 24.1**	**+0.9**
YKA	**Yellowknife Ar**	**40.89**	**45**	P	**P**	**03 40 38.2**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=301,slow=8.3,SNR=26						
	comp=Z,2.1nm,0.7s						
ZALV	**Zalesovo Beam**	**41.65**	**300**	*i*P	**P**	**03 40 42.2**	**-1.5**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**41.65**	**300**	P	**P**	**03 40 42.0**	**-1.6**
	comp=Z,0.7nm,0.5s,baz=58,slow=8.9,SNR=3.7						
ZALV				PcP	**PcP**	**03 42 35.8**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=0.0,slow=3.1,SNR=3.7						
	comp=Z,0.7nm,0.5s						
SPITS	**Spitsbergen Ar**	**44.46**	**350**	P	**P**	**03 41 05.9**	**0.0**
	comp=Z,8.8nm,0.7s,baz=58,slow=6.2,SNR=16						
	comp=Z,8.8nm,0.7s						
KURK	**Kurchatov**	**46.63**	**300**	P	**P**	**03 41 22.2**	**-0.9**
KURK	**Kurchatov**	**46.63**	**300**	*ce*P	**P**	**03 41 22.3**	**-0.9**
KURK				pmax	pmax		
	comp=Z,14nm,0.8s						
KURBB	**Kurchatov Arra**	**46.73**	**300**	P	**P**	**03 41 23.5**	**-0.5**
	comp=Z,7.1nm,0.4s,baz=55,slow=7.7,SNR=36						
MK31	**Makanchi Array**	**47.34**	**294**	P	**P**	**03 41 27.5**	**-1.3**
MK31	**Makanchi Array**	**47.34**	**294**	*ce*P	**P**	**03 41 27.8**	**-1.0**
MKAR	**Makanchi Array**	**47.34**	**294**	P	**P**	**03 41 27.8**	**-1.0**
MKAR	**Makanchi Array**	**47.34**	**294**	*i*P	**P**	**03 41 27.7**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR	**Makanchi Array**	**47.34**	**294**	P	**P**	**03 41 27.4**	**-1.4**
	comp=Z,1.7nm,0.4s,baz=54,slow=6.8,SNR=50						
MKAR				PcP	**PcP**	**03 42 55.7**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=56,slow=5.5,SNR=2.3						
	comp=Z,1.7nm,0.4s						
MAKZ	**Makanchi**	**47.49**	**294**	P	**P**	**03 41 28.9**	**-1.1**
MAKZ	**Makanchi**	**47.49**	**294**	P	**P**	**03 41 28.9**	**-1.1**
MAKZ				pmax	pmax		
	comp=Z,9.0nm,1.3s						
BVAR	**Borovoye Array**	**48.99**	**307**	P	**P**	**03 41 40.4**	**-0.9**
	comp=Z,4.6nm,0.5s,baz=60,slow=7.8,SNR=32						
BVAR				PcP	**PcP**	**03 43 01.5**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=70,slow=5.4,SNR=5.5						
	comp=Z,4.6nm,0.5s						
BRVK	**Borovoye**	**49.02**	**307**	P	**P**	**03 41 40.9**	**-0.5**
BRVK				IAmb	IAmb	03 41 41.2	
	comp=Z,5.0nm,0.6s						
BRVK	**Borovoye**	**49.02**	**307**	*ce*P	**P**	**03 41 40.8**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	**50.77**	**341**	P	**P**	**03 41 53.0**	**-1.4**
ARCES	**ARCESS Array B**	**50.77**	**341**	P	**P**	**03 41 53.0**	**-1.4**
	comp=Z,1.5nm,0.7s,baz=27,slow=8.4,SNR=4.9						
	comp=Z,1.5nm,0.7s						
ARU	**Arti**	**51.63**	**316**	P	**P**	**03 41 59.6**	**-1.3**
ARU	**Arti**	**51.63**	**316**	*ce*P	**P**	**03 42 00.5**	**-0.5**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.7s						
PNTR	**Pine Nut**	**53.31**	**73**	P	**P**	**03 42 14.7**	**+0.9**
PNTR				IAmb	IAmb	03 42 18.1	
	comp=Z,3.9nm,0.7s						
KIRV	**Kirov**	**53.40**	**323**	*ce*P	**P**	**03 42 13.9**	**+0.1**
WAKR	**Walker**	**53.82**	**73**	P	**P**	**03 42 18.9**	**+1.4**
KVN	**Kaiserville**	**54.14**	**72**	P	**P**	**03 42 21.6**	**+1.8**
KVN	**Kaiserville**	**54.14**	**72**	P	**P**	**03 42 21.6**	**+1.8**
KVN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AAK	**Ala-Archa**	**54.22**	**295**	P	**P**	**03 42 19.8**

WRA	Warramunga Arr	78.76	205	P	P	03 44 56.2	+0.8
	comp=Z,1.9nm,0.8s,baz=18,slow=6.0,SNR=9.4						
	comp=Z,1.9nm,0.8s						
ASAR	Alice Springs	82.44	205	P	P	03 45 16.1	+1.2
	comp=Z,0.9nm,0.4s,baz=13,slow=4.5,SNR=9.7						
	comp=Z,0.9nm,0.4s						
ESDC	Sonseca Array	83.94	348	P	P	03 45 22.9	+0.3
	comp=Z,1.4nm,0.7s,baz=1.6,slow=5.1,SNR=11						
	comp=Z,1.4nm,0.7s						
KEST	Kesra	85.55	337	P	P	03 45 30.5	-0.2
	comp=Z,1.4nm,0.5s,baz=20,slow=2.6,SNR=4.7						
	comp=Z,1.4nm,0.5s						
QSPA	South Pole Qui	145.62	180	PKPbc	PKPab	03 52 29.0	-0.4
	comp=Z,2.2nm,0.5s,baz=280,slow=1.2,SNR=25						

IDC 07 03:53:00.0±2.2, 7.65S×127.18E, h0km, mb3.4/1, mbtmp3.7/3, ML3.9/2, Error ellipse: s-maj=192.5km s-min=33.1km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	14.05	151	Pn	Pn	03 56 19.9	-0.7
	0.4nm,0.3s,baz=330,slow=13,SNR=19						
WRA				Sn	Sn	03 58 42.0	-15
	0.9nm,0.3s,baz=331,slow=23,SNR=11						
	0.6nm,0.4s						
ASAR	Alice Springs	17.18	159	P	Pn	03 57 02.3	+0.6
	1.0nm,0.3s,baz=335,slow=10,SNR=40						
	2.7nm,0.5s						
MKAR	Makanchi Array	67.27	328	P	P	04 03 56.5	0.0
	0.2nm,0.5s,baz=122,slow=5.4,SNR=3.1						
	0.2nm,0.5s						

IDC 07 03:54:10.5±5.1, 6.07S×141.21E, h0km, mb3.9/2, mbtmp3.8/4, ML3.0/2, Error ellipse: s-maj=195.8km s-min=32.3km az=94.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	15.33	205	Pn	Pn	03 57 48.2	-0.1
	baz=26,slow=13,SNR=2.8						
	0.7nm,0.6s						
ASAR	Alice Springs	18.86	201	P	P	03 58 32.4	0.0
	0.1nm,0.3s,baz=30,slow=11,SNR=15						
	2.1nm,0.9s						
MKAR	Makanchi Array	73.95	322	P	P	04 05 47.6	-0.2
	0.6nm,0.8s,baz=106,slow=6.6,SNR=5.4						
	0.6nm,0.8s						
BVAR	Borovoye Array	83.47	325	P	P	04 06 40.4	+0.3
	1.5nm,0.8s,baz=93,slow=5.9,SNR=6.4						
	1.5nm,0.8s						

*IDC **07** 03:55:13.9±1.7, 6.32S×143.11E, h0km, mb4.0/6, mbtmp4.0/8, ML4.1/2, Error ellipse: s-maj=67.9km s-min=28.7km az=105.0*

ISC 07 03:55:19.1±1.7, 6.45S±0.2×143.0E±0.5, h35km, n8, σ0.97/8, mb3.9/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	15.89	211	Pn	Pn	03 58 59.2	-1.1
	0.7nm,0.3s,baz=33,slow=14,SNR=4.0						
WRA				Lg	Lg	04 03 37.0	
	0.3nm,0.3s,baz=32,slow=27,SNR=4.7						
	1.8nm,0.6s						
ASAR	Alice Springs	19.28	206	P	P	03 59 42.0	+0.9
	0.6nm,0.3s,baz=34,slow=9.5,SNR=21						
	4.3nm,0.6s						
SONM	Songino Array	62.90	333	P	P	04 05 40.9	-1.1
	0.3nm,0.4s,baz=148,slow=8.5,SNR=1.5						
	0.3nm,0.4s						
MKAR	Makanchi Array	75.33	322	P	P	04 06 59.5	+0.5
	0.5nm,0.7s,baz=105,slow=7.8,SNR=5.4						
	0.5nm,0.7s						
ZALV	Zalesovo Beam	77.28	329	P	P	04 07 09.6	-0.2
	0.4nm,0.4s,baz=129,slow=4.6,SNR=2.1						
	0.4nm,0.4s						
NRIK	Noril'sk	84.47	343	P	P	04 07 48.2	+0.3
	1.7nm,0.6s,baz=139,slow=8.5,SNR=4.1						
	1.7nm,0.6s						
BVAR	Borovoye Array	84.79	325	P	P	04 07 50.8	+1.0
	3.1nm,0.7s,baz=103,slow=6.7,SNR=12						
	3.1nm,0.7s						
ILAR	Eielson Array	87.42	24	P	P	04 08 02.2	-0.3
	0.8nm,0.7s,baz=257,slow=4.8,SNR=18						
	0.8nm,0.7s						

*NNC **07** 03:58:23.3±0.2, 43.08N×76.88E, h8km±1km, mb3.5, mpv3.6, Error ellipse: s-maj=2.4km s-min=0.9km az=172.0*
*KRNET **07** 03:58:23.7±0.1, 43.09N×76.88E, h20km, mb3.2*
*KNET **07** 03:58:24.9±0.6, 43.00N×76.77E, h10km±2km, ml2.4, Error ellipse: s-maj=4.4km s-min=3.1km az=90.0*
*SOME **07** 03:58:24.0, 43.10N×76.90E, h15km*

ISC 07 03:58:24.3±0.7, 43.09N±0.02×76.87E±0.01, h12km±3km, n101, σ1.16/191, 48C-24D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNSS	Tian-Shan	0.08	133	*e*P	Pg	03 58 26.9	-0.5
	779nm,0.1s						
TNSS				*e*S	Sg	03 58 29.1	-0.5
	1μm,0.1s						
TNSS	Tian-Shan	0.08	133	P	Pg	03 58 26.9	-0.5
	779nm,0.1s						
TNSS				S	Sg	03 58 29.1	-0.5
	1μm,0.1s						
TNSS	Tian-Shan	0.08	133	*e*P	Pg	03 58 26.9	-0.5
	baz=36						
TNSS				*e*S	Sg	03 58 29.1	-0.5
	baz=36						
AAA	Alma-Ata	0.12	15	*e*P	Pg	03 58 27.7	0.0
	2μm,0.1s						
AAA				*e*S	Sg	03 58 30.4	+0.3
	2μm,0.1s						
AAA	Alma-Ata	0.12	15	P	Pg	03 58 27.7	0.0
	2μm,0.1s						
AAA				S	Sg	03 58 30.4	+0.3
	2μm,0.1s						
KNDC	Almaty	0.14	29	⇑P	Pg	03 58 27.9	0.0
	215nm,0.2s						
KNDC				⇓S	Sg	03 58 30.8	+0.3
	786nm,0.2s						
MDOK	Medeo	0.15	60	*e*P	Pg	03 58 27.6	-0.5
	224nm,0.1s						
MDOK				*e*S	Sg	03 58 30.1	-0.5
	2μm,0.1s						
MDOK	Medeo	0.15	60	⇑P	Pg	03 58 27.4	-0.7
	110nm,0.4s						
MDOK				Pg	Pg	03 58 27.6	-0.5
	224nm,0.1s						
MDOK				⇑S	Sg	03 58 30.0	-0.7
	611nm,0.4s						
MDOK				Lg	Lg	03 58 30.1	
	2μm,0.1s						
MDOK	Medeo	0.15	60	*e*P	Pg	03 58 27.6	-0.5
	baz=61						
MDOK				*e*S	Sg	03 58 30.2	-0.5
	baz=61						
IZV	Izvestkoviy	0.20	254	*e*P	Pg	03 58 28.7	-0.1
	61nm,0.1s						
IZV				*e*S	Sg	03 58 32.0	+0.2
	373nm,0.3s						
IZV	Izvestkoviy	0.20	254	P	Pg	03 58 28.7	-0.1
	61nm,0.1s						
IZV				S	Sg	03 58 32.0	+0.2
	373nm,0.3s						
IZV	Izvestkoviy	0.20	254	*e*P	Pg	03 58 28.7	-0.1
	baz=54						
IZV				*e*S	Sg	03 58 32.0	+0.2
	baz=54						
KASK	Kaskelen	0.21	307	⇓P	Pg	03 58 28.9	0.0
KASK				⇑S	Sb	03 58 33.1	+0.9
KOTS	Kotyrbulak	0.23	51	*e*P	Pg	03 58 29.1	-0.2
	127nm,0.1s						
KOTS				*e*S	Sg	03 58 32.6	-0.1
	1μm,0.1s						
KOTS	Kotyrbulak	0.23	51	P	Pg	03 58 29.1	-0.2
	127nm,0.1s						
KOTS				S	Sg	03 58 32.6	-0.1
	1μm,0.1s						
KOTS	Kotyrbulak	0.23	51	*e*P	Pg	03 58 29.1	-0.2
	baz=51						
KOTS				*e*S	Sg	03 58 32.6	-0.1
	baz=51						
MTBS	Maitube	0.33	277	*e*P	Pg	03 58 30.8	-0.2
	95nm,0.1s						
MTBS				*e*S	Sg	03 58 35.7	+0.2
	324nm,0.1s						
MTBS	Maitube	0.33	277	P	Pg	03 58 30.8	-0.2
	95nm,0.1s						
MTBS				S	Sg	03 58 35.7	+0.2
	324nm,0.1s						
MTBS	Maitube	0.33	277	*e*P	Pg	03 58 30.8	-0.2
	baz=77						
MTBS				*e*S	Sg	03 58 35.7	+0.2
	baz=77						
KTBS	Karatobe	0.64	348	*e*P	Pg	03 58 36.1	-0.7
	68nm,0.1s						
KTBS				*e*S	Sg	03 58 44.6	-0.5
	52nm,0.3s						
KTBS	Karatobe	0.64	348	P	Pg	03 58 36.1	-0.7
	68nm,0.1s						
KTBS				S	Sg	03 58 44.6	-0.5
	52nm,0.3s						
KTBS	Karatobe	0.64	348	*e*P	Pg	03 58 36.1	-0.7
	baz=47						
KTBS				*e*S	Sg	03 58 44.7	-0.5
	baz=47						
ANVS	Anan'yevo	0.66	117	⇑*i*P	Pg	03 58 36.2	-1.0
	baz=18						
ANVS				⇑*i*S	Sg	03 58 45.1	-0.9
	baz=18						
KST	Kastek	0.67	266	*e*P	Pg	03 58 36.8	-0.5
	46nm,0.2s						
KST				*e*S	Sg	03 58 45.9	-0.2
	46nm,0.1s						
KST	Kastek	0.67	266	P	Pg	03 58 36.8	-0.5
	46nm,0.2s						
KST				S	Sg	03 58 45.9	-0.2
	46nm,0.1s						
KST	Kastek	0.67	266	*e*P	Pg	03 58 36.8	-0.5
	baz=66						
KST				*e*S	Sg	03 58 45.9	-0.2
	baz=66						
CHKK	Chushkaly	0.77	6	*e*P	Pg	03 58 38.4	-0.9
	74nm,0.1s						
CHKK				*e*S	Sg	03 58 48.6	-0.8
	388nm,0.2s						
CHKK	Chushkaly	0.77	6	P	Pg	03 58 38.3	-0.9
	74nm,0.1s						
CHKK				S	Sg	03 58 48.6	-0.8
	388nm,0.2s						
CHKK	Chushkaly	0.77	6	*e*P	Pg	03 58 38.4	-0.9
	baz=7.0						
CHKK				*e*S	Sg	03 58 48.6	-0.8
	baz=7.0						
DGS	Degeres	0.82	281	*e*P	Pg	03 58 39.5	-0.7
	37nm,0.1s						
DGS				*e*S	Sg	03 58 50.5	-0.4
	108nm,0.3s						
DGS	Degeres	0.82	281	P	Pg	03 58 39.5	-0.7
	37nm,0.1s						
DGS				S	Sg	03 58 50.5	-0.4
	108nm,0.3s						
DGS	Degeres	0.82	281	*e*P	Pg	03 58 39.5	-0.7
	baz=81						
DGS				*e*S	Sg	03 58 50.5	-0.4
	baz=81						
KUU	Kurty	0.89	334	*e*P	Pb	03 58 40.1	-1.7
	11nm,0.3s						
KUU				*e*S	Sb	03 58 51.6	-2.0
	74nm,0.3s						
KUU	Kurty	0.89	334	P	Pb	03 58 40.1	-1.7
	11nm,0.3s						
KUU				S	Sb	03 58 51.6	-2.0
	74nm,0.3s						
KUU	Kurty	0.89	334	*e*P	Pb	03 58 40.1	-1.7
	baz=34						
KUU				*e*S	Sb	03 58 51.6	-2.0
	baz=34						
BOOM	Boomskoye usch	0.91	229	⇑*i*P	Pb	03 58 40.7	-1.4
	baz=29						
BOOM				⇑*i*S	Sb	03 58 52.7	-1.6
	baz=29						
TKM2	Tokmak 2	0.95	260	⇑P	Pb	03 58 41.7	-1.2
	23nm,0.1s,SNR=44						
TKM2				⇑S	Sg	03 58 55.2	+0.1
	80nm,0.1s						
TKM2	Tokmak 2	0.95	260	⇓P	Pb	03 58 41.7	-1.2
	15nm,0.5s						
TKM2				⇓S	Sb	03 58 54.5	-0.9
	12nm,0.2s						
TKM2	Tokmak 2	0.95	260	⇑*i*P	Pb	03 58 41.5	-1.3
	baz=60						
TKM2				⇑*i*S	Sb	03 58 54.3	-1.1
	baz=60						
ULHL	Ulahol	0.96	209	⇑P	Pb	03 58 41.5	-1.5
	16nm,0.2s,SNR=19						
ULHL				⇑S	Sb	03 58 54.0	-1.9
	79nm,0.2s						
ULHL	Ulahol	0.96	209	⇓*i*P	Pb	03 58 41.8	-1.3
	baz=9.0						
ULHL				⇓*i*S	Sb	03 58 55.1	-0.7
	baz=9.0						
KDJ	Kajisay	0.99	166	⇓*i*P	Pb	03 58 42.0	-1.4
	baz=66						
KDJ				⇓*i*S	Sb	03 58 55.5	-0.9
	baz=66						
KURS	Kuram	1.03	67	*e*P	Pb	03 58 42.2	-1.9
	7.7nm,0.2s						
KURS				*e*S	Sb	03 58 55.5	-2.1
	19nm,0.3s						
KURS	Kuram	1.03	67	P	Pb	03 58 42.2	-1.9
	7.7nm,0.2s						
KURS				S	Sb	03 58 55.5	-2.1
	19nm,0.3s						
KRBS	Karabastau	1.06	305	*e*P	Pb	03 58 43.7	-0.9
	25nm,0.1s						
KRBS				*e*S	Sb	03 58 57.7	-0.9
	142nm,0.2s						
KRBS	Karabastau	1.06	305	P	Pb	03 58 43.7	-0.9
	25nm,0.1s						
KRBS				S	Sb	03 58 57.7	-0.9
	142nm,0.2s						
KRBS	Karabastau	1.06	305	*e*P	Pb	03 58 43.7	-0.9
	baz=5.0						
KRBS				*e*S	Sb	03 58 57.6	-0.9
	baz=5.0						
SATY	Saty	1.13	91	*e*P	Pb	03 58 44.4	-1.4
	32nm,0.1s						
SATY				*e*S	Sb	03 58 59.4	-1.0
	118nm,0.1s						
SATY	Saty	1.13	91	P	Pb	03 58 44.4	-1.4
	32nm,0.1s						
SATY				S	Sb	03 58 59.4	-1.0
	118nm,0.1s						
SATY	Saty	1.13	91	*e*P	Pb	03 58 44.4	-1.4
	baz=91						
SATY				*e*S	Sb	03 58 59.4	-1.0
	baz=91						
ZHN	Zhinishke	1.15	86	*e*P	Pb	03 58 44.6	-1.6
	31nm,0.2s						
ZHN				*e*S	Sb	03 58 59.4	-1.7
	121nm,0.2s						
ZHN	Zhinishke	1.15	86	P	Pb	03 58 44.6	-1.6
	31nm,0.2s						
ZHN				S	Sb	03 58 59.4	-1.7
	121nm,0.2s						
PRZ	Przheval'sk	1.28	118	⇑*i*P	Pn	03 58 47.4	-0.8
	baz=17						
PRZ				⇑*i*S	Sb	03 59 04.2	-0.7
	baz=17						
ARXS	Arharly	1.32	31	*e*P	Pn	03 58 48.0	-0.7
	25nm,0.1s						
ARXS				*e*S	Sn	03 59 05.3	-0.9
	72nm,0.1s						
ARXS	Arharly	1.32	31	P	Pn	03 58 48.0	-0.7
	25nm,0.1s						
ARXS				S	Sn	03 59 05.3	-0.9
	72nm,0.1s						
KPKS	Kokpek	1.38	74	*e*P	Pb	03 58 49.1	-0.9
	16nm,0.2s						
KPKS				*e*S	Sb	03 59 07.3	-0.4
	38nm,0.2s						
KPKS	Kokpek	1.38	74	P	Pb	03 58 49.1	-0.9
	16nm,0.2s						
KPKS				S	Sb	03 59 07.3	-0.4
	38nm,0.2s						
KPKS	Kokpek	1.38	74	*e*P	Pb	03 58 49.1	-0.9
	baz=74						
KPKS				*e*S	Sb	03 59 07.2	-0.4
	baz=74						
KBK	Karagaybulak	1.48	254	⇑P	Pb	03 58 51.3	-0.6
	39nm,0.2s,SNR=17						
KBK				⇑S	Sg	03 59 11.2	-0.8
	60nm,0.3s						
KBK	Karagaybulak	1.48	254	⇑*i*P	Pb	03 58 50.9	-0.9
	baz=54						
KBK				⇑*i*S	Sb	03 59 10.6	0.0
	baz=54						
TARG	Taragay, Kyrgy	1.53	153	⇑*i*P	Pb	03 58 51.8	-1.0
	baz=53						
TARG				⇑*i*S	Sb	03 59 11.9	-0.3
	baz=53						
BLB	Baldybastay	1.54	49	P	Pb	03 58 51.8	-1.1
	22nm,0.1s						
BLB				S	Sb	03 59 11.8	-0.6
	25nm,0.2s						
CHMS	Chumysh	1.56	267	⇑P	Pb	03 58 52.4	-0.7
	18nm,0.2s,SNR=20						
CHMS				⇓S	Sb	03 59 12.9	+0.2
	18nm,0.1s						
CHMS	Chumysh	1.56	267	⇓P	Pb	03 58 52.0	-1.1
	5.2nm,0.2s						
CHMS				⇓S	Sb	03 59 12.9	+0.2
	26nm,0.5s						
CHMS	Chumysh	1.56	267	⇓*i*P	Pb	03 58 52.2	-0.9
	baz=67						
CHMS				⇓*i*S	Sb	03 59 12.9	+0.2
	baz=67						
UZB	Uzynbulak	1.58	87	*e*P	Pb	03 58 52.5	-1.0
	12nm,0.1s						
UZB				*e*S	Sb	03 59 12.8	-0.6
	38nm,0.1s						
UZB	Uzynbulak	1.58	87	P	Pb	03 58 52.5	-1.0
	12nm,0.1s						
UZB				S	Sb	03 59 12.8	-0.6
	38nm,0.1s						
FRU1	Bishkek	1.67	261	⇑*i*P	Pb	03 58 54.3	-0.7
	baz=61						
FRU1				⇑*i*S	Sb	03 59 16.6	+0.6
	baz=61						
USP	Ospenovka	1.74	277	⇓P	Pb	03 58 55.3	-0.9
	22nm,0.3s,SNR=60						
USP	Ospenovka	1.74	277	⇑*i*P	Pb	03 58 55.6	-0.7
	baz=77						
USP				⇑*i*S	Sb	03 59 18.5	+0.4
	baz=77						
NRN	Naryn	1.78	202	⇓*i*P	Pb	03 58 56.2	-0.8
	baz=2.0						
NRN				⇓*i*S	Sb	03 59 19.9	+0.5
	baz=2.0						
AAK	Ala-Archa	1.81	256	⇓P	Pb	03 58 56.8	-0.6
	7.9nm,0.2s,SNR=22						
AAK				⇑S	Sg	03 59 21.2	-1.2
	11nm,0.2s						
AAK	Ala-Archa	1.81	256	⇑*i*P	Pb	03 58 56.8	-0.6
	baz=56						
AAK				⇑*i*S	Sb	03 59 20.5	+0.5
	baz=56						
SHLS	Shalkode	1.90	87	*e*P	Pg	03 59 03.5	+2.7
	16nm,0.1s						
SHLS				*e*S	Sg	03 59 32.2	+6.8
	39nm,0.3s						
SHLS	Shalkode	1.90	87	Pg	Pg	03 59 03.5	+2.7
	16nm,0.1s						
SHLS				Lg	Lg	03 59 32.2	
	39nm,0.3s						
PDGK	Podgornoye	1.93	82	P	Pb	03 58 59.0	-0.6
	4.6nm,0.3s						
PDGK				S	Sb	03 59 23.8	+0.3
	15nm,0.4s						
PDGK	Podgornoye	1.93	82	⇓P	Pb	03 58 58.0	-1.5
	8.2nm,0.3s						
PDGK				⇑S	Sb	03 59 23.3	-0.3
	17nm,0.5s						
UCH	Uchtor	1.94	244	⇑P	Pb	03 58 59.8	-0.1
	7.1nm,0.2s,SNR=22						
UCH				⇑S	Sg	03 59 26.3	-0.5
	7.9nm,0.2s						
UCH	Uchtor	1.94	244	⇑*i*P	Pb	03 58 59.0	-0.9
	baz=44						
UCH				⇑*i*S	Sb	03 59 23.6	-0.6
	baz=44						
TDK	Taldyqorghan	2.21	30	*e*P	Pb	03 59 03.6	-0.6
	35nm,0.4s						
TDK				*e*S	Sb	03 59 32.2	+0.7
	222nm,0.4s						
TDK	Taldyqorghan	2.21	30	Pg	Pb	03 59 03.6	-0.6
	35nm,0.4s						
TDK				Lg	Lg	03 59 32.2	
	222nm,0.4s						
ARLS	Aral	2.25	238	⇑*i*P	Pb	03 59 03.0	-2.0
	baz=38						
ARLS				⇑*i*S	Sb	03 59 30.7	-2.1
	baz=38						
EKS2	Erkin-Say	2.31	260	⇓P	Pb	03 59 04.7	-1.3
	4.8nm,0.2s,SNR=9.9						
EKS2				⇑S	Sb	03 59 35.9	+1.3
	16nm,0.3s						
EKS2	Erkin-Say	2.31	260	⇓*i*P	Pb	03 59 04.1	-1.9
	baz=60						
EKS2				⇓*i*S	Sb	03 59 32.5	-2.1
	baz=60						
DJR	Jarkent	2.45	59	*e*P	Pb	03 59 07.9	-0.5
	4.6nm,0.3s						
DJR				*e*S	Sb	03 59 39.5	+0.8
	15nm,0.5s						
DJR	Jarkent	2.45	59	Pg	Pb	03 59 07.9	-0.5
	4.6nm,0.3s						
DJR				Lg	Lg	03 59 39.5	
	15nm,0.5s						
KTMS	Ketmen	2.57	81	*e*P	Pb	03 59 10.0	-0.4
	2.4nm,0.2s						
KTMS				*e*S	Sb	03 59 43.0	+1.0
	13nm,0.3s						
KTMS	Ketmen	2.57	81	Pg	Pb	03 59 10.0	-0.4
	2.4nm,0.2s						
KTMS				Lg	Lg	03 59 43.0	
	13nm,0.3s						
MRKS	Merke	2.70	264	*e*P	Pb	03 59 13.1	+0.5
	5.8nm,0.3s						
MRKS				*e*S	Sg	03 59 48.4	-2.6
	21nm,0.2s						
MRKS	Merke	2.70	264	Pg	Pb	03 59 13.1	+0.5
	5.8nm,0.3s						
MRKS				Lg	Lg	03 59 48.4	
	21nm,0.2s						
BTLS	Baital	2.82	315	*e*P	Pb	03 59 15.0	+0.4
	2.5nm,0.2s						
BTLS				*e*S	Sb	03 59 51.2	+2.2
	16nm,0.4s						
BTLS	Baital	2.82	315	Pg	Pb	03 59 15.0	+0.4
	2.5nm,0.2s						
BTLS				Lg	Lg	03 59 51.2	
	16nm,0.4s						
KAPS	Kapalarasan	2.83	38	*e*P	Pb	03 59 14.9	+0.1
	2.7nm,0.3s						
KAPS				*e*S	Sb	03 59 51.2	+1.7
	32nm,0.2s						
KAPS	Kapalarasan	2.83	38	Pg	Pb	03 59 14.9	+0.1
	2.7nm,0.3s						
KAPS				Lg	Lg	03 59 51.2	
	32nm,0.2s						
MNAS	Manas	3.27	261	⇓*i*P	Pn	03 59 17.2	+1.7
	baz=61						
MNAS				⇓*i*S	Sn	03 59 55.2	+0.8
	baz=61						
ARK	Arkit	3.85	252	⇑*i*P	Pn	03 59 25.3	+1.8
	baz=52						
ARK				⇑*i*S	Sn	04 00 09.3	+0.5
	baz=52						
TRKS	Terek-Say	4.53	252	⇑*i*P	Pn	03 59 34.6	+1.8
	baz=51						
TRKS				⇑*i*S	Sn	04 00 25.5	+0.1
	baz=51						
KK31	Karatay Array	4.66	272	⇑Pg	Pb	03 59 49.0	+3.0
	0.4nm,0.3s,baz=307,slow=75,SNR=5.6						
KK31				⇑Lg	Lg	04 00 49.9	
	1.0nm,0.3s,baz=89,slow=28,SNR=7.3						
KKAR	Karatay Array	4.66	272	⇑*i*P	Pn	03 59 36.7	+2.2
	baz=72						
KKAR				⇑*i*S	Sn	04 00 28.7	+0.3
	baz=72						
MAKZ	Makanchi	5.19	43	⇑Lg	Lg	04 01 09.8	
	2.1nm,0.8s						
MK31	Makanchi Array	5.34	44	⇑Pn	Pn	03 59 45.0	+1.2
	0.1nm,0.2s,baz=223,slow=16,SNR=13						
MK31				⇓Lg	Lg	04 01 12.1	
	2.2nm,0.8s,baz=227,slow=30,SNR=6.5						

*IDC **07** 04:01:46.9±0.8,2.68S×128.93E,h0km,mb4.1/9, mbtmp4.2/10,ML4.4/1,MS3.3/9,Error ellipse: s-maj=76.3km s-min=16.5km az=71.0*

*NEIC **07** 04:01:52.6±1.3,2.78S±0.08×128.83E±0.07,h35km±1km, mb4.6/31,Error ellipse: s-maj=15.8km s-min=9.4km az=42.0*

*DJA **07** 04:01:53.9±0.2,3.3S±3.1×12.9E±.1°,h49km±7km,M4.4/8, mb4.5/8,mB6.0/2,MLv4.3/8,Mw(mB)5.6/2*

ISC 07 04:01:49.1±0.5,2.72S±0.06×128.86E±0.05,h10km,n70, σ1§48/63,mb4.5/21,MS3.2/8,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**1.84**	**253**	P	**Pb**	**04 02 25.5**	**+2.7**
BNDI	**Bandanaira**	**2.08**	**150**	P	**Pb**	**04 02 30.1**	**+3.2**
LBMI	**Labuha**	**2.47**	**327**	P	**Pn**	**04 02 28.9**	**-0.6**
LBMI				S	**Sn**	**04 02 57.5**	**-2.2**
SWI	**Sorong**	**3.02**	**53**	P	**Pn**	**04 02 37.7**	**+0.7**
SWI				S	**Sn**	**04 03 14.3**	**+1.0**
FAKI	**Fak Fak**	**3.39**	**94**	Pn	**Pn**	**04 02 41.9**	**-0.2**
TNTI	**Ternate**	**3.77**	**337**	Pn	**Pn**	**04 02 48.4**	**+1.0**
TNTI	**Ternate**	**3.77**	**337**	P	**Pn**	**04 02 48.4**	**+1.0**
LUWI	**Luwuk**	**6.31**	**285**	Pn	**Pn**	**04 03 22.8**	**+0.5**
LUWI	**Luwuk**	**6.31**	**285**	P	**Pn**	**04 03 23.7**	**+1.4**
	59nm,0.6s,3µm0.4nm						
TOLI2	**Tolitoli**	**8.93**	**295**	Pn	**Pn**	**04 03 58.7**	**+0.4**
DAV	**Davao City (W)**	**10.26**	**341**	LR	LR	04 09 09.9	
	comp=Z,218nm,18.6s,baz=168,slow=43						
MTN	**Manton Dam**	**10.31**	**168**	Pn	**Pn**	**04 04 17.1**	**-0.1**
PLAI	**Plampang**	**12.59**	**241**	P	**Pn**	**04 04 48.8**	**+0.4**
	31nm,0.9s						
TWSI	**Taliwang, Sumb**	**13.33**	**243**	P	**Pn**	**04 05 01.5**	**+2.9**
	15nm,1.4s						
SRBI	**Singaraja**	**14.60**	**248**	P	Pn	04 05 21.5	+5.7
	14nm,0.7s						
KMMI	**Kalianget**	**15.45**	**253**	P	**Pn**	**04 05 29.6**	**+2.3**
	23nm,1.2s						
JAGI	**Jajag, Banyuwa**	**15.71**	**248**	P	**Pn**	**04 05 33.9**	**+3.2**
	17nm,0.9s						
WB0	**Warramunga Arr**	**17.79**	**163**	P	**Pn**	**04 05 57.0**	**0.0**
WB0				IAmb	IAmb	04 06 06.4	
	comp=Z,36nm,0.9s						
WRAB	**Tennant Creek**	**17.93**	**163**		**Pn**	**04 05 58.1**	**-0.7**
WRA	**Warramunga Arr**	**17.94**	**163**	P	**Pn**	**04 05 57.4**	**-1.5**
WRA	**Warramunga Arr**	**17.94**	**163**	P	**Pn**	**04 05 58.3**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=337,slow=13,SNR=21						
	comp=Z,25nm,0.9s						
WB2	**Warramunga Arr**	**17.94**	**163**	P	**Pn**	**04 05 57.4**	**-1.5**
WB2				IAmb	IAmb	04 06 02.1	
	comp=Z,34nm,0.9s						
WR0	**Warramunga Arr**	**18.02**	**162**		**Pn**	**04 05 60.0**	**+0.2**
COEN	**Coen**	**18.02**	**129**		**Pn**	**04 06 00.7**	**+0.8**
KPJI	**Karang Pucung**	**20.37**	**256**	P	**P**	**04 06 27.7**	**+1.5**
	comp=Z,33nm,0.7s						
MBWA	**Marble Bar**	**20.38**	**205**		**P**	**04 06 24.5**	**-1.6**
MBWA				IAmb	IAmb	04 06 26.7	
	comp=Z,21nm,0.8s						
PSA00	**Pilbara Seismi**	**20.70**	**204**		**P**	**04 06 28.6**	**-1.0**
PSA00				IAmb	IAmb	04 06 30.1	
	comp=Z,29nm,0.9s						
PSA00	**Pilbara Seismi**	**20.70**	**204**	P	**P**	**04 06 28.5**	**-1.0**
PSA00				IAmb	IAmb	04 06 30.1	
	comp=Z,16nm,0.9s						
AS31	**Alice Springs**	**21.39**	**167**	P	**P**	**04 06 37.2**	**+0.1**
AS31				IAmb	IAmb	04 06 38.8	
	comp=Z,13nm,0.7s						
ASAR	**Alice Springs**	**21.39**	**167**	P	**P**	**04 06 37.4**	**+0.2**
	comp=Z,36nm,0.8s,baz=348,slow=11,SNR=34						
ASAR				S	**S**	**04 10 31.4**	**-3.4**
	comp=Z,2.2nm,0.8s,baz=348,slow=20,SNR=5.2						
	comp=Z,36nm,0.8s						
LEM	**Lembang**	**21.56**	**258**	LR	LR	04 16 18.2	
	comp=Z,92nm,18.9s,baz=152,slow=40						
PPBI	**Pangkal Pinang**	**22.71**	**271**	P	**P**	**04 06 50.8**	**-0.6**
CTA	**Charters Tower**	**24.22**	**137**	LR	LR	04 18 02.3	
	comp=Z,116nm,20.0s,baz=252,slow=40						
JOW	**Kunigami**	**29.38**	**359**	LR	LR	04 17 54.8	
	comp=Z,81nm,20.6s,baz=130,slow=33						
BBOO	**Buckleboo**	**30.69**	**168**	P	**P**	**04 08 03.1**	**-1.1**
BBOO				IAmb	IAmb	04 08 24.4	
	comp=Z,14nm,1.2s						
STKA	**Stephens Creek**	**31.39**	**159**	P	**P**	**04 08 09.6**	**-0.7**
	comp=Z,2.7nm,0.8s,baz=310,slow=12,SNR=3.7						
STKA				LR	LR	04 22 13.7	
	comp=Z,82nm,21.1s,baz=348,slow=39						
	comp=Z,2.7nm,0.8s						
NWAO	**Narrogin (SRO)**	**31.97**	**199**	P	**P**	**04 08 13.4**	**-2.1**
JNU	**Nakatsue**	**35.69**	**3**	LR	LR	04 23 20.1	
	comp=Z,46nm,20.0s,baz=186,slow=36						
CMAR	**Chiang Mai Arr**	**36.20**	**307**	LR	LR	04 26 24.6	
	comp=Z,19nm,19.0s,baz=170,slow=41						
KSRS	**Korea Array**	**39.97**	**359**	LR	LR	04 24 04.1	
	comp=Z,23nm,21.1s,baz=200,slow=34						
MJAR	**Matsushiro Arr**	**40.02**	**12**	LR	LR	04 25 41.4	
	comp=Z,21nm,18.9s,baz=190,slow=36						
SONM	**Songino Array**	**54.05**	**341**	P	**P**	**04 11 13.8**	**0.0**
	comp=Z,0.3nm,0.4s,baz=155,slow=7.5,SNR=2.9						
SONM				PcP	**PcP**	**04 12 19.0**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=163,slow=5.6,SNR=3.6						
	comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**64.05**	**326**	P	**P**	**04 12 22.8**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=120,slow=8.5,SNR=5.6						
	comp=Z,1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**67.27**	**334**	P	**P**	**04 12 42.7**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=116,slow=6.6,SNR=3.6						
	comp=Z,0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**68.29**	**328**	P	**P**	**04 12 50.0**	**-0.3**
	comp=Z,0.8nm,0.2s,baz=127,slow=5.5,SNR=2.9						
KURK	**Kurchatov**	**68.30**	**328**	P	**P**	**04 12 49.4**	**-0.9**
KURK				IAmb	IAmb	04 12 51.6	
	comp=Z,4.1nm,0.8s						
BVAR	**Borovoye Array**	**73.86**	**328**	P	**P**	**04 13 27.4**	**+3.4**
	comp=Z,1.7nm,0.8s,baz=119,slow=9.0,SNR=5.6						
VNDA	**Vanda**	**76.81**	**173**	P	**P**	**04 13 39.8**	**-0.8**
VNDA				IAmb	IAmb	04 13 49.7	
	comp=Z,5.0nm,1.1s						
VNDA	**Vanda**	**76.81**	**173**	P	**P**	**04 13 39.9**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=295,slow=9.8,SNR=3.7						
	comp=Z,1.8nm,0.8s						
ABKAR	**Akbulak array**	**78.47**	**321**	P	**P**	**04 13 50.4**	**0.0**
ABKAR	**Akbulak array**	**78.47**	**321**	P	**P**	**04 13 50.0**	**-0.4**
AKTO	**Aktyubinsk**	**80.01**	**322**	P	**P**	**04 13 58.0**	**-0.8**
	comp=Z,3.3nm,0.8s,baz=106,slow=3.2,SNR=3.6						
	comp=Z,3.3nm,0.8s						
J16K	**Anvik River**	**83.77**	**25**	P	**P**	**04 14 20.5**	**+2.2**
RAYN	**Ar Rayn**	**84.99**	**294**	P	P	04 14 22.9	-2.6
RAYN				IAmb	IAmb	04 14 26.7	
	comp=Z,7.9nm,1.3s						
L18K	**Granite Mounta**	**85.19**	**27**	P	**P**	**04 14 25.9**	**+0.5**
SVW2	**Sparrevohn**	**85.42**	**28**	P	**P**	**04 14 26.8**	**+0.1**
C19K	**Lookout Ridge**	**86.02**	**20**	P	**P**	**04 14 29.7**	**+0.2**
C19K				IAmb	IAmb	04 14 39.9	
	comp=Z,3.8nm,1.1s						
D19K	**Kuna River**	**86.34**	**21**	P	**P**	**04 14 30.8**	**-0.4**
D19K				IAmb	IAmb	04 14 32.8	
	comp=Z,5.1nm,1.1s						
E19K	**Redstone River**	**86.37**	**22**	P	**P**	**04 14 29.8**	**-1.5**
E19K				IAmb	IAmb	04 14 35.8	
	comp=Z,5.4nm,1.3s						
K20K	**Telida**	**86.63**	**26**	P	**P**	**04 14 33.2**	**+0.5**
K20K				IAmb	IAmb	04 15 11.0	
	comp=Z,6.5nm,1.4s						
M20K	**Styx River**	**86.74**	**28**	P	P	04 14 31.5	-1.8
J20K	**Nowinta River**	**86.78**	**25**	P	**P**	**04 14 33.0**	**-0.3**
B20K	**Meade River**	**87.10**	**19**	P	**P**	**04 14 34.4**	**-0.3**
B20K				IAmb	IAmb	04 14 36.0	
	comp=Z,4.1nm,1.2s						
QSPA	**South Pole Qui**	**87.23**	**180**	P	**P**	**04 14 35.0**	**-0.7**
QSPA				IAmb	IAmb	04 14 42.6	
	comp=Z,8.2nm,1.4s						
QSPA	**South Pole Qui**	**87.23**	**180**	P	**P**	**04 14 35.2**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=160,slow=1.0,SNR=6.1						
	comp=Z,1.2nm,0.8s						
B21K	**Ikpikpuk River**	**87.85**	**20**	P	**P**	**04 14 37.5**	**-0.9**
GURO	**Guroymak-BITLI**	**89.19**	**308**	P	**P**	**04 14 43.9**	**-1.8**
C23K	**Itkillik River**	**89.26**	**20**	P	**P**	**04 14 45.1**	**+0.1**
C23K				IAmb	IAmb	04 14 47.0	
	comp=Z,2.0nm,0.8s						
ILAR	**Eielson Array**	**89.98**	**25**	P	**P**	**04 14 47.5**	**-1.1**
	comp=Z,0.4nm,0.9s,baz=293,slow=4.0,SNR=6.0						
	comp=Z,0.4nm,0.9s						
CPUP	**Villa Florida**	**150.51**	**169**	PKPbc	**PKPdf**	**04 21 40.9**	**+4.2**
	comp=Z,4.7nm,0.9s,baz=207,slow=2.3,SNR=7.3						

*NNC **07** 04:10:02.2±4.3,41.81N×83.74E,h0km,mb3.3,mpv2.9, Error ellipse: s-maj=32.7km s-min=20.7km az=137.0*

*SOME **07** 04:10:03.2,42.02N×83.80E,h10km*

ISC 07 04:10:05.0±3.4,41.8N±0.2×83.7E±0.1,h15km,n10, σ2§98/15,4C-3D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**3.48**	**297**	Pg	**Pb**	**04 11 05.4**	**-1.0**
	0.7nm,0.3s						
PDGK				Lg	Lg	04 11 49.3	
	3.7nm,0.6s						
PDGK	**Podgornoye**	**3.48**	**297**	⇑Pg	**Pb**	**04 11 06.7**	**+0.3**
	0.7nm,0.5s						
PDGK				⇓Lg	Lg	04 11 51.0	
	7.0nm,0.6s						
DJR	**Jarkent**	**3.83**	**312**	*e*P	**Pb**	**04 11 12.1**	**-0.1**
	2.0nm,0.4s						
DJR				*e*S	**Sb**	**04 12 00.8**	**+2.4**
DJR	**Jarkent**	**3.83**	**312**	Pg	**Pb**	**04 11 12.1**	**-0.1**
	2.0nm,0.4s						
DJR				Lg	Lg	04 12 00.8	
KAPS	**Kapalarasan**	**4.70**	**319**	*e*P	**Pb**	**04 11 27.6**	**+0.4**
	2.5nm,0.4s						
KAPS				*e*S	**Sb**	**04 12 27.5**	**+4.0**
	2.9nm,0.4s						
KAPS	**Kapalarasan**	**4.70**	**319**	Pg	**Pb**	**04 11 27.6**	**+0.4**
	2.5nm,0.4s						
KAPS				Lg	Lg	04 12 27.5	
	2.9nm,0.4s						
MK31	**Makanchi Array**	**5.07**	**349**	⇑Pn	**Pn**	**04 11 19.0**	**-1.5**
	baz=165,slow=20,SNR=4.8						
MK31				Pg	**Pb**	**04 11 33.6**	**+0.1**
	3.4nm,0.9s,baz=162,slow=16,SNR=10						
MK31				⇑Sn	**Sn**	**04 12 21.6**	**+2.7**
	1.0nm,0.6s,baz=131,slow=9.4,SNR=5.3						
MK31				⇓Lg	Lg	04 12 42.1	
	2.3nm,0.7s,baz=160,slow=26,SNR=3.9						
MAKZ	**Makanchi**	**5.14**	**346**	⇓Pg	**Pb**	**04 11 36.7**	**+2.1**
	1.5nm,0.8s						
MAKZ				⇑Lg	Lg	04 12 43.3	
	2.3nm,1.1s						
ZSN	**Zaisan**	**5.68**	**8**	*e*P	**Pb**	**04 11 46.4**	**+2.6**
	2.9nm,0.3s						
ZSN				*e*S	**Sg**	**04 12 59.7**	**-7.5**
	2.3nm,0.2s						
ZSN	**Zaisan**	**5.68**	**8**	Pg	**Pb**	**04 11 46.4**	**+2.6**
	2.9nm,0.3s						
ZSN				Lg	Lg	04 12 59.7	
	2.3nm,0.2s						

SOME 07 04:22:39.9,38.35N×71.07E,h10km,1C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRKS	**Merke**	**4.69**	**20**	*e*P	Pg	04 24 06.6	-3.0
	5.9nm,0.3s						
MRKS				*e*S	Sg	04 25 15.5	+5.1
	6.1nm,0.5s						
KK31	**Karatay Array**	**4.77**	**355**	⇓P	Pb	04 24 07.3	+3.8
	1.0nm,0.3s,baz=173,slow=11,SNR=21						
KK31				⇑S	Sg	04 25 18.3	+5.3
	2.3nm,0.4s,baz=174,slow=13,SNR=17						
BRLS	**Borolday**	**4.77**	**349**	*e*P	Pb	04 24 03.9	+0.3
	2.2nm,0.2s						
BRLS				*e*S	Sg	04 25 10.6	-2.3
	6.7nm,0.2s						
AB31	**Akbulak array**	**13.52**	**327**	⇓P	P	04 25 56.9	-4.0
	0.1nm,0.3s,baz=165,slow=9.7,SNR=4.9						

IDC 07 04:31:09.0±1.8,5.34S×122.98E,h0km,mb3.5/2, mbtmp3.6/3,ML3.2/1,Error ellipse: s-maj=238.8km s-min=28.0km az=59.0,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.25**	**144**	P	Pn	04 35 23.6	-0.3
	0.1nm,0.3s,baz=317,slow=12,SNR=6.8						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**21.05**	**151**	P	P	04 35 54.9	+0.1
	1.9nm,0.8s,baz=327,slow=12,SNR=16						
	1.9nm,0.8s						
MKAR	**Makanchi Array**	**63.15**	**330**	P	P	04 41 38.7	0.0
	0.4nm,0.8s,baz=134,slow=6.9,SNR=3.8						
	0.4nm,0.8s						

IDC 07 04:36:35.3±2.8,11.44S×122.36E,h0km,mb3.5/1, mbtmp3.3/3,ML3.2/2,Error ellipse: s-maj=218.7km s-min=34.6km az=50.0,South of Timor

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.29**	**128**	Pn	Pn	04 39 57.0	-2.0
	0.1nm,0.3s,baz=301,slow=14,SNR=6.3						
WRA				Sn	Sn	04 42 24.2	-14
	0.2nm,0.3s,baz=297,slow=26,SNR=5.2						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**16.38**	**139**	Pn	P	04 40 28.7	-1.1
	0.1nm,0.3s,baz=316,slow=12,SNR=4.3						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**68.15**	**332**	P	P	04 47 37.3	0.0
	0.3nm,0.6s,baz=151,slow=6.6,SNR=4.3						
	0.3nm,0.6s						

IDC 07 04:36:41.6±19.0,3.54N×94.09E,h0km,mb3.8/2, mbtmp3.8/3,Error ellipse: s-maj=409.1km s-min=120.7km az=141.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.57**	**17**	Pn	Pn	04 40 22.6	0.0
	1.7nm,0.6s,baz=208,slow=12,SNR=6.2						
MKAR	**Makanchi Array**	**44.28**	**348**	P	P	04 44 53.4	+0.2
	0.7nm,0.4s,baz=160,slow=7.7,SNR=13						
	0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**50.82**	**353**	P	P	04 45 43.1	-0.7
	0.7nm,0.5s,baz=157,slow=7.8,SNR=2.0						
	0.7nm,0.5s						
H04N2	**CROZET ISLANDS**	**62.02**	**212**	T	T	05 55 10.1	
	baz=50,slow=75,SNR=25						
H04N1	**CROZET ISLANDS**	**62.03**	**212**	T	T	05 55 09.3	
	baz=50,slow=75,SNR=23						
H04N3	**CROZET ISLANDS**	**62.04**	**212**	T	T	05 55 05.6	
	baz=50,slow=75,SNR=32						
H04S1	**CROZET ISLANDS**	**62.41**	**211**	T	T	05 55 35.5	
	baz=49						
H04S3	**CROZET ISLANDS**	**62.42**	**211**	T	T	05 55 36.6	
	baz=49,SNR=5.2						
H04S2	**CROZET ISLANDS**	**62.43**	**211**	T	T	05 55 40.8	
	baz=49						

*BJI **07** 04:40:09.5±0.0,45.77N×152.19E,h24km,mb5.9/90, mB5.9/68,Ms5.7/98,Ms7 5.6/93*

*JMA **07** 04:40:10.9±1.0,46.N±5.5×15.2E±.1°,h30km,MD5.9/19, MW5.8/19,KURILE ISLANDS REGION*

JMA Felt I J1 at KURILE ISLANDS REGION .

*NIED **07** 04:40:10.9,45.76N×152.45E,h30km,MW5.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^17Nm; Mrr0.64; Mθθ2.82; Mφφ-3.46; Mrθ1.82; Mθφ-2.17; Mφr3.29; Fault plane solution: M0 5.01000×10^17 NP1: φs238.00000°,δ88.00000°,λ-140.00000°. NP2: φs146.00000°,δ50.00000°,λ-2.00000°.*

*NEIC **07** 04:40:12.6±1.4,45.77N±0.07×152.4E±0.1,h32km±1km, mb6.0/1010,Ms_20 5.3/687,Mwb5.7/91,Mww5.8/24 Error ellipse: s-maj=13.6km s-min=10.5km az=139.0,Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr2.40; Mθθ-0.44; Mφφ-1.96; Mrθ3.59; Mθφ0.26; Mφr2.92; Fault plane solution: M0 5.13000×10^17 NP1: φs180.31000°,δ14.11000°,λ46.76000°. NP2:φs44.42000°, δ79.77000°,λ99.77000°. Principal axes: T 5.7153, Plg54.0000°, Azm326.0000°; N -1.5048, Plg10.0000°, Azm223.0000°; P -4.2105, Plg34.0000°, Azm126.0000°;*

*IPGP **07** 04:40:12.0,45.83N×152.29E,h36km,Mw5.9,Fault plane solution: NP1:φs50.00000°,δ77.00000°,λ97.00000°. NP2:φs200.00000°,δ15.00000°,λ61.00000°.*

*NEIC **07** 04:40:12.3,45.82N×152.30E,h40km*

*NEIC **07** 04:40:12.3,45.62N×152.73E,h40km,Moment Tensor Solution. Duration: 43 Moment tensor: Scale 10^17Nm; Mrr-0.35; Mθθ1.44; Mφφ-1.09; Mrθ5.42; Mθφ-1.57; Mφr4.48; Fault plane solution: M0 7.22000×10^17 NP1:φs54.07000°, δ89.05000°,λ103.50000°. NP2:φs148.02000°,δ13.54000°, λ4.06000°. Principal axes: T 6.5279, Plg44.0000°, Azm337.0000°; N 1.3857, Plg14.0000°, Azm234.0000°; P -7.9137, Plg43.0000°, Azm131.0000°;*

*SKHL **07** 04:40:12.5±0.3,45.60N×152.50E,h65km±5km,mb6.3/12, mbv6.2/5,ms5.6/11,msh6.2/4*

*NEIC **07** 04:40:13.1,45.82N×152.30E,h37km*

*IDC **07** 04:40:13.9±1.1,45.81N×152.35E,h51km±8km,mb5.5/38, mbtmp5.7/46,MS5.4/86,Error ellipse: s-maj=9.6km s-min=8.4km az=137.0*

*MOS **07** 04:40:14.1±1.0,45.71N×152.23E,h72km,mb6.4/113, MS5.7/71,Error ellipse: s-maj=5.2km s-min=3.9km az=125.3*

MOS Felt (II) at Goryachiy Plyazh, Malokuril'skoye, Kuril'sk, Yuzhno-Kuril'sk.

*GCMT **07** 04:40:15.6±0.1,45.74N×152.51E,h47km,MW5.9/163, Moment Tensor Solution. s153,c313; s163,c440; Duration: 29.1 Moment tensor: Scale 10^17Nm; Mrr3.45±.05; Mθθ-0.81±.05; Mφφ-2.64±.05; Mrθ5.92±.08; Mθφ-2.04±.05; Mφr4.74±.07; Best double couple: M0 8.45100×10^17 NP1:φs50.00000°,δ78.00000°, λ98.00000°. NP2:φs195.00000°,δ15.00000°,λ56.00000°. Principal axes: T 8.3750, Plg57.0000°, Azm330.0000°; N 0.1480, Plg8.0000°, Azm228.0000°; P -8.5280, Plg32.0000°, Azm132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*BGR **07** 04:40:18.1,46.35N×151.51E,h33km,mb6.3,mB_BB6.5, Ms5.6*

ISC 07 04:40:12.6±0.2,45.74N±0.03×152.25E±0.02,h40km±2km, h39km:pP-P,n2820,σ1§54/2941,mb6.0/796,MS5.3/495, 236C-82D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.13**	**262**	*i*PN	**Pn**	**04 41 02.2**	**+2.9**
KUR				*e*S	**Sn**	**04 41 38.5**	**+3.2**
KUR				pmax	pmax		
	comp=Z,15µm,0.5s						
KUR				pmax	pmax		
	comp=N,4µm,0.3s						
KUR				pmax	pmax		
	comp=E,1µm,0.3s						
KUR				smax	smax		
	comp=N,48µm,3.0s						
KUR				smax	smax		
	comp=E,98µm,3.0s						
KUR				smax	smax		
	comp=N,16µm,0.6s						
KUR				smax	smax		
	comp=E,44µm,0.6s						
KUR	**Kuril'sk**	**3.13**	**262**	*i* P	**Pn**	**04 41 02.0**	**+2.7**
KUR				AMB	AMB	04 41 04.7	
	comp=E,4µm,0.3s						
KUR				AMB	AMB	04 41 04.7	
	comp=E,1µm,0.3s						
KUR				AMB	AMB	04 41 04.7	
	comp=E,18µm,0.5s						
KUR				*i* S	**Sn**	**04 41 38.9**	**+3.6**
KUR				A	A	04 41 40.7	
	comp=E,48µm,3.0s						
KUR				A	A	04 41 40.7	
	comp=E,98µm,3.0s						
KUR				A	A	04 41 42.2	
	comp=E,43µm,0.7s						
KUR				A	A	04 41 42.2	
	comp=E,41µm,0.7s						
KUR				AMS	AMS	04 42 26.3	
	comp=E,114µm,15.0s						
KUR				AMS	AMS	04 42 26.3	
	comp=E,77µm,15.0s						
KUR				AMS	AMS	04 42 26.3	
	comp=E,86µm,15.0s						
SHO	**Shikotan**	**4.29**	**246**	*e*PN	**Pn**	**04 41 15.5**	**+0.3**
SHO				*e*S	**Sn**	**04 42 02.2**	**-1.8**
SHO				pmax	pmax		
	comp=Z,2µm,0.3s						
SHO				pmax	pmax		
	comp=N,404nm,0.2s						
SHO				smax	smax		
	comp=N,17µm,0.5s						
SHO				smax	smax		
	comp=E,15µm,0.4s						
SHO				MLR	MLR		
	comp=Z,42µm,13.0s						
SHO	**Shikotan**	**4.29**	**246**	*e*P	**Pn**	**04 41 15.5**	**+0.3**
SHO				AMB	AMB	04 41 27.9	
	comp=Z,400nm,0.3s						
SHO				AMB	AMB	04 41 27.9	
	comp=Z,2µm,0.3s						
SHO				*e*S	**Sn**	**04 42 02.6**	**-1.4**
SHO				A	A	04 42 07.7	
	comp=Z,17µm,0.5s						
SHO				A	A	04 42 07.7	
	comp=Z,15µm,0.5s						
SHO				AMS	AMS	04 43 15.0	
	comp=Z,54µm,15.0s						
SHO				AMS	AMS	04 43 15.0	
	comp=Z,43µm,15.0s						
SHO				AMS	AMS	04 43 15.0	
	comp=Z,42µm,15.0s						
YUK	**Yuzh-Kuril'sk**	**4.85**	**252**	*c i*PN	**Pn**	**04 41 24.8**	**+1.9**
YUK				*e*S	**Sn**	**04 42 18.4**	**+0.6**
YUK				pmax	pmax		
	comp=E,1µm,0.2s						
YUK				pmax	pmax		
	comp=Z,3µm,0.2s						
YUK				pmax	pmax		
	comp=N,440nm,0.1s						
YUK				smax	smax		
	comp=N,13µm,0.4s						
YUK				smax	smax		
	comp=E,24µm,0.7s						
YUK				MLR	MLR		
	comp=Z,13µm,9.0s						
YUK	**Yuzh-Kuril'sk**	**4.85**	**252**	*e*P	**Pn**	**04 41 25.0**	**+2.0**
YUK				AMB	AMB	04 41 32.0	
	comp=Z,1µm,0.2s						
YUK				AMB	AMB	04 41 32.0	
	comp=Z,3µm,0.2s						
YUK				*e*S	**Sn**	**04 42 19.6**	**+1.8**
YUK				A	A	04 42 25.6	
	comp=Z,13µm,0.6s						
YUK				A	A	04 42 25.6	
	comp=Z,23µm,0.6s						
YUK				AMS	AMS	04 44 05.5	
	comp=Z,45µm,10.0s						
YUK				AMS	AMS	04 44 05.5	
	comp=Z,36µm,10.0s						
YUK				AMS	AMS	04 44 05.5	
	comp=Z,27µm,10.0s						
NEM2	**Nemuro 2**	**5.22**	**245**	*e*P	**Pn**	**04 41 27.9**	**-0.1**
NEM2				*e*S	**Sn**	**04 42 25.8**	**-1.2**
NEM2	**Nemuro 2**	**5.22**	**245**	A	A	04 41 27.9	
	comp=E,14nm,4.6s,comp=N,21nm,5.4s						
NMR	**Nemuro--Hokkai**	**5.23**	**245**	*e*PN	**Pn**	**04 41 28.3**	**+0.1**
NMR	**Nemuro--Hokkai**	**5.23**	**245**	*i* P	**Pn**	**04 41 28.5**	**+0.3**
NMR				AMB	AMB	04 41 29.6	
	comp=N,310nm,0.3s						
NMR				*e*S	**Sn**	**04 42 27.1**	**-0.1**
NMR				A	A	04 42 29.5	
	comp=N,2µm,0.3s						
NMR				A	A	04 42 29.5	
	comp=N,7µm,0.3s						
RUSJ	**Misakicho**	**5.

comp=N,35µm,15.0s
SKR Severo-Kuril's 5.58 26 *e*P **Pn 04 41 33.6 +0.7**
SKR AMB AMB 04 41 34.0
comp=N,4µm,2.5s
SKR AMB AMB 04 41 35.2
comp=N,4µm,0.6s
SKR *i* S **Sn 04 42 33.8 -1.9**
SKR A A 04 42 38.7
comp=N,29µm,0.8s
SKR A A 04 42 38.7
comp=N,12µm,0.8s
SKR AMS AMS 04 43 28.0
comp=N,35µm,19.0s
SKR AMS AMS 04 43 28.0
comp=N,19µm,19.0s
SKR AMS AMS 04 43 28.0
comp=N,20µm,19.0s
JKHN Kushirohamanak 5.73 245 A A 04 41 35.0
comp=E,33nm,1.4s,comp=N,28nm,4.3s
JNK Nakash 5.79 251 *e*P **Pn 04 41 37.7 +1.8**
JNK *e*S **Sn 04 42 42.3 +1.4**
JNK Nakash 5.79 251 A A 04 41 37.7
comp=E,18nm,6.0s,comp=N,19nm,3.3s
AKK Akkeshi 5.97 245 *i* P **Pn 04 41 38.7 +0.4**
JAK Akkeshi 6.07 246 *e*P **Pn 04 41 39.9 +0.2**
JAK *e*S **Sn 04 42 45.9 -1.9**
JAK Akkeshi 6.07 246 A A 04 41 39.9
comp=E,22nm,1.9s,comp=N,25nm,3.6s
JTKR Abashiri--Toko 6.19 256 *e*P **Pn 04 41 43.9 +2.6**
JTKR *e*S Sn 04 43 00.5 +10
JTKR Abashiri--Toko 6.19 256 A A 04 41 43.9
comp=E,9.0nm,3.8s,comp=N,13nm,6.2s
JAR Ashorobuto 6.54 251 *e*P **Pn 04 41 48.0 +1.9**
JAR *e*S **Sn 04 43 01.6 +2.2**
JAR Ashorobuto 6.54 251 A A 04 41 48.0
comp=E,13nm,2.7s,comp=N,20nm,2.3s
JMP Maruseppu 6.55 258 A A 04 41 46.4
comp=E,10.0nm,2.1s,comp=N,12nm,5.5s
JOB Onbets 6.67 248 *e*P **Pn 04 41 49.2 +1.3**
JOB *e*S **Sn 04 43 01.6 -1.1**
JOB Onbets 6.67 248 A A 04 41 49.2
comp=E,23nm,1.7s,comp=N,29nm,4.2s
YSS Yuzh-Sakhalins 6.69 284 Pn **Pn 04 41 52.3 +4.2**
YSS Yuzh-Sakhalins 6.69 284α *i*PN Pn 04 41 53.4 +5.3
YSS *e*S **Sn 04 43 10.0 +7.1**
YSS pmax pmax
comp=Z,1µm,5.8s
YSS pmax pmax
comp=E,2µm,4.3s
YSS pmax pmax
comp=Z,450nm,1.2s
YSS smax smax
comp=N,410nm,0.5s
YSS smax smax
comp=E,360nm,0.5s
YSS smax smax
comp=N,2µm,3.0s
YSS Yuzh-Sakhalins 6.69 284 *i* P **Pn 04 41 52.8 +4.7**
YSS AMB AMB 04 41 54.4
comp=N,1µm,0.3s
YSS AMB AMB 04 41 59.0
comp=N,1µm,5.8s
YSS *e*S **Sn 04 43 07.5 +4.6**
YSS A A 04 43 12.5
comp=N,420nm,0.5s
YSS A A 04 43 12.5
comp=N,450nm,0.5s
YSS A A 04 43 14.0
comp=N,2µm,3.0s
YSS AMS AMS 04 44 09.0
comp=N,13µm,21.0s
YSS AMS AMS 04 44 09.0
comp=N,38µm,21.0s
YSS AMS AMS 04 44 09.0
comp=N,69µm,21.0s
JSE Soyaes 6.86 267 A A 04 41 50.5
comp=E,7.0nm,3.1s,comp=N,6.0nm,4.1s
JKK2 Kamakawa 2 7.01 258 *e*P **Pn 04 41 55.6 +3.0**
JKK2 Kamakawa 2 7.01 258 A A 04 41 55.6
comp=E,8.0nm,4.6s,comp=N,10.0nm,9.4s
JKA Kamikawa-asahi 7.04 260 Pn **Pn 04 41 56.2 +3.1**
JKA Kamikawa-asahi 7.04 260 *e*P **Pn 04 41 56.7 +3.7**
ASAJ Asahikawa 7.04 260 A A 04 41 53.0
comp=E,6.0nm,3.4s,comp=N,10.0nm,3.5s
ASAJ Asahikawa 7.04 260 P **Pn 04 41 56.7 +3.6**
comp=N,84nm,0.4s,baz=76,slow=18,SNR=86
ASAJ S **Sn 04 43 14.9 +3.1**
comp=N,194nm,0.6s,baz=229,slow=20,SNR=0.8
ASAJ LR LR 04 44 53.3
comp=N,46µm,19.0s,baz=77,slow=39
JCH Churui 7.11 247 *e*P **Pn 04 41 54.5 +0.4**
JCH *e*S **Sn 04 43 11.9 -1.6**
JCH Churui 7.11 247 A A 04 41 54.5
comp=E,14nm,4.2s,comp=N,15nm,2.9s
JWK2 Keihoku 7.29 270 *e*P Pn 04 42 02.2 +5.9
JWK2 Keihoku 7.29 270 A A 04 42 02.2
comp=E,24nm,4.0s,comp=N,16nm,4.5s
JTHR Tokachihiroo 7.32 245 A A 04 41 56.6
comp=E,17nm,3.7s,comp=N,17nm,5.7s
JFR Furan 7.38 253 A A 04 41 57.4
comp=E,8.0nm,7.8s,comp=N,14nm,4.4s
JSS Shosan 7.48 263 A A 04 41 58.9
comp=E,15nm,7.0s,comp=N,16nm,8.3s
JAB Ashibetsu 7.50 256 *e*P **Pn 04 42 02.6 +3.3**
JAB Ashibetsu 7.50 256 A A 04 42 02.6
comp=E,19nm,6.3s,comp=N,21nm,9.3s
JEM Erimo 7.55 244 P **Pn 04 42 03.0 +3.0**
JEM Erimo 7.55 244 A A 04 41 59.7
comp=E,19nm,3.9s,comp=N,18nm,6.0s
ERM Erimo 7.55 244 Pn **Pn 04 42 02.1 +2.0**
ERM Erimo 7.55 244 P **Pn 04 42 03.0 +3.0**
ERM Erimo 7.55 244*c i*PN **Pn 04 42 02.3 +2.3**
ERM MLR MLR
comp=Z,24µm,10.0s
JNBK Urakawa-nobuka 7.67 247 *e*P **Pn 04 42 01.6 -0.1**
JNBK *e*S **Sn 04 43 24.5 -2.7**
JNBK Urakawa-nobuka 7.67 247 A A 04 42 01.6
comp=E,16nm,3.1s,comp=N,18nm,6.5s
UGL Uglegorsk 7.67 299 *e*PN Pn 04 42 07.2 +5.5
UGL *e*S **Sn 04 43 32.8 +5.6**
UGL pmax pmax
comp=Z,6µm,6.0s
UGL pmax pmax
comp=Z,561nm,0.9s
UGL smax smax
comp=N,2µm,0.6s
UGL smax smax
comp=E,2µm,0.6s
UGL smax smax
comp=E,18µm,12.2s
UGL smax smax
comp=N,14µm,11.7s
UGL MLR MLR
comp=N,21µm,14.0s
UGL MLR MLR
comp=E,17µm,14.0s
UGL Uglegorsk 7.67 299 *e*P Pn 04 42 07.2 +5.5
UGL AMB AMB 04 42 10.0
comp=E,6µm,6.0s
UGL AMB AMB 04 42 18.6
comp=E,810nm,0.7s
UGL *e*S **Sn 04 43 31.6 +4.4**
UGL A A 04 43 38.0
comp=E,2µm,0.6s
UGL A A 04 43 38.0
comp=E,2µm,0.6s
UGL A A 04 43 47.0
comp=E,15µm,8.0s
UGL A A 04 43 47.0
comp=E,18µm,8.0s
UGL AMS AMS 04 46 27.0
comp=E,21µm,14.0s
UGL AMS AMS 04 46 27.0
comp=E,17µm,14.0s
UGL AMS AMS 04 46 27.0
comp=E,25µm,14.0s
JBT2 Biratori 2 7.69 251 A A 04 42 01.7
comp=E,9.0nm,7.9s,comp=N,12nm,7.5s
JRR Rishiri 7.72 269 A A 04 42 02.1
comp=E,35nm,4.8s,comp=N,30nm,6.5s
JHR Hokuryu 7.76 259 A A 04 42 02.6
comp=E,14nm,6.8s,comp=N,17nm,8.6s
JYG Yagishiri 7.77 264 A A 04 42 02.8
comp=E,12nm,6.0s,comp=N,10.0nm,6.7s
JSHD Hidakashinhida 7.79 248 A A 04 42 03.0
comp=E,23nm,2.7s,comp=N,33nm,3.2s

JRBN Rebuntou 7.86 272 *e*P Pn 04 42 09.6 +5.4
JRBN Rebuntou 7.86 272 A A 04 42 09.6
comp=E,8.0nm,4.2s,comp=N,6.0nm,4.8s
JIAM Iburiatsuma 8.05 251 A A 04 42 06.5
comp=E,35nm,5.0s,comp=N,36nm,5.2s
JISS Ishikarishitsu 8.13 256 A A 04 42 07.5
comp=E,25nm,3.8s,comp=N,38nm,5.3s
PEA0B Petropavlovsk- 8.18 24 Pn **Pn 04 42 08.7 +0.1**
PEA0B Petropavlovsk- 8.18 24*d i*PN **Pn 04 42 09.0 +0.4**
PETK Petropavlovsk- 8.18 24 P **Pn 04 42 08.3 -0.3**
comp=N,190nm,0.7s,baz=180,slow=6.1,SNR=134
PETK S **Sn 04 43 39.1 -0.6**
comp=N,172nm,0.8s,baz=166,slow=19,SNR=1.3
PETK LR LR 04 45 52.0
comp=N,5µm,20.0s,baz=215,slow=42
TYV Tymovskoe 8.19 312 *e*PN Pn 04 42 14.1 +5.3
TYV *e*S **Sn 04 43 45.1 +5.1**
TYV pmax pmax
comp=Z,318nm,1.0s
TYV pmax pmax
comp=Z,5µm,3.7s
TYV smax smax
comp=N,142nm,1.6s
TYV smax smax
comp=E,274nm,1.6s
TYV smax smax
comp=N,7µm,7.7s
TYV smax smax
comp=E,8µm,7.7s
TYV Tymovskoe 8.19 312 *e*P Pn 04 42 14.1 +5.3
TYV AMB AMB 04 42 16.3
comp=E,320nm,1.0s
TYV AMB AMB 04 42 16.7
comp=E,5µm,3.7s
TYV *e*S **Sn 04 43 42.4 +2.4**
TYV A A 04 43 50.3
comp=E,330nm,0.4s
TYV A A 04 43 50.3
comp=E,180nm,0.4s
TYV A A 04 43 56.5
comp=E,7µm,8.0s
TYV A A 04 43 56.5
comp=E,8µm,8.0s
TYV AMS AMS 04 45 11.1
comp=E,15µm,21.0s
TYV AMS AMS 04 45 11.1
comp=E,28µm,21.0s
TYV AMS AMS 04 45 11.1
comp=E,36µm,21.0s
JEW Eniwo 8.27 253 A A 04 42 09.5
comp=E,22nm,5.8s,comp=N,21nm,4.4s
PET Petropavlovsk 8.40 27 **Pn 04 42 09.5 -2.1**
PET Petropavlovsk 8.40 27 P **Pn 04 42 10.7 -0.9**
PET Petropavlovsk 8.40 27 *e*PN **Pn 04 42 10.4 -1.2**
PET pmax pmax
comp=Z,536nm,1.1s
PET MLR MLR
comp=Z,11µm,16.0s
PET Petropavlovsk 8.40 27 *e*P **Pn 04 42 10.4 -1.2**
PET AMB AMB 04 42 28.4
comp=Z,540nm,1.0s
PET AMS AMS 04 46 29.0
comp=Z,11µm,16.0s
JNB Noboribetsu 8.71 252 A A 04 42 15.2
comp=E,7.0nm,6.3s,comp=N,9.0nm,7.6s
JSK Shakotan 8.74 258 A A 04 42 15.7
comp=E,9.0nm,5.7s,comp=N,6.0nm,3.8s
JKB Kayabe 8.98 249 A A 04 42 18.8
comp=E,10.0nm,3.0s,comp=N,13nm,2.1s
JSH Shimam 9.30 255 A A 04 42 23.2
comp=E,3.0nm,6.3s,comp=N,5.0nm,6.6s
JYM2 Yakumo 2 9.31 251 A A 04 42 23.2
comp=E,5.0nm,5.3s,comp=N,8.0nm,5.3s
JHST Hiyamasetana 9.50 254 A A 04 42 25.8
comp=E,6.0nm,2.8s,comp=N,13nm,2.6s
JANG Nango 9.51 239 *e*P **Pn 04 42 24.6 -2.3**
JANG *e*S **Sn 04 44 04.8 -7.6**
JTM Tenmabayashi 9.54 243 P **Pn 04 42 26.8 -0.5**
JSR Shiriuchi 9.55 248 A A 04 42 26.5
comp=E,6.0nm,4.8s,comp=N,7.0nm,5.2s
JTH Tanohata 9.58 236 *e*P **Pn 04 42 25.5 -2.3**
JTH *e*S Sn 04 44 05.3 -8.8
OKH Okha 9.87 326*de*PN **Pn 04 42 36.1 +4.4**
OKH *e*S Sn 04 44 35.1 +14
OKH pmax pmax
comp=Z,4µm,7.2s
OKH smax smax
comp=N,5µm,12.0s
OKH smax smax
comp=E,9µm,12.4s
OKH MLR MLR
comp=Z,16µm,16.0s
OKH Okha 9.87 326 *e*P **Pn 04 42 36.1 +4.4**
OKH AMB AMB 04 42 38.7
comp=Z,4µm,7.0s
OKH A A 04 44 43.1
comp=Z,5µm,12.0s
OKH A A 04 44 43.1
comp=Z,9µm,12.0s
OKH AMS AMS 04 47 50.0
comp=Z,16µm,16.0s
NKL Nikolayevsk 10.56 319 *e*PN **Pn 04 42 39.7 -1.5**
NKL pmax pmax
comp=E,2µm,1.5s
NKL pmax pmax
comp=N,449nm,1.6s
NKL pmax pmax
comp=Z,2µm,1.6s
NKL MLR MLR
comp=E,91µm,18.0s
NKL MLR MLR
comp=N,44µm,17.0s
NKL MLR MLR
comp=Z,134µm,20.0s
NKL Nikolayevsk 10.56 319 *e*P **Pn 04 42 45.1 +3.9**
NKL AMB AMB 04 42 48.0
comp=Z,500nm,1.5s
NKL AMB AMB 04 42 48.0
comp=Z,2µm,1.5s
NKL AMB AMB 04 42 48.0
comp=Z,2µm,1.5s
NKL AMS AMS 04 46 46.0
comp=Z,134µm,20.0s
NKL AMS AMS 04 46 46.0
comp=Z,134µm,20.0s
TEY Ternei 11.03 272⇑ *e*PN **Pn 04 42 51.3 +3.6**
TEY pmax pmax
comp=Z,30nm,0.8s
TEY pmax pmax
comp=E,40nm,0.9s
TEY MLR MLR
comp=E,8µm,16.0s
TEY MLR MLR
comp=Z,9µm,16.0s
TEY Ternei 11.03 272 *e*P **Pn 04 42 51.3 +3.6**
TEY AMB AMB 04 42 52.6
comp=Z,40nm,0.8s
TEY AMB AMB 04 42 52.6
comp=Z,30nm,0.8s
TEY AMS AMS 04 48 21.4
comp=Z,5µm,17.0s
TEY AMS AMS 04 48 21.4
comp=Z,8µm,17.0s
TEY AMS AMS 04 48 21.4
comp=Z,9µm,17.0s
JMM Marumori 11.61 231 P **Pn 04 42 54.4 -1.2**
GRNR Gornyy 11.68 301⇑ *i*PN Pn 04 43 01.4 +4.8
GRNR *e*S Sn 04 45 16.0 +10
GRNR pmax pmax
comp=E,140nm,1.0s
GRNR pmax pmax
comp=N,40nm,1.2s
GRNR pmax pmax
comp=Z,150nm,1.2s
GRNR smax smax
comp=N,30nm,0.8s
GRNR Gornyy 11.68 301 *e*P **Pn 04 43 00.6 +4.0**
GRNR AMB AMB 04 43 03.4
comp=N,40nm,1.0s
GRNR AMB AMB 04 43 03.4
comp=N,140nm,1.0s
GRNR AMB AMB 04 43 03.4
comp=N,160nm,1.0s
GRNR AMS AMS 04 47 28.7
comp=N,8µm,19.0s
GRNR AMS AMS 04 47 28.7
comp=N,21µm,19.0s
GRNR AMS AMS 04 47 28.7
comp=N,27µm,19.0s
KHBR Khabarovsk 12.03 289 *e*P **Pn 04 43 04.6 +3.3**
KHBR AMB AMB 04 43 11.1
comp=N,50nm,0.8s
JSD Sado 12.95 238 P **Pn 04 43 13.1 -0.8**
MA2 Magadan 13.89 357 Pn **Pn 04 43 26.0 -0.6**
MA2 Magadan 13.89 357 P **Pn 04 43 28.1 +1.5**
MA2 Magadan 13.89 357*c i*P **Pn 04 43 25.2 -1.4**
MA2 pmax pmax
comp=Z,270nm,0.8s
MA2 MLR MLR
comp=Z,19µm,17.0s
MA2 Magadan 13.89 357 P **Pn 04 43 25.4 -1.2**
comp=Z,115nm,0.5s,baz=165,slow=11,SNR=57
MA2 S **Sn 04 46 01.6 +2.4**
comp=Z,16nm,0.6s,baz=17,slow=19,SNR=1.2
MA2 LR LR 04 48 36.8
comp=Z,28µm,21.4s,baz=176,slow=36
MA2 Magadan 13.89 357 *e*P **Pn 04 43 25.2 -1.4**
MJAR Matsushiro Arr 14.00 234 P **Pn 04 43 27.0 -1.2**
comp=Z,24nm,0.8s,baz=28,slow=14,SNR=49
MJAR S **Sn 04 45 59.4 -2.8**
comp=Z,12nm,0.7s,baz=34,slow=13,SNR=1.5
MJB9 Matsu-Tunnel 14.00 234 **Pn 04 43 27.7 -0.6**
MAJO Matsushiro 14.00 234 P **Pn 04 43 27.6 -0.6**
MAJO Matsushiro 14.00 234*de*P **Pn 04 43 26.7 -1.5**
MAJO MLR MLR
comp=Z,6µm,17.0s
KLR Kul'dur 14.29 292 *i* P **Pn 04 43 35.3 +3.2**
KLR pmax pmax
comp=Z,301nm,1.2s
KLR Kul'dur 14.29 292 P **Pn 04 43 35.3 +3.2**
comp=Z,163nm,1.1s,baz=98,slow=14,SNR=135
KLR S **Sn 04 46 16.5 +7.4**
comp=Z,23nm,1.0s,baz=165,slow=18,SNR=1.5
KLR LR LR 04 49 22.9
comp=Z,40µm,19.8s,baz=104,slow=38
KLR Kul'dur 14.29 292 *e*P **Pn 04 43 33.0 +0.9**
KLR AMB AMB 04 43 37.5
comp=Z,420nm,1.0s
USA0B Ussuriysk Arra 14.43 271 **Pn 04 43 34.8 +0.8**
USA0B Ussuriysk Arra 14.43 271*c i*P **Pn 04 43 35.2 +1.2**
USRK Ussuriysk Ar. 14.43 271 **Pn 04 43 34.8 +0.8**
USRK Ussuriysk Ar. 14.43 271 P **Pn 04 43 35.0 +1.0**
comp=Z,39nm,0.5s,baz=82,slow=11,SNR=63
USRK S **Sn 04 46 11.6 -0.9**
comp=Z,6.5nm,0.5s,baz=67,slow=11,SNR=0.8
USRK LR LR 04 49 02.0
comp=Z,28µm,21.7s,baz=81,slow=36
GRTR Gornotajezhnoj 14.43 269 *e*P **Pn 04 43 34.7 +0.7**
GRTR AMB AMB 04 43 43.8
comp=Z,60nm,0.5s
EKMR Ekimchan 14.52 307 *e*P **Pn 04 43 37.7 +2.5**
EKMR AMB AMB 04 43 44.6
comp=Z,180nm,0.8s
EKMR AMS AMS 04 49 08.0
comp=Z,6µm,20.0s
EKMR AMS AMS 04 49 08.0
comp=Z,10µm,20.0s
EKMR AMS AMS 04 49 08.0
comp=Z,17µm,20.0s
VLA Vladivostok 14.78 267⇑ *e*P **Pn 04 43 38.2 -0.5**
VLA Vladivostok 14.78 267 *e*P **Pn 04 43 38.2 -0.5**
JGF Kuroka 15.15 233 **Pn 04 43 43.7 0.0**
JGF Kuroka 15.15 233 P **Pn 04 43 44.1 +0.4**
MSHR Mys Shultsa 15.46 266*de*P **Pn 04 43 47.2 -0.4**
MSHR pmax pmax
comp=Z,262nm,1.8s
MSHR MLR MLR
comp=Z,11µm,15.0s
INU Inuyama 15.53 233 Pn **Pn 04 43 47.5 -1.0**
INU Inuyama 15.53 233 P **Pn 04 43 50.0 +1.5**
PSTR Posyet 15.68 266*d i*P **Pn 04 43 50.1 -0.4**
PSTR Posyet 15.68 266 *e*P **Pn 04 43 49.6 -0.9**
JHJ Hachijo jima 2 15.84 222 P **Pn 04 43 54.2 +1.6**
comp=Z,605nm,0.9s,baz=96,slow=18,SNR=2.1
JHJ S Sn 04 46 33.1 -14
comp=Z,171nm,0.4s,baz=328,slow=19,SNR=2.3
JHJ LR LR 04 52 03.5
comp=Z,3µm,19.6s,baz=54,slow=45
SHEM Shemya Is, Ala 15.85 56 P **Pn 04 43 51.3 -1.3**
comp=Z,79nm,0.5s,baz=112,slow=1.1,SNR=12
SHEM S Sn 04 46 33.8 -13
comp=Z,219nm,0.7s,baz=257,slow=21,SNR=16
SHEM LR LR 04 49 22.9
comp=Z,6µm,21.1s,baz=268,slow=35
MDJ Mudanjiang 16.01 274 P **Pn 04 43 55.8 +1.1**
MDJ PP **PnPn 04 44 05.0 +1.4**
MDJ S **Sn 04 46 50.5 -0.6**
MDJ ScS **ScS 04 56 01.3 +1.8**
MDJ pmax pmax
comp=Z,590nm,1.0s
MDJ pmax pmax
comp=Z,3µm,3.6s
MDJ LR LR
comp=Z,12µm,20.3s
MDJ LR LR
comp=Z,22µm,21.0s
MDJ LR LR
comp=Z,36µm,22.5s
MDJ Mudanjiang 16.01 274 P **Pn 04 43 54.9 +0.2**
MDJ IAmb IAmb 04 44 00.1
comp=Z,847nm,1.1s
MDJ Mudanjiang 16.01 274 P **P 04 43 57.3 -0.4**
OCTB Oktyabr'skiy 16.96 304 *e*P **Pn 04 44 07.6 +1.0**
OCTB AMB AMB 04 44 15.7
comp=Z,140nm,1.0s
OCTB AMB AMB 04 44 15.7
comp=Z,280nm,1.0s
HEH HeiHe 17.19 294 *e*P **Pn 04 44 10.2 +0.6**
HEH sP **pP 04 44 22.1 +1.8**
HEH S **Sn 04 47 21.1 +1.5**
HEH sS **S 04 47 28.1 +0.6**
HEH ScS **ScS 04 56 01.2 -1.4**
HEH pmax pmax
comp=Z,70nm,1.2s
HEH LR LR
comp=Z,5µm,22.0s
HEH LR LR
comp=Z,24µm,20.8s
HEH LR LR
comp=Z,38µm,20.8s
SEY Seymchan 17.23 0⇑ *e*P **Pn 04 44 08.5 -1.4**
SEY pmax pmax
comp=Z,622nm,1.3s
SEY MLR MLR
comp=Z,17µm,17.0s
SEY Seymchan 17.23 0 P **Pn 04 44 08.7 -1.2**
comp=Z,246nm,0.6s,baz=176,slow=10,SNR=91
SEY LR LR 04 50 53.7
comp=Z,23µm,20.4s,baz=184,slow=37
SEY Seymchan 17.23 0 *e*P **Pn 04 44 08.5 -1.4**
BNX BinXian 17.33 279⇑ P **Pn 04 44 10.8 -0.5**
BNX pP **pP 04 44 19.8 -2.0**
BNX PP **PnPn 04 44 21.5 -0.2**
BNX sP **pwP 04 44 24.2 +2.4**
BNX S **Sn 04 47 19.9 -3.1**
BNX pmax pmax
comp=Z,76nm,1.2s
BNX pmax pmax
comp=Z,3µm,8.1s
BNX LR LR
comp=Z,7µm,17.9s
BNX LR LR
comp=Z,18µm,20.1s
BNX LR LR
comp=Z,22µm,20.6s
ZEA Zeya 17.96 305 *e*P **P 04 44 20.0 +0.8**
ZEA *e*S **Sn 04 47 28.5 -10**
ZEA pmax pmax
comp=E,3µm,4.8s
ZEA pmax pmax
comp=N,2µm,5.9s
ZEA pmax pmax
comp=Z,4µm,5.5s
ZEA pmax pmax
comp=E,250nm,1.5s
ZEA pmax pmax
comp=N,210nm,1.4s
ZEA pmax pmax
comp=Z,400nm,1.4s
ZEA smax smax
comp=N,4µm,11.9s
ZEA Zeya 17.96 305 *e*P **P 04 44 21.1 +1.9**
ZEA AMB AMB 04 44 22.3

comp=N,2µm,5.5s
ZEA AMB AMB 04 44 22.3
comp=N,4µm,5.5s
ZEA AMB AMB 04 44 22.3
comp=N,3µm,4.8s
ZEA AMB AMB 04 44 23.7
comp=N,1µm,1.0s
ZEA AMS AMS 04 51 17.0
comp=N,5µm,20.0s
ZEA AMS AMS 04 51 17.0
comp=N,11µm,20.0s
ZEA AMS AMS 04 51 17.0
comp=N,13µm,20.0s
JMN Monobe 18.48 236 P **Pn 04 44 27.2 +1.6**
AMKA Amchitka 18.71 63 **Pn 04 44 27.9 -0.2**
CN2 Changchun 19.10 274 *e*P **P 04 44 30.4 -1.4**
CN2 *e*S **Sn 04 47 55.9 -10**
CN2 pmax pmax
comp=N,700nm,3.0s
CN2 LR LR
comp=N,11µm,19.0s
CN2 LR LR
comp=N,17µm,19.0s
CN2 LR LR
comp=N,19µm,20.1s
KSRS Korea Array 19.93 254 P **Pn 04 44 42.8 0.0**
comp=N,54nm,1.0s,baz=62,slow=9.8,SNR=50
KSRS PcP **PcP 04 48 56.8 +0.5**
comp=N,20nm,1.0s,baz=0.0,slow=0.5,SNR=8.0
comp=N,54nm,1.0s
KS19 Wonju Array Si 19.95 254 P **P 04 44 41.9 +0.8**
KSAR Wonju Array Be 19.97 254 P **P 04 44 42.1 +0.8**
KSAR Wonju Array Be 19.97 254 P **P 04 44 42.1 +0.8**
JCJ Chichijima 20.26 207 P **P 04 44 45.4 +0.8**
JCJ IAmb IAmb 04 44 47.2
comp=Z,637nm,1.0s
JCJ Chichijima 20.26 207 P Pn 04 44 46.0 -0.7
JCJ Chichijima 20.26 207 P **P 04 44 39.2 -5.3**
comp=Z,412nm,0.9s,baz=35,slow=4.7,SNR=7.0
JCJ S S 04 48 09.0 -21
comp=Z,150nm,0.8s,baz=32,slow=19,SNR=2.5
JCJ LR LR 04 55 44.3
comp=Z,1µm,18.1s,baz=4.0,slow=46
PYAG Pyongyang 20.62 261 P **P 04 44 49.3 +1.0**
PYAG S **S 04 48 33.3 -3.2**
PYAG AmB
comp=Z,2µm,1.9s
PYAG AMS AMS
comp=Z,3µm,13.9s
JTU Tsushima 20.68 245 IAMs_20 IAMs_20 04 52 36.6
comp=Z,11µm,21.0s
JNU Nakatsue 20.69 240 P **P 04 44 50.2 +0.9**
JNU Nakatsue 20.69 240 P **P 04 44 50.3 +1.1**
comp=Z,57nm,0.9s,baz=90,slow=4.3,SNR=6.7
JNU LR LR 04 53 30.6
comp=Z,6µm,20.8s,baz=40,slow=38
comp=Z,57nm,0.9s
INCN Inchon 20.79 256 P Pn 04 44 52.6 -0.3
INCN Inchon 20.79 256 P Pn 04 44 52.6 -0.3
INCN pmax pmax
comp=Z,196nm,0.8s
INCN MLR MLR
comp=Z,8µm,20.0s
INCN Inchon 20.79 256 P Pn 04 44 52.8 0.0
INCN P Pn 04 44 52.8 0.0
INCN P Pn 04 44 52.8 0.0
INCN Inchon 20.79 256 *e*P Pn 04 44 52.6 -0.3
YAK Yakutsk 20.87 329 P **P 04 44 49.4 -1.4**
YAK Yakutsk 20.87 329 IAMs_20 IAMs_20 04 52 23.9
comp=Z,20µm,22.0s
YAK Yakutsk 20.87 329*c i*P **P 04 44 50.5 -0.3**
YAK *e* 04 45 04.3
YAK *e*S **S 04 48 37.5 -3.6**
YAK *e* 04 49 00.8
YAK pmax pmax
comp=Z,606nm,1.0s
YAK pmax pmax
comp=N,216nm,1.4s
YAK pmax pmax
comp=E,253nm,1.3s
YAK MLR MLR
comp=Z,17µm,21.0s
YAK MLR MLR
comp=E,11µm,22.0s
YAK MLR MLR
comp=N,7µm,15.0s
YAK Yakutsk 20.87 329 P **P 04 44 50.4 -0.3**
comp=N,331nm,0.3s,baz=100,slow=2.3,SNR=79
YAK S **S 04 48 34.1 -7.0**
comp=N,30nm,0.4s,baz=30,slow=20,SNR=1.5
YAK LR LR 04 52 42.7
comp=N,20µm,21.9s,baz=132,slow=36
comp=N,331nm,0.3s
TJN Taejon 20.90 252 P **P 04 44 52.5 +1.2**
TJN IAMs_20 IAMs_20 04 54 16.1
comp=Z,20µm,20.0s
TJN Taejon 20.90 252*ce*P Pn 04 44 53.9 -0.2
KIWB Kanaga Island 20.96 62 P **P 04 44 51.0 -0.9**
SNY Shenyang 21.02 270 P **P 04 44 53.5 +0.9**
SNY S **S 04 48 39.5 -4.8**
SNY pmax pmax
comp=Z,600nm,1.1s
SNY LR LR
comp=Z,9µm,20.1s
SNY LR LR
comp=Z,9µm,22.6s
SNY LR LR
comp=Z,17µm,21.4s
SUJ Sinuiju 21.04 264 P **P 04 44 53.4 +0.5**
SUJ S **S 04 48 41.0 -3.7**
SUJ AmB
comp=Z,2µm,2.0s
SUJ AMS AMS
comp=Z,6µm,17.3s
HJU Haeju 21.12 258 P **P 04 44 54.5 +0.7**
HJU S **S 04 48 42.7 -3.9**
HJU AmB
comp=Z,2µm,1.7s
HJU AMS AMS
comp=Z,8µm,14.8s
ADK Adak 21.25 62 P **P 04 44 53.9 -1.1**
ADK Adak 21.25 62 P **P 04 44 54.1 -0.9**
ADK Adak 21.25 62 P **P 04 44 53.9 -1.1**
ADK pmax pmax
comp=Z,279nm,1.2s
ADK MLR MLR
comp=Z,6µm,18.0s
GSTR Great Sitkin T 21.65 61 P **P 04 44 58.7 -0.7**
HIA Hailar 22.15 291 P **P 04 45 03.6 -1.1**
HIA IAmb IAmb 04 45 09.5
comp=Z,546nm,1.4s
HIA Hailar 22.15 291 IAMs_20 IAMs_20 04 53 57.3
comp=Z,20µm,20.0s
HIA Hailar 22.15 291 P **P 04 45 04.4 -0.3**
HIA Hailar 22.15 291*c i*P **P 04 45 02.0 -2.7**
HIA pmax pmax
comp=Z,163nm,1.4s
HIA MLR MLR
comp=Z,19µm,18.0s
ATKA Atka Island 22.81 61 P **P 04 45 10.2 -1.4**
ATKA Atka Island 22.81 61 P **P 04 45 11.4 -0.2**
BILL Bilibino 23.51 13 IAMs_20 IAMs_20 04 55 52.2
comp=Z,10µm,18.0s
BILL Bilibino 23.51 13 *i*P **P 04 45 17.0 -1.5**
BILL pmax pmax
comp=Z,646nm,1.7s
BILL MLR MLR
comp=Z,18µm,22.1s
DL2 Dalian 23.55 264⇑*i*P **P 04 45 19.6 +0.4**
DL2 S **S 04 49 31.8 +1.4**
DL2 pmax pmax
comp=Z,430nm,1.3s
DL2 pmax pmax
comp=Z,5µm,3.9s
DL2 LR LR
comp=Z,3µm,16.4s
DL2 LR LR
comp=Z,5µm,20.2s
DL2 LR LR
comp=Z,7µm,29.1s
CLES Cleveland East 25.45 60 IAMs_20 IAMs_20 04 55 10.8
comp=Z,6µm,19.0s
XLT XiLinHaoTe 25.59 279 *e*P **P 04 45 38.9 +1.0**
XLT S **S 04 50 00.4 -2.7**
XLT ScP **ScP 04 52 45.2 +1.1**
XLT pmax pmax
comp=Z,1µm,1.1s
XLT LR LR
comp=Z,11µm,22.8s
XLT LR LR
comp=Z,15µm,22.2s
SPIA Saint Paul Isl 25.67 50 P **P 04 45 40.9 +2.5**
SPIA Saint Paul Isl 25.67 50 P **P 04 45 38.5 +0.1**
baz=260
P08K Saint George I 25.96 51 P **P 04 45 40.9 -0.1**
baz=262
CIT Chita 25.98 298 *e*P **P 04 45 40.3 -1.0**
CIT *e* 04 46 27.7
CIT *e* 04 46 45.3
CIT *e*S **S 04 50 06.2 -2.8**
CIT *e* 04 50 31.3
CIT pmax pmax
comp=Z,1µm,1.7s
NIKH Nikolski High 26.09 60 P **P 04 45 42.7 +0.5**
baz=270
BOD Bodaibo 26.19 311⇑*i*P **P 04 45 41.4 -1.7**
BOD pmax pmax
comp=Z,1µm,1.9s
JOW Kunigami 26.84 234 P **P 04 45 49.6 +0.4**
BJI Beijing 26.88 271 P **P 04 45 50.4 +0.9**
BJI S **S 04 50 23.0 -0.3**
BJI pmax pmax
comp=Z,100nm,1.1s
BJI pmax pmax
comp=Z,1µm,3.9s
BJI LR LR
comp=Z,3µm,18.1s
BJI LR LR
comp=Z,5µm,22.5s
BJI LR LR
comp=Z,9µm,20.7s
BJT Baijiatuan 26.89 271 P **P 04 45 50.5 +0.9**
BJT IAmb IAmb 04 45 54.7
comp=Z,384nm,1.4s
BJT Baijiatuan 26.89 271 P **P 04 45 51.6 +2.0**
BJT Baijiatuan 26.89 271 P **P 04 45 50.5 +0.9**
BJT pmax pmax
comp=Z,384nm,1.4s
BJT MLR MLR
comp=Z,16µm,20.0s
GAMB Gambell 26.99 35 P **P 04 45 50.4 +0.2**
baz=245
UNV Unalaska Valle 27.50 58 P **P 04 45 55.3 +0.4**
baz=270
TIA Tai'an 27.98 263⇑P **P 04 46 00.3 +0.9**
TIA PcP **PcP 04 49 14.2 +0.5**
TIA S **S 04 50 39.4 -1.5**
TIA ScS **ScS 04 56 47.0 +3.3**
TIA pmax pmax
comp=Z,97nm,1.2s
TIA pmax pmax
comp=Z,850nm,4.6s
TIA LR LR
comp=Z,2µm,15.8s
TIA LR LR
comp=Z,3µm,19.4s
TIA LR LR
comp=Z,4µm,14.4s
SSE Sheshan 28.18 250 P **P 04 46 00.8 -0.4**
SSE S **S 04 50 45.2 +1.2**
SSE pmax pmax
comp=Z,50nm,1.3s
SSE pmax pmax
comp=Z,410nm,4.4s
SSE LR LR
comp=Z,2µm,16.9s
SSE LR LR
comp=Z,2µm,17.0s
TIXI Tiksi 28.27 345 P **P 04 46 00.1 -1.6**
TIXI Tiksi 28.27 345*ce*P **P 04 45 59.4 -2.2**
TIXI pmax pmax
comp=Z,566nm,1.7s
TIXI MLR MLR
comp=Z,17µm,21.0s
TIXI Tiksi 28.27 345 LR LR 04 57 36.4
comp=Z,17µm,21.8s,baz=152,slow=37
M11K Mekoryuk 28.37 44 P **P 04 46 02.3 -0.3**
baz=258
M11K S **S 04 50 48.6 +2.2**
baz=258
H11N2 WAKE ISLAND Hy 28.62 150 T T 05 16 34.9
baz=339,slow=75,SNR=334
H11N1 WAKE ISLAND Hy 28.63 150 T T 05 16 34.9
baz=339,slow=75,SNR=142
H11N3 WAKE ISLAND Hy 28.64 150 T T 05 16 35.4
baz=339,slow=75,SNR=86
WAKE Wake Island 28.95 151 IAMs_20 IAMs_20 04 54 33.8
comp=Z,11µm,22.0s
HNS HongShan 29.08 267⇑P **P 04 46 10.4 +1.2**
HNS S **S 04 50 59.4 +1.4**
HNS SS **SnSn 04 52 26.2 +2.2**
HNS pmax pmax
comp=Z,320nm,1.4s
HNS pmax pmax
comp=Z,3µm,5.4s
HNS LR LR
comp=Z,3µm,19.8s
HNS LR LR
comp=Z,8µm,21.1s
HNS LR LR
comp=Z,8µm,21.6s
NJ2 Nanjing 29.14 254⇑P **P 04 46 11.4 +1.7**
NJ2 pP **pP 04 46 16.4 -3.4**
NJ2 sP **sP 04 46 24.4 +0.5**
NJ2 S **S 04 51 00.0 +1.1**
NJ2 sS **sS 04 51 10.8 -3.4**
NJ2 pmax pmax
comp=Z,69nm,1.0s
NJ2 LR LR
comp=Z,14µm,17.5s
NJ2 LR LR
comp=Z,12µm,18.2s
NJ2 LR LR
comp=Z,7µm,19.9s
TNA Tin City 29.20 33 P **P 04 46 10.1 +0.2**
baz=247,SNR=20
TNA S **S 04 50 60.0 +0.6**
baz=247
FALS False Pass 29.30 56 P **P 04 46 11.3 +0.4**
baz=271
MIDW Midway 29.67 116 IAMs_20 IAMs_20 04 54 31.4
comp=Z,10µm,21.0s
H11S1 WAKE ISLAND Hy 29.69 151 T T 05 17 59.0
baz=339,slow=76,SNR=119
H11S3 WAKE ISLAND Hy 29.69 151 T T 05 17 56.7
baz=339,slow=76,SNR=84
H11S2 WAKE ISLAND Hy 29.70 151 T T 05 17 59.5
baz=339,slow=76,SNR=147
M13K Dall Lake 29.77 44 P **P 04 46 15.4 +0.4**
M13K Dall Lake 29.77 44 P **P 04 46 15.9 +0.9**
baz=261,SNR=9.6
M13K S **S 04 51 11.4 +3.1**
baz=261
HHC Hu-ho-hao-te 29.78 275 *e*P **P 04 46 17.2 +1.7**
HHC PP **PnPn 04 47 14.6 +2.6**
HHC S **S 04 51 09.6 +0.4**
HHC sS sS 04 51 27.1 +2.9
HHC pmax pmax
comp=Z,830nm,1.0s
HHC pmax pmax
comp=Z,4µm,5.1s
HHC LR LR
comp=Z,6µm,16.4s
HHC LR LR
comp=Z,11µm,18.7s
HHC LR LR
comp=Z,18µm,19.1s
F14K Arctic Creek 29.79 34 P **P 04 46 15.9 +0.8**
baz=249,SNR=28
F14K S **S 04 51 10.4 +1.8**
baz=249
ANM Nome 29.86 36 P **P 04 46 16.6 +0.8**
ANM IAmb IAmb 04 46 19.1
comp=Z,283nm,1.4s
ANM Nome 29.86 36 P **P 04 46 16.6 +0.8**
ANM pmax pmax
comp=Z,283nm,1.4s
ANM MLR MLR
comp=Z,4µm,20.0s
ANM Nome 29.86 36 P **P 04 46 16.5 +0.8**
baz=252,SNR=62
ANM S **S 04 51 12.2 +2.5**
baz=252
J14K Nanvaranak Lak 30.14 40 P **P 04 46 18.2 0.0**
J14K Nanvaranak Lak 30.14 40 P **P 04 46 18.3 0.0**
baz=257
J14K S **S 04 51 15.9 +1.9**
baz=257
L14K Kuka Creek 30.25 43 P **P 04 46 19.3 +0.1**
L14K Kuka Creek 30.25 43 P **P 04 46 19.7 +0.5**
baz=260
L14K S **S 04 51 18.0 +2.2**
baz=260
M14K Bethel 30.50 44 P **P 04 46 21.8 +0.4**
M14K Bethel 30.50 44 P **P 04 46 21.8 +0.4**
baz=262,SNR=15
M14K S **S 04 51 21.8 +2.0**
baz=262
F15K North Star Dit 30.52 34 P **P 04 46 21.8 +0.2**
F15K North Star Dit 30.52 34 P **P 04 46 22.0 +0.3**
baz=250,SNR=32
F15K S **S 04 51 21.6 +1.4**
baz=250
N14K Kuskokwak Cree 30.52 46 P **P 04 46 22.0 +0.4**
baz=263,SNR=8.3
N14K S **S 04 51 20.0 -0.1**
baz=263
TIY Taiyuan 30.52 269 *e*P **P 04 46 24.7 +2.7**
TIY S **S 04 51 23.1 +2.2**
TIY pmax pmax
comp=Z,120nm,0.9s
TIY pmax pmax
comp=Z,2µm,3.8s
TIY LR LR
comp=Z,4µm,17.9s
TIY LR LR
comp=Z,5µm,19.9s
TIY LR LR
comp=Z,7µm,21.3s
G15K Niukluk 30.54 35 P **P 04 46 22.1 +0.4**
baz=252,SNR=42
G15K S **S 04 51 23.2 +2.9**
baz=252
O14K Tigyukauivet M 30.66 47 P **P 04 46 22.8 -0.1**
O14K Tigyukauivet M 30.66 47 P **P 04 46 23.2 +0.3**
baz=265,SNR=14
O14K S **S 04 51 22.5 0.0**
baz=265
ULN Ulaanbaatar 30.68 291 P **P 04 46 24.1 +0.7**
ULN IAmb IAmb 04 46 27.3
comp=Z,259nm,1.3s
ULN Ulaanbaatar 30.68 291*ce*P **P 04 46 23.3 -0.1**
ULN pmax pmax
comp=Z,312nm,1.7s
ULN MLR MLR
comp=Z,13µm,18.0s
ULN Ulaanbaatar 30.68 291 P **P 04 46 24.3 +0.9**
ULN P **P 04 46 24.3 +0.9**
ULN P **P 04 46 24.3 +0.9**
ULN Ulaanbaatar 30.68 291 P **P 04 46 24.3 +0.9**
ULN PcP **PcP 04 49 21.0 +0.5**
ULN ScP **ScP 04 52 59.9 +0.1**
L15K Ungalak Mounta 30.87 42 P **P 04 46 24.8 0.0**
baz=260,SNR=11
L15K S **S 04 51 28.1 +2.5**
baz=260
BTO Baotou 30.95 276 *e*P **P 04 46 28.0 +2.2**
BTO pP **pP 04 46 37.4 +1.2**
BTO sP **sP 04 46 41.2 +0.3**
BTO PP **PnPn 04 47 25.8 -1.6**
BTO PcP **PcP 04 49 22.5 +1.2**
BTO SS **SnSn 04 53 11.8 +2.1**
BTO pmax pmax
comp=Z,860nm,1.2s
BTO pmax pmax
comp=Z,3µm,5.5s
BTO LR LR
comp=Z,15µm,16.1s
BTO LR LR
comp=Z,21µm,17.6s
BTO LR LR
comp=Z,33µm,19.0s
K15K Wolf Creek Mou 30.96 41 P **P 04 46 25.5 0.0**
K15K Wolf Creek Mou 30.96 41 P **P 04 46 26.0 +0.5**
baz=259,SNR=15
K15K S **S 04 51 27.7 +0.7**
baz=259
SDPT Sand Point 30.98 55 P **P 04 46 25.7 0.0**
baz=272
M15K Kasigluk River 31.11 44 P **P 04 46 26.8 0.0**
baz=263
M15K S **S 04 51 29.1 -0.3**
baz=263
SONM Songino Array 31.12 291 P **P 04 46 28.1 +0.8**
SONM Songino Array 31.12 291 P **P 04 46 28.1 +0.8**
SONM pmax pmax
comp=Z,157nm,1.3s
SONM Songino Array 31.12 291 P **P 04 46 27.2 -0.1**
comp=Z,38nm,0.8s,baz=70,slow=6.2,SNR=138
SONM ScP **ScP 04 53 01.3 +0.1**
comp=Z,10.0nm,1.1s,baz=108,slow=1.9,SNR=4.8
SONM LR LR 05 00 06.9
comp=Z,17µm,18.4s,baz=86,slow=38
comp=Z,38nm,0.8s
H16K Elim 31.17 36 P **P 04 46 27.1 -0.2**
baz=255,SNR=42
H16K S **S 04 51 32.0 +1.7**
baz=255
C16K Lisburne Hills 31.23 29 P **P 04 46 28.1 +0.2**
C16K IAmb IAmb 04 46 29.6
comp=Z,331nm,1.6s
C16K IAMs_20 IAMs_20 04 59 14.7
comp=Z,6µm,22.0s
C16K Lisburne Hills 31.23 29 P **P 04 46 27.7 -0.2**
baz=246
C16K S **S 04 51 31.7 +0.5**
baz=246
G16K Koyuk River 31.33 35 P **P 04 46 28.3 -0.4**
G16K Koyuk River 31.33 35 P **P 04 46 28.5 -0.3**
baz=254,SNR=13
G16K S **S 04 51 33.3 +0.6**
baz=254
N15K Kwethluk River 31.34 45 P **P 04 46 29.2 +0.3**
N15K Kwethluk River 31.34 45 P **P 04 46 29.2 +0.3**
baz=264,SNR=19
N15K S **S 04 51 33.2 +0.1**
baz=264
O15K Ungalikthiuk R 31.40 47 P **P 04 46 29.4 0.0**
baz=266
O15K S **S 04 51 35.2 +1.2**
baz=266
CHNA Chernabura Isl 31.51 56 P **P 04 46 30.7 +0.2**
baz=274
CNBA Chernabura Isl 31.52 56 P **P 04 46 28.8 -1.7**
J16K Anvik River 31.57 39 P **P 04 46 31.4 +0.5**
J16K Anvik River 31.57 39 P **P 04 46 31.2 +0.4**
baz=259,SNR=16
J16K S **S 04 51 38.6 +2.1**
baz=259
I17K Unalakleet 31.65 38 P **P 04 46 31.3 -0.2**
I17K Unalakleet 31.65 38 P **P 04 46 31.7 +0.2**
baz=258,SNR=10
I17K S **S 04 51 39.6 +1.9**
baz=258
IRK Irkutsk 31.66 300 *e*P **P 04 46 29.8 -2.0**
IRK *e*S **S 04 51 35.7 -2.5**
IRK pmax pmax
comp=Z,255nm,2.0s
YOJ Yonaguni jima 31.70 238 IAMs_20 IAMs_20 04 59 33.2
comp=Z,5µm,21.0s
D17K Noatak River 31.80 31 P **P 04 46 33.0 +0.2**
baz=249,SNR=135
D17K S **S 04 51 41.6 +1.6**
baz=249
L16K Owhat River 31.82 42 P **P 04 46 33.2 +0.1**
L16K Owhat River 31.82 42 P **P 04 46 33.0 -0.1**
baz=262,SNR=22
L16K S **S 04 51 41.9 +1.3**
baz=262
M16K Timber Creek 31.99 44 P **P 04 46 34.7 +0.2**
M16K IAMs_20 IAMs_20 05 00 45.0
comp=Z,5µm,19.0s
M16K Timber Creek 31.99 44 P **P 04 46 34.8 +0.2**
baz=264,SNR=31
M16K S **S 04 51 44.3 +1.2**
baz=264
N16K Nishlik Lake 32.03 45 P **P 04 46 35.2 +0.2**
baz=265
N16K S **S 04 51 44.6 +0.8**

baz=265
G17K Kiwalik Mounta 32.05 35 P **P** **04 46 35.2 +0.2**
baz=255
G17K S **S** **04 51 45.3 +1.3**
baz=255
C17K DeLong Mountai 32.05 29 P **P** **04 46 35.4 +0.3**
baz=248
C17K S **S** **04 51 44.1 +0.1**
baz=248
F17K Baldwin Pennin 32.07 33 P **P** **04 46 35.8 +0.6**
F17K IAmb IAmb 04 46 38.4
comp=Z,437nm,1.4s
F17K Baldwin Pennin 32.07 33 P **P** **04 46 35.8 +0.6**
baz=253
F17K S **S** **04 51 46.0 +1.8**
baz=253
LYN LuoYang 32.09 264 ⇓P **P** **04 46 36.7 +0.9**
LYN pP pP 04 46 45.1 -0.6
LYN sP pwP 04 46 49.6 -0.4
LYN PP **PnPn** **04 47 41.3 -0.8**
LYN S **S** **04 51 43.9 -1.3**
LYN pmax pmax
comp=Z,410nm,1.3s
LYN pmax pmax
comp=Z,4μm,5.4s
LYN LR LR
comp=Z,7μm,18.0s
LYN LR LR
comp=Z,8μm,19.2s
LYN LR LR
comp=Z,11μm,19.2s
CHGN Chignik 32.11 53 IAMs_20 IAMs_20 04 57 28.6
comp=Z,5μm,22.0s
CHGN Chignik 32.11 53 P **P** **04 46 35.4 -0.2**
baz=272
H17K Granite Mounta 32.21 36 P **P** **04 46 36.8 +0.3**
H17K Granite Mounta 32.21 36 P **P** **04 46 36.8 +0.3**
baz=257,SNR=49
H17K S **S** **04 51 47.0 +0.4**
baz=257
TATO Taipei 32.23 240 IAMs_20 IAMs_20 05 00 33.2
comp=Z,10μm,20.0s
J17K VABM Dome 32.26 39 P **P** **04 46 37.6 +0.6**
J17K VABM Dome 32.26 39 P **P** **04 46 37.5 +0.6**
baz=260
O16K Kokwok River B 32.31 47 P **P** **04 46 37.5 +0.1**
O16K Kokwok River B 32.31 47 P **P** **04 46 37.4 +0.1**
baz=267,SNR=22
O16K S **S** **04 51 48.8 +0.8**
baz=267
P16K Nushagak River 32.34 48 P **P** **04 46 38.0 +0.4**
baz=268,SNR=24
P16K S **S** **04 51 50.8 +2.3**
baz=268
L17K Donlin 32.43 42 P **P** **04 46 38.8 +0.4**
baz=263
L17K S **S** **04 51 51.1 +1.1**
baz=263
K17K Iditarod 32.51 41 P **P** **04 46 40.0 +0.9**
K17K Iditarod 32.51 41 P **P** **04 46 39.5 +0.4**
baz=262,SNR=30
K17K S **S** **04 51 54.2 +3.1**
baz=262
R16K Pilot Point 32.54 50 P **P** **04 46 39.6 +0.2**
baz=271
ZAK Zakamensk 32.58 296 *e*P **P** **04 46 39.4 -0.6**
ZAK *e* 04 47 56.4
ZAK pmax pmax
comp=Z,248nm,1.4s
ZAK pmax pmax
comp=Z,69nm,1.5s
E18K Tukpahlearik C 32.60 32 P **P** **04 46 40.6 +0.7**
E18K Tukpahlearik C 32.60 32 P **P** **04 46 40.4 +0.5**
baz=252
E18K S **S** **04 51 53.9 +1.3**
baz=252
F18K Selawik 32.73 33 P **P** **04 46 41.4 +0.4**
baz=255,SNR=150
F18K S **S** **04 51 56.9 +2.5**
baz=255
M17K Holitna River 32.76 43 P **P** **04 46 41.9 +0.6**
M17K IAmb IAmb 04 46 44.5
comp=Z,218nm,1.1s
M17K Holitna River 32.76 43 P **P** **04 46 41.7 +0.4**
baz=265,SNR=50
M17K S **S** **04 51 55.7 +0.6**
baz=265
NACB Ninganchiao 32.76 239 IAMs_20 IAMs_20 05 01 03.4
comp=Z,6μm,20.0s
C18K Utukok River 32.80 29 P **P** **04 46 42.0 +0.4**
C18K IAMs_20 IAMs_20 05 00 49.0
comp=Z,5μm,21.0s
C18K Utukok River 32.80 29 P **P** **04 46 41.6 0.0**
baz=250,SNR=112
C18K S **S** **04 51 55.0 -0.6**
baz=250
N17K Nushagak Hills 32.81 45 P **P** **04 46 42.3 +0.5**
N17K Nushagak Hills 32.81 45 P **P** **04 46 42.1 +0.3**
baz=266,SNR=20
N17K S **S** **04 51 57.7 +1.7**
baz=266
O17K Koliganek Bris 32.82 46 P **P** **04 46 42.2 +0.4**
baz=268
O17K S **S** **04 51 58.0 +2.0**
baz=268
B18K Kokolik River 32.85 28 P **P** **04 46 42.5 +0.5**
baz=248,SNR=95
B18K S **S** **04 51 55.7 -0.6**
baz=248
H18K Honhosa River 32.90 36 P **P** **04 46 43.1 +0.5**
H18K IAmb IAmb 04 46 45.6
comp=Z,327nm,1.4s
H18K Honhosa River 32.90 36 P **P** **04 46 42.6 +0.1**
baz=258
H18K S **S** **04 51 57.9 +0.7**
baz=258
G18K Tagagawik 32.95 35 P **P** **04 46 43.6 +0.7**
G18K IAmb IAmb 04 46 45.9
comp=Z,260nm,1.2s
G18K IAMs_20 IAMs_20 05 01 12.1
comp=Z,4μm,20.0s
G18K Tagagawik 32.95 35 P **P** **04 46 43.1 +0.2**
baz=257,SNR=112
G18K S **S** **04 51 58.1 +0.1**
baz=257
Q16K King Salmon 33.02 48 P **P** **04 46 43.8 +0.2**
baz=270,SNR=26
Q16K S **S** **04 51 59.3 +0.1**
baz=270
WHN Wuhan 33.10 256 ⇑P **P** **04 46 45.2 +0.6**
WHN sP **pP** **04 46 56.6 +1.9**
WHN S **S** **04 52 02.2 +1.2**
WHN sS **sS** **04 52 15.9 -0.5**
WHN ScS **ScS** **04 57 08.6 0.0**
WHN pmax pmax
comp=Z,300nm,1.0s
WHN pmax pmax
comp=Z,3μm,3.7s
WHN LR LR
comp=Z,32μm,20.7s
WHN LR LR
comp=Z,19μm,18.9s
WHN LR LR
comp=Z,16μm,20.6s
P17K Kvichak River 33.14 47 P **P** **04 46 44.8 +0.1**
baz=269,SNR=20
P17K S **S** **04 52 02.0 +1.0**
baz=269
L18K Granite Mounta 33.19 42 P **P** **04 46 45.7 +0.6**
L18K Granite Mounta 33.19 42 P **P** **04 46 45.7 +0.6**
baz=264,SNR=34
L18K S **S** **04 52 03.2 +1.4**
baz=264
J18K Innoko River 33.32 39 P **P** **04 46 46.2 -0.1**
J18K Innoko River 33.32 39 P **P** **04 46 46.2 -0.1**
baz=262,SNR=59
J18K S **S** **04 52 04.6 +0.7**
baz=262
Q17K Contact Creek 33.43 49 P **P** **04 46 46.5 -0.8**
baz=271,SNR=23
Q17K S **S** **04 52 04.6 -1.2**
baz=271
SSLB Suanglung 33.44 240 P **P** **04 46 48.2 +0.6**
GCSA Galena City Sc 33.45 37 P **P** **04 46 46.5 -0.7**
baz=260
GCSA S **S** **04 52 06.6 +1.0**
baz=260
N18K Kilae Creek 33.46 45 P **P** **04 46 47.2 -0.2**
N18K IAmb IAmb 04 46 50.9
comp=Z,263nm,1.1s
N18K Kilae Creek 33.46 45 P **P** **04 46 48.1 +0.6**
baz=267
N18K S **S** **04 52 07.0 +1.0**
baz=267
C19K Lookout Ridge 33.50 29 P **P** **04 46 48.3 +0.6**
C19K IAmb IAmb 04 46 50.1
comp=Z,200nm,1.2s
C19K IAMs_20 IAMs_20 05 00 49.6
comp=Z,7μm,22.0s
C19K Lookout Ridge 33.50 29 P **P** **04 46 48.1 +0.4**
baz=251,SNR=117
C19K S **S** **04 52 06.6 0.0**
baz=251
F19K Shaleruckik Mo 33.51 33 P **P** **04 46 48.0 +0.2**
F19K IAmb IAmb 04 46 49.7
comp=Z,201nm,1.4s
F19K Shaleruckik Mo 33.51 33 P **P** **04 46 47.6 -0.2**
baz=256,SNR=84
F19K S **S** **04 52 06.4 -0.2**
baz=256
YULB Yu-li 33.53 239 IAMs_20 IAMs_20 05 03 04.7
comp=Z,6μm,19.0s
M18K Stony River 33.54 43 P **P** **04 46 48.8 +0.7**
baz=266,SNR=34
M18K S **S** **04 52 08.9 +1.8**
baz=266
TTA Tatalina 33.58 41 P **P** **04 46 48.5 0.0**
TTA Tatalina 33.58 41 P **P** **04 46 48.6 0.0**
TTA Tatalina 33.58 41 P **P** **04 46 48.5 0.0**
TTA pmax pmax
comp=Z,80nm,1.0s
TTA Tatalina 33.58 41 P **P** **04 46 48.6 0.0**
baz=264,SNR=43
TTA S **S** **04 52 07.0 -0.9**
baz=264
G19K Purcell Mounta 33.62 35 P **P** **04 46 49.1 +0.3**
G19K IAmb IAmb 04 46 51.4
comp=Z,167nm,1.2s
G19K Purcell Mounta 33.62 35 P **P** **04 46 48.5 -0.3**
baz=258,SNR=76
G19K S **S** **04 52 07.2 -1.3**
baz=258
SVW2 Sparrevohn 33.63 44 P **P** **04 46 49.5 +0.6**
SVW2 IAmb IAmb 04 46 50.8
comp=Z,267nm,1.7s
SVW2 Sparrevohn 33.63 44 P **P** **04 46 49.6 +0.6**
CHIR Chirikof Islan 33.70 53 IAMs_20 IAMs_20 04 59 28.7
comp=Z,6μm,22.0s
CHIR Chirikof Islan 33.70 53 P **P** **04 46 48.7 -0.9**
baz=275
CHIR S **S** **04 52 09.2 -0.6**
baz=275
MOY Mondy 33.75 299 *e*P **P** **04 46 49.8 -0.4**
MOY pmax pmax
comp=Z,230nm,1.9s
H19K Roundabout Mou 33.76 36 P **P** **04 46 50.5 +0.5**
H19K Roundabout Mou 33.76 36 P **P** **04 46 50.2 +0.2**
baz=260
H19K S **S** **04 52 12.1 +1.6**
baz=260
P18K Big Mountain, 33.76 47 P **P** **04 46 50.6 +0.5**
P18K IAmb IAmb 04 46 51.5
comp=Z,185nm,1.1s
P18K Big Mountain, 33.76 47 P **P** **04 46 50.3 +0.2**
baz=270,SNR=46
P18K S **S** **04 52 12.1 +1.4**
baz=270
O18K Koktuh Hills 33.77 46 P **P** **04 46 50.3 0.0**
baz=269,SNR=32
O18K S **S** **04 52 11.3 +0.3**
baz=269
D19K Kuna River 33.82 30 P **P** **04 46 51.1 +0.6**
D19K IAMs_20 IAMs_20 05 01 01.2
comp=Z,4μm,20.0s
D19K Kuna River 33.82 30 P **P** **04 46 50.8 +0.2**
baz=254,SNR=261
D19K S **S** **04 52 11.6 +0.1**
baz=254
E19K Redstone River 33.87 32 P **P** **04 46 51.5 +0.6**
E19K IAmb IAmb 04 46 54.0
comp=Z,435nm,1.5s
E19K Redstone River 33.87 32 P **P** **04 46 51.2 +0.3**
baz=256,SNR=190
E19K S **S** **04 52 12.0 -0.2**
baz=256
J19K Poorman 33.87 39 P **P** **04 46 51.0 0.0**
J19K Poorman 33.87 39 P **P** **04 46 50.8 -0.3**
baz=263,SNR=80
J19K S **S** **04 52 11.6 -0.8**
baz=263
TPUB Ta-pu 34.00 240 P **P** **04 46 53.6 +1.0**
TPUB IAmb IAmb 04 47 17.2
comp=Z,231nm,1.0s
L19K White Mountain 34.04 42 P **P** **04 46 53.1 +0.6**
L19K IAMs_20 IAMs_20 05 01 35.4
comp=Z,4μm,20.0s
L19K White Mountain 34.04 42 P **P** **04 46 52.8 +0.2**
baz=266,SNR=31
L19K S **S** **04 52 17.0 +2.0**
baz=266
QZH Quanzhou 34.05 244 ⇑*i*P **P** **04 46 54.4 +1.5**
QZH S **S** **04 52 19.2 +3.4**
QZH pmax pmax
comp=Z,2μm,1.8s
QZH LR LR
comp=Z,6μm,21.0s
QZH LR LR
comp=Z,4μm,18.5s
QZH LR LR
comp=Z,4μm,21.6s
TWG Pinlang 34.10 238 P **P** **04 46 54.3 +0.9**
TWG IAmb IAmb 04 47 22.9
comp=Z,268nm,1.1s
TWG IAMs_20 IAMs_20 05 01 21.7
comp=Z,7μm,22.0s
N19K Bonanza Creek 34.16 44 P **P** **04 46 53.4 -0.2**
N19K IAMs_20 IAMs_20 04 57 32.3
comp=Z,4μm,21.0s
N19K Bonanza Creek 34.16 44 P **P** **04 46 54.1 +0.5**
baz=268,SNR=38
N19K S **S** **04 52 17.8 +0.8**
baz=268
O19K Port Alsworth 34.23 46 P **P** **04 46 53.9 -0.2**
O19K Port Alsworth 34.23 46 P **P** **04 46 54.2 +0.1**
baz=270,SNR=19
O19K S **S** **04 52 20.1 +2.3**
baz=270
M19K Big River Lodg 34.24 42 P **P** **04 46 54.0 -0.2**
M19K Big River Lodg 34.24 42 P **P** **04 46 54.6 +0.3**
baz=267
M19K S **S** **04 52 20.2 +2.1**
baz=267
F20K Avaraart Lake 34.34 33 P **P** **04 46 54.7 -0.3**
F20K Avaraart Lake 34.34 33 P **P** **04 46 54.9 -0.1**
baz=258
F20K S **S** **04 52 20.6 +1.1**
baz=258
H20K Anotleneega Mo 34.40 36 P **P** **04 46 55.7 +0.1**
baz=261
H20K S **S** **04 52 21.6 +1.1**
baz=261
D20K Etivluk River 34.41 30 P **P** **04 46 55.8 +0.2**
baz=255,SNR=293
D20K S **S** **04 52 20.7 +0.1**
baz=255
SII Sitkinak Islan 34.44 52 P **P** **04 46 55.3 -0.6**
SII IAmb IAmb 04 46 56.8
comp=Z,213nm,1.3s
SII IAMs_20 IAMs_20 05 01 16.2
comp=Z,7μm,20.0s
SII Sitkinak Islan 34.44 52 P **P** **04 46 55.4 -0.6**
SII Sitkinak Islan 34.44 52 P **P** **04 46 54.4 -1.6**
baz=275
SII S **S** **04 52 20.8 -0.5**
baz=275
E20K Nigu River 34.45 31 P **P** **04 46 56.3 +0.3**
baz=256
E20K S **S** **04 52 20.7 -0.5**
baz=256
I20K Naaghedeneel 34.47 37 P **P** **04 46 56.2 +0.1**
I20K Naaghedeneel 34.47 37 P **P** **04 46 56.3 +0.1**
baz=263,SNR=39
I20K S **S** **04 52 22.4 +1.0**
baz=263
K20K Telida 34.49 40 P **P** **04 46 56.9 +0.5**
K20K IAmb IAmb 04 46 58.8
comp=Z,212nm,1.6s
K20K Telida 34.49 40 P **P** **04 46 56.8 +0.3**
baz=265
K20K S **S** **04 52 23.1 +1.2**
baz=265
L20K Farewell, AK 34.52 41 P **P** **04 46 56.7 +0.1**
baz=267,SNR=34
L20K S **S** **04 52 24.3 +2.0**
baz=267
KNMB Chin-men Tao 34.52 244 P **P** **04 46 57.8 +0.8**
KNMB IAmb IAmb 04 47 00.9
comp=Z,355nm,1.2s
J20K Nowinta River 34.54 38 P **P** **04 46 57.2 +0.4**
J20K IAmb IAmb 04 46 59.8
comp=Z,325nm,1.6s
J20K Nowinta River 34.54 38 P **P** **04 46 57.0 +0.3**
baz=264,SNR=75
J20K S **S** **04 52 22.0 -0.6**
baz=264
Q19K Cape Douglas, 34.59 48 P **P** **04 46 56.9 -0.4**
Q19K IAmb IAmb 04 47 00.2
comp=Z,116nm,0.8s
Q19K IAMs_20 IAMs_20 04 59 28.9
comp=Z,4μm,20.0s
Q19K Cape Douglas, 34.59 48 P **P** **04 46 56.1 -1.2**
baz=272,SNR=7.7
B20K Meade River 34.59 28 P **P** **04 46 58.1 +1.0**
B20K IAMs_20 IAMs_20 05 01 47.4
comp=Z,7μm,22.0s
B20K Meade River 34.59 28 P **P** **04 46 57.6 +0.4**
baz=252
P19K Oil Pt 34.78 46 P **P** **04 46 58.9 0.0**
P19K Oil Pt 34.78 46 P **P** **04 46 58.7 -0.2**
baz=271
P19K S **S** **04 52 25.6 -0.8**
baz=271
ILSW Iliamna Southw 34.82 46 P **P** **04 46 58.9 -0.4**
M20K Styx River 34.84 43 P **P** **04 47 00.1 +0.6**
M20K IAMs_20 IAMs_20 05 03 23.4
comp=Z,3μm,18.0s
M20K Styx River 34.84 43 P **P** **04 47 00.1 +0.6**
baz=268
M20K S **S** **04 52 28.8 +1.4**
baz=268
XAN Xi'an 34.84 266 ⇑P **P** **04 47 00.5 +0.7**
XAN pP pP 04 47 10.4 +0.6
XAN S **S** **04 52 26.9 -1.0**
XAN sS sS 04 52 45.2 +1.7
XAN ScS **ScS** **04 57 17.3 -0.5**
XAN pmax pmax
comp=Z,310nm,1.7s
XAN pmax pmax
comp=Z,3μm,7.3s
XAN LR LR
comp=Z,10μm,20.9s
XAN LR LR
comp=Z,8μm,20.3s
XAN LR LR
comp=Z,12μm,17.8s
XAN Xi'an 34.84 266 P **P** **04 47 00.7 +0.9**
OHAK Old Harbor 34.87 51 P **P** **04 46 58.6 -1.1**
OHAK IAmb IAmb 04 47 01.1
comp=Z,162nm,1.0s
OHAK IAMs_20 IAMs_20 05 02 03.6
comp=Z,5μm,20.0s
OHAK Old Harbor 34.87 51 P **P** **04 46 58.5 -1.1**
OHAK Old Harbor 34.87 51 P **P** **04 46 58.2 -1.5**
baz=275,SNR=23
OHAK S **S** **04 52 26.0 -1.9**
baz=275
IMAR Indian Mountai 34.94 35 P **P** **04 47 00.7 +0.5**
RSO Redoubt South 35.00 45 P **P** **04 47 01.4 +0.3**
O20K Slope Mountain 35.07 46 P **P** **04 47 01.2 -0.3**
baz=271,SNR=13
O20K S **S** **04 52 30.4 -0.7**
baz=271
G21K Allakaket 35.11 34 P **P** **04 47 02.4 +0.7**
G21K IAmb IAmb 04 47 04.8
comp=Z,312nm,1.3s
G21K IAMs_20 IAMs_20 05 02 39.4
comp=Z,4μm,20.0s
G21K Allakaket 35.11 34 P **P** **04 47 02.0 +0.3**
baz=261,SNR=120
G21K S **S** **04 52 33.4 +2.0**
baz=261
C21K Knifeblade Rid 35.16 30 P **P** **04 47 02.7 +0.7**
baz=256
C21K S **S** **04 52 31.3 -0.8**
baz=256
A21K Barrow 35.18 26 P **P** **04 47 02.3 +0.2**
baz=251,SNR=27
A21K S **S** **04 52 31.5 -0.7**
baz=251
KDAK Kodiak Island 35.21 50 P **P** **04 47 02.0 -0.6**
KDAK IAmb IAmb 04 47 04.4
comp=Z,235nm,0.8s
KDAK Kodiak Island 35.21 50 IAMs_20 IAMs_20 05 01 26.4
comp=Z,8μm,22.0s
KDAK Kodiak Island 35.21 50*c i*P **P** **04 47 01.2 -1.4**
KDAK pmax pmax
comp=Z,348nm,0.9s
KDAK MLR MLR
comp=Z,11μm,22.0s
KDAK Kodiak Island 35.21 50 P **P** **04 47 01.4 -1.2**
baz=274
KDAK S **S** **04 52 29.6 -3.4**
baz=274
KDAK Kodiak Island 35.21 50 P **P** **04 47 01.6 -1.0**
KDAK PcP **PcP** **04 49 32.6 -0.1**
KDAK ScP **ScP** **04 53 13.7 -1.4**
F21K Alatna River 35.24 33 P **P** **04 47 03.1 +0.3**
F21K IAmb IAmb 04 47 05.7
comp=Z,224nm,1.4s
F21K Alatna River 35.24 33 P **P** **04 47 02.9 +0.1**
baz=260,SNR=116
F21K S **S** **04 52 33.5 +0.1**
baz=260
Q20K Shuyak Island 35.25 48 P **P** **04 47 01.8 -1.1**
baz=274,SNR=18
Q20K S **S** **04 52 30.9 -2.7**
baz=274
SYI Shuyak Island 35.25 48 P **P** **04 47 02.1 -0.8**
SYI IAmb IAmb 04 47 04.4
comp=Z,266nm,0.9s
SYI IAMs_20 IAMs_20 05 03 10.5
comp=Z,4μm,20.0s
N20K Mount Spurr 35.27 44 P **P** **04 47 03.5 +0.3**
baz=270,SNR=63
N20K S **S** **04 52 36.5 +2.5**
baz=270
H21K Melozitna Rive 35.28 36 P **P** **04 47 03.8 +0.7**
H21K IAmb IAmb 04 47 06.2
comp=Z,378nm,1.3s
H21K Melozitna Rive 35.28 36 P **P** **04 47 03.5 +0.3**
baz=263
H21K S **S** **04 52 35.8 +1.8**
baz=263
E21K Killik River 35.29 31 P **P** **04 47 03.4 +0.2**
E21K IAmb IAmb 04 47 05.9
comp=Z,177nm,1.3s
E21K Killik River 35.29 31 P **P** **04 47 03.2 -0.1**
baz=258
E21K S **S** **04 52 33.7 -0.5**
baz=258
CHUM Lake Minchumin 35.32 39 P **P** **04 47 04.2 +0.7**
baz=266,SNR=43
CHUM S **S** **04 52 36.9 +2.4**
baz=266
PPLA Purkeypile 35.32 41 P **P** **04 47 04.5 +0.8**
baz=268,SNR=65
PPLA S **S** **04 52 36.7 +1.8**
baz=268
B21K Ikpikpuk River 35.34 29 P **P** **04 47 04.0 +0.5**
B21K IAMs_20 IAMs_20 05 03 17.2
comp=Z,4μm,20.0s
B21K Ikpikpuk River 35.34 29 P **P** **04 47 04.2 +0.6**
baz=256,SNR=593
B21K S **S** **04 52 34.3 -0.4**
baz=256
CAST Castle Rocks 35.39 40 P **P** **04 47 04.6 +0.4**
CAST Castle Rocks 35.39 40 P **P** **04 47 04.8 +0.6**
baz=267,SNR=70
CAST S **S** **04 52 38.0 +2.3**
baz=267
I21K Tanana 35.57 37 P **P** **04 47 06.2 +0.6**

I21K IAmb IAmb 04 47 09.1
comp=Z,586nm,1.9s
I21K IAMs_20 IAMs_20 05 03 47.5
comp=Z,4μm,20.0s
I21K Tanana 35.57 37 P **P** **04 47 06.2 +0.6**
baz=264,SNR=57
I21K S **S** **04 52 40.0 +1.7**
baz=264
HOM Homer 35.58 46 P **P** **04 47 05.9 +0.1**
HOM Homer 35.58 46 P **P** **04 47 04.3 -1.4**
baz=273,SNR=5.9
SKT Skwentna 35.60 42 P **P** **04 47 06.1 +0.1**
SKT Skwentna 35.60 42 P **P** **04 47 05.9 -0.1**
baz=270,SNR=36
SKT S **S** **04 52 39.6 +0.6**
baz=270
CAPN Captain Cook N 35.79 44 P **P** **04 47 08.4 +0.9**
CAPN IAmb IAmb 04 47 12.4
comp=Z,240nm,1.0s
CAPN IAMs_20 IAMs_20 05 01 28.6
comp=Z,4μm,21.0s
CAPN Captain Cook N 35.79 44 P **P** **04 47 07.0 -0.5**
baz=272,SNR=7.2
CNPM China Poot 35.80 47 P **P** **04 47 07.0 -0.7**
CNPM IAmb IAmb 04 47 10.3
comp=Z,189nm,0.9s
CNPM IAMs_20 IAMs_20 05 02 18.8
comp=Z,4μm,22.0s
D22K Ayikyak River 35.84 30 P **P** **04 47 08.6 +0.7**
D22K Ayikyak River 35.84 30 P **P** **04 47 08.4 +0.4**
baz=259
D22K S **S** **04 52 42.8 +0.3**
baz=259
H22K Ishtalitna Cre 35.89 36 P **P** **04 47 09.0 +0.6**
baz=264,SNR=128
H22K S **S** **04 52 45.0 +1.7**
baz=264
B22K Teshekpuk Lake 35.91 28 P **P** **04 47 08.9 +0.5**
B22K IAMs_20 IAMs_20 05 02 50.4
comp=Z,6μm,21.0s
B22K Teshekpuk Lake 35.91 28 P **P** **04 47 08.6 +0.2**
baz=256
B22K S **S** **04 52 43.7 +0.2**
baz=256
BPAW Bear Paw Mtn. 35.91 39 P **P** **04 47 09.1 +0.4**
BPAW IAmb IAmb 04 47 11.8
comp=Z,274nm,1.5s
BPAW Bear Paw Mtn. 35.91 39 P **P** **04 47 09.0 +0.3**
baz=267,SNR=68
BPAW S **S** **04 52 45.2 +1.4**
baz=267
KTH Kantishna Hill 35.92 40 P **P** **04 47 09.3 +0.6**
G22K Bettles 35.96 34 P **P** **04 47 08.9 0.0**
baz=263
G22K S **S** **04 52 45.3 +1.0**
baz=263
BRLK Bradley Lake 35.96 46 P **P** **04 47 08.2 -0.9**
BRLK IAmb IAmb 04 47 10.1
comp=Z,147nm,1.0s
BRLK IAMs_20 IAMs_20 05 02 05.9
comp=Z,4μm,21.0s
SUA Susitna One 35.97 43 P **P** **04 47 08.9 -0.3**
SUA Susitna One 35.97 43 P **P** **04 47 08.5 -0.8**
baz=271,SNR=23
SUA S **S** **04 52 44.3 -0.6**
baz=271
BRSE Bradley Lake S 36.03 46 P **P** **04 47 09.1 -0.6**
baz=273,SNR=26
BRSE S **S** **04 52 42.8 -2.9**
baz=273
MLY Manley 36.08 37 P **P** **04 47 10.8 +0.7**
MLY Manley 36.08 37 P **P** **04 47 10.5 +0.5**
baz=266,SNR=97
MLY S **S** **04 52 47.4 +1.0**
baz=266
CUT Chulitna 36.19 42 P **P** **04 47 10.5 -0.5**
CUT IAmb IAmb 04 47 13.0
comp=Z,194nm,1.1s
CUT Chulitna 36.19 42 P **P** **04 47 10.2 -0.7**
baz=270,SNR=28
CUT S **S** **04 52 46.1 -1.8**
baz=270
TRF Thorofare Moun 36.20 40 P **P** **04 47 11.4 +0.2**
TRF Thorofare Moun 36.20 40 P **P** **04 47 11.2 -0.1**
baz=268,SNR=44
TRF S **S** **04 52 49.4 +1.0**
baz=268
FIS Fire Island 36.23 44 P **P** **04 47 11.0 -0.3**
M22K Willow 36.27 43 P **P** **04 47 10.8 -0.8**
M22K IAmb IAmb 04 47 33.9
comp=Z,112nm,0.9s
M22K Willow 36.27 43 P **P** **04 47 10.4 -1.2**
baz=271,SNR=12
M22K S **S** **04 52 47.5 -1.6**
baz=271
RC01 Rabbit Creek A 36.47 44 P **P** **04 47 12.7 -0.7**
RC01 IAmb IAmb 04 47 15.4
comp=Z,246nm,1.3s
RC01 Rabbit Creek A 36.47 44 P **P** **04 47 12.8 -0.5**
baz=272,SNR=34
RC01 S **S** **04 52 49.0 -3.3**
baz=272
COLD Coldfoot 36.50 34 P **P** **04 47 13.7 +0.1**
baz=263,SNR=130
COLD S **S** **04 52 52.2 -0.5**
baz=263
O22K Cooper Landing 36.50 45 P **P** **04 47 12.6 -1.1**
O22K IAMs_20 IAMs_20 05 04 56.5
comp=Z,4μm,21.0s
O22K Cooper Landing 36.50 45 P **P** **04 47 12.7 -0.9**
baz=273,SNR=16
O22K S **S** **04 52 49.5 -3.2**
baz=273
G23K Bananza Creek 36.52 34 P **P** **04 47 13.8 0.0**
G23K IAmb IAmb 04 47 16.7
comp=Z,230nm,1.3s
G23K Bananza Creek 36.52 34 P **P** **04 47 13.9 +0.2**
baz=264,SNR=142
G23K S **S** **04 52 51.8 -1.1**
baz=264
D23K Nanushuk River 36.57 31 P **P** **04 47 14.6 +0.5**
baz=261,SNR=190
D23K S **S** **04 52 54.0 +0.4**
baz=261
BWN Browne 36.58 39 P **P** **04 47 14.8 +0.5**
ENH Enshi 36.60 260 P **P** **04 47 15.1 +0.3**
ENH IAmb IAmb 04 47 17.6
comp=Z,333nm,1.2s
ENH IAMs_20 IAMs_20 05 03 26.5
comp=Z,3μm,20.0s
ENH Enshi 36.60 260 P **P** **04 47 15.3 +0.4**
ENH Enshi 36.60 260 P **P** **04 47 15.2 +0.3**
ENH PcP **PcP** **04 49 37.9 +0.4**
SEW Seward 36.66 46 P **P** **04 47 13.8 -1.1**
baz=274,SNR=14
SEW S **S** **04 52 53.4 -1.8**
baz=274
I23K Minto, Yukon-K 36.67 37 P **P** **04 47 15.5 +0.5**
I23K IAmb IAmb 04 47 17.6
comp=Z,498nm,1.6s
I23K Minto, Yukon-K 36.67 37 P **P** **04 47 15.5 +0.5**
baz=267,SNR=142
I23K S **S** **04 52 55.9 +0.7**
baz=267
C23K Itkillik River 36.74 29 P **P** **04 47 16.2 +0.7**
C23K IAMs_20 IAMs_20 05 04 13.3
comp=Z,4μm,20.0s
C23K Itkillik River 36.74 29 P **P** **04 47 16.1 +0.5**
baz=260,SNR=250
C23K S **S** **04 52 55.7 -0.5**
baz=260
PMR Palmer 36.74 43 P **P** **04 47 14.4 -1.2**
PMR IAMs_20 IAMs_20 05 04 35.8
comp=Z,4μm,21.0s
PMR Palmer 36.74 43 P **P** **04 47 15.4 -0.2**
PMR Palmer 36.74 43 P **P** **04 47 14.4 -1.2**
PMR pmax pmax
comp=Z,96nm,1.0s
PMR MLR MLR
comp=Z,4μm,21.0s
PMR Palmer 36.74 43 P **P** **04 47 15.0 -0.7**
baz=272,SNR=31
PMR S **S** **04 52 53.5 -2.8**
baz=272
NEA2 Nenana 36.77 38 P **P** **04 47 15.8 -0.1**
NEA2 IAmb IAmb 04 47 18.2
comp=Z,111nm,0.8s
NEA2 Nenana 36.77 38 P **P** **04 47 16.2 +0.3**
baz=268,SNR=107
NEA2 S **S** **04 52 57.2 +0.4**
baz=268
MCK McKinley 36.81 39 P **P** **04 47 16.1 -0.2**
MCK McKinley 36.81 39 P **P** **04 47 15.9 -0.4**
baz=269,SNR=70
MCK S **S** **04 52 56.5 -0.9**
baz=269
E23K Chandalar 36.83 32 P **P** **04 47 17.1 +0.6**
baz=263,SNR=239
E23K S **S** **04 52 58.2 +0.4**
baz=263
GHO Glory Hole Cre 36.84 43 P **P** **04 47 16.4 -0.2**
GHO IAMs_20 IAMs_20 05 04 28.2
comp=Z,4μm,20.0s
RND Reindeer 36.84 40 P **P** **04 47 16.2 -0.4**
RND IAmb IAmb 04 47 36.7
comp=Z,128nm,0.9s
RND Reindeer 36.84 40 P **P** **04 47 16.2 -0.4**
RND pmax pmax
comp=Z,128nm,0.9s
RND MLR MLR
comp=Z,3μm,21.0s
KNK Knik Glacier 37.07 43 P **P** **04 47 18.2 -0.3**
KNK IAmb IAmb 04 47 20.8
comp=Z,434nm,1.3s
KNK IAMs_20 IAMs_20 05 03 19.5
comp=Z,4μm,21.0s
KNK Knik Glacier 37.07 43 P **P** **04 47 18.0 -0.5**
baz=273,SNR=66
KNK S **S** **04 52 59.6 -1.9**
baz=273
SML Sawmill 37.12 43 P **P** **04 47 18.7 -0.3**
SML IAMs_20 IAMs_20 05 04 35.6
comp=Z,4μm,20.0s
SML Sawmill 37.12 43 P **P** **04 47 18.6 -0.3**
baz=272,SNR=108
SML S **S** **04 53 01.7 -0.6**
baz=272
MDM Murphy Dome 37.14 37 P **P** **04 47 19.4 +0.3**
MDM IAmb IAmb 04 47 22.2
comp=Z,410nm,1.4s
WRH Wood River Hil 37.19 38 P **P** **04 47 19.4 -0.1**
WRH IAmb IAmb 04 47 26.4
comp=Z,402nm,1.7s
D24K Happy Valley 37.26 30 P **P** **04 47 20.1 +0.2**
D24K IAMs_20 IAMs_20 05 03 25.9
comp=Z,4μm,21.0s
D24K Happy Valley 37.26 30 P **P** **04 47 20.3 +0.4**
baz=262
D24K S **S** **04 53 03.5 -0.5**
baz=262
COLA College 37.30 38 P **P** **04 47 20.8 +0.5**
COLA College 37.30 38 P **P** **04 47 21.0 +0.7**
COLA College 37.30 38 *c i* P **P** **04 47 20.1 -0.2**
COLA pmax pmax
comp=Z,220nm,1.1s
COLA MLR MLR
comp=Z,2μm,19.0s
COLA College 37.30 38 P **P** **04 47 20.8 +0.5**
baz=269
COLA S **S** **04 53 04.6 -0.1**
baz=269
COLA College 37.30 38 P **P** **04 47 20.6 +0.2**
COLA sP **sP** **04 47 33.2 -0.9**
CCB Clear Creek Bu 37.32 38 P **P** **04 47 20.3 -0.2**
CCB IAmb IAmb 04 47 24.8
comp=Z,282nm,1.6s
H24K Noodor Dome 37.32 36 P **P** **04 47 21.1 +0.5**
H24K IAmb IAmb 04 47 24.1
comp=Z,279nm,1.2s
H24K Noodor Dome 37.32 36 P **P** **04 47 21.3 +0.7**
baz=268
H24K S **S** **04 53 06.8 +1.6**
baz=268
LZH Lanzhou 37.33 273 ⇑P **P** **04 47 23.1 +1.9**
LZH pP pP 04 47 30.3 -0.8
LZH S **S** **04 53 05.8 -0.4**
LZH SS **SnSn** **04 55 40.2 -4.2**
LZH pmax pmax
comp=Z,390nm,1.3s
LZH pmax pmax
comp=Z,4μm,4.1s
LZH LR LR
comp=Z,9μm,16.1s
LZH LR LR
comp=Z,10μm,16.1s
LZH LR LR
comp=Z,11μm,15.5s
C24K Franklin Bluff 37.38 30 P **P** **04 47 21.4 +0.4**
baz=262
C24K S **S** **04 53 05.6 -0.3**
baz=262
M23K Glacier View 37.40 43 P **P** **04 47 20.7 -0.6**
baz=273,SNR=30
M23K S **S** **04 53 06.6 +0.1**
baz=273
F24K Squaw Lake 37.42 33 P **P** **04 47 21.6 +0.2**
F24K IAMs_20 IAMs_20 05 05 22.5
comp=Z,4μm,19.0s
F24K Squaw Lake 37.42 33 P **P** **04 47 21.7 +0.3**
baz=265,SNR=52
F24K S **S** **04 53 07.2 +0.5**
baz=265
POKR Poker Plat Res 37.48 37 P **P** **04 47 22.6 +0.7**
POKR Poker Plat Res 37.48 37 P **P** **04 47 22.6 +0.7**
baz=269,SNR=223
POKR S **S** **04 53 07.7 +0.1**
baz=269
G24K Hadweenzic Riv 37.53 35 P **P** **04 47 23.3 +1.0**
G24K Hadweenzic Riv 37.53 35 P **P** **04 47 23.2 +1.0**
baz=267,SNR=254
G24K S **S** **04 53 11.0 +2.8**
baz=267
SCM Sheep Creek Mo 37.59 43 P **P** **04 47 22.9 -0.1**
SCM IAmb IAmb 04 47 25.4
comp=Z,302nm,1.3s
SCM Sheep Creek Mo 37.59 43 P **P** **04 47 22.9 -0.1**
SCM pmax pmax
comp=Z,302nm,1.3s
SCM Sheep Creek Mo 37.59 43 P **P** **04 47 22.7 -0.2**
baz=273,SNR=45
SCM S **S** **04 53 09.6 +0.2**
baz=273
HDA Harding Lake 37.69 38 P **P** **04 47 22.6 -1.0**
HDA IAmb IAmb 04 47 24.8
comp=Z,576nm,1.8s
HDA Harding Lake 37.69 38 P **P** **04 47 22.9 -0.7**
baz=270,SNR=103
HDA S **S** **04 53 09.2 -1.5**
baz=270
HDA S **S** **04 53 09.2 -1.5**
baz=270
P23K Montague Islan 37.70 46 P **P** **04 47 23.4 -0.3**
baz=276,SNR=8.6
IL31 37.71 38 P **P** **04 47 23.4 -0.4**
IL31 IAmb IAmb 04 47 26.3
comp=Z,269nm,1.2s
ILAR Eielson Array 37.71 38 P **P** **04 47 23.8 0.0**
ILAR Eielson Array 37.71 38 P **P** **04 47 23.8 0.0**
ILAR Eielson Array 37.71 38 P **P** **04 47 23.2 -0.7**
comp=Z,86nm,1.1s,baz=258,slow=6.7,SNR=312
ILAR ScP **ScP** **04 53 20.5 -3.8**
comp=Z,9.0nm,1.2s,baz=276,slow=4.1,SNR=4.7
ILAR LR LR 05 05 15.4
comp=Z,2μm,19.1s,baz=261,slow=40
comp=Z,86nm,1.1s
G25K Bearman Lake 38.08 34 P **P** **04 47 27.9 +1.0**
baz=268,SNR=112
G25K S **S** **04 53 17.1 +0.7**
baz=268
HIN Hinchinbrook I 38.10 45 P **P** **04 47 27.0 -0.2**
HIN IAmb IAmb 04 47 29.7
comp=Z,401nm,1.4s
M24K Tolsona, Glenn 38.12 42 P **P** **04 47 27.6 +0.2**
M24K IAmb IAmb 04 47 30.6
comp=Z,349nm,1.2s
M24K Tolsona, Glenn 38.12 42 P **P** **04 47 27.9 +0.5**
baz=274,SNR=36
M24K S **S** **04 53 16.8 -0.6**
baz=274
D25K Kavik River 38.14 30 P **P** **04 47 27.9 +0.4**
D25K IAMs_20 IAMs_20 05 04 04.4
comp=Z,4μm,22.0s
D25K Kavik River 38.14 30 P **P** **04 47 27.9 +0.4**
baz=264
D25K S **S** **04 53 17.0 -0.7**
baz=264
K24K Donnelly Dome 38.21 39 P **P** **04 47 27.4 -0.7**
baz=272,SNR=36
K24K S **S** **04 53 16.1 -2.7**
baz=272
KLU Klutina 38.28 43 P **P** **04 47 28.8 -0.1**
KLU IAmb IAmb 04 47 31.5
comp=Z,225nm,1.1s
KLU Klutina 38.28 43 P **P** **04 47 28.7 -0.1**
baz=275,SNR=51
KLU S **S** **04 53 20.4 +0.5**
baz=275
F25K Christian Rive 38.29 33 P **P** **04 47 29.8 +1.0**
baz=267
F25K S **S** **04 53 20.9 +1.1**
baz=267
PRP Porcupine Dome 38.29 37 P **P** **04 47 29.1 +0.2**
PRP IAmb IAmb 04 47 31.9
comp=Z,196nm,1.2s
PRP Porcupine Dome 38.29 37 P **P** **04 47 28.8 -0.1**
baz=270,SNR=120
PRP S **S** **04 53 19.7 -0.4**
baz=270
Q23K Middleton Isla 38.29 46 S **S** **04 53 22.0 +2.2**
baz=277
MID Middleton Isla 38.29 46 P **P** **04 47 29.7 +0.9**
E25K Arctic Village 38.34 32 P **P** **04 47 30.3 +1.1**
E25K IAmb IAmb 04 47 33.0
comp=Z,329nm,1.4s
E25K Arctic Village 38.34 32 P **P** **04 47 30.1 +0.9**
baz=267,SNR=191
E25K S **S** **04 53 22.1 +1.5**
baz=267
J25K Salcha River, 38.37 38 P **P** **04 47 28.2 -1.3**
J25K Salcha River, 38.37 38 P **P** **04 47 28.1 -1.3**
baz=271,SNR=79
J25K S **S** **04 53 19.3 -1.8**
baz=271
PAX Paxson 38.39 41 P **P** **04 47 29.1 -0.6**
baz=273,SNR=44
PAX S **S** **04 53 21.3 -0.2**
baz=273
FYU Fort Yukon 38.42 35 P **P** **04 47 30.9 +1.2**
EYAK Cordova Ski Ar 38.46 45 P **P** **04 47 30.7 +0.5**
EYAK Cordova Ski Ar 38.46 45 P **P** **04 47 30.3 +0.2**
baz=276,SNR=14
EYAK S **S** **04 53 23.6 +1.3**
baz=276
GTA Gaotai 38.55 280 P **P** **04 47 33.1 +1.8**
GTA sP sP 04 47 46.4 -0.2
GTA PcP **PcP** **04 49 44.2 +0.8**
GTA S **S** **04 53 24.5 0.0**
GTA SS **SnSn** **04 56 01.1 -12**
GTA ScS **ScS** **04 57 38.8 +0.3**
GTA pmax pmax
comp=Z,1μm,1.3s
GTA pmax pmax
comp=Z,4μm,5.4s
GTA LR LR
comp=Z,4μm,14.5s
GTA LR LR
comp=Z,5μm,15.6s
GTA LR LR
comp=Z,8μm,16.7s
HARP HAARP 38.57 42 P **P** **04 47 31.5 +0.3**
baz=274,SNR=28
HARP S **S** **04 53 25.1 +0.9**
baz=274
BMAR Burnt Mountain 38.69 33 P **P** **04 47 33.3 +1.2**
C26K Camden Bay 38.71 29 P **P** **04 47 33.2 +1.0**
baz=265,SNR=322
C26K S **S** **04 53 26.2 +0.2**
baz=265
GZH Guangzhou 38.73 248 P P 04 47 26.5 -6.3
GZH PcP **PcP** **04 49 41.1 -2.9**
GZH S **S** **04 53 18.8 -8.4**
GZH SS SnSn 04 55 57.0 -21
GZH pmax pmax
comp=Z,820nm,1.3s
GZH LR LR
comp=Z,2μm,15.5s
GZH LR LR
comp=Z,1μm,18.4s
HKPS Hong Kong Po S 38.79 246 P **P** **04 47 34.7 +1.3**
HKPS IAmb IAmb 04 47 37.4
comp=Z,460nm,1.4s
HKPS IAMs_20 IAMs_20 05 03 29.8
comp=Z,4μm,20.0s
HKPS Hong Kong Po S 38.79 246 P **P** **04 47 35.6 +2.2**
F26K Sheenjek River 38.86 33 P **P** **04 47 34.6 +1.1**
baz=269,SNR=128
F26K S **S** **04 53 30.7 +2.2**
baz=269
N25K Chitina, Valde 38.90 43 P **P** **04 47 34.2 +0.2**
N25K Chitina, Valde 38.90 43 P **P** **04 47 34.3 +0.2**
baz=276,SNR=37
N25K S **S** **04 53 30.3 +1.0**
baz=276
BMRM Bremner River 38.97 44 P **P** **04 47 34.9 +0.4**
baz=277,SNR=51
BMRM S **S** **04 53 32.1 +1.9**
baz=277
G26K Porcupine Rive 38.99 34 P **P** **04 47 35.7 +1.1**
baz=270,SNR=341
G26K S **S** **04 53 34.0 +3.7**
baz=270
SCRK Sand Creek 38.99 39 P **P** **04 47 34.4 -0.4**
SCRK Sand Creek 38.99 39 P **P** **04 47 34.0 -0.8**
baz=273,SNR=73
SCRK S **S** **04 53 28.6 -2.1**
baz=273
PATS Pohnpei 39.11 170 P **P** **04 47 36.6 +0.6**
PATS Pohnpei 39.11 170 P **P** **04 47 37.2 +1.1**
J26L Joseph Creek 39.15 38 P **P** **04 47 35.2 -0.8**
J26L Joseph Creek 39.15 38 P **P** **04 47 34.6 -1.4**
baz=273,SNR=34
J26L S **S** **04 53 31.6 -1.4**
baz=273
GULI GuiLin 39.17 253 ⇑P **P** **04 47 36.6 0.0**
GULI sP **pwP** **04 47 49.9 -0.4**
GULI PP **PnPn** **04 49 14.0 +4.4**
GULI S **S** **04 53 32.0 -1.9**
GULI pmax pmax
comp=Z,60nm,1.8s
GULI pmax pmax
comp=Z,490nm,4.6s
GULI LR LR
comp=Z,5μm,22.8s
GULI LR LR
comp=Z,1μm,22.6s
GULI LR LR
comp=Z,6μm,22.0s
MENT Mentasta 39.19 41 P **P** **04 47 35.9 -0.5**
MENT Mentasta 39.19 41 P **P** **04 47 37.3 +1.0**
KAIM Kayak Island 39.19 45 P **P** **04 47 37.2 +0.8**
KAIM IAmb IAmb 04 47 40.4
comp=Z,535nm,1.2s
KAIM Kayak Island 39.19 45 P **P** **04 47 37.0 +0.7**
baz=278,SNR=16
HMT Hamilton 39.22 45 P **P** **04 47 36.6 0.0**
HMT IAmb IAmb 04 47 39.8
comp=Z,250nm,1.1s
I26K Coal Creek Min 39.28 37 P **P** **04 47 36.2 -0.9**
I26K Coal Creek Min 39.28 37 P **P** **04 47 35.6 -1.5**
baz=272
I26K S **S** **04 53 33.0 -1.8**
baz=272
GLB Gilahina Butte 39.30 43 P **P** **04 47 36.6 -0.6**
NRIK Noril'sk 39.32 330 P **P** **04 47 36.3 -1.0**
NRIK IAmb IAmb 04 47 38.9
comp=Z,398nm,1.3s
NRIK Noril'sk 39.32 330 *i* P **P** **04 47 36.0 -1.3**
NRIK pmax pmax
comp=Z,227nm,1.2s
NRIK MLR MLR
comp=Z,5μm,16.2s
NRIK Noril'sk 39.32 330 P **P** **04 47 36.0 -1.3**
comp=Z,133nm,1.1s,baz=96,slow=8.5,SNR=111
NRIK PP **PP** **04 49 09.6 +1.9**
comp=Z,25nm,0.8s,baz=102,slow=11,SNR=3.7
NRIK ScP **ScP** **04 53 30.7 +0.4**
comp=Z,17nm,1.0s,baz=77,slow=5.2,SNR=6.0
NRIK LR LR 05 04 55.1
comp=Z,5μm,18.4s,baz=90,slow=38
comp=Z,133nm,1.1s

L26K	**Log Cabin Wild**	**39.35**	**40**	P	**P**	**04 47 38.1**	**+0.4**
L26K				IAmb	IAmb	04 47 41.1	
	comp=Z,225nm,1.2s						
L26K	**Log Cabin Wild**	**39.35**	**40**	P	**P**	**04 47 38.2**	**+0.5**
	baz=275,SNR=99						
L26K				S	**S**	**04 53 37.5**	**+1.6**
	baz=275						
BERG	**Berg Lake**	**39.48**	**45**	P	**P**	**04 47 39.1**	**+0.3**
BERG				IAmb	IAmb	04 47 41.4	
	comp=Z,334nm,1.4s						
SUCK	**Suckling Hills**	**39.49**	**45**	P	**P**	**04 47 38.8**	**-0.1**
SUCK				IAmb	IAmb	04 47 41.9	
	comp=Z,341nm,1.4s						
VRDI	**Verde Repeater**	**39.49**	**43**	P	**P**	**04 47 39.1**	**0.0**
M26K	**Nabesna, AK**	**39.57**	**41**	P	**P**	**04 47 39.8**	**+0.2**
M26K				IAmb	IAmb	04 48 01.4	
	comp=Z,204nm,0.9s						
M26K	**Nabesna, AK**	**39.57**	**41**	P	**P**	**04 47 40.5**	**+1.0**
	baz=276,SNR=180						
M26K				S	**S**	**04 53 41.6**	**+2.3**
	baz=276						
MCARA	**McCarthy VSAT**	**39.68**	**43**	P	**P**	**04 47 40.5**	**+0.1**
MCARA	**McCarthy VSAT**	**39.68**	**43**	P	**P**	**04 47 41.1**	**+0.8**
	baz=277,SNR=37						
MCARA				S	**S**	**04 53 41.5**	**+0.7**
	baz=277						
CRQM	**Cirque**	**39.71**	**44**	P	**P**	**04 47 41.1**	**+0.3**
BGLC	**Bering Glacier**	**39.73**	**45**	P	**P**	**04 47 42.2**	**+1.4**
	baz=279						
CRQE	**Cirque**	**39.73**	**44**	P	**P**	**04 47 41.7**	**+0.7**
	baz=278,SNR=130						
CRQE				S	**S**	**04 53 42.7**	**+0.9**
	baz=278						
K27K	**Chicken**	**39.83**	**39**	P	**P**	**04 47 42.1**	**+0.5**
K27K				IAmb	IAmb	04 47 44.9	
	comp=Z,551nm,1.2s						
K27K	**Chicken**	**39.83**	**39**	P	**P**	**04 47 42.1**	**+0.5**
	baz=275						
K27K				S	**S**	**04 53 43.0**	**0.0**
	baz=275						
TGL	**Tana Glacier**	**39.86**	**44**	P	**P**	**04 47 42.2**	**+0.2**
TGL				IAmb	IAmb	04 47 44.7	
	comp=Z,394nm,1.3s						
WAX	**Waxell Ridge**	**39.89**	**44**	P	**P**	**04 47 42.5**	**+0.2**
WAX				IAmb	IAmb	04 47 45.7	
	comp=Z,537nm,1.3s						
WAX				IAMs_20	IAMs_20	05 06 42.1	
	comp=Z,4μm,19.0s						
I27K	**Kandik River**	**39.91**	**36**	P	**P**	**04 47 41.9**	**-0.5**
	baz=274						
I27K				S	**S**	**04 53 45.1**	**+0.8**
	baz=274						
H27K	**Steamboat Moun**	**39.91**	**35**	P	**P**	**04 47 43.5**	**+1.2**
	baz=273,SNR=180						
H27K				S	**S**	**04 53 45.6**	**+1.4**
	baz=273						
SNH	**Sunshine Point**	**39.94**	**45**	P	**P**	**04 47 42.1**	**-0.5**
L27K	**Beaver Creek,**	**40.04**	**40**	P	**P**	**04 47 44.3**	**+0.9**
L27K				IAmb	IAmb	04 47 46.5	
	comp=Z,423nm,1.4s						
L27K	**Beaver Creek,**	**40.04**	**40**	P	**P**	**04 47 44.3**	**+0.9**
	baz=276,SNR=223						
L27K				S	**S**	**04 53 48.9**	**+2.7**
	baz=276						
BCAR	**Beaver Creek A**	**40.05**	**40**	P	**P**	**04 47 44.4**	**+0.8**
M27K	**Edge Creek, AK**	**40.09**	**41**	P	**P**	**04 47 44.7**	**+0.7**
M27K				IAmb	IAmb	04 47 47.7	
	comp=Z,218nm,1.2s						
M27K	**Edge Creek, AK**	**40.09**	**41**	P	**P**	**04 47 44.8**	**+0.8**
	baz=277,SNR=88						
M27K				S	**S**	**04 53 48.2**	**+0.9**
	baz=277						
ISLE	**Juniper Island**	**40.12**	**44**	P	**P**	**04 47 44.2**	**0.0**
ISLE				IAmb	IAmb	04 47 47.4	
	comp=Z,323nm,1.1s						
EGAK	**Eagle**	**40.16**	**38**	P	**P**	**04 47 44.1**	**-0.3**
EGAK				IAmb	IAmb	04 47 46.7	
	comp=Z,500nm,1.4s						
EGAK	**Eagle**	**40.16**	**38**	P	**P**	**04 47 44.0**	**-0.3**
	baz=275,SNR=227						
EGAK				S	**S**	**04 53 48.2**	**+0.3**
	baz=275						
CD2	**Chengdu**	**40.20**	**266**	⇑P	**P**	**04 47 46.0**	**+0.9**
CD2				sP	pP	04 47 57.6	+2.3
CD2				PP	**PP**	**04 49 20.6**	**+2.6**
CD2				PcS	**PcS**	**04 53 41.9**	**+2.7**
CD2				pmax	pmax		
	comp=Z,440nm,1.0s						
CD2				pmax	pmax		
	comp=Z,2μm,5.0s						
CD2				LR	LR		
	comp=Z,4μm,19.6s						
CD2				LR	LR		
	comp=Z,5μm,18.8s						
CD2				LR	LR		
	comp=Z,5μm,18.2s						
BARN	**Barnard Glacie**	**40.38**	**43**	P	**P**	**04 47 47.0**	**+0.6**
BARN				IAmb	IAmb	04 47 49.8	
	comp=Z,322nm,1.2s						
MESA	**MESA**	**40.38**	**45**	P	**P**	**04 47 46.6**	**+0.2**
MESA				IAmb	IAmb	04 47 49.3	
	comp=Z,270nm,1.2s						
MESA				IAMs_20	IAMs_20	05 05 47.0	
	comp=Z,3μm,22.0s						
MESA	**MESA**	**40.38**	**45**	P	**P**	**04 47 47.3**	**+0.9**
	baz=280,SNR=16						
MESA				S	**S**	**04 53 55.3**	**+3.6**
	baz=280						
GRNC	**Granite Creek**	**40.38**	**44**	P	**P**	**04 47 47.0**	**+0.5**
GRNC				IAmb	IAmb	04 47 49.8	
	comp=Z,385nm,1.2s						
F28M	**Old Crow**	**40.50**	**33**	P	**P**	**04 47 48.3**	**+1.1**
F28M				IAmb	IAmb	04 47 50.3	
	comp=Z,251nm,1.3s						
F28M	**Old Crow**	**40.50**	**33**	P	**P**	**04 47 48.2**	**+1.1**
	baz=273,SNR=172						
F28M				S	**S**	**04 53 54.9**	**+2.0**
	baz=273						
CTG	**Chitna Glacier**	**40.55**	**43**	P	**P**	**04 47 48.5**	**+0.8**
	baz=279,SNR=130						
CTG				S	**S**	**04 53 56.4**	**+2.3**
	baz=279						
CTGM	**Chitina Glacie**	**40.55**	**43**	P	**P**	**04 47 48.5**	**+0.7**
CTGM				IAmb	IAmb	04 47 51.1	
	comp=Z,467nm,1.3s						
BVCY	**Beaver Creek**	**40.56**	**41**	P	**P**	**04 47 48.6**	**+0.9**
	baz=278,SNR=30						
BVCY				S	**S**	**04 53 57.7**	**+3.7**
	baz=278						
I28M	**Miner Creek**	**40.62**	**36**	P	**P**	**04 47 48.8**	**+0.5**
I28M				IAmb	IAmb	04 47 51.4	
	comp=Z,382nm,1.4s						
I28M				IAMs_20	IAMs_20	05 06 15.0	
	comp=Z,4μm,20.0s						
I28M	**Miner Creek**	**40.62**	**36**	P	**P**	**04 47 48.8**	**+0.5**
	baz=275,SNR=161						
I28M				S	**S**	**04 53 56.9**	**+2.0**
	baz=275						
TABL	**Table Mountain**	**40.73**	**44**	P	**P**	**04 47 50.0**	**+0.6**
TABL				IAmb	IAmb	04 47 52.5	
	comp=Z,542nm,1.3s						
TABL				IAMs_20	IAMs_20	05 07 07.2	
	comp=Z,5μm,20.0s						
LOGN	**Logan Glacier**	**40.73**	**44**	P	**P**	**04 47 49.6**	**+0.3**
LOGN				IAmb	IAmb	04 47 56.6	
	comp=Z,202nm,1.0s						
YUK3	**Moose Creek**	**40.84**	**42**	P	**P**	**04 47 50.6**	**+0.4**
	baz=279,SNR=118						
YUK3				S	**S**	**04 53 59.3**	**+0.8**
	baz=279						
D28M	**Stokes Point**	**40.85**	**30**	P	**P**	**04 47 50.7**	**+0.8**
	baz=272,SNR=82						
D28M				S	**S**	**04 54 00.8**	**+2.8**
	baz=272						
GYA	**Guiyang**	**40.91**	**258**	⇑*i*P	**P**	**04 47 51.9**	**+0.7**
GYA				pP	pP	04 48 00.6	-0.8
GYA				sP	sP	04 48 04.8	-1.5
GYA				PP	**PnPn**	**04 49 30.4**	**+0.1**
GYA				S	**S**	**04 54 00.8**	**+0.6**
GYA				SS	**SS**	**04 57 03.5**	**+0.9**
GYA				pmax	pmax		
	comp=Z,310nm,1.2s						
GYA				pmax	pmax		
	comp=Z,960nm,5.7s						
GYA				LR	LR		
	comp=Z,7μm,21.3s						
GYA				LR	LR		
	comp=Z,3μm,24.8s						
GYA				LR	LR		
	comp=Z,4μm,22.4s						
DAWY	**Dawson**	**41.00**	**39**	P	**P**	**04 47 51.2**	**-0.1**
DAWY	**Dawson**	**41.00**	**39**	P	**P**	**04 47 51.6**	**+0.3**
	baz=277,SNR=82						
DAWY				S	**S**	**04 54 03.0**	**+2.5**
	baz=277						
H29M	**Whitestone**	**41.19**	**35**	P	**P**	**04 47 53.9**	**+1.0**
H29M				IAmb	IAmb	04 47 56.6	
	comp=Z,227nm,1.2s						
H29M	**Whitestone**	**41.19**	**35**	P	**P**	**04 47 53.8**	**+1.0**
	baz=276,SNR=143						
H29M				S	**S**	**04 54 04.8**	**+1.6**
	baz=276						
E29M	**Blow River**	**41.20**	**32**	P	**P**	**04 47 54.2**	**+1.4**
E29M				IAmb	IAmb	04 47 56.9	
	comp=Z,419nm,1.3s						
E29M				IAMs_20	IAMs_20	05 08 09.2	
	comp=Z,4μm,22.0s						
E29M	**Blow River**	**41.20**	**32**	P	**P**	**04 47 54.0**	**+1.1**
	baz=274						
E29M				S	**S**	**04 54 03.7**	**+0.4**
	baz=274						
PINM	**Pinnacle**	**41.23**	**45**	P	**P**	**04 47 53.4**	**+0.1**
	baz=281,SNR=21						
PINM				S	**S**	**04 54 04.7**	**+0.7**
	baz=281						
YUK8	**Steele Glacier**	**41.25**	**43**	P	**P**	**04 47 54.0**	**+0.4**
	baz=280,SNR=31						
YUK8				S	**S**	**04 54 07.1**	**+2.4**
	baz=280						
J29N	**Klondike Camp**	**41.46**	**38**	P	**P**	**04 47 55.5**	**+0.4**
J29N				IAmb	IAmb	04 48 41.2	
	comp=Z,29nm,0.8s						
J29N				IAMs_20	IAMs_20	05 07 39.3	
	comp=Z,3μm,20.0s						
J29N	**Klondike Camp**	**41.46**	**38**	P	**P**	**04 47 55.5**	**+0.4**
	baz=278,SNR=16						
J29N				S	**S**	**04 54 10.0**	**+2.7**
	baz=278						
BCPM	**Bancas Point**	**41.56**	**45**	IAmb	IAmb	04 47 58.9	
	comp=Z,239nm,1.3s						
M29M	**Somme Creek**	**41.66**	**41**	IAMs_20	IAMs_20	05 05 55.5	
	comp=Z,4μm,21.0s						
M29M	**Somme Creek**	**41.66**	**41**	P	**P**	**04 47 57.7**	**+0.9**
	baz=280,SNR=85						
M29M				S	**S**	**04 54 13.4**	**+3.0**
	baz=280						
L29M	**L29M**	**41.70**	**40**	IAmb	IAmb	04 48 01.1	
	comp=Z,192nm,1.1s						
L29M	**L29M**	**41.70**	**40**	P	**P**	**04 47 58.4**	**+1.3**
	baz=279,SNR=145						
L29M				S	**S**	**04 54 14.2**	**+3.3**
	baz=279						
PNL	**Peninsula**	**41.74**	**45**	P	**P**	**04 47 58.1**	**+0.7**
PNL	**Peninsula**	**41.74**	**45**	P	**P**	**04 47 57.4**	**0.0**
	baz=282,SNR=5.6						
PNL				S	**S**	**04 54 13.1**	**+1.6**
	baz=282						
YUK4	**Talbot Arm**	**41.77**	**43**	P	**P**	**04 47 58.5**	**+0.7**
	baz=281,SNR=53						
EPYK	**Eagle Plains**	**41.84**	**35**	IAmb	IAmb	04 48 01.8	
	comp=Z,506nm,1.2s						
EPYK	**Eagle Plains**	**41.84**	**35**	P	**P**	**04 47 58.9**	**+0.7**
	baz=277,SNR=219						
EPYK				S	**S**	**04 54 15.3**	**+2.5**
	baz=277						
K29M	**Barlow Dome**	**41.85**	**39**	IAmb	IAmb	04 48 02.0	
	comp=Z,384nm,1.3s						
K29M	**Barlow Dome**	**41.85**	**39**	P	**P**	**04 47 59.3**	**+0.9**
	baz=279						
K29M				S	**S**	**04 54 16.4**	**+3.2**
	baz=279						
G30M	**tAoh Zraii Nji**	**41.96**	**34**	IAmb	IAmb	04 48 02.6	
	comp=Z,545nm,1.5s						
G30M	**tAoh Zraii Nji**	**41.96**	**34**	P	**P**	**04 47 59.7**	**+0.6**
	baz=277,SNR=190						
G30M				S	**S**	**04 54 15.1**	**+0.4**
	baz=277						
YUK6	**Outpost Mounta**	**41.98**	**43**	P	**P**	**04 48 00.3**	**+0.7**
	baz=282,SNR=19						
YUK6				S	**S**	**04 54 17.8**	**+2.3**
	baz=282						
O29M	**Mount Kennedy**	**42.01**	**44**	IAMs_20	IAMs_20	05 05 14.8	
	comp=Z,3μm,21.0s						
O29M	**Mount Kennedy**	**42.01**	**44**	P	**P**	**04 48 00.5**	**+0.7**
	baz=282						
O29M				S	**S**	**04 54 17.3**	**+1.6**
	baz=282						
F30M	**Barrier River**	**42.06**	**33**	P	**P**	**04 48 01.3**	**+1.4**
	baz=276						
F30M				S	**S**	**04 54 19.6**	**+3.6**
	baz=276						
I30M	**Mount Dempster**	**42.13**	**37**	IAmb	IAmb	04 48 03.9	
	comp=Z,368nm,1.2s						
I30M				IAMs_20	IAMs_20	05 07 21.0	
	comp=Z,4μm,21.0s						
I30M	**Mount Dempster**	**42.13**	**37**	P	**P**	**04 48 01.3**	**+0.7**
	baz=278						
I30M				S	**S**	**04 54 19.2**	**+1.8**
	baz=278						
J30M	**Hart River**	**42.25**	**37**	P	**P**	**04 48 02.2**	**+0.5**
	baz=279						
J30M				S	**S**	**04 54 20.4**	**+1.3**
	baz=279						
M30M	**Minto, Yukon**	**42.39**	**40**	P	**P**	**04 48 03.9**	**+1.2**
	baz=281,SNR=146						
M30M				S	**S**	**04 54 24.1**	**+2.9**
	baz=281						
HYT	**Haines Junctio**	**42.42**	**43**	P	**P**	**04 48 04.2**	**+1.2**
HYT				IAmb	IAmb	04 48 06.5	
	comp=Z,421nm,1.3s						
HYT	**Haines Junctio**	**42.42**	**43**	P	**P**	**04 48 04.4**	**+1.3**
	baz=282,SNR=134						
HYT				S	**S**	**04 54 25.3**	**+3.6**
	baz=282						
N30M	**Aishikik Lake**	**42.48**	**42**	P	**P**	**04 48 04.2**	**+0.7**
	baz=282,SNR=51						
N30M				S	**S**	**04 54 25.3**	**+2.8**
	baz=282						
P29M	**Windy Craggy**	**42.57**	**45**	IAmb	IAmb	04 48 08.1	
	comp=Z,398nm,1.2s						
P29M	**Windy Craggy**	**42.57**	**45**	P	**P**	**04 48 05.4**	**+1.2**
	baz=284,SNR=87						
P29M				S	**S**	**04 54 26.1**	**+2.3**
	baz=284						
DGZ	**Jazzator, Alta**	**42.58**	**300**	*c i*P	**P**	**04 48 04.9**	**+0.4**
DGZ				pmax	pmax		
	comp=Z,160nm,1.0s						
DGZ				MLR	MLR		
	comp=Z,12μm,20.0s						
MAYO	**Mayo, Yukon**	**42.61**	**39**	P	**P**	**04 48 05.6**	**+1.2**
	baz=281						
MAYO				S	**S**	**04 54 26.8**	**+2.6**
	baz=281						
ZALV	**Zalesovo Beam**	**42.72**	**306**	*i* P	**P**	**04 48 04.3**	**-1.1**
ZALV				pmax	pmax		
	comp=Z,31nm,0.5s						
ZALV	**Zalesovo Beam**	**42.72**	**306**	P	**P**	**04 48 03.7**	**-1.7**
	comp=Z,30nm,0.5s,baz=63,slow=6.9,SNR=86						
ZALV				PcP	**PcP**	**04 49 56.8**	**+0.4**
	comp=Z,38nm,0.9s,baz=90,slow=3.0,SNR=9.8						
ZALV				ScP	**ScP**	**04 53 44.7**	**+0.6**
	comp=Z,7.5nm,1.1s,baz=54,slow=2.5,SNR=1.8						
ZALV				LR	LR	05 07 05.9	
	comp=Z,23μm,19.2s,baz=76,slow=38						
	comp=Z,30nm,0.5s						
G31M	**Satah River**	**42.73**	**34**	IAmb	IAmb	04 48 08.8	
	comp=Z,727nm,1.6s						
G31M	**Satah River**	**42.73**	**34**	P	**P**	**04 48 05.8**	**+0.5**
	baz=278,SNR=139						
G31M				S	**S**	**04 54 26.3**	**+0.5**
	baz=278						
INK	**Inuvik**	**42.82**	**32**	P	**P**	**04 48 06.9**	**+0.8**
INK				IAmb	IAmb	04 48 09.6	
	comp=Z,371nm,1.4s						
INK				IAMs_20	IAMs_20	05 08 17.1	
	comp=Z,3μm,22.0s						
INK	**Inuvik**	**42.82**	**32**	P	**P**	**04 48 06.9**	**+0.8**
INK				pmax	pmax		
	comp=Z,371nm,1.4s						
INK				MLR	MLR		
	comp=Z,3μm,22.0s						
INK	**Inuvik**	**42.82**	**32**	P	**P**	**04 48 06.8**	**+0.7**
	baz=278,SNR=181						
INK				S	**S**	**04 54 28.8**	**+1.6**
	baz=278						
INK	**Inuvik**	**42.82**	**32**	LR	LR	05 08 28.8	
	comp=Z,2μm,20.4s,baz=312,slow=40						
P30M	**Million Dollar**	**42.84**	**44**	P	**P**	**04 48 07.8**	**+1.4**
	baz=284,SNR=110						
P30M				S	**S**	**04 54 29.7**	**+2.0**
	baz=284						
F31M	**Tsiigehtchic**	**42.86**	**33**	IAmb	IAmb	04 48 09.7	
	comp=Z,549nm,1.3s						
F31M	**Tsiigehtchic**	**42.86**	**33**	P	**P**	**04 48 07.1**	**+0.7**
	baz=278,SNR=195						
F31M				S	**S**	**04 54 29.1**	**+1.4**
	baz=278						
O30N	**Mendenhall**	**43.10**	**43**	IAmb	IAmb	04 48 12.4	
	comp=Z,216nm,1.1s						
O30N	**Mendenhall**	**43.10**	**43**	P	**P**	**04 48 09.6**	**+1.1**
	baz=284,SNR=118						
O30N				S	**S**	**04 54 35.1**	**+3.5**
	baz=284						
PLBC	**Pleasant Camp**	**43.29**	**45**	P	**P**	**04 48 11.2**	**+1.3**
	baz=285,SNR=80						
PLBC				S	**S**	**04 54 39.3**	**+5.1**
	baz=285						
GOMU	**GeErMu**	**43.56**	**278**	P	**P**	**04 48 13.8**	**+0.9**
GOMU				pP	pwP	04 48 27.3	+1.3
GOMU				PcP	**PcP**	**04 50 02.3**	**+2.2**
GOMU				S	**S**	**04 54 36.9**	**-2.7**
GOMU				pmax	pmax		
	comp=Z,120nm,1.2s						
GOMU				LR	LR		
	comp=Z,10μm,16.9s						
GOMU				LR	LR		
	comp=Z,8μm,17.3s						
GOMU				LR	LR		
	comp=Z,9μm,16.7s						
M31M	**Drury Creek, Y**	**43.57**	**41**	IAmb	IAmb	04 48 16.0	
	comp=Z,214nm,1.1s						
M31M				IAMs_20	IAMs_20	05 09 13.1	
	comp=Z,3μm,20.0s						
M31M	**Drury Creek, Y**	**43.57**	**41**	P	**P**	**04 48 13.3**	**+1.1**
	baz=283,SNR=175						
M31M				S	**S**	**04 54 40.0**	**+1.7**
	baz=283						
WHY	**Whitehorse**	**43.71**	**43**	IAmb	IAmb	04 48 17.4	
	comp=Z,189nm,1.1s						
WHY	**Whitehorse**	**43.71**	**43**	P	**P**	**04 48 14.7**	**+1.2**
	baz=284,SNR=92						
WHY				S	**S**	**04 54 44.9**	**+4.3**
	baz=284						
S31K	**Pelican**	**43.75**	**47**	P	**P**	**04 48 14.8**	**+1.1**
	baz=286,SNR=11						
S31K				S	**S**	**04 54 43.6**	**+2.6**
	baz=286						
SKAG	**Skagway**	**43.80**	**45**	P	**P**	**04 48 16.0**	**+2.0**
SKAG	**Skagway**	**43.80**	**45**	P	**P**	**04 48 15.4**	**+1.4**
	baz=285,SNR=30						
SKAG				S	**S**	**04 54 46.2**	**+4.5**
	baz=285						
R31K	**City Hall, Gus**	**43.88**	**46**	P	**P**	**04 48 15.8**	**+1.1**
	baz=286						
QIZ	**Qiongzhong**	**43.90**	**247**	P	**P**	**04 48 17.8**	**+2.4**
QIZ				PP	**PP**	**04 50 00.6**	**+2.6**
QIZ				S	**S**	**04 54 48.9**	**+4.9**
QIZ				pmax	pmax		
	comp=Z,86nm,1.3s						
QIZ				pmax	pmax		
	comp=Z,900nm,11.8s						
QIZ				LR	LR		
	comp=Z,5μm,20.8s						
QIZ				LR	LR		
	comp=Z,3μm,22.4s						
QIZ				LR	LR		
	comp=Z,3μm,21.0s						
QIZ	**Qiongzhong**	**43.90**	**247**	IAMs_20	IAMs_20	05 06 13.3	
	comp=Z,4μm,20.0s						
QIZ	**Qiongzhong**	**43.90**	**247**	P	**P**	**04 48 16.7**	**+1.3**
FARO	**Faro, Yukon**	**44.04**	**40**	IAMs_20	IAMs_20	05 09 27.5	
	comp=Z,3μm,20.0s						
FARO	**Faro, Yukon**	**44.04**	**40**	P	**P**	**04 48 16.9**	**+0.9**
	baz=284,SNR=65						
FARO				S	**S**	**04 54 50.0**	**+4.8**
	baz=284						
PZH	**PanZhiHua**	**44.28**	**262**	P	**P**	**04 48 19.1**	**+0.6**
PZH				pP	**pP**	**04 48 26.6**	**-2.2**
PZH				PP	**PP**	**04 50 08.2**	**+6.1**
PZH				PcS	**PcS**	**04 53 55.3**	**-0.6**
PZH				S	**S**	**04 54 50.1**	**+0.4**
PZH				sS	**sS**	**04 55 06.0**	**+0.5**
PZH				ScS	**ScS**	**04 58 13.1**	**-0.6**
PZH				pmax	pmax		
	comp=Z,470nm,1.3s						
PZH				pmax	pmax		
	comp=Z,2μm,4.4s						
PZH				LR	LR		
	comp=Z,2μm,20.4s						
PZH				LR	LR		
	comp=Z,2μm,18.2s						
PZH				LR	LR		
	comp=Z,2μm,22.2s						
N32M	**Quiet Lake**	**44.43**	**42**	IAmb	IAmb	04 48 22.5	
	comp=Z,170nm,1.1s						
N32M				IAMs_20	IAMs_20	05 08 22.9	
	comp=Z,3μm,20.0s						
N32M	**Quiet Lake**	**44.43**	**42**	P	**P**	**04 48 20.0**	**+0.8**
	baz=285						
N32M				S	**S**	**04 54 52.7**	**+1.7**
	baz=285						
KMI	**Kunming**	**44.47**	**260**	⇑P	**P**	**04 48 21.0**	**+0.9**
KMI				PcP	**PcP**	**04 50 03.5**	**+0.4**
KMI				S	**S**	**04 54 51.7**	**-1.0**
KMI				pmax	pmax		
	comp=Z,210nm,1.3s						
KMI				pmax	pmax		
	comp=Z,2μm,3.2s						
KMI				LR	LR		
	comp=Z,5μm,19.8s						
KMI				LR	LR		
	comp=Z,4μm,20.9s						
KMI				LR	LR		
	comp=Z,4μm,21.1s						
KMI	**Kunming**	**44.47**	**260**	P	**P**	**04 48 21.0**	**+0.9**
SIT	**Sitka**	**44.49**	**48**	P	**P**	**04 48 20.3**	**+0.8**
SIT				IAmb	IAmb	04 48 23.3	
	comp=Z,188nm,1.2s						
SIT	**Sitka**	**44.49**	**48**	P	**P**	**04 48 21.6**	**+2.0**
SIT	**Sitka**	**44.49**	**48**	P	**P**	**04 48 20.3**	**+0.8**
SIT				pmax	pmax		
	comp=Z,188nm,1.2s						
SIT	**Sitka**	**44.49**	**48**	P	**P**	**04 48 21.2**	**+1.6**
	baz=288,SNR=27						
SIT				S	**S**	**04 54 56.9**	**+5.2**
	baz=288						
R32K	**Eaglecrest**	**44.53**	**46**	P	**P**	**04 48 21.4**	**+1.4**
	baz=287,SNR=13						
P32M	**Atlin**	**44.56**	**44**	P	**P**	**04 48 21.4**	**+1.2**
	baz=286,SNR=42						
P32M				S	**S**	**04 54 56.4**	**+3.6**
	baz=286						
JIS	**Juneau Island**	**44.60**	**46**	IAmb	IAmb	04 48 24.6	
	comp=Z,170nm,1.0s						
JIS	**Juneau Island**	**44.60**	**46**	P	**P**	**04 48 22.6**	**+2.1**
WMQ	**Urumqi**	**44.74**	**292**	⇑P	**P**	**04 48 23.1**	**+1.2**
WMQ				sP	pwP	04 48 35.4	+0.1
WMQ				PcS	**PcS**	**04 53 55.7**	**-1.4**
WMQ				S	**S**	**04 54 55.4**	**-0.5**
WMQ				ScS	**ScS**	**04 58 16.6**	**+0.6**
WMQ				pmax	pmax		
	comp=Z,100nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,3μm,4.5s						
WMQ				LR	LR		
	comp=Z,10μm,19.3s						
WMQ				LR	LR		
	comp=Z,6μm,20.5s						
WMQ				LR	LR		
	comp=Z,7μm,21.7s						
S32K	**Killisnoo**	**44.75**	**47**	P	**P**	**04 48 22.9**	**+1.3**
	baz=288,SNR=23						
S32K				S	**S**	**04 54 59.0**	**+3.5**
	baz=288						
P33M	**Teslin, Yukon**	**44.81**	**43**	IAmb	IAmb	04 48 26.2	
	comp=Z,341nm,1.2s						
P33M	**Teslin, Yukon**	**44.81**	**43**	P	**P**	**04 48 23.5**	**+1.2**
	baz=286,SNR=209						
P33M				S	**S**	**04 55 01.7**	**+5.1**
	baz=286						
DAV	**Davao City (W)**	**44.90**	**219**	LR	LR	05 05 57.7	

comp=Z,1µm,21.7s,baz=28,slow=34
ZSN Zaisan 45.01 298 *e*P **P 04 48 23.8 -0.1**
ZSN pmax pmax
comp=Z,31nm,1.0s
ZSN Zaisan 45.01 298 *e*P **P 04 48 23.9 -0.1**
comp=Z,31nm,1.0s,baz=298
A36M Sachs Harbour 45.02 26 IAMs_20 IAMs_20 05 09 06.1
comp=Z,3µm,22.0s
A36M Sachs Harbour 45.02 26 P **P 04 48 24.5 +0.9**
baz=281,SNR=109
A36M S **S 04 55 01.0 +1.9**
baz=281
Q32M Nakina River 45.45 45 IAmb IAmb 04 48 31.3
comp=Z,149nm,1.2s
Q32M Nakina River 45.45 45 P **P 04 48 29.1 +1.6**
baz=288
Q32M S **S 04 55 09.0 +2.9**
baz=288
T33K Petersburg 45.80 48 P **P 04 48 31.4 +1.4**
baz=290
U33K Whale Pass 45.95 49 IAmb IAmb 04 48 34.9
comp=Z,475nm,1.9s
U33K Whale Pass 45.95 49 P **P 04 48 32.6 +1.4**
baz=290,SNR=28
U33K S **S 04 55 19.4 +6.6**
baz=290
R33M Jennings River 45.95 44 IAmb IAmb 04 48 35.7
comp=Z,328nm,1.1s
R33M Jennings River 45.95 44 P **P 04 48 33.0 +1.6**
baz=289,SNR=288
R33M S **S 04 55 18.6 +5.5**
baz=289
C36M Paulatuk 45.99 29 P **P 04 48 31.9 +0.5**
baz=285,SNR=453
C36M S **S 04 55 14.4 +1.3**
baz=285
CRAG Craig 46.17 50 IAMs_20 IAMs_20 05 04 53.3
comp=Z,3µm,22.0s
CRAG Craig 46.17 50 P **P 04 48 34.9 +2.0**
CRAG Craig 46.17 50 P **P 04 48 34.3 +1.4**
baz=291,SNR=27
CRAG S **S 04 55 21.7 +5.7**
baz=291
SLVN Son La 46.20 255 IAMs_20 IAMs_20 05 09 55.3
comp=Z,5µm,21.0s
WRAK Wrangell Islan 46.25 48 IAmb IAmb 04 48 37.7
comp=Z,139nm,0.9s
WRAK Wrangell Islan 46.25 48 P **P 04 48 34.9 +1.4**
baz=290,SNR=26
WRAK S **S 04 55 23.5 +6.4**
baz=290
S34M Telegraph Cree 46.36 46 IAmb IAmb 04 48 38.6
comp=Z,123nm,0.9s
S34M Telegraph Cree 46.36 46 P **P 04 48 35.9 +1.5**
baz=290,SNR=88
S34M S **S 04 55 22.3 +3.7**
baz=290
TGTN Hyland Airport 46.54 40 P **P 04 48 37.0 +1.1**
baz=288,SNR=159
TGTN S **S 04 55 23.5 +2.1**
baz=288
SEM Semipalatinsk 46.60 303 *e*P **P 04 48 35.4 -1.3**
SEM pmax pmax
comp=Z,33nm,1.3s
SEM Semipalatinsk 46.60 303 *e*P **P 04 48 35.5 -1.3**
comp=Z,33nm,1.3s,baz=303
DLBC Dease Lake 46.73 45 IAmb IAmb 04 48 41.9
comp=Z,163nm,0.9s
DLBC Dease Lake 46.73 45 P **P 04 48 39.1 +1.7**
baz=290,SNR=142
DLBC S **S 04 55 29.0 +4.8**
baz=290
DLBC Dease Lake 46.73 45 LR LR 05 09 27.3
comp=Z,2µm,21.2s,baz=292,slow=38
WTLY Watson Lake, Y 46.76 42 IAmb IAmb 04 48 41.3
comp=Z,186nm,0.9s
WTLY IAMs_20 IAMs_20 05 05 40.5
comp=Z,3µm,21.0s
WTLY Watson Lake, Y 46.76 42 P **P 04 48 38.6 +1.1**
baz=289,SNR=178
WTLY S **S 04 55 28.2 +3.7**
baz=289
MK31 Makanchi Array 46.88 298 IAmb IAmb 04 48 41.0
comp=Z,170nm,0.9s
MK31 Makanchi Array 46.88 298*c i*P **P 04 48 38.3 -0.4**
MKAR Makanchi Array 46.88 298 P **P 04 48 38.5 -0.2**
comp=Z,104nm,0.8s,baz=69,slow=6.6,SNR=296
MKAR PcP **PcP 04 50 10.9 -0.1**
comp=Z,19nm,0.8s,baz=58,slow=5.4,SNR=2.2
MKAR ScP **ScP 04 53 60.0 -1.4**
comp=Z,11nm,1.0s,baz=76,slow=5.1,SNR=4.1
MKAR LR LR 05 09 26.9
comp=Z,25µm,19.8s,baz=70,slow=37
comp=Z,104nm,0.8s
V35K Ketchikan 47.02 49 IAmb IAmb 04 48 42.8
comp=Z,143nm,1.3s
V35K IAMs_20 IAMs_20 05 05 52.8
comp=Z,3µm,22.0s
V35K Ketchikan 47.02 49 P **P 04 48 40.7 +1.1**
baz=292,SNR=26
V35K S **S 04 55 33.1 +4.9**
baz=292
MAKZ Makanchi 47.07 298 P **P 04 48 40.1 0.0**
MAKZ IAmb IAmb 04 48 42.5
comp=Z,217nm,1.1s
MAKZ Makanchi 47.07 298 P **P 04 48 40.2 0.0**
MAKZ pmax pmax
comp=Z,217nm,1.1s
MAKZ MLR MLR
comp=Z,26µm,21.0s
MAKZ Makanchi 47.07 298 P **P 04 48 40.2 0.0**
KIP Kipapa 47.08 104⇓*e*P **P 04 48 40.7 +0.2**
KIP pmax pmax
comp=Z,157nm,1.2s
T35M Bob Quinn 47.13 47 P **P 04 48 42.6 +2.2**
baz=291,SNR=120
T35M S **S 04 55 35.8 +6.0**
baz=291
KURK Kurchatov 47.43 304 P **P 04 48 42.3 -0.6**
KURK Kurchatov 47.43 304*c i*P **P 04 48 41.9 -0.9**
KURK pmax pmax
comp=Z,457nm,1.3s
KURK MLR MLR
comp=Z,7µm,19.0s
KURK Kurchatov 47.43 304 P **P 04 48 42.5 -0.4**
KURK Kurchatov 47.43 304 P **P 04 48 42.3 -0.6**
TNCH TengChong 47.45 263⇑P **P 04 48 45.0 +1.4**
TNCH pP pP 04 48 48.0 -6.0
TNCH PP **PP 04 50 36.1 +1.0**
TNCH S **S 04 55 38.6 +3.1**
TNCH ScS **ScS 04 58 35.6 +1.2**
TNCH SS **SS 04 58 59.0 -4.4**
TNCH pmax pmax
comp=Z,320nm,1.3s
TNCH pmax pmax
comp=Z,2µm,3.9s
TNCH LR LR
comp=Z,1µm,15.5s
TNCH LR LR
comp=Z,1µm,12.3s
TNCH LR LR
comp=Z,4µm,17.6s
KURBB Kurchatov Arra 47.52 304 P **P 04 48 42.2 -1.4**
KURBB Kurchatov Arra 47.52 304 P **P 04 48 42.9 -0.7**
comp=Z,107nm,0.6s,baz=70,slow=6.9,SNR=5.4
KURBB LR LR 05 09 31.3
comp=Z,7µm,20.7s,baz=59,slow=37
comp=Z,107nm,0.6s
U35K Hyder 47.64 48 IAMs_20 IAMs_20 05 12 19.1
comp=Z,2µm,20.0s
U35K Hyder 47.64 48 P **P 04 48 45.8 +1.5**
baz=292,SNR=15
U35K S **S 04 55 43.1 +6.1**
baz=292
MANU Manus Island 47.77 187 P **P 04 48 45.8 0.0**
MANU IAmb IAmb 04 48 48.8
comp=Z,402nm,1.6s
MANU IAMs_20 IAMs_20 05 07 48.1
comp=Z,4µm,19.0s
MANU Manus Island 47.77 187 P **P 04 48 47.1 +1.2**
comp=Z,144nm,1.6s
WRGLY Wrigley 48.09 37 IAMs_20 IAMs_20 05 11 20.4
comp=Z,4µm,21.0s
WRGLY Wrigley 48.09 37 P **P 04 48 49.0 +1.2**
baz=291,SNR=237
WRGLY S **S 04 55 46.4 +3.3**
baz=291

RUBB Prince Rupert 48.13 50 IAmb IAmb 04 48 51.8
comp=Z,94nm,0.9s
RUBB IAMs_20 IAMs_20 05 06 44.3
comp=Z,3µm,21.0s
GRNB Grenville Isla 48.49 51 IAmb IAmb 04 48 54.8
comp=Z,145nm,0.8s
KOTAN Kotaneelee Air 48.97 41 P **P 04 48 55.6 +1.0**
baz=293,SNR=68
KOTAN S **S 04 55 58.4 +2.7**
baz=293
NONG Nongkai 48.99 252 P **P 04 48 56.9 +1.6**
SMPI Sarmi 49.02 198 P **P 04 48 56.6 +1.2**
comp=Z,183nm,1.1s
FLDN Fort Liard 49.19 41 IAmb IAmb 04 48 59.9
comp=Z,118nm,1.2s
FLDN Fort Liard 49.19 41 P **P 04 48 57.3 +1.0**
baz=293,SNR=8.4
GENI Genyem 49.31 196 P **P 04 48 59.0 +1.3**
GENI Genyem 49.31 196 P **P 04 48 58.9 +1.3**
comp=Z,297nm,1.0s,comp=Z,4µm
CRAI Chiangrai 49.36 257 P **P 04 48 59.6 +1.5**
CRAI IAmb IAmb 04 49 02.1
comp=Z,300nm,1.3s
UBPT Khong Chiam 49.48 248 IAmb IAmb 04 49 02.6
comp=Z,158nm,1.3s
UBPT Khong Chiam 49.48 248 P **P 04 49 00.2 +1.2**
HPAH Hawaii Prepara 49.61 103 P **P 04 48 59.8 -0.3**
RABL Rabaul 49.71 180 P **P 04 49 02.2 +1.5**
comp=Z,505nm,1.3s
LSA Lhasa 49.73 273 IAmb IAmb 04 49 19.0
comp=Z,176nm,0.9s
LSA IAMs_20 IAMs_20 05 11 04.5
comp=Z,5µm,21.0s
LSA Lhasa 49.73 273 P **P 04 49 03.5 +2.1**
LSA Lhasa 49.73 273 P **P 04 49 03.5 +2.1**
LSA sP **sP 04 49 16.2 -0.6**
SWI Sorong 49.98 208 P **P 04 49 04.3 +1.5**
comp=Z,95nm,1.2s,comp=Z,2µm
TDK Taldyqorghan 50.11 297*e*P **P 04 49 03.6 +0.1**
TDK Taldyqorghan 50.11 297*e*P **P 04 49 03.7 +0.1**
baz=297
BBB Bella Bella 50.20 52 IAmb IAmb 04 49 06.5
comp=Z,107nm,1.1s
BBB Bella Bella 50.20 52 LR LR 05 06 58.0
comp=Z,1µm,21.9s,baz=300,slow=32
PDGK Podgornoye 50.24 295 P **P 04 49 04.7 0.0**
SHLS Shalkode 50.35 295*e*P **P 04 49 03.5 -1.9**
SHLS Shalkode 50.35 295*e*P **P 04 49 03.6 -1.9**
comp=Z,28nm,1.1s,baz=295
KKM Kota Kinabalu 50.37 229 P **P 04 49 06.8 +1.0**
KKM IAMs_20 IAMs_20 05 13 38.2
comp=Z,3µm,20.0s
KKM Kota Kinabalu 50.37 229 P **P 04 49 07.8 +1.9**
UZB Uzynbulak 50.63 295*e*P **P 04 49 07.5 -0.2**
UZB pmax pmax
comp=Z,49nm,1.2s
UZB Uzynbulak 50.63 295*e*P **P 04 49 07.5 -0.2**
comp=Z,49nm,1.2s,baz=295
PHRA Phrae 50.65 255 P **P 04 49 09.4 +1.5**
KPKS Kokpek 50.69 295*e*P **P 04 49 08.4 +0.4**
KPKS Kokpek 50.69 295*e*P **P 04 49 08.5 +0.4**
baz=295
ALE Alert 50.80 6 P **P 04 49 07.6 -0.6**
ALE ScP **ScP 04 54 17.7 +0.3**
ARXS Arharly 50.85 297*e*P **P 04 49 09.5 +0.2**
HOLB Holberg 50.89 54 IAmb IAmb 04 49 12.0
comp=Z,103nm,0.8s
HOLB IAMs_20 IAMs_20 05 06 34.3
comp=Z,2µm,22.0s
ZHN Zhinishke 50.99 295*e*P **P 04 49 10.2 -0.1**
ZHN pmax pmax
comp=Z,50nm,1.3s
ZHN Zhinishke 50.99 295*e*P **P 04 49 10.3 -0.1**
comp=Z,50nm,1.3s,baz=295
BVA0 Borovoye Array 51.04 310*i*P **P 04 49 09.1 -1.3**
BVAR Borovoye Array 51.04 310 P **P 04 49 09.7 -0.7**
comp=Z,66nm,0.5s,baz=64,slow=6.8,SNR=210
BVAR PcP **PcP 04 50 25.1 -0.8**
comp=Z,8.7nm,0.4s,baz=64,slow=6.6,SNR=4.6
BVAR LR LR 05 12 36.4
comp=Z,15µm,20.2s,baz=56,slow=38
comp=Z,66nm,0.5s
SATY Saty 51.06 295*e*P **P 04 49 11.0 +0.1**
SATY Saty 51.06 295*e*P **P 04 49 11.1 +0.1**
baz=295
BRVK Borovoye 51.08 310 P **P 04 49 10.4 -0.3**
BRVK Borovoye 51.08 310*c i*P **P 04 49 10.1 -0.7**
BRVK pmax pmax
comp=Z,352nm,1.3s
BRVK MLR MLR
comp=Z,14µm,20.0s
BRVK Borovoye 51.08 310 P **P 04 49 10.4 -0.3**
BRVK Borovoye 51.08 310 P **P 04 49 10.0 -0.7**
BRVK sP **pwP 04 49 23.5 +1.7**
MND Mandalay 51.09 262 P **P 04 49 12.1 +1.0**
BRZS Berezniki 51.17 305*c i*P **P 04 49 10.9 -0.6**
BRZS pmax pmax
comp=Z,41nm,1.3s
BRZS Berezniki 51.17 305⇑*i*P **P 04 49 10.9 -0.6**
comp=Z,41nm,1.3s,baz=305
CHTO Chiang Mai 51.30 257 P **P 04 49 14.0 +1.2**
CHTO IAmb IAmb 04 49 16.6
comp=Z,277nm,1.2s
CHTO Chiang Mai 51.30 257 IAMs_20 IAMs_20 05 12 30.3
comp=Z,4µm,22.0s
CHTO Chiang Mai 51.30 257 P **P 04 49 14.0 +1.2**
CHTO Chiang Mai 51.30 257 P **P 04 49 14.0 +1.2**
CHTO pmax pmax
comp=Z,277nm,1.2s
CHTO MLR MLR
comp=Z,4µm,22.0s
CHTO Chiang Mai 51.30 257 P **P 04 49 14.6 +1.8**
CHTO P **P 04 49 14.6 +1.8**
CHTO Chiang Mai 51.30 257 P **P 04 49 14.0 +1.2**
CHTO sP **sP 04 49 28.1 +0.2**
WUS Wushi 51.49 293 P **P 04 49 15.5 +1.4**
CM31 Chiang Mai Arr 51.55 256 IAmb IAmb 04 49 18.7
comp=Z,190nm,1.3s
CMAR Chiang Mai Arr 51.55 256*i*P **P 04 49 16.2 +1.5**
CMAR pmax pmax
comp=Z,50nm,1.0s
CMAR Chiang Mai Arr 51.55 256 P **P 04 49 15.8 +1.2**
comp=Z,52nm,1.1s,baz=34,slow=7.4,SNR=124
CMAR PcP **PcP 04 50 29.6 +1.2**
comp=Z,7.8nm,0.4s,baz=21,slow=3.9,SNR=6.1
CMAR ScP **ScP 04 54 19.9 -1.8**
comp=Z,1.3nm,0.3s,baz=17,slow=3.8,SNR=1.5
CMAR LR LR 05 12 59.8
comp=Z,3µm,20.8s,baz=50,slow=38
comp=Z,52nm,1.1s
CHKK Chushkaly 51.56 297*e*P **P 04 49 14.5 +0.1**
CHKK Chushkaly 51.56 297*e*P **P 04 49 14.6 +0.1**
baz=297
FAKI Fak Fak 51.60 206 IAMs_20 IAMs_20 05 11 49.5
comp=Z,2µm,20.0s
TABU Tabubil 51.73 194 P **P 04 49 18.2 +2.2**
SHL Shillong 51.75 269*e*P **P 04 49 16.1 -0.2**
SHL *ex* x x 04 51 18.8
SHL *i* x x 04 56 36.1
MDOK Medeo 51.87 296*e*P **P 04 49 17.1 +0.2**
MDOK Medeo 51.87 296*e*P **P 04 49 17.2 +0.2**
baz=296
AAA Alma-Ata 51.93 296*e*P **P 04 49 17.5 +0.2**
AAA Alma-Ata 51.93 296*e*P **P 04 49 17.6 +0.2**
baz=296
KUU Kurty 51.95 297*c i*P **P 04 49 16.8 -0.5**
KUU Kurty 51.95 297⇑*i*P **P 04 49 16.8 -0.5**
baz=297
RES Resolute Bay 51.98 18 IAMs_20 IAMs_20 05 11 33.9
comp=Z,4µm,22.0s
RES Resolute Bay 51.98 18 P **P 04 49 16.8 -0.3**
RES Resolute Bay 51.98 18 LR LR 05 12 29.0
comp=Z,3µm,21.9s,baz=320,slow=37
TNSS Tian-Shan 52.00 296*e*P **P 04 49 18.1 -0.1**
TNSS Tian-Shan 52.00 296*e*P **P 04 49 18.1 -0.1**
baz=296
YKAW3 Yellowknife Wh 52.06 36 IAMs_20 IAMs_20 05 13 13.4
comp=Z,2µm,22.0s
YKA Yellowknife Ar 52.09 36*i*P **P 04 49 18.2 +0.1**
YKA pmax pmax
comp=Z,142nm,0.9s
YKA Yellowknife Ar 52.09 36 P **P 04 49 18.3 +0.2**
comp=Z,142nm,0.9s,baz=296,slow=7.2,SNR=642
YKA ScP **ScP 04 54 20.2 -3.0**
comp=Z,4.3nm,1.2s,baz=306,slow=5.3,SNR=4.1
YKA LR LR 05 13 38.8
comp=Z,2µm,22.0s,baz=304,slow=38
comp=Z,142nm,0.9s
YKAW1 Yellowknife Wh 52.15 36 IAMs_20 IAMs_20 05 13 15.7
comp=Z,2µm,22.0s
TOLI2 Tolitoli 52.34 221 P **P 04 49 20.1 -0.4**
TOLI2 Tolitoli 52.34 221 P **P 04 49 21.0 +0.5**
NOR Nord 52.77 358*i*P **P 04 49 21.9 -1.0**
NOR IAmb IAmb 04 49 24.2
comp=Z,16nm,0.6s
BTLS Baital 52.78 299*c i*P **P 04 49 23.5 0.0**
BTLS pmax pmax
comp=Z,24nm,0.9s
BTLS Baital 52.78 299⇑*i*P **P 04 49 23.5 0.0**
comp=Z,24nm,0.9s,baz=299
ULHL Ulahol 52.85 295 P **P 04 49 25.5 +1.2**
SNR=97
NAYO Nakonayok 52.90 251 P **P 04 49 26.2 +1.5**
TKM2 Tokmak 2 52.91 296 P **P 04 49 25.7 +0.9**
SNR=303
TKM2 Tokmak 2 52.91 296 P **P 04 49 25.0 +0.3**
SANI Sanana 52.97 214 P **P 04 49 24.8 -0.3**
SANI Sanana 52.97 214 P **P 04 49 27.9 +2.8**
SANI S **S 04 56 47.3 -4.6**
SANI Sanana 52.97 214 P **P 04 49 25.4 +0.3**
comp=Z,74nm,1.1s,comp=Z,1µm
SGDS Sogindy 53.23 297*e*P **P 04 49 26.9 0.0**
SGDS pmax pmax
comp=Z,22nm,0.7s
SGDS Sogindy 53.23 297*e*P **P 04 49 27.0 0.0**
comp=Z,22nm,0.7s,baz=297
LUWI Luwuk 53.37 218 P **P 04 49 30.3 +2.3**
CHMS Chumysh 53.40 297 P **P 04 49 28.9 +0.8**
SNR=113
KBS Kingsbay 53.40 351 P **P 04 49 28.0 +0.4**
KBS Kingsbay 53.40 351 IAMs_20 IAMs_20 05 11 05.8
comp=Z,4µm,21.0s
KBS Kingsbay 53.40 351*c i*P **P 04 49 27.3 -0.3**
KBS pmax pmax
comp=Z,527nm,1.2s
KBS Kingsbay 53.40 351⇑*i*P **P 04 49 27.5 -0.1**
KBS *e*S **S 04 56 56.8 +0.4**
KBS IVMs_BB IVMs_BB 05 11 18.1
comp=Z,1µm,20.2s
KBS Kingsbay 53.40 351 *i* P **P 04 49 28.0 +0.4**
KBS Kingsbay 53.40 351 P **P 04 49 27.4 -0.1**
USP Ospenovka 53.41 297 P **P 04 49 29.0 +0.7**
SNR=517
NRN Naryn 53.43 295 IAmb IAmb 04 49 35.5
comp=Z,208nm,1.1s
KBK Karagaybulak 53.45 296 P **P 04 49 29.7 +1.0**
SNR=294
SPA0 Spitsbergen Ar 53.50 350*e*P **P 04 49 28.6 +0.2**
SPA0 *e*S **S 04 56 53.4 -4.4**
SPA0 IVMs_BB IVMs_BB 05 14 55.0
comp=Z,2µm,20.4s
SPITS Spitsbergen Ar 53.50 350 P **P 04 49 28.9 +0.6**
comp=Z,64nm,0.5s,baz=69,slow=7.3,SNR=119
SPITS LR LR 05 13 56.3
comp=Z,3µm,18.5s,baz=16,slow=38
comp=Z,64nm,0.5s
HOPEN Hopen 53.53 347*e*P **P 04 49 27.9 -0.7**
HOPEN *e*S **S 04 56 51.6 -6.6**
HOPEN IVMs_BB IVMs_BB 05 12 29.8
comp=Z,2µm,24.1s
NLAI Namlea 53.64 212 P **P 04 49 30.7 +0.6**
comp=Z,36nm,1.1s
AAK Ala-Archa 53.75 297 P **P 04 49 31.7 +0.9**
SNR=296
AAK Ala-Archa 53.75 297 P **P 04 49 32.0 +1.2**
AAK Ala-Archa 53.75 297*c i*P **P 04 49 31.5 +0.7**
AAK pmax pmax
comp=Z,490nm,1.3s
AAK MLR MLR
comp=Z,13µm,19.0s
AAK Ala-Archa 53.75 297 *i* P **P 04 49 31.6 +0.8**
SNR=24
AAK Ala-Archa 53.75 297 P **P 04 49 31.7 +0.8**
comp=Z,226nm,1.0s,baz=88,slow=5.5,SNR=222
AAK LR LR 05 13 38.3
comp=Z,15µm,20.7s,baz=45,slow=37
comp=Z,226nm,1.0s
AAK Ala-Archa 53.75 297 P **P 04 49 32.1 +1.2**
AAK P **P 04 49 32.1 +1.2**
AAK Ala-Archa 53.75 297*e*P **P 04 49 31.5 +0.7**
AAK Ala-Archa 53.75 297 P **P 04 49 31.7 +0.8**
BRDH Bariadhala 53.77 266 P **P 04 49 32.7 +1.7**
comp=Z,101nm,0.4s,baz=90,slow=11,SNR=29
comp=Z,101nm,0.4s
UCH Uchtor 53.95 296 P **P 04 49 33.4 +0.7**
SNR=104
SVE Sverdlovsk 54.16 317*de*P **P 04 49 33.4 0.0**
SVE *e*S **S 04 57 06.1 -1.2**
SVE pmax pmax
comp=Z,550nm,1.3s
SVE MLR MLR
comp=Z,6µm,17.0s
EKS2 Erkin-Say 54.18 297 P **P 04 49 35.0 +1.0**
SNR=351
C03A Quillayute Air 54.24 55 IAmb IAmb 04 49 37.1
comp=Z,227nm,1.4s
C03A IAMs_20 IAMs_20 05 07 45.2
comp=Z,2µm,22.0s
KSH Kashi 54.49 293 P **P** 04 49 41.2 +5.0
KSH pP pP 04 49 48.3 +1.4
KSH S **S 04 57 18.7 +6.3**
KSH ScS **ScS 04 59 26.6 +4.4**
KSH pmax pmax
comp=Z,530nm,1.3s
KSH LR LR
comp=Z,18µm,22.0s
KSH LR LR
comp=Z,14µm,22.0s
KSH LR LR
comp=Z,27µm,23.4s
PGC Sidney 54.52 54 IAMs_20 IAMs_20 05 09 28.3
comp=Z,2µm,22.0s
HSPB Hornsund (broa 54.55 349*e*P **P 04 49 35.8 -0.2**
HSPB *e*L L 05 07 58.1
comp=Z,7µm,41.4s
HSPB Hornsund (broa 54.55 349*e*P **P 04 49 35.4 -0.6**
B04A Port Angeles 54.80 55 IAMs_20 IAMs_20 05 15 49.8
comp=Z,3µm,22.0s
NLWA Neilton Lookou 54.94 56 IAMs_20 IAMs_20 05 08 29.5
comp=Z,2µm,22.0s
BRLDA Berland Lookou 54.95 46 IAmb IAmb 04 49 42.0
comp=Z,200nm,0.9s
BRLDA IAMs_20 IAMs_20 05 10 30.2
comp=Z,3µm,21.0s
PMG Port Moresby 55.08 186 P **P 04 49 40.7 +0.2**
PMG IAmb IAmb 04 49 42.7
comp=Z,229nm,1.4s
PMG Port Moresby 55.08 186 P **P 04 49 40.9 +0.4**
PMG Port Moresby 55.08 186 P **P 04 49 40.7 +0.2**
PMG Port Moresby 55.08 186*d i*P **P 04 49 41.1 +0.6**
PMG pmax pmax
comp=Z,135nm,1.3s
PMG Port Moresby 55.08 186 LR LR 05 11 15.9
comp=Z,582nm,20.6s,baz=1.0,slow=34
WISH Wishkah 55.14 56 IAMs_20 IAMs_20 05 08 23.8
comp=Z,2µm,21.0s
TULEG Thule 55.23 11 IAMs_20 IAMs_20 05 15 40.1
comp=Z,4µm,20.0s
TULEG Thule 55.23 11*i*P **P 04 49 40.5 -0.4**
TULEG IAmb IAmb 04 49 45.7
comp=Z,76nm,0.6s
ARU Arti 55.35 318 P **P 04 49 41.6 -0.4**
ARU Arti 55.35 318*c i*P **P 04 49 41.2 -0.8**
ARU 04 50 41.5
ARU 04 51 42.3
ARU S **S 04 57 22.4 -0.8**
ARU 04 59 25.2
ARU SS **SS 05 01 05.4 -1.9**
ARU pmax pmax
comp=Z,855nm,1.4s
ARU MLR MLR
comp=Z,7µm,17.0s
ARU Arti 55.35 318 LR LR 05 16 32.2
comp=Z,8µm,18.4s,baz=45,slow=39
ARU Arti 55.35 318 P **P 04 49 41.4 -0.7**
HNR Honiara 55.35 171 P **P 04 49 42.7 +0.3**
HNR IAMs_20 IAMs_20 05 14 16.6
comp=Z,4µm,20.0s
HNR Honiara 55.35 171 P **P 04 49 43.8 +1.4**
HNR Honiara 55.35 171 P **P 04 49 42.7 +0.3**
HNR pmax pmax
comp=Z,626nm,1.2s

HNR MLR MLR
comp=Z,4µm,20.0s
HNR Honiara 55.35 171 LR LR 05 14 45.9
comp=Z,41µm,18.2s,baz=16,slow=37
ARSB Arslanbob 55.40 296 IAmb IAmb 04 49 47.0
comp=Z,281nm,1.2s
SBUM Sibu 55.52 231 IAMs_20 IAMs_20 05 14 14.8
comp=Z,3µm,21.0s
DZA Taraz 55.58 298 *e*P **P** **04 49 43.8 -0.1**
DZA Taraz 55.58 298 *e*P **P** **04 49 43.9 -0.1**
baz=298
F03A Seaside 55.90 57 IAmb IAmb 04 49 48.9
comp=Z,120nm,1.2s
KK31 Karatay Array 55.96 299 *i* P **P** **04 49 46.6 -0.1**
BJO1 Bjornoya 56.05 346 *e*P **P** **04 49 46.6 -0.1**
BJO1 *e*S **S** **04 57 33.4 +1.5**
BJO1 IVMs_BB IVMs_BB 05 08 19.8
comp=Z,2µm,3.4s
D05A Enumclaw 56.13 55 IAmb IAmb 04 49 50.5
comp=Z,346nm,1.8s
HEBO Mount Hebo 56.17 58 IAmb IAmb 04 49 50.2
comp=Z,131nm,1.1s
NEEM North Greenlan 56.23 6 *i* P **P** **04 49 47.4 -1.0**
NEEM IAmb IAmb 04 49 51.7
comp=Z,220nm,0.7s
BKB Balikpapan 56.26 224 IAMs_20 IAMs_20 05 17 55.9
comp=Z,2µm,20.0s
BRLS Boroldday 56.42 299 *e*P **P** **04 49 51.8 +1.9**
BRLS Boroldday 56.42 299 *e*P **P** **04 49 51.9 +2.0**
baz=299
G03D McMinnville, O 56.46 58 IAmb IAmb 04 49 52.2
comp=Z,250nm,1.7s
COR Corvallis 56.78 58 P **P** **04 49 52.4 0.0**
COR IAmb IAmb 04 49 54.9
comp=Z,159nm,1.1s
COR Corvallis 56.78 58 P **P** **04 49 52.4 0.0**
COR pmax pmax
comp=Z,159nm,1.1s
COR Corvallis 56.78 58 P **P** **04 49 53.6 +1.2**
COR pP **pP** **04 50 02.0 -0.3**
COR sP **sP** **04 50 05.8 -0.7**
IUG Iuzhnay 56.79 298 *e*P **P** **04 49 52.9 +0.2**
IUG Iuzhnay 56.79 298 *e*P **P** **04 49 52.9 +0.2**
baz=298
LTY Liberty 56.84 54 IAmb IAmb 04 49 54.0
comp=Z,213nm,1.9s
LTY IAMs_20 IAMs_20 05 10 42.0
comp=Z,2µm,22.0s
CHM Chimkent 56.95 299 *e*P **P** **04 49 54.0 +0.3**
CHM Chimkent 56.95 299 *e*P **P** **04 49 54.0 +0.3**
baz=299
BOK Bokaro 57.07 271 *e*P **P** **04 49 55.4 +0.6**
BOK IAmb IAmb 04 49 58.4
comp=Z,163nm,0.4s
BUCK Buck Mountain 57.19 58 IAmb IAmb 04 49 58.0
comp=Z,236nm,1.4s
BUCK IAMs_20 IAMs_20 05 12 09.2
comp=Z,2µm,19.0s
J01E Myrtle Point 57.20 60 IAMs_20 IAMs_20 05 10 07.6
comp=Z,2µm,20.0s
VADS Vadso 57.27 340 *e*P **P** **04 49 55.6 +0.1**
VADS *e*S **S** **04 57 46.0 -2.2**
VADS IVMs_BB IVMs_BB 05 17 44.3
comp=Z,4µm,20.9s
HOOD Mount Hood Mea 57.35 57 IAmb IAmb 04 49 58.5
comp=Z,240nm,1.1s
H04A Detroit Lake 57.39 58 IAmb IAmb 04 49 58.6
comp=Z,158nm,1.0s
MXC Moxie City 57.43 55 IAMs_20 IAMs_20 05 09 50.5
comp=Z,2µm,20.0s
EDM Edmonton 57.45 45 IAMs_20 IAMs_20 05 13 40.3
comp=Z,2µm,21.0s
LVZ Lovozero 57.45 337 P **P** **04 49 56.9 0.0**
LVZ Lovozero 57.45 337 *de*P **P** **04 49 57.0 +0.1**
LVZ pmax pmax
comp=Z,735nm,1.3s
LVZ MLR MLR
comp=Z,7µm,21.0s
LVZ Lovozero 57.45 337 P **P** **04 49 56.4 -0.5**
KBO Bosley Butte 57.55 61 IAmb IAmb 04 50 07.2
comp=Z,197nm,1.4s
G05A Wamic 57.59 57 IAmb IAmb 04 50 07.0
comp=Z,152nm,0.8s
K02D Willamette Mer 57.62 60 IAMs_20 IAMs_20 05 11 55.8
comp=Z,2µm,20.0s
DBO Dodson Butte 57.64 60 IAMs_20 IAMs_20 05 10 43.2
comp=Z,2µm,22.0s
E07A Sunnyside 57.70 55 IAmb IAmb 04 50 00.5
comp=Z,212nm,1.5s
I04A Tendick Farm, 57.76 59 IAmb IAmb 04 50 01.3
comp=Z,143nm,1.3s
SURA Surathani 57.81 248 P **P** **04 50 01.8 +1.8**
STKI Sintang 57.92 230 P **P** **04 50 01.7 +0.9**
comp=Z,64nm,0.8s,comp=Z,11µm
D08A Wollman Farm, 57.95 54 IAmb IAmb 04 50 01.7
comp=Z,198nm,1.8s
HAWA Hanford 57.97 55 IAmb IAmb 04 50 03.2
comp=Z,283nm,1.7s
G06A Carlson Farm, 57.99 56 IAmb IAmb 04 50 02.9
comp=Z,262nm,1.6s
L02F Cave Junction 58.00 61 IAMs_20 IAMs_20 05 11 58.0
comp=Z,2µm,20.0s
APA Apatity 58.03 337 ⇓*i*P **P** **04 50 00.4 -0.4**
APA *i* 04 50 49.0
APA *i* S **S** **04 57 56.0 -2.2**
APA *i* PS **PnS** **04 58 18.0 +4.7**
APA *i* 04 59 43.0
APA *i* SS **SS** **05 01 49.0 +0.1**
I05D Terrebonne, OR 58.09 58 IAmb IAmb 04 50 03.6
comp=Z,416nm,1.9s
KEV Kevo 58.09 340 P **P** **04 50 01.4 +0.2**
KEV Kevo 58.09 340 P **P** **04 50 01.4 +0.2**
KEV pmax pmax
comp=Z,754nm,1.4s
KEV Kevo 58.09 340 P **P** **04 50 01.2 -0.1**
HUMO Hull Mountain 58.10 60 IAMs_20 IAMs_20 05 10 55.5
comp=Z,2µm,21.0s
KRMB Red Mountain 58.14 62 IAmb IAmb 04 50 06.5
comp=Z,179nm,2.0s
HAMF Hammerfest 58.17 342 *e*P **P** **04 50 01.1 -0.7**
HAMF *e*S **S** **04 57 57.2 -2.8**
HAMF IVMs_BB IVMs_BB 05 16 55.7
comp=Z,4µm,22.1s
E08A Dider Farm, El 58.19 54 IAMs_20 IAMs_20 05 10 37.4
comp=Z,2µm,22.0s
KIRV Kirov 58.22 323 *c* *i*P **P** **04 50 01.5 -0.8**
KIRV Kirov 58.22 323 LR LR 05 17 17.9
comp=Z,7µm,18.8s,baz=42,slow=38
KAPI Kappang 58.24 219 P **P** **04 50 04.7 +1.8**
KAPI IAmb IAmb 04 50 05.7
comp=Z,104nm,1.3s
KAPI Kappang 58.24 219 P **P** **04 50 03.5 +0.5**
KAPI Kappang 58.24 219 *d* *i*P **P** **04 50 03.4 +0.5**
KAPI pmax pmax
comp=Z,72nm,1.3s
KAPI Kappang 58.24 219 P **P** **04 50 03.9 +1.0**
SRIT Nakonsritamara 58.25 248 IAmb IAmb 04 50 07.2
comp=Z,123nm,1.1s
SRIT Nakonsritamara 58.25 248 P **P** **04 50 05.3 +2.2**
comp=Z,131nm,1.3s
NEW Newport 58.27 52 IAmb IAmb 04 50 04.1
comp=Z,119nm,1.2s
NEW Newport 58.27 52 P **P** **04 50 02.5 -0.4**
NEW Newport 58.27 52 P **P** **04 50 02.7 -0.2**
baz=305,SNR=85
NEW S **S** **04 58 02.1 +0.1**
baz=305
KULLO Kullorsuaq 58.35 9 *i* P **P** **04 50 02.3 -0.7**
KULLO IAmb IAmb 04 50 07.6
comp=Z,180nm,0.6s
DDI Dehra Dun 58.43 282 *e*P **P** **04 50 05.5 +1.1**
DHRM DHARAMSHALA 58.46 285 *e*P **P** **04 50 05.3 +0.7**
JCC Jacoby Creek, 58.47 62 IAmb IAmb 04 50 06.8
comp=Z,159nm,1.6s
SMLA Simla 58.55 284 *e*P **P** **04 50 05.8 +0.8**
ARA0 ARCESS Array S 58.61 341 ⇑*i*P **P** **04 50 04.9 0.0**
ARA0 *e*S **S** **04 58 08.1 +2.3**
ARA0 IVMs_BB IVMs_BB 05 16 15.4
comp=Z,1µm,4.7s
ARCES ARCESS Array B 58.61 341 P **P** **04 50 05.4 +0.5**
comp=Z,368nm,1.0s,baz=39,slow=6.2,SNR=146
ARCES LR LR 05 18 31.7
comp=Z,5µm,21.0s,baz=34,slow=39
comp=Z,368nm,1.0s
AB31 Akbulak array 58.61 310 *i* P **P** **04 50 04.5 -0.7**
ABKAR Akbulak array 58.61 310 IAmb IAmb 04 50 07.0
comp=Z,212nm,1.1s
SKLT Songkhla 58.68 246 P **P** **04 50 07.9 +1.8**
E09A Wood Farm, Sta 58.69 54 IAmb IAmb 04 50 07.2
comp=Z,124nm,1.0s
L04D Klamath Falls 58.72 60 IAmb IAmb 04 50 08.1
comp=Z,103nm,1.0s
J05D Fort Rock, OR 58.75 58 IAmb IAmb 04 50 08.7
comp=Z,329nm,2.0s
YBH Yreka Blue Hor 58.75 61 IAmb IAmb 04 50 08.7
comp=Z,137nm,1.7s
YBH IAMs_20 IAMs_20 05 11 17.8
comp=Z,2µm,22.0s
YBH Yreka Blue Hor 58.75 61 LR LR 05 12 13.9
comp=Z,1µm,21.8s,baz=310,slow=33
AKTO Aktyubinsk 58.95 312 P **P** **04 50 07.1 -0.5**
comp=Z,55nm,0.5s,baz=57,slow=6.1,SNR=86
AKTO PcP **PcP** **04 50 56.8 +0.4**
comp=Z,54nm,1.0s,baz=69,slow=8.6,SNR=4.6
AKTO LR LR 05 18 06.5
comp=Z,20µm,18.6s,baz=48,slow=38
comp=Z,55nm,0.5s
KMRM Mail Ridge 59.01 63 IAMs_20 IAMs_20 05 11 59.2
comp=Z,2µm,21.0s
K05A Summer Lake 59.28 59 IAmb IAmb 04 50 12.5
comp=Z,83nm,1.0s
I07A Izee 59.31 57 IAmb IAmb 04 50 12.2
comp=Z,170nm,1.9s
CHGR Chuyangaron 59.34 295 P **P** **04 50 11.3 +0.8**
DGPR DIGLIPUR 59.35 257 *e*P **P** **04 50 12.1 +1.3**
KCPM Cahto Peak 59.41 63 IAmb IAmb 04 50 22.6
comp=Z,135nm,1.3s
SIMJ Simiganj 59.43 295 P **P** **04 50 12.2 +1.0**
SIMJ Simiganj 59.43 295 P **P** **04 50 11.9 +0.7**
SIMJ sP **sP** **04 50 24.4 -2.6**
F10A Beach Ranch, E 59.52 54 IAMs_20 IAMs_20 05 11 18.8
comp=Z,2µm,22.0s
KTK1 Kautokeino 59.53 341 ⇑*i*P **P** **04 50 11.5 +0.2**
KTK1 *e*S **S** **04 58 14.7 -3.0**
KTK1 IVMs_BB IVMs_BB 05 18 44.2
comp=Z,3µm,19.3s
NIL Nilore 59.66 288 P **P** **04 50 15.4 +2.7**
NIL Nilore 59.66 288 P **P** **04 50 15.4 +2.7**
NIL pmax pmax
comp=Z,564nm,1.1s
NIL Nilore 59.66 288 P **P** **04 50 14.6 +1.8**
NIL Nilore 59.66 288 P **P** **04 50 14.3 +1.5**
JETT Jettan, Norway 59.72 342 ⇑*i*P **P** **04 50 13.0 +0.3**
JETT IVMs_BB IVMs_BB 05 14 00.1
comp=Z,3µm,33.8s
SGF Sodankyl 59.95 339 P **P** **04 50 14.4 +0.3**
TRO Tromso 59.97 343 ⇑*i*P **P** **04 50 14.2 -0.1**
TRO *e*S **S** **04 58 21.1 -2.2**
TRO IVMs_BB IVMs_BB 05 13 52.7
comp=Z,2µm,14.1s
COEN Coen 59.98 190 P **P** **04 50 15.6 +0.6**
COEN IAmb IAmb 04 50 17.3
comp=Z,98nm,1.1s
COEN IAMs_20 IAMs_20 05 12 26.6
comp=Z,2µm,22.0s
COEN Coen 59.98 190 P **P** **04 50 15.1 +0.2**
KULM Kulim 60.10 244 P **P** **04 50 17.3 +1.4**
KULM IAmb IAmb 04 50 19.5
comp=Z,93nm,1.1s
KULM IAMs_20 IAMs_20 05 15 27.5
comp=Z,2µm,21.0s
HOPS Hopland Field 60.13 63 IAMs_20 IAMs_20 05 13 00.6
comp=Z,2µm,20.0s
UPNV Upernavik 60.13 9 *i* P **P** **04 50 14.2 -1.1**
UPNV IAmb IAmb 04 50 20.0
comp=Z,132nm,0.6s
BMO Blue Mountains 60.14 55 IAMs_20 IAMs_20 05 11 37.9
comp=Z,2µm,21.0s
GDXM Geysers 60.42 64 IAMs_20 IAMs_20 05 13 29.1
comp=Z,2µm,19.0s
MSF Maaselka 60.43 337 P **P** **04 50 17.6 +0.1**
IPM Ipoh 60.49 243 IAMs_20 IAMs_20 05 19 42.0
comp=Z,2µm,19.0s
IPM Ipoh 60.49 243 P **P** **04 50 19.1 +0.5**
PBA Port Blair 60.57 256 *e*P **P** **04 50 19.3 +0.2**
PBA IAmb IAmb 04 50 27.8
comp=Z,869nm,2.0s
KLMR Klimovskoe 60.66 329 *c* *i*P **P** **04 50 18.6 -0.5**
KLMR *e* 04 52 31.8
KLMR S **S** **04 58 31.1 -1.3**
KLMR SS **SS** **05 02 34.1 +3.7**
KLMR pmax pmax
comp=Z,2µm,1.4s
KLMR pmax pmax
comp=Z,1µm,1.3s
KLMR MLR MLR
comp=Z,5µm,17.0s
SOEI Soe 60.70 212 P **P** **04 50 21.1 +1.1**
SOEI IAmb IAmb 04 50 52.9
comp=Z,140nm,0.9s
SOEI Soe 60.70 212 P **P** **04 50 21.9 +1.9**
SOEI Soe 60.70 212 P **P** **04 50 20.3 +0.3**
SOEI S **S** **04 58 31.2 -2.9**
SOEI Soe 60.70 212 P **P** **04 50 21.4 +1.4**
comp=Z,132nm,0.9s,comp=Z,1µm
PLID Pearl Lake 60.74 54 P **P** **04 50 20.4 +0.1**
PLID IAmb IAmb 04 50 21.6
comp=Z,150nm,0.9s
PLID IAMs_20 IAMs_20 05 12 19.1
comp=Z,2µm,22.0s
MCCM Marconi Confer 60.76 64 IAmb IAmb 04 50 22.3
comp=Z,198nm,1.9s
ORV Oroville 60.78 62 P **P** **04 50 20.0 -0.3**
ORV Oroville 60.78 62 P **P** **04 50 20.0 -0.3**
ORV pmax pmax
comp=Z,45nm,1.0s
WVOR Wild Horse Val 60.80 58 IAmb IAmb 04 50 22.2
comp=Z,76nm,1.1s
WVOR IAMs_20 IAMs_20 05 12 42.5
comp=Z,2µm,22.0s
WVOR Wild Horse Val 60.80 58 P **P** **04 50 20.8 +0.3**
KDU Kakadu 60.84 202 P **P** **04 50 20.9 +0.1**
MYKOM Kota Tinggi 60.87 239 IAMs_20 IAMs_20 05 19 16.1
comp=Z,2µm,20.0s
DRS Darwin Rock St 61.02 204 P **P** **04 50 23.7 +1.7**
MTN Manton Dam 61.35 204 P **P** **04 50 24.4 +0.1**
MTN Manton Dam 61.35 204 P **P** **04 50 24.3 +0.1**
AFDM Forest Hills D 61.47 62 P **P** **04 50 25.2 +0.1**
NUUG Nuugaatsiaq 61.63 9 *i* P **P** **04 50 25.2 -0.3**
NUUG IAmb IAmb 04 50 30.4
comp=Z,58nm,0.6s
SUMG Summit 61.75 4 P **P** **04 50 27.8 +1.0**
SUMG Summit 61.75 4 P **P** **04 50 27.8 +1.0**
SUMG pmax pmax
comp=Z,761nm,1.1s
SUMG MLR MLR
comp=Z,7µm,20.0s
SUMG Summit 61.75 4 P **P** **04 50 24.4 -2.4**
SUMG S **S** **04 58 48.2 +1.5**
SUMG Summit 61.75 4 *i* P **P** **04 50 27.5 +0.7**
SUMG IAmb IAmb 04 50 31.9
comp=Z,218nm,0.7s
KBU Kabul Universi 61.84 292 P **P** **04 50 26.3 -1.5**
KBU S **S** **04 58 45.9 -2.6**
MPK Martis Peak 61.84 62 IAmb IAmb 04 50 35.5
comp=Z,131nm,1.0s
MFID Camas Ranch 61.85 56 IAmb IAmb 04 50 29.1
comp=Z,263nm,1.9s
KBL Kabul 61.88 292 P **P** **04 50 28.5 +0.4**
KBL Kabul 61.88 292 P **P** **04 50 28.5 +0.4**
KBL pmax pmax
comp=Z,313nm,0.7s
KBL Kabul 61.88 292 P **P** **04 50 28.7 +0.5**
SNR=120
KBL P **P** **04 50 28.7 +0.5**
SNR=120
FFC Flin Flon 61.90 39 P **P** **04 50 28.2 +0.6**
FFC Flin Flon 61.90 39 IAMs_20 IAMs_20 05 19 23.5
comp=Z,2µm,21.0s
FFC Flin Flon 61.90 39 P **P** **04 50 28.2 +0.6**
FFC pmax pmax
comp=Z,515nm,1.1s
FFC MLR MLR
comp=Z,2µm,21.0s
FFC Flin Flon 61.90 39 P **P** **04 50 27.8 +0.2**
OUL Oulu 61.91 337 P **P** **04 50 27.4 -0.1**
STEI Steigen 62.14 343 *e*P **P** **04 50 29.0 0.0**
STEI *e*S **S** **04 58 47.0 -3.9**
STEI IVMs_BB IVMs_BB 05 13 52.7
comp=Z,2µm,19.9s
PNTR Pine Nut 62.23 62 IAmb IAmb 04 50 34.1
comp=Z,84nm,0.7s
DSRI Dabo 62.25 237 P **P** **04 50 31.7 +1.2**
comp=Z,89nm,1.3s
LOF Lofoten 62.31 344 *e*P **P** **04 50 30.2 +0.1**
LOF *e*S **S** **04 58 53.2 +0.2**
LOF IVMs_BB IVMs_BB 05 13 52.6
comp=Z,1µm,12.0s
EGMT Eagleton 62.37 49 P **P** **04 50 31.1 +0.1**
baz=309,SNR=122
EGMT S **S** **04 58 54.5 -0.2**
baz=309
PLAI Plampang 62.50 219 P **P** **04 50 31.1 -1.0**
PLAI Plampang 62.50 219 P **P** **04 50 30.8 -1.3**
comp=Z,36nm,1.6s,comp=Z,663nm
LHMI Lhok Sumawe 62.51 247 IAMs_20 IAMs_20 05 18 36.3
comp=Z,2µm,20.0s
YERR Yerington 62.52 61 IAmb IAmb 04 50 33.9
comp=Z,122nm,1.1s
UMMG Ummannaq 62.56 9 *i* P **P** **04 50 31.8 +0.1**
UMMG IAmb IAmb 04 50 36.6
comp=Z,130nm,1.3s
HLID Hailey 62.58 55 IAmb IAmb 04 50 35.0
comp=Z,105nm,1.4s
HLID IAMs_20 IAMs_20 05 21 32.4
comp=Z,2µm,19.0s
HLID Hailey 62.58 55 P **P** **04 50 32.8 +0.2**
baz=308,SNR=102
HLID S **S** **04 58 58.3 +0.7**
baz=308
FAUS Fauske 62.59 343 ⇑*i*P **P** **04 50 32.2 +0.2**
FAUS *e*S **S** **04 58 57.7 +1.1**
FAUS IVMs_BB IVMs_BB 05 15 26.2
comp=Z,3µm,17.7s
PPBI Pangkal Pinang 62.72 234 P **P** **04 50 35.3 +1.7**
JMIC Jan Mayen 62.76 353 *e*P **P** **04 50 34.9 +1.8**
JMIC *e*S **S** **04 59 01.5 +2.8**
JMIC Jan Mayen 62.76 353 LR LR 05 15 41.8
comp=Z,2µm,21.8s,baz=54,slow=34
TWSI Taliwang, Sumb 62.82 220 P **P** **04 50 33.8 -0.4**
comp=Z,36nm,1.1s,comp=Z,3µm
JMI Jan Mayen 62.84 353 *e*P **P** **04 50 33.4 -0.2**
JMI *e*S **S** **04 59 00.5 +0.9**
BMN Battle Mountai 62.85 59 IAmb IAmb 04 50 36.2
comp=Z,86nm,1.1s
VIS Vishakhapatnam 62.87 268 *e*P **P** **04 50 35.2 +0.6**
VIS IAmb IAmb 04 50 38.6
comp=Z,134nm,1.2s
BBGB Big Mountain B 62.88 65 IAmb IAmb 04 50 59.2
comp=Z,106nm,0.9s
BOZ Bozeman (W) 62.88 52 IAmb IAmb 04 50 37.0
comp=Z,185nm,1.1s
BOZ Bozeman (W) 62.88 52 P **P** **04 50 34.9 +0.3**
baz=309,SNR=86
BOZ S **S** **04 59 02.9 +1.7**
baz=309
BELG Belogornoye 62.89 318 *c* *i*P **P** **04 50 34.0 -0.2**
BELG pmax pmax
comp=Z,101nm,1.0s
BELG MLR MLR
comp=Z,1µm,19.0s
BELG Belogornoye 62.89 318 LR LR 05 21 34.9
comp=Z,6µm,18.7s,baz=48,slow=40
SRBI Singaraja 63.01 222 P **P** **04 50 35.8 +0.3**
comp=Z,99nm,1.2s,comp=Z,1µm
PSI Prapat 63.10 244 P **P** **04 50 36.5 +0.2**
PSI Prapat 63.10 244 P **P** **04 50 37.8 +1.5**
PSI pmax pmax
comp=Z,44nm,1.0s
KVN Kaiserville 63.18 61 IAmb IAmb 04 50 38.2
comp=Z,101nm,1.1s
RYN Ryan 63.18 61 IAMs_20 IAMs_20 05 15 05.8
comp=Z,1µm,20.0s
RPSI Rantau Prapat 63.18 244 P **P** **04 50 37.8 +1.1**
ABJI Asem Bagus 63.23 223 P **P** **04 50 37.4 +0.5**
comp=Z,81nm,1.1s
LHV Little Huntoon 63.42 62 IAmb IAmb 04 50 40.2
comp=Z,154nm,1.0s
NVAR Mina Array Bea 63.44 61 P **P** **04 50 38.6 +0.2**
comp=Z,33nm,0.7s,baz=290,slow=6.7,SNR=295
NVAR LR LR 05 15 29.1
comp=Z,1µm,20.7s,baz=298,slow=33
NVAR PKPPKP **P'P'df** **05 19 35.2 -4.1**
comp=Z,1.2nm,0.9s,baz=132,slow=3.8,SNR=7.1
comp=Z,33nm,0.7s
BLJI Banyuglugur 63.49 224 P **P** **04 50 38.8 +0.2**
comp=Z,23nm,0.7s,comp=Z,7µm
MLSI Meulaboh, Aceh 63.59 247 P **P** **04 50 39.6 +0.2**
comp=Z,51nm,0.5s
MLAC Mammoth, Mammo 63.60 62 P **P** **04 50 40.2 +0.7**
baz=309,SNR=18
BKNI Bangkinang 63.72 240 P **P** **04 50 39.6 -0.6**
BKNI S **S** **04 59 14.3 +2.3**
BKNI Bangkinang 63.72 240 P **P** **04 50 42.0 +1.8**
comp=Z,302nm,1.3s,comp=Z,4µmcomp=Z,2µm
KONS Konsvik 63.80 343 *e*P **P** **04 50 39.9 -0.1**
MOR8 Moi Rana 63.80 342 ⇑*i*P **P** **04 50 38.9 -1.2**
MOR8 *e*S **S** **04 59 09.4 -2.5**
MOR8 IVMs_BB IVMs_BB 05 16 10.2
comp=Z,3µm,29.4s
ELK Elko 63.84 58 IAMs_20 IAMs_20 05 13 02.2
comp=Z,2µm,22.0s
ELK Elko 63.84 58 LR LR 05 13 58.5
comp=Z,915nm,21.1s,baz=315,slow=32
YNM Yellowstone No 63.93 52 IAmb IAmb 04 50 44.5
comp=Z,188nm,1.5s
YNR Norris Junctio 63.95 52 IAmb IAmb 04 50 44.8
comp=Z,122nm,1.2s
STOK Stokkvaagen 63.96 343 *e*P **P** **04 50 42.2 +1.1**
STOK *e*S **S** **04 59 16.1 +2.4**
MTSU Mount Surprise 63.98 188 P **P** **04 50 42.2 +0.5**
SCO Scoresbysund 64.01 358 IAMs_20 IAMs_20 05 17 33.6
comp=Z,2µm,20.0s
YFT Old Faithful 64.03 52 IAmb IAmb 04 50 47.5
comp=Z,106nm,1.1s
ILULI Ilulissat 64.07 9 P **P** **04 50 42.0 +0.2**
ILULI Ilulissat 64.07 9 P **P** **04 50 42.0 +0.2**
ILULI pmax pmax
comp=Z,251nm,0.7s
ILULI Ilulissat 64.07 9 *i* P **P** **04 50 41.1 -0.6**
ILULI IAmb IAmb 04 50 47.4
comp=Z,165nm,0.6s
VOG Valley Oaks Go 64.08 64 P **P** **04 50 41.9 -0.5**
baz=309
VOG S **S** **04 59 17.2 +1.1**
baz=309
PMBI Palembang 64.12 235 IAMs_20 IAMs_20 05 18 48.1
comp=Z,2µm,20.0s
H17A Grant Village 64.21 52 IAmb IAmb 04 50 47.5
comp=Z,246nm,1.4s
H17A Grant Village 64.21 52 P **P** **04 50 45.4 +1.9**
baz=310,SNR=97
H17A S **S** **04 59 25.6 +7.5**
baz=310
YMP Mirror Lake Pl 64.23 52 IAmb IAmb 04 50 52.4
comp=Z,123nm,1.3s
DSP Deep Springs 64.30 62 IAmb IAmb 04 50 52.4
comp=Z,103nm,1.2s
SMMC Simmler 64.33 65 P **P** **04 50 44.4 +0.3**
baz=309,SNR=9.4
SMMC S **S** **04 59 21.6 +2.3**
baz=309
TIN Tinemaha, Big 64.34 63 P **P** **04 50 44.6 +0.4**
baz=309,SNR=6.1
TIN S **S** **04 59 21.6 +2.0**
baz=309
FLWY Flagg Ranch 64.34 53 IAmb IAmb 04 50 46.8
comp=Z,122nm,1.3s
FXWY Fox Creek 64.44 53 IAmb IAmb 04 50 48.0
comp=Z,84nm,1.0s
RLMT Red Lodge 64.47 51 IAmb IAmb 04 50 47.8
comp=Z,160nm,1.1s
RLMT IAMs_20 IAMs_20 05 24 08.2
comp=Z,2µm,22.0s
RLMT Red Lodge 64.47 51 P **P** **04 50 45.8 +0.7**
baz=310,SNR=112
RLMT S **S** **04 59 22.1 +0.9**
baz=310
MOOW Moose Ponds 64.53 53 IAmb IAmb 04 50 48.4
comp=Z,105nm,1.1s
VES Vestal, Richgr 64.57 64 P **P** **04 50 45.0 -0.6**
baz=309,SNR=22
VES S **S** **04 59 24.0 +1.8**
baz=309
TPAW Teton Pass 64.58 53 IAmb IAmb 04 50 48.6
comp=Z,199nm,1.0s
LCH Last Change Ra 64.59 62 IAmb IAmb 04 50 47.5
comp=Z,206nm,1.9s

PWJI	Pagerwojo	64.61	225		P		P	04 50 45.1	-0.9	
	comp=Z,187nm,1.1s,comp=Z,2µm									
HVU	Hansel Valley	64.63	56		IAMs_20		IAMs_20	05 23 01.9		
	comp=Z,1µm,20.0s									
PUL	Pulkovo	64.64	332	*de*	P		P	04 50 46.0	+0.4	
PUL					pmax		pmax			
	comp=Z,1µm,1.3s									
PUL					MLR		MLR			
	comp=Z,4µm,20.0s									
PUL	Pulkovo	64.64	332	*e*	P		P	04 50 46.0	+0.4	
FINES	FINESS Array B	64.70	335	*i*	P		P	04 50 45.5	-0.4	
FINES					pmax		pmax			
	comp=Z,115nm,0.4s									
FINES	FINESS Array B	64.70	335		P		P	04 50 45.6	-0.4	
	comp=Z,171nm,0.5s,baz=51,slow=5.5,SNR=517									
FINES					S		S	04 59 20.6	-2.4	
	comp=Z,11nm,1.1s,baz=27,slow=13,SNR=6.7									
FINES					LR		LR	05 21 52.2		
	comp=Z,5µm,19.6s,baz=31,slow=39									
	comp=Z,171nm,0.5s									
LOHW	Long Hollow	64.70	53		IAmb		IAmb	04 50 49.6		
	comp=Z,146nm,1.1s									
SNOW	Snow King Moun	64.71	53		IAmb		IAmb	04 50 49.8		
	comp=Z,282nm,1.4s									
PKM	Mcpherson Peak	64.71	65		P		P	04 50 46.9	+0.1	
	baz=310,SNR=28									
PKM					S		S	04 59 25.7	+1.3	
	baz=310									
KNRA	Kununurra	64.72	205		P		P	04 50 47.4	+0.8	
CWC	Cottonwood Cre	64.82	63		P		P	04 50 47.6	+0.1	
	baz=310									
CWC					S		S	04 59 28.3	+2.7	
	baz=310									
TV1H	Townsville Har	64.88	186		P		P	04 50 48.7	+1.1	
GRAC	Grapevine Rang	64.91	62		IAmb		IAmb	04 50 56.2		
	comp=Z,138nm,1.2s									
GRAC	Grapevine Rang	64.91	62		P		P	04 50 48.4	+0.5	
	baz=310,SNR=55									
GRAC					S		S	04 59 28.9	+2.4	
	baz=310									
BCW	Bitter Crk WRg	64.93	65		IAmb		IAmb	04 50 50.9		
	comp=Z,169nm,1.4s									
MOS	Moscow	64.93	325	*e*	P		P	04 50 44.2	-3.4	
MOS				*e*	*SP		sP	04 51 05.2	+1.8	
MOS				*e*				04 51 16.2		
MOS				*e*				04 53 08.1		
MOS				*e*	PPP		PPP	04 54 42.5		
MOS				*e*	S		S	04 59 24.6	-1.4	
MOS				*e*				05 00 37.2		
MOS					pmax		pmax			
	comp=Z,602nm,1.4s									
MOS					pmax		pmax			
	comp=Z,2µm,2.0s									
MOS					pmax		pmax			
	comp=N,1µm,1.8s									
MOS					pmax		pmax			
	comp=E,600nm,2.0s									
MOS					pmax		pmax			
	comp=N,292nm,1.2s									
MOS					pmax		pmax			
	comp=E,145nm,1.2s									
MOS					MLR		MLR			
	comp=Z,5µm,20.0s									
DGMT	Dagmar	64.94	46		IAMs_20		IAMs_20	05 17 16.4		
	comp=Z,3µm,22.0s									
DGMT	Dagmar	64.94	46		P		P	04 50 47.8	-0.1	
	baz=311,SNR=54									
DGMT					S		S	04 59 29.0	+2.5	
	baz=311									
DGMT	Dagmar	64.94	46		P		P	04 50 47.3	-0.6	
	baz=311,SNR=54									
DGMT					S		S	04 59 27.7	+1.3	
	baz=311									
AHID	Auburn Hatcher	64.96	54		IAmb		IAmb	04 50 49.9		
	comp=Z,142nm,1.4s									
AHID					IAMs_20		IAMs_20	05 14 56.5		
	comp=Z,2µm,22.0s									
BGU	Big Grassy Mou	65.03	56		IAmb		IAmb	04 50 50.4		
	comp=Z,150nm,2.0s									
PDSI	Padang	65.05	240		P		P	04 50 49.2	+0.2	
	comp=Z,45nm,1.1s,comp=Z,12µm									
SNSI	Sinabang, Aceh	65.05	246		P		P	04 50 50.0	+1.1	
	comp=Z,255nm,1.2s									
SBC	Santa Barbara	65.06	66		P		P	04 50 48.6	-0.2	
	baz=310									
SBC					S		S	04 59 32.3	+4.1	
	baz=310									
ISA	Isabella, Lake	65.07	64		P		P	04 50 48.1	-0.8	
	baz=310,SNR=20									
ISA					S		S	04 59 30.0	+1.5	
	baz=310									
LAO	LASA Array	65.07	48		IAMs_20		IAMs_20	05 15 48.1		
	comp=Z,2µm,22.0s									
LAO	LASA Array	65.07	48		P		P	04 50 49.4	+0.6	
	baz=311,SNR=82									
LAO					S		S	04 59 31.5	+3.3	
	baz=311									
LAO	LASA Array	65.07	48		P		P	04 50 49.2	+0.4	
	baz=311,SNR=82									
LAO					S		S	04 59 30.5	+2.3	
	baz=311									
GSI	Gunungsitoli	65.11	244		IAmb		IAmb	04 50 52.5		
	comp=Z,281nm,1.6s									
GSI					IAMs_20		IAMs_20	05 18 25.4		
	comp=Z,3µm,21.0s									
GSI	Gunungsitoli	65.11	244		P		P	04 50 51.4	+2.1	
GSI	Gunungsitoli	65.11	244		P		P	04 50 50.9	+1.6	
	comp=Z,66nm,0.7s,comp=Z,9µm									
SPUT	South Promonto	65.12	56		IAmb		IAmb	04 50 51.1		
	comp=Z,112nm,1.2s									
R11B	Troy Canyon, C	65.15	60		P		P	04 50 49.5	0.0	
	baz=310,SNR=95									
R11B					S		S	04 59 31.5	+1.9	
	baz=310									
ICESG	Greenland Ices	65.15	5	*i*	P		P	04 50 49.6	+0.3	
ICESG					IAmb		IAmb	04 50 54.5		
	comp=Z,259nm,0.7s									
Q12A	Willow Creek R	65.16	59		IAmb		IAmb	04 51 19.5		
	comp=Z,80nm,1.0s									
Q12A					IAMs_20		IAMs_20	05 16 33.2		
	comp=Z,2µm,22.0s									
ARVC	Arvin	65.18	65		P		P	04 50 49.0	-0.6	
	baz=310,SNR=21									
ARVC					S		S	04 59 32.3	+2.5	
	baz=310									
KRJI	Kerinci	65.38	238		P		P	04 50 52.9	+1.7	
	comp=Z,677nm,1.1s									
SCZ2	Santa Cruz Isl	65.39	66		P		P	04 50 50.6	-0.4	
	baz=310									
MPMC	Manual Prospec	65.43	63		P		P	04 50 51.4	-0.1	
	baz=310,SNR=85									
MPMC					S		S	04 59 35.5	+2.2	
	baz=310									
HWUT	Hardware Ranch	65.44	55		IAmb		IAmb	04 50 53.1		
	comp=Z,291nm,1.6s									
KPJI	Karang Pucung	65.49	228		P		P	04 50 52.7	+1.0	
	comp=Z,34nm,1.0s									
S11A	Rachel	65.50	61		IAmb		IAmb	04 51 02.3		
	comp=Z,164nm,1.1s									
FURC	Furnace Creek,	65.56	62		P		P	04 50 52.1	+0.1	
	baz=310,SNR=67									
FURC					S		S	04 59 37.1	+2.8	
	baz=310									
OSI	Osito Audit: C	65.58	65		P		P	04 50 52.3	0.0	
	baz=310									
OSI					S		S	04 59 36.5	+1.7	
	baz=310									
DUG	Dugway, Tooele	65.62	57		P		P	04 50 52.8	+0.3	
DUG	Dugway, Tooele	65.62	57		P		P	04 50 52.9	+0.3	
	baz=310,SNR=123									
DUG					S		S	04 59 39.7	+4.3	
	baz=310									
LRMC	Laurel Mtn Rad	65.68	64		P		P	04 50 52.5	-0.5	
	baz=310,SNR=29									
LRMC					S		S	04 59 37.1	+0.9	
	baz=310									
CTA	Charters Tower	65.74	186		P		P	04 50 53.6	+0.4	
CTA	Charters Tower	65.74	186		LR		LR	05 18 22.2		
	comp=Z,1µm,19.7s,baz=354,slow=35									
CTAO	Charters Tower	65.74	186		P		P	04 50 53.3	+0.1	
CTAO					IAmb		IAmb	04 50 54.8		
	comp=Z,86nm,1.0s									
CTAO	Charters Tower	65.74	186		IAMs_20		IAMs_20	05 18 10.0		
	comp=Z,2µm,20.0s									
CTAO	Charters Tower	65.74	186		P		P	04 50 53.0	-0.2	
CTAO	Charters Tower	65.74	186		P		P	04 50 53.3	+0.1	
CTAO					pmax		pmax			
	comp=Z,86nm,1.0s									
CTAO	Charters Tower	65.74	186		P		P	04 50 52.9	-0.2	
NSS	Namsos	65.75	342	⇑*i*	P		P	04 50 52.5	-0.2	
NSS					*eS		S	04 59 36.3	+0.5	
NSS					IVMs_BB		IVMs_BB	05 18 47.1		
	comp=Z,2µm,26.8s									
LEM	Lembang	65.76	230		LR		LR	05 23 21.7		
	comp=Z,633nm,19.3s,baz=1.0,slow=39									
LEM	Lembang	65.76	230		P		P	04 50 54.1	+0.4	
	comp=Z,37nm,1.2s									
OBN	Obninsk	65.80	325		P		P	04 50 54.6	+1.3	
OBN	Obninsk	65.80	325	*c*	*P		P	04 50 52.7	-0.5	
OBN					*eSP		sP	04 51 12.1	+3.1	
OBN					*e*			04 51 23.9		
OBN					*e*			04 53 19.2		
OBN					*ePPP		PPP	04 54 52.4		
OBN					*i* S		S	04 59 35.9	-0.7	
OBN					*eSS		SS	05 03 50.0	-0.7	
OBN					pmax		pmax			
	comp=Z,1µm,1.7s									
OBN					MLR		MLR			
	comp=Z,6µm,20.0s									
OBN	Obninsk	65.80	325		LR		LR	05 21 31.0		
	comp=Z,6µm,21.4s,baz=41,slow=38									
OBN	Obninsk	65.80	325	*e*	P		P	04 50 52.7	-0.5	
BW06	Boulder Array	65.83	53		P		P	04 50 53.9	-0.1	
	baz=311,SNR=150									
BW06					S		S	04 59 38.9	+1.0	
	baz=311									
PD31	Pinedale Array	65.83	53		IAmb		IAmb	04 50 56.5		
	comp=Z,82nm,0.9s									
PDAR	Pinedale Array	65.83	53		P		P	04 50 53.6	-0.3	
	comp=Z,45nm,0.8s,baz=280,slow=1.9,SNR=246									
PDAR					LR		LR	05 16 24.1		
	comp=Z,738nm,21.9s,baz=336,slow=33									
PDAR					PKPPKP		P'P'df	05 19 22.1	-14	
	comp=Z,0.7nm,0.9s,baz=76,slow=3.8,SNR=3.7									
	comp=Z,45nm,0.8s									
TCUT	Toone Canyon	65.84	55		IAmb		IAmb	04 50 56.5		
	comp=Z,106nm,1.0s									
GWY	Grenwater Val	65.86	62		IAmb		IAmb	04 50 55.3		
	comp=Z,331nm,1.9s									
EDW2	Edwards Air Fo	65.87	64		P		P	04 50 54.0	-0.1	
	baz=310,SNR=49									
EDW2					S		S	04 59 39.1	+0.8	
	baz=310									
QSM	Queen of Sheba	65.88	63		IAmb		IAmb	04 50 55.4		
	comp=Z,288nm,1.9s									
CTU	Camp Tracy	65.92	56		IAmb		IAmb	04 50 55.9		
	comp=Z,200nm,1.7s									
SNCC	San Nicolas Is	65.94	67		P		P	04 50 54.1	-0.4	
	baz=310,SNR=6.2									
SNCC					S		S	04 59 42.4	+3.3	
	baz=310									
DECC	Green Verdugo	66.05	65		P		P	04 50 54.8	-0.5	
	baz=310									
DECC					S		S	04 59 41.5	+1.0	
	baz=310									
PSUT	Pine Spring	66.07	59		IAmb		IAmb	04 50 57.0		
	comp=Z,154nm,1.8s									
PSUT					IAMs_20		IAMs_20	05 16 44.2		
	comp=Z,1µm,21.0s									
MEF	Metsahovi	66.17	334	*e*	P		P	04 50 55.5	0.0	
FRB	Frobisher Bay	66.20	19		LR		LR	05 23 25.0		
	comp=Z,2µm,19.9s,baz=336,slow=39									
PASC	Pasadena Art C	66.20	65		IAmb		IAmb	04 50 58.2		
	comp=Z,218nm,1.9s									
PASC	Pasadena Art C	66.20	65		IAMs_20		IAMs_20	05 14 49.1		
	comp=Z,2µm,21.0s									
NLU	North Lily Min	66.21	57		IAMs_20		IAMs_20	05 18 04.7		
	comp=Z,1µm,20.0s									
SISI	Saibi	66.21	241		P		P	04 50 56.9	+0.5	
	comp=Z,122nm,1.1s,comp=Z,2µm									
SFJD	Kangerlussuaq	66.25	10		P		P	04 50 55.8	-0.1	
SFJD					IAmb		IAmb	04 51 01.0		
	comp=Z,174nm,0.8s									
SFJD	Kangerlussuaq	66.25	10		P		P	04 50 55.8	-0.1	
SFJD					pmax		pmax			
	comp=Z,174nm,0.9s									
SFJD					MLR		MLR			
	comp=Z,4µm,20.0s									
SFJD	Kangerlussuaq	66.25	10	*i*	P		P	04 50 56.1	+0.2	
SFJD					IAmb		IAmb	04 51 01.2		
	comp=Z,96nm,0.8s									
SFJD	Kangerlussuaq	66.25	10		LR		LR	05 20 06.3		
	comp=Z,4µm,22.0s,baz=346,slow=36									
SFJD	Kangerlussuaq	66.25	10		P		P	04 50 55.8	-0.1	
SFJD					sP		swP	04 51 09.9	-1.0	
YSA	Yasawairara	66.25	153		P		P	04 50 57.3	+0.9	
SHOC	Shoshone, Teco	66.29	62		P		P	04 50 56.6	-0.1	
	baz=310,SNR=14									
SHOC					S		S	04 59 45.3	+2.0	
	baz=310									
RAF	Rauma	66.29	336	*e*	P		P	04 50 56.3	0.0	
MNAI	Manna	66.33	236		IAMs_20		IAMs_20	05 24 28.1		
	comp=Z,2µm,21.0s									
GSC	Goldstone, Bar	66.34	63		P		P	04 50 56.8	-0.4	
	baz=310,SNR=33									
GSC					S		S	04 59 46.1	+2.0	
	baz=310									
SOEG	Soedalen	66.35	1	*i*	P		P	04 50 57.1	+0.6	
SOEG					IAmb		IAmb	04 51 02.2		
	comp=Z,65nm,0.6s									
VRH	Novokhopyorsk	66.40	320	*e*	P		P	04 50 55.9	-1.2	
VRH				*e*	S		S	04 59 36.2	-7.9	
VRH					pmax		pmax			
	comp=Z,240nm,0.6s									
VRH					smax		smax			
	comp=N,760nm,16.6s									
VRH					MLR		MLR			
	comp=Z,7µm,21.0s									
HYB	Hyderabad	66.42	271	⇑*e*	P		P	04 50 57.8	0.0	
HYB					IVmB_BB			04 50 59.5		
	comp=Z,2µm,2.4s									
HYB					*esP		sP	04 51 12.4	-0.2	
HYB					*ePP		PP	04 53 25.3	+1.1	
HYB					*eS		S	04 59 48.2	+2.9	
HYB					*e			05 00 48.2		
HYB					*eSS		SS	05 04 06.0	+3.8	
HYB	Hyderabad	66.42	271	*e*	P		P	04 50 56.6	-1.2	
FMP	Fort Macarthur	66.43	65		P		P	04 50 57.2	-0.4	
	baz=310									
FMP					S		S	04 59 46.3	+1.4	
	baz=310									
BFSC	Mount Baldy Ra	66.49	65		P		P	04 50 57.8	-0.4	
	baz=310,SNR=17									
BFSC					S		S	04 59 47.1	+1.1	
	baz=310									
RRX	Edison Barstow	66.50	64		P		P	04 50 57.8	-0.4	
	baz=310									
RRX					S		S	04 59 47.9	+2.0	
	baz=310									
CIS	Catalina Islan	66.55	66		P		P	04 50 58.1	-0.4	
	baz=310,SNR=6.8									
CIS					S		S	04 59 47.1	+0.6	
	baz=310									
DGTI	Dogotuki	66.58	151		P		P	04 50 59.4	+0.8	
GEYT	Alibeck	66.61	301		P		P	04 50 59.9	+1.1	
	comp=Z,257nm,0.8s,baz=45,slow=4.4,SNR=193									
GEYT					LR		LR	05 22 07.9		
	comp=Z,4µm,18.7s,baz=60,slow=38									
	comp=Z,257nm,0.8s									
GYA0	ALIBECK ARRAY	66.61	301		P		P	04 50 59.3	+0.5	
CGJI	Cibinong	66.63	232		P		P	04 50 58.1	-0.9	
	comp=Z,79nm,0.6s,comp=Z,10µmcomp=Z,25µm									
LPSR	Galich'ya Gora	66.64	322	*e*	P		P	04 50 57.6	-1.0	
LPSR				*e*	S		S	04 59 41.9	-5.0	
LPSR					pmax		pmax			
	comp=Z,630nm,1.2s									
LPSR					smax		smax			
	comp=N,720nm,10.9s									
LPSR					MLR		MLR			
	comp=Z,6µm,17.0s									
SCI2	San Clemente I	66.74	66		P		P	04 50 59.1	-0.5	
	baz=311,SNR=5.4									
SCI2					S		S	04 59 50.3	+1.6	
	baz=311									
PPSI	Pulau Pagai	66.79	239		P		P	04 51 01.2	+1.1	
	comp=Z,266nm,1.4s,comp=Z,3µm									
TUQ	Turquoise Moun	66.81	63		P		P	04 51 00.1	-0.1	
	baz=311,SNR=31									
TUQ					S		S	04 59 50.6	+0.8	
	baz=311									
VSU	Vasula	66.83	332	*c*	*P		P	04 50 59.6	-0.2	
VSU					pmax		pmax			
	comp=Z,770nm,1.3s									
VSU					MLR		MLR			
	comp=Z,4µm,20.0s									
KOUNC	Koumac, New Ca	66.88	168		IAmb		IAmb	04 51 03.0		
	comp=Z,186nm,1.3s									
KOUNC	Koumac, New Ca	66.88	168		P		P	04 51 01.8	+1.4	
BBRC	Big Bear Solar	66.94	64		P		P	04 51 00.7	-0.5	
	baz=311,SNR=12									
BBRC					S		S	04 59 50.0	-1.7	
	baz=311									
HEC	Hector,Ludlow	66.94	63		P		P	04 51 00.8	-0.2	
	baz=311,SNR=48									
HEC					S		S	04 59 52.3	+0.9	
	baz=311									
QIS	Mount Isa	66.97	193		P		P	04 51 00.8	-0.3	
CCUT	Cedar City	67.00	59		IAmb		IAmb	04 51 03.2		
	comp=Z,111nm,1.3s									
ELS	Elsinore Mount	67.02	65		IAmb		IAmb	04 51 03.6		
	comp=Z,244nm,1.9s									
TAVE	Taveuni	67.08	151		P		P	04 51 02.6	+0.8	
SZCU	Shurtz Canyon	67.14	59		IAmb		IAmb	04 51 03.8		
	comp=Z,186nm,1.8s									
VORR	Voronezh	67.18	322	*e*	P		P	04 51 02.7	+0.6	
VORR					pmax		pmax			
	comp=Z,720nm,1.4s									
WB0	Warramunga Arr	67.18	198		IAmb		IAmb	04 51 03.8		
	comp=Z,65nm,0.8s									
WB0					IAMs_20		IAMs_20	05 17 11.4		
	comp=Z,2µm,22.0s									
MURC	Murrieta	67.20	65		P		P	04 51 02.3	-0.3	
	baz=311,SNR=22									
MURC					S		S	04 59 55.2	+0.8	
	baz=311									
WB9	Warramunga Arr	67.21	198		IAMs_20		IAMs_20	05 17 13.1		
	comp=Z,2µm,22.0s									
DY2G	Dye2	67.22	8	*i*	P		P	04 51 02.2	-0.2	
DY2G					IAmb		IAmb	04 51 07.9		
	comp=Z,229nm,0.7s									
WB8	Warramunga Arr	67.23	198		IAMs_20		IAMs_20	05 17 12.6		
	comp=Z,2µm,22.0s									
TBLU	Trondheim	67.24	342	⇑*i*	P		P	04 51 01.2	-1.1	
TBLU				*e*	S		S	04 59 53.2	-0.6	
TBLU					IVMs_BB		IVMs_BB	05 17 00.4		
	comp=Z,2µm,38.2s									
RDMU	Red Mountain	67.26	55		IAMs_20		IAMs_20	05 15 57.3		
	comp=Z,2µm,22.0s									
WB7	Warramunga Arr	67.26	198		IAMs_20		IAMs_20	05 17 13.3		
	comp=Z,2µm,21.0s									
WB6	Warramunga Arr	67.28	198		IAMs_20		IAMs_20	05 17 14.8		
	comp=Z,2µm,22.0s									
V12A	Nelson	67.28	62		IAmb		IAmb	04 51 04.8		
	comp=Z,169nm,1.7s									
WB5	Warramunga Arr	67.30	198		IAMs_20		IAMs_20	05 17 14.4		
	comp=Z,2µm,22.0s									
P17A	Butcher Ranch,	67.30	56		IAmb		IAmb	04 51 05.6		
	comp=Z,300nm,1.6s									
WB4	Warramunga Arr	67.32	198		IAMs_20		IAMs_20	05 21 02.1		
	comp=Z,1µm,20.0s									
WR9	Warramunga Arr	67.34	198		IAMs_20		IAMs_20	05 17 28.6		
	comp=Z,1µm,21.0s									
WB3	Warramunga Arr	67.34	198		IAMs_20		IAMs_20	05 17 16.6		
	comp=Z,2µm,22.0s									
WC2	Warramunga Arr	67.34	198		IAMs_20		IAMs_20	05 21 01.6		
	comp=Z,1µm,20.0s									
WC1	Warramunga Arr	67.35	198		IAMs_20		IAMs_20	05 17 16.7		
	comp=Z,2µm,21.0s									
WR7	Warramunga Arr	67.35	198		IAMs_20		IAMs_20	05 17 29.7		
	comp=Z,1µm,22.0s									
WR6	Warramunga Arr	67.35	198		IAMs_20		IAMs_20	05 21 01.8		
	comp=Z,1µm,20.0s									
WRAB	Tennant Creek	67.35	198		P		P	04 51 04.5	+1.0	
WRAB					IAmb		IAmb	04 51 32.7		
	comp=Z,80nm,0.9s									
WRAB	Tennant Creek	67.35	198	*d*	*P		P	04 51 03.7	+0.2	
WRAB					pmax		pmax			
	comp=Z,78nm,1.1s									
WR5	Warramunga Arr	67.36	198		IAMs_20		IAMs_20	05 21 02.9		
	comp=Z,1µm,20.0s									
WR4	Warramunga Arr	67.36	198		IAMs_20		IAMs_20	05 21 03.0		
	comp=Z,1µm,20.0s									
WR3	Warramunga Arr	67.36	198		IAMs_20		IAMs_20	05 17 17.1		
	comp=Z,2µm,22.0s									
WB2	Warramunga Arr	67.36	198		IAmb		IAmb	04 51 05.1		
	comp=Z,68nm,0.8s									
WB2					IAMs_20		IAMs_20	05 22 12.1		
	comp=Z,2µm,21.0s									
WR2	Warramunga Arr	67.36	198		IAMs_20		IAMs_20	05 17 17.2		
	comp=Z,2µm,22.0s									
WR1	Warramunga Arr	67.36	198		IAMs_20		IAMs_20	05 17 07.2		
	comp=Z,2µm,22.0s									
WRA	Warramunga Arr	67.37	198	*i*	P		P	04 51 03.2	-0.4	
WRA					pmax		pmax			
	comp=Z,38nm,0.7s									
WRA	Warramunga Arr	67.37	198		P		P	04 51 03.3	-0.2	
	comp=Z,38nm,0.7s,baz=17,slow=6.7,SNR=126									
WRA					PKP2bc			05 19 27.0		
	comp=Z,10.0nm,1.2s,baz=202,slow=2.9,SNR=10									
WRA					LR		LR	05 21 24.5		
	comp=Z,1µm,19.8s,baz=1.0,slow=37									
	comp=Z,38nm,0.7s									
MSVF	Nonsavu	67.37	153		P		P	04 51 05.0	+1.3	
MSVF					IAmb		IAmb	04 51 06.3		
	comp=Z,105nm,1.1s									
MSVF	Nonsavu	67.37	153		P		P	04 51 04.3	+0.6	
MSVF	Nonsavu	67.37	153		P		P	04 51 05.0	+1.3	
MSVF					pmax		pmax			
	comp=Z,105nm,1.2s									
MSVF	Nonsavu	67.37	153		P		P	04 51 04.3	+0.6	
MSVF					pP		pP	04 51 13.6	+0.1	
WC3	Warramunga Arr	67.37	198		IAMs_20		IAMs_20	05 21 03.4		
	comp=Z,1µm,20.0s									
WB1	Warramunga Ar.	67.38	198		IAMs_20		IAMs_20	05 21 03.6		
	comp=Z,2µm,20.0s									
WC4	Warramunga Arr	67.38	198		IAMs_20		IAMs_20	05 21 04.7		
	comp=Z,2µm,20.0s									
MTPU	Mount Pierson	67.39	58		IAmb		IAmb	04 51 06.1		
	comp=Z,296nm,2.0s									
MTPU					IAMs_20		IAMs_20	05 15 04.1		
	comp=Z,2µm,22.0s									
GMRC	Granite Mounta	67.39	63

baz=311,SNR=19
PFO S **S** **05 00 00.4 +0.4**
baz=311
PFO **Pinyon Flats O** **67.66 64** LR LR 05 15 36.0
comp=Z,908nm,21.5s,baz=300,slow=31
TPFO **Pinon Flats** **67.66 64** P **P** **04 51 04.9 -0.7**
baz=311,SNR=26
TPFO S **S** **05 00 01.3 +1.1**
baz=311
SRU **San Rafael Swe** **67.67 57** IAmb IAmb 04 51 06.9
comp=Z,127nm,1.0s
ULM **Lac du Bonnet** **67.68 40** P **P** **04 51 04.7 -0.6**
comp=Z,57nm,0.8s,baz=312,slow=7.1,SNR=96
ULM LR LR 05 22 51.3
comp=Z,1µm,21.4s,baz=312,slow=38
comp=Z,57nm,0.8s
KNB **Kanab** **67.68 60** IAmb IAmb 04 51 07.7
comp=Z,131nm,1.1s
PMD **Palm Desert** **67.68 64** IAMs_20 IAMs_20 05 12 26.3
comp=Z,2µm,21.0s
BELC **Belle Mtn. Jos** **67.69 64** P **P** **04 51 05.1 -0.8**
baz=311,SNR=28
BELC S **S** **04 59 59.1 -1.5**
baz=311
PKCU **Pink Cliffs** **67.71 59** IAmb IAmb 04 51 18.6
comp=Z,141nm,1.7s
109C **Camp Elliot, M** **67.72 65** IAmb IAmb 04 51 13.4
comp=Z,124nm,1.4s
109C **Camp Elliot, M** **67.72 65** P **P** **04 51 05.4 -0.4**
baz=311,SNR=5.8
109C S **S** **05 00 01.2 +0.7**
baz=311
RWWY **Rawlins** **67.85 53** IAmb IAmb 04 51 13.6
comp=Z,120nm,1.2s
RSSD **Black Hills** **67.93 49** P **P** **04 51 07.4 +0.1**
RSSD IAmb IAmb 04 51 09.5
comp=Z,124nm,0.8s
RSSD **Black Hills** **67.93 49** IAMs_20 IAMs_20 05 19 15.8
comp=Z,2µm,21.0s
RSSD **Black Hills** **67.93 49** P **P** **04 51 07.4 +0.1**
RSSD pmax pmax
comp=Z,124nm,0.9s
RSSD **Black Hills** **67.93 49** P **P** **04 51 06.9 -0.4**
baz=313
RSSD S **S** **05 00 03.3 0.0**
baz=313
RSSD **Black Hills** **67.93 49** P **P** **04 51 06.9 -0.4**
baz=313,SNR=93
RSSD S **S** **05 00 02.8 -0.5**
baz=313
RSSD **Black Hills** **67.93 49** P **P** **04 51 06.8 -0.4**
E28A **Huff** **67.97 45** IAmb IAmb 04 51 09.1
comp=Z,187nm,1.1s
E28A IAMs_20 IAMs_20 05 19 34.5
comp=Z,3µm,20.0s
E28A **Huff** **67.97 45** P **P** **04 51 07.2 -0.1**
baz=314,SNR=17
FITZ **Fitzroy Crossi** **67.97 207** P **P** **04 51 07.7 +0.3**
NEE2 **Needles Airpor** **68.05 62** P **P** **04 51 07.5 -0.5**
baz=311
NEE2 S **S** **05 00 05.2 +0.7**
baz=311
IRM **Iron Mountain** **68.12 63** P **P** **04 51 08.2 -0.3**
baz=311,SNR=62
IRM S **S** **05 00 06.5 +1.0**
baz=311
BAR **Barrett** **68.13 65** IAmb IAmb 04 51 10.4
comp=Z,190nm,1.9s
BAR IAMs_20 IAMs_20 05 12 23.2
comp=Z,2µm,21.0s
MONP2 **Monument Peak** **68.15 65** P **P** **04 51 08.3 -0.5**
baz=311,SNR=18
MONP2 S **S** **05 00 06.3 +0.2**
baz=311
MDRS **Chennai** **68.21 266** *e*P **P** **04 51 08.3 -0.8**
MDRS *i* x x 04 53 34.2
TKX **Tecate** **68.24 65** IAmb IAmb 04 51 11.2
comp=Z,168nm,2.0s
BC3 **Big Chuckawall** **68.26 64** P **P** **04 51 08.9 -0.5**
baz=311,SNR=28
BC3 S **S** **05 00 07.8 +0.5**
baz=311
O20A **White River Ci** **68.31 54** IAmb IAmb 04 51 10.7
comp=Z,130nm,1.4s
O20A **White River Ci** **68.31 54** P **P** **04 51 09.4 -0.3**
baz=312,SNR=40
O20A S **S** **05 00 08.9 +1.1**
baz=312
CBX **Cerro Bola** **68.38 66** IAmb IAmb 04 51 13.2
comp=Z,216nm,1.8s
U15A **North Rim** **68.39 60** IAmb IAmb 04 51 12.2
comp=Z,118nm,1.2s
U15A IAMs_20 IAMs_20 05 18 58.6
comp=Z,2µm,19.0s
MOL **Molde** **68.41 343**⇑ *i*P **P** **04 51 09.6 -0.1**
MOL *e*S **S** **05 00 07.9 +0.1**
MOL IVMs_BB IVMs_BB 05 16 19.6
comp=Z,2µm,32.5s
UPP **Uppsala** **68.41 337** *e*P **P** **04 51 10.2 +0.5**
IKP **In-Ko-Pah, Jac** **68.51 65** P **P** **04 51 10.6 -0.3**
baz=311,SNR=35
IKP S **S** **05 00 10.5 +0.4**
baz=311
SWSC **Sam W. Stewart** **68.51 65** P **P** **04 51 10.1 -0.6**
baz=311,SNR=12
SWSC S **S** **05 00 12.1 +2.2**
baz=311
DOMB **Dombas** **68.57 342**⇑ *i*P **P** **04 51 10.8 +0.1**
DOMB *e*S **S** **05 00 11.6 +1.7**
DOMB IVMs_BB IVMs_BB 05 23 19.4
comp=Z,3µm,23.6s
PDMCI **Parker Dam,Lak** **68.66 63** P **P** **04 51 11.4 -0.3**
baz=312,SNR=43
PDMCI S **S** **05 00 13.0 +1.3**
baz=312
BHUJ **Bhuj** **68.70 282** *e*P **P** **04 51 13.8 +1.6**
ISOG **Isortoq, Green** **68.71 5** *i* P **P** **04 51 11.5 0.0**
ISOG IAmb IAmb 04 51 16.8
comp=Z,169nm,0.6s
DZM **Mont Dzumac** **68.71 166** IAmb IAmb 04 51 14.9
comp=Z,103nm,1.1s
DZM **Mont Dzumac** **68.71 166** P **P** **04 51 13.2 +1.1**
DZM **Mont Dzumac** **68.71 166** LR LR 05 19 47.9
comp=Z,5µm,18.4s,baz=6.5,slow=34
ANGG **Ammassalik, Gr** **68.72 4** IAmb IAmb 04 51 16.0
comp=Z,171nm,0.9s
ANGG **Ammassalik, Gr** **68.72 4** *i* P **P** **04 51 11.5 0.0**
ANGG IAmb IAmb 04 51 16.3
comp=Z,76nm,0.7s
NOUC **Port Laguerre** **68.72 166** P **P** **04 51 13.2 +1.3**
NOUC **Port Laguerre** **68.72 166** P **P** **04 51 13.3 +1.3**
BLYC **Blythe** **68.78 63** IAMs_20 IAMs_20 05 27 10.2
comp=Z,2µm,22.0s
NUUK **Nuuk** **68.80 11** *i* P **P** **04 51 11.7 -0.4**
NUUK IAmb IAmb 04 51 18.8
comp=Z,100nm,0.7s
RK1H **Rockhampton Ha** **68.81 182** P **P** **04 51 14.2 +1.7**
LKBA **Tubou, Lakemba** **68.87 150** P **P** **04 51 13.7 +0.7**
AKN **Aaknes** **68.87 343**⇑ *i*P **P** **04 51 13.0 +0.4**
AKN *e*S **S** **05 00 15.3 +1.8**
AKN IVMs_BB IVMs_BB 05 19 06.1
comp=Z,1µm,13.1s
SLIT **Slitere, Latvi** **68.91 334** *e*P **P** **04 51 12.9 0.0**
POO **Poona** **68.96 275** *e*P **P** **04 51 14.4 +0.6**
NB2 **NORSAR Subarra** **68.99 341** P **P** **04 51 14.6 +1.2**
NB2 pmax pmax
comp=Z,1µm,1.8s
NB2 **NORSAR Subarra** **68.99 341** P **P** **04 51 13.3 -0.1**
comp=Z,1µm,1.4s,baz=29,slow=6.5
NB2 **NORSAR Subarra** **68.99 341** P **P** **04 51 13.3 -0.1**
baz=29,slow=6.5
NOA **NORSAR Array B** **68.99 341** P **P** **04 51 13.0 -0.4**
comp=Z,67nm,0.5s,baz=297,slow=19,SNR=371
NOA LR LR 05 24 58.8
comp=Z,5µm,20.8s,baz=15,slow=39
comp=Z,67nm,0.5s
AGMN **Agassiz Nation** **69.08 42** IAMs_20 IAMs_20 05 26 12.7
comp=Z,2µm,20.0s
AGMN **Agassiz Nation** **69.08 42** P **P** **04 51 13.5 -0.6**
baz=316,SNR=130
AGMN S **S** **05 00 16.2 -0.1**
baz=316
AGMN **Agassiz Nation** **69.08 42** P **P** **04 51 13.2 -0.9**
baz=316,SNR=130
AGMN S **S** **05 00 15.0 -1.3**
baz=316
N23A **Red Feather La** **69.09 53** IAmb IAmb 04 51 16.9
comp=Z,185nm,1.3s
N23A IAMs_20 IAMs_20 05 26 26.6
comp=Z,1µm,19.0s
N23A **Red Feather La** **69.09 53** P **P** **04 51 14.9 +0.3**
baz=313,SNR=68
N23A S **S** **05 00 17.7 +0.5**
baz=313
NC602 **NORSAR Array S** **69.18 341**⇑ *i*P **P** **04 51 14.0 -0.5**
NC602 *e*S **S** **05 00 19.0 +1.9**
NC602 IVMs_BB IVMs_BB 05 19 21.9
comp=Z,3µm,27.1s
NORES **NORESS Array B** **69.18 341** P **P** **04 51 15.1 +0.6**
HFS **Hagfors** **69.19 339** P **P** **04 51 14.2 -0.3**
comp=Z,183nm,0.5s,baz=47,slow=5.1,SNR=320
HFS S **S** **05 00 16.1 -1.1**
comp=Z,14nm,1.1s,baz=55,slow=16,SNR=6.2
HFS LR LR 05 26 10.2
comp=Z,5µm,20.5s,baz=29,slow=40
comp=Z,183nm,0.5s
GD1S **Gladstone Soft** **69.26 181** P **P** **04 51 16.8 +1.5**
MAK **Makhachkala** **69.28 311***c* *i*P **P** **04 51 16.5 +1.1**
MAK *e* 04 53 46.2
MAK *e*PPP PPP 04 55 28.0
MAK *e*S **S** **05 00 23.1 +4.4**
MAK *e*SS **SS** **05 04 49.5 +4.5**
MAK pmax pmax
comp=Z,588nm,1.0s
MAK MLR MLR
comp=Z,5µm,19.0s
ISAL **Salakas** **69.33 331** *e*P **P** **04 51 16.0 +0.5**
D32A **Dogwood Acres,** **69.37 43** IAMs_20 IAMs_20 05 25 04.4
comp=Z,3µm,20.0s
D32B **Dogwood Acres,** **69.37 43** P **P** **04 51 15.2 -0.7**
baz=316,SNR=14
D32B S **S** **05 00 18.2 -1.6**
baz=316
WUAZ **Wupatki** **69.55 60** P **P** **04 51 17.8 +0.3**
baz=312,SNR=41
WUAZ S **S** **05 00 25.5 +3.0**
baz=312
MNK **Minsk** **69.56 329** *i* P **P** **04 51 17.3 +0.4**
comp=E,172nm,1.1s
MNK *i* P **P** **04 51 17.3 +0.4**
comp=N,619nm,1.1s
MNK *i* P **P** **04 51 17.3 +0.4**
comp=Z,914nm,1.0s,baz=38
MNK *i* PP **PP** **04 53 50.8 +0.4**
MNK *i* PPP PPP 04 55 31.6
MNK *i* S **S** **05 00 25.1 +3.4**
MNK *i* SS SS 05 03 44.2 -64
MNK *i* SSS SSS 05 06 25.6
MNK *i* LQ LQ 05 16 57.0
MNK *i* LR LR 05 22 14.6
MNK *i* LRM MLR 05 23 51.6
comp=E,1µm,18.2s
MNK *i* LRM MLR 05 24 38.9
comp=N,3µm,18.9s
MNK *i* LRM MLR 05 25 49.7
comp=Z,4µm,18.7s
MNK **Minsk** **69.56 329***d* *i*P **P** **04 51 17.3 +0.4**
Y14A **Wickenburg** **69.60 62** IAmb IAmb 04 51 19.0
comp=Z,157nm,1.7s
SMCO **Snowmass** **69.67 55** IAMs_20 IAMs_20 05 18 05.2
comp=Z,2µm,21.0s
VSVD **Vaisvydziai** **69.73 332** *e*P **P** **04 51 18.5 +0.5**
BORG **Borgarnes** **69.74 357** P **P** **04 51 19.7 +1.9**
BORG **Borgarnes** **69.74 357** P **P** **04 51 19.7 +1.9**
BORG pmax pmax
comp=Z,980nm,1.7s
BORG **Borgarnes** **69.74 357** LR LR 05 21 13.0
comp=Z,2µm,20.6s,baz=4.1,slow=35
BORG **Borgarnes** **69.74 357** P **P** **04 51 19.8 +1.9**
FOO **Floro** **69.79 344** *e*P **P** **04 51 18.2 0.0**
FOO *e*S **S** **05 00 24.5 +0.4**
FOO IVMs_BB IVMs_BB 05 20 43.1
comp=Z,1µm,4.5s
VIKU **Vikbolandet** **69.81 337** *e*P **P** **04 51 18.9 +0.5**
XMI **Christmas Isla** **69.82 230** P **P** **04 51 19.5 +0.5**
XMIS **Christmas Isla** **69.86 230** IAmb IAmb 04 51 21.0
comp=Z,146nm,1.4s
XMIS **Christmas Isla** **69.86 230** P **P** **04 51 19.5 +0.2**
SKAR **Skarslia** **69.96 342** *e*P **P** **04 51 20.0 +0.6**
SKAR *e*S **S** **05 00 27.6 +1.3**
SKAR IVMs_BB IVMs_BB 05 24 60.0
comp=Z,3µm,15.6s
HYA **Hoyanger** **69.96 343** *e*P **P** **04 51 19.5 +0.3**
HYA *e*S **S** **05 00 24.2 -1.9**
HYA IVMs_BB IVMs_BB 05 17 14.4
comp=Z,1µm,4.6s
GROC **Groznyy** **70.01 312** *e*P **P** **04 51 19.2 -0.7**
GROC *e* 04 51 41.5
GROC *e*S **S** **05 00 26.6 -0.7**
GROC pmax pmax
comp=Z,541nm,1.6s
B35A **Bob, Littlefor** **70.02 40** IAmb IAmb 04 51 21.2
comp=Z,184nm,1.1s
B35A IAMs_20 IAMs_20 05 23 27.4
comp=Z,2µm,22.0s
B35A **Bob, Littlefor** **70.02 40** P **P** **04 51 19.2 -0.7**
baz=317,SNR=94
B35A S **S** **05 00 26.3 -1.0**
baz=317
ISCO **Idaho Springs** **70.02 53** IAMs_20 IAMs_20 05 18 13.3
comp=Z,2µm,21.0s
ISCO **Idaho Springs** **70.02 53** P **P** **04 51 20.7 +0.2**
baz=313,SNR=112
ISCO S **S** **05 00 28.3 0.0**
baz=313
ISCO **Idaho Springs** **70.02 53** P **P** **04 51 20.6 +0.2**
baz=313,SNR=112
ISCO S **S** **05 00 26.6 -1.6**
baz=313
OSL **Oslo** **70.08 341**⇑ *i*P **P** **04 51 20.4 +0.4**
OSL *e*S **S** **05 00 27.6 0.0**
GOF **Gofitskoye** **70.11 315***c* *i*P **P** **04 51 21.5 +1.0**
PABE **Paberze** **70.11 332** *e*P **P** **04 51 20.4 +0.2**
MVCO **Mesa Verde** **70.12 57** IAmb IAmb 04 51 23.6
comp=Z,77nm,0.8s
MVCO IAMs_20 IAMs_20 05 16 34.6
comp=Z,1µm,20.0s
MVCO **Mesa Verde** **70.12 57** P **P** **04 51 20.9 -0.2**
baz=313,SNR=86
MVCO S **S** **05 00 29.9 +0.4**
baz=313
BRIGG **Briggsdale** **70.20 52** IAmb IAmb 04 51 24.2
comp=Z,121nm,0.9s
SUSD **Miller** **70.33 46** IAMs_20 IAMs_20 05 19 12.2
comp=Z,3µm,22.0s
SUSD **Miller** **70.33 46** P **P** **04 51 21.0 -0.9**
baz=315,SNR=12
SUSD S **S** **05 00 30.4 -0.8**
baz=315
SUSD **Miller** **70.33 46** P **P** **04 51 21.1 -0.9**
baz=315,SNR=12
SUSD S **S** **05 00 30.2 -1.0**
baz=315
SUE **Sulen** **70.34 344** *e*P **P** **04 51 21.2 -0.4**
SUE *e*S **S** **05 00 34.1 +3.5**
PBUR **Paburge** **70.35 333** *e*P **P** **04 51 21.7 -0.1**
KONO **Kongsberg** **70.60 341** P **P** **04 51 23.9 +0.7**
KONO **Kongsberg** **70.60 341***ce*P **P** **04 51 23.3 +0.1**
KONO pmax pmax
comp=Z,593nm,1.7s
KONO MLR MLR
comp=Z,5µm,23.0s
KONO **Kongsberg** **70.60 341**⇑ *i*P **P** **04 51 23.2 +0.1**
KONO *e*S **S** **05 00 34.9 +1.2**
KONO IVMs_BB IVMs_BB 05 22 56.8
comp=Z,2µm,22.5s
KONO **Kongsberg** **70.60 341** P **P** **04 51 23.6 +0.4**
F33A **5 Mile Ranch,** **70.65 44** IAMs_20 IAMs_20 05 20 15.3
comp=Z,3µm,20.0s
F33A **5 Mile Ranch,** **70.65 44** P **P** **04 51 23.2 -0.6**
baz=316,SNR=81
F33A S **S** **05 00 32.9 -1.8**
baz=316
SEKA **Sheki** **70.65 309** P **P** **04 51 22.4 -1.6**
ZKTA **Zakatala** **70.67 310** P **P** **04 51 22.8 -1.2**
STRU **Stroemstad** **70.77 340** *e*P **P** **04 51 25.4 +1.1**
EIDS **Eidsvold** **70.78 181** IAMs_20 IAMs_20 05 16 24.4
comp=Z,2µm,21.0s
EIDS **Eidsvold** **70.78 181** P **P** **04 51 25.5 +0.9**
ASK **Askoy** **70.78 343** *e*P **P** **04 51 27.6 +3.3**
W18A **Petrified Fore** **70.81 59** IAMs_20 IAMs_20 05 20 05.5
comp=Z,1µm,20.0s
W18A **Petrified Fore** **70.81 59** P **P** **04 51 25.3 +0.1**
baz=313,SNR=8.9
W18A S **S** **05 00 40.4 +3.0**
baz=313
BER **Bergen** **70.85 343**⇑ *i*P **P** **04 51 25.3 +0.6**
BER *e*S **S** **05 00 38.6 +2.1**
BER IVMs_BB IVMs_BB 05 23 16.3
comp=Z,2µm,4.2s
Q24A **Divide** **70.85 54** IAMs_20 IAMs_20 05 18 20.4
comp=Z,1µm,22.0s
Q24A **Divide** **70.85 54** P **P** **04 51 25.3 -0.2**
baz=314,SNR=21
Q24A S **S** **05 00 40.1 +2.0**
baz=314
ERBR **Yeremizino-Bor** **70.89 316***c* *i*P **P** **04 51 26.4 +1.1**
ERBR *e*S **S** **05 00 39.4 +1.8**
ERBR pmax pmax
comp=Z,2µm,1.4s
ERBR MLR MLR
comp=Z,5µm,18.0s
PIX **Pinacate** **70.91 64** IAmb IAmb 04 51 26.6
comp=Z,171nm,2.0s
ODD1 **Odda** **71.01 342** *e*P **P** **04 51 26.5 +0.7**
ODD1 *e*S **S** **05 00 33.8 -4.8**
MNGR **Mingechevir, A** **71.02 309** P **P** **04 51 25.0 -1.1**
GOA **Goa** **71.04 273** *e*P **P** **04 51 27.1 +0.6**
214A **Organ Pipe Nat** **71.05 64** IAmb IAmb 04 51 28.9
comp=Z,161nm,1.8s
214A **Organ Pipe Nat** **71.05 64** P **P** **04 51 26.2 -0.3**
baz=313,SNR=12
214A S **S** **05 00 43.6 +3.7**
baz=313
AS01 **Alice Springs** **71.05 198** P **P** **04 51 27.4 +1.0**
ASAR **Alice Springs** **71.06 198** P **P** **04 51 27.1 +0.7**
comp=Z,60nm,0.9s,baz=13,slow=5.6,SNR=195
ASAR PKPPKP **P'P'df** **05 19 16.6 +0.2**
comp=Z,2.2nm,1.0s,baz=176,slow=2.2,SNR=8.5
ASAR LR LR 05 23 38.4
comp=Z,1µm,19.6s,baz=22,slow=37
comp=Z,60nm,0.9s
KVAR **Kislovodsk Arr** **71.07 314** LR LR 05 26 10.4
comp=Z,7µm,21.4s,baz=283,slow=39
KIV **Kislovodsk** **71.07 314**⇑ P **P** **04 51 27.7 +1.2**
KIV **Kislovodsk** **71.07 314** P **P** **04 51 28.4 +1.9**
KIV **Kislovodsk** **71.07 314** *e*P **P** **04 51 27.7 +1.2**
KIV *e* 04 54 03.9
KIV *e*PPP PPP 04 55 48.1
KIV *e*S **S** **05 00 40.7 +0.8**
KIV *e*SS **SS** **05 05 15.7 +2.9**
KIV pmax pmax
comp=Z,775nm,4.0s
KIV pmax pmax
comp=Z,1µm,1.1s
KIV MLR MLR
comp=Z,4µm,18.0s
KIV **Kislovodsk** **71.07 314** *i* P **P** **04 51 27.5 +1.0**
SNR=190
KIV **Kislovodsk** **71.07 314** P **P** **04 51 29.2 +2.7**
KIV **Kislovodsk** **71.07 314** *e*P **P** **04 51 27.7 +1.2**
KIV **Kislovodsk** **71.07 314** P **P** **04 51 27.9 +1.4**
X18A **Snowflake** **71.08 60** IAmb IAmb 04 51 28.4
comp=Z,201nm,1.7s
KBZ **Khabaz** **71.13 314***c* *i*P **P** **04 51 27.9 +1.2**
KBZ pmax pmax
comp=Z,1µm,1.3s
KBZ MLR MLR
comp=Z,10µm,19.0s
KBZ **Khabaz** **71.13 314** P **P** **04 51 28.0 +1.3**
comp=Z,664nm,1.0s,baz=50,slow=3.9,SNR=278
KBZ LR LR 05 26 54.3
comp=Z,11µm,20.0s,baz=42,slow=39
KBZ **Khabaz** **71.13 314** *e*P **P** **04 51 27.9 +1.2**
OGNE **Ogallala** **71.20 50** IAMs_20 IAMs_20 05 24 55.3
comp=Z,1µm,21.0s
OGNE **Ogallala** **71.20 50** P **P** **04 51 27.2 -0.2**
baz=315,SNR=74
OGNE S **S** **05 00 41.5 0.0**
baz=315
OGNE **Ogallala** **71.20 50** P **P** **04 51 27.1 -0.2**
baz=315,SNR=74
OGNE S **S** **05 00 39.6 -1.9**
baz=315
GUDG **Gudauri** **71.22 312** P **P** **04 51 28.7 +1.1**
K30B **Basset** **71.25 48** IAMs_20 IAMs_20 05 26 53.6
comp=Z,2µm,20.0s
K30B **Basset** **71.25 48** P **P** **04 51 27.2 -0.4**
baz=316,SNR=57
MALK **Mahakanadarawa** **71.28 263** P **P** **04 51 25.9 -2.1**
MALK S **S** **05 00 41.8 -1.0**
EYMN **Ely** **71.33 40** P **P** **04 51 27.3 -0.6**
baz=319,SNR=76
EYMN S **S** **05 00 41.0 -1.6**
baz=319
EYMN **Ely** **71.33 40** P **P** **04 51 27.3 -0.6**
baz=319,SNR=76
EYMN S **S** **05 00 39.7 -2.9**
baz=319
BLS5 **Blasjo** **71.49 342** *e*P **P** **04 51 30.2 +1.5**
SDCO **Great Sand Dun** **71.50 55** IAMs_20 IAMs_20 05 18 05.5
comp=Z,2µm,22.0s
SDCO **Great Sand Dun** **71.50 55** P **P** **04 51 29.3 -0.1**
baz=314,SNR=45
SDCO S **S** **05 00 47.3 +1.9**
baz=314
SDCO **Great Sand Dun** **71.50 55** P **P** **04 51 29.4 0.0**
baz=314,SNR=45
SDCO S **S** **05 00 45.3 -0.2**
baz=314
GANJ **Ganja** **71.52 310** P **P** **04 51 28.0 -1.2**
LKRN **Lenkeran, Azer** **71.52 307** P **P** **04 51 28.1 -1.1**
SUW **Suwalki** **71.59 331** *e*P **P** **04 51 28.8 -0.5**
SUW *e*S **S** **05 00 45.3 -0.1**
SUW *e*L L 05 20 01.3
comp=Z,5µm,31.0s
SUW **Suwalki** **71.59 331** *e*P **P** **04 51 29.9 +0.6**
ONI **Oni** **71.66 313** P **P** **04 51 31.8 +1.8**
KMY **Karmoy** **71.94 343** *e*P **P** **04 51 32.3 +1.0**
KMY *e*S **S** **05 00 50.0 +0.9**
F36A **Milaca** **71.95 42** IAmb IAmb 04 51 32.0
comp=Z,169nm,1.6s
F36A IAMs_20 IAMs_20 05 27 52.7
comp=Z,2µm,21.0s
F36A **Milaca** **71.95 42** P **P** **04 51 30.7 -1.0**
baz=318,SNR=39
F36A S **S** **05 00 47.8 -2.0**
baz=318
PALK **Pallekele** **71.96 262** P **P** **04 51 33.0 +0.8**
PALK IAmb IAmb 04 51 34.9
comp=Z,158nm,1.2s
PALK **Pallekele** **71.96 262***c* *i*P **P** **04 51 32.2 0.0**
PALK pmax pmax
comp=Z,133nm,1.2s
PALK MLR MLR
comp=Z,2µm,23.0s
PALK **Pallekele** **71.96 262** LR LR 05 26 24.9
comp=Z,763nm,19.6s,baz=140,slow=38
PALK **Pallekele** **71.96 262** P **P** **04 51 33.2 +1.0**
ECSD **EROS Data Cent** **72.02 45** IAmb IAmb 04 51 33.4
comp=Z,277nm,1.2s
ECSD IAMs_20 IAMs_20 05 21 03.7
comp=Z,3µm,22.0s
AKASG **Malin Array Be** **72.05 326** P **P** **04 51 31.9 -0.3**
comp=Z,134nm,0.5s,baz=35,slow=6.2,SNR=502
AKASG S **S** **05 00 43.2 -7.6**
comp=Z,0.1nm,0.2s,baz=34,slow=12,SNR=1.7
AKASG LR LR 05 25 16.5
comp=Z,9µm,21.6s,baz=34,slow=38
comp=Z,134nm,0.5s
AKBB **Malin Array Si** **72.05 326***c* *i*P **P** **04 51 31.8 -0.3**
KIEV **Kiev** **72.06 326** ⇓P **P** **04 51 31.9 -0.3**
KIEV **Kiev** **72.06 326** P **P** **04 51 32.8 +0.6**
KIEV **Kiev** **72.06 326** P **P** **04 51 32.8 +0.6**
KIEV pmax pmax
comp=Z,2µm,1.4s
KIEV MLR MLR
comp=Z,10µm,22.0s
KIEV **Kiev** **72.06 326** *i* P **P** **04 51 32.1 -0.1**
SNR=15
KIEV **Kiev** **72.06 326** P **P** **04 51 32.2 -0.1**
TUC **Tucson** **72.07 62** P **P** **04 51 32.7 0.0**
TUC **Tucson** **72.07 62** P **P** **04 51 32.7 0.0**
TUC pmax pmax
comp=Z,127nm,1.8s
TUC **Tucson** **72.07 62** P **P** **04 51 32.8 0.0**
baz=313
TUC S **S** **05 00 53.7 +1.9**
baz=313

TUC	**Tucson**	**72.07**	**62**		P		**P**	04 51 32.8	**0.0**	
KLNR	**Kaliningrad**	**72.08**	**333**	*c*	*i* P		**P**	**04 51 31.5**	**-0.7**	
KLNR	comp=Z,1μm,1.2s				pmax		pmax			
KLNR	comp=Z,8μm,21.0s				MLR		MLR			
HOMB	**Homborsund**	**72.09**	**341**	⇑	*i* P		**P**	**04 51 33.6**	**+1.4**	
HOMB					*e*S		**S**	**05 00 50.5**	**-0.4**	
HOMB	comp=Z,3μm,32.8s				IVMs_BB		IVMs_BB	05 21 40.1		
IVI	**Ivigtut**	**72.13**	**10**		*i* P		**P**	**04 51 33.6**	**+1.2**	
IVI	comp=Z,159nm,0.6s				IAmb		IAmb	04 51 39.2		
IVI	**Ivigtut**	**72.13**	**10**		P		**P**	**04 51 33.0**	**+0.6**	
KSCO	**Kaye Shedlock'**	**72.23**	**52**		IAmb		IAmb	04 51 35.2		
KSCO	comp=Z,127nm,1.0s				IAMs_20		IAMs_20	05 21 16.7		
KSCO	**Kaye Shedlock'**	**72.23**	**52**		P		**P**	**04 51 33.2**	**-0.5**	
KSCO	baz=315,SNR=30				S		**S**	**05 00 53.9**	**+0.4**	
KSCO	**Kaye Shedlock'**	**72.23**	**52**		P		**P**	**04 51 33.2**	**-0.5**	
KSCO	baz=315,SNR=30				S		**S**	**05 00 52.0**	**-1.6**	
E38A	**The Farm, Brul**	**72.31**	**40**		IAMs_20		IAMs_20	05 24 56.0		
E38A	comp=Z,2μm,22.0s **The Farm, Brul**	**72.31**	**40**		P		**P**	**04 51 32.9**	**-0.9**	
E38A	baz=319,SNR=63				S		**S**	**05 00 52.6**	**-1.2**	
SNART	**Snartemo**	**72.32**	**342**		*e*P		**P**	**04 51 34.0**	**+0.4**	
SNART	baz=319				*e*S		**S**	**05 00 51.0**	**-2.6**	
DEL	**Delary**	**72.34**	**337**		*e*P		**P**	**04 51 34.2**	**+0.4**	
QLP	**Quilpie**	**72.35**	**188**		P		**P**	**04 51 34.8**	**+0.8**	
NRS	**Narsarsuaq**	**72.50**	**9**		IAmb		IAmb	04 51 36.4		
T25A	comp=Z,281nm,1.3s **Trinidad**	**72.54**	**55**		IAMs_20		IAMs_20	05 19 25.1		
T25A	comp=Z,1μm,22.0s **Trinidad**	**72.54**	**55**		P		**P**	**04 51 35.4**	**-0.2**	
T25A	baz=315,SNR=69				S		**S**	**05 00 59.0**	**+1.7**	
GNI	baz=315 **Garni**	**72.72**	**310**		P		**P**	**04 51 38.2**	**+1.6**	
GNI	**Garni**	**72.72**	**310**	*c*	*i* P		**P**	**04 51 38.7**	**+2.1**	
GNI	comp=Z,1μm,1.3s				pmax		pmax			
GNI	comp=Z,10μm,20.0s				MLR		MLR			
GNI	**Garni**	**72.72**	**310**		P		**P**	**04 51 38.7**	**+2.1**	
GNI	**Garni**	**72.72**	**310**		LR		LR	05 27 11.8		
GNI	comp=Z,10μm,20.3s,baz=32,slow=39 **Garni**	**72.72**	**310**		P		**P**	**04 51 39.3**	**+2.7**	
VSLR	**Vesyoloye**	**72.75**	**315**	*c*	*i* P		**P**	**04 51 37.3**	**+0.8**	
VSLR	comp=Z,2μm,1.2s				pmax		pmax			
SPMN	**Marine on St.**	**72.76**	**42**		IAmb		IAmb	04 51 37.8		
SPMN	comp=Z,348nm,1.4s				IAMs_20		IAMs_20	05 21 26.2		
SPMN	comp=Z,2μm,21.0s **Marine on St.**	**72.76**	**42**		P		**P**	**04 51 35.9**	**-0.7**	
SPMN	baz=318,SNR=45				S		**S**	**05 00 58.4**	**-0.7**	
SOC	baz=318 **Sochi**	**72.82**	**315**	*i*	P		**P**	**04 51 36.4**	**-0.5**	
SOC				*e*				04 54 15.6		
SOC				*e*	PPP		PPP	04 55 59.0		
SOC				*e*	S		**S**	**05 01 00.8**	**+1.0**	
SOC				*e*	SS		**SS**	**05 05 36.3**	**-3.0**	
SOC	comp=Z,454nm,1.0s				pmax		pmax			
SOC	comp=Z,7μm,18.0s				MLR		MLR			
MBWA	**Marble Bar**	**72.84**	**212**		P		**P**	**04 51 37.3**	**+0.2**	
MBWA	**Marble Bar**	**72.84**	**212**		P		**P**	**04 51 37.4**	**+0.3**	
MBWA	**Marble Bar**	**72.84**	**212**		P		**P**	**04 51 37.3**	**+0.2**	
ANMO	**Albuquerque**	**72.88**	**57**		P		**P**	**04 51 38.0**	**+0.4**	
ANMO	**Albuquerque**	**72.88**	**57**		IAmb		IAmb	04 51 39.0		
ANMO	comp=Z,36nm,0.9s				IAMs_20		IAMs_20	05 19 53.3		
ANMO	comp=Z,1μm,19.0s **Albuquerque**	**72.88**	**57**		IAMs_20		IAMs_20	05 19 52.3		
ANMO	comp=Z,1μm,20.0s **Albuquerque**	**72.88**	**57**		P		**P**	**04 51 38.0**	**+0.4**	
ANMO	comp=Z,36nm,1.0s				pmax		pmax			
ANMO	**Albuquerque**	**72.88**	**57**		P		**P**	**04 51 37.7**	**+0.1**	
ANMO	baz=314				S		**S**	**05 01 03.9**	**+2.7**	
ANMO	baz=314 **Albuquerque**	**72.88**	**57**		P		**P**	**04 51 37.8**	**+0.1**	
ANMO	baz=314,SNR=61				S		**S**	**05 01 03.0**	**+1.9**	
ANMO	baz=314 **Albuquerque**	**72.88**	**57**		LR		LR	05 20 56.9		
BGNE	comp=Z,916nm,21.0s,baz=62,slow=34 **Belgrade**	**72.92**	**48**		IAMs_20		IAMs_20	05 28 54.8		
BGNE	comp=Z,2μm,20.0s **Belgrade**	**72.92**	**48**		P		**P**	**04 51 36.4**	**-1.2**	
BGNE	baz=316,SNR=7.6 **Belgrade**	**72.92**	**48**		P		**P**	**04 51 36.4**	**-1.2**	
NAX	baz=316,SNR=7.6 **Nakhchivan**	**73.01**	**309**		P		**P**	**04 51 37.0**	**-1.2**	
ANN	**Anapa**	**73.02**	**317**	*c*	*i* P		**P**	**04 51 38.2**	**+0.2**	
ANN				*e*	*PP		**pP**	**04 51 49.8**	**+0.3**	
ANN				*e*	S		**S**	**05 00 59.7**	**-2.3**	
ANN	comp=Z,2μm,1.4s				pmax		pmax			
ANN	**Anapa**	**73.02**	**317**		*e*P		**P**	**04 51 38.4**	**+0.4**	
NGCH	**Negor - Chabah**	**73.04**	**289**		P		**P**	**04 51 41.2**	**+2.8**	
PSA00	SNR=45 **Pilbara Seismi**	**73.18**	**211**		IAmb		IAmb	04 52 08.0		
PSA00	comp=Z,9.2nm,0.9s				IAMs_20		IAMs_20	05 16 04.2		
PSAB1	comp=Z,333nm,21.0s **Pilbara Seismi**	**73.18**	**211**		IAMs_20		IAMs_20	05 14 26.3		
Y22D	comp=Z,2μm,22.0s **IRIS PASSCAL I**	**73.21**	**58**		IAMs_20		IAMs_20	05 22 07.1		
Y22D	comp=Z,2μm,20.0s **IRIS PASSCAL I**	**73.21**	**58**		P		**P**	**04 51 40.1**	**+0.6**	
Y22D	baz=314				S		**SKiKP**	**05 01 06.6**	**-1.2**	
Y22F	baz=314 **Passcal Instru**	**73.21**	**58**		P		**P**	**04 51 40.1**	**+0.6**	
BSD	baz=314 **Bornholm Skovb**	**73.24**	**336**	*i*	P		**P**	**04 51 39.6**	**+0.6**	
BSD	comp=Z,79nm,0.7s				IAmb		IAmb	04 51 42.0		
BSD	**Bornholm Skovb**	**73.24**	**336**		*e*P		**P**	**04 51 39.7**	**+0.6**	
BATM	**Batumi**	**73.28**	**313**		P		**P**	**04 51 40.8**	**+1.2**	
Y22A	**Socorro**	**73.28**	**59**		P		**P**	**04 51 40.3**	**+0.3**	
Y22A	baz=314,SNR=53				S		**S**	**05 01 04.9**	**-0.8**	
D41A	baz=314 **Chassel**	**73.29**	**39**		IAMs_20		IAMs_20	05 28 18.0		
D41A	comp=Z,2μm,20.0s **Chassel**	**73.29**	**39**		P		**P**	**04 51 39.1**	**-0.5**	
D41A	baz=320,SNR=40				S		**S**	**05 01 03.0**	**-2.1**	
I37A	baz=320 **Lemond, Waseca**	**73.38**	**43**		IAMs_20		IAMs_20	05 22 01.7		
I37B	comp=Z,2μm,21.0s **Waseca**	**73.38**	**43**		P		**P**	**04 51 40.1**	**-0.1**	
I37B	baz=318,SNR=132				S		**S**	**05 01 05.0**	**-1.2**	
COP	baz=318 **Copenhagen**	**73.42**	**338**	*i*	P		**P**	**04 51 40.9**	**+0.8**	
COP	comp=Z,141nm,0.7s				IAmb		IAmb	04 51 45.8		
L34A	**Svendsen Farm,**	**73.43**	**46**		IAMs_20		IAMs_20	05 27 16.0		
L34A	comp=Z,2μm,20.0s **Svendsen Farm,**	**73.43**	**46**		P		**P**	**04 51 39.4**	**-1.1**	
L34A	baz=317,SNR=13				S		**S**	**05 01 02.6**	**-4.2**	
BCA	baz=317 **Borcka**	**73.43**	**313**	⇑	P		**P**	**04 51 41.4**	**+0.8**	
MUD	**Monsted U'grnd**	**73.57**	**340**	*i*	P		**P**	**04 51 42.0**	**+1.0**	
MUD	comp=Z,25nm,0.6s				IAmb		IAmb	04 51 45.1		
319A	**Douglas**	**73.64**	**62**		IAmb		IAmb	04 51 56.3		
TRD	comp=Z,148nm,0.9s **Trivandrum**	**73.69**	**265**	*e*	P		**P**	**04 51 42.7**	**+0.3**	
TRD	comp=Z,124nm,1.6s				IAmb		IAmb	04 51 44.6		
WRKA	**Warakurna**	**73.73**	**203**		P		**P**	**04 51 42.4**	**+0.1**	
121A	**Cookes Peak, D**	**73.76**	**60**		IAmb		IAmb	04 51 45.4		
121A	comp=Z,220nm,1.4s **Cookes Peak, D**	**73.76**	**60**		P		**P**	**04 51 43.3**	**+0.5**	
121A	baz=314,SNR=53				S		**S**	**05 01 14.1**	**+2.9**	
121A	baz=314 **Cookes Peak, D**	**73.76**	**60**		P		**P**	**04 51 43.3**	**+0.5**	
121A	baz=314,SNR=53				S		**S**	**05 01 10.8**	**-0.3**	
N33A	baz=314 **J Bar K, Exete**	**73.77**	**48**		IAmb		IAmb	04 51 42.9		
N33A	comp=Z,166nm,1.1s				IAMs_20		IAMs_20	05 29 31.3		
N33B	comp=Z,2μm,21.0s **J Bar K, Exete**	**73.77**	**48**		P		**P**	**04 51 40.7**	**-1.8**	
COWI	baz=317,SNR=6.3 **Conover**	**73.78**	**40**		IAmb		IAmb	04 51 43.7		
COWI	comp=Z,237nm,1.4s				IAMs_20		IAMs_20	05 28 13.9		
COWI	comp=Z,2μm,21.0s **Conover**	**73.78**	**40**		P		**P**	**04 51 41.5**	**-1.0**	
COWI	baz=320				S		**SKiKP**	**05 01 08.1**	**-0.1**	
INKA	baz=320 **Innaminka**	**73.88**	**191**		P		**P**	**04 51 44.3**	**+1.3**	
G40A	**Rib Lake**	**73.94**	**41**		IAmb		IAmb	04 51 44.6		
G40A	comp=Z,146nm,1.2s				IAMs_20		IAMs_20	05 29 16.1		
G40A	comp=Z,1μm,19.0s **Rib Lake**	**73.94**	**41**		P		**P**	**04 51 42.7**	**-0.7**	
G40A	baz=320,SNR=21				S		**SKiKP**	**05 01 09.3**	**+0.9**	
CBKS	baz=320 **Cedar Bluff**	**73.95**	**51**		IAmb		IAmb	04 51 44.3		
CBKS	comp=Z,155nm,1.1s **Cedar Bluff**	**73.95**	**51**		P		**P**	**04 51 42.4**	**-1.3**	
CBKS	baz=316,SNR=31 **Cedar Bluff**	**73.95**	**51**		P		**P**	**04 51 42.4**	**-1.3**	
RTBA	baz=316,SNR=31 **Rita Blanca**	**73.99**	**54**		IAmb		IAmb	04 51 44.5		
GKP	comp=Z,250nm,1.8s **Gorka Klasztor**	**74.14**	**334**		*e*P		**P**	**04 51 44.4**	**-0.1**	
GKP					*e*L		L	05 24 38.8		
GKP	comp=Z,10μm,25.6s **Gorka Klasztor**	**74.14**	**334**		*e*P		**P**	**04 51 44.6**	**+0.1**	
RGN	**Rugen**	**74.18**	**337**		*e*P		**P**	**04 51 44.6**	**-0.1**	
BEL	**Belsk**	**74.21**	**331**		*e*P		**P**	**04 51 45.7**	**+0.8**	
BEL					*e*S		**S**	**05 01 17.3**	**+2.1**	
SSRD	**Sdr. Stenderup**	**74.33**	**339**	*i*	P		**P**	**04 51 46.8**	**+1.3**	
SSRD	comp=Z,77nm,0.7s				IAmb		IAmb	04 51 51.1		
SORM	**Soroca**	**74.43**	**325**	⇓	P		**P**	**04 51 45.9**	**-0.3**	
SORM	**Soroca**	**74.43**	**325**	⇓	P		**P**	**04 51 45.9**	**-0.3**	
SIM	**Simferopol'**	**74.45**	**319**		*e*P		**P**	**04 51 46.8**	**+0.4**	
SIM					S		**S**	**05 01 16.6**	**-1.5**	
SIM	comp=Z,1μm,1.3s				pmax		pmax			
SCHQ	**Schefferville**	**74.47**	**22**		P		**P**	**04 51 46.0**	**-0.4**	
SCHQ	comp=Z,157nm,1.1s,baz=349,slow=6.2,SNR=42				LR		LR	05 29 21.2		
F42A	comp=Z,765nm,18.7s,baz=345,slow=40 **Maple Grove Fa**	**74.49**	**39**		IAmb		IAmb	04 51 48.0		
F42A	comp=Z,157nm,1.1s **Maple Grove Fa**	**74.49**	**39**		P		**P**	**04 51 46.0**	**-0.6**	
F42A	baz=321,SNR=8.4				S		**S**	**05 01 16.7**	**-1.8**	
E43A	baz=321 **Lone Tree Farm**	**74.50**	**38**		IAMs_20		IAMs_20	05 28 03.0		
E43A	comp=Z,2μm,21.0s **Lone Tree Farm**	**74.50**	**38**		P		**P**	**04 51 45.8**	**-0.9**	
E43A	baz=322,SNR=17				S		**S**	**05 01 15.6**	**-3.1**	
SRIG	baz=322 **Santa Rosalia**	**74.57**	**67**		IAMs_20		IAMs_20	05 16 22.8		
N35A	comp=Z,2μm,22.0s **Tabor**	**74.61**	**47**		IAmb		IAmb	04 51 49.1		
N35A	comp=Z,117nm,0.7s				IAMs_20		IAMs_20	05 27 54.4		
N35A	comp=Z,2μm,20.0s **Tabor**	**74.61**	**47**		P		**P**	**04 51 46.6**	**-0.9**	
K38A	baz=318,SNR=22 **Parkersburg**	**74.71**	**44**		IAmb		IAmb	04 51 48.4		
K38A	comp=Z,198nm,1.4s				IAMs_20		IAMs_20	05 22 51.9		
K38A	comp=Z,3μm,22.0s **Parkersburg**	**74.71**	**44**		P		**P**	**04 51 46.9**	**-1.1**	
K38A	baz=319,SNR=7.9				S		**S**	**05 01 19.3**	**-1.9**	
KTUT	baz=319 **Trabzon**	**74.71**	**314**	⇑	P		**P**	**04 51 49.3**	**+1.3**	
OOD	**Oodnadatta**	**74.72**	**195**		P		**P**	**04 51 49.4**	**+1.5**	
LVV	**L'vov**	**74.74**	**328**	*d*	*i* P		**P**	**04 51 48.4**	**+0.4**	
LVV					*e*			04 52 10.3		
LVV					*e*			04 54 34.1		
LVV					*e*	PPP	PPP	04 56 20.8		
LVV					*e*S		**S**	**05 01 21.6**	**+0.4**	
LVV					*e*PS		**PnS**	**05 01 47.1**	**-12**	
LVV					*e*SS		**SS**	**05 06 02.4**	**-5.7**	
LVV					*e*SSS		SSS	05 09 21.2		
LVV	comp=Z,4μm,1.4s				pmax		pmax			
LVV	comp=N,4μm,21.0s				MLR		MLR			
LVV	comp=E,3μm,21.0s				MLR		MLR			
LVV	comp=Z,2μm,21.0s				MLR		MLR			
R32A	**Long Quarter,**	**74.79**	**50**		P		**P**	**04 51 46.8**	**-1.7**	
I40A	baz=317,SNR=15 **Norwalk**	**74.79**	**42**		IAmb		IAmb	04 51 49.5		
I40A	comp=Z,203nm,1.2s				IAMs_20		IAMs_20	05 26 43.9		
I40A	comp=Z,2μm,22.0s **Norwalk**	**74.79**	**42**		P		**P**	**04 51 47.6**	**-0.9**	
I40A	baz=320,SNR=18				S		**S**	**05 01 20.8**	**-1.3**	
LINV	baz=320 **Loch Inver, As**	**74.80**	**348**		*e*P		**P**	**04 51 47.8**	**-0.4**	
JASK	**Jask - Hormozg**	**74.84**	**291**		P		**P**	**04 51 51.0**	**+2.0**	
AULRC	SNR=45 **Lightning Ridg**	**74.92**	**184**		P		**P**	**04 51 50.0**	**+1.0**	
LEWI	**Lewis, Hebride**	**75.04**	**349**		*e*P		**P**	**04 51 49.4**	**-0.1**	
MCD	**Coleburn Disti**	**75.04**	**347**		*e*P		**P**	**04 51 49.1**	**-0.5**	
MCD	comp=Z,340nm,1.2s				IAmb		IAmb	04 51 51.9		
SCIA	**State Center**	**75.05**	**45**		IAMs_20		IAMs_20	05 23 00.9		
SCIA	comp=Z,3μm,22.0s **State Center**	**75.05**	**45**		P		**P**	**04 51 49.5**	**-0.4**	
SCIA	baz=319,SNR=13				S		**S**	**05 01 23.4**	**-1.6**	
SCIA	baz=319 **State Center**	**75.05**	**45**		P		**P**	**04 51 49.6**	**-0.4**	
SCIA	baz=319,SNR=13				S		**S**	**05 01 23.8**	**-1.2**	
KIDD	baz=319 **KIDD Seismic O**	**75.06**	**60**		P		**P**	**04 51 50.0**	**-0.3**	
DRBR	baz=315,SNR=11 **Darabani**	**75.07**	**326**	⇓	P		**P**	**04 51 50.2**	**+0.3**	
PURM	**Purcari**	**75.08**	**323**	⇓	P		**P**	**04 51 51.0**	**+1.0**	
KIS	**Kishinev**	**75.15**	**324**		*e*P		**P**	**04 51 50.5**	**+0.1**	
KIS	comp=Z,1μm,1.4s **Kishinev**	**75.15**	**324**		*e*PP		PP	04 54 36.0	-2.3	
KIS	**Kishinev**	**75.15**	**324**	⇓	P		**P**	**04 51 51.2**	**+0.8**	
KIS	**Kishinev**	**75.15**	**324**		*e*P		**P**	**04 51 50.5**	**+0.1**	
KIS					*e*			04 54 36.0		
KIS					*e*S		**S**	**05 01 25.5**	**-0.3**	
KIS					*e*			05 01 54.0		
KIS	comp=Z,1μm,1.4s				pmax		pmax			
KIS	comp=N,1μm,16.0s				MLR		MLR			
MILM	**Milestii Mici**	**75.21**	**324**	⇑	*i* P		**P**	**04 51 50.5**	**-0.3**	
MILM	comp=N,2μm,1.3s **Milestii Mici**	**75.21**	**324**		*e*PP		PP	04 54 37.0	-1.8	
MILM	**Milestii Mici**	**75.21**	**324**	⇑	P		**P**	**04 51 50.5**	**-0.3**	
MILM	**Milestii Mici**	**75.21**	**324**	⇑	P		**P**	**04 51 50.5**	**-0.3**	
KWP	**Kalwaria Pacla**	**75.38**	**329**		*e*P		**P**	**04 51 53.0**	**+1.3**	
KWP					*e*S		**S**	**05 01 31.0**	**+2.6**	
KWP	comp=N,7μm,29.6s				*e*L		L	05 23 10.9		
KWP	**Kalwaria Pacla**	**75.38**	**329**		P		**P**	**04 51 53.0**	**+1.3**	
KSU1	**Kansas State U**	**75.41**	**49**		IAmb		IAmb	04 51 51.5		
KSU1	comp=Z,75nm,0.7s				IAMs_20		IAMs_20	05 30 35.7		
KSU1	comp=Z,2μm,20.0s **Kansas State U**	**75.41**	**49**		P		**P**	**04 51 50.3**	**-1.8**	
KSU1	baz=318,SNR=6.9 **Kansas State U**	**75.41**	**49**		P		**P**	**04 51 50.9**	**-1.2**	
IAS	baz=318,SNR=6.9 **Iasi**	**75.51**	**325**	⇓	P		**P**	**04 51 53.5**	**+1.1**	
IAS	**Iasi**	**75.51**	**325**	⇓	P		**P**	**04 51 53.5**	**+1.1**	
BSEG	**Bad Segeberg**	**75.54**	**338**		*e*P		**P**	**04 51 53.3**	**+0.8**	
I42A	comp=Z,263nm,1.2s,baz=27,slow=5.5 **Draeger Farm,**	**75.58**	**41**		IAmb		IAmb	04 51 53.3		
I42A	comp=Z,194nm,1.4s **Draeger Farm,**	**75.58**	**41**		P		**P**	**04 51 51.9**	**-1.0**	
KPL	baz=321,SNR=7.3 **Plockton**	**75.64**	**348**		*e*P		**P**	**04 51 52.2**	**-0.8**	
KPL	comp=Z,414nm,1.2s				IAmb		IAmb	04 51 55.4		
H43A	**Windswept, Lux**	**75.65**	**40**		IAmb		IAmb	04 51 56.5		
H43A	comp=Z,144nm,1.1s **Windswept, Lux**	**75.65**	**40**		P		**P**	**04 51 52.5**	**-0.8**	
E46A	baz=321,SNR=5.5 **Sault Ste Mari**	**75.66**	**37**		IAmb		IAmb	04 51 54.3		
E46A	comp=Z,167nm,1.1s				IAMs_20		IAMs_20	05 25 47.4		
E46A	comp=Z,2μm,20.0s **Sault Ste Mari**	**75.66**	**37**		P		**P**	**04 51 52.0**	**-1.3**	
AMTX	baz=323,SNR=15 **Amarillo**	**75.70**	**55**		IAmb		IAmb	04 51 55.0		
AMTX	comp=Z,130nm,0.9s **Amarillo**	**75.70**	**55**		P		**P**	**04 51 53.8**	**-0.1**	
AMTX	baz=316				S		**S**	**05 01 32.1**	**-0.5**	
AMTX	baz=316 **Amarillo**	**75.70**	**55**		P		**P**	**04 51 53.9**	**-0.1**	
JFWS	baz=316,SNR=62 **Jewell Farm**	**75.72**	**42**		IAMs_20		IAMs_20	05 23 29.3		
JFWS	comp=Z,2μm,19.0s **Jewell Farm**	**75.72**	**42**		P		**P**	**04 51 52.4**	**-1.4**	
JFWS	baz=320,SNR=9.7				S		**S**	**05 01 29.9**	**-2.4**	
JFWS	baz=320 **Jewell Farm**	**75.72**	**42**		P		**P**	**04 51 52.3**	**-1.4**	
MSTX	baz=320,SNR=9.7 **Muleshoe**	**75.72**	**56**		IAmb		IAmb	04 51 55.5		
MSTX	comp=Z,188nm,1.4s				IAMs_20		IAMs_20	05 20 12.5		
MSTX	comp=Z,1μm,20.0s **Muleshoe**	**75.72**	**56**		P		**P**	**04 51 53.5**	**-0.6**	
MSTX	baz=316,SNR=52				S		**S**	**05 01 33.0**	**+0.1**	
MSTX	baz=316 **Muleshoe**	**75.72**	**56**		P		**P**	**04 51 53.4**	**-0.7**	
MNTX	baz=316,SNR=52 **Cornudas Mount**	**75.79**	**59**		P		**P**	**04 51 54.4**	**0.0**	
MNTX	baz=315,SNR=103				S		**S**	**05 01 36.2**	**+2.7**	
MNTX	baz=315 **Cornudas Mount**	**75.79**	**59**		P		**P**	**04 51 54.3**	**-0.2**	
ARMA	baz=315,SNR=103 **Armidale**	**75.80**	**181**		IAmb		IAmb	04 51 57.4		
ARMA	comp=Z,113nm,1.1s				IAMs_20		IAMs_20	05 24 35.5		
ARMA	comp=Z,2μm,20.0s **Armidale**	**75.80**	**181**		P		**P**	**04 51 56.1**	**+1.8**	
LEOM	**Leova**	**75.80**	**324**	⇑	P		**P**	**04 51 55.4**	**+1.3**	
LEOM	**Leova**	**75.80**	**324**	⇑	P		**P**	**04 51 55.4**	**+1.3**	
BANOM	**Banah**	**75.82**	**293**	*i*	P		**P**	**04 51 55.2**	**+0.5**	
BANOM	SNR=6.9 **Banah**	**75.82**	**293**		P		**P**	**04 51 55.7**	**+1.1**	
SHME	**Shamm**	**75.83**	**293**	*i*	P		**P**	**04 51 55.0**	**+0.4**	
SHME	SNR=30 **Shamm**	**75.83**	**293**		P		**P**	**04 51 55.5**	**+0.9**	
VASR	SNR=40 **Vaslui**	**75.86**	**324**	⇑	P		**P**	**04 51 55.3**	**+0.9**	
RUE	**Ruedersdorf**	**75.87**	**335**		*e*P		**P**	**04 51 54.9**	**+0.5**	
RUE	**Ruedersdorf**	**75.87**	**335**		*e*P		**P**	**04 51 55.1**	**+0.7**	
N38A	comp=Z,497nm,1.2s,baz=27,slow=5.5 **Joes South For**	**75.88**	**45**		IAMs_20		IAMs_20	05 29 08.8		
N38A	comp=Z,2μm,20.0s **Joes South For**	**75.88**	**45**		P		**P**	**04 51 53.8**	**-0.9**	
N38A	baz=319,SNR=10				S		**S**	**05 01 32.1**	**-2.1**	
L40A	baz=319 **Anamosa**	**75.90**	**43**		IAmb		IAmb	04 51 55.6		
L40A	comp=Z,242nm,1.3s				IAMs_20		IAMs_20	05 23 18.4		
L40A	comp=Z,2μm,22.0s **Anamosa**	**75.90**	**43**		P		**P**	**04 51 53.6**	**-1.2**	
L40A	baz=320,SNR=28				S		**S**	**05 01 29.2**	**-5.2**	
PRAR	baz=320 **RASCA**	**75.91**	**325**	⇑	P		**P**	**04 51 56.4**	**+1.6**	
OJC	**Ojcow**	**75.91**	**331**		*e*P		**P**	**04 51 55.3**	**+0.6**	
OJC					*e*S		**S**	**05 01 36.4**	**+2.2**	
OJC	**Ojcow**	**75.91**	**331**		P		**P**	**04 51 55.0**	**+0.3**	
OK035	**E0210 Rd and N**	**76.04**	**52**		IAmb		IAmb	04 51 56.8		
OK035	comp=Z,364nm,1.7s				IAMs_20		IAMs_20	05 29 40.5		
KAN08	comp=Z,1μm,21.0s **Anthony NE Sta**	**76.06**	**51**		IAmb		IAmb	04 51 55.7		
KAN10	comp=Z,86nm,0.8s **Anthony SW Sta**	**76.07**	**51**		IAmb		IAmb	04 51 56.6		
BURAR	comp=Z,387nm,1.9s **Bucovina Array**	**76.10**	**326**	⇓	P		**P**	**04 51 56.2**	**+0.2**	
BURAR	**Bucovina Array**	**76.10**	**326**	⇓	P		**P**	**04 51 56.2**	**+0.2**	
ELIS	**Ellis County**	**76.12**	**52**		IAmb		IAmb	04 51 57.0		
KOLS	comp=Z,92nm,0.6s **Kolonicke sedl**	**76.12**	**329**		*e*P		**P**	**04 51 57.1**	**+1.1**	
KOLS					pmax		pmax			
KOLS	comp=Z,96nm,1.1s **Kolonicke sedl**	**76.12**	**329**		*e*P		**P**	**04 51 57.1**	**+1.1**	
U32A	**Winter Ranch,**	**76.12**	**52**		IAmb		IAmb	04 51 56.7		
U32A	comp=Z,97nm,0.8s				IAMs_20		IAMs_20	05 29 56.6		
U32A	comp=Z,1μm,20.0s **Winter Ranch,**	**76.12**	**52**		P		**P**	**04 51 55.3**	**-0.9**	
U32A	baz=317,SNR=14				S		**S**	**05 01 36.2**	**-0.8**	
G45A	baz=317 **Suttons Bay**	**76.13**	**38**		P		**P**	**04 51 55.3**	**-0.8**	
G45A	baz=322,SNR=7.8				P		**P**	**04 51 55.3**	**-0.8**	
G45A	baz=322,SNR=7.8				S		**S**	**05 01 34.9**	**-1.9**	
G45A	baz=322				S		**S**	**05 01 34.9**	**-1.9**	
WSAR	baz=322 **Wadi Sarin**	**76.15**	**289**		P		**P**	**04 51 57.0**	**+0.4**	
WSAR	comp=Z,104nm,1.1s,baz=64,slow=5.8,SNR=59				LR		LR	05 29 30.9		
OK038	comp=Z,6μm,21.5s,baz=50,slow=39 **West end E0370**	**76.19**	**52**		IAmb		IAmb	04 51 57.2		
KAN05	comp=Z,104nm,1.1s **Bluff City Nor**	**76.20**	**51**		IAmb		IAmb	04 51 56.6		
BIR	comp=Z,130nm,1.0s **Birlad**	**76.23**	**324**	⇑	P		**P**	**04 51 58.6**	**+2.0**	
BIR	**Birlad**	**76.23**	**324**	⇑	P		**P**	**04 51 58.6**	**+2.0**	
KAN01	**Argonia South**	**76.23**	**51**		IAmb		IAmb	04 51 56.8		
MDH	comp=Z,98nm,0.9s **Madha**	**76.25**	**292**		P		**P**	**04 51 56.8**	**-0.2**	
MDH	**Madha**	**76.25**	**292**		P		**P**	**04 51 58.1**	**+1.0**	
**IN

UMQ	**Umm Al-Quwin**	**76.51**	**293**	*i* P		**P**	**04 51 59.6**	**+1.1**
	SNR=33							
UMQ	**Umm Al-Quwin**	**76.51**	**293**	P		**P**	**04 52 00.4**	**+1.9**
	SNR=9.2							
UMQ				P		pP	04 52 00.8	-8.6
	SNR=30							
KSP	**Ksiaz**	**76.53**	**333**	*e*P		**P**	**04 51 58.5**	**+0.3**
KSP	**Ksiaz**	**76.53**	**333**	P		**P**	**04 51 58.4**	**+0.2**
SCTR	**Scanteiesti**	**76.55**	**323**	⇓P		**P**	**04 51 59.3**	**+0.8**
UOSS	**Minazif**	**76.56**	**292**	*i* P		**P**	**04 51 58.9**	**+0.1**
	SNR=14							
UOSS	**Minazif**	**76.56**	**292**	P		**P**	**04 51 59.9**	**+1.0**
RAC	**Raciborz**	**76.57**	**332**	*e*P		**P**	**04 51 59.6**	**+1.2**
RAC				AMS		AMS	05 31 49.5	
	comp=Z,6.0nm,19.8s							
RAC	**Raciborz**	**76.57**	**332**	*e*P		**P**	**04 51 59.6**	**+1.2**
CROK	**Carrier**	**76.58**	**51**	IAmb		IAmb	04 51 59.1	
	comp=Z,435nm,1.7s							
CROK				IAMs_20		IAMs_20	05 30 00.9	
	comp=Z,1µm,20.0s							
TATR	**Tatarca**	**76.59**	**323**	⇑P		**P**	**04 51 59.5**	**+0.9**
TLCR		**76.60**	**323**	⇑P		**P**	**04 51 59.7**	**+1.1**
TLCR		**76.60**	**323**	⇑P		**P**	**04 51 59.7**	**+1.1**
MNCY	**Minicoy**	**76.61**	**268**	*e*P		**P**	**04 51 58.5**	**-0.7**
MNCY				*e*P		**P**	**04 51 58.8**	**-0.4**
P38A	**Dawn**	**76.61**	**46**	IAmb		IAmb	04 52 00.0	
	comp=Z,147nm,1.1s							
P38A				IAMs_20		IAMs_20	05 28 12.3	
	comp=Z,2µm,22.0s							
P38A	**Dawn**	**76.61**	**46**	P		**P**	**04 51 58.0**	**-0.9**
	baz=319,SNR=52							
P38A				S		**S**	**05 01 38.0**	**-4.2**
	baz=319							
GIUM	**Giurgiulesti**	**76.61**	**323**	⇓P		**P**	**04 52 01.2**	**+2.5**
LAWE	**Loch Awe, Argy**	**76.65**	**347**⇑	*e*P		**P**	**04 51 58.7**	**0.0**
LAWE				IAmb		IAmb	04 52 01.1	
	comp=Z,468nm,1.3s							
SMDO	**Samad**	**76.66**	**289**	P		**P**	**04 52 01.0**	**+1.4**
	SNR=68							
I45A	**Fountain**	**76.67**	**39**	IAmb		IAmb	04 52 00.8	
	comp=Z,189nm,0.8s							
I45A	**Fountain**	**76.67**	**39**	P		**P**	**04 51 58.3**	**-0.9**
	baz=322,SNR=6.3							
I45A				P		**P**	**04 51 58.3**	**-0.9**
	baz=322,SNR=6.3							
HATD	**Hatta, Dubai**	**76.69**	**292**	*i* P		**P**	**04 51 59.9**	**+0.3**
	SNR=8.1							
HATD	**Hatta, Dubai**	**76.69**	**292**	P		**P**	**04 52 00.5**	**+0.9**
L42A	**Oliver, Polo**	**76.69**	**43**	IAmb		IAmb	04 51 59.9	
	comp=Z,112nm,1.1s							
L42A				IAMs_20		IAMs_20	05 24 51.1	
	comp=Z,2µm,22.0s							
L42A	**Oliver, Polo**	**76.69**	**43**	P		**P**	**04 51 58.0**	**-1.3**
	baz=321,SNR=15							
L42A				S		**S**	**05 01 39.5**	**-3.5**
	baz=321							
NEGRR	**Negrea**	**76.71**	**323**	⇑P		**P**	**04 51 59.9**	**+0.6**
BMR	**Baia Mare**	**76.71**	**327**	⇓P		**P**	**04 51 59.5**	**+0.2**
BMR	**Baia Mare**	**76.71**	**327**	⇓P		**P**	**04 51 59.5**	**+0.2**
SLCR	**Slobozia Conac**	**76.71**	**324**	⇓P		**P**	**04 52 00.9**	**+1.6**
FLTG	**Flechtingen**	**76.73**	**337**	*e*P		**P**	**04 51 59.5**	**+0.2**
	comp=Z,363nm,1.1s,baz=27,slow=5.5							
PANC	**Panciu**	**76.74**	**324**	⇑P		**P**	**04 52 00.8**	**+1.3**
IZVR	**Izvoarele**	**76.75**	**323**	⇓P		**P**	**04 52 00.4**	**+0.8**
TUDR		**76.75**	**324**	⇓P		**P**	**04 52 01.3**	**+1.7**
GLMI	**Grayling**	**76.75**	**38**	IAMs_20		IAMs_20	05 30 24.5	
	comp=Z,2µm,20.0s							
GLMI	**Grayling**	**76.75**	**38**	P		**P**	**04 51 59.0**	**-0.6**
	baz=323,SNR=26							
GLMI	**Grayling**	**76.75**	**38**	P		**P**	**04 51 59.0**	**-0.6**
	baz=323,SNR=26							
SCHL	**Schela**	**76.76**	**323**	⇑P		**P**	**04 52 00.2**	**+0.7**
K43A	**Burlington**	**76.77**	**41**	IAmb		IAmb	04 52 00.5	
	comp=Z,219nm,1.2s							
K43A	**Burlington**	**76.77**	**41**	P		**P**	**04 51 58.3**	**-1.4**
	baz=321,SNR=9.6							
SCHLR	**Schela**	**76.78**	**323**	⇑P		**P**	**04 52 00.5**	**+0.7**
HOQ	**Hoqain**	**76.78**	**290**	P		**P**	**04 52 01.1**	**+1.0**
	SNR=51							
OKC	**Ostrava-Krasne**	**76.80**	**331**	*e*P		**P**	**04 52 00.5**	**+0.8**
OKC				MLR		MLR		
	comp=Z,5µm,20.6s							
OKC	**Ostrava-Krasne**	**76.80**	**331**	*e*P		**P**	**04 52 00.5**	**+0.8**
OKC				AMS		AMS	05 31 50.0	
	comp=Z,5µm,20.6s							
OSTC	**Ostas**	**76.81**	**333**	*e*P		**P**	**04 52 00.2**	**+0.4**
OSTC				MLR		MLR		
	comp=Z,8µm,19.5s							
OSTC	**Ostas**	**76.81**	**333**	*e*P		**P**	**04 52 00.2**	**+0.4**
OSTC				AMS		AMS	05 30 00.0	
	comp=Z,8µm,19.5s							
BLOK	**Blackwell**	**76.81**	**51**	IAmb		IAmb	04 52 01.1	
	comp=Z,244nm,1.5s							
BLOK				IAMs_20		IAMs_20	05 26 37.0	
	comp=Z,1µm,21.0s							
CHVC	**Chvalec**	**76.83**	**333**	*e*P		**P**	**04 52 00.5**	**+0.5**
CHVC				MLR		MLR		
	comp=Z,7µm,20.8s							
CHVC	**Chvalec**	**76.83**	**333**	*e*P		**P**	**04 52 00.5**	**+0.5**
CHVC				AMS		AMS	05 29 00.0	
	comp=Z,7µm,20.8s							
ASHO	**Ashiyiah**	**76.84**	**292**	*i* P		**P**	**04 52 00.7**	**+0.3**
	SNR=35							
ASHO	**Ashiyiah**	**76.84**	**292**	P		**P**	**04 52 01.6**	**+1.1**
	SNR=12							
ARCR	**ARCALIA**	**76.87**	**326**	⇓P		**P**	**04 52 01.5**	**+1.3**
ODBI	**Odobesti**	**76.87**	**324**	⇓P		**P**	**04 52 02.7**	**+2.5**
RETH	**Rethem/Aller,**	**76.87**	**338**	*e*P		**P**	**04 52 00.8**	**+0.7**
	comp=Z,398nm,1.2s,baz=27,slow=5.5							
NAZ	**Nazwa, Dubai**	**76.88**	**292**	*i* P		**P**	**04 52 00.9**	**+0.3**
	SNR=30							
NAZ	**Nazwa, Dubai**	**76.88**	**292**	P		**P**	**04 52 01.7**	**+1.0**
	SNR=20							
CFR	**Carcaliu**	**76.89**	**323**	⇑P		**P**	**04 51 60.0**	**-0.3**
CFR	**Carcaliu**	**76.89**	**323**	⇑P		**P**	**04 52 00.0**	**-0.3**
NRDL	**Niedersach Rie**	**76.89**	**337**	*e*P		**P**	**04 52 00.6**	**+0.5**
	comp=Z,262nm,1.2s,baz=27,slow=5.5							
LCRK	**Leigh Creek**	**76.89**	**192**	P		**P**	**04 52 01.9**	**+1.6**
SOHO	**SOHO**	**76.91**	**291**	*i* P		**P**	**04 52 00.5**	**-0.3**
	SNR=56							
SOHO	**SOHO**	**76.91**	**291**	P		**P**	**04 52 01.7**	**+0.9**
UPC	**Upice**	**76.91**	**333**	*e*P		**P**	**04 52 01.2**	**+0.8**
UPC				MLR		MLR		
	comp=Z,8µm,21.2s							
UPC	**Upice**	**76.91**	**333**	*e*P		**P**	**04 52 01.2**	**+0.8**
UPC				AMS		AMS	05 29 00.0	
	comp=Z,8µm,21.2s							
VRI	**Vrincioaia**	**76.92**	**324**	⇓P		**P**	**04 52 01.1**	**+0.5**
VRI	**Vrincioaia**	**76.92**	**324**	⇓P		**P**	**04 52 01.1**	**+0.5**
LANS	**Liptovska Anna**	**76.93**	**330**	*e*P		**P**	**04 52 02.3**	**+1.7**
LANS				pmax		pmax		
	comp=Z,208nm,1.4s							
LANS	**Liptovska Anna**	**76.93**	**330**	*e*P		**P**	**04 52 02.3**	**+1.7**
PGBU	**Glenifferbraes**	**76.94**	**347**⇑	*e*P		**P**	**04 52 00.6**	**+0.2**
PGBU				IAmb		IAmb	04 52 05.4	
	comp=Z,350nm,0.8s							
DPC	**Dobruska-Polom**	**76.95**	**333**	*e*P		**P**	**04 52 01.5**	**+0.8**
DPC				MLR		MLR		
	comp=Z,8µm,19.2s							
DPC	**Dobruska-Polom**	**76.95**	**333**	*e*P		**P**	**04 52 01.5**	**+0.8**
DPC				AMS		AMS	05 30 00.0	
	comp=Z,8µm,19.2s							
PLOR	**Plostina**	**76.96**	**324**	⇑P		**P**	**04 52 01.5**	**+0.7**
PLOR	**Plostina**	**76.96**	**324**	⇑P		**P**	**04 52 01.5**	**+0.7**
TPGR	**Topolog**	**77.03**	**323**	⇓P		**P**	**04 52 02.0**	**+0.9**
KRLC	**Kraliky**	**77.04**	**332**	*e*P		**P**	**04 52 01.9**	**+0.7**
KRLC				MLR		MLR		
	comp=Z,7µm,19.5s							
KRLC	**Kraliky**	**77.04**	**332**	*e*P		**P**	**04 52 01.9**	**+0.7**
KRLC				AMS		AMS	05 31 20.0	
	comp=Z,7µm,19.5s							
MORC	**Moravsky Berou**	**77.05**	**332**	⇑P		**P**	**04 52 01.8**	**+0.6**
MORC	**Moravsky Berou**	**77.05**	**332**⇑	*i*P		**P**	**04 52 01.7**	**+0.5**
MORC				*e*S		**S**	**05 01 47.5**	**+0.7**
MORC	**Moravsky Berou**	**77.05**	**332**	⇑P		**P**	**04 52 01.8**	**+0.6**
TURR	**Turia**	**77.05**	**325**	⇑P		**P**	**04 52 02.6**	**+1.3**
ASSE	**Asse, Remlinge**	**77.06**	**337**	*e*P		**P**	**04 52 01.6**	**+0.5**
	comp=Z,188nm,1.2s,baz=27,slow=5.5							
T35A	**Sooner Cattle**	**77.08**	**50**	IAMs_20		IAMs_20	05 30 55.9	
	comp=Z,2µm,19.0s							
T35B	**Sooner Cattle**	**77.08**	**50**	P		**P**	**04 52 00.7**	**-0.9**
	baz=318,SNR=51							
FAQ	**Al Faqa, Dubai**	**77.10**	**292**	*i* P		**P**	**04 52 02.0**	**+0.2**
	SNR=38							
FAQ	**Al Faqa, Dubai**	**77.10**	**292**	P		**P**	**04 52 02.5**	**+0.6**
	SNR=30							
JMDO	**Jabal Madar**	**77.10**	**289**	P		**P**	**04 52 03.1**	**+1.2**
	SNR=138							
POST	**Post**	**77.11**	**56**	IAmb		IAmb	04 52 02.8	
	comp=Z,122nm,1.0s							
OZUR		**77.11**	**325**	⇓P		**P**	**04 52 02.8**	**+1.1**
N41A	**Harden Midland**	**77.12**	**44**	IAMs_20		IAMs_20	05 23 18.5	
	comp=Z,3µm,20.0s							
N41A	**Harden Midland**	**77.12**	**44**	P		**P**	**04 52 00.9**	**-0.9**
	baz=320,SNR=21							
N41A				S		**S**	**05 01 45.2**	**-2.5**
	baz=320							
CLL	**Collm**	**77.13**	**335**⇑	*i*P		**P**	**04 52 01.5**	**-0.1**
CLL				*e*S		**S**	**05 01 42.0**	**-5.5**
CLL				*e*			05 02 09.0	
CLL				pmax		pmax		
	comp=Z,494nm,1.1s							
CLL				MLR		MLR		
	comp=Z,5µm,20.8s							
CLL	**Collm**	**77.13**	**335**⇑	*i*P		**P**	**04 52 01.5**	**-0.1**
	comp=Z,494nm,1.1s							
CLL				*i* Pmax			04 52 02.7	
CLL				*e*Plp			04 52 03.0	
CLL				*e*PPlp			04 54 54.0	
CLL				*e*PPP		PPP	04 56 45.0	
CLL				*e*S		**S**	**05 01 42.0**	**-5.5**
CLL				*e*SKSac		**SKSac**	**05 02 09.0**	**-1.8**
CLL				*e*PS		**PnS**	**05 02 28.0**	**-1.8**
CLL				*e*(SS)			05 07 24.0	
CLL				AMS		AMS	05 28 42.0	
CLL				L		L	05 29 00.0	
	comp=Z,5µm,20.8s							
CLL	**Collm**	**77.13**	**335**	*e*P		**P**	**04 52 01.7**	**+0.1**
	comp=Z,441nm,1.1s,baz=27,slow=5.5							
KECS	**Kecovo**	**77.14**	**329**	*e*P		**P**	**04 52 02.8**	**+1.1**
KECS				pmax		pmax		
	comp=Z,156nm,1.2s							
KECS	**Kecovo**	**77.14**	**329**	*e*P		**P**	**04 52 02.8**	**+1.1**
CMSA	**Cobar Meteorol**	**77.14**	**186**	P		**P**	**04 52 03.2**	**+1.5**
COVR	**Voineasa-Covas**	**77.15**	**325**	⇓P		**P**	**04 52 03.0**	**+1.2**
EKA	**Eskdalemuir Ar**	**77.17**	**346**	P		**P**	**04 52 01.7**	**-0.1**
	comp=Z,23nm,0.4s,baz=21,slow=4.9,SNR=87							
EKA				PP		PP	04 54 46.7	-8.4
	comp=Z,14nm,1.0s,baz=20,slow=9.1,SNR=4.9							
	comp=Z,23nm,0.4s							
ODSA	**Odessa**	**77.18**	**57**	IAmb		IAmb	04 52 03.1	
	comp=Z,106nm,0.9s							
BOSR	**Bodos**	**77.18**	**325**	⇑P		**P**	**04 52 03.5**	**+1.5**
BISRR	**Bisoca**	**77.18**	**324**	⇓P		**P**	**04 52 03.3**	**+1.2**
ESK	**Eskdalemuir**	**77.20**	**346**	P		**P**	**04 52 02.6**	**+0.7**
ESK	**Eskdalemuir**	**77.20**	**346**	*e*P		**P**	**04 52 01.4**	**-0.5**
ESK				IAmb		IAmb	04 52 04.4	
	comp=Z,405nm,1.4s							
ESK	**Eskdalemuir**	**77.20**	**346**	P		**P**	**04 52 02.6**	**+0.7**
ESK				pmax		pmax		
	comp=Z,358nm,1.4s							
GRER		**77.21**	**324**	⇑P		**P**	**04 52 05.0**	**+2.8**
BRG	**Berggiesshubel**	**77.23**	**334**	*i* P		**P**	**04 52 02.2**	**0.0**
BRG				Amp			04 52 05.0	
	comp=Z,194nm,1.1s							
BRG	**Berggiesshubel**	**77.23**	**334**	S		**S**	**05 01 50.0**	**+1.3**
BRG				Amp			05 28 42.0	
	comp=Z,5.7nm,19.5s							
BRG				Amp			05 28 46.0	
	comp=N,4.3nm,21.0s							
BRG				Amp			05 29 00.0	
	comp=E,2.6nm,20.7s							
BRG	**Berggiesshubel**	**77.23**	**334**	*i* P		**P**	**04 52 02.2**	**0.0**
BRG				pmax		pmax		
	comp=Z,194nm,1.2s							
BRG	**Berggiesshubel**	**77.23**	**334**	*e*P		**P**	**04 52 02.4**	**+0.2**
	comp=Z,194nm,1.1s,baz=27,slow=5.5							
MAUC	**Maruska**	**77.31**	**331**	*e*P		**P**	**04 52 03.6**	**+0.9**
PVCC	**Panska Ves**	**77.35**	**334**	*e*P		**P**	**04 52 03.5**	**+0.7**
PVCC				MLR		MLR		
	comp=Z,7µm,19.5s							
PVCC	**Panska Ves**	**77.35**	**334**	*e*P		**P**	**04 52 03.5**	**+0.7**
PVCC				AMS		AMS	05 30 10.0	
	comp=Z,7µm,19.5s							
TIRR	**Tirgusor**	**77.35**	**322**	⇑P		**P**	**04 52 03.6**	**+0.7**
TIRR	**Tirgusor**	**77.35**	**322**	⇑P		**P**	**04 52 03.6**	**+0.7**
MESR	**Meseseni**	**77.35**	**327**	⇓P		**P**	**04 52 04.2**	**+1.3**
HARR	**Harsova**	**77.37**	**323**	⇑P		**P**	**04 52 04.3**	**+1.2**
HARR	**Harsova**	**77.37**	**323**	⇑P		**P**	**04 52 04.3**	**+1.2**
L44A	**Lake County Fo**	**77.38**	**41**	IAmb		IAmb	04 52 04.0	
	comp=Z,156nm,1.3s							
L44A	**Lake County Fo**	**77.38**	**41**	P		**P**	**04 52 01.8**	**-1.3**
	baz=322							
L44A				S		**S**	**05 01 47.4**	**-3.0**
	baz=322							
DOPR	**Dopca**	**77.38**	**325**	⇓P		**P**	**04 52 04.8**	**+1.7**
OK029	**Liberty Lake**	**77.39**	**51**	IAmb		IAmb	04 52 04.9	
	comp=Z,98nm,1.0s							
OK029				IAMs_20		IAMs_20	05 30 38.4	
	comp=Z,2µm,21.0s							
CLZ	**Clausthal**	**77.41**	**337**	*e*P		**P**	**04 52 04.1**	**+0.9**
	comp=Z,733nm,1.2s,baz=27,slow=5.5							
P40A	**Paris**	**77.43**	**46**	IAmb		IAmb	04 52 04.8	
	comp=Z,253nm,1.4s							
P40A				IAMs_20		IAMs_20	05 29 55.9	
	comp=Z,2µm,20.0s							
P40A	**Paris**	**77.43**	**46**	P		**P**	**04 52 02.6**	**-0.9**
	baz=320,SNR=43							
P40A				S		**S**	**05 01 47.8**	**-3.3**
	baz=320							
BSY	**Bisya**	**77.44**	**290**	P		**P**	**04 52 05.2**	**+1.4**
	SNR=125							
CBBR	**Cluj-Babes-Bol**	**77.44**	**327**	⇑P		**P**	**04 52 01.7**	**-1.7**
WMOK	**Wichita Mounta**	**77.44**	**53**	IAMs_20		IAMs_20	05 30 24.7	
	comp=Z,1µm,22.0s							
WMOK	**Wichita Mounta**	**77.44**	**53**	P		**P**	**04 52 03.0**	**-0.6**
	baz=317,SNR=51							
WMOK				S		**S**	**05 01 52.1**	**+0.6**
	baz=317							
WMOK	**Wichita Mounta**	**77.44**	**53**	P		**P**	**04 52 02.9**	**-0.8**
	baz=317,SNR=51							
WMOK				S		**S**	**05 01 51.6**	**+0.1**
	baz=317							
EDMD	**Edmundbyers**	**77.44**	**345**	*e*P		**P**	**04 52 03.1**	**-0.2**
MULG	**Mulgathing**	**77.45**	**196**	P		**P**	**04 52 05.0**	**+1.6**
	comp=Z,72nm,1.1s							
NEHR	**Nehoiu**	**77.45**	**324**	⇓P		**P**	**04 52 05.5**	**+2.0**
CJR	**Cluj-Napoca**	**77.47**	**327**	⇑P		**P**	**04 52 04.4**	**+0.8**
CJR	**Cluj-Napoca**	**77.47**	**327**	⇑P		**P**	**04 52 04.4**	**+0.8**
ARQ	**Araqi**	**77.47**	**290**	P		**P**	**04 52 04.9**	**+0.9**
	SNR=84							
ALNE	**Al Ain**	**77.47**	**291**	*i* P		**P**	**04 52 04.5**	**+0.5**
	SNR=30							
ALNE	**Al Ain**	**77.47**	**291**	P		**P**	**04 52 05.0**	**+1.0**
	SNR=31							
RICC	**Richard**	**77.48**	**334**	*e*P		**P**	**04 52 04.5**	**+0.9**
RICC				AMS		AMS	05 30 30.0	
	comp=Z,6µm,18.9s							
QUOK	**Quay**	**77.52**	**51**	IAmb		IAmb	04 52 05.3	
	comp=Z,280nm,1.4s							
MLR	**Muntele Rosu**	**77.54**	**325**	⇑P		**P**	**04 52 04.3**	**+0.1**
MLR	**Muntele Rosu**	**77.54**	**325**	⇑P		**P**	**04 52 04.3**	**+0.1**
MLR	**Muntele Rosu**	**77.54**	**325**	LR		LR	05 28 28.3	
	comp=Z,5µm,21.8s,baz=38,slow=37							
LTVH	**Ltavrtes, Hu**	**77.55**	**328**	⇑P		**P**	**04 52 04.9**	**+0.9**
EFOR	**EFORIE**	**77.56**	**322**	⇓P		**P**	**04 51 59.6**	**-4.5**
NEWG	**New Galloway**	**77.56**	**346**⇑	*e*P		**P**	**04 52 03.8**	**-0.2**
NEWG				IAmb		IAmb	04 52 05.6	
	comp=Z,294nm,1.3s							
MFTR	**Murfatlar**	**77.57**	**322**	⇑P		**P**	**04 52 04.4**	**+0.2**
NEUB	**Neuenburg**	**77.58**	**336**	*e*P		**P**	**04 52 04.6**	**+0.5**
	comp=Z,593nm,1.1s,baz=27,slow=5.5							
PGOR	**Pogoanele**	**77.59**	**324**	⇓P		**P**	**04 52 05.9**	**+1.6**
ISR	**Istrita**	**77.60**	**324**	⇑P		**P**	**04 52 05.5**	**+1.1**
ISR	**Istrita**	**77.60**	**324**	⇑P		**P**	**04 52 05.5**	**+1.1**
OK052	**Battle Ridge R**	**77.60**	**51**	IAmb		IAmb	04 52 05.1	
	comp=Z,126nm,0.9s							
CVDA	**Cernavoda**	**77.61**	**323**	⇓P		**P**	**04 52 08.0**	**+3.6**
MNHN	**Monahans**	**77.61**	**58**	IAmb		IAmb	04 52 05.6	
	comp=Z,70nm,0.8s							
AJN	**Ajban**	**77.62**	**292**	*i* P		**P**	**04 52 04.8**	**0.0**
	SNR=52							
AJN	**Ajban**	**77.62**	**292**	P		**P**	**04 52 05.4**	**+0.7**
	SNR=54							
GDLE	**Glaisdale, N Y**	**77.62**	**344**	*e*P		**P**	**04 52 04.9**	**+0.7**
HSKC	**Hora Svate Kat**	**77.62**	**335**	*e*P		**P**	**04 52 04.7**	**+0.3**
HSKC				AMS		AMS	05 30 30.0	
	comp=Z,7µm,20.0s							
MDB	**Medias**	**77.63**	**326**	⇑P		**P**	**04 52 05.7**	**+1.2**
MDB	**Medias**	**77.63**	**326**	⇑P		**P**	**04 52 05.7**	**+1.2**
IBBN	**Ibbenburen**	**77.68**	**339**	*e*P		**P**	**04 52 05.2**	**+0.6**
	comp=Z,380nm,1.1s,baz=27,slow=5.5							
MARR	**Marisel-Cluj**	**77.68**	**327**	⇑P		**P**	**04 52 05.6**	**+0.7**
AMRR	**Amara**	**77.68**	**323**	⇑P		**P**	**04 52 05.3**	**+0.5**
AMRR	**Amara**	**77.68**	**323**	⇑P		**P**	**04 52 05.3**	**+0.5**
HQIL	**Hanson Quary C**	**77.70**	**42**	IAmb		IAmb	04 52 06.6	
	comp=Z,268nm,1.3s							
HQIL				IAMs_20		IAMs_20	05 24 28.8	
	comp=Z,2µm,21.0s							
VYHS	**Vyhne**	**77.71**	**330**	*e*P		**P**	**04 52 05.8**	**+0.9**
VYHS				pmax		pmax		
	comp=Z,229nm,1.2s							
VYHS	**Vyhne**	**77.71**	**330**	*e*P		**P**	**04 52 05.8**	**+0.9**
APMT	**Aspermont**	**77.71**	**55**	IAmb		IAmb	04 52 07.0	
	comp=Z,99nm,0.7s							
DRGR		**77.74**	**327**	⇓P		**P**	**04 52 06.4**	**+1.2**
DRGR		**77.74**	**327**	⇓P		**P**	**04 52 06.4**	**+1.2**
VRAC	**Vranov**	**77.77**	**332**	⇑P		**P**	**04 52 06.2**	**+1.0**
VRAC	**Vranov**	**77.77**	**332**⇑	*i*P		**P**	**04 52 05.9**	**+0.7**
VRAC				*e*S		**S**	**05 01 56.5**	**+2.0**
VRAC	**Vranov**	**77.77**	**332**	⇑P		**P**	**04 52 06.2**	**+1.0**
VRAC	**Vranov**	**77.77**	**332**	LR		LR	05 31 14.6	
	comp=Z,10µm,20.9s,baz=29,slow=39							
GTTG	**Gottingen**	**77.78**	**337**	*e*P		**P**	**04 52 06.0**	**+0.7**
	comp=Z,469nm,1.2s,baz=27,slow=5.5							
MANR	**Mangalia**	**77.79**	**322**	⇑P		**P**	**04 52 07.0**	**+1.6**
PRA	**Prague**	**77.79**	**334**	*e*P		**P**	**04 52 06.1**	**+0.8**
PRA				*e*S		**S**	**05 01 51.2**	**-3.5**
PRA				MLR		MLR		
	comp=Z,7µm,18.0s							
PRA	**Prague**	**77.79**	**334**	*e*P		**P**	**04 52 06.1**	**+0.8**
PRA				*e*S		**S**	**05 01 51.2**	**-3.5**
PRA				AMS		AMS	05 30 30.0	
	comp=Z,7µm,18.1s							
JAVC	**Velka Javorina**	**77.80**	**331**⇑	*i*P		**P**	**04 52 06.8**	**+1.4**
GOPC	**GO Pecny, Ondr**	**77.82**	**333**	*e*P		**P**	**04 52 06.2**	**+0.7**
GOPC				MLR		MLR		
	comp=Z,8µm,19.9s							
GOPC	**GO Pecny, Ondr**	**77.82**	**333**	*e*P		**P**	**04 52 06.2**	**+0.7**
GOPC				AMS		AMS	05 30 00.0	
	comp=Z,8µm,19.9s							
FNO	**Franklin**	**77.82**	**52**	IAmb		IAmb	04 52 06.6	
	comp=Z,155nm,1.0s							
PRU	**Pruhonice**	**77.83**	**334**	*e*P		**P**	**04 52 05.9**	**+0.4**
PRU				MLR		MLR		
	comp=Z,7µm,18.5s							
PRU	**Pruhonice**	**77.83**	**334**	*e*P		**P**	**04 52 05.9**	**+0.4**
PRU				AMS		AMS	05 30 10.0	
	comp=Z,7µm,18.5s							
PSZ	**Piszkesteto**	**77.83**	**329**	⇑P		**P**	**04 52 06.3**	**+0.6**
PSZ	**Piszkesteto**	**77.83**	**329**	⇑P		**P**	**04 52 06.3**	**+0.6**
BORR	**Bors**	**77.84**	**328**	⇑P		**P**	**04 52 06.8**	**+1.2**
STKA	**Stephens Creek**	**77.86**	**189**	P		**P**	**04 52 07.2**	**+1.6**
STKA	**Stephens Creek**	**77.86**	**189**	P		**P**	**04 52 07.2**	**+1.6**
	comp=Z,40nm,0.9s,baz=347,slow=7.6,SNR=51							
STKA				LR		LR	05 26 51.9	
	comp=Z,1µm,20.1s,baz=16,slow=36							
	comp=Z,40nm,0.9s							
KESW	**Keswick, Cumbr**	**77.88**	**346**⇑	*e*P		**P**	**04 52 05.8**	**+0.1**
KESW				IAmb		IAmb	04 52 08.4	
	comp=Z,934nm,1.2s							
DEOK	**Depew**	**77.88**	**51**	IAmb		IAmb	04 52 06.6	
	comp=Z,234nm,1.5s							
DEOK				IAMs_20		IAMs_20	05 28 12.2	
	comp=Z,2µm,20.0s							
ICOR	**Ion Corvin**	**77.89**	**323**	⇑P		**P**	**04 52 07.0**	**+1.1**
J47A	**Sunmer**	**77.93**	**39**	IAmb		IAmb	04 52 08.4	
	comp=Z,250nm,1.1s							
J47A	**Sunmer**	**77.93**	**39**	P		**P**	**04 52 06.2**	**0.0**
	baz=323,SNR=28							
J47A				P		**P**	**04 52 06.2**	**0.0**
	baz=323,SNR=28							
J47A				S		**S**	**05 01 55.5**	**-1.0**
	baz=323							
J47A				S		**S**

NKC MLR MLR
comp=Z,5µm,19.6s
NKC Novy Kostel 78.25 335 *e*P **P 04 52 08.3 +0.4**
NKC AMS AMS 05 30 50.0
comp=Z,5µm,19.6s
R40A Maddies Statio 78.26 47 IAmb IAmb 04 52 08.2
comp=Z,215nm,1.4s
R40A IAMs_20 IAMs_20 05 29 24.0
comp=Z,2µm,22.0s
R40A Maddies Statio 78.26 47 P **P 04 52 07.0 -1.1**
baz=320,SNR=47
R40A S **S 05 01 57.7 -2.5**
baz=320
MODS Modra-Piesok 78.35 331 *e*P **P 04 52 09.5 +1.0**
MODS pmax pmax
comp=Z,546nm,1.2s
MODS Modra-Piesok 78.35 331 *e*P **P 04 52 09.5 +1.0**
ZVC Zvikov 78.42 334 *e*P **P 04 52 09.6 +0.8**
ZVC AMS AMS 05 30 40.0
comp=Z,7µm,19.1s
DEV Deva 78.42 327 ⇑P **P 04 52 09.5 +0.6**
DEV Deva 78.42 327 ⇑P **P 04 52 09.5 +0.6**
UBBA Unterbreizbach 78.43 337 *e*P **P 04 52 09.2 +0.5**
comp=Z,293nm,1.3s,baz=27,slow=5.5
RLO Rose Lookout 78.44 50 IAmb IAmb 04 52 09.5
comp=Z,200nm,1.6s
IOMK Kirk Michael 78.44 346⇑ *e*P **P 04 52 08.9 +0.1**
IOMK IAmb IAmb 04 52 10.5
comp=Z,647nm,1.2s
LOT Lotru 78.45 326 ⇑P **P 04 52 09.3 +0.1**
SRO Srobarova 78.47 330 *e*P **P 04 52 10.4 +1.3**
SRO pmax pmax
comp=Z,266nm,1.2s
SRO Srobarova 78.47 330 *e*P **P 04 52 10.4 +1.3**
ABTX Abilene, Hawle 78.50 55 IAMs_20 IAMs_20 05 32 22.9
comp=Z,1µm,21.0s
ABTX Abilene, Hawle 78.50 55 P **P 04 52 09.1 -0.5**
baz=317,SNR=22
ABTX S **S 05 02 01.5 -1.5**
baz=317
ABTX Abilene, Hawle 78.50 55 P **P 04 52 09.3 -0.3**
baz=317,SNR=22
ABTX S **S 05 02 00.8 -2.2**
baz=317
BUD Budapest 78.51 330 P **P 04 52 10.2 +0.9**
KASTN Kahler Asten 78.51 338 *e*P **P 04 52 09.9 +0.6**
comp=Z,475nm,1.2s,baz=27,slow=5.5
TX31 Lajitas Ar. Si 78.51 60 IAmb IAmb 04 52 10.8
comp=Z,96nm,0.8s
TX31 Lajitas Ar. Si 78.51 60 P **P 04 52 09.7 -0.1**
baz=316,SNR=259
TX31 S **S 05 02 02.3 -1.0**
baz=316
TXAR Lajitas Array 78.51 60 P **P 04 52 09.4 -0.4**
comp=Z,68nm,0.7s,baz=300,slow=4.1,SNR=420
TXAR PKKPbc **PKKPbc 05 11 04.9 +1.4**
comp=Z,1.1nm,1.0s,baz=134,slow=5.4,SNR=5.7
TXAR LR LR 05 24 33.1
comp=Z,317nm,20.4s,baz=324,slow=34
comp=Z,68nm,0.7s
ZST Bratislava 78.56 331 *e*P **P 04 52 10.9 +1.3**
ZST pmax pmax
comp=Z,532nm,1.2s
ZST Bratislava 78.56 331 *e*P **P 04 52 10.9 +1.3**
SGRR Singureni 78.57 324 ⇑P **P 04 52 10.5 +0.8**
WIM Isle of Man 78.57 346⇑ *e*P **P 04 52 09.6 0.0**
U38A Gravette 78.57 49 IAmb IAmb 04 52 10.1
comp=Z,201nm,1.6s
U38A Gravette 78.57 49 P **P 04 52 09.0 -0.8**
baz=319,SNR=25
MANZ Manzenberg 78.57 335 *e*P **P 04 52 10.1 +0.5**
comp=Z,57nm,1.2s,baz=27,slow=5.5
SIRR Siria 78.58 327 ⇑P **P 04 52 10.1 +0.3**
SLBS Sierra La Lagu 78.58 68 P **P 04 52 10.5 +0.3**
SLBS IAmb IAmb 04 52 12.9
comp=Z,196nm,1.6s
P43A Skaggs, Pawnee 78.59 44 IAmb IAmb 04 52 11.1
comp=Z,162nm,1.2s
P43A IAMs_20 IAMs_20 05 25 22.5
comp=Z,2µm,22.0s
P43A Skaggs, Pawnee 78.59 44 P **P 04 52 09.1 -0.8**
baz=321,SNR=19
BUG Bochum-Univer 78.59 339 *e*P **P 04 52 10.1 +0.4**
comp=Z,590nm,1.2s,baz=27,slow=5.5
O44A Mansfield 78.70 43 IAmb IAmb 04 52 11.5
comp=Z,107nm,1.0s
O44A IAMs_20 IAMs_20 05 24 09.3
comp=Z,2µm,22.0s
O44A Mansfield 78.70 43 P **P 04 52 09.3 -1.2**
baz=322,SNR=22
O44A S **S 05 02 01.7 -3.1**
baz=322
BR131 Keskin Array S 78.71 316 IAmb IAmb 04 52 14.1
comp=Z,241nm,1.1s
BR131 Keskin Array S 78.71 316*c i*P **P 04 52 11.3 +0.5**
BRTR Keskin Array B 78.71 316 P **P 04 52 11.5 +0.7**
comp=Z,169nm,1.0s,baz=64,slow=2.9,SNR=163
BRTR PP **PP 04 55 10.0 +1.4**
comp=Z,14nm,1.0s,baz=64,slow=5.6,SNR=3.8
BRTR LR LR 05 33 12.5
comp=Z,5µm,18.6s,baz=50,slow=40
comp=Z,169nm,1.0s
HUMR Humele 78.72 325 ⇓P **P 04 52 10.7 +0.1**
JRN Qarnain Island 78.72 294 P **P 04 52 11.0 +0.1**
SNR=45
ROTZ Rotzenmuhle 78.73 335 *e*P **P 04 52 11.3 +0.8**
comp=Z,82nm,1.2s,baz=27,slow=5.5
LBWR Ladybower, Pea 78.76 344⇑ *e*P **P 04 52 10.9 +0.2**
LBWR IAmb IAmb 04 52 15.7
comp=Z,737nm,1.0s
UMZA Um Al Zommool 78.80 291 P **P 04 52 11.8 +0.5**
PRD Provadia 78.83 322 *i*P **P 04 52 12.2 +1.1**
SURR Surduc 78.83 327 ⇑P **P 04 52 11.5 +0.4**
RAZG Razgrad 78.88 323 ⇑P **P 04 52 12.0 +0.5**
GZR Gura Zlata 78.88 326 ⇑P **P 04 52 11.6 +0.1**
GZR Gura Zlata 78.88 326 ⇑P **P 04 52 11.6 +0.1**
KHC Kasperske Hory 78.88 334 *e*P **P 04 52 11.9 +0.5**
KHC *e* 04 52 38.5
KHC *e*S **S 05 02 04.2 -2.3**
KHC MLR MLR
comp=Z,9µm,18.5s
KHC Kasperske Hory 78.88 334 *e*P **P 04 52 11.9 +0.5**
KHC *ex* x 04 52 38.5
KHC *e*S **S 05 02 04.2 -2.3**
KHC AMS AMS 05 31 00.0
comp=Z,9µm,18.5s
GAZ Gaziantep 78.89 312 IAmb IAmb 04 52 15.2
comp=Z,252nm,1.2s
MZWR Madinat Zayed 78.90 293 P **P 04 52 12.3 +0.5**
CKRC Cesky Krumlov 78.93 333 *e*P **P 04 52 11.8 +0.1**
CKRC MLR MLR
comp=Z,6µm,23.8s
CKRC Cesky Krumlov 78.93 333 *e*P **P 04 52 11.8 +0.1**
CKRC AMS AMS 05 27 20.0
comp=Z,6µm,23.8s
WACR West Acre 78.94 343⇑ *e*P **P 04 52 11.9 +0.4**
WACR IAmb IAmb 04 52 14.2
comp=Z,1µm,1.2s
ILTH Belurgan, Co L 78.95 347 P **P 04 52 11.5 -0.1**
CCM Cathedral Cave 78.96 46 P **P 04 52 11.1 -0.9**
CCM IAmb IAmb 04 52 13.0
comp=Z,233nm,1.4s
CCM Cathedral Cave 78.96 46 IAMs_20 IAMs_20 05 31 37.4
comp=Z,2µm,19.0s
CCM Cathedral Cave 78.96 46 P **P 04 52 11.1 -0.9**
CCM pmax pmax
comp=Z,233nm,1.4s
CCM MLR MLR
comp=Z,2µm,19.0s
CCM Cathedral Cave 78.96 46 P **P 04 52 11.0 -0.9**
baz=320
CCM S **S 05 02 05.3 -2.4**
baz=320
CCM Cathedral Cave 78.96 46 P **P 04 52 10.8 -1.2**
baz=320,SNR=59
CCM S **S 05 02 04.9 -2.7**
baz=320
HPIG 79.00 63 IAMs_20 IAMs_20 05 21 42.9
comp=Z,1µm,19.0s
LOZB Loznitsa 79.00 323 ⇑P **P 04 52 12.7 +0.5**
ANTO Ankara 79.00 317 ⇓P **P 04 52 13.3 +1.0**
ANTO Ankara 79.00 317 P **P 04 52 13.7 +1.3**
ANTO Ankara 79.00 317 ⇓P **P 04 52 13.3 +1.0**
ANTO Ankara 79.00 317 P **P 04 52 13.9 +1.6**
SLM Saint Louis 79.02 45 IAmb IAmb 04 52 13.5
comp=Z,307nm,1.4s
SLM IAMs_20 IAMs_20 05 25 32.9
comp=Z,2µm,22.0s
SLM Saint Louis 79.02 45 P **P 04 52 11.7 -0.6**
baz=321,SNR=7.5
SADO Sadowa 79.06 35 LR LR 05 32 08.8
comp=Z,777nm,18.3s,baz=352,slow=39
WET Wettzell 79.09 334 *e*P **P 04 52 13.5 +1.0**
comp=Z,538nm,1.2s,baz=27,slow=5.5
GRF Grafenberg Arr 79.09 335 *e*P **P 04 52 13.5 +0.9**
comp=Z,562nm,1.1s,baz=27,slow=5.5
GRF *e*L L 05 33 16.4
comp=Z,4µm,19.5s
GRFO Grafenberg 79.09 335 P **P 04 52 13.4 +0.9**
GRFO Grafenberg 79.09 335 P **P 04 52 13.4 +0.9**
GRFO pmax pmax
comp=Z,719nm,1.2s
GEC2 GERESS Array S 79.10 334 IAmb IAmb 04 52 15.4
comp=Z,269nm,1.2s
GEC2 GERESS Array S 79.10 334 *e*P **P 04 52 12.8 +0.2**
comp=Z,195nm,1.1s,baz=27,slow=5.5
GERES GERESS Array B 79.10 334 P **P 04 52 12.9 +0.2**
comp=Z,101nm,1.0s,baz=33,slow=5.4,SNR=158
GERES LR LR 05 31 35.7
comp=Z,8µm,19.5s,baz=32,slow=39
comp=Z,101nm,1.0s
PLPT Palo Pinto 79.12 54 IAmb IAmb 04 52 14.3
comp=Z,292nm,1.7s
MGMO Mountain Grove 79.13 47 IAmb IAmb 04 52 13.6
comp=Z,144nm,1.2s
MGMO IAMs_20 IAMs_20 05 29 55.0
comp=Z,2µm,21.0s
L48A N Adams 79.14 39 IAMs_20 IAMs_20 05 31 54.8
comp=Z,2µm,20.0s
L48A N Adams 79.14 39 P **P 04 52 12.2 -0.8**
baz=324,SNR=27
L48A P **P 04 52 12.2 -0.8**
baz=324,SNR=27
L48A S **S 05 02 06.9 -2.6**
baz=324
L48A S **S 05 02 06.9 -2.6**
baz=324
BZS Buzias 79.14 327 ⇑P **P 04 52 12.7 -0.1**
BZS Buzias 79.14 327 ⇑P **P 04 52 12.7 -0.1**
STNC Stoke 79.15 345⇓ *e*P **P 04 52 13.4 +0.7**
STNC IAmb IAmb 04 52 18.1
comp=Z,1µm,1.9s
SFIN Lafayette 79.17 42 IAmb IAmb 04 52 14.2
comp=Z,144nm,1.1s
SFIN Lafayette 79.17 42 P **P 04 52 12.1 -0.9**
baz=322,SNR=26
SFIN S **S 05 02 06.5 -3.2**
baz=322
SFIN Lafayette 79.17 42 P **P 04 52 11.8 -1.2**
baz=322,SNR=26
SFIN S **S 05 02 05.8 -4.0**
baz=322
DQM DQM 79.18 287 P **P 04 52 14.6 +1.1**
SNR=22
SOP Sopron 79.19 331 P **P 04 52 14.2 +1.2**
AAM Ann Arbor 79.19 39 IAmb IAmb 04 52 14.6
comp=Z,229nm,1.4s
AAM IAMs_20 IAMs_20 05 33 02.2
comp=Z,2µm,19.0s
AAM Ann Arbor 79.19 39 P **P 04 52 12.7 -0.5**
baz=324,SNR=7.9
AAM S **S 05 02 08.8 -1.1**
baz=324
AAM Ann Arbor 79.19 39 P **P 04 52 12.3 -0.9**
baz=324,SNR=7.9
AAM S **S 05 02 09.0 -1.0**
baz=324
CONA Conrad Observa 79.21 332 *e*P **P 04 52 14.1 +0.8**
comp=Z,126nm,1.1s,SNR=233
CONA *e*S **S 05 02 07.2 -2.9**
comp=Z,3.9nm,1.1s
LDAQ Lac Daran 79.21 28 IAmb IAmb 04 52 14.5
comp=Z,176nm,1.3s
WPS Cemaes, Angles 79.26 346⇑ *e*P **P 04 52 13.0 -0.3**
WPS IAmb IAmb 04 52 17.9
comp=Z,519nm,1.9s
K50A Casco 79.26 38 IAmb IAmb 04 52 14.8
comp=Z,217nm,1.3s
K50A IAMs_20 IAMs_20 05 31 51.8
comp=Z,2µm,19.0s
K50A Casco 79.26 38 P **P 04 52 13.1 -0.5**
baz=324,SNR=11
K50A P **P 04 52 13.1 -0.5**
baz=324,SNR=11
K50A S **S 05 02 08.2 -2.5**
baz=324
K50A S **S 05 02 08.2 -2.5**
baz=324
RONA Rosalia, Austr 79.26 331 *i*P **P 04 52 14.4 +0.9**
comp=Z,132nm,1.1s,SNR=160
FORT Forrest 79.26 201 IAMs_20 IAMs_20 05 29 39.3
comp=Z,1µm,20.0s
FORT Forrest 79.26 201 P **P 04 52 15.4 +2.0**
SHMA Al-Shehemyia 79.27 296 P **P 04 52 14.8 +0.9**
SNR=52
CWF Charnwood Fore 79.31 344 *e*P **P 04 52 13.5 -0.1**
CWF IAmb IAmb 04 52 17.0
comp=Z,789nm,1.3s
SRE Strehaia 79.32 326 ⇑P **P 04 52 15.5 +1.7**
SRE Strehaia 79.32 326 ⇑P **P 04 52 15.5 +1.7**
Z35A Perchaven, San 79.33 53 IAMs_20 IAMs_20 05 33 47.8
comp=Z,1µm,20.0s
Z35A Perchaven, San 79.33 53 P **P 04 52 12.4 -1.7**
baz=318,SNR=15
Z35A S **S 05 02 08.5 -3.3**
baz=318
WLF1 Llynfaes 79.34 346⇑ *e*P **P 04 52 13.7 -0.1**
WLF1 IAmb IAmb 04 52 16.9
comp=Z,822nm,1.4s
SZH Strazhitsa 79.35 323⇑ *i*P **P 04 52 14.4 +0.4**
TNS Taunus Mts 79.39 337 *e*P **P 04 52 14.8 +0.6**
comp=Z,387nm,1.3s,baz=27,slow=5.5
GHWR Ruwais 79.40 293 P **P 04 52 15.0 +0.5**
RAO Raoul Island 79.41 154 LR LR 05 24 26.6
comp=Z,4µm,18.8s,baz=342,slow=33
Q44A Meyer Farm, Va 79.41 44 IAmb IAmb 04 52 16.2
comp=Z,259nm,1.1s
Q44A IAMs_20 IAMs_20 05 25 58.2
comp=Z,2µm,21.0s
Q44A Meyer Farm, Va 79.41 44 P **P 04 52 13.9 -0.6**
baz=322,SNR=38
Q44A S **S 05 02 10.1 -2.2**
baz=322
N47A Urbana 79.42 41 IAmb IAmb 04 52 15.2
comp=Z,221nm,1.1s
N47A Urbana 79.42 41 P **P 04 52 13.6 -0.9**
baz=323,SNR=32
N47A P **P 04 52 13.6 -0.9**
baz=323,SNR=32
N47A S **S 05 02 09.3 -3.1**
baz=323
N47A S **S 05 02 09.3 -3.1**
baz=323
FVM French Village 79.43 46 IAmb IAmb 04 52 15.8
comp=Z,174nm,1.3s
FVM IAMs_20 IAMs_20 05 32 54.8
comp=Z,2µm,21.0s
FVM French Village 79.43 46 P **P 04 52 13.6 -1.0**
baz=321,SNR=36
FVM S **S 05 02 11.1 -1.5**
baz=321
FW06 Azle 79.43 53 IAMs_20 IAMs_20 05 22 57.4
comp=Z,2µm,21.0s
X37A Clayton 79.43 51 P **P 04 52 13.5 -1.1**
baz=319,SNR=9.8
X37A S **S 05 02 10.6 -2.1**
baz=319
U40A Yellville 79.44 48 P **P 04 52 13.4 -1.2**
baz=320,SNR=92
U40A P **P 04 52 13.4 -1.2**
baz=320,SNR=92
U40A S **S 05 02 10.7 -2.0**
baz=320
U40A S **S 05 02 10.7 -2.0**
baz=320
YLL Llanberis 79.45 346 *e*P **P 04 52 14.0 -0.3**
HERR Herculane 79.45 326 ⇑P **P 04 52 14.5 0.0**
SAKB Bahrain 79.45 296 P **P 04 52 15.5 +0.7**
ELMS Elmsett, Ipswi 79.46 342⇑ *e*P **P 04 52 14.8 +0.4**
ELMS IAmb IAmb 04 52 17.2
comp=Z,2µm,1.4s
AHRW Bad Neuenahr-A 79.47 338 *e*P **P 04 52 15.1 +0.6**
comp=Z,549nm,1.2s,baz=27,slow=5.5
FW07 Weatherford 79.50 54 IAmb IAmb 04 52 19.9
comp=Z,256nm,2.0s
BANR Banloc 79.52 327 ⇓P **P 04 52 15.9 +1.0**
FOEL Foel Wylfa 79.52 345⇑ *e*P **P 04 52 15.0 +0.2**
FOEL IAmb IAmb 04 52 19.1
comp=Z,2µm,1.9s
WHYH Whyalla 79.53 192 P **P 04 52 16.6 +1.8**
BBOO Buckleboo 79.55 194 IAMs_20 IAMs_20 05 30 07.9
comp=Z,1µm,20.0s
BBOO Buckleboo 79.55 194 P **P 04 52 16.2 +1.2**
TRQ Mont Tremblant 79.57 31 IAmb IAmb 04 52 16.6
comp=Z,181nm,1.1s
TRQ IAMs_20 IAMs_20 05 32 45.9
comp=Z,2µm,19.0s
BEBN Eben Emael 79.59 339 *d*P **P 04 52 15.4 +0.3**
comp=Z,355nm,1.1s
DJES Djerdap 79.59 326 ⇓P **P 04 52 15.2 -0.1**
RAR Rarotonga 79.59 135 LR LR 05 28 10.7
comp=Z,3µm,18.0s,baz=320,slow=36
LLW Llanuwychllyn 79.64 345 *e*P **P 04 52 15.1 -0.3**
BTNL Ternell 79.67 339 *d*P **P 04 52 15.8 +0.2**
comp=Z,204nm,1.2s
ELND Elena 79.67 323 ⇑P **P 04 52 15.7 0.0**
MEM Membach 79.68 339 *d*P **P 04 52 16.3 +0.6**
comp=Z,307nm,1.1s
MZR Muzera 79.69 292 *i*P **P 04 52 16.3 +0.1**
SNR=14
MZR Muzera 79.69 292 P **P 04 52 17.0 +0.7**
SNR=18
DSB Dublin 79.71 347 IAMs_20 IAMs_20 05 32 50.1
comp=Z,2µm,21.0s
DSB Dublin 79.71 347 P **P 04 52 15.3 -0.5**
P46A Rosedale 79.72 43 IAMs_20 IAMs_20 05 26 00.3
comp=Z,2µm,20.0s
P46A Rosedale 79.72 43 P **P 04 52 15.3 -0.8**
baz=322,SNR=54
P46A S **S 05 02 10.3 -5.3**
baz=322
HTT Hallett 79.72 191 P **P 04 52 17.5 +1.6**
MORH Mrgy, Hungar 79.73 329 ⇓P **P 04 52 15.6 -0.5**
YNG Young 79.74 183 ⇓P **P 04 52 17.9 +1.9**
JMB Yambol 79.75 322⇑ *i*P **P 04 52 16.1 -0.1**
PUNG Punghina 79.75 326 ⇓P **P 04 52 17.3 +1.2**
MOA Molln 79.80 333 *e*P **P 04 52 16.8 +0.4**
comp=Z,55nm,1.2s,SNR=48
BAIL Bailesti 79.80 325 ⇑P **P 04 52 18.5 +2.0**
MDVR Moldovita 79.81 327 ⇑P **P 04 52 16.5 0.0**
BSTI Sart Tilman 79.81 339 *d*P **P 04 52 16.9 +0.5**
comp=Z,67nm,1.3s
PLVB Pleven 79.81 324 ⇑P **P 04 52 16.7 +0.2**
BRDY Brady 79.85 55 IAmb IAmb 04 52 17.7
comp=Z,266nm,1.8s
LMQ La Malbaie 79.88 28 IAmb IAmb 04 52 18.0
comp=Z,174nm,1.2s
ARSA Arzberg 79.91 332 *e*P **P 04 52 17.5 +0.5**
comp=Z,57nm,1.1s,SNR=111
ARSA *e*SKS **SKSac 05 02 26.2 -4.7**
comp=Z,6.4nm,1.5s
BHOU Houvegnez 79.91 339 *d*P **P 04 52 17.4 +0.4**
comp=Z,170nm,1.3s
TRNA Turayna 79.92 295 P **P 04 52 17.8 +0.5**
SNR=56
FW13 Cleburne 79.96 54 IAmb IAmb 04 52 19.1
comp=Z,273nm,1.9s
IGLA Glengowla, Co 79.97 349 P **P 04 52 16.9 -0.3**
IGLA Glengowla, Co 79.97 349 *e*P **P 04 52 16.7 -0.5**
JCT Junction City 79.98 57 IAmb IAmb 04 52 19.1
comp=Z,175nm,1.2s
JCT IAMs_20 IAMs_20 05 26 39.3
comp=Z,1µm,20.0s
JCT Junction City 79.98 57 P **P 04 52 17.1 -0.7**
baz=318,SNR=45
JCT S **S 05 02 17.8 -1.0**
baz=318
JCT Junction City 79.98 57 P **P 04 52 17.1 -0.7**
baz=318,SNR=45
JCT S **S 05 02 17.8 -1.0**
baz=318
OLIL Olney 79.99 44 P **P 04 52 16.7 -0.8**
baz=322,SNR=37
OLIL S **S 05 02 17.6 -0.8**
baz=322
BCLA Clavier 80.03 339 *d*P **P 04 52 16.8 -0.8**
comp=Z,206nm,1.3s
VALD Valchedram 80.04 325 P **P 04 52 18.3 +0.6**
N49A Columbus Grove 80.07 40 IAmb IAmb 04 52 19.1
comp=Z,164nm,1.1s
N49A IAMs_20 IAMs_20 05 32 45.5
comp=Z,2µm,20.0s
N49A Columbus Grove 80.07 40 P **P 04 52 17.3 -0.7**
baz=324,SNR=31
N49A P **P 04 52 17.3 -0.7**
baz=324,SNR=31
N49A S **S 05 02 17.0 -2.3**
baz=324
N49A S **S 05 02 17.0 -2.3**
baz=324
SLWR Sila 80.08 294 P **P 04 52 18.9 +0.6**
BGES Gesves 80.11 339 *d*P **P 04 52 18.1 +0.1**
comp=Z,169nm,1.3s
BIOA Bad Ischl, Aus 80.14 333 *e*P **P 04 52 18.8 +0.6**
comp=Z,122nm,1.2s,SNR=196
SMRA Abu-Samra 80.15 295 P **P 04 52 19.0 +0.4**
SNR=102
FW16 Waxahatchie 80.16 53 IAmb IAmb 04 52 22.3
comp=Z,390nm,1.7s
O48B Farmland 80.17 41 IAmb IAmb 04 52 19.9
comp=Z,266nm,1.1s
O48B Farmland 80.17 41 P **P 04 52 17.6 -1.0**
baz=323,SNR=58
O48B S **S 05 02 17.1 -3.2**
baz=323
FCAR Ozark Folk Cen 80.17 48 IAmb IAmb 04 52 19.3
comp=Z,112nm,1.0s
FCAR IAMs_20 IAMs_20 05 31 48.6
comp=Z,2µm,22.0s
M50A Fremont 80.19 39 P **P 04 52 17.9 -0.7**
baz=324,SNR=10
M50A P **P 04 52 17.9 -0.7**
baz=324,SNR=10
MPEP Malo Peshtene 80.20 325 *i*P **P 04 52 19.5 +0.9**
FRGS Fruska Gora 80.21 328 ⇑P **P 04 52 18.7 0.0**
FRGS Fruska Gora 80.21 328⇑ *i*P **P 04 52 18.7 0.0**
WHTX Lake Whitney, 80.21 54 IAMs_20 IAMs_20 05 28 46.2
comp=Z,1µm,22.0s
WHTX Lake Whitney, 80.21 54 P **P 04 52 18.4 -0.5**
baz=318,SNR=25
WHTX S **S 05 02 18.7 -2.4**
baz=318
WHTX Lake Whitney, 80.21 54 P **P 04 52 17.8 -1.1**
baz=318,SNR=25
WHTX S **S 05 02 18.3 -2.8**
baz=318
S44A Carbondale 80.23 45 IAmb IAmb 04 52 20.9
comp=Z,251nm,1.1s
S44A IAMs_20 IAMs_20 05 25 58.1
comp=Z,2µm,21.0s
S44A Carbondale 80.23 45 P **P 04 52 16.9 -2.0**
baz=322,SNR=73
S44A S **S 05 02 19.0 -2.1**
baz=322
SIUC Southern Illin 80.24 45 IAmb IAmb 04 52 20.8
comp=Z,258nm,1.1s
SIUC IAMs_20 IAMs_20 05 25 23.2
comp=Z,3µm,22.0s
BMRD Maredsous 80.27 340 *d*P **P 04 52 19.0 +0.1**
comp=Z,268nm,1.3s
DRIO Del Rio 80.27 58 IAmb IAmb 04 52 21.3
comp=Z,180nm,0.9s
RCHB Rochefort 80.29 339 *d*P **P 04 52 18.9 -0.1**
comp=Z,195nm,1.3s
ELSH Elham, Standar 80.32 342⇑ *e*P **P 04 52 19.3 +0.2**
ELSH IAmb IAmb 04 52 21.9
comp=Z,1µm,1.2s
MCH1 Michaelchurch 80.34 345⇑ *e*P **P 04 52 19.4 +0.2**
MCH1 IAmb IAmb 04 52 21.1
comp=Z,511nm,1.2s
CGM3 Cape Girardeau 80.34 46 IAmb IAmb 04 52 20.6
comp=Z,151nm,1.2s
CGM3 IAMs_20 IAMs_20 05 25 02.0
comp=Z,3µm,22.0s
WBO Williamsburg 80.35 32 IAMs_20 IAMs_20 05 32 16.4
comp=Z,2µm,20.0s
PBMO Poplar Bluff 80.36 46 IAmb IAmb 04 52 20.9
comp=Z,307nm,1.2s
PBMO IAMs_20 IAMs_20 05 32 30.4
comp=Z,2µm,19.0s

PBMO Poplar Bluff 80.36 46 P P 04 52 18.4 -1.2
baz=321,SNR=75
RJOB Jochberg 80.36 334 *e*P P 04 52 20.3 +0.8
comp=Z,204nm,1.2s,baz=27,slow=5.5
KOGS Kog 80.36 331 *i* P P 04 52 19.2 -0.2
STRD Stroud 80.39 344⇑ *e*P P 04 52 19.7 +0.2
STRD IAmb IAmb 04 52 22.1
comp=Z,1µm,1.2s
BLO Bloomington 80.39 42 IAmb IAmb 04 52 21.8
comp=Z,441nm,1.8s
BLO IAMs_20 IAMs_20 05 26 01.2
comp=Z,3µm,22.0s
BLKB Belogradchik 80.40 325 ⇓P P 04 52 19.5 -0.3
MIAR Mount Ida 80.43 50 IAmb IAmb 04 52 20.6
comp=Z,104nm,1.1s
MIAR IAMs_20 IAMs_20 05 33 55.7
comp=Z,2µm,20.0s
MIAR Mount Ida 80.43 50 P P 04 52 19.4 -0.6
baz=320,SNR=19
MIAR S S 05 02 21.0 -2.3
baz=320
MIAR Mount Ida 80.43 50 P P 04 52 19.6 -0.5
baz=320,SNR=19
MIAR S S 05 02 20.9 -2.4
baz=320
GIVF Givet 80.44 339 *e*P P 04 52 19.1 -0.7
GIVF pmax pmax
comp=Z,505nm,1.4s
FUR Furstenfeldbru 80.44 335 *e*P P 04 52 20.7 +0.8
comp=Z,699nm,1.2s,baz=27,slow=5.5
MONM Monmouth 80.45 345⇑ *e*P P 04 52 19.9 +0.1
DOU Dourbes 80.50 340 *d*P P 04 52 20.1 0.0
comp=Z,148nm,1.3s
STU Stuttgart 80.50 336 P P 04 52 20.5 +0.3
STU Stuttgart 80.50 336 *e*P P 04 52 20.6 +0.5
comp=Z,1µm,1.2s,baz=27,slow=5.5
J54A Appleton 80.51 35 P P 04 52 19.0 -1.3
baz=327,SNR=14
J54A P P 04 52 19.0 -1.3
baz=327,SNR=14
WLF Walferdange 80.51 338 P P 04 52 20.8 +0.6
WLF Walferdange 80.51 338 *d*P P 04 52 21.2 +1.1
comp=Z,145nm,1.3s
WLF Walferdange 80.51 338 P P 04 52 20.1 0.0
WLF Walferdange 80.51 338 *e*P P 04 52 21.0 +0.8
comp=Z,346nm,1.2s,baz=27,slow=5.5
MNTQ Montreal, Queb 80.53 31 IAmb IAmb 04 52 21.0
comp=Z,200nm,1.4s
MNTQ IAMs_20 IAMs_20 05 34 43.0
comp=Z,2µm,20.0s
LCAR Lake Charles 80.53 47 IAMs_20 IAMs_20 05 30 57.2
comp=Z,2µm,21.0s
KALN Kalnik 80.57 331 *i* P P 04 52 20.6 0.0
SWN1 Swindon 80.57 344⇑ *e*P P 04 52 21.0 +0.6
SOKA Soboth 80.57 332 *e*P P 04 52 20.8 +0.1
comp=Z,658nm,1.3s,SNR=327
SOKA *e*S S 05 02 28.0 +3.4
comp=Z,4.6nm,1.6s
OLDB Oldbury-Upon-S 80.58 344⇑ *e*P P 04 52 20.4 -0.1
OLDB IAmb IAmb 04 52 26.6
comp=Z,112nm,0.9s
O49A Covington 80.59 40 IAmb IAmb 04 52 21.9
comp=Z,234nm,1.4s
O49A Covington 80.59 40 P P 04 52 19.7 -1.1
baz=324,SNR=28
O49A P P 04 52 19.7 -1.1
baz=324,SNR=28
O49A S S 05 02 22.0 -2.8
baz=324
O49A S S 05 02 22.0 -2.8
baz=324
BAIF Baives 80.63 340 *e*P P 04 52 21.4 +0.6
BAIF pmax pmax
comp=Z,409nm,1.3s
Z38A Mt. Pleasant 80.64 52 IAmb IAmb 04 52 21.7
comp=Z,160nm,1.1s
Z38A Mt. Pleasant 80.64 52 P P 04 52 20.5 -0.6
baz=319,SNR=10
Z38A S S 05 02 23.7 -1.8
baz=319
LESA Schwarzleotal 80.67 333 *i* P P 04 52 21.8 +0.6
comp=Z,459nm,1.4s
LESA *e*SKS S 05 02 31.0 +5.4
comp=Z,11nm,1.3s
P48A Milroy 80.68 42 IAmb IAmb 04 52 22.2
comp=Z,288nm,1.3s
P48A Milroy 80.68 42 P P 04 52 20.3 -1.0
baz=323,SNR=46
P48A P P 04 52 20.3 -1.0
baz=323,SNR=46
P48A S S 05 02 23.0 -2.7
baz=323
P48A S S 05 02 23.0 -2.7
baz=323
LOBO Lobor 80.68 331 *i* P P 04 52 21.1 0.0
RSBS Rosebush, Pemb 80.69 346⇑ *e*P P 04 52 20.6 -0.5
RSBS IAmb IAmb 04 52 22.8
comp=Z,383nm,1.2s
D62A Allapoint, All 80.70 27 P P 04 52 19.6 -1.6
baz=332,SNR=11
D62A P P 04 52 19.6 -1.6
baz=332,SNR=11
PGB Panagyurishte 80.72 324⇑ *i*P P 04 52 21.3 -0.2
CAN Canberra 80.74 183 P P 04 52 23.2 +1.8
HMNX Herstmonceux 80.75 342⇑ *e*P P 04 52 22.1 +0.7
HMNX IAmb IAmb 04 52 24.1
comp=Z,1µm,1.2s
KBA Koelnbreinsper 80.77 333 *e*P P 04 52 22.0 +0.1
comp=Z,416nm,1.1s,SNR=224
KBA *e*S S 05 02 29.5 +2.7
comp=Z,7.7nm,1.4s
KBA Koelnbreinsper 80.77 333 P P 04 52 22.4 +0.5
BMNY Brushton-Moira 80.77 32 P P 04 52 20.4 -1.3
baz=329,SNR=29
BOVS Bovan 80.77 326 ⇓P P 04 52 20.8 -0.9
PLD Plovdiv 80.78 323 *i* P P 04 52 22.6 +0.8
PARMO Parma 80.79 46 IAMs_20 IAMs_20 05 33 15.8
comp=Z,2µm,21.0s
USIN University of 80.80 44 IAMs_20 IAMs_20 05 26 30.0
comp=Z,2µm,22.0s
M52A Chesterland 80.81 38 IAmb IAmb 04 52 24.0
comp=Z,190nm,0.9s
M52A Chesterland 80.81 38 P P 04 52 21.7 -0.3
baz=325,SNR=20
M52A P P 04 52 21.7 -0.3
baz=325,SNR=20
M52A S S 05 02 23.1 -3.9
baz=325
M52A S S 05 02 23.1 -3.9
baz=325
TEKS Tekeris 80.83 328⇑ *i*P P 04 52 21.5 -0.5
J55A Hilton 80.84 35 IAmb IAmb 04 52 22.8
comp=Z,339nm,1.6s
J55A Hilton 80.84 35 P P 04 52 21.2 -0.8
baz=327,SNR=11
J55A P P 04 52 21.2 -0.8
baz=327,SNR=11
X40A Basin Creek Fa 80.87 49 IAMs_20 IAMs_20 05 32 12.3
comp=Z,1µm,20.0s
N51A Ashland 80.88 39 IAmb IAmb 04 52 23.9
comp=Z,237nm,1.1s
N51A IAMs_20 IAMs_20 05 32 43.7
comp=Z,2µm,19.0s
N51A Ashland 80.88 39 P P 04 52 21.0 -1.3
baz=325,SNR=25
N51A P P 04 52 21.0 -1.3
baz=325,SNR=25
N51A S S 05 02 23.8 -3.9
baz=325
N51A S S 05 02 23.8 -3.9
baz=325
OBKA Obir 80.88 332 *e*P P 04 52 22.1 -0.3
comp=Z,102nm,1.1s,SNR=32
OBKA *e*S S 05 02 30.0 +2.2
comp=Z,10nm,1.7s
OBKA Obir 80.88 332⇑ *i*P P 04 52 22.1 -0.3
UALR University of 80.91 49 IAMs_20 IAMs_20 05 32 17.3
comp=Z,2µm,21.0s
ERPA Erie 80.91 37 IAmb IAmb 04 52 24.5
comp=Z,252nm,1.1s
ERPA IAMs_20 IAMs_20 05 32 48.5
comp=Z,2µm,20.0s
ERPA Erie 80.91 37 P P 04 52 22.0 -0.5
baz=326,SNR=27
ERPA S S 05 02 24.3 -3.8
baz=326
ERPA Erie 80.91 37 P P 04 52 21.9 -0.5
baz=326,SNR=27
ERPA S S 05 02 23.3 -4.8
baz=326
PTJ Puntijarka 80.93 331 P P 04 52 22.6 0.0
LONY Lake Ozonia 80.94 32 P P 04 52 21.2 -1.4
baz=329,SNR=12
LONY S S 05 02 23.1 -5.2
baz=329
P49A Miami Univ. Ec 80.95 41 IAmb IAmb 04 52 24.4
comp=Z,318nm,1.2s
P49A Miami Univ. Ec 80.95 41 P P 04 52 21.9 -0.8
baz=324,SNR=45
P49A S S 05 02 26.5 -2.0
baz=324
E62A Clayton Lake 80.95 28 P P 04 52 22.4 -0.3
baz=332,SNR=20
E62A P P 04 52 22.4 -0.3
baz=332,SNR=20
VTS Vitosha 81.02 325⇑ *i*P P 04 52 22.6 -0.6
435B Jarrell 81.04 55 IAMs_20 IAMs_20 05 29 05.2
comp=Z,1µm,20.0s
435B Jarrell 81.04 55 P P 04 52 22.6 -0.8
baz=318
435B S S 05 02 29.1 -0.7
baz=318
435B Jarrell 81.04 55 P P 04 52 23.1 -0.2
baz=318
435B S S 05 02 28.8 -0.9
baz=318
T45A Paducah 81.06 45 IAmb IAmb 04 52 25.4
comp=Z,160nm,0.9s
T45A IAMs_20 IAMs_20 05 28 54.1
comp=Z,1µm,19.0s
T45B Paducah 81.07 45 P P 04 52 23.2 -0.2
baz=322,SNR=7.0
MYKA Terra Mystica 81.07 333 *e*P P 04 52 22.9 -0.5
comp=Z,178nm,1.2s,SNR=63
WCNY West Carthage 81.08 33 P P 04 52 21.5 -1.8
baz=328,SNR=11
A052A Srbac 81.09 329 *e*P P 04 52 23.4 +0.1
WATA Walderalm 81.09 334 *e*P P 04 52 24.1 +0.5
comp=Z,622nm,1.3s,SNR=124
WATA *i* SKS S 05 02 33.4 +3.3
comp=Z,24nm,1.6s
FRNY Flat Rock 81.11 31 P P 04 52 21.0 -2.5
baz=330,SNR=7.9
WTTA Wattenberg 81.14 334 *e*P P 04 52 24.4 +0.6
comp=Z,430nm,1.4s,SNR=153
WTTA *e*SKS S 05 02 33.8 +3.2
comp=Z,9.6nm,1.2s
BFO Black Forest 81.14 337 P P 04 52 24.1 +0.4
BFO Black Forest 81.14 337 P P 04 52 24.1 +0.4
BFO pmax pmax
comp=Z,396nm,1.2s
BFO Black Forest 81.14 337 *e*P P 04 52 24.0 +0.4
comp=Z,399nm,1.2s,baz=27,slow=5.5
HICK Himan 81.15 46 IAMs_20 IAMs_20 05 33 14.3
comp=Z,2µm,21.0s
PEBM Pemiscott Bayo 81.16 46 IAMs_20 IAMs_20 05 32 55.7
comp=Z,2µm,21.0s
RZN Rozhen 81.16 323⇑ *i*P P 04 52 24.3 +0.3
ACSO Alum Creek Sta 81.17 40 IAmb IAmb 04 52 25.7
comp=Z,153nm,0.9s
ACSO IAMs_20 IAMs_20 05 35 23.4
comp=Z,2µm,20.0s
ACSO Alum Creek Sta 81.17 40 P P 04 52 23.1 -0.8
baz=324,SNR=36
ACSO Alum Creek Sta 81.17 40 P P 04 52 23.1 -0.8
baz=324,SNR=36
CRES Cresnjev 81.18 331⇑ *i*P P 04 52 23.6 -0.2
M53A WI Miller and 81.19 37 IAMs_20 IAMs_20 05 29 18.8
comp=Z,2µm,19.0s
M53A WI Miller and 81.19 37 P P 04 52 23.4 -0.5
baz=326,SNR=53
M53A S S 05 02 28.4 -2.5
baz=326
HBAR Harrisburg 81.19 47 P P 04 52 24.0 0.0
baz=321,SNR=6.4
GNAR Gosnell 81.20 47 IAMs_20 IAMs_20 05 32 55.7
comp=Z,2µm,20.0s
RETA Reutte 81.20 335 *e*P P 04 52 24.5 +0.5
comp=Z,321nm,1.4s,SNR=76
J56A Wolcott 81.21 34 IAmb IAmb 04 52 24.5
comp=Z,163nm,1.5s
J56A Wolcott 81.21 34 P P 04 52 22.9 -1.1
baz=328,SNR=9.2
J56A P P 04 52 22.9 -1.1
baz=328,SNR=9.2
UBR Ueberruh 81.22 335 *e*P P 04 52 23.9 -0.2
comp=Z,367nm,1.5s,baz=27,slow=5.5
MOTA Moosalm 81.23 334 *e*P P 04 52 24.7 +0.4
comp=Z,565nm,1.2s,SNR=207
MOTA *e*SKS S 05 02 35.0 +3.5
comp=Z,6.6nm,1.1s
ALLY Alegheny Colle 81.24 37 IAMs_20 IAMs_20 05 33 17.1
comp=Z,2µm,21.0s
ALLY Alegheny Colle 81.24 37 P P 04 52 23.4 -0.8
baz=326,SNR=24
WVNY West Valley, N 81.25 36 IAmb IAmb 04 52 25.9
comp=Z,182nm,1.1s
WVNY West Valley, N 81.25 36 P P 04 52 23.5 -0.7
baz=327,SNR=32
WVNY S S 05 02 27.4 -4.2
baz=327
WCI Wyandotte Cave 81.25 43 P P 04 52 23.9 -0.4
WCI Wyandotte Cave 81.25 43 IAMs_20 IAMs_20 05 26 47.9
comp=Z,2µm,21.0s
WCI Wyandotte Cave 81.25 43 P P 04 52 23.9 -0.4
WCI pmax pmax
comp=Z,379nm,1.4s
WCI Wyandotte Cave 81.25 43 P P 04 52 23.7 -0.6
baz=323
WCI S S 05 02 30.4 -1.3
baz=323
WCI Wyandotte Cave 81.25 43 P P 04 52 23.8 -0.6
baz=323,SNR=36
WCI S S 05 02 29.8 -1.9
baz=323
PRED Cave del Predi 81.26 332 IAmb IAmb 04 52 25.4
comp=Z,197nm,1.1s
LJU Ljubljana 81.30 332 *i* P P 04 52 23.9 -0.5
SQTA Sankt Quirin 81.31 334 *e*P P 04 52 25.0 +0.4
comp=Z,429nm,1.2s,SNR=174
SQTA *e*SKS S 05 02 35.7 +3.4
comp=Z,9.9nm,1.3s
ABTA Abfaltersbach 81.33 333 *e*P P 04 52 24.2 -0.6
comp=Z,156nm,1.2s,SNR=38
ABTA *e*SKS S 05 02 35.4 +2.9
comp=Z,8.5nm,1.2s
GLAT Glass 81.33 46 IAMs_20 IAMs_20 05 33 10.2
comp=Z,2µm,19.0s
WLAR White Oak Lake 81.33 50 IAmb IAmb 04 52 26.9
comp=Z,139nm,0.9s
OZLJ Ozalj 81.36 331 *i* P P 04 52 24.8 +0.1
CDF Champ du Feu 81.36 337 *e*P P 04 52 24.1 -0.8
CDF pmax pmax
comp=Z,624nm,1.4s
A051A Mrakovica 81.38 330⇑ *i*P P 04 52 24.4 -0.6
MORW Morawa 81.40 212 P P 04 52 25.8 +0.8
J57A Williamstown 81.43 33 IAmb IAmb 04 52 26.0
comp=Z,113nm,1.1s
J57A Williamstown 81.43 33 P P 04 52 24.0 -1.2
baz=328,SNR=13
J57A P P 04 52 24.0 -1.2
baz=328,SNR=13
BEIL Beino 81.44 311 *e*P P 04 52 26.0 +0.5
HAPS Han Pijesak,Bl 81.44 328⇑ *i*P P 04 52 25.5 +0.1
F62A Pittston Farm, 81.45 28 IAmb IAmb 04 52 26.7
comp=Z,263nm,1.4s
F62A Pittston Farm, 81.45 28 P P 04 52 24.9 -0.4
baz=332,SNR=18
F62A P P 04 52 24.9 -0.4
baz=332,SNR=18
BATG Bathurst New B 81.45 25 IAmb IAmb 04 52 27.3
comp=Z,134nm,0.9s
BBLS Lazi&#263i 81.46 328 *e*P P 04 52 25.6 +0.2
UTMT University of 81.48 46 IAMs_20 IAMs_20 05 25 46.1
comp=Z,2µm,22.0s
E63A Oxbow 81.49 27 P P 04 52 24.4 -1.1
baz=333,SNR=14
E63A P P 04 52 24.4 -1.1
baz=333,SNR=14
A251A Rujevac 81.51 330 *i* P P 04 52 25.6 +0.1
BLY Banja Luka 81.51 329 *e*P P 04 52 25.0 -0.6
BOJS Bojanci 81.53 331⇑ *i*P P 04 52 24.9 -0.8
VAL Valentia 81.54 349 P P 04 52 25.7 +0.1
VAL Valentia 81.54 349 P P 04 52 23.8 -1.7
FKH Fakeheh 81.55 311 *e*P P 04 52 26.8 +0.7
HTL Hartland 81.57 345 *e*P P 04 52 25.4 -0.3
ECH Echery 81.57 337 P P 04 52 26.3 +0.4
CEY Cerknica 81.60 332 *i* P P 04 52 25.6 -0.5
CEY *e*PP PP 04 55 34.2 +2.1
CEY *i* S S 05 02 37.2 +2.0
CEY Cerknica 81.60 332⇑ *i*P P 04 52 25.7 -0.4
SLE Schleitheim 81.61 336 P P 04 52 26.1 0.0
NCB Newcomb 81.62 32 IAMs_20 IAMs_20 05 35 53.0
comp=Z,2µm,19.0s
NCB Newcomb 81.62 32 P P 04 52 25.2 -1.1
baz=329,SNR=14
FETA Feichten 81.63 335 *e*P P 04 52 26.7 +0.3
comp=Z,362nm,1.5s,SNR=101
FETA *e*SKS S 05 02 38.0 +2.3
comp=Z,15nm,1.5s
N53A Lisbon 81.64 38 IAmb IAmb 04 52 28.2
comp=Z,261nm,1.1s
N53A Lisbon 81.64 38 P P 04 52 25.8 -0.5
baz=326,SNR=50
N53A P P 04 52 25.8 -0.5
baz=326,SNR=50
DAVA Damuels 81.65 335 *e*P P 04 52 26.7 +0.3
comp=Z,389nm,1.2s,SNR=88
DAVA SKS S 05 02 38.3 +2.5
comp=Z,12nm,1.5s
SABO M.te Sabotino 81.66 332 IAmb IAmb 04 52 28.2
comp=Z,341nm,1.6s
RUDO Rudo 81.69 327⇑ *i*P P 04 52 26.0 -0.6
MMB Musomishta 81.70 324⇑ *i*P P 04 52 26.0 -0.7
STAL STALIGIAL 81.70 333 IAmb IAmb 04 52 30.6
comp=Z,193nm,1.1s
ISP Isparta 81.71 317⇓ *e*P P 04 52 27.3 +0.4
ISP pmax pmax
comp=Z,191nm,2.5s
KKB Krupnik 81.71 324 *i* P P 04 52 26.4 -0.3
R49A Shelbyville 81.73 42 IAmb IAmb 04 52 27.9
comp=Z,185nm,1.6s
R49A Shelbyville 81.73 42 P P 04 52 26.4 -0.5
baz=324,SNR=13
R49A P P 04 52 26.4 -0.5
baz=324,SNR=13
R49A S S 05 02 35.7 -1.0
baz=324
R49A S S 05 02 35.7 -1.0
baz=324
P51A Williamsport 81.74 40 IAmb IAmb 04 52 28.4
comp=Z,146nm,0.9s
P51A Williamsport 81.74 40 P P 04 52 25.9 -1.0
baz=325,SNR=26
P51A P P 04 52 25.9 -1.0
baz=325,SNR=26
J58A Remsen 81.75 33 IAmb IAmb 04 52 28.1
comp=Z,137nm,1.1s
J58A Remsen 81.75 33 P P 04 52 25.7 -1.2
baz=329,SNR=28
J58A P P 04 52 25.7 -1.2
baz=329,SNR=28
SJES Sjenica 81.76 327⇑ *i*P P 04 52 27.4 +0.3
HWQ Hawqa 81.77 311 *e*P P 04 52 27.1 -0.2
O52A Adamsville 81.77 39 IAmb IAmb 04 52 28.7
comp=Z,184nm,0.9s
O52A Adamsville 81.77 39 P P 04 52 26.3 -0.8
baz=325,SNR=38
O52A P P 04 52 26.3 -0.8
baz=325,SNR=38
SHAO Shalim 81.80 287 *i* P P 04 52 28.1 +0.5
SNR=49
SHAO Shalim 81.80 287 P P 04 52 28.6 +1.0
SNR=44
K57A Scipio Center 81.81 34 IAmb IAmb 04 52 27.9
comp=Z,141nm,1.3s
K57A Scipio Center 81.81 34 P P 04 52 26.0 -1.2
baz=328,SNR=13
833A Chaparral WMA, 81.81 58 IAmb IAmb 04 52 28.6
comp=Z,247nm,1.9s
833A IAMs_20 IAMs_20 05 25 55.7
comp=Z,1µm,20.0s
833A Chaparral WMA, 81.81 58 P P 04 52 27.1 -0.3
baz=318,SNR=10
833A S S 05 02 37.5 -0.3
baz=318
833A Chaparral WMA, 81.81 58 P P 04 52 27.5 0.0
baz=318,SNR=10
Z41A Richland Creek 81.83 50 IAmb IAmb 04 52 28.2
comp=Z,171nm,1.4s
MGRS Mrkonjic Grad 81.84 329⇑ *i*P P 04 52 27.8 +0.4
PAMR Moraine State 81.84 37 P P 04 52 27.0 -0.5
baz=326
T47A Sharon Grove 81.84 44 P P 04 52 27.1 -0.4
baz=323,SNR=60
VT1 Waterbury 81.85 31 IAmb IAmb 04 52 28.6
comp=Z,160nm,1.4s
AUSMG Snowy Mountain 81.85 183 P P 04 52 29.0 +1.7
G62A West of Eustis 81.85 29 IAmb IAmb 04 52 29.1
comp=Z,281nm,1.4s
G62A West of Eustis 81.85 29 P P 04 52 26.5 -0.9
baz=331,SNR=20
G62A P P 04 52 26.5 -0.9
baz=331,SNR=20
L56A Greenwood 81.89 35 IAmb IAmb 04 52 29.3
comp=Z,99nm,0.9s
L56A Greenwood 81.89 35 P P 04 52 26.0 -1.7
baz=327,SNR=19
L56A P P 04 52 26.0 -1.7
baz=327,SNR=19
F63A Nahmakanta, Br 81.90 28 P P 04 52 27.4 -0.3
baz=332,SNR=5.6
F63A P P 04 52 27.4 -0.3
baz=332,SNR=5.6
SKDS Skadanscina 81.91 332⇑ *i*P P 04 52 26.6 -1.1
PLE Pljevlja 81.92 327⇑ *i*P P 04 52 28.4 +0.4
O53A New Philadelph 81.93 38 IAmb IAmb 04 52 29.6
comp=Z,144nm,0.8s
O53A New Philadelph 81.93 38 P P 04 52 27.1 -0.8
baz=326,SNR=37
O53A S S 05 02 35.6 -3.1
baz=326
PLIT Plitvice 81.95 330 *i* P P 04 52 27.9 0.0
NATX Nacogdoches 81.95 52 IAMs_20 IAMs_20 05 27 27.2
comp=Z,2µm,21.0s
NATX Nacogdoches 81.95 52 P P 04 52 27.9 -0.2
baz=320,SNR=21
NATX S S 05 02 38.1 -1.1
baz=320
NATX Nacogdoches 81.95 52 P P 04 52 28.4 +0.2
baz=320,SNR=21
M55A Ridgway 81.96 36 IAmb IAmb 04 52 30.0
comp=Z,186nm,1.0s
M55A Ridgway 81.96 36 P P 04 52 27.4 -0.7
baz=327,SNR=43
M55A P P 04 52 27.4 -0.7
baz=327,SNR=43
A050A Klekovaca 81.98 330⇑ *i*P P 04 52 27.9 -0.3
HAU Haudompre 81.98 338 *e*P P 04 52 27.2 -0.9
HAU pmax pmax
comp=Z,240nm,1.3s
Q51A Peebles 81.98 40 IAmb IAmb 04 52 30.1
comp=Z,180nm,0.9s
Q51A Peebles 81.98 40 P P 04 52 27.9 -0.3
baz=324,SNR=34
Q51A P P 04 52 27.9 -0.3
baz=324,SNR=34
DYA Yadsworthy 82.00 345⇑ *e*P P 04 52 28.0 -0.1
DYA IAmb IAmb 04 52 30.5
comp=Z,1µm,1.2s
F64A Sherman 82.00 27 IAmb IAmb 04 52 29.3
comp=Z,157nm,1.4s
F64A Sherman 82.00 27 P P 04 52 27.8 -0.3
baz=333,SNR=9.6
F64A P P 04 52 27.8 -0.3
baz=333,SNR=9.6
SBD Saint Breward 82.02 345 *e*P P 04 52 28.1 -0.1
HINF Hinteralfeld 82.02 337 *e*P P 04 52 28.4 +0.1
HINF pmax pmax
comp=Z,102nm,1.2s
P52A Corning 82.03 39 IAmb IAmb 04 52 29.3
comp=Z,96nm,1.1s
P52A IAMs_20 IAMs_20 05 29 34.3
comp=Z,2µm,22.0s
P52A Corning 82.03 39 P P 04 52 27.3 -1.1
baz=325,SNR=12
P52A S S 05 02 38.2 -1.6
baz=325
PPT Papeete 82.06 125 LR LR 05 20 45.9
comp=Z,4µm,21.9s,baz=294,slow=30
MLDN Muldoon 82.08 55 IAmb IAmb 04 52 31.2

comp=Z,168nm,1.1s
MCVT Middlebury Col 82.09 31 P P 04 52 27.8 -0.9
baz=330,SNR=8.1
DAVOX Davos/Dischmat 82.10 335 LR LR 05 33 14.6
comp=Z,2µm,20.3s,baz=31,slow=39
DAVOX Davos/Dischmat 82.10 335 P P 04 52 29.4 +0.5
ZAHL Zahle 82.12 311 *eP* **P 04 52 29.9 +0.7**
IVA Berane 82.12 327⇑*iP* **P 04 52 29.2 +0.2**
R50A Paris 82.13 42 IAmb IAmb 04 52 30.4
comp=Z,125nm,1.2s
R50A Paris 82.13 42 P P 04 52 28.4 -0.6
baz=324,SNR=18
R50A P P **04 52 28.4 -0.6**
baz=324,SNR=18
WVT Waverly 82.17 45 P P 04 52 28.5 -0.7
WVT IAmb IAmb 04 52 30.0
comp=Z,111nm,1.1s
WVT Waverly 82.17 45 IAMs_20 IAMs_20 05 27 40.3
comp=Z,1µm,20.0s
WVT Waverly 82.17 45 P P 04 52 28.5 -0.7
WVT pmax pmax
comp=Z,111nm,1.2s
WVT Waverly 82.17 45 P P 04 52 28.5 -0.7
baz=322
WVT Waverly 82.17 45 P P 04 52 28.9 -0.3
baz=322,SNR=26
H62A Milan 82.20 30 IAmb IAmb 04 52 30.8
comp=Z,329nm,1.4s
H62A Milan 82.20 30 P P 04 52 29.2 -0.1
baz=331,SNR=18
H62A P P **04 52 29.2 -0.1**
baz=331,SNR=18
UDBI Udbina 82.21 330 *i*P **P 04 52 28.9 -0.4**
BHL Bhannes 82.21 311 *eP* **P 04 52 30.3 +0.7**
UPM Unac-Piva 82.22 328 *eP* **P 04 52 29.6 0.0**
UPM Unac-Piva 82.22 328⇑*iP* **P 04 52 29.4 -0.2**
CTI Castel Tesino 82.22 334 IAmb IAmb 04 52 31.3
comp=Z,235nm,1.2s
LBNH Lisbon 82.22 30 IAmb IAmb 04 52 45.7
comp=Z,180nm,1.8s
LBNH Lisbon 82.22 30 P P 04 52 28.6 -0.7
baz=331
LBNH Lisbon 82.22 30 P P 04 52 28.8 -0.6
baz=331
PKME Peaks-Kenny Pk 82.23 28 IAmb IAmb 04 52 30.9
comp=Z,125nm,1.2s
PKME Peaks-Kenny Pk 82.23 28 P P 04 52 28.8 -0.6
baz=332,SNR=7.5
PKME Peaks-Kenny Pk 82.23 28 P P 04 52 28.8 -0.6
baz=332,SNR=7.5
PSDB Penn State Uni 82.25 36 P P 04 52 30.0 +0.4
baz=327
UPAO U. Pittsburgh 82.25 38 P P 04 52 29.2 -0.3
baz=326
SKO Skopje 82.28 325 *i*P **P 04 52 30.3 +0.6**
KOME Kolasin 82.29 327⇑*iP* **P 04 52 29.8 0.0**
SMRN Sveta Marina 82.31 331 *iP* **P 04 52 28.8 -0.9**
ACCN Adirondack Com 82.33 32 IAmb IAmb 04 52 31.5
comp=Z,145nm,1.1s
ACCN Adirondack Com 82.33 32 P P 04 52 28.9 -1.0
baz=330,SNR=20
735A Kenedy 82.34 56 IAmb IAmb 04 52 32.1
comp=Z,213nm,0.9s
735A Kenedy 82.34 56 P P 04 52 31.3 +1.0
baz=319,SNR=15
RABC Rab 82.35 331 *iP* **P 04 52 29.3 -0.7**
O54A Avella 82.35 38 IAmb IAmb 04 52 31.6
comp=Z,239nm,1.2s
O54A Avella 82.35 38 P P 04 52 29.1 -1.0
baz=326,SNR=33
O54A P P **04 52 29.1 -1.0**
baz=326,SNR=33
VAY Valandovo 82.37 324 *i*P **P 04 52 30.5 +0.3**
DOK Doka 82.38 289 P P 04 52 31.5 +0.9
SNR=204
DQRL Deir Qamar 82.41 311 *eP* **P 04 52 31.4 +0.8**
RCY Rachaya 82.43 311 *eP* **P 04 52 31.4 +0.6**
NEVS Nevesinje 82.43 328 *eP* **P 04 52 29.8 -0.8**
KIJV Kijevo 82.44 330 *iP* **P 04 52 30.1 -0.3**
BINY Binghamton 82.46 34 IAmb IAmb 04 52 31.6
comp=Z,113nm,1.3s
BINY Binghamton 82.46 34 P P 04 52 29.4 -1.3
baz=328,SNR=11
BINY Binghamton 82.46 34 P P 04 52 30.0 -0.7
baz=328,SNR=11
MILA Mila 82.47 182 P P 04 52 32.0 +1.5
QRWL Qaraoun 82.47 311 *eP* **P 04 52 30.6 -0.3**
DMTO DMTO 82.47 288 P P 04 52 31.8 +0.7
SNR=63
CCA1 Carnmenellis 82.47 346⇑*eP* **P 04 52 30.7 +0.1**
CCA1 IAmb IAmb 04 52 32.4
comp=Z,549nm,1.2s
P53A Whipple 82.48 39 IAmb IAmb 04 52 32.0
comp=Z,111nm,1.1s
P53A Whipple 82.48 39 P P 04 52 29.8 -1.0
baz=326,SNR=19
P53A P P **04 52 29.8 -1.0**
baz=326,SNR=19
NVLJ Novalja 82.48 331 *iP* **P 04 52 29.9 -0.8**
VDL Val di Lei 82.50 335 P P 04 52 31.4 +0.4
Q52A Bidwell 82.52 40 IAmb IAmb 04 52 32.1
comp=Z,125nm,1.1s
Q52A Bidwell 82.52 40 P P 04 52 29.7 -1.3
baz=325,SNR=17
Q52A P P **04 52 29.7 -1.3**
baz=325,SNR=17
BLDU Ballidu 82.56 210 P P 04 52 32.5 +1.5
BRJN Brijuni 82.56 332 *iP* **P 04 52 30.2 -0.8**
HNH Hanover 82.56 31 IAmb IAmb 04 52 32.6
comp=Z,116nm,1.3s
NKME Niksic 82.57 327⇑*iP* **P 04 52 30.4 -0.9**
RICI Ricice 82.62 329 *iP* **P 04 52 30.6 -0.8**
OXF Oxford 82.64 47 IAMs_20 IAMs_20 05 32 10.0
comp=Z,2µm,22.0s
OXF Oxford 82.64 47 P P 04 52 30.8 -0.9
baz=322,SNR=7.7
HCNY Howe Caverns 82.65 33 P P 04 52 30.5 -1.1
baz=329,SNR=8.2
VIRC Vir 82.66 331 *iP* **P 04 52 30.6 -0.9**
HKT Hockley 82.66 54 P P 04 52 31.6 -0.2
HKT Hockley 82.66 54 IAMs_20 IAMs_20 05 25 44.7
comp=Z,2µm,22.0s
HKT Hockley 82.66 54*c iP* **P 04 52 31.4 -0.4**
HKT pmax pmax
comp=Z,40nm,1.3s
HKT MLR MLR
comp=Z,1µm,19.0s
HKT Hockley 82.66 54 P P 04 52 31.8 0.0
baz=319
ARPS Mount Arapiles 82.67 188 P P 04 52 32.7 +1.3
WVL Waterville 82.72 29 IAmb IAmb 04 52 33.4
comp=Z,174nm,1.3s
M57A Sunshine Farm, 82.74 35 IAmb IAmb 04 52 33.9
comp=Z,101nm,0.9s
M57A Sunshine Farm, 82.74 35 P P 04 52 31.5 -0.6
baz=328,SNR=30
M57A P P **04 52 31.5 -0.6**
baz=328,SNR=30
I62A Tamworth 82.75 30 IAMs_20 IAMs_20 05 30 57.8
comp=Z,2µm,20.0s
CEME Cevo 82.77 327⇑*iP* **P 04 52 32.8 +0.5**
J61A Chester 82.78 31 IAMs_20 IAMs_20 05 35 53.5
comp=Z,2µm,19.0s
J61A Chester 82.78 31 P P 04 52 32.0 -0.2
baz=330,SNR=11
J61A P P **04 52 32.0 -0.2**
baz=330,SNR=11
MORI Morici 82.80 330 *iP* **P 04 52 31.7 -0.6**
L59A Walton 82.84 33 IAmb IAmb 04 52 34.2
comp=Z,163nm,1.0s
L59A Walton 82.84 33 P P 04 52 31.7 -1.0
baz=329,SNR=22
L59A P P **04 52 31.7 -1.0**
baz=329,SNR=22
MAKA Makarska 82.84 329 *iP* **P 04 52 31.5 -1.1**
TREB Trebinje 82.84 328 *eP* **P 04 52 32.8 +0.2**
G65A Princeton 82.85 27 IAmb IAmb 04 52 33.4
comp=Z,166nm,1.2s
G65A Princeton 82.85 27 P P 04 52 32.5 -0.1
baz=333,SNR=11
G65A P P **04 52 32.5 -0.1**
baz=333,SNR=11
I63A Otisfield 82.86 30 IAmb IAmb 04 52 35.2
comp=Z,209nm,1.1s
I63A Otisfield 82.86 30 P P 04 52 32.6 -0.1
baz=331,SNR=14
I63A P P **04 52 32.6 -0.1**
baz=331,SNR=14
U49A Red Boiling Sp 82.87 44 IAmb IAmb 04 52 34.9
comp=Z,178nm,1.1s
U49A Red Boiling Sp 82.87 44 P P 04 52 32.0 -0.8
baz=323,SNR=59
ASF Jabal al Asfar 82.88 309 LR LR 05 35 36.2
comp=Z,3µm,19.4s,baz=62,slow=40
TRY Troy 82.90 32 P P 04 52 32.2 -0.7
baz=330,SNR=8.9
T50A Nancy 82.91 43 IAmb IAmb 04 52 35.0
comp=Z,163nm,1.0s
T50A Nancy 82.91 43 P P 04 52 32.2 -0.9
baz=324
T50A P P **04 52 32.2 -0.9**
baz=324
FLN La Foliniere 82.92 342 *eP* **P 04 52 32.0 -0.9**
FLN pmax pmax
comp=Z,577nm,1.4s
DUGI Dugi Otok 82.92 330 *i*P **P 04 52 32.4 -0.6**
CLTN Cedars of Leba 82.94 44 IAmb IAmb 04 52 35.3
comp=Z,162nm,1.1s
CLTN IAMs_20 IAMs_20 05 33 03.5
comp=Z,2µm,19.0s
PLAL Pickwick Lake 82.95 46 IAmb IAmb 04 52 34.3
comp=Z,98nm,1.1s
STON Ston 82.95 328⇑*iP* **P 04 52 30.4 -2.7**
V48A Smith Brothers 82.97 45 IAmb IAmb 04 52 34.7
comp=Z,149nm,1.2s
V48A IAMs_20 IAMs_20 05 26 33.6
comp=Z,2µm,22.0s
V48A Smith Brothers 82.97 45 P P 04 52 32.8 -0.7
baz=323,SNR=38
DRME Dracevica, Mon 82.98 327⇑*iP* **P 04 52 33.1 -0.2**
DRME Dracevica, Mon 82.98 327⇑*iP* **P 04 52 33.4 +0.1**
BUM Brajici-Budva 82.99 327⇑*iP* **P 04 52 33.9 +0.4**
S51A Beattyville 82.99 41 IAmb IAmb 04 52 34.7
comp=Z,108nm,1.1s
S51A IAMs_20 IAMs_20 05 34 25.9
comp=Z,2µm,20.0s
S51A Beattyville 82.99 41 P P 04 52 32.4 -1.1
baz=324,SNR=19
S51A P P **04 52 32.4 -1.1**
baz=324,SNR=19
LDF La Druitiere 83.00 342 *eP* **P 04 52 33.5 +0.2**
LDF pmax pmax
comp=Z,344nm,1.4s
143A Socs Landing, 83.00 50 IAmb IAmb 04 52 34.8
comp=Z,213nm,1.4s
143A IAMs_20 IAMs_20 05 32 17.7
comp=Z,2µm,20.0s
143A Socs Landing, 83.00 50 P P 04 52 32.9 -0.7
baz=321,SNR=10
ZIRJ Zirje 83.01 330 *i*P **P 04 52 32.7 -0.8**
MCWV Mont Chateau 83.01 38 IAmb IAmb 04 52 35.3
comp=Z,136nm,1.1s
MCWV Mont Chateau 83.01 38 P P 04 52 33.4 -0.2
baz=326,SNR=18
MCWV S **S 05 02 47.9 -1.9**
baz=326
MCWV Mont Chateau 83.01 38 P P 04 52 33.1 -0.4
baz=326,SNR=18
HCY Herceg Novi 83.02 327 *eP* **P 04 52 32.1 -1.4**
HCY Herceg Novi 83.02 327⇑*iP* **P 04 52 35.5 +2.0**
SSPA Standing Stone 83.02 36 P P **04 52 33.4 -0.2**
SSPA IAmb IAmb 04 52 34.3
comp=Z,196nm,1.4s
SSPA Standing Stone 83.02 36 IAMs_20 IAMs_20 05 36 24.3
comp=Z,2µm,22.0s
SSPA Standing Stone 83.02 36 P P 04 52 33.0 -0.6
baz=327
SSPA Standing Stone 83.02 36 P P 04 52 32.2 -1.3
baz=327,SNR=18
MMAI Mount Meron Ar 83.03 311 P **P 04 52 35.0 +1.2**
comp=Z,1µm,1.2s,baz=42,slow=5.1,SNR=185
MMAI LR LR 05 34 19.7
comp=Z,10µm,20.2s,baz=334,slow=39
Y45A Yeager Farm, C 83.08 48 P **P 04 52 34.3 +0.3**
baz=322,SNR=8.2
KLBR Kellerberrin 83.08 209 P P 04 52 34.3 +0.6
KSPA Keystone Colle 83.10 34 IAmb IAmb 04 52 34.9
comp=Z,98nm,1.2s
KSPA Keystone Colle 83.10 34 P P 04 52 33.0 -0.9
baz=328,SNR=13
WHFO Wadi Hawf 83.11 288 P P 04 52 35.0 +0.5
SNR=126
LMN Caledonia Moun 83.11 25 IAmb IAmb 04 52 35.3
comp=Z,67nm,1.0s
RBK Rabkut 83.12 288 P P 04 52 35.3 +0.8
SNR=105
RBK P **PcP 04 52 35.5 -3.5**
SIMPL Simplonpass 83.14 336 P P 04 52 34.8 +0.5
HVAR Hvar 83.14 329 *i*P **P 04 52 32.7 -1.5**
Q54A Coxs Mills 83.14 39 IAmb IAmb 04 52 35.8
comp=Z,190nm,1.2s
Q54A Coxs Mills 83.14 39 P P 04 52 33.7 -0.5
baz=326,SNR=27
Q54A P P **04 52 33.7 -0.5**
baz=326,SNR=27
GGN Saint George 83.15 27 IAmb IAmb 04 52 35.3
comp=Z,145nm,1.3s
TOO Toolangi 83.16 185 IAMs_20 IAMs_20 05 31 35.3
comp=Z,2µm,19.0s
TOO Toolangi 83.16 185 P P 04 52 35.6 +1.6
TOO Toolangi 83.16 185 P P 04 52 36.0 +2.0
HBVL Hebbronville 83.17 58 IAmb IAmb 04 52 36.7
comp=Z,240nm,1.1s
R53A Hurricane 83.18 40 IAmb IAmb 04 52 35.8
comp=Z,95nm,1.1s
R53A IAMs_20 IAMs_20 05 33 05.7
comp=Z,2µm,20.0s
R53A Hurricane 83.18 40 P P 04 52 34.1 -0.4
baz=325,SNR=13
R53A P P **04 52 34.1 -0.4**
baz=325,SNR=13
BRAT Ballarat 83.25 187 P P 04 52 36.6 +2.2
OHR Ohrid 83.27 325 *iP* **P 04 52 34.9 0.0**
KVTX Kingsville 83.27 57 IAmb IAmb 04 52 37.9
comp=Z,258nm,1.3s
LOR Lormes 83.31 339 *eP* **P 04 52 34.3 -0.7**
LOR pmax pmax
comp=Z,634nm,1.3s
FNA Florina 83.31 325 IAmb IAmb 04 52 37.3
comp=Z,138nm,1.3s
EMMW East Machias 83.32 27 IAmb IAmb 04 52 36.4
comp=Z,161nm,1.2s
N58A Sunbury 83.33 35 IAmb IAmb 04 52 36.9
comp=Z,147nm,1.1s
N58A Sunbury 83.33 35 P P 04 52 34.5 -0.6
baz=328,SNR=20
N58A P P **04 52 34.5 -0.6**
baz=328,SNR=20
CABF La Chapelle 83.33 337 *eP* **P 04 52 36.0 +0.8**
CABF pmax pmax
comp=Z,371nm,1.5s
LSTV Lastovo 83.34 329 *iP* **P 04 52 34.5 -0.6**
GRR Gorron 83.35 342 *eP* **P 04 52 34.4 -0.7**
GRR pmax pmax
comp=Z,599nm,1.3s
TIR Tirane 83.43 326⇑*iP* **P 04 52 35.7 0.0**
TIR Tirane 83.43 326⇑*iP* **P 04 52 35.7 0.0**
DIX Grande Dixence 83.45 336 P **P 04 52 36.7 +0.6**
K62A Royalston 83.48 31 IAmb IAmb 04 52 37.4
comp=Z,117nm,1.2s
K62A Royalston 83.48 31 P P 04 52 35.2 -0.7
baz=330,SNR=9.8
K62A P P **04 52 35.2 -0.7**
baz=330,SNR=9.8
L61B Northampton 83.51 32 P P 04 52 35.1 -1.0
baz=330,SNR=6.4
L61B Northampton 83.51 32 P P 04 52 35.0 -1.0
baz=330,SNR=6.4
NPNY Mohonk Preserv 83.56 33 P P 04 52 35.3 -1.0
baz=329,SNR=9.2
SSF Saint Saulge 83.59 339 *eP* **P 04 52 36.9 +0.5**
SSF pmax pmax
comp=Z,302nm,1.2s
UNH University of 83.60 30 P P 04 52 35.7 -0.8
baz=331,SNR=13
BALJ Balqa 83.62 310 IAmb IAmb 04 52 40.4
comp=Z,1µm,1.1s
QUA2 Belchertown 83.78 32 P P 04 52 36.8 -0.6
baz=330,SNR=6.5
ABTO Aybut 83.83 288 P P 04 52 38.9 +0.7
SNR=191
SGMF Saint Gilles 83.83 343 *eP* **P 04 52 38.1 +0.5**
SGMF pmax pmax
comp=Z,218nm,1.0s
CIRO Champorcher 83.85 336 P P 04 52 38.6 +0.5
VBMS Vicksburg 83.85 49 IAMs_20 IAMs_20 05 36 46.1
comp=Z,2µm,19.0s
VBMS Vicksburg 83.85 49 P P 04 52 38.0 +0.1
baz=321,SNR=15
VBMS Vicksburg 83.85 49 P P 04 52 38.2 +0.3
baz=321,SNR=15
HRV Adam Dziewonsk 83.86 31 P P 04 52 37.9 0.0
HRV IAmb IAmb 04 52 39.4
comp=Z,198nm,1.3s
HRV Adam Dziewonsk 83.86 31 IAMs_20 IAMs_20 05 36 27.3
comp=Z,2µm,20.0s
HRV Adam Dziewonsk 83.86 31⇓*P* **P 04 52 37.3 -0.6**
HRV Adam Dziewonsk 83.86 31 P P 04 52 37.4 -0.4
baz=331
HRV Adam Dziewonsk 83.86 31 P P 04 52 37.4 -0.4
baz=331,SNR=11
AVF Avril sur Loir 83.88 339 *eP* **P 04 52 36.3 -1.6**
AVF pmax pmax
comp=Z,789nm,1.4s
X48A Hartselle 83.89 46 IAMs_20 IAMs_20 05 34 46.8
comp=Z,1µm,20.0s
X48A Hartselle 83.89 46 P P 04 52 37.2 -0.9
baz=323,SNR=18
ROSF Rostrenen 83.89 344 *eP* **P 04 52 38.5 +0.6**
ROSF pmax pmax
comp=Z,434nm,1.1s
SMF Signal de Mont 83.89 339 *eP* **P 04 52 37.5 -0.5**
SMF pmax pmax
comp=Z,1µm,1.3s
BRNY Black Rk. Fore 83.90 33 P P 04 52 37.4 -0.7
baz=330,SNR=10
TZTN Tazewell 83.90 42 IAmb IAmb 04 52 40.3
comp=Z,186nm,1.1s
TZTN Tazewell 83.90 42 P P 04 52 37.8 -0.5
baz=324,SNR=24
TZTN S **SKSac 05 02 57.5 -0.6**
baz=324
TZTN Tazewell 83.90 42 P P 04 52 37.9 -0.3
baz=324,SNR=24
S54A Dingess, Beckl 83.90 40 IAmb IAmb 04 52 40.1
comp=Z,72nm,0.9s
S54A Dingess, Beckl 83.90 40 P P 04 52 37.8 -0.4
baz=326,SNR=12
S54A P P **04 52 37.8 -0.4**
baz=326,SNR=12
P57A Homestead Farm 83.94 37 IAmb IAmb 04 52 39.6
comp=Z,123nm,1.4s
P57A Homestead Farm 83.94 37 P P 04 52 37.6 -0.7
baz=327,SNR=15
P57A P P **04 52 37.6 -0.7**
baz=327,SNR=15
ZAIG Zacatecas 83.95 64 IAMs_20 IAMs_20 05 23 33.0
comp=Z,2µm,21.0s
ODNJ Ogdensburg 83.95 34 P P 04 52 36.9 -1.5
baz=329
RSL Roselend 84.03 337 P P 04 52 39.5 +0.6
R55A Marlinton 84.03 39 P P 04 52 38.5 -0.4
baz=326,SNR=33
R55A P P **04 52 38.5 -0.4**
baz=326,SNR=33
TRNY Table Rock, Ra 84.05 33 IAmb IAmb 04 52 39.9
comp=Z,182nm,1.3s
TRNY IAMs_20 IAMs_20 05 34 33.3
comp=Z,2µm,22.0s
WES Weston 84.06 31 IAmb IAmb 04 52 40.9
comp=Z,188nm,1.1s
WES Weston 84.06 31 P P 04 52 38.5 -0.4
baz=331,SNR=15
LUPA Lehigh Univers 84.07 34 IAmb IAmb 04 52 40.7
comp=Z,194nm,1.4s
LUPA IAMs_20 IAMs_20 05 35 10.9
comp=Z,2µm,20.0s
V51A Loudon 84.12 43 IAmb IAmb 04 52 41.1
comp=Z,169nm,1.1s
V51A Loudon 84.12 43 P P 04 52 38.5 -0.8
baz=324,SNR=33
W50A Signal Mountai 84.14 44 IAmb IAmb 04 52 40.0
comp=Z,106nm,1.2s
W50A Signal Mountai 84.14 44 P P 04 52 38.6 -0.9
baz=324,SNR=23
BCX Boston College 84.16 31 IAmb IAmb 04 52 40.6
comp=Z,225nm,1.4s
LPL La Plagne 84.16 336 *eP* **P 04 52 39.7 +0.1**
LPL pmax pmax
comp=Z,375nm,1.3s
LPG La Plagne 84.17 336 *eP* **P 04 52 39.9 +0.1**
LPG pmax pmax
comp=Z,701nm,1.5s
MVL Millersville 84.19 35 IAmb IAmb 04 52 40.8
comp=Z,165nm,1.5s
BGF Bois d'Agland 84.22 339 *eP* **P 04 52 39.2 -0.4**
BGF pmax pmax
comp=Z,536nm,1.7s
UCCT U. Connecticut 84.24 32 IAMs_20 IAMs_20 05 36 39.3
comp=Z,2µm,18.0s
QUIF Quistinic 84.27 344 *eP* **P 04 52 41.2 +1.4**
QUIF pmax pmax
comp=Z,166nm,1.2s
146A Union 84.29 48 IAMs_20 IAMs_20 05 31 54.7
comp=Z,2µm,22.0s
146A Union 84.29 48 P P 04 52 39.3 -0.9
baz=322,SNR=44
PAL Palisades 84.29 33 IAmb IAmb 04 52 41.3
comp=Z,213nm,1.4s
PAL Palisades 84.29 33 P P 04 52 39.3 -0.8
baz=330,SNR=12
PAL Palisades 84.29 33 P P 04 52 39.0 -1.0
baz=330,SNR=12
VLC Villacollemand 84.31 333 P P 04 52 39.4 -0.7
BRNJ Basking Ridge 84.31 34 P P 04 52 38.2 -1.9
baz=329,SNR=6.1
CPCT Cooper Cave 84.33 43 IAmb IAmb 04 52 42.1
comp=Z,180nm,1.2s
GUMA Gualdo di Mace 84.33 331 IAmb IAmb 04 53 00.6
comp=Z,414nm,1.2s
Z47A Carrollton 84.36 47 IAMs_20 IAMs_20 05 33 13.5
comp=Z,1µm,20.0s
Z47A Carrollton 84.36 47 P P 04 52 39.8 -0.7
baz=322,SNR=36
WSPT Westport, CT 84.37 33 IAmb IAmb 04 52 41.8
comp=Z,70nm,1.1s
RAYN Ar Rayn 84.37 298 P P 04 52 41.7 +0.9
RAYN Ar Rayn 84.37 298⇑*P* **P 04 52 41.5 +0.7**
RAYN Ar Rayn 84.37 298 *iP* **P 04 52 41.3 +0.5**
SNR=213
RAYN Ar Rayn 84.37 298 P P 04 52 42.1 +1.2
AGG Agios Georgios 84.40 323 IAmb IAmb 04 52 41.1
comp=Z,82nm,1.2s
FOR Fordham 84.42 33 P P 04 52 40.0 -0.7
baz=330,SNR=8.8
V52A Sevierville 84.45 42 P P 04 52 40.6 -0.4
baz=325,SNR=42
CPNY Central Park 84.46 33 IAmb IAmb 04 52 42.8
comp=Z,131nm,1.1s
NWAO Narrogin (SRO) 84.48 209 IAMs_20 IAMs_20 05 34 44.5
comp=Z,1µm,19.0s
NWAO Narrogin (SRO) 84.48 209 P P 04 52 41.1 +0.3
NWAO Narrogin (SRO) 84.48 209 P P 04 52 41.3 +0.5
NWAO Narrogin (SRO) 84.48 209 P P 04 52 40.6 -0.2
NWAO pmax pmax
comp=Z,60nm,1.0s
NWAO Narrogin (SRO) 84.48 209 LR LR 05 35 32.0
comp=Z,512nm,18.1s,baz=27,slow=39
SDMD Soldier's Deli 84.48 36 P P 04 52 40.4 -0.7
baz=328,SNR=13
TUPA Temple Univers 84.51 35 P P 04 52 40.3 -0.9
baz=329,SNR=22
TKL Tuckaleechee C 84.52 43 P P 04 52 40.7 -0.6
baz=324,SNR=51
TKL Tuckaleechee C 84.52 43 LR LR 05 29 46.6
comp=Z,2µm,21.8s,baz=335,slow=35
PANJ Princeton 84.52 34 P P 04 52 40.7 -0.5
baz=329,SNR=14
FPAL Fort Paine 84.53 45 IAmb IAmb 04 52 41.8
comp=Z,141nm,1.2s
FPAL IAMs_20 IAMs_20 05 28 55.7
comp=Z,2µm,21.0s
WUPA West Chester U 84.54 35 IAmb IAmb 04 52 43.6
comp=Z,110nm,1.6s
HAL Halifax 84.57 25 IAmb IAmb 04 52 43.4
comp=Z,76nm,1.0s
BNI Bardonecchia 84.60 336 P P 04 52 42.7 +0.9
BNI Bardonecchia 84.60 336 P P 04 52 42.7 +0.9
BNI pmax pmax
comp=Z,374nm,1.6s

BNI MLR MLR
comp=Z,4µm,20.0s
OSSC Osservatorio P 84.61 333 IAmb IAmb 04 52 43.4
comp=Z,203nm,1.2s
PSUB Penn St. - Bra 84.61 35 P **P 04 52 39.5 -2.2**
baz=329
L64A Middleborough 84.62 31 P **P 04 52 41.3 -0.4**
L64A baz=331,SNR=9.8
P **P 04 52 41.3 -0.4**
baz=331,SNR=9.8
BHB Bricherasio 84.63 336 P **P 04 52 40.2 -1.5**
TCF Toulx Ste Croi 84.63 340 *e*P **P 04 52 42.5 +0.8**
TCF pmax pmax
comp=Z,498nm,1.7s
APE Apeiranthos 84.63 320 ⇑P **P 04 52 40.1 -1.9**
APE Apeiranthos 84.63 320 *ce*P **P 04 52 41.1 -0.8**
APE pmax pmax
comp=Z,123nm,1.1s
APE MLR MLR
comp=Z,3µm,19.0s
GEDE Greenville 84.64 35 P **P 04 52 41.4 -0.4**
baz=329,SNR=18
M63A Gales Ferry 84.65 32 P **P 04 52 41.0 -0.8**
baz=331,SNR=9.3
M63A P **P 04 52 41.0 -0.8**
baz=331,SNR=9.3
Y49A Blount Mountai 84.68 46 IAmb IAmb 04 52 43.7
comp=Z,102nm,1.1s
Y49A Blount Mountai 84.68 46 P **P 04 52 41.4 -0.7**
baz=323,SNR=21
U54A Nelsons Funny 84.72 41 IAmb IAmb 04 52 44.3
comp=Z,116nm,1.0s
U54A IAMs_20 IAMs_20 05 33 47.6
comp=Z,2µm,20.0s
U54A Nelsons Funny 84.72 41 P **P 04 52 42.1 -0.3**
baz=325,SNR=17
U54A P **P 04 52 42.1 -0.3**
baz=325,SNR=17
BLA Blacksburg 84.79 40 P **P 04 52 42.1 -0.6**
baz=326,SNR=19
BLA S **SKSac 05 03 05.0 +1.1**
baz=326
BLA Blacksburg 84.79 40 P **P 04 52 42.5 -0.3**
baz=326,SNR=19
MBDF Montbardon 84.87 336 *e*P **P 04 52 43.2 0.0**
MBDF pmax pmax
comp=Z,575nm,2.0s
X51A Calhoun 84.88 44 IAmb IAmb 04 52 44.5
comp=Z,125nm,1.1s
X51A IAMs_20 IAMs_20 05 29 07.9
comp=Z,2µm,22.0s
X51A Calhoun 84.88 44 P **P 04 52 42.6 -0.6**
baz=324,SNR=16
X51A P **P 04 52 42.6 -0.6**
baz=324,SNR=16
MFF Saint Martin d 84.89 341 *e*P **P 04 52 43.8 +0.8**
MFF pmax pmax
comp=Z,148nm,0.8s
W52A Murphy 84.90 43 IAmb IAmb 04 52 44.7
comp=Z,98nm,1.1s
W52A Murphy 84.90 43 P **P 04 52 43.0 -0.3**
baz=324,SNR=17
ORIF Oris-en-Rattie 84.95 337 *e*P **P 04 52 44.6 +1.2**
ORIF pmax pmax
comp=Z,262nm,1.1s
V53A Saluda 84.96 42 IAmb IAmb 04 52 45.0
comp=Z,113nm,1.1s
V53A Saluda 84.96 42 P **P 04 52 43.2 -0.4**
baz=325,SNR=26
V53A P **P 04 52 43.2 -0.4**
baz=325,SNR=26
S57A Dark Hollow, R 84.98 38 IAmb IAmb 04 52 45.2
comp=Z,99nm,1.1s
S57A Dark Hollow, R 84.98 38 P **P 04 52 42.6 -1.0**
baz=327,SNR=19
S57A P **P 04 52 42.6 -1.0**
baz=327,SNR=19
SSB Saint Sauveur 84.98 338 P **P 04 52 44.3 +0.8**
M65A Busby, Falmout 85.02 31 P **P 04 52 42.5 -1.2**
baz=332
LRAL Lakeview Retre 85.04 46 IAMs_20 IAMs_20 05 35 34.2
comp=Z,2µm,20.0s
LRAL Lakeview Retre 85.04 46 P **P 04 52 42.9 -1.0**
baz=323,SNR=13
LRAL S **SKSac 05 03 07.5 +2.1**
baz=323
LRAL Lakeview Retre 85.04 46 P **P 04 52 42.9 -1.0**
baz=323,SNR=13
346A Big Creek Wild 85.06 49 P **P 04 52 44.5 +0.5**
baz=322,SNR=11
INTR Introdacqua 85.06 330 IAmb IAmb 04 52 46.9
comp=Z,147nm,0.9s
P61A Hammonton 85.09 35 P **P 04 52 43.4 -0.7**
baz=329,SNR=5.8
P61A P **P 04 52 43.4 -0.7**
baz=329,SNR=5.8
MATE Matera 85.25 328 ⇑P **P 04 52 43.4 -1.4**
R58B Mineral 85.27 37 IAmb IAmb 04 52 46.5
comp=Z,82nm,1.1s
R58B Mineral 85.27 37 P **P 04 52 43.9 -1.2**
baz=328,SNR=15
R58B P **P 04 52 43.9 -1.2**
baz=328,SNR=15
CBN Corbin Frederi 85.28 37 P **P 04 52 44.5 -0.6**
baz=328,SNR=8.9
CBN Corbin Frederi 85.28 37 P **P 04 52 44.8 -0.2**
baz=328,SNR=8.9
VIVF Saint-Julien-l 85.33 338 *e*P **P 04 52 46.4 +1.1**
VIVF pmax pmax
comp=Z,403nm,1.3s
CASEE Lake Jocassee 85.45 43 P **P 04 52 46.0 -0.1**
baz=325,SNR=47
SBF Sospel 85.47 335 *e*P **P 04 52 46.2 +0.1**
SBF pmax pmax
comp=Z,597nm,1.4s
T57A Hurt 85.48 39 IAmb IAmb 04 52 46.7
comp=Z,229nm,1.6s
T57A Hurt 85.48 39 P **P 04 52 45.6 -0.5**
baz=327,SNR=18
T57A P **P 04 52 45.6 -0.5**
baz=327,SNR=18
U56A King 85.52 40 IAmb IAmb 04 52 47.7
comp=Z,174nm,1.4s
U56A King 85.52 40 P **P 04 52 45.5 -0.9**
baz=326,SNR=13
U56A P **P 04 52 45.5 -0.9**
baz=326,SNR=13
V55A Taylorsville 85.55 41 IAmb IAmb 04 52 47.1
comp=Z,187nm,1.6s
V55A Taylorsville 85.55 41 P **P 04 52 45.9 -0.6**
baz=326,SNR=12
V55A P **P 04 52 45.9 -0.6**
baz=326,SNR=12
TOZ Tahuroa Road 85.69 162 IAmb IAmb 04 53 08.0
comp=Z,150nm,1.6s
Y52A Lilburn 85.83 44 IAmb IAmb 04 52 50.0
comp=Z,120nm,1.1s
Y52A Lilburn 85.83 44 P **P 04 52 47.6 -0.3**
baz=324,SNR=25
Y52A P **P 04 52 47.6 -0.3**
baz=324,SNR=25
EIL Elat 85.87 309 LR LR 05 37 00.3
comp=Z,3µm,18.9s,baz=32,slow=40
CAF Calviac 85.94 339 *e*P **P 04 52 47.4 -0.9**
CAF pmax pmax
comp=Z,458nm,1.4s
KMSC Kings Mountain 86.08 41 IAmb IAmb 04 52 50.3
comp=Z,173nm,1.2s
KMSC Kings Mountain 86.08 41 P **P 04 52 48.4 -0.7**
baz=326,SNR=32
PAULI Pauline 86.12 42 IAmb IAmb 04 52 51.1
comp=Z,90nm,1.0s
PAULI Pauline 86.12 42 P **P 04 52 48.8 -0.5**
baz=326,SNR=14
CUC Castrocucco 86.15 328 IAmb IAmb 04 52 50.7
comp=Z,153nm,1.2s
PGF Pioggiola 86.20 334 *e*P **P 04 52 49.9 +0.2**
PGF pmax pmax
comp=Z,459nm,1.3s
T59A Double "B" Far 86.24 38 IAmb IAmb 04 52 51.4
comp=Z,168nm,1.3s
T59A Double "B" Far 86.24 38 P **P 04 52 49.1 -0.8**
baz=328,SNR=18
T59A P **P 04 52 49.1 -0.8**
baz=328,SNR=18
250A Grady 86.25 47 IAMs_20 IAMs_20 05 36 08.4
comp=Z,1µm,18.0s
250A Grady 86.25 47 P **P 04 52 49.8 -0.2**
baz=323,SNR=62
LFF La Frestale 86.25 340 *e*P **P 04 52 49.7 -0.1**
LFF pmax pmax
comp=Z,153nm,0.8s
HODGE Hodges 86.39 43 IAmb IAmb 04 52 52.9
comp=Z,193nm,1.3s
HODGE Hodges 86.39 43 P **P 04 52 50.2 -0.4**
baz=325,SNR=30
IDI Anoyia 86.39 319 P **P 04 52 49.1 -1.7**
IDI Anoyia 86.39 319 LR LR 05 35 19.2
comp=Z,43nm,20.2s,baz=68,slow=38
152A Waverly Hall 86.47 45 IAmb IAmb 04 52 52.9
comp=Z,200nm,1.4s
152A IAMs_20 IAMs_20 05 36 45.3
comp=Z,2µm,18.0s
152A Waverly Hall 86.47 45 P **P 04 52 50.7 -0.4**
baz=324,SNR=24
GOGA Godfrey 86.49 44 IAmb IAmb 04 52 52.7
comp=Z,65nm,1.0s
GOGA Godfrey 86.49 44 IAMs_20 IAMs_20 05 28 48.5
comp=Z,2µm,21.0s
GOGA Godfrey 86.49 44 P **P 04 52 50.5 -0.6**
baz=325
GOGA S **S 05 03 21.9 -2.5**
baz=325
GOGA Godfrey 86.49 44 P **P 04 52 50.8 -0.4**
baz=325
BRAL Brewton 86.49 48 P **P 04 52 51.2 0.0**
baz=323,SNR=8.1
BRAL S **S 05 03 24.7 +0.1**
baz=323
BRAL Brewton 86.49 48 P **P 04 52 51.5 +0.3**
baz=323,SNR=8.1
TIP Timpagrande 86.50 327 ⇑P **P 04 52 50.5 -0.7**
V58A Windy Hill, Pi 86.55 40 IAmb IAmb 04 52 52.9
comp=Z,174nm,1.2s
V58A Windy Hill, Pi 86.55 40 P **P 04 52 51.4 0.0**
baz=327,SNR=17
V58A P **P 04 52 51.4 0.0**
baz=327,SNR=17
URZ Urewera 86.56 161 P **P 04 52 49.2 -1.8**
comp=Z,29nm,1.0s,baz=301,slow=2.9,SNR=8.7
URZ LR LR 05 25 57.9
comp=Z,3µm,21.8s,baz=96,slow=32
comp=Z,29nm,1.0s
U59A Littleton 86.66 38 IAmb IAmb 04 52 53.5
comp=Z,143nm,1.3s
U59A Littleton 86.66 38 P **P 04 52 51.1 -0.8**
baz=328,SNR=12
U59A P **P 04 52 51.1 -0.8**
baz=328,SNR=12
W57A Gilead 86.69 40 IAmb IAmb 04 52 54.0
comp=Z,145nm,1.1s
W57A Gilead 86.69 40 P **P 04 52 51.5 -0.6**
baz=326,SNR=20
W57A P **P 04 52 51.5 -0.6**
baz=326,SNR=20
AULHS Lilydale High 86.72 184 P **P 04 52 53.6 +1.8**
JSC Jenkinsville 86.82 42 P **P 04 52 51.9 -0.9**
JSC IAmb IAmb 04 52 54.2
comp=Z,115nm,1.1s
JSC Jenkinsville 86.82 42 P **P 04 52 51.9 -0.9**
JSC pmax pmax
comp=Z,115nm,1.1s
JSC MLR MLR
comp=Z,3µm,21.0s
JSC Jenkinsville 86.82 42 P **P 04 52 52.5 -0.3**
baz=326,SNR=17
RTZ Ruatahuna 86.87 161 P **P 04 52 51.3 -1.3**
RTZ IAmb IAmb 04 53 12.7
comp=Z,89nm,1.1s
BIRD Birdtown, Kers 86.89 41 P **P 04 52 51.2 -1.9**
BIRD IAmb IAmb 04 52 55.1
comp=Z,143nm,1.1s
BIRD Birdtown, Kers 86.89 41 P **P 04 52 52.5 -0.6**
baz=326,SNR=18
MOIG Morelia 87.08 65 IAMs_20 IAMs_20 05 26 10.1
comp=Z,1µm,20.0s
BKZ Black Stump Fm 87.28 161 P **P 04 52 53.5 -1.0**
BKZ Black Stump Fm 87.28 161 P **P 04 52 53.6 -1.0**
154A Montrose 87.31 44 P **P 04 52 54.3 -0.9**
154A Montrose 87.31 44 P **P 04 52 54.6 -0.5**
baz=325,SNR=32
352A Blakely 87.33 46 P **P 04 52 54.7 -0.6**
352A IAMs_20 IAMs_20 05 35 59.0
comp=Z,2µm,19.0s
352A Blakely 87.33 46 P **P 04 52 55.2 0.0**
baz=324,SNR=18
W59A Clinton 87.37 39 P **P 04 52 55.1 -0.3**
W59A Clinton 87.37 39 P **P 04 52 55.5 +0.1**
baz=327,SNR=16
HAW Hawthorne Fire 87.42 43 P **P 04 52 55.2 -0.5**
baz=326,SNR=19
Y57A Sumter 87.45 41 P **P 04 52 54.9 -0.9**
Y57A IAmb IAmb 04 52 57.1
comp=Z,129nm,1.1s
Y57A Sumter 87.45 41 P **P 04 52 55.5 -0.3**
baz=326,SNR=8.8
Y57A P **P 04 52 55.5 -0.3**
baz=326,SNR=8.8
X58A Rowland 87.48 40 P **P 04 52 55.3 -0.6**
X58A Rowland 87.48 40 P **P 04 52 54.3 -1.6**
baz=327,SNR=7.3
X58A P **P 04 52 54.3 -1.6**
baz=327,SNR=7.3
CNNC Cliffs of the 87.56 39 P **P 04 52 56.0 -0.2**
CNNC Cliffs of the 87.56 39 P **P 04 52 55.9 -0.4**
baz=328,SNR=7.8
CNNC Cliffs of the 87.56 39 P **P 04 52 56.3 0.0**
baz=328,SNR=7.8
CEL Celeste 87.64 327 P **P 04 52 56.2 -0.5**
CEL IAmb IAmb 04 53 09.7
comp=Z,112nm,1.1s
V61A Roper 87.66 38 P **P 04 52 55.9 -0.9**
Y58A Scranton 87.87 41 P **P 04 52 57.5 -0.3**
Y58A Scranton 87.87 41 P **P 04 52 57.7 -0.2**
baz=327,SNR=9.7
Y58A P **P 04 52 57.7 -0.2**
baz=327,SNR=9.7
TIGA Tifton 88.03 45 P **P 04 52 59.1 +0.5**
TIGA IAMs_20 IAMs_20 05 36 53.4
comp=Z,2µm,20.0s
TIGA Tifton 88.03 45 P **P 04 52 58.6 0.0**
baz=325,SNR=15
TIGA Tifton 88.03 45 P **P 04 52 58.7 0.0**
baz=325,SNR=15
EJON La Jonquera 88.05 338 P **P 04 52 58.4 -0.1**
EPF Esparros 88.15 340 *e*P **P 04 52 58.1 -1.0**
EPF pmax pmax
comp=Z,328nm,1.9s
255A Hazlehurst 88.18 44 P **P 04 52 59.5 +0.2**
255A Hazlehurst 88.18 44 P **P 04 52 59.2 -0.1**
baz=325,SNR=18
DGAR Diego Garcia 88.19 258 *de*P **P 04 53 01.2 +1.7**
DGAR pmax pmax
comp=Z,667nm,1.7s
DGAR MLR MLR
comp=Z,1µm,21.0s
NHSC New Hope 88.30 42 P **P 04 52 60.0 +0.1**
NHSC New Hope 88.30 42 P **P 04 52 59.8 0.0**
baz=326,SNR=11
NHSC New Hope 88.30 42 P **P 04 53 00.1 +0.2**
baz=326,SNR=11
CEST Esterri de Car 88.33 339 P **P 04 53 00.5 +0.4**
CEST IAmb IAmb 04 53 07.1
comp=Z,152nm,1.2s
TAU Tasmania Unive 88.38 184 IAMs_20 IAMs_20 05 28 50.4
comp=Z,2µm,22.0s
SJPF Ste Jean 88.44 341 *e*P **P 04 53 04.5 +4.1**
SJPF pmax pmax
comp=Z,15nm,0.6s
Y60A Bolivia 88.45 40 P **P 04 52 59.4 -1.1**
ETSF Etsaut 88.49 340 *e*P **P 04 53 00.4 -0.3**
ETSF pmax pmax
comp=Z,60nm,0.5s
MRZ Mangatainoka R 88.52 162 P **P 04 52 59.5 -0.9**
MRZ IAmb IAmb 04 53 21.9
comp=Z,130nm,1.1s
VSL Villasalto 88.84 332 P **P 04 53 03.5 +1.1**
VSL IAmb IAmb 04 53 04.2
comp=Z,140nm,1.2s
VAE Valguarnera 88.88 328 LR LR 05 39 52.5
comp=Z,3µm,19.1s,baz=34,slow=40
RAFF Raffo Rosso 89.12 328 P **P 04 53 02.9 -0.8**
CLTB Caltabellotta 89.23 329 P **P 04 53 04.8 +0.4**
456A Hilliard 89.38 44 P **P 04 53 05.2 +0.2**
456A Hilliard 89.38 44 P **P 04 53 04.9 -0.1**
baz=326,SNR=5.4
INZ Inchbonnie 89.72 166 IAmb IAmb 04 53 06.8
comp=Z,98nm,1.0s
LTZ Lake Taylor 89.92 165 P **P 04 53 07.8 +0.8**
MAHO Mahon 90.04 336 P **P 04 53 05.3 -2.7**
656A Willston 90.24 45 P **P 04 53 09.4 +0.4**
WDD Wied Dalam 90.28 327 P **P 04 53 09.1 -0.1**
TLIG Tlapa 90.31 64 P **P 04 53 09.8 +0.1**
OXZ Oxford 90.41 166 P **P 04 53 10.0 +0.9**
ETOS Mallorca 90.57 337 P **P 04 53 11.5 +1.1**
RPZ Rata Peaks 90.62 166 P **P 04 53 12.4 +2.2**
RPZ IAmb IAmb 04 53 36.6
comp=Z,64nm,1.2s
RPZ Rata Peaks 90.62 166 P **P 04 53 10.2 +0.1**
comp=Z,28nm,0.8s,baz=174,slow=1.0,SNR=8.6
RPZ LR LR 05 32 17.7
comp=Z,3µm,18.3s,baz=344,slow=34
comp=Z,28nm,0.8s
ECAL Calabor 90.71 344 P **P 04 53 10.1 -1.1**
PBRG Braganca 90.84 344 *e*P **P 04 53 10.9 -0.8**
comp=Z,95nm,1.7s
PGAV Gavieira, Arco 90.96 346 *e*P **P 04 53 11.7 -0.6**
comp=Z,152nm,1.9s
PGAV Gavieira, Arco 90.96 346 *e*PP **PP 04 56 53.2 +5.5**
PGAV *e*SKS **SKSac 05 03 45.5 +4.3**
PGAV Gavieira, Arco 90.96 346 *e*LR LR 05 24 47.8
comp=Z,2µm,20.0s
LBZ Lake Benmore 91.14 167 P **P 04 53 14.3 +1.7**
LBZ IAmb IAmb 04 53 14.6
comp=Z,122nm,1.3s
MVO Moncorvo 91.52 345 *e*P **P 04 53 14.3 -0.6**
comp=Z,148nm,1.5s
MVO Moncorvo 91.52 345 *e*PP **PP 04 56 57.3 +5.2**
MVO *e*SKS **SKSac 05 03 47.9 +3.6**
MVO Moncorvo 91.52 345 *e*LR LR 05 25 16.4
comp=Z,3µm,20.0s
PVRL Vila Real 91.53 345 *e*P **P 04 53 14.2 -0.7**
comp=Z,187nm,1.4s
EIBI Ibiza 91.66 338 P **P 04 53 13.2 -2.3**
ECHE Chera 91.72 340 P **P 04 53 12.4 -3.4**
DWPF Disney Wildern 91.82 45 P **P 04 53 15.9 -0.5**
baz=326
PVIS Viseu 92.11 345 *e*P **P 04 53 16.7 -0.9**
KEST Kesra 92.26 331 P **P 04 53 19.0 +0.6**
KEST Kesra 92.26 331 P **P 04 53 18.1 -0.3**
comp=Z,136nm,1.2s,baz=270,slow=1.0,SNR=37
KEST LR LR 05 38 54.3
comp=Z,2µm,21.6s,baz=340,slow=38
comp=Z,136nm,1.2s
ESBB Sonseca Array 92.33 342 P **P 04 53 18.4 -0.3**
ESBB IAmb IAmb 04 53 20.0
comp=Z,60nm,1.2s
ESDC Sonseca Array 92.33 342 P **P 04 53 18.0 -0.7**
ESDC IAmb IAmb 04 53 20.0
comp=Z,61nm,1.2s
ESDC Sonseca Array 92.33 342 P **P 04 53 17.8 -0.8**
comp=Z,36nm,1.1s,baz=6.7,slow=4.0,SNR=61
ESDC LR LR 05 38 50.0
comp=Z,4µm,21.8s,baz=24,slow=38
comp=Z,36nm,1.1s
MTE Manteigas 92.35 345 *e*P **P 04 53 18.4 -0.3**
comp=Z,87nm,1.4s
MTE Manteigas 92.35 345 *e*PP **PP 04 57 01.7 +3.0**
MTE *e*SKS **SKSac 05 03 52.2 +3.2**
MTE Manteigas 92.35 345 *e*LR LR 05 25 26.1
comp=Z,3µm,22.0s
MTE Manteigas 92.35 345 P **P 04 53 18.5 -0.3**
MTE IAmb IAmb 04 53 19.4
comp=Z,74nm,1.2s
PAB San Pablo 92.54 342 P **P 04 53 19.0 -0.6**
PAB IAmb IAmb 04 53 20.8
comp=Z,44nm,1.1s
PAB San Pablo 92.54 342 P **P 04 53 19.0 -0.6**
PAB pmax pmax
comp=Z,45nm,1.2s
COI Coimbra 92.70 345 *e*P **P 04 53 20.2 0.0**
comp=Z,145nm,1.4s
COI Coimbra 92.70 345 P **P 04 53 19.1 -1.1**
COI Coimbra 92.70 345 P **P 04 53 19.1 -1.1**
COI pmax pmax
comp=Z,134nm,1.2s
PCAS Casmilo, Conde 92.86 345 *e*P **P 04 53 18.6 -2.4**
comp=Z,166nm,1.5s
PCBR Castelo Branco 92.88 345 *e*P **P 04 53 20.4 -0.7**
comp=Z,86nm,1.6s
CMIG Matias Romero 92.97 62 LR LR 05 30 05.2
comp=Z,688nm,21.4s,baz=310,slow=32
PMRV Marv??o 93.27 344 *e*P **P 04 53 22.6 -0.3**
comp=Z,75nm,1.5s
PMRV Marv??o 93.27 344 *e*PP **PP 04 57 10.6 +4.8**
PMRV *e*SKS **SKSac 05 03 59.3 +5.3**
PMRV Marv??o 93.27 344 *e*LR LR 05 26 09.7
comp=Z,4µm,20.0s
PSBE So Bento 93.44 345 *e*P **P 04 53 23.5 -0.2**
comp=Z,121nm,1.7s
CART Cartagena 93.62 339 IAMs_20 IAMs_20 05 42 46.9
comp=Z,2µm,20.0s
PMTG Montargil 93.77 345 *e*P **P 04 53 24.4 -0.8**
comp=Z,63nm,1.5s
PESTR Estremoz 93.85 344 *e*P **P 04 53 24.1 -1.5**
comp=Z,71nm,1.3s
PESTR Estremoz 93.85 344 P **P 04 53 24.3 -1.3**
PESTR IAmb IAmb 04 53 25.8
comp=Z,60nm,1.2s
061Z Ochoppi 93.93 46 IAMs_20 IAMs_20 05 42 49.9
comp=Z,2µm,20.0s
PMAFR Mafra 94.07 346 *e*P **P 04 53 28.1 +1.5**
comp=Z,153nm,2.0s
PACT Alcochete 94.17 345 *e*P **P 04 53 27.1 +0.1**
comp=Z,232nm,1.4s
EVO Evora 94.25 345 *e*P **P 04 53 26.1 -1.3**
comp=Z,49nm,1.5s
LIS Lisbon 94.28 346 *e*PP **PP 04 57 13.7 +0.1**
LIS IAMs_20 IAMs_20 05 40 05.0
comp=N,3µm,22.5s
PBAR Barrancos 94.41 344 *e*P **P 04 53 27.6 -0.6**
comp=N,43nm,1.3s
TEIG Tepich 94.49 55 IAMs_20 IAMs_20 05 37 43.4
comp=Z,795nm,20.0s
TATN Tataouine 94.68 328 P **P 04 53 27.6 -2.0**
TATN IAmb IAmb 04 53 29.4
comp=Z,110nm,1.2s
PBEJ Beja 94.71 344 *e*P **P 04 53 28.9 -0.7**
comp=Z,91nm,1.5s
PNCL Nicolau / Gran 94.75 345 *e*P **P 04 53 28.6 -1.1**
comp=Z,67nm,1.8s
ATD Arta Tunnel 94.95 292 P **P 04 53 32.0 +0.9**
ATD Arta Tunnel 94.95 292 LR LR 05 43 16.3
comp=Z,107nm,18.6s,baz=32,slow=40
ATD Arta Tunnel 94.95 292 *e*P **P 04 53 30.1 -0.9**
MESJ Messejana 94.96 345 *e*P **P 04 53 30.1 -0.6**
comp=Z,87nm,1.5s
MESJ Messejana 94.96 345 P **P 04 53 29.8 -0.9**
MESJ IAmb IAmb 04 53 31.3
comp=Z,82nm,1.3s
MESJ Messejana 94.96 345 P **P 04 53 29.8 -0.9**
MESJ pmax pmax
comp=Z,82nm,1.3s
MESJ Messejana 94.96 345 *e*P **P 04 53 30.0 -0.6**
MESJ *e*PP **PP 04 57 19.4 +0.3**
MESJ *e*SKSac **SKSac 05 04 03.4 +0.3**
MESJ IAMs_20 IAMs_20 05 28 37.9
comp=Z,4µm,38.9s
PCVE Castro Verde 95.13 344 *e*P **P 04 53 31.1 -0.4**
comp=Z,89nm,1.3s
CCIG Comitan 95.27 60 IAMs_20 IAMs_20 05 29 36.6
comp=Z,1µm,21.0s
PVAQ Vaqueiros 95.29 344 *e*P **P 04 53 31.9 -0.3**
comp=Z,47nm,1.6s
PVAQ Vaqueiros 95.29 344 *e*PP **PP 04 57 24.6 +3.0**
PVAQ *e*SKS **SKSac 05 04 08.3 +3.4**
PVAQ Vaqueiros 95.29 344 *e*LR LR 05 27 02.1
comp=Z,3µm,20.0s
PVAQ Vaqueiros 95.29 344 P **P 04 53 31.2 -1.0**
PTEO Sao Teotonio 95.34 345 *e*P **P 04 53 32.5 +0.1**
comp=Z,158nm,1.5s
MORF Marmelete 95.56 345 *e*P **P 04 53 32.4 -1.1**
comp=Z,102nm,1.4s
MORF Marmelete 95.56 345 P **P 04 53 32.8 -0.7**
MORF IAmb IAmb 04 53 34.9
comp=Z,79nm,1.2s
MORF Marmelete 95.56 345 P **P 04 53 32.8 -0.7**
MORF pmax pmax
comp=Z,79nm,1.2s
MORF Marmelete 95.56 345 *e*P **P 04 53 32.8 -0.7**
MORF *e*PP **PP 04 57 24.0 +0.3**

MORF					IAMs_20	IAMs_20	05 40 22.4	
	comp=Z,4µm,19.1s							
PFVI	**Vila Bisbo**	**95.76**	**345**	*eP*		**P**	**04 53 34.0**	**-0.3**
	comp=Z,147nm,1.5s							
PETF	**Flores**	**96.15**	**58**	P		**P**	**04 53 35.4**	**-1.0**
HARA	**HARA**	**96.33**	**290**	*eP*		**P**	**04 53 33.1**	**-4.5**
APG	**El Apazote**	**97.27**	**60**	LR		LR	05 34 44.9	
	comp=Z,37nm,21.5s,baz=246,slow=34							
SNET	**Serv Nac Est T**	**99.04**	**60**		IAMs_20	IAMs_20	05 30 58.5	
	comp=Z,1µm,22.0s							
MDT	**Midelt**	**99.05**	**340**	LR		LR	05 43 54.9	
	comp=Z,3µm,21.1s,baz=40,slow=39							
TGUH	**Tegucigalpa,Un**	**99.93**	**58**		IAMs_20	IAMs_20	05 43 46.8	
	comp=Z,911nm,22.0s							
HZTE	**Horizontes, Gu**	**103.56**	**59**		IAMs_20	IAMs_20	05 31 57.1	
	comp=Z,782nm,19.0s							
ORTG	**Ortega, Santa**	**103.92**	**59**		IAMs_20	IAMs_20	05 32 19.6	
	comp=Z,796nm,18.0s							
JTS	**Las Juntas de**	**104.28**	**59**		IAMs_20	IAMs_20	05 48 45.1	
	comp=Z,779nm,18.0s							
ARE1	**Arenal 1**	**104.28**	**58**		IAMs_20	IAMs_20	05 34 27.2	
	comp=Z,818nm,20.0s							
TAM	**Tamanrasset**	**105.39**	**328**		IAMs_20	IAMs_20	05 48 33.4	
	comp=Z,1µm,21.0s							
BCIP	**Isla Barro Col**	**108.17**	**55**		IAMs_20	IAMs_20	05 53 05.1	
	comp=Z,808nm,19.0s							
MPOM	**Morne Pois Mar**	**113.04**	**35**		IAMs_20	IAMs_20	05 46 22.2	
	comp=Z,1µm,21.0s							
SDV	**Santo Domingo**	**113.42**	**47**		IAMs_20	IAMs_20	05 52 44.5	
	comp=Z,1µm,21.0s							
GRGR	**Grenville**	**114.79**	**37**		IAMs_20	IAMs_20	05 49 38.9	
	comp=Z,1µm,22.0s							
ROSC	**El Rosal**	**114.83**	**53**		IAMs_20	IAMs_20	05 57 22.1	
	comp=Z,1µm,20.0s							
TORD	**Torodi Ar. Bea**	**115.64**	**328**	Pdiff		**Pdif**	**04 55 05.1**	**+1.7**
	comp=Z,0.7nm,0.8s,baz=21,slow=8.7,SNR=3.9							
TORD				PKP		**PKiKP**	**04 58 49.7**	**-1.0**
	comp=Z,3.5nm,0.6s,baz=20,slow=2.6,SNR=19							
TORD				PP		**PP**	**04 59 52.0**	**-0.5**
	comp=Z,27nm,1.1s,baz=8.0,slow=6.0,SNR=7.1							
TORD				PKKPab		**PKKPab**	**05 09 26.4**	**-4.5**
	comp=Z,4.9nm,1.1s,baz=223,slow=3.0,SNR=11							
OTAV	**Otavalo**	**116.14**	**60**			**PKPdf**	**04 58 51.1**	**-1.2**
OTAV	**Otavalo**	**116.14**	**60**		IAMs_20	IAMs_20	05 58 51.7	
	comp=Z,644nm,22.0s							
OTAV	**Otavalo**	**116.14**	**60**	PKIKP		**PKPdf**	**04 58 51.1**	**-1.2**
VNDA	**Vanda**	**123.13**	**178**	PKP		**PKPdf**	**04 59 02.4**	**-0.8**
	comp=Z,2.1nm,0.8s,baz=117,slow=2.3,SNR=2.9							
DBIC	**Dimbokro**	**123.95**	**332**			**PKPdf**	**04 59 05.9**	**-0.9**
DBIC	**Dimbokro**	**123.95**	**332**	PKIKP		**PKPdf**	**04 59 05.9**	**-0.9**
DBIC	**Dimbokro**	**123.95**	**332**	PKP		**PKPdf**	**04 59 06.1**	**-0.7**
	comp=Z,46nm,1.0s,baz=360,slow=2.2,SNR=22							
DBIC				PP		**PP**	**05 00 46.4**	**-3.1**
	comp=Z,49nm,1.1s,baz=14,slow=6.3,SNR=11							
TIC	**Toumodi**	**124.03**	**332**	↑*e*PKP1		**PKPdf**	**04 59 05.5**	**-1.4**
	comp=Z,85nm,1.0s							
KIC	**Kosan Boka**	**124.20**	**332**	↓*e*PKP1		**PKPdf**	**04 59 06.1**	**-1.2**
	comp=Z,81nm,1.0s							
LIC	**Lamto**	**124.42**	**332**	↓*e*PKP1		**PKPdf**	**04 59 06.6**	**-1.1**
	comp=Z,114nm,1.1s							
LSZ	**Lusaka**	**124.44**	**284**			**PKPdf**	**04 59 07.1**	**-0.6**
LSZ	**Lusaka**	**124.44**	**284**	PKIKP		**PKPdf**	**04 59 07.1**	**-0.6**
TBTG	**Tabatinga, AM**	**124.72**	**55**		IAMs_20	IAMs_20	06 00 02.5	
	comp=Z,719nm,20.0s							
TBTG	**Tabatinga, AM**	**124.72**	**55**	*eP*		**PKPdf**	**04 59 06.2**	**-2.0**
CZSB	**Cruzeiro do Su**	**125.91**	**60**	*eP*		**PKPdf**	**04 59 09.1**	**-1.4**
MACA	**Manacapuru-AM**	**128.75**	**44**	*eP*		**PKPdf**	**04 59 14.9**	**-1.0**
MCPB	**Macapa, AP**	**129.95**	**32**	*eP*		**PKPdf**	**04 59 17.6**	**-0.7**
MALB	**Monte Alegre**	**130.48**	**36**	*eP*		**PKPdf**	**04 59 18.6**	**-0.6**
MAW	**Mawson**	**131.03**	**211**	SKPbc		**SKPbc**	**05 02 38.8**	**-0.8**
	comp=Z,18nm,0.9s,baz=336,slow=2.8,SNR=4.9							
ETMB	**Extrema**	**131.40**	**55**	*eP*		**PKPdf**	**04 59 19.6**	**-1.3**
JIR01	**Jirau**	**131.97**	**53**	*eP*		**PKPdf**	**04 59 19.4**	**-2.6**
ITTB	**Itaituba**	**132.12**	**39**	*eP*		**PKPdf**	**04 59 21.1**	**-1.2**
SAML	**Samuel**	**132.38**	**51**			**PKPdf**	**04 59 21.9**	**-0.9**
SAML	**Samuel**	**132.38**	**51**	PKIKP		**PKPdf**	**04 59 21.9**	**-0.9**
SAML	**Samuel**	**132.38**	**51**	*eP*		**PKPdf**	**04 59 21.6**	**-1.2**
TMAB	**Tom-Au,PA,Br**	**133.26**	**28**	*eP*		**PKPdf**	**04 59 24.6**	**+0.1**
TSUM	**Tsumeb**	**134.32**	**290**			**PKPdf**	**04 59 25.9**	**-0.5**
NPGB	**Novo Progresso**	**134.66**	**40**	*eP*		**PKPdf**	**04 59 25.6**	**-1.5**
BOSA	**Boshof**	**135.28**	**274**			**PKPdf**	**04 59 28.2**	**+0.3**
BOSA	**Boshof**	**135.28**	**274**	PKP		**PKPdf**	**04 59 26.9**	**-1.1**
	comp=Z,5.7nm,0.8s,baz=247,slow=1.2,SNR=5.0							
BOSA				PP		**PP**	**05 02 00.8**	**-4.0**
	comp=Z,10.0nm,1.0s,baz=41,slow=6.7,SNR=5.0							
LPAZ	**La Paz**	**135.34**	**62**		IAMs_20	IAMs_20	06 02 51.7	
	comp=Z,983nm,21.0s							
LPAZ	**La Paz**	**135.34**	**62**	PKP		**PKPdf**	**04 59 27.9**	**-1.1**
	comp=Z,7.7nm,0.8s,baz=349,slow=5.4,SNR=15							
LPAZ				SKPbc		**SKPbc**	**05 02 53.8**	**-2.9**
	comp=Z,26nm,1.2s,baz=350,slow=7.1,SNR=9.9							
LPAZ	**La Paz**	**135.34**	**62**	*eP*		**PKPdf**	**04 59 26.5**	**-2.4**
QSPA	**South Pole Qui**	**135.48**	**180**	PKhKP		PKPpre	04 59 21.4	
	comp=Z,14nm,1.2s,baz=303,slow=2.0,SNR=6.2							
QSPA				PKP		**PKPdf**	**04 59 25.5**	**-1.5**
	comp=Z,8.0nm,1.1s,baz=24,slow=0.6,SNR=8.2							
QSPA				PP		**PP**	**05 02 05.5**	**+0.4**
	comp=Z,22nm,1.1s,baz=307,slow=0.7,SNR=7.3							
QSPA				SKPbc		**SKPbc**	**05 02 51.9**	**-2.9**
	comp=Z,30nm,1.1s,baz=325,slow=1.2,SNR=7.6							
VILB	**Vilhena**	**137.31**	**50**	*eP*		**PKPdf**	**04 59 31.5**	**-0.5**
H03N2	**Juan Fernandez**	**139.34**	**91**	T		T	07 35 20.9	
	baz=308,slow=77,SNR=374							
H03N1	**Juan Fernandez**	**139.35**	**91**	T		T	07 35 21.8	
	baz=308,slow=77,SNR=149							
H03N3	**Juan Fernandez**	**139.35**	**91**	T		T	07 35 21.2	
	baz=308,slow=77,SNR=143							
LVC	**Limon Verde**	**139.47**	**69**			**PKPdf**	**04 59 36.2**	**+0.1**
LVC	**Limon Verde**	**139.47**	**69**	PKP		**PKPdf**	**04 59 34.2**	**-2.0**
	comp=Z,15nm,1.0s,baz=297,slow=2.3,SNR=7.4							
RCBR	**Riachuelo**	**139.61**	**13**			**PKPdf**	**04 59 35.5**	**-0.8**
RCBR	**Riachuelo**	**139.61**	**13**		IAMs_20	IAMs_20	05 54 41.8	
	comp=Z,920nm,22.0s							
RCBR	**Riachuelo**	**139.61**	**13**	PKIKP		**PKPdf**	**04 59 35.5**	**-0.8**
ELIB	**Princess Elisa**	**144.63**	**205**	*d*PKPdf		**PKPab**	**04 59 41.4**	**-0.9**
SHEL	**Horse Pasture**	**145.05**	**321**			**PKPab**	**04 59 45.5**	**+0.3**
SHEL	**Horse Pasture**	**145.05**	**321**	PKIKP		**PKPab**	**04 59 45.5**	**+0.3**
BDFB	**Brasilia**	**145.51**	**36**			**PKPdf**	**04 59 46.0**	**-0.7**
BDFB	**Brasilia**	**145.51**	**36**	PKPbc		**PKPdf**	**04 59 45.9**	**-0.9**
	comp=Z,138nm,1.2s,baz=327,slow=3.2,SNR=76							
BDFB				PP		**PP**	**05 03 03.0**	**-3.4**
	comp=Z,37nm,1.2s,baz=322,slow=6.1,SNR=4.9							
BDFB	**Brasilia**	**145.51**	**36**	*eP*		**PKPdf**	**04 59 45.8**	**-0.9**
MURT	**Porto Murtinho**	**145.78**	**55**	*eP*		**PKPdf**	**04 59 46.2**	**-0.7**
AQDB	**Aquidauana**	**145.92**	**52**	*eP*		**PKPdf**	**04 59 46.8**	**-0.4**
JANB	**Januaria**	**146.39**	**30**	*eP*		**PKPdf**	**04 59 47.6**	**-0.6**
GDU01	**Guandu, BA**	**146.55**	**21**	*eP*		**PKPdf**	**04 59 47.6**	**-0.7**
RPRD	**Ribas do Rio P**	**147.00**	**49**	*eP*		**PKPdf**	**04 59 48.3**	**-0.7**
IPMB	**Ipameri, GO**	**147.51**	**38**	*eP*		**PKPdf**	**04 59 48.2**	**-1.8**
TICA	**Tres Isletas**	**147.62**	**65**	*eP*		**PKPdf**	**04 59 50.1**	**+0.3**
NBIT	**Itapeh - BA**	**147.75**	**22**	*eP*		**PKPdf**	**04 59 50.5**	**+0.2**
ESFA	**Espinillo Form**	**147.77**	**60**	*eP*		**PKPdf**	**04 59 50.2**	**+0.1**
ITRB	**Iturama**	**148.03**	**43**	*eP*		**PKPdf**	**04 59 50.6**	**-0.1**
CMC01	**Camacan, BA**	**148.14**	**22**	*eP*		**PKPdf**	**04 59 50.8**	**-0.1**
AMBA	**Amambai (Brazi**	**148.27**	**53**	*eP*		**PKPdf**	**04 59 49.5**	**-1.5**
VACA	**Villa Angela C**	**148.29**	**67**	*eP*		**PKPdf**	**04 59 51.4**	**+0.5**
NVL	**N'lazarevskaya**	**148.47**	**204**	*e*PKHKP		PKPpre	04 59 45.3	
PLCA	**Paso Flores**	**148.70**	**96**	PKP		**PKPdf**	**04 59 50.4**	**-0.9**
	comp=Z,15nm,0.7s,baz=297,slow=2.4,SNR=14							
PLCA				PKPbc		**PKPbc**	**04 59 54.0**	**-1.1**
	comp=Z,22nm,0.9s,baz=267,slow=3.2,SNR=23							
PLCA	**Paso Flores**	**148.70**	**96**	*eP*		**PKPdf**	**04 59 49.8**	**-1.5**
PCMB	**Pacaembu**	**149.19**	**46**	*eP*		**PKPdf**	**04 59 52.1**	**-0.4**
GUA01	**Guaratinga, BA**	**149.23**	**23**	*eP*		**PKPdf**	**04 59 52.4**	**-0.3**
TRCB	**Terra Rica**	**149.46**	**50**	*eP*		**PKPdf**	**04 59 51.0**	**-2.0**
CPUP	**Villa Florida**	**149.48**	**61**	PKP		**PKPdf**	**04 59 51.8**	**-1.1**
	comp=Z,38nm,0.9s,baz=343,slow=3.2,SNR=7.4							
CPUP				PKPbc		**PKPbc**	**04 59 55.9**	**-1.5**
	comp=Z,33nm,0.7s,baz=311,slow=3.0,SNR=36							
CPUP	**Villa Florida**	**149.48**	**61**	*eP*		**PKPdf**	**04 59 51.1**	**-1.8**
TROLL	**Troll, Antarti**	**150.05**	**198**	↑PKPdf		**PKPbc**	**04 59 56.9**	**-0.7**
	comp=Z,96nm,0.2s							
BB19B	**Bebedouro**	**150.07**	**42**	*eP*		**PKPdf**	**04 59 53.4**	**-0.6**
PTGB	**Pitanga**	**151.31**	**51**	*eP*		**PKPdf**	**04 59 54.4**	**-1.5**
SNAA	**Sanae**	**151.42**	**196**			**PKPdf**	**04 59 53.6**	**-1.0**
SNAA	**Sanae**	**151.42**	**196**	↑PKPdf		**PKPbc**	**04 59 59.7**	**-1.0**
	comp=Z,15nm,0.3s							
SNAA	**Sanae**	**151.42**	**196**	PKP		**PKPdf**	**04 59 53.5**	**-1.1**
	comp=Z,9.7nm,1.1s,baz=60,slow=1.8,SNR=3.1							
SNAA				PKPbc		**PKPbc**	**04 59 59.1**	**-1.6**
	comp=Z,23nm,0.9s,baz=201,slow=6.7,SNR=41							
BSCB	**Bom Sucesso**	**151.64**	**35**	*eP*		**PKPdf**	**04 59 55.0**	**-1.5**
RIB01	**Linhares ES**	**151.65**	**26**	*eP*		**PKPdf**	**04 59 54.6**	**-1.8**
RCLB	**Rio Claro- Sao**	**151.70**	**41**	*eP*		**PKPdf**	**04 59 57.1**	**+0.6**
ITQB	**Itaqui**	**152.29**	**65**			**PKPdf**	**04 59 56.9**	**-0.2**
ITQB	**Itaqui**	**152.29**	**65**	*eP*		**PKPdf**	**04 59 55.1**	**-2.0**
CRSM	**Crissiumal (Br**	**152.32**	**58**	*eP*		**PKPdf**	**04 59 56.9**	**-0.4**
VAO	**Valinhos**	**152.46**	**41**	*eP*		**PKPdf**	**04 59 57.2**	**-0.5**
CHAP	**Chapeco**	**152.66**	**56**	*eP*		**PKPdf**	**04 59 57.8**	**0.0**
SPB	**Sao Paulo**	**152.75**	**42**	*eP*		**PKPdf**	**04 59 56.8**	**-1.1**
ALF01	**Guarapari-ES**	**152.76**	**27**	*eP*		**PKPdf**	**04 59 57.0**	**-1.0**
UNIS	**Unistalda (Bra**	**152.84**	**62**	*eP*		**PKPdf**	**04 59 57.7**	**-0.3**
VNA2	**Neumayer--Watz**	**152.88**	**195**	↑PKPdf		**PKPbc**	**05 00 03.3**	**-0.6**
	comp=Z,20nm,0.8s,baz=180,slow=0.4							
VNA3	**Neumayer Olymp**	**152.98**	**193**	↑PKPdf		**PKPbc**	**05 00 03.4**	**-0.8**
	comp=Z,23nm,0.9s							
ITAB	**Concordia**	**153.24**	**55**	*eP*		**PKPdf**	**04 59 57.1**	**-1.4**
VNA1	**Neumayer--Stat**	**153.26**	**194**	↑PKPdf		**PKiKP**	**05 00 05.7**	**+0.8**
	comp=Z,23nm,0.9s							
PET01	**Itanhaem-SP**	**153.42**	**43**	*eP*		**PKPdf**	**04 59 57.4**	**-1.5**
TRQA	**Tornquist**	**153.54**	**85**	PKPdf		**PKPdf**	**04 59 59.9**	**+1.2**
DUB01	**Friburgo-RJ**	**153.55**	**32**	*eP*		**PKPdf**	**04 59 58.7**	**-0.5**
RODS	**Rosario do Sul**	**153.65**	**64**	*eP*		**PKPdf**	**04 59 58.4**	**-0.6**

*IDC **07** 05:01:18.2±1.1,6.16S×142.55E,h0km,mb4.0/4, mbtmp4.0/7,ML4.0/2,Error ellipse: s-maj=38.9km s-min=26.3km az=83.0*

ISC 07 05:01:23.1±0.9,6.5S±0.1×142.3E±0.1,h35km,n7,σ2s31/9, mb4.2/4,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.62**	**122**	Pn	**Pn**	**05 02 43.8**	**-0.4**
	10nm,0.3s,baz=323,slow=5.1,SNR=3.4						
WRA	**Warramunga Arr**	**15.49**	**209**	Pn	**P**	**05 05 00.9**	**-2.2**
	0.4nm,0.3s,baz=31,slow=12,SNR=8.6						
WRA				Sn	**Sn**	**05 07 47.7**	**-2.0**
	0.2nm,0.3s,baz=32,slow=23,SNR=4.4						
WRA				Lg	Lg	05 09 34.6	
	0.1nm,0.3s,baz=22,slow=35,SNR=1.7 1.4nm,0.6s						
ASAR	**Alice Springs**	**18.93**	**204**	P	**Pn**	**05 05 45.5**	**+3.4**
	1.1nm,0.3s,baz=26,slow=13,SNR=33						
ASAR				S	**Sn**	**05 09 11.8**	**-1.4**
	1.0nm,0.7s,baz=14,slow=28,SNR=2.6						
ASAR				Lg	Lg	05 11 24.1	
	0.1nm,0.3s,baz=30,slow=24,SNR=4.9 4.4nm,0.5s						
MKAR	**Makanchi Array**	**74.94**	**322**	P	**P**	**05 12 60.0**	**-0.8**
	0.3nm,0.5s,baz=131,slow=4.4,SNR=2.1 0.3nm,0.5s						
QSPA	**South Pole Qui**	**83.52**	**180**	P	**P**	**05 13 49.4**	**+2.0**
	2.7nm,1.1s,baz=157,slow=1.1,SNR=2.1 2.7nm,1.1s						
BVAR	**Borovoye Array**	**84.42**	**325**	P	**P**	**05 13 53.2**	**+1.2**
	1.7nm,0.8s,baz=101,slow=6.2,SNR=6.4 1.7nm,0.8s						
ILAR	**Eielson Array**	**87.75**	**24**	P	**P**	**05 14 06.4**	**-1.8**
	0.8nm,0.8s,baz=254,slow=4.9,SNR=7.6 0.8nm,0.8s						

IDC 07 05:23:10.2±3.6,6.14S×142.00E,h0km,mb3.7/2, mbtmp3.7/4,ML3.3/2,Error ellipse: s-maj=128.5km s-min=33.0km az=95.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.61**	**208**	Pn	Pn	05 26 51.6	-0.1
	0.1nm,0.3s,baz=31,slow=12,SNR=6.1 1.1nm,0.7s						
ASAR	**Alice Springs**	**19.09**	**203**	P	P	05 27 34.5	-0.1
	0.1nm,0.3s,baz=28,slow=10,SNR=14 1.4nm,0.6s						
MKAR	**Makanchi Array**	**74.49**	**322**	P	P	05 34 51.7	+1.0
	0.2nm,0.6s,baz=110,slow=8.3,SNR=3.0 0.2nm,0.6s						
BVAR	**Borovoye Array**	**83.98**	**325**	P	P	05 35 41.4	-0.9
	0.9nm,0.8s,baz=104,slow=4.6,SNR=3.7 0.9nm,0.8s						

*NEIC **07** 05:25:03.9±0.9,19.2N±0.1×65.0W±0.1,h35km±2km, ML2.8/18,Md3.6/10(RSPR),Error ellipse: s-maj=20.6km s-min=13.9km az=129.0*

*RSPR **07** 05:25:04.5,19.22N×64.98W,h35km±24km,MD3.5/10*

ISC 07 05:25:05.4±2.2,19.1N±0.1×65.14W±0.05,h25km,n38, σ0s71/45,6C-4D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUMP	**Col San Antoni**	**1.20**	**214**	↓*e*P	**Pn**	**05 25 26.2**	**-0.4**
HUMP	**Col San Antoni**	**1.20**	**214**	*e*S	**Sb**	**05 25 42.8**	**+0.3**
HUMP	**Col San Antoni**	**1.20**	**214**		**Pn**	**05 25 26.2**	**-0.4**
HUMP					**Sb**	**05 25 42.8**	**+0.3**
HUMP	**Col San Antoni**	**1.20**	**214**	IAML		05 25 47.6	
	comp=N,116nm,0.5s						
HUMP				IAML		05 25 49.6	
	comp=E,151nm,0.5s						
GCPR	**Guaynabo City**	**1.22**	**227**	↑*e*P	**Pn**	**05 25 25.6**	**-1.2**
GCPR	**Guaynabo City**	**1.22**	**227**	*e*S	**Sb**	**05 25 42.7**	**-0.4**
GCPR	**Guaynabo City**	**1.22**	**227**		**Pn**	**05 25 25.6**	**-1.2**
GCPR					**Sb**	**05 25 42.7**	**-0.4**
AOPR	**Arecibo Observ**	**1.72**	**243**	↑*e*P	**Pn**	**05 25 33.2**	**-0.6**
AOPR	**Arecibo Observ**	**1.72**	**243**	*e*S	**Sn**	**05 25 55.3**	**+0.3**
AOPR	**Arecibo Observ**	**1.72**	**243**		**Pn**	**05 25 33.2**	**-0.6**
AOPR					**Sn**	**05 25 55.3**	**+0.3**
AOPR	**Arecibo Observ**	**1.72**	**243**	*e*P	**Pn**	**05 25 32.7**	**-1.1**
AOPR				*e*S	**Sn**	**05 25 54.7**	**-0.3**
CELP	**Cerrillos**	**1.73**	**232**	↑*e*P	**Pn**	**05 25 33.4**	**-0.5**
CELP	**Cerrillos**	**1.73**	**232**	*e*S	**Sn**	**05 25 55.6**	**+0.4**
CELP	**Cerrillos**	**1.73**	**232**		**Pn**	**05 25 33.4**	**-0.5**
CELP					**Sn**	**05 25 55.6**	**+0.4**
CELP	**Cerrillos**	**1.73**	**232**	IAML		05 26 01.0	
	comp=N,64nm,0.3s						
UUPR	**Utuado, UPR, P**	**1.74**	**240**	↑*e*P	**Pn**	**05 25 33.5**	**-0.5**
UUPR	**Utuado, UPR, P**	**1.74**	**240**	*e*S	**Sn**	**05 25 56.4**	**+1.0**
UUPR	**Utuado, UPR, P**	**1.74**	**240**		**Pn**	**05 25 33.5**	**-0.5**
UUPR					**Sn**	**05 25 56.4**	**+1.0**
OBIP	**Obispado Ponce**	**1.77**	**232**	↑*e*P	**Pn**	**05 25 33.0**	**-1.4**
OBIP	**Obispado Ponce**	**1.77**	**232**	*e*S	**Sn**	**05 25 56.4**	**+0.3**
OBIP	**Obispado Ponce**	**1.77**	**232**		**Pn**	**05 25 33.0**	**-1.4**
OBIP					**Sn**	**05 25 56.4**	**+0.3**
OBIP	**Obispado Ponce**	**1.77**	**232**	IAML		05 26 01.8	
	comp=E,74nm,0.7s						
OBIP				IAML		05 26 02.1	
	comp=N,59nm,1.3s						
GBPR	**Guanica, Bosqu**	**2.02**	**235**	↓*e*P	**Pn**	**05 25 38.5**	**+0.7**
GBPR	**Guanica, Bosqu**	**2.02**	**235**	*e*S	**Sb**	**05 26 05.6**	**-0.4**
GBPR	**Guanica, Bosqu**	**2.02**	**235**		**Pn**	**05 25 38.5**	**+0.7**
GBPR					**Sb**	**05 26 05.6**	**-0.4**
LSP	**Las Mesas**	**2.08**	**243**	↓*e*P	**Pn**	**05 25 38.5**	**-0.2**
LSP	**Las Mesas**	**2.08**	**243**	*e*S	**Sn**	**05 26 04.9**	**+1.1**
LSP	**Las Mesas**	**2.08**	**243**		**Pn**	**05 25 38.5**	**-0.2**
LSP					**Sn**	**05 26 04.9**	**+1.1**
PRSN	**Puerto Rico Se**	**2.11**	**245**	Pn	**Pn**	**05 25 39.7**	**+0.5**
PRSN				IAML		05 26 19.3	
	comp=E,78nm,0.3s						
PRSN				IAML		05 26 19.4	
	comp=N,98nm,0.3s						
MLPR	**Magueyes Islan**	**2.15**	**238**	↑*e*P	**Pn**	**05 25 39.4**	**-0.3**
MLPR	**Magueyes Islan**	**2.15**	**238**	*e*S	**Sn**	**05 26 06.2**	**+0.6**
MLPR	**Magueyes Islan**	**2.15**	**238**		**Pn**	**05 25 39.4**	**-0.3**
MLPR					**Sn**	**05 26 06.2**	**+0.6**
MLPR	**Magueyes Islan**	**2.15**	**238**	IAML		05 26 13.6	
	comp=N,47nm,1.4s						
MLPR				IAML		05 26 21.3	
	comp=E,43nm,1.9s						
CRPR	**Cabo Rojo, PR**	**2.18**	**239**	↓*e*P	**Pn**	**05 25 39.9**	**-0.2**
CRPR	**Cabo Rojo, PR**	**2.18**	**239**	*e*S	**Sn**	**05 26 07.5**	**+1.2**
CRPR	**Cabo Rojo, PR**	**2.18**	**239**		**Pn**	**05 25 39.9**	**-0.2**
CRPR					**Sn**	**05 26 07.5**	**+1.2**
CRPR	**Cabo Rojo, PR**	**2.18**	**239**	IAML		05 26 16.0	
	comp=N,46nm,2.5s						
ANBD	**Bethesda, Anti**	**3.82**	**122**	*e*P	**Pn**	**05 26 02.5**	**-0.2**
ANBD				*e*S	**Sn**	**05 26 47.3**	**+0.4**

*IDC **07** 05:56:18.7±0.8,59.53S×26.11W,h0km,mb4.2/5, mbtmp4.3/6,ML4.8/1,Error ellipse: s-maj=32.8km s-min=22.3km az=73.0*

*NEIC **07** 05:56:20.8±1.9,59.7S±0.1×26.0W±0.3,h10km±1km, mb4.6/28,Error ellipse: s-maj=29.7km s-min=15.5km az=51.0*

ISC 07 05:56:24.4±0.7,59.7S±0.1×26.0W±0.1,h40km,n46, σ0s99/43,mb4.5/14,9C-1D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.87**	**309**	Pn	**Pn**	**05 58 15.6**	**-0.6**
VNA1	**Neumayer--Stat**	**13.22**	**154**	↑P	**Pn**	**05 59 28.0**	**-1.2**
	comp=Z,48nm,0.3s						
VNA1				↓S	Sn	06 01 44.1	-11
	comp=Z,0.6nm,0.2s						
VNA3	**Neumayer Olymp**	**13.38**	**157**	↑P	**Pn**	**05 59 29.7**	**-1.7**
	comp=Z,57nm,0.5s						
VNA3				↑S	Sn	06 01 46.3	-12
	comp=Z,0.3nm,0.1s						
VNA2	**Neumayer--Watz**	**13.62**	**154**	↑P	**Pn**	**05 59 32.9**	**-1.7**
	comp=Z,14nm,0.4s,baz=314,slow=16						
VNA2				↑S	Sn	06 01 53.7	-11
	comp=Z,0.6nm,0.2s,baz=316,slow=23						
SNAA	**Sanae**	**15.20**	**152**		**Pn**	**05 59 54.3**	**-1.6**
SNAA				IAmb	IAmb	05 59 57.2	
	comp=Z,19nm,0.6s						
SNAA	**Sanae**	**15.20**	**152**	↑P	**Pn**	**05 59 54.3**	**-1.6**
	comp=Z,482nm,0.6s						
SNAA				↑S	Sn	06 02 33.0	-10
	comp=Z,7.6nm,0.2s						
SNAA	**Sanae**	**15.20**	**152**	Pn	**Pn**	**05 59 54.3**	**-1.6**
	comp=Z,3.6nm,0.3s,baz=90,slow=12,SNR=58						
SNAA				Sn	Sn	06 02 30.1	-13
	comp=Z,0.3nm,0.3s,baz=319,slow=20,SNR=1.6 comp=Z,19nm,0.5s						
TROLL	**Troll, Antarti**	**16.75**	**149**	↑P	**Pn**	**06 00 15.0**	**-0.8**
	comp=Z,406nm,0.5s						
TROLL				↑S	Sn	06 03 08.8	-12
	comp=Z,7.1nm,0.1s						
PMSA	**Palmer Station**	**18.25**	**238**		**Pn**	**06 00 33.9**	**-0.2**
BELA	**Belgrano 2**	**18.53**	**186**	P	**P**	**06 00 37.5**	**+0.5**
BELA				IAmb	IAmb	06 00 49.9	
	comp=Z,24nm,0.6s						
EFI	**East Falkland**	**19.62**	**280**	P	**P**	**06 00 49.5**	**+0.4**
EFI				IAmb	IAmb	06 01 18.9	
	comp=Z,56nm,1.4s						
QSPA	**South Pole Qui**	**30.58**	**180**	P	**P**	**06 02 35.3**	**+1.3**
QSPA				IAmb	IAmb	06 02 36.0	
	comp=Z,6.6nm,0.9s						
QSPA	**South Pole Qui**	**30.58**	**180**	P	**P**	**06 02 35.3**	**+1.3**
	comp=Z,4.2nm,0.7s,baz=220,slow=1.7,SNR=25 comp=Z,4.2nm,0.7s	

SEA 07 06:06:15.6±1.4, 48°49N±0.02×123°57W±0.05, h27km±7km, Error ellipse: s-maj=5.0km s-min=2.4km az=80.0, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYMB	**Survey Mountai**	**0.16**	**294**		Pb	06 06 20.6	-0.6
SYMB	**Survey Mountai**	**0.16**	**294**		Sb	06 06 23.9	-1.2
SYMB	**Survey Mountai**	**0.16**	**294**	P	Pb	06 06 20.6	-0.6
SYMB				S	Sb	06 06 23.9	-1.2
B009	**North Saanich**	**0.17**	**28**		Pb	06 06 20.5	-0.7
B009					Sb	06 06 23.7	-1.3
B009	**North Saanich**	**0.17**	**28**	P	Pb	06 06 20.5	-0.7
B009				S	Sb	06 06 23.7	-1.3
B010	**North Saanich**	**0.18**	**27**		Pb	06 06 20.5	-0.7
B010					Sb	06 06 23.9	-1.1
B010	**North Saanich**	**0.18**	**27**	P	Pb	06 06 20.5	-0.7
B010	**North Saanich**	**0.18**	**27**	S	Sb	06 06 23.9	-1.1
PGC	**Sidney**	**0.18**	**27**		Pb	06 06 20.6	-0.7
PGC				IAML		06 06 24.6	
	comp=N,496nm,0.2s						
PGC	**Sidney**	**0.18**	**27**	P	Pb	06 06 20.5	-0.7
PGC	**Sidney**	**0.18**	**27**	S	Sb	06 06 24.1	-1.0
B011	**North Saanich**	**0.18**	**28**		Pb	06 06 20.6	-0.7
B011					Sb	06 06 24.0	-1.1
B011	**North Saanich**	**0.18**	**28**	P	Pb	06 06 20.5	-0.7
B011	**North Saanich**	**0.18**	**28**	S	Sb	06 06 23.9	-1.1
PA01	**PA01 North**	**0.18**	**28**		Pb	06 06 20.6	-0.6
PA01					Sb	06 06 24.2	-1.0
PA01	**PA01 North**	**0.18**	**28**	P	Pb	06 06 20.6	-0.6
PA01	**PA01 North**	**0.18**	**28**	S	Sb	06 06 24.2	-1.0
VGZ	**Gonzales**	**0.18**	**116**		Pb	06 06 20.4	-0.9
VGZ					Sb	06 06 23.9	-1.3
VGZ	**Gonzales**	**0.18**	**116**	P	Pb	06 06 20.4	-0.9
VGZ	**Gonzales**	**0.18**	**116**	S	Sb	06 06 23.8	-1.3
STW	**Striped Peak**	**0.35**	**191**		Pb	06 06 22.8	-0.7
STW					Sb	06 06 28.3	-0.6
STW	**Striped Peak**	**0.35**	**191**	P	Pb	06 06 22.6	-0.9
STW				S	Sb	06 06 27.9	-1.0
UWFH	**University of**	**0.38**	**82**		Pb	06 06 23.2	-0.7
UWFH					Sb	06 06 28.6	-0.9
SNB	**Saturna Island**	**0.39**	**43**		Pb	06 06 23.7	-0.4
SNB					Sb	06 06 29.6	-0.3
SNB	**Saturna Island**	**0.39**	**43**	P	Pb	06 06 23.6	-0.6
SNB	**Saturna Island**	**0.39**	**43**	S	Sb	06 06 29.3	-0.6
B04A	**Port Angeles**	**0.44**	**174**		Pb	06 06 24.0	-0.9
B04A					Sb	06 06 30.4	-0.8
B04A	**Port Angeles**	**0.44**	**174**		Pb	06 06 23.9	-1.0
B04A	**Port Angeles**	**0.44**	**174**	IAML		06 06 30.6	
	comp=E,890nm,0.3s						
GOBB	**Galiano Island**	**0.46**	**5**		Pb	06 06 24.7	-0.5
GOBB	**Galiano Island**	**0.46**	**5**	P	Pb	06 06 24.6	-0.6
GOBB	**Galiano Island**	**0.46**	**5**	S	Sb	06 06 30.8	-0.9
CLRS	**Cowichan Lake**	**0.49**	**312**		Pb	06 06 24.8	-1.0
CLRS					Sb	06 06 31.7	-1.0
CLRS	**Cowichan Lake**	**0.49**	**312**	IAML		06 06 32.3	
	comp=E,318nm,0.2s						
CLRS				IAML		06 06 32.5	
	comp=N,668nm,0.2s						
CLRS	**Cowichan Lake**	**0.49**	**312**	P	Pb	06 06 24.9	-0.9
CLRS				S	Sb	06 06 31.3	-1.4
B926	**Mesachie Lake**	**0.49**	**312**		Pb	06 06 24.9	-0.9
B926					Sb	06 06 31.6	-1.1
B926	**Mesachie Lake**	**0.49**	**312**	P	Pb	06 06 24.8	-1.0
B926				S	Sb	06 06 31.1	-1.6
MCW	**Mount Constitu**	**0.53**	**69**		Pb	06 06 25.8	-0.6
MCW					Sb	06 06 33.1	-0.6
MCW	**Mount Constitu**	**0.53**	**69**	P	Pb	06 06 25.8	-0.6
MCW				S	Sb	06 06 32.6	-1.1
SQM	**Sequim**	**0.55**	**140**		Pb	06 06 25.8	-0.8
SQM					Sb	06 06 34.3	+0.1
PTRF	**Port Renfrew**	**0.56**	**275**		Pb	06 06 25.6	-1.3
PTRF	**Port Renfrew**	**0.56**	**275**	S	Sb	06 06 33.0	-1.6
PTRF	**Port Renfrew**	**0.56**	**275**	P	Pb	06 06 25.6	-1.3
OBC	**Olympics--Boni**	**0.57**	**217**		Pb	06 06 26.4	-0.7
OBC	**Olympics--Boni**	**0.57**	**217**	P	Pb	06 06 26.4	-0.7
OBC	**Olympics--Boni**	**0.57**	**217**	S	Sb	06 06 34.0	-1.0
P403	**Sandy Floe Qua**	**0.57**	**222**		Pb	06 06 26.2	-0.9
PFB	**Port Renfrew**	**0.58**	**278**		Pb	06 06 26.1	-1.2
PFB					Sb	06 06 33.5	-1.7
PFB	**Port Renfrew**	**0.58**	**278**	P	Pb	06 06 26.1	-1.2
PFB	**Port Renfrew**	**0.58**	**278**	S	Sb	06 06 33.5	-1.7
BLN	**Blyn Mountain**	**0.63**	**140**		Pb	06 06 27.0	-1.1
SVOH	**Skagit Valley**	**0.66**	**108**		Pb	06 06 26.7	-1.8
SVOH	**Skagit Valley**	**0.66**	**108**	P	Pb	06 06 27.6	-0.9
OSD	**Olympics--Snow**	**0.68**	**187**	P	Pb	06 06 28.1	-0.9
OCP	**Olym-Cheeka Pk**	**0.73**	**255**		Pb	06 06 28.7	-1.0
OCP					Sb	06 06 38.8	-0.6
OCP	**Olym-Cheeka Pk**	**0.73**	**255**	P	Pb	06 06 28.5	-1.2
NLLB	**Nanaimo Lost L**	**0.78**	**340**		Pb	06 06 29.4	-1.3
NLLB					Sb	06 06 39.8	-1.1
NLLB	**Nanaimo Lost L**	**0.78**	**340**	P	Pb	06 06 29.4	-1.3
NLLB				S	Sb	06 06 39.5	-1.4
B013	**Quilcene**	**0.81**	**147**		Pb	06 06 29.4	-1.7
B013					Sb	06 06 40.5	-1.1
C03A	**Quillayute Air**	**0.86**	**231**		Pb	06 06 32.3	+0.4
C03A	**Quillayute Air**	**0.86**	**231**	IAML		06 06 48.6	
	comp=E,106nm,0.8s						
C03A				IAML		06 06 51.8	
	comp=N,72nm,0.6s						
C04A	**Brinnon**	**0.88**	**152**		Pn	06 06 30.4	-1.7
SWID	**South Whidbey**	**0.92**	**122**		Pn	06 06 31.8	-0.8
BIB	**Bowen Island**	**0.93**	**11**		Pn	06 06 31.7	-1.1
BIB	**Bowen Island**	**0.93**	**11**	P	Pn	06 06 31.7	-1.2
BIB				S	Sb	06 06 43.4	-1.7
HNBB	**Haney**	**1.03**	**39**		Pn	06 06 33.6	-0.7
HNBB					Sn	06 06 46.6	-1.2
HNBB	**Haney**	**1.03**	**39**	P	Pn	06 06 33.5	-0.8
HNBB	**Haney**	**1.03**	**39**	S	Sn	06 06 46.6	-1.3
GNW	**Green Mountain**	**1.06**	**151**		Pn	06 06 33.5	-1.1
GNW	**Green Mountain**	**1.06**	**151**	P	Pn	06 06 33.4	-1.2
GNW				S	Sn	06 06 47.1	-1.3
GMW	**Gold Mountain**	**1.08**	**151**		Pn	06 06 33.9	-1.1
B928	**Bamfield**	**1.09**	**289**	P	Pn	06 06 34.3	-0.7
B928				S	Sn	06 06 47.6	-1.5
BFSB	**Bamfield**	**1.09**	**289**	P	Pn	06 06 34.4	-0.6
BFSB				S	Sn	06 06 47.8	-1.5
B927	**Port Alberni**	**1.09**	**312**		Pn	06 06 34.2	-0.8
B927	**Port Alberni**	**1.09**	**312**	P	Pn	06 06 34.2	-0.9
B927				S	Sn	06 06 47.9	-1.4
NLWA	**Neilton Lookou**	**1.12**	**190**		Pn	06 06 35.8	+0.2
NLWA				IAML		06 06 53.4	
	comp=N,41nm,0.7s						
NLWA				IAML		06 06 53.5	
	comp=N,89nm,0.8s						
SHB	**Sechelt**	**1.12**	**350**		Pn	06 06 34.7	-0.9
SHB	**Sechelt**	**1.12**	**350**	P	Pn	06 06 34.6	-1.0
SHB	**Sechelt**	**1.12**	**350**	S	Sn	06 06 49.0	-1.2
JCW	**Jim Creek**	**1.14**	**105**		Pn	06 06 35.3	-0.4
JCW	**Jim Creek**	**1.14**	**105**	P	Pn	06 06 35.2	-0.5
JCW				S	Sn	06 06 49.1	-1.4
MBW	**Mount Baker**	**1.15**	**75**	P	Pn	06 06 35.7	-0.3
WPB	**Watts Point**	**1.19**	**11**		Pn	06 06 35.9	-0.5
WPB	**Watts Point**	**1.19**	**11**	P	Pn	06 06 35.9	-0.5
WPB				S	Sn	06 06 50.1	-1.6
OZB	**Mount Ozzard**	**1.35**	**291**	Pn	Pn	06 06 38.6	-0.1
OZB				IAML		06 07 01.3	
	comp=E,139nm,0.3s						
OZB	**Mount Ozzard**	**1.35**	**291**	P	Pn	06 06 38.3	-0.4
OZB				S	Sn	06 06 56.0	+0.2
RPW	**Rockport**	**1.37**	**91**		Pn	06 06 39.2	+0.2
RPW	**Rockport**	**1.37**	**91**	P	Pn	06 06 39.2	+0.3
RPW				S	Sn	06 06 56.3	0.0
B012	**Ucluelet**	**1.37**	**289**	S	Sn	06 06 56.5	+0.3
B012	**Ucluelet**	**1.37**	**289**	P	Pn	06 06 39.4	+0.2
WISH	**Wishkah**	**1.38**	**186**	P	Pn	06 06 39.4	+0.3
C05A	**Tolt Reservoir**	**1.50**	**122**		Pn	06 06 40.8	+0.2
C05A	**Tolt Reservoir**	**1.50**	**122**	P	Pn	06 06 40.2	-0.5
C05A				S	Sn	06 06 58.8	-0.5
CPW	**Capitol Peak**	**1.55**	**169**	P	Pn	06 06 41.2	-0.3
HOPB	**Hope**	**1.68**	**57**		Pn	06 06 43.9	+0.8
HOPB	**Hope**	**1.68**	**57**	P	Pn	06 06 43.6	+0.5
HOPB	**Hope**	**1.68**	**57**	S	Sn	06 07 04.3	+0.6
D05A	**Enumclaw**	**1.69**	**140**		Pn	06 06 43.4	+0.1
D05A				IAML		06 07 06.9	
	comp=E,19nm,0.6s						
D05A				IAML		06 07 07.1	
	comp=N,29nm,0.5s						
D05A	**Enumclaw**	**1.69**	**140**	P	Pn	06 06 44.5	+1.2
D05A	**Enumclaw**	**1.69**	**140**	S	Sn	06 07 05.3	+1.4
CBB	**Campbell River**	**1.94**	**323**	P	Pn	06 06 47.0	+0.3
E03A	**Lebam**	**1.95**	**180**	P	Pn	06 06 47.1	+0.2
E03A	**Lebam**	**1.95**	**180**	S	Sn	06 07 10.2	-0.2
SPLB	**Strathcona Par**	**1.95**	**317**	P	Pn	06 06 47.2	+0.3
FMW	**Mount Fremont**	**2.02**	**140**	P	Pn	06 06 49.1	+1.0
REMR	**Mount Rainier-**	**2.04**	**144**		Pn	06 06 49.5	+1.2
LON	**Longmire**	**2.11**	**145**		Pn	06 06 49.9	+0.7
LON	**Longmire**	**2.11**	**145**	P	Pn	06 06 50.0	+0.8
LON	**Longmire**	**2.11**	**145**	S	Sn	06 07 15.8	+1.2
NLW	**Nelson Butte**	**2.20**	**100**		Pb	06 06 53.3	-1.5
LTY	**Liberty**	**2.31**	**121**		Pb	06 06 54.7	-2.0
LTY				IAML		06 07 24.3	
	comp=N,33nm,0.4s						
LTY				IAML		06 07 24.5	
	comp=E,23nm,0.3s						
LTY	**Liberty**	**2.31**	**121**	P	Pn	06 06 52.2	+0.2
LTY	**Liberty**	**2.31**	**121**	S	Sn	06 07 21.9	+2.3
LLLB	**Lillooet**	**2.39**	**27**	P	Pn	06 06 53.5	+0.6
LLLB	**Lillooet**	**2.39**	**27**	Sg	Sb	06 07 26.1	-0.8
NCSB	**Newcastle Ridg**	**2.50**	**321**	P	Pn	06 06 56.2	+1.6
NCSB	**Newcastle Ridg**	**2.50**	**321**	S	Sb	06 07 28.9	-1.5
WOSB	**Woss**	**2.57**	**312**		Pb	06 06 59.9	-1.2
WOSB	**Woss**	**2.57**	**312**	P	Pn	06 06 57.5	+2.0
PNT	**Penticton**	**2.74**	**71**	P	Pn	06 06 58.9	+1.1
MAYB	**Maynard**	**3.03**	**310**	P	Pn	06 07 03.9	+2.1
PACB	**Port Alice, BC**	**3.21**	**309**	P	Pn	06 07 06.1	+2.0
PHC	**Port Hardy**	**3.35**	**313**	P	Pn	06 07 08.3	+2.3
HOLB	**Holberg**	**3.66**	**308**	P	Pn	06 07 12.3	+1.8

*CATAC **07** 06:13:59.9±0.4, 13°.91N×91°.43W, h32km±9km, ML5.0*
*IDC **07** 06:13:59.7±1.6, 14°.33N×90°.69W, h57km±5km, mb3.6/6, mbtmp3.9/7, MS4.1/10, Error ellipse: s-maj=44.2km s-min=27.7km az=26.0*
*NEIC **07** 06:14:01.9±2.5, 14°.04N±0°.09×91°.29W±0°.08, h72km±10km, mb4.4/78, Error ellipse: s-maj=15.3km s-min=7.9km az=219.0*
*SNET **07** 06:14:01.0±1.1, 14°.00N×91°.27W, h79km±73km, ML4.8*
*GCG **07** 06:14:01.6±0.6, 14°.18N×91°.47W, h62km±6km, MD4.5*

ISC 07 06:13:59.4±0.6, 13°.95N±0°.05×91°.41W±0°.05, h61km±4km, n225, σ1°.64/224, mb4.4/34, 6C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.38**	**337**	⇓*i*P	Pn	06 14 11.1	+0.8
RTAL	**Retalhuleu**	**0.63**	**334**	Pn	Pn	06 14 12.5	-0.5
RTAL	**Retalhuleu**	**0.63**	**334**	*i* P	Pn	06 14 12.3	-0.7
RTAL				*i* S	Sn	06 14 22.7	-0.2
RTAL				IAML		06 14 24.8	
	comp=Z,13μm,1.0s						
FUG	**Fuego 3**	**0.74**	**48**	*e*P	Pn	06 14 15.2	+0.8
FUG				*e*S	Sn	06 14 27.2	+1.8
STG3	**Santiaguito 3,**	**0.77**	**349**	⇓*e*P	Pn	06 14 14.9	+0.1
STG3				*e*S	Sn	06 14 29.1	+3.0
PCG	**Pacaya**	**0.89**	**61**	*e*P	Pn	06 14 17.6	+1.2
PCG				*e*S	Sn	06 14 32.5	+3.5
CHTG	**Tecpan**	**0.90**	**27**	*i* P	Pn	06 14 17.1	+0.5
CHTG				*i* S	Sn	06 14 31.3	+2.1
CHTG				IAML		06 14 39.3	
	comp=Z,190μm,1.0s						
GUMI	**Mixco**	**1.03**	**49**	*i* P	Pn	06 14 19.5	+1.4
GUMI				*i* S	Sn	06 14 34.3	+2.4
GUMI				IAML		06 14 37.2	
	comp=Z,99μm,1.0s						
GCG4	**OSOP**	**1.06**	**53**	*i* P	Pn	06 14 19.7	+1.2
GCG4				*i* S	Sn	06 14 34.7	+2.1
GCG4				IAML		06 14 37.3	
	comp=Z,29μm,1.0s						
SMSP	**San Marcos**	**1.07**	**341**	*i* P	Pn	06 14 18.8	0.0
SMSP				*i* S	Sn	06 14 33.0	-0.1
SMSP				IAML		06 14 38.2	
	comp=Z,34μm,1.0s						
NBG	**Las Nubes**	**1.21**	**59**	⇑*e*P	Pn	06 14 23.0	+2.5
NBG				*e*S	Sn	06 14 39.6	+3.3
GUNB	**GUNB**	**1.22**	**58**	*i* P	Pn	06 14 21.9	+1.2
GUNB				*i* S	Sn	06 14 38.3	+1.9
GUNB				IAML		06 14 47.4	
	comp=Z,22μm,1.0s						
HUEH	**Huehuetenango**	**1.36**	**356**		Pn	06 14 23.8	+1.3
HUEH	**Huehuetenango**	**1.36**	**356**	*i* P	Pn	06 14 23.8	+1.3
HUEH				*i* S	Sn	06 14 41.1	+1.3
HUEH				IAML		06 14 47.5	
	comp=Z,12μm,1.0s						
SLOZ	**Alcaldia de Sa**	**1.58**	**87**	*e*P	Pn	06 14 25.6	+0.3
SLOZ				*e*S	Sn	06 14 45.9	+1.0
LOAL	**Lomas de Alarc**	**1.58**	**88**	*e*P	Pn	06 14 26.0	+0.7
LOAL	**Lomas de Alarc**	**1.58**	**88**	*i* P	Pn	06 14 26.2	+0.8
LOAL				*i* S	Sn	06 14 46.0	+1.1
LOAL				IAML		06 14 51.4	
	comp=Z,23μm,1.0s						
NUBE	**Las Nubes**	**1.59**	**92**	⇓*e*P	Pn	06 14 25.2	-0.2
NUBE	**Las Nubes**	**1.59**	**92**	*i* P	Pn	06 14 25.6	+0.1
NUBE				*i* S	Sn	06 14 44.7	-0.4
NUBE				IAML		06 14 46.1	
	comp=Z,17μm,1.0s						
RTR	**El Retiro**	**1.72**	**92**	⇑*e*P	Pn	06 14 28.1	+0.9
CEVE	**Cerro Verde**	**1.74**	**94**	*e*P	Pn	06 14 28.0	+0.4
CEVE	**Cerro Verde**	**1.74**	**94**	*i* S	Sn	06 14 49.6	+0.6
SBLS	**San Blas**	**1.74**	**94**	⇑*e*P	Pn	06 14 28.2	+0.6
SNJE	**San Jose**	**1.76**	**93**	*e*P	Pn	06 14 28.2	+0.4
UNIC	**Universidad Ca**	**1.81**	**89**	*e*P	Pn	06 14 28.9	+0.5
UNIC	**Universidad Ca**	**1.81**	**89**	*i* S	Sn	06 14 51.8	+1.4
JAYA	**Jayaque - finc**	**1.93**	**99**	*e*P	Pn	06 14 29.9	-0.3
JAYA				IAML		06 14 57.2	
	comp=Z,10μm,0.2s						
JAYA	**Jayaque - finc**	**1.93**	**99**	*i* P	Pn	06 14 30.0	-0.1
JAYA				IAML		06 14 57.1	
	comp=Z,23μm,1.0s						
CEDA	**San Andres**	**1.96**	**94**	*e*P	Pn	06 14 31.2	+0.7
CEDA	**San Andres**	**1.96**	**94**	*i* P	Pn	06 14 30.8	+0.3
CEDA				*i* S	Sn	06 14 54.9	+0.8
CEDA				IAML		06 14 58.2	
	comp=Z,16μm,1.0s						
MRL	**Marmol**	**2.02**	**56**	⇑*e*P	Pn	06 14 33.1	+1.8
MTO3	**Montecristo**	**2.04**	**77**		Pn	06 14 32.0	+0.2
MTO3	**Montecristo**	**2.04**	**77**	⇑*i*P	Pn	06 14 31.9	+0.2
MTO3	**Montecristo**	**2.04**	**77**	*i* P	Pn	06 14 31.9	+0.2
MTO3				*i* S	Sn	06 14 58.0	+1.8
MTO3				IAML		06 15 01.0	
	comp=Z,2μm,1.0s						
PMON	**Piamonte**	**2.05**	**96**	*e*P	Pn	06 14 32.3	+0.5
PMON	**Piamonte**	**2.05**	**96**	*i* P	Pn	06 14 32.4	+0.7
PMON				*i* S	Sn	06 14 57.0	+0.7
PMON				IAML		06 15 04.3	
	comp=Z,14μm,1.0s						
QUEZ	**Alcaldia de Qu**	**2.08**	**93**	*e*P	Pn	06 14 33.3	+1.3
QUEZ	**Alcaldia de Qu**	**2.08**	**93**	*i* P	Pn	06 14 33.5	+1.4
QUEZ				*i* S	Sn	06 14 58.6	+1.6
QUEZ				IAML		06 15 01.8	
	comp=Z,18μm,1.0s						
BOQS	**Boqueron**	**2.08**	**96**	*e*P	Pn	06 14 32.9	+0.7
LALI	**Alcalda de L**	**2.08**	**103**	*e*P	Pn	06 14 32.2	+0.2
LALI				*e*S	Sn	06 14 56.7	-0.3
LALI	**Alcalda de L**	**2.08**	**103**	*i* P	Pn	06 14 32.3	+0.2
LALI				*i* S	Sn	06 14 56.7	-0.3
LALI				IAML		06 14 59.6	
	comp=Z,2μm,1.0s						
ESQI	**Esquipulas**	**2.10**	**73**		Pn	06 14 33.0	+0.7
ESQI	**Esquipulas**	**2.10**	**73**	*i* P	Pn	06 14 33.0	+0.7
ESQI				IAML		06 15 07.2	
	comp=Z,7μm,1.0s						
PIC2	**El Picacho**	**2.10**	**95**	*e*P	Pn	06 14 33.2	+0.6
UEES	**Universidad Ev**	**2.12**	**96**	*e*P	Pn	06 14 33.4	+0.7
UEES				IAML		06 15 05.0	
	comp=Z,4μm,0.3s						
UEES	**Universidad Ev**	**2.12**	**96**	*i* P	Pn	06 14 33.9	+1.2
UEES				*i* S	Sn	06 14 59.1	+1.0
UEES				IAML		06 15 05.2	
	comp=Z,5μm,1.0s						
SNET	**Serv Nac Est T**	**2.13**	**97**		Pn	06 14 33.5	+0.7
SNET	**Serv Nac Est T**	**2.13**	**97**	*e*P	Pn	06 14 33.7	+0.8
SNET	**Serv Nac Est T**	**2.13**	**97**	*i* P	Pn	06 14 34.0	+1.2
SNET				*i* S	Sn	06 14 58.5	+0.2
SNET				IAML		06 15 00.9	
	comp=Z,10μm,1.0s						
SEMO	**Seminario San**	**2.14**	**96**	*i* P	Pn	06 14 34.6	+1.7
SEMO				*i* S	Sn	06 14 59.0	+0.5
SEMO				IAML		06 15 04.6	
	comp=Z,16μm,1.0s						
UESS	**Universidad de**	**2.16**	**96**	*e*P	Pn	06 14 34.7	+1.5
UTEC	**Universidad Te**	**2.16**	**96**	*i* P	Pn	06 14 34.9	+1.7
UTEC				*i* S	Sn	06 15 00.1	+1.1
UTEC				IAML		06 15 01.0	
	comp=Z,4μm,1.0s						
PANCS	**Alcalda de**	**2.20**	**99**	*i* P	Pn	06 14 34.5	+0.8
PANCS				IAML		06 15 03.6	
	comp=Z,14μm,1.0s						
LOMA	**Loma Larga**	**2.20**	**98**	*e*P	Pn	06 14 34.7	+0.9
LOMA				IAML		06 15 03.0	
	comp=Z,6μm,0.3s						
LOMA	**Loma Larga**	**2.20**	**98**	*i* P	Pn	06 14 35.0	+1.2
LOMA				IAML		06 15 02.4	
	comp=Z,6μm,1.0s						
LFRS	**El Faro**	**2.31**	**98**	*e*P	Pn	06 14 36.3	+1.1
SJTE	**Alcalda de S**	**2.36**	**98**	*e*P	Pn	06 14 36.6	+0.7
SJTE	**Alcalda de S**	**2.36**	**98**	*i* P	Pn	06 14 37.1	+1.2
SJTE				IAML		06 15 09.4	
	comp=Z,4μm,1.0s						
LLGN	**La Laguna**	**2.40**	**85**	*e*P	Pn	06 14 36.7	+0.2
LLGN	**La Laguna**	**2.40**	**85**	*i* P	Pn	06 14 36.6	+0.1
LLGN				IAML		06 15 11.3	
	comp=Z,2μm,1.0s						
PAVA	**Las Pavas**	**2.42**	**95**	*e*P	Pn	06 14 37.2	+0.5
PAVA	**Las Pavas**	**2.42**	**95**	*i* P	Pn	06 14 37.4	+0.7
PAVA				IAML		06 15 09.9	
	comp=Z,4μm,1.0s						
CCIG	**Comitan**	**2.42**	**343**		Pn	06 14 38.9	+2.1
COEG	**Centro de Oper**	**2.48**	**97**	*e*P	Pn	06 14 38.4	+0.8
COEG	**Centro de Oper**	**2.48**	**97**	*i* P	Pn	06 14 39.4	+1.8
COEG				IAML		06 15 12.2	
	comp=Z,4μm,1.0s						
UESV	**Universidad de**	**2.57**	**97**	*i* P	Pn	06 14 40.1	+1.4
UESV				IAML		06 15 16.1	
	comp=Z,3μm,1.0s						
TECO	**Alcaldia de Te**	**2.59**	**99**	*i* P	Pn	06 14 40.0	+1.0
TECO				IAML		06 15 20.2	
	comp=Z,1μm,1.0s						
SCLA	**Alcaldia de Sa**	**2.62**	**95**	⇑*e*P	Pn	06 14 40.1	+0.7
SCLA	**Alcaldia de Sa**	**2.62**	**95**	*i* P	Pn	06 14 40.5	+1.1
SCLA				IAML		06 15 28.6	
	comp=Z,1μm,1.0s						
PQSS	**Presa 15 de Se**	**2.79**	**96**	*i* P	Pn	06 14 42.5	+0.8
PACA	**Pacayal**	**3.04**	**99**	*e*P	Pn	06 14 46.3	+1.0
PACA	**Pacayal**	**3.04**	**99**	*i* P	Pn	06 14 47.6	+2.4
PACA				*i* S	Sn	06 15 22.7	+2.1
PACA				IAML		06 15 35.5	
	comp=Z,9μm,1.0s						
JUCU	**Jucuarįn**	**3.15**	**102**	*e*P	Pn	06 14 47.9	+1.2
JUCU	**Jucuarįn**	**3.15**	**102**	*i* P	Pn	06 14 48.6	+1.9
JUCU				IAML		06 15 34.5	
	comp=Z,1μm,1.0s						
PETF	**Flores**	**3.30**	**27**		Pn	06 14 50.1	+1.5
PETF	**Flores**	**3.30**	**27**	*i* P	Pn	06 14 50.2	+1.5
PETF				IAML		06 15 50.2	
	comp=Z,2μm,1.0s						
LCND	**La Caada**	**3.48**	**100**	*e*P	Pn	06 14 52.2	+1.0
LCND	**La Caada**	**3.48**	**100**	*i* P	Pn	06 14 53.0	+1.8
LCND				IAML		06 15 35.9	
	comp=Z,1μm,1.0s						
CNCH	**Conchagua**	**3.54**	**101**	*i* P	Pn	06 14 53.6	+1.5
CNCH				IAML		06 15 40.8	
	comp=Z,4μm,1.0s						
AMPH	**Amapala**	**3.71**	**100**	*e*P	Pn	06 14 54.7	+0.5
CSGN	**Cosiguina Volc**	**3.87**	**104**	*i* P	Pn	06 14 57.5	+0.9
CSGN				IAML		06 16 01.3	
	comp=Z,4μm,1.0s						
POTN	**Potosi Cosigui**	**3.92**	**104**	*i* P	Pn	06 14 57.6	+0.5
POTN				IAML		06 15 51.9	
	comp=Z,170nm,1.0s						
TGUH	**Tegucigalpa,Un**	**4.02**	**88**	Pn	Pn	06 14 58.8	+0.1
TGUH	**Tegucigalpa,Un**	**4.02**	**88**	*i* P	Pn	06 14 58.9	+0.3
TGUH				IAML		06 16 11.9	
	comp=Z,820nm,1.0s						
CRIN	**San Cristobal**	**4.43**	**106**		Pn	06 15 02.0	-2.2
CMIG	**Matias Romero**	**4.57**	**313**	P	Pn	06 15 06.8	+0.6
	comp=Z,29nm,0.4s,baz=157,slow=13,SNR=48						
CMIG				S	Sn	06 15 56.8	-1.2
	comp=Z,59nm,0.4s,baz=119,slow=14,SNR=3.5						
CMIG				LR	LR	06 17 18.9	
	comp=Z,592nm,18.6s,baz=146,slow=41						
PLRN	**Geotermica Pol**	**4.72**	**106**	*i* P	Pn	06 15 10.4	+2.2
ROCN

comp=Z,33nm,0.9s
LRAL Lakeview Retre 19.42 11 P P 06 18 20.3 -0.4
152A Waverly Hall 19.61 17 IAmb IAmb 06 18 31.2
comp=Z,52nm,1.5s
PLPT Palo Pinto 19.80 343 IAmb IAmb 06 18 49.9
comp=Z,26nm,0.9s
FW03 Perrin-Whitt E 19.94 343 P Pn 06 18 28.0 -0.6
FW03 IAmb IAmb 06 18 51.3
comp=Z,19nm,0.8s
ABTX Abilene, Hawle 20.05 339 IAmb IAmb 06 18 29.8
comp=Z,21nm,1.2s
MNHN Monahans 20.20 331 P P 06 18 31.0 +1.7
MNHN IAmb IAmb 06 18 33.3
comp=Z,8.3nm,0.7s
COHC Cochancay 20.29 143 P P 06 18 30.1 -0.1
LPIG La Paz 20.49 302 LR LR 06 26 55.5
comp=Z,333nm,18.3s,baz=28,slow=37
SN05 Snyder 5 20.73 337 IAmb IAmb 06 19 00.9
comp=Z,23nm,1.4s
WTFS Witchita Falls 20.74 343 P P 06 18 36.0 +1.0
WTFS IAmb IAmb 06 18 59.4
comp=Z,42nm,1.5s
APMT Aspermont 20.85 339 IAmb IAmb 06 19 12.7
comp=Z,13nm,0.9s
Y52A Lilburn 20.91 17 P Pn 06 18 38.1 -2.0
SDV Santo Domingo 20.98 102 P P 06 18 35.3 -2.7
SDV IAmb IAmb 06 18 44.0
comp=Z,21nm,1.4s
SDV Santo Domingo 20.98 102 P P 06 18 35.5 -2.5
comp=Z,2.9nm,0.5s,baz=290,slow=10,SNR=6.4
POST Post 21.13 336 IAmb IAmb 06 19 09.5
comp=Z,25nm,1.4s
LCAR Lake Charles 22.02 1 P P 06 18 47.5 -1.2
LCAR IAmb IAmb 06 19 10.5
comp=Z,9.5nm,0.8s
MSTX Muleshoe 22.43 335 IAmb IAmb 06 19 23.0
comp=Z,14nm,1.2s
SMWD Samnorwood 22.52 341 IAmb IAmb 06 19 17.3
comp=Z,19nm,0.8s
TKL Tuckaleechee C 22.68 16 P P 06 18 54.5 -1.3
comp=Z,10nm,1.1s,baz=178,slow=10,SNR=5.5
TKL LR LR 06 28 37.1
comp=Z,317nm,19.1s,baz=106,slow=40
AMTX Amarillo 22.81 338 IAmb IAmb 06 19 12.4
comp=Z,14nm,0.9s
MGMO Mountain Grove 23.12 358 IAmb IAmb 06 19 01.0
comp=Z,12nm,0.9s
S39A Bolivar 23.70 356 IAmb IAmb 06 19 31.6
comp=Z,9.2nm,1.0s
S44A Carbondale 23.72 4 IAmb IAmb 06 19 20.8
comp=Z,23nm,0.9s
SIUC Southern Illin 23.75 4 IAmb IAmb 06 19 21.0
comp=Z,23nm,1.0s
CCM Cathedral Cave 24.00 0 P P 06 19 07.6 -0.9
CCM IAmb IAmb 06 19 08.6
comp=Z,12nm,0.8s
R40A Maddies Statio 24.25 358 IAmb IAmb 06 19 11.5
comp=Z,20nm,1.1s
V58A Windy Hill, Pi 24.40 25 P P 06 19 10.1 -1.9
V58A IAmb IAmb 06 19 28.8
comp=Z,17nm,0.8s
RTBA Rita Blanca 24.58 338 IAmb IAmb 06 19 29.7
comp=Z,12nm,0.8s
ANMO Albuquerque 24.93 330 P P 06 19 17.3 +0.2
TUC Tucson 25.44 319 P P 06 19 24.0 +2.3
P40A Paris 25.48 359 IAmb IAmb 06 19 23.6
comp=Z,9.3nm,0.9s
U15A North Rim 29.16 324 IAmb IAmb 06 20 28.8
comp=Z,9.6nm,1.4s
KNB Kanab 29.88 324 IAmb IAmb 06 20 19.4
comp=Z,5.7nm,0.8s
V12A Nelson 30.22 320 P P 06 20 06.0 +1.5
MTPU Mount Pierson 30.26 326 IAmb IAmb 06 20 28.9
comp=Z,10.0nm,1.4s
SADO Sadowa 32.44 16 LR LR 06 33 48.3
comp=Z,324nm,21.8s,baz=232,slow=37
PDAR Pinedale Array 32.70 335 P P 06 20 26.8 +0.6
comp=Z,0.2nm,0.6s,baz=145,slow=9.9,SNR=2.2
PDAR ScP **ScP 06 26 50.3 +0.6**
comp=Z,0.6nm,0.7s,baz=177,slow=1.6,SNR=5.0
comp=Z,0.2nm,0.6s
NVAR Mina Array Bea 34.07 321 P P 06 20 40.5 +2.3
comp=Z,1.1nm,0.6s,baz=133,slow=7.8,SNR=14
NVAR pP **pP 06 20 55.9 +2.4**
comp=Z,10nm,0.7s,baz=136,slow=8.6,SNR=36
NVAR PcP **PcP 06 23 15.2 +0.5**
comp=Z,0.6nm,0.7s,baz=126,slow=3.5,SNR=3.6
NVAR ScP **ScP 06 26 57.2 +2.7**
comp=Z,1.9nm,0.9s,baz=138,slow=3.1,SNR=10
comp=Z,1.1nm,0.6s
MDPB Devils Postpil 34.07 319 P P 06 20 40.2 +1.9
MDPB IAmb IAmb 06 20 56.5
comp=Z,8.0nm,1.0s
LHV Little Huntoon 34.08 320 P P 06 20 39.6 +1.6
ETMB Extrema 34.39 132 P P 06 20 40.3 -0.7
HLID Hailey 35.49 331 IAmb IAmb 06 20 55.9
comp=Z,5.2nm,1.4s
SAML Samuel 36.09 128 P P 06 20 53.9 -1.8
SAML IAmb IAmb 06 21 12.4
comp=Z,10nm,1.2s
ULM Lac du Bonnet 36.38 355 LR LR 06 37 12.8
comp=Z,262nm,19.6s,baz=108,slow=39
J08A Circle Bar Ran 37.39 327 IAmb IAmb 06 21 23.9
comp=Z,6.9nm,0.9s
F10A Beach Ranch, E 38.62 331 IAmb IAmb 06 21 33.3
comp=Z,6.8nm,0.8s
H04A Detroit Lake 40.27 326 P P 06 21 31.5 +1.0
H04A IAmb IAmb 06 21 47.2
comp=Z,6.4nm,0.7s
HOOD Mount Hood Mea 40.40 327 P P 06 21 32.8 +1.1
C09A Chrisman Ranch 40.46 332 P P 06 21 32.9 +1.0
VILB Vilhena 40.88 129 P P 06 21 35.4 -0.5
SCHQ Schefferville 45.07 20 P P 06 22 06.0 -3.1
comp=Z,6.8nm,0.9s,baz=230,slow=6.4,SNR=7.3
SCHQ LR LR 06 40 55.9
comp=Z,361nm,20.8s,baz=213,slow=36
comp=Z,6.8nm,0.9s
YKA Yellowknife Ar 51.20 346 P P 06 22 55.2 -1.1
comp=Z,1.0nm,0.8s,baz=150,slow=7.3,SNR=16
YKA pP **pP 06 23 09.6 -2.7**
comp=Z,0.8nm,0.7s,baz=148,slow=7.5,SNR=8.7
YKA ScP **ScP 06 28 02.1 -0.1**
comp=Z,0.2nm,0.7s,baz=139,slow=3.9,SNR=4.1
comp=Z,1.0nm,0.8s
M29M Somme Creek 58.68 337 IAmb IAmb 06 24 21.5
comp=Z,5.3nm,1.1s
SFJD Kangerlussuaq 59.39 17 LR LR 06 49 28.9
comp=Z,257nm,21.0s,baz=190,slow=36
F28M Old Crow 62.10 341 P P 06 24 14.0 +0.4
IL31 63.11 337 P P 06 24 20.1 -0.1
IL31 IAmb IAmb 06 24 51.1
comp=Z,5.2nm,1.1s
ILAR Eielson Array 63.11 337 P P 06 24 19.6 -0.7
comp=Z,1.6nm,1.0s,baz=124,slow=4.3,SNR=13
ILAR pP **pP 06 24 36.0 -0.8**
comp=Z,1.1nm,0.9s,baz=134,slow=4.7,SNR=4.4
comp=Z,1.6nm,1.0s
MLY Manley 64.71 336 P P 06 24 29.7 -1.3
MLY IAmb IAmb 06 24 47.9
comp=Z,3.4nm,0.8s
F21K Alatna River 66.56 338 P P 06 24 42.5 -0.3
F21K IAmb IAmb 06 25 00.8
comp=Z,5.7nm,0.8s
EKA Eskdalemuir Ar 77.67 36 P P 06 25 45.5 -3.8
comp=Z,0.6nm,0.6s,baz=278,slow=6.4,SNR=3.9
EKA pP **PcP 06 26 03.2 +3.9**
comp=Z,2.2nm,0.8s,baz=282,slow=4.2,SNR=4.4
comp=Z,0.6nm,0.6s
DAVOX Davos/Dischmat 87.51 42 LR LR 07 02 21.3
comp=Z,192nm,21.2s,baz=202,slow=33
GERES GERESS Array B 89.27 40 LR LR 07 04 41.0
comp=Z,131nm,21.2s,baz=229,slow=34
VRAC Vranov 90.87 38 LR LR 07 03 41.9
comp=Z,99nm,21.0s,baz=206,slow=33
MKAR Makanchi Array 119.27 5 PKP PKPdf 06 32 40.9 -1.0
comp=Z,0.1nm,0.5s,baz=322,slow=2.9,SNR=2.0
MKAR pPKP **pPKPdf 06 32 58.3 -1.6**
comp=Z,0.4nm,0.8s,baz=356,slow=4.3,SNR=3.3
CMAR Chiang Mai Arr 146.21 342 PKPbc **PKPdf 06 33 33.4 +0.6**
comp=Z,3.5nm,0.6s,baz=337,slow=3.8,SNR=16
CMAR pPKPbc **pPKPdf 06 33 49.9 -0.9**
comp=Z,2.0nm,0.3s,baz=332,slow=3.7,SNR=2.1

*IDC **07** 06:24:27.0±1.2,6°.12S×142°.90E,h0km,mb3.8/5,*
mbtmp3.9/6,ML3.9/1,MS3.7/1,Error ellipse: s-maj=63.9km
s-min=25.4km az=91.0

ISC 07 06:24:28.7±1.1,6°.3S±0°.1×142°.7E±0°.4,h10km,n8,σ2$15/7,
mb3.9/5,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.87**	**210**	Pn	**Pn**	**06 28 09.8**	**-2.6**
	0.4nm,0.3s,baz=28,slow=13,SNR=7.0						
WRA				Lg	Lg	06 32 51.1	
	0.2nm,0.3s,baz=29,slow=27,SNR=1.4						
ASAR	**Alice Springs**	**19.29**	**205**	P	**P**	**06 28 54.5**	**+0.5**
	0.4nm,0.3s,baz=29,slow=10,SNR=42						
ASAR				Lg	Lg	06 34 43.3	
	0.1nm,0.3s,baz=33,slow=29,SNR=2.5						
	6.7nm,0.8s						
STKA	**Stephens Creek**	**25.52**	**182**	P	**P**	**06 29 59.9**	**+2.3**
	1.6nm,0.6s,baz=24,slow=12,SNR=2.9						
	1.6nm,0.6s						
KLR	**Kul'dur**	**56.08**	**351**	LR	LR	06 55 08.8	
	comp=Z,69nm,21.8s,baz=42,slow=33						
MKAR	**Makanchi Array**	**75.03**	**322**	P	**P**	**06 36 11.5**	**+0.9**
	0.4nm,0.7s,baz=99,slow=9.1,SNR=2.7						
	0.4nm,0.7s						
QSPA	**South Pole Qui**	**83.72**	**180**	P	**P**	**06 36 58.0**	**+0.2**
	0.9nm,0.7s,baz=28,slow=0.4,SNR=6.9						
	0.9nm,0.7s						
BVAR	**Borovoye Array**	**84.50**	**325**	P	**P**	**06 37 02.7**	**+0.9**
	0.9nm,0.7s,baz=107,slow=5.0,SNR=3.5						
	0.9nm,0.7s						
ILAR	**Eielson Array**	**87.40**	**24**	P	**P**	**06 37 13.8**	**-2.1**
	0.4nm,0.8s,baz=254,slow=4.9,SNR=7.2						
	0.4nm,0.8s						

*IDC **07** 06:54:48.8±1.8,8°.37S×118°.91E,h0km,mb3.8/6,*
mbtmp3.9/7,ML4.3/1,Error ellipse: s-maj=152.5km
s-min=18.2km az=55.0
*DJA **07** 06:55:10.4±0.2,8°.5×2°.2×12°.0E±°,h179km×2km,M4.5/23,*
mB5.0/7,mb4.4/23,MLv4.6/18,Mw(mB)4.3/7

ISC 07 06:55:10.7±0.6,8°.36S±0°.06×119.70E±0°.05,h200km,n54,
σ1$45/55,mb3.8/5,Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**1.96**	**256**	P	**Pn**	**06 55 47.9**	**-1.0**
PLAI	**Plampang**	**1.96**	**256**	P	**Pn**	**06 55 47.6**	**-1.3**
PLAI				S	**Sn**	**06 56 15.0**	**-3.5**
EDFI	**Ende, Flores**	**2.00**	**101**	P	**Pn**	**06 55 47.8**	**-1.6**
BASI	**Baing, Sumba**	**2.04**	**155**	P	**Pn**	**06 55 48.5**	**-1.2**
BASI				S	**Sn**	**06 56 16.8**	**-3.3**
MMRI	**Maumere**	**2.52**	**96**	P	**Pn**	**06 55 55.0**	**+0.1**
MMRI	**Maumere**	**2.52**	**96**	P	**Pn**	**06 55 54.0**	**-0.9**
MMRI				S	**Sn**	**06 56 27.5**	**-1.7**
TWSI	**Taliwang, Sumb**	**2.82**	**262**	P	**Pn**	**06 55 57.0**	**-1.2**
TWSI				S	**Sn**	**06 56 32.8**	**-2.5**
BKSI	**Bulukumba**	**3.04**	**8**	P	**Pn**	**06 56 00.7**	**-0.2**
SRBI	**Singaraja**	**4.45**	**273**	P	**Pn**	**06 56 16.8**	**-1.4**
IGBI	**Denpasar**	**4.53**	**264**	P	**Pn**	**06 56 18.6**	**-0.6**
SOEI	**Soe**	**4.72**	**107**	P	**Pn**	**06 56 21.8**	**+0.1**
SOEI	**Soe**	**4.72**	**107**	P	**Pn**	**06 56 21.4**	**-0.3**
ABJI	**Asem Bagus**	**5.45**	**275**	P	**Pn**	**06 56 32.5**	**+1.6**
	58nm,0.7s,2µm0.4nm						
JAGI	**Jajag, Banyuwa**	**5.49**	**268**	P	**Pn**	**06 56 31.2**	**-0.3**
JAGI	**Jajag, Banyuwa**	**5.49**	**268**	P	**Pn**	**06 56 29.7**	**-1.8**
	48nm,0.4s,4µm1.1nm						
KMMI	**Kalianget**	**5.83**	**282**	P	**Pn**	**06 56 34.7**	**-1.2**
	23nm,1.1s,0.1nm						
BLJI	**Banyuglugur**	**6.08**	**275**	P	**Pn**	**06 56 38.4**	**-0.6**
	37nm,0.7s,0.4nm						
GMJI	**Gumukmas**	**6.20**	**270**	P	**Pn**	**06 56 39.3**	**-1.2**
	27nm,0.8s						
PWJI	**Pagerwojo**	**7.83**	**272**	P	**Pn**	**06 57 02.0**	**+0.2**
UGM	**Wanagama**	**9.10**	**272**	P	**Pn**	**06 57 18.9**	**+0.5**
UGM	**Wanagama**	**9.10**	**272**	P	**Pn**	**06 57 17.7**	**-0.7**
	116nm,1.5s						
KPJI	**Karang Pucung**	**10.72**	**275**	P	**Pn**	**06 57 39.7**	**+0.4**
	18nm,0.6s						
KNRA	**Kununurra**	**11.46**	**130**	P	**Pn**	**06 57 48.1**	**-0.7**
DRS	**Darwin Rock St**	**11.73**	**111**	P	**Pn**	**06 57 52.7**	**+0.4**
MTN	**Manton Dam**	**12.09**	**113**	P	**Pn**	**06 57 56.9**	**+0.1**
PSA00	**Pilbara Seismi**	**13.14**	**179**	P	**P**	**06 58 13.9**	**+0.9**
KDU	**Kakadu**	**13.27**	**110**	P	**Pn**	**06 58 11.0**	**-0.7**
FAKI	**Fak Fak**	**13.60**	**67**	P	**Pn**	**06 58 13.9**	**-1.9**
FAKI	**Fak Fak**	**13.60**	**67**	P	**Pn**	**06 58 14.5**	**-1.3**
	53nm,1.3s						
KASI	**Kota Agung**	**15.36**	**280**	P	**P**	**06 58 39.5**	**+1.8**
	36nm,0.8s						
MNAI	**Manna**	**17.11**	**282**	P	**Pn**	**06 58 58.4**	**-0.1**
	178nm,1.2s						
MEEK	**Meekatharra**	**18.21**	**183**	P	**Pn**	**06 59 11.2**	**-0.1**
WRA	**Warramunga Arr**	**18.26**	**131**	P	**Pn**	**06 59 10.2**	**-1.6**
	1.0nm,0.3s,baz=302,slow=12,SNR=50						
WRA				S	**S**	**07 02 26.6**	**-1.4**
	3.0nm,0.5s,baz=308,slow=24,SNR=9.8						
	1.3nm,0.5s						
WRKA	**Warakurna**	**18.50**	**155**	P	**Pn**	**06 59 14.4**	**-0.3**
ASAR	**Alice Springs**	**20.41**	**140**	P	Pn	06 59 34.0	-3.8
	1.2nm,0.5s,baz=314,slow=9.6,SNR=22						
ASAR				S	**S**	**07 03 10.1**	**-0.2**
	2.6nm,0.7s,baz=319,slow=21,SNR=12						
	1.2nm,0.5s						
AS01	**Alice Springs**	**20.44**	**140**	P	Pn	06 59 34.8	-3.4
MORW	**Morawa**	**20.89**	**189**	P	**P**	**06 59 39.7**	**+2.1**
BLDU	**Ballidu**	**22.32**	**187**	P	**P**	**06 59 53.3**	**+1.3**
QIS	**Mount Isa**	**22.73**	**124**	P	**P**	**06 59 57.5**	**+1.6**
KMBL	**Kambalda**	**22.98**	**175**	P	**P**	**06 59 59.7**	**+1.8**
KLBR	**Kellerberrin**	**23.19**	**184**	P	**P**	**07 00 01.6**	**+1.8**
FORT	**Forrest**	**23.64**	**162**	P	**P**	**07 00 05.7**	**+1.9**
COEN	**Coen**	**23.68**	**106**	P	**P**	**07 00 05.3**	**+0.8**
OOD	**Oodnadatta**	**24.53**	**144**	P	**P**	**07 00 14.2**	**+2.1**
MULG	**Mulgathing**	**25.62**	**150**	P	**P**	**07 00 23.9**	**+2.1**
BBOO	**Buckleboo**	**28.66**	**150**	P	**P**	**07 00 50.5**	**+1.5**
STKA	**Stephens Creek**	**31.02**	**142**	P	**P**	**07 01 12.0**	**+2.3**
	1.6nm,0.5s,baz=316,slow=11,SNR=6.0						
	1.6nm,0.5s						
SONM	**Songino Array**	**57.17**	**349**	P	**P**	**07 04 37.2**	**+0.4**
	0.5nm,0.4s,baz=168,slow=9.6,SNR=6.0						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**64.21**	**332**	P	**P**	**07 05 24.1**	**-0.1**
	0.9nm,0.5s,baz=144,slow=7.6,SNR=11						
	0.9nm,0.5s						
ZALV	**Zalesovo Beam**	**68.69**	**339**	P	**P**	**07 05 50.5**	**-1.9**
	0.7nm,0.3s,baz=128,slow=5.5,SNR=4.9						
	0.7nm,0.3s						
KURBB	**Kunhatov Arra**	**68.71**	**333**	P	**P**	**07 05 52.1**	**-0.5**
	0.2nm,0.4s,baz=144,slow=5.7,SNR=4.6						
	0.2nm,0.4s						
H04N2	**CROZET ISLANDS**	**68.74**	**224**	T	T	08 20 12.3	
	baz=78,slow=75,SNR=94						
H04N1	**CROZET ISLANDS**	**68.76**	**224**	T	T	08 20 17.7	
	baz=78,slow=75,SNR=78						
H04N3	**CROZET ISLANDS**	**68.76**	**224**	T	T	08 20 13.1	
	baz=78,slow=75,SNR=89						

*SOME **07** 07:29:08.9,39°.63N×76°.83E,h10km*
*KRNET **07** 07:29:10.9±0.1,39°.51N×76°.99E,mb3.1*
*NNC **07** 07:29:12.3±0.8,39°.75N×76°.96E,h0km,mb4.0,mpv3.6,*
Error ellipse: s-maj=5.8km s-min=5.1km az=152.0

ISC 07 07:29:10.5±1.2,39.77N±0°.05×76.77E±0°.03,h1km×6km,
n74,σ2$12/108,33C-22D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**1.76**	**341**	⇑*i*P	**Pg**	**07 29 46.6**	**+2.3**
	baz=38						
NRN				⇑*i*S	**Sg**	**07 30 12.9**	**+5.7**
	baz=38						
TARG	**Taragay, Kyrgy**	**2.11**	**22**	⇓*i*P	**Pb**	**07 29 50.0**	**+0.1**
	baz=15						
TARG				⇓*i*S	**Sb**	**07 30 18.7**	**+1.9**
	baz=15						
KDJ	**Kajisay**	**2.38**	**7**	⇓*i*P	**Pb**	**07 29 54.4**	**+0.1**
	baz=3.0						
KDJ				⇓*i*S	**Sb**	**07 30 26.2**	**+1.9**
	baz=3.0						
ULHL	**Ulahol**	**2.51**	**351**	⇑*i*P	**Pb**	**07 29 56.8**	**+0.3**
	baz=49						
ULHL				⇑*i*S	**Sb**	**07 30 30.4**	**+2.5**
	baz=49						
SFK	**Sufi-Kurgan**	**2.52**	**277**	⇑*i*P	**Pb**	**07 29 56.0**	**-0.8**
	baz=82						
SFK				⇑*i*S	**Sb**	**07 30 29.1**	**+0.7**
	baz=82						
BOOM	**Boomskoye usch**	**2.79**	**347**	⇑eP	**Pb**	**07 30 00.8**	**-0.5**
	baz=45						
BOOM				⇑*i*S	**Sb**	**07 30 37.3**	**+1.3**
	baz=45						
ARLS	**Aral**	**2.79**	**319**	⇑*i*P	**Pb**	**07 30 01.0**	**-0.4**
	baz=20						
ARLS				⇑*i*S	**Sb**	**07 30 37.7**	**+1.6**
	baz=20						
PRZ	**Przheval'sk**	**2.98**	**24**	⇓*i*P	**Pb**	**07 30 02.2**	**-2.4**
	baz=19						
PRZ				⇓*i*S	**Sb**	**07 30 39.5**	**-2.0**
	baz=19						
UCH	**Uchtor**	**2.99**	**326**	⇑*i*P	**Pb**	**07 30 04.0**	**-0.9**
	baz=26						
UCH				⇑*i*S	**Sb**	**07 30 42.8**	**+0.7**
	baz=26						
ANVS	**Anan'yevo**	**3.09**	**12**	⇑eP	**Pb**	**07 30 03.9**	**-2.5**
	baz=9.0						
ANVS				⇑eS	**Sg**	**07 30 43.1**	**-1.5**
	baz=9.0						
OHH	**Osh**	**3.14**	**285**	⇑*i*P	**Pb**	**07 30 04.8**	**-2.5**
	baz=89						
OHH				⇑*i*S	**Sb**	**07 30 44.4**	**-1.7**
	baz=89						
KBK	**Karagaybulak**	**3.19**	**335**	⇓*i*P	**Pb**	**07 30 06.6**	**-1.6**
	baz=35						
KBK				⇓*i*S	**Sb**	**07 30 47.5**	**-0.2**
	baz=35						
IZV	**Izvestkoviy**	**3.27**	**358**	eP	**Pb**	**07 30 11.6**	**+2.2**
	8.9nm,0.2s						
IZV				eS	**Sg**	**07 30 56.8**	**+1.4**
	29nm,0.2s						
IZV	**Izvestkoviy**	**3.27**	**358**	Pg	**Pb**	**07 30 11.6**	**+2.2**
	8.9nm,0.2s						
IZV				Lg	Lg	07 30 56.8	
	29nm,0.2s						
TNSS	**Tian-Shan**	**3.27**	**2**	eP	**Pg**	**07 30 12.4**	**-0.8**
	11nm,0.5s						
TNSS				eS	**Sg**	**07 30 58.3**	**+2.7**
	16nm,0.5s						
TNSS	**Tian-Shan**	**3.27**	**2**	Pg	**Pg**	**07 30 12.4**	**-0.8**
	11nm,0.5s						
TNSS				Lg	Lg	07 30 58.3	
	16nm,0.5s						
TKM2	**Tokmak 2**	**3.27**	**345**	⇓Pn	**Pb**	**07 30 06.2**	**-3.3**
	2.7nm,0.5s						
TKM2				⇓Lg	Lg	07 30 59.8	
	27nm,0.7s						
TKM2	**Tokmak 2**	**3.27**	**345**	⇓*i*P	**Pb**	**07 30 07.5**	**-2.0**
	baz=43						
TKM2				⇓*i*S	**Sb**	**07 30 48.9**	**-1.0**
	baz=43						
KST	**Kastek**	**3.33**	**350**	eP	**Pb**	**07 30 12.6**	**+2.2**
	3.2nm,0.4s						
KST				eS	**Sg**	**07 30 58.5**	**+1.1**
	24nm,0.5s						
KST	**Kastek**	**3.33**	**350**	Pg	**Pb**	**07 30 12.6**	**+2.2**
	3.2nm,0.4s						
KST				Lg	Lg	07 30 58.5	
	24nm,0.5s						
AAK	**Ala-Archa**	**3.34**	**330**	⇑*i*P	**Pb**	**07 30 08.7**	**-2.0**
	baz=30						
AAK				⇑*i*S	**Sb**	**07 30 50.9**	**-0.9**
	baz=30						
MTBS	**Maitube**	**3.37**	**356**	eP	**Pb**	**07 30 13.0**	**+1.9**
	4.2nm,0.3s						
MTBS				eS	**Sg**	**07 30 59.2**	**+0.5**
	43nm,0.3s						
MTBS	**Maitube**	**3.37**	**356**	Pg	**Pb**	**07 30 13.0**	**+1.9**
	4.2nm,0.3s						
MTBS				Lg	Lg	07 30 59.2	
	43nm,0.3s						
MDOK	**Medeo**	**3.40**	**3**	eP	**Pb**	**07 30 14.0**	**+2.3**
	11nm,0.2s						
MDOK				eS	**Sg**	**07 31 00.8**	**+1.0**
	42nm,0.5s						
MDOK	**Medeo**	**3.40**	**3**	⇓Pn	**Pb**	**07 30 09.3**	**-2.3**
	5.7nm,0.4s						
MDOK				Pg	**Pb**	**07 30 14.0**	**+2.3**
	11nm,0.2s						
MDOK				⇑Lg	Lg	07 31 00.6	
	28nm,0.5s						
MDOK				Lg	Lg	07 31 00.7	
	42nm,0.5s						
FRU1	**Bishkek**	**3.44**	**333**	⇑*i*P	**Pb**	**07 30 10.5**	**-1.8**
	baz=32						
FRU1				⇑*i*S	**Sb**	**07 30 53.8**	**-0.8**
	baz=32						
KNDC	**Almaty**	**3.45**	**2**	⇑Lg	Lg	07 31 03.7	
	51nm,0.4s						
KOTS	**Kotyrbulak**	**3.47**	**4**	eP	**Pg**	**07 30 16.2**	**-0.9**
	9.5nm,0.3s						
KOTS				eS	**Sg**	**07 31 04.7**	**+2.6**
	92nm,0.5s						
KOTS	**Kotyrbulak**	**3.47**	**4**	Pg	**Pg**	**07 30 16.2**	**-0.9**
	9.5nm,0.3s						
KOTS				Lg	Lg	07 31 04.7	
	92nm,0.5s						
SATY	**Saty**	**3.51**	**20**	eP	**Pg**	**07 30 15.8**	**-2.0**
	19nm,0.5s						
SATY				eS	**Sg**	**07 31 04.0**	**+0.6**
	20nm,0.4s						
SATY	**Saty**	**3.51**	**20**	Pg	**Pg**	**07 30 15.9**	**-2.0**
	19nm,0.5s						
SATY				Lg	Lg	07 31 04.0	
	20nm,0.4s						
DGS	**Degeres**	**3.55**	**348**	eP	**Pg**	**07 30 17.9**	**-0.7**
	3.9nm,0.4s						
DGS				eS	**Sg**	**07 31 07.6**	**+3.0**
	27nm,0.4s						
DGS	**Degeres**	**3.55**	**348**	Pg	**Pg**	**07 30 17.9**	**-0.7**
	3.9nm,0.4s						
DGS				Lg	Lg	07 31 07.6	
	27nm,0.4s						
CHMS	**Chumysh**	**3.56**	**336**	⇑Lg	Lg	07 31 09.1	
	24nm,0.7s						
CHMS	**Chumysh**	**3.56**	**336**	⇓*i*P	**Pb**	**07 30 11.6**	**-2.8**
	baz=35						
CHMS				⇓*i*S	**Sb**	**07 30 56.0**	**-2.2**
	baz=35						
ZHN	**Zhinishke**	**3.62**	**20**	eP	**Pb**	**07 30 17.4**	**+1.9**
	14nm,0.2s						
ZHN				eS	**Sg**	**07 31 06.7**	**-0.2**
	22nm,0.3s						
ZHN	**Zhinishke**	**3.62**	**20**	Pg	**Pb**	**07 30 17.4**	**+1.9**
	14nm,0.2s						
ZHN				Lg	Lg	07 31 06.6	
	22nm,0.3s						
UZB	**Uzynbulak**	**3.78**	**26**	eP	**Pb**	**07 30 19.7**	**+1.6**
	8.1nm,0.2s						
UZB				eS	**Sg**	**07 31 10.7**	**-1.2**
	8.6nm,0.3s						
UZB	**Uzynbulak**	**3.78**	**26**	Pg	**Pb**	**07 30 19.7**	**+1.6**
	8.1nm,0.2s						
UZB				Lg	Lg	07 31 10.7	
	8.6nm,0.3s						
KURS	**Kuram**	**3.86**	**15**	eP	**Pg**	**07 30 22.4**	**-2.1**
	9.2nm,0.3s						
KURS				eS	**Sg**	**07 31 15.3**	**+0.7**
	10nm,0.6s						
KURS	**Kuram**	**3.86**	**15**	Pg	**Pg**	**07 30 22.4**	**-2.1**
	9.2nm,0.3s						
KURS				Lg	Lg	07 31 15.3	
	10nm,0.6s						
USP	**Ospenovka**	**3.89**	**335**	⇑*i*P	Pb	07 30 16.1	-3.8
	baz=34						
USP				⇑*i*S	**Sb**	**07 31 03.8**	**-3.7**
	baz=34						
KTBS	**Karatobe**	**3.94**	**359**	eP	**Pg**	**07 30 23.9**	**-2.1**
	3.7nm,0.3s						
KTBS				eS	**Sg**	**07 31 18.0**	**+0.9**
	13nm,0.5s						
KTBS	**Karatobe**	**3.94**	**359**	Pg	**Pg**	**07 30 24.0**	**-2.1**
	3.7nm,0.3s						
KTBS				Lg	Lg	07 31 18.0	
	13nm,0.5s						
SHLS	**Shalkode**	**3.94**	**30**	eP	**Pg**	**07 30 26.1**	**0.0**
	9.3nm,0.3s						
SHLS				eS	**Sg**	**07 31 21.9**	**+4.7**
	18nm,0.5s						
SHLS	**Shalkode**	**3.94**	**30**	Pg	**Pg**	**07 30 26.2**	**0.0**
	9.3nm,0.3s						
SHL

KRBS	**Karabastau**	**4.01**	**349**	*e*P	**Pg**	**07 30 25.9**	**-1.4**		
	4.5nm,0.5s								
KRBS				*e*S	**Sg**	**07 31 21.4**	**+2.2**		
	26nm,0.5s								
KRBS	**Karabastau**	**4.01**	**349**	Pg	**Pg**	**07 30 25.9**	**-1.4**		
	4.5nm,0.5s								
KRBS				Lg	Lg	07 31 21.4			
	26nm,0.5s								
CHKK	**Chushkaly**	**4.08**	**2**	*e*P	**Pg**	**07 30 26.8**	**-2.0**		
	4.5nm,0.3s								
CHKK				*e*S	**Sg**	**07 31 22.8**	**+1.0**		
	19nm,0.3s								
CHKK	**Chushkaly**	**4.08**	**2**	Pg	**Pg**	**07 30 26.8**	**-2.0**		
	4.5nm,0.3s								
CHKK				Lg	Lg	07 31 22.8			
	19nm,0.3s								
PDGK	**Podgornoye**	**4.10**	**29**	Pg	**Pb**	**07 30 26.0**	**+2.4**		
	3.8nm,0.4s								
PDGK				Lg	Lg	07 31 21.6			
	5.7nm,0.7s								
PDGK	**Podgornoye**	**4.10**	**29**	⇓Pg	**Pb**	**07 30 25.4**	**+1.8**		
	6.1nm,0.7s								
PDGK				⇑Lg	Lg	07 31 19.8			
	16nm,0.8s								
KUU	**Kurty**	**4.13**	**356**	*e*P	**Pg**	**07 30 27.7**	**-2.1**		
	4.1nm,0.5s								
KUU				*e*S	**Sg**	**07 31 24.4**	**+1.0**		
	27nm,0.7s								
KUU	**Kurty**	**4.13**	**356**	Pg	**Pg**	**07 30 27.7**	**-2.1**		
	4.1nm,0.5s								
KUU				Lg	Lg	07 31 24.3			
	27nm,0.7s								
ARK	**Arkit**	**4.17**	**301**	⇓*i*P	Pb	07 30 20.0	-4.8		
	baz=3.0								
ARK				⇓*i*S	**Sn**	**07 31 10.2**	**+5.3**		
	baz=3.0								
MNAS	**Manas**	**4.21**	**312**	⇓*i*P	Pb	07 30 20.7	-4.8		
	baz=13								
MNAS				⇓*i*S	**Sb**	**07 31 11.8**	**-5.1**		
	baz=13								
BLB	**Baldybastay**	**4.51**	**16**	Pg	**Pg**	**07 30 34.6**	**-2.4**		
	8.6nm,0.3s								
BLB				Lg	Lg	07 31 36.5			
	13nm,0.5s								
ARXS	**Arharly**	**4.51**	**10**	*e*P	**Pg**	**07 30 34.6**	**-2.4**		
	5.8nm,0.4s								
ARXS				*e*S	**Sg**	**07 31 36.4**	**+1.0**		
	12nm,0.4s								
ARXS	**Arharly**	**4.51**	**10**	Pg	**Pg**	**07 30 34.6**	**-2.4**		
	5.8nm,0.4s								
ARXS				Lg	Lg	07 31 36.4			
	12nm,0.4s								
KTMS	**Ketmen**	**4.55**	**35**	*e*P	Pg	07 30 34.6	-3.1		
	1.7nm,0.3s								
KTMS				*e*S	**Sg**	**07 31 36.1**	**-0.7**		
	5.3nm,0.3s								
KTMS	**Ketmen**	**4.55**	**35**	Pg	Pg	07 30 34.6	-3.1		
	1.7nm,0.3s								
KTMS				Lg	Lg	07 31 36.1			
	5.3nm,0.3s								
BTK	**Batken**	**4.58**	**276**	⇓*i*P	Pn	07 30 24.4	+3.3		
	baz=79								
BTK				⇓*i*S	**Sn**	**07 31 17.9**	**+2.9**		
	baz=79								
TRKS	**Terek-Say**	**4.63**	**294**	⇑*i*P	Pn	07 30 25.5	+3.7		
	baz=96								
TRKS				⇑*i*S	**Sn**	**07 31 20.1**	**+3.9**		
	baz=96								
GAR	**Garm**	**5.06**	**263**	⇑*i*P	**Pn**	**07 30 30.0**	**+2.4**		
	baz=67								
GAR				⇑*i*S	**Sn**	**07 31 27.8**	**+1.1**		
	baz=67								
DJR	**Jarkent**	**5.08**	**25**	*e*P	**Pb**	**07 30 43.9**	**+3.5**		
	3.5nm,0.5s								
DJR				*e*S	**Sg**	**07 31 51.9**	**-2.0**		
	5.1nm,0.4s								
DJR	**Jarkent**	**5.08**	**25**	Pg	**Pb**	**07 30 43.9**	**+3.5**		
	3.5nm,0.5s								
DJR				Lg	Lg	07 31 51.9			
	5.1nm,0.4s								
BTLS	**Baital**	**5.64**	**340**	*e*P	**Pg**	**07 30 56.6**	**-2.0**		
	1.2nm,0.4s								
BTLS				*e*S	**Sg**	**07 32 14.0**	**+2.3**		
	4.8nm,0.3s								
BTLS	**Baital**	**5.64**	**340**	Pg	**Pg**	**07 30 56.6**	**-2.0**		
	1.2nm,0.4s								
BTLS				Lg	Lg	07 32 14.0			
	4.8nm,0.3s								
KK31	**Karatay Array**	**5.76**	**307**	Pg	**Pg**	**07 31 01.3**	**+0.4**		
	0.7nm,0.5s,baz=126,slow=18,SNR=9.9								
KK31				⇑Lg	Lg	07 32 19.6			
	1.4nm,0.5s,baz=126,slow=30,SNR=5.3								
CHGR	**Chuyangaron**	**6.01**	**262**	⇑*i*P	Pn	07 30 44.2	+3.5		
	baz=65								
CHGR				⇑*i*S	**Sn**	**07 31 50.2**	**0.0**		
	baz=65								
BRLS	**Borolday**	**6.14**	**304**	*e*P	Pg	07 31 05.4	-2.9		
	1.8nm,0.6s								
BRLS				*e*S	**Sg**	**07 32 29.1**	**+1.3**		
	2.6nm,0.6s								
BRLS	**Borolday**	**6.14**	**304**	Pg	Pg	07 31 05.4	-2.9		
	1.8nm,0.6s								
BRLS				Lg	Lg	07 32 29.1			
	2.6nm,0.6s								

*KRNET **07** 07:34:38.5±0.1,41˚.23N×71˚.76E,h12km,mb2.2*
*SOME **07** 07:34:38.7,41˚.23N×71˚.75E,h5km*
*ISU **07** 07:34:40.6,41˚.00N×71˚.53E,h8km*
*NNC **07** 07:34:40.6±1.1,41˚.30N×71˚.73E,h0km,mb2.8,mpv2.7,*
Error ellipse: s-maj=9.1km s-min=3.3km az=175.0
ISC 07 07:34:39.8±0.9,**41˚.27N**±0˚.03×**71˚.70E**±0˚.03,**h12**km±9km,
n19,σ0**°97/36,11C-5D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSNS	**Kasansay**	**0.17**	**231**	P	**Pg**	**07 34 44.2**	**+0.4**
KSNS				S	**Sg**	**07 34 46.8**	**+0.3**
TRKS	**Terek-Say**	**0.49**	**302**	⇑*e*P	**Pg**	**07 34 48.1**	**-1.5**
	baz=98						
TRKS				⇑*e*S	**Sg**	**07 34 55.0**	**-1.2**
	baz=98						
ARK	**Arkit**	**0.56**	**20**	⇑*e*P	**Pg**	**07 34 49.9**	**-1.0**
	baz=15						
ARK				⇑*e*S	**Sg**	**07 34 58.2**	**-0.2**
	baz=15						
TSTA	**Tashata**	**0.91**	**139**	P	**Pb**	**07 34 57.3**	**-0.3**
TSTA				S	**Sb**	**07 35 09.7**	**+0.1**
MNAS	**Manas**	**1.36**	**26**	⇑*e*P	**Pn**	**07 35 04.4**	**-0.4**
	baz=24						
MNAS				⇑*e*S	**Sg**	**07 35 23.4**	**-0.2**
	baz=24						
BTK	**Batken**	**1.38**	**209**	⇓*e*P	**Pn**	**07 35 04.2**	**-0.9**
	baz=12						
BTK				⇓*e*S	**Sb**	**07 35 23.0**	**-0.4**
	baz=12						
IUG	**luzhnay**	**1.53**	**306**	*e*P	**Pb**	**07 35 08.6**	**+0.4**
	7.3nm,0.3s						
IUG				*e*S	**Sg**	**07 35 30.1**	**+1.1**
	16nm,0.3s						
IUG	**luzhnay**	**1.53**	**306**	P	**Pb**	**07 35 08.6**	**+0.4**
	7.3nm,0.3s						
IUG				S	**Sg**	**07 35 30.1**	**+1.1**
	16nm,0.3s						
IUG	**luzhnay**	**1.53**	**306**	*e*P	**Pb**	**07 35 08.6**	**+0.4**
	baz=6.0						
IUG				*e*S	**Sg**	**07 35 30.1**	**+1.1**
	baz=6.0						
MRKS	**Merke**	**1.86**	**37**	*e*P	**Pb**	**07 35 13.2**	**-0.7**
	1.1nm,0.1s						
MRKS				*e*S	**Sb**	**07 35 38.1**	**+0.9**
	5.1nm,0.5s						
MRKS	**Merke**	**1.86**	**37**	P	**Pb**	**07 35 13.2**	**-0.7**
	1.1nm,0.1s						
MRKS				S	**Sb**	**07 35 38.1**	**+0.9**
	5.1nm,0.5s						
MRKS	**Merke**	**1.86**	**37**	*e*P	**Pb**	**07 35 13.2**	**-0.7**
	baz=35						
MRKS				*e*S	**Sb**	**07 35 38.1**	**+0.9**
	baz=35						
KK31	**Karatay Array**	**2.03**	**335**	⇑Pg	**Pb**	**07 35 16.8**	**0.0**
	0.2nm,0.2s,baz=152,slow=17,SNR=3.4						
KK31				⇓Lg	Lg	07 35 44.3	
	1.7nm,0.3s,baz=152,slow=30,SNR=11						
KKAR	**Karatay Array**	**2.03**	**335**	⇑*e*P	**Pb**	**07 35 16.2**	**-0.6**
	baz=34						
KKAR				⇑*e*S	**Sb**	**07 35 43.7**	**+1.6**
	baz=34						
ARLS	**Aral**	**2.06**	**72**	⇓*e*P	**Pn**	**07 35 15.5**	**+1.1**
	baz=71						
ARLS				⇓*e*S	**Sb**	**07 35 42.7**	**-0.1**
	baz=71						
BRLS	**Borolday**	**2.24**	**322**	*e*P	**Pb**	**07 35 19.3**	**-1.0**
	1.8nm,0.2s						
BRLS				*e*S	**Sb**	**07 35 48.5**	**+0.5**
	3.5nm,0.2s						
BRLS	**Borolday**	**2.24**	**322**	Pg	**Pb**	**07 35 19.3**	**-1.0**
	1.8nm,0.2s						
BRLS				Lg	Lg	07 35 48.5	
	3.5nm,0.2s						
UCH	**Uchtor**	**2.31**	**65**	⇑*e*P	**Pn**	**07 35 19.7**	**+1.5**
	baz=63						
UCH				⇑*e*S	**Sb**	**07 35 49.6**	**-0.9**
	baz=63						
KST	**Kastek**	**3.63**	**59**	*e*P	**Pb**	**07 35 46.2**	**+2.2**
	1.1nm,0.1s						
KST				*e*S	**Sg**	**07 36 35.0**	**-1.4**
	2.0nm,0.2s						

*IDC **07** 07:36:54.1±0.7,6˚.30S×143˚.00E,h0km,mb4.4/14,*
mbtmp4.4/16,ML2.1/1,MS3.7/4,Error ellipse:
s-maj=31.3km s-min=15.9km az=80.0
*BJI **07** 07:36:54.1±0.0,6˚.25S×143˚.01E,h10km,mb4.6/41,*
mB5.0/17,Ms4.9/1,Ms7 4.5/1
*NEIC **07** 07:36:56.0±1.6,6˚.31S±0˚.10×142˚.86E±0˚.09,h10km±1km,*
mb4.9/82,Error ellipse: s-maj=17.8km s-min=13.9km
az=220.0
*DJA **07** 07:36:57.3±1.9,6˚S±4˚×14˚3E±˚,h17km±14km,M4.9/12,*
mB5.2/1,mb4.5/12,MLv5.1/5,Mw(mB)4.6/1
ISC 07 07:36:56.2±0.4,**6˚.45S**±0˚.05×**142˚.84E**±0˚.07,**h10**km,**n294,**
σ1°22/254,mb4.9/72,MS3.8/3,3C-1D,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**1.99**	**306**	P	**Pn**	**07 37 30.5**	**+0.5**
MMPI	**Merauke**	**3.15**	**230**	P	**Pn**	**07 37 46.1**	**+0.2**
GENI	**Genyem**	**4.67**	**325**	P	**Pn**	**07 38 08.4**	**+1.6**
GENI	**Genyem**	**4.67**	**325**	P	**Pn**	**07 38 06.6**	**-0.2**
PMG	**Port Moresby**	**5.19**	**125**	Pn	**Pn**	**07 38 14.8**	**+0.8**
PMG	**Port Moresby**	**5.19**	**125**	P	**Pn**	**07 38 15.2**	**+1.3**
PMG	**Port Moresby**	**5.19**	**125**	P	**Pn**	**07 38 15.3**	**+1.3**
PMG	**Port Moresby**	**5.19**	**125**	Pn	**Pn**	**07 38 14.7**	**+0.7**
	4.3nm,0.3s,baz=297,slow=18,SNR=10.0						
PMG				Sn	**Sn**	**07 39 11.8**	**-2.1**
	4.1nm,0.3s,baz=323,slow=20,SNR=10						
	31nm,0.6s						
SMPI	**Sarmi**	**6.05**	**317**	P	**Pn**	**07 38 25.9**	**+0.1**
	91nm,1.4s,2μm0.5nm						
COEN	**Coen**	**7.47**	**177**	Pn	**Pn**	**07 38 46.7**	**+1.5**
FAKI	**Fak Fak**	**11.12**	**288**	Pn	**Pn**	**07 39 34.4**	**-1.0**
KDU	**Kakadu**	**11.95**	**238**	P	**Pn**	**07 39 46.7**	**0.0**
MTN	**Manton Dam**	**13.17**	**240**	Pn	**Pn**	**07 40 01.8**	**-1.6**
CTA	**Charters Tower**	**13.96**	**167**	LR	LR	07 46 17.7	
	comp=Z,186nm,18.0s,baz=344,slow=40						
WB0	**Warramunga Arr**	**15.57**	**211**	Pn	**Pn**	**07 40 35.7**	**-0.3**
WR0	**Warramunga Arr**	**15.66**	**210**	Pn	**Pn**	**07 40 37.1**	**0.0**
WRAB	**Tennant Creek**	**15.73**	**211**	Pn	**Pn**	**07 40 38.3**	**+0.2**
WB2	**Warramunga Arr**	**15.74**	**211**	Pn	**Pn**	**07 40 37.8**	**-0.4**
WRA	**Warramunga Arr**	**15.75**	**211**		**Pn**	**07 40 37.9**	**-0.4**
WRA	**Warramunga Arr**	**15.75**	**211**	Pn	**Pn**	**07 40 35.8**	**-2.5**
	0.6nm,0.3s,baz=33,slow=13,SNR=23						
WRA				Sn	**Sn**	**07 43 26.3**	**-6.6**
	0.4nm,0.3s,baz=29,slow=23,SNR=7.5						
WRA				Lg	Lg	07 45 14.3	
	0.6nm,0.3s,baz=29,slow=33,SNR=4.6						
KNRA	**Kununurra**	**16.57**	**235**	Pn	**Pn**	**07 40 46.8**	**-1.9**
AS01	**Alice Springs**	**19.13**	**206**	P	**P**	**07 41 22.1**	**+2.5**
AS31	**Alice Springs**	**19.15**	**206**		**P**	**07 41 20.5**	**+0.6**
ASAR	**Alice Springs**	**19.15**	**206**		**P**	**07 41 20.5**	**+0.6**
ASAR	**Alice Springs**	**19.15**	**206**	P	**P**	**07 41 21.8**	**+1.9**
	23nm,0.7s,baz=32,slow=12,SNR=88						
ASAR				S	Sn	07 44 46.0	-10
	3.5nm,0.8s,baz=19,slow=26,SNR=4.7						
ASAR				Lg	Lg	07 47 05.3	
	0.2nm,0.3s,baz=28,slow=30,SNR=4.1						
ASAR				LR	LR	07 49 24.5	
	comp=Z,405nm,19.9s,baz=22,slow=39						
QLP	**Quilpie**	**20.06**	**176**	P	**P**	**07 41 32.9**	**+3.1**
FITZ	**Fitzroy Crossi**	**20.38**	**234**		**P**	**07 41 33.6**	**+0.3**
LUWI	**Luwuk**	**20.72**	**284**	P	**P**	**07 41 35.9**	**-1.1**
LUWI				IAmb	IAmb	07 42 04.5	
	comp=Z,51nm,1.1s						
GTOI	**Gorontalo**	**21.00**	**289**	P	**P**	**07 41 42.9**	**+2.8**
	comp=Z,23nm,0.8s						
EDFI	**Ende, Flores**	**21.08**	**262**	P	**P**	**07 41 38.7**	**-2.4**
	comp=Z,22nm,1.7s						
INKA	**Innaminka**	**21.27**	**185**	P	**P**	**07 41 45.6**	**+2.8**
OOD	**Oodnadatta**	**22.28**	**197**	P	**P**	**07 41 55.7**	**+2.0**
WRKA	**Warakurna**	**23.14**	**215**	P	**P**	**07 42 04.8**	**+1.9**
TOLI2	**Tolitoli**	**23.26**	**288**	P	**P**	**07 42 03.0**	**-1.2**
TOLI2	**Tolitoli**	**23.26**	**288**	P	**P**	**07 42 04.5**	**+0.3**
LCRK	**Leigh Creek**	**24.26**	**190**	P	**P**	**07 42 16.2**	**+2.6**
MULG	**Mulgathing**	**25.10**	**198**	P	**P**	**07 42 24.5**	**+3.3**
STKA	**Stephens Creek**	**25.32**	**182**	P	**P**	**07 42 23.8**	**+0.6**
STKA	**Stephens Creek**	**25.32**	**182**	P	**P**	**07 42 25.6**	**+2.4**
STKA	**Stephens Creek**	**25.32**	**182**	P	**P**	**07 42 23.9**	**+0.7**
	comp=Z,3.7nm,0.7s,baz=346,slow=12,SNR=8.3						
STKA				LR	LR	07 52 46.8	
	comp=Z,97nm,20.2s,baz=18,slow=37						
	comp=Z,3.7nm,0.7s						
BBOO	**Buckleboo**	**26.97**	**193**	P	**P**	**07 42 39.5**	**+1.3**
FORT	**Forrest**	**27.89**	**208**	P	**P**	**07 42 47.7**	**+1.2**
FORT				IAmb	IAmb	07 42 56.5	
	comp=Z,21nm,1.0s						
NWAO	**Narrogin (SRO)**	**35.50**	**219**	LR	LR	07 59 17.7	
	comp=Z,161nm,18.2s,baz=358,slow=38						
AUALB	**St Joseph's Co**	**36.53**	**216**	P	**P**	**07 44 04.3**	**+2.2**
MJAR	**Matsushiro Arr**	**42.99**	**355**	P	P	07 44 53.5	-2.2
	comp=Z,2.8nm,1.0s,baz=184,slow=9.4,SNR=2.7						
	comp=Z,2.8nm,1.0s						
NJ2	**Nanjing**	**44.60**	**331**	*e*P	**P**	**07 45 07.9**	**-0.9**
NJ2				pP	**pP**	**07 45 11.1**	**-1.1**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KSRS	**Korea Array**	**45.84**	**343**	P	**P**	**07 45 17.6**	**-1.0**
	comp=Z,7.2nm,1.1s,baz=158,slow=10,SNR=8.6						
	comp=Z,7.2nm,1.1s						
PHRA	**Phrae**	**48.78**	**301**	P	P	07 45 39.2	-2.6
LYN	**LuoYang**	**49.86**	**327**	*e*P	**P**	**07 45 48.0**	**-1.8**
LYN				pmax	pmax		
	comp=Z,18nm,0.7s						
CMAR	**Chiang Mai Arr**	**49.86**	**301**	P	**P**	**07 45 50.4**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=122,slow=5.7,SNR=10						
	comp=Z,1.3nm,0.3s						
KMI	**Kunming**	**50.06**	**310**	⇑P	**P**	**07 45 52.3**	**+0.5**
KMI				pmax	pmax		
	comp=Z,13nm,0.7s						
HNS	**HongShan**	**50.92**	**331**	⇓P	**P**	**07 45 57.2**	**-0.6**
HNS				pmax	pmax		
	comp=Z,8.0nm,1.5s						
USRK	**Ussuriysk Ar.**	**51.36**	**350**	P	P	07 45 58.5	-2.4
USRK	**Ussuriysk Ar.**	**51.36**	**350**	P	**P**	**07 45 59.7**	**-1.2**
	comp=Z,5.3nm,1.0s,baz=162,slow=8.0,SNR=5.1						
	comp=Z,5.3nm,1.0s						
XAN	**Xi'an**	**51.49**	**324**	⇑P	**P**	**07 46 01.4**	**-0.8**
XAN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PZH	**PanZhiHua**	**51.57**	**311**	P	**P**	**07 46 03.6**	**+0.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,5.0s						
MDJ	**Mudanjiang**	**52.22**	**348**	P	**P**	**07 46 06.1**	**-1.2**
MDJ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,100nm,3.8s						
CD2	**Chengdu**	**52.70**	**317**	*e*P	**P**	**07 46 10.0**	**-1.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BNX	**BinXian**	**53.76**	**347**	⇑P	**P**	**07 46 18.2**	**-0.5**
BNX				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BNX				pmax	pmax		
	comp=Z,190nm,5.2s						
HHC	**Hu-ho-hao-te**	**55.14**	**331**	*e*P	**P**	**07 46 29.4**	**+0.4**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,77nm,5.0s						
BTO	**Baotou**	**55.70**	**330**	*e*P	**P**	**07 46 35.4**	**+2.3**
BTO				pP	**pP**	**07 46 39.9**	**+3.4**
BTO				sP	**sP**	**07 46 42.0**	**+4.2**
BTO				PP	**PP**	**07 48 40.4**	**+2.8**
BTO				pmax	pmax		
	comp=Z,16nm,0.5s						
BTO				pmax	pmax		
	comp=Z,330nm,5.0s						
BTO				LR	LR		
	comp=Z,290nm,12.2s						
BTO				LR	LR		
	comp=Z,200nm,5.7s						
BTO				LR	LR		
	comp=Z,210nm,10.0s						
LZH	**Lanzhou**	**55.93**	**322**	*e*P	P	07 46 29.5	-5.4
LZH				pP	pP	07 46 37.7	-0.6
LZH				pmax	pmax		
	comp=Z,19nm,1.4s						
GTA	**Gaotai**	**60.51**	**323**	*e*P	**P**	**07 47 07.4**	**+0.6**
GTA				pP	pP	07 47 09.8	-0.5
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
PETK	**Petropavlovsk-**	**60.66**	**10**	P	**P**	**07 47 05.6**	**-1.8**
	comp=Z,7.0nm,0.9s,baz=188,slow=5.2,SNR=3.8						
	comp=Z,7.0nm,0.9s						
SONM	**Songino Array**	**62.86**	**333**	P	**P**	**07 47 21.8**	**-0.7**
	comp=Z,2.2nm,0.9s,baz=150,slow=6.7,SNR=9.4						
	comp=Z,2.2nm,0.9s						
WMQ	**Urumqi**	**70.48**	**321**	*e*P	**P**	**07 48 10.4**	**-0.8**
WMQ				pmax	pmax		
	comp=Z,17nm,0.7s						
MK31	**Makanchi Array**	**75.25**	**322**	P	**P**	**07 48 39.1**	**-0.3**
MKAR	**Makanchi Array**	**75.25**	**322**	P	**P**	**07 48 39.1**	**-0.3**
	comp=Z,4.3nm,1.0s,baz=111,slow=6.8,SNR=22						
	comp=Z,4.3nm,1.0s						
MAKZ	**Makanchi**	**75.45**	**322**	P	**P**	**07 48 40.4**	**-0.2**
TAOE	**Nuku Hiva Isla**	**76.25**	**98**	P	P	07 48 43.8	-2.1
KSH	**Kashi**	**76.63**	**313**	P	**P**	**07 48 48.9**	**+1.3**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ZALV	**Zalesovo Beam**	**77.23**	**329**	P	**P**	**07 48 49.2**	**-1.3**
ZALV	**Zalesovo Beam**	**77.23**	**329**	P	**P**	**07 48 49.0**	**-1.5**
	comp=Z,1.8nm,0.6s,baz=120,slow=5.9,SNR=8.4						
	comp=Z,1.8nm,0.6s						
AAK	**Ala-Archa**	**78.74**	**316**	P	**P**	**07 48 59.1**	**-0.2**
	comp=Z,1.9nm,1.0s,baz=123,slow=6.8,SNR=4.4						
	comp=Z,1.9nm,1.0s						
CHGN	**Chignik**	**78.77**	**29**	P	**P**	**07 48 58.7**	**-0.3**
	baz=240						
M13K	**Dall Lake**	**78.80**	**24**	P	**P**	**07 48 58.3**	**-0.7**
	baz=235						
KURK	**Kurchatov**	**79.13**	**324**		**P**	**07 48 59.8**	**-1.2**
KURBB	**Kurchatov Arra**	**79.14**	**324**	P	**P**	**07 49 00.4**	**-0.7**
	comp=Z,3.9nm,1.0s,baz=115,slow=4.9,SNR=12						
M14K	**Bethel**	**79.56**	**24**	P	**P**	**07 49 02.5**	**-0.6**
	baz=236						
L14K	**Kuka Creek**	**79.60**	**24**	IAmb	IAmb	07 49 04.4	
	comp=Z,14nm,0.9s						
L14K	**Kuka Creek**	**79.60**	**24**	P	**P**	**07 49 02.7**	**-0.6**
	baz=235						
O15K	**Ungalikthiuk R**	**79.60**	**26**	P	**P**	**07 49 03.0**	**-0.5**
	baz=238						
J14K	**Nanvaranak Lak**	**80.08**	**22**	P	**P**	**07 49 05.3**	**-0.6**
	baz=234						
L15K	**Ungalak Mounta**	**80.26**	**24**	P	**P**	**07 49 06.2**	**-0.8**
	baz=236						
TNA	**Tin City**	**80.30**	**19**	P	**P**	**07 49 06.3**	**-0.8**
	baz=230						
P16K	**Nushagak River**	**80.34**	**27**	P	**P**	**07 49 06.9**	**-0.5**
	baz=240						
ANM	**Nome**	**80.52**	**20**	P	**P**	**07 49 08.0**	**-0.3**
	baz=232						
O16K	**Kokwok River B**	**80.58**	**26**	P	**P**	**07 49 08.3**	**-0.4**
	baz=240						
K15K	**Wolf Creek Mou**	**80.59**	**23**	P	**P**	**07 49 08.1**	**-0.7**
	baz=236						
N16K	**Nishlik Lake**	**80.74**	**25**	P	**P**	**07 49 08.9**	**-0.6**
	baz=239						
F14K	**Arctic Creek**	**80.76**	**19**	P	**P**	**07 49 09.1**	**-0.5**
	baz=231						
Q17K	**Contact Creek**	**80.93**	**28**	P	**P**	**07 49 10.2**	**-0.6**
	baz=242						
M16K	**Timber Creek**	**80.94**	**25**	P	**P**	**07 49 09.6**	**-1.1**
	baz=239						
L16K	**Owhat River**	**81.09**	**24**	P	**P**	**07 49 10.6**	**-0.8**
	baz=238						
O17K	**Koliganek Bris**	**81.11**	**26**	P	**P**	**07 49 11.1**	**-0.4**
	baz=241,SNR=6.7						
G15K	**Niukluk**	**81.23**	**20**	P	**P**	**07 49 11.0**	**-1.1**
	baz=234						
N17K	**Nushagak Hills**	**81.44**	**26**	P	**P**	**07 49 12.6**	**-0.7**
	baz=240						
F15K	**North Star Dit**	**81.46**	**19**	IAmb	IAmb	07 49 16.1	
	comp=Z,18nm,1.3s						
F15K	**North Star Dit**	**81.46**	**19**	P	**P**	**07 49 12.7**	**-0.6**
	baz=233						
J16K	**Anvik River**	**81.49**	**22**	P	**P**	**07 49 12.6**	**-0.9**
	baz=237						
H16K	**Elim**	**81.65**	**21**	P	**P**	**07 49 14.6**	**+0.3**
	baz=235						
KKAR	**Karatay Array**	**81.66**	**315**	P	**P**	**07 49 13.1**	**-1.9**
OHAK	**Old Harbor**	**81.70**	**30**	P	**P**	**07 49 14.0**	**-0.7**
	baz=244						
M17K	**Holitna River**	**81.77**	**25**	P	**P**	**07 49 15.0**	**-0.1**
	baz=240						
L17K	**Donlin**	**81.79**	**24**	P	**P**	**07 49 14.5**	**-0.6**
	baz=239						
I17K	**Unalakleet**	**81.79**	**22**	P	**P**	**07 49 14.4**	**-0.6**
	baz=237						
O18K	**Koktuh Hills**	**81.98**	**27**	P	**P**	**07 49 15.8**	**-0.5**
	baz=242						
G16K	**Koyuk River**	**82.04**	**20**	IAmb	IAmb	07 49 17.1	
	comp=Z,8.5nm,1.1s						
G16K	**Koyuk River**	**82.04**	**20**	P	**P**	**07 49 16.2**	**-0.1**
	baz=235						
N18K	**Kilae Creek**	**82.07**	**26**	P	**P**	**07 49 16.0**	**-0.7**
	baz=242						
K17K	**Iditarod**	**82.08**	**23**	P	**P**	**07 49 16.1**	**-0.6**

comp=Z,14nm,1.4s
J19K **Poorman** 83.77 23 P P 07 49 24.9 -0.5
baz=242
E18K **Tukpahlearik C** 83.77 19 IAmb IAmb 07 49 28.1
comp=Z,11nm,1.1s
E18K **Tukpahlearik C** 83.77 19 P P 07 49 24.2 -1.1
baz=236,SNR=7.6
M20K **Styx River** 83.81 25 P P 07 49 24.9 -0.8
baz=244
BRSE **Bradley Lake S** 83.97 28 P P 07 49 25.5 -1.0
baz=246
K20K **Telida** 84.08 24 IAmb IAmb 07 49 29.3
comp=Z,10nm,1.2s
K20K **Telida** 84.08 24 P P 07 49 26.1 -0.9
baz=243
CAPN **Captain Cook N** 84.20 27 P P 07 49 26.7 -0.9
baz=246
H19K **Roundabout Mou** 84.20 21 IAmb IAmb 07 49 30.3
comp=Z,9.4nm,1.1s
H19K **Roundabout Mou** 84.20 21 P P 07 49 26.5 -1.0
baz=241
C18K **Utukok River** 84.27 18 P P 07 49 26.9 -1.1
baz=236
G19K **Purcell Mounta** 84.28 21 IAmb IAmb 07 49 30.8
comp=Z,7.7nm,1.1s
G19K **Purcell Mounta** 84.28 21 P P 07 49 27.0 -0.9
baz=240
F19K **Shaleruckik Mo** 84.39 20 P P 07 49 27.9 -0.5
baz=239
J20K **Nowinta River** 84.43 23 P P 07 49 28.1 -0.6
baz=243
NRIK **Noril'sk** 84.46 343 P P 07 49 28.4 -0.4
comp=Z,10nm,0.9s,baz=124,slow=5.3,SNR=14
comp=Z,10nm,0.9s
B18K **Kokolik River** 84.50 17 P P 07 49 27.5 -1.5
baz=235
SKT **Skwentna** 84.54 26 P P 07 49 28.0 -1.4
baz=245
I20K **Naaghedeneel** 84.58 22 P P 07 49 28.7 -0.8
baz=242
PPLA **Purkeypile** 84.65 25 P P 07 49 29.1 -0.9
baz=245
SUA **Susitna One** 84.66 26 P P 07 49 28.6 -1.5
baz=246
SEW **Seward** 84.71 28 P P 07 49 28.9 -1.3
baz=247
BVAR **Borovoye Array** 84.72 325 P P 07 49 29.9 -0.5
comp=Z,11nm,0.7s,baz=112,slow=6.4,SNR=40
comp=Z,11nm,0.7s
H20K **Anotleneega Mo** 84.76 22 P P 07 49 29.7 -0.7
baz=242
BRVK **Borovoye** 84.79 325 P P 07 49 29.9 -0.9
E19K **Redstone River** 84.89 20 IAmb IAmb 07 49 33.8
comp=Z,9.8nm,1.1s
E19K **Redstone River** 84.89 20 P P 07 49 30.6 -0.4
baz=240
CAST **Castle Rocks** 84.91 24 IAmb IAmb 07 49 32.5
comp=Z,6.3nm,1.0s
CAST **Castle Rocks** 84.91 24 P P 07 49 29.8 -1.4
baz=245
RC01 **Rabbit Creek A** 84.96 27 P P 07 49 29.9 -1.6
baz=247
C19K **Lookout Ridge** 85.01 18 P P 07 49 30.8 -0.8
baz=237
CHUM **Lake Minchumin** 85.02 24 P P 07 49 30.5 -1.2
baz=244
D19K **Kuna River** 85.14 19 P P 07 49 31.3 -0.9
baz=239,SNR=8.5
F20K **Avaraart Lake** 85.20 20 P P 07 49 31.5 -1.0
baz=241
IMAR **Indian Mountai** 85.40 22 P P 07 49 32.3 -1.3
PMR **Palmer** 85.43 26 P P 07 49 31.8 -2.0
PMR IAmb IAmb 07 49 35.2
comp=Z,9.3nm,1.0s
PMR **Palmer** 85.43 26 P P 07 49 32.2 -1.6
baz=248
H21K **Melozitna Rive** 85.60 22 P P 07 49 33.4 -1.2
baz=244
E20K **Nigu River** 85.64 19 P P 07 49 33.9 -0.9
baz=241
BPAW **Bear Paw Mtn.** 85.64 24 P P 07 49 32.9 -1.9
BPAW IAmb IAmb 07 49 38.4
comp=Z,13nm,1.4s
BPAW **Bear Paw Mtn.** 85.64 24 P P 07 49 33.9 -0.9
baz=246
TRF **Thorofare Moun** 85.66 24 P P 07 49 34.1 -1.0
baz=246
I21K **Tanana** 85.71 23 IAmb IAmb 07 49 37.9
comp=Z,14nm,1.4s
I21K **Tanana** 85.71 23 P P 07 49 34.4 -0.7
baz=245
D20K **Etivluk River** 85.73 19 P P 07 49 33.8 -1.4
baz=240,SNR=6.2
G21K **Allakaket** 85.73 21 P P 07 49 33.7 -1.6
baz=243
SML **Sawmill** 85.86 26 P P 07 49 34.3 -1.7
baz=248
F21K **Alatna River** 86.06 20 P P 07 49 35.9 -1.0
baz=243
MLY **Manley** 86.12 23 IAmb IAmb 07 49 37.5
comp=Z,6.9nm,1.0s
MLY **Manley** 86.12 23 P P 07 49 36.7 -0.6
baz=246
B20K **Meade River** 86.21 17 IAmb IAmb 07 49 39.7
comp=Z,11nm,1.4s
B20K **Meade River** 86.21 17 P P 07 49 36.7 -0.8
baz=240
H22K **Ishtalitna Cre** 86.24 22 P P 07 49 36.6 -1.1
baz=245
RND **Reindeer** 86.24 25 IAmb IAmb 07 49 39.6
comp=Z,12nm,1.0s
SCM **Sheep Creek Mo** 86.31 27 P P 07 49 37.0 -1.3
baz=249
MCK **McKinley** 86.33 24 P P 07 49 36.8 -1.4
baz=248
C21K **Knifeblade Rid** 86.52 19 P P 07 49 38.8 -0.3
baz=242
NEA2 **Nenana** 86.60 24 IAmb IAmb 07 49 41.5
comp=Z,11nm,1.1s
NEA2 **Nenana** 86.60 24 P P 07 49 38.6 -0.9
baz=248
G22K **Bettles** 86.62 21 P P 07 49 39.1 -0.4
baz=245
I23K **Minto, Yukon-K** 86.70 23 P P 07 49 39.3 -0.8
baz=247
B21K **Ikpikpuk River** 86.80 18 P P 07 49 39.8 -0.5
baz=242,SNR=6.8
KLU **Klutina** 86.83 27 P P 07 49 40.0 -0.9
baz=250
M24K **Tolsona, Glenn** 86.92 26 P P 07 49 40.0 -1.3
baz=250
WRH **Wood River Hil** 86.95 24 P P 07 49 39.9 -1.4
WRH IAmb IAmb 07 49 43.0
comp=Z,7.5nm,1.0s
KAIM **Kayak Island** 87.02 29 P P 07 49 40.9 -0.8
baz=252
A21K **Barrow** 87.03 16 P P 07 49 40.2 -1.3
baz=240
E22K **Anaktuvuk Pass** 87.03 20 IAmb IAmb 07 49 46.1
comp=Z,7.0nm,1.0s
E22K **Anaktuvuk Pass** 87.03 20 P P 07 49 40.8 -0.9
baz=245
D22K **Ayikyak River** 87.07 19 P P 07 49 40.9 -0.9
baz=244
G23K **Bananza Creek** 87.07 22 P P 07 49 41.0 -0.8
baz=246
CCB **Clear Creek Bu** 87.13 24 IAmb IAmb 07 49 41.1
comp=Z,6.9nm,0.9s
COLD **Coldfoot** 87.22 21 P P 07 49 41.7 -0.8
baz=246
BMRM **Bremner River** 87.26 28 P P 07 49 43.0 +0.1
baz=252
HDA **Harding Lake** 87.39 24 P P 07 49 42.6 -0.8
baz=249
N25K **Chitina, Valde** 87.46 27 P P 07 49 42.6 -1.3
baz=252
B22K **Teshekpuk Lake** 87.49 18 P P 07 49 42.7 -1.0
baz=243
PAX **Paxson** 87.52 26 P P 07 49 43.2 -1.0
baz=251
H24K **Noodor Dome** 87.54 23 P P 07 49 43.5 -0.6
baz=248
IL31 87.54 24 P P 07 49 42.2 -1.9
IL31 IAmb IAmb 07 49 45.7
comp=Z,11nm,1.4s
ILAR **Eielson Array** 87.54 24 P P 07 49 41.7 -2.4
ILAR **Eielson Array** 87.54 24 P P 07 49 41.9 -2.2
comp=Z,3.1nm,0.8s,baz=253,slow=5.0,SNR=28
comp=Z,3.1nm,0.8s
K24K **Donnelly Dome** 87.66 25 P P 07 49 44.1 -0.7
baz=250
E23K **Chandalar** 87.75 20 P P 07 49 44.3 -0.9
baz=247
D23K **Nanushuk River** 87.76 19 P P 07 49 45.1 0.0
baz=246
CRQE **Cirque** 87.90 28 P P 07 49 45.7 -0.4
baz=253
G24K **Hadweenzic Riv** 88.01 22 P P 07 49 45.6 -0.7
baz=249
J25K **Salcha River,** 88.10 24 P P 07 49 44.6 -2.3
baz=251
MCARA **McCarthy VSAT** 88.11 28 P P 07 49 45.2 -1.7
baz=253
C23K **Itkillik River** 88.14 19 P P 07 49 46.8 0.0
baz=246
F24K **Squaw Lake** 88.16 21 IAmb IAmb 07 49 49.7
comp=Z,9.4nm,1.1s
F24K **Squaw Lake** 88.16 21 P P 07 49 46.6 -0.4
baz=248
M26K **Nabesna, AK** 88.42 27 P P 07 49 47.1 -1.3
baz=253
D24K **Happy Valley** 88.45 19 P P 07 49 47.9 -0.4
baz=248
SCRK **Sand Creek** 88.47 25 P P 07 49 47.7 -1.1
SCRK IAmb IAmb 07 49 48.1
comp=Z,6.7nm,1.3s
SCRK **Sand Creek** 88.47 25 P P 07 49 48.2 -0.6
baz=252
G25K **Bearman Lake** 88.54 22 P P 07 49 48.7 -0.1
baz=250
BARN **Barnard Glacie** 88.66 28 P P 07 49 48.3 -1.4
BARN IAmb IAmb 07 49 51.8
comp=Z,11nm,1.2s
C24K **Franklin Bluff** 88.71 19 P P 07 49 48.9 -0.6
baz=248
CTG **Chitna Glacier** 88.78 28 P P 07 49 48.5 -1.8
baz=254
J26L **Joseph Creek** 88.81 25 IAmb IAmb 07 49 52.1
comp=Z,13nm,1.4s
J26L **Joseph Creek** 88.81 25 P P 07 49 48.7 -1.6
baz=252
M27K **Edge Creek, AK** 88.91 27 IAmb IAmb 07 49 53.1
comp=Z,6.0nm,0.9s
M27K **Edge Creek, AK** 88.91 27 P P 07 49 50.6 -0.2
baz=254
F25K **Christian Rive** 88.99 21 P P 07 49 50.6 -0.4
baz=250
L27K **Beaver Creek,** 89.13 26 IAmb IAmb 07 49 54.5
comp=Z,11nm,1.2s
L27K **Beaver Creek,** 89.13 26 P P 07 49 51.8 +0.1
baz=254
BCAR **Beaver Creek A** 89.15 26 P P 07 49 51.3 -0.6
E25K **Arctic Village** 89.19 21 IAmb IAmb 07 49 54.7
comp=Z,11nm,1.4s
E25K **Arctic Village** 89.19 21 P P 07 49 51.7 -0.2
baz=251
I26K **Coal Creek Min** 89.22 24 P P 07 49 52.5 +0.4
baz=253
K27K **Chicken** 89.29 25 P P 07 49 52.8 +0.4
baz=254
BMAR **Burnt Mountain** 89.32 22 P P 07 49 52.7 +0.1
D25K **Kavik River** 89.32 20 P P 07 49 51.9 -0.6
baz=250
BVCY **Beaver Creek** 89.39 27 P P 07 49 52.6 -0.3
baz=255
PNL **Peninsula** 89.39 30 P P 07 49 52.0 -1.0
baz=256
YUK3 **Moose Creek** 89.40 28 P P 07 49 52.3 -1.0
baz=255
G26K **Porcupine Rive** 89.47 22 P P 07 49 52.8 -0.4
baz=252
F26K **Sheenjek River** 89.56 21 P P 07 49 53.1 -0.5
baz=252
YUK8 **Steele Glacier** 89.60 28 P P 07 49 53.3 -1.0
baz=256
EGAK **Eagle** 89.88 25 IAmb IAmb 07 50 05.9
comp=Z,14nm,1.5s
EGAK **Eagle** 89.88 25 P P 07 49 55.1 0.0
baz=255
I27K **Kandik River** 89.92 24 P P 07 49 55.3 -0.1
baz=250
O29M **Mount Kennedy** 89.94 29 P P 07 49 54.5 -1.2
baz=257
C26K **Camden Bay** 90.01 19 P P 07 49 55.5 -0.1
baz=251
H27K **Steamboat Moun** 90.12 23 P P 07 49 56.1 -0.3
baz=254
YUK4 **Talbot Arm** 90.14 28 P P 07 49 56.9 +0.1
baz=257
YUK6 **Outpost Mounta** 90.18 29 P P 07 49 56.0 -1.0
baz=257
DAWY **Dawson** 90.44 25 P P 07 49 55.7 -2.2
DAWY IAmb IAmb 07 50 00.7
comp=Z,14nm,1.4s
DAWY **Dawson** 90.44 25 P P 07 49 57.9 +0.1
baz=256
M29M **Somme Creek** 90.47 27 P P 07 49 57.7 -0.4
baz=257
I28M **Miner Creek** 90.55 24 P P 07 49 57.5 -0.9
baz=256
HYT **Haines Junctio** 90.57 29 P P 07 49 58.6 0.0
HYT IAmb IAmb 07 50 00.3
comp=Z,5.8nm,1.1s
HYT **Haines Junctio** 90.57 29 P P 07 49 57.5 -1.2
baz=258
L29M **L29M** 90.77 27 IAmb IAmb 07 50 02.3
comp=Z,5.9nm,0.9s
L29M **L29M** 90.77 27 P P 07 49 59.0 -0.5
baz=257
K29M **Barlow Dome** 91.20 26 P P 07 50 00.8 -0.7
baz=258
O30N **Mendenhall** 91.24 29 P P 07 50 01.4 -0.2
baz=259
M30M **Minto, Yukon** 91.26 27 P P 07 50 00.3 -1.4
baz=258
WHY **Whitehorse** 91.80 29 P P 07 50 02.3 -2.0
baz=260
J30M **Hart River** 91.85 25 IAmb IAmb 07 50 06.7
comp=Z,5.0nm,1.1s
J30M **Hart River** 91.85 25 P P 07 50 04.1 -0.5
baz=259
I30M **Mount Dempster** 91.96 25 IAmb IAmb 07 50 07.1
comp=Z,6.6nm,1.2s
I30M **Mount Dempster** 91.96 25 P P 07 50 04.1 -0.9
baz=259
U33K **Whale Pass** 91.99 34 P P 07 50 03.9 -1.2
baz=262
EPYK **Eagle Plains** 92.04 23 P P 07 50 04.7 -0.5
baz=259
M31M **Drury Creek, Y** 92.29 28 P P 07 50 05.2 -1.3
baz=261
G30M **tAoh Zraii Nji** 92.36 23 P P 07 50 06.0 -0.7
baz=259
F30M **Barrier River** 92.64 22 P P 07 50 06.4 -1.5
baz=260
P33M **Teslin, Yukon** 92.74 30 P P 07 50 06.5 -2.1
baz=262
N32M **Quiet Lake** 92.75 29 P P 07 50 07.1 -1.5
baz=262
FARO **Faro, Yukon** 92.78 28 P P 07 50 07.8 -0.9
baz=262
G31M **Satah River** 93.10 23 P P 07 50 09.2 -0.8
baz=261
F31M **Tsiigehtchic** 93.39 23 P P 07 50 10.8 -0.5
baz=262
R33M **Jennings River** 93.56 31 P P 07 50 10.9 -1.6
baz=264
INK **Inuvik** 93.59 22 P P 07 50 11.3 -0.9
baz=262
WTLY **Watson Lake, Y** 94.73 30 IAmb IAmb 07 50 34.7
comp=Z,5.9nm,1.4s
DBIC **Dimbokro** 147.91 272 PKPbc PKPdf 07 56 42.6 +2.8
comp=Z,2.9nm,0.8s,baz=87,slow=5.0,SNR=4.8

*IDC **07** 07:36:55.2±1.3,34°.56N×80°.57E,h0km,mb3.6/7,*
mbtmp3.5/10,ML2.9/4,MS4.0/2,Error ellipse:
s-maj=33.6km s-min=23.3km az=49.0
ISC 07 07:37:00.4±1.2,**34°.7N**±0°.2×**80°.6E**±0°.2,**h35**km,**n13,**
σ1§39/10,mb3.6/7,Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**9.26**	**331**	Pn	Pn	07 39 15.8	+4.2
	0.1nm,0.3s,baz=167,slow=18,SNR=1.6						
	0.5nm,0.5s						

MKAR **Makanchi Array** 12.16 6 Pn Pn 07 39 50.3 -0.8
0.1nm,0.3s,baz=186,slow=13,SNR=8.3
0.4nm,0.5s
KURBB **Kurchatov Arra** 16.00 355 Pn Pn 07 40 41.3 -1.3
baz=179,slow=11,SNR=7.0
BVAR **Borovoye Array** 19.72 341 P P 07 41 26.6 -0.1
baz=156,slow=14,SNR=3.7
0.7nm,0.4s
CMAR **Chiang Mai Arr** 22.97 130 P P 07 42 01.3 -0.6
1.1nm,0.3s,baz=316,slow=10,SNR=4.4
1.1nm,0.3s
SONM **Songino Array** 23.29 48 P P 07 42 06.4 +1.3
0.2nm,0.5s,baz=253,slow=11,SNR=2.0
0.2nm,0.5s
TGY **Tagaytay City** 41.70 109 LR LR 08 04 20.2
comp=Z,132nm,19.1s,baz=272,slow=40
FINES **FINESS Array B** 43.40 325 P P 07 44 58.7 -0.5
0.8nm,0.7s,baz=114,slow=6.8,SNR=1.9
0.8nm,0.7s
HFS **Hagfors** 49.29 323 P P 07 45 47.3 +1.8
0.9nm,0.6s,baz=83,slow=12,SNR=1.4
0.9nm,0.6s
NOA **NORSAR Array B** 50.50 324 P P 07 45 57.0 +2.3
0.4nm,0.5s,baz=90,slow=4.0,SNR=1.8
0.4nm,0.5s
SFJD **Kangerlussuaq** 72.09 342 LR LR 08 23 48.4
comp=Z,123nm,18.0s,baz=306,slow=39
TORD **Torodi Ar. Bea** 73.59 275 P P 07 48 29.7 -0.7
0.5nm,0.7s,baz=42,slow=6.5,SNR=3.0
0.5nm,0.7s
YKA **Yellowknife Ar** 82.39 7 P P 07 49 18.2 -0.2
0.4nm,0.8s,baz=338,slow=4.9,SNR=5.0
0.4nm,0.8s

*MDD **07** 07:48:35.7±1.4,36°.81N×11°.06W,h0km,mb_Lg2.5/3,*
Error ellipse: s-maj=13.3km s-min=10.7km az=160.0
*INMG **07** 07:48:36.5±1.4,36°.65N×11°.28W,h34km,ML1.8,Error*
ellipse: s-maj=9.6km s-min=5.6km az=100.0
*IGIL **07** 07:48:37.1,36°.65N×11°.26W,h31km,ML1.3*
*CNRM **07** 07:48:40.8,36°.44N×10°.67W,h29km*
ISC 07 07:48:36.3±2.4,**36°.63N**±0°.05×**11°.1W**±0°.1,**h35**km,**n26,**
σ1§40/38,1D,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.88**	**74**	*e*P	Pn	07 49 06.7	+0.7
PFVI				*e*S	Sn	07 49 29.3	+0.7
PFVI				A	A	07 49 30.8	
	3.8nm,0.6s						
PFVI	**Vila Bisbo**	**1.88**	**74**	P	Pn	07 49 06.9	+0.8
PFVI	**Vila Bisbo**	**1.88**	**74**	S	Sn	07 49 28.0	-0.6
MORF	**Marmelete**	**2.07**	**70**	*e*P	Pn	07 49 09.3	+0.7
MORF				*e*S	Sn	07 49 34.1	+1.0
MORF				A	A	07 49 36.5	
	2.6nm,0.4s						
MORF	**Marmelete**	**2.07**	**70**	*e*P	Pn	07 49 09.2	+0.7
MORF				*e*S	Sn	07 49 33.1	0.0
MORF				IAML		07 49 34.9	
	comp=N,1.7nm,0.1s						
PTEO	**Sao Teotonio**	**2.10**	**63**	*e*S	Sn	07 49 34.9	+1.0
PTEO				A	A	07 49 48.3	
	comp=N,5.2nm,0.8s						
PNCL	**Nicolau / Gran**	**2.52**	**53**	*e*P	Pn	07 49 15.2	+0.4
PNCL				*e*S	Sn	07 49 44.2	-0.1
PNCL				A	A	07 49 45.1	
	comp=N,1.6nm,0.1s						
MESJ	**Messejana**	**2.59**	**61**	*e*P	Pn	07 49 15.6	-0.2
MESJ				*e*S	Sn	07 49 46.3	+0.3
MESJ				A	A	07 49 47.9	
	comp=N,1.9nm,0.7s						
PCVE	**Castro Verde**	**2.64**	**67**	*e*P	Pn	07 49 17.1	+0.7
PCVE				*e*S	Sn	07 49 47.6	+0.5
PCVE				A	A	07 49 49.1	
	comp=N,1.9nm,0.9s						
PMAFR	**Mafra**	**2.73**	**31**	*e*S	Sn	07 49 48.0	-1.5
PMAFR				A	A	07 49 58.6	
	comp=N,11nm,0.8s						
PVAQ	**Vaqueiros**	**2.81**	**73**	*e*P	Pn	07 49 19.9	+1.2
PVAQ				*e*S	Sn	07 49 52.2	+0.8
PVAQ				A	A	07 50 01.1	
	comp=N,2.0nm,1.0s						
PVAQ	**Vaqueiros**	**2.81**	**73**	P	Pn	07 49 19.9	+1.2
EGRO	**El Granado**	**3.02**	**71**	Pn	Pn	07 49 22.0	+0.3
EGRO				Sn	Sn	07 49 57.6	+1.0
EGRO				*i* Vmb_Lg		07 50 02.9	
EVO	**Evora**	**3.10**	**51**	*e*S	Sn	07 49 57.6	-0.9
PMTG	**Montargil**	**3.33**	**42**	*e*P	Pn	07 49 25.6	-0.3
PMTG				*e*S	Sn	07 50 03.0	-1.2
PMTG				A	A	07 50 08.2	
	comp=N,1.6nm,1.0s						
PESTR	**Estremoz**	**3.56**	**50**	*e*S	Sn	07 50 11.1	+1.1
PBAR	**Barrancos**	**3.58**	**63**	*e*P	Pn	07 49 30.4	+1.1
PBAR				*e*S	Sn	07 50 09.7	-0.6
PBAR				A	A	07 50 23.5	
	comp=N,1.3nm,0.7s						
EBAD	**Badajoz**	**3.87**	**55**	Pn	Pn	07 49 34.0	+0.7
EBAD				Sn	Sn	07 50 15.5	-2.1
EBAD				*i* Vmb_Lg		07 50 19.4	
PMRV	**Marv??o**	**4.04**	**45**	*e*S	Sn	07 50 19.8	-2.1
PMRV				A	A	07 50 22.1	
	comp=N,2.0nm,0.8s						
ECAB	**El Cabril**	**4.74**	**71**	Pn	Pn	07 49 45.8	+0.4
ECAB				Sn	Sn	07 50 38.4	-0.8
ECAB				*i* Vmb_Lg		07 50 39.8	
SRHM	**Skhour des Reh**	**4.91**	**147**	P	Pn	07 49 51.3	+3.5
MD31	**MD31**	**6.42**	**124**	P	Pn	07 50 08.6	+0.2
MD31	**MD31**	**6.42**	**124**	S	Sn	07 51 16.3	-4.3
MDT	**Midelt**	**6.55**	**124**	P	Pn	07 50 10.7	+0.4
MDT	**Midelt**	**6.55**	**124**	S	Sn	07 51 20.7	-3.1
OUZM	**OUZ**	**6.75**	**146**	P	Pn	07 50 13.2	+0.2

*GII **07** 07:58:34.2±0.6,41°.027N±0°.009×38°.980E±0°.003,h5km,*
confirmed
*ISK **07** 07:58:41.7,39°.27N×40°.23E,h5km,ML4.0/45*
*IDC **07** 07:58:42.8±1.2,39°.10N×40°.25E,h0km,mb3.8/8,*
mbtmp3.7/13,ML3.5/5,MS3.6/6,Error ellipse:
s-maj=24.2km s-min=8.9km az=175.0
*AFAD **07** 07:58:42.0±0.0,39°.27N×40°.22E,h11km±6km,MW4.1*
ISC 07 07:58:43.6±1.1,**39°.26N**±0°.02×**40°.25E**±0°.02,**h2**km±8km,
n109,σ1§28/129,mb3.9/8,MS3.8/4,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNGB	**Bingl**	**0.43**	**129**	Pg	**Pg**	**07 58 51.1**	**-0.7**
BNGB				Sg	**Sg**	**07 58 58.9**	**+1.5**
ERZN	**Erzincan**	**0.52**	**308**	Pg	**Pg**	**07 58 52.9**	**-0.8**
ERZN				Sg	**Sg**	**07 59 00.9**	**+0.4**
TNCL	**Tunceli-Merkez**	**0.57**	**255**	P	**Pg**	**07 58 53.5**	**-1.1**
TNCL				S	**Sg**	**07 59 02.3**	**+0.2**
EUZM	**Uzumlu**	**0.62**	**316**	P	**Pg**	**07 58 54.6**	**-1.0**
EUZM				S	**Sb**	**07 59 05.6**	**-0.9**
EUZM				*i* AML	AML	07 59 07.0	
	comp=N,4μm,0.9s						
EUZM				*i* AML	AML	07 59 08.0	
	comp=E,4μm,0.5s						
KARO	**Karlova-Bingo**	**0.62**	**85**	Pg	**Pg**	**07 58 54.9**	**-0.6**
KARO				Sg	**Sg**	**07 59 05.1**	**+1.5**
KOVA	**Elazig, Kovanc**	**0.65**	**212**	P	**Pg**	**07 58 55.7**	**-0.4**
KOVA				S	**Sb**	**07 59 06.0**	**-1.5**
KOVA				*i* AML	AML	07 59 07.0	
	comp=N,4μm,0.2s						
KOVA				*i* AML	AML	07 59 07.0	
	comp=E,7μm,0.6s						
ECAT	**Cat-ERZURUM**	**0.66**	**58**	P	**Pg**	**07 58 55.2**	**-1.0**
ECAT				S	**Sg**	**07 59 05.7**	**+0.9**
ECAT				*i* AML	AML	07 59 06.0	
	comp=N,4μm,0.4s						
ECAT				*i* AML	AML	07 59 08.0	
	comp=E,4μm,0.5s						
SLHN	**Bingol, Solhan**	**0.67**	**117**	P	**Pg**	**07 58 55.9**	**-0.6**
SLHN				S	**Sn**	**07 59 09.4**	**-2.2**
PTK	**Pertek**	**0.77**	**241**	Pg	**Pg**	**07 58 57.3**	**-1.0**
PTK				Sg	**Sg**	**07 59 08.9**	**+0.7**
KOPT	**Kop Dagi**	**0.78**	**14**	P	**Pg**	**07 58 58.0**	**-0.6**
KOPT				S	**Sg**	**07 59 09.9**	**+1.2**
KOPT				*i* AML	AML	07 59 16.0	
	comp=N,3μm,0.7s						
KOPT				*i* AML	AML	07 59 17.0	
	comp=E,4μm,0.7s						
HANI	**Diyarbakir_Han**	**0.85**	**172**	P	**Pg**	**07 58 59.3**	**-0.7**
HANI				S	**Sn**	**07 59 14.4**	**-1.5**

HANI *i* AML AML 07 59 16.0
comp=N,1µm,0.4s
HANI *i* AML AML 07 59 21.0
comp=E,3µm,0.8s
ETEKE Tekederesi - E 0.87 52 P **Pg 07 58 59.2 -1.0**
ETEKE S **Sg 07 59 12.2 +0.7**
ETEKE *i* AML AML 07 59 13.0
comp=E,6µm,0.4s
ETEKE *i* AML AML 07 59 14.0
comp=N,7µm,0.4s
EKONA Konakl - Erz 0.91 55 P **Pg 07 58 59.9 -1.3**
EKONA S **Sn 07 59 15.9 -1.9**
EKONA *i* AML AML 07 59 18.0
comp=E,4µm,0.6s
EKONA *i* AML AML 07 59 21.0
comp=N,4µm,0.9s
VRTB Varto-Mus 0.94 96 Pg **Pg 07 58 59.7 -2.0**
VRTB Varto-Mus 0.94 96 P **Pg 07 58 59.7 -2.0**
VRTB S **Sn 07 59 16.6 -1.5**
EJDE Erzurum, Palan 0.99 55 P **Pg 07 59 01.6 -1.0**
EJDE S **Sn 07 59 18.3 -1.6**
EJDE *i* AML AML 07 59 19.0
comp=N,7µm,0.5s
EJDE *i* AML AML 07 59 23.0
comp=E,10µm,0.6s
BAYB BAYBURT 1.00 0 P **Pg 07 59 01.2 -1.5**
BAYB S **Sb 07 59 17.6 +0.1**
BAYB *i* AML AML 07 59 19.0
comp=N,1µm,0.5s
BAYB *i* AML AML 07 59 25.0
comp=E,970nm,0.5s
ERZM Erzurum 1.07 53 P **Pg 07 59 03.2 -1.0**
ERZM S **Sn 07 59 21.0 -0.7**
MUSM Mu-Merkez 1.12 118 P **Pb 07 59 03.3 -2.5**
MUSM S **Sg 07 59 19.9 +0.3**
BAYT Aydıntepe-Bayb 1.13 356 Pn **Pb 07 59 03.9 -2.2**
KELT Kelkit 1.17 319 P **Pb 07 59 04.6 -2.2**
KELT S **Sn 07 59 24.9 +0.9**
KELT *i* AML AML 07 59 30.0
comp=E,2µm,0.6s
KELT *i* AML AML 07 59 32.0
comp=N,3µm,1.0s
KRIK Erzurum-spir 1.19 26 P **Pb 07 59 05.8 -1.4**
KRIK *i* AML AML 07 59 28.0
comp=N,1µm,0.5s
DYBB Diyarbakir 1.31 184 Pn **Pn 07 59 08.2 -0.9**
ILIC ilic-Erzincan 1.32 279 Pn **Pn 07 59 06.8 -2.5**
SVAN Silvan-Diyarba 1.33 146 Pn **Pn 07 59 08.5 -0.9**
SVAN Silvan-Diyarba 1.33 146 P **Pn 07 59 08.4 -0.9**
SVAN S **Sg 07 59 29.7 +3.3**
GUMT Gumushane 1.34 334 Pn **Pn 07 59 08.4 -1.1**
DIYA Diyarbakir 1.34 184 P **Pb 07 59 09.3 -0.2**
DIYA S **Sg 07 59 29.6 +2.9**
KEMA Kemaliye 1.37 271 P **Pn 07 59 07.4 -2.4**
KEMA S **Sg 07 59 27.8 +0.3**
KOPR Koprukoy-ERZUR 1.44 59 Pn **Pn 07 59 09.7 -1.2**
HOMI Horasan 1.50 58 P **Pn 07 59 10.6 -1.2**
ARPR Arapgir-MALATY 1.50 264 Pn **Pn 07 59 10.5 -1.3**
IZDR Rize 1.54 9 P **Pn 07 59 10.8 -1.5**
IZDR S **Sg 07 59 33.2 +0.1**
IZDR *i* AML AML 07 59 34.0
comp=E,877nm,0.9s
IZDR *i* AML AML 07 59 39.0
comp=N,879nm,0.5s
GURO Guroymak-BITLI 1.56 117 Pn **Pn 07 59 11.9 -0.7**
ALUC Giresun/Alucra 1.57 314 P **Pn 07 59 12.1 -0.7**
ALUC S **Sg 07 59 37.3 +3.1**
ALUC *i* AML AML 07 59 41.0
comp=N,2µm,1.6s
ALUC *i* AML AML 07 59 45.0
comp=E,2µm,1.0s
BTMN Batman 1.58 149 P **Pb 07 59 12.9 -0.8**
BTMN S **Sg 07 59 36.5 +2.0**
MACK Trabzon 1.72 348 P **Pn 07 59 14.5 -0.2**
MACK S **Sg 07 59 40.2 +1.3**
MACK *i* AML AML 07 59 45.0
comp=N,1µm,0.4s
MACK *i* AML AML 07 59 46.0
comp=E,3µm,0.7s
KTUT Trabzon 1.76 348 Pn **Pn 07 59 14.6 -0.6**
MLAZ Malazgirt-MUS 1.79 93 Pn **Pn 07 59 15.3 -0.4**
MAZI Mazidag 1.81 175 Pn **Pn 07 59 15.4 -0.5**
NARI Adyaman-Kaht 1.81 221 P **Pb 07 59 17.1 -0.4**
NARI S **Sg 07 59 43.3 +1.7**
SUSE Susehri 1.84 302 P **Pn 07 59 16.6 +0.1**
SUSE S **Sg 07 59 45.5 +2.7**
SUSE *i* AML AML 07 59 48.0
comp=E,884nm,0.8s
SUSE *i* AML AML 07 59 54.0
comp=N,1µm,0.9s
SUSE *i* AML AML 07 59 55.0
comp=Z,499nm,1.2s
CHAY Cayeli-Rize 1.86 11 Pn **Pn 07 59 16.0 -0.5**
CHOM Cayeli-Rize 1.87 12 Pn **Pn 07 59 16.4 -0.4**
DDEM Demirkent 1.99 35 P **Pn 07 59 18.7 +0.2**
HANM anlurfa/Hi 2.00 213 P **Pn 07 59 18.8 +0.4**
HANM S **Sg 07 59 48.6 +0.8**
CUZAR Zara_SIVAS 2.02 289 P **Pn 07 59 19.6 -0.1**
CUZAR *i* AML AML 08 00 00.0
comp=E,600nm,0.7s
CUZAR *i* AML AML 08 00 08.0
comp=N,506nm,0.9s
ESPY Espiye-Giresun 2.02 325 Pn **Pn 07 59 18.2 -0.7**
AKCD Akcadag 2.06 243 P **Pn 07 59 19.0 -0.4**
AKCD *i* AML AML 07 59 53.0
comp=N,874nm,0.5s
AKCD *i* AML AML 08 00 04.0
comp=E,684nm,0.7s
SENK Senkaya-Erzuru 2.07 51 Pn **Pn 07 59 19.2 -0.5**
DBAD Bademkaya 2.07 32 P **Pb 07 59 21.0 -1.1**
AZEY Adyaman-Merk 2.14 228 P **Pn 07 59 20.7 +0.2**
AGRB Hanur-Agry 2.14 81 Pn **Pn 07 59 20.3 -0.4**
CUKAN kangal_SIVAS 2.16 272 P **Pn 07 59 20.9 0.0**
CUKAN *i* AML AML 07 59 55.0
comp=N,552nm,0.7s
CUKAN *i* AML AML 07 59 58.0
comp=E,587nm,1.0s
DAGI Agillar 2.22 35 P **Pn 07 59 21.3 -0.3**
DARE Darende-Malaty 2.27 253 Pn **Pn 07 59 21.6 -0.7**
AKDM Akdamar-Van 2.33 113 Pn **Pn 07 59 22.8 -0.3**
ATAB Bozova 2.36 221 P **Pn 07 59 23.2 -0.3**
BCA Borcka 2.42 25 Pn **Pn 07 59 23.9 -0.4**
AKCA Adyaman/G¶ll 2.49 235 P **Pn 07 59 25.8 +0.5**
AKCA *i* AML AML 08 00 12.0
comp=N,604nm,0.7s
AKCA *i* AML AML 08 00 21.0
comp=E,526nm,0.9s
ORDU Ordu-Boztepe 2.52 314 P **Pn 07 59 26.5 +0.8**
ORDU *i* AML AML 08 00 11.0
comp=N,478nm,0.9s
RSDY Resadiye-TOKAT 2.52 298 Pn **Pn 07 59 25.2 -0.5**
VANB Van 2.54 104 Pn **Pn 07 59 26.6 +0.6**
KARS Kars 2.56 57 Pn **Pn 07 59 26.4 0.0**
BATM Batumi 2.58 25 Pn **Pn 07 59 26.3 -0.2**
SVSK Karacayir 2.60 286 Pn **Pn 07 59 26.3 -0.4**
CUAYA Sivas-Altinyay 2.72 271 P **Pn 07 59 29.0 +0.4**
CUAYA *i* AML AML 08 00 14.0
comp=E,361nm,0.7s
CUAYA *i* AML AML 08 00 22.0
comp=N,468nm,0.7s
TOKT Tokat 3.05 291 Pn **Pn 07 59 32.8 -0.1**
SARI SarD1z-Kayseri 3.11 255 Pn **Pn 07 59 33.7 -0.3**
TASB TASBURUN-IGDIR 3.16 76 Pn **Pn 07 59 34.9 +0.4**
KMRS Kahramanmaras 3.17 237 Pn **Pn 07 59 34.4 -0.2**
GAZ Gaziantep 3.18 230 Pn **Pn 07 59 34.7 0.0**
CUKT Cukurca 3.32 126 Pn **Pn 07 59 37.1 +0.3**
BNN Bunyan 3.46 265 Pn **Pn 07 59 38.6 -0.1**
HACI Hacifakili, Ak 3.53 279 P **Pn 07 59 40.0 +0.4**
GNI Garni 3.57 74 Pn **Pn 07 59 42.7 +2.5**
7.9nm,0.3s,baz=270,slow=9.1,SNR=8.1
GNI Pg **Pb 07 59 49.0 +1.3**
9.3nm,0.3s,baz=315,slow=16,SNR=14
13nm,0.6s
KVT Kavak 3.70 301 Pn **Pn 07 59 42.0 +0.1**
KOZT Kozan 3.91 244 Pn **Pn 07 59 45.2 +0.5**
ONI Oni 4.11 35 Pn **Pn 07 59 48.2 +0.6**
TAHT Tahtakopru-Hat 4.32 229 Pn **Pn 07 59 51.0 +0.6**
CMRD Camardi-Nigde 4.43 251 Pn **Pn 07 59 52.8 +0.8**
CORM Corum 4.43 284 Pn **Pn 07 59 52.2 +0.2**
DIKM Dikmen 4.50 304 Pn **Pn 07 59 53.6 +0.8**
GULA Gulagac 4.79 261 Pn **Pn 07 59 57.9 +1.0**
KBZ Khabaz 4.88 23 Pn Pn 08 00 02.7 +4.6
0.4nm,0.3s,baz=199,slow=18,SNR=6.0
KBZ LR LR 08 02 03.2
comp=Z,161nm,18.5s,baz=194,slow=40
1.0nm,0.3s
YAYX Yaylak 5.02 268 Pn **Pn 08 00 00.9 +0.8**
KVAR Kislovodsk Arr 5.03 21 Pn **Pn 08 00 02.4 +2.1**
baz=173,slow=17
5.1nm,0.6s
BRTR Keskin Array B 5.14 277 Pn **Pn 08 00 02.2 +0.4**
1.6nm,0.3s,baz=101,slow=14,SNR=13
BRTR Lg Lg 08 01 26.6
baz=120,slow=25
BRTR LR LR 08 02 25.9
comp=Z,194nm,18.1s,baz=114,slow=43
4.9nm,0.4s
NATI Neve Ativ 7.01 213 P Pn 08 00 32.9 +5.5
NATI Neve Ativ 7.01 213 S **Sb 08 02 07.2 -3.1**
GEM Giv'at Ha'Em 7.09 213 P Pn 08 00 34.8 +6.4
GEM Giv'at Ha'Em 7.09 213 S **Sb 08 02 07.5 -5.0**
KSHT Keshet 7.22 211 P Pn 08 00 37.6 +7.3
MMA0B Mount Meron ar 7.36 214 P Pn 08 00 38.9 +6.6
MMAI Mount Meron Ar 7.36 214 Pn Pn 08 00 37.1 +4.8
1.7nm,0.3s,baz=46,slow=12,SNR=3.9
MSBI Mazada 8.88 208 P Pn 08 01 00.9 +8.0
AKASG Malin Array Be 13.83 329 Pn **Pn 08 02 02.5 +1.9**
0.6nm,0.3s,baz=137,slow=13,SNR=3.5
0.8nm,0.5s
AKTO Aktyubinsk 16.79 42 Pn **P 08 02 41.1 -1.0**
0.2nm,0.3s,baz=233,slow=12,SNR=5.6
ARU Arti 21.00 29 P **P 08 03 27.7 -0.5**
1.8nm,0.3s,baz=245,slow=14,SNR=1.6
1.8nm,0.3s
GERES GERESS Array B 21.26 305 P **P 08 03 32.6 +1.4**
1.0nm,0.8s,baz=108,slow=9.4,SNR=2.3
1.0nm,0.8s
FINES FINESS Array B 23.87 343 P **P 08 03 59.0 +0.8**
3.1nm,0.7s,baz=154,slow=10,SNR=8.2
3.1nm,0.7s
KEST Kesra 24.71 272 P **P 08 04 06.8 +0.4**
7.7nm,0.7s,baz=153,slow=2.3,SNR=7.2
7.7nm,0.7s
HFS Hagfors 26.72 330 P **P 08 04 24.7 +0.5**
1.9nm,0.8s,baz=134,slow=12,SNR=2.6
1.9nm,0.8s
MKAR Makanchi Array 31.34 62 P **P 08 05 06.9 +1.5**
0.3nm,0.6s,baz=262,slow=7.1,SNR=2.8
0.3nm,0.6s
KSRS Korea Array 66.00 61 P **P 08 09 32.0 +0.4**
0.7nm,0.4s,baz=292,slow=7.2,SNR=2.5
KSRS LR LR 08 41 23.2
comp=Z,27nm,18.1s,baz=70,slow=39
0.7nm,0.4s
JOW Kunigami 72.12 70 LR LR 08 44 02.3
comp=Z,89nm,19.6s,baz=142,slow=38
MJAR Matsushiro Arr 73.31 56 LR LR 08 44 30.0
comp=Z,27nm,20.0s,baz=264,slow=37
YKA Yellowknife Ar 76.59 348 P **P 08 10 35.3 0.0**
0.2nm,0.8s,baz=26,slow=6.2,SNR=4.3
0.2nm,0.8s
PCRV Puerto La Cruz 94.92 287 LR LR 08 51 22.6
comp=Z,168nm,20.7s,slow=33

IDC 07 08:15:45.9±7.1, 19°17S×176°54W, h0km, mb4.1/3, mbtmp4.1/3, MS3.9/2, Error ellipse: s-maj=309.6km s-min=36.3km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.16**	**260**	P	P	08 24 12.2	-0.5
	1.5nm,0.5s,baz=98,slow=8.4,SNR=31						
	1.5nm,0.5s						
ASAR	**Alice Springs**	**46.17**	**255**	P	P	08 24 13.1	+0.3
	4.8nm,0.6s,baz=91,slow=8.2,SNR=67						
	4.8nm,0.6s						
VNDA	**Vanda**	**59.36**	**185**	LR	LR	08 46 30.7	
	comp=Z,94nm,21.1s,baz=150,slow=31						
ANMO	**Albuquerque**	**85.50**	**51**	LR	LR	09 01 31.4	
	comp=Z,67nm,18.4s,baz=250,slow=32						
ILAR	**Eielson Array**	**86.72**	**12**	P	P	08 28 31.3	0.0
	0.2nm,0.4s,baz=215,slow=4.8,SNR=7.6						
	0.2nm,0.4s						

GCMT 07 08:19:29.0±0.2, 41.17S±0.01×90.78W±0.02, h19km±1km, MW5.0/103, Moment Tensor Solution. s33,c40; s103,c149; Duration: 0 Moment tensor: Scale 10^{16} **Nm;** Mrr=0.66±.14; Mθθ=0.59±.12; Mφφ=0.06±.10; Mrθ=-1.18±.24; Mrφ=-3.31±.09; Mθφ=0.30±.21; **Best double couple:** M0=3.52000×10^{16} **NP1:**φs=88.00000°, δ=89.00000°, λ=-160.00000°. **NP2:**φs=358.00000°, δ=70.00000°, λ=-1.00000°. **Principal axes:** T 3.9030, Plg13.0000°, Azm222.0000°; N -0.7660, Plg70.0000°, Azm90.0000°; P -3.1370, Plg14.0000°, Azm315.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Southeast of Easter Island**

IDC 07 08:45:05.3±3.7, 41.31S×84.78W, h0km, mb3.7/4, mbtmp3.7/5, ML3.9/1, MS3.6/10 Error ellipse: s-maj=97.7km s-min=31.8km az=9.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03S2	**Juan Fernandez**	**8.78**	**34**	T	T	08 56 25.4	
	baz=208,slow=73,SNR=58						
H03S1	**Juan Fernandez**	**8.79**	**34**	T	T	08 56 26.8	
	baz=208,slow=73,SNR=116						
H03S3	**Juan Fernandez**	**8.80**	**34**	T	T	08 56 26.4	
	baz=208,slow=73,SNR=106						
H03N3	**Juan Fernandez**	**9.11**	**33**	T	T	08 56 54.8	
	baz=218,slow=76,SNR=22						
H02N2	**Juan Fernandez**	**9.12**	**32**	T	T	08 56 47.6	
	baz=218,slow=76,SNR=72						
H03N1	**Juan Fernandez**	**9.13**	**33**	T	T	08 56 47.5	
	baz=218,slow=76,SNR=33						
PLCA	**Paso Flores**	**10.77**	**92**	Pn	Pn	08 47 40.5	-0.3
	0.2nm,0.3s,baz=266,slow=14,SNR=10						
PLCA				Sn	Sn	08 49 44.3	+2.3
	baz=267,slow=17,SNR=2.8						
PLCA				LR	LR	08 50 22.7	
	comp=Z,58nm,21.2s,baz=240,slow=30						
	0.6nm,0.4s						
LVC	**Limon Verde**	**22.93**	**40**	P	P	08 50 11.2	-0.1
	2.5nm,0.7s,baz=199,slow=11,SNR=2.4						
LVC				LR	LR	08 56 57.3	
	comp=Z,140nm,19.6s,baz=216,slow=31						
	2.5nm,0.7s						
RPN	**Rapa Nui**	**24.64**	**297**	LR	LR	08 57 23.6	
	comp=Z,122nm,20.6s,baz=142,slow=30						
CPUP	**Villa Florida**	**27.12**	**65**	LR	LR	09 01 00.3	
	comp=Z,145nm,19.2s,baz=219,slow=35						
LPAZ	**La Paz**	**28.78**	**35**	LR	LR	09 00 17.4	
	comp=Z,60nm,20.9s,baz=186,slow=32						
SIV	**San Ignacio**	**32.49**	**46**	LR	LR	09 04 02.5	
	comp=Z,159nm,21.2s,baz=290,slow=35						
ROSC	**El Rosal**	**46.91**	**14**	LR	LR	09 12 32.4	
	comp=Z,116nm,18.8s,baz=178,slow=35						
PCRV	**Puerto La Cruz**	**54.49**	**25**	LR	LR	09 14 47.4	
	comp=Z,102nm,20.0s,slow=33						
VNDA	**Vanda**	**54.77**	**194**	LR	LR	09 12 51.9	
	comp=Z,122nm,21.1s,baz=176,slow=30						
RCBR	**Riachuelo**	**55.99**	**65**	LR	LR	09 18 39.4	
	comp=Z,104nm,18.9s,baz=226,slow=36						
TXAR	**Lajitas Array**	**72.43**	**343**	P	P	08 56 33.5	+0.2
	0.4nm,0.7s,baz=174,slow=9.8,SNR=3.8						
	0.4nm,0.7s						
NVAR	**Mina Array Bea**	**85.05**	**334**	P	P	08 57 43.6	+0.9
	0.3nm,0.7s,baz=161,slow=5.7,SNR=2.9						
	0.3nm,0.7s						
PDAR	**Pinedale Array**	**86.63**	**342**	P	P	08 57 49.5	-1.0
	0.7nm,0.9s,baz=134,slow=6.7,SNR=3.9						
	0.7nm,0.9s						

*NEIC **07** 09:10:05.1±1.4, 22.45S±0.06×178.01W±0.1, h360km±8km, mb4.3/35, Error ellipse: s-maj=17.1km s-min=9.1km az=95.0*
*NOU **07** 09:10:06.4, 22.32S×177.98W, h384km, mb4.6/18, South of Fiji Islands*
*IDC **07** 09:10:06.2±4.8, 22.35S×178.31W, h363km±47km, mb3.7/15, mbtmp4.4/16, Error ellipse: s-maj=20.8km s-min=18.4km az=151.0*
ISC 07 09:10:04.4±0.4, 22.46S±0.06×178.05W±0.07, h352km,

n123, σ1s40/130, mb4.2/35, 6C-2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.96**	**321**		Pn	09 11 36.7	+1.6
MSVF	**Nonsavu**	**5.96**	**321**	P	Pn	09 11 36.6	+1.6
TAVE	**Taveuni**	**5.99**	**343**	P	Pn	09 11 37.8	+2.6
DGTI	**Dogotuki**	**6.48**	**341**	P	Pn	09 11 42.7	+1.9
YSA	**Yasawairara**	**7.06**	**324**	P	P	09 11 49.3	+0.3
NIUE	**Niue**	**8.31**	**68**		Pn	09 12 03.4	+1.1
NIUE	**Niue**	**8.31**	**68**	P	P	09 12 03.9	-1.1
AFI	**Afiamalu**	**10.39**	**36**		Pn	09 12 23.7	-3.4
AFI	**Afiamalu**	**10.39**	**36**	P	Pn	09 12 26.6	-0.5
	90nm,0.8s						
PINNC	**Pines Island,**	**13.40**	**267**	P	Pn	09 13 05.0	+2.3
OUENC	**Ouen Island, N**	**13.97**	**267**	P	Pn	09 13 12.0	+2.7
OUENC	**Ouen Island, N**	**13.97**	**267**	P	Pn	09 13 09.9	+0.6
DZM	**Mont Dzumac**	**14.36**	**269**	P	Pn	09 13 16.6	+2.6
DZM	**Mont Dzumac**	**14.36**	**269**	P	Pn	09 13 14.2	+0.3
DZM	**Mont Dzumac**	**14.36**	**269**	P	Pn	09 13 16.9	+2.9
	51nm,0.8s,baz=91,slow=15,SNR=24						
OUZ	**Omahuta**	**14.66**	**208**	P	Pn	09 13 18.3	+1.2
HAZ	**Te Kaha**	**15.66**	**192**	P	P	09 13 23.6	-2.3
HAZ				S	S	09 16 12.7	-0.4
TWGZ	**Tauwhareparae**	**16.03**	**191**	P	P	09 13 31.4	+1.4
TWGZ				S	S	09 16 17.8	-2.7
TOZ	**Tahuroa Road**	**16.20**	**199**	P	P	09 13 32.5	+0.8
TOZ				IAmb	IAmb	09 13 37.0	
	comp=Z,16nm,0.8s						
MWZ	**Matawai**	**16.27**	**192**	P	P	09 13 31.6	-0.9
MWZ				P	S	09 16 26.6	+1.3
URZ	**Urewera**	**16.28**	**194**	P	P	09 13 33.7	+1.0
URZ	**Urewera**	**16.28**	**194**	P	P	09 13 33.6	+1.0
	comp=Z,29nm,0.3s,baz=4.8,slow=3.0,SNR=73						
URZ				S	S	09 16 26.9	+1.5
	comp=Z,40nm,0.5s,baz=18,slow=20,SNR=15						
URZ	**Urewera**	**16.28**	**194**	P	P	09 13 30.8	-1.9
URZ				S	S	09 16 24.6	-0.8
CNGZ	**Carnagh Statio**	**16.29**	**191**	P	P	09 13 32.5	-0.2
CNGZ				S	S	09 16 25.9	+0.3
RAGZ	**Rawiri**	**16.45**	**193**	P	P	09 13 34.4	-0.1
RAGZ				S	S	09 16 30.4	+1.6
MUGZ	**Murupara**	**16.57**	**194**	P	P	09 13 35.7	0.0
MUGZ				S	S	09 16 33.3	+2.2
RIGZ	**Rimuhau**	**16.58**	**192**	P	P	09 13 36.4	+0.4
RIGZ				S	S	09 16 31.3	-0.2
RTZ	**Ruatahuna**	**16.65**	**194**	P	P	09 13 37.2	+0.5
RTZ				IAmb	IAmb	09 13 40.0	
	comp=Z,18nm,0.7s						
RTZ	**Ruatahuna**	**16.65**	**194**	P	P	09 13 34.2	-2.6
RTZ				S	S	09 16 34.9	+2.0
SNGZ	**Shannon Statio**	**16.74**	**193**	P	P	09 13 39.3	+1.7
SNGZ				S	S	09 16 31.5	-2.9
ALRZ	**Allen Road**	**16.75**	**195**	P	Pn	09 13 40.9	-0.4
PRGZ	**Paritu Road**	**16.77**	**191**	P	Pn	09 13 40.4	-1.2
PRGZ				S	S	09 16 31.5	-3.6
KNZ	**Kokohu**	**16.91**	**192**	P	P	09 13 39.5	+0.1
KNZ				S	S	09 16 37.6	0.0
MTHZ	**Maungataniwha**	**16.91**	**194**	P	P	09 13 40.1	+0.6
RAHZ	**Arahi**	**16.92**	**193**	P	P	09 13 39.4	-0.1
MRHZ	**Matea Rd**	**16.99**	**195**	P	P	09 13 41.8	+1.4
MRHZ				S	S	09 16 39.9	+0.4
BKZ	**Black Stump Fm**	**17.29**	**194**	P	P	09 13 44.4	+0.8
BKZ				S	S	09 16 42.5	-2.8
RPZ	**Rata Peaks**	**23.03**	**201**	P	P	09 14 41.4	+1.7
ARMA	**Armidale**	**28.22**	**247**	P	P	09 15 26.5	+0.2
ARMA				IAmb	IAmb	09 15 32.9	
	comp=Z,10nm,1.1s						
EIDS	**Eidsvold**	**28.33**	**258**	P	P	09 15 27.7	+0.5
EIDS				IAmb	IAmb	09 15 28.1	
	comp=Z,12nm,1.1s						
CAN	**Canberra**	**31.41**	**239**	P	P	09 15 55.0	+0.9
CAN				IAmb	IAmb	09 15 56.2	
	comp=Z,16nm,0.9s						
CTAO	**Charters Tower**	**33.30**	**267**	P	P	09 16 10.3	-0.2
CTAO				IAmb	IAmb	09 16 10.9	
	comp=Z,9.5nm,0.6s						
TOO	**Toolangi**	**34.73**	**236**	P	P	09 16 23.2	+0.7
TOO				IAmb	IAmb	09 16 23.8	
	comp=Z,14nm,1.0s						
TOO	**Toolangi**	**34.73**	**236**	P	P	09 16 22.9	+0.4
PMG	**Port Moresby**	**35.78**	**286**	P	P	09 16 31.1	-0.5
PMG	**Port Moresby**	**35.78**	**286**	P	P	09 16 30.6	-1.0
PMG	**Port Moresby**	**35.78**	**286**	P	P	09 16 30.5	-1.0
BRAT	**Ballarat**	**35.93**	**237**	P	P	09 16 34.1	+1.6
STKA	**Stephens Creek**	**36.93**	**246**	P	P	09 16 42.0	+0.9
STKA	**Stephens Creek**	**36.93**	**246**	P	P	09 16 41.5	+0.5
STKA	**Stephens Creek**	**36.93**	**246**	P	P	09 16 40.2	-0.9
	comp=Z,2.4nm,0.3s,baz=76,slow=9.1,SNR=8.6						
	comp=Z,2.4nm,0.3s						
PATS	**Pohnpei**	**37.20**	**319**	P	P	09 16 43.2	-0.2
INKA	**Innaminka**	**37.55**	**253**	P	P	09 16 47.1	+0.8
COEN	**Coen**	**37.70**	**276**	P	P	09 16 47.9	+0.3
COEN				IAmb	IAmb	09 16 54.4	
	comp=Z,6.7nm,0.9s						
BBOO	**Buckleboo**	**41.66**	**245**	P	P	09 17 19.1	-0.6
BBOO				IAmb	IAmb	09 17 22.1	
	comp=Z,5.8nm,0.8s						
OOD	**Oodnadatta**	**42.03**	**253**	P	P	09 17 23.3	+0.5
MULG	**Mulgathing**	**43.35**	**249**	P	P	09 17 32.6	-0.7
AS31	**Alice Springs**	**44.05**	**259**	P	P	09 17 38.4	-0.5
ASAR	**Alice Springs**	**44.05**	**259**	P	P	09 17 38.1	-0.8
ASAR	**Alice Springs**	**44.05**	**259**	P	P	09 17 38.0	-1.0
	comp=Z,4.3nm,0.7s,baz=94,slow=7.5,SNR=52						
ASAR				PcP	**PcP**	09 19 18.5	+1.1
	comp=Z,1.4nm,1.0s,baz=111,slow=5.1,SNR=2.8						
ASAR				S	**S**	09 23 38.8	-5.8
	comp=Z,0.9nm,0.9s,baz=97,slow=16,SNR=6.4						
	comp=Z,4.3nm,0.7s						
WR0	**Warramunga Arr**	**44.13**	**264**	P	P	09 17 38.4	-1.2
WB0	**Warramunga Arr**	**44.30**	**264**	P	P	09 17 39.8	-1.2
WB2	**Warramunga Arr**	**44.30**	**264**	P	P	09 17 39.5	-1.4
WRA	**Warramunga Arr**	**44.31**	**264**	P	P	09 17 39.9	-1.2
WRA	**Warramunga Arr**	**44.31**	**264**	P	P	09 17 39.5	-1.6
	comp=Z,1.4nm,0.3s,baz=96,slow=8.2,SNR=156						
WRA				S	S	09 23 38.8	-9.4
	comp=Z,1.3nm,1.2s,baz=102,slow=15,SNR=2.8						
	comp=Z,1.4nm,0.3s						
FORT	**Forrest**	**48.50**	**248**	P	P	09 18 12.4	-0.6
MTN	**Manton Dam**	**49.16**	**272**	P	P	09 18 16.7	-1.5
MTN				IAmb	IAmb	09 18 45.6	
	comp=Z,16nm,1.1s						
KNRA	**Kununurra**	**50.51**	**268**	P	P	09 18 27.5	-0.8
KNRA				IAmb	IAmb	09 18 28.3	
	comp=Z,8.1nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.74**	**264**	P	P	09 18 43.9	-0.7
VNDA	**Vanda**	**55.96**	**185**	P	P	09 19 14.3	+7.7
	comp=Z,1.0nm,0.7s,baz=29,slow=8.7,SNR=4.1						
MBWA	**Marble Bar**	**57.40**	**259**	P	P	09 19 16.2	-1.3
MBWA				IAmb	IAmb	09 19 16.8	
	comp=Z,5.6nm,0.8s						
QSPA	**South Pole Qui**	**67.61**	**180**	P	P	09 20 26.4	+2.5
	comp=Z,2.1nm,0.9s,baz=1.8,slow=10.0,SNR=3.1						
	comp=Z,2.1nm,0.9s						
MJAR	**Matsushiro Arr**	**71.76**	**324**	P	P	09 20 48.6	-0.6
	comp=Z,7.3nm,0.8s,baz=150,slow=4.8,SNR=14						
	comp=Z,7.3nm,0.8s						
MAJO	**Matsushiro**	**71.76**	**324**	P	P	09 20 49.2	-0.1
MJB9	**Matsu-Tunnel**	**71.77**	**324**	P	P	09 20 50.0	+0.7
TPUB	**Ta-pu**	**75.00**	**303**	P	P	09 21 07.0	-1.3
PETK	**Petropavlovsk-**	**78.15**	**345**	P	P	09 21 23.8	-1.3
	comp=Z,6.5nm,0.8s,baz=123,slow=7.8,SNR=5.3						
	comp=Z,6.5nm,0.8s						
KSRS	**Korea Array**	**78.32**	**319**	P	P	09 21 26.2	-0.1
	comp=Z,1.2nm,0.8s,baz=159,slow=10,SNR=4.2						
	comp=Z,1.2nm,0.8s						
USRK	**Ussuriysk Ar.**	**80.56**	**326**	P	P	09 21 39.1	+0.9
	comp=Z,7.7nm,0.8s,baz=170,slow=2.5,SNR=8.2						
	comp=Z,7.7nm,0.8s						
NVAR	**Mina Array Bea**	**82.48**	**43**	P	P	09 21 50.1	+1.6
	comp=Z,1.9nm,0.8s,baz=221,slow=8.8,SNR=15						
	comp=Z,1.9nm,0.8s						
BNX	**BinXian**	**84.00**	**325**	⇑P	P	09 21 55.8	0.0
BNX				pmax	pmax		
	comp=Z,11nm,0.7s						
BNX				pmax	pmax		
	comp=Z,160nm,4.6s						
TIA	**Tai'an**	**84.56**	**313**	⇓P	P	09 22 00.0	+1.2
TIA				pmax	pmax

	comp=Z,0.8nm,0.8s							
ILAR	**Eielson Array**	**90.23**	**13**	P		**P**	**09 22 24.3**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=221,slow=5.2,SNR=19							
	comp=Z,1.8nm,0.8s							
PDAR	**Pinedale Array**	**90.42**	**43**	P		**P**	**09 22 27.9**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=190,slow=3.1,SNR=13							
	comp=Z,1.4nm,0.7s							
CMAR	**Chiang Mai Arr**	**90.72**	**290**	P		**P**	**09 22 27.6**	**-0.9**
CMAR	**Chiang Mai Arr**	**90.72**	**290**	P		**P**	**09 22 29.4**	**+1.0**
	comp=Z,3.4nm,0.8s,baz=122,slow=2.7,SNR=19							
	comp=Z,3.4nm,0.8s							
F20K	**Avaraart Lake**	**90.80**	**9**	IAmb		IAmb	09 22 28.3	
	comp=Z,3.3nm,0.9s							
M30M	**Minto, Yukon**	**90.85**	**18**	IAmb		IAmb	09 22 29.8	
	comp=Z,5.0nm,1.1s							
CHTO	**Chiang Mai**	**90.86**	**290**	P		**P**	**09 22 28.5**	**-0.7**
L29M	**L29M**	**90.90**	**17**	IAmb		IAmb	09 22 29.6	
	comp=Z,4.7nm,0.9s							
E19K	**Redstone River**	**90.98**	**8**	P		**P**	**09 22 28.2**	**-0.3**
E19K				IAmb		IAmb	09 22 30.9	
	comp=Z,5.7nm,0.8s							
EGAK	**Eagle**	**91.51**	**15**	IAmb		IAmb	09 22 34.1	
	comp=Z,6.1nm,1.1s							
D19K	**Kuna River**	**91.86**	**7**	P		**P**	**09 22 32.8**	**+0.1**
D19K				IAmb		IAmb	09 22 33.4	
	comp=Z,4.2nm,1.0s							
C19K	**Lookout Ridge**	**92.28**	**7**	IAmb		IAmb	09 22 35.2	
	comp=Z,2.7nm,0.8s							
I28M	**Miner Creek**	**92.35**	**15**	P		**P**	**09 22 34.8**	**-0.2**
SONM	**Songino Array**	**97.19**	**319**	P		**P**	**09 22 56.8**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=123,slow=5.3,SNR=1.9							
	comp=Z,0.7nm,0.9s							
YKA	**Yellowknife Ar**	**98.31**	**25**	P		Pdif	09 23 01.6	-0.4
	comp=Z,0.2nm,0.6s,baz=243,slow=4.1,SNR=4.1							
	comp=Z,0.2nm,0.6s							
BVAR	**Borovoye Array**	**120.54**	**319**	PKP		**PKPdf**	**09 28 13.2**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=100,slow=3.2,SNR=4.1							
SPITS	**Spitsbergen Ar**	**123.81**	**356**	PKP		**PKPdf**	**09 28 19.5**	**-0.4**
	comp=Z,5.0nm,0.9s,baz=75,slow=2.2,SNR=6.8							
ARCES	**ARCESS Array B**	**130.83**	**349**	PKP		**PKPdf**	**09 28 33.7**	**+0.2**
	comp=Z,4.8nm,0.9s,baz=13,slow=1.4,SNR=13							
FINES	**FINESS Array B**	**137.63**	**343**	PKP		**PKPdf**	**09 28 46.3**	**0.0**
	comp=Z,2.2nm,0.8s,baz=74,slow=5.1,SNR=4.1							
HFS	**Hagfors**	**141.46**	**351**	PKhKP		PKPpre	09 28 47.1	
	comp=Z,1.3nm,0.3s,baz=46,slow=4.2,SNR=11							
AKASG	**Malin Array Be**	**144.69**	**330**			PKPbc	09 28 57.5	-1.5
AKASG	**Malin Array Be**	**144.69**	**330**	PKP		PKPbc	09 28 57.2	-1.9
	comp=Z,8.5nm,0.7s,baz=40,slow=4.4,SNR=33							
AKBB	**Malin Array Si**	**144.69**	**330**			PKPbc	09 28 57.1	-2.0
KIEV	**Kiev**	**144.70**	**330**			PKPbc	09 28 57.4	-1.8
BNN	**Bunyan**	**146.81**	**307**			**PKPdf**	**09 29 03.8**	**+0.3**
EKA	**Eskdalemuir Ar**	**146.95**	**5**	PKPbc		**PKPbc**	**09 29 04.5**	**-1.0**
	comp=Z,3.6nm,0.7s,baz=337,slow=2.5,SNR=9.0							
BRTR	**Keskin Array B**	**148.09**	**310**			**PKPdf**	**09 29 05.4**	**-0.2**
BRTR	**Keskin Array B**	**148.09**	**310**	PKPbc		**PKPbc**	**09 29 08.2**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=132,slow=4.1,SNR=4.7							
MMAI	**Mount Meron Ar**	**148.70**	**297**	PKPbc		**PKPbc**	**09 29 10.7**	**-0.2**
	comp=Z,1.9nm,0.3s,baz=56,slow=5.4,SNR=4.4							
MLR	**Muntele Rosu**	**149.82**	**325**	PKPbc		**PKPbc**	**09 29 12.3**	**-1.1**
	comp=Z,4.0nm,0.6s,baz=112,slow=5.4,SNR=5.2							
CLL	**Collm**	**149.95**	**346**			**PKPbc**	**09 29 13.1**	**-0.1**
DPC	**Dobruska-Polom**	**149.97**	**341**	*e*PKP		**PKPbc**	**09 29 13.7**	**+0.3**
KRLC	**Kraliky**	**150.07**	**341**	*e*PKP		**PKPbc**	**09 29 12.5**	**-1.2**
KRLC				*e*PKPAB		**PKPab**	**09 29 20.7**	**-0.2**
MORC	**Moravsky Berou**	**150.10**	**340**			**PKPbc**	**09 29 13.1**	**-0.7**
PVCC	**Panska Ves**	**150.29**	**344**	*e*PKP		**PKPbc**	**09 29 14.2**	**+0.1**
MAUC	**Maruska**	**150.36**	**339**	*e*PKP		**PKPbc**	**09 29 14.1**	**-0.3**
KHC	**Kasperske Hory**	**151.83**	**344**	*e*PKP		**PKPbc**	**09 29 17.1**	**-0.7**
KHC				*e*PKPAB		**PKPab**	**09 29 25.9**	**-2.4**
GERES	**GERESS Array B**	**152.06**	**343**	PKPbc		**PKPbc**	**09 29 17.8**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=8.9,slow=7.0,SNR=6.1							
TORD	**Torodi Ar. Bea**	**170.73**	**178**	PKP		**PKPdf**	**09 29 30.8**	**-0.7**
	comp=Z,0.7nm,1.1s,baz=214,slow=0.5,SNR=3.7							

*HEL **07** 09:17:09.1±0.3,60.93N×29.40E,h0km,ML1.7,Explosion*
*IDC **07** 09:17:09.6±4.0,60.74N×29.16E,h0km,mbtmp3.3/1, ML2.4/1,Error ellipse: s-maj=41.5km s-min=15.3km az=2.0*

ISC 07 09:17:07.2±1.3,60.93N±0.04×29.46E±0.05,h0km,n18, σ1s04/28,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUF	**Ruokolahti**	**0.55**	**334**	PG	**Pb**	**09 17 19.1**	**-0.7**
RUF				SG	**Sg**	**09 17 25.7**	**+0.8**
RUF				MSG		09 17 26.5	
	comp=Z,12nm,0.2s						
VJF	**Virojoki**	**1.01**	**248**	PG	**Pb**	**09 17 27.1**	**-0.5**
	baz=63						
VJF				MSG		09 17 39.4	
	comp=Z,22nm,0.2s						
VJF				SB	**Sb**	**09 17 40.8**	**-0.6**
FIA0	**FINESS Array S**	**1.71**	**289**	PG	**Pg**	**09 17 39.1**	**-0.9**
	baz=104						
FIA0				MSG		09 17 59.6	
	comp=Z,6.1nm,0.2s						
FIA0				SG	**Sb**	**09 18 00.7**	**-0.9**
FINES	**FINESS Array B**	**1.71**	**289**	Pg	**Pg**	**09 17 39.1**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=113,slow=16,SNR=12						
FINES				Lg	Lg	09 18 01.4	
	comp=Z,2.4nm,0.3s,baz=102,slow=28,SNR=28						
FINES				Rg	Rg	09 18 08.0	
	comp=Z,16nm,0.9s,baz=114,slow=28,SNR=12						
PVF	**Pernaja**	**1.81**	**259**	PG	**Pb**	**09 17 40.6**	**-0.6**
PVF				MSG		09 18 02.2	
	comp=Z,7.2nm,0.2s						
PVF				SG	**Sg**	**09 18 05.4**	**+0.1**
KAF	**Kangasniemi**	**1.92**	**309**	PG	**Pg**	**09 17 43.8**	**-0.2**
	baz=126						
KAF				MSG		09 18 05.6	
	comp=Z,8.8nm,0.2s						
KAF				SG	**Sg**	**09 18 07.6**	**-1.2**
JOF	**Joensuu**	**2.18**	**23**	PG	**Pg**	**09 17 48.3**	**-0.6**
JOF				SG	**Sg**	**09 18 16.6**	**-0.5**
ARBE	**Arbavere**	**2.29**	**231**	PG	**Pg**	**09 17 50.6**	**-0.6**
SUF	**Sumiainen**	**2.38**	**320**	PG	**Pb**	**09 17 51.1**	**+0.2**
SUF				MSG		09 18 19.1	
	comp=Z,1.7nm,0.2s						
SUF				SG	**Sg**	**09 18 23.6**	**0.0**
HEL1	**Helsinki**	**2.38**	**253**	SG	**Sg**	**09 18 23.4**	**-0.3**
NUR	**Nurmijrvi**	**2.40**	**262**	PB	**Pb**	**09 17 50.2**	**-1.1**
	baz=74						
NUR				MSG		09 18 19.3	
	comp=Z,3.1nm,0.2s						
NUR				SG	**Sg**	**09 18 23.7**	**-0.6**
KEF	**Keuruu**	**2.52**	**301**	PB	**Pb**	**09 17 52.6**	**-0.7**
	baz=118						
KEF				MSG		09 18 22.9	
	comp=Z,2.6nm,0.2s						
KEF				SG	**Sb**	**09 18 24.3**	**-0.5**
NIF	**Nilsia**	**2.58**	**343**	PB	**Pb**	**09 17 54.1**	**-0.3**
	baz=163						
NIF				SG	**Sg**	**09 18 28.4**	**-1.7**
MEF	**Metsahovi**	**2.60**	**256**	PG	**Pb**	**09 17 54.8**	**+0.1**
MEF				MSG		09 18 25.0	
	comp=Z,3.6nm,0.2s						
MEF				SG	**Sg**	**09 18 29.5**	**-1.2**
RMF	**Romuvaara**	**3.30**	**4**	PB	**Pb**	**09 18 05.3**	**-1.3**
RAF	**Rauma**	**3.75**	**275**	SN	**Sn**	**09 18 53.8**	**+2.7**
I43RU	**DUBNA INFRASON**	**5.84**	**133**	I	I	09 50 30.0	
	baz=318,slow=330,SNR=2.6						
ARCES	**ARCESS Array B**	**8.79**	**351**	Pn	**Pn**	**09 19 17.4**	**+2.0**
	baz=165,slow=12,SNR=1.2						
	comp=Z,1.6nm,0.9s						

*HEL **07** 09:24:24.9±0.3,60.94N×29.03E,h0km,ML1.5,Suspected explosion*
*IDC **07** 09:24:24.8±3.3,60.75N×28.88E,h0km,mbtmp3.4/1, ML2.5/1,Error ellipse: s-maj=35.8km s-min=14.2km az=4.0*

ISC 07 09:24:22.1±1.2,60.90N±0.05×29.15E±0.05,h0km,n17, σ1s04/26,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUF	**Ruokolahti**	**0.54**	**350**	PG	**Pb**	**09 24 33.8**	**-0.7**
RUF				SG	**Sg**	**09 24 39.4**	**0.0**
RUF				MSG		09 24 40.7	
	comp=Z,7.8nm,0.2s						
VJF	**Virojoki**	**0.86**	**246**	PB	**Pn**	**09 24 40.4**	**-1.1**
VJF				MSG		09 24 50.6	
	comp=Z,6.7nm,0.2s						
VJF				SB	**Sb**	**09 24 52.1**	**+0.1**
FIA0	**FINESS Array S**	**1.58**	**292**	PG	**Pb**	**09 24 51.8**	**-0.5**
FIA0				MSG		09 25 10.5	
	comp=Z,4.4nm,0.2s						
FIA0				SN	**Sg**	**09 25 14.1**	**+1.1**
FINES	**FINESS Array B**	**1.58**	**292**	Pg	**Pg**	**09 24 52.0**	**-0.5**
	comp=Z,1.5nm,0.3s,baz=112,slow=16,SNR=34						
FINES				Lg	Lg	09 25 12.7	
	comp=Z,2.2nm,0.3s,baz=106,slow=28,SNR=26						
FINES				Rg	Rg	09 25 18.5	
	comp=Z,24nm,0.8s,baz=97,slow=31,SNR=16						
PVF	**Pernaja**	**1.65**	**259**	PG	**Pg**	**09 24 53.4**	**-0.4**
PVF				MSG		09 25 13.1	
	comp=Z,6.0nm,0.2s						
PVF				SN	**Sg**	**09 25 17.6**	**+2.4**
KAF	**Kangasniemi**	**1.83**	**313**	PG	**Pg**	**09 24 57.0**	**-0.1**
KAF				MSG		09 25 17.2	
	comp=Z,9.7nm,0.2s						
KAF				SN	**Sb**	**09 25 19.9**	**+0.1**
ARBE	**Arbavere**	**2.16**	**229**	PG	**Pg**	**09 25 03.6**	**+0.2**
NUR	**Nurmijrvi**	**2.25**	**262**	PB	**Pb**	**09 25 03.1**	**-0.4**
NUR				MSG		09 25 29.9	
	comp=Z,2.9nm,0.2s						
JOF	**Joensuu**	**2.27**	**26**	PG	**Pg**	**09 25 05.0**	**-0.7**
JOF				SG	**Sb**	**09 25 33.1**	**+0.5**
SUF	**Sumiainen**	**2.32**	**323**	PG	**Pg**	**09 25 05.2**	**-1.3**
	baz=140						
SUF				MSG		09 25 31.5	
	comp=Z,1.7nm,0.2s						
SUF				SG	**Sb**	**09 25 34.1**	**+0.2**
KEF	**Keuruu**	**2.41**	**304**	PG	**Pb**	**09 25 05.9**	**-0.4**
	baz=117						
KEF				MSG		09 25 34.1	
	comp=Z,2.2nm,0.2s						
KEF				SG	**Sb**	**09 25 36.8**	**+0.2**
MEF	**Metsahovi**	**2.44**	**256**	PB	**Pb**	**09 25 06.3**	**-0.6**
MEF				MSG		09 25 35.9	
	comp=Z,2.0nm,0.2s						
MEF				SG	**Sb**	**09 25 37.4**	**-0.1**
NIF	**Nilsia**	**2.58**	**347**	PG	**Pb**	**09 25 09.1**	**-0.1**
	baz=163						
NIF				SG	**Sb**	**09 25 42.1**	**+0.7**
RMF	**Romuvaara**	**3.35**	**6**	PB	**Pb**	**09 25 21.5**	**-0.9**
AAL	**Aland**	**4.58**	**265**	PG	**Pg**	**09 25 47.1**	**-2.6**
I43RU	**DUBNA INFRASON**	**5.92**	**131**	I	I	09 58 40.0	
	baz=317,slow=336,SNR=6.5						
ARCES	**ARCESS Array B**	**8.81**	**352**	Pn	**Pn**	**09 26 32.5**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=173,slow=11,SNR=5.9						
	comp=Z,1.7nm,0.9s						

*IDC **07** 09:31:36.9±4.7,18.75S×168.89E,h117km±37km,mb3.6/5, mbtmp4.0/6,MS3.4/2,Error ellipse: s-maj=40.8km s-min=29.2km az=76.0*
*NOU **07** 09:31:39.9,18.81S×168.95E,h94km,MLv4.3/11, Vanuatu Islands*

ISC 07 09:31:40.1±1.1,18.9S±0.1×168.9E±0.1,h147km,n16, σ1s24/15,mb3.9/5,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**2.41**	**219**	P	**Pn**	**09 32 18.4**	**-1.5**
MARNC	**Mare, Loyalty**	**2.68**	**196**	P	**Pn**	**09 32 21.5**	**-1.8**
DZM	**Mont Dzumac**	**3.88**	**215**	P	**Pn**	**09 32 39.0**	**+0.2**
DZM	**Mont Dzumac**	**3.88**	**215**	P	**Pn**	**09 32 38.5**	**-0.2**
	93nm,0.6s,baz=45,slow=17,SNR=273						
DZM				S	**Sn**	**09 33 22.4**	**-1.9**
	66nm,0.5s,baz=32,slow=19,SNR=3.2						
PINNC	**Pines Island,**	**3.92**	**199**	P	**Pn**	**09 32 40.1**	**+0.9**
OUENC	**Ouen Island, N**	**3.97**	**208**	P	**Pn**	**09 32 41.1**	**+1.2**
NOUC	**Port Laguerre**	**3.98**	**216**	P	**Pn**	**09 32 40.8**	**+0.8**
ONTNC	**Ouen Toro**	**4.07**	**213**	P	**Pn**	**09 32 41.7**	**+0.6**
KOUNC	**Koumac, New Ca**	**4.60**	**248**	P	**Pn**	**09 32 48.5**	**+0.3**
RAO	**Raoul Island**	**15.87**	**133**	LR	LR	09 40 15.4	
	comp=Z,136nm,19.7s,baz=24,slow=32						
ASAR	**Alice Springs**	**32.85**	**255**	P	**P**	**09 38 00.3**	**+0.2**
	1.2nm,0.6s,baz=83,slow=8.6,SNR=30						
	1.2nm,0.6s						
VNDA	**Vanda**	**58.76**	**182**	P	**P**	**09 41 23.1**	**+0.9**
	1.6nm,0.9s,baz=351,slow=6.4,SNR=3.1						
	1.6nm,0.9s						
QSPA	**South Pole Qui**	**71.15**	**180**	P	**P**	**09 42 43.8**	**+1.3**
	2.2nm,0.8s,baz=30,slow=1.0,SNR=9.3						
	2.2nm,0.8s						
PETK	**Petropavlovsk-**	**72.35**	**353**	LR	LR	10 12 10.6	
	comp=Z,22nm,18.2s,baz=108,slow=34						
SONM	**Songino Array**	**86.73**	**323**	P	**P**	**09 44 08.1**	**+0.5**
	0.4nm,0.6s,baz=134,slow=6.2,SNR=2.2						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**90.02**	**17**	P	**P**	**09 44 20.7**	**-1.8**
	0.5nm,1.0s,baz=224,slow=5.0,SNR=4.5						
	0.5nm,1.0s						

*HEL **07** 10:00:20.3±0.2,64.68N×30.74E,h0km,ML1.6,Suspected explosion*
*KOLA **07** 10:00:20.8,64.63N×30.43E,h0km,ML2.0,Error ellipse: s-maj=43.2km s-min=33.1km az=160.0,Kostomuksha, Karelia*
*IDC **07** 10:00:21.7±2.8,64.68N×30.72E,h0km,mbtmp3.0/2, ML1.8/2,Error ellipse: s-maj=42.3km s-min=8.6km az=99.0*

ISC 07 10:00:20.7±0.9,64.74N±0.02×30.45E±0.04,h0km,n31, σ1s60/50,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RMF	**Romuvaara**	**0.57**	**203**	PG	**Pg**	**10 00 30.8**	**-0.8**
RMF				MSG		10 00 39.0	
	comp=Z,11nm,0.2s						
KU6	**Riekki**	**1.31**	**350**	PG	**Pg**	**10 00 45.5**	**-0.2**
	baz=166						
KU6				MSG		10 01 02.3	
	comp=Z,4.4nm,0.2s						
KU6				SG	**Sg**	**10 01 03.4**	**+0.7**
MSF	**Maaselka**	**1.32**	**334**	PG	**Pg**	**10 00 46.1**	**+0.3**
MSF				SG	**Sn**	**10 01 04.4**	**-0.1**
OLKF	**Oulanka, Finla**	**1.65**	**345**	PG	**Pn**	**10 00 51.4**	**+0.6**
OLKF				MSG		10 01 12.1	
	comp=Z,5.0nm,0.2s						
OLKF				SN	**Sg**	**10 01 14.5**	**+1.0**
NIF	**Nilsia**	**1.79**	**222**	PG	**Pb**	**10 00 53.2**	**-1.0**
NIF				SN	**Sg**	**10 01 18.6**	**+0.7**
JOF	**Joensuu**	**1.87**	**168**	PG	**Pn**	**10 00 52.1**	**-1.7**
	baz=355						
JOF				SN	**Sn**	**10 01 15.6**	**-2.5**
OUL	**Oulu**	**1.97**	**282**	PG	**Pg**	**10 00 57.9**	**-0.5**
OUL				SG	**Sg**	**10 01 24.2**	**+0.3**
RANF	**Ranua**	**2.00**	**311**	PG	**Pb**	**10 00 58.2**	**+0.4**
	baz=125						
RANF				SG	**Sg**	**10 01 25.2**	**+0.5**
OBF4	**Vikkela, Lumij**	**2.29**	**274**	PG	**Pb**	**10 01 02.9**	**+0.1**
OBF4				MSG		10 01 31.8	
	comp=Z,3.3nm,0.2s						
OBF4				SG	**Sg**	**10 01 35.9**	**+1.7**
OUF	**Merijarvi**	**2.50**	**264**	PB	**Pb**	**10 01 04.6**	**-1.8**
	baz=80						
OUF				MSG		10 01 37.5	
	comp=Z,3.1nm,0.2s						
OUF				SB	**Sg**	**10 01 39.2**	**-1.7**
RNF	**Rovaniemi**	**2.62**	**318**	PG	**Pb**	**10 01 08.7**	**+0.2**
	baz=136						
RNF				SB	**Sg**	**10 01 43.2**	**-1.7**
OBF0	**Syolatti, Pyha**	**2.69**	**268**	PG	**Pg**	**10 01 11.3**	**-0.8**
OBF0				MSG		10 01 43.0	
	comp=Z,3.0nm,0.2s						
OBF0				SG	**Sg**	**10 01 46.3**	**-0.6**
SUF	**Sumiainen**	**2.79**	**225**	PG	**Pb**	**10 01 09.8**	**-1.4**
SUF				MSG		10 01 43.7	
	comp=Z,1.6nm,0.2s						
TOF	**Tornio**	**2.89**	**300**	MSG		10 01 49.4	
	comp=Z,0.9nm,0.2s						
TOF				SG	**Sg**	**10 01 51.3**	**-2.2**
VRF	**Varrio**	**3.04**	**354**	PB	**Pn**	**10 01 12.8**	**+2.9**
VRF				MSG		10 01 51.8	
	comp=Z,1.6nm,0.2s						
VRF				SG	**Sg**	**10 01 57.6**	**-0.6**
APA0	**Apatity Array**	**3.06**	**19**	P	**Pn**	**10 01 10.2**	**+0.1**
APA0				S	**Sn**	**10 01 47.8**	**+0.4**
SGF	**Sodankyl**	**3.15**	**331**	SB	**Sb**	**10 01 54.7**	**-1.6**
KEF	**Keuruu**	**3.60**	**227**	PB	**Pn**	**10 01 19.9**	**+2.3**
KLF	**Kolari**	**3.65**	**316**	PB	**Pb**	**10 01 22.8**	**-3.1**
	baz=131						
KLF				SG	**Sg**	**10 02 17.4**	**-0.3**
VAF	**Ylistaro**	**3.84**	**247**	PN	**Pn**	**10 01 23.4**	**+2.6**
	baz=59						
VAF				SG	**Sg**	**10 02 22.3**	**-1.5**
RAJF	**Raja-Jooseppi**	**3.85**	**348**	SG	**Sg**	**10 02 22.6**	**-1.4**
FIA0	**FINESS Array S**	**3.86**	**213**	PG	**Pb**	**10 01 31.2**	**+1.7**
	baz=31						
FIA0				SG	**Sb**	**10 02 19.6**	**+2.9**
FINES	**FINESS Array B**	**3.86**	**213**	Pn	**Pn**	**10 01 21.6**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=34,slow=13,SNR=1.7						
FINES				Pg	**Pb**	**10 01 29.4**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=38,slow=16,SNR=5.0						
FINES				Lg	Lg	10 02 23.1	
	comp=Z,0.9nm,0.3s,baz=48,slow=26,SNR=11						
	comp=Z,1.8nm,1.1s						
UMAU	**Umeaa**	**4.34**	**263**	SG	**Sg**	**10 02 38.2**	**-1.8**
VJF	**Virojoki**	**4.42**	**199**	SG	**Sb**	**10 02 36.5**	**+3.5**
HEF	**Hetta**	**4.57**	**327**	SG	**Sg**	**10 02 42.9**	**-4.4**
KMNF	**Kaamanen**	**4.63**	**344**	PG	**Pb**	**10 01 43.5**	**+0.9**
PRVG	**Vayda Guba**	**5.07**	**7**	P	**Pn**	**10 01 38.8**	**+1.0**
PRVG				S	**Sn**	**10 02 37.5**	**+0.5**
ARCES	**ARCESS Array B**	**5.19**	**340**	P	**Pn**	**10 01 40.4**	**+1.0**
ARCES				S	**Sn**	**10 02 39.0**	**-0.8**
ARCES	**ARCESS Array B**	**5.19**	**340**	Pn	**Pn**	**10 01 39.8**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=153,slow=13,SNR=6.9						
ARCES				Sn	**Sn**	**10 02 39.8**	**0.0**
	comp=Z,0.1nm,0.3s,baz=153,slow=21,SNR=5.2						
ARCES				Lg	Lg	10 03 04.9	
	comp=Z,0.2nm,0.3s,baz=151,slow=28,SNR=5.6						
	comp=Z,7.5nm,1.3s						
I43RU	**DUBNA INFRASON**	**8.70**	**155**	I	I	10 50 00.0	
	baz=341,slow=337,SNR=5.4						

*IDC **07** 10:17:06.3±3.0,55.75N×150.08W,h0km,mb3.2/1, mbtmp3.3/6,ML3.2/5,MS3.0/2,Error ellipse: s-maj=41.4km s-min=29.7km az=5.0*
*NEIC **07** 10:17:09.3±1.1,55.94N±0.09×150.2W±0.1,h20km±7km, ML3.6/46,ML3.4(AEIC),Error ellipse: s-maj=13.9km s-min=7.9km az=160.0*
*AEIC **07** 10:17:13.0±1.1,55.96N±0.08×150.2W±0.1,h11km±7km, Error ellipse: s-maj=12.7km s-min=8.0km az=162.0*

ISC 07 10:17:08.5±1.2,56.01N±0.09×150.23W±0.06,h10km, n247,σ0s84/254,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.08**	**307**	Pn	**Pn**	**10 17 43.2**	**-0.1**
OHAK	**Old Harbor**	**2.08**	**307**	P	**Pn**	**10 17 43.1**	**-0.3**
OHAK	**Old Harbor**	**2.08**	**307**	P	**Pn**	**10 17 43.3**	**-0.1**
	baz=126						
OHAK				S	**Sn**	**10 18 07.3**	**-2.1**
	baz=126						
KDAK	**Kodiak Island**	**2.20**	**325**		**Pn**	**10 17 45.3**	**+0.3**
KDAK	**Kodiak Island**	**2.20**	**325**	S	**Sn**	**10 18 10.5**	**-1.7**
	baz=144						
KDAK	**Kodiak Island**	**2.20**	**325**	Pn	**Pn**	**10 17 45.5**	**+0.6**
	14nm,0.3s,baz=157,slow=6.8,SNR=121						
KDAK				Sn	**Sn**	**10 18 11.1**	**-1.0**
	8.3nm,0.3s,baz=127,slow=20,SNR=13						
KDAK				LR	LR	10 18 56.1	
	comp=Z,177nm,18.6s,baz=203,slow=45						
	38nm,0.3s						
SII	**Sitkinak Islan**	**2.27**	**286**		**Pn**	**10 17 45.5**	**-0.6**
SII					**Sn**	**10 18 13.3**	**-0.8**
SII				IAML		10 18 20.2	
	comp=E,176nm,0.6s						
SII				IAML		10 18 22.6	
	comp=N,175nm,0.8s						
SII	**Sitkinak Islan**	**2.27**	**286**	P	**Pn**	**10 17 45.4**	**-0.6**
SII	**Sitkinak Islan**	**2.27**	**286**	P	**Pn**	**10 17 45.5**	**-0.6**
	baz=105						
Q20K	**Shuyak Island**	**2.86**	**337**	P	**Pn**	**10 17 54.3**	**+0.3**
	baz=155						
Q20K				S	**Sn**	**10 18 27.8**	**-0.6**
	baz=155						
SYI	**Shuyak Island**	**2.86**	**337**		**Pn**	**10 17 54.7**	**+0.7**
CHIR	**Chirikof Islan**	**3.04**	**269**	Pn	**Pn**	**10 17 55.7**	**-0.9**
CHIR				IAML		10 18 30.6	
	comp=N,109nm,0.7s						
CHIR				IAML		10 18 35.8	
	comp=E,112nm,1.6s						
CHIR	**Chirikof Islan**	**3.04**	**269**	P	**Pn**	**10 17 55.7**	**-0.9**
	baz=86						
CHIR				S	**Sn**	**10 18 29.7**	**-3.3**
	baz=86						
Q19K	**Cape Douglas,**	**3.46**	**329**	Pn	**Pn**	**10 18 04.1**	**+1.7**
Q19K				IAML		10 18 49.7	
	comp=N,228nm,0.9s						
Q19K	**Cape Douglas,**	**3.46**	**329**	P	**Pn**	**10 18 03.4**	**+1.1**
	baz=147						
ACHA	**Angle Creek He**	**3.55**	**310**		**Pn**	**10 18 04.8**	**+1.2**
CNPM	**China Poot**	**3.56**	**352**	Pn	**Pn**	**10 18 03.8**	**0.0**
CNPM				IAML		10 18 46.8	
	comp=E,53nm,1.5s						
CNPM				IAML		10 18 47.1	
	comp=N,49nm,0.9s						
ANCK	**Angle Creek**	**3.61**	**310**		**Pn**	**10 18 05.8**	**+1.3**
KAHC	**Katmai Hardscr**	**3.70**	**318**		**Pn**	**10 18 07.4**	**+1.6**
KAHC	**Katmai Hardscr**	**3.70**	**318**	P	**Pn**	**10 18 07.4**	**+1.6**
	baz=134						
HOM	**Homer**	**3.73**	**349**	Pn	**Pn**	**10 18 06.5**	**+0.4**
HOM				IAML		10 18 54.7	
	comp=E,128nm

CAPN	**Captain Cook N**	**4.79**	**355**	Pn	**Pn**	**10 18 21.4**	**+0.8**
CAPN				IAML		10 21 08.7	
	comp=N,100nm,1.8s						
CAPN	**Captain Cook N**	**4.79**	**355**	P	**Pn**	**10 18 21.5**	**+0.8**
	baz=174						
HIN	**Hinchinbrook I**	**4.82**	**23**		**Pn**	**10 18 20.9**	**-0.1**
HIN				IAML		10 19 27.2	
	comp=N,92nm,1.9s						
HIN				IAML		10 21 01.4	
	comp=E,94nm,2.0s						
KAIM	**Kayak Island**	**4.99**	**36**	Pn	**Pn**	**10 18 23.5**	**+0.1**
KAIM	**Kayak Island**	**4.99**	**36**	P	**Pn**	**10 18 23.3**	**-0.1**
	baz=220						
RC01	**Rabbit Creek A**	**5.10**	**3**	Pn	**Pn**	**10 18 24.1**	**-0.7**
RC01				IAML		10 19 27.1	
	comp=E,26nm,0.5s						
RC01				IAML		10 19 31.0	
	comp=N,22nm,0.5s						
RC01	**Rabbit Creek A**	**5.10**	**3**	P	**Pn**	**10 18 24.6**	**-0.3**
	baz=183						
EYAK	**Cordova Ski Ar**	**5.12**	**26**		**Pn**	**10 18 25.4**	**+0.3**
EYAK	**Cordova Ski Ar**	**5.12**	**26**	P	**Pn**	**10 18 25.2**	**0.0**
EYAK	**Cordova Ski Ar**	**5.12**	**26**	P	**Pn**	**10 18 25.1**	**0.0**
	baz=209						
P16K	**Nushagak River**	**5.16**	**309**		**Pn**	**10 18 26.7**	**+1.0**
P16K	**Nushagak River**	**5.16**	**309**	P	**Pn**	**10 18 26.7**	**+1.0**
	baz=123						
O17K	**Koliganek Bris**	**5.26**	**319**		**Pn**	**10 18 27.4**	**+0.4**
O17K	**Koliganek Bris**	**5.26**	**319**	P	**Pn**	**10 18 27.4**	**+0.4**
	baz=134						
RAGM	**Ragged Mountai**	**5.28**	**31**		**Pn**	**10 18 27.5**	**+0.2**
RAGM				IAML		10 21 52.2	
	comp=E,60nm,1.8s						
N20K	**Mount Spurr**	**5.30**	**350**	P	**Pn**	**10 18 27.0**	**-0.8**
	baz=168						
SPCR	**Spurr Chakacha**	**5.30**	**350**		**Pn**	**10 18 26.9**	**-0.8**
N19K	**Bonanza Creek**	**5.31**	**337**		**Pn**	**10 18 28.0**	**+0.2**
N19K	**Bonanza Creek**	**5.31**	**337**	P	**Pn**	**10 18 27.8**	**0.0**
	baz=154						
SUCK	**Suckling Hills**	**5.32**	**37**	Pn	**Pn**	**10 18 28.1**	**+0.2**
SUCK				IAML		10 19 27.5	
	comp=N,65nm,0.3s						
SUCK				IAML		10 19 27.6	
	comp=E,61nm,1.3s						
HMT	**Hamilton**	**5.36**	**34**		**Pn**	**10 18 28.7**	**+0.2**
SPCP	**Crater Peak Br**	**5.36**	**350**		**Pn**	**10 18 29.5**	**+0.9**
NICHA	**Nichawak Mount**	**5.38**	**35**		**Pn**	**10 18 29.1**	**+0.4**
GOAT	**Goat Mountain**	**5.42**	**30**		**Pn**	**10 18 29.5**	**+0.2**
SUA	**Susitna One**	**5.47**	**357**	Pn	**Pn**	**10 18 29.3**	**-0.8**
SUA	**Susitna One**	**5.47**	**357**	P	**Pn**	**10 18 29.3**	**-0.8**
	baz=177						
KNK	**Knik Glacier**	**5.49**	**9**	Pn	**Pn**	**10 18 30.0**	**-0.3**
KNK	**Knik Glacier**	**5.49**	**9**	P	**Pn**	**10 18 29.9**	**-0.4**
	baz=190						
SPNN	**North Nagishla**	**5.52**	**348**		**Pn**	**10 18 30.8**	**0.0**
BGLC	**Bering Glacier**	**5.52**	**39**		**Pn**	**10 18 30.9**	**+0.3**
BGLC	**Bering Glacier**	**5.52**	**39**	P	**Pn**	**10 18 30.9**	**+0.3**
	baz=224						
O16K	**Kokwok River B**	**5.53**	**314**		**Pn**	**10 18 32.1**	**+1.4**
O16K	**Kokwok River B**	**5.53**	**314**	P	**Pn**	**10 18 31.9**	**+1.1**
	baz=128						
N18K	**Kilae Creek**	**5.55**	**330**		**Pn**	**10 18 31.3**	**+0.2**
N18K	**Kilae Creek**	**5.55**	**330**	P	**Pn**	**10 18 31.3**	**+0.2**
	baz=146						
STLK	**Strandline Lak**	**5.57**	**352**		**Pn**	**10 18 30.9**	**-0.4**
BERG	**Berg Lake**	**5.58**	**35**		**Pn**	**10 18 31.3**	**-0.1**
PMR	**Palmer**	**5.62**	**5**	Pn	**Pn**	**10 18 32.3**	**+0.3**
PMR	**Palmer**	**5.62**	**5**	P	**Pn**	**10 18 32.7**	**+0.7**
GRIN	**Grindle Hills**	**5.63**	**38**		**Pn**	**10 18 32.5**	**+0.3**
DIV	**Divide**	**5.63**	**23**		**Pn**	**10 18 32.6**	**+0.3**
SNH	**Sunshine Point**	**5.72**	**40**	Pn	**Pn**	**10 18 33.5**	**0.0**
KHIT	**Khitrov Hills**	**5.77**	**37**		**Pn**	**10 18 34.0**	**-0.1**
BMRM	**Bremner River**	**5.78**	**28**		**Pn**	**10 18 34.5**	**+0.3**
BMRM	**Bremner River**	**5.78**	**28**	P	**Pn**	**10 18 34.2**	**0.0**
	baz=212						
GHO	**Glory Hole Cre**	**5.82**	**6**	Pn	**Pn**	**10 18 35.2**	**+0.4**
SVW2	**Sparrevohn**	**5.82**	**333**	Pn	**Pn**	**10 18 35.2**	**+0.5**
SVW2	**Sparrevohn**	**5.82**	**333**	P	**Pn**	**10 18 35.0**	**+0.3**
N17K	**Nushagak Hills**	**5.83**	**324**	Pn	**Pn**	**10 18 35.4**	**+0.6**
N17K	**Nushagak Hills**	**5.83**	**324**	P	**Pn**	**10 18 35.4**	**+0.6**
	baz=138						
SDPT	**Sand Point**	**5.84**	**268**	Pn	**Pn**	**10 18 34.5**	**-0.5**
SDPT	**Sand Point**	**5.84**	**268**	P	**Pn**	**10 18 34.8**	**-0.2**
	baz=80						
SML	**Sawmill**	**5.89**	**9**	Pn	**Pn**	**10 18 36.1**	**+0.3**
SML	**Sawmill**	**5.89**	**9**	P	**Pn**	**10 18 35.8**	**0.0**
	baz=190						
WAX	**Waxell Ridge**	**5.91**	**38**		**Pn**	**10 18 36.2**	**+0.1**
KLU	**Klutina**	**5.93**	**20**		**Pn**	**10 18 36.6**	**+0.2**
KLU	**Klutina**	**5.93**	**20**	P	**Pn**	**10 18 36.4**	**0.0**
	baz=204						
M23K	**Glacier View**	**5.94**	**12**		**Pn**	**10 18 36.7**	**+0.3**
M23K	**Glacier View**	**5.94**	**12**	P	**Pn**	**10 18 36.7**	**+0.3**
	baz=193						
BARK	**Barkley Ridge**	**6.00**	**40**		**Pn**	**10 18 37.5**	**+0.1**
SKT	**Skwentna**	**6.02**	**354**		**Pn**	**10 18 37.4**	**-0.1**
SKT	**Skwentna**	**6.02**	**354**	P	**Pn**	**10 18 37.6**	**+0.1**
	baz=173						
SCM	**Sheep Creek Mo**	**6.03**	**13**	Pn	**Pn**	**10 18 38.2**	**+0.6**
CRQM	**Cirque**	**6.04**	**35**		**Pn**	**10 18 37.8**	**-0.1**
CRQE	**Cirque**	**6.05**	**35**	P	**Pn**	**10 18 38.1**	**+0.1**
	baz=221						
MESA	**MESA**	**6.05**	**43**		**Pn**	**10 18 38.1**	**0.0**
MESA	**MESA**	**6.05**	**43**	P	**Pn**	**10 18 38.0**	**-0.2**
	baz=229						
O15K	**Ungalikthiuk R**	**6.06**	**306**		**Pn**	**10 18 39.1**	**+1.1**
O15K	**Ungalikthiuk R**	**6.06**	**306**	P	**Pn**	**10 18 39.1**	**+1.1**
	baz=118						
M20K	**Styx River**	**6.08**	**347**		**Pn**	**10 18 38.0**	**-0.3**
M20K	**Styx River**	**6.08**	**347**	P	**Pn**	**10 18 38.1**	**-0.2**
	baz=164						
TGL	**Tana Glacier**	**6.14**	**36**		**Pn**	**10 18 39.4**	**+0.2**
ISLE	**Juniper Island**	**6.20**	**39**		**Pn**	**10 18 40.1**	**+0.1**
BAGL	**Bagley Icefiel**	**6.21**	**40**		**Pn**	**10 18 40.0**	**0.0**
M18K	**Stony River**	**6.22**	**334**		**Pn**	**10 18 40.0**	**-0.2**
M18K	**Stony River**	**6.22**	**334**	P	**Pn**	**10 18 40.0**	**-0.2**
	baz=150						
M19K	**Big River Lodg**	**6.29**	**342**	Pn	**Pn**	**10 18 41.1**	**-0.1**
M19K	**Big River Lodg**	**6.29**	**342**	P	**Pn**	**10 18 41.1**	**-0.1**
	baz=158						
VRDI	**Verde Repeater**	**6.31**	**31**	Pn	**Pn**	**10 18 41.9**	**+0.3**
N25K	**Chitina, Valde**	**6.32**	**25**		**Pn**	**10 18 42.3**	**+0.6**
N25K	**Chitina, Valde**	**6.32**	**25**	P	**Pn**	**10 18 42.4**	**+0.6**
	baz=210						
N16K	**Nishlik Lake**	**6.35**	**318**		**Pn**	**10 18 43.3**	**+1.3**
N16K	**Nishlik Lake**	**6.35**	**318**	P	**Pn**	**10 18 43.3**	**+1.3**
	baz=132						
GLB	**Gilahina Butte**	**6.38**	**29**		**Pn**	**10 18 42.7**	**+0.2**
KIAG	**Kiagna River**	**6.42**	**37**		**Pn**	**10 18 43.0**	**-0.2**
M24K	**Tolsona, Glenn**	**6.46**	**17**	Pn	**Pn**	**10 18 44.4**	**+0.8**
M24K	**Tolsona, Glenn**	**6.46**	**17**	P	**Pn**	**10 18 44.1**	**+0.6**
	baz=200						
SAMH	**Samovar Hills**	**6.49**	**47**		**Pn**	**10 18 44.5**	**+0.5**
GRNC	**Granite Creek**	**6.50**	**40**		**Pn**	**10 18 44.4**	**+0.1**
TABL	**Table Mountain**	**6.53**	**43**		**Pn**	**10 18 44.8**	**+0.1**
MCARA	**McCarthy VSAT**	**6.56**	**32**		**Pn**	**10 18 45.4**	**+0.5**
MCARA	**McCarthy VSAT**	**6.56**	**32**	P	**Pn**	**10 18 45.0**	**+0.1**
	baz=218						
M17K	**Holitna River**	**6.58**	**328**		**Pn**	**10 18 46.2**	**+1.1**
M17K	**Holitna River**	**6.58**	**328**	P	**Pn**	**10 18 45.8**	**+0.6**
	baz=142						
PTPK	**Patty Peak**	**6.58**	**35**		**Pn**	**10 18 45.6**	**+0.3**
L19K	**White Mountain**	**6.63**	**341**		**Pn**	**10 18 45.6**	**-0.2**
L19K	**White Mountain**	**6.63**	**341**	P	**Pn**	**10 18 45.5**	**-0.4**
	baz=157						
PN7A	**Pavlof North-7**	**6.68**	**270**		**Pn**	**10 18 46.4**	**-0.2**
N15K	**Kwethluk River**	**6.69**	**313**		**Pn**	**10 18 48.7**	**+2.1**
PCA	**Pinnacle**	**6.69**	**48**		**Pn**	**10 18 47.0**	**+0.3**
PINM	**Pinnacle**	**6.69**	**48**	P	**Pn**	**10 18 46.7**	**0.0**
	baz=236						
WACK	**Wrangell Chich**	**6.72**	**24**		**Pn**	**10 18 47.5**	**+0.3**
BARN	**Barnard Glacie**	**6.76**	**38**		**Pn**	**10 18 47.8**	**+0.1**
O14K	**Tigyukauivet M**	**6.76**	**303**		**Pn**	**10 18 48.5**	**+1.0**
O14K	**Tigyukauivet M**	**6.76**	**303**	P	**Pn**	**10 18 48.2**	**+0.6**
	baz=115						
M16K	**Timber Creek**	**6.79**	**321**		**Pn**	**10 18 49.6**	**+1.5**
CTG	**Chitna Glacier**	**6.80**	**39**	P	**Pn**	**10 18 48.5**	**+0.1**
	baz=226						
CTGM	**Chitina Glacie**	**6.81**	**40**		**Pn**	**10 18 48.6**	**+0.2**
LOGN	**Logan Glacier**	**6.83**	**41**		**Pn**	**10 18 49.0**	**+0.2**
PNL	**Peninsula**	**6.84**	**53**		**Pn**	**10 18 48.9**	**+0.1**
PNL	**Peninsula**	**6.84**	**53**	P	**Pn**	**10 18 49.3**	**+0.5**
PNL	**Peninsula**	**6.84**	**53**	P	**Pn**	**10 18 48.9**	**+0.1**
	baz=242						

BCPM	**Bancas Point**	**6.88**	**51**		**Pn**	**10 18 49.5**	**+0.3**
WAT7	**Susitna Watana**	**6.88**	**5**		**Pn**	**10 18 49.5**	**+0.1**
L18K	**Granite Mounta**	**7.05**	**335**		**Pn**	**10 18 51.9**	**+0.2**
L18K	**Granite Mounta**	**7.05**	**335**	P	**Pn**	**10 18 52.5**	**+0.8**
	baz=149						
M15K	**Kasigluk River**	**7.23**	**315**		**Pn**	**10 18 55.0**	**+1.0**
M15K	**Kasigluk River**	**7.23**	**315**	P	**Pn**	**10 18 55.1**	**+1.0**
	baz=126						
N14K	**Kuskokwak Cree**	**7.24**	**307**		**Pn**	**10 18 55.5**	**+1.2**
N14K	**Kuskokwak Cree**	**7.24**	**307**	P	**Pn**	**10 18 55.5**	**+1.2**
	baz=118						
M26K	**Nabesna, AK**	**7.40**	**27**	P	**Pn**	**10 18 57.5**	**+1.0**
	baz=213						
L17K	**Donlin**	**7.41**	**329**		**Pn**	**10 18 57.5**	**+1.0**
L17K	**Donlin**	**7.41**	**329**	P	**Pn**	**10 18 57.5**	**+1.0**
	baz=143						
RND	**Reindeer**	**7.45**	**5**	Pn	**Pn**	**10 18 57.4**	**+0.2**
L16K	**Owhat River**	**7.45**	**324**		**Pn**	**10 18 58.0**	**+0.9**
L16K	**Owhat River**	**7.45**	**324**	P	**Pn**	**10 18 58.1**	**+1.0**
	baz=136						
O29M	**Mount Kennedy**	**7.51**	**50**		**Pn**	**10 18 58.7**	**+0.6**
O29M	**Mount Kennedy**	**7.51**	**50**	P	**Pn**	**10 18 58.6**	**+0.5**
	baz=240						
TTA	**Tatalina**	**7.54**	**339**	Pn	**Pn**	**10 18 58.5**	**+0.2**
TTA	**Tatalina**	**7.54**	**339**	P	**Pn**	**10 18 58.7**	**+0.4**
P29M	**Windy Craggy**	**7.59**	**56**		**Pn**	**10 18 58.8**	**-0.2**
P29M	**Windy Craggy**	**7.59**	**56**	P	**Pn**	**10 18 58.6**	**-0.4**
	baz=246						
M27K	**Edge Creek, AK**	**7.67**	**30**	P	**Pn**	**10 19 00.9**	**+0.7**
	baz=217						
MENT	**Mentasta**	**7.69**	**23**	Pn	**Pn**	**10 19 01.4**	**+1.0**
ISLZ	**Isanotski Laza**	**7.79**	**266**		**Pn**	**10 19 01.3**	**-0.6**
YUK7	**Dusty Glacier**	**7.81**	**50**		**Pn**	**10 19 03.2**	**+1.0**
K17K	**Iditarod**	**7.88**	**332**	Pn	**Pn**	**10 19 03.9**	**+0.9**
S31K	**Pelican**	**7.89**	**70**	Pn	**Pn**	**10 19 00.8**	**-2.2**
YUK6	**Outpost Mounta**	**7.94**	**47**		**Pn**	**10 19 04.9**	**+0.9**
YUK6	**Outpost Mounta**	**7.94**	**47**	P	**Pn**	**10 19 04.9**	**+0.9**
	baz=236						
BVCY	**Beaver Creek**	**8.01**	**33**		**Pn**	**10 19 06.0**	**+1.2**
BVCY	**Beaver Creek**	**8.01**	**33**	P	**Pn**	**10 19 06.0**	**+1.2**
	baz=220						
YUK4	**Talbot Arm**	**8.05**	**44**	P	**Pn**	**10 19 08.1**	**+2.6**
	baz=233						
BPAW	**Bear Paw Mtn.**	**8.12**	**358**	Pn	**Pn**	**10 19 05.4**	**-0.9**
L15K	**Ungalak Mounta**	**8.14**	**319**		**Pn**	**10 19 07.5**	**+1.0**
L15K	**Ungalak Mounta**	**8.14**	**319**	P	**Pn**	**10 19 07.5**	**+1.0**
	baz=130						
P30M	**Million Dollar**	**8.14**	**54**		**Pn**	**10 19 08.1**	**+1.5**
P30M	**Million Dollar**	**8.14**	**54**	P	**Pn**	**10 19 08.1**	**+1.5**
	baz=245						
M13K	**Dall Lake**	**8.21**	**308**	P	**Pn**	**10 19 08.6**	**+1.2**
	baz=117						
L27K	**Beaver Creek,**	**8.25**	**28**	Pn	**Pn**	**10 19 09.0**	**+0.9**
L27K	**Beaver Creek,**	**8.25**	**28**	P	**Pn**	**10 19 08.9**	**+0.8**
	baz=214						
BCAR	**Beaver Creek A**	**8.26**	**28**	Pn	**Pn**	**10 19 09.1**	**+0.8**
SIT	**Sitka**	**8.30**	**77**	P	Pn	10 19 05.8	-3.0
L14K	**Kuka Creek**	**8.40**	**315**		**Pn**	**10 19 11.5**	**+1.4**
L14K	**Kuka Creek**	**8.40**	**315**	P	**Pn**	**10 19 11.5**	**+1.4**
	baz=124						
J20K	**Nowinta River**	**8.42**	**348**	Pn	**Pn**	**10 19 11.9**	**+1.5**
J19K	**Poorman**	**8.45**	**344**	Pn	**Pn**	**10 19 10.5**	**-0.3**
K15K	**Wolf Creek Mou**	**8.56**	**322**		**Pn**	**10 19 13.9**	**+1.6**
K15K	**Wolf Creek Mou**	**8.56**	**322**	P	**Pn**	**10 19 13.9**	**+1.6**
	baz=133						
SCRK	**Sand Creek**	**8.57**	**19**	Pn	**Pn**	**10 19 13.5**	**+0.9**
J17K	**VABM Dome**	**8.64**	**333**	Pn	**Pn**	**10 19 13.7**	**+0.2**
SKAG	**Skagway**	**8.68**	**60**	P	**Pn**	**10 19 14.1**	**+0.2**
N30M	**Aishikik Lake**	**8.73**	**46**	Pn	**Pn**	**10 19 15.3**	**+0.5**
CCB	**Clear Creek Bu**	**8.74**	**7**	Pn	**Pn**	**10 19 15.1**	**+0.3**
M29M	**Somme Creek**	**8.82**	**38**		**Pn**	**10 19 17.2**	**+1.3**
ILAR	**Eielson Array**	**8.94**	**9**	Pn	**Pn**	**10 19 17.5**	**0.0**
ILAR	**Eielson Array**	**8.94**	**9**	Pn	**Pn**	**10 19 17.9**	**+0.4**
	comp=E,0.2nm,0.3s,baz=193,slow=14,SNR=8.7						
ILAR				Sn	**Sn**	**10 20 54.5**	**-3.6**
	comp=E,0.2nm,0.3s,baz=198,slow=23,SNR=5.8						
	comp=E,0.4nm,0.3s						
J16K	**Anvik River**	**8.98**	**329**	Pn	**Pn**	**10 19 18.3**	**+0.3**
MDM	**Murphy Dome**	**9.03**	**5**	Pn	**Pn**	**10 19 18.8**	**+0.1**
MLY	**Manley**	**9.05**	**359**	Pn	**Pn**	**10 19 19.2**	**+0.2**
J26L	**Joseph Creek**	**9.13**	**18**	Pn	**Pn**	**10 19 20.6**	**+0.4**
WHY	**Whitehorse**	**9.31**	**54**	Pn	**Pn**	**10 19 23.5**	**+0.9**
M30M	**Minto, Yukon**	**9.50**	**41**	Pn	**Pn**	**10 19 25.7**	**+0.5**
M30M	**Minto, Yukon**	**9.50**	**41**	P	**Pn**	**10 19 26.2**	**+1.0**
	baz=232						
P32M	**Atlin**	**9.51**	**61**	Pn	**Pn**	**10 19 25.3**	**0.0**
H21K	**Melozitna Rive**	**9.76**	**354**	Pn	**Pn**	**10 19 27.9**	**-0.8**
PRP	**Porcupine Dome**	**9.81**	**12**	Pn	**Pn**	**10 19 30.2**	**+0.7**
H18K	**Honhosa River**	**9.99**	**340**	Pn	**Pn**	**10 19 32.5**	**+0.6**
P33M	**Teslin, Yukon**	**10.12**	**58**	Pn	**Pn**	**10 19 32.9**	**-0.8**
H17K	**Granite Mounta**	**10.13**	**336**	Pn	**Pn**	**10 19 34.5**	**+0.7**
IMAR	**Indian Mountai**	**10.15**	**352**	Pn	**Pn**	**10 19 34.5**	**+0.5**
FARO	**Faro, Yukon**	**10.66**	**47**	Pn	**Pn**	**10 19 42.3**	**+1.3**
G23K	**Bananza Creek**	**10.74**	**0**	Pn	**Pn**	**10 19 42.6**	**+0.5**
R33M	**Jennings River**	**10.84**	**64**	Pn	**Pn**	**10 19 43.5**	**0.0**
J30M	**Hart River**	**10.98**	**33**	Pn	**Pn**	**10 19 47.1**	**+1.6**
DLBC	**Dease Lake**	**11.21**	**69**	Pn	**Pn**	**10 19 47.2**	**-1.4**
	comp=E,0.1nm,0.3s,baz=263,slow=8.1,SNR=1.7						
	comp=E,0.3nm,0.3s						
F17K	**Baldwin Pennin**	**11.71**	**338**	Pn	**Pn**	**10 19 56.9**	**+1.6**
BMAR	**Burnt Mountain**	**11.76**	**11**	Pn	**Pn**	**10 19 56.1**	**0.0**
G31M	**Satah River**	**13.28**	**28**	Pn	**Pn**	**10 20 17.4**	**+0.6**
INK	**Inuvik**	**14.51**	**25**	Pn	**Pn**	**10 20 34.2**	**+0.6**
INK	**Inuvik**	**14.51**	**25**	Pn	**Pn**	**10 20 34.4**	**+0.8**
	baz=216,slow=15,SNR=4.1						
INK				LR	LR	10 26 42.2	
	comp=E,73nm,18.0s,baz=184,slow=39						
	comp=E,1.8nm,1.0s						
YKA	**Yellowknife Ar**	**19.13**	**56**	P	**P**	**10 21 32.4**	**+1.1**
	comp=E,0.1nm,0.3s,baz=266,slow=9.5,SNR=9.5						
	comp=E,0.6nm,0.8s						
MKAR	**Makanchi Array**	**68.51**	**324**	P	**P**	**10 28 11.5**	**+0.9**
	comp=E,0.1nm,0.4s,baz=28,slow=6.2,SNR=2.0						
	comp=E,0.1nm,0.4s						

JMA 07 10:39:22.5±0.5, 32°N±2°×14°2E±°, h0km, MV3.8/23, E OFF HACHIJOJIMA ISLAND, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.70**	**343**	P	Pn	10 40 08.4	+1.7
BSO1				S	Sn	10 40 42.1	+2.3
BSO3	**Boso 3**	**2.97**	**337**	P	Pn	10 40 12.4	+1.7
JOD2	**Odawara 2**	**3.97**	**324**	P	Pn	10 40 27.1	+2.4
JOD2				*eS*	Sn	10 41 14.7	+2.6
JHU	**Hanno**	**4.37**	**330**	P	Pn	10 40 32.7	+2.6
JYT	**Yasato**	**4.39**	**341**	*eP*	Pn	10 40 32.7	+2.3
JHO	**Hitachi**	**4.67**	**346**	P	Pn	10 40 34.7	+0.4
JHO				*eS*	Sn	10 41 28.5	-0.7
JRY	**Ryogami san**	**4.67**	**328**	P	Pn	10 40 37.0	+2.6
JRY				*eS*	Sn	10 41 32.0	+2.7
JAG	**Ashikaga**	**4.80**	**335**	P	Pn	10 40 38.2	+2.0
JAG				S	Sn	10 41 33.2	+0.7

*BJI **07** 10:39:20.6±0.0, 17°.61N×146°.25E, h214km, mb4.7/66, mB4.8/27*
*NEIC **07** 10:39:28.4±1.8, 17°.99N±0°.05×145°.52E±0°.08, h215km±5km, mb5.1/487, Error ellipse: s-maj=11.0km s-min=7.7km az=106.0*
*MOS **07** 10:39:29.1±0.9, 17°.97N×145°.44E, h249km, mb5.0/49, Error ellipse: s-maj=8.2km s-min=4.9km az=108.5*
*IDC **07** 10:39:30.1±0.5, 18°.01N×145°.64E, h253km±4km, mb4.4/32, mbtmp4.9/34, Error ellipse: s-maj=10.7km s-min=6.0km az=74.0*
*GCMT **07** 10:39:30.4±0.3, 17°.75N±0°.02×145°.58E±0°.02, h255km±2km, MW5.0/97, Moment Tensor Solution. s51,c63; s97,c126; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 3.37±.14; Mθθ -2.13±.16; Mφφ -1.24±.17; Mrθ -1.99±.14; Mθφ -2.58±.13; Mφr 1.73±.14; Best double couple: M=4.68500×10^16 NP1:φ=259.00000°, δ57.00000°, λ130.00000°. NP2:φ=22.00000°, δ50.00000°, λ46.00000°. Principal axes: T 5.0400, Plg58.0000°, Azm226.0000°; N -0.7110, Plg32.0000°, Azm54.0000°; P -4.3290, Plg4.0000°, Azm322.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **07** 10:39:31.0±0.6, 18°.N±3°×14°6E±°, h251km±5km, M5.1/96, mB5.6/47, mb5.4/96, Mw(mB)5.1/47*

ISC 07 10:39:30.4±0.3, 17°.94N±0°.03×145°.56E±0°.04, h251km±2km, h251km; pP-P, n1174, σ1s 47/1078, mb5.1/365, 20C-3D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**9.63**	**342**	Pn	**Pn**	**10 41 41.8**	**-2.5**
JCJ	**Chichijima**	**9.63**	**342**	P	**Pn**	**10 41 40.8**	**-3.5**
	65nm,0.4s,baz=293,slow=20,SNR=2.6						
JCJ				S	S	10 43 21.4	-11
	121nm,0.5s,baz=300,slow=20,SNR=2.2						
JMZ	**Minamidaito 2**	**15.44**	**303**		**P**	**10 42 54.4**	**-0.7**
JHJ2	**Mitsune**	**15.97**	**342**	P	**P**	**10 42 59.2**	**-1.5**
PATS	**Pohnpei**	**16.62**	**130**	Pn	**Pn**	**10 43 10.5**	**+0.6**
PATS	**Pohnpei**	**16.62**	**130**	P	**Pn**	**10 43 10.0**	**+0.1**
JOW	**Kunigami**	**18.26**	**302**	P	**Pn**	**10 43 28.2**	**-0.9**
JOW	**Kunigami**	**18.26**	**302**	P	**Pn**	**10 43 28.3**	**-0.7**
JOW	**Kunigami**	**18.26**	**302**	P	**P**	**10 43 25.1**	**-0.7**
	73nm,0.6s,baz=124,slow=10,SNR=9.6						
JOW				S	**S**	**10 46 35.0**	**-6.3**
	17nm,0.7s,baz=94,slow=4.3,SNR=1.5						
JMN	**Monobe**	**18.89**	**329**	P	**P**	**10 43 30.9**	**-1.7**
INU	**Inuyama**	**18.93**	**338**	P	**P**	**10 43 31.9**	**-1.0**
INU	**Inuyama**	**18.93**	**338**	P	**Pn**	**10 43 35.4**	**-1.4**
JGF	**Kuroka**	**19.04**	**339**	P	**P**	**10 43 33.5**	**-0.6**
JGF	**Kuroka**	**19.04**	**339**	P	**Pn**	**10 43 37.7**	**-0.5**
MJAR	**Matsushiro Arr**	**19.64**	**342**	P	**P**	**10 43 38.4**	**-2.1**
	4.2nm,0.6s,baz=162,slow=7.4,SNR=9.8						
MJAR				S	**S**	**10 47 02.0**	**-6.3**
	1.6nm,0.5s,baz=102,slow=32,SNR=1.6						
MJAR				ScP	**ScP**	**10 50 56.7**	**-3.9**
	2.7nm,0.9s,baz=173,slow=2.8,SNR=4.6						
MAJO	**Matsushiro**	**19.64**	**342**	P	**P**	**10 43 38.7**	**-1.8**
MAJO	**Matsushiro**	**19.64**	**342**	P	**Pn**	**10 43 44.2**	**-0.9**
MAJO	**Matsushiro**	**19.64**	**342**	*i* P	**P**	**10 43 38.3**	**-2.2**
MANU	**Manus Island**	**19.94**	**175**	P	**P**	**10 43 44.0**	**+0.1**
MANU	**Manus Island**	**19.94**	**175**	P	**P**	**10 43 45.3**	**+1.5**
JNU	**Nakatsue**	**20.07**	**322**	P	**P**	**10 43 43.5**	**-1.6**
JNU	**Nakatsue**	**20.07**	**322**	P	**P**	**10 43 44.9**	**-0.2**
	14nm,1.0s,baz=135,slow=1.0,SNR=2.6						
	14nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**20.07**	**85**	T	T	11 05 04.3	
	baz=275,slow=74,SNR=4.3						
H11S1	**WAKE ISLAND Hy**	**20.09**	**85**	T	T	11 05 02.0	
	baz=275,slow=74,SNR=5.4						
H11S2	**WAKE ISLAND Hy**	**20.09**	**85**	T	T	11 05 13.4	
	baz=275,slow=74,SNR=4.5						
H11N1	**WAKE ISLAND Hy**	**20.26**	**82**	T	T	11 05 10.1	
	baz=264,slow=74,SNR=9.9						
H11N2	**WAKE ISLAND Hy**	**20.27**	**82**	T	T	11 05 10.6	
	baz=264,slow=74,SNR=10						
H11N3	**WAKE ISLAND Hy**	**20.28**	**82**	T	T	11 05 12.2	
	baz=264,slow=74,SNR=10						
JMM	**Marumori**	**20.29**	**349**	P	**P**	**10 43 47.5**	**+0.1**
JMM	**Marumori**	**20.29**	**349**	P	**P**	**10 43 48.0**	**+0.6**
JSD	**Sado**	**21.02**	**344**	P	**P**	**10 43 53.3**	**-1.7**
JSD	**Sado**	**21.02**	**344**	P	**P**	**10 43 56.2**	**+1.2**
GENI	**Genyem**	**21.08**	**195**	P	**P**	**10 43 56.5**	**+0.6**
GENI	**Genyem**	**21.08**	**195**	P	**P**

comp=Z,59nm,0.8s
TOLI2 Tolitoli 29.54 238 P **P** **10 45 11.9 -0.2**
MDJ Mudanjiang 29.78 337 P **P** **10 45 16.4 +2.5**
MDJ PP **PP** **10 46 24.5 -2.2**
MDJ S **S** **10 49 57.3 +5.9**
MDJ PcS **PcS** **10 51 56.3 +2.0**
MDJ pmax pmax
comp=Z,13nm,1.9s
MDJ pmax pmax
comp=Z,120nm,3.7s
MPSI Mapaga 30.70 238 P **P** **10 45 22.3 -0.1**
comp=Z,35nm,0.8s,comp=Z,528nm
CN2 Changchun 30.86 331 *e*P **P** **10 45 24.1 +0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
KKM Kota Kinabalu 30.99 251 P **P** **10 45 25.0 0.0**
KKM Kota Kinabalu 30.99 251 P **P** **10 45 26.1 +1.1**
WHN Wuhan 31.00 300 ⇓P **P** **10 45 27.3 +2.6**
WHN PcP **PcP** **10 48 14.6 +0.3**
WHN pmax pmax
comp=Z,310nm,2.1s
TIA Tai'an 31.01 312 P P 10 45 18.0 -6.9
TIA pmax pmax
comp=Z,3.0nm,0.3s
BNX BinXian 31.57 335 ⇓P **P** **10 45 30.0 +0.5**
BNX pmax pmax
comp=Z,9.0nm,0.9s
BNX pmax pmax
comp=Z,160nm,5.2s
COEN Coen 31.78 184 P **P** **10 45 31.6 -0.1**
COEN IAmb IAmb 10 45 32.5
comp=Z,35nm,0.8s
COEN Coen 31.78 184 P **P** **10 45 31.7 0.0**
TTSI Tana Toraja 32.84 233 P **P** **10 45 42.2 +1.2**
comp=Z,288nm,0.9s,comp=Z,2µm
TYV Tymovskoe 32.93 357 *e*P **P** **10 45 41.6 +0.3**
TYV *e*S **S** **10 50 42.1 +2.0**
TYV pmax pmax
comp=Z,11nm,0.7s
TYV pmax pmax
comp=Z,100nm,3.9s
TYV smax smax
comp=N,6.0nm,2.4s
TYV smax smax
comp=N,100nm,6.7s
TYV smax smax
comp=E,100nm,6.7s
KDU Kakadu 33.06 204 P **P** **10 45 42.5 -0.3**
KLR Kul'dur 33.15 343 *ce*P **P** **10 45 42.1 -1.2**
KLR pmax pmax
comp=Z,7.0nm,0.7s
KLR Kul'dur 33.15 343 P **P** **10 45 42.3 -1.0**
comp=Z,6.3nm,0.5s,baz=160,slow=9.5,SNR=30
KLR pP **pP** **10 46 34.2 +1.9**
comp=Z,9.3nm,0.6s,baz=138,slow=12,SNR=4.1
KLR S **S** **10 50 40.0 -3.7**
comp=Z,1.0nm,0.7s,baz=90,slow=21,SNR=1.6
comp=Z,6.3nm,0.5s
HNS HongShan 33.28 312 ⇓P **P** **10 45 47.0 +2.5**
HNS S **S** **10 50 52.2 +6.3**
HNS pmax pmax
comp=Z,11nm,0.8s
HNS LR LR
comp=Z,270nm,11.3s
HNS LR LR
comp=Z,130nm,10.6s
HNS LR LR
comp=Z,180nm,16.7s
GULI GuiLin 33.46 289 ⇑P **P** **10 45 48.6 +2.4**
GULI pmax pmax
comp=Z,50nm,1.0s
DRS Darwin Rock St 33.47 207 P **P** **10 45 46.6 +0.3**
BJT Baijiatuan 33.59 317 P **P** **10 45 50.0 +2.9**
MTN Manton Dam 33.74 206 P **P** **10 45 48.6 -0.1**
MTN Manton Dam 33.74 206 P **P** **10 45 48.7 0.0**
LYN LuoYang 33.79 306 *e*P **P** **10 45 52.1 +3.2**
LYN sP sP 10 47 04.5 -1.8
LYN PcP **PcP** **10 48 21.6 -0.4**
LYN pmax pmax
comp=Z,14nm,0.5s
LYN pmax pmax
comp=Z,130nm,4.3s
QIZ Qiongzhong 33.86 278 P **P** **10 45 50.1 +0.3**
QIZ sP **sP** **10 47 02.8 -4.5**
QIZ sS **sS** **10 52 22.0 -2.3**
QIZ SS **SS** **10 53 31.6 -1.0**
QIZ pmax pmax
comp=Z,36nm,1.2s
QIZ Qiongzhong 33.86 278 P **P** **10 45 49.9 +0.1**
BKB Balikpapan 34.07 239 P **P** **10 45 50.9 -0.6**
BKB Balikpapan 34.07 239 P **P** **10 45 52.6 +1.1**
BKB Balikpapan 34.07 239 P **P** **10 45 52.1 +0.6**
comp=Z,163nm,1.0s
BKSI Bulukumba 34.13 230 P **P** **10 45 52.2 +0.2**
comp=Z,89nm,0.6s,comp=Z,1µm
KAPI Kappang 34.19 231 P **P** **10 45 52.5 -0.1**
KAPI Kappang 34.19 231 P **P** **10 45 53.7 +1.1**
KAPI Kappang 34.19 231 *c* i P **P** **10 45 53.0 +0.4**
KAPI pmax pmax
comp=Z,89nm,0.8s
KAPI Kappang 34.19 231 P **P** **10 45 52.9 +0.4**
KAPI Kappang 34.19 231 P **P** **10 45 53.0 +0.4**
SOEI Soe 34.64 219 P **P** **10 45 54.9 -1.6**
SOEI Soe 34.64 219 P **P** **10 45 57.0 +0.5**
SOEI Soe 34.64 219 P **P** **10 45 54.9 -1.6**
comp=Z,112nm,0.7s,comp=Z,1µm
ENH Enshi 35.00 297 P **P** **10 45 59.8 +0.4**
ENH IAmb IAmb 10 46 01.0
comp=Z,33nm,0.5s
ENH Enshi 35.00 297 P **P** **10 46 01.1 +1.7**
ENH Enshi 35.00 297 P **P** **10 46 00.6 +1.2**
ENH PcP **PcP** **10 48 25.6 0.0**
MMRI Maumere 35.04 223 P **P** **10 45 59.8 0.0**
MMRI IAmb IAmb 10 46 00.2
comp=Z,66nm,0.7s
MMRI Maumere 35.04 223 P **P** **10 45 59.7 -0.2**
comp=Z,111nm,1.0s
HEH HeiHe 35.37 340 *e*P **P** **10 46 01.5 -0.7**
HEH pP **pP** **10 46 51.4 -0.3**
HEH PcP **PcP** **10 48 25.7 -0.6**
HEH ScP **ScP** **10 51 44.6 -3.4**
HEH ScS **ScS** **10 55 50.4 -2.5**
HEH pmax pmax
comp=Z,11nm,1.1s
HEH pmax pmax
comp=Z,97nm,3.6s
EDFI Ende, Flores 35.48 224 P **P** **10 46 02.6 -1.2**
comp=Z,39nm,0.7s
MTKI Muara Teweh, K 35.54 241 P **P** **10 46 04.5 +0.4**
comp=Z,194nm,0.7s,comp=Z,10µm
XLT XiLinHaoTe 35.85 323 *e*P P 10 46 15.9 +9.4
XLT sP sP 10 47 19.9 -4.3
XLT PcP **PcP** **10 48 28.5 +0.5**
XLT pmax pmax
comp=Z,11nm,0.8s
XLT pmax pmax
comp=Z,68nm,3.8s
MTSU Mount Surprise 35.87 182 P **P** **10 46 07.3 +0.5**
SBUM Sibu 36.14 249 P **P** **10 46 10.2 +0.9**
PEA0B Petropavlovsk- 36.35 12 P **P** **10 46 11.2 +0.7**
PEA0B IAmb IAmb 10 47 08.3
comp=Z,57nm,1.3s
PEA0B Petropavlovsk- 36.35 12 P **P** **10 46 11.2 +0.7**
PEA0B pmax pmax
comp=Z,57nm,1.3s
PETK Petropavlovsk- 36.35 12 P **P** **10 46 10.7 +0.1**
PETK Petropavlovsk- 36.35 12 P **P** **10 46 10.7 +0.1**
PETK Petropavlovsk- 36.35 12 P **P** **10 46 09.0 -1.6**
comp=Z,4.5nm,0.8s,baz=193,slow=5.9,SNR=16
comp=Z,4.5nm,0.8s
XAN Xi'an 36.40 303 P **P** **10 46 14.0 +2.7**
XAN PcP **PcP** **10 48 30.3 +0.5**
XAN S **S** **10 51 37.4 +3.5**
XAN ScS **ScS** **10 56 04.0 +4.6**
XAN pmax pmax
comp=Z,7.0nm,0.7s
GYA Guiyang 36.89 290 ⇑ i P **P** **10 46 17.6 +2.0**
GYA pP pP 10 47 05.5 +0.3
GYA S **S** **10 51 45.3 +3.8**
GYA pmax pmax
comp=Z,93nm,0.8s
GYA pmax pmax
comp=Z,210nm,5.0s
TV1H Townsville Har 36.99 178 P **P** **10 46 16.4 +0.2**
HHC Hu-ho-hao-te 37.04 315 *e*P **P** **10 46 18.2 +1.5**
HHC pmax pmax
comp=Z,10.0nm,0.9s
HHC pmax pmax
comp=Z,88nm,4.7s
KNRA Kununurra 37.28 207 P **P** **10 46 19.4 +0.7**
KNRA Kununurra 37.28 207 P **P** **10 46 19.2 +0.5**
BASI Baing, Sumba 37.30 223 P **P** **10 46 16.7 -2.3**
comp=Z,221nm,0.7s,comp=Z,2µm
CTA Charters Tower 37.80 179 P **P** **10 46 23.4 +0.4**
CTA Charters Tower 37.80 179 P **P** **10 46 22.9 -0.1**
comp=Z,26nm,0.6s,baz=3.0,slow=8.3,SNR=42
comp=Z,26nm,0.6s
CTAO Charters Tower 37.80 179 P **P** **10 46 24.1 +1.1**
CTAO IAmb IAmb 10 46 25.4
comp=Z,31nm,0.8s
CTAO Charters Tower 37.80 179 P **P** **10 46 24.2 +1.2**
CTAO Charters Tower 37.80 179 P **P** **10 46 24.1 +1.1**
CTAO pmax pmax
comp=Z,31nm,0.8s
STKI Sintang 37.93 246 P **P** **10 46 24.3 0.0**
comp=Z,133nm,0.9s
BTO Baotou 37.98 314 *e*P **P** **10 46 27.3 +2.8**
BTO pP **pP** **10 47 08.9 -5.6**
BTO PP **PnPn** **10 48 01.0 -0.6**
BTO S **S** **10 52 04.3 +6.7**
BTO pmax pmax
comp=Z,20nm,0.6s
BTO pmax pmax
comp=Z,220nm,4.1s
BTO LR LR
comp=Z,210nm,5.5s
BTO LR LR
comp=Z,220nm,5.1s
BTO LR LR
comp=Z,310nm,6.0s
PLAI Plampang 38.22 228 P **P** **10 46 25.6 -1.0**
PLAI Plampang 38.22 228 P **P** **10 46 25.0 -1.6**
comp=Z,163nm,0.7s,comp=Z,2µm
ZEA Zeya 38.45 343 *e*P **P** **10 46 24.3 -3.7**
ZEA pmax pmax
comp=Z,20nm,0.8s
UBPT Khong Chiam 38.46 272 P **P** **10 46 30.1 +1.4**
UBPT IAmb IAmb 10 46 31.9
comp=Z,83nm,1.4s
UBPT Khong Chiam 38.46 272 P **P** **10 46 31.2 +2.5**
QIS Mount Isa 38.70 189 P **P** **10 46 31.0 +0.5**
TWSI Taliwang, Sumb 38.79 229 P **P** **10 46 30.6 -0.8**
comp=Z,304nm,0.7s,comp=Z,3µm
WB0 Warramunga Arr 39.04 197 P **P** **10 46 33.6 +0.3**
WR0 Warramunga Arr 39.19 197 P **P** **10 46 34.9 +0.4**
WRAB Tennant Creek 39.21 197 P **P** **10 46 35.3 +0.5**
WRAB Tennant Creek 39.21 197 *c* i P **P** **10 46 34.8 0.0**
WRAB pmax pmax
comp=Z,239nm,1.1s
WB2 Warramunga Arr 39.22 197 P **P** **10 46 35.4 +0.5**
WRA Warramunga Arr 39.23 197 P **P** **10 46 35.4 +0.5**
WRA Warramunga Arr 39.23 197 *i* P **P** **10 46 31.6 -3.3**
WRA pmax pmax
comp=Z,99nm,0.8s
WRA Warramunga Arr 39.23 197 P **P** **10 46 34.6 -0.2**
comp=Z,99nm,0.8s,baz=17,slow=9.0,SNR=131
WRA PcP **PcP** **10 48 38.7 0.0**
comp=Z,7.8nm,0.6s,baz=12,slow=3.3,SNR=5.1
WRA ScP **ScP** **10 52 00.7 -2.3**
comp=Z,2.3nm,0.9s,baz=13,slow=4.7,SNR=4.1
WRA S **S** **10 52 12.5 -3.8**
comp=Z,9.2nm,1.0s,baz=20,slow=14,SNR=5.3
SRBI Singaraja 39.59 232 P **P** **10 46 38.1 +0.2**
comp=Z,128nm,0.7s,comp=Z,2µm
KMMI Kalianget 39.87 234 P **P** **10 46 41.8 +1.5**
comp=Z,144nm,0.9s,comp=Z,2µm
CD2 Chengdu 39.97 297 P **P** **10 46 42.2 +1.2**
CD2 pmax pmax
comp=Z,30nm,0.5s
NONG Nongkai 40.28 277 P **P** **10 46 45.2 +1.6**
KMI Kunming 40.34 288 ⇑P **P** **10 46 46.3 +2.0**
KMI pmax pmax
comp=Z,26nm,0.6s
BLJI Banyuglugur 40.59 234 P **P** **10 46 46.7 +0.5**
comp=Z,208nm,0.9s,comp=Z,4µm
JAGI Jajag, Banyuwa 40.63 232 P **P** **10 46 45.5 -1.0**
JAGI IAmb IAmb 10 46 47.0
comp=Z,73nm,0.8s
JAGI Jajag, Banyuwa 40.63 232 P **P** **10 46 45.7 -0.8**
JAGI Jajag, Banyuwa 40.63 232 P **P** **10 46 44.9 -1.6**
comp=Z,111nm,1.0s
FITZ Fitzroy Crossi 40.82 210 P **P** **10 46 48.7 +0.7**
GRJI Gresik 40.95 236 P **P** **10 46 50.0 +0.9**
comp=Z,386nm,0.7s,comp=Z,4µm
LZH Lanzhou 40.97 305 *e*P **P** **10 46 48.3 -0.9**
LZH sP pwP 10 47 54.5 +9.5
LZH S **S** **10 52 45.4 +3.2**
LZH pmax pmax
comp=Z,12nm,1.2s
GMJI Gumukmas 41.04 233 P **P** **10 46 48.3 -1.5**
comp=Z,87nm,0.9s
PZH PanZhiHua 41.29 290 P **P** **10 46 53.4 +1.5**
PZH SS SS 10 55 58.9 -2.6
PZH pmax pmax
comp=Z,100nm,0.7s
PZH pmax pmax
comp=Z,160nm,5.0s
RK1H Rockhampton Ha 41.36 173 P **P** **10 46 52.1 -0.1**
MA2 Magadan 41.75 4 P **P** **10 46 56.0 +1.1**
MA2 Magadan 41.75 4 P **P** **10 46 56.4 +1.4**
MA2 Magadan 41.75 4 *ce*P **P** **10 46 55.3 +0.3**
MA2 pmax pmax
comp=Z,7.0nm,0.6s
MA2 Magadan 41.75 4 P **P** **10 46 55.7 +0.7**
NGJI Ngawi 42.02 236 P **P** **10 46 59.0 +1.2**
comp=Z,84nm,0.9s
PWJI Pagerwojo 42.15 235 P **P** **10 46 58.3 -0.5**
comp=Z,331nm,0.8s,comp=Z,2µm
FUNA Funafuti 42.36 126 P **P** **10 47 00.2 -0.3**
KOUNC Koumac, New Ca 42.43 154 P **P** **10 47 01.4 +0.5**
KOUNC IAmb IAmb 10 47 02.9
comp=Z,99nm,1.1s
KOUNC Koumac, New Ca 42.43 154 P **P** **10 47 01.4 +0.5**
NAYO Nakonayok 42.58 272 P **P** **10 47 04.3 +2.0**
CRAI Chiangrai 42.67 281 P **P** **10 47 04.9 +1.9**
CRAI IAmb IAmb 10 47 05.9
comp=Z,42nm,0.8s
AS01 Alice Springs 42.88 196 P **P** **10 47 05.1 +0.6**
AS31 Alice Springs 42.89 196 P **P** **10 47 05.1 +0.5**
ASAR Alice Springs 42.89 196 P **P** **10 47 05.2 +0.6**
ASAR Alice Springs 42.89 196 P **P** **10 47 05.2 +0.6**
ASAR Alice Springs 42.89 196 P **P** **10 47 04.8 +0.1**
comp=Z,27nm,0.6s,baz=20,slow=9.7,SNR=205
ASAR PcP **PP** **10 48 49.9 -0.1**
comp=Z,8.5nm,0.6s,baz=19,slow=4.1,SNR=6.1
ASAR S **S** **10 53 06.9 -3.4**
comp=Z,5.9nm,0.9s,baz=18,slow=16,SNR=11
comp=Z,27nm,0.6s
PHRA Phrae 42.98 278 P **P** **10 47 06.9 +1.4**
UGM Wanagama 43.09 236 P **P** **10 47 05.8 -0.6**
UGM Wanagama 43.09 236 P **P** **10 47 06.9 +0.5**
UGM Wanagama 43.09 236 P **P** **10 47 06.0 -0.4**
comp=Z,218nm,1.2s
ULN Ulaanbaatar 43.29 322 P **P** **10 47 09.2 +1.5**
ULN Ulaanbaatar 43.29 322 *i* P **P** **10 47 08.1 +0.4**
ULN pmax pmax
comp=Z,13nm,0.8s
ULN Ulaanbaatar 43.29 322 P **P** **10 47 10.4 +2.7**
ULN S **S** **10 53 15.5 -0.3**
ULN Ulaanbaatar 43.29 322 P **P** **10 47 10.0 +2.3**
ULN PcP **PcP** **10 48 51.5 -0.3**
SONM Songino Array 43.66 322 P **P** **10 47 11.4 +0.8**
SONM Songino Array 43.66 322 P **P** **10 47 11.4 +0.8**
SONM pmax pmax
comp=Z,10.0nm,0.6s
SONM Songino Array 43.66 322 P **P** **10 47 10.8 +0.2**
comp=Z,11nm,0.7s,baz=140,slow=6.9,SNR=36
SONM PcP **PcP** **10 48 52.5 -0.5**
comp=Z,8.3nm,1.0s,baz=131,slow=4.4,SNR=5.8
SONM ScP **ScP** **10 52 18.3 -2.2**
comp=Z,2.1nm,0.9s,baz=145,slow=3.6,SNR=4.8
SONM S **S** **10 53 21.6 +0.5**
comp=Z,1.7nm,1.0s,baz=104,slow=6.1,SNR=2.3
comp=Z,11nm,0.7s
KPJI Karang Pucung 44.03 238 P **P** **10 47 13.6 -0.2**
comp=Z,184nm,1.1s,comp=Z,2µm
CHTO Chiang Mai 44.15 279 P **P** **10 47 16.1 +1.2**
CHTO Chiang Mai 44.15 279 P **P** **10 47 16.3 +1.5**
CHTO Chiang Mai 44.15 279 P **P** **10 47 16.1 +1.2**
CHTO pmax pmax
comp=Z,34nm,0.8s
CHTO Chiang Mai 44.15 279 P **P** **10 47 16.3 +1.5**
CHTO S **S** **10 53 32.3 +3.5**
CHTO Chiang Mai 44.15 279 P **P** **10 47 16.0 +1.2**
CHTO PcP **PcP** **10 48 55.7 +0.6**
TNCH TengChong 44.17 288 P **P** **10 47 16.6 +1.5**
TNCH sP sP 10 48 31.3 -3.0
TNCH S **S** **10 53 30.9 +1.7**
TNCH pmax pmax
comp=Z,95nm,0.6s
TNCH pmax pmax
comp=Z,220nm,5.4s
CM31 Chiang Mai Arr 44.20 278 IAmb IAmb 10 47 18.1
comp=Z,98nm,0.9s
CMAR Chiang Mai Arr 44.20 278 P **P** **10 47 17.0 +1.9**
CMAR Chiang Mai Arr 44.20 278 *i* P **P** **10 47 17.1 +1.9**
CMAR pmax pmax
comp=Z,77nm,0.8s
CMAR Chiang Mai Arr 44.20 278 P **P** **10 47 16.1 +1.0**
comp=Z,74nm,0.8s,baz=70,slow=6.6,SNR=308
CMAR PcP **PcP** **10 48 55.7 +0.4**
comp=Z,5.9nm,0.9s,baz=79,slow=1.8,SNR=4.6
CMAR ScP **ScP** **10 52 22.2 -0.9**
comp=Z,1.6nm,0.8s,baz=108,slow=5.4,SNR=5.3
comp=Z,74nm,0.8s
DSRI Dabo 44.27 250 P **P** **10 47 16.1 +0.3**
comp=Z,51nm,0.7s
QLP Quilpie 44.27 182 P **P** **10 47 15.1 -0.4**
SRDT SRDT 44.67 272 P **P** **10 47 21.0 +2.1**
NOUC Port Laguerre 44.67 152 P **P** **10 47 20.3 +1.6**
NOUC Port Laguerre 44.67 152 P **P** **10 47 19.5 +0.8**
CMJI Cimerak 44.68 238 P **P** **10 47 16.1 -2.9**
comp=Z,66nm,0.6s
DZM Mont Dzumac 44.71 152 P **P** **10 47 20.4 +1.3**
DZM IAmb IAmb 10 47 21.1
comp=Z,93nm,0.7s
DZM Mont Dzumac 44.71 152 P **P** **10 47 20.6 +1.5**
DZM Mont Dzumac 44.71 152 P **P** **10 47 20.2 +1.0**
comp=Z,88nm,0.7s,baz=348,slow=7.3,SNR=25
DZM PcP **PcP** **10 48 57.9 +1.0**
comp=Z,18nm,0.8s,baz=47,slow=9.8,SNR=3.6
comp=Z,88nm,0.7s
DZM Mont Dzumac 44.71 152 P **P** **10 47 20.0 +0.9**
DZM PcP **PcP** **10 48 58.4 +1.5**
LEM Lembang 44.82 240 P **P** **10 47 20.1 -0.2**
comp=Z,94nm,0.7s,comp=Z,2µm
GTA Gaotai 44.91 308 *e*P **P** **10 47 24.0 +3.3**
GTA PcP **PcP** **10 48 57.2 -0.4**
GTA ScP **ScP** **10 52 24.3 -1.5**
GTA S **S** **10 53 41.6 +2.2**
GTA ScS **ScS** **10 56 49.7 -1.1**
GTA pmax pmax
comp=Z,3.0nm,0.6s
GTA LR LR
comp=Z,130nm,14.9s
GTA LR LR
comp=Z,130nm,14.2s
GTA LR LR
comp=Z,110nm,16.0s
SKLT Songkhla 45.04 262 P **P** **10 47 23.8 +1.9**
BBJI Bungbulang 45.15 239 P **P** **10 47 21.3 -1.4**
OUENC Ouen Island, N 45.19 152 P **P** **10 47 23.5 +0.7**
OUENC Ouen Island, N 45.19 152 P **P** **10 47 23.7 +0.9**
SEY Seymchan 45.20 4 *i* P **P** **10 47 22.5 +0.2**
SEY pmax pmax
comp=Z,18nm,3.7s
PMBI Palembang 45.23 247 P **P** **10 47 23.3 0.0**
DBJI Dramaga 45.39 241 P **P** **10 47 23.9 -0.7**
SURA Surathani 45.40 265 P **P** **10 47 27.4 +2.8**
YAK Yakutsk 45.44 350 P **P** **10 47 23.6 -0.7**
YAK IAmb IAmb 10 47 27.2
comp=Z,41nm,0.6s
YAK Yakutsk 45.44 350 *e*P **P** **10 47 23.4 -0.8**
YAK *e**PP **pwP** **10 48 21.4 +1.2**
YAK *e* 10 48 57.0
YAK *e* 10 49 09.3
YAK *e*PPP PPP 10 50 03.4
YAK *e* 10 56 47.3
YAK *e*SS SS 10 57 03.0 -10
YAK pmax pmax
comp=Z,27nm,0.8s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK pmax pmax
comp=Z,11nm,0.6s
YAK pmax pmax
comp=N,10.0nm,1.1s
IPM Ipoh 45.55 258 P **P** **10 47 27.3 +1.4**
IPM IAmb IAmb 10 47 28.6
comp=Z,100nm,1.3s
IPM Ipoh 45.55 258 P **P** **10 47 27.5 +1.6**
SRIT Nakonsritamara 45.58 264 P **P** **10 47 28.3 +2.2**
SRIT IAmb IAmb 10 47 29.6
comp=Z,104nm,1.1s
SRIT Nakonsritamara 45.58 264 P **P** **10 47 28.8 +2.7**
KULM Kulim 45.62 260 P **P** **10 47 28.5 +2.1**
KULM IAmb IAmb 10 47 29.1
comp=Z,73nm,0.7s
PINNC Pines Island, 45.63 151 P **P** **10 47 27.3 +1.0**
INKA Innaminka 45.65 186 P **P** **10 47 26.7 +0.4**
WRKA Warakurna 45.91 202 P **P** **10 47 29.3 +0.9**
MBWA Marble Bar 46.38 214 P **P** **10 47 32.3 +0.2**
MBWA IAmb IAmb 10 47 33.2
comp=Z,75nm,0.8s
MBWA Marble Bar 46.38 214 P **P** **10 47 32.6 +0.5**
MBWA Marble Bar 46.38 214 P **P** **10 47 32.5 +0.4**
MBWA Marble Bar 46.38 214 P **P** **10 47 32.2 +0.2**
MBWA PcP **PcP** **10 49 02.2 -0.5**
OOD Oodnadatta 46.46 192 P **P** **10 47 33.2 +0.6**
MND Mandalay 46.49 284 P **P** **10 47 34.9 +1.8**
PSA00 Pilbara Seismi 46.65 214 P **P** **10 47 34.6 +0.4**
PSA00 IAmb IAmb 10 47 35.6
comp=Z,121nm,1.1s
PSA00 Pilbara Seismi 46.65 214 P **P** **10 47 34.0 -0.2**
PSA00 IAmb IAmb 10 47 35.6
comp=Z,70nm,1.2s
PSA00 Pilbara Seismi 46.65 214 P **P** **10 47 34.9 +0.7**
ZAK Zakamensk 46.68 324 *e*P **P** **10 47 34.1 -0.1**
ZAK pmax pmax
comp=Z,6.0nm,0.9s
KASI Kota Agung 46.75 244 P **P** **10 47 33.6 -1.5**
comp=Z,259nm,0.9s,comp=Z,2µm
LWLI Liwa 46.87 245 P **P** **10 47 35.5 -0.7**
comp=Z,304nm,0.8s
BKNI Bangkinang 47.12 253 P **P** **10 47 38.8 +0.8**
BKNI IAmb IAmb 10 47 39.6
comp=Z,64nm,0.8s
AULRC Lightning Ridg 47.15 177 P **P** **10 47 37.6 -0.3**
MNAI Manna 47.50 246 P **P** **10 47 39.7 -1.3**
comp=Z,152nm,1.2s
MSVF Nonsavu 47.73 136 P **P** **10 47 43.5 +0.8**
MSVF Nonsavu 47.73 136 P **P** **10 47 43.8 +1.2**
MSVF Nonsavu 47.73 136 *i* P **P** **10 47 44.2 +1.6**
MSVF pmax pmax
comp=Z,53nm,1.0s
MSVF Nonsavu 47.73 136 P **P** **10 47 44.6 +2.0**
DGTI Dogotuki 47.86 133 P **P** **10 47 45.2 +1.6**
PSI Prapat 48.11 257 P **P** **10 47 47.7 +1.9**
PSI Prapat 48.11 257 P **P** **10 47 47.0 +1.2**
PSI pmax pmax
comp=Z,65nm,1.0s
GOMU GeErMu 48.15 303 P **P** **10 47 48.4 +2.3**
GOMU PcP **PcP** **10 49 10.8 +1.4**
GOMU pmax pmax
comp=Z,8.0nm,0.5s
RPSI Rantau Prapat 48.15 257 P **P** **10 47 47.0 +1.1**
RPSI IAmb IAmb 10 47 48.4
comp=Z,65nm,1.0s
PDSI Padang 48.16 252 P **P** **10 47 45.4 -0.6**
comp=Z,59nm,0.8s
TAVE Taveuni 48.39 133 P **P** **10 47 48.5 +0.9**
XMI Christmas Isla 48.44 237 P **P** **10 47 47.8 -0.2**
XMIS Christmas Isla 48.48 237 P **P** **10 47 47.5 -1.0**
XMIS Christmas Isla 48.48 237 P **P** **10 47 47.4 -1.0**
MOY Mondy 48.56 324 *e*P **P** **10 47 48.7 +0.1**
LCRK Leigh Creek 48.62 188 P **P** **10 47 49.6 +0.5**
KCSI Kotacane, Aceh 48.92 259 P **P** **10 47 52.4 +0.6**
comp=Z,148nm,1.0s,comp=Z,2µm
AUPHS Peel High Scho 49.02 174 P **P** **10 47 52.7 +0.5**
LHMI Lhok Sumawe 49.12 261 P **P** **10 47 54.7 +1.4**
LHMI Lhok Sumawe 49.12 261 P **P** **10 47 55.4 +2.1**
comp=Z,265nm,0.8s,comp=Z,3µm

CMSA **Cobar Meteorol** 49.19 180 P P 10 47 53.1 -0.3
MULG **Mulgathing** 49.21 193 P P 10 47 53.8 +0.2
PPSI **Pulau Pagai** 49.37 250 P P 10 47 54.1 -1.0
comp=Z,256nm,0.7s,comp=Z,2µm
SISI **Saibi** 49.58 252 P P 10 47 56.4 -0.3
comp=Z,286nm,0.6s,comp=Z,3µm
STKA **Stephens Creek** 49.68 184 P P 10 47 56.7 -0.4
STKA **Stephens Creek** 49.68 184 P P 10 47 56.5 -0.6
STKA **Stephens Creek** 49.68 184*c i*P P 10 47 56.5 -0.6
STKA **Stephens Creek** 49.68 184 P P 10 47 56.9 -0.2
comp=Z,18nm,0.6s,baz=356,slow=8.1,SNR=52
comp=Z,18nm,0.6s
PBSI **Pulau Batu** 49.80 254 P P 10 47 58.3 -0.1
comp=Z,82nm,0.8s
GSI **Gunungsitoli** 49.92 256 P P 10 48 00.3 +1.0
GSI **Gunungsitoli** 49.92 256 P P 10 48 00.3 +1.0
GSI **Gunungsitoli** 49.92 256 P P 10 48 00.0 +0.7
comp=Z,225nm,0.5s,comp=Z,9µm
AUDCS **Dubbo College** 49.97 177 P P 10 47 59.7 +0.4
GIRL **Giralia** 50.65 218 P P 10 48 04.8 +0.3
SNSI **Sinabang, Aceh** 50.67 258 P P 10 48 06.6 +1.7
comp=Z,239nm,1.0s
LSA **Lhasa** 50.73 294 P P 10 48 08.0 +2.2
LSA **Lhasa** 50.73 294 P P 10 48 08.0 +2.2
LSA pmax pmax
comp=Z,63nm,1.5s
LSA **Lhasa** 50.73 294 P P 10 48 08.4 +2.7
LSA S S 10 55 05.6 +3.5
SPIA **Saint Paul Isl** 51.06 29 P P 10 48 08.1 +1.1
baz=239
BBOO **Buckleboo** 51.27 190 P P 10 48 09.1 +0.1
BBOO IAmb IAmb 10 48 10.0
comp=Z,73nm,1.3s
BBOO **Buckleboo** 51.27 190 P P 10 48 09.1 +0.1
FORT **Forrest** 51.28 199 P P 10 48 09.5 +0.5
FORT **Forrest** 51.28 199 P P 10 48 09.7 +0.6
UNV **Unalaska Valle** 51.35 34 P P 10 48 10.6 +1.3
baz=245
MEEK **Meekatharra** 51.46 211 P P 10 48 10.5 0.0
HTT **Hallett** 51.47 187 P P 10 48 11.1 +0.6
HTT **Hallett** 51.47 187 P P 10 48 10.7 +0.2
BILL **Bilibino** 51.78 10 P P 10 48 13.3 +1.0
BILL **Bilibino** 51.78 10‖*eP* P 10 48 13.4 +1.0
BILL pmax pmax
comp=Z,28nm,1.2s
BILL **Bilibino** 51.78 10 P P 10 48 13.3 +1.0
BILL pP **pwP** 10 49 08.6 -0.4
YNG **Young** 52.02 177 P P 10 48 14.8 +0.3
CAN **Canberra** 53.07 176 P P 10 48 22.7 +0.6
CAN **Canberra** 53.07 176 P P 10 48 22.7 +0.6
CAN **Canberra** 53.07 176 P P 10 48 22.7 +0.6
CAN pmax pmax
comp=Z,44nm,1.3s
CAN **Canberra** 53.07 176 P P 10 48 22.6 +0.5
FALS **False Pass** 53.41 34 P P 10 48 25.8 +1.4
baz=247
KMBL **Kambalda** 54.04 205 P P 10 48 29.1 -0.2
M11K **Mekoryuk** 54.50 27 P P 10 48 34.0 +1.9
baz=241
ARPS **Mount Arapiles** 54.53 184 P P 10 48 33.1 +0.5
TIXI **Tiksi** 54.60 354 P P 10 48 32.4 -0.3
TIXI **Tiksi** 54.60 354 *i* P P 10 48 31.5 -1.2
TIXI pmax pmax
comp=Z,4.0nm,0.7s
TIXI **Tiksi** 54.60 354 P P 10 48 32.0 -0.7
TIXI pP **pP** 10 49 27.6 +0.9
TIXI PcP **PcP** 10 49 34.0 +1.7
WMQ **Urumqi** 54.71 311 *eP* P 10 48 37.1 +3.0
WMQ pmax pmax
comp=Z,21nm,0.7s
MORW **Morawa** 54.75 212 P P 10 48 34.7 +0.3
MORW **Morawa** 54.75 212 P P 10 48 34.6 +0.3
SDPT **Sand Point** 55.17 34 P P 10 48 38.0 +1.0
SDPT **Sand Point** 55.17 34 P P 10 48 39.4 +2.4
SDPT **Sand Point** 55.17 34 P P 10 48 38.2 +1.2
baz=250,SNR=6.2
BRAT **Ballarat** 55.21 182 P P 10 48 38.1 +0.6
TOO **Toolangi** 55.21 180 P P 10 48 38.2 +0.6
TOO **Toolangi** 55.21 180 P P 10 48 38.1 +0.6
TOO **Toolangi** 55.21 180 P P 10 48 38.2 +0.6
TOO pmax pmax
comp=Z,18nm,0.8s
CNBA **Chernabura Isl** 55.47 35 P P 10 48 40.5 +1.3
CNBA IAmb IAmb 10 50 05.2
comp=Z,119nm,1.5s
CHNA **Chernabura Isl** 55.47 35 P P 10 48 40.7 +1.5
baz=251
BLDU **Ballidu** 55.69 210 P P 10 48 41.2 +0.2
M13K **Dall Lake** 55.77 28 IAmb IAmb 10 48 44.6
comp=Z,48nm,0.8s
M13K **Dall Lake** 55.77 28 P P 10 48 43.6 +2.5
baz=244
DGZ **Jazzator, Alta** 56.00 318 *i* P P P 10 48 43.5 +0.2
DGZ pmax pmax
comp=Z,13nm,0.7s
KLBR **Kellerberrin** 56.02 209 P P 10 48 43.5 +0.2
O14K **Tigyukauivet M** 56.23 30 P P 10 48 46.3 +1.8
baz=246
N14K **Kuskokwak Cree** 56.31 29 P P 10 48 46.9 +2.0
baz=246
L14K **Kuka Creek** 56.47 27 IAmb IAmb 10 48 49.1
comp=Z,52nm,1.3s
L14K **Kuka Creek** 56.47 27 P P 10 48 48.2 +2.1
baz=244,SNR=7.3
M14K **Bethel** 56.53 28 IAmb IAmb 10 48 49.7
comp=Z,46nm,0.9s
M14K **Bethel** 56.53 28 P P 10 48 48.7 +2.2
baz=245,SNR=9.4
TNA **Tin City** 56.57 21 P P 10 48 48.2 +1.5
baz=236
CHGN **Chignik** 56.58 34 IAmb IAmb 10 48 48.6
comp=Z,63nm,1.2s
CHGN **Chignik** 56.58 34 P P 10 48 47.8 +0.8
baz=251
COCO **West Island** 56.65 242 P P 10 48 49.2 +1.1
COCO **West Island** 56.65 242 P P 10 48 49.2 +1.1
COCO pmax pmax
comp=Z,112nm,0.8s
J14K **Nanvaranak Lak** 56.75 25 P P 10 48 50.1 +2.0
J14K **Nanvaranak Lak** 56.75 25 P P 10 48 50.0 +2.0
baz=242
O15K **Ungalikthiuk R** 56.88 30 P P 10 48 51.0 +1.9
baz=248
ANM **Nome** 56.94 23 P P 10 48 51.2 +1.8
ANM **Nome** 56.94 23 P P 10 48 51.2 +1.8
ANM pmax pmax
comp=Z,16nm,0.9s
ANM **Nome** 56.94 23 P P 10 48 51.3 +1.9
baz=239,SNR=9.4
MUN **Mundaring** 57.06 210 P P 10 48 51.2 +0.6
MUN **Mundaring** 57.06 210 P P 10 48 50.8 +0.2
F14K **Arctic Creek** 57.08 22 P P 10 48 52.2 +1.9
baz=238
M15K **Kasigluk River** 57.08 28 P P 10 48 51.8 +1.4
baz=246
L15K **Ungalak Mounta** 57.14 27 P P 10 48 52.2 +1.4
baz=245,SNR=6.7
N15K **Kwethluk River** 57.14 29 IAmb IAmb 10 48 53.8
comp=Z,51nm,0.8s
N15K **Kwethluk River** 57.14 29 P P 10 48 52.9 +2.0
baz=247,SNR=11
ZSN **Zaisan** 57.24 315 *eP* P 10 48 52.4 +0.6
ZSN **Zaisan** 57.24 315 *eP* P 10 48 52.4 +0.6
baz=315
NWAO **Narrogin (SRO)** 57.38 208 P P 10 48 53.0 +0.2
NWAO **Narrogin (SRO)** 57.38 208 P P 10 48 53.4 +0.6
NWAO **Narrogin (SRO)** 57.38 208 P P 10 48 53.0 +0.2
NWAO pmax pmax
comp=Z,133nm,0.8s
NWAO **Narrogin (SRO)** 57.38 208 P P 10 48 53.1 +0.2
NWAO **Narrogin (SRO)** 57.38 208 ⇑P P 10 48 53.1 +0.2
NWAO PcP **PcP** 10 49 44.5 +0.8
K15K **Wolf Creek Mou** 57.38 26 IAmb IAmb 10 48 55.5
comp=Z,46nm,1.1s
K15K **Wolf Creek Mou** 57.38 26 P P 10 48 54.5 +2.0
baz=244,SNR=9.0
G15K **Niukluk** 57.65 23 P P 10 48 55.8 +1.5
baz=240,SNR=8.8
P16K **Nushagak River** 57.72 31 P P 10 48 57.0 +2.2
baz=250,SNR=13
F15K **North Star Dit** 57.79 22 P P 10 48 57.0 +1.7
baz=239
O16K **Kokwok River B** 57.86 30 IAmb IAmb 10 48 58.5
comp=Z,32nm,0.9s
O16K **Kokwok River B** 57.86 30 P P 10 48 57.7 +1.8
baz=249,SNR=10
N16K **Nishlik Lake** 57.87 29 P P 10 48 58.1 +2.2
baz=248,SNR=10.0
CHIR **Chirikof Islan** 57.93 35 P P 10 48 58.0 +1.6
baz=254
M16K **Timber Creek** 57.99 28 P P 10 48 58.5 +1.8
baz=248,SNR=5.5
L16K **Owhat River** 58.02 27 IAmb IAmb 10 48 59.3
comp=Z,44nm,1.4s
L16K **Owhat River** 58.02 27 P P 10 48 58.4 +1.5
baz=247,SNR=9.4
H16K **Elim** 58.16 24 P P 10 48 59.0 +1.2
baz=242,SNR=17
J16K **Anvik River** 58.20 25 IAmb IAmb 10 49 01.2
comp=Z,24nm,0.7s
J16K **Anvik River** 58.20 25 P P 10 49 00.2 +2.1
baz=245,SNR=16
Q16K **King Salmon** 58.25 31 P P 10 48 58.9 +0.4
baz=251
O17K **Koliganek Bris** 58.40 30 P P 10 49 01.4 +1.8
baz=250,SNR=23
I17K **Unalakleet** 58.42 25 IAmb IAmb 10 49 02.7
comp=Z,33nm,0.8s
I17K **Unalakleet** 58.42 25 P P 10 49 01.8 +2.1
baz=244,SNR=17
G16K **Koyuk River** 58.47 23 P P 10 49 01.3 +1.3
baz=242
Q17K **Contact Creek** 58.51 32 P P 10 49 00.7 +0.2
baz=252,SNR=6.3
P17K **Kvichak River** 58.52 31 P P 10 49 01.0 +0.6
baz=251
ZAA0 **Zalesovo Array** 58.54 323 P P 10 49 00.5 -0.1
ZALV **Zalesovo Beam** 58.54 323 P P 10 49 00.2 -0.4
ZALV **Zalesovo Beam** 58.54 323 *i* P P 10 49 01.0 +0.4
ZALV pmax pmax
comp=Z,6.0nm,0.5s
ZALV **Zalesovo Beam** 58.54 323 P P 10 48 59.9 -0.8
comp=Z,5.5nm,0.5s,baz=101,slow=7.5,SNR=23
ZALV PcP **PcP** 10 49 46.9 -1.3
comp=Z,4.2nm,0.7s,baz=104,slow=5.4,SNR=4.6
ZALV pP **pP** 10 49 56.0 +0.9
comp=Z,2.2nm,0.5s,baz=114,slow=5.6,SNR=1.5
ZALV ScP **ScP** 10 53 22.1 -2.1
comp=Z,0.7nm,0.4s,baz=120,slow=5.7,SNR=1.6
ZALV S **S** 10 56 44.0 -0.1
ZALV PKPPKP P'P'df 11 18 31.7 -7.9
comp=Z,3.9nm,0.9s,baz=113,slow=11,SNR=8.8
comp=Z,0.9nm,0.3s,baz=328,slow=5.1,SNR=6.3
comp=Z,5.5nm,0.5s
N17K **Nushagak Hills** 58.62 29 P P 10 49 03.5 +2.4
N17K IAmb IAmb 10 49 04.2
comp=Z,32nm,0.7s
N17K **Nushagak Hills** 58.62 29 P P 10 49 03.4 +2.3
baz=250,SNR=17
L17K **Donlin** 58.70 27 P P 10 49 03.8 +2.2
baz=248
M17K **Holitna River** 58.81 28 P P 10 49 04.1 +1.7
M17K IAmb IAmb 10 49 05.7
comp=Z,33nm,0.9s
M17K **Holitna River** 58.81 28 P P 10 49 04.7 +2.3
baz=249,SNR=9.5
J17K **VABM Dome** 58.87 26 P P 10 49 05.0 +2.2
baz=246
MK31 **Makanchi Array** 58.90 314 P P 10 49 04.0 +0.7
MK31 **Makanchi Array** 58.90 314 *i* P P 10 49 03.0 -0.3
MK31 pmax pmax
comp=Z,7.0nm,0.5s
MKAR **Makanchi Array** 58.90 314 P P 10 49 03.7 +0.4
MKAR **Makanchi Array** 58.90 314 P P 10 49 03.7 +0.4
MKAR **Makanchi Array** 58.90 314 P P 10 49 02.8 -0.5
comp=Z,8.7nm,0.5s,baz=89,slow=8.6,SNR=89
MKAR PcP **PcP** 10 49 49.2 -0.6
comp=Z,5.4nm,0.7s,baz=102,slow=5.2,SNR=8.0
MKAR pP **pP** 10 49 59.3 +1.5
comp=Z,1.5nm,0.6s,baz=89,slow=10,SNR=1.2
MKAR ScP **ScP** 10 53 24.5 -1.5
comp=Z,1.5nm,0.8s,baz=74,slow=5.1,SNR=3.9
MKAR S **S** 10 56 50.1 +1.1
comp=Z,0.6nm,0.8s,baz=79,slow=20,SNR=5.9
MKAR PKP2bc 11 18 46.5
comp=Z,0.7nm,0.9s,baz=321,slow=2.0,SNR=4.4
comp=Z,8.7nm,0.5s
SII **Sitkinak Islan** 58.90 34 P P 10 49 05.5 +2.4
SII **Sitkinak Islan** 58.90 34 P P 10 49 05.1 +1.9
baz=255,SNR=11
RKGY **Rocky Gully** 58.91 207 P P 10 49 04.4 +1.0
C16K **Lisburne Hills** 58.92 19 P P 10 49 04.2 +1.2
baz=237
K17K **Iditarod** 58.92 27 IAmb IAmb 10 49 06.4
comp=Z,45nm,0.8s
K17K **Iditarod** 58.92 27 P P 10 49 05.3 +2.2
baz=247
MAKZ **Makanchi** 59.11 314 P P 10 49 05.3 +0.5
MAKZ **Makanchi** 59.11 314 P P 10 49 05.3 +0.5
MAKZ pmax pmax
comp=Z,17nm,0.6s
MAKZ **Makanchi** 59.11 314 P P 10 49 05.0 +0.3
G17K **Kiwalik Mounta** 59.15 23 P P 10 49 06.5 +1.8
baz=244
P18K **Big Mountain,** 59.18 31 P P 10 49 06.5 +1.5
baz=252,SNR=5.2
H17K **Granite Mounta** 59.18 24 P P 10 49 06.8 +1.9
H17K IAmb IAmb 10 49 07.7
comp=Z,38nm,0.8s
H17K **Granite Mounta** 59.18 24 P P 10 49 06.8 +1.9
baz=243,SNR=37
N18K **Kilae Creek** 59.27 29 P P 10 49 07.7 +2.1
baz=251,SNR=12
O18K **Koktuh Hills** 59.33 30 P P 10 49 07.9 +1.9
baz=252,SNR=20
D17K **Noatak River** 59.34 20 P P 10 49 07.6 +1.7
baz=240,SNR=29
F17K **Baldwin Pennin** 59.36 22 IAmb IAmb 10 49 08.7
comp=Z,52nm,0.7s
F17K **Baldwin Pennin** 59.36 22 P P 10 49 08.0 +1.9
baz=242,SNR=37
L18K **Granite Mounta** 59.44 27 IAmb IAmb 10 49 09.8
comp=Z,40nm,1.3s
L18K **Granite Mounta** 59.44 27 P P 10 49 08.9 +2.2
baz=249
SVW2 **Sparrevohn** 59.55 29 IAmb IAmb 10 49 09.9
comp=Z,19nm,0.6s
SVW2 **Sparrevohn** 59.55 29 P P 10 49 09.4 +1.9
OHAK **Old Harbor** 59.55 34 IAmb IAmb 10 49 10.4
comp=Z,30nm,0.8s
OHAK **Old Harbor** 59.55 34 P P 10 49 09.6 +2.1
OHAK **Old Harbor** 59.55 34 P P 10 49 09.1 +1.6
baz=255,SNR=7.3
M18K **Stony River** 59.57 28 P P 10 49 09.7 +2.1
baz=250,SNR=13
C17K **DeLong Mountai** 59.71 19 P P 10 49 10.1 +1.7
baz=239
Q19K **Cape Douglas,** 59.82 32 IAmb IAmb 10 49 10.4
comp=Z,31nm,0.6s
Q19K **Cape Douglas,** 59.82 32 P P 10 49 09.7 +0.3
baz=254
O19K **Port Alsworth** 59.86 30 IAmb IAmb 10 49 12.1
comp=Z,46nm,0.7s
O19K **Port Alsworth** 59.86 30 P P 10 49 11.2 +1.7
baz=253,SNR=26
H18K **Honhosa River** 59.87 24 IAmb IAmb 10 49 11.8
comp=Z,37nm,0.6s
H18K **Honhosa River** 59.87 24 P P 10 49 11.0 +1.5
baz=246
J18K **Innoko River** 59.88 26 P P 10 49 11.2 +1.5
baz=248,SNR=7.1
N19K **Bonanza Creek** 59.97 29 IAmb IAmb 10 49 13.4
comp=Z,42nm,0.8s
N19K **Bonanza Creek** 59.97 29 P P 10 49 12.7 +2.3
baz=252
TTA **Tatalina** 59.98 27 P P 10 49 12.8 +2.3
TTA **Tatalina** 59.98 27 P P 10 49 12.0 +1.6
baz=250,SNR=14
F18K **Selawik** 60.01 22 P P 10 49 11.8 +1.4
baz=244,SNR=11
E18K **Tukpahlearik C** 60.04 21 IAmb IAmb 10 49 13.5
comp=Z,43nm,0.7s
E18K **Tukpahlearik C** 60.04 21 P P 10 49 12.5 +1.8
baz=242,SNR=50
KDAK **Kodiak Island** 60.06 33 P P 10 49 12.5 +1.5
KDAK IAmb IAmb 10 49 15.5
comp=Z,129nm,1.7s
KDAK **Kodiak Island** 60.06 33 P P 10 49 12.5 +1.5
KDAK pmax pmax
comp=Z,129nm,1.7s
KDAK **Kodiak Island** 60.06 33 P P 10 49 12.5 +1.5
baz=256
KDAK **Kodiak Island** 60.06 33 P P 10 49 12.4 +1.5
KDAK pP **pwP** 10 50 10.2 -0.3
G18K **Tagagawik** 60.07 23 IAmb IAmb 10 49 13.2
comp=Z,46nm,1.0s
G18K **Tagagawik** 60.07 23 P P 10 49 12.3 +1.4
baz=245
P19K **Oil Pt** 60.23 31 P P 10 49 13.1 +1.0
baz=254,SNR=9.8
L19K **White Mountain** 60.23 28 P P 10 49 13.7 +1.6
baz=251
GCSA **Galena City Sc** 60.29 25 P P 10 49 13.4 +1.1
baz=248
M19K **Big River Lodg** 60.35 28 P P 10 49 14.8 +1.9
baz=252,SNR=8.6
Q20K **Shuyak Island** 60.37 32 P P 10 49 14.2 +1.2
baz=255,SNR=6.8
SYI **Shuyak Island** 60.37 32 IAmb IAmb 10 49 14.9
comp=Z,53nm,0.7s
H01W1 **Cape Leeuwin H** 60.43 210 P P 10 49 15.1 +1.7
baz=58,slow=8.5,SNR=4.9
H01W3 **Cape Leeuwin H** 60.43 210 P P 10 49 15.3 +1.9
baz=58,slow=8.5,SNR=4.5
C18K **Utukok River** 60.43 20 IAmb IAmb 10 49 15.3
comp=Z,32nm,0.7s
C18K **Utukok River** 60.43 20 P P 10 49 14.8 +1.5
baz=241
H01W2 **Cape Leeuwin H** 60.44 210 P P 10 49 16.4 +2.9
baz=58,slow=8.5,SNR=4.2
J19K **Poorman** 60.52 26 IAmb IAmb 10 49 16.6
comp=Z,29nm,0.7s
J19K **Poorman** 60.52 26 P P 10 49 15.7 +1.7
baz=249
TAU **Tasmania Unive** 60.57 179 P P 10 49 14.8 +0.3
TAU IAmb IAmb 10 50 29.3
comp=Z,79nm,1.6s
TAU **Tasmania Unive** 60.57 179 P P 10 49 14.8 +0.3
TAU pmax pmax
comp=Z,79nm,1.6s
TAU **Tasmania Unive** 60.57 179 P P 10 49 14.3 -0.2
B18K **Kokolik River** 60.59 19 P P 10 49 16.2 +1.8
baz=240
PDGK **Podgornoye** 60.59 310 P P 10 49 14.7 -0.3
SHLS **Shalkode** 60.60 310 *eP* P 10 49 12.9 -2.2
SHLS **Shalkode** 60.60 310 *eP* P 10 49 12.9 -2.2
baz=310
O20K **Slope Mountain** 60.64 30 P P 10 49 15.6 +0.6
baz=254
SEM **Semipalatinsk** 60.68 318 *eP* P 10 49 14.6 -1.0
SEM **Semipalatinsk** 60.68 318 *eP* P 10 49 14.7 -1.0
baz=318
G19K **Purcell Mounta** 60.75 23 IAmb IAmb 10 49 17.9
comp=Z,52nm,0.8s
G19K **Purcell Mounta** 60.75 23 P P 10 49 17.1 +1.6
baz=247,SNR=59
H19K **Roundabout Mou** 60.76 24 P P 10 49 17.3 +1.8
baz=248
L20K **Farewell, AK** 60.76 28 P P 10 49 17.5 +1.9
baz=252,SNR=10
F19K **Shaleruckik Mo** 60.78 22 P P 10 49 16.9 +1.2
F19K **Shaleruckik Mo** 60.78 22 P P 10 49 16.7 +1.1
baz=246
M20K **Styx River** 60.91 28 P P 10 49 18.8 +2.0
baz=253
UZB **Uzunbulak** 60.92 310 *eP* P 10 49 17.6 +0.4
UZB **Uzunbulak** 60.92 310 *eP* P 10 49 17.7 +0.4
baz=310
K20K **Telida** 60.96 27 IAmb IAmb 10 49 20.0
comp=Z,35nm,0.8s
K20K **Telida** 60.96 27 P P 10 49 19.1 +2.2
baz=251,SNR=28
HOM **Homer** 61.01 31 P P 10 49 18.5 +1.2
HOM **Homer** 61.01 31 P P 10 49 18.1 +0.8
baz=256
N20K **Mount Spurr** 61.14 29 P P 10 49 19.4 +1.1
baz=254,SNR=5.6
C19K **Lookout Ridge** 61.16 20 IAmb IAmb 10 49 21.0
comp=Z,57nm,0.9s
C19K **Lookout Ridge** 61.16 20 P P 10 49 20.1 +1.9
baz=243,SNR=55
J20K **Nowinta River** 61.19 26 IAmb IAmb 10 49 21.6
comp=Z,35nm,0.8s
J20K **Nowinta River** 61.19 26 P P 10 49 20.7 +2.2
baz=251,SNR=46
E19K **Redstone River** 61.23 22 IAmb IAmb 10 49 21.8
comp=Z,34nm,0.8s
E19K **Redstone River** 61.23 22 P P 10 49 20.4 +1.7
baz=246
I20K **Naaghedeneel** 61.27 25 P P 10 49 21.1 +2.1
baz=250
H20K **Anotleneega Mo** 61.35 24 P P 10 49 21.3 +1.8
baz=249
PRZ **Przheval'sk** 61.36 309 IAmb IAmb 10 49 23.7
comp=Z,32nm,0.6s
D19K **Kuna River** 61.37 20 IAmb IAmb 10 49 22.0
comp=Z,34nm,0.8s
D19K **Kuna River** 61.37 20 P P 10 49 21.1 +1.5
baz=244,SNR=31
SATY **Saty** 61.37 310 *eP* P 10 49 20.6 +0.4
SATY **Saty** 61.37 310 *eP* P 10 49 20.6 +0.4
baz=310
BRLK **Bradley Lake** 61.40 31 IAmb IAmb 10 49 21.3
comp=Z,42nm,0.6s
TDK **Taldyqorghan** 61.45 312 *eP* P 10 49 20.8 +0.2
TDK **Taldyqorghan** 61.45 312 *eP* P 10 49 20.9 +0.2
baz=312
BRSE **Bradley Lake S** 61.47 31 P P 10 49 21.2 +0.8
baz=256,SNR=10
CAPN **Captain Cook N** 61.52 30 P P 10 49 21.7 +1.0
baz=255
F20K **Avaraart Lake** 61.61 22 P P 10 49 22.9 +1.8
baz=248
PPLA **Purkeypile** 61.63 27 P P 10 49 23.2 +1.6
baz=253,SNR=9.8
SKT **Skwentna** 61.66 29 IAmb IAmb 10 49 23.2
comp=Z,39nm,1.0s
SKT **Skwentna** 61.66 29 P P 10 49 22.4 +0.7
baz=254,SNR=20
KURK **Kurchatov** 61.75 318 P P 10 49 22.7 +0.3
KURK IAmb IAmb 10 49 23.7
comp=Z,46nm,1.1s
KURK **Kurchatov** 61.75 318*ceP* P 10 49 22.3 -0.1
KURK pmax pmax
comp=Z,44nm,1.3s
KURK **Kurchatov** 61.75 318 P P 10 49 23.2 +0.8
KURK S S 10 57 23.8 -1.2
KURBB **Kurchatov Arra** 61.80 318 P P 10 49 22.8 +0.1
KURBB **Kurchatov Arra** 61.80 318 P P 10 49 22.4 -0.3
comp=Z,26nm,0.4s,baz=96,slow=7.1,SNR=123
KURBB S S 10 57 24.2 -1.3
comp=Z,1.6nm,0.3s,baz=95,slow=11,SNR=2.9
comp=Z,26nm,0.4s
CAST **Castle Rocks** 61.83 27 P P 10 49 24.4 +1.7
baz=253,SNR=85
CHUM **Lake Minchumin** 61.87 26 P P 10 49 24.9 +1.9
baz=253,SNR=39
SUA **Susitna One** 61.89 29 IAmb IAmb 10 49 25.3
comp=Z,27nm,0.8s
SUA **Susitna One** 61.89 29 P P 10 49 24.2 +0.9
baz=255,SNR=15
E20K **Nigu River** 61.92 21 P P 10 49 25.0 +1.7
baz=247
D20K **Etivluk River** 61.96 20 P P 10 49 25.2 +1.7
baz=246
TOZ **Tahuroa Road** 62.13 153 P P 10 49 31.1 +6.1
O22K **Cooper Landing** 62.14 30 P P 10 49 25.8 +1.0
baz=257,SNR=17
SEW **Seward** 62.18 31 P P 10 49 26.2 +1.1
baz=257,SNR=8.4
H21K **Melozitna Rive** 62.22 24 IAmb IAmb 10 49 28.0
comp=Z,33nm,0.8s
H21K **Melozitna Rive** 62.22 24 P P 10 49 27.1 +1.8
baz=251
G21K **Allakaket** 62.23 23 P P 10 49 27.0 +1.6
baz=250
M22K **Willow** 62.25 29 P P 10 49 26.4 +0.8
baz=256,SNR=18
RC01 **Rabbit Creek A** 62.27 30 P P 10 49 27.0 +1.3
RC01 **Rabbit Creek A** 62.27 30 P P 10 49 26.4 +0.7
baz=256,SNR=25
NRIK **Noril'sk** 62.28 340 P P 10 49 25.9 +0.3
NRIK **Noril'sk** 62.28 340*ceP* P 10 49 25.0 -0.6
NRIK pmax pmax
comp=Z,11nm,0.9s
NRIK **Noril'sk** 62.28 340 P P 10 49 24.7 -0.9
comp=Z,4.7nm,0.5s,baz=116,slow=8.0,SNR=10
NRIK pP **pP** 10 50 22.1 +1.3
comp=Z,5.2nm,0.4s,baz=115,slow=8.2,SNR=2.9

NRIK S **S** **10 57 30.5 -0.5**
comp=Z,1.2nm,0.3s,baz=108,slow=3.2,SNR=8.7
comp=Z,4.7nm,0.5s
B20K Meade River 62.32 19 P **P** **10 49 27.4 +1.5**
baz=245
CUT Chulitna 62.35 28 IAmb IAmb 10 49 27.5
comp=Z,37nm,0.8s
CUT Chulitna 62.35 28 P **P** **10 49 26.7 +0.5**
baz=255,SNR=6.4
KTH Kantishna Hill 62.36 27 IAmb IAmb 10 49 28.4
comp=Z,45nm,1.0s
MDOK Medeo 62.37 310 *eP* **P** **10 49 26.5 -0.4**
MDOK Medeo 62.37 310 *eP* **P** **10 49 26.5 -0.4**
baz=310
I21K Tanana 62.40 25 P **P** **10 49 28.4 +1.9**
baz=252,SNR=38
CHKK Chushkaly 62.42 311 *eP* **P** **10 49 27.6 +0.5**
CHKK Chushkaly 62.42 311 *eP* **P** **10 49 27.6 +0.5**
baz=311
F21K Alatna River 62.49 23 P **P** **10 49 28.5 +1.4**
baz=250
BPAW Bear Paw Mtn. 62.49 26 P **P** **10 49 28.5 +1.4**
baz=254,SNR=42
TRF Thorofare Moun 62.61 27 IAmb IAmb 10 49 29.7
comp=Z,37nm,0.9s
TRF Thorofare Moun 62.61 27 P **P** **10 49 28.8 +0.6**
baz=255,SNR=15
PMR Palmer 62.67 29 IAmb IAmb 10 49 29.8
comp=Z,35nm,0.6s
PMR Palmer 62.67 29 P **P** **10 49 29.7 +1.4**
PMR Palmer 62.67 29 P **P** **10 49 29.0 +0.7**
baz=257,SNR=14
C21K Knifeblade Rid 62.74 20 P **P** **10 49 30.4 +1.7**
baz=248
E21K Killik River 62.75 21 P **P** **10 49 30.1 +1.3**
baz=249
H22K Ishtalitna Cre 62.85 24 P **P** **10 49 31.4 +1.9**
baz=252
MLY Manley 62.85 25 P **P** **10 49 31.1 +1.6**
baz=254,SNR=81
KUU Kurty 62.90 311 *eP* **P** **10 49 29.8 -0.4**
KUU pmax pmax
comp=Z,16nm,0.6s
KUU Kurty 62.90 311 *eP* **P** **10 49 29.9 -0.4**
comp=Z,16nm,0.6s,baz=311
KNK Knik Glacier 62.95 30 P **P** **10 49 31.3 +1.1**
baz=258,SNR=15
B21K Ikpikpuk River 62.98 20 IAmb IAmb 10 49 32.5
comp=Z,43nm,1.1s
B21K Ikpikpuk River 62.98 20 P **P** **10 49 31.7 +1.5**
baz=248,SNR=38
A21K Barrow 63.05 18 P **P** **10 49 32.1 +1.5**
baz=245,SNR=7.1
SML Sawmill 63.09 29 P **P** **10 49 32.3 +1.1**
baz=258,SNR=39
G22K Bettles 63.12 23 P **P** **10 49 32.5 +1.4**
baz=252
HAZ Te Kaha 63.15 152 P **P** **10 49 31.0 -0.7**
P23K Montague Islan 63.17 31 P **P** **10 49 32.8 +1.2**
baz=259
KSH Kashi 63.20 306 P **P** **10 49 35.7 +3.3**
KSH pmax pmax
comp=Z,10.0nm,0.7s
RND Reindeer 63.22 27 IAmb IAmb 10 49 34.0
comp=Z,36nm,1.0s
RND Reindeer 63.22 27 P **P** **10 49 32.1 +0.1**
URZ Urewera 63.26 153 P **P** **10 49 31.6 -0.9**
comp=Z,15nm,0.6s,baz=315,slow=1.4,SNR=18
comp=Z,15nm,0.6s
URZ Urewera 63.26 153 P **P** **10 49 31.8 -0.7**
MCK McKinley 63.27 27 P **P** **10 49 32.6 +0.4**
MCK McKinley 63.27 27 P **P** **10 49 32.7 +0.4**
baz=256,SNR=12
RUGZ Raukumara Rang 63.27 152 P **P** **10 49 31.6 -1.1**
D22K Ayikyak River 63.34 21 P **P** **10 49 34.6 +2.0**
baz=250
M23K Glacier View 63.37 29 P **P** **10 49 34.1 +1.1**
baz=258,SNR=19
E22K Anaktuvuk Pass 63.40 22 P **P** **10 49 34.8 +1.8**
baz=251
OTVZ Oturere 63.40 154 P **P** **10 49 34.6 +1.0**
NEA2 Nenana 63.42 26 IAmb IAmb 10 49 35.5
comp=Z,22nm,0.7s
NEA2 Nenana 63.42 26 P **P** **10 49 33.8 +0.6**
baz=255,SNR=26
TKM2 Tokmak 2 63.43 310 *i* P **P** **10 49 34.2 +0.2**
TKM2 pmax pmax
comp=Z,6.0nm,0.5s
MRHZ Matea Rd 63.44 153 P **P** **10 49 33.1 -0.7**
I23K Minto, Yukon-K 63.45 25 P **P** **10 49 34.8 +1.5**
baz=255,SNR=50
WMGZ Waiomatatini S 63.49 151 P **P** **10 49 33.1 -0.8**
RTZ Ruatahuna 63.50 153 P **P** **10 49 33.6 -0.6**
MWZ Matawai 63.51 152 P **P** **10 49 33.5 -0.7**
HYB Hyderabad 63.51 281 *eP* **P** **10 49 35.2 +0.5**
HYB IVmB_BB 10 49 35.3
comp=Z,302nm,0.8s
SCM Sheep Creek Mo 63.56 29 P **P** **10 49 35.8 +1.6**
baz=258,SNR=26
TWGZ Tauwhareparae 63.58 152 P **P** **10 49 34.3 -0.3**
RAGZ Rawiri 63.59 152 P **P** **10 49 34.5 -0.2**
Q23K Middleton Isla 63.59 32 P **P** **10 49 36.2 +1.8**
baz=260
G23K Bananza Creek 63.62 24 IAmb IAmb 10 49 37.2
comp=Z,26nm,0.7s
G23K Bananza Creek 63.62 24 P **P** **10 49 36.3 +1.8**
baz=254,SNR=29
PUZ Puketiti 63.62 152 P **P** **10 49 34.7 -0.2**
B22K Teshekpuk Lake 63.63 19 P **P** **10 49 35.8 +1.3**
baz=248
MTHZ Maungataniwha 63.64 153 P **P** **10 49 34.6 -0.4**
MOVZ Moawhango 63.64 154 P **P** **10 49 34.9 -0.1**
COLD Coldfoot 63.70 23 P **P** **10 49 36.8 +1.8**
baz=253,SNR=30
BKZ Black Stump Fm 63.75 154 P **P** **10 49 35.9 +0.2**
SNGZ Shannon Statio 63.80 153 P **P** **10 49 35.6 -0.4**
RAHZ Arahi 63.80 153 P **P** **10 49 36.0 0.0**
WRH Wood River Hil 63.81 26 IAmb IAmb 10 49 37.0
comp=Z,30nm,0.6s
BHHZ Black Hill Sta 63.84 154 P **P** **10 49 36.0 -0.3**
PALK Pallekele 63.92 269 P **P** **10 49 38.0 +0.6**
PALK Pallekele 63.92 269 *i* P **P** **10 49 37.0 -0.4**
PALK pmax pmax
comp=Z,35nm,1.2s
PALK Pallekele 63.92 269 P **P** **10 49 37.9 +0.5**
PALK P **P** **10 49 38.0 +0.6**
PALK Pallekele 63.92 269 P **P** **10 49 37.9 +0.5**
RIGZ Rimuhau 63.92 152 P **P** **10 49 36.5 -0.4**
CNGZ Carnagh Statio 63.94 152 P **P** **10 49 36.4 -0.4**
TKNZ Takaka Hill 63.95 157 P **P** **10 49 36.7 -0.2**
CCB Clear Creek Bu 63.97 26 IAmb IAmb 10 49 38.4
comp=Z,44nm,1.5s
COLA College 64.00 26 P **P** **10 49 37.9 +0.9**
COLA IAmb IAmb 10 49 40.9
comp=Z,32nm,0.8s
COLA College 64.00 26 P **P** **10 49 38.8 +1.9**
COLA College 64.00 26 *i* P **P** **10 49 37.1 +0.2**
COLA pmax pmax
comp=Z,25nm,0.8s
COLA College 64.00 26 P **P** **10 49 38.4 +1.4**
baz=256
COLA College 64.00 26 P **P** **10 49 37.5 +0.6**
D23K Nanushuk River 64.06 21 P **P** **10 49 39.5 +2.2**
baz=252
EYAK Cordova Ski Ar 64.08 31 P **P** **10 49 39.3 +1.7**
EYAK Cordova Ski Ar 64.08 31 P **P** **10 49 40.0 +2.5**
EYAK Cordova Ski Ar 64.08 31 P **P** **10 49 39.3 +1.7**
baz=260,SNR=8.5
KRHZ Kereru 64.10 154 P **P** **10 49 37.3 -0.7**
SGDS Sogindy 64.13 310 *eP* **P** **10 49 38.9 +0.5**
SGDS Sogindy 64.13 310 *eP* **P** **10 49 38.9 +0.5**
baz=310
M24K Tolsona, Glenn 64.15 29 IAmb IAmb 10 50 04.1
comp=Z,30nm,0.9s
M24K Tolsona, Glenn 64.15 29 P **P** **10 49 39.9 +1.8**
baz=259,SNR=6.8
E23K Chandalar 64.16 22 P **P** **10 49 40.2 +2.2**
baz=253
KLU Klutina 64.16 30 P **P** **10 49 39.7 +1.6**
baz=260,SNR=19
H24K Noodor Dome 64.22 25 P **P** **10 49 39.9 +1.4**
H24K IAmb IAmb 10 49 40.8
comp=Z,25nm,0.6s
H24K Noodor Dome 64.22 25 P **P** **10 49 39.9 +1.4**
baz=256
POKR Poker Plat Res 64.23 26 IAmb IAmb 10 49 39.9
comp=Z,32nm,1.3s
POKR Poker Plat Res 64.23 26 P **P** **10 49 38.7 +0.2**
baz=257,SNR=8.1
AAK Ala-Archa 64.25 309 P **P** **10 49 39.1 -0.1**
AAK Ala-Archa 64.25 309 *ceP* **P** **10 49 39.1 -0.1**
AAK pmax pmax
comp=Z,8.0nm,1.7s
AAK Ala-Archa 64.25 309 P **P** **10 49 39.9 +0.7**
AAK S **S** **10 57 59.7 +3.1**
AAK Ala-Archa 64.25 309 P **P** **10 49 39.9 +0.7**
PNHZ Pukenui 64.26 154 P **P** **10 49 38.1 -0.8**
HDA Harding Lake 64.27 26 IAmb IAmb 10 49 39.5
comp=Z,28nm,0.7s
HDA Harding Lake 64.27 26 P **P** **10 49 38.8 0.0**
baz=258,SNR=23
TSZ Takapari Road 64.28 154 P **P** **10 49 38.5 -0.7**
C23K Itkillik River 64.36 20 P **P** **10 49 40.9 +1.8**
baz=251,SNR=60
ILAR Eielson Array 64.38 26 P **P** **10 49 38.7 -0.8**
comp=Z,21nm,0.5s,baz=251,slow=5.9,SNR=314
ILAR pP **pP** **10 50 36.7 +1.5**
comp=Z,6.9nm,0.8s,baz=256,slow=5.7,SNR=4.1
ILAR S **S** **10 57 55.6 -1.5**
comp=Z,0.4nm,0.9s,baz=267,slow=11,SNR=4.7
ILAR PKPPKP P'P'df 11 18 22.4 -8.1
comp=Z,0.4nm,1.0s,baz=349,slow=2.3,SNR=2.5
comp=Z,21nm,0.5s
BTLS Baital 64.54 312 *eP* **P** **10 49 41.3 +0.5**
BTLS Baital 64.54 312 *eP* **P** **10 49 41.3 +0.5**
baz=312
DVHZ Dannevirke 64.57 154 P **P** **10 49 40.2 -0.8**
RAGM Ragged Mountai 64.58 31 IAmb IAmb 10 49 43.5
comp=Z,48nm,1.1s
G24K Hadweenzic Riv 64.59 24 IAmb IAmb 10 49 43.4
comp=Z,30nm,0.7s
G24K Hadweenzic Riv 64.59 24 P **P** **10 49 42.6 +1.8**
baz=256,SNR=22
PAX Paxson 64.63 28 P **P** **10 49 42.5 +1.3**
baz=260,SNR=44
MRZ Mangatainoka R 64.63 155 P **P** **10 49 40.4 -1.0**
KAIM Kayak Island 64.64 32 P **P** **10 49 43.4 +2.2**
baz=262
F24K Squaw Lake 64.64 23 P **P** **10 49 43.1 +2.0**
baz=255
K24K Donnelly Dome 64.65 27 P **P** **10 49 42.0 +0.7**
baz=259,SNR=17
HARP HAARP 64.67 29 P **P** **10 49 42.9 +1.5**
baz=260,SNR=23
BMRM Bremner River 64.70 30 P **P** **10 49 43.3 +1.6**
baz=261,SNR=21
D24K Happy Valley 64.75 21 P **P** **10 49 43.9 +2.2**
baz=254
N25K Chitina, Valde 64.80 30 IAmb IAmb 10 49 44.9
comp=Z,31nm,0.8s
N25K Chitina, Valde 64.80 30 P **P** **10 49 44.0 +1.7**
baz=261,SNR=19
BFZ Birch Farm 64.92 155 P **P** **10 49 43.0 -0.2**
C24K Franklin Bluff 64.95 21 P **P** **10 49 44.7 +1.7**
baz=253
J25K Salcha River, 64.98 26 IAmb IAmb 10 49 44.6
comp=Z,27nm,0.5s
J25K Salcha River, 64.98 26 P **P** **10 49 43.4 0.0**
baz=259
MTW Mount Morrison 65.03 155 P **P** **10 49 43.3 -0.5**
PRP Porcupine Dome 65.10 25 P **P** **10 49 43.4 -0.8**
baz=258,SNR=19
G25K Bearman Lake 65.14 24 P **P** **10 49 46.2 +1.9**
baz=257,SNR=25
GLB Gilahina Butte 65.15 30 IAmb IAmb 10 49 47.6
comp=Z,48nm,0.9s
VRDI Verde Repeater 65.29 30 IAmb IAmb 10 49 47.8
comp=Z,43nm,0.8s
CRQE Cirque 65.40 31 P **P** **10 49 47.8 +1.5**
baz=263,SNR=19
MENT Mentasta 65.42 28 IAmb IAmb 10 49 48.5
comp=Z,35nm,1.4s
MENT Mentasta 65.42 28 P **P** **10 49 48.4 +2.2**
SCRK Sand Creek 65.46 27 P **P** **10 49 47.3 +0.7**
SCRK IAmb IAmb 10 49 48.3
comp=Z,54nm,1.2s
SCRK Sand Creek 65.46 27 P **P** **10 49 47.5 +0.9**
baz=260,SNR=43
F25K Christian Rive 65.50 23 P **P** **10 49 48.9 +2.2**
baz=257
MCARA McCarthy VSAT 65.52 30 P **P** **10 49 48.3 +1.5**
baz=263,SNR=20
TGL Tana Glacier 65.53 31 IAmb IAmb 10 49 49.5
comp=Z,43nm,1.0s
L26K Log Cabin Wild 65.60 28 IAmb IAmb 10 49 49.6
comp=Z,32nm,0.7s
L26K Log Cabin Wild 65.60 28 P **P** **10 49 48.9 +1.6**
baz=262,SNR=20
OXZ Oxford 65.63 159 IAmb IAmb 10 49 47.6
comp=Z,48nm,1.2s
D25K Kavik River 65.64 21 P **P** **10 49 49.2 +1.7**
baz=256
E25K Arctic Village 65.64 23 IAmb IAmb 10 49 50.4
comp=Z,25nm,0.7s
E25K Arctic Village 65.64 23 P **P** **10 49 49.6 +2.1**
baz=257,SNR=35
M26K Nabesna, AK 65.67 29 P **P** **10 49 48.9 +1.1**
baz=262
J26L Joseph Creek 65.73 27 P **P** **10 49 49.2 +0.9**
baz=261,SNR=65
ISLE Juniper Island 65.75 31 IAmb IAmb 10 49 50.8
comp=Z,44nm,0.9s
NIL Nilore 65.79 299 P **P** **10 49 49.8 +0.7**
NIL Nilore 65.79 299 P **P** **10 49 49.8 +0.7**
NIL pmax pmax
comp=Z,34nm,0.5s
NIL Nilore 65.79 299 P **P** **10 49 50.2 +1.0**
MESA MESA 65.90 31 P **P** **10 49 51.5 +2.0**
baz=264,SNR=8.7
I26K Coal Creek Min 66.04 26 P **P** **10 49 49.9 -0.1**
baz=261
GRNC Granite Creek 66.05 31 P **P** **10 49 51.9 +1.4**
G26K Poupine Rive 66.07 24 P **P** **10 49 52.2 +2.0**
baz=259
F26K Sheenjek River 66.08 23 P **P** **10 49 52.5 +2.1**
baz=259,SNR=74
BARN Barnard Glacie 66.13 31 IAmb IAmb 10 49 53.4
comp=Z,26nm,0.7s
M27K Edge Creek, AK 66.18 29 IAmb IAmb 10 49 53.5
comp=Z,25nm,0.9s
M27K Edge Creek, AK 66.18 29 P **P** **10 49 52.6 +1.4**
baz=263
RAR Rarotonga 66.19 124 P **P** **10 49 51.8 +0.1**
comp=Z,24nm,0.9s,baz=273,slow=11,SNR=4.1
comp=Z,24nm,0.9s
C26K Camden Bay 66.28 21 P **P** **10 49 54.0 +2.5**
baz=257,SNR=100
CTG Chitna Glacier 66.28 31 P **P** **10 49 53.6 +1.8**
baz=264,SNR=39
L27K Beaver Creek, 66.29 28 IAmb IAmb 10 49 53.9
comp=Z,26nm,0.7s
L27K Beaver Creek, 66.29 28 P **P** **10 49 53.2 +1.5**
baz=263,SNR=34
K27K Chicken 66.30 27 P **P** **10 49 53.5 +1.7**
baz=262
BCAR Beaver Creek A 66.31 28 P **P** **10 49 53.1 +1.2**
LOGN Logan Glacier 66.43 31 P **P** **10 49 54.3 +1.5**
BVCY Beaver Creek 66.66 29 P **P** **10 49 55.7 +1.6**
baz=264,SNR=17
I27K Kandik River 66.72 26 P **P** **10 49 55.4 +1.0**
baz=262
PINM Pinnacle 66.74 32 P **P** **10 49 56.3 +1.7**
baz=266,SNR=8.0
YUK3 Moose Creek 66.78 30 P **P** **10 49 56.5 +1.4**
baz=265,SNR=22
EGAK Eagle 66.80 27 IAmb IAmb 10 49 57.4
comp=Z,22nm,0.5s
EGAK Eagle 66.80 27 P **P** **10 49 55.6 +0.8**
baz=263,SNR=32
H27K Steamboat Moun 66.84 25 P **P** **10 49 56.9 +1.7**
baz=262,SNR=95
BVA0 Borovoye Array 66.98 321 *i* P **P** **10 49 56.0 -0.2**
BVAR Borovoye Array 66.98 321 P **P** **10 49 55.8 -0.4**
comp=Z,45nm,0.5s,baz=94,slow=7.6,SNR=180
BVAR pP **pP** **10 50 51.7 -0.5**
comp=Z,12nm,1.0s,baz=98,slow=7.9,SNR=1.5
BVAR S **S** **10 58 27.6 -1.3**
comp=Z,3.0nm,0.9s,baz=106,slow=9.1,SNR=9.3
comp=Z,45nm,0.5s
BRVK Borovoye 67.04 321 P **P** **10 49 57.8 +1.2**
BRVK IAmb IAmb 10 49 58.2
comp=Z,31nm,0.7s
BRVK Borovoye 67.04 321 *i* P **P** **10 49 56.0 -0.6**
BRVK pmax pmax
comp=Z,29nm,0.7s
BRVK Borovoye 67.04 321 P **P** **10 49 57.3 +0.7**
BRVK S **S** **10 58 29.1 -0.5**
BRVK Borovoye 67.04 321 P **P** **10 49 56.9 +0.3**
YUK8 Steele Glacier 67.07 30 P **P** **10 49 59.1 +2.1**
baz=266,SNR=43
PNL Peninsula 67.14 32 P **P** **10 49 59.9 +2.8**
PNL Peninsula 67.14 32 P **P** **10 49 58.9 +1.8**
baz=266,SNR=5.9
KK31 Karatay Array 67.15 310 P **P** **10 49 58.2 +0.7**
KK31 Karatay Array 67.15 310 *i* P **P** **10 49 57.5 0.0**
KKAR Karatay Array 67.15 310 P **P** **10 49 57.8 +0.3**
KKAR Karatay Array 67.15 310 P **P** **10 49 57.8 +0.3**
I28M Miner Creek 67.39 26 IAmb IAmb 10 50 00.8
comp=Z,30nm,0.7s
I28M Miner Creek 67.39 26 P **P** **10 49 60.0 +1.3**
baz=264
DAWY Dawson 67.48 27 P **P** **10 50 01.0 +1.8**
DAWY IAmb IAmb 10 50 01.6
comp=Z,29nm,0.7s
DAWY Dawson 67.48 27 P **P** **10 50 00.9 +1.6**
baz=265,SNR=32
O29M Mount Kennedy 67.59 31 P **P** **10 50 02.5 +2.4**
baz=267,SNR=36
YUK4 Talbot Arm 67.61 30 P **P** **10 50 02.9 +2.6**
baz=267,SNR=63
GAR Garm 67.62 305 P **P** **10 50 01.2 +0.5**
BRLS Borolday 67.65 310 *eP* **P** **10 50 01.6 +1.0**
BRLS Borolday 67.65 310 *eP* **P** **10 50 01.7 +1.0**
baz=310
F28M Old Crow 67.68 24 IAmb IAmb 10 50 02.9
comp=Z,36nm,0.8s
F28M Old Crow 67.68 24 P **P** **10 50 02.1 +1.7**
baz=263,SNR=57
YUK6 Outpost Mounta 67.73 31 P **P** **10 50 03.2 +2.2**
baz=267,SNR=23
M29M Somme Creek 67.77 29 P **P** **10 50 03.3 +2.2**
baz=266,SNR=61
L29M L29M 67.97 28 P **P** **10 50 04.5 +2.3**
baz=266
P29M Windy Craggy 67.98 32 P **P** **10 50 04.7 +2.3**
baz=268
J29N Klondike Camp 68.03 27 IAmb IAmb 10 50 05.3
comp=Z,33nm,0.6s
J29N Klondike Camp 68.03 27 P **P** **10 50 04.5 +1.8**
baz=266,SNR=21
H29M Whitestone 68.11 25 IAmb IAmb 10 50 05.3
comp=Z,32nm,0.7s
H29M Whitestone 68.11 25 P **P** **10 50 04.5 +1.4**
baz=265,SNR=21
HYT Haines Junctio 68.14 31 P **P** **10 50 05.8 +2.4**
HYT Haines Junctio 68.14 31 P **P** **10 50 05.7 +2.2**
baz=268,SNR=62
K29M Barlow Dome 68.29 28 IAmb IAmb 10 50 07.1
comp=Z,43nm,0.7s
K29M Barlow Dome 68.29 28 P **P** **10 50 06.2 +1.9**
baz=266,SNR=61
D28M Stokes Point 68.30 22 P **P** **10 50 05.9 +1.8**
baz=263,SNR=61
N30M Aishikik Lake 68.37 30 P **P** **10 50 06.9 +2.1**
baz=268
P30M Million Dollar 68.39 32 P **P** **10 50 07.2 +2.3**
baz=268
E29M Blow River 68.50 23 P **P** **10 50 06.9 +1.5**
baz=264
M30M Minto, Yukon 68.55 29 IAmb IAmb 10 50 08.6
comp=Z,27nm,0.9s
M30M Minto, Yukon 68.55 29 P **P** **10 50 07.8 +2.0**
baz=268,SNR=26
CHGR Chuyangaron 68.55 305 IAmb IAmb 10 51 10.7
comp=Z,43nm,0.9s
CHGR Chuyangaron 68.55 305 P **P** **10 50 06.5 +0.1**
SIMJ Simiganj 68.67 305 P **P** **10 50 07.3 +0.1**
SIMJ Simiganj 68.67 305 P **P** **10 50 07.3 +0.1**
PLBC Pleasant Camp 68.67 32 P **P** **10 50 08.8 +2.2**
baz=269,SNR=29
S31K Pelican 68.73 34 P **P** **10 50 08.7 +1.7**
baz=270
EPYK Eagle Plains 68.79 25 P **P** **10 50 08.6 +1.3**
baz=266,SNR=45
O30N Mendenhall 68.83 31 IAmb IAmb 10 50 10.2
comp=Z,22nm,0.7s
O30N Mendenhall 68.83 31 P **P** **10 50 09.4 +1.7**
baz=269,SNR=15
J30M Hart River 68.85 27 IAmb IAmb 10 50 10.3
comp=Z,30nm,1.1s
J30M Hart River 68.85 27 P **P** **10 50 09.4 +1.6**
baz=267,SNR=42
I30M Mount Dempster 68.86 26 P **P** **10 50 09.0 +1.1**
baz=267
MAYO Mayo, Yukon 69.00 28 P **P** **10 50 10.7 +2.1**
baz=268,SNR=37
G30M tAoh Zraii Nji 69.03 24 IAmb IAmb 10 50 12.3
comp=Z,32nm,0.8s
G30M tAoh Zraii Nji 69.03 24 P **P** **10 50 09.8 +1.0**
baz=266,SNR=56
KBL Kabul 69.15 301 P **P** **10 50 10.4 +0.1**
KBL Kabul 69.15 301 P **P** **10 50 10.4 +0.1**
KBL pmax pmax
comp=Z,17nm,1.1s
KBL Kabul 69.15 301 P **P** **10 50 10.7 +0.4**
SNR=6.5
KBL S **S** **10 58 55.0 -0.6**
SKAG Skagway 69.20 32 P **P** **10 50 11.8 +2.0**
SKAG IAmb IAmb 10 50 12.8
comp=Z,37nm,0.8s
SKAG Skagway 69.20 32 P **P** **10 50 12.1 +2.3**
SKAG Skagway 69.20 32 P **P** **10 50 12.0 +2.1**
baz=270,SNR=17
SIT Sitka 69.23 35 P **P** **10 50 11.6 +1.6**
baz=271
F30M Barrier River 69.23 24 P **P** **10 50 11.6 +1.7**
baz=267
WHY Whitehorse 69.42 31 IAmb IAmb 10 50 14.2
comp=Z,35nm,0.8s
WHY Whitehorse 69.42 31 P **P** **10 50 13.2 +1.9**
baz=270,SNR=24
S32K Killisnoo 69.62 35 P **P** **10 50 14.1 +1.6**
baz=272
R32K Eaglecrest 69.64 34 P **P** **10 50 14.3 +1.8**
baz=271
M31M Drury Creek, Y 69.66 30 IAmb IAmb 10 50 14.6
comp=Z,34nm,0.5s
M31M Drury Creek, Y 69.66 30 P **P** **10 50 14.1 +1.4**
baz=270,SNR=36
JIS Juneau Island 69.71 34 P **P** **10 50 15.4 +2.5**
H31M Peel River 69.73 26 P **P** **10 50 14.2 +1.2**
baz=269
G31M Satah River 69.79 24 P **P** **10 50 14.3 +1.0**
baz=268,SNR=109
F31M Tsiigehtchic 70.01 24 IAmb IAmb 10 50 16.1
comp=Z,38nm,0.8s
F31M Tsiigehtchic 70.01 24 P **P** **10 50 15.3 +0.7**
baz=269,SNR=48
P32M Atlin 70.02 32 IAmb IAmb 10 50 17.6
comp=Z,29nm,0.8s
P32M Atlin 70.02 32 P **P** **10 50 16.8 +1.9**
baz=272,SNR=17
INK Inuvik 70.12 23 P **P** **10 50 15.9 +0.6**
INK IAmb IAmb 10 50 16.9
comp=Z,44nm,0.8s
INK Inuvik 70.12 23 P **P** **10 50 15.9 +0.6**
INK pmax pmax
comp=Z,44nm,0.8s
INK Inuvik 70.12 23 P **P** **10 50 15.9 +0.6**
baz=268,SNR=62
FARO Faro, Yukon 70.15 29 IAmb IAmb 10 50 18.0
comp=Z,36nm,1.2s
FARO Faro, Yukon 70.15 29 P **P** **10 50 17.0 +1.3**
baz=271,SNR=24
N32M Quiet Lake 70.30 31 P **P** **10 50 18.2 +1.6**
baz=272
P33M Teslin, Yukon 70.46 32 P **P** **10 50 19.1 +1.5**
baz=272,SNR=14
U33K Whale Pass 70.48 36 IAmb IAmb 10 50 20.6
comp=Z,31nm,0.8s
U33K Whale Pass 70.48 36 P **P** **10 50 19.5 +1.9**
baz=273
CRAG Craig 70.52 37 P **P** **10 50 19.6 +1.8**
baz=274
T33K Petersburg 70.53 35 P **P** **10 50 20.2 +2.2**
baz=273
Q32M Nakina River 70.79 33 IAmb IAmb 10 50 22.7
comp=Z,115nm,2.0s
Q32M Nakina River 70.79 33 P **P** **10 50 21.7 +1.9**
baz=273

WRAK **Wrangell Islan** **70.89 36** IAmb IAmb 10 50 23.0
comp=Z,24nm,0.8s
WRAK **Wrangell Islan** **70.89 36** P **P** **10 50 22.1 +2.0**
baz=274,SNR=6.8
V35K **Ketchikan** **71.38 37** P **P** **10 50 24.6 +1.5**
baz=275
R33M **Jennings River** **71.43 32** P **P** **10 50 25.4 +1.9**
baz=274
S34M **Telegraph Cree** **71.45 34** IAmb IAmb 10 50 26.5
comp=Z,42nm,0.8s
S34M **Telegraph Cree** **71.45 34** P **P** **10 50 25.6 +2.1**
baz=274,SNR=38
DLBC **Dease Lake** **71.99 33** IAmb IAmb 10 50 29.8
comp=Z,48nm,0.8s
DLBC **Dease Lake** **71.99 33** P **P** **10 50 28.9 +2.1**
baz=275,SNR=52
T35M **Bob Quinn** **72.00 35** IAmb IAmb 10 50 29.9
comp=Z,33nm,0.8s
T35M **Bob Quinn** **72.00 35** P **P** **10 50 29.1 +2.2**
baz=275,SNR=21
U35K **Hyder** **72.23 36** P **P** **10 50 29.6 +1.5**
baz=276
WTLY **Watson Lake, Y** **72.47 32** IAmb IAmb 10 50 32.4
comp=Z,52nm,0.9s
WTLY **Watson Lake, Y** **72.47 32** P **P** **10 50 31.3 +1.8**
baz=276,SNR=20
GRNB **Grenville Isla** **72.49 38** IAmb IAmb 10 50 32.3
comp=Z,48nm,1.3s
TGTN **Hyland Airport** **72.59 30** P **P** **10 50 32.1 +1.8**
baz=276,SNR=78
A36M **Sachs Harbour** **72.83 19** IAmb IAmb 10 50 33.6
comp=Z,30nm,0.7s
A36M **Sachs Harbour** **72.83 19** P **P** **10 50 32.1 +0.7**
baz=275,SNR=14
C36M **Paulatuk** **73.50 22** P **P** **10 50 35.7 +0.4**
C36M IAmb IAmb 10 50 36.7
comp=Z,51nm,1.1s
C36M **Paulatuk** **73.50 22** P **P** **10 50 35.8 +0.4**
baz=277,SNR=28
ARU **Arti** **73.61 325** P **P** **10 50 36.2 0.0**
ARU IAmb IAmb 10 50 36.9
comp=Z,23nm,0.6s
ARU **Arti** **73.61 325***c i*P **P** **10 50 35.4 -0.8**
ARU *PP **pP** **10 51 32.6 -0.8**
ARU S **S** **10 59 44.8 -0.6**
ARU SS **SS** **11 04 28.8 -4.8**
ARU pmax pmax
comp=Z,20nm,0.6s
AB31 **Akbulak array** **73.81 317** *i* P **P** **10 50 36.3 -1.2**
ABKAR **Akbulak array** **73.81 317** P **P** **10 50 37.1 -0.4**
ABKAR **Akbulak array** **73.81 317** IAmb IAmb 10 50 38.1
comp=Z,17nm,0.9s
BBB **Bella Bella** **73.81 40** IAmb IAmb 10 50 39.8
comp=Z,30nm,0.8s
WRGLY **Wrigley** **74.60 28** P **P** **10 50 43.2 +1.5**
baz=279,SNR=64
KOTAN **Kotaneelee Air** **74.82 31** P **P** **10 50 44.4 +1.3**
baz=280,SNR=23
AKTO **Aktyubinsk** **74.85 319** P **P** **10 50 41.9 -1.6**
FLDN **Fort Liard** **75.09 31** IAmb IAmb 10 50 47.2
comp=Z,32nm,0.8s
FLDN **Fort Liard** **75.09 31** P **P** **10 50 46.2 +1.6**
baz=280,SNR=9.8
CBB **Campbell River** **75.88 42** IAmb IAmb 10 50 52.0
comp=Z,25nm,0.6s
CLRS **Cowichan Lake** **76.92 43** IAmb IAmb 10 50 58.0
comp=Z,34nm,1.0s
GEYT **Alibeck** **77.24 306** P **P** **10 50 57.2 0.0**
GEYT **Alibeck** **77.24 306** P **P** **10 50 57.2 0.0**
GEYT pmax pmax
comp=Z,21nm,1.1s
GEYT **Alibeck** **77.24 306** P **P** **10 50 57.0 -0.2**
comp=Z,6.1nm,0.8s,baz=88,slow=10,SNR=8.4
GEYT pP **pP** **10 51 55.2 +0.4**
comp=Z,1.4nm,0.4s,baz=80,slow=6.2,SNR=2.0
comp=Z,6.1nm,0.8s
PGC **Sidney** **77.39 43** P **P** **10 50 59.2 +1.4**
PGC IAmb IAmb 10 51 00.5
comp=Z,40nm,0.7s
NLWA **Neilton Lookou** **77.39 44** IAmb IAmb 10 51 01.2
comp=Z,50nm,0.8s
NGCH **Negor - Chabah** **77.64 293** P **P** **10 50 59.8 +0.2**
KIRV **Kirov** **78.03 328***ce*P **P** **10 51 01.6 +0.5**
G03D **McMinnville, O** **78.30 46** IAmb IAmb 10 51 05.8
comp=Z,48nm,0.8s
KBO **Bosley Butte** **78.33 49** IAmb IAmb 10 51 06.6
comp=Z,42nm,1.1s
COR **Corvallis** **78.42 47** P **P** **10 51 06.2 +2.7**
COR IAmb IAmb 10 51 07.0
comp=Z,72nm,1.1s
COR **Corvallis** **78.42 47** P **P** **10 51 06.2 +2.7**
COR pmax pmax
comp=Z,72nm,1.1s
K02D **Willamette Mer** **78.61 49** IAmb IAmb 10 51 07.5
comp=Z,31nm,1.0s
YKA **Yellowknife Ar** **78.72 28** *i* P **P** **10 51 05.1 +0.3**
YKA pmax pmax
comp=Z,16nm,0.8s
YKA **Yellowknife Ar** **78.72 28** P **P** **10 51 04.4 -0.4**
comp=Z,16nm,0.8s,baz=288,slow=5.8,SNR=168
YKA pP **pP** **10 52 02.5 -0.4**
comp=Z,4.1nm,0.7s,baz=289,slow=5.6,SNR=5.5
comp=Z,16nm,0.8s
KRPM **Rodgers** **78.72 50** IAmb IAmb 10 51 08.9
comp=Z,32nm,0.8s
DBO **Dodson Butte** **78.81 48** IAmb IAmb 10 51 08.7
comp=Z,33nm,0.8s
L02F **Cave Junction** **78.82 49** IAmb IAmb 10 51 08.9
comp=Z,30nm,0.9s
H04D **Lebanon** **78.83 47** IAmb IAmb 10 51 09.0
comp=Z,64nm,1.1s
KMPM **Mount Pierce** **78.83 51** IAmb IAmb 10 51 09.4
comp=Z,53nm,0.9s
KHMM **Horse Mountain** **79.01 51** IAmb IAmb 10 51 10.4
comp=Z,50nm,0.8s
HUMO **Hull Mountain** **79.14 49** IAmb IAmb 10 51 12.0
comp=Z,36nm,0.6s
H04A **Detroit Lake** **79.17 47** IAmb IAmb 10 51 10.1
comp=Z,52nm,1.0s
I04A **Tendick Farm,** **79.23 47** IAmb IAmb 10 51 10.5
comp=Z,52nm,0.9s
HOOD **Mount Hood Mea** **79.38 46** IAmb IAmb 10 51 15.2
comp=Z,40nm,0.9s
YBH **Yreka Blue Hor** **79.54 50** IAmb IAmb 10 51 12.8
comp=Z,45nm,0.8s
LTY **Liberty** **79.54 44** IAmb IAmb 10 51 11.8
comp=Z,34nm,0.8s
G05A **Wamic** **79.63 46** IAmb IAmb 10 51 18.7
comp=Z,95nm,1.7s
BRLDA **Berland Lookou** **79.70 36** IAmb IAmb 10 51 12.6
comp=Z,57nm,0.9s
MXC **Moxie City** **79.97 44** IAmb IAmb 10 51 14.6
comp=Z,50nm,1.3s
JLN **Jalan Bani Buh** **79.98 290** P **P** **10 51 12.5 +0.1**
GDXM **Geysers** **80.22 52** IAmb IAmb 10 51 16.7
comp=Z,31nm,1.1s
WBK **Wadi Bani Khal** **80.25 291** P **P** **10 51 14.5 +0.6**
SNR=5.8
E07A **Sunnyside** **80.26 44** IAmb IAmb 10 51 16.1
comp=Z,31nm,0.8s
HAWA **Hanford** **80.52 44** IAmb IAmb 10 51 17.3
comp=Z,24nm,0.8s
BELG **Belogornoye** **80.72 322** *i* P **P** **10 51 15.1 -0.6**
BELG pmax pmax
comp=Z,12nm,1.0s
D08A **Wollman Farm,** **80.74 44** IAmb IAmb 10 51 18.4
comp=Z,43nm,1.1s
BIDO **Bidbid** **80.76 292** P **P** **10 51 16.9 +0.4**
E08A **Dider Farm, El** **80.81 44** IAmb IAmb 10 51 18.8
comp=Z,110nm,1.8s
SMDO **Samad** **80.95 291** P **P** **10 51 18.1 +0.4**
C09A **Chrisman Ranch** **80.95 43** IAmb IAmb 10 51 19.2
comp=Z,69nm,1.4s
ORV **Oroville** **81.00 51** IAmb IAmb 10 51 19.6
comp=Z,42nm,0.9s
JMDO **Jabal Madar** **81.09 291** P **P** **10 51 18.8 +0.5**
E09A **Wood Farm, Sta** **81.41 44** IAmb IAmb 10 51 21.9
comp=Z,26nm,0.9s
HOQ **Hoqain** **81.47 292** P **P** **10 51 20.9 +0.7**
AFDM **Forest Hills D** **81.56 52** IAmb IAmb 10 51 22.9
comp=Z,30nm,0.8s
NEW **Newport** **81.56 42** P **P** **10 51 21.3 +1.0**
NEW **Newport** **81.56 42** P **P** **10 51 21.6 +1.3**
baz=287,SNR=27
MHTO **MHTO** **81.59 289** P **P** **10 51 21.1 +0.2**
SNR=5.2
MHTO S **S** **11 01 15.4 +3.4**

BEKR **Beckworth** **81.76 51** P **P** **10 51 23.0 +1.3**
BSY **Bisya** **81.79 291** P **P** **10 51 22.3 +0.3**
BSY S **S** **11 01 15.8 +1.7**
SHME **Shamm** **81.82 295** P **P** **10 51 22.4 +0.4**
MDH **Madha** **81.89 294** P **P** **10 51 23.0 +0.6**
LOY **Loyalton** **81.91 51** P **P** **10 51 24.2 +1.8**
DONR **Donner Summit** **81.93 51** P **P** **10 51 24.4 +1.7**
MASF **Masafi** **81.99 294** P **P** **10 51 23.7 +0.7**
SNR=6.9
SOHO **SOHO** **82.00 293** P **P** **10 51 24.2 +1.2**
KLMR **Klimovskoe** **82.06 332** *eP* **P** **10 51 19.9 -2.6**
KLMR pmax pmax
comp=Z,24nm,1.4s
UOSS **Minazif** **82.06 294** P **P** **10 51 23.6 +0.2**
UOSS **Minazif** **82.06 294** P **P** **10 51 23.8 +0.4**
J08A **Circle Bar Ran** **82.11 47** IAmb IAmb 10 51 25.8
comp=Z,35nm,0.8s
RUBR **Rubicon Trail** **82.14 52** P **P** **10 51 25.3 +1.5**
HATD **Hatta, Dubai** **82.16 293** P **P** **10 51 25.0 +1.1**
SNR=6.4
MPK **Martis Peak** **82.16 51** P **P** **10 51 25.7 +1.8**
MPK **Martis Peak** **82.16 51** IAmb IAmb 10 51 26.6
comp=Z,82nm,0.8s
BBGB **Big Mountain B** **82.17 54** IAmb IAmb 10 51 26.6
comp=Z,63nm,1.3s
EMB **Emerald Bay** **82.20 52** P **P** **10 51 25.6 +1.6**
EMB **Emerald Bay** **82.20 52** IAmb IAmb 10 51 26.5
comp=Z,32nm,0.7s
ARQ **Araqi** **82.23 292** P **P** **10 51 25.1 +0.9**
CMB **Columbia Colle** **82.25 53** IAmb IAmb 10 51 26.5
comp=Z,45nm,0.8s
ASHO **Ashiyiah** **82.26 293** P **P** **10 51 24.9 +0.5**
WVOR **Wild Horse Val** **82.26 48** IAmb IAmb 10 51 26.6
comp=Z,30nm,0.9s
WVOR **Wild Horse Val** **82.26 48** P **P** **10 51 25.5 +1.3**
EDM **Edmonton** **82.27 37** IAmb IAmb 10 51 25.7
comp=Z,31nm,0.8s
PMPB **Monarch Peak** **82.46 54** IAmb IAmb 10 51 28.1
comp=Z,52nm,1.5s
BMO **Blue Mountains** **82.46 45** IAmb IAmb 10 51 27.3
comp=Z,52nm,1.3s
PAHR **Pah Rah Range** **82.52 51** IAmb IAmb 10 51 27.9
comp=Z,39nm,0.9s
NAZ **Nazwa, Dubai** **82.53 294** P **P** **10 51 26.4 +0.7**
KEV **Kevo** **82.61 342** P **P** **10 51 25.3 +0.1**
FAQ **Al Faqa, Dubai** **82.65 294** P **P** **10 51 26.9 +0.5**
ALNE **Al Ain** **82.71 293** P **P** **10 51 28.6 +1.9**
ALNE S **S** **11 01 22.2 -1.2**
WAKR **Walker** **82.83 52** IAmb IAmb 10 51 30.0
comp=Z,39nm,0.7s
ARCES **ARCESS Array B** **83.17 342** P **P** **10 51 26.8 -1.4**
comp=Z,2.8nm,0.5s,baz=80,slow=7.4,SNR=21
ARCES pP **pP** **10 52 28.7 +1.9**
comp=Z,6.3nm,0.8s,baz=58,slow=7.3,SNR=1.7
comp=Z,2.8nm,0.5s
AJN **Ajban** **83.23 294** P **P** **10 51 29.9 +0.6**
SMMC **Simmler** **83.34 55** P **P** **10 51 31.4 +1.7**
baz=287
MDPB **Devils Postpil** **83.36 53** P **P** **10 51 31.9 +1.8**
MDPB **Devils Postpil** **83.36 53** IAmb IAmb 10 51 32.5
comp=Z,18nm,0.9s
RYN **Ryan** **83.48 52** IAmb IAmb 10 51 33.0
comp=Z,47nm,0.8s
MCBM **Casa Benchmark** **83.50 53** P **P** **10 51 33.0 +2.3**
VOG **Valley Oaks Go** **83.52 54** P **P** **10 51 31.6 +1.0**
baz=288
MLAC **Mammoth, Mammo** **83.55 53** P **P** **10 51 33.1 +2.1**
MLAC **Mammoth, Mammo** **83.55 53** P **P** **10 51 32.7 +1.7**
baz=288,SNR=16
UMZA **Um Al Zommool** **83.61 292** P **P** **10 51 31.6 +0.3**
LHV **Little Huntoon** **83.61 52** P **P** **10 51 33.0 +2.1**
LHV **Little Huntoon** **83.61 52** IAmb IAmb 10 51 33.9
comp=Z,35nm,0.8s
PKM **Mcpherson Peak** **83.61 56** P **P** **10 51 33.0 +1.7**
baz=287,SNR=28
NV09 **Mina Array Sit** **83.68 52** P **P** **10 51 33.2 +1.6**
NV08 **Mina Array Sit** **83.70 52** P **P** **10 51 33.3 +1.6**
NVAR **Mina Array Bea** **83.71 52** P **P** **10 51 33.4 +1.6**
comp=Z,64nm,0.7s,baz=265,slow=5.9,SNR=635
NVAR pP **pP** **10 52 31.1 +0.6**
comp=Z,12nm,0.8s,baz=272,slow=6.1,SNR=2.7
NV11 **Mina Array Sit** **83.82 52** P **P** **10 51 33.8 +1.5**
NV11 **Mina Array Sit** **83.82 52** IAmb IAmb 10 51 34.7
comp=Z,42nm,0.8s
SBC **Santa Barbara** **83.82 56** P **P** **10 51 33.8 +1.6**
baz=288
BMN **Battle Mountai** **83.89 50** P **P** **10 51 34.1 +1.5**
BMN **Battle Mountai** **83.89 50** IAmb IAmb 10 51 34.5
comp=Z,16nm,0.7s
BMN **Battle Mountai** **83.89 50** P **P** **10 51 34.1 +1.5**
VES **Vestal, Richgr** **83.90 54** P **P** **10 51 32.9 +0.4**
baz=288,SNR=10
BCW **Bitter Crk WRg** **83.91 55** IAmb IAmb 10 51 35.6
comp=Z,49nm,1.4s
MFID **Camas Ranch** **83.92 46** IAmb IAmb 10 51 35.0
comp=Z,59nm,0.9s
SCZ2 **Santa Cruz Isl** **84.02 56** P **P** **10 51 34.2 +1.0**
baz=288
TIN **Tinemaha, Big** **84.18 53** P **P** **10 51 35.3 +1.2**
baz=288
DSP **Deep Springs** **84.28 53** P **P** **10 51 36.2 +1.8**
DSP **Deep Springs** **84.28 53** IAmb IAmb 10 51 37.2
comp=Z,25nm,0.9s
ARVC **Arvin** **84.31 55** P **P** **10 51 35.8 +1.2**
baz=288
SNCC **San Nicolas Is** **84.33 57** IAmb IAmb 10 51 36.9
comp=Z,37nm,0.9s
SNCC **San Nicolas Is** **84.33 57** P **P** **10 51 36.0 +1.2**
baz=288
ISA **Isabella, Lake** **84.42 54** P **P** **10 51 35.8 +0.5**
baz=288,SNR=8.1
MZWR **Madinat Zayed** **84.43 293** P **P** **10 51 35.6 +0.2**
CWC **Cottonwood Cre** **84.49 54** P **P** **10 51 36.6 +0.9**
baz=288
LCH **Last Change Ra** **84.57 53** P **P** **10 51 37.2 +1.2**
LCH **Last Change Ra** **84.57 53** IAmb IAmb 10 51 38.3
comp=Z,20nm,0.8s
MZP **Montezuma Peak** **84.62 52** IAmb IAmb 10 51 38.7
comp=Z,23nm,0.7s
GMN **Gold Mountain** **84.84 53** P **P** **10 51 39.0 +1.5**
GMN **Gold Mountain** **84.84 53** IAmb IAmb 10 51 40.2
comp=Z,38nm,0.8s
HLID **Hailey** **84.85 46** IAmb IAmb 10 51 39.6
comp=Z,24nm,0.8s
HLID **Hailey** **84.85 46** P **P** **10 51 38.7 +1.4**
baz=290,SNR=46
DECC **Green Verdugo** **84.97 56** P **P** **10 51 39.0 +1.1**
baz=288
EDW2 **Edwards Air Fo** **85.04 55** P **P** **10 51 39.8 +1.5**
baz=288,SNR=16
MPMC **Manual Prospec** **85.06 54** P **P** **10 51 39.9 +1.3**
baz=289,SNR=45
LRMC **Laurel Mtn Rad** **85.09 54** P **P** **10 51 39.9 +1.3**
baz=288,SNR=39
CIS **Catalina Islan** **85.17 57** P **P** **10 51 39.8 +0.9**
baz=288,SNR=7.8
ELK **Elko** **85.21 49** IAmb IAmb 10 51 41.7
comp=Z,41nm,0.8s
DMTO **DMTO** **85.25 287** P **P** **10 51 39.5 0.0**
GHWR **Ruwais** **85.25 294** P **P** **10 51 39.4 0.0**
FURC **Furnace Creek,** **85.41 53** P **P** **10 51 41.4 +1.4**
baz=289,SNR=22
WCT **Wildcat Mounta** **85.48 53** P **P** **10 51 41.9 +1.4**
WCT **Wildcat Mounta** **85.48 53** IAmb IAmb 10 51 42.8
comp=Z,33nm,0.8s
BFSC **Mount Baldy Ra** **85.50 56** P **P** **10 51 41.3 +0.6**
baz=289,SNR=6.9
QSM **Queen of Sheba** **85.57 54** P **P** **10 51 42.0 +1.2**
QSM **Queen of Sheba** **85.57 54** IAmb IAmb 10 51 43.0
comp=Z,14nm,0.7s
GWY **Greenwater Val** **85.65 54** P **P** **10 51 42.5 +1.1**
GWY **Greenwater Val** **85.65 54** IAmb IAmb 10 51 43.5
comp=Z,82nm,1.7s
DOK **Doka** **85.72 288** P **P** **10 51 41.7 -0.2**
R11B **Troy Canyon, C** **85.76 51** IAmb IAmb 10 51 44.4
comp=Z,52nm,1.4s
R11B **Troy Canyon, C** **85.76 51** P **P** **10 51 43.4 +1.5**
baz=290,SNR=55
NSP **Numbskull Pass** **85.82 53** P **P** **10 51 43.7 +1.5**
GSC **Goldstone, Bar** **85.83 54** P **P** **10 51 43.6 +1.4**
baz=289,SNR=22
OBN **Obninsk** **85.84 327** *eP* **P** **10 51 40.2 -1.5**
OBN *e**PP **pP** **10 52 40.1 -0.5**
OBN *e**SP **sP** **10 53 07.4 +0.9**
OBN *e* 10 55 05.7
OBN pmax pmax

comp=Z,5.0nm,0.9s
AMDNV **Amargosa** **85.86 53** P **P** **10 51 43.8 +1.6**
S11A **Rachel** **85.87 52** P **P** **10 51 44.3 +1.9**
S11A **Rachel** **85.87 52** IAmb IAmb 10 51 45.0
comp=Z,52nm,0.9s
CPY **CP-1** **85.87 53** P **P** **10 51 43.6 +1.1**
BOZ **Bozeman (W)** **86.00 43** P **P** **10 51 43.9 +1.0**
baz=292,SNR=8.3
MCY **Mercury** **86.03 53** P **P** **10 51 44.7 +1.5**
SHOC **Shoshone, Teco** **86.04 54** P **P** **10 51 44.5 +1.3**
baz=289,SNR=13
MURC **Murrieta** **86.07 56** P **P** **10 51 44.3 +0.9**
baz=289
BBRC **Big Bear Solar** **86.08 55** P **P** **10 51 44.5 +0.9**
baz=289
Q12A **Willow Creek R** **86.08 50** P **P** **10 51 45.1 +1.6**
Q12A **Willow Creek R** **86.08 50** IAmb IAmb 10 51 46.0
comp=Z,54nm,0.8s
WHFO **Wadi Hawf** **86.26 288** P **P** **10 51 44.1 -0.5**
EGMT **Eagleton** **86.28 41** P **P** **10 51 45.1 +1.0**
baz=293,SNR=9.1
HEC **Hector,Ludlow** **86.35 55** P **P** **10 51 45.9 +1.2**
baz=289
109C **Camp Elliot, M** **86.37 57** IAmb IAmb 10 51 46.8
comp=Z,32nm,1.1s
109C **Camp Elliot, M** **86.37 57** P **P** **10 51 45.9 +1.1**
baz=289
TUQ **Turquoise Moun** **86.47 54** P **P** **10 51 46.7 +1.3**
baz=290,SNR=22
PRN **Pahroc Range** **86.47 52** P **P** **10 51 47.0 +1.6**
PRN **Pahroc Range** **86.47 52** IAmb IAmb 10 51 48.0
comp=Z,38nm,1.0s
GNI **Garni** **86.58 311** *i* P **P** **10 51 44.6 -1.3**
GNI pmax pmax
comp=Z,11nm,1.3s
KBZ **Khabaz** **86.59 315***ce*P **P** **10 51 43.8 -1.8**
KBZ pmax pmax
comp=Z,10.0nm,1.0s
KBZ **Khabaz** **86.59 315** P **P** **10 51 44.8 -0.8**
comp=Z,6.5nm,0.8s,baz=84,slow=7.8,SNR=11
comp=Z,6.5nm,0.8s
HVU **Hansel Valley** **86.60 47** IAmb IAmb 10 51 48.5
comp=Z,40nm,1.1s
KIV **Kislovodsk** **86.64 315** *eP* **P** **10 51 45.6 -0.4**
KIV pmax pmax
comp=Z,11nm,1.1s
PFO **Pinyon Flats O** **86.65 56** P **P** **10 51 47.3 +0.9**
PFO **Pinyon Flats O** **86.65 56** *i* P **P** **10 51 46.0 -0.3**
PFO pmax pmax
comp=Z,33nm,1.1s
PFO **Pinyon Flats O** **86.65 56** P **P** **10 51 47.2 +0.9**
baz=289,SNR=16
TPFO **Pinon Flats** **86.66 56** P **P** **10 51 47.4 +1.0**
baz=289,SNR=16
ABTO **Aybut** **86.86 287** P **P** **10 51 47.3 -0.2**
BELC **Belle Mtn. Jos** **86.88 55** P **P** **10 51 48.3 +0.9**
baz=290,SNR=17
GMRC **Granite Mounta** **86.89 55** P **P** **10 51 48.7 +1.2**
baz=290
MONP2 **Monument Peak** **86.92 57** P **P** **10 51 48.8 +1.1**
baz=289,SNR=15
YNR **Norris Junctio** **86.95 44** IAmb IAmb 10 52 55.4
comp=Z,31nm,1.1s
SPUT **South Promonto** **87.00 48** IAmb IAmb 10 51 50.1
comp=Z,25nm,0.9s
H17A **Grant Village** **87.14 44** P **P** **10 51 51.6 +3.0**
baz=292,SNR=10
DUG **Dugway, Tooele** **87.14 49** P **P** **10 51 48.9 +1.2**
DUG **Dugway, Tooele** **87.14 49** P **P** **10 51 49.9 +1.3**
baz=291,SNR=56
FLWY **Flagg Ranch** **87.17 44** IAmb IAmb 10 52 54.7
comp=Z,17nm,0.8s
V12A **Nelson** **87.19 53** IAmb IAmb 10 51 51.4
comp=Z,44nm,0.8s
IKP **In-Ko-Pah, Jac** **87.24 57** P **P** **10 51 50.1 +1.0**
baz=290,SNR=8.4
YMP **Mirror Lake Pl** **87.28 44** IAmb IAmb 10 52 55.7
comp=Z,24nm,0.8s
SWSC **Sam W. Stewart** **87.39 56** P **P** **10 51 50.6 +0.9**
baz=290
YUH **Yuha Desert** **87.39 57** IAmb IAmb 10 51 51.9
comp=Z,40nm,1.6s
BC3 **Big Chuckawall** **87.43 56** P **P** **10 51 51.3 +1.3**
baz=290,SNR=22
IRM **Iron Mountain** **87.50 55** P **P** **10 51 51.5 +1.3**
baz=290,SNR=6.0
HWUT **Hardware Ranch** **87.51 47** IAmb IAmb 10 51 52.5
comp=Z,28nm,0.9s
FINES **FINESS Array B** **87.52 335** P **P** **10 51 47.6 -2.1**
comp=Z,1.4nm,0.3s,baz=11,slow=1.4,SNR=20
comp=Z,1.4nm,0.3s
CCUT **Cedar City** **87.68 51** IAmb IAmb 10 51 54.0
comp=Z,22nm,0.8s
NEE2 **Needles Airpor** **87.70 54** P **P** **10 51 52.6 +1.5**
baz=290
CTU **Camp Tracy** **87.72 48** IAmb IAmb 10 51 53.4
comp=Z,22nm,0.9s
RLMT **Red Lodge** **87.72 43** P **P** **10 51 52.7 +1.4**
baz=293,SNR=22
NLU **North Lily Min** **87.75 49** IAmb IAmb 10 51 53.7
comp=Z,26nm,0.8s
FFC **Flin Flon** **87.80 32** P **P** **10 51 51.5 +0.4**
FFC IAmb IAmb 10 51 52.6
comp=Z,37nm,1.4s
FFC **Flin Flon** **87.80 32** P **P** **10 51 51.5 +0.4**
FFC pmax pmax
comp=Z,37nm,1.4s
SZCU **Shurtz Canyon** **87.87 51** IAmb IAmb 10 51 54.5
comp=Z,21nm,0.8s
LCMT **Little Creek M** **87.96 52** IAmb IAmb 10 51 55.1
comp=Z,18nm,0.8s
TCRU **Three Creeks R** **87.97 50** IAmb IAmb 10 51 55.2
comp=Z,21nm,0.8s
MPU **Maple Canyon** **88.05 49** IAmb IAmb 10 51 55.1
comp=Z,21nm,0.9s
W13A **Hualapai Mount** **88.15 54** IAmb IAmb 10 51 55.9
comp=Z,21nm,0.7s
PDMCI **Parker Dam,Lak** **88.23 55** P **P** **10 51 55.2 +1.6**
baz=291,SNR=26
BW06 **Boulder Array** **88.44 45** P **P** **10 51 55.3 +0.6**
baz=293
PDAR **Pinedale Array** **88.45 45** P **P** **10 51 54.4 -0.4**
comp=Z,4.1nm,0.7s,baz=202,slow=0.8,SNR=26
PDAR pP **pP** **10 52 53.9 -0.3**
comp=Z,1.3nm,0.7s,baz=352,slow=6.6,SNR=2.0
comp=Z,4.1nm,0.7s
PKCU **Pink Cliffs** **88.50 51** IAmb IAmb 10 51 58.6
comp=Z,77nm,1.6s
SFX **San Felipe** **88.80 58** IAmb IAmb 10 51 58.5
comp=Z,24nm,0.9s
U15A **North Rim** **88.88 52** IAmb IAmb 10 51 59.7
comp=Z,26nm,0.9s
P17A **Butcher Ranch,** **88.89 49** IAmb IAmb 10 51 59.1
comp=Z,22nm,0.9s
LAO **LASA Array** **89.01 41** IAmb IAmb 10 51 59.0
comp=Z,22nm,0.9s
LAO **LASA Array** **89.01 41** P **P** **10 51 58.0 +0.8**
baz=295,SNR=16
LAO **LASA Array** **89.01 41** P **P** **10 51 57.5 +0.4**
baz=295
P18A **Preston Nutter** **89.18 48** IAmb IAmb 10 52 00.4
comp=Z,15nm,0.7s
Y14A **Wickenburg** **89.24 55** IAmb IAmb 10 52 00.9
comp=Z,34nm,0.8s
RDMU **Red Mountain** **89.30 47** IAmb IAmb 10 52 00.8
comp=Z,16nm,0.9s
DGMT **Dagmar** **89.47 39** P **P** **10 51 59.7 +0.5**
baz=297
DGMT **Dagmar** **89.47 39** P **P** **10 51 59.4 +0.2**
baz=297
HMU **Henry Mountain** **89.47 50** IAmb IAmb 10 52 01.5
comp=Z,27nm,0.7s
SUMG **Summit** **89.67 1** P **P** **10 51 59.8 -0.3**
WUAZ **Wupatki** **89.91 53** IAmb IAmb 10 52 05.0
comp=Z,30nm,1.0s
WUAZ **Wupatki** **89.91 53** P **P** **10 52 03.4 +1.7**
baz=292,SNR=28
214A **Organ Pipe Nat** **90.10 56** IAmb IAmb 10 52 05.1
comp=Z,29nm,0.9s
214A **Organ Pipe Nat** **90.10 56** P **P** **10 52 04.2 +1.7**
baz=291,SNR=12
O20A **White River Ci** **90.40 47** IAmb IAmb 10 52 05.7
comp=Z,17nm,0.8s
O20A **White River Ci** **90.40 47** P **P** **10 52 04.6 +0.7**
baz=294,SNR=15
RWWY **Rawlins** **90.48 46** IAmb IAmb 10 52 05.7
comp=Z,30nm,1.5s
MNK **Minsk** **90.53 329** *i* P **P** **10 52 01.5 -2.4**

MNK				*i* *PP	**pP**	10 53 02.1	-1.3	
MNK				*i*		10 55 39.8		
MNK				*i* PPP	PPP	10 57 43.1		
MNK				*i* S	**SKSac**	**11 02 08.0**	**-3.0**	
MNK				*i* SS	**SS**	**11 08 43.5**	**0.0**	
MNK				*i* SSS	SSS	11 12 22.8		
MNK				pmax	pmax			
	comp=N,11nm,0.8s							
MNK				pmax	pmax			
	comp=E,8.0nm,1.1s							
MNK				pmax	pmax			
	comp=Z,14nm,0.6s							
K22A	**Casper**	**90.53**	**45**	P	**P**	**10 52 04.9**	**+0.5**	
	baz=295,SNR=6.1							
K22A	**Casper**	**90.53**	**45**	P	**P**	**10 52 05.1**	**+0.7**	
	baz=295							
W18A	**Petrified Fore**	**91.30**	**52**	P	**P**	**10 52 08.7**	**+0.5**	
	baz=293							
X18A	**Snowflake**	**91.37**	**53**	IAmb	IAmb	10 52 11.0		
	comp=Z,14nm,0.8s							
MVCO	**Mesa Verde**	**91.39**	**50**	IAmb	IAmb	10 52 10.8		
	comp=Z,20nm,1.1s							
MVCO	**Mesa Verde**	**91.39**	**50**	P	**P**	**10 52 09.9**	**+1.2**	
	baz=294,SNR=13							
RSSD	**Black Hills**	**91.52**	**42**	P	**P**	**10 52 09.6**	**+0.6**	
RSSD	**Black Hills**	**91.52**	**42**	P	**P**	**10 52 09.6**	**+0.6**	
RSSD				pmax	pmax			
	comp=Z,10.0nm,1.0s							
RSSD	**Black Hills**	**91.52**	**42**	P	**P**	**10 52 09.7**	**+0.6**	
	baz=297							
RSSD	**Black Hills**	**91.52**	**42**	P	**P**	**10 52 08.0**	**-1.1**	
	baz=297							
ARPR	**Arapgir-MALATY**	**91.56**	**312**	IAmb	IAmb	10 52 10.4		
	comp=Z,26nm,1.5s							
TUC	**Tucson**	**91.57**	**55**	P	**P**	**10 52 10.3**	**+1.0**	
TUC	**Tucson**	**91.57**	**55**	P	**P**	**10 52 10.3**	**+1.0**	
TUC				pmax	pmax			
	comp=Z,16nm,1.2s							
TUC	**Tucson**	**91.57**	**55**	P	**P**	**10 52 10.9**	**+1.6**	
	baz=292							
N23A	**Red Feather La**	**91.68**	**46**	IAmb	IAmb	10 52 12.5		
	comp=Z,35nm,1.1s							
N23A	**Red Feather La**	**91.68**	**46**	P	**P**	**10 52 11.5**	**+1.6**	
	baz=296,SNR=18							
SMCO	**Snowmass**	**91.69**	**48**	IAmb	IAmb	10 52 12.3		
	comp=Z,20nm,0.8s							
RAYN	**Ar Rayn**	**91.78**	**295**	P	**P**	**10 52 10.0**	**-0.5**	
RAYN	**Ar Rayn**	**91.78**	**295**	P	**P**	**10 52 09.4**	**-1.0**	
RAYN				pmax	pmax			
	comp=Z,4.0nm,0.8s							
AKASG	**Malin Array Be**	**91.85**	**325**	P	**P**	**10 52 07.9**	**-2.2**	
	comp=Z,0.3nm,0.4s,baz=63,slow=0.6,SNR=1.4							
	comp=Z,0.3nm,0.4s							
ISCO	**Idaho Springs**	**92.38**	**47**	P	**P**	**10 52 14.3**	**+1.2**	
	baz=296,SNR=9.2							
ISCO	**Idaho Springs**	**92.38**	**47**	P	**P**	**10 52 13.4**	**+0.2**	
	baz=296							
E28A	**Huff**	**92.45**	**39**	P	**P**	**10 52 13.6**	**+0.6**	
	baz=299							
MDND	**Maddock**	**92.47**	**38**	P	**P**	**10 52 13.4**	**+0.4**	
	baz=300							
HSIG		**92.68**	**58**	IAmb	IAmb	10 52 16.6		
	comp=Z,18nm,0.7s							
HFS	**Hagfors**	**93.04**	**338**	P	**P**	**10 52 13.0**	**-2.4**	
	comp=Z,0.9nm,0.5s,baz=57,slow=5.3,SNR=5.7							
	comp=Z,0.9nm,0.5s							
Q24A	**Divide**	**93.06**	**47**	P	**P**	**10 52 16.8**	**+0.5**	
	baz=296							
ULM	**Lac du Bonnet**	**93.29**	**34**	P	**P**	**10 52 16.2**	**-0.6**	
	comp=Z,1.4nm,0.5s,baz=298,slow=5.3,SNR=4.0							
	comp=Z,1.4nm,0.5s							
SDCO	**Great Sand Dun**	**93.34**	**49**	IAmb	IAmb	10 52 20.1		
	comp=Z,33nm,1.9s							
SDCO	**Great Sand Dun**	**93.34**	**49**	P	**P**	**10 52 18.6**	**+1.0**	
	baz=296,SNR=7.9							
SDCO	**Great Sand Dun**	**93.34**	**49**	P	**P**	**10 52 18.3**	**+0.6**	
	baz=296							
121A	**Cookes Peak, D**	**93.82**	**54**	P	**P**	**10 52 20.7**	**+0.9**	
	baz=294							
ANMO	**Albuquerque**	**93.83**	**52**	P	**P**	**10 52 20.5**	**+0.7**	
ANMO	**Albuquerque**	**93.83**	**52**	P	**P**	**10 52 20.5**	**+0.7**	
ANMO				pmax	pmax			
	comp=Z,8.0nm,1.1s							
ANMO	**Albuquerque**	**93.83**	**52**	P	**P**	**10 52 20.9**	**+1.0**	
	baz=295							
ANMO	**Albuquerque**	**93.83**	**52**	P	**P**	**10 52 20.9**	**+1.0**	
	baz=295							
Y22A	**Socorro**	**93.87**	**53**	P	**P**	**10 52 20.1**	**+0.1**	
	baz=295							
AGMN	**Agassiz Nation**	**94.37**	**36**	P	**P**	**10 52 22.2**	**+0.5**	
	baz=303							
T25A	**Trinidad**	**94.39**	**49**	P	**P**	**10 52 22.5**	**+0.2**	
	baz=296							
BRTR	**Keskin Array B**	**94.55**	**314**	*i* P	**P**	**10 52 21.8**	**-1.1**	
BRTR				pmax	pmax			
	comp=Z,4.0nm,0.6s							
BRTR	**Keskin Array B**	**94.55**	**314**	P	**P**	**10 52 21.9**	**-1.0**	
	comp=Z,3.6nm,0.7s,baz=76,slow=4.2,SNR=9.1							
	comp=Z,3.6nm,0.7s							
SUSD	**Miller**	**94.57**	**40**	P	**P**	**10 52 23.2**	**+0.4**	
	baz=301							
KSCO	**Kaye Shedlock'**	**94.80**	**47**	IAmb	IAmb	10 52 26.2		
	comp=Z,12nm,1.0s							
KSCO	**Kaye Shedlock'**	**94.80**	**47**	P	**P**	**10 52 24.8**	**+0.7**	
	baz=298							
K30B	**Basset**	**95.05**	**42**	IAmb	IAmb	10 52 25.7		
	comp=Z,19nm,1.0s							
K30B	**Basset**	**95.05**	**42**	P	**P**	**10 52 25.2**	**+0.2**	
	baz=300							
F33A	**5 Mile Ranch,**	**95.45**	**38**	P	**P**	**10 52 26.3**	**-0.4**	
	baz=303							
MNTX	**Cornudas Mount**	**96.02**	**54**	P	**P**	**10 52 30.8**	**+1.2**	
	baz=295,SNR=11							
MNTX	**Cornudas Mount**	**96.02**	**54**	P	**P**	**10 52 30.3**	**+0.7**	
	baz=295							
AMTX	**Amarillo**	**97.38**	**50**	IAmb	IAmb	10 52 37.5		
	comp=Z,9.5nm,1.0s							
AMTX	**Amarillo**	**97.38**	**50**	P	Pdif	10 52 36.7	+0.8	
	baz=298							
AMTX	**Amarillo**	**97.38**	**50**	P	Pdif	10 52 36.7	+0.8	
	baz=298							
POST	**Post**	**98.35**	**51**	IAmb	IAmb	10 52 41.7		
	comp=Z,5.3nm,0.7s							
TX31	**Lajitas Ar. Si**	**98.37**	**56**	IAmb	IAmb	10 53 22.1		
	comp=Z,18nm,2.0s							
TXAR	**Lajitas Array**	**98.37**	**56**	P	**P**	**10 52 38.6**	**-1.7**	
	comp=Z,0.5nm,0.7s,baz=299,slow=1.9,SNR=3.8							
TXAR				PP	**PP**	**10 56 43.9**	**+0.4**	
	comp=Z,0.7nm,0.8s,baz=289,slow=5.6,SNR=4.2							
TXAR				PKKPbc	**PKKPbc**	**11 09 10.8**	**+0.5**	
	comp=Z,0.6nm,0.5s,baz=128,slow=5.8,SNR=6.2							
	comp=Z,0.5nm,0.7s							
WMOK	**Wichita Mounta**	**99.54**	**49**	P	**Pdif**	**10 52 45.9**	**+0.5**	
	baz=300							
WMOK	**Wichita Mounta**	**99.54**	**49**	P	**Pdif**	**10 52 46.2**	**+0.8**	
	baz=300							
ABTX	**Abilene, Hawle**	**99.94**	**51**	P	**Pdif**	**10 52 48.1**	**+0.9**	
	baz=299							
JCT	**Junction City**	**100.84**	**53**	P	**Pdif**	**10 52 52.4**	**+1.1**	
	baz=298							
WHTX	**Lake Whitney,**	**101.86**	**51**	P	**Pdif**	**10 52 56.6**	**+0.8**	
	baz=300							
833A	**Chaparral WMA,**	**102.17**	**55**	P	**Pdif**	**10 52 58.1**	**+0.9**	
	baz=298							
QSPA	**South Pole Qui**	**107.75**	**180**	PKiKP	**PKiKP**	**10 57 25.9**	**-1.3**	
	comp=Z,1.4nm,0.9s,baz=320,slow=3.2,SNR=13							
QSPA				PKKPbc	**PKKPbc**	**11 08 40.4**	**-4.6**	
	comp=Z,1.4nm,1.0s,baz=292,slow=5.4,SNR=2.2							
QSPA				PKKP	**PKKPab**	**11 08 54.0**	**-1.3**	
	comp=Z,0.6nm,0.8s,baz=225,slow=1.4,SNR=1.5							
ESDC	**Sonseca Array**	**116.01**	**334**	PKP	**PKPdf**	**10 57 43.4**	**-0.5**	
	comp=Z,0.7nm,0.7s,baz=345,slow=4.0,SNR=2.3							
ESDC				PKKPbc	**PKKPbc**	**11 08 11.7**	**-4.6**	
	comp=Z,0.5nm,0.4s,baz=213,slow=3.8,SNR=2.9							
ESDC				PKKPab	**PKKPab**	**11 08 21.3**	**-1.7**	
	comp=Z,1.7nm,0.8s,baz=239,slow=5.7,SNR=8.2							
LSZ	**Lusaka**	**120.17**	**262**	PKPdf	**PKiKP**	**10 57 52.8**	**+0.2**	
LSZ	**Lusaka**	**120.17**	**262**	PKIKP	**PKiKP**	**10 57 52.8**	**+0.2**	
LSZ	**Lusaka**	**120.17**	**262**	P	**PKiKP**	**10 57 52.7**	**+0.1**	
SNAA	**Sanae**	**123.16**	**191**	PKP	**PKPdf**	**10 57 54.3**	**-2.3**	
	comp=Z,1.7nm,0.6s,baz=193,slow=6.9,SNR=6.2							
LBTB	**Lobatse**	**124.07**	**252**	PKPdf	**PKiKP**	**10 58 00.3**	**+0.2**	
LBTB	**Lobatse**	**124.07**	**252**	PKIKP	**PKiKP**	**10 58 00.3**	**+0.2**	
BOSA	**Boshof**	**124.63**	**247**	PKP	**PKPdf**	**10 57 59.1**	**-1.6**	
	comp=Z,3.2nm,0.8s,baz=100,slow=1.3,SNR=4.1							
TORD	**Torodi Ar. Bea**	**132.83**	**308**		**PKPdf**	**10 58 16.3**	**-0.3**	
TORD	**Torodi Ar. Bea**	**132.83**	**308**	PKP	**PKPdf**	**10 58 15.1**	**-1.5**	
	comp=Z,1.2nm,0.5s,baz=28,slow=3.0,SNR=14							
TORD				SKPbc	**SKPbc**	**11 01 18.1**	**-2.3**	
	comp=Z,5.4nm,0.9s,baz=43,slow=6.7,SNR=16							
SDV	**Santo Domingo**	**135.41**	**56**		**PKPdf**	**10 58 21.2**	**-0.5**	
BAUV	**El Baul**	**137.40**	**54**	PKPdf	**PKPdf**	**10 58 24.6**	**-0.5**	
PLCA	**Paso Flores**	**141.57**	**134**	PKhKP	PKPpre	10 58 26.7		
	comp=Z,2.5nm,0.6s,baz=224,slow=3.4,SNR=14							
PLCA				SKPbc	**SKPbc**	**11 01 44.7**	**-0.6**	
	comp=Z,1.4nm,0.7s,baz=224,slow=3.1,SNR=4.5							
DBIC	**Dimbokro**	**141.91**	**307**	PKhKP	PKPpre	10 58 27.9		
	comp=Z,6.6nm,0.5s,baz=46,slow=3.8,SNR=9.2							
KIC	**Kosan Boka**	**142.02**	**307**	⇑*e*PKIKP	**PKPdf**	**10 58 29.3**	**-4.2**	
	comp=Z,15nm,0.7s							
TIC	**Toumodi**	**142.05**	**307**	⇑*e*PKIKP	**PKPdf**	**10 58 29.3**	**-4.3**	
	comp=Z,6.3nm,0.5s							
LIC	**Lamto**	**142.33**	**307**	⇑*e*PKIKP	**PKPdf**	**10 58 29.4**	**-4.7**	
	comp=Z,22nm,0.5s							
MT09	**Talagante**	**143.74**	**123**		PKPbc	10 58 34.9	+0.4	
MT16	**CCHEN**	**144.22**	**123**		**PKPdf**	**10 58 36.8**	**-0.1**	
LCO	**Las Campanas**	**145.09**	**115**		**PKPab**	**10 58 39.1**	**-0.1**	
LCO	**Las Campanas**	**145.09**	**115**	PKP2	**PKPab**	**10 58 39.1**	**-0.1**	
PB08	**IPOC Station P**	**147.14**	**99**	PKPdf	**PKPdf**	**10 58 43.0**	**+0.3**	
PB08				PKPbc	**PKiKP**	**10 58 46.4**	**-1.0**	
LVC	**Limon Verde**	**147.38**	**104**	PKPdf	**PKPdf**	**10 58 43.2**	**+0.3**	
LVC				PKPbc	**PKiKP**	**10 58 46.9**	**-0.9**	
LVC	**Limon Verde**	**147.38**	**104**	PKIKP	**PKPdf**	**10 58 43.2**	**+0.3**	
LVC						10 58 46.9		
LVC	**Limon Verde**	**147.38**	**104**	PKPbc	**PKPdf**	**10 58 43.5**	**+0.6**	
	comp=Z,18nm,0.6s,baz=282,slow=2.3,SNR=47							
LPAZ	**La Paz**	**147.78**	**92**	PKPbc	**PKPdf**	**10 58 44.4**	**+0.4**	
	comp=Z,20nm,0.5s,baz=301,slow=1.1,SNR=41							
LPAZ	**La Paz**	**147.78**	**92**	*e*P	**PKPdf**	**10 58 44.5**	**+0.4**	
ETMB	**Extrema**	**148.15**	**80**		**PKPbc**	**10 58 47.1**	**-0.5**	
TRQA	**Tornquist**	**148.68**	**135**	PKPbc	**PKPbc**	**10 58 48.2**	**-0.1**	
TRQA				PKPab	**PKPab**	**10 58 53.4**	**+0.7**	
TRQA	**Tornquist**	**148.68**	**135**	PKP2	**PKPbc**	**10 58 48.2**	**-0.1**	
SAML	**Samuel**	**150.68**	**76**	PKPbc	**PKPbc**	**10 58 53.7**	**-0.1**	
SAML				PKPab	**PKPab**	**10 59 01.9**	**+0.3**	
SAML	**Samuel**	**150.68**	**76**	PKIKP	**PKPbc**	**10 58 53.7**	**-0.1**	
SAML						10 59 01.9		
SAML	**Samuel**	**150.68**	**76**	*e*P	**PKPdf**	**10 58 44.5**	**-3.6**	
VILB	**Vilhena**	**154.69**	**82**	PKPab	**PKPab**	**10 59 19.5**	**+0.9**	
MALB	**Monte Alegre**	**154.81**	**53**	*e*P	**PKPdf**	**10 58 51.3**	**-2.8**	
CPUP	**Villa Florida**	**157.24**	**116**	PKPab	**PKPab**	**10 59 30.8**	**+1.6**	
CPUP	**Villa Florida**	**157.24**	**116**	PKP2	**PKPab**	**10 59 30.8**	**+1.6**	
CPUP	**Villa Florida**	**157.24**	**116**	PKPab	**PKPab**	**10 59 29.1**	**-0.1**	
	comp=Z,17nm,1.0s,baz=266,slow=4.8,SNR=19							
BB19B	**Bebedouro**	**166.35**	**105**	*e*P	**PKPab**	**11 00 10.7**	**+1.3**	

IDC 07 10:51:39.4±8.2, 22°.43S×177°.95W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=208.8km s-min=45.1km az=32.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.02**	**246**	P	P	10 58 49.4	-1.6
	0.7nm,0.4s,baz=78,slow=9.3,SNR=1.5						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**44.15**	**259**	P	P	10 59 50.0	-0.1
	0.6nm,0.6s,baz=94,slow=7.9,SNR=8.2						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**44.41**	**264**	P	P	10 59 52.9	+0.7
	1.2nm,0.4s,baz=98,slow=6.7,SNR=14						
	1.2nm,0.4s						
QSPA	**South Pole Qui**	**67.64**	**180**	P	P	11 02 38.2	+0.2
	0.6nm,1.0s,baz=22,slow=5.4,SNR=0.7						
	0.6nm,1.0s						

*TEH **07** 11:18:40.1, 39°.53N×53°.20E, h11km, ML3.5*
ISC 07 11:18:41.5±1.2, 39°.61N±0°.07×53°.23E±0°.06, h10km, n20, σ0s79/22, 3C-1D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRVT	**Maraveh tapeh**	**2.97**	**130**	Pn	**Pn**	**11 19 28.8**	**+0.1**
IGLO	**Ghaloghah**	**3.14**	**171**	Pn	**Pn**	**11 19 30.4**	**-0.8**
IALA	**Alasht**	**3.54**	**186**	Pn	**Pn**	**11 19 36.1**	**-0.7**
ASTR	**Astara**	**3.61**	**254**	Pn	**Pn**	**11 19 37.4**	**0.0**
LRK	**Lerik**	**3.92**	**257**	Pn	**Pn**	**11 19 41.9**	**0.0**
YRD	**Yardimli**	**3.94**	**261**	Pn	**Pn**	**11 19 42.6**	**+0.5**
JIR1	**Jirandeh**	**3.96**	**224**	Pn	**Pn**	**11 19 41.7**	**-0.8**
IFIR	**Firoozkooh**	**3.98**	**186**	Pn	**Pn**	**11 19 43.0**	**+0.2**
IDMV	**Damavand**	**4.14**	**194**	Pn	**Pn**	**11 19 45.0**	**0.0**
GRMI	**Germi**	**4.22**	**261**	Pn	**Pn**	**11 19 46.4**	**+0.4**
ISFR	**Sfrayin**	**4.54**	**123**	Pn	**Pn**	**11 19 51.6**	**+1.2**
ISRB	**Sarab**	**4.70**	**249**	Pn	**Pn**	**11 19 52.5**	**-0.2**
IVRN	**Varamin**	**4.76**	**195**	Pn	**Pn**	**11 19 53.3**	**0.0**
IEMG	**Emamgholi**	**4.78**	**116**	Pn	**Pn**	**11 19 54.1**	**+0.3**
IHRS	**Heris**	**4.99**	**257**	Pn	**Pn**	**11 19 57.4**	**+0.7**
ISFB	**Sefidab**	**5.31**	**189**	Pn	**Pn**	**11 20 01.0**	**+0.1**
GDB	**GEDABAY**	**5.83**	**283**	Pn	**Pn**	**11 20 09.0**	**+0.9**
TKDS	**Koohdasht(Taba**	**6.75**	**151**	Pn	**Pn**	**11 20 21.4**	**+0.6**
AB31	**Akbulak array**	**10.76**	**24**	⇑Pn	**Pn**	**11 21 15.2**	**-0.3**
	0.2nm,0.3s,baz=205,slow=14,SNR=10						
AB31				⇑Sn	**Sn**	**11 23 16.8**	**+0.8**
	0.9nm,0.6s,baz=202,slow=25,SNR=5.0						
AKTO	**Aktyubinsk**	**11.34**	**16**	⇓Pn	**Pn**	**11 21 24.3**	**+0.9**
	1.1nm,0.7s						
AKTO				⇑Sn	**Sn**	**11 23 27.8**	**-2.3**
	1.7nm,1.1s						

*SOME **07** 11:23:57.6, 37°.93N×74°.87E, h10km*
*IDC **07** 11:24:04.8±1.5, 37°.53N×74°.45E, h0km, mb3.6/5, mbtmp3.5/8, ML3.0/3, MS3.1/1, Error ellipse: s-maj=29.3km s-min=22.6km az=102.0*
*NNC **07** 11:24:09.0±2.8, 37°.62N×74°.52E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=21.1km s-min=14.9km az=165.0*
ISC 07 11:24:12.1±1.3, 38°.45N±0°.08×74°.69E±0°.05, h10km, n27, σ1s86/39, mb3.5/5, 5C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**4.19**	**358**	Pn	**Pb**	**11 25 26.4**	**+0.5**
	0.7nm,0.3s,baz=163,slow=6.7,SNR=8.8						
AAK				Sn	**Sg**	**11 26 27.7**	**+1.2**
	0.3nm,0.3s,baz=137,slow=9.4,SNR=1.7						
AAK				Lg	Lg	11 26 47.1	
	0.4nm,0.3s,baz=47,slow=5.9,SNR=3.7						
	2.6nm,0.6s						
MRKS	**Merke**	**4.43**	**346**	*e*P	**Pb**	**11 25 28.6**	**-1.6**
	5.1nm,0.7s						
MRKS				*e*S	**Sg**	**11 26 34.1**	**-0.3**
	6.1nm,0.5s						
TKM2	**Tokmak 2**	**4.52**	**8**	⇑Pn	**Pb**	**11 25 30.6**	**-1.0**
	6.8nm,0.5s						
TKM2				⇑Sn	**Sg**	**11 26 35.0**	**-2.3**
	20nm,0.7s						
KST	**Kastek**	**4.69**	**12**	*e*P	**Pb**	**11 25 31.8**	**-2.7**
	4.0nm,0.7s						
KST				*e*S	**Sg**	**11 26 39.9**	**-2.8**
	10.0nm,0.9s						
DGS	**Degeres**	**4.86**	**9**	*e*P	**Pb**	**11 25 35.8**	**-1.6**
	10nm,0.7s						
DGS				*e*S	**Sg**	**11 26 46.7**	**-1.4**
	5.7nm,0.9s						
MTBS	**Maitube**	**4.86**	**15**	*e*P	**Pb**	**11 25 36.3**	**-1.1**
	3.1nm,0.3s						
MTBS				*e*S	**Sg**	**11 26 47.5**	**-0.6**
	9.1nm,1.1s						
TNSS	**Tian-Shan**	**4.89**	**20**	*e*P	**Pb**	**11 25 36.9**	**-1.2**
	3.6nm,0.5s						
TNSS				*e*S	**Sg**	**11 26 48.5**	**-0.7**
	3.8nm,0.7s						
MDOK	**Medeo**	**5.04**	**20**	*e*P	**Pb**	**11 25 39.6**	**-0.9**
	3.9nm,0.3s						
MDOK				*e*S	**Sg**	**11 26 53.2**	**-0.6**
	13nm,1.0s						
MDOK	**Medeo**	**5.04**	**20**	⇑Pg	Pg	11 25 54.8	+6.1
	3.5nm,0.6s						
MDOK				Lg	Lg	11 27 14.1	
	16nm,0.8s						
KOTS	**Kotyrbulak**	**5.12**	**20**	*e*P	**Pb**	**11 25 42.0**	**+0.1**
	5.4nm,0.4s						
KOTS				*e*S	**Sg**	**11 26 57.1**	**+0.6**
	24nm,0.9s						
IUG	**Iuzhnay**	**5.13**	**318**	*e*P	**Pb**	**11 25 41.7**	**-0.3**
	16nm,0.5s						
IUG				*e*S	**Sg**	**11 26 56.7**	**-0.1**
	28nm,0.6s						
KRBS	**Karabastau**	**5.30**	**8**	*e*P	**Pb**	**11 25 44.4**	**-0.4**
	3.2nm,0.6s						
KRBS				*e*S	**Sg**	**11 27 01.4**	**-0.7**
	7.5nm,0.9s						
SATY	**Saty**	**5.40**	**30**	*e*P	**Pb**	**11 25 45.2**	**-1.4**
	5.4nm,1.0s						
SATY				*e*S	**Sg**	**11 27 02.9**	**-2.6**
	17nm,1.5s						
KTBS	**Karatobe**	**5.47**	**15**	*e*P	**Pb**	**11 25 47.7**	**0.0**
	4.4nm,1.0s						
KTBS				*e*S	**Sg**	**11 27 07.2**	**-0.5**
	10nm,0.8s						
KUU	**Kurty**	**5.58**	**12**	*e*P	**Pb**	**11 25 50.6**	**+1.0**
	3.6nm,0.1s						
KUU				*e*S	**Sg**	**11 27 12.1**	**+0.9**
	15nm,0.5s						
KK31	**Karatay Array**	**5.63**	**327**	Pn	Pb	11 25 43.1	-7.3
	2.0nm,0.5s,baz=140,slow=14,SNR=28						
KK31				⇑Sn	**Sb**	**11 26 55.5**	**-2.4**
	3.8nm,0.5s,baz=144,slow=12,SNR=5.5						
UZB	**Uzynbulak**	**5.73**	**34**	*e*P	**Pb**	**11 25 50.6**	**-1.6**
	5.2nm,0.2s						
UZB				*e*S	**Sg**	**11 27 12.3**	**-3.8**
	4.4nm,0.5s						
BRLS	**Boroldaу**	**5.88**	**323**	*e*P	**Pb**	**11 25 53.9**	**-0.7**
	2.2nm,0.6s						
BRLS				*e*S	**Sg**	**11 27 17.7**	**-2.9**
	3.2nm,0.4s						
PDGK	**Podgornoye**	**6.08**	**35**	⇓Pg	**Pg**	**11 26 12.7**	**+4.1**
	4.9nm,0.7s						
PDGK				⇑Lg	Lg	11 27 44.9	
	18nm,1.1s						
MKAR	**Makanchi Array**	**10.04**	**31**	Pn	Pn	11 26 43.5	+7.2
	0.1nm,0.3s,baz=215,slow=12,SNR=2.5						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**16.99**	**21**	P	**P**	**11 28 14.8**	**+3.3**
	0.4nm,0.3s,baz=215,slow=9.8,SNR=2.5						
	0.5nm,0.2s						
SONM	**Songino Array**	**24.82**	**58**	P	**P**	**11 29 36.4**	**+2.0**
	0.8nm,0.8s,baz=258,slow=9.0,SNR=2.9						
	0.8nm,0.8s						
BRTR	**Keskin Array B**	**31.69**	**285**	LR	LR	11 47 09.3	
	comp=Z,35nm,19.8s,baz=282,slow=44						
ARCES	**ARCESS Array B**	**40.52**	**336**	P	**P**	**11 31 52.3**	**+1.4**
	0.5nm,0.5s,baz=112,slow=9.1,SNR=3.9						
	0.5nm,0.5s						
KSRS	**Korea Array**	**41.50**	**74**	P	**P**	**11 31 55.9**	**-3.5**
	1.5nm,0.9s,baz=298,slow=7.8,SNR=3.1						
	1.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**68.67**	**270**	P	P	11 35 09.0	-7.0
	0.4nm,0.7s,baz=38,slow=7.3,SNR=2.3						
	0.4nm,0.7s						
YKA	**Yellowknife Ar**	**79.12**	**4**	P	**P**	**11 36 15.3**	**-1.1**
	0.2nm,0.8s,baz=346,slow=5.4,SNR=3.7						
	0.2nm,0.8s						

*IDC **07** 11:25:26.9±0.9, 6°.09S×142°.79E, h0km, mb4.0/6, mbtmp4.0/8, ML1.7/1, MS3.4/4, Error ellipse: s-maj=34.0km s-min=20.3km az=65.0*
ISC 07 11:25:32.2±0.8, 6°.42S±0°.10×142°.57E±0°.10, h35km, n11, σ2e64/11, mb4.0/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.43**	**123**	Pn	**Pn**	**11 26 50.2**	**-0.5**
	1.4nm,0.3s,baz=260,slow=17,SNR=7.6						
PMG				Sn	**Sn**	**11 27 50.9**	**-1.1**
	5.1nm,0.3s,baz=198,slow=19,SNR=8.6						
	11nm,0.6s						
CTA	**Charters Tower**	**14.05**	**166**	LR	LR	11 34 00.3	
	comp=Z,90nm,19.7s,baz=228,slow=36						
WRA	**Warramunga Arr**	**15.64**	**210**	Pn	**Pn**	**11 29 08.8**	**-1.4**
	0.3nm,0.3s,baz=27,slow=14,SNR=14						
WRA				Sn	**Sn**	**11 31 58.0**	**-4.4**
	0.3nm,0.3s,baz=28,slow=23,SNR=4.8						
WRA				Lg	Lg	11 33 47.8	
	0.3nm,0.3s,baz=31,slow=26,SNR=5.3						
ASAR	**Alice Springs**	**19.07**	**205**	P	**P**	**11 29 54.3**	**+2.5**
	4.2nm,0.6s,baz=32,slow=9.4,SNR=42						
ASAR				Lg	Lg	11 35 41.4	
	0.1nm,0.3s,baz=16,slow=29,SNR=5.0						
ASAR				LR	LR	11 38 05.8	
	comp=Z,134nm,21.6s,baz=76,slow=39						
STKA	**Stephens Creek**	**25.35**	**182**	P	**P**	**11 31 00.6**	**+4.6**
	1.5nm,0.5s,baz=0.0,slow=7.1,SNR=3.4						
STKA				LR	LR	11 42 13.1

KEF	**Keuruu**	**1.67 235**	PN	**Pn**	**11 36 28.9**	**+0.2**
KEF			MSG		11 36 47.8	
	comp=Z,9.8nm,0.2s					
KEF			SN	**Sn**	**11 36 50.5**	**-0.2**
RUF	**Ruokolahti**	**1.80 162**	PG	**Pn**	**11 36 31.1**	**+0.5**
	baz=341					
RUF			MSG		11 36 53.0	
	comp=Z,12nm,0.2s					
RUF			SN	**Sg**	**11 36 57.7**	**+1.6**
OUF	**Merijarvi**	**1.84 314**	PG	**Pn**	**11 36 31.2**	**+0.1**
OUF			MSG		11 36 53.0	
	comp=Z,14nm,0.2s					
OUF			SG	**Sb**	**11 36 57.0**	**+0.8**
FIA0	**FINESS Array S**	**1.88 206**	PG	**Pn**	**11 36 32.6**	**+1.0**
FIA0			MSG		11 36 54.3	
	comp=Z,9.2nm,0.2s					
FIA0			SG	**Sn**	**11 36 56.5**	**+0.5**
FINES	**FINESS Array B**	**1.88 206**	Pg	**Pn**	**11 36 32.6**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=27,slow=17,SNR=12					
FINES			Lg	Lg	11 36 56.7	
	comp=Z,1.0nm,0.3s,baz=32,slow=29,SNR=16					
OBF4	**Vikkela, Lumij**	**2.06 326**	PG	**Pn**	**11 36 36.0**	**+1.9**
OBF4			MSG		11 36 59.7	
	comp=Z,6.9nm,0.2s					
OBF0	**Syolatti, Pyha**	**2.09 312**	PG	**Pn**	**11 36 35.8**	**+1.4**
	baz=129					
OBF0			MSG		11 37 00.3	
	comp=Z,14nm,0.2s					
OUL	**Oulu**	**2.12 338**	PG	**Pn**	**11 36 36.8**	**+1.8**
VAF	**Ylistaro**	**2.33 270**	PG	**Pn**	**11 36 39.4**	**+1.6**
VAF			MSG		11 37 07.0	
	comp=Z,19nm,0.2s					
VAF			SG	**Sb**	**11 37 10.6**	**+0.1**
VJF	**Virojoki**	**2.61 183**	PB	**Pn**	**11 36 43.7**	**+2.1**
VJF			MSG		11 37 15.8	
	comp=Z,5.2nm,0.2s					
VJF			SG	**Sb**	**11 37 18.0**	**-0.4**
PVF	**Pernaja**	**2.76 200**	PG	**Pb**	**11 36 47.8**	**-0.6**
PVF			MSG		11 37 19.7	
	comp=Z,3.8nm,0.2s					
PVF			SG	**Sb**	**11 37 22.3**	**-0.4**
MSF	**Maaselka**	**2.84 10**	PB	**Pn**	**11 36 47.1**	**+2.3**
	baz=194					
MSF			SG	**Sb**	**11 37 25.2**	**+0.2**
RANF	**Ranua**	**2.92 352**	PB	**Pn**	**11 36 48.7**	**+2.7**
	baz=169					
RANF			SB	**Sb**	**11 37 26.2**	**-1.2**
KPF	**Kankaanpaa**	**2.96 246**	PB	**Pn**	**11 36 49.5**	**+3.0**
KPF			SG	**Sb**	**11 37 26.8**	**-1.7**
NUR	**Nurmijrvi**	**3.03 211**	SN	**Sn**	**11 37 23.1**	**-1.3**
NUR			MSG		11 37 27.5	
	comp=Z,3.4nm,0.2s					
KU6	**Riekki**	**3.04 16**	PB	**Pn**	**11 36 50.3**	**+2.7**
KU6			MSG		11 37 28.8	
	comp=Z,2.8nm,0.2s					
KU6			SB	**Sb**	**11 37 29.5**	**-1.2**
BURU	**Burvik**	**3.19 300**	P	**Pn**	**11 36 51.1**	**+1.5**
BURU			S	**Sn**	**11 37 29.6**	**+1.4**
BURU	**Burvik**	**3.19 300**	PG	**Pn**	**11 36 53.5**	**+3.9**
OLKF	**Oulanka, Finla**	**3.27 11**	PN	**Pn**	**11 36 53.1**	**+2.4**
OLKF			SB	**Sb**	**11 37 36.8**	**-0.6**
UMAU	**Umeaa**	**3.27 286**	P	**Pn**	**11 36 51.4**	**+0.6**
UMAU			S	**Sn**	**11 37 31.1**	**+0.7**
UMAU	**Umeaa**	**3.27 286**	PN	**Pn**	**11 36 51.5**	**+0.8**
UMAU			SB	**Sn**	**11 37 33.4**	**+3.0**
TOF	**Tornio**	**3.31 335**	PB	**Pn**	**11 36 53.8**	**+2.5**
KALU	**Kalix**	**3.34 327**	P	**Pn**	**11 36 54.0**	**+2.4**
KALU	**Kalix**	**3.34 327**	PB	**Pn**	**11 36 54.1**	**+2.4**
MEF	**Metsahovi**	**3.35 210**	SN	**Sn**	**11 37 28.4**	**-3.8**
ODEU	**Stanfors**	**3.39 295**	P	**Pn**	**11 36 53.0**	**+0.6**
RAF	**Rauma**	**3.54 236**	SB	**Sn**	**11 37 40.7**	**+3.7**
RNF	**Rovaniemi**	**3.57 349**	PN	**Pn**	**11 36 57.2**	**+2.4**
	baz=164					
RNF			SG	**Sb**	**11 37 47.2**	**+1.3**
SJUU	**Sjulsmark**	**3.59 314**	P	**Pn**	**11 36 57.7**	**+2.6**
HUSU	**Husum**	**3.88 277**	P	**Pn**	**11 37 01.6**	**+2.4**
SVAU	**Svanoeiden**	**3.89 294**	P	**Pn**	**11 37 00.8**	**+1.6**
LILU	**Lilltraesk**	**4.09 305**	P	**Pn**	**11 37 03.2**	**+1.3**
BREU	**Bredtraesk**	**4.20 284**	P	**Pn**	**11 37 05.1**	**+1.6**
SGF	**Sodankyl**	**4.36 354**	PN	**Pn**	**11 37 07.7**	**+2.1**
PAJU	**Pajala**	**4.38 335**	PN	**Pn**	**11 37 08.0**	**+2.1**
KLF	**Kolari**	**4.42 340**	PN	**Pn**	**11 37 08.3**	**+1.8**
HEMU	**Hemsoen**	**4.49 268**	PN	**Pn**	**11 37 08.7**	**+1.2**
	baz=76					
VSU	**Vasula**	**4.72 187**	SG	**Sb**	**11 38 20.8**	**+1.6**
AAL	**Aland**	**4.76 235**	SG	**Sb**	**11 38 24.6**	**+4.4**
HEF	**Hetta**	**5.56 344**	*eP*	**Pn**	**11 37 23.3**	**+1.2**
HEF			*eS*	**Sn**	**11 38 25.3**	**-1.3**
KTK1	**Kautokeino**	**6.18 345**	*eP*	**Pn**	**11 37 31.2**	**+0.5**
KTK1			*eS*	**Sn**	**11 38 38.6**	**-3.4**
KTK1			IAML		11 38 57.1	
	comp=Z,1.4nm,0.9s					
MOR8	**Moi Rana**	**6.49 304**	*eP*	**Pn**	**11 37 34.9**	**0.0**
ARA0	**ARCESS Array S**	**6.49 353**	*eP*	**Pn**	**11 37 35.7**	**+0.8**
ARA0			*eS*	**Sn**	**11 38 46.8**	**-2.8**
ARA0			IAML		11 39 23.8	
	comp=Z,1.5nm,0.6s					
ARCES	**ARCESS Array B**	**6.49 353**	Pn	**Pn**	**11 37 35.5**	**+0.6**
	baz=168,slow=14,SNR=6.2					
ARCES			Sn	**Sn**	**11 38 46.7**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=170,slow=22,SNR=1.1					
	comp=Z,2.4nm,1.0s					
KIF	**Kilpisjarvi**	**6.54 337**	*eP*	**Pn**	**11 37 36.6**	**+1.1**
KEV	**Kevo**	**6.66 358**	*eP*	**Pn**	**11 37 37.6**	**+0.5**
VADS	**Vadso**	**7.04 4**	*eP*	**Pn**	**11 37 43.8**	**+1.3**
STEI	**Steigen**	**7.08 318**	*eP*	**Pn**	**11 37 44.1**	**+1.1**
JETT	**Jettan, Norway**	**7.09 339**	*eP*	**Pn**	**11 37 43.7**	**+0.5**
JETT			IAML		11 39 16.5	
	comp=Z,5.4nm,0.7s					
KONS	**Konsvik**	**7.10 305**	*eP*	**Pn**	**11 37 44.9**	**+1.6**
HFS	**Hagfors**	**7.36 252**	Pn	**Pn**	**11 37 45.9**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=75,slow=33,SNR=1.3					
HFS			Sn	**Sn**	**11 39 08.1**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=63,slow=32,SNR=1.4					
	comp=Z,1.0nm,0.8s					
I43RU	**DUBNA INFRASON**	**7.98 139**	I	I	12 16 20.0	
	baz=321,slow=337,SNR=5.4					
NOA	**NORSAR Array B**	**8.05 262**	Pn	**Pn**	**11 37 55.2**	**-1.3**
	baz=50,slow=13,SNR=1.9					
NOA			Sn	**Sn**	**11 39 22.5**	**-5.6**
	baz=9.6,slow=16,SNR=2.0					
	comp=Z,0.2nm,0.6s					

KRSC 07 11:37:28.7±1.3, 54.12N×168.66E, h17km±24km, MI4.2, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.90**	**306**	*eP*	Pn	11 38 00.3	+0.1
BKI				*eS*	Sn	11 38 24.8	+1.0
TUMD	**Tumrok D**	**4.92**	**286**	*eP*	Pn	11 38 45.4	+3.7
TUMD				*eS*	Sn	11 39 42.5	+4.4
TUMR	**Tumrok**	**5.07**	**287**	*eP*	Pn	11 38 49.1	+5.2
KRSR	**Krestovskiy**	**5.09**	**298**	*eS*	Sn	11 39 47.9	+5.2
SPN	**Mys Shipunski**	**5.24**	**262**	*eP*	Pn	11 38 50.4	+4.3
SPN				*eS*	Sn	11 39 50.7	+4.6
NLC	**Nalytchevo**	**5.62**	**264**	*eP*	Pn	11 38 55.6	+4.3
NLC				*eS*	Sn	11 39 59.6	+4.2
SMAR	**Somma**	**5.92**	**266**	*eP*	Pn	11 39 00.3	+4.6
KRER	**Koryakskii**	**5.94**	**266**	*eP*	Pn	11 39 00.9	+5.0
AVH	**Avacha**	**5.96**	**266**	*eP*	Pn	11 39 00.9	+4.9
AVH				*eS*	Sn	11 40 09.3	+5.6
KRX	**Arik**	**5.99**	**267**	*eP*	Pn	11 39 01.2	+4.7
KRX				*eS*	Sn	11 40 10.1	+5.4
DALK	**Dalny**	**6.00**	**264**	*eP*	Pn	11 39 01.1	+4.6
DALK				*eS*	Sn	11 40 10.6	+5.8
KOK	**Koryaka**	**6.01**	**266**	*eP*	Pn	11 39 01.4	+4.6
PET	**Petropavlovsk**	**6.06**	**264**	*eP*	Pn	11 39 02.3	+5.0
PET				*eS*	Sn	11 40 11.9	+5.6
RUS	**Russkaya**	**6.32**	**259**	*eP*	Pn	11 39 05.5	+4.6
RUS				*eS*	Sn	11 40 16.9	+4.4
GNL	**Ganaly**	**6.35**	**271**	*eP*	Pn	11 39 07.0	+5.5
KRMR	**Karymshinskiy**	**6.42**	**263**	*eP*	Pn	11 39 07.0	+4.8
KRMR				*eS*	Sn	11 40 20.3	+5.3
MTVR	**Mutnovka**	**6.49**	**260**	*eP*	Pn	11 39 08.5	+5.1
MTVR				*eS*	Sn	11 40 21.9	+4.9
GRL	**Gorelyy**	**6.53**	**260**	*eP*	Pn	11 39 09.7	+5.7
ASAK	**Asacha**	**6.69**	**259**	*eP*	Pn	11 39 11.4	+5.4
ASAK				*eS*	Sn	11 40 27.9	+6.1
KDTR	**Khodutka, Kamc**	**6.80**	**254**	*eS*	Sn	11 40 27.9	+3.6
APC	**Apacha**	**6.96**	**265**	*eP*	Pn	11 39 15.7	+6.0

IDC 07 11:50:02.0±2.0, 6.28S×143.06E, h0km, mb3.9/3, mbtmp3.7/5, ML3.4/2, MS3.4/1, Error ellipse: s-maj=75.7km s-min=24.3km az=109.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.01**	**211**	Pn	**Pn**	11 53 49.9	+1.1
	0.2nm,0.3s,baz=27,slow=11,SNR=3.0						
WRA				Lg	Lg	11 58 32.7	
	baz=39,slow=30,SNR=2.3						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**19.40**	**206**	P	P	11 54 30.0	+0.1
	0.1nm,0.3s,baz=33,slow=10,SNR=7.1						
ASAR				Lg	Lg	12 00 14.5	
	baz=56,slow=37						
ASAR				LR	LR	12 02 45.1	
	comp=Z,109nm,20.0s,baz=132,slow=39						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**75.25**	**322**	P	P	12 01 46.1	-0.7
	0.9nm,0.9s,baz=122,slow=7.1,SNR=5.6						
	0.9nm,0.9s						
BVAR	**Borovoye Array**	**84.70**	**325**	P	P	12 02 37.8	-0.1
	1.6nm,0.8s,baz=106,slow=4.7,SNR=5.3						
	1.6nm,0.8s						
ILAR	**Eielson Array**	**87.30**	**24**	P	P	12 02 51.5	+1.1
	0.5nm,1.1s,baz=246,slow=6.5,SNR=2.1						
	0.5nm,1.1s						

*VIE **07** 12:02:28.4±0.6, 50.03N×18.46E, h0km, mb2.2/3, ml2.6/5, Error ellipse: s-maj=5.4km s-min=3.4km az=156.0, Suspected Mining induced.*
*IPEC **07** 12:02:28.2±0.2, 50.05N×18.54E, h1km, ML2.3/4, Error ellipse: s-maj=2.0km s-min=1.0km az=164.0*
*PRU **07** 12:02:30.5, 50.06N×18.38E, h0km*
ISC 07 12:02:28.2±0.8, 50.02N±0.03×18.43E±0.02, h0km, n30, σ0s92/49, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.16**	**291**	*e*PG	**Pg**	**12 02 33.2**	**+1.9**
RAC				*e*SG	**Sg**	**12 02 36.6**	**+3.2**
OKC	**Ostrava-Krasne**	**0.26**	**224**	*e*PG	**Pb**	**12 02 35.0**	**-0.7**
OKC				*e*SG	**Sb**	**12 02 39.8**	**-1.0**
	comp=Z,110nm,0.5s						
MORC	**Moravsky Berou**	**0.62**	**247**	*e*Pg	**Pb**	**12 02 41.5**	**-0.5**
	baz=66						
MORC				*e*Sg	**Sb**	**12 02 50.3**	**-1.0**
	59nm,0.6s,baz=66						
MAUC	**Maruska**	**0.77**	**211**	*e*PG	**Pb**	**12 02 44.9**	**+0.5**
OJC	**Ojcow**	**0.90**	**77**	*e*Pg	**Pg**	**12 02 44.4**	**-1.0**
OJC				*e*Sg	**Sg**	**12 02 57.3**	**+0.1**
KRLC	**Kraliky**	**1.06**	**273**	*e*PG	**Pg**	**12 02 48.3**	**-0.2**
KRLC				*e*SG	**Sb**	**12 03 03.5**	**-0.4**
	comp=Z,49nm,0.5s						
LANS	**Liptovska Anna**	**1.10**	**142**	*e*PG	**Pb**	**12 02 50.4**	**+0.2**
LANS				*e*SG	**Sn**	**12 03 06.1**	**-0.8**
JAVC	**Velka Javorina**	**1.27**	**203**	*e*Pg	**Pn**	**12 02 53.0**	**-0.1**
	baz=25						
JAVC	**Velka Javorina**	**1.27**	**203**	*e*PG	**Pn**	**12 02 53.1**	**-0.1**
NIE	**Niedzica**	**1.36**	**116**	*e*Pg	**Pg**	**12 02 54.0**	**-0.3**
NIE				*e*Sg	**Sn**	**12 03 12.8**	**-0.3**
VRAC	**Vranov**	**1.39**	**240**	*e*Pg	**Pb**	**12 02 55.1**	**+0.1**
	baz=59						
VRAC				*e*Sg	**Sn**	**12 03 14.3**	**+0.4**
	24nm,0.4s,baz=59						
DPC	**Dobruska-Polom**	**1.39**	**284**	*e*PG	**Pb**	**12 02 55.1**	**0.0**
DPC				*e*SG	**Sn**	**12 03 14.2**	**+0.2**
	comp=Z,32nm,0.4s						
OSTC	**Ostas**	**1.52**	**291**	*e*SG	**Sn**	**12 03 17.4**	**+0.4**
VYHS	**Vyhne**	**1.56**	**170**	*e*PG	**Pb**	**12 02 57.8**	**0.0**
VYHS				*e*SG	**Sg**	**12 03 19.8**	**+1.7**
KSP	**Ksiaz**	**1.59**	**302**	*e*Pg	**Pg**	**12 02 59.3**	**+0.6**
KSP				*e*Sg	**Sg**	**12 03 19.9**	**+0.5**
CHVC	**Chvalec**	**1.62**	**291**	*e*PG	**Pb**	**12 02 58.7**	**-0.3**
UPC	**Upice**	**1.62**	**288**	*e*PG	**Pg**	**12 02 59.1**	**-0.2**
UPC				*e*SG	**Sg**	**12 03 21.3**	**+1.0**
	35nm,0.4s						
KRUC	**Moravsky**	**1.64**	**235**	*e*Pn	**Pb**	**12 02 59.1**	**-0.1**
	baz=54						
KRUC				*e*Sg	**Sg**	**12 03 21.7**	**+0.9**
	21nm,0.4s,baz=54						
MODS	**Modra-Piesok**	**1.82**	**205**	*e*SN	**Sb**	**12 03 25.5**	**-0.1**
STHS	**Stebnicka Huta**	**1.93**	**107**	*e*PN	**Pb**	**12 03 04.0**	**-0.1**
STHS				*e*SN	**Sg**	**12 03 30.3**	**+0.3**
CRVS	**Cervenica-Dubn**	**2.27**	**118**	*e*PG	**Pb**	**12 03 10.7**	**+0.6**
CRVS				*e*SG	**Sg**	**12 03 43.7**	**+2.5**
GOPC	**GO Pecny, Ondr**	**2.35**	**269**	*e*SG	**Sg**	**12 03 43.0**	**-0.8**
PRU	**Pruhonice**	**2.51**	**271**	*e*SG	**Sg**	**12 03 48.4**	**-0.3**
CONA	**Conrad Observa**	**2.69**	**220**	Pg	**Pg**	**12 03 19.5**	**-0.3**
	0.9nm,0.2s						
CONA				Sn	**Sn**	**12 03 46.1**	**0.0**
	2.2nm,0.3s						
RONA	**Rosalia, Austr**	**2.72**	**212**	*e*Sn	**Sn**	**12 03 47.7**	**+0.9**
	2.9nm,0.3s						
CKRC	**Cesky Krumlov**	**2.95**	**247**	*e*SG	**Sg**	**12 04 02.3**	**-0.5**
BRG	**Berggiesshubel**	**2.99**	**288**	Pg	**Pg**	**12 03 24.5**	**-0.9**
BRG				Sg	**Sg**	**12 04 03.2**	**-1.0**
BRG				Amp		12 04 05.8	
	comp=Z,8.2nm,0.5s						
KHC	**Kasperske Hory**	**3.28**	**256**	*e*PG	**Pg**	**12 03 30.0**	**-1.0**
KHC				*e*SG	**Sg**	**12 04 13.3**	**-0.2**
	comp=Z,6.1nm,0.4s						
MOA	**Molln**	**3.50**	**233**	Pg	**Pg**	**12 03 35.4**	**+0.1**
	comp=Z,1.7nm,0.3s						
MOA				Sg	**Sg**	**12 04 20.6**	**-0.1**
	comp=Z,4.4nm,0.4s						
LESA	**Schwarzleotal**	**4.61**	**238**	Sg	**Sg**	**12 04 57.7**	**+1.5**
	comp=Z,1.4nm,0.3s						

*IDC **07** 12:12:42.5±1.0, 6.32S×143.18E, h0km, mb3.7/5, mbtmp3.8/7, ML1.2/1, Error ellipse: s-maj=35.0km s-min=22.8km az=75.0*
ISC 07 12:12:43.9±0.8, 6.4S±0.1×143.0E±0.1, h10km, n8, σ1s69/9, mb3.9/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.04**	**126**	Pn	**Pn**	**12 13 58.4**	**-1.2**
	0.6nm,0.3s,baz=48,slow=10,SNR=1.7						
PMG				Sn	**Sn**	**12 14 59.2**	**+1.2**
	0.3nm,0.3s,baz=261,slow=11,SNR=1.6						
	1.8nm,0.3s						
WRA	**Warramunga Arr**	**15.86**	**211**	Pn	**Pn**	**12 16 24.8**	**-2.6**
	0.1nm,0.3s,baz=33,slow=12,SNR=2.7						
WRA				Lg	Lg	12 21 14.1	
	0.1nm,0.3s,baz=26,slow=29,SNR=1.5						
ASAR	**Alice Springs**	**19.24**	**206**	P	**P**	**12 17 10.9**	**+2.3**
	5.0nm,0.7s,baz=35,slow=11,SNR=29						
ASAR				Lg	Lg	12 22 56.0	
	0.1nm,0.3s,baz=15,slow=27,SNR=2.6						
SONM	**Songino Array**	**62.94**	**333**	P	**P**	**12 23 11.0**	**+0.2**
	0.2nm,0.5s,baz=145,slow=5.3,SNR=1.6						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**75.36**	**322**	P	**P**	**12 24 28.1**	**+0.3**
	0.4nm,1.0s,baz=116,slow=6.6,SNR=1.9						
	0.4nm,1.0s						
QSPA	**South Pole Qui**	**83.53**	**180**	P	**P**	**12 25 13.1**	**+1.0**
	0.8nm,0.9s,baz=227,slow=1.6,SNR=1.6						
	0.8nm,0.9s						
BVAR	**Borovoye Array**	**84.82**	**325**	P	**P**	**12 25 18.9**	**+0.2**
	1.4nm,0.7s,baz=102,slow=6.2,SNR=5.8						
	1.4nm,0.7s						
ILAR	**Eielson Array**	**87.46**	**24**	P	**P**	**12 25 30.6**	**-0.9**
	0.5nm,0.7s,baz=257,slow=5.3,SNR=13						
	0.5nm,0.7s						

*IDC **07** 12:14:56.4±1.1, 5.95S×142.88E, h0km, mb3.8/4, mbtmp3.8/6, ML1.5/1, Error ellipse: s-maj=36.2km s-min=24.5km az=76.0*
ISC 07 12:15:01.6±0.9, 6.1S±0.1×142.8E±0.1, h35km, n7, σ1s71/8, mb3.8/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.46**	**127**	Pn	**Pn**	**12 16 20.4**	**-0.1**
	1.1nm,0.3s,baz=353,slow=19,SNR=1.9						
PMG				Sn	**Sn**	**12 17 22.5**	**+0.3**
	2.2nm,0.3s,baz=220,slow=21,SNR=5.9						
	8.2nm,0.6s						
WRA	**Warramunga Arr**	**15.99**	**210**	Pn	**Pn**	**12 18 41.7**	**-2.5**
	0.4nm,0.3s,baz=35,slow=12,SNR=7.2						
WRA				Sn	Sn	12 21 29.7	-11
	0.3nm,0.3s,baz=33,slow=22,SNR=2.2						
WRA				Lg	Lg	12 23 27.8	
	0.1nm,0.3s,baz=15,slow=38,SNR=1.7						
ASAR	**Alice Springs**	**19.42**	**205**	P	**P**	**12 19 27.5**	**+2.4**
	4.1nm,0.8s,baz=29,slow=11,SNR=9.1						
ASAR				Lg	Lg	12 25 18.4	
	baz=90,slow=38,SNR=1.7						
MKAR	**Makanchi Array**	**74.93**	**322**	P	**P**	**12 26 39.1**	**-0.1**
	0.3nm,0.7s,baz=104,slow=4.6,SNR=2.6						
	0.3nm,0.7s						
QSPA	**South Pole Qui**	**83.86**	**180**	P	**P**	**12 27 27.6**	**+0.1**
	0.6nm,0.7s,baz=248,slow=5.4,SNR=1.3						
	0.6nm,0.7s						
BVAR	**Borovoye Array**	**84.39**	**325**	P	**P**	**12 27 31.5**	**+1.1**
	1.2nm,0.8s,baz=104,slow=6.3,SNR=3.8						
	1.2nm,0.8s						
ILAR	**Eielson Array**	**87.27**	**24**	P	**P**	**12 27 43.2**	**-1.1**
	0.5nm,0.8s,baz=256,slow=4.6,SNR=8.4						
	0.5nm,0.8s						

IDC 07 12:25:33.5±1.7, 20.79N×121.26E, h0km, mb3.4/4, mbtmp3.4/4, MS2.7/2, Error ellipse: s-maj=152.3km s-min=20.1km az=64.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**17.59**	**18**	LR	LR	12 37 59.4	
	comp=Z,17nm,18.2s,baz=205,slow=42						
CMAR	**Chiang Mai Arr**	**21.15**	**268**	LR	LR	12 39 12.5	
	comp=Z,22nm,18.2s,baz=110,slow=39						
SONM	**Songino Array**	**29.54**	**339**	P	P	12 31 40.1	+0.3
	0.2nm,0.4s,baz=156,slow=11,SNR=1.7						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**40.87**	**319**	P	P	12 33 17.1	-0.1
	0.4nm,0.6s,baz=118,slow=9.2,SNR=5.2						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**42.46**	**162**	P	P	12 33 29.8	-0.6
	0.5nm,0.7s,baz=343,slow=8.8,SNR=5.2						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**44.78**	**322**	P	P	12 33 48.4	-0.4
	0.7nm,0.8s,baz=120,slow=7.8,SNR=7.0						
ASAR	**Alice Springs**	**45.87**	**164**	P	P	12 33 58.1	+0.3
	0.2nm,0.5s,baz=345,slow=7.3,SNR=10						
	0.2nm,0.5s						

*IDC **07** 12:33:46.8±1.6, 6.63S×129.28E, h0km, mb3.9/3, mbtmp3.9/5, ML4.0/2, Error ellipse: s-maj=94.7km s-min=22.4km az=62.0*
*NOU **07** 12:34:01.1, 6.76S×130.10E, h119km, MLv4.6/10, Banda Sea*
ISC 07 12:33:59.2±1.0, 6.69S±0.09×130.1E±0.1, h100km, n15, σ1s98/13, mb3.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.16**	**356**	P	Pn	12 34 38.8	+4.8
FAKI	**Fak Fak**	**4.33**	**30**	P	**Pn**	**12 35 03.8**	**+0.8**
DRS	**Darwin Rock St**	**5.76**	**172**	P	**Pn**	**12 35 23.7**	**+1.4**
MTN	**Manton Dam**	**6.20**	**170**	P	**Pn**	**12 35 29.5**	**+1.2**
KDU	**Kakadu**	**6.41**	**158**	P	**Pn**	**12 35 32.3**	**+1.2**
SOEI	**Soe**	**6.50**	**242**	P	**Pn**	**12 35 34.6**	**+2.2**
KNRA	**Kununurra**	**9.02**	**188**	P	**Pn**	**12 36 05.8**	**-0.8**
WRA	**Warramunga Arr**	**13.81**	**163**	Pn	**Pn**	**12 37 07.0**	**-3.8**
	0.5nm,0.3s,baz=339,slow=13,SNR=13						
WRA				Sn	Sn	12 39 32.2	-11
	2.1nm,0.3s,baz=332,slow=23,SNR=15						
	0.7nm,0.4s						
COEN	**Coen**	**14.77**	**120**	P	**Pn**	**12 37 24.2**	**+1.0**
QIS	**Mount Isa**	**16.59**	**147**	P	**P**	**12 37 46.5**	**-0.3**
ASAR	**Alice Springs**	**17.27**	**168**	P	**P**	**12 37 53.1**	**-1.1**
	0.9nm,0.3s,baz=345,slow=10,SNR=85						
ASAR				S	Sn	12 40 54.7	-12
	0.8nm,0.5s,baz=358,slow=28,SNR=5.3						
	3.0nm,0.6s						
WRKA	**Warakurna**	**18.32**	**185**	P	**P**	**12 38 05.1**	**-0.6**
STKA	**Stephens Creek**	**27.27**	**158**	P	**P**	**12 39 36.2**	**+1.9**
	1.1nm,0.5s,baz=333,slow=11,SNR=3.6						
	1.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**39.59**	**310**	P	P	12 41 14.5	-6.6
	0.3nm,0.4s,baz=120,slow=7.5,SNR=2.4						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**68.01**	**327**	P	**P**	**12 44 45.1**	**-2.7**
	1.0nm,0.5s,baz=114,slow=8.2,SNR=20						
	1.0nm,0.5s						

*NEIC **07** 12:36:15.2±1.2, 18.86N±0.09×145.7E±0.2, h196km±9km, mb4.2/14, Error ellipse: s-maj=23.0km s-min=12.7km az=95.0*
*IDC **07** 12:36:20.7±5.2, 18.87N×145.55E, h257km±50km, mb3.4/12, mbtmp4.0/13, Error ellipse: s-maj=25.6km s-min=13.2km az=96.0*
ISC 07 12:36:16.3±0.6, 18.87N±0.08×145.6E±0.2, h214km, n29, σ0s65/31, mb3.9/19, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGF	**Kuroka**	**18.19**	**338**	P	**P**	**12 40 13.6**	**+0.3**
JGF				IAmb	IAmb	12 40 18.8	
	comp=Z,5.1nm,0.9s						
MJAR	**Matsushiro Arr**	**18.77**	**341**	P	**Pn**	**12 40 22.6**	**0.0**
	comp=Z,0.9nm,0.3s,baz=168,slow=10.0,SNR=4.8						
MANU	**Manus Island**	**20.85**	**175**	P	**P**	**12 40 41.2**	**-0.7**
MANU				IAmb	IAmb	12 40 59.0	
	comp=Z,17nm,1.0s						
KLR

comp=Z,1.3nm,0.7s
FINES **FINESS Array B** 86.69 335 P P 12 48 34.2 -1.5
comp=Z,0.6nm,0.5s,baz=51,slow=4.4,SNR=5.8
comp=Z,0.6nm,0.5s
PDAR **Pinedale Array** 87.78 45 P P 12 48 41.7 +0.1
comp=Z,0.1nm,0.4s,baz=298,slow=1.9,SNR=2.3
comp=Z,0.1nm,0.4s

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*IDC **07** 12:43:10.6±1.1, 6°.08S×143°.41E, h0km, mb3.7/5, mbtmp3.7/7, ML1.6/1, Error ellipse: s-maj=40.0km s-min=24.1km az=59.0*

ISC 07 12:43:15.8±0.8, 6°.5S±0°.1×143°.1E±0°.1, h35km, n8, σ2§31/10, mb3.8/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.99**	**126**	Pn	**Pn**	**12 44 28.4**	**+0.3**
	1.5nm,0.3s,baz=311,slow=18,SNR=2.7						
PMG				Sn	**Sn**	**12 45 24.2**	**-0.4**
	0.8nm,0.3s,baz=72,slow=21,SNR=1.7						
	2.8nm,0.3s						
WRA	**Warramunga Arr**	**15.86**	**212**	Pn	**P**	**12 46 58.1**	**-1.9**
	0.1nm,0.3s,baz=26,slow=13,SNR=4.7						
WRA				Sn	**Sn**	**12 49 48.1**	**-3.3**
	baz=33,slow=22,SNR=2.1						
WRA				Lg	Lg	12 51 49.0	
	0.1nm,0.3s,baz=231,slow=35,SNR=2.0						
ASAR	**Alice Springs**	**19.25**	**206**	P	**Pn**	**12 47 42.5**	**+4.0**
	2.3nm,0.8s,baz=35,slow=9.8,SNR=18						
CMAR	**Chiang Mai Arr**	**50.08**	**300**	P	**P**	**12 52 08.5**	**+0.8**
	0.6nm,0.7s,baz=111,slow=5.0,SNR=1.3						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**75.41**	**322**	P	**P**	**12 54 56.1**	**0.0**
	0.3nm,0.7s,baz=102,slow=6.1,SNR=2.9						
	0.3nm,0.7s						
QSPA	**South Pole Qui**	**83.51**	**180**	P	**P**	**12 55 41.1**	**+1.1**
	1.2nm,1.0s,baz=248,slow=4.4,SNR=1.9						
	1.2nm,1.0s						
BVAR	**Borovoye Array**	**84.87**	**325**	P	**P**	**12 55 47.0**	**0.0**
	0.6nm,0.5s,baz=108,slow=5.1,SNR=3.6						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**87.45**	**24**	P	**P**	**12 55 57.3**	**-2.1**
	0.4nm,1.1s,baz=246,slow=5.8,SNR=2.1						
	0.4nm,1.1s						

IDC 07 13:01:42.0±2.1, 5°.96S×142°.04E, h0km, mb3.5/1, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=215.2km s-min=35.0km az=114.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.79**	**208**	Pn	Pn	13 05 24.2	-1.6
	0.1nm,0.3s,baz=28,slow=14,SNR=5.6						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**19.27**	**203**	P	Pn	13 06 08.9	-0.4
	0.2nm,0.3s,baz=34,slow=9.3,SNR=15						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**87.42**	**24**	P	P	13 14 31.1	+0.1
	0.3nm,0.8s,baz=263,slow=5.4,SNR=2.6						
	0.3nm,0.8s						

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*IDC **07** 13:11:23.5±1.3, 6°.17S×142°.54E, h0km, mb3.6/3, mbtmp3.5/6, ML3.4/2, Error ellipse: s-maj=36.8km s-min=27.2km az=67.0*

ISC 07 13:11:24.8±1.0, 6°.36S±0°.10×142°.36E±0°.10, h10km, n6, σ2§13/9, mb3.8/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.64**	**123**	Pn	**Pn**	**13 12 47.9**	**-0.8**
	2.3nm,0.3s,baz=312,slow=17,SNR=2.0						
PMG				Sn	**Sn**	**13 13 54.3**	**+0.8**
	1.9nm,0.3s,baz=156,slow=20,SNR=2.6						
WRA	**Warramunga Arr**	**15.59**	**209**	Pn	**Pn**	**13 15 06.0**	**+1.2**
	0.1nm,0.3s,baz=33,slow=12,SNR=8.1						
WRA				Sn	**Sn**	**13 17 53.9**	**-4.0**
	0.1nm,0.3s,baz=22,slow=23,SNR=3.6						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**19.04**	**204**	P	**Pn**	**13 15 50.6**	**+2.7**
	0.1nm,0.3s,baz=32,slow=10,SNR=11						
ASAR				S	**Sn**	**13 19 21.9**	**+0.6**
	0.4nm,0.7s,baz=18,slow=28,SNR=4.2						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**74.88**	**322**	P	**P**	**13 23 05.7**	**-0.1**
	0.2nm,0.7s,baz=98,slow=6.1,SNR=2.8						
	0.2nm,0.7s						
BVAR	**Borovoye Array**	**84.37**	**325**	P	**P**	**13 23 57.8**	**+0.6**
	0.4nm,0.6s,baz=106,slow=5.1,SNR=2.4						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**87.65**	**24**	P	**P**	**13 24 12.3**	**-0.9**
	0.4nm,0.8s,baz=248,slow=4.5,SNR=2.9						
	0.4nm,0.8s						

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*IDC **07** 13:20:48.3±2.2, 39°.77S×175°.17E, h0km, mb3.6/3, mbtmp3.6/3, MS3.3/1, Error ellipse: s-maj=69.4km s-min=31.3km az=52.0*

*NOU **07** 13:20:56.7, 40°.28S×174°.85E, h99km, MLv4.4/14, Cook Strait, New Zealand*

*WEL **07** 13:20:59.1±0.3, 40°.S±2°.×17°.5E±°, h36km±5km, M4.1/30, ML4.4/30, MLv4.1/30, Error ellipse: s-maj=0.0km s-min=0.0km az=74.8*

ISC 07 13:20:57.9±1.4, 40°.23S±0°.02×174°.80E±0°.02, h34km±12km, n162, σ1§49/174, mb3.7/3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHWZ	**Ohakea**	**0.40**	**87**	P	**Pn**	**13 21 09.9**	**+2.7**
OHWZ				S	**Sn**	**13 21 18.8**	**+5.4**
WAZ	**Wanganui**	**0.49**	**17**	P	**Pn**	**13 21 10.7**	**+2.2**
WAZ				S	**Sn**	**13 21 19.6**	**+3.7**
KIW	**Kapiti Island**	**0.64**	**172**	P	**Pn**	**13 21 12.3**	**+1.8**
KIW				S	**Sn**	**13 21 22.1**	**+2.7**
OGWZ	**Otaki Gorge**	**0.65**	**154**	P	**Pn**	**13 21 12.6**	**+2.0**
OGWZ				S	**Sn**	**13 21 23.1**	**+3.3**
MRZ	**Mangatainoka R**	**0.74**	**126**	P	**Pn**	**13 21 13.2**	**+1.4**
MRZ				S	**Sn**	**13 21 24.7**	**+2.9**
POWZ	**Post Office Ro**	**0.76**	**103**	P	**Pn**	**13 21 13.6**	**+1.4**
LREZ	**Lake Rotokare**	**0.82**	**338**	P	**Pn**	**13 21 14.6**	**+1.6**
LREZ				S	**Sn**	**13 21 27.9**	**+3.9**
HOWZ	**Holdsworth Sta**	**0.86**	**141**	P	**Pn**	**13 21 14.5**	**+0.9**
HOWZ				S	**Sn**	**13 21 29.0**	**+3.9**
DUWZ	**D'Urville Isla**	**0.88**	**229**	P	**Pn**	**13 21 14.8**	**+0.9**
DUWZ				S	**Sn**	**13 21 27.0**	**+1.5**
CAW	**Cannon Point**	**0.90**	**167**	P	**Pn**	**13 21 15.4**	**+1.3**
TSZ	**Takapari Road**	**0.91**	**80**	P	**Pn**	**13 21 15.7**	**+1.5**
TSZ				S	**Sn**	**13 21 28.7**	**+2.6**
PRWZ	**Pori Road**	**0.95**	**110**	P	**Pn**	**13 21 16.1**	**+1.3**
MTVZ	**Mangateitei**	**0.99**	**32**	P	**Pn**	**13 21 16.4**	**+1.0**
TIWZ	**Tintock**	**0.99**	**124**	P	**Pn**	**13 21 17.8**	**+2.3**
TIWZ				S	**Sn**	**13 21 32.9**	**+4.6**
PREZ	**Palmer Road**	**1.01**	**331**	P	**Pb**	**13 21 17.4**	**+0.4**
PREZ				S	**Sn**	**13 21 31.9**	**+3.2**
PKVZ	**Pokaka**	**1.03**	**24**	P	**Pb**	**13 21 16.6**	**-0.7**
DVHZ	**Dannevirke**	**1.05**	**94**	P	**Pb**	**13 21 16.9**	**-0.7**
DVHZ				S	**Sn**	**13 21 31.3**	**+1.7**
WEL	**Wellington**	**1.05**	**181**	P	**Pb**	**13 21 17.6**	**-0.1**
TCW	**Tory Channel**	**1.06**	**202**	P	**Pb**	**13 21 17.5**	**-0.3**
MTW	**Mount Morrison**	**1.07**	**150**	P	**Pb**	**13 21 17.7**	**-0.3**
MTW				S	**Sn**	**13 21 33.8**	**+3.7**
NMEZ	**Namu Road**	**1.08**	**319**	P	**Pb**	**13 21 18.1**	**+0.1**
SNZO	**South Karori**	**1.08**	**184**	P	**Pb**	**13 21 17.7**	**-0.4**
WNVZ	**Wahianoa**	**1.09**	**35**	P	**Pb**	**13 21 17.7**	**-0.7**
TRVZ	**Turoa**	**1.09**	**32**	P	**Pb**	**13 21 17.9**	**-0.6**
NEZ	**North Egmont**	**1.10**	**330**	P	**Pb**	**13 21 18.5**	**0.0**
MOVZ	**Moawhango**	**1.10**	**42**	P	**Pb**	**13 21 17.8**	**-0.7**
MOVZ				S	**Sn**	**13 21 32.9**	**+1.9**
VRZ	**Vera Road**	**1.10**	**358**	P	**Pb**	**13 21 18.0**	**-0.5**
KHEZ	**Kahui Hut**	**1.11**	**327**	P	**Pb**	**13 21 18.5**	**-0.2**
KHEZ	**Kahui Hut**	**1.11**	**327**	P	**Pb**	**13 21 18.6**	**-0.1**
PNHZ	**Pukenui**	**1.12**	**74**	P	**Pb**	**13 21 18.1**	**-0.7**
PNHZ				S	**Sn**	**13 21 33.7**	**+2.2**
WHVZ	**Whangaehu Hut**	**1.12**	**33**	P	**Pb**	**13 21 18.7**	**-0.3**
MAVZ	**Matarangi**	**1.13**	**32**	P	**Pb**	**13 21 18.6**	**-0.5**
FWVZ	**Far West T-bar**	**1.13**	**31**	P	**Pb**	**13 21 18.4**	**-0.8**
DREZ	**Durham Road**	**1.14**	**336**	P	**Pb**	**13 21 19.1**	**0.0**
TUVZ	**Tukino**	**1.17**	**35**	P	**Pb**	**13 21 18.9**	**-0.7**
COVZ	**Chateau Observ**	**1.18**	**29**	P	**Pb**	**13 21 18.5**	**-1.3**
BHW	**Baring Head**	**1.18**	**177**	P	**Pb**	**13 21 18.9**	**-0.9**
BFZ	**Birch Farm**	**1.20**	**113**	P	**Pn**	**13 21 18.4**	**+0.3**
BFZ	**Birch Farm**	**1.20**	**113**	P	**Pn**	**13 21 18.4**	**+0.3**
NBEZ	**Newall Road No**	**1.20**	**323**	P	**Pb**	**13 21 19.4**	**-0.7**
MHEZ	**Mangahewa**	**1.21**	**342**	P	**Pb**	**13 21 20.1**	**-0.2**
PKE	**Pukeiti**	**1.21**	**329**	P	**Pb**	**13 21 19.5**	**-0.7**
TMWZ	**Te Maipa**	**1.21**	**137**	P	**Pb**	**13 21 19.5**	**-0.8**
NGZ	**Ngauruhoe**	**1.22**	**31**	P	**Pn**	**13 21 19.1**	**+0.5**
BHHZ	**Black Hill Sta**	**1.22**	**53**	P	**Pb**	**13 21 19.5**	**-1.0**
SNVZ	**South Ngauruho**	**1.23**	**32**	P	**Pb**	**13 21 19.8**	**-0.9**
MSWZ	**Moikau Station**	**1.23**	**164**	P	**Pb**	**13 21 22.0**	**+1.3**
PAWZ	**Paruwai Farm**	**1.25**	**158**	P	**Pb**	**13 21 20.0**	**-0.9**
OTVZ	**Oturere**	**1.26**	**32**	P	**Pb**	**13 21 19.9**	**-1.3**
TWVZ	**Taurewa**	**1.26**	**23**	P	**Pn**	**13 21 19.4**	**+0.3**
NNVZ	**North Ngauruho**	**1.26**	**30**	P	**Pn**	**13 21 19.8**	**+0.5**
CPWZ	**Castlepoint**	**1.27**	**123**	P	**Pb**	**13 21 23.3**	**+2.0**
WTVZ	**West Tongariro**	**1.27**	**29**	P	**Pn**	**13 21 19.7**	**+0.5**
WPHZ	**Waipukurau**	**1.27**	**83**	P	**Pb**	**13 21 20.0**	**-1.3**
ETVZ	**East Tongariro**	**1.30**	**33**	P	**Pb**	**13 21 21.0**	**-0.9**
ANWZ	**Angora Road**	**1.30**	**101**	P	**Pn**	**13 21 20.1**	**+0.5**
KRVZ	**Karewarewa**	**1.31**	**30**	P	**Pb**	**13 21 20.6**	**-1.4**
TMVZ	**Te Maari**	**1.31**	**32**	P	**Pb**	**13 21 20.7**	**-1.4**
NTVZ	**North Tongarir**	**1.32**	**31**	P	**Pb**	**13 21 20.9**	**-1.3**
KRHZ	**Kereru**	**1.34**	**65**	P	**Pn**	**13 21 20.8**	**+0.6**
TRWZ	**Traveller**	**1.35**	**150**	P	**Pb**	**13 21 21.2**	**-1.5**
TUWZ	**Tuamarina**	**1.36**	**208**	P	**Pn**	**13 21 21.3**	**+0.8**
PLWZ	**Palliser**	**1.38**	**166**	P	**Pn**	**13 21 21.3**	**+0.5**
PRHZ	**Porangahau**	**1.41**	**92**	P	**Pn**	**13 21 21.6**	**+0.6**
KATZ	**Kakaramea**	**1.43**	**29**	P	**Pb**	**13 21 23.1**	**-0.9**
NNZ	**Nelson**	**1.46**	**227**	P	**Pn**	**13 21 22.6**	**+0.8**
KWHZ	**Kaweka Forest**	**1.49**	**58**	P	**Pb**	**13 21 23.6**	**-1.3**
RITZ	**Rihia Road**	**1.49**	**34**	P	**Pb**	**13 21 23.7**	**-1.4**
RATZ	**Rangitukua**	**1.56**	**29**	P	**Pb**	**13 21 24.8**	**-1.3**
CMWZ	**Cape Campbell**	**1.58**	**196**	P	**Pn**	**13 21 27.6**	**+1.1**
PWZ	**Pawanui**	**1.59**	**84**	P	**Pn**	**13 21 23.8**	**+0.2**
TKNZ	**Takaka Hill**	**1.61**	**239**	P	**Pn**	**13 21 24.7**	**+0.8**
BSWZ	**Blackbirch Sta**	**1.64**	**205**	P	**Pn**	**13 21 24.9**	**+0.7**
KAHZ	**Kahuranaki**	**1.66**	**75**	P	**Pn**	**13 21 24.9**	**+0.4**
MCHZ	**McNeill Hill**	**1.66**	**62**	P	**Pn**	**13 21 25.6**	**+1.0**
HATZ	**Hinemaiaia**	**1.67**	**37**	P	**Pn**	**13 21 25.3**	**+0.7**
WATZ	**Wairara**	**1.68**	**26**	P	**Pn**	**13 21 26.1**	**+1.2**
BKZ	**Black Stump Fm**	**1.68**	**51**	P	**Pn**	**13 21 25.9**	**+1.0**
BKZ	**Black Stump Fm**	**1.68**	**51**	P	**Pn**	**13 21 25.5**	**+0.6**
HIZ	**Hauiti**	**1.71**	**2**	P	**Pn**	**13 21 26.6**	**+1.3**
HIZ	**Hauiti**	**1.71**	**2**	P	**Pn**	**13 21 26.3**	**+1.0**
WHTZ	**Whakaora**	**1.80**	**30**	P	**Pb**	**13 21 28.2**	**-2.1**
CKHZ	**Cape Kidnapper**	**1.84**	**73**	P	**Pn**	**13 21 27.4**	**+0.3**
MRHZ	**Matea Rd**	**1.87**	**42**	P	**Pn**	**13 21 27.6**	**+0.1**
THQ2	**Tauhara North**	**1.89**	**35**	P	**Pn**	**13 21 28.8**	**+1.1**
KUTZ	**Kaahu Road**	**1.91**	**25**	P	**Pn**	**13 21 29.1**	**+1.1**
NMHZ	**Naumai**	**1.92**	**55**	P	**Pn**	**13 21 28.9**	**+0.7**
MRNZ	**Matariki Terra**	**1.94**	**232**	P	**Pn**	**13 21 29.4**	**+1.0**
ARHZ	**Aropaoanui**	**1.95**	**61**	P	**Pn**	**13 21 28.7**	**+0.1**
TLZ	**Tolley Road**	**1.98**	**17**	P	**Pn**	**13 21 29.2**	**+0.2**
WPRZ	**Whakapapatarin**	**2.01**	**32**	P	**Pn**	**13 21 30.0**	**+0.7**
ALRZ	**Allen Road**	**2.05**	**36**	P	**Pn**	**13 21 30.3**	**+0.3**
MTHZ	**Maungataniwha**	**2.09**	**50**	P	**Pn**	**13 21 30.4**	**-0.1**
THZ	**Tophouse**	**2.10**	**222**	P	**Pn**	**13 21 31.3**	**+0.7**
PRRZ	**Plateau Road**	**2.12**	**36**	P	**Pn**	**13 21 31.2**	**+0.3**
GRRZ	**Galatos Road**	**2.13**	**29**	P	**Pn**	**13 21 32.2**	**+1.1**
HRRZ	**Handcock Road**	**2.17**	**33**	P	**Pn**	**13 21 33.4**	**+1.9**
RAHZ	**Arahi**	**2.20**	**54**	P	**Pn**	**13 21 31.6**	**-0.4**
WHHZ	**Waihua**	**2.21**	**59**	P	**Pn**	**13 21 31.8**	**-0.2**
HSRZ	**Hossack Road**	**2.22**	**31**	P	**Pn**	**13 21 33.8**	**+1.5**
RRRZ	**Republican Roa**	**2.31**	**36**	P	**Pn**	**13 21 34.3**	**+0.8**
HLRZ	**Highlands Stat**	**2.31**	**32**	P	**Pb**	**13 21 36.4**	**-2.5**
UTU	**Utuhina**	**2.32**	**28**	P	**Pn**	**13 21 34.7**	**+1.2**
MUGZ	**Murupara**	**2.32**	**42**	P	**Pn**	**13 21 33.1**	**-0.6**
RTZ	**Ruatahuna**	**2.33**	**47**	P	**Pn**	**13 21 33.5**	**-0.4**
NGNZ	**Ngongotaha**	**2.38**	**227**	P	**Pn**	**13 21 34.7**	**+0.9**
KHZ	**Kahutara**	**2.38**	**203**	P	**Pn**	**13 21 34.3**	**-0.1**
KHZ	**Kahutara**	**2.38**	**203**	P	**Pn**	**13 21 34.4**	**-0.1**
TARZ	**Mount Tarawera**	**2.39**	**34**	P	**Pn**	**13 21 35.8**	**+1.1**
SNGZ	**Shannon Statio**	**2.44**	**55**	P	**Pn**	**13 21 34.6**	**-0.7**
KARZ	**Kaharoa**	**2.48**	**28**	P	**Pn**	**13 21 37.0**	**+1.2**
KNZ	**Kokohu**	**2.53**	**62**	P	**Pn**	**13 21 35.4**	**-1.1**
TOZ	**Tahuroa Road**	**2.55**	**13**	P	**Pn**	**13 21 37.4**	**+0.6**
EDRZ	**Edgecumbe**	**2.60**	**36**	P	**Pn**	**13 21 38.5**	**+1.0**
MHGZ	**Mahia Peninsul**	**2.63**	**67**	P	**Pn**	**13 21 36.9**	**-0.9**
URZ	**Urewera**	**2.66**	**43**	P	**Pn**	**13 21 37.0**	**-1.3**
URZ	**Urewera**	**2.66**	**43**	P	**Pn**	**13 21 37.1**	**-1.3**
RAGZ	**Rawiri**	**2.67**	**50**	P	**Pn**	**13 21 37.8**	**-0.6**
MARZ	**Manawahe**	**2.67**	**34**	P	**Pn**	**13 21 38.5**	**0.0**
DSZ	**Denniston Nort**	**2.73**	**235**	P	**Pn**	**13 21 39.0**	**-0.2**
TGRZ	**Tauranga**	**2.74**	**25**	P	**Pn**	**13 21 40.4**	**+0.9**
RIGZ	**Rimuhau**	**2.75**	**57**	P	**Pn**	**13 21 38.4**	**-1.2**
MWZ	**Matawai**	**2.84**	**49**	P	**Pn**	**13 21 39.6**	**-1.2**
WHRZ	**Whale Island**	**2.91**	**96**	P	**Pn**	**13 21 44.2**	**+2.4**
TKGZ	**Te Karaka**	**2.96**	**54**	P	**Pn**	**13 21 41.2**	**-1.3**
GVZ	**Greta Valley S**	**3.04**	**205**	P	**Pn**	**13 21 42.6**	**-0.9**
MKAZ	**Moumakai**	**3.13**	**5**	P	**Pn**	**13 21 45.2**	**+0.5**
AWAZ	**Awhitu Peninsu**	**3.16**	**358**	P	**Pn**	**13 21 46.2**	**+1.0**
CNGZ	**Carnagh Statio**	**3.17**	**58**	P	**Pn**	**13 21 43.7**	**-1.5**
LTZ	**Lake Taylor**	**3.18**	**216**	P	**Pn**	**13 21 44.4**	**-1.0**
RUGZ	**Raukumara Rang**	**3.18**	**46**	P	**Pn**	**13 21 43.7**	**-1.9**
TWGZ	**Tauwhareparae**	**3.21**	**51**	P	**Pn**	**13 21 44.8**	**-1.1**
ETAZ	**East Tamaki Re**	**3.27**	**2**	P	**Pn**	**13 21 47.8**	**+1.1**
WTAZ	**Waiatarua**	**3.29**	**357**	P	**Pn**	**13 21 48.3**	**+1.3**
EPAZ	**Eden Park BICE**	**3.35**	**359**	P	**Pn**	**13 21 49.2**	**+1.5**
AMCZ	**Amberley**	**3.36**	**208**	P	**Pn**	**13 21 46.3**	**-1.5**
HBAZ	**Herne Bay Bore**	**3.37**	**359**	P	**Pn**	**13 21 49.4**	**+1.3**
WIAZ	**Waiheke Island**	**3.44**	**5**	P	**Pn**	**13 21 50.0**	**+1.0**
MBAZ	**Motutapu North**	**3.46**	**1**	P	**Pn**	**13 21 50.3**	**+1.1**
RVAZ	**Riverhead Bore**	**3.46**	**357**	P	**Pn**	**13 21 50.1**	**+0.8**
PKGZ	**Pakihiroa**	**3.46**	**49**	P	**Pn**	**13 21 47.8**	**-1.6**
INZ	**Inchbonnie**	**3.54**	**224**	P	**Pn**	**13 21 49.6**	**-0.8**
ABAZ	**Army Bay**	**3.62**	**0**	P	**Pn**	**13 21 52.7**	**+1.2**
MXZ	**Matakaoa Point**	**3.82**	**47**	P	**Pn**	**13 21 52.8**	**-1.4**
MXZ	**Matakaoa Point**	**3.82**	**47**	P	**Pn**	**13 21 52.5**	**-1.6**
GRZ	**Great Barrier**	**4.00**	**8**	P	**Pn**	**13 21 56.9**	**+0.1**
WVZ	**Waitaha Valley**	**4.16**	**226**	P	**Pn**	**13 21 58.5**	**-0.4**
RPZ	**Rata Peaks**	**4.46**	**217**	P	**Pn**	**13 22 02.8**	**-0.3**
GCSZ	**Gaunt Creek Bo**	**4.55**	**226**	P	**Pn**	**13 22 02.8**	**-1.4**
OUZ	**Omahuta**	**5.09**	**349**	P	**Pn**	**13 22 12.2**	**+0.5**
OUZ	**Omahuta**	**5.09**	**349**	P	**Pn**	**13 22 12.4**	**+0.8**
ODZ	**Otahua Downs**	**5.70**	**211**	P	**Pn**	**13 22 17.2**	**-2.9**
JCZ	**Jackson Bay**	**5.89**	**227**	P	**Pn**	**13 22 20.6**	**-2.2**
MSZ	**Milford Sound**	**6.75**	**227**	P	**Pn**	**13 22 33.9**	**-0.5**
CTZ	**Chatham Island**	**7.29**	**122**	P	**Pn**	**13 22 40.1**	**-1.8**
CTZ	**Chatham Island**	**7.29**	**122**	P	**Pn**	**13 22 40.4**	**-1.5**
SYZ	**Scrubby Hill**	**7.53**	**211**	P	**Pn**	**13 22 43.8**	**-1.3**
STKA	**Stephens Creek**	**27.98**	**277**	LR	LR	13 36 40.8	
	comp=Z,65nm,21.6s,baz=202,slow=34						
ASAR	**Alice Springs**	**38.05**	**283**	P	P	13 28 09.8	-3.3
	0.5nm,0.4s,baz=123,slow=7.0,SNR=16						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**39.99**	**288**	P	P	13 28 25.9	-3.5
	0.2nm,0.3s,baz=127,slow=8.0,SNR=4.6						
	0.2nm,0.3s						
QSPA	**South Pole Qui**	**49.90**	**180**	P	**P**	**13 29 46.7**	**-1.0**
	0.5nm,0.4s,baz=166,slow=1.6,SNR=12						
	0.5nm,0.4s						
ARCES	**ARCESS Array B**	**146.48**	**341**	PKPbc	**PKPdf**	**13 40 28.4**	**-4.3**
	3.2nm,1.0s,baz=48,slow=1.3,SNR=5.4						

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*IDC **07** 13:25:26.8±0.9, 20°.61S×114°.14W, h0km, mb3.8/5, mbtmp3.8/5, MS4.1/17, Error ellipse: s-maj=45.7km s-min=28.1km az=84.0*

*GCMT **07** 13:25:29.0±0.3, 20°.93S±0°.02×114°.21W±0°.02, h21km±1km, MW5.0/78, Moment Tensor Solution. s32,c36; s78,c117; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.60±.14; $M_{\theta\theta}$-1.15±.12; $M_{\phi\phi}$1.74±.14; $M_{r\theta}$0.27±.20; $M_{r\phi}$3.03±.10; $M_{\theta\phi}$1.43±.22; Best double couple: M_o3.61700×10^16 NP1:ϕ348.0000°, δ88.00000°, λ159.00000°. NP2: ϕ78.00000°, δ69.00000°, λ3.00000°. Principal axes: T 4.0500, Plg16.0000°, Azm301.0000°; N -0.8730, Plg69.0000°, Azm161.0000°; P -3.1850, Plg13.0000°, Azm35.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 07 13:25:28.0±0.9, 20°.6S±0°.2×114°.2W±0°.3, h10km, n37, σ1§09/10, mb3.9/5, MS4.2/16, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**7.85**	**147**	LR	LR	13 29 36.2	
	comp=Z,4µm,18.9s,baz=333,slow=32						
TAOE	**Nuku Hiva Isla**	**27.67**	**291**	eLR	LR	13 38 08.2	
	2µm,26.0s						
PPT2	**Papeete2**	**33.57**	**269**	eLR	LR	13 40 48.1	
	561nm,26.2s						
PPT2				eLR	LR	13 40 53.8	
	379nm,27.2s						
PPT	**Papeete**	**33.58**	**269**	LR	LR	13 42 13.0	
	comp=Z,270nm,18.9s,baz=93,slow=30						
H03N2	**Juan Fernandez**	**33.71**	**120**	T	T	14 07 32.2	
	baz=287,slow=75,SNR=17						
H03N3	**Juan Fernandez**	**33.73**	**120**	T	T	14 07 27.2	
	baz=287,slow=75,SNR=18						
H03N1	**Juan Fernandez**	**33.73**	**120**	T	T	14 07 35.4	
	baz=287,slow=75,SNR=27						
NNA	**Nana**	**36.74**	**82**	LR	LR	13 42 46.2	
	comp=Z,121nm,20.2s,baz=246,slow=28						
ATAH	**Atahualpa**	**37.10**	**74**	LR	LR	13 44 04.4	
	comp=Z,164nm,18.7s,baz=240,slow=30						
CMIG	**Matias Romero**	**41.95**	**28**	LR	LR	13 47 01.6	
	comp=Z,299nm,18.4s,baz=203,slow=31						
LVC	**Limon Verde**	**41.99**	**101**	LR	LR	13 46 29.9	
	comp=Z,388nm,18.0s,baz=263,slow=30						
PLCA	**Paso Flores**	**42.02**	**128**	LR	LR	13 46 07.3	
	comp=Z,601nm,20.8s,baz=265,slow=30						
JTS	**Las Juntas de**	**42.03**	**46**	LR	LR	13 46 10.5	
	comp=Z,263nm,21.0s,baz=234,slow=30						
APG	**El Apazote**	**42.35**	**35**	LR	LR	13 46 34.7	
	comp=Z,27nm,19.8s,baz=286,slow=30						
LPAZ	**La Paz**	**43.76**	**92**	P	**P**	**13 33 34.8**	**0.0**
	0.5nm,0.3s,baz=231,slow=6.5,SNR=2.0						
LPAZ				LR	LR	13 47 27.6	
	comp=Z,494nm,20.7s,baz=252,slow=30						
	0.5nm,0.3s						
SIV	**San Ignacio**	**50.43**	**94**	LR	LR	13 51 34.0	
	comp=Z,188nm,21.9s,baz=270,slow=31						
TXAR	**Lajitas Array**	**50.66**	**12**	LR	LR	13 51 57.2	
	comp=Z,43nm,18.7s,baz=174,slow=31						
SDV	**Santo Domingo**	**51.85**	**60**	LR	LR	13 53 42.0	
	comp=Z,170nm,18.4s,baz=251,slow=33						
CPUP	**Villa Florida**	**52.09**	**108**	LR	LR	13 52 20.5	
	comp=Z,272nm,20.3s,baz=266,slow=31						
PMSA	**Palmer Station**	**55.00**	**156**	LR	LR	13 52 13.9	
	comp=Z,361nm,21.4s,baz=298,slow=29						
NVAR	**Mina Array Bea**	**58.84**	**356**	P	**P**	**13 35 28.4**	**+1.4**
	1.3nm,0.8s,baz=178,slow=8.4,SNR=8.8						
	1.3nm,0.8s						
BDFB	**Brasilia**	**62.68**	**97**	LR	LR	14 00 03.7	
	comp=Z,218nm,18.8s,baz=313,slow=33						
TKL	**Tuckaleechee C**	**62.92**	**28**	LR	LR	14 00 33.2	
	comp=Z,172nm,18.2s,baz=152,slow=34						
PDAR	**Pinedale Array**	**63.19**	**4**	P	**P**	**13 35 55.8**	**-0.8**
	0.6nm,0.7s,baz=194,slow=9.1,SNR=4.1						
	0.6nm,0.7s						
QSPA	**South Pole Qui**	**69.54**	**180**	P	**P**	**13 36 37.6**	**+0.7**
	3.7nm,1.1s,baz=87,slow=2.2,SNR=5.4						
	3.7nm,1.1s						
YKA	**Yellowknife Ar**	**82

ASAR	**Alice Springs**	**19.30**	**205**	P		Pn	13 51	13.7	0.0
	0.2nm,0.3s,baz=25,slow=12,SNR=25								
	1.1nm,0.6s								
ILAR	**Eielson Array**	**87.39**	**24**	P		P	13 59	34.8	0.0
	0.3nm,0.6s,baz=251,slow=5.4,SNR=3.2								
	0.3nm,0.6s								

MOS ***07*** *13:49:14.5±0.9,5°.23S×151°.27E,h44km,mb5.8/104, MS5.0/11, Error ellipse: s-maj=6.7km s-min=4.5km az=109.2*

NEIC ***07*** *13:49:16.7,5°.55S×151°.48E,h50km, Moment Tensor Solution. Duration: 3s3 Moment tensor: Scale 10¹⁷Nm; Mrr3.17; Mθθ-2.82; Mϕϕ-0.35; Mrθ0.21; Mrϕ-1.00; Mθϕ-0.07; Fault plane solution: M₀3.18000×10¹⁷ NP1:ϕs72.92000°, δ46.61000°, λ93.39000°. NP2:ϕs247.99000°, δ43.49000°, λ86.42000°. Principal axes: T 3.1830, Plg87.0000°, Azm38.0000°; N -0.0030, Plg2.0000°, Azm251.0000°; P -3.1800, Plg2.0000°, Azm161.0000°;*

BJI ***07*** *13:49:16.0±0.0,5°.40S×151°.30E,h74km,mb5.4/91, mB5.5/70,Ms5.1/94,Ms7 5.0/90*

NEIC ***07*** *13:49:16.5,5°.42S×151°.38E,h47km*

NEIC ***07*** *13:49:16.7,5°.45S×151°.38E,h50km*

NEIC ***07*** *13:49:16.7±1.7,5°.45S±0°.06×151°.39E±0°.06,h50km±1km, mb5.7/201,Ms_20 5.1/350,Mwb5.7/39,Mww5.6/27,Error ellipse: s-maj=11.2km s-min=9.5km az=311.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr3.80; Mθθ-3.45; Mϕϕ-0.35; Mrθ0.02; Mrϕ-0.93; Mθϕ-0.12; Fault plane solution: M₀3.76000×10¹⁷ NP1:ϕs76.27000°, δ44.92000°, λ92.53000°. NP2:ϕs252.70000°, δ45.14000°, λ87.48000°. Principal axes: T 3.8036, Plg88.0000°, Azm78.0000°; N -0.0919, Plg2.0000°, Azm254.0000°; P -3.7117, Plg0.0000°, Azm344.0000°;*

IDC ***07*** *13:49:16.8±1.3,5°.36S×151°.23E,h57km±10km,mb5.1/27, mbtmp5.4/30,MS4.7/46 Error ellipse: s-maj=11.9km s-min=8.0km az=114.0*

DJA ***07*** *13:49:17.9±0.2,5°.5S±2°×15°1E±°,h64km±2km,M5.5/87, mb5.6/87,mB5.9/57,MLv6.3/2,Mw5.6/103,Mw(mB)5.5/57, MwMwp5.2/28,Mwp5.4/28*

IPGP ***07*** *13:49:17.0,5°.43S×151°.40E,h55km,Mw5.6, Fault plane solution: NP1:ϕs242.00000°, δ50.00000°, λ85.00000°. NP2:ϕs69.00000°, δ40.00000°, λ96.00000°.*

GCMT ***07*** *13:49:18.7±0.1,5°.58S±0°.01×151°.37E±0°.01,h57km, MW5.6/150,Moment Tensor Solution. s150,c268; s149,c275; Duration: 1s5 Moment tensor: Scale 10¹⁷ Nm; Mrr2.76±.04; Mθθ-2.53±.03; Mϕϕ-0.23±.03; Mrθ0.09±.03; Mrϕ-1.40±.02; Mθr-0.14±.02; Best double couple: M₀2.98200×10¹⁷ NP1:ϕs69.00000°, δ45.00000°, λ96.00000°. NP2:ϕs241.00000°, δ45.00000°, λ84.00000°. Principal axes: T 2.7720, Plg86.0000°, Azm61.0000°; N 0.4150, Plg4.0000°, Azm245.0000°; P -3.1930, Plg0.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 13:49:17.3±0.3,5°.43S±0°.03×151°.37E±0°.03, h64km±2km, h65km:pP-P,n1652,σ1°18/1677, mb5.6/243, 95C-31D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BULU	**Kimbe**	**1.05**	**264**	P	**Pn**	**13 49 36.7**	**+0.5**
I40PG	**Keravat**	**1.29**	**30**	P	**Pn**	**13 49 40.0**	**+0.6**
	baz=208,slow=26,SNR=2.9						
I40PG				I	I	14 00 00.0	
	baz=225,slow=313,SNR=1.1						
RABL	**Rabaul**	**1.46**	**33**	Pn	**Pn**	**13 49 42.6**	**+1.0**
RABL	**Rabaul**	**1.46**	**33**	P	**Pn**	**13 49 43.1**	**+1.4**
MANU	**Manus Island**	**5.22**	**310**	Pn	**Pn**	**13 50 36.6**	**+3.8**
MANU	**Manus Island**	**5.22**	**310**	P	**Pn**	**13 50 37.3**	**+4.4**
PMG	**Port Moresby**	**5.75**	**226**	Pn	**Pn**	**13 50 41.4**	**+1.3**
PMG	**Port Moresby**	**5.75**	**226**	P	**Pn**	**13 50 42.2**	**+2.1**
PMG	**Port Moresby**	**5.75**	**226**	P	**Pn**	**13 50 42.1**	**+2.0**
PMG	**Port Moresby**	**5.75**	**226** *ce*	P	**Pn**	**13 50 40.6**	**+0.5**
PMG				pmax	pmax		
	comp=Z,2μm,1.3s						
PMG	**Port Moresby**	**5.75**	**226**	P	**Pn**	**13 50 40.3**	**+0.2**
	comp=Z,1μm,1.0s,baz=39,slow=9.9,SNR=109						
PMG				S	**Sn**	**13 51 44.0**	**-0.7**
	comp=Z,2μm,0.6s,baz=264,slow=21,SNR=30						
HNR	**Honiara**	**9.39**	**116**	Pn	**Pn**	**13 51 30.6**	**+0.6**
HNR	**Honiara**	**9.39**	**116**	P	**Pn**	**13 51 32.2**	**+2.2**
HNR	**Honiara**	**9.39**	**116**	P	**Pn**	**13 51 31.3**	**+1.3**
	comp=Z,2μm,0.7s,baz=189,slow=3.9,SNR=17						
HNR				S	**Sn**	**13 53 15.3**	**+1.2**
	comp=Z,3μm,0.8s,baz=351,slow=13,SNR=1.2						
HNR				LR	LR	13 55 05.7	
	comp=Z,63μm,20.0s,baz=280,slow=37						
GENI	**Genyem**	**11.52**	**284**	P	**Pn**	**13 52 02.2**	**+3.1**
GENI	**Genyem**	**11.52**	**284**	P	**Pn**	**13 52 01.7**	**+2.6**
	comp=Z,334nm,1.0s,comp=Z,10μmcomp=Z,8μm						
COEN	**Coen**	**11.70**	**223**	P	**Pn**	**13 52 03.4**	**+1.8**
	baz=12,SNR=7.0						
COEN	**Coen**	**11.70**	**223**	Pn	**Pn**	**13 52 00.5**	**-1.1**
COEN	**Coen**	**11.70**	**223**	P	**Pn**	**13 52 04.6**	**+3.0**
SMPI	**Sarmi**	**13.08**	**285**	P	**Pn**	**13 52 22.6**	**+2.2**
	comp=Z,273nm,1.1s,comp=Z,9μmcomp=Z,8μm						
PATS	**Pohnpei**	**14.02**	**30**	P	**Pn**	**13 52 33.0**	**+0.1**
	baz=14,SNR=6.5						
PATS	**Pohnpei**	**14.02**	**30**		**Pn**	**13 52 32.7**	**-0.2**
PATS	**Pohnpei**	**14.02**	**30**	P	**P**	**13 52 36.6**	**-2.2**
MTSU	**Mount Surprise**	**14.38**	**208**	P	**P**	**13 52 40.2**	**-2.7**
	baz=14,SNR=19						
MTSU	**Mount Surprise**	**14.38**	**208**	P	**Pn**	**13 52 40.1**	**+2.3**
AUAYR	**Ayr State High**	**14.59**	**195**	P	**Pn**	**13 52 41.4**	**+1.1**
CTA	**Charters Tower**	**15.40**	**198**	P	**P**	**13 52 52.7**	**-1.4**
CTA	**Charters Tower**	**15.40**	**198**	P	**P**	**13 52 52.8**	**-1.4**
	comp=Z,38nm,0.8s,baz=16,slow=12,SNR=25						
CTA				LR	LR	13 58 12.8	
	comp=Z,5μm,21.4s,baz=27,slow=35						
CTAO	**Charters Tower**	**15.40**	**198**	P	**P**	**13 52 54.1**	**-0.1**
CTAO	**Charters Tower**	**15.40**	**198**	P	**P**	**13 52 52.9**	**-1.3**
CTAO	**Charters Tower**	**15.40**	**198**	P	**P**	**13 52 54.1**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,145nm,1.4s						
QIS	**Mount Isa**	**18.89**	**216**	P	**Pn**	**13 53 34.6**	**+0.7**
	baz=19,SNR=42						
QIS	**Mount Isa**	**18.89**	**216**	P	**Pn**	**13 53 35.0**	**+1.1**
FAKI	**Fak Fak**	**19.23**	**277**	P	**Pn**	**13 53 38.4**	**+0.4**
FAKI	**Fak Fak**	**19.23**	**277**	P	**Pn**	**13 53 37.5**	**-0.5**
	comp=Z,107nm,0.9s,comp=Z,5μm						
EIDS	**Eidsvold**	**19.83**	**181**	P	**Pn**	**13 53 44.2**	**-0.8**
	baz=20,SNR=14						
EIDS	**Eidsvold**	**19.83**	**181**	P	**P**	**13 53 43.8**	**+0.9**
EIDS	**Eidsvold**	**19.83**	**181**	P	**Pn**	**13 53 44.6**	**-0.4**
KDU	**Kakadu**	**19.99**	**248**	P	**P**	**13 53 45.1**	**+0.3**
	baz=20,SNR=39						
KDU	**Kakadu**	**19.99**	**248**	P	**P**	**13 53 45.7**	**+0.9**
SAUI	**Saumlaki**	**20.09**	**262**	P	Pn	13 53 48.1	-0.1
SAUI				IAmb	IAmb	13 54 02.3	
	comp=Z,498nm,0.8s						
SAUI	**Saumlaki**	**20.09**	**262**	P	Pn	13 53 47.0	-1.2
SAUI	**Saumlaki**	**20.09**	**262**	P	Pn	13 53 47.2	-1.0
	comp=Z,656nm,0.7s,comp=Z,10μm						
SWI	**Sorong**	**20.58**	**282**	P	**P**	**13 53 50.2**	**-0.9**
SWI				pmax	pmax		
	comp=Z,306nm,1.0s						
SWI	**Sorong**	**20.58**	**282**	P	Pn	13 53 52.8	-1.1
	comp=Z,307nm,1.0s,comp=Z,3μmcomp=Z,5μm						
RMQ	**Roma**	**21.09**	**187**	P	**P**	**13 53 58.5**	**+1.9**
	baz=21,SNR=3.8						
MTN	**Manton Dam**	**21.28**	**248**	P	**P**	**13 53 59.0**	**+0.4**
	baz=21,SNR=59						
MTN	**Manton Dam**	**21.28**	**248**	P	**P**	**13 53 58.6**	**0.0**
MTN				IAmb	IAmb	13 54 01.1	
	comp=Z,375nm,0.8s						
MTN	**Manton Dam**	**21.28**	**248**	P	**P**	**13 54 00.0**	**+1.3**
DRS	**Darwin Rock St**	**21.37**	**250**	P	**P**	**13 54 01.0**	**+1.4**
WB0	**Warramunga Arr**	**21.82**	**228**	P	**P**	**13 54 03.8**	**-0.7**
WB0				IAmb	IAmb	13 54 08.1	
	comp=Z,389nm,0.9s						
WRAB	**Tennant Creek**	**21.95**	**227** *c i*	P	**P**	**13 54 05.6**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,625nm,0.8s						
WRA	**Warramunga Arr**	**21.96**	**227**	P	**P**	**13 54 05.7**	**-0.3**
WRA				pP	**pP**	**13 54 19.0**	**-1.2**
WRA	**Warramunga Arr**	**21.96**	**227** *i*	P	**P**	**13 54 04.1**	**-1.9**
WRA				pmax	pmax		
	comp=Z,490nm,0.9s						
WRA	**Warramunga Arr**	**21.96**	**227**	P	**P**	**13 54 05.0**	**-1.0**
	comp=Z,385nm,0.7s,baz=52,slow=9.7,SNR=107						
WRA				S	**S**	**13 58 03.5**	**-1.6**
	comp=Z,126nm,1.2s,baz=54,slow=18,SNR=9.9						
WRA				ScP	**ScP**	**14 01 36.2**	**+1.4**
	comp=Z,5.9nm,0.6s,baz=48,slow=2.8,SNR=8.7						
WRA				LR	LR	14 03 27.9	
	comp=Z,2μm,18.0s,baz=42,slow=39						
WRA				PKiKP	**PKiKP**	**14 05 48.0**	**-1.1**
	comp=Z,2.1nm,0.7s,baz=322,slow=0.8,SNR=7.8						
	comp=Z,385nm,0.7s						
NOUC	**Port Laguerre**	**21.99**	**140**	P	**P**	**13 54 09.6**	**+3.4**
DZM	**Mont Dzumac**	**22.06**	**140**	P	**P**	**13 54 06.2**	**-0.9**
DZM				IAMs_20	IAMs_20	14 01 22.9	
	comp=Z,9μm,21.0s						
DZM	**Mont Dzumac**	**22.06**	**140**	P	**P**	**13 54 07.8**	**+0.7**
DZM	**Mont Dzumac**	**22.06**	**140**	*e*P	**P**	**13 54 04.9**	**-2.2**
	comp=Z,1μm,26.1s						
DZM				*e*S	**S**	**13 58 12.7**	**+5.8**
	comp=Z,7μm,26.2s						
DZM				*e*LR	LR	13 59 27.5	
	comp=Z,15μm,23.2s						
DZM	**Mont Dzumac**	**22.06**	**140**	LR	LR	14 01 33.9	
	comp=Z,9μm,21.5s,baz=314,slow=33						
QLP	**Quilpie**	**22.11**	**197**	P	**P**	**13 54 08.9**	**+1.5**
	baz=22,SNR=61						
QLP	**Quilpie**	**22.11**	**197**	P	**P**	**13 54 09.0**	**+1.5**
AULRC	**Lightning Ridg**	**24.09**	**187**	P	**P**	**13 54 27.6**	**+0.7**
NLAI	**Namlea**	**24.29**	**274**	P	**P**	**13 54 28.9**	**-0.1**
	comp=Z,27nm,0.6s						
LBMI	**Labuha**	**24.29**	**280**	P	**P**	**13 54 29.8**	**+0.8**
	comp=Z,234nm,1.2s,comp=Z,5μm						
INKA	**Innaminka**	**24.38**	**203**	P	**P**	**13 54 31.0**	**+1.4**
KNRA	**Kununurra**	**24.41**	**244**	P	**P**	**13 54 30.5**	**+0.4**
	baz=24,SNR=130						
KNRA	**Kununurra**	**24.41**	**244**	P	**P**	**13 54 30.7**	**+0.6**
KNRA	**Kununurra**	**24.41**	**244**	P	**P**	**13 54 30.8**	**+0.8**
AS01	**Alice Springs**	**24.70**	**221**	P	**P**	**13 54 33.9**	**+1.3**
AS31	**Alice Springs**	**24.73**	**221**	P	**P**	**13 54 33.4**	**+0.4**
AS31				IAmb	IAmb	13 54 36.6	
	comp=Z,141nm,0.8s						
ASAR	**Alice Springs**	**24.73**	**221**	P	**P**	**13 54 33.4**	**+0.4**
	comp=Z,344nm,0.8s,baz=56,slow=7.5,SNR=468						
ASAR				PcP	**PcP**	**13 58 09.2**	**+0.6**
	comp=Z,22nm,0.9s,baz=50,slow=2.9,SNR=6.5						
ASAR				S	**S**	**13 58 51.2**	**+0.6**
	comp=Z,8.9nm,1.0s,baz=62,slow=14,SNR=3.0						
ASAR				ScP	**ScP**	**14 01 43.9**	**+1.8**
	comp=Z,10nm,0.7s,baz=46,slow=3.3,SNR=7.3						
ASAR				LR	LR	14 04 12.1	
	comp=Z,2μm,21.4s,baz=44,slow=36						
ASAR				PKiKP	**PKiKP**	**14 05 49.4**	**-1.1**
	comp=Z,2.1nm,0.9s,baz=207,slow=1.4,SNR=5.3						
ASAR				P3KPbc		14 27 39.8	
	comp=Z,1.6nm,1.0s,baz=212,slow=3.3,SNR=6.7						
	comp=Z,344nm,0.8s						
TNTI	**Ternate**	**24.75**	**284**	P	**P**	**13 54 34.8**	**+1.7**
TNTI	**Ternate**	**24.75**	**284**	P	**P**	**13 54 34.2**	**+1.1**
TNTI	**Ternate**	**24.75**	**284**	P	**P**	**13 54 33.7**	**+0.6**
	comp=Z,122nm,1.1s,comp=Z,2μm						
ARMA	**Armidale**	**24.86**	**179**	P	**P**	**13 54 35.2**	**+1.2**
	baz=25,SNR=14						
ARMA	**Armidale**	**24.86**	**179**	P	**P**	**13 54 35.3**	**+1.2**
ARMA	**Armidale**	**24.86**	**179**	P	**P**	**13 54 35.3**	**+1.2**
SANI	**Sanana**	**25.54**	**277**	P	**P**	**13 54 41.6**	**+1.3**
SANI	**Sanana**	**25.54**	**277**	P	**P**	**13 54 40.6**	**+0.3**
	comp=Z,70nm,0.7s,comp=Z,2μmcomp=Z,2μm						
AUPHS	**Peel High Scho**	**25.54**	**181**	P	**P**	**13 54 42.0**	**+1.8**
CMSA	**Cobar Meteorol**	**26.52**	**191**	P	**P**	**13 54 49.2**	**+0.2**
	baz=27,SNR=33						
CMSA	**Cobar Meteorol**	**26.52**	**191**	P	**P**	**13 54 49.3**	**+0.4**
OOD	**Oodnadatta**	**26.78**	**212**	P	**P**	**13 54 51.7**	**+0.4**
AUDCS	**Dubbo College**	**26.79**	**185**	P	**P**	**13 54 53.6**	**+2.2**
SOEI	**Soe**	**27.20**	**259**	P	**P**	**13 54 55.9**	**+0.4**
SOEI	**Soe**	**27.20**	**259**	P	**P**	**13 54 56.3**	**+0.9**
SOEI	**Soe**	**27.20**	**259**	P	**P**	**13 54 56.3**	**+0.9**
	comp=Z,450nm,1.3s,comp=Z,4μmcomp=Z,3μm						
SOEI				pP	**pP**	**13 55 08.4**	**-2.7**
	comp=Z,450nm,1.3s,comp=Z,4μmcomp=Z,3μm						
SGSI	**Sangihe**	**27.35**	**289**	P	**P**	**13 54 56.2**	**-0.4**
	comp=Z,233nm,0.9s,comp=Z,7μm						
FUNA	**Funafuti**	**27.79**	**98**	P	**P**	**13 54 59.5**	**-1.1**
FUNA				IAmb	IAmb	13 55 14.4	
	comp=Z,239nm,1.4s						
FUNA	**Funafuti**	**27.79**	**98**	P	**P**	**13 55 02.7**	**+2.1**
LCRK	**Leigh Creek**	**27.80**	**205**	P	**P**	**13 55 00.9**	**+0.4**
STKA	**Stephens Creek**	**27.86**	**198**	P	**P**	**13 55 01.1**	**+0.1**
	baz=28,SNR=36						
STKA	**Stephens Creek**	**27.86**	**198**	P	**P**	**13 55 00.9**	**-0.1**
STKA	**Stephens Creek**	**27.86**	**198**	P	**P**	**13 55 01.2**	**+0.2**
STKA	**Stephens Creek**	**27.86**	**198** *c i*	P	**P**	**13 55 00.6**	**-0.4**
STKA	**Stephens Creek**	**27.86**	**198**	P	**P**	**13 55 01.1**	**+0.1**
	comp=Z,45nm,1.0s,baz=5.9,slow=8.7,SNR=3.3						
STKA				ScP	**ScP**	**14 01 54.0**	**+2.9**
	comp=Z,8.4nm,1.0s,baz=319,slow=22,SNR=4.2						
STKA				PKiKP	**PKiKP**	**14 05 51.9**	**-0.2**
	comp=Z,3.6nm,0.9s,baz=241,slow=7.0,SNR=3.3						
STKA				LR	LR	14 05 54.8	
	comp=Z,3μm,20.9s,baz=14,slow=36						
	comp=Z,45nm,1.0s						
KMSI	**Cibinong**	**27.99**	**281**	P	**P**	**13 55 02.6**	**+0.2**
	comp=Z,392nm,1.1s,comp=Z,3μmcomp=Z,2μm						
FITZ	**Fitzroy Crossi**	**28.11**	**241**	P	**P**	**13 55 03.4**	**0.0**
	baz=28,SNR=271						
FITZ	**Fitzroy Crossi**	**28.11**	**241**	P	**P**	**13 55 03.3**	**0.0**
FITZ				IAmb	IAmb	13 55 04.6	
	comp=Z,90nm,0.8s						
FITZ	**Fitzroy Crossi**	**28.11**	**241**	P	**P**	**13 55 03.4**	**0.0**
DAV	**Davao City (W)**	**28.57**	**295**	LR	LR	14 04 52.6	
	comp=Z,1μm,21.2s,baz=109,slow=33						
DAV	**Davao City (W)**	**28.57**	**295**	P	**P**	**13 55 10.8**	**+3.3**
MSVF	**Nonsavu**	**28.81**	**117**	P	**P**	**13 55 10.3**	**+0.6**
MSVF	**Nonsavu**	**28.81**	**117**	P	**P**	**13 55 11.9**	**+2.2**
MSVF	**Nonsavu**	**28.81**	**117** *i*	*i*P	**P**	**13 55 08.7**	**-1.0**
MSVF				pmax	pmax		
	comp=Z,101nm,1.3s						
MSVF				MLR	MLR		
	comp=Z,2μm,21.0s						
YNG	**Young**	**28.86**	**185**	P	**P**	**13 55 11.1**	**+1.3**
	baz=29,SNR=11						
YNG	**Young**	**28.86**	**185**	P	**P**	**13 55 11.7**	**+1.8**
LUWI	**Luwuk**	**28.87**	**278**	P	**P**	**13 55 11.3**	**+1.1**
LUWI				IAmb	IAmb	13 56 12.0	
	comp=Z,148nm,1.1s						
LUWI	**Luwuk**	**28.87**	**278**	P	**P**	**13 55 12.0**	**+1.8**
LUWI	**Luwuk**	**28.87**	**278**	P	**P**	**13 55 10.9**	**+0.7**
	comp=Z,84nm,0.8s,comp=Z,1μmcomp=Z,2μm						
LUWI				pP	**pP**	**13 55 28.2**	**+2.4**
	comp=Z,84nm,0.8s,comp=Z,1μmcomp=Z,2μm						
MMRI	**Maumere**	**29.08**	**262**	P	**P**	**13 55 12.5**	**+0.4**
MMRI				IAmb	IAmb	13 55 14.2	
	comp=Z,150nm,1.1s						
MMRI	**Maumere**	**29.08**	**262**	P	**P**	**13 55 12.9**	**+0.8**
MMRI	**Maumere**	**29.08**	**262**	P	**P**	**13 55 12.5**	**+0.4**
	comp=Z,133nm,0.7s,comp=Z,2μmcomp=Z,2μm						
WRKA	**Warakurna**	**29.49**	**226**	P	**P**	**13 55 15.7**	**+0.1**
	baz=30,SNR=256						
WRKA	**Warakurna**	**29.49**	**226**	P	**P**	**13 55 15.7**	**+0.1**
MULG	**Mulgathing**	**29.62**	**211**	P	**P**	**13 55 16.4**	**-0.2**
EDFI	**Ende, Flores**	**29.63**	**262**	P	**P**	**13 55 16.0**	**-1.0**
	comp=Z,60nm,1.0s,comp=Z,763nmcomp=Z,2μm						
CNB	**Canberra Magne**	**29.80**	**183**	P	**P**	**13 55 19.2**	**+0.9**
CAN	**Canberra**	**29.83**	**184**	P	**P**	**13 55 19.1**	**+0.6**
CAN	**Canberra**	**29.83**	**184**	P	**P**	**13 55 18.6**	**+0.1**
CAN	**Canberra**	**29.83**	**184**	P	**P**	**13 55 19.1**	**+0.6**
CAN				pmax	pmax		
	comp=Z,87nm,1.8s						
DGTI	**Dogotuki**	**29.84**	**113**	P	**P**	**13 55 20.4**	**+1.6**
MRSI	**Marisa**	**29.96**	**280**	P	**P**	**13 55 20.6**	**+0.7**
	comp=Z,44nm,0.8s,comp=Z,616nm						
HTT	**Hallett**	**30.17**	**201**	P	**P**	**13 55 22.1**	**+0.5**
	baz=30,SNR=29						
HTT	**Hallett**	**30.17**	**201**	P	**P**	**13 55 22.4**	**+0.8**
HTT	**Hallett**	**30.17**	**201**	P	**P**	**13 55 22.2**	**+0.6**
TAVE	**Taveuni**	**30.29**	**114**	P	**P**	**13 55 24.8**	**+2.1**
BBOO	**Buckleboo**	**30.76**	**206**	P	**P**	**13 55 26.6**	**0.0**
	baz=31,SNR=26						
BBOO	**Buckleboo**	**30.76**	**206**	P	**P**	**13 55 26.7**	**0.0**
BBOO				IAmb	IAmb	13 55 27.9	
	comp=Z,99nm,0.9s						
BBOO				IAMs_20	IAMs_20	14 07 58.6	
	comp=Z,4μm,21.0s						
BBOO	**Buckleboo**	**30.76**	**206**	P	**P**	**13 55 26.7**	**0.0**
BASI	**Baing, Sumba**	**30.86**	**259**	P	**P**	**13 55 28.0**	**+0.2**
	comp=Z,683nm,1.2s,comp=Z,7μm						
BASI				pP	**pP**	**13 55 45.1**	**+1.4**
	comp=Z,683nm,1.2s,comp=Z,7μm						
AUSMG	**Snowy Mountain**	**30.95**	**184**	P	**P**	**13 55 29.7**	**+1.3**
AUMAG	**Moama Anglican**	**31.13**	**190**	P	**P**	**13 55 31.0**	**+1.1**
TOLI2	**Tolitoli**	**31.23**	**281**	P	**P**	**13 55 30.5**	**-0.5**
TOLI2	**Tolitoli**	**31.23**	**281**	P	**P**	**13 55 31.2**	**+0.1**
MILA	**Mila**	**31.54**	**183**	P	**P**	**13 55 34.2**	**+0.6**
MPSI	**Mapaga**	**31.94**	**279**	P	**P**	**13 55 37.1**	**-0.2**
	comp=Z,38nm,0.8s,comp=Z,465nmcomp=Z,2μm						
ARPS	**Mount Arapiles**	**32.39**	**194**	P	**P**	**13 55 41.8**	**+0.8**
	baz=33,SNR=17						
ARPS	**Mount Arapiles**	**32.39**	**194**	P	**P**	**13 55 42.0**	**+1.0**
TOO	**Toolangi**	**32.44**	**189**	P	**P**	**13 55 42.8**	**+1.3**
	baz=33,SNR=4.8						
TOO	**Toolangi**	**32.44**	**189**	P	**P**	**13 55 42.3**	**+0.8**
TOO	**Toolangi**	**32.44**	**189**	P	**P**	**13 55 42.7**	**+1.3**
TOO	**Toolangi**	**32.44**	**189**	P	**P**	**13 55 42.3**	**+0.8**
TOO				pmax	pmax		
	comp=Z,78nm,1.4s						
TOO				MLR	MLR		
	comp=Z,2μm,21.0s						
GEXS	**Deakin Univers**	**33.25**	**190**	P	**P**	**13 55 50.6**	**+2.1**
FORT	**Forrest**	**33.41**	**218**	P	**P**	**13 55 49.9**	**0.0**
	baz=34,SNR=68						
FORT	**Forrest**	**33.41**	**218**	P	**P**	**13 55 50.1**	**+0.1**
FORT	**Forrest**	**33.41**	**218**	P	**P**	**13 55 49.9**	**0.0**
PLAI	**Plampang**	**33.49**	**262**	P	**P**	**13 55 49.9**	**-1.0**
PLAI	**Plampang**	**33.49**	**262**	P	**P**	**13 55 49.4**	**-1.5**
	comp=Z,111nm,0.6s,comp=Z,1μm						
PLAI				pP	**pP**	**13 56 07.1**	**+0.4**
	comp=Z,111nm,0.6s,comp=Z,1μm						
JCJ	**Chichijima**	**33.53**	**345**	LR	LR	14 08 55.3	
	comp=Z,796nm,20.2s,baz=157,slow=35						
TWSI	**Taliwang, Sumb**	**34.37**	**262**	P	**P**	**13 55 56.8**	**-1.7**
	comp=Z,63nm,1.0s,comp=Z,761nm						
TWSI				pP	**pP**	**13 56 12.7**	**-1.6**
	comp=Z,63nm,1.0s,comp=Z,761nm						
MBWA	**Marble Bar**	**34.42**	**240**	P	**P**	**13 55 59.1**	**+0.2**
MBWA	**Marble Bar**	**34.42**	**240**	P	**P**	**13 55 58.7**	**-0.2**
MBWA	**Marble Bar**	**34.42**	**240**	P	**P**	**13 55 59.1**	**+0.2**
MBWA				S	**S**	**14 01 17.6**	**-5.0**
MBWA	**Marble Bar**	**34.42**	**240**	P	**P**	**13 55 58.7**	**-0.2**
PSAC2	**Pilbara Seismi**	**34.43**	**239**	IAMs_20	IAMs_20	14 11 19.4	
	comp=Z,3μm,20.0s						
PSAD1	**Pilbara Seismi**	**34.45**	**239**	IAMs_20	IAMs_20	14 11 28.9	
	comp=Z,3μm,19.0s						
PSAB2	**Pilbara Seismi**	**34.46**	**239**	IAMs_20	IAMs_20	14 11 21.2	
	comp=Z,3μm,19.0s						
PSAA3	**Pilbara Seismi**	**34.48**	**239**	IAMs_20	IAMs_20	14 11 10.6	
	comp=Z,3μm,20.0s						
PSA00	**Pilbara Seismi**	**34.48**	**239**	P	**P**	**13 55 59.0**	**-0.4**
PSA00	**Pilbara Seismi**	**34.48**	**239**	P	**P**	**13 55 59.0**	**-0.4**
PSA00				IAmb	IAmb	13 56 02.8	
	comp=Z,142nm,1.1s						
PSA00	**Pilbara Seismi**	**34.48**	**239**	P	**P**	**13 55 59.3**	**-0.1**
PSAB3	**Pilbara Seismi**	**34.48**	**239**	IAMs_20	IAMs_20	14 11 07.8	
	comp=Z,3μm,21.0s						
PSAA1	**Pilbara Seismi**	**34.49**	**239**	IAMs_20	IAMs_20	14 11 21.0	
	comp=Z,3μm,20.0s						
PSAC1	**Pilbara Seismi**	**34.50**	**239**	IAMs_20	IAMs_20	14 11 39.2	
	comp=Z,3μm,20.0s						
PSAD3	**Pilbara Seismi**	**34.57**	**239**	IAMs_20	IAMs_20	14 11 33.0	
	comp=Z,3μm,19.0s						
GLAD	**Gladstone**	**35.53**	**184**	P	**P**	**13 56 09.7**	**+1.6**
AULHS	**Lilydale High**	**35.86**	**185**	P	**P**	**13 56 12.7**	**+1.7**
TGY	**Tagaytay City**	**35.89**	**303**	P	**P**	**13 56 13.1**	**+1.4**
	comp=Z,197nm,0.4s,baz=61,slow=3.0,SNR=12						
TGY				LR	LR	14 09 17.9	
	comp=Z,298nm,20.8s,baz=110,slow=34						
SRBI	**Singaraja**	**35.99**	**264**	P	**P**	**13 56 13.2**	**+0.8**
	comp=Z,46nm,1.1s,comp=Z,868nm						
CORO	**Coronation Par**	**36.07**	**185**	P	**P**	**13 56 14.4**	**+1.7**
MOO	**Moorlands**	**37.05**	**185**	P	**P**	**13 56 23.0**	**+2.0**
	baz=37,SNR=13						
MOO	**Mo

YHNB IAmb IAmb 13 57 05.2
comp=Z,272nm,1.2s
YHNB Yeheng 41.80 317 P **P** **13 57 03.1 +2.1**
RPZ Rata Peaks 41.89 159 P **P** **13 57 02.2 +0.8**
RPZ IAmb IAmb 13 57 04.3
comp=Z,150nm,1.3s
RPZ Rata Peaks 41.89 159 LR LR 14 12 13.6
comp=Z,4μm,21.2s,baz=312,slow=33
TATO Taipei 41.92 317 P **P** **13 57 02.9 +1.0**
TATO Taipei 41.92 317 P **P** **13 57 05.2 +3.4**
NWAO Narrogin (SRO) 41.93 225 P **P** **13 57 01.8 -0.2**
baz=42,SNR=9.4
NWAO P **P** **13 57 01.8 -0.2**
baz=42,SNR=9.4
NWAO Narrogin (SRO) 41.93 225 P **P** **13 57 01.7 -0.2**
NWAO IAmb IAmb 13 57 02.6
comp=Z,125nm,1.4s
NWAO Narrogin (SRO) 41.93 225 P **P** **13 57 01.7 -0.2**
NWAO Narrogin (SRO) 41.93 225 P **P** **13 57 01.9 0.0**
NWAO Narrogin (SRO) 41.93 225 P **P** **13 57 01.7 -0.2**
NWAO pmax pmax
comp=Z,125nm,1.4s
NWAO Narrogin (SRO) 41.93 225 LR LR 14 14 39.9
comp=Z,2μm,21.2s,baz=54,slow=36
NWAO Narrogin (SRO) 41.93 225 P **P** **13 57 01.9 0.0**
NWAO Narrogin (SRO) 41.93 225 P **P** **13 57 01.4 -0.5**
MUN Mundaring 42.16 227 P **P** **13 57 03.6 -0.2**
baz=42,SNR=33
MUN Mundaring 42.16 227 P **P** **13 57 04.1 +0.3**
MUN Mundaring 42.16 227 P **P** **13 57 02.3 -1.5**
KPJI Karang Pucung 42.20 265 P **P** **13 57 04.6 +0.3**
comp=Z,167nm,1.0s,comp=Z,1μm
JMN Monobe 42.32 338 P **P** **13 57 05.7 +0.7**
JMN Monobe 42.32 338 P **P** **13 57 06.4 +1.4**
MLZ Mavora Lakes 42.38 162 P **P** **13 57 05.7 +0.3**
MLZ IAmb IAmb 13 57 08.2
comp=Z,155nm,1.3s
AUALB St Joseph's Co 42.65 222 P **P** **13 57 08.8 +1.1**
CMJI Cimerak 42.68 264 P **P** **13 57 07.6 -0.6**
comp=Z,363nm,1.0s,comp=Z,3μm
INU Inuyama 42.75 343 P **P** **13 57 08.1 -0.3**
INU Inuyama 42.75 343 P **P** **13 57 08.7 +0.3**
INU Inuyama 42.75 343 P **P** **13 57 08.5 +0.1**
INU pP **pP** **13 57 24.0 -0.7**
INU PcP **PcP** **13 58 58.7 -0.3**
JGF Kuroka 42.88 343 P **P** **13 57 09.3 -0.3**
JGF Kuroka 42.88 343 P **P** **13 57 09.7 +0.1**
JNU Nakatsue 42.98 334 P **P** **13 57 11.8 +1.4**
JNU IAmb IAmb 13 57 14.4
comp=Z,162nm,0.8s
JNU Nakatsue 42.98 334 P **P** **13 57 12.0 +1.6**
JNU Nakatsue 42.98 334 LR LR 14 13 18.5
comp=Z,705nm,21.7s,baz=180,slow=34
RKGY Rocky Gully 43.05 223 P **P** **13 57 11.5 +0.6**
baz=43,SNR=28
RKGY Rocky Gully 43.05 223 P **P** **13 57 12.0 +1.1**
BBJI Bungbulang 43.47 265 P **P** **13 57 14.0 -0.7**
LEM Lembang 43.51 266 P **P** **13 57 15.4 +0.3**
LEM pmax pmax
comp=Z,68nm,1.0s
LEM Lembang 43.51 266 LR LR 14 18 57.1
comp=Z,321nm,20.6s,baz=104,slow=41
LEM Lembang 43.51 266 P **P** **13 57 15.1 0.0**
comp=Z,68nm,1.0s,comp=Z,1μm
MJAR Matsushiro Arr 43.53 345 P **P** **13 57 13.1 -1.7**
comp=Z,27nm,0.8s,baz=170,slow=8.6,SNR=47
MJAR PcP **PcP** **13 59 01.8 +0.1**
comp=Z,14nm,0.7s,baz=153,slow=3.7,SNR=16
MJAR ScP **ScP** **14 02 48.0 +0.3**
comp=Z,4.4nm,1.0s,baz=155,slow=5.0,SNR=4.8
MJAR LR LR 14 14 23.8
comp=Z,780nm,20.9s,baz=164,slow=35
comp=Z,27nm,0.8s
MAJO Matsushiro 43.53 345 P **P** **13 57 14.5 -0.2**
MAJO Matsushiro 43.53 345 P **P** **13 57 14.6 -0.1**
MAJO Matsushiro 43.53 345 *i*P **P** **13 57 13.9 -0.9**
MAJO pmax pmax
comp=Z,43nm,0.7s
MAJO Matsushiro 43.53 345 P **P** **13 57 13.8 -0.9**
MAJO PcP **PcP** **13 59 01.6 0.0**
MJB9 Matsu-Tunnel 43.53 345 P **P** **13 57 14.0 -0.8**
QZH Quanzhou 43.90 315 P **P** **13 57 19.1 +1.2**
QZH S **S** **14 03 48.3 +3.5**
QZH pmax pmax
comp=Z,140nm,1.6s
QZH pmax pmax
comp=Z,1μm,3.7s
QZH LR LR
comp=Z,990nm,20.3s
QZH LR LR
comp=Z,1μm,15.8s
QZH LR LR
comp=Z,2μm,29.9s
JMM Marumori 44.18 348 P **P** **13 57 19.7 -0.2**
JMM Marumori 44.18 348 P **P** **13 57 20.1 +0.2**
JSD Sado 44.93 345 P **P** **13 57 25.9 +0.1**
JSD IAmb IAmb 13 57 28.3
comp=Z,54nm,0.7s
JSD Sado 44.93 345 P **P** **13 57 26.3 +0.5**
XMI Christmas Isla 45.48 261 P **P** **13 57 31.8 +1.1**
XMIS Christmas Isla 45.52 261 P **P** **13 57 31.2 +0.3**
XMIS Christmas Isla 45.52 261 P **P** **13 57 31.8 +0.8**
HKPS Hong Kong Po S 45.66 308 P **P** **13 57 34.4 +2.5**
HKPS Hong Kong Po S 45.66 308 P **P** **13 57 34.1 +2.1**
SSE Sheshan 46.37 323 P **P** **13 57 38.1 +0.8**
SSE pP **pP** **13 57 54.1 +0.4**
SSE S **S** **14 04 21.0 +0.7**
SSE pmax pmax
comp=Z,37nm,1.1s
SSE pmax pmax
comp=Z,280nm,3.6s
SSE LR LR
comp=Z,430nm,22.7s
KASI Kota Agung 46.65 268 P **P** **13 57 37.5 -2.3**
comp=Z,84nm,1.0s
JTM Tenmabayashi 46.95 349 P **P** **13 57 41.3 -0.4**
JTM Tenmabayashi 46.95 349 P **P** **13 57 41.6 -0.1**
DSRI Dabo 46.97 274 P **P** **13 57 42.5 +0.2**
comp=Z,52nm,0.9s,comp=Z,8μm
LWLI Liwa 47.10 268 P **P** **13 57 43.8 +0.3**
comp=Z,138nm,0.8s
TJN Taejon 47.27 333 P **P** **13 57 45.1 +0.8**
TJN Taejon 47.27 333 P **P** **13 57 45.4 +1.1**
TJN Taejon 47.27 333 *c*e**P** **P** **13 57 44.9 +0.6**
QIZ Qiongzhong 47.57 302 P **P** **13 57 48.6 +1.7**
QIZ S **S** **14 04 42.0 +4.2**
QIZ pmax pmax
comp=Z,93nm,1.1s
QIZ pmax pmax
comp=Z,510nm,4.1s
QIZ LR LR
comp=Z,770nm,29.8s
QIZ LR LR
comp=Z,1μm,27.8s
QIZ LR LR
comp=Z,3μm,27.3s
QIZ Qiongzhong 47.57 302 P **P** **13 57 48.9 +2.0**
QIZ Qiongzhong 47.57 302 P **P** **13 57 49.3 +2.3**
ERM Erimo 47.80 352 *i* P **P** **13 57 44.8 -3.5**
ERM pmax pmax
comp=Z,40nm,1.3s
KSRS Korea Array 47.93 335 P **P** **13 57 50.1 +0.8**
comp=Z,17nm,0.9s,baz=151,slow=8.9,SNR=40
KSRS PcP **PcP** **13 59 17.1 +0.2**
comp=Z,7.0nm,0.7s,baz=168,slow=3.5,SNR=11
KSRS LR LR 14 18 44.2
comp=Z,226nm,18.3s,baz=145,slow=37
comp=Z,17nm,0.9s
KSAR Wonju Array Be 47.94 335 P **P** **13 57 49.3 -0.2**
KSAR Wonju Array Be 47.94 335 P **P** **13 57 49.3 -0.2**
KS19 Wonju Array Si 48.00 335 P **P** **13 57 50.1 +0.2**
KS19 IAmb IAmb 13 58 06.9
comp=Z,87nm,1.3s
NJ2 Nanjing 48.45 322 ⇑P **P** **13 57 55.6 +2.1**
NJ2 pP **pP** **13 58 10.1 +0.2**
NJ2 sP **sP** **13 58 15.6 -1.6**
NJ2 sS **sS** **14 05 15.4 -2.9**
NJ2 pmax pmax
comp=Z,67nm,1.6s
NJ2 pmax pmax
comp=Z,1μm,4.3s
NJ2 LR LR
comp=Z,1μm,18.5s
NJ2 LR LR
comp=Z,960nm,24.6s

NJ2 LR LR
comp=Z,2μm,23.5s
INCN Inchon 48.52 334 P **P** **13 57 55.5 +1.5**
INCN Inchon 48.52 334 P **P** **13 57 55.5 +1.5**
INCN Inchon 48.52 334 P **P** **13 57 55.5 +1.5**
INCN pmax pmax
comp=Z,232nm,1.2s
INCN Inchon 48.52 334 P **P** **13 57 55.9 +2.0**
INCN Inchon 48.52 334 P **P** **13 57 55.5 +1.5**
INCN pP **pP** **13 58 11.0 +0.5**
RAR Rarotonga 49.84 113 P **P** **13 58 05.4 +1.1**
RAR IAmb IAmb 13 58 07.3
comp=Z,67nm,1.1s
RAR Rarotonga 49.84 113 P **P** **13 58 06.9 +2.6**
RAR Rarotonga 49.84 113 P **P** **13 58 05.4 +1.1**
RAR pmax pmax
comp=Z,67nm,1.1s
RAR Rarotonga 49.84 113 LR LR 14 16 57.4
comp=Z,298nm,21.7s,baz=284,slow=33
CNSH ChangSha 49.89 314 ⇑P **P** **13 58 07.0 +2.4**
CNSH pP **pP** **13 58 22.5 +1.4**
CNSH S **S** **14 05 15.6 +5.5**
CNSH pmax pmax
comp=Z,33nm,0.9s
CNSH LR LR
comp=Z,540nm,15.7s
CNSH LR LR
comp=Z,1μm,28.2s
CNSH LR LR
comp=Z,2μm,28.4s
UBPT Khong Chiam 49.90 295 P **P** **13 58 05.8 +0.9**
UBPT Khong Chiam 49.90 295 P **P** **13 58 05.8 +0.9**
JKA Kamikawa-asahi 49.95 352 P **P** **13 58 04.7 0.0**
JKA IAmb IAmb 13 58 31.2
comp=Z,176nm,1.4s
ASAJ Asahikawa 49.95 352 P **P** **13 58 04.7 0.0**
ASAJ pmax pmax
comp=Z,176nm,1.4s
ASAJ Asahikawa 49.95 352 LR LR 14 17 01.5
comp=Z,507nm,21.3s,baz=197,slow=33
GULI GuiLin 50.19 309 ⇑P **P** **13 58 09.9 +3.0**
GULI pP **pP** **13 58 21.9 -1.6**
GULI sP **sP** **13 58 30.7 -0.2**
GULI S **S** **14 05 19.9 +5.5**
GULI pmax pmax
comp=Z,190nm,1.3s
GULI pmax pmax
comp=Z,490nm,6.2s
GULI LR LR
comp=Z,500nm,22.6s
GULI LR LR
comp=Z,710nm,26.4s
GULI LR LR
comp=Z,1μm,25.1s
WHN Wuhan 50.33 318 ⇑P **P** **13 58 09.8 +1.9**
WHN pP **pP** **13 58 25.0 +0.5**
WHN sP **sP** **13 58 31.3 -0.5**
WHN S **S** **14 05 19.0 +2.7**
WHN pmax pmax
comp=Z,2μm,4.2s
WHN LR LR
comp=Z,5μm,25.4s
PDSI Padang 51.01 273 P **P** **13 58 11.5 -1.8**
comp=Z,34nm,0.7s
IPM Ipoh 51.23 280 P **P** **13 58 15.3 +0.3**
IPM IAmb IAmb 13 58 15.8
comp=Z,41nm,0.9s
IPM Ipoh 51.23 280 P **P** **13 58 14.9 -0.1**
PSTR Posyet 51.37 341 *i* P **P** **13 58 14.6 -0.8**
VLA Vladivostok 51.45 342 *i* P **P** **13 58 15.6 -0.4**
VLA pmax pmax
comp=Z,52nm,1.1s
XMAS Kiritimati 51.66 83 P **P** **13 58 19.4 +1.2**
XMAS Kiritimati 51.66 83 P **P** **13 58 20.9 +2.7**
XMAS Kiritimati 51.66 83 P **P** **13 58 20.6 +2.4**
KULM Kulim 51.75 281 P **P** **13 58 18.3 -0.5**
KULM IAmb IAmb 13 58 20.1
comp=Z,38nm,0.8s
TEY Ternei 51.95 347 *e*P **P** **13 58 18.8 -0.9**
TEY 14 05 28.7
DL2 Dalian 52.00 331 P **P** **13 58 21.2 +1.0**
DL2 pP **pP** **13 58 36.8 -0.1**
DL2 S **S** **14 05 42.3 +3.4**
DL2 pmax pmax
comp=Z,46nm,1.0s
DL2 pmax pmax
comp=Z,310nm,5.9s
DL2 LR LR
comp=Z,550nm,23.7s
DL2 LR LR
comp=Z,620nm,23.7s
DL2 LR LR
comp=Z,1μm,27.5s
SKLT Songkhla 52.16 283 P **P** **13 58 22.8 +0.9**
SISI Saibi 52.33 273 P **P** **13 58 21.4 -1.7**
comp=Z,32nm,0.9s
TIA Tai'an 52.39 325 ⇑P **P** **13 58 23.5 +0.3**
TIA PP **PP** **14 00 25.9 +3.3**
TIA S **S** **14 05 45.5 +1.1**
TIA pmax pmax
comp=Z,28nm,0.9s
TIA pmax pmax
comp=Z,170nm,5.9s
TIA LR LR
comp=Z,440nm,23.0s
TIA LR LR
comp=Z,390nm,20.8s
TIA LR LR
comp=Z,880nm,21.6s
USA0B Ussuriysk Arra 52.39 342 P **P** **13 58 23.4 +0.4**
USA0B IAmb IAmb 13 58 42.5
comp=Z,68nm,1.1s
USA0B Ussuriysk Arra 52.39 342 *c i*P **P** **13 58 23.4 +0.4**
USRK Ussuriysk Ar. 52.39 342 P **P** **13 58 23.3 +0.3**
comp=Z,22nm,0.7s,baz=164,slow=8.5,SNR=37
USRK LR LR 14 19 14.3
comp=Z,592nm,20.6s,baz=161,slow=34
comp=Z,22nm,0.7s
YSS Yuzh-Sakhalins 52.71 353 P **P** **13 58 24.8 -0.5**
YSS Yuzh-Sakhalins 52.71 353 P **P** **13 58 25.3 0.0**
YSS Yuzh-Sakhalins 52.71 353 *e*P **P** **13 58 24.8 -0.5**
YSS *e**PP **pP** **13 58 40.2 -1.9**
YSS *e* 13 59 34.9
YSS *e* 14 01 24.4
YSS *e*S **S** **14 05 46.8 -1.6**
YSS *e*SS **SS** **14 09 25.0 -2.9**
YSS pmax pmax
comp=Z,40nm,0.9s
YSS Yuzh-Sakhalins 52.71 353 P **P** **13 58 25.0 -0.3**
YSS PcP **PcP** **13 59 34.6 +0.3**
NONG Nongkai 52.98 297 P **P** **13 58 29.0 +1.1**
PSI Prapat 53.02 278 P **P** **13 58 28.9 +0.5**
PSI Prapat 53.02 278 P **P** **13 58 27.6 -0.8**
PSI pmax pmax
comp=Z,15nm,0.9s
PBSI Pulau Batu 53.27 274 P **P** **13 58 28.3 -1.8**
comp=Z,59nm,0.7s
NAYO Nakonayok 53.37 292 P **P** **13 58 32.1 +1.4**
SNY Shenyang 53.43 334 ⇑P **P** **13 58 31.2 +0.5**
SNY S **S** **14 05 59.8 +1.5**
SNY pmax pmax
comp=Z,20nm,1.1s
SNY pmax pmax
comp=Z,420nm,4.6s
SNY LR LR
comp=Z,440nm,17.5s
SNY LR LR
comp=Z,430nm,19.2s
SNY LR LR
comp=Z,1μm,27.3s
SRIT Nakonsritamara 53.46 285 P **P** **13 58 31.1 -0.3**
SRIT Nakonsritamara 53.46 285 P **P** **13 58 31.9 +0.4**
MDJ Mudanjiang 53.52 341 P **P** **13 58 32.4 +1.1**
MDJ pP pP 13 58 47.2 -1.0
MDJ sP sP 13 58 54.3 -1.3
MDJ PP **PP** **14 00 37.7 +5.1**
MDJ PcS **PcS** **14 03 34.6 -1.8**
MDJ pmax pmax
comp=Z,37nm,1.1s
MDJ pmax pmax
comp=Z,540nm,4.8s
MDJ LR LR
comp=Z,710nm,22.0s
MDJ LR LR
comp=Z,640nm,19.6s

MDJ LR LR
comp=Z,2μm,20.4s
MDJ Mudanjiang 53.52 341 P **P** **13 58 32.3 +0.9**
MDJ Mudanjiang 53.52 341 P **P** **13 58 31.7 +0.4**
MDJ PcP **PcP** **13 59 37.4 -0.1**
ENH Enshi 53.55 314 P **P** **13 58 33.0 +1.1**
ENH Enshi 53.55 314 P **P** **13 58 32.8 +0.9**
ENH pP **pP** **13 58 48.3 -0.3**
SURA Surathani 53.56 286 P **P** **13 58 32.4 +0.2**
SLVN Son La 53.59 301 P **P** **13 58 33.9 +1.6**
SLVN IAmb IAmb 13 58 35.6
comp=Z,185nm,1.7s
SLVN IAMs_20 IAMs_20 14 18 09.5
comp=Z,1μm,22.0s
GYA Guiyang 53.65 308 ⇑*i*P **P** **13 58 34.2 +1.4**
GYA pP pP 13 58 49.9 +0.3
GYA sP sP 13 58 57.4 +0.5
GYA pmax pmax
comp=Z,83nm,1.6s
GYA pmax pmax
comp=Z,580nm,7.8s
GYA LR LR
comp=Z,480nm,20.6s
GYA LR LR
comp=Z,670nm,18.5s
GYA LR LR
comp=Z,1μm,19.4s
LYN LuoYang 54.09 320 *e*P **P** **13 58 36.6 +0.9**
LYN pP sP 13 58 58.6 -1.5
LYN sP pP 13 59 04.4 +12
LYN S **S** **14 06 06.7 -0.9**
LYN sS sS 14 06 41.8 +7.0
LYN pmax pmax
comp=Z,80nm,0.8s
LYN pmax pmax
comp=Z,530nm,4.4s
LYN LR LR
comp=Z,1μm,22.4s
LYN LR LR
comp=Z,1μm,22.3s
LYN LR LR
comp=Z,3μm,25.0s
GSI Gunungsitoli 54.14 276 P **P** **13 58 34.6 -1.8**
GSI IAmb IAmb 13 58 36.1
comp=Z,72nm,0.9s
GSI Gunungsitoli 54.14 276 P **P** **13 58 35.3 -1.1**
GSI Gunungsitoli 54.14 276 P **P** **13 58 34.9 -1.5**
comp=Z,103nm,0.8s,comp=Z,2μm
COCO West Island 54.23 259 P **P** **13 58 38.1 +1.1**
COCO West Island 54.23 259 P **P** **13 58 38.1 +1.1**
COCO pmax pmax
comp=Z,289nm,0.9s
KCSI Kotacane, Aceh 54.26 278 P **P** **13 58 35.3 -2.1**
comp=Z,40nm,0.9s
CN2 Changchun 54.30 337 *e*P **P** **13 58 36.8 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.1s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,100nm,10.0s
CN2 LR LR
comp=Z,200nm,10.0s
CN2 LR LR
comp=Z,200nm,10.0s
HNS HongShan 54.60 324 ⇑P **P** **13 58 40.3 +0.9**
HNS pP **pP** **13 58 55.2 -1.2**
HNS sP **sP** **13 59 02.0 -1.7**
HNS S **S** **14 06 09.8 -4.6**
HNS pmax pmax
comp=Z,86nm,1.1s
HNS LR LR
comp=Z,970nm,20.2s
HNS LR LR
comp=Z,680nm,20.0s
HNS LR LR
comp=Z,2μm,23.5s
UGL Uglegorsk 54.88 353 *e*P **P** **13 58 41.2 +0.1**
BNX BinXian 55.24 340 ⇑P **P** **13 58 43.4 -0.4**
BNX pP **pP** **13 59 03.3 +2.5**
BNX sP **sP** **13 59 12.4 +4.2**
BNX PP **PP** **14 00 48.0 -0.1**
BNX S **S** **14 06 21.8 -0.9**
BNX sS **sS** **14 06 54.2 +4.3**
BNX pmax pmax
comp=Z,110nm,1.0s
BNX pmax pmax
comp=Z,230nm,4.6s
BNX LR LR
comp=Z,480nm,19.5s
BNX LR LR
comp=Z,340nm,16.8s
BNX LR LR
comp=Z,1μm,36.9s
LHMI Lhok Sumawe 55.36 280 P **P** **13 58 44.8 -0.5**
LHMI IAmb IAmb 13 58 46.3
comp=Z,62nm,0.8s
LHMI Lhok Sumawe 55.36 280 P **P** **13 58 45.5 +0.2**
LHMI Lhok Sumawe 55.36 280 P **P** **13 58 45.2 -0.1**
comp=Z,106nm,1.0s,comp=Z,1μm
SRDT SRDT 55.41 291 P **P** **13 58 47.2 +1.6**
SNSI Sinabang, Aceh 55.52 277 P **P** **13 58 45.2 -1.3**
comp=Z,68nm,1.3s
BJT Baijiatuan 55.62 328 P **P** **13 58 47.4 +0.7**
BJT Baijiatuan 55.62 328 P **P** **13 58 47.2 +0.5**
BJT pmax pmax
comp=Z,44nm,1.5s
BJT Baijiatuan 55.62 328 P **P** **13 58 46.9 +0.2**
BJT pP **pP** **13 59 03.4 -0.3**
BJT sP **sP** **13 59 10.0 -1.1**
BJI Beijing 55.64 328 P **P** **13 58 47.0 +0.2**
BJI pP **pP** **13 59 02.4 -1.4**
BJI S **S** **14 06 28.3 +0.2**
BJI sS **sS** **14 06 55.1 -0.3**
BJI pmax pmax
comp=Z,13nm,1.8s
BJI pmax pmax
comp=Z,220nm,4.0s
BJI LR LR
comp=Z,380nm,22.0s
BJI LR LR
comp=Z,210nm,23.5s
BJI LR LR
comp=Z,600nm,22.6s
PHRA Phrae 55.72 297 P **P** **13 58 48.4 +0.6**
MLSI Meulaboh, Aceh 55.73 279 P **P** **13 58 46.3 -1.6**
XAN Xi'an 56.10 318 ⇑P **P** **13 58 50.8 +0.5**
XAN pP pP 13 59 06.2 -1.0
XAN sP sP 13 59 14.1 -0.3
XAN S **S** **14 06 33.4 -1.3**
XAN SS **SS** **14 10 19.9 -2.2**
XAN pmax pmax
comp=Z,72nm,1.1s
XAN pmax pmax
comp=Z,770nm,5.1s
XAN LR LR
comp=Z,1μm,20.6s
XAN LR LR
comp=Z,760nm,20.6s
XAN LR LR
comp=Z,1μm,21.3s
XAN Xi'an 56.10 318 P **P** **13 58 50.9 +0.5**
XAN pP **pP** **13 59 06.2 -1.0**
TIY Taiyuan 56.15 323 *e*P **P** **13 58 51.5 +0.9**
TIY pP **pP** **13 59 06.5 -1.2**
TIY sP **sP** **13 59 13.8 -1.2**
TIY S **S** **14 06 37.4 +2.1**
TIY pmax pmax
comp=Z,310nm,4.9s
TIY LR LR
comp=Z,710nm,22.7s
TIY LR LR
comp=Z,730nm,22.0s
TIY LR LR
comp=Z,1μm,24.0s
KMI Kunming 56.16 305 ⇑P **P** **13 58 53.0 +1.9**
KMI pP pP 13 59 07.8 -0.3
KMI S **S** **14 06 37.8 +1.7**
KMI pmax pmax
comp=Z,75nm,1.0s
KMI LR LR
comp=Z,440nm,22.6s
KMI LR LR
comp=Z,560nm,17.7s
KMI LR LR

comp=Z,2µm,32.2s
KMI Kunming 56.16 305 P P 13 58 53.1 +1.9
CRAI Chiangrai 56.21 299 P P 13 58 53.0 +1.7
CRAI IAmb IAmb 13 58 54.1
comp=Z,62nm,0.8s
OPA Opana 56.43 60 P P 13 58 54.7 +1.9
OPA pmax pmax
comp=Z,345nm,1.1s
TYV Tymovskoe 56.57 353 *e*P **P 13 58 53.4 +0.2**
TYV *e*S **S 14 06 45.4 +5.3**
TYV pmax pmax
comp=Z,100nm,3.8s
TYV pmax pmax
comp=Z,30nm,0.9s
TYV smax smax
comp=N,200nm,6.6s
TYV smax smax
comp=E,100nm,6.6s
CM31 Chiang Mai Arr 56.86 296 P P 13 58 55.7 -0.2
CMAR Chiang Mai Arr 56.86 296 P P 13 58 55.8 -0.1
CMAR Chiang Mai Arr 56.86 296 *i* P **P 13 58 57.2 +1.3**
CMAR pmax pmax
comp=Z,24nm,0.9s
CMAR Chiang Mai Arr 56.86 296 P P 13 58 56.6 +0.7
comp=Z,24nm,0.9s,baz=120,slow=5.5,SNR=94
CMAR LR LR 14 22 44.4
comp=Z,188nm,20.1s,baz=115,slow=35
CMAR PKPPKP **P'P'df 14 28 41.8 -7.2**
comp=Z,1.7nm,0.9s,baz=296,slow=3.3,SNR=9.2
CMAR PKP2bc 14 29 01.1
comp=Z,16nm,1.0s,baz=286,slow=4.0,SNR=21
comp=Z,24nm,0.9s
CHTO Chiang Mai 56.98 296 P P 13 58 57.0 +0.3
CHTO IAmb IAmb 13 58 59.0
comp=Z,172nm,2.0s
CHTO Chiang Mai 56.98 296 P P 13 58 57.9 +1.2
CHTO Chiang Mai 56.98 296 P P 13 58 57.1 +0.3
CHTO pmax pmax
comp=Z,172nm,2.0s
CHTO Chiang Mai 56.98 296 P P 13 58 57.6 +0.9
CHTO Chiang Mai 56.98 296 P P 13 58 57.5 +0.7
KLR Kul'dur 57.06 345 *ce*P **P 13 58 56.8 +0.1**
KLR pmax pmax
comp=Z,58nm,1.0s
KLR Kul'dur 57.06 345 LR LR 14 20 36.0
comp=Z,618nm,20.3s,baz=164,slow=33
GRNR Gornyy 57.44 349 ⇑ *i*P **P 13 58 59.3 -0.1**
GRNR *e*S **S 14 06 55.0 +3.4**
GRNR pmax pmax
comp=E,4.0nm,0.8s
GRNR pmax pmax
comp=N,9.0nm,0.9s
GRNR pmax pmax
comp=Z,20nm,0.7s
GRNR smax smax
comp=N,1.0nm,0.7s
KHLH Kahului Airpor 57.51 61 P P 13 59 02.2 +1.8
KHLU Kahalu`u 57.52 63 P P 13 59 02.0 +1.4
PZH PanZhiHua 57.57 306 P P 13 59 01.6 +0.6
PZH pP **pP 13 59 16.3 -1.7**
PZH PP **PP 14 01 06.9 -2.5**
PZH S **S 14 06 54.7 +0.2**
PZH sS **sS 14 07 24.7 +2.7**
PZH pmax pmax
comp=N,30nm,1.3s
PZH pmax pmax
comp=N,300nm,5.9s
PZH LR LR
comp=N,450nm,24.9s
PZH LR LR
comp=N,460nm,24.7s
PZH LR LR
comp=N,1µm,28.0s
POHA Pohakuloa 57.90 63 P P 13 59 05.6 +2.1
POHA Pohakuloa 57.90 63 P P 13 59 05.3 +1.9
CD2 Chengdu 58.07 312 P P 13 59 05.7 +1.4
CD2 pP pP 13 59 19.8 -1.4
CD2 sP sP 13 59 28.0 -0.5
CD2 S **S 14 07 01.5 +0.8**
CD2 pmax pmax
comp=N,70nm,0.6s
CD2 pmax pmax
comp=N,700nm,4.0s
CD2 LR LR
comp=N,860nm,25.0s
CD2 LR LR
comp=N,980nm,19.6s
CD2 LR LR
comp=N,1µm,25.5s
XLT XiLinHaoTe 58.50 331 *e*P **P 13 59 08.0 +1.0**
XLT pP pP 13 59 23.3 -0.8
XLT sP sP 13 59 32.8 +1.4
XLT S **S 14 07 06.3 +0.4**
XLT SS **SS 14 11 01.6 +2.1**
XLT pmax pmax
comp=N,97nm,1.1s
XLT pmax pmax
comp=N,210nm,3.8s
XLT LR LR
comp=N,780nm,25.8s
XLT LR LR
comp=N,2µm,25.3s
PET Petropavlovsk 58.56 5 *e*P **P 13 59 07.1 0.0**
PET *e* 13 59 56.7
PET *e*S **S 14 07 04.4 -1.6**
PET 14 13 29.8
PET pmax pmax
comp=Z,38nm,0.7s
PET pmax pmax
comp=Z,200nm,11.2s
PET MLR MLR
comp=Z,500nm,21.0s
PEA0B Petropavlovsk- 58.56 4 *i* P **P 13 59 05.3 -1.9**
PETK Petropavlovsk- 58.56 4 P **P 13 59 06.4 -0.8**
PETK Petropavlovsk- 58.56 4 P **P 13 59 06.4 -0.8**
PETK Petropavlovsk- 58.56 4 P **P 13 59 06.2 -1.0**
comp=Z,38nm,0.7s,baz=167,slow=6.0,SNR=80
PETK PcP **PcP 13 59 55.8 -1.1**
comp=Z,16nm,0.8s,baz=142,slow=5.1,SNR=4.7
PETK LR LR 14 20 44.5
comp=Z,891nm,21.1s,baz=186,slow=32
comp=Z,38nm,0.7s
HHC Hu-ho-hao-te 58.73 325 *e*P **P 13 59 09.9 +1.1**
HHC pP pP 13 59 24.9 -1.0
HHC S **S 14 07 12.6 +3.5**
HHC pmax pmax
comp=Z,64nm,0.8s
HHC pmax pmax
comp=Z,350nm,4.8s
HHC LR LR
comp=Z,510nm,21.4s
HHC LR LR
comp=Z,680nm,19.1s
HHC LR LR
comp=Z,1µm,19.9s
PPT Papeete 58.90 107 P **P 13 59 12.4 +2.2**
comp=Z,56nm,1.1s,baz=276,slow=22,SNR=6.9
comp=Z,56nm,1.1s
PPT2 Papeete2 58.90 107 *e*PKP2 **P 13 59 06.9 -3.4**
comp=Z,429nm,27.5s
PPT2 *e*S **S 14 07 05.4 -6.6**
comp=Z,562nm,26.5s
PPT2 *e*SS SS 14 10 51.8 -15
comp=Z,517nm,30.8s
PPT2 *e*LQ LQ 14 13 39.3
comp=Z,1µm,35.5s
PPT2 *e*LR LR 14 16 42.4
comp=Z,942nm,25.5s
PPTF Pamatai, Papee 58.91 107 P **P 13 59 12.7 +2.3**
HEH HeiHe 59.20 342 *e*P **P 13 59 11.4 -0.3**
HEH pP **pP 13 59 29.5 +0.7**
HEH sP **sP 13 59 36.7 +0.6**
HEH PcP **PcP 13 59 58.5 -1.0**
HEH ScP **ScP 14 03 56.8 +2.1**
HEH S **S 14 07 12.5 -2.0**
HEH sS **sS 14 07 40.5 -1.6**
HEH pmax pmax
comp=Z,72nm,1.0s
HEH pmax pmax
comp=Z,230nm,5.8s
HEH LR LR
comp=Z,780nm,18.8s
HEH LR LR
comp=Z,520nm,19.4s
HEH LR LR
comp=Z,2µm,24.9s

BTO Baotou 59.46 324 *e*P **P 13 59 15.9 +2.1**
BTO pP **pP 13 59 32.3 +1.3**
BTO sP sP 13 59 45.3 +7.0
BTO PP **PP 14 01 27.9 +2.1**
BTO S **S 14 07 20.8 +2.3**
BTO SS **SS 14 11 15.9 +1.1**
BTO pmax pmax
comp=Z,66nm,0.8s
BTO pmax pmax
comp=Z,690nm,4.6s
BTO LR LR
comp=Z,1µm,19.6s
BTO LR LR
comp=Z,2µm,20.8s
BTO LR LR
comp=Z,2µm,19.8s
TNCH TengChong 59.61 303 P **P 13 59 16.1 +0.9**
TNCH pP pP 13 59 31.3 -1.0
TNCH sP sP 13 59 37.8 -1.8
TNCH S **S 14 07 20.8 -0.3**
TNCH sS sS 14 07 46.7 -2.2
TNCH SS **SS 14 11 18.2 +0.5**
TNCH pmax pmax
comp=Z,77nm,0.9s
TNCH pmax pmax
comp=Z,270nm,4.5s
TNCH LR LR
comp=Z,220nm,23.9s
TNCH LR LR
comp=Z,330nm,24.3s
TNCH LR LR
comp=Z,1µm,33.4s
MND Mandalay 60.56 299 P **P 13 59 22.2 +0.7**
LZH Lanzhou 60.69 317 ⇑ P **P 13 59 24.0 +1.6**
LZH pP pP 13 59 39.5 -0.2
LZH sP sP 13 59 46.1 -0.9
LZH S **S 14 07 34.2 -0.4**
LZH SS **SS 14 11 32.6 -1.8**
LZH pmax pmax
comp=Z,82nm,1.4s
LZH LR LR
comp=Z,700nm,16.8s
LZH LR LR
comp=Z,710nm,17.9s
LZH LR LR
comp=Z,1µm,17.2s
HIA Hailar 61.03 337 P **P 13 59 25.3 +1.0**
HIA Hailar 61.03 337 P **P 13 59 25.0 +0.7**
HIA pP **pP 13 59 40.4 -1.1**
SHEM Shemya Is, Ala 61.06 16 LR LR 14 21 03.8
comp=Z,982nm,21.5s,baz=156,slow=31
DRV Dumont d'Urvil 61.64 185 P **P 13 59 29.0 +1.0**
ZEA Zeya 62.34 344 *e*P **P 13 59 33.0 +0.1**
ZEA *e* 14 08 00.8
ZEA pmax pmax
comp=N,30nm,0.9s
ZEA pmax pmax
comp=Z,60nm,0.7s
ADK Adak 63.27 22 P **P 13 59 39.2 +0.1**
ADK Adak 63.27 22 P **P 13 59 38.7 -0.4**
MA2 Magadan 64.80 360 P **P 13 59 47.9 -1.1**
MA2 IAmb IAmb 13 59 51.0
comp=Z,64nm,0.7s
MA2 Magadan 64.80 360 P **P 13 59 48.3 -0.8**
MA2 Magadan 64.80 360 *ce*P **P 13 59 47.4 -1.6**
MA2 pmax pmax
comp=Z,91nm,1.0s
MA2 Magadan 64.80 360 P **P 13 59 48.2 -0.8**
GTA Gaotai 65.15 318 P **P 13 59 52.9 +1.0**
GTA pP pP 14 00 08.1 -1.2
GTA PP **PP 14 02 15.7 -0.4**
GTA S **S 14 08 29.6 -0.6**
GTA sS sS 14 09 02.6 +4.0
GTA pmax pmax
comp=Z,27nm,0.9s
GTA LR LR
comp=Z,190nm,17.1s
GTA LR LR
comp=Z,330nm,20.0s
GTA LR LR
comp=Z,600nm,20.0s
CIT Chita 65.66 335 *e*P **P 13 59 56.1 +1.3**
CIT *e* 14 00 11.0
CIT *e* 14 00 21.3
CIT pmax pmax
comp=Z,216nm,1.8s
ULN Ulaanbaatar 65.78 329 P **P 13 59 56.9 +1.0**
ULN Ulaanbaatar 65.78 329 IAMs_20 IAMs_20 14 27 02.8
comp=Z,1µm,21.0s
ULN Ulaanbaatar 65.78 329 *ce*P **P 13 59 57.0 +1.2**
ULN pmax pmax
comp=Z,82nm,1.0s
ULN Ulaanbaatar 65.78 329 P **P 13 59 57.5 +1.7**
ULN Ulaanbaatar 65.78 329 P **P 13 59 57.2 +1.3**
SONM Songino Array 66.10 329 P **P 13 59 58.1 +0.2**
SONM IAmb IAmb 14 00 00.2
comp=Z,69nm,1.0s
SONM pP **pP 14 00 13.8 -1.5**
SONM Songino Array 66.10 329 P **P 13 59 59.0 +1.1**
SONM Songino Array 66.10 329 P **P 13 59 59.0 +1.1**
comp=Z,54nm,0.8s,baz=139,slow=6.0,SNR=232
SONM PKPPKP **P'P'df 14 28 33.5 +1.5**
comp=Z,2.7nm,0.9s,baz=312,slow=2.3,SNR=9.2
SONM LR LR 14 28 49.3
comp=Z,797nm,20.4s,baz=127,slow=36
comp=Z,54nm,0.8s
CASY Casey 67.00 197 P **P 14 00 03.2 +0.1**
CASY IAmb IAmb 14 00 04.4
comp=Z,129nm,1.3s
CASY Casey 67.00 197 P **P 14 00 04.0 +0.9**
GOMU GeErMu 67.13 313 P **P 14 00 05.9 +0.9**
GOMU S **S 14 08 54.1 -0.8**
GOMU SS **SS 14 13 13.2 -2.1**
GOMU pmax pmax
comp=Z,19nm,1.1s
GOMU LR LR
comp=Z,640nm,19.8s
GOMU LR LR
comp=Z,970nm,20.8s
GOMU LR LR
comp=Z,2µm,20.6s
NIKH Nikolski High 67.18 25 P **P 14 00 04.9 +0.5**
baz=224
LSA Lhasa 67.42 305 P **P 14 00 08.2 +1.1**
LSA pmax pmax
comp=Z,74nm,1.1s
LSA Lhasa 67.42 305 P **P 14 00 08.5 +1.4**
LSA Lhasa 67.42 305 P **P 14 00 08.3 +1.3**
TAOE Nuku Hiva Isla 67.97 97 *e*PKP2 P 14 00 05.0 -5.3
comp=Z,393nm,28.8s
SEY Seymchan 68.17 1 *ce*P **P 14 00 09.3 -1.2**
SEY pmax pmax
comp=Z,37nm,1.3s
SEY Seymchan 68.17 1 LR LR 14 24 32.1
comp=Z,478nm,21.6s,baz=184,slow=31
UNV Unalaska Valle 68.79 25 P **P 14 00 15.0 +0.5**
baz=226
ZAK Zakamensk 69.29 329 *e*P **P 14 00 18.2 +0.3**
ZAK pmax pmax
comp=Z,133nm,1.0s
YAK Yakutsk 69.31 349 P **P 14 00 16.9 -0.7**
YAK IAmb IAmb 14 00 19.1
comp=Z,106nm,0.9s
YAK Yakutsk 69.31 349 *c i*P **P 14 00 17.2 -0.4**
YAK *e**PP **pP 14 00 31.5 -3.7**
YAK eS **S 14 09 17.6 -1.4**
YAK *e**SS **pS 14 09 42.2 +2.6**
YAK pmax pmax
comp=Z,133nm,1.1s
YAK pmax pmax
comp=E,8.0nm,0.9s
YAK pmax pmax
comp=N,37nm,1.1s
YAK smax smax
comp=E,33nm,2.8s
YAK smax smax
comp=N,98nm,4.1s
YAK Yakutsk 69.31 349 LR LR 14 28 43.2
comp=N,504nm,21.9s,baz=140,slow=34
YAK Yakutsk 69.31 349 P **P 14 00 17.5 0.0**
SPIA Saint Paul Isl 69.75 21 P **P 14 00 21.2 +0.8**
baz=221
BOD Bodaibo 69.87 340 *e*P **P 14 00 20.6 -0.5**
BOD pmax pmax
comp=Z,61nm,1.0s

IRK Irkutsk 69.96 331 *e*P **P 14 00 22.0 +0.2**
IRK pmax pmax
comp=Z,106nm,2.3s
FALS False Pass 70.80 26 P **P 14 00 27.3 +0.5**
baz=228
MOY Mondy 71.22 330 *e*P **P 14 00 30.2 +0.6**
MOY pmax pmax
comp=Z,108nm,1.8s
CCD Concordia, Ant 71.46 187 P **P 14 00 32.1 +1.1**
PALK Pallekele 71.63 279 *i* P **P 14 00 31.5 -1.3**
PALK pmax pmax
comp=Z,47nm,1.5s
PALK Pallekele 71.63 279 P **P 14 00 32.5 -0.3**
VNDA Vanda 72.26 178 P **P 14 00 36.5 +1.1**
VNDA IAmb IAmb 14 00 38.0
comp=Z,192nm,1.9s
VNDA Vanda 72.26 178 P **P 14 00 36.5 +1.1**
VNDA pmax pmax
comp=Z,192nm,1.9s
VNDA Vanda 72.26 178 P **P 14 00 36.4 +1.1**
comp=Z,19nm,1.1s,baz=328,slow=6.1,SNR=24
comp=Z,19nm,1.1s
SDPT Sand Point 72.41 27 P **P 14 00 36.9 +0.4**
baz=231
SBA Scott Base 72.83 177 P **P 14 00 41.6 +2.9**
CHGN Chignik 73.92 26 P **P 14 00 44.7 -0.7**
CHGN Chignik 73.92 26 P **P 14 00 45.8 +0.5**
baz=233
BILL Bilibino 74.05 6 ⇑ *e*P **P 14 00 46.0 +0.1**
BILL pmax pmax
comp=Z,54nm,1.0s
M13K Dall Lake 74.57 21 P **P 14 00 49.9 +0.8**
baz=227
O14K Tigyukauivet M 74.58 23 P **P 14 00 49.5 +0.3**
baz=229
N14K Kuskokwak Cree 74.86 22 P **P 14 00 50.9 +0.1**
baz=229,SNR=7.1
CHIR Chirikof Islan 74.90 28 P **P 14 00 51.5 +0.4**
baz=235
R16K Pilot Point 75.05 26 P **P 14 00 52.5 +0.6**
baz=233
O15K Ungalikthiuk R 75.10 24 P **P 14 00 53.0 +0.7**
baz=231
WMQ Urumqi 75.24 318 *e*P **P 14 00 54.0 +0.5**
WMQ PcP **pP 14 01 09.3 -2.0**
WMQ S **S 14 10 31.0 +3.3**
WMQ pmax pmax
comp=Z,35nm,1.3s
WMQ pmax pmax
comp=Z,290nm,5.7s
WMQ LR LR
comp=Z,520nm,23.1s
WMQ LR LR
comp=Z,550nm,19.9s
WMQ LR LR
comp=Z,600nm,24.5s
M14K Bethel 75.31 22 P **P 14 00 53.3 0.0**
M14K IAmb IAmb 14 00 57.9
comp=Z,74nm,1.0s
M14K Bethel 75.31 22 P **P 14 00 53.9 +0.6**
baz=228,SNR=17
HYB Hyderabad 75.35 289 *e*P **P 14 00 53.5 -1.0**
HYB IVmB_BB 14 00 54.2
comp=Z,666nm,1.0s
L14K Kuka Creek 75.44 21 P **P 14 00 54.8 +0.7**
baz=228
N15K Kwethluk River 75.63 23 IAMs_20 IAMs_20 14 29 37.8
comp=Z,1µm,20.0s
N15K Kwethluk River 75.63 23 P **P 14 00 55.8 +0.5**
baz=230,SNR=13
M15K Kasigluk River 75.74 22 P **P 14 00 56.1 +0.2**
baz=230
P16K Nushagak River 75.76 24 P **P 14 00 56.5 +0.6**
baz=232
SII Sitkinak Islan 75.98 28 P **P 14 00 57.8 +0.4**
baz=236
O16K Kokwok River B 76.06 24 IAMs_20 IAMs_20 14 30 29.1
comp=Z,785nm,21.0s
O16K Kokwok River B 76.06 24 P **P 14 00 58.0 +0.4**
baz=232
L15K Ungalak Mounta 76.09 21 P **P 14 00 57.9 +0.1**
baz=229
Q16K King Salmon 76.10 25 P **P 14 00 58.3 +0.4**
baz=234
J14K Nanvaranak Lak 76.10 20 P **P 14 00 58.5 +0.7**
J14K IAmb IAmb 14 01 01.8
comp=Z,64nm,0.9s
J14K IAMs_20 IAMs_20 14 30 05.8
comp=Z,876nm,21.0s
J14K Nanvaranak Lak 76.10 20 P **P 14 00 58.3 +0.5**
baz=226,SNR=21
Q17K Contact Creek 76.19 26 P **P 14 00 58.0 -0.6**
baz=235,SNR=14
N16K Nishlik Lake 76.33 23 P **P 14 00 60.0 +0.7**
baz=232
K15K Wolf Creek Mou 76.49 21 IAMs_20 IAMs_20 14 29 45.4
comp=Z,870nm,22.0s
K15K Wolf Creek Mou 76.49 21 P **P 14 01 00.7 +0.7**
baz=228
P17K Kvichak River 76.50 25 P **P 14 00 59.9 -0.2**
baz=234
O17K Koliganek Bris 76.57 24 P **P 14 01 00.6 0.0**
baz=233,SNR=12
M16K Timber Creek 76.61 22 IAMs_20 IAMs_20 14 28 27.5
comp=Z,840nm,22.0s
M16K Timber Creek 76.61 22 P **P 14 01 01.2 +0.5**
baz=231,SNR=34
OHAK Old Harbor 76.76 27 P **P 14 01 01.5 -0.1**
OHAK Old Harbor 76.76 27 P **P 14 01 02.0 +0.4**
OHAK Old Harbor 76.76 27 P **P 14 01 01.7 0.0**
baz=237,SNR=6.0
TNA Tin City 76.79 16 P **P 14 01 01.9 +0.2**
baz=222
ANM Nome 76.80 18 P **P 14 01 02.6 +0.8**
ANM IAMs_20 IAMs_20 14 29 56.5
comp=Z,1µm,22.0s
ANM Nome 76.80 18 P **P 14 01 02.6 +0.8**
ANM pmax pmax
comp=Z,23nm,0.7s
ANM Nome 76.80 18 P **P 14 01 02.1 +0.3**
baz=224,SNR=18
L16K Owhat River 76.85 22 P **P 14 01 02.9 +0.8**
L16K IAmb IAmb 14 01 04.8
comp=Z,48nm,1.1s
L16K Owhat River 76.85 22 P **P 14 01 02.4 +0.3**
baz=231,SNR=28
N17K Nushagak Hills 76.99 23 IAMs_20 IAMs_20 14 30 20.7
comp=Z,985nm,22.0s
N17K Nushagak Hills 76.99 23 P **P 14 01 03.6 +0.7**
baz=233
P18K Big Mountain, 77.12 25 P **P 14 01 02.9 -0.9**
P18K Big Mountain, 77.12 25 P **P 14 01 03.8 0.0**
baz=235
F14K Arctic Creek 77.18 17 P **P 14 01 04.1 +0.3**
baz=223
KDAK Kodiak Island 77.38 27 P **P 14 01 05.0 -0.1**
KDAK IAmb IAmb 14 01 39.0
comp=Z,69nm,1.6s
KDAK Kodiak Island 77.38 27 P **P 14 01 05.1 0.0**
baz=238
KDAK Kodiak Island 77.38 27 P **P 14 01 05.1 0.0**
comp=Z,18nm,0.8s,baz=226,slow=4.9,SNR=12
KDAK LR LR 14 31 35.5
comp=Z,138nm,19.7s,baz=252,slow=33
comp=Z,18nm,0.8s
O18K Koktuh Hills 77.39 25 P **P 14 01 04.7 -0.6**
O18K Koktuh Hills 77.39 25 P **P 14 01 05.3 0.0**
baz=235
M17K Holitna River 77.42 23 P **P 14 01 06.2 +0.9**
M17K IAmb IAmb 14 01 09.3
comp=Z,51nm,0.8s
M17K IAMs_20 IAMs_20 14 31 05.7
comp=Z,809nm,20.0s
M17K Holitna River 77.42 23 P **P 14 01 06.1 +0.8**
baz=233,SNR=25
J16K Anvik River 77.46 20 IAMs_20 IAMs_20 14 30 46.1
comp=Z,789nm,22.0s
J16K Anvik River 77.46 20 P **P 14 01 06.4 +0.9**
baz=229
G15K Niukluk 77.51 18 P **P 14 01 05.9 +0.2**
baz=226,SNR=13
Q19K Cape Douglas, 77.53 26 P **P 14 01 05.7 -0.3**
Q19K IAmb IAmb 14 01 07.4
comp=Z,73nm,0.7s
Q19K Cape Douglas, 77.53 26 P **P 14 01 05.7 -0.3**
baz=237,SNR=12
L17K Donlin 77.55 22 P **P 14 01 07.0 +1.0**

baz=232
N18K Kilae Creek 77.59 24 IAMs_20 IAMs_20 14 33 55.7
comp=Z,807nm,20.0s
N18K Kilae Creek 77.59 24 P **P** **14 01 07.2 +0.9**
baz=234,SNR=13
DGZ Jazzator, Alta 77.73 323*c i*P **P** **14 01 07.6 +0.1**
DGZ pmax pmax
comp=Z,65nm,0.9s
H16K Elim 77.82 19 P **P** **14 01 07.5 0.0**
baz=227,SNR=15
I17K Unalakleet 77.83 20 IAMs_20 IAMs_20 14 31 10.7
comp=Z,829nm,22.0s
I17K Unalakleet 77.83 20 P **P** **14 01 08.6 +1.1**
baz=229,SNR=34
F15K North Star Dit 77.83 17 IAMs_20 IAMs_20 14 30 48.8
comp=Z,964nm,21.0s
F15K North Star Dit 77.83 17 P **P** **14 01 08.0 +0.4**
baz=225
Q20K Shuyak Island 77.91 26 P **P** **14 01 08.3 +0.3**
baz=238
SYI Shuyak Island 77.91 26 P **P** **14 01 07.8 -0.2**
SYI IAmb IAmb 14 02 51.5
comp=Z,174nm,1.8s
SYI IAMs_20 IAMs_20 14 26 05.0
comp=Z,840nm,22.0s
K17K Iditarod 77.91 21 P **P** **14 01 08.9 +0.9**
baz=232
O19K Port Alsworth 77.95 25 P **P** **14 01 07.8 -0.4**
baz=236,SNR=10.0
SVW2 Sparrevohn 77.96 23 P **P** **14 01 08.9 +0.5**
SVW2 IAmb IAmb 14 01 11.1
comp=Z,44nm,0.8s
SVW2 IAMs_20 IAMs_20 14 30 49.1
comp=Z,902nm,22.0s
SVW2 Sparrevohn 77.96 23 P **P** **14 01 09.5 +1.1**
J17K VABM Dome 78.06 21 P **P** **14 01 09.9 +1.1**
baz=231
M18K Stony River 78.09 23 P **P** **14 01 10.1 +1.0**
baz=234,SNR=14
P19K Oil Pt 78.11 25 P **P** **14 01 08.8 -0.4**
P19K Oil Pt 78.11 25 P **P** **14 01 08.9 -0.4**
baz=237,SNR=20
L18K Granite Mounta 78.20 22 IAMs_20 IAMs_20 14 31 07.9
comp=Z,748nm,20.0s
L18K Granite Mounta 78.20 22 P **P** **14 01 10.8 +1.2**
baz=233
N19K Bonanza Creek 78.23 24 IAMs_20 IAMs_20 14 33 14.7
comp=Z,815nm,18.0s
N19K Bonanza Creek 78.23 24 P **P** **14 01 10.1 +0.1**
baz=235
G16K Koyuk River 78.30 18 P **P** **14 01 10.4 +0.3**
G16K IAmb IAmb 14 01 11.6
comp=Z,36nm,0.8s
G16K IAMs_20 IAMs_20 14 31 15.3
comp=Z,921nm,21.0s
G16K Koyuk River 78.30 18 P **P** **14 01 10.6 +0.5**
baz=227,SNR=35
TIXI Tiksi 78.33 353 P **P** **14 01 08.8 -1.4**
TIXI Tiksi 78.33 353*ce*P **P** **14 01 09.0 -1.2**
TIXI pmax pmax
comp=Z,43nm,1.0s
TIXI Tiksi 78.33 353 LR LR 14 31 52.7
comp=Z,313nm,21.4s,baz=184,slow=33
ZSN Zaisan 78.44 321*c i*P **P** **14 01 11.4 +0.1**
ZSN Zaisan 78.44 321⇑*i*P **P** **14 01 11.5 +0.1**
baz=320
O20K Slope Mountain 78.60 25 P **P** **14 01 11.4 -0.6**
baz=237,SNR=5.3
H17K Granite Mounta 78.77 19 IAMs_20 IAMs_20 14 30 34.7
comp=Z,1µm,22.0s
H17K Granite Mounta 78.77 19 P **P** **14 01 13.5 +0.7**
baz=230
HOM Homer 78.79 26 P **P** **14 01 13.7 +0.8**
baz=238
L19K White Mountain 78.87 23 IAMs_20 IAMs_20 14 31 06.1
comp=Z,859nm,22.0s
L19K White Mountain 78.87 23 P **P** **14 01 14.2 +0.8**
baz=235
TTA Tatalina 78.88 22 P **P** **14 01 13.7 +0.3**
TTA Tatalina 78.88 22 P **P** **14 01 13.7 +0.3**
TTA pmax pmax
comp=Z,34nm,0.9s
TTA Tatalina 78.88 22 P **P** **14 01 13.9 +0.5**
baz=234,SNR=34
M19K Big River Lodg 78.89 23 IAMs_20 IAMs_20 14 33 31.0
comp=Z,839nm,21.0s
M19K Big River Lodg 78.89 23 P **P** **14 01 14.2 +0.7**
baz=235
CNPM China Poot 78.90 26 IAMs_20 IAMs_20 14 32 01.2
comp=Z,715nm,21.0s
G17K Kiwalik Mounta 78.90 18 P **P** **14 01 14.1 +0.7**
baz=229
J18K Innoko River 78.94 21 P **P** **14 01 13.9 +0.2**
baz=233
BRSE Bradley Lake S 79.22 26 P **P** **14 01 15.2 -0.1**
baz=239,SNR=10
F17K Baldwin Pennin 79.34 18 IAMs_20 IAMs_20 14 31 13.8
comp=Z,1µm,22.0s
F17K Baldwin Pennin 79.34 18 P **P** **14 01 16.3 +0.5**
baz=228
N20K Mount Spurr 79.37 24 P **P** **14 01 15.1 -1.1**
baz=238,SNR=7.4
M20K Styx River 79.38 23 IAMs_20 IAMs_20 14 33 13.7
comp=Z,809nm,20.0s
M20K Styx River 79.38 23 P **P** **14 01 16.7 +0.5**
baz=236
H18K Honhosa River 79.41 19 IAMs_20 IAMs_20 14 31 06.0
comp=Z,828nm,22.0s
H18K Honhosa River 79.41 19 P **P** **14 01 16.0 -0.3**
baz=231
L20K Farewell, AK 79.42 23 P **P** **14 01 17.1 +0.7**
baz=236,SNR=31
C16K Lisburne Hills 79.48 15 IAMs_20 IAMs_20 14 31 51.0
comp=Z,1µm,22.0s
C16K Lisburne Hills 79.48 15 P **P** **14 01 16.4 -0.1**
baz=224
CAPN Captain Cook N 79.58 25 P **P** **14 01 17.7 +0.5**
CAPN IAmb IAmb 14 01 22.1
comp=Z,101nm,0.8s
CAPN Captain Cook N 79.58 25 P **P** **14 01 17.8 +0.6**
baz=238,SNR=7.1
J19K Poorman 79.65 21 P **P** **14 01 18.2 +0.7**
baz=234
GCSA Galena City Sc 79.66 20 P **P** **14 01 17.9 +0.4**
baz=233,SNR=22
D17K Noatak River 79.67 16 P **P** **14 01 18.1 +0.5**
baz=226
G18K Tagagawik 79.79 19 IAMs_20 IAMs_20 14 31 04.6
comp=Z,890nm,22.0s
G18K Tagagawik 79.79 19 P **P** **14 01 18.4 +0.1**
baz=231
K20K Telida 79.84 22 IAMs_20 IAMs_20 14 33 52.1
comp=Z,639nm,20.0s
K20K Telida 79.84 22 P **P** **14 01 19.2 +0.6**
baz=235
MK31 Makanchi Array 79.86 319 *i* P **P** **14 01 18.4 -0.7**
MK31 pmax pmax
comp=Z,57nm,1.2s
MKAR Makanchi Array 79.86 319 P **P** **14 01 18.7 -0.4**
MKAR Makanchi Array 79.86 319 P **P** **14 01 19.1 -0.1**
comp=Z,20nm,0.8s,baz=106,slow=5.9,SNR=146
MKAR PP **PP** **14 04 19.5 -1.9**
comp=Z,14nm,1.1s,baz=106,slow=8.9,SNR=7.3
MKAR PKiKP **PKiKP** **14 06 48.5 -1.0**
comp=Z,1.4nm,0.8s,baz=70,slow=1.8,SNR=4.0
MKAR PKKPbc **PKKPbc** **14 20 05.7 -1.2**
comp=Z,2.2nm,0.8s,baz=284,slow=2.5,SNR=14
MKAR PKPPKP **P'P'df** **14 28 09.3 +0.9**
comp=Z,1.0nm,0.9s,baz=299,slow=1.5,SNR=7.3
comp=Z,20nm,0.8s
F18K Selawik 79.93 18 P **P** **14 01 19.1 +0.2**
baz=230,SNR=34
SEW Seward 79.97 26 P **P** **14 01 19.2 -0.1**
baz=240,SNR=12
O22K Cooper Landing 80.04 26 P **P** **14 01 19.5 -0.2**
baz=240,SNR=15
SKT Skwentna 80.06 24 IAMs_20 IAMs_20 14 35 31.0
comp=Z,664nm,20.0s
SKT Skwentna 80.06 24 P **P** **14 01 18.5 -1.4**
baz=238,SNR=7.1
MAKZ Makanchi 80.07 319 P **P** **14 01 20.7 +0.5**
MAKZ Makanchi 80.07 319 P **P** **14 01 20.7 +0.5**
MAKZ pmax pmax
comp=Z,44nm,1.1s
SUA Susitna One 80.11 24 P **P** **14 01 19.5 -0.8**
SUA Susitna One 80.11 24 P **P** **14 01 19.2 -1.0**
baz=239,SNR=21
PAF Port-aux-Franc 80.14 221 P **P** **14 01 21.3 +0.7**
PAF pmax pmax
comp=Z,249nm,1.2s
E18K Tukpahlearik C 80.19 17 IAMs_20 IAMs_20 14 31 08.1
comp=Z,923nm,22.0s
E18K Tukpahlearik C 80.19 17 P **P** **14 01 20.8 +0.4**
baz=229
C17K DeLong Mountai 80.19 15 P **P** **14 01 20.7 +0.3**
baz=226
H19K Roundabout Mou 80.28 20 IAMs_20 IAMs_20 14 32 57.2
comp=Z,828nm,21.0s
H19K Roundabout Mou 80.28 20 P **P** **14 01 21.4 +0.5**
baz=233
J20K Nowinta River 80.28 21 P **P** **14 01 21.5 +0.6**
baz=235,SNR=45
PPLA Purkeypile 80.30 23 P **P** **14 01 21.0 -0.3**
baz=237
RC01 Rabbit Creek A 80.34 25 P **P** **14 01 20.6 -0.8**
RC01 IAMs_20 IAMs_20 14 33 19.3
comp=Z,860nm,22.0s
RC01 Rabbit Creek A 80.34 25 P **P** **14 01 21.0 -0.3**
baz=240,SNR=17
G19K Purcell Mounta 80.45 19 IAMs_20 IAMs_20 14 31 37.0
comp=Z,884nm,22.0s
G19K Purcell Mounta 80.45 19 P **P** **14 01 22.3 +0.5**
baz=232
M22K Willow 80.52 24 P **P** **14 01 21.4 -0.9**
baz=239,SNR=5.8
I20K Naaghedeneel 80.52 21 P **P** **14 01 23.0 +0.8**
baz=235
CAST Castle Rocks 80.62 22 IAMs_20 IAMs_20 14 30 29.7
comp=Z,785nm,20.0s
CAST Castle Rocks 80.62 22 P **P** **14 01 22.1 -0.7**
baz=237,SNR=44
F19K Shaleruckik Mo 80.66 18 IAMs_20 IAMs_20 14 31 54.1
comp=Z,969nm,22.0s
F19K Shaleruckik Mo 80.66 18 P **P** **14 01 23.0 +0.1**
baz=231,SNR=67
SHLS Shalkode 80.66 315*eP* **P** **14 01 22.0 -1.6**
SHLS Shalkode 80.66 315*eP* **P** **14 01 22.1 -1.6**
baz=315
PDGK Podgornoye 80.69 315 P **P** **14 01 22.9 -0.9**
H20K Anotleneega Mo 80.78 20 P **P** **14 01 24.1 +0.4**
baz=234,SNR=17
CHUM Lake Minchumin 80.79 22 P **P** **14 01 24.0 +0.3**
baz=237,SNR=62
CUT Chulitna 80.79 24 P **P** **14 01 22.6 -1.1**
baz=239,SNR=5.3
P23K Montague Islan 80.82 27 P **P** **14 01 23.5 -0.4**
baz=242
C18K Utukok River 80.84 16 IAMs_20 IAMs_20 14 32 02.6
comp=Z,1µm,22.0s
C18K Utukok River 80.84 16 P **P** **14 01 23.9 0.0**
baz=228
PMR Palmer 80.85 25 P **P** **14 01 23.8 -0.2**
PMR Palmer 80.85 25 P **P** **14 01 23.6 -0.4**
baz=240,SNR=12
ZAA0 Zalesovo Array 80.88 327 P **P** **14 01 23.6 -0.7**
ZALV Zalesovo Beam 80.88 327 P **P** **14 01 23.6 -0.7**
ZALV Zalesovo Beam 80.88 327 P **P** **14 01 23.4 -0.9**
comp=Z,49nm,0.8s,baz=111,slow=5.4,SNR=167
ZALV PKKPbc **PKKPbc** **14 20 03.5 -1.5**
comp=Z,1.3nm,0.6s,baz=318,slow=1.9,SNR=6.9
ZALV PKPPKP **P'P'df** **14 28 05.6 -0.4**
comp=Z,3.0nm,1.0s,baz=316,slow=6.2,SNR=4.5
ZALV LR LR 14 36 23.4
comp=Z,486nm,21.1s,baz=127,slow=35
comp=Z,49nm,0.8s
UZB Uzunbulak 80.97 315*c i*P **P** **14 01 25.3 0.0**
UZB Uzunbulak 80.97 315⇑*i*P **P** **14 01 25.4 0.0**
baz=315
KNK Knik Glacier 81.04 25 IAMs_20 IAMs_20 14 33 36.8
comp=Z,990nm,22.0s
KNK Knik Glacier 81.04 25 P **P** **14 01 25.1 0.0**
baz=241,SNR=11
KTH Kantishna Hill 81.14 23 IAMs_20 IAMs_20 14 33 22.3
comp=Z,813nm,22.0s
B18K Kokolik River 81.16 15 P **P** **14 01 25.8 +0.2**
baz=227
E19K Redstone River 81.21 18 IAMs_20 IAMs_20 14 32 33.2
comp=Z,1µm,22.0s
E19K Redstone River 81.21 18 P **P** **14 01 26.3 +0.5**
baz=232
PRZ Przheval'sk 81.23 314 P **P** **14 01 27.9 +1.2**
PRZ IAmb IAmb 14 01 29.2
comp=Z,83nm,1.1s
PRZ Przheval'sk 81.23 314 P **P** **14 01 27.9 +1.2**
PRZ pmax pmax
comp=Z,83nm,1.1s
SML Sawmill 81.28 25 P **P** **14 01 26.3 -0.2**
SML IAmb IAmb 14 01 28.2
comp=Z,98nm,0.7s
SML Sawmill 81.28 25 P **P** **14 01 26.3 -0.2**
SML pmax pmax
comp=Z,98nm,0.7s
SML Sawmill 81.28 25 P **P** **14 01 26.2 -0.2**
baz=241,SNR=27
TRF Thorofare Moun 81.32 23 IAMs_20 IAMs_20 14 33 28.3
comp=Z,823nm,20.0s
TRF Thorofare Moun 81.32 23 P **P** **14 01 25.6 -1.1**
baz=239,SNR=23
SATY Saty 81.38 315*c i*P **P** **14 01 27.5 +0.1**
SATY Saty 81.38 315⇑*i*P **P** **14 01 27.6 +0.1**
baz=315
ZHN Zhinishke 81.39 315 *eP* **P** **14 01 27.3 -0.1**
ZHN Zhinishke 81.39 315 *eP* **P** **14 01 27.4 -0.1**
baz=315
BPAW Bear Paw Mtn. 81.40 22 IAMs_20 IAMs_20 14 31 05.2
comp=Z,756nm,22.0s
BPAW Bear Paw Mtn. 81.40 22 P **P** **14 01 26.1 -0.9**
baz=238,SNR=20
F20K Avaraart Lake 81.43 18 IAMs_20 IAMs_20 14 32 52.9
comp=Z,748nm,21.0s
F20K Avaraart Lake 81.43 18 P **P** **14 01 27.5 +0.5**
baz=233
IMAR Indian Mountai 81.45 20 P **P** **14 01 27.0 -0.2**
M23K Glacier View 81.53 25 P **P** **14 01 27.2 -0.5**
baz=242,SNR=6.7
C19K Lookout Ridge 81.58 16 P **P** **14 01 28.3 +0.4**
baz=229
H21K Melozitna River 81.59 20 P **P** **14 01 28.1 +0.2**
baz=236
D19K Kuna River 81.60 17 IAMs_20 IAMs_20 14 32 40.5
comp=Z,1µm,21.0s
D19K Kuna River 81.60 17 P **P** **14 01 28.0 +0.1**
baz=231
I21K Tanana 81.61 21 P **P** **14 01 28.5 +0.5**
baz=237,SNR=47
WAT1 Susitna Watana 81.69 24 P **P** **14 01 27.9 -0.7**
baz=241
SCM Sheep Creek Mo 81.71 25 P **P** **14 01 28.8 +0.1**
baz=242,SNR=10
EYAK Cordova Ski Ar 81.80 26 P **P** **14 01 29.2 +0.1**
baz=244
G21K Allakaket 81.83 19 IAMs_20 IAMs_20 14 33 45.7
comp=Z,908nm,21.0s
G21K Allakaket 81.83 19 P **P** **14 01 29.5 +0.3**
baz=236
RND Reindeer 81.86 23 IAMs_20 IAMs_20 14 33 42.4
comp=Z,763nm,22.0s
RND Reindeer 81.86 23 P **P** **14 01 28.4 -1.1**
TDK Taldyqorghan 81.91 317*c i*P **P** **14 01 30.1 +0.1**
TDK pmax pmax
comp=Z,27nm,0.6s
TDK Taldyqorghan 81.91 317⇑*i*P **P** **14 01 30.2 +0.1**
comp=Z,27nm,0.6s,baz=317
MLY Manley 81.98 21 P **P** **14 01 29.9 -0.1**
baz=238,SNR=95
MCK McKinley 81.99 23 P **P** **14 01 28.9 -1.2**
MCK McKinley 81.99 23 P **P** **14 01 29.1 -0.9**
baz=240,SNR=88
BWN Browne 82.01 22 IAMs_20 IAMs_20 14 33 40.0
comp=Z,728nm,21.0s
E20K Nigu River 82.02 17 P **P** **14 01 30.6 +0.5**
baz=233,SNR=76
ARXS Arharly 82.09 316 *eP* **P** **14 01 30.7 -0.4**
ARXS pmax pmax
comp=Z,153nm,0.7s
KAIM Kayak Island 82.13 27 P **P** **14 01 31.7 +0.8**
baz=245
KLU Klutina 82.15 25 P **P** **14 01 31.5 +0.5**
KLU IAmb IAmb 14 01 33.3
comp=Z,60nm,0.9s
KLU Klutina 82.15 25 P **P** **14 01 31.5 +0.5**
baz=243,SNR=29
D20K Etivluk River 82.17 17 P **P** **14 01 30.8 -0.1**
baz=232
H22K Ishtalitna Cre 82.21 20 P **P** **14 01 31.1 -0.1**
baz=238
F21K Alatna River 82.24 19 IAMs_20 IAMs_20 14 33 06.7
comp=Z,878nm,22.0s
F21K Alatna River 82.24 19 P **P** **14 01 31.3 0.0**
baz=236
KSH Kashi 82.26 311 P **P** **14 01 33.7 +1.5**
KSH pP pP 14 01 48.9 -1.3
KSH S **S** **14 11 46.2 +3.2**
KSH SS **SS** **14 17 08.4 +3.9**
KSH pmax pmax
comp=Z,26nm,1.7s
KSH pmax pmax
comp=Z,390nm,4.5s
KSH LR LR
comp=Z,440nm,16.5s
KSH LR LR
comp=Z,410nm,20.6s
KSH LR LR
comp=Z,560nm,21.1s
SEM Semipalatinsk 82.30 322 *eP* **P** **14 01 31.1 -1.1**
SEM Semipalatinsk 82.30 322 *eP* **P** **14 01 31.2 -1.0**
baz=322
M24K Tolsona, Glenn 82.32 25 P **P** **14 01 32.3 +0.4**
baz=243,SNR=11
MDOK Medeo 82.36 315 *i* P **P** **14 01 32.5 -0.1**
MDOK Medeo 82.36 315 *i* P **P** **14 01 32.6 -0.1**
baz=315
NEA2 Nenana 82.37 22 P **P** **14 01 31.1 -1.0**
baz=240,SNR=62
TNSS Tian-Shan 82.40 315 *eP* **P** **14 01 32.8 -0.4**
TNSS Tian-Shan 82.40 315 *eP* **P** **14 01 32.9 -0.4**
baz=314
AAA Alma-Ata 82.47 315 *eP* **P** **14 01 32.9 -0.2**
AAA Alma-Ata 82.47 315 *eP* **P** **14 01 33.0 -0.2**
baz=315
BMRM Bremner River 82.49 26 P **P** **14 01 33.0 +0.1**
baz=244,SNR=5.7
I23K Minto, Yukon-K 82.54 21 P **P** **14 01 32.4 -0.4**
I23K IAmb IAmb 14 01 35.2
comp=Z,30nm,0.6s
I23K Minto, Yukon-K 82.54 21 P **P** **14 01 32.6 -0.3**
baz=240,SNR=48
CHKK Chushkaly 82.58 315 *eP* **P** **14 01 33.3 -0.3**
CHKK Chushkaly 82.58 315 *eP* **P** **14 01 33.3 -0.3**
baz=315
WRH Wood River Hil 82.68 22 P **P** **14 01 32.4 -1.2**
WRH IAmb IAmb 14 01 34.4
comp=Z,42nm,0.8s
WRH IAMs_20 IAMs_20 14 32 18.0
comp=Z,928nm,22.0s
G22K Bettles 82.72 19 P **P** **14 01 33.8 +0.1**
baz=237
N25K Chitina, Valde 82.77 26 P **P** **14 01 34.8 +0.5**
baz=244,SNR=6.5
E21K Killik River 82.79 18 IAMs_20 IAMs_20 14 33 58.5
comp=Z,676nm,21.0s
E21K Killik River 82.79 18 P **P** **14 01 34.3 +0.1**
baz=235
B20K Meade River 82.82 16 IAMs_20 IAMs_20 14 35 14.5
comp=Z,967nm,18.0s
B20K Meade River 82.82 16 P **P** **14 01 34.2 +0.1**
baz=232
CCB Clear Creek Bu 82.87 22 IAMs_20 IAMs_20 14 37 36.1
comp=Z,862nm,21.0s
HARP HAARP 82.88 25 P **P** **14 01 34.9 +0.1**
baz=244,SNR=9.1
COLA College 82.96 22 P **P** **14 01 34.2 -0.8**
COLA College 82.96 22*c i*P **P** **14 01 33.6 -1.4**
COLA pmax pmax
comp=Z,62nm,0.7s
COLA College 82.96 22 P **P** **14 01 33.9 -1.2**
baz=241
C21K Knifeblade Rid 82.97 17 P **P** **14 01 35.5 +0.4**
baz=234
PAX Paxson 83.01 24 P **P** **14 01 35.0 -0.5**
baz=243,SNR=13
GLB Gilahina Butte 83.04 26 P **P** **14 01 35.6 -0.1**
KUU Kurty 83.05 315*c i*P **P** **14 01 35.6 -0.4**
KUU pmax pmax
comp=Z,60nm,0.7s
KUU Kurty 83.05 315⇑*i*P **P** **14 01 35.7 -0.4**
comp=Z,60nm,0.7s,baz=315
CRQE Cirque 83.08 27 P **P** **14 01 35.5 -0.4**
baz=246,SNR=6.9
HDA Harding Lake 83.08 23 IAMs_20 IAMs_20 14 34 19.8
comp=Z,908nm,21.0s
HDA Harding Lake 83.08 23 P **P** **14 01 34.4 -1.3**
baz=242,SNR=46
G23K Bananza Creek 83.11 20 IAMs_20 IAMs_20 14 32 46.4
comp=Z,864nm,22.0s
G23K Bananza Creek 83.11 20 P **P** **14 01 36.2 +0.4**
baz=239,SNR=57
VRDI Verde Repeater 83.11 26 P **P** **14 01 35.9 -0.3**
NIL Nilore 83.15 305 P **P** **14 01 36.3 -0.5**
NIL Nilore 83.15 305 P **P** **14 01 36.3 -0.5**
NIL pmax pmax
comp=Z,454nm,1.7s
NIL Nilore 83.15 305 P **P** **14 01 36.5 -0.3**
POKR Poker Plat Res 83.24 22 P **P** **14 01 35.4 -1.1**
POKR IAmb IAmb 14 01 37.4
comp=Z,25nm,0.6s
POKR Poker Plat Res 83.24 22 P **P** **14 01 35.5 -1.0**
baz=241,SNR=18
K24K Donnelly Dome 83.26 23 P **P** **14 01 36.4 -0.3**
baz=243,SNR=17
ILAR Eielson Array 83.28 22 P **P** **14 01 35.1 -1.6**
comp=Z,52nm,0.8s,baz=252,slow=4.7,SNR=467
ILAR S **S** **14 11 48.1 -3.9**
comp=Z,0.7nm,1.2s,baz=238,slow=9.4,SNR=5.2
ILAR PKKPbc **PKKPbc** **14 19 57.2 -2.7**
comp=Z,1.3nm,0.6s,baz=348,slow=1.8,SNR=25
ILAR PKPPKP **P'P'df** **14 27 59.6 -1.4**
comp=Z,0.5nm,0.8s,baz=31,slow=1.7,SNR=5.0
ILAR LR LR 14 36 29.1
comp=Z,523nm,19.3s,baz=242,slow=34
comp=Z,52nm,0.8s
E22K Anaktuvuk Pass 83.28 18 P **P** **14 01 37.2 +0.5**
E22K IAMs_20 IAMs_20 14 33 50.9
comp=Z,1µm,22.0s
E22K Anaktuvuk Pass 83.28 18 P **P** **14 01 37.1 +0.4**
baz=237
B21K Ikpikpuk River 83.29 17 IAMs_20 IAMs_20 14 34 29.0
comp=Z,1µm,21.0s
B21K Ikpikpuk River 83.29 17 P **P** **14 01 36.9 +0.2**
baz=234
COLD Coldfoot 83.32 20 P **P** **14 01 37.4 +0.5**
baz=239,SNR=32
TKM2 Tokmak 2 83.34 314 P **P** **14 01 38.2 +0.4**
SNR=22
TKM2 Tokmak 2 83.34 314 *i* P **P** **14 01 37.0 -0.8**
TKM2 pmax pmax
comp=Z,27nm,0.7s
MESA MESA 83.36 28 P **P** **14 01 37.5 0.0**
MESA IAmb IAmb 14 01 39.2
comp=Z,43nm,1.0s
MESA MESA 83.36 28 P **P** **14 01 37.7 +0.2**
baz=247
MCARA McCarthy VSAT 83.36 26 P **P** **14 01 37.4 +0.1**
MCARA McCarthy VSAT 83.36 26 P **P** **14 01 37.7 +0.5**
baz=246,SNR=8.1
KURK Kurchatov 83.38 322 P **P** **14 01 37.4 -0.2**
KURK IAmb IAmb 14 01 38.5
comp=Z,78nm,1.1s
KURK Kurchatov 83.38 322 *i* P **P** **14 01 36.9 -0.6**
KURK pmax pmax
comp=Z,89nm,1.2s
KURK Kurchatov 83.38 322 P **P** **14 01 37.1 -0.4**
KURBB Kurchatov Arra 83.41 322 P **P** **14 01 37.1 -0.6**
comp=Z,56nm,0.7s,baz=113,slow=3.7,SNR=33
KURBB PKPPKP **P'P'df** **14 27 59.2 -2.5**
comp=Z,0.6nm,0.4s,baz=291,slow=3.2,SNR=4.2
comp=Z,56nm,0.7s
H24K Noodor Dome 83.42 21 IAMs_20 IAMs_20 14 34 11.9
comp=Z,708nm,21.0s
H24K Noodor Dome 83.42 21 P **P** **14 01 37.2 -0.3**
baz=241
D22K Ayikyak River 83.43 18 IAMs_20 IAMs_20 14 35 20.0
comp=Z,920nm,20.0s
D22K Ayikyak River 83.43 18 P **P** **14 01 38.2 +0.7**
baz=236
MENT Mentasta 83.71 25 P **P** **14 01 39.1 +0.1**
MENT IAmb IAmb 14 01 41.0
comp=Z,34nm,0.7s
MENT Mentasta 83.71 25 P **P** **14 01 39.3 +0.3**
KBK Karagaybulak 83.74 314 P **P** **14 01 40.4 +0.5**
SNR=17

A21K Barrow 83.77 15 P P 14 01 38.9 -0.2
baz=232

J25K Salcha River, 83.78 23 P P 14 01 38.5 -0.9
J25K IAMs_20 IAMs_20 14 37 44.3
comp=Z,884nm,20.0s

J25K Salcha River, 83.78 23 P P 14 01 38.9 -0.5
baz=243

M26K Nabesna, AK 83.79 25 P P 14 01 39.4 -0.1
baz=246

TABL Table Mountain 83.84 27 P P 14 01 40.5 +0.5
TABL IAmb IAmb 14 01 42.0
comp=Z,44nm,0.7s

L26K Log Cabin Wild 83.90 25 IAMs_20 IAMs_20 14 34 19.6
comp=Z,882nm,22.0s

L26K Log Cabin Wild 83.90 25 P P 14 01 40.4 +0.4
baz=245,SNR=34

E23K Chandalar 83.94 19 P P 14 01 40.5 +0.3
baz=239

CTG Chitna Glacier 83.95 27 P P 14 01 40.9 +0.5
baz=247,SNR=18

CTGM Chitina Glacie 83.95 27 P P 14 01 40.9 +0.5
CTGM IAmb IAmb 14 01 42.8
comp=Z,39nm,0.7s

UCH Uchtor 83.96 313 P P 14 01 42.2 +0.9
SNR=36

CHMS Chumysh 83.96 314 P P 14 01 41.0 +0.3
SNR=25

G24K Hadweenzic Riv 83.98 21 IAMs_20 IAMs_20 14 33 25.5
comp=Z,766nm,22.0s

G24K Hadweenzic Riv 83.98 21 P P 14 01 40.4 +0.1
baz=241,SNR=33

FRU1 Bishkek 84.00 314 P P 14 01 41.8 +0.8
FRU1 IAmb IAmb 14 01 42.8
comp=Z,55nm,1.1s

FRU1 Bishkek 84.00 314 P P 14 01 41.8 +0.8
FRU1 pmax pmax
comp=Z,55nm,1.1s

ARLS Aral 84.01 313 P P 14 01 42.0 +0.8
ARLS pmax pmax
comp=Z,50nm,1.2s

B22K Teshekpuk Lake 84.04 16 P P 14 01 40.6 +0.1
baz=235

LOGN Logan Glacier 84.05 27 P P 14 01 41.1 +0.2
LOGN IAmb IAmb 14 01 48.0
comp=Z,109nm,1.8s

SCRK Sand Creek 84.05 24 P P 14 01 40.8 0.0

SCRK Sand Creek 84.05 24 P P 14 01 40.7 -0.1
baz=245,SNR=43

AAK Ala-Archa 84.06 314 P P 14 01 42.0 +0.6
SNR=30

AAK Ala-Archa 84.06 314 P P 14 01 41.8 +0.4

AAK Ala-Archa 84.06 314 *ce*P P 14 01 41.9 +0.4
AAK pmax pmax
comp=Z,63nm,1.7s

AAK Ala-Archa 84.06 314 P P 14 01 41.8 +0.4

D23K Nanushuk River 84.08 18 P P 14 01 41.6 +0.8
baz=238

PINM Pinnacle 84.12 28 P P 14 01 41.5 +0.3
baz=248,SNR=5.3

PRP Porcupine Dome 84.13 22 P P 14 01 39.1 -2.2
baz=243,SNR=12

SGDS Sogindy 84.15 315 *c i*P P 14 01 41.7 0.0

SGDS Sogindy 84.15 315 ⇑ *i*P P 14 01 41.8 0.0
baz=314

USP Ospenovka 84.20 314 P P 14 01 42.2 +0.3
SNR=77

F24K Squaw Lake 84.24 20 IAMs_20 IAMs_20 14 33 56.3
comp=Z,661nm,22.0s

F24K Squaw Lake 84.24 20 P P 14 01 42.5 +0.8
baz=241

M27K Edge Creek, AK 84.25 26 IAMs_20 IAMs_20 14 35 11.1
comp=Z,614nm,21.0s

M27K Edge Creek, AK 84.25 26 P P 14 01 42.5 +0.6
baz=247

PNL Peninsula 84.37 28 P P 14 01 43.2 +0.8

PNL Peninsula 84.37 28 P P 14 01 42.9 +0.5
baz=249,SNR=7.3

J26L Joseph Creek 84.44 23 IAMs_20 IAMs_20 14 34 29.6
comp=Z,693nm,20.0s

J26L Joseph Creek 84.44 23 P P 14 01 42.8 +0.1
baz=245

MAW Mawson 84.44 203 P P 14 01 44.1 +1.5
baz=84,SNR=4.5

MAW Mawson 84.44 203 P P 14 01 42.3 -0.4
MAW LR LR 14 36 17.8
comp=Z,35nm,0.9s,baz=113,slow=7.1,SNR=9.8
comp=Z,1μm,21.8s,baz=86,slow=33
comp=Z,35nm,0.9s

G25K Bearman Lake 84.50 21 P P 14 01 43.2 +0.3
baz=242

QSPA South Pole Qui 84.54 180 P P 14 01 43.8 +0.4
comp=Z,37nm,0.9s,baz=0.9,slow=1.8,SNR=86
QSPA PKKPbc PKKPbc 14 19 53.2 -4.1
comp=Z,5.8nm,1.0s,baz=290,slow=1.2,SNR=12

QSPA LR LR 14 38 04.5
comp=Z,302nm,20.2s,baz=354,slow=35
comp=Z,37nm,0.9s

L27K Beaver Creek, 84.55 25 P P 14 01 43.7 +0.4
baz=247

C23K Itkillik River 84.57 17 IAMs_20 IAMs_20 14 38 29.8
comp=Z,898nm,19.0s

C23K Itkillik River 84.57 17 P P 14 01 43.5 +0.4
baz=238

BCAR Beaver Creek A 84.57 25 P P 14 01 43.9 +0.5

EKS2 Erkin-Say 84.58 314 P P 14 01 44.8 +0.8
SNR=50

YUK3 Moose Creek 84.65 26 P P 14 01 44.5 +0.4
baz=248,SNR=28

BVCY Beaver Creek 84.71 26 P P 14 01 45.0 +0.9
baz=248,SNR=29

FYU Fort Yukon 84.71 21 P P 14 01 44.4 +0.4
FYU IAmb IAmb 14 01 45.3
comp=Z,36nm,0.7s

D24K Happy Valley 84.75 18 IAMs_20 IAMs_20 14 34 59.0
comp=Z,1μm,22.0s

D24K Happy Valley 84.75 18 P P 14 01 44.7 +0.6
baz=240

YUK8 Steele Glacier 84.78 27 P P 14 01 45.6 +0.8
baz=249,SNR=19

K27K Chicken 84.83 24 P P 14 01 45.0 +0.3
baz=246

OHH Osh 84.87 311 P P 14 01 45.7 +0.2
OHH pmax pmax
comp=Z,79nm,1.1s

ARSB Arslanbob 84.88 312 P P 14 01 45.9 +0.3
ARSB IAmb IAmb 14 01 48.5
comp=Z,119nm,1.9s

ARSB Arslanbob 84.88 312 P P 14 01 45.9 +0.3
ARSB pmax pmax
comp=Z,119nm,1.9s

BTLS Baital 84.91 316 *c i*P P 14 01 45.4 0.0
BTLS pmax pmax
comp=Z,43nm,1.0s

BTLS Baital 84.91 316 ⇑ *i*P P 14 01 45.4 0.0
comp=Z,43nm,1.0s,baz=316

I26K Coal Creek Min 84.93 23 IAMs_20 IAMs_20 14 36 19.7
comp=Z,918nm,20.0s

I26K Coal Creek Min 84.93 23 P P 14 01 44.9 -0.2
baz=245

O29M Mount Kennedy 84.97 28 P P 14 01 46.4 +0.8
baz=250

F25K Christian Rive 85.03 20 P P 14 01 46.8 +1.1
baz=243

C24K Franklin Bluff 85.08 18 P P 14 01 46.2 +0.6
baz=240,SNR=53

P29M Windy Craggy 85.14 29 P P 14 01 47.0 +0.7
baz=251,SNR=5.9

YUK6 Outpost Mounta 85.29 27 P P 14 01 48.3 +0.9
baz=250,SNR=6.6

E25K Arctic Village 85.30 20 P P 14 01 47.2 +0.2

E25K Arctic Village 85.30 20 P P 14 01 47.1 +0.2
baz=243

YUK4 Talbot Arm 85.30 27 P P 14 01 48.7 +1.4
baz=250,SNR=37

BMAR Burnt Mountain 85.33 20 P P 14 01 47.9 +0.8

S31K Pelican 85.36 31 IAMs_20 IAMs_20 14 32 00.2
comp=Z,1μm,22.0s

S31K Pelican 85.36 31 P P 14 01 47.7 +0.4
baz=252

G26K Porcupine Rive 85.40 21 P P 14 01 48.2 +0.9
baz=245

DRK Karamyk 85.41 310 P P 14 01 48.9 +0.4

EGAK Eagle 85.50 23 P P 14 01 48.4 +0.5
EGAK IAmb IAmb 14 01 50.1
comp=Z,55nm,0.9s

EGAK IAMs_20 IAMs_20 14 35 46.6
comp=Z,699nm,21.0s

EGAK Eagle 85.50 23 P P 14 01 48.2 +0.3
baz=247,SNR=43

SIT Sitka 85.55 32 IAMs_20 IAMs_20 14 30 56.4
comp=Z,1μm,22.0s

SIT Sitka 85.55 32 P P 14 01 49.2 +0.9
baz=253

F26K Sheenjek River 85.59 20 P P 14 01 49.2 +0.8
baz=244,SNR=32

D25K Kavik River 85.60 18 IAMs_20 IAMs_20 14 36 20.1
comp=Z,887nm,21.0s

D25K Kavik River 85.60 18 P P 14 01 48.4 0.0
baz=242

I27K Kandik River 85.64 23 P P 14 01 49.2 +0.4
baz=247

HYT Haines Junctio 85.65 28 P P 14 01 49.2 +0.2
HYT IAmb IAmb 14 01 51.7
comp=Z,72nm,0.9s

HYT Haines Junctio 85.65 28 P P 14 01 50.0 +1.0
baz=251,SNR=54

P30M Million Dollar 85.68 28 P P 14 01 49.9 +0.9
baz=251,SNR=9.6

ARK Arkit 85.73 313 P P 14 01 49.9 +0.1
ARK pmax pmax
comp=Z,59nm,1.6s

R31K City Hall, Gus 85.74 30 P P 14 01 50.0 +0.8
baz=252

PLBC Pleasant Camp 85.75 29 P P 14 01 50.1 +0.8
baz=252

M29M Somme Creek 85.76 26 P P 14 01 50.3 +0.9
baz=250

H27K Steamboat Moun 85.92 22 P P 14 01 50.8 +0.7
baz=247

DAWY Dawson 85.94 24 P P 14 01 50.6 +0.4
DAWY IAmb IAmb 14 01 53.6
comp=Z,28nm,0.9s

DAWY IAMs_20 IAMs_20 14 33 27.4
comp=Z,1μm,22.0s

DAWY Dawson 85.94 24 P P 14 01 51.0 +0.8
baz=249,SNR=29

N30M Aishikik Lake 86.05 27 P P 14 01 51.7 +0.9
baz=251

S32K Killisnoo 86.06 31 P P 14 01 51.7 +0.9
baz=254

NRIK Noril'sk 86.09 341 *ce*P P 14 01 49.7 -1.1
NRIK pmax pmax
comp=Z,33nm,0.7s

NRIK Noril'sk 86.09 341 P P 14 01 50.1 -0.7
comp=Z,34nm,0.7s,baz=109,slow=5.1,SNR=33

NRIK LR LR 14 40 11.2
comp=Z,339nm,21.8s,baz=120,slow=36
comp=Z,34nm,0.7s

L29M L29M 86.14 25 P P 14 01 52.3 +1.1
baz=250

I28M Miner Creek 86.23 23 IAMs_20 IAMs_20 14 38 57.0
comp=Z,953nm,20.0s

I28M Miner Creek 86.23 23 P P 14 01 52.3 +0.6
baz=248

BTK Batken 86.26 311 P P 14 01 52.2 -0.2
BTK pmax pmax
comp=Z,31nm,1.6s

SKAG Skagway 86.26 29 P P 14 01 52.6 +0.8
SKAG IAMs_20 IAMs_20 14 32 01.0
comp=Z,678nm,21.0s

SKAG Skagway 86.26 29 P P 14 01 53.1 +1.3

SKAG Skagway 86.26 29 P P 14 01 52.7 +1.0
baz=253,SNR=5.7

TRKS Terek-Say 86.28 312 P P 14 01 52.7 +0.1
TRKS pmax pmax
comp=Z,86nm,1.5s

O30N Mendenhall 86.29 28 P P 14 01 52.5 +0.5

O30N Mendenhall 86.29 28 P P 14 01 52.8 +0.7
baz=252,SNR=14

CRAG Craig 86.30 34 P P 14 01 53.3 +1.3
CRAG IAmb IAmb 14 01 53.9
comp=Z,39nm,1.1s

CRAG IAMs_20 IAMs_20 14 34 26.2
comp=Z,800nm,20.0s

CRAG Craig 86.30 34 P P 14 01 53.7 +1.7

CRAG Craig 86.30 34 P P 14 01 53.1 +1.1
baz=255

R32K Eaglecrest 86.32 31 IAMs_20 IAMs_20 14 31 54.6
comp=Z,946nm,22.0s

R32K Eaglecrest 86.32 31 P P 14 01 53.2 +1.1
baz=254

C26K Camden Bay 86.33 18 P P 14 01 53.1 +1.2
baz=243

JIS Juneau Island 86.39 31 IAMs_20 IAMs_20 14 32 53.4
comp=Z,1μm,21.0s

DZA Taraz 86.39 314 *e*P P 14 01 52.3 -0.6
DZA pmax pmax
comp=Z,25nm,0.8s

DZA Taraz 86.39 314 *e*P P 14 01 52.3 -0.6
comp=Z,25nm,0.8s,baz=314

U33K Whale Pass 86.47 33 IAMs_20 IAMs_20 14 34 10.6
comp=Z,644nm,22.0s

U33K Whale Pass 86.47 33 P P 14 01 53.9 +1.1
baz=255

M30M Minto, Yukon 86.54 26 P P 14 01 53.8 +0.6

M30M Minto, Yukon 86.54 26 P P 14 01 53.8 +0.6
baz=251,SNR=22

J29N Klondike Camp 86.56 24 IAMs_20 IAMs_20 14 36 23.7
comp=Z,733nm,20.0s

J29N Klondike Camp 86.56 24 P P 14 01 54.5 +1.2
baz=250,SNR=48

K29M Barlow Dome 86.64 25 P P 14 01 54.5 +0.8
baz=251

T33K Petersburg 86.74 32 P P 14 01 55.0 +0.8
baz=255

KBL Kabul 86.75 305 P P 14 01 53.4 -1.7
KBL pmax pmax
comp=Z,20nm,1.4s

KBL Kabul 86.75 305 P P 14 01 53.7 -1.4
SNR=11

WHY Whitehorse 86.82 28 P P 14 01 55.5 +0.7
WHY IAmb IAmb 14 01 56.1
comp=Z,32nm,1.0s

WHY Whitehorse 86.82 28 P P 14 01 55.4 +0.7
baz=253,SNR=18

BRZS Berezniki 86.89 321 *e*P P 14 01 54.0 -1.1

BRZS Berezniki 86.89 321 *e*P P 14 01 54.1 -1.1
baz=321

WRAK Wrangell Islan 86.96 33 IAMs_20 IAMs_20 14 34 48.7
comp=Z,776nm,19.0s

WRAK Wrangell Islan 86.96 33 P P 14 01 56.2 +0.9
baz=256,SNR=6.6

KK31 Karatay Array 87.02 314 *i*P P 14 01 55.0 -1.0

KKAR Karatay Array 87.02 314 P P 14 01 56.1 +0.1
KKAR pP pP 14 02 10.8 -3.3

KKAR Karatay Array 87.02 314 P P 14 01 56.1 +0.1
KKAR *PP pP 14 02 10.8 -3.3

F28M Old Crow 87.06 21 P P 14 01 55.8 +0.2
F28M IAmb IAmb 14 01 57.9
comp=Z,48nm,0.9s

F28M Old Crow 87.06 21 P P 14 01 56.1 +0.5
baz=248,SNR=66

P32M Atlin 87.08 29 P P 14 01 57.2 +1.3

P32M Atlin 87.08 29 P P 14 01 56.9 +0.9
baz=254,SNR=9.8

V35K Ketchikan 87.09 34 P P 14 01 56.4 +0.4
V35K IAmb IAmb 14 01 58.2
comp=Z,67nm,1.1s

V35K IAMs_20 IAMs_20 14 35 47.3
comp=Z,716nm,21.0s

V35K Ketchikan 87.09 34 P P 14 01 56.9 +1.0
baz=256,SNR=19

H29M Whitestone 87.11 22 IAMs_20 IAMs_20 14 37 58.2
comp=Z,913nm,20.0s

H29M Whitestone 87.11 22 P P 14 01 56.3 +0.5
baz=250

IUG luzhnay 87.21 313 *c i*P P 14 01 56.8 -0.2
IUG pmax pmax
comp=Z,28nm,1.1s

IUG luzhnay 87.21 313 ⇑ *i*P P 14 01 56.8 -0.2
comp=Z,28nm,1.1s,baz=313

MAYO Mayo, Yukon 87.25 25 P P 14 01 57.1 +0.6

MAYO Mayo, Yukon 87.25 25 P P 14 01 57.6 +1.0
baz=252,SNR=53

CHGR Chuyangaron 87.29 309 P P 14 01 56.8 -0.7
CHGR pmax pmax
comp=Z,59nm,1.0s

J30M Hart River 87.37 24 P P 14 01 58.1 +0.8
baz=252,SNR=107

M31M Drury Creek, Y 87.49 27 P P 14 01 57.8 0.0
M31M IAmb IAmb 14 01 59.2
comp=Z,25nm,0.8s

M31M Drury Creek, Y 87.49 27 P P 14 01 58.1 +0.3
baz=254,SNR=26

BRLS Borolday 87.50 313 *e*P P 14 01 58.1 -0.2

BRLS Borolday 87.50 313 *e*P P 14 01 58.2 -0.1
baz=313

CHM Chimkent 87.55 313 *e*P P 14 01 57.9 -0.6

CHM Chimkent 87.55 313 *e*P P 14 01 58.0 -0.6
baz=313

I30M Mount Dempster 87.56 24 IAMs_20 IAMs_20 14 34 30.0
comp=Z,824nm,20.0s

I30M Mount Dempster 87.56 24 P P 14 01 58.5 +0.3
baz=252

RUBB Prince Rupert 87.63 35 P P 14 01 59.3 +0.7
RUBB IAmb IAmb 14 02 01.0
comp=Z,80nm,1.0s

Q32M Nakina River 87.64 30 P P 14 01 59.8 +1.0
baz=256

P33M Teslin, Yukon 87.69 29 P P 14 01 59.2 +0.3
baz=255,SNR=12

EPYK Eagle Plains 87.79 23 IAMs_20 IAMs_20 14 38 26.2
comp=Z,779nm,20.0s

EPYK Eagle Plains 87.79 23 P P 14 01 59.5 +0.3
baz=251,SNR=40

N32M Quiet Lake 87.81 28 P P 14 02 00.3 +0.9
baz=255

S34M Telegraph Cree 87.96 31 P P 14 02 01.4 +1.3
baz=256,SNR=32

FARO Faro, Yukon 87.97 27 P P 14 02 00.1 0.0
FARO IAmb IAmb 14 02 01.6
comp=Z,31nm,0.8s

FARO Faro, Yukon 87.97 27 P P 14 02 00.5 +0.4
baz=254,SNR=42

E29M Blow River 88.03 20 IAMs_20 IAMs_20 14 35 39.4
comp=Z,828nm,22.0s

E29M Blow River 88.03 20 P P 14 02 00.3 +0.1
baz=250

D28M Stokes Point 88.07 19 P P 14 02 00.8 +0.5
baz=249,SNR=61

U35K Hyder 88.11 34 IAMs_20 IAMs_20 14 32 58.0
comp=Z,890nm,19.0s

U35K Hyder 88.11 34 P P 14 02 01.7 +0.9
baz=258

G30M tAoh Zraii Nji 88.17 22 IAMs_20 IAMs_20 14 38 50.8
comp=Z,953nm,21.0s

G30M tAoh Zraii Nji 88.17 22 P P 14 02 00.8 -0.2
baz=252,SNR=34

T35M Bob Quinn 88.22 32 P P 14 02 02.6 +1.3
baz=257,SNR=16

R33M Jennings River 88.39 30 IAMs_20 IAMs_20 14 33 47.4
comp=Z,814nm,21.0s

R33M Jennings River 88.39 30 P P 14 02 03.5 +1.2
baz=257,SNR=21

BBB Bella Bella 88.46 37 LR LR 14 34 21.9
comp=Z,434nm,21.8s,baz=260,slow=31

F30M Barrier River 88.53 21 P P 14 02 02.8 +0.2
baz=252,SNR=47

H31M Peel River 88.54 23 P P 14 02 02.9 +0.1
baz=253

DLBC Dease Lake 88.65 31 P P 14 02 04.7 +1.2
baz=257,SNR=15

DLBC Dease Lake 88.65 31 P P 14 02 04.1 +0.7
comp=Z,22nm,1.0s,baz=264,slow=4.0,SNR=34
DLBC LR LR 14 34 56.6
comp=Z,900nm,21.7s,baz=268,slow=31
comp=Z,22nm,1.0s

BVA0 Borovoye Array 88.89 323 *i*P P 14 02 02.5 -2.1

BVAR Borovoye Array 88.89 323 P P 14 02 03.2 -1.3
comp=Z,19nm,0.7s,baz=104,slow=5.6,SNR=78
comp=Z,19nm,0.7s

G31M Satah River 88.89 22 P P 14 02 04.3 +0.1
baz=254,SNR=31

BRVK Borovoye 88.95 323 *i*P P 14 02 03.0 -1.9
BRVK pmax pmax
comp=Z,39nm,1.4s

F31M Tsiigehtchic 89.23 22 IAMs_20 IAMs_20 14 37 52.2
comp=Z,856nm,22.0s

F31M Tsiigehtchic 89.23 22 P P 14 02 05.5 -0.3
baz=254,SNR=12

INK Inuvik 89.55 21 IAMs_20 IAMs_20 14 37 22.6
comp=Z,688nm,21.0s

INK Inuvik 89.55 21 P P 14 02 06.9 -0.4
baz=254,SNR=33

INK Inuvik 89.55 21 P P 14 02 06.8 -0.4
comp=Z,31nm,1.1s,baz=274,slow=3.6,SNR=70
INK LR LR 14 39 03.6
comp=Z,192nm,21.2s,baz=184,slow=33
comp=Z,31nm,1.1s

WTLY Watson Lake, Y 89.62 30 P P 14 02 08.8 +1.0
baz=258,SNR=15

J01E Myrtle Point 89.82 47 P P 14 02 09.9 +0.8

HOPS Hopland Field 89.93 51 P P 14 02 10.5 +0.7
HOPS IAmb IAmb 14 02 16.3
comp=Z,33nm,1.1s

L02F Cave Junction 89.95 48 IAMs_20 IAMs_20 14 38 17.5
comp=Z,1μm,20.0s

TGTN Hyland Airport 90.15 28 P P 14 02 11.3 +1.0
baz=259,SNR=11

NLWA Neilton Lookou 90.41 43 IAMs_20 IAMs_20 14 35 25.6
comp=Z,663nm,20.0s

CLRS Cowichan Lake 90.43 41 P P 14 02 12.4 +0.5
CLRS IAmb IAmb 14 02 13.7
comp=Z,35nm,0.9s

COR Corvallis 90.45 45 P P 14 02 13.8 +1.8
COR pmax pmax
comp=Z,89nm,1.3s

HUMO Hull Mountain 90.46 47 IAMs_20 IAMs_20 14 38 52.0
comp=Z,715nm,20.0s

YBH Yreka Blue Hor 90.54 48 IAMs_20 IAMs_20 14 33 17.1
comp=Z,784nm,20.0s

YBH Yreka Blue Hor 90.54 48 LR LR 14 36 20.8
comp=Z,647nm,20.9s,baz=278,slow=31

BUCK Buck Mountain 90.63 46 IAMs_20 IAMs_20 14 33 30.4
comp=Z,935nm,22.0s

F04D Rainier, OR 90.84 44 IAMs_20 IAMs_20 14 34 01.8
comp=Z,39nm,18.0s

H04D Lebanon 90.84 46 IAMs_20 IAMs_20 14 34 59.1
comp=Z,725nm,22.0s

I04A Tendick Farm, 90.99 46 IAMs_20 IAMs_20 14 33 29.1
comp=Z,792nm,22.0s

GNW Green Mountain 91.14 42 P P 14 02 15.9 +0.8
GNW IAmb IAmb 14 02 17.2
comp=Z,46nm,0.9s

GNW IAMs_20 IAMs_20 14 35 48.7
comp=Z,818nm,20.0s

ORV Oroville 91.21 51 P P 14 02 16.6 +0.9
ORV pmax pmax
comp=Z,52nm,1.1s

F04A Amboy 91.23 44 IAMs_20 IAMs_20 14 34 36.2
comp=Z,821nm,22.0s

H04A Detroit Lake 91.25 45 P P 14 02 16.2 +0.3
H04A IAmb IAmb 14 02 17.6
comp=Z,54nm,1.2s

H04A IAMs_20 IAMs_20 14 34 23.9
comp=Z,1μm,22.0s

AFDM Forest Hills D 91.56 51 P P 14 02 18.0 +0.6
AFDM IAMs_20 IAMs_20 14 35 02.3
comp=Z,710nm,22.0s

HOOD Mount Hood Mea 91.70 45 IAMs_20 IAMs_20 14 34 15.7
comp=Z,944nm,22.0s

LON Longmire 91.74 43 IAMs_20 IAMs_20 14 36 16.6
comp=Z,530nm,20.0s

J05D Fort Rock, OR 91.79 47 P P 14 02 19.5 +1.0

I05D Terrebonne, OR 91.82 46 P P 14 02 19.2 +0.7

CMB Columbia Colle 91.93 52 IAMs_20 IAMs_20 14 35 01.1
comp=Z,640nm,20.0s

KOTAN Kotaneelee Air 91.97 30 P P 14 02 19.4 +0.7
baz=263,SNR=7.3

SMMC Simmler 91.99 55 P P 14 02 21.7 +2.2
baz=265,SNR=11

PINE Pine Mountain 92.05 46 P P 14 02 20.3 +0.5

PKM Mcpherson Peak 92.10 55 P P 14 02 22.2 +2.0
baz=265,SNR=78

SBC Santa Barbara 92.14 56 P P 14 02 22.2 +2.1
baz=265

SCZ2 Santa Cruz Isl 92.17 56 P P 14 02 22.0 +1.7
baz=265,SNR=9.7

SNCC San Nicolas Is 92.20 57 P P 14 02 22.1 +1.6

SNCC San Nicolas Is 92.20 57 P P 14 02 22.6 +2.1
baz=265,SNR=12

EMB Emerald Bay 92.23 51 IAMs_20 IAMs_20 14 34 36.2
comp=Z,868nm,21.0s

FLDN Fort Liard 92.27 30 P P 14 02 21.0 +0.9
baz=263,SNR=8.5

MPK Martis Peak 92.32 51 IAMs_20 IAMs_20 14 35 35.3
comp=Z,881nm,22.0s

G06A Carlson Farm, 92.40 45 IAMs_20 IAMs_20 14 36 08.3
comp=Z,807nm,22.0s

LTY Liberty 92.56 43 P P 14 02 21.6 -0.3
LTY IAmb IAmb 14 02 25.7
comp=Z,19nm,0.9s

VOG Valley Oaks Go 92.58 54 P P 14 02 23.1 +1.0
baz=265
WRGLY Wrigley 92.63 27 P P 14 02 22.3 +0.6
baz=263,SNR=13
PNTR Pine Nut 92.63 51 IAMs_20 IAMs_20 14 35 55.8
comp=Z,871nm,22.0s
WAKR Walker 92.71 52 IAMs_20 IAMs_20 14 35 37.9
comp=Z,726nm,22.0s
VES Vestal, Richgr 92.78 54 P P 14 02 23.9 +0.9
baz=265,SNR=22
PAHR Pah Rah Range 92.85 51 IAMs_20 IAMs_20 14 36 15.5
comp=Z,585nm,20.0s
YERR Yerington 92.90 51 P P 14 02 24.6 +0.8
YERR IAMs_20 IAMs_20 14 36 05.0
comp=Z,723nm,22.0s
MDPB Devils Postpil 92.92 53 IAMs_20 IAMs_20 14 35 07.5
comp=Z,963nm,22.0s
ARVC Arvin 92.92 55 P P 14 02 25.3 +1.5
baz=265,SNR=12
F07A Phinny Hill Vi 92.95 44 P P 14 02 23.7 0.0
F07A IAmb IAmb 14 02 25.9
comp=Z,36nm,1.2s
OSI Osito Audit: C 92.97 56 P P 14 02 26.0 +1.9
baz=265
SCI2 San Clemente I 92.99 57 P P 14 02 25.8 +1.7
baz=266,SNR=6.6
A36M Sachs Harbour 93.07 18 IAMs_20 IAMs_20 14 40 20.7
comp=Z,968nm,21.0s
A36M Sachs Harbour 93.07 18 P P 14 02 23.2 -0.4
baz=262
I07A Izee 93.11 46 P P 14 02 25.1 +0.5
I07A IAMs_20 IAMs_20 14 37 15.1
comp=Z,822nm,19.0s
MLAC Mammoth, Mammo 93.11 53 P P 14 02 26.1 +1.2
baz=266
C36M Paulatuk 93.12 21 P P 14 02 23.6 -0.2
baz=263
CIS Catalina Islan 93.13 57 P P 14 02 26.4 +1.6
baz=266,SNR=42
ISA Isabella, Lake 93.26 55 IAMs_20 IAMs_20 14 36 42.5
comp=Z,979nm,21.0s
ISA Isabella, Lake 93.26 55 P P 14 02 26.5 +1.1
baz=266,SNR=40
FMP Fort Macarthur 93.26 57 P P 14 02 26.6 +1.3
baz=266
DECC Green Verdugo 93.27 56 P P 14 02 26.7 +1.3
baz=266,SNR=7.2
HAWA Hanford 93.27 44 P P 14 02 25.5 +0.4
HAWA IAmb IAmb 14 02 27.1
comp=Z,35nm,1.1s
LHV Little Huntoon 93.42 52 P P 14 02 26.9 +1.0
LHV IAMs_20 IAMs_20 14 35 48.7
comp=Z,1μm,22.0s
RYN Ryan 93.44 52 IAMs_20 IAMs_20 14 36 44.1
comp=Z,620nm,19.0s
TIN Tinemaha, Big 93.56 53 P P 14 02 28.3 +1.5
baz=266,SNR=8.5
G08A Pilot Rock 93.59 45 IAMs_20 IAMs_20 14 37 36.7
comp=Z,700nm,21.0s
CCAC Calif City Air 93.59 55 P P 14 02 27.7 +0.8
EDW2 Edwards Air Fo 93.59 55 P P 14 02 28.6 +1.7
baz=266,SNR=68
NVAR Mina Array Bea 93.59 52 P P 14 02 28.2 +1.2
comp=Z,91nm,0.9s,baz=257,slow=5.7,SNR=396
NVAR PP PP 14 06 13.3 +0.7
comp=Z,2.0nm,1.0s,baz=248,slow=8.9,SNR=3.7
NVAR PKKPbc PKKPbc 14 19 36.0 +2.5
comp=Z,0.7nm,0.7s,baz=87,slow=4.2,SNR=6.7
NVAR PKPPKP P'P'df 14 27 40.5 -3.7
comp=Z,0.4nm,0.6s,baz=100,slow=4.8,SNR=5.0
NVAR LR LR 14 36 42.2
comp=Z,505nm,21.9s,baz=268,slow=30
E08A Dider Farm, El 93.60 44 P P 14 02 27.1 +0.4
E08A IAmb IAmb 14 02 28.7
comp=Z,40nm,1.1s
WVOR Wild Horse Val 93.62 48 IAMs_20 IAMs_20 14 41 51.7
comp=Z,793nm,19.0s
WVOR Wild Horse Val 93.62 48 P P 14 02 28.0 +1.0
WVOR pmax pmax
comp=Z,61nm,1.8s
CWC Cottonwood Cre 93.63 54 P P 14 02 28.4 +1.2
baz=266
D08A Wollman Farm, 93.74 43 P P 14 02 27.7 +0.4
D08A IAmb IAmb 14 02 30.4
comp=Z,22nm,1.0s
DSP Deep Springs 93.78 53 IAMs_20 IAMs_20 14 36 08.3
comp=Z,938nm,22.0s
KVN Kaiserville 93.80 51 P P 14 02 28.3 +0.4
KVN Kaiserville 93.80 51 P P 14 02 28.3 +0.4
J08A Circle Bar Ran 93.80 47 P P 14 02 28.2 +0.5
BFSC Mount Baldy Ra 93.82 56 P P 14 02 29.3 +1.2
baz=266,SNR=40
JLN Jalan Bani Buh 93.82 292 P P 14 02 27.2 -1.0
SNR=5.2
LRMC Laurel Mtn Rad 93.89 55 P P 14 02 30.0 +1.6
baz=266,SNR=135
LCH Last Chance Ra 94.03 53 IAMs_20 IAMs_20 14 36 26.9
comp=Z,905nm,21.0s
MPMC Manual Prospec 94.08 54 P P 14 02 30.7 +1.4
baz=266,SNR=142
MURC Murrieta 94.17 57 P P 14 02 31.0 +1.4
baz=266,SNR=16
109C Camp Elliot, M 94.19 57 P P 14 02 31.1 +1.5
109C Camp Elliot, M 94.19 57 P P 14 02 31.4 +1.7
baz=266,SNR=8.7
GRAC Grapevine Rang 94.24 53 P P 14 02 31.2 +1.3
baz=266,SNR=7.1
WBK Wadi Bani Khal 94.27 292 P P 14 02 30.0 -0.3
SNR=9.9
MZP Montezuma Peak 94.27 53 IAMs_20 IAMs_20 14 35 53.2
comp=Z,483nm,20.0s
GMN Gold Mountain 94.34 53 P P 14 02 30.4 -0.1
GMN IAmb IAmb 14 02 32.7
comp=Z,33nm,1.0s
RRX Edison Barstow 94.41 56 P P 14 02 32.4 +1.7
baz=266
BBRC Big Bear Solar 94.43 56 P P 14 02 32.4 +1.3
baz=266,SNR=21
CCX Cicese 94.50 59 P P 14 02 32.4 +1.3
CCX IAmb IAmb 14 02 34.4
comp=Z,70nm,1.6s
BAR Barrett 94.55 58 P P 14 02 32.2 +0.9
BMN Battle Mountai 94.56 50 IAMs_20 IAMs_20 14 36 05.6
comp=Z,765nm,22.0s
QSM Queen of Sheba 94.58 54 P P 14 02 32.1 +0.7
GSC Goldstone, Bar 94.59 55 P P 14 02 32.9 +1.3
baz=267,SNR=69
TKX Tecate 94.59 58 P P 14 02 31.6 0.0
TKX IAmb IAmb 14 02 35.4
comp=Z,49nm,1.1s
FURC Furnace Creek, 94.61 54 P P 14 02 33.0 +1.6
baz=267,SNR=87
BMO Blue Mountains 94.73 46 P P 14 02 31.8 -0.2
BMO IAmb IAmb 14 02 33.8
comp=Z,56nm,1.3s
BMO IAMs_20 IAMs_20 14 37 10.9
comp=Z,733nm,21.0s
BMO Blue Mountains 94.73 46 P P 14 02 31.8 -0.2
BMO pmax pmax
comp=Z,56nm,1.3s
MONP2 Monument Peak 94.77 58 P P 14 02 34.7 +2.1
baz=267,SNR=88
PFO Pinyon Flats O 94.78 57 P P 14 02 34.1 +1.6
PFO pmax pmax
comp=Z,73nm,1.1s
PFO Pinyon Flats O 94.78 57 P P 14 02 34.2 +1.6
baz=267,SNR=72
PFO Pinyon Flats O 94.78 57 LR LR 14 37 47.7
comp=Z,724nm,21.4s,baz=272,slow=31
TPFO Pinon Flats 94.78 57 P P 14 02 33.9 +1.4
baz=267,SNR=72
WCT Wildcat Mounta 94.82 54 P P 14 02 32.6 +0.1
F10A Beach Ranch, E 94.84 44 IAMs_20 IAMs_20 14 37 21.8
comp=Z,679nm,20.0s
HEC Hector,Ludlow 94.95 56 P P 14 02 34.5 +1.3
baz=267,SNR=18
AB31 Akbulak array 95.00 319 P P 14 02 30.4 -2.6
ABKAR Akbulak array 95.00 319 P P 14 02 30.8 -2.1
IKP In-Ko-Pah, Jac 95.02 58 P P 14 02 35.4 +1.9
baz=267,SNR=32
NEW Newport 95.02 42 P P 14 02 32.7 -0.4
NEW IAmb IAmb 14 02 34.7
comp=Z,36nm,1.1s
NEW Newport 95.02 42 P P 14 02 32.7 -0.4
NEW pmax pmax
comp=Z,36nm,1.2s
NEW Newport 95.02 42 P P 14 02 33.6 +0.5
baz=268,SNR=24
NEW Newport 95.02 42 LR LR 14 38 42.4
comp=Z,529nm,20.7s,baz=276,slow=31
RMX La Rumorosa 95.04 58 P P 14 02 35.2 +1.4
RMX IAmb IAmb 14 02 38.3
comp=Z,42nm,1.2s
JMDO Jabal Madar 95.05 292 P P 14 02 32.7 -1.1
SHOC Shoshone, Teco 95.06 55 P P 14 02 35.0 +1.4
baz=267,SNR=104
BRLDA Berland Lookou 95.08 36 P P 14 02 34.4 +1.0
MHTO MHTO 95.08 291 P P 14 02 33.1 -0.9
BIDO Bidbid 95.10 293 P P 14 02 34.0 0.0
SNR=11
ESJX Sierra Juarez 95.12 58 P P 14 02 35.2 +1.0
ESJX IAmb IAmb 14 02 37.9
comp=Z,33nm,1.1s
SMDO Samad 95.14 293 P P 14 02 32.7 -1.6
BELC Belle Mtn. Jos 95.18 56 P P 14 02 35.9 +1.6
baz=267,SNR=88
SWSC Sam W. Stewart 95.29 58 P P 14 02 36.4 +1.7
baz=267,SNR=26
TUQ Turquoise Moun 95.32 55 P P 14 02 36.3 +1.4
baz=267,SNR=92
GMRC Granite Mounta 95.50 56 P P 14 02 37.2 +1.4
baz=267,SNR=63
S11A Rachel 95.56 53 P P 14 02 36.7 +0.7
S11A IAMs_20 IAMs_20 14 49 42.5
comp=Z,784nm,22.0s
UABX UABC, Campus M 95.58 58 IAMs_20 IAMs_20 14 38 26.1
comp=Z,728nm,18.0s
BC3 Big Chuckawall 95.62 57 P P 14 02 38.2 +1.9
baz=267,SNR=67
CPBX Cerro Prieto 95.68 58 IAMs_20 IAMs_20 14 37 21.9
comp=Z,692nm,20.0s
R11B Troy Canyon, C 95.72 52 IAMs_20 IAMs_20 14 37 25.6
comp=Z,637nm,22.0s
R11B Troy Canyon, C 95.72 52 P P 14 02 37.9 +1.1
baz=268,SNR=74
MFID Camas Ranch 95.73 47 IAMs_20 IAMs_20 14 38 37.3
comp=Z,683nm,20.0s
RPN Rapa Nui 95.78 118 LR LR 14 37 39.4
comp=Z,358nm,21.7s,baz=260,slow=30
ELIB Princess Elisa 95.85 194 *d*P P 14 02 36.6 0.0
comp=Z,23nm,1.1s
HOQ Hoqain 95.85 293 P P 14 02 36.3 -1.1
GEYT Alibeck 95.86 307 P P 14 02 35.9 -1.4
comp=Z,2.3nm,0.6s,baz=91,slow=8.9,SNR=6.7
GEYT PKKP PKKPbc 14 19 27.0 -0.2
comp=Z,1.9nm,0.7s,baz=176,slow=4.5,SNR=3.7
comp=Z,2.3nm,0.6s
IRM Iron Mountain 95.90 56 P P 14 02 39.3 +1.8
baz=267,SNR=78
BSY Bisya 95.91 292 P P 14 02 36.7 -1.0
ARU Arti 96.04 326 *c i*P P 14 02 35.1 -2.4
ARU 14 06 28.4
ARU S SKSac 14 13 06.2 -2.1
ARU SS SS 14 20 19.2 -4.0
ARU pmax pmax
comp=Z,26nm,1.5s
ARU Arti 96.04 326 P P 14 02 35.5 -2.0
comp=Z,6.1nm,0.5s,baz=114,slow=2.3,SNR=11
ARU LR LR 14 45 10.1
comp=Z,1μm,21.9s,baz=118,slow=35
comp=Z,6.1nm,0.5s
ELK Elko 96.08 50 P P 14 02 39.1 +0.7
ELK Elko 96.08 50 LR LR 14 43 58.0
comp=Z,234nm,18.2s,baz=260,slow=34
AKTO Aktyubinsk 96.28 320 P P 14 02 36.4 -2.4
comp=Z,5.5nm,1.0s,baz=93,slow=4.3,SNR=8.6
AKTO PKiKP PKiKP 14 07 15.1 -1.5
comp=Z,2.5nm,0.9s,baz=179,slow=4.2,SNR=3.8
comp=Z,5.5nm,1.0s
NEE2 Needles Airpor 96.36 56 P P 14 02 41.2 +1.7
baz=268,SNR=9.5
BLYC Blythe 96.40 57 P P 14 02 41.0 +1.4
BLYC IAmb IAmb 14 02 46.4
comp=Z,28nm,0.9s
ARQ Araqi 96.56 293 P P 14 02 40.1 -0.6
SOHO SOHO 96.59 294 P P 14 02 39.8 -1.0
YKA Yellowknife Ar 96.64 28 P P 14 02 40.1 0.0
comp=Z,6.9nm,0.8s,baz=270,slow=4.7,SNR=98
YKA PKiKP PKiKP 14 07 17.1 +0.3
comp=Z,0.6nm,0.7s,baz=266,slow=1.7,SNR=7.1
YKA PKKPbc PKKPbc 14 19 23.0 -3.0
comp=Z,2.8nm,0.7s,baz=86,slow=2.7,SNR=41
YKA PKPPKP P'P'df 14 27 34.9 -1.6
comp=Z,0.9nm,1.1s,baz=46,slow=1.7,SNR=6.2
YKA LR LR 14 40 51.2
comp=Z,384nm,21.7s,baz=276,slow=32
comp=Z,6.9nm,0.8s
PDMCI Parker Dam,Lak 96.73 56 P P 14 02 43.0 +1.8
baz=268,SNR=48
HLID Hailey 96.77 47 IAMs_20 IAMs_20 14 39 20.6
comp=Z,640nm,21.0s
HLID Hailey 96.77 47 P P 14 02 42.2 +0.8
baz=269,SNR=16
MDH Madina 96.86 295 P P 14 02 40.5 -1.5
UOSS Minazif 96.93 294 P P 14 02 41.1 -1.2
W13A Hualapai Mount 96.97 55 IAMs_20 IAMs_20 14 37 29.7
comp=Z,786nm,22.0s
HATD Hatta, Dubai 96.99 294 P P 14 02 41.1 -1.5
MASF Masafi 96.99 295 P P 14 02 42.2 -0.4
SHME Shamm 97.04 295 P P 14 02 42.3 -0.5
ASHO Ashiyiah 97.05 294 P P 14 02 41.3 -1.6
PSUT Pine Spring 97.09 52 P Pdif 14 02 43.2 +0.1
PSUT IAmb IAmb 14 02 45.4
comp=Z,34nm,1.1s
PSUT IAMs_20 IAMs_20 14 38 28.7
comp=Z,720nm,21.0s
ALNE Al Ain 97.30 293 P P 14 02 43.4 -0.7
UMQ Umm Al-Quwin 97.45 295 P Pdif 14 02 45.8 +1.2
SZCU Shurtz Canyon 97.67 53 P Pdif 14 02 46.0 +0.3
SZCU IAmb IAmb 14 02 48.5
comp=Z,43nm,1.3s
214A Organ Pipe Nat 97.78 59 P Pdif 14 02 47.5 +1.4
214A IAmb IAmb 14 02 51.6
comp=Z,44nm,1.2s
214A Organ Pipe Nat 97.78 59 P Pdif 14 02 48.5 +2.4
baz=268,SNR=18
DUG Dugway, Tooele 97.92 50 P Pdif 14 02 47.4 +0.7
DUG pmax pmax
comp=Z,17nm,1.2s
DUG Dugway, Tooele 97.92 50 P Pdif 14 02 47.5 +0.9
baz=270,SNR=15
HVU Hansel Valley 97.95 49 P Pdif 14 02 47.1 +0.3
HVU Hansel Valley 97.95 49 P Pdif 14 02 47.1 +0.3
HVU pmax pmax
comp=Z,47nm,1.0s
TCRU Three Creeks R 98.19 52 IAMs_20 IAMs_20 14 39 04.9
comp=Z,860nm,21.0s
SPUT South Promonto 98.20 49 P P 14 02 48.0 +0.1
SPUT IAmb IAmb 14 02 50.7
comp=Z,25nm,1.0s
PKCU Pink Cliffs 98.29 53 P Pdif 14 02 50.3 +1.7
MSU Marysvale 98.40 52 P Pdif 14 02 49.8 +0.9
MSU Marysvale 98.40 52 P Pdif 14 02 49.8 +0.8
CTU Camp Tracy 98.73 50 IAMs_20 IAMs_20 14 37 33.0
comp=Z,498nm,18.0s
BOZ Bozeman (W) 98.75 45 Pdiff Pdif 14 02 51.2 +0.9
baz=271
MPU Maple Canyon 98.82 50 P P 14 02 50.7 0.0
MPU IAmb IAmb 14 02 52.7
comp=Z,16nm,1.1s
WUAZ Wupatki 99.03 55 Pdiff Pdif 14 02 52.7 +1.0
baz=270
Q16A Castle Valley 99.19 52 P Pdif 14 02 53.2 +0.8
Q16A IAmb IAmb 14 02 54.9
comp=Z,23nm,1.0s
TPAW Teton Pass 99.28 47 P Pdif 14 02 52.1 -0.7
TPAW IAmb IAmb 14 02 53.8
comp=Z,18nm,1.1s
NVL N'lazarevskaya 99.34 193 *e*P Pdif 14 02 49.1 -3.0
NVL pmax pmax
comp=Z,30nm,1.5s
TUC Tucson 99.50 58 P Pdif 14 02 55.8 +2.0
TUC Tucson 99.50 58 P Pdif 14 02 55.8 +2.0
TUC pmax pmax
comp=Z,9.0nm,1.1s
TUC Tucson 99.50 58 Pdiff Pdif 14 02 54.8 +1.0
baz=270
H17A Grant Village 99.53 46 Pdiff Pdif 14 02 55.1 +1.2
baz=272
LOHW Long Hollow 99.53 47 IAMs_20 IAMs_20 14 41 34.1
comp=Z,771nm,21.0s
HMU Henry Mountain 99.53 53 IAMs_20 IAMs_20 14 39 28.5
comp=Z,894nm,22.0s
SRU San Rafael Swe 99.69 51 IAMs_20 IAMs_20 14 39 55.6
comp=Z,573nm,21.0s
LPIG La Paz 99.78 67 LR LR 14 40 54.1
comp=Z,536nm,20.4s,baz=255,slow=31
EGMT Eagleton 99.95 42 Pdiff Pdif 14 02 55.7 +0.2
baz=273
TROLL Troll, Antarti 100.10 189 ⇑P Pdif 14 02 55.6 -0.1
comp=Z,425nm,0.7s
BW06 Boulder Array 100.32 48 Pdiff Pdif 14 02 57.6 +0.1
baz=272
PDAR Pinedale Array 100.33 48 P Pdif 14 02 57.3 -0.1
comp=Z,16nm,0.9s,baz=233,slow=2.0,SNR=82
PDAR PP PP 14 07 00.9 -3.4
comp=Z,0.9nm,1.0s,baz=264,slow=9.0,SNR=2.4
PDAR PKiKP PKiKP 14 07 25.5 +1.2
comp=Z,1.0nm,0.8s,baz=243,slow=3.4,SNR=4.1
PDAR PKKPbc PKKPbc 14 19 13.9 -1.4
comp=Z,1.1nm,0.9s,baz=99,slow=6.5,SNR=6.2
W18A Petrified Fore 100.37 55 Pdiff Pdif 14 02 59.7 +1.9
baz=271
RLMT Red Lodge 100.43 45 Pdiff Pdif 14 02 59.5 +1.7
baz=273
MVCO Mesa Verde 101.33 53 Pdiff Pdif 14 03 03.5 +1.5
baz=272
RES Resolute Bay 101.37 14 P Pdif 14 03 00.4 -0.6
RES pmax pmax
comp=Z,9.0nm,0.9s
O20A White River Ci 101.42 50 Pdiff Pdif 14 03 03.2 +0.9
baz=272
121A Cookes Peak, D 102.04 58 Pdiff Pdif 14 03 07.6 +2.3
baz=271
121A Cookes Peak, D 102.04 58 P Pdif 14 03 07.3 +2.0
baz=271
LAO LASA Array 102.44 44 Pdiff Pdif 14 03 07.2 +0.7
baz=275
LAO LASA Array 102.44 44 P Pdif 14 03 06.9 +0.4
baz=275
K22A Casper 102.56 48 Pdiff Pdif 14 03 07.8 +0.5
baz=274
K22A Casper 102.56 48 P Pdif 14 03 07.2 -0.1
baz=274
ANMO Albuquerque 103.07 56 Pdiff Pdif 14 03 11.9 +2.1
baz=272
ANMO Albuquerque 103.07 56 P Pdif 14 03 11.6 +1.8
baz=272
N23A Red Feather La 103.12 49 Pdiff Pdif 14 03 11.2 +1.2
baz=274
ISCO Idaho Springs 103.46 51 P Pdif 14 03 12.2 +0.7
ISCO pmax pmax
comp=Z,9.0nm,1.8s
ISCO Idaho Springs 103.46 51 Pdiff Pdif 14 03 12.7 +1.1
baz=274
ISCO Idaho Springs 103.46 51 P Pdif 14 03 12.5 +1.0
baz=274
DGMT Dagmar 103.61 42 Pdiff Pdif 14 03 13.1 +1.5
baz=277
SDCO Great Sand Dun 103.69 53 Pdiff Pdif 14 03 13.8 +1.2
baz=274
SDCO Great Sand Dun 103.69 53 P Pdif 14 03 13.9 +1.4
baz=274
SPITS Spitsbergen Ar 103.72 351 PKiKP PKiKP 14 07 29.6 +0.4
comp=Z,17nm,1.1s,baz=57,slow=3.1,SNR=4.9
Q24A Divide 103.88 51 Pdiff Pdif 14 03 14.3 +0.9
baz=274
MNTX Cornudas Mount 104.10 59 Pdiff Pdif 14 03 16.0 +1.8
baz=272
MNTX Cornudas Mount 104.10 59 P Pdif 14 03 16.3 +2.1
baz=272
RSSD Black Hills 104.23 46 P Pdif 14 03 15.3 +0.6
RSSD pmax pmax
comp=Z,19nm,1.5s
RSSD Black Hills 104.23 46 Pdiff Pdif 14 03 14.8 0.0
baz=276
RSSD Black Hills 104.23 46 P Pdif 14 03 15.4 +0.6
baz=276
T25A Trinidad 104.59 53 Pdiff Pdif 14 03 17.4 +0.8
baz=274
TULEG Thule 105.64 9 IAMs_20 IAMs_20 14 48 52.9
comp=Z,478nm,18.0s
TXAR Lajitas Array 105.68 61 Pdiff Pdif 14 03 23.0 +1.6
comp=Z,1.3nm,0.9s,baz=235,slow=4.4,SNR=6.1
TXAR PKiKP PKiKP 14 07 35.5 +1.2
comp=Z,3.4nm,1.0s,baz=225,slow=0.7,SNR=10
TXAR PKKPbc PKKPbc 14 18 59.8 +1.0
comp=Z,0.8nm,0.8s,baz=108,slow=5.7,SNR=4.0
TXAR PKKPab PKKPab 14 19 14.4 -0.8
comp=Z,2.4nm,0.9s,baz=102,slow=5.4,SNR=9.6
MDND Maddock 106.75 42 PKiKP PKiKP 14 07 36.3 +0.7
baz=281
AMTX Amarillo 106.99 55 PKiKP PKiKP 14 07 36.8 +0.2
baz=275
ARCES ARCESS Array B 107.04 343 Pdiff Pdif 14 03 25.8 -0.6
comp=Z,3.9nm,0.9s,baz=67,slow=7.9,SNR=4.2
ARCES PKiKP PKiKP 14 07 35.2 -0.3
comp=Z,5.8nm,0.7s,baz=81,slow=1.5,SNR=15
CBKS Cedar Bluff 108.09 51 PKiKP PKiKP 14 07 39.2 +0.7
baz=278
OBN Obninsk 108.47 327 IAMs_20 IAMs_20 14 53 37.5
comp=Z,765nm,21.0s
OBN Obninsk 108.47 327 *i* P Pdif 14 03 30.7 -2.3
OBN *e* 14 08 03.4
OBN *e* 14 14 44.1
OBN *e*SS SS 14 23 07.4 -7.3
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,818nm,22.0s
ULM Lac du Bonnet 108.62 39 Pdiff Pdif 14 03 32.7 -1.1
comp=Z,2.8nm,0.9s,baz=312,slow=8.7,SNR=4.5
ULM PKiKP PKiKP 14 07 38.5 -0.5
comp=Z,3.5nm,0.8s,baz=327,slow=2.6,SNR=6.1
ULM PKPab PKKPab 14 19 00.5 -1.2
comp=Z,2.1nm,0.7s,baz=56,slow=3.6,SNR=2.9
ABTX Abilene, Hawle 108.89 57 PKiKP PKiKP 14 07 40.9 +0.8
baz=276
JCT Junction City 108.96 60 IAMs_20 IAMs_20 14 45 10.3
comp=Z,656nm,19.0s
JCT Junction City 108.96 60 PKiKP PKiKP 14 07 40.8 +0.5
baz=275
JCT Junction City 108.96 60 P PKiKP 14 07 41.0 +0.7
baz=275
AGMN Agassiz Nation 109.10 41 PKiKP PKiKP 14 07 40.7 +0.7
baz=284
WMOK Wichita Mounta 109.38 55 PKiKP PKiKP 14 07 41.9 +1.0
baz=277
WMOK Wichita Mounta 109.38 55 P PKiKP 14 07 41.6 +0.7
baz=277,SNR=8.2
833A Chaparral WMA, 109.49 62 PKiKP PKiKP 14 07 41.3 +0.1
baz=274
WHTX Lake Whitney, 110.80 58 PKiKP PKiKP 14 07 43.8 +0.1
baz=277
FINES FINESS Array B 111.02 335 Pdiff Pdif 14 03 42.5 -1.7
comp=Z,3.3nm,0.6s,baz=70,slow=6.3,SNR=12
FINES PKiKP PKiKP 14 07 43.3 +0.1
comp=Z,7.1nm,0.7s,baz=104,slow=6.1,SNR=21
FINES PKKPab PKKPab 14 18 51.4 +0.6
comp=Z,1.8nm,0.7s,baz=184,slow=4.0,SNR=6.1
F36A Milaca 111.25 43 P PKiKP 14 07 44.0 -0.1
baz=285
TUL3 Leonard 111.63 54 PKiKP PKiKP 14 07 45.4 +0.3
baz=279
I37B Waseca 111.80 45 P PKiKP 14 07 45.5 +0.3
baz=284
SPMN Marine on St. 111.90 43 PKiKP PKiKP 14 07 45.7 +0.4
baz=285
EYMN Ely 112.02 40 PKiKP PKiKP 14 07 45.7 +0.2
baz=287
X37A Clayton 112.18 55 P PKiKP 14 07 46.3 +0.1
baz=279
MEF Metsahovi 112.35 334 *e*P PKiKP 14 07 45.3 -0.4
SCIA State Center 112.43 47 PKiKP PKiKP 14 07 47.0 +0.5
baz=283
SUMG Summit 112.65 3 *i* P PKiKP 14 07 46.0 -0.5
SUMG IAMs_20 IAMs_20 14 44 27.2
comp=Z,1μm,41.2s
U38A Gravette 112.66 53 P PKiKP 14 07 47.3 +0.2
baz=280,SNR=6.0
P38A Dawn 112.70 49 P PKiKP 14 07 47.1 +0.1
baz=282
NATX Nacogdoches 113.19 58 PKiKP PKiKP 14 07 48.7 +0.5
baz=278
S39A Bolivar 113.26 51 P PKiKP 14 07 47.9 -0.2
baz=282
MIAR Mount Ida 113.65 55 PKiKP PKiKP 14 07 49.4 +0.4
baz=280
ISAL Salakas 113.80 330 *e*P PKiKP 14 07 50.8 +2.2
P40A Paris 113.84 49 P PKiKP 14 07 49.5 +0.3
baz=283

U40A	**Yellville**	**113.89**	**53**	P		**PKiKP**	**14 07 49.2**	**-0.2**
	baz=281								
U40A				P		**PKiKP**	**14 07 49.2**	**-0.2**
	baz=281								
R40A	**Maddies Statio**	**113.95**	**50**	P		**PKiKP**	**14 07 49.4**	**0.0**
	baz=283								
AKASG	**Malin Array Be**	**114.16**	**324**	PKP		PKPdf	14 07 48.7	-0.7
	comp=Z,8.2nm,0.7s,baz=61,slow=2.2,SNR=20								
AKASG				PKKPbc		**PKKPbc**	**14 18 30.3**	**-1.7**
	comp=Z,2.8nm,0.7s,baz=261,slow=4.1,SNR=7.1								
AKBB	**Malin Array Si**	**114.16**	**324**	IAMs_20		IAMs_20	14 55 42.3		
	comp=Z,494nm,22.0s								
KIEV	**Kiev**	**114.17**	**324**	IAMs_20		IAMs_20	14 55 43.3		
	comp=Z,445nm,22.0s								
AAL	**Aland**	**114.22**	**336**	*e*P		PKPdf	14 07 48.5	-0.7
JFWS	**Jewell Farm**	**114.30**	**45**	PKiKP		**PKiKP**	**14 07 50.5**	**+0.6**
	baz=286								
BALJ	**Balqa**	**114.61**	**303**	IAMs_20		IAMs_20	14 59 53.4		
	comp=Z,4μm,19.0s								
BRTR	**Keskin Array B**	**114.65**	**311**	PKP		PKPdf	14 07 50.1	-0.8
	comp=Z,6.3nm,0.9s,baz=103,slow=2.7,SNR=15								
BRTR				PKKPbc		**PKKPbc**	**14 18 31.1**	**+1.0**
	comp=Z,2.4nm,0.9s,baz=202,slow=1.3,SNR=4.5								
MMAI	**Mount Meron Ar**	**114.65**	**304**	PKP		**PKiKP**	**14 07 51.8**	**+0.7**
	comp=Z,1.2nm,0.2s,baz=131,slow=4.4,SNR=3.9								
CCM	**Cathedral Cave**	**114.79**	**51**	PKiKP		PKPdf	14 07 51.2	+0.1
	baz=283								
CCM	**Cathedral Cave**	**114.79**	**51**	P		**PKiKP**	**14 07 50.3**	**-0.8**
	baz=283								
PABE	**Paberze**	**114.91**	**330**	IAMs_20		IAMs_20	14 58 39.6		
	comp=Z,571nm,18.0s								
PABE	**Paberze**	**114.91**	**330**	*e*P		**PKiKP**	**14 07 50.8**	**+0.1**
L42A	**Oliver, Polo**	**114.96**	**46**	P		**PKiKP**	**14 07 51.1**	**-0.1**
	baz=286								
FVM	**French Village**	**115.43**	**50**	P		**PKiKP**	**14 07 52.4**	**0.0**
	baz=284								
HDIL	**Hopedale**	**115.63**	**47**	PKiKP		**PKPdf**	**14 07 53.0**	**+0.4**
	baz=286								
HDIL	**Hopedale**	**115.63**	**47**	P		**PKPdf**	**14 07 52.8**	**+0.2**
	baz=286								
SORM	**Soroca**	**115.67**	**321**	⇑P		**PKiKP**	**14 07 51.8**	**-0.6**
SORM	**Soroca**	**115.67**	**321**	⇑PKiKP		**PKiKP**	**14 07 51.8**	**-0.6**
P43A	**Skaggs, Pawnee**	**115.70**	**48**	P		**PKiKP**	**14 07 52.5**	**-0.3**
	baz=285								
143A	**Socs Landing,**	**115.76**	**56**	P		**PKiKP**	**14 07 53.9**	**+0.9**
	baz=281								
MILM	**Milestii Mici**	**115.82**	**320**	*e*PKP		**PKiKP**	**14 07 48.0**	**-4.8**
	comp=Z,40nm,0.7s								
MILM				*e*L		L	14 49 46.0		
MILM				LRM		MLR	15 01 04.0		
	comp=Z,400nm,16.0s								
MILM	**Milestii Mici**	**115.82**	**320**	*e*PKIKP		**PKiKP**	**14 07 48.0**	**-4.8**
MILM				pmax		pmax			
	comp=Z,40nm,0.7s								
ICESG	**Greenland Ices**	**116.01**	**4**	*i* P		**PKiKP**	**14 07 50.9**	**-2.1**
ICESG				IAMs_20		IAMs_20	14 46 22.4		
	comp=Z,1μm,32.2s								
SUW	**Suwalki**	**116.05**	**329**	*e*P		**PKPdf**	**14 07 53.2**	**+0.3**
L44A	**Lake County Fo**	**116.16**	**45**	PKiKP		**PKiKP**	**14 07 53.8**	**+0.2**
	baz=288								
Q44A	**Meyer Farm, Va**	**116.28**	**49**	P		**PKiKP**	**14 07 54.6**	**+0.7**
	baz=285								
S44A	**Carbondale**	**116.40**	**51**	P		**PKiKP**	**14 07 54.5**	**+0.3**
	baz=284								
TLCR		**116.44**	**318**	⇑P		**PKiKP**	**14 07 54.2**	**+0.3**
TLCR		**116.44**	**318**	⇑PKiKP		**PKiKP**	**14 07 54.3**	**+0.3**
VBMS	**Vicksburg**	**116.59**	**57**	PKiKP		**PKiKP**	**14 07 54.9**	**+0.3**
	baz=281								
VLDR	**Vladesti**	**116.69**	**319**	⇓P		**PKiKP**	**14 07 54.9**	**+0.4**
SFJD	**Kangerlussuaq**	**116.69**	**9**	*i* P		**PKPdf**	**14 07 52.1**	**-1.7**
SFJD				IAMs_20		IAMs_20	14 48 04.0		
	comp=Z,691nm,15.2s								
HFS	**Hagfors**	**116.73**	**338**	PKP		**PKPdf**	**14 07 52.9**	**-1.2**
	comp=Z,5.3nm,0.8s,baz=192,slow=2.9,SNR=7.9								
CFR	**Carcaliu**	**116.89**	**318**	⇑P		**PKPdf**	**14 07 54.6**	**-0.2**
CFR	**Carcaliu**	**116.89**	**318**	⇑PKiKP		**PKPdf**	**14 07 54.6**	**-0.2**
NB2	**NORSAR Subarra**	**117.00**	**340**	PKPdf		**PKPdf**	**14 07 53.5**	**-1.2**
	comp=Z,4.7nm,0.8s,baz=44,slow=1.9								
NB2				SKPd			14 11 29.0		
	comp=Z,0.8nm,0.8s,baz=48,slow=1.7								
NB2	**NORSAR Subarra**	**117.00**	**340**	PKPdf		**PKPdf**	**14 07 53.5**	**-1.2**
	baz=44,slow=1.9								
NOA	**NORSAR Array B**	**117.00**	**340**	PKP		**PKPdf**	**14 07 54.0**	**-0.7**
	comp=Z,8.4nm,0.8s,baz=47,slow=1.9,SNR=32								
NOA				PKKPbc		**PKKPbc**	**14 18 21.4**	**-1.1**
	comp=Z,1.6nm,1.0s,baz=43,slow=3.5,SNR=3.5								
OXF	**Oxford**	**117.03**	**54**	PKiKP		**PKPdf**	**14 07 55.4**	**0.0**
	baz=283								
MFTR	**Murfatlar**	**117.05**	**317**	⇑P		**PKiKP**	**14 07 56.0**	**+0.8**
E46A	**Sault Ste Mari**	**117.17**	**40**	P		**PKiKP**	**14 07 55.5**	**+0.1**
	baz=292								
SFIN	**Lafayette**	**117.29**	**47**	PKiKP		**PKiKP**	**14 07 56.0**	**+0.2**
	baz=287								
TESR	**Tescani**	**117.36**	**320**	⇑P		**PKPdf**	**14 07 55.5**	**-0.2**
P46A	**Rosedale**	**117.43**	**48**	P		**PKiKP**	**14 07 56.6**	**+0.4**
	baz=287								
GLMI	**Grayling**	**117.54**	**42**	PKiKP		**PKiKP**	**14 07 56.6**	**+0.4**
	baz=292								
VRI	**Vrincioaia**	**117.56**	**320**	⇑P		**PKPdf**	**14 07 56.2**	**0.0**
VRI	**Vrincioaia**	**117.56**	**320**	⇑PKiKP		**PKPdf**	**14 07 56.2**	**0.0**
LVV	**L'vov**	**117.56**	**324**	*e*PKiKP		**PKiKP**	**14 07 56.3**	**+0.2**
DY2G	**Dye2**	**117.83**	**8**	*i* P		**PKPdf**	**14 07 54.6**	**-1.8**
DY2G				IAMs_20		IAMs_20	14 50 45.9		
	comp=Z,1μm,6.9s								
WVT	**Waverly**	**117.90**	**52**	PKiKP		**PKiKP**	**14 07 57.3**	**+0.2**
	baz=285								
WVT	**Waverly**	**117.90**	**52**	P		**PKPdf**	**14 07 56.9**	**-0.2**
	baz=285								
J47A	**Sunmer**	**117.97**	**43**	P		**PKiKP**	**14 07 57.4**	**+0.3**
	baz=291								
J47A				P		**PKiKP**	**14 07 57.4**	**+0.3**
	baz=291								
BOSA	**Boshof**	**118.11**	**234**	PKP		**PKiKP**	**14 07 58.3**	**+0.3**
	comp=Z,5.4nm,0.7s,baz=140,slow=2.3,SNR=7.4								
BOSA				PKKPbc		**PKKPbc**	**14 18 18.3**	**+0.6**
	comp=Z,7.2nm,0.8s,baz=38,slow=3.2,SNR=11								
N47A	**Urbana**	**118.15**	**46**	P		**PKiKP**	**14 07 57.6**	**+0.1**
	baz=289								
N47A				P		**PKiKP**	**14 07 57.6**	**+0.1**
	baz=289								
MLR	**Muntele Rosu**	**118.21**	**319**	⇓P		**PKPdf**	**14 07 57.3**	**-0.3**
MLR	**Muntele Rosu**	**118.21**	**319**	⇓PKiKP		**PKPdf**	**14 07 57.3**	**-0.3**
MLR	**Muntele Rosu**	**118.21**	**319**	PKP		**PKPdf**	**14 07 56.8**	**-0.8**
	comp=Z,13nm,0.9s,baz=279,slow=4.3,SNR=8.7								
T47A	**Sharon Grove**	**118.24**	**51**	P		**PKiKP**	**14 07 57.9**	**+0.2**
	baz=286								
DOPR	**Dopca**	**118.38**	**320**	⇑P		**PKiKP**	**14 07 57.9**	**+0.1**
Z47A	**Carrollton**	**118.40**	**55**	P		**PKiKP**	**14 07 58.3**	**+0.1**
	baz=283								
STRU	**Stroemstad**	**118.41**	**338**	*e*P		**PKPdf**	**14 07 56.5**	**-0.8**
WCI	**Wyandotte Cave**	**118.51**	**49**	PKiKP		**PKPdf**	**14 07 58.2**	**-0.1**
	baz=287								
WCI	**Wyandotte Cave**	**118.51**	**49**	P		**PKiKP**	**14 07 58.5**	**+0.2**
	baz=287								
RAZG	**Razgrad**	**118.56**	**317**	⇓P		**PKPdf**	**14 07 58.1**	**-0.1**
L48A	**N Adams**	**118.69**	**45**	P		**PKPdf**	**14 07 58.5**	**+0.1**
	baz=290								
L48A				P		**PKPdf**	**14 07 58.5**	**+0.1**
	baz=290								
O48B	**Farmland**	**118.74**	**47**	PKiKP		**PKiKP**	**14 07 58.7**	**0.0**
	baz=289								
O48B	**Farmland**	**118.74**	**47**	P		**PKiKP**	**14 07 58.7**	**0.0**
	baz=289								
V48A	**Smith Brothers**	**118.79**	**52**	P		**PKPdf**	**14 07 58.3**	**-0.5**
	baz=285								
P48A	**Milroy**	**118.79**	**48**	P		**PKPdf**	**14 07 58.6**	**-0.1**
	baz=288								
P48A				P		**PKPdf**	**14 07 58.6**	**-0.1**
	baz=288								
X48A	**Hartselle**	**118.94**	**54**	P		**PKPdf**	**14 07 58.5**	**-0.7**
	baz=284								
KOLS	**Kolonicke sedl**	**118.99**	**324**	*e*PKiKP		**PKiKP**	**14 08 00.0**	**+1.1**
KOLS	**Kolonicke sedl**	**118.99**	**324**	*e*PKP		**PKiKP**	**14 08 00.0**	**+1.1**
DEL	**Delary**	**119.04**	**335**	*e*P		**PKPdf**	**14 07 58.5**	**-0.1**
ARR	**Arges**	**119.10**	**320**	⇓P		**PKiKP**	**14 07 59.7**	**+0.4**
AAM	**Ann Arbor**	**119.10**	**44**	PKiKP		**PKPdf**	**14 07 59.2**	**0.0**
	baz=291								
HUMR	**Humele**	**119.21**	**319**	⇓P		**PKPdf**	**14 07 58.1**	**-1.2**
N49A	**Columbus Grove**	**119.22**	**46**	P		**PKiKP**	**14 07 59.9**	**+0.3**
	baz=290,SNR=11								
N49A				P		**PKiKP**	**14 07 59.9**	**+0.3**
	baz=290,SNR=11								
ELND	**Elena**	**119.23**	**317**	⇓P		**PKiKP**	**14 07 59.8**	**+0.3**
P49A	**Miami Univ. Ec**	**119.29**	**47**	PKiKP		**PKiKP**	**14 07 60.0**	**+0.2**
	baz=289								
P49A	**Miami Univ. Ec**	**119.29**	**47**	P		**PKiKP**	**14 07 59.8**	**+0.1**
	baz=289								
LRAL	**Lakeview Retre**	**119.32**	**55**	PKiKP		**PKPdf**	**14 07 59.9**	**0.0**
	baz=284								
LRAL	**Lakeview Retre**	**119.32**	**55**	P		**PKPdf**	**14 07 60.0**	**0.0**
	baz=284								
R49A	**Shelbyville**	**119.34**	**49**	P		**PKiKP**	**14 08 00.1**	**+0.2**
	baz=288								
R49A				P		**PKiKP**	**14 08 00.1**	**+0.2**
	baz=288								
STHS	**Stebnicka Huta**	**119.35**	**325**	*e*PKiKP		**PKPdf**	**14 07 59.4**	**-0.1**
STHS	**Stebnicka Huta**	**119.35**	**325**	*e*PKP		**PKPdf**	**14 07 59.4**	**-0.1**
O49A	**Covington**	**119.35**	**47**	P		**PKiKP**	**14 08 00.1**	**+0.2**
	baz=289								
O49A				P		**PKiKP**	**14 08 00.1**	**+0.2**
	baz=289								
U49A	**Red Boiling Sp**	**119.39**	**51**	P		**PKPdf**	**14 07 59.7**	**-0.3**
	baz=286								
CRVS	**Cervenica-Dubn**	**119.47**	**324**	*e*PKiKP		**PKiKP**	**14 08 00.2**	**+0.4**
CRVS	**Cervenica-Dubn**	**119.47**	**324**	*e*PKP		**PKiKP**	**14 08 00.2**	**+0.4**
Y49A	**Blount Mountai**	**119.59**	**54**	P		**PKPdf**	**14 08 00.3**	**-0.1**
	baz=284								
BRAL	**Brewton**	**119.69**	**57**	PKiKP		**PKiKP**	**14 08 01.0**	**+0.2**
	baz=282								
DRGR		**119.70**	**322**	⇓P		**PKPdf**	**14 08 00.3**	**-0.1**
DRGR		**119.70**	**322**	⇓PKiKP		**PKPdf**	**14 08 00.3**	**-0.1**
OJC	**Ojcow**	**119.76**	**326**	*e*PKiKP		**PKiKP**	**14 08 00.5**	**+0.2**
M50A	**Fremont**	**119.85**	**45**	P		**PKiKP**	**14 08 00.9**	**+0.1**
	baz=291								
M50A				P		**PKiKP**	**14 08 00.9**	**+0.1**
	baz=291								
NIE	**Niedzica**	**119.89**	**325**	*e*PKiKP		**PKiKP**	**14 08 01.6**	**+1.0**
PLVB	**Pleven**	**119.90**	**318**	⇑P		**PKiKP**	**14 08 01.0**	**+0.2**
T50A	**Nancy**	**119.97**	**50**	P		**PKiKP**	**14 08 01.2**	**+0.1**
	baz=287								
T50A				P		**PKiKP**	**14 08 01.2**	**+0.1**
	baz=287								
R50A	**Paris**	**119.97**	**49**	P		**PKPdf**	**14 08 01.1**	**+0.1**
	baz=288								
R50A				P		**PKPdf**	**14 08 01.1**	**+0.1**
	baz=288								
W50A	**Signal Mountai**	**120.12**	**52**	P		**PKPdf**	**14 08 01.5**	**0.0**
	baz=286,SNR=8.0								
PLCA	**Paso Flores**	**120.13**	**144**	PKP		**PKiKP**	**14 08 02.1**	**+0.6**
	comp=Z,7.0nm,0.7s,baz=225,slow=2.0,SNR=25								
PLCA				SKP			14 11 41.9		
	comp=Z,2.3nm,0.9s,baz=214,slow=5.7,SNR=3.3								
PLCA				PKKPbc		**PKKPbc**	**14 18 09.6**	**-1.2**
	comp=Z,2.0nm,0.7s,baz=49,slow=5.4,SNR=6.2								
PLCA	**Paso Flores**	**120.13**	**144**	*e*P		**PKiKP**	**14 08 02.2**	**+0.7**
250A	**Grady**	**120.16**	**56**	P		**PKiKP**	**14 08 01.9**	**+0.2**
	baz=284								
GZR	**Gura Zlata**	**120.28**	**320**	⇓P		**PKPdf**	**14 08 01.3**	**-0.2**
GZR	**Gura Zlata**	**120.28**	**320**	⇓PKiKP		**PKPdf**	**14 08 01.3**	**-0.2**
ACSO	**Alum Creek Sta**	**120.31**	**46**	PKiKP		**PKPdf**	**14 08 01.7**	**0.0**
	baz=290								
ACSO	**Alum Creek Sta**	**120.31**	**46**	P		**PKiKP**	**14 08 01.9**	**+0.1**
	baz=290,SNR=6.8								
SRE	**Strehaia**	**120.32**	**319**	⇑P		**PKiKP**	**14 08 01.8**	**+0.2**
SRE	**Strehaia**	**120.32**	**319**	⇑PKiKP		**PKiKP**	**14 08 01.8**	**+0.2**
Q51A	**Peebles**	**120.46**	**48**	P		**PKPdf**	**14 08 01.9**	**-0.1**
	baz=290,SNR=6.5								
Q51A				P		**PKPdf**	**14 08 01.9**	**-0.1**
	baz=290,SNR=6.5								
LANS	**Liptovska Anna**	**120.49**	**325**	*e*PKiKP		**PKiKP**	**14 08 02.8**	**+0.9**
LANS	**Liptovska Anna**	**120.49**	**325**	*e*PKP		**PKiKP**	**14 08 02.8**	**+0.9**
N51A	**Ashland**	**120.50**	**45**	P		**PKPdf**	**14 08 02.0**	**0.0**
	baz=291,SNR=5.5								
N51A				P		**PKPdf**	**14 08 02.0**	**0.0**
	baz=291,SNR=5.5								
P51A	**Williamsport**	**120.51**	**47**	P		**PKPdf**	**14 08 01.8**	**-0.2**
	baz=290								
P51A				P		**PKPdf**	**14 08 01.8**	**-0.2**
	baz=290								
SURR	**Surduc**	**120.53**	**321**	⇓P		**PKPdf**	**14 08 01.9**	**0.0**
SIRR	**Siria**	**120.59**	**322**	⇓P		**PKPdf**	**14 08 02.1**	**+0.1**
X51A	**Calhoun**	**120.65**	**53**	P		**PKPdf**	**14 08 02.2**	**-0.2**
	baz=286								
X51A				P		**PKPdf**	**14 08 02.2**	**-0.2**
	baz=286								
V51A	**Loudon**	**120.70**	**51**	P		**PKiKP**	**14 08 02.7**	**+0.1**
	baz=287								
S51A	**Beattyville**	**120.72**	**49**	P		**PKPdf**	**14 08 02.6**	**+0.1**
	baz=289								
S51A				P		**PKPdf**	**14 08 02.6**	**+0.1**
	baz=289								
HERR	**Herculane**	**120.73**	**320**	⇓P		**PKPdf**	**14 08 02.0**	**-0.3**
PSZ	**Piszkesteto**	**120.86**	**324**	⇑P		**PKPdf**	**14 08 02.5**	**-0.1**
PSZ	**Piszkesteto**	**120.86**	**324**	IAMs_20		IAMs_20	14 59 35.6		
	comp=Z,312nm,19.0s								
PSZ	**Piszkesteto**	**120.86**	**324**	⇑PKiKP		**PKPdf**	**14 08 02.5**	**-0.1**
BZS	**Buzias**	**120.91**	**321**	⇓P		**PKPdf**	**14 08 02.7**	**+0.1**
BZS	**Buzias**	**120.91**	**321**	⇓PKiKP		**PKPdf**	**14 08 02.7**	**+0.1**
BLKB	**Belogradchik**	**121.10**	**319**	⇑P		**PKPdf**	**14 08 03.2**	**+0.1**
TZTN	**Tazewell**	**121.10**	**50**	PKiKP		**PKPdf**	**14 08 03.3**	**0.0**
	baz=286								
P52A	**Corning**	**121.13**	**46**	PKiKP		**PKPdf**	**14 08 02.9**	**-0.3**
	baz=291								
O52A	**Adamsville**	**121.17**	**46**	P		**PKPdf**	**14 08 03.3**	**0.0**
	baz=291								
O52A				P		**PKPdf**	**14 08 03.3**	**0.0**
	baz=291								
VYHS	**Vyhne**	**121.19**	**325**	*e*PKiKP		**PKPdf**	**14 08 02.9**	**-0.2**
VYHS	**Vyhne**	**121.19**	**325**	*e*PKP		**PKPdf**	**14 08 02.9**	**-0.2**
TKL	**Tuckaleechee C**	**121.19**	**51**	P		**PKiKP**	**14 08 04.2**	**+0.6**
	baz=287,SNR=8.6								
MDVR	**Moldovita**	**121.22**	**320**	⇑P		**PKPdf**	**14 08 02.9**	**-0.5**
MORC	**Moravsky Berou**	**121.23**	**327**	⇑P		**PKiKP**	**14 08 03.4**	**+0.1**
MORC	**Moravsky Berou**	**121.23**	**327**	IAMs_20		IAMs_20	14 58 07.9		
	comp=Z,402nm,21.0s								
MORC	**Moravsky Berou**	**121.23**	**327**	*e*PKP		**PKPdf**	**14 08 03.1**	**-0.1**
MORC	**Moravsky Berou**	**121.23**	**327**	⇑PKiKP		**PKiKP**	**14 08 03.4**	**+0.1**
W52A	**Murphy**	**121.24**	**52**	P		**PKiKP**	**14 08 04.0**	**+0.3**
	baz=287,SNR=7.7								
152A	**Waverly Hall**	**121.27**	**55**	P		**PKiKP**	**14 08 04.0**	**+0.1**
	baz=285								
Q52A	**Bidwell**	**121.27**	**47**	P		**PKPdf**	**14 08 03.3**	**-0.2**
	baz=290								
Q52A				P		**PKPdf**	**14 08 03.3**	**-0.2**
	baz=290								
V52A	**Sevierville**	**121.28**	**51**	P		**PKiKP**	**14 08 04.3**	**+0.5**
	baz=288,SNR=6.6								
MAUC	**Maruska**	**121.29**	**326**	*e*PKPDF		**PKiKP**	**14 08 04.3**	**+0.9**
352A	**Blakely**	**121.39**	**56**	P		**PKiKP**	**14 08 04.6**	**+0.5**
	baz=284								
KRLC	**Kraliky**	**121.47**	**327**	*e*PKiKP		**PKiKP**	**14 08 04.1**	**+0.3**
KRLC				MLR		MLR			
	comp=Z,500nm,23.2s								
KRLC	**Kraliky**	**121.47**	**327**	*e*PKPDF		**PKiKP**	**14 08 04.1**	**+0.3**
KRLC				AMS		AMS	14 57 50.0		
	comp=Z,500nm,23.2s								
Y52A	**Lilburn**	**121.48**	**53**	P		**PKiKP**	**14 08 04.9**	**+0.7**
	baz=286,SNR=7.3								
Y52A				P		**PKiKP**	**14 08 04.9**	**+0.7**
	baz=286,SNR=7.3								
M53A	**Wi Miller and**	**121.49**	**44**	PKiKP		**PKPdf**	**14 08 03.6**	**-0.3**
	baz=293								
OSTC	**Ostas**	**121.50**	**328**	*e*PKiKP		**PKiKP**	**14 08 04.5**	**+0.7**
OSTC				MLR		MLR			
	comp=Z,700nm,24.0s								
OSTC	**Ostas**	**121.50**	**328**	*e*PKPDF		**PKiKP**	**14 08 04.5**	**+0.7**
OSTC				AMS		AMS	14 59 50.0		
	comp=Z,700nm,24.0s								
DPC	**Dobruska-Polom**	**121.57**	**328**	*e*PKiKP		**PKiKP**	**14 08 04.6**	**+0.6**
DPC				MLR		MLR			
	comp=Z,500nm,18.9s								
DPC	**Dobruska-Polom**	**121.57**	**328**	*e*PKPDF		**PKiKP**	**14 08 04.6**	**+0.6**
DPC				AMS		AMS	15 00 50.0		
	comp=Z,500nm,18.9s								
O53A	**New Philadelph**	**121.57**	**46**	PKiKP		**PKPdf**	**14 08 03.8**	**-0.2**
	baz=292								
N53A	**Lisbon**	**121.62**	**45**	P		**PKiKP**	**14 08 04.4**	**+0.1**
	baz=292,SNR=10								
N53A				P		**PKiKP**	**14 08 04.4**	**+0.1**
	baz=292,SNR=10								
UPC	**Upice**	**121.64**	**328**	*e*PKiKP		**PKiKP**	**14 08 04.6**	**+0.6**
UPC				MLR		MLR			
	comp=Z,800nm,23.7s								
UPC	**Upice**	**121.64**	**328**	*e*PKPDF		**PKiKP**	**14 08 04.6**	**+0.6**
UPC				AMS		AMS	14 59 40.0		
	comp=Z,800nm,23.7s								
JAVC	**Velka Javorina**	**121.65**	**326**	*e*PKP		**PKiKP**	**14 08 05.0**	**+0.8**
ERPA	**Erie**	**121.69**	**43**	PKiKP		**PKPdf**	**14 08 04.3**	**+0.1**
	baz=294								
ERPA	**Erie**	**121.69**	**43**	P		**PKiKP**	**14 08 04.5**	**+0.1**
	baz=294								
R53A	**Hurricane**	**121.72**	**48**	P		**PKiKP**	**14 08 04.6**	**0.0**
	baz=290								
R53A				P		**PKiKP**	**14 08 04.6**	**0.0**
	baz=290								
P53A	**Whipple**	**121.72**	**46**	P		**PKPdf**	**14 08 04.5**	**+0.1**
	baz=291,SNR=7.9								
P53A				P		**PKPdf**	**14 08 04.5**	**+0.1**
	baz=291,SNR=7.9								
SRO	**Srobarova**	**121.84**	**325**	*e*PKiKP		**PKiKP**	**14 08 04.9**	**+0.4**
SRO	**Srobarova**	**121.84**	**325**	*e*PKP		**PKiKP**	**14 08 04.9**	**+0.4**
V53A	**Saluda**	**121.94**	**51**	P		**PKiKP**	**14 08 05.5**	**+0.4**
	baz=288								
V53A				P		**PKiKP**	**14 08 05.5**	**+0.4**
	baz=288								
SCHQ	**Schefferville**	**121.96**	**25**	PKP		**PKPdf**	**14 08 04.2**	**-0.2**
	comp=Z,7.0nm,0.9s,baz=345,slow=3.2,SNR=7.6								
SCHQ				PKKPbc		**PKKPbc**	**14 18 03.9**	**-0.2**
	comp=Z,3.8nm,1.0s,baz=131,slow=5.4,SNR=4.4								
SMOL	**Smolenice**	**121.97**	**326**	*e*PKiKP		**PKiKP**	**14 08 05.3**	**+0.5**
VRAC	**Vranov**	**122.00**	**327**	⇑P		**PKiKP**	**14 08 04.8**	**0.0**
VRAC	**Vranov**	**122.00**	**327**	*e*PKP		**PKPdf**	**14 08 04.5**	**-0.1**
VRAC	**Vranov**	**122.00**	**327**	PKP		**PKiKP**	**14 08 04.7**	**0.0**
	comp=Z,15nm,0.8s,baz=84,slow=2.9,SNR=12								
GOGA	**Godfrey**	**122.08**	**54**	PKiKP		**PKPdf**	**14 08 05.4**	**+0.2**
	baz=286								
GOGA	**Godfrey**	**122.08**	**54**	P		**PKPdf**	**14 08 05.3**	**+0.1**
	baz=286								
PAMR	**Moraine State**	**122.09**	**44**	P		**PKiKP**	**14 08 05.4**	**+0.2**
	baz=293								
VAY	**Valandovo**	**122.12**	**316**	*i* P		**PKPdf**	**14 08 03.6**	**-1.4**
MODS	**Modra-Piesok**	**122.13**	**326**	*e*PKiKP		**PKiKP**	**14 08 05.4**	**+0.3**
MODS	**Modra-Piesok**	**122.13**	**326**	*e*PKP		**PKiKP**	**14 08 05.4**	**+0.3**
O54A	**Avella**	**122.19**	**45**	P		**PKiKP**	**14 08 06.0**	**+0.6**
	baz=293,SNR=12								
O54A				P		**PKiKP**	**14 08 06.0**	**+0.6**
	baz=293,SNR=12								
STIP	**Stip**	**122.23**	**317**	*i* P		**PKPdf**	**14 08 03.4**	**-1.9**
KRUC	**Moravsky**	**122.25**	**327**	*e*PKP		**PKPdf**	**14 08 04.9**	**-0.2**
FRGS	**Fruska Gora**	**122.25**	**321**	⇑P		**PKPdf**	**14 08 05.2**	**0.0**
FRGS	**Fruska Gora**	**122.25**	**321**	⇑P		**PKPdf**	**14 08 04.7**	**-0.6**
Q54A	**Coxs Mills**	**122.31**	**47**	P		**PKPdf**	**14 08 05.6**	**+0.1**
	baz=292,SNR=9.3								
Q54A				P		**PKPdf**	**14 08 05.6**	**+0.1**
	baz=292,SNR=9.3								
UPAO	**U. Pittsburgh**	**122.32**	**45**	P		**PKiKP**	**14 08 06.2**	**+0.5**
	baz=293								
ZST	**Bratislava**	**122.33**	**325**	*e*PKiKP		**PKPdf**	**14 08 05.4**	**+0.1**
ZST	**Bratislava**	**122.33**	**325**	*e*PKP		**PKPdf**	**14 08 05.4**	**+0.1**
PVCC	**Panska Ves**	**122.38**	**329**	*e*PKiKP		**PKiKP**	**14 08 05.9**	**+0.4**
PVCC	**Panska Ves**	**122.38**	**329**	*e*PKPDF		**PKiKP**	**14 08 05.9**	**+0.4**

baz=295
SSPA Standing Stone 123.74 44 P PKPdf 14 08 08.4 +0.2
baz=295,SNR=8.1
UPM Unac-Piva 123.75 320⇑ *i*P PKiKP 14 08 11.7 +3.0
KOGS Kog 123.75 324 *i* PKPdf PKPdf 14 08 07.7 -0.3
J57A Williamstown 123.77 40 P PKPdf 14 08 07.9 -0.2
baz=298,SNR=6.4
J57A P PKPdf 14 08 07.9 -0.2
baz=298,SNR=6.4
KALN Kalnik 123.80 324 *i* P PKPdf 14 08 07.8 -0.4
ACON Acoyapa 123.81 79 IAMs_20 IAMs_20 14 50 07.3
comp=Z,624nm,22.0s
GERES GERESS Array B 123.83 328 PKP PKPdf 14 08 07.8 -0.5
comp=Z,25nm,0.7s,baz=46,slow=3.9,SNR=86
GERES SKP 14 11 38.5
comp=Z,1.3nm,0.8s,baz=55,slow=5.1,SNR=3.5
GERES PKKPbc PKKPbc 14 17 57.5 +0.8
comp=Z,0.3nm,0.3s,baz=304,slow=3.1,SNR=4.1
TIR Tirane 123.95 317 ⇑P PKiKP 14 08 09.3 +0.4
TIR Tirane 123.95 317 ⇑PKiKP PKiKP 14 08 09.3 +0.4
M57A Sunshine Farm, 123.96 43 P PKPdf 14 08 08.5 -0.1
baz=296,SNR=7.0
M57A P PKPdf 14 08 08.5 -0.1
baz=296,SNR=7.0
BMNY Brushton-Moira 124.00 38 P PKPdf 14 08 08.4 -0.1
baz=300,SNR=7.6
LOBO Lobor 124.02 324 *i* P PKPdf 14 08 08.3 -0.2
DRME Dracevica, Mon 124.03 318⇑ *i*P PKPdf 14 08 07.8 -0.9
LONY Lake Ozonia 124.06 38 PKiKP PKPdf 14 08 08.8 +0.1
baz=300
BLY Banja Luka 124.08 322⇑ *i*P PKPdf 14 08 08.5 -0.2
BIRD Birdtown, Kers 124.09 52 P PKiKP 14 08 09.6 +0.3
baz=289
MOA Molln 124.10 326 *e*PKP PKPdf 14 08 08.4 -0.3
comp=Z,14nm,0.8s
A051A Mrakovica 124.11 322⇑ *i*P PKPdf 14 08 08.5 -0.4
BRY Bratogost 124.13 319⇑ *i*P PKPdf 14 08 07.6 -1.5
P57A Homestead Farm 124.13 45 P PKPdf 14 08 09.2 +0.2
baz=294,SNR=6.5
P57A P PKPdf 14 08 09.2 +0.2
baz=294,SNR=6.5
T57A Hurt 124.19 48 P PKiKP 14 08 09.5 0.0
baz=292,SNR=5.8
T57A P PKiKP 14 08 09.5 0.0
baz=292,SNR=5.8
J58A Remsen 124.24 40 P PKPdf 14 08 09.0 -0.1
baz=299,SNR=7.4
J58A P PKPdf 14 08 09.0 -0.1
baz=299,SNR=7.4
W57A Gilead 124.28 51 P PKiKP 14 08 09.7 0.0
baz=290
W57A P PKiKP 14 08 09.7 0.0
baz=290
MGRS Mrkonjic Grad 124.31 322 *e*P PKPdf 14 08 08.8 -0.4
MCD Coleburn Disti 124.31 344 *e*P PKPdf 14 08 08.0 -0.7
SOKA Soboth 124.33 325 *i* PKP PKPdf 14 08 08.8 -0.4
comp=Z,30nm,0.9s,SNR=14
LINV Loch Inver, As 124.34 345 *e*P PKPdf 14 08 08.6 -0.2
BINY Binghamton 124.34 41 PKiKP PKPdf 14 08 09.6 +0.2
baz=298
BINY Binghamton 124.34 41 P PKPdf 14 08 09.5 +0.2
baz=298
HCY Herceg Novi 124.37 319⇑ *i*P PKPdf 14 08 09.0 -0.4
N58A Sunbury 124.46 43 P PKPdf 14 08 09.7 +0.1
baz=296,SNR=5.5
N58A P PKPdf 14 08 09.7 +0.1
baz=296,SNR=5.5
BIOA Bad Ischl, Aus 124.54 327 *i* PKP PKPdf 14 08 09.3 -0.3
comp=Z,22nm,1.1s,SNR=6.4
CRES Cresnjev 124.55 324⇑ *i*P PKPdf 14 08 09.3 -0.3
FRNY Flat Rock 124.56 38 P PKPdf 14 08 09.5 -0.2
baz=301,SNR=6.5
GRA1 Grafenberg Arr 124.59 330 IAMs_20 IAMs_20 15 02 56.0
comp=Z,570nm,20.0s
MT03 Universidad Ad 124.60 137 IAMs_20 IAMs_20 14 50 07.4
comp=Z,480nm,19.0s
NCB Newcomb 124.61 39 P PKiKP 14 08 10.2 0.0
baz=300,SNR=7.8
A050A Klekovaca 124.62 322⇑ *i*P PKPdf 14 08 09.2 -0.7
STON Ston 124.68 320⇑ *i*P PKPdf 14 08 08.6 -1.3
OBKA Obir 124.70 325 *e*PKP PKPdf 14 08 09.8 -0.2
comp=Z,13nm,0.9s,SNR=5.0
OBKA Obir 124.70 325⇑ *i*P PKPdf 14 08 08.7 -1.3
RICI Ricice 124.74 321 *i* P PKPdf 14 08 09.4 -0.7
NHSC New Hope 124.80 53 PKiKP PKiKP 14 08 10.7 -0.1
baz=288
R58B Mineral 124.84 47 P PKPdf 14 08 10.2 -0.1
baz=293
R58B P PKPdf 14 08 10.2 -0.1
baz=293
BOJS Bojanci 124.85 324⇑ *i*P PKPdf 14 08 10.1 -0.1
KIJV Kijevo 124.94 321 *i* P PKPdf 14 08 09.7 -0.7
Y58A Scranton 124.95 52 P PKiKP 14 08 12.1 +1.1
baz=289
Y58A P PKiKP 14 08 12.1 +1.1
baz=289
L59A Walton 124.96 41 P PKPdf 14 08 10.8 +0.2
baz=298
L59A P PKPdf 14 08 10.8 +0.2
baz=298
LJU Ljubljana 124.98 324 *i* PKPdf PKPdf 14 08 10.4 0.0
SDMD Soldier's Deli 124.99 45 P PKPdf 14 08 10.9 +0.2
baz=295,SNR=6.0
X58A Rowland 124.99 51 P PKiKP 14 08 11.2 +0.1
baz=290
X58A P PKiKP 14 08 11.2 +0.1
baz=290
KBA Koelnbreinsper 125.06 326 *i* PKP PKPdf 14 08 10.1 -0.7
comp=Z,31nm,1.1s,SNR=8.7
CBN Corbin Frederi 125.11 46 PKiKP PKiKP 14 08 11.5 +0.3
baz=294
HCNY Howe Caverns 125.14 40 P PKPdf 14 08 11.0 +0.1
baz=299
MYKA Terra Mystica 125.15 325 *i* PKP PKPdf 14 08 10.0 -0.8
comp=Z,14nm,0.8s,SNR=6.8
DWPF Disney Wildern 125.15 59 PKiKP PKiKP 14 08 11.6 0.0
baz=284
CEY Cerknica 125.20 324⇑ *i*P PKPdf 14 08 10.4 -0.5
LESA Schwarzleotal 125.22 327 *e*PKP PKPdf 14 08 10.3 -0.7
comp=Z,26nm,0.8s
ACCN Adirondack Com 125.26 39 P PKPdf 14 08 10.7 -0.4
baz=300
MCVT Middlebury Col 125.39 38 P PKiKP 14 08 12.0 +0.4
baz=301
T59A Double "B" Far 125.47 48 P PKiKP 14 08 12.2 +0.2
baz=293,SNR=6.6
T59A P PKiKP 14 08 12.2 +0.2
baz=293,SNR=6.6
U59A Littleton 125.53 49 P PKPdf 14 08 11.7 -0.1
baz=292
U59A P PKPdf 14 08 11.7 -0.1
baz=292
INVG Invergeldie, C 125.53 343 *e*P PKPdf 14 08 11.1 0.0
SABO M.te Sabotino 125.55 325 IAMs_20 IAMs_20 15 03 10.0
comp=Z,641nm,22.0s
SKDS Skadanscina 125.55 324 *i* PKPdf PKPdf 14 08 10.9 -0.6
TRY Troy 125.59 40 P PKiKP 14 08 12.4 +0.4
baz=300,SNR=6.1
GEDE Greenville 125.66 44 P PKiKP 14 08 12.2 -0.1
baz=296,SNR=7.6
ABTA Abfaltersbach 125.71 326 *i* PKP PKPdf 14 08 11.2 -0.7
comp=Z,46nm,0.9s,SNR=13
PSUB Penn St. - Bra 125.73 44 P PKPdf 14 08 11.0 -1.1
baz=297
CNNC Cliffs of the 125.86 50 PKiKP PKPdf 14 08 12.5 +0.1
baz=292
WATA Walderalm 125.87 327 *i* PKP PKPdf 14 08 11.8 -0.5
comp=Z,46nm,1.1s,SNR=9.8
WTTA Wattenberg 125.89 327 *i* PKP PKPdf 14 08 12.1 -0.3
comp=Z,73nm,0.9s,SNR=19
LBNH Lisbon 125.89 37 PKiKP PKPdf 14 08 12.4 +0.1
baz=303
STAL STALIGIAL 125.89 326 IAMs_20 IAMs_20 15 05 05.7
comp=Z,480nm,22.0s
D62A Allapoint, All 125.92 33 P PKPdf 14 08 11.4 -0.8
baz=307
D62A P PKPdf 14 08 11.4 -0.8
baz=307
E62A Clayton Lake 125.93 34 P PKPdf 14 08 12.2 0.0
baz=306
E62A P PKPdf 14 08 12.2 0.0
baz=306
J61A Chester 125.97 39 P PKiKP 14 08 12.8 0.0
baz=302,SNR=6.2
J61A P PKiKP 14 08 12.8 0.0
baz=302,SNR=6.2
BRNJ Basking Ridge 125.99 42 P PKiKP 14 08 12.9 0.0
baz=298
LAWE Loch Awe, Argy 126.05 344 *e*P PKPdf 14 08 11.7 -0.4
F62A Pittston Farm, 126.11 35 P PKPdf 14 08 12.7 +0.1
baz=306,SNR=5.6
F62A P PKPdf 14 08 12.7 +0.1
baz=306,SNR=5.6
MOTA Moosalm 126.12 327 *i* PKP PKPdf 14 08 12.4 -0.4
comp=Z,59nm,0.8s,SNR=16
SQTA Sankt Quirin 126.14 327 *i* PKP PKPdf 14 08 12.6 -0.2
comp=Z,49nm,0.8s,SNR=15
PGBU Glenifferbraes 126.18 343 *e*P PKPdf 14 08 11.5 -0.9
EKA Eskdalemuir Ar 126.20 342 PKiKP PKPdf 14 08 12.0 -0.5
EKA Eskdalemuir Ar 126.20 342 PKP PKPdf 14 08 12.0 -0.5
comp=Z,18nm,0.8s,baz=25,slow=3.3,SNR=26
STU Stuttgart 126.20 330 IAMs_20 IAMs_20 15 04 26.6
comp=Z,556nm,22.0s
GDLE Glaisdale, N Y 126.22 340 *e*P PKPdf 14 08 12.4 -0.1
RETA Reutte 126.22 328 *i* PKP PKPdf 14 08 12.4 -0.4
comp=Z,22nm,1.1s,SNR=6.2
EDMD Edmundbyers 126.25 341 *e*P PKPdf 14 08 12.2 -0.4
PAL Palisades 126.27 42 PKiKP PKiKP 14 08 13.5 0.0
baz=299
L61B Northampton 126.36 40 PKiKP PKPdf 14 08 13.5 +0.3
baz=301
L61B Northampton 126.36 40 P PKPdf 14 08 13.4 +0.3
baz=301,SNR=5.3
MATE Matera 126.40 318 ⇑P PKiKP 14 08 13.7 -0.1
BTNL Ternell 126.42 333 *d*PKP PKPdf 14 08 12.6 -0.5
MEM Membach 126.46 333 *d*PKP PKiKP 14 08 13.5 -0.1
FETA Feichten 126.52 327 *i* PKP PKPdf 14 08 13.7 +0.1
comp=Z,55nm,0.9s,SNR=18
CTI Castel Tesino 126.61 326 IAMs_20 IAMs_20 15 04 38.7
comp=Z,546nm,21.0s
BHOU Houvegnez 126.64 333 *d*PKPdf PKPdf 14 08 13.6 +0.1
BSTI Sart Tilman 126.68 333 *d*PKPdf PKPdf 14 08 13.6 +0.1
BSTI *d*PKiKP PKiKP 14 08 14.0 0.0
NEWG New Galloway 126.71 343 *e*P PKiKP 14 08 12.8 -0.6
F63A Nahmakanta, Br 126.71 35 P PKiKP 14 08 14.5 +0.2
baz=306,SNR=5.6
F63A P PKiKP 14 08 14.5 +0.2
baz=306,SNR=5.6
DAVA Damuels 126.81 328 *i* PKP PKPdf 14 08 13.8 -0.4
comp=Z,41nm,0.8s,SNR=11
KESW Keswick, Cumbr 126.82 342 *e*P PKPdf 14 08 13.2 -0.4
PKME Peaks-Kenny Pk 126.86 35 PKiKP PKiKP 14 08 14.4 -0.1
baz=306
BCLA Clavier 126.91 333 *d*PKPdf PKPdf 14 08 14.0 0.0
TEOL Teolo 127.01 325 IAMs_20 IAMs_20 15 03 35.2
comp=Z,525nm,20.0s
BGES Gesves 127.03 334 *d*PKP PKiKP 14 08 14.6 -0.2
HRV Adam Dziewonsk 127.04 39 PKiKP PKiKP 14 08 14.9 -0.1
baz=302
TIP Timpagrande 127.05 316 ⇑P PKiKP 14 08 15.5 +0.3
WLF Walferdange 127.06 332 *d*PKP PKiKP 14 08 15.5 +0.7
WACR West Acre 127.07 338 *e*P PKPdf 14 08 14.1 -0.1
RCHB Rochefort 127.14 333 *d*PKP PKiKP 14 08 15.0 +0.1
BMRD Maredsous 127.23 334 *d*PKP PKPdf 14 08 14.8 +0.2
GIVF Givet 127.36 333 *e*PKiKP PKPdf 14 08 14.9 +0.1
GIVF pmax pmax
comp=Z,47nm,1.0s
LBWR Ladybower, Pea 127.36 340 *e*P PKPdf 14 08 14.3 -0.4
CDF Champ du Feu 127.39 331 *e*PKiKP PKPdf 14 08 14.4 -0.7
CDF pmax pmax
comp=Z,21nm,1.1s
DOU Dourbes 127.46 334 *d*PKPdf PKPdf 14 08 14.5 -0.5
DOU *d*PKiKP PKiKP 14 08 15.3 -0.3
BAIF Baives 127.66 334 *e*PKiKP PKPdf 14 08 15.5 +0.1
BAIF pmax pmax
comp=Z,24nm,0.9s
WIM Isle of Man 127.68 342 *e*P PKPdf 14 08 15.2 -0.2
HINF Hinteralfeld 128.01 330 *e*PKiKP PKPdf 14 08 15.7 -0.5
HINF pmax pmax
comp=Z,40nm,1.0s
M65A Busby, Falmout 128.11 40 PKiKP PKiKP 14 08 17.3 +0.2
baz=302
HAU Haudompre 128.13 331 *e*PKiKP PKPdf 14 08 16.1 -0.3
HAU pmax pmax
comp=Z,48nm,0.9s
FOEL Foel Wylfa 128.28 341 *e*P PKPdf 14 08 16.8 +0.3
WLF1 Llynfaes 128.33 342 *e*P PKPdf 14 08 16.1 -0.5
HLM1 Long Mynd 128.49 340 *e*P PKPdf 14 08 16.6 -0.4
MCH1 Michaelchurch 128.96 340 *e*P PKPdf 14 08 17.5 -0.3
MONM Monmouth 129.03 340 *e*P PKPdf 14 08 16.8 -1.1
LPL La Plagne 129.62 328 *e*PKiKP PKPdf 14 08 19.6 0.0
LPL pmax pmax
comp=Z,20nm,0.8s
LPG La Plagne 129.62 328 *e*PKiKP PKPdf 14 08 19.7 0.0
LPG pmax pmax
comp=Z,27nm,0.8s
LOR Lormes 129.84 332 *e*PKiKP PKPdf 14 08 19.8 +0.1
LOR pmax pmax
comp=Z,38nm,1.1s
MBDF Montbardon 130.12 327 *e*PKiKP PKPdf 14 08 20.5 0.0
MBDF pmax pmax
comp=Z,79nm,2.0s
SSF Saint Saulge 130.16 332 *e*PKiKP PKPdf 14 08 20.5 +0.2
SSF pmax pmax
comp=Z,35nm,1.0s
PGF Pioggiola 130.24 324 *e*PKiKP PKPdf 14 08 20.5 -0.2
PGF pmax pmax
comp=Z,57nm,0.9s
SBF Sospel 130.31 326 *e*PKiKP PKPdf 14 08 20.3 -0.5
SBF pmax pmax
comp=Z,34nm,1.0s
AVF Avril sur Loir 130.43 331 *e*PKiKP PKPdf 14 08 20.6 -0.2
AVF pmax pmax
comp=Z,11nm,1.0s
ORIF Oris-en-Rattie 130.46 328 *e*PKiKP PKiKP 14 08 21.7 -0.2
ORIF pmax pmax
comp=Z,27nm,0.8s
LDF La Druitiere 130.62 335 *e*PKiKP PKPdf 14 08 21.3 +0.2
LDF pmax pmax
comp=Z,33nm,1.3s
FLN La Foliniere 130.64 336 *e*PKiKP PKPdf 14 08 20.5 -0.6
FLN pmax pmax
comp=Z,62nm,1.2s
BGF Bois d'Agland 130.84 332 *e*PKiKP PKPdf 14 08 21.8 +0.2
BGF pmax pmax
comp=Z,21nm,0.8s
GRR Gorron 131.09 336 *e*PKiKP PKiKP 14 08 22.8 -0.1
GRR pmax pmax
comp=Z,41nm,1.0s
VIVF Saint-Julien-l 131.13 329 *e*PKiKP PKPdf 14 08 17.8 -4.5
VIVF pmax pmax
comp=Z,31nm,1.0s
LMR La Mourre 131.17 326 *e*PKiKP PKPdf 14 08 22.3 0.0
LMR pmax pmax
comp=Z,26nm,0.8s
TCF Toulx Ste Croi 131.33 332 *e*PKiKP PKPdf 14 08 22.8 +0.2
TCF pmax pmax
comp=Z,18nm,0.8s
LVC Limon Verde 131.76 127 PKP PKiKP 14 08 25.6 +0.1
comp=Z,21nm,1.0s,baz=258,slow=3.1,SNR=9.1
MFF Saint Martin d 132.17 334 *e*PKiKP PKPdf 14 08 24.5 +0.4
MFF pmax pmax
comp=Z,39nm,1.1s
RJF Les Rejaudoux 132.38 331 *e*PKiKP PKiKP 14 08 25.4 -0.3
RJF pmax pmax
comp=Z,16nm,0.9s
CAF Calviac 132.40 331 *e*PKiKP PKiKP 14 08 25.3 -0.4
CAF pmax pmax
comp=Z,39nm,1.4s
KEST Kesra 133.88 316 PKP PKPdf 14 08 28.3 +0.5
comp=Z,28nm,1.0s,baz=309,slow=3.2,SNR=14
ROSC El Rosal 134.50 89 IAMs_20 IAMs_20 14 55 58.7
comp=Z,456nm,18.0s
ROSC El Rosal 134.50 89 PKP PKPdf 14 08 30.7 +0.8
comp=Z,12nm,0.3s,baz=80,slow=7.5,SNR=8.1
EPF Esparros 134.63 330 *e*PKiKP PKiKP 14 08 30.2 -0.1
EPF pmax pmax
comp=Z,49nm,1.8s
ETSF Etsaut 135.17 331 *e*PKiKP PKPdf 14 08 27.7 -2.3
ETSF pmax pmax
comp=Z,8.0nm,0.6s
LPAZ La Paz 135.37 120 PKhKP PKPpre 14 08 22.1
comp=Z,2.1nm,0.7s,baz=150,slow=1.4,SNR=5.4
LPAZ PKP PKiKP 14 08 32.9 -0.4
comp=Z,24nm,0.9s,baz=353,slow=2.3,SNR=30
LPAZ SKPab SKPab 14 12 01.5 -0.2
comp=Z,2.4nm,0.7s,baz=297,slow=4.5,SNR=2.6
LPAZ La Paz 135.37 120 *e*P PKPdf 14 08 26.8 -4.9
CPUP Villa Florida 137.93 140 PKhKP PKPpre 14 08 24.8
comp=Z,3.2nm,0.8s,baz=224,slow=2.7,SNR=3.5
CPUP PKP PKPdf 14 08 36.5 +1.0
comp=Z,17nm,0.8s,baz=270,slow=1.6,SNR=24
SDV Santo Domingo 138.21 83 IAMs_20 IAMs_20 14 54 06.8
comp=Z,380nm,21.0s
SDV Santo Domingo 138.21 83 *e*P PKPdf 14 08 28.3 -8.2
ESDC Sonseca Array 139.29 330 PKhKP PKPpre 14 08 27.6
comp=Z,0.7nm,0.7s,baz=5.3,slow=4.0,SNR=4.1
ESDC PKP PKiKP 14 08 39.3 -0.6
comp=Z,3.7nm,0.7s,baz=17,slow=2.6,SNR=10
ESDC PP PP 14 11 28.6 -2.3
comp=Z,6.9nm,0.9s,baz=24,slow=6.9,SNR=16
PGAV Gavieira, Arco 139.35 337 *e*PKPdf PKPdf 14 08 38.7 +1.0
MVO Moncorvo 139.50 335 *e*PKPdf PKPdf 14 08 38.4 +0.4
PVRL Vila Real 139.70 335 *e*PKPdf PKPdf 14 08 39.1 +0.8
PVIS Viseu 140.24 335 *e*PKPdf PKPdf 14 08 39.9 +0.6
MTE Manteigas 140.36 334 *e*PKPdf PKPdf 14 08 40.0 +0.4
BAUV El Baul 140.76 83 *e*P PKPdf 14 08 41.4 +0.5
PCBR Castelo Branco 140.79 334 *e*PKPdf PKPdf 14 08 40.4 +0.1
PCAS Casmilo, Conde 141.05 335 *e*PKPdf PKPdf 14 08 40.9 +0.1
PMRV Marv??o 141.09 333 *e*PKPdf PKPdf 14 08 34.7 -6.2
SIV San Ignacio 141.48 124 PKhKP PKPpre 14 08 35.6
comp=Z,15nm,0.8s,baz=235,slow=3.2,SNR=44
SIV PKP PKPdf 14 08 43.3 +1.0
comp=Z,18nm,0.9s,baz=234,slow=2.1,SNR=10
SIV PP PP 14 11 42.9 -2.5
comp=Z,4.3nm,1.0s,baz=257,slow=16,SNR=4.7
PESTR Estremoz 141.64 333 *e*PKPdf PKPdf 14 08 35.9 -6.0
PMTG Montargil 141.75 334 *e*PKPdf PKPdf 14 08 41.7 -0.3
PBAR Barrancos 141.94 332 *e*PKPdf PKPdf 14 08 38.3 -4.1
EVO Evora 142.10 333 *e*PKPdf PKPdf 14 08 42.5 -0.2
PTGB Pitanga 142.34 144 *e*P PKPdf 14 08 39.8 -3.9
PBEJ Beja 142.45 333 *e*PKPdf PKPdf 14 08 41.8 -1.5
PNCL Nicolau / Gran 142.68 333 *e*PKPdf PKPdf 14 08 39.3 -4.4
SAML Samuel 142.72 112 *e*P PKPdf 14 08 41.9 -2.5
MESJ Messejana 142.76 333 *e*PKPdf PKPdf 14 08 43.0 -0.9
MESJ Messejana 142.76 333 *e*PKiKP PKPdf 14 08 42.5 -1.4
MESJ Messejana 142.76 333 *e*PKPdf PKPdf 14 08 42.5 -1.4
MESJ IAMs_20 IAMs_20 15 11 56.8
comp=Z,411nm,10.8s
PCVE Castro Verde 142.85 332 *e*PKPdf PKPdf 14 08 42.5 -1.5
PVAQ Vaqueiros 142.88 332 *e*PKPdf PKPdf 14 08 42.5 -1.6
PBDV Barranco-do-Ve 143.11 332 *e*PKPdf PKPdf 14 08 45.6 +1.0
MORF Marmelete 143.40 333 *e*PKPdf PKPdf 14 08 44.5 -0.6
LDASE Londrina, Braz 143.91 143 *e*P PKPbc 14 08 44.8 +0.6
MBFL Flemmings, Mon 145.25 68 *e*P PKPbc 14 08 48.5 0.0
ANBD Bethesda, Anti 145.58 68 *e*P PKPdf 14 08 48.9 -0.4
GDHS Morne Mazeau, 145.78 69 PKPdf 14 08 50.0 +0.2
SPB Sao Paulo 145.82 148 PKPdf 14 08 49.9 +0.3
AVE Averroes 145.96 327 PKPdf 14 08 49.9 +0.3
ABD La Joyeuse, An 145.99 69 *e*P PKPdf 14 08 49.1 -0.9
SVN Savane Anatole 146.68 71 *e*P PKPbc 14 08 52.5 -0.4
GRGR Grenville 146.72 76 *e*P PKPdf 14 08 50.4 -0.9
BIM Bigot 146.84 72 *e*P PKPbc 14 08 53.1 -0.4
GCMP Grenada, Carri 146.88 76 *e*P PKPdf 14 08 52.2 +0.6
SVB Belmont 146.92 74 *e*P PKPdf 14 08 52.5 +0.9
SVT Saint Vincent 146.95 74 *e*P PKPdf 14 08 52.5 +0.8
ILAM Ilet Lapin Mar 146.97 71 *e*P PKPbc 14 08 53.1 -0.7
SLBI Saint Lucia, B 147.04 73 *e*P PKPdf 14 08 51.7 -0.1
MPOM Morne Pois Mar 147.06 72 *e*P PKPbc 14 08 53.8 -0.2
ITRB Iturama 147.13 140 *e*P PKPdf 14 08 51.3 -0.7
TPP Pointe-a-Pierr 147.15 79 *e*P PKPbc 14 08 53.5 -0.8
TRN Trinidad (W) 147.16 79 *e*P PKPbc 14 08 53.5 -0.8
TBH Brigand Hill 147.50 79 *e*P PKPab 14 08 58.0 +0.6
BBGH Gun Hill 148.56 74 *e*P PKiKP 14 08 59.8 +0.2
TORD Torodi Ar. Bea 149.13 287 PKP PKPdf 14 08 54.4 -0.9
comp=Z,99nm,0.6s,baz=27,slow=2.7,SNR=85
TORD PKPbc PKPbc 14 08 59.0 -0.5
comp=Z,101nm,0.6s,baz=58,slow=3.4,SNR=126
TORD PP PP 14 12 31.1 -0.4
comp=Z,4.1nm,0.8s,baz=52,slow=6.6,SNR=6.1
PMPST Porto Santo, M 150.19 339 *e*PKPbc PKiKP 14 09 02.4 -0.1
PMAR Madeira 150.72 340 *e*PKPbc PKiKP 14 09 03.7 -0.1
PMOZ Porto Moniz, M 150.73 340 *e*PKPbc PKPbc 14 09 01.7 -1.4
BDFB Brasilia 151.60 138 PKP PKPdf 14 09 00.3 +1.0
comp=Z,34nm,1.1s,baz=177,slow=1.6,SNR=24
BDFB PKPbc PKiKP 14 09 05.9 -0.1
comp=Z,107nm,0.9s,baz=195,slow=2.9,SNR=59
MDP Montagnes des 156.09 90 PKPab PKPab 14 09 33.9 +0.6
comp=Z,56nm,0.9s,baz=248,slow=5.0,SNR=7.5
KIC Kosan Boka 156.22 273⇑ *e*PKiKP PKPdf 14 09 05.4 -0.4
comp=Z,94nm,1.0s
DBIC Dimbokro 156.32 274 PKP PKPdf 14 09 05.7 -0.2
comp=Z,39nm,1.0s,baz=49,slow=1.0,SNR=22
DBIC PKPab PKPab 14 09 35.1 +0.8
comp=Z,26nm,0.8s,baz=87,slow=5.6,SNR=4.3
TIC Toumodi 156.49 274⇑ *e*PKiKP PKPdf 14 09 05.5 -0.6
comp=Z,60nm,1.0s
LIC Lamto 156.50 273⇑ *e*PKiKP PKPdf 14 09 05.7 -0.4
comp=Z,118nm,1.0s
RCBR Riachuelo 166.67 147 PKP PKPdf 14 09 17.1 +0.3
comp=Z,28nm,1.1s,baz=115,slow=1.0,SNR=10
RCBR PKPab PKPab 14 10 19.2 0.0
comp=Z,6.4nm,0.7s,baz=101,slow=17,SNR=4.9

IDC 07 14:03:57.7±507.0, 57°39N×2°76E, h0km, Error ellipse: s-maj=207.5km s-min=161.3km az=95.0, North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**10.78**	**138**	I	I	15 16 20.0	
	baz=319,slow=327,SNR=0.6						
I37NO	**I37NO**	**13.66**	**25**	I	I	15 28 00.0	
	baz=215,slow=335,SNR=1.3						
I43RU	**DUBNA INFRASONI**	**8.64**	**77**	I	I	15 53 30.0	
	0.1nm,0.9s,baz=287,slow=332,SNR=3.4						
I31KZ	**AKTYUBINSK INF**	**32.49**	**78**	I	I	17 16 30.0	
	baz=308,slow=316,SNR=1.6						

*IDC **07** 14:23:55.5±1.4, 41°12S×91°00W, h0km, mb3.6/5, mbtmp3.6/6, ML3.5/1, MS4.1/11, Error ellipse: s-maj=42.8km s-min=32.9km az=92.0*
*GCMT **07** 14:24:00.0±0.4, 41°19S±0°02-90°97W±0°03, h21km±1km, MW5.0/87, Moment Tensor Solution. s7,c7; s87,c109; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.01±.30; $M_{\theta\theta}$0.24±.23; $M_{\phi\phi}$0.76±.21; $M_{r\theta}$0.09±.35; $M_{\theta\phi}$-3.98±.15; M_{rf}-0.74±.35; Best double couple: M_o4.05900×10^{16} NP1:ϕ_s1.00000°, δ87.00000°, λ-11.00000°. NP2: ϕ_s92.00000°, δ79.00000°, λ-177.00000°. Principal axes: T 4.5560, Plg6.0000°, Azm47.0000°; N -0.9970, Plg78.0000°, Azm169.0000°; P -3.5620, Plg10.0000°, Azm316.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 07 14:23:56.9±1.2, 41°1S±0°2×90°9W±0°2, h10km, n22, σ1°23/6, mb3.7/5, MS4.0/11, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03S2	**Juan Fernandez**	**11.99**	**56**	T	T	14 39 17.8	
	baz=228,slow=73,SNR=135						
H03S1	**Juan Fernandez**	**12.00**	**57**	T	T	14 39 17.8	
	baz=228,slow=73,SNR=165						
H03S3	**Juan Fernandez**	**12.01**	**56**	T	T	14 39 15.6	
	baz=228,slow=73,SNR=163						
H03N3	**Juan Fernandez**	**12.25**	**55**	T	T	14 39 41.1	
	baz=228,slow=71,SNR=978						
H03N2	**Juan Fernandez**	**12.25**	**55**	T	T	14 39 37.4	
	baz=228,slow=71,SNR=741						
H03N1	**Juan Fernandez**	**12.26**	**55**	T	T	14 39 41.7	
	baz=228,slow=71,SNR=756						
PLCA	**Paso Flores**	**15.41**	**95**	Pn	**Pn**	**14 27 33.9**	**-0.5**
	baz=282,slow=9.3,SNR=2.2						
	1.1nm,1.0s						
LVC	**Limon Verde**	**26.16**	**52**	LR	LR	14 37 19.3	
	comp=Z,358nm,19.8s,baz=230,slow=31						
CPUP	**Villa Florida**	**31.38**	**72**	LR	LR	14 41 33.2	
	comp=Z,317nm,20.2s,baz=246,slow=34						
NNA	**Nana**	**31.56**	**27**	LR	LR	14 39 39.1	
	comp=Z,277nm,20.6s,baz=210,slow=30						
LPAZ	**La Paz**	**31.64**	**45**	P	**P**	**14 30 21.4**	**+0.5**
	3.4nm,0.8s,baz=205,slow=4.1,SNR=8.2						
LPAZ				LR	LR	14 40 33.1	
	comp=Z,233nm,18.2s,baz=206,slow=32						
	3.4nm,0.8s						
ATAH	**Atahualpa**	**35.65**	**22**	LR	LR	14 42 34.2	
	comp=Z,298nm,18.8s,baz=226,slow=31						
SIV	**San Ignacio**	**35.96**	**55**	LR	LR	14 44 01.9	
	comp=Z,397nm,21.5s,baz=251,slow=34						
QSPA	**South Pole Qui**	**49.10**	**180**	P	**P**	**14 32 44.4**	**+0.2**
	0.5nm,0.7s,baz=6.4,slow=5.9,SNR=1.2						
	0.5nm,0.7s						
VNDA	**Vanda**	**53.77**	**195**	LR	LR	14 54 01.6	
	comp=Z,138nm,18.3s,baz=82,slow=34						

RAR	**Rarotonga**	**60.65 267**	LR	LR	14 53 18.2		
	comp=Z,106nm,21.9s,baz=220,slow=29						
URZ	**Urewera**	**67.43 238**	LR	LR	14 57 04.0		
	comp=Z,354nm,19.1s,baz=123,slow=30						
RAO	**Raoul Island**	**69.31 249**	LR	LR	14 56 49.7		
	comp=Z,252nm,21.5s,baz=22,slow=28						
TXAR	**Lajitas Array**	**71.10 348**	P	**P**	**14 35 14.4**	**-1.0**	
	0.1nm,0.5s,baz=180,slow=8.9,SNR=1.6 0.1nm,0.5s						
NVAR	**Mina Array Bea**	**83.04 339**	P	**P**	**14 36 21.9**	**-0.6**	
	0.1nm,0.4s,baz=160,slow=5.6,SNR=2.7 0.1nm,0.4s						
DZM	**Mont Dzumac**	**84.74 245**	LR	LR	15 10 12.8		
	comp=Z,150nm,18.1s,baz=166,slow=33						
PDAR	**Pinedale Array**	**85.20 346**	P	**P**	**14 36 35.0**	**+1.6**	
	0.5nm,0.8s,baz=150,slow=7.3,SNR=4.0 0.5nm,0.8s						

DJA 07 14:29:33.9±0.5,**9˚S**±6˚×**12˚4E**±˚, **h95**km±9km, **M3.4/8, mb3.8/4, MLv3.1/8, Timor region**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.80 155**	P	Pn	14 29 53.1	+1.1
MMRI	**Maumere**	**1.71 283**	P	Pn	14 30 02.3	-0.2
EDFI	**Ende, Flores**	**2.22 277**	P	Pn	14 30 09.3	0.0
BASI	**Baing, Sumba**	**3.50 250**	P	Pn	14 30 27.5	+1.2
PLAI	**Plampang** 14nm,0.8s,0.1nm	**6.07 271**	P	Pn	14 31 01.0	-0.2
TWSI	**Taliwang, Sumb** 9.2nm,0.9s,0.0nm	**6.96 272**	P	Pn	14 31 12.5	-0.8

*GCMT **07** 14:31:33.0±0.2,15˚12S±0˚.01×174˚.20W±0˚.01,h15km±1km, MW5.0/112, Moment Tensor Solution. s37,c53; s112,c171; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr~0.24±.11; Mθθ~0.35±.12; Mϕϕ0.58±.10; Mrθ0.50±.33; Mθϕ4.44±.10; Mϕr0.68±.32; Best double couple: Mo4.53700×10^16 NP1:ϕs357.00000°, δ84.00000°, λ172.00000°. NP2:ϕ87.00000°, δ82.00000°, λ6.00000°. Principal axes: T 4.7270, Plg10.0000°, Azm312.0000°; N -0.3810, Plg80.0000°, Azm139.0000°; P -4.3460, Plg1.0000°, Azm42.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 07 14:31:25.8±0.8,**15˚41S×174˚53W, h0km, mb4.0**/8, **mbtmp4.0**/8, **MS4.3**/29 **Error ellipse: s-maj=43.2km s-min=21.0km az=140.0, Tonga Islands**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**14.12 192**	LR	LR	14 39 34.1	
	comp=Z,1μm,18.1s,baz=346,slow=35					
RAR	**Rarotonga**	**15.15 115**	LR	LR	14 39 35.4	
	comp=Z,795nm,19.1s,baz=297,slow=32					
DZM	**Mont Dzumac**	**19.18 247**	*e*LR	LR	14 41 19.2	
	1μm,22.9s					
DZM	**Mont Dzumac**	**19.18 247**	LR	LR	14 42 09.2	
	comp=Z,1μm,19.7s,baz=80,slow=34					
URZ	**Urewera**	**23.93 196**	LR	LR	14 44 44.3	
	comp=Z,1μm,21.3s,baz=102,slow=33					
PPT	**Papeete**	**24.02 99**	LR	LR	14 45 01.4	
	comp=Z,153nm,18.6s,baz=272,slow=34					
PPT2	**Papeete2** 503nm,27.0s	**24.02 99**	*e*LR	LR	14 41 26.7	
PPT2			*e*LR	LR	14 41 35.1	
	416nm,28.2s					
RPZ	**Rata Peaks**	**30.77 201**	LR	LR	14 49 39.5	
	comp=Z,704nm,18.2s,baz=20,slow=36					
TAOE	**Nuku Hiva Isla** 594nm,24.0s	**34.21 83**	*e*LR	LR	14 46 25.5	
CTA	**Charters Tower**	**37.58 257**	LR	LR	14 51 01.8	
	comp=Z,253nm,21.9s,baz=86,slow=31					
H11S2	**WAKE ISLAND Hy** baz=149,slow=76,SNR=70	**38.42 331**	T	T	15 19 33.9	
H11S3	**WAKE ISLAND Hy** baz=149,slow=76,SNR=71	**38.44 331**	T	T	15 19 30.0	
H11S1	**WAKE ISLAND Hy** baz=149,slow=76,SNR=63	**38.44 331**	T	T	15 19 30.7	
H11N3	**WAKE ISLAND Hy** baz=151,slow=76,SNR=61	**39.39 332**	T	T	15 20 46.1	
H11N1	**WAKE ISLAND Hy** baz=151,slow=76,SNR=71	**39.40 332**	T	T	15 20 41.2	
H11N2	**WAKE ISLAND Hy** baz=151,slow=76,SNR=60	**39.41 332**	T	T	15 20 46.7	
STKA	**Stephens Creek**	**43.09 240**	LR	LR	14 56 25.5	
	comp=Z,418nm,18.9s,baz=54,slow=35					
WRA	**Warramunga Arr** 1.7nm,1.0s,baz=92,slow=6.8,SNR=6.6 1.7nm,1.0s	**48.78 257**	P	P	14 40 12.9	-0.1
ASAR	**Alice Springs** 2.6nm,0.6s,baz=86,slow=8.4,SNR=37	**49.07 252**	P	P	14 40 15.1	-0.2
ASAR			LR	LR	14 59 25.6	
	comp=Z,300nm,22.0s,baz=98,slow=34 2.6nm,0.6s					
JCJ	**Chichijima**	**59.58 315**	LR	LR	15 03 33.1	
	comp=Z,410nm,19.8s,baz=114,slow=32					
RPN	**Rapa Nui**	**61.29 113**	LR	LR	15 02 58.2	
	comp=Z,83nm,18.9s,baz=279,slow=31					
VNDA	**Vanda**	**63.26 186**	LR	LR	15 03 16.7	
	comp=Z,125nm,21.4s,baz=182,slow=30					
NWAO	**Narrogin (SRO)**	**63.66 241**	LR	LR	15 09 12.2	
	comp=Z,388nm,19.2s,baz=262,slow=36					
MJAR	**Matsushiro Arr**	**68.25 320**	LR	LR	15 06 41.9	
	comp=Z,244nm,21.6s,baz=134,slow=31					
JOW	**Kunigami**	**69.61 307**	LR	LR	15 07 02.0	
	comp=Z,365nm,21.9s,baz=72,slow=31					
PFO	**Pinyon Flats O**	**73.73 48**	LR	LR	15 07 17.5	
	comp=Z,429nm,21.2s,baz=256,slow=29					
LPIG	**La Paz**	**73.98 59**	LR	LR	15 09 14.0	
	comp=Z,227nm,18.4s,baz=228,slow=31					
QSPA	**South Pole Qui** 1.6nm,0.7s,baz=272,slow=1.3,SNR=9.6	**74.63 180**	P	P	14 43 07.0	+0.1
QSPA			LR	LR	15 10 31.9	
	comp=Z,278nm,21.2s,baz=40,slow=31 1.6nm,0.7s					
NVAR	**Mina Array Bea** 1.3nm,1.0s,baz=230,slow=10,SNR=6.7	**75.07 43**	P	P	14 43 09.6	-0.4
NVAR			LR	LR	15 09 29.3	
	comp=Z,273nm,19.9s,baz=230,slow=30 1.3nm,1.0s					
KSRS	**Korea Array**	**75.40 316**	LR	LR	15 11 05.8	
	comp=Z,145nm,21.3s,baz=265,slow=32					
ELK	**Elko**	**78.32 42**	LR	LR	15 14 41.2	
	comp=Z,156nm,18.2s,baz=238,slow=33					
BBB	**Bella Bella**	**78.39 27**	LR	LR	15 10 15.4	
	comp=Z,179nm,20.7s,baz=292,slow=30					
TXAR	**Lajitas Array** 0.3nm,0.7s,baz=308,slow=42,SNR=3.2	**81.53 57**	P	P	14 43 44.5	-1.2
TXAR			LR	LR	15 11 41.0	
	comp=Z,157nm,21.2s,baz=260,slow=30 0.3nm,0.7s					
ANMO	**Albuquerque**	**81.65 50**	LR	LR	15 14 43.2	
	comp=Z,313nm,18.2s,baz=0.5,slow=32					
ILAR	**Eielson Array** 1.5nm,1.2s,baz=220,slow=4.9,SNR=5.7 1.5nm,1.2s	**82.67 12**	P	P	14 43 49.5	-1.3
PDAR	**Pinedale Array** 1.7nm,1.0s,baz=226,slow=3.9,SNR=9.6	**83.01 42**	P	P	14 43 55.0	+1.7
PDAR			LR	LR	15 15 28.9	
	comp=Z,192nm,18.4s,baz=214,slow=32 1.7nm,1.0s					
PMSA	**Palmer Station**	**84.61 156**	LR	LR	15 13 26.4	
	comp=Z,180nm,20.0s,baz=294,slow=30					
CMIG	**Matias Romero**	**84.92 71**	LR	LR	15 15 03.4	
	comp=Z,134nm,18.4s,baz=334,slow=31					
PLCA	**Paso Flores**	**90.31 132**	LR	LR	15 15 58.0	
	comp=Z,273nm,21.1s,baz=222,slow=30					
YKA	**Yellowknife Ar** 0.7nm,0.9s,baz=237,slow=4.3,SNR=7.7 0.7nm,0.9s	**90.54 24**	P	P	14 44 30.8	+1.4
LVC	**Limon Verde**	**97.99 116**	LR	LR	15 20 59.8	
	comp=Z,125nm,19.7s,baz=45,slow=30					

*BJI **07** 14:46:05.5±0.0,28˚.05N×57˚.04E, h30km, mb5.3/76, mB5.3/42, Ms4.9/60, Ms7 4.8/59*
*DSN **07** 14:46:12.4±4.6,27˚.98N×57˚.67E, h20km±38km, mb5.9/5, ML5.1/15, Error ellipse: s-maj=11.1km s-min=8.8km az=109.0*
*TEH **07** 14:46:12.3,28˚.04N×57˚.75E, h28km, ML5.4*
*MOS **07** 14:46:12.4±0.9,28˚.06N×57˚.68E, h53km, mb5.4/124, MS4.6/9, Error ellipse: s-maj=3.9km s-min=2.7km az=111.2*

*GCMT **07** 14:46:13.1±0.2,27˚.80N±0˚.01×57˚.57E±0˚.01, h43km, MW5.2/115, Moment Tensor Solution. s89,c127; s115,c191; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr0.67±.02; Mθθ-0.70±.01; Mϕϕ0.03±.01; Mrθ0.18±.01; Mθϕ0.36±.01; Mϕr0.18±.01; Best double couple: Mo0.81200×10^17 NP1:ϕs92.00000°, δ53.00000°, λ62.00000°. NP2:ϕ313.00000°, δ45.00000°, λ121.00000°. Principal axes: T 0.7700, Plg68.0000°, Azm300.0000°; N 0.0850, Plg22.0000°, Azm109.0000°; P -0.8550, Plg4.0000°, Azm201.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **07** 14:46:13,28˚.03N×57˚.60E, h36km*
*NEIC **07** 14:46:13.1±1.9,28˚.03N±0˚.07×57˚.61E±0˚.08, h35km±6km, mb5.3/175, Mww5.2/17, Error ellipse: s-maj=11.3km s-min=8.8km az=122.0*
*NEIC **07** 14:46:13,27˚.83N×57˚.83E, h36km, Moment Tensor Solution. Duration: 1s9 Moment tensor: Scale 10^16Nm; Mrr8.19; Mθθ-5.75; Mϕϕ-2.44; Mrθ2.68; Mθϕ1.74; Mϕr1.94; Fault plane solution: Mo7.92000×10^16 NP1:ϕs96.75000°, δ53.79000°, λ72.55000°. NP2:ϕs304.77000°, δ39.67000°, λ112.27000°. Principal axes: T 9.1204, Plg74.0000°, Azm316.0000°; N -2.4103, Plg14.0000°, Azm107.0000°; P -6.7101, Plg7.0000°, Azm199.0000°;*
*OMAN **07** 14:46:13.8±0.0,27˚.93N×57˚.67E, h43km, mb5.7/28, ml5.3/19, ms4.7/15, Mwp5.3/11 Error ellipse: s-maj=0.7km s-min=0.6km az=302.0*
*IDC **07** 14:46:14.2±2.3,28˚.06N×57˚.70E, h52km±20km, mb4.7/32, mbtmp5.0/37, ML4.9/6, MS4.6/61, Error ellipse: s-maj=11.1km s-min=9.1km az=171.0*

ISC 07 14:46:12.0±0.3,**28˚.06N**±0˚.03×**57˚.69E**±0˚.02, **h32**km±1km, **h33**km:**pP-P, n1315,** σ1**35**/1411, **mb5.2**/315, **MS4.6**/88, **55C-30D, Southern Iran**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.12 172**	Pg	**Pn**	**14 46 17.4**	**-0.3**
IBND	**Bandar-abas**	**1.19 239**	Pg	**Pb**	**14 46 35.0**	**+1.0**
IBND			Sg	**Sb**	**14 46 53.0**	**+4.0**
KBAM	**BAM**	**1.26 32**	Pg	**Pb**	**14 46 35.6**	**+0.2**
KBAM			Sg	**Sb**	**14 46 53.8**	**+2.4**
NGRK	**Negar Kerman**	**1.79 332**	Pn	**Pb**	**14 46 43.2**	**-1.2**
CHMN	**Cheshme madani**	**1.80 356**	Pn	**Pb**	**14 46 43.8**	**-0.8**
TVBK	**TV Kerman**	**2.08 337**	Pn	**Pb**	**14 46 48.3**	**-1.0**
JASK	**Jask - Hormozg**	**2.19 176**	Pn	**Pn**	**14 46 47.4**	**+1.2**
JASK	**Jask - Hormozg** SNR=648	**2.19 176**	P	**Pn**	**14 46 47.5**	**+1.2**
JASK			S	**Sn**	**14 47 11.3**	**-0.9**
SHME	**Shamm** SNR=335	**2.43 215**	*e*P	**Pn**	**14 46 51.1**	**+1.6**
SHME	**Shamm** SNR=333	**2.43 215**	P	**Pn**	**14 46 51.3**	**+1.7**
KRM1	**Kerman Provinc**	**2.46 352**	Pn	**Pb**	**14 46 54.6**	**-1.1**
BANOM	**Banah** SNR=132	**2.46 210**	*e*P	**Pn**	**14 46 51.6**	**+1.6**
BANOM	**Banah** SNR=271	**2.46 210**	P	**Pn**	**14 46 51.7**	**+1.7**
KHGB	**Koh Gabri**	**2.54 336**	Pn	**Pb**	**14 46 55.6**	**-1.4**
LAR1	**LAR**	**2.96 263**	Pn	**Pn**	**14 46 59.5**	**+2.7**
MASF	**Masafi** SNR=271	**3.01 207**	P	**Pn**	**14 46 58.3**	**+0.8**
MASF			P	**Pn**	**14 46 58.3**	**+0.8**
	SNR=271					
MSFE	**Esma-Masafi** SNR=271	**3.02 207**	*e*P	**Pn**	**14 46 57.7**	**0.0**
MDH	**Madha** SNR=80	**3.02 205**	*e*P	**Pn**	**14 46 56.9**	**-0.8**
MDH	**Madha** SNR=97	**3.02 205**	P	**Pn**	**14 46 56.8**	**-0.8**
MDH			P	**Pn**	**14 46 56.8**	**-0.8**
	SNR=97					
MDH			S	**Sn**	**14 47 31.0**	**-1.6**
MDH			S	**Sn**	**14 47 31.0**	**-1.6**
UMQ	**Umm Al-Quwin** SNR=25	**3.11 216**	*i* P	**Pn**	**14 47 01.6**	**+2.8**
UMQ	**Umm Al-Quwin**	**3.11 216**	P	**Pn**	**14 47 01.7**	**+2.8**
UMQ			P	**Pn**	**14 47 01.7**	**+2.8**
UOSS	**Minazif**	**3.38 204**	Pn	**Pn**	**14 47 01.7**	**-0.9**
UOSS	**Minazif** SNR=78	**3.38 204**	*i* P	**Pn**	**14 47 01.6**	**-0.9**
UOSS	**Minazif**	**3.38 204**	P	**Pn**	**14 47 01.6**	**-1.0**
UOSS			S	**Sn**	**14 47 41.1**	**-0.4**
CHBR	**Chabahar**	**3.50 134**	Pn	**Pn**	**14 47 05.6**	**+1.4**
HATD	**Hatta, Dubai** SNR=8.5	**3.51 204**	*i* P	**Pn**	**14 47 03.6**	**-0.8**
HATD	**Hatta, Dubai** SNR=8.4	**3.51 204**	P	**Pn**	**14 47 03.7**	**-0.7**
HATD			P	**Pn**	**14 47 03.7**	**-0.7**
	SNR=8.4					
NAZ	**Nazwa, Dubai** SNR=77	**3.56 211**	*i* P	**Pn**	**14 47 07.1**	**+2.1**
NAZ	**Nazwa, Dubai** SNR=24	**3.56 211**	P	**Pn**	**14 47 06.9**	**+1.9**
NAZ			P	**Pn**	**14 47 06.9**	**+1.9**
	SNR=24					
NAZ			S	**Sn**	**14 47 45.6**	**-0.3**
NAZ			S	**Sn**	**14 47 45.6**	**-0.3**
JHRM	**Jahrom**	**3.65 278**	Pn	**Pn**	**14 47 09.2**	**+2.8**
ASHO	**Ashiyiah** SNR=124	**3.67 204**	*i* P	**Pn**	**14 47 07.0**	**+0.4**
ASHO	**Ashiyiah** SNR=118	**3.67 204**	P	**Pn**	**14 47 08.5**	**+2.0**
ASHO			S	**Sn**	**14 47 50.3**	**+1.6**
FAQ	**Al Faqa, Dubai** SNR=89	**3.80 210**	*i* P	**Pn**	**14 47 10.0**	**+1.6**
FAQ	**Al Faqa, Dubai** SNR=89	**3.80 210**	P	**Pn**	**14 47 09.9**	**+1.6**
FAQ			S	**Sn**	**14 47 52.7**	**+0.8**
NHDN	**Nehbandan**	**3.90 31**	Pn	**Pn**	**14 47 13.5**	**+3.6**
IBAF	**Bafgh**	**3.97 333**	Pn	**Pn**	**14 47 14.3**	**+3.5**
ASUD	**Al Ashush, Dub**	**4.02 212**	P	**Pn**	**14 47 13.6**	**+2.2**
SOHO	**SOHO** SNR=80	**4.05 195**	*i* P	**Pn**	**14 47 10.1**	**-1.7**
SOHO	**SOHO**	**4.05 195**	P	**Pn**	**14 47 10.2**	**-1.5**
SOHO			P	**Pn**	**14 47 10.2**	**-1.5**
LMD1	**Lamerd**	**4.07 261**	Pn	**Pn**	**14 47 14.8**	**+2.7**
BSRN	**Basiran**	**4.09 17**	Pn	**Pn**	**14 47 15.8**	**+3.4**
NGCH	**Negor - Chabah**	**4.09 130**	Pn	**Pn**	**14 47 13.9**	**+1.6**
NGCH	**Negor - Chabah** SNR=197	**4.09 130**	P	**Pn**	**14 47 13.7**	**+1.3**
NGCH			S	**Sn**	**14 48 00.3**	**+1.2**
QIR1	**Qir**	**4.12 277**	Pn	**Pn**	**14 47 15.6**	**+2.8**
SRVN	**Saravan**	**4.23 98**	Pn	**Pn**	**14 47 17.4**	**+3.1**
AJN	**Ajban** SNR=44	**4.24 215**	*i* P	**Pn**	**14 47 15.9**	**+1.5**
AJN	**Ajban** SNR=44	**4.24 215**	P	**Pn**	**14 47 16.1**	**+1.6**
AJN			S	**Sn**	**14 48 03.3**	**+0.5**
IMEH	**Mehriz**	**4.26 322**	Pn	**Pn**	**14 47 18.4**	**+3.5**
ALNE	**Al Ain** SNR=62	**4.35 204**	*i* P	**Pn**	**14 47 17.7**	**+1.7**
ALNE	**Al Ain** SNR=219	**4.35 204**	P	**Pn**	**14 47 17.6**	**+1.7**
ALNE			P	**Pn**	**14 47 17.6**	**+1.7**
	SNR=219					
ALNE			S	**Sn**	**14 48 06.6**	**+1.0**
ALNE			S	**Sn**	**14 48 06.6**	**+1.0**
HOQ	**Hoqain**	**4.47 184**	Pn	**Pn**	**14 47 16.4**	**-1.3**
HOQ	**Hoqain** SNR=193	**4.47 184**	P	**Pn**	**14 47 16.7**	**-1.0**
HOQ			P	**Pn**	**14 47 16.7**	**-1.0**
	SNR=193					
HOQ			S	**Sn**	**14 48 06.8**	**-1.7**
HOQ			S	**Sn**	**14 48 06.8**	**-1.7**
IKOO	**Kooshah**	**4.50 14**	Pn	**Pn**	**14 47 21.6**	**+3.4**
BIDO	**Bidbid** SNR=129	**4.54 175**	P	**Pn**	**14 47 17.6**	**-1.0**
BIDO			S	**Sn**	**14 48 08.2**	**-2.0**
SHI	**Shiraz**	**4.80 290**	Pn	**Pn**	**14 47 25.0**	**+2.7**
ARQ	**Araqi** SNR=441	**4.82 193**	P	**Pn**	**14 47 24.0**	**+1.6**
ARQ			P	**Pn**	**14 47 24.0**	**+1.6**
	SNR=441					
ARQ			S	**Sn**	**14 48 18.2**	**+1.0**
ARQ			S	**Sn**	**14 48 18.2**	**+1.0**
WSAR	**Wadi Sarin** 134nm,0.3s,baz=346,slow=5.2,SNR=1568	**4.88 170**	P	**Pn**	**14 47 23.3**	**+0.1**
WSAR			S	**Sn**	**14 48 14.8**	**-3.8**
	2μm,0.6s,baz=33,slow=16,SNR=12					
WSAR			LR	LR	14 49 29.9	
	comp=Z,6μm,21.0s,baz=41,slow=40					
ITEG	**Tejag**	**4.91 11**	Pn	**Pn**	**14 47 27.6**	**+3.9**
SMDO	**Samad** SNR=252	**4.99 176**	P	**Pn**	**14 47 24.7**	**-0.2**
SMDO			S	**Sn**	**14 48 21.6**	**0.0**
TPRV	**Parvadeh(Tabas**	**5.03 350**	Pn	**Pn**	**14 47 30.0**	**+4.7**
IDAH	**Dahanechah**	**5.03 21**	Pn	**Pn**	**14 47 29.3**	**+3.8**
ICHK	**Chekchek**	**5.04 327**	Pn	**Pn**	**14 47 30.1**	**+4.4**
ISAD	**Sadrabad**	**5.17 319**	Pn	**Pn**	**14 47 31.2**	**+3.7**
BSY	**Bisya** SNR=340	**5.31 185**	P	**Pn**	**14 47 30.5**	**+1.3**
BSY			S	**Sn**	**14 48 28.8**	**-0.5**
JRN	**Qarnain Island** SNR=37	**5.33 235**	P	**Pn**	**14 47 30.0**	**+0.6**
JRN			S	**Sn**	**14 48 30.0**	**+0.3**
AFRZ	**Afriz**	**5.47 12**	Pn	**Pn**	**14 47 35.1**	**+3.7**
MZWR	**Madinat Zayed**	**5.49 220**	P	**Pn**	**14 47 32.3**	**+0.8**
MZWR			P	**Pn**	**14 47 32.3**	**+0.8**
KAZ2	**Kazeron-Fars-I**	**5.51 288**	Pn	**Pn**	**14 47 33.8**	**+1.9**
WBK	**Wadi Bani Khal**	**5.55 168**	Pn	**Pn**	**14 47 32.6**	**+0.2**
WBK	**Wadi Bani Khal** SNR=89	**5.55 168**	P	**Pn**	**14 47 32.4**	**-0.1**
WBK			S	**Sn**	**14 48 33.5**	**-1.7**
TKDS	**Koohdasht(Taba**	**5.55 355**	Pn	**Pn**	**14 47 36.3**	**+3.7**
DSBU	**Dashti - Bushe**	**5.68 275**	Pn	**Pn**	**14 47 36.4**	**+2.2**
JMDO	**Jabal Madar** SNR=106	**5.68 176**	P	**Pn**	**14 47 34.8**	**+0.5**
JMDO			P	**Pn**	**14 47 34.8**	**+0.5**
	SNR=106					
AHBU	**AHRAM**	**5.68 280**	Pn	**Pn**	**14 47 37.1**	**+2.9**
UMZA	**Um Al Zommool**	**5.79 204**	P	**Pn**	**14 47 35.8**	**+0.1**
IRAM	**Ramesheh**	**5.93 310**	Pn	**Pn**	**14 47 40.5**	**+2.7**
GHWR	**Ruwais**	**5.95 228**	P	**Pn**	**14 47 37.8**	**0.0**
GHWR			S	**Sn**	**14 48 43.8**	**-1.1**
TNSJ	**Nastanj**	**5.96 351**	Pn	**Pn**	14 47 43.4	+5.3
SHRT	**Shahrakht**	**6.00 21**	Pn	**Pn**	**14 47 43.1**	**+4.5**
KLNJ	**Kolanjah**	**6.07 300**	Pn	**Pn**	**14 47 42.5**	**+2.7**
JLN	**Jalan Bani Buh** SNR=274	**6.09 165**	P	**Pn**	**14 47 39.5**	**-0.3**
ANAR	**Anarak**	**6.14 327**	Pn	**Pn**	**14 47 44.8**	**+4.1**
MZR	**Muzera** SNR=6.0	**6.31 218**	*i* P	**Pn**	**14 47 44.3**	**+1.4**
SHMA	**Al-Shehemyia** SNR=52	**6.39 251**	P	**Pn**	**14 47 45.8**	**+1.9**
SHMA			S	**Sn**	**14 48 55.9**	**+0.1**
	SNR=11					
IGAR	**Gharneh**	**6.52 313**	Pn	**Pn**	**14 47 49.1**	**+3.1**
IZEF	**Zefreh**	**6.68 317**	Pn	**Pn**	**14 47 51.3**	**+3.2**
TRNA	**Turayna** SNR=104	**6.68 242**	P	**Pn**	**14 47 48.4**	**+0.4**
TRNA			S	**Sn**	**14 49 02.3**	**-0.8**
	SNR=35					
SLWR	**Sila**	**6.70 235**	P	**Pn**	**14 47 48.0**	**-0.1**
SLWR			S	**Sn**	**14 49 01.0**	**-2.4**
SAKB	**Bahrain**	**6.71 254**	P	**Pn**	**14 47 50.0**	**+1.8**
SAKB			S	**Sn**	**14 49 02.9**	**-0.7**
IBRJ	**Brojen**	**6.76 306**	Pn	**Pn**	**14 47 52.3**	**+3.0**
ABEH	**Behbahan**	**6.96 293**	Pn	**Pn**	**14 47 54.4**	**+2.6**
SMRA	**Abu-Samra** SNR=185	**6.98 243**	P	**Pn**	**14 47 53.0**	**+0.9**
SMRA			S	**Sn**	**14 49 09.9**	**-0.5**
	SNR=16					
MHTO	**MHTO** SNR=65	**7.05 178**	P	**Pn**	**14 47 53.4**	**+0.4**
MHTO			S	**Sn**	**14 49 09.4**	**-2.6**
ZNGN	**Zangian**	**7.17 306**	Pn	**Pn**	**14 47 58.2**	**+3.3**
JHBN	**Jahan bin**	**7.36 306**	Pn	**Pn**	**14 48 00.3**	**+2.8**
HRA	**Herat**	**7.41 31**	Pn	**Pn**	**14 48 01.3**	**+3.1**
IKLH	**Kolahrood**	**7.42 316**	Pn	**Pn**	**14 48 01.3**	**+2.9**
TBHD	**Torbat heydari**	**7.45 10**	Pn	**Pn**	14 48 03.4	+4.8
TBJM	**Torbat-e-JAM**	**7.53 17**	Pn	**Pn**	**14 48 03.4**	**+3.7**
KRSH	**Karshahi**	**7.57 322**	Pn	**Pn**	**14 48 05.0**	**+4.7**
ISFB	**Sefidab**	**7.81 325**	Pn	**Pn**	**14 48 07.2**	**+3.6**
QAMS	**Qamsar**	**7.82 318**	Pn	**Pn**	**14 48 07.4**	**+3.6**
IANJ	**Anjilo**	**8.05 337**	Pn	**Pn**	14 48 12.1	+5.2
DQM	**DQM**	**8.10 181**	P	**Pn**	**14 48 07.6**	**+0.2**
DQM			S	**Sn**	**14 49 34.2**	**-3.7**
IMOG	**Moghan**	**8.14 9**	Pn	**Pn**	14 48 13.3	+5.0
SBZV	**Sabzevar**	**8.30 360**	Pn	**Pn**	**14 48 13.7**	**+3.3**
ILAS	**Lasjerd**	**8.33 332**	Pn	**Pn**	**14 48 15.5**	**+4.7**
IPAY	**Payeh**	**8.44 7**	Pn	**Pn**	**14 48 16.9**	**+4.7**
IMYA	**Miami**	**8.51 13**	Pn	**Pn**	14 48 18.4	+5.3
IVRN	**Varamin**	**8.58 325**	Pn	**Pn**	**14 48 18.1**	**+4.0**
IFIR	**Firoozkooh**	**8.64 332**	Pn	**Pn**	**14 48 19.3**	**+4.3**
IQOM	**Qom**	**8.81 322**	Pn	**Pn**	14 48 23.1	+5.7
IKRD	**Kardeh**	**8.82 10**	Pn	**Pn**	14 48 22.8	+5.2
KBD	**Kabd**	**8.85 280**	P	**Pn**	**14 48 19.0**	**+1.2**
IDMV	**Damavand**	**8.90 329**	Pn	**Pn**	**14 48 23.3**	**+4.6**
ISFR	**Sfrayin**	**8.97 2**	Pn	**Pn**	14 48 25.6	+6.0
IGLO	**Ghaloghah**	**9.03 340**	Pn	**Pn**	**14 48 24.0**	**+3.7**
IHSB	**Hasanabad**	**9.15 325**	Pn	**Pn**	**14 48 25.5**	**+3.6**
IPRN	**Peran**	**9.33 332**	Pn	**Pn**	14 48 31.0	+6.7
IEMG	**Emamgholi**	**9.36 5**	Pn	**Pn**	**14 48 29.3**	**+4.3**
IMND	**Minoodasht**	**9.37 349**	Pn	**Pn**	14 48 30.4	+5.6
IMHD	**Mahdasht**	**9.66 324**	Pn	**Pn**	14 48 34.5	+5.6
MRVT	**Maraveh tapeh**	**9.66 352**	Pn	**Pn**	14 48 34.8	+5.9
MZPU	**Pul - Mazandar**	**9.83 330**	Pn	**Pn**	14 48 36.5	+5.3
GEYT	**Alibeck**	**9.85 2**		**Pn**	**14 48 33.5**	**+2.1**
GEYT	**Alibeck**	**9.85 2**	P	**Pn**	**14 48 33.5**	**+2.1**
GEYT	**Alibeck** 34nm,0.8s,baz=170,slow=10,SNR=34	**9.85 2**	P	Pn	14 48 37.2	+5.8
GEYT			LR	LR	14 52 57.8	
	comp=Z,7μm,22.0s,baz=184,slow=41					
GYA0	**ALIBECK ARRAY**	**9.85 2**	P	Pn	14 48 36.4	+5.0
GYA0B	**ALIBECK ARRAY**	**9.85 2**		**Pn**	**14 48 33.5**	**+2.1**
HSAM	**Samen**	**9.90 310**	Pn	**Pn**	**14 48 33.8**	**+1.4**
HAGD	**Aghdareh**	**9.93 315**	Pn	**Pn**	**14 48 36.5**	**+3.7**
DOK	**Doka** SNR=46	**9.95 200**	P	**Pn**	**14 48 31.4**	**-1.4**
IDOB	**Doab**	**9.96 307**	Pn	**Pn**	**14 48 34.2**	**+1.1**
KLST	**Kelardasht - M**	**10.12 328**	Pn	Pn	14 48 40.5	+5.1
SHAO	**Shalim** SNR=71	**10.17 191**	*i* P	**Pn**	**14 48 35.0**	**-0.9**
SHAO	**Shalim** SNR=68	**10.17 191**	P	**Pn**	**14 48 34.7**	**-1.2**
SHAO			P	**Pn**	**14 48 34.7**	**-1.2**
	SNR=68					
DMTO	**DMTO** SNR=35	**10.60 194**	P	**Pn**	**14 48 40.0**	**-1.8**
DMTO			P	**Pn**	**14 48 40.0**	**-1.8**
	SNR=35		

GAR IAmb IAmb 14 49 50.8
comp=Z,232nm,1.5s
MNGR Mingechevir, A 15.39 328 P **Pn** **14 49 47.3 +0.6**
GANJ Ganja 15.65 326 P **Pn** **14 49 50.7 +0.5**
SEKA Sheki 15.68 329 P **Pn** **14 49 50.6 0.0**
VANB Van 15.89 315 *eP* **P** **14 49 56.4 -0.4**
AKDM Akdamar-Van 15.99 314 *eP* **P** **14 49 57.5 -0.4**
GNI Garni 16.11 322 P **P** **14 49 59.7 +0.4**
GNI IAmb IAmb 14 50 02.5
comp=Z,264nm,0.9s
GNI Garni 16.11 322*c i*P **P** **14 49 59.7 +0.4**
GNI Garni 16.11 322 P **P** **14 49 59.5 +0.2**
GNI Garni 16.11 322 P **P** **14 49 60.0 +0.7**
comp=Z,192nm,0.9s,baz=331,slow=0.2,SNR=54
GNI LR LR 14 56 39.9
comp=Z,3µm,18.2s,baz=116,slow=39
GNI Garni 16.11 322 P **P** **14 49 59.9 +0.7**
GNI P **P** **14 49 59.9 +0.7**
BTK Batken 16.15 39 Pn **P** **14 49 58.4 -1.2**
BTK Batken 16.15 39 P **P** **14 49 58.4 -1.2**
BTK pmax pmax
comp=Z,102nm,1.0s
TASB TASBURUN-IGDIR 16.28 320 *eP* **P** **14 50 01.3 +0.3**
ZKTA Zakatala 16.29 329 P **Pn** **14 49 58.9 +0.6**
GURO Guroymak-BITLI 16.73 313 *eP* **P** **14 50 05.5 -0.6**
GURO Guroymak-BITLI 16.73 313 **Pn** **14 50 04.9 +0.9**
GURO IAmb IAmb 14 50 09.6
comp=Z,221nm,0.9s
AGRB Hanur-Agry 16.74 317 *eP* **P** **14 50 07.8 +1.6**
MLAZ Malazgirt-MUS 16.74 315 *eP* **P** **14 50 07.1 +0.9**
MAK Makhachkala 17.00 334 *eP* **Pn** **14 50 07.0 -0.2**
MAK *eS* **Sn** **14 53 17.1 +1.9**
MAK pmax pmax
comp=Z,520nm,1.3s
MAK MLR MLR
comp=Z,631nm,13.0s
SVAN Silvan-Diyarba 17.07 310 *eP* **Pn** **14 50 07.8 -0.4**
MAZI Mazidag 17.24 307 *eP* **Pn** **14 50 08.1 -2.4**
IUG luzhnay 17.28 32 *eP* **Pn** **14 50 10.6 -0.2**
IUG *eS* **Sn** **14 53 23.9 +1.8**
IUG luzhnay 17.28 32 *eP* **Pn** **14 50 10.7 -0.2**
baz=32
IUG *eS* **Sn** **14 53 24.0 +1.8**
baz=32
KARS Kars 17.37 320 *eP* **P** **14 50 15.1 +2.0**
KARS Kars 17.37 320 **P** **14 50 12.8 -0.3**
KARS IAmb IAmb 14 50 17.4
comp=Z,238nm,0.9s
KARS Kars 17.37 320 P **P** **14 50 12.8 -0.3**
KARS pmax pmax
comp=Z,238nm,0.9s
TRKS Terek-Say 17.37 36 P **Pn** **14 50 12.5 +0.5**
TRKS pmax pmax
comp=Z,188nm,1.0s
VRTB Varto-Mus 17.44 314 *eP* **P** **14 50 13.9 -0.1**
OHH Osh 17.58 41 P **P** **14 50 16.3 +0.9**
OHH pmax pmax
comp=Z,53nm,0.9s
KOPR Koprukoy-ERZUR 17.68 316 *eP* **P** **14 50 19.3 +2.6**
DYBB Diyarbakir 17.69 308 *eP* **Pn** **14 50 15.2 -0.8**
SENK Senkaya-Erzuru 17.74 319 *eP* **P** **14 50 19.8 +2.5**
KARO Karliova-Bingo 17.79 313 *eP* **P** **14 50 20.3 +2.4**
BNGB Bingl 17.86 312 *eP* **P** **14 50 19.9 +1.4**
BRLS Borolday 17.88 30 *eP* **Pn** **14 50 14.9 -3.3**
BRLS *eS* **Sn** **14 53 32.4 -4.2**
BRLS Borolday 17.88 30 *eP* **Pn** **14 50 14.9 -3.3**
baz=30
BRLS *eS* **Sn** **14 53 32.5 -4.2**
baz=30
GROC Groznyy 17.91 331 *eP* **P** **14 50 20.5 +1.6**
GROC *eS* **Sn** **14 53 38.9 +1.8**
GROC pmax pmax
comp=Z,131nm,1.1s
KK31 Karatay Array 18.24 31 P **Pn** **14 50 23.7 +1.0**
KK31 Karatay Array 18.24 31 *i*P **P** **14 50 22.5 -0.1**
KKAR Karatay Array 18.24 31 P **Pn** **14 50 23.5 +0.8**
KKAR Karatay Array 18.24 31 P **Pn** **14 50 23.5 +0.8**
ASF Jabal al Asfar 18.44 288 P **Pn** **14 50 26.1 +0.9**
comp=Z,5.8nm,0.3s,baz=152,slow=3.0,SNR=39
ASF S **Sn** **14 53 41.1 -9.3**
comp=Z,43nm,0.7s,baz=333,slow=16,SNR=4.1
comp=Z,187nm,0.9s
DZA Taraz 18.47 33 *eP* **P** **14 50 25.0 -0.1**
DZA Taraz 18.47 33 *eP* **P** **14 50 25.1 -0.1**
baz=33
ONI Oni 18.54 325 *eP* **Pn** **14 50 26.4 +0.1**
ONI Oni 18.54 325 **Pn** **14 50 27.7 +1.4**
ONI Oni 18.54 325 P **Pn** **14 50 27.7 +1.4**
ONI pmax pmax
comp=Z,93nm,1.3s
PTK Pertek 18.66 310 *eP* **Pn** **14 50 28.9 +0.9**
BCA Borcka 18.73 320 *eP* **Pn** **14 50 29.8 +1.2**
BATM Batumi 18.80 320 *eP* **Pn** **14 50 30.5 +1.1**
KSH Kashi 18.98 48 P **P** **14 50 25.6 -5.2**
KSH pP Pn 14 50 30.5 -1.2
KSH PP **pP** **14 50 38.2 -1.4**
KSH S **Sn** **14 53 53.4 -10**
KSH pmax pmax
comp=Z,230nm,0.8s
KSH LR LR
comp=Z,2µm,14.7s
KSH LR LR
comp=Z,3µm,15.3s
KSH LR LR
comp=Z,5µm,21.3s
FKH Fakeheh 19.21 294 *eP* **Pn** **14 50 35.3 +0.8**
ARLS Aral 19.33 40 P **Pn** **14 50 36.3 +0.3**
ARLS pmax pmax
comp=Z,89nm,0.9s
NEUR Neytrino 19.40 325 *i*P **Pn** **14 50 38.2 +1.4**
BEIL Beino 19.46 295 *eP* **Pn** **14 50 38.2 +0.8**
GAZ Gaziantep 19.46 303 *eP* **Pn** **14 50 39.0 +1.5**
GAZ Gaziantep 19.46 303 P **Pn** **14 50 37.6 +0.1**
GAZ IAmb IAmb 14 50 40.8
comp=Z,250nm,0.8s
ARPR Arapgir-MALATY 19.48 309 *eP* **Pn** **14 50 38.5 +0.7**
ARPR Arapgir-MALATY 19.48 309 P **Pn** **14 50 38.0 +0.2**
ARPR IAmb IAmb 14 50 43.2
comp=Z,332nm,1.1s
GHAJ Ghor Haditha 19.48 285 P **Pn** **14 50 37.3 -0.4**
ILIC ilic-Erzincan 19.50 311 *eP* **Pn** **14 50 38.6 +0.7**
RCY Rachaya 19.53 291 *eP* **Pn** **14 50 38.7 +0.3**
KTUT Trabzon 19.55 316 *eP* **Pn** **14 50 38.7 +0.2**
ZAHL Zahle 19.55 293 *eP* **Pn** **14 50 39.4 +0.7**
EKS2 Erkin-Say 19.56 38 P **Pn** **14 50 39.3 +0.7**
SNR=96
HWQ Hawqa 19.59 294 *eP* **Pn** **14 50 38.5 -0.6**
KBZ Khabaz 19.65 327*ce*P **Pn** **14 50 39.9 +0.4**
KBZ pmax pmax
comp=Z,56nm,1.0s
KBZ Khabaz 19.65 327 P **Pn** **14 50 40.1 +0.6**
comp=Z,0.5nm,0.3s,baz=120,slow=9.7,SNR=19
comp=Z,38nm,0.9s
QRWL Qaraoun 19.66 292 *eP* **Pn** **14 50 40.1 +0.2**
UCH Uchtor 19.67 40 P **Pn** **14 50 40.2 -0.2**
SNR=34
MMLI Mount Malkishu 19.71 288 *eP* **P** **14 50 38.6 -0.3**
BHL Bhannes 19.75 293 *eP* **Pn** **14 50 41.1 +0.1**
DQRL Deir Qamar 19.78 292 *eP* **Pn** **14 50 41.6 +0.3**
MMAI Mount Meron Ar 19.81 290 P **Pn** **14 50 41.9 +0.2**
comp=Z,9.9nm,0.3s,baz=98,slow=13,SNR=42
MMAI S **S** **14 54 15.2 -6.2**
comp=Z,13nm,0.5s,baz=113,slow=32,SNR=4.4
MMAI LR LR 15 00 24.7
comp=Z,4µm,18.4s,baz=41,slow=43
comp=Z,59nm,0.7s
KMRS Kahramanmaras 19.82 304 *eP* **Pn** **14 50 42.2 +0.5**
DARE Darende-Malaty 19.83 307 *eP* **Pn** **14 50 43.2 +1.3**
HRFI Mount Harif 19.90 281 *eP* **Pn** **14 50 42.6 -0.1**
KIV Kislovodsk 19.92 327 P **Pn** **14 50 42.2 -0.6**
KIV IAmb IAmb 14 50 56.7
comp=Z,106nm,0.8s
KIV Kislovodsk 19.92 327 *eP* **Pn** **14 50 43.1 +0.3**
KIV pmax pmax
comp=Z,96nm,1.0s
KIV Kislovodsk 19.92 327 *i*P **Pn** **14 50 43.2 +0.3**
SNR=18
KIV Kislovodsk 19.92 327 P **Pn** **14 50 43.3 +0.5**
KIV P **Pn** **14 50 43.3 +0.5**
AAK Ala-Archa 19.93 39 P **Pn** **14 50 43.4 +0.3**
SNR=43
AAK Ala-Archa 19.93 39 P **Pn** **14 50 42.6 -0.5**
AAK IAmb IAmb 14 50 49.4
comp=Z,201nm,1.1s

AAK Ala-Archa 19.93 39*ce*P **Pn** **14 50 43.3 +0.2**
AAK pmax pmax
comp=Z,82nm,1.3s
AAK Ala-Archa 19.93 39 *i*P **Pn** **14 50 43.4 +0.2**
SNR=151
AAK Ala-Archa 19.93 39 P **Pn** **14 50 43.4 +0.2**
comp=Z,1.7nm,0.3s,baz=227,slow=9.9,SNR=61
AAK LR LR 14 59 24.1
comp=Z,3µm,21.6s,baz=230,slow=40
comp=Z,91nm,0.8s
AAK Ala-Archa 19.93 39 P **Pn** **14 50 43.0 -0.1**
AAK P **Pn** **14 50 43.0 -0.1**
TAHT Tahtakopru-Hat 19.96 300 *eP* **Pn** **14 50 43.9 +0.5**
EIL Elat 19.97 280 *eP* **Pn** **14 50 43.2 -0.3**
EIL Elat 19.97 280 P **Pn** **14 50 43.2 -0.3**
comp=Z,5.5nm,0.3s,baz=72,slow=3.3,SNR=203
EIL LR LR 15 01 00.1
comp=Z,730nm,21.0s,baz=94,slow=44
comp=Z,282nm,0.9s
NRN Naryn 20.05 44 P **P** **14 50 42.8 0.0**
NRN Naryn 20.05 44 P **P** **14 50 42.8 0.0**
NRN pmax pmax
comp=Z,67nm,0.8s
FRU1 Bishkek 20.12 39 P **P** **14 50 44.2 +0.9**
FRU1 Bishkek 20.12 39 P **P** **14 50 44.2 +0.9**
FRU1 pmax pmax
comp=Z,99nm,1.0s
ESPY Espiye-Giresun 20.16 314 *eP* Pn 14 50 45.6 -0.1
KBK Karagaybulak 20.20 39 P Pn 14 50 46.5 +0.2
SNR=38
CHMS Chumysh 20.31 38 P Pn 14 50 48.9 +1.5
SNR=28
USP Ospenovka 20.36 37 P **P** **14 50 46.6 +0.8**
SNR=42
SARI SarD1z-Kayseri 20.52 306 *eP* Pn 14 50 50.4 +0.3
SGDS Sogindy 20.55 37 *eP* **P** **14 50 47.1 -0.8**
SGDS *eS* **S** **14 54 38.3 +2.2**
SGDS Sogindy 20.55 37 *eP* **P** **14 50 47.1 -0.8**
baz=37
SGDS *eS* **S** **14 54 38.3 +2.2**
baz=37
GOF Gofitskoye 20.59 329*ce*P **P** **14 50 49.2 +1.0**
KOZT Kozan 20.60 303 *eP* Pn 14 50 51.2 +0.3
ULHL Ulahol 20.68 42 P Pn 14 50 56.3 +4.3
SNR=6.4
TKM2 Tokmak 2 20.73 40 P Pn 14 50 51.6 -1.0
SNR=35
TKM2 Tokmak 2 20.73 40 *i*P **P** **14 50 50.9 +0.9**
TKM2 pmax pmax
comp=Z,72nm,0.8s
SVSK Karacayir 20.78 310 *eP* Pn 14 50 52.3 -0.6
RSDY Resadiye-TOKAT 20.79 312 *eP* Pn 14 50 52.4 -0.7
VSLR Vesyoloye 20.94 322 *i*P **P** **14 50 50.9 -1.2**
KARA Karaisali 21.11 302 *eP* **P** **14 50 56.3 +2.4**
BNN Bunyan 21.11 306 *eP* **P** **14 50 56.3 +2.2**
BNN Bunyan 21.11 306 P **P** **14 50 55.7 +1.6**
SOC Sochi 21.20 322 *eP* **P** **14 50 56.0 +1.2**
SOC *e*PPP PPP 14 51 19.2
SOC *e*S Sn 14 54 55.6 -0.8
SOC *e*SSS SSS 14 55 30.6
SOC pmax pmax
comp=Z,39nm,0.8s
SOC MLR MLR
comp=Z,907nm,16.0s
AB31 Akbulak array 21.23 4 *i*P **P** **14 50 56.1 +1.0**
ABKAR Akbulak array 21.23 4 P **P** **14 50 56.3 +1.2**
ABKAR IAmb IAmb 14 51 05.9
comp=Z,99nm,0.9s
ABKAR Akbulak array 21.23 4 P **P** **14 50 55.8 +0.7**
TOKT Tokat 21.28 311 *eP* **P** **14 50 57.3 +1.5**
CMRD Camardi-Nigde 21.29 303 *eP* **P** **14 50 58.7 +2.7**
TARG Taragay, Kyrgy 21.34 45 P **P** **14 50 58.2 +1.4**
TARG IAmb IAmb 14 51 02.2
comp=Z,85nm,0.9s
TARG Taragay, Kyrgy 21.34 45 P **P** **14 50 58.2 +1.4**
TARG pmax pmax
comp=Z,85nm,0.9s
BTLS Baital 21.38 33 *eP* **P** **14 50 56.3 -0.4**
BTLS *eS* **S** **14 54 54.6 +2.4**
BTLS Baital 21.38 33 *eP* **P** **14 50 56.3 -0.4**
baz=33
BTLS *eS* **S** **14 54 54.7 +2.4**
baz=33
ATD Arta Tunnel 21.54 223 P **P** **14 50 58.8 +0.1**
ATD Arta Tunnel 21.54 223 P **P** **14 50 59.1 +0.5**
comp=Z,0.7nm,0.8s,baz=37,slow=7.4,SNR=8.7
ATD LR LR 15 00 33.7
comp=Z,128nm,21.7s,baz=30,slow=40
AAA Alma-Ata 21.66 41 *eP* **P** **14 50 59.9 0.0**
AAA pmax pmax
comp=Z,118nm,0.9s
AAA Alma-Ata 21.66 41 *eP* **P** **14 50 59.9 0.0**
comp=Z,118nm,0.9s,baz=40
SILI Silifke-Mersin 21.70 298 *eP* **P** **14 51 02.1 +1.8**
MDOK Medeo 21.71 41 P **P** **14 51 01.1 +0.6**
MDOK Medeo 21.71 41 *eP* **P** **14 51 00.3 -0.2**
baz=41
MDOK *eS* **S** **14 55 01.2 +2.0**
baz=41
LFK Lefkose 21.75 295 *eP* **P** **14 51 02.5 +1.6**
KUU Kurty 21.77 39 *eP* **P** **14 51 00.9 -0.1**
KUU *eS* **S** **14 55 02.1 +2.1**
KUU pmax pmax
comp=Z,134nm,0.9s
KUU Kurty 21.77 39 *eP* **P** **14 51 01.0 -0.1**
comp=Z,134nm,0.9s,baz=38
KUU *eS* **S** **14 55 02.2 +2.1**
baz=38
CSS Mathiatis 21.84 294 *eP* **P** **14 51 03.2 +1.4**
CSS Mathiatis 21.84 294 P **P** **14 51 02.2 +0.3**
CSS IAmb IAmb 14 51 20.5
comp=Z,140nm,0.8s
IKL Isikli 21.86 298 *eP* **P** **14 51 03.1 +1.2**
HYB Hyderabad 21.93 114⇑ *eP* **P** **14 51 03.9 +1.0**
HYB IVmB_BB 14 51 07.7
comp=Z,770nm,1.7s
KVT Kavak 21.98 312 *eP* **P** **14 50 59.8 -3.5**
GULA Gulagac 22.09 304 *eP* **P** **14 51 06.4 +1.9**
CHKK Chushkaly 22.11 39 *eP* **P** **14 51 04.2 -0.4**
CHKK Chushkaly 22.11 39 *eP* **P** **14 51 04.3 -0.4**
baz=39
PRZ Przheval'sk 22.12 44 P **P** **14 51 06.0 +1.0**
PRZ IAmb IAmb 14 51 14.2
comp=Z,151nm,1.3s
PRZ Przheval'sk 22.12 44 P **P** **14 51 06.0 +1.0**
PRZ pmax pmax
comp=Z,151nm,1.3s
LEF Lefka 22.23 295 *eP* **P** **14 51 07.8 +1.8**
YESY Yesilyurt 22.26 302 *eP* **P** **14 51 08.2 +1.8**
ERBR Yeremizino-Bor 22.27 327 *eP* **P** **14 51 07.2 +0.9**
ERBR pmax pmax
comp=Z,96nm,1.5s
AKTO Aktyubinsk 22.34 1 P **P** **14 51 07.1 0.0**
AKTO Aktyubinsk 22.34 1 LR LR 15 01 27.5
comp=Z,4µm,19.4s,baz=186,slow=41
SATY Saty 22.45 43 *eP* **P** **14 51 07.8 -0.6**
SATY *eS* **S** **14 55 15.4 +2.4**
SATY Saty 22.45 43 *eP* **P** **14 51 07.8 -0.6**
baz=43
SATY *eS* **S** **14 55 15.5 +2.4**
baz=43
CORM Corum 22.52 308 *eP* **P** **14 51 10.3 +1.1**
ZHN Zhinishke 22.53 43 *eP* **P** **14 51 09.3 0.0**
ZHN Zhinishke 22.53 43 *eP* **P** **14 51 09.4 +0.1**
baz=42
YAYX Yaylak 22.61 305 *eP* **P** **14 51 11.5 +1.4**
SERE Sereflikochisa 22.79 305 *eP* **P** **14 51 13.6 +1.5**
ARXS Arharly 22.80 40 *eP* **P** **14 51 12.3 +0.2**
UZB Uzynbulak 22.87 43 *eP* **P** **14 51 12.2 -0.7**
UZB *eS* **S** **14 55 22.9 +2.4**
UZB Uzynbulak 22.87 43 *eP* **P** **14 51 12.3 -0.7**
baz=43
UZB *eS* **S** **14 55 22.9 +2.4**
baz=43
BR131 Keskin Array S 23.03 307 *eP* **P** **14 51 15.1 +0.6**
BR131 Keskin Array S 23.03 307 P **P** **14 51 14.9 +0.4**
BR131 Keskin Array S 23.03 307*c i*P **P** **14 51 14.7 +0.2**
BRTR Keskin Array B 23.03 307 P **P** **14 51 14.9 +0.4**
BRTR Keskin Array B 23.03 307 *i*P **P** **14 51 15.1 +0.6**
BRTR pmax pmax
comp=Z,206nm,0.9s
BRTR Keskin Array B 23.03 307 P **P** **14 51 15.2 +0.6**
comp=Z,204nm,0.9s,baz=124,slow=11,SNR=242
BRTR LR LR 15 02 01.5
comp=Z,4µm,21.8s,baz=96,slow=41
comp=Z,204nm,0.9s
HARA HARA 23.09 219 *eP* **P** **14 51 09.9 -5.5**
SHLS Shalkode 23.15 44 *eP* **P** **14 51 17.7 +2.0**
SHLS Shalkode 23.15 44 *eP* **P** **14 51 17.8 +2.0**
baz=44
CHBY Cihanbeyli 23.16 303 *eP* **P** **14 51 17.2 +1.4**
KULU Kulu 23.23 304 *eP* **P** **14 51 17.9 +1.3**
PDGK Podgornoye 23.26 43 P **P** **14 51 15.7 -1.1**
AFSR Afar-Bala (An 23.33 305 *eP* **P** **14 51 18.5 +1.0**
KONT Konya--Tatoy 23.35 301 *eP* **P** **14 51 19.8 +2.1**
LADK Ladik-KONYA 23.43 302 *eP* **P** **14 51 20.3 +1.8**
TDK Taldyqorghan 23.62 39 *eP* **P** **14 51 20.2 0.0**
TDK Taldyqorghan 23.62 39 *eP* **P** **14 51 20.2 0.0**
baz=39
ANTO Ankara 23.69 306⇑ P **P** **14 51 22.5 +1.6**
ANTO Ankara 23.69 306 P **P** **14 51 21.6 +0.6**
ANTO Ankara 23.69 306 P **P** **14 51 22.1 +1.2**
ANTO Ankara 23.69 306 P **P** **14 51 22.0 +1.1**
ANTO P **P** **14 51 22.0 +1.1**
BR231 Keskin MP Arra 23.69 306 P **P** **14 51 21.8 +0.8**
DESE Dese 23.89 229 *eP* **P** **14 51 27.2 +3.9**
KIZT Kizilcal 24.00 303 *eP* **P** **14 51 25.4 +1.4**
SVRH Sivrihisar-ESK 24.45 304 *eP* **P** **14 51 29.3 +1.3**
KURC Kurucasile-Bar 24.53 311 *eP* **P** **14 51 29.3 +0.7**
YUVA Yuva-Kibriscik 24.67 307 *eP* **P** **14 51 30.9 +0.9**
BRZS Berezniki 24.70 24 *eP* **P** **14 51 30.3 +0.2**
BRZS Berezniki 24.70 24 *eP* **P** **14 51 30.3 +0.2**
baz=23
ISP Isparta 24.71 300 P **P** **14 51 31.3 +0.8**
ISP Isparta 24.71 300*ce*P **P** **14 51 31.4 +1.0**
ISP pmax pmax
comp=Z,261nm,1.3s
CIFT Cifteler, Eski 24.76 304 *eP* **P** **14 51 32.0 +1.2**
SHUT Suhut-Afyon 24.89 302 *eP* **P** **14 51 33.7 +1.6**
ELL Elmali 24.93 297 *eP* **P** **14 51 33.0 +0.6**
ELL Elmali 24.93 297 P **P** **14 51 33.1 +0.6**
ELL Elmali 24.93 297 P **P** **14 51 33.1 +0.6**
ELL pmax pmax
comp=Z,1µm,0.9s
MDUB Mudurnu 25.05 307 *eP* **P** **14 51 34.1 +0.7**
MDUB Mudurnu 25.05 307 P **P** **14 51 34.1 +0.7**
SIM Simferopol' 25.22 318 *eP* **P** **14 51 34.7 -0.1**
SIM pmax pmax
comp=Z,107nm,0.8s
SIM MLR MLR
comp=Z,263nm,16.0s
BELG Belogornoye 25.44 346*c i*P **P** **14 51 36.7 0.0**
BELG pmax pmax
comp=Z,17nm,0.9s
BELG Belogornoye 25.44 346 LR LR 15 04 43.9
comp=Z,2µm,18.5s,baz=154,slow=44
GULT Gulveren 25.52 306 *eP* **P** **14 51 38.8 +1.1**
APMY Acipayam-Deniz 25.57 299 *eP* **P** **14 51 38.6 +0.4**
CAVI Cavuskoy 25.92 305 *eP* **P** **14 51 42.1 +0.8**
TVSB Tavsanli 25.97 303 *eP* **P** **14 51 43.1 +1.3**
WLRA Wolmera 26.00 227 *eP* P 14 51 34.4 -8.2
VRH Novokhopyorsk 26.07 337 *eP* **P** **14 51 40.6 -1.8**
VRH pmax pmax
comp=Z,60nm,1.1s
ADVT Abdulvahap 26.07 306 *eP* **P** **14 51 43.2 +0.6**
FURI Furi 26.16 227 *eP* P 14 51 34.4 -10
HRT Hereke 26.26 306 *eP* **P** **14 51 44.8 +0.5**
KULA Kula-Manisa 26.31 301 *eP* **P** **14 51 45.8 +0.9**
YLV Yalova 26.38 306 *eP* **P** **14 51 46.8 +1.3**
BVA0 Borovoye Array 26.66 17 *i*P **P** **14 51 47.8 0.0**
BVAR Borovoye Array 26.66 17 P **P** **14 51 48.6 +0.9**
comp=Z,69nm,0.9s,baz=201,slow=7.9,SNR=226
BVAR PcP **PcP** **14 55 10.2 -0.7**
comp=Z,9.5nm,0.7s,baz=214,slow=2.1,SNR=6.2
BVAR LR LR 15 04 16.7
comp=Z,4µm,18.2s,baz=210,slow=41
comp=Z,69nm,0.9s
BRVK Borovoye 26.66 17 P **P** **14 51 48.4 +0.6**
BRVK IAmb IAmb 14 51 49.9
comp=Z,58nm,1.0s
BRVK Borovoye 26.66 17*ce*P **P** **14 51 48.7 +0.9**
BRVK pmax pmax
comp=Z,82nm,1.3s
BRVK Borovoye 26.66 17 P **P** **14 51 48.7 +0.9**
BRVK P **P** **14 51 48.7 +0.9**
MAKZ Makanchi 26.70 39 P **P** **14 51 48.8 +0.5**
MAKZ IAmb IAmb 14 51 50.2
comp=Z,70nm,1.1s
MAKZ Makanchi 26.70 39⇑ P **P** **14 51 49.1 +0.9**
ARMT Armutlu 26.75 305 *eP* **P** **14 51 49.0 +0.2**
VORD Divnogorie 26.77 334 *eP* **P** **14 51 46.7 -2.1**
VORD pmax pmax
comp=Z,10.0nm,1.0s
ISK Istanbul-Kandi 26.77 306 P **P** **14 51 48.0 -0.9**
ISK pmax pmax
comp=Z,73nm,1.1s
MK31 Makanchi Array 26.86 39 P **P** **14 51 49.8 +0.1**
MK31 Makanchi Array 26.86 39 *i*P **P** **14 51 50.0 +0.3**
MK31 pmax pmax
comp=Z,20nm,0.5s
MKAR Makanchi Array 26.86 39 *i*P **P** **14 51 50.2 +0.5**
MKAR pmax pmax
comp=Z,30nm,0.7s
MKAR Makanchi Array 26.86 39 P **P** **14 51 50.3 +0.5**
comp=Z,29nm,0.7s,baz=226,slow=8.3,SNR=242
MKAR LR LR 15 03 57.7
comp=Z,1µm,20.4s,baz=240,slow=40
comp=Z,29nm,0.7s
KARP Karpathos 26.92 294 *eP* **P** **14 51 51.5 +1.1**
KARP Karpathos 26.92 294 P **P** **14 51 51.2 +0.8**
BGKT Bogazkoy 27.02 307 *eP* **P** **14 51 51.6 +0.5**
VSR Storozhevoye 27.02 334 *eP* **P** **14 51 48.3 -2.7**
VSR pmax pmax
comp=Z,10.0nm,1.0s
CTKS Kestanelik-??a 27.23 307 *eP* **P** **14 51 53.3 +0.3**
VORR Voronezh 27.36 335 *eP* **P** **14 51 54.8 +0.7**
VORR pmax pmax
comp=Z,72nm,1.3s
KURBB Kurchatov Arra 27.52 29 P **P** **14 51 56.7 +1.2**
comp=Z,32nm,0.8s,baz=227,slow=8.6,SNR=236
KURBB LR LR 15 04 59.1
comp=Z,2µm,19.2s,baz=193,slow=41
KURBB P3KPbc 15 24 22.6
comp=Z,1.3nm,0.9s,baz=41,slow=4.3,SNR=11
comp=Z,32nm,0.8s
KURK Kurchatov 27.63 29 P **P** **14 51 57.1 +0.6**
KURK Kurchatov 27.63 29*ce*P **P** **14 51 57.5 +1.0**
KURK pmax pmax
comp=Z,77nm,1.7s
KURK Kurchatov 27.63 29 P **P** **14 51 57.6 +1.1**
KURK P **P** **14 51 57.6 +1.1**
SEM Semipalatinsk 28.14 31 *eP* **P** **14 52 00.6 -0.7**
SEM Semipalatinsk 28.14 31 *eP* **P** **14 52 00.6 -0.7**
baz=31
LPSR Galich'ya Gora 28.21 335 *eP* **P** **14 52 00.7 -0.9**
LPSR pmax pmax
comp=Z,20nm,1.0s
DILA Dilla 28.30 224 *eP* P 14 51 44.4 -19
ARU Arti 28.36 1 P **P** **14 52 02.9 0.0**
ARU Arti 28.36 1*c i*P **P** **14 52 03.2 +0.3**
ARU 14 52 49.6
ARU 14 55 11.5
ARU S **S** **14 56 52.0 +4.7**
ARU SS **SnSn** **14 58 08.2 +1.8**
ARU pmax pmax
comp=Z,1µm,20.3s
ARU MLR MLR
comp=Z,1µm,20.0s
ARU Arti 28.36 1 LR LR 15 04 43.0
comp=Z,1µm,19.6s,baz=174,slow=39
EZN Ezine 28.40 303 P **P** **14 52 04.6 +1.1**
ZSN Zaisan 28.69 40 *eP* **P** **14 52 05.7 -0.3**
ZSN Zaisan 28.69 40 *eP* **P** **14 52 05.8 -0.3**
baz=40
IDI Anoyia 28.73 293 P **P** **14 52 07.1 +0.5**
IDI IAmb IAmb 14 52 08.9
comp=Z,97nm,1.1s
IDI Anoyia 28.73 293 LR LR 15 06 46.1
comp=Z,9.0nm,21.7s,baz=84,slow=43
WMQ Urumqi 28.74 49⇑ P **P** **14 52 07.8 +1.2**
WMQ sP sP 14 52 19.1 -1.0
WMQ pmax pmax
comp=Z,54nm,0.9s
WMQ pmax pmax
comp=Z,230nm,4.9s
WMQ LR LR
comp=Z,1µm,14.7s
WMQ LR LR
comp=Z,2µm,22.7s

WMQ LR LR
comp=Z,3µm,21.5s
NEF NEVSHA 28.80 310 P **P** **14 52 08.5 +1.5**
SVE Sverdlovsk 28.82 3 *e*P **P** **14 52 07.5 +0.4**
SVE *e*S **S** **14 56 59.0 +4.3**
SVE pmax pmax
comp=Z,15nm,1.0s
SVE MLR MLR
comp=Z,2µm,18.0s
ALN Alexandroupoli 28.89 305 P **P** **14 52 08.2 +0.4**
ALN Alexandroupoli 28.89 305 P **P** **14 52 08.2 +0.4**
ALN pmax pmax
comp=Z,41nm,1.0s
CFR Carcaliu 29.01 314 ⇓P **P** **14 52 09.0 +0.2**
CFR Carcaliu 29.01 314 ⇓P **P** **14 52 09.0 +0.2**
LSA Lhasa 29.29 79 P **P** **14 52 13.5 +1.4**
LSA IAmb IAmb 14 52 18.7
comp=Z,30nm,0.6s
LSA Lhasa 29.29 79 P **P** **14 52 13.5 +1.4**
LSA pmax pmax
comp=Z,30nm,0.6s
LSA Lhasa 29.29 79 P **P** **14 52 14.2 +2.1**
RDO Rodhopi 29.33 305 P **P** **14 52 11.2 -0.5**
RDO IAmb IAmb 14 52 13.7
comp=Z,50nm,1.1s
PALK Pallekele 30.03 129 LR LR 15 04 19.7
comp=Z,366nm,19.0s,baz=66,slow=36
PLD Plovdiv 30.18 306 P **P** **14 52 20.5 +1.2**
PLD pmax pmax
comp=Z,150nm,1.6s
PLD Plovdiv 30.18 306 P **P** **14 52 20.2 +0.9**
VRI Vrincioaia 30.20 314 ⇓P **P** **14 52 19.9 +0.5**
VRI Vrincioaia 30.20 314 ⇓P **P** **14 52 19.9 +0.5**
PLOR Plostina 30.24 314 ⇑P **P** **14 52 21.5 +1.7**
PLOR Plostina 30.24 314 ⇑P **P** **14 52 21.5 +1.7**
SORM Soroca 30.28 319 ⇓P **P** **14 52 19.5 -0.5**
SORM Soroca 30.28 319 P **P** **14 52 19.7 -0.4**
PAIG Paliouri 30.40 302 P **P** **14 52 22.5 +1.3**
PAIG pmax pmax
comp=Z,29nm,1.1s
COVR Voineasa-Covas 30.52 314 ⇑P **P** **14 52 23.9 +1.7**
TESR Tescani 30.53 315 ⇓P **P** **14 52 22.6 +0.3**
MLR Muntele Rosu 30.54 313 ⇑P **P** **14 52 23.9 +1.3**
MLR Muntele Rosu 30.54 313 P **P** **14 52 23.0 +0.4**
MLR Muntele Rosu 30.54 313 ⇑P **P** **14 52 23.9 +1.3**
MLR Muntele Rosu 30.54 313 LR LR 15 07 33.0
comp=Z,1µm,20.6s,baz=109,slow=42
TURR Turia 30.73 314 ⇑P **P** **14 52 25.7 +1.6**
MMB Musomishta 30.73 305 *i*P **P** **14 52 25.4 +1.2**
SRS Serrai 30.74 304 *e*P **P** **14 52 24.8 +0.6**
SRS Serrai 30.74 304 P **P** **14 52 25.3 +1.1**
SRS pmax pmax
comp=Z,56nm,1.5s
SOH Sokhos 30.84 303 P **P** **14 52 25.7 +0.5**
SOH pmax pmax
comp=Z,31nm,1.4s
KIRV Kirov 31.05 352 *ce*P **P** **14 52 27.3 +0.6**
KIRV Kirov 31.05 352 LR LR 15 07 29.9
comp=Z,3µm,19.9s,baz=164,slow=41
OBN Obninsk 31.06 336 *e*P **P** **14 52 27.6 +0.8**
OBN *e* 14 53 28.0
OBN *e*PPP PPP 14 53 39.3
OBN *e* 14 55 22.2
OBN pmax pmax
comp=Z,52nm,1.7s
OBN MLR MLR
comp=Z,700nm,18.0s
OBN Obninsk 31.06 336 LR LR 15 07 15.8
comp=Z,784nm,20.8s,baz=162,slow=41
BRDH Bariadhala 31.08 92 P **P** **14 52 26.3 -1.1**
comp=Z,102nm,0.3s,baz=90,slow=20,SNR=3.6
DOPR Dopca 31.09 314 ⇑P **P** **14 52 27.9 +0.6**
THE Thessaloniki 31.09 303 P **P** **14 52 28.1 +0.8**
THE pmax pmax
comp=Z,37nm,1.5s
MOS Moscow 31.19 338 *e*P **P** **14 52 27.0 -1.0**
MOS *e* 14 53 31.3
MOS pmax pmax
comp=Z,44nm,1.1s
AKASG Malin Array Be 31.22 324 P **P** **14 52 27.3 -1.0**
comp=Z,1.5nm,0.4s,baz=130,slow=8.0,SNR=44
AKASG PcP **PcP** **14 55 22.1 -0.3**
comp=Z,6.8nm,0.8s,baz=89,slow=2.2,SNR=10.0
comp=Z,1.5nm,0.4s
AKBB Malin Array Si 31.22 324 P **P** **14 52 27.6 -0.6**
AKBB IAmb IAmb 14 52 39.5
comp=Z,86nm,1.6s
AKBB Malin Array Si 31.22 324 P **P** **14 52 27.7 -0.6**
AKBB pmax pmax
comp=Z,86nm,1.6s
KIEV Kiev 31.22 324 ⇓P **P** **14 52 28.1 -0.2**
KIEV Kiev 31.22 324 P **P** **14 52 27.1 -1.3**
KIEV IAmb IAmb 14 52 39.5
comp=Z,71nm,1.6s
KIEV Kiev 31.22 324 ⇓P **P** **14 52 28.1 -0.2**
KIEV Kiev 31.22 324 P **P** **14 52 27.8 -0.5**
KIEV pP **pP** **14 52 37.8 -0.1**
AGG Agios Georgios 31.25 300 P **P** **14 52 28.5 -0.3**
AGG Agios Georgios 31.25 300 P **P** **14 52 28.5 -0.3**
AGG pmax pmax
comp=Z,15nm,0.9s
MPEP Malo Peshtene 31.25 308 P **P** **14 52 29.4 +0.6**
KNT Kendrikon 31.26 304 P **P** **14 52 28.7 -0.1**
KNT pmax pmax
comp=Z,17nm,1.4s
LIT Litokhoron 31.33 302 P **P** **14 52 30.4 +0.9**
LIT pmax pmax
comp=Z,23nm,1.3s
DGZ Jazzator, Alta 31.34 38 *c i*P **P** **14 52 30.7 +1.1**
DGZ pmax pmax
comp=Z,35nm,0.8s
ARR Arges 31.34 312 ⇓P **P** **14 52 30.3 +0.7**
VTS Vitosha 31.39 307 *i*P **P** **14 52 31.0 +0.9**
VAY Valandovo 31.54 304 *i*P **P** **14 52 32.0 +0.8**
VALD Valchedram 31.57 309 P **P** **14 52 32.0 +0.5**
GRG Griva 31.58 303 P **P** **14 52 32.4 +0.7**
GRG pmax pmax
comp=Z,27nm,1.2s
BURAR Bucovina Array 31.89 317 ⇓P **P** **14 52 34.5 +0.1**
BURAR Bucovina Array 31.89 317 P **P** **14 52 33.9 -0.6**
BURAR Bucovina Array 31.89 317 P **P** **14 52 35.0 +0.6**
STIP Stip 31.91 305 *i*P **P** **14 52 33.6 -0.9**
BUR08 Bucovina Ar. S 31.91 317 P **P** **14 52 34.7 +0.1**
BLKB Belogradchik 32.08 308 ⇑P **P** **14 52 36.4 +0.4**
KSV Kosov 32.30 318 P **P** **14 52 36.6 -1.2**
FNA Florina 32.30 303 P **P** **14 52 38.5 +0.5**
FNA IAmb IAmb 14 52 40.2
comp=Z,50nm,1.5s
FNA Florina 32.30 303 P **P** **14 52 38.6 +0.5**
FNA pmax pmax
comp=Z,50nm,1.5s
GOMU GeErMu 32.32 66 P **P** **14 52 39.8 +1.2**
GOMU PcP **PcP** **14 55 27.1 +0.9**
GOMU pmax pmax
comp=Z,51nm,1.0s
GOMU LR LR
comp=Z,760nm,15.6s
GOMU LR LR
comp=Z,610nm,15.5s
GOMU LR LR
comp=Z,2µm,15.7s
LODK Lodwar 32.45 225 P **P** **14 52 40.0 +0.4**
LODK IAmb IAmb 14 52 57.3
comp=Z,84nm,1.9s
LODK Lodwar 32.45 225 P **P** **14 52 42.4 +2.8**
DJES Djerdap 32.50 310 P **P** **14 52 39.9 +0.2**
SKO Skopje 32.51 305 *i*P **P** **14 52 40.0 +0.2**
GZR Gura Zlata 32.57 311 ⇑P **P** **14 52 41.2 +0.8**
ZAA0 Zalesovo Array 32.61 30 P **P** **14 52 40.3 -0.2**
ZALV Zalesovo Beam 32.61 30 P **P** **14 52 41.0 +0.5**
ZALV Zalesovo Beam 32.61 30 *i*P **P** **14 52 40.7 +0.2**
ZALV pmax pmax
comp=Z,63nm,0.6s
ZALV Zalesovo Beam 32.61 30 P **P** **14 52 40.8 +0.3**
comp=Z,62nm,0.6s,baz=244,slow=9.7,SNR=292
ZALV PcP **PcP** **14 55 25.3 -0.8**
comp=Z,4.9nm,0.5s,baz=230,slow=4.5,SNR=3.7
ZALV S **S** **14 57 50.4 -3.7**
comp=Z,7.5nm,1.0s,baz=238,slow=8.0,SNR=1.3
ZALV LR LR 15 08 09.1
comp=Z,1µm,18.1s,baz=226,slow=40
comp=Z,62nm,0.6s
HERR Herculane 32.64 310 ⇑P **P** **14 52 42.0 +1.1**
KBN Korca 32.71 302 P **P** **14 52 41.9 +0.3**
KBN pmax pmax
comp=Z,203nm,1.2s
OHR Ohrid 32.80 303 P **P** **14 52 44.0 +1.6**
OHR pmax pmax
comp=Z,109nm,1.4s
OHR Ohrid 32.80 303 *i*P **P** **14 52 42.6 +0.2**
MDVR Moldovita 33.09 310 ⇑P **P** **14 52 45.1 +0.3**
DRGR 33.12 314 ⇑P **P** **14 52 45.6 +0.5**
DRGR 33.12 314 ⇑P **P** **14 52 45.6 +0.5**
LVV L'vov 33.59 320 *e*P **P** **14 52 48.9 -0.2**
MNK Minsk 34.17 329 *i*P **P** **14 52 54.0 -0.1**
comp=E,15nm,1.2s
MNK *i*P **P** **14 52 54.0 -0.1**
comp=N,21nm,0.9s
MNK *i*P **P** **14 52 54.0 -0.1**
comp=Z,29nm,1.1s,baz=128
MNK *i*PP **PP** **14 54 07.5 -4.2**
MNK *i*S **S** **14 58 22.3 +4.1**
MNK *i*SS SnSn 15 00 02.5 -25
MNK *i*LQ LQ 15 04 12.4
MNK *i*LR LR 15 06 29.0
MNK *i*LRM MLR 15 07 45.7
comp=E,246nm,21.3s
MNK *i*LRM MLR 15 07 49.5
comp=Z,465nm,21.1s
MNK *i*LRM MLR 15 08 21.5
comp=N,222nm,15.8s
MNK Minsk 34.17 329 *e*P **P** **14 52 53.9 -0.1**
KOLS Kolonicke sedl 34.23 317 *e*P **P** **14 52 56.2 +1.5**
KOLS pmax pmax
comp=Z,81nm,1.0s
KOLS Kolonicke sedl 34.23 317 *e*P **P** **14 52 56.2 +1.5**
KWP Kalwaria Pacla 34.27 319 *e*P **P** **14 52 55.7 +0.6**
KWP *es*P **pP** **14 53 05.9 +1.2**
KWP Kalwaria Pacla 34.27 319 P **P** **14 52 55.1 0.0**
KWP Kalwaria Pacla 34.27 319 P **P** **14 52 55.1 0.0**
KWP pmax pmax
comp=Z,99nm,1.1s
CRVS Cervenica-Dubn 34.71 317 *e*P **P** **14 52 59.2 +0.3**
CRVS pmax pmax
comp=Z,33nm,1.2s
CRVS Cervenica-Dubn 34.71 317 *e*P **P** **14 52 59.2 +0.3**
CRVS *e* 14 57 17.2
NACGM Naroch 34.92 329 *e*P **P** **14 53 00.9 +0.4**
comp=Z,21nm,1.1s,baz=128
KLMR Klimovskoe 35.00 345 *e*P **P** **14 52 58.1 -3.1**
KLMR *e* 14 54 14.6
KLMR pmax pmax
comp=Z,72nm,1.3s
KLMR MLR MLR
comp=Z,2µm,16.0s
STHS Stebnicka Huta 35.05 318 *e*P **P** **14 53 04.8 +3.0**
STHS Stebnicka Huta 35.05 318 *e*P **P** **14 53 04.8 +3.0**
MND Mandalay 35.23 91 P **P** **14 53 03.9 +0.3**
PSZ Piszkesteto 35.31 315 ⇑P **P** **14 53 04.4 +0.3**
PSZ Piszkesteto 35.31 315 P **P** **14 53 03.9 -0.3**
PSZ IAmb IAmb 14 53 19.8
comp=Z,37nm,1.2s
PSZ Piszkesteto 35.31 315 ⇑P **P** **14 53 04.4 +0.3**
TIP Timpagrande 35.57 299 ⇓P **P** **14 53 07.6 +1.2**
TIP Timpagrande 35.57 299 P **P** **14 53 07.4 +0.9**
MORH Mrgy, Hungar 35.58 311 ⇑P **P** **14 53 06.2 -0.1**
NIE Niedzica 35.61 317 P **P** **14 53 07.7 +1.0**
NIE pmax pmax
comp=Z,5.0nm,1.0s
ISAL Salakas 35.62 329 *e*P **P** **14 53 06.2 -0.4**
BUD Budapest 35.72 313 P **P** **14 53 07.4 -0.1**
BUD pmax pmax
comp=Z,28nm,0.9s
LANS Liptovska Anna 36.02 316 *e*P **P** **14 53 11.4 +1.3**
LANS pmax pmax
comp=Z,12nm,1.0s
LANS Liptovska Anna 36.02 316 *e*P **P** **14 53 11.4 +1.3**
SUW Suwalki 36.14 325 P **P** **14 53 10.2 -0.8**
SUW Suwalki 36.14 325 P **P** **14 53 10.2 -0.8**
SUW pmax pmax
comp=Z,87nm,1.0s
SUW Suwalki 36.14 325 *e*P **P** **14 53 10.9 -0.1**
VYHS Vyhne 36.17 315 *e*P **P** **14 53 11.5 +0.1**
VYHS pmax pmax
comp=Z,23nm,1.3s
VYHS Vyhne 36.17 315 *e*P **P** **14 53 11.5 +0.1**
VYHS *e* 14 57 19.5
OJC Ojcow 36.23 318 *e*P **P** **14 53 12.1 +0.2**
OJC *es*P **pP** **14 53 22.4 +0.8**
OJC Ojcow 36.23 318 P **P** **14 53 11.8 -0.1**
OJC Ojcow 36.23 318 P **P** **14 53 11.8 -0.1**
OJC pmax pmax
comp=Z,161nm,1.4s
CUC Castrocucco 36.38 300 P **P** **14 53 14.6 +1.2**
GTA Gaotai 36.52 61 P **P** **14 53 15.7 +1.0**
GTA pP pP 14 53 20.0 -4.3
GTA PP **PP** **14 54 36.9 -1.1**
GTA pmax pmax
comp=Z,80nm,1.0s
GTA LR LR
comp=Z,500nm,16.0s
GTA LR LR
comp=Z,520nm,13.4s
GTA LR LR
comp=Z,700nm,14.2s
TNCH TengChong 36.54 85 ⇑P **P** **14 53 16.5 +1.5**
TNCH pP pP 14 53 19.5 -5.2
TNCH PP **PP** **14 54 40.3 +1.9**
TNCH S **S** **14 58 58.1 +2.5**
TNCH pmax pmax
comp=Z,59nm,0.9s
TNCH pmax pmax
comp=Z,130nm,3.1s
TNCH LR LR
comp=Z,200nm,16.7s
TNCH LR LR
comp=Z,270nm,15.5s
TNCH LR LR
comp=Z,350nm,22.0s
PABE Paberze 36.58 328 P **P** **14 53 14.1 -0.6**
PABE IAmb IAmb 14 53 29.7
comp=Z,60nm,0.9s
PABE Paberze 36.58 328 *e*P **P** **14 53 14.9 +0.2**
JAVC Velka Javorina 37.02 315 *e*P **P** **14 53 19.2 +0.5**
SMOL Smolenice 37.06 315 *e*P **P** **14 53 19.0 0.0**
SMOL pmax pmax
comp=Z,12nm,1.2s
OKC Ostrava-Krasne 37.07 317 *e*P **P** **14 53 19.4 +0.4**
OKC Ostrava-Krasne 37.07 317 *e*P **P** **14 53 19.4 +0.4**
MODS Modra-Piesok 37.11 314 *e*P **P** **14 53 19.9 +0.4**
MODS pmax pmax
comp=Z,76nm,1.3s
MODS Modra-Piesok 37.11 314 *e*P **P** **14 53 19.8 +0.3**
VSU Vasula 37.20 333 *ce*P **P** **14 53 20.2 +0.2**
VSU pmax pmax
comp=Z,90nm,1.3s
KOGS Kog 37.23 311 *i*P **P** **14 53 20.6 +0.1**
PTJ Puntijarka 37.29 310 P **P** **14 53 23.5 +2.4**
SOP Sopron 37.37 313 P **P** **14 53 21.7 +0.1**
SOP pmax pmax
comp=Z,76nm,1.1s
MORC Moravsky Berou 37.41 317 ⇑P **P** **14 53 21.6 -0.5**
MORC Moravsky Berou 37.41 317 P **P** **14 53 21.2 -0.9**
MORC IAmb IAmb 14 53 36.7
comp=Z,33nm,1.1s
MORC Moravsky Berou 37.41 317 *e*P **P** **14 53 21.3 -0.7**
MORC Moravsky Berou 37.41 317 ⇑P **P** **14 53 21.6 -0.5**
RONA Rosalia, Austr 37.54 313 *i*P **P** **14 53 23.1 0.0**
comp=Z,29nm,1.1s,SNR=13
BOJS Bojanci 37.69 309 *i*P **P** **14 53 24.6 +0.2**
VALR Valaam 37.80 339 *i*P **P** **14 53 24.8 -0.3**
VALR pmax pmax
comp=Z,25nm,0.9s
PBUR Paburge 37.83 328 *e*P **P** **14 53 25.5 +0.2**
VRAC Vranov 37.84 315 ⇓P **P** **14 53 25.9 +0.3**
VRAC Vranov 37.84 315 *e*P **P** **14 53 25.2 -0.4**
VRAC Vranov 37.84 315 ⇓P **P** **14 53 25.9 +0.3**
KRUC Moravsky 37.88 315 *e*P **P** **14 53 25.8 -0.2**
KRUC Moravsky 37.88 315 P **P** **14 53 26.0 0.0**
KRUC pmax pmax
comp=Z,32nm,1.2s
CONA Conrad Observa 37.89 313 *i*P **P** **14 53 25.8 -0.3**
comp=Z,27nm,1.7s,SNR=10
ARSA Arzberg 37.92 312 *i*P **P** **14 53 26.4 0.0**
comp=Z,18nm,1.0s,SNR=6.6
KRLC Kraliky 37.98 317 P **P** **14 53 26.5 -0.3**
KRLC pmax pmax
comp=Z,26nm,1.1s
KRLC Kraliky 37.98 317 *e*pP pP 14 53 36.4 -0.1
INTR Introdacqua 38.04 303 P **P** **14 53 28.2 +0.7**
INTR IAmb IAmb 14 53 47.7
comp=Z,78nm,1.2s
SOKA Soboth 38.10 311 *e*P **P** **14 53 28.0 +0.1**
comp=Z,8.3nm,1.1s
LJU Ljubljana 38.30 310 *e*P **P** **14 53 29.5 0.0**
LJU *i* 14 53 40.0
DPC Dobruska-Polom 38.35 317 *e*P **P** **14 53 30.0 +0.1**
DPC Dobruska-Polom 38.35 317 *e*P **P** **14 53 30.0 +0.1**
OBKA Obir 38.39 310 P **P** **14 53 28.5 -1.9**
comp=Z,15nm,1.3s
MBAR Mbarara 38.48 227 *i*P **P** **14 53 32.1 +0.6**
MBAR pmax pmax
comp=Z,17nm,1.1s
MBAR Mbarara 38.48 227 LR LR 15 11 20.7
comp=Z,4µm,18.7s,baz=32,slow=39
MBAR Mbarara 38.48 227 P **P** **14 53 32.6 +1.1**
MBAR P **P** **14 53 32.6 +1.1**
MBAR Mbarara 38.48 227 P **P** **14 53 33.0 +1.6**
MBAR pP **pP** **14 53 42.9 +1.6**
OSTC Ostas 38.48 317 *e*P **P** **14 53 31.0 0.0**
OSTC Ostas 38.48 317 *e*P **P** **14 53 31.0 0.0**
KSP Ksiaz 38.54 318 *e*P **P** **14 53 31.4 0.0**
KSP Ksiaz 38.54 318 P **P** **14 53 31.6 +0.2**
KSP pmax pmax
comp=Z,32nm,1.1s
SLIT Slitere, Latvi 38.55 330 *e*P **P** **14 53 32.7 +1.3**
UPC Upice 38.59 317 *e*P **P** **14 53 31.6 -0.3**
UPC *e* 14 53 41.8
UPC Upice 38.59 317 *e*P **P** **14 53 31.6 -0.3**
UPC *e*pP **pP** **14 53 41.8 +0.2**
CHVC Chvalec 38.59 317 *e*P **P** **14 53 32.0 +0.1**
CHVC Chvalec 38.59 317 *e*P **P** **14 53 32.0 +0.1**
GUMA Gualdo di Mace 38.60 305 P **P** **14 53 33.2 +1.1**
GUMA IAmb IAmb 14 53 52.4
comp=Z,54nm,0.7s
NRCA Norcia 38.73 304 P **P** **14 53 33.9 +0.6**
NRCA IAmb IAmb 14 53 49.7
comp=Z,47nm,0.7s
CHTO Chiang Mai 38.80 95 P **P** **14 53 33.8 -0.2**
CHTO Chiang Mai 38.80 95 P **P** **14 53 34.8 +0.8**
CHTO Chiang Mai 38.80 95 P **P** **14 53 33.8 -0.2**
CHTO pmax pmax
comp=Z,36nm,1.0s
CHTO Chiang Mai 38.80 95 P **P** **14 53 34.7 +0.6**
CHTO P **P** **14 53 34.7 +0.6**
CHTO Chiang Mai 38.80 95 P **P** **14 53 35.0 +0.9**
MOA Molln 38.90 313 P **P** **14 53 35.0 +0.4**
comp=Z,24nm,0.9s,SNR=7.2
CM31 Chiang Mai Arr 38.93 95 P **P** **14 53 35.7 +0.5**
CMAR Chiang Mai Arr 38.93 95 *i*P **P** **14 53 35.9 +0.8**
CMAR pmax pmax
comp=Z,5.0nm,0.8s
CMAR Chiang Mai Arr 38.93 95 P **P** **14 53 35.7 +0.6**
comp=Z,5.1nm,0.8s,baz=288,slow=8.3,SNR=45
CMAR PP **PP** **14 55 05.5 +0.9**
comp=Z,2.6nm,0.9s,baz=294,slow=11,SNR=3.0
CMAR PcP **PcP** **14 55 44.6 -0.9**
comp=Z,6.2nm,0.8s,baz=288,slow=4.7,SNR=8.4
CMAR LR LR 15 12 47.0
comp=Z,544nm,21.8s,baz=290,slow=41
comp=Z,5.1nm,0.8s
MYKA Terra Mystica 39.03 310 *e*P **P** **14 53 35.8 +0.1**
comp=Z,7.6nm,1.1s
PZH PanZhiHua 39.03 82 P **P** **14 53 35.6 -0.4**
PZH sP **pP** **14 53 44.1 -1.6**
PZH S **S** **14 59 32.5 -0.7**
PZH pmax pmax
comp=Z,40nm,1.3s
PZH pmax pmax
comp=Z,180nm,3.5s
PZH LR LR
comp=Z,430nm,21.0s
PZH LR LR
comp=Z,340nm,22.2s
PZH LR LR
comp=Z,370nm,24.5s
PRED Cave del Predi 39.04 310 P **P** **14 53 35.3 -0.5**
CESX Cesi 39.09 304 P **P** **14 53 36.3 +0.1**
CESX IAmb IAmb 14 53 52.6
comp=Z,55nm,1.0s
CKRC Cesky Krumlov 39.13 314 *e*P **P** **14 53 36.7 +0.3**
CKRC *e* 14 53 47.1
CKRC Cesky Krumlov 39.13 314 *e*P **P** **14 53 36.7 +0.3**
CKRC *e*pP **pP** **14 53 47.1 +0.8**
MEF Metsahovi 39.26 334 *e*P **P** **14 53 38.5 +1.2**
BIOA Bad Ischl, Aus 39.27 312 *i*P **P** **14 53 37.7 0.0**
comp=Z,32nm,1.2s,SNR=8.2
PRU Pruhonice 39.32 316 P **P** **14 53 37.1 -0.9**
PRU pmax pmax
comp=Z,11nm,1.3s
KBA Koelnbreinsper 39.32 311 *i*P **P** **14 53 38.5 +0.2**
comp=Z,26nm,1.3s,SNR=6.5
KBA Koelnbreinsper 39.32 311 P **P** **14 53 38.2 -0.1**
KBA pmax pmax
comp=Z,55nm,1.2s
ZVC Zvikov 39.38 315 *e*P **P** **14 53 38.4 -0.1**
FIA1 FINESS Array S 39.46 337 P **P** **14 53 39.9 +0.9**
FIA1 IAmb IAmb 14 53 40.7
comp=Z,116nm,1.2s
FINES FINESS Array B 39.46 337 P **P** **14 53 39.5 +0.5**
FINES FINESS Array B 39.46 337 P **P** **14 53 39.1 +0.1**
comp=Z,12nm,0.6s,baz=134,slow=8.7,SNR=84
FINES LR LR 15 12 28.8
comp=Z,592nm,20.9s,baz=123,slow=40
comp=Z,12nm,0.6s
PVCC Panska Ves 39.47 317 P **P** **14 53 39.0 -0.2**
PVCC pmax pmax
comp=Z,26nm,1.2s
GEC2 GERESS Array S 39.52 314 P **P** **14 53 39.5 -0.3**
GEC2 IAmb IAmb 14 53 51.4
comp=Z,57nm,1.2s
GERES GERESS Array B 39.52 314 P **P** **14 53 39.3 -0.5**
comp=Z,7.3nm,0.8s,baz=88,slow=9.6,SNR=36
GERES PcP **PcP** **14 55 46.6 -0.3**
comp=Z,7.1nm,0.8s,baz=66,slow=3.3,SNR=4.9
comp=Z,7.3nm,0.8s
STAL STALIGIAL 39.58 310 P **P** **14 53 40.1 -0.1**
LZH Lanzhou 39.62 66 ⇑P **P** **14 53 41.6 +0.7**
LZH S **S** **14 59 42.1 +0.1**
LZH pmax pmax
comp=Z,62nm,1.2s
LZH pmax pmax
comp=Z,230nm,5.8s
LZH LR LR
comp=Z,770nm,17.5s
LZH LR LR
comp=Z,1µm,17.5s
LZH LR LR
comp=Z,1µm,18.2s
KHC Kasperske Hory 39.68 314 P **P** **14 53 40.4 -0.6**
KHC IAmb IAmb 14 53 55.2
comp=Z,48nm,1.0s
KHC Kasperske Hory 39.68 314 *ce*P **P** **14 53 40.2 -0.8**
KHC pmax pmax
comp=Z,154nm,1.7s
KHC Kasperske Hory 39.68 314 *e*P **P** **14 53 40.7 -0.3**
KHC *e*pP **sP** **14 53 53.9 -0.9**
KHC AMS AMS 15 11 20.0
comp=Z,500nm,17.3s
ABTA Abfaltersbach 39.81 310 *i*P **P** **14 53 42.2 0.0**
comp=Z,25nm,1.3s,SNR=7.0
LESA Schwarzleotal 39.84 311 *e*P **P** **14 53 41.8 -0.7**
comp=Z,11nm,1.0s
MOY Mondy 39.95 42 *e*P **P** **14 53 44.8 +1.5**
MOY pmax pmax
comp=Z,65nm,1.7s
BRG Berggiesshubel 39.95 317 *e*P **P** **14 53 42.9 -0.3**
BRG Amp 14 53 44.2
comp=Z,9.9nm,1.0s
BRG Berggiesshubel 39.95 317 P P 14 53 52.7 +9.5
BRG Amp 14 53 54.8
comp=Z,14nm,1.0s
BRG ⇑PP **PcP** **14 55 48.9 +0.7**
BRG Amp 14 55 53.9
comp=Z,8.7nm,1.1s
BRG Amp 14 56 49.0
comp=Z,0.7nm,27.9s
BRG Amp 14 56 53.0
comp=E,0.4nm,20.4s
BRG Amp 14 56 55.0
comp=N,0.6nm,22.3s
BRG Berggiesshubel 39.95 317 *e*P **P** **14 53 42.9 -0.3**

BRG 14 53 52.7
BRG 14 55 48.8
BRG pmax pmax
comp=Z,10.0nm,1.0s
BRG pmax pmax
comp=Z,14nm,1.0s
CD2 Chengdu 39.99 74 P **P** **14 53 44.3 +0.4**
CD2 pmax pmax
comp=Z,40nm,0.7s
PHRA Phrae 40.05 94 P **P** **14 53 44.9 +0.5**
WET Wettzell 40.12 314 P **P** **14 53 44.2 -0.5**
WET pmax pmax
comp=Z,20nm,1.3s
KMI Kunming 40.22 83 ⇑P **P** **14 53 47.3 +1.2**
KMI S **S** **14 59 51.4 0.0**
KMI pmax pmax
comp=Z,60nm,1.1s
KMI LR LR
comp=Z,320nm,19.7s
KMI LR LR
comp=Z,330nm,19.2s
KMI LR LR
comp=Z,430nm,21.6s
ZCCA Zocca 40.47 306 P **P** **14 53 49.0 +1.3**
ZCCA IAmb IAmb 14 54 07.9
comp=Z,65nm,0.8s
WTTA Wattenberg 40.50 311 *i* P **P** **14 53 47.3 -0.7**
comp=Z,31nm,0.9s,SNR=11
WTTA Wattenberg 40.50 311 P **P** **14 53 47.4 -0.7**
WTTA pmax pmax
comp=Z,72nm,1.1s
WATA Walderalm 40.56 311 *i* P **P** **14 53 47.8 -0.7**
comp=Z,45nm,1.2s,SNR=9.5
CLL Collm 40.65 317 P **P** **14 53 48.5 -0.4**
CLL IAmb IAmb 14 54 04.2
comp=Z,75nm,1.2s
CLL Collm 40.65 317⇑ *i*P **P** **14 53 48.9 -0.1**
CLL pmax pmax
comp=Z,57nm,1.2s
CLL MLR MLR
comp=Z,400nm,18.5s
CLL Collm 40.65 317⇑ *i*P **P** **14 53 48.9 -0.1**
comp=Z,57nm,1.2s
CLL *i* pP **pP** **14 53 58.9 +0.1**
comp=Z,61nm,1.2s
CLL *i* sP **sP** **14 54 02.8 0.0**
comp=Z,77nm,1.3s
CLL AMS AMS 15 15 00.0
comp=Z,400nm,18.5s
NKC Novy Kostel 40.68 316 P **P** **14 53 49.6 +0.3**
NKC pmax pmax
comp=Z,17nm,1.3s
TATN Tataouine 40.70 288 P **P** **14 53 50.4 +0.7**
TATN IAmb IAmb 14 53 53.0
comp=Z,65nm,1.0s
SQTA Sankt Quirin 40.78 311 *i* P **P** **14 53 49.2 -1.1**
comp=Z,19nm,0.9s,SNR=6.3
RAF Rauma 40.78 334 *e*P **P** **14 53 49.9 0.0**
MOTA Moosalm 40.87 311 *i* P **P** **14 53 50.0 -1.1**
comp=Z,32nm,1.1s,SNR=6.7
MOTA *e*PcP **PcP** **14 55 52.0 +0.6**
comp=Z,11nm,0.6s
ZAK Zakamensk 40.94 44 *e*P **P** **14 53 51.5 -0.1**
ZAK pmax pmax
comp=Z,20nm,1.1s
AAL Aland 40.99 332 *e*P **P** **14 53 51.5 -0.1**
FETA Feichten 41.06 310 *i* P **P** **14 53 52.2 -0.5**
comp=Z,36nm,1.2s,SNR=9.2
FETA *e*PcP **PcP** **14 55 52.9 +0.9**
comp=Z,9.4nm,1.0s
RETA Reutte 41.13 311 *e*P **P** **14 53 51.7 -1.4**
comp=Z,14nm,1.1s
VSL Villasalto 41.30 299 P **P** **14 53 55.5 +0.9**
MOX Moxa 41.30 316 P **P** **14 53 54.7 +0.3**
MOX pmax pmax
comp=Z,11nm,1.8s
FUORN Ofenpass-Fuorn 41.31 310 P **P** **14 53 54.8 0.0**
GRFO Grafenberg 41.31 315 P **P** **14 53 54.3 -0.1**
GRFO IAmb IAmb 14 54 05.7
comp=Z,44nm,0.8s
GRFO Grafenberg 41.31 315 P **P** **14 53 54.3 -0.1**
GRFO pmax pmax
comp=Z,44nm,0.8s
KEST Kesra 41.41 293 P **P** **14 53 55.8 +0.3**
comp=Z,16nm,1.0s,baz=351,slow=3.6,SNR=7.0
KEST LR LR 15 15 00.5
comp=Z,507nm,20.4s,baz=358,slow=42
comp=Z,16nm,1.0s
DAVA Damuels 41.68 311 *i* P **P** **14 53 56.7 -1.1**
comp=Z,48nm,1.1s,SNR=9.9
UPP Uppsala 41.81 331 *e*P **P** **14 53 60.0 +1.6**
MSF Maaselka 41.84 343 P **P** **14 53 59.2 +0.7**
MSF pmax pmax
comp=Z,36nm,1.2s
TUE Stuetta 41.91 309 P **P** **14 53 58.9 -0.8**
DEL Delary 42.00 325 *e*P **P** **14 54 00.5 +0.5**
IRK Irkutsk 42.05 42 *e*P **P** **14 54 00.8 +0.3**
IRK pmax pmax
comp=Z,54nm,2.4s
OUL Oulu 42.09 341 P **P** **14 53 56.0 -4.6**
APA Apatity 42.16 346⇓ *i*P P 14 53 55.1 -6.0
APA *i* 14 55 44.0
APA pmax pmax
comp=Z,22nm,0.8s
APA MLR MLR
comp=Z,1μm,13.0s
LVZ Lovozero 42.19 347 P **P** **14 54 01.3 -0.2**
LVZ pP **pP** **14 54 11.5 +0.2**
SLVN Son La 42.33 88 P **P** **14 54 04.6 +1.4**
SONM Songino Array 42.38 49 P **P** **14 54 04.1 +0.8**
SONM Songino Array 42.38 49 P **P** **14 54 04.2 +0.8**
comp=Z,29nm,1.0s,baz=259,slow=9.3,SNR=143
SONM LR LR 15 13 45.1
comp=Z,3μm,21.8s,baz=262,slow=39
comp=Z,29nm,1.0s
SLE Schleitheim 42.69 311 P **P** **14 54 04.7 -1.1**
NAYO Nakonayok 42.69 99 P **P** **14 54 08.5 +2.4**
NONG Nongkai 42.78 93 P **P** **14 54 08.2 +1.3**
ULN Ulaanbaatar 42.82 49 P **P** **14 54 07.4 +0.4**
ULN Ulaanbaatar 42.82 49 *i* P **P** **14 54 06.7 -0.3**
ULN pmax pmax
comp=Z,34nm,0.7s
ULN Ulaanbaatar 42.82 49 P **P** **14 54 07.6 +0.6**
ULN P **P** **14 54 07.6 +0.6**
ULN Ulaanbaatar 42.82 49 P **P** **14 54 07.6 +0.6**
SBF Sospel 42.96 305 *e*P **P** **14 54 07.2 -0.9**
SBF pmax pmax
comp=Z,69nm,1.2s
TNS Taunus Mts 43.17 315 P **P** **14 54 09.9 +0.2**
TNS pmax pmax
comp=Z,49nm,1.7s
SENIN Lac Senin/Sane 43.30 309 P **P** **14 54 10.5 -0.5**
SENIN IAmb IAmb 14 54 42.8
comp=Z,48nm,0.8s
GYA Guiyang 43.33 80⇑ *i*P **P** **14 54 11.5 +0.1**
GYA S **S** **15 00 38.9 +1.7**
GYA pmax pmax
comp=Z,32nm,0.9s
GYA pmax pmax
comp=Z,190nm,5.5s
GYA LR LR
comp=Z,370nm,17.0s
GYA LR LR
comp=Z,550nm,18.8s
GYA LR LR
comp=Z,500nm,18.7s
MBDF Montbardon 43.50 307 *e*P **P** **14 54 11.3 -1.2**
MBDF pmax pmax
comp=Z,16nm,0.8s
LPG La Plagne 43.58 308 *e*P **P** **14 54 12.1 -1.3**
LPG pmax pmax
comp=Z,28nm,0.9s
BNI Bardonecchia 43.59 307 P **P** **14 54 13.2 -0.1**
BNI IAmb IAmb 14 54 31.8
comp=Z,35nm,0.9s
BNI Bardonecchia 43.59 307 P **P** **14 54 13.2 -0.1**
BNI pmax pmax
comp=Z,35nm,0.9s
LPL La Plagne 43.60 308 *e*P **P** **14 54 12.3 -1.1**
LPL pmax pmax
comp=Z,14nm,0.8s
ECH Echery 43.65 312 P **P** **14 54 12.3 -1.2**
ECH Echery 43.65 312 P **P** **14 54 12.3 -1.2**
ECH pmax pmax
comp=Z,32nm,1.1s
ECH Echery 43.65 312 P **P** **14 54 12.5 -1.0**
ECH pP **pP** **14 54 22.8 -0.6**
SGF Sodankyl 43.66 343 P **P** **14 54 14.4 +1.1**
SGF pmax pmax
comp=Z,34nm,1.0s
HFS Hagfors 43.67 330 P **P** **14 54 14.0 +0.5**
HFS Hagfors 43.67 330 P **P** **14 54 14.0 +0.5**
comp=Z,7.6nm,0.5s,baz=127,slow=9.4,SNR=29
HFS LR LR 15 16 12.6
comp=Z,572nm,19.3s,baz=118,slow=41
comp=Z,7.6nm,0.5s
MLSI Meulaboh, Aceh 43.76 116 P **P** **14 54 14.8 0.0**
comp=Z,44nm,0.8s
MLSI pP **pP** **14 54 23.0 -1.6**
comp=Z,44nm,0.8s
HINF Hinteralfeld 43.79 311 *e*P **P** **14 54 13.2 -1.5**
HINF pmax pmax
comp=Z,43nm,1.7s
XAN Xi'an 43.93 69⇑P **P** **14 54 15.8 -0.2**
XAN pmax pmax
comp=Z,39nm,0.9s
XAN LR LR
comp=Z,650nm,19.4s
XAN LR LR
comp=Z,2μm,19.0s
XAN LR LR
comp=Z,2μm,20.6s
XAN Xi'an 43.93 69 P **P** **14 54 15.7 -0.2**
SRIT Nakonsritamara 43.96 108 P **P** **14 54 16.7 +0.3**
HAU Haudompre 44.15 311 *e*P **P** **14 54 16.5 -1.1**
BUG Bochum--Univer 44.16 316 P **P** **14 54 17.8 +0.3**
STRU Stroemstad 44.35 328 *e*P **P** **14 54 19.0 +0.1**
BTO Baotou 44.39 59 *e*P **P** **14 54 19.7 0.0**
BTO pP **pP** **14 54 28.4 -1.2**
BTO sP **sP** **14 54 32.8 -0.7**
BTO PP **PP** **14 56 05.1 +1.6**
BTO S **S** **15 00 53.1 +0.8**
BTO SS **SS** **15 04 08.9 -2.8**
BTO pmax pmax
comp=Z,83nm,0.9s
BTO pmax pmax
comp=Z,470nm,5.3s
BTO LR LR
comp=Z,1μm,15.4s
BTO LR LR
comp=Z,2μm,15.0s
BTO LR LR
comp=Z,3μm,16.9s
WLF Walferdange 44.53 313 P **P** **14 54 20.7 +0.2**
WLF Walferdange 44.53 313 *d*P **P** **14 54 20.5 0.0**
BTNL Ternell 44.70 315 *d*P **P** **14 54 22.5 +0.6**
comp=Z,17nm,0.9s
BHOU Houvegnez 44.74 314 *d*P **P** **14 54 22.7 +0.5**
comp=Z,19nm,1.1s
BHOU *d*pP **pP** **14 54 32.6 +0.5**
MEM Membach 44.78 315 P **P** **14 54 23.5 +1.0**
MEM pmax pmax
comp=Z,39nm,1.2s
MEM Membach 44.78 315 *d*P **P** **14 54 23.2 +0.7**
comp=Z,19nm,1.1s
MEM *d*pP **pP** **14 54 32.6 +0.2**
NRIK Noril'sk 44.81 15 P **P** **14 54 22.5 +0.1**
NRIK IAmb IAmb 14 54 24.4
comp=Z,33nm,0.9s
NRIK Noril'sk 44.81 15*c* *i*P **P** **14 54 23.1 +0.7**
NRIK pmax pmax
comp=Z,42nm,1.0s
NRIK Noril'sk 44.81 15 P **P** **14 54 23.2 +0.7**
comp=Z,30nm,1.0s,baz=213,slow=5.3,SNR=32
NRIK LR LR 15 16 38.0
comp=Z,3μm,18.3s,baz=214,slow=41
comp=Z,30nm,1.0s
SNSI Sinabang, Aceh 44.83 118 P **P** **14 54 25.0 +1.7**
comp=Z,33nm,1.5s
NC602 NORSAR Array S 44.89 330 P **P** **14 54 23.6 +0.3**
NC602 IAmb IAmb 14 54 53.2
comp=Z,85nm,1.8s
NC602 NORSAR Array S 44.89 330 *e*P **P** **14 54 22.9 -0.4**
NC602 IAmb IAmb 14 54 24.0
comp=Z,19nm,1.2s
NORES NORESS Array B 44.89 330 P **P** **14 54 26.8 +3.5**
OSL Oslo 44.93 329 *e*P **P** **14 54 23.9 +0.3**
OSL IAmb IAmb 14 54 24.6
comp=Z,21nm,0.9s
ENH Enshi 44.97 74 P **P** **14 54 24.7 +0.3**
ENH IAmb IAmb 14 54 35.1
comp=Z,36nm,0.8s
ENH Enshi 44.97 74 P **P** **14 54 25.1 +0.7**
ENH Enshi 44.97 74 P **P** **14 54 25.0 +0.7**
NC405 NORSAR Array S 44.98 330 P **P** **14 54 23.6 -0.3**
NC405 IAmb IAmb 14 54 37.6
comp=Z,34nm,1.0s
VIVF Saint-Julien-l 45.00 307 *e*P **P** **14 54 23.2 -1.2**
VIVF pmax pmax
comp=Z,23nm,1.1s
VADS Vadso 45.10 347 *e*P **P** **14 54 25.1 +0.3**
VADS IAmb IAmb 14 54 26.2
comp=Z,25nm,0.6s
SSB Saint Sauveur 45.12 307 P **P** **14 54 24.5 -0.9**
SSB IAmb IAmb 14 54 39.6
comp=Z,43nm,1.1s
SSB Saint Sauveur 45.12 307 P **P** **14 54 24.5 -0.9**
SSB pmax pmax
comp=Z,43nm,1.1s
SSB Saint Sauveur 45.12 307 P **P** **14 54 24.9 -0.5**
SSB pP **pP** **14 54 34.9 -0.3**
NB201 NORSAR Array S 45.14 330 P **P** **14 54 24.8 -0.4**
NB201 IAmb IAmb 14 55 18.1
comp=Z,39nm,1.1s
NB2 NORSAR Subarra 45.17 330 P **P** **14 54 22.1 -3.4**
NB2 NORSAR Subarra 45.17 330 P **P** **14 54 24.7 -0.8**
comp=Z,3.4nm,0.6s,baz=112,slow=7.9
NB2 NORSAR Subarra 45.17 330 P **P** **14 54 24.7 -0.8**
baz=112,slow=7.9
NOA NORSAR Array B 45.17 330 P **P** **14 54 24.4 -1.1**
comp=Z,4.2nm,0.6s,baz=118,slow=7.6,SNR=23
NOA LR LR 15 17 08.2
comp=Z,406nm,19.3s,baz=110,slow=41
comp=Z,4.2nm,0.6s
NC303 NORSAR Array S 45.18 330 P **P** **14 54 26.1 +0.6**
BCLA Clavier 45.19 314 *d*P **P** **14 54 26.7 +0.9**
BCLA *d*pP **pP** **14 54 36.1 +0.4**
RCHB Rochefort 45.20 314 *d*P **P** **14 54 26.4 +0.5**
comp=Z,26nm,1.1s
NAO01 NORSAR Array S 45.23 330 P **P** **14 54 25.0 -1.0**
KCSI Kotacane, Aceh 45.30 115 P **P** **14 54 24.4 -2.7**
comp=Z,20nm,0.9s
KEV Kevo 45.31 346 P **P** **14 54 26.7 +0.3**
KEV Kevo 45.31 346 P **P** **14 54 26.7 +0.3**
KEV pmax pmax
comp=Z,143nm,1.5s
KEV Kevo 45.31 346 P **P** **14 54 26.9 +0.4**
BGES Gesves 45.32 314 *d*P **P** **14 54 27.4 +0.6**
comp=Z,19nm,1.1s
BGES *d*pP **pP** **14 54 36.5 -0.2**
NBO00 NORSAR Array S 45.36 330 P **P** **14 54 26.7 -0.3**
NBO00 IAmb IAmb 14 55 08.7
comp=Z,43nm,1.4s
GIVF Givet 45.45 314 *e*P **P** **14 54 28.0 +0.2**
GIVF pmax pmax
comp=Z,84nm,1.4s
NC204 NORSAR Array S 45.47 330 P **P** **14 54 27.8 -0.1**
ARA0 ARCESS Array S 45.48 345 *e*P **P** **14 54 28.4 +0.5**
ARA0 IAmb IAmb 14 54 31.5
comp=Z,4.1nm,0.5s
ARCES ARCESS Array B 45.48 345 P **P** **14 54 28.0 +0.2**
ARCES ARCESS Array B 45.48 345 P **P** **14 54 28.1 +0.2**
comp=Z,7.7nm,0.5s,baz=136,slow=8.3,SNR=87
ARCES LR LR 15 16 05.7
comp=Z,520nm,18.4s,baz=128,slow=39
comp=Z,7.7nm,0.5s
BMRD Maredsous 45.51 314 *d*P **P** **14 54 28.9 +0.5**
comp=Z,20nm,0.9s
BMRD *d*pP **pP** **14 54 38.5 +0.2**
HHC Hu-ho-hao-te 45.56 59 *e*P **P** **14 54 29.7 +0.7**
HHC S **S** **15 01 09.1 -0.1**
HHC SS **SS** **15 04 29.2 -4.0**
HHC pmax pmax
comp=Z,36nm,1.0s
HHC pmax pmax
comp=Z,220nm,4.1s
HHC LR LR
comp=Z,430nm,19.9s
HHC LR LR
comp=Z,450nm,19.1s
HHC LR LR
comp=Z,660nm,19.1s
DOU Dourbes 45.59 314 *d*P **P** **14 54 29.1 +0.2**
comp=Z,20nm,1.2s
DOU *d*pP **pP** **14 54 38.8 -0.1**
KTK1 Kautokeino 45.65 343 *e*P **P** **14 54 29.1 -0.1**
KTK1 IAmb IAmb 14 54 30.6
comp=Z,16nm,0.8s
SMF Signal de Mont 45.70 309 *e*P **P** **14 54 29.0 -0.9**
SMF pmax pmax
comp=Z,60nm,1.1s
LOR Lormes 45.74 310 P **P** **14 54 29.3 -0.9**
LOR pmax pmax
comp=Z,24nm,1.3s
BAIF Baives 45.83 314 *e*P **P** **14 54 31.1 +0.3**
BAIF pmax pmax
comp=Z,69nm,1.3s
UBPT Khong Chiam 45.92 96 P **P** **14 54 31.9 0.0**
UBPT IAmb IAmb 14 54 34.0
comp=Z,48nm,1.1s
UBPT Khong Chiam 45.92 96 P **P** **14 54 33.2 +1.2**
SSF Saint Saulge 45.96 310 *e*P **P** **14 54 31.1 -0.9**
SSF pmax pmax
comp=Z,44nm,1.2s
AVF Avril sur Loir 46.05 309 *e*P **P** **14 54 31.5 -1.1**
AVF pmax pmax
comp=Z,21nm,1.3s
SKAR Skarslia 46.33 329 IAmb IAmb 14 54 35.1
comp=Z,117nm,1.7s
SKAR *e*P **P** **14 54 35.2 +0.5**
BGF Bois d'Agland 46.38 309 *e*P **P** **14 54 34.4 -0.9**
BGF pmax pmax
comp=Z,28nm,1.0s
MOR8 Moi Rana 46.44 337 *e*P **P** **14 54 35.7 +0.3**
MOR8 IAmb IAmb 14 54 35.8
comp=Z,103nm,1.8s
NSS Namsos 46.47 335 *e*P **P** **14 54 35.8 +0.1**
GSI Gunungsitoli 46.49 118 P **P** **14 54 37.2 +0.8**
GSI IAmb IAmb 14 54 50.6
comp=Z,79nm,1.7s
GSI Gunungsitoli 46.49 118 P **P** **14 54 38.2 +1.7**
GSI Gunungsitoli 46.49 118 P **P** **14 54 37.5 +1.0**
comp=Z,24nm,0.8s
GSI pP **pP** **14 54 46.3 0.0**
comp=Z,24nm,0.8s
DOMB Dombas 46.52 331 *e*P **P** **14 54 36.5 +0.3**
DOMB IAmb IAmb 14 54 37.2
comp=Z,33nm,1.2s
HAMF Hammerfest 46.73 345 *e*P **P** **14 54 38.3 +0.7**
HAMF IAmb IAmb 14 54 38.9
comp=Z,82nm,1.2s
JETT Jettan, Norway 46.75 343 *e*P **P** **14 54 39.0 +1.2**
LYN LuoYang 46.77 68⇑P **P** **14 54 39.2 +0.7**
LYN pmax pmax
comp=Z,57nm,0.9s
LYN LR LR
comp=Z,730nm,16.9s
LYN LR LR
comp=Z,750nm,22.9s
LYN LR LR
comp=Z,1μm,25.0s
ODD1 Odda 46.84 328 *e*P **P** **14 54 39.9 +1.3**
FAUS Fauske 46.85 339 *e*P **P** **14 54 39.5 +1.0**
GULI GuiLin 46.85 81⇑P **P** **14 54 38.9 -0.3**
GULI pmax pmax
comp=Z,30nm,1.2s
CAF Calviac 46.85 307 *e*P **P** **14 54 38.6 -0.4**
CAF pmax pmax
comp=Z,26nm,1.0s
STOK Stokkvaagen 47.01 337 *e*P **P** **14 54 41.2 +1.4**
KONS Konsvik 47.06 337 *e*P **P** **14 54 41.4 +1.1**
TAM Tamanrasset 47.12 276 P **P** **14 54 41.7 +0.2**
TAM IAmb IAmb 14 54 43.7
comp=Z,51nm,1.0s
TAM Tamanrasset 47.12 276 P **P** **14 54 41.7 +0.2**
TAM pmax pmax
comp=Z,51nm,1.0s
TAM Tamanrasset 47.12 276 P **P** **14 54 42.5 +1.0**
STEI Steigen 47.18 340 *e*P **P** **14 54 41.9 +0.8**
STEI IAmb IAmb 14 54 43.9
comp=Z,136nm,2.1s
TRO Tromso 47.19 343 *e*P **P** **14 54 41.9 +0.8**
RJF Les Rejaudoux 47.25 307 *e*P **P** **14 54 41.9 -0.2**
RJF pmax pmax
comp=Z,54nm,1.2s
IPM Ipoh 47.38 112 P **P** **14 54 42.8 -0.7**
IPM IAmb IAmb 14 56 16.0
comp=Z,23nm,1.0s
IPM Ipoh 47.38 112 P **P** **14 54 43.3 -0.2**
OPO Ambohidratompo 47.46 194 LR LR 15 12 51.5
comp=Z,460nm,19.7s,baz=173,slow=34
AKN Aaknes 47.47 330 *e*P **P** **14 54 44.0 +0.5**
AKN IAmb IAmb 14 54 44.1
comp=Z,90nm,1.6s
CIT Chita 47.59 44 *e*P **P** **14 54 44.7 0.0**
CIT *e* 14 54 55.7
CIT *e* 14 55 05.3
CIT pmax pmax
comp=Z,88nm,1.4s
BER Bergen 47.60 328 *e*P **P** **14 54 45.0 +0.5**
LOF Lofoten 47.82 339 *e*P **P** **14 54 46.0 -0.1**
LOF IAmb IAmb 14 54 47.5
comp=Z,20nm,0.7s
HNS HongShan 48.23 64⇑P **P** **14 54 50.1 +0.3**
HNS S **S** **15 01 47.4 +0.3**
HNS pmax pmax
comp=Z,29nm,1.2s
HNS LR LR
comp=Z,740nm,17.0s
HNS LR LR
comp=Z,530nm,18.5s
HNS LR LR
comp=Z,800nm,20.0s
QIZ Qiongzhong 48.35 89 P **P** **14 54 51.4 +0.5**
QIZ S **S** **15 01 50.6 +1.3**
QIZ SS **SS** **15 05 21.9 +2.8**
QIZ pmax pmax
comp=Z,30nm,1.2s
QIZ pmax pmax
comp=Z,210nm,3.6s
QIZ LR LR
comp=Z,290nm,18.4s
QIZ LR LR
comp=Z,360nm,17.3s
QIZ LR LR
comp=Z,370nm,23.4s
ETSF Etsaut 48.76 304 *e*P **P** **14 54 56.2 +2.3**
ETSF pmax pmax
comp=Z,17nm,0.9s
XLT XiLinHaoTe 48.84 55 *e*P **P** **14 54 55.4 +0.9**
XLT S **S** **15 02 02.2 +6.4**
XLT pmax pmax
comp=Z,39nm,1.1s
XLT pmax pmax
comp=Z,140nm,4.9s
BOD Bodaibo 48.88 36 *e*P **P** **14 54 54.2 -0.3**
BOD pmax pmax
comp=Z,209nm,1.0s
WHN Wuhan 49.03 73⇓P **P** **14 54 56.7 +0.7**
WHN LR LR
comp=Z,2μm,21.0s
BJT Baijiatuau 49.12 60 P **P** **14 54 56.7 +0.2**
BJT Baijiatuau 49.12 60 P **P** **14 54 57.5 +1.0**
BJT Baijiatuau 49.12 60 P **P** **14 54 56.7 +0.2**
BJT pmax pmax
comp=Z,15nm,0.9s
BJT Baijiatuau 49.12 60 P **P** **14 54 56.9 +0.3**
BJI Beijing 49.12 60 P **P** **14 54 57.0 +0.5**
BJI PcP **PcP** **14 56 20.5 +0.8**
BJI pmax pmax
comp=Z,9.0nm,0.9s
BJI LR LR
comp=Z,220nm,14.1s
BJI LR LR
comp=Z,420nm,17.1s
BJI LR LR
comp=Z,530nm,17.8s
SJPF Ste Jean 49.24 304 *e*P **P** **14 54 59.2 +1.7**
SJPF pmax pmax
comp=Z,55nm,1.4s
BKNI Bangkinang 49.82 116 P **P** **14 55 01.0 -1.2**
comp=Z,87nm,0.8s
PDSI Padang 50.12 118 P **P** **14 55 04.2 -0.3**
comp=Z,12nm,1.1s
TIA Tai'an 50.31 65⇑P **P** **14 55 05.7 0.0**

TIA S **S** **15 02 18.0 +1.6**
TIA pmax pmax
comp=Z,18nm,1.1s
TIA pmax pmax
comp=Z,99nm,3.6s
TIA LR LR
comp=Z,300nm,15.8s
TIA LR LR
comp=Z,94nm,17.3s
TIA LR LR
comp=Z,210nm,20.1s
VOI Vohitsoka 50.78 193 P **P** **14 55 09.7 +0.3**
VOI IAmb IAmb 14 55 11.3
comp=Z,63nm,1.2s
VOI Vohitsoka 50.78 193 P **P** **14 55 11.1 +1.7**
VOI Vohitsoka 50.78 193 P **P** **14 55 11.0 +1.6**
EKA Eskdalemuir Ar 50.95 320 P **P** **14 55 09.2 -1.0**
comp=Z,2.8nm,0.5s,baz=100,slow=7.0,SNR=10
comp=Z,2.8nm,0.5s
HOPEN Hopen 50.98 351 *e*P **P** **14 55 11.5 +1.3**
HOPEN IAmb IAmb 14 55 13.6
comp=Z,58nm,1.1s
HIA Hailar 51.33 48 P **P** **14 55 13.7 +0.5**
HIA IAmb IAmb 14 55 14.7
comp=Z,28nm,0.7s
HIA Hailar 51.33 48 P **P** **14 55 13.9 +0.7**
HIA Hailar 51.33 48 P **P** **14 55 13.7 +0.5**
HIA pmax pmax
comp=Z,28nm,0.7s
HIA Hailar 51.33 48 P **P** **14 55 13.7 +0.5**
ESBB Sonseca Array 51.58 300 P **P** **14 55 15.4 +0.2**
ESBB IAmb IAmb 14 55 16.9
comp=Z,88nm,1.7s
ESDC Sonseca Array 51.58 300 P **P** **14 55 15.0 -0.2**
ESDC IAmb IAmb 14 55 16.8
comp=Z,44nm,1.4s
ESDC Sonseca Array 51.58 300 P **P** **14 55 15.6 +0.3**
comp=Z,16nm,1.0s,baz=68,slow=7.0,SNR=46
comp=Z,16nm,1.0s
GUD Guadarrama 51.61 301 P **P** **14 55 13.8 -1.8**
LSZ Lusaka 51.70 217 P **P** **14 55 16.2 -0.1**
LSZ Lusaka 51.70 217 P **P** **14 55 16.3 -0.1**
LSZ pmax pmax
comp=Z,16nm,1.2s
LSZ Lusaka 51.70 217 LR LR 15 19 18.7
comp=Z,684nm,18.1s,baz=21,slow=38
LSZ Lusaka 51.70 217 P **P** **14 55 17.5 +1.1**
PAB San Pablo 51.89 300 P **P** **14 55 17.5 -0.1**
PAB IAmb IAmb 14 55 19.2
comp=Z,53nm,1.1s
PAB San Pablo 51.89 300 P **P** **14 55 17.5 -0.1**
PAB pmax pmax
comp=Z,53nm,1.2s
PAB San Pablo 51.89 300 P **P** **14 55 18.0 +0.4**
NJ2 Nanjing 52.48 70 *e*P **P** **14 55 22.4 +0.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
HSPB Hornsund (broa 52.84 349 *e*P **P** **14 55 24.6 +0.7**
PBRG Braganca 53.42 303 *e*P **P** **14 55 29.3 +0.5**
comp=Z,36nm,2.4s
DL2 Dalian 53.44 61 P P 14 55 23.0 -6.0
DL2 *e*S **S** **15 02 53.7 -5.6**
DL2 pmax pmax
comp=Z,44nm,1.0s
DL2 pmax pmax
comp=Z,320nm,4.2s
DL2 LR LR
comp=N,410nm,12.8s
DL2 LR LR
comp=E,620nm,21.2s
DL2 LR LR
comp=Z,830nm,21.4s
SPB2 Spitsbergen Ar 53.50 350 P **P** **14 55 29.2 +0.3**
SPB2 IAmb IAmb 14 55 32.2
comp=Z,38nm,0.8s
SPA0 Spitsbergen Ar 53.50 350 *e*P **P** **14 55 29.6 +0.7**
SPA0 IAmb IAmb 14 55 32.0
comp=Z,49nm,0.8s
SPITS Spitsbergen Ar 53.50 350 P **P** **14 55 29.3 +0.5**
comp=Z,19nm,0.5s,baz=130,slow=10,SNR=28
SPITS LR LR 15 22 15.8
comp=Z,1μm,18.3s,baz=106,slow=40
comp=Z,19nm,0.5s
MVO Moncorvo 53.71 302 *e*P **P** **14 55 32.1 +1.1**
comp=Z,74nm,1.3s
TOA0 Torodi Ar. Sit 54.04 266 P **P** **14 55 32.9 -0.7**
TORD Torodi Ar. Bea 54.04 266 P **P** **14 55 32.9 -0.7**
TORD Torodi Ar. Bea 54.04 266 P **P** **14 55 33.1 -0.5**
comp=Z,77nm,0.6s,baz=61,slow=7.6,SNR=558
TORD LR LR 15 21 35.8
comp=Z,2μm,19.0s,baz=65,slow=39
comp=Z,77nm,0.6s
PBAR Barrancos 54.17 298 *e*P **P** **14 55 35.0 +0.7**
comp=Z,126nm,1.7s
MTE Manteigas 54.21 301 *e*P **P** **14 55 35.6 +0.9**
comp=Z,68nm,1.6s
MTE Manteigas 54.21 301 P **P** **14 55 34.6 -0.1**
PVRL Vila Real 54.21 302 *e*P **P** **14 55 35.2 +0.5**
comp=Z,53nm,1.4s
PMRV Marv??o 54.24 300 *e*P **P** **14 55 35.4 +0.6**
comp=Z,61nm,1.1s
PMRV *e*pP **sP** **14 55 48.0 -0.9**
PCBR Castelo Branco 54.24 301 *e*P **P** **14 55 35.8 +1.0**
comp=Z,138nm,1.5s
PVIS Viseu 54.42 302 *e*P **P** **14 55 37.4 +1.2**
PESTR Estremoz 54.48 299 *e*P **P** **14 55 37.2 +0.6**
comp=Z,54nm,1.2s
PESTR Estremoz 54.48 299 P **P** **14 55 36.7 +0.1**
PESTR IAmb IAmb 14 55 38.0
comp=Z,42nm,1.1s
PGAV Gavieira, Arco 54.53 303 *e*P **P** **14 55 37.7 +0.7**
comp=Z,137nm,2.1s
KBS Kingsbay 54.66 350 P **P** **14 55 37.5 +0.2**
KBS Kingsbay 54.66 350 P **P** **14 55 37.5 +0.2**
KBS pmax pmax
comp=Z,46nm,0.9s
KBS Kingsbay 54.66 350 *e*P **P** **14 55 37.9 +0.6**
KBS IAmb IAmb 14 55 38.4
comp=Z,45nm,0.8s
KBS Kingsbay 54.66 350 P **P** **14 55 37.5 +0.2**
KBS pP **pP** **14 55 48.4 +1.0**
PBEJ Beja 54.84 298 *e*P **P** **14 55 39.8 +0.6**
comp=Z,65nm,1.6s
EVO Evora 54.86 299 *e*P **P** **14 55 40.2 +0.8**
comp=Z,90nm,1.2s
COI Coimbra 54.89 301 *e*P **P** **14 55 41.3 +1.8**
COI Coimbra 54.89 301 P **P** **14 55 40.3 +0.8**
COI Coimbra 54.89 301 P **P** **14 55 40.3 +0.8**
COI pmax pmax
comp=Z,51nm,0.9s
PMTG Montargil 54.93 300 *e*P **P** **14 55 40.8 +0.9**
comp=Z,46nm,1.4s
PCAS Casmilo, Conde 54.98 301 *e*P **P** **14 55 41.1 +0.9**
comp=Z,56nm,1.1s
PCAS *e*pP **sP** **14 55 54.4 +0.1**
PBDV Barranco-do-Ve 55.03 298 *e*P **P** **14 55 41.2 +0.6**
comp=Z,62nm,1.6s
PCVE Castro Verde 55.04 298 *e*P **P** **14 55 41.2 +0.5**
comp=Z,55nm,1.4s
MESJ Messejana 55.15 298 *e*P **P** **14 55 42.3 +0.9**
comp=Z,84nm,1.6s
MESJ Messejana 55.15 298 *e*P **P** **14 55 40.9 -0.5**
MESJ Messejana 55.15 298 *e*P **P** **14 55 41.0 -0.5**
MESJ IAmb IAmb 14 55 43.4
comp=Z,66nm,1.4s
PNCL Nicolau / Gran 55.34 299 *e*P **P** **14 55 43.7 +0.9**
comp=Z,77nm,1.5s
PNCL *e*pP **pP** **14 55 51.1 -1.8**
CN2 Changchun 55.60 54 *e*P **P** **14 55 44.3 -0.3**
CN2 *e*S **S** **15 03 20.0 -8.3**
CN2 pmax pmax
comp=Z,30nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,100nm,10.0s
CN2 LR LR
comp=Z,200nm,10.0s
CN2 LR LR
comp=Z,300nm,10.0s
PMAFR Mafra 55.77 300 *e*P **P** **14 55 47.4 +1.5**
comp=Z,161nm,1.2s
PMAFR *e*pP **pP** **14 55 56.1 +0.1**
ZEA Zeya 55.96 42 *e*P **P** **14 55 47.4 +0.4**
ZEA pmax pmax
comp=E,20nm,1.1s
ZEA pmax pmax
comp=N,20nm,1.0s
ZEA pmax pmax
comp=Z,40nm,1.0s
ZEA MLR MLR
comp=E,300nm,16.0s
ZEA MLR MLR
comp=Z,400nm,14.0s
JMIC Jan Mayen 56.01 339 LR LR 15 21 49.1
comp=Z,227nm,18.3s,baz=68,slow=38
HEH HeiHe 56.26 46 *e*P **P** **14 55 48.6 -0.6**
HEH pP **pP** **14 55 57.3 -2.0**
HEH PcP **PcP** **14 56 45.9 -0.6**
HEH S **S** **15 03 35.1 -1.7**
HEH sS **pS** **15 03 49.2 +0.3**
HEH pmax pmax
comp=Z,51nm,1.2s
HEH pmax pmax
comp=Z,93nm,4.9s
HEH LR LR
comp=Z,310nm,17.5s
HEH LR LR
comp=Z,1μm,21.4s
HEH LR LR
comp=Z,2μm,22.4s
SSLB Suanglung 56.51 79 P **P** **14 55 52.7 +1.3**
SSLB IAmb IAmb 14 55 55.5
comp=Z,61nm,1.2s
SSLB Suanglung 56.51 79 P **P** **14 55 52.7 +1.3**
YHNB Yeheng 56.59 78 P **P** **14 55 53.0 +0.9**
BNX BinXian 56.73 52 ⇑P **P** **14 55 52.1 -0.5**
BNX pmax pmax
comp=Z,39nm,1.1s
BNX pmax pmax
comp=Z,130nm,5.1s
TWGBT Beinan 56.93 80 P **P** **14 55 56.6 +2.2**
YULB Yu-li 56.93 79 P **P** **14 55 55.9 +1.5**
YULB IAmb IAmb 14 55 59.2
comp=Z,48nm,1.2s
YULB Yu-li 56.93 79 P **P** **14 55 55.4 +1.0**
NACB Ninganchiao 56.94 78 P **P** **14 55 55.3 +0.9**
YAK Yakutsk 57.22 32*c i*P **P** **14 55 54.0 -1.8**
YAK pmax pmax
comp=Z,49nm,1.0s
YAK Yakutsk 57.22 32 LR LR 15 22 42.0
comp=Z,394nm,19.1s,baz=266,slow=38
INCN Inchon 57.58 62 P **P** **14 55 58.1 -0.6**
INCN Inchon 57.58 62 P **P** **14 55 58.4 -0.4**
INCN Inchon 57.58 62 P **P** **14 55 58.2 -0.6**
INCN pmax pmax
comp=Z,85nm,1.3s
INCN Inchon 57.58 62 P **P** **14 55 58.5 -0.3**
TIXI Tiksi 57.71 21 P **P** **14 55 57.9 -1.2**
TIXI IAmb IAmb 14 56 03.8
comp=Z,32nm,0.9s
TIXI Tiksi 57.71 21 *i*P **P** **14 55 57.9 -1.2**
TIXI pmax pmax
comp=Z,32nm,0.9s
TIXI Tiksi 57.71 21 P **P** **14 55 58.5 -0.6**
SBUM Sibu 57.85 106 P **P** **14 56 00.2 -0.8**
MDJ Mudanjiang 58.43 53 P **P** **14 56 03.1 -1.5**
MDJ PcP **PcP** **14 56 53.6 -1.5**
MDJ PcS **PcS** **15 00 54.9 -1.7**
MDJ S **S** **15 04 07.3 +1.8**
MDJ pmax pmax
comp=Z,17nm,1.2s
MDJ pmax pmax
comp=Z,210nm,4.1s
MDJ LR LR
comp=Z,890nm,12.4s
MDJ LR LR
comp=Z,990nm,22.1s
MDJ LR LR
comp=Z,1μm,21.0s
STKI Sintang 58.49 109 P **P** **14 56 06.0 +0.5**
comp=Z,26nm,1.0s,comp=Z,4μm
KS19 Wonju Array Si 58.53 61 P **P** **14 56 04.8 -0.6**
KSAR Wonju Array Be 58.56 61 P **P** **14 56 04.9 -0.7**
KSAR Wonju Array Be 58.56 61 P **P** **14 56 04.9 -0.7**
KSRS Korea Array 58.59 61 P **P** **14 56 04.9 -0.9**
comp=Z,19nm,0.8s,baz=277,slow=6.5,SNR=48
KSRS LR LR 15 24 34.9
comp=Z,474nm,21.6s,baz=265,slow=39
comp=Z,19nm,0.8s
KLR Kul'dur 59.17 47 LR LR 15 24 19.2
comp=Z,644nm,20.0s,baz=278,slow=39
TGY Tagaytay City 60.05 89 LR LR 15 25 35.1
comp=Z,329nm,20.3s,baz=138,slow=39
XMI Christmas Isla 60.18 123 P **P** **14 56 17.3 +0.2**
USA0B Ussuriysk Arra 60.19 53 P **P** **14 56 15.7 -1.1**
USA0B Ussuriysk Arra 60.19 53 P **P** **14 56 15.7 -1.1**
USA0B pmax pmax
comp=Z,12nm,0.8s
USRK Ussuriysk Ar. 60.19 53 P **P** **14 56 15.8 -1.0**
USRK Ussuriysk Ar. 60.19 53 P **P** **14 56 15.8 -1.0**
USRK Ussuriysk Ar. 60.19 53 P **P** **14 56 15.4 -1.4**
comp=Z,11nm,0.7s,baz=270,slow=6.5,SNR=33
USRK LR LR 15 25 20.9
comp=Z,1μm,20.3s,baz=274,slow=39
comp=Z,11nm,0.7s
BORG Borgarnes 60.33 331 LR LR 15 24 20.8
comp=Z,261nm,21.2s,baz=74,slow=38
VLA Vladivostok 60.34 54 *i*P **P** **14 56 17.0 -0.8**
VLA pmax pmax
comp=Z,67nm,1.0s
TSUM Tsumeb 60.93 224 P **P** **14 56 22.0 -0.2**
TSUM IAmb IAmb 14 56 24.2
comp=Z,37nm,1.1s
TSUM Tsumeb 60.93 224 LR LR 15 24 38.4
comp=Z,1μm,21.6s,baz=36,slow=38
LBTB Lobatse 61.15 213 P **P** **14 56 23.9 +0.3**
LBTB Lobatse 61.15 213 P **P** **14 56 23.9 +0.3**
LBTB pmax pmax
comp=Z,53nm,1.2s
LBTB Lobatse 61.15 213 LR LR 15 23 55.4
comp=Z,576nm,20.5s,baz=47,slow=37
LBTB Lobatse 61.15 213 P **P** **14 56 24.3 +0.7**
LBTB sP **sP** **14 56 39.1 +1.4**
GRNR Gornyy 61.89 45⇑*i*P **P** **14 56 27.6 -0.6**
GRNR pmax pmax
comp=E,10.0nm,1.1s
GRNR pmax pmax
comp=Z,30nm,1.1s
GRNR MLR MLR
comp=N,190nm,12.0s
JNU Nakatsue 62.03 65 LR LR 15 28 36.8
comp=N,321nm,19.2s,baz=312,slow=41
DBIC Dimbokro 62.69 263 P **P** **14 56 33.2 -0.9**
DBIC IAmb IAmb 14 56 36.3
comp=Z,25nm,0.9s
DBIC Dimbokro 62.69 263 P **P** **14 56 34.0 -0.1**
DBIC Dimbokro 62.69 263 P **P** **14 56 34.0 -0.1**
comp=Z,13nm,0.6s,baz=51,slow=6.4,SNR=16
DBIC LR LR 15 25 54.3
comp=Z,575nm,20.5s,baz=47,slow=38
comp=Z,13nm,0.6s
DBIC Dimbokro 62.69 263 P **P** **14 56 34.5 +0.4**
KIC Kosan Boka 62.74 262⇑*e*P **P** **14 56 34.2 -0.2**
comp=Z,31nm,0.8s
TIC Toumodi 62.85 263⇑*e*P **P** **14 56 35.7 +0.5**
comp=Z,9.4nm,0.5s
LIC Lamto 63.05 262⇑*e*P **P** **14 56 36.1 -0.4**
comp=Z,39nm,0.8s
BKB Balikpapan 63.77 107 P **P** **14 56 42.4 +1.2**
BKB Balikpapan 63.77 107 P **P** **14 56 41.9 +0.7**
comp=Z,94nm,1.1s
BOSA Boshof 64.35 212 P **P** **14 56 44.5 -0.3**
BOSA IAmb IAmb 14 56 46.0
comp=Z,48nm,1.1s
BOSA Boshof 64.35 212 P **P** **14 56 44.9 +0.1**
comp=Z,22nm,0.9s,baz=37,slow=7.3,SNR=27
comp=Z,22nm,0.9s
BOSA Boshof 64.35 212 P **P** **14 56 44.9 +0.1**
SUMG Summit 65.31 341 P **P** **14 56 51.3 +0.4**
SUMG Summit 65.31 341 P **P** **14 56 51.3 +0.4**
SUMG pmax pmax
comp=Z,97nm,1.3s
MPSI Mapaga 65.50 104 P **P** **14 56 53.1 +0.6**
comp=Z,89nm,1.2s,comp=Z,974nm
TYV Tymovskoe 65.73 44 *e*P **P** **14 56 53.4 0.0**
TYV pmax pmax
comp=Z,18nm,1.4s
TYV pmax pmax
comp=Z,100nm,2.2s
TOLI2 Tolitoli 65.87 102 P **P** **14 56 54.6 -0.4**
TOLI2 Tolitoli 65.87 102 P **P** **14 56 55.2 +0.3**

ALE Alert 66.06 353 P **P** **14 56 55.6 +0.5**
ALE pP **pP** **14 57 06.7 +1.3**
SRBI Singaraja 66.14 114 P **P** **14 56 55.4 -1.2**
comp=Z,30nm,1.3s
INU Inuyama 66.22 61 P **P** **14 56 56.1 -0.8**
INU Inuyama 66.22 61 P **P** **14 56 56.4 -0.5**
MAJO Matsushiro 66.76 60 P **P** **14 56 59.4 -0.9**
MAJO IAmb IAmb 14 57 01.7
comp=Z,23nm,1.1s
MAJO Matsushiro 66.76 60 P **P** **14 56 59.5 -0.9**
MAJO Matsushiro 66.76 60 *i*P **P** **14 56 59.4 -0.9**
MAJO pmax pmax
comp=Z,30nm,1.3s
MAJO Matsushiro 66.76 60 P **P** **14 56 59.2 -1.1**
MJAR Matsushiro Arr 66.76 60 P **P** **14 56 59.4 -1.0**
comp=Z,12nm,1.1s,baz=294,slow=9.4,SNR=14
comp=Z,12nm,1.1s
YSS Yuzh-Sakhalins 66.86 48 P **P** **14 56 59.4 -1.4**
YSS Yuzh-Sakhalins 66.86 48 P **P** **14 57 00.0 -0.8**
YSS Yuzh-Sakhalins 66.86 48 *i*P **P** **14 57 00.0 -0.8**
YSS pmax pmax
comp=Z,71nm,0.8s
YSS Yuzh-Sakhalins 66.86 48 P **P** **14 56 60.0 -0.8**
TTSI Tana Toraja 67.18 107 P **P** **14 57 02.2 -1.1**
comp=Z,13nm,0.5s
MRSI Marisa 67.19 102 P **P** **14 57 02.9 -0.4**
comp=Z,63nm,1.1s,comp=Z,644nm
SEY Seymchan 67.48 30 *i*P **P** **14 57 03.8 -0.6**
SEY pmax pmax
comp=Z,29nm,0.9s
SEY Seymchan 67.48 30 LR LR 15 30 09.4
comp=Z,696nm,18.3s,baz=299,slow=39
JTM Tennabayashi 67.55 55 P **P** **14 57 04.7 -0.6**
ASAJ Asahikawa 67.60 51 LR LR 15 29 56.2
comp=Z,640nm,18.9s,baz=304,slow=39
SOE Somerset East 67.71 209 P **P** **14 57 05.9 -0.4**
SOE IAmb IAmb 14 57 08.1
comp=Z,42nm,0.9s
MA2 Magadan 67.75 33 P **P** **14 57 05.5 -0.7**
MA2 Magadan 67.75 33 *i*P **P** **14 57 05.3 -0.9**
MA2 pmax pmax
comp=Z,16nm,1.0s
MA2 Magadan 67.75 33 P **P** **14 57 05.5 -0.7**
MA2 pP **pP** **14 57 16.4 -0.1**
MA2 sP **sP** **14 57 21.0 +0.6**
KAPI Kappang 68.17 109 *i*P **P** **14 57 09.1 -0.4**
KAPI pmax pmax
comp=Z,60nm,1.3s
JMM Marumori 68.28 58 P **P** **14 57 09.4 -0.6**
ERM Erimo 68.65 53 *i*P **P** **14 57 12.4 +0.3**
ERM pmax pmax
comp=Z,45nm,1.2s
ERM Erimo 68.65 53 P **P** **14 57 12.2 0.0**
SUR Sutherland 69.59 213 P **P** **14 57 19.2 +1.1**
EUNU Eureka 70.34 354 P **P** **14 57 22.1 0.0**
EUNU IAmb IAmb 14 57 24.2
comp=Z,63nm,1.2s
BILL Bilibino 70.87 22 P **P** **14 57 25.1 -0.3**
BILL IAmb IAmb 14 57 29.2
comp=Z,24nm,1.0s
BILL Bilibino 70.87 22 *i*P **P** **14 57 25.4 0.0**
BILL pmax pmax
comp=Z,31nm,1.1s
BILL Bilibino 70.87 22 P **P** **14 57 25.4 0.0**
BILL pP **pP** **14 57 35.6 -0.2**
SFJD Kangerlussuaq 71.27 337 P **P** **14 57 27.0 -0.7**
SFJD Kangerlussuaq 71.27 337 LR LR 15 30 33.9
comp=Z,719nm,21.6s,baz=34,slow=37
SFJD Kangerlussuaq 71.27 337 P **P** **14 57 27.8 +0.1**
TNTI Ternate 71.75 99 P **P** **14 57 31.5 -0.1**
TNTI Ternate 71.75 99 P **P** **14 57 32.8 +1.2**
comp=Z,62nm,1.1s
EDFI Ende, Flores 71.81 111 P **P** **14 57 29.1 -2.9**
comp=Z,27nm,1.4s
NRS Narsarsuaq 71.81 330 P **P** **14 57 30.2 -0.9**
SANI Sanana 71.95 102 P **P** **14 57 32.7 0.0**
SANI Sanana 71.95 102 P **P** **14 57 32.1 -0.6**
comp=Z,45nm,1.2s
LBMI Labuha 72.56 100 P **P** **14 57 36.5 +0.1**
comp=Z,43nm,1.0s
JCJ Chichijima 73.29 68 LR LR 15 34 05.5
comp=Z,202nm,19.1s,baz=78,slow=39
PETK Petropavlovsk- 73.70 38 P **P** **14 57 40.9 -1.6**
comp=Z,7.2nm,0.9s,baz=270,slow=5.8,SNR=4.7
PETK LR LR 15 32 24.2
comp=Z,380nm,20.3s,baz=296,slow=38
comp=Z,7.2nm,0.9s
GIRL Giralia 74.28 127 P **P** **14 57 48.0 +1.7**
SOEI Soe 74.49 110 P **P** **14 57 47.4 -0.5**
SOEI Soe 74.49 110 P **P** **14 57 48.1 +0.3**
SOEI Soe 74.49 110 P **P** **14 57 47.9 +0.1**
comp=Z,103nm,1.0s
SWI Sorong 75.94 99 P **P** **14 57 56.1 0.0**
comp=Z,39nm,1.1s
RES Resolute Bay 75.96 353 P **P** **14 57 54.0 -1.2**
RES Resolute Bay 75.96 353 LR LR 15 36 30.9
comp=Z,505nm,19.4s,baz=11,slow=40
MBWA Marble Bar 77.36 122 P **P** **14 58 03.5 -0.5**
MBWA IAmb IAmb 14 58 05.2
comp=Z,30nm,1.3s
MBWA Marble Bar 77.36 122 P **P** **14 58 04.5 +0.6**
PSA00 Pilbara Seismi 77.70 123 P **P** **14 58 06.0 +0.2**
A21K Barrow 78.01 11 P **P** **14 58 07.0 +0.2**
baz=330
B18K Kokolik River 78.71 13 P **P** **14 58 11.1 +0.4**
baz=325
C16K Lisburne Hills 78.83 15 P **P** **14 58 11.1 -0.2**
baz=322
B20K Meade River 79.05 12 P **P** **14 58 12.5 -0.1**
B20K IAmb IAmb 14 58 40.5
comp=Z,49nm,1.7s
B20K Meade River 79.05 12 P **P** **14 58 12.6 +0.1**
baz=329
C17K DeLong Mountai 79.15 14 P **P** **14 58 12.9 -0.2**
baz=324
FRB Frobisher Bay 79.23 339 P **P** **14 58 12.9 -0.7**
C19K Lookout Ridge 79.37 13 P **P** **14 58 14.2 -0.2**
baz=327
B22K Teshekpuk Lake 79.38 10 P **P** **14 58 14.4 +0.1**
baz=332
C18K Utukok River 79.43 14 P **P** **14 58 14.3 -0.4**
baz=326
SAUI Saumlaki 79.49 105 P **P** **14 58 18.1 +2.2**
SAUI Saumlaki 79.49 105 P **P** **14 58 15.4 -0.5**
comp=Z,319nm,1.1s,comp=Z,21μm
MORW Morawa 79.65 131 P **P** **14 58 17.0 +0.6**
D17K Noatak River 79.80 15 P **P** **14 58 16.4 -0.3**
baz=324
B21K Ikpikpuk River 79.83 11 P **P** **14 58 17.0 +0.2**
baz=331
MEEK Meekatharra 79.88 127 P **P** **14 58 17.6 -0.2**
FITZ Fitzroy Crossi 80.15 117 P **P** **14 58 20.0 +0.6**
FITZ Fitzroy Crossi 80.15 117 P **P** **14 58 20.6 +1.3**
D19K Kuna River 80.17 13 P **P** **14 58 18.2 -0.5**
D19K Kuna River 80.17 13 P **P** **14 58 18.5 -0.3**
baz=328
A36M Sachs Harbour 80.20 1 P **P** **14 58 18.3 -0.4**
A36M IAmb IAmb 14 58 26.6
comp=Z,47nm,0.8s
A36M Sachs Harbour 80.20 1 P **P** **14 58 18.7 0.0**
baz=357
C21K Knifeblade Rid 80.21 11 P **P** **14 58 19.2 +0.3**
baz=331
C23K Itkillik River 80.26 10 P **P** **14 58 19.7 +0.5**
baz=335
D20K Etivluk River 80.27 12 P **P** **14 58 19.2 0.0**
baz=330
TNA Tin City 80.31 18 P **P** **14 58 19.1 -0.3**
baz=320
E18K Tukpahlearik C 80.57 14 P **P** **14 58 20.6 -0.3**
baz=326
GAMB Gambell 80.58 20 P **P** **14 58 21.1 +0.2**
baz=317
C24K Franklin Bluff 80.64 9 P **P** **14 58 21.5 +0.4**
baz=337
E20K Nigu River 80.74 12 P **P** **14 58 21.6 -0.2**
baz=330
F14K Arctic Creek 80.80 17 P **P** **14 58 22.3 +0.2**
baz=322
D22K Ayikyak River 80.81 11 P **P** **14 58 22.2 +0.1**
baz=333
C26K Camden Bay 80.95 8 P **P** **14 58 23.2 +0.4**
baz=340
E21K Killik River 80.98 11 P **P** **14 58 22.6 -0.5**
baz=332
F15K North Star Dit 81.04 16 P **P** **14 58 23.3 0.0**

D23K **Nanushuk River** 81.05 10 P P 14 58 23.5 +0.1
baz=335
BLDU **Ballidu** 81.08 132 P P 14 58 24.2 +0.1
D24K **Happy Valley** 81.15 9 P P 14 58 24.2 +0.3
baz=337
E19K **Redstone River** 81.23 13 P P 14 58 23.9 -0.6
baz=329
F17K **Baldwin Pennin** 81.25 15 P P 14 58 24.3 -0.2
baz=326
D25K **Kavik River** 81.33 8 P P 14 58 25.2 +0.3
baz=339
KNRA **Kununurra** 81.35 113 P P 14 58 26.4 +0.6
KNRA **Kununurra** 81.35 113 P P 14 58 26.8 +1.0
DRS **Darwin Rock St** 81.42 109 P P 14 58 27.7 +1.5
F18K **Selawik** 81.47 14 P P 14 58 25.1 -0.4
baz=327,SNR=14
E22K **Anaktuvuk Pass** 81.62 11 P P 14 58 26.4 -0.1
baz=334
MUN **Mundaring** 81.63 133 P P 14 58 26.8 -0.2
MUN **Mundaring** 81.63 133 P P 14 58 25.3 -1.7
F19K **Shaleruckik Mo** 81.66 13 P P 14 58 25.7 -1.0
baz=329
ANM **Nome** 81.77 17 P P 14 58 27.5 +0.3
ANM **Nome** 81.77 17 P P 14 58 27.5 +0.3
ANM pmax pmax
comp=Z,17nm,1.1s
ANM **Nome** 81.77 17 P P 14 58 27.4 +0.2
baz=322,SNR=8.7
G15K **Niukluk** 81.77 17 P P 14 58 26.9 -0.3
baz=324,SNR=8.4
MTN **Manton Dam** 81.82 109 P P 14 58 28.5 +0.2
MTN IAmb IAmb 14 58 29.6
comp=Z,28nm,1.1s
G16K **Koyuk River** 81.86 16 P P 14 58 27.6 0.0
baz=325
F20K **Avaraart Lake** 81.88 13 P P 14 58 27.3 -0.5
baz=331
E23K **Chandalar** 82.04 10 P P 14 58 28.9 +0.2
baz=336
F21K **Alatna River** 82.15 12 P P 14 58 28.9 -0.4
baz=333
D28M **Stokes Point** 82.16 6 P P 14 58 29.7 +0.5
baz=346
G17K **Kiwalik Mounta** 82.17 15 P P 14 58 28.9 -0.4
baz=326
G18K **Tagagawik** 82.28 14 P P 14 58 29.1 -0.8
baz=328
KLBR **Kellerberrin** 82.39 132 P P 14 58 31.1 +0.1
G19K **Purcell Mounta** 82.40 14 P P 14 58 30.0 -0.5
G19K IAmb IAmb 14 58 33.4
comp=Z,22nm,1.1s
G19K **Purcell Mounta** 82.40 14 P P 14 58 30.2 -0.4
baz=330
H16K **Elim** 82.50 16 P P 14 58 30.7 -0.4
baz=325,SNR=5.8
E25K **Arctic Village** 82.56 9 P P 14 58 31.5 +0.1
baz=340
COLD **Coldfoot** 82.71 11 P P 14 58 32.3 +0.2
baz=336
G22K **Bettles** 82.77 11 P P 14 58 32.1 -0.3
baz=334,SNR=11
G21K **Allakaket** 82.77 12 P P 14 58 31.6 -0.9
baz=333
F24K **Squaw Lake** 82.80 10 P P 14 58 32.8 +0.1
baz=338
H17K **Granite Mounta** 82.81 15 P P 14 58 31.9 -0.8
H17K **Granite Mounta** 82.81 15 P P 14 58 32.2 -0.5
baz=327
KDU **Kakadu** 82.86 108 P P 14 58 34.8 +1.0
C36M **Paulatuk** 82.87 1 P P 14 58 31.9 -0.9
baz=358,SNR=9.6
NWAO **Narrogin (SRO)** 82.90 133 P P 14 58 33.8 +0.2
NWAO **Narrogin (SRO)** 82.90 133 P P 14 58 33.6 0.0
NWAO **Narrogin (SRO)** 82.90 133 LR LR 15 31 10.8
comp=Z,81nm,20.3s,baz=272,slow=32
H18K **Honhosa River** 82.98 15 P P 14 58 33.0 -0.6
baz=328
F25K **Christian Rive** 83.04 9 P P 14 58 34.2 +0.2
baz=339
H19K **Roundabout Mou** 83.07 14 P P 14 58 33.9 -0.1
baz=330
F26K **Sheenjek River** 83.14 8 P P 14 58 34.8 +0.3
baz=341
E29M **Blow River** 83.15 6 P P 14 58 34.7 +0.3
E29M **Blow River** 83.15 6 P P 14 58 34.5 +0.1
baz=346
G23K **Bananza Creek** 83.21 11 P P 14 58 34.7 -0.1
baz=336
BMAR **Burnt Mountain** 83.34 8 P P 14 58 35.9 +0.4
H20K **Anotleneega Mo** 83.42 13 P P 14 58 35.5 -0.4
baz=332,SNR=9.7
I17K **Unalakleet** 83.51 16 P P 14 58 36.4 +0.2
baz=327,SNR=7.7
INK **Inuvik** 83.56 4 P P 14 58 35.8 -0.7
INK **Inuvik** 83.56 4 P P 14 58 36.5 +0.1
baz=350,SNR=5.7
INK **Inuvik** 83.56 4 LR LR 15 41 08.8
comp=Z,223nm,19.9s,baz=3.0,slow=39
G24K **Hadweenzic Riv** 83.62 10 P P 14 58 37.3 +0.5
baz=338
GCSA **Galena City Sc** 83.65 14 P P 14 58 37.0 0.0
baz=330,SNR=8.2
H21K **Melozitna Rive** 83.67 12 P P 14 58 37.3 +0.1
H21K IAmb IAmb 14 58 38.4
comp=Z,32nm,1.4s
H21K **Melozitna Rive** 83.67 12 P P 14 58 37.2 0.0
baz=333
J14K **Nanvaranak Lak** 83.71 18 P P 14 58 37.8 +0.4
baz=324
F28M **Old Crow** 83.71 7 P P 14 58 37.3 -0.1
baz=344,SNR=8.5
H22K **Ishtalitna Cre** 83.72 12 P P 14 58 37.8 +0.4
baz=334
G25K **Bearman Lake** 83.76 9 P P 14 58 38.2 +0.7
baz=339
G26K **Porcupine Rive** 83.90 8 P P 14 58 38.5 +0.3
baz=341
J16K **Anvik River** 84.03 16 P P 14 58 39.3 +0.3
J16K IAmb IAmb 14 58 42.0
comp=Z,15nm,0.9s
J16K **Anvik River** 84.03 16 P P 14 58 39.0 -0.1
baz=327
F30M **Barrier River** 84.09 5 P P 14 58 39.1 -0.1
baz=348,SNR=8.1
I20K **Naaghedeneel** 84.11 13 P P 14 58 39.6 +0.2
baz=332
I21K **Tanana** 84.25 12 P P 14 58 40.2 +0.1
baz=334,SNR=8.9
J17K **VABM Dome** 84.31 16 P P 14 58 40.2 -0.3
baz=328
H24K **Noodor Dome** 84.36 10 P P 14 58 41.0 +0.3
baz=338
F31M **Tsiigehtchic** 84.40 4 P P 14 58 40.4 -0.4
baz=350,SNR=19
GENI **Genyem** 84.58 96 P P 14 58 43.6 +1.0
comp=Z,67nm,1.4s
J19K **Poorman** 84.58 14 P P 14 58 41.8 0.0
J19K IAmb IAmb 14 58 44.7
comp=Z,17nm,1.0s
J19K **Poorman** 84.58 14 P P 14 58 41.8 0.0
baz=331
MLY **Manley** 84.62 12 P P 14 58 42.0 0.0
baz=335,SNR=12
K15K **Wolf Creek Mou** 84.62 17 P P 14 58 43.0 +0.9
K15K IAmb IAmb 14 58 43.8
comp=Z,28nm,1.3s
K15K **Wolf Creek Mou** 84.62 17 P P 14 58 42.3 +0.3
baz=326
G30M **tAoh Zraii Nji** 84.67 5 P P 14 58 41.8 -0.5
baz=348,SNR=16
SCHQ **Schefferville** 84.72 331 P P 14 58 41.9 -0.8
comp=Z,4.1nm,0.5s,baz=78,slow=1.6,SNR=14
comp=Z,4.1nm,0.5s
J20K **Nowinta River** 84.73 13 P P 14 58 42.7 +0.1
J20K IAmb IAmb 14 58 45.4
comp=Z,16nm,1.0s
J20K **Nowinta River** 84.73 13 P P 14 58 42.4 -0.1
baz=332
I23K **Minto, Yukon-K** 84.75 11 P P 14 58 43.3 +0.7
I23K IAmb IAmb 14 58 46.1
comp=Z,24nm,1.2s
I23K **Minto, Yukon-K** 84.75 11 P P 14 58 42.8 +0.2
baz=336,SNR=10
J18K **Innoko River** 84.80 15 P P 14 58 42.3 -0.6
J18K **Innoko River** 84.80 15 P P 14 58 42.7 -0.2
baz=330

H27K **Steamboat Moun** 84.86 8 P P 14 58 43.7 +0.4
baz=343,SNR=12
G31M **Satah River** 84.88 5 P P 14 58 42.8 -0.4
baz=350,SNR=14
PRP **Porcupine Dome** 85.01 9 P P 14 58 44.5 +0.4
baz=340,SNR=10
KMBL **Kambalda** 85.03 129 P P 14 58 44.6 +0.1
K17K **Iditarod** 85.08 16 P P 14 58 44.1 -0.2
K17K IAmb IAmb 14 58 45.5
comp=Z,26nm,1.3s
K17K **Iditarod** 85.08 16 P P 14 58 44.0 -0.3
baz=329
POKR **Poker Plat Res** 85.10 10 P P 14 58 44.6 +0.2
baz=338
L14K **Kuka Creek** 85.10 18 P P 14 58 44.5 +0.1
baz=325
L15K **Ungalak Mounta** 85.15 18 P P 14 58 44.8 +0.1
baz=326
H29M **Whitestone** 85.22 6 P P 14 58 45.0 0.0
H29M **Whitestone** 85.22 6 P P 14 58 44.7 -0.2
baz=346
EPYK **Eagle Plains** 85.23 6 P P 14 58 44.2 -0.8
baz=347,SNR=9.5
COLA **College** 85.26 11 P P 14 58 44.9 -0.2
COLA **College** 85.26 11 *i* P P 14 58 43.3 -1.8
COLA pmax pmax
comp=Z,14nm,1.1s
COLA **College** 85.26 11 P P 14 58 44.6 -0.5
baz=338
NEA2 **Nenana** 85.31 11 P P 14 58 44.8 -0.7
NEA2 **Nenana** 85.31 11 P P 14 58 44.8 -0.7
baz=337,SNR=7.4
CHUM **Lake Minchumin** 85.36 13 P P 14 58 45.3 -0.4
baz=334,SNR=18
BPAW **Bear Paw Mtn.** 85.42 12 P P 14 58 45.5 -0.5
baz=335,SNR=22
TTA **Tatalina** 85.43 15 P P 14 58 46.0 -0.1
TTA IAmb IAmb 14 58 47.3
comp=Z,26nm,1.5s
TTA **Tatalina** 85.43 15 P P 14 58 46.3 +0.1
TTA **Tatalina** 85.43 15 P P 14 58 46.0 -0.1
TTA pmax pmax
comp=Z,26nm,1.5s
TTA **Tatalina** 85.43 15 P P 14 58 45.7 -0.5
baz=331,SNR=7.4
I27K **Kandik River** 85.45 8 P P 14 58 45.9 -0.3
baz=343
K20K **Telida** 85.47 14 P P 14 58 46.8 +0.5
K20K IAmb IAmb 14 58 47.5
comp=Z,37nm,1.4s
K20K **Telida** 85.47 14 P P 14 58 46.1 -0.2
baz=332
CCB **Clear Creek Bu** 85.47 11 P P 14 58 45.3 -0.9
ILAR **Eielson Array** 85.51 10 P P 14 58 45.0 -1.4
comp=Z,1.4nm,0.6s,baz=320,slow=4.1,SNR=20
ILAR PP PP 15 02 03.5 -0.7
comp=Z,0.6nm,0.8s,baz=309,slow=5.7,SNR=2.7
ILAR PKKPbc PKKPbc 15 16 49.8 -1.1
comp=Z,1.1nm,0.8s,baz=197,slow=2.0,SNR=9.0
ILAR LR LR 15 42 29.3
comp=Z,430nm,19.8s,baz=307,slow=40
comp=Z,1.4nm,0.6s
I26K **Coal Creek Min** 85.54 9 P P 14 58 46.6 0.0
baz=342
L17K **Donlin** 85.58 16 P P 14 58 47.1 +0.3
baz=329
L16K **Owhat River** 85.65 17 P P 14 58 47.3 +0.1
L16K IAmb IAmb 14 58 48.7
comp=Z,30nm,1.3s
L16K **Owhat River** 85.65 17 P P 14 58 47.4 +0.3
baz=328,SNR=6.5
M13K **Dall Lake** 85.67 19 P P 14 58 47.7 +0.5
baz=324
M14K **Bethel** 85.79 18 P P 14 58 48.1 +0.3
baz=326
I28M **Miner Creek** 85.80 7 P P 14 58 47.6 -0.4
baz=344
CAST **Castle Rocks** 85.82 13 P P 14 58 47.7 -0.3
baz=334,SNR=29
HDA **Harding Lake** 85.83 10 P P 14 58 47.1 -0.9
baz=338
J25K **Salcha River,** 85.89 10 P P 14 58 48.0 -0.4
baz=340
L18K **Granite Mounta** 85.89 15 P P 14 58 48.2 -0.1
baz=330
H31M **Peel River** 85.98 5 P P 14 58 48.2 -0.6
baz=349
SPIA **Saint Paul Isl** 85.99 24 P P 14 58 48.2 -0.7
baz=319
WRKA **Warakurna** 86.03 121 P P 14 58 51.1 +1.4
MCK **McKinley** 86.13 12 P P 14 58 48.8 -0.8
baz=337,SNR=8.3
TRF **Thorofare Moun** 86.14 12 P P 14 58 49.4 -0.4
baz=336
M15K **Kasigluk River** 86.18 18 P P 14 58 50.0 +0.2
baz=327
J26L **Joseph Creek** 86.25 9 P P 14 58 49.8 -0.4
baz=341
PPLA **Purkeypile** 86.27 13 P P 14 58 49.6 -0.8
baz=334
L20K **Farewell, AK** 86.29 14 P P 14 58 50.1 -0.3
baz=332
EGAK **Eagle** 86.30 8 P P 14 58 50.1 -0.3
EGAK IAmb IAmb 14 58 53.3
comp=Z,28nm,1.2s
EGAK **Eagle** 86.30 8 P P 14 58 50.0 -0.3
baz=344,SNR=16
L19K **White Mountain** 86.34 15 P P 14 58 50.6 -0.1
baz=332,SNR=7.0
M16K **Timber Creek** 86.36 17 P P 14 58 51.0 +0.3
baz=328
I30M **Mount Dempster** 86.38 6 P P 14 58 50.2 -0.7
baz=348
M17K **Holitna River** 86.42 16 P P 14 58 51.3 +0.3
baz=330
N14K **Kuskokwak Cree** 86.55 19 P P 14 58 51.2 -0.4
baz=326
K24K **Donnelly Dome** 86.59 10 P P 14 58 51.4 -0.5
baz=339
P08K **Saint George I** 86.67 24 P P 14 58 51.3 -0.9
baz=320
SCRK **Sand Creek** 86.69 9 P P 14 58 52.4 -0.1
baz=341,SNR=17
M19K **Big River Lodg** 86.69 15 P P 14 58 52.4 0.0
baz=332
M18K **Stony River** 86.73 15 P P 14 58 52.5 0.0
baz=331
N15K **Kwethluk River** 86.79 18 P P 14 58 53.1 +0.2
baz=327
N16K **Nishlik Lake** 86.88 17 P P 14 58 53.3 0.0
baz=328
K27K **Chicken** 86.91 9 P P 14 58 53.1 -0.2
K27K IAmb IAmb 14 58 54.8
comp=Z,17nm,0.9s
K27K **Chicken** 86.91 9 P P 14 58 53.3 -0.1
baz=343
J29N **Klondike Camp** 86.95 7 P P 14 58 53.6 -0.1
baz=346,SNR=9.1
M20K **Styx River** 86.99 14 P P 14 58 53.0 -0.8
baz=333
DHY **Denali Highway** 87.01 11 P P 14 58 53.1 -0.9
baz=338
J30M **Hart River** 87.02 6 P P 14 58 53.3 -0.8
J30M IAmb IAmb 14 58 57.0
comp=Z,48nm,1.9s
J30M **Hart River** 87.02 6 P P 14 58 53.9 -0.2
baz=348,SNR=11
WAT1 **Susitna Watana** 87.03 12 P P 14 58 52.9 -1.1
baz=337
DAWY **Dawson** 87.20 7 P P 14 58 54.6 -0.3
DAWY IAmb IAmb 14 58 58.4
comp=Z,20nm,1.0s
DAWY **Dawson** 87.20 7 P P 14 58 54.6 -0.3
baz=345,SNR=21
O14K **Tigyukauivet M** 87.23 19 P P 14 58 54.8 -0.1
baz=326
SKT **Skwentna** 87.23 13 P P 14 58 54.1 -0.9
baz=334,SNR=7.4
N17K **Nushagak Hills** 87.24 16 P P 14 58 55.4 +0.4
baz=330
PAX **Paxson** 87.42 10 P P 14 58 55.2 -0.7
baz=340
N18K **Kilae Creek** 87.42 16 P P 14 58 55.9 0.0
baz=331
K29M **Barlow Dome** 87.62 7 P P 14 58 56.7 -0.2
K29M **Barlow Dome** 87.62 7 P P 14 58 56.7 -0.2
baz=347

N19K **Bonanza Creek** 87.64 15 P P 14 58 56.9 -0.2
baz=332
L26K **Log Cabin Wild** 87.69 9 P P 14 58 57.1 -0.1
baz=342
O15K **Ungalikthiuk R** 87.70 18 P P 14 58 56.5 -0.7
baz=328
MENT **Mentasta** 87.72 10 P P 14 58 57.9 +0.6
M22K **Willow** 87.72 13 P P 14 58 56.4 -0.8
baz=336
N20K **Mount Spurr** 87.80 14 P P 14 58 58.1 +0.3
baz=334
O16K **Kokwok River B** 87.81 17 P P 14 58 57.8 +0.1
baz=329
SUA **Susitna One** 87.86 13 P P 14 58 57.7 -0.5
baz=335
L27K **Beaver Creek,** 87.87 9 P P 14 58 58.2 +0.2
baz=343,SNR=5.4
BCAR **Beaver Creek A** 87.87 9 P P 14 58 58.2 +0.1
O17K **Koliganek Bris** 87.91 17 P P 14 58 58.9 +0.6
baz=330
HARP **HAARP** 88.01 10 P P 14 58 58.6 -0.1
baz=340
SML **Sawmill** 88.01 12 P P 14 58 58.5 -0.3
baz=337
MAYO **Mayo, Yukon** 88.02 6 P P 14 58 58.7 0.0
baz=348
WB0 **Warramunga Arr** 88.05 113 P P 14 58 59.5 0.0
PMR **Palmer** 88.06 12 P P 14 58 58.9 0.0
PMR **Palmer** 88.06 12 P P 14 58 59.0 +0.1
PMR **Palmer** 88.06 12 P P 14 58 58.9 0.0
PMR **Palmer** 88.06 12 P P 14 58 58.4 -0.5
baz=337
WRA **Warramunga Arr** 88.09 114 P P 14 58 59.7 0.0
WRA **Warramunga Arr** 88.09 114 P P 14 59 00.7 +0.9
comp=Z,38nm,1.0s,baz=312,slow=4.2,SNR=124
comp=Z,38nm,1.0s
WRAB **Tennant Creek** 88.10 114 P P 14 59 00.3 +0.5
WRAB **Tennant Creek** 88.10 114 *i* P P 14 59 00.3 +0.5
WRAB pmax pmax
comp=Z,102nm,1.3s
M24K **Tolsona, Glenn** 88.11 11 P P 14 58 59.2 0.0
baz=339
M23K **Glacier View** 88.14 12 P P 14 58 59.0 -0.3
baz=338
SCM **Sheep Creek Mo** 88.17 12 P P 14 58 59.2 -0.3
baz=338
O19K **Port Alsworth** 88.22 15 P P 14 58 59.0 -0.6
baz=332
L29M **L29M** 88.27 7 P P 14 58 59.8 -0.2
baz=346
O18K **Koktuh Hills** 88.31 16 P P 14 58 60.0 -0.2
baz=331
P16K **Nushagak River** 88.32 18 P P 14 59 00.2 +0.1
baz=329
M26K **Nabesna, AK** 88.33 9 P P 14 59 00.2 -0.1
baz=342
KNK **Knik Glacier** 88.36 12 P P 14 59 00.1 -0.3
baz=337
RC01 **Rabbit Creek A** 88.41 13 P P 14 59 00.1 -0.5
baz=336
CAPN **Captain Cook N** 88.41 14 P P 14 59 00.6 +0.1
baz=335
M27K **Edge Creek, AK** 88.53 9 P P 14 59 01.4 +0.1
baz=343
P17K **Kvichak River** 88.58 17 P P 14 59 01.6 +0.2
baz=330
BVCY **Beaver Creek** 88.62 9 P P 14 59 02.1 +0.5
baz=344
O20K **Slope Mountain** 88.71 15 P P 14 59 00.7 -1.4
baz=334
P18K **Big Mountain,** 88.71 16 P P 14 59 01.4 -0.7
baz=331
KLU **Klutina** 88.73 11 P P 14 59 02.1 -0.1
baz=339
N25K **Chitina, Valde** 88.84 10 P P 14 59 02.4 -0.3
baz=340
M29M **Somme Creek** 88.88 7 P P 14 59 03.2 +0.3
baz=346
M30M **Minto, Yukon** 88.93 7 P P 14 59 03.0 -0.1
baz=347
P19K **Oil Pt** 88.96 15 P P 14 59 03.1 -0.1
baz=333
O22K **Cooper Landing** 88.97 13 P P 14 59 03.5 +0.3
baz=336
Q16K **King Salmon** 88.98 17 P P 14 59 03.9 +0.6
baz=330
FORT **Forrest** 89.01 126 P P 14 59 04.0 +0.2
FORT **Forrest** 89.01 126 P P 14 59 05.2 +1.4
WRGLY **Wrigley** 89.02 1 P P 14 59 04.0 +0.6
baz=359
YUK3 **Moose Creek** 89.29 9 P P 14 59 04.7 -0.3
baz=344
MCARA **McCarthy VSAT** 89.30 10 P P 14 59 04.6 -0.2
baz=342
HOM **Homer** 89.31 14 P P 14 59 04.4 -0.4
baz=334
SEW **Seward** 89.37 13 P P 14 59 04.7 -0.4
baz=336
BRSE **Bradley Lake S** 89.43 14 P P 14 59 06.1 +0.7
baz=335
BMRM **Bremner River** 89.45 11 P P 14 59 05.5 -0.1
baz=340
Q19K **Cape Douglas,** 89.51 16 P P 14 59 05.6 -0.3
baz=333
M31M **Drury Creek, Y** 89.53 6 P P 14 59 05.6 -0.3
baz=349
Q17K **Contact Creek** 89.54 17 P P 14 59 06.2 +0.1
baz=331
YKA **Yellowknife Ar** 89.55 356 P P 14 59 05.7 -0.2
YKA **Yellowknife Ar** 89.55 356 P P 14 59 05.7 -0.2
YKA **Yellowknife Ar** 89.55 356 P P 14 59 05.5 -0.4
comp=Z,11nm,1.1s,baz=356,slow=4.9,SNR=88
YKA PKKPbc PKKPbc 15 16 40.0 -1.2
comp=Z,0.7nm,1.0s,baz=187,slow=2.6,SNR=8.8
YKA LR LR 15 42 55.2
comp=Z,224nm,21.9s,baz=7.0,slow=38
comp=Z,11nm,1.1s
FARO **Faro, Yukon** 89.59 5 P P 14 59 06.4 +0.3
baz=350
AS31 **Alice Springs** 89.64 117 P P 14 59 07.4 +0.4
ASAR **Alice Springs** 89.64 117 P P 14 59 07.7 +0.7
comp=Z,6.0nm,0.7s,baz=306,slow=4.5,SNR=50
ASAR LR LR 15 42 05.0
comp=Z,136nm,18.6s,baz=280,slow=37
comp=Z,6.0nm,0.7s
EYAK **Cordova Ski Ar** 89.65 11 P P 14 59 06.7 +0.4
baz=340
AS01 **Alice Springs** 89.68 117 P P 14 59 08.2 +1.0
R16K **Pilot Point** 89.69 18 P P 14 59 05.5 -1.1
baz=329
YUK8 **Steele Glacier** 89.85 8 P P 14 59 06.3 -1.4
baz=345
P23K **Montague Islan** 89.86 12 P P 14 59 06.4 -1.0
baz=338
CRQE **Cirque** 89.89 10 P P 14 59 06.4 -1.3
baz=342
UNV **Unalaska Valle** 89.92 24 P P 14 59 06.9 -0.8
baz=322
YUK4 **Talbot Arm** 89.93 8 P P 14 59 07.1 -0.9
baz=346
N30M **Aishikik Lake** 90.00 7 P P 14 59 07.0 -1.1
baz=347
Q20K **Shuyak Island** 90.09 15 P P 14 59 07.5 -1.0
baz=334
YUK6 **Outpost Mounta** 90.36 8 P P 14 59 08.8 -1.2
baz=346
HYT **Haines Junctio** 90.57 7 P P 14 59 09.8 -1.0
baz=347
Q23K **Middleton Isla** 90.59 12 P P 14 59 10.3 -0.5
baz=339
TGTN **Hyland Airport** 90.60 3 P P 14 59 10.2 -0.7
baz=355
MESA **MESA** 90.61 10 P P 14 59 09.9 -1.3
baz=343
N32M **Quiet Lake** 90.68 5 P P 14 59 10.2 -1.1
baz=351
SDPT **Sand Point** 90.73 21 P P 14 59 10.5 -1.0
baz=327
KDAK **Kodiak Island** 90.79 16 P P 14 59 11.3 -0.4
baz=334
KDAK **Kodiak Island** 90.79 16 P P 14 59 11.0 -0.7
comp=Z,18nm,1.1s,baz=284,slow=4.6,SNR=8.0
KDAK LR LR 15 45 20.2
comp=Z,480nm,20.2s,baz=356,slow=39
comp=Z,18nm,1.1s
WHY **Whitehorse** 91.00 6 P P 14 59 12.3 -0.6
baz=349
OHAK **Old Harbor** 91.12 16 P P 14 59 12.7 -0.6

baz=333
CHNA Chernabura Isl 91.44 21 P **P** 14 59 14.1 -0.7
baz=328
PNL Peninsula 91.46 9 P **P** 14 59 14.4 -0.5
baz=345
SII Sitkinak Islan 91.48 17 P **P** 14 59 14.5 -0.5
baz=332
P33M Teslin, Yukon 91.63 5 P **P** 14 59 16.4 +0.6
baz=351
WTLY Watson Lake, Y 91.99 3 P **P** 14 59 16.6 -0.7
baz=354
PLBC Pleasant Camp 92.03 7 P **P** 14 59 17.7 +0.2
baz=348
QIS Mount Isa 92.69 112 P **P** 14 59 22.2 +1.0
OOD Oodnadatta 93.11 120 P **P** 14 59 23.7 +0.8
DLBC Dease Lake 93.59 4 P **P** 14 59 25.0 +0.2
baz=353
DLBC Dease Lake 93.59 4 P **P** 14 59 25.0 +0.2
comp=Z,2.1nm,0.9s,baz=9.2,slow=8.5,SNR=2.9
DLBC LR LR 15 47 46.7
comp=Z,139nm,18.9s,baz=352,slow=40
comp=Z,2.1nm,0.9s
PMG Port Moresby 93.90 99 *i* P **P** 14 59 26.5 -0.4
PMG pmax pmax
comp=Z,29nm,1.3s
PMG Port Moresby 93.90 99 LR LR 15 46 08.0
comp=Z,44nm,20.6s,baz=258,slow=38
S34M Telegraph Cree 94.04 5 P **P** 14 59 26.7 0.0
baz=352
LBNH Lisbon 94.57 326 P **P** 14 59 29.7 +0.1
baz=43
T35M Bob Quinn 95.03 4 P **P** 14 59 31.6 +0.3
baz=353
WRAK Wrangell Islan 95.42 6 P **P** 14 59 33.0 -0.1
baz=351
LONY Lake Ozonia 95.56 328 P **P** 14 59 33.8 -0.3
baz=41
FFC Flin Flon 95.71 348 P **P** 14 59 34.0 -0.5
FFC IAmb IAmb 14 59 35.2
comp=Z,15nm,1.1s
FFC Flin Flon 95.71 348 P **P** 14 59 34.0 -0.5
FFC pmax pmax
comp=Z,15nm,1.1s
RCBR Riachuelo 95.87 267 LR LR 15 44 07.1
comp=Z,279nm,19.9s,baz=52,slow=36
L61B Northampton 96.25 325 P **P** 14 59 36.5 -0.7
baz=43
INKA Innaminka 97.01 118 P Pdif 14 59 41.8 +0.9
CTA Charters Tower 97.99 108 LR LR 15 48 36.9
comp=Z,76nm,18.7s,baz=270,slow=38
ULM Lac du Bonnet 98.58 343 LR LR 15 47 34.0
comp=Z,215nm,18.2s,baz=40,slow=37
STKA Stephens Creek 99.56 121 *i* P **Pdif** 14 59 51.7 -0.5
STKA Stephens Creek 99.56 121 LR LR 15 47 19.6
comp=Z,253nm,18.8s,baz=272,slow=37
BBB Bella Bella 99.94 4 LR LR 15 52 05.6
comp=Z,148nm,18.8s,baz=354,slow=40
RLMT Red Lodge 106.20 350 P **PKiKP** 15 04 33.3 -0.1
baz=12
PDAR Pinedale Array 108.55 350 PKKPbc PKKPbc 15 15 47.6 -0.4
comp=Z,0.9nm,0.9s,baz=174,slow=4.3,SNR=4.6
PDAR PKKP **PKKPdf** 15 15 59.8 -1.3
comp=Z,1.0nm,0.8s,baz=182,slow=5.3,SNR=8.0
BW06 Boulder Array 108.55 350 P **PKiKP** 15 04 38.0 +0.1
baz=12
SDCO Great Sand Dun 112.67 346 P **PKiKP** 15 04 46.3 +0.4
baz=16
NVAR Mina Array Bea 113.75 357 PKiKP **PKiKP** 15 04 48.9 +1.1
comp=Z,1.0nm,0.7s,baz=318,slow=0.5,SNR=11
NVAR PKKPbc **PKKPbc** 15 15 30.1 -0.9
comp=Z,0.4nm,0.6s,baz=189,slow=6.9,SNR=5.0
ANMO Albuquerque 115.56 346 P **PKiKP** 15 04 50.7 -0.7
baz=16
CWC Cottonwood Cre 115.72 356 P **PKiKP** 15 04 51.3 -0.3
baz=4.2
MPMC Manual Prospec 116.06 356 P **PKiKP** 15 04 52.1 -0.2
baz=4.8
LRMC Laurel Mtn Rad 116.65 356 P **PKPdf** 15 04 53.3 -0.1
baz=4.6
GSC Goldstone, Bar 116.76 355 P **PKiKP** 15 04 53.6 +0.1
baz=5.5
PKM Mcpherson Peak 117.34 358 P **PKPdf** 15 04 54.2 -0.6
baz=2.6
PDMCI Parker Dam,Lak 117.49 352 P **PKPdf** 15 04 54.6 -0.2
baz=8.2
IRM Iron Mountain 117.75 353 P **PKPdf** 15 04 55.0 -0.4
baz=7.2
BFSC Mount Baldy Ra 117.88 356 P **PKPdf** 15 04 55.3 -0.5
baz=4.7
QSPA South Pole Qui 117.90 180 PKP **PKPdf** 15 04 54.3 -0.2
comp=Z,13nm,0.8s,baz=261,slow=1.0,SNR=43
JCT Junction City 117.94 338 P **PKiKP** 15 04 55.9 0.0
baz=22
BELC Belle Mtn. Jos 117.99 354 P **PKPdf** 15 04 55.6 -0.4
baz=6.4
121A Cookes Peak, D 118.18 346 P **PKPdf** 15 04 56.3 -0.1
baz=15
BC3 Big Chuckawall 118.28 354 P **PKiKP** 15 04 56.6 +0.1
baz=6.9
PFO Pinyon Flats O 118.41 354 P **PKPdf** 15 04 56.6 -0.2
baz=5.9
TPFO Pinon Flats 118.42 354 P **PKPdf** 15 04 56.6 -0.2
baz=6.0
MNTX Cornudas Mount 118.42 344 P **PKiKP** 15 04 56.8 0.0
baz=17
TUC Tucson 118.97 349 P **PKPdf** 15 04 57.8 0.0
baz=12
MONP2 Monument Peak 119.12 354 P **PKPdf** 15 04 58.0 -0.3
baz=6.0
833A Chaparral WMA, 119.78 337 P **PKiKP** 15 04 59.6 +0.1
baz=23
TXAR Lajitas Array 120.20 341 PKP **PKPdf** 15 04 59.9 -0.4
comp=Z,3.1nm,1.0s,baz=101,slow=0.6,SNR=14
TXAR PKKPbc **PKKPbc** 15 15 06.9 -0.9
comp=Z,0.4nm,0.7s,baz=274,slow=3.4,SNR=3.7
VNDA Vanda 120.25 166 PKP **PKiKP** 15 04 59.3 +0.5
comp=Z,1.8nm,0.8s,baz=297,slow=1.6,SNR=3.9
SIV San Ignacio 122.48 268 PKP **PKiKP** 15 05 05.1 +0.1
comp=Z,2.0nm,0.9s,baz=114,slow=5.5,SNR=6.8
CPUP Villa Florida 122.81 255 PKP **PKPdf** 15 05 04.2 -1.0
comp=Z,1.6nm,0.7s,baz=126,slow=7.6,SNR=3.4
DGTI Dogotuki 125.51 91 P **PKiKP** 15 05 12.2 +1.3
LPAZ La Paz 128.84 271 PKP **PKPdf** 15 05 16.2 -1.5
comp=Z,1.5nm,0.7s,baz=29,slow=4.7,SNR=6.0
LVC Limon Verde 131.74 264 PKP **PKiKP** 15 05 24.3 +0.5
comp=Z,4.6nm,0.8s,baz=109,slow=7.8,SNR=5.7
ATAH Atahualpa 133.59 288 PKP **PKiKP** 15 05 28.4 +0.6
comp=Z,4.3nm,0.6s,baz=270,slow=4.0,SNR=4.6
PLCA Paso Flores 136.04 239 PKP **PKPdf** 15 05 28.9 -1.0
comp=Z,3.6nm,1.0s,baz=90,slow=5.1,SNR=6.4
PPT2 Papeete2 152.85 73 *e*LR LR 15 56 54.5
comp=Z,168nm,22.5s
PPT2 *e*LR LR 15 57 02.3
comp=Z,233nm,25.5s

*DSN **07** 14:50:19.7±2.1,27.68N×58.29E,h15km,ML4.3/7,Error ellipse: s-maj=41.6km s-min=16.7km az=146.0*
*NEIC **07** 14:50:19.7±2.7,27.89N±0.06×57.59E±0.09,h35km±2km, mb4.8/61,Error ellipse: s-maj=14.9km s-min=8.3km az=122.0*
*TEH **07** 14:50:20.0,27.99N×57.81E,h23km±13km,ML4.9*
*OMAN **07** 14:50:21.8±1.2,27.96N×57.64E,h30km,Error ellipse: s-maj=9.8km s-min=5.0km az=22.0*
*IDC **07** 14:50:21.2±2.9,28.05N×57.65E,h42km±27km, mb4.1/23, mbtmp4.4/27,ML4.5/4,Error ellipse: s-maj=14.7km s-min=12.3km az=176.0*
ISC 07 14:50:19.7±0.5,27.97N±0.03×57.69E±0.03,h30km±3km, h30km:pP-P,n193,σ1s84/221,mb4.6/56,3C-4D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.03**	**145**	Pg	**Pb**	**14 50 24.7**	**-0.2**
IBND	**Bandar-abas**	**1.14**	**243**	Pg	**Pb**	**14 50 42.7**	**+1.9**
KBAM	**BAM**	**1.34**	**30**	Pg	**Pn**	**14 50 42.8**	**+0.4**
KBAM				Sg	**Sn**	**14 50 59.8**	**+0.5**
GENO	**Geno**	**1.46**	**247**	Pg	**Pb**	**14 50 47.5**	**+1.2**
NGRK	**Negar Kerman**	**1.86**	**333**	Pn	**Pb**	**14 50 53.0**	**-0.3**
CHMN	**Cheshme madani**	**1.89**	**356**	Pn	**Pb**	**14 50 53.1**	**-0.6**
JASK	**Jask - Hormozg**	**2.10**	**176**	Pn	**Pb**	**14 50 55.7**	**-1.5**
JASK	**Jask - Hormozg**	**2.10**	**176**	P	**Pb**	**14 50 55.9**	**-1.3**
	SNR=38						
JASK				S	**Sb**	**14 51 21.4**	**-1.5**
TVBK	**TV Kerman**	**2.16**	**338**	Pn	**Pb**	**14 50 57.3**	**-1.1**
SHME	**Shamm**	**2.36**	**216**	*e*P	**Pb**	**14 51 00.1**	**-1.5**
	SNR=7.6						
SHME	**Shamm**	**2.36**	**216**	P	**Pb**	**14 51 00.5**	**-1.1**
	SNR=7.6						
BANOM	**Banah**	**2.39**	**212**	*e*P	**Pb**	**14 50 59.9**	**-2.1**
	SNR=15						
BANOM				S	**Sb**	**14 51 31.0**	**-0.2**
BANOM	**Banah**	**2.39**	**212**	P	**Pb**	**14 51 00.4**	**-1.7**
BANOM				S	**Sb**	**14 51 30.9**	**-0.2**
KHGB	**Koh Gabri**	**2.62**	**336**	Pn	**Pb**	**14 51 03.5**	**-2.6**
MASF	**Masafi**	**2.93**	**208**	P	**Pb**	**14 51 08.2**	**-3.1**
	SNR=8.5						
MDH	**Madha**	**2.94**	**205**	*e*P	**Pn**	**14 51 04.4**	**0.0**
	SNR=18						
MDH	**Madha**	**2.94**	**205**	P	**Pn**	**14 51 05.9**	**+1.5**
MSFE	**Esma-Masafi**	**2.94**	**208**	P	**Pn**	**14 51 07.0**	**+2.6**
LAR1	**LAR**	**2.95**	**265**	Pn	**Pb**	**14 51 08.6**	**-3.1**
UMQ	**Umm Al-Quwin**	**3.04**	**217**	P	**Pb**	**14 51 10.0**	**-3.1**
UOSS	**Minazif**	**3.29**	**204**	Pn	**Pn**	**14 51 07.4**	**-1.9**
UOSS	**Minazif**	**3.29**	**204**	P	**Pn**	**14 51 11.2**	**+1.9**
HATD	**Hatta, Dubai**	**3.43**	**204**	P	**Pn**	**14 51 12.3**	**+1.2**
HATD	**Hatta, Dubai**	**3.43**	**204**	P	**Pn**	**14 51 12.5**	**+1.4**
NAZ	**Nazwa, Dubai**	**3.48**	**212**	P	**Pn**	**14 51 15.9**	**+4.1**
ASHO	**Ashiyiah**	**3.59**	**204**	P	**Pn**	**14 51 16.9**	**+3.6**
ASHO	**Ashiyiah**	**3.59**	**204**	P	**Pn**	**14 51 16.9**	**+3.6**
	SNR=10						
FAQ	**Al Faqa, Dubai**	**3.72**	**211**	*i* P	**Pn**	**14 51 17.9**	**+2.7**
	SNR=21						
FAQ	**Al Faqa, Dubai**	**3.72**	**211**	P	**Pn**	**14 51 18.4**	**+3.2**
	SNR=22						
SOHO	**SOHO**	**3.96**	**195**	*i* P	**Pn**	**14 51 18.5**	**0.0**
	SNR=12						
SOHO	**SOHO**	**3.96**	**195**	P	**Pn**	**14 51 18.7**	**+0.3**
NHDN	**Nehbandan**	**3.98**	**31**	Pn	**Pn**	**14 51 20.9**	**+2.0**
NGCH	**Negor - Chabah**	**4.04**	**129**	Pn	**Pn**	**14 51 21.2**	**+1.7**
NGCH	**Negor - Chabah**	**4.04**	**129**	P	**Pn**	**14 51 22.2**	**+2.7**
	SNR=33						
NGCH				S	**Sn**	**14 52 09.4**	**+3.6**
IBAF	**Bafgh**	**4.05**	**333**	Pn	**Pn**	**14 51 23.8**	**+4.0**
LMD1	**Lamerd**	**4.06**	**262**	Pn	**Pn**	**14 51 24.3**	**+4.5**
QIR1	**Qir**	**4.13**	**278**	Pn	**Pn**	**14 51 24.5**	**+3.7**
BSRN	**Basiran**	**4.17**	**17**	Pn	**Pn**	**14 51 24.4**	**+3.0**
AJN	**Ajban**	**4.17**	**216**	*i* P	**Pn**	**14 51 22.7**	**+1.4**
	SNR=26						
AJN	**Ajban**	**4.17**	**216**	P	**Pn**	**14 51 25.0**	**+3.6**
	SNR=26						
AJN				S	**Sn**	**14 52 12.9**	**+3.8**
ALNE	**Al Ain**	**4.27**	**204**	*i* P	**Pn**	**14 51 24.1**	**+1.4**
	SNR=16						
ALNE	**Al Ain**	**4.27**	**204**	P	**Pn**	**14 51 26.4**	**+3.6**
	SNR=16						
ALNE				S	**Sn**	**14 52 15.6**	**+4.0**
HOQ	**Hoqain**	**4.39**	**185**	Pn	**Pn**	**14 51 25.1**	**+0.8**
HOQ	**Hoqain**	**4.39**	**185**	P	**Pn**	**14 51 25.0**	**+0.7**
	SNR=24						
BIDO	**Bidbid**	**4.45**	**175**	P	**Pn**	**14 51 26.0**	**+0.9**
	SNR=21						
IKOO	**Kooshah**	**4.58**	**14**	Pn	**Pn**	**14 51 29.9**	**+2.7**
ARQ	**Araqi**	**4.74**	**193**	P	**Pn**	**14 51 32.6**	**+3.5**
	SNR=14						
ARQ				S	**Sn**	**14 52 26.6**	**+3.5**
WSAR	**Wadi Sarin**	**4.79**	**170**	P	**Pn**	**14 51 31.4**	**+1.6**
	31nm,0.3s,baz=335,slow=3.6,SNR=9.8						
WSAR				S	**Sn**	**14 52 22.6**	**-1.8**
	246nm,0.5s,baz=172,slow=18,SNR=6.9						
	100nm,0.4s						
SMDO	**Samad**	**4.91**	**176**	P	**Pn**	**14 51 32.3**	**+0.8**
SMDO				S	**Sn**	**14 52 29.0**	**+1.7**
ITEG	**Tejag**	**4.99**	**10**	Pn	**Pn**	**14 51 35.8**	**+3.0**
BSY	**Bisya**	**5.22**	**185**	P	**Pn**	**14 51 39.7**	**+3.8**
	SNR=17						
BSY				S	**Sn**	**14 52 39.1**	**+4.0**
JRN	**Qarnain Island**	**5.28**	**236**	P	**Pn**	**14 51 39.6**	**+3.0**
MZWR	**Madinat Zayed**	**5.42**	**220**	P	**Pn**	**14 51 41.1**	**+2.6**
MZWR				S	**Sn**	**14 52 42.0**	**+2.2**
WBK	**Wadi Bani Khal**	**5.46**	**167**	Pn	**Pn**	**14 51 41.1**	**+1.9**
WBK	**Wadi Bani Khal**	**5.46**	**167**	P	**Pn**	**14 51 41.1**	**+1.9**
	SNR=9.0						
WBK				S	**Sn**	**14 52 41.3**	**+0.2**
KAZ2	**Kazeron-Fars-I**	**5.53**	**289**	Pn	**Pn**	**14 51 44.5**	**+4.4**
JMDO	**Jabal Madar**	**5.59**	**176**	P	**Pn**	**14 51 43.4**	**+2.5**
JMDO				S	**Sn**	**14 52 45.8**	**+1.6**
UMZA	**Um Al Zommool**	**5.71**	**204**	P	**Pn**	**14 51 44.6**	**+2.0**
GHWR	**Ruwais**	**5.89**	**228**	P	**Pn**	**14 51 46.3**	**+1.3**
GHWR				S	**Sn**	**14 52 51.7**	**+0.3**
IRAM	**Ramesheh**	**5.98**	**311**	Pn	**Pn**	**14 51 49.9**	**+3.5**
JLN	**Jalan Bani Buh**	**6.00**	**165**	P	**Pn**	**14 51 48.1**	**+1.5**
	SNR=16						
SHMA	**Al-Shehemyia**	**6.36**	**252**	P	**Pn**	**14 51 53.8**	**+2.4**
	SNR=16						
SHMA				S	**Sn**	**14 53 02.9**	**-0.1**
TRNA	**Turayna**	**6.64**	**242**	P	**Pn**	**14 51 57.3**	**+2.1**
	SNR=13						
TRNA				S	**Sn**	**14 53 10.9**	**+0.9**
SLWR	**Sila**	**6.65**	**236**	P	**Pn**	**14 51 56.8**	**+1.5**
SLWR				S	**Sn**	**14 53 09.9**	**-0.2**
SAKB	**Bahrain**	**6.68**	**254**	S	**Sn**	**14 53 11.8**	**+0.8**
SMRA	**Abu-Samra**	**6.94**	**244**	P	**Pn**	**14 52 02.2**	**+2.8**
SMRA				S	**Sn**	**14 53 17.6**	**+0.2**
HRA	**Herat**	**7.49**	**30**	Pn	**Pn**	**14 52 09.1**	**+2.0**
GEYT	**Alibeck**	**9.94**	**2**	P	Pn	14 52 46.0	+5.6
	15nm,0.7s,baz=183,slow=16,SNR=5.5						
GYA0B	**ALIBECK ARRAY**	**9.94**	**2**	Pn	**Pn**	**14 52 42.3**	**+1.8**
NIL	**Nilore**	**14.52**	**63**	Pn	**Pn**	**14 53 44.5**	**+1.4**
GAR	**Garm**	**15.21**	**40**		**Pn**	**14 53 55.2**	**+2.7**
GAR				IAmb	IAmb	14 53 58.8	
	comp=Z,34nm,0.9s						
GNI	**Garni**	**16.18**	**322**		**P**	**14 54 06.8**	**-1.2**
GNI				IAmb	IAmb	14 54 23.2	
	comp=Z,43nm,0.9s						
GNI	**Garni**	**16.18**	**322**	P	**Pn**	**14 54 06.6**	**+1.5**
	comp=Z,0.9nm,0.3s,baz=346,slow=19,SNR=4.3						
	comp=Z,37nm,1.0s						
DRK	**Karamyk**	**16.39**	**42**		**P**	**14 54 10.4**	**0.0**
GURO	**Guroymak-BITLI**	**16.79**	**313**	P	**P**	**14 54 14.5**	**-0.2**
GURO				IAmb	IAmb	14 54 17.0	
	comp=Z,48nm,0.9s						
KK31	**Karatay Array**	**18.32**	**31**	P	**Pn**	**14 54 32.6**	**+1.0**
KKAR	**Karatay Array**	**18.32**	**31**	P	**P**	**14 54 31.3**	**-0.1**
ONI	**Oni**	**18.61**	**325**	P	**P**	**14 54 34.7**	**+0.1**
KSH	**Kashi**	**19.03**	**48**	P	**P**	**14 54 37.6**	**-1.8**
KSH				sP	pP	14 54 47.3	-0.3
KSH				pmax	pmax		
	comp=Z,23nm,1.3s						
GHAJ	**Ghor Haditha**	**19.51**	**285**	P	**P**	**14 54 43.6**	**-0.9**
GAZ	**Gaziantep**	**19.51**	**303**	P	**P**	**14 54 44.1**	**-0.5**
GAZ				IAmb	IAmb	14 54 48.8	
	comp=Z,58nm,0.9s						
ARPR	**Arapgir-MALATY**	**19.53**	**310**	P	**P**	**14 54 45.3**	**+0.3**
ARPR				IAmb	IAmb	14 54 58.0	
	comp=Z,58nm,0.9s						
EIL	**Elat**	**19.99**	**280**	P	**P**	**14 54 48.7**	**-1.1**
	comp=Z,4.5nm,0.3s,baz=30,slow=14,SNR=4.2						
	comp=Z,54nm,0.7s						
KIV	**Kislovodsk**	**19.99**	**327**	P	**P**	**14 54 49.6**	**-0.2**
KIV				IAmb	IAmb	14 55 04.4	
	comp=Z,31nm,0.7s						
AAK	**Ala-Archa**	**20.00**	**39**	P	**P**	**14 54 49.6**	**-0.4**
AAK	**Ala-Archa**	**20.00**	**39**	P	**P**	**14 54 50.0**	**0.0**
	comp=Z,0.8nm,0.3s,baz=187,slow=3.7,SNR=5.0						
	comp=Z,9.3nm,0.7s						
NRN	**Naryn**	**20.12**	**43**	P	**P**	**14 54 51.0**	**-0.5**
BNN	**Bunyan**	**21.16**	**306**	P	**P**	**14 55 00.7**	**-1.9**
ABKAR	**Akbulak array**	**21.32**	**4**	P	**P**	**14 55 04.0**	**-0.1**
CSS	**Mathiatis**	**21.88**	**295**	P	**P**	**14 55 09.7**	**-0.5**
CSS				IAmb	IAmb	14 55 23.6	
	comp=Z,42nm,1.0s						
BR131	**Keskin Array S**	**23.08**	**307**	P	**P**	**14 55 22.6**	**-0.4**
BR131				IAmb	IAmb	14 55 24.9	
	comp=Z,59nm,0.9s						
BRTR	**Keskin Array B**	**23.08**	**307**	P	**P**	**14 55 21.9**	**-1.1**
BRTR	**Keskin Array B**	**23.08**	**307**	P	**P**	**14 55 23.1**	**+0.1**
	comp=Z,44nm,0.9s,baz=121,slow=9.1,SNR=20						
	comp=Z,44nm,0.9s						
PDGK	**Podgornoye**	**23.32**	**43**	⇓Pn	**P**	**14 55 25.8**	**+0.4**
	comp=Z,17nm,1.0s						
PDGK				⇑Lg	Lg	14 56 39.9	
	comp=Z,14nm,0.7s						
ANTO	**Ankara**	**23.74**	**306**	P	**P**	**14 55 29.6**	**+0.2**
ANTO				IAmb	IAmb	14 55 32.3	
	comp=Z,34nm,0.8s						
BR231	**Keskin MP Arra**	**23.74**	**306**	P	**P**	**14 55 29.7**	**+0.3**
BR231				IAmb	IAmb	14 55 30.9	
	comp=Z,32nm,0.7s						
ELL	**Elmali**	**24.97**	**298**	P	**P**	**14 55 41.3**	**+0.5**
MDUB	**Mudurnu**	**25.10**	**307**	P	**P**	**14 55 42.4**	**+0.5**
BVAR	**Borovoye Array**	**26.74**	**17**	P	**P**	**14 55 56.8**	**+0.3**
	comp=Z,14nm,0.8s,baz=202,slow=7.3,SNR=4.3						
BVAR				PcP	**PcP**	**14 59 18.9**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=236,slow=2.7,SNR=6.7						
	comp=Z,14nm,0.8s						
MK31	**Makanchi Array**	**26.93**	**39**	P	**P**	**14 55 58.2**	**-0.1**
MK31	**Makanchi Array**	**26.93**	**39**	⇑Pn	**P**	**14 55 51.7**	**-6.6**
	comp=Z,1.8nm,0.5s,baz=222,slow=9.5,SNR=12						
MK31				⇑Lg	Lg	14 57 39.6	
	comp=Z,3.0nm,0.5s,baz=167,slow=26,SNR=7.2						
MKAR	**Makanchi Array**	**26.93**	**39**	P	**P**	**14 55 57.9**	**-0.4**
MKAR	**Makanchi Array**	**26.93**	**39**	P	**P**	**14 55 58.5**	**+0.2**
	comp=Z,2.0nm,0.5s,baz=225,slow=7.7,SNR=9.1						
	comp=Z,2.0nm,0.5s						
KURBB	**Kurchatov Arra**	**27.60**	**29**	P	**P**	**14 56 04.8**	**+0.6**
	comp=Z,2.9nm,0.7s,baz=219,slow=5.9,SNR=4.1						
	comp=Z,2.9nm,0.7s						
IDI	**Anoyia**	**28.77**	**293**	P	**P**	**14 56 14.8**	**-0.1**
AKASG	**Malin Array Be**	**31.29**	**324**	P	**P**	**14 56 35.8**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=136,slow=8.6,SNR=2.9						
	comp=Z,0.7nm,0.4s						
BURAR	**Bucovina Array**	**31.95**	**317**	P	**P**	**14 56 42.6**	**-0.3**
ZAA0	**Zalesovo Array**	**32.69**	**30**	P	**P**	**14 56 48.7**	**-0.4**
ZAA0				IAmb	IAmb	14 56 49.5	
	comp=Z,13nm,0.9s						
ZALV	**Zalesovo Beam**	**32.69**	**30**	P	**P**	**14 56 48.7**	**-0.4**
	comp=Z,4.6nm,0.4s,baz=250,slow=8.6,SNR=6.8						
ZALV				PcP	**PcP**	**14 59 34.0**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=241,slow=3.3,SNR=2.3						
	comp=Z,4.6nm,0.4s						
KBN	**Korca**	**32.75**	**302**	P	**P**	**14 56 49.6**	**-0.4**
TIP	**Timpagrande**	**35.61**	**299**	P	**P**	**14 57 15.3**	**+0.5**
TIP				IAmb	IAmb	14 57 16.9	
	comp=Z,24nm,1.3s						
OJC	**Ojcow**	**36.29**	**318**	*e*P	**P**	**14 57 19.6**	**-0.9**
OJC	**Ojcow**	**36.29**	**318**	P	**P**	**14 57 20.2**	**-0.2**
OJC				IAmb	IAmb	14 57 30.7	
	comp=Z,20nm,0.9s						
GTA	**Gaotai**	**36.56**	**61**	*e*P	**P**	**14 57 23.4**	**+0.4**
GTA				sP	pP	14 57 31.8	-0.3
GTA				pmax	pmax		
	comp=Z,12nm,0.9s						
NRCA	**Norcia**	**38.78**	**304**	P	**P**	**14 57 41.8**	**+0.1**
NRCA				IAmb	IAmb	14 57 55.9	
	comp=Z,11nm,1.0s						
CMAR	**Chiang Mai Arr**	**38.93**	**95**	P	**P**	**14 57 43.5**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=281,slow=9.9,SNR=1.8						
	comp=Z,0.6nm,0.7s						
CKRC	**Cesky Krumlov**	**39.19**	**314**	*e*P	**P**	**14 57 44.6**	**-0.3**
MURB	**Monte Urbino**	**39.27**	**305**	P	**P**	**14 57 46.0**	**+0.3**
MURB				IAmb	IAmb	14 58 02.6	
	comp=Z,41nm,1.3s						
ZVC	**Zvikov**	**39.44**	**315**	*e*P	**P**	**14 57 45.4**	**-1.6**
FINES	**FINESS Array B**	**39.54**	**337**	P	**P**	**14 57 46.5**	**-1.1**
	comp=Z,2.5nm,0.6s,baz=137,slow=9.1,SNR=4.7						
	comp=Z,2.5nm,0.6s						
GERES	**GERESS Array B**	**39.58**	**314**	P	**P**	**14 57 46.9**	**-1.4**
	comp=Z,2.0nm,0.7s,baz=105,slow=11,SNR=4.4						
	comp=Z,2.0nm,0.7s						
LZH	**Lanzhou**	**39.66**	**66**	*e*P	**P**	**14 57 49.3**	**+0.1**
LZH				pP	pP	14 57 57.6	-0.7
LZH				pmax	pmax		
	comp=Z,18nm,1.6s						
KHC	**Kasperske Hory**	**39.74**	**314**	P	**P**	**14 57 48.9**	**-0.6**
KHC				IAmb	IAmb	14 57 49.4	
	comp=Z,16nm,1.3s						
KHC	**Kasperske Hory**	**39.74**	**314**	*e*P	**P**	**14 57 48.3**	**-1.2**
BRG	**Berggiesshubel**	**40.02**	**317**	*e*P	**P**	**14 57 51.3**	**-0.4**
BRG				Amp		14 57 55.0	
	comp=Z,5.4nm,1.0s						
BRG				Amp		15 11 49.0	
	comp=Z,0.8nm,21.4s						
BRG				Amp		15 11 52.0	
	comp=N,0.2nm,15.9s						
BRG				Amp		15 11 54.0	
	comp=E,0.7nm,25.5s						
BRG				Amp		15 14 49.0	
	comp=N,0.2nm,16.5s						
BRG				Amp		15 14 55.0	
	comp=Z,0.7nm,18.4s						
BRG				Amp		15 14 59.0	
	comp=E,0.5nm,19.2s						
KMI	**Kunming**	**40.23**	**83**	⇓P	**P**	**14 57 54.9**	**+0.7**
KMI				S	**S**	**15 04 07.6**	**+7.9**
KMI				pmax	pmax		
	comp=Z,13nm,0.5s						
KMI				LR	LR		
	comp=N,270nm,16.2s						
KMI				LR	LR		
	comp=E,220nm,20.8s						
KMI				LR	LR		
	comp=Z,430nm,21.6s						
WTTA	**Wattenberg**	**40.56**	**311**	*e*P	**P**	**14 57 55.0**	**-1.5**
	comp=Z,2.7nm,0.4s						
CLL	**Collm**	**40.72**	**317**	⇓*i*P	**P**	**14 57 57.2**	**-0.3**
	comp=Z,13nm,1.2s						
MOTA	**Moosalm**	**40.93**	**311**	*e*P	**P**	**14 57 57.6**	**-2.0**
	comp=Z,2.7nm,0.4s						
FETA	**Feichten**	**41.12**	**311**	*e*P	**P**	**14 58 01.6**	**+0.5**
	comp=Z,5.4nm,0.6s						
SONM	**Songino Array**	**42.44**	**49**	P	**P**	**14 58 11.5**	**-0.4**
SONM	**Songino Array**	**42.44**	**49**	P	**P**	**14 58 11.9**	**0.0**
	comp=Z,2.9nm,0.6s,baz=257,slow=9.4,SNR=6.6						
	comp=Z,2.9nm,0.6s						
ULN	**Ulaanbaatar**	**42.88**	**49**	P	**P**	**14 58 14.7**	**-0.8**
ULN	**Ulaanbaatar**	**42.88**	**49**	P	**P**	**14 58 15.4**	**-0.1**
ULN				pP	**pP**	**14 58 25.9**	**+1.2**
BNI	**Bardonecchia**	**43.65**	**307**	P	**P**	**14 58 19.6**	**-2.0**
BNI				IAmb	IAmb	14 58 40.6	
	comp=Z,18nm,1.2s						
HFS	**Hagfors**	**43.74**	**330**	P	**P**	**14 58 21.8**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=133,slow=10.0,SNR=1.8						
	comp=Z,1.7nm,0.5s						
BTO	**Baotou**	**44.44**	**59**	*e*P	**P**	**14 58 29.0**	**+0.9**
BTO				pP	**pP**	**14 58 36.0**	**-1.3**
BTO				sP	**sP**	**14 58 41.1**	**+0.1**
BTO				PP	**PP**	**15 00 18.4**	**+6.5**
BTO				S	**S**	**15 05 03.4**	**+2.2**
BTO				SS	SS	15 08 08.6	-12
BTO				pmax	pmax		
	comp=Z,12nm,0.7s						
BTO				pmax	pmax		
	comp=Z,470nm,4.7s						
BTO				LR	LR

TOA0	**Torodi Ar. Sit**	**54.03**	**266**	P	**P**	**14 59 41.0**	**-0.7**
TORD	**Torodi Ar. Bea**	**54.03**	**266**	P	**P**	**14 59 41.2**	**-0.4**
TORD	**Torodi Ar. Bea**	**54.03**	**266**	P	**P**	**14 59 41.6**	**0.0**
	comp=Z,33nm,0.5s,baz=61,slow=7.8,SNR=57						
KBS	**Kingsbay**	**54.75**	**350**	P	**P**	**14 59 45.0**	**-0.9**
KBS	**Kingsbay**	**54.75**	**350**	P	**P**	**14 59 45.3**	**-0.6**
BNX	**BinXian**	**56.78**	**52**	⇓P	**P**	**14 59 59.9**	**-1.1**
BNX				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BNX				pmax	pmax		
	comp=Z,74nm,4.1s						
TIXI	**Tiksi**	**57.80**	**21**	P	**P**	**15 00 05.7**	**-2.0**
TIXI				IAmb	IAmb	15 00 27.9	
	comp=Z,9.0nm,1.2s						
TIXI	**Tiksi**	**57.80**	**21**	P	**P**	**15 00 07.0**	**-0.7**
TIXI				pP	**pP**	**15 00 16.4**	**-0.7**
KSAR	**Wonju Array Be**	**58.60**	**61**	P	**P**	**15 00 13.0**	**-1.0**
KSRS	**Korea Array**	**58.63**	**61**	P	**P**	**15 00 12.7**	**-1.4**
	comp=Z,3.5nm,0.7s,baz=278,slow=6.7,SNR=8.5						
	comp=Z,3.5nm,0.7s						
USA0B	**Ussuriysk Arra**	**60.24**	**53**	P	**P**	**15 00 23.6**	**-1.6**
USA0B				IAmb	IAmb	15 00 49.1	
	comp=Z,14nm,1.4s						
USRK	**Ussuriysk Ar.**	**60.24**	**53**	P	**P**	**15 00 22.8**	**-2.4**
USRK	**Ussuriysk Ar.**	**60.24**	**53**	P	**P**	**15 00 23.6**	**-1.5**
	comp=Z,2.0nm,0.7s,baz=275,slow=5.8,SNR=8.6						
	comp=Z,2.0nm,0.7s						
LBTB	**Lobatse**	**61.08**	**213**	P	**P**	**15 00 31.9**	**+0.9**
DBIC	**Dimbokro**	**62.68**	**263**	P	**P**	**15 00 41.2**	**-0.8**
DBIC				IAmb	IAmb	15 00 46.2	
	comp=Z,5.1nm,0.7s						
DBIC	**Dimbokro**	**62.68**	**263**	P	**P**	**15 00 41.3**	**-0.8**
	comp=Z,5.2nm,0.7s,baz=49,slow=5.1,SNR=4.6						
	comp=Z,5.2nm,0.7s						
DBIC	**Dimbokro**	**62.68**	**263**	P	**P**	**15 00 42.0**	**-0.1**
BOSA	**Boshof**	**64.28**	**212**	P	**P**	**15 00 51.0**	**-1.3**
BOSA				IAmb	IAmb	15 00 58.8	
	comp=Z,6.5nm,1.0s						
BOSA	**Boshof**	**64.28**	**212**	P	**P**	**15 00 53.0**	**+0.6**
	comp=Z,3.9nm,0.7s,baz=24,slow=9.1,SNR=5.0						
	comp=Z,3.9nm,0.7s						
BOSA	**Boshof**	**64.28**	**212**	P	**P**	**15 00 53.0**	**+0.6**
SUMG	**Summit**	**65.39**	**341**	P	**P**	**15 00 59.4**	**0.0**
SUMG				IAmb	IAmb	15 01 09.9	
	comp=Z,9.3nm,0.8s						
ALE	**Alert**	**66.14**	**353**	P	**P**	**15 01 03.2**	**-0.4**
JTM	**Tenmabayashi**	**67.60**	**55**	P	**P**	**15 01 11.9**	**-1.7**
ERM	**Erimo**	**68.70**	**53**	P	**P**	**15 01 19.1**	**-1.4**
C16K	**Lisburne Hills**	**78.91**	**15**	P	**P**	**15 02 18.8**	**-1.0**
C16K				IAmb	IAmb	15 02 28.7	
	comp=Z,8.3nm,1.2s						
B20K	**Meade River**	**79.14**	**12**	P	**P**	**15 02 20.1**	**-0.9**
B20K				IAmb	IAmb	15 02 37.8	
	comp=Z,11nm,1.4s						
C19K	**Lookout Ridge**	**79.45**	**13**	P	**P**	**15 02 22.0**	**-0.8**
C18K	**Utukok River**	**79.51**	**14**	P	**P**	**15 02 22.2**	**-1.0**
F15K	**North Star Dit**	**81.12**	**16**	P	**P**	**15 02 30.6**	**-1.2**
E19K	**Redstone River**	**81.32**	**13**	P	**P**	**15 02 31.8**	**-1.1**
F20K	**Avaraart Lake**	**81.97**	**13**	P	**P**	**15 02 35.0**	**-1.2**
G19K	**Purcell Mounta**	**82.49**	**14**	P	**P**	**15 02 37.5**	**-1.6**
BMAR	**Burnt Mountain**	**83.43**	**8**	P	**P**	**15 02 43.3**	**-0.6**
K29M	**Barlow Dome**	**87.71**	**7**	P	**P**	**15 03 04.5**	**-0.9**
K29M				IAmb	IAmb	15 03 20.8	
	comp=Z,10nm,1.0s						
WRA	**Warramunga Arr**	**88.06**	**114**	P	**P**	**15 03 07.8**	**+0.2**
WRA	**Warramunga Arr**	**88.06**	**114**	P	**P**	**15 03 08.6**	**+0.9**
	comp=Z,3.2nm,0.8s,baz=316,slow=4.1,SNR=7.9						
	comp=Z,3.2nm,0.8s						
WR0	**Warramunga Arr**	**88.23**	**114**	P	**P**	**15 03 08.6**	**+0.2**
WR0				IAmb	IAmb	15 03 09.7	
	comp=Z,11nm,1.2s						
ASAR	**Alice Springs**	**89.60**	**117**	P	**P**	**15 03 15.4**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=305,slow=4.6,SNR=6.3						
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**89.64**	**356**	P	**P**	**15 03 14.1**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=359,slow=5.6,SNR=3.4						
	comp=Z,1.0nm,0.9s						
QSPA	**South Pole Qui**	**117.81**	**180**	PKP	**PKPdf**	**15 09 02.2**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=144,slow=0.8,SNR=9.1						

*IDC **07** 15:01:17.3±1.1,59.˙82N×153.˙39W,h106km±15km, mb3.7/12,mbtmp4.1/17,Error ellipse: s-maj=17.8km s-min=9.9km az=112.0*

*NEIC **07** 15:01:18.9±1.7,59.˙74N±0.˙04×153.˙30W±0.˙07, h129km±3km,Error ellipse: s-maj=5.4km s-min=5.0km az=123.0*

*AEIC **07** 15:01:20.2±1.8,59.˙74N±0.˙04×153.˙28W±0.˙07, h125km±4km,ML3.9,mb3.8/4(NEIC),ML4.0/146(NEIC), Error ellipse: s-maj=5.4km s-min=4.9km az=122.0*

ISC 07 15:01:19.2±0.6,59.76N±0.˙04×153.26W±0.˙03, h129km±5km,n498,σ0.89/525,mb3.9/14,**Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
P19K	**Oil Pt**	**0.11**	**172**		**Pn**	**15 01 36.7**	**-0.2**
P19K					**Sn**	**15 01 49.7**	**-0.4**
P19K				IAML		15 01 50.5	
	comp=E,7μm,0.6s						
P19K				IAML		15 01 50.7	
	comp=N,6μm,0.5s						
P19K	**Oil Pt**	**0.11**	**172**	P	**Pn**	**15 01 36.7**	**-0.2**
	baz=343						
P19K				S	**Sn**	**15 01 49.9**	**-0.2**
	baz=343						
ILSW	**Iliamna Southw**	**0.23**	**15**	Pn	**Pn**	**15 01 36.6**	**-0.6**
ILSW				Sn	**Sn**	**15 01 50.2**	**-0.7**
ILSW				IAML		15 01 51.2	
	comp=E,4μm,0.8s						
ILSW				IAML		15 01 51.7	
	comp=N,2μm,0.6s						
AUL	**Augustine Lava**	**0.39**	**193**		**Pn**	**15 01 37.7**	**0.0**
AUL					**Sn**	**15 01 51.3**	**-0.3**
AU22	**Augustine Moun**	**0.40**	**187**		**Pn**	**15 01 37.5**	**-0.2**
AU22					**Sn**	**15 01 51.2**	**-0.3**
AUCH	**Augustine Cone**	**0.41**	**193**		**Pn**	**15 01 37.8**	**-0.1**
O20K	**Slope Mountain**	**0.45**	**45**		**Pn**	**15 01 38.2**	**+0.1**
O20K					**Sn**	**15 01 52.4**	**+0.1**
O20K	**Slope Mountain**	**0.45**	**45**	P	**Pn**	**15 01 38.1**	**+0.1**
	baz=224						
O20K				S	**Sn**	**15 01 52.4**	**+0.1**
	baz=224						
O19K	**Port Alsworth**	**0.69**	**310**	Pn	**Pn**	**15 01 38.7**	**-0.7**
O19K				Sn	**Sn**	**15 01 53.3**	**-1.3**
O19K				IAML		15 01 54.6	
	comp=E,6μm,0.5s						
O19K				IAML		15 01 55.2	
	comp=N,6μm,0.4s						
O19K	**Port Alsworth**	**0.69**	**310**	P	**Pn**	**15 01 38.9**	**-0.5**
	baz=131						
O19K				S	**Sn**	**15 01 54.0**	**-0.7**
	baz=131						
RED	**Redoubt Volcan**	**0.70**	**20**		**Pn**	**15 01 39.8**	**+0.1**
RED					**Sn**	**15 01 54.8**	**-0.4**
RDSO	**Redoubt South**	**0.74**	**20**		**Pn**	**15 01 40.0**	**0.0**
RSO	**Redoubt South**	**0.75**	**20**	Pn	**Pn**	**15 01 40.0**	**-0.1**
RDWB	**Redoubt West**	**0.76**	**16**		**Pn**	**15 01 40.1**	**0.0**
NCT	**North Crescent**	**0.82**	**12**		**Pn**	**15 01 40.6**	**+0.1**
HOM	**Homer**	**0.83**	**97**	Pn	**Pn**	**15 01 40.2**	**-0.3**
HOM				IAML		15 01 58.6	
	comp=N,5μm,0.5s						
HOM				IAML		15 02 01.0	
	comp=E,5μm,0.6s						
HOM	**Homer**	**0.83**	**97**	P	**Pn**	**15 01 40.7**	**+0.2**
	baz=276						
Q19K	**Cape Douglas,**	**0.86**	**193**	Pn	**Pn**	**15 01 40.0**	**-0.8**
Q19K				Sn	**Sn**	**15 01 54.8**	**-2.4**
Q19K				IAML		15 01 59.8	
	comp=E,4μm,0.8s						
Q19K	**Cape Douglas,**	**0.86**	**193**	P	**Pn**	**15 01 40.5**	**-0.3**
	baz=13						
Q19K				S	**Sn**	**15 01 56.2**	**-1.0**
	baz=13						
RDJH	**Redoubt Jeurge**	**0.86**	**15**		**Pn**	**15 01 41.1**	**+0.1**
RDJH					**Sn**	**15 01 57.2**	**-0.2**
DFR	**Drift River**	**0.88**	**19**		**Pn**	**15 01 41.2**	**+0.1**
RDT	**Redoubt**	**0.92**	**27**		**Pn**	**15 01 41.4**	**0.0**
O18K	**Koktuh Hills**	**0.99**	**276**	Pn	**Pn**	**15 01 40.6**	**-1.3**
O18K				Sn	**Sn**	**15 01 57.7**	**-1.5**
O18K	**Koktuh Hills**	**0.99**	**276**	P	**Pn**	**15 01 41.4**	**-0.5**
	baz=96						
O18K				S	**Sn**	**15 01 58.4**	**-0.8**
	baz=96						
CNPM	**China Poot**	**1.06**	**102**	Sn	**Sn**	**15 01 58.8**	**-1.6**
P18K	**Big Mountain,**	**1.07**	**250**	Pn	**Pn**	**15 01 41.3**	**-1.4**
P18K	**Big Mountain,**	**1.07**	**250**	P	**Pn**	**15 01 42.0**	**-0.8**
	baz=70						
BRLK	**Bradley Lake**	**1.20**	**89**	Pn	**Pn**	**15 01 43.6**	**-0.4**
BRLK				Sn	**Sn**	**15 02 01.4**	**-1.5**
BRLK				IAML		15 02 02.7	
	comp=N,2μm,0.5s						
BRLK				IAML		15 02 03.0	
	comp=E,3μm,0.5s						
N19K	**Bonanza Creek**	**1.22**	**331**	Pn	**Pn**	**15 01 44.3**	**0.0**
N19K				Sn	**Sn**	**15 02 02.4**	**-1.0**
N19K				IAML		15 02 03.6	
	comp=E,2μm,0.7s						
N19K				IAML		15 02 03.6	
	comp=N,1μm,0.7s						
N19K	**Bonanza Creek**	**1.22**	**331**	P	**Pn**	**15 01 44.0**	**-0.2**
	baz=150						
N19K				S	**Sn**	**15 02 02.8**	**-0.6**
	baz=150						
Q20K	**Shuyak Island**	**1.24**	**158**	P	**Pn**	**15 01 44.0**	**-0.4**
	baz=338						
Q20K				S	**Sn**	**15 02 02.5**	**-1.1**
	baz=338						
SYI	**Shuyak Island**	**1.24**	**158**	Pn	**Pn**	**15 01 43.8**	**-0.6**
SYI				Sn	**Sn**	**15 02 02.1**	**-1.4**
SYI				IAML		15 02 03.3	
	comp=E,3μm,0.5s						
SYI				IAML		15 02 04.6	
	comp=N,2μm,0.6s						
BRSE	**Bradley Lake S**	**1.28**	**90**		**Pn**	**15 01 44.6**	**-0.2**
BRSE	**Bradley Lake S**	**1.28**	**90**	P	**Pn**	**15 01 44.6**	**-0.2**
	baz=271						
KAPH	**Katmai Pasha**	**1.29**	**206**		**Pn**	**15 01 44.9**	**-0.3**
KAHC	**Katmai Hardscr**	**1.43**	**220**		**Pn**	**15 01 46.2**	**-0.5**
KAHC	**Katmai Hardscr**	**1.43**	**220**	P	**Pn**	**15 01 46.1**	**-0.5**
	baz=38						
CAPN	**Captain Cook N**	**1.46**	**45**	Pn	**Pn**	**15 01 48.6**	**+1.9**
CAPN	**Captain Cook N**	**1.46**	**45**	P	**Pn**	**15 01 48.7**	**+2.0**
	baz=227						
N20K	**Mount Spurr**	**1.53**	**19**	P	**Pn**	**15 01 48.1**	**+0.4**
	baz=200						
SPCR	**Spurr Chakacha**	**1.53**	**19**		**Pn**	**15 01 48.1**	**+0.4**
SPCN	**Chakachatna No**	**1.56**	**20**		**Pn**	**15 01 48.6**	**+0.6**
SPBG	**Spurr Blockage**	**1.57**	**16**		**Pn**	**15 01 48.6**	**+0.6**
N18K	**Kilae Creek**	**1.60**	**306**	Pn	**Pn**	**15 01 47.9**	**-0.5**
N18K				Sn	**Sn**	**15 02 08.8**	**-1.9**
N18K				IAML		15 02 10.6	
	comp=E,450nm,0.7s						
N18K	**Kilae Creek**	**1.60**	**306**	P	**Pn**	**15 01 48.1**	**-0.3**
	baz=125						
N18K				S	**Sn**	**15 02 09.7**	**-1.0**
	baz=125						
SPCP	**Crater Peak Br**	**1.61**	**20**		**Pn**	**15 01 49.1**	**+0.5**
SPNN	**North Nagishla**	**1.63**	**10**		**Pn**	**15 01 49.3**	**+0.4**
SPCG	**Spurr Capps Gl**	**1.65**	**21**		**Pn**	**15 01 49.6**	**+0.5**
SLKM	**Skilak Lake**	**1.70**	**63**		**Pn**	**15 01 49.2**	**-0.3**
P17K	**Kvichak River**	**1.72**	**252**		**Pn**	**15 01 49.7**	**0.0**
P17K	**Kvichak River**	**1.72**	**252**	P	**Pn**	**15 01 49.6**	**0.0**
	baz=70						
KVTA	**Katmai Vly 10**	**1.74**	**218**		**Pn**	**15 01 49.8**	**-0.2**
KAKN	**Katmai Knife C**	**1.74**	**213**		**Pn**	**15 01 49.6**	**-0.5**
SVW2	**Sparrevohn**	**1.77**	**320**	Pn	**Pn**	**15 01 49.7**	**-0.6**
SVW2				Sn	**Sn**	**15 02 12.0**	**-2.1**
SVW2	**Sparrevohn**	**1.77**	**320**	P	**Pn**	**15 01 50.0**	**-0.3**
KCE	**Katmai Mt Cerb**	**1.82**	**214**		**Pn**	**15 01 51.0**	**0.0**
KELA	**Mount Kelaz**	**1.84**	**225**		**Pn**	**15 01 50.9**	**-0.4**
STLK	**Strandline Lak**	**1.88**	**21**		**Pn**	**15 01 52.1**	**+0.3**
ACHA	**Angle Creek He**	**1.89**	**215**		**Pn**	**15 01 51.4**	**-0.5**
O22K	**Cooper Landing**	**1.91**	**66**	Pn	**Pn**	**15 01 52.2**	**+0.2**
O22K	**Cooper Landing**	**1.91**	**66**	P	**Pn**	**15 01 52.3**	**+0.3**
	baz=249						
O17K	**Koliganek Bris**	**1.94**	**272**		**Pn**	**15 01 52.5**	**+0.2**
O17K	**Koliganek Bris**	**1.94**	**272**	P	**Pn**	**15 01 52.4**	**0.0**
	baz=89						
ANCK	**Angle Creek**	**1.95**	**217**		**Pn**	**15 01 52.2**	**-0.3**
SEW	**Seward**	**1.95**	**78**		**Sn**	**15 02 16.3**	**-1.6**
SEW	**Seward**	**1.95**	**78**	Pn	**Pn**	**15 01 52.0**	**-0.4**
SEW	**Seward**	**1.95**	**78**	P	**Pn**	**15 01 52.2**	**-0.2**
	baz=261						
KDAK	**Kodiak Island**	**2.02**	**170**	Pn	**Pn**	**15 01 51.7**	**-1.6**
KDAK				IAML		15 02 18.7	
	comp=E,714nm,0.4s						
KDAK				IAML		15 02 18.7	
	comp=E,1μm,0.4s						
KDAK	**Kodiak Island**	**2.02**	**170**	P	**Pn**	**15 01 51.7**	**-1.6**
	comp=E,257nm,0.4s,baz=20,slow=13,SNR=785						
KDAK				S	**Sn**	**15 02 17.3**	**-2.1**
	comp=E,265nm,0.4s,baz=122,slow=23,SNR=26						
CNTC	**Contact Creek**	**2.02**	**223**		**Pn**	**15 01 53.1**	**-0.4**
CNTC					**Sn**	**15 02 18.7**	**-1.1**
Q17K	**Contact Creek**	**2.02**	**223**	P	**Pn**	**15 01 53.1**	**-0.4**
	baz=41						
FIS	**Fire Island**	**2.05**	**46**	Pn	**Pn**	**15 01 54.7**	**+1.1**
FIS				IAML		15 02 23.0	
	comp=E,2μm,0.7s						
FIS				IAML		15 02 30.7	
	comp=N,2μm,0.4s						
Q16K	**King Salmon**	**2.06**	**240**		**Pn**	**15 01 53.7**	**0.0**
Q16K	**King Salmon**	**2.06**	**240**	P	**Pn**	**15 01 53.8**	**0.0**
	baz=57						
N17K	**Nushagak Hills**	**2.11**	**293**	Pn	**Pn**	**15 01 54.2**	**-0.2**
N17K	**Nushagak Hills**	**2.11**	**293**	P	**Pn**	**15 01 54.5**	**0.0**
	baz=110						
SUA	**Susitna One**	**2.11**	**35**	Pn	**Pn**	**15 01 54.5**	**0.0**
SUA				Sn	**Sn**	**15 02 20.6**	**-1.0**
SUA	**Susitna One**	**2.11**	**35**	P	**Pn**	**15 01 54.9**	**+0.4**
	baz=217						
M20K	**Styx River**	**2.13**	**2**	Pn	**Pn**	**15 01 54.6**	**-0.2**
M20K				IAML		15 02 24.4	
	comp=N,328nm,0.7s						
M20K	**Styx River**	**2.13**	**2**	P	**Pn**	**15 01 55.2**	**+0.5**
	baz=182						
M18K	**Stony River**	**2.15**	**325**		**Pn**	**15 01 54.6**	**-0.3**
M18K	**Stony River**	**2.15**	**325**	P	**Pn**	**15 01 54.6**	**-0.3**
	baz=143						
RC01	**Rabbit Creek A**	**2.20**	**51**	Pn	**Pn**	**15 01 55.2**	**-0.3**
RC01				IAML		15 02 23.0	
	comp=N,1μm,0.4s						
RC01				IAML		15 02 24.1	
	comp=E,2μm,0.2s						
RC01	**Rabbit Creek A**	**2.20**	**51**	P	**Pn**	**15 01 55.5**	**0.0**
	baz=234						
M19K	**Big River Lodg**	**2.22**	**346**	Pn	**Pn**	**15 01 55.3**	**-0.5**
M19K				IAML		15 02 24.6	
	comp=E,212nm,0.8s						
M19K	**Big River Lodg**	**2.22**	**346**	P	**Pn**	**15 01 55.7**	**-0.1**
	baz=166						
SKT	**Skwentna**	**2.38**	**20**	Pn	**Pn**	**15 01 57.7**	**-0.2**
SKT				IAML		15 02 31.0	
	comp=E,331nm,0.5s						
SKT				IAML		15 02 31.2	
	comp=N,416nm,0.4s						
SKT	**Skwentna**	**2.38**	**20**	P	**Pn**	**15 01 57.9**	**0.0**
	baz=202						
O16K	**Kokwok River B**	**2.46**	**268**	Pn	**Pn**	**15 01 58.5**	**-0.3**
O16K	**Kokwok River B**	**2.46**	**268**	P	**Pn**	**15 01 58.8**	**+0.1**
	baz=84						
M22K	**Willow**	**2.52**	**36**	Pn	**Pn**	**15 01 59.6**	**+0.1**
M22K	**Willow**	**2.52**	**36**	P	**Pn**	**15 01 59.6**	**+0.1**
	baz=219						
P16K	**Nushagak River**	**2.53**	**255**		**Pn**	**15 02 00.1**	**+0.4**
P16K	**Nushagak River**	**2.53**	**255**	P	**Pn**	**15 01 60.0**	**+0.3**
	baz=72						
OHAK	**Old Harbor**	**2.55**	**180**	Pn	**Pn**	**15 01 57.7**	**-2.3**
OHAK				IAML		15 02 29.5	
	comp=E,166nm,0.5s						
OHAK				IAML		15 02 32.4	
	comp=N,177nm,0.8s						
OHAK	**Old Harbor**	**2.55**	**180**	P	**Pn**	**15 01 58.1**	**-1.8**
OHAK	**Old Harbor**	**2.55**	**180**	P	**Pn**	**15 01 57.9**	**-2.0**
	baz=0.0						
L19K	**White Mountain**	**2.55**	**343**	Pn	**Pn**	**15 01 59.3**	**-0.7**
L19K	**White Mountain**	**2.55**	**343**	P	**Pn**	**15 01 59.7**	**-0.3**
	baz=162						
M17K	**Holitna River**	**2.64**	**310**	P	**Pn**	**15 02 01.1**	**+0.1**
	baz=127						
PMR	**Palmer**	**2.74**	**46**	Pn	**Pn**	**15 02 01.3**	**-1.0**
PMR				IAML		15 02 34.8	
	comp=E,480nm,0.2s						
PMR				IAML		15 02 36.0	
	comp=N,641nm,0.6s						
PMR	**Palmer**	**2.74**	**46**	P	**Pn**	**15 02 03.0**	**+0.7**
PMR	**Palmer**	**2.74**	**46**	P	**Pn**	**15 02 01.4**	**-1.0**
	baz=230						
L20K	**Farewell, AK**	**2.74**	**354**		**Pn**	**15 02 02.7**	**+0.3**
	baz=174						
N16K	**Nishlik Lake**	**2.85**	**287**		**Pn**	**15 02 04.3**	**+0.5**
N16K	**Nishlik Lake**	**2.85**	**287**	P	**Pn**	**15 02 04.1**	**+0.3**
	baz=103						
KNK	**Knik Glacier**	**2.89**	**53**	Pn	**Pn**	**15 02 03.8**	**-0.5**
KNK				IAML		15 02 39.1	
	comp=E,1μm,0.7s						
KNK	**Knik Glacier**	**2.89**	**53**	P	**Pn**	**15 02 03.7**	**-0.7**
	baz=237						
P23K	**Montague Islan**	**2.96**	**83**		**Pn**	**15 02 05.3**	**0.0**
P23K	**Montague Islan**	**2.96**	**83**	P	**Pn**	**15 02 05.3**	**0.0**
	baz=268						
L18K	**Granite Mounta**	**2.98**	**327**	Pn	**Pn**	**15 02 04.8**	**-0.6**
L18K				IAML		15 02 55.4	
	comp=N,146nm,0.8s						
L18K	**Granite Mounta**	**2.98**	**327**	P	**Pn**	**15 02 05.1**	**-0.3**
	baz=145						
CUT	**Chulitna**	**3.02**	**27**	Pn	**Pn**	**15 02 05.7**	**-0.3**
CUT				IAML		15 02 46.1	
	comp=N,971nm,0.3s						
CUT	**Chulitna**	**3.02**	**27**	P	**Pn**	**15 02 06.0**	**0.0**
	baz=210						
M16K	**Timber Creek**	**3.10**	**297**	Pn	**Pn**	**15 02 06.4**	**-0.6**
M16K	**Timber Creek**	**3.10**	**297**	P	**Pn**	**15 02 06.9**	**-0.1**
	baz=112						
R16K	**Pilot Point**	**3.15**	**228**		**Pn**	**15 02 07.5**	**-0.1**
R16K	**Pilot Point**	**3.15**	**228**	IAML		15 02 46.4	
	comp=N,790nm,1.0s						
R16K				IAML		15 02 48.3	
	comp=E,413nm,1.2s						
R16K	**Pilot Point**	**3.15**	**228**	P	**Pn**	**15 02 07.5**	**-0.1**
	baz=44						
SML	**Sawmill**	**3.17**	**48**	P	**Pn**	**15 02 07.1**	**-0.9**
	baz=232						
PPLA	**Purkeypile**	**3.19**	**9**	Pn	**Pn**	**15 02 08.5**	**+0.2**
PPLA	**Purkeypile**	**3.19**	**9**	P	**Pn**	**15 02 08.9**	**+0.6**
	baz=190						
SII	**Sitkinak Islan**	**3.25**	**189**	Pn	**Pn**	**15 02 06.8**	**-2.3**
SII				IAML		15 02 55.1	
	comp=E,297nm,0.6s						
SII				IAML		15 02 57.7	
	comp=N,228nm,0.8s						
SII	**Sitkinak Islan**	**3.25**	**189**	P	**Pn**	**15 02 07.2**	**-1.8**
SII	**Sitkinak Islan**	**3.25**	**189**	P	**Pn**	**15 02 07.0**	**-2.1**
	baz=8.1						
M23K	**Glacier View**	**3.39**	**51**		**Pn**	**15 02 10.1**	**-0.8**
M23K	**Glacier View**	**3.39**	**51**	P	**Pn**	**15 02 10.1**	**-0.8**
	baz=235						
O15K	**Ungalikthiuk R**	**3.40**	**263**		**Pn**	**15 02 11.1**	**+0.1**
O15K	**Ungalikthiuk R**	**3.40**	**263**	P	**Pn**	**15 02 11.1**	**+0.1**
	baz=78						
L17K	**Donlin**	**3.42**	**316**		**Pn**	**15 02 11.1**	**-0.1**
L17K	**Donlin**	**3.42**	**316**	P	**Pn**	**15 02 11.0**	**-0.2**
	baz=132						
TTA	**Tatalina**	**3.44**	**339**	Pn	**Pn**	**15 02 10.8**	**-0.8**
TTA	**Tatalina**	**3.44**	**339**	P	**Pn**	**15 02 11.1**	**-0.5**
	baz=156						
HIN	**Hinchinbrook I**	**3.45**	**76**	Pn	**Pn**	**15 02 10.5**	**-1.1**
HIN				IAML		15 02 51.4	
	comp=N,417nm,0.5s						
HIN				IAML		15 02 55.5	
	comp=E,439nm,0.7s						
N15K	**Kwethluk River**	**3.46**	**280**	Pn	**Pn**	**15 02 12.3**	**+0.5**
N15K	**Kwethluk River**	**3.46**	**280**	P	**Pn**	**15 02 11.9**	**+0.2**
	baz=94						
Q23K	**Middleton Isla**	**3.53**	**92**	Pn	**Pn**	**15 02 11.9**	**-0.8**
Q23K				IAML		15 02 54.6	
	comp=N,626nm,2.0s						
Q23K				IAML		15 02 55.5	
	comp=E,486nm,0.3s						
Q23K	**Middleton Isla**	**3.53**	**92**	P	**Pn**	**15 02 12.4**	**-0.2**
	baz=278						
MID	**Middleton Isla**	**3.54**	**92**	Pn	**Pn**	**15 02 11.6**	**-1.1**
MID				IAML		15 02 54.6	
	comp=N,603nm,0.9s						
MID				IAML		15 02 55.5	
	comp=E,584nm,0.4s						
SCM	**Sheep Creek Mo**	**3.57**	**52**	Pn	**Pn**	**15 02 12.6**	**-0.7**
SCM	**Sheep Creek Mo**	**3.57**	**52**	P	**Pn**	**15 02 12.7**	**-0.7**
	baz=237						
L16K	**Owhat River**	**3.62**	**305**	Pn	**Pn**	**15 02 13.6**	**-0.2**
L16K	**Owhat River**	**3.62**	**305**	P	**Pn**	**15 02 14.0**	**+0.1**
	baz=120						
K20K	**Telida**	**3.63**	**354**	Pn	**Pn**	**15 02 13.7**	**-0.2**
K20K	**Telida**	**3.63**	**354**	P	**Pn**	**15 02 14.2**	**+0.2**
	baz=174						
CAST	**Castle Rocks**	**3.71**	**8**	Pn	**Pn**	**15 02 14.6**	**-0.5**
CAST				IAML		15 03 03.1	
	comp=E,72nm,0.5s						
CAST	**Castle Rocks**	**3.71**	**8**	P	**Pn**	**15 02 15.0**	**-0.1**
	baz=189						
M15K	**Kasigluk River**	**3.82**	**287**		**Pn**	**15 02 17.0**	**+0.5**
M15K	**Kasigluk River**	**3.82**	**287**	P	**Pn**	**15 02 16.7**	**+0.3**
	baz=101						
K17K	**Iditarod**	**3.83**	**323**	Pn	**Pn**	**15 02 16.4**	**-0.3**
K17K				IAML		15 03 03.4	
	comp=E,94nm,1.1s						
K17K				IAML		15 03 03.4	
	comp=N,61nm,1.0s						
K17K	**Iditarod**	**3.83**	**323**	P	**Pn**	**15 02 16.2**	**-0.5**
	baz=139						
EYAK	**Cordova Ski Ar**	**3.84**	**75**	Pn	**Pn**	**15 02 16.2**	**-0

KAIM Kayak Island 4.46 84 Pn Pn 15 02 25.2 +0.2
KAIM IAML 15 03 20.4
comp=E,285nm,0.7s
KAIM IAML 15 03 21.2
comp=N,346nm,0.5s
KAIM Kayak Island 4.46 84 P Pn 15 02 25.3 +0.2
baz=271
BMRM Bremner River 4.47 71 Pn Pn 15 02 24.5 -0.6
BMRM Bremner River 4.47 71 P Pn 15 02 24.2 -0.9
baz=258
L15K Ungalak Mounta 4.47 299 Pn 15 02 25.8 +0.6
L15K Ungalak Mounta 4.47 299 P Pn 15 02 25.6 +0.5
baz=112
MCK McKinley 4.48 25 Pn Pn 15 02 24.6 -0.7
MCK McKinley 4.48 25 P Pn 15 02 24.6 -0.7
baz=209
BPAW Bear Paw Mtn. 4.48 13 Pn Pn 15 02 24.1 -1.2
BPAW IAML 15 03 14.3
comp=N,60nm,1.5s
BPAW IAML 15 03 22.4
comp=E,54nm,0.4s
BPAW Bear Paw Mtn. 4.48 13 P Pn 15 02 24.1 -1.2
baz=195
HMT Hamilton 4.55 79 Pn Pn 15 02 25.1 -1.1
J17K VABM Dome 4.58 325 Pn Pn 15 02 26.0 -0.6
J17K VABM Dome 4.58 325 P Pn 15 02 25.9 -0.6
baz=140
N25K Chitina, Valde 4.64 63 P Pn 15 02 27.0 -0.5
baz=250
NICHA Nichawak Mount 4.69 80 Pn 15 02 27.9 -0.2
VNHG Veniaminof 1 4.74 224 Pn 15 02 28.8 0.0
HARP HAARP 4.74 53 Pn 15 02 28.6 -0.2
HARP HAARP 4.74 53 P Pn 15 02 28.6 -0.2
baz=240
K15K Wolf Creek Mou 4.75 306 Pn Pn 15 02 29.5 +0.6
K15K Wolf Creek Mou 4.75 306 P Pn 15 02 29.4 +0.5
baz=119
BWN Browne 4.77 20 Pn Pn 15 02 28.5 -0.6
BWN IAML 15 03 27.4
comp=N,163nm,0.8s
BWN IAML 15 03 51.5
comp=E,160nm,1.0s
SUCK Suckling Hills 4.79 82 Pn Pn 15 02 29.2 -0.1
SUCK IAML 15 03 26.2
comp=N,190nm,1.3s
SUCK IAML 15 03 36.7
comp=E,110nm,1.2s
BERG Berg Lake 4.83 78 Pn Pn 15 02 29.4 -0.6
WACK Wrangell Chich 4.90 59 Pn 15 02 32.1 +1.0
L14K Kuka Creek 4.91 293 Pn Pn 15 02 31.6 +0.6
L14K IAML 15 04 19.1
comp=E,35nm,1.1s
L14K IAML 15 04 29.8
comp=N,33nm,1.5s
L14K Kuka Creek 4.91 293 P Pn 15 02 31.4 +0.5
baz=105
PAX Paxson 4.94 46 P Pn 15 02 31.2 -0.3
baz=233
WASW Wrangell South 4.95 60 Pn 15 02 31.7 0.0
GLB Gilahina Butte 4.95 66 Pn Pn 15 02 31.7 +0.1
J16K Anvik River 4.98 318 P Pn 15 02 31.7 -0.2
baz=132
GRIN Grindle Hills 5.02 80 Pn 15 02 32.4 0.0
BGLC Bering Glacier 5.03 82 Pn 15 02 33.4 +0.8
BGLC Bering Glacier 5.03 82 P Pn 15 02 33.3 +0.7
baz=270
KHIT Khitrov Hills 5.06 78 Pn 15 02 32.7 -0.4
VRDI Verde Repeater 5.07 69 Pn Pn 15 02 33.8 +0.5
VRDI IAML 15 03 29.8
comp=E,227nm,0.5s
I20K Naaghedeneel 5.08 354 Pn Pn 15 02 33.7 +0.5
I20K IAML 15 04 25.1
comp=N,125nm,1.1s
I20K IAML 15 04 28.0
comp=E,133nm,1.0s
I20K Naaghedeneel 5.08 354 P Pn 15 02 33.6 +0.3
baz=173
CRQM Cirque 5.14 74 Pn Pn 15 02 34.1 -0.2
CRQE Cirque 5.16 75 P Pn 15 02 33.8 -0.6
baz=263
NEA2 Nenana 5.23 20 P Pn 15 02 34.2 -1.0
baz=204
SNH Sunshine Point 5.25 81 Pn Pn 15 02 36.0 +0.3
SNH IAML 15 03 36.5
comp=E,162nm,1.0s
SNH IAML 15 03 57.0
comp=N,110nm,2.1s
WAX Waxell Ridge 5.25 78 Pn Pn 15 02 35.2 -0.5
GCSA Galena City Sc 5.28 343 Pn 15 02 35.7 -0.2
GCSA Galena City Sc 5.28 343 P Pn 15 02 35.7 -0.2
baz=160
TGL Tana Glacier 5.29 75 Pn Pn 15 02 35.8 -0.4
MCARA McCarthy VSAT 5.30 68 Pn Pn 15 02 36.4 +0.2
MCARA McCarthy VSAT 5.30 68 P Pn 15 02 36.8 +0.5
baz=256
WRH Wood River Hil 5.31 25 Pn Pn 15 02 35.2 -1.1
WRH IAML 15 03 34.5
comp=E,115nm,0.4s
WRH IAML 15 03 35.4
comp=N,116nm,0.5s
K24K Donnelly Dome 5.39 38 Pn 15 02 38.2 +0.8
K24K Donnelly Dome 5.39 38 P Pn 15 02 38.2 +0.8
baz=224
MLY Manley 5.42 11 Pn Pn 15 02 36.7 -1.0
MLY Manley 5.42 11 P Pn 15 02 36.8 -1.0
baz=194
BARK Barkley Ridge 5.43 79 Pn 15 02 38.1 0.0
CYK Cape Yakataga 5.43 82 Pn 15 02 38.1 +0.2
I17K Unalakleet 5.43 323 Pn Pn 15 02 37.6 -0.3
I17K Unalakleet 5.43 323 P Pn 15 02 37.8 -0.1
baz=136
I21K Tanana 5.47 6 Pn Pn 15 02 37.7 -0.7
I21K Tanana 5.47 6 P Pn 15 02 38.0 -0.4
baz=187
ISLE Juniper Island 5.52 77 Pn Pn 15 02 39.0 -0.3
HDA Harding Lake 5.53 30 Pn Pn 15 02 38.4 -0.8
HDA Harding Lake 5.53 30 P Pn 15 02 38.2 -1.0
baz=215
CCB Clear Creek Bu 5.53 25 Pn Pn 15 02 37.7 -1.5
PTPK Patty Peak 5.53 70 Pn 15 02 39.8 +0.3
KIAG Kiagna River 5.54 73 Pn 15 02 39.6 0.0
MENT Mentasta 5.59 51 Pn Pn 15 02 40.0 -0.1
MENT Mentasta 5.59 51 P Pn 15 02 40.7 +0.6
BAGL Bagley Icefiel 5.63 78 Pn 15 02 41.1 +0.5
M26K Nabesna, AK 5.64 58 Pn Pn 15 02 41.4 +0.6
M26K Nabesna, AK 5.64 58 P Pn 15 02 41.1 +0.3
baz=246
MESA MESA 5.70 81 P Pn 15 02 41.8 0.0
baz=270
I23K Minto, Yukon-K 5.70 17 Pn Pn 15 02 41.0 -0.5
I23K Minto, Yukon-K 5.70 17 P Pn 15 02 40.6 -0.9
baz=200
COLA College 5.71 24 Pn Pn 15 02 40.9 -0.8
COLA College 5.71 24 P Pn 15 02 40.7 -1.0
MDM Murphy Dome 5.72 22 Pn Pn 15 02 40.9 -0.8
L26K Log Cabin Wild 5.78 51 Pn Pn 15 02 42.7 +0.1
J14K Nanvaranak Lak 5.80 306 Pn Pn 15 02 43.7 +0.9
J14K Nanvaranak Lak 5.80 306 P Pn 15 02 42.6 -0.2
baz=117
H20K Anotleneega Mo 5.80 353 Pn 15 02 43.1 +0.2
H20K Anotleneega Mo 5.80 353 P Pn 15 02 42.7 -0.2
baz=172
GRNC Granite Creek 5.81 75 Pn Pn 15 02 43.4 +0.1
IL31 5.84 28 Pn Pn 15 02 41.9 -1.5
ILAR Eielson Array 5.84 28 Pn Pn 15 02 41.9 -1.5
ILAR Eielson Array 5.84 28 P Pn 15 02 42.0 -1.5
comp=N,59nm,0.4s,baz=217,slow=14,SNR=728
ILAR S Sn 15 03 44.8 -4.4
comp=N,9.4nm,0.4s,baz=189,slow=17,SNR=7.2
SDPT Sand Point 5.88 224 Pn Pn 15 02 42.3 -1.8
SDPT Sand Point 5.88 224 P Pn 15 02 42.5 -1.6
baz=38
BARN Barnard Glacie 5.89 72 Pn Pn 15 02 44.9 +0.5
H18K Honhosa River 5.90 339 Pn Pn 15 02 43.9 -0.3
H18K Honhosa River 5.90 339 P Pn 15 02 44.0 -0.3
baz=154
H21K Melozitna Rive 5.92 2 Pn Pn 15 02 44.1 -0.5
H21K Melozitna Rive 5.92 2 P Pn 15 02 44.0 -0.5
baz=182
H19K Roundabout Mou 5.97 347 Pn Pn 15 02 44.5 -0.6
H19K Roundabout Mou 5.97 347 P Pn 15 02 44.5 -0.6
baz=164
CHNA Chernabura Isl 6.01 217 P Pn 15 02 43.6 -2.3
baz=32
POKR Poker Plat Res 6.01 24 Pn Pn 15 02 44.7 -1.1
POKR Poker Plat Res 6.01 24 P Pn 15 02 44.8 -1.0
baz=209
CNBA Chernabura Isl 6.02 217 Pn Pn 15 02 42.9 -3.0
CTG Chitna Glacier 6.04 73 P Pn 15 02 46.2 0.0
baz=264
CTGM Chitina Glacie 6.04 73 Pn Pn 15 02 46.4 +0.1
H17K Granite Mounta 6.04 332 Pn Pn 15 02 45.4 -0.8
H17K Granite Mounta 6.04 332 P Pn 15 02 45.6 -0.5
baz=146
SCRK Sand Creek 6.09 42 Pn Pn 15 02 45.4 -1.5
SCRK Sand Creek 6.09 42 P Pn 15 02 45.8 -1.1
baz=230
TABL Table Mountain 6.10 78 Pn Pn 15 02 47.2 +0.1
J25K Salcha River, 6.11 34 Pn Pn 15 02 46.1 -1.0
J25K Salcha River, 6.11 34 P Pn 15 02 46.1 -1.0
baz=221
M27K Edge Creek, AK 6.11 60 Pn Pn 15 02 48.4 +1.2
LOGN Logan Glacier 6.19 75 Pn Pn 15 02 48.5 +0.2
H22K Ishtalitna Cre 6.21 7 Pn 15 02 48.2 -0.3
H22K Ishtalitna Cre 6.21 7 P Pn 15 02 48.2 -0.3
baz=189
IMAR Indian Mountai 6.25 358 Pn Pn 15 02 49.0 +0.1
SAMH Samovar Hills 6.28 81 Pn 15 02 50.3 +0.8
PS1A Pavlof South-1 6.30 230 Pn 15 02 49.2 -0.4
PS4A Pavlof South-4 6.40 230 Pn 15 02 51.1 +0.1
L27K Beaver Creek, 6.41 54 Pn Pn 15 02 51.2 +0.1
L27K Beaver Creek, 6.41 54 P Pn 15 02 51.5 +0.4
baz=244
YUK2 White River 6.41 66 Pn 15 02 52.0 +0.7
H16K Elim 6.44 323 Pn 15 02 51.6 +0.1
H16K Elim 6.44 323 P Pn 15 02 51.6 +0.1
baz=136
PCA Pinnacle 6.55 81 Pn Pn 15 02 53.7 +0.7
PINM Pinnacle 6.55 81 P Pn 15 02 53.1 +0.1
baz=272
J26L Joseph Creek 6.57 40 Pn Pn 15 02 52.4 -1.0
J26L Joseph Creek 6.57 40 P Pn 15 02 52.4 -1.0
baz=228
BVCY Beaver Creek 6.58 61 Pn 15 02 54.4 +1.0
BVCY Beaver Creek 6.58 61 P Pn 15 02 53.7 +0.4
baz=252
H24K Noodor Dome 6.58 20 Pn Pn 15 02 52.1 -1.2
H24K Noodor Dome 6.58 20 P Pn 15 02 52.1 -1.2
baz=204
YUK3 Moose Creek 6.59 67 Pn 15 02 54.5 +0.8
G18K Tagagawik 6.63 340 Pn Pn 15 02 53.4 -0.6
G18K Tagagawik 6.63 340 P Pn 15 02 53.5 -0.5
baz=156
G19K Purcell Mounta 6.64 346 Pn Pn 15 02 53.6 -0.6
G19K Purcell Mounta 6.64 346 P Pn 15 02 53.5 -0.6
baz=163
G17K Kiwalik Mounta 6.69 333 Pn 15 02 53.8 -1.0
G17K Kiwalik Mounta 6.69 333 P Pn 15 02 54.1 -0.7
baz=146
G21K Allakaket 6.78 359 Pn Pn 15 02 55.8 -0.2
G21K Allakaket 6.78 359 P Pn 15 02 55.9 -0.1
baz=179
PRP Porcupine Dome 6.78 28 Pn Pn 15 02 55.1 -1.2
PRP Porcupine Dome 6.78 28 P Pn 15 02 55.2 -1.0
baz=215
K27K Chicken 6.80 46 Pn Pn 15 02 55.9 -0.4
K27K Chicken 6.80 46 P Pn 15 02 55.7 -0.5
baz=236
BCPM Bancas Point 6.87 83 Pn Pn 15 02 57.9 +0.6
PNL Peninsula 7.01 85 Pn 15 02 59.2 -0.1
PNL Peninsula 7.01 85 P Pn 15 02 59.2 -0.1
baz=277
G16K Koyuk River 7.03 327 Pn Pn 15 02 59.1 -0.3
G16K Koyuk River 7.03 327 P Pn 15 02 59.1 -0.3
baz=139
G23K Bananza Creek 7.13 10 Pn Pn 15 02 59.8 -0.9
G23K Bananza Creek 7.13 10 P Pn 15 02 59.9 -0.9
baz=193
G22K Bettles 7.23 6 Pn 15 03 02.1 0.0
G22K Bettles 7.23 6 P Pn 15 03 02.1 0.0
baz=187
G15K Niukluk 7.25 321 Pn 15 03 02.1 -0.2
G15K Niukluk 7.25 321 P Pn 15 03 02.1 -0.2
baz=132
I26K Coal Creek Min 7.26 36 Pn Pn 15 03 00.9 -1.5
I26K Coal Creek Min 7.26 36 P Pn 15 03 01.2 -1.3
baz=225
O29M Mount Kennedy 7.38 79 Pn Pn 15 03 05.1 +0.8
O29M Mount Kennedy 7.38 79 P Pn 15 03 04.1 -0.2
baz=272
F19K Shaleruckik Mo 7.38 346 P Pn 15 03 04.3 +0.2
baz=162
F20K Avaraart Lake 7.40 352 Pn Pn 15 03 04.0 -0.3
F20K Avaraart Lake 7.40 352 P Pn 15 03 04.6 +0.3
baz=170
ANM Nome 7.43 316 Pn Pn 15 03 05.7 +0.9
ANM Nome 7.43 316 P Pn 15 03 04.8 -0.1
baz=125
G24K Hadweenzic Riv 7.43 18 P Pn 15 03 03.5 -1.3
baz=203
YUK6 Outpost Mounta 7.49 74 Pn 15 03 06.4 +0.6
YUK6 Outpost Mounta 7.49 74 P Pn 15 03 06.4 +0.6
baz=267
F21K Alatna River 7.49 359 Pn Pn 15 03 05.4 -0.2
F21K Alatna River 7.49 359 P Pn 15 03 05.1 -0.5
baz=179
EGAK Eagle 7.55 43 Pn Pn 15 03 05.2 -1.2
EGAK Eagle 7.55 43 P Pn 15 03 05.6 -0.9
baz=234
ISLZ Isanotski Laza 7.58 233 Pn 15 03 06.6 -0.4
YUK7 Dusty Glacier 7.59 78 Pn Pn 15 03 07.4 +0.3
F17K Baldwin Pennin 7.61 335 Pn Pn 15 03 05.8 -1.4
F17K Baldwin Pennin 7.61 335 P Pn 15 03 06.3 -1.0
baz=148
COLD Coldfoot 7.62 9 Pn Pn 15 03 06.1 -1.2
COLD Coldfoot 7.62 9 P Pn 15 03 06.6 -0.7
baz=192
M29M Somme Creek 7.66 63 Pn Pn 15 03 08.4 +0.5
SSLS Shishaldin Sou 7.71 234 Pn 15 03 08.5 -0.2
FYU Fort Yukon 7.73 25 Pn Pn 15 03 07.8 -0.9
G25K Bearman Lake 7.73 22 Pn 15 03 07.7 -1.1
G25K Bearman Lake 7.73 22 P Pn 15 03 07.7 -1.1
baz=208
DAWY Dawson 7.83 51 Pn Pn 15 03 10.5 +0.2
P29M Windy Craggy 7.86 84 P Pn 15 03 10.5 -0.1
baz=278
HYT Haines Junctio 7.90 75 Pn Pn 15 03 12.6 +1.3
HYT Haines Junctio 7.90 75 P Pn 15 03 11.8 +0.5
baz=269
F15K North Star Dit 7.92 324 Pn Pn 15 03 11.9 +0.5
F15K North Star Dit 7.92 324 P Pn 15 03 11.4 0.0
baz=134
E19K Redstone River 7.92 349 Pn Pn 15 03 11.4 0.0
E19K Redstone River 7.92 349 P Pn 15 03 11.7 +0.3
baz=165
I27K Kandik River 7.93 37 Pn 15 03 11.2 -0.4
I27K Kandik River 7.93 37 P Pn 15 03 11.4 -0.2
baz=228
L29M L29M 7.99 59 Pn Pn 15 03 12.8 +0.5
L29M L29M 7.99 59 P Pn 15 03 12.3 -0.1
baz=252
N30M Aishikik Lake 8.13 71 Pn Pn 15 03 14.2 -0.1
N30M Aishikik Lake 8.13 71 P Pn 15 03 13.8 -0.5
baz=265
F24K Squaw Lake 8.14 15 Pn Pn 15 03 13.2 -1.2
F24K Squaw Lake 8.14 15 P Pn 15 03 13.3 -1.1
baz=200
P30M Million Dollar 8.19 80 Pn 15 03 16.1 +0.9
F14K Arctic Creek 8.30 319 Pn 15 03 17.3 +0.9
F14K Arctic Creek 8.30 319 P Pn 15 03 16.8 +0.4
baz=128
E18K Tukpahlearik C 8.35 340 Pn Pn 15 03 17.1 0.0
E18K Tukpahlearik C 8.35 340 P Pn 15 03 17.3 +0.2
baz=154
G26K Porcupine Rive 8.37 26 Pn 15 03 15.6 -1.8
G26K Porcupine Rive 8.37 26 P Pn 15 03 15.9 -1.5
baz=215
I28M Miner Creek 8.37 41 Pn Pn 15 03 16.7 -0.9
I28M Miner Creek 8.37 41 P Pn 15 03 16.6 -0.9
baz=233
H27K Steamboat Moun 8.39 34 Pn 15 03 16.3 -1.5
H27K Steamboat Moun 8.39 34 P Pn 15 03 16.3 -1.5
baz=225
E22K Anaktuvuk Pass 8.43 4 Pn Pn 15 03 18.4 +0.1
E22K Anaktuvuk Pass 8.43 4 P Pn 15 03 18.2 0.0
baz=185
M30M Minto, Yukon 8.44 63 Pn Pn 15 03 18.7 +0.2
M30M Minto, Yukon 8.44 63 P Pn 15 03 19.4 +1.0
baz=258
J29N Klondike Camp 8.47 50 Pn Pn 15 03 19.5 +0.7
J29N Klondike Camp 8.47 50 P Pn 15 03 19.1 +0.3
baz=243
E23K Chandalar 8.48 9 Pn 15 03 18.6 -0.4
E23K Chandalar 8.48 9 P Pn 15 03 18.6 -0.4
baz=193
K29M Barlow Dome 8.49 55 Pn Pn 15 03 19.1 -0.1
K29M Barlow Dome 8.49 55 P Pn 15 03 19.9 +0.7
baz=248
F25K Christian Rive 8.55 20 Pn 15 03 18.4 -1.6
F25K Christian Rive 8.55 20 P Pn 15 03 18.6 -1.3
baz=207
PLBC Pleasant Camp 8.57 85 Pn 15 03 20.7 +0.5
PLBC Pleasant Camp 8.57 85 P Pn 15 03 20.7 +0.5
baz=279
O30N Mendenhall 8.59 76 Pn Pn 15 03 20.3 -0.2
O30N Mendenhall 8.59 76 P Pn 15 03 20.7 +0.2
baz=271
BMAR Burnt Mountain 8.60 23 Pn Pn 15 03 18.3 -2.3
E20K Nigu River 8.62 353 Pn 15 03 21.9 +1.0
E20K Nigu River 8.62 353 P Pn 15 03 21.9 +1.0
baz=170
E21K Killik River 8.72 358 Pn Pn 15 03 20.5 -1.6
AKSA Akutan Strait 8.82 236 Pn 15 03 23.5 -0.1
F26K Sheenjek River 8.92 23 Pn 15 03 23.0 -1.8
F26K Sheenjek River 8.92 23 P Pn 15 03 23.0 -1.8
baz=211
S31K Pelican 9.01 94 Pn Pn 15 03 25.8 -0.2
S31K Pelican 9.01 94 P Pn 15 03 25.3 -0.7
baz=289
D19K Kuna River 9.02 349 Pn Pn 15 03 27.0 +0.8
D19K Kuna River 9.02 349 P Pn 15 03 26.3 +0.2
baz=164
E25K Arctic Village 9.04 19 Pn Pn 15 03 24.7 -1.7
E25K Arctic Village 9.04 19 P Pn 15 03 24.6 -1.8
baz=206
D17K Noatak River 9.06 336 Pn 15 03 27.0 +0.3
D17K Noatak River 9.06 336 P Pn 15 03 27.0 +0.3
baz=147
SKAG Skagway 9.10 84 Pn Pn 15 03 28.3 +1.1
SKAG Skagway 9.10 84 P Pn 15 03 28.7 +1.5
SKAG Skagway 9.10 84 P Pn 15 03 27.8 +0.7
baz=280
MAYO Mayo, Yukon 9.10 58 Pn Pn 15 03 26.8 -0.4
D20K Etivluk River 9.10 352 Pn 15 03 27.4 +0.2
D20K Etivluk River 9.10 352 P Pn 15 03 27.5 +0.2
baz=169
D22K Ayikyak River 9.16 1 Pn Pn 15 03 26.7 -1.3
D22K Ayikyak River 9.16 1 P Pn 15 03 27.6 -0.4
baz=182
WHY Whitehorse 9.19 76 Pn Pn 15 03 28.4 -0.3
J30M Hart River 9.26 51 P Pn 15 03 30.1 +0.6
baz=246
D23K Nanushuk River 9.31 6 Pn 15 03 29.6 -0.4
D23K Nanushuk River 9.31 6 P Pn 15 03 29.5 -0.5
baz=188
H29M Whitestone 9.35 40 Pn Pn 15 03 29.9 -0.7
H29M Whitestone 9.35 40 P Pn 15 03 29.3 -1.3
baz=233
UNV Unalaska Valle 9.37 237 Pn 15 03 29.3 -1.5
UNV Unalaska Valle 9.37 237 P Pn 15 03 29.3 -1.5
baz=45
MSW Makushin Switc 9.44 238 Pn 15 03 30.4 -1.5
C21K Knifeblade Rid 9.46 357 Pn 15 03 31.3 -0.7
C21K Knifeblade Rid 9.46 357 P Pn 15 03 31.3 -0.7
baz=175
M31M Drury Creek, Y 9.48 67 Pn Pn 15 03 33.4 +1.0
I30M Mount Dempster 9.52 48 Pn Pn 15 03 31.6 -1.4
C18K Utukok River 9.56 342 Pn Pn 15 03 33.7 +0.3
D24K Happy Valley 9.62 10 Pn Pn 15 03 33.2 -0.9
C19K Lookout Ridge 9.76 347 Pn Pn 15 03 36.5 +0.3
SIT Sitka 9.79 98 Pn Pn 15 03 35.6 -0.9
F28M Old Crow 9.84 31 Pn Pn 15 03 36.2 -1.0
F28M Old Crow 9.84 31 P Pn 15 03 37.1 -0.1
baz=223
JIS Juneau Island 9.85 91 Pn Pn 15 03 38.0 +0.8
P32M Atlin 9.88 83 Pn Pn 15 03 38.9 +1.0
P32M Atlin 9.88 83 P Pn 15 03 38.4 +0.5
baz=279
B21K Ikpikpuk River 9.92 357 Pn Pn 15 03 36.1 -2.0
FARO Faro, Yukon 9.97 67 Pn Pn 15 03 40.2 +1.2
EPYK Eagle Plains 9.98 41 Pn Pn 15 03 39.9 +0.8
S32K Killisnoo 10.01 95 Pn Pn 15 03 39.0 -0.5
C16K Lisburne Hills 10.03 333 Pn Pn 15 03 40.1 +0.5
D25K Kavik River 10.04 14 Pn Pn 15 03 38.0 -1.8
N32M Quiet Lake 10.06 73 Pn Pn 15 03 41.5 +1.3
C23K Itkillik River 10.18 5 Pn Pn 15 03 40.8 -0.8
P33M Teslin, Yukon 10.25 79 Pn Pn 15 03 44.0 +1.3
B20K Meade River 10.42 353 Pn Pn 15 03 43.6 -1.2
G30M tAoh Zraii Nji 10.49 39 Pn Pn 15 03 46.2 +0.2
B22K Teshekpuk Lake 10.62 360 Pn Pn 15 03 45.4 -2.2
Q32M Nakina River 10.74 85 Pn Pn 15 03 50.5 +1.1
E29M Blow River 10.92 31 Pn Pn 15 03 50.6 -1.0
G31M Satah River 11.10 42 Pn Pn 15 03 53.2 -0.8
U33K Whale Pass 11.30 100 Pn Pn 15 03 55.6 -1.0
R33M Jennings River 11.30 82 Pn Pn 15 03 58.7 +1.9
WRAK Wrangell Islan 11.55 98 Pn Pn 15 03 59.7 -0.2
S34M Telegraph Cree 11.60 90 Pn Pn 15 04 03.2 +2.5
CRAG Craig 11.61 103 Pn Pn 15 03 59.9 -0.8
DLBC Dease Lake 12.00 86 Pn Pn 15 04 09.3 +3.3
DLBC Dease Lake 12.00 86 P Pn 15 04 06.9 +0.9
comp=N,6.2nm,0.5s,baz=255,slow=9.2,SNR=49
INK Inuvik 12.11 37 Pn Pn 15 04 05.9 -1.3
INK Inuvik 12.11 37 P Pn 15 04 06.2 -0.9
comp=N,3.4nm,0.5s,baz=248,slow=16,SNR=28
T35M Bob Quinn 12.38 93 Pn Pn 15 04 13.6 +2.8
V35K Ketchikan 12.42 101 Pn Pn 15 04 12.0 +0.6
DIB Dawson Inlet, 13.19 111 Pn Pn 15 04 21.8 +0.4
ATKA Atka Island 13.90 246 Pn Pn 15 04 30.7 +0.2
WRGLY Wrigley 14.57 63 P 15 04 41.5 -0.2
GSTR Great Sitkin T 14.85 249 Pn Pn 15 04 43.1 +0.7
KIWB Kanaga Island 15.52 250 Pn Pn 15 04 50.4 -0.3
C36M Paulatuk 15.61 40 Pn Pn 15 04 50.2 -1.6
BBB Bella Bella 15.91 107 P P 15 05 00.2 +3.6
comp=N,5.7nm,1.0s,baz=123,slow=18,SNR=3.1
BBB S Sn 15 07 49.4 -2.7
comp=N,5.3nm,0.9s,baz=157,slow=7.7,SNR=2.2
YKA Yellowknife Ar 18.67 65 P 15 05 25.9 -1.0
YKA Yellowknife Ar 18.67 65 P Pn 15 05 28.1 -0.6
comp=N,3.0nm,0.6s,baz=280,slow=10,SNR=32
RES Resolute Bay 25.58 32 P P 15 06 35.7 +0.1
RES IAmb IAmb 15 06 41.0
comp=Z,3.7nm,1.1s
PETK Petropavlovsk- 27.36 278 P P 15 06 51.5 -0.4
comp=Z,2.8nm,0.7s,baz=65,slow=13,SNR=1.9
comp=Z,2.8nm,0.7s
FCC Fort Churchill 29.40 66 P P 15 07 10.4 +0.7
FCC IAmb IAmb 15 07 36.6
comp=Z,2.4nm,1.2s
PD31 Pinedale Array 31.47 103 P P 15 07 31.1 +2.6
SPITS Spitsbergen Ar 42.16 3 P P 15 08 57.0 -1.1
comp=Z,3.7nm,0.8s,baz=28,slow=6.5,SNR=5.4
comp=Z,3.7nm,0.8s
SCHQ Schefferville 43.80 57 P P 15 09 12.3 +0.6
comp=Z,3.5nm,0.6s,baz=318,slow=6.9,SNR=16
comp=Z,3.5nm,0.6s
USRK Ussuriysk Ar. 45.98 285 P P 15 09 27.9 -1.0
comp=Z,1.1nm,0.7s,baz=39,slow=9.3,SNR=2.9
comp=Z,1.1nm,0.7s
ARCES ARCESS Array B 50.99 1 P P 15 10 07.7 +0.7
comp=Z,2.2nm,1.1s,baz=3.2,slow=8.1,SNR=1.0
comp=Z,2.2nm,1.1s
KSRS Korea Array 53.10 283 P P 15 10 23.9 +0.9
comp=Z,1.6nm,0.5s,baz=38,slow=7.1,SNR=6.8
comp=Z,1.6nm,0.5s
SONM Songino Array 54.82 306 P P 15 10 36.5 +1.0
comp=Z,3.3nm,0.7s,baz=44,slow=6.8,SNR=20
comp=Z,3.3nm,0.7s
ZALV Zalesovo Beam 57.49 323 P P 15 10 54.6 +0.5
comp=Z,2.0nm,0.5s,baz=34,slow=6.4,SNR=9.7
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 62.22 332 P P 15 11 26.5 0.0
comp=Z,0.6nm,0.6s,baz=39,slow=9.3,SNR=4.2
comp=Z,0.6nm,0.6s
KURBB Kurchatov Arra 62.26 326 P P 15 11 27.0 +0.2
comp=Z,0.7nm,0.5s,baz=28,slow=6.6,SNR=8.2
comp=Z,0.7nm,0.5s
MKAR Makanchi Array 64.53 321 P P 15 11 40.4 -1.5
comp=Z,0.5nm,0.7s,baz=0.5,slow=4.2,SNR=4.9
comp=Z,0.5nm,0.7s
CMAR Chiang Mai Arr 82.84 294 P P 15 13 28.0 -1.1
comp=Z,0.6nm,0.5s,baz=6.7,slow=5.7,SNR=4.9
comp=Z,0.6nm,0.5s
QSPA South Pole Qui 149.56 180 PKPbc PKPbc 15 20 51.8 +0.1
comp=Z,3.4nm,1.0s,baz=252,slow=0.9,SNR=13

SJA ***07*** *15:09:06.5±0.7, 31°.25S×68°.97W, h110km±2km, ML3.6, MW3.7*
IDC ***07*** *15:09:07.2±4.3, 31°.37S×69°.00W, h110km±43km, mb3.4/1, mbtmp3.7/3, MS3.2/1, Error ellipse: s-maj=105.0km s-min=38.5km az=95.0*

ISC 07 15:09:07.1±0.8, 31°.26S±0°.04×68°.96W±0°.04, h109km±6km, n35, σ0.98/49, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
DOCA	**Reserva Natura**	**0.33**	**341**	*eP*			**Pn**	**15 09 23.3**	**-0.1**
DOCA				eS			**Sn**	**15 09 33.6**	**-1.9**
RTLL	**Cerro Villicun**	**0.42**	**100**	*eP*			**Pn**	**15 09 23.4**	**-0.1**
RTLL				eS			**Sn**	**15 09 35.5**	**-0.1**
RTLL				IAML				15 09 36.8	
	comp=Z,2μm,0.3s								
SJA	**San Juan**	**0.43**	**129**	*eP*			**Pn**	**15 09 24.0**	**+0.5**
SJA				eS			**Sn**	**15 09 36.6**	**+0.8**
SJA				IAML				15 09 37.0	
	comp=Z,849nm,0.2s								
RTLS	**Leoncito**	**0.61**	**208**	*eP*			**Pn**	**15 09 25.2**	**+0.2**
RTLS				eS			**Sn**	**15 09 38.9**	**+0.4**
RTLS				IAML				15 09 39.4	
	comp=Z,3μm,0.3s								
ACCO	**Cerro Coronel**	**0.68**	**352**	*eP*			**Pn**	**15 09 26.1**	**+0.5**
ACCO				IAML				15 09 42.0	
	comp=Z,1μm,3.3s								
RTCV	**Cerro Valdivia**	**0.70**	**150**	*eP*			**Pn**	**15 09 25.7**	**+0.3**
RTCV				eS			**Sn**	**15 09 40.2**	**+1.0**
ACDV	**Cuesta del Vie**	**1.09**	**353**	*eP*			**Pn**	**15 09 29.9**	**+0.5**
ACDV				eS			**Sn**	**15 09 47.9**	**+1.7**
ACDV				IAML				15 09 48.2	
	comp=Z,582nm,0.3s								
AROD	**Rodeo**	**1.18**	**338**	*eP*			**Pn**	**15 09 31.0**	**+0.5**
AROD				eS			**Sn**	**15 09 49.2**	**+1.1**
ASAL	**Salagasta**	**1.33**	**176**	*eP*			**Pn**	**15 09 32.7**	**+0.7**
ASAL				eS			**Sn**	**15 09 52.7**	**+1.9**
ASAL				IAML				15 09 53.1	
	comp=Z,488nm,0.4s								
AVFE	**Valle Fertil**	**1.42**	**66**	*eP*			**Pn**	**15 09 33.4**	**+0.4**
AVFE				eS			**Sn**	**15 09 53.5**	**+0.9**
AVFE				IAML				15 09 53.9	
	comp=Z,613nm,0.3s								
CO03	**El Pedregal**	**1.54**	**285**	*eP*			**Pn**	**15 09 35.1**	**+0.6**
CO03				eS			**Sn**	**15 09 56.8**	**+1.5**
CO03				IAML				15 09 59.3	
	comp=Z,430nm,0.2s								
ARCO	**CERRO ARCO**	**1.58**	**179**	*eP*			**Pn**	**15 09 35.6**	**+0.6**
ARCO				eS			**Sn**	**15 09 58.6**	**+2.5**
ARCO				IAML				15 09 59.3	
	comp=Z,665nm,0.4s								
CO01	**Juntas del Tor**	**1.61**	**322**	*eP*			**Pn**	**15 09 36.9**	**+1.4**
CO01				IAML				15 10 00.8	
	comp=Z,232nm,0.6s								
CO02	**Combarbal**	**1.75**	**271**	*eP*			**Pn**	**15 09 37.3**	**+0.2**
CO02				eS			**Sn**	**15 10 01.2**	**+1.4**
CO02				IAML				15 10 01.5	
	comp=Z,648nm,0.3s								
AGUA	**GUANDACOL**	**1.81**	**13**	*eP*			**Pn**	**15 09 38.9**	**+1.1**
AGUA				IAML				15 10 16.1	
	comp=Z,167nm,0.4s								
AAGR	**Agrelo**	**1.82**	**177**	*eP*			**Pn**	**15 09 38.5**	**+0.6**
AAGR				eS			**Sn**	**15 10 02.2**	**+0.8**
AAGR				IAML				15 10 04.1	
	comp=Z,510nm,0.2s								
GO04	**Tololo Observa**	**1.92**	**304**	*eP*			**Pn**	**15 09 40.2**	**+0.9**
ACHE	**Chepes**	**1.97**	**88**	*eP*			**Pn**	**15 09 40.5**	**+0.7**
VA03	**San Esteban**	**2.02**	**222**	*eP*			**Pn**	**15 09 41.0**	**+0.6**
VA03				IAML				15 10 12.7	
	comp=Z,294nm,0.5s								
AVIZ	**Vizcacheras**	**2.24**	**171**	*eP*			**Pn**	**15 09 44.0**	**+0.7**
APLL	**PUNTA DE LOS L**	**2.26**	**68**	*eP*			**Pn**	**15 09 44.0**	**+0.6**
PEL	**Peldehue**	**2.38**	**218**	*eP*			**Pn**	**15 09 45.5**	**+0.4**
ROC1	**El Roble**	**2.45**	**225**	*eP*			**Pn**	**15 09 45.5**	**+0.5**
ROC1				eS			**Sn**	**15 10 16.1**	**+0.2**
ACLC	**CERRO LA CRUZ**	**2.52**	**44**	*eP*			**Pn**	**15 09 47.3**	**+0.3**
ACLC				eS			**Sn**	**15 10 18.2**	**+0.8**
ACLC				IAML				15 10 19.8	
	comp=Z,162nm,0.4s								
MT03	**Universidad Ad**	**2.59**	**210**	*eP*			**Pn**	**15 09 48.4**	**+0.7**
MT03				IAML				15 10 24.1	
	comp=Z,292nm,0.3s								
MT05	**Renca**	**2.61**	**215**	*eP*			**Pn**	**15 09 48.2**	**+0.2**
MT05				IAML				15 10 22.0	
	comp=Z,402nm,0.3s								
LCO	**Las Campanas**	**2.70**	**326**	*eP*			**Pn**	**15 09 49.7**	**+0.3**
LCO				IAML				15 10 23.5	
	comp=Z,734nm,0.2s								
TINO	**Tinogasta**	**3.41**	**21**	*eP*			**Pn**	**15 10 00.1**	**+1.5**
AC04	**Llanos de Chal**	**3.56**	**328**	eS			Sn	15 10 31.5	-10
AC04				IAML				15 10 48.3	
	comp=Z,51nm,0.2s								
PLCA	**Paso Flores**	**9.54**	**187**	P			**Pn**	**15 11 20.1**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=15,slow=10,SNR=5.7								
LPAZ	**La Paz**	**14.92**	**3**	P			**P**	**15 12 34.5**	**-1.5**
	comp=Z,3.5nm,0.8s,baz=196,slow=4.4,SNR=7.8								
LPAZ				LR			LR	15 20 07.7	
	comp=Z,88nm,19.8s,baz=209,slow=44								
TORD	**Torodi Ar. Bea**	**80.81**	**69**	P			**P**	**15 21 09.5**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=224,slow=6.0,SNR=3.4								
	comp=Z,0.4nm,0.6s								
KURBB	**Kurchatov Arra**	**149.10**	**42**	PKPbc			**PKiKP**	**15 28 42.6**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=304,slow=3.1,SNR=4.4								
ZALV	**Zalesovo Beam**	**150.53**	**32**	PKPbc			**PKiKP**	**15 28 45.2**	**-1.0**
	comp=Z,1.5nm,0.4s,baz=334,slow=2.8,SNR=5.3								
MKAR	**Makanchi Array**	**153.00**	**47**	PKPbc			**PKiKP**	**15 28 51.0**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=299,slow=1.3,SNR=3.9								

DJA 07 15:13:23.5±0.3, 9°S×3°×11°2E±°, h10km, M4.0/14, mb4.4/6, MLv3.7/14, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
PWJI	**Pagerwojo**	**1.43**	**336**	P			Pn	15 13 48.5	-1.1
GMJI	**Gumukmas**	**1.49**	**45**	P			Pn	15 13 48.8	-1.5
JAGI	**Jajag, Banyuwa**	**1.94**	**64**	P			Pn	15 13 56.2	-0.4
BLJI	**Banyuglugur**	**1.98**	**37**	P			Pn	15 13 56.9	-0.2
NGJI	**Ngawi**	**2.17**	**335**	P			Pn	15 14 00.9	+1.3
UGM	**Wanagama**	**2.33**	**307**	P			Pn	15 14 02.2	+0.3
ABJI	**Asem Bagus**	**2.38**	**50**	P			Pn	15 14 03.2	+0.6
GRJI	**Gresik**	**2.41**	**2**	P			Pn	15 14 02.1	-0.9
KMMI	**Kalianget**	**2.76**	**35**	P			Pn	15 14 07.0	-0.8
SRBI	**Singaraja**	**3.06**	**66**	P			Pn	15 14 12.0	+0.1
KPJI	**Karang Pucung**	**3.96**	**300**	P			Pn	15 14 25.6	+1.2
CMJI	**Cimerak**	**4.19**	**291**	P			Pn	15 14 27.2	-0.4
TWSI	**Taliwang, Sumb**	**4.48**	**83**	P			Pn	15 14 32.2	+0.7
PLAI	**Plampang**	**5.34**	**85**	P			Pn	15 14 43.9	+0.5
	17nm,1.0s,0.1nm								
EDFI	**Ende, Flores**	**9.21**	**87**	P			Pn	15 15 35.1	-1.4
	6.6nm,1.2s								
SOEI	**Soe**	**11.72**	**93**	P			Pn	15 16 10.8	-0.3
	14nm,1.3s								

TIF ***07*** *15:21:13.2, 43°.55N×45°.75E, h11km±1km*
NORS ***07*** *15:21:13.1, 43°.56N×45°.81E, h8km, MPVA4.0*
DRS ***07*** *15:21:13.4, 43°.85N×45°.55E, h22km*
MOS ***07*** *15:21:13.3, 43°.54N×45°.72E, h11km, MPVA3.8*

ISC 07 15:21:14.6±1.1, 43°.52N±0°.03×45°.73E±0°.02, h6km±9km, n87, σ0.93/164, 1C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
GROC	**Groznyy**	**0.32**	**171**	*i* Pg			**Pb**	**15 21 22.0**	**-0.7**
GROC				*e*				15 21 29.3	
GROC				pmax			pmax		
	comp=Z,351nm,0.3s								
GROC				smax			smax		
	comp=E,586nm,0.5s								
GROC				smax			smax		
	comp=N,585nm,0.4s								
GROC				smax			smax		
	comp=N,609nm,0.6s								
GROC	**Groznyy**	**0.32**	**171**	*i* Pg			**Pb**	**15 21 22.1**	**-0.7**
GROC				eSg			**Sb**	**15 21 28.4**	**+0.3**
DVE	**Vedeno**	**0.63**	**152**	*e*PG			**Pg**	**15 21 25.9**	**-0.9**
DVE				eS			**Sb**	**15 21 36.4**	**-0.9**
DVE	**Vedeno**	**0.63**	**152**	*e*Pg			**Pg**	**15 21 25.9**	**-0.9**
DVE				eSg			**Sb**	**15 21 36.4**	**-0.9**
TRKR	**Terskaya**	**0.75**	**286**	*e*PG			**Pg**	**15 21 29.5**	**+0.4**
TRKR				eS			**Sg**	**15 21 40.0**	**+1.2**
TRKR	**Terskaya**	**0.75**	**286**	*e*Pg			**Pg**	**15 21 29.5**	**+0.4**
TRKR				eSg			**Sg**	**15 21 40.0**	**+1.2**
KMGR	**Komgaron**	**0.78**	**234**	*e*PG			**Pg**	**15 21 29.8**	**+0.2**
KMGR				eS			**Sn**	**15 21 45.8**	**+1.5**
KMGR	**Komgaron**	**0.78**	**234**	*e*Pg			**Pg**	**15 21 29.8**	**+0.2**
KMGR				eSg			**Sn**	**15 21 45.8**	**+1.5**
DLMR	**Dylym**	**0.80**	**124**	*e*PG			**Pb**	**15 21 30.5**	**-0.4**
DLMR				eS			**Sn**	**15 21 44.7**	**0.0**
DLMR	**Dylym**	**0.80**	**124**	*e*Pg			**Pb**	**15 21 30.5**	**-0.4**
DLMR				eSg			**Sn**	**15 21 44.7**	**0.0**
BTKR	**Batakoyurt**	**0.88**	**261**	*e*PG			**Pb**	**15 21 32.6**	**+0.3**
BTKR				eS			**Sn**	**15 21 46.9**	**+0.3**
BTKR	**Batakoyurt**	**0.88**	**261**	*e*Pg			**Pb**	**15 21 32.6**	**+0.3**
BTKR				eSg			**Sn**	**15 21 46.9**	**+0.3**
VLKR	**Vladikavkaz**	**0.90**	**239**	*e*PG			**Pg**	**15 21 31.4**	**-0.5**
VLKR				eS			**Sb**	**15 21 45.6**	**+0.6**
VLKR	**Vladikavkaz**	**0.90**	**239**	*e*Pg			**Pg**	**15 21 31.4**	**-0.5**
VLKR				eSg			**Sb**	**15 21 45.6**	**+0.6**
DBC	**Dubki**	**0.95**	**121**	*e*PG			**Pg**	**15 21 32.6**	**-0.2**
DBC				eS			**Sn**	**15 21 48.8**	**+0.4**
DBC				pmax			pmax		
	comp=Z,25nm,0.5s								
DBC				smax			smax		
	comp=E,103nm,0.3s								
DBC				smax			smax		
	comp=N,87nm,0.6s								
DBC				smax			smax		
	comp=E,89nm,0.3s								
DBC	**Dubki**	**0.95**	**121**	*e*Pg			**Pg**	**15 21 32.7**	**-0.2**
DBC				eSg			**Sn**	**15 21 48.8**	**+0.4**
SHTL	**Shatili**	**0.96**	**206**	PG			**Pg**	**15 21 32.7**	**-0.3**
SHTL				S			**Sb**	**15 21 47.2**	**+0.5**
SHTL	**Shatili**	**0.96**	**206**	P			**Pg**	**15 21 32.7**	**-0.3**
SHTL				S			**Sb**	**15 21 47.2**	**+0.5**
PRTR	**Priterechnaya**	**1.07**	**283**	*e*PG			**Pg**	**15 21 35.3**	**0.0**
PRTR				eS			**Sn**	**15 21 52.0**	**+0.5**
PRTR	**Priterechnaya**	**1.07**	**283**	*e*Pg			**Pg**	**15 21 35.3**	**0.0**
PRTR				eSg			**Sn**	**15 21 52.0**	**+0.5**
ARNR	**Ardon**	**1.11**	**253**	*e*PG			**Pg**	**15 21 36.0**	**+0.2**
ARNR				eS			**Sn**	**15 21 52.7**	**+0.4**
ARNR	**Ardon**	**1.11**	**253**	*e*Pg			**Pg**	**15 21 36.0**	**+0.2**
ARNR				eSg			**Sn**	**15 21 52.7**	**+0.4**
KRNR	**Karanay**	**1.11**	**128**	*e*PG			**Pg**	**15 21 35.8**	**0.0**
KRNR				eS			**Sn**	**15 21 54.4**	**+2.0**
KRNR	**Karanay**	**1.11**	**128**	*e*Pg			**Pg**	**15 21 35.8**	**0.0**
KRNR				eSg			**Sn**	**15 21 54.4**	**+2.0**
UNCR	**Uncukul**	**1.12**	**135**	*e*PG			**Pg**	**15 21 35.8**	**-0.3**
UNCR				eS			**Sn**	**15 21 53.6**	**+0.9**
UNCR	**Uncukul**	**1.12**	**135**	*e*Pg			**Pg**	**15 21 35.9**	**-0.3**
UNCR				eSg			**Sn**	**15 21 53.6**	**+0.9**
HNZR	**Khunzah**	**1.20**	**143**	*e*PG			**Pg**	**15 21 37.4**	**-0.3**
HNZR				eS			**Sn**	**15 21 56.9**	**+2.0**
HNZR				pmax			pmax		
	comp=Z,24nm,0.2s								
HNZR				smax			smax		
	comp=N,76nm,0.3s								
HNZR				smax			smax		
	comp=E,65nm,0.4s								
HNZR				smax			smax		
	comp=N,61nm,0.3s								
MTEO	**Meteo**	**1.21**	**227**	PG			**Pg**	**15 21 37.2**	**-0.7**
MTEO				S			**Sb**	**15 21 54.4**	**+0.1**
MTEO	**Meteo**	**1.21**	**227**	P			**Pg**	**15 21 37.2**	**-0.7**
MTEO				S			**Sb**	**15 21 54.5**	**+0.1**
XNZR	**Khunzakh**	**1.21**	**143**	*e*Pg			**Pg**	**15 21 37.5**	**-0.4**
XNZR				eSg			**Sb**	**15 21 53.9**	**-0.1**
STDR	**Stavd-Durt**	**1.22**	**264**	*e*PG			**Pn**	**15 21 38.8**	**+0.5**
STDR				eS			**Sn**	**15 21 58.2**	**+3.1**
BUJR	**Buynaksk**	**1.23**	**124**	*e*PG			**Pn**	**15 21 38.6**	**+0.3**
BUJR				eS			**Sn**	**15 21 56.5**	**+1.3**
BUJR	**Buynaksk**	**1.23**	**124**	*e*Pg			**Pn**	**15 21 38.6**	**+0.3**
BUJR				eSg			**Sn**	**15 21 56.5**	**+1.3**
LACR	**Lac**	**1.25**	**237**	*e*PG			**Pg**	**15 21 38.0**	**-0.7**
LACR				eS			**Sb**	**15 21 55.1**	**-0.1**
LACR	**Lac**	**1.25**	**237**	*e*Pg			**Pg**	**15 21 38.0**	**-0.7**
LACR				eSg			**Sb**	**15 21 55.1**	**-0.1**
KORR	**Kora**	**1.29**	**251**	*e*PG			**Pb**	**15 21 39.3**	**0.0**
KORR				pmax			pmax		
	comp=Z,21nm,0.3s								
KORR	**Kora**	**1.29**	**251**	*e*Pg			**Pb**	**15 21 39.2**	**0.0**
KORR				eSg			**Sn**	**15 21 58.8**	**+2.0**
ARKR	**Arakani**	**1.30**	**134**	*e*PG			**Pn**	**15 21 38.9**	**-0.5**
ARKR				eS			**Sn**	**15 21 59.3**	**+2.1**
ARKR	**Arakani**	**1.30**	**134**	*e*Pg			**Pn**	**15 21 38.9**	**-0.5**
ARKR				eSg			**Sn**	**15 21 59.3**	**+2.1**
CHRG	**Chargali**	**1.33**	**207**	P			**Pn**	**15 21 39.4**	**-0.5**
CHRG				S			**Sn**	**15 22 03.0**	**+0.1**
GUDG	**Gudauri**	**1.40**	**221**	PG			**Pn**	**15 21 39.3**	**-1.5**
GUDG				S			**Sn**	**15 21 59.6**	**-0.2**
GUDG	**Gudauri**	**1.40**	**221**	P			**Pn**	**15 21 39.4**	**-1.5**
GUDG				S			**Sn**	**15 21 59.6**	**-0.2**
LSNR	**Lesken**	**1.41**	**261**	*e*PG			**Pn**	**15 21 40.7**	**-0.1**
LSNR				eS			**Sg**	**15 22 00.2**	**+0.3**
LSNR	**Lesken**	**1.41**	**261**	*e*Pg			**Pn**	**15 21 40.7**	**-0.1**
LSNR				eSg			**Sg**	**15 22 00.1**	**+0.3**
GNBR	**Gunib**	**1.45**	**141**	*e*PG			**Pg**	**15 21 42.2**	**-0.2**
GNBR				eS			**Sg**	**15 22 03.1**	**+1.9**
GNBR	**Gunib**	**1.45**	**141**	*e*Pg			**Pn**	**15 21 41.5**	**+0.1**
GNBR				eSg			**Sg**	**15 22 02.2**	**+1.0**
NCK	**Nalchik**	**1.55**	**270**	*e*PG			**Pn**	**15 21 41.0**	**-1.8**
NCK				eS			**Sg**	**15 22 05.4**	**+1.0**
NCK	**Nalchik**	**1.55**	**270**	*e*Pg			**Pn**	**15 21 41.0**	**-1.8**
NCK				eSg			**Sg**	**15 22 05.4**	**+1.0**
DIGR	**Digorskoe uzhe**	**1.69**	**249**	*e*PN			**Pn**	**15 21 45.0**	**+0.1**
DIGR				eS			**Sb**	**15 22 08.6**	**+0.5**
DIGR	**Digorskoe uzhe**	**1.69**	**249**	*e*Pg			**Pn**	**15 21 44.8**	**0.0**
DIGR				eSg			**Sn**	**15 22 06.5**	**-0.4**
KBTC	**Kuba-Taba**	**1.71**	**281**	*e*PN			**Pn**	**15 21 44.9**	**-0.1**
KBTC				eS			**Sb**	**15 22 08.2**	**0.0**
KBTC	**Kuba-Taba**	**1.71**	**281**	*e*Pg			**Pn**	**15 21 44.9**	**-0.1**
KBTC				eSg			**Sb**	**15 22 08.2**	**0.0**
KMKR	**Kumukh**	**1.71**	**143**	*e*PN			**Pn**	**15 21 45.4**	**+0.2**
KMKR				eS			**Sb**	**15 22 08.6**	**0.0**
KMKR	**Kumukh**	**1.71**	**143**	*e*Pg			**Pn**	**15 21 45.4**	**+0.2**
KMKR				eSg			**Sb**	**15 22 08.6**	**0.0**
SGKR	**Sergokala**	**1.77**	**126**	*e*PN			**Pn**	**15 21 45.4**	**-0.4**
SGKR				eS			**Sg**	**15 22 11.6**	**+0.2**
SGKR	**Sergokala**	**1.77**	**126**	*e*Pg			**Pn**	**15 21 45.4**	**-0.4**
SGKR				eSg			**Sg**	**15 22 11.6**	**+0.2**
ONI	**Oni**	**1.91**	**242**	PN			**Pn**	**15 21 47.7**	**0.0**
ONI				S			**Sb**	**15 22 14.6**	**+0.6**
ONI	**Oni**	**1.91**	**242**	P			**Pn**	**15 21 47.7**	**0.0**
ONI				S			**Sb**	**15 22 14.7**	**+0.6**
URKR	**Urkarakh**	**1.95**	**133**	*e*PN			**Pn**	**15 21 48.9**	**+0.5**
URKR	**Urkarakh**	**1.95**	**133**	*e*Pg			**Pn**	**15 21 48.9**	**+0.5**
URKR				eSg			**Sb**	**15 22 14.6**	**-0.6**
PYA1	**Pyatigorsk**	**1.98**	**287**	*e*PN			**Pn**	**15 21 47.3**	**-1.4**
PYA1	**Pyatigorsk**	**1.98**	**287**	*e*Pg			**Pn**	**15 21 47.3**	**-1.4**
PYA1				eSg			**Sn**	**15 22 14.5**	**+0.6**
KBZ	**Khabaz**	**2.07**	**277**	*i* PN			**Pn**	**15 21 48.7**	**-1.1**
KBZ	**Khabaz**	**2.07**	**277**	*e*Pg			**Pn**	**15 21 48.8**	**-1.0**
KBZ				eSg			**Sb**	**15 22 17.4**	**-1.0**
ALIG	**Mtskhetisjvari**	**2.08**	**228**	PN			**Pn**	**15 21 50.6**	**+0.4**
ALIG	**Mtskhetisjvari**	**2.08**	**228**	P			**Pn**	**15 21 50.6**	**+0.4**
DGRG	**David-gareji**	**2.08**	**187**	PN			**Pg**	**15 21 53.9**	**-0.7**
DGRG				S			**Sg**	**15 22 23.6**	**+2.0**
DGRG	**David-gareji**	**2.08**	**187**	P			**Pg**	**15 21 53.9**	**-0.7**
DGRG				S			**Sg**	**15 22 23.6**	**+2.0**
BEYR	**Belyy Ugol+**	**2.17**	**284**	*e*PN			**Pn**	**15 21 50.5**	**-0.8**
BEYR	**Belyy Ugol+**	**2.17**	**284**	*e*Pg			**Pn**	**15 21 50.6**	**-0.8**
BEYR				eSg			**Sn**	**15 22 16.5**	**-2.0**
NEUR	**Neytrino**	**2.22**	**264**	*e*PN			**Pn**	**15 21 53.2**	**+1.0**
NEUR				eS			**Sb**	**15 22 22.6**	**-0.5**
NEUR	**Neytrino**	**2.22**	**264**	*e*Pg			**Pn**	**15 21 53.2**	**+1.0**
NEUR				eSg			**Sb**	**15 22 22.6**	**-0.5**
SHA1	**Shidzhatmaz**	**2.24**	**277**	*i* PN			**Pn**	**15 21 50.9**	**-1.6**
KIV0	**Kislovodsk Arr**	**2.24**	**282**	*e*Pg			**Pn**	**15 21 51.3**	**-1.1**
KIV0				eSg			**Sb**	**15 22 22.2**	**-1.4**
KIV	**Kislovodsk**	**2.25**	**282**	*e*PN			**Pn**	**15 21 51.6**	**-0.9**
KIV				eS			**Sn**	**15 22 18.7**	**-1.8**
KIV	**Kislovodsk**	**2.25**	**282**	*e*Pg			**Pn**	**15 21 51.6**	**-0.9**
KIV				eSg			**Sn**	**15 22 18.7**	**-1.8**
TRLG	**Trialeti**	**2.31**	**212**	PN			**Pn**	**15 21 54.3**	**+0.9**
TRLG				S			**Sb**	**15 22 25.2**	**-0.6**
TRLG	**Trialeti**	**2.31**	**212**	P			**Pn**	**15 21 54.3**	**+0.9**
TRLG				S			**Sb**	**15 22 25.2**	**-0.6**
VSHL	**Vashlovani**	**2.34**	**167**	P			**Pb**	**15 21 56.1**	**-1.2**
BRNG	**Burnasheti**	**2.36**	**217**	PN			**Pn**	**15 21 55.1**	**+1.1**
BRNG				S			**Sg**	**15 22 29.0**	**-1.3**
BRNG	**Burnasheti**	**2.36**	**217**	P			**Pn**	**15 21 55.1**	**+1.1**
BRNG				S			**Sg**	**15 22 29.0**	**-1.3**
ALER	**Alexandrovskoy**	**2.38**	**303**	*e*PN			**Pn**	**15 21 54.4**	**+0.2**
ALER				eS			**Sn**	**15 22 24.3**	**+0.6**
ALER	**Alexandrovskoy**	**2.38**	**303**	*e*Pn			**Pn**	**15 21 54.4**	**+0.2**
ALER				eSn			**Sn**	**15 22 24.3**	**+0.6**
DMNI	**Dmanisi**	**2.47**	**208**	PN			**Pn**	**15 21 56.5**	**+1.0**
DMNI				S			**Sb**	**15 22 28.7**	**-1.4**
DMNI	**Dmanisi**	**2.47**	**208**	P			**Pn**	**15 21 56.6**	**+1.0**
DMNI				S			**Sb**	**15 22 28.7**	**-1.4**
AKT	**Akhty**	**2.52**	**143**	*e*PN			**Pb**	**15 21 58.8**	**-1.6**
AKT				eS			**Sn**	**15 22 27.6**	**+0.3**
AKT	**Akhty**	**2.52**	**143**	*e*Pn			**Pb**	**15 21 58.8**	**-1.6**
AKT				eSn			**Sn**	**15 22 27.6**	**+0.3**

KRSC ***07*** *15:22:43.0±1.7, 55°.28N×166°.54E, h39km±10km, Ml4.2*
IDC ***07*** *15:22:42.7±2.5, 55°.72N×166°.28E, h0km, mb3.5/4, mbtmp3.6/5, ML3.2/1, MS4.3/3, Error ellipse: s-maj=78.4km s-min=21.2km az=159.0*
MOS ***07*** *15:22:45.0±0.5, 55°.31N×166°.58E, h37km, mb3.9/1, Error ellipse: s-maj=12.6km s-min=7.5km az=166.1*

ISC 07 15:22:44.2±1.1, 55°.33N±0°.06×166°.62E±0°.07, h20km, n67, σ1.31/97, mb3.5/4, MS4.3/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
BKI	**Bering**	**0.39**	**251**	P			**Pb**	**15 22 51.7**	**-0.7**
BKI				S			**Sb**	**15 22 57.7**	**-0.2**
BKI	**Bering**	**0.39**	**251**	*e*P			**Pb**	**15 22 51.7**	**-0.7**
BKI				eS			**Sb**	**15 22 57.7**	**-0.2**
KBG	**Krutoberegovo**	**2.40**	**294**	eS			**Sn**	**15 23 47.7**	**-3.3**
BDR	**Baidarnaya**	**3.29**	**294**	P			**Pn**	**15 23 35.0**	**+0.4**
BDR				S			**Sn**	**15 24 14.4**	**+1.4**
BDR	**Baidarnaya**	**3.29**	**294**	*e*P			**Pn**	**15 23 35.0**	**+0.4**
BDR				eS			**Sn**	**15 24 14.4**	**+1.4**
BZGR	**Bezymyannyi-Gr**	**3.41**	**283**	P			**Pn**	**15 23 36.6**	**+0.2**
BZGR				S			**Sn**	**15 24 17.0**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**3.41**	**283**	*e*P			**Pn**	**15 23 36.6**	**+0.2**
BZGR				eS			**Sn**	**15 24 17.0**	**+0.8**
BZP	**Bezymyannyi-Pe**	**3.50**	**282**	*e*P			**Pn**	**15 23 38.0**	**+0.5**
KLY	**Klyuchi**	**3.51**	**289**	P			**Pn**	**15 23 36.4**	**-1.1**
KLY				S			**Sn**	**15 24 16.3**	**-2.1**
KLY	**Klyuchi**	**3.51**	**289**	*e*P			**Pn**	**15 23 36.4**	**-1.1**
KLY				eS			**Sn**	**15 24 16.3**	**-2.1**
BZMR	**Bezymyannaya**	**3.53**	**282**	P			**Pn**	**15 23 38.3**	**+0.4**
BZMR				S			**Sn**	**15 24 20.2**	**+1.1**
BZMR	**Bezymyannaya**	**3.53**	**282**	*e*P			**Pn**	**15 23 38.3**	**+0.4**
BZMR				eS			**Sn**	**15 24 20.2**	**+1.1**
BZWR	**Bezymyannyi-We**	**3.53**	**283**	P			**Pn**	**15 23 38.5**	**+0.5**
BZWR	**Bezymyannyi-We**	**3.53**	**283**	*e*P			**Pn**	**15 23 38.5**	**+0.5**
KRSR	**Krestovskiy**	**3.53**	**287**	P			**Pn**	**15 23 38.6**	**+0.6**
KRSR	**Krestovskiy**	**3.53**	**287**	*e*P			**Pn**	**15 23 38.6**	**+

PTBC	**PUERTO BERRIO,**	**1.47**	**330**	P	Pn	15 25 21.3	-1.9
PTBC				S	Sn	15 25 43.6	-2.3
GUY2C	**Guyana, Caldas**	**1.64**	**269**	P	Pn	15 25 24.5	-0.9
GUY2C				S	Sn	15 25 48.9	-0.9
PTGC	**Puerto Gaitan,**	**1.90**	**124**	P	Pn	15 25 27.0	-0.8
PTGC				S	Sn	15 25 52.2	-2.0
HELC	**Santa Helena**	**2.02**	**297**	P	Pn	15 25 28.7	-0.9
HELC				S	Sn	15 25 55.4	-1.9
ORTC	**Ortega, Tolima**	**2.03**	**229**	P	Pn	15 25 28.3	-1.1
ORTC				S	Sn	15 25 54.7	-2.2
PAMC	**Pamplona, Colo**	**2.30**	**26**	P	Pn	15 25 33.1	+0.1
PAMC				S	Sn	15 26 02.8	-0.6
CBOC	**Ciudad Bolivar**	**2.36**	**285**	P	Pn	15 25 32.7	-0.7
CBOC				S	Sn	15 26 02.6	-1.4
PLMC	**San Jos del P**	**2.58**	**262**	P	Pn	15 25 36.0	+0.1
PLMC				S	Sn	15 26 07.3	-1.3
YOTC	**Yotoco, Valle**	**2.91**	**244**	P	Pn	15 25 38.7	-1.4
YOTC				S	Sn	15 26 16.1	+0.1
OCAC	**Ocana**	**2.99**	**8**	P	Pn	15 25 40.6	-0.5
OCAC				S	Sn	15 26 17.1	-0.8
DBBC	**Dabeiba**	**3.03**	**305**	P	Pn	15 25 40.8	-0.8
DBBC				S	Sn	15 26 17.4	-1.3
UREC	**San Jos de Ur**	**3.06**	**324**	P	Pn	15 25 38.9	-3.0
UREC				S	Sn	15 26 15.3	-4.1
MACC	**Macarena, Meta**	**3.10**	**182**	P	Pn	15 25 47.8	+5.4
MACC				S	Sn	15 26 17.0	-3.3
GARC	**Garzon, Huila**	**3.53**	**210**	P	Pn	15 25 46.5	-1.6
JAMC	**Jamundi, Valle**	**3.58**	**236**	P	Pn	15 25 47.6	-1.1
MALC	**Bahia Malaga**	**3.81**	**251**	P	Pn	15 25 49.3	-2.2
APAC	**Apartado, Choc**	**3.87**	**313**	P	Pn	15 25 51.4	-0.9
APAC				S	Sn	15 26 36.4	-1.5
LL6C	**La Loma 6 Bece**	**4.47**	**6**	P	Pn	15 25 58.8	-1.3
LL6C				S	Sn	15 26 40.6	-2.4
CRJC	**Cerrejon, Guaj**	**5.78**	**8**	P	Pn	15 26 15.3	-2.3
CRJC				S	Sn	15 27 16.9	-6.4

IDC ***07*** *15:28:03.7±1.2,5.°91S×142.°88E, h0km, mb3.7/4, mbtmp3.8/6, ML1.3/1, Error ellipse: s-maj=41.0km s-min=26.2km az=60.0*

ISC 07 15:28:09.2±0.9, 6.°27S±0.°08×142.°59E±0.°07, h35km, n13, σ2°83/16, mb3.9/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.69**	**306**	P	**Pn**	**15 29 36.0**	**-0.3**
PMG	**Port Moresby**	**5.49**	**125**	Pn	**Pn**	**15 29 28.3**	**-0.3**
	0.6nm,0.3s,baz=310,slow=7.9,SNR=2.4						
PMG				Sn	**Sn**	**15 30 30.1**	**-0.4**
	0.8nm,0.3s,baz=233,slow=18,SNR=5.7						
	6.0nm,0.6s						
KDU	**Kakadu**	**11.84**	**237**	P	**Pn**	**15 30 56.7**	**+1.0**
MTN	**Manton Dam**	**13.05**	**239**	P	**Pn**	**15 31 13.0**	**+0.8**
WRA	**Warramunga Arr**	**15.78**	**210**	Pn	**Pn**	**15 31 49.0**	**+0.1**
	0.4nm,0.3s,baz=29,slow=13,SNR=14						
WRA				Sn	**Sn**	**15 34 36.9**	**-5.9**
	0.2nm,0.3s,baz=28,slow=21,SNR=4.6						
WRA				Lg	Lg	15 36 27.0	
	baz=30,slow=27						
KNRA	**Kununurra**	**16.47**	**234**	P	**Pn**	**15 31 57.5**	**-0.3**
ASAR	**Alice Springs**	**19.21**	**205**	P	**Pn**	**15 32 33.8**	**+2.3**
	9.3nm,0.9s,baz=35,slow=9.6,SNR=49						
ASAR				S	**S**	**15 36 02.9**	**-3.4**
	0.9nm,0.8s,baz=17,slow=28,SNR=5.0						
ASAR				Lg	Lg	15 38 17.6	
	baz=22,slow=26,SNR=4.0						
WRKA	**Warakurna**	**23.15**	**215**	P	**P**	**15 33 14.2**	**+1.6**
LCRK	**Leigh Creek**	**24.40**	**189**	P	**P**	**15 33 30.6**	**+6.2**
	16nm,1.1s						
MKAR	**Makanchi Array**	**74.96**	**322**	P	**P**	**15 39 46.1**	**-0.7**
	0.3nm,0.8s,baz=123,slow=5.3,SNR=2.6						
	0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**78.85**	**324**	P	**P**	**15 40 08.1**	**-0.6**
	0.1nm,0.3s,baz=108,slow=5.9,SNR=2.2						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**84.43**	**325**	P	**P**	**15 40 38.5**	**+0.4**
	1.3nm,0.7s,baz=108,slow=4.8,SNR=5.6						
	1.3nm,0.7s						
ILAR	**Eielson Array**	**87.47**	**24**	P	**P**	**15 40 50.0**	**-2.9**
	0.6nm,0.8s,baz=232,slow=5.6,SNR=7.2						
	0.6nm,0.8s						

DJA ***07*** *15:34:37.9±0.4,3.°N±3.°×12.°7E±.°, h70km±5km, M4.8/35, mb5.0/35, mB5.3/17, MLv5.1/16, Mw(mB)4.7/17, MwMwp5.6/1, Mwp5.8/1*

NEIC ***07*** *15:34:39.0±1.5,2.°97N±0.°08×127.°39E±0.°10, h72km±7km, mb4.6/76, Error ellipse: s-maj=14.4km s-min=11.2km az=64.0*

IDC ***07*** *15:34:39.2±2.8,2.°93N×127.°56E, h82km±25km, mb4.1/19, mbtmp4.4/20, MS3.3/4, Error ellipse: s-maj=23.7km s-min=10.1km az=76.0*

ISC 07 15:34:36.5±0.4, 3.°04N±0.°05×127.°46E±0.°07, h49km, n195, σ1°41/195, mb4.6/75, MS3.4/3, 1C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.03**	**288**	P	**Pn**	**15 35 09.0**	**+0.8**
TNTI	**Ternate**	**2.26**	**182**	Pn	**Pn**	**15 35 13.2**	**+1.7**
TNTI	**Ternate**	**2.26**	**182**	P	**Pn**	**15 35 13.9**	**+2.5**
TNTI	**Ternate**	**2.26**	**182**	P	**Pn**	**15 35 13.1**	**+1.7**
LBMI	**Labuha**	**3.66**	**179**	P	**Pn**	**15 35 32.9**	**+2.3**
KMSI	**Cibinong**	**4.25**	**235**	P	**Pn**	**15 35 40.7**	**+1.9**
DAV	**Davao City (W)**	**4.42**	**335**	P	Pn	15 35 47.0	+5.9
	192nm,0.4s,baz=124,slow=4.1,SNR=7.3						
DAV				S	Sn	15 36 45.1	+14
	232nm,0.4s,baz=277,slow=21,SNR=4.4						
DAV				LR	LR	15 37 06.0	
	comp=Z,100nm,20.2s,baz=255,slow=32						
GTOI	**Gorontalo**	**5.05**	**242**	P	**Pn**	**15 35 51.7**	**+2.0**
	147nm,0.6s,2µm0.6nm						
SANI	**Sanana**	**5.27**	**196**	P	**Pn**	**15 35 52.7**	**0.0**
SANI	**Sanana**	**5.27**	**196**	P	**Pn**	**15 35 52.0**	**-0.7**
	133nm,0.8s,10µm1.9nm						
SWI	**Sorong**	**5.43**	**136**	P	**Pn**	**15 35 57.7**	**+2.7**
	314nm,1.2s,3µm1.1nm						
MRSI	**Marisa**	**6.07**	**245**	P	**Pn**	**15 36 06.8**	**+3.0**
	4µm,0.6s,32µm13nm						
LUWI	**Luwuk**	**6.20**	**229**	Pn	**Pn**	**15 36 06.4**	**+0.9**
LUWI	**Luwuk**	**6.20**	**229**	P	**Pn**	**15 36 06.5**	**+1.0**
LUWI	**Luwuk**	**6.20**	**229**	P	**Pn**	**15 36 06.1**	**+0.6**
	336nm,0.6s,4µm1.6nm						
NLAI	**Namlea**	**6.25**	**183**	P	**Pn**	**15 36 07.3**	**+1.1**
	67nm,1.1s,0.7nm						
TOLI2	**Tolitoli**	**6.94**	**254**	Pn	**Pn**	**15 36 16.0**	**+0.3**
TOLI2	**Tolitoli**	**6.94**	**254**	P	**Pn**	**15 36 16.5**	**+0.8**
FAKI	**Fak Fak**	**7.62**	**141**	Pn	**Pn**	**15 36 27.6**	**+2.6**
FAKI	**Fak Fak**	**7.62**	**141**	P	**Pn**	**15 36 27.8**	**+2.8**
FAKI	**Fak Fak**	**7.62**	**141**	P	**Pn**	**15 36 27.3**	**+2.3**
	61nm,0.7s,0.3nm						
MPSI	**Mapaga**	**8.02**	**251**	P	**Pn**	**15 36 32.4**	**+1.9**
	227nm,0.7s,2µm						
TTSI	**Tana Toraja**	**9.74**	**232**	P	**Pn**	**15 36 54.3**	**+0.2**
	102nm,0.7s,999nm						
BBSI	**Bau Bau**	**9.78**	**210**	P	**Pn**	**15 36 56.3**	**+1.7**
	58nm,0.9s,24µm						
BKSI	**Bulukumba**	**11.08**	**221**	P	**Pn**	**15 37 13.0**	**+0.6**
	57nm,0.5s,660nm						
KAPI	**Kappang**	**11.11**	**224**	Pn	**Pn**	**15 37 12.5**	**-0.2**
KAPI	**Kappang**	**11.11**	**224**	P	**Pn**	**15 37 14.1**	**+1.4**
BKB	**Balikpapan**	**11.39**	**248**	P	**Pn**	**15 37 18.7**	**+2.1**
	98nm,0.9s						
KKM	**Kota Kinabalu**	**11.60**	**285**	Pn	**Pn**	**15 37 19.5**	**0.0**
KKM	**Kota Kinabalu**	**11.60**	**285**	P	**Pn**	**15 37 20.7**	**+1.2**
MMRI	**Maumere**	**12.72**	**204**	Pn	**Pn**	**15 37 36.5**	**+1.8**
MMRI	**Maumere**	**12.72**	**204**	P	**Pn**	**15 37 36.6**	**+1.8**
	52nm,0.8s						
EDFI	**Ende, Flores**	**13.05**	**206**	P	**Pn**	**15 37 39.3**	**-0.1**
	50nm,0.6s,461nm						
SOEI	**Soe**	**13.11**	**194**	Pn	**Pn**	**15 37 42.0**	**+1.9**
SOEI	**Soe**	**13.11**	**194**	P	**Pn**	**15 37 44.7**	**+4.5**
	52nm,0.9s						
MTKI	**Muara Teweh, K**	**13.16**	**253**	P	**Pn**	**15 37 42.4**	**+1.5**
	35nm,0.5s,6µm						
GENI	**Genyem**	**13.88**	**114**	P	**Pn**	**15 37 53.5**	**+2.8**
	76nm,1.2s						
BASI	**Baing, Sumba**	**14.85**	**207**	P	**Pn**	**15 38 05.8**	**+2.3**
	83nm,0.9s						
SBUM	**Sibu**	**15.23**	**268**	Pn	**Pn**	**15 38 09.4**	**+0.9**
PLAI	**Plampang**	**15.24**	**219**	P	**Pn**	**15 38 10.9**	**+2.3**
PLAI	**Plampang**	**15.24**	**219**	P	**Pn**	**15 38 09.8**	**+1.2**
	123nm,0.8s,1µm						
DRS	**Darwin Rock St**	**15.75**	**168**	P	**Pn**	**15 38 15.9**	**+0.7**
TWSI	**Taliwang, Sumb**	**15.75**	**222**	P	**Pn**	**15 38 15.8**	**+0.6**
	165nm,1.1s,1µm						
MTN	**Manton Dam**	**16.20**	**167**	Pn	**Pn**	**15 38 19.0**	**-1.9**
MTN				IAmb	IAmb	15 38 27.2	
	comp=Z,18nm,0.6s						
MTN	**Manton Dam**	**16.20**	**167**	P	**Pn**	**15 38 22.1**	**+1.2**
STKI	**Sintang**	**16.24**	**260**	P	**Pn**	**15 38 21.9**	**+0.4**
	comp=Z,16nm,0.8s						
KDU	**Kakadu**	**16.40**	**162**	P	**Pn**	**15 38 24.3**	**+0.8**
SRBI	**Singaraja**	**16.47**	**228**	P	**Pn**	**15 38 24.6**	**+0.2**
	comp=Z,61nm,1.4s,comp=Z,999nm						
KMMI	**Kalianget**	**16.79**	**233**	P	**P**	**15 38 31.3**	**+1.4**
	comp=Z,70nm,0.8s						
JAGI	**Jajag, Banyuwa**	**17.52**	**229**		**Pn**	**15 38 36.3**	**-1.1**
JAGI	**Jajag, Banyuwa**	**17.52**	**229**	P	**P**	**15 38 39.4**	**+1.4**
JAGI	**Jajag, Banyuwa**	**17.52**	**229**	P	**Pn**	**15 38 37.8**	**+0.4**
	comp=Z,53nm,0.4s						
GMJI	**Gumukmas**	**17.94**	**231**	P	**P**	**15 38 44.0**	**+1.4**
KNRA	**Kununurra**	**18.64**	**176**	P	**P**	**15 38 49.0**	**-1.3**
KNRA				IAmb	IAmb	15 39 07.8	
	comp=Z,23nm,0.6s						
KNRA	**Kununurra**	**18.64**	**176**	P	**P**	**15 38 49.8**	**-0.6**
PWJI	**Pagerwojo**	**19.09**	**235**	P	**P**	**15 38 55.9**	**+0.6**
	comp=Z,55nm,0.9s						
UGM	**Wanagama**	**20.09**	**237**	P	**P**	**15 39 04.3**	**-2.0**
UGM	**Wanagama**	**20.09**	**237**	P	**P**	**15 39 05.8**	**-0.5**
UGM	**Wanagama**	**20.09**	**237**	P	**P**	**15 39 04.1**	**-2.2**
	comp=Z,69nm,1.3s						
FITZ	**Fitzroy Crossi**	**21.08**	**185**	P	**P**	**15 39 15.0**	**-1.9**
YULB	**Yu-li**	**21.09**	**344**	P	**P**	**15 39 14.9**	**-2.1**
YULB				IAmb	IAmb	15 39 16.9	
	comp=Z,36nm,0.8s						
YULB	**Yu-li**	**21.09**	**344**	P	**P**	**15 39 16.7**	**-0.2**
KPJI	**Karang Pucung**	**21.17**	**241**	P	**P**	**15 39 16.0**	**-1.8**
	comp=Z,37nm,0.8s						
TPUB	**Ta-pu**	**21.19**	**342**	P	**P**	**15 39 16.8**	**-1.2**
TPUB	**Ta-pu**	**21.19**	**342**	P	**P**	**15 39 18.0**	**-0.1**
SSLB	**Suanglung**	**21.56**	**344**	P	**P**	**15 39 22.5**	**+0.5**
LEM	**Lembang**	**22.10**	**244**	P	**P**	**15 39 28.6**	**+0.6**
	comp=Z,17nm,0.7s,baz=51,slow=3.6,SNR=2.3						
	comp=Z,17nm,0.7s						
YHNB	**Yeheng**	**22.29**	**345**	P	**P**	**15 39 29.6**	**-0.3**
YHNB	**Yeheng**	**22.29**	**345**	P	**P**	**15 39 32.0**	**+2.2**
BBJI	**Bungbulang**	**22.35**	**242**	P	**P**	**15 39 29.3**	**-1.3**
KNMB	**Chin-men Tao**	**23.02**	**338**	P	**P**	**15 39 38.2**	**+0.7**
MYKOM	**Kota Tinggi**	**23.62**	**268**	P	**P**	**15 39 43.3**	**0.0**
WB0	**Warramunga Arr**	**23.67**	**164**	P	**P**	**15 39 41.7**	**-2.0**
WRA	**Warramunga Arr**	**23.82**	**164**	P	**P**	**15 39 42.6**	**-2.6**
WRA	**Warramunga Arr**	**23.82**	**164**	P	**P**	**15 39 43.5**	**-1.7**
	comp=Z,2.6nm,0.4s,baz=335,slow=11,SNR=13						
WRA				S	**S**	**15 43 55.0**	**-2.8**
	comp=Z,1.3nm,0.8s,baz=337,slow=18,SNR=4.3						
	comp=Z,2.6nm,0.4s						
WB2	**Warramunga Arr**	**23.83**	**164**	P	**P**	**15 39 43.1**	**-2.1**
WR0	**Warramunga Arr**	**23.89**	**163**	P	**P**	**15 39 42.6**	**-3.3**
WR0				IAmb	IAmb	15 40 00.8	
	comp=Z,23nm,1.1s						
KASI	**Kota Agung**	**24.46**	**250**	P	**P**	**15 39 50.6**	**-0.5**
UBPT	**Khong Chiam**	**24.84**	**301**	P	**P**	**15 39 53.5**	**-1.0**
UBPT				IAmb	IAmb	15 40 10.7	
	comp=Z,20nm,1.3s						
MBWA	**Marble Bar**	**25.22**	**197**	P	**P**	**15 39 57.2**	**-0.7**
MBWA	**Marble Bar**	**25.22**	**197**	P	**P**	**15 39 57.4**	**-0.5**
XMIS	**Christmas Isla**	**25.53**	**238**	P	**P**	**15 39 58.7**	**-2.1**
XMIS				IAmb	IAmb	15 40 00.8	
	comp=Z,24nm,0.8s						
PSA00	**Pilbara Seismi**	**25.57**	**197**	P	**P**	**15 40 00.1**	**-1.0**
PSA00				IAmb	IAmb	15 40 06.2	
	comp=Z,21nm,0.8s						
PSA00	**Pilbara Seismi**	**25.57**	**197**	P	**P**	**15 40 00.5**	**-0.6**
PSA00				IAmb	IAmb	15 40 06.2	
	comp=Z,7.9nm,0.8s						
PSA00	**Pilbara Seismi**	**25.57**	**197**	P	**P**	**15 40 03.3**	**+2.2**
QIS	**Mount Isa**	**26.31**	**154**	P	**P**	**15 40 09.1**	**+1.3**
AS31	**Alice Springs**	**27.28**	**167**	P	**P**	**15 40 14.2**	**-2.4**
ASAR	**Alice Springs**	**27.28**	**167**	P	**P**	**15 40 15.0**	**-1.6**
ASAR	**Alice Springs**	**27.28**	**167**	P	**P**	**15 40 15.0**	**-1.6**
	comp=Z,1.4nm,0.5s,baz=346,slow=7.2,SNR=17						
	comp=Z,1.4nm,0.5s						
GULI	**GuiLin**	**27.57**	**325**	⇑P	**P**	**15 40 22.1**	**+3.0**
GULI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GULI				pmax	pmax		
	comp=Z,170nm,3.8s						
GULI				smax	smax		
	comp=N,160nm,2.5s						
GULI				smax	smax		
	comp=E,90nm,2.0s						
GULI				LR	LR		
	comp=N,5µm,7.9s						
GULI				LR	LR		
	comp=E,3µm,6.7s						
GULI				LR	LR		
	comp=Z,2µm,9.4s						
WRKA	**Warakurna**	**27.93**	**178**	P	**P**	**15 40 22.9**	**+0.6**
NJ2	**Nanjing**	**29.97**	**345**	eP	**P**	**15 40 44.1**	**+3.8**
NJ2				pmax	pmax		
	comp=Z,11nm,0.9s						
WHN	**Wuhan**	**30.03**	**337**	⇓P	**P**	**15 40 43.0**	**+2.1**
WHN				pmax	pmax		
	comp=Z,30nm,0.8s						
PHRA	**Phrae**	**30.76**	**302**	P	**P**	**15 40 47.6**	**+0.1**
CM31	**Chiang Mai Arr**	**31.84**	**301**	P	**P**	**15 40 55.9**	**-1.1**
CM31				IAmb	IAmb	15 40 58.3	
	comp=Z,7.4nm,1.0s						
CMAR	**Chiang Mai Arr**	**31.84**	**301**	P	**P**	**15 40 57.3**	**+0.2**
	comp=Z,4.0nm,0.8s,baz=114,slow=7.1,SNR=30						
	comp=Z,4.0nm,0.8s						
ENH	**Enshi**	**31.98**	**330**	P	**P**	**15 40 58.6**	**+0.5**
CHTO	**Chiang Mai**	**32.00**	**301**	P	**P**	**15 40 57.4**	**-1.0**
CHTO				IAmb	IAmb	15 40 58.8	
	comp=Z,7.3nm,0.8s						
MORW	**Morawa**	**33.76**	**198**	P	**P**	**15 41 12.3**	**-1.3**
PZH	**PanZhiHua**	**33.94**	**316**	P	**P**	**15 41 15.2**	**-0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,140nm,5.2s						
KSRS	**Korea Array**	**34.25**	**1**	P	**P**	**15 41 18.2**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=179,slow=9.3,SNR=9.2						
KSRS				LR	LR	15 54 42.7	
	comp=Z,13nm,20.4s,baz=240,slow=35						
	comp=Z,2.4nm,0.7s						
LYN	**LuoYang**	**34.31**	**338**	eP	**P**	**15 41 19.5**	**+1.1**
LYN				pmax	pmax		
	comp=Z,43nm,0.8s						
TIA	**Tai'an**	**34.36**	**345**	eP	**P**	**15 41 16.2**	**-2.6**
TIA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MJAR	**Matsushiro Arr**	**34.78**	**15**	P	**P**	**15 41 21.7**	**-0.7**
	comp=Z,2.5nm,0.7s,baz=191,slow=9.7,SNR=6.1						
MJAR				LR	LR	15 53 56.5	
	comp=Z,70nm,19.4s,baz=228,slow=33						
	comp=Z,2.5nm,0.7s						
XAN	**Xi'an**	**35.35**	**333**	⇓P	**P**	**15 41 27.8**	**+0.4**
XAN				pmax	pmax		
	comp=Z,38nm,0.8s						
STKA	**Stephens Creek**	**37.24**	**160**	P	**P**	**15 41 41.7**	**-1.8**
STKA	**Stephens Creek**	**37.24**	**160**	P	**P**	**15 41 41.5**	**-2.0**
	comp=Z,3.7nm,0.4s,baz=341,slow=8.1,SNR=41						
	comp=Z,3.7nm,0.4s						
BJT	**Baijiatuau**	**38.20**	**346**	P	**P**	**15 41 51.5**	**0.0**
BJI	**Beijing**	**38.22**	**346**	P	**P**	**15 41 52.2**	**+0.5**
BJI				pP	**sP**	**15 42 08.5**	**-0.8**
BJI				sP	pwP	15 42 16.3	+9.1
BJI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LZH	**Lanzhou**	**39.46**	**329**	eP	**P**	**15 42 03.7**	**+1.4**
LZH				pP	sP	15 42 21.1	+0.9
LZH				sP	pwP	15 42 33.2	+16
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
JTM	**Tenmabayashi**	**39.53**	**16**	P	**P**	**15 42 02.5**	**-0.2**
HHC	**Hu-ho-hao-te**	**40.27**	**341**	eP	**P**	**15 42 11.0**	**+2.0**
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						
HHC				pmax	pmax		
	comp=Z,110nm,5.4s						
USRK	**Ussuriysk Ar.**	**41.18**	**5**	P	**P**	**15 42 16.5**	**+0.3**
USRK	**Ussuriysk Ar.**	**41.18**	**5**	P	**P**	**15 42 16.4**	**+0.1**
	comp=Z,9.4nm,1.1s,baz=180,slow=8.5,SNR=6.8						
	comp=Z,9.4nm,1.1s						
XLT	**XiLinHaoTe**	**41.91**	**348**	eP	**P**	**15 42 24.8**	**+2.4**
XLT				pmax	pmax		
	comp=Z,16nm,0.8s						
XLT				pmax	pmax		
	comp=Z,77nm,4.9s						
GTA	**Gaotai**	**44.05**	**329**	eP	**P**	**15 42 40.7**	**+0.9**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LHI	**Lord Howe Isla**	**45.66**	**141**	P	**P**	**15 42 53.3**	**+0.7**
HEH	**HeiHe**	**47.04**	**360**	eP	**P**	**15 43 02.7**	**-0.3**
HEH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HEH				pmax	pmax		
	comp=Z,170nm,6.8s						
ULN	**Ulaanbaatar**	**47.99**	**342**	P	**P**	**15 43 09.9**	**-0.8**
ULN				IAmb	IAmb	15 43 12.7	
	comp=Z,5.8nm,0.9s						
SONM	**Songino Array**	**48.18**	**341**	P	**P**	**15 43 12.6**	**+0.5**
SONM	**Songino Array**	**48.18**	**341**	P	**P**	**15 43 13.1**	**+1.0**
	comp=Z,2.9nm,0.6s,baz=158,slow=7.5,SNR=14						
	comp=Z,2.9nm,0.6s						
WMQ	**Urumqi**	**53.70**	**325**	eP	**P**	**15 43 56.0**	**+2.4**
WMQ				pP	sP	15 44 18.6	+6.8
WMQ				pmax	pmax		
	comp=Z,14nm,0.9s						
PETK	**Petropavlovsk-**	**55.79**	**22**	P	**P**	**15 44 09.0**	**+0.4**
	comp=Z,4.4nm,0.9s,baz=189,slow=7.3,SNR=1.1						
	comp=Z,4.4nm,0.9s						
ZSN	**Zaisan**	**57.47**	**327**	eP	**P**	**15 44 20.4**	**-0.1**
	comp=Z,5.5nm,1.0s,baz=327						
SHLS	**Shalkode**	**58.33**	**320**	eP	**P**	**15 44 24.9**	**-2.0**
	baz=320						
MK31	**Makanchi Array**	**58.53**	**325**	P	**P**	**15 44 28.3**	**+0.3**
MK31				IAmb	IAmb	15 44 30.0	
	comp=Z,6.6nm,1.0s						
MKAR	**Makanchi Array**	**58.53**	**325**	P	**P**	**15 44 28.7**	**+0.7**
MKAR	**Makanchi Array**	**58.53**	**325**	P	**P**	**15 44 29.0**	**+1.0**
	comp=Z,2.9nm,0.4s,baz=121,slow=8.1,SNR=51						
	comp=Z,2.9nm,0.4s						
UZB	**Uzynbulak**	**58.61**	**320**	eP	**P**	**15 44 28.7**	**-0.1**
	comp=Z,9.7nm,1.5s,baz=320						
YAK	**Yakutsk**	**58.87**	**1**	P	**P**	**15 44 30.4**	**+0.4**
SATY	**Saty**	**58.96**	**320**	eP	**P**	**15 44 31.1**	**-0.1**
	comp=Z,5.7nm,1.0s,baz=320						
ZHN	**Zhinishke**	**59.00**	**320**	eP	**P**	**15 44 31.7**	**+0.3**
	comp=Z,4.6nm,0.9s,baz=320						
KSH	**Kashi**	**59.04**	**315**	P	**P**	**15 44 33.3**	**+1.5**
KSH				pmax	pmax		
	comp=Z,3.0nm,1.5s						
MDOK	**Medeo**	**59.89**	**319**	eP	**P**	**15 44 37.1**	**-0.5**
	baz=319						
TDK	**Taldyqorghan**	**59.90**	**322**	eP	**P**	**15 44 37.4**	**-0.2**
	comp=Z,7.9nm,1.4s,baz=322						
CHKK	**Chushkaly**	**60.25**	**320**	eP	**P**	**15 44 40.5**	**+0.6**
	baz=320						
KUU	**Kurty**	**60.68**	**320**	eP	**P**	**15 44 42.3**	**-0.6**
	comp=Z,9.8nm,0.9s,baz=320						
ZAA0	**Zalesovo Array**	**61.52**	**333**	P	**P**	**15 44 47.8**	**-0.5**
ZAA0				IAmb	IAmb	15 44 51.9	
	comp=Z,3.4nm,0.8s						
ZALV	**Zalesovo Beam**	**61.52**	**333**	P	**P**	**15 44 47.6**	**-0.7**
ZALV	**Zalesovo Beam**	**61.52**	**333**	P	**P**	**15 44 48.1**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=122,slow=5.8,SNR=13						
	comp=Z,2.0nm,0.5s						
URZ	**Urewera**	**61.55**	**137**	LR	LR	16 10 20.1	
	comp=Z,226nm,21.2s,baz=304,slow=35						
SEM	**Semipalatinsk**	**61.66**	**328**	eP	**P**	**15 44 48.9**	**-0.8**
	baz=328						
BTLS	**Baital**	**62.66**	**320**	eP	**P**	**15 44 55.7**	**-0.5**
	baz=320						
KURBB	**Kurchatov Arra**	**62.70**	**327**	P	**P**	**15 44 56.8**	**+0.5**
	comp=Z,19nm,0.8s,baz=126,slow=6.1,SNR=189						
	comp=Z,19nm,0.8s						
KURK	**Kurchatov**	**62.70**	**327**	P	**P**	**15 44 56.3**	**-0.1**
GAR	**Garm**	**62.92**	**313**	P	**P**	**15 44 57.3**	**-0.8**
DZA	**Taraz**	**63.59**	**317**	eP	**P**	**15 45 02.4**	**0.0**
	baz=317						
CHGR	**Chuyangaron**	**63.66**	**312**	P	**P**	**15 45 02.1**	**-1.0**
CHGR				IAmb	IAmb	15 45 31.3	
	comp=Z,12nm,1.3s						
IUG	**Iuzhnay**	**64.21**	**316**	eP	**P**	**15 45 06.3**	**-0.3**
	comp=Z,10nm,1.2s,baz=316						
KK31	**Karatay Array**	**64.22**	**317**	P	**P**	**15 45 06.6**	**0.0**
KKAR	**Karatay Array**	**64.22**	**317**	P	**P**	**15 45 06.0**	**-0.5**
KKAR	**Karatay Array**	**64.22**	**317**	P	**P**	**15 45 06.6**	**0.0**
KKAR				IAmb	IAmb	15 45 36.7	
	comp=Z,3.1nm,0.8s						
BRLS	**Borolday**	**64.66**	**317**	eP	**P**	**15 45 09.1**	**-0.3**
	baz=316						
BRZS	**Ber

G23K	**Bananza Creek**	**84.26**	**23**	P	**P**	**15 47 03.2**	**+0.5**
G23K				IAmb	IAmb	15 47 38.3	
	comp=Z,5.8nm,1.1s						
C23K	**Itkillik River**	**84.37**	**20**	P	**P**	**15 47 03.4**	**+0.2**
C23K				IAmb	IAmb	15 47 16.7	
	comp=Z,11nm,1.4s						
RND	**Reindeer**	**84.46**	**27**	P	**P**	**15 47 02.6**	**-1.3**
RND				IAmb	IAmb	15 47 27.6	
	comp=Z,5.1nm,1.0s						
SML	**Sawmill**	**84.59**	**28**	P	**P**	**15 47 04.7**	**+0.1**
ILAR	**Eielson Array**	**85.41**	**25**	P	**P**	**15 47 07.4**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=261,slow=5.3,SNR=4.6						
	comp=Z,0.2nm,0.5s						
ARCES	**ARCESS Array B**	**91.34**	**340**	P	**P**	**15 47 34.2**	**-2.5**
	comp=Z,8.2nm,1.2s,baz=0.0,slow=2.9,SNR=12						
	comp=Z,8.2nm,1.2s						
FINES	**FINESS Array B**	**92.78**	**332**	P	**P**	**15 47 41.0**	**-2.4**
	comp=Z,1.4nm,0.8s,baz=17,slow=2.0,SNR=4.7						
	comp=Z,1.4nm,0.8s						

IDC ***07*** *15:35:43.3±3.2, 13°.74N×92°.10W, h0km, mb3.5/1, mbtmp3.3/3, ML3.4/2, Error ellipse: s-maj=222.9km s-min=44.0km az=48.0*

GCG ***07*** *15:35:54.4±0.3, 14°.32N×91°.67W, h48km±39km, MD3.5*

ISC 07 15:35:51.3±2.0, 14°.1N±0°.2×92°.0W±0°.1, h54km, n9, σ1ᵽ73/10, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SULM	**Suchitepequez,**	**0.50**	**63**	*e*P	**Pn**	**15 36 01.9**	**-1.0**
STG3	**Santiaguito 3,**	**0.77**	**35**	*e*P	**Pn**	**15 36 05.0**	**-1.4**
FUG	**Fuego 3**	**1.21**	**72**	*e*P	**Pn**	**15 36 10.0**	**-2.1**
PCG	**Pacaya**	**1.41**	**77**	*e*P	**Pn**	**15 36 13.4**	**-1.6**
NBG	**Las Nubes**	**1.71**	**72**	*e*P	**Pn**	**15 36 18.4**	**-0.5**
CMIG	**Matias Romero**	**4.07**	**318**	Pn	**Pn**	**15 36 48.5**	**-2.6**
	0.9nm,0.3s,baz=149,slow=12,SNR=13						
CMIG				Sn	**Sn**	**15 37 38.6**	**+1.0**
	3.1nm,0.3s,baz=112,slow=19,SNR=2.0						
	2.4nm,0.3s						
TXAR	**Lajitas Array**	**18.62**	**327**	P	**Pn**	**15 40 06.2**	**+0.8**
	0.1nm,0.3s,baz=135,slow=12,SNR=4.3						
	0.6nm,0.8s						
NVAR	**Mina Array Bea**	**33.60**	**321**	P	**P**	**15 42 28.4**	**+1.6**
	0.4nm,0.7s,baz=134,slow=7.6,SNR=4.4						
	0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**145.91**	**341**	PKPbc	**PKPdf**	**15 55 25.1**	**-0.1**
	0.9nm,0.7s,baz=334,slow=3.7,SNR=8.6						

IDC 07 15:41:23.6±6.0, 6°.03S×141°.61E, h0km, mb3.6/2, mbtmp3.6/4, ML3.6/2, MS4.5/1, Error ellipse: s-maj=228.8km s-min=32.6km az=95.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.53**	**206**	Pn	Pn	15 45 02.8	-1.4
	0.2nm,0.3s,baz=30,slow=13,SNR=4.8						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**19.04**	**202**	P	Pn	15 45 48.0	-0.2
	0.3nm,0.3s,baz=31,slow=11,SNR=11						
	2.0nm,0.6s						
RPZ	**Rata Peaks**	**45.59**	**150**	LR	LR	16 06 42.5	
	comp=Z,572nm,21.4s,baz=267,slow=33						
MKAR	**Makanchi Array**	**74.17**	**322**	P	P	15 53 01.6	-0.6
	0.2nm,0.4s,baz=103,slow=6.5,SNR=4.8						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**83.67**	**325**	P	P	15 53 55.2	+1.0
	0.6nm,0.7s,baz=116,slow=6.6,SNR=3.0						
	0.6nm,0.7s						

IDC 07 15:52:03.3±5.3, 22°.91S×175°.61W, h0km, mb4.1/5, mbtmp4.1/5, Error ellipse: s-maj=161.1km s-min=41.3km az=134.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.18**	**259**	P	P	16 00 30.5	+0.3
	1.4nm,0.7s,baz=96,slow=6.6,SNR=24						
	1.4nm,0.7s						
WRA	**Warramunga Arr**	**46.51**	**264**	P	P	16 00 31.9	-1.0
	1.7nm,0.7s,baz=103,slow=7.7,SNR=42						
	1.7nm,0.7s						
MJAR	**Matsushiro Arr**	**73.46**	**323**	P	P	16 03 37.0	-0.7
	1.0nm,0.6s,baz=120,slow=8.4,SNR=2.1						
	1.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**82.20**	**325**	P	P	16 04 26.7	+0.6
	2.8nm,0.7s,baz=175,slow=7.5,SNR=7.2						
	2.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**93.00**	**289**	P	P	16 05 20.5	+1.3
	0.9nm,0.8s,baz=114,slow=3.2,SNR=6.5						
	0.9nm,0.8s						
AKASG	**Malin Array Be**	**146.18**	**331**	PKPbc	PKPdf	16 11 43.7	-0.8
	0.9nm,0.7s,baz=40,slow=3.4,SNR=5.6						

ISK ***07*** *16:02:32.4, 39°.59N×26°.05E, h8km, ML3.9/36*

AFAD ***07*** *16:02:32.9±0.0, 39°.57N×26°.09E, h11km, MW4.0*

ATH ***07*** *16:02:33.7, 39°.56N×26°.07E, h13km±1km, ML3.6/20, Error ellipse: s-maj=1.5km s-min=0.6km az=101.0*

THE ***07*** *16:02:33.2, 39°.58N×26°.08E, h12km, ML3.8/14, Error ellipse: s-maj=0.9km s-min=0.4km az=102.0*

CFUSG ***07*** *16:02:35.9, 39°.80N×26°.30E, h10km, mb2.9/2, Western Turkey Magtype MSH 3.5 from 2 stations*

ISC 07 16:02:33.2±0.8, 39°.57N±0°.01×26°.08E±0°.02, h13km±5km, n163, σ0ᵽ97/233, 24C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOCA	**Canakkale, Ayv**	**0.08**	**148**	P	**Pg**	**16 02 35.8**	**-0.1**
KOCA				S	**Sg**	**16 02 37.6**	**-0.3**
GPNR	**Gulpinar-Canak**	**0.12**	**161**	Pg	**Pg**	**16 02 35.9**	**-0.5**
BOZC	**Bozcaada**	**0.27**	**355**	P	**Pg**	**16 02 38.8**	**-0.1**
BOZC				P	**Pg**	**16 02 38.8**	**-0.1**
BOZC				S	**Sg**	**16 02 42.7**	**-0.1**
BOZC				S	**Sb**	**16 02 42.8**	**-1.7**
EZN	**Ezine**	**0.32**	**36**	Pg	**Pg**	**16 02 39.5**	**-0.2**
EZN				Sg	**Sg**	**16 02 44.1**	**+0.1**
EZN	**Ezine**	**0.32**	**36**	P	**Pg**	**16 02 39.5**	**-0.2**
EZN				S	**Sg**	**16 02 44.1**	**+0.1**
	10μm,0.1s						
PRK	**Paraskevi**	**0.35**	**156**	P	**Pg**	**16 02 40.6**	**+0.2**
PRK				S	**Sg**	**16 02 45.9**	**+0.8**
	24μm,0.4s						
PRK	**Paraskevi**	**0.35**	**156**	P	**Pg**	**16 02 40.6**	**+0.2**
PRK				S	**Sg**	**16 02 46.0**	**+0.8**
PRK				AML	AML	16 02 46.1	
	comp=N,47328μm,0.4s						
PRK				AML	AML	16 02 47.1	
	comp=E,47910μm,0.4s						
BAYC	**CANAKKALE_Bayr**	**0.40**	**64**	P	**Pg**	**16 02 40.8**	**-0.3**
BAYC				S	**Sg**	**16 02 46.4**	**-0.1**
SIGR	**SIGRI**	**0.40**	**206**	Pg	**Pg**	**16 02 41.2**	**0.0**
SIGR				Sg	**Sb**	**16 02 47.4**	**-0.7**
SIGR	**SIGRI**	**0.40**	**206**	P	**Pg**	**16 02 41.2**	**0.0**
SIGR				S	**Sb**	**16 02 47.5**	**-0.7**
	comp=E,21μm,0.4s						
SIGR	**SIGRI**	**0.40**	**206**	P	**Pg**	**16 02 41.0**	**-0.1**
SIGR				S	**Sg**	**16 02 47.2**	**+0.7**
SIGR				AML	AML	16 02 48.9	
	comp=N,49383μm,0.4s						
SIGR				AML	AML	16 02 49.8	
	comp=E,34017μm,0.4s						
ECEA	**Canakkale, Ece**	**0.48**	**8**	P	**Pg**	**16 02 42.8**	**+0.1**
ECEA				S	**Sb**	**16 02 50.3**	**-0.2**
AYVA	**Ayvalik**	**0.54**	**119**	P	**Pg**	**16 02 43.5**	**-0.2**
AYVA				S	**Sn**	**16 02 54.9**	**-0.6**
CNKL	**anakkale-Mer**	**0.55**	**25**	P	**Pg**	**16 02 43.5**	**-0.4**
CNKL				P	**Pg**	**16 02 43.5**	**-0.4**
CNKL				S	**Sg**	**16 02 50.7**	**-0.5**
CNKL				S	**Sb**	**16 02 53.7**	**+1.2**
LESV	**Lesvos island,**	**0.59**	**141**	P	**Pg**	**16 02 44.7**	**-0.1**
GOAD	**anakkale-G¶**	**0.61**	**347**	P	**Pg**	**16 02 44.7**	**-0.3**
GOAD				S	**Sg**	**16 02 53.2**	**+0.1**
COMU	**Canakkale**	**0.61**	**29**	Pg	**Pg**	**16 02 44.6**	**-0.5**
COMU				Sg	**Sg**	**16 02 53.4**	**+0.2**
EAG3	**Mitilini, Lesv**	**0.61**	**142**	P	**Pg**	**16 02 45.1**	**-0.1**
EAG3				S	**Sg**	**16 02 53.8**	**+0.6**
GADA	**Gvkgeada**	**0.64**	**347**	Pg	**Pg**	**16 02 45.1**	**-0.5**
GADA				Sg	**Sg**	**16 02 53.7**	**-0.4**
GOKC	**Gokceada-Canak**	**0.64**	**349**	Pg	**Pg**	**16 02 44.6**	**-1.1**
GOKC				Sg	**Sg**	**16 02 53.6**	**-0.6**
LIA	**Limnos Island**	**0.77**	**296**	P	**Pg**	**16 02 47.8**	**-0.3**
LIA				S	**Sg**	**16 02 58.4**	**+0.2**
	comp=E,19μm,0.4s						
LIA	**Limnos Island**	**0.77**	**296**	P	**Pg**	**16 02 48.1**	**0.0**
LIA				S	**Sb**	**16 02 58.7**	**-0.1**
LIA				AML	AML	16 03 01.4	
	comp=E,38509μm,0.4s						
LIA				AML	AML	16 03 02.3	
	comp=N,38372μm,0.4s						
BUHA	**Balikesir, Bur**	**0.77**	**95**	P	**Pg**	**16 02 47.8**	**-0.4**
BUHA				S	**Sb**	**16 02 58.6**	**-0.2**
DKL	**Dikili**	**0.81**	**128**	Pg	**Pg**	**16 02 49.0**	**+0.1**
DKL				Sg	**Sn**	**16 03 01.5**	**-0.7**
CAND	**Candarli**	**0.83**	**137**	Pg	**Pb**	**16 02 49.6**	**+0.1**
CAND				Sg	**Sn**	**16 03 02.1**	**-0.6**
CANM	**Can-anakkale**	**0.87**	**59**	Pg	**Pg**	**16 02 47.9**	**-2.1**
IZMD	**zmir-Dikili-**	**0.88**	**131**	P	**Pb**	**16 02 50.6**	**+0.2**
IZMD				S	**Sb**	**16 03 02.4**	**+0.3**
IZMD				S	**Sn**	**16 03 03.4**	**-0.7**
GELI	**Tayfur-Gelibol**	**0.88**	**20**	Pg	**Pg**	**16 02 49.7**	**-0.5**
KARB	**zmir-Karabur**	**0.94**	**164**	P	**Pb**	**16 02 51.0**	**-0.4**
KARB				S	**Sb**	**16 03 04.3**	**+0.6**
LPK	**Lapseki**	**0.96**	**33**	Pg	**Pb**	**16 02 50.9**	**-0.8**
ZEDA	**zmir-Bergama**	**0.98**	**128**	P	**Pb**	**16 02 51.4**	**-0.6**
ZEDA				S	**Sn**	**16 03 06.9**	**+0.6**
FOCM	**Foa**	**0.99**	**149**	Pg	**Pb**	**16 02 52.2**	**0.0**
SMTH	**Samothraki Isl**	**1.00**	**335**	P	**Pb**	**16 02 51.9**	**-0.4**
SMTH				S	**Sb**	**16 03 05.2**	**-0.2**
	comp=N,6μm,0.4s						
SMTH	**Samothraki Isl**	**1.00**	**335**	P	**Pb**	**16 02 52.2**	**-0.2**
SMTH				S	**Sb**	**16 03 05.3**	**-0.2**
SMTH				AML	AML	16 03 07.6	
	comp=N,13372μm,0.3s						
SMTH				AML	AML	16 03 07.7	
	comp=E,8634μm,0.4s						
EAG2	**Marmaro, Chios**	**1.02**	**179**	P	**Pb**	**16 02 52.0**	**-0.8**
EAG2				S	**Sg**	**16 03 06.9**	**+0.7**
ENZZ	**Sultanice-Enez**	**1.04**	**2**	Pg	**Pb**	**16 02 52.4**	**-0.6**
CAVK	**Edirne/Enez-Ca**	**1.12**	**3**	P	**Pb**	**16 02 54.0**	**-0.5**
CAVK				S	**Sn**	**16 03 10.2**	**+0.3**
ERIK	**Erikli-Kesan**	**1.15**	**17**	Pn	**Pb**	**16 02 54.1**	**-0.8**
ENEZ	**Enez**	**1.17**	**3**	Pn	**Pb**	**16 02 54.8**	**-0.5**
ENEZ				Sn	**Sn**	**16 03 11.1**	**+0.1**
ENEZ	**Enez**	**1.17**	**3**	P	**Pb**	**16 02 54.7**	**-0.5**
ENEZ				S	**Sb**	**16 03 10.2**	**-0.1**
	comp=E,8μm,0.5s						
CHOS	**Chios island**	**1.18**	**181**	Pn	**Pn**	**16 02 54.7**	**-0.8**
CHOS	**Chios island**	**1.18**	**181**	P	**Pn**	**16 02 54.8**	**-0.8**
CHOS				S	**Sb**	**16 03 10.5**	**-0.3**
	comp=E,5μm,0.4s						
CHOS	**Chios island**	**1.18**	**181**	P	**Pn**	**16 02 55.0**	**-0.6**
CHOS				S	**Sb**	**16 03 10.4**	**-0.4**
CHOS				AML	AML	16 03 16.1	
	comp=E,10275μm,0.3s						
CHOS				AML	AML	16 03 18.0	
	comp=N,9215μm,0.5s						
BALY	**Balya**	**1.20**	**81**	P	**Pn**	**16 02 55.3**	**-0.4**
BALY				S	**Sb**	**16 03 11.4**	**+0.2**
KRBG	**Karabiga-Canak**	**1.24**	**48**	Pn	**Pn**	**16 02 55.9**	**-0.4**
URLA	**Izmir**	**1.27**	**162**	P	**Pn**	**16 02 56.0**	**-0.7**
URLA				S	**Sb**	**16 03 12.5**	**-0.8**
STEP	**BALIKESIR_Sava**	**1.28**	**98**	P	**Pn**	**16 02 56.9**	**0.0**
STEP				S	**Sg**	**16 03 15.6**	**+1.1**
KNL	**Balıkesir**	**1.31**	**57**	P	**Pn**	**16 02 57.3**	**+0.1**
KNL				S	**Sg**	**16 03 15.4**	**-0.1**
GONE	**Gonen-Balikesi**	**1.32**	**68**	Pn	**Pn**	**16 02 57.5**	**+0.1**
ALN	**Alexandroupoli**	**1.33**	**359**	Pn	**Pn**	**16 02 56.9**	**-0.5**
ALN				Sn	**Sg**	**16 03 16.6**	**-0.4**
ALN	**Alexandroupoli**	**1.33**	**359**	P	**Pn**	**16 02 56.8**	**-0.6**
ALN				S	**Sb**	**16 03 14.3**	**-0.6**
	comp=N,4μm,0.5s						
ALN	**Alexandroupoli**	**1.33**	**359**	P	**Pn**	**16 02 57.3**	**-0.1**
ALN				S	**Sb**	**16 03 14.7**	**-0.1**
ALN				AML	AML	16 03 16.1	
	comp=E,9234μm,0.6s						
ALN				AML	AML	16 03 16.7	
	comp=N,6265μm,0.4s						
ZEYE	**Izmir, Urla-Ze**	**1.37**	**166**	P	**Pn**	**16 02 57.2**	**-0.8**
ZEYE				S	**Sg**	**16 03 18.0**	**+0.7**
SKY	**Skiros Island**	**1.38**	**240**	P	**Pn**	**16 02 57.2**	**-0.9**
SKY				S	**Sn**	**16 03 16.1**	**-0.1**
	comp=N,4μm,0.5s						
SKY	**Skiros Island**	**1.38**	**240**	P	**Pn**	**16 02 57.3**	**-0.8**
SKY				S	**Sn**	**16 03 14.5**	**-1.7**
SKY				AML	AML	16 03 20.5	
	comp=E,11572μm,0.6s						
SKY				AML	AML	16 03 22.6	
	comp=N,5983μm,0.3s						
RKY	**Sarkoy-Tekirda**	**1.40**	**37**	Pn	**Pb**	**16 02 59.1**	**-0.1**
BLCB	**Balcova**	**1.40**	**147**	Pn	**Pb**	**16 02 59.3**	**+0.1**
BLCB	**Balcova**	**1.40**	**147**	P	**Pn**	**16 02 57.5**	**-0.9**
BLCB				S	**Sn**	**16 03 16.3**	**-0.2**
SART	**Tekirdag**	**1.40**	**37**	P	**Pn**	**16 02 58.7**	**+0.2**
SART				S	**Sg**	**16 03 18.0**	**-0.3**
BKES	**Balkesir-Mer**	**1.43**	**83**	P	**Pb**	**16 02 59.4**	**-0.4**
BKES				S	**Sn**	**16 03 17.3**	**-0.4**
THAS	**Thassos island**	**1.47**	**315**	P	**Pn**	**16 02 59.0**	**-0.4**
THAS				S	**Sn**	**16 03 17.8**	**-0.8**
	comp=N,1μm,0.4s						
THAS	**Thassos island**	**1.47**	**315**	P	**Pn**	**16 02 58.8**	**-0.6**
THAS				S	**Sn**	**16 03 17.9**	**-0.6**
THAS				AML	AML	16 03 21.2	
	comp=N,3070μm,0.6s						
THAS				AML	AML	16 03 23.1	
	comp=E,2665μm,0.5s						
BLKS	**Balkesir-Sus**	**1.48**	**78**	P	**Pn**	**16 03 00.1**	**+0.4**
BLKS				P	**Pn**	**16 03 00.1**	**+0.4**
BLKS				S	**Sn**	**16 03 17.4**	**-1.5**
BLKS				S	**Sn**	**16 03 17.4**	**-1.5**
AKS	**Akhisar**	**1.51**	**117**	Pn	**Pn**	**16 03 00.1**	**+0.1**
AKHS	**Akhisar**	**1.51**	**117**	P	**Pn**	**16 02 59.9**	**-0.1**
AKHS				S	**Sb**	**16 03 20.2**	**0.0**
MRMT	**Marmara Adasi**	**1.55**	**48**	Pn	**Pn**	**16 03 00.8**	**+0.2**
EDC	**Edincik**	**1.57**	**60**	Pn	**Pn**	**16 03 01.1**	**+0.3**
UKOP	**Uzunkopru-Edir**	**1.61**	**15**	Pn	**Pb**	**16 03 02.7**	**-0.1**
GMLD	**Gumuldur**	**1.63**	**156**	Pn	**Pb**	**16 03 02.4**	**-0.7**
RDO	**Rodhopi**	**1.63**	**345**	Pn	**Pn**	**16 03 01.6**	**0.0**
RDO	**Rodhopi**	**1.63**	**345**	P	**Pn**	**16 03 00.9**	**-0.7**
RDO				S	**Sn**	**16 03 22.1**	**-0.4**
	comp=E,835nm,0.5s						
RDO	**Rodhopi**	**1.63**	**345**	P	**Pn**	**16 03 01.5**	**0.0**
RDO				AML	AML	16 03 29.4	
	comp=N,1491μm,0.5s						
RDO				AML	AML	16 03 31.0	
	comp=E,1679μm,0.6s						
DGB	**zmir**	**1.64**	**157**	P	**Pn**	**16 03 01.8**	**0.0**
GOMA	**Golmarmara-Man**	**1.67**	**121**	Pn	**Pb**	**16 03 03.2**	**-0.5**
BAND	**Balkesir-Ban**	**1.74**	**62**	P	**Pn**	**16 03 03.2**	**+0.1**
OUR	**Ouranopolis**	**1.79**	**296**	Pn	**Pn**	**16 03 03.8**	**0.0**
OUR	**Ouranopolis**	**1.79**	**296**	P	**Pn**	**16 03 03.3**	**-0.5**
OUR				S	**Sn**	**16 03 25.6**	**-0.7**
	comp=E,1μm,0.5s						
OUR	**Ouranopolis**	**1.79**	**296**	P	**Pn**	**16 03 04.1**	**+0.3**
OUR				AML	AML	16 03 32.5	
	comp=N,2725μm,0.7s						
OUR				AML	AML	16 03 33.1	
	comp=E,3130μm,0.4s						
KYMI	**Kymi, Euboea I**	**1.80**	**239**	P	**Pn**	**16 03 02.8**	**-1.2**
KYMI				S	**Sn**	**16 03 27.5**	**+0.7**
	comp=E,1μm,0.6s						
KYMI	**Kymi, Euboea I**	**1.80**	**239**	P	**Pn**	**16 03 02.9**	**-1.2**
KYMI				AML	AML	16 03 33.2	
	comp=N,3176μm,0.7s						
KYMI				AML	AML	16 03 34.8	
	comp=E,2657μm,0.5s						
DURS	**Dursunbey**	**1.85**	**88**	P	**Pn**	**16 03 04.8**	**+0.1**
KAVA	**Kavala**	**1.86**	**320**	P	**Pn**	**16 03 04.4**	**-0.4**
KAVA				S	**Sn**	**16 03 26.5**	**-1.8**
KCTX	**Karacabey (Bur**	**1.88**	**68**	Pn	**Pn**	**16 03 05.6**	**+0.5**
PAIG	**Paliouri**	**1.89**	**282**	Pn	**Pn**	**16 03 04.9**	**-0.3**
PAIG	**Paliouri**	**1.89**	**282**	P	**Pn**	**16 03 04.8**	**-0.4**
DST	**Dursunbey**	**1.96**	**88**	Pn	**Pb**	**16 03 07.7**	**-1.1**
CRLT	**Corlu**	**2.00**	**38**	Pn	**Pn**	**16 03 07.3**	**+0.5**
KOKK	**Kokkinochori,**	**2.03**	**309**	P	**Pn**	**16 03 06.7**	**-0.4**
IZMR	**zmir-demi**	**2.04**	**134**	P	**Pn**	**16 03 07.5**	**+0.2**
GCAM	**G?zelcaml?**	**2.07**	**154**	P	**Pb**	**16 03 11.4**	**+0.8**
DEMI	**Demirci**	**2.11**	**104**	P	**Pn**	**16 03 08.5**	**+0.2**
KDZ	**Kurdzhali**	**2.13**	**345**	*i* P	**Pb**	**16 03 11.9**	**+0.1**
KDZ				*i* S	**Sb**	**16 03 38.6**	**+0.4**
MANT	**Manisa**	**2.21**	**118**	P	**Pn**	**16 03 10.1**	**+0.3**
ORLT	**Orhaneli**	**2.22**	**77**	Pn	**Pn**	**16 03 10.5**	**+0.7**
DION	**Dionisos Attik**	**2.25**	**229**	P	**Pn**	**16 03 09.8**	**-0.3**
DION				AML	AML	16 03 54.6	
	comp=E,1983μm,0.6s						
DION				AML	AML	16 03 54.7	
	comp=N,1840μm,0.7s						
XOR	**Xorichti**	**2.25**	**266**	P	**Pn**	**16 03 09.6**	**-0.6**
XOR				AML	AML	16 03 51.0	
	comp=N,486μm,0.5s						
XOR				AML	AML	16 03 51.6	
	comp=E,590μm,0.5s						
KULA	**Kula-Manisa**	**2.27**	**117**	Pn	**Pn**	**16 03 11.4**	**+0.9**
KIRA	**zmir-Kiraz**	**2.27**	**126**	P	**Pn**	**16 03 10.5**	**-0.1**
SIMA	**Simav-Kutahya**	**2.30**	**101**	Pn	**Pn**	**16 03 12.7**	**+1.8**
PTL	**Penteli**	**2.30**	**229**	P	**Pn**	**16 03 11.4**	**+0.5**
PTL				AML	AML	16 03 51.4	
	comp=E,770μm,0.6s						
PTL				AML	AML	16 03 58.5	
	comp=N,651μm,0.5s						
KIRK	**Kırklareli**	**2.34**	**19**	P	**Pn**	**16 03 11.8**	**+0.4**
RZN	**Rozhen**	**2.36**	**335**	*i* P	**Pb**	**16 03 16.3**	**+0.7**
RZN				*i* S	**Sn**	**16 03 41.4**	**+0.7**
VIZE	**Kirklareli, Vi**	**2.41**	**33**	P	**Pn**	**16 03 11.8**	**-0.6**
ULDT	**Uludag**	**2.42**	**75**	P	**Pn**	**16 03 12.8**	**+0.2**
SOH	**Sokhos**	**2.44**	**302**	P	**Pn**	**16 03 12.8**	**0.0**
SOH				AML	AML	16 03 53.4	
	comp=E,2346μm,0.6s						
SOH				AML	AML	16 03 54.7	
	comp=N,1112μm,0.4s						
SRS	**Serrai**	**2.45**	**310**	P	**Pn**	**16 03 12.5**	**-0.4**
SRS				AML	AML	16 03 57.5	
	comp=N,932μm,0.5s						
SRS				AML	AML	16 03 57.5	
	comp=E,745μm,0.5s						
NVR	**Nevrokopi**	**2.46**	**317**	P	**Pn**	**16 03 13.3**	**+0.2**
NVR				AML	AML	16 03 54.8	
	comp=E,745μm,0.5s						
NVR				AML	AML	16 03 55.0	
	comp=N,458μm,0.6s						
DIM	**Dimitrovgrad**	**2.50**	**351**	*i* P	**Pn**	**16 03 14.8**	**+1.2**
DIM				*i* S	**Sb**	**16 03 50.6**	**+1.9**
ESEN	**Aydn-Nazilli**	**2.50**	**134**	P	**Pn**	**16 03 13.6**	**0.0**
HORT	**Hortiatis**	**2.51**	**295**	P	**Pn**	**16 03 13.9**	**+0.1**
HORT				AML	AML	16 03 55.0	
	comp=N,366μm,0.8s						
HORT				AML	AML	16 03 56.4	
	comp=E,550μm,0.8s						
EMET	**Ktahya-Emet**	**2.51**	**93**	P	**Pn**	**16 03 14.3**	**+0.5**
APE	**Apeiranthos**	**2.53**	**190**	⇑P	**Pn**	**16 03 14.5**	**+0.4**
APE	**Apeiranthos**	**2.53**	**190**	P	**Pn**	**16 03 13.1**	**-1.0**
APE				AML	AML	16 04 05.0	
	comp=N,434μm,0.9s						
APE				AML	AML	16 04 07.1	
	comp=E,511μm,0.6s						
MMB	**Musomishta**	**2.66**	**319**	*i* P	**Pg**	**16 03 24.9**	**+0.8**
MMB				*i* S	**Sn**	**16 03 47.3**	**-0.6**
PLD	**Plovdiv**	**2.77**	**339**	*i* P	**Pb**	**16 03 20.9**	**-1.6**
PLD				*i* S	**Sb**	**16 03 59.0**	**+2.7**
KNT	**Kendrikon**	**2.91**	**304**	P	**Pn**	**16 03 19.7**	**+0.4**
JMB	**Yambol**	**2.94**	**6**	*i* P	**Pb**	**16 03 26.1**	**+0.7**
JMB				*i* S	**Sb**	**16 04 03.8**	**+2.5**
TYRN	**Tyrnavos**	**2.98**	**274**	P	**Pn**	**16 03 20.4**	**+0.2**
GRG	**Griva**	**3.14**	**297**	P	**Pn**	**16 03 23.0**	**+0.6**
GRG				AML	AML	16 04 17.7	
	comp=E,211μm,0.2s						
GRG				AML	AML	16 04 18.7	
	comp=N,665μm,0.4s						
KKB	**Krupnik**	**3.19**	**316**	*i* P	**Pn**	**16 03 24.9**	**+1.8**
KKB				*i* S	**Sn**	**16 04 02.2**	**+1.1**
VAY	**Valandovo**	**3.20**	**304**	*i* Pn	Pn	16 03 18.2	-5.0
ELND	**Elena**	**3.36**	**357**	⇓P	**Pn**	**16 03 26.9**	**+1.5**
STIP	**Stip**	**3.65**	**307**	*i* Pn	**Pn**	**16 03 28.5**	**-0.8**
ROIA	**ROIAK**	**3.65**	**15**	*i* P	**Pn**	**16 03 30.5**	**+1.1**
PRD	**Provadia**	**3.72**	**15**	*i* P	**Pn**	**16 03 31.1**	**+0.7**
VTS	**Vitosha**	**3.73**	**326**	*i* P	**Pn**	**16 03 31.3**	**+0.7**
AVR	**AVREN**	**3.74**	**18**	*i* P	**Pn**	**16 03 30.6**	**-0.1**
NEF	**NEVSHA**	**3.80**	**13**	*i* P	**Pn**	**16 03 33.4**	**+1.9**
LOZB	**Loznitsa**	**3.82**	**6**	⇓P	**Pn**	**16 03 32.4**	**+0.7**
PLVB	**Pleven**	**3.97**	**344**	⇑P	**Pn**	**16 03 35.5**	**+1.7**
RAZG	**Razgrad**	**4.01**	**4**	⇑P	**Pn**	**16 03 34.9**	**+0.6**
MPEP	**Malo Peshtene**	**4.17**	**336**	*i* P	**Pn**	**16 03 37.7**	**+1.1**
ICOR	**Ion Corvin**	**4.72**	**15**	⇑P	**Pn**	**16 03 45.2**	**+1.1**
BLKB	**Belogradchik**	**4.79**	**329**	⇑P	**Pn**	**16 03 46.0**	**+0.9**
BOVS	**Bovan**	**5.22**	**322**	⇑P	**Pn**	**16 03 52.6**	**+1.6**
DJES	**Djerdap**	**5.74**	**334**	⇑P	**Pn**	**16 03 59.2**	**+1.1**
CFR	**Carcaliu**	**5.81**	**

2.2nm,0.5s,baz=115,slow=7.7,SNR=23
2.2nm,0.5s
FINES FINESS Array B 148.07 338 PKPbc **PKPbc** 16 23 05.9 +1.5
0.8nm,0.6s,baz=31,slow=4.4,SNR=6.6

*IDC **07** 16:04:30.6±0.9, 42°.17S×173°.54E, h0km, mb4.0/5, mbtmp4.1/7, ML4.4/2, MS3.7/10, Error ellipse: s-maj=30.0km s-min=22.6km az=131.0*
*NOU **07** 16:04:32.0, 42°.53S×173°.68E, h11km, MLv5.0/14, South Island, New Zealand*
*NEIC **07** 16:04:32.3±2.2, 42°.36S±0°.02×173°.48E±0°.03, h10km±1km, mb4.4/15, Error ellipse: s-maj=3.9km s-min=2.8km az=123.0*
*WEL **07** 16:04:33.9±0.6, 42°.5S×173°.17E±°, h9km±7km, M4.7/22, ML5.0/8, MLv4.7/22, Error ellipse: s-maj=0.0km s-min=0.0km az=124.9*
*WEL **07** 16:04:33.9, 42°.36S×173°.44E, h17km, ML4.7, Mw4.6, Moment Tensor Solution. s7 Moment tensor: Mrr372.41; Mθθ244.43; Mφφ-616.84; Mrθ322.58; Mθφ634.25; Mφr-367.48; Fault plane solution: NP1: φs163.00000°, δ51.00000°, λ15.00000°. NP2:φs64.00000°, δ79.00000°, λ140.00000°. SOUTH ISLAND*
ISC 07 16:04:33.2±0.8, 42°.43S±0°.03×173°.59E±0°.03, h19km±2km, n240, σ1§11/247, mb4.4/14, MS3.7/10, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KHZ	**Kahutara**	**0.04**	**294**			**Pg**	**16 04 36.9**	**+0.3**
KHZ				Sg		**Sg**	**16 04 39.1**	**+0.2**
KHZ	**Kahutara**	**0.04**	**294**	P		**Pg**	**16 04 36.7**	**-0.1**
KHZ	**Kahutara**	**0.04**	**294**	P		**Pg**	**16 04 36.9**	**+0.3**
KHZ				S		**Sg**	**16 04 39.2**	**+0.2**
GVZ	**Greta Valley S**	**0.67**	**217**			**Pn**	**16 04 48.4**	**+0.7**
GVZ				Sg		**Sn**	**16 04 58.9**	**+1.1**
GVZ	**Greta Valley S**	**0.67**	**217**	P		**Pn**	**16 04 48.4**	**+0.7**
BSWZ	**Blackbirch Sta**	**0.75**	**17**	Pg		**Pb**	**16 04 46.9**	**-0.7**
BSWZ				Sg		**Sb**	**16 04 56.8**	**-0.6**
BSWZ	**Blackbirch Sta**	**0.75**	**17**	P		**Pb**	**16 04 47.2**	**-0.4**
CMWZ	**Cape Campbell**	**0.83**	**35**			**Pn**	**16 04 50.0**	**+0.1**
CMWZ	**Cape Campbell**	**0.83**	**35**	P		**Pn**	**16 04 50.3**	**+0.5**
CMWZ				S		**Sn**	**16 05 04.0**	**+2.5**
THZ	**Tophouse**	**0.84**	**323**			**Pb**	**16 04 48.1**	**-1.2**
THZ				Sg		**Sb**	**16 04 58.0**	**-2.1**
THZ	**Tophouse**	**0.84**	**323**	P		**Pb**	**16 04 48.0**	**-1.2**
THZ				S		**Sb**	**16 04 58.1**	**-2.0**
AMCZ	**Amberley**	**1.01**	**222**	Pn		**Pn**	**16 04 52.6**	**+0.2**
AMCZ	**Amberley**	**1.01**	**222**	P		**Pg**	**16 04 52.7**	**-0.2**
LTZ	**Lake Taylor**	**1.03**	**250**	Pn		**Pb**	**16 04 52.1**	**-0.4**
LTZ	**Lake Taylor**	**1.03**	**250**	P		**Pb**	**16 04 52.1**	**-0.4**
LTZ				S		**Sb**	**16 05 05.9**	**+0.2**
TUWZ	**Tuamarina**	**1.04**	**15**			**Pb**	**16 04 52.3**	**-0.2**
TUWZ	**Tuamarina**	**1.04**	**15**	P		**Pb**	**16 04 52.3**	**-0.2**
TUWZ				S		**Sb**	**16 05 06.1**	**+0.4**
MRNZ	**Matariki Terra**	**1.20**	**329**	Pn		**Pn**	**16 04 54.1**	**-0.9**
MRNZ	**Matariki Terra**	**1.20**	**329**	P		**Pn**	**16 04 54.6**	**-0.4**
MRNZ				S		**Sb**	**16 05 10.6**	**+0.1**
NNZ	**Nelson**	**1.22**	**353**	Pn		**Pn**	**16 04 54.4**	**-0.9**
NNZ	**Nelson**	**1.22**	**353**	P		**Pn**	**16 04 54.8**	**-0.5**
NNZ				S		**Sb**	**16 05 10.4**	**-0.7**
TCW	**Tory Channel**	**1.32**	**23**	Pn		**Pn**	**16 04 56.2**	**-0.5**
TCW	**Tory Channel**	**1.32**	**23**	P		**Pn**	**16 04 56.6**	**0.0**
TCW				S		**Sn**	**16 05 13.9**	**+0.1**
SNZO	**South Karori**	**1.40**	**37**	Pn		**Pn**	**16 04 57.3**	**-0.4**
SNZO	**South Karori**	**1.40**	**37**	P		**Pn**	**16 04 57.6**	**0.0**
BHW	**Baring Head**	**1.40**	**44**	Pn		**Pn**	**16 04 57.2**	**+0.5**
BHW	**Baring Head**	**1.40**	**44**	P		**Pn**	**16 04 57.8**	**+0.1**
MQZ	**McQueen's Vall**	**1.45**	**208**	Pn		**Pn**	**16 04 57.5**	**-0.8**
MQZ	**McQueen's Vall**	**1.45**	**208**	P		**Pn**	**16 04 57.8**	**-0.5**
MQZ				S		**Sn**	**16 05 16.2**	**-0.5**
OXZ	**Oxford**	**1.45**	**231**	Pn		**Pn**	**16 04 57.6**	**-0.8**
OXZ	**Oxford**	**1.45**	**231**	P		**Pn**	**16 04 57.9**	**-0.5**
WEL	**Wellington**	**1.45**	**38**	P		**Pn**	**16 04 58.6**	**+0.3**
WEL				S		**Sn**	**16 05 16.9**	**+0.1**
TKNZ	**Takaka Hill**	**1.47**	**341**	Pn		**Pn**	**16 04 58.1**	**-0.7**
TKNZ	**Takaka Hill**	**1.47**	**341**	P		**Pn**	**16 04 58.8**	**0.0**
DSZ	**Denniston Nort**	**1.49**	**297**	Pn		**Pn**	**16 04 59.1**	**0.0**
DSZ	**Denniston Nort**	**1.49**	**297**	P		**Pn**	**16 04 59.1**	**0.0**
DSZ				S		**Sb**	**16 05 18.9**	**0.0**
PLWZ	**Palliser**	**1.51**	**56**	Pn		**Pn**	**16 04 59.0**	**-0.3**
PLWZ	**Palliser**	**1.51**	**56**	P		**Pn**	**16 04 59.2**	**-0.1**
AKCZ	**Akaroa Harbour**	**1.52**	**199**	P		**Pn**	**16 04 59.5**	**+0.1**
MSWZ	**Moikau Station**	**1.60**	**51**	Pn		**Pn**	**16 05 00.2**	**-0.3**
MSWZ	**Moikau Station**	**1.60**	**51**	P		**Pn**	**16 05 00.7**	**+0.2**
MSWZ				S		**Sn**	**16 05 21.0**	**+0.3**
INZ	**Inchbonnie**	**1.61**	**259**	Pn		**Pn**	**16 05 00.5**	**-0.1**
INZ	**Inchbonnie**	**1.61**	**259**	P		**Pn**	**16 05 00.7**	**+0.2**
DUWZ	**D'Urville Isla**	**1.65**	**9**	P		**Pn**	**16 05 01.2**	**+0.1**
RACZ	**Rakaia**	**1.67**	**219**	P		**Pn**	**16 05 01.1**	**-0.3**
CAW	**Cannon Point**	**1.73**	**40**	P		**Pn**	**16 05 02.2**	**0.0**
PAWZ	**Paruwai Farm**	**1.73**	**53**	P		**Pn**	**16 05 02.0**	**-0.3**
MHCZ	**Mount Hutt**	**1.84**	**233**	P		**Pn**	**16 05 03.3**	**-0.6**
KIW	**Kapiti Island**	**1.86**	**33**	P		**Pn**	**16 05 04.2**	**+0.2**
TRWZ	**Traveller**	**1.88**	**57**	P		**Pn**	**16 05 03.9**	**-0.4**
MTW	**Mount Morrison**	**1.92**	**49**	P		**Pn**	**16 05 04.3**	**-0.5**
WACZ	**Wakanui South**	**1.98**	**220**	P		**Pn**	**16 05 05.2**	**-0.5**
OGWZ	**Otaki Gorge**	**2.00**	**37**	P		**Pn**	**16 05 05.9**	**-0.1**
HOWZ	**Holdsworth Sta**	**2.11**	**44**	P		**Pn**	**16 05 06.8**	**-0.6**
TMWZ	**Te Maipa**	**2.17**	**53**	P		**Pn**	**16 05 07.7**	**-0.7**
WVZ	**Waitaha Valley**	**2.20**	**252**	P		**Pn**	**16 05 08.9**	**+0.3**
RPZ	**Rata Peaks**	**2.26**	**235**	Pn		**Pn**	**16 05 08.8**	**-0.6**
RPZ	**Rata Peaks**	**2.26**	**235**	P		**Pn**	**16 05 08.7**	**-0.8**
RPZ	**Rata Peaks**	**2.26**	**235**	Pn		**Pn**	**16 05 09.0**	**-0.5**
	130nm,0.3s,baz=93,slow=2.0,SNR=716							
RPZ						Sn	**16 05 35.9**	**-0.9**
	286nm,0.3s,baz=15,slow=19,SNR=3.9							
	531nm,0.4s							
RPZ	**Rata Peaks**	**2.26**	**235**	P		**Pn**	**16 05 08.9**	**-0.6**
MRZ	**Mangatainoka R**	**2.32**	**41**	Pn		**Pn**	**16 05 09.4**	**-0.9**
MRZ	**Mangatainoka R**	**2.32**	**41**	P		**Pn**	**16 05 09.8**	**-0.5**
ARCZ	**Arundel**	**2.32**	**229**	P		**Pn**	**16 05 09.6**	**-0.8**
TIWZ	**Tintock**	**2.39**	**47**	P		**Pn**	**16 05 11.0**	**-0.3**
GCSZ	**Gaunt Creek Bo**	**2.56**	**240**	P		**Pn**	**16 05 14.0**	**+0.5**
PRWZ	**Pori Road**	**2.59**	**44**	P		**Pn**	**16 05 14.6**	**+0.5**
POWZ	**Post Office Ro**	**2.62**	**40**	P		**Pn**	**16 05 13.8**	**-0.7**
BFZ	**Birch Farm**	**2.65**	**50**	Pn		**Pn**	**16 05 14.0**	**-1.0**
BFZ	**Birch Farm**	**2.65**	**50**	P		**Pn**	**16 05 14.8**	**-0.1**
BFZ	**Birch Farm**	**2.65**	**50**	P		**Pn**	**16 05 13.9**	**-1.0**
TMZ	**Timaru**	**2.71**	**223**	P		**Pn**	**16 05 15.4**	**-0.4**
WAZ	**Wanganui**	**2.88**	**22**	P		**Pn**	**16 05 19.6**	**+1.6**
DVHZ	**Dannevirke**	**2.88**	**43**	P		**Pn**	**16 05 16.7**	**-1.4**
ANWZ	**Angora Road**	**2.93**	**49**	P		**Pn**	**16 05 18.1**	**-0.6**
TSZ	**Takapari Road**	**2.97**	**38**	P		**Pn**	**16 05 18.5**	**-0.8**
FOZ	**Fox Glacier**	**2.98**	**247**	Pn		**Pn**	**16 05 18.9**	**-0.5**
FOZ	**Fox Glacier**	**2.98**	**247**	P		**Pn**	**16 05 19.9**	**+0.5**
NMEZ	**Namu Road**	**3.02**	**4**	P		**Pn**	**16 05 22.8**	**+2.8**
LREZ	**Lake Rotokare**	**3.03**	**12**	P		**Pn**	**16 05 22.3**	**+2.2**
KHEZ	**Kahui Hut**	**3.15**	**6**	P		**Pn**	**16 05 23.4**	**+1.5**
KHEZ	**Kahui Hut**	**3.15**	**6**	P		**Pn**	**16 05 24.9**	**+3.0**
PRHZ	**Porangahau**	**3.15**	**48**	P		**Pn**	**16 05 20.6**	**-1.2**
LBZ	**Lake Benmore**	**3.16**	**231**			**Pn**	**16 05 21.3**	**-0.6**
LBZ	**Lake Benmore**	**3.16**	**231**	P		**Pn**	**16 05 21.4**	**-0.4**
NBEZ	**Newall Road No**	**3.17**	**4**	P		**Pn**	**16 05 24.3**	**+2.3**
NEZ	**North Egmont**	**3.18**	**7**	P		**Pn**	**16 05 25.0**	**+2.7**
PNHZ	**Pukenui**	**3.20**	**39**	P		**Pn**	**16 05 21.3**	**-1.2**
WPHZ	**Waipukurau**	**3.20**	**43**	P		**Pn**	**16 05 21.2**	**-1.2**
PKE	**Pukeiti**	**3.25**	**5**	P		**Pn**	**16 05 25.2**	**+2.0**
DREZ	**Durham Road**	**3.27**	**8**	P		**Pn**	**16 05 25.5**	**+2.0**
MTVZ	**Mangateitei**	**3.36**	**26**	P		**Pn**	**16 05 25.8**	**+1.0**
ODZ	**Otahua Downs**	**3.37**	**218**			**Pn**	**16 05 24.2**	**-0.6**
ODZ	**Otahua Downs**	**3.37**	**218**	P		**Pn**	**16 05 24.2**	**-0.6**
ODZ	**Otahua Downs**	**3.37**	**218**	P		**Pn**	**16 05 24.1**	**-0.6**
MHEZ	**Mangahewa**	**3.40**	**10**	P		**Pn**	**16 05 27.8**	**+2.6**
PKVZ	**Pokaka**	**3.41**	**24**	P		**Pn**	**16 05 26.0**	**+0.6**
VRZ	**Vera Road**	**3.42**	**15**	P		**Pn**	**16 05 27.0**	**+1.5**
MOVZ	**Moawhango**	**3.44**	**29**	P		**Pn**	**16 05 25.6**	**-0.2**
PXZ	**Pawanui**	**3.44**	**47**	P		**Pn**	**16 05 24.2**	**-1.6**
WNVZ	**Wahianoa**	**3.46**	**27**	P		**Pn**	**16 05 26.8**	**+0.6**
TRVZ	**Turoa**	**3.46**	**26**	P		**Pn**	**16 05 27.1**	**+0.8**
BHHZ	**Black Hill Sta**	**3.49**	**33**	P		**Pn**	**16 05 26.0**	**-0.5**
KRHZ	**Kereru**	**3.49**	**38**	P		**Pn**	**16 05 25.2**	**-1.3**
WHVZ	**Whangaehu Hut**	**3.49**	**26**	P		**Pn**	**16 05 27.7**	**+1.0**
MAVZ	**Matarangi**	**3.50**	**26**	P		**Pn**	**16 05 27.8**	**+0.9**
FWVZ	**Far West T-bar**	**3.51**	**26**	P		**Pn**	**16 05 27.9**	**+1.0**
TUVZ	**Tukino**	**3.53**	**27**	P		**Pn**	**16 05 27.9**	**+0.8**
COVZ	**Chateau Observ**	**3.55**	**25**	P		**Pn**	**16 05 28.0**	**+0.6**
NGZ	**Ngauruhoe**	**3.59**	**26**	P		**Pn**	**16 05 28.6**	**+0.6**
SNVZ	**South Ngauruho**	**3.60**	**26**	P		**Pn**	**16 05 28.7**	**+0.6**
KAHZ	**Kahuranaki**	**3.62**	**44**	P		**Pn**	**16 05 26.8**	**-1.5**
OTVZ	**Oturere**	**3.63**	**26**	P		**Pn**	**16 05 29.0**	**+0.5**
NNVZ	**North Ngauruho**	**3.64**	**26**	P		**Pn**	**16 05 29.2**	**+0.6**
TWVZ	**Taurewa**	**3.64**	**23**	P		**Pn**	**16 05 29.0**	**+0.4**
WTVZ	**West Tongariro**	**3.65**	**25**	P		**Pn**	**16 05 29.2**	**+0.5**
ETVZ	**East Tongariro**	**3.67**	**27**	P		**Pn**	**16 05 29.4**	**+0.4**
KRVZ	**Karewarewa**	**3.68**	**26**	P		**Pn**	**16 05 29.8**	**+0.6**
TMVZ	**Te Maari**	**3.68**	**27**	P		**Pn**	**16 05 29.5**	**+0.3**
NTVZ	**North Tongariro**	**3.69**	**26**	P		**Pn**	**16 05 29.7**	**+0.5**
KWHZ	**Kaweka Forest**	**3.69**	**36**	P		**Pn**	**16 05 28.8**	**-0.6**
MCHZ	**McNeill Hill**	**3.80**	**39**	P		**Pn**	**16 05 29.3**	**-1.4**
KATZ	**Kakaramea**	**3.81**	**26**	P		**Pn**	**16 05 32.1**	**+1.2**
RITZ	**Rihia Road**	**3.86**	**27**	P		**Pn**	**16 05 32.1**	**+0.6**
JCZ	**Jackson Bay**	**3.87**	**243**	P		**Pn**	**16 05 31.6**	**-0.2**
JCZ	**Jackson Bay**	**3.87**	**243**	P		**Pn**	**16 05 31.5**	**-0.3**
RATZ	**Rangitikua**	**3.93**	**26**	P		**Pn**	**16 05 33.7**	**+1.2**
BKZ	**Black Stump Fm**	**3.94**	**35**			**Pn**	**16 05 31.6**	**-1.1**
BKZ	**Black Stump Fm**	**3.94**	**35**	P		**Pn**	**16 05 31.9**	**-0.8**
BKZ	**Black Stump Fm**	**3.94**	**35**	P		**Pn**	**16 05 31.0**	**-1.7**
HIZ	**Hauiti**	**4.03**	**14**			**Pn**	**16 05 34.1**	**+0.2**
HIZ	**Hauiti**	**4.03**	**14**	P		**Pn**	**16 05 35.6**	**+1.7**
HIZ	**Hauiti**	**4.03**	**14**	P		**Pn**	**16 05 35.2**	**+1.3**
WATZ	**Wairara**	**4.06**	**24**	P		**Pn**	**16 05 34.3**	**0.0**
HHSZ	**Highcliff Hill**	**4.07**	**211**	P		**Pn**	**16 05 34.2**	**-0.2**
ARHZ	**Aropaoanui**	**4.09**	**40**	P		**Pn**	**16 05 35.4**	**+0.7**
WKZ	**Wanaka**	**4.09**	**233**	Pn		**Pn**	**16 05 33.9**	**-0.8**
WKZ	**Wanaka**	**4.09**	**233**	P		**Pn**	**16 05 33.6**	**-1.1**
NMHZ	**Naumai**	**4.13**	**37**	P		**Pn**	**16 05 34.3**	**-1.1**
EAZ	**Earnscleugh**	**4.17**	**226**	P		**Pn**	**16 05 34.8**	**-1.0**
WHTZ	**Whakaora**	**4.17**	**26**	P		**Pn**	**16 05 37.0**	**+1.1**
MRHZ	**Matea Rd**	**4.19**	**32**	P		**Pn**	**16 05 34.4**	**-1.7**
KUTZ	**Kaahu Road**	**4.29**	**24**	P		**Pn**	**16 05 38.3**	**+0.8**
MTHZ	**Maungataniwha**	**4.35**	**36**	P		**Pn**	**16 05 37.1**	**-1.2**
TLZ	**Tolley Road**	**4.36**	**21**	P		**Pn**	**16 05 38.5**	**+0.1**
WPRZ	**Whakapapatarin**	**4.37**	**28**	P		**Pn**	**16 05 37.8**	**-0.8**
RAHZ	**Arahi**	**4.41**	**38**	P		**Pn**	**16 05 40.0**	**+0.9**
PRRZ	**Plateau Road**	**4.47**	**29**	P		**Pn**	**16 05 38.9**	**-1.1**
GRRZ	**Galatos Road**	**4.51**	**26**	P		**Pn**	**16 05 40.1**	**-0.4**
TUZ	**Tuapeka**	**4.53**	**218**	P		**Pn**	**16 05 40.3**	**-0.3**
HRRZ	**Handcock Road**	**4.53**	**28**	P		**Pn**	**16 05 40.2**	**-0.6**
HSRZ	**Hossack Road**	**4.59**	**27**	P		**Pn**	**16 05 41.8**	**+0.3**
RTZ	**Ruatahuna**	**4.61**	**35**	P		**Pn**	**16 05 42.1**	**+0.2**
KNZ	**Kokohu**	**4.61**	**44**	P		**Pn**	**16 05 40.2**	**-1.6**
MHGZ	**Mahia Peninsul**	**4.63**	**46**	P		**Pn**	**16 05 41.4**	**-0.7**
MUGZ	**Murupara**	**4.64**	**33**	P		**Pn**	**16 05 41.7**	**-0.6**
HLRZ	**Highlands Stat**	**4.68**	**28**	P		**Pn**	**16 05 43.7**	**+0.8**
MSZ	**Milford Sound**	**4.69**	**240**	P		**Pn**	**16 05 41.7**	**-1.1**
UTU	**Utuhina**	**4.69**	**26**	P		**Pn**	**16 05 43.3**	**+0.3**
TARZ	**Mount Tarawera**	**4.75**	**29**	P		**Pn**	**16 05 42.7**	**-1.1**
NGRZ	**Ngongotaha**	**4.76**	**26**	P		**Pn**	**16 05 43.9**	**0.0**
PRGZ	**Paritu Road**	**4.79**	**44**	P		**Pn**	**16 05 42.6**	**-1.8**
OMRZ	**Omania**	**4.82**	**27**	P		**Pn**	**16 05 45.5**	**+0.8**
KARZ	**Kaharoa**	**4.85**	**26**	P		**Pn**	**16 05 45.5**	**+0.3**
RAGZ	**Rawiri**	**4.90**	**38**	P		**Pn**	**16 05 43.9**	**-2.0**
TOZ	**Tahuroa Road**	**4.92**	**18**	Pn		**Pn**	**16 05 45.5**	**-0.6**
TOZ	**Tahuroa Road**	**4.92**	**18**	P		**Pn**	**16 05 46.3**	**+0.2**
MLZ	**Mavora Lakes**	**4.92**	**232**	P		**Pn**	**16 05 44.9**	**-1.3**
KMRZ	**Kaimai**	**4.92**	**22**	P		**Pn**	**16 05 46.3**	**+0.1**
URZ	**Urewera**	**4.96**	**34**	P		**Pn**	**16 05 46.1**	**-0.6**
URZ	**Urewera**	**4.96**	**34**	Pn		**Pn**	**16 05 44.2**	**-2.5**
	10nm,0.3s,baz=296,slow=4.9,SNR=14							
URZ						Sn	**16 06 39.4**	**-4.1**
	20nm,0.3s,baz=147,slow=15,SNR=6.7							
	25nm,0.3s							
URZ	**Urewera**	**4.96**	**34**	P		**Pn**	**16 05 44.2**	**-2.5**
MWZ	**Matawai**	**5.08**	**38**	P		Pn	16 05 45.5	-2.8
TKGZ	**Te Karaka**	**5.14**	**41**	P		**Pn**	**16 05 51.3**	**+2.1**
SYZ	**Scrubby Hill**	**5.19**	**216**	P		**Pn**	**16 05 49.5**	**-0.3**
SYZ	**Scrubby Hill**	**5.19**	**216**	P		**Pn**	**16 05 49.9**	**+0.1**
WHZ	**Wether Hill Ro**	**5.33**	**228**	P		**Pn**	**16 05 50.0**	**-1.8**
TWGZ	**Tauwhareparae**	**5.42**	**40**	P		**Pn**	**16 05 50.6**	**-2.3**
AWAZ	**Awhitu Peninsu**	**5.42**	**9**	P		**Pn**	**16 05 54.1**	**+1.1**
MKAZ	**Moumakai**	**5.46**	**13**	P		**Pn**	**16 05 53.7**	**+0.3**
WTAZ	**Waiatarua**	**5.54**	**8**	P		**Pn**	**16 05 56.0**	**+1.3**
DCZ	**Deep Cove**	**5.55**	**235**	P		**Pn**	**16 05 53.7**	**-0.9**
ETAZ	**East Tamaki Re**	**5.57**	**11**	P		**Pn**	**16 05 55.9**	**+0.9**
EPAZ	**Eden Park BICE**	**5.62**	**10**	P		**Pn**	**16 05 56.9**	**+1.2**
HBAZ	**Herne Bay Bore**	**5.64**	**9**	P		**Pn**	**16 05 57.3**	**+1.3**
RVAZ	**Riverhead Bore**	**5.71**	**8**	P		**Pn**	**16 05 57.9**	**+1.0**
MBAZ	**Mototapu North**	**5.75**	**11**	P		**Pn**	**16 05 58.3**	**+0.8**
WIAZ	**Waiheke Island**	**5.76**	**12**	P		**Pn**	**16 05 58.0**	**+0.5**
ABAZ	**Army Bay**	**5.90**	**10**	P		**Pn**	**16 06 00.7**	**+1.1**
APZ	**The Paps**	**5.94**	**220**	P		**Pn**	**16 05 59.6**	**-0.6**
MXZ	**Matakaoa Point**	**6.06**	**38**	Pn		**Pn**	**16 06 00.9**	**-0.9**
MXZ	**Matakaoa Point**	**6.06**	**38**	P		**Pn**	**16 06 01.3**	**-0.5**
MXZ	**Matakaoa Point**	**6.06**	**38**	P		**Pn**	**16 06 01.4**	**-0.5**
GRZ	**Great Barrier**	**6.34**	**14**	P		**Pn**	**16 06 05.4**	**-0.2**
WCZ	**Waipu Caves**	**6.51**	**5**	P		**Pn**	**16 06 09.3**	**+1.3**
OUZ	**Omahuta**	**7.20**	**0**	P		**Pn**	**16 06 19.5**	**+2.1**
OUZ	**Omahuta**	**7.20**	**0**	P		**Pn**	**16 06 18.9**	**+1.5**
CTZ	**Chatham Island**	**7.29**	**104**			Pn	16 06 16.9	-1.7
CTZ	**Chatham Island**	**7.29**	**104**	P		**Pn**	**16 06 18.1**	**-0.5**
CTZ	**Chatham Island**	**7.29**	**104**	P		**Pn**	**16 06 18.1**	**-0.5**
TAU	**Tasmania Unive**	**19.30**	**260**	P		**P**	**16 08 55.8**	**-1.1**
TAU						IAmb	IAmb	16 09 22.6
	comp=Z,18nm,1.1s							
DZM	**Mont Dzumac**	**21.17**	**341**	LR		LR	16 17 01.5	
	comp=Z,298nm,18.3s,baz=140,slow=36							
MARNC	**Mare, Loyalty**	**21.41**	**346**	P		**P**	**16 09 16.9**	**-2.9**
KOUNC	**Koumac, New Ca**	**23.18**	**337**	P		**P**	**16 09 37.3**	**-1.4**
MSVF	**Nonsavu**	**24.91**	**10**	P		**P**	**16 09 55.5**	**+0.4**
MSVF						IAmb	IAmb	16 10 02.5
	comp=Z,17nm,1.0s							
EIDS	**Eidsvold**	**25.15**	**305**	P		**P**	**16 09 54.5**	**-2.6**
STKA	**Stephens Creek**	**27.44**	**282**	LR		LR	16 19 11.5	
	comp=Z,130nm,20.6s,baz=188,slow=32							
RAR	**Rarotonga**	**30.77**	**55**	LR		LR	16 20 16.2	
	comp=Z,67nm,20.6s,baz=202,slow=31							
VNDA	**Vanda**	**35.53**	**184**	LR		LR	16 23 32.2	
	comp=Z,191nm,19.8s,baz=202,slow=32							
AS31	**Alice Springs**	**37.75**	**287**	P		**P**	**16 11 47.2**	**-0.7**
ASAR	**Alice Springs**	**37.75**	**287**	P		**P**	**16 11 47.8**	**-0.1**
ASAR	**Alice Springs**	**37.75**	**287**	P		**P**	**16 11 47.3**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=125,slow=6.9,SNR=11							
	comp=Z,0.7nm,0.4s							
COEN	**Coen**	**38.65**	**308**	P		**P**	**16 11 55.1**	**-0.4**
COEN						IAmb	IAmb	16 12 20.7
	comp=Z,23nm,1.3s							
WR0	**Warramunga Arr**	**39.74**	**292**	P		**P**	**16 12 04.1**	**-0.5**
WR0						IAmb	IAmb	16 12 06.7
	comp=Z,5.2nm,1.0s							
WB2	**Warramunga Arr**	**39.88**	**292**	P		**P**	**16 12 05.2**	**-0.7**
WB2						IAmb	IAmb	16 12 08.3
	comp=Z,13nm,1.4s							
WRA	**Warramunga Arr**	**39.89**	**292**	P		**P**	**16 12 04.5**	**-1.4**
WRA	**Warramunga Arr**	**39.89**	**292**	P		**P**	**16 12 05.4**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=127,slow=8.4,SNR=11							
	comp=Z,1.9nm,0.6s							
PPT	**Papeete**	**39.92**	**63**	LR		LR	16 27 58.0	
	comp=Z,95nm,18.0s,baz=70,slow=35							
WB0	**Warramunga Arr**	**39.97**	**292**	P		**P**	**16 12 04.9**	**-1.7**
WB0						IAmb	IAmb	16 12 23.5
	comp=Z,14nm,1.3s							
PMG	**Port Moresby**	**40.24**	**317**	LR		LR	16 27 18.5	
	comp=Z,183nm,19.6s,baz=176,slow=34							
NWAO	**Narrogin (SRO)**	**44.87**	**263**	LR		LR	16 30 04.7	
	comp=Z,85nm,19.0s,baz=224,slow=34							
KNRA	**Kununurra**	**46.66**	**291**	P		**P**	**16 13 00.3**	**-0.3**
MTN	**Manton Dam**	**47.06**	**296**	P		**P**	**16 13 03.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**47.22**	**286**	P		**P**	**16 13 03.1**	**-1.8**
FITZ						IAmb	IAmb	16 13 14.6
	comp=Z,2.3nm,1.2s							
QSPA	**South Pole Qui**	**47.70**	**180**	P		**P**	**16 13 11.8**	**+3.5**
	comp=Z,0.8nm,0.8s,baz=78,slow=10,SNR=1.4							
	comp=Z,0.8nm,0.8s							
MBWA	**Marble Bar**	**49.55**	**278**	P		**P**	**16 13 20.2**	**-2.6**
MBWA						IAmb	IAmb	16 13 32.8
	comp=Z,11nm,1.2s							
MAW	**Mawson**	**58.63**	**205**	LR		LR	16 38 52.8	
	comp=Z,122nm,19.2s,baz=258,slow=35							
NJ2	**Nanjing**	**89.55**	**316**	*eP*		**P**	**16 17 32.2**	**+3.2**
NJ2						pmax	pmax	
	comp=Z,12nm,1.0s							
KSRS	**Korea Array**	**89.73**	**325**	P		**P**	**16 17 29.8**	**0.0**
	comp=Z,1.4nm,0.7s,baz=138,slow=6.1,SNR=4.3							
KSRS						LR	LR	16 56 19.5
	comp=Z,16nm,19.4s,baz=80,slow=35							
	comp=Z,1.4nm,0.7s							
CMAR	**Chiang Mai Arr**	**91.46**	**294**	P		**P**	**16 17 39.3**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=156,slow=3.2,SNR=6.7							
	comp=Z,0.8nm,0.6s							
PZH	**PanZhiHua**	**95.26**	**301**	P		**P**	**16 17 57.9**	**+2.1**
PZH						pmax	pmax	
	comp=Z,10.0nm,0.5s							
PZH						pmax	pmax	
	comp=Z,70nm,5.9s							
LPIG	**La Paz**	**96.34**	**63**	LR		LR	16 53 04.3	
	comp=Z,47nm,20.1s,baz=290,slow=30							
HHC	**Hu-ho-hao-te**	**100.05**	**317**	*eP*		**Pdif**	**16 18 19.2**	**+2.2**
HHC						pmax	pmax	
	comp=Z,9.0nm,0.7s							
HHC						pmax	pmax	
	comp=Z,99nm,5.7s							
YKA	**Yellowknife Ar**	**119.21**	**30**	PKP		**PKPdf**	**16 23 19.8**	**0.0**
	comp=Z,0.1nm,0.4s,baz=264,slow=2.0,SNR=6.0							
KURBB	**Kurchatov Arra**	**124.04**	**310**	PKP		**PKPdf**	**16 23 28.4**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=103,slow=1.8,SNR=5.9							
KBZ	**Khabaz**	**144.39**	**289**	PKP		**PKPab**	**16 24 05.5**	**-0.2**
	comp=Z,4.

STKA	**Stephens Creek**	**2.57**	**88**	P		**Pn**	**16 38 16.5**	**+0.8**
	baz=2.5,SNR=18							
STKA	**Stephens Creek**	**2.57**	**88**	P		**Pn**	**16 38 17.1**	**+1.4**
STKA	**Stephens Creek**	**2.57**	**88**	Pn		**Pn**	**16 38 16.6**	**+0.9**
	2.0nm,0.3s,baz=279,slow=15,SNR=23							
STKA				Pg		**Pb**	**16 38 20.3**	**-0.9**
	2.0nm,0.3s,baz=278,slow=14,SNR=12							
STKA				Lg		Lg	16 38 52.7	
	2.2nm,0.3s,baz=168,slow=23,SNR=6.4							
	4.0nm,0.3s							
MULG	**Mulgathing**	**4.24**	**293**	P		**Pn**	**16 38 40.5**	**+1.8**
	baz=4.3							
MULG				S		**Sn**	**16 39 29.7**	**+2.5**
	baz=4.3							
MULG	**Mulgathing**	**4.24**	**293**	P		**Pn**	**16 38 41.2**	**+2.6**
INKA	**Innaminka**	**4.66**	**24**	P		**Pn**	**16 38 45.4**	**+1.0**
	baz=4.7,SNR=3.2							
INKA	**Innaminka**	**4.66**	**24**	P		**Pn**	**16 38 46.2**	**+1.8**
OOD	**Oodnadatta**	**4.90**	**329**	P		**Pn**	**16 38 49.6**	**+2.0**
	baz=5.0							
OOD	**Oodnadatta**	**4.90**	**329**	P		**Pn**	**16 38 50.5**	**+2.8**
ARPS	**Mount Arapiles**	**5.45**	**151**	P		**Pn**	**16 38 56.0**	**+0.8**
	baz=5.4							
ARPS				S		**Sn**	**16 39 55.3**	**-1.8**
	baz=5.4							
ARPS	**Mount Arapiles**	**5.45**	**151**	P		**Pn**	**16 38 59.0**	**+3.8**
CMSA	**Cobar Meteorol**	**6.08**	**87**	P		**Pn**	**16 39 04.1**	**+0.2**
	baz=6.0							
FORT	**Forrest**	**9.07**	**275**	P		**Pn**	**16 39 45.9**	**+1.0**
	baz=9.1							
ASAR	**Alice Springs**	**9.29**	**332**	Pn		**Pn**	**16 39 48.0**	**0.0**
	0.1nm,0.3s,baz=167,slow=8.6,SNR=6.8							
ASAR				Sn		**Sn**	**16 41 27.1**	**-4.6**
	baz=155,slow=23,SNR=2.1							
	0.2nm,0.8s							
WRA	**Warramunga Arr**	**12.62**	**341**	Pn		**Pn**	**16 40 30.9**	**-2.7**
	0.4nm,0.9s,baz=156,slow=12,SNR=0.5							

DJA 07 16:58:38.2±0.4, 0°S±3°×12°3E±°, h114km±6km, M3.7/11, mb4.0/2, MLv3.5/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.97**	**212**	P	Pn	16 58 59.9	+0.5
LUWI				S	Sn	16 59 16.1	+0.7
KMSI	**Cibinong**	**1.05**	**41**	P	Pn	16 59 01.0	+0.8
KMSI				S	Sn	16 59 18.6	+1.7
MRSI	**Marisa**	**1.52**	**297**	P	Pn	16 59 05.0	-0.4
SANI	**Sanana**	**3.25**	**124**	P	Pn	16 59 26.4	-1.3
MPSI	**Mapaga**	**3.44**	**279**	P	Pn	16 59 31.4	+1.3
LBMI	**Labuha**	**4.23**	**96**	P	Pn	16 59 40.3	-0.5
TTSI	**Tana Toraja**	**4.46**	**231**	P	Pn	16 59 44.3	+0.4
BBSI	**Bau Bau**	**5.28**	**188**	P	Pn	16 59 55.0	+0.1
	33nm,0.8s,0.1nm						
TWSI	**Taliwang, Sumb**	**10.60**	**217**	P	Pn	17 01 07.1	+0.2

*IDC **07** 17:00:02.5±3.4, 47°34N×93°21W, h0km, mbtmp2.9/3, ML1.6/2, Error ellipse: s-maj=42.5km s-min=17.1km az=86.0*
*NEIC **07** 17:00:03.2±1.2, 47°.45N±0°.02×93°.13W±0°.05, h0km±1km, mb_Lg2.6/12, ML2.5/4, mb_Lg2.6(OTT), Error ellipse: s-maj=5.7km s-min=3.4km az=289.0*
*OTT **07** 17:00:03.1±0.2, 47°.40N×93°.00W, h0km, MN2.6/8, Blast, Minnesota, U.S. 137km south from Fort Frances, On Mining explosion.*

ISC 07 17:00:02.2±0.9, 47°43N±0°.04×93°03W±0°.03, h0km, n38, σ0s95/40, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
B35A	**Bob, Littlefor**	**1.04**	**333**		**Pg**	**17 00 22.5**	**+0.2**
B35A				IAML		17 00 41.5	
	comp=N,143nm,0.9s						
EYMN	**Ely**	**1.16**	**63**		**Pg**	**17 00 24.7**	**+0.3**
EYMN				IAML		17 00 48.0	
	comp=N,90nm,1.6s						
EYMN	**Ely**	**1.16**	**63**	PG	**Pg**	**17 00 24.7**	**+0.3**
EYMN				SG	**Sg**	**17 00 38.9**	**-0.5**
E38A	**The Farm, Brul**	**1.30**	**129**		**Pb**	**17 00 27.7**	**+0.2**
F36A	**Milaca**	**1.60**	**193**		**Pn**	**17 00 31.9**	**+0.1**
F36A				IAmb_Lg		17 00 54.2	
	comp=Z,43nm,0.8s						
ATKO	**Atikokan Iron**	**1.69**	**34**	Pn	**Pb**	**17 00 34.3**	**+0.1**
ATKO					**Sb**	**17 00 56.4**	**+0.4**
ATKO	**Atikokan Iron**	**1.69**	**34**	PN	**Pb**	**17 00 34.3**	**+0.1**
ATKO				SN	**Sb**	**17 00 56.4**	**+0.4**
ATKO				Trac		17 00 59.0	
	comp=Z,24nm,0.3s						
AGMN	**Agassiz Nation**	**2.10**	**296**		**Pn**	**17 00 38.0**	**-0.6**
SPMN	**Marine on St.**	**2.21**	**176**		**Pn**	**17 00 40.7**	**+0.6**
SPMN				IAmb_Lg		17 01 14.7	
	comp=Z,28nm,0.9s						
EPLO	**Experimental L**	**2.29**	**349**	Pn	**Pn**	**17 00 42.4**	**+1.1**
EPLO					**Sn**	**17 01 11.5**	**+1.2**
EPLO	**Experimental L**	**2.29**	**349**	PN	**Pn**	**17 00 42.4**	**+1.1**
EPLO	**Experimental L**	**2.29**	**349**	SN	**Sn**	**17 01 11.5**	**+1.2**
EPLO				Trac		17 01 16.1	
	comp=Z,17nm,0.3s						
SOLO	**Sioux Lookout**	**2.67**	**13**	Pn	**Pn**	**17 00 47.4**	**+0.9**
SOLO	**Sioux Lookout**	**2.67**	**13**	PN	**Pn**	**17 00 47.4**	**+0.9**
SOLO	**Sioux Lookout**	**2.67**	**13**	SN	**Sn**	**17 01 20.1**	**+0.6**
SOLO				Trac		17 01 27.0	
	comp=Z,4.2nm,0.2s						
TBO	**Thunder Bay**	**2.72**	**62**	Pn	**Pn**	**17 00 47.5**	**+0.3**
TBO	**Thunder Bay**	**2.72**	**62**	PN	**Pn**	**17 00 47.5**	**+0.3**
TBO	**Thunder Bay**	**2.72**	**62**	SN	**Sn**	**17 01 20.1**	**-0.5**
TBO				Trac		17 01 36.2	
	comp=Z,9.9nm,0.3s						
D32A	**Dogwood Acres,**	**2.73**	**265**	IAmb_Lg		17 01 32.0	
	comp=Z,22nm,0.8s						
F33A	**5 Mile Ranch,**	**2.76**	**236**		**Pn**	**17 00 48.2**	**+0.5**
G40A	**Rib Lake**	**2.92**	**137**	Pn	**Pn**	**17 00 50.8**	**+0.9**
COWI	**Conover**	**2.98**	**115**	Pn	**Pn**	**17 00 52.2**	**+1.4**
COWI				IAmb_Lg		17 01 48.3	
	comp=Z,18nm,1.0s						
D41A	**Chassel**	**3.06**	**95**	Pn	**Pn**	**17 00 53.4**	**+1.6**
ULM	**Lac du Bonnet**	**3.39**	**327**	Pn	**Pn**	**17 00 56.7**	**+0.3**
ULM				IAmb_Lg		17 01 52.0	
	comp=Z,18nm,0.8s						
ULM	**Lac du Bonnet**	**3.39**	**327**	Pn	**Pn**	**17 00 56.2**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=157,slow=7.7,SNR=1.8						
ULM				Pg	**Pb**	**17 01 03.7**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=139,slow=15,SNR=5.1						
ULM				Sn	**Sn**	**17 01 36.4**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=100,slow=11,SNR=5.0						
ULM				Lg	Lg	17 01 46.0	
	comp=Z,1.8nm,0.3s,baz=191,slow=17,SNR=17						
	comp=Z,0.9nm,0.5s						
ULM	**Lac du Bonnet**	**3.39**	**327**	PN	**Pn**	**17 00 56.9**	**+0.5**
ULM	**Lac du Bonnet**	**3.39**	**327**	SN	**Sn**	**17 01 37.4**	**0.0**
ULM				Trac		17 01 48.4	
	comp=Z,28nm,0.6s						
I10CA	**LAC DU BONNET**	**3.41**	**326**	I	I	17 22 30.0	
	baz=142,slow=331,SNR=7.3						
E43A	**Lone Tree Farm**	**4.26**	**102**	Pn	**Pn**	**17 01 10.2**	**+1.8**
PKLO	**Pickle Lake**	**4.43**	**22**	PN	**Pn**	**17 01 10.9**	**+0.2**
PKLO	**Pickle Lake**	**4.43**	**22**	SN	**Sn**	**17 02 01.5**	**-1.4**
PKLO				LG	Lg	17 02 22.7	
PKLO				Trac		17 02 24.3	
	comp=Z,4.5nm,0.4s						
GTO	**Geraldton**	**4.64**	**58**	PN	**Pn**	**17 01 13.4**	**-0.2**
GTO	**Geraldton**	**4.64**	**58**	SN	**Sn**	**17 02 06.1**	**-2.1**
GTO				Trac		17 02 36.8	
	comp=Z,1.4nm,0.1s						
PNPO	**Pukaskwa Natio**	**4.67**	**73**	PN	**Pn**	**17 01 13.8**	**-0.1**
PNPO	**Pukaskwa Natio**	**4.67**	**73**	SN	**Sn**	**17 02 06.7**	**-2.2**
PNPO				Trac		17 02 35.0	
	comp=Z,3.3nm,0.3s						
JFWS	**Jewell Farm**	**4.92**	**155**	IAmb_Lg		17 02 37.1	
	comp=Z,14nm,0.8s						
PDAR	**Pinedale Array**	**12.57**	**254**	Pn	Pn	17 02 58.0	-4.5
	comp=Z,0.3nm,0.5s,baz=75,slow=12,SNR=1.0						
YKA	**Yellowknife Ar**	**19.37**	**329**	P	**P**	**17 04 27.7**	**-1.5**
	baz=129,slow=12,SNR=4.9						
	comp=Z,0.4nm,0.9s						

IDC 07 17:15:05.5±1.9, 5°87S×141°83E, h0km, mb4.0/1, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=251.2km s-min=33.5km az=114.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.77**	**207**	Pn	Pn	17 18 47.7	-1.4
	0.2nm,0.3s,baz=28,slow=14,SNR=12						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**19.27**	**203**	P	Pn	17 19 32.4	-0.4
	0.1nm,0.3s,baz=32,slow=10,SNR=6.1						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**87.42**	**24**	P	P	17 27 54.5	0.0
	0.9nm,0.8s,baz=233,slow=5.0,SNR=6.4						
	0.9nm,0.8s						

*DJA **07** 17:15:28.1±0.6, 8°N±5°×12°7E±°, h63km±5km, M4.7/22, mB5.0/7, mb4.6/22, MLv5.0/7, Mw(mB)4.4/7*
*NEIC **07** 17:15:29.7±2.3, 7°.50N±0°.08×126°.81E±0°.09, h82km±7km, mb4.4/52, Error ellipse: s-maj=13.3km s-min=11.6km az=64.0*
*IDC **07** 17:15:30.1±1.6, 7°.50N×126°.71E, h92km±13km, mb3.7/16, mbtmp4.1/16, MS3.1/6, Error ellipse: s-maj=22.5km s-min=12.1km az=79.0*

ISC 07 17:15:30.9±0.4, 7°41N±0°.05×126°71E±0°.07, h100km, n112, σ1s49/116, mb4.3/42, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.17**	**253**		**Pn**	**17 15 52.2**	**-1.0**
DAV	**Davao City (W)**	**1.17**	**253**	P	**Pn**	**17 15 53.8**	**+0.6**
DAV	**Davao City (W)**	**1.17**	**253**	P	**Pn**	**17 15 52.8**	**-0.4**
	561nm,0.3s,baz=87,slow=1.6,SNR=22						
DAV				LR	LR	17 16 08.4	
	comp=Z,110nm,20.6s,baz=76,slow=32						
DAV				S	**Sn**	**17 16 09.0**	**-1.0**
	3μm,0.5s,baz=252,slow=21,SNR=9.8						
DAV	**Davao City (W)**	**1.17**	**253**	i/P	**Pn**	**17 15 53.0**	**-0.2**
SGSI	**Sangihe**	**3.88**	**198**	P	**Pn**	**17 16 29.2**	**+0.7**
TNTI	**Ternate**	**6.63**	**174**	Pn	**Pn**	**17 17 04.2**	**-1.5**
TNTI				Sn	**Sn**	**17 18 17.3**	**-2.5**
TNTI	**Ternate**	**6.63**	**174**	P	**Pn**	**17 17 05.0**	**-0.7**
TNTI	**Ternate**	**6.63**	**174**	P	**Pn**	**17 17 05.3**	**-0.4**
	43nm,0.6s,0.2nm						
KMSI	**Cibinong**	**7.31**	**202**	P	**Pn**	**17 17 15.3**	**+0.2**
	145nm,0.7s,0.6nm						
GTOI	**Gorontalo**	**7.67**	**209**	P	**Pn**	**17 17 19.4**	**-0.5**
	64nm,0.7s,634nm0.3nm						
LBMI	**Labuha**	**8.03**	**174**	P	**Pn**	**17 17 23.8**	**-1.1**
	42nm,1.0s,1μm						
MRSI	**Marisa**	**8.37**	**215**	P	**Pn**	**17 17 29.2**	**-0.2**
	52nm,0.5s,801nm						
TOLI2	**Tolitoli**	**8.60**	**224**	Pn	**Pn**	**17 17 30.7**	**-1.9**
TOLI2				Sn	**Sn**	**17 19 00.2**	**-7.8**
TOLI2	**Tolitoli**	**8.60**	**224**	P	**Pn**	**17 17 31.0**	**-1.6**
LUWI	**Luwuk**	**9.27**	**205**		**Pn**	**17 17 42.1**	**+0.5**
LUWI	**Luwuk**	**9.27**	**205**	P	**Pn**	**17 17 44.1**	**+2.4**
	84nm,1.2s,819nm						
SWI	**Sorong**	**9.39**	**151**	P	**Pn**	**17 17 40.8**	**-2.5**
SANI	**Sanana**	**9.42**	**184**	P	**Pn**	**17 17 41.2**	**-2.6**
SANI	**Sanana**	**9.42**	**184**	P	Pn	17 17 39.4	-4.4
	22nm,0.7s						
MPSI	**Mapaga**	**9.77**	**224**	P	**Pn**	**17 17 48.3**	**-0.2**
	4.8nm,0.7s						
NLAI	**Namlea**	**10.58**	**178**	P	**Pn**	**17 17 57.0**	**-2.6**
	22nm,1.0s						
FAKI	**Fak Fak**	**11.66**	**151**	Pn	**Pn**	**17 18 13.0**	**-1.1**
FAKI				Sn	Sn	17 20 12.9	-9.5
FAKI	**Fak Fak**	**11.66**	**151**	P	**Pn**	**17 18 13.7**	**-0.4**
FAKI	**Fak Fak**	**11.66**	**151**	P	**Pn**	**17 18 12.8**	**-1.3**
	58nm,1.2s						
SBUM	**Sibu**	**15.24**	**252**		**P**	**17 19 05.5**	**+2.1**
SBUM				IAmb	IAmb	17 19 08.0	
	comp=Z,36nm,0.8s						
EDFI	**Ende, Flores**	**16.81**	**197**	P	**P**	**17 19 23.5**	**+2.6**
	comp=Z,10nm,0.8s						
SOEI	**Soe**	**17.22**	**188**		**Pn**	**17 19 28.3**	**+2.9**
SOEI				IAmb	IAmb	17 19 53.0	
	comp=Z,24nm,0.8s						
SOEI	**Soe**	**17.22**	**188**	P	**Pn**	**17 19 27.0**	**+1.6**
SOEI	**Soe**	**17.22**	**188**	P	**Pn**	**17 19 28.0**	**+2.6**
	comp=Z,32nm,1.3s						
PLAI	**Plampang**	**18.42**	**209**	P	**Pn**	**17 19 40.4**	**+0.6**
PLAI	**Plampang**	**18.42**	**209**	P	**Pn**	**17 19 39.8**	**0.0**
	comp=Z,23nm,0.7s,comp=Z,1μm						
TWSI	**Taliwang, Sumb**	**18.79**	**212**	P	**Pn**	**17 19 44.7**	**+0.5**
	comp=Z,18nm,0.6s						
JAGI	**Jajag, Banyuwa**	**20.13**	**219**	P	Pn	17 20 01.6	+1.7
	comp=Z,18nm,0.7s						
MTN	**Manton Dam**	**20.60**	**168**	P	**P**	**17 20 01.1**	**-0.9**
MTN				IAmb	IAmb	17 20 41.5	
	comp=Z,17nm,1.0s						
KPJI	**Karang Pucung**	**22.99**	**231**	P	**P**	**17 20 30.7**	**+3.4**
	comp=Z,16nm,1.3s						
KNRA	**Kununurra**	**23.03**	**175**	P	**P**	**17 20 28.2**	**+0.6**
MYKOM	**Kota Tinggi**	**23.45**	**257**	P	**P**	**17 20 33.4**	**+1.9**
MYKOM				IAmb	IAmb	17 20 35.0	
	comp=Z,16nm,0.9s						
FITZ	**Fitzroy Crossi**	**25.37**	**182**	P	**P**	**17 20 49.1**	**+0.2**
PMG	**Port Moresby**	**26.35**	**129**	LR	LR	17 32 29.8	
	comp=Z,43nm,20.5s,baz=244,slow=39						
WB0	**Warramunga Arr**	**28.05**	**164**	P	**P**	**17 21 11.3**	**-1.6**
WB0				IAmb	IAmb	17 21 54.6	
	comp=Z,22nm,1.5s						
WRA	**Warramunga Arr**	**28.20**	**165**	P	**P**	**17 21 13.7**	**-0.6**
WRA	**Warramunga Arr**	**28.20**	**165**	P	**P**	**17 21 14.1**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=343,slow=10,SNR=3.3						
WRA				PcP	**PcP**	**17 24 26.5**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=336,slow=2.5,SNR=5.5						
	comp=Z,0.6nm,0.7s						
WB2	**Warramunga Arr**	**28.20**	**165**	P	**P**	**17 21 12.0**	**-2.4**
WB2				IAmb	IAmb	17 21 18.1	
	comp=Z,10nm,1.2s						
WR0	**Warramunga Arr**	**28.27**	**164**	P	**P**	**17 21 15.0**	**+0.1**
CRAI	**Chiangrai**	**28.51**	**299**	P	**P**	**17 21 17.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**29.15**	**295**	P	**P**	**17 21 23.3**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=93,slow=10.0,SNR=5.5						
CMAR				LR	LR	17 33 52.9	
	comp=Z,22nm,18.4s,baz=340,slow=38						
	comp=Z,0.4nm,0.4s						
MBWA	**Marble Bar**	**29.20**	**193**	P	**P**	**17 21 24.1**	**+1.0**
MBWA				IAmb	IAmb	17 21 34.2	
	comp=Z,12nm,1.2s						
PSA00	**Pilbara Seismi**	**29.58**	**193**	P	**P**	**17 21 27.2**	**+0.8**
PSA00				IAmb	IAmb	17 21 28.7	
	comp=Z,16nm,1.5s						
GSI	**Gunungsitoli**	**29.66**	**260**	P	**P**	**17 21 27.0**	**-0.3**
GSI				IAmb	IAmb	17 21 29.2	
	comp=Z,17nm,1.3s						
KSRS	**Korea Array**	**29.93**	**2**	P	**P**	**17 21 29.1**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=178,slow=10,SNR=6.6						
KSRS				LR	LR	17 32 35.8	
	comp=Z,8.8nm,21.6s,baz=230,slow=34						
	comp=Z,2.5nm,0.7s						
PZH	**PanZhiHua**	**30.40**	**312**	P	**P**	**17 21 37.2**	**+3.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,70nm,5.8s						
MJAR	**Matsushiro Arr**	**30.84**	**18**	LR	LR	17 32 39.9	
	comp=Z,37nm,21.7s,baz=188,slow=34						
AS31	**Alice Springs**	**31.68**	**167**	P	**P**	**17 21 45.1**	**+0.1**
ASAR	**Alice Springs**	**31.68**	**167**	P	**P**	**17 21 45.7**	**+0.7**
ASAR	**Alice Springs**	**31.68**	**167**	P	**P**	**17 21 45.3**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=341,slow=7.7,SNR=20						
ASAR				PcP	**PcP**	**17 24 36.0**	**+1.1**
	comp=Z,1.7nm,0.4s,baz=346,slow=2.3,SNR=17						
ASAR				ScP	**ScP**	**17 28 11.6**	**+2.4**
	comp=Z,0.7nm,1.1s,baz=350,slow=3.2,SNR=4.8						
	comp=Z,0.5nm,0.4s						
JMM	**Marumori**	**32.90**	**21**	P	**P**	**17 21 53.8**	**-1.7**
HHC	**Hu-ho-hao-te**	**35.93**	**340**	eP	**P**	**17 22 24.4**	**+2.6**
HHC				pmax	pmax		
	comp=Z,13nm,0.5s						
HHC				pmax	pmax		
	comp=Z,73nm,4.8s						
USA0B	**Ussuriysk Arra**	**36.94**	**6**	P	**P**	**17 22 29.8**	**-0.4**
USRK	**Ussuriysk Ar.**	**36.94**	**6**	P	**P**	**17 22 29.6**	**-0.5**
USRK	**Ussuriysk Ar.**	**36.94**	**6**	P	**P**	**17 22 29.8**	**-0.4**
	comp=Z,3.5nm,0.5s,baz=185,slow=8.1,SNR=18						
	comp=Z,3.5nm,0.5s						
MORW	**Morawa**	**37.69**	**195**	P	**P**	**17 22 38.1**	**+1.4**
FORT	**Forrest**	**37.99**	**178**	P	**P**	**17 22 39.8**	**+0.6**
BBOO	**Buckleboo**	**40.98**	**168**	P	**P**	**17 23 04.8**	**+0.8**
NWAO	**Narrogin (SRO)**	**41.11**	**192**	P	**P**	**17 23 06.5**	**+1.4**
STKA	**Stephens Creek**	**41.57**	**161**	P	**P**	**17 23 09.2**	**+0.3**
STKA	**Stephens Creek**	**41.57**	**161**	P	**P**	**17 23 09.4**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=4.6,slow=13,SNR=4.2						
	comp=Z,1.2nm,0.5s						
KLR	**Kul'dur**	**41.90**	**5**	P	**P**	**17 23 10.7**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=190,slow=6.4,SNR=12						
KLR				LR	LR	17 41 12.4	
	comp=Z,29nm,18.4s,baz=175,slow=37						
	comp=Z,1.6nm,0.5s						
SONM	**Songino Array**	**43.84**	**340**	P	**P**	**17 23 25.9**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=140,slow=5.4,SNR=2.8						
	comp=Z,0.5nm,0.7s						
MK31	**Makanchi Array**	**54.56**	**324**	P	**P**	**17 24 48.2**	**-0.6**
MK31				IAmb	IAmb	17 24 50.9	
	comp=Z,2.2nm,0.8s						
MKAR	**Makanchi Array**	**54.56**	**324**	P	**P**	**17 24 48.2**	**-0.6**
MKAR	**Makanchi Array**	**54.56**	**324**	P	**P**	**17 24 48.5**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=115,slow=7.8,SNR=71						
MKAR				PcP	**PcP**	**17 25 50.5**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=117,slow=4.2,SNR=5.8						
	comp=Z,1.8nm,0.5s						
MAKZ	**Makanchi**	**54.76**	**324**	P	**P**	**17 24 49.6**	**-0.6**
MAKZ				IAmb	IAmb	17 24 52.8	
	comp=Z,7.4nm,1.4s						
MA2	**Magadan**	**55.17**	**15**	P	**P**	**17 24 52.7**	**-0.2**
MA2				IAmb	IAmb	17 24 54.5	
	comp=Z,3.9nm,0.7s						
KSH	**Kashi**	**55.48**	**313**	P	**P**	**17 24 57.9**	**+2.3**
KSH				pmax	pmax		
	comp=Z,3.0nm,2.0s						
ZALV	**Zalesovo Beam**	**57.33**	**332**	P	**P**	**17 25 05.8**	**-2.5**
ZALV	**Zalesovo Beam**	**57.33**	**332**	P	**P**	**17 25 06.3**	**-2.1**
	comp=Z,0.8nm,0.4s,baz=113,slow=5.7,SNR=4.9						
ZALV				PcP	**PcP**	**17 26 00.2**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=145,slow=5.3,SNR=2.0						
	comp=Z,0.8nm,0.4s						
AAK	**Ala-Archa**	**57.66**	**316**	P	**P**	**17 25 11.0**	**-0.1**
DRK	**Karamyk**	**58.51**	**312**	P	**P**	**17 25 16.8**	**-0.4**
KURK	**Kurchatov**	**58.66**	**326**	P	**P**	**17 25 16.4**	**-1.3**
KURK				IAmb	IAmb	17 25 19.6	
	comp=Z,5.9nm,1.1s						
KURBB	**Kurchatov Arra**	**58.67**	**326**	P	**P**	**17 25 17.2**	**-0.6**
	comp=Z,2.3nm,0.7s,baz=124,slow=6.5,SNR=17						
BTK	**Batken**	**59.40**	**312**	P	**P**	**17 25 21.9**	**-1.3**
BTK				IAmb	IAmb	17 25 23.6	
	comp=Z,4.4nm,1.1s						
GAR	**Garm**	**59.47**	**311**	P	**P**	**17 25 22.9**	**-0.8**
CHGR	**Chuyangaron**	**60.24**	**310**	P	**P**	**17 25 27.5**	**-1.5**
KK31	**Karatay Array**	**60.57**	**316**	P	**P**	**17 25 29.8**	**-1.2**
KK31				IAmb	IAmb	17 25 31.2	
	comp=Z,3.8nm,0.7s						
KKAR	**Karatay Array**	**60.57**	**316**	P	**P**	**17 25 29.6**	**-1.4**
KKAR	**Karatay Array**	**60.57**	**316**	P	**P**	**17 25 29.9**	**-1.1**
KKAR				IAmb	IAmb	17 25 31.2	
	comp=Z,3.8nm,0.7s						
TIXI	**Tiksi**	**64.19**	**1**	P	**P**	**17 25 54.4**	**-0.1**
TIXI	**Tiksi**	**64.19**	**1**	P	**P**	**17 25 53.9**	**-0.6**
	comp=Z,3.6nm,0.4s,baz=203,slow=4.9,SNR=4.1						
	comp=Z,3.6nm,0.4s						
BVAR	**Borovoye Array**	**64.26**	**326**	P	**P**	**17 25 55.0**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=96,slow=5.2,SNR=5.7						
BVAR				PcP	**PcP**	**17 26 28.3**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=104,slow=6.1,SNR=5.8						
	comp=Z,0.8nm,0.5s						
ABKAR	**Akbulak array**	**69.32**	**320**	P	**P**	**17 26 26.6**	**-1.0**
E18K	**Tukpahlearik C**	**76.58**	**22**	P	**P**	**17 27 11.2**	**+1.1**
C18K	**Utukok River**	**76.65**	**21**	P	**P**	**17 27 10.7**	**+0.1**
C19K	**Lookout Ridge**	**77.33**	**21**	P	**P**	**17 27 15.4**	**+1.1**
C19K				IAmb	IAmb	17 27 32.5	
	comp=Z,5.7nm,1.1s						
RAR	**Rarotonga**	**77.50**	**114**	LR	LR	17 57 50.6	
	comp=Z,35nm,21.6s,baz=172,slow=33						
D19K	**Kuna River**	**77.72**	**21**	P	**P**	**17 27 17.5**	**+1.0**
RAYN	**Ar Rayn**	**79.04**	**292**	P	**P**	**17 27 24.2**	**-0.4**
RAYN				IAmb	IAmb	17 27 25.3	
	comp=Z,4.5nm,0.7s						
B21K	**Ikpikpuk River**	**79.16**	**20**	P	**P**	**17 27 24.7**	**+0.4**
B21K				IAmb	IAmb	17 27 41.9	
	comp=Z,2.5nm,0.7s						
D22K	**Ayikyak River**	**79.75**	**21**	P	**P**	**17 27 28.5**	**+0.9**
BPAW	**Bear Paw Mtn.**	**80.02**	**26**	P	**P**	**17 27 29.0**	**-0.1**
BPAW				IAmb	IAmb	17 27 47.1	
	comp=Z,5.7nm,1.2s						
C23K	**Itkillik River**	**80.56**	**20**	P	**P**	**17 27 32.7**	**+0.8**
C23K				IAmb	IAmb	17 27 57.0	
	comp=Z,5.3nm,1.3s						
H24K	**Noodor Dome**	**81.41**	**25**	P	**P**	**17 27 37.1**	**+0.6**
H24K				IAmb	IAmb	17 27 40.6	
	comp=Z,6.6nm,1.4s						
ILAR	**Eielson Array**	**81.81**	**26**	P	**P**	**17 27 38.0**	**-0.6**
	comp=Z,0.4nm,0.6s,

12nm,0.4s
KPKS Kokpek 4.13 298 *e*P **Pb 17 36 30.4 -3.7**
7.0nm,0.3s
KPKS *e*S **Sb 17 37 21.7 -2.4**
15nm,0.4s
KPKS Kokpek 4.13 298 Pg **Pb 17 36 30.4 -3.7**
7.0nm,0.3s
KPKS Lg Lg 17 37 21.7
15nm,0.4s
SATY Saty 4.18 291 *e*P **Pn 17 36 28.5 +3.4**
2.0nm,0.3s
SATY *e*S **Sn 17 37 18.3 +4.3**
11nm,0.2s
SATY Saty 4.18 291 Pg **Pn 17 36 28.5 +3.4**
2.0nm,0.3s
SATY Lg Lg 17 37 18.3
11nm,0.2s
KNOS Konyrlen 4.28 310 Pg **Pg 17 36 39.4 -3.8**
6.0nm,0.2s
KNOS Lg Lg 17 37 37.1
13nm,0.4s
BLB Baldybastay 4.56 304 Pg **Pb 17 36 40.6 -0.6**
5.8nm,0.1s
BLB Lg Lg 17 37 38.9
7.9nm,0.2s
KAPS Kapalarasan 4.81 320 *e*P **Pg 17 36 51.1 -2.3**
9.4nm,0.3s
KAPS *e*S **Sg 17 37 57.1 +1.4**
13nm,0.4s
KAPS Kapalarasan 4.81 320 Pg **Pg 17 36 51.1 -2.3**
9.4nm,0.3s
KAPS Lg Lg 17 37 57.1
13nm,0.4s
MDOK Medeo 5.16 289 ⇑Pg **Pg 17 36 57.4 -2.6**
1.9nm,0.4s
MDOK Lg Lg 17 38 07.9
23nm,0.9s
MK31 Makanchi Array 5.23 349 ⇑Pn **Pn 17 36 39.1 -0.3**
0.1nm,0.1s,baz=162,slow=13,SNR=26
MK31 ⇓Pg **Pb 17 36 53.2 +0.6**
1.9nm,0.5s,baz=162,slow=16,SNR=24
MK31 ⇑Lg Lg 17 38 01.0
5.0nm,0.5s,baz=158,slow=28,SNR=4.2
MAKZ Makanchi 5.29 347 ⇑Pn **Pn 17 36 40.0 -0.2**
1.7nm,0.9s
MAKZ ⇑Pg **Pb 17 36 55.1 +1.4**
2.3nm,0.5s
MAKZ ⇓Lg Lg 17 38 03.2
4.3nm,0.5s
KTBS Karatobe 5.58 294 *e*P **Pb 17 36 57.7 -0.9**
1.2nm,0.4s
KTBS *e*S **Sb 17 38 08.4 +2.9**
8.6nm,0.5s
KTBS Karatobe 5.58 294 Pg **Pb 17 36 57.7 -0.9**
1.2nm,0.4s
KTBS Lg Lg 17 38 08.4
8.6nm,0.5s
TKM2 Tokmak 2 6.16 284 ⇑Lg Lg 17 38 39.4
4.8nm,0.6s
KRBS Karabastau 6.27 292 *e*P **Pb 17 37 07.9 -2.5**
0.6nm,0.2s
KRBS *e*S **Sb 17 38 25.6 +0.2**
1.3nm,0.5s
KRBS Karabastau 6.27 292 Pg **Pb 17 37 07.9 -2.5**
0.6nm,0.2s
KRBS Lg Lg 17 38 25.6
1.3nm,0.5s

*CRAAG **07** 17:35:53.9, 36°.38N × 3°.46E, Ml3.4, Algerie 03km NW Mihoub*
*IDC **07** 17:35:54.7 ± 2.4, 36°.40N × 3°.51E, h0km, mb3.2/1, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=46.2km s-min=29.0km az=15.0*
*MDD **07** 17:35:55.0 ± 0.5, 36°.32N × 3°.55E, h0km, Mb4.2/28, M_mb3.6/28, Error ellipse: s-maj=4.3km s-min=2.7km az=139.0*
*LDG **07** 17:35:58.6 ± 0.2, 36°.39N × 3°.49E, h10km, Ml3.0/9, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*

ISC 07 17:35:55.4 ± 0.9, 36°.43N ± 0°.04 × 3°.46E ± 0°.03, h10km, n48, σ1 9 66/78, 19C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADJB	**Djebel Djouab**	**0.27**	**184**	P	**Pg**	**17 36 00.2**	**-0.8**
ACHR	**Chrea**	**0.47**	**270**	P	**Pg**	**17 36 04.1**	**-0.6**
ABA	**Alger-Bouzarea**	**0.51**	**317**	P	**Pg**	**17 36 06.1**	**+0.8**
AKET	**Djebel Ketaf**	**0.51**	**138**	P	**Pg**	**17 36 04.4**	**-1.0**
ABRIN	**Birine**	**0.85**	**199**	P	**Pg**	**17 36 10.5**	**-1.2**
ABKD	**Sidi Amar**	**0.94**	**277**	P	**Pg**	**17 36 13.1**	**-0.3**
SET	**Setif**	**1.58**	**98**	P	**Pg**	**17 36 28.0**	**+2.2**
CKHR	**Kef el Ahmar**	**1.71**	**103**	P	**Pg**	**17 36 28.5**	**+0.3**
EIBI	**Ibiza**	**3.09**	**328**	Pn	**Pn**	**17 36 45.5**	**+1.2**
EIBI				Sn	**Sn**	**17 37 19.1**	**-2.2**
EIBI	**Ibiza**	**3.09**	**328**	Pn	**Pn**	**17 36 45.7**	**+1.5**
EIBI				⇑*i*Vmb_V		17 36 49.8	
	511nm,SNR=1.0						
EIBI				Sn	**Sn**	**17 37 20.8**	**-0.5**
CMAH	**Djebel Manchou**	**3.19**	**85**	P	**Pn**	**17 36 46.5**	**+0.7**
ETOS	**Mallorca**	**3.37**	**351**	Pn	**Pn**	**17 36 49.1**	**+0.9**
ETOS				Sn	**Sn**	**17 37 26.2**	**-2.0**
ETOS	**Mallorca**	**3.37**	**351**	Pn	**Pn**	**17 36 48.2**	**0.0**
ETOS				⇑*i*Vmb_V		17 36 50.4	
	464nm,SNR=0.7						
ETOS				Sn	**Sn**	**17 37 27.5**	**-0.8**
EBEN2	**Beniarda presa**	**3.67**	**309**	Pn	**Pn**	**17 36 54.0**	**+1.7**
EBEN2				⇑*i*Vmb_V		17 36 56.8	
	365nm,SNR=1.2						
EBEN2				Sn	**Sn**	**17 37 34.9**	**-0.7**
AFON	**Font Roja**	**3.89**	**306**	⇑*i*Vmb_V		17 37 00.0	
	168nm,SNR=1.0						
AFON				Sn	**Sn**	**17 37 42.5**	**+1.4**
EMUR	**La Murta**	**4.01**	**292**	Pn	**Pn**	**17 36 57.1**	**+0.1**
EMUR				⇑*i*Vmb_V		17 36 60.0	
	138nm,SNR=1.2						
EMUR				Sn	**Sn**	**17 37 44.7**	**+0.6**
ECOL	**Islas Columbre**	**4.10**	**329**	Pn	**Pn**	**17 36 58.8**	**+0.7**
ECOL				Sn	**Sn**	**17 37 46.8**	**+0.7**
EZAR	**Zarzadilla de**	**4.37**	**291**	Pn	**Pn**	**17 37 03.5**	**+1.6**
EZAR				⇑*i*Vmb_V		17 37 07.9	
	161nm,SNR=1.1						
EZAR				Sn	**Sn**	**17 37 54.3**	**+1.5**
ETOB	**Tobarra**	**4.55**	**301**	Pn	**Pn**	**17 37 06.4**	**+2.0**
ETOB				Sn	**Sn**	**17 37 55.0**	**-2.5**
ETOB	**Tobarra**	**4.55**	**301**	Pn	**Pn**	**17 37 05.8**	**+1.3**
ETOB				⇑*i*Vmb_V		17 37 10.6	
	248nm,SNR=1.7						
ETOB				Sn	**Sn**	**17 37 58.8**	**+1.3**
EVIV	**Cofrentes, Val**	**4.60**	**309**	Pn	**Pn**	**17 37 06.4**	**+1.3**
EVIV				⇑*i*Vmb_V		17 37 10.6	
	251nm,SNR=1.4						
EVIV				Sn	**Sn**	**17 37 57.4**	**-1.2**
ECHE	**Chera**	**4.71**	**313**	Pn	**Pn**	**17 37 08.9**	**+2.3**
ECHE	**Chera**	**4.71**	**313**	Pn	**Pn**	**17 37 06.4**	**-0.2**
ECHE				⇑*i*Vmb_V		17 37 12.2	
	155nm,SNR=0.9						
ECHE				Sn	**Sn**	**17 37 59.7**	**-1.6**
KEST	**Kesra**	**4.82**	**97**	Pn	**Pn**	**17 37 08.5**	**+0.5**
	0.9nm,0.3s,baz=252,slow=16,SNR=7.8						
KEST				Sn	**Sn**	**17 38 04.8**	**+0.9**
	0.2nm,0.3s,baz=171,slow=19,SNR=1.5						
	4.8nm,0.5s						
EMOS	**Mosqueruela**	**5.00**	**323**	Pn	**Pn**	**17 37 12.0**	**+1.3**
EMOS				⇑*i*Vmb_V		17 37 15.7	
	207nm,SNR=1.2						
EMOS				Sn	**Sn**	**17 38 07.5**	**-1.1**
ERTA	**Horta de San J**	**5.14**	**333**	Pn	**Pn**	**17 37 13.2**	**+0.7**
ERTA				⇑*i*Vmb_V		17 37 16.6	
	130nm,SNR=0.9						
ERTA				Sn	**Sn**	**17 38 10.1**	**-1.8**
EPOB	**Poblet**	**5.26**	**340**	Pn	**Pn**	**17 37 14.4**	**+0.3**
EPOB				⇑*i*Vmb_V		17 37 19.5	
	106nm,SNR=0.9						
EPOB				Sn	**Sn**	**17 38 14.4**	**-0.4**
EQES	**Quesada**	**5.40**	**287**	Pn	**Pn**	**17 37 16.3**	**+0.2**
EQES				⇑*i*Vmb_V		17 37 20.4	
	91nm,SNR=0.9						
EQES				Sn	**Sn**	**17 38 17.3**	**-1.0**
E0901	**Celadas (Terue**	**5.42**	**320**	Pn	**Pn**	**17 37 17.0**	**+0.6**
E0901				⇑*i*Vmb_V		17 37 24.0	
	193nm,SNR=1.3						
E0901				Sn	**Sn**	**17 38 16.7**	**-2.0**
VSL	**Villasalto**	**5.59**	**55**	Pn	**Pn**	**17 37 19.1**	**+0.5**
VSL				Sn	**Sn**	**17 38 20.7**	**-2.1**
EMIR	**Miracle**	**5.68**	**345**	⇑*i*Vmb_V		17 37 24.2	
	796nm,SNR=1.8						
EMIR				Sn	**Sn**	**17 38 23.9**	**-1.4**
ELGU	**Los Guajares,**	**5.72**	**277**	Pn	**Pn**	**17 37 21.8**	**+1.3**
ELGU				⇑*i*Vmb_V		17 37 28.2	
	114nm,SNR=1.0						
ELGU				Sn	**Sn**	**17 38 24.9**	**-1.3**
EJON	**La Jonquera**	**6.03**	**356**	Pn	**Pn**	**17 37 26.5**	**+1.8**
EJON	**La Jonquera**	**6.03**	**356**	Pn	**Pn**	**17 37 26.4**	**+1.8**
EJON				⇑*i*Vmb_V		17 37 27.6	
	530nm,SNR=1.4						
EJON				Sn	**Sn**	**17 38 30.6**	**-3.2**
ETOR	**Torete**	**6.15**	**317**	Pn	**Pn**	**17 37 28.5**	**+2.0**
ETOR				⇑*i*Vmb_V		17 37 32.8	
	117nm,SNR=0.9						
ETOR				Sn	**Sn**	**17 38 35.8**	**-1.1**
ESDC	**Sonseca Array**	**6.70**	**301**	Pn	**Pn**	**17 37 35.1**	**+1.2**
	0.2nm,0.3s,baz=111,slow=13,SNR=8.8						
	0.8nm,0.5s						
PAB	**San Pablo**	**6.91**	**299**	Pn	**Pn**	**17 37 36.9**	**+0.1**
PAB				⇑*i*Vmb_V		17 37 41.0	
	90nm,SNR=0.8						
PAB				Sn	**Sn**	**17 38 54.0**	**-1.5**
MTLF	**Montolieu**	**6.97**	**352**	*e*Pn	**Pn**	**17 37 38.9**	**+1.3**
MTLF				*e*Sn	**Sn**	**17 38 54.7**	**-2.2**
	0.9nm,0.2s						
EPF	**Esparros**	**7.02**	**341**	*e*Pn	**Pn**	**17 37 40.0**	**+1.7**
EPF				*e*Sn	**Sn**	**17 38 55.6**	**-2.6**
	3.7nm,0.5s						
LMR	**La Mourre**	**7.28**	**18**	*e*Pn	**Pn**	**17 37 42.8**	**+0.9**
LMR				*e*Sn	**Sn**	**17 39 01.1**	**-3.5**
	1.1nm,0.3s						
PGF	**Pioggiola**	**7.46**	**33**	*e*Pn	**Pn**	**17 37 45.2**	**+0.8**
PGF				*e*Sn	**Sn**	**17 39 05.1**	**-4.0**
	2.0nm,0.3s						
SJPF	**Ste Jean**	**7.59**	**333**	*e*Pn	**Pn**	**17 37 47.8**	**+1.7**
SJPF				*e*Sn	**Sn**	**17 39 09.4**	**-2.7**
	1.2nm,0.3s						
LASF	**Ste Croix**	**7.64**	**2**	*e*Pn	**Pn**	**17 37 47.8**	**+1.0**
LASF				*e*Sn	**Sn**	**17 39 10.1**	**-3.4**
	1.7nm,0.3s						
VIVF	**Saint-Julien-l**	**8.47**	**6**	*e*Pn	**Pn**	**17 37 59.1**	**+0.9**
VIVF				*e*Sn	**Sn**	**17 39 29.8**	**-4.0**
	1.5nm,0.3s						
TCF	**Toulx Ste Croi**	**9.90**	**355**	*e*Pn	**Pn**	**17 38 19.5**	**+1.8**
BGF	**Bois d'Agland**	**10.13**	**358**	*e*Pn	**Pn**	**17 38 23.4**	**+2.5**
AVF	**Avril sur Loir**	**10.36**	**360**	*e*Pn	**Pn**	**17 38 25.2**	**+1.3**
TORD	**Torodi Ar. Bea**	**23.24**	**184**	P	**P**	**17 41 03.2**	**+0.3**
	0.6nm,0.8s,baz=7.6,slow=12,SNR=3.5						
	0.6nm,0.8s						

IDC 07 17:40:44.9 ± 7.7, 11°.83S × 74°.13W, h0km, mb3.5/1, mbtmp3.5/2, ML3.3/1, MS3.5/1, Error ellipse: s-maj=532.2km s-min=41.4km az=47.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**7.32**	**128**	Pn	Pn	17 42 33.6	0.0
	0.2nm,0.3s,baz=309,slow=8.2,SNR=2.9						
	1.5nm,0.4s						
ROSC	**El Rosal**	**16.57**	**359**	LR	LR	17 51 01.0	
	comp=Z,166nm,19.3s,baz=228,slow=37						
YKA	**Yellowknife Ar**	**80.48**	**342**	P	P	17 52 58.4	0.0
	0.3nm,0.7s,baz=140,slow=5.3,SNR=5.3						
	0.3nm,0.7s						
SONM	**Songino Array**	**144.11**	**359**	PKP	PKPdf	18 00 22.5	-0.5
	0.4nm,0.8s,baz=350,slow=1.6,SNR=4.0						

*IDC **07** 17:48:01.4 ± 1.1, 5°.99S × 142°.82E, h0km, mb4.1/10, mbtmp4.1/12, ML1.4/1, MS3.4/2, Error ellipse: s-maj=36.2km s-min=25.8km az=77.0*

ISC 07 17:48:06.1 ± 0.7, 6°.25S ± 0°.08 × 142°.57E ± 0°.08, h35km, n21, σ1 9 66/17, mb4.1/10, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.66**	**306**	P	**Pn**	**17 48 32.3**	**-0.4**
GENI	**Genyem**	**4.35**	**326**	P	Pn	17 48 59.2	-11
PMG	**Port Moresby**	**5.52**	**125**	Pn	**Pn**	**17 49 26.6**	**+0.7**
	0.8nm,0.3s,baz=293,slow=7.7,SNR=2.4						
PMG				Sn	**Sn**	**17 50 27.9**	**-0.3**
	0.3nm,0.3s,baz=36,slow=19,SNR=1.8						
	5.5nm,0.4s						
CTA	**Charters Tower**	**14.22**	**166**	LR	LR	17 56 58.4	
	comp=Z,109nm,21.1s,baz=274,slow=37						
WRA	**Warramunga Arr**	**15.79**	**210**	Pn	**Pn**	**17 51 45.2**	**-0.7**
	0.3nm,0.3s,baz=26,slow=14,SNR=11						
WRA				Sn	**Sn**	**17 54 36.0**	**-4.0**
	0.2nm,0.3s,baz=44,slow=21,SNR=4.6						
WRA				Lg	Lg	17 56 24.6	
	0.1nm,0.3s,baz=34,slow=31,SNR=2.8						
SOEI	**Soe**	**18.46**	**258**	P	**Pn**	**17 52 22.2**	**+2.8**
ASAR	**Alice Springs**	**19.22**	**205**	P	**Pn**	**17 52 30.4**	**+1.9**
	17nm,1.1s,baz=33,slow=9.9,SNR=50						
ASAR				Lg	Lg	17 58 18.7	
	baz=19,slow=29,SNR=1.0						
QLP	**Quilpie**	**20.29**	**176**	P	Pn	17 52 47.6	+6.6
	22nm,1.6s						
FITZ	**Fitzroy Crossi**	**20.29**	**233**	P	Pn	17 52 44.0	+2.8
OOD	**Oodnadatta**	**22.41**	**196**	P	P	17 53 10.8	+9.1
NWAO	**Narrogin (SRO)**	**35.50**	**218**	LR	LR	18 09 03.3	
	comp=Z,81nm,18.2s,baz=102,slow=35						
KSRS	**Korea Array**	**45.58**	**344**	P	**P**	**17 56 22.7**	**0.0**
	2.2nm,0.9s,baz=158,slow=10,SNR=4.6						
	2.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**49.53**	**301**	P	**P**	**17 56 55.9**	**+2.1**
	0.8nm,0.8s,baz=130,slow=6.0,SNR=8.3						
	0.8nm,0.8s						
USRK	**Ussuriysk Ar.**	**51.11**	**350**	P	**P**	**17 57 04.3**	**-1.0**
	2.3nm,0.8s,baz=165,slow=9.8,SNR=5.0						
	2.3nm,0.8s						
KLR	**Kul'dur**	**56.05**	**351**	P	**P**	**17 57 41.1**	**-0.3**
	1.5nm,0.8s,baz=288,slow=1.5,SNR=5.5						
	1.5nm,0.8s						
SONM	**Songino Array**	**62.56**	**333**	P	**P**	**17 58 26.3**	**-0.3**
	0.5nm,0.7s,baz=163,slow=7.6,SNR=5.0						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**74.93**	**322**	P	**P**	**17 59 43.8**	**+0.2**
	2.1nm,0.9s,baz=108,slow=7.8,SNR=15						
	2.1nm,0.9s						
ZALV	**Zalesovo Beam**	**76.92**	**329**	P	**P**	**17 59 54.6**	**-0.1**
	0.5nm,0.3s,baz=97,slow=3.5,SNR=3.9						
	0.5nm,0.3s						
NRIK	**Noril'sk**	**84.19**	**343**	P	**P**	**18 00 32.5**	**-0.9**
	2.5nm,0.8s,baz=78,slow=2.6,SNR=5.7						
	2.5nm,0.8s						
BVAR	**Borovoye Array**	**84.40**	**325**	P	**P**	**18 00 35.6**	**+0.8**
	7.7nm,1.0s,baz=114,slow=6.6,SNR=18						
	7.7nm,1.0s						
ILAR	**Eielson Array**	**87.46**	**24**	P	**P**	**18 00 48.1**	**-1.6**
	1.6nm,0.9s,baz=259,slow=5.2,SNR=9.7						
	1.6nm,0.9s						

*ANF **07** 18:04:59.1 ± 0.3, 35°.51N × 120°.05W, h13km ± 1km, ML3.9/32, Error ellipse: s-maj=3.3km s-min=1.4km az=109.0*
*IDC **07** 18:04:59.4 ± 1.8, 35°.43N × 119°.81W, h0km, mb3.5/3, mbtmp3.3/7, ML3.3/4, MS2.8/1, Error ellipse: s-maj=23.9km s-min=8.5km az=74.0*
*NCEDC **07** 18:04:60.0, 35°.49N × 120°.03W, h11km*
*NEIC **07** 18:04:59.6 ± 1.6, 35°.49N ± 0°.02 × 120°.05W ± 0°.02, h19km ± 7km, Error ellipse: s-maj=3.5km s-min=1.9km az=224.0*
*PAS **07** 18:05:00.4 ± 3.7, 35°.49N ± 0°.01 × 120°.03W ± 0°.01, h8km ± 5km, Mwr3.7/6, ML3.5/107(NEIC), Mwr3.7/5(NCEDC), Error ellipse: s-maj=2.3km s-min=1.4km az=212.0*

ISC 07 18:05:00.0 ± 0.8, 35°.48N ± 0°.02 × 120°.02W ± 0°.02, h13km ± 6km, n133, σ0 9 87/170, mb3.6/3, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMMC	**Simmler**	**0.17**	**173**		**Pb**	**18 05 04.1**	**-0.9**
SMMC					**Sg**	**18 05 07.5**	**+0.8**
SMMC	**Simmler**	**0.17**	**173**	P	**Pb**	**18 05 04.2**	**-0.9**
	baz=352,SNR=946						
SMMC				S	**Sg**	**18 05 07.5**	**+0.8**
	baz=352						
CARC	**Carrizo Plain**	**0.22**	**141**		**Pb**	**18 05 05.2**	**-0.8**
CARC					**Sg**	**18 05 09.2**	**+1.0**
TSCN	**Private Proper**	**0.28**	**283**		**Pb**	**18 05 06.1**	**-0.7**
TSCN					**Sb**	**18 05 10.3**	**-1.1**
TRAM	**Private Proper**	**0.28**	**314**		**Pb**	**18 05 06.0**	**-1.0**
TRAM					**Sb**	**18 05 10.7**	**-1.0**
THIS	**South End of C**	**0.30**	**325**		**Pb**	**18 05 06.6**	**-0.7**
THIS					**Sb**	**18 05 11.8**	**-0.3**
CRGC	**Crocker Grade**	**0.34**	**135**		**Pb**	**18 05 07.5**	**-0.5**
CRGC					**Sb**	**18 05 12.8**	**-0.6**
PKEM	**Kettleman Hill**	**0.58**	**353**		**Pn**	**18 05 12.8**	**-1.2**
PKM	**Mcpherson Peak**	**0.61**	**164**		**Pg**	**18 05 12.0**	**-0.1**
PKM					**Sb**	**18 05 20.8**	**-0.6**
PKM	**Mcpherson Peak**	**0.61**	**164**	P	**Pg**	**18 05 12.0**	**-0.1**
	baz=344,SNR=711						
PKM				S	**Sb**	**18 05 20.7**	**-0.6**
	baz=344						
PKD	**Bear Valley Ra**	**0.63**	**318**		**Pg**	**18 05 11.8**	**-0.5**
PKD					**Sg**	**18 05 20.5**	**-0.1**
DPD	**Davis Peak**	**0.67**	**249**		**Pb**	**18 05 13.1**	**-0.5**
DPD					**Sn**	**18 05 25.1**	**-0.5**
RAMR	**Ramage Ranch**	**0.71**	**283**		**Pg**	**18 05 13.5**	**-0.3**
RAMR					**Sb**	**18 05 23.8**	**-0.2**
DCD	**Diablo Creek**	**0.72**	**248**		**Pb**	**18 05 14.1**	**-0.4**
DCD					**Sn**	**18 05 25.8**	**-1.2**
BCW	**Bitter Crk WRg**	**0.73**	**137**	Pg	**Pg**	**18 05 14.0**	**-0.3**
BCW	**Bitter Crk WRg**	**0.73**	**137**		**Sb**	**18 05 25.6**	**+0.9**
BCW	**Bitter Crk WRg**	**0.73**	**137**	IAML		18 05 29.6	
	comp=E,9μm,0.6s						
BCW				IAML		18 05 30.7	
	comp=N,7μm,0.5s						
PSMM	**Smith Mountain**	**0.75**	**322**		**Pb**	**18 05 14.7**	**-0.3**
FIGC	**Figueroa Mtn.**	**0.75**	**178**		**Pb**	**18 05 14.5**	**-0.5**
FIGC					**Sb**	**18 05 25.3**	**+0.1**
BAKC	**Calstate**	**0.76**	**100**		**Pb**	**18 05 14.8**	**-0.3**
BAKC					**Sb**	**18 05 26.0**	**+0.7**
PANM	**San Antonio Re**	**0.78**	**293**		**Pg**	**18 05 14.7**	**-0.4**
VES	**Vestal, Richgr**	**0.84**	**64**		**Pg**	**18 05 15.3**	**-1.0**
VES					**Sg**	**18 05 27.0**	**-0.3**
VES	**Vestal, Richgr**	**0.84**	**64**	P	**Pg**	**18 05 15.6**	**-0.7**
	baz=245,SNR=28						
VES				S	**Sb**	**18 05 27.5**	**-0.2**
	baz=245						
PJUM	**Juniper Ridge**	**0.88**	**328**		**Pb**	**18 05 17.0**	**-0.2**
MAGC	**SCE Magundon P**	**0.90**	**97**		**Pg**	**18 05 16.9**	**-0.5**
MAGC					**Sb**	**18 05 29.7**	**+0.2**
NJQ	**Nojoqui County**	**0.95**	**188**		**Pb**	**18 05 18.6**	**-0.1**
NJQ					**Sn**	**18 05 33.1**	**+0.5**
PWMM	**Westland Maint**	**0.96**	**351**		**Pn**	**18 05 18.8**	**-0.4**
PMPB	**Monarch Peak**	**0.97**	**319**	Pg	**Pg**	**18 05 18.1**	**-0.6**
PMPB				IAML		18 05 37.2	
	comp=E,2μm,0.9s						
PMPB				IAML		18 05 37.4	
	comp=N,2μm,1.1s						
MPI	**Mount Pinos, F**	**0.98**	**133**		**Pg**	**18 05 17.7**	**-1.3**
MPI					**Sg**	**18 05 30.8**	**-1.0**
VOG	**Valley Oaks Go**	**0.98**	**32**		**Pg**	**18 05 18.1**	**-0.9**
VOG					**Sb**	**18 05 32.2**	**+0.3**
VOG	**Valley Oaks Go**	**0.98**	**32**	P	**Pg**	**18 05 18.1**	**-0.9**
	baz=212,SNR=24						
VOG				S	**Sb**	**18 05 32.0**	**+0.2**
	baz=212						
GATR	**Gnd/Air Tx Cnt**	**1.01**	**203**		**Pn**	**18 05 19.6**	**-0.3**
GATR					**Sn**	**18 05 33.9**	**0.0**
ARVC	**Arvin**	**1.03**	**110**		**Pg**	**18 05 18.6**	**-1.4**
ARVC					**Sg**	**18 05 32.9**	**-0.6**
ARVC	**Arvin**	**1.03**	**110**	P	**Pg**	**18 05 18.6**	**-1.4**
	baz=290,SNR=47						
ARVC				S	**Sn**	**18 05 34.2**	**-0.4**
	baz=290						
SBC	**Santa Barbara**	**1.07**	**166**		**Pn**	**18 05 20.7**	**0.0**
SBC					**Sn**	**18 05 36.2**	**+0.8**
SBC	**Santa Barbara**	**1.07**	**166**	P	**Pn**	**18 05 20.7**	**0.0**
	baz=346,SNR=55						
SBC				S	**Sn**	**18 05 36.0**	**+0.6**
	baz=346						
TEJ	**El Tejon**	**1.12**	**103**		**Pb**	**18 05 19.4**	**-1.8**
TEJ					**Sb**	**18 05 34.2**	**-1.5**
LRC	**Lone Oak Road**	**1.13**	**313**		**Pb**	**18 05 20.3**	**-1.1**
PAPM	**Alder Peak**	**1.17**	**292**		**Pb**	**18 05 20.5**	**-1.8**
SPG2	**Springville 2**	**1.25**	**54**		**Pn**	**18 05 22.2**	**-1.0**
ISA	**Isabella, Lake**	**1.27**	**81**		**Pn**	**18 05 22.4**	**-1.2**
ISA				IAML		18 05 42.3	
	comp=E,1μm,0.2s						
ISA	**Isabella, Lake**	**1.27**	**81**	P	**Pn**	**18 05 22.5**	**-1.1**
	baz=262,SNR=572						
ISA				S	**Sb**	**18 05 40.0**	**-0.2**
	baz=262						
OSI	**Osito Audit: C**	**1.37**	**129**	P	**Pn**	**18 05 23.9**	**-1.0**
	baz=310,SNR=81						
OSI				S	**Sn**	**18 05 43.5**	**+0.5**
	baz=310						
BBGB	**Big Mountain B**	**1.37**	**323**		**Pb**	**18 05 24.9**	**-0.7**
SCZ2	**Santa Cruz Isl**	**1.52**	**168**	P	**Pn**	**18 05 26.0**	**-0.9**
	baz=348,SNR=71						
SCZ2				S	**Sg**	**18 05 48.0**	**-0.8**
	baz=348						
FRI	**Friant**	**1.53**	**9**		**Pn**	**18 05 26.5**	**-0.5**
MHDM	**Hidden Dam**	**1.64**	**3**		**Pn**	**18 05 28.0**	**-0.5**
CCAC	**Calif City Air**	**1.67**	**101**		**Pn**	**18 05 28.9**	**-0.1**
SAO	**San Andreas Ge**	**1.73**	**318**	Pn	**Pn**	**18 05 28.3**	**-1.5**
EDW2	**Edwards Air Fo**	**1.76**	**109**		**Pn**	**18 05 30.9**	**+0.6**
EDW2	**Edwards Air Fo**	**1.76**	**109**	P	**Pn**	**18 05 29.8**	**-0.6**
	baz=291,SNR=158						
EDW2				S	**Sb**	**18 05 54.2**	**-0.2**
	baz=291						
CWC	**Cottonwood Cre**	**1.84**	**58**	Pb	**Pb**	**18 05 32.8**	**-0.9**
	baz=239						
CWC				S	**Sb**	**18 05 55.8**	**-0.9**
	baz=239						
DECC	**Green Verdugo**	**1.85**	**131**	P	**Pn**	**18 05 31.1**	**-0.4**
	baz=312						
DECC				S	**Sb**	**18 05 57.3**	**+0.5**
	baz=312						
WVPM	**Volcano Peak E**	**1.85**	**75**		**Pb**	**18 05 32.9**	**-0.9**
JRC2	**Joshua Ridge**	**1.87**	**74**		**Pb**	**18 05 33.4**	**-0.7**
LRMC	**Laurel Mtn Rad**	**1.91**	**89**	P	**Pn**	**18 05 32.1**	**-0.3**
	baz=271,SNR=317						
LRMC				S	**Sn**	**18 05 57.1**	**+0.8**
	baz=271						
MMIM	**Miami Mountain**	**1.95**	**6**		**Pn**	**18 05 32.7**	**-0.2**
PASC	**Pasadena Art C**	**2.00**	**130**	Pn	**Pn**	**18 05 33.0**	**-0.5**
PASC				IAML		18 06 11.6	
	comp=E,334nm,1.0s						
PASC				IAML		18 06 14.7	
	comp=N,237nm,0.8s						
TIN	**Tinemaha, Big**	**2.13**	**42**	Pb	**Pb**	**18 05 37.3**	**-1.4**
	baz=223,SNR=79						
TIN	

GSC					IAML			18 06 24.4	
	comp=E,352nm,0.7s								
GSC					IAML			18 06 35.5	
	comp=N,257nm,0.8s								
GSC	**Goldstone, Bar**	**2.63**	**93**	P		**Pn**		**18 05 41.9**	**-0.4**
	baz=275,SNR=116								
GSC					S		**Sn**	**18 06 14.5**	**+0.3**
	baz=275								
FURC	**Furnace Creek,**	**2.74**	**68**	Sb		**Sg**		**18 06 25.5**	**-2.6**
	baz=250								
SCI2	**San Clemente I**	**2.78**	**154**	P		**Pn**		**18 05 44.1**	**-0.1**
	baz=334,SNR=22								
SCI2					S		**Sn**	**18 06 19.3**	**+1.7**
	baz=334								
GWY	**Greenwater Val**	**2.81**	**75**	Pn		**Pn**		**18 05 44.3**	**-0.6**
GWY					IAML			18 06 32.9	
	comp=N,265nm,0.6s								
GWY					IAML			18 06 36.0	
	comp=E,294nm,1.2s								
ELS	**Elsinore Mount**	**2.81**	**130**			**Pn**		**18 05 44.0**	**-0.8**
GMN	**Gold Mountain**	**2.87**	**50**			**Pn**		**18 05 46.8**	**+1.0**
GMN					IAML			18 06 35.1	
	comp=E,201nm,0.8s								
MURC	**Murrieta**	**2.99**	**128**	P		**Pn**		**18 05 46.8**	**-0.5**
	baz=310								
LHV	**Little Huntoon**	**3.02**	**23**			**Pn**		**18 05 48.5**	**+1.0**
LHV					IAML			18 06 49.2	
	comp=N,160nm,1.0s								
LHV					IAML			18 06 52.7	
	comp=E,244nm,0.8s								
WCT	**Wildcat Mounta**	**3.04**	**64**			**Pn**		**18 05 48.6**	**+0.6**
WCT					IAML			18 06 37.6	
	comp=N,96nm,0.6s								
WCT					IAML			18 06 39.3	
	comp=E,123nm,0.9s								
WAKR	**Walker**	**3.05**	**9**			**Pn**		**18 05 49.6**	**+1.4**
WAKR					IAML			18 06 43.3	
	comp=E,193nm,0.5s								
WAKR					IAML			18 06 46.6	
	comp=N,177nm,0.6s								
MZP	**Montezuma Peak**	**3.07**	**43**			**Pn**		**18 05 48.9**	**+0.4**
MZP					IAML			18 06 44.4	
	comp=E,119nm,0.8s								
MZP					IAML			18 06 45.5	
	comp=N,119nm,1.0s								
HEC	**Hector,Ludlow**	**3.09**	**101**	P		**Pn**		**18 05 48.1**	**-0.5**
	baz=283,SNR=25								
HEC					S		**Sn**	**18 06 25.1**	**-0.3**
	baz=283								
NVAR	**Mina Array Bea**	**3.25**	**25**			**Pn**		**18 05 51.8**	**+0.9**
NVAR	**Mina Array Bea**	**3.25**	**25**	Pn		**Pn**		**18 05 51.9**	**+1.0**
	comp=N,1.4nm,0.3s,baz=208,slow=15,SNR=22								
NVAR					Pg		**Pb**	**18 05 59.2**	**+1.5**
	comp=N,7.4nm,0.3s,baz=206,slow=18,SNR=30								
NVAR					Sn		**Sn**	**18 06 30.1**	**+0.5**
	comp=N,6.1nm,0.3s,baz=202,slow=18,SNR=5.4								
NVAR					Lg		Lg	18 06 42.3	
	comp=N,15nm,0.3s,baz=197,slow=35,SNR=7.4								
	comp=N,3.0nm,0.6s								
NV11	**Mina Array Sit**	**3.30**	**26**			**Pn**		**18 05 52.2**	**+0.6**
NV11					IAML			18 06 58.2	
	comp=N,68nm,0.8s								
TUQ	**Turquoise Moun**	**3.34**	**90**	P		**Pn**		**18 05 51.6**	**-0.5**
	baz=272,SNR=31								
TUQ					S		**Sn**	**18 06 32.1**	**+0.3**
	baz=272								
RYN	**Ryan**	**3.36**	**20**	Pn		**Pn**		**18 05 53.1**	**+0.7**
PFO	**Pinyon Flats O**	**3.48**	**121**			**Pn**		**18 05 53.3**	**-0.7**
PFO	**Pinyon Flats O**	**3.48**	**121**	P		**Pn**		**18 05 53.8**	**-0.3**
	baz=304,SNR=19								
PFO	**Pinyon Flats O**	**3.48**	**121**	Pn		**Pn**		**18 05 53.7**	**-0.3**
	comp=N,4.9nm,0.3s,baz=307,slow=11,SNR=30								
PFO					Sn		**Sn**	**18 06 33.1**	**-2.1**
	comp=N,5.7nm,0.3s,baz=92,slow=4.5,SNR=4.4								
PFO					Lg		Lg	18 06 47.0	
	baz=180,slow=15								
PFO					LR		LR	18 07 30.4	
	comp=N,138nm,19.1s,baz=291,slow=46								
	comp=N,13nm,0.3s								
EMB	**Emerald Bay**	**3.49**	**359**			**Pn**		**18 05 55.3**	**+1.1**
EMB					IAML			18 06 57.4	
	comp=E,132nm,0.6s								
MCCM	**Marconi Confer**	**3.51**	**320**	Pn		**Pn**		**18 05 52.4**	**-1.9**
PMD	**Palm Desert**	**3.52**	**120**			**Pn**		**18 05 53.7**	**-0.7**
PMD					IAML			18 06 54.4	
	comp=N,55nm,0.6s								
AFDM	**Forest Hills D**	**3.54**	**348**	Pn		**Pn**		**18 05 55.4**	**+0.6**
AFDM					IAML			18 07 20.6	
	comp=E,55nm,1.1s								
YERR	**Yerington**	**3.55**	**10**			**Pn**		**18 05 55.9**	**+0.8**
YERR					IAML			18 07 01.9	
	comp=E,160nm,0.7s								
YERR					IAML			18 07 04.0	
	comp=N,105nm,0.7s								
PNTR	**Pine Nut**	**3.62**	**5**			**Pn**		**18 05 56.2**	**+0.2**
BELC	**Belle Mtn. Jos**	**3.63**	**113**	P		**Pn**		**18 05 55.8**	**-0.2**
	baz=295,SNR=19								
GMRC	**Granite Mounta**	**3.64**	**100**	P		**Pn**		**18 05 55.1**	**-1.1**
	baz=282,SNR=17								
MPK	**Martis Peak**	**3.81**	**360**			**Pn**		**18 05 59.1**	**+0.5**
KVN	**Kaiserville**	**3.88**	**23**	Pn		**Pn**		**18 05 60.0**	**+0.4**
KVN					IAML			18 07 17.4	
	comp=E,51nm,1.3s								
KVN					IAML			18 07 26.8	
	comp=N,43nm,1.2s								
BAR	**Barrett**	**3.94**	**134**			**Pn**		**18 05 59.4**	**-0.9**
MONP2	**Monument Peak**	**3.94**	**130**	P		**Pn**		**18 05 59.6**	**-0.9**
	baz=312,SNR=14								
GDXM	**Geysers**	**3.99**	**327**			**Pn**		**18 06 01.4**	**+0.4**
Q09A	**Carvers**	**4.04**	**33**			**Pn**		**18 06 01.5**	**-0.3**
SHPR	**Sheep Range**	**4.07**	**74**	Pn		**Pn**		**18 06 03.0**	**+0.9**
SHPR					IAML			18 07 14.9	
	comp=E,40nm,0.8s								
CBX	**Cerro Bola**	**4.22**	**138**	Pn		**Pn**		**18 06 03.9**	**-0.3**
V12A	**Nelson**	**4.22**	**85**	Pn		**Pn**		**18 06 04.9**	**+0.7**
V12A					IAML			18 07 23.4	
	comp=N,55nm,1.1s								
IRM	**Iron Mountain**	**4.22**	**107**	P		**Pn**		**18 06 03.6**	**-0.5**
	baz=290,SNR=7.9								
ORV	**Oroville**	**4.23**	**344**			**Pn**		**18 06 04.6**	**+0.4**
PAHR	**Pah Rah Range**	**4.25**	**7**		IAML			18 07 18.9	
	comp=E,50nm,1.0s								
PAHR					IAML			18 07 20.3	
	comp=N,33nm,1.0s								
IKP	**In-Ko-Pah, Jac**	**4.30**	**130**	P		**Pn**		**18 06 04.8**	**-0.5**
	baz=312,SNR=6.6								
RMX	**La Rumorosa**	**4.35**	**130**	Pn		**Pn**		**18 06 03.5**	**-2.5**
RMX					IAML			18 07 27.4	
	comp=E,28nm,1.5s								
PRN	**Pahroc Range**	**4.44**	**63**		IAML			18 07 42.5	
	comp=N,72nm,0.7s								
R11B	**Troy Canyon, C**	**4.56**	**50**		IAML			18 07 30.6	
	comp=E,30nm,1.3s								
BLYC	**Blythe**	**4.85**	**109**		IAML			18 07 44.6	
	comp=E,34nm,0.9s								
BLYC					IAML			18 07 52.1	
	comp=N,48nm,1.4s								
ESJX	**Sierra Juarez**	**4.85**	**134**		IAML			18 07 21.6	
	comp=N,40nm,0.1s								
ESJX					IAML			18 07 24.7	
	comp=E,47nm,0.1s								
W13A	**Hualapai Mount**	**5.03**	**93**		IAML			18 09 06.3	
	comp=E,26nm,0.1s								
ELK	**Elko**	**6.47**	**34**	Pn		**Pn**		**18 06 36.8**	**+1.7**
	comp=E,0.2nm,0.3s,baz=222,slow=12,SNR=5.7								
ELK					Lg		Lg	18 08 18.9	
	comp=E,1.4nm,0.3s,baz=202,slow=19,SNR=7.9								
	comp=E,1.1nm,0.5s								
PKCU	**Pink Cliffs**	**6.51**	**70**	Pn		**Pn**		**18 06 35.6**	**-0.2**
DUG	**Dugway, Tooele**	**7.39**	**48**			**Pn**		**18 06 47.4**	**-0.4**
BGU	**Big Grassy Mou**	**7.73**	**43**			**Pn**		**18 06 51.7**	**-0.7**
HMU	**Henry Mountain**	**7.84**	**69**	Pn		**Pn**		**18 06 53.0**	**-1.1**
J05D	**Fort Rock, OR**	**7.85**	**353**			**Pn**		**18 06 53.7**	**-0.3**
PDAR	**Pinedale Array**	**10.90**	**45**	Pn		Pn		18 07 41.9	+6.0
	baz=206,slow=12,SNR=2.3								
PDAR					Lg		Lg	18 10 41.2	
	comp=E,0.1nm,0.3s,baz=118,slow=37,SNR=1.7								
TXAR	**Lajitas Array**	**15.10**	**109**	Pn		**Pn**		**18 08 35.4**	**+2.1**
	baz=296,slow=12,SNR=3.0								
	comp=E,0.3nm,0.7s								
ULM	**Lac du Bonnet**	**22.90**	**42**	P		**P**		**18 10 02.8**	**-0.6**
	comp=E,1.4nm,0.6s,baz=239,slow=9.3,SNR=4.3								
	comp=E,1.4nm,0.6s								
YKA	**Yellowknife Ar**	**27.25**	**5**	P		**P**		**18 10 45.1**	**+1.6**
	comp=E,0.1nm,0.5s,baz=182,slow=9.3,SNR=2.2								
	comp=E,0.1nm,0.5s								
RES	**Resolute Bay**	**41.11**	**10**	P		**P**		**18 12 44.4**	**+1.3**
	comp=E,1.4nm,0.8s,baz=209,slow=10,SNR=4.3								
	comp=E,1.4nm,0.8s								

*BJI **07** 18:11:04.6±0.0,6˚35S×143˚25E,h13km,mb4.6/56, mB5.2/31,Ms4.7/11,Ms7 4.4/15*
*IDC **07** 18:11:05.6±0.6,6˚34S×142˚91E,h0km,mb4.5/13, mbtmp4.5/16,ML2.7/2,MS4.2/44,Error ellipse: s-maj=28.6km s-min=13.7km az=76.0*
*MOS **07** 18:11:05.2±0.8,6˚32S×142˚88E,h9km,mb5.0/37,Error ellipse: s-maj=10.7km s-min=6.0km az=116.8*
*DJA **07** 18:11:07.9±0.3,6˚S±3˚×14˚3E±˚,h10km,M4.9/16, mb4.7/16,mB5.1/7,MLv5.4/6,Mw(mB)4.5/7,MwMwp4.7/2, Mwp5.0/2*
*NEIC **07** 18:11:07.6±1.9,6˚41S±0˚08×142˚77E±0˚08,h10km±1km, mb5.0/122,Error ellipse: s-maj=14.2km s-min=12.7km az=76.0*
*GCMT **07** 18:11:09.6±0.2,6˚46S±0˚01×142˚68E±0˚02,h12km, MW5.0/126,Moment Tensor Solution. s42,c51; s126,c185; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.80±.07; $M_{\theta\theta}$-2.62±.06; $M_{\phi\phi}$-1.18±.07; $M_{r\theta}$1.92±.23; $M_{\theta\phi}$1.37±.06; $M_{\phi r}$-1.62±.29; Best double couple: M_{o}4.40800×10^{16} NP1:ϕ_s126.00000°,δ62.00000°, λ94.00000°. NP2:ϕ_s297.00000°,δ28.00000°,λ82.00000°. Principal axes: T 4.5970, Plg72.0000°, Azm46.0000°; N -0.3770, Plg4.0000°, Azm304.0000°; P -4.2190, Plg17.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 18:11:08.0±0.3,6˚50S±0˚05×142˚76E±0˚05,h10km,n526, σ1$\hat{}$29/425,mb4.9/114,MS4.2/47,17C-2D,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabudil**	**1.96**	**308**	P	**Pn**	**18 11 41.7**	**+0.3**
TABU	**Tabudil**	**1.96**	**308**	P	**Pn**	**18 11 41.4**	**0.0**
MMPI	**Merauke**	**3.06**	**230**	P	**Pn**	**18 11 57.7**	**+1.2**
GENI	**Genyem**	**4.66**	**326**	P	**Pn**	**18 12 19.6**	**+1.1**
GENI	**Genyem**	**4.66**	**326**	P	**Pn**	**18 12 19.3**	**+0.8**
GENI	**Genyem**	**4.66**	**326**	P	**Pn**	**18 12 18.2**	**-0.3**
PMG	**Port Moresby**	**5.23**	**124**		**Pn**	**18 12 25.9**	**-0.5**
PMG	**Port Moresby**	**5.23**	**124**	P	**Pn**	**18 12 26.7**	**+0.4**
PMG	**Port Moresby**	**5.23**	**124**	P	**Pn**	**18 12 26.5**	**+0.1**
PMG	**Port Moresby**	**5.23**	**124**	P	**Pn**	**18 12 26.6**	**+0.1**
PMG	**Port Moresby**	**5.23**	**124**	P	**Pn**	**18 12 26.4**	**+0.1**
PMG	**Port Moresby**	**5.23**	**124**	*ce*P	**Pn**	**18 12 25.9**	**-0.5**
PMG				pmax	pmax		
	comp=Z,134nm,1.3s						
PMG	**Port Moresby**	**5.23**	**124**	Pn	**Pn**	**18 12 26.4**	**+0.1**
	comp=Z,8.4nm,0.3s,baz=325,slow=10,SNR=32						
PMG				Sn	**Sn**	**18 13 25.7**	**-1.0**
	comp=Z,18nm,0.3s,baz=215,slow=21,SNR=9.5						
PMG				LR	LR	18 14 41.9	
	comp=Z,2μm,21.1s,baz=303,slow=42						
	comp=Z,72nm,0.8s						
MANU	**Manus Island**	**6.38**	**46**		Pn	18 12 40.4	-1.7
MANU	**Manus Island**	**6.38**	**46**	P	**Pn**	**18 12 43.3**	**+1.2**
COEN	**Coen**	**7.42**	**177**	P	**Pn**	**18 12 58.5**	**+1.9**
	baz=7.5						
COEN	**Coen**	**7.42**	**177**	Pn	**Pn**	**18 12 56.3**	**-0.2**
FAKI	**Fak Fak**	**11.06**	**288**	Pn	**Pn**	**18 13 44.9**	**-1.6**
FAKI	**Fak Fak**	**11.06**	**288**	P	**Pn**	**18 13 47.1**	**+0.6**
FAKI	**Fak Fak**	**11.06**	**288**	P	Pn	18 13 44.2	-2.3
	comp=Z,52nm,1.3s						
SAUI	**Saumlaki**	**11.46**	**262**	Pn	**Pn**	**18 13 51.0**	**-1.0**
KDU	**Kakadu**	**11.86**	**238**	P	**Pn**	**18 13 56.3**	**-1.1**
	baz=12,SNR=54						
KDU	**Kakadu**	**11.86**	**238**	P	**Pn**	**18 13 57.1**	**-0.3**
KDU	**Kakadu**	**11.86**	**238**	P	**Pn**	**18 13 56.7**	**-0.7**
SWI	**Sorong**	**12.77**	**296**	P	Pn	18 14 06.9	-2.9
SWI				pmax	pmax		
	comp=Z,33nm,0.9s						
SWI	**Sorong**	**12.77**	**296**	P	Pn	18 14 05.4	-4.4
	comp=Z,33nm,0.9s						
MTN	**Manton Dam**	**13.08**	**240**	P	**Pn**	**18 14 12.5**	**-1.5**
	baz=13,SNR=7.9						
MTN	**Manton Dam**	**13.08**	**240**	Pn	**Pn**	**18 14 12.6**	**-1.5**
DRS	**Darwin Rock St**	**13.10**	**242**	P	**Pn**	**18 14 14.5**	**+0.2**
	comp=Z,35nm,0.8s						
CTA	**Charters Tower**	**13.93**	**166**	Pn	**Pn**	**18 14 26.3**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=264,slow=19,SNR=1.8						
CTA				Lg	Lg	18 18 30.4	
	comp=Z,0.2nm,0.3s,baz=71,slow=20,SNR=2.0						
CTA				LR	LR	18 19 44.4	
	comp=Z,2μm,19.7s,baz=351,slow=37						
	comp=Z,8.0nm,1.0s						
QIS	**Mount Isa**	**14.31**	**192**	P	**Pn**	**18 14 31.2**	**+0.4**
	baz=1,SNR=10						
QIS	**Mount Isa**	**14.31**	**192**	P	**Pn**	**18 14 33.7**	**+2.8**
QIS	**Mount Isa**	**14.31**	**192**	P	**Pn**	**18 14 31.9**	**+1.0**
WB0	**Warramunga Arr**	**15.49**	**211**	Pn	**Pn**	**18 14 45.7**	**-1.1**
WB0				lAmb	lAmb	18 14 55.0	
	comp=Z,231nm,2.0s						
WR0	**Warramunga Arr**	**15.58**	**210**	Pn	**Pn**	**18 14 46.0**	**-1.9**
WRAB	**Tennant Creek**	**15.66**	**211**		**Pn**	**18 14 47.2**	**-1.7**
WRAB	**Tennant Creek**	**15.66**	**211**	*i* P	**Pn**	**18 14 50.0**	**+1.1**
WRAB				pmax	pmax		
	comp=Z,68nm,0.9s						
WB2	**Warramunga Arr**	**15.66**	**211**	Pn	**Pn**	**18 14 47.4**	**-1.6**
WB2				lAmb	lAmb	18 14 56.9	
	comp=Z,100nm,1.3s						
WRA	**Warramunga Arr**	**15.67**	**211**		**Pn**	**18 14 46.7**	**-2.4**
WRA	**Warramunga Arr**	**15.67**	**211**	P	**Pn**	**18 14 46.7**	**-2.4**
WRA				pmax	pmax		
	comp=Z,8.0nm,1.9s						
WRA	**Warramunga Arr**	**15.67**	**211**	Pn	**Pn**	**18 14 46.8**	**-2.4**
	comp=Z,1.3nm,0.3s,baz=26,slow=13,SNR=29						
WRA				Sn	**Sn**	**18 17 37.6**	**-5.3**
	comp=Z,0.8nm,0.3s,baz=29,slow=28,SNR=2.8						
WRA				Lg	Lg	18 19 20.1	
	baz=27,slow=27						
WRA				LR	LR	18 21 35.0	
	comp=Z,9μm,18.2s,baz=12,slow=40						
KNRA	**Kununurra**	**16.48**	**235**	P	**Pn**	**18 14 57.6**	**-1.9**
	baz=16,SNR=32						
KNRA	**Kununurra**	**16.48**	**235**	Pn	**Pn**	**18 14 57.5**	**-2.0**
KNRA	**Kununurra**	**16.48**	**235**	P	**Pn**	**18 14 59.3**	**-0.2**
KNRA	**Kununurra**	**16.48**	**235**	P	**Pn**	**18 14 59.4**	**-0.1**
TNTI	**Ternate**	**16.98**	**295**	P	**Pn**	**18 15 03.7**	**-2.1**
HNR	**Honiara**	**17.27**	**101**		**Pn**	**18 15 07.2**	**-2.3**
HNR	**Honiara**	**17.27**	**101**	P	**Pn**	**18 15 11.6**	**+2.1**
HNR	**Honiara**	**17.27**	**101**	P	**Pn**	**18 15 07.2**	**-2.3**
HNR				pmax	pmax		
	comp=Z,87nm,1.2s						
SOEI	**Soe**	**18.59**	**259**		**P**	**18 15 22.1**	**-3.7**
SOEI				lAmb	lAmb	18 15 34.3	
	comp=Z,85nm,0.9s						
SOEI	**Soe**	**18.59**	**259**	P	**P**	**18 15 27.1**	**+1.4**
SOEI	**Soe**	**18.59**	**259**	P	**P**	**18 15 26.3**	**+0.6**
SOEI	**Soe**	**18.59**	**259**	P	**P**	**18 15 25.7**	**0.0**
	comp=Z,114nm,1.0s						
AS01	**Alice Springs**	**19.06**	**205**	P	**P**	**18 15 31.9**	**+1.2**
AS31	**Alice Springs**	**19.08**	**206**		**P**	**18 15 31.0**	**+0.1**
ASAR	**Alice Springs**	**19.08**	**206**		**P**	**18 15 31.0**	**+0.1**
ASAR	**Alice Springs**	**19.08**	**206**	P	**P**	**18 15 31.6**	**+0.6**
	comp=Z,15nm,0.6s,baz=34,slow=10,SNR=76						
ASAR				S	Sn	18 18 52.0	-14
	comp=Z,2.5nm,0.8s,baz=19,slow=27,SNR=3.5						
ASAR				Lg	Lg	18 21 15.8	
	baz=231,slow=31,SNR=1.8						
ASAR				LR	LR	18 23 33.9	
	comp=Z,8μm,18.7s,baz=30,slow=39						
QLP	**Quilpie**	**20.02**	**176**	P	**P**	**18 15 43.5**	**+2.3**
	baz=20,SNR=12						
QLP	**Quilpie**	**20.02**	**176**	P	**P**	**18 15 43.8**	**+2.6**
FITZ	**Fitzroy Crossi**	**20.29**	**234**	P	**P**	**18 15 44.8**	**+0.6**
	baz=20,SNR=26						
FITZ	**Fitzroy Crossi**	**20.29**	**234**		**P**	**18 15 43.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**20.29**	**234**	P	**P**	**18 15 46.0**	**+1.8**
FITZ	**Fitzroy Crossi**	**20.29**	**234**	P	**P**	**18 15 45.2**	**+1.0**
GTOI	**Gorontalo**	**20.95**	**289**	P	**P**	**18 15 52.8**	**+1.5**
EDFI	**Ende, Flores**	**21.00**	**263**	P	**P**	**18 15 50.8**	**-1.3**
	comp=Z,34nm,1.5s,comp=Z,530nm						
INKA	**Innaminka**	**21.21**	**185**	P	**P**	**18 15 56.7**	**+2.6**
INKA	**Innaminka**	**21.21**	**185**	P	**P**	**18 15 55.4**	**+1.3**
DAV	**Davao City (W)**	**21.80**	**308**	LR	LR	18 24 39.4	
	comp=Z,257nm,20.3s,baz=136,slow=37						
OOD	**Oodnadatta**	**22.22**	**197**	P	**P**	**18 16 07.4**	**+2.5**
OOD	**Oodnadatta**	**22.22**	**197**	P	**P**	**18 16 06.4**	**+1.5**
KAPI	**Kappang**	**22.94**	**272**	*i* P	**P**	**18 16 13.7**	**+1.0**
KAPI				pmax	pmax		
	comp=Z,29nm,1.0s						
WRKA	**Warakurna**	**23.06**	**215**	P	**P**	**18 16 15.2**	**+1.4**
	baz=23,SNR=31						
WRKA	**Warakurna**	**23.06**	**215**	P	**P**	**18 16 15.5**	**+1.6**
WRKA	**Warakurna**	**23.06**	**215**	P	**P**	**18 16 15.0**	**+1.1**
TOLI2	**Tolitoli**	**23.20**	**288**	P	**P**	**18 16 12.8**	**-2.6**
TOLI2				lAmb	lAmb	18 16 16.8	
	comp=Z,42nm,1.2s						
TOLI2	**Tolitoli**	**23.20**	**288**	P	**P**	**18 16 16.8**	**+1.4**
TOLI2	**Tolitoli**	**23.20**	**288**	P	**P**	**18 16 15.7**	**+0.3**
AULRC	**Lightning Ridg**	**23.34**	**168**	P	**P**	**18 16 19.0**	**+2.4**
LCRK	**Leigh Creek**	**24.20**	**190**	P	**P**	**18 16 27.4**	**+2.5**
LCRK	**Leigh Creek**	**24.20**	**190**	P	**P**	**18 16 26.2**	**+1.3**
PLAI	**Plampang**	**24.87**	**263**	P	**P**	**18 16 31.7**	**+0.6**
	comp=Z,20nm,1.2s						
MULG	**Mulgathing**	**25.04**	**198**	P	**P**	**18 16 34.4**	**+1.9**
CMSA	**Cobar Meteorol**	**25.06**	**174**	P	**P**	**18 16 35.4**	**+2.7**
	baz=25,SNR=9.1						
CMSA	**Cobar Meteorol**	**25.06**	**174**	P	**P**	**18 16 35.7**	**+3.0**
STKA	**Stephens Creek**	**25.27**	**182**	P	**P**	**18 16 35.8**	**+1.2**
	baz=25,SNR=11						
STKA	**Stephens Creek**	**25.27**	**182**	P	**P**	**18 16 34.8**	**+0.2**
STKA	**Stephens Creek**	**25.27**	**182**	P	**P**	**18 16 36.4**	**+1.8**
STKA	**Stephens Creek**	**25.27**	**182**	*i* P	**P**	**18 16 34.9**	**+0.3**
STKA	**Stephens Creek**	**25.27**	**182**	P	**P**	**18 16 35.5**	**+0.9**
	comp=Z,11nm,0.7s,baz=3.6,slow=11,SNR=13						
STKA				LR	LR	18 26 57.4	
	comp=Z,1μm,21.2s,baz=357,slow=37						
	comp=Z,11nm,0.7s						
BBOO	**Buckleboo**	**26.91**	**193**	P	**P**	**18 16 53.6**	**+4.1**
	baz=27,SNR=5.2						
HTT	**Hallett**	**27.04**	**187**	P	**P**	**18 16 53.4**	**+2.8**
	baz=27,SNR=4.6						
HTT	**Hallett**	**27.04**	**187**	P	**P**	**18 16 53.0**	**+2.4**
DZM	**Mont Dzumac**	**27.61**	**127**	*e*LR	LR	18 24 00.1	
	comp=Z,1μm,26.4s						
DZM	**Mont Dzumac**	**27.61**	**127**	LR	LR	18 28 20.5	
	comp=Z,537nm,18.6s,baz=305,slow=38						
TGY	**Tagaytay City**	**29.80**	**313**	LR	LR	18 28 51.8	
	comp=Z,258nm,21.6s,baz=101,slow=36						
JCJ	**Chichijima**	**33.40**	**359**	LR	LR	18 31 30.1	
	comp=Z,161nm,18.6s,baz=143,slow=37						
LEM	**Lembang**	**34.90**	**267**	LR	LR	18 36 38.0	
	comp=Z,291nm,18.4s,baz=101,slow=44						
NWAO	**Narrogin (SRO)**	**35.42**	**219**	LR	LR	18 33 46.9	
	comp=Z,2μm,20.6s,baz=54,slow=38						
JOW	**Kunigami**	**35.98**	**338**	LR	LR	18 29 49.6	
	comp=Z,435nm,21.0s,baz=99,slow=31						
MSVF	**Nonsavu**	**36.19**	**111**	*i* P	**P**	**18 18 11.6**	**+0.3**
MSVF				pmax	pmax		
	comp=Z,81nm,4.0s						
JNU	**Nakatsue**	**40.99**	**345**	LR	LR	18 32 27.5	
	comp=Z,307nm,20.3s,baz=168,slow=31						
QIZ	**Qiongzhong**	**41.18**	**309**	P	**P**	**18 18 52.9**	**-0.2**
QIZ				S	**S**	**18 25 06.4**	**-0.4**
QIZ				LR	LR		
	comp=Z,170nm,11.3s						
QIZ				LR	LR		
	comp=Z,240nm,11.8s						
QIZ				LR	LR		
	comp=Z,270nm,20.5s						
MJAR	**Matsushiro Arr**	**43.02**	**355**	P	P	18 19 05.1	-2.8
	comp=Z,3.9nm,1.0s,baz=192,slow=9.5,SNR=4.3						
MJAR				LR	LR	18 35 07.1	
	comp=Z,246nm,19.8s,baz=149,slow=34						
	comp=Z,3.9nm,1.0s						
IPM	**Ipoh**	**43.07**	**284**	P	**P**	**18 19 07.7**	**-1.0**
RAO	**Raoul Island**	**43.41**	**126**	LR	LR	18 34 31.4	
	comp=Z,290nm,20.6s,baz=32,slow=32						
URZ	**Urewera**	**44.34**	**141**	LR	LR	18 38 43.7	
	comp=Z,580nm,18.3s,baz=306,slow=37						
NJ2	**Nanjing**	**44.60**	**331**	*e*P	**P**	**18 19 19.7**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,9.0nm,1.1s						
RPZ	**Rata Peaks**	**44.62**	**151**	LR	LR	18 37 44.2	
	comp=Z,601nm,18.3s,baz=302,slow=36						
KSAR	**Wonju Array Be**	**45.87**	**343**	P	**P**	**18 19 29.0**	**-1.6**
KSAR	**Wonju Array Be**	**45.87**	**343**	P	**P**	**18 19 29.0**	**-1.6**
KSRS	**Korea Array**	**45.87**	**344**	P	**P**	**18 19 29.2**	**-1.3**
	comp=Z,4.6nm,1.0s,baz=154,slow=8.6,SNR=12						
KSRS				LR	LR	18 36 03.8	
	comp=Z,173nm,21.1s,baz=145,slow=33						
	comp=Z,4.6nm,1.0s						
GYA	**Guiyang**	**47.94**	**315**	⇑P	**P**	**18 19 47.9**	**+0.7**
GYA				S	**S**

HHC LR LR
comp=Z,150nm,17.6s
HHC LR LR
comp=Z,120nm,16.8s
HHC LR LR
comp=Z,220nm,17.3s
BTO Baotou 55.70 330 *e*P **P 18 20 45.7 +0.8**
BTO pP **pP 18 20 51.3 +3.0**
BTO sP **sP 18 20 52.7 +3.2**
BTO PP **PP 18 22 54.3 +4.9**
BTO S **S 18 28 35.3 +3.8**
BTO pmax pmax
comp=Z,16nm,0.6s
BTO pmax pmax
comp=Z,180nm,3.5s
BTO LR LR
comp=Z,520nm,19.8s
BTO LR LR
comp=Z,460nm,14.3s
BTO LR LR
comp=Z,640nm,15.4s
LZH Lanzhou 55.92 322 *e*P **P 18 20 47.2 +0.6**
LZH pP pP 18 20 51.4 +1.4
LZH pmax pmax
comp=Z,14nm,1.3s
KLR Kul'dur 56.32 351 *ce*P P 18 20 46.8 -2.2
KLR pmax pmax
comp=Z,9.0nm,1.7s
KLR Kul'dur 56.32 351 LR LR 18 42 04.2
comp=Z,93nm,21.6s,baz=162,slow=33
RAR Rarotonga 57.38 111 LR LR 18 42 56.3
comp=Z,80nm,21.4s,baz=257,slow=33
HEH HeiHe 58.07 348 *e*P **P 18 20 59.6 -1.7**
HEH pmax pmax
comp=Z,7.0nm,1.6s
HEH pmax pmax
comp=Z,130nm,4.6s
GTA Gaotai 60.50 323 *e*P **P 18 21 18.0 -0.6**
GTA pmax pmax
comp=Z,6.0nm,1.5s
PETK Petropavlovsk- 60.72 10 P **P 18 21 18.6 -1.0**
comp=Z,5.4nm,0.8s,baz=176,slow=7.8,SNR=2.8
PETK LR LR 18 47 08.5
comp=Z,121nm,19.5s,baz=189,slow=36
comp=Z,5.4nm,0.8s
ZEA Zeya 61.42 350 *e*P **P 18 21 22.8 -1.6**
ZEA pmax pmax
comp=Z,10.0nm,1.7s
ULN Ulaanbaatar 62.60 334 P **P 18 21 31.5 -1.1**
ULN Ulaanbaatar 62.60 334 *ce*P **P 18 21 32.0 -0.6**
ULN pmax pmax
comp=Z,10.0nm,1.7s
SONM Songino Array 62.87 333 P **P 18 21 33.7 -0.7**
SONM Songino Array 62.87 333 P **P 18 21 33.7 -0.7**
SONM pmax pmax
comp=Z,4.0nm,1.1s
SONM Songino Array 62.87 333 P **P 18 21 33.4 -1.0**
comp=Z,1.2nm,0.6s,baz=155,slow=7.9,SNR=11
SONM LR LR 18 48 23.3
comp=Z,253nm,20.1s,baz=154,slow=36
comp=Z,1.2nm,0.6s
PALK Pallekele 63.40 281 LR LR 18 52 09.8
comp=Z,103nm,20.0s,baz=224,slow=39
SHEM Shemya Is, Ala 64.73 20 LR LR 18 45 14.6
comp=Z,353nm,20.5s,baz=142,slow=32
ZAK Zakamensk 66.13 334 *e*P **P 18 21 54.2 -1.5**
ZAK pmax pmax
comp=Z,10.0nm,1.3s
MA2 Magadan 66.17 4 *ce*P P 18 21 52.2 -3.4
MA2 pmax pmax
comp=Z,10.0nm,1.3s
MA2 Magadan 66.17 4 LR LR 18 48 04.7
comp=Z,82nm,21.2s,baz=183,slow=34
PPT Papeete 66.80 106 LR LR 18 48 54.9
comp=Z,60nm,18.7s,baz=237,slow=34
PPT2 Papeete2 66.80 106 *e*LR LR 18 42 01.0
comp=Z,202nm,26.5s
PPT2 *e*LR LR 18 42 11.0
comp=Z,173nm,33.0s
MOY Mondy 68.06 333 *e*P **P 18 22 07.6 -0.3**
MOY pmax pmax
comp=Z,21nm,1.9s
YAK Yakutsk 69.07 353 P P 18 22 11.3 -2.5
YAK IAmb IAmb 18 22 37.0
comp=Z,6.8nm,0.6s
YAK Yakutsk 69.07 353 *ce*P P 18 22 11.4 -2.4
YAK pmax pmax
comp=Z,11nm,1.7s
YAK Yakutsk 69.07 353 LR LR 18 50 35.4
comp=Z,129nm,20.4s,baz=132,slow=34
SEY Seymchan 69.62 5 *ce*P P 18 22 14.4 -2.8
SEY pmax pmax
comp=Z,4.0nm,1.1s
SEY Seymchan 69.62 5 LR LR 18 50 35.0
comp=Z,145nm,21.1s,baz=182,slow=34
WMQ Urumqi 70.47 321 *e*P **P 18 22 24.5 +1.5**
WMQ pmax pmax
comp=Z,15nm,1.3s
VNDA Vanda 71.70 176 P **P 18 22 31.2 +1.4**
VNDA Vanda 71.70 176 P **P 18 22 31.2 +1.4**
VNDA pmax pmax
comp=Z,32nm,0.2s
VNDA Vanda 71.70 176 LR LR 18 54 10.3
comp=Z,640nm,18.2s,baz=340,slow=36
NIKH Nikolski High 71.97 28 P **P 18 22 30.7 -1.1**
baz=231
UNV Unalaska Valle 73.61 29 P **P 18 22 40.7 -0.8**
baz=233
DGZ Jazzator, Alta 73.65 326 *i* P P 18 22 40.0 -2.0
DGZ pmax pmax
comp=Z,7.0nm,0.8s
ZSN Zaisan 73.99 323 *e*P **P 18 22 43.2 -0.7**
ZSN pmax pmax
comp=Z,7.0nm,1.2s
ZSN Zaisan 73.99 323 *e*P **P 18 22 43.2 -0.7**
comp=Z,7.3nm,1.2s,baz=323
MK31 Makanchi Array 75.24 322 P **P 18 22 50.2 -0.9**
MK31 IAmb IAmb 18 22 52.6
comp=Z,14nm,1.4s
MK31 Makanchi Array 75.24 322 *ce*P **P 18 22 50.8 -0.4**
MKAR Makanchi Array 75.24 322 P **P 18 22 49.9 -1.3**
MKAR Makanchi Array 75.24 322 P **P 18 22 50.5 -0.7**
comp=Z,2.1nm,0.7s,baz=110,slow=7.2,SNR=24
MKAR LR LR 18 57 28.9
comp=Z,44nm,18.7s,baz=104,slow=37
comp=Z,2.1nm,0.7s
MAKZ Makanchi 75.44 322 P **P 18 22 51.2 -1.1**
MAKZ IAmb IAmb 18 22 53.0
comp=Z,12nm,1.1s
MAKZ Makanchi 75.44 322 P **P 18 22 51.2 -1.1**
MAKZ pmax pmax
comp=Z,12nm,1.2s
SHLS Shalkode 75.52 318 *e*P P 18 22 50.5 -2.5
SHLS Shalkode 75.52 318 *e*P P 18 22 50.5 -2.4
baz=318
FALS False Pass 75.67 29 P **P 18 22 52.8 -0.6**
baz=236
UZB Uzynbulak 75.81 317 *e*P **P 18 22 53.5 -1.2**
UZB pmax pmax
comp=Z,7.0nm,1.2s
UZB Uzynbulak 75.81 317 *e*P **P 18 22 53.5 -1.2**
comp=Z,7.2nm,1.2s,baz=317
SATY Saty 76.19 317 *e*P **P 18 22 55.4 -1.4**
SATY Saty 76.19 317 *e*P **P 18 22 55.5 -1.4**
baz=317
BILL Bilibino 76.20 9 P **P 18 22 55.7 -0.4**
BILL IAmb IAmb 18 23 27.4
comp=Z,22nm,1.7s
BILL Bilibino 76.20 9 *i* P **P 18 22 55.7 -0.4**
ZHN Zhinishke 76.21 317 *e*P **P 18 22 55.6 -1.3**
ZHN Zhinishke 76.21 317 *e*P **P 18 22 55.7 -1.3**
baz=317
KSH Kashi 76.60 313 P **P 18 23 00.3 +1.1**
KSH sP sP 18 23 08.7 +4.7
KSH PcP **PcP 18 23 15.6 +4.8**
KSH pmax pmax
comp=Z,5.0nm,1.4s
NIL Nilore 76.81 307 P **P 18 22 59.3 -1.2**
NIL IAmb IAmb 18 23 02.0
comp=Z,12nm,0.8s
NIL Nilore 76.81 307 P **P 18 22 59.3 -1.2**
NIL pmax pmax
comp=Z,12nm,0.9s
TDK Taldyqorghan 76.94 319 *e*P **P 18 23 00.0 -0.9**
TDK pmax pmax
comp=Z,5.0nm,0.9s
TDK Taldyqorghan 76.94 319 *e*P **P 18 23 00.1 -0.9**
comp=Z,4.6nm,0.9s,baz=319
MDOK Medeo 77.15 317 *e*P **P 18 23 00.8 -1.5**
MDOK Medeo 77.15 317 *e*P **P 18 23 00.8 -1.5**
baz=317
TNSS Tian-Shan 77.17 317 *e*P **P 18 23 01.7 -1.0**
TNSS Tian-Shan 77.17 317 *e*P **P 18 23 01.7 -1.0**
baz=317
ZAA0 Zalesovo Array 77.23 329 P P 18 23 00.0 -2.2
ZALV Zalesovo Beam 77.23 329 P P 18 22 59.6 -2.6
ZALV Zalesovo Beam 77.23 329 *i* P **P 18 23 01.2 -1.1**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 77.23 329 P P 18 23 00.3 -1.9
comp=Z,2.2nm,0.6s,baz=118,slow=5.0,SNR=11
ZALV LR LR 18 58 12.3
comp=Z,116nm,18.9s,baz=98,slow=37
comp=Z,2.2nm,0.6s
CHKK Chushkaly 77.44 317 *e*P **P 18 23 03.1 -0.7**
CHKK Chushkaly 77.44 317 *e*P **P 18 23 03.1 -0.7**
baz=317
CHNA Chernabura Isl 77.53 30 P **P 18 23 03.0 -0.9**
baz=239
KUU Kurty 77.90 317 *e*P **P 18 23 04.6 -1.7**
KUU pmax pmax
comp=Z,10.0nm,1.6s
KUU Kurty 77.90 317 *e*P **P 18 23 04.7 -1.7**
comp=Z,9.5nm,1.6s,baz=317
SEM Semipalatinsk 78.05 325 *e*P P 18 23 05.1 -2.1
SEM Semipalatinsk 78.05 325 *e*P P 18 23 05.1 -2.1
baz=324
TIXI Tiksi 78.53 356 P P 18 23 07.0 -2.1
TIXI Tiksi 78.53 356 *ce*P P 18 23 05.7 -3.4
TIXI pmax pmax
comp=Z,13nm,2.5s
TIXI Tiksi 78.53 356 LR LR 18 56 50.1
comp=Z,125nm,20.2s,baz=200,slow=35
AAK Ala-Archa 78.72 316 P **P 18 23 10.4 -0.7**
AAK Ala-Archa 78.72 316 *ce*P **P 18 23 10.3 -0.7**
AAK pmax pmax
comp=Z,7.0nm,1.7s
CHGN Chignik 78.85 29 P **P 18 23 10.6 -0.6**
baz=240
M13K Dall Lake 78.87 24 P **P 18 23 10.8 -0.4**
baz=235
SGDS Sogindy 78.90 316 *e*P **P 18 23 10.3 -1.6**
SGDS pmax pmax
comp=Z,10.0nm,1.3s
SGDS Sogindy 78.90 316 *e*P **P 18 23 10.3 -1.6**
comp=Z,9.9nm,1.3s,baz=316
O14K Tigyukauivet M 79.09 26 P **P 18 23 11.9 -0.6**
baz=237
KURK Kurchatov 79.12 324 P **P 18 23 11.4 -1.4**
KURK IAmb IAmb 18 23 13.9
comp=Z,24nm,1.6s
KURK Kurchatov 79.12 324 *ce*P **P 18 23 11.8 -1.0**
KURK pmax pmax
comp=Z,13nm,1.3s
KURBB Kurchatov Arra 79.13 324 P **P 18 23 11.6 -1.3**
comp=Z,0.7nm,0.3s,baz=130,slow=4.2,SNR=6.0
N14K Kuskokwak Cree 79.28 25 P **P 18 23 13.1 -0.4**
baz=236
ARSB Arslanbob 79.35 314 P **P 18 23 14.0 -0.5**
ARSB Arslanbob 79.35 314 P **P 18 23 14.0 -0.5**
ARSB pmax pmax
comp=Z,8.0nm,1.8s
M14K Bethel 79.63 24 P **P 18 23 15.5 +0.1**
M14K Bethel 79.63 24 P **P 18 23 15.1 -0.3**
baz=236
DRK Karamyk 79.65 312 P **P 18 23 15.8 -0.6**
L14K Kuka Creek 79.67 24 IAmb IAmb 18 23 16.1
comp=Z,14nm,0.8s
L14K Kuka Creek 79.67 24 P **P 18 23 15.4 -0.1**
baz=235
O15K Ungalikthiuk R 79.68 26 P **P 18 23 15.6 -0.1**
baz=238
BTLS Baital 79.84 318 *e*P **P 18 23 15.7 -1.2**
BTLS Baital 79.84 318 *e*P **P 18 23 15.8 -1.2**
baz=318
N15K Kwethluk River 80.09 25 P **P 18 23 17.6 -0.3**
baz=238
M15K Kasigluk River 80.12 25 P **P 18 23 17.6 -0.4**
baz=237
J14K Nanvaranak Lak 80.15 22 P **P 18 23 17.8 -0.3**
baz=234
MAW Mawson 80.17 203 LR LR 18 55 15.5
comp=Z,256nm,21.4s,baz=97,slow=33
L15K Ungalak Mounta 80.33 24 P **P 18 23 18.5 -0.6**
baz=236
TNA Tin City 80.37 19 P **P 18 23 19.4 +0.1**
baz=230
ANM Nome 80.58 20 P **P 18 23 19.9 -0.6**
ANM IAmb IAmb 18 23 22.4
comp=Z,33nm,1.7s
ANM Nome 80.58 20 P **P 18 23 19.9 -0.6**
ANM pmax pmax
comp=Z,33nm,1.7s
ANM Nome 80.58 20 P **P 18 23 20.4 -0.1**
baz=232
GAR Garm 80.61 311 P **P 18 23 20.3 -1.1**
O16K Kokwok River B 80.65 26 IAmb IAmb 18 23 22.3
comp=Z,33nm,1.6s
O16K Kokwok River B 80.65 26 P **P 18 23 20.5 -0.4**
baz=240
K15K Wolf Creek Mou 80.66 23 P **P 18 23 20.9 0.0**
baz=236
N16K Nishlik Lake 80.81 25 P **P 18 23 21.8 0.0**
baz=239
F14K Arctic Creek 80.83 19 P **P 18 23 21.8 0.0**
baz=231
DZA Taraz 81.01 315 *e*P **P 18 23 22.8 -0.5**
DZA Taraz 81.01 315 *e*P **P 18 23 22.8 -0.5**
baz=315
M16K Timber Creek 81.01 25 IAmb IAmb 18 23 23.4
comp=Z,31nm,1.2s
M16K Timber Creek 81.01 25 P **P 18 23 22.6 -0.2**
baz=239
L16K Owhat River 81.16 24 P **P 18 23 23.1 -0.4**
L16K IAmb IAmb 18 23 28.7
comp=Z,30nm,1.6s
L16K Owhat River 81.16 24 P **P 18 23 23.2 -0.4**
baz=238
O17K Koliganek Bris 81.18 26 P **P 18 23 23.2 -0.5**
baz=241,SNR=7.2
G15K Niukluk 81.30 20 P **P 18 23 24.1 -0.2**
baz=234
CHGR Chuyangaron 81.39 311 P P 18 23 23.2 -2.2
CHGR IAmb IAmb 18 23 26.5
comp=Z,11nm,0.8s
CHGR Chuyangaron 81.39 311 P P 18 23 23.3 -2.2
CHGR pmax pmax
comp=Z,11nm,0.8s
SIMJ Simiganj 81.50 311 P **P 18 23 24.4 -1.7**
N17K Nushagak Hills 81.51 26 P **P 18 23 25.3 -0.2**
baz=240
F15K North Star Dit 81.52 19 IAmb IAmb 18 23 42.1
comp=Z,17nm,1.2s
F15K North Star Dit 81.52 19 P **P 18 23 25.5 +0.1**
baz=233
J16K Anvik River 81.56 22 P **P 18 23 25.7 -0.1**
baz=237
KK31 Karatay Array 81.64 315 P **P 18 23 25.8 -0.9**
KK31 Karatay Array 81.64 315 P **P 18 23 25.8 -0.9**
KK31 pmax pmax
comp=Z,10.0nm,1.6s
KKAR Karatay Array 81.64 315 P P 18 23 24.8 -1.8
KKAR Karatay Array 81.64 315 P **P 18 23 25.6 -1.1**
KKAR IAmb IAmb 18 24 00.6
comp=Z,9.9nm,1.6s
KKAR Karatay Array 81.64 315 P **P 18 23 25.6 -1.1**
KKAR pmax pmax
comp=Z,10.0nm,1.6s
IUG luzhnay 81.71 314 *e*P **P 18 23 26.2 -0.9**
IUG pmax pmax
comp=Z,6.0nm,1.1s
IUG luzhnay 81.71 314 *e*P **P 18 23 26.3 -0.9**
comp=Z,5.9nm,1.1s,baz=314
H16K Elim 81.72 21 P **P 18 23 26.2 -0.3**
baz=235
OHAK Old Harbor 81.78 30 P **P 18 23 26.2 -0.7**
baz=244
M17K Holitna River 81.84 25 IAmb IAmb 18 23 32.2
comp=Z,36nm,1.5s
M17K Holitna River 81.84 25 P **P 18 23 26.8 -0.5**
baz=240
L17K Donlin 81.86 24 P **P 18 23 27.3 0.0**
baz=239
I17K Unalakleet 81.86 22 P **P 18 23 26.2 -1.0**
I17K Unalakleet 81.86 22 P **P 18 23 27.1 -0.1**
baz=237
O18K Koktuh Hills 82.06 27 P **P 18 23 27.6 -0.8**
baz=242
BRLS Borolday 82.10 315 *e*P P 18 23 27.1 -1.9
BRLS Borolday 82.10 315 *e*P P 18 23 27.2 -1.9
baz=315
G16K Koyuk River 82.11 20 IAmb IAmb 18 23 29.0
comp=Z,15nm,1.1s
G16K Koyuk River 82.11 20 P **P 18 23 28.4 -0.2**
baz=235
N18K Kilae Creek 82.15 26 P **P 18 23 27.6 -1.3**
baz=242
K17K Iditarod 82.15 23 P **P 18 23 28.2 -0.7**
K17K IAmb IAmb 18 23 29.5
comp=Z,25nm,1.1s
K17K Iditarod 82.15 23 P **P 18 23 28.6 -0.3**
baz=239
J17K VABM Dome 82.20 23 P **P 18 23 28.4 -0.7**
baz=238
KDAK Kodiak Island 82.36 29 P **P 18 23 29.6 -0.4**
baz=245
KDAK Kodiak Island 82.36 29 LR LR 18 58 21.8
comp=Z,160nm,18.5s,baz=260,slow=34
BRZS Berezniki 82.38 322 *e*P P 18 23 28.5 -1.8
BRZS pmax pmax
comp=Z,9.0nm,1.7s
BRZS Berezniki 82.38 322 *e*P P 18 23 28.5 -1.8
comp=Z,9.0nm,1.7s,baz=322
SVW2 Sparrevohn 82.48 26 P **P 18 23 30.4 -0.2**
SVW2 IAmb IAmb 18 23 31.2
comp=Z,15nm,1.2s
L18K Granite Mounta 82.55 24 P **P 18 23 30.7 -0.3**
baz=241
M18K Stony River 82.56 25 P **P 18 23 31.0 0.0**
baz=242
O19K Port Alsworth 82.61 27 P **P 18 23 30.1 -1.1**
baz=243
H17K Granite Mounta 82.72 21 IAmb IAmb 18 23 33.8
comp=Z,24nm,1.4s
H17K Granite Mounta 82.72 21 P **P 18 23 31.6 -0.1**
baz=238
G17K Kiwalik Mounta 82.76 21 P **P 18 23 31.9 -0.1**
baz=237
N19K Bonanza Creek 82.82 26 P **P 18 23 31.1 -1.4**
N19K IAmb IAmb 18 23 32.6
comp=Z,15nm,1.1s
N19K Bonanza Creek 82.82 26 P **P 18 23 31.9 -0.5**
baz=243,SNR=5.2
P19K Oil Pt 82.86 27 P **P 18 23 32.7 0.0**
baz=244
C16K Lisburne Hills 82.88 17 P **P 18 23 31.7 -0.8**
baz=232
F17K Baldwin Pennin 83.08 20 P **P 18 23 33.6 0.0**
baz=236
J18K Innoko River 83.16 23 IAmb IAmb 18 23 33.5
comp=Z,12nm,1.4s
J18K Innoko River 83.16 23 P **P 18 23 33.8 -0.2**
baz=241
TTA Tatalina 83.17 24 P **P 18 23 33.7 -0.6**
TTA IAmb IAmb 18 26 18.8
comp=Z,29nm,1.9s
TTA Tatalina 83.17 24 P **P 18 23 33.7 -0.6**
TTA pmax pmax
comp=Z,29nm,1.9s
TTA Tatalina 83.17 24 P **P 18 23 33.8 -0.4**
baz=241
D17K Noatak River 83.21 18 P **P 18 23 34.3 0.0**
baz=234
L19K White Mountain 83.29 25 P **P 18 23 34.6 -0.2**
baz=242
O20K Slope Mountain 83.32 27 P **P 18 23 34.5 -0.6**
baz=245
M19K Big River Lodg 83.36 25 P **P 18 23 34.7 -0.4**
baz=243
H18K Honhosa River 83.39 21 P **P 18 23 35.1 -0.1**
baz=239
QSPA South Pole Qui 83.47 180 P **P 18 23 35.6 -0.3**
comp=Z,6.4nm,1.0s,baz=305,slow=1.3,SNR=13
QSPA LR LR 19 01 47.8
comp=Z,1μm,18.0s,baz=13,slow=36
comp=Z,6.4nm,1.0s
C17K DeLong Mountai 83.64 17 P **P 18 23 36.3 -0.2**
baz=234
G18K Tagagawik 83.67 21 P **P 18 23 35.9 -0.8**
G18K Tagagawik 83.67 21 P **P 18 23 36.2 -0.4**
baz=239
L20K Farewell, AK 83.83 25 P **P 18 23 37.3 -0.3**
baz=243
E18K Tukpahlearik C 83.84 19 IAmb IAmb 18 23 39.9
comp=Z,11nm,1.1s
E18K Tukpahlearik C 83.84 19 P **P 18 23 37.3 -0.2**
baz=237
J19K Poorman 83.84 23 P **P 18 23 36.7 -0.9**
J19K Poorman 83.84 23 P **P 18 23 37.2 -0.4**
baz=242,SNR=6.6
M20K Styx River 83.88 25 IAmb IAmb 18 23 41.0
comp=Z,16nm,1.1s
M20K Styx River 83.88 25 P **P 18 23 37.4 -0.5**
baz=244
N20K Mount Spurr 83.99 26 P **P 18 23 37.9 -0.5**
baz=245
K20K Telida 84.15 24 P **P 18 23 38.9 -0.3**
baz=243
H19K Roundabout Mou 84.27 21 P **P 18 23 38.8 -0.9**
baz=241
CAPN Captain Cook N 84.27 27 P **P 18 23 39.4 -0.4**
baz=246
C18K Utukok River 84.34 18 IAmb IAmb 18 24 08.5
comp=Z,16nm,1.4s
C18K Utukok River 84.34 18 P **P 18 23 39.3 -0.8**
baz=236
G19K Purcell Mounta 84.35 21 IAmb IAmb 18 23 40.5
comp=Z,19nm,1.2s
G19K Purcell Mounta 84.35 21 P **P 18 23 39.7 -0.5**
baz=240
F19K Shaleruckik Mo 84.46 20 P **P 18 23 40.6 0.0**
baz=239
NRIK Noril'sk 84.48 343 P **P 18 23 39.4 -1.4**
NRIK IAmb IAmb 18 23 45.0
comp=Z,14nm,0.9s
NRIK Noril'sk 84.48 343 *ce*P P 18 23 38.2 -2.5
NRIK pmax pmax
comp=Z,19nm,1.0s
NRIK Noril'sk 84.48 343 P **P 18 23 39.3 -1.4**
comp=Z,7.6nm,0.8s,baz=123,slow=5.5,SNR=14
NRIK LR LR 19 04 09.6
comp=Z,117nm,18.1s,baz=118,slow=38
comp=Z,7.6nm,0.8s
J20K Nowinta River 84.50 23 IAmb IAmb 18 23 41.5
comp=Z,17nm,1.2s
J20K Nowinta River 84.50 23 P **P 18 23 40.6 -0.2**
baz=243
B18K Kokolik River 84.56 17 P **P 18 23 40.5 -0.6**
baz=235
SKT Skwentna 84.61 26 P **P 18 23 40.8 -0.8**
baz=246
I20K Naaghedeneel 84.66 22 P **P 18 23 40.6 -1.0**
baz=242
BVAR Borovoye Array 84.71 325 P **P 18 23 41.4 -0.9**
comp=Z,9.6nm,0.7s,baz=114,slow=6.4,SNR=51
comp=Z,9.6nm,0.7s
PPLA Purkeypile 84.72 25 P **P 18 23 41.1 -1.2**
baz=245
SUA Susitna One 84.74 26 P **P 18 23 40.7 -1.6**
SUA IAmb IAmb 18 23 41.4
comp=Z,9.7nm,1.1s
SUA Susitna One 84.74 26 P **P 18 23 41.2 -1.2**
baz=246
BRVK Borovoye 84.78 325 P **P 18 23 41.0 -1.6**
BRVK IAmb IAmb 18 23 43.8
comp=Z,17nm,1.1s
BRVK Borovoye 84.78 325 *ce*P **P 18 23 41.5 -1.1**
BRVK pmax pmax
comp=Z,23nm,1.3s
H20K Anotleneega Mo 84.83 22 P **P 18 23 41.9 -0.7**
baz=242
E19K Redstone River 84.96 20 IAmb IAmb 18 23 43.6
comp=Z,9.3nm,0.9s
E19K Redstone River 84.96 20 P **P 18 23 42.7 -0.5**
baz=240
CAST Castle Rocks 84.98 24 P **P 18 23 41.7 -1.7**
CAST Castle Rocks 84.98 24 P **P 18 23 42.2 -1.2**
baz=245,SNR=5.9
RC01 Rabbit Creek A 85.04 27 P P 18 23 41.6 -2.1
RC01 IAmb IAmb 18 23 47.0
comp=Z,11nm,0.8s

RC01	**Rabbit Creek A**	85.04	27	P	P	18 23 42.9	-0.8	
	baz=247							
C19K	**Lookout Ridge**	85.08	18	IAmb	IAmb	18 23 47.9		
	comp=Z,13nm,1.0s							
C19K	**Lookout Ridge**	85.08	18	P	P	18 23 42.8	-1.0	
	baz=237							
CHUM	**Lake Minchumin**	85.09	24	P	P	18 23 42.8	-1.1	
	baz=245,SNR=10							
M22K	**Willow**	85.13	26	P	P	18 23 42.3	-1.8	
M22K	**Willow**	85.13	26	P	P	18 23 43.4	-0.7	
	baz=247							
D19K	**Kuna River**	85.21	19	P	P	18 23 43.5	-1.0	
	baz=239							
F20K	**Avaraart Lake**	85.27	20	P	P	18 23 44.3	-0.4	
	baz=241							
IMAR	**Indian Mountai**	85.47	22	P	P	18 23 44.8	-1.0	
PMR	**Palmer**	85.50	26	P	P	18 23 45.4	-0.5	
	baz=248							
KTH	**Kantishna Hill**	85.51	24	P	P	18 23 44.2	-1.9	
GHO	**Glory Hole Cre**	85.66	26	P	P	18 23 44.3	-2.6	
H21K	**Melozitna Rive**	85.67	22	P	P	18 23 46.5	-0.3	
	baz=244							
P23K	**Montague Islan**	85.70	28	P	P	18 23 46.5	-0.5	
	baz=249							
BPAW	**Bear Paw Mtn.**	85.71	24	P	P	18 23 45.0	-2.1	
BPAW	**Bear Paw Mtn.**	85.71	24	P	P	18 23 46.5	-0.6	
	baz=246							
KNK	**Knik Glacier**	85.73	27	P	P	18 23 46.3	-0.9	
	baz=248							
TRF	**Thorofare Moun**	85.73	24	P	P	18 23 45.0	-2.4	
TRF				IAmb	IAmb	18 24 33.6		
	comp=Z,22nm,1.5s							
TRF	**Thorofare Moun**	85.73	24	P	P	18 23 46.7	-0.7	
	baz=246							
I21K	**Tanana**	85.78	23	P	P	18 23 47.2	-0.1	
	baz=245							
D20K	**Etivluk River**	85.80	19	P	P	18 23 46.6	-0.7	
	baz=240							
SML	**Sawmill**	85.93	26	P	P	18 23 46.6	-1.6	
SML				IAmb	IAmb	18 23 47.8		
	comp=Z,18nm,1.1s							
SML	**Sawmill**	85.93	26	P	P	18 23 46.6	-1.6	
SML				pmax	pmax			
	comp=Z,18nm,1.1s							
SML	**Sawmill**	85.93	26	P	P	18 23 47.1	-1.1	
	baz=248							
Q23K	**Middleton Isla**	86.00	29	P	P	18 23 47.7	-0.8	
	baz=250							
F21K	**Alatna River**	86.13	20	P	P	18 23 48.7	-0.3	
	baz=243							
MLY	**Manley**	86.19	23	P	P	18 23 46.6	-2.9	
MLY				IAmb	IAmb	18 23 53.4		
	comp=Z,10nm,1.2s							
MLY	**Manley**	86.19	23	P	P	18 23 48.6	-0.9	
	baz=246,SNR=7.2							
M23K	**Glacier View**	86.20	26	P	P	18 23 48.8	-0.7	
	baz=249							
B20K	**Meade River**	86.28	17	P	P	18 23 48.8	-0.9	
	baz=240							
H22K	**Ishtalitna Cre**	86.31	22	P	P	18 23 49.2	-0.7	
	baz=245							
RND	**Reindeer**	86.31	25	P	P	18 23 47.5	-2.6	
RND				IAmb	IAmb	18 23 48.9		
	comp=Z,12nm,1.0s							
RND	**Reindeer**	86.31	25	P	P	18 23 47.5	-2.6	
RND				pmax	pmax			
	comp=Z,13nm,1.0s							
BWN	**Browne**	86.35	24	P	P	18 23 48.5	-1.7	
SCM	**Sheep Creek Mo**	86.39	27	P	P	18 23 47.4	-3.1	
SCM	**Sheep Creek Mo**	86.39	27	P	P	18 23 47.4	-3.1	
SCM				pmax	pmax			
	comp=Z,111nm,1.9s							
SCM	**Sheep Creek Mo**	86.39	27	P	P	18 23 49.3	-1.2	
	baz=249							
MCK	**McKinley**	86.40	24	P	P	18 23 49.0	-1.4	
	baz=248							
E21K	**Killik River**	86.52	19	P	P	18 23 50.6	-0.3	
	baz=243							
C21K	**Knifeblade Rid**	86.59	19	P	P	18 23 50.7	-0.5	
	baz=242							
NEA2	**Nenana**	86.67	24	P	P	18 23 49.5	-2.2	
NEA2				IAmb	IAmb	18 24 44.8		
	comp=Z,25nm,1.9s							
NEA2	**Nenana**	86.67	24	P	P	18 23 50.8	-1.0	
	baz=248							
I23K	**Minto, Yukon-K**	86.78	23	P	P	18 23 49.9	-2.3	
I23K				IAmb	IAmb	18 25 28.7		
	comp=Z,27nm,1.9s							
I23K	**Minto, Yukon-K**	86.78	23	P	P	18 23 51.1	-1.1	
	baz=247							
B21K	**Ikpikpuk River**	86.86	18	P	P	18 23 51.5	-1.1	
B21K	**Ikpikpuk River**	86.86	18	P	P	18 23 52.1	-0.4	
	baz=242,SNR=8.0							
KLU	**Klutina**	86.90	27	P	P	18 23 52.8	-0.2	
KLU				IAmb	IAmb	18 24 15.5		
	comp=Z,23nm,1.4s							
KLU	**Klutina**	86.90	27	P	P	18 23 52.4	-0.6	
	baz=250							
M24K	**Tolsona, Glenn**	86.99	26	P	P	18 23 52.5	-0.9	
M24K	**Tolsona, Glenn**	86.99	26	P	P	18 23 52.7	-0.8	
	baz=250							
WRH	**Wood River Hil**	87.02	24	P	P	18 23 49.8	-3.6	
WRH				IAmb	IAmb	18 23 52.2		
	comp=Z,11nm,1.1s							
KAIM	**Kayak Island**	87.09	29	P	P	18 23 53.2	-0.7	
	baz=252							
A21K	**Barrow**	87.10	16	P	P	18 23 53.5	-0.2	
	baz=240							
E22K	**Anaktuvuk Pass**	87.10	20	P	P	18 23 52.7	-1.1	
E22K	**Anaktuvuk Pass**	87.10	20	P	P	18 23 53.5	-0.3	
	baz=245,SNR=8.2							
D22K	**Ayikyak River**	87.14	19	P	P	18 23 54.1	+0.1	
	baz=244							
G23K	**Bananza Creek**	87.14	22	P	P	18 23 53.8	-0.2	
	baz=246							
MDM	**Murphy Dome**	87.15	23	P	P	18 23 51.3	-2.7	
MDM				IAmb	IAmb	18 25 17.9		
	comp=Z,20nm,1.8s							
WSAR	**Wadi Sarin**	87.17	294	LR	LR	19 09 49.2		
	comp=Z,48nm,18.4s,baz=158,slow=40							
CCB	**Clear Creek Bu**	87.20	24	P	P	18 23 51.6	-2.7	
CCB				IAmb	IAmb	18 23 52.9		
	comp=Z,12nm,1.1s							
COLA	**College**	87.27	24	*i* P	P	18 23 51.1	-3.5	
COLA				pmax	pmax			
	comp=Z,12nm,1.2s							
COLD	**Coldfoot**	87.28	21	P	P	18 23 54.3	-0.3	
	baz=246							
BMRM	**Bremner River**	87.33	28	P	P	18 23 54.3	-0.8	
	baz=252							
HDA	**Harding Lake**	87.46	24	P	P	18 23 53.9	-1.7	
HDA				IAmb	IAmb	18 24 57.4		
	comp=Z,20nm,1.6s							
HDA	**Harding Lake**	87.46	24	P	P	18 23 55.6	0.0	
	baz=249							
POKR	**Poker Plat Res**	87.52	23	P	P	18 23 54.5	-1.4	
	baz=249							
N25K	**Chitina, Valde**	87.54	27	P	P	18 23 54.1	-2.0	
N25K	**Chitina, Valde**	87.54	27	P	P	18 23 55.5	-0.6	
	baz=252							
B22K	**Teshekpuk Lake**	87.56	18	P	P	18 23 55.6	-0.2	
	baz=243							
PAX	**Paxson**	87.59	26	P	P	18 23 55.5	-0.8	
	baz=251							
H24K	**Noodor Dome**	87.61	23	P	P	18 23 55.9	-0.4	
	baz=248							
IL31		87.61	24	P	P	18 23 53.3	-3.0	
ILAR	**Eielson Array**	87.61	24	P	P	18 23 52.7	-3.6	
ILAR	**Eielson Array**	87.61	24	P	P	18 23 53.6	-2.7	
	comp=Z,3.4nm,0.7s,baz=255,slow=4.9,SNR=31							
ILAR				LR	LR	18 59 30.5		
	comp=Z,179nm,19.9s,baz=248,slow=33							
	comp=Z,3.4nm,0.7s							
E23K	**Chandalar**	87.82	20	P	P	18 23 56.7	-0.6	
	baz=247							
D23K	**Nanushuk River**	87.83	19	P	P	18 23 57.4	+0.1	
	baz=246							
CRQM	**Cirque**	87.95	28		P	18 23 56.7	-1.5	
CRQE	**Cirque**	87.97	28	P	P	18 23 57.4	-0.9	
	baz=253							
TOLK	**Toolik Lake Re**	88.07	20	P	P	18 23 58.0	-0.4	
	baz=247							
G24K	**Hadweenzic Riv**	88.08	22	P	P	18 23 57.2	-1.3	
	baz=249							
J25K	**Salcha River,**	88.17	24	P	P	18 23 57.6	-1.5	
	baz=251							
MCARA	**McCarthy VSAT**	88.19	28	P	P	18 23 59.2	+0.1	
	baz=253							
C23K	**Itkillik River**	88.21	19	P	P	18 23 58.7	-0.3	
	baz=246							
F24K	**Squaw Lake**	88.22	21	P	P	18 23 59.0	-0.2	
	baz=248							
MENT	**Mentasta**	88.34	26	P	P	18 23 58.8	-1.1	
MESA	**MESA**	88.35	29	P	P	18 23 59.0	-1.2	
	baz=254							
D24K	**Happy Valley**	88.52	19	P	P	18 24 00.4	-0.1	
	baz=248							
L26K	**Log Cabin Wild**	88.53	26	P	P	18 23 59.7	-1.0	
	baz=253							
SCRK	**Sand Creek**	88.54	25	P	P	18 23 58.9	-2.0	
SCRK				IAmb	IAmb	18 23 60.0		
	comp=Z,10nm,1.5s							
SCRK	**Sand Creek**	88.54	25	P	P	18 24 00.5	-0.4	
	baz=252							
H25L	**Birch Creek**	88.55	23	P	P	18 24 00.0	-0.6	
	baz=250							
GRNC	**Granite Creek**	88.60	28	P	P	18 23 59.8	-1.6	
G25K	**Bearman Lake**	88.61	22	P	P	18 24 00.8	-0.2	
	baz=250							
BARN	**Barnard Glacie**	88.73	28	P	P	18 24 01.0	-1.0	
C24K	**Franklin Bluff**	88.77	19	P	P	18 24 01.4	-0.2	
	baz=248,SNR=7.2							
CTG	**Chitna Glacier**	88.86	28	P	P	18 24 01.5	-0.9	
	baz=255							
CTGM	**Chitna Glacie**	88.86	28	P	P	18 24 00.6	-1.8	
FYU	**Fort Yukon**	88.87	22	P	P	18 24 01.9	-0.3	
J26L	**Joseph Creek**	88.88	25	IAmb	IAmb	18 24 02.4		
	comp=Z,9.8nm,1.0s							
J26L	**Joseph Creek**	88.88	25	P	P	18 24 01.5	-0.9	
	baz=252							
LOGN	**Logan Glacier**	88.98	28	P	P	18 24 02.0	-1.0	
M27K	**Edge Creek, AK**	88.99	27	P	P	18 24 01.9	-1.2	
	baz=254							
F25K	**Christian Rive**	89.06	21	P	P	18 24 02.4	-0.7	
	baz=251							
L27K	**Beaver Creek,**	89.20	26	IAmb	IAmb	18 24 04.2		
	comp=Z,12nm,1.2s							
L27K	**Beaver Creek,**	89.20	26	P	P	18 24 03.5	-0.4	
	baz=254							
BCAR	**Beaver Creek A**	89.22	26	P	P	18 24 02.9	-1.1	
E25K	**Arctic Village**	89.26	21	P	P	18 24 04.2	+0.1	
	baz=251,SNR=7.1							
I26K	**Coal Creek Min**	89.29	24	IAmb	IAmb	18 24 03.7		
	comp=Z,7.2nm,1.2s							
I26K	**Coal Creek Min**	89.29	24	P	P	18 24 03.2	-1.0	
	baz=253							
K27K	**Chicken**	89.36	25	P	P	18 24 04.5	-0.1	
	baz=254							
BMAR	**Burnt Mountain**	89.39	22	P	P	18 24 04.3	-0.4	
D25K	**Kavik River**	89.39	20	IAmb	IAmb	18 24 06.2		
	comp=Z,15nm,1.6s							
D25K	**Kavik River**	89.39	20	P	P	18 24 04.4	-0.3	
	baz=250							
BVCY	**Beaver Creek**	89.46	27	P	P	18 24 05.3	+0.2	
	baz=255							
YUK3	**Moose Creek**	89.48	28	P	P	18 24 04.8	-0.6	
	baz=255							
G26K	**Porcupine Rive**	89.54	22	P	P	18 24 05.2	-0.1	
	baz=252							
F26K	**Sheenjek River**	89.63	21	P	P	18 24 04.9	-0.9	
	baz=252							
YUK8	**Steele Glacier**	89.68	28	P	P	18 24 04.5	-2.0	
	baz=256							
GEYT	**Allbeck**	89.74	308	LR	LR	19 06 14.2		
	comp=Z,75nm,21.7s,baz=162,slow=37							
EGAK	**Eagle**	89.95	25	P	P	18 24 05.8	-1.5	
EGAK				IAmb	IAmb	18 24 07.5		
	comp=Z,13nm,1.2s							
EGAK	**Eagle**	89.95	25	P	P	18 24 07.0	-0.3	
	baz=255							
I27K	**Kandik River**	89.99	24	P	P	18 24 06.7	-0.8	
	baz=254							
C26K	**Camden Bay**	90.07	19	P	P	18 24 06.8	-1.0	
	baz=251							
H27K	**Steamboat Moun**	90.19	23	P	P	18 24 08.3	-0.1	
	baz=254							
ABKAR	**Akbulak array**	90.20	319	P	P	18 24 06.2	-2.7	
ABKAR	**Akbulak array**	90.20	319	P	P	18 24 06.0	-2.8	
ABKAR				IAmb	IAmb	18 24 08.0		
	comp=Z,5.5nm,1.4s							
YUK4	**Talbot Arm**	90.22	28	P	P	18 24 07.7	-1.2	
	baz=257							
P29M	**Windy Craggy**	90.28	30	P	P	18 24 08.7	-0.2	
	baz=258							
DAWY	**Dawson**	90.52	25	P	P	18 24 08.8	-1.2	
DAWY				IAmb	IAmb	18 24 12.5		
	comp=Z,7.5nm,1.1s							
DAWY	**Dawson**	90.52	25	P	P	18 24 08.7	-1.3	
	baz=256							
M29M	**Somme Creek**	90.55	27	IAmb	IAmb	18 24 17.3		
	comp=Z,21nm,1.7s							
M29M	**Somme Creek**	90.55	27	P	P	18 24 09.3	-1.0	
	baz=257							
I28M	**Miner Creek**	90.62	24	IAmb	IAmb	18 24 12.4		
	comp=Z,7.7nm,1.1s							
I28M	**Miner Creek**	90.62	24	P	P	18 24 09.8	-0.8	
	baz=256							
HYT	**Haines Junctio**	90.64	29	P	P	18 24 10.1	-0.7	
	baz=258							
P30M	**Million Dollar**	90.76	30	P	P	18 24 10.6	-0.7	
	baz=258							
L29M	**L29M**	90.84	27	P	P	18 24 11.4	-0.2	
	baz=257							
N30M	**Aishikik Lake**	90.97	28	P	P	18 24 12.2	-0.1	
	baz=258							
F28M	**Old Crow**	91.18	22	P	P	18 24 12.6	-0.4	
	baz=256							
D27M	**Malcolm River**	91.20	20	P	P	18 24 13.2	+0.1	
	baz=255							
K29M	**Barlow Dome**	91.27	26	IAmb	IAmb	18 24 14.1		
	comp=Z,7.4nm,1.0s							
K29M	**Barlow Dome**	91.27	26	P	P	18 24 13.5	-0.1	
	baz=258							
O30N	**Mendenhall**	91.31	29	P	P	18 24 13.1	-0.7	
	baz=259							
M30M	**Minto, Yukon**	91.33	27	P	P	18 24 13.1	-0.8	
	baz=259							
H29M	**Whitestone**	91.43	23	P	P	18 24 13.5	-0.7	
	baz=257							
WHY	**Whitehorse**	91.88	29	P	P	18 24 15.6	-0.9	
	baz=260							
J30M	**Hart River**	91.93	25	P	P	18 24 15.5	-1.2	
	baz=259							
D28M	**Stokes Point**	91.99	20	P	P	18 24 16.0	-0.7	
	baz=257							
I30M	**Mount Dempster**	92.03	25	P	P	18 24 16.6	-0.5	
	baz=259							
ARU	**Arti**	92.16	326	*c i* P	P	18 24 15.2	-2.5	
ARU						18 27 54.6		
ARU				S	SKSac	18 34 47.9	-3.1	
ARU				pmax	pmax			
	comp=Z,8.0nm,1.4s							
G30M	**tAoh Zraii Nji**	92.43	23	P	P	18 24 18.0	-0.9	
	baz=259							
ELIB	**Princess Elisa**	92.60	196	*d* P	P	18 24 20.3	+0.5	
F30M	**Barrier River**	92.71	22	P	P	18 24 19.8	-0.3	
	baz=260							
FARO	**Faro, Yukon**	92.85	28	P	P	18 24 19.6	-1.3	
	baz=262							
H31M	**Peel River**	92.97	24	P	P	18 24 19.7	-1.6	
	baz=261							
G31M	**Satah River**	93.17	23	P	P	18 24 22.0	-0.2	
	baz=261							
R33M	**Jennings River**	93.64	31	P	P	18 24 23.6	-1.1	
	baz=264							
INK	**Inuvik**	93.66	22	P	P	18 24 23.5	-0.9	
	baz=262							
INK	**Inuvik**	93.66	22	LR	LR	19 02 04.0		
	comp=Z,184nm,20.9s,baz=187,slow=33							
DLBC	**Dease Lake**	94.02	32	LR		19 00 51.7		
	comp=Z,236nm,19.8s,baz=277,slow=32							
BBB	**Bella Bella**	94.55	38	LR	LR	19 02 00.6		
	comp=Z,184nm,19.2s,baz=230,slow=32							
KMRM	**Mail Ridge**	96.84	50		P	18 24 39.6	-0.1	
YBH	**Yreka Blue Hor**	97.66	49	LR	LR	19 01 10.5		
	comp=Z,490nm,21.4s,baz=311,slow=31							
BELG	**Belogornoye**	98.24	322	*i* P	P	18 24 44.0	-1.6	
BELG				pmax	pmax			
	comp=Z,2.0nm,1.1s							
KIV	**Kislovodsk**	101.73	313	*e* P	Pdif	18 25 07.7	+6.2	
KIV				pmax	pmax			
	comp=Z,3.0nm,1.1s							
OBN	**Obninsk**	104.55	325	*i* P	Pdif	18 25 13.5	-0.1	
OBN				*e*		18 29 30.5		
	comp=Z,4.0nm,0.8s			pmax	pmax			
PAL	**Palisades**	132.58	38	P	PKPdf	18 30 22.6	-0.8	
	baz=306							
HRV	**Adam Dziewonsk**	133.04	35	P	PKPdf	18 30 23.5	-0.7	
	baz=310							
TORD	**Torodi Ar. Bea**	141.11	283	PKhKP	PKPpre	18 30 33.1		
	comp=Z,0.2nm,0.5s,baz=140,slow=37,SNR=3.0							
TORD				PKP	PKPdf	18 30 40.0	+0.1	
	comp=Z,1.0nm,0.8s,baz=24,slow=1.7,SNR=4.3							
LPAZ	**La Paz**	141.96	127	PKP	PKPdf	18 30 42.2	0.0	
	comp=Z,0.8nm,0.5s,baz=300,slow=6.2,SNR=2.0							
TBTG	**Tabatinga, AM**	145.70	107	PKPdf	PKPdf	18 30 46.9	-1.2	
SDV	**Santo Domingo**	146.83	84	PKPdf	PKPdf	18 30 48.2	-2.0	
KIC	**Kosan Boka**	147.71	272	*e* P	PKPbc	18 30 57.1	+2.9	
	comp=Z,8.9nm,0.7s							
DBIC	**Dimbokro**	147.83	272	PKPbc	PKPdf	18 30 53.1	+1.6	
DBIC	**Dimbokro**	147.83	272	PKPbc	PKPdf	18 30 54.2	+2.6	
	comp=Z,4.7nm,0.7s,baz=109,slow=2.4,SNR=6.9							
LIC	**Lamto**	147.99	271	*e* P	PKPdf	18 30 55.6	+3.8	
	comp=Z,20nm,0.7s							
TIC	**Toumodi**	148.00	272	*e* P	PKPbc	18 30 56.8	+1.8	
	comp=Z,20nm,1.0s							

*IDC **07** 18:11:20.6±3.2, 56°.07N×149°.51W, h0km, mb3.2/1, mbtmp3.0/4, ML3.0/3, MS2.8/1, Error ellipse: s-maj=43.7km s-min=32.5km az=6.0*

*NEIC **07** 18:11:21.6±1.0, 56°.27N±0°.08×149°.5W±0°.1, h10km±2km, ML3.4/56, ML3.2(AEIC), Error ellipse: s-maj=13.1km s-min=9.8km az=164.0*

*AEIC **07** 18:11:24.2±1.4, 56°.22N±0°.09×149°.4W±0°.1, h0km±8km, Error ellipse: s-maj=13.4km s-min=8.2km az=157.0*

ISC 07 18:11:22.0±1.3, **56°.30N**±0°.09×**149°.47W**±0°.06, **h10**km, **n165**, ₙ0°**64**/156, **Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	2.26	312		Pn	18 11 60.0	+0.6
KDAK	**Kodiak Island**	2.26	312		Sn	18 12 26.2	-1.0
KDAK	**Kodiak Island**	2.26	312	Pn	Pn	18 11 58.6	-0.8
	1.2nm,0.3s,baz=139,slow=19,SNR=67						
KDAK				Sn	Sn	18 12 26.9	-0.4
	4.4nm,0.3s,baz=55,slow=23,SNR=19						
	3.3nm,0.3s						
OHAK	**Old Harbor**	2.30	295		Pn	18 11 59.2	-0.7
OHAK	**Old Harbor**	2.30	295		Sn	18 12 26.5	-1.7
OHAK	**Old Harbor**	2.30	295	IAML		18 12 27.1	
	comp=E,54nm,0.7s						
OHAK				IAML		18 12 27.1	
	comp=N,66nm,0.8s						
OHAK	**Old Harbor**	2.30	295	P	Pn	18 11 59.7	-0.2
OHAK	**Old Harbor**	2.30	295	P	Pn	18 11 59.5	-0.3
	baz=113						
OHAK				S	Sn	18 12 26.5	-1.7
	baz=113						
SII	**Sitkinak Islan**	2.63	278		Pn	18 12 04.2	-0.3
SII				IAML		18 12 38.9	
	comp=E,118nm,1.3s						
SII				IAML		18 12 53.2	
	comp=N,88nm,0.7s						
SII	**Sitkinak Islan**	2.63	278	P	Pn	18 12 04.7	+0.2
SII	**Sitkinak Islan**	2.63	278	S	Sn	18 12 35.8	-0.7
	baz=94						
SYI	**Shuyak Island**	2.80	327	Pn	Pn	18 12 07.3	+0.5
SYI				IAML		18 12 42.8	
	comp=E,66nm,0.8s						
SYI	**Shuyak Island**	2.80	327		Sn	18 12 40.6	0.0
Q20K	**Shuyak Island**	2.81	327	P	Pn	18 12 07.2	+0.3
	baz=145						
Q20K				S	Sn	18 12 40.6	-0.1
	baz=145						
CNPM	**China Poot**	3.37	345		Pn	18 12 14.3	-0.4
CNPM	**China Poot**	3.37	345		Sn	18 12 55.1	+0.4
CNPM	**China Poot**	3.37	345	IAML		18 12 56.4	
	comp=E,41nm,0.7s						
CNPM				IAML		18 13 04.4	
	comp=N,25nm,1.1s						
Q19K	**Cape Douglas,**	3.46	321	Pn	Pn	18 12 17.3	+1.3
Q19K				IAML		18 13 02.5	
	comp=N,159nm,0.7s						
CHIR	**Chirikof Islan**	3.48	265		Pn	18 12 15.9	-0.2
CHIR	**Chirikof Islan**	3.48	265	IAML		18 13 36.8	
	comp=N,50nm,1.5s						
CHIR				IAML		18 13 37.6	
	comp=E,63nm,1.5s						
CHIR	**Chirikof Islan**	3.48	265	P	Pn	18 12 15.9	-0.2
	baz=80						
BRSE	**Bradley Lake S**	3.52	349		Pn	18 12 15.9	-0.8
BRSE	**Bradley Lake S**	3.52	349	P	Pn	18 12 16.0	-0.8
	baz=169						
Q23K	**Middleton Isla**	3.56	27	Pn	Pn	18 12 16.5	-0.7
Q23K	**Middleton Isla**	3.56	27	P	Pn	18 12 16.4	-0.7
	baz=209						
BRLK	**Bradley Lake**	3.56	348		Pn	18 12 17.2	0.0
MID	**Middleton Isla**	3.56	27	Pn	Pn	18 12 16.4	-0.8
HOM	**Homer**	3.56	342	Pn	Pn	18 12 15.5	-1.8
HOM				IAML		18 13 04.0	
	comp=N,133nm,0.8s						
HOM				IAML		18 13 16.4	
	comp=E,119nm,0.9s						
KAKN	**Katmai Knife C**	3.63	306		Pn	18 12 19.2	+0.8
P23K	**Montague Islan**	3.87	16		Pn	18 12 21.1	-0.3
P23K	**Montague Islan**	3.87	16	P	Pn	18 12 21.2	-0.3
	baz=197						
P19K	**Oil Pt**	3.91	331	Pn	Pn	18 12 22.7	+0.5
P19K				IAML		18 13 20.5	
	comp=N,60nm,0.5s						
P19K				IAML		18 13 20.7	
	comp=E,58nm,0.5s						
P19K	**Oil Pt**	3.91	331	P	Pn	18 12 22.7	+0.5
	baz=148						
CNTC	**Contact Creek**	4.00	302		Pn	18 12 24.1	+0.8
Q17K	**Contact Creek**	4.00	302	P	Pn	18 12 24.1	+0.7
	baz=117						
O20K	**Slope Mountain**	4.14	338		Pn	18 12 25.5	+0.2
O20K	**Slope Mountain**	4.14	338	P	Pn	18 12 25.5	+0.2
	baz=155						
ILSW	**Iliamna Southw**	4.18	334	Pn	Pn	18 12 25.8	0.0
ILSW				IAML		18 13 20.5	
	comp=E,35nm,0.8s						
ILSW				IAML		18 13 21.1	
	comp=N,27nm,0.7s						
O22K	**Cooper Landing**	4.20	358		Pn	18 12 25.9	-0.1
O22K				IAML		18 13 26.5	
	comp=E,87nm,0.8s						
O22K	**Cooper Landing**	4.20	358	P	Pn	18 12 26.0	0.0
	baz=178						
SLKM	**Skilak Lake**	4.24	355		Pn	18 12 26.4	-0.2
P18K	**Big Mountain,**	4.37	318	Pn	Pn	18 12 28.5	+0.1
P18K	**Big Mountain,**	4.37	318	P	Pn	18 12 28.5	+0.1
	baz=133						
HIN	**Hinchinbrook I**	4.40	20		Pn	18 12 28.6	-0.

comp=E,37nm,1.3s
GOAT Goat Mountain 4.97 28 Pn 18 12 36.5 -0.1
CHGN Chignik 4.98 274 Pn **Pn 18 12 36.8 +0.1**
CHGN IAML 18 13 51.9
comp=N,37nm,0.1s
CHGN IAML 18 13 52.0
comp=E,28nm,0.1s
BGLC Bering Glacier 5.04 38 Pn 18 12 38.0 +0.5
BGLC Bering Glacier 5.04 38 P **Pn 18 12 38.0 +0.5**
baz=223
BERG Berg Lake 5.11 34 Pn **Pn 18 12 37.0 -1.5**
GRIN Grindle Hills 5.15 37 Pn 18 12 39.2 +0.1
KNK Knik Glacier 5.16 5 Pn **Pn 18 12 38.6 -0.6**
KNK IAML 18 13 38.3
comp=N,11nm,1.5s
KNK IAML 18 13 58.2
comp=E,15nm,1.5s
SPCP Crater Peak Br 5.17 345 Pn 18 12 39.5 0.0
SUA Susitna One 5.22 353 Pn **Pn 18 12 39.5 -0.7**
SUA IAML 18 14 04.0
comp=N,10.0nm,1.4s
SUA Susitna One 5.22 353 P **Pn 18 12 39.4 -0.8**
baz=172
N19K Bonanza Creek 5.23 332 Pn **Pn 18 12 40.0 -0.3**
N19K Bonanza Creek 5.23 332 P **Pn 18 12 39.8 -0.5**
baz=148
SNH Sunshine Point 5.24 39 Pn **Pn 18 12 40.3 0.0**
SNH IAML 18 13 42.9
comp=E,41nm,1.5s
SNH IAML 18 14 08.9
comp=N,27nm,1.5s
KHIT Khitrov Hills 5.29 36 Pn 18 12 40.6 -0.5
BMRM Bremner River 5.33 26 Pn 18 12 41.5 -0.1
BMRM Bremner River 5.33 26 P **Pn 18 12 41.5 -0.1**
baz=210
P16K Nushagak River 5.33 304 Pn 18 12 42.7 +1.2
P16K Nushagak River 5.33 304 P **Pn 18 12 42.7 +1.2**
baz=118
STLK Strandline Lak 5.36 348 Pn 18 12 42.0 0.0
WAX Waxell Ridge 5.43 37 Pn **Pn 18 12 42.8 -0.2**
GHO Glory Hole Cre 5.50 3 Pn 18 12 44.6 +0.7
KLU Klutina 5.53 18 Pn **Pn 18 12 43.8 -0.5**
KLU Klutina 5.53 18 P **Pn 18 12 44.6 +0.3**
baz=201
N18K Kilae Creek 5.53 325 Pn Pn 18 12 44.1 -0.2
SML Sawmill 5.56 6 Pn Pn 18 12 44.8 +0.1
CRQM Cirque 5.57 34 Pn Pn 18 12 44.6 -0.4
CRQE Cirque 5.58 34 P **Pn 18 12 44.9 -0.2**
baz=219
O16K Kokwok River B 5.66 309 Pn 18 12 46.1 +0.1
SCM Sheep Creek Mo 5.66 10 Pn **Pn 18 12 47.0 +0.8**
TGL Tana Glacier 5.66 35 Pn **Pn 18 12 45.7 -0.6**
ISLE Juniper Island 5.71 38 Pn **Pn 18 12 46.5 -0.5**
BAGL Bagley Icefiel 5.72 40 Pn 18 12 46.6 -0.2
SVW2 Sparrevohn 5.77 329 Pn **Pn 18 12 46.0 -1.6**
SVW2 Sparrevohn 5.77 329 P **Pn 18 12 47.6 0.0**
SKT Skwentna 5.80 350 Pn **Pn 18 12 47.7 -0.3**
VRDI Verde Repeater 5.85 30 Pn 18 12 47.8 -1.1
N17K Nushagak Hills 5.87 319 Pn Pn 18 12 48.7 -0.2
N25K Chitina, Valde 5.89 23 Pn Pn 18 12 49.1 -0.2
M20K Styx River 5.91 343 Pn Pn 18 12 47.6 -1.9
CNBA Chernabura Isl 5.93 260 Pn Pn 18 12 49.8 0.0
GLB Gilahina Butte 5.94 27 Pn **Pn 18 12 48.2 -1.7**
KIAG Kiagna River 5.94 36 Pn 18 12 49.6 -0.5
GRNC Granite Creek 6.01 39 Pn 18 12 50.5 -0.5
TABL Table Mountain 6.04 43 Pn **Pn 18 12 51.2 -0.3**
MCARA McCarthy VSAT 6.10 31 Pn **Pn 18 12 52.4 +0.3**
PTPK Patty Peak 6.11 34 Pn 18 12 52.5 0.0
M18K Stony River 6.16 330 Pn 18 12 52.7 -0.2
M18K Stony River 6.16 330 P **Pn 18 12 52.7 -0.2**
baz=145
M19K Big River Lodg 6.17 338 Pn **Pn 18 12 52.9 -0.1**
PCA Pinnacle 6.18 48 Pn 18 12 53.1 -0.2
PINM Pinnacle 6.18 48 P **Pn 18 12 53.1 -0.2**
baz=236
BARN Barnard Glacie 6.27 37 Pn 18 12 54.3 -0.4
SDPT Sand Point 6.28 266 Pn **Pn 18 12 54.2 -0.3**
SDPT Sand Point 6.28 266 P **Pn 18 12 54.7 +0.2**
SDPT Sand Point 6.28 266 P **Pn 18 12 54.4 -0.1**
baz=77
CTGM Chitina Glacie 6.32 39 Pn **Pn 18 12 54.7 -0.6**
PNL Peninsula 6.33 54 Pn 18 12 54.6 -0.7
PNL Peninsula 6.33 54 P **Pn 18 12 55.3 0.0**
PNL Peninsula 6.33 54 P **Pn 18 12 54.6 -0.7**
baz=242
LOGN Logan Glacier 6.34 41 Pn **Pn 18 12 55.1 -0.5**
BCPM Bancas Point 6.37 51 Pn 18 12 55.4 -0.5
L19K White Mountain 6.51 337 Pn **Pn 18 12 56.9 -1.0**
M17K Holitna River 6.57 324 Pn **Pn 18 12 58.4 -0.2**
M17K Holitna River 6.57 324 P **Pn 18 12 58.6 0.0**
baz=138
N15K Kwethluk River 6.82 309 Pn Pn 18 13 03.5 +1.6
M16K Timber Creek 6.85 318 Pn Pn 18 13 03.2 +0.8
O14K Tigyukauivet M 6.97 300 Pn Pn 18 13 04.6 +0.6
L18K Granite Mounta 6.99 331 Pn Pn 18 13 02.4 -1.9
PS4A Pavlof South-4 7.04 267 Pn 18 13 04.9 -0.1
P29M Windy Craggy 7.08 57 Pn 18 13 04.3 -1.3
P29M Windy Craggy 7.08 57 P **Pn 18 13 05.8 +0.2**
baz=247
TRF Thorofare Moun 7.19 357 Pn **Pn 18 13 05.8 -1.4**
M27K Edge Creek, AK 7.21 29 Pn **Pn 18 13 07.2 -0.3**
CAST Castle Rocks 7.26 351 Pn 18 13 07.6 -0.5
KTH Kantishna Hill 7.32 355 Pn **Pn 18 13 09.0 +0.2**
L16K Owhat River 7.49 321 Pn **Pn 18 13 10.9 -0.2**
K17K Iditarod 7.84 329 Pn **Pn 18 13 15.5 -0.5**
BPAW Bear Paw Mtn. 7.86 355 Pn **Pn 18 13 16.2 -0.1**
FALS False Pass 8.04 265 P **Pn 18 13 19.2 +0.6**
N30M Aishikik Lake 8.23 46 Pn **Pn 18 13 21.0 -0.4**
O30N Mendenhall 8.31 52 Pn **Pn 18 13 22.3 -0.1**
M29M Somme Creek 8.33 38 Pn **Pn 18 13 22.3 -0.5**
L14K Kuka Creek 8.51 312 Pn **Pn 18 13 26.0 +0.9**
IL31 8.60 7 Pn **Pn 18 13 26.6 +0.3**
ILAR Eielson Array 8.60 7 Pn **Pn 18 13 27.1 +0.7**
comp=N,0.1nm,0.3s,baz=186,slow=13,SNR=5.5
ILAR Sn **Sn 18 15 01.4 -1.8**
comp=N,0.1nm,0.3s,baz=187,slow=22,SNR=5.4
ILAR LR LR 18 16 32.7
comp=N,67nm,21.0s,baz=116,slow=35
comp=N,0.5nm,0.5s
MDM Murphy Dome 8.71 3 Pn **Pn 18 13 27.6 -0.3**
J26L Joseph Creek 8.73 17 Pn **Pn 18 13 28.2 0.0**
WHY Whitehorse 8.80 54 Pn 18 13 29.1 -0.1
I23K Minto, Yukon-K 8.88 0 Pn **Pn 18 13 29.9 -0.3**
L29M L29M 8.91 35 Pn **Pn 18 13 30.9 +0.2**
I21K Tanana 9.00 353 Pn **Pn 18 13 32.8 +1.0**
H21K Melozitna Rive 9.53 352 Pn **Pn 18 13 39.5 +0.4**
P33M Teslin, Yukon 9.61 59 Pn **Pn 18 13 40.3 0.0**
IMAR Indian Mountai 9.93 350 Pn **Pn 18 13 45.0 +0.4**
R33M Jennings River 10.33 65 Pn **Pn 18 13 48.9 -1.4**
F21K Alatna River 11.12 352 Pn **Pn 18 14 00.1 -0.8**
BMAR Burnt Mountain 11.40 10 Pn **Pn 18 14 04.8 0.0**
YKA Yellowknife Ar 18.62 56 P **P 18 15 39.9 +0.6**
comp=N,0.1nm,0.3s,baz=264,slow=9.9,SNR=5.7
comp=N,0.2nm,0.4s
H11N2 WAKE ISLAND Hy 48.80 240 T T 19 12 44.4
baz=31,slow=76,SNR=4.1
H11N3 WAKE ISLAND Hy 48.80 240 T T 19 12 44.1
baz=31,slow=76,SNR=4.4
H11N1 WAKE ISLAND Hy 48.82 240 T T 19 12 46.0
baz=31,slow=76,SNR=4.5
H11S1 WAKE ISLAND Hy 49.94 239 T T 19 15 00.0
baz=32,slow=74,SNR=5.2
H11S2 WAKE ISLAND Hy 49.95 239 T T 19 14 11.7
baz=32,SNR=3.9
H11S3 WAKE ISLAND Hy 49.96 239 T T 19 14 47.9
baz=32,slow=74,SNR=4.2
MKAR Makanchi Array 68.52 325 P **P 18 22 25.9 +1.7**
comp=N,0.1nm,0.5s,baz=36,slow=8.2,SNR=2.0
comp=N,0.1nm,0.5s

*IDC **07** 18:16:01.2±1.2,6°.21S×142°.94E,h0km,mb4.0/3,*
mbtmp4.0/5,ML1.5/1,Error ellipse: s-maj=42.7km
s-min=27.7km az=56.0
ISC 07 18:16:06.1±1.0,6°.4S±0°.1×142°.8E±0°.1,h35km,n6,σ1s42/7,
mb4.0/3,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.26**	**125**	Pn	**Pn**	**18 17 22.2**	**-0.1**
	1.0nm,0.3s,baz=324,slow=18,SNR=1.1						
PMG				Sn	**Sn**	**18 18 22.1**	**+0.3**
	0.4nm,0.3s,baz=15,slow=20,SNR=1.6						
	6.1nm,0.4s						
WRA	**Warramunga Arr**	**15.78**	**211**	Pn	**Pn**	**18 19 44.0**	**-1.8**
	0.9nm,0.3s,baz=30,slow=14,SNR=5.8						
ASAR	**Alice Springs**	**19.19**	**206**	P	**P**	**18 20 28.8**	**+1.7**
	7.6nm,0.8s,baz=29,slow=12,SNR=5.0						
MKAR	**Makanchi Array**	**75.17**	**322**	P	**P**	**18 27 45.7**	**+0.6**
	0.7nm,1.0s,baz=115,slow=6.8,SNR=3.5						
	0.7nm,1.0s						
BVAR	**Borovoye Array**	**84.64**	**325**	P	**P**	**18 28 36.5**	**+0.4**
	2.2nm,0.9s,baz=106,slow=4.7,SNR=8.3						
	2.2nm,0.9s						
ILAR	**Eielson Array**	**87.50**	**24**	P	**P**	**18 28 49.0**	**-1.0**
	0.9nm,0.9s,baz=255,slow=5.3,SNR=6.7						
	0.9nm,0.9s						

*IDC **07** 18:25:21.9±2.9,1°.21N×98°.01E,h0km,mb3.7/4,*
mbtmp3.7/5,ML4.1/1,Error ellipse: s-maj=121.0km
s-min=30.0km az=56.0
*DJA **07** 18:25:38.8±0.6,2°.N±4°×9°9E±°,h116km±6km,M3.9/7,*
mb4.8/1,MLv3.4/7
ISC 07 18:25:37.6±1.0,1°.9N±0°.1×99°.1E±0°.1,h100km,n10,
σ1s22/10,mb3.7/4,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.67**	**250**	P	**Pn**	**18 26 06.8**	**+0.8**
PBSI	**Pulau Batu**	**2.12**	**204**	P	**Pn**	**18 26 12.2**	**+0.5**
SISI	**Saibi**	**3.20**	**181**	P	**Pn**	**18 26 25.2**	**-0.9**
PPSI	**Pulau Pagai**	**4.71**	**169**	P	**Pn**	**18 26 46.8**	**+0.4**
MNAI	**Manna**	**7.29**	**148**	P	**Pn**	**18 27 22.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**16.46**	**359**	P	**Pn**	**18 29 24.5**	**+1.8**
	0.2nm,0.3s,baz=191,slow=11,SNR=8.4						
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**40.78**	**124**	P	**P**	**18 33 10.1**	**+0.7**
	1.3nm,1.2s,baz=300,slow=9.3,SNR=2.4						
	1.3nm,1.2s						
MKAR	**Makanchi Array**	**47.07**	**344**	P	**P**	**18 33 58.4**	**-0.9**
	0.2nm,0.4s,baz=160,slow=8.3,SNR=8.8						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**53.21**	**349**	P	**P**	**18 34 44.2**	**-1.3**
	0.6nm,0.3s,baz=162,slow=5.9,SNR=3.1						
	0.6nm,0.5s						
BVAR	**Borovoye Array**	**56.26**	**340**	P	**P**	**18 35 06.0**	**-1.5**
	0.5nm,0.5s,baz=138,slow=11,SNR=3.7						
	0.5nm,0.5s						

IDC 07 18:31:27.0±52.0,15°.95S×173°.12W,h0km,mb3.9/3,
mbtmp3.9/3,Error ellipse: s-maj=1004.0km
s-min=209.1km az=79.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.99**	**240**	P	P	18 39 37.1	+0.7
	0.9nm,0.4s,baz=79,slow=10,SNR=2.4						
	0.9nm,0.4s						
WRA	**Warramunga Arr**	**49.98**	**257**	P	P	18 40 23.1	-0.3
	0.2nm,0.4s,baz=96,slow=8.2,SNR=1.8						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**50.19**	**252**	P	P	18 40 24.5	-0.5
	2.7nm,0.5s,baz=89,slow=8.1,SNR=41						
	2.7nm,0.5s						

*IDC **07** 18:35:10.2±1.3,6°.14S×143°.08E,h0km,mb3.6/3,*
mbtmp3.5/5,ML1.1/1,Error ellipse: s-maj=42.1km
s-min=27.5km az=59.0
ISC 07 18:35:11.6±1.0,6°.3S±0°.1×143°.0E±0°.1,h10km,n6,σ1s34/7,
mb3.5/3,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.20**	**127**	Pn	**Pn**	**18 36 28.9**	**-0.7**
	0.4nm,0.3s,baz=308,slow=18,SNR=1.7						
PMG				Sn	**Sn**	**18 37 30.4**	**+0.7**
	0.6nm,0.3s,baz=235,slow=18,SNR=2.0						
PMG				Lg	Lg	18 37 44.5	
	0.3nm,0.3s,baz=229,slow=21,SNR=1.1						
	4.8nm,0.8s						
WRA	**Warramunga Arr**	**15.97**	**211**	Pn	**Pn**	**18 38 54.9**	**-1.6**
	0.2nm,0.3s,baz=30,slow=13,SNR=6.8						
WRA				Lg	Lg	18 43 35.8	
	baz=31,slow=27,SNR=1.5						
ASAR	**Alice Springs**	**19.37**	**206**	P	**P**	**18 39 39.5**	**+1.9**
	0.5nm,0.4s,baz=35,slow=9.3,SNR=30						
ASAR				Lg	Lg	18 45 30.2	
	baz=13,slow=29,SNR=3.2						
MKAR	**Makanchi Array**	**75.17**	**322**	P	**P**	**18 46 54.7**	**+0.3**
	0.3nm,0.8s,baz=117,slow=5.2,SNR=2.0						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**84.63**	**325**	P	**P**	**18 47 45.4**	**0.0**
	0.8nm,0.6s,baz=134,slow=8.3,SNR=5.4						
	0.8nm,0.6s						
ILAR	**Eielson Array**	**87.32**	**24**	P	**P**	**18 47 58.2**	**-0.2**
	0.2nm,0.8s,baz=253,slow=4.6,SNR=1.5						
	0.2nm,0.8s						

*IDC **07** 18:38:52.2±0.8,56°.42N×148°.80W,h0km,mb4.0/15,*
mbtmp3.9/20,ML3.4/5,MS3.7/3,Error ellipse:
s-maj=21.2km s-min=14.2km az=37.0
*NEIC **07** 18:38:52.3±1.5,56°.34N±0°.05×148°.83W±0°.07,h10km±1km,*
mb4.0/7,ML3.8/64,ML3.6(AEIC),Error ellipse:
s-maj=10.8km s-min=3.0km az=143.0
*AEIC **07** 18:38:56.7±1.7,56°.35N±0°.04×148°.73W±0°.08,h9km±5km,*
Error ellipse: s-maj=8.4km s-min=2.7km az=51.0
ISC 07 18:38:53.4±0.6,56°.45N±0°.07×148°.78W±0°.05,h10km,
n326,σ0s92/315,mb4.2/18,MS4.2/3,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.47**	**304**	Pn	**Pn**	**18 39 33.2**	**-0.5**
KDAK	**Kodiak Island**	**2.47**	**304**		**Sn**	**18 40 00.7**	**-3.1**
KDAK	**Kodiak Island**	**2.47**	**304**	Pn	**Pn**	**18 39 33.2**	**-0.5**
	9.2nm,0.3s,baz=135,slow=6.6,SNR=196						
KDAK				Sn	**Sn**	**18 40 00.5**	**-3.3**
	6.7nm,0.3s,baz=315,slow=19,SNR=7.7						
KDAK				LR	LR	18 40 07.9	
	comp=Z,75nm,20.1s,baz=135,slow=31						
	25nm,0.3s						
OHAK	**Old Harbor**	**2.59**	**289**	Pn	**Pn**	**18 39 34.3**	**-1.1**
OHAK	**Old Harbor**	**2.59**	**289**		**Sn**	**18 40 03.1**	**-3.8**
OHAK	**Old Harbor**	**2.59**	**289**	P	**Pn**	**18 39 34.2**	**-1.2**
OHAK	**Old Harbor**	**2.59**	**289**	P	**Pn**	**18 39 34.2**	**-1.2**
	baz=108						
OHAK				S	**Sn**	**18 40 04.0**	**-3.0**
	baz=108						
SYI	**Shuyak Island**	**2.91**	**320**		**Pn**	**18 39 39.9**	**+0.1**
SYI	**Shuyak Island**	**2.91**	**320**		**Sn**	**18 40 14.2**	**-0.6**
Q20K	**Shuyak Island**	**2.92**	**320**	P	**Pn**	**18 39 39.7**	**-0.1**
	baz=138						
Q20K				S	**Sn**	**18 40 14.6**	**-0.2**
	baz=138						
SII	**Sitkinak Islan**	**3.00**	**274**		**Sn**	**18 40 13.8**	**-3.1**
SII	**Sitkinak Islan**	**3.00**	**274**	Pn	**Pn**	**18 39 40.0**	**-0.9**
SII	**Sitkinak Islan**	**3.00**	**274**	IAML		18 40 20.2	
	comp=N,264nm,0.8s						
SII				IAML		18 40 21.6	
	comp=E,328nm,1.1s						
SII	**Sitkinak Islan**	**3.00**	**274**	P	**Pn**	**18 39 40.0**	**-0.9**
Q23K	**Middleton Isla**	**3.26**	**22**		**Pn**	**18 39 43.9**	**-0.6**
Q23K	**Middleton Isla**	**3.26**	**22**	IAML		18 40 24.1	
	comp=N,233nm,1.5s						
Q23K				IAML		18 41 56.8	
	comp=E,227nm,1.4s						
Q23K	**Middleton Isla**	**3.26**	**22**	P	**Pn**	**18 39 43.9**	**-0.6**
	baz=204						
MID	**Middleton Isla**	**3.26**	**23**		**Pn**	**18 39 43.8**	**-0.8**
MID	**Middleton Isla**	**3.26**	**23**	IAML		18 40 31.2	
	comp=N,236nm,1.4s						
MID				IAML		18 41 01.3	
	comp=E,198nm,1.4s						
MID	**Middleton Isla**	**3.26**	**23**	P	**Pn**	**18 39 44.1**	**-0.5**
CNPM	**China Poot**	**3.35**	**338**	Pn	**Pn**	**18 39 45.7**	**-0.2**
CNPM	**China Poot**	**3.35**	**338**		**Sn**	**18 40 23.9**	**-1.8**
BRSE	**Bradley Lake S**	**3.46**	**343**		**Pn**	**18 39 46.9**	**-0.6**
BRSE					**Sn**	**18 40 26.8**	**-1.6**
BRSE	**Bradley Lake S**	**3.46**	**343**	P	**Pn**	**18 39 46.9**	**-0.6**
	baz=162						
BRSE				S	**Sn**	**18 40 27.9**	**-0.6**
	baz=162						
BRLK	**Bradley Lake**	**3.51**	**342**	Pn	**Pn**	**18 39 47.8**	**-0.3**
Q19K	**Cape Douglas,**	**3.61**	**316**	Pn	**Pn**	**18 39 50.1**	**+0.7**
Q19K				IAML		18 40 48.1	
	comp=N,294nm,0.8s						
Q19K	**Cape Douglas,**	**3.61**	**316**	P	**Pn**	**18 39 49.7**	**+0.4**
	baz=133						
P23K	**Montague Islan**	**3.64**	**11**		**Pn**	**18 39 49.0**	**-0.7**
P23K	**Montague Islan**	**3.64**	**11**	P	**Pn**	**18 39 49.0**	**-0.7**
	baz=192						
SEW	**Seward**	**3.69**	**355**		**Pn**	**18 39 49.8**	**-0.6**
SEW	**Seward**	**3.69**	**355**	P	**Pn**	**18 39 49.8**	**-0.6**
	baz=174						
AUCH	**Augustine Cone**	**3.84**	**322**		**Pn**	**18 39 53.0**	**+0.4**
CHIR	**Chirikof Islan**	**3.88**	**264**		**Pn**	**18 39 51.8**	**-1.2**
CHIR	**Chirikof Islan**	**3.88**	**264**	IAML		18 40 36.7	
	comp=N,88nm,1.2s						
CHIR				IAML		18 40 40.8	
	comp=E,117nm,1.1s						
CHIR	**Chirikof Islan**	**3.88**	**264**	P	**Pn**	**18 39 51.8**	**-1.2**
	baz=80						
P19K	**Oil Pt**	**3.99**	**326**		**Pn**	**18 39 55.3**	**+0.7**
P19K				IAML		18 40 52.0	
	comp=E,160nm,0.5s						
P19K				IAML		18 40 52.1	
	comp=N,162nm,0.5s						
P19K	**Oil Pt**	**3.99**	**326**	P	**Pn**	**18 39 54.8**	**+0.2**
	baz=143						
O22K	**Cooper Landing**	**4.08**	**353**		**Pn**	**18 39 55.9**	**+0.1**
O22K	**Cooper Landing**	**4.08**	**353**	P	**Pn**	**18 39 54.8**	**-1.0**
	baz=173						
HIN	**Hinchinbrook I**	**4.14**	**16**	Pn	**Pn**	**18 39 56.4**	**-0.3**
HIN				IAML		18 40 47.7	
	comp=N,186nm,0.6s						
HIN				IAML		18 41 02.4	
	comp=E,201nm,0.9s						
SLKM	**Skilak Lake**	**4.14**	**350**		**Pn**	**18 39 56.0**	**-0.7**
O20K	**Slope Mountain**	**4.17**	**333**		**Pn**	**18 39 57.1**	**0.0**
O20K	**Slope Mountain**	**4.17**	**333**	P	**Pn**	**18 39 57.1**	**0.0**
	baz=150						
KAIM	**Kayak Island**	**4.18**	**32**	Pn	**Pn**	**18 39 56.9**	**-0.3**
KAIM				IAML		18 40 47.7	
	comp=N,190nm,1.4s						
KAIM	**Kayak Island**	**4.18**	**32**	P	**Pn**	**18 39 56.9**	**-0.3**
	baz=214						
CNTC	**Contact Creek**	**4.26**	**298**		**Pn**	**18 39 58.8**	**+0.5**
Q17K	**Contact Creek**	**4.26**	**298**	P	**Pn**	**18 39 58.8**	**+0.5**
	baz=114						
EYAK	**Cordova Ski Ar**	**4.41**	**20**		**Pn**	**18 40 00.2**	**-0.2**
EYAK	**Cordova Ski Ar**	**4.41**	**20**	P	**Pn**	**18 40 00.9**	**+0.6**
EYAK	**Cordova Ski Ar**	**4.41**	**20**	P	**Pn**	**18 40 00.2**	**-0.2**
	baz=202						
SUCK	**Suckling Hills**	**4.50**	**34**		**Pn**	**18 40 01.6**	**0.0**
SUCK				IAML		18 41 04.2	
	comp=N,153nm,1.0s						
SUCK				IAML		18 41 04.3	
	comp=E,120nm,1.0s						
RAGM	**Ragged Mountai**	**4.50**	**27**		**Pn**	**18 40 01.5**	**-0.2**
CAPN	**Captain Cook N**	**4.51**	**345**		**Pn**	**18 40 02.8**	**+1.1**
RDSO	**Redoubt South**	**4.53**	**334**		**Pn**	**18 40 01.5**	**-0.6**
P18K	**Big Mountain,**	**4.53**	**313**	Pn	**Pn**	**18 40 01.9**	**-0.1**
P18K	**Big Mountain,**	**4.53**	**313**	P	**Pn**	**18 40 01.5**	**-0.5**
	baz=129						
RSO	**Redoubt South**	**4.54**	**334**		**Pn**	**18 40 01.6**	**-0.6**
HMT	**Hamilton**	**4.57**	**29**		**Pn**	**18 40 04.1**	**+1.5**
NICHA	**Nichawak Mount**	**4.57**	**32**		**Pn**	**18 40 02.3**	**-0.2**
RDWB	**Redoubt West**	**4.58**	**334**		**Pn**	**18 40 01.9**	**-0.9**
GOAT	**Goat Mountain**	**4.66**	**25**		**Pn**	**18 40 03.6**	**-0.2**
NCT	**North Crescent**	**4.67**	**334**		**Pn**	**18 40 03.3**	**-0.7**
RC01	**Rabbit Creek A**	**4.68**	**354**	Pn	**Pn**	**18 40 04.4**	**+0.3**
RC01				IAML		18 41 05.4	
	comp=E,90nm,1.0s						
RC01				IAML		18 41 05.4	
	comp=N,59nm,1.1s						
RC01	**Rabbit Creek A**	**4.68**	**354**	P	**Pn**	**18 40 04.0**	**-0.1**
	baz=174						
BGLC	**Bering Glacier**	**4.69**	**36**		**Pn**	**18 40 04.1**	**-0.1**
BGLC	**Bering Glacier**	**4.69**	**36**	P	**Pn**	**18 40 04.1**	**-0.1**
	baz=220						
O19K	**Port Alsworth**	**4.76**	**324**		**Pn**	**18 40 04.7**	**-0.5**
O19K	**Port Alsworth**	**4.76**	**324**	P	**Pn**	**18 40 04.6**	**-0.5**
	baz=141						
BERG	**Berg Lake**	**4.77**	**32**		**Pn**	**18 40 04.9**	**-0.5**
GRIN	**Grindle Hills**	**4.80**	**35**		**Pn**	**18 40 05.6**	**-0.2**
O18K	**Koktuh Hills**	**4.82**	**318**	Pn	**Pn**	**18 40 05.6**	**-0.4**
O18K	**Koktuh Hills**	**4.82**	**318**	P	**Pn**	**18 40 05.7**	**-0.4**
	baz=134						
SNH	**Sunshine Point**	**4.88**	**37**		**Pn**	**18 40 06.7**	**-0.2**
SNH				IAML		18 41 13.3	
	comp=E,72nm,1.4s						
SNH				IAML		18 41 30.6	
	comp=N,67nm,1.4s						
P17K	**Kvichak River**	**4.93**	**307**		**Pn**	**18 40 07.9**	**+0.4**
P17K	**Kvichak River**	**4.93**	**307**	P	**Pn**	**18 40 07.9**	**+0.4**
	baz=122						
KHIT	**Khitrov Hills**	**4.95**	**34**		**Pn**	**18 40 07.3**	**-0.5**
DIV	**Divide**	**4.95**	**17**		**Pn**	**18 40 06.9**	**-0.9**
KNK	**Knik Glacier**	**4.99**	**2**		**Pn**	**18 40 08.6**	**+0.3**
KNK				IAML		18 41 09.9	
	comp=E,41nm,0.8s						
KNK				IAML		18 41 20.9	
	comp=N,41nm,1.0s						
KNK	**Knik Glacier**	**4.99**	**2**	P	**Pn**	**18 40 08.1**	**-0.2**
	baz=182						
BMRM	**Bremner River**	**5.03**	**24**		**Pn**	**18 40 08.7**	**-0.3**
BMRM	**Bremner River**	**5.03**	**24**	P	**Pn**	**18 40 08.6**	**-0.3**
	baz=207						
WAX	**Waxell Ridge**	**5.08**	**35**		**Pn**	**18 40 09.1**	**-0.5**
WAX				IAML		18 41 09.8	
	comp=E,91nm,0.6s						
N20K	**Mount Spurr**	**5.09**	**341**	P	**Pn**	**18 40 09.0**	**-0.8**
	baz=159						
SPCR	**Spurr Chakacha**	**5.09**	**341**		**Pn**	**18 40 09.0**	**-0.8**
SPCN	**Chakachatna No**	**5.11**	**341**		**Pn**	**18 40 09.8**	**-0.1**
SUA	**Susitna One**	**5.13**	**349**	Pn	**Pn**	**18 40 10.0**	**-0.4**
SUA				IAML		18 41 19.6	
	comp=N,34nm,1.0s						
SUA				IAML		18 41 20.2	
	comp=E,31nm,0.9s						
SUA	**Susitna One**	**5.13**	**349**	P	**Pn**	**18 40 09.9**	**-0.4**
	baz=168						
SPCP	**Crater Peak Br**	**5.14**	**342**		**Pn**	**18 40 10.4**	**-0.1**
SPCG	**Spurr Capps Gl**	**5.14**	**342**		**Pn**	**18 40 10.3**	**-0.2**
PMR	**Palmer**	**5.17**	**358**	Pn	**Pn**	**18 40 11.5**	**+0.8**
PMR				IAML		18 41 14.5	
	comp=E,40nm,0.8s						
PMR				IAML		18 41 29.4	
	comp=N,29nm,1.2s						
PMR	**Palmer**	**5.17**	**358**	P	**Pn**	**18 40 11.7**	**+1.0**
MESA	**MESA**	**5.19**	**41**	Pn	**Pn**	**18 40 12.3**	**+1.0**
MESA				IAML		18 41 34.7	
	comp=E,55nm,1.5s						
MESA				IAML		18 41 35.4	
	comp=N,54nm,1.5s						
MESA	**MESA**	**5.19**	**41**	P	**Pn**	**18 40 10.9**	**-0.4**
	baz=226						
CRQM	**Cirque**	**5.23**	**32**		**Pn**	**18 40 11.7**	**-0.2**
CRQM				IAML		18 41 25.2	
	comp=E,67nm,0.8s						
CRQE	**Cirque**	**5.24**	**32**	P	**Pn**	**18 40 11.5**	**-0.4**
	baz=216						
**KL

	baz=204						
SAMH	Samovar Hills	5.61	45		Pn	18 40 17.1	+0.2
GLB	Gilahina Butte	5.63	25	Pn	Pn	18 40 17.0	-0.2
N18K	Kilae Creek	5.64	322	Pn	Pn	18 40 17.0	-0.3
N18K	Kilae Creek	5.64	322	P	Pn	18 40 16.9	-0.4
	baz=137						
GRNC	Granite Creek	5.65	38		Pn	18 40 17.4	-0.2
TABL	Table Mountain	5.67	42		Pn	18 40 17.8	0.0
SKT	Skwentna	5.73	347	Pn	Pn	18 40 18.8	+0.4
SKT	Skwentna	5.73	347	P	Pn	18 40 18.0	-0.4
	baz=165						
PTPK	Patty Peak	5.78	32		Pn	18 40 18.9	-0.4
MCARA	McCarthy VSAT	5.78	29		Pn	18 40 19.4	+0.2
MCARA	McCarthy VSAT	5.78	29	P	Pn	18 40 19.0	-0.1
	baz=213						
PCA	Pinnacle	5.80	47		Pn	18 40 19.3	-0.2
PINM	Pinnacle	5.80	47	P	Pn	18 40 19.3	-0.2
	baz=234						
M24K	Tolsona, Glenn	5.83	12	Pn	Pn	18 40 20.9	+1.0
M24K	Tolsona, Glenn	5.83	12	P	Pn	18 40 20.4	+0.5
	baz=194						
SVW2	Sparrevohn	5.85	326	Pn	Pn	18 40 19.5	-0.7
O16K	Kokwok River B	5.87	306	Pn	Pn	18 40 20.4	+0.1
O16K	Kokwok River B	5.87	306	P	Pn	18 40 20.6	+0.2
	baz=120						
M20K	Styx River	5.89	340		Pn	18 40 20.6	-0.2
M20K	Styx River	5.89	340	P	Pn	18 40 20.3	-0.5
	baz=156						
BARN	Barnard Glacie	5.93	36		Pn	18 40 21.3	-0.1
PNL	Peninsula	5.94	53		Pn	18 40 20.9	-0.4
PNL	Peninsula	5.94	53	P	Pn	18 40 21.4	+0.1
PNL	Peninsula	5.94	53	P	Pn	18 40 20.9	-0.4
	baz=240						
CTG	Chitna Glacier	5.96	37	P	Pn	18 40 21.3	-0.5
	baz=223						
CTGM	Chitina Glacie	5.96	37	Pn	Pn	18 40 21.6	-0.3
BCPM	Bancas Point	5.98	50		Pn	18 40 21.9	+0.1
LOGN	Logan Glacier	5.98	40		Pn	18 40 21.6	-0.4
N17K	Nushagak Hills	6.01	316	Pn	Pn	18 40 21.9	-0.5
N17K	Nushagak Hills	6.01	316	P	Pn	18 40 22.0	-0.3
	baz=130						
M19K	Big River Lodg	6.18	335		Pn	18 40 23.8	-1.0
M19K	Big River Lodg	6.18	335	P	Pn	18 40 24.0	-0.7
	baz=150						
M18K	Stony River	6.23	327		Pn	18 40 24.6	-0.7
M18K	Stony River	6.23	327	P	Pn	18 40 24.7	-0.7
	baz=142						
HARP	HAARP	6.25	16		Pn	18 40 26.1	+0.5
HARP	HAARP	6.25	16	P	Pn	18 40 26.1	+0.5
	baz=198						
O15K	Ungalikthiuk R	6.50	299		Pn	18 40 29.4	+0.4
O15K	Ungalikthiuk R	6.50	299	P	Pn	18 40 29.4	+0.4
	baz=111						
L19K	White Mountain	6.54	334		Pn	18 40 28.9	-0.6
L19K	White Mountain	6.54	334	P	Pn	18 40 28.7	-0.9
	baz=150						
L20K	Farewell, AK	6.58	339		Pn	18 40 29.4	-0.8
L20K	Farewell, AK	6.58	339	P	Pn	18 40 29.4	-0.8
	baz=155						
N16K	Nishlik Lake	6.61	312		Pn	18 40 30.6	0.0
N16K	Nishlik Lake	6.61	312	P	Pn	18 40 30.6	0.0
	baz=124						
O29M	Mount Kennedy	6.61	50		Pn	18 40 30.5	-0.2
O29M	Mount Kennedy	6.61	50	P	Pn	18 40 30.5	-0.2
	baz=238						
M26K	Nabesna, AK	6.66	24		Pn	18 40 32.8	+1.5
SDPT	Sand Point	6.67	265	P	Pn	18 40 31.3	0.0
P29M	Windy Craggy	6.68	57		Pn	18 40 30.9	-0.6
P29M	Windy Craggy	6.68	57	P	Pn	18 40 30.8	-0.7
	baz=245						
M17K	Holitna River	6.69	322	Pn	Pn	18 40 31.4	-0.2
M17K	Holitna River	6.69	322	P	Pn	18 40 31.3	-0.3
	baz=135						
PAX	Paxson	6.75	13		Pn	18 40 33.2	+0.6
PAX	Paxson	6.75	13	P	Pn	18 40 33.2	+0.6
	baz=196						
M27K	Edge Creek, AK	6.89	28	Pn	Pn	18 40 36.7	+2.1
M27K	Edge Creek, AK	6.89	28	P	Pn	18 40 34.5	-0.1
	baz=213						
YUK7	Dusty Glacier	6.92	49		Pn	18 40 35.3	+0.4
RND	Reindeer	6.98	360	Pn	Pn	18 40 36.8	+1.1
M16K	Timber Creek	7.00	315	Pn	Pn	18 40 36.1	+0.2
M16K	Timber Creek	7.00	315	P	Pn	18 40 36.1	+0.2
	baz=127						
N15K	Kwethluk River	7.03	307	Pn	Pn	18 40 37.3	+1.1
N15K	Kwethluk River	7.03	307	P	Pn	18 40 36.9	+0.6
	baz=118						
L18K	Granite Mounta	7.06	328	Pn	Pn	18 40 36.3	-0.4
L18K	Granite Mounta	7.06	328	P	Pn	18 40 36.3	-0.4
	baz=142						
TRF	Thorofare Moun	7.07	354	Pn	Pn	18 40 38.0	+1.0
TRF	Thorofare Moun	7.07	354	P	Pn	18 40 37.0	0.0
	baz=173						
YUK4	Talbot Arm	7.19	43	P	Pn	18 40 40.3	+1.7
	baz=230						
CAST	Castle Rocks	7.19	348	Pn	Pn	18 40 38.8	+0.3
CAST	Castle Rocks	7.19	348	P	Pn	18 40 38.9	+0.3
	baz=166						
KTH	Kantishna Hill	7.21	352	Pn	Pn	18 40 39.6	+0.8
O14K	Tigyukauivet M	7.23	298	Pn	Pn	18 40 39.2	+0.2
O14K	Tigyukauivet M	7.23	298	P	Pn	18 40 39.6	+0.6
	baz=108						
P30M	Million Dollar	7.24	55		Pn	18 40 39.4	+0.1
P30M	Million Dollar	7.24	55	P	Pn	18 40 39.4	+0.1
	baz=244						
PLBC	Pleasant Camp	7.26	60		Pn	18 40 39.1	-0.4
PLBC	Pleasant Camp	7.26	60	P	Pn	18 40 39.1	-0.4
	baz=250						
HYT	Haines Junctio	7.34	49	Pn	Pn	18 40 40.3	-0.3
K20K	Telida	7.42	341		Pn	18 40 40.8	-0.9
PS4A	Pavlof South-4	7.43	267		Pn	18 40 41.5	-0.4
TTA	Tatalina	7.46	334	Pn	Pn	18 40 40.9	-1.3
L17K	Donlin	7.50	323		Pn	18 40 42.0	-0.7
L17K	Donlin	7.50	323	P	Pn	18 40 42.0	-0.7
	baz=136						
L27K	Beaver Creek,	7.50	25	Pn	Pn	18 40 42.8	0.0
L16K	Owhat River	7.62	318		Pn	18 40 44.0	-0.4
L16K	Owhat River	7.62	318	P	Pn	18 40 44.0	-0.4
	baz=130						
N14K	Kuskokwak Cree	7.66	302		Pn	18 40 45.2	+0.3
N14K	Kuskokwak Cree	7.66	302	P	Pn	18 40 45.2	+0.3
	baz=112						
BPAW	Bear Paw Mtn.	7.76	353	Pn	Pn	18 40 45.3	-1.0
BPAW	Bear Paw Mtn.	7.76	353	P	Pn	18 40 46.1	-0.2
	baz=171						
S32K	Killisnoo	7.84	77	Pn	Pn	18 40 44.6	-2.7
N30M	Aishikik Lake	7.86	45		Pn	18 40 47.6	-0.1
N30M	Aishikik Lake	7.86	45	P	Pn	18 40 47.6	-0.1
	baz=235						
O30N	Mendenhall	7.91	52		Pn	18 40 48.5	0.0
K17K	Iditarod	7.92	326	Pn	Pn	18 40 48.1	-0.4
K17K	Iditarod	7.92	326	P	Pn	18 40 48.0	-0.5
	baz=139						
SCRK	Sand Creek	7.92	16	Pn	Pn	18 40 49.5	+0.9
SCRK	Sand Creek	7.92	16	P	Pn	18 40 48.0	-0.6
	baz=200						
M29M	Somme Creek	7.98	37	Pn	Pn	18 40 50.1	+0.7
M29M	Somme Creek	7.98	37	P	Pn	18 40 49.6	+0.1
	baz=225						
JIS	Juneau Island	8.00	71	Pn	Pn	18 40 48.8	-0.8
HDA	Harding Lake	8.04	6		Pn	18 40 51.0	+0.8
WRH	Wood River Hil	8.06	2	Pn	Pn	18 40 50.8	+0.4
J18K	Innoko River	8.08	334	Pn	Pn	18 40 50.3	-0.4
NEA2	Nenana	8.18	359		Pn	18 40 52.6	+0.6
NEA2	Nenana	8.18	359	P	Pn	18 40 52.1	+0.1
	baz=179						
J20K	Nowinta River	8.20	343	Pn	Pn	18 40 51.6	-0.6
CCB	Clear Creek Bu	8.24	3	Pn	Pn	18 40 54.0	+1.1
J19K	Poorman	8.30	339	Pn	Pn	18 40 53.0	-0.7
J25K	Salcha River,	8.35	10	Pn	Pn	18 40 55.8	+1.2
WHY	Whitehorse	8.40	54	Pn	Pn	18 40 55.7	+0.5
IL31		8.40	6		Pn	18 40 55.6	+0.5
ILAR	Eielson Array	8.40	6	Pn	Pn	18 40 55.6	+0.5
ILAR	Eielson Array	8.40	6	Pn	Pn	18 40 52.9	-2.2
	comp=E,0.6nm,0.3s,baz=190,slow=14,SNR=22						
ILAR				Sn	Sn	18 42 26.3	-3.7
	comp=E,0.3nm,0.3s,baz=183,slow=22,SNR=6.0						
ILAR				LR	LR	18 44 13.4	
	comp=E,124nm,19.6s,baz=256,slow=38 comp=E,0.4nm,0.3s						
J26L	Joseph Creek	8.48	15		Pn	18 40 57.0	+0.8
J26L	Joseph Creek	8.48	15	P	Pn	18 40 56.7	+0.5
	baz=200						
MDM	Murphy Dome	8.55	2		Pn	18 40 58.6	+1.5
L29M	L29M	8.56	34	Pn	Pn	18 40 58.4	+1.0
P32M	Atlin	8.59	62		Pn	18 40 57.2	-0.5
P32M	Atlin	8.59	62	P	Pn	18 40 57.3	-0.5
	baz=254						
M13K	Dall Lake	8.61	304	Pn	Pn	18 40 59.3	+1.4
MLY	Manley	8.67	354	Pn	Pn	18 40 59.3	+0.5
MLY	Manley	8.67	354	P	Pn	18 40 59.5	+0.8
	baz=173						
J17K	VABM Dome	8.67	328	Pn	Pn	18 40 58.3	-0.4
L14K	Kuka Creek	8.70	310	Pn	Pn	18 40 59.8	+0.6
I23K	Minto, Yukon-K	8.74	358		Pn	18 41 00.2	+0.5
I23K	Minto, Yukon-K	8.74	358	P	Pn	18 41 00.1	+0.4
	baz=178						
K15K	Wolf Creek Mou	8.75	317	Pn	Pn	18 40 59.3	-0.6
CRAG	Craig	8.84	90	P	Pn	18 41 02.1	+1.0
DAWY	Dawson	8.95	27		Pn	18 41 04.8	+2.2
J16K	Anvik River	9.06	324	Pn	Pn	18 41 03.4	-0.7
Q32M	Nakina River	9.19	67	Pn	Pn	18 41 05.8	-0.3
P33M	Teslin, Yukon	9.20	59	Pn	Pn	18 41 06.0	-0.2
P33M	Teslin, Yukon	9.20	59	P	Pn	18 41 05.5	-0.7
	baz=252						
PRP	Porcupine Dome	9.24	8	Pn	Pn	18 41 07.4	+0.8
K29M	Barlow Dome	9.29	32	Pn	Pn	18 41 08.2	+0.8
I26K	Coal Creek Min	9.30	15		Pn	18 41 08.6	+1.2
H24K	Nondor Dome	9.44	2	Pn	Pn	18 41 11.7	+2.4
H21K	Melozitna Rive	9.44	350	Pn	Pn	18 41 08.8	-0.5
J29N	Klondike Camp	9.56	29	Pn	Pn	18 41 11.9	+0.9
FARO	Faro, Yukon	9.77	47	Pn	Pn	18 41 13.9	0.0
IMAR	Indian Mountai	9.86	348	Pn	Pn	18 41 15.4	+0.3
H18K	Honhosa River	9.89	336	Pn	Pn	18 41 15.4	-0.2
R33M	Jennings River	9.92	65	Pn	Pn	18 41 15.8	-0.2
H02S1	DAWSON INLET T	9.95	102	Pn	Pn	18 41 14.9	-1.4
H02S1				Sn	Sn	18 42 56.1	-12
I28M	Miner Creek	9.99	22	Pn	Pn	18 41 16.0	-0.9
H17K	Granite Mounta	10.10	332	Pn	Pn	18 41 17.6	-0.7
J30M	Hart River	10.19	32		Pn	18 41 20.2	+0.5
FYU	Fort Yukon	10.29	8	Pn	Pn	18 41 21.6	+0.6
DLBC	Dease Lake	10.30	71	Pn	Pn	18 41 20.5	-0.7
DLBC	Dease Lake	10.30	71	Pn	Pn	18 41 19.8	-1.4
	comp=E,0.6nm,0.3s,baz=264,slow=10,SNR=9.5						
DLBC				Sn	Sn	18 43 12.3	-4.3
	comp=E,0.2nm,0.3s,baz=314,slow=15,SNR=1.8 comp=E,1.4nm,0.2s						
G24K	Hadweenzic Riv	10.31	3		Pn	18 41 22.4	+1.2
G23K	Bananza Creek	10.32	357	Pn	Pn	18 41 21.6	+0.2
UNV	Unalaska Valle	10.47	263	Pn	Pn	18 41 22.6	-0.8
G19K	Purcell Mounta	10.50	341	Pn	Pn	18 41 23.4	-0.5
G18K	Tagagawik	10.59	337	Pn	Pn	18 41 25.0	-0.1
I30M	Mount Dempster	10.66	29		Pn	18 41 26.1	0.0
MMPY	Sheldon Lake,	10.81	48	Pn	Pn	18 41 27.9	-0.2
COLD	Coldfoot	10.84	357	Pn	Pn	18 41 26.2	-2.3
H29M	Whitestone	10.99	23	Pn	Pn	18 41 28.4	-2.0
F21K	Alatna River	11.04	350	Pn	Pn	18 41 29.6	-1.5
G16K	Koyuk River	11.11	329	Pn	Pn	18 41 31.1	-1.0
F24K	Squaw Lake	11.12	2	Pn	Pn	18 41 34.3	+1.9
F20K	Avaraart Lake	11.13	346		Pn	18 41 32.5	+0.1
BMAR	Burnt Mountain	11.20	8	Pn	Pn	18 41 34.5	+1.2
F19K	Shaleruckik Mo	11.25	342	Pn	Pn	18 41 33.2	-0.8
ANM	Nome	11.50	322	Pn	Pn	18 41 37.9	+0.5
F17K	Baldwin Pennin	11.64	335	Pn	Pn	18 41 38.2	-1.1
E25K	Arctic Village	11.81	6	Pn	Pn	18 41 41.6	-0.2
F15K	North Star Dit	12.01	327	Pn	Pn	18 41 42.9	-1.5
G30M	tAoh Zraii Nji	12.10	24	Pn	Pn	18 41 46.1	+0.4
E18K	Tukpahlearik C	12.30	338	Pn	Pn	18 41 48.5	+0.1
G31M	Satah River	12.52	27	Pn	Pn	18 41 51.1	-0.2
D22K	Ayikyak River	12.61	354	Pn	Pn	18 41 52.7	+0.1
INK	Inuvik	13.78	24	Pn	Pn	18 42 08.6	+0.1
INK	Inuvik	13.78	24	Pn	Pn	18 42 11.7	+3.2
	comp=E,0.1nm,0.3s,baz=204,slow=11,SNR=9.2 comp=E,2.9nm,0.9s						
C36M	Paulatuk	16.96	31		Pn	18 42 49.9	-0.5
C36M				IAmb	IAmb	18 43 02.3	
	comp=Z,6.8nm,0.9s						
YKA	Yellowknife Ar	18.22	57	P	Pn	18 43 05.3	-0.7
YKA	Yellowknife Ar	18.22	57	P	Pn	18 43 06.9	+0.8
	comp=Z,0.1nm,0.3s,baz=262,slow=11,SNR=17 comp=Z,2.8nm,1.0s						
A36M	Sachs Harbour	18.42	23	P	P	18 43 08.3	-0.1
A36M				IAmb	IAmb	18 43 20.1	
	comp=Z,18nm,0.8s						
F10A	Beach Ranch, E	22.18	105	P	P	18 43 48.7	-0.8
F10A				IAmb	IAmb	18 44 08.6	
	comp=Z,7.3nm,1.4s						
I07A	Izee	22.24	111	P	P	18 43 48.1	-2.1
YBH	Yreka Blue Hor	22.36	120	P	P	18 43 51.8	+0.3
	comp=Z,1.0nm,0.7s,baz=210,slow=3.9,SNR=1.9 comp=Z,1.0nm,0.7s						
BILL	Bilibino	23.30	318	P	P	18 44 01.1	0.0
BILL				IAmb	IAmb	18 44 04.2	
	comp=Z,6.8nm,1.0s						
NVAR	Mina Array Bea	27.05	119	P	P	18 44 36.9	+1.0
	comp=Z,0.4nm,0.6s,baz=313,slow=11,SNR=3.8 comp=Z,0.4nm,0.6s						
TXAR	Lajitas Array	41.62	111	P	P	18 46 42.8	+1.1
	comp=Z,0.3nm,0.8s,baz=339,slow=7.0,SNR=2.8 comp=Z,0.3nm,0.8s						
NRIK	Noril'sk	48.07	337	P	P	18 47 31.9	-0.5
NRIK	Noril'sk	48.07	337	P	P	18 47 33.5	+1.1
	comp=Z,2nm,0.6s,baz=61,slow=6.8,SNR=4.1 comp=Z,2.2nm,0.6s						
H11N2	WAKE ISLAND Hy	49.20	240	T	T	19 40 46.5	
	baz=31,slow=76,SNR=20						
H11N3	WAKE ISLAND Hy	49.21	240	T	T	19 40 46.3	
	baz=31,slow=76,SNR=24						
H11N1	WAKE ISLAND Hy	49.22	240	T	T	19 40 46.3	
	baz=31,slow=76,SNR=21						
H11S1	WAKE ISLAND Hy	50.35	240	T	T	19 42 43.2	
	SNR=40						
H11S2	WAKE ISLAND Hy	50.36	240	T	T	19 42 10.1	
	baz=178,slow=74,SNR=29						
H11S3	WAKE ISLAND Hy	50.36	240	T	T	19 42 21.4	
	baz=31,slow=74,SNR=32						
SONM	Songino Array	58.74	310	P	P	18 48 52.6	+1.3
	comp=Z,1.9nm,0.8s,baz=50,slow=6.1,SNR=16 comp=Z,1.9nm,0.8s						
ZALV	Zalesovo Beam	61.57	327	P	P	18 49 10.2	-0.2
	comp=Z,1.3nm,0.6s,baz=28,slow=6.5,SNR=6.8 comp=Z,1.3nm,0.6s						
FINES	FINESS Array B	62.38	3	P	P	18 49 14.8	-0.9
	comp=Z,1.3nm,0.8s,baz=350,slow=7.3,SNR=2.1 comp=Z,1.3nm,0.8s						
ARU	Arti	65.32	344	P	P	18 49 36.0	+0.9
	comp=Z,2.2nm,0.4s,baz=8.1,slow=7.1,SNR=6.0 comp=Z,2.2nm,0.4s						
BVAR	Bovoye Array	66.25	335	P	P	18 49 41.5	+0.3
	comp=Z,1.5nm,0.7s,baz=53,slow=7.7,SNR=7.5 comp=Z,1.5nm,0.7s						
KURBB	Kurchatov Arra	66.34	329	P	P	18 49 42.3	+0.6
	comp=Z,0.5nm,0.2s,baz=29,slow=6.4,SNR=1.6						
AKTO	Aktyubinsk	71.19	342	P	P	18 50 11.2	-0.8
	comp=Z,1.2nm,0.5s,baz=48,slow=6.5,SNR=4.8 comp=Z,1.2nm,0.5s						
AKASG	Malin Array Be	73.21	1	P	P	18 50 24.7	+0.7
	comp=Z,1.8nm,0.6s,baz=0.1,slow=5.9,SNR=7.6 comp=Z,1.8nm,0.6s						
VRAC	Vranov	73.91	10	LR	LR	19 24 06.9	
	comp=Z,98nm,19.9s,baz=25,slow=37						
GERES	GERESS Array B	74.07	12	P	P	18 50 29.7	+0.5
	comp=Z,0.4nm,0.5s,baz=5.2,slow=12,SNR=2.3 comp=Z,0.4nm,0.5s						
DAVOX	Davos/Dischmat	75.60	15	LR	LR	19 25 25.8	
	comp=Z,129nm,21.4s,baz=49,slow=37						
HNR	Honiara	78.03	232	LR	LR	19 18 44.2	
	comp=Z,887nm,20.1s,baz=188,slow=31						
KBZ	Khabaz	79.71	351	P	P	18 51 02.8	+1.8
	comp=Z,1.8nm,0.8s,baz=11,slow=5.6,SNR=4.7 comp=Z,1.8nm,0.8s						
ESDC	Sonseca Array	79.72	27	P	P	18 51 02.0	+0.8
	comp=Z,0.5nm,0.6s,baz=340,slow=6.0,SNR=4.1 comp=Z,0.5nm,0.6s						
CMAR	Chiang Mai Arr	86.45	298	P	P	18 51 36.8	+0.5
	comp=Z,0.7nm,0.5s,baz=18,slow=5.8,SNR=5.2 comp=Z,0.7nm,0.5s						
QSPA	South Pole Qui	146.24	180	PKPbc	PKPdf	18 58 32.6	+1.2
	comp=Z,1.4nm,0.7s,baz=31,slow=1.8,SNR=7.6						
BOSA	Boshof	151.86	11	PKPbc	PKPbc	18 58 48.3	+0.1
	comp=Z,2.8nm,1.0s,baz=340,slow=3.1,SNR=5.2						
BOSA				PKPab	sPKPbc	18 58 55.5	+4.6
	comp=Z,1.3nm,0.6s,baz=357,slow=5.4,SNR=4.9						

*SOME **07** 18:48:19.3,41.95N×83.67E,h15km*
*NNC **07** 18:48:20.4±1.7,41.95N×83.54E,h0km,mb3.8,mpv3.6,*
Error ellipse: s-maj=12.4km s-min=8.2km az=158.0
ISC 07 18:48:13.7±2.8,**41.8N**±0.1×**83.75E**±0.08,**h15**km,**n28**,

σ1§35/40,**4C-1D**,**Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SHLS	Shalkode	3.44	294	eP		Pb	18 49 14.7	+0.4
	7.6nm,0.3s							
SHLS				eS		Sb	18 49 54.9	-1.0
	32nm,0.4s							
SHLS	Shalkode	3.44	294	Pg		Pb	18 49 14.7	+0.4
	7.6nm,0.3s							
SHLS				Lg		Lg	18 49 54.9	
	32nm,0.4s							
PDGK	Podgornoye	3.48	297	Pg		Pg	18 49 20.1	-0.2
	1.5nm,0.2s							
PDGK				Lg		Lg	18 50 04.0	
	11nm,0.4s							
PDGK	Podgornoye	3.48	297	⇑Pg		Pb	18 49 18.9	+3.8
	5.6nm,1.1s							
PDGK				⇓Lg		Lg	18 50 06.8	
	20nm,0.6s							
UZB	Uzynbulak	3.73	292	eP		Pg	18 49 24.1	-1.1
	2.3nm,0.2s							
UZB				eS		Sg	18 50 10.8	-2.7
	10nm,0.4s							
UZB	Uzynbulak	3.73	292	Pg		Pg	18 49 24.1	-1.1
	2.3nm,0.2s							
UZB				Lg		Lg	18 50 10.8	
	10nm,0.4s							
DJR	Jarkent	3.83	312	eP		Pg	18 49 27.9	+0.9
	1.9nm,0.2s							
DJR				eS		Sg	18 50 17.4	+0.9
	5.6nm,0.1s							
DJR	Jarkent	3.83	312	Pg		Pg	18 49 27.9	+0.9
	1.9nm,0.2s							
DJR				Lg		Lg	18 50 17.4	
	5.6nm,0.1s							
KPKS	Kokpek	4.08	295	eP		Pg	18 49 31.8	+0.1
	20nm,0.4s							
KPKS				eS		Sg	18 50 24.0	-0.5
	10nm,0.3s							
KPKS	Kokpek	4.08	295	Pg		Pg	18 49 31.8	+0.1
	20nm,0.4s							
KPKS				Lg		Lg	18 50 24.0	
	10nm,0.3s							
SATY	Saty	4.14	289	eP		Pg	18 49 33.1	+0.2
	3.8nm,0.2s							
SATY				eS		Sg	18 50 26.4	-0.1
	16nm,0.3s							
SATY	Saty	4.14	289	Pg		Pg	18 49 33.1	+0.2
	3.8nm,0.2s							
SATY				Lg		Lg	18 50 26.4	
	16nm,0.3s							
KNOS	Konyrlen	4.19	309	Pg		Pg	18 49 35.1	+1.2
	6.1nm,0.2s							
KNOS				Lg		Lg	18 50 29.8	
	7.3nm,0.4s							
KURS	Kuram	4.43	294	eP		Pg	18 49 38.5	-0.1
	1.7nm,0.4s							
KURS				eS		Sg	18 50 35.3	-0.7
	3.4nm,0.3s							
BLB	Baldybastay	4.48	302	Pg		Pg	18 49 38.6	-0.9
	3.5nm,0.0s							
BLB				Lg		Lg	18 50 35.8	
	6.6nm,0.4s							
KAPS	Kapalarasan	4.70	319	eP		Pg	18 49 44.3	+0.6
	2.3nm,0.1s							
KAPS				eS		Sg	18 50 45.5	+1.0
	5.4nm,0.5s							
KAPS	Kapalarasan	4.70	319	Pg		Pg	18 49 44.3	+0.6
	2.3nm,0.1s							
KAPS				Lg		Lg	18 50 45.5	
	5.4nm,0.5s							
ARXS	Arharly	4.95	301	eP		Pg	18 49 47.2	-1.3
	1.7nm,0.2s							
ARXS				eS		Sg	18 50 50.5	-2.1
	5.0nm,0.7s							
ARXS	Arharly	4.95	301	Pg		Pg	18 49 47.2	-1.3
	1.7nm,0.2s							
ARXS				Lg		Lg	18 50 50.5	
	5.0nm,0.7s							
TDK	Taldyqorghan	5.02	311	eP		Pg	18 49 48.5	-1.3
	13nm,0.2s							
TDK				eS		Sg	18 50 52.6	-2.1
	18nm,0.2s							
TDK	Taldyqorghan	5.02	311	Pg		Pg	18 49 48.5	-1.3
	13nm,0.2s							
TDK				Lg		Lg	18 50 52.6	
	18nm,0.2s							
MK31	Makanchi Array	5.07	349	⇑Pg		Pg	18 49 50.2	-0.5
	2.1nm,0.6s,baz=165,slow=16,SNR=7.3							
MK31				Lg		Lg	18 50 55.2	
	3.9nm,0.6s,baz=162,slow=28,SNR=4.5							
KOTS	Kotyrbulak	5.10	288	eP		Pg	18 49 50.0	-1.4
	1.8nm,0.2s							
KOTS				eS		Sg	18 50 55.3	-2.1
	16nm,0.3s							
KOTS	Kotyrbulak	5.10	288	Pg		Pg	18 49 49.9	-1.4
	1.8nm,0.2s							
KOTS				Lg		Lg	18 50 55.3	
	16nm,0.3s							
MAKZ	Makanchi	5.14	346	⇑Pg		Pg	18 49 50.7	-1.3
	3.0nm,0.9s							
MAKZ				⇑Lg		Lg	18 50 54.8	
	2.6nm,0.6s							
KTBS	Karatobe	5.53	292	eP		Pg

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.20**	**346**	Pg	**Pg**	**19 01 11.1**	**+0.1**
KCHF	**Cheshme Sefid,**	**0.37**	**68**	Pg	**Pg**	**19 01 13.5**	**-0.5**
IDHR	**Dehrash**	**0.60**	**341**	Pg	**Pb**	**19 01 17.9**	**-1.4**
ILBA	**Ilam Banvizeh**	**0.62**	**215**	Pg	**Pb**	**19 01 19.2**	**-0.4**
ILIN	**Lien**	**0.83**	**19**	Pg	**Pg**	**19 01 22.1**	**-0.5**
KGS1	**Ghasr-e-Shirin**	**0.94**	**294**	Pg	**Pn**	**19 01 25.8**	**0.0**
IBZA	**Bozab**	**1.07**	**72**	Pg	**Pg**	**19 01 27.2**	**-0.1**
IBDR	**Badra**	**1.18**	**210**	*e*Pg	**Pg**	**19 01 31.0**	**+1.8**
IBDR				*e*Sg	**Sn**	**19 01 47.0**	**+1.8**
IKFM	**Kafar-mosalman**	**1.18**	**121**	Pg	**Pn**	**19 01 29.5**	**+0.3**
IDOB	**Doab**	**1.33**	**105**	Pg	**Pn**	**19 01 32.0**	**+0.5**
BHD	**Baghdad**	**2.06**	**246**	*e*Pn	**Pb**	**19 01 43.0**	**-1.1**
BHD				*e*Sn	**Sg**	**19 02 11.0**	**-1.9**
BHD				AML	AML	19 02 27.0	
	comp=E,2μm,0.3s						
IKRK	**Kirkuk**	**2.27**	**304**	*e*Pn	**Pb**	**19 01 46.0**	**-1.6**
IKRK				*e*Sn	**Sg**	**19 02 15.0**	**-4.5**
RAFI	**Al-Rafai**	**2.44**	**190**	*e*Pn	**Pn**	**19 01 48.0**	**+1.4**
RAFI				*e*Sn	**Sn**	**19 02 19.0**	**+2.5**
RAFI				AML	AML	19 02 35.8	
	comp=N,486nm,0.9s						
RAFI				AML	AML	19 02 41.4	
	comp=E,472nm,0.6s						
MAHB	**Mahabad**	**2.73**	**344**	Pn	**Pb**	**19 01 53.9**	**-1.7**
IRAZ	**Razeghan**	**3.00**	**64**	Pn	**Pn**	**19 01 57.4**	**+3.0**
IAZR	**Azarshahr**	**3.57**	**352**	Pn	**Pb**	**19 02 05.6**	**-4.5**
IQOM	**Qom**	**3.74**	**78**	Pn	**Pn**	**19 02 07.3**	**+2.7**
ISRB	**Sarab**	**3.78**	**13**	Pn	**Pn**	**19 02 08.3**	**+3.2**
IPIR	**Pirpir**	**3.85**	**111**	Pn	**Pn**	**19 02 08.4**	**+2.3**
JHBN	**Jahan bin**	**3.88**	**118**	Pn	**Pn**	**19 02 09.4**	**+2.8**
QAMS	**Qamsar**	**3.98**	**94**	Pn	**Pn**	**19 02 11.0**	**+3.0**
ZNGN	**Zangian**	**4.08**	**118**	Pn	**Pn**	**19 02 11.9**	**+2.6**
ITBZ	**Tabriz**	**4.11**	**355**	Pn	**Pn**	**19 02 13.0**	**+3.4**
IHRS	**Heris**	**4.19**	**4**	Pn	**Pn**	**19 02 14.1**	**+3.4**
IKLH	**Kolahrood**	**4.21**	**100**	Pn	**Pn**	**19 02 13.7**	**+2.7**
ISHB	**Shabestar**	**4.22**	**349**	Pn	**Pn**	**19 02 14.0**	**+2.8**
IVRN	**Varamin**	**4.29**	**77**	Pn	**Pn**	**19 02 14.8**	**+2.7**
KRSH	**Karshahi**	**4.58**	**91**	Pn	**Pn**	**19 02 18.6**	**+2.5**
MZPU	**Pul - Mazandar**	**4.65**	**59**	Pn	**Pn**	**19 02 20.1**	**+3.0**
ISFB	**Sefidab**	**4.65**	**86**	Pn	**Pn**	**19 02 19.4**	**+2.3**
IDMV	**Damavand**	**4.67**	**71**	Pn	**Pn**	**19 02 20.0**	**+2.6**
GRMI	**Germi**	**4.77**	**12**	Pn	**Pn**	**19 02 21.9**	**+3.2**
IGAR	**Gharneh**	**4.85**	**109**	Pn	**Pn**	**19 02 22.5**	**+2.6**
KBD	**Kabd**	**5.03**	**169**	P	**Pn**	**19 02 25.2**	**+3.1**
KBD				S	Sn	19 03 09.1	-11
NAX	**Nakhchivan**	**5.11**	**350**	P	**Pn**	**19 02 25.2**	**+1.9**
IPRN	**Peran**	**5.13**	**64**	Pn	**Pn**	**19 02 26.4**	**+2.8**
KLNJ	**Kolanjah**	**5.22**	**125**	Pn	**Pn**	**19 02 27.5**	**+2.4**
IFIR	**Firoozkooh**	**5.25**	**72**	Pn	**Pn**	**19 02 28.2**	**+2.7**
ILAS	**Lasjerd**	**5.36**	**75**	Pn	**Pn**	**19 02 29.3**	**+2.4**
IRAM	**Ramesheh**	**5.36**	**114**	Pn	**Pn**	**19 02 29.9**	**+3.0**
MAKU	**Maku**	**5.44**	**344**	Pn	**Pn**	**19 02 31.4**	**+3.5**
GURO	**Guroymak-BITLI**	**5.76**	**321**	Pn	**Pn**	**19 02 32.8**	**+0.5**
ANAR	**Anarak**	**6.00**	**97**	Pn	**Pn**	**19 02 38.0**	**+2.5**
GNI	**Garni**	**6.19**	**346**	*i* P	**Pn**	**19 02 37.8**	**-0.4**
GNI	**Garni**	**6.19**	**346**	Pn	Pn	19 02 42.4	+4.2
	comp=E,0.4nm,0.3s,baz=277,slow=8.1,SNR=2.7						
GNI				Pg	Pg	19 02 59.2	-5.9
	comp=E,0.8nm,0.3s,baz=233,slow=6.4,SNR=6.8						
GNI				Lg	Lg	19 04 25.9	
	comp=E,0.1nm,0.3s,baz=204,slow=18,SNR=1.2 comp=E,1.9nm,0.5s						
GNI	**Garni**	**6.19**	**346**	P	**Pg**	**19 03 03.4**	**-1.8**
GNI				P	**Pg**	**19 03 03.4**	**-1.8**
DSBU	**Dashti - Bushe**	**6.99**	**144**	Pn	**Pn**	**19 02 51.2**	**+2.1**
GAZ	**Gaziantep**	**8.24**	**294**	Pn	**Pn**	**19 03 06.0**	**-0.3**
ARPR	**Arapgir-MALATY**	**8.30**	**309**	Pn	**Pn**	**19 03 07.7**	**+0.6**
ASF	**Jabal al Asfar**	**8.39**	**259**	Pn	**Pn**	**19 03 09.8**	**+1.4**
	comp=E,0.4nm,0.3s,baz=159,slow=3.8,SNR=2.0						
ASF				Lg	Lg	19 05 40.4	
	comp=E,1.0nm,0.3s,baz=157,slow=3.0,SNR=2.2 comp=E,1.1nm,0.3s						
ONI	**Oni**	**8.80**	**344**	Pn	**Pn**	**19 03 17.5**	**+3.6**
ONI	**Oni**	**8.80**	**344**	P	**Pn**	**19 03 17.5**	**+3.6**
SAKB	**Bahrain**	**8.81**	**156**	P	Pn	19 03 09.9	-4.1
SHMA	**Al-Shehemyia**	**9.07**	**154**	P	**Pn**	**19 03 17.6**	**0.0**
SHMA				S	Sn	19 04 52.6	-7.1
MMAI	**Mount Meron Ar**	**9.43**	**266**	Pn	**Pn**	**19 03 25.3**	**+2.7**
	comp=E,0.3nm,0.3s,baz=348,slow=34,SNR=1.7						
MMAI				Lg	Lg	19 06 09.7	
	comp=E,0.8nm,0.3s,baz=106,slow=32,SNR=2.0 comp=E,0.5nm,0.4s						
BALJ	**Balqa**	**9.44**	**261**	Pn	**Pn**	**19 03 18.0**	**-4.7**
GHAJ	**Ghor Haditha**	**9.74**	**256**	Pn	**Pn**	**19 03 24.1**	**-2.6**
BNN	**Bunyan**	**9.87**	**302**	Pn	**Pn**	**19 03 27.1**	**-1.6**
GEYT	**Alibeck**	**10.04**	**65**	Pn	**Pn**	**19 03 34.2**	**+3.2**
	comp=E,0.2nm,0.3s,baz=245,slow=19,SNR=2.6 comp=E,2.0nm,0.7s						
SMRA	**Abu-Samra**	**10.04**	**158**	P	**Pn**	**19 03 31.5**	**+0.5**
SMRA				S	Sn	19 05 14.3	-9.4
TRNA	**Turayna**	**10.18**	**156**	P	**Pn**	**19 03 34.6**	**+1.7**
RAYN	**Ar Rayn**	**10.62**	**186**	Pn	**Pn**	**19 03 37.1**	**-1.8**
RAYN	**Ar Rayn**	**10.62**	**186**	P	**Pn**	**19 03 37.1**	**-1.8**
RAYN	**Ar Rayn**	**10.62**	**186**	Pn	**Pn**	**19 03 37.4**	**-1.6**
RAYN	**Ar Rayn**	**10.62**	**186**	P	**Pn**	**19 03 39.5**	**+0.5**
RAYN				S	**Sn**	**19 05 31.7**	**-6.3**
JRN	**Qarnain Island**	**10.64**	**148**	P	**Pn**	**19 03 39.6**	**+0.5**
JRN				S	Sn	19 05 29.0	-9.4
EIL	**Elat**	**10.87**	**249**	Pn	Pn	19 03 47.6	+5.2
	comp=E,0.2nm,0.3s,baz=135,slow=23,SNR=1.8						
EIL				Lg	Lg	19 06 54.5	
	comp=E,0.3nm,0.3s,baz=126,slow=19,SNR=2.8						
GHWR	**Ruwais**	**11.51**	**150**	P	**Pn**	**19 03 52.8**	**+1.7**
GHWR				S	Sn	19 05 50.5	-9.3
SHME	**Shamm**	**11.52**	**132**	P	**Pn**	**19 03 53.1**	**+2.2**
MASF	**Masafi**	**12.03**	**134**	P	**Pn**	**19 03 59.0**	**+0.8**
MASF				S	**Sn**	**19 06 06.3**	**-6.2**
NAZ	**Nazwa, Dubai**	**12.03**	**137**	P	**Pn**	**19 03 55.8**	**-2.4**
NAZ				S	**Sn**	**19 06 07.7**	**-4.8**
MSFE	**Esma-Masafi**	**12.04**	**134**	Pn	**Pn**	**19 03 58.7**	**+0.4**
MZWR	**Madinat Zayed**	**12.13**	**147**	P	**Pn**	**19 04 01.5**	**+2.0**
MDH	**Madha**	**12.17**	**134**	P	**Pn**	**19 04 01.1**	**+1.1**
MDH				S	Sn	19 06 08.7	-7.1
FAQ	**Al Faqa, Dubai**	**12.18**	**138**	Pn	**Pn**	**19 03 59.1**	**-1.2**
FAQ	**Al Faqa, Dubai**	**12.18**	**138**	P	**Pn**	**19 03 59.8**	**-0.5**
FAQ				S	**Sn**	**19 06 09.9**	**-6.3**
UOSS	**Minazif**	**12.38**	**135**	Pn	**Pn**	**19 04 01.0**	**-1.9**
UOSS	**Minazif**	**12.38**	**135**	Pn	**Pn**	**19 04 01.8**	**-1.1**
UOSS	**Minazif**	**12.38**	**135**	P	**Pn**	**19 04 03.7**	**+0.8**
UOSS				S	Sn	19 06 12.3	-8.6
HATD	**Hatta, Dubai**	**12.43**	**136**	Pn	**Pn**	**19 04 04.2**	**+0.6**
HATD	**Hatta, Dubai**	**12.43**	**136**	P	**Pn**	**19 04 04.7**	**+1.1**
HATD				S	Sn	19 06 15.0	-7.2
ASHO	**Ashiyiah**	**12.49**	**136**	Pn	**Pn**	**19 04 04.0**	**-0.5**
ASHO	**Ashiyiah**	**12.49**	**136**	P	**Pn**	**19 04 04.7**	**+0.1**
	SNR=6.1						
ASHO				S	Sn	19 06 16.0	-7.9
JASK	**Jask - Hormozg**	**12.75**	**127**	P	**Pn**	**19 04 10.1**	**+2.1**
ALNE	**Al Ain**	**12.82**	**139**	Pn	**Pn**	**19 04 08.8**	**-0.1**
ALNE	**Al Ain**	**12.82**	**139**	P	**Pn**	**19 04 09.5**	**+0.6**
ALNE				S	**Sn**	**19 06 25.6**	**-6.2**
SOHO	**SOHO**	**13.19**	**136**	Pn	**Pn**	**19 04 13.4**	**-0.7**
SOHO	**SOHO**	**13.19**	**136**	P	**Pn**	**19 04 14.2**	**+0.1**
SOHO				S	Sn	19 06 31.7	-9.2
UMZA	**Um Al Zommool**	**13.62**	**144**	P	**Pn**	**19 04 19.5**	**-0.5**
UMZA				S	Sn	19 06 41.6	-10
ARQ	**Araqi**	**13.81**	**139**	P	**Pn**	**19 04 21.6**	**-1.0**
ARQ				S	Sn	19 06 48.2	-7.9
HOQ	**Hoqain**	**14.07**	**136**	P	**Pn**	**19 04 26.4**	**+0.4**
BIDO	**Bidbid**	**14.60**	**133**	P	**Pn**	**19 04 35.5**	**+2.3**
BSY	**Bisya**	**14.66**	**138**	P	**Pn**	**19 04 33.4**	**-0.8**
	SNR=6.6						
BSY				S	Sn	19 07 07.0	-10
SMDO	**Samad**	**14.90**	**135**	P	**Pn**	**19 04 38.2**	**+0.7**
SMDO				S	Sn	19 07 14.1	-8.6
WSAR	**Wadi Sarin**	**15.11**	**133**	Pn	**Pn**	**19 04 40.0**	**-0.2**
	comp=E,0.6nm,0.3s,baz=338,slow=13,SNR=3.1						
WSAR				Sn	Sn	19 07 14.8	-13
	baz=98,slow=22,SNR=1.3						
JMDO	**Jabal Madar**	**15.46**	**136**	P	**Pn**	**19 04 45.5**	**+0.6**
WBK	**Wadi Bani Khal**	**15.79**	**133**	P	**Pn**	**19 04 51.2**	**+2.1**
JLN	**Jalan Bani Buh**	**16.40**	**133**	P	**P**	**19 04 59.9**	**+0.1**
MHTO	**MHTO**	**16.50**	**140**	P	**Pn**	**19 04 57.3**	**-0.9**
MHTO				S	Sn	19 07 50.1	-11
DOK	**Doka**	**16.84**	**155**	P	**Pn**	**19 05 01.1**	**-1.5**
DOK				S	Sn	19 07 59.6	-10
DQM	**DQM**	**17.15**	**143**	P	**Pn**	**19 05 05.9**	**-0.5**
DQM				S	Sn	19 08 07.0	-10
WHFO	**Wadi Hawf**	**17.37**	**157**	P	**Pn**	**19 05 07.0**	**-2.3**
	SNR=12						
WHFO				S	**Sn**	**19 08 16.0**	**-6.6**
VRH	**Novokhopyorsk**	**17.43**	**350**	*e*P	**Pn**	**19 05 08.2**	**-1.5**
VRH				pmax	pmax		
	comp=E,9.0nm,0.6s						
VORD	**Divnogorie**	**17.65**	**345**	*e*P	**P**	**19 05 12.4**	**-1.0**
VORD				pmax	pmax		
	comp=E,10.0nm,0.9s						
ABTO	**Aybut**	**17.75**	**159**	P	**Pn**	**19 05 12.2**	**-1.8**
	SNR=8.5						
ABTO				P	**Pn**	**19 05 12.2**	**-1.8**
	SNR=8.5						
ABTO				S	Sn	19 08 22.7	-9.2
ABTO				S	Sn	19 08 22.7	-9.2
RBK	**Rabkut**	**17.90**	**156**	P	**Pn**	**19 05 13.9**	**-1.9**
RBK				S	Sn	19 08 25.9	-10
IDI	**Anoyia**	**17.91**	**280**	Pn	**P**	**19 05 17.9**	**+1.5**
	baz=97,slow=17,SNR=1.8						
VSR	**Storozhevoye**	**17.91**	**345**	*e*P	**Pn**	**19 05 14.3**	**-1.4**
VSR				pmax	pmax		
	comp=E,10.0nm,0.6s						
SHAO	**Shalim**	**17.95**	**151**	Pn	**Pn**	**19 05 14.8**	**-1.6**
SHAO	**Shalim**	**17.95**	**151**	P	**Pn**	**19 05 15.1**	**-1.3**
	SNR=16						
DMTO	**DMTO**	**17.97**	**153**	P	**Pn**	**19 05 15.0**	**-1.6**
	SNR=15						
DMTO				S	Sn	19 08 27.7	-9.4
ABKAR	**Akbulak array**	**18.04**	**29**	P	**P**	**19 05 18.6**	**+0.8**
BELG	**Belogornoye**	**18.26**	**2**	*e*P	**P**	**19 05 20.6**	**+0.5**
BELG				pmax	pmax		
	comp=E,2.0nm,0.9s						
BELG	**Belogornoye**	**18.26**	**2**	P	**P**	**19 05 20.8**	**+0.7**
	comp=E,0.8nm,0.3s,baz=143,slow=20,SNR=9.8 comp=E,2.2nm,0.7s						
AKTO	**Aktyubinsk**	**18.30**	**24**	P	**P**	**19 05 22.0**	**+1.3**
AKTO	**Aktyubinsk**	**18.30**	**24**	P	**P**	**19 05 21.9**	**+1.3**
	comp=E,0.2nm,0.3s,baz=141,slow=13,SNR=2.3 comp=E,1.2nm,0.6s						
KBL	**Kabul**	**18.52**	**82**	P	**Pn**	**19 05 24.3**	**+0.8**
KBL	**Kabul**	**18.52**	**82**	P	**Pn**	**19 05 24.3**	**+0.8**
KBL				pmax	pmax		
	comp=E,7.0nm,1.1s						
SIMJ	**Simiganj**	**18.56**	**69**	P	**Pn**	**19 05 26.1**	**+2.1**
KIS	**Kishlov**	**18.60**	**319**	P	**Pn**	**19 05 24.6**	**+0.4**
CHGR	**Chuyangaron**	**18.68**	**70**	P	**Pn**	**19 05 26.4**	**+1.1**
CHGR				IAmb	IAmb	19 05 29.2	
	comp=E,6.7nm,0.8s						
CHGR	**Chuyangaron**	**18.68**	**70**	P	**Pn**	**19 05 26.4**	**+1.1**
CHGR				pmax	pmax		
	comp=E,7.0nm,0.8s						
LPSR	**Galich'ya Gora**	**19.27**	**346**	*e*P	**Pn**	**19 05 30.9**	**-1.3**
LPSR				pmax	pmax		
	comp=E,20nm,0.9s						
MLR	**Muntele Rosu**	**19.46**	**312**	P	**Pn**	**19 05 35.4**	**+0.7**
	comp=E,20nm,0.3s,baz=137,slow=19,SNR=3.0 comp=E,2.3nm,0.7s						
SORM	**Soroca**	**19.55**	**321**	P	**Pn**	**19 05 35.2**	**-0.4**
GAR	**Garm**	**19.62**	**69**	P	**Pn**	**19 05 38.2**	**+1.5**
GAR				IAmb	IAmb	19 05 40.7	
	comp=E,11nm,0.9s						
BTK	**Batken**	**20.15**	**66**	P	Pn	19 05 44.0	+1.1
BTK	**Batken**	**20.15**	**66**	P	Pn	19 05 44.1	+1.1
BTK				pmax	pmax		
	comp=E,4.0nm,0.9s						
KK31	**Karatay Array**	**20.64**	**57**	P	Pn	19 05 49.3	+0.7
KK31	**Karatay Array**	**20.64**	**57**	P	Pn	19 05 49.3	+0.7
KK31				pmax	pmax		
	comp=E,3.0nm,0.7s						
KKAR	**Karatay Array**	**20.64**	**57**	P	Pn	19 05 49.3	+0.7
KKAR	**Karatay Array**	**20.64**	**57**	P	Pn	19 05 49.3	+0.7
DRK	**Karamyk**	**20.82**	**68**	P	Pn	19 05 51.6	+0.6
AKASG	**Malin Array Be**	**20.87**	**328**	*e*P	Pn	19 05 49.0	-2.1
AKASG				pmax	pmax		
	comp=E,4.0nm,0.8s						
AKASG	**Malin Array Be**	**20.87**	**328**	P	**P**	**19 05 48.5**	**-0.1**
	comp=E,4.9nm,1.0s,baz=138,slow=10.0,SNR=13 comp=E,4.9nm,1.0s						
AKBB	**Malin Array Si**	**20.87**	**328**	P	**P**	**19 05 48.5**	**-0.2**
AKBB				IAmb	IAmb	19 05 53.7	
	comp=E,6.0nm,0.7s						
AKBB	**Malin Array Si**	**20.87**	**328**	*ce*P	**P**	**19 05 48.5**	**-0.2**
AKBB				pmax	pmax		
	comp=E,6.0nm,0.8s						
KIEV	**Kiev**	**20.87**	**328**	P	**P**	**19 05 48.3**	**-0.4**
KIEV				IAmb	IAmb	19 05 53.7	
	comp=E,5.4nm,0.7s						
KIEV	**Kiev**	**20.87**	**328**	P	**P**	**19 05 48.3**	**-0.4**
KIEV				pmax	pmax		
	comp=E,5.0nm,0.7s						
BURAR	**Bucovina Array**	**20.97**	**316**	P	Pn	19 05 50.5	-1.9
BURAR				IAmb	IAmb	19 05 55.6	
	comp=E,5.9nm,0.7s						
BUR08	**Bucovina Ar. S**	**20.99**	**316**	P	Pn	19 05 51.2	-1.5
BUR08				IAmb	IAmb	19 06 03.8	
	comp=E,13nm,1.3s						
HORU	**Horodok**	**21.23**	**321**	P	**P**	**19 05 52.9**	**+0.4**
KSV	**Kosov**	**21.43**	**318**	P	**P**	**19 05 55.4**	**+0.6**
ARSB	**Arslanbob**	**21.99**	**63**	P	**P**	**19 06 02.9**	**+1.9**
ARSB	**Arslanbob**	**21.99**	**63**	P	**P**	**19 06 04.1**	**+1.9**
NIL	**Nilore**	**22.09**	**84**	P	**P**	**19 05 58.2**	**-3.8**
NIL				IAmb	IAmb	19 06 19.6	
	comp=E,11nm,1.1s						
NIL	**Nilore**	**22.09**	**84**	P	**P**	**19 05 58.2**	**-3.8**
NIL				pmax	pmax		
	comp=E,11nm,1.2s						
OBN	**Obninsk**	**22.12**	**345**	*e*P	**P**	**19 06 03.6**	**+1.6**
OBN				*e*		19 06 25.8	
OBN				*e*PPP	PPP	19 06 32.7	
OBN				*e*		19 09 58.2	
OBN				pmax	pmax		
	comp=E,6.0nm,0.8s						
OBN				MLR	MLR		
	comp=E,104nm,19.0s						
ARU	**Arti**	**23.75**	**17**	P	**P**	**19 06 18.9**	**0.0**
ARU				S	**S**	**19 10 31.9**	**-2.2**
ARU	**Arti**	**23.75**	**17**	P	**P**	**19 06 20.2**	**+1.3**
	comp=E,1.5nm,0.5s,baz=282,slow=20,SNR=4.2 comp=E,1.5nm,0.5s						
KSH	**Kashi**	**24.04**	**69**	P	**P**	**19 06 24.2**	**+2.2**
KSH				pmax	pmax		
	comp=E,2.0nm,0.8s						
NRN	**Naryn**	**24.25**	**64**	P	**P**	**19 06 26.8**	**+2.6**
NRN	**Naryn**	**24.25**	**64**	P	**P**	**19 06 26.8**	**+2.6**
NRN				pmax	pmax		
	comp=E,7.0nm,0.8s						
PSZ	**Piszkesteto**	**24.27**	**313**	P	**P**	**19 06 24.5**	**+0.5**
PSZ				IAmb	IAmb	19 06 26.0	
	comp=E,3.2nm,0.8s						
PSZ	**Piszkesteto**	**24.27**	**313**	P	**P**	**19 06 24.5**	**+0.5**
PSZ				pmax	pmax		
	comp=E,3.0nm,0.8s						
KIRV	**Kirov**	**24.53**	**4**	*ce*P	**P**	**19 06 25.9**	**-0.1**
VYHS	**Vyhne**	**25.15**	**313**	*e*P	**P**	**19 06 34.1**	**+2.2**
VYHS	**Vyhne**	**25.15**	**313**	*e*P	**P**	**19 06 34.1**	**+2.2**
BRVK	**Borovoye**	**25.32**	**34**	P	**P**	**19 06 34.4**	**+1.1**
BRVK				IAmb	IAmb	19 06 39.5	
	comp=E,4.8nm,0.8s						
BRVK	**Borovoye**	**25.32**	**34**	*ce*P	**P**	**19 06 33.5**	**+0.2**
BRVK				pmax	pmax		
	comp=E,6.0nm,1.0s						
BVAR	**Borovoye Array**	**25.35**	**35**	P	**P**	**19 06 35.4**	**+1.8**
	comp=E,4.7nm,0.7s,baz=234,slow=8.5,SNR=18 comp=E,4.7nm,0.7s						
OJC	**Ojcow**	**25.37**	**317**	P	**P**	**19 06 33.6**	**-0.2**
OJC	**Ojcow**	**25.37**	**317**	P	**P**	**19 06 33.6**	**-0.2**
OJC				pmax	pmax		
	comp=E,6.0nm,0.6s						
TARG	**Taragay, Kyrgy**	**25.63**	**64**	P	**P**	**19 06 39.7**	**+2.9**
TARG	**Taragay, Kyrgy**	**25.63**	**64**	P	**P**	**19 06 39.7**	**+2.9**
TARG				pmax	pmax		
	comp=E,8.0nm,0.8s						
KURBB	**Kurchatov Arra**	**28.46**	**45**	P	**P**	**19 07 03.8**	**+2.2**
	comp=E,2.4nm,0.8s,baz=250,slow=8.7,SNR=20						
KURK	**Kurchatov**	**28.55**	**45**	P	**P**	**19 07 04.1**	**+1.7**
KURK				IAmb	IAmb	19 07 05.5	
	comp=E,4.0nm,1.1s						
KURK	**Kurchatov**	**28.55**	**45**	*ce*P	**P**	**19 07 03.6**	**+1.2**
KURK				pmax	pmax		
	comp=E,12nm,2.5s						
MK31	**Makanchi Array**	**29.67**	**54**	P	**P**	**19 07 14.4**	**+1.9**
MK31	**Makanchi Array**	**29.67**	**54**	*ce*P	**P**	**19 07 14.2**	**+1.7**
MKAR	**Makanchi Array**	**29.67**	**54**	P	**P**	**19 07 14.4**	**+1.9**
MKAR	**Makanchi Array**	**29.67**	**54**	P	**P**	**19 07 14.8**	**+2.3**
	comp=E,1.3nm,0.8s,baz=249,slow=7.3,SNR=14 comp=E,1.3nm,0.8s						
CLL	**Collm**	**29.73**	**316**	*i* P	**P**	**19 07 14.9**	**+2.0**
CLL				pmax	pmax		
	comp=E,3.0nm,0.8s						
CLL	**Collm**	**29.73**	**316**	*i* P	**P**	**19 07 14.9**	**+2.0**
	comp=E,3.0nm,0.8s						
FINES	**FINESS Array B**	**30.34**	**340**	*i* P	**P**	**19 07 16.7**	**-1.4**
FINES				pmax	pmax		
	comp=E,1.0nm,0.6s						
FINES	**FINESS Array B**	**30.34**	**340**	P	**P**	**19 07 18.6**	**+0.5**
	comp=E,0.9nm,0.7s,baz=158,slow=9.0,SNR=4.1 comp=E,0.9nm,0.7s						
BNI	**Bardonecchia**	**32.36**	**302**	P	**P**	**19 07 35.5**	**-0.8**
BNI	**Bardonecchia**	**32.36**	**302**	P	**P**	**19 07 35.5**	**-0.8**
BNI				pmax	pmax		
	comp=E,12nm,1.0s						
ZAA0	**Zalesovo Array**	**33.29**	**42**	P	**P**	**19 07 45.2**	**+1.1**
ZAA0				IAmb	IAmb	19 07 49.9	
	comp=E,2.4nm,0.8s						
ZALV	**Zalesovo Beam**	**33.29**	**42**	P	**P**	**19 07 45.0**	**+0.9**
ZALV	**Zalesovo Beam**	**33.29**	**42**	*e*P	**P**	**19 07 45.6**	**+1.4**
ZALV				pmax	pmax		
	comp=E,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**33.29**	**42**	P	**P**	**19 07 45.5**	**+1.3**
	comp=E,1.4nm,0.6s,baz=268,slow=9.8,SNR=9.0 comp=E,1.4nm,0.6s						
DGZ	**Jazzator, Alta**	**33.65**	**50**	*i* P	**P**	**19 07 48.9**	**+1.4**
DGZ				pmax	pmax		
	comp=E,11nm,3.4s						
HFS	**Hagfors**	**33.69**	**331**	P	**P**	**19 07 47.9**	**+0.3**
	comp=E,4.9nm,0.5s,baz=133,slow=11,SNR=25 comp=E,4.9nm,0.5s						
NB2	**NORSAR Subarra**	**35.22**	**331**	P	**P**	**19 08 00.3**	**-0.5**
	comp=E,0.5nm,0.6s,baz=123,slow=8.6						
NOA	**NORSAR Array B**	**35.22**	**331**	P	**P**	**19 08 00.6**	**-0.2**
	comp=E,0.8nm,0.7s,baz=125,slow=8.6,SNR=4.4 comp=E,0.8nm,0.7s						
ARCES	**ARCESS Array B**	**37.34**	**348**	*e*P	**P**	**19 08 18.7**	**-0.2**
ARCES				pmax	pmax		
	comp=E,6.0nm,1.1s						
ARCES	**ARCESS Array B**	**37.34**	**348**	P	**P**	**19 08 19.5**	**+0.6**
	comp=E,3.6nm,0.9s,baz=152,slow=8.0,SNR=11 comp=E,3.6nm,0.9s						
EKA	**Eskdalemuir Ar**	**40.15**	**317**	P	**P**	**19 08 43.2**	**+0.7**
	comp=E,1.1nm,0.5s,baz=101,slow=8.6,SNR=3.5 comp=E,1.1nm,0.5s						
ESDC	**Sonseca Array**	**40.40**	**293**	P	**P**	**19 08 45.9**	**+1.0**
	comp=E,1.3nm,0.8s,baz=62,slow=7.8,SNR=7.1 comp=E,1.3nm,0.8s						
NRIK	**Noril'sk**	**41.87**	**20**	*i* P	**P**	**19 08 58.5**	**+1.9**
NRIK				pmax	pmax		
	comp=E,10.0nm,2.5s						
GTA	**Gaotai**	**42.42**	**67**	*e*P	**P**	**19 09 04.3**	**+2.7**
GTA				pmax	pmax		
	comp=E,1.0nm,1.3s						
SPITS	**Spitsbergen Ar**	**46.03**	**352**	P	**P**	**19 09 31.9**	**+2.1**
	comp=E,4.7nm,0.9s,baz=138,slow=13,SNR=1.5 comp=E,4.7nm,0.9s						
SONM	**Songino Array**	**46.04**	**54**	P	**P**	**19 09 30.5**	**-0.1**
	comp=E,0.2nm,0.5s,baz=289,slow=8.1,SNR=2.6 comp=E,0.2nm,0.5s						
ULN	**Ulaanbaatar**	**46.48**	**54**	*ce*P	**P**	**19 09 31.9**	**-2.1**
ULN				pmax	pmax		
	comp=E,2.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**48.92**	**95**	P	**P**	**19 09 53.1**	**0.0**
CMAR	**Chiang Mai Arr**	**48.92**	**95**	P	**P**	**19 09 53.2**	**+0.1**
	comp=E,1.0nm,0.7s,baz=287,slow=7.9,SNR=9.5 comp=E,1.0nm,0.7s						
KSRS	**Korea Array**	**64.02**	**61**	P	**P**	**19 11 40.7**	**+0.3**
	comp=E,1.0nm,0.8s,baz=288,slow=7.9,SNR=1.7 comp=E,1.0nm,0.8s						
**B

baz=24,SNR=25
QLP Quilpie 20.18 176 P **P** **19 12 04.8 +2.5**
FITZ Fitzroy Crossi 20.20 233 P **P** **19 12 02.7 +0.1**
baz=22,SNR=12
FITZ Fitzroy Crossi 20.20 233 **P** **19 11 58.4 -4.2**
FITZ Fitzroy Crossi 20.20 233 P **P** **19 12 04.3 +1.6**
EIDS Eidsvold 20.59 158 P **P** **19 12 08.5 +1.7**
baz=24,SNR=4.2
GTOI Gorontalo 20.70 289 P **P** **19 12 09.6 +1.5**
EDFI Ende, Flores 20.81 262 P **P** **19 12 08.8 -0.6**
comp=Z,27nm,0.8s
INKA Innaminka 21.33 184 P **P** **19 12 17.5 +2.7**
OOD Oodnadatta 22.29 196 P **P** **19 12 27.0 +1.9**
TOLI2 Tolitoli 22.96 288 P **P** **19 12 30.8 -1.6**
WRKA Warakurna 23.05 215 P **P** **19 12 33.4 +0.3**
baz=26,SNR=31
WRKA Warakurna 23.05 215 P **P** **19 12 33.5 +0.3**
LCRK Leigh Creek 24.30 189 P **P** **19 12 46.8 +1.5**
MULG Mulgathing 25.10 198 P **P** **19 12 53.9 +1.4**
STKA Stephens Creek 25.40 182 P **P** **19 12 57.8 +2.6**
baz=29,SNR=9.7
STKA Stephens Creek 25.40 182 P P 19 12 50.0 -5.2
STKA Stephens Creek 25.40 182 P **P** **19 12 55.0 -0.3**
comp=Z,1.8nm,0.9s,baz=349,slow=11,SNR=2.3
STKA LR LR 19 23 30.8
comp=Z,156nm,19.2s,baz=13,slow=38
PSA00 Pilbara Seismi 26.66 233 P **P** **19 13 05.6 -1.2**
PSA00 IAmb IAmb 19 13 11.8
comp=Z,10nm,0.8s
YNG Young 28.32 170 P **P** **19 13 21.3 -0.2**
baz=32,SNR=7.1
PINNC Pines Island, 28.94 126 P **P** **19 13 29.4 +2.3**
LEM Lembang 34.70 267 LR LR 19 31 15.3
comp=Z,40nm,19.1s,baz=166,slow=41
NWAO Narrogin (SRO) 35.39 218 LR LR 19 29 45.5
comp=Z,246nm,18.3s,baz=218,slow=38
MJAR Matsushiro Arr 42.87 355 LR LR 19 31 32.8
comp=Z,42nm,20.3s,baz=168,slow=34
NJ2 Nanjing 44.38 331 *eP* **P** **19 15 40.1 +1.8**
NJ2 pmax pmax
comp=Z,24nm,1.1s
KSRS Korea Array 45.68 344 P **P** **19 15 47.6 -0.9**
comp=Z,2.2nm,0.9s,baz=166,slow=7.3,SNR=5.2
KSRS LR LR 19 33 24.6
comp=Z,24nm,20.8s,baz=140,slow=34
comp=Z,2.2nm,0.9s
CMAR Chiang Mai Arr 49.57 301 P **P** **19 16 18.9 -0.2**
comp=Z,1.0nm,0.8s,baz=116,slow=5.3,SNR=6.7
comp=Z,1.0nm,0.8s
ASAJ Asahikawa 50.24 0 LR LR 19 38 23.1
comp=Z,17nm,19.8s,baz=199,slow=37
USRK Ussuriysk Ar. 51.22 350 P **P** **19 16 30.8 -0.4**
USRK Ussuriysk Ar. 51.22 350 P **P** **19 16 29.7 -1.5**
comp=Z,2.5nm,0.8s,baz=175,slow=7.2,SNR=5.8
comp=Z,2.5nm,0.8s
PZH PanZhiHua 51.29 311 P **P** **19 16 32.5 +0.3**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,140nm,4.9s
MDJ Mudanjiang 52.07 348 P **P** **19 16 38.0 +0.5**
MDJ pmax pmax
comp=Z,8.0nm,1.0s
MDJ pmax pmax
comp=Z,190nm,4.2s
BNX BinXian 53.60 347 ⇓P **P** **19 16 49.5 +0.6**
BNX pmax pmax
comp=Z,7.0nm,0.5s
BNX pmax pmax
comp=Z,180nm,4.1s
HHC Hu-ho-hao-te 54.92 331 *eP* **P** **19 17 02.2 +3.5**
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,170nm,4.9s
KLR Kul'dur 56.16 351 P **P** **19 17 06.7 -0.6**
comp=Z,1.6nm,0.8s,baz=162,slow=6.4,SNR=6.6
KLR LR LR 19 38 22.5
comp=Z,44nm,19.5s,baz=180,slow=33
comp=Z,1.6nm,0.8s
GTA Gaotai 60.27 323 *eP* **P** **19 17 37.1 +0.7**
GTA pmax pmax
comp=Z,1.0nm,0.9s
PETK Petropavlovsk- 60.62 10 P **P** **19 17 37.0 -1.4**
comp=Z,7.8nm,1.0s,baz=196,slow=2.7,SNR=2.4
comp=Z,7.8nm,1.0s
LSA Lhasa 60.97 309 P **P** **19 17 40.9 -0.9**
LSA IAmb IAmb 19 17 47.8
comp=Z,4.2nm,1.1s
ULN Ulaanbaatar 62.38 334 P **P** **19 17 50.9 +0.3**
SONM Songino Array 62.65 333 P **P** **19 17 51.4 -1.0**
comp=Z,0.8nm,0.8s,baz=159,slow=6.1,SNR=5.4
SONM LR LR 19 46 40.4
comp=Z,39nm,18.3s,baz=77,slow=38
comp=Z,0.8nm,0.8s
SHEM Shemya Is, Ala 64.67 21 LR LR 19 42 49.9
comp=Z,58nm,18.9s,baz=308,slow=33
SEY Seymchan 69.50 5 P **P** **19 18 34.5 -1.4**
comp=Z,1.6nm,0.9s,baz=170,slow=3.7,SNR=5.3
comp=Z,1.6nm,0.9s
VNDA Vanda 71.85 176 P **P** **19 18 52.6 +2.4**
comp=Z,1.4nm,0.7s,baz=9.2,slow=4.8,SNR=5.9
comp=Z,1.4nm,0.7s
MK31 Makanchi Array 75.00 322 P **P** **19 19 08.1 -1.2**
MKAR Makanchi Array 75.00 322 P **P** **19 19 08.7 -0.5**
comp=Z,2.2nm,0.9s,baz=116,slow=6.0,SNR=15
comp=Z,2.2nm,0.9s
MAKZ Makanchi 75.20 322 P **P** **19 19 10.0 -0.4**
KSH Kashi 76.36 313 P **P** **19 19 18.8 +1.5**
KSH pP pP 19 19 22.9 +2.2
KSH pmax pmax
comp=Z,2.0nm,1.3s
ZALV Zalesovo Beam 77.00 329 P **P** **19 19 19.4 -1.0**
ZALV Zalesovo Beam 77.00 329 P **P** **19 19 19.8 -0.7**
comp=Z,0.3nm,0.3s,baz=147,slow=14,SNR=1.7
comp=Z,0.3nm,0.3s
KURK Kurchatov 78.89 324 P **P** **19 19 29.6 -1.4**
KURBB Kurchatov Arra 78.90 324 P **P** **19 19 31.1 +0.1**
comp=Z,0.2nm,0.3s,baz=117,slow=4.1,SNR=3.9
L14K Kuka Creek 79.63 24 P **P** **19 19 34.5 -0.3**
L14K IAmb IAmb 19 19 35.7
comp=Z,7.2nm,0.8s
K15K Wolf Creek Mou 80.62 23 P **P** **19 19 40.2 0.0**
K15K IAmb IAmb 19 20 12.5
comp=Z,13nm,1.3s
O16K Kokwok River B 80.62 26 P **P** **19 19 40.0 -0.2**
O16K IAmb IAmb 19 19 40.7
comp=Z,8.0nm,0.9s
L16K Owhat River 81.12 24 P **P** **19 19 42.8 -0.1**
L16K IAmb IAmb 19 19 56.3
comp=Z,14nm,1.4s
CHGR Chuyangaron 81.14 311 P **P** **19 19 42.1 -1.5**
CHGR IAmb IAmb 19 19 48.2
comp=Z,5.9nm,0.8s
SIMJ Simiganj 81.25 311 P **P** **19 19 43.6 -0.7**
N17K Nushagak Hills 81.48 26 P **P** **19 19 44.9 +0.1**
N17K IAmb IAmb 19 19 50.8
comp=Z,12nm,1.4s
J16K Anvik River 81.52 22 P **P** **19 19 44.8 -0.2**
J16K IAmb IAmb 19 19 47.5
comp=Z,8.6nm,1.1s
M17K Holitna River 81.81 25 P **P** **19 19 46.7 +0.2**
N18K Kilae Creek 82.12 26 IAmb IAmb 19 19 52.6
comp=Z,4.2nm,0.8s
KDAK Kodiak Island 82.34 29 LR LR 19 50 59.4
comp=Z,74nm,19.7s,baz=200,slow=32
F17K Baldwin Pennin 83.02 20 P **P** **19 19 52.5 -0.2**
F17K IAmb IAmb 19 20 22.1
comp=Z,5.0nm,1.2s
QSPA South Pole Qui 83.61 180 P **P** **19 19 56.2 +0.1**
comp=Z,1.6nm,0.7s,baz=50,slow=7.9,SNR=10
QSPA LR LR 19 56 00.0
comp=Z,216nm,19.3s,baz=222,slow=35
comp=Z,1.6nm,0.7s
E18K Tukpahlearik C 83.78 19 P **P** **19 19 56.4 -0.2**
E18K IAmb IAmb 19 19 59.1
comp=Z,4.0nm,0.8s
K20K Telida 84.11 24 P **P** **19 19 58.2 -0.3**
K20K IAmb IAmb 19 20 22.6
comp=Z,7.9nm,1.5s
NRIK Noril'sk 84.29 343 IAmb IAmb 19 20 00.9
comp=Z,3.9nm,1.0s
NRIK Noril'sk 84.29 343 P **P** **19 19 58.8 -0.4**
comp=Z,2.4nm,0.7s,baz=96,slow=4.7,SNR=4.0
comp=Z,2.4nm,0.7s
BVAR Borovoye Array 84.48 325 P **P** **19 20 00.0 -0.5**
comp=Z,3.4nm,0.7s,baz=117,slow=6.6,SNR=25
comp=Z,3.4nm,0.7s
BRVK Borovoye 84.55 325 P **P** **19 20 00.5 -0.4**
BRVK IAmb IAmb 19 20 05.5
comp=Z,4.5nm,0.9s
F20K Avaraart Lake 85.22 20 IAmb IAmb 19 20 07.5
comp=Z,6.2nm,1.4s
MLY Manley 86.15 23 P **P** **19 20 07.6 -1.0**
MLY IAmb IAmb 19 20 12.3
comp=Z,3.8nm,1.0s
RND Reindeer 86.28 25 P **P** **19 20 07.3 -2.0**
B21K Ikpikpuk River 86.80 18 P **P** **19 20 11.3 -0.4**
B21K IAmb IAmb 19 20 12.2
comp=Z,3.3nm,0.9s
WRH Wood River Hil 86.98 24 P **P** **19 20 11.1 -1.6**
WRH IAmb IAmb 19 20 54.6
comp=Z,6.7nm,1.3s
E22K Anaktuvuk Pass 87.05 20 IAmb IAmb 19 20 15.8
comp=Z,2.6nm,0.8s
CCB Clear Creek Bu 87.16 24 P **P** **19 20 11.8 -1.8**
CCB IAmb IAmb 19 20 13.9
comp=Z,4.6nm,0.9s
B22K Teshekpuk Lake 87.49 18 P **P** **19 20 13.9 -1.1**
IL31 87.58 24 P P 19 20 12.9 -2.6
IL31 IAmb IAmb 19 20 15.1
comp=Z,2.9nm,0.8s
ILAR Eielson Array 87.58 24 P P 19 20 13.2 -2.4
ILAR Eielson Array 87.58 24 P P 19 20 13.1 -2.5
comp=Z,2.2nm,0.7s,baz=252,slow=4.8,SNR=23
comp=Z,2.2nm,0.7s
CRQM Cirque 87.93 28 P **P** **19 20 17.3 -0.3**
J25K Salcha River, 88.14 24 P **P** **19 20 16.4 -1.9**
C23K Itkillik River 88.15 19 P **P** **19 20 17.9 -0.3**
BARN Barnard Glacie 88.71 28 P **P** **19 20 21.0 -0.3**
FYU Fort Yukon 88.82 22 P **P** **19 20 21.6 +0.2**
CTGM Chitina Glacie 88.84 28 P **P** **19 20 21.3 -0.6**
L27K Beaver Creek, 89.17 26 IAmb IAmb 19 20 24.8
comp=Z,4.2nm,1.1s
BCAR Beaver Creek A 89.19 26 P **P** **19 20 23.3 0.0**
BMAR Burnt Mountain 89.34 22 P **P** **19 20 23.9 0.0**
L29M L29M 90.82 27 IAmb IAmb 19 20 33.2
comp=Z,4.4nm,0.9s
J29N Klondike Camp 91.07 25 IAmb IAmb 19 21 06.4
comp=Z,26nm,0.3s
INK Inuvik 93.62 22 LR LR 20 00 24.3
comp=Z,44nm,20.7s,baz=26,slow=34
PLCA Paso Flores 124.14 150 PKP **PKPdf** **19 26 27.8 +0.9**
comp=Z,1.0nm,0.7s,baz=206,slow=3.5,SNR=3.6
SDV Santo Domingo 147.02 84 PKPdf **PKPdf** **19 27 04.8 -5.1**
SDV **PKPbc** **19 27 11.4 -0.6**
TRCB Terra Rica 147.44 153 PKPab **PKPdf** **19 27 10.8 +0.5**
DBIC Dimbokro 147.62 272 PKPbc **PKPdf** **19 27 14.0 +3.4**
comp=Z,4.3nm,0.8s,baz=88,slow=4.2,SNR=4.3

*SOF **07** 19:12:41.7, 41.88N±0.01×22.07E±0.03, h19km±5km, MD2.5/5*
*BEO **07** 19:12:43.9±0.4, 41.87N×22.13E, h0km, ML1.8/7*
*SKO **07** 19:12:43.6, 41.81N×22.11E, h10km, ML2.1*
*ATH **07** 19:12:45.8, 41.74N×22.11E, h5km±1km, ML1.7/5, Error ellipse: s-maj=3.5km s-min=1.4km az=170.0*

ISC 07 19:12:43.9±0.9, 41.87N±0.02×22.10E±0.02, h15km±7km, n38, σ1s86/63, 1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STIP	**Stip**	**0.18**	**160**	*i* Pg	**Pg**	**19 12 48.4**	**+0.1**
STIP				*i* Sg	**Sg**	**19 12 52.6**	**+1.4**
SKO	**Skopje**	**0.51**	**282**	*i* Pg	**Pg**	**19 12 54.2**	**+0.2**
PRVS	**Prvonek**	**0.64**	**358**	*e*Pg	**Pg**	**19 12 55.3**	**-1.2**
PRVS				*e*Sg	**Sg**	**19 13 04.0**	**-1.0**
VAY	**Valandovo**	**0.65**	**147**	*e*Pg	**Pg**	**19 12 55.5**	**-1.1**
VAY				*e*Sg	**Sg**	**19 13 04.1**	**-1.1**
VAY	**Valandovo**	**0.65**	**147**	*i* Pg	**Pg**	**19 12 55.8**	**-0.8**
VAY				*i* Sg	**Sg**	**19 13 04.6**	**-0.7**
VAY				*e*Lg	Lg	19 13 05.1	
	comp=N,66nm,0.4s						
VAY				*e*Lg	Lg	19 13 05.3	
	comp=E,52nm,0.3s						
BOSS	**Bosilegrad**	**0.69**	**24**	*e*Pg	**Pg**	**19 12 56.1**	**-1.3**
BOSS				*e*Sg	**Sg**	**19 13 04.7**	**-1.8**
KKB	**Krupnik**	**0.77**	**92**	*i* Pg	**Pg**	**19 12 58.5**	**-0.4**
KKB				*i* Sg	**Sg**	**19 13 08.4**	**-0.6**
KKB	**Krupnik**	**0.77**	**92**	*i* Pg	**Pg**	**19 12 57.9**	**-0.9**
KKB				*i* Sg	**Sg**	**19 13 08.9**	**-0.1**
KNT	**Kendrikon**	**0.93**	**139**	⇓*i* Pg	**Pg**	**19 13 00.5**	**-1.3**
KNT				*i* Sg	**Sg**	**19 13 13.2**	**-0.7**
KNT	**Kendrikon**	**0.93**	**139**	P	**Pg**	**19 13 00.7**	**-1.1**
KNT				S	**Sg**	**19 13 13.0**	**-1.0**
GRG	**Griva**	**0.94**	**166**	*i* Pg	**Pg**	**19 13 00.7**	**-1.4**
GRG	**Griva**	**0.94**	**166**	P	**Pg**	**19 13 00.8**	**-1.3**
GRG				AML	AML	19 13 19.2	
	comp=N,78μm,0.3s						
GRG				AML	AML	19 13 19.3	
	comp=E,85μm,0.3s						
BARS	**Barje**	**0.97**	**347**	*e*Pg	**Pg**	**19 13 02.7**	**0.0**
BARS				*e*Sg	**Sb**	**19 13 15.7**	**+0.5**
BARS	**Barje**	**0.97**	**347**	*i* Pg	**Pn**	**19 13 03.5**	**+0.4**
BARS				*i* Sg	**Sb**	**19 13 15.8**	**+0.6**
VTS	**Vitosha**	**1.13**	**48**	*i* Pg	**Pg**	**19 13 04.4**	**-1.3**
VTS				*i* Sg	**Sg**	**19 13 19.4**	**-1.0**
FNA	**Florina**	**1.21**	**207**	*i* Pg	**Pn**	**19 13 06.4**	**-0.1**
FNA				*i* Sg	**Sb**	**19 13 23.0**	**+0.8**
FNA	**Florina**	**1.21**	**207**	P	**Pn**	**19 13 06.4**	**-0.1**
FNA				S	**Sb**	**19 13 21.8**	**-0.4**
FNA				AML	AML	19 13 24.0	
	comp=N,114μm,0.4s						
FNA				AML	AML	19 13 26.5	
	comp=E,106μm,0.4s						
OHR	**Ohrid**	**1.24**	**233**	*i* Pg	**Pn**	**19 13 06.6**	**-0.1**
OHR				*i* Sg	**Sg**	**19 13 23.8**	**-0.1**
MMB	**Musomishta**	**1.27**	**104**	*i* Pg	**Pn**	**19 13 07.3**	**0.0**
MMB				*i* Sg	**Sb**	**19 13 24.5**	**+0.6**
MMB	**Musomishta**	**1.27**	**104**	*i* Pg	**Pn**	**19 13 07.5**	**+0.2**
MMB				*i* Sg	**Sn**	**19 13 24.9**	**+0.8**
SRS	**Serrai**	**1.35**	**123**	*i* Pg	**Pn**	**19 13 08.9**	**+0.7**
SRS	**Serrai**	**1.35**	**123**	P	**Pn**	**19 13 08.9**	**+0.7**
SRS				S	**Sb**	**19 13 26.3**	**+0.3**
SRS				AML	AML	19 13 33.8	
	comp=E,53μm,0.4s						
SRS				AML	AML	19 13 34.8	
	comp=N,57μm,0.3s						
SOH	**Sokhos**	**1.41**	**138**	*i* Pn	**Pb**	**19 13 10.3**	**+0.3**
SOH	**Sokhos**	**1.41**	**138**	P	**Pn**	**19 13 09.9**	**+0.8**
SOH				S	**Sn**	**19 13 27.6**	**+0.2**
SOH				AML	AML	19 13 30.2	
	comp=E,68μm,0.4s						
SOH				AML	AML	19 13 34.2	
	comp=N,54μm,0.6s						
NVR	**Nevrokopi**	**1.42**	**111**	P	**Pg**	**19 13 11.3**	**+0.1**
ZAPS	**Zavoj**	**1.46**	**15**	*e*Pg	**Pn**	**19 13 10.5**	**+0.7**
ZAPS				*e*Sg	**Sg**	**19 13 30.5**	**-0.5**
HORT	**Hortiatis**	**1.48**	**149**	P	**Pb**	**19 13 11.5**	**+0.4**
SELS	**Selova**	**1.53**	**332**	*e*Pg	**Pn**	**19 13 10.7**	**-0.1**
SELS				*e*Sg	**Sb**	**19 13 32.6**	**+1.2**
NEST	**Nestorio**	**1.66**	**209**	P	**Pn**	**19 13 13.2**	**+0.6**
NEST				S	**Sn**	**19 13 32.5**	**-1.2**
NEST				AML	AML	19 13 41.2	
	comp=E,67μm,0.7s						
NEST				AML	AML	19 13 43.7	
	comp=N,43μm,0.4s						
PGB	**Panagyurishte**	**1.67**	**67**	*i* Pg	**Pg**	**19 13 15.4**	**-0.6**
PGB				*i* Sg	**Sg**	**19 13 37.9**	**+0.2**
KOKK	**Kokkinochori,**	**1.77**	**126**	P	**Pb**	**19 13 15.6**	**-0.6**
KOKK				S	**Sn**	**19 13 36.3**	**-0.1**
MPEP	**Malo Peshtene**	**1.92**	**39**	*i* P	**Pg**	**19 13 19.8**	**-0.9**
MPEP				*e*S	**Sg**	**19 13 46.0**	**+0.4**
KPRO	**Kipourio**	**1.99**	**197**	P	**Pn**	**19 13 18.6**	**+1.4**
KAVA	**Kavala**	**2.01**	**115**	P	**Pn**	**19 13 18.7**	**+1.3**
VALD	**Valchedram**	**2.07**	**28**	*e*P	**Pg**	**19 13 24.1**	**+0.5**
OUR	**Ouranopolis**	**2.09**	**137**	P	**Pn**	**19 13 19.7**	**+1.3**
THAS	**Thassos island**	**2.34**	**122**	P	**Pn**	**19 13 23.1**	**+1.2**
RDO	**Rodhopi**	**2.68**	**104**	P	**Pn**	**19 13 27.7**	**+1.1**

*IDC **07** 19:19:24.2±1.0, 20.16S×66.83E, h0km, mb3.7/7, mbtmp3.7/7, MS3.3/5, Error ellipse: s-maj=34.4km s-min=24.6km az=130.0*

ISC 07 19:19:26.6±0.9, 20.25S±0.2×66.8E±0.2, h15km, n17, σ1s29/7, mb3.7/7, MS3.3/5, Mauritius-Reunion region

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

H08S1 Diego Garcia H 13.61 24 T T 19 36 46.2
baz=203,slow=75,SNR=26
H08S2 Diego Garcia H 13.62 25 T T 19 36 42.6
baz=203,slow=75,SNR=32
H08S3 Diego Garcia H 13.63 24 T T 19 36 51.6
baz=203,slow=75,SNR=50
H04N2 CROZET ISLANDS 28.70 202 T T 19 55 13.6
baz=30,slow=75,SNR=3313
H04N1 CROZET ISLANDS 28.70 202 T T 19 55 14.5
baz=30,slow=75,SNR=1645
H04N3 CROZET ISLANDS 28.72 202 T T 19 55 13.3
baz=30,slow=75,SNR=1791
PALK Pallekele 30.51 28 LR LR 19 35 03.2
comp=Z,70nm,21.9s,baz=318,slow=31
BOSA Boshof 38.62 249 P **P** **19 26 50.6 +0.9**
2.3nm,0.7s,baz=96,slow=8.4,SNR=8.4
2.3nm,0.7s
LEM Lembang 41.69 77 LR LR 19 41 12.7
comp=Z,50nm,18.5s,baz=222,slow=31
CMAR Chiang Mai Arr 49.67 41 P **P** **19 28 19.0 +0.9**
0.7nm,0.9s,baz=242,slow=7.1,SNR=5.4
CMAR LR LR 19 48 17.4
comp=Z,22nm,18.4s,baz=205,slow=35
0.7nm,0.9s
ASAR Alice Springs 61.81 107 P **P** **19 29 45.9 +0.5**
0.8nm,0.8s,baz=267,slow=5.9,SNR=7.6
0.8nm,0.8s
MKAR Makanchi Array 68.11 11 P **P** **19 30 25.6 -0.2**
0.3nm,0.9s,baz=184,slow=4.3,SNR=2.7
0.3nm,0.9s
QSPA South Pole Qui 69.92 180 P **P** **19 30 36.0 -1.0**
1.7nm,1.0s,baz=276,slow=0.1,SNR=2.8
1.7nm,1.0s
KURBB Kurchatov Arra 71.25 8 P **P** **19 30 43.1 -1.9**
0.1nm,0.3s,baz=202,slow=6.7,SNR=1.5
0.1nm,0.3s
SONM Songino Array 76.44 26 P **P** **19 31 15.8 +0.1**
0.3nm,0.7s,baz=217,slow=6.2,SNR=4.8
0.3nm,0.7s
ARU Arti 76.63 355 LR LR 20 03 41.0
comp=Z,35nm,18.4s,baz=226,slow=35
MJAR Matsushiro Arr 87.81 50 LR LR 20 11 52.8
comp=Z,10.0nm,19.3s,baz=214,slow=36

*IDC **07** 19:42:03.9±1.2, 3.61S×144.55E, h0km, mb3.7/8, mbtmp3.7/10, ML3.6/1, MS3.2/2, Error ellipse: s-maj=40.4km s-min=21.2km az=94.0*

ISC 07 19:42:08.3±0.8, 3.59S±0.10×144.4E±0.2, h26km, n18, σ1s24/11, mb3.8/8, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.40**	**155**	Pn	**Pn**	**19 43 40.1**	**-0.9**
	8.1nm,0.8s,baz=337,slow=15,SNR=2.6						
PMG				Sn	**Sn**	**19 44 55.6**	**+2.3**
	0.8nm,0.3s,baz=154,slow=17,SNR=1.2						
WRA	**Warramunga Arr**	**18.98**	**210**	P	**Pn**	**19 46 27.7**	**-1.1**
	0.2nm,0.3s,baz=22,slow=12,SNR=6.9						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**22.38**	**206**	P	**P**	**19 47 04.0**	**-0.8**
	0.6nm,0.7s,baz=32,slow=12,SNR=9.7						
	0.6nm,0.7s						
H11S3	**WAKE ISLAND Hy 31.06**		**44**	T	T	20 20 49.5	
	baz=228,slow=75,SNR=9.4						
H11S2	**WAKE ISLAND Hy 31.07**		**44**	T	T	20 20 49.2	
	baz=228,slow=75,SNR=5.4						
H11S1	**WAKE ISLAND Hy 31.07**		**44**	T	T	20 20 50.7	
	baz=228,slow=75,SNR=6.6						
H11N1	**WAKE ISLAND Hy 32.03**		**43**	T	T	20 22 02.4	
	baz=225						
H11N3	**WAKE ISLAND Hy 32.04**		**43**	T	T	20 22 03.7	
	baz=225						
H11N2	**WAKE ISLAND Hy 32.05**		**43**	T	T	20 22 04.1	
	baz=225						
JNU	**Nakatsue**	**38.69**	**342**	LR	LR	20 02 43.8	
	comp=Z,52nm,18.3s,baz=168,slow=32						
KSRS	**Korea Array**	**43.61**	**341**	LR	LR	20 06 53.2	
	comp=Z,19nm,20.8s,baz=160,slow=34						
CMAR	**Chiang Mai Arr**	**49.82**	**298**	P	**P**	**19 51 00.9**	**+1.3**
	0.9nm,0.7s,baz=110,slow=6.8,SNR=9.0						
	0.9nm,0.7s						
PETK	**Petropavlovsk-**	**57.60**	**9**	P	**P**	**19 51 55.7**	**-0.2**
	5.9nm,0.9s,baz=213,slow=10,SNR=2.1						
	5.9nm,0.9s						
SONM	**Songino Array**	**61.05**	**332**	P	**P**	**19 52 20.6**	**+0.5**
	0.3nm,0.6s,baz=142,slow=5.4,SNR=2.6						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**73.99**	**321**	P	**P**	**19 53 42.6**	**+0.8**
	0.1nm,0.3s,baz=100,slow=7.9,SNR=4.5						
	0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**75.60**	**328**	P	**P**	**19 53 50.7**	**-0.1**
	0.5nm,0.3s,baz=104,slow=6.1,SNR=2.2						
	0.5nm,0.3s						
BVAR	**Borovoye Array**	**83.30**	**324**	P	**P**	**19 54 32.4**	**-0.4**
	0.7nm,0.7s,baz=132,slow=4.1,SNR=2.2						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**84.32**	**24**	P	**P**	**19 54 36.7**	**-1.1**
	0.3nm,0.7s,baz=248,slow=6.7,SNR=3.1						
	0.3nm,0.7s						

*JMA **07** 19:52:01.7±0.1, 25.1N±1.1×123.16E±0.4, h162km±1km, MV3.1/18, NW OFF ISHIGAKIJIMA IS*

ISC 07 19:52:03.0±2.0, 25.2N±0.1×123.16E±0.05, h149km±15km, n19, σ0s59/31, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.70**	**191**	P	**Pn**	**19 52 25.3**	**-0.3**
YOJ				S	**Sn**	**19 52 43.1**	**+0.5**
JYNG	**Yonagunijimaku**	**0.73**	**195**	P	**Pn**	**19 52 25.2**	**-0.5**
JYNG				S	**Sn**	**19 52 44.1**	**+1.2**
IRIF	**Iriomote-Funau**	**0.97**	**147**	P	**Pn**	**19 52 27.0**	**-0.5**
IRIF				S	**Sn**	**19 52 46.5**	**+0.3**
JISG	**Ishigakijimahi**	**1.19**	**118**	P	**Pn**	**19 52 29.0**	**-0.4**
JISG				S	**Sn**	**19 52 49.7**	**+0.1**
JIJ	**Ishigaki jima**	**1.20**	**131**	P	**Pn**	**19 52 29.0**	**-0.5**
JIJ				eS	**Sn**	**19 52 49.5**	**-0.2**
JKRS	**Kuro-shima**	**1.20**	**140**	P	**Pn**	**19 52 29.2**	**-0.3**
JKRS				S	**Sn**	**19 52 50.1**	**+0.3**
HATJ	**Hateruma jima**	**1.25**	**152**	*e*P	**Pn**	**19 52 29.8**	**-0.2**
HATJ				S	**Sn**	**19 52 50.5**	**0.0**
JTJ	**Tarama**	**1.50**	**110**	P	**Pn**	**19 52 32.4**	**0.0**
JTJ				S	**Sn**	**19 52 55.4**	**+0.4**
TATO	**Taipei**	**1.52**	**264**	P	**Pn**	**19 52 32.6**	**-0.2**
YHNB	**Yeheng**	**1.69**	**254**	P	**Pn**	**19 52 34.4**	**-0.3**
NACB	**Ninganchiao**	**1.73**	**236**	P	**Pn**	**19 52 34.3**	**-0.7**
JIRB	**Irabujima**	**1.86**	**100**	P	**Pn**	**19 52 36.1**	**-0.4**
JIRB				S	**Sn**	**19 53 01.8**	**-0.4**
JIKM	**Ikemajima**	**1.91**	**97**	P	**Pn**	**19 52 36.9**	**-0.2**
JIKM				S	**Sn**	**19 53 03.9**	**+0.8**
JMJ2	**Miyako jima3**	**2.01**	**101**	P	**Pn**	**19 52 38.2**	**0.0**
JMJ2				S	**Sn**	**19 53 05.8**	**+0.4**
JOGS	**Gusukube**	**2.08**	**100**	P	**Pn**	**19 52 38.7**	**-0.3**
JOGS				S	**Sn**	**19 53 07.1**	**+0.4**
SSLB	**Suanglung**	**2.43**	**236**	P	**Pn**	**19 52 43.3**	**0.0**
YULB	**Yu-li**	**2.44**	**224**	P	**Pn**	**19 52 41.8**	**-1.7**
TPUB	**Ta-pu**	**2.96**	**232**	P	**Pn**	**19 52 49.4**	**-0.5**
TWGBT	**Beinan**	**3.00**	**220**	P	**Pn**	**19 52 51.6**	**+1.1**

TAP 07 19:52:40.9, 24.10N×121.63E, h10km, ML1.1, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.03**	**230**	*i* P	Pg	19 52 42.9	+0.2
	baz=222						
TWD				*i* S	Sg	19 52 44.3	+0.3
	baz=222						
ETL	**Fush Village**	**0.06**	**358**	*i* P	Pg	19 52 43.0	+0.1
	baz=357						
ETL				*i* S	Sg	19 52 44.6	+0.2
	baz=357						
NACB	**Ninganchiao**	**0.08**	**339**	*i* P	Pg	19 52 43.4	+0.2
	baz=338						
NACB				*i* S	Sg	19 52 45.2	+0.4
	baz=338						
HWA	**Hwalien**	**0.13**	**188**	P	Pg	19 52 44.4	+0.6
	baz=184						
ETLH	**Xiulin Townshi**	**0.17**	**309**	*e*P	Pg	19 52 44.4	-0.2
	baz=308						
ETLH				S	Sg	19 52 48.2	+1.1
	baz=308						
ETM	**Tongmen**	**0.18**	**222**	P	Pg	19 52 45.2	+0.4
	baz=221						
ETM				S	Sg	19 52 48.1	+0.8

baz=221

IDC 07 20:05:03.6±2.2, 5°00S×128°34E, h0km, mb3.3/1, mbtmp3.2/3, ML3.2/2, MS3.4/1, Error ellipse: s-maj=132.4km s-min=31.9km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.96**	**159**	Pn	Pn	20 08 50.6	+0.9
	0.1nm,0.3s,baz=338,slow=13,SNR=6.4						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**19.32**	**164**	P	P	20 09 30.1	-0.4
	0.1nm,0.3s,baz=344,slow=9.7,SNR=5.5						
	0.3nm,0.4s						
DZM	**Mont Dzumac**	**40.58**	**118**	LR	LR	20 29 31.1	
	comp=Z,57nm,20.3s,baz=212,slow=36						
MKAR	**Makanchi Array**	**65.66**	**327**	P	P	20 15 49.8	0.0
	0.1nm,0.4s,baz=110,slow=7.8,SNR=2.2						
	0.1nm,0.4s						

*IDC **07** 20:11:12.7±1.1, 6°14S×143°12E, h0km, mb3.9/5, mbtmp3.9/7, ML1.8/1, Error ellipse: s-maj=38.5km s-min=24.0km az=55.0*

ISC 07 20:11:17.4±0.8, 6°52S±0°08×142°81E±0°09, h35km, n9, σ1§77/12, mb3.8/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.17**	**124**	Pn	**Pn**	**20 12 32.9**	**+0.5**
	2.3nm,0.3s,baz=297,slow=11,SNR=6.6						
PMG				Sn	**Sn**	**20 13 30.8**	**-0.1**
	1.7nm,0.3s,baz=317,slow=10,SNR=2.2						
	9.4nm,0.3s						
WRA	**Warramunga Arr**	**15.68**	**211**	Pn	**P**	**20 14 57.6**	**-2.0**
	0.3nm,0.3s,baz=29,slow=13,SNR=6.7						
WRA				Sn	**Sn**	**20 17 46.4**	**-2.1**
	0.2nm,0.3s,baz=41,slow=25,SNR=1.5						
WRA				Lg	Lg	20 19 33.1	
	0.1nm,0.3s,baz=35,slow=28,SNR=1.9						
ASAR	**Alice Springs**	**19.08**	**206**	P	**Pn**	**20 15 41.8**	**+3.7**
	5.2nm,0.9s,baz=32,slow=11,SNR=26						
ASAR				S	**S**	**20 19 11.5**	**-0.4**
	0.6nm,1.0s,baz=25,slow=27,SNR=2.0						
ASAR				Lg	Lg	20 21 22.5	
	baz=18,slow=28,SNR=2.7						
CMAR	**Chiang Mai Arr**	**49.88**	**301**	P	**P**	**20 20 08.7**	**+1.0**
	0.3nm,0.5s,baz=119,slow=5.4,SNR=2.5						
	0.3nm,0.5s						
SONM	**Songino Array**	**62.91**	**333**	P	**P**	**20 21 40.2**	**-0.1**
	0.3nm,0.7s,baz=146,slow=6.4,SNR=2.8						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**75.28**	**322**	P	**P**	**20 22 57.4**	**+0.4**
	1.2nm,0.7s,baz=107,slow=7.7,SNR=13						
	1.2nm,0.7s						
KURBB	**Kurchatov Arra**	**79.18**	**324**	P	**P**	**20 23 18.8**	**+0.2**
	0.5nm,0.5s,baz=121,slow=3.5,SNR=3.1						
BVAR	**Borovoye Array**	**84.76**	**325**	P	**P**	**20 23 48.1**	**+0.2**
	4.1nm,0.7s,baz=108,slow=7.7,SNR=19						
	4.1nm,0.7s						
ILAR	**Eielson Array**	**87.61**	**24**	P	**P**	**20 23 59.6**	**-2.1**
	0.4nm,0.6s,baz=251,slow=5.2,SNR=7.2						
	0.4nm,0.6s						

*TEH **07** 20:13:57.8, 33°66N×45°64E, h8km±49km, ML3.3*
*ISN **07** 20:13:57.8±1.1, 33°70N×45°63E, h11km±5km, ML3.4*

ISC 07 20:13:58.0±1.4, 33°69N±0°03×45°61E±0°04, h2km±13km, n17, σ0§92/24, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.50**	**98**	Pg	**Pg**	**20 14 07.7**	**+0.1**
ILBA				Sg	**Sg**	**20 14 14.2**	**+0.1**
IBDR	**Badra**	**0.64**	**155**	*e*Pg	**Pg**	**20 14 10.5**	**+0.3**
IBDR				*e*Sg	**Sg**	**20 14 19.0**	**+0.5**
KGS1	**Ghasr-e-Shirin**	**0.81**	**359**	Pg	**Pb**	**20 14 14.6**	**-0.3**
KGS1				Sg	**Sb**	**20 14 26.6**	**+0.3**
IGHG	**Ghaleghazi**	**1.02**	**51**	Pg	**Pg**	**20 14 18.0**	**+0.5**
BHD	**Baghdad**	**1.11**	**248**	*e*Pg	**Pb**	**20 14 20.0**	**0.0**
BHD				*e*Sg	**Sb**	**20 14 35.0**	**0.0**
BHD				AML	AML	20 14 43.4	
	comp=E,2μm,0.3s						
IDHR	**Dehrash**	**1.19**	**32**	Pg	**Pb**	**20 14 20.5**	**-1.0**
KCHF	**Cheshme Sefid,**	**1.32**	**63**	Pg	**Pn**	**20 14 22.8**	**-1.0**
KCHF				Sg	**Sn**	**20 14 42.8**	**+0.8**
ILIN	**Lien**	**1.66**	**42**	Pg	**Pb**	**20 14 29.3**	**-0.1**
IKFM	**Kafar-mosalman**	**1.87**	**94**	Pn	**Pb**	**20 14 32.1**	**-0.9**
IKRK	**Kirkuk**	**2.00**	**329**	*e*Pn	**Pb**	**20 14 34.0**	**-1.2**
IKRK				*e*Sn	**Sb**	**20 14 59.0**	**-1.6**
RAFI	**Al-Rafai**	**2.01**	**168**	*e*Pn	**Pb**	**20 14 34.0**	**-1.3**
RAFI				*e*Sn	**Sb**	**20 15 00.0**	**-0.7**
RAFI				AML	AML	20 15 09.1	
	comp=N,340nm,0.5s						
RAFI				AML	AML	20 15 12.9	
	comp=E,247nm,0.3s						
IBZA	**Bozab**	**2.02**	**67**	Pn	**Pb**	**20 14 34.4**	**-1.2**
IDOB	**Doab**	**2.14**	**87**	Pn	**Pn**	**20 14 35.5**	**+0.5**
IRAZ	**Razeghan**	**3.95**	**63**	Pn	**Pn**	**20 15 01.8**	**+1.9**
IKLH	**Kolahrood**	**5.00**	**93**	Pn	**Pn**	**20 15 15.3**	**+0.9**
IVRN	**Varamin**	**5.22**	**74**	Pn	**Pn**	**20 15 17.6**	**+0.4**
KRSH	**Karshahi**	**5.43**	**85**	Pn	**Pn**	**20 15 20.9**	**+0.6**

*NAO **07** 20:14:52.8, 39°47N×14°22E, h33km, mb4.2*
*ROM **07** 20:15:15.4±0.2, 39°33N±0°01×14°50E±0°02, h379km±2km, ML4.4/110, Error ellipse: s-maj=1.6km s-min=1.1km az=122.0*
*LDG **07** 20:15:18.1±0.1, 39°47N×14°22E, h360km, Ml3.6/5, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*MOS **07** 20:15:18.2±1.0, 39°47N×14°22E, h369km, mb4.1/26, Error ellipse: s-maj=3.9km s-min=2.6km az=81.1*
*IDC **07** 20:15:19.1±0.5, 39°54N×14°20E, h359km±6km, mb3.7/22, mbtmp4.5/35, Error ellipse: s-maj=8.0km s-min=7.1km az=19.0*
*NEIC **07** 20:15:19.0±2.2, 39°52N±0°07×14°38E±0°08, h354km±7km, mb4.4/135, Error ellipse: s-maj=10.1km s-min=9.3km az=168.0*
*PRU **07** 20:15:44.3, 41°50N×14°02E, h297km, M4.3*

ISC 07 20:15:18.5±0.4, 39°48N±0°04×14°39E±0°03, h354km±4km, n1093, σ1§44/1092, mb4.3/114, 81C-85D, Tyrrhenian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISTR	**Stromboli Gino**	**0.93**	**138**	⇓P	**Pn**	**20 16 05.9**	**+1.4**
IST3	**Stromboli F**	**0.95**	**136**	⇓P	**Pn**	**20 16 06.1**	**+1.5**
IST3				AML	AML		
	comp=E,1950μm,0.4s						
IST3				AML	AML		
	comp=E,1950μm,1.6s						
IST3				AML	AML		
	comp=N,2925μm,0.4s						
CMPR	**Campora**	**1.09**	**40**	⇓P	**Pn**	**20 16 07.3**	**+2.3**
MGR	**Morigerati**	**1.11**	**54**	⇓P	**Pn**	**20 16 07.3**	**+2.3**
MGR				S	**S**	**20 16 44.6**	**+2.2**
MGR				AML	AML		
	comp=E,367μm,1.1s						
MGR				AML	AML		
	comp=N,432μm,0.5s						
MGR				AML	AML		
	comp=N,432μm,0.5s						
MGR				AML	AML		
	comp=E,401μm,1.0s						
MGR				AML	AML		
	comp=N,415μm,0.6s						
MGR				AML	AML		
	comp=E,367μm,1.1s						
LLI	**Lipari**	**1.12**	**157**	⇓P	**Pn**	**20 16 06.8**	**+1.5**
GRIS	**Grisolia**	**1.16**	**77**	⇓P	**Pn**	**20 16 07.1**	**+1.8**
IVGP	**Vulcano Grotta**	**1.17**	**158**	P	**Pn**	**20 16 06.2**	**+0.7**
IVGP				AML	AML		
	comp=E,1740μm,1.0s						
IVGP				AML	AML		
	comp=N,1415μm,0.5s						
IVGP				AML	AML		
	comp=E,1740μm,1.0s						
IVGP				AML	AML		
	comp=N,1417μm,0.6s						
IVGP				AML	AML		
	comp=E,1693μm,0.4s						
VPL	**Vulcano Piano**	**1.20**	**157**	P	**Pn**	**20 16 06.4**	**+0.8**
CET2	**Cetraro**	**1.21**	**87**	⇓P	**Pn**	**20 16 07.0**	**+1.4**
CET2				S	**S**	**20 16 44.4**	**+1.0**
CET2				AML	AML		
	comp=E,1870μm,0.7s						
CET2				AML	AML		
	comp=E,1870μm,1.3s						
CET2				AML	AML		
	comp=N,3020μm,0.7s						
CET2				AML	AML		
	comp=E,1730μm,0.6s						
CET2				AML	AML		
	comp=N,3021μm,0.7s						
CUC	**Castrocucco**	**1.21**	**65**		**Pn**	**20 16 06.3**	**+0.7**
USI	**Ustica**	**1.22**	**231**	P	**Pn**	**20 16 07.1**	**+1.4**
MTSN	**Montesano sull**	**1.31**	**53**	⇓P	**Pn**	**20 16 07.9**	**+1.8**
SLCN	**Sala Consilina**	**1.32**	**46**	⇓P	**Pn**	**20 16 08.3**	**+2.2**
SIRI	**Monte Sirino -**	**1.33**	**58**	P	**Pn**	**20 16 08.0**	**+1.8**
SIRI				AML	AML		
	comp=E,432μm,1.1s						
SIRI				AML	AML		
	comp=N,486μm,1.0s						
SIRI				AML	AML		
	comp=E,426μm,1.1s						
SIRI				AML	AML		
	comp=E,432μm,0.9s						
SIRI				AML	AML		
	comp=N,486μm,1.0s						
SIRI				AML	AML		
	comp=E,426μm,0.9s						
SIRI				AML	AML		
	comp=N,502μm,1.5s						
SIRI				AML	AML		
	comp=N,483μm,1.0s						
SIRI				AML	AML		
	comp=E,431μm,1.1s						
SIRI				AML	AML		
	comp=N,486μm,1.0s						
SIRI				AML	AML		
	comp=E,426μm,1.1s						
MCEL	**Monticello**	**1.37**	**52**	⇓P	**Pn**	**20 16 09.1**	**+2.7**
MCEL				AML	AML		
	comp=N,500μm,1.2s						
MCEL				AML	AML		
	comp=E,348μm,0.4s						
MCEL				AML	AML		
	comp=E,345μm,0.9s						
MCEL				AML	AML		
	comp=N,504μm,1.2s						
MCEL				AML	AML		
	comp=E,345μm,1.1s						
MCEL				AML	AML		
	comp=N,500μm,1.2s						
MCEL				AML	AML		
	comp=N,500μm,1.2s						
MCEL				AML	AML		
	comp=E,342μm,0.4s						
MCEL				AML	AML		
	comp=N,504μm,1.1s						
MCEL				AML	AML		
	comp=E,348μm,0.4s						
MILZ	**Milazzo**	**1.38**	**151**	⇓P	**Pn**	**20 16 06.7**	**+0.3**
CAR1	**CAROLEI**	**1.43**	**99**	⇓P	**Pn**	**20 16 07.4**	**+0.7**
CAR1				S	**S**	**20 16 45.3**	**-0.1**
CAR1				AML	AML		
	comp=E,2390μm,0.9s						
CAR1				AML	AML		
	comp=N,2820μm,1.0s						
CAR1				AML	AML		
	comp=E,2390μm,1.0s						
CAR1				AML	AML		
	comp=N,2820μm,1.0s						
CAR1				AML	AML		
	comp=N,2920μm,0.7s						
CAR1				AML	AML		
	comp=E,2550μm,0.4s						
CAR1				AML	AML		
	comp=N,2823μm,1.0s						
CAR1				AML	AML		
	comp=E,2330μm,0.4s						
CAR1				AML	AML		
	comp=E,2547μm,0.5s						
CAR1				AML	AML		
	comp=N,2918μm,0.7s						
JOPP	**Joppolo**	**1.46**	**126**	⇓P	**Pn**	**20 16 07.3**	**+0.4**
JOPP				S	**S**	**20 16 45.2**	**-0.5**
JOPP				AML	AML		
	comp=N,1395μm,0.8s						
JOPP				AML	AML		
	comp=E,1950μm,1.2s						
JOPP				AML	AML		
	comp=N,1294μm,0.5s						
JOPP				AML	AML		
	comp=E,1909μm,0.4s						
MUCR	**Ucria**	**1.49**	**165**	⇓P	**Pn**	**20 16 07.6**	**+0.4**
MUCR				AML	AML		
	comp=E,766μm,0.5s						
MUCR				AML	AML		
	comp=N,1001μm,0.5s						
MUCR				AML	AML		
	comp=E,766μm,1.5s						
MUCR				AML	AML		
	comp=N,1003μm,0.5s						
MUCR				AML	AML		
	comp=E,766μm,0.5s						
MSRU	**Castanea**	**1.50**	**144**	⇓P	**Pn**	**20 16 07.1**	**0.0**
MSRU				S	**S**	**20 16 46.1**	**0.0**
MSRU				AML	AML		
	comp=E,1860μm,0.4s						
MSRU				AML	AML		
	comp=N,2355μm,0.4s						
MSRU				AML	AML		
	comp=E,1860μm,1.6s						
MSRU				AML	AML		
	comp=N,2355μm,0.4s						
MSRU				AML	AML		
	comp=E,1860μm,0.5s						
PLLN	**Pollina**	**1.50**	**187**	⇓P	**Pn**	**20 16 07.8**	**+0.5**
PLLN				S	**S**	**20 16 46.8**	**+0.6**
PLLN				AML	AML		
	comp=N,5835μm,0.6s						
PLLN				AML	AML		
	comp=E,3285μm,0.5s						
PLLN				AML	AML		
	comp=N,5835μm,1.4s						
PLLN				AML	AML		
	comp=E,3285μm,1.5s						
PLLN				AML	AML		
	comp=N,5833μm,0.6s						
PLLN				AML	AML		
	comp=E,3281μm,0.5s						
TDS	**Terranova Siba**	**1.52**	**83**	⇓P	**Pn**	**20 16 08.9**	**+1.8**
TDS	**Terranova Siba**	**1.52**	**83**	⇓P	**Pn**	**20 16 08.8**	**+1.8**
TDS				S	**S**	**20 16 47.9**	**+1.8**
TDS				AML	AML		
	comp=E,1050μm,1.2s						
TDS				AML	AML		
	comp=N,553μm,1.4s						
TDS				AML	AML		
	comp=E,1050μm,0.8s						
TDS				AML	AML		
	comp=E,1052μm,1.2s						
TDS				AML	AML		
	comp=N,553μm,1.4s						
GIB	**Gibilmanna**	**1.52**	**191**	⇓P	**Pn**	**20 16 07.7**	**+0.3**
SPS2	**Spezzano della**	**1.52**	**97**	⇓P	**Pn**	**20 16 07.9**	**+0.7**
SPS2				S	**S**	**20 16 46.2**	**-0.1**
MRLC	**Muro Lucano**	**1.53**	**33**	P	**Pn**	**20 16 09.5**	**+2.4**
MPNC	**Port Mandanici**	**1.53**	**150**	⇓P	**Pn**	**20 16 07.2**	**-0.1**
MPNC				AML	AML		
	comp=E,1820μm,0.4s						
MPNC				AML	AML		
	comp=N,1590μm,0.5s						
MPNC				AML	AML		
	comp=N,1591μm,0.5s						
MPNC				AML	AML		
	comp=E,1824μm,0.4s						
LIO3	**Lioni**	**1.54**	**23**	P	**Pn**	**20 16 09.7**	**+2.5**
SOLUN	**Solunto**	**1.54**	**206**	⇓P	**Pn**	**20 16 08.0**	**+0.7**
SOLUN				S	**S**	**20 16 46.2**	**-0.3**
SOLUN				AML	AML		
	comp=N,574μm,1.2s						
SOLUN				AML	AML		
	comp=N,574μm,0.8s						
SOLUN				AML	AML		
	comp=E,584μm,0.3s						
SOLUN				AML	AML		
	comp=E,583μm,0.3s						
SOLUN				AML	AML		
	comp=N,497μm,0.4s						
MPG	**Monte Pellegri**	**1.54**	**212**	⇓P	**Pn**	**20 16 08.3**	**+0.9**
MPG				S	**S**	**20 16 46.8**	**+0.2**
MPG				AML	AML		
	comp=E,968μm,0.6s						
MPG				AML	AML		
	comp=N,856μm,0.8s						
MPG				AML	AML		
	comp=E,873μm,0.5s						
MPG				AML	AML		
	comp=N,777μm,0.7s						
SALB	**San Lorenzo Be**	**1.56**	**75**	⇓P	**Pn**	**20 16 09.3**	**+1.8**
SALB				S	**S**	**20 16 48.6**	**+1.8**
SALB				AML	AML		
	comp=E,937μm,0.7s						
SALB				AML	AML		
	comp=E,937μm,1.3s						
SALB				AML	AML		
	comp=N,642μm,0.7s						
SALB				AML	AML		
	comp=E,937μm,0.7s						
SALB				AML	AML		
	comp=N,642μm,0.7s						
CSLB	**Castelbuono**	**1.56**	**190**	⇓P	**Pn**	**20 16 07.7**	**+0.1**
CSLB				AML	AML		
	comp=N,878μm,0.5s						
CSLB				AML	AML		
	comp=E,884μm,0.6s						
CSLB				AML	AML		
	comp=N,878μm,0.5s						
CSLB				AML	AML		
	comp=E,886μm,0.6s						
SNAL	**S. Angelo Dei**	**1.57**	**23**	P	**Pn**	**20 16 10.0**	**+2.5**
PETRA	**Petralia Sopra**	**1.66**	**188**	⇓P	**Pn**	**20 16 09.0**	**+0.7**
PETRA				S	**S**	**20 16 48.7**	**+0.6**
PETRA				AML	AML		
	comp=E,3050μm,0.5s						
PETRA				AML	AML		
	comp=N,5170μm,0.5s						
PETRA				AML	AML		
	comp=N,5170μm,0.5s						
PETRA				AML	AML		
	comp=E,3049μm,0.5s						
CAFE	**Carife**	**1.67**	**23**	P	**Pn**	**20 16 10.9**	**+2.9**
CEL	**Celeste**	**1.69**	**136**	Pn	**Pn**	**20 16 07.5**	**-0.8**
CEL	**Celeste**	**1.69**	**136**	AML	AML		
	comp=E,1115μm,0.4s						
CEL				AML	AML		
	comp=N,978μm,0.4s						
CEL				AML	AML		
	comp=N,1205μm,0.4s						
CEL				AML	AML		
	comp=E,1380μm,1.2s						
CEL				AML	AML		
	comp=N,978μm,0.4s						
CEL				AML	AML		
	comp=E,1115μm,1.6s						
CEL				AML	AML		
	comp=E,1368μm,0.4s						
CEL				AML	AML		
	comp=N,977μm,0.4s						
CEL				AML	AML		
	comp=E,1113μm,0.4s						
CEL				AML	AML		
	comp=N,1201μm,0.4s						
EPZF	**Pizzo Felice**	**1.70**	**167**	P	**Pn**	**20 16 09.5**	**+1.1**
EPZF				AML	AML		
	comp=E,1180μm,0.8s						
EPZF				AML	AML		
	comp=N,2260μm,1.1s						
EPZF				AML	AML		
	comp=N,1884μm,0.7s						
EPZF				AML	AML		
	comp=E,1177μm,0.8s						
MRB1	**Monte Rocchett**	**1.70**	**15**	P	**Pn**	**20 16 11.0**	**+2.8**
GRI	**Girifalco**	**1.71**	**112**	⇓P	**Pn**	**20 16 09.2**	**+0.9**
GRI	**Girifalco**	**1.71**	**112**	P	**Pn**	**20 16 08.8**	**+0.5**
GRI				AML	AML		
	comp=E,2985μm,1.4s						
GRI				AML	AML		
	comp=N,1825μm,0.5s						
GRI				AML	AML		
	comp=N,1825μm,1.5s						
GRI				AML	AML		
	comp=E,2985μm,0.6s						
GRI				AML	AML		
	comp=N,1823μm,0.5s						
GRI				AML	AML		
	comp=E,2794μm,0.4s						
EMSG	**Monte Spagnolo**	**1.72**	**165**	P	**Pn**	**20 16 09.8**	**+1.2**
EMSG				AML	AML		
	comp=N,2110μm,0.6s						
EMSG				AML	AML		
	comp=N,2110μm,1.4s						
EMSG				AML	AML		
	comp=E,1985μm,0.5s						
EMSG				AML	AML		
	comp=E,1984μm,0.5s						
EMSG				AML	AML		
	comp=N,2108μm,0.6s						
ACER	**Acerenza**	**1.76**	**42**	P	**Pn**	**20 16 10.4**	**+1.9**
ACER				AML	AML		
	comp=E,240μm,1.6s						
ACER				AML	AML		
	comp=E,214μm,0.4s						
ACER				AML	AML		
	comp=N,446μm,1.3s						
ACER				AML	AML		
	comp=N,363μm,1.3s						
ACER				AML	AML		
	comp=E,240μm,0.4s						
ACER				AML	AML		
	comp=N,363μm,1.2s						
ACER				AML	AML		
	comp=N,446μm,1.3s						
ACER				AML	AML		
	comp=E,214μm,0.4s						
ACER				AML	AML		
	comp=E,240μm,0.4s						
PSB1	**Pescosannita**	**1.77**	**10**	P	**Pn**	**20 16 11.1**	**+2.6**
GALF	**Gagliano Caste**	**1.77**	**175**	⇑P	**Pn**	**20 16 10.0**	**+1.2**
GALF				AML	AML		
	comp=E,1014μm,0.5s						
GALF				AML	AML		
	comp=N,968μm,0.5s						
GALF				AML	AML		
	comp=E,1014μm,1.5s						
GALF				AML	AML		
	comp=N,967μm,0.5s						
GALF				AML	AML		
	comp=E,1013μm,0.5s						
MTTG	**Motta San Giov**	**1.80**	**145**	⇓P	**Pn**	**20 16 09.1**	**+0.2**
MTTG				S	**S**	**20 16 49.2**	**-0.1**
MTTG				AML	AML		
	comp=E,972μm,1.2s						
MTTG				AML	AML		
	comp=N,1465μm,0.6s						
MTTG				AML	AML		
	comp=E,972μm,0.8s						
MTTG				AML	AML		
	comp=N,1465μm,1.4s						
MTTG				AML	AML		
	comp=N,1466μm,0.6s						
MTTG				AML	AML		
	comp=E,943μm,0.5s						
CORL	**Corleone**	**1.80**	**209**	⇓P	**Pn**	**20 16 09.7**	**+0.7**
CORL				AML	AML		
	comp=N,2300μm,0.4s						
CORL				AML	AML		
	comp=E,1490μm,0.3s						
CORL				AML	AML		
	comp=N,2300μm,1.6s						
CORL				AML	AML		
	comp=E,1492μm,0.3s						
CORL				AML	AML		
	comp=N,2300μm,0.4s						
ALJA	**Alia**	**1.80**	**196**	⇓P	**Pn**	**20 16 10.1**	**+1.1**
ALJA				AML	AML		
	comp=E,3395μm,0.3s						
ALJA				AML	AML		
	comp=N,4900μm,1.0s						
ALJA				AML	AML		
	comp=E,3395μm,0.3s						
ALJA				AML	AML		
	comp=N,3822μm,0.6s						
SERS	**Sersale**	**1.84**	**103**	⇓P	**Pn**	**20 16 10.0**	**+0.8**
SERS				S	**S**	**20 16 48.6**	**-1.3**
SERS				AML	AML		

SERS AML AML
comp=E,2955µm,0.8s
SERS AML AML
comp=E,1415µm,0.7s
SERS AML AML
comp=E,1415µm,1.3s
SERS AML AML
comp=N,2885µm,0.8s
SERS AML AML
comp=N,1440µm,0.6s
SERS AML AML
comp=N,2885µm,0.8s
SERS AML AML
comp=E,2952µm,0.8s
SERS AML AML
comp=N,1440µm,0.6s
SERS AML AML
comp=E,1417µm,0.7s
RESU Resuttano 1.85 188 ⇓P Pn 20 16 10.6 +1.3
RESU AML AML
comp=N,1810µm,0.8s
RESU AML AML
comp=E,1365µm,0.6s
RESU AML AML
comp=N,1814µm,0.8s
CAGR Agira 1.86 177 P Pn 20 16 10.6 +1.2
CAGR AML AML
comp=E,1790µm,1.3s
CAGR AML AML
comp=N,2065µm,0.3s
CAGR AML AML
comp=E,1790µm,0.7s
CAGR AML AML
comp=N,2065µm,1.7s
CAGR AML AML
comp=E,1584µm,0.3s
CAGR AML AML
comp=N,2067µm,0.3s
TIP Timpagrande 1.86 99 ⇓P Pn 20 16 10.5 +1.2
TIP Timpagrande 1.86 99 Pn Pn 20 16 09.6 +0.2
TIP Timpagrande 1.86 99 ⇓P Pn 20 16 10.3 +1.0
TIP S S 20 16 49.1 -1.0
TIP AML AML
comp=N,1285µm,0.6s
TIP AML AML
comp=E,989µm,0.9s
TIP AML AML
comp=E,1218µm,0.9s
TIP AML AML
comp=N,1600µm,0.6s
TIP AML AML
comp=E,1220µm,0.9s
TIP AML AML
comp=E,989µm,0.9s
PIPA Pietrapaola 1.88 89 ⇓P Pn 20 16 10.7 +1.4
PIPA AML AML
comp=E,1012µm,1.4s
PIPA AML AML
comp=N,1350µm,0.5s
PIPA AML AML
comp=E,1012µm,0.6s
PIPA AML AML
comp=N,1340µm,0.5s
PIPA AML AML
comp=E,1080µm,0.7s
PIPA AML AML
comp=N,1351µm,0.5s
PIPA AML AML
comp=E,1005µm,0.7s
PIPA AML AML
comp=E,1080µm,0.7s
PIPA AML AML
comp=N,1343µm,0.5s
PALZ Palazzo San Ge 1.89 39 P Pn 20 16 11.2 +1.9
ESML S. M. di Licod 1.90 168 P Pn 20 16 10.1 +0.5
ESML AML AML
comp=E,1105µm,0.4s
ESML AML AML
comp=N,728µm,0.3s
ESML AML AML
comp=N,728µm,0.3s
ESML AML AML
comp=E,1109µm,0.4s
SGG Gregorio Mates 1.90 360 P Pn 20 16 12.8 +3.3
MBFT Monte Bonifato 1.90 217 ⇓P Pn 20 16 10.4 +0.8
MBFT S S 20 16 50.8 +0.2
MBFT AML AML
comp=E,479µm,1.2s
MBFT AML AML
comp=N,483µm,1.6s
MBFT AML AML
comp=N,483µm,0.4s
MBFT AML AML
comp=E,478µm,1.2s
MBFT AML AML
comp=N,152µm,1.1s
MBFT AML AML
comp=E,472µm,0.9s
MBFT AML AML
comp=N,487µm,1.7s
MBFT AML AML
comp=E,300µm,0.8s
PLAC Placanica 1.90 122 ⇓P Pn 20 16 09.8 +0.2
PLAC S S 20 16 48.4 -2.2
PLAC AML AML
comp=E,1655µm,0.8s
PLAC AML AML
comp=E,2975µm,0.5s
PLAC AML AML
comp=N,2870µm,0.5s
PLAC AML AML
comp=N,1730µm,0.8s
PLAC AML AML
comp=E,2974µm,0.5s
PLAC AML AML
comp=N,1727µm,0.8s
PLAC AML AML
comp=N,2870µm,0.5s
PLAC AML AML
comp=E,1654µm,0.8s
SOI Samo 1.92 137 ⇓P Pn 20 16 09.5 -0.2
SOI S S 20 16 49.7 -1.0
SOI Samo 1.92 137 ⇓P Pn 20 16 09.4 -0.2
SOI S S 20 16 49.2 -1.5
SOI AML AML
comp=E,1055µm,0.7s
SOI AML AML
comp=N,1200µm,0.4s
SOI AML AML
comp=E,1053µm,0.7s
SOI AML AML
comp=N,1315µm,0.4s
MCT Mte Cammarata 1.94 198 AML AML
comp=N,2674µm,0.5s
MCT AML AML
comp=E,3970µm,0.4s
MCT AML AML
comp=N,2745µm,1.0s
MCT AML AML
comp=E,3966µm,0.4s
CRJA Costa Raja 2.00 213 P Pn 20 16 11.4 +1.2
CRJA AML AML
comp=E,986µm,1.4s
CRJA AML AML
comp=N,439µm,0.5s
CRJA AML AML
comp=N,439µm,1.5s
CRJA AML AML
comp=E,986µm,0.6s
CRJA AML AML
comp=E,867µm,0.9s
VAE Valguarnera 2.00 179 P Pn 20 16 11.3 +1.0
comp=E,70nm,0.5s,baz=350,slow=6.1,SNR=38
VAE S S 20 16 55.0 +3.1
comp=E,67nm,0.6s,baz=24,slow=23,SNR=1.4
ERC Erice 2.02 225 P Pn 20 16 11.3 +0.9
LADO San Nicola del 2.02 95 ⇓P Pn 20 16 11.1 +0.8
LADO S S 20 16 50.9 -1.0
LADO AML AML
comp=E,133µm,0.8s
LADO AML AML
comp=N,93µm,1.6s
LADO AML AML
comp=N,93µm,0.4s
LADO AML AML
comp=N,86µm,0.5s
LADO AML AML
comp=E,133µm,0.8s

MFNL Monte Finestre 2.04 215 P Pn 20 16 11.8 +1.2
MFNL AML AML
comp=E,506µm,0.4s
MFNL AML AML
comp=N,524µm,0.7s
MFNL AML AML
comp=E,506µm,0.4s
MFNL AML AML
comp=N,525µm,0.7s
CMDO Montedoro 2.06 193 ⇓P Pn 20 16 12.2 +1.5
BSSO Busso 2.07 4 P Pn 20 16 13.7 +3.1
MRVN Minervino Murg 2.10 41 P Pn 20 16 12.1 +1.4
CLTB Caltabellotta 2.11 206 Pn 20 16 11.3 +0.1
CLTB Caltabellotta 2.11 206 AML AML
comp=E,5302µm,0.4s
CLTB AML AML
comp=E,5305µm,0.4s
CLTB AML AML
comp=N,6410µm,0.6s
CLTB AML AML
comp=E,5305µm,1.6s
CLTB AML AML
comp=N,6411µm,0.6s
MATE Matera 2.12 56 P Pn 20 16 11.9 +1.0
MMGO Monte Magaggia 2.13 212 ⇓P Pn 20 16 11.7 +0.5
MMGO AML AML
comp=N,407µm,0.4s
MMGO AML AML
comp=E,344µm,0.3s
CAVT Castelvetrano 2.21 216 P Pn 20 16 12.8 +1.1
CAVT AML AML
comp=E,1190µm,1.6s
CAVT AML AML
comp=N,1100µm,1.6s
CAVT AML AML
comp=N,1100µm,0.4s
CAVT AML AML
comp=E,1190µm,0.4s
CAVT AML AML
comp=E,1302µm,1.9s
CAVT AML AML
comp=N,1254µm,2.4s
AMUR Altamura 2.21 49 P Pn 20 16 12.7 +1.0
MARS Marsala (TP) I 2.24 220 P Pn 20 16 13.5 +1.6
GIUL Giuliano Di Ro 2.25 338 P Pn 20 16 14.1 +2.2
RAFF Raffo Rosso 2.26 181 Pn Pn 20 16 11.9 -0.2
RAFF Raffo Rosso 2.26 181 P Pn 20 16 12.1 0.0
RAFF AML AML
comp=N,1217µm,0.5s
RAFF AML AML
comp=E,1162µm,0.4s
HAGA Augusta 2.28 164 P Pn 20 16 11.4 -0.8
LATB Latina 2.28 332 P Pn 20 16 13.8 +1.7
FAVR Favara 2.29 195 ⇓P Pn 20 16 13.4 +1.0
FAVR AML AML
comp=N,1260µm,0.6s
FAVR AML AML
comp=E,794µm,0.7s
HVZN Vizzini 2.32 174 ⇓P Pn 20 16 12.2 -0.4
AGST Augusta-Monte 2.32 163 P Pn 20 16 11.5 -1.1
SSY Sortino 2.39 167 P Pn 20 16 12.3 -0.8
SSY AML AML
comp=E,481µm,0.7s
SSY AML AML
comp=N,842µm,1.0s
SSY AML AML
comp=E,481µm,1.3s
SSY AML AML
comp=N,842µm,1.0s
SSY AML AML
comp=N,837µm,0.3s
SSY AML AML
comp=E,539µm,0.6s
NOCI Noci 2.43 57 P Pn 20 16 14.3 +1.0
TAR1 Taranto 2.46 64 P Pn 20 16 14.0 +0.6
VVLD Villa Vallelon 2.46 346 P Pn 20 16 16.6 +3.1
SGRT San Giovanni R 2.49 24 Pn Pn 20 16 14.9 +1.1
INTR Introdacqua 2.55 352 Pn 20 16 16.9 +2.7
INTR Introdacqua 2.55 352 ⇓P Pn 20 16 17.0 +2.7
CERT Cerreto 2.69 337 P Pn 20 16 18.0 +2.7
MTCE Montecelio 2.83 334 P Pn 20 16 19.3 +2.7
MESG Mesagne 2.88 66 P Pn 20 16 17.9 +0.9
FIAM Fiamignano 2.94 341 P Pn 20 16 20.5 +2.8
TOLF Tolfa 3.15 326 P Pn 20 16 21.9 +2.5
SCTE Santa Cesarea 3.20 78 Pn 20 16 21.1 +1.2
SCTE S 20 17 07.4 -1.8
CESX Cesi 3.41 337 Pn 20 16 24.2 +2.4
NRCA Norcia 3.48 344 Pn 20 16 24.5 +2.0
WDD Wied Dalam 3.64 178 Pn Pn 20 16 23.6 -0.6
GUMA Gualdo di Mace 3.66 348 Pn 20 16 26.4 +2.2
DGI Dorgali Grotta 3.77 284 ⇑P Pn 20 16 26.7 +1.3
LSTV Lastovo 3.79 29 *i* P Pn 20 16 26.7 +1.2
MAON Monte Argentar 3.84 321 P Pn 20 16 27.9 +2.0
VSL Villasalto 3.88 272 Pn 20 16 27.8 +1.3
VSL Villasalto 3.88 272 ⇑P Pn 20 16 28.1 +1.6
HVAR Hvar 4.00 22 *i* P Pn 20 16 28.6 +1.0
VLO Vlora 4.04 74 Pn 20 16 30.5 +2.4
VLO Vlora 4.04 74 P Pn 20 16 30.5 +2.4
KEK Kerkira 4.18 85 *e*P Pn 20 16 27.6 -2.0
KEK Kerkira 4.18 85 Pn Pn 20 16 27.9 -1.7
KEK Kerkira 4.18 85 P Pn 20 16 27.7 -1.9
STON Ston 4.21 35 *i* P Pn 20 16 31.1 +1.5
CASP Castiglione de 4.24 322 Pn Pn 20 16 32.0 +1.9
CASP Castiglione de 4.24 322 P Pn 20 16 31.8 +1.7
DBRK Dubrovnik 4.26 41 *i* P Pn 20 16 32.0 +1.7
ZIRJ Zirje 4.27 12 *i* P Pn 20 16 31.8 +1.4
HCY Herceg Novi 4.29 45 *e*Pn Pn 20 16 32.4 +1.8
TREB Trebinje 4.40 42 ⇑*i*Pn Pn 20 16 33.4 +1.6
TRIF Trifonti 4.48 325 P Pn 20 16 34.5 +1.9
MORI Morici 4.49 12 *i* P Pn 20 16 34.6 +2.0
RICI Ricice 4.51 26 *i* P Pn 20 16 34.3 +1.5
DRME Dracevica, Mon 4.53 52 ⇑*i*Pn Pn 20 16 35.3 +2.2
DUGI Dugi Otok 4.53 6 *i* P Pn 20 16 34.3 +1.2
TIR Tirane 4.58 64 ⇑P Pn 20 16 36.6 +2.9
TIR Tirane 4.58 64 Pn 20 16 32.8 -0.8
TIR Tirane 4.58 64 P Pn 20 16 32.8 -0.8
SU26 Carbonia-Igles 4.59 267 P Pn 20 16 35.0 +1.2
IGT Igoumenitsa 4.60 88 P Pn 20 16 36.1 +2.2
IGT Igoumenitsa 4.60 88 P Pn 20 16 35.8 +1.9
BRY Bratogost 4.63 41 *e*Pn Pn 20 16 36.1 +1.7
OSSC Osservatorio P 4.68 331 Pn 20 16 36.5 +1.8
NEVS Nevesinje 4.72 35 *e*Pn Pn 20 16 36.4 +1.1
KIJV Kijevo 4.76 18 *i* P Pn 20 16 37.3 +1.7
VIRC Vir 4.83 6 *i* P Pn 20 16 37.5 +1.3
DMLN Damoulianata-K 4.83 103 P Pn 20 16 44.5 +8.0
PUK Puka 4.90 57 Pn Pn 20 16 39.7 +2.5
TSLK Tsoukalades, L 4.92 96 P Pn 20 16 39.5 +2.2
LKD2 Lefkada island 4.92 96 *e*P Pn 20 16 39.5 +2.0
LKD2 Lefkada island 4.92 96 P Pn 20 16 39.4 +2.0
EVGI Lefkada island 4.95 98 P Pn 20 16 39.6 +1.8
NYDR Nydri-Lefkada 4.97 97 P Pn 20 16 39.7 +1.8
VLS Valsamata 5.01 103 P Pn 20 16 39.7 +1.2
UPM Unac-Piva 5.04 41 ⇑*i*Pn Pn 20 16 41.2 +2.4
KBN Korca 5.04 75 Pn 20 16 41.7 +3.0
KBN Korca 5.04 75 P Pn 20 16 42.0 +3.3
KBN Korca 5.04 75 P Pn 20 16 41.7 +3.0
NVLJ Novalja 5.09 4 *i* P Pn 20 16 40.2 +1.1
PGF Pioggiola 5.10 309 *e*P Pn 20 16 39.6 +0.2
UDBI Udbina 5.14 11 *i* P Pn 20 16 41.8 +2.0
OHR Ohrid 5.16 70 P Pn 20 16 43.3 +3.2
OHR pmax pmax
comp=Z,462nm,0.9s
OHR Ohrid 5.16 70 *i* P Pn 20 16 43.7 +3.6
NEST Nestorio 5.20 78 P Pn 20 16 44.5 +4.0
A050A Klekovaca 5.24 17 ⇑*i*Pn Pn 20 16 43.2 +2.3
RABC Rab 5.27 3 *i* P Pn 20 16 42.1 +1.1
MGRS Mrkonjic Grad 5.32 21 ⇑*i*Pn Pn 20 16 44.1 +2.4
LTHK Lithakia 5.35 107 P Pn 20 16 43.0 +0.9
KPRO Kipourio 5.40 83 P Pn 20 16 46.0 +3.3
BRJN Brijuni 5.44 355 *i* P Pn 20 16 43.4 +0.5
PLIT Plitvice 5.47 9 *i* P Pn 20 16 45.1 +1.7
KEST Kesra 5.48 228 P Pn 20 16 44.5 +0.7
comp=Z,38nm,0.5s,baz=357,slow=4.9,SNR=60
KEST S S 20 17 52.6 -0.1
comp=Z,16nm,0.9s,baz=286,slow=20,SNR=1.6
ZCCA Zocca 5.49 333 Pn 20 16 45.7 +2.1
FNA Florina 5.51 74 *e*P Pn 20 16 46.5 +2.5
FNA Florina 5.51 74 Pn Pn 20 16 46.0 +2.1
FNA Florina 5.51 74 P Pn 20 16 46.4 +2.5
FNA Florina 5.51 74 P Pn 20 16 46.0 +2.1
SMRN Sveta Marina 5.55 358 *i* P Pn 20 16 44.9 +0.8
RUDO Rudo 5.57 41 ⇑*i*Pn Pn 20 16 45.5 +1.0

SJES Sjenica 5.65 46 ⇑*i*Pn Pn 20 16 48.0 +2.6
BLY Banja Luka 5.66 21 ⇑*i*Pn Pn 20 16 47.2 +1.8
HAPS Han Pijesak,Bl 5.72 35 ⇑*i*Pn Pn 20 16 48.1 +1.8
BBLS Lazi&#263i 5.77 39 ⇑*i*Pn Pn 20 16 48.8 +2.0
EVR Evrytania 5.79 93 P Pn 20 16 51.4 +4.2
A051A Mrakovica 5.83 18 ⇑*i*Pn Pn 20 16 49.1 +1.6
RIY Rijeka 5.84 1 P Pn 20 16 48.6 +1.2
SKO Skopje 5.90 63 *i* P Pn 20 16 50.6 +2.4
MSSA Maissana 6.04 325 Pn 20 16 51.1 +1.2
BOJS Bojanci 6.05 6 *i* P Pn 20 16 51.2 +1.4
BOJS Bojanci 6.05 6 *e*Pn Pn 20 16 50.7 +0.9
TYRN Tyrnavos 6.06 85 P Pn 20 16 52.4 +2.3
PRMA PARMA 6.08 331 Pn 20 16 51.4 +1.2
AGG Agios Georgios 6.18 92 *e*P Pn 20 16 54.2 +2.7
AGG Agios Georgios 6.18 92 Pn Pn 20 16 53.6 +2.1
AGG Agios Georgios 6.18 92 P Pn 20 16 53.6 +2.1
OZLJ Ozalj 6.18 7 *i* P Pn 20 16 53.0 +1.7
TEOL Teolo 6.21 342 Pn 20 16 51.7 0.0
CEY Cerknica 6.25 0 *i* P Pn 20 16 53.0 +0.8
CEY *i* S S 20 18 07.2 -1.1
CEY Cerknica 6.25 0 *e*Pn Pn 20 16 52.6 +0.4
LIT Litokhoron 6.27 82 Pn Pn 20 16 53.6 +1.1
LIT Litokhoron 6.27 82 P Pn 20 16 53.6 +1.1
GRG Griva 6.31 74 *e*P Pn 20 16 54.9 +2.0
GRG Griva 6.31 74 P Pn 20 16 54.9 +2.0
GRG Griva 6.31 74 P Pn 20 16 55.1 +2.2
GRG pmax pmax
comp=Z,143nm,0.8s
STIP Stip 6.33 67 *i* P Pn 20 16 57.4 +4.3
TEKS Tekeris 6.34 35 ⇑*i*Pn Pn 20 16 54.3 +1.0
CRES Cresnjev 6.39 7 ⇑*i*Pn Pn 20 16 54.1 +0.4
VAY Valandovo 6.51 71 P P 20 16 57.3 +0.8
VAY pmax pmax
comp=Z,76nm,0.9s
VAY Valandovo 6.51 71 *i* P P 20 16 57.3 +0.8
SABO M.te Sabotino 6.52 355 Pn Pn 20 16 54.7 -0.5
LJU Ljubljana 6.56 1 P P 20 16 56.7 -0.3
LJU pmax pmax
comp=Z,153nm,1.4s
LJU Ljubljana 6.56 1 *i* P P 20 16 57.0 -0.1
LJU *i* S S 20 18 13.6 -1.1
THE Thessaloniki 6.68 77 P P 20 16 58.8 +0.3
THE pmax pmax
comp=Z,43nm,0.8s
KNT Kendrikon 6.71 73 *e*P P 20 16 59.8 +0.8
KNT Kendrikon 6.71 73 P P 20 16 59.7 +0.8
KNT Kendrikon 6.71 73 P P 20 16 59.8 +0.8
KNT pmax pmax
comp=Z,134nm,0.8s
HORT Hortiatis 6.78 78 *e*P P 20 16 59.9 +0.2
LOBO Lobor 6.78 10 *i* P Pn 20 16 59.1 +0.8
ROBS Robic 6.79 355 *i* P Pn 20 16 58.8 +0.5
SBF Sospel 6.80 312 *e*P P 20 16 59.7 -0.2
SBF Sospel 6.80 312 *e*P Pn 20 16 58.8 +0.2
SBF pmax pmax
comp=Z,29nm,0.5s
KALN Kalnik 6.81 12 *i* P P 20 16 59.7 -0.3
CTI Castel Tesino 6.86 344 Pn 20 16 59.4 +0.1
CTI Castel Tesino 6.86 344 P Pn 20 16 59.4 +0.1
BOVS Bovan 6.88 51 ⇑P P 20 17 01.7 +0.9
STAL STALIGIAL 6.88 350 Pn Pn 20 16 59.6 +0.1
FRGS Fruska Gora 6.95 34 ⇑P P 20 17 02.2 +0.6
FRGS Fruska Gora 6.95 34 ⇑*i*Pn P 20 17 02.0 +0.4
BEO Beograd 6.98 38 P Pn 20 17 01.2 +0.6
PRED Cave del Predi 6.98 355 Pn Pn 20 17 01.3 +0.7
SOH Sokhos 7.00 76 P P 20 17 03.1 +0.8
SOH pmax pmax
comp=Z,52nm,0.9s
OBKA Obir 7.02 1 *i* Pn P 20 17 02.3 -0.2
comp=Z,30nm,0.5s,SNR=12
OBKA *e*S S 20 18 24.7 0.0
comp=Z,21nm,1.1s
OBKA Obir 7.02 1 ⇑*i*Pn P 20 17 02.4 -0.1
KKB Krupnik 7.05 68 *i* P P 20 17 04.0 +1.2
LMR La Mourre 7.06 306 *e*P Pn 20 17 02.0 +0.4
LMR La Mourre 7.06 306 *e*P Pn 20 17 00.9 -0.7
LMR pmax pmax
comp=Z,11nm,0.5s
MYKA Terra Mystica 7.16 356 *i* Pn P 20 17 04.2 0.0
comp=Z,8.8nm,0.3s,SNR=8.9
PAIG Paliouri 7.18 84 *e*P P 20 17 04.4 +0.1
PAIG Paliouri 7.18 84 P Pn 20 17 03.0 0.0
PAIG Paliouri 7.18 84 P P 20 17 04.6 +0.3
PAIG pmax pmax
comp=Z,80nm,0.8s
SOKA Soboth 7.21 4 *i* Pn P 20 17 04.2 -0.4
comp=Z,17nm,0.4s,SNR=26
SOKA *e*S S 20 18 31.3 +2.7
comp=Z,2.9nm,0.6s
ISO Isola 7.22 313 P Pn 20 17 02.9 -0.5
ISO pmax pmax
comp=Z,126nm,0.7s
SRS Serrai 7.22 74 *e*P Pn 20 17 04.5 +1.0
SRS Serrai 7.22 74 P P 20 17 05.2 +0.4
SRS Serrai 7.22 74 P P 20 17 05.4 +0.6
SRS pmax pmax
comp=Z,40nm,0.8s
VTS Vitosha 7.38 62 *i* P P 20 17 07.9 +1.1
ABTA Abfaltersbach 7.39 350 *i* Pn P 20 17 06.4 -0.3
comp=Z,79nm,0.6s,SNR=26
ABTA *e*S S 20 18 33.6 +1.1
comp=Z,9.4nm,0.8s
MORH Mrgy, Hungar 7.42 24 ⇓P P 20 17 07.1 +0.1
MMB Musomishta 7.42 71 *i* P P 20 17 08.3 +1.1
OUR Ouranopolis 7.42 80 *e*P P 20 17 07.6 +0.5
OUR Ouranopolis 7.42 80 P P 20 17 07.3 +0.2
BLKB Belogradchik 7.46 54 ⇑P P 20 17 09.3 +1.7
NVR Nevrokopi 7.46 73 P P 20 17 09.5 +1.8
KOKK Kokkinochori, 7.48 77 P P 20 17 08.1 +0.3
TATN Tataouine 7.56 206 Pn Pn 20 17 04.0 -3.7
MDVR Moldovita 7.59 43 ⇑P P 20 17 10.2 +1.2
KBA Koelnbreinsper 7.63 355 *i* Pn P 20 17 09.3 -0.4
comp=Z,3.1nm,0.3s
KBA Koelnbreinsper 7.63 355 P P 20 17 10.5 +0.9
KBA pmax pmax
comp=Z,44nm,0.8s
MBDF Montbardon 7.71 315 *e*P P 20 17 10.9 +0.3
MBDF Montbardon 7.71 315 *e*P P 20 17 11.3 +0.7
MBDF pmax pmax
comp=Z,123nm,0.8s
BANR Banloc 7.72 38 ⇓P P 20 17 11.7 +1.3
FUORN Ofenpass-Fuorn 7.75 338 Pn Pn 20 17 10.2 +0.4
ARSA Arzberg 7.81 6 *i* Pn P 20 17 11.6 +0.1
comp=Z,38nm,0.5s,SNR=23
TUE Stuetta 7.90 334 Pn 20 17 11.4 -0.2
DJES Djerdap 7.96 47 Pn P 20 17 14.0 +0.8
PUNG Punghina 7.97 50 ⇑P P 20 17 15.0 +1.6
SMRF Simiane la Rot 7.97 307 *e*P P 20 17 13.9 +0.4
VALD Valchedram 7.97 55 *i* P P 20 17 14.9 +1.5
BNI Bardonecchia 7.98 317 Pn P 20 17 13.9 +0.4
BNI Bardonecchia 7.98 317 P P 20 17 14.0 +0.4
FETA Feichten 7.99 342 *i* Pn P 20 17 13.9 +0.1
comp=Z,112nm,0.9s,SNR=42
PGB Panagyurishte 7.99 65 *i* P P 20 17 15.4 +1.7
DAVOX Davos/Dischmat 8.00 337 P P 20 17 13.5 -2.1
comp=Z,44nm,0.4s,baz=193,slow=13,SNR=147
DAVOX S S 20 18 45.3 -0.6
comp=Z,2.8nm,0.4s,baz=118,slow=20,SNR=0.8
MPEP Malo Peshtene 8.02 58 *i* P P 20 17 15.7 +0.1
WTTA Wattenberg 8.03 346 *i* Pn Pn 20 17 14.2 +1.1
comp=Z,32nm,0.4s,SNR=21
WTTA Wattenberg 8.03 346 P P 20 17 14.6 -1.3
WTTA pmax pmax
comp=Z,70nm,1.1s
HERR Herculane 8.04 45 ⇑P P 20 17 15.3 -0.4
LESA Schwarzleotal 8.04 352 *i* Pn Pn 20 17 14.3 +1.2
comp=Z,15nm,0.4s
SQTA Sankt Quirin 8.07 344 *i* Pn Pn 20 17 14.2 +0.7
comp=Z,61nm,0.4s,SNR=51
WATA Walderalm 8.11 346 *i* Pn Pn 20 17 15.2 +1.2
comp=Z,82nm,0.7s,SNR=31
BZS Buzias 8.12 39 ⇑P P 20 17 16.1 -0.6
BZS Buzias 8.12 39 *e*P P 20 17 15.9 -0.8
BZS Buzias 8.12 39 ⇑P P 20 17 16.1 -0.6
RZN Rozhen 8.18 71 *i* P P 20 17 17.1 -0.5
MOTA Moosalm 8.21 344 *i* Pn Pn 20 17 15.9 +0.7
comp=Z,73nm,0.7s,SNR=19
BIOA Bad Ischl, Aus 8.22 356 *i* Pn Pn 20 17 16.6 +1.4
comp=Z,11nm,0.3s,SNR=11
LPG La Plagne 8.24 319 *e*P P 20 17 17.4 -1.0
LPG La Plagne 8.24 319 *e*P Pn 20 17 16.9 +1.2
LPG pmax pmax
comp=Z,190nm,0.8s

LPL **La Plagne** 8.26 319 *e*P **P** 20 17 17.9 -0.7
LPL *e*Sn **S** 20 18 56.6 +4.9
comp=Z,3.5nm,0.3s
LPL La Plagne 8.26 319 *e*P **P** 20 17 17.2 -1.4
LPL pmax pmax
comp=Z,59nm,0.4s
PLD Plovdiv 8.29 68 *e*P **P** 20 17 18.6 -0.1
PLD Plovdiv 8.29 68 P **P** 20 17 18.2 -0.4
PLD pmax pmax
comp=Z,646nm,0.8s
PLD Plovdiv 8.29 68 *i*P **P** 20 17 18.3 -0.4
ORIF Oris-en-Rattie 8.33 313 *e*P **Pn** 20 17 17.6 +1.1
ORIF Oris-en-Rattie 8.33 313 *e*P **Pn** 20 17 17.1 +0.6
ORIF pmax pmax
comp=Z,61nm,0.6s
RONA Rosalia, Austr 8.33 9 *i*Pn **P** 20 17 18.4 -0.7
comp=Z,13nm,0.5s,SNR=12
SOP Sopron 8.35 10 P **P** 20 17 18.3 -0.9
SOP pmax pmax
comp=Z,24nm,0.9s
MOA Molln 8.36 359 *i*Pn **Pn** 20 17 15.6 -1.2
comp=Z,7.2nm,0.4s,SNR=5.9
RETA Reutte 8.42 343 *i*Pn **Pn** 20 17 17.5 -0.1
comp=Z,22nm,0.4s,SNR=14
DAVA Damuels 8.46 339 *i*Pn **Pn** 20 17 17.9 -0.2
comp=Z,18nm,0.4s,SNR=18
SURR Surduc 8.47 40 ⇑P **P** 20 17 20.1 -0.5
CONA Conrad Observa 8.51 7 *i*Pn **P** 20 17 20.0 -1.1
comp=Z,6.5nm,0.7s,SNR=7.8
GZR Gura Zlata 8.56 44 ⇑P **P** 20 17 21.6 -0.1
IMMV Iera Moni Meta 8.62 115 *e*P **P** 20 17 21.9 -0.5
PLVB Pleven 8.62 60 ⇑P **P** 20 17 22.7 +0.5
SENIN Lac Senin/Sane 8.62 325 Pn **Pn** 20 17 19.8 -0.3
SIRR Siria 8.63 36 ⇓P **P** 20 17 22.3 0.0
RDO Rodhopi 8.68 75 *e*P **P** 20 17 22.9 -0.1
RDO Rodhopi 8.68 75 P **P** 20 17 22.5 -0.5
RDO Rodhopi 8.68 75 P **P** 20 17 22.7 -0.3
SIGR SIGRI 8.89 88 *e*P **P** 20 17 25.4 +0.1
SIGR SIGRI 8.89 88 P **P** 20 17 25.0 -0.3
ZST Bratislava 8.93 12 *e*P **P** 20 17 25.4 -0.2
ZST Bratislava 8.93 12 *e*PN **P** 20 17 25.4 -0.2
DEV Deva 8.95 42 ⇑P **P** 20 17 26.2 +0.3
DEV Deva 8.95 42 ⇑P **P** 20 17 26.2 +0.3
FUR Furstenfeldbru 8.96 347 P **Pn** 20 17 24.0 0.0
FUR pmax pmax
comp=Z,89nm,0.7s
VIVF Saint-Julien-l 8.99 310 *e*P **Pn** 20 17 24.8 +0.5
VIVF Saint-Julien-l 8.99 310 *e*P **Pn** 20 17 24.1 -0.2
VIVF pmax pmax
comp=Z,35nm,0.5s
ALN Alexandroupoli 9.03 77 *e*P **P** 20 17 27.2 +0.3
ALN Alexandroupoli 9.03 77 **P** 20 17 26.7 -0.2
ALN Alexandroupoli 9.03 77 P **P** 20 17 26.9 0.0
ALN Alexandroupoli 9.03 77 P **P** 20 17 26.7 -0.2
APE Apeiranthos 9.09 102 *e*P **P** 20 17 27.8 +0.1
LASF Ste Croix 9.11 304 *e*P **Pn** 20 17 25.1 -0.6
MODS Modra-Piesok 9.13 12 *e*P **P** 20 17 27.4 -0.5
MODS Modra-Piesok 9.13 12 *e*PN **P** 20 17 27.4 -0.5
LOT Lotru 9.14 46 ⇓P **P** 20 17 29.3 +1.1
PRK Paraskevi 9.21 88 P **P** 20 17 28.9 0.0
EZN Ezine 9.21 84 P **P** 20 17 29.1 +0.2
ZIMR 9.22 60 ⇓P **P** 20 17 29.8 +0.9
ZIMR 9.22 60 ⇓P **P** 20 17 29.8 +0.9
THR6 Thira Island, 9.24 106 P **P** 20 17 31.6 +2.3
SMOL Smolenice 9.29 13 *e*P **P** 20 17 29.1 -0.6
SSB Saint Sauveur 9.30 312 Pn **Pn** 20 17 27.9 -0.2
SSB Saint Sauveur 9.30 312 P **Pn** 20 17 27.9 -0.2
SLE Schleitheim 9.31 335 P **Pn** 20 17 26.5 -1.6
SLE pmax pmax
comp=Z,329nm,0.6s
ELND Elena 9.31 65 ⇑P **P** 20 17 31.0 +1.0
PSZ Piszkesteto 9.32 23 **P** 20 17 29.8 -0.3
PSZ Piszkesteto 9.32 23 P **P** 20 17 29.8 -0.3
CKRC Cesky Krumlov 9.34 360 *e*P **Pn** 20 17 28.9 +0.5
CKRC Cesky Krumlov 9.34 360 *e*P **Pn** 20 17 28.9 +0.5
IDI Anoyia 9.35 113 P **P** 20 17 31.1 +0.6
IDI Anoyia 9.35 113 P **P** 20 17 30.2 -0.4
comp=Z,0.3nm,0.3s,baz=294,slow=16,SNR=33
IDI S **S** 20 19 13.3 -2.1
comp=Z,0.5nm,0.9s,baz=171,slow=22,SNR=3.0
HUMR Humele 9.35 54 ⇑P **P** 20 17 30.5 +0.1
CABF La Chapelle 9.36 322 *e*P **Pn** 20 17 27.7 -1.1
CABF La Chapelle 9.36 322 *e*P **Pn** 20 17 28.3 -0.5
CABF pmax pmax
comp=Z,149nm,0.5s
GEC2 GERESS Array S 9.37 357 **Pn** 20 17 28.8 -0.1
GEC2 GERESS Array S 9.37 357 P **Pn** 20 17 26.6 -2.3
GEC2 pmax pmax
comp=Z,14nm,0.6s
GERES GERESS Array B 9.37 357 **Pn** 20 17 28.8 -0.1
GERES GERESS Array B 9.37 357 P **Pn** 20 17 28.8 -0.1
GERES GERESS Array B 9.37 357 P **Pn** 20 17 28.7 -0.2
comp=Z,7.9nm,0.4s,baz=168,slow=10.0,SNR=26
DRGR 9.50 37 P **P** 20 17 32.7 +0.6
DRGR pmax pmax
comp=Z,18nm,1.0s
VYHS Vyhne 9.56 18 *e*P **P** 20 17 33.9 +1.2
VYHS Vyhne 9.56 18 *e*PN **P** 20 17 33.8 +1.1
ARR Arges 9.58 49 ⇑P **P** 20 17 34.6 +1.5
MARR Marisel-Cluj 9.61 39 ⇑P **P** 20 17 34.4 +1.0
JMB Yambol 9.66 68 *i*P **P** 20 17 34.8 +0.9
KHC Kasperske Hory 9.66 357 P **Pn** 20 17 31.6 -0.6
KHC Kasperske Hory 9.66 357 *ce*P **Pn** 20 17 32.1 -0.2
KHC pmax pmax
comp=Z,21nm,0.6s
KHC Kasperske Hory 9.66 357 *e*P **Pn** 20 17 31.9 -0.4
JAVC Velka Javorina 9.66 13 *e*P **P** 20 17 34.3 +0.4
KRUC Moravsky 9.68 8 *e*P **P** 20 17 33.7 -0.3
KRUC Moravsky 9.68 8 P **P** 20 17 33.9 -0.1
KRUC pmax pmax
comp=Z,49nm,0.7s
WET Wettzell 9.72 354 P **Pn** 20 17 33.1 +0.2
WET pmax pmax
comp=Z,19nm,0.6s
TREC Trest 9.84 4 *e*P **P** 20 17 36.0 +0.2
TREC Trest 9.84 4 *e*P **P** 20 17 36.0 +0.2
BFO Black Forest 9.86 336 P **Pn** 20 17 33.0 -1.6
BFO Black Forest 9.86 336 P **Pn** 20 17 33.0 -1.6
VOIR 9.87 49 ⇑P **P** 20 17 38.2 +2.0
VOIR 9.87 49 P **P** 20 17 38.2 +2.0
VOIR pmax pmax
comp=Z,58nm,0.7s
CJR Cluj-Napoca 9.87 40 ⇑P **P** 20 17 37.5 +1.3
CJR Cluj-Napoca 9.87 40 ⇑P **P** 20 17 37.5 +1.3
MDB Medias 9.90 45 ⇓P **P** 20 17 38.9 +2.4
MDB Medias 9.90 45 ⇓P **P** 20 17 38.9 +2.4
MTLF Montolieu 9.92 297 *e*P **Pn** 20 17 35.6 +0.2
MTLF Montolieu 9.92 297 *e*P **Pn** 20 17 35.7 +0.3
MTLF pmax pmax
comp=Z,6.0nm,0.6s
VRAC Vranov 9.95 8 ⇑P **P** 20 17 37.2 +0.2
VRAC Vranov 9.95 8 *e*P **P** 20 17 37.0 0.0
VRAC Vranov 9.95 8 ⇑P **P** 20 17 37.2 +0.2
VRAC Vranov 9.95 8 P **P** 20 17 36.7 -0.3
comp=Z,25nm,0.6s,baz=192,slow=12,SNR=35
LOZB Loznitsa 9.95 63 ⇓P **P** 20 17 38.4 +1.3
HINF Hinteralfeld 9.96 329 *e*P **Pn** 20 17 34.8 -1.0
ZVC Zvikov 9.96 359 *e*P **P** 20 17 36.8 -0.3
RAZG Razgrad 9.96 62 ⇑P **P** 20 17 38.3 +1.0
STU Stuttgart 10.01 340 P **Pn** 20 17 35.8 -0.5
STU Stuttgart 10.01 340 P **Pn** 20 17 36.4 +0.1
STU pmax pmax
comp=Z,50nm,0.7s
ECH Echery 10.17 332 **Pn** 20 17 36.2 -2.1
ECH Echery 10.17 332 P **Pn** 20 17 36.2 -2.1
MAUC Maruska 10.18 13 *e*P **P** 20 17 41.3 +1.7
CDF Champ du Feu 10.29 332 *e*P **Pn** 20 17 38.2 -1.6
HAU Haudompre 10.31 328 *e*P **Pn** 20 17 38.3 -1.7
HAU *e*Sn **S** 20 19 42.8 +6.7
comp=Z,4.0nm,0.4s
HAU Haudompre 10.31 328 *e*P **Pn** 20 17 37.8 -2.2
HAU pmax pmax
comp=Z,15nm,0.4s
LANS Liptovska Anna 10.32 19 *e*P **P** 20 17 43.1 +1.9
LANS Liptovska Anna 10.32 19 *e*PN **P** 20 17 43.1 +1.9
DOPR Dopca 10.36 48 ⇑P **P** 20 17 43.2 +1.6
ZKR Zakros 10.38 111 *e*P **P** 20 17 44.3 +2.3
NEF NEVSHA 10.39 65 *i*P **P** 20 17 43.0 +1.0
CEST Esterri de Car 10.40 292 **P** 20 17 42.2 -0.1
MLR Muntele Rosu 10.43 51 ⇑P **P** 20 17 45.2 +2.7
MLR Muntele Rosu 10.43 51 *e*P **P** 20 17 45.4 +2.9
MLR Muntele Rosu 10.43 51 P **P** 20 17 44.9 +2.4
MLR Muntele Rosu 10.43 51 P **P** 20 17 44.9 +2.4
MLR Muntele Rosu 10.43 51 P **P** 20 17 43.4 +0.9
comp=Z,164nm,0.9s,baz=236,slow=4.5,SNR=88
MLR S **S** 20 19 42.4 +3.5
comp=Z,4.1nm,0.8s,baz=226,slow=14,SNR=1.1
GOPC GO Pecny, Ondr 10.43 1 *e*P **P** 20 17 42.5 +0.1
GOPC GO Pecny, Ondr 10.43 1 *e*P **P** 20 17 42.5 +0.1
GRFO Grafenberg 10.45 349 P **Pn** 20 17 40.4 -1.2
GRFO Grafenberg 10.45 349 P **Pn** 20 17 40.4 -1.2
GRA1 Grafenberg Arr 10.45 349 P **Pn** 20 17 39.8 -1.8
GRF Grafenberg Arr 10.45 349 P **Pn** 20 17 39.8 -1.8
PRD Provadia 10.46 65 *i*P **P** 20 17 44.1 +1.4
ARCR ARCALIA 10.50 40 ⇑P **P** 20 17 45.0 +1.8
PRU Pruhonice 10.51 1 *e*P **P** 20 17 43.1 0.0
PRU Pruhonice 10.51 1 *e*P **P** 20 17 43.1 0.0
BMR Baia Mare 10.51 36 ⇑P **P** 20 17 45.1 +1.8
BMR Baia Mare 10.51 36 ⇑P **P** 20 17 45.1 +1.8
SMF Signal de Mont 10.52 316 *e*P **Pn** 20 17 41.3 -1.2
MORC Moravsky Berou 10.53 11 ⇓P **P** 20 17 45.3 +1.8
MORC Moravsky Berou 10.53 11 **P** 20 17 43.6 +0.1
MORC Moravsky Berou 10.53 11 *e*P **P** 20 17 44.8 +1.3
MORC Moravsky Berou 10.53 11 P **P** 20 17 43.6 +0.1
BOSR Bodos 10.58 48 ⇓P **P** 20 17 45.7 +1.6
PRA Prague 10.59 0 *e*P **P** 20 17 44.5 +0.5
PRA Prague 10.59 0 *e*P **P** 20 17 44.5 +0.5
NEHR Nehoiu 10.61 52 ⇑P **P** 20 17 47.1 +2.7
ISR Istrita 10.61 54 ⇑P **P** 20 17 45.6 +1.1
ISR Istrita 10.61 54 ⇑P **P** 20 17 45.6 +1.1
CAF Calviac 10.63 305 *e*P **P** 20 17 44.2 -0.5
CAF *e*Sn **S** 20 19 49.9 +6.6
comp=Z,1.3nm,0.4s
CAF Calviac 10.63 305 *e*P **P** 20 17 44.2 -0.5
CAF pmax pmax
comp=Z,21nm,0.8s
OZUR 10.66 48 ⇑P **P** 20 17 47.1 +2.1
OKC Ostrava-Krasne 10.69 13 *e*P **P** 20 17 47.3 +2.1
OKC Ostrava-Krasne 10.69 13 *e*P **P** 20 17 47.3 +2.1
CRVS Cervenica-Dubn 10.69 26 *e*P **P** 20 17 47.7 +2.4
CRVS Cervenica-Dubn 10.69 26 *e*PN **P** 20 17 47.7 +2.4
KRLC Kraliky 10.73 8 *e*P **P** 20 17 46.9 +1.2
KRLC Kraliky 10.73 8 *e*P **P** 20 17 46.9 +1.2
COVR Voineasa-Covas 10.77 50 ⇑P **P** 20 17 48.5 +2.3
TURR Turia 10.77 49 ⇓P **P** 20 17 48.7 +2.5
NKC Novy Kostel 10.84 353 *e*P **P** 20 17 47.3 +0.4
NKC Novy Kostel 10.84 353 *e*P **P** 20 17 47.3 +0.4
AVF Avril sur Loir 10.87 316 *e*P **Pn** 20 17 45.7 -0.9
AVF Avril sur Loir 10.87 316 *e*P **Pn** 20 17 45.3 -1.3
AVF pmax pmax
comp=Z,33nm,0.7s
KARP Karpathos 10.88 107 **Pn** 20 17 47.4 +0.5
LOR Lormes 10.91 319 *e*P **Pn** 20 17 45.7 -1.5
baz=132
LOR Lormes 10.91 319 P **Pn** 20 17 46.3 -0.9
LOR pmax pmax
comp=Z,19nm,0.7s
BISRR Bisoca 10.92 52 ⇑P **P** 20 17 50.8 +2.9
DPC Dobruska-Polom 10.95 7 *e*P **P** 20 17 49.2 +1.0
DPC Dobruska-Polom 10.95 7 *e*P **P** 20 17 49.2 +1.0
SSF Saint Saulge 10.96 317 *e*P **Pn** 20 17 46.5 -1.2
PAGF Fort de Pagny 11.00 328 *e*P **P** 20 17 48.4 -0.3
baz=142
GRER 11.01 54 ⇓P **P** 20 17 52.6 +3.8
KOLS Kolonicke sedl 11.01 28 *e*P **P** 20 17 51.8 +3.1
KOLS Kolonicke sedl 11.01 28 *e*PN **P** 20 17 51.8 +3.1
BGF Bois d'Agland 11.01 314 *e*P **Pn** 20 17 48.0 -0.3
SFTF Sexfontaines 11.02 325 *e*P **Pn** 20 17 48.5 +0.1
baz=139
ICOR Ion Corvin 11.03 61 ⇓P **P** 20 17 51.4 +2.4
PLOR Plostina 11.04 51 ⇑P **P** 20 17 50.7 +1.5
PLOR Plostina 11.04 51 ⇑P **P** 20 17 50.7 +1.5
PVCC Panska Ves 11.04 1 *e*P **P** 20 17 49.4 +0.3
PVCC Panska Ves 11.04 1 *e*P **P** 20 17 49.4 +0.3
STHS Stebnicka Huta 11.07 24 *e*P **P** 20 17 51.5 +2.1
STHS Stebnicka Huta 11.07 24 *e*PN **P** 20 17 51.5 +2.1
UPC Upice 11.08 5 *e*P **P** 20 17 50.6 +1.0
UPC Upice 11.08 5 *e*P **P** 20 17 50.6 +1.0
VRI Vrincioaia 11.09 51 ⇑P **P** 20 17 52.1 +2.3
VRI Vrincioaia 11.09 51 *e*P **P** 20 17 52.5 +2.7
VRI Vrincioaia 11.09 51 ⇑P **P** 20 17 52.1 +2.3
PSN Preselentsi 11.10 64 *i*P **P** 20 17 52.3 +2.4
HSKC Hora Svate Kat 11.14 357 *e*P **P** 20 17 50.9 +0.6
OSTC Ostas 11.15 6 *e*P **P** 20 17 51.9 +1.6
OSTC Ostas 11.15 6 *e*P **P** 20 17 51.9 +1.6
RJF Les Rejaudoux 11.15 306 *e*P **P** 20 17 50.5 +0.1
RJF Les Rejaudoux 11.15 306 *e*P **Pn** 20 17 49.6 -0.4
RJF pmax pmax
comp=Z,15nm,0.8s
EPF Esparros 11.15 293 *e*P **Pn** 20 17 50.1 0.0
CHVC Chvalec 11.17 5 *e*P **P** 20 17 51.6 +1.1
CHVC Chvalec 11.17 5 *e*P **P** 20 17 51.6 +1.1
TCF Toulx Ste Croi 11.22 311 *e*P **Pn** 20 17 50.7 -0.1
MEZF Maizieres J'vi 11.24 326 *e*P **Pn** 20 17 50.5 -0.5
baz=140
ODBI Odobesti 11.24 52 ⇑P **P** 20 17 54.4 +3.0
BURAR Bucovina Array 11.29 40 ⇓P **P** 20 17 55.3 +3.2
BURAR Bucovina Array 11.29 40 P **P** 20 17 54.1 +2.1
BURAR Bucovina Array 11.29 40 ⇓P **P** 20 17 55.3 +3.2
SAVF Savonnieres en 11.29 327 *e*P **Pn** 20 17 51.3 -0.3
baz=140
BUR08 Bucovina Ar. S 11.31 40 **P** 20 17 54.7 +2.5
ISK Istanbul-Kandi 11.32 77 *e*P **P** 20 17 54.9 +2.6
KLYT Kilyos 11.32 76 *e*P **P** 20 17 55.1 +2.8
HARR Harsova 11.32 58 ⇓P **P** 20 17 54.8 +2.5
HARR Harsova 11.32 58 ⇓P **P** 20 17 54.8 +2.5
MOX Moxa 11.33 351 P **P** 20 17 52.5 +0.2
MOX pmax pmax
comp=Z,45nm,0.9s
ARG Arkhangelos 11.34 102 **P** 20 17 53.5 +0.9
ARG Arkhangelos 11.34 102 P **P** 20 17 53.5 +0.9
TLBR Topalu 11.35 59 ⇓P **P** 20 17 55.1 +2.5
TESR Tescani 11.39 48 ⇓P **P** 20 17 56.5 +3.4
BRG Berggiesshubel 11.39 359 *i*P **P** 20 17 53.9 +0.9
BRG Amp 20 17 56.3
comp=Z,16nm,0.6s
BRG Berggiesshubel 11.39 359 *i*P **P** 20 17 53.9 +0.9
BRG pmax pmax
comp=Z,16nm,0.6s
OJC Ojcow 11.40 18 P **P** 20 17 54.1 +1.1
OJC Ojcow 11.40 18 P **P** 20 17 54.1 +1.1
MANR Mangalia 11.47 63 ⇓P **P** 20 17 56.6 +2.6
MFTR Murfatlar 11.47 61 ⇑P **P** 20 17 56.1 +2.2
LFF La Frestale 11.49 303 *e*P **P** 20 17 54.6 +0.4
TNS Taunus Mts 11.53 341 P **P** 20 17 54.9 +0.3
TNS pmax pmax
comp=Z,52nm,1.0s
YLV Yalova 11.54 80 *e*P **P** 20 17 58.3 +3.4
HYF Humbligny 11.55 316 *e*P **Pn** 20 17 54.4 -0.3
TIRR Tirgusor 11.56 60 ⇑P **P** 20 17 57.8 +2.9
TIRR Tirgusor 11.56 60 **P** 20 17 56.1 +1.2
TIRR Tirgusor 11.56 60 P **P** 20 17 56.1 +1.2
CFR Carcaliu 11.65 56 ⇓P **Pn** 20 17 57.8 +1.9
CFR Carcaliu 11.65 56 ⇓P **Pn** 20 17 57.8 +1.9
PRAR RASCA 11.66 44 ⇑P **Pn** 20 17 59.6 +3.6
TPGR Topolog 11.71 58 ⇑P **Pn** 20 17 59.0 +2.4
WLF Walferdange 11.74 333 **P** 20 17 56.2 -0.7
WLF Walferdange 11.74 333 P **P** 20 17 56.2 -0.7
WLF Walferdange 11.74 333 *d*P **P** 20 17 56.4 -0.5
ETSF Etsaut 11.77 292 *e*P **P** 20 17 57.2 -0.2
ETSF Etsaut 11.77 292 *e*P **Pn** 20 17 57.6 +0.2
ETSF pmax pmax
comp=Z,8.0nm,0.3s
BIR Birlad 11.83 51 ⇑P **Pn** 20 18 00.3 +2.2
BIR Birlad 11.83 51 ⇑P **Pn** 20 18 00.3 +2.2
CLL Collm 11.87 356 P **Pn** 20 17 58.4 0.0
CLL Collm 11.87 356 ⇑*i*P **Pn** 20 17 59.8 +1.5
CLL pmax pmax
comp=Z,93nm,1.6s
CLL Collm 11.87 356 ⇑*i*P **Pn** 20 17 59.8 +1.5
comp=Z,93nm,1.6s
VLDR Vladesti 11.91 53 ⇑P **Pn** 20 18 01.2 +2.3
FETY Fethiye 11.93 99 *e*P **Pn** 20 18 00.5 +1.2
TLCR 12.10 57 ⇓P **Pn** 20 18 03.8 +2.7
TLCR 12.10 57 ⇓P **Pn** 20 18 03.8 +2.7
VASR Vaslui 12.12 49 ⇓P **Pn** 20 18 04.6 +3.1
CLF Chambon-Foret 12.23 318 **P** 20 18 01.7 -0.6
SJPF Ste Jean 12.29 292 *e*P **Pn** 20 18 03.4 -0.1
SJPF Ste Jean 12.29 292 *e*P **Pn** 20 18 03.5 -0.1
SJPF pmax pmax
comp=Z,16nm,0.5s
GULT Gulveren 12.41 80 *e*P **Pn** 20 18 08.8 +3.7
RCHB Rochefort 12.48 332 *d*P **P** 20 18 04.7 -0.4
comp=Z,13nm,0.6s
ELL Elmali 12.53 98 P **Pn** 20 18 07.6 +1.1
ELL Elmali 12.53 98 P **Pn** 20 18 07.6 +1.1
BTNL Ternell 12.53 335 *d*P **P** 20 18 05.1 -0.5
comp=Z,13nm,1.0s
GIVF Givet 12.59 331 *e*P **P** 20 18 06.4 +0.1
MEM Membach 12.60 335 P **P** 20 18 05.0 -1.3
MEM pmax pmax
comp=Z,18nm,0.9s
MEM Membach 12.60 335 *d*P **Pn** 20 18 06.8 -0.2
comp=Z,12nm,0.9s
DOU Dourbes 12.68 330 *d*P **P** 20 18 07.2 0.0
BCLA Clavier 12.68 333 *d*P **P** 20 18 06.6 -0.6
BSTI Sart Tilman 12.72 334 *d*P **P** 20 18 07.9 +0.2
ISP Isparta 12.72 92 *e*P **Pn** 20 18 11.5 +2.8
ISP Isparta 12.72 92 P **P** 20 18 08.7 +0.7
ISP Isparta 12.72 92 *ce*P **Pn** 20 18 11.6 +2.8
ISP pmax pmax
comp=Z,93nm,1.7s
BGES Gesves 12.72 332 *d*P **P** 20 18 07.7 0.0
BMRD Maredsous 12.78 331 *d*P **P** 20 18 08.1 -0.2
comp=Z,20nm,0.5s
MFF Saint Martin d 12.78 309 *e*P **Pn** 20 18 08.7 -0.5
BAIF Baives 12.80 329 *e*P **P** 20 18 08.2 -0.3
MILM Milestii Mici 12.87 50 *e*P **Pn** 20 18 10.2 -0.1
comp=Z,130nm,0.4s
MILM *es*P 20 19 28.0
MILM *i*S **S** 20 20 28.0 -2.9
comp=Z,600nm,1.3s
MILM Milestii Mici 12.87 50 ⇓P **Pn** 20 18 11.1 +0.8
MILM Milestii Mici 12.87 50 *e*P **Pn** 20 18 10.2 -0.1
MILM *i*S **S** 20 20 28.0 -2.9
MILM pmax pmax
comp=Z,130nm,0.4s
MILM smax smax
comp=N,600nm,1.3s
KIS Kishinev 12.91 50 *e*S **S** 20 20 27.0 -4.8
KIS Kishinev 12.91 50 *d*P **Pn** 20 18 13.0 +2.2
KIS *e*S **S** 20 20 27.0 -4.8
KIS pmax pmax
comp=Z,120nm,0.6s
KIS Kishinev 12.91 50 ⇓*i*P **Pn** 20 18 13.0 +2.2
comp=Z,120nm,0.6s
KIS Kishinev 12.91 50 *es*P 20 19 31.0
MDUB Mudurnu 12.93 80 *e*P **Pn** 20 18 15.1 +3.9
MDUB Mudurnu 12.93 80 **Pn** 20 18 12.3 +1.1
SORM Soroca 13.27 45 P **Pn** 20 18 14.9 0.0
YUVA Yuva-Kibriscik 13.31 81 *e*P **Pn** 20 18 19.7 +4.0
LDF La Druitiere 13.83 316 *e*P **P** 20 18 18.9 -1.1
LDF La Druitiere 13.83 316 *e*P **P** 20 18 18.5 -1.5
LDF pmax pmax
comp=Z,35nm,0.5s
GRR Gorron 14.12 314 *e*P **P** 20 18 21.5 -1.6
GRR Gorron 14.12 314 *e*P **P** 20 18 21.3 -1.8
GRR pmax pmax
comp=Z,17nm,0.3s
FLN La Foliniere 14.12 316 *e*P **P** 20 18 21.9 -1.3
baz=126
FLN La Foliniere 14.12 316 *e*P **P** 20 18 22.3 -0.9
FLN pmax pmax
comp=Z,35nm,0.4s
ESBB Sonseca Array 14.16 277 **Pn** 20 18 24.5 -1.0
ESDC Sonseca Array 14.16 277 **Pn** 20 18 25.7 +0.2
ESDC Sonseca Array 14.16 277 P **P** 20 18 23.5 -0.3
comp=Z,8.9nm,0.5s,baz=78,slow=11,SNR=58
BR231 Keskin MP Arra 14.17 83 P **P** 20 18 24.4 +0.5
ANTO Ankara 14.18 83 P **P** 20 18 25.2 +1.2
PAB San Pablo 14.47 276 P **P** 20 18 27.3 +0.2
PAB San Pablo 14.47 276 P **P** 20 18 27.3 +0.2
BSEG Bad Segeberg 14.72 350 P **Pn** 20 18 30.7 -1.0
BSEG pmax pmax
comp=Z,32nm,0.9s
BR131 Keskin Array S 14.85 83 *e*P **Pn** 20 18 33.8 +0.3
BR131 Keskin Array S 14.85 83 P **Pn** 20 18 33.3 -0.2
BR131 Keskin Array S 14.85 83 *c*P **Pn** 20 18 33.8 +0.3
BRTR Keskin Array B 14.85 83 P **P** 20 18 31.6 +0.2
BRTR Keskin Array B 14.85 83 P **Pn** 20 18 34.0 +0.4
BRTR Keskin Array B 14.85 83 P **Pn** 20 18 34.0 +0.4
comp=Z,28nm,0.9s,baz=266,slow=8.5,SNR=60
SGMF Saint Gilles 15.02 311 *e*P **P** 20 18 31.5 -1.4
QUIF Quistinic 15.21 309 *e*P **P** 20 18 33.9 -1.2
QUIF Quistinic 15.21 309 *e*P **P** 20 18 33.2 -1.9
QUIF pmax pmax
comp=Z,23nm,0.6s
KIEV Kiev 15.30 38 P **P** 20 18 35.7 -0.3
KIEV lAmb lAmb 20 18 37.9
comp=Z,21nm,1.3s
KIEV Kiev 15.30 38 P **P** 20 18 36.9 +0.9
KIEV pmax pmax
comp=Z,43nm,1.0s
KIEV Kiev 15.30 38 P **P** 20 18 35.8 -0.2
AKASG Malin Array Be 15.31 38 P **P** 20 18 35.6 -0.6
AKASG lAmb lAmb 20 18 41.0
comp=Z,9.1nm,0.4s
AKASG Malin Array Be 15.31 38 *ce*P **P** 20 18 36.0 -0.1
AKASG pmax pmax
comp=Z,5.0nm,0.3s
AKASG Malin Array Be 15.31 38 P **P** 20 18 36.1 -0.1
comp=Z,4.3nm,0.3s,baz=232,slow=9.7,SNR=40
AKBB Malin Array Si 15.31 38 P **P** 20 18 35.6 -0.6
AKBB lAmb lAmb 20 18 37.9
comp=Z,22nm,1.2s
AKBB Malin Array Si 15.31 38 *ce*P **P** 20 18 36.0 -0.1
AKBB pmax pmax
comp=Z,7.0nm,0.6s
ROSF Rostrenen 15.47 311 *e*P **P** 20 18 36.3 -1.6
IKL Isikli 15.58 96 *e*P **P** 20 18 40.2 +1.0
SIM Simferopol' 15.59 63 *e*P **P** 20 18 40.8 +1.6
SIM pmax pmax
comp=Z,75nm,1.0s
BSD Bornholm Skovb 15.64 1 *e*P **P** 20 18 39.8 +0.2
SUW Suwalki 15.71 19 *e*P **P** 20 18 40.8 +0.4
SUW Suwalki 15.71 19 P **P** 20 18 40.2 -0.2
SUW Suwalki 15.71 19 P **P** 20 18 40.2 -0.2
SUW pmax pmax
comp=Z,87nm,0.5s
SUW Suwalki 15.71 19 *e*P **P** 20 18 41.2 +0.8
CSS Mathiatis 15.74 101 P **P** 20 18 41.7 +0.6
LUNU Lund 16.17 358 *i*P **P** 20 18 44.1 -1.2
LUNU lAmb lAmb 20 18 46.6
comp=Z,1μm,0.5s
PBRG Braganca 16.20 285 *e*P **P** 20 18 45.4 -0.6
comp=Z,39nm,2.0s
CMRD Camardi-Nigde 16.21 90 *e*P **Pn** 20 18 48.4 -1.0
SSRD Sdr. Stenderup 16.32 350 *i*P **P** 20 18 45.7 -1.2
MVO Moncorvo 16.42 283 *e*P **P** 20 18 48.0 -0.3
comp=Z,28nm,0.9s
BJUU Bjuv 16.63 357 *i*P **P** 20 18 49.5 -0.7
BNN Bunyan 16.65 85 P **P** 20 18 52.5 +1.6
MDT Midelt 16.71 252 P **P** 20 18 50.4 -1.2
comp=Z,4.1nm,0.8s,baz=75,slow=14,SNR=7.2
PBAR Barrancos 16.75 272 *e*P **P** 20 18 52.0 +0.2
comp=Z,37nm,1.4s
PMRV Marv??o 16.82 277 *e*P **P** 20 18 52.0 -0.6
comp=Z,38nm,1.9s
MTE Manteigas 16.84 280 *e*P **Pn** 20 18 55.3 -1.3
comp=Z,40nm,2.0s
MTE Manteigas 16.84 280 P **P** 20 18 53.6 +0.7
MTE lAmb lAmb 20 19 30.3
comp=Z,38nm,1.3s
DEL Delary 17.00 359 *i*P **P** 20 18 53.3 -1.0
DEL lAmb lAmb 20 18 56.8
comp=Z,5.0nm,0.7s
DEL Delary 17.00 359 *e*P **P** 20 18 53.9 -0.3
PESTR Estremoz 17.05 275 *e*P **P** 20 18 54.8 -0.3
comp=Z,24nm,1.6s
PESTR Estremoz 17.05 275 P **P** 20 18 54.4 -0.7
PESTR lAmb lAmb 20 19 21.5
comp=Z,41nm,1.5s
PABE Paberze 17.26 19 P **P** 20 18 56.8 -0.3
PABE Paberze 17.26 19 *e*P **P** 20 18 57.3 +0.3
PBUR Paburge 17.29 14 *e*P **P** 20 18 57.0 -0.3
PGAV Gavieira, Arco 17.35 286 *e*P **Pn** 20 19 00.5 -1.7
comp=Z,39nm,2.3s
EVO Evora 17.44 274 *e*P **P** 20 19 00.5 +1.3
comp=Z,52nm,1.8s
PVAQ Vaqueiros 17.44 270 *e*P **P** 20 18 58.7 -0.6
comp=Z,91nm,1.9s
PVAQ Vaqueiros 17.44 270 P **P** 20 18 58.6 -0.6
PMTG Montargil 17.51 276 *e*P **P** 20 18 58.4 -1.6
comp=Z,48nm,1.6s
NACGM Naroch 17.53 24 ⇑*i*P **P** 20 18 59.9 0.0
comp=Z,21nm,0.8s,baz=214
FABU Falkenberg 17.57 357 *i*P **P** 20 19 00.3 0.0

FABU IAmb IAmb 20 19 01.3
comp=Z,8.2nm,0.7s
MNK Minsk 17.57 27 *i* P **P** **20 18 57.2 -3.1**
MNK *i* P **P** **20 18 57.2 -3.1**
MNK *i* P **P** **20 18 57.2 -3.1**
baz=17
MNK *i* sP **sP** **20 20 31.9 -4.9**
MNK *i* S **S** **20 21 58.9 -5.4**
MNK *i* LQ LQ 20 23 44.5
MNK *i* LR LR 20 24 59.3
MNK *i* LRM MLR 20 27 24.9
comp=E,83nm,18.0s
MNK *i* LRM MLR 20 27 28.8
comp=N,279nm,20.7s
MNK *i* LRM MLR 20 28 06.2
comp=Z,63nm,20.3s
MNK Minsk 17.57 27 *i* P **P** **20 18 57.2 -3.1**
MNK *i* S **S** **20 21 58.8 -5.4**
MNK MLR MLR
comp=E,83nm,18.0s
MNK MLR MLR
comp=N,279nm,21.0s
MNK MLR MLR
comp=Z,63nm,20.0s
MESJ Messejana 17.73 272 P **P** **20 19 01.3 -1.0**
MESJ Messejana 17.73 272 P **P** **20 19 01.3 -1.0**
MESJ pmax pmax
comp=Z,46nm,1.2s
ISAL Salakas 17.90 22 *eP* **P** **20 19 05.0 +1.1**
PNCL Nicolau / Gran 17.91 273 *eP* **P** **20 19 03.7 -0.6**
comp=Z,42nm,1.7s
MMAI Mount Meron Ar 18.12 104 P **P** **20 19 08.3 +1.7**
comp=Z,12nm,0.5s,baz=299,slow=9.2,SNR=29
MMAI S **S** **20 22 21.9 +6.2**
comp=Z,0.8nm,0.4s,baz=300,slow=15,SNR=2.2
TAM Tamanrasset 18.27 207 P **P** **20 19 08.9 +0.5**
TAM Tamanrasset 18.27 207 P **P** **20 19 08.9 +0.5**
TAM pmax pmax
comp=Z,4.0nm,0.7s
ARPR Arapgir-MALATY 18.53 84 P **P** **20 19 12.0 +1.0**
ARPR IAmb IAmb 20 19 20.5
comp=Z,34nm,1.5s
SLIT Slitere, Latvi 18.87 13 *eP* **P** **20 19 13.6 -0.6**
HOMB Homborsund 19.18 351 *eP* **P** **20 19 16.1 -1.3**
SNART Snartemo 19.43 349 *eP* **P** **20 19 19.9 -0.1**
SNART Snartemo 19.43 349 *i* P **P** **20 19 19.0 -1.0**
SNART IAmb IAmb 20 19 20.6
comp=Z,17nm,0.8s
EIL Elat 19.52 114 P **P** **20 19 22.1 +0.8**
comp=Z,4.8nm,0.8s,baz=326,slow=12,SNR=5.5
EIL S S 20 22 54.4 +13
comp=Z,1.2nm,0.6s,baz=322,slow=22,SNR=1.5
ASF Jabal al Asfar 19.62 105 P **P** **20 19 24.0 +1.5**
comp=Z,9.7nm,0.7s,baz=334,slow=12,SNR=6.7
STRU Stroemstad 19.68 355 *eP* **P** **20 19 21.5 -1.1**
EKA Eskdalemuir Ar 19.72 329 P **P** **20 19 20.6 -2.5**
comp=Z,5.6nm,0.3s,baz=142,slow=11,SNR=52
ESK Eskdalemuir 19.73 329 P **P** **20 19 21.1 -2.1**
ESK IAmb IAmb 20 19 25.6
comp=Z,30nm,1.1s
ESK Eskdalemuir 19.73 329 P **P** **20 19 21.1 -2.1**
ESK pmax pmax
comp=Z,30nm,1.2s
EKB Eskdalemuir 19.73 329 P **P** **20 19 20.9 -2.3**
EKB IAmb IAmb 20 19 22.7
comp=Z,29nm,1.0s
DSB Dublin 19.77 321 P **P** **20 19 22.1 -1.6**
KONO Kongsberg 20.41 353 P **P** **20 19 28.6 -1.1**
KONO IAmb IAmb 20 20 05.7
comp=Z,45nm,1.4s
KONO Kongsberg 20.41 353 *ceP* **P** **20 19 27.7 -2.0**
KONO pmax pmax
comp=Z,57nm,2.5s
KONO Kongsberg 20.41 353 *eP* **P** **20 19 28.2 -1.5**
UPP Uppsala 20.50 5 *eP* **P** **20 19 29.9 -0.6**
BLS5 Blasjo 20.59 348 *eP* **P** **20 19 30.5 -0.8**
BLS5 IAmb IAmb 20 19 31.1
comp=Z,86nm,1.1s
VSU Vasula 20.59 19 *i* P **P** **20 19 29.5 -1.8**
VSU pmax pmax
comp=Z,43nm,1.9s
KMY Karmoy 20.59 347 *eP* **P** **20 19 29.6 -1.7**
OSL Oslo 20.61 355 *eP* **P** **20 19 30.3 -1.1**
OSL IAmb IAmb 20 19 31.0
comp=Z,53nm,0.4s
HFS Hagfors 20.68 359 P **P** **20 19 31.0 -1.1**
HFS Hagfors 20.68 359 P **P** **20 19 31.0 -1.1**
comp=Z,28nm,0.5s,baz=181,slow=13,SNR=132
comp=Z,28nm,0.5s
VORD Divnogorie 20.86 48 *eP* **P** **20 19 31.1 -2.7**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 20.89 48 *eP* **P** **20 19 31.0 -3.0**
VSR pmax pmax
comp=Z,10.0nm,1.0s
AAL Aland 21.01 8 *eP* **P** **20 19 34.7 -0.4**
ODD1 Odda 21.03 349 *eP* **P** **20 19 34.5 -0.8**
NC602 NORSAR Array S 21.35 356 P **P** **20 19 37.5 -0.6**
NC602 NORSAR Array S 21.35 356 *eP* **P** **20 19 37.6 -0.6**
NC602 IAmb IAmb 20 19 38.2
comp=Z,30nm,0.7s
NORES NORESS Array B 21.35 356 P **P** **20 19 37.7 -0.4**
NORES pmax pmax
comp=Z,2.0nm,0.3s
LPSR Galich'ya Gora 21.37 44 *eP* **P** **20 19 37.5 -0.9**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
GURO Guroymak-BITLI 21.47 84 P **P** **20 19 41.4 +1.7**
GURO IAmb IAmb 20 19 43.0
comp=Z,15nm,0.8s
NAO01 NORSAR Array S 21.50 355 P **P** **20 19 38.4 -1.1**
NAO01 IAmb IAmb 20 19 41.0
comp=Z,23nm,1.1s
NEUR Neytrino 21.53 71 *i* P **P** **20 19 39.8 -0.5**
KIV Kislovodsk 21.54 69 P **P** **20 19 40.8 +0.6**
KIV IAmb IAmb 20 19 44.7
comp=Z,25nm,1.2s
KIV Kislovodsk 21.54 69 *eP* **P** **20 19 42.2 +2.0**
KIV pmax pmax
comp=Z,16nm,1.1s
KIV Kislovodsk 21.54 69 P **P** **20 19 42.8 +2.6**
KIV Kislovodsk 21.54 69 P **P** **20 19 42.7 +2.5**
KVAR Kislovodsk Arr 21.55 69 P **P** **20 19 43.2 +2.9**
comp=Z,1.6nm,0.5s,baz=254,slow=20,SNR=2.1
comp=Z,1.6nm,0.5s
OBN Obninsk 21.55 36 *eP* **P** **20 19 40.1 +0.1**
OBN *e**SP **sP** **20 21 24.4 +3.6**
OBN pmax pmax
comp=Z,4.0nm,0.9s
SKAR Skarslia 21.56 352 *eP* **P** **20 19 40.0 -0.1**
SKAR IAmb IAmb 20 19 41.0
comp=Z,37nm,1.0s
NB2 NORSAR Subarra 21.67 356 P **P** **20 19 40.7 -0.4**
comp=Z,5.2nm,0.4s,baz=174,slow=11
NB2 NORSAR Subarra 21.67 356 P **P** **20 19 40.7 -0.4**
baz=174,slow=11
NOA NORSAR Array B 21.67 356 P **P** **20 19 40.0 -1.1**
NOA NORSAR Array B 21.67 356 P **P** **20 19 40.0 -1.1**
comp=Z,6.4nm,0.5s,baz=171,slow=9.9,SNR=75
comp=Z,6.4nm,0.5s
NB201 NORSAR Array S 21.68 356 P **P** **20 19 40.0 -1.1**
NB201 IAmb IAmb 20 19 42.7
comp=Z,25nm,0.9s
BER Bergen 21.68 348 *eP* **P** **20 19 40.9 -0.2**
KBZ Khabaz 21.68 69 P **P** **20 19 43.1 +1.8**
comp=Z,12nm,0.8s,baz=280,slow=6.2,SNR=23
comp=Z,12nm,0.8s
MEF Metsahovi 21.69 14 *eP* **P** **20 19 41.6 +0.5**
NBO00 NORSAR Array S 21.69 355 P **P** **20 19 40.4 -0.9**
NC405 NORSAR Array S 21.72 356 P **P** **20 19 40.6 -0.9**
ASK Askoy 21.80 348 *eP* **P** **20 19 45.4 +3.3**
NC303 NORSAR Array S 21.85 356 P **P** **20 19 42.0 -0.7**
NC204 NORSAR Array S 21.93 355 P **P** **20 19 43.2 -0.4**
KARS Kars 21.95 78 P **P** **20 19 45.3 +1.2**
KARS Kars 21.95 78 P **P** **20 19 45.3 +1.2**
KARS pmax pmax
comp=Z,34nm,0.7s
RAF Rauma 22.05 10 *eP* **P** **20 19 45.0 +0.5**
ONI Oni 22.09 73 P **P** **20 19 46.9 +1.6**
ONI IAmb IAmb 20 19 47.9
comp=Z,17nm,0.7s
ONI Oni 22.09 73 P **P** **20 19 46.9 +1.6**
ONI pmax pmax
comp=Z,17nm,0.7s
HYA Hoyanger 22.30 349 *eP* **P** **20 19 46.9 +0.2**
HYA IAmb IAmb 20 19 48.8
comp=Z,454nm,2.6s
VRH Novokhopyorsk 22.36 49 *eP* **P** **20 19 46.0 -1.5**
VRH pmax pmax
comp=Z,10.0nm,0.8s
SUE Sulen 22.41 348 *eP* **P** **20 19 47.6 -0.2**
PUL Pulkovo 22.66 21 *ceP* **P** **20 19 50.8 +0.7**
PUL pmax pmax
comp=Z,70nm,0.6s
DOMB Dombas 22.82 354 *eP* **P** **20 19 51.5 -0.1**
FOO Floro 22.88 348 *eP* **P** **20 19 52.1 +0.2**
FOO IAmb IAmb 20 19 53.4
comp=Z,53nm,1.5s
FINES FINESS Array B 23.14 14 P **P** **20 19 53.5 -0.8**
FINES FINESS Array B 23.14 14 P **P** **20 19 53.9 -0.5**
comp=Z,16nm,0.4s,baz=188,slow=8.4,SNR=238
FINES ScP **ScP** **20 26 32.4 -2.2**
comp=Z,2.0nm,0.8s,baz=242,slow=3.0,SNR=5.8
comp=Z,16nm,0.4s
FIA1 FINESS Array S 23.14 14 P **P** **20 19 53.7 -0.6**
AKN Aaknes 23.17 351 *eP* **P** **20 19 54.0 -0.7**
AKN IAmb IAmb 20 19 54.7
comp=Z,143nm,2.3s
GNI Garni 23.27 79 P **P** **20 19 57.1 +1.0**
GNI IAmb IAmb 20 20 00.4
comp=Z,17nm,0.8s
GNI Garni 23.27 79 *ceP* **P** **20 19 58.5 +2.4**
GNI pmax pmax
comp=Z,42nm,1.7s
GNI Garni 23.27 79 P **P** **20 19 57.9 +1.8**
GNI Garni 23.27 79 P **P** **20 19 57.9 +1.8**
NSS Namsos 25.13 358 *eP* **P** **20 20 11.6 -0.5**
NSS IAmb IAmb 20 20 12.2
comp=Z,20nm,0.7s
MOR8 Moi Rana 26.73 0 *eP* **P** **20 20 27.1 +0.6**
MOR8 IAmb IAmb 20 20 33.0
comp=Z,135nm,2.1s
KONS Konsvik 27.07 359 *eP* **P** **20 20 29.2 -0.2**
FAUS Fauske 27.95 1 *eP* **P** **20 20 36.4 -0.8**
FAUS IAmb IAmb 20 20 37.7
comp=Z,12nm,0.8s
STEI Steigen 28.50 1 *eP* **P** **20 20 41.9 -0.2**
STEI IAmb IAmb 20 20 43.0
comp=Z,19nm,0.9s
TORD Torodi Ar. Bea 28.53 207 P **P** **20 20 42.6 -0.3**
LOF Lofoten 28.71 359 *eP* **P** **20 20 43.4 -0.4**
KTK1 Kautokeino 29.97 6 *eP* **P** **20 20 54.4 -0.5**
JETT Jettan, Norway 30.31 4 *eP* **P** **20 20 57.3 -0.6**
TRO Tromso 30.31 3 *eP* **P** **20 20 57.3 -0.6**
LVZ Lovozero 30.58 15 P **P** **20 21 00.8 +0.5**
LVZ Lovozero 30.58 15 P **P** **20 21 00.8 +0.5**
LVZ pmax pmax
comp=Z,62nm,1.5s
ARA0 ARCESS Array S 30.69 8 *eP* **P** **20 21 00.3 -1.0**
ARCES ARCESS Array B 30.69 8 P **P** **20 21 00.6 -0.6**
ARCES ARCESS Array B 30.69 8 P **P** **20 21 00.6 -0.6**
ARCES pmax pmax
comp=Z,13nm,1.3s
ARCES ARCESS Array B 30.69 8 P **P** **20 21 00.1 -1.1**
comp=Z,6.6nm,0.4s,baz=189,slow=9.3,SNR=78
ARCES PcP **PcP** **20 23 48.3 -0.8**
comp=Z,4.6nm,1.1s,baz=195,slow=1.4,SNR=1.3
comp=Z,6.6nm,0.4s
RAYN Ar Rayn 30.74 112 P **P** **20 21 03.6 +1.3**
RAYN Ar Rayn 30.74 112 P **P** **20 21 03.6 +1.3**
RAYN Ar Rayn 30.74 112 P **P** **20 21 03.9 +1.6**
KEV Kevo 31.07 8 P **P** **20 21 03.1 -1.3**
KEV Kevo 31.07 8 P **P** **20 21 03.1 -1.3**
KEV pmax pmax
comp=Z,56nm,1.5s
HAMF Hammerfest 31.60 6 *eP* **P** **20 21 08.7 -0.4**
HAMF IAmb IAmb 20 21 11.9
comp=Z,16nm,0.9s
VADS Vadso 31.70 10 *eP* **P** **20 21 10.1 +0.2**
VADS IAmb IAmb 20 21 13.0
comp=Z,40nm,1.1s
ARU Arti 33.39 45 P **P** **20 21 24.1 -0.6**
SHMA Al-Shehemyia 33.42 103 P **P** **20 21 26.5 +1.2**
ABKAR Akbulak array 33.54 58 P **P** **20 21 26.3 +0.2**
ABKAR Akbulak array 33.54 58 P **P** **20 21 25.7 -0.4**
GEYT Alibeck 33.91 78 P **P** **20 21 29.2 -0.2**
GEYT Alibeck 33.91 78 P **P** **20 21 30.8 +1.3**
comp=Z,3.5nm,0.3s,baz=278,slow=8.0,SNR=9.5
comp=Z,3.5nm,0.3s
TRNA Turayna 34.22 104 P **P** **20 21 32.9 +0.7**
SLWR Sila 34.96 105 P **P** **20 21 39.0 +0.5**
GHWR Ruwais 35.91 104 P **P** **20 21 47.5 +1.1**
SCO Scoresbysund 36.30 340 P **P** **20 21 50.2 +1.1**
SCO IAmb IAmb 20 22 27.1
comp=Z,17nm,1.3s
SCO Scoresbysund 36.30 340 P **P** **20 21 50.2 +1.1**
SCO pmax pmax
comp=Z,17nm,1.3s
MZWR Madinat Zayed 36.78 103 P **P** **20 21 54.5 +0.7**
DBIC Dimbokro 36.98 213 P **P** **20 21 54.9 -0.6**
DBIC Dimbokro 36.98 213 P **P** **20 21 55.0 -0.5**
comp=Z,6.2nm,0.5s,baz=24,slow=8.8,SNR=13
comp=Z,6.2nm,0.5s
AJN Ajban 37.17 101 P **P** **20 21 57.2 +0.3**
HOPEN Hopen 37.42 4 *eP* **P** **20 21 58.7 +0.3**
NAZ Nazwa, Dubai 37.45 100 P **P** **20 22 00.3 +1.0**
NAZ Nazwa, Dubai 37.45 100 P **P** **20 22 00.3 +1.0**
FAQ Al Faqa, Dubai 37.53 101 *i* P **P** **20 22 01.0 +1.0**
SNR=6.6
FAQ Al Faqa, Dubai 37.53 101 P **P** **20 22 00.7 +0.7**
MSFE Esma-Masafi 37.63 99 P **P** **20 22 01.4 +0.5**
MDH Madha 37.77 99 P **P** **20 22 02.3 +0.3**
UOSS Minazif 37.89 100 P **P** **20 22 01.4 -1.6**
UOSS IAmb IAmb 20 22 04.0
comp=Z,11nm,0.5s
UOSS Minazif 37.89 100 P **P** **20 22 03.1 +0.1**
UOSS Minazif 37.89 100 P **P** **20 22 03.2 +0.2**
HATD Hatta, Dubai 37.90 100 *i* P **P** **20 22 03.5 +0.4**
SNR=6.3
HATD Hatta, Dubai 37.90 100 P **P** **20 22 03.7 +0.6**
ASHO Ashiyiah 37.92 100 *i* P **P** **20 22 03.6 +0.4**
SNR=11
ASHO Ashiyiah 37.92 100 P **P** **20 22 03.8 +0.5**
SNR=25
ALNE Al Ain 38.03 101 *i* P **P** **20 22 04.9 +0.7**
SNR=6.3
ALNE Al Ain 38.03 101 P **P** **20 22 05.0 +0.8**
HRA Herat 38.23 82 P **P** **20 22 06.6 +0.6**
UMZA Um Al Zommool 38.34 104 P **P** **20 22 07.4 +0.7**
SOHO SOHO 38.58 101 *i* P **P** **20 22 09.3 +0.6**
SNR=10
SOHO SOHO 38.58 101 P **P** **20 22 09.5 +0.8**
SPB2 Spitsbergen Ar 38.81 1 P **P** **20 22 10.7 +0.8**
SPB2 IAmb IAmb 20 22 20.1
comp=Z,55nm,1.4s
SPA0 Spitsbergen Ar 38.81 1 *eP* **P** **20 22 10.6 +0.7**
SPA0 IAmb IAmb 20 22 10.9
comp=Z,18nm,0.6s
SPITS Spitsbergen Ar 38.81 1 P **P** **20 22 10.7 +0.7**
SPITS pmax pmax
comp=Z,57nm,1.4s
SPITS Spitsbergen Ar 38.81 1 P **P** **20 22 10.6 +0.7**
comp=Z,9.6nm,0.5s,baz=159,slow=9.7,SNR=56
SPITS PcP **PcP** **20 24 12.2 -0.6**
comp=Z,1.2nm,0.6s,baz=155,slow=4.1,SNR=0.9
comp=Z,9.6nm,0.5s
ARQ Araqi 39.02 102 P **P** **20 22 13.2 +0.9**
SNR=23
ANGG Ammassalik, Gr 39.30 329 P **P** **20 22 14.4 +0.4**
KBS Kingsbay 39.57 359 P **P** **20 22 16.8 +0.7**
KBS IAmb IAmb 20 22 27.6
comp=Z,21nm,1.2s
KBS Kingsbay 39.57 359 P **P** **20 22 16.8 +0.7**
KBS pmax pmax
comp=Z,21nm,1.2s
KBS Kingsbay 39.57 359 *eP* **P** **20 22 17.2 +1.1**
BSY Bisya 39.86 102 P **P** **20 22 19.6 +0.4**
BRVK Borovoye 39.93 51 P **P** **20 22 19.8 +0.4**
BRVK Borovoye 39.93 51 *ceP* **P** **20 22 20.3 +1.0**
BRVK pmax pmax
comp=Z,10.0nm,1.0s
BRVK Borovoye 39.93 51 P **P** **20 22 20.0 +0.7**
BVAR Borovoye Array 39.99 51 P **P** **20 22 20.7 +0.8**
comp=Z,3.2nm,0.6s,baz=276,slow=8.8,SNR=27
comp=Z,3.2nm,0.6s
DOK Doka 40.06 110 P **P** **20 22 20.9 +0.1**
BIDO Bidbid 40.13 100 P **P** **20 22 22.0 +0.6**
SMDO Samad 40.33 101 P **P** **20 22 23.4 +0.3**
JMDO Jabal Madar 40.76 102 P **P** **20 22 26.7 +0.2**

DMTO DMTO 41.24 110 P **P** **20 22 29.7 -0.7**
WBK Wadi Bani Khal 41.28 101 ‖P **P** **20 22 31.7 +0.9**
MHTO MHTO 41.46 103 P **P** **20 22 33.1 +0.9**
KK31 Karatay Array 41.66 66 P **P** **20 22 33.5 0.0**
KK31 Karatay Array 41.66 66 P **P** **20 22 33.5 0.0**
KK31 pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 41.66 66 P **P** **20 22 33.3 -0.2**
KKAR Karatay Array 41.66 66 P **P** **20 22 33.7 +0.2**
KKAR Karatay Array 41.66 66 P **P** **20 22 33.3 -0.2**
KKAR pmax pmax
comp=Z,4.0nm,0.6s
SUMG Summit 41.87 339 P **P** **20 22 36.0 +0.8**
SUMG Summit 41.87 339 P **P** **20 22 36.0 +0.8**
SUMG pmax pmax
comp=Z,13nm,1.2s
SUMG Summit 41.87 339 *i* P **P** **20 22 35.0 -0.2**
SUMG IAmb IAmb 20 22 38.5
comp=Z,4.3nm,0.8s
JLN Jalan Bani Buh 41.88 101 P **P** **20 22 36.0 +0.5**
CHGR Chuyangaron 41.97 73 P **P** **20 22 36.4 +0.2**
CHGR Chuyangaron 41.97 73 P **P** **20 22 36.4 +0.2**
CHGR pmax pmax
comp=Z,8.0nm,0.6s
GAR Garm 42.71 72 P **P** **20 22 42.9 +0.8**
BTK Batken 42.74 70 P **P** **20 22 42.4 +0.1**
BTK Batken 42.74 70 P **P** **20 22 42.4 +0.1**
BTK pmax pmax
comp=Z,2.0nm,0.7s
DY2G Dye2 42.92 329 *i* P **P** **20 22 41.5 -1.9**
DY2G IAmb IAmb 20 22 44.7
comp=Z,11nm,0.6s
IVI Ivigtut 43.38 321 P **P** **20 22 44.9 -1.9**
IVI IAmb IAmb 20 23 15.4
comp=Z,30nm,1.2s
NOR Nord 43.62 354 *i* P **P** **20 22 47.3 -1.3**
NOR IAmb IAmb 20 22 49.0
comp=Z,4.9nm,0.5s
ARSB Arslanbob 43.92 68 P **P** **20 22 52.0 +0.4**
ARSB Arslanbob 43.92 68 P **P** **20 22 52.0 +0.4**
ARSB pmax pmax
comp=Z,2.0nm,1.2s
AAK Ala-Archa 44.60 66 *ceP* **P** **20 22 56.7 -0.3**
AAK pmax pmax
comp=Z,5.0nm,1.7s
AAK Ala-Archa 44.60 66 P **P** **20 22 57.8 +0.9**
SFJD Kangerlussuaq 44.70 330 P **P** **20 22 56.4 -0.7**
SFJD Kangerlussuaq 44.70 330 P **P** **20 22 56.4 -0.7**
SFJD pmax pmax
comp=Z,9.0nm,0.8s
ILULI Ilulissat 45.08 333 P **P** **20 22 59.5 -0.5**
ILULI IAmb IAmb 20 23 00.5
comp=Z,16nm,0.8s
ILULI Ilulissat 45.08 333 P **P** **20 22 59.6 -0.5**
ILULI pmax pmax
comp=Z,16nm,0.8s
KURBB Kurchatov Arra 45.31 54 P **P** **20 23 02.3 +0.1**
comp=Z,2.0nm,0.6s,baz=276,slow=9.5,SNR=14
KURK Kurchatov 45.35 54 P **P** **20 23 02.3 -0.2**
KURK Kurchatov 45.35 54 *ceP* **P** **20 23 03.1 +0.6**
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 45.35 54 P **P** **20 23 02.4 -0.1**
NRN Naryn 46.04 67 P **P** **20 23 08.0 -0.4**
NRN Naryn 46.04 67 P **P** **20 23 08.0 -0.4**
KSH Kashi 46.67 69 P **P** **20 23 12.8 -0.2**
KSH pmax pmax
comp=Z,4.0nm,0.6s
NIL Nilore 46.91 78 P **P** **20 23 15.7 +0.9**
NIL IAmb IAmb 20 23 17.3
comp=Z,7.9nm,0.5s
NIL Nilore 46.91 78 P **P** **20 23 15.7 +0.9**
NIL pmax pmax
comp=Z,8.0nm,0.5s
NRIK Noril'sk 47.81 27 *ceP* **P** **20 23 21.1 0.0**
NRIK Noril'sk 47.81 27 P **P** **20 23 21.9 +0.8**
comp=Z,2.2nm,0.6s,baz=253,slow=7.7,SNR=3.8
comp=Z,2.2nm,0.6s
ZALV Zalesovo Beam 48.39 48 *i* P **P** **20 23 25.8 +0.1**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 48.39 48 P **P** **20 23 25.4 -0.3**
comp=Z,1.3nm,0.4s,baz=303,slow=8.3,SNR=5.3
comp=Z,1.3nm,0.4s
MK31 Makanchi Array 48.69 58 *ceP* **P** **20 23 27.9 -0.2**
MKAR Makanchi Array 48.69 58 P **P** **20 23 28.2 +0.1**
comp=Z,3.5nm,0.5s,baz=281,slow=6.9,SNR=91
comp=Z,3.5nm,0.5s
DRLN Deer Lake 50.50 306 P **P** **20 23 40.6 -1.0**
DGZ Jazzator, Alta 51.08 53 *i* P **P** **20 23 46.3 +0.2**
DGZ pmax pmax
comp=Z,8.0nm,2.9s
SCHQ Schefferville 54.21 315 P **P** **20 24 07.2 -1.2**
SCHQ IAmb IAmb 20 24 09.4
comp=Z,16nm,0.9s
SCHQ Schefferville 54.21 315 P **P** **20 24 07.5 -0.9**
comp=Z,10nm,0.6s,baz=66,slow=7.0,SNR=29
comp=Z,10nm,0.6s
TIXI Tiksi 60.06 19 P **P** **20 24 48.8 +0.1**
TIXI Tiksi 60.06 19 *i* P **P** **20 24 48.0 -0.7**
TIXI pmax pmax
comp=Z,5.0nm,1.1s
LONY Lake Ozonia 63.05 307 P **P** **20 25 07.8 -1.2**
baz=60
SONM Songino Array 63.27 49 P **P** **20 25 10.7 +0.2**
comp=Z,0.5nm,0.6s,baz=284,slow=6.6,SNR=5.8
comp=Z,0.5nm,0.6s
PAL Palisades 64.45 303 P **P** **20 25 16.8 -1.2**
baz=59
BINY Binghamton 65.16 305 P **P** **20 25 22.4 -0.2**
baz=58
A36M Sachs Harbour 65.27 347 P **P** **20 25 23.5 +0.8**
baz=34
FCC Fort Churchill 65.63 327 IAmb IAmb 20 25 26.0
comp=Z,5.2nm,0.8s
SSPA Standing Stone 67.20 304 P **P** **20 25 35.6 +0.1**
baz=57
C36M Paulatuk 67.26 345 IAmb IAmb 20 25 36.4
comp=Z,5.9nm,0.8s
C36M Paulatuk 67.26 345 P **P** **20 25 36.0 +0.8**
baz=34
A21K Barrow 69.31 357 P **P** **20 25 49.2 +1.4**
baz=7.4
D28M Stokes Point 69.70 350 P **P** **20 25 51.7 +1.5**
baz=22
C26K Camden Bay 69.86 353 P **P** **20 25 52.7 +1.5**
baz=17
INK Inuvik 69.87 348 P **P** **20 25 51.2 -0.1**
INK Inuvik 69.87 348 P **P** **20 25 51.8 +0.5**
baz=26
B22K Teshekpuk Lake 70.13 356 IAmb IAmb 20 25 55.2
comp=Z,8.3nm,1.2s
B22K Teshekpuk Lake 70.13 356 P **P** **20 25 54.2 +1.4**
baz=10.0
C24K Franklin Bluff 70.40 354 P **P** **20 25 55.7 +1.3**
baz=14
C23K Itkillik River 70.44 355 IAmb IAmb 20 25 57.2
comp=Z,11nm,0.8s
C23K Itkillik River 70.44 355 P **P** **20 25 56.4 +1.7**
baz=12,SNR=10
YKA Yellowknife Ar 70.44 337 P **P** **20 25 54.8 0.0**
comp=Z,1.4nm,0.5s,baz=39,slow=5.7,SNR=36
comp=Z,1.4nm,0.5s
E29M Blow River 70.46 349 P **P** **20 25 55.8 +0.9**
baz=22
E28M Babbage River 70.48 350 P **P** **20 25 55.9 +0.9**
baz=21,SNR=6.0
D25K Kavik River 70.58 353 IAmb IAmb 20 25 57.5
comp=Z,5.7nm,0.8s
D25K Kavik River 70.58 353 P **P** **20 25 56.5 +0.9**
baz=16
ACSO Alum Creek Sta 70.64 306 P **P** **20 25 56.4 -0.1**
baz=54
B20K Meade River 70.65 357 IAmb IAmb 20 25 58.3
comp=Z,10nm,0.8s
B20K Meade River 70.65 357 P **P** **20 25 57.3 +1.4**
baz=6.9
F31M Tsiigehtchic 70.69 348 P **P** **20 25 56.6 +0.4**
baz=26,SNR=11
BILL Bilibino 70.73 11 *i* P **P** **20 25 55.7 -0.8**
BILL pmax pmax
comp=Z,4.0nm,1.0s
F30M Barrier River 70.87 348 P **P** **20 25 57.9 +0.6**
baz=24
B21K Ikpikpuk River 70.91 356 IAmb IAmb 20 25 59.9
comp=Z,8.6nm,1.0s

B21K	**Ikpikpuk River** baz=9.0,SNR=6.8	70.91 356	P	P	20 25 59.0	+1.6
EYMN	**Ely** baz=52	70.95 317	P	P	20 25 58.2	0.0
D24K	**Happy Valley** comp=Z,4.6nm,0.8s	70.97 354	IAmb	IAmb	20 25 59.7	
D24K	**Happy Valley** baz=14	70.97 354	P	P	20 25 59.1	+1.3
G31M	**Satah River** comp=Z,6.8nm,0.6s	71.25 347	IAmb	IAmb	20 26 00.3	
G31M	**Satah River** baz=25,SNR=7.0	71.25 347	P	P	20 25 59.5	0.0
D23K	**Nanushuk River** baz=12,SNR=9.2	71.30 354	P	P	20 26 01.5	+1.6
C21K	**Knifeblade Rid** baz=8.8	71.38 356	P	P	20 26 02.1	+1.8
B18K	**Kokolik River** baz=3.1	71.43 359	P	P	20 26 02.5	+1.9
F28M	**Old Crow** comp=Z,6.4nm,0.6s	71.46 350	IAmb	IAmb	20 26 01.8	
F28M	**Old Crow** baz=21,SNR=9.7	71.46 350	P	P	20 26 01.3	+0.5
G30M	**tAoh Zraii Nji** comp=Z,5.0nm,0.8s	71.51 348	IAmb	IAmb	20 26 02.1	
G30M	**tAoh Zraii Nji** baz=24	71.51 348	P	P	20 26 01.6	+0.4
D22K	**Ayikyak River** comp=Z,4.9nm,0.6s	71.53 355	IAmb	IAmb	20 26 03.6	
D22K	**Ayikyak River** baz=10	71.53 355	P	P	20 26 02.7	+1.4
TOLK	**Toolik Lake Re** comp=Z,9.8nm,0.7s	71.53 354	IAmb	IAmb	20 26 03.5	
TOLK	**Toolik Lake Re** baz=13	71.53 354	P	P	20 26 02.8	+1.5
C19K	**Lookout Ridge** comp=Z,8.7nm,1.1s	71.64 358	IAmb	IAmb	20 26 04.5	
C19K	**Lookout Ridge** baz=4.9	71.64 358	P	P	20 26 03.5	+1.6
E25K	**Arctic Village** comp=Z,5.3nm,0.8s	71.66 352	IAmb	IAmb	20 26 04.3	
E25K	**Arctic Village** baz=16	71.66 352	P	P	20 26 03.5	+1.4
ULM	**Lac du Bonnet** comp=Z,7.3nm,0.7s	71.73 321	IAmb	IAmb	20 26 02.8	
ULM	**Lac du Bonnet** comp=Z,8.1nm,0.7s,baz=56,slow=7.0,SNR=15 comp=Z,8.1nm,0.7s	71.73 321	P	P	20 26 02.2	-0.5
D20K	**Etivluk River** baz=7.3	71.91 357	P	P	20 26 04.9	+1.3
F26K	**Sheenjek River** baz=17	71.92 352	P	P	20 26 05.0	+1.5
E23K	**Chandalar** baz=13	72.10 354	P	P	20 26 06.0	+1.3
P49A	**Miami Univ. Ec** baz=53	72.13 307	P	P	20 26 05.1	-0.2
C18K	**Utukok River** comp=Z,7.0nm,0.6s	72.14 358	IAmb	IAmb	20 26 06.9	
C18K	**Utukok River** baz=3.6	72.14 358	P	P	20 26 06.2	+1.3
EPYK	**Eagle Plains** comp=Z,7.7nm,0.7s	72.16 348	IAmb	IAmb	20 26 05.7	
EPYK	**Eagle Plains** baz=23,SNR=7.1	72.16 348	P	P	20 26 05.2	+0.2
F25K	**Christian Rive** baz=16	72.18 352	P	P	20 26 06.7	+1.6
D19K	**Kuna River** comp=Z,6.8nm,0.7s	72.20 357	IAmb	IAmb	20 26 06.9	
D19K	**Kuna River** baz=6.1	72.20 357	P	P	20 26 06.4	+1.2
E22K	**Anaktuvuk Pass** baz=11	72.20 355	P	P	20 26 06.2	+0.9
WRGLY	**Wrigley** comp=Z,6.7nm,0.8s	72.25 341	IAmb	IAmb	20 26 07.2	
WRGLY	**Wrigley** baz=33,SNR=5.1	72.25 341	P	P	20 26 06.5	+0.9
H31M	**Peel River** baz=25	72.28 347	P	P	20 26 06.3	+0.6
C17K	**DeLong Mountai** baz=2.0	72.35 359	P	P	20 26 07.6	+1.5
E20K	**Nigu River** baz=7.6	72.35 356	P	P	20 26 07.2	+1.1
F24K	**Squaw Lake** baz=14	72.48 353	P	P	20 26 08.6	+1.7
L44A	**Lake County Fo** baz=52	72.48 310	P	P	20 26 07.7	+0.5
SEY	**Seymchan** comp=Z,2.0nm,0.9s	72.54 19 *i*	P pmax	P pmax	20 26 06.3	-0.9
H29M	**Whitestone** baz=22	72.55 349	P	P	20 26 07.8	+0.5
C16K	**Lisburne Hills** baz=0.2	72.56 360	P	P	20 26 08.2	+0.9
G26K	**Porcupine Rive** baz=18	72.59 351	P	P	20 26 09.1	+1.6
COLD	**Coldfoot** baz=12	72.97 354	P	P	20 26 11.0	+1.3
H27K	**Steamboat Moun** baz=19	72.99 350	P	P	20 26 11.2	+1.4
AGMN	**Agassiz Nation** baz=49	72.99 319	P	P	20 26 10.5	+0.3
G25K	**Bearman Lake** baz=16	73.03 352	P	P	20 26 11.9	+1.9
D17K	**Noatak River** baz=2.0	73.12 359	P	P	20 26 11.5	+1.0
I30M	**Mount Dempster** comp=Z,11nm,0.8s	73.16 348	IAmb	IAmb	20 26 12.8	
I30M	**Mount Dempster** baz=23	73.16 348	P	P	20 26 11.4	+0.5
E19K	**Redstone River** comp=Z,8.1nm,0.7s	73.19 357	IAmb	IAmb	20 26 13.1	
E19K	**Redstone River** baz=6.8	73.19 357	P	P	20 26 12.2	+1.2
F21K	**Alatna River** comp=Z,9.2nm,0.8s	73.22 355	IAmb	IAmb	20 26 13.6	
F21K	**Alatna River** baz=9.8	73.22 355	P	P	20 26 12.6	+1.4
G24K	**Hadweenzic Riv** baz=15	73.23 353	P	P	20 26 12.5	+1.3
E18K	**Tukpahlearik C** comp=Z,7.6nm,0.6s	73.35 358	IAmb	IAmb	20 26 13.8	
E18K	**Tukpahlearik C** baz=4.0	73.35 358	P	P	20 26 12.9	+1.0
G22K	**Bettles** baz=11	73.37 354	P	P	20 26 13.6	+1.6
G23K	**Bananza Creek** comp=Z,5.2nm,0.8s	73.46 354	IAmb	IAmb	20 26 14.8	
G23K	**Bananza Creek** baz=12	73.46 354	P	P	20 26 13.9	+1.3
H25L	**Birch Creek** baz=16	73.48 352	P	P	20 26 14.2	+1.6
I28M	**Miner Creek** comp=Z,6.0nm,0.7s	73.50 349	IAmb	IAmb	20 26 14.3	
I28M	**Miner Creek** baz=20,SNR=8.4	73.50 349	P	P	20 26 13.8	+0.8
F20K	**Avaraart Lake** baz=8.0	73.53 356	P	P	20 26 14.7	+1.9
I27K	**Kandik River** baz=19	73.59 350	P	P	20 26 14.3	+0.9
J30M	**Hart River** comp=Z,4.7nm,0.8s	73.75 347	IAmb	IAmb	20 26 16.3	
J30M	**Hart River** baz=23	73.75 347	P	P	20 26 15.4	+1.0
F19K	**Shaleruckik Mo** baz=6.3	73.84 357	P	P	20 26 15.3	+0.6
WCI	**Wyandotte Cave** baz=52	73.90 306	P	P	20 26 14.9	-0.7
I26K	**Coal Creek Min** baz=18	74.08 350	P	P	20 26 17.1	+0.9
H24K	**Noodor Dome** baz=14	74.11 353	P	P	20 26 17.5	+1.1
F18K	**Selawik** baz=4.8	74.15 358	P	P	20 26 17.7	+1.3
PRP	**Porcupine Dome** baz=16	74.17 351	P	P	20 26 18.2	+1.4
J29N	**Klondike Camp** comp=Z,18nm,0.2s	74.17 348	IAmb	IAmb	20 26 47.1	
J29N	**Klondike Camp** baz=22	74.17 348	P	P	20 26 18.2	+1.4
EGAK	**Eagle** baz=19	74.31 349	P	P	20 26 18.6	+1.2
F17K	**Baldwin Pennin** baz=3.5	74.35 358	P	P	20 26 18.7	+1.1
H22K	**Ishtalitna Cre** baz=11	74.38 354	P	P	20 26 19.3	+1.5
CMAR	**Chiang Mai Arr**	74.39 79	P	P	20 26 18.6	-0.1
CMAR	**Chiang Mai Arr** comp=Z,1.6nm,0.7s,baz=304,slow=7.0,SNR=17 comp=Z,1.6nm,0.7s	74.39 79	P	P	20 26 19.2	+0.5
G19K	**Purcell Mounta** baz=6.8	74.50 356	P	P	20 26 19.8	+1.3
MMPY	**Sheldon Lake,** baz=27	74.57 344	P	P	20 26 21.1	+2.1
MAYO	**Mayo, Yukon** baz=23	74.58 347	P	P	20 26 20.8	+1.8
K29M	**Barlow Dome** baz=22	74.63 348	P	P	20 26 20.6	+1.2
H21K	**Melozitna Rive** comp=Z,4.6nm,0.7s	74.72 355	IAmb	IAmb	20 26 22.0	
H21K	**Melozitna Rive** baz=10	74.72 355	P	P	20 26 21.6	+1.8
DAWY	**Dawson**	74.72 348	P	P	20 26 19.9	+0.1
DAWY	comp=Z,9.3nm,1.0s		IAmb	IAmb	20 26 21.8	
DAWY	**Dawson** baz=21,SNR=9.3	74.72 348	P	P	20 26 20.9	+1.0
POKR	**Poker Plat Res** baz=14	74.77 352	P	P	20 26 21.1	+1.0
G18K	**Tagagawik** baz=5.6	74.81 357	P	P	20 26 21.8	+1.4
TGTN	**Hyland Airport** baz=29	74.87 342	P	P	20 26 22.3	+1.6
J26L	**Joseph Creek** comp=Z,8.0nm,0.6s	74.91 350	IAmb	IAmb	20 26 22.5	
J26L	**Joseph Creek** baz=18	74.91 350	P	P	20 26 21.9	+0.9
I23K	**Minto, Yukon-K** baz=13	74.93 353	P	P	20 26 22.1	+1.1
J25K	**Salcha River,** baz=16	75.02 351	P	P	20 26 22.8	+1.2
H20K	**Anotleneega Mo** baz=8.6	75.02 355	P	P	20 26 22.9	+1.4
ILAR	**Eielson Array** comp=Z,1.1nm,0.7s,baz=359,slow=5.4,SNR=20 comp=Z,1.1nm,0.7s	75.04 352	P	P	20 26 21.4	-0.2
H19K	**Roundabout Mou** baz=7.3	75.08 356	P	P	20 26 23.1	+1.3
I21K	**Tanana** baz=11	75.13 354	P	P	20 26 23.3	+1.3
F15K	**North Star Dit** baz=0.8	75.14 360	P	P	20 26 23.5	+1.4
K27K	**Chicken** baz=19	75.15 350	P	P	20 26 23.5	+1.3
MLY	**Manley**	75.17 354	P	P	20 26 23.5	+1.1
MLY	comp=Z,10nm,1.3s		IAmb	IAmb	20 26 25.9	
MLY	**Manley** baz=12	75.17 354	P	P	20 26 23.6	+1.1
G17K	**Kiwalik Mounta** baz=4.0	75.28 358	P	P	20 26 23.7	+0.8
FARO	**Faro, Yukon** baz=25	75.34 345	P	P	20 26 25.5	+2.1
F14K	**Arctic Creek** baz=359	75.38 0	P	P	20 26 24.9	+1.4
HDA	**Harding Lake** comp=Z,8.8nm,0.7s	75.40 352	IAmb	IAmb	20 26 24.9	
HDA	**Harding Lake** baz=15	75.40 352	P	P	20 26 24.2	+0.5
L29M	**L29M** baz=22	75.41 347	P	P	20 26 25.0	+1.2
G16K	**Koyuk River** baz=2.6	75.43 359	P	P	20 26 25.5	+1.8
NEA2	**Nenana** baz=13	75.45 353	P	P	20 26 25.0	+1.1
SCRK	**Sand Creek**	75.46 350	P	P	20 26 24.7	+0.5
SCRK	comp=Z,4.4nm,0.6s		IAmb	IAmb	20 26 25.7	
SCRK	**Sand Creek** baz=17	75.46 350	P	P	20 26 25.3	+1.2
H18K	**Honhosa River** baz=5.8	75.55 357	P	P	20 26 25.9	+1.4
M31M	**Drury Creek, Y** comp=Z,4.3nm,0.8s	75.57 345	IAmb	IAmb	20 26 27.1	
M31M	**Drury Creek, Y** baz=24	75.57 345	P	P	20 26 26.4	+1.7
M30M	**Minto, Yukon** baz=23	75.68 347	P	P	20 26 26.7	+1.4
I20K	**Naaghedeneel** baz=8.9	75.69 355	P	P	20 26 26.9	+1.7
H17K	**Granite Mounta** baz=4.5	75.82 358	P	P	20 26 27.6	+1.6
G15K	**Nikuluk** baz=1.3	75.85 359	P	P	20 26 27.1	+0.9
K24K	**Donnelly Dome** baz=16	75.85 351	P	P	20 26 27.3	+1.0
L27K	**Beaver Creek,** baz=19	76.04 349	P	P	20 26 28.8	+1.5
M29M	**Somme Creek** comp=Z,7.3nm,1.1s	76.09 347	IAmb	IAmb	20 26 30.4	
M29M	**Somme Creek** baz=21	76.09 347	P	P	20 26 29.1	+1.4
BPAW	**Bear Paw Mtn.** baz=12	76.11 353	P	P	20 26 27.9	+0.3
WVT	**Waverly** baz=51	76.16 305	P	P	20 26 29.8	+1.4
H16K	**Elim** baz=2.7	76.18 359	P	P	20 26 29.1	+1.1
N32M	**Quiet Lake** comp=Z,11nm,0.8s	76.27 344	IAmb	IAmb	20 26 31.2	
N32M	**Quiet Lake** baz=25	76.27 344	P	P	20 26 29.8	+1.2
MCK	**McKinley**	76.27 352	P	P	20 26 28.9	+0.3
MCK	**McKinley** baz=13	76.27 352	P	P	20 26 29.6	+1.1
J20K	**Nowinta River** baz=9.1	76.28 355	P	P	20 26 29.7	+1.2
L26K	**Log Cabin Wild** baz=18	76.29 350	P	P	20 26 30.0	+1.3
ECSD	**EROS Data Cent**	76.40 316	P	P	20 26 29.3	-0.3
CHUM	**Lake Minchumin** baz=10	76.44 354	P	P	20 26 30.4	+1.0
BVCY	**Beaver Creek** baz=19	76.51 348	P	P	20 26 31.5	+1.6
J19K	**Poorman** baz=7.9	76.56 355	P	P	20 26 31.4	+1.3
RND	**Reindeer**	76.58 352	P	P	20 26 30.0	-0.4
PAX	**Paxson** baz=16	76.62 351	P	P	20 26 31.1	+0.4
TRF	**Thorofare Moun** baz=12	76.68 353	P	P	20 26 31.7	+0.7
DHY	**Denali Highway** baz=14	76.75 352	P	P	20 26 32.1	+0.7
N30M	**Aishikik Lake** baz=22	76.77 346	P	P	20 26 32.3	+0.9
M26K	**Nabesna, AK** baz=18	76.84 349	P	P	20 26 33.1	+1.3
CAST	**Castle Rocks** baz=11	76.87 354	P	P	20 26 33.0	+1.1
YUK3	**Moose Creek** baz=20	77.05 348	P	P	20 26 34.4	+1.2
CCM	**Cathedral Cave**	77.05 309	P	P	20 26 32.6	-0.7
CCM	**Cathedral Cave** baz=50	77.05 309	P	P	20 26 33.0	-0.3
P33M	**Teslin, Yukon** comp=Z,3.4nm,0.8s	77.06 344	IAmb	IAmb	20 26 35.0	
P33M	**Teslin, Yukon** baz=25	77.06 344	P	P	20 26 34.0	+0.9
K20K	**Telida** baz=9.1	77.09 355	P	P	20 26 34.2	+1.1
WAT1	**Susitna Watana** baz=13	77.11 352	P	P	20 26 33.1	-0.2
J18K	**Innoko River** baz=7.0	77.15 356	P	P	20 26 34.7	+1.3
YUK4	**Talbot Arm** baz=21	77.15 347	P	P	20 26 34.2	+0.5
O30N	**Mendenhall** baz=23	77.22 346	P	P	20 26 34.8	+0.9
J17K	**VABM Dome** comp=Z,9.7nm,1.0s	77.33 357	IAmb	IAmb	20 26 36.5	
J17K	**VABM Dome** baz=5.2	77.33 357	P	P	20 26 35.8	+1.4
R33M	**Jennings River** comp=Z,4.3nm,0.8s	77.39 343	IAmb	IAmb	20 26 37.8	
R33M	**Jennings River** baz=27	77.39 343	P	P	20 26 36.8	+1.9
YUK8	**Steele Glacier** baz=20	77.40 348	P	P	20 26 36.0	+0.8
PPLA	**Purkeypile** baz=11	77.40 354	P	P	20 26 35.3	+0.4
HYT	**Haines Junctio** baz=22	77.43 346	P	P	20 26 36.1	+1.0
YUK6	**Outpost Mounta** baz=21	77.48 347	P	P	20 26 36.8	+1.2
J16K	**Anvik River** baz=4.0	77.50 358	P	P	20 26 36.9	+1.6
LRAL	**Lakeview Retre** baz=51	77.57 303	P	P	20 26 35.5	-0.8
TTA	**Tatalina** baz=7.6	77.64 356	P	P	20 26 37.5	+1.2
CUT	**Chulitna** baz=12	77.71 353	P	P	20 26 35.3	-1.2
MCARA	**McCarthy VSAT** baz=18	77.81 349	P	P	20 26 38.7	+1.6
N25K	**Chitina, Valde** baz=16	77.82 350	P	P	20 26 37.6	+0.4
L20K	**Farewell, AK** baz=9.2	77.94 354	P	P	20 26 38.8	+1.0
SCM	**Sheep Creek Mo** baz=14	77.95 351	P	P	20 26 39.5	+1.6
CTG	**Chitna Glacier** baz=19	77.96 348	P	P	20 26 39.2	+1.1
Q32M	**Nakina River** baz=26	78.08 343	P	P	20 26 40.1	+1.2
SML	**Sawmill** baz=14	78.09 352	P	P	20 26 39.3	+0.6
KLU	**Klutina** baz=15	78.11 350	P	P	20 26 39.4	+0.7
O29M	**Mount Kennedy** baz=21	78.11 347	P	P	20 26 39.7	+0.7
SKT	**Skwentna** baz=11	78.24 353	P	P	20 26 39.1	-0.4
L19K	**White Mountain** baz=8.5	78.31 355	P	P	20 26 41.0	+1.2
L18K	**Granite Mounta** baz=7.0	78.39 356	P	P	20 26 41.8	+1.6
M20K	**Styx River** baz=9.8	78.48 354	P	P	20 26 40.9	+0.1
PLBC	**Pleasant Camp** baz=23	78.49 345	P	P	20 26 42.2	+1.4
KNK	**Knik Glacier** baz=13	78.49 352	P	P	20 26 41.7	+0.9
K15K	**Wolf Creek Mou** baz=3.2	78.52 358	P	P	20 26 42.7	+1.8
S39A	**Bolivar** comp=Z,6.9nm,0.7s	78.53 310	IAmb	IAmb	20 26 41.7	
M19K	**Big River Lodg** baz=8.8	78.55 355	P	P	20 26 42.6	+1.5
L17K	**Donlin** baz=5.8	78.56 357	P	P	20 26 42.8	+1.7
P29M	**Windy Craggy** baz=22	78.59 346	P	P	20 26 42.5	+1.2
PINM	**Pinnacle** baz=20	78.60 347	P	P	20 26 42.7	+1.2
SUA	**Susitna One** baz=12	78.68 353	P	P	20 26 42.6	+0.6
S34M	**Telegraph Cree** baz=26	78.75 342	P	P	20 26 43.3	+1.1
RC01	**Rabbit Creek A** baz=12	78.94 352	P	P	20 26 43.7	+0.5
L16K	**Owhat River** baz=4.8	79.03 357	P	P	20 26 44.6	+1.0
M18K	**Stony River** baz=7.7	79.06 355	P	P	20 26 45.6	+1.8
N20K	**Mount Spurr** baz=10	79.07 353	P	P	20 26 44.7	+0.7
L15K	**Ungalak Mounta** baz=3.2	79.13 358	P	P	20 26 45.3	+1.1
N19K	**Bonanza Creek** baz=8.7	79.64 354	P	P	20 26 47.8	+0.7
M16K	**Timber Creek** baz=5.2	79.70 357	P	P	20 26 48.9	+1.6
EGMT	**Eagleton** baz=40	79.76 326	P	P	20 26 48.9	+0.9
N18K	**Kilae Creek** baz=7.6	79.87 355	P	P	20 26 49.5	+1.3
RSSD	**Black Hills** baz=44	79.98 320	P	P	20 26 49.6	+0.3
M15K	**Kasigluk River** baz=3.9	80.09 358	P	P	20 26 50.4	+1.1
N17K	**Nushagak Hills** baz=6.6	80.10 356	P	P	20 26 50.5	+1.1
O20K	**Slope Mountain** baz=10	80.21 353	P	P	20 26 50.6	+0.5
N16K	**Nishlik Lake** baz=5.4	80.24 357	P	P	20 26 51.8	+1.6
O19K	**Port Alsworth** baz=8.8	80.24 354	P	P	20 26 50.2	+0.1
HOM	**Homer** baz=11	80.54 353	P	P	20 26 50.2	-1.6
O18K	**Koktuh Hills** baz=8.1	80.65 355	P	P	20 26 53.0	+0.7
MIAR	**Mount Ida** baz=48	80.77 307	P	P	20 26 54.3	+0.9
T35A	**Sooner Cattle**	80.94 311	P	P	20 26 54.3	0.0
O16K	**Kokwok River B** baz=5.9	81.08 356	P	P	20 26 54.7	+0.1
P17K	**Kvichak River** baz=7.2	81.39 355	P	P	20 26 56.5	+0.4
Q19K	**Cape Douglas,** baz=9.3	81.44 354	P	P	20 26 56.8	+0.3
OK052	**Battle Ridge R**	81.74 310	P	P	20 26 58.4	-0.1
RLMT	**Red Lodge** baz=40	81.74 323	P	P	20 26 59.2	+0.6
Q17K	**Contact Creek** baz=7.6	82.28 355	P	P	20 26 59.8	-1.1
K22A	**Casper** baz=42	82.29 320	P	P	20 27 01.6	+0.2
KDAK	**Kodiak Island** baz=10	82.48 353	P	P	20 27 02.7	+0.9
NEW	**Newport** baz=36	82.62 330	P	P	20 27 02.8	0.0
H17A	**Grant Village** comp=Z,6.1nm,1.1s	82.90 324	IAmb	IAmb	20 27 08.8	
OHAK	**Old Harbor** baz=9.6	83.10 353	P	P	20 27 05.2	+0.2
N23A	**Red Feather La** baz=42	83.30 319	P	P	20 27 07.5	+0.8
BW06	**Boulder Array** baz=40	83.67 322	P	P	20 27 09.2	+0.7
PDAR	**Pinedale Array** comp=Z,0.8nm,0.6s,baz=60,slow=6.6,SNR=9.6 comp=Z,0.8nm,0.6s	83.67 322	P	P	20 27 08.2	-0.3
WMOK	**Wichita Mounta** baz=46	83.77 310	P	P	20 27 09.7	+0.9
ISCO	**Idaho Springs** baz=42	83.94 318	P	P	20 27 11.0	+1.0
SDCO	**Great Sand Dun** baz=42	85.39 316	P	P	20 27 17.6	+0.4
DUG	**Dugway, Tooele** baz=38	87.21 322	P	P	20 27 25.8	+0.1
JSU	**Suzuyama** comp=Z,5.6nm,1.3s	87.77 50	IAmb	IAmb	20 27 31.0	
HMU	**Henry Mountain** comp=Z,4.4nm,1.0s	87.96 320	IAmb	IAmb	20 27 30.1	
ANMO	**Albuquerque** baz=42	87.99 315	P	P	20 27 30.5	+0.9
DRIO	**Del Rio** comp=Z,4.7nm,1.0s	88.62 308	IAmb	IAmb	20 27 33.2	
MNTX	**Cornudas Mount** baz=42	89.79 312	P	P	20 27 37.4	-0.4
SOCE	**Pocosol** comp=Z,30nm,1.5s	90.33 284	IAmb	IAmb	20 27 55.6	
TXAR	**Lajitas Array** comp=Z,0.5nm,0.5s,baz=74,slow=3.2,SNR=4.7 comp=Z,0.5nm,0.5s	90.53 310	P	P	20 27 42.3	+1.0
NVAR	**Mina Array Bea** comp=Z,0.2nm,0.2s,baz=31,slow=2.4,SNR=2.4 comp=Z,0.2nm,0.2s	91.15 325	P	P	20 27 43.6	-0.6
SNCC	**San Nicolas Is** baz=34	95.98 323	P	P	20 28 04.4	-1.8
ELIB	**Princess Elisa**	111.31 177	*d*PKiKP	PKiKP	20 33 10.2	+0.6
ASAR	**Alice Springs**	127.04 92	PKiKP	PKPdf	20 33 41.0	-0.2
ASAR	**Alice Springs** comp=Z,0.1nm,0.4s,baz=300,slow=1.2,SNR=1.7	127.04 92	PKP	PKPdf	20 33 41.0	-0.2

*NNC **07** 20:31:17.8±2.4,41°09′N×74°37′E,h0km,mb2.9,mpv2.8,*
Error ellipse: s-maj=22.8km s-min=9.3km az=155.0
*SOME **07** 20:31:18.0,40.93°N×74.92°E,h5km*
ISC 07 20:31:17.4±3.5,40.8°N±0.1°×74.7°E±0.8°,h6km±22km,n13,
σ0=5.65/19,1C-1D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2** 0.8nm,0.6s	**2.18**	**17**	⇑Pg		**Pn**		**20 31 55.0**	**+0.6**
TKM2	0.7nm,0.3s			⇓Lg		Lg		20 32 23.7	
MRKS	**Merke** 0.1nm,0.0s	**2.21**	**330**	*e*P		**Pg**		**20 31 59.5**	**-0.2**
MRKS				*e*S		**Sg**		**20 32 29.4**	**+1.0**
KST	**Kastek** 0.4nm,0.1s	**2.38**	**22**	*e*P		**Pb**		**20 32 00.2**	**-0.7**
KST	2.4nm,0.4s			*e*S		**Sb**		**20 32 30.2**	**-0.4**

KST	**Kastek**	**2.38**	**22**	Pg	**Pb**	**20 32 00.2**	**-0.7**
	0.4nm,0.1s						
KST				Lg	Lg	20 32 30.2	
	2.4nm,0.4s						
DGS	**Degeres**	**2.52**	**18**	*eP*	**Pb**	**20 32 02.5**	**-0.7**
	1.6nm,0.3s						
DGS				*eS*	**Sb**	**20 32 34.3**	**-0.2**
	1.8nm,0.3s						
DGS	**Degeres**	**2.52**	**18**	Pg	**Pb**	**20 32 02.5**	**-0.7**
	1.6nm,0.3s						
DGS				Lg	Lg	20 32 34.3	
	1.8nm,0.3s						
KRBS	**Karabastau**	**2.94**	**14**	*eP*	**Pb**	**20 32 09.6**	**-0.6**
	0.4nm,0.5s						
KRBS				*eS*	**Sb**	**20 32 46.3**	**-0.2**
	1.5nm,0.4s						
KRBS	**Karabastau**	**2.94**	**14**	Pg	**Pb**	**20 32 09.6**	**-0.6**
	0.4nm,0.5s						
KRBS				Lg	Lg	20 32 46.3	
	1.5nm,0.4s						
KOTS	**Kotyrbulak**	**2.98**	**36**	*eP*	**Pb**	**20 32 10.8**	**-0.2**
	1.1nm,0.2s						
KOTS				*eS*	**Sb**	**20 32 48.6**	**+0.9**
	3.3nm,0.4s						
KOTS	**Kotyrbulak**	**2.98**	**36**	Pg	**Pb**	**20 32 10.8**	**-0.2**
	1.1nm,0.2s						
KOTS				Lg	Lg	20 32 48.6	
	3.3nm,0.4s						
KTBS	**Karatobe**	**3.21**	**26**	*eP*	**Pb**	**20 32 14.4**	**-0.6**
	0.7nm,0.3s						
KTBS				*eS*	**Sb**	**20 32 54.5**	**+0.1**
	1.3nm,0.4s						
KTBS	**Karatobe**	**3.21**	**26**	Pg	**Pb**	**20 32 14.4**	**-0.6**
	0.7nm,0.3s						
KTBS				Lg	Lg	20 32 54.5	
	1.3nm,0.4s						
DZA	**Taraz**	**3.26**	**310**	Pg	**Pb**	**20 32 15.3**	**-0.4**
	20nm,0.1s						
DZA				Lg	Lg	20 32 56.2	
	47nm,0.2s						

NNC 07 20:50:05.9±4.3, 36°31N×70°38E, h0km, mb4.1, mpv3.9, 3C-2D, Error ellipse: s-maj=44.4km s-min=36.8km az=66.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.79**	**1**	⇑P	Pn	20 51 48.1	+1.3
	5.7nm,0.5s,baz=187,slow=14,SNR=74						
KK31				⇓S	Sn	20 53 05.7	+1.0
	2.9nm,0.3s,baz=192,slow=24,SNR=10						
CHMS	**Chumysh**	**7.48**	**25**	⇑P	Pn	20 51 56.1	-0.2
	4.0nm,0.4s						
TKM2	**Tokmak 2**	**7.73**	**30**	⇓P	Pn	20 51 59.2	-0.7
	2.0nm,0.8s						
AB31	**Akbulak array**	**15.01**	**333**	P	Pn	20 53 38.0	-1.2
	2.0nm,0.5s,baz=157,slow=12,SNR=117						
AKTO	**Aktyubinsk**	**16.70**	**332**	⇑P	Pn	20 54 01.4	+0.3
	3.2nm,1.3s						

*NEIC **07** 20:51:53.1±1.7, 23°.94N±0°.05×98°.42E±0°.05, h10km±2km, mb4.4/4, Error ellipse: s-maj=9.5km s-min=6.3km az=47.0*
*IDC **07** 20:51:55.9±1.5, 23°.50N×98°.09E, h0km, mb3.7/4, mbtmp3.6/5, ML3.5/1, MS3.1/1, Error ellipse: s-maj=66.3km s-min=19.2km az=79.0*

ISC 07 20:51:56.0±0.7, 23°.82N±0°.03×98°.37E±0°.06, h10km, n21, σ2s95/35, mb3.8/5, 1D, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNCH	**TengChong**	**1.21**	**7**	Pn	**Pn**	**20 52 20.9**	**+1.6**
TNCH				Pg	Pg	20 52 24.6	+5.2
TNCH				Sg	**Sn**	**20 52 40.1**	**+4.2**
TNCH				smax	smax		
	comp=N,6μm,1.1s						
TNCH				smax	smax		
	comp=E,4μm,0.8s						
TNCH				LR	LR		
	comp=N,4μm,2.0s						
TNCH				LR	LR		
	comp=E,6μm,2.1s						
TNCH				LR	LR		
	comp=Z,520nm,1.8s						
MND	**Mandalay**	**2.74**	**230**		**Pn**	**20 52 37.5**	**-2.6**
PZH	**PanZhiHua**	**4.06**	**48**	Pn	**Pn**	**20 53 02.0**	**+3.6**
PZH				P*	**Pb**	**20 53 09.4**	**+1.7**
PZH				Pg	**Pg**	**20 53 13.7**	**-0.2**
PZH				Sn	**Sb**	**20 53 52.3**	**-4.7**
PZH				Sg	**Sg**	**20 54 08.7**	**+2.2**
PZH				smax	smax		
	comp=N,80nm,1.0s						
PZH				smax	smax		
	comp=E,80nm,1.1s						
PZH				LR	LR		
	comp=N,350nm,7.7s						
PZH				LR	LR		
	comp=E,370nm,7.8s						
PZH				LR	LR		
	comp=Z,540nm,7.5s						
KMI	**Kunming**	**4.19**	**71**	⇓Pg	**Pg**	**20 53 16.5**	**+0.2**
KMI				Sg	**Sg**	**20 54 09.5**	**-1.2**
KMI				smax	smax		
	comp=N,140nm,1.1s						
KMI				smax	smax		
	comp=E,140nm,1.4s						
KMI				LR	LR		
	comp=N,430nm,3.1s						
KMI				LR	LR		
	comp=E,560nm,6.3s						
CHTO	**Chiang Mai**	**5.01**	**174**		**Pn**	**20 53 08.8**	**-2.4**
CHTO				Pg	**Pb**	**20 53 25.9**	**+2.1**
CHTO					**Sb**	**20 54 24.1**	**0.0**
CM31	**Chiang Mai Arr**	**5.36**	**174**	Pn	**Pn**	**20 53 14.6**	**-1.5**
CM31					**Pb**	**20 53 30.8**	**+1.0**
CM31					**Sb**	**20 54 37.5**	**+3.2**
CMAR	**Chiang Mai Arr**	**5.36**	**174**		**Pn**	**20 53 14.8**	**-1.3**
CMAR				Pg	**Pb**	**20 53 32.1**	**+2.2**
CMAR					**Sb**	**20 54 37.9**	**+3.7**
CMAR	**Chiang Mai Arr**	**5.36**	**174**	Pn	**Pn**	**20 53 14.2**	**-2.0**
	comp=E,0.5nm,0.3s,baz=348,slow=13,SNR=24						
CMAR				Pg	**Pb**	**20 53 32.0**	**+2.2**
	comp=E,4.0nm,0.3s,baz=349,slow=16,SNR=29						
CMAR				Lg	Lg	20 54 36.5	
	comp=E,6.3nm,0.3s,baz=358,slow=17,SNR=5.0						
	comp=E,3.3nm,0.7s						
PHRA	**Phrae**	**5.57**	**161**		**Pn**	**20 53 17.8**	**-1.2**
PHRA				Pg	**Pb**	**20 53 36.4**	**+3.1**
PHRA					**Sb**	**20 54 43.9**	**+3.6**
SLVN	**Son La**	**5.68**	**115**	Pn	**Pn**	**20 53 17.7**	**-2.9**
SLVN				Pg	**Pg**	**20 53 42.6**	**-2.3**
UBPT	**Khong Chiam**	**10.81**	**140**	Pn	**Pn**	**20 54 29.3**	**-1.7**
ENH	**Enshi**	**11.81**	**55**	Pn	**Pn**	**20 54 41.0**	**-3.6**
WMQ	**Urumqi**	**21.80**	**339**	*eP*	**P**	**20 56 46.1**	**-2.1**
SONM	**Songino Array**	**24.81**	**13**	P	**P**	**20 57 23.2**	**+4.9**
	comp=E,0.4nm,0.8s,baz=186,slow=8.5,SNR=2.7						
	comp=E,0.4nm,0.8s						
MK31	**Makanchi Array**	**26.31**	**335**	P	**P**	**20 57 27.1**	**-4.8**
MKAR	**Makanchi Array**	**26.31**	**335**	P	**P**	**20 57 27.0**	**-4.8**
MKAR	**Makanchi Array**	**26.31**	**335**	P	**P**	**20 57 34.9**	**+3.1**
	comp=E,1.7nm,0.8s,baz=147,slow=11,SNR=18						
	comp=E,1.7nm,0.8s						
AAK	**Ala-Archa**	**27.25**	**319**	LR	LR	21 11 05.7	
	comp=E,40nm,19.2s,baz=3.5,slow=42						
GAR	**Garm**	**28.18**	**309**	P	**P**	**20 57 44.8**	**-4.0**
GAR				IAmb	IAmb	20 57 54.7	
	comp=Z,7.7nm,1.1s						
ZALV	**Zalesovo Beam**	**31.77**	**345**	P	P	20 58 25.0	+4.7
	comp=Z,0.4nm,0.3s,baz=169,slow=8.7,SNR=1.5						
	comp=Z,0.4nm,0.3s						
BVAR	**Borovoye Array**	**36.04**	**331**	P	**P**	**20 58 58.6**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=134,slow=10,SNR=3.0						
	comp=Z,0.7nm,0.6s						

*IDC **07** 20:56:58.9±1.7, 9°.61S×118°.04E, h0km, mb3.9/7, mbtmp3.9/8, ML3.2/1, Error ellipse: s-maj=65.3km s-min=23.3km az=53.0*
*DJA **07** 20:57:05.4±0.2, 10°S±3°×11°8E±°, h10km, M4.4/19, mb4.5/9, MLv4.3/19*
*NEIC **07** 20:57:07.1±1.2, 9°.65S±0°.06×118°.39E±0°.06, h66km±10km, mb4.2/11, Error ellipse: s-maj=11.2km s-min=4.3km az=135.0*

ISC 07 20:57:06.1±0.6, 9°.54S±0°.06×118°.43E±0°.05, h48km, n57, σ1s98/61, mb4.1/10, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.96**	**318**	P	**Pn**	**20 57 24.4**	**+1.1**
PLAI	**Plampang**	**0.96**	**318**	Pg	**Pn**	**20 57 23.8**	**+0.5**
PLAI				Sg	**Sn**	**20 57 36.7**	**+0.8**
TWSI	**Taliwang, Sumb**	**1.73**	**297**	P	**Pn**	**20 57 35.1**	**+1.4**
BASI	**Baing, Sumba**	**2.22**	**108**	P	**Pn**	**20 57 43.8**	**+3.4**
EDFI	**Ende, Flores**	**3.31**	**76**	P	**Pn**	**20 57 56.5**	**+0.9**
SRBI	**Singaraja**	**3.50**	**294**	P	**Pn**	**20 57 59.8**	**+1.8**
MMRI	**Maumere**	**3.86**	**77**		**Pn**	**20 58 04.2**	**+1.1**
MMRI	**Maumere**	**3.86**	**77**	P	**Pn**	**20 58 06.3**	**+3.3**
MMRI	**Maumere**	**3.86**	**77**	P	**Pn**	**20 58 06.8**	**+3.8**
JAGI	**Jajag, Banyuwa**	**4.36**	**284**		**Pn**	**20 58 10.8**	**+0.8**
JAGI				Sn	**Sn**	**20 58 59.8**	**+0.3**
JAGI	**Jajag, Banyuwa**	**4.36**	**284**	P	**Pn**	**20 58 11.7**	**+1.8**
JAGI	**Jajag, Banyuwa**	**4.36**	**284**	P	**Pn**	**20 58 11.6**	**+1.7**
ABJI	**Asem Bagus**	**4.50**	**292**	P	**Pn**	**20 58 13.4**	**+1.6**
BKSI	**Bulukumba**	**4.51**	**22**	P	**Pn**	**20 58 14.9**	**+2.9**
KAPI	**Kappang**	**4.69**	**16**		**Pn**	**20 58 16.9**	**+2.5**
KAPI					**Sn**	**20 59 07.6**	**+0.2**
KAPI	**Kappang**	**4.69**	**16**	P	**Pn**	**20 58 17.4**	**+3.1**
GMJI	**Gumukmas**	**5.09**	**284**	P	**Pn**	**20 58 21.6**	**+1.7**
BLJI	**Banyuglugur** 42nm,0.7s,0.5nm	**5.11**	**290**	P	**Pn**	**20 58 22.7**	**+2.6**
BBSI	**Bau Bau** 36nm,1.0s,0.2nm	**5.75**	**46**	P	**Pn**	**20 58 32.2**	**+3.3**
SOEI	**Soe**	**5.76**	**93**		**Pn**	**20 58 31.9**	**+2.7**
SOEI	**Soe**	**5.76**	**93**	P	**Pn**	**20 58 32.7**	**+3.5**
SOEI	**Soe** 79nm,1.1s,0.2nm	**5.76**	**93**	P	**Pn**	**20 58 32.7**	**+3.5**
PWJI	**Pagerwojo** 42nm,0.7s,0.2nm	**6.72**	**282**	P	**Pn**	**20 58 44.3**	**+2.0**
UGM	**Wanagama**	**7.99**	**281**	Pn	**Pn**	**20 59 00.1**	**+0.4**
UGM	**Wanagama**	**7.99**	**281**	P	**Pn**	**20 59 03.1**	**+3.4**
UGM	**Wanagama** 38nm,1.5s,0.3nm	**7.99**	**281**	P	**Pn**	**20 59 01.7**	**+2.0**
FITZ	**Fitzroy Crossi**	**11.01**	**141**	Pn	**Pn**	**20 59 38.9**	**-2.1**
FITZ	**Fitzroy Crossi**	**11.01**	**141**	P	**Pn**	**20 59 41.9**	**+0.8**
MBWA	**Marble Bar**	**11.62**	**174**	Pn	**Pn**	**20 59 47.0**	**-2.4**
MBWA	**Marble Bar**	**11.62**	**174**	P	**Pn**	**20 59 50.8**	**+1.4**
KNRA	**Kununurra**	**11.78**	**122**	Pn	**Pn**	**20 59 52.2**	**+0.6**
KNRA	**Kununurra**	**11.78**	**122**	P	**Pn**	**20 59 53.9**	**+2.3**
MTN	**Manton Dam**	**12.88**	**106**	Pn	**Pn**	**21 00 04.7**	**-2.0**
GIRL	**Giralia**	**13.63**	**197**	Pn	**Pn**	**21 00 16.7**	**-0.2**
GIRL	**Giralia**	**13.63**	**197**	P	**Pn**	**21 00 18.3**	**+1.4**
FAKI	**Fak Fak**	**15.22**	**65**	Pn	**Pn**	**21 00 39.0**	**+0.9**
WRKA	**Warakurna**	**18.04**	**150**	P	**Pn**	**21 01 15.4**	**+1.9**
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=297,slow=14,SNR=0.9	**18.52**	**126**	P	**P**	**21 01 18.4**	**-0.2**
WRA				S	Sn	21 04 34.0	-11
	0.7nm,0.8s,baz=302,slow=26,SNR=1.0						
	0.3nm,0.7s						
WB2	**Warramunga Arr**	**18.52**	**126**	P	**P**	**21 01 16.6**	**-2.2**
WB2				IAmb	IAmb	21 01 21.7	
	comp=Z,13nm,1.4s						
WR0	**Warramunga Arr**	**18.69**	**125**	P	**P**	**21 01 19.4**	**-1.1**
ASAR	**Alice Springs**	**20.39**	**135**	P	**P**	**21 01 37.2**	**-1.9**
ASAR	**Alice Springs**	**20.39**	**135**	P	**P**	**21 01 41.0**	**+1.9**
	comp=Z,1.7nm,1.0s,baz=319,slow=11,SNR=8.4						
ASAR				S	**S**	**21 05 21.8**	**-3.3**
	comp=Z,0.5nm,0.8s,baz=321,slow=28,SNR=3.5						
	comp=Z,1.7nm,1.0s						
COEN	**Coen**	**24.61**	**103**	P	**P**	**21 02 22.1**	**-0.1**
COEN				IAmb	IAmb	21 02 46.3	
	comp=Z,16nm,1.1s						
KSRS	**Korea Array**	**47.59**	**10**	P	**P**	**21 05 37.7**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=190,slow=10,SNR=6.3						
	comp=Z,1.1nm,0.6s						
USRK	**Ussuriysk Ar.**	**54.88**	**12**	P	**P**	**21 06 32.1**	**+0.4**
USRK	**Ussuriysk Ar.**	**54.88**	**12**	P	**P**	**21 06 31.9**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=188,slow=6.7,SNR=13						
	comp=Z,1.9nm,0.5s						
SONM	**Songino Array**	**58.11**	**350**	P	**P**	**21 06 52.7**	**-2.2**
SONM				IAmb	IAmb	21 06 55.3	
	comp=Z,0.7nm,0.6s						
SONM	**Songino Array**	**58.11**	**350**	P	**P**	**21 06 54.7**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=168,slow=7.8,SNR=11						
	comp=Z,0.8nm,0.5s						
MK31	**Makanchi Array**	**64.69**	**333**	P	**P**	**21 07 37.9**	**-1.2**
MKAR	**Makanchi Array**	**64.69**	**333**	P	**P**	**21 07 37.7**	**-1.4**
MKAR	**Makanchi Array**	**64.69**	**333**	P	**P**	**21 07 38.4**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=146,slow=7.4,SNR=18						
	comp=Z,1.2nm,0.7s						
GAR	**Garm**	**65.80**	**321**	P	**P**	**21 07 45.6**	**-1.0**
GAR				IAmb	IAmb	21 07 46.3	
	comp=Z,6.2nm,0.9s						
KURK	**Kurchatov**	**69.24**	**334**	P	**P**	**21 08 06.8**	**-1.1**
KURK				IAmb	IAmb	21 08 44.4	
	comp=Z,2.6nm,1.2s						
ZALV	**Zalesovo Beam**	**69.35**	**340**	P	**P**	**21 08 06.5**	**-2.0**
ZALV	**Zalesovo Beam**	**69.35**	**340**	P	**P**	**21 08 07.0**	**-1.5**
	comp=Z,1.9nm,0.6s,baz=156,slow=5.3,SNR=9.1						
	comp=Z,1.9nm,0.6s						
BVAR	**Borovoye Array**	**74.51**	**332**	P	**P**	**21 08 38.3**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=146,slow=10,SNR=3.0						
	comp=Z,0.8nm,0.6s						
ABKAR	**Akbulak array**	**77.68**	**325**	P	**P**	**21 08 56.1**	**-1.5**
ABKAR				IAmb	IAmb	21 09 15.4	
	comp=Z,2.6nm,1.3s						

*CATAC **07** 21:00:21.5±0.7, 12°.92N×88°.96W, h27km±6km, ML3.8*
*SNET **07** 21:00:22.1±1.5, 12°.96N×88°.95W, h42km±26km, ML3.8*

ISC 07 21:00:21.7±1.6, 12°.90N±0°.10×88°.97W±0°.05, h45km±33km, n51, σ0s48/69, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.67**	**16**	*eP*	**Pn**	**21 00 34.6**	**-0.3**
TECO				*eS*	**Sn**	**21 00 44.2**	**-0.2**
TECO	**Alcaldia de Te**	**0.67**	**16**	*i* P	**Pn**	**21 00 34.6**	**-0.3**
TECO				IAML		21 00 47.2	
	comp=Z,6μm,1.0s						
LALI	**Alcalda de L**	**0.68**	**330**	*eP*	**Pn**	**21 00 35.4**	**+0.3**
LALI	**Alcalda de L**	**0.68**	**330**	*i* P	**Pn**	**21 00 35.2**	**+0.2**
LALI				*i* S	**Sn**	**21 00 44.0**	**-0.6**
LALI				IAML		21 00 44.3	
	comp=Z,2μm,1.0s						
SJTE	**Alcalda de S**	**0.71**	**357**	*eP*	**Pn**	**21 00 35.4**	**-0.1**
SJTE				*eS*	**Sn**	**21 00 45.6**	**0.0**
SJTE	**Alcalda de S**	**0.71**	**357**	*i* P	**Pn**	**21 00 35.5**	**-0.1**
SJTE				*i* S	**Sn**	**21 00 45.4**	**-0.2**
SJTE				IAML		21 00 46.5	
	comp=Z,4μm,1.0s						
COEG	**Centro de Oper**	**0.73**	**7**	*eP*	**Pn**	**21 00 35.5**	**-0.2**
COEG	**Centro de Oper**	**0.73**	**7**	*i* P	**Pn**	**21 00 35.6**	**-0.2**
COEG				*i* S	**Sn**	**21 00 45.8**	**0.0**
COEG				IAML		21 00 49.6	
	comp=Z,4μm,1.0s						
LFRS	**El Faro**	**0.73**	**353**	*eP*	**Pn**	**21 00 35.1**	**-0.7**
COEB	**Comit de Eme**	**0.74**	**36**	*i* P	**Pn**	**21 00 37.0**	**+1.1**
COEB				*i* S	**Sn**	**21 00 47.8**	**+1.6**
COEB				IAML		21 00 49.5	
	comp=Z,2μm,1.0s						
TECA	**Tecapa**	**0.75**	**38**	*eP*	**Pn**	**21 00 36.3**	**+0.1**
UESV	**Universidad de**	**0.76**	**14**	*i* P	**Pn**	**21 00 36.1**	**0.0**
UESV				IAML		21 00 36.4	
	comp=Z,6μm,1.0s						
UESV				*i* S	**Sn**	**21 00 46.6**	**0.0**
LOMA	**Loma Larga**	**0.77**	**346**	*eP*	**Pn**	**21 00 36.3**	**-0.1**
LOMA	**Loma Larga**	**0.77**	**346**	*i* P	**Pn**	**21 00 36.3**	**-0.1**
LOMA				*i* S	**Sn**	**21 00 46.5**	**-0.5**
LOMA				IAML		21 00 49.5	
	comp=Z,4μm,1.0s						
JUCU	**Jucuarįn**	**0.79**	**63**	*i* P	**Pn**	**21 00 36.3**	**-0.3**
JUCU				*i* S	**Sn**	**21 00 47.0**	**-0.4**
JUCU				IAML		21 00 49.6	
	comp=Z,3μm,1.0s						
PAVA	**Las Pavas**	**0.81**	**3**	*eP*	**Pn**	**21 00 37.0**	**+0.1**
PAVA				*eS*	**Sn**	**21 00 48.4**	**+0.3**
PAVA	**Las Pavas**	**0.81**	**3**	*i* P	**Pn**	**21 00 37.0**	**+0.1**
PAVA				*i* S	**Sn**	**21 00 48.0**	**0.0**
PAVA				IAML		21 00 49.0	
	comp=Z,13μm,1.0s						
SNET	**Serv Nac Est T**	**0.83**	**342**	*i* P	**Pn**	**21 00 36.7**	**-0.4**
SNET				IAML		21 00 49.5	
	comp=Z,4μm,1.0s						
PQSS	**Presa 15 de Se**	**0.83**	**29**	*i* P	**Pn**	**21 00 37.3**	**+0.3**
PQSS				*i* S	**Sn**	**21 00 48.5**	**+0.3**
PQSS				IAML		21 00 49.5	
	comp=Z,19μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.84**	**17**	*eP*	**Pn**	**21 00 37.4**	**+0.2**
SCLA				*eS*	**Sn**	**21 00 49.1**	**+0.6**
SCLA	**Alcaldia de Sa**	**0.84**	**17**	*i* P	**Pn**	**21 00 37.2**	**0.0**
SCLA				IAML		21 00 51.2	
	comp=Z,2μm,1.0s						
LCY	**Lacayo**	**0.84**	**52**	*eP*	**Pn**	**21 00 37.4**	**0.0**
PACA	**Pacayal**	**0.85**	**48**	*eP*	**Pn**	**21 00 37.8**	**+0.3**
PACA				*eS*	**Sn**	**21 00 49.9**	**+0.9**
PACA	**Pacayal**	**0.85**	**48**	*i* P	**Pn**	**21 00 37.6**	**+0.1**
PACA				IAML		21 00 50.5	
	comp=Z,48μm,1.0s						
RANC	**El Ranchito**	**0.86**	**51**	*i* P	**Pn**	**21 00 37.5**	**0.0**
RANC				IAML		21 00 52.3	
	comp=Z,3μm,1.0s						
UEES	**Universidad Ev**	**0.86**	**343**	*i* P	**Pn**	**21 00 37.9**	**+0.4**
UEES				IAML		21 00 52.4	
	comp=Z,3μm,1.0s						
VSM	**San Miguel**	**0.86**	**52**	*eP*	**Pn**	**21 00 37.8**	**0.0**
PMON	**Piamonte**	**0.88**	**338**	*i* P	**Pn**	**21 00 37.6**	**-0.2**
PMON				IAML		21 00 51.4	
	comp=Z,4μm,1.0s						
JAYA	**Jayaque - finc**	**0.89**	**329**	*eP*	**Pn**	**21 00 37.9**	**-0.1**
JAYA				*eS*	**Sn**	**21 00 49.2**	**-0.6**
JAYA	**Jayaque - finc**	**0.89**	**329**	*i* P	**Pn**	**21 00 37.7**	**-0.3**
JAYA				IAML		21 00 52.6	
	comp=Z,7μm,1.0s						
PIC2	**El Picacho**	**0.89**	**342**	*eP*	**Pn**	**21 00 38.2**	**+0.2**
CEVE	**Cerro Verde**	**1.12**	**326**	*i* P	**Pn**	**21 00 42.2**	**+0.9**
CEVE				IAML		21 01 06.3	
	comp=Z,2μm,1.0s						
LCND	**La Caada**	**1.13**	**69**	*eP*	**Pn**	**21 00 41.3**	**+0.1**
LCND				*eS*	**Sn**	**21 00 55.8**	**+0.2**
LCND	**La Caada**	**1.13**	**69**	*i* P	**Pn**	**21 00 41.5**	**+0.3**
LCND				IAML		21 00 59.7	
	comp=Z,2μm,1.0s						
SNJE	**San Jose**	**1.15**	**328**	*eP*	**Pn**	**21 00 41.8**	**+0.3**
CNCH	**Conchagua**	**1.17**	**71**	*eP*	**Pn**	**21 00 41.8**	**0.0**
CNCH				*eS*	**Sn**	**21 00 54.8**	**-1.9**
CNCH	**Conchagua**	**1.17**	**71**	*i* P	**Pn**	**21 00 41.4**	**-0.4**
CNCH				IAML		21 00 57.9	
	comp=Z,3μm,1.0s						
UNIC	**Universidad Ca**	**1.22**	**333**	*i* P	**Pn**	**21 00 42.6**	**+0.2**
UNIC				IAML		21 00 42.9	
	comp=Z,890nm,1.0s						
LLGN	**La Laguna**	**1.26**	**1**	*i* P	**Pn**	**21 00 42.7**	**-0.3**
LLGN				IAML		21 00 43.0	
	comp=Z,510nm,1.0s						
NUBE	**Las Nubes**	**1.27**	**322**	*eP*	**Pn**	**21 00 43.5**	**+0.3**
NUBE				*eS*	**Sn**	**21 00 59.3**	**+0.1**
NUBE	**Las Nubes**	**1.27**	**322**	*i* P	**Pn**	**21 00 43.4**	**+0.2**
NUBE				IAML		21 01 03.1	
	comp=Z,2μm,1.0s						
CSGN	**Cosiguina Volc**	**1.38**	**86**	*i* P	**Pn**	**21 00 45.0**	**+0.4**
CSGN				IAML		21 01 12.6	
	comp=Z,3μm,1.0s						
POTN	**Potosi Cosigui**	**1.44**	**86**	*i* P	**Pn**	**21 00 45.8**	**+0.5**
POTN				IAML		21 01 06.6	
	comp=Z,180nm,1.0s						
MTO3	**Montecristo**	**1.54**	**346**	*eP*	**Pn**	**21 00 47.0**	**0.0**
MTO3	**Montecristo**	**1.54**	**346**	*i* P	**Pn**	**21 00 47.0**	**0.0**
MTO3				IAML		21 00 47.2	
	comp=Z,190nm,1.0s						
PKGN	**Cerro Pekin**	**1.96**	**96**	*i* P	**Pn**	**21 00 53.2**	**+0.7**
PKGN				IAML		21 01 17.9	
	comp=Z,1μm,1.0s						
TELN	**Telica**	**2.11**	**98**	*i* P	**Pn**	**21 00 54.3**	**-0.4**
TELN				IAML		21 01 22.2	
	comp=Z,42nm,1.0s						
COPN	**Copaltepe**	**2.43**	**107**	*i* P	**Pn**	**21 00 59.6**	**+0.6**
COPN				IAML		21 01 37.1	
	comp=Z,140nm,1.0s						
LIMN	**Finca el Limon**	**2.55**	**86**	*i* P	**Pn**	**21 01 00.6**	**-0.1**
LIMN				IAML		21 01 36.0	
	comp=Z,92nm,1.0s						
RCPN	**Sur Rio San Ju**	**2.87**	**77**	*i* P	**Pn**	**21 01 04.6**	**-0.6**
RCPN				IAML		21 01 52.3	
	comp=Z,0.6nm,1.0s						
BOAB	**BOACO BROADBAN**	**3.26**	**97**	*i* P	**Pn**	**21 01 09.9**	**-0.4**
BOAB				IAML		21 01 38.3	
	comp=Z,33nm,1.0s						

*IDC **07** 21:13:05.9±0.4, 19°.77N×95°.81E, h0km, mb4.9/33, mbtmp4.8/36, ML4.9/2, MS4.2/59, Error ellipse: s-maj=12.7km s-min=9.6km az=40.0*
*BJI **07** 21:13:05.5±0.0, 19°.71N×95°.86E, h10km, mb4.7/68, mB5.0/49, ML5.2/3, Ms4.9/77, Ms7 4.5/69*
*MOS **07** 21:13:05.6±0.9, 19°.71N×95°.80E, h11km, mb5.4/116, MS4.3/8, Error ellipse: s-maj=8.4km s-min=3.9km az=119.2*
*NEIC **07** 21:13:08.4, 19°.74N×95°.74E, h12km, Moment Tensor Solution. Duration: 1s3 Moment tensor: Scale 10¹⁶Nm; Mrr 0.37; Mθθ -0.21; Mφφ -0.16; Mrθ 0.50; Mθφ 1.67; Mφr -0.56; Fault plane solution: M₀1.78000×10¹⁶ NP1:φs0.57000°, δ80.21000°, λ-165.72000°. NP2:φs268.09000°, δ75.93000°, λ-10.10000°. Principal axes: T 1.4878, Plg3.0000°, Azm134.0000°; N 0.5906, Plg73.0000°, Azm34.0000°; P -2.0784, Plg17.0000°, Azm225.0000°;*
*NEIC **07** 21:13:08.4, 19°.84N×95°.95E, h12km*
*NEIC **07** 21:13:08.0±1.2, 19°.83N±0°.05×95°.94E±0°.05, h10km±1km, mb5.3/177, Mww4.8/9, Error ellipse: s-maj=8.6km s-min=7.9km az=187.0*
*GCMT **07** 21:13:09.0±0.3, 19°.76N±0°.02×96°.00E±0°.01, h20km±1km, MW4.9/96, Moment Tensor Solution. s23,c24; s96,c142; Duration: 0 Moment tensors: Scale 10¹⁶Nm; Mrr 0.49±.10; Mθθ -0.45±.08; Mφφ -0.03±.08; Mrθ -0.54±.16; Mθφ 2.43±.08; Mφr -0.17±.15; Best double couple: M₀2.51700×10¹⁶

TNCH LR LR
comp=N,21μm,4.0s
TNCH LR LR
comp=E,18μm,3.2s
TNCH LR LR
comp=Z,8μm,7.8s
AGT Agartala 5.89 315 *e*P **Pn 21 14 34.5 -0.7**
KOHI KOHIMA 6.11 345 *e*P **Pn 21 14 41.8 +3.4**
SHL Shillong 6.81 328 *e*P **Pn 21 14 49.3 +1.3**
NONG Nongkai 7.13 103 P **Pn 21 14 51.3 -1.0**
DGPR DIGLIPUR 7.14 203 *e*P **Pn 21 14 55.6 +3.1**
DGPR eS **Sn 21 16 12.7 -0.7**
GUWA GUWAHATI 7.43 330 *e*P **Pn 21 14 56.0 -0.3**
ITAN ITANAGAR 7.57 346 *e*P **Pn 21 15 00.0 +1.7**
ZIRO ZIRO 7.91 347 *e*P **Pn 21 15 03.8 +0.7**
KMI Kunming 8.30 49 ⇑P Pn 21 15 13.6 +5.0
KMI smax smax
comp=N,540nm,1.4s
KMI smax smax
comp=E,400nm,1.3s
KMI LR LR
comp=N,4μm,5.6s
KMI LR LR
comp=E,4μm,9.0s
KMI LR LR
comp=Z,5μm,14.4s
PZH PanZhiHua 8.61 38 P **Pn 21 15 16.7 +4.0**
PZH S **Sn 21 16 50.1 +0.3**
PZH SS **SnSn 21 17 01.0 -0.8**
PZH pmax pmax
comp=Z,80nm,1.2s
PZH pmax pmax
comp=Z,280nm,3.5s
PZH LR LR
comp=N,5μm,10.9s
PZH LR LR
comp=E,5μm,8.2s
PZH LR LR
comp=Z,5μm,11.1s
PBA Port Blair 8.62 201 *e*P **Pn 21 15 15.2 +2.5**
PBA eS **Sn 21 16 49.6 -0.2**
GTK Tadong 10.00 320 *e*P **Pn 21 15 32.4 +0.6**
BOK Bokaro 10.06 295 *e*P **Pn 21 15 35.5 +2.9**
BOK eS **Sn 21 17 20.9 -4.4**
UBPT Khong Chiam 10.23 115 Pn **Pn 21 15 34.2 -0.6**
UBPT Khong Chiam 10.23 115 P **Pn 21 15 35.3 +0.5**
LSA Lhasa 10.74 338 Pn **Pn 21 15 42.9 +0.7**
LSA Lhasa 10.74 338 P **Pn 21 15 42.9 +0.7**
LSA Lhasa 10.74 338 *i* P **Pn 21 15 43.0 +0.7**
SNR=51
LSA Lhasa 10.74 338 P **Pn 21 15 43.9 +1.7**
LSA S **Sn 21 17 49.1 +6.5**
SRIT Nakonsritamara 11.71 161 Pn **Pn 21 15 54.6 -0.5**
GYA Guiyang 11.97 54 ⇑*i*P **Pn 21 16 00.3 +1.6**
GYA S **Sn 21 18 17.3 +5.1**
GYA pmax pmax
comp=Z,20nm,1.4s
GYA pmax pmax
comp=Z,330nm,4.4s
GYA LR LR
comp=N,4μm,11.0s
GYA LR LR
comp=E,3μm,13.6s
GYA LR LR
comp=Z,4μm,13.0s
CD2 Chengdu 13.18 31 P **Pn 21 16 16.4 +1.2**
CD2 S **Sn 21 18 42.0 +0.4**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 LR LR
comp=N,5μm,10.6s
CD2 LR LR
comp=E,4μm,9.4s
CD2 LR LR
comp=Z,2μm,8.2s
QIZ Qiongzhong 13.24 91 P **Pn 21 16 15.1 -1.0**
QIZ S **Sn 21 18 42.3 -0.9**
QIZ LR LR
comp=N,8μm,13.5s
QIZ LR LR
comp=E,3μm,12.4s
QIZ LR LR
comp=Z,2μm,7.3s
LHMI Lhok Sumawe 14.52 176 Pn **Pn 21 16 35.3 +1.8**
LHMI Lhok Sumawe 14.52 176 P **P 21 16 37.1 -3.0**
LHMI Lhok Sumawe 14.52 176 P **P 21 16 37.2 -2.9**
269nm,0.8s,2μm
KULM Kulim 15.16 161 Pn **Pn 21 16 41.4 -0.8**
MLSI Meulaboh, Aceh 15.44 178 P **P 21 16 49.2 -1.2**
112nm,0.9s
IPM Ipoh 16.04 161 Pn **Pn 21 16 51.9 -1.8**
IPM Ipoh 16.04 161 P **P 21 16 57.1 0.0**
ENH Ênshi 16.17 47 Pn **Pn 21 16 52.5 -2.8**
ENH Enshi 16.17 47 P **Pn 21 16 54.2 -1.1**
KCSI Kotacane, Aceh 16.28 173 P **P 21 16 58.9 -0.8**
146nm,1.3s,2μm
GOMU GeErMu 16.37 357 P **Pn 21 16 56.3 -1.8**
GOMU S **Sn 21 19 57.2 -2.6**
GOMU pmax pmax
comp=Z,6.0nm,0.9s
GOMU LR LR
comp=N,700nm,12.6s
GOMU LR LR
comp=E,2μm,12.2s
GOMU LR LR
comp=Z,580nm,12.2s
MDRS Chennai 16.37 248 *ex* **P 21 17 05.4 +4.7**
MDRS *ex* x 21 19 49.8
HYB Hyderabad 16.55 265 *e*P **Pn 21 17 00.8 +0.6**
HYB Hyderabad 16.55 265 *ex* **P 21 17 07.0 +4.3**
GZH Guangzhou 16.63 76 P **P 21 17 04.5 +1.0**
GZH S **S 21 20 14.7 -2.3**
GZH LR LR
comp=N,780nm,3.9s
GZH LR LR
comp=E,2μm,9.9s
PTH Pithoragarh 17.18 307 *e*P **Pn 21 17 08.8 +0.5**
PTH *ex* x 21 20 09.5
SNSI Sinabang, Aceh 17.28 178 P **Pn 21 17 09.7 +0.3**
81nm,0.6s
LZH Lanzhou 17.70 22 *e*P **P 21 17 15.2 -0.2**
LZH pP sP 21 17 21.0 -0.4
LZH S **Sn 21 20 21.6 -10**
LZH SS **SnSn 21 20 52.2 +6.7**
LZH pmax pmax
comp=Z,30nm,1.2s
LZH pmax pmax
comp=Z,380nm,5.5s
LZH LR LR
comp=N,2μm,11.3s
LZH LR LR
comp=E,4μm,11.0s
LZH LR LR
comp=Z,3μm,12.0s
CNSH ChangSha 17.70 59 *e*P **P 21 17 15.3 -0.1**
CNSH PP **PnPn 21 17 33.5 +8.3**
CNSH S **Sn 21 20 28.8 -2.8**
CNSH pmax pmax
comp=Z,13nm,0.9s
CNSH LR LR
comp=N,6μm,11.2s
CNSH LR LR
comp=E,4μm,9.6s
CNSH LR LR
comp=Z,2μm,17.0s
XAN Xi'an 18.35 37 ⇓P **Pn 21 17 20.7 -1.8**
XAN S **S 21 20 53.2 +1.2**
XAN pmax pmax
comp=Z,96nm,1.0s
XAN pmax pmax
comp=Z,460nm,7.3s
XAN LR LR
comp=N,2μm,12.1s
XAN LR LR
comp=E,2μm,13.6s
XAN LR LR
comp=Z,2μm,12.4s
GSI Gunungsitoli 18.45 174 P **P 21 17 21.5 -2.2**
GSI Gunungsitoli 18.45 174 P **P 21 17 22.0 -1.7**
54nm,1.0s,963nm
PALK Pallekele 19.25 232 P **Pn 21 17 33.3 -0.2**
PALK Pallekele 19.25 232 *i* P **Pn 21 17 35.1 +1.6**
PALK Pallekele 19.25 232 P **P 21 17 32.5 0.0**
4.8nm,0.9s,baz=153,slow=14,SNR=1.8
PALK S Sn 21 20 52.8 -16
2.9nm,0.6s,baz=100,slow=13,SNR=1.7
PALK LR LR 21 25 57.0
comp=Z,519nm,18.7s,baz=159,slow=40
PALK Pallekele 19.25 232 P **Pn 21 17 35.0 +1.5**
PALK P **Pn 21 17 35.0 +1.5**
PALK S **Sn 21 21 06.3 -2.9**
PALK S **Sn 21 21 06.3 -2.9**
MYKOM Kota Tinggi 19.53 155 P **P 21 17 34.9 -0.7**
MYKOM IAmb IAmb 21 17 39.7
comp=Z,160nm,1.4s
GTA Gaotai 19.85 9 P **P 21 17 39.5 +0.4**
GTA pP sP 21 17 44.8 -0.3
GTA S **S 21 21 22.9 +0.6**
GTA sS sS 21 21 27.8 -1.1
GTA pmax pmax
comp=Z,8.0nm,0.7s
GTA pmax pmax
comp=Z,90nm,3.9s
GTA LR LR
comp=Z,900nm,12.4s
GTA LR LR
comp=Z,690nm,10.3s
GTA LR LR
comp=Z,850nm,11.3s
WHN Wuhan 19.86 54 ⇑P **Pn 21 17 40.4 -0.3**
WHN pP **pP 21 17 43.7 +0.5**
WHN S **Sn 21 21 23.1 -0.6**
WHN pmax pmax
comp=Z,230nm,1.2s
WHN LR LR
comp=Z,12μm,9.5s
WHN LR LR
comp=Z,7μm,9.4s
WHN LR LR
comp=Z,4μm,10.7s
PBSI Pulau Batu 19.87 173 P **Pn 21 17 40.1 -0.8**
comp=Z,129nm,1.0s
BKNI Bangkinang 20.01 165 P **P 21 17 40.4 -0.3**
SMLA Simla 20.25 308 *ex* **P 21 17 43.9 +0.6**
SMLA IAmb IAmb 21 17 49.6
comp=Z,92nm,0.8s
TPRI Tanjung Pinang 20.60 155 P **P 21 17 48.1 +0.9**
comp=Z,167nm,0.9s,comp=Z,1μm
LYN LuoYang 20.82 42 ⇓P Pn 21 17 50.9 -1.0
LYN pP sP 21 17 54.4 -1.1
LYN sP pP 21 17 58.4 +4.8
LYN S **S 21 21 40.7 -0.7**
LYN pmax pmax
comp=Z,28nm,1.2s
LYN pmax pmax
comp=Z,320nm,4.3s
LYN LR LR
comp=Z,2μm,10.0s
LYN LR LR
comp=Z,3μm,9.9s
LYN LR LR
comp=Z,3μm,16.0s
PDSI Padang 21.07 167 P **P 21 17 53.1 +0.8**
comp=Z,46nm,1.1s
SISI Saibi 21.23 171 P **P 21 17 54.5 +0.5**
comp=Z,146nm,0.8s,comp=Z,2μm
DHRM DHARAMSHALA 21.45 309 *ex* **P 21 17 57.7 +1.2**
DSRI Dabo 21.89 156 P **P 21 18 02.1 +0.9**
comp=Z,85nm,1.0s,comp=Z,892nm
KRJI Kerinci 22.44 165 P **P 21 18 07.2 +0.1**
comp=Z,87nm,0.6s
JMBI JAMBI 22.63 159 P **P 21 18 10.0 +1.0**
comp=Z,197nm,0.8s
TIY Taiyuan 22.97 35 *e*P **P 21 18 18.0 +5.4**
TIY S **S 21 22 19.9 -2.7**
TIY pmax pmax
comp=Z,22nm,0.5s
TIY pmax pmax
comp=Z,160nm,4.3s
TIY LR LR
comp=N,1μm,11.7s
TIY LR LR
comp=E,1μm,14.8s
TIY LR LR
comp=Z,1μm,12.7s
SBUM Sibu 23.53 135 P **P 21 18 17.5 -0.8**
TWG Pinlang 23.70 78 P **P 21 18 20.1 +0.1**
TWG IAmb IAmb 21 18 27.4
comp=Z,78nm,1.1s
NJ2 Nanjing 23.98 55 *e*P **P 21 18 23.1 +0.6**
NJ2 pP **pP 21 18 25.9 -1.0**
NJ2 sP **sP 21 18 27.3 -1.4**
NJ2 S **S 21 22 43.1 +4.2**
NJ2 pmax pmax
comp=Z,17nm,1.0s
NJ2 pmax pmax
comp=Z,240nm,3.8s
NJ2 LR LR
comp=Z,4μm,8.5s
NJ2 LR LR
comp=Z,2μm,8.5s
NJ2 LR LR
comp=Z,1μm,10.9s
BTO Baotou 24.04 27 *e*P **P 21 18 21.7 -1.4**
BTO pP **pP 21 18 26.2 -1.3**
BTO sP **sP 21 18 29.1 -0.2**
BTO PP **PnPn 21 18 57.6 +5.6**
BTO S **S 21 22 40.3 +0.4**
BTO SS **SnSn 21 23 25.2 +4.5**
BTO pmax pmax
comp=Z,170nm,0.7s
BTO LR LR
comp=Z,4μm,11.0s
BTO LR LR
comp=Z,7μm,11.7s
BTO LR LR
comp=Z,2μm,8.8s
PPBI Pangkal Pinang 24.05 154 P **P 21 18 23.8 +0.6**
HNS HongShan 24.05 39 ⇑P **P 21 18 23.5 +0.4**
HNS S **S 21 22 44.1 +4.1**
HNS pmax pmax
comp=Z,18nm,1.4s
HNS LR LR
comp=Z,1μm,10.1s
HNS LR LR
comp=Z,650nm,9.3s
HNS LR LR
comp=Z,870nm,18.2s
KKM Kota Kinabalu 24.07 122 P **P 21 18 23.4 -0.2**
NIL Nilore 24.37 309 P **P 21 18 25.0 -1.2**
NIL Nilore 24.37 309 P **P 21 18 25.0 -1.2**
NIL pmax pmax
comp=Z,471nm,1.6s
NIL Nilore 24.37 309 P **P 21 18 28.3 +2.2**
TGY Tagaytay City 24.66 99 LR LR 21 28 11.0
comp=Z,330nm,18.3s,baz=290,slow=37
LHSI Lahat 24.66 161 P **P 21 18 29.3 +0.5**
comp=Z,202nm,0.8s,comp=Z,4μm
TIA Tai'an 24.83 44 *e*P **P 21 18 29.4 -0.9**
TIA pmax pmax
comp=Z,6.0nm,0.8s
TIA pmax pmax
comp=Z,79nm,4.0s
TIA LR LR
comp=Z,740nm,12.2s
TIA LR LR
comp=Z,480nm,11.5s
TIA LR LR
comp=Z,740nm,11.5s
WMQ Urumqi 24.91 346 *e*P **P 21 18 32.8 +1.8**
WMQ sP sP 21 18 40.2 +3.0
WMQ S **S 21 22 50.5 -3.4**
WMQ pmax pmax
comp=Z,88nm,0.9s
WMQ pmax pmax
comp=Z,360nm,4.7s
WMQ LR LR
comp=Z,540nm,11.7s
WMQ LR LR
comp=Z,860nm,15.1s
WMQ LR LR
comp=Z,250nm,16.3s
HHC Hu-ho-hao-te 24.92 29 *e*P **P 21 18 31.2 0.0**
HHC pP pP 21 18 35.1 -0.5
HHC S **S 21 22 50.8 -3.4**
HHC sS pS 21 22 58.1 -0.8
HHC pmax pmax
comp=Z,23nm,0.9s
HHC pmax pmax
comp=Z,170nm,4.5s
HHC LR LR
comp=Z,1μm,12.1s
HHC LR LR
comp=Z,2μm,13.0s
HHC LR LR
comp=Z,2μm,12.7s
MNAI Manna 25.00 163 P **P 21 18 31.0 -0.9**
comp=Z,142nm,0.9s
SSE Sheshan 25.45 59 P **P 21 18 33.6 -2.3**
SSE S **S 21 23 03.6 +1.0**
SSE pmax pmax
comp=Z,440nm,4.2s
SSE LR LR
comp=Z,2μm,14.5s
SSE LR LR
comp=Z,940nm,14.3s
LWLI Liwa 25.95 161 P **P 21 18 38.8 -1.8**
comp=Z,276nm,0.9s,comp=Z,2μm
KSH Kashi 26.05 323 P **P 21 18 40.5 -1.0**
KSH pP pP 21 18 44.6 -1.3
KSH S **S 21 23 09.2 -3.0**
KSH pmax pmax
comp=Z,58nm,0.9s
KSH LR LR
comp=Z,790nm,19.2s
KSH LR LR
comp=Z,890nm,18.6s
KSH LR LR
comp=Z,750nm,14.5s
KASI Kota Agung 26.56 160 P **P 21 18 43.0 -3.0**
comp=Z,64nm,0.7s
BJT Baijiatuau 26.66 36 P **P 21 18 46.0 -0.8**
BJT Baijiatuau 26.66 36 P **P 21 18 46.0 -0.8**
BJT pmax pmax
comp=Z,37nm,1.5s
BJI Beijing 26.68 36 P **P 21 18 47.8 +0.9**
BJI sP **sP 21 18 52.1 -1.1**
BJI pmax pmax
comp=Z,7.0nm,1.2s
BJI LR LR
comp=Z,280nm,11.4s
BJI LR LR
comp=Z,340nm,12.3s
BJI LR LR
comp=Z,470nm,11.2s
TARG Taragay, Kyrgy 26.69 329 P **P 21 18 46.9 -0.6**
TARG IAmb IAmb 21 18 51.1
comp=Z,45nm,0.8s
TARG Taragay, Kyrgy 26.69 329 P **P 21 18 46.9 -0.6**
TARG pmax pmax
comp=Z,45nm,0.8s
PRZ Przheval'sk 26.99 331 P **P 21 18 49.8 -0.2**
PRZ IAmb IAmb 21 18 54.0
comp=Z,54nm,0.8s
PRZ Przheval'sk 26.99 331 P **P 21 18 49.8 -0.2**
PRZ pmax pmax
comp=Z,54nm,0.8s
SHLS Shalkode 27.06 333 *e*P **P 21 18 49.2 -1.3**
SHLS pmax pmax
comp=Z,22nm,0.6s
SHLS Shalkode 27.06 333 *e*P **P 21 18 49.3 -1.3**
comp=Z,22nm,0.6s,baz=334
PDGK Podgornoye 27.19 333 *i* P **P 21 18 50.8 -0.9**
PDGK pmax pmax
comp=Z,45nm,1.2s
UZB Uzynbulak 27.24 332 *e*P **P 21 18 52.3 +0.1**
UZB Uzynbulak 27.24 332 *e*P **P 21 18 52.3 +0.1**
baz=332
NRN Naryn 27.38 326 P **P 21 18 53.7 0.0**
NRN Naryn 27.38 326 P **P 21 18 53.7 0.0**
NRN pmax pmax
comp=Z,17nm,0.9s
SATY Saty 27.44 332 *e*P **P 21 18 54.4 +0.5**
SATY Saty 27.44 332 *e*P **P 21 18 54.5 +0.5**
baz=332
ZHN Zhinishke 27.52 332 *e*P **P 21 18 55.5 +0.9**
ZHN Zhinishke 27.52 332 *e*P **P 21 18 55.5 +0.9**
baz=332
ULHL Ulahol 27.85 328 P **P 21 18 55.2 -2.5**
SNR=12
KBL Kabul 27.89 307 P **P 21 18 58.0 -0.1**
KBL IAmb IAmb 21 19 04.6
comp=Z,30nm,0.8s
KBL Kabul 27.89 307 P **P 21 18 58.0 -0.1**
KBL pmax pmax
comp=Z,30nm,0.8s
KBL Kabul 27.89 307 P **P 21 19 00.3 +2.2**
SNR=24
TNSS Tian-Shan 28.10 330 *e*P **P 21 19 01.0 +0.9**
TNSS Tian-Shan 28.10 330 *e*P **P 21 19 01.0 +0.9**
baz=330
MDOK Medeo 28.15 330 *e*P **P 21 19 00.9 +0.6**
MDOK Medeo 28.15 330 *e*P **P 21 19 00.9 +0.6**
baz=330
AAA Alma-Ata 28.25 330 *e*P **P 21 19 02.1 +1.1**
AAA pmax pmax
comp=Z,29nm,0.8s
AAA Alma-Ata 28.25 330 *e*P **P 21 19 02.2 +1.1**
comp=Z,29nm,0.8s,baz=330
DRK Karamyk 28.51 319 P **P 21 19 03.1 -0.6**
DRK IAmb IAmb 21 19 06.4
comp=Z,62nm,0.8s
TKM2 Tokmak 2 28.67 328 P **P 21 19 07.0 +1.9**
SNR=20
TKM2 Tokmak 2 28.67 328 *i* P **P 21 19 06.0 +1.0**
TKM2 pmax pmax
comp=Z,26nm,1.2s
CHKK Chushkaly 28.71 331 *e*P **P 21 19 04.9 -0.2**
CHKK Chushkaly 28.71 331 *e*P **P 21 19 04.9 -0.2**
baz=331
UCH Uchtor 28.73 326 P **P 21 19 06.7 +0.9**
SNR=14
KBK Karagaybulak 28.81 327 P **P 21 19 06.8 +0.6**
SNR=20
LEM Lembang 28.88 155 P **P 21 19 06.4 -0.6**
comp=Z,51nm,0.8s
LEM pP **sP 21 19 13.4 +0.2**
comp=Z,51nm,0.8s
ARSB Arslanbob 28.96 323 P **P 21 19 07.8 +0.3**
ARSB Arslanbob 28.96 323 P **P 21 19 07.8 +0.3**
ARSB pmax pmax
comp=Z,6.0nm,1.2s
ZSN Zaisan 29.00 345 *e*P **P 21 19 08.4 +0.8**
ZSN Zaisan 29.00 345 *e*P **P 21 19 08.5 +0.8**
baz=344
TDK Taldyqorghan 29.00 334 *e*P **P 21 19 08.1 +0.4**
TDK Taldyqorghan 29.00 334 *e*P **P 21 19 08.1 +0.4**
baz=334
AAK Ala-Archa 29.03 326 P **P 21 19 11.2 +3.1**
SNR=17
AAK Ala-Archa 29.03 326 P **P 21 19 07.8 -0.4**
AAK Ala-Archa 29.03 326 *ce*P **P 21 19 09.3 +1.2**
AAK pmax pmax
comp=Z,46nm,1.7s
AAK Ala-Archa 29.03 326 *i* P **P 21 19 08.0 -0.2**
SNR=27
AAK Ala-Archa 29.03 326 LR LR 21 33 32.9
comp=Z,397nm,18.3s,baz=133,slow=42
AAK Ala-Archa 29.03 326 P **P 21 19 10.5 +2.4**
KUU Kurty 29.04 330 *e*P **P 21 19 07.8 -0.2**
KUU pmax pmax
comp=Z,17nm,0.7s
KUU Kurty 29.04 330 *e*P **P 21 19 07.9 -0.2**
comp=Z,17nm,0.7s,baz=330
FRU1 Bishkek 29.08 327 P **P 21 19 09.1 +0.6**
FRU1 Bishkek 29.08 327 P **P 21 19 09.1 +0.6**
FRU1 pmax pmax
comp=Z,20nm,0.9s
MK31 Makanchi Array 29.13 341 P **P 21 19 08.3 -0.5**
MK31 Makanchi Array 29.13 341 *i* P **P 21 19 07.7 -1.1**
MK31 pmax pmax
comp=Z,28nm,0.7s
MKAR Makanchi Array 29.13 341 P **P 21 19 08.1 -0.7**
MKAR Makanchi Array 29.13 341 P **P 21 19 08.6 -0.2**
comp=Z,26nm,0.7s,baz=140,slow=11,SNR=166
MKAR PcP **PcP 21 22 15.1 -1.3**
comp=Z,1.0nm,0.7s,baz=101,slow=3.1,SNR=1.3
MKAR LR LR 21 31 24.3
comp=Z,249nm,20.6s,baz=156,slow=38
comp=Z,26nm,0.7s
CHMS Chumysh 29.15 327 P **P 21 19 11.9 +2.8**
SNR=6.6
GAR Garm 29.18 316 P **P 21 19 08.9 -0.6**
GAR IAmb IAmb 21 19 12.1
comp=Z,80nm,0.8s
MAKZ Makanchi 29.24 340 P **P 21 19 09.3 -0.5**
MAKZ Makanchi 29.24 340 P **P 21 19 09.3 -0.5**

MAKZ pmax pmax
comp=Z,31nm,1.1s
SONM Songino Array 29.26 15 P **P 21 19 09.4 -0.6**
SONM Songino Array 29.26 15 P **P 21 19 10.6 +0.5**
comp=Z,4.8nm,0.9s,baz=198,slow=10,SNR=25
SONM PcP **PcP 21 22 14.6 -2.3**
comp=Z,1.7nm,0.9s,baz=206,slow=4.0,SNR=1.5
SONM ScP **ScP 21 25 56.9 -1.3**
comp=Z,1.0nm,0.9s,baz=190,slow=4.2,SNR=4.1
SONM LR LR 21 31 29.8
comp=Z,601nm,19.4s,baz=196,slow=38
comp=Z,4.8nm,0.9s
XLT XiLinHaoTe 29.40 31 *e*P **P 21 19 13.1 +1.8**
XLT pmax pmax
comp=Z,10.0nm,0.9s
XLT pmax pmax
comp=Z,85nm,5.4s
XLT LR LR
comp=Z,67nm,10.8s
XLT LR LR
comp=Z,470nm,11.6s
XLT LR LR
comp=Z,530nm,12.4s
EKS2 Erkin-Say 29.42 326 P **P 21 19 14.1 +2.5**
SNR=40
ULN Ulaanbaatar 29.45 15 P **P 21 19 11.3 -0.5**
ULN Ulaanbaatar 29.45 15*ce*P **P 21 19 12.3 +0.5**
ULN pmax pmax
comp=Z,25nm,2.5s
BTK Batken 29.46 319 P **P 21 19 11.0 -0.9**
BTK Batken 29.46 319 P **P 21 19 11.0 -0.9**
BTK pmax pmax
comp=Z,21nm,0.8s
USP Ospenovka 29.47 327 P **P 21 19 14.0 +2.1**
SNR=26
SGDS Sogindy 29.54 328 *e*P **P 21 19 12.7 +0.2**
SGDS Sogindy 29.54 328 *e*P **P 21 19 12.8 +0.2**
baz=328
CHGR Chuyangaron 29.75 315 P **P 21 19 13.8 -0.8**
CHGR IAmb IAmb 21 19 16.8
comp=Z,74nm,0.8s
CHGR Chuyangaron 29.75 315 P **P 21 19 13.8 -0.8**
CHGR pmax pmax
comp=Z,74nm,0.8s
SIMJ Simiganj 29.85 315 P **P 21 19 14.3 -1.2**
SIMJ IAmb IAmb 21 19 18.3
comp=Z,76nm,1.2s
KPJI Karang Pucung 29.88 153 P **P 21 19 15.9 +0.2**
comp=Z,97nm,1.0s,comp=Z,855nm
KPJI pP **pP 21 19 20.7 +0.6**
comp=Z,97nm,1.0s,comp=Z,855nm
SMRI Semarang 30.30 150 P **P 21 19 19.9 +0.4**
comp=Z,126nm,0.9s
SMRI pP **sP 21 19 24.7 -1.0**
comp=Z,126nm,0.9s
MPSI Mapaga 30.48 127 P **P 21 19 20.9 -0.2**
comp=Z,17nm,1.3s
MPSI pP **pP 21 19 25.1 -0.4**
comp=Z,17nm,1.3s
JOW Kunigami 30.55 71 LR LR 21 33 32.0
comp=Z,490nm,18.3s,baz=312,slow=40
DGZ Jazzator, Alta 30.59 349 *i* P **P 21 19 23.1 +1.2**
DGZ pmax pmax
comp=Z,9.0nm,0.7s
TOLI2 Tolitoli 30.67 124 P **P 21 19 21.6 -1.2**
TOLI2 IAmb IAmb 21 19 25.1
comp=Z,57nm,1.7s
TOLI2 Tolitoli 30.67 124 P **P 21 19 23.1 +0.3**
DZA Taraz 30.91 324 *e*P **P 21 19 25.5 +0.8**
DZA Taraz 30.91 324 *e*P **P 21 19 25.5 +0.8**
baz=324
BTLS Baital 30.99 329 *e*P **P 21 19 25.6 +0.4**
BTLS Baital 30.99 329 *e*P **P 21 19 25.6 +0.4**
baz=329
ZAK Zakamensk 31.09 9 *e*P **P 21 19 26.3 +0.1**
ZAK *e* 21 22 16.6
ZAK pmax pmax
comp=Z,12nm,1.2s
ZAK pmax pmax
comp=Z,7.0nm,1.0s
UGM Wanagama 31.10 151 P **P 21 19 25.0 -1.5**
comp=Z,53nm,1.7s
IUG Iuzhnay 31.19 321 *e*P **P 21 19 27.9 +0.8**
IUG pmax pmax
comp=Z,26nm,0.7s
IUG Iuzhnay 31.19 321 *e*P **P 21 19 28.0 +0.8**
comp=Z,26nm,0.7s,baz=321
DAV Davao City (W) 31.50 110 LR LR 21 32 44.7
comp=Z,265nm,19.7s,baz=318,slow=37
KK31 Karatay Array 31.51 323 P **P 21 19 29.0 -0.9**
KK31 Karatay Array 31.51 323 P **P 21 19 29.0 -0.9**
KK31 pmax pmax
comp=Z,11nm,0.8s
KKAR Karatay Array 31.51 323 P **P 21 19 28.9 -1.0**
KKAR Karatay Array 31.51 323 P **P 21 19 28.9 -1.0**
XMIS Christmas Isla 31.60 161 P **P 21 19 29.9 -0.9**
XMIS IAmb IAmb 21 19 31.7
comp=Z,40nm,0.9s
PWJI Pagerwojo 31.80 149 P **P 21 19 32.5 -0.1**
comp=Z,30nm,0.8s
PWJI pP **pP 21 19 37.1 0.0**
comp=Z,30nm,0.8s
BRLS Borolday 31.84 322 *e*P **P 21 19 32.8 -0.1**
BRLS Borolday 31.84 322 *e*P **P 21 19 32.8 -0.1**
baz=322
MOY Mondy 32.07 6 *e*P **P 21 19 36.0 +1.2**
MOY pmax pmax
comp=Z,20nm,2.8s
KMMI Kalianget 32.09 144 P **P 21 19 37.2 +2.0**
comp=Z,39nm,1.0s
SEM Semipalatinsk 32.96 342 *e*P **P 21 19 42.6 -0.2**
SEM Semipalatinsk 32.96 342 *e*P **P 21 19 42.6 -0.2**
baz=342
KSRS Korea Array 33.00 51 P **P 21 19 42.2 -0.8**
comp=Z,1.0nm,0.6s,baz=245,slow=7.9,SNR=2.9
KSRS LR LR 21 34 57.4
comp=Z,1μm,18.3s,baz=245,slow=40
IRK Irkutsk 33.05 10 *e*P **P 21 19 46.1 +2.8**
IRK pmax pmax
comp=Z,27nm,1.8s
HRA Herat 33.08 303 P **P 21 19 43.9 -0.2**
JAGI Jajag, Banyuwa 33.38 146 P **P 21 19 45.5 -1.0**
JAGI IAmb IAmb 21 19 48.4
comp=Z,30nm,1.1s
LUWI Luwuk 33.56 125 P **P 21 19 47.1 -1.0**
LUWI Luwuk 33.56 125 P **P 21 19 48.5 +0.3**
comp=Z,128nm,0.9s,comp=Z,1μm
KURBB Kurchatov Arra 33.68 340 P **P 21 19 48.5 -0.3**
comp=Z,91nm,0.8s,baz=151,slow=8.4,SNR=102
KURBB LR LR 21 37 01.9
comp=Z,238nm,18.0s,baz=199,slow=43
comp=Z,91nm,0.8s
KURK Kurchatov 33.73 340 P **P 21 19 49.0 -0.2**
KURK Kurchatov 33.73 340*ce*P **P 21 19 49.7 +0.5**
KURK pmax pmax
comp=Z,67nm,0.8s
KURK Kurchatov 33.73 340 P **P 21 19 51.4 +2.2**
JNU Nakatsue 33.90 60 LR LR 21 34 48.8
comp=Z,473nm,21.5s,baz=244,slow=38
JLN Jalan Bani Buh 34.04 280 P **P 21 19 56.4 +4.2**
SNR=7.9
JLN P **P 21 19 56.4 +4.2**
SNR=7.9
KAPI Kappang 34.08 134 P **P 21 19 52.6 0.0**
KAPI IAmb IAmb 21 19 54.9
comp=Z,63nm,0.9s
KAPI Kappang 34.08 134 *i* P **P 21 19 52.3 -0.3**
KAPI pmax pmax
comp=Z,80nm,1.0s
CN2 Changchun 34.42 39 *e*P **P 21 19 55.1 -0.2**
CN2 *e*S **S 21 25 23.4 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,200nm,10.0s
CN2 LR LR
comp=Z,600nm,10.0s
CN2 LR LR
comp=Z,400nm,10.0s
WBK Wadi Bani Khal 34.43 281 P P 21 20 00.5 +4.9
WBK P P 21 20 00.5 +4.9
BKSI Bulukumba 34.55 134 P **P 21 19 56.8 +0.1**
comp=Z,32nm,1.1s
HIA Hailar 35.09 28 *i* P **P 21 19 58.5 -2.6**
HIA pmax pmax
comp=Z,12nm,2.1s
TWSI Taliwang, Sumb 35.12 142 P **P 21 20 02.1 +0.5**
comp=Z,17nm,0.9s
ZAA0 Zalesovo Array 35.13 349 P **P 21 20 01.2 -0.1**
ZAA0 IAmb IAmb 21 20 04.5
comp=Z,38nm,0.9s
ZALV Zalesovo Beam 35.13 349 P **P 21 20 01.2 -0.1**
ZALV Zalesovo Beam 35.13 349 P **P 21 20 01.5 +0.2**
comp=Z,23nm,0.7s,baz=168,slow=8.9,SNR=79
ZALV LR LR 21 37 30.3
comp=Z,245nm,18.7s,baz=174,slow=42
comp=Z,23nm,0.7s
BIDO Bidbid 35.17 283 P **P 21 20 06.1 +4.0**
JMDO Jabal Madar 35.24 281 P **P 21 20 07.1 +4.4**
SMDO Samad 35.26 282 P **P 21 20 06.5 +3.5**
SNR=7.0
SMDO P **P 21 20 06.5 +3.5**
SNR=7.0
BRZS Berezniki 35.31 334 *e*P **P 21 20 03.1 +0.2**
BRZS pmax pmax
comp=Z,19nm,0.9s
BRZS Berezniki 35.31 334 *e*P **P 21 20 03.2 +0.2**
comp=Z,19nm,0.9s,baz=334
MHTO MHTO 35.46 279 P **P 21 20 08.0 +3.5**
MHTO P **P 21 20 08.0 +3.5**
PLAI Plampang 35.72 141 P **P 21 20 08.3 +1.5**
PLAI Plampang 35.72 141 P **P 21 20 07.1 +0.3**
comp=Z,29nm,1.0s
HOQ Hoqain 35.92 283 P **P 21 20 12.8 +4.3**
SNR=9.1
HOQ P **P 21 20 12.8 +4.3**
SNR=9.1
BSY Bisya 36.06 282 P **P 21 20 13.9 +4.2**
SNR=6.8
BSY P **P 21 20 13.9 +4.2**
SNR=6.8
SOHO SOHO 36.62 284 P **P 21 20 16.8 +2.3**
SOHO SOHO 36.62 284 P **P 21 20 18.0 +3.6**
SOHO P **P 21 20 18.0 +3.6**
ARQ Araqi 36.65 283 P **P 21 20 18.7 +3.9**
SNR=5.6
ARQ P **P 21 20 18.7 +3.9**
SNR=5.6
BNX BinXian 36.67 38 ⇑P **P 21 20 14.4 -0.2**
BNX pmax pmax
comp=Z,10.0nm,0.8s
BNX pmax pmax
comp=Z,230nm,4.3s
ASHO Ashiyiah 37.05 285 *i* P **P 21 20 19.9 +1.7**
SNR=6.3
ASHO Ashiyiah 37.05 285 P **P 21 20 22.1 +3.9**
SNR=5.5
GEYT Alibeck 37.34 307 P **P 21 20 21.4 +0.9**
GEYT IAmb IAmb 21 20 25.6
comp=Z,65nm,1.1s
GEYT Alibeck 37.34 307 P **P 21 20 21.6 +1.2**
comp=Z,34nm,1.0s,baz=149,slow=6.9,SNR=32
GEYT PcP **PcP 21 22 37.6 -1.9**
comp=Z,5.7nm,0.7s,baz=197,slow=4.5,SNR=3.3
comp=Z,34nm,1.0s
MDJ Mudanjiang 37.37 41 P **P 21 20 21.4 +0.8**
MDJ sP sP 21 20 26.1 -0.8
MDJ PP **PnPn 21 21 48.4 +1.9**
MDJ S **S 21 26 03.8 -4.4**
MDJ pmax pmax
comp=Z,10.0nm,1.3s
MDJ pmax pmax
comp=Z,180nm,6.5s
MDJ LR LR
comp=Z,780nm,15.1s
MDJ LR LR
comp=Z,650nm,13.4s
MDJ LR LR
comp=Z,540nm,10.8s
ASUD Al Ashush, Dub 37.71 285 P **P 21 20 27.3 +3.6**
UMZA Um Al Zommool 37.94 282 P **P 21 20 29.3 +3.6**
UMZA P **P 21 20 29.3 +3.6**
SHAO Shalim 38.02 274 P **P 21 20 27.5 +1.1**
AJN Ajban 38.02 285 P **P 21 20 29.9 +3.5**
AJN P **P 21 20 29.9 +3.5**
EDFI Ende, Flores 38.12 136 P **P 21 20 25.1 -2.2**
comp=Z,13nm,0.9s
BVAR Bovoye Array 38.57 335 P **P 21 20 29.6 -0.9**
comp=Z,20nm,0.8s,baz=139,slow=8.0,SNR=62
BVAR PcP **PcP 21 22 40.9 -2.1**
comp=Z,2.9nm,0.6s,baz=191,slow=1.5,SNR=2.9
BVAR LR LR 21 38 15.9
comp=Z,373nm,19.3s,baz=140,slow=39
comp=Z,20nm,0.8s
BRVK Borovoye 38.63 335 P **P 21 20 30.6 -0.6**
BRVK IAmb IAmb 21 20 33.4
comp=Z,25nm,0.7s
BRVK Borovoye 38.63 335*ce*P **P 21 20 32.1 +1.0**
BRVK pmax pmax
comp=Z,24nm,0.7s
BRVK Borovoye 38.63 335 P **P 21 20 32.4 +1.3**
USA0B Ussuriysk Arra 38.68 43 P **P 21 20 30.5 -1.1**
USA0B Ussuriysk Arra 38.68 43 P **P 21 20 30.5 -1.1**
USA0B pmax pmax
comp=Z,47nm,1.7s
USRK Ussuriysk Ar. 38.68 43 P **P 21 20 30.2 -1.4**
USRK Ussuriysk Ar. 38.68 43 P **P 21 20 30.7 -0.9**
comp=Z,2.3nm,0.7s,baz=238,slow=7.4,SNR=7.9
USRK PcP **PcP 21 22 42.2 -1.3**
comp=Z,1.1nm,0.7s,baz=268,slow=1.8,SNR=1.4
USRK LR LR 21 37 33.7
comp=Z,450nm,20.5s,baz=226,slow=38
comp=Z,2.3nm,0.7s
DOK Doka 39.33 275 P **P 21 20 40.6 +3.2**
DOK P **P 21 20 40.6 +3.2**
HEH HeiHe 39.37 32 *e*P **P 21 20 39.5 +2.2**
HEH pmax pmax
comp=Z,6.0nm,1.2s
HEH pmax pmax
comp=Z,130nm,3.8s
HEH LR LR
comp=Z,640nm,14.0s
HEH LR LR
comp=Z,420nm,13.4s
HEH LR LR
comp=Z,990nm,14.8s
JGF Kuroka 39.68 58 P **P 21 20 39.4 -0.9**
WHFO Wadi Hawf 39.78 274 P **P 21 20 44.1 +2.9**
WHFO P **P 21 20 44.1 +2.9**
JRN Qarnain Island 39.96 285 P **P 21 20 45.7 +3.2**
SNR=5.6
JRN P **P 21 20 45.7 +3.2**
SNR=5.6
GHWR Ruwais 39.97 284 P **P 21 20 45.7 +3.0**
GHWR P **P 21 20 45.7 +3.0**
BOD Bodaibo 40.26 15 *e*P **P 21 20 44.9 +0.3**
BOD pmax pmax
comp=Z,25nm,1.4s
ABTO Aybut 40.32 274 P **P 21 20 48.5 +2.8**
ABTO P **P 21 20 48.5 +2.8**
MJAR Matsushiro Arr 40.56 57 P **P 21 20 48.8 +1.4**
comp=Z,1.8nm,0.8s,baz=275,slow=10,SNR=5.7
MJAR LR LR 21 40 03.8
comp=Z,301nm,18.2s,baz=252,slow=40
comp=Z,1.8nm,0.8s
SOEI Soe 40.57 134 P **P 21 20 46.4 -1.4**
SOEI Soe 40.57 134 P **P 21 20 46.6 -1.3**
comp=Z,164nm,0.9s
SLWR Sila 41.05 284 P **P 21 20 54.1 +2.6**
SLWR P **P 21 20 54.1 +2.6**
AB31 Akbulak array 41.05 324 *i* P **P 21 20 50.5 -0.8**
AB31 pmax pmax
comp=Z,49nm,0.9s
ABKAR Akbulak array 41.05 324 P **P 21 20 50.2 -1.1**
ABKAR IAmb IAmb 21 20 54.1
comp=Z,53nm,0.9s
KLR Kul'dur 41.05 36*ce*P **P 21 20 53.3 +2.0**
KLR pmax pmax
comp=Z,5.0nm,1.3s
KLR Kul'dur 41.05 36 P **P 21 20 52.4 +1.1**
comp=Z,2.9nm,0.8s,baz=229,slow=4.5,SNR=9.2
KLR LR LR 21 40 38.8
comp=Z,314nm,20.7s,baz=226,slow=40
comp=Z,2.9nm,0.8s
TRNA Turayna 41.45 285 P **P 21 20 57.5 +2.6**
SNR=7.0
ZEA Zeya 41.57 28 *e*P **P 21 20 58.2 +2.7**
ZEA MLR MLR
comp=E,300nm,13.0s
ZEA MLR MLR
comp=Z,300nm,14.0s
SHMA Al-Shehemyia 41.64 287 P **P 21 20 58.9 +2.5**
SMRA Abu-Samra 41.80 285 P **P 21 21 00.6 +2.8**
SNR=8.5
SAKB Bahrain 42.02 287 P **P 21 21 01.7 +2.1**
FAKI Fak Fak 42.29 118 P **P 21 21 01.4 -0.4**
FAKI IAmb IAmb 21 22 35.2
comp=Z,112nm,1.4s
FAKI Fak Fak 42.29 118 P **P 21 21 01.3 -0.6**
FAKI Fak Fak 42.29 118 P **P 21 21 01.1 -0.8**
comp=Z,59nm,1.4s
AKTO Aktyubinsk 42.74 325 *i* P **P 21 21 03.8 -1.3**
AKTO pmax pmax
comp=Z,29nm,0.9s
AKTO Aktyubinsk 42.74 325 LR LR 21 41 52.4
comp=Z,463nm,19.8s,baz=110,slow=40
LKRN Lenkeran, Azer 44.64 305 P **P 21 21 20.2 -0.3**
SVE Sverdlovsk 45.23 333⇑*e*P **P 21 21 26.6 +1.6**
SVE pmax pmax
comp=Z,118nm,0.9s
ASAJ Asahikawa 45.73 47 P **P 21 21 30.5 +1.4**
comp=Z,12nm,0.9s,baz=236,slow=3.6,SNR=5.0
ASAJ LR LR 21 41 20.9
comp=Z,326nm,19.9s,baz=278,slow=37
comp=Z,12nm,0.9s
GIRL Giralia 45.84 156 P **P 21 21 31.5 +1.3**
ARU Arti 45.88 332 P **P 21 21 29.1 -1.0**
ARU IAmb IAmb 21 21 32.2
comp=Z,36nm,0.8s
ARU Arti 45.88 332*d i* P **P 21 21 29.2 -1.0**
ARU 21 23 16.0
ARU S **S 21 28 14.2 +0.4**
ARU SS **SS 21 31 36.4 -2.0**
ARU pmax pmax
comp=Z,40nm,0.8s
ARU MLR MLR
comp=Z,414nm,17.0s
ARU Arti 45.88 332 LR LR 21 43 09.0
comp=Z,383nm,18.4s,baz=134,slow=39
SEKA Sheki 46.34 308 P **P 21 21 33.0 -1.1**
MAK Makhachkala 46.52 311*c* P P 21 21 30.3 -5.0
MAK *e* 21 23 19.0
MAK *e*S **S 21 28 15.8 -7.5**
MAK pmax pmax
comp=Z,242nm,1.4s
MAK MLR MLR
comp=Z,459nm,17.0s
YSS Yuzh-Sakhalins 46.70 43 *e*P **P 21 21 37.2 +0.5**
YSS *e*S **S 21 28 26.2 +0.3**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,500nm,13.0s
YSS MLR MLR
comp=N,300nm,16.0s
RAYN Ar Rayn 46.74 284 P **P 21 21 37.4 0.0**
RAYN Ar Rayn 46.74 284 P **P 21 21 37.4 0.0**
RAYN pmax pmax
comp=Z,10.0nm,1.1s
RAYN Ar Rayn 46.74 284 *i* P **P 21 21 37.7 +0.3**
SNR=9.1
RAYN Ar Rayn 46.74 284 P **P 21 21 39.4 +2.0**
ZKTA Zakatala 46.85 309 P **P 21 21 37.6 -0.4**
GANJ Ganja 46.87 308 P **P 21 21 37.7 -0.5**
MBWA Marble Bar 46.94 149 P **P 21 21 38.1 -0.8**
MBWA IAmb IAmb 21 21 40.0
comp=Z,22nm,0.9s
PSA00 Pilbara Seismi 47.34 149 P **P 21 21 41.5 -0.5**
PSA00 IAmb IAmb 21 21 43.1
comp=Z,17nm,0.8s
PSA00 Pilbara Seismi 47.34 149 P **P 21 21 42.2 +0.2**
FITZ Fitzroy Crossi 47.68 140 P **P 21 21 43.7 -0.9**
GROC Groznyy 47.79 311 *e*P **P 21 21 46.2 +0.9**
GROC *e* 21 23 39.2
GROC pmax pmax
comp=Z,60nm,1.0s
KNRA Kununurra 47.86 135 P **P 21 21 45.0 -1.1**
KNRA IAmb IAmb 21 21 48.5
comp=Z,16nm,0.8s
KNRA Kununurra 47.86 135 P **P 21 21 45.9 -0.2**
GNI Garni 47.97 307 P **P 21 21 47.3 +0.3**
GNI IAmb IAmb 21 21 51.3
comp=Z,22nm,1.0s
GNI Garni 47.97 307 *i* P **P 21 21 47.6 +0.6**
GNI pmax pmax
comp=Z,25nm,1.0s
GNI Garni 47.97 307 P **P 21 21 48.4 +1.5**
GNI Garni 47.97 307 P **P 21 21 50.7 +3.7**
GNI P **P 21 21 50.7 +3.7**
TYV Tymovskoe 48.03 38 *e*P **P 21 21 50.1 +3.1**
TYV pmax pmax
comp=Z,6.0nm,1.3s
TYV pmax pmax
comp=Z,100nm,2.7s
YAK Yakutsk 48.28 21 P **P 21 21 48.2 -0.6**
YAK IAmb IAmb 21 21 54.7
comp=Z,15nm,0.8s
YAK Yakutsk 48.28 21 *e*P **P 21 21 49.2 +0.5**
YAK *e**PP **sP 21 21 58.0 +2.9**
YAK *e* 21 23 40.8
YAK *e*S **S 21 28 41.9 -5.9**
YAK *e**SS **sS 21 28 55.6 +0.2**
YAK *e*SS **SS 21 32 20.0 +2.9**
YAK pmax pmax
comp=Z,13nm,1.0s
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=Z,8.0nm,0.6s
YAK pmax pmax
comp=N,23nm,2.8s
YAK pmax pmax
comp=E,68nm,3.4s
YAK smax smax
comp=N,36nm,3.2s
YAK smax smax
comp=E,57nm,3.6s
YAK MLR MLR
comp=Z,342nm,13.0s
YAK MLR MLR
comp=N,216nm,12.0s
YAK MLR MLR
comp=E,213nm,13.0s
YAK Yakutsk 48.28 21 P **P 21 21 48.6 -0.1**
comp=E,13nm,0.6s,baz=226,slow=18,SNR=1.9
YAK LR LR 21 42 03.4
comp=E,29nm,18.4s,baz=252,slow=36
comp=E,13nm,0.6s
KARS Kars 49.30 307 P **P 21 21 57.5 +0.4**
KARS Kars 49.30 307 P **P 21 21 57.6 +0.4**
KARS pmax pmax
comp=Z,223nm,0.8s
ONI Oni 49.35 310 P **P 21 21 58.6 +1.2**
ONI IAmb IAmb 21 22 05.7
comp=Z,28nm,0.8s
ONI Oni 49.35 310 P **P 21 21 58.6 +1.2**
ONI pmax pmax
comp=Z,28nm,0.8s
BELG Belogornoye 49.42 323 *i* P **P 21 21 56.2 -1.4**
BELG pmax pmax
comp=Z,11nm,0.9s
NRIK Noril'sk 49.80 356 P **P 21 22 00.1 -0.3**
NRIK Noril'sk 49.80 356*ce*P **P 21 22 01.2 +0.9**
NRIK pmax pmax
comp=Z,12nm,0.8s
NRIK Noril'sk 49.80 356 P **P 21 22 00.6 +0.3**
comp=Z,9.4nm,0.8s,baz=158,slow=5.2,SNR=16
NRIK PcP **PcP 21 23 21.3 +0.4**
comp=Z,5.1nm,0.7s,baz=122,slow=5.5,SNR=3.7
comp=Z,9.4nm,0.8s
GURO Guroymak-BITLI 49.84 304 P **P 21 22 02.0 +0.7**
GURO IAmb IAmb 21 22 07.5
comp=Z,32nm,0.8s
KBZ Khabaz 49.96 311*ce*P **P 21 22 03.3 +1.4**
KBZ pmax pmax
comp=Z,14nm,0.9s
KBZ Khabaz 49.96 311 P **P 21 22 03.0 +1.1**
comp=Z,11nm,0.8s,baz=130,slow=7.3,SNR=23
KBZ LR LR 21 47 30.2
comp=Z,162nm,18.2s,baz=115,slow=41
comp=Z,11nm,0.8s
GOF Gofitskoye 50.13 313*ce*P **P 21 22 05.6 +2.4**
KIV Kislovodsk 50.16 311 P **P 21 22 03.7 +0.1**

KIV IAmb IAmb 21 22 07.5
comp=Z,58nm,0.8s
KIV Kislovodsk 50.16 311 *e*P **P 21 22 03.6 0.0**
KIV pmax pmax
comp=Z,57nm,1.0s
KIV Kislovodsk 50.16 311 *i* P **P 21 22 04.2 +0.6**
SNR=30
KIV Kislovodsk 50.16 311 P **P 21 22 06.4 +2.9**
KIV P **P 21 22 06.4 +2.9**
BCA Borcka 50.51 308 ⇑P **P 21 22 06.7 +0.5**
MEEK Meekatharra 51.17 154 P **P 21 22 12.7 +1.4**
KIRV Kirov 51.19 331*ce*P **P 21 22 11.0 +0.1**
KIRV Kirov 51.19 331 LR LR 21 47 25.7
comp=Z,241nm,19.4s,baz=121,slow=40
ATD Arta Tunnel 51.51 269 LR LR 21 45 14.4
comp=Z,7.5nm,18.1s,baz=78,slow=38
SOC Sochi 52.21 310 *e*P **P 21 22 16.6 -2.3**
SOC *e* 21 24 12.1
SOC *e*PPP PPP 21 25 17.0
SOC *e*S **S 21 29 41.4 -1.9**
SOC *e*SS **SS 21 33 15.5 -5.1**
SOC *e*SSS SSS 21 35 04.0
SOC MLR MLR
comp=Z,84nm,15.0s
MORW Morawa 52.34 158 P **P 21 22 20.1 +0.2**
MORW IAmb IAmb 21 22 21.8
comp=Z,40nm,1.2s
MORW Morawa 52.34 158 P **P 21 22 21.2 +1.3**
VRH Novokhopyorsk 52.49 320 *e*P **P 21 22 19.8 -1.0**
VRH pmax pmax
comp=Z,50nm,0.8s
ARPR Arapgir-MALATY 52.76 304 P **P 21 22 24.1 +0.9**
ARPR IAmb IAmb 21 22 28.3
comp=Z,54nm,1.1s
GAZ Gaziantep 53.55 302 P **P 21 22 29.6 +0.6**
VORD Divnogorie 53.91 319 *e*P **P 21 22 29.9 -1.3**
VORD *e* 21 23 37.4
VORD pmax pmax
comp=Z,20nm,0.9s
BLDU Ballidu 53.99 158 P **P 21 22 32.8 +0.8**
VSR Storozhevoye 54.05 320 *e*P **P 21 22 30.6 -1.7**
VSR *e* 21 23 36.5
VSR pmax pmax
comp=Z,20nm,1.2s
VORR Voronezh 54.13 320 P **P 21 22 32.9 +0.1**
VORR pmax pmax
comp=Z,45nm,1.6s
LPSR Galich'ya Gora 54.52 321 *e*P **P 21 22 35.3 -0.4**
LPSR pmax pmax
comp=Z,50nm,0.8s
WB0 Warramunga Arr 54.53 134 P **P 21 22 35.6 -0.6**
WB0 IAmb IAmb 21 22 36.6
comp=Z,45nm,1.3s
WRA Warramunga Arr 54.61 134 P **P 21 22 35.8 -1.0**
WRA Warramunga Arr 54.61 134 P **P 21 22 36.5 -0.3**
comp=Z,20nm,0.8s,baz=325,slow=7.7,SNR=73
WRA PcP **PcP 21 23 39.3 -0.5**
comp=Z,4.0nm,0.8s,baz=325,slow=3.7,SNR=5.4
comp=Z,20nm,0.8s
WRAB Tennant Creek 54.61 134 P **P 21 22 36.2 -0.6**
WRAB IAmb IAmb 21 22 37.6
comp=Z,28nm,0.9s
WRAB Tennant Creek 54.61 134 P **P 21 22 36.2 -0.6**
WRAB pmax pmax
comp=Z,28nm,0.9s
WRKA Warakurna 54.62 143 P **P 21 22 37.4 +0.6**
WB2 Warramunga Arr 54.62 134 P **P 21 22 36.5 -0.4**
WB2 IAmb IAmb 21 22 37.6
comp=Z,30nm,0.8s
BNN Bunyan 54.69 304 P **P 21 22 37.6 +0.3**
BNN IAmb IAmb 21 23 44.3
comp=Z,39nm,1.1s
WR0 Warramunga Arr 54.76 134 P **P 21 22 37.4 -0.4**
WR0 IAmb IAmb 21 22 38.4
comp=Z,30nm,0.8s
GHAJ Ghor Haditha 54.98 295 P **P 21 22 40.5 +1.1**
MMAI Mount Meron Ar 55.04 297 P **P 21 22 40.9 +1.0**
comp=Z,4.4nm,0.8s,baz=88,slow=6.1,SNR=9.2
MMAI PcP **PcP 21 23 41.0 -0.4**
comp=Z,3.8nm,0.8s,baz=56,slow=2.2,SNR=3.6
comp=Z,4.4nm,0.8s
MUN Mundaring 55.05 159 P **P 21 22 40.4 +0.7**
KLBR Kellerberrin 55.25 157 P **P 21 22 41.8 +0.6**
DIKM Dikmen 55.28 307 ⇓P **P 21 22 42.3 +0.9**
TIXI Tiksi 55.30 12 P **P 21 22 41.0 0.0**
TIXI Tiksi 55.30 12*ce*P **P 21 22 41.0 0.0**
TIXI pmax pmax
comp=Z,186nm,1.7s
TIXI Tiksi 55.30 12 P **P 21 22 40.7 -0.3**
comp=Z,58nm,0.7s,baz=224,slow=4.6,SNR=200
TIXI LR LR 21 49 12.6
comp=Z,213nm,18.4s,baz=222,slow=39
comp=Z,58nm,0.7s
MA2 Magadan 55.59 30 P **P 21 22 43.1 -0.2**
MA2 Magadan 55.59 30*ce*P **P 21 22 44.6 +1.3**
MA2 pmax pmax
comp=Z,18nm,1.0s
MA2 Magadan 55.59 30 P **P 21 22 43.4 0.0**
comp=Z,15nm,0.9s,baz=260,slow=9.3,SNR=9.5
MA2 LR LR 21 49 33.6
comp=Z,151nm,18.0s,baz=259,slow=39
comp=Z,15nm,0.9s
MOS Moscow 56.07 325 *e*P **P 21 22 46.7 -0.1**
MOS pmax pmax
comp=Z,51nm,0.9s
NWAO Narrogin (SRO) 56.27 158 P **P 21 22 48.5 0.0**
NWAO IAmb IAmb 21 22 49.5
comp=Z,19nm,0.7s
NWAO Narrogin (SRO) 56.27 158 P **P 21 22 49.1 +0.6**
NWAO Narrogin (SRO) 56.27 158 P **P 21 22 48.5 0.0**
NWAO pmax pmax
comp=Z,19nm,0.7s
NWAO Narrogin (SRO) 56.27 158 LR LR 21 47 51.2
comp=Z,174nm,20.3s,baz=36,slow=37
BR131 Keskin Array S 56.42 305 P **P 21 22 51.0 +1.1**
BR131 Keskin Array S 56.42 305 *i* P **P 21 22 51.1 +1.3**
BRTR Keskin Array B 56.42 305 P **P 21 22 50.8 +0.9**
BRTR Keskin Array B 56.42 305 *i* P **P 21 22 51.5 +1.7**
BRTR pmax pmax
comp=Z,5.0nm,0.7s
BRTR Keskin Array B 56.42 305 P **P 21 22 49.8 0.0**
comp=Z,5.1nm,0.7s,baz=115,slow=5.7,SNR=14
comp=Z,5.1nm,0.7s
OBN Obninsk 56.50 324 P **P 21 22 50.0 +0.2**
OBN Obninsk 56.50 324 *e*P **P 21 22 50.0 +0.2**
OBN *e* 21 23 47.5
OBN *e* 21 24 55.4
OBN pmax pmax
comp=Z,63nm,1.7s
OBN MLR MLR
comp=Z,162nm,19.0s
KMBL Kambalda 56.68 153 P **P 21 22 52.2 +0.8**
KLMR Klimovskoe 56.69 331 *e*P P 21 22 46.0 -5.1
KLMR pmax pmax
comp=Z,50nm,1.0s
KLMR MLR MLR
comp=Z,338nm,14.0s
CSS Mathiatis 56.70 299 P **P 21 22 51.9 +0.3**
CSS IAmb IAmb 21 22 57.5
comp=Z,17nm,0.9s
AS31 Alice Springs 56.95 138 P **P 21 22 52.5 -1.0**
ASAR Alice Springs 56.95 138 P **P 21 22 53.1 -0.5**
ASAR Alice Springs 56.95 138 P **P 21 22 53.6 +0.1**
comp=Z,14nm,0.7s,baz=320,slow=7.2,SNR=124
ASAR LR LR 21 51 35.3
comp=Z,107nm,18.0s,baz=296,slow=41
comp=Z,14nm,0.7s
AS01 Alice Springs 56.98 138 P **P 21 22 54.1 +0.3**
ANTO Ankara 57.08 305 P **P 21 22 55.2 +0.8**
ANTO IAmb IAmb 21 22 58.9
comp=Z,32nm,0.9s
ANTO Ankara 57.08 305 P **P 21 22 55.2 +0.8**
ANTO pmax pmax
comp=Z,32nm,0.9s
ANTO Ankara 57.08 305 P **P 21 22 56.8 +2.4**
ANTO P **P 21 22 56.8 +2.4**
BR231 Keskin MP Arra 57.09 305 P **P 21 22 55.2 +0.6**
BR231 IAmb IAmb 21 22 59.0
comp=Z,22nm,0.9s
COEN Coen 57.40 122 P **P 21 22 56.2 -0.6**
COEN Coen 57.40 122 P **P 21 22 56.8 0.0**
SEY Seymchan 57.54 27*ce*P **P 21 22 58.4 +1.3**
SEY pmax pmax
comp=Z,15nm,2.5s
SEY Seymchan 57.54 27 P **P 21 22 57.7 +0.6**
comp=Z,4.2nm,1.0s,baz=257,slow=9.1,SNR=7.3
SEY PcP **PcP 21 23 50.3 -0.2**
comp=Z,4.7nm,0.8s,baz=220,slow=3.5,SNR=4.5
comp=Z,4.2nm,1.0s
PETK Petropavlovsk- 57.57 39 LR LR 21 48 56.8
comp=Z,336nm,21.7s,baz=235,slow=37
PMG Port Moresby 58.27 115 P **P 21 23 02.2 -0.8**
PMG IAmb IAmb 21 23 04.7
comp=Z,34nm,1.1s
PMG Port Moresby 58.27 115*ce*P **P 21 23 04.4 +1.5**
PMG pmax pmax
comp=Z,60nm,2.5s
MDUB Mudurnu 58.31 306 P **P 21 23 04.0 +0.9**
QIS Mount Isa 58.69 131 P **P 21 23 05.6 -0.2**
ISP Isparta 58.87 303*ce*P **P 21 23 08.8 +1.8**
ISP pmax pmax
comp=Z,21nm,1.0s
FORT Forrest 59.06 148 P **P 21 23 08.0 -0.1**
FORT IAmb IAmb 21 23 09.9
comp=Z,44nm,1.0s
FORT Forrest 59.06 148 P **P 21 23 09.5 +1.4**
ELL Elmali 59.40 302 P **P 21 23 10.8 0.0**
ELL Elmali 59.40 302 P **P 21 23 10.8 0.0**
ELL pmax pmax
comp=Z,161nm,0.8s
TLCR 60.13 311 ⇑P **P 21 23 16.9 +1.5**
TLCR 60.13 311 P **P 21 23 18.8 +3.4**
AKASG Malin Array Be 60.16 318 P **P 21 23 15.2 -0.4**
AKASG Malin Array Be 60.16 318 P **P 21 23 15.2 -0.4**
AKASG pmax pmax
comp=Z,93nm,1.2s
AKASG Malin Array Be 60.16 318 P **P 21 23 13.8 -1.7**
comp=Z,12nm,0.7s,baz=78,slow=6.2,SNR=44
AKASG LR LR 21 55 17.3
comp=Z,265nm,18.2s,baz=89,slow=42
comp=Z,12nm,0.7s
AKBB Malin Array Si 60.16 318 *i* P **P 21 23 13.4 -2.2**
AKBB pmax pmax
comp=Z,46nm,0.9s
KIEV Kiev 60.17 318 P **P 21 23 14.0 -1.6**
KIEV IAmb IAmb 21 23 17.1
comp=Z,35nm,0.9s
KIEV Kiev 60.17 318 P **P 21 23 14.0 -1.6**
KIEV pmax pmax
comp=Z,35nm,0.9s
KIEV Kiev 60.17 318 *i* P **P 21 23 14.1 -1.6**
SNR=25
MILM Milestii Mici 60.19 313 *e*P **P 21 23 14.0 -1.8**
comp=Z,90nm,1.1s
MILM Milestii Mici 60.19 313 *e*PcP PcP 21 23 50.0 -11
MILM Milestii Mici 60.19 313 ⇑P **P 21 23 16.9 +1.1**
MILM Milestii Mici 60.19 313 *e*P **P 21 23 14.0 -1.8**
MILM pmax pmax
comp=Z,90nm,1.1s
MILM MLR MLR
comp=Z,200nm,15.0s
SORM Soroca 60.56 315 ⇑P **P 21 23 18.5 +0.2**
SORM Soroca 60.56 315 ⇑P **P 21 23 18.5 +0.2**
VLDR Vladesti 60.66 312 ⇓P **P 21 23 19.9 +0.8**
ICOR Ion Corvin 60.84 310 ⇑P **P 21 23 21.9 +1.5**
VALR Valaam 60.85 330 *i* P **P 21 23 19.2 -0.9**
VALR pmax pmax
comp=Z,38nm,0.8s
VASR Vaslui 60.89 313 ⇓P **P 21 23 21.9 +1.3**
OOD Oodnadatta 61.03 140 P **P 21 23 22.7 +0.9**
IAS Iasi 61.06 314 ⇑P **P 21 23 23.2 +1.4**
IAS Iasi 61.06 314 ⇑P **P 21 23 23.2 +1.4**
GHRR 61.14 312 ⇓P **P 21 23 23.8 +1.5**
NEF NEVSHA 61.23 309 *e*P **P 21 23 24.7 +1.7**
ABPO Ambohimpanom 61.31 234 P **P 21 23 24.3 +0.3**
ABPO IAmb IAmb 21 24 34.9
comp=Z,54nm,1.6s
ABPO Ambohimpanom 61.31 234 P **P 21 23 24.3 +0.3**
ABPO pmax pmax
comp=Z,54nm,1.6s
MNK Minsk 61.34 322 *e*P **P 21 23 22.7 -0.8**
ODBI Odobesti 61.38 312 ⇓P **P 21 23 25.5 +1.6**
APA Apatity 61.44 337 *i* P **P 21 23 22.8 -1.2**
APA pmax pmax
comp=Z,9.0nm,1.1s
VRI Vrincioaia 61.61 312 ⇑P **P 21 23 26.3 +0.7**
VRI Vrincioaia 61.61 312 ⇑P **P 21 23 26.3 +0.7**
PLOR Plostina 61.66 312 ⇓P **P 21 23 26.5 +0.5**
PLOR Plostina 61.66 312 ⇓P **P 21 23 26.5 +0.5**
TESR Tescani 61.67 313 ⇑P **P 21 23 25.8 -0.2**
KARP Karpathos 61.70 300 P **P 21 23 26.5 +0.2**
LOZB Loznitsa 61.72 309 ⇓P **P 21 23 25.9 -0.5**
ISR Istrita 61.74 311 ⇓P **P 21 23 27.6 +1.1**
ISR Istrita 61.74 311 ⇓P **P 21 23 27.6 +1.1**
RAZG Razgrad 61.78 309 ⇓P **P 21 23 26.8 0.0**
JMB Yambol 61.79 308 *e*P **P 21 23 28.8 +2.0**
PATS Pohnpei 61.84 93 P **P 21 23 26.7 -0.9**
MULG Mulgathing 61.90 143 P **P 21 23 28.5 +0.9**
NEHR Nehoiu 61.91 312 ⇑P **P 21 23 28.6 +1.0**
COVR Voineasa-Covas 61.98 312 ⇑P **P 21 23 27.5 -0.6**
TURR Turia 62.11 312 ⇑P **P 21 23 29.0 +0.1**
MLR Muntele Rosu 62.16 312 ⇑P **P 21 23 30.2 +0.8**
MLR Muntele Rosu 62.16 312 P **P 21 23 29.7 +0.3**
MLR Muntele Rosu 62.16 312 ⇑P **P 21 23 30.2 +0.8**
ALN Alexandroupoli 62.22 306 P **P 21 23 29.1 -0.6**
ALN IAmb IAmb 21 23 32.6
comp=Z,22nm,0.9s
ALN Alexandroupoli 62.22 306 P **P 21 23 29.1 -0.6**
ALN pmax pmax
comp=Z,22nm,0.9s
ELND Elena 62.26 309 ⇑P **P 21 23 29.2 -0.8**
BOSR Bodos 62.35 312 ⇓P **P 21 23 32.0 +1.5**
VSU Vasula 62.42 326*ce*P **P 21 23 31.3 +0.6**
VSU pmax pmax
comp=Z,80nm,2.5s
ISAL Salakas 62.45 323 *e*P **P 21 23 31.8 +0.8**
DOPR Dopca 62.55 312 ⇑P **P 21 23 32.5 +0.6**
RDO Rodhopi 62.59 307 P **P 21 23 31.5 -0.6**
RDO IAmb IAmb 21 23 35.1
comp=Z,25nm,1.0s
BURAR Bucovina Array 62.66 314 P **P 21 23 32.2 -0.5**
BURAR IAmb IAmb 21 23 35.7
comp=Z,22nm,0.9s
BUR08 Bucovina Ar. S 62.67 314 P **P 21 23 31.6 -1.1**
BUR08 IAmb IAmb 21 23 35.5
comp=Z,23nm,0.9s
KSV Kosov 62.76 315 P **P 21 23 33.0 -0.2**
VOIR 62.79 312 ⇓P **P 21 23 34.9 +1.3**
VOIR 62.79 312 ⇓P **P 21 23 34.9 +1.3**
ARR Arges 63.09 312 ⇑P **P 21 23 35.3 -0.2**
FIA1 FINESS Array S 63.14 330 P **P 21 23 34.6 -0.9**
FINES FINESS Array B 63.14 330 P **P 21 23 34.2 -1.2**
comp=Z,18nm,0.6s,baz=100,slow=4.5,SNR=51
comp=Z,18nm,0.6s
RZN Rozhen 63.16 307 *e*P **P 21 23 38.1 +1.9**
PLVB Pleven 63.16 309 ⇓P **P 21 23 39.9 +1.0**
ARCR ARCALIA 63.25 313 ⇑P **P 21 23 36.7 +0.2**
CTA Charters Tower 63.32 126 P **P 21 23 36.6 -0.6**
comp=Z,11nm,0.9s,baz=330,slow=7.6,SNR=3.9
CTA LR LR 21 52 58.2
comp=Z,88nm,20.7s,baz=262,slow=38
comp=Z,11nm,0.9s
CTAO Charters Tower 63.32 126 P **P 21 23 36.1 -1.2**
CTAO Charters Tower 63.32 126 P **P 21 23 36.1 -1.2**
CTAO pmax pmax
comp=Z,69nm,1.5s
VOI Vohitsoka 63.36 232 P **P 21 23 37.7 +0.1**
VOI IAmb IAmb 21 23 42.5
comp=Z,32nm,0.9s
VOI Vohitsoka 63.36 232 P **P 21 23 41.9 +4.2**
VOI Vohitsoka 63.36 232 P **P 21 23 40.8 +3.1**
LVV L'vov 63.45 317 *e*P **P 21 23 39.2 +1.4**
PGB Panagyurishte 63.53 308 *e*P **P 21 23 40.6 +2.1**
IDI Anoyia 63.57 300 P **P 21 23 38.3 -0.6**
PABE Paberze 63.67 323 P **P 21 23 38.4 -0.7**
PABE Paberze 63.67 323 *e*P **P 21 23 39.7 +0.7**
LOT Lotru 63.69 312 ⇓P **P 21 23 39.1 -0.5**
VSVD Vaisvydziai 63.72 323 *e*P **P 21 23 40.3 +1.0**
CJR Cluj-Napoca 63.77 313 ⇑P **P 21 23 40.3 +0.3**
CJR Cluj-Napoca 63.77 313 ⇑P **P 21 23 40.3 +0.3**
MPEP Malo Peshtene 63.80 309 *e*P **P 21 23 42.1 +1.9**
MEF Metsahovi 63.81 328 *e*P **P 21 23 41.1 +1.2**
BMR Baia Mare 63.82 314 ⇑P **P 21 23 40.1 -0.1**
BMR Baia Mare 63.82 314 ⇑P **P 21 23 40.1 -0.1**
VALD Valchedram 64.01 310 *e*P **P 21 23 43.8 +2.3**
SUW Suwalki 64.06 321 *e*P **P 21 23 41.1 -0.5**
SUW *e*pP **pP 21 23 42.6 -3.8**
SUW Suwalki 64.06 321 P **P 21 23 40.2 -1.4**
SUW Suwalki 64.06 321 P **P 21 23 40.3 -1.4**
SUW pmax pmax
comp=Z,153nm,1.0s
SUW Suwalki 64.06 321 *e*P **P 21 23 42.2 +0.6**
MARR Marisel-Cluj 64.10 313 ⇓P **P 21 23 42.5 +0.3**
TRSU Trosnyk 64.17 315 P **P 21 23 44.8 +2.3**
INKA Innaminka 64.20 136 P **P 21 23 44.2 +1.3**
MESR Meseseni 64.20 314 ⇑P **P 21 23 43.5 +0.7**
DEV Deva 64.28 312 ⇑P **P 21 23 43.7 +0.4**
DEV Deva 64.28 312 ⇑P **P 21 23 43.7 +0.4**
KWP Kalwaria Pacla 64.31 316 *e*P **P 21 23 43.5 0.0**
KWP *e*pP **pP 21 23 45.6 -2.5**
KWP Kalwaria Pacla 64.31 316 P **P 21 23 43.1 -0.4**
KWP Kalwaria Pacla 64.31 316 P **P 21 23 43.1 -0.4**
KWP pmax pmax
comp=Z,133nm,0.8s
KKB Krupnik 64.35 308 *e*P **P 21 23 45.3 +1.5**
DRGR 64.38 313 ⇑P **P 21 23 44.0 0.0**
DRGR 64.38 313 ⇑P **P 21 23 44.0 0.0**
GZR Gura Zlata 64.39 312 ⇓P **P 21 23 44.5 +0.4**
LCRK Leigh Creek 64.47 140 P **P 21 23 45.7 +1.1**
BILL Bilibino 64.50 23 P **P 21 23 44.4 +0.1**
BILL IAmb IAmb 21 23 47.0
comp=Z,15nm,1.1s
BILL Bilibino 64.50 23⇑*e*P **P 21 23 44.0 -0.3**
BILL pmax pmax
comp=Z,8.0nm,1.0s
BLKB Belogradchik 64.56 310 ⇑P **P 21 23 44.3 -0.9**
KOLS Kolonicke sedl 64.61 316 *e*P **P 21 23 46.9 +1.5**
KOLS pmax pmax
comp=Z,13nm,0.8s
KOLS Kolonicke sedl 64.61 316 *e*P **P 21 23 46.9 +1.5**
HERR Herculane 64.67 311 ⇑P **P 21 23 46.5 +0.6**
ARA0 ARCESS Array S 64.75 339 *e*P **P 21 23 45.2 -0.8**
ARCES ARCESS Array B 64.75 339 P **P 21 23 45.4 -0.6**
ARCES ARCESS Array B 64.75 339 P **P 21 23 45.4 -0.6**
comp=Z,2.8nm,0.7s,baz=73,slow=1.6,SNR=13
comp=Z,2.8nm,0.7s
SURR Surduc 64.83 312 ⇑P **P 21 23 47.1 +0.2**
PBUR Paburge 64.84 323 *e*P **P 21 23 47.9 +1.2**
BBOO Buckleboo 64.92 143 P **P 21 23 47.2 -0.3**
BBOO IAmb IAmb 21 23 48.7
comp=Z,22nm,0.8s
BBOO Buckleboo 64.92 143 P **P 21 23 48.6 +1.1**
SIRR Siria 65.13 313 ⇓P **P 21 23 49.2 +0.3**
CRVS Cervenica-Dubn 65.15 316 *e*P **P 21 23 49.5 +0.6**
CRVS pmax pmax
comp=Z,80nm,1.0s
CRVS Cervenica-Dubn 65.15 316 *e*P **P 21 23 49.5 +0.6**
RAF Rauma 65.17 329 *e*P **P 21 23 49.6 +0.8**
BZS Buzias 65.19 312 ⇓P **P 21 23 49.1 -0.1**
BZS Buzias 65.19 312 ⇓P **P 21 23 49.1 -0.1**
AGG Agios Georgios 65.21 305 P **P 21 23 46.1 -3.4**
AGG IAmb IAmb 21 23 56.3
comp=Z,22nm,1.4s
AGG Agios Georgios 65.21 305 P **P 21 23 46.1 -3.4**
AGG pmax pmax
comp=Z,23nm,1.4s
STHS Stebnicka Huta 65.27 316 *e*P **P 21 23 49.6 -0.1**
STHS pmax pmax
comp=Z,13nm,0.8s
STHS Stebnicka Huta 65.27 316 *e*P **P 21 23 49.6 -0.1**
KTK1 Kautokeino 65.45 338 *e*P **P 21 23 52.2 +1.7**
KTK1 IAmb IAmb 21 23 53.7
comp=Z,73nm,1.8s
BEL Belsk 65.50 319 P **P 21 23 53.1 +2.0**
HAMF Hammerfest 65.57 340 *e*P **P 21 23 51.2 0.0**
FNA Florina 65.76 307 P **P 21 23 51.1 -1.9**
FNA Florina 65.76 307 P **P 21 23 51.1 -1.9**
FNA pmax pmax
comp=Z,12nm,1.0s
KECS Kecovo 65.81 315 *e*P **P 21 23 54.3 +1.1**
KECS Kecovo 65.81 315 *e*P **P 21 23 54.3 +1.1**
NIE Niedzica 65.89 316 *e*P **P 21 23 54.0 +0.3**
NIE *e*pP **pP 21 23 56.4 -2.0**
NIE Niedzica 65.89 316 P **P 21 23 53.6 -0.1**
OJC Ojcow 66.17 317 *e*P **P 21 23 54.6 -0.9**
OJC *e*pP **pP 21 23 56.9 -3.3**
OJC Ojcow 66.17 317 P **P 21 23 54.6 -0.9**
OJC Ojcow 66.17 317 P **P 21 23 54.6 -0.9**
OJC pmax pmax
comp=Z,40nm,0.8s
PSZ Piszkesteto 66.24 315 ⇑P **P 21 23 57.5 +1.5**
PSZ Piszkesteto 66.24 315 P **P 21 23 55.6 -0.4**
PSZ IAmb IAmb 21 23 58.9
comp=Z,25nm,0.9s
PSZ Piszkesteto 66.24 315 ⇑P **P 21 23 57.5 +1.5**
PSZ *e* 21 23 59.0
LANS Liptovska Anna 66.44 316 *e*P **P 21 23 59.5 +2.2**
LANS pmax pmax
comp=Z,9.0nm,0.8s
LANS Liptovska Anna 66.44 316 *e*P **P 21 23 59.5 +2.2**
JETT Jettan, Norway 66.52 338 *e*P **P 21 23 59.0 +1.6**
BUD Budapest 66.85 314 P **P 21 24 03.7 +3.8**
MBAR Mbarara 66.86 261 P **P 21 24 00.4 -0.2**
MBAR IAmb IAmb 21 24 04.8
comp=Z,26nm,1.2s
MBAR Mbarara 66.86 261*ce*P **P 21 24 02.0 +1.3**
MBAR pmax pmax
comp=Z,17nm,1.0s
MBAR Mbarara 66.86 261 LR LR 21 53 16.5
comp=Z,100nm,19.9s,baz=82,slow=36
MBAR Mbarara 66.86 261 P **P 21 24 05.2 +4.5**
VYHS Vyhne 66.91 315 *e*P **P 21 24 01.7 +1.5**
VYHS pmax pmax
comp=Z,26nm,1.0s
VYHS Vyhne 66.91 315 *e*P **P 21 24 01.7 +1.5**
HTT Hallett 67.01 142 P **P 21 24 01.7 +0.6**
TRO Tromso 67.05 338 *e*P **P 21 24 01.3 +0.6**
TRO IAmb IAmb 21 24 02.7
comp=Z,33nm,1.2s
MORH Mrgy, Hungar 67.22 313 ⇑P **P 21 24 01.8 -0.4**
OKC Ostrava-Krasne 67.26 317 *e*P **P 21 24 04.2 +1.8**
OKC Ostrava-Krasne 67.26 317 *e*P **P 21 24 04.2 +1.8**
SRO Srobarova 67.31 314 *e*P **P 21 24 05.3 +2.6**
SRO pmax pmax
comp=Z,52nm,1.1s
SRO Srobarova 67.31 314 *e*P **P 21 24 05.3 +2.6**
SHEM Shemya Is, Ala 67.44 40 LR LR 21 56 39.1
comp=Z,156nm,19.4s,baz=308,slow=39
MAUC Maruska 67.50 316 *e*P **P 21 24 04.0 0.0**
MAUC *ex* x 21 24 07.0
STKA Stephens Creek 67.54 139 P **P 21 24 03.8 -0.6**
STKA Stephens Creek 67.54 139 P **P 21 24 05.3 +0.9**
STKA Stephens Creek 67.54 139 *i* P **P 21 24 03.8 -0.6**
STKA Stephens Creek 67.54 139 P **P 21 24 04.4 0.0**
comp=Z,7.8nm,0.8s,baz=330,slow=7.2,SNR=14
STKA LR LR 21 56 26.4
comp=Z,194nm,19.9s,baz=252,slow=38
comp=Z,7.8nm,0.8s
GKP Gorka Klasztor 67.61 320 P **P 21 24 06.2 +1.7**
GKP Gorka Klasztor 67.61 320 *e*P **P 21 24 04.6 +0.1**
JAVC Velka Javorina 67.65 316 *e*P **P 21 24 05.2 +0.2**
MORC Moravsky Berou 67.66 317 P **P 21 24 04.9 -0.1**
MORC IAmb IAmb 21 24 08.1
comp=Z,22nm,0.7s
MORC Moravsky Berou 67.66 317 *e*P **P 21 24 04.7 -0.3**
MORC Moravsky Berou 67.66 317 P **P 21 24 05.1 +0.1**
VIKU Vikbolandet 67.84 315 *e*P **P 21 24 06.1 +1.2**
SMOL Smolenice 67.84 315 *e*P **P 21 24 07.7 +1.6**
MODS Modra-Piesok 67.95 315 *e*P **P 21 24 08.5 +1.7**
MODS pmax pmax
comp=Z,37nm,1.0s
MODS Modra-Piesok 67.95 315 *e*P **P 21 24 08.5 +1.7**
ZST Bratislava 68.08 315 *e*P **P 21 24 09.6 +2.0**
ZST pmax pmax
comp=Z,53nm,0.8s
ZST Bratislava 68.08 315 *e*P **P 21 24 09.6 +2.0**
KRLC Kraliky 68.12 317 *e*P **P 21 24 07.5 -0.4**
KRLC Kraliky 68.12 317 *e*P **P 21 24 07.5 -0.4**
FAUS Fauske 68.27 336 *e*P **P 21 24 07.5 -1.0**
FAUS IAmb IAmb 21 24 11.9
comp=Z,28nm,1.0s
VRAC Vranov 68.31 316 ⇓P **P 21 24 09.3 +0.2**
VRAC Vranov 68.31 316 *e*P **P 21 24 08.8 -0.3**
VRAC Vranov 68.31 316 ⇓P **P 21 24 09.3 +0.2**
VRAC *e* 21 24 12.5
VRAC Vranov 68.31 316 LR LR 21 59 20.1
comp=Z,76nm,21.8s,baz=97,slow=41
KSP Ksiaz 68.36 318 P **P 21 24 11.8 +2.4**
DPC Dobruska-Polom 68.39 317 *e*P **P 21 24 09.7 +0.1**
DPC *e* 21 24 12.4
DPC Dobruska-Polom 68.39 317 *e*P **P 21 24 09.7 +0.1**

DPC epP pP 21 24 12.4 -1.9
OSTC Ostas 68.44 318 eP P 21 24 09.5 -0.4
OSTC Ostas 68.44 318 eP P 21 24 09.5 -0.4
KRUC Moravsky 68.47 316 eP P 21 24 10.4 +0.4
SOP Sopron 68.50 314 P P 21 24 11.9 +1.6
CHVC Chvalec 68.54 318 eP P 21 24 10.4 -0.1
CHVC Chvalec 68.54 318 eP P 21 24 10.4 -0.1
UPC Upice 68.57 318 eP P 21 24 10.4 -0.3
UPC Upice 68.57 318 eP P 21 24 10.4 -0.3
MOR8 Moi Rana 68.60 334 eP P 21 24 09.7 -0.9
MOR8 IAmb IAmb 21 24 12.0
comp=Z,15nm,0.8s
RONA Rosalia, Austr 68.67 315 eP P 21 24 10.7 -0.7
comp=Z,1.8nm,0.6s
RONA *i* pP pP 21 24 13.5 -2.6
comp=Z,23nm,1.2s,SNR=8.6
BSD Bornholm Skovb 68.84 323 eP P 21 24 12.8 +0.5
KOGS Kog 68.84 313 *i* P P 21 24 12.8 +0.4
LOF Lofoten 68.94 337 eP P 21 24 10.9 -1.7
CONA Conrad Observa 68.94 315 eP P 21 24 13.5 +0.3
comp=Z,7.5nm,1.2s
CONA *i* pP pP 21 24 15.4 -2.5
comp=Z,28nm,1.0s,SNR=13
TREC Trest 69.03 316 eP P 21 24 13.3 -0.3
TREC Trest 69.03 316 eP P 21 24 13.3 -0.3
KIJV Kijevo 69.04 311 *i* P P 21 24 12.5 -1.2
HFS Hagfors 69.15 328 P P 21 24 13.2 -0.9
comp=Z,24nm,0.6s,baz=106,slow=4.9,SNR=58
HFS LR LR 21 57 10.0
comp=Z,234nm,18.6s,baz=88,slow=38
comp=Z,24nm,0.6s
ARSA Arzberg 69.24 314 *i* pP P 21 24 17.2 +2.2
comp=Z,18nm,0.8s,SNR=7.6
DEL Delary 69.33 324 eP P 21 24 15.5 +0.3
GOPC GO Pecny, Ondr 69.42 317 eP P 21 24 15.9 -0.1
GOPC GO Pecny, Ondr 69.42 317 eP P 21 24 15.9 -0.1
UDBI Udbina 69.43 311 *i* P P 21 24 15.2 -1.0
HNR Honiara 69.46 109 LR LR 21 55 35.4
comp=Z,422nm,19.6s,baz=250,slow=37
TIP Timpagrande 69.48 305 P P 21 24 15.8 -0.8
TIP IAmb IAmb 21 24 33.3
comp=Z,23nm,1.1s
PVCC Panska Ves 69.49 318 P P 21 24 18.6 +2.2
MORI Morici 69.56 310 *i* P P 21 24 15.8 -1.1
PRU Pruhonice 69.57 317 eP P 21 24 16.7 -0.2
PRU Pruhonice 69.57 317 eP P 21 24 16.7 -0.2
PRA Prague 69.63 317 AMS AMS 21 57 00.0
comp=Z,300nm,18.9s
ZIRJ Zirje 69.64 310 *i* P P 21 24 15.6 -1.8
SOKA Soboth 69.65 314 eP P 21 24 17.0 -0.5
comp=Z,4.8nm,0.7s
SOKA *i* pP pP 21 24 20.0 -2.3
comp=Z,22nm,0.8s,SNR=8.0
NSS Namsos 69.70 333 eP P 21 24 18.4 +1.0
NSS IAmb IAmb 21 24 26.0
comp=Z,31nm,1.3s
RUE Ruedersdorf 69.76 320 eP P 21 24 18.2 +0.2
RUE Ruedersdorf 69.76 320 eP P 21 24 20.3 +2.4
comp=Z,70nm,0.9s,baz=82,slow=6.0
RICC Richard 69.78 318 eP P 21 24 18.4 +0.2
BRG Berggiesshubel 69.84 318 *i* P P 21 24 18.6 0.0
BRG Amp 21 24 19.1
comp=Z,7.6nm,0.6s
BRG Berggiesshubel 69.84 318 P P 21 24 21.1 +2.5
BRG Amp 21 24 21.7
comp=Z,43nm,0.7s
BRG Berggiesshubel 69.84 318 P P 21 24 25.1 +6.5
BRG Amp 21 24 25.8
comp=Z,18nm,0.7s
BRG Berggiesshubel 69.84 318 *i* P P 21 24 18.5 0.0
BRG 21 24 21.0
BRG 21 24 25.0
BRG pmax pmax
comp=Z,8.0nm,0.6s
BRG pmax pmax
comp=Z,43nm,0.7s
BRG MLR MLR
comp=Z,310nm,18.4s
BRG Berggiesshubel 69.84 318 eP P 21 24 20.9 +2.4
comp=Z,30nm,0.7s,baz=82,slow=6.0
SGRT San Giovanni R 69.84 308 P P 21 24 18.2 -0.7
ZVC Zvikov 69.86 317 eP P 21 24 18.4 -0.3
CKRC Cesky Krumlov 69.86 316 eP P 21 24 18.2 -0.5
CKRC Cesky Krumlov 69.86 316 eP P 21 24 18.2 -0.5
CMSA Cobar Meteorol 69.93 136 P P 21 24 20.1 +0.8
EIDS Eidsvold 69.99 128 P P 21 24 19.6 -0.2
OBKA Obir 70.00 313 epP pP 21 24 22.1 -2.4
comp=Z,29nm,0.8s
MOA Molln 70.01 315 eP P 21 24 19.0 -0.7
comp=Z,4.8nm,0.5s
MOA *i* pP pP 21 24 22.2 -2.2
comp=Z,44nm,0.7s,SNR=12
NC405 NORSAR Array S 70.06 329 P P 21 24 18.8 -0.9
NC602 NORSAR Array S 70.17 329 eP P 21 24 20.4 0.0
NC602 IAmb IAmb 21 24 21.6
comp=Z,20nm,0.9s
NORES NORESS Array B 70.17 329 P P 21 24 22.7 +2.3
NORES pmax pmax
comp=Z,1.0nm,0.5s
CEY Cerknica 70.20 313 *i* P P 21 24 20.5 -0.4
CEY *i* 21 24 22.4
HSKC Hora Svate Kat 70.20 318 eP P 21 24 20.6 -0.2
HSKC *ex* x 21 24 23.2
GEC2 GERESS Array S 70.25 316 P P 21 24 21.0 -0.3
GEC2 GERESS Array S 70.25 316 eP P 21 24 23.6 +2.4
comp=Z,34nm,0.8s,baz=82,slow=6.0
GERES GERESS Array B 70.25 316 P P 21 24 21.1 -0.1
comp=Z,42nm,0.7s,baz=60,slow=7.9,SNR=57
GERES LR LR 21 58 34.6
comp=Z,74nm,19.5s,baz=82,slow=39
KHC Kasperske Hory 70.30 316 P P 21 24 21.4 -0.1
KHC IAmb IAmb 21 24 24.5
comp=Z,20nm,0.9s
KHC Kasperske Hory 70.30 316 *ce*P P 21 24 23.6 +2.2
KHC pmax pmax
comp=Z,65nm,1.3s
KHC Kasperske Hory 70.30 316 eP P 21 24 18.8 -2.6
KHC *ep*P pP 21 24 23.3 -2.9
KHC AMS AMS 21 58 30.0
comp=Z,200nm,21.8s
CEL Celeste 70.30 305 P P 21 24 21.8 +0.1
NB2 NORSAR Subarra 70.30 329 P P 21 24 18.3 -2.9
NB2 pmax pmax
comp=Z,1.0nm,0.6s
NB2 NORSAR Subarra 70.30 329 P P 21 24 19.9 -1.3
comp=Z,7.7nm,0.6s,baz=84,slow=6.5
NB2 NORSAR Subarra 70.30 329 P P 21 24 19.9 -1.3
baz=84,slow=6.5
NOA NORSAR Array B 70.30 329 P P 21 24 20.0 -1.3
NOA NORSAR Array B 70.30 329 P P 21 24 20.0 -1.3
comp=Z,9.3nm,0.6s,baz=84,slow=6.2,SNR=47
NOA LR LR 21 58 44.2
comp=Z,248nm,18.9s,baz=85,slow=39
comp=Z,9.3nm,0.6s
CLL Collm 70.38 319 P P 21 24 21.6 -0.2
CLL IAmb IAmb 21 24 24.5
comp=Z,40nm,1.2s
CLL Collm 70.38 319 *i* P P 21 24 23.7 +1.9
CLL pmax pmax
comp=Z,39nm,1.2s
CLL Collm 70.38 319 *i* P P 21 24 23.7 +1.9
comp=Z,39nm,1.2s
CLL AMS AMS 21 59 00.0
comp=Z,200nm,18.7s
BIOA Bad Ischl, Aus 70.45 315 *i* P P 21 24 22.2 -0.2
comp=Z,5.9nm,1.0s,SNR=6.9
BIOA *ep*P pP 21 24 24.4 -2.7
comp=Z,16nm,0.8s
STRU Stroemstad 70.52 327 eP P 21 24 24.2 +1.7
OSL Oslo 70.66 328 eP P 21 24 24.8 +1.5
PRED Cave del Predi 70.69 313 P P 21 24 23.0 -0.9
PRED IAmb IAmb 21 24 26.3
comp=Z,29nm,0.8s
KBA Koelnbreinsper 70.74 314 eP P 21 24 23.3 -1.1
comp=Z,5.8nm,0.8s
KBA *i* pP pP 21 24 26.1 -3.0
comp=Z,20nm,0.8s,SNR=7.0
KBA Koelnbreinsper 70.74 314 P P 21 24 23.5 -0.9
WET Wettzell 70.75 316 eP P 21 24 26.6 +2.4
comp=Z,30nm,0.9s,baz=82,slow=6.0
ROBS Robic 70.75 313 *i* P P 21 24 23.1 -1.1
TANN Tannenbergstha 70.84 318 eP P 21 24 26.9 +2.2
comp=Z,17nm,0.8s,baz=82,slow=6.0
PLN Plauen 71.02 318 eP P 21 24 28.0 +2.2
comp=Z,16nm,0.8s,baz=82,slow=6.0

ARPS Mount Arapiles 71.06 142 P P 21 24 26.9 +0.8
ROTZ Rotzenmuhle 71.09 317 eP P 21 24 29.1 +2.9
comp=Z,9.4nm,0.8s,baz=82,slow=6.0
MANZ Manzenberg 71.12 317 eP P 21 24 29.1 +2.6
comp=Z,5.0nm,0.9s,baz=82,slow=6.0
LESA Schwarzleotal 71.14 315 eP P 21 24 25.7 -0.9
comp=Z,6.9nm,0.5s
LESA *ep*P pP 21 24 28.5 -2.9
comp=Z,40nm,0.7s
NEUB Neuenburg 71.16 319 eP P 21 24 28.8 +2.2
comp=Z,35nm,0.9s,baz=82,slow=6.0
DOMB Dombas 71.22 330 eP P 21 24 28.0 +1.2
DOMB IAmb IAmb 21 24 29.1
comp=Z,16nm,0.7s
KONO Kongsberg 71.25 328 P P 21 24 27.1 +0.1
KONO Kongsberg 71.25 328 *i* P P 21 24 25.9 -1.1
KONO pmax pmax
comp=Z,109nm,3.1s
KONO Kongsberg 71.25 328 eP P 21 24 28.4 +1.4
STAL STALIGIAL 71.30 313 P P 21 24 26.7 -0.9
MOX Moxa 71.34 318 eP P 21 24 29.9 +2.2
comp=Z,18nm,0.9s,baz=82,slow=6.0
MOX *e*L L 21 59 03.6
comp=Z,183nm,20.7s
ABTA Abfaltersbach 71.36 314 *i* P P 21 24 27.4 -0.6
comp=Z,24nm,0.9s,SNR=8.8
NRCA Norcia 71.59 310 P P 21 24 28.7 -0.7
VAE Valguarnera 71.60 304 LR LR 22 00 25.9
comp=Z,95nm,18.1s,baz=330,slow=40
BSEG Bad Segeberg 71.64 322 eP P 21 24 32.1 +2.7
comp=Z,55nm,0.9s,baz=82,slow=6.0
GRA1 Grafenberg Arr 71.74 317 P P 21 24 30.5 +0.4
GRA1 IAmb IAmb 21 24 34.5
comp=Z,36nm,1.0s
GRF Grafenberg Arr 71.74 317 P P 21 24 30.5 +0.4
GRF pmax pmax
comp=Z,36nm,1.0s
GRF Grafenberg Arr 71.74 317 *e*L L 21 57 53.8
comp=Z,177nm,19.3s
GRFO Grafenberg 71.74 317 P P 21 24 30.8 +0.7
GRFO IAmb IAmb 21 24 34.4
comp=Z,35nm,1.0s
GRFO Grafenberg 71.74 317 P P 21 24 30.8 +0.7
GRFO pmax pmax
comp=Z,35nm,1.0s
SKAR Skarslia 71.76 329 eP P 21 24 30.6 +0.5
SKAR IAmb IAmb 21 24 33.2
comp=Z,12nm,0.8s
MOL Molde 71.86 331 eP P 21 24 31.2 +0.7
WTTA Wattenberg 71.86 315 eP P 21 24 29.9 -1.2
comp=Z,2.9nm,0.5s
WTTA *i* pP pP 21 24 32.8 -3.1
comp=Z,19nm,0.6s,SNR=12
WATA Walderalm 71.89 315 eP P 21 24 30.1 -1.2
comp=Z,1.8nm,0.5s
WATA *i* pP pP 21 24 32.8 -3.3
comp=Z,16nm,0.9s,SNR=11
CLZ Clausthal 71.93 319 eP P 21 24 33.7 +2.4
comp=Z,28nm,0.7s,baz=82,slow=6.0
NRDL Niedersach Rie 71.98 320 eP P 21 24 34.2 +2.8
comp=Z,24nm,0.8s,baz=82,slow=6.0
SQTA Sankt Quirin 72.16 315 eP P 21 24 31.6 -1.2
comp=Z,7.4nm,0.7s
SQTA *i* pP pP 21 24 34.4 -3.2
comp=Z,34nm,0.7s,SNR=10
AKN Aaknes 72.17 330 eP P 21 24 33.1 +0.7
MOTA Moosalm 72.20 315 eP P 21 24 32.1 -1.1
comp=Z,7.3nm,0.7s
MOTA *i* pP pP 21 24 34.6 -3.3
comp=Z,59nm,0.9s,SNR=14
RETH Rethem/Aller, 72.39 320 eP P 21 24 36.2 +2.3
comp=Z,9.7nm,0.8s,baz=82,slow=6.0
RETA Reutte 72.41 315 eP P 21 24 33.4 -0.9
comp=Z,4.0nm,0.5s
RETA *i* pP pP 21 24 36.0 -3.0
comp=Z,47nm,0.8s,SNR=12
FETA Feichten 72.51 314 eP P 21 24 34.0 -1.1
comp=Z,2.1nm,0.6s
FETA *i* pP pP 21 24 36.5 -3.3
comp=Z,24nm,0.8s,SNR=9.7
ODD1 Odda 72.70 328 eP P 21 24 36.9 +1.1
UBR Ueberruh 72.81 315 eP P 21 24 38.4 +1.7
comp=Z,20nm,0.8s,baz=82,slow=6.0
BLS5 Blasjo 72.87 328 eP P 21 24 38.1 +1.4
FUORN Ofenpass-Fuorn 72.90 314 P P 21 24 36.9 -0.6
DAVA Damuels 73.03 315 eP P 21 24 36.6 -1.5
comp=Z,8.0nm,1.0s
DAVA *i* pP pP 21 24 40.1 -2.8
comp=Z,51nm,0.8s,SNR=12
DAVOX Davos/Dischmat 73.13 314 LR LR 22 03 07.3
comp=Z,146nm,19.3s,baz=72,slow=41
FOO Floro 73.18 330 eP P 21 24 38.9 +0.5
STU Stuttgart 73.20 316 P P 21 24 39.2 +0.3
STU IAmb IAmb 21 24 42.0
comp=Z,46nm,0.9s
STU Stuttgart 73.20 316 P P 21 24 39.2 +0.3
STU pmax pmax
comp=Z,46nm,0.9s
STU Stuttgart 73.20 316 eP P 21 24 41.3 +2.4
comp=Z,69nm,0.8s,baz=82,slow=6.0
TNS Taunus Mts 73.41 318 eP P 21 24 42.5 +2.4
comp=Z,17nm,0.8s,baz=82,slow=6.0
IBBN Ibbenburen 73.44 320 eP P 21 24 42.7 +2.6
comp=Z,22nm,0.9s,baz=82,slow=6.0
TUE Stuetta 73.55 314 P P 21 24 40.7 -0.5
TUE IAmb IAmb 21 24 50.5
comp=Z,19nm,0.8s
TOO Toolangi 73.74 141 P P 21 24 42.2 +0.1
TOO IAmb IAmb 21 24 44.2
comp=Z,15nm,0.7s
TOO Toolangi 73.74 141 P P 21 24 43.2 +1.1
TOO Toolangi 73.74 141 P P 21 24 42.2 +0.1
TOO pmax pmax
comp=Z,15nm,0.7s
BFO Black Forest 73.86 316 P P 21 24 42.3 -0.5
BFO IAmb IAmb 21 24 45.4
comp=Z,21nm,1.0s
BFO Black Forest 73.86 316 P P 21 24 42.3 -0.5
BFO pmax pmax
comp=Z,21nm,1.0s
BFO Black Forest 73.86 316 eP P 21 24 44.7 +1.9
comp=Z,7.5nm,0.8s,baz=82,slow=6.0
BUG Bochum--Univer 73.90 319 eP P 21 24 45.4 +2.5
comp=Z,33nm,0.9s,baz=82,slow=6.0
CDF Champ du Feu 74.53 316 eP P 21 24 45.9 -0.8
CDF pmax pmax
comp=Z,20nm,0.8s
ECH Echery 74.64 316 P P 21 24 48.0 +0.6
ECH Echery 74.64 316 P P 21 24 48.0 +0.6
ECH pmax pmax
comp=Z,11nm,0.9s
TNA Tin City 74.72 25 P P 21 24 48.1 +0.7
baz=284
BTNL Ternell 74.78 319 *d*P P 21 24 48.7 +0.6
comp=Z,15nm,1.0s
MEM Membach 74.86 319 *d*P P 21 24 50.6 +2.1
comp=Z,13nm,1.1s
HINF Hinteralfeld 74.93 316 eP P 21 24 49.5 +0.4
HINF pmax pmax
comp=Z,32nm,1.4s
SENIN Lac Senin/Sane 74.96 314 P P 21 24 48.9 -0.5
WLF Walferdange 74.97 318 P P 21 24 49.3 +0.1
WLF Walferdange 74.97 318 P P 21 24 49.3 +0.1
WLF pmax pmax
comp=Z,69nm,1.0s
WLF Walferdange 74.97 318 eP P 21 24 52.3 +3.1
comp=Z,444nm,2.6s,baz=82,slow=6.0
C16K Lisburne Hills 75.01 22 P P 21 24 48.8 -0.2
C16K Lisburne Hills 75.01 22 P P 21 24 49.6 +0.6
baz=286,SNR=5.9
LSZ Lusaka 75.08 247 P P 21 24 50.2 -0.2
LSZ Lusaka 75.08 247 P P 21 24 50.2 -0.2
LSZ pmax pmax
comp=Z,11nm,0.7s
LSZ Lusaka 75.08 247 LR LR 21 55 43.0
comp=Z,207nm,20.3s,baz=128,slow=34
LSZ Lusaka 75.08 247 P P 21 24 51.3 +0.8
BSTI Sart Tilman 75.14 319 *d*pP pP 21 24 52.5 -2.4
HAU Haudompre 75.22 316 eP P 21 24 51.3 +0.6
HAU pmax pmax
comp=Z,28nm,1.0s
BCLA Clavier 75.34 319 *d*P P 21 24 52.6 +1.4
comp=Z,7.6nm,1.1s
F14K Arctic Creek 75.39 25 P P 21 24 51.6 +0.3
baz=285
RCHB Rochefort 75.44 318 *d*P P 21 24 51.7 -0.1

comp=Z,12nm,0.9s
BGES Gesves 75.48 319 *d*P P 21 24 54.5 +2.5
comp=Z,12nm,1.0s
LPG La Plagne 75.53 313 eP P 21 24 52.4 -0.4
LPG pmax pmax
comp=Z,37nm,0.9s
LPL La Plagne 75.54 313 eP P 21 24 52.1 -0.7
LPL pmax pmax
comp=Z,56nm,1.0s
BNI Bardonecchia 75.68 313 P P 21 24 53.1 -0.4
BNI IAmb IAmb 21 24 57.4
comp=Z,21nm,1.1s
BNI Bardonecchia 75.68 313 P P 21 24 53.1 -0.4
BNI pmax pmax
comp=Z,21nm,1.1s
MBDF Montbardon 75.70 313 eP P 21 24 55.6 +1.9
MBDF pmax pmax
comp=Z,24nm,1.0s
BMRD Maredsous 75.70 319 *d*P P 21 24 54.7 +1.4
comp=Z,10nm,0.9s
GIVF Givet 75.71 318 eP P 21 24 54.4 +1.0
GIVF pmax pmax
comp=Z,20nm,0.9s
C17K DeLong Mountai 75.72 22 P P 21 24 53.1 -0.1
baz=287
TATN Tataouine 75.79 300 P P 21 24 55.2 +0.9
TATN IAmb IAmb 21 24 57.7
comp=Z,30nm,1.3s
DOU Dourbes 75.85 318 *d*P P 21 24 56.3 +2.1
B18K Kokolik River 75.92 21 P P 21 24 54.8 +0.5
baz=288
KEST Kesra 75.96 303 P P 21 24 55.4 +0.1
KEST Kesra 75.96 303 P P 21 24 55.6 +0.3
comp=Z,30nm,1.0s,baz=60,slow=1.9,SNR=12
comp=Z,30nm,1.0s
D17K Noatak River 75.99 23 P P 21 24 55.2 +0.5
baz=288,SNR=9.5
F15K North Star Dit 75.99 25 P P 21 24 54.9 +0.2
baz=287
JMIC Jan Mayen 76.02 341 LR LR 22 05 57.7
comp=Z,69nm,18.2s,baz=12,slow=42
ANM Nome 76.03 26 P P 21 24 54.9 -0.1
baz=286
BAIF Baives 76.11 318 eP P 21 24 55.7 0.0
BAIF pmax pmax
comp=Z,40nm,1.0s
P08K Saint George I 76.20 35 P P 21 24 55.8 -0.3
baz=285
ORIF Oris-en-Rattie 76.27 313 eP P 21 24 58.1 +1.3
ORIF pmax pmax
comp=Z,23nm,1.4s
C18K Utukok River 76.36 22 P P 21 24 57.4 +0.5
baz=289
G15K Niukluk 76.45 25 P P 21 24 57.5 +0.2
baz=288
C19K Lookout Ridge 76.75 21 P P 21 24 59.3 +0.2
C19K Lookout Ridge 76.75 21 P P 21 24 58.8 -0.3
baz=290
A21K Barrow 76.87 18 P P 21 24 59.6 0.0
baz=293
E18K Tukpahlearik C 76.98 23 P P 21 25 00.4 +0.1
baz=290
G16K Koyuk River 77.00 25 P P 21 25 00.5 +0.1
baz=289
LOR Lormes 77.03 316 eP P 21 25 01.6 +0.6
LOR pmax pmax
comp=Z,25nm,1.1s
F17K Baldwin Pennin 77.08 24 P P 21 25 01.2 +0.3
baz=290
SSB Saint Sauveur 77.09 314 P P 21 25 01.2 -0.2
SSB IAmb IAmb 21 25 04.3
comp=Z,28nm,1.1s
SSB Saint Sauveur 77.09 314 P P 21 25 01.2 -0.2
SSB pmax pmax
comp=Z,28nm,1.1s
VIVF Saint-Julien-l 77.11 313 eP P 21 25 01.4 -0.1
VIVF pmax pmax
comp=Z,31nm,1.1s
B20K Meade River 77.21 20 P P 21 25 01.8 +0.3
baz=292
H16K Elim 77.29 26 P P 21 25 02.3 +0.2
baz=289,SNR=5.9
J14K Nanvaranak Lak 77.35 28 P P 21 25 02.8 +0.4
baz=288
D19K Kuna River 77.47 21 P P 21 25 03.1 0.0
D19K Kuna River 77.47 21 P P 21 25 03.0 0.0
baz=292
AVF Avril sur Loir 77.49 315 eP P 21 25 02.3 -1.3
AVF pmax pmax
comp=Z,42nm,1.0s
NIKH Nikolski High 77.56 38 P P 21 25 03.9 +0.1
baz=286
F18K Selawik 77.62 23 P P 21 25 04.0 +0.1
baz=291,SNR=11
G17K Kiwalik Mounta 77.63 25 P P 21 25 04.0 0.0
baz=290
CLF Chambon-Foret 77.87 317 P P 21 25 05.6 -0.1
BGF Bois d'Agland 77.89 315 eP P 21 25 06.7 +0.9
BGF pmax pmax
comp=Z,18nm,0.9s
D20K Etivluk River 77.90 21 P P 21 25 05.3 -0.2
baz=293
H17K Granite Mounta 78.12 25 P P 21 25 07.0 +0.2
baz=291
B21K Ikpikpuk River 78.18 20 P P 21 25 07.0 0.0
baz=295
E19K Redstone River 78.18 22 P P 21 25 07.2 +0.2
baz=293
I17K Unalakleet 78.19 26 P P 21 25 07.1 +0.1
baz=291
L14K Kuka Creek 78.20 29 P P 21 25 06.2 -1.0
baz=289
M13K Dall Lake 78.20 30 P P 21 25 06.5 -0.7
baz=289
E20K Nigu River 78.22 21 P P 21 25 06.4 -0.9
baz=294
F19K Shaleruckik Mo 78.23 23 P P 21 25 07.1 -0.1
baz=293
B22K Teshekpuk Lake 78.24 19 P P 21 25 07.4 +0.2
baz=296
G18K Tagagawik 78.26 24 P P 21 25 07.0 -0.5
baz=292
C21K Knifeblade Rid 78.32 20 P P 21 25 07.7 0.0
baz=295
K15K Wolf Creek Mou 78.39 28 P P 21 25 08.2 0.0
K15K IAmb IAmb 21 25 12.7
comp=Z,24nm,1.1s
K15K Wolf Creek Mou 78.39 28 P P 21 25 07.3 -0.9
baz=290
TCF Toulx Ste Croi 78.39 315 eP P 21 25 08.8 +0.2
TCF pmax pmax
comp=Z,46nm,0.9s
J16K Anvik River 78.44 27 P P 21 25 07.5 -1.0
baz=291
L15K Ungalak Mounta 78.62 28 P P 21 25 08.6 -0.9
baz=290
H18K Honhosa River 78.66 24 P P 21 25 08.6 -1.1
baz=292
M14K Bethel 78.73 29 P P 21 25 10.2 +0.1
baz=290,SNR=6.3
G19K Purcell Mounta 78.75 23 P P 21 25 10.1 -0.1
baz=293
CAF Calviac 78.88 314 eP P 21 25 12.7 +1.4
CAF pmax pmax
comp=Z,25nm,1.0s
F20K Avaraart Lake 78.88 22 P P 21 25 11.2 +0.3
baz=294
E21K Killik River 78.89 21 P P 21 25 10.9 -0.1
baz=296
EKA Eskdalemuir Ar 78.92 325 P P 21 25 11.3 0.0
comp=Z,18nm,0.7s,baz=76,slow=5.9,SNR=37
comp=Z,18nm,0.7s
ESK Eskdalemuir 78.95 325 P P 21 25 11.3 -0.1
ESK IAmb IAmb 21 25 14.6
comp=Z,35nm,0.8s
ESK Eskdalemuir 78.95 325 P P 21 25 11.4 -0.1
ESK pmax pmax
comp=Z,35nm,0.8s
D22K Ayikyak River 79.12 20 P P 21 25 12.7 +0.5
baz=297
RJF Les Rejaudoux 79.14 314 eP P 21 25 12.5 -0.2
RJF pmax pmax
comp=Z,45nm,1.0s
N14K Kuskokwak Cree 79.15 30 P P 21 25 12.4 0.0
baz=291
LDF La Druitiere 79.23 318 eP P 21 25 12.6 -0.5
LDF pmax pmax

comp=Z,29nm,0.8s
H19K **Roundabout Mou** **79.24** **24** P **P** **21 25 13.0 +0.1**
H19K IAmb IAmb 21 25 16.7
comp=Z,26nm,1.1s
H19K **Roundabout Mou** **79.24** **24** P **P** **21 25 13.4 +0.5**
baz=294
C23K **Itkillik River** **79.33** **19** P **P** **21 25 13.3 0.0**
baz=298
M15K **Kasigluk River** **79.33** **29** P **P** **21 25 13.9 +0.4**
baz=291,SNR=6.8
GCSA **Galena City Sc** **79.40** **25** P **P** **21 25 14.2 +0.5**
baz=294
FLN **La Foliniere** **79.41** **318** *e*P **P** **21 25 14.9 +0.8**
FLN pmax pmax
comp=Z,34nm,1.2s
L16K **Owhat River** **79.50** **28** P **P** **21 25 14.4 +0.1**
L16K **Owhat River** **79.50** **28** P **P** **21 25 14.6 +0.2**
baz=292
O14K **Tigyukauivet M** **79.59** **31** P **P** **21 25 15.0 +0.2**
baz=291
F21K **Alatna River** **79.60** **22** P **P** **21 25 14.7 -0.2**
F21K IAmb IAmb 21 25 18.1
comp=Z,18nm,0.9s
F21K **Alatna River** **79.60** **22** P **P** **21 25 14.6 -0.2**
baz=296
K17K **Iditarod** **79.62** **27** P **P** **21 25 15.6 +0.5**
baz=293,SNR=12
D23K **Nanushuk River** **79.72** **20** P **P** **21 25 15.7 +0.3**
baz=299
E22K **Anaktuvuk Pass** **79.75** **21** P **P** **21 25 15.8 +0.1**
baz=298
GRR **Gorron** **79.76** **318** *e*P **P** **21 25 17.6 +1.6**
GRR pmax pmax
comp=Z,10.0nm,0.8s
N15K **Kwethluk River** **79.80** **30** P **P** **21 25 15.8 -0.2**
baz=292
H20K **Anotleneega Mo** **79.85** **24** P **P** **21 25 16.3 +0.1**
baz=295
L17K **Donlin** **79.86** **27** P **P** **21 25 16.7 +0.4**
baz=293
C24K **Franklin Bluff** **79.96** **19** P **P** **21 25 17.3 +0.6**
baz=300
J18K **Innoko River** **79.99** **26** P **P** **21 25 17.4 +0.4**
baz=294
M16K **Timber Creek** **80.00** **28** P **P** **21 25 17.1 0.0**
baz=293,SNR=7.8
IMAR **Indian Mountai** **80.06** **23** P **P** **21 25 16.8 -0.5**
J19K **Poorman** **80.21** **25** P **P** **21 25 18.4 +0.2**
baz=295,SNR=13
D24K **Happy Valley** **80.21** **19** P **P** **21 25 18.0 0.0**
baz=300
TOLK **Toolik Lake Re** **80.23** **20** P **P** **21 25 18.3 0.0**
TOLK IAmb IAmb 21 25 21.9
comp=Z,22nm,0.8s
TOLK **Toolik Lake Re** **80.23** **20** P **P** **21 25 18.4 +0.1**
baz=300
N16K **Nishlik Lake** **80.30** **29** P **P** **21 25 18.4 -0.3**
baz=293
O15K **Ungalikthiuk R** **80.30** **30** P **P** **21 25 18.4 -0.3**
baz=292
I20K **Naaghedeneel** **80.31** **24** P **P** **21 25 18.8 +0.2**
baz=296,SNR=6.9
EUNU **Eureka** **80.34** **0** P **P** **21 25 20.0 +1.3**
G22K **Bettles** **80.43** **22** P **P** **21 25 19.4 +0.2**
baz=298
TTA **Tatalina** **80.50** **26** P **P** **21 25 19.6 -0.3**
baz=295,SNR=5.1
E23K **Chandalar** **80.51** **20** P **P** **21 25 19.5 -0.3**
baz=300
L18K **Granite Mounta** **80.51** **27** P **P** **21 25 19.2 -0.6**
baz=294
M17K **Holitna River** **80.52** **28** P **P** **21 25 19.6 -0.3**
baz=294
H21K **Melozitna Rive** **80.55** **23** P **P** **21 25 20.2 +0.2**
baz=297
J20K **Nowinta River** **80.71** **25** P **P** **21 25 21.1 +0.2**
baz=296,SNR=7.1
COLD **Coldfoot** **80.73** **21** P **P** **21 25 21.0 +0.1**
baz=299
D25K **Kavik River** **80.87** **19** P **P** **21 25 22.2 +0.6**
baz=302,SNR=20
SGMF **Saint Gilles** **80.88** **318** *e*P **P** **21 25 23.2 +1.2**
SGMF pmax pmax
comp=Z,52nm,1.0s
O16K **Kokwok River B** **80.96** **30** P **P** **21 25 22.4 +0.1**
baz=294
H22K **Ishtalitna Cre** **80.96** **23** P **P** **21 25 22.7 +0.5**
baz=298
C26K **Camden Bay** **80.97** **18** P **P** **21 25 22.4 +0.3**
baz=304
N17K **Nushagak Hills** **80.99** **29** P **P** **21 25 22.3 -0.1**
baz=294,SNR=6.4
G23K **Bananza Creek** **81.04** **22** P **P** **21 25 22.9 +0.3**
baz=300,SNR=11
I21K **Tanana** **81.08** **23** P **P** **21 25 22.6 -0.2**
baz=298
K20K **Telida** **81.11** **25** P **P** **21 25 23.1 0.0**
baz=296
M18K **Stony River** **81.19** **27** P **P** **21 25 23.7 +0.3**
baz=295
P16K **Nushagak River** **81.23** **30** P **P** **21 25 23.3 -0.4**
baz=294
ETSF **Etsaut** **81.30** **312** *e*P **P** **21 25 25.9 +1.4**
ETSF pmax pmax
comp=Z,8.0nm,0.7s
ROSF **Rostrenen** **81.30** **318** *e*P **P** **21 25 26.4 +2.1**
ROSF pmax pmax
comp=Z,56nm,1.0s
L19K **White Mountain** **81.31** **27** P **P** **21 25 24.6 +0.5**
baz=296
O17K **Koliganek Bris** **81.35** **29** P **P** **21 25 24.0 -0.3**
baz=294
F24K **Squaw Lake** **81.35** **20** P **P** **21 25 24.5 +0.2**
baz=301
QUIF **Quistinic** **81.37** **318** *e*P **P** **21 25 25.4 +0.7**
QUIF pmax pmax
comp=Z,36nm,1.1s
DSB **Dublin** **81.41** **324** P **P** **21 25 25.9 +1.1**
SDPT **Sand Point** **81.43** **34** P **P** **21 25 24.1 -0.7**
baz=292
N18K **Kilae Creek** **81.51** **28** P **P** **21 25 24.8 -0.4**
baz=295
LBTB **Lobatse** **81.53** **240** P **P** **21 25 26.7 +0.7**
LBTB IAmb IAmb 21 25 27.4
comp=Z,14nm,0.6s
LBTB **Lobatse** **81.53** **240** P **P** **21 25 26.7 +0.7**
LBTB pmax pmax
comp=Z,14nm,0.6s
LBTB **Lobatse** **81.53** **240** LR LR 21 58 08.3
comp=Z,103nm,19.2s,baz=86,slow=33
L20K **Farewell, AK** **81.58** **26** P **P** **21 25 25.7 +0.1**
baz=297,SNR=6.1
MLY **Manley** **81.61** **23** P **P** **21 25 25.9 +0.2**
MLY IAmb IAmb 21 25 29.3
comp=Z,20nm,0.9s
MLY **Manley** **81.61** **23** P **P** **21 25 25.5 -0.2**
baz=299,SNR=14
M19K **Big River Lodg** **81.62** **27** P **P** **21 25 25.3 -0.4**
baz=296
SJPF **Ste Jean** **81.69** **313** *e*P P 21 25 31.6 +5.1
SJPF pmax pmax
comp=Z,12nm,1.0s
E25K **Arctic Village** **81.77** **19** P **P** **21 25 26.4 0.0**
baz=303
CAST **Castle Rocks** **81.87** **25** P **P** **21 25 27.0 -0.1**
CAST IAmb IAmb 21 25 30.7
comp=Z,34nm,0.8s
CAST **Castle Rocks** **81.87** **25** P **P** **21 25 27.2 +0.1**
baz=298,SNR=29
P17K **Kvichak River** **81.89** **30** P **P** **21 25 26.9 -0.3**
baz=295
G24K **Hadweenzic Riv** **81.92** **21** P **P** **21 25 27.2 0.0**
baz=302,SNR=8.6
BPAW **Bear Paw Mtn.** **81.97** **24** P **P** **21 25 27.4 -0.2**
BPAW IAmb IAmb 21 25 31.9
comp=Z,28nm,0.8s
BPAW **Bear Paw Mtn.** **81.97** **24** P **P** **21 25 27.7 +0.1**
baz=299,SNR=19
Q16K **King Salmon** **82.01** **30** P **P** **21 25 27.7 -0.1**
baz=295
F25K **Christian River** **82.04** **20** P **P** **21 25 28.2 +0.3**
baz=303
I23K **Minto, Yukon-K** **82.06** **23** P **P** **21 25 28.0 0.0**
baz=300,SNR=13
N19K **Bonanza Creek** **82.07** **28** P **P** **21 25 27.8 -0.5**
baz=296,SNR=7.0
PPLA **Purkeypile** **82.08** **25** P **P** **21 25 28.2 -0.1**
baz=298,SNR=5.0
CHNA **Chernabura Isl** **82.10** **34** P **P** **21 25 27.4 -0.9**
baz=293
CHGN **Chignik** **82.13** **33** P **P** **21 25 27.8 -0.7**
baz=294
M20K **Styx River** **82.17** **27** P **P** **21 25 28.5 -0.2**
baz=297
O18K **Kokuh Hills** **82.17** **29** P **P** **21 25 27.1 -1.6**
baz=296,SNR=6.3
H24K **Noodor Dome** **82.24** **22** P **P** **21 25 28.7 -0.3**
baz=302,SNR=6.5
KTH **Kantishna Hill** **82.27** **25** P **P** **21 25 28.8 -0.4**
KTH IAmb IAmb 21 26 52.5
comp=Z,43nm,1.8s
G25K **Bearman Lake** **82.34** **21** P **P** **21 25 29.2 -0.2**
baz=303
P18K **Big Mountain,** **82.37** **29** P **P** **21 25 28.8 -1.0**
baz=296
O19K **Port Alsworth** **82.42** **28** P **P** **21 25 29.5 -0.4**
baz=297
NEA2 **Nenana** **82.45** **23** P **P** **21 25 29.8 -0.3**
baz=301,SNR=9.4
F26K **Sheenjek River** **82.46** **19** P **P** **21 25 30.0 0.0**
baz=305,SNR=23
BMAR **Burnt Mountain** **82.47** **20** P **P** **21 25 30.4 +0.3**
Q17K **Contact Creek** **82.55** **30** P **P** **21 25 30.4 -0.5**
baz=296
TRF **Thorofare Moun** **82.56** **24** P **P** **21 25 30.9 +0.1**
baz=300
MDM **Murphy Dome** **82.57** **23** P **P** **21 25 30.6 -0.1**
H25L **Birch Creek** **82.71** **21** P **P** **21 25 31.7 +0.4**
baz=303
COLA **College** **82.75** **23** P **P** **21 25 31.0 -0.6**
baz=302
POKR **Poker Plat Res** **82.78** **22** P **P** **21 25 31.0 -0.7**
baz=302
SKT **Skwentna** **82.79** **26** P **P** **21 25 31.1 -0.8**
baz=299,SNR=9.9
TAM **Tamanrasset** **82.82** **292** P **P** **21 25 32.7 -0.3**
TAM **Tamanrasset** **82.82** **292** P **P** **21 25 32.7 -0.3**
TAM pmax pmax
comp=Z,19nm,1.6s
N20K **Mount Spurr** **82.88** **27** P **P** **21 25 31.1 -1.3**
baz=298
SUMG **Summit** **82.94** **347** P **P** **21 25 32.7 -0.3**
SUMG IAmb IAmb 21 25 37.6
comp=Z,36nm,1.7s
SUMG **Summit** **82.94** **347** P **P** **21 25 32.7 -0.3**
SUMG pmax pmax
comp=Z,36nm,1.7s
SUMG **Summit** **82.94** **347** *i* P **P** **21 25 32.0 -1.0**
MCK **McKinley** **82.94** **24** P **P** **21 25 32.2 -0.5**
MCK **McKinley** **82.94** **24** P **P** **21 25 31.5 -1.1**
baz=301,SNR=10
G26K **Porcupine Rive** **83.00** **20** P **P** **21 25 32.2 -0.7**
baz=305
D28M **Stokes Point** **83.06** **17** P **P** **21 25 32.4 -0.7**
baz=309
BORG **Borgarnes** **83.13** **337** LR LR 22 04 14.8
comp=Z,122nm,19.8s,baz=68,slow=37
RND **Reindeer** **83.14** **24** P **P** **21 25 32.8 -1.0**
RND IAmb IAmb 21 25 36.3
comp=Z,16nm,0.9s
RND **Reindeer** **83.14** **24** P **P** **21 25 32.8 -1.0**
RND pmax pmax
comp=Z,16nm,0.9s
ILAR **Eielson Array** **83.16** **23** P **P** **21 25 33.0 -0.7**
ILAR **Eielson Array** **83.16** **23** P **P** **21 25 33.0 -0.7**
comp=Z,7.9nm,0.7s,baz=299,slow=5.1,SNR=31
ILAR PP **PP** **21 28 48.5 +4.1**
comp=Z,1.6nm,0.9s,baz=298,slow=6.3,SNR=7.6
comp=Z,7.9nm,0.7s
P19K **Oil Pt** **83.16** **29** P **P** **21 25 32.5 -1.3**
baz=298
PRP **Porcupine Dome** **83.23** **22** P **P** **21 25 34.1 -0.2**
PRP IAmb IAmb 21 25 37.9
comp=Z,33nm,0.9s
PRP **Porcupine Dome** **83.23** **22** P **P** **21 25 33.4 -0.9**
baz=304,SNR=26
E28M **Babbage River** **83.30** **18** P **P** **21 25 33.3 -1.0**
baz=309
HDA **Harding Lake** **83.33** **23** P **P** **21 25 33.8 -0.9**
baz=302,SNR=5.4
SUA **Susitna One** **83.37** **26** P **P** **21 25 34.6 -0.4**
SUA IAmb IAmb 21 25 37.8
comp=Z,20nm,0.9s
SUA **Susitna One** **83.37** **26** P **P** **21 25 33.9 -1.1**
baz=300,SNR=15
BOSA **Boshof** **83.40** **237** P **P** **21 25 35.8 +0.1**
BOSA IAmb IAmb 21 25 46.1
comp=Z,17nm,1.1s
BOSA **Boshof** **83.40** **237** P **P** **21 25 35.8 +0.1**
comp=Z,8.8nm,0.7s,baz=71,slow=3.6,SNR=21
BOSA LR LR 21 58 02.2
comp=Z,130nm,19.3s,baz=114,slow=32
comp=Z,8.6nm,0.7s
M22K **Willow** **83.48** **26** P **P** **21 25 34.6 -0.7**
baz=300
J25K **Salcha River,** **83.79** **22** P **P** **21 25 35.7 -1.4**
baz=304
F28M **Old Crow** **83.82** **19** P **P** **21 25 36.2 -0.8**
baz=308
HOM **Homer** **83.87** **28** P **P** **21 25 36.6 -0.8**
baz=299
E29M **Blow River** **83.90** **17** P **P** **21 25 36.7 -0.8**
baz=310
PMR **Palmer** **83.97** **26** P **P** **21 25 37.3 -0.6**
baz=301
RC01 **Rabbit Creek A** **83.98** **26** P **P** **21 25 37.3 -0.7**
baz=300,SNR=5.6
K24K **Donnelly Dome** **84.09** **23** P **P** **21 25 37.9 -0.7**
baz=304,SNR=12
BRLK **Bradley Lake** **84.15** **28** P **P** **21 25 37.7 -1.2**
H27K **Steamboat Moun** **84.16** **20** P **P** **21 25 38.6 -0.2**
baz=307
I26K **Coal Creek Min** **84.17** **21** P **P** **21 25 38.9 0.0**
baz=306
SML **Sawmill** **84.18** **25** P **P** **21 25 38.7 -0.4**
SML IAmb IAmb 21 25 42.4
comp=Z,32nm,1.0s
SML **Sawmill** **84.18** **25** P **P** **21 25 38.6 -0.5**
baz=302,SNR=6.4
BRSE **Bradley Lake S** **84.22** **28** P **P** **21 25 38.3 -1.0**
baz=300
OHAK **Old Harbor** **84.27** **31** P **P** **21 25 38.8 -0.7**
OHAK **Old Harbor** **84.27** **31** P **P** **21 25 39.2 -0.3**
baz=298
A36M **Sachs Harbour** **84.31** **12** P **P** **21 25 39.4 -0.1**
baz=322
KDAK **Kodiak Island** **84.34** **30** P **P** **21 25 39.0 -0.8**
baz=298
KDAK **Kodiak Island** **84.34** **30** LR LR 22 05 40.3
comp=Z,199nm,18.0s,baz=323,slow=37
KNK **Knik Glacier** **84.34** **26** P **P** **21 25 39.3 -0.6**
baz=302
M23K **Glacier View** **84.44** **25** P **P** **21 25 39.8 -0.5**
baz=302
J26L **Joseph Creek** **84.50** **22** P **P** **21 25 40.4 -0.3**
baz=305
I27K **Kandik River** **84.51** **21** P **P** **21 25 40.7 0.0**
baz=307
SCM **Sheep Creek Mo** **84.57** **25** P **P** **21 25 40.2 -0.9**
baz=302
SEW **Seward** **84.60** **27** P **P** **21 25 40.2 -0.9**
baz=301
SCRK **Sand Creek** **84.65** **23** P **P** **21 25 41.1 -0.4**
baz=305,SNR=17
GRHM **Grahamstown, E** **84.66** **232** P **P** **21 25 42.0 +0.1**
PAX **Paxson** **84.67** **24** P **P** **21 25 41.2 -0.5**
baz=304,SNR=5.4
ESBB **Sonseca Array** **84.81** **310** P **P** **21 25 42.7 -0.1**
ESBB IAmb IAmb 21 25 46.2
comp=Z,23nm,1.1s
ESDC **Sonseca Array** **84.81** **310** P **P** **21 25 42.4 -0.4**
comp=Z,9.1nm,0.9s,baz=60,slow=4.0,SNR=27
ESDC LR LR 22 11 45.3
comp=Z,74nm,18.0s,baz=19,slow=42
comp=Z,9.1nm,0.9s
M24K **Tolsona, Glenn** **84.88** **25** P **P** **21 25 42.5 -0.1**
baz=303,SNR=5.4
SOE **Somerset East** **85.01** **233** P **P** **21 25 44.1 +0.3**
F30M **Barrier River** **85.01** **18** P **P** **21 25 43.1 -0.1**
baz=312
HARP **HAARP** **85.11** **24** P **P** **21 25 43.7 0.0**
baz=304
PAB **San Pablo** **85.14** **310** P **P** **21 25 43.8 -0.6**
PAB IAmb IAmb 21 25 47.8
comp=Z,19nm,1.1s
PAB **San Pablo** **85.14** **310** P **P** **21 25 43.8 -0.6**
PAB pmax pmax
comp=Z,19nm,1.1s
I28M **Miner Creek** **85.15** **20** P **P** **21 25 43.8 -0.2**
baz=309,SNR=8.3
INK **Inuvik** **85.16** **16** P **P** **21 25 43.6 -0.2**
INK IAmb IAmb 21 25 46.5
comp=Z,20nm,1.2s
INK **Inuvik** **85.16** **16** P **P** **21 25 43.6 -0.2**
INK pmax pmax
comp=Z,20nm,1.3s
INK **Inuvik** **85.16** **16** P **P** **21 25 44.0 +0.3**
baz=314,SNR=8.0
INK **Inuvik** **85.16** **16** LR LR 22 10 08.9
comp=Z,187nm,18.1s,baz=355,slow=40
EGAK **Eagle** **85.16** **21** P **P** **21 25 43.8 -0.1**
baz=308
H29M **Whitestone** **85.16** **19** P **P** **21 25 43.3 -0.6**
baz=310
K27K **Chicken** **85.30** **22** P **P** **21 25 45.0 +0.4**
baz=307
G30M **tAoh Zraii Nji** **85.31** **18** P **P** **21 25 45.0 +0.3**
baz=312
KLU **Klutina** **85.32** **25** P **P** **21 25 44.5 -0.4**
baz=304,SNR=6.0
L26K **Log Cabin Wild** **85.44** **23** P **P** **21 25 44.9 -0.5**
baz=306,SNR=11
RES **Resolute Bay** **85.49** **3** P **P** **21 25 45.8 +0.5**
RES **Resolute Bay** **85.49** **3** P **P** **21 25 45.8 +0.5**
RES pmax pmax
comp=Z,5.0nm,0.8s
RES **Resolute Bay** **85.49** **3** LR LR 22 05 50.3
comp=Z,100nm,21.7s,baz=14,slow=37
P23K **Montague Islan** **85.53** **27** P **P** **21 25 45.1 -0.7**
baz=302
EPYK **Eagle Plains** **85.57** **19** P **P** **21 25 45.5 -0.5**
baz=311,SNR=5.5
F31M **Tsiigehtchic** **85.70** **17** P **P** **21 25 45.8 -0.7**
baz=314,SNR=7.1
N25K **Chitina, Valde** **85.78** **25** P **P** **21 25 46.4 -0.8**
baz=305,SNR=7.9
G31M **Satah River** **85.91** **18** P **P** **21 25 47.2 -0.3**
baz=314,SNR=6.3
TSUM **Tsumeb** **85.92** **248** LR LR 22 02 17.7
comp=Z,225nm,19.9s,baz=126,slow=34
EYAK **Cordova Ski Ar** **85.92** **26** P **P** **21 25 47.6 -0.1**
baz=304
M26K **Nabesna, AK** **85.94** **24** P **P** **21 25 47.0 -0.9**
baz=306
PBRG **Braganca** **85.97** **313** *e*P **P** **21 25 51.3 +2.8**
comp=Z,45nm,1.7s
L27K **Beaver Creek,** **85.97** **23** P **P** **21 25 47.3 -0.8**
baz=307
BCAR **Beaver Creek A** **85.99** **23** P **P** **21 25 48.5 +0.4**
BMRM **Bremner River** **86.15** **25** P **P** **21 25 48.6 -0.4**
baz=305,SNR=6.9
DAWY **Dawson** **86.21** **21** P **P** **21 25 48.6 -0.6**
baz=309
M27K **Edge Creek, AK** **86.38** **23** P **P** **21 25 49.6 -0.6**
baz=307
MVO **Moncorvo** **86.42** **312** *e*P **P** **21 25 54.0 +3.3**
comp=Z,48nm,0.9s
I30M **Mount Dempster** **86.44** **19** P **P** **21 25 49.8 -0.6**
baz=312
VRDI **Verde Repeater** **86.45** **25** P **P** **21 25 50.2 -0.4**
VRDI IAmb IAmb 21 25 54.3
comp=Z,20nm,0.9s
MCARA **McCarthy VSAT** **86.53** **24** P **P** **21 25 51.2 +0.5**
MCARA **McCarthy VSAT** **86.53** **24** P **P** **21 25 50.6 -0.2**
baz=306,SNR=9.8
C36M **Paulatuk** **86.65** **13** P **P** **21 25 50.9 -0.2**
baz=323,SNR=7.0
H31M **Peel River** **86.67** **18** P **P** **21 25 51.4 0.0**
baz=314
BVCY **Beaver Creek** **86.72** **23** P **P** **21 25 51.4 -0.3**
baz=308
CRQE **Cirque** **86.87** **25** P **P** **21 25 51.9 -0.8**
baz=306
J30M **Hart River** **86.89** **20** P **P** **21 25 51.9 -0.7**
baz=312
K29M **Barlow Dome** **86.98** **21** P **P** **21 25 52.5 -0.6**
baz=311
MTE **Manteigas** **87.08** **312** *e*P **P** **21 25 57.1 +3.1**
comp=Z,65nm,2.1s
L29M **L29M** **87.26** **22** P **P** **21 25 54.4 0.0**
baz=310
PCBR **Castelo Branco** **87.26** **311** *e*P **P** **21 25 58.0 +3.3**
comp=Z,36nm,1.0s
YUK3 **Moose Creek** **87.27** **23** P **P** **21 25 53.6 -1.0**
baz=308,SNR=7.0
CTG **Chitna Glacier** **87.43** **24** P **P** **21 25 54.5 -0.8**
baz=308,SNR=8.0
M29M **Somme Creek** **87.57** **22** P **P** **21 25 55.4 -0.6**
baz=310
PBAR **Barrancos** **87.60** **310** *e*P **P** **21 25 59.8 +3.4**
comp=Z,68nm,2.2s
MESA **MESA** **87.67** **25** P **P** **21 25 56.1 -0.4**
baz=307
MAYO **Mayo, Yukon** **87.69** **21** P **P** **21 25 56.2 -0.2**
baz=312
MDT **Midelt** **87.83** **304** LR LR 22 12 47.6
comp=Z,82nm,18.6s,baz=104,slow=41
YUK8 **Steele Glacier** **87.83** **24** P **P** **21 25 57.0 -0.5**
baz=309
PCAS **Casmilo, Conde** **87.89** **312** *e*P **P** **21 26 01.0 +3.2**
comp=Z,52nm,1.6s
M30M **Minto, Yukon** **88.07** **22** P **P** **21 25 58.0 -0.2**
baz=312,SNR=7.3
PMTG **Montargil** **88.10** **311** *e*P **P** **21 26 01.8 +3.0**
comp=Z,27nm,3.3s
EVO **Evora** **88.16** **310** *e*P **P** **21 26 02.6 +3.5**
comp=Z,82nm,1.6s
YUK4 **Talbot Arm** **88.21** **23** P **P** **21 25 58.2 -0.9**
baz=310
PINM **Pinnacle** **88.39** **25** P **P** **21 25 59.1 -0.8**
baz=309
PVAQ **Vaqueiros** **88.40** **309** P **P** **21 26 00.7 +0.5**
SUR **Sutherland** **88.48** **235** P **P** **21 26 01.2 +0.3**
SUR **Sutherland** **88.48** **235** LR LR 22 05 20.2
comp=Z,77nm,19.2s,baz=122,slow=35
SUR **Sutherland** **88.48** **235** P **P** **21 26 01.5 +0.6**
YUK6 **Outpost Mounta** **88.58** **23** P **P** **21 26 00.1 -0.8**
baz=310
MESJ **Messejana** **88.59** **310** *e*P **P** **21 26 04.8 +3.6**
comp=Z,47nm,1.8s
PBDV **Barranco-do-Ve** **88.62** **309** *e*P **P** **21 26 05.5 +4.1**
comp=Z,156nm,1.4s
PNCL **Nicolau / Gran** **88.70** **310** *e*P **P** **21 26 05.0 +3.3**
comp=Z,64nm,1.8s
N30M **Aishikik Lake** **88.71** **23** P **P** **21 26 00.5 -0.8**
baz=311
O29M **Mount Kennedy** **88.91** **24** P **P** **21 26 01.6 -0.7**
baz=310
HYT **Haines Junctio** **88.97** **23** P **P** **21 26 02.0 -0.6**
baz=311
PNL **Peninsula** **89.00** **25** P **P** **21 26 01.8 -0.8**
baz=309
M31M **Drury Creek, Y** **89.15** **21** P **P** **21 26 03.0 -0.3**
baz=314,SNR=6.2
FARO **Faro, Yukon** **89.48** **21** P **P** **21 26 04.1 -0.8**
baz=314
O30N **Mendenhall** **89.53** **23** P **P** **21 26 04.8 -0.3**
baz=312,SNR=11
P30M **Million Dollar** **89.64** **24** P **P** **21 26 05.6 -0.1**
baz=311
P29M **Windy Craggy** **89.67** **24** P **P** **21 26 04.7 -1.1**
baz=311
MMPY **Sheldon Lake,** **89.88** **20** P **P** **21 26 06.7 0.0**
baz=316,SNR=10
SFJD **Kangerlussuaq** **89.94** **347** P **P** **21 26 07.3 +0.5**
SFJD IAmb IAmb 21 26 08.7
comp=Z,62nm,1.9s
SFJD **Kangerlussuaq** **89.94** **347** P **P** **21 26 07.3 +0.5**
SFJD pmax pmax
comp=Z,62nm,1.9s
SFJD **Kangerlussuaq** **89.94** **347** LR LR 22 11 22.7
comp=Z,97nm,18.0s,baz=23,slow=39
WHY **Whitehorse** **90.04** **22** P **P** **21 26 07.4 -0.2**
WHY **Whitehorse** **90.04** **22** P **P** **21 26 06.7 -0.9**
baz=313,SNR=5.7
PLBC **Pleasant Camp** **90.31** **24** P **P** **21 26 07.5 -1.3**
baz=312
N32M **Quiet Lake** **90.33** **21** P **P** **21 26 08.7 -0.2**
baz=315
MAW **Mawson** **90.47** **192** LR LR 22 00 07.1
comp=Z,138nm,20.1s,baz=254,slow=31
SKAG **Skagway** **90.70** **23** P **P** **21 26 10.3 -0.2**

baz=313
P33M Teslin, Yukon 91.09 22 P P 21 26 11.5 -0.9
baz=315
P32M Atlin 91.20 23 P P 21 26 11.9 -1.1
baz=314
TGTN Hyland Airport 91.64 19 P P 21 26 15.1 +0.1
baz=319,SNR=7.6
WRGLY Wrigley 91.72 17 P P 21 26 14.1 -1.1
baz=323
R33M Jennings River 92.33 22 P P 21 26 18.5 +0.2
baz=317
WTLY Watson Lake, Y 92.54 21 P P 21 26 19.1 0.0
baz=318
RPZ Rata Peaks 93.30 135 LR LR 22 10 35.5
comp=Z,173nm,19.7s,baz=226,slow=37
S34M Telegraph Cree 93.35 23 P P 21 26 22.4 -0.5
baz=316
DLBC Dease Lake 93.36 22 P P 21 26 22.2 -0.8
baz=317
KOTAN Kotaneelee Air 94.03 19 P P 21 26 24.0 -1.9
baz=323
T35M Bob Quinn 94.36 23 P P 21 26 26.8 -0.8
baz=317
YKA Yellowknife Ar 94.52 14 *i* P P 21 26 29.7 +1.6
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 94.52 14 P P 21 26 27.5 -0.6
comp=Z,1.8nm,0.8s,baz=326,slow=4.2,SNR=21
YKA PP **PP** 21 30 12.9 -2.1
comp=Z,1.9nm,0.8s,baz=332,slow=8.3,SNR=14
YKA PKKP **PKKPdf** 21 43 25.0 -1.7
comp=Z,0.3nm,0.4s,baz=160,slow=2.0,SNR=5.3
YKA LR LR 22 13 03.8
comp=Z,134nm,19.7s,baz=314,slow=38
comp=Z,1.8nm,0.8s
URZ Urewera 95.46 129 LR LR 22 13 38.1
comp=Z,73nm,18.3s,baz=301,slow=38
FRB Frobisher Bay 95.84 353 LR LR 22 15 14.5
comp=Z,136nm,18.4s,baz=62,slow=39
DBIC Dimbokro 97.74 280 LR LR 22 13 10.5
comp=Z,75nm,21.0s,baz=64,slow=37
BBB Bella Bella 98.75 26 LR LR 22 14 26.7
comp=Z,109nm,18.3s,baz=320,slow=37
SCHQ Schefferville 104.21 350 PKKPbc PKKPbc 21 42 57.9 -3.2
comp=Z,2.0nm,0.8s,baz=171,slow=2.2,SNR=3.8
ULM Lac du Bonnet 109.50 8 PKKPbc PKKPbc 21 42 41.1 -3.5
comp=Z,1.3nm,0.6s,baz=177,slow=22,SNR=2.4
QSPA South Pole Qui 109.62 180 PKKPbc PKKPbc 21 42 41.7 -3.7
comp=Z,1.0nm,0.8s,baz=37,slow=20,SNR=1.9
PDAR Pinedale Arpy 113.50 20 PP **PP** 21 32 35.2 -1.6
comp=Z,0.1nm,0.3s,baz=191,slow=38,SNR=2.8
NVAR Mina Array Bea 113.82 29 PP **PP** 21 32 38.9 -0.5
comp=Z,0.2nm,0.5s,baz=291,slow=4.5,SNR=4.0
T25A Trinidad 120.24 19 P **PKPdf** 21 31 58.0 -1.7
baz=338
O48B Farmland 120.26 1 P **PKPdf** 21 31 57.0 -2.4
baz=359
ANMO Albuquerque 121.59 21 PKIKP **PKiKP** 21 32 02.8 +0.3
ANMO Albuquerque 121.59 21 P **PKPdf** 21 32 01.4 -1.0
baz=335
214A Organ Pipe Nat 121.68 29 P **PKPdf** 21 32 01.7 -0.7
baz=328
CCM Cathedral Cave 122.08 7 P **PKPdf** 21 32 00.7 -2.2
baz=352
WCI Wyandotte Cave 122.25 2 P **PKPdf** 21 32 02.5 -0.7
baz=358
AMTX Amarillo 123.14 17 P **PKPdf** 21 32 04.2 -1.0
baz=340
MSTX Muleshoe 123.67 19 P **PKPdf** 21 32 05.0 -1.2
baz=339
TZTN Tazewell 123.97 359 P **PKPdf** 21 32 05.7 -0.9
baz=0.6
WMOK Wichita Mounta 124.02 15 P **PKPdf** 21 32 05.0 -1.8
baz=343
WVT Waverly 124.28 4 P **PKPdf** 21 32 06.3 -0.9
baz=356
MNTX Cornudas Mount 124.91 22 P **PKPdf** 21 32 07.3 -1.3
baz=336
MIAR Mount Ida 125.23 10 P **PKPdf** 21 32 08.2 -0.9
baz=349
ABTX Abilene, Hawle 125.82 16 P **PKPdf** 21 32 09.1 -1.2
baz=342
WHTX Lake Whitney, 126.96 14 P **PKPdf** 21 32 11.5 -0.9
baz=344
TXAR Lajitas Array 127.66 22 PKP **PKPdf** 21 32 13.6 -0.4
comp=Z,2.5nm,1.0s,baz=225,slow=1.6,SNR=11
JCT Junction City 127.80 17 PKIKP **PKPdf** 21 32 13.8 -0.4
JCT Junction City 127.80 17 P **PKPdf** 21 32 13.2 -0.9
baz=341
833A Chaparral WMA, 129.95 18 P **PKPdf** 21 32 17.8 -0.5
baz=341
BDFB Brasília 145.36 271 PKPbc **PKPbc** 21 32 46.7 0.0
comp=Z,39nm,0.9s,baz=107,slow=1.3,SNR=27
SPB Sao Paulo 145.72 257 *e*P **PKPab** 21 32 48.4 +0.5
SDV Santo Domingo 148.54 334 *e*P **PKPdf** 21 32 53.5 +1.1
ROSC El Rosal 153.68 337 PKPbc **PKPbc** 21 33 08.3 0.0
comp=Z,25nm,0.8s,baz=58,slow=15,SNR=6.3
CPUP Villa Florida 154.49 250 PKPbc **PKPbc** 21 33 07.9 -1.3
comp=Z,2.9nm,0.7s,baz=145,slow=2.4,SNR=6.0
CPUP PKPab **PKPab** 21 33 22.9 -0.8
comp=Z,2.6nm,0.7s,baz=148,slow=3.9,SNR=3.3
PLCA Paso Flores 156.10 206 PKP **PKPdf** 21 33 03.6 +0.9
comp=Z,2.8nm,1.1s,baz=96,slow=7.0,SNR=3.2
PLCA PKPab **PKPab** 21 33 28.7 -1.4
comp=Z,3.1nm,0.8s,baz=153,slow=3.0,SNR=7.2
SAML Samuel 157.02 295 PKP2 **PKPab** 21 33 35.8 +1.0
LPAZ La Paz 164.36 280 PKP **PKPdf** 21 33 14.1 +0.9
comp=Z,1.4nm,0.8s,baz=65,slow=2.7,SNR=3.5

*AFAD **07** 21:14:02.9±0.0, 41°.81N×42°.93E, h7km±1km, ML1.9*
*NORS **07** 21:14:02.5, 41°.75N×43°.12E, h5km, MPVA2.8*
ISC 07 21:14:02.3±1.3, 41°.75N±0°.05×43°.08E±0°.06, h4km±13km, n11, σ0s69/22, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHAN	**Ardahan-Merkez**	**0.68**	**211**	P	**Pb**	**21 14 16.7**	**-0.2**
AHAN				S	**Sb**	**21 14 27.6**	**+1.0**
AHAN				*i* AML	AML	21 14 28.0	
	comp=N,44nm,0.6s						
AHAN				*i* AML	AML	21 14 34.0	
	comp=E,35nm,0.9s						
GOLE	**Ardahan-G¶le**	**0.98**	**202**	P	**Pb**	**21 14 22.3**	**+0.2**
GOLE				S	**Sn**	**21 14 36.9**	**-0.6**
DAGI	**Agillar**	**1.10**	**233**	P	**Pg**	**21 14 23.3**	**-0.2**
DAGI				S	**Sb**	**21 14 39.0**	**+0.1**
DIGR	**Digorskoe uzhe**	**1.21**	**18**	*e*Pg	**Pg**	**21 14 24.9**	**-0.6**
DIGR				*e*Sg	**Sg**	**21 14 41.4**	**+0.2**
GUDG	**Gudauri**	**1.26**	**55**	*e*Pg	**Pg**	**21 14 25.1**	**-1.3**
GUDG				*e*Sg	**Sg**	**21 14 43.0**	**+0.1**
DBAD	**Bademkaya**	**1.27**	**236**	P	**Pg**	**21 14 26.5**	**-0.3**
DBAD				S	**Sb**	**21 14 44.1**	**+0.4**
DBAD				*i* AML	AML	21 14 45.0	
	comp=Z,38nm,0.3s						
DBAD				*i* AML	AML	21 14 45.0	
	comp=E,35nm,0.3s						
DBAD				*i* AML	AML	21 14 47.0	
	comp=N,45nm,0.5s						
DDEM	**Demirkent**	**1.32**	**230**	P	**Pg**	**21 14 28.3**	**+0.7**
DDEM				S	**Sn**	**21 14 45.4**	**-0.3**
DDEM				*i* AML	AML	21 14 47.0	
	comp=N,37nm,0.5s						
DDEM				*i* AML	AML	21 14 47.0	
	comp=E,18nm,0.4s						
LACR	**Lac**	**1.41**	**39**	*e*Pg	**Pb**	**21 14 29.2**	**0.0**
LACR				*e*Sg	**Sn**	**21 14 48.6**	**+0.7**
KORR	**Kora**	**1.52**	**28**	*e*Pg	**Pg**	**21 14 31.7**	**+0.2**
KORR				*e*Sg	**Sg**	**21 14 52.7**	**+1.5**
LSNR	**Lesken**	**1.62**	**20**	*e*Pg	**Pb**	**21 14 33.0**	**+0.1**
LSNR				*e*Sg	**Sg**	**21 14 54.7**	**+0.2**
IZDR	**Rize**	**2.13**	**244**	P	**Pb**	**21 14 40.5**	**-1.0**
IZDR				S	**Sb**	**21 15 07.8**	**-0.5**

IDC 07 21:25:09.5±5.3, 5°.68S×132°.37E, h0km, mb3.2/1, mbtmp3.3/3, ML3.7/2, Error ellipse: s-maj=343.0km s-min=32.7km az=75.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.31**	**172**	Pn	Pn	21 28 33.8	+0.3
	0.4nm,0.3s,baz=354,slow=13,SNR=10						
WRA				Sn	Sn	21 30 59.5	-14
	0.7nm,0.3s,baz=321,slow=13,SNR=9.0						
	1.7nm,0.9s						
ASAR	**Alice Springs**	**17.95**	**175**	P	Pn	21 29 20.5	-0.2
	0.1nm,0.3s,baz=346,slow=9.3,SNR=8.9						
ASAR				S	Sn	21 32 22.8	-19
	0.2nm,0.4s,baz=347,slow=27,SNR=1.6						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**68.44**	**325**	P	P	21 36 13.4	0.0
	0.1nm,0.5s,baz=117,slow=6.6,SNR=4.1						
	0.1nm,0.5s						

*CNRM **07** 21:36:32.8, 35°.49N×6°.92W, h69km, ML3.3*
*IGIL **07** 21:36:34.5, 35°.57N×6°.93W, h32km, ML3.2*
*SFS **07** 21:36:34.1, 35°.59N×6°.95W, h68km, mb4.3/7, ML4.1/40, ML3.8/30, MLv3.5/40*
*MDD **07** 21:36:34.3±0.2, 35°.58N×6°.94W, h51km±11km, Mb4.6/64, Error ellipse: s-maj=2.0km s-min=1.8km az=37.0*
*INMG **07** 21:36:35.2±2.2, 35°.57N×6°.92W, h31km±7km, ML3.2, Error ellipse: s-maj=2.9km s-min=2.1km az=70.0*
*LDG **07** 21:36:36.6±0.1, 35°.88N×6°.77W, h2km, Ml3.9/19, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
ISC 07 21:36:31.1±0.8, 35°.58N±0°.03×6°.94W±0°.03, h50km, n182, σ2s73/305, 45C-17D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFS	**San Fernando**	**1.06**	**34**	Sn	**Sn**	**21 37 06.9**	**+3.5**
SFS				Pn	**Pn**	**21 36 53.3**	**+3.7**
SMIR	**Smir Dam**	**1.27**	**85**	P	**Pn**	**21 36 56.0**	**+3.5**
SMIR	**Smir Dam**	**1.27**	**85**	S	**Sn**	**21 37 10.8**	**+2.4**
ECEU	**Ceuta**	**1.31**	**75**	Pn	**Pn**	**21 36 56.8**	**+3.9**
ECEU	**Ceuta**	**1.31**	**75**	P	**Pn**	**21 36 55.9**	**+2.9**
ECEU				↑*i*Vmb_V		21 36 57.5	
	3µm,SNR=3.9						
ECEU				S	**Sn**	**21 37 13.3**	**+4.0**
CEU	**Ceuta**	**1.31**	**75**	Pn	**Pn**	**21 36 57.5**	**+4.5**
CEU				Sn	**Sn**	**21 37 13.9**	**+4.6**
EJIF	**Jimena Fronter**	**1.48**	**53**	P	**Pn**	**21 36 58.4**	**+3.1**
EJIF				S	**Sn**	**21 37 17.3**	**+3.9**
ARNO	**Arenosillo**	**1.53**	**6**	Pn	**Pn**	**21 36 59.0**	**+3.1**
ARNO				Sn	**Sn**	**21 36 17.6**	**+2.1**
ESPR	**Espera**	**1.56**	**34**	Sn	**Sn**	**21 37 17.9**	**+2.5**
ESPR				Pn	**Pn**	**21 36 59.4**	**+3.1**
ESPR	**Espera**	**1.56**	**34**	P	**Pn**	**21 36 58.9**	**+2.5**
ESPR				↑*i*Vmb_V		21 37 00.1	
	1µm,SNR=7.3						
ESPR				S	**Sn**	**21 37 18.0**	**+2.7**
RTC	**Rabat Centre**	**1.59**	**178**	Sn	**Sn**	**21 37 17.9**	**+1.8**
RTC				Pn	**Pn**	**21 36 59.3**	**+2.5**
RTC	**Rabat Centre**	**1.59**	**178**	P	**Pn**	**21 36 58.2**	**+1.4**
RTC	**Rabat Centre**	**1.59**	**178**	S	**Sn**	**21 37 16.7**	**+0.6**
PBDV	**Barranco-do-Ve**	**1.84**	**335**	↓*i*P	**Pn**	**21 37 02.9**	**+2.6**
PBDV				*e*S	**Sn**	**21 37 24.0**	**+1.5**
PBDV				A	A	21 37 26.4	
	79nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.84**	**335**	Sn	**Sn**	**21 37 23.4**	**+0.9**
PBDV				Pn	**Pn**	**21 37 02.9**	**+2.6**
PVAQ	**Vaqueiros**	**1.93**	**341**	↓*i*P	**Pn**	**21 37 04.1**	**+2.7**
PVAQ				*e*S	**Sn**	**21 37 25.5**	**+1.0**
PVAQ				A	A	21 37 27.2	
	179nm,0.3s						
PVAQ	**Vaqueiros**	**1.93**	**341**	Sn	**Sn**	**21 37 25.1**	**+0.7**
PVAQ				Pn	**Pn**	**21 37 04.1**	**+2.7**
PVAQ	**Vaqueiros**	**1.93**	**341**	P	**Pn**	**21 37 03.4**	**+2.0**
EGRO	**El Granado**	**2.00**	**347**	Pn	**Pn**	**21 37 05.2**	**+2.8**
EGRO	**El Granado**	**2.00**	**347**	P	**Pn**	**21 37 05.3**	**+2.9**
EGRO				↑*i*Vmb_V		21 37 05.5	
	4µm,SNR=12						
EGRO				S	**Sn**	**21 37 26.2**	**0.0**
EMIJ	**Mijas**	**2.01**	**60**	Sn	**Sn**	**21 37 27.9**	**+1.3**
EMIJ				Pn	**Pn**	**21 37 05.1**	**+2.6**
EMIJ	**Mijas**	**2.01**	**60**	P	**Pn**	**21 37 05.2**	**+2.6**
EMIJ				↑*i*Vmb_V		21 37 05.5	
	1µm,SNR=19						
EMIJ				S	**Sn**	**21 37 27.8**	**+1.3**
PFVI	**Vila Bisbo**	**2.18**	**316**	↓*e*P	**Pn**	**21 37 07.3**	**+2.5**
PFVI				*e*S	**Sn**	**21 37 32.4**	**+1.8**
PFVI				A	A	21 37 37.3	
	65nm,0.1s						
PFVI	**Vila Bisbo**	**2.18**	**316**	Sn	**Sn**	**21 37 31.9**	**+1.3**
PFVI				Pn	**Pn**	**21 37 07.3**	**+2.5**
PFVI	**Vila Bisbo**	**2.18**	**316**	P	**Pn**	**21 37 07.3**	**+2.5**
PFVI	**Vila Bisbo**	**2.18**	**316**	Sn	**Sn**	**21 37 35.3**	**+4.7**
EMIN	**Mina Concepcio**	**2.19**	**5**	Sn	**Sn**	**21 37 30.7**	**-0.3**
EMIN				Pn	**Pn**	**21 37 07.8**	**+2.6**
EMIN	**Mina Concepcio**	**2.19**	**5**	P	**Pn**	**21 37 07.7**	**+2.6**
EMIN				↑*i*Vmb_V		21 37 07.9	
	2µm,SNR=10						
EMIN				S	**Sn**	**21 37 30.8**	**-0.3**
MORF	**Marmelete**	**2.21**	**322**	↓*e*P	**Pn**	**21 37 10.7**	**+2.4**
MORF				*e*S	**Sn**	**21 37 33.3**	**+1.8**
MORF				A	A	21 37 39.0	
	174nm,0.2s						
MORF	**Marmelete**	**2.21**	**322**	*e*P	**Pn**	**21 37 07.7**	**+2.4**
MORF				*e*S	**Sn**	**21 37 32.4**	**+0.9**
MORF				IAML		21 37 33.9	
	comp=E,163nm,0.2s						
PCVE	**Castro Verde**	**2.23**	**337**	*e*P	**Pn**	**21 37 08.5**	**+2.9**
PCVE				*e*S	**Sn**	**21 37 33.4**	**+1.4**
PCVE				A	A	21 37 34.8	
	comp=E,84nm,0.4s						
PCVE	**Castro Verde**	**2.23**	**337**	Sn	**Sn**	**21 37 32.8**	**+0.8**
PCVE				Pn	**Pn**	**21 37 08.4**	**+2.8**
AVE	**Averroes**	**2.31**	**190**	Pn	**Pn**	**21 37 09.6**	**+2.9**
AVE				Sn	**Sn**	**21 37 35.2**	**+1.4**
EMAL	**Malaga-Limoner**	**2.35**	**59**	Sn	**Sn**	**21 37 36.5**	**+1.7**
EMAL				Pn	**Pn**	**21 37 10.0**	**+2.8**
PTEO	**Sao Teotonio**	**2.44**	**324**	↓*i*P	**Pn**	**21 37 11.1**	**+2.8**
PTEO				*e*S	**Sn**	**21 37 38.7**	**+1.8**
PTEO				A	A	21 37 41.8	
	comp=E,63nm,0.2s						
PALE	**Palemas**	**2.48**	**98**	P	**Pn**	**21 37 12.0**	**+3.0**
PALE	**Palemas**	**2.48**	**98**	S	**Sn**	**21 37 39.4**	**+1.4**
MESJ	**Messejana**	**2.48**	**336**	↓*i*P	**Pn**	**21 37 11.8**	**+2.8**
MESJ				*e*S	**Sn**	**21 37 39.8**	**+1.7**
MESJ				A	A	21 37 43.7	
	comp=E,58nm,0.3s						
MESJ	**Messejana**	**2.48**	**336**	*e*P	**Pn**	**21 37 11.8**	**+2.8**
MESJ				*e*S	**Sn**	**21 37 38.8**	**+0.7**
MESJ				IAML		21 37 41.6	
	comp=N,78nm,0.1s						
IFR	**Ifrane**	**2.54**	**143**	Sn	**Sn**	**21 37 39.6**	**-0.2**
IFR				Pn	**Pn**	**21 37 11.9**	**+1.9**
LCRM	**LCR**	**2.55**	**137**	P	**Pn**	**21 37 12.0**	**+1.9**
LCRM				P		21 37 12.1	
LCRM				P		21 37 12.2	
LCRM	**LCR**	**2.55**	**137**	Sn	**Sn**	**21 37 42.5**	**+2.6**
PBEJ	**Beja**	**2.56**	**343**	↓*e*P	**Pn**	**21 37 12.8**	**+2.8**
PBEJ				*e*S	**Sn**	**21 37 40.7**	**+0.8**
PBEJ				A	A	21 37 42.3	
	comp=N,62nm,0.2s						
PBAR	**Barrancos**	**2.59**	**358**	↓*i*P	**Pn**	**21 37 13.4**	**+2.9**
PBAR				*e*S	**Sn**	**21 37 41.0**	**+0.2**
PBAR				A	A	21 37 46.4	
	comp=N,94nm,0.2s						
PBAR	**Barrancos**	**2.59**	**358**	Sn	**Sn**	**21 37 40.7**	**-0.1**
PBAR				Pn	**Pn**	**21 37 13.4**	**+2.9**
EGOR	**Sierra Gorda,**	**2.75**	**55**	Pn	**Pn**	**21 37 16.6**	**+3.8**
EGOR	**Sierra Gorda,**	**2.75**	**55**	P	**Pn**	**21 37 16.4**	**+3.6**
EGOR				↑*i*Vmb_V		21 37 16.8	
	comp=N,605nm,SNR=8.2						
EGOR				S	**Sn**	**21 37 45.0**	**+0.2**
ECAB	**El Cabril**	**2.77**	**26**	Sn	**Sn**	**21 37 44.5**	**-0.8**
ECAB				Pn	**Pn**	**21 37 15.7**	**+2.5**
ECAB	**El Cabril**	**2.77**	**26**	P	**Pn**	**21 37 15.7**	**+2.6**
ECAB				↑*i*Vmb_V		21 37 17.9	
	comp=N,330nm,SNR=2.9						
ECAB				S	**Sn**	**21 37 44.3**	**-1.0**
PNCL	**Nicolau / Gran**	**2.83**	**334**	↓*i*P	**Pn**	**21 37 16.4**	**+2.6**
PNCL				*e*S	**Sn**	**21 37 48.1**	**+1.4**
PNCL				A	A	21 37 52.0	
	comp=N,34nm,0.2s						
PNCL	**Nicolau / Gran**	**2.83**	**334**	Pn	**Pn**	**21 37 16.4**	**+2.6**
ELGU	**Los Guajares,**	**2.97**	**63**	Pn	**Pn**	**21 37 17.5**	**+1.7**
ELGU	**Los Guajares,**	**2.97**	**63**	P	**Pn**	**21 37 17.4**	**+1.6**
ELGU				↑*i*Vmb_V		21 37 19.8	
	comp=N,627nm,SNR=9.8						
ELGU				S	**Sn**	**21 37 51.5**	**+1.3**
EVO	**Evora**	**3.07**	**344**	↓*i*P	**Pn**	**21 37 20.0**	**+2.9**
EVO				*e*S	**Sn**	**21 37 53.7**	**+1.1**
EVO				A	A	21 37 54.0	
	comp=N,103nm,0.1s						
EVO	**Evora**	**3.07**	**344**	Sn	**Sn**	**21 37 52.1**	**-0.5**
EVO				Pn	**Pn**	**21 37 19.9**	**+2.9**
EBAD	**Badajoz**	**3.17**	**359**	Sn	**Sn**	**21 37 54.4**	**-0.7**
EBAD				Pn	**Pn**	**21 37 21.2**	**+2.7**
EBAD	**Badajoz**	**3.17**	**359**	P	**Pn**	**21 37 21.1**	**+2.7**
EBAD				↑*i*Vmb_V		21 37 22.0	
	comp=N,3µm,SNR=16						
EBAD				S	**Sn**	**21 37 54.7**	**-0.3**
SRHM	**Skhour des Reh**	**3.20**	**195**	P	**Pn**	**21 37 21.7**	**+2.8**
EADA	**Adamuz**	**3.20**	**36**	Sn	**Sn**	**21 37 54.6**	**-1.3**
EADA				Pn	**Pn**	**21 37 21.8**	**+2.9**
EADA	**Adamuz**	**3.20**	**36**	P	**Pn**	**21 37 21.4**	**+2.5**
EADA				↑*i*Vmb_V		21 37 23.2	
	comp=N,668nm,SNR=5.7						
EADA				S	**Sn**	**21 37 54.7**	**-1.1**
GOG	**Mont Gurugu**	**3.24**	**95**	P	**Pn**	**21 37 21.6**	**+2.1**
GOG	**Mont Gurugu**	**3.24**	**95**	S	**Sn**	**21 37 57.3**	**+0.5**
MD31	**MD31**	**3.25**	**146**	P	**Pn**	**21 37 21.7**	**+2.1**
MD31	**MD31**	**3.25**	**146**	S	**Sn**	**21 37 57.6**	**+0.5**
EQTA	**Presa de Quent**	**3.25**	**59**	Pn	**Pn**	**21 37 23.4**	**+3.7**
EQUE	**Quentar**	**3.25**	**59**	P	**Pn**	**21 37 23.6**	**+3.9**
EQUE				↑*i*Vmb_V		21 37 25.2	
	comp=N,406nm,SNR=5.5						
EQUE				S	**Sn**	**21 37 58.7**	**+1.5**
EMEL	**Melilla**	**3.26**	**94**	P	**Pn**	**21 37 21.9**	**+2.2**
EMEL				↑*i*Vmb_V		21 37 22.8	
	comp=N,6µm,SNR=4.7						
EMEL				S	**Sn**	**21 37 58.0**	**+0.7**
WMELI	**Melilla**	**3.26**	**93**	Sn	**Sn**	**21 37 58.3**	**+1.0**
WMELI				Pn	**Pn**	**21 37 22.0**	**+2.3**
EMLI	**Melilla**	**3.27**	**94**	Sn	**Sn**	**21 37 58.1**	**+0.7**
EMLI				Pn	**Pn**	**21 37 21.7**	**+2.0**
PESTR	**Estremoz**	**3.32**	**351**	↓*i*P	**Pn**	**21 37 23.2**	**+2.6**
PESTR				*e*S	**Sn**	**21 37 59.6**	**+0.8**
PESTR				A	A	21 38 11.4	
	comp=N,29nm,0.4s						
PESTR	**Estremoz**	**3.32**	**351**	Sn	**Sn**	**21 37 59.6**	**+0.8**
PESTR				Pn	**Pn**	**21 37 23.2**	**+2.6**
PESTR	**Estremoz**	**3.32**	**351**	P	**Pn**	**21 37 23.0**	**+2.4**
PESTR				P		21 37 23.0	
PESTR	**Estremoz**	**3.32**	**351**	S	**Sn**	**21 38 02.1**	**+3.8**
MDT	**Midelt**	**3.37**	**144**	P	**Pn**	**21 37 23.1**	**+1.9**
MDT	**Midelt**	**3.37**	**144**	S	**Sn**	**21 37 59.4**	**-0.6**
EBER	**Berja**	**3.53**	**67**	Pn	**Pn**	**21 37 25.4**	**+1.9**
EBER	**Berja**	**3.53**	**67**	P	**Pn**	**21 37 25.1**	**+1.6**
EBER				↑*i*Vmb_V		21 37 26.0	
	comp=N,412nm,SNR=3.5						
EBER				S	**Sn**	**21 38 05.7**	**+1.6**
PACT	**Alcochete**	**3.53**	**335**	↓*e*P	**Pn**	**21 37 26.7**	**+3.4**
PACT				*e*S	**Sn**	**21 38 06.9**	**+3.2**
PACT				A	A	21 38 32.0	
	comp=N,46nm,0.9s						
LIS	**Lisbon**	**3.60**	**331**	*e*P	**Pn**	**21 37 28.1**	**+3.8**
PMTG	**Montargil**	**3.63**	**344**	↓*i*P	**Pn**	**21 37 27.5**	**+2.7**
PMTG				*e*S	**Sn**	**21 38 07.8**	**+1.4**
PMTG				A	A	21 38 09.6	
	comp=N,32nm,0.5s						
CHAS	**Isla Isabel II**	**3.70**	**95**	Sn	**Sn**	**21 38 07.9**	**-0.1**
CHAS				Pn	**Pn**	**21 37 27.5**	**+1.8**
TAF	**Taforalt**	**3.78**	**100**	P	**Pn**	**21 37 29.7**	**+2.8**
TAF	**Taforalt**	**3.78**	**100**	S	**Sn**	**21 38 12.6**	**+2.5**
EQES	**Quesada**	**3.82**	**53**	P	**Pn**	**21 37 30.1**	**+2.7**
EQES				↑*i*Vmb_V		21 37 31.2	
	comp=N,516nm,SNR=4.4						
EQES				S	**Sn**	**21 38 09.9**	**-1.2**
PMAFR	**Mafra**	**3.86**	**332**	↓*e*P	**Pn**	**21 37 30.9**	**+3.0**
PMAFR				*e*S	**Sn**	**21 38 12.2**	**+0.3**
PMAFR				A	A	21 38 20.0	
	comp=N,50nm,0.3s						
PMAFR	**Mafra**	**3.86**	**332**	Pn	**Pn**	**21 37 30.9**	**+3.0**
PMRV	**Marv??o**	**3.86**	**355**	↓*i*P	**Pn**	**21 37 30.8**	**+2.9**
PMRV				*e*S	**Sn**	**21 38 12.2**	**+0.2**
PMRV				A	A	21 38 13.4	
	comp=N,85nm,0.2s						
TISM	**Timmit**	**3.87**	**174**	P	**Pn**	**21 37 27.9**	**-0.1**
ENIJ	**Nijar**	**4.07**	**69**	Pn	**Pn**	**21 37 33.4**	**+2.7**
ENIJ	**Nijar**	**4.07**	**69**	P	**Pn**	**21 37 33.6**	**+2.8**
ENIJ				↑*i*Vmb_V		21 37 35.1	
	comp=N,295nm,SNR=3.3						
ENIJ				S	**Sn**	**21 38 16.9**	**-0.2**
PSIM	**Granatula de C**	**4.11**	**37**	P	**Pn**	**21 37 33.8**	**+2.4**
PSIM				S	**Sn**	**21 38 16.6**	**-2.6**
PSBE	**So Bento**	**4.20**	**340**	↓*i*P	**Pn**	**21 37 35.8**	**+3.2**
PSBE				*e*S	**Sn**	**21 38 20.5**	**+0.2**
PSBE				A	A	21 38 46.8	
	comp=N,22nm,0.6s						
PCBR	**Castelo Branco**	**4.28**	**354**	↓*i*P	**Pn**	**21 37 36.5**	**+2.9**
PCBR				*e*S	**Sn**	**21 38 21.5**	**-0.7**
PCBR				A	A	21 38 23.7	
	comp=N,44nm,0.7s						
PAB	**San Pablo**	**4.46**	**27**	P	**Pn**	**21 37 38.8**	**+2.6**
PAB				↑*i*Vmb_V		21 37 42.8	
	comp=N,267nm,SNR=3.3						
PAB				S	**Sn**	**21 38 25.1**	**-1.8**
PAB	**San Pablo**	**4.46**	**27**	P	**Pn**	**21 37 39.0**	**+2.8**
EPLA	**Plasencia**	**4.53**	**8**	P	**Pn**	**21 37 40.5**	**+3.4**
EPLA				↑*i*Vmb_V		21 37 41.6	
	comp=N,1µm,SNR=3.9						
EPLA				S	**Sn**	**21 38 27.3**	**-1.2**
PCAS	**Casmilo, Conde**	**4.63**	**345**	*e*P	**Pn**	**21 37 41.3**	**+2.8**
PCAS				*e*S	**Sn**	**21 38 31.6**	**+0.6**
PCAS				A	A	21 38 58.4	
	comp=N,14nm,0.3s						
TIO	**Tiouine**	**4.65**	**183**	Sn	**Sn**	**21 38 30.5**	**-1.1**
TIO				Pn	**Pn**	**21 37 41.6**	**+2.8**
TIO	**Tiouine**	**4.65**	**183**	P	**Pn**	**21 37 41.4**	**+2.6**
TIO	**Tiouine**	**4.65**	**183**	S	**Sn**	**21 38 29.7**	**-1.9**
OUZM	**OUZ**	**4.66**	**178**	P	**Pn**	**21 37 41.1**	**+2.1**
TLOR	**Lorca, Murcia**	**4.70**	**62**	Pn	**Pn**	**21 37 42.8**	**+3.3**
TLOR	**Lorca, Murcia**	**4.70**	**62**	P	**Pn**	**21 37 43.3**	**+3.8**
TLOR				S	**Sn**	**21 38 32.3**	**-0.4**
ESDC	**Sonseca Array**	**4.72**	**29**	P	**Pn**	**21 37 42.8**	**+3.0**
ESDC				S	**Sn**	**21

POLO A A 21 39 01.4
comp=N,22nm,0.4s
FIGM Figuig 5.84 124 P **Pn** **21 37 57.9 +2.7**
FIGM Figuig 5.84 124 S **Sn** **21 38 59.1 -1.8**
EVIV Cofrentes, Val 5.92 50 P **Pn** **21 37 57.7 +1.6**
EVIV ⇑*i*Vmb_V 21 37 59.2
comp=N,694nm,SNR=3.7
EVIV S **Sn** **21 38 57.7 -4.9**
AFON Font Roja 5.97 57 P **Pn** **21 37 59.0 +2.1**
AFON ⇑*i*Vmb_V 21 38 00.3
comp=N,386nm,SNR=1.7
AFON S **Sn** **21 39 01.7 -2.3**
PCAB Cabril 6.18 352 *e*P **Pn** **21 38 02.5 +2.7**
PCAB *e*S **Sn** **21 39 07.3 -1.8**
PCAB A A 21 39 10.0
comp=N,18nm,0.1s
ECHE Chera 6.20 48 Sn **Sn** **21 39 06.1 -3.6**
ECHE Pn **Pn** **21 38 02.4 +2.3**
ECHE Chera 6.20 48 P **Pn** **21 38 01.9 +1.9**
ECHE ⇑*i*Vmb_V 21 38 03.5
comp=N,433nm,SNR=3.0
ECHE S **Sn** **21 39 05.6 -4.0**
EBEN2 Beniarda presa 6.21 58 P **Pn** **21 38 01.2 +1.0**
EBEN2 ⇑*i*Vmb_V 21 38 02.5
comp=N,560nm,SNR=1.8
EBEN2 S **Sn** **21 39 06.1 -3.7**
PBRG Braganca 6.22 1 *e*P **Pn** **21 38 03.1 +2.8**
PBRG *e*S **Sn** **21 39 08.1 -1.9**
PBRG A A 21 39 10.3
comp=N,14nm,0.1s
ELOB Lobios 6.34 352 P **Pn** **21 38 04.4 +2.4**
ELOB ⇑*i*Vmb_V 21 38 07.0
comp=N,354nm,SNR=1.3
ELOB S **Sn** **21 39 10.1 -3.0**
ECAL Calabor 6.36 1 Pn **Pn** **21 38 05.0 +2.8**
ECAL Calabor 6.36 1 P **Pn** **21 38 04.7 +2.5**
ECAL ⇑*i*Vmb_V 21 38 06.3
comp=N,473nm,SNR=3.2
ECAL S **Sn** **21 39 09.7 -3.8**
PGAV Gavieira, Arco 6.46 351 *e*P **Pn** **21 38 06.4 +2.7**
PGAV *e*S **Sn** **21 39 13.8 -2.3**
PGAV A A 21 39 17.9
comp=N,9.8nm,0.1s
ETOR Torete 6.49 35 P **Pn** **21 38 06.9 +2.9**
ETOR S **Sn** **21 39 12.6 -4.2**
EZAM Zamans 6.70 349⇑*i*Vmb_V 21 38 09.9
comp=N,576nm,SNR=1.7
EZAM P **Pn** **21 38 09.9 +3.1**
EZAM S **Sn** **21 39 18.6 -3.2**
E0901 Celadas (Terue 6.70 41 P **Pn** **21 38 10.9 +3.9**
E0901 ⇑*i*Vmb_V 21 38 11.1
comp=N,889nm,SNR=9.0
E0901 S **Sn** **21 39 18.9 -3.2**
EMOS Mosqueruela 6.99 45 P **Pn** **21 38 13.9 +2.9**
EMOS ⇑*i*Vmb_V 21 38 14.6
comp=N,217nm,SNR=1.3
EMOS S **Sn** **21 39 24.6 -4.6**
EAGO Agolada(Pontev 7.27 353 P **Pn** **21 38 17.2 +2.5**
EAGO ⇑*i*Vmb_V 21 38 18.6
comp=N,310nm,SNR=1.0
EAGO S **Sn** **21 39 32.8 -3.0**
EIBI Ibiza 7.44 60 Pn **Pn** **21 38 18.9 +1.9**
EIBI Ibiza 7.44 60 P **Pn** **21 38 18.6 +1.6**
EIBI ⇑*i*Vmb_V 21 38 20.4
comp=N,294nm,SNR=0.9
EIBI S **Sn** **21 39 35.8 -4.2**
EMAZ Mazaricos 7.53 348 P **Pn** **21 38 21.1 +2.9**
EMAZ ⇑*i*Vmb_V 21 38 21.6
comp=N,595nm,SNR=1.7
EMAZ S **Sn** **21 39 40.0 -2.1**
EPON Pontenova 7.74 359 P **Pn** **21 38 24.6 +3.5**
EPON ⇑*i*Vmb_V 21 38 26.1
comp=N,277nm,SNR=1.0
EPON S **Sn** **21 39 44.8 -2.6**
EARI Arriondas 7.83 9 P **Pn** **21 38 25.4 +3.1**
EARI ⇑*i*Vmb_V 21 38 27.5
comp=N,355nm,SNR=1.2
EARI S **Sn** **21 39 46.5 -3.0**
ERTA Horta de San J 7.84 45 P **Pn** **21 38 23.6 +1.1**
ERTA ⇑*i*Vmb_V 21 38 24.1
comp=N,154nm,SNR=1.0
ERTA S **Sn** **21 39 47.2 -2.6**
ESAC San Caprasio 7.95 38 P **Pn** **21 38 25.9 +1.9**
ESAC ⇑*i*Vmb_V 21 38 26.6
comp=N,404nm,SNR=1.5
ESAC S **Sn** **21 39 51.0 -1.6**
TANT Tantan 8.03 208 P **Pn** **21 38 27.0 +1.9**
ELAN Lanestosa 8.11 18 P **Pn** **21 38 29.4 +3.2**
ELAN ⇑*i*Vmb_V 21 38 33.5
comp=N,258nm,SNR=1.0
ELAN S **Sn** **21 39 52.1 -4.3**
PMPST Porto Santo, M 8.16 255 *e*P **Pn** **21 38 29.6 +2.7**
PMPST *e*S **Sn** **21 39 56.0 -1.8**
PMPS Porto Santo 8.17 255 *e*P **Pn** **21 38 28.0 +1.0**
EARA Aranguren 8.30 28 P **Pn** **21 38 31.6 +2.8**
EARA ⇑*i*Vmb_V 21 38 35.2
comp=N,379nm,SNR=1.7
EARA S **Sn** **21 39 58.4 -2.6**
EORO Oroz-Betelu 8.51 29 P **Pn** **21 38 35.3 +3.7**
EORO S **Sn** **21 40 01.9 -4.3**
EPOB Poblet 8.53 45 P **Pn** **21 38 34.1 +2.1**
EPOB ⇑*i*Vmb_V 21 38 35.6
comp=N,145nm,SNR=1.2
EPOB S **Sn** **21 40 02.4 -4.3**
EALK Alkurruntz 8.71 27 P **Pn** **21 38 37.6 +3.1**
EALK ⇑*i*Vmb_V 21 38 40.2
comp=N,284nm,SNR=1.4
EALK S **Sn** **21 40 08.1 -3.1**
SJPF Ste Jean 8.73 29 *e*Pn **Pn** **21 38 38.4 +3.8**
SJPF *e*Sn **Sn** **21 40 08.8 -2.7**
comp=N,13nm,0.2s
PMAR Madeira 8.75 254 *e*P **Pn** **21 38 37.1 +2.0**
PMAR *e*S Sn 21 40 04.3 -8.0
FUL Funchal 8.76 253 *e*P Pn 21 38 46.0 +11
ETOS Mallorca 8.79 59 Pn **Pn** **21 38 37.9 +2.5**
ETSF Etsaut 8.82 32 *e*Pn **Pn** **21 38 39.2 +3.2**
ETSF *e*Sn **Sn** **21 40 10.8 -3.2**
comp=N,18nm,0.4s
PMOZ Porto Moniz, M 8.93 255 Pn **Pn** **21 38 40.0 +2.5**
ECHI Chisagues Biel 8.98 36 P **Pn** **21 38 41.3 +3.0**
ECHI ⇑*i*Vmb_V 21 38 43.1
comp=N,124nm,SNR=1.2
ECHI S **Sn** **21 40 13.1 -4.9**
CFUE Fuerteventura 9.11 223 P **Pn** **21 38 43.5 +3.7**
CFUE ⇑*i*Vmb_V 21 38 46.9
comp=N,211nm,SNR=1.1
CFUE S Sn 21 40 13.1 -7.9
EPF Esparros 9.33 35 *e*Pn **Pn** **21 38 46.2 +3.3**
EPF *e*Sn **Sn** **21 40 22.9 -3.6**
comp=N,15nm,0.4s
CFTV Fuerteventura 9.37 222 P **Pn** **21 38 45.5 +2.0**
CFTV ⇑*i*Vmb_V 21 38 47.2
comp=N,211nm,SNR=0.9
CFTV S **Sn** **21 40 20.6 -6.9**
CGIN Giniginamar, F 9.53 222 P **Pn** **21 38 47.6 +1.9**
CGIN ⇑*i*Vmb_V 21 38 51.0
comp=N,278nm,SNR=1.5
CGIN S Sn 21 40 22.6 -8.8
EJON La Jonquera 10.27 45 Pn **Pn** **21 38 58.7 +3.0**
MTLF Montolieu 10.49 40 *e*Pn **Pn** **21 39 01.1 +2.4**
MTLF *e*Sn **Sn** **21 40 51.1 -3.6**
comp=N,4.0nm,0.4s
LFF La Frestale 11.03 30 *e*Pn **Pn** **21 39 08.5 +2.4**
LFF *e*Sn **Sn** **21 41 04.0 -3.9**
comp=N,5.7nm,0.3s
CAF Calviac 11.59 34 *e*Pn **Pn** **21 39 16.6 +2.9**
CAF *e*Sn **Sn** **21 41 17.3 -4.3**
comp=N,2.4nm,0.3s
RJF Les Rejaudoux 11.65 31 *e*Pn **Pn** **21 39 16.9 +2.4**
RJF *e*Sn **Sn** **21 41 18.6 -4.4**
comp=N,4.4nm,0.3s
LASF Ste Croix 11.86 41 *e*Pn **Pn** **21 39 18.8 +1.4**
MFF Saint Martin d 12.14 23 *e*Pn **Pn** **21 39 23.2 +2.0**
MFF *e*Sn **Sn** **21 41 29.7 -5.3**
comp=N,1.4nm,0.3s
QUIF Quistinic 12.64 12 *e*Pn **Pn** **21 39 30.3 +2.3**
QUIF *e*Sn **Sn** **21 41 41.5 -5.7**
comp=N,5.3nm,0.4s
TCF Toulx Ste Croi 12.73 30 *e*Pn **Pn** **21 39 31.2 +1.9**
TCF *e*Sn **Sn** **21 41 44.5 -4.9**
comp=N,12nm,0.8s
ROSF Rostrenen 13.03 11 *e*Pn **Pn** **21 39 35.4 +2.0**
ROSF *e*Sn **Sn** **21 41 51.5 -5.3**

comp=N,2.6nm,0.4s
BGF Bois d'Agland 13.21 31 *e*Pn **Pn** **21 39 38.0 +2.2**
BGF *e*Sn **Sn** **21 41 55.9 -5.2**
comp=N,10nm,0.5s
GRR Gorron 13.57 18 *e*Pn **Pn** **21 39 42.8 +2.1**
GRR *e*Sn **Sn** **21 42 04.3 -5.5**
comp=N,3.0nm,0.4s
AVF Avril sur Loir 13.61 31 *e*Sn **Sn** **21 42 05.5 -5.2**
comp=N,2.5nm,0.7s
SSF Saint Saulge 13.88 31 *e*Pn **Pn** **21 39 46.6 +1.6**
SSF *e*Sn **Sn** **21 42 11.9 -5.6**
comp=N,2.1nm,0.4s
LDF La Druitiere 13.95 19 *e*Pn **Pn** **21 39 48.2 +2.4**
LDF *e*Sn **Sn** **21 42 11.5 -7.5**
comp=N,1.2nm,0.4s
FLN La Foliniere 14.01 18 *e*Pn **Pn** **21 39 49.3 +2.6**
baz=202

*IDC **07** 21:37:43.7±1.2, 16°.06N×146°.21E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=47.1km s-min=21.8km az=92.0*
*NEIC **07** 21:37:58.4±0.5, 15°.9N±0°.1×145°.9E±0°.1, h105km±7km, mb4.0/8, Error ellipse: s-maj=22.2km s-min=9.1km az=131.0*
ISC 07 21:37:57.8±0.8, **16°.0N**±0°.1×**145°.9E**±0°.2, **h109**km, **n23, σ0s77/17, mb3.9/11, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PATS	**Pohnpei**	**15.13**	**125**	Pn	**Pn**		**21 41 25.8**	**0.0**
H11S3	**WAKE ISLAND Hy**	**19.98**	**80**	T	T		22 03 10.7	
	baz=266,slow=75,SNR=17							
H11S1	**WAKE ISLAND Hy**	**19.99**	**80**	T	T		22 03 11.3	
	baz=266,slow=75,SNR=12							
H11S2	**WAKE ISLAND Hy**	**20.00**	**80**	T	T		22 03 12.1	
	baz=266,slow=75,SNR=19							
H11N1	**WAKE ISLAND Hy**	**20.29**	**76**	T	T		22 03 35.5	
	baz=263,slow=75,SNR=23							
H11N2	**WAKE ISLAND Hy**	**20.30**	**76**	T	T		22 03 36.9	
	baz=263,slow=75,SNR=24							
H11N3	**WAKE ISLAND Hy**	**20.31**	**76**	T	T		22 03 37.9	
	baz=263,slow=75,SNR=30							
WB0	**Warramunga Arr**	**37.26**	**198**	P	**P**		**21 44 59.4**	**+0.2**
WRA	**Warramunga Arr**	**37.44**	**198**	P	**P**		**21 45 00.6**	**-0.1**
	0.5nm,0.5s,baz=24,slow=8.5,SNR=6.7							
	0.5nm,0.5s							
AS31	**Alice Springs**	**41.09**	**197**	P	**P**		**21 45 31.2**	**+0.2**
ASAR	**Alice Springs**	**41.09**	**197**	P	**P**		**21 45 30.6**	**-0.4**
	0.2nm,0.5s,baz=24,slow=13,SNR=4.1							
	0.2nm,0.5s							
MK31	**Makanchi Array**	**60.54**	**315**	P	**P**		**21 47 57.0**	**+0.3**
MK31				IAmb	IAmb		21 47 57.9	
	comp=Z,1.6nm,1.4s							
MKAR	**Makanchi Array**	**60.54**	**315**	P	**P**		**21 47 57.2**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=93,slow=8.5,SNR=20							
	comp=Z,0.6nm,0.4s							
KURBB	**Kurchatov Arra**	**63.52**	**319**	P	**P**		**21 48 16.0**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=97,slow=7.3,SNR=7.3							
NRIK	**Noril'sk**	**64.26**	**340**	P	**P**		**21 48 20.1**	**-0.9**
	comp=Z,2.0nm,0.6s,baz=142,slow=5.9,SNR=3.6							
	comp=Z,2.0nm,0.6s							
D22K	**Ayikyak River**	**65.07**	**21**	P	**P**		**21 48 27.3**	**+1.0**
D22K				IAmb	IAmb		21 48 53.2	
	comp=Z,3.8nm,1.5s							
ILAR	**Eielson Array**	**66.01**	**26**	P	**P**		**21 48 30.7**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=243,slow=6.2,SNR=7.1							
	comp=Z,0.3nm,0.5s							
C23K	**Itkillik River**	**66.10**	**20**	P	**P**		**21 48 33.3**	**+0.4**
C23K				IAmb	IAmb		21 48 58.8	
	comp=Z,2.2nm,1.4s							
SCRK	**Sand Creek**	**67.07**	**27**	P	**P**		**21 48 40.0**	**+0.7**
SCRK				IAmb	IAmb		21 49 02.8	
	comp=Z,5.3nm,1.4s							
BMAR	**Burnt Mountain**	**67.54**	**23**	P	**P**		**21 48 43.3**	**+1.2**
KKAR	**Karatay Array**	**68.70**	**310**	P	**P**		**21 48 49.8**	**0.0**
BVAR	**Borovoye Array**	**68.74**	**321**	P	**P**		**21 48 49.1**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=100,slow=5.1,SNR=4.1							
	comp=Z,0.6nm,0.6s							
ABKAR	**Akbulak array**	**75.50**	**318**	P	**P**		**21 49 30.9**	**+0.7**

DJA 07 21:40:18.3±0.4, **9°S**±5°.×**10°9E**±°, **h10**km, **M3.6/9, mb4.2/4, mB5.6/1, MLv3.4/9, Mw(mB)5.1/1, Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMJI	**Cimerak**	**1.09**	**328**	P		Pb	21 40 38.4	-0.8
KPJI	**Karang Pucung**	**1.37**	**356**	P		Pn	21 40 43.5	0.0
UGM	**Wanagama**	**1.68**	**62**	P		Pn	21 40 46.0	-1.8
PWJI	**Pagerwojo**	**2.83**	**76**	P		Pn	21 41 02.9	-0.7
JAGI	**Jajag, Banyuwa**	**5.07**	**88**	P		Pn	21 41 33.8	-0.7
	12nm,1.2s,0.1nm							
TWSI	**Taliwang, Sumb**	**7.76**	**91**	P		Pn	21 42 11.9	+0.5
	10nm,2.0s,0.1nm							
KRJI	**Kerinci**	**10.00**	**311**	P		Pn	21 42 43.0	+0.8

IDC 07 21:40:46.9±231.0, **38°.15N**×**118°.12W, h0**km, **Error ellipse: s-maj=103.6km s-min=87.3km az=3.0, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NVAR	**Mina Array Bea**	**0.31**	**332**	I		I	21 41 43.9	
	baz=216,slow=10.0,SNR=56							
I57US	**PINON FLAT INF**	**4.73**	**163**	I		I	22 11 00.0	
	0.1nm,0.6s,baz=344,slow=320,SNR=10.0							
I56US	**NEWPORT INFRAS**	**10.13**	**4**	I		I	22 41 50.0	
	baz=183,slow=325,SNR=1.8							
I10CA	**LAC DU BONNET**	**19.82**	**45**	I		I	23 45 50.0	
	baz=238,slow=332,SNR=1.3							
I18DK	**QAANAAQ INFRAS**	**44.47**	**14**	I		I	02 12 50.0	
	baz=235,slow=345,SNR=1.5							

*NOU **07** 21:44:32.9, 25°.38S×179°.83W, h538km, mb4.6/27, South of Fiji Islands*
*IDC **07** 21:44:32.4±1.0, 25°.38S×179°.69E, h493km±9km, mb3.8/17, mbtmp4.7/21, Error ellipse: s-maj=12.6km s-min=12.2km az=163.0*
*NEIC **07** 21:44:34.2±2.2, 25°.4S±0°.1×179°.8E±0°.1, h513km±6km, mb4.6/56, Error ellipse: s-maj=15.9km s-min=15.7km az=165.0*
ISC 07 21:44:32.7±0.4, **25°.47S**±0°.05×**179°.74E**±0°.06, **h500**km, **n205, σ1s39/217, mb4.5/52, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**4.30**	**152**	P	**P**		**21 45 55.1**	**+1.6**
RAO	**Raoul Island**	**4.30**	**152**	P	**P**		**21 45 55.3**	**+1.8**
	491nm,0.4s,baz=84,slow=10,SNR=5.8							
RAO				S	**S**		**21 46 58.4**	**-1.1**
	222nm,0.3s,baz=242,slow=24,SNR=1.5							
GLKZ	**Green Lake**	**4.31**	**152**	P	**P**		**21 45 54.9**	**+1.3**
GLKZ				S	**S**		**21 46 59.8**	**+0.2**
LKBA	**Tubou, Lakemba**	**7.33**	**11**	P	**P**		**21 46 22.3**	**0.0**
MSVF	**Nonsavu**	**7.86**	**348**	P	**P**		**21 46 26.6**	**-1.3**
MSVF	**Nonsavu**	**7.86**	**348**	P	**P**		**21 46 28.3**	**+0.5**
TAVE	**Taveuni**	**8.72**	**2**	P	**P**		**21 46 37.6**	**+0.9**
YSA	**Yasawairara**	**8.96**	**347**	P	**P**		**21 46 39.4**	**+0.2**
DGTI	**Dogotuki**	**9.12**	**360**	P	**P**		**21 46 41.6**	**+0.7**
MARNC	**Mare, Loyalty**	**11.46**	**288**	P	**P**		**21 47 05.8**	**+0.3**
NIUE	**Niue**	**11.48**	**58**	P	**P**		**21 47 04.3**	**-1.6**
PINNC	**Pines Island,**	**11.59**	**282**	P	**P**		**21 47 09.0**	**+2.1**
WIAZ	**Waiheke Island**	**11.96**	**198**	P	**P**		**21 47 13.5**	**+2.9**
MXZ	**Matakaoa Point**	**12.12**	**185**	P	**P**		**21 47 10.2**	**-2.1**
MXZ	**Matakaoa Point**	**12.12**	**185**	P	**P**		**21 47 14.1**	**+1.8**
MXZ				S	**S**		**21 49 19.2**	**-4.6**
OUENC	**Ouen Island, N**	**12.18**	**282**	P	**P**		**21 47 14.5**	**+1.3**
MKAZ	**Moumakai**	**12.24**	**198**	P	**P**		**21 47 14.9**	**+1.3**
HAZ	**Te Kaha**	**12.36**	**187**	P	**P**		**21 47 16.2**	**+1.3**
HAZ				S	**S**		**21 49 27.9**	**-0.7**
WMGZ	**Waiomatatini S**	**12.36**	**185**	P	**P**		**21 47 16.9**	**+2.0**
WMGZ				S	**S**		**21 49 31.0**	**+2.3**
LIFNC	**LIFOU**	**12.41**	**290**	P	**P**		**21 47 16.3**	**+0.6**
PKGZ	**Pakihiroa**	**12.46**	**186**	P	**P**		**21 47 17.1**	**+1.1**
PKGZ				S	**S**		**21 49 29.6**	**-1.1**
RUGZ	**Raukumara Rang**	**12.58**	**188**	P	**P**		**21 47 17.5**	**+0.2**
RUGZ				S	**S**		**21 49 33.5**	**+0.4**
PUZ	**Puketiti**	**12.63**	**185**	P	**P**		**21 47 19.3**	**+1.5**
PUZ				S	**S**		**21 49 31.5**	**-2.3**
DZM	**Mont Dzumac**	**12.63**	**283**	P	**P**		**21 47 19.8**	**+1.7**
DZM	**Mont Dzumac**	**12.63**	**283**	P	**P**		**21 47 20.4**	**+2.3**
DZM	**Mont Dzumac**	**12.63**	**283**	P	**P**		**21 47 19.1**	**+1.0**
	16nm,0.8s,baz=77,slow=16,SNR=7.3							
TOZ	**Tahuroa Road**	**12.74**	**195**	P	**P**		**21 47 23.0**	**+4.1**
NOUC	**Port Laguerre**	**12.75**	**282**	P	**P**		**21 47 21.4**	**+2.2**
NOUC	**Port Laguerre**	**12.75**	**282**	P	**P**		21 47 26.8	+7.6
TWGZ	**Tauwhareparae**	**12.76**	**186**	P	**P**		**21 47 20.4**	**+1.3**
TWGZ				S	**S**		**21 49 37.1**	**+0.8**
URZ	**Urewera**	**12.95**	**189**	P	**P**		**21 47 21.6**	**+0.6**
URZ	**Urewera**	**12.95**	**189**	P	**P**		**21 47 20.4**	**-0.6**
	23nm,0.5s,baz=63,slow=1.6,SNR=20							
URZ				S	**S**		**21 49 38.1**	**-1.8**
	34nm,0.6s,baz=145,slow=22,SNR=12							
URZ	**Urewera**	**12.95**	**189**	P	**P**		**21 47 20.4**	**-0.6**
URZ				S	**S**		**21 49 36.3**	**-3.5**
MWZ	**Matawai**	**12.96**	**188**	P	**P**		**21 47 22.7**	**+1.4**
MWZ				S	**S**		**21 49 41.3**	**+1.0**
TKGZ	**Te Karaka**	**13.03**	**187**	P	**P**		**21 47 22.9**	**+0.9**
TKGZ				S	**S**		**21 49 33.3**	**-8.3**
KOUNC	**Koumac, New Ca**	**15.04**	**286**	P	**P**		**21 47 46.2**	**+2.8**
KOUNC	**Koumac, New Ca**	**15.04**	**286**	P	**P**		**21 47 46.8**	**+3.4**
KOUNC	**Koumac, New Ca**	**15.04**	**286**	P	**P**		**21 47 46.9**	**+3.5**
KOUNC	**Koumac, New Ca**	**15.04**	**286**	P	**P**		**21 47 46.6**	**+3.2**
BFZ	**Birch Farm**	**15.45**	**190**	P	**P**		**21 47 46.8**	**-0.5**
SNZO	**South Karori**	**16.34**	**194**	P	**P**		**21 47 57.0**	**+0.3**
THZ	**Tophouse**	**17.21**	**198**	P	**P**		**21 48 04.9**	**-0.6**
KHZ	**Kahutara**	**17.66**	**195**	P	**P**		**21 48 09.5**	**-0.2**
KHZ	**Kahutara**	**17.66**	**195**	P	**P**		**21 48 09.9**	**+0.2**
INZ	**Inchbonnie**	**18.51**	**200**	P	**P**		**21 48 17.1**	**-0.4**
RPZ	**Rata Peaks**	**19.53**	**199**	P	**P**		**21 48 26.8**	**-0.1**
RPZ	**Rata Peaks**	**19.53**	**199**	P	**P**		**21 48 28.9**	**+2.0**
RPZ	**Rata Peaks**	**19.53**	**199**	P	**P**		**21 48 26.5**	**-0.3**
	9.7nm,0.4s,baz=7.9,slow=2.8,SNR=13							
JCZ	**Jackson Bay**	**20.59**	**203**	P	**P**		**21 48 40.4**	**+3.8**
ODZ	**Otahua Downs**	**20.87**	**198**	P	**P**		**21 48 40.2**	**+1.3**
HNR	**Honiara**	**24.66**	**307**	P	**P**		**21 49 11.7**	**-1.6**
HNR	**Honiara**	**24.66**	**307**	P	**P**		**21 49 12.6**	**-0.7**
HNR	**Honiara**	**24.66**	**307**	P	**P**		**21 49 11.4**	**-1.9**
	1μm,0.7s,baz=210,slow=8.1,SNR=5.8							
ARMA	**Armidale**	**25.29**	**252**	P	**P**		**21 49 19.9**	**+1.0**
ARMA				IAmb	IAmb		21 49 21.6	
	comp=Z,23nm,1.1s							
EIDS	**Eidsvold**	**25.87**	**264**	P	**P**		**21 49 24.5**	**+0.6**
EIDS	**Eidsvold**	**25.87**	**264**	P	**P**		**21 49 25.5**	**+1.6**
EIDS	**Eidsvold**	**25.87**	**264**	P	**P**		**21 49 25.2**	**+1.3**
MGCD	**Mangrove Creek**	**26.07**	**246**	P	**P**		**21 49 27.4**	**+1.8**
AULRC	**Lightning Ridg**	**28.41**	**255**	P	**P**		**21 49 47.9**	**+1.7**
CMSA	**Cobar Meteorol**	**30.45**	**251**	P	**P**		**21 50 05.3**	**+1.4**
CMSA	**Cobar Meteorol**	**30.45**	**251**	P	**P**		**21 50 04.9**	**+1.0**
CTA	**Charters Tower**	**31.28**	**273**	P	**P**		**21 50 12.2**	**+0.9**
	comp=Z,20nm,0.5s,baz=100,slow=9.8,SNR=35							
	comp=Z,20nm,0.5s							
CTAO	**Charters Tower**	**31.28**	**273**	P	**P**		**21 50 11.9**	**+0.7**
CTAO	**Charters Tower**	**31.28**	**273**	P	**P**		**21 50 12.4**	**+1.1**
TOO	**Toolangi**	**31.42**	**239**	P	**P**		**21 50 13.3**	**+1.0**
QLP	**Quilpie**	**31.86**	**260**	P	**P**		**21 50 16.8**	**+0.7**
GEXS	**Deakin Univers**	**32.48**	**238**	P	**P**		**21 50 21.0**	**-0.2**
MTSU	**Mount Surprise**	**33.62**	**275**	P	**P**		**21 50 32.8**	**+1.6**
MTSU	**Mount Surprise**	**33.62**	**275**	P	**P**		**21 50 32.3**	**+1.1**
STKA	**Stephens Creek**	**33.95**	**250**	P	**P**		**21 50 33.7**	**0.0**
STKA	**Stephens Creek**	**33.95**	**250**	P	**P**		**21 50 34.6**	**+0.8**
STKA	**Stephens Creek**	**33.95**	**250**	P	**P**		**21 50 34.5**	**+0.8**
	comp=Z,1.9nm,0.4s,baz=101,slow=11,SNR=8.5							
	comp=Z,1.9nm,0.4s							
PMG	**Port Moresby**	**34.81**	**291**	P	**P**		**21 50 41.3**	**+0.1**
INKA	**Innaminka**	**34.84**	**257**	P	**P**		**21 50 42.5**	**+1.2**
INKA	**Innaminka**	**34.84**	**257**	P	**P**		**21 50 42.8**	**+1.5**
COEN	**Coen**	**36.16**	**281**	P	**P**		**21 50 53.1**	**+0.6**
COEN				IAmb	IAmb		21 50 54.2	
	comp=Z,21nm,1.1s							
COEN	**Coen**	**36.16**	**281**	P	**P**		**21 50 53.2**	**+0.7**
HTT	**Hallett**	**36.24**	**248**	P	**P**		**21 50 54.2**	**+1.3**
HTT	**Hallett**	**36.24**	**248**	P	**P**		**21 50 53.3**	**+0.4**
LCRK	**Leigh Creek**	**36.86**	**253**	P	**P**		**21 50 58.7**	**+0.6**
LCRK	**Leigh Creek**	**36.86**	**253**	P	**P**		**21 50 58.5**	**+0.4**
QIS	**Mount Isa**	**37.16**	**269**	P	**P**		**21 51 01.0**	**+0.3**
QIS	**Mount Isa**	**37.16**	**269**	P	**P**		**21 51 00.8**	**+0.1**
BBOO	**Buckleboo**	**38.63**	**249**	P	**P**		**21 51 12.1**	**-0.5**
BBOO				IAmb	IAmb		21 51 15.4	
	comp=Z,19nm,1.4s							
BBOO	**Buckleboo**	**38.63**	**249**	P	**P**		**21 51 12.1**	**-0.5**
OOD	**Oodnadatta**	**39.29**	**257**	P	**P**		**21 51 19.0**	**+1.1**
OOD	**Oodnadatta**	**39.29**	**257**	P	**P**		**21 51 18.8**	**+0.9**
MULG	**Mulgathing**	**40.46**	**253**	P	**P**		**21 51 27.4**	**+0.1**
MULG	**Mulgathing**	**40.46**	**253**	P	**P**		**21 51 27.1**	**-0.2**
AS01	**Alice Springs**	**41.53**	**262**	P	**P**		**21 51 36.6**	**+0.6**
AS31	**Alice Springs**	**41.57**	**262**	P	**P**		**21 51 36.2**	**-0.1**
ASAR	**Alice Springs**	**41.57**	**262**	P	**P**		**21 51 35.9**	**-0.4**
ASAR	**Alice Springs**	**41.57**	**262**	P	**P**		**21 51 36.3**	**0.0**
	comp=Z,7.4nm,0.4s,baz=91,slow=7.1,SNR=139							
ASAR				PcP	**PcP**		**21 53 21.8**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=102,slow=4.2,SNR=5.6							
ASAR				ScP	**ScP**		**21 56 25.7**	**+1.3**
	comp=Z,1.3nm,1.0s,baz=107,slow=3.8,SNR=4.3							
ASAR				S	**S**		**21 57 15.3**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=93,slow=17,SNR=6.2							
	comp=Z,7.4nm,0.4s							
WRA	**Warramunga Arr**	**42.09**	**268**	P	**P**		**21 51 40.0**	**-0.5**
WRA	**Warramunga Arr**	**42.09**	**268**	P	**P**		**21 51 39.9**	**-0.5**
	comp=Z,15nm,0.6s,baz=99,slow=6.9,SNR=96							
WRA				ScP	**ScP**		**21 56 28.7**	**+2.2**
	comp=Z,2.2nm,0.9s,baz=110,slow=3.8,SNR=4.5							
WRA				S	**S**		**21 57 20.4**	**-3.0**
	comp=Z,2.4nm,1.0s,baz=107,slow=13,SNR=5.6							
	comp=Z,15nm,0.6s							
WB0	**Warramunga Arr**	**42.09**	**268**	P	**P**		**21 51 39.6**	**-0.8**
WB0				IAmb	IAmb		21 51 40.8	
	comp=Z,20nm,0.7s							
FORT	**Forrest**	**45.56**	**251**	P	**P**		**21 52 06.3**	**-0.9**
FORT	**Forrest**	**45.56**	**251**	P	**P**		**21 52 06.6**	**-0.7**
KDU	**Kakadu**	**46.22**	**277**	P	**P**		**21 52 11.8**	**-0.7**
WRKA	**Warakurna**	**46.28**	**259**	P	**P**		**21 52 12.7**	**-0.2**
WRKA	**Warakurna**	**46.28**	**259**	P	**P**		**21 52 12.5**	**-0.5**
MTN	**Manton Dam**	**47.36**	**276**	P	**P**		**21 52 20.3**	**-0.8**
MTN

comp=Z,9.7nm,0.8s
ASAJ Asahikawa 77.16 334 P **P** 21 55 34.5 +0.3
comp=Z,4.5nm,0.8s,baz=157,slow=7.7,SNR=2.1
comp=Z,4.5nm,0.8s
KSRS Korea Array 79.30 320 P **P** 21 55 46.7 +0.9
comp=Z,4.3nm,0.7s,baz=136,slow=5.8,SNR=16
comp=Z,4.3nm,0.7s
PEA0B Petropavlovsk- 80.56 347 P **P** 21 55 51.7 -0.4
PEA0B IAmb IAmb 21 56 03.0
comp=Z,40nm,1.2s
PETK Petropavlovsk- 80.56 347 P **P** 21 55 51.9 -0.2
PETK Petropavlovsk- 80.56 347 P **P** 21 55 51.2 -0.9
comp=Z,6.9nm,0.9s,baz=124,slow=7.0,SNR=4.2
comp=Z,6.9nm,0.9s
NJ2 Nanjing 81.51 311 *e*P **P** 21 55 58.9 +1.4
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
USA0B Ussuriysk Arra 81.95 327 P **P** 21 55 59.8 +0.4
USA0B IAmb IAmb 21 56 13.3
comp=Z,15nm,1.3s
USRK Ussuriysk Ar. 81.95 327 P **P** 21 56 00.0 +0.6
USRK Ussuriysk Ar. 81.95 327 P **P** 21 55 58.6 -0.8
comp=Z,2.6nm,0.7s,baz=139,slow=4.3,SNR=12
comp=Z,2.6nm,0.7s
UBPT Khong Chiam 82.85 291 P **P** 21 56 05.3 +0.7
MDJ Mudanjiang 83.44 327 P **P** 21 56 11.5 +4.6
MDJ pmax pmax
comp=Z,20nm,1.4s
MDJ pmax pmax
comp=Z,270nm,4.7s
GSI Gunungsitoli 83.48 275 P **P** 21 56 08.3 +0.3
GSI IAmb IAmb 21 56 08.9
comp=Z,9.2nm,0.7s
ESJX Sierra Juarez 83.84 50 P **P** 21 56 10.6 +1.1
ISA Isabella, Lake 84.28 46 P **P** 21 56 12.3 +0.8
ISA IAmb IAmb 21 56 13.5
comp=Z,7.4nm,0.8s
TIA Tai'an 85.14 314 P **P** 21 56 16.4 +0.8
TIA pmax pmax
comp=Z,8.0nm,0.7s
LL02 Futaleuf 85.25 136 P **P** 21 56 16.9 +0.8
LL02 IAmb IAmb 21 56 18.4
comp=Z,13nm,1.1s
DSP Deep Springs 85.62 45 P **P** 21 56 18.5 +0.7
KLR Kul'dur 85.78 331 P **P** 21 56 19.2 +0.9
comp=Z,1.5nm,0.7s,baz=164,slow=2.2,SNR=8.4
comp=Z,1.5nm,0.7s
HSIG 85.80 55 P **P** 21 56 19.6 +0.6
HSIG IAmb IAmb 21 56 21.1
comp=Z,5.2nm,0.6s
NVAR Mina Array Bea 86.04 44 P **P** 21 56 20.7 +0.6
NVAR Mina Array Bea 86.04 44 P **P** 21 56 21.1 +0.9
comp=Z,2.3nm,0.7s,baz=221,slow=8.5,SNR=16
comp=Z,2.3nm,0.7s
TPH Tonopah 86.51 45 P **P** 21 56 22.8 +0.4
ENH Enshi 87.15 305 P **P** 21 56 25.3 0.0
ENH IAmb IAmb 21 56 26.3
comp=Z,7.5nm,0.7s
J05D Fort Rock, OR 87.28 39 P **P** 21 56 26.3 +0.6
J05D IAmb IAmb 21 56 28.1
comp=Z,12nm,1.0s
LYN LuoYang 87.32 310 *e*P **P** 21 56 27.2 +1.2
LYN pmax pmax
comp=Z,24nm,0.8s
PLCA Paso Flores 87.34 134 P **P** 21 56 26.5 +0.3
PLCA Paso Flores 87.34 134 P **P** 21 56 26.6 +0.3
comp=Z,0.9nm,0.7s,baz=181,slow=3.4,SNR=3.6
comp=Z,0.9nm,0.7s
PINE Pine Mountain 87.76 39 P **P** 21 56 29.2 +1.1
PINE IAmb IAmb 21 56 30.5
comp=Z,10nm,0.9s
I07A Izee 88.75 39 P **P** 21 56 33.6 +1.0
I07A IAmb IAmb 21 56 35.1
comp=Z,6.0nm,1.0s
U15A North Rim 88.82 48 P **P** 21 56 34.0 +0.7
XAN Xi'an 89.52 308 P **P** 21 56 36.8 +0.5
XAN pmax pmax
comp=Z,10.0nm,1.0s
CMAR Chiang Mai Arr 89.85 290 P **P** 21 56 38.4 +0.3
CMAR Chiang Mai Arr 89.85 290 P **P** 21 56 39.4 +1.3
comp=Z,2.6nm,0.9s,baz=139,slow=3.1,SNR=16
comp=Z,2.6nm,0.9s
CHTO Chiang Mai 90.01 291 P **P** 21 56 39.7 +0.8
CHTO IAmb IAmb 21 56 41.1
comp=Z,6.9nm,0.9s
SEY Seymchan 90.75 348 P **P** 21 56 40.6 -0.6
comp=Z,2.3nm,0.6s,baz=138,slow=8.4,SNR=7.2
comp=Z,2.3nm,0.6s
PZH PanZhiHua 91.22 299 P **P** 21 56 44.6 +0.1
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,120nm,5.2s
HHC Hu-ho-hao-te 91.36 315 *e*P **P** 21 56 45.4 +0.6
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,75nm,4.9s
HVU Hansel Valley 91.43 44 P **P** 21 56 46.0 +0.8
HVU IAmb IAmb 21 56 46.7
comp=Z,3.3nm,0.8s
TX31 Lajitas Ar. Si 91.46 58 P **P** 21 56 45.9 +0.4
TX31 IAmb IAmb 21 56 47.6
comp=Z,4.7nm,1.1s
TXAR Lajitas Array 91.46 58 P **P** 21 56 46.8 +1.3
comp=Z,1.9nm,0.8s,baz=222,slow=6.2,SNR=15
comp=Z,1.9nm,0.8s
BSUT Blindstream Ca 92.04 46 P **P** 21 56 49.2 +1.0
BSUT IAmb IAmb 21 56 49.6
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 113.03 312 PKiKP **PKiKP** 22 02 11.3 -1.3
comp=Z,0.3nm,0.5s,baz=59,slow=1.5,SNR=6.1
MKAR SKP 22 05 00.3
comp=Z,0.3nm,0.5s,baz=77,slow=1.5,SNR=4.8
NRIK Noril'sk 114.33 337 PKiKP **PKiKP** 22 02 14.5 +0.2
comp=Z,1.3nm,0.6s,baz=70,slow=4.8,SNR=1.7
KURBB Kurchatov Arra 116.21 316 PKP **PKPdf** 22 02 17.0 -1.4
comp=Z,0.3nm,0.4s,baz=103,slow=2.0,SNR=6.8
KK31 Karatay Array 120.61 307 PKPdf **PKPdf** 22 02 26.3 -0.9
KKAR Karatay Array 120.61 307 PKPdf **PKPdf** 22 02 26.2 -1.0
BVAR Borovoye Array 121.45 318 PKP **PKPdf** 22 02 27.9 -0.6
comp=Z,2.0nm,0.5s,baz=134,slow=1.8,SNR=20
BVAR SKP 22 05 17.2
comp=Z,0.7nm,0.5s,baz=118,slow=0.3,SNR=4.3
GEYT Alibeck 129.54 299 SKPbc SKPbc 22 05 22.1 +2.5
comp=Z,4.3nm,0.8s,baz=134,slow=4.3,SNR=8.8
ARCES ARCESS Array B 133.37 348 PKP **PKPdf** 22 02 51.1 +0.4
comp=Z,6.2nm,1.0s,baz=69,slow=2.4,SNR=8.2
ARCES SKPbc **SKPbc** 22 05 32.2 +0.3
comp=Z,3.6nm,0.7s,baz=32,slow=2.9,SNR=12
FINES FINESS Array B 139.85 341 PKhKP PKPpre 22 02 55.0
comp=Z,0.7nm,0.5s,baz=44,slow=4.2,SNR=8.8
FINES PKP **PKPdf** 22 03 04.0 +1.1
comp=Z,0.9nm,0.5s,baz=92,slow=4.0,SNR=5.3
FINES SKPbc **SKPbc** 22 05 52.0 +0.7
comp=Z,7.0nm,0.8s,baz=42,slow=2.8,SNR=17
NC303 NORSAR Array S 143.39 351 PKPab 22 03 07.2 -0.1
NB201 NORSAR Array S 143.56 351 PKPab 22 03 07.4 -0.6
NB2 NORSAR Subarra 143.59 351 PKP PKPab 22 03 07.3 -0.8
comp=Z,1.3nm,0.5s,baz=14,slow=3.6
NOA NORSAR Array B 143.59 351 PKP PKPab 22 03 07.0 -1.1
comp=Z,2.4nm,0.8s,baz=16,slow=4.1,SNR=24
HFS Hagfors 144.03 348 PKP PKPbc 22 03 08.8 -0.8
comp=Z,7.8nm,0.5s,baz=64,slow=3.4,SNR=46
SLIT Slitere, Latvi 144.06 339 *e*P PKPbc 22 03 08.6 -1.1
ISAL Salakas 144.28 334 *e*P **PKPdf** 22 03 12.3 +1.5
VSVD Vaisvydziai 144.80 336 *e*P PKPbc 22 03 11.9 -0.2
PABE Paberze 145.15 336 PKPdf **PKPdf** 22 03 11.7 -0.7
PABE Paberze 145.15 336 *e*P **PKPab** 22 03 13.6 -0.5
PBUR Paburge 145.47 338 *e*P **PKPbc** 22 03 14.2 +0.1
STRU Stroemstad 145.50 350 *e*P **PKPbc** 22 03 13.4 -0.7
AKASG Malin Array Be 146.14 326 PKPbc **PKPbc** 22 03 15.3 -0.9
comp=Z,3.6nm,0.5s,baz=45,slow=4.1,SNR=19
AKBB Malin Array Si 146.14 326 **PKPbc** 22 03 15.2 -1.1
KIEV Kiev 146.16 326 PKPdf **PKPdf** 22 03 12.9 -1.3
KIEV **PKPbc** 22 03 15.2 -1.1
SUW Suwalki 146.59 335 **PKPbc** 22 03 16.7 -0.6
MMAI Mount Meron Ar 148.10 292 PKPbc **PKiKP** 22 03 23.1 -0.3
comp=Z,8.3nm,0.5s,baz=72,slow=5.4,SNR=40
BRTR Keskin Array B 148.31 305 **PKPbc** 22 03 21.6 -0.9
BRTR Keskin Array B 148.31 305 PKPbc **PKPbc** 22 03 22.2 -0.3
comp=Z,1.7nm,0.5s,baz=139,slow=5.0,SNR=6.7
MDUB Mudurnu 149.85 308 **PKPbc** 22 03 25.8 -0.4
EKA Eskdalemuir Ar 150.09 3 PKPbc **PKPbc** 22 03 25.1 -1.0
comp=Z,0.8nm,0.5s,baz=336,slow=1.8,SNR=5.1
BUR08 Bucovina Ar. S 150.11 324 **PKiKP** 22 03 27.1 -0.1

CLL Collm 152.28 342 *i* PKPbc **PKPbc** 22 03 30.9 -0.3
comp=Z,5.0nm,1.0s
WTTA Wattenberg 156.29 340 *e*PKP **PKPab** 22 04 01.7 +0.6
comp=Z,1.8nm,0.5s
MOTA Moosalm 156.38 340 *e*PKP **PKPab** 22 04 01.4 0.0
comp=Z,0.5nm,0.4s
ABTA Abfaltersbach 156.45 338 *e*PKP **PKPab** 22 04 01.4 -0.2
comp=Z,0.9nm,0.4s

*IDC **07** 21:48:48.1±1.3, 45.02N×106.89W, h0km, mbtmp3.4/2, ML3.1/2, Error ellipse: s-maj=56.8km s-min=8.9km az=135.0*
*NEIC **07** 21:48:48.1±1.2, 45.17N±0.05×106.87W±0.07, h0km±1km, ML2.7/34, Error ellipse: s-maj=10.0km s-min=7.0km az=218.0*
ISC 07 21:48:49.0±1.2**, 45.18N**±0.06×**106.83W**±0.07**, h0**km**, n23,** σ**0.78/22, Montana**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**1.56**	**15**			**Pb**		**21 49 18.7**	**-0.1**
RLMT	**Red Lodge**	**1.73**	**269**			**Pn**		**21 49 18.8**	**-1.7**
RLMT				IAML				21 49 48.5	
	77nm,0.7s								
RLMT				IAML				21 49 53.5	
	77nm,0.9s								
RSSD	**Black Hills**	**2.25**	**117**			**Pn**		**21 49 28.6**	**+0.8**
YMP	**Mirror Lake Pl**	**2.41**	**261**			**Pn**		**21 49 29.2**	**-0.7**
K22A	**Casper**	**2.54**	**175**			**Pn**		**21 49 30.6**	**-0.9**
K22A				IAML				21 50 06.3	
	comp=N,51nm,0.9s								
K22A				IAML				21 50 13.2	
	comp=E,46nm,0.7s								
LKWY	**Lake**	**2.62**	**258**			**Pn**		**21 49 32.9**	**+0.1**
LKWY				IAML				21 50 12.2	
	comp=E,41nm,0.7s								
LKWY				IAML				21 50 13.5	
	comp=E,24nm,2.0s								
YNR	**Norris Junctio**	**2.78**	**262**	Pn		**Pn**		**21 49 34.4**	**-0.6**
YNR				IAML				21 50 13.5	
	comp=N,35nm,0.6s								
YNR				IAML				21 50 13.8	
	comp=E,23nm,0.5s								
H17A	**Grant Village**	**2.78**	**255**			**Pn**		**21 49 34.8**	**-0.2**
H17A				IAML				21 50 15.7	
	comp=N,32nm,0.8s								
YHH	**Holmes Hill**	**2.88**	**264**			**Pn**		**21 49 36.5**	**+0.1**
YFT	**Old Faithful**	**2.95**	**257**			**Pn**		**21 49 38.6**	**+1.3**
FLWY	**Flagg Ranch**	**2.98**	**250**			**Pn**		**21 49 38.1**	**+0.5**
FLWY				IAML				21 50 27.8	
	comp=N,34nm,0.8s								
FLWY				IAML				21 50 36.5	
	comp=N,43nm,0.9s								
PD31	**Pinedale Array**	**3.12**	**220**			**Pn**		**21 49 40.0**	**+0.4**
PDAR	**Pinedale Array**	**3.12**	**220**			**Pn**		**21 49 39.3**	**-0.3**
PDAR	**Pinedale Array**	**3.12**	**220**	Pn		**Pn**		**21 49 40.0**	**+0.4**
	comp=N,2.1nm,0.3s,baz=49,slow=17,SNR=61								
PDAR				Lg	Lg			21 50 19.6	
	comp=N,5.6nm,0.3s,baz=43,slow=30,SNR=27								
	comp=N,2.8nm,0.4s								
MOOW	**Moose Ponds**	**3.15**	**244**			**Pn**		**21 49 40.4**	**+0.4**
BOZ	**Bozeman (W)**	**3.41**	**279**			**Pn**		**21 49 43.9**	**+0.3**
BOZ				IAML				21 50 51.8	
	comp=N,13nm,0.8s								
EGMT	**Eagleton**	**3.49**	**326**			**Pn**		**21 49 44.8**	**+0.2**
DGMT	**Dagmar**	**3.75**	**28**			**Pn**		**21 49 48.4**	**+0.2**
N23A	**Red Feather La**	**4.33**	**171**	Pn		**Pn**		**21 49 57.5**	**+1.1**
OVMT	**Ovando**	**4.69**	**296**			**Pn**		**21 50 02.0**	**+0.9**
P18A	**Preston Nutter**	**6.10**	**206**			**Pn**		**21 50 20.3**	**-0.3**
I10CA	**LAC DU BONNET**	**8.84**	**52**	I	I			22 43 30.0	
	baz=236,slow=328,SNR=1.2								
ULM	**Lac du Bonnet**	**8.95**	**52**	Pn		**Pn**		**21 50 58.4**	**-1.1**
	comp=N,0.6nm,0.3s,baz=247,slow=8.7,SNR=5.5								
ULM				Lg	Lg			21 53 27.2	
	comp=N,0.2nm,0.3s,baz=164,slow=21,SNR=1.8								
	comp=N,1.8nm,0.4s								

IDC 07 21:50:23.6±999.0**, 55.72N**×1.38**E, h0**km**, Error ellipse: s-maj=476.7km s-min=182.5km az=118.0, North Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**10.21**	**127**	I	I		I	22 48 00.0	
	baz=318,slow=307,SNR=0.5								
I43RU	**DUBNA INFRASONI**	**9.82**	**72**	I	I		I	23 53 24.6	
	0.1nm,1.9s,baz=285,slow=334,SNR=6.7								
I48TN	**KESRA INFRASON**	**20.65**	**161**	I	I		I	23 55 03.5	
	0.1nm,1.2s,baz=346,slow=321,SNR=3.9								

*SOME **07** 21:51:51.1, 38.93N×71.98E, h5km*
*NNC **07** 21:51:52.2±11.0, 38.31N×72.34E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=133.3km s-min=65.7km az=35.0*
ISC 07 21:51:48.8±2.5**, 38.8N**±0.1×**72.12E**±0.05**, h10**km**, n17,** σ**1.72/23, 4D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**3.68**	**335**	*e*P		**Pg**		**21 52 59.1**	**-0.1**
	22nm,0.1s								
IUG				*e*S		**Sg**		**21 53 48.0**	**+1.1**
	40nm,0.3s								
UCH	**Uchtor**	**3.85**	**27**	P		**Pb**		**21 52 59.0**	**+1.9**
	SNR=17								
EKS2	**Erkin-Say**	**4.03**	**18**	P		**Pb**		**21 53 02.6**	**+2.7**
	SNR=26								
DZA	**Taraz**	**4.10**	**352**	*e*P		**Pg**		**21 53 05.7**	**-1.6**
	29nm,0.2s								
DZA				*e*S		**Sg**		**21 53 59.6**	**-0.9**
	58nm,0.1s								
AAK	**Ala-Archa**	**4.21**	**25**	P		**Pb**		**21 53 04.3**	**+1.3**
	SNR=13								
KK31	**Karatay Array**	**4.44**	**345**	⇓P		**Pb**		**21 53 10.0**	**+3.1**
	5.8nm,0.3s,baz=154,slow=12,SNR=232								
KK31				S		**Sg**		**21 54 07.4**	**-3.9**
	8.9nm,0.4s,baz=181,slow=30,SNR=25								
BRLS	**Borolday**	**4.54**	**338**	*e*P		**Pb**		**21 53 08.6**	**+0.1**
	33nm,0.1s								
BRLS				*e*S		**Sb**		**21 54 04.3**	**+1.0**
	13nm,0.3s								
CHMS	**Chumysh**	**4.62**	**25**	P		**Pb**		**21 53 09.6**	**-0.2**
	SNR=8.9								
CHMS	**Chumysh**	**4.62**	**25**	⇓P		**Pb**		**21 53 09.2**	**-0.6**
	3.9nm,0.3s								
ULHL	**Ulahol**	**4.64**	**41**	P		Pn		21 53 06.1	+7.0
	SNR=10								
USP	**Ospenovka**	**4.78**	**21**	P		**Pb**		**21 53 11.6**	**-1.1**
	SNR=11								
TKM2	**Tokmak 2**	**4.86**	**32**	⇓P		Pb		21 53 10.8	-3.3
	0.6nm,0.3s								
KST	**Kastek**	**5.12**	**33**	*e*P		**Pg**		**21 53 26.1**	**-0.6**
	1.0nm,0.3s								
KST				*e*S		**Sg**		**21 54 34.5**	**+1.5**
	3.3nm,0.3s								
DGS	**Degeres**	**5.20**	**31**	*e*P		**Pg**		**21 53 28.0**	**-0.3**
	2.5nm,0.2s								
DGS				*e*S		**Sg**		**21 54 37.7**	**+2.0**
	2.0nm,0.3s								
KOTS	**Kotyrbulak**	**5.79**	**39**	*e*P		**Pg**		**21 53 37.9**	**-1.9**
	1.7nm,0.2s								
KOTS				*e*S		**Sg**		**21 54 54.7**	**-0.1**
	7.3nm,0.4s								
KTBS	**Kamtobe**	**5.96**	**34**	*e*P		**Pg**		**21 53 41.1**	**-1.9**
	1.3nm,0.4s								
KTBS				*e*S		**Sg**		**21 55 00.2**	**-0.1**
	1.4nm,0.3s								
AB31	**Akbulak array**	**13.59**	**324**	⇓P		**P**		**21 55 10.3**	**-0.3**
	0.6nm,0.6s,baz=19,slow=27,SNR=12								

*SDD **07** 21:52:01.8±2.1, 19.16N×69.62W, h98km±12km, MD3.8, ML3.8, MW3.9*
*OSPL **07** 21:52:02.7±2.1, 19.14N×69.65W, h89km±9km, ML3.6*
ISC 07 21:52:00.1±1.4**, 19.14N**±0.05×**69.63W**±0.03**, h94**km±10km**, n29,** σ**1.72/43, 12C-6D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NADR	**Nagua**	**0.30**	**315**	IAML				21 52 25.5	
	comp=N,12μm,0.5s								
NADR				IAML				21 52 26.6	
	comp=E,6μm,0.3s								
LONA1	**Toro Cenizo, N**	**0.32**	**317**	*i* P		**Pn**		**21 52 14.3**	**+0.2**
LONA1				*e*S		**Sn**		**21 52 25.0**	**+0.5**
LONA1				IAML				21 52 29.2	
	comp=Z,2μm,0.6s								
SMDR	**Samana, DR**	**0.45**	**71**	⇑*e*Pg		**Pn**		**21 52 15.1**	**+0.3**
SMDR				⇑*e*Sg		**Sn**		**21 52 26.6**	**+0.8**
SMDR				IAML				21 52 26.8	
	comp=N,2μm,0.5s								
SMDR				IAML				21 52 26.9	
	comp=E,1μm,0.3s								
MIDR	**Miches**	**0.57**	**106**	*e*Pg		**Pn**		**21 52 16.4**	**+0.6**
MIDR				⇓*e*Sg		**Sn**		**21 52 28.2**	**+0.6**
MIDR				IAML				21 52 28.4	
	comp=E,3μm,0.1s								
MIDR				IAML				21 52 28.8	
	comp=N,3μm,0.2s								
SDD	**Santo Domingo**	**0.73**	**201**	⇓*e*Pg		**Pn**		**21 52 17.3**	**+0.1**
SDD				⇑*e*Sg		**Sn**		**21 52 29.6**	**-0.5**
SDD				IAML				21 52 29.8	
	comp=N,263nm,0.6s								
SDD				IAML				21 52 30.0	
	comp=E,236nm,0.7s								
SDD	**Santo Domingo**	**0.73**	**201**	*i* P		**Pn**		**21 52 17.4**	**+0.1**
SDD				*e*S		**Sn**		**21 52 29.5**	**-0.5**
LOSC1	**San Cristbal**	**0.86**	**212**	*i* P		**Pn**		**21 52 17.2**	**-1.3**
LOSC1				*e*S		**Sn**		**21 52 30.4**	**-1.9**
BANI	**BANI**	**1.01**	**223**	⇑*e*Pg		**Pn**		**21 52 21.1**	**+0.8**
BANI				⇑*e*Sg		**Sn**		**21 52 36.7**	**+1.1**
BANI				IAML				21 52 40.2	
	comp=N,2μm,0.6s								
BANI				IAML				21 52 42.2	
	comp=E,1μm,0.6s								
SC01	**Santiago de lo**	**1.07**	**286**	⇓*e*Pg		**Pn**		**21 52 21.5**	**+0.6**
SC01				⇓*e*Sg		**Sn**		**21 52 37.6**	**+1.1**
SC01				IAML				21 52 39.1	
	comp=E,1μm,0.3s								
SC01				IAML				21 52 39.7	
	comp=N,1μm,0.4s								
SC01	**Santiago de lo**	**1.07**	**286**	*i* P		**Pn**		**21 52 21.5**	**+0.6**
SC01				*e*S		**Sn**		**21 52 37.6**	**+1.1**
SADR	**Isla Saona**	**1.24**	**139**	*e*Pg		**Pn**		**21 52 23.9**	**+1.1**
SADR				IAML				21 52 47.6	
	comp=E,2μm,0.4s								
SADR				IAML				21 52 48.2	
	comp=N,2μm,0.7s								
PCDR	**Punta Cana, DR**	**1.34**	**118**	⇑*e*Pg		**Pn**		**21 52 25.2**	**+1.2**
PCDR				⇑*e*Sg		**Sn**		**21 52 43.5**	**+1.4**
PCDR				IAML				21 52 48.5	
	comp=E,653nm,0.5s								
PCDR				IAML				21 52 49.1	
	comp=N,2μm,0.5s								
PCDR	**Punta Cana, DR**	**1.34**	**118**	*i* P		**Pn**		**21 52 25.2**	**+1.2**
PCDR				*e*S		**Sn**		**21 52 43.5**	**+1.4**
PCDR				IAML				21 52 45.4	
	comp=Z,2μm,0.5s								
MADR	**Mao Valverde**	**1.45**	**287**	IAML				21 52 48.9	
	comp=N,3μm,0.5s								
MADR				IAML				21 52 49.1	
	comp=E,2μm,0.3s								
LUDR	**Luperon**	**1.45**	**301**	⇓*e*Pg		**Pn**		**21 52 25.2**	**-0.2**
LUDR				⇑*e*Sg		**Sn**		**21 52 45.1**	**+0.5**
LUDR				IAML				21 52 45.1	
	comp=E,3μm,0.4s								
LUDR				IAML				21 52 45.6	
	comp=N,4μm,0.3s								
SDDR	**Presa de Saban**	**1.57**	**264**	⇑*e*Pg		**Pn**		**21 52 27.8**	**+0.8**
SDDR				⇑*e*Sg		**Sn**		**21 52 48.5**	**+1.1**
SDDR				IAML				21 52 50.6	
	comp=N,942nm,0.6s								
SDDR				IAML				21 52 52.5	
	comp=E,679nm,0.5s								
SDDR	**Presa de Saban**	**1.57**	**264**	*i* P		**Pn**		**21 52 27.8**	**+0.8**
SDDR				*e*S		**Sn**		**21 52 48.4**	**+1.1**
SDDR				IAML				21 52 50.6	
	comp=Z,645nm,0.7s								
REDR	**Restauracion**	**1.67**	**271**	IAML				21 52 53.9	
	comp=N,787nm,0.3s								
REDR				IAML				21 52 53.9	
	comp=E,955nm,0.2s								
LOBA2	**Hotel Casa Bon**	**1.74**	**233**	⇑*e*Pg		**Pn**		**21 52 29.9**	**+0.8**
LOBA2				⇓*e*Sg		**Sn**		**21 52 51.5**	**+0.4**
PODR	**Polo**	**1.84**	**238**	⇑*e*Pg		**Pn**		**21 52 31.3**	**+0.8**
PODR				IAML				21 52 57.6	
	comp=E,404nm,0.3s								
PODR				IAML				21 52 58.9	
	comp=N,376nm,0.3s								
PODR	**Polo**	**1.84**	**238**	*i* P		**Pn**		**21 52 31.3**	**+0.8**
PODR				*e*S		**Sn**		**21 52 53.7**	**0.0**
MCDR	**Montecristi**	**2.05**	**292**	IAML				21 52 58.4	
	comp=N,678nm,0.3s								
MCDR				IAML				21 52 59.2	
	comp=E,507nm,0.3s								
LOPE2	**Hotel El Peder**	**2.29**	**241**	*i* P		**Pn**		**21 52 37.6**	**+1.4**
AGPR	**Aguadilla, PR**	**2.48**	**105**	*i* P		**Pn**		**21 52 39.8**	**+1.0**
AGPR				IAML				21 53 11.2	
	comp=Z,351nm,1.1s								
CRPR	**Cabo Rojo, PR**	**2.65**	**115**	*i* P		**Pn**		**21 52 43.2**	**+2.3**
CRPR				IAML				21 53 19.6	
	comp=Z,373nm,0.3s								
AOPR	**Arecibo Observ**	**2.84**	**106**	*e*P		**Pn**		**21 52 44.6**	**+1.0**
AOPR				*e*S		**Sn**		**21 53 15.7**	**-1.4**
MASC	**Masc**	**4.45**	**284**	*i* P		**Pn**		**21 53 04.7**	**-0.6**
MASC				*e*S		**Sn**		**21 53 51.6**	**-4.3**
MASC				IAML				21 53 54.6	
	comp=Z,43nm,2.1s								
ANBD	**Bethesda, Anti**	**7.77**	**104**	*e*P		**Pn**		**21 53 49.0**	**-1.5**
ANBD	**Bethesda, Anti**	**7.77**	**104**	*e*S		**Sn**		**21 55 09.2**	**-7.5**

TAP 07 21:55:49.4, 24.26N×121.81E, h14km**, ML1.5, D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.08**	**312**	*e*P		Pg		21 55 52.6	+0.3
	baz=314								
EAHA	**Aohua**	**0.09**	**320**	P		Pg		21 55 52.7	+0.3
	baz=320								
EAHA				S		Sg		21 55 55.7	+1.3
	baz=320								
ENA	**Nanau**	**0.18**	**341**	*i* P		Pb		21 55 54.2	-0.3
	baz=343								
ENA				*i* S		Sb		21 55 57.8	-0.1
	baz=343								
EWUT	**Wuta**	**0.19**	**353**	*i* P		Pb		21 55 54.4	-0.2
	baz=352								
EWUT				S		Sb		21 55 57.9	-0.3
	baz=352								
ETL	**Fush Village**	**0.19**	**240**	P		Pb		21 55 54.4	-0.3
	baz=239								
ETL				S		Sb		21 55 58.4	+0.1
	baz=239								
NACB	**Ninganchiao**	**0.21**	**247**	*i* P		Pg		21 55 54.5	+0.4
	baz=246								
NACB				*i* S		Sb		21 55 58.6	-0.1
	baz=246								
TWD	**Chiawan**	**0.26**	**227**	P		Pb		21 55 55.8	-0.1
	baz=226								
TWD				*e*S		Sb		21 56 00.1	-0.1
	baz=226								
ETLH	**Xiulin Townshi**	**0.30**	**260**	P		Pb		21 55 56.2	-0.4
	baz=260								
ETLH				S		Sb		21 56 01.4	-0.1
	baz=260								
TWC	**Suao**	**0.35**	**7**	*e*P		Pb		21 55 57.3	-0.2
	baz=8.0								
TWC				S		Sb		21 56 02.8	-0.1
	baz=8.0								
LATG	**Datong**	**0.38**	**318**	P		Pb		21 55 57.8	-0.1
	baz=317								
LATG				S		Sb		21 56 03.6	-0.1
	baz=317								
NDS	**Dongshan**	**0.38**	**348**	*e*P		Pb		21 55 57.8	-0.2
	baz=

	baz=294							
NDT	**Datong Townshi**	**0.43**	**322**	*e*P		Pb	21 55 58.9	0.0
	baz=322							
NDT				S		Sb	21 56 05.8	+0.5
	baz=322							
ENTT	**Nioudou**	**0.44**	**330**	*e*P		Pb	21 55 59.0	+0.1
	baz=330							
ENTT				S		Sb	21 56 05.8	+0.4
	baz=330							
FUSB	**Fushanzhiwuyua**	**0.54**	**338**	*e*P		Pb	21 56 00.5	-0.2
	baz=338							
FUSB				*e*S		Sb	21 56 08.8	+0.5
	baz=338							
ESL	**Shilin**	**0.56**	**218**	*e*P		Pb	21 56 00.8	-0.1
	baz=216							
ESL				*e*S		Sb	21 56 09.8	+1.1
	baz=216							
YHNB	**Yeheng**	**0.57**	**316**	*e*P		Pb	21 56 01.4	+0.3
	baz=316							
YHNB				*e*S		Sb	21 56 09.7	+0.6
	baz=316							
NSK	**Sanguang**	**0.58**	**316**	*e*P		Pb	21 56 02.0	+0.6
	baz=316							
NSK				*e*S		Sb	21 56 10.2	+0.7
	baz=316							
NWLT	**Wulai**	**0.59**	**332**	S		Sb	21 56 10.3	+0.6
	baz=331							
CHGB	**Renai**	**0.61**	**251**	*e*P		Pb	21 56 02.2	+0.3
	baz=251							
CHGB				*e*S		Sb	21 56 10.9	+0.5
	baz=251							
WUSB	**Renai**	**0.68**	**247**	*e*S		Sb	21 56 12.7	+0.3
	baz=247							
VWDT	**VWDT**	**0.79**	**231**	*e*S		Sn	21 56 16.9	-0.8
	baz=230							

JMA 07 21:56:44.1±0.2,24°.2N±0°.4×123°.8E±0°.4,h20km±1km, MV0.7/6,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.12**	**323**	P	Pg	21 56 48.1	-0.2
IRIF				S	Sg	21 56 51.5	+0.5
HATJ	**Hateruma jima**	**0.18**	**181**	*i* P	Pb	21 56 48.8	+0.1
JKRS	**Kuro-shima**	**0.18**	**90**	P	Pg	21 56 48.9	-0.1
JKRS				*e*S	Sg	21 56 52.3	0.0
JIJ	**Ishigaki jima**	**0.33**	**68**	P	Pg	21 56 51.1	-0.1
JIJ				*e*S	Sg	21 56 55.6	-0.6
JISG	**Ishigakijimahi**	**0.57**	**53**	*e*P	Pb	21 56 55.1	-0.3

DJA 07 22:03:09.0±1.1,0°S±12°×13°3E±°,h10km,M3.8/6,mb4.3/1, MLv3.6/6,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.83**	**251**	Pn	Pn	22 03 40.6	+0.1
FAKI	**Fak Fak**	**2.74**	**196**	P	Pn	22 03 53.2	+0.1
TNTI	**Ternate**	**5.72**	**280**	P	Pn	22 04 34.3	+0.3

*BEO **07** 22:13:22.5±0.7,43°.02N×29°.23E,h10km,ML4.3/14*
*SOF **07** 22:13:38.1,43°.14N±0°.01×27°.48E±0°.01,h9km±1km, MD3.6/13*
*AFAD **07** 22:13:38.8±0.0,43°.12N×27°.56E,h34km±1km,MW3.8*
*IDC **07** 22:13:39.7±1.4,43°.25N×27°.84E,h0km,mb2.9/1, mbtmp3.3/8,ML2.8/7,MS3.1/2,Error ellipse: s-maj=23.3km s-min=9.5km az=52.0*
*CFUSG **07** 22:13:39.1,43°.20N×27°.50E,h5km,mb3.0/2,Bulgaria Magtype MSH 3.4 from 3 stations*
*ISK **07** 22:13:39.4,43°.08N×27°.46E,h19km,ML3.5/47*
*THE **07** 22:13:42.2,43°.09N×27°.02E,h7km±19km,ML3.2/8,Error ellipse: s-maj=25.7km s-min=1.9km az=35.0*

ISC 07 22:13:38.4±0.8,43°.11N±0°.02×27°.48E±0°.02,h7km±5km, n205,σ1§37/241,42C-40D,Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRD	**Provadia**	**0.08**	**316**	⇓*i*P	**Pg**	**22 13 39.6**	**-0.7**
PRD				*i* S	**Sg**	**22 13 40.7**	**-0.9**
ROIA	**ROIAK**	**0.08**	**261**	⇑*i*P	**Pg**	**22 13 40.6**	**+0.2**
ROIA				*i* S	**Sg**	**22 13 42.9**	**+1.2**
AVR	**AVREN**	**0.14**	**84**	⇓*i*P	**Pg**	**22 13 41.7**	**+0.4**
NEF	**NEVSHA**	**0.22**	**316**	⇓*i*P	**Pg**	**22 13 42.5**	**-0.3**
LOZB	**Loznitsa**	**0.70**	**292**	⇓P	**Pg**	**22 13 51.8**	**0.0**
PSN	**Preselentsi**	**0.71**	**42**	⇓*i*P	**Pg**	**22 13 52.1**	**0.0**
PSN				*i* S	**Sg**	**22 14 01.8**	**+0.4**
RAZG	**Razgrad**	**0.85**	**303**	⇓P	**Pg**	**22 13 55.1**	**+0.4**
JMB	**Yambol**	**0.93**	**229**	Pg	**Pg**	**22 13 57.1**	**+0.8**
JMB	**Yambol**	**0.93**	**229**	⇓*i*P	**Pg**	**22 13 57.1**	**+0.8**
JMB				*i* S	**Sb**	**22 14 10.3**	**+0.9**
ICOR	**Ion Corvin**	**1.04**	**13**	⇑P	**Pg**	**22 13 58.6**	**+0.3**
TSMN	**Mangalia Port-**	**1.07**	**49**	⇑P	**Pb**	**22 13 59.5**	**+0.4**
MANR	**Mangalia**	**1.07**	**48**	⇑P	**Pg**	**22 13 59.1**	**+0.1**
SZH	**Strazhitsa**	**1.11**	**279**	⇑*i*P	**Pg**	**22 14 00.3**	**+0.6**
SZH				*i* S	**Sb**	**22 14 15.5**	**+0.9**
ARMN	**Kirklareli, Me**	**1.24**	**182**	P	**Pg**	**22 14 02.4**	**+0.3**
ARMN				S	**Sn**	**22 14 20.5**	**+1.4**
MFTR	**Murfatlar**	**1.27**	**32**	⇓P	**Pg**	**22 14 02.8**	**+0.1**
EFOR	**EFORIE**	**1.28**	**40**	⇓P	**Pb**	**22 14 03.3**	**+0.5**
CVDA	**Cernavoda**	**1.29**	**18**	⇓P	**Pn**	**22 14 03.2**	**+0.4**
KIRK	**Kirklareli**	**1.35**	**192**	P	**Pb**	**22 14 04.4**	**+0.4**
KIRK				S	**Sn**	**22 14 22.8**	**+0.9**
EDRB	**Edirne**	**1.37**	**204**	Pn	**Pn**	**22 14 03.9**	**0.0**
EDRB	**Edirne**	**1.37**	**204**	P	**Pg**	**22 14 05.5**	**+0.8**
EDRB				S	**Sn**	**22 14 24.0**	**+1.7**
	865nm,0.6s						
PHSR	**Pinarhisar**	**1.48**	**179**	Pn	**Pn**	**22 14 05.3**	**0.0**
TLBR	**Topalu**	**1.50**	**16**	⇑P	**Pb**	**22 14 06.6**	**+0.2**
AMRR	**Amara**	**1.51**	**356**	⇓P	**Pb**	**22 14 06.9**	**+0.3**
TIRR	**Tirgusor**	**1.51**	**26**	⇓P	**Pn**	**22 14 06.6**	**+0.8**
TIRR	**Tirgusor**	**1.51**	**26**	Pn	**Pn**	**22 14 06.3**	**+0.5**
TIRR				Sn	**Sb**	**22 14 26.5**	**+0.4**
VIZE	**Kirklareli, Vi**	**1.55**	**170**	P	**Pn**	**22 14 07.2**	**+0.8**
VIZE				S	**Sb**	**22 14 28.1**	**+0.9**
SGRR	**Singureni**	**1.56**	**316**	⇑P	**Pn**	**22 14 07.7**	**+1.1**
HARR	**Harsova**	**1.62**	**11**	⇑P	**Pb**	**22 14 08.7**	**+0.2**
BUC1	**Bucharest**	**1.63**	**320**	⇑P	**Pn**	**22 14 08.7**	**+1.3**
INCR	**INCERC-Sediu C**	**1.64**	**325**	⇓P	**Pg**	**22 14 10.4**	**+0.5**
PVL	**Pavlikeni**	**1.69**	**271**	⇑*i*P	**Pn**	**22 14 09.2**	**+0.9**
PVL				*i* S	**Sg**	**22 14 33.5**	**+0.8**
KIYI	**Yalıkoy-Catalc**	**1.73**	**159**	Pn	**Pn**	**22 14 09.3**	**+0.5**
CTYL	**Yalikoy Yolu**	**1.74**	**160**	Pn	**Pn**	**22 14 09.1**	**+0.2**
DIM	**Dimitrovgrad**	**1.76**	**234**	⇑*i*P	**Pn**	**22 14 10.5**	**+1.2**
DIM				*i* S	**Sg**	**22 14 36.3**	**+1.4**
SULR		**1.81**	**331**	⇑P	**Pb**	**22 14 12.5**	**+0.8**
TPGR	**Topolog**	**1.88**	**21**	⇑P	**Pn**	**22 14 12.4**	**+1.5**
SLVT	**Silivri**	**1.95**	**164**	Pn	**Pn**	**22 14 12.2**	**+0.3**
CRLT	**Corlu**	**1.98**	**174**	Pn	**Pn**	**22 14 12.9**	**+0.6**
CTKS	**Kestanelik-??a**	**2.02**	**157**	Pn	**Pn**	**22 14 13.2**	**+0.4**
UKOP	**Uzunkopru-Edir**	**2.07**	**198**	Pn	**Pn**	**22 14 14.0**	**+0.4**
ELBA	**Catalca**	**2.08**	**160**	P	**Pn**	**22 14 14.7**	**+1.0**
PLVB	**Pleven**	**2.11**	**279**	⇑P	**Pn**	**22 14 14.9**	**+0.8**
ISR	**Istrita**	**2.12**	**342**	⇓P	**Pb**	**22 14 18.0**	**+0.8**
CFR	**Carcaliu**	**2.12**	**13**	⇑P	**Pb**	**22 14 17.5**	**+0.4**
BGKT	**Bogazkoy**	**2.15**	**153**	Pn	**Pn**	**22 14 15.1**	**+0.5**
KDZ	**Kurdzhali**	**2.17**	**228**	Pn	**Pn**	**22 14 15.3**	**+0.4**
KDZ	**Kurdzhali**	**2.17**	**228**	⇓*i*P	**Pn**	**22 14 15.4**	**+0.5**
KDZ				*i* S	**Sb**	**22 14 47.2**	**+2.2**
KLYT	**Kilyos**	**2.19**	**147**	Pn	**Pn**	**22 14 15.6**	**+0.5**
PLD	**Plovdiv**	**2.23**	**246**	Pn	**Pn**	**22 14 16.5**	**+0.7**
PLD	**Plovdiv**	**2.23**	**246**	⇑*i*P	**Pn**	**22 14 16.5**	**+0.7**
PLD				*i* S	**Sg**	**22 14 50.1**	**0.0**
PLD	**Plovdiv**	**2.23**	**246**	*e*Pn	**Pn**	**22 14 16.1**	**+0.3**
TLCR		**2.29**	**24**	⇑P	**Pn**	**22 14 18.0**	**+1.4**
HUMR	**Humele**	**2.30**	**309**	⇑P	**Pn**	**22 14 17.4**	**+0.7**
GRER		**2.30**	**351**	⇓P	**Pb**	**22 14 20.2**	**0.0**
ISK	**Istanbul-Kandi**	**2.35**	**150**	Pn	**Pn**	**22 14 18.1**	**+0.7**
KAVV	**Kandilli-Istan**	**2.35**	**150**	Pn	**Pn**	**22 14 18.1**	**+0.7**
SART	**Tekirdag**	**2.43**	**185**	P	**Pg**	**22 14 24.3**	**-0.6**
RKY	**Sarkoy-Tekirda**	**2.43**	**185**	Pn	**Pn**	**22 14 18.9**	**+0.4**
RDO	**Rodhopi**	**2.44**	**217**	Pn	**Pn**	**22 14 19.1**	**+0.6**
RDO	**Rodhopi**	**2.44**	**217**	P	**Pn**	**22 14 19.1**	**+0.6**
RDO				S	**Sn**	**22 14 47.5**	**-1.0**
	330nm,0.8s						
NEGRR	**Negrea**	**2.45**	**7**	⇓P	**Pg**	**22 14 25.2**	**0.0**
ALN	**Alexandroupoli**	**2.45**	**206**	Pn	**Pn**	**22 14 19.0**	**+0.2**
ALN	**Alexandroupoli**	**2.45**	**206**	P	**Pn**	**22 14 19.7**	**+0.9**
ALN				S	**Sn**	**22 14 50.3**	**+1.3**
	162nm,0.6s						
NEHR	**Nehoiu**	**2.47**	**340**	⇑P	**Pg**	**22 14 26.7**	**+0.9**
RZN	**Rozhen**	**2.47**	**236**	⇓*i*P	**Pn**	**22 14 19.9**	**+0.6**
MRMT	**Marmara Adasi**	**2.50**	**178**	Pn	**Pn**	**22 14 20.1**	**+0.6**
BISRR	**Bisoca**	**2.50**	**347**	⇓P	**Pg**	**22 14 30.1**	**+3.8**
PGB	**Panagyurishte**	**2.50**	**257**	*i* P	**Pn**	**22 14 20.6**	**+1.0**
TATR	**Tataca**	**2.52**	**9**	⇓P	**Pn**	**22 14 21.6**	**+1.8**
ERIK	**Erikli-Kesan**	**2.54**	**197**	Pn	**Pn**	**22 14 20.5**	**+0.6**
ENEZ	**Enez**	**2.57**	**203**	Pn	**Pn**	**22 14 20.6**	**+0.3**
ENEZ	**Enez**	**2.57**	**203**	P	**Pn**	**22 14 21.2**	**+0.9**
ENEZ				S	**Sn**	**22 14 52.7**	**+0.9**
SCTR	**Scanteiesti**	**2.59**	**8**	⇓P	**Pn**	**22 14 22.8**	**+2.1**
CAVK	**Edirne/Enez-Ca**	**2.60**	**203**	P	**Pn**	**22 14 21.5**	**+0.7**
CAVK				S	**Sn**	**22 14 52.2**	**-0.5**
MLR	**Muntele Rosu**	**2.63**	**336**	⇑P	**Pb**	**22 14 27.5**	**+1.7**
MLR	**Muntele Rosu**	**2.63**	**336**	Pn	**Pn**	**22 14 22.5**	**+1.2**
MLR	**Muntele Rosu**	**2.63**	**336**	Pn	**Pn**	**22 14 23.8**	**+2.5**
	1.0nm,0.3s,baz=185,slow=11,SNR=10						
MLR				Lg	Lg	22 15 03.3	
	9.7nm,0.3s,baz=258,slow=22,SNR=3.6						
	8.5nm,0.7s						
ODBI	**Odobesti**	**2.67**	**354**	⇓P	**Pn**	**22 14 24.2**	**+2.4**
KRBG	**Karabiga-Canak**	**2.71**	**183**	Pn	**Pn**	**22 14 23.1**	**+0.7**
ARMT	**Armutlu**	**2.74**	**157**	Pn	**Pn**	**22 14 23.3**	**+0.5**
MTUR	**Matau**	**2.74**	**321**	⇑P	**Pb**	**22 14 27.4**	**-0.3**
MPEP	**Malo Peshtene**	**2.75**	**276**	*e*P	**Pn**	**22 14 23.5**	**+0.7**
VLDR	**Vladesti**	**2.77**	**9**	⇑P	**Pn**	**22 14 25.3**	**+2.1**
EDC	**Edincik**	**2.77**	**174**	Pn	**Pn**	**22 14 23.6**	**+0.7**
PANC	**Panciu**	**2.78**	**355**	⇓P	**Pb**	**22 14 29.3**	**+1.0**
LPK	**Lapseki**	**2.78**	**191**	Pn	**Pn**	**22 14 24.1**	**+0.8**
BAND	**Balkesir-Ban**	**2.79**	**170**	P	**Pn**	**22 14 24.4**	**+1.0**
BAND				S	**Sn**	**22 14 58.4**	**+1.1**
HRT	**Hereke**	**2.81**	**144**	Pn	**Pn**	**22 14 24.8**	**+1.1**
VARL	**Varlezi**	**2.81**	**5**	⇓P	**Pn**	**22 14 25.8**	**+2.1**
GELI	**Tayfur-Gelibol**	**2.81**	**196**	Pn	**Pn**	**22 14 24.5**	**+0.8**
PLOR	**Plostina**	**2.81**	**348**	⇑P	**Pb**	**22 14 28.3**	**-0.6**
VRI	**Vrincioaia**	**2.81**	**349**	⇑P	**Pn**	**22 14 26.1**	**+2.3**
VRI	**Vrincioaia**	**2.81**	**349**	Pn	**Pn**	**22 14 25.2**	**+1.4**
KAND	**Kocaeli-Kandir**	**2.85**	**134**	P	**Pn**	**22 14 24.2**	**+0.1**
KAND				S	**Sn**	**22 14 58.3**	**-0.4**
COVR	**Voineasa-Covas**	**2.89**	**342**	⇑P	**Pb**	**22 14 28.2**	**-2.0**
YLV	**Yalova**	**2.90**	**150**	Pn	**Pn**	**22 14 25.9**	**+0.8**
KCTX	**Karacabey (Bur**	**2.91**	**167**	Pn	**Pn**	**22 14 25.8**	**+0.7**
VOIR		**2.91**	**324**	⇓P	**Pn**	**22 14 28.4**	**+3.2**
MDNY	**Mudanya-Bursa**	**2.93**	**159**	Pn	**Pn**	**22 14 26.2**	**+0.9**
GHRR		**2.96**	**359**	⇑P	**Pn**	**22 14 28.6**	**+3.0**
VALD	**Valchedram**	**3.01**	**283**	*e*P	**Pn**	**22 14 26.7**	**+0.3**
KAYN	**Sakarya, Kayna**	**3.02**	**134**	P	**Pn**	**22 14 26.5**	**0.0**
ARR	**Arges**	**3.05**	**319**	⇑P	**Pn**	**22 14 27.7**	**+0.7**
PLNA	**Plana**	**3.05**	**259**	*e*P	**Pn**	**22 14 28.8**	**+1.7**
KAVA	**Kavala**	**3.05**	**227**	P	**Pn**	**22 14 27.1**	**+0.1**
KAVA				S	**Sn**	**22 15 01.9**	**-1.9**
	372nm,0.7s						
COMU	**Canakkale**	**3.10**	**194**	Pn	**Pn**	**22 14 28.5**	**+0.8**
IGD	**Bursa**	**3.12**	**155**	P	**Pn**	**22 14 28.0**	**+0.1**
TURR	**Turia**	**3.13**	**341**	⇑P	**Pn**	**22 14 30.5**	**+2.4**
BAIL	**Bailesti**	**3.14**	**288**	⇓P	**Pb**	**22 14 36.9**	**+2.4**
GADA	**Gvkgeada**	**3.15**	**203**	Pn	**Pn**	**22 14 29.2**	**+0.9**
CNKL	**anakkale-Mer**	**3.15**	**195**	P	**Pn**	**22 14 28.9**	**+0.6**
ADVT	**Abdulvahap**	**3.16**	**147**	Pn	**Pn**	**22 14 29.4**	**+0.9**
VTS	**Vitosha**	**3.16**	**263**	*e*P	**Pn**	**22 14 30.7**	**+2.0**
VTS	**Vitosha**	**3.16**	**263**	*e*Pn	**Pn**	**22 14 29.8**	**+1.1**
VTS				*e*Sn	**Sg**	**22 15 19.3**	**-0.6**
BIR	**Birlad**	**3.16**	**2**	⇑P	**Pn**	**22 14 30.1**	**+1.6**
GOAD	**anakkale-G¶**	**3.17**	**202**	P	**Pn**	**22 14 27.6**	**-1.0**
MMB	**Musomishta**	**3.18**	**242**	⇑*i*P	**Pn**	**22 14 30.3**	**+1.5**
SAUV	**Serdivan-Sakar**	**3.18**	**137**	Pn	**Pn**	**22 14 29.8**	**+1.1**
HISA	**Bilecik-Osmane**	**3.21**	**145**	P	**Pn**	**22 14 30.7**	**+1.4**
NVR	**Nevrokopi**	**3.21**	**238**	P	**Pn**	**22 14 28.9**	**-0.3**
NVR				S	**Sn**	**22 15 04.8**	**-3.0**
	135nm,0.9s						
OZUR		**3.23**	**339**	⇓P	**Pn**	**22 14 31.7**	**+2.2**
DOPR	**Dopca**	**3.23**	**333**	⇓P	**Pn**	**22 14 32.0**	**+2.5**
BOSR	**Bodos**	**3.24**	**337**	⇑P	**Pb**	**22 14 33.9**	**-2.4**
BLKS	**Balkesir-Sus**	**3.25**	**173**	P	**Pn**	**22 14 30.0**	**+0.3**
GEYV	**SAKARYA_Geyve**	**3.36**	**140**	P	**Pn**	**22 14 33.1**	**+1.8**
BKES	**Balkesir-Mer**	**3.39**	**174**	P	**Pn**	**22 14 32.6**	**+1.0**
EZN	**Ezine**	**3.39**	**195**	Pn	**Pn**	**22 14 32.0**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**3.44**	**192**	P	**Pn**	**22 14 33.4**	**+1.1**
TESR	**Tescani**	**3.46**	**350**	⇓P	**Pn**	**22 14 33.8**	**+1.2**
KKB	**Krupnik**	**3.46**	**250**	*i* P	**Pn**	**22 14 33.9**	**+1.3**
KOKK	**Kokkinochori,**	**3.46**	**230**	P	**Pn**	**22 14 32.2**	**-0.4**
KOKK				S	**Sn**	**22 15 10.8**	**-3.1**
	72nm,0.8s						
SRE	**Strehaia**	**3.46**	**298**	⇓P	**Pb**	**22 14 41.3**	**+1.3**
PUNG	**Punghina**	**3.50**	**291**	⇓P	**Pb**	**22 14 42.9**	**+2.2**
GULT	**Gulveren**	**3.50**	**139**	Pn	**Pn**	**22 14 34.6**	**+1.3**
SRS	**Serrai**	**3.51**	**237**	P	**Pn**	**22 14 33.4**	**+0.1**
SRS				S	**Sn**	**22 15 13.2**	**-1.9**
	388nm,1.1s						
SRS	**Serrai**	**3.51**	**237**	*e*Pn	**Pn**	**22 14 32.9**	**-0.4**
SRS				*e*Sn	**Sb**	**22 15 23.2**	**-0.4**
VASR	**Vaslui**	**3.54**	**3**	⇓P	**Pg**	**22 14 44.4**	**-1.9**
BLKB	**Belogradchik**	**3.54**	**280**	⇑P	**Pg**	**22 14 49.6**	**+3.4**
LOT	**Lotru**	**3.55**	**313**	⇑P	**Pn**	**22 14 35.1**	**+1.2**
LOT	**Lotru**	**3.55**	**313**	Pn	**Pn**	**22 14 35.6**	**+1.6**
ZAPS	**Zavoj**	**3.55**	**274**	*e*Pn	**Pn**	**22 14 34.3**	**+0.4**
ZAPS				*e*Sn	**Sg**	**22 15 30.3**	**-2.0**
DURS	**Dursunbey**	**3.58**	**168**	P	**Pn**	**22 14 35.1**	**+0.8**
BUHA	**Balikesir, Bur**	**3.62**	**185**	P	**Pn**	**22 14 36.0**	**+1.2**
DOMA	**Ktahya-Doman**	**3.71**	**153**	P	**Pn**	**22 14 37.1**	**+0.9**
STEP	**BALIKESIR_Sava**	**3.73**	**177**	P	**Pn**	**22 14 36.4**	**0.0**
BOSS	**Bosilegrad**	**3.73**	**262**	*e*Pn	**Pn**	**22 14 35.8**	**-0.6**
BOSS				*e*Sn	**Sb**	**22 15 33.8**	**+3.8**
SUSU	**Bolu-G¶ynk-**	**3.74**	**137**	P	**Pn**	**22 14 37.6**	**+1.1**
KOCA	**Canakkale, Ayv**	**3.74**	**196**	P	**Pn**	**22 14 37.1**	**+0.6**
MDB	**Medias**	**3.76**	**325**	⇓P	**Pn**	**22 14 38.8**	**+2.1**
OUR	**Ouranopolis**	**3.81**	**225**	Pn	**Pn**	**22 14 37.3**	**-0.2**
PURM	**Punari**	**3.82**	**26**	⇑P	**Pb**	**22 14 48.3**	**+2.2**
MDUB	**Mudurnu**	**3.83**	**132**	Pn	**Pn**	**22 14 39.2**	**+1.4**
AYVA	**Ayvalik**	**3.84**	**189**	P	**Pn**	**22 14 39.3**	**+1.5**
DEVR	**Zonguldak/Devr**	**3.87**	**119**	P	**Pn**	**22 14 38.5**	**+0.1**
ZAGS	**Zajecar**	**3.89**	**282**	*e*Pn	**Pn**	**22 14 39.8**	**+1.3**
ZAGS				*e*Sn	**Sb**	**22 15 37.8**	**+3.4**
DJES	**Djerdap**	**3.91**	**295**	⇑P	**Pg**	**22 14 51.7**	**-1.6**
KNT	**Kendrikon**	**3.92**	**242**	Pn	**Pn**	**22 14 40.0**	**+1.0**
KNT	**Kendrikon**	**3.92**	**242**	P	**Pn**	**22 14 38.8**	**-0.2**
KNT				S	**Sn**	**22 15 21.4**	**-3.9**
	115nm,1.1s						
MILM	**Milestii Mici**	**3.93**	**13**	⇑P	**Pn**	**22 14 38.9**	**-0.1**
PRVS	**Prvonek**	**4.02**	**263**	*e*Pn	**Pn**	**22 14 41.4**	**+1.0**
PRVS				*e*Sn	**Sb**	**22 15 39.9**	**+1.5**
HERR	**Herculane**	**4.06**	**298**	⇑P	**Pn**	**22 14 40.6**	**-0.3**
SIGR	**SIGRI**	**4.08**	**198**	Pn	**Pn**	**22 14 42.3**	**+1.2**
GZR	**Gura Zlata**	**4.08**	**306**	⇑P	**Pn**	**22 14 41.9**	**+0.7**
KURC	**Kurucasile-Bar**	**4.09**	**106**	Pn	**Pn**	**22 14 41.7**	**+0.4**
HORT	**Hortiatis**	**4.12**	**234**	Pn	**Pn**	**22 14 42.1**	**+0.3**
YUVA	**Yuva-Kibriscik**	**4.15**	**129**	Pn	**Pn**	**22 14 43.6**	**+1.3**
DEMI	**Demirci**	**4.17**	**167**	P	**Pn**	**22 14 43.0**	**+0.6**
STIP	**Stip**	**4.17**	**252**	*i* Pn	**Pn**	**22 14 40.5**	**-1.8**
BARS	**Barje**	**4.17**	**268**	*e*Pn	**Pn**	**22 14 43.4**	**+1.0**
BARS				*e*Sn	**Sb**	**22 15 44.8**	**+2.2**
SIMA	**Simav-Kutahya**	**4.18**	**164**	Pn	**Pn**	**22 14 43.4**	**+0.8**
BOVS	**Bovan**	**4.24**	**279**	⇑P	**Pg**	**22 15 00.2**	**+0.5**
PAIG	**Paliouri**	**4.27**	**223**	Pn	**Pn**	**22 14 43.8**	**0.0**
TARU	**Tarkhankut**	**4.28**	**56**	*e*P	**Pn**	**22 14 45.4**	**+1.5**
TARU				*e*S	**Sn**	**22 15 35.6**	**+1.6**
TARU				Sm		22 15 38.8	
	comp=N,25nm,0.6s						
TARU				Sm		22 15 38.8	
	comp=E,25nm,0.6s						
DEV	**Deva**	**4.29**	**312**	⇓P	**Pn**	**22 14 45.3**	**+1.2**
PRAR	**RASCA**	**4.35**	**349**	⇓P	**Pn**	**22 14 47.5**	**+2.7**
GRG	**Griva**	**4.35**	**242**	Pn	**Pn**	**22 14 46.2**	**+1.3**
USAK	**Uak-Merkez**	**4.54**	**165**	P	**Pn**	**22 14 48.1**	**+0.6**
ARCR	**ARCALIA**	**4.55**	**332**	⇓P	**Pn**	**22 14 50.8**	**+3.1**
SELS	**Selova**	**4.66**	**274**	*e*Pn	**Pn**	**22 14 49.5**	**+0.4**
SELS				*e*Sn	**Sb**	**22 15 55.9**	**-0.7**
SURR	**Surduc**	**4.66**	**306**	⇓P	**Pn**	**22 14 50.0**	**+0.9**
SEV	**Sevastopol'**	**4.70**	**70**	*e*P	**Pn**	**22 14 51.7**	**+2.0**
SEV				Pm		22 14 58.5	
	comp=Z,4.0nm,0.4s						
SEV				*e*S	**Sn**	**22 15 46.9**	**+2.5**
SEV				Sm		22 15 47.1	
	comp=N,9.0nm,0.4s						
SEV				Sm		22 15 47.1	
	comp=E,9.0nm,0.5s						
MARR	**Marisel-Cluj**	**4.73**	**321**	⇓P	**Pn**	**22 14 51.2**	**+1.1**
BURAR	**Bucovina Array**	**4.78**	**341**	⇑P	**Pn**	**22 14 53.9**	**+3.0**
GRUS	**Gruza**	**4.98**	**281**	*e*Pn	**Pn**	**22 14 53.5**	**-0.1**
DRGR		**5.00**	**319**	⇑P	**Pb**	**22 15 03.0**	**-3.3**
SORM	**Soroca**	**5.07**	**7**	⇑P	**Pn**	**22 14 55.1**	**+0.5**
FNA	**Florina**	**5.11**	**245**	Pn	**Pn**	**22 14 56.8**	**+1.4**
FNA	**Florina**	**5.11**	**245**	*e*Pn	**Pn**	**22 14 55.2**	**-0.2**
SIRR	**Siria**	**5.22**	**309**	⇓P	**Pn**	**22 14 57.4**	**+0.6**
TRUS	**Trudelj**	**5.25**	**285**	*e*Pn	**Pn**	**22 14 57.3**	**0.0**
IVAS	**Ivanjica**	**5.37**	**278**	*e*Pn	**Pn**	**22 14 59.3**	**+0.4**
SJES	**Sjenica**	**5.49**	**274**	*e*Pn	**Pn**	**22 15 01.3**	**+0.6**
DIVS	**Divibare**	**5.53**	**283**	*e*Pn	**Pn**	**22 15 01.2**	**+0.1**
SUDU	**Sudak**	**5.71**	**69**	*e*P	**Pn**	**22 15 04.8**	**+1.3**
SUDU				Pm		22 15 12.9	
	comp=Z,20nm,0.5s						
SUDU				*e*S	**Sn**	**22 16 11.7**	**+2.5**
SUDU				Sm		22 16 15.3	
	comp=N,28nm,0.5s						
SUDU				Sm		22 16 15.3	
	comp=E,21nm,0.8s						
BRTR	**Keskin Array B**	**5.73**	**124**	Pn	**Pn**	**22 15 05.1**	**+1.1**
	comp=E,0.3nm,0.3s,baz=298,slow=12,SNR=11						
BRTR				LR	LR	22 17 58.5	
	comp=E,59nm,19.0s,baz=20,slow=46						
	comp=E,0.7nm,0.4s						
FRGS	**Fruska Gora**	**5.89**	**293**	⇓P	**Pn**	**22 15 03.4**	**-2.6**
TEKS	**Tekeris**	**5.93**	**287**	*e*Pn	**Pn**	**22 15 06.2**	**-0.4**
AKASG	**Malin Array Be**	**7.69**	**8**	Pn	**Pn**	**22 15 29.9**	**-0.8**
	comp=E,1.1nm,0.3s,baz=199,slow=12,SNR=7.1						
AKASG				Sn	**Sn**	**22 16 55.1**	**-2.9**
	comp=E,1.7nm,0.3s,baz=195,slow=22,SNR=4.6						
AKASG				Lg	Lg	22 17 35.0	
	comp=E,0.8nm,0.3s,baz=182,slow=29,SNR=1.8						
	comp=E,0.3nm,0.3s						
KVAR	**Kislovodsk Arr**	**11.08**	**80**	Pn	**Pn**	**22 16 16.1**	**-1.2**
	baz=254,slow=20						
	comp=E,0.8nm,0.4s						
KBZ	**Khabaz**	**11.23**	**82**	Pn	**Pn**	**22 16 18.5**	**-0.7**
	comp=E,0.1nm,0.3s,baz=207,slow=9.7,SNR=2.0			

mb3.9/9,MLv4.3/7
IDC ***07*** *22:20:23.4±6.9, 7.69S×127.31E, h192km±63km, mb2.9/2, mbtmp3.9/4, Error ellipse: s-maj=75.5km s-min=27.9km az=58.0*

ISC 07 22:20:20.4±0.8, 7.86S±0.08×127.72E±0.08, h200km, n13, σ2§41/16, mb3.2/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
SOEI	**Soe**	**3.90**	**241**	P		**Pn**		**22 21 20.8**	**-0.2**
BATI	**Baumata**	**4.63**	**239**	P		**Pn**		**22 21 30.5**	**+0.3**
	42nm,0.4s,baz=86,slow=0.9,SNR=6.2								
BATI				S		**Sn**		**22 22 22.1**	**-3.0**
	21nm,0.4s,baz=159,slow=3.8,SNR=3.3								
EDFI	**Ende, Flores**	**6.03**	**261**	P		**Pn**		**22 21 48.0**	**-0.2**
	9.3nm,1.6s,0.0nm								
FAKI	**Fak Fak**	**6.67**	**43**	P		**Pn**		**22 21 52.8**	**-3.5**
	47nm,1.6s,0.2nm								
BASI	**Baing, Sumba**	**7.43**	**251**	P		**Pn**		**22 22 05.0**	**-1.3**
	25nm,0.7s,0.2nm								
TWSI	**Taliwang, Sumb**	**10.76**	**265**	P		**Pn**		**22 22 47.6**	**-1.9**
	12nm,1.2s								
WRA	**Warramunga Arr**	**13.62**	**153**	P		**P**		**22 23 28.7**	**+0.6**
	2.5nm,0.4s,baz=328,slow=12,SNR=21								
WRA				S		**S**		**22 25 54.7**	**-2.8**
	3.7nm,0.6s,baz=331,slow=22,SNR=11								
ASAR	**Alice Springs**	**16.80**	**160**	P		**Pn**		**22 24 09.6**	**+5.1**
	4.0nm,0.4s,baz=339,slow=11,SNR=46								
ASAR				S		**Sn**		**22 27 11.9**	**-1.8**
	1.2nm,0.7s,baz=329,slow=22,SNR=6.7								
CMJI	**Cimerak**	**19.09**	**269**	P		**P**		**22 24 28.5**	**+0.3**
MKAR	**Makanchi Array**	**67.72**	**328**	P		**P**		**22 30 57.9**	**+1.6**
	0.1nm,0.5s,baz=131,slow=8.2,SNR=2.3								
	0.1nm,0.5s								
KURBB	**Kurchatov Arra**	**72.08**	**330**	P		**P**		**22 31 24.3**	**+1.7**
	0.4nm,0.5s,baz=123,slow=5.3,SNR=4.9								
BVAR	**Borovoye Array**	**77.59**	**329**	P		**P**		**22 31 56.4**	**+2.1**
	0.2nm,0.4s,baz=126,slow=7.3,SNR=3.2								
	0.2nm,0.4s								
CPUP	**Villa Florida**	**145.66**	**172**	PKPbc		**PKiKP**		**22 39 40.5**	**+0.7**
	7.2nm,0.5s,baz=220,slow=2.6,SNR=3.4								

JMA 07 22:21:12.7±0.1, 24.3N±0.4×123.8E±0.4, h15km±1km, MV0.9/8, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
IRIF	**Iriomote-Funau**	**0.11**	**322**	P			Pg	22 21 16.1	-0.1
IRIF				*eS*			Sg	22 21 18.7	+0.3
JKRS	**Kuro-shima**	**0.19**	**93**	P			Pg	22 21 17.3	0.0
JKRS				*eS*			Sg	22 21 20.6	+0.4
HATJ	**Hateruma jima**	**0.19**	**180**	*i* P			Pg	22 21 17.2	-0.1
JIJ	**Ishigaki jima**	**0.33**	**70**	P			Pg	22 21 19.3	-0.3
JIJ				*eS*			Sg	22 21 24.0	-0.2
JISG	**Ishigakijimahi**	**0.57**	**54**	*eP*			Pg	22 21 24.1	0.0
JISG				*eS*			Sb	22 21 32.2	-0.2
JYNG	**Yonagunijimaku**	**0.81**	**285**	*eP*			Pg	22 21 28.1	-0.4

IDC ***07*** *22:30:15.8±1.3, 6.20S×142.94E, h0km, mb3.8/3, mbtmp3.9/5, ML2.0/1, Error ellipse: s-maj=45.0km s-min=31.7km az=74.0*

ISC 07 22:30:20.6±1.0, 6.45±0.1×142.8E±0.1, h35km, n6, σ1§69/7, mb3.8/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
PMG	**Port Moresby**	**5.24**	**125**	Pn			**Pn**	**22 31 36.8**	**+0.3**
	3.9nm,0.3s,baz=267,slow=18,SNR=2.8								
PMG				Sn			**Sn**	**22 32 36.0**	**+0.2**
	1.2nm,0.3s,baz=214,slow=17,SNR=1.3								
	8.4nm,0.4s								
WRA	**Warramunga Arr**	**15.78**	**211**	Pn			**Pn**	**22 33 58.4**	**-1.9**
	0.3nm,0.3s,baz=31,slow=13,SNR=18								
WRA				Lg			Lg	22 38 38.7	
	0.1nm,0.3s,baz=32,slow=29,SNR=2.5								
ASAR	**Alice Springs**	**19.19**	**206**	P			**P**	**22 34 43.0**	**+1.5**
	4.7nm,0.6s,baz=33,slow=9.5,SNR=29								
ASAR				Lg			Lg	22 40 26.9	
	0.1nm,0.3s,baz=21,slow=29,SNR=4.1								
MKAR	**Makanchi Array**	**75.19**	**322**	P			**P**	**22 42 00.8**	**+1.1**
	0.2nm,0.7s,baz=104,slow=6.1,SNR=1.9								
	0.2nm,0.7s								
BVAR	**Borovoye Array**	**84.66**	**325**	P			**P**	**22 42 51.4**	**+0.7**
	1.5nm,0.8s,baz=104,slow=6.3,SNR=8.3								
	1.5nm,0.8s								
ILAR	**Eielson Array**	**87.50**	**24**	P			**P**	**22 43 02.6**	**-1.9**
	0.5nm,0.8s,baz=257,slow=5.2,SNR=3.7								
	0.5nm,0.8s								

VAO ***07*** *22:32:50.7±1.2, 31.30S×71.90W, h10km, mb4.6*
SJA ***07*** *22:32:59.0±0.8, 30.65S×71.66W, h81km±6km, ML4.7, MW4.6*
GUC ***07*** *22:33:01.5±0.8, 30.70S×71.36W, h52km±2km, ML4.8*
IDC ***07*** *22:33:01.4±0.5, 30.72S×71.27W, h46km±4km, mb4.2/11, mbtmp4.4/16, MS3.7/12, Error ellipse: s-maj=17.8km s-min=12.0km az=86.0*
NEIC ***07*** *22:33:01.7, 30.69S×71.45W, h46km*
NEIC ***07*** *22:33:01.5±2.0, 30.72S±0.05×71.43W±0.06, h47km±4km, mb4.9/44, Mwr4.4/49, Error ellipse: s-maj=7.8km s-min=6.4km az=121.0, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr5.16; Mθθ0.43; Mφφ-5.60; Mrθ1.17; Mrφ0.27; Mθφ-1.79; Fault plane solution: M0 5.81000×10^15 NP1:φs166.07000°, δ55.53000°, λ76.39000°. NP2:φs9.23000°, δ36.74000°, λ108.92000°. Principal axes: T 5.6917, Plg75.0000°, Azm35.0000°; N 0.2294, Plg11.0000°, Azm174.0000°; P -5.9212, Plg10.0000°, Azm266.0000°;*

ISC 07 22:33:01.0±0.4, 30.69S±0.03×71.51W±0.04, h48km±3km, h46km:pP-P, n206, σ1§57/239, mb4.8/27, MS3.8/9, 5C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
CO06	**Fray Jorge**	**0.11**	**280**				**Pn**	**22 33 09.8**	**+1.2**
CO06					Sn		**Sn**	**22 33 16.0**	**+2.0**
CO06	**Fray Jorge**	**0.11**	**280**		⇑*i*	P	**Pn**	**22 33 09.8**	**+1.2**
CO06					*i*	S	**Sn**	**22 33 16.2**	**+2.3**
CO06					IAML			22 33 18.3	
	comp=N,50μm,0.4s								
CO02	**Combarbal**	**0.67**	**139**				**Pn**	**22 33 14.1**	**-0.4**
CO02	**Combarbal**	**0.67**	**139**	*eP*			**Pn**	**22 33 17.2**	**+2.8**
CO02				*eP*				22 33 17.7	
CO02				IAML				22 33 32.2	
	comp=Z,21μm,0.8s								
CO02	**Combarbal**	**0.67**	**139**	⇓*i*	P		**Pn**	**22 33 14.0**	**-0.4**
CO02				*i*	S		**Sn**	**22 33 22.8**	**-1.3**
CO03	**El Pedregal**	**0.72**	**102**				**Pn**	**22 33 14.1**	**-1.0**
CO03					Sn		**Sn**	**22 33 23.2**	**-2.0**
CO03	**El Pedregal**	**0.72**	**102**	*eP*			**Pn**	**22 33 15.9**	**+0.8**
CO03				*eS*			**Sn**	**22 33 23.8**	**-1.4**
CO03				*eP*			**Sn**	**22 33 23.8**	**-1.4**
CO03				IAML				22 33 25.0	
	comp=Z,13μm,0.2s								
CO03	**El Pedregal**	**0.72**	**102**	*i* P			**Pn**	**22 33 14.1**	**-1.0**
CO03				*i*	S		**Sn**	**22 33 23.0**	**-2.2**
CO03				IAML				22 33 23.6	
	comp=E,55μm,0.3s								
GO04	**Tololo Observa**	**0.81**	**50**				**Pn**	**22 33 15.9**	**-0.4**
GO04	**Tololo Observa**	**0.81**	**50**	*eP*			**Pn**	**22 33 16.7**	**+0.4**
GO04				*eS*			**Sn**	**22 33 32.3**	**+4.9**
GO04				IAML				22 33 33.7	
	comp=Z,26μm,0.1s								
GO04	**Tololo Observa**	**0.81**	**50**	*eP*			**Pn**	**22 33 15.9**	**-0.4**
GO04				*i*	S		**Sn**	**22 33 26.5**	**-0.9**
CO05	**La Serena**	**0.81**	**17**				**Pn**	**22 33 16.6**	**+0.5**
CO05	**La Serena**	**0.81**	**17**	⇓*i*	P		**Pn**	**22 33 16.6**	**+0.5**
CO05				*i*	S		**Sn**	**22 33 25.6**	**-1.5**
CO01	**Juntas del Tor**	**1.42**	**60**				**Pn**	**22 33 24.9**	**+0.3**
CO01	**Juntas del Tor**	**1.42**	**60**	⇓*i*	P		**Pn**	**22 33 24.9**	**+0.3**
CO01				*i*	S		**Sn**	**22 33 42.0**	**-0.2**
CO01				IAML				22 33 43.0	
	comp=N,8μm,0.2s								
LCO	**Las Campanas**	**1.82**	**23**				**Pn**	**22 33 30.7**	**+0.6**
LCO	**Las Campanas**	**1.82**	**23**	*eP*			**Pn**	**22 33 30.5**	**+0.4**
LCO				*eS*			**Sn**	**22 33 53.7**	**+1.6**
LCO				IAML				22 34 00.4	
	comp=Z,17μm,0.4s								
LCO	**Las Campanas**	**1.82**	**23**	⇓*i*	P		**Pn**	**22 33 30.7**	**+0.6**
LCO				*i*	S		**Sn**	**22 33 53.2**	**+1.1**
AROD	**Rodeo**	**1.84**	**74**	*eP*			**Pn**	**22 33 32.3**	**+1.9**
VA06	**Catapilco**	**1.87**	**174**				**Pn**	**22 33 31.3**	**+0.8**
VA06	**Catapilco**	**1.87**	**174**	⇑*eP*			**Pn**	**22 33 31.3**	**+0.8**
VA06				*i*	S		**Sn**	**22 33 54.4**	**+1.4**
VA06				IAML				22 34 00.8	
	comp=E,19μm,0.4s								
ACCO	**Cerro Coronel**	**2.11**	**88**	*eP*			**Pn**	**22 33 36.3**	**+2.2**
ACDV	**Cuesta del Vie**	**2.13**	**76**	*eP*			**Pn**	**22 33 36.6**	**+2.3**
ACDV				*eS*			Sn	22 33 50.0	-10
RTLS	**Leoncito**	**2.19**	**121**	*eP*			**Pn**	**22 33 37.4**	**+2.1**
RTLS				*eS*			**Sn**	**22 34 06.4**	**+5.1**
RTLS				IAML				22 34 10.5	
	comp=Z,5μm,0.5s								
VA03	**San Esteban**	**2.22**	**159**				**Pn**	**22 33 36.0**	**+0.6**
VA03	**San Esteban**	**2.22**	**159**	*eP*			**Pn**	**22 33 36.2**	**+0.8**
VA03				*eS*			**Sn**	**22 34 05.3**	**+3.6**
VA03				IAML				22 34 08.5	
	comp=Z,4μm,0.2s								
VA03	**San Esteban**	**2.22**	**159**	*eP*			**Pn**	**22 33 36.1**	**+0.6**
ROCH	**El Roble**	**2.31**	**170**	*eP*			**Pn**	**22 33 37.5**	**+0.7**
ROCH				*i*	S		**Sn**	**22 34 05.4**	**+1.2**
ROCH				IAML				22 34 21.0	
	comp=N,9μm,0.5s								
VA01	**Torpederas**	**2.33**	**183**				**Pn**	**22 33 36.9**	**+0.2**
VA01	**Torpederas**	**2.33**	**183**	*eP*			**Pn**	**22 33 37.0**	**+0.2**
VA01				*eS*			**Sn**	**22 33 56.8**	**-7.3**
VA01				IAML				22 34 15.6	
	comp=Z,2μm,0.5s								
VA01	**Torpederas**	**2.33**	**183**	*eP*			**Pn**	**22 33 36.9**	**+0.2**
AC04	**Llanos de Chal**	**2.51**	**9**				**Pn**	**22 33 40.4**	**+1.1**
AC04	**Llanos de Chal**	**2.51**	**9**	*eP*			**Pn**	**22 33 39.4**	**+0.1**
AC04				*eP*				22 33 39.8	
AC04				*eS*			Sn	22 34 19.1	+10
AC04				IAML				22 34 27.2	
	comp=Z,2μm,0.7s								
AC04	**Llanos de Chal**	**2.51**	**9**	*eP*			**Pn**	**22 33 40.2**	**+0.9**
PEL	**Peldehue**	**2.54**	**164**				**Pn**	**22 33 40.7**	**+0.9**
PEL	**Peldehue**	**2.54**	**164**	*eP*			**Pn**	**22 33 40.7**	**+0.9**
PEL				*i*	S		**Sn**	**22 34 11.4**	**+1.8**
MT02	**Curacav**	**2.58**	**173**	Pn			**Pn**	**22 33 40.7**	**+0.4**
MT02	**Curacav**	**2.58**	**173**	*eP*			**Pn**	**22 33 40.7**	**+0.4**
MT02				*eP*				22 33 40.9	
MT02				*eS*			**Sn**	**22 34 16.2**	**+5.8**
MT02				IAML				22 34 22.8	
	comp=Z,3μm,0.5s								
MT02	**Curacav**	**2.58**	**173**	*eP*			**Pn**	**22 33 40.7**	**+0.4**
MT10	**Hacienda Santa**	**2.70**	**162**	*eP*			**Pn**	**22 33 43.0**	**+0.9**
MT10				*i*	S		**Sn**	**22 34 16.0**	**+2.4**
MT05	**Renca**	**2.77**	**166**				**Pn**	**22 33 43.9**	**+1.0**
MT05	**Renca**	**2.77**	**166**	*eP*			**Pn**	**22 33 43.8**	**+0.9**
MT05				*eS*			**Sn**	**22 34 14.2**	**-1.0**
MT05				IAML				22 34 31.5	
	comp=Z,3μm,0.3s								
MT05	**Renca**	**2.77**	**166**	*eP*			**Pn**	**22 33 44.2**	**+1.3**
MT05				*i*	S		**Sn**	**22 34 15.9**	**+0.7**
MT05				IAML				22 34 29.1	
	comp=E,9μm,0.3s								
RTCV	**Cerro Valdivia**	**2.80**	**115**	*eP*			**Pn**	**22 33 40.7**	**-2.6**
RTCV				*eP*				22 33 45.7	
MT14	**Cerro Cal¡n**	**2.82**	**163**	*eP*			**Pn**	**22 33 45.1**	**+1.4**
MT14				IAML				22 34 31.8	
	comp=N,9μm,0.6s								
FCH	**Farellones**	**2.82**	**159**	*eP*			**Pn**	**22 33 45.6**	**+1.7**
MT16	**CCHEN**	**2.85**	**163**				**Pn**	**22 33 45.5**	**+1.5**
MT16	**CCHEN**	**2.85**	**163**	*eP*			**Pn**	**22 33 45.8**	**+1.7**
MT16				*i*	S		**Sn**	**22 34 17.5**	**+0.3**
MT16				IAML				22 34 33.1	
	comp=E,3μm,0.6s								
MT03	**Universidad Ad**	**2.92**	**163**				**Pn**	**22 33 46.2**	**+1.2**
MT03	**Universidad Ad**	**2.92**	**163**	*eP*			**Pn**	**22 33 45.9**	**+0.9**
MT03				*eS*			**Sn**	**22 34 20.7**	**+1.8**
MT03				IAML				22 34 34.9	
	comp=Z,4μm,0.5s								
MT04	**Ro Olivares**	**2.94**	**157**	*eP*			**Pn**	**22 33 47.6**	**+2.1**
MT04				*i*	S		**Sn**	**22 34 22.2**	**+2.5**
MT04				IAML				22 34 29.4	
	comp=E,4μm,0.5s								
VA05	**Santo Domingo**	**2.96**	**182**				**Pn**	**22 33 45.3**	**-0.1**
ASAL	**Salagasta**	**2.96**	**130**	*eP*			**Pn**	**22 33 48.3**	**+2.7**
ASAL				*eS*			Sn	22 34 05.3	-15
ASAL				IAML				22 34 45.3	
	comp=Z,1μm,0.7s								
MT15	**Las Vizcachas**	**3.02**	**164**	*eP*			**Pn**	**22 33 47.8**	**+1.4**
ARCO	**CERRO ARCO**	**3.07**	**135**	*eP*			**Pn**	**22 33 50.6**	**+3.4**
ARCO				*eS*			Sn	22 34 37.1	+14
ARCO				IAML				22 34 44.4	
	comp=Z,1μm,1.1s								
MT09	**Talagante**	**3.10**	**172**				**Pn**	**22 33 48.5**	**+0.9**
MT09	**Talagante**	**3.10**	**172**	⇑*eP*			**Pn**	**22 33 48.6**	**+0.9**
MT09				*i*	S		**Sn**	**22 34 24.4**	**+0.8**
MT09				IAML				22 34 40.3	
	comp=N,4μm,0.8s								
MT12	**Pirque**	**3.14**	**165**	*eP*			**Pn**	**22 33 48.9**	**+0.9**
MT01	**Popeta**	**3.17**	**176**				**Pn**	**22 33 48.9**	**+0.6**
MT01	**Popeta**	**3.17**	**176**	*eP*			**Pn**	**22 33 49.1**	**+0.7**
MT01				*eS*			**Sn**	**22 34 27.7**	**+2.8**
MT01				IAML				22 34 38.0	
	comp=Z,2μm,1.1s								
MT13	**San Alfonso**	**3.21**	**161**				**Pn**	**22 33 50.5**	**+1.4**
MT13	**San Alfonso**	**3.21**	**161**	*eP*			**Pn**	**22 33 51.1**	**+2.1**
MT13				*i*	S		**Sn**	**22 34 27.9**	**+1.7**
MT13				IAML				22 34 41.9	
	comp=N,3μm,0.1s								
GO03	**Copiap**	**3.29**	**20**				**Pn**	**22 33 50.6**	**+0.6**
GO03	**Copiap**	**3.29**	**20**	*eP*			**Pn**	**22 33 50.5**	**+0.5**
GO03				*eS*			**Sn**	**22 34 27.7**	**-0.2**
GO03				IAML				22 34 46.7	
	comp=Z,2μm,0.5s								
AAGR	**Agrelo**	**3.30**	**137**	*eP*			**Pn**	**22 33 53.3**	**+3.0**
AAGR				IAML				22 34 50.5	
	comp=Z,1μm,0.7s								
LMEL	**Las Melosas**	**3.33**	**161**				**Pn**	**22 33 52.5**	**+1.8**
BO04	**La Punta**	**3.37**	**167**				**Pn**	**22 33 52.3**	**+1.1**
AC06	**Mina Casimiro**	**3.48**	**17**				**Pn**	**22 33 52.9**	**+0.3**
VCA	**Vinchina**	**3.48**	**57**	*eP*			**Pn**	**22 33 55.4**	**+2.7**
VCA				*eS*			Sn	22 34 50.7	+18
VCA				IAML				22 34 52.5	
	comp=Z,2μm,0.4s								
AVFE	**Valle Fertil**	**3.49**	**90**	*eP*			**Pn**	**22 33 53.8**	**+0.9**
AVFE				*eS*			**Sn**	**22 34 39.8**	**+6.7**
AVFE				IAML				22 34 42.8	
	comp=Z,999nm,0.4s								
BO01	**Tunca**	**3.71**	**175**				**Pn**	**22 33 56.3**	**+0.6**
BO01	**Tunca**	**3.71**	**175**	*eP*			**Pn**	**22 33 56.5**	**+0.8**
BO01				*eS*			**Sn**	**22 34 40.7**	**+2.6**
BO01				IAML				22 34 58.8	
	comp=Z,714nm,0.7s								
BO02	**Sierra Bellavi**	**4.13**	**172**				**Pn**	**22 34 02.6**	**+1.0**
BO02	**Sierra Bellavi**	**4.13**	**172**	*eP*			**Pn**	**22 34 02.1**	**+0.4**
BO02				*eS*			**Sn**	**22 34 49.7**	**+0.9**
BO02				*eS*				22 34 51.7	
BO02				IAML				22 35 16.3	
	comp=Z,1μm,0.6s								
ACLC	**CERRO LA CRUZ**	**4.15**	**73**	*eP*			**Pn**	**22 34 03.3**	**+1.3**
ACLC				*eP*				22 34 03.5	
ACLC				*eS*			**Sn**	**22 34 50.7**	**+1.3**
ACLC				IAML				22 34 59.9	
	comp=Z,4μm,0.4s								
ACHE	**Chepes**	**4.19**	**98**	*eS*			**Sn**	**22 34 52.3**	**+2.0**
APLL	**PUNTA DE LOS L**	**4.31**	**87**	*eP*			**Pn**	**22 34 05.0**	**+0.9**
GO05	**Huala**	**4.32**	**185**	Pn			**Pn**	**22 34 03.5**	**-0.6**
GO05	**Huala**	**4.32**	**185**	*eP*			**Pn**	**22 34 03.1**	**-1.1**
GO05				IAML				22 35 34.9	
	comp=Z,543nm,1.1s								
AC02	**Maricunga**	**4.38**	**29**	Pn			**Pn**	**22 34 06.7**	**+1.3**
AC01	**Pan de Azucar**	**4.60**	**10**				**Pn**	**22 34 07.1**	**-1.0**
ML02	**Panimavida**	**5.06**	**179**				**Pn**	**22 34 14.0**	**-0.2**
GO02	**Mina Guanaco**	**5.77**	**18**				**Pn**	**22 34 23.5**	**-0.8**
PB14	**IPOC Station P**	**6.12**	**9**				**Pn**	**22 34 27.8**	**-1.4**
BI05	**Punta Hualpn**	**6.20**	**193**				**Pn**	**22 34 28.3**	**-1.6**
H03N1	**Juan Fernandez** baz=72,slow=72	**6.85**	**245**	T		T		22 41 29.8	
VA04	**Juan Fernndez**	**6.87**	**243**				**Pn**	**22 34 39.0**	**-0.1**
H03N3	**Juan Fernandez** baz=72,slow=72	**6.87**	**244**	T		T		22 41 28.7	
H03N2	**Juan Fernandez** baz=72,slow=72	**6.87**	**245**	T		T		22 41 30.0	
PB15	**IPOC Station P**	**7.67**	**14**				**Pn**	**22 34 49.3**	**-1.1**
LVC	**Limon Verde**	**8.38**	**17**				**Pn**	**22 34 57.8**	**-2.4**
LVC	**Limon Verde**	**8.38**	**17**	P			**Pn**	**22 34 58.8**	**-1.4**
	comp=Z,3.9nm,0.2s,baz=178,slow=7.7,SNR=20								
LVC				S			**Sn**	**22 36 34.9**	**+1.2**
	comp=Z,29nm,0.5s,baz=221,slow=15,SNR=3.1								
LVC				LR			LR	22 38 30.1	
	comp=Z,202nm,21.9s,baz=222,slow=39								
LVC	**Limon Verde**	**8.38**	**17**	*eP*			**Pn**	**22 35 02.4**	**+2.1**
PB04	**IPOC Station P**	**8.41**	**9**	Pn			**Pn**	**22 34 59.7**	**-0.8**
GO06	**Curarrehue**	**8.87**	**180**	Pn			**Pn**	**22 35 06.2**	**-0.4**
PB09	**IPOC Station P**	**9.09**	**13**	Pn			**Pn**	**22 35 08.4**	**-1.4**
PB02	**IPOC Station P**	**9.45**	**9**	Pn			**Pn**	**22 35 13.1**	**-1.5**
PLCA	**Paso Flores**	**10.05**	**176**	Pn			**Pn**	**22 35 22.4**	**-0.3**
PLCA	**Paso Flores**	**10.05**	**176**	P			**Pn**	**22 35 21.9**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=341,slow=11,SNR=8.6								
PLCA				LR			LR	22 39 34.8	
	comp=Z,235nm,20.7s,baz=310,slow=39								
TRQA	**Tornquist**	**10.76**	**136**	Pn			**Pn**	**22 35 31.3**	**-1.2**
GO01	**Chusmiza**	**11.18**	**11**	Pn			**Pn**	**22 35 38.1**	**-0.5**
ITQB	**Itaqui**	**12.92**	**89**	Pn			**Pn**	**22 35 58.0**	**-3.9**
ITQB	**Itaqui**	**12.92**	**89**	*eP*			**Pn**	**22 35 59.7**	**-2.2**
CPUP	**Villa Florida**	**13.20**	**74**	Pn			**Pn**	**22 36 02.6**	**-3.3**
CPUP	**Villa Florida**	**13.20**	**74**	P			**Pn**	**22 36 02.9**	**-3.0**
	comp=Z,1.8nm,0.3s,baz=245,slow=10,SNR=2.5								
CPUP				LR			LR	22 41 47.6	
	comp=Z,173nm,18.6s,baz=215,slow=40								
LPAZ	**La Paz**	**14.67**	**13**	Pn			**Pn**	**22 36 26.3**	**0.0**
LPAZ	**La Paz**	**14.67**	**13**	P			**Pn**	**22 36 25.3**	**-0.9**
	comp=Z,10nm,0.8s,baz=184,slow=7.5,SNR=30								
LPAZ	**La Paz**	**14.67**	**13**	*eP*			**Pn**	**22 36 27.8**	**+1.5**
PLTB	**Pedras Altas**	**15.36**	**99**	Pn			**Pn**	**22 36 34.7**	**+0.1**
ITAB	**Concordia**	**17.30**	**83**				**Pn**	**22 36 57.6**	**-1.6**
ITAB	**Concordia**	**17.30**	**83**	*eP*			**Pn**	**22 36 58.9**	**-0.3**
SIV	**San Ignacio**	**17.48**	**35**	P			**Pn**	**22 37 00.2**	**-1.1**
	comp=Z,19nm,1.0s,baz=217,slow=12,SNR=40								
AQDB	**Aquidauana**	**17.50**	**58**	Pn			**Pn**	**22 36 58.7**	**-2.9**
PTGB	**Pitanga**	**18.21**	**76**	*eP*			**Pn**	**22 37 10.8**	**+0.4**
TRCB	**Terra Rica**	**18.59**	**69**	P			**P**	**22 37 14.0**	**-0.3**
PTLB	**Pontes e Lacer**	**18.95**	**40**	P			**P**	**22 37 17.6**	**-0.6**
LDASE	**Londrina, Braz**	**19.55**	**73**	*eP*			**P**	**22 37 23.8**	**-1.0**
PCMB	**Pacaembu**	**20.28**	**68**	*eP*			**P**	**22 37 31.9**	**-0.8**
VILB	**Vilhena**	**20.52**	**33**	P			**P**	**22 37 38.3**	**-1.5**
VILB				IAmb			IAmb	22 38 09.4	
	comp=Z,25nm,0.9s								
VILB	**Vilhena**	**20.52**	**33**	*eP*			**P**	**22 37 35.0**	**-0.3**
FRTB	**Fartura**	**20.86**	**75**	*eP*			**P**	**22 37 38.2**	**-0.8**
ETMB	**Extrema**	**21.35**	**14**	P			**P**	**22 37 44.2**	**0.0**
ETMB	**Extrema**	**21.35**	**14**	*eP*			**P**	**22 37 45.3**	**+1.1**
ITRB	**Iturama**	**22.01**	**65**	*eP*			**P**	**22 37 49.9**	**-1.5**
SPB	**Sao Paulo**	**22.54**	**78**	P			**P**	**22 37 54.9**	**-2.1**
SPB	**Sao Paulo**	**22.54**	**78**	*eP*			**P**	**22 37 57.0**	**0.0**
BB19B	**Bebedouro**	**22.75**	**71**	*eP*			**P**	**22 37 58.9**	**-0.5**
CZSB	**Cruzeiro do Su**	**22.87**	**357**	P			**P**	**22 38 00.7**	**+0.2**
CZSB				IAmb			IAmb	22 38 22.5	
	comp=Z,29nm,0.9s								
CZSB	**Cruzeiro do Su**	**22.87**	**357**	*eP*			**P**	**22 38 01.4**	**+0.9**
SAML	**Samuel**	**22.99**	**21**	P			**P**	**22 38 01.0**	**-0.7**
SAML	**Samuel**	**22.99**	**21**	*eP*			**P**	**22 38 01.6**	**-0.1**
MG03	**Isla Dawson**	**23.15**	**178**	P			**P**	**22 38 03.3**	**+0.3**
MG03				IAmb			IAmb	22 38 25.6	
	comp=Z,76nm,1.5s								
VAO	**Valinhos**	**23.17**	**77**	*eP*			**P**	**22 38 03.1**	**-0.5**
EFI	**East Falkland**	**23.20**	**158**	P			**P**	**22 38 04.5**	**+0.9**
EFI				IAmb			IAmb	22 38 21.9	
	comp=Z,60nm,1.1s								
PDRB	**Porto dos Gac**	**23.41**	**39**	*eP*			**P**	**22 38 05.5**	**-0.4**
IPMB	**Ipameri, GO**	**24.65**	**64**	*eP*

SUR					IAmb	IAmb	22 44 54.2	
	comp=Z,19nm,1.4s							
SUR	**Sutherland**	**76.05**	**119**	LR	LR	LR	23 13 53.0	
	comp=Z,105nm,19.2s,baz=179,slow=32							
SMCO	**Snowmass**	**76.95**	**332**	P	**P**	**P**	**22 44 50.3**	**+1.5**
SMCO					IAmb	IAmb	22 44 52.3	
	comp=Z,12nm,1.1s							
ECSD	**EROS Data Cent**	**77.55**	**342**	P	**P**	**P**	**22 44 52.2**	**+0.7**
V12A	**Nelson**	**77.61**	**325**	P	**P**	**P**	**22 44 53.4**	**+1.2**
V12A					IAmb	IAmb	22 44 55.2	
	comp=Z,5.8nm,0.9s							
E43A	**Lone Tree Farm**	**77.98**	**349**	P	**P**	**P**	**22 44 54.1**	**+0.3**
PDAR	**Pinedale Array**	**81.03**	**333**	P	**P**	**P**	**22 45 11.7**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=149,slow=6.6,SNR=5.5							
PDAR					pP	**pP**	**22 45 24.6**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=85,slow=35,SNR=1.6							
	comp=Z,0.5nm,0.6s							
BOSA	**Boshof**	**81.21**	**118**	P	**P**	**P**	**22 45 12.1**	**-0.1**
BOSA					IAmb	IAmb	22 45 50.1	
	comp=Z,9.9nm,1.2s							
BOSA	**Boshof**	**81.21**	**118**	P	**P**	**P**	**22 45 11.9**	**-0.4**
	comp=Z,2.6nm,0.6s,baz=228,slow=3.4,SNR=10							
	comp=Z,2.6nm,0.6s							
NVAR	**Mina Array Bea**	**81.44**	**325**	P	**P**	**P**	**22 45 15.2**	**+2.1**
	comp=Z,1.3nm,0.8s,baz=150,slow=6.4,SNR=6.0							
NVAR					pP	**pP**	**22 45 28.7**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=153,slow=6.5,SNR=3.6							
	comp=Z,1.3nm,0.8s							
ELK	**Elko**	**81.80**	**328**	P	**P**	**P**	**22 45 16.4**	**+1.5**
TORD	**Torodi Ar. Bea**	**82.67**	**70**	P	**P**	**P**	**22 45 19.6**	**-0.2**
LBTB	**Lobatse**	**83.29**	**115**	P	**P**	**P**	**22 45 22.6**	**-0.5**
LBTB					IAmb	IAmb	22 45 23.5	
	comp=Z,12nm,0.9s							
ULM	**Lac du Bonnet**	**83.44**	**345**	P	**P**	**P**	**22 45 23.4**	**+0.5**
	comp=Z,6.9nm,0.8s,baz=166,slow=4.3,SNR=12							
	comp=Z,6.9nm,0.8s							
SCHQ	**Schefferville**	**85.27**	**3**	P	**P**	**P**	**22 45 32.7**	**+0.6**
	comp=Z,3.0nm,0.8s,baz=180,slow=7.8,SNR=3.6							
	comp=Z,3.0nm,0.8s							
FRB	**Frobisher Bay**	**94.15**	**1**	LR	LR	LR	23 33 11.8	
	comp=Z,50nm,18.6s,baz=204,slow=38							
YKA	**Yellowknife Ar**	**99.08**	**341**	P		**Pdif**	**22 46 35.2**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=134,slow=4.3,SNR=5.9							
	comp=Z,0.4nm,0.8s							
WRA	**Warramunga Arr**	**123.85**	**210**	PKP		**PKPdf**	**22 51 53.5**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=156,slow=1.6,SNR=7.0							
WRA					pPKP	**pPKPdf**	**22 52 08.0**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=170,slow=1.7,SNR=4.7							
H11S2	**WAKE ISLAND Hyl**	**26.21**	**271**	T	T		01 10 47.0	
	baz=116,slow=75,SNR=243							
H11S1	**WAKE ISLAND Hyl**	**26.22**	**271**	T	T		01 10 47.9	
	baz=116,slow=75,SNR=562							
H11S3	**WAKE ISLAND Hyl**	**26.22**	**271**	T	T		01 10 48.2	
	baz=116,slow=75,SNR=347							
BVAR	**Borovoye Array**	**144.51**	**40**	PKP		PKPbc	22 52 31.1	+0.7
	comp=Z,3.2nm,0.6s,baz=298,slow=2.9,SNR=22							
BVAR					pPKP	pPKPdf	22 52 45.5	-0.8
	comp=Z,2.8nm,0.6s,baz=274,slow=2.3,SNR=9.2							
KURBB	**Kurchatov Arra**	**150.10**	**40**	PKPbc		**PKPbc**	**22 52 46.0**	**0.0**
	comp=Z,3.2nm,0.7s,baz=304,slow=3.2,SNR=18							
ZALV	**Zalesovo Beam**	**151.17**	**29**	PKPbc		**PKPbc**	**22 52 48.5**	**0.0**
	comp=Z,14nm,0.6s,baz=298,slow=3.2,SNR=51							
ZALV					pPKPbc	**sPKPdf**	**22 53 02.9**	**+0.4**
	comp=Z,7.0nm,0.6s,baz=305,slow=3.0,SNR=11							
MKAR	**Makanchi Array**	**154.17**	**44**	PKPbc		**PKPbc**	**22 52 55.0**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=317,slow=2.5,SNR=12							
MKAR					PKPab	**sPKPdf**	**22 53 08.5**	**+1.3**
	comp=Z,2.0nm,0.9s,baz=283,slow=3.6,SNR=9.2							
JOW	**Kunigami**	**162.23**	**262**	PKPab		**PKPab**	**22 53 46.3**	**+1.4**
	comp=Z,27nm,0.9s,baz=115,slow=14,SNR=2.1							
SONM	**Songino Array**	**162.81**	**5**	PKPab		**PKPab**	**22 53 47.6**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=90,slow=1.4,SNR=2.7							
CMAR	**Chiang Mai Arr**	**165.05**	**142**	PKPab		**PKPab**	**22 53 56.3**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=232,slow=5.2,SNR=6.6							

TAP 07 22:39:32.6,24°21N×121°71E,h10km,ML1.1,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ETL	**Fush Village**	**0.10**	**237**	P	Pg	22 39 36.0	+0.7
	baz=236						
ETL				S	Sg	22 39 38.3	+1.2
	baz=236						
NACB	**Ninganchiao**	**0.12**	**250**	*i* P	Pg	22 39 36.1	+0.7
	baz=250						
NACB				*i* S	Sg	22 39 38.5	+1.1
	baz=250						
EAHA	**Aohua**	**0.12**	**12**	P	Pg	22 39 36.2	+0.7
	baz=11						
EAHA				S	Sg	22 39 38.7	+1.2
	baz=11						
TWD	**Chiawan**	**0.17**	**219**	*e*P	Pg	22 39 37.2	+1.0
	baz=216						
TWD				*e*S	Sg	22 39 39.6	+0.8
	baz=216						
ETLH	**Xiulin Townshi**	**0.21**	**268**	P	Pg	22 39 38.2	+1.1
	baz=268						
ETLH				S	Sg	22 39 41.8	+1.7
	baz=268						
ENA	**Nanau**	**0.22**	**7**	*e*P	Pg	22 39 37.9	+0.8
	baz=8.0						
ENA				S	Sg	22 39 41.5	+1.4
	baz=8.0						
EWUT	**Wuta**	**0.24**	**14**	*e*P	Pg	22 39 38.3	+0.8
	baz=14						
EWUT				S	Sg	22 39 42.4	+1.6
	baz=14						
LXIB	**Xiulin Townshi**	**0.33**	**235**	S	Sb	22 39 45.0	-1.2
	baz=235						
LATG	**Datong**	**0.36**	**332**	P	Pb	22 39 41.2	-0.1
	baz=332						
LATG				*e*S	Sb	22 39 47.4	+0.3
	baz=332						
NNSB	**Datong**	**0.37**	**306**	P	Pb	22 39 41.2	-0.2
	baz=305						
NNSB				S	Sb	22 39 46.7	-0.5
	baz=305						
NNS	**Nan Shan**	**0.38**	**306**	*e*P	Pb	22 39 41.3	-0.3
	baz=306						
WHF	**Hehuan Shan**	**0.41**	**261**	*e*P	Pb	22 39 41.9	-0.4
	baz=260						
WHF				S	Sb	22 39 48.1	-0.8
	baz=260						
FUSS	**Fushou**	**0.43**	**275**	P	Pb	22 39 42.4	-0.1
	baz=274						
FUSS				S	Sb	22 39 49.0	-0.1
	baz=274						
CHGB	**Renai**	**0.52**	**253**	*e*P	Pb	22 39 43.7	-0.2
	baz=252						
CHGB				S	Sb	22 39 51.2	-0.3
	baz=252						
WUSB	**Renai**	**0.59**	**248**	*e*S	Sb	22 39 53.5	0.0
	baz=247						

JMA 07 22:39:36.9±0.2,24°2N±0°4×123°8E±0°5,h17km±1km, MV1.0/6,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.13**	**320**	P	Pg	22 39 40.6	-0.1
IRIF				S	Sb	22 39 44.0	+0.5
JKRS	**Kuro-shima**	**0.17**	**90**	P	Pg	22 39 41.3	0.0
JKRS				*e*S	Sg	22 39 44.2	-0.1
HATJ	**Hateruma jima**	**0.18**	**184**	*i* P	Pg	22 39 41.3	-0.2
HATJ				*e*S	Sg	22 39 44.7	+0.2
JIJ	**Ishigaki jima**	**0.32**	**67**	*e*P	Pg	22 39 43.5	-0.2
JIJ				*e*S	Sg	22 39 48.1	-0.3
JISG	**Ishigakijimahi**	**0.57**	**52**	*e*P	Pg	22 39 48.1	0.0
JISG				*e*S	Sb	22 39 56.1	-0.2

IDC 07 22:48:46.7±1.9,5°10N×126°53E,h0km,mb3.8/4, mbtmp3.8/4,Error ellipse: s-maj=210.6km s-min=22.1km az=65.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.04**	**163**	P	P	22 54 23.0	+1.1
	0.9nm,1.0s,baz=341,slow=10,SNR=11						
	0.9nm,1.0s						
STKA	**Stephens Creek**	**39.47**	**160**	P	P	22 56 17.5	-1.5
	1.4nm,0.3s,baz=344,slow=7.4,SNR=3.9						
	1.4nm,0.3s						
MKAR	**Makanchi Array**	**56.33**	**325**	P	P	22 58 29.9	+0.3
	0.3nm,0.3s,baz=114,slow=7.3,SNR=9.5						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**60.49**	**327**	P	P	22 58 57.9	-0.6
	0.5nm,0.6s,baz=121,slow=7.1,SNR=4.2						
	0.5nm,0.6s						

*NEIC **07** 22:53:08.8±0.5,8°4S±0°2×156°53E±0°07,h10km±1km, mb4.3/10,Error ellipse: s-maj=26.5km s-min=11.7km az=181.0*

*IDC **07** 22:53:24.5±2.7,8°45S×156°17E,h131km±28km,mb3.6/11, mbtmp4.0/12,MS3.3/3,Error ellipse: s-maj=25.5km s-min=17.5km az=137.0*

ISC 07 22:53:09.3±0.6,8°4S±0°1×156°38E±0°07,h10km,n26, σ1s13/24,mb4.0/15,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.67**	**107**	Pn	**Pn**	**22 54 03.4**	**-2.8**
HNR	**Honiara**	**3.67**	**107**	P	**Pg**	**22 54 20.5**	**+0.8**
	770nm,0.4s,baz=262,slow=2.4,SNR=3.8						
HNR				S	**Sg**	**22 55 08.7**	**+1.4**
	2μm,0.4s,baz=114,slow=15,SNR=4.2						
CTA	**Charters Tower**	**15.21**	**219**	LR	LR	23 02 01.5	
	comp=Z,78nm,19.1s,baz=86,slow=34						
DZM	**Mont Dzumac**	**16.70**	**146**	LR	LR	23 02 47.5	
	comp=Z,128nm,18.9s,baz=300,slow=34						
WR0	**Warramunga Arr**	**24.06**	**239**	P	**P**	**22 58 24.4**	**-0.6**
WR0				IAmb	IAmb	22 58 27.1	
	comp=Z,15nm,1.0s						
WRA	**Warramunga Arr**	**24.23**	**239**	P	**P**	**22 58 25.9**	**-0.7**
WRA	**Warramunga Arr**	**24.23**	**239**	P	**P**	**22 58 26.8**	**+0.2**
	comp=Z,7.5nm,0.9s,baz=66,slow=10,SNR=24						
	comp=Z,7.5nm,0.9s						
ASAR	**Alice Springs**	**26.35**	**232**	P	**P**	**22 58 46.0**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=61,slow=9.6,SNR=3.2						
	comp=Z,0.7nm,0.8s						
STKA	**Stephens Creek**	**27.12**	**208**	P	**P**	**22 58 51.6**	**-1.0**
STKA	**Stephens Creek**	**27.12**	**208**	P	**P**	**22 58 55.5**	**+2.9**
	comp=Z,1.7nm,0.6s,baz=33,slow=15,SNR=2.9						
	comp=Z,1.7nm,0.6s						
KNRA	**Kununurra**	**27.95**	**252**	P	**P**	**22 58 60.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**31.40**	**249**	P	**P**	**22 59 30.1**	**-0.7**
FITZ				IAmb	IAmb	22 59 42.4	
	comp=Z,2.7nm,1.4s						
ASAJ	**Asahikawa**	**53.73**	**348**	LR	LR	23 23 54.9	
	comp=Z,35nm,19.9s,baz=217,slow=34						
CMAR	**Chiang Mai Arr**	**62.62**	**296**	P	**P**	**23 03 35.3**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=111,slow=4.9,SNR=2.0						
	comp=Z,0.3nm,0.3s						
SONM	**Songino Array**	**71.25**	**327**	P	**P**	**23 04 28.9**	**0.0**
SONM				IAmb	IAmb	23 04 31.1	
	comp=Z,1.7nm,1.0s						
SONM	**Songino Array**	**71.25**	**327**	P	**P**	**23 04 29.3**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=140,slow=6.2,SNR=9.7						
	comp=Z,1.3nm,0.8s						
QSPA	**South Pole Qui**	**81.60**	**180**	P	**P**	**23 05 26.9**	**-0.4**
QSPA	**South Pole Qui**	**81.60**	**180**	P	**P**	**23 05 27.0**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=318,slow=0.4,SNR=10.0						
	comp=Z,2.5nm,0.8s						
IMAR	**Indian Mountai**	**82.60**	**18**	P	**P**	**23 05 31.7**	**-0.7**
ILAR	**Eielson Array**	**84.16**	**21**	P	**P**	**23 05 41.2**	**+0.8**
	comp=Z,8.9nm,1.1s,baz=218,slow=5.7,SNR=2.2						
	comp=Z,2.0.8nm,1.1s						
B20K	**Meade River**	**84.36**	**15**	P	**P**	**23 05 40.6**	**-0.6**
B20K				IAmb	IAmb	23 05 47.9	
	comp=Z,2.0nm,1.0s						
MK31	**Makanchi Array**	**85.35**	**318**		**P**	**23 05 46.3**	**-0.6**
MK31				IAmb	IAmb	23 05 49.0	
	comp=Z,1.4nm,0.8s						
MKAR	**Makanchi Array**	**85.35**	**318**	P	**P**	**23 05 46.1**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=109,slow=6.0,SNR=16						
	comp=Z,1.6nm,0.8s						
ZALV	**Zalesovo Beam**	**86.10**	**326**	P	**P**	**23 05 51.0**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=155,slow=4.8,SNR=1.8						
	comp=Z,0.3nm,0.3s						
NVAR	**Mina Array Bea**	**91.50**	**52**	P	**P**	**23 06 17.7**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=250,slow=7.6,SNR=2.7						
	comp=Z,0.2nm,0.4s						
YKA	**Yellowknife Ar**	**96.92**	**28**	P	**P**	**23 06 40.3**	**-0.3**
	comp=Z,0.3nm,0.9s,baz=268,slow=4.2,SNR=4.0						
	comp=Z,0.3nm,0.9s						

IDC 07 23:01:17.4±1.6,6°03S×142°77E,h0km,mb3.8/3, mbtmp3.8/4,ML3.9/1,Error ellipse: s-maj=83.0km s-min=29.1km az=97.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.07**	**210**	Pn	Pn	23 05 00.2	-4.8
	0.1nm,0.3s,baz=30,slow=14,SNR=4.6						
WRA				Lg	Lg	23 09 42.5	
	0.1nm,0.3s,baz=26,slow=26,SNR=3.1						
ASAR	**Alice Springs**	**19.50**	**205**	P	P	23 05 46.0	-0.3
	0.4nm,0.3s,baz=35,slow=9.7,SNR=18						
	1.4nm,0.5s						
STKA	**Stephens Creek**	**25.74**	**182**	P	P	23 06 49.9	+0.2
	1.1nm,0.3s,baz=333,slow=11,SNR=4.7						
	1.1nm,0.3s						
BVAR	**Borovoye Array**	**84.34**	**325**	P	P	23 13 51.5	+0.2
	0.7nm,0.8s,baz=101,slow=6.0,SNR=4.3						
	0.7nm,0.8s						
ILAR	**Eielson Array**	**87.19**	**24**	P	P	23 14 05.0	-0.2
	0.3nm,0.6s,baz=247,slow=5.2,SNR=3.1						
	0.3nm,0.6s						

IDC 07 23:05:07.1±2.1,6°03S×142°98E,h0km,mb3.7/3, mbtmp3.7/4,ML3.8/1,Error ellipse: s-maj=86.8km s-min=36.6km az=104.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.18**	**210**	Pn	Pn	23 08 51.8	-4.3
	0.1nm,0.3s,baz=30,slow=13,SNR=1.8						
WRA				Lg	Lg	23 13 30.0	
	baz=27,slow=27,SNR=2.6						
ASAR	**Alice Springs**	**19.59**	**206**	P	P	23 09 36.9	-0.1
	0.3nm,0.3s,baz=32,slow=9.9,SNR=12						
ASAR				Lg	Lg	23 15 21.1	
	0.2nm,0.3s,baz=29,slow=33,SNR=1.5						
	1.8nm,0.5s						
MKAR	**Makanchi Array**	**75.00**	**322**	P	P	23 16 50.8	+0.2
	0.2nm,0.6s,baz=104,slow=7.6,SNR=2.5						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**84.46**	**325**	P	P	23 17 41.9	+0.2
	0.9nm,0.5s,baz=105,slow=6.0,SNR=6.6						
	0.9nm,0.5s						
ILAR	**Eielson Array**	**87.10**	**24**	P	P	23 17 54.1	-0.5
	0.3nm,0.7s,baz=268,slow=5.3,SNR=3.0						
	0.3nm,0.7s						

*TEH **07** 23:32:38.8,34°95N×46°23E,h10km±113km,ML2.7*

*ISN **07** 23:32:38.0±0.3,35°03N×46°29E,h16km±6km,ML2.5*

ISC 07 23:32:36.4±1.8,35°11N±0°07×46°33E±0°05,h3km±12km, n9,s0s62/15,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.41**	**173**	Pg	**Pg**	**23 32 44.5**	**+0.2**
IDHR				Sg	**Sg**	**23 32 49.1**	**-0.5**
ILIN	**Lien**	**0.56**	**110**	Pg	**Pn**	**23 32 51.1**	**-0.3**
IGHG	**Ghaleghazi**	**0.80**	**165**	Pg	**Pg**	**23 32 51.9**	**+0.2**
IGHG				Sg	**Sg**	**23 33 03.0**	**+0.9**
KGS1	**Ghasr-e-Shirin**	**0.85**	**226**	Pg	**Pg**	**23 32 52.2**	**-0.6**
KGS1				Sg	**Sg**	**23 33 02.9**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.02**	**144**	Pg	**Pn**	**23 32 57.6**	**-0.1**
ILBA	**Ilam Banvizeh**	**1.48**	**184**	Pg	**Pn**	**23 33 03.8**	**-0.3**
IKRK	**Kirkuk**	**1.65**	**281**	*e*Pn	**Pg**	**23 33 08.0**	**-0.1**
IKRK				*e*Sn	**Sg**	**23 33 30.0**	**+0.5**
IBDR	**Badra**	**2.02**	**189**	*e*Pn	**Pn**	**23 33 12.0**	**+0.7**
IBDR				*e*Sn	**Sn**	**23 33 37.0**	**0.0**
IBDR				AML	AML	23 33 45.6	
	comp=N,56nm,0.4s						
IBDR				AML	AML	23 34 00.0	
	comp=E,47nm,0.5s						
BHD	**Baghdad**	**2.44**	**222**	*e*Pn	**Pn**	**23 33 18.0**	**+0.9**
BHD				*e*Sn	**Sn**	**23 33 47.0**	**-0.5**

ROM 08 00:19:18.0±0.1,42°801N±0°003×12°769E±0°005, h8km,ML2.0/30,2D,Error ellipse: s-maj=0.3km s-min=0.3km az=144.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOMA	**Monte Martano**	**0.15**	**271**	P	Pg	00 19 21.6	+0.4
MOMA				S	Sg	00 19 24.6	+1.2
MOMA				AML	AML		
	comp=N,1228μm,1.4s						
MOMA				AML	AML		
	comp=E,2115μm,0.2s						
MOMA				AML	AML		
	comp=N,1255μm,1.4s						
MOMA				AML	AML		
	comp=E,2030μm,0.2s						
MOMA				AML	AML		
	comp=N,1228μm,1.4s						
ARRO	**Arrone**	**0.22**	**181**	P	Pg	00 19 23.3	+0.9
ARRO				S	Sg	00 19 27.4	+2.0
ARRO				AML	AML		
	comp=N,646μm,1.2s						
ARRO				AML	AML		
	comp=E,858μm,0.2s						
ARRO				AML	AML		
	comp=N,646μm,0.8s						
CESI	**CESI - Serrava**	**0.23**	**26**	P	Pg	00 19 23.3	+0.7
CESI				S	Sg	00 19 27.3	+1.6
CESI				AML	AML		
	comp=N,1405μm,0.3s						
CESI				AML	AML		
	comp=E,717μm,0.7s						
CESX	**Cesi**	**0.24**	**216**	P	Pg	00 19 23.4	+0.6
CESX				S	Sg	00 19 27.5	+1.6
CESX				AML	AML		
	comp=E,822μm,1.1s						
CESX				AML	AML		
	comp=N,1088μm,1.0s						
CESX				AML	AML		
	comp=E,822μm,0.9s						
NRCA	**Norcia**	**0.26**	**83**	P	Pg	00 19 23.8	+0.6
NRCA				S	Sb	00 19 28.1	-1.5
NRCA				AML	AML		
	comp=E,894μm,1.4s						
NRCA				AML	AML		
	comp=N,642μm,1.4s						
NRCA				AML	AML		
	comp=N,688μm,1.3s						
NRCA				AML	AML		
	comp=E,888μm,0.1s						
NRCA				AML	AML		
	comp=N,642μm,0.6s						
FEMA	**Monte Fema**	**0.26**	**52**	P	Pg	00 19 24.1	+0.8
FEMA				S	Sb	00 19 28.6	-1.2
LNSS	**Leonessa**	**0.28**	**135**	P	Pg	00 19 24.2	+0.6
LNSS				S	Sb	00 19 29.1	-1.2
LNSS				AML	AML		
	comp=N,1400μm,0.4s						
LNSS				AML	AML		
	comp=E,1125μm,0.3s						
MC2	**Monte Cornacci**	**0.33**	**70**	⇓P	Pg	00 19 25.3	+0.7
MC2				S	Sb	00 19 31.1	-0.7
MMO1	**Montemonaco**	**0.42**	**76**	⇓P	Pg	00 19 26.8	+0.5
MMO1				S	Sb	00 19 33.6	-0.7
CSP1	**Cessapalombo**	**0.43**	**48**	P	Pg	00 19 26.9	+0.5
CSP1				S	Sb	00 19 34.0	-0.7
SMA1	**SAN MARTINO**	**0.45**	**112**	P	Pg	00 19 27.3	+0.5
SMA1				S	Sb	00 19 34.9	-0.3
SMA1				AML	AML		
	comp=E,370μm,1.5s						
SMA1				AML	AML		
	comp=N,376μm,1.1s						
SMA1				AML	AML		
	comp=N,376μm,0.9s						
MTRA	**Matera**	**0.46**	**95**	P	Pg	00 19 27.5	+0.5
SNTG	**Esanatoglia**	**0.47**	**15**	P	Pg	00 19 27.8	+0.7
SNTG				S	Sb	00 19 35.0	-0.8
SNTG				AML	AML		
	comp=E,124μm,0.4s						
SNTG				AML	AML		
	comp=N,164μm,0.6s						
SNTG				AML	AML		
	comp=E,124μm,1.6s						
FOSV	**Fossato di Vic**	**0.49**	**359**	P	Pg	00 19 27.9	+0.3
FOSV				S	Sb	00 19 36.4	0.0
FOSV				AML	AML		
	comp=E,195μm,0.6s						
FOSV				AML	AML		
	comp=N,184μm,1.1s						
FOSV				AML	AML		
	comp=N,184μm,0.9s						
CAMP	**Campotosto**	**0.54**	**119**	P	Pg	00 19 28.7	+0.2
CAMP				S	Sb	00 19 37.3	-0.6
CAMP				AML	AML		
	comp=N,83μm,1.6s						
CAMP				AML	AML		
	comp=E,90μm,1.6s						
CAMP				AML	AML		
	comp=N,83μm,0.4s						
MF5	**Montefalcone A**	**0.54**	**69**	P	Pb	00 19 29.4	-0.5
MF5				S	Sb	00 19 37.6	-0.1
EL6	**Elcito**	**0.58**	**25**	P	Pg	00 19 29.6	+0.3
EL6				S	Sb	00 19 38.8	-0.2
EL6				AML	AML		
	comp=E,482μm,0.1s						
EL6				AML	AML		
	comp=N,311μm,0.9s						
EL6				AML	AML		
	comp=N,311μm,1.1s						
TERO	**Teramo**	**0.64**	**106**	P	Pg	00 19 30.6	+0.2
TERO				S	Sb	00 19 40.5	-0.1
TERO				AML	AML		
	comp=E,77μm,1.4s						
TERO				AML	AML		
	comp=N,91μm,1.4s						
TERO				AML	AML		
	comp=E,77μm,0.6s						
TERO				AML	AML		
	comp=N,91μm,0.6s						

ROM 08 00:20:12.0±0.1,42°857N±0°004×13°097E±0°006, h12km,ML1.1/6,Error ellipse: s-maj=0.6km s-min=0.1km az=225.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.03**	**151**	P	Pg	00 20 14.5	+0.3
NRCA				S	Sg	00 20 16.0	+0.2
NRCA				AML	AML		
	comp=E,174μm,1.5s						
NRCA				AML	AML		
	comp=N,331μm,0.1s						
NRCA				AML	AML		
	comp=E,174μm,0.5s						
NRCA				AML	AML		
	comp=E,152μm,0.1s						
NRCA				AML	AML		
	comp=N,304μm,0.1s						
MC2	**Monte Cornacci**	**0.09**	**51**	P	Pg	00 20 15.2	+0.3
MC2				S	Sg	00 20 17.5	+0.5
FEMA	**Monte Fema**	**0.11**	**342**	P	Pg	00 20 15.4	+0.3
FEMA				S	Sg	00 20 17.7	+0.3
T1214	**Arquata del Tr**	**0.13**	**140**	P	Pg	00 20 15.7	+0.4
MMO1	**Montemonaco**	**0.17**	**76**	P	Pg	00 20 16.3	+0.4
MMO1				S	Sg	00 20 19.4	+0.7
CESI	**CESI - Serrava**	**0.20**	**316**	P	Pg	00 20 16.9	+0.4
CESI				S	Sg	00 20 20.4	+0.9
CESI				AML	AML		
	comp=N,44μm,0.3s						
CESI				AML	AML		
	comp=E,32μm,1.0s						

*SKHL **08** 00:23:53.5±0.6,46°50N×153°10E,h30km±4km,mb4.6/4*

*IDC **08** 00

KUR				A	A	00 25 49.9	
	80nm,0.5s						
NMR	**Nemuro--Hokkai**	**6.19 241**	*eP*	**Pn**	**00 25 22.6**	**+1.9**
NMR			AMB	AMB	00 25 25.8	
	10.0nm,0.2s						
NMR			*eS*	**Sn**	**00 26 29.0**	**-2.4**
NMR			A	A	00 26 33.0	
	30nm,0.2s						
NMR			A	A	00 26 33.0	
	30nm,0.2s						
AKK	**Akkeshi**	**6.92 241**	*eP*	**Pn**	**00 25 33.4**	**+2.6**
AKK			AMB	AMB	00 25 37.2	
	20nm,0.3s						
AKK			*eS*	**Sn**	**00 26 47.7**	**-1.8**
AKK			A	A	00 27 16.0	
	50nm,0.4s						
AKK			A	A	00 27 16.0	
	100nm,0.4s						
PETK	**Petropavlovsk-**	**7.10 23**	Pn	**Pn**	**00 25 34.4**	**+1.1**
	7.4nm,1.1s,baz=236,slow=16,SNR=1.9						
YSS	**Yuzh-Sakhalins**	**7.12 276**	*eP*	**Pn**	**00 25 37.0**	**+3.5**
YSS			AMB	AMB	00 25 41.0	
	20nm,0.2s						
YSS			*eS*	**Sn**	**00 26 55.0**	**+0.6**
YSS			A	A	00 27 03.0	
	20nm,0.3s						
YSS			A	A	00 27 03.0	
	10.0nm,0.3s						
ASAJ	**Asahikawa**	**7.83 255**	Pn	**Pn**	**00 25 47.1**	**+3.8**
	0.6nm,0.3s,baz=90,slow=13,SNR=3.7						
	5.7nm,0.6s						
KLR	**Kul'dur**	**14.55 288**	LR	LR	00 31 49.7	
	comp=Z,52nm,20.1s,baz=105,slow=36						
USRK	**Ussuriysk Ar.**	**15.04 268**	Pn	**Pn**	**00 27 20.0**	**-1.8**
	0.1nm,0.3s,baz=69,slow=13,SNR=2.8						
	0.9nm,0.7s						
KSRS	**Korea Array**	**20.77 253**	LR	LR	00 35 41.8	
	comp=Z,20nm,18.0s,baz=85,slow=35						
H11N2	**WAKE ISLAND Hy 29.14 153**		T	T	01 01 12.7	
	baz=340,slow=75,SNR=166						
H11N1	**WAKE ISLAND Hy 29.15 153**		T	T	01 01 16.3	
	baz=340,slow=75,SNR=131						
H11N3	**WAKE ISLAND Hy 29.15 153**		T	T	01 01 14.5	
	baz=340,slow=75,SNR=76						
H11S1	**WAKE ISLAND Hy 30.22 154**		T	T	01 02 49.0	
	baz=341,slow=76,SNR=107						
H11S3	**WAKE ISLAND Hy 30.23 154**		T	T	01 02 50.1	
	baz=341,slow=76,SNR=116						
H11S2	**WAKE ISLAND Hy 30.24 154**		T	T	01 02 41.9	
	baz=341,slow=76,SNR=135						
MKAR	**Makanchi Array**	**46.99 297**	P	**P**	**00 32 18.3**	**-2.1**
	0.2nm,0.5s,baz=69,slow=6.7,SNR=6.5						
MKAR			LR	LR	00 54 12.5		
	comp=Z,38nm,18.1s,baz=258,slow=40						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**47.51 304**	P	P	00 32 21.4	-2.9	
	2.5nm,0.4s,baz=72,slow=8.2,SNR=2.4						
BVAR	**Borovoye Array**	**50.92 309**	P	P	00 32 47.2	-3.2	
	0.1nm,0.3s,baz=74,slow=11,SNR=1.7						
	0.1nm,0.3s						
AAK	**Ala-Archa**	**53.88 296**	LR	LR	00 57 03.4		
	comp=Z,39nm,19.0s,baz=318,slow=38						
KIRV	**Kirov**	**57.85 323**	LR	LR	01 01 13.6		
	comp=Z,45nm,18.3s,baz=284,slow=40						
FINES	**FINESS Array B**	**64.12 335**	P	**P**	**00 34 22.2**	**-1.1**
	0.6nm,0.4s,baz=25,slow=9.5,SNR=8.0						
	0.6nm,0.4s						
NB2	**NORSAR Subarra**	**68.32 341**	P	**P**	**00 34 50.2**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.32 341**	P	**P**	**00 34 49.6**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=30,slow=6.6,SNR=1.3						
	comp=Z,0.7nm,0.7s						
HFS	**Hagfors**	**68.54 340**	P	**P**	**00 34 50.9**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=3.7,slow=4.6,SNR=6.4						
	comp=Z,0.8nm,0.4s						
AKASG	**Malin Array Be**	**71.62 326**	P	**P**	**00 35 09.8**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=32,slow=5.6,SNR=3.3						
	comp=Z,0.5nm,0.4s						
MMAI	**Mount Meron Ar**	**82.88 311**	P	**P**	**00 36 14.6**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=57,slow=5.3,SNR=2.1						
	comp=Z,1.1nm,0.7s						
H03N2	**Juan Fernandez**	**138.75 90**	T	T	03 18 36.9		
	baz=308,slow=77,SNR=4.3						
H03N1	**Juan Fernandez**	**138.76 90**	T	T	03 18 47.4		
	baz=308,slow=77,SNR=4.8						
H03N3	**Juan Fernandez**	**138.76 90**	T	T	03 18 41.6		
	baz=308,slow=77,SNR=4.2						

*IDC **08** 00:32:02.1±1.9,5°.77S×142°.90E,h0km,mb3.8/4, mbtmp3.9/5,ML4.1/1,Error ellipse: s-maj=58.8km s-min=29.8km az=105.0*

ISC 08 00:32:02.9±1.6,6°.2S±0°.1×142°.7E±0°.3,h10km,n6,σ3s78/7, mb3.8/4,New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.86**	**210**	Pn		**P**		**00 35 49.6**	**-0.6**
	0.4nm,0.3s,baz=26,slow=14,SNR=12								
WRA				Sn		**Sn**		**00 38 37.6**	**-4.9**
	0.1nm,0.3s,baz=37,slow=24,SNR=2.0								
WRA				Lg		Lg		00 40 36.4	
	0.2nm,0.3s,baz=24,slow=29,SNR=4.8								
ASAR	**Alice Springs**	**19.29**	**205**	P		**P**		**00 36 34.5**	**+5.3**
	0.5nm,0.3s,baz=33,slow=10,SNR=39								
ASAR				Lg		Lg		00 42 28.5	
	0.2nm,0.3s,baz=25,slow=29,SNR=4.1								
	5.2nm,0.7s								
CMAR	**Chiang Mai Arr**	**49.59**	**301**	P		**P**		**00 40 55.1**	**+0.5**
	0.5nm,0.3s,baz=127,slow=6.8,SNR=4.4								
	0.5nm,0.3s								
MKAR	**Makanchi Array**	**74.95**	**322**	P		**P**		**00 43 44.5**	**+0.1**
	0.5nm,0.8s,baz=114,slow=5.8,SNR=4.5								
	0.5nm,0.8s								
BVAR	**Borovoye Array**	**84.42**	**325**	P		**P**		**00 44 35.8**	**+0.2**
	1.2nm,0.8s,baz=118,slow=5.9,SNR=5.7								
	1.2nm,0.8s								
ILAR	**Eielson Array**	**87.39**	**24**	P		**P**		**00 44 48.0**	**-2.0**
	0.3nm,0.9s,baz=264,slow=4.5,SNR=4.3								
	0.3nm,0.9s								

DJA 08 01:03:08.0±0.4,10°S±7°×117°.9E±°,h55km±37km,M3.6/7, mb3.7/1,MLv3.6/7,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.54**	**315**	P			Pn	01 03 33.0	-0.1
BASI	**Baing, Sumba**	**1.70**	**100**	P			Pn	01 03 35.4	+0.1
TWSI	**Taliwang, Sumb**	**2.29**	**301**	P			Pn	01 03 44.1	+0.7
EDFI	**Ende, Flores**	**3.01**	**67**	P			Pn	01 03 52.7	-0.6
SRBI	**Singaraja**	**4.06**	**296**	P			Pn	01 04 07.6	0.0
JAGI	**Jajag, Banyuwa**	**4.88**	**287**	P			Pn	01 04 18.5	-0.5
PWJI	**Pagerwojo**	**7.24**	**285**	P			Pn	01 04 51.3	0.0

*JMA **08** 01:21:57.0±0.2,25°.N±2°.×122°.9E±0°.6,h128km±2km, MV3.6/19,NW OFF ISHIGAKIJIMA IS*
*TAP **08** 01:21:57.0,24°.82N×122°.88E,h128km,ML4.0,C*

ISC 08 01:21:57.6±1.5,24°.76N±0°.06×122°.88E±0°.03,h126km±8km, n75,σ0s66/121,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.31**	**169**	*eP*			**Pn**	**01 22 15.3**	**-0.1**
JYNG				*eS*			**Sn**	**01 22 28.9**	**+0.2**
YOJ	**Yonaguni jima**	**0.32**	**158**	P			**Pn**	**01 22 15.8**	**+0.5**
YOJ	**Yonaguni jima**	**0.32**	**158**	*i* P			**Pn**	**01 22 15.6**	**+0.2**
	baz=155								
YOJ				*i* S			**Sn**	**01 22 29.2**	**+0.5**
	baz=155								
YOJ	**Yonaguni jima**	**0.32**	**158**	P			**Pn**	**01 22 15.6**	**+0.2**
YOJ				*eS*			**Sn**	**01 22 28.8**	**+0.1**
EOS2	**EOS2**	**0.68**	**240**	P			**Pn**	**01 22 17.5**	**+0.2**
	baz=245								
EOS2				S			**Sn**	**01 22 32.7**	**+0.6**
	baz=245								
EOS3	**EOS3**	**0.69**	**228**	*i* P			**Pn**	**01 22 17.8**	**+0.5**
	baz=233								
EOS3				*i* S			**Sn**	**01 22 33.5**	**+1.3**
	baz=233								
EOS4	**EOS4**	**0.81**	**219**	P			**Pn**	**01 22 18.4**	**+0.3**
	baz=216								
EOS4				S			**Sn**	**01 22 34.2**	**+0.6**
	baz=216								
TWB1	**Santiao Chiao**	**0.85**	**287**	*eP*			**Pn**	**01 22 18.7**	**0.0**
	baz=280								
IRIF	**Iriomote-Funau**	**0.88**	**118**	P			**Pn**	**01 22 18.8**	**-0.2**
IRIF				S			**Sn**	**01 22 35.2**	**0.0**
TWC	**Suao**	**0.95**	**261**	P			**Pn**	**01 22 19.2**	**-0.4**
	baz=252								
TWC				*eS*			**Sn**	**01 22 35.4**	**-0.9**
	baz=252								
ESAO	**Su ao**	**0.96**	**259**	*eP*			**Pn**	**01 22 19.6**	**-0.2**
	baz=252								
ESAO				*eS*			**Sn**	**01 22 35.6**	**-0.9**
	baz=252								
TIPB	**Shuangxi**	**0.98**	**283**	*eP*			**Pn**	**01 22 20.0**	**0.0**
	baz=274								
TIPB				*eS*			**Sn**	**01 22 36.2**	**-0.8**
	baz=274								
EWUT	**Wuta**	**1.05**	**253**	*eP*			**Pn**	**01 22 20.5**	**-0.1**
	baz=250								
EWUT				*eS*			**Sn**	**01 22 38.2**	**+0.2**
	baz=250								
ENA	**Nanau**	**1.09**	**253**	*eP*			**Pn**	**01 22 20.9**	**-0.1**
	baz=249								
ENA				*eS*			**Sn**	**01 22 38.9**	**+0.1**
	baz=249								
HATJ	**Hateruma jima**	**1.09**	**129**	P			**Pn**	**01 22 21.7**	**+0.7**
HATJ				S			**Sn**	**01 22 39.0**	**+0.2**
TWE	**Neicheng**	**1.10**	**268**	*eP*			**Pn**	**01 22 21.1**	**-0.1**
	baz=265								
TWE				*eS*			**Sn**	**01 22 38.8**	**-0.2**
	baz=265								
EAHA	**Aohua**	**1.12**	**248**	*eP*			**Pn**	**01 22 21.3**	**0.0**
	baz=242								
EAHA				*eS*			**Sn**	**01 22 39.4**	**0.0**
	baz=242								
JKRS	**Kuro-shima**	**1.15**	**116**	P			**Pn**	**01 22 22.3**	**+0.7**
JKRS				S			**Sn**	**01 22 40.0**	**+0.2**
FUSB	**Fushanzhiwuyua**	**1.18**	**270**	*eP*			**Pn**	**01 22 21.8**	**-0.1**
	baz=267								
ENTT	**Nioudou**	**1.20**	**265**	*eP*			**Pn**	**01 22 22.4**	**+0.2**
	baz=258								
ENTT				*eS*			**Sn**	**01 22 41.1**	**+0.3**
	baz=258								
JIJ	**Ishigaki jima**	**1.21**	**109**	P			**Pn**	**01 22 22.2**	**0.0**
JIJ				S			**Sn**	**01 22 40.0**	**-1.0**
LATG	**Datong**	**1.25**	**260**	*eP*			**Pn**	**01 22 22.9**	**+0.1**
	baz=253								
LATG				*eS*			**Sn**	**01 22 42.0**	**0.0**
	baz=253								
NWLT	**Wulai**	**1.25**	**271**	*eP*			**Pn**	**01 22 22.7**	**0.0**
	baz=263								
NWLT				*eS*			**Sn**	**01 22 40.9**	**-0.9**
	baz=263								
NDT	**Datong Townshi**	**1.25**	**263**	*eP*			**Pn**	**01 22 23.3**	**+0.6**
	baz=257								
NDT				*eS*			**Sn**	**01 22 42.3**	**+0.5**
	baz=257								
ETL	**Fush Village**	**1.29**	**243**	*eP*			**Pn**	**01 22 22.6**	**-0.6**
	baz=241								
NACB	**Ninganchiao**	**1.31**	**244**	P			**Pn**	**01 22 22.7**	**-0.6**
NACB	**Ninganchiao**	**1.31**	**244**	*eP*			**Pn**	**01 22 22.6**	**-0.7**
	baz=242								
NACB				*eS*			**Sn**	**01 22 41.5**	**-1.3**
	baz=242								
JISG	**Ishigakijimahi**	**1.31**	**97**	*i* P			**Pn**	**01 22 23.2**	**-0.1**
JISG				*eS*			**Sn**	**01 22 41.6**	**-1.2**
TWD	**Chiawan**	**1.35**	**240**	*eP*			**Pn**	**01 22 23.3**	**-0.5**
	baz=234								
TWD				*eS*			**Sn**	**01 22 42.7**	**-0.9**
	baz=234								
YHNB	**Yeheng**	**1.37**	**267**	P			**Pn**	**01 22 24.3**	**+0.2**
YHNB	**Yeheng**	**1.37**	**267**	P			**Pn**	**01 22 24.2**	**+0.1**
	baz=264								
YHNB				S			**Sn**	**01 22 43.7**	**-0.5**
	baz=264								
ETLH	**Xiulin Townshi**	**1.39**	**247**	*eP*			**Pn**	**01 22 23.9**	**-0.4**
	baz=245								
ETLH				*eS*			**Sn**	**01 22 43.2**	**-1.3**
	baz=245								
NSK	**Sanguang**	**1.39**	**267**	P			**Pn**	**01 22 24.2**	**0.0**
	baz=264								
NSK				*eS*			**Sn**	**01 22 43.9**	**-0.6**
	baz=264								
HWA	**Hwalien**	**1.40**	**237**	*eP*			**Pn**	**01 22 24.1**	**-0.1**
	baz=230								
HWA				*eS*			**Sn**	**01 22 45.3**	**+0.7**
	baz=230								
NNSB	**Datong**	**1.40**	**257**	*eP*			**Pn**	**01 22 24.5**	**0.0**
	baz=249								
NNS	**Nan Shan**	**1.41**	**257**	*eP*			**Pn**	**01 22 24.5**	**0.0**
	baz=250								
ETM	**Tongmen**	**1.49**	**238**	*eP*			**Pn**	**01 22 24.8**	**-0.5**
	baz=232								
ETM				*eS*			**Sn**	**01 22 44.2**	**-2.2**
	baz=232								
LXIB	**Xiulin Townshi**	**1.52**	**242**	*eP*			**Pn**	**01 22 25.2**	**-0.6**
	baz=240								
SHUL	**Shoufeng**	**1.54**	**232**	*eP*			**Pn**	**01 22 25.7**	**-0.2**
	baz=229								
SHUL				*eS*			**Sn**	**01 22 47.8**	**+0.4**
	baz=229								
FUSS	**Fushou**	**1.57**	**252**	*eP*			**Pn**	**01 22 27.0**	**+0.4**
	baz=245								
FUSS				*eS*			**Sn**	**01 22 47.7**	**-0.9**
	baz=245								
WHF	**Hehuan Shan**	**1.59**	**248**	*eP*			**Pn**	**01 22 27.0**	**+0.1**
	baz=242								
NFF	**Wufeng Townshi**	**1.61**	**266**	*eS*			**Sn**	**01 22 47.9**	**-1.1**
	baz=264								
TWT	**Tachien**	**1.63**	**252**	*eP*			**Pn**	**01 22 27.8**	**+0.7**
	baz=245								
TWT				*eS*			**Sn**	**01 22 49.4**	**-0.2**
	baz=245								
TDCB	**Techi**	**1.65**	**253**	P			**Pn**	**01 22 27.8**	**+0.5**
	baz=245								
TDCB				*eS*			**Sn**	**01 22 49.5**	**-0.3**
	baz=245								
JTJ	**Tarama**	**1.66**	**94**	P			**Pn**	**01 22 27.3**	**+0.1**
JTJ				*eS*			**Sn**	**01 22 49.5**	**-0.4**
CHGB	**Renai**	**1.70**	**246**	*eP*			**Pn**	**01 22 28.2**	**+0.2**
	baz=240								
CHGB				*eS*			**Sn**	**01 22 50.8**	**-0.4**
	baz=240								
WARBT	**Fenglin Townsh**	**1.71**	**233**	*eP*			**Pn**	**01 22 27.1**	**-0.8**
	baz=228								
NSTT	**Nanjuang**	**1.71**	**266**	*eS*			**Sn**	**01 22 50.0**	**-1.1**
	baz=264								
OWD	**Renai**	**1.75**	**243**	*eP*			**Pn**	**01 22 28.4**	**0.0**
	baz=238								
WUSB	**Renai**	**1.78**	**245**	*eP*			**Pn**	**01 22 29.1**	**+0.3**
	baz=240								
WUSB				*eS*			**Sn**	**01 22 52.2**	**-0.4**
	baz=240								
WHP	**Taichung City**	**1.83**	**255**	*eP*			**Pn**	**01 22 30.2**	**+0.9**
	baz=252								
WHP				*eS*			**Sn**	**01 22 53.8**	**+0.2**
	baz=252								
HGSD	**Ruisui**	**1.83**	**227**	*eP*			**Pn**	**01 22 28.9**	**-0.4**
	baz=221								
VWDT	**VWDT**	**1.88**	**238**	*eP*			**Pn**	**01 22 30.2**	**+0.4**
	baz=237								
VWDT				*eS*			**Sn**	**01 22 54.0**	**-0.4**
	baz=237								
EHY	**Hungye**	**1.89**	**229**	*eP*			**Pn**	**01 22 29.4**	**-0.6**
	baz=234								
WCS	**Beigang Elemen**	**1.93**	**249**	*eP*			**Pn**	**01 22 31.4**	**+1.0**
	baz=248								
WCS				*eS*			**Sn**	**01 22 56.1**	**+0.5**
	baz=248								
YULB	**Yu-li**	**1.98**	**227**	P			**Pn**	**01 22 30.6**	**-0.6**
YULB	**Yu-li**	**1.98**	**227**	*eP*			**Pn**	**01 22 30.5**	**-0.7**
	baz=232								
SMLT	**Sun Moon Lake**	**2.00**	**245**	*eP*			**Pn**	**01 22 32.1**	**+0.6**
	baz=238								
SMLT				*eS*			**Sn**	**01 22 58.9**	**+1.4**
	baz=238								
SSLB	**Suanglung**	**2.01**	**242**	P			**Pn**	**01 22 31.8**	**+0.3**
SSLB	**Suanglung**	**2.01**	**242**	*eP*			**Pn**	**01 22 31.4**	**0.0**
	baz=238								
SSLB				*eS*			**Sn**	**01 22 58.9**	**+1.5**
	baz=238								
TWF1	**Yuli**	**2.01**	**226**	*eP*			**Pn**	**01 22 31.1**	**-0.4**
	baz=232								
TYC	**Yuchr**	**2.03**	**246**	*eP*			**Pn**	**01 22 32.5**	**+0.8**
	baz=240								
CHKH	**Chenggong**	**2.07**	**221**	*eP*			**Pn**	**01 22 31.5**	**-0.7**
	baz=215								
JIRB	**Irabujima**	**2.08**	**88**	*eP*			**Pn**	**01 22 32.2**	**-0.1**
JIRB				*eS*			**Sn**	**01 22 58.4**	**-0.6**
FULB	**Fuli**	**2.12**	**223**	*eP*			**Pn**	**01 22 32.6**	**-0.4**
	baz=218								
FULB				*eS*			**Sn**	**01 22 59.2**	**-0.8**
	baz=218								
WHYT	**Xinyi Township**	**2.13**	**241**	*eP*			**Pn**	**01 22 34.2**	**+1.2**
	baz=237								
JIKM	**Ikemajima**	**2.16**	**85**	*eP*			**Pn**	**01 22 33.6**	**+0.4**
WJS	**Zhushan**	**2.17**	**245**	*eS*			**Sn**	**01 23 02.7**	**+1.7**
	baz=244								
WNT	**Mingjian**	**2.19**	**247**	*eP*			**Pn**	**01 22 35.9**	**+2.2**
	baz=254								
JMJ2	**Miyako jima3**	**2.23**	**90**	P			**Pn**	**01 22 34.6**	**+0.5**
JMJ2				*eS*			**Sn**	**01 23 01.6**	**-0.5**
ALS	**Alishan**	**2.27**	**237**	*eP*			**Pn**	**01 22 35.8**	**+0.8**
	baz=231								
EDH	**Donghe**	**2.29**	**219**	*eP*			**Pn**	**01 22 34.7**	**-0.2**
	baz=214								
EDH				*eS*			**Sn**	**01 23 03.0**	**-0.6**
	baz=214								
JOGS	**Gusukube**	**2.30**	**89**	P			**Pn**	**01 22 35.6**	**+0.6**
JOGS				*eS*			**Sn**	**01 23 04.0**	**+0.2**
ELDTW	**Lidau**	**2.31**	**228**	*eP*			**Pn**	**01 22 35.0**	**-0.3**
	baz=224								
TWGBT	**Beinan**	**2.54**	**221**	P			**Pn**	**01 22 37.7**	**-0.4**

*NEIC **08** 01:34:08.2±0.5,19°.2N±0°.2×68°.13W±0°.10,h50km±55km, ML2.4/18,Md3.2/9(RSPR),Error ellipse: s-maj=31.7km s-min=2.4km az=204.0*
*RSPR **08** 01:34:09.4,19°.35N×67°.93W,h54km±11km,MD3.2/9*
*SDD **08** 01:34:13.7±2.7,18°.46N×68°.30W,h18km±15km,MD2.9, ML2.5,MW2.5*

ISC 08 01:34:10.7±1.3,18°.96N±0°.08×68°.05W±0°.03,h20km,n47, σ1s66/49,7C-3D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.54**	**215**	⇑*eP*			**Pn**	**01 34 21.7**	**-1.6**
PCDR	**Punta Cana, DR**	**0.54**	**215**	*eS*			**Sn**	**01 34 31.6**	**-0.1**
PCDR	**Punta Cana, DR**	**0.54**	**215**				**Pn**	**01 34 21.7**	**-1.6**
PCDR							**Sn**	**01 34 31.6**	**-0.1**
PCDR	**Punta Cana, DR**	**0.54**	**215**	IAML				01 34 51.2	
	comp=N,118nm,2.0s								
MIDR	**Miches**	**0.94**	**272**	*ePg*			**Pn**	**01 34 27.9**	**-0.9**
MIDR				*eSg*			**Sn**	**01 34 41.8**	**+0.1**
SADR	**Isla Saona**	**1.03**	**222**	*i* P			Pn	01 34 22.2	-7.8
SMDR	**Samana, DR**	**1.12**	**287**	*i* P			Pn	01 34 33.6	+2.3
LSP	**Las Mesas**	**1.20**	**130**	⇓*eP*			**Pn**	**01 34 31.4**	**-1.0**
LSP	**Las Mesas**	**1.20**	**130**	*eS*			**Sb**	**01 34 48.9**	**+0.9**
LSP	**Las Mesas**	**1.20**	**130**				**Pn**	**01 34 31.4**	**-1.0**
LSP							**Sb**	**01 34 48.9**	**+0.9**
CRPR	**Cabo Rojo, PR**	**1.30**	**136**	⇑*eP*			**Pb**	**01 34 33.4**	**-1.2**
CRPR	**Cabo Rojo, PR**	**1.30**	**136**	*eS*			**Sb**	**01 34 53.0**	**+2.2**
CRPR	**Cabo Rojo, PR**	**1.30**	**136**				**Pb**	**01 34 33.4**	**-1.2**
CRPR	**Cabo Rojo, PR**	**1.30**	**136**	Sn			**Sb**	**01 34 51.4**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.30**	**136**	*ePg*			**Pb**	**01 34 36.7**	**+2.2**
CRPR				*eSg*			**Sb**	**01 34 52.5**	**+1.7**
CRPR				IAML				01 35 07.7	
	comp=N,52nm,3.1s								
MLPR	**Magueyes Islan**	**1.37**	**136**	⇑*eP*			**Pn**	**01 34 33.7**	**-1.1**
MLPR	**Magueyes Islan**	**1.37**	**136**	*eS*			**Sn**	**01 34 51.7**	**-0.7**
MLPR	**Magueyes Islan**	**1.37**	**136**				**Pn**	**01 34 33.7**	**-1.1**
MLPR							**Sn**	**01 34 51.7**	**-0.7**
MLPR	**Magueyes Islan**	**1.37**	**136**	IAML				01 35 07.5	
	comp=N,41nm,3.0s								
MLPR	**Magueyes Islan**	**1.37**	**136**	*i* P			**Pb**	**01 34 34.6**	**-1.1**
AOPR	**Arecibo Observ**	**1.37**	**116**	⇑*eP*			**Pn**	**01 34 33.0**	**-1.8**
AOPR	**Arecibo Observ**	**1.37**	**116**	*eS*			**Sn**	**01 34 52.0**	**-0.4**
AOPR	**Arecibo Observ**	**1.37**	**116**				**Pn**	**01 34 33.0**	**-1.8**
AOPR	**Arecibo Observ**	**1.37**	**116**				**Sn**	**01 34 49.9**	**-2.5**
AOPR				IAML				01 35 02.2	
	comp=N,60nm,1.5s								
AOPR	**Arecibo Observ**	**1.37**	**116**	*i* P			**Pb**	**01 34 37.7**	**+1.9**
AOPR				*eSg*			**Sb**	**01 34 56.4**	**+3.5**
AOPR				IAML				01 35 01.9	
	comp=N,57nm,1.5s								
UUPR	**Utuado, UPR, P**	**1.45**	**119**	⇑*eP*			**Pn**	**01 34 34.7**	**-1.1**
UUPR	**Utuado, UPR, P**	**1.45**	**119**	*eS*			**Sn**	**01 34 53.6**	**-0.6**
UUPR	**Utuado, UPR, P**	**1.45**	**119**				**Sn**	**01 34 54.0**	**-0.2**
UUPR	**Utuado, UPR, P**	**1.45**	**119**				**Pn**	**01 34 34.7**	**-1.1**
OBIP	**Obispado Ponce**	**1.65**	**123**	⇑*eP*			**Pn**	**01 34 37.0**	**-1.6**
OBIP	**Obispado Ponce**	**1.65**	**123**	*eS*			**Sn**	**01 34 58.6**	**-0.6**
OBIP	**Obispado Ponce**	**1.65**	**123**				**Pn**	**01 34 37.0**	**-1.6**
OBIP	**Obispado Ponce**	**1.65**	**123**	IAML				01 34 53.2	
	comp=N,27nm,4.2s								
OBIP							**Sn**	**01 34 58.9**	**-0.3**
OBIP				IAML				01 35 41.2	
	comp=E,28nm,4.0s								
CELP	**Cerrillos**	**1.65**	**122**	⇓*eP*			**Pn**	**01 34 37.2**	**-1.4**
CELP	**Cerrillos**	**1.65**	**122**	*eS*			**Sn**	**01 34 59.5**	**+0.2**
CELP	**Cerrillos**	**1.65**	**122**				**Pn**	**01 34 37.2**	**-1.4**
CELP	**Cerrillos**	**1.65**	**122**				**Sn**	**01 34 59.1**	**-0.1**
CELP				IAML				01 35 01.6	
	comp=E,28nm,2.8s								
CELP				IAML				01 35 26.6	
	comp=N,27nm,3.0s								
CELP	**Cerrillos**	**1.65**	**122**	*ePg*			**Pb**	**01 34 43.9**	**+3.4**
CELP				*eSg*			**Sb**	**01 35 04.0**	**+3.1**
GCPR	**Guaynabo City**	**1.98**	**109**	⇓*eP*			**Pn**	**01 34 41.1**	**-2.0**
GCPR	**

RCC				IAML		01 53 34.4	
	comp=N,34nm,0.3s						
RCC				IAML		01 53 34.5	
	comp=E,33nm,0.3s						
MARVS	**Santiago de Cu**	**2.13**	**298**	*eP*	**Pn**	**01 53 07.1**	**+1.9**
LOPE2	**Hotel El Peder**	**2.26**	**115**	*i* P	**Pn**	**01 53 08.1**	**+1.1**
LOPE2				*eS*	**Sn**	**01 53 36.2**	**+1.3**
LOPE2				IAML		01 53 38.8	
	comp=Z,53nm,2.0s						
PINC	**Pinares de May**	**2.31**	**310**	*eP*	**Pn**	**01 53 08.0**	**+0.3**
REDR	**Restauracion**	**2.38**	**86**⇓	*eP*	Pn	01 53 03.8	-4.8
REDR				⇓*eS*	**Sn**	**01 53 29.7**	**-8.2**
REDR				IAML		01 53 33.3	
	comp=E,69nm,0.2s						
REDR				IAML		01 53 40.6	
	comp=N,37nm,0.9s						
NEDR	**Neiba UASD**	**2.41**	**102**⇓	*eP*	**Pn**	**01 53 10.9**	**+1.9**
NEDR				⇑*eS*	**Sb**	**01 53 41.6**	**-1.2**
NEDR				IAML		01 53 50.2	
	comp=N,34nm,0.7s						
NEDR				IAML		01 54 03.4	
	comp=E,46nm,0.8s						
SDDR	**Presa de Saban**	**2.48**	**90**⇑	*eP*	**Pb**	**01 53 13.1**	**-1.0**
SDDR				⇑*eS*	**Sb**	**01 53 42.6**	**-2.2**
SDDR				IAML		01 53 49.3	
	comp=N,28nm,0.4s						
SDDR				IAML		01 53 54.5	
	comp=E,20nm,0.8s						
SDDR	**Presa de Saban**	**2.48**	**90**	*i* P	**Pn**	**01 53 11.5**	**+1.5**
SDDR				IAML		01 53 51.2	
	comp=Z,35nm,3.2s						
PODR	**Polo**	**2.62**	**108**⇑	*eP*	**Pn**	**01 53 14.7**	**+2.6**
PODR				⇓*eS*	**Sn**	**01 53 47.4**	**+3.3**
PODR				IAML		01 54 00.2	
	comp=E,56nm,0.5s						
PODR				IAML		01 54 03.2	
	comp=N,37nm,0.3s						
PODR	**Polo**	**2.62**	**108**	*i* P	**Pn**	**01 53 13.4**	**+1.3**
LMGC	**Las Mercedes**	**3.11**	**290**	*eP*	Pn	01 53 15.2	-3.5
LMGC				*eS*	**Sn**	**01 53 51.1**	**-4.8**

*IDC **08** 02:29:15.1±0.9, 60°.34N×60°.02E, h0km, mb3.4/3, mbtmp3.6/14, ML2.9/9, MS2.6/1, Error ellipse: s-maj=12.3km s-min=9.7km az=45.0*
*MIRAS **08** 02:29:16.4, 60°.24N×60°.00E, h1km, ML3.3/8, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 08 02:29:14.4±1.4, 60°.28N±0°.06×60°.16E±0°.06, h8km±7km, n23, σ2s32/37, mb3.4/3, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVUR	**Severouralsk**	**0.12**	**227**	*i* P	**Pg**	**02 29 17.4**	**+0.3**
	1μm,0.3s						
SVUR				*i* S	**Sg**	**02 29 18.1**	**-0.8**
	2μm,0.7s						
SVUR				*i* AML	AML	02 29 18.4	
PR7R	**Sarany**	**1.88**	**203**	*i* P	**Pn**	**02 29 47.1**	**+0.3**
	58nm,0.3s						
PR7R				*i* S	**Sn**	**02 30 11.5**	**+0.8**
	145nm,0.8s						
PR7R				*i* AML	AML	02 30 14.5	
	430nm,0.7s						
PR1R	**Pomanovo**	**2.05**	**239**	*i* P	**Pb**	**02 29 52.0**	**+0.2**
	25nm,0.3s						
PR1R				*i* S	**Sb**	**02 30 18.2**	**+0.7**
	18nm,0.4s						
PR1R				*i* AML	AML	02 30 19.1	
	65nm,0.4s						
PR0R	**Verkhnechusovs**	**2.60**	**218**	*i* P	**Pn**	**02 29 59.6**	**+2.8**
	8.2nm,0.3s						
PR0R				*i* S	**Sn**	**02 30 32.0**	**+3.5**
	17nm,0.3s						
PR0R				*i* AML	AML	02 30 34.1	
	58nm,0.9s						
PR6R	**Ekimyata**	**2.98**	**226**	*i* P	**Pn**	**02 30 02.2**	**+0.3**
	10nm,0.4s						
PR6R				*i* S	**Sn**	**02 30 38.7**	**+0.9**
	61nm,0.2s						
PR6R				*i* AML	AML	02 30 43.7	
	129nm,0.3s						
PR3R	**Kungur**	**3.28**	**211**	*i* P	**Pn**	**02 30 08.8**	**+2.7**
	47nm,0.6s						
PR3R				*i* S	**Sn**	**02 30 48.7**	**+3.3**
	71nm,0.5s						
PR3R				*i* AML	AML	02 30 53.4	
	95nm,0.6s						
PR4R	**Vlasy**	**3.31**	**226**	*i* P	**Pn**	**02 30 06.6**	**0.0**
	27nm,0.2s						
PR4R				*i* S	**Sn**	**02 30 46.7**	**+0.6**
	132nm,0.3s						
PR4R				*i* AML	AML	02 30 52.3	
	131nm,0.5s						
SVE	**Sverdlovsk**	**3.47**	**176**	*i* P	**Pg**	**02 30 22.5**	**+1.6**
	17nm,0.2s						
SVE				*i* S	**Sg**	**02 31 04.9**	**-1.0**
	36nm,0.4s						
SVE				*i* AML	AML	02 31 12.4	
	51nm,0.2s						
ARU	**Arti**	**3.95**	**193**	Pn	**Pn**	**02 30 17.9**	**+2.5**
	1.4nm,0.3s,baz=8.4,slow=7.6,SNR=8.9						
ARU				Sn	**Sn**	**02 31 06.7**	**+4.8**
	3.3nm,0.3s,baz=153,slow=22,SNR=5.9						
	2.7nm,0.3s						
ARU	**Arti**	**3.95**	**193**	*i* P	**Pb**	**02 30 22.8**	**-1.5**
	6.3nm,0.3s						
ARU				*i* S	**Sb**	**02 31 10.3**	**-2.0**
	12nm,0.4s						
ARU				*i* AML	AML	02 31 15.3	
	28nm,0.6s						
KIRV	**Kirov**	**5.74**	**257**	Pn	**Pn**	**02 30 42.1**	**+2.3**
	0.9nm,0.3s,baz=0.4,slow=23,SNR=1.9						
KIRV				Sn	**Sn**	**02 31 45.2**	**-0.6**
	1.3nm,0.3s,baz=265,slow=14,SNR=1.5						
KIRV				Lg	Lg	02 32 09.9	
	0.3nm,0.3s,baz=190,slow=22,SNR=1.6						
	2.9nm,0.4s						
BVAR	**Borovoye Array**	**9.19**	**138**	Pn	**Pn**	**02 31 29.6**	**+2.3**
	0.2nm,0.3s,baz=329,slow=15,SNR=52						
BVAR				Sn	**Sn**	**02 33 07.1**	**-3.7**
	0.1nm,0.3s,baz=328,slow=24,SNR=2.6						
	6.3nm,0.5s						
AKTO	**Aktyubinsk**	**9.94**	**188**	Pn	**Pn**	**02 31 38.5**	**+0.9**
	0.3nm,0.3s,baz=352,slow=9.2,SNR=4.3						
AKTO				Sn	**Sn**	**02 33 24.6**	**-4.6**
	0.1nm,0.3s,baz=242,slow=9.3,SNR=1.4						
AKTO				Lg	Lg	02 34 29.4	
	0.1nm,0.3s,baz=221,slow=14,SNR=1.4						
	0.9nm,0.4s						
BELG	**Belogornoye**	**10.51**	**227**	Pn	**Pn**	**02 31 45.3**	**0.0**
	9.0nm,0.6s,baz=306,slow=3.0,SNR=12						
BELG				Sn	**Sn**	**02 33 36.9**	**-6.2**
	0.8nm,0.3s,baz=320,slow=18,SNR=2.3						
BELG				Lg	Lg	02 34 46.4	
	0.5nm,0.3s,baz=328,slow=19,SNR=1.6						
KURBB	**Kurchatov Arra**	**14.17**	**125**	Pn	**Pn**	**02 32 34.8**	**-0.4**
	baz=322,slow=12,SNR=5.5						
	0.4nm,0.7s						
FINES	**FINESS Array B**	**16.53**	**289**	Pn	**Pn**	**02 33 03.6**	**-2.7**
	0.1nm,0.3s,baz=94,slow=16,SNR=5.2						
	0.3nm,0.3s						
ARCES	**ARCESS Array B**	**17.10**	**317**	P	**Pn**	**02 33 12.4**	**-1.1**
	0.2nm,0.3s,baz=100,slow=14,SNR=8.6						
	2.8nm,0.5s						
MKAR	**Makanchi Array**	**18.72**	**126**	P	**Pn**	**02 33 34.2**	**+0.5**
	0.1nm,0.3s,baz=333,slow=9.8,SNR=5.5						
	0.2nm,0.5s						
KBZ	**Khabaz**	**19.58**	**220**	P	**P**	**02 33 43.3**	**+0.6**
	0.2nm,0.3s,baz=27,slow=5.4,SNR=6.4						
	1.5nm,0.6s						
AKASG	**Malin Array Be**	**19.79**	**255**	P	**P**	**02 33 45.4**	**+0.5**
	0.5nm,0.5s,baz=45,slow=9.3,SNR=4.6						
HFS	**Hagfors**	**22.72**	**290**	P	**P**	**02 34 17.3**	**+0.9**
	2.6nm,0.9s,baz=77,slow=14,SNR=2.2						
	2.6nm,0.9s						
NOA	**NORSAR Array B**	**23.55**	**293**	P	**P**	**02 34 26.2**	**+1.2**
	0.6nm,0.8s,baz=70,slow=11,SNR=4.2						
NOA				LR	LR	02 44 46.7	
	comp=Z,15nm,18.3s,baz=255,slow=40						
	0.6nm,0.8s						
YKA	**Yellowknife Ar**	**57.48**	**357**	P	**P**	**02 39 03.5**	**+0.2**
	0.3nm,0.7s,baz=359,slow=8.0,SNR=7.0						
	0.3nm,0.7s						

*IDC **08** 02:41:01.1±1.1, 8°.95N×125°.96E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=75.6km s-min=22.0km az=73.0*
ISC 08 02:41:09.4±1.1, 8°.9N±0°.2×126°.0E±0°.5, h66km, n9, σ0s60/6, mb3.5/6, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**29.85**	**164**	P	**P**	**02 47 10.6**	**-0.1**
	0.3nm,0.5s,baz=347,slow=9.5,SNR=1.3						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**33.31**	**167**	P	**P**	**02 47 41.3**	**+0.2**
	0.2nm,0.3s,baz=348,slow=7.4,SNR=4.3						
	0.2nm,0.3s						
USRK	**Ussuriysk Ar.**	**35.52**	**7**	P	**P**	**02 48 00.1**	**+0.2**
	1.5nm,0.7s,baz=201,slow=5.9,SNR=4.4						
	1.5nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**40.60**	**72**	T	T	03 31 38.6	
	baz=262,slow=75,SNR=46						
H11S1	**WAKE ISLAND Hy**	**40.61**	**72**	T	T	03 31 41.3	
	baz=262,slow=75,SNR=39						
H11S2	**WAKE ISLAND Hy**	**40.61**	**72**	T	T	03 31 41.5	
	baz=262,slow=75,SNR=45						
MKAR	**Makanchi Array**	**52.92**	**324**	P	**P**	**02 50 19.2**	**+0.4**
	0.3nm,0.7s,baz=122,slow=5.9,SNR=4.3						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**57.01**	**326**	P	**P**	**02 50 48.6**	**+0.4**
	0.3nm,0.5s,baz=127,slow=6.9,SNR=3.8						
FINES	**FINESS Array B**	**86.92**	**332**	P	**P**	**02 53 46.1**	**-0.8**
	3.6nm,1.1s,baz=90,slow=4.2,SNR=5.0						

*MDD **08** 02:49:42.5±0.9, 36°.85N×3°.83E, h26km, Mb4.1/16, M_mb3.5/16, Error ellipse: s-maj=9.1km s-min=5.5km az=115.0*
ISC 08 02:49:41.7±3.4, 37°.1N±0°.1×3°.7E±0°.1, h10km, n21, σ0s99/28, 13C, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EIBI	**Ibiza**	**2.71**	**317**	P	**Pn**	**02 50 25.7**	**+0.4**
EIBI				⇑*iVmb_V*		02 50 32.5	
	371nm,SNR=1.4						
EIBI				S	**Sn**	**02 50 57.8**	**-0.4**
EIBI	**Ibiza**	**2.71**	**317**	Pn	**Pn**	**02 50 25.8**	**+0.4**
EIBI				Sn	**Sn**	**02 50 58.1**	**0.0**
ETOS	**Mallorca**	**2.78**	**345**	Pn	**Pn**	**02 50 26.6**	**+0.2**
ETOS				Sn	**Sn**	**02 50 58.6**	**-1.3**
ETOS	**Mallorca**	**2.78**	**345**	P	**Pn**	**02 50 26.5**	**+0.2**
ETOS				⇑*iVmb_V*		02 50 35.2	
	301nm,SNR=1.3						
ETOS				S	**Sn**	**02 50 58.4**	**-1.5**
EBEN2	**Beniarda presa**	**3.49**	**298**	P	**Pn**	**02 50 36.9**	**+0.8**
EBEN2				⇑*iVmb_V*		02 50 42.1	
	254nm,SNR=1.2						
CART	**Cartagena**	**3.81**	**279**	Pn	**Pn**	**02 50 39.6**	**-0.8**
EMUR	**La Murta**	**4.03**	**282**	Pn	**Pn**	**02 50 43.6**	**+0.2**
EMUR	**La Murta**	**4.03**	**282**	P	**Pn**	**02 50 43.6**	**+0.2**
EMUR				⇑*iVmb_V*		02 50 44.3	
	133nm,SNR=1.3						
EZAR	**Zarzadilla de**	**4.39**	**282**	P	**Pn**	**02 50 47.5**	**-1.0**
EZAR				⇑*iVmb_V*		02 50 50.7	
	146nm,SNR=1.6						
EVIV	**Cofrentes, Val**	**4.40**	**301**	P	**Pn**	**02 50 49.9**	**+1.3**
EVIV				⇑*iVmb_V*		02 50 50.3	
	210nm,SNR=1.6						
ETOB	**Tobarra**	**4.46**	**292**	Pn	**Pn**	**02 50 50.2**	**+0.8**
ETOB	**Tobarra**	**4.46**	**292**	P	**Pn**	**02 50 50.2**	**+0.8**
ETOB				⇑*iVmb_V*		02 50 54.4	
	138nm,SNR=1.4						
ETOB				S	**Sn**	**02 51 42.1**	**+0.7**
ECHE	**Chera**	**4.46**	**306**	Pn	**Pn**	**02 50 51.0**	**+1.5**
ECHE	**Chera**	**4.46**	**306**	P	**Pn**	**02 50 51.1**	**+1.5**
ECHE				⇑*iVmb_V*		02 50 54.4	
	145nm,SNR=1.1						
EMOS	**Mosqueruela**	**4.64**	**316**	P	**Pn**	**02 50 53.8**	**+1.7**
EMOS				⇑*iVmb_V*		02 50 57.8	
	100nm,SNR=0.7						
EMOS				S	**Sn**	**02 51 45.0**	**-1.2**
EPOB	**Poblet**	**4.74**	**335**	P	**Pn**	**02 50 53.4**	**+0.1**
EPOB				⇑*iVmb_V*		02 51 00.4	
	116nm,SNR=1.0						
EPOB				S	**Sn**	**02 51 47.0**	**-1.4**
EJON	**La Jonquera**	**5.40**	**353**	Pn	**Pn**	**02 51 03.6**	**+1.2**
EJON	**La Jonquera**	**5.40**	**353**	P	**Pn**	**02 51 03.5**	**+1.2**
EJON				⇑*iVmb_V*		02 51 04.7	
	235nm,SNR=1.5						
EQES	**Quesada**	**5.46**	**280**	P	**Pn**	**02 51 04.1**	**+0.9**
EQES				⇑*iVmb_V*		02 51 08.1	
	80nm,SNR=0.8						
PSIM	**Granatula de C**	**6.17**	**289**	P	**Pn**	**02 51 12.9**	**0.0**
PAB	**San Pablo**	**6.81**	**294**	P	**Pn**	**02 51 22.0**	**+0.2**
PAB				⇑*iVmb_V*		02 51 26.4	
	111nm,SNR=1.0						

IDC 08 03:05:16.5±9.0, 47°.29N×123°.37W, h0km, mbtmp3.1/1, ML2.7/1, Error ellipse: s-maj=123.7km s-min=88.8km az=80.0, Washington

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I56US	**NEWPORT INFRAS**	**4.32**	**75**	I	I	03 33 10.0	
	0.2nm,0.9s,baz=262,slow=313,SNR=1.9						
I57US	**PINON FLAT INF**	**14.63**	**157**	I	I	04 33 50.0	
	baz=344,slow=322,SNR=4.1						
YKA	**Yellowknife Ar**	**16.02**	**15**	Pn	Pn	03 08 57.8	-5.2
	baz=206,slow=11,SNR=6.9						
	0.3nm,0.6s						
I10CA	**LAC DU BONNET**	**18.23**	**71**	I	I	04 51 20.0	
	0.1nm,1.0s,baz=268,slow=330,SNR=5.8						
I18DK	**QAANAAQ INFRAS**	**36.68**	**17**	I	I	06 54 30.0	
	baz=246,slow=345,SNR=2.1						

*MOS **08** 03:10:38.9±0.9, 51°.27N×177°.90W, h47km, mb4.9/56, Error ellipse: s-maj=8.8km s-min=4.9km az=93.5*
*AEIC **08** 03:10:38.4±1.8, 51°.02N±0°.08×177°.81W±0°.06, h25km±5km, Error ellipse: s-maj=11.1km s-min=4.8km az=170.0*
*IDC **08** 03:10:40.4±1.9, 51°.28N×177°.95W, h46km±16km, mb4.1/34, mbtmp4.3/39, ML4.2/3, MS3.5/8, Error ellipse: s-maj=15.9km s-min=8.5km az=3.0*
*NEIC **08** 03:10:40.6±1.2, 51°.19N±0°.07×177°.81W±0°.04, h48km±6km, mb4.6/301, ML4.6/6, ML4.4(AEIC), Error ellipse: s-maj=10.5km s-min=1.5km az=162.0*
ISC 08 03:10:41.2±0.9, 51°.20N±0°.07×177°.87W±0°.03, h57km±7km, n777, σ1s08/680, mb4.6/214, MS3.5/6, 34C-40D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAFL	**Tanaga Flats**	**0.56**	**358**		**Pn**	**03 10 52.5**	**-1.1**
TAPA	**Tanaga Point A**	**0.62**	**3**		**Pn**	**03 10 53.3**	**-1.1**
TASE	**Tanaga Southea**	**0.65**	**351**		**Pn**	**03 10 54.1**	**-0.6**
KIMD	**Kanaga Island**	**0.69**	**35**		**Pn**	**03 10 53.4**	**-1.8**
KIWB	**Kanaga Island**	**0.79**	**34**		**Pn**	**03 10 55.3**	**-1.2**
GAEA	**Gareloi East**	**0.80**	**317**		**Pn**	**03 10 56.0**	**-0.6**
KIKV	**Kanaga Island**	**0.81**	**32**		**Pn**	**03 10 55.3**	**-1.4**
KICM	**Kanaga Island**	**0.83**	**30**		**Pn**	**03 10 56.1**	**-0.9**
GASW	**Gareloi Southw**	**0.85**	**314**		**Pn**	**03 10 56.5**	**-0.6**
KIRH	**Kanaga Island**	**0.85**	**34**		**Pn**	**03 10 56.0**	**-1.2**
GANO	**Gareloi North**	**0.85**	**317**		**Pn**	**03 10 56.5**	**-0.8**
ADK	**Adak**	**1.01**	**47**	Pn	**Pn**	**03 10 57.6**	**-1.6**
ADK				IAML		03 11 12.2	
	22μm,0.5s						
ADK				IAML		03 11 14.8	
	11μm,0.8s						
ADK	**Adak**	**1.01**	**47**	P	**Pn**	**03 10 57.5**	**-1.8**
ADK	**Adak**	**1.01**	**47**	P	**Pn**	**03 10 57.6**	**-1.6**
ADK						03 11 11.6	
ADAG	**Mount Adagdak**	**1.11**	**45**		**Pn**	**03 10 59.5**	**-1.2**
GSCK	**Great Sitkin C**	**1.34**	**52**		**Pn**	**03 11 02.4**	**-1.3**
GSMY	**Great Sitkin M**	**1.41**	**52**		**Pn**	**03 11 03.3**	**-1.4**
GSTR	**Great Sitkin T**	**1.44**	**51**		**Pn**	**03 11 04.1**	**-0.9**
CERB	**Semis' Cerberu**	**1.73**	**296**		**Pn**	**03 11 08.9**	**0.0**
CERB					**Sn**	**03 11 31.0**	**+1.2**
CEPE	**Semis' Perret**	**1.73**	**297**		**Pn**	**03 11 08.6**	**-0.3**
CESW	**Semis' Southwe**	**1.75**	**295**		**Pn**	**03 11 08.8**	**-0.5**
CEAP	**Semis' Anvil P**	**1.78**	**298**		**Pn**	**03 11 09.4**	**-0.2**
AMKA	**Amchitka**	**1.79**	**277**		**Pn**	**03 11 07.9**	**-1.8**
AMKA	**Amchitka**	**1.79**	**277**		**Sn**	**03 11 29.4**	**-1.8**
LSSE	**Little Sitkin**	**2.34**	**290**		**Pn**	**03 11 17.0**	**-0.3**
LSPA	**Little Sitkin**	**2.35**	**290**		**Pn**	**03 11 17.0**	**-0.4**
LSPA					**Sn**	**03 11 46.3**	**+1.3**
LSNW	**Little Sitkin**	**2.38**	**290**		**Pn**	**03 11 17.3**	**-0.5**
ATKA	**Atka Island**	**2.50**	**65**	Pn	**Pn**	**03 11 17.4**	**-2.0**
ATKA					IAML	03 11 52.3	
	comp=N,2μm,0.8s						
ATKA	**Atka Island**	**2.50**	**65**		**Sn**	**03 11 47.0**	**-1.6**
ATKA	**Atka Island**	**2.50**	**65**	P	**Pn**	**03 11 17.4**	**-2.0**
KOKL	**Mount Kliuchef**	**2.54**	**62**		**Pn**	**03 11 19.4**	**-0.7**
KOFP	**Korovin Flat P**	**2.58**	**64**		**Pn**	**03 11 19.4**	**-1.2**
KOSE	**Korovin Southe**	**2.63**	**63**		**Pn**	**03 11 20.9**	**-0.4**
CLES	**Cleveland East**	**5.19**	**69**		**Pn**	**03 11 55.7**	**-0.5**
CLES	**Cleveland East**	**5.19**	**69**	IAML		03 13 35.5	
	comp=E,630nm,1.6s						
SHEM	**Shemya Is, Ala**	**5.20**	**290**	P	**Pn**	**03 11 55.6**	**-0.7**
	comp=E,6.9nm,0.3s,baz=99,slow=21,SNR=1.8						
SHEM				S	**Sn**	**03 12 52.9**	**-2.0**
	comp=E,85nm,1.0s,baz=105,slow=19,SNR=1.3						
SHEM				LR	LR	03 14 04.7	
	comp=E,561nm,18.7s,baz=99,slow=40						
	comp=E,74nm,0.9s						
CLCO	**Concord Point,**	**5.28**	**69**		**Pn**	**03 11 57.1**	**-0.3**
NIKH	**Nikolski High**	**5.83**	**69**		**Sn**	**03 13 11.7**	**+1.2**
NIKH	**Nikolski High**	**5.83**	**69**	P	**Pn**	**03 12 04.6**	**-0.4**
NIKH	**Nikolski High**	**5.83**	**69**	P	**Pn**	**03 12 04.3**	**-0.7**
	baz=254,SNR=8.4						
OKFG	**Magazine Ridge**	**6.50**	**66**		**Pn**	**03 12 14.0**	**-0.2**
MAPS	**Pakushin South**	**7.16**	**64**		**Sn**	**03 13 46.1**	**+3.0**
MGOD	**Makushin Gods**	**7.20**	**65**		**Pn**	**03 12 23.4**	**-0.4**
P08K	**Saint George I**	**7.31**	**39**		**Pn**	**03 12 26.5**	**+1.3**
MNAT	**Makushin Natee**	**7.33**	**64**		**Pn**	**03 12 25.2**	**-0.4**
UNV	**Unalaska Valle**	**7.42**	**65**		**Pn**	**03 12 26.6**	**-0.2**
UNV	**Unalaska Valle**	**7.42**	**65**	P	**Pn**	**03 12 26.5**	**-0.2**
	baz=252						
ZRO	**Akutan Zero**	**7.79**	**64**		**Pn**	**03 12 32.1**	**+0.3**
AKUT	**Akutan**	**7.92**	**64**	P	**Pn**	**03 12 34.1**	**+0.5**
ISLZ	**Isanotski Laza**	**9.24**	**62**		**Pn**	**03 12 51.7**	**-0.1**
FALS	**False Pass**	**9.44**	**62**		**Pn**	**03 12 54.6**	**+0.2**
FALS	**False Pass**	**9.44**	**62**	P	**Pn**	**03 12 54.5**	**+0.1**
	baz=252,SNR=5.4						
SDPT	**Sand Point**	**11.21**	**61**	P	**Pn**	**03 13 16.4**	**-2.0**
SDPT	**Sand Point**	**11.21**	**61**	P	**Pn**	**03 13 16.2**	**-2.2**
	baz=255						
M11K	**Mekoryuk**	**11.29**	**31**	P	**Pn**	**03 13 22.4**	**+2.9**
	baz=220						
CNBA	**Chernabura Isl**	**11.59**	**65**	Pn	**Pn**	**03 13 20.2**	**-3.4**
CHNA	**Chernabura Isl**	**11.59**	**65**	P	**Pn**	**03 13 20.9**	**-2.7**
	baz=258						
M13K	**Dall Lake**	**12.29**	**36**	P	**Pn**	**03 13 35.7**	**+2.5**
	baz=227						
O14K	**Tigyukauivet M**	**12.42**	**43**	P	**Pn**	**03 13 36.8**	**+1.9**
	baz=236						
CHGN	**Chignik**	**12.58**	**58**	P	**Pn**	**03 13 36.5**	**-0.7**
	baz=253						
N14K	**Kuskokwak Cree**	**12.63**	**40**	P	**Pn**	**03 13 39.8**	**+2.1**
	baz=233						
O15K	**Ungalikthiuk R**	**13.01**	**45**		**Pn**	**03 13 42.8**	**-0.2**
O15K	**Ungalikthiuk R**	**13.01**	**45**	P	**Pn**	**03 13 43.2**	**+0.2**
	baz=239						
M14K	**Bethel**	**13.04**	**37**	P	**Pn**	**03 13 44.8**	**+1.5**
	baz=229,SNR=6.0						
L14K	**Kuka Creek**	**13.17**	**34**	P	**P**	**03 13 49.2**	**-4.2**
	baz=226						
N15K	**Kwethluk River**	**13.42**	**41**	P	**Pn**	**03 13 51.8**	**+3.1**
	baz=235						
M15K	**Kasigluk River**	**13.49**	**39**	P	**Pn**	**03 13 52.6**	**+3.1**
	baz=232						
P16K	**Nushagak River**	**13.77**	**48**	P	**Pn**	**03 13 55.3**	**+1.9**
	baz=243						
L15K	**Ungalak Mounta**	**13.82**	**34**	P	**P**	**03 13 57.2**	**-3.5**
	baz=227						
J14K	**Nanvaranak Lak**	**13.92**	**28**	P	**P**	**03 13 59.0**	**-2.7**
	baz=220						
O16K	**Kokwok River B**	**13.98**	**45**	P	**Pn**	**03 13 58.3**	**+2.1**
	baz=241						
N16K	**Nishlik Lake**	**14.14**	**42**	P	**Pn**	**03 14 00.1**	**+1.8**
	baz=237,SNR=6.6						
K15K	**Wolf Creek Mou**	**14.22**	**32**	Pn	**Pn**	**03 13 59.1**	**-0.3**
K15K	**Wolf Creek Mou**	**14.22**	**32**	P	**P**	**03 14 03.5**	**-1.7**
	baz=226						
Q16K	**King Salmon**	**14.26**	**50**	P	**Pn**	**03 14 00.4**	**+0.5**
	baz=247						
M16K	**Timber Creek**	**14.37**	**39**	Pn	**Pn**	**03 14 01.3**	**0.0**
M16K	**Timber Creek**	**14.37**	**39**	P	**P**	**03 14 03.8**	**-2.9**
	baz=235						
Q17K	**Contact Creek**	**14.49**	**52**	P	**Pn**	**03 14 01.8**	**-1.2**
	baz=250						
O17K	**Koliganek Bris**	**14.52**	**46**	P	**Pn**	**03 14 05.0**	**+1.8**
	baz=242						
P17K	**Kvichak River**	**14.57**	**48**	P	**Pn**	**03 14 04.9**	**+1.1**
	baz=245						
L16K	**Owhat River**	**14.57**	**37**	Pn	**Pn**	**03 14 03.9**	**-0.1**
L16K	**Owhat River**	**14.57**	**37**	P	**P**	**03 14 07.2**	**-1.9**
	baz=232						
N17K	**Nushagak Hills**	**14.84**	**43**	P	**P**	**03 14 09.5**	**-2.5**
	baz=240						
ANM	**Nome**	**14.91**	**21**	P	**Pn**	**03 14 10.0**	**+1.7**
	baz=212						
PETK	**Petropavlovsk-**	**15.10**	**287**	P	**Pn**	**03 14 09.9**	**-0.9**
	comp=E,6.4nm,1.0s,baz=70,slow=14,SNR=2.7						
M17K	**Holitna River**	**15.19**	**40**	Pn	**Pn**	**03 14 11.7**	**-0.2**
M17K				IAmb	IAmb	03 14 18.3	
	comp=Z,41nm,0.8s						
M17K	**Holitna River**	**15.19**	**40**	P	**P**	**03 14 14.8**	**-1.1**
	baz=236						
P18K	**Big Mountain,**	**15.22**	**49**	Pn	**Pn**	**03 14 11.6**	**-0.7**
P18K	**Big Mountain,**	**15.22**	**49**	P	**Pn**	**03 14 12.5**	**+0.1**
	baz=247						
J16K	**Anvik River**	**15.22**	**31**	P	**P**	**03 14 16.4**	**+0.1**
	baz=225						
L17K	**Donlin**	**15.28**	**37**	P	**P**	**

TTA	Tatalina	16.60	37	P	Pn	03 14 30.3	+0.4		
TTA				pmax	pmax				
	comp=Z,8.0nm,0.8s								
TTA	Tatalina	16.60	37	P	P	03 14 34.2	+2.6		
	baz=235,SNR=7.3								
H17K	Granite Mounta	16.63	27	P	P	03 14 32.9	+1.1		
	baz=222								
L19K	White Mountain	16.64	40	P	P	03 14 32.5	+0.5		
	baz=239								
J18K	Innoko River	16.66	34	P	P	03 14 33.3	+1.1		
	baz=232								
M19K	Big River Lodg	16.69	41	IAmb	IAmb	03 14 35.9			
	comp=Z,23nm,0.8s								
M19K	Big River Lodg	16.69	41	P	P	03 14 32.9	+0.4		
	baz=240								
O20K	Slope Mountain	16.70	48	P	P	03 14 31.7	-1.0		
	baz=248								
RSO	Redoubt South	16.78	47	P	P	03 14 33.5	-0.2		
G17K	Kiwalik Mounta	16.85	25	P	P	03 14 36.2	+2.0		
	baz=220								
CNPM	China Poot	17.18	51	P	Pn	03 14 36.4	-0.7		
CNPM				IAmb	IAmb	03 14 47.7			
	comp=Z,24nm,0.8s								
L20K	Farewell, AK	17.19	40	P	P	03 14 37.6	-0.5		
	baz=240								
M20K	Styx River	17.21	42	P	P	03 14 38.0	-0.3		
	baz=242								
H18K	Honhosa River	17.24	28	P	P	03 14 40.2	+1.7		
	baz=225								
N20K	Mount Spurr	17.32	45	P	P	03 14 40.3	+0.8		
	baz=246,SNR=11								
J19K	Poorman	17.37	34	P	P	03 14 40.9	+0.9		
	baz=232,SNR=7.9								
BRLK	Bradley Lake	17.42	50	P	Pn	03 14 38.4	-1.6		
F17K	Baldwin Pennin	17.44	23	P	P	03 14 42.7	+2.1		
	baz=216								
BRSE	Bradley Lake S	17.48	50	P	Pn	03 14 40.2	-0.6		
	baz=252								
K20K	Telida	17.57	37	P	P	03 14 42.9	+0.7		
	baz=237								
CAPN	Captain Cook N	17.63	47	P	P	03 14 43.5	+0.7		
	baz=249								
G18K	Tagagawik	17.69	26	P	P	03 14 45.5	+2.0		
	baz=223								
SKT	Skwentna	17.93	43	P	P	03 14 47.1	+0.9		
SKT				IAmb	IAmb	03 14 58.1			
	comp=Z,28nm,0.8s								
SKT	Skwentna	17.93	43	P	P	03 14 46.7	+0.4		
	baz=245,SNR=16								
F18K	Selawik	17.96	24	P	Pn	03 14 48.5	+2.0		
	baz=219								
J20K	Nowinta River	18.00	35	P	Pn	03 14 48.3	+1.2		
	baz=234								
SUA	Susitna One	18.07	45	P	P	03 14 47.6	-0.2		
SUA	Susitna One	18.07	45	P	Pn	03 14 48.7	+0.7		
	baz=247								
PPLA	Purkeypile	18.07	40	P	Pn	03 14 49.1	+1.0		
	baz=241								
D17K	Noatak River	18.08	18	P	Pn	03 14 49.6	+1.6		
	baz=211,SNR=5.7								
H19K	Roundabout Mou	18.08	29	P	Pn	03 14 49.1	+1.0		
	baz=227								
C16K	Lisburne Hills	18.18	15	P	Pn	03 14 50.4	+1.1		
	baz=206								
O22K	Cooper Landing	18.20	48	P	P	03 14 48.3	-0.8		
	baz=251								
SEW	Seward	18.21	50	P	P	03 14 47.8	-1.5		
	baz=253								
I20K	Naaghedeneel	18.25	33	P	Pn	03 14 49.9	-0.2		
	baz=232								
G19K	Purcell Mounta	18.32	27	P	Pn	03 14 54.4	+3.5		
	baz=225,SNR=5.6								
CAST	Castle Rocks	18.37	38		Pn	03 14 51.9	+0.4		
CAST	Castle Rocks	18.37	38	P	Pn	03 14 52.8	+1.3		
	baz=240,SNR=14								
E18K	Tukpahlearik C	18.38	21	P	Pn	03 14 52.1	+0.5		
	baz=216,SNR=5.5								
RC01	Rabbit Creek A	18.39	47	P	Pn	03 14 51.7	-0.1		
	baz=250								
M22K	Willow	18.45	44	P	P	03 14 51.9	0.0		
	baz=247								
CHUM	Lake Minchumin	18.52	37	P	Pn	03 14 53.7	+0.4		
	baz=238								
H20K	Anotleneega Mo	18.55	31	P	Pn	03 14 53.2	-0.6		
	baz=230								
BILL	Bilibino	18.59	341		Pn	03 14 55.0	+0.9		
BILL	Bilibino	18.59	341	*i* P	Pn	03 14 54.5	+0.4		
BILL				pmax	pmax				
	comp=Z,9.0nm,0.6s								
F19K	Shaleruckik Mo	18.63	25	P	Pn	03 14 55.1	+0.5		
	baz=222								
CUT	Chulitna	18.65	42	IAmb	IAmb	03 15 19.6			
	comp=Z,55nm,1.4s								
CUT	Chulitna	18.65	42	P	P	03 14 53.9	-0.1		
	baz=245,SNR=5.6								
C17K	DeLong Mountai	18.74	17	P	Pn	03 14 56.4	+0.4		
	baz=210								
PMR	Palmer	18.84	45	P	Pn	03 14 57.0	-0.1		
	baz=249								
KTH	Kantishna Hill	18.89	39	IAmb	IAmb	03 14 58.5			
	comp=Z,34nm,0.9s								
KNK	Knik Glacier	19.08	46	IAmb	IAmb	03 15 08.0			
	comp=Z,19nm,0.7s								
KNK	Knik Glacier	19.08	46	P	Pn	03 14 59.5	-0.6		
	baz=250								
TRF	Thorofare Moun	19.10	39	P	Pn	03 14 59.8	-0.7		
	baz=242								
BPAW	Bear Paw Mtn.	19.13	37	P	Pn	03 15 00.5	-0.2		
	baz=240,SNR=5.4								
E19K	Redstone River	19.23	24	P	Pn	03 15 01.6	-0.2		
	baz=222,SNR=14								
C18K	Utukok River	19.27	19	P	Pn	03 15 01.7	-0.6		
	baz=213,SNR=10								
SML	Sawmill	19.27	45	IAmb	IAmb	03 15 46.2			
	comp=Z,31nm,1.4s								
SML	Sawmill	19.27	45	P	Pn	03 15 01.4	-0.9		
	baz=250								
H21K	Melozitna Rive	19.34	32	IAmb	IAmb	03 15 04.1			
	comp=Z,21nm,1.1s								
H21K	Melozitna Rive	19.34	32	P	Pn	03 15 03.0	-0.1		
	baz=233,SNR=13								
I21K	Tanana	19.34	34	IAmb	IAmb	03 15 03.6			
	comp=Z,22nm,0.8s								
I21K	Tanana	19.34	34	P	Pn	03 15 03.0	-0.2		
	baz=236								
F20K	Avaraart Lake	19.34	27	P	Pn	03 15 02.9	-0.2		
	baz=225,SNR=6.3								
MA2	Magadan	19.52	308	P	P	03 15 03.1	-0.5		
	comp=Z,0.1nm,0.3s,baz=93,slow=7.9,SNR=5.7								
MA2				LR	LR	03 22 14.2			
	comp=Z,113nm,19.3s,baz=106,slow=36 comp=Z,5.0nm,0.7s								
M23K	Glacier View	19.53	46	P	Pn	03 15 04.8	-0.6		
	baz=250,SNR=5.3								
RND	Reindeer	19.66	40	IAmb	IAmb	03 15 04.9			
	comp=Z,15nm,0.5s								
RND	Reindeer	19.66	40	P	P	03 15 04.2	-0.9		
MLY	Manley	19.70	35	IAmb	IAmb	03 15 07.1			
	comp=Z,15nm,0.8s								
MLY	Manley	19.70	35	P	P	03 15 06.1	+0.5		
	baz=238,SNR=19								
SCM	Sheep Creek Mo	19.73	46	IAmb	IAmb	03 15 40.6			
	comp=Z,23nm,1.0s								
SCM	Sheep Creek Mo	19.73	46	P	P	03 15 06.6	+0.7		
	baz=251								
BWN	Browne	19.75	38	P	P	03 15 06.8	+0.7		
BWN				IAmb	IAmb	03 15 40.6			
	comp=Z,21nm,0.8s								
B18K	Kokolik River	19.76	17	P	Pn	03 15 06.9	-1.1		
	baz=211								
MCK	McKinley	19.76	40	P	P	03 15 05.2	-1.0		
MCK	McKinley	19.76	40	P	P	03 15 05.4	-0.9		
	baz=244,SNR=6.8								
SEY	Seymchan	19.77	318	*i* P	P	03 15 06.7	+0.4		
SEY				pmax	pmax				
	comp=Z,10.0nm,1.0s								
SEY	Seymchan	19.77	318	P	P	03 15 05.8	-0.4		
	comp=Z,0.1nm,0.3s,baz=143,slow=10,SNR=6.1								
SEY				LR	LR	03 22 35.3			
	comp=Z,158nm,19.0s,baz=262,slow=36 comp=Z,1.7nm,0.8s								
D19K	Kuna River	19.81	22	IAmb	IAmb	03 15 08.4			
	comp=Z,36nm,1.2s								
D19K	Kuna River	19.81	22	P	Pn	03 15 07.5	-1.1		
	baz=219								
H22K	Ishtalitna Cre	19.95	32	P	Pn	03 15 09.3	-1.1		
	baz=235,SNR=11								
C19K	Lookout Ridge	19.97	19	P	Pn	03 15 09.9	-0.7		
	baz=215								
E20K	Nigu River	20.09	24	P	Pn	03 15 11.4	-0.6		
	baz=222								
NEA2	Nenana	20.10	37	P	P	03 15 09.5	-0.4		
NEA2	Nenana	20.10	37	P	P	03 15 09.4	-0.5		
	baz=242								
F21K	Alatna River	20.11	28	P	Pn	03 15 11.2	-1.0		
	baz=229								
KLU	Klutina	20.26	47	P	P	03 15 11.8	0.0		
KLU				IAmb	IAmb	03 15 22.0			
	comp=Z,19nm,1.0s								
KLU	Klutina	20.26	47	P	Pn	03 15 13.9	-0.3		
	baz=254								
I23K	Minto, Yukon-K	20.27	36	IAmb	IAmb	03 15 16.5			
	comp=Z,11nm,0.7s								
I23K	Minto, Yukon-K	20.27	36	P	P	03 15 11.9	+0.3		
	baz=240,SNR=7.0								
D20K	Etivluk River	20.33	22	P	Pn	03 15 13.6	-1.2		
	baz=221								
M24K	Tolsona, Glenn	20.33	45	IAmb	IAmb	03 15 43.0			
	comp=Z,22nm,0.8s								
M24K	Tolsona, Glenn	20.33	45	P	Pn	03 15 16.1	+1.3		
	baz=252								
WRH	Wood River Hil	20.42	38	P	P	03 15 12.3	-1.0		
G22K	Bettles	20.52	30	P	P	03 15 15.1	+0.7		
	baz=232,SNR=8.9								
MDM	Murphy Dome	20.59	37		P	03 15 15.3	0.0		
COLA	College	20.70	37	*i* P	P	03 15 16.5	+0.2		
COLA				pmax	pmax				
	comp=Z,6.0nm,0.9s								
BMRM	Bremner River	20.75	49	P	Pn	03 15 19.1	-0.7		
	baz=256								
E21K	Killik River	20.80	25	P	P	03 15 16.9	-0.5		
	baz=226								
HDA	Harding Lake	20.84	39	P	P	03 15 19.0	+1.1		
	baz=245,SNR=5.9								
G23K	Bananza Creek	20.87	31	IAmb	IAmb	03 15 21.6			
	comp=Z,19nm,1.1s								
G23K	Bananza Creek	20.87	31	P	P	03 15 19.2	+1.0		
	baz=235								
HARP	HAARP	20.87	45	P	Pn	03 15 20.4	-0.9		
	baz=252								
N25K	Chitina, Valde	20.91	47	IAmb	IAmb	03 15 31.5			
	comp=Z,12nm,0.7s								
N25K	Chitina, Valde	20.91	47	P	P	03 15 19.9	+1.3		
	baz=255								
PAX	Paxson	20.91	43	P	P	03 15 18.4	-0.4		
	baz=250,SNR=7.0								
POKR	Poker Plat Res	20.97	37	P	P	03 15 18.7	-0.5		
	baz=243								
ILAR	Eielson Array	21.02	38	P	P	03 15 18.8	-1.0		
	comp=Z,1.1nm,0.5s,baz=237,slow=8.4,SNR=26								
ILAR				PcP	PcP	03 19 24.1	-0.3		
	comp=Z,0.6nm,0.6s,baz=291,slow=3.2,SNR=6.2								
ILAR				ScP	ScP	03 22 58.5	+2.6		
	comp=Z,0.3nm,0.6s,baz=279,slow=3.5,SNR=5.3 comp=Z,1.1nm,0.5s								
C21K	Knifeblade Rid	21.10	23	P	P	03 15 21.4	+0.7		
	baz=223,SNR=13								
COLD	Coldfoot	21.11	30	P	P	03 15 21.6	+0.9		
	baz=234,SNR=8.6								
H24K	Noodor Dome	21.14	35	P	P	03 15 21.4	+0.2		
	baz=240								
E22K	Anaktuvuk Pass	21.19	27	P	P	03 15 22.1	+0.5		
	baz=230								
B20K	Meade River	21.21	20	P	P	03 15 21.8	0.0		
	baz=218								
GLB	Gilahina Butte	21.23	48	P	P	03 15 21.6	-0.5		
GLB				IAmb	IAmb	03 15 34.8			
	comp=Z,17nm,1.0s								
RIDG	Independent Ri	21.44	42	P	P	03 15 22.6	-1.8		
	baz=249								
D22K	Ayikyak River	21.44	25	IAmb	IAmb	03 15 25.8			
	comp=Z,16nm,1.0s								
D22K	Ayikyak River	21.44	25	P	P	03 15 25.0	+0.7		
	baz=227,SNR=12								
B21K	Ikpikpuk River	21.49	22	IAmb	IAmb	03 15 25.6			
	comp=Z,16nm,0.9s								
B21K	Ikpikpuk River	21.49	22	P	P	03 15 25.4	+0.8		
	baz=222								
J25K	Salcha River,	21.55	39	P	P	03 15 24.1	-1.5		
	baz=247								
MCARA	McCarthy VSAT	21.59	48	P	P	03 15 25.9	0.0		
MCARA				IAmb	IAmb	03 15 38.9			
	comp=Z,15nm,0.8s								
MENT	Mentasta	21.67	44	P	P	03 15 30.3	+3.5		
G24K	Hadweenzic Riv	21.72	33	IAmb	IAmb	03 15 30.3			
	comp=Z,21nm,1.1s								
G24K	Hadweenzic Riv	21.72	33	P	P	03 15 27.5	+0.2		
	baz=239								
E23K	Chandalar	21.79	29	P	P	03 15 28.5	+0.5		
	baz=233								
M26K	Nabesna, AK	21.84	46	P	P	03 15 29.3	+0.7		
	baz=255								
L26K	Log Cabin Wild	21.85	44	IAmb	IAmb	03 15 30.5			
	comp=Z,12nm,0.5s								
L26K	Log Cabin Wild	21.85	44	P	P	03 15 28.3	-0.4		
	baz=253,SNR=9.2								
PRP	Porcupine Dome	21.86	37	P	P	03 15 28.2	-0.7		
	baz=244								
SCRK	Sand Creek	21.88	41	P	P	03 15 27.5	-1.6		
	baz=250,SNR=12								
F24K	Squaw Lake	22.02	31	IAmb	IAmb	03 15 32.3			
	comp=Z,18nm,0.8s								
F24K	Squaw Lake	22.02	31	P	P	03 15 30.9	+0.5		
	baz=237								
D23K	Nanushuk River	22.04	26	P	P	03 15 30.6	-0.1		
	baz=230,SNR=16								
H25L	Birch Creek	22.09	35	P	P	03 15 30.9	-0.3		
	baz=242								
G25K	Bearman Lake	22.23	34	P	P	03 15 33.0	+0.4		
	baz=233								
J26L	Joseph Creek	22.23	40	IAmb	IAmb	03 15 36.5			
	comp=Z,8.2nm,0.6s								
J26L	Joseph Creek	22.23	40	P	P	03 15 32.0	-0.9		
	baz=249								
B22K	Teshekpuk Lake	22.30	22	IAmb	IAmb	03 15 51.6			
	comp=Z,24nm,1.5s								
B22K	Teshekpuk Lake	22.30	22	P	P	03 15 32.7	-0.7		
	baz=223								
M27K	Edge Creek, AK	22.34	46	IAmb	IAmb	03 15 35.7			
	comp=Z,12nm,0.8s								
M27K	Edge Creek, AK	22.34	46	P	P	03 15 34.4	+0.4		
	baz=256								
A21K	Barrow	22.37	18	P	P	03 15 32.9	-1.2		
	baz=217								
L27K	Beaver Creek,	22.53	44	P	P	03 15 34.8	-1.2		
	baz=255								
C23K	Itkillik River	22.63	24	IAmb	IAmb	03 15 37.4			
	comp=Z,14nm,0.8s								
C23K	Itkillik River	22.63	24	P	P	03 15 36.9	0.0		
	baz=228								
D24K	Happy Valley	22.68	27	IAmb	IAmb	03 15 37.8			
	comp=Z,11nm,0.6s								
D24K	Happy Valley	22.68	27	P	P	03 15 37.6	+0.1		
	baz=232								
I26K	Coal Creek Min	22.69	38	P	P	03 15 35.9	-1.7		
	baz=248								
K27K	Chicken	22.70	42	IAmb	IAmb	03 15 38.2			
	comp=Z,18nm,1.3s								
K27K	Chicken	22.70	42	P	P	03 15 37.1	-0.6		
	baz=252								
F25K	Christian Rive	22.79	32	P	P	03 15 38.9	+0.2		
	baz=240								
BVCY	Beaver Creek	22.81	46	P	P	03 15 38.6	-0.3		
	baz=257,SNR=8.4								
YUK3	Moose Creek	22.87	48	P	P	03 15 38.5	-1.3		
	baz=259								
C24K	Franklin Bluff	23.07	26	P	P	03 15 41.0	-0.4		
	baz=231,SNR=11								
PNL	Peninsula	23.11	54	P	P	03 15 39.1	-3.0		
	baz=265								
YUK8	Steele Glacier	23.11	49	P	P	03 15 41.7	-0.6		
	baz=261								
G26K	Porcupine Rive	23.12	34	P	P	03 15 41.8	-0.2		
	baz=244								
EGAK	Eagle	23.30	40	P	P	03 15 42.0	-1.8		
	baz=252,SNR=8.5								
F26K	Sheenjek River	23.34	32	P	P	03 15 44.0	-0.1		
	baz=242								
I27K	Kandik River	23.39	38	P	P	03 15 43.0	-1.7		
	baz=249								
D25K	Kavik River	23.49	28	P	P	03 15 45.5	0.0		
	baz=235,SNR=6.2								
YUK4	Talbot Arm	23.66	49	P	P	03 15 46.7	-0.7		
	baz=262								
DAWY	Dawson	23.84	43	P	P	03 15 46.5	-2.3		
	baz=255,SNR=9.5								
M29M	Somme Creek	23.91	47	P	P	03 15 47.9	-1.7		
	baz=260								
I28M	Miner Creek	24.00	39	IAmb	IAmb	03 15 50.4			
	comp=Z,12nm,0.8s								
I28M	Miner Creek	24.00	39	P	P	03 15 48.8	-1.6		
	baz=252,SNR=14								
L29M	L29M	24.18	45	P	P	03 15 51.0	-0.9		
	baz=259,SNR=6.2								
C26K	Camden Bay	24.25	27	P	P	03 15 53.4	+1.0		
	baz=236								
K29M	Barlow Dome	24.59	44	P	P	03 15 55.0	-0.8		
	baz=258,SNR=33								
F28M	Old Crow	24.78	34	IAmb	IAmb	03 15 58.1			
	comp=Z,23nm,1.5s								
F28M	Old Crow	24.78	34	P	P	03 15 57.2	-0.1		
	baz=247,SNR=10								
H29M	Whitestone	24.86	38	P	P	03 15 56.6	-1.4		
	baz=252								
J30M	Hart River	25.26	42	IAmb	IAmb	03 16 02.9			
	comp=Z,7.7nm,0.7s								
J30M	Hart River	25.26	42	P	P	03 16 01.1	-0.7		
	baz=258								
I30M	Mount Dempster	25.38	41	IAmb	IAmb	03 16 03.5			
	comp=Z,8.9nm,0.7s								
I30M	Mount Dempster	25.38	41	P	P	03 16 01.4	-1.4		
	baz=256,SNR=14								
EPYK	Eagle Plains	25.54	38	IAmb	IAmb	03 16 03.5			
	comp=Z,6.2nm,0.6s								
EPYK	Eagle Plains	25.54	38	P	P	03 16 00.6	-3.6		
	baz=254								
E29M	Blow River	25.77	33	P	P	03 16 06.4	+0.2		
	baz=248								
D28M	Stokes Point	25.85	31	P	P	03 16 08.0	+1.1		
	baz=245								
G30M	tAoh Zraii Nji	25.90	37	P	P	03 16 06.2	-1.3		
	baz=253								
F30M	Barrier River	26.25	35	P	P	03 16 09.7	-0.9		
	baz=252								
H31M	Peel River	26.34	40	P	P	03 16 09.2	-2.2		
	baz=257								
G31M	Satah River	26.63	37	P	P	03 16 12.6	-1.3		
	baz=255								
F31M	Tsiigehtchic	26.96	36	P	P	03 16 15.4	-1.5		
	baz=255								
INK	Inuvik	27.27	35	P	P	03 16 19.1	-0.5		
INK	Inuvik	27.27	35	P	P	03 16 19.2	-0.5		
	baz=253								
INK	Inuvik	27.27	35	PcP	PcP	03 19 37.8	0.0		
	comp=Z,0.5nm,0.4s,baz=344,slow=4.5,SNR=4.3								
ASAJ	Asahikawa	27.29	271	LR	LR	03 25 56.7			
	comp=Z,52nm,21.6s,baz=152,slow=34								
YAK	Yakutsk	29.98	312	LR	LR	03 29 22.8			
	comp=Z,60nm,18.5s,baz=156,slow=38								
BBB	Bella Bella	30.37	68	P	P	03 16 49.1	+1.7		
	comp=Z,8.5nm,1.0s,baz=220,slow=7.9,SNR=2.3 comp=Z,8.5nm,1.0s								
WRGLY	Wrigley	30.82	46	IAmb	IAmb	03 16 52.0			
	comp=Z,6.6nm,0.7s								
WRGLY	Wrigley	30.82	46	P	P	03 16 50.4	-0.8		
	baz=273								
C36M	Paulatuk	30.85	34	P	P	03 16 50.5	-0.9		
	baz=262								
A36M	Sachs Harbour	30.96	29	P	P	03 16 52.8	+0.4		
A36M				IAmb	IAmb	03 16 53.7			
	comp=Z,13nm,0.8s								
A36M				PcP	PcP	03 19 47.5	+0.5		
A36M	Sachs Harbour	30.96	29	P	P	03 16 52.4	+0.1		
	baz=256,SNR=12								
KLR	Kul'dur	31.79	287	*ce*P	P	03 17 00.1	+0.2		
KLR				pmax	pmax				
	comp=Z,13nm,1.3s								
KLR	Kul'dur	31.79	287	LR	LR	03 30 30.2			
	comp=Z,95nm,19.4s,baz=39,slow=38								
ZEA	Zeya	32.83	296	*eP*	P	03 17 07.3	-1.7		
ZEA				pmax	pmax				
	comp=Z,10.0nm,0.8s								
H11N2	WAKE ISLAND Hy	33.62	207	T	T	03 53 53.4			
	baz=18,slow=76,SNR=476								
H11N3	WAKE ISLAND Hy	33.63	207	T	T	03 53 10.1			
	SNR=408								
H11N1	WAKE ISLAND Hy	33.64	207	T	T	03 53 55.3			
	baz=16,slow=76,SNR=360								
USRK	Ussuriysk Ar.	33.90	278	P	P	03 17 18.4	+0.1		
	comp=Z,1.5nm,0.5s,baz=61,slow=8.8,SNR=6.9 comp=Z,1.5nm,0.5s								
HEH	HeiHe	33.98	290	*eP*	P	03 17 17.8	-1.2		
HEH				pmax	pmax				
	comp=Z,9.0nm,1.2s								
HEH				pmax	pmax				
	comp=Z,170nm,3.9s								
MJAR	Matsushiro Arr	34.34	262	LR	LR	03 29 24.3			
	comp=Z,94nm,20.3s,baz=59,slow=33								
H11S1	WAKE ISLAND Hy	34.84	206	T	T	03 54 41.4			
	baz=17,slow=76,SNR=529								
H11S2	WAKE ISLAND Hy	34.85	206	T	T	03 54 41.6			
	baz=17,slow=76,SNR=226								
H11S3	WAKE ISLAND Hy	34.86	206	T	T	03 54 36.1			
	baz=17,slow=76,SNR=246								
YKA	Yellowknife Ar	34.93	46	*i* P	P	03 17 26.3	-0.8		
YKA				pmax	pmax				
	comp=Z,3.0nm,0.8s								
YKA	Yellowknife Ar	34.93	46	P	P	03 17 26.4	-0.7		
	comp=Z,2.3nm,0.8s,baz=284,slow=8.4,SNR=28								
YKA				PcP	PcP	03 19 59.0	+0.7		
	comp=Z,0.8nm,0.8s,baz=289,slow=2.7,SNR=8.2 comp=Z,2.3nm,0.8s								
GNW	Green Mountain	35.31	74	IAmb	IAmb	03 17 33.3			
	comp=Z,7.0nm,0.8s								
D05A	Enumclaw	35.99	74		pP	03 17 47.7	-2.2		
LON	Longmire	36.30	74	IAmb	IAmb	03 17 41.9			
	comp=Z,5.7nm,0.8s								
LTY	Liberty	36.75	73	IAmb	IAmb	03 17 44.9			
	comp=Z,11nm,1.4s								
H04A	Detroit Lake	37.08	78	IAmb	IAmb	03 17 48.5			
	comp=Z,17nm,1.2s								
MXC	Moxie City	37.30	74	IAmb	IAmb	03 17 60.0			
	comp=Z,10nm,1.3s								
G05A	Wamic	37.34	76	IAmb	IAmb	03 17 50.2			
	comp=Z,13nm,0.9s								
I04A	Tendick Farm,	37.40	79	IAmb	IAmb	03 17 55.9			
	comp=Z,7.2nm,0.9s								
E07A	Sunnyside	37.58	74	IAmb	IAmb	03 18 02.4			
	comp=Z,6.2nm,0.8s								
HAWA	Hanford	37.85	74	IAmb	IAmb	03 17 54.3			
	comp=Z,13nm,0.8s								
F07A	Phinny Hill Vi	37.86	75	IAmb	IAmb	03 17 54.5			
	comp=Z,12nm,0.9s								
D08A	Wollman Farm,	37.90	72	IAmb	IAmb	03

comp=Z,7.9nm,0.9s
HLID Hailey 42.42 75 P P 03 18 30.9 +0.7
baz=303,SNR=12
EGMT Eagleton 42.82 66 IAmb IAmb 03 18 35.1
comp=Z,6.0nm,0.7s
EGMT Eagleton 42.82 66 P P 03 18 33.5 +0.3
baz=301,SNR=5.1
BOZ Bozeman (W) 42.99 70 IAmb IAmb 03 18 36.0
comp=Z,8.1nm,0.8s
BOZ Bozeman (W) 42.99 70 P P 03 18 35.3 +0.5
baz=302,SNR=6.4
NVAR Mina Array Bea 42.99 83 P P 03 18 35.6 +0.6
comp=Z,1.1nm,0.8s,baz=294,slow=7.4,SNR=8.5
NVAR PcP PcP 03 20 25.4 +1.0
comp=Z,1.1nm,0.7s,baz=288,slow=2.7,SNR=6.1
comp=Z,1.1nm,0.8s
ELK Elko 43.52 78 P P 03 18 39.8 +0.5
comp=Z,2.6nm,0.7s,baz=299,slow=7.2,SNR=12
ELK LR LR 03 35 36.7
comp=Z,61nm,19.5s,baz=341,slow=34
comp=Z,2.6nm,0.7s
YHL Hebgen Lake 43.66 71 IAmb IAmb 03 18 42.5
comp=Z,13nm,1.1s
YNR Norris Junctio 44.03 71 IAmb IAmb 03 18 45.4
comp=Z,11nm,1.0s
YFT Old Faithful 44.09 71 IAmb IAmb 03 18 46.3
comp=Z,6.3nm,0.9s
H17A Grant Village 44.27 71 IAmb IAmb 03 18 48.2
comp=Z,14nm,1.1s
H17A Grant Village 44.27 71 P P 03 18 47.6 +2.4
baz=304,SNR=7.2
LKWY Lake 44.28 71 IAmb IAmb 03 18 48.0
comp=Z,7.4nm,0.8s
CWC Cottonwood Cre 44.36 85 P P 03 18 46.6 +0.7
baz=309
FLWY Flagg Ranch 44.37 72 IAmb IAmb 03 18 48.2
comp=Z,6.6nm,0.9s
HVU Hansel Valley 44.43 76 IAmb IAmb 03 18 48.1
comp=Z,9.3nm,0.6s
RLMT Red Lodge 44.65 70 IAmb IAmb 03 18 50.0
comp=Z,8.0nm,0.9s
RLMT Red Lodge 44.65 70 P P 03 18 49.3 +1.1
baz=303
ARVC Arvin 44.72 87 P P 03 18 47.4 -1.2
baz=310
R11B Troy Canyon, C 44.74 81 P P 03 18 49.5 +0.5
R11B Troy Canyon, C 44.74 81 P P 03 18 48.6 -0.3
baz=308
NRIK Noril'sk 44.86 330 P P 03 18 49.1 -0.1
NRIK IAmb IAmb 03 18 50.3
comp=Z,11nm,1.4s
NRIK Noril'sk 44.86 330 *e*P P 03 18 47.6 -1.6
NRIK pmax pmax
comp=Z,3.0nm,0.6s
NRIK Noril'sk 44.86 330 P P 03 18 49.1 -0.1
comp=Z,2.7nm,0.6s,baz=88,slow=6.7,SNR=5.2
comp=Z,2.7nm,0.6s
MPMC Manual Prospec 44.97 85 P P 03 18 51.0 +0.2
baz=309
DUG Dugway, Tooele 45.34 78 IAmb IAmb 03 18 55.5
comp=Z,14nm,1.1s
DUG Dugway, Tooele 45.34 78 P P 03 18 54.2 +0.6
DUG Dugway, Tooele 45.34 78 P P 03 18 54.7 +1.1
baz=307,SNR=9.2
LAO LASA Array 45.56 66 IAmb IAmb 03 18 56.9
comp=Z,8.1nm,0.6s
LAO LASA Array 45.56 66 P P 03 18 55.1 -0.1
baz=303,SNR=5.7
PRN Pahroc Range 45.65 82 IAmb IAmb 03 19 17.0
comp=Z,7.2nm,0.9s
TCUT Toone Canyon 45.65 76 IAmb IAmb 03 18 57.9
comp=Z,8.2nm,0.6s
CTU Camp Tracy 45.69 76 IAmb IAmb 03 18 58.0
comp=Z,6.2nm,0.9s
PSUT Pine Spring 45.70 80 IAmb IAmb 03 19 15.8
comp=Z,3.7nm,0.8s
DGMT Dagmar 45.74 63 IAmb IAmb 03 18 57.6
comp=Z,24nm,1.3s
DGMT Dagmar 45.74 63 P P 03 18 56.7 +0.1
baz=302
BW06 Boulder Array 45.80 73 P P 03 18 58.0 +0.6
baz=305,SNR=17
PD31 Pinedale Array 45.81 73 IAmb IAmb 03 18 58.8
comp=Z,12nm,0.8s
PDAR Pinedale Array 45.81 73 P P 03 18 57.9 +0.5
comp=Z,9.2nm,0.7s,baz=306,slow=3.7,SNR=100
comp=Z,9.2nm,0.7s
GSC Goldstone, Bar 45.88 86 P P 03 18 57.4 -0.5
baz=310
NLU North Lily Min 45.94 77 P P 03 18 59.1 +0.6
NLU IAmb IAmb 03 18 59.7
comp=Z,4.2nm,0.8s
BFSC Mount Baldy Ra 46.03 87 P P 03 18 58.8 -0.3
baz=311
MPU Maple Canyon 46.17 77 IAmb IAmb 03 19 01.8
comp=Z,3.9nm,0.7s
BSUT Blindstream Ca 46.39 76 IAmb IAmb 03 19 05.1
comp=Z,3.9nm,0.7s
MURC Murrieta 46.74 88 P P 03 19 05.1 +0.6
baz=311
ULN Ulaanbaatar 46.86 297 P P 03 19 06.2 +0.7
ULN IAmb IAmb 03 19 07.1
comp=Z,3.6nm,0.7s
ULN Ulaanbaatar 46.86 297 *ce*P P 03 19 06.8 +1.3
ULN pmax pmax
comp=Z,3.0nm,0.8s
GMRC Granite Mounta 46.93 85 P P 03 19 06.5 +0.3
baz=310
LCMT Little Creek M 47.02 81 IAmb IAmb 03 19 27.3
comp=Z,5.5nm,1.2s
P17A Butcher Ranch, 47.05 77 IAmb IAmb 03 19 08.7
comp=Z,6.1nm,0.7s
Q16A Castle Valley 47.12 78 IAmb IAmb 03 19 09.6
comp=Z,6.3nm,1.0s
SONM Songino Array 47.25 297 P P 03 19 09.5 +1.0
SONM IAmb IAmb 03 19 10.4
comp=Z,4.9nm,1.1s
SONM Songino Array 47.25 297 *e*P P 03 19 09.8 +1.3
SONM pmax pmax
comp=Z,2.0nm,0.4s
SONM Songino Array 47.25 297 P P 03 19 09.2 +0.7
comp=Z,1.9nm,0.4s,baz=53,slow=7.1,SNR=20
SONM PcP PcP 03 20 39.3 +0.5
comp=Z,0.5nm,0.5s,baz=80,slow=2.5,SNR=2.3
comp=Z,1.9nm,0.4s
P18A Preston Nutter 47.25 77 IAmb IAmb 03 19 10.6
comp=Z,8.9nm,0.9s
KNB Kanab 47.28 81 P P 03 19 09.5 +0.6
KNB IAmb IAmb 03 19 30.7
comp=Z,4.3nm,0.9s
KNB Kanab 47.28 81 P P 03 19 09.5 +0.6
KNB pmax pmax
comp=Z,4.0nm,0.9s
SRU San Rafael Swe 47.40 77 IAmb IAmb 03 19 12.3
comp=Z,16nm,1.2s
K22A Casper 47.69 71 IAmb IAmb 03 19 12.8
comp=Z,7.4nm,0.8s
K22A Casper 47.69 71 P P 03 19 11.8 -0.2
baz=306
U15A North Rim 47.98 81 IAmb IAmb 03 19 16.3
comp=Z,8.7nm,1.2s
HMU Henry Mountain 47.99 79 IAmb IAmb 03 19 16.2
comp=Z,11nm,1.0s
O20A White River Ci 48.17 75 P P 03 19 16.3 +0.5
baz=308,SNR=17
RSSD Black Hills 48.29 68 P P 03 19 16.6 -0.1
RSSD IAmb IAmb 03 19 17.2
comp=Z,5.0nm,0.5s
RSSD Black Hills 48.29 68 P P 03 19 16.6 -0.1
RSSD pmax pmax
comp=Z,5.0nm,0.5s
RSSD Black Hills 48.29 68 P P 03 19 16.6 -0.1
baz=306
HHC Hu-ho-hao-te 48.30 287 *e*P P 03 19 18.4 +1.7
HHC pmax pmax
comp=Z,7.0nm,0.5s
HHC pmax pmax
comp=Z,67nm,4.1s
N23A Red Feather La 49.09 72 P P 03 19 23.2 +0.2
baz=308
WUAZ Wupatki 49.14 82 IAmb IAmb 03 19 24.8
comp=Z,4.5nm,1.0s
WUAZ Wupatki 49.14 82 P P 03 19 23.1 -0.1
baz=310
ULM Lac du Bonnet 49.29 57 P P 03 19 23.6 -0.5
comp=Z,1.8nm,0.5s,baz=305,slow=6.2,SNR=8.5
comp=Z,1.8nm,0.5s
SMCO Snowmass 49.53 75 IAmb IAmb 03 19 27.3
comp=Z,4.8nm,0.8s
MVCO Mesa Verde 49.83 78 IAmb IAmb 03 19 41.4
comp=Z,10nm,1.4s
MVCO Mesa Verde 49.83 78 P P 03 19 28.6 -0.1
baz=310
ISCO Idaho Springs 49.96 73 IAmb IAmb 03 19 31.4
comp=Z,3.5nm,0.9s
ISCO Idaho Springs 49.96 73 P P 03 19 30.4 +0.8
ISCO Idaho Springs 49.96 73 P P 03 19 29.8 +0.2
baz=308
KBS Kingsbay 50.00 358 *e*P P 03 19 29.4 +0.3
AGMN Agassiz Nation 50.43 59 P P 03 19 32.0 -0.7
baz=306
SPITS Spitsbergen Ar 50.59 356 P P 03 19 33.1 -0.4
comp=Z,2.3nm,0.5s,baz=40,slow=6.6,SNR=14
SPITS PcP PcP 03 20 51.1 +0.7
comp=Z,6.8nm,0.9s,baz=39,slow=5.5,SNR=1.2
comp=Z,2.3nm,0.5s
Q24A Divide 50.77 74 P P 03 19 36.2 +0.4
baz=309
SUSD Miller 51.02 65 P P 03 19 37.3 +0.1
baz=307,SNR=5.0
SDCO Great Sand Dun 51.33 75 IAmb IAmb 03 19 41.6
comp=Z,3.7nm,0.8s
SDCO Great Sand Dun 51.33 75 P P 03 19 40.1 +0.2
baz=310,SNR=6.5
TUC Tucson 51.62 84 P P 03 19 42.6 +0.7
TUC Tucson 51.62 84 P P 03 19 41.9 0.0
baz=312
KSCO Kaye Shedlock' 52.25 72 P P 03 19 46.6 0.0
baz=310
T25A Trinidad 52.38 75 IAmb IAmb 03 19 50.0
comp=Z,14nm,1.0s
T25A Trinidad 52.38 75 P P 03 19 49.0 +1.3
baz=310,SNR=8.0
ANMO Albuquerque 52.56 79 P P 03 19 49.0 0.0
baz=311
ANMO Albuquerque 52.56 79 P P 03 19 49.9 +1.0
comp=Z,0.6nm,0.5s,baz=333,slow=2.3,SNR=3.9
comp=Z,0.6nm,0.5s
ECSD EROS Data Cent 52.79 64 IAmb IAmb 03 19 50.2
comp=Z,5.3nm,0.8s
EYMN Ely 52.98 57 P P 03 19 51.4 -0.2
baz=308
SUMG Summit 53.33 14 P P 03 19 54.4 0.0
121A Cookes Peak, D 53.34 82 P P 03 19 54.8 0.0
baz=312
RTBA Rita Blanca 53.85 75 IAmb IAmb 03 19 59.9
comp=Z,15nm,1.3s
SPMN Marine on St. 53.97 61 P P 03 19 57.8 -1.2
baz=309
CBKS Cedar Bluff 54.11 71 P P 03 20 00.3 +0.2
baz=310
ZALV Zalesovo Beam 54.58 314 PcP PcP 03 21 06.6 +0.9
comp=Z,5.4nm,0.6s,baz=39,slow=3.9,SNR=19
MNTX Comudas Mount 55.40 81 P P 03 20 10.1 +0.6
baz=313,SNR=5.1
MSTX Muleshoe 55.47 77 IAmb IAmb 03 20 11.8
comp=Z,5.2nm,0.7s
MSTX Muleshoe 55.47 77 P P 03 20 10.4 +0.3
baz=312
AMTX Amarillo 55.53 76 P P 03 20 09.9 -0.6
baz=312
KSU1 Kansas State U 55.76 68 P P 03 20 11.0 -1.0
baz=311,SNR=6.4
LZH Lanzhou 55.99 287 *e*P P 03 20 15.9 +2.0
LZH pP pP 03 20 22.4 -6.2
LZH pmax pmax
comp=Z,18nm,1.3s
DGZ Jazzator, Alta 56.11 309 *i* P P 03 20 13.7 -0.8
DGZ pmax pmax
comp=Z,2.0nm,0.8s
GTA Gaotai 56.18 292 *e*P P 03 20 15.9 +0.8
GTA pP pP 03 20 18.6 -11
GTA pmax pmax
comp=Z,12nm,1.1s
SMWD Samnorwood 56.25 74 IAmb IAmb 03 20 16.8
comp=Z,9.5nm,0.7s
DKNS Dickens 56.81 76 IAmb IAmb 03 20 20.6
comp=Z,8.3nm,0.9s
POST Post 56.87 77 IAmb IAmb 03 20 21.2
comp=Z,8.5nm,0.9s
JFWS Jewell Farm 56.87 61 P P 03 20 18.7 -1.2
baz=311
MNHN Monahans 57.27 79 IAmb IAmb 03 20 23.5
comp=Z,8.9nm,1.1s
WMOK Wichita Mounta 57.38 74 P P 03 20 23.9 +0.3
WMOK IAmb IAmb 03 20 24.8
comp=Z,6.0nm,0.9s
WMOK Wichita Mounta 57.38 74 P P 03 20 23.9 +0.3
WMOK pmax pmax
comp=Z,6.0nm,1.0s
WMOK Wichita Mounta 57.38 74 P P 03 20 23.0 -0.7
baz=313
TX31 Lajitas Ar. Si 58.10 82 IAmb IAmb 03 20 39.7
comp=Z,6.8nm,1.5s
TXAR Lajitas Array 58.10 82 P P 03 20 28.9 +0.1
comp=Z,0.9nm,0.5s,baz=306,slow=5.7,SNR=13
TXAR PcP PcP 03 21 20.7 +0.7
comp=Z,1.5nm,0.9s,baz=285,slow=2.4,SNR=3.5
comp=Z,0.9nm,0.5s
ABTX Abilene, Hawle 58.30 76 P P 03 20 29.8 -0.3
baz=314
ARA0 ARCESS Array S 58.37 351 *e*P P 03 20 29.5 -0.5
ARCES ARCESS Array B 58.37 351 *e*P P 03 20 29.3 -0.7
ARCES pmax pmax
comp=Z,3.0nm,0.4s
ARCES ARCESS Array B 58.37 351 P P 03 20 29.1 -0.9
comp=Z,2.5nm,0.4s,baz=28,slow=8.1,SNR=30
ARCES PcP PcP 03 21 20.1 -0.1
comp=Z,3.5nm,1.0s,baz=23,slow=6.6,SNR=5.7
comp=Z,2.5nm,0.4s
TUL3 Leonard 58.38 71 P P 03 20 30.2 -0.4
baz=313,SNR=5.5
OZNA Ozona 58.57 79 IAmb IAmb 03 20 32.3
comp=Z,6.7nm,1.1s
RLO Rose Lookout 58.66 70 IAmb IAmb 03 20 32.7
comp=Z,9.0nm,0.6s
JETT Jettan, Norway 58.81 353 *e*P P 03 20 32.9 -0.2
U38A Gravette 58.85 69 IAmb IAmb 03 20 33.8
comp=Z,5.7nm,0.7s
TRO Tromso 58.85 353 *e*P P 03 20 33.5 +0.2
HDIL Hopedale 58.98 63 P P 03 20 34.4 -0.3
HDIL Hopedale 58.98 63 P P 03 20 34.6 -0.1
baz=313
KTK1 Kautokeino 59.10 351 *e*P P 03 20 35.0 0.0
HHAR Hobbs 59.22 69 P P 03 20 35.5 -0.9
HHAR IAmb IAmb 03 20 36.3
comp=Z,6.8nm,0.7s
P43A Skaggs, Pawnee 59.48 64 P P 03 20 37.4 -0.7
KURK Kurchatov 59.57 314 P P 03 20 37.8 -0.7
KURK IAmb IAmb 03 20 39.8
comp=Z,2.6nm,0.8s
KURK Kurchatov 59.57 314 *ce*P P 03 20 37.4 -1.1
KURK pmax pmax
comp=Z,1.0nm,0.8s
CCM Cathedral Cave 59.58 66 P P 03 20 37.8 -1.0
CCM IAmb IAmb 03 20 40.6
comp=Z,5.5nm,0.6s
CCM Cathedral Cave 59.58 66 P P 03 20 37.8 -1.0
CCM pmax pmax
comp=Z,6.0nm,0.6s
CCM Cathedral Cave 59.58 66 P P 03 20 37.5 -1.3
baz=313
MGMO Mountain Grove 59.60 67 P P 03 20 38.2 -0.8
KURBB Kurchatov Arra 59.67 314 P P 03 20 38.6 -0.6
comp=Z,2.2nm,0.5s,baz=40,slow=6.9,SNR=8.8
KURBB PcP PcP 03 21 25.9 +0.2
comp=Z,1.4nm,0.9s,baz=49,slow=4.0,SNR=4.2
SCHQ Schefferville 59.78 39 P P 03 20 39.2 -0.8
comp=Z,1.7nm,0.7s,baz=253,slow=8.3,SNR=3.8
comp=Z,1.7nm,0.7s
WMQ Urumqi 59.93 303 *e*P P 03 20 44.6 +3.4
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ pmax pmax
comp=Z,74nm,4.5s
WHTX Lake Whitney, 60.08 75 P P 03 20 42.6 +0.3
baz=314
FVM French Village 60.10 66 P P 03 20 42.1 -0.3
FVM French Village 60.10 66 P P 03 20 42.1 -0.3
FVM pmax pmax
comp=Z,11nm,0.6s
SFIN Lafayette 60.32 62 P P 03 20 44.2 +0.3
SFIN Lafayette 60.32 62 P P 03 20 44.5 +0.7
baz=314,SNR=5.2
T42A Van Buren 60.37 67 P P 03 20 43.0 -1.2
T42A IAmb IAmb 03 20 51.8
comp=Z,8.9nm,1.4s
FCAR Ozark Folk Cen 60.56 68 P P 03 20 44.7 -0.8
MK31 Makanchi Array 60.60 309 P P 03 20 44.6 -1.1
MK31 Makanchi Array 60.60 309 *ce*P P 03 20 46.3 +0.6
MKAR Makanchi Array 60.60 309 P P 03 20 44.5 -1.3
comp=Z,1.2nm,0.5s,baz=47,slow=6.7,SNR=20
MKAR PcP PcP 03 21 29.8 +0.2
comp=Z,1.2nm,0.6s,baz=54,slow=4.3,SNR=8.0
comp=Z,1.2nm,0.5s
MIAR Mount Ida 60.63 70 P P 03 20 45.9 -0.2
MIAR Mount Ida 60.63 70 P P 03 20 45.9 -0.2
MIAR pmax pmax
comp=Z,26nm,1.5s
MIAR Mount Ida 60.63 70 P P 03 20 45.9 -0.2
baz=314
MAKZ Makanchi 60.74 309 P P 03 20 46.0 -0.7
MAKZ Makanchi 60.74 309 P P 03 20 46.0 -0.7
MAKZ pmax pmax
comp=Z,1.0nm,0.6s
STEI Steigen 60.79 354 *e*P P 03 20 46.4 -0.1
P46A Rosedale 60.79 62 P P 03 20 46.6 -0.4
OLIL Olney 60.90 64 P P 03 20 47.1 -0.7
PBMO Poplar Bluff 60.93 67 P P 03 20 47.7 -0.3
GOMU GeErMu 61.26 293 P P 03 20 51.2 +0.4
GOMU pP pP 03 20 58.5 -7.1
GOMU sP pwP 03 21 02.1 -5.9
GOMU pmax pmax
comp=Z,18nm,0.8s
FAUS Fauske 61.33 354 *e*P P 03 20 49.1 -1.2
PARMO Parma 61.40 66 P P 03 20 50.9 -0.3
BVAR Borovoye Array 61.40 320 P P 03 20 50.5 -0.5
comp=Z,4.2nm,0.4s,baz=53,slow=7.4,SNR=37
BVAR PcP PcP 03 21 33.0 +0.3
comp=Z,1.0nm,0.4s,baz=62,slow=2.5,SNR=4.1
comp=Z,4.2nm,0.4s
BRVK Borovoye 61.42 320 P P 03 20 51.0 -0.2
BRVK IAmb IAmb 03 20 51.7
comp=Z,3.1nm,0.5s
BRVK Borovoye 61.42 320 *ce*P P 03 20 51.5 +0.4
BRVK pmax pmax
comp=Z,7.0nm,2.5s
833A Chaparral WMA, 61.47 80 P P 03 20 51.7 -0.1
baz=315
O48B Farmland 61.48 60 P P 03 20 51.5 -0.3
O48B Farmland 61.48 60 P P 03 20 51.2 -0.5
baz=314,SNR=7.4
USIN University of 61.68 64 P P 03 20 53.3 +0.2
P48A Milroy 61.88 61 P P 03 20 54.4 0.0
P49A Miami Univ. Ec 62.22 61 P P 03 20 56.7 0.0
P49A Miami Univ. Ec 62.22 61 P P 03 20 56.6 -0.2
baz=315,SNR=6.3
WCI Wyandotte Cave 62.27 63 P P 03 20 57.1 0.0
baz=315
N51A Ashland 62.52 58 P P 03 20 58.9 +0.2
ACSO Alum Creek Sta 62.68 59 P P 03 20 59.4 -0.3
baz=315
T47A Sharon Grove 62.68 64 P P 03 21 00.1 +0.3
WVT Waverly 62.88 65 P P 03 21 01.2 +0.1
WVT Waverly 62.88 65 P P 03 21 00.5 -0.6
baz=315
M53A WI Miller and 63.05 57 P P 03 21 02.4 +0.2
baz=316
ARU Arti 63.06 329 *d i*P P 03 21 02.7 +0.7
ARU 03 21 35.3
ARU S S 03 29 29.5 +1.5
ARU SS SS 03 33 29.8 -3.7
ARU pmax pmax
comp=Z,21nm,1.8s
OXF Oxford 63.11 68 P P 03 21 02.5 -0.1
OXF Oxford 63.11 68 P P 03 21 02.5 -0.1
OXF pmax pmax
comp=Z,60nm,1.2s
OXF Oxford 63.11 68 P P 03 21 02.9 +0.2
baz=315,SNR=5.5
R50A Paris 63.32 62 P P 03 21 04.5 +0.5
Q51A Peebles 63.33 60 P P 03 21 04.7 +0.5
O52A Adamsville 63.38 59 P P 03 21 04.5 +0.1
P52A Corning 63.56 59 P P 03 21 05.3 -0.3
baz=316
O53A New Philadelph 63.61 58 P P 03 21 05.3 -0.6
baz=316
SSFO Shawnee State 63.65 60 P P 03 21 06.8 +0.5
CLTN Cedars of Leba 63.76 65 P P 03 21 07.2 +0.3
T50A Nancy 63.94 63 P P 03 21 08.4 +0.2
T50A IAmb IAmb 03 21 27.3
comp=Z,13nm,1.2s
PZH PanZhiHua 63.95 280 P P 03 21 08.9 +0.4
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,110nm,4.5s
KIRV Kirov 63.99 335 *ce*P P 03 21 09.6 +1.6
VBMS Vicksburg 64.08 70 P P 03 21 08.1 -1.0
baz=316
L56A Greenwood 64.16 54 P P 03 21 09.9 +0.3
R53A Hurricane 64.59 60 P P 03 21 13.0 +0.6
BINY Binghamton 64.92 53 P P 03 21 14.5 0.0
baz=317
W50A Signal Mountai 64.97 65 P P 03 21 15.0 0.0
TZTN Tazewell 65.00 62 P P 03 21 15.1 0.0
baz=316
SSPA Standing Stone 65.09 56 P P 03 21 15.9 +0.3
baz=317
FPAL Fort Paine 65.28 65 P P 03 21 16.9 -0.1
S54A Dingess, Beckl 65.33 60 P P 03 21 17.2 0.0
LRAL Lakeview Retre 65.56 67 P P 03 21 18.6 -0.1
baz=316
U54A Nelsons Funny 65.97 61 P P 03 21 22.0 +0.6
FINES FINESS Array B 66.09 348 P P 03 21 21.0 -0.6
comp=Z,2.1nm,0.7s,baz=23,slow=7.7,SNR=10
FINES PcP PcP 03 21 51.5 -0.2
comp=Z,1.2nm,0.5s,baz=330,slow=2.6,SNR=3.9
comp=Z,2.1nm,0.7s
BLA Blacksburg 66.24 60 P P 03 21 22.8 -0.3
baz=317
BG3 Lake Jocassee 66.47 63 P P 03 21 25.0 +0.4
Y52A Lilburn 66.65 65 P P 03 21 25.8 0.0
250A Grady 66.75 68 P P 03 21 26.2 -0.2
V55A Taylorsville 66.80 61 P P 03 21 27.1 +0.4
BOOM Boomskoye usch 66.84 309 P P 03 21 27.0 0.0
BOOM IAmb IAmb 03 21 28.1
comp=Z,2.4nm,0.6s
BOOM Boomskoye usch 66.84 309 P P 03 21 27.0 0.0
BOOM pmax pmax
comp=Z,2.0nm,0.6s
AKN Aaknes 66.90 358 *e*P P 03 21 27.3 +0.4
DOMB Dombas 66.97 356 *e*P P 03 21 26.9 -0.5
KMSC Kings Mountain 67.25 62 P P 03 21 29.8 +0.2
KMSC Kings Mountain 67.25 62 P P 03 21 30.1 +0.6
baz=317,SNR=7.6
GOGA Godfrey 67.32 65 P P 03 21 29.7 -0.2
GOGA Godfrey 67.32 65 P P 03 21 29.7 -0.2
GOGA pmax pmax
comp=Z,18nm,1.0s
GOGA Godfrey 67.32 65 P P 03 21 29.6 -0.3
baz=317
HODGE Hodges 67.40 63 P P 03 21 30.7 +0.2
AAK Ala-Archa 67.42 310 P P 03 21 30.8 +0.1
AAK IAmb IAmb 03 21 31.6
comp=Z,2.2nm,0.6s
AAK Ala-Archa 67.42 310 *ce*P P 03 21 31.7 +1.0
AAK pmax pmax
comp=Z,3.0nm,1.0s
NB2 NORSAR Subarra 67.88 355 P P 03 21 32.8 -0.3
comp=Z,0.3nm,0.4s,baz=5.9,slow=6.5
NB2 NORSAR Subarra 67.88 355 P P 03 21 32.8 -0.3
baz=5.9,slow=6.5
NOA NORSAR Array B 67.88 355 P P 03 21 32.9 -0.2
comp=Z,0.7nm,0.4s,baz=3.7,slow=7.3,SNR=20
comp=Z,0.7nm,0.4s
NC602 NORSAR Array S 68.16 355 *e*P P 03 21 34.8 0.0
NORES NORESS Array B 68.16 355 P P 03 21 34.4 -0.4
SKAR Skarslia 68.36 357 *e*P P 03 21 36.4 +0.2
ABKAR Akbulak array 68.43 323 P P 03 21 36.5 -0.2
ABKAR Akbulak array 68.43 323 P P 03 21 36.5 -0.2
ABKAR IAmb IAmb 03 21 37.6
comp=Z,10.0nm,1.2s
HFS Hagfors 68.63 354 P P 03 21 37.2 -0.5
comp=Z,2.2nm,0.5s,baz=20,slow=7.0,SNR=21
comp=Z,2.2nm,0.5s
VSU Vasula 68.87 346 *ce*P P 03 21 39.5 +0.3
VSU pmax pmax
comp=Z,41nm,2.5s
KK31 Karatay Array 68.94 313 P P 03 21 39.4 -0.6

KK31 IAmb IAmb 03 21 40.4
comp=Z,3.1nm,0.5s
KK31 Karatay Array 68.94 313 P **P** **03 21 39.4 -0.6**
KK31 pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 68.94 313 P **P** **03 21 39.4 -0.6**
KKAR IAmb IAmb 03 21 40.4
comp=Z,3.1nm,0.5s
KKAR Karatay Array 68.94 313 P **P** **03 21 39.4 -0.6**
KKAR pmax pmax
comp=Z,3.0nm,0.5s
CNNC Cliffs of the 69.07 60 P **P** **03 21 41.4 +0.5**
baz=318
KSH Kashi 69.07 307 P **P** **03 21 44.7 +3.7**
KSH pmax pmax
comp=Z,10.0nm,0.6s
KONO Kongsberg 69.34 356 *eP* **P** **03 21 42.9 +0.7**
CRAI Chiangrai 69.40 277 P **P** **03 21 42.4 -0.8**
CRAI IAmb IAmb 03 21 44.1
comp=Z,5.1nm,0.6s
NHSC New Hope 69.40 63 P **P** **03 21 43.7 +0.8**
baz=318
BELG Belogornoye 69.88 332 *i* P **P** **03 21 43.3 -2.3**
BELG pmax pmax
comp=Z,2.0nm,0.9s
OBN Obninsk 70.24 340 *eP* **P** **03 21 45.3 -2.4**
OBN *i* 03 22 06.5
OBN *i* 03 24 29.8
OBN pmax pmax
comp=Z,5.0nm,0.5s
BTK Batken 71.17 311 P **P** **03 21 54.0 +0.2**
CMAR Chiang Mai Arr 71.61 277 *eP* **P** **03 21 57.2 +0.6**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 71.61 277 P **P** **03 21 56.9 +0.2**
comp=Z,1.2nm,0.3s,baz=32,slow=6.2,SNR=7.3
comp=Z,1.2nm,0.3s
LPSR Galich'ya Gora 72.02 337 *eP* **P** **03 21 56.8 -1.8**
LPSR pmax pmax
comp=Z,9.0nm,0.8s
GAR Garm 72.24 311 P **P** **03 22 00.7 +0.4**
DWPF Disney Wildern 72.42 67 P **P** **03 22 02.0 +0.7**
baz=319
MNK Minsk 72.49 345 *i* P **P** **03 22 01.1 -0.2**
MNK *i* *PP **PcP** **03 22 20.1 +1.3**
MNK *i* 03 24 43.8
MNK *i* PPP PPP 03 26 27.9
MNK *i* S **S** **03 31 17.7 -3.0**
MNK *i* *SS **SKSac** **03 31 55.4 -5.4**
MNK *i* SS **SS** **03 36 00.3 +1.4**
MNK *i* SSS SSS 03 39 18.3
MNK pmax pmax
comp=Z,5.0nm,0.8s
MNK pmax pmax
comp=N,3.0nm,0.8s
MNK MLR MLR
comp=N,69nm,17.0s
MNK MLR MLR
comp=Z,52nm,16.0s
MNK MLR MLR
comp=E,21nm,13.0s
VRH Novokhopyorsk 72.59 335 *eP* **P** **03 22 00.1 -1.9**
VRH pmax pmax
comp=Z,10.0nm,1.0s
CHGR Chuyangaron 73.07 311 P **P** **03 22 04.7 -0.5**
CHGR IAmb IAmb 03 22 07.5
comp=Z,12nm,0.8s
CHGR Chuyangaron 73.07 311 P **P** **03 22 04.7 -0.5**
CHGR pmax pmax
comp=Z,12nm,0.8s
SIMJ Simiganj 73.14 311 P **P** **03 22 05.8 +0.2**
SIMJ IAmb IAmb 03 22 06.5
comp=Z,6.7nm,1.1s
VSR Storozhevoye 73.24 337 *eP* **P** **03 22 04.2 -1.6**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VORD Divnogorie 73.44 337 *eP* **P** **03 22 05.5 -1.5**
VORD pmax pmax
comp=Z,10.0nm,1.0s
EKA Eskdalemuir Ar 73.75 3 P **P** **03 22 08.7 0.0**
comp=Z,1.4nm,0.5s,baz=350,slow=4.1,SNR=12
comp=Z,1.4nm,0.5s
AKASG Malin Array Be 75.90 343 *eP* **P** **03 22 21.2 0.0**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 75.90 343 P **P** **03 22 20.9 -0.4**
comp=Z,3.3nm,0.6s,baz=19,slow=5.5,SNR=18
comp=Z,3.3nm,0.6s
AKBB Malin Array Si 75.90 343 P **P** **03 22 20.1 -1.1**
AKBB IAmb IAmb 03 22 22.2
comp=Z,8.2nm,0.7s
AKBB Malin Array Si 75.90 343 *ceP* **P** **03 22 19.9 -1.3**
AKBB pmax pmax
comp=Z,8.0nm,0.7s
KIEV Kiev 75.91 343 ⇓P **P** **03 22 21.9 +0.7**
KIEV Kiev 75.91 343 P **P** **03 22 20.0 -1.2**
KIEV IAmb IAmb 03 22 22.2
comp=Z,7.4nm,0.7s
KIEV Kiev 75.91 343 ⇓P **P** **03 22 21.9 +0.7**
KBL Kabul 76.41 309 P **P** **03 22 24.2 -0.5**
KBL IAmb IAmb 03 22 25.9
comp=Z,6.3nm,0.7s
KBL Kabul 76.41 309 P **P** **03 22 24.2 -0.5**
KBL pmax pmax
comp=Z,6.0nm,0.7s
HORU Horodok 77.83 344 P **P** **03 22 32.1 -0.1**
KWP Kalwaria Pacla 78.02 346 P **P** **03 22 34.2 +1.0**
KWP Kalwaria Pacla 78.02 346 P **P** **03 22 34.2 +1.0**
KWP pmax pmax
comp=Z,36nm,1.3s
DPC Dobruska-Polom 78.11 351 P **P** **03 22 33.0 -0.7**
STHS Stebnicka Huta 78.44 347 *eP* **P** **03 22 38.1 +2.6**
STHS Stebnicka Huta 78.44 347 *eP* **P** **03 22 38.1 +2.6**
MEM Membach 78.52 357 *dP* **P** **03 22 35.7 -0.2**
comp=Z,7.1nm,1.0s
SORM Soroca 78.52 342 ⇑P **P** **03 22 36.6 +0.6**
SORM Soroca 78.52 342 ⇑P **P** **03 22 36.6 +0.6**
BTNL Ternell 78.53 357 *dP* **P** **03 22 36.9 +0.8**
BSTI Sart Tilman 78.55 358 *dP* **P** **03 22 36.6 +0.5**
GEYT Alibeck 78.61 318 P **P** **03 22 36.7 0.0**
GEYT IAmb IAmb 03 22 38.0
comp=Z,5.1nm,0.8s
GEYT Alibeck 78.61 318 P **P** **03 22 36.7 0.0**
GEYT pmax pmax
comp=Z,5.0nm,0.9s
GEYT Alibeck 78.61 318 P **P** **03 22 36.6 -0.1**
comp=Z,3.5nm,0.6s,baz=35,slow=6.0,SNR=9.6
comp=Z,3.5nm,0.6s
BCLA Clavier 78.72 358 *dP* **P** **03 22 37.0 0.0**
comp=Z,4.7nm,1.1s
KOLS Kolonicke sedl 78.77 347 *eP* **P** **03 22 37.3 -0.1**
KOLS pmax pmax
comp=Z,7.0nm,1.3s
KOLS Kolonicke sedl 78.77 347 *eP* **P** **03 22 37.2 -0.1**
BMRD Maredsous 78.85 358 *dP* **P** **03 22 38.1 +0.4**
KIV Kislovodsk 78.91 331 ⇓P **P** **03 22 38.7 +0.4**
KIV Kislovodsk 78.91 331 P **P** **03 22 38.5 +0.2**
KIV IAmb IAmb 03 22 39.6
comp=Z,12nm,0.9s
KIV Kislovodsk 78.91 331 *eP* **P** **03 22 39.0 +0.7**
KIV pmax pmax
comp=Z,10.0nm,1.0s
CRVS Cervenica-Dubn 78.91 347 *eP* **P** **03 22 37.8 -0.3**
CRVS Cervenica-Dubn 78.91 347 *eP* **P** **03 22 37.8 -0.3**
KSV Kosov 78.93 345 P **P** **03 22 38.1 -0.2**
LANS Liptovska Anna 78.94 349 *eP* **P** **03 22 39.3 +1.0**
LANS pmax pmax
comp=Z,3.0nm,0.9s
LANS Liptovska Anna 78.94 349 *eP* **P** **03 22 39.3 +1.0**
RCHB Rochefort 78.99 358 *dP* **P** **03 22 38.9 +0.4**
KBZ Khabaz 79.05 331 *ceP* **P** **03 22 38.8 -0.1**
KBZ pmax pmax
comp=Z,9.0nm,0.9s
KBZ Khabaz 79.05 331 P **P** **03 22 39.3 +0.4**
comp=Z,6.8nm,0.8s,baz=65,slow=4.3,SNR=17
comp=Z,6.8nm,0.8s
BAIF Baives 79.10 359 *eP* **P** **03 22 39.1 0.0**
BAIF pmax pmax
comp=Z,16nm,1.3s
BUR08 Bucovina Ar. S 79.56 344 P **P** **03 22 42.4 +0.6**
BUR08 IAmb IAmb 03 22 43.6
comp=Z,5.9nm,0.8s
KHC Kasperske Hory 79.57 352 *ceP* **P** **03 22 42.7 +0.9**
KHC pmax pmax
comp=Z,18nm,2.5s

BURAR Bucovina Array 79.59 344 ⇑P **P** **03 22 42.8 +0.9**
BURAR Bucovina Array 79.59 344 P **P** **03 22 42.6 +0.7**
BURAR IAmb IAmb 03 22 43.6
comp=Z,8.5nm,0.8s
BURAR Bucovina Array 79.59 344 ⇑P **P** **03 22 42.8 +0.9**
MILM Milestii Mici 79.60 342 ⇓P **P** **03 22 42.0 +0.1**
MILM Milestii Mici 79.60 342 ⇓P **P** **03 22 42.0 +0.1**
ANN Anapa 79.61 335 *eP* P 03 22 29.5 -12
ANN *e*PP **PcP** **03 22 51.3 +1.6**
ANN *e* 03 25 42.1
ANN pmax pmax
comp=Z,91nm,1.0s
VYHS Vyhne 79.66 349 *eP* **P** **03 22 43.0 +0.8**
VYHS Vyhne 79.66 349 *eP* **P** **03 22 43.0 +0.8**
PURM Purcari 79.76 341 ⇓P **P** **03 22 43.1 +0.4**
GERES GERESS Array B 79.84 352 P **P** **03 22 43.2 -0.1**
comp=Z,1.0nm,0.6s,baz=150,slow=25,SNR=3.4
comp=Z,1.0nm,0.6s
VASR Vaslui 80.06 342 ⇓P **P** **03 22 45.3 +0.9**
LEOM Leova 80.14 342 ⇑P **P** **03 22 45.8 +1.0**
LEOM Leova 80.14 342 ⇑P **P** **03 22 45.8 +1.0**
ARCR ARCALIA 80.24 345 ⇓P **P** **03 22 47.1 +1.8**
FLN La Foliniere 80.39 2 *eP* **P** **03 22 45.9 -0.2**
FLN pmax pmax
comp=Z,47nm,1.6s
TESR Tescani 80.40 343 ⇓P **P** **03 22 46.6 +0.4**
CONA Conrad Observa 80.55 351 *eP* **P** **03 22 46.4 -0.7**
comp=Z,2.8nm,0.9s
LDF La Druitiere 80.57 2 *eP* **P** **03 22 46.6 -0.5**
LDF pmax pmax
comp=Z,9.0nm,0.4s
CDF Champ du Feu 80.67 357 *eP* **P** **03 22 47.2 -0.6**
CDF pmax pmax
comp=Z,3.0nm,0.7s
GHRR 80.69 342 ⇑P **P** **03 22 48.9 +1.1**
GRR Gorron 80.76 2 *eP* **P** **03 22 47.7 -0.4**
GRR pmax pmax
comp=Z,124nm,1.8s
VLDR Vladesti 80.77 342 ⇓P **P** **03 22 49.0 +0.8**
MOA Molln 80.78 352 *eP* **P** **03 22 48.3 0.0**
comp=Z,0.9nm,0.5s
DRGR 80.79 346 ⇓P **P** **03 22 48.8 +0.4**
DRGR 80.79 346 ⇓P **P** **03 22 48.8 +0.4**
MARR Marisel-Cluj 80.84 346 ⇑P **P** **03 22 49.6 +0.9**
TURR Turia 80.96 343 ⇑P **P** **03 22 50.1 +0.8**
OZUR 80.96 344 ⇓P **P** **03 22 50.6 +1.3**
BOSR Bodos 81.00 344 ⇑P **P** **03 22 51.2 +1.7**
VRI Vrincioaia 81.01 343 ⇑P **P** **03 22 50.7 +1.1**
VRI Vrincioaia 81.01 343 P **P** **03 22 50.6 +1.1**
PLOR Plostina 81.04 343 ⇓P **P** **03 22 50.7 +1.0**
PLOR Plostina 81.04 343 ⇓P **P** **03 22 50.7 +1.0**
NEGRR Negrea 81.11 342 ⇑P **P** **03 22 50.8 +0.8**
HAU Haudompre 81.11 357 *eP* **P** **03 22 49.7 -0.3**
HAU pmax pmax
comp=Z,4.0nm,0.7s
COVR Voineasa-Covas 81.12 343 ⇓P **P** **03 22 51.7 +1.5**
DOPR Dopca 81.15 344 ⇓P **P** **03 22 51.9 +1.7**
ARSA Arzberg 81.25 351 *eP* **P** **03 22 51.1 +0.2**
comp=Z,3.8nm,0.7s
TLCR 81.26 341 ⇑P **P** **03 22 51.7 +0.9**
TLCR 81.26 341 ⇑P **P** **03 22 51.7 +0.9**
LESA Schwarzleotal 81.34 353 *i* P **P** **03 22 49.7 -1.6**
comp=Z,2.2nm,0.6s
CFR Carcaliu 81.40 342 ⇓P **P** **03 22 52.1 +0.6**
CFR Carcaliu 81.40 342 ⇓P **P** **03 22 52.1 +0.6**
SIRR Siria 81.46 346 ⇓P **P** **03 22 52.2 +0.2**
WATA Walderalm 81.51 354 *i* P **P** **03 22 52.1 -0.2**
comp=Z,10nm,1.3s
NEHR Nehoiu 81.51 343 ⇓P **P** **03 22 53.1 +0.9**
MLR Muntele Rosu 81.51 343 ⇓P **P** **03 22 53.8 +1.4**
MLR Muntele Rosu 81.51 343 P **P** **03 22 52.7 +0.4**
MLR IAmb IAmb 03 22 54.8
comp=Z,14nm,0.9s
MLR Muntele Rosu 81.51 343 ⇓P **P** **03 22 53.8 +1.4**
WTTA Wattenberg 81.58 353 *i* P **P** **03 22 53.2 +0.5**
comp=Z,7.5nm,0.8s
KBA Koelnbreinsper 81.63 352 *i* P **P** **03 22 53.6 +0.6**
comp=Z,10nm,0.6s
KBA Koelnbreinsper 81.63 352 P **P** **03 22 53.6 +0.6**
SQTA Sankt Quirin 81.65 354 *i* P **P** **03 22 53.4 +0.4**
comp=Z,4.2nm,0.7s
TPGR Topolog 81.65 341 ⇓P **P** **03 22 53.7 +0.8**
DAVA Damuels 81.67 355 *eP* **P** **03 22 53.2 +0.1**
comp=Z,8.0nm,1.3s
GNI Garni 81.70 328 *ceP* **P** **03 22 55.7 +2.2**
GNI pmax pmax
comp=Z,22nm,2.5s
VOIR 81.72 344 ⇑P **P** **03 22 54.6 +1.2**
VOIR 81.72 344 ⇑P **P** **03 22 54.6 +1.2**
ISR Istrita 81.76 343 ⇑P **P** **03 22 54.4 +0.9**
ISR Istrita 81.76 343 ⇑P **P** **03 22 54.4 +0.9**
ARR Arges 81.86 344 ⇑P **P** **03 22 55.7 +1.6**
SOKA Soboth 81.87 351 *eP* **P** **03 22 54.6 +0.5**
comp=Z,13nm,1.3s
FETA Feichten 81.88 354 *i* P **P** **03 22 54.0 -0.3**
comp=Z,6.1nm,1.5s
LOR Lormes 81.90 359 *eP* **P** **03 22 54.4 +0.2**
LOR pmax pmax
comp=Z,7.0nm,1.0s
ABTA Abfaltersbach 82.02 353 *i* P **P** **03 22 54.7 -0.3**
comp=Z,4.9nm,1.0s
TLBR Topalu 82.03 342 ⇑P **P** **03 22 55.8 +1.0**
TIRR Tirgusor 82.04 341 ⇓P **P** **03 22 55.6 +0.7**
TIRR Tirgusor 82.04 341 P **P** **03 22 55.4 +0.5**
TIRR Tirgusor 82.04 341 ⇓P **P** **03 22 55.6 +0.7**
OBKA Obir 82.08 351 *i* P **P** **03 22 55.4 +0.1**
comp=Z,10nm,1.0s
BZS Buzias 82.10 346 ⇑P **P** **03 22 56.8 +1.5**
BZS Buzias 82.10 346 ⇑P **P** **03 22 56.8 +1.5**
SSF Saint Saulge 82.11 359 *eP* **P** **03 22 54.9 -0.4**
SSF pmax pmax
comp=Z,6.0nm,0.7s
GZR Gura Zlata 82.14 345 ⇓P **P** **03 22 56.3 +0.7**
GZR Gura Zlata 82.14 345 ⇓P **P** **03 22 56.3 +0.7**
PRED Cave del Predi 82.24 352 P **P** **03 22 56.0 0.0**
WRA Warramunga Arr 82.29 225 *i* P **P** **03 22 56.5 +0.1**
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRA Warramunga Arr 82.29 225 P **P** **03 22 55.7 -0.7**
comp=Z,2.0nm,0.7s,baz=34,slow=6.2,SNR=6.9
comp=Z,2.0nm,0.7s
AVF Avril sur Loir 82.39 359 *eP* **P** **03 22 56.4 -0.3**
AVF pmax pmax
comp=Z,12nm,1.1s
CABF La Chapelle 82.51 357 *eP* **P** **03 22 57.6 +0.1**
CABF pmax pmax
comp=Z,33nm,1.6s
SMF Signal de Mont 82.53 359 *eP* **P** **03 22 57.1 -0.4**
SMF pmax pmax
comp=Z,11nm,0.9s
FRGS Fruska Gora 82.81 347 ⇓P **P** **03 22 59.4 +0.4**
TCF Toulx Ste Croi 82.89 360 *eP* **P** **03 22 59.0 -0.4**
TCF pmax pmax
comp=Z,59nm,1.9s
MDVR Moldovita 82.91 346 ⇓P **P** **03 22 59.5 0.0**
RAZG Razgrad 83.27 342 ⇓P **P** **03 23 01.6 +0.3**
LPG La Plagne 83.60 357 *eP* **P** **03 23 05.1 +1.7**
LPG pmax pmax
comp=Z,48nm,2.1s
RJF Les Rejaudoux 83.88 0 *eP* **P** **03 23 06.1 +1.6**
RJF pmax pmax
comp=Z,113nm,2.4s
ELND Elena 84.00 343 ⇓P **P** **03 23 05.3 +0.2**
BOVS Bovan 84.03 346 ⇓P **P** **03 23 05.5 +0.3**
GURO Guruvmak-BITLI 84.03 330 IAmb IAmb 03 23 08.3
comp=Z,3.6nm,0.9s
ORIF Oris-en-Rattie 84.21 357 *eP* **P** **03 23 07.1 +0.8**
ORIF pmax pmax
comp=Z,13nm,1.3s
CAF Calviac 84.26 0 *eP* **P** **03 23 06.4 0.0**
CAF pmax pmax
comp=Z,8.0nm,0.8s
VIVF Saint-Julien-l 84.30 358 *eP* **P** **03 23 06.9 +0.2**
VIVF pmax pmax
comp=Z,11nm,1.1s
MBDF Montbardon 84.37 357 *eP* **P** **03 23 08.3 +1.1**
MBDF pmax pmax
comp=Z,24nm,1.4s
ARPR Arapgir-MALATY 84.66 333 P **P** **03 23 09.1 +0.4**
BRTR Keskin Array B 85.35 336 P **P** **03 23 12.8 +0.7**
BRTR Keskin Array B 85.35 336 P **P** **03 23 12.6 +0.4**
comp=Z,7.5nm,0.8s,baz=33,slow=1.7,SNR=17
comp=Z,7.5nm,0.8s
ANTO Ankara 85.43 337 P **P** **03 23 12.9 +0.5**

BNN Bunyan 85.59 334 P **P** **03 23 13.2 -0.2**
ASAR Alice Springs 85.75 223 P **P** **03 23 14.2 +0.1**
comp=Z,4.4nm,0.8s,baz=26,slow=5.3,SNR=18
comp=Z,4.4nm,0.8s
LMR La Mourre 85.77 357 *eP* **P** **03 23 13.7 -0.3**
LMR pmax pmax
comp=Z,40nm,1.4s
RDO Rodhopi 85.79 342 P **P** **03 23 14.7 +0.6**
RDO IAmb IAmb 03 23 16.2
comp=Z,8.3nm,0.9s
MTLF Montolieu 85.84 360 *eP* **P** **03 23 14.4 +0.1**
MTLF pmax pmax
comp=Z,5.0nm,0.6s
NRCA Norcia 85.86 352 P **P** **03 23 15.4 +0.9**
EPF Esparros 86.14 1 *eP* **P** **03 23 15.7 -0.2**
EPF pmax pmax
comp=Z,31nm,1.8s
ETSF Etsaut 86.25 2 *eP* **P** **03 23 16.7 +0.2**
ETSF pmax pmax
comp=Z,5.0nm,0.7s
ESDC Sonseca Array 89.35 5 P **P** **03 23 31.0 -0.3**
comp=Z,2.2nm,0.7s,baz=350,slow=4.2,SNR=12
comp=Z,2.2nm,0.7s
STKA Stephens Creek 90.10 214 P **P** **03 23 34.8 +0.3**
STKA IAmb IAmb 03 23 36.2
comp=Z,1.6nm,0.8s
STKA Stephens Creek 90.10 214 P **P** **03 23 34.8 +0.3**
comp=Z,6.6nm,0.8s,baz=336,slow=4.9,SNR=13
comp=Z,6.6nm,0.8s
MMAI Mount Meron Ar 91.17 333 P **P** **03 23 40.1 +0.1**
comp=Z,2.0nm,0.8s,baz=52,slow=5.4,SNR=3.7
comp=Z,2.0nm,0.8s
TORD Torodi Ar. Bea 115.92 0 PKP **PKiKP** **03 29 17.5 -0.2**
H03N2 Juan Fernandez 120.53 106 T T 05 42 00.4
baz=317,slow=77,SNR=24
H03N1 Juan Fernandez 120.55 106 T T 05 42 01.7
baz=317,slow=77,SNR=25
H03N3 Juan Fernandez 120.55 106 T T 05 42 00.8
baz=317,slow=77,SNR=36
DBIC Dimbokro 122.05 8 PKP **PKPdf** **03 29 29.5 0.0**
comp=Z,1.8nm,0.5s,baz=305,slow=2.6,SNR=4.6
PLCA Paso Flores 130.36 108 PKP **PKPdf** **03 29 44.2 -0.3**
comp=Z,2.9nm,1.1s,baz=40,slow=0.9,SNR=4.7
QSPA South Pole Qui 140.95 180 PKhKP PKPpre 03 29 59.0
comp=Z,0.9nm,0.6s,baz=100,slow=0.5,SNR=6.8
BOSA Boshof 151.53 314 PKPbc **PKiKP** **03 30 29.0 -0.1**
comp=Z,4.5nm,0.7s,baz=49,slow=1.4,SNR=10

*IDC **08** 03:10:54.5±1.3,6°.36S×142°.74E,h0km,mb3.8/3,*
mbtmp4.0/5,ML2.0/1,MS3.2/1,Error ellipse: s-maj=33.3km
s-min=24.9km az=82.0
ISC 08 03:10:59.5±1.0,**6°.4S**±0°.1×**142°.7E**±0°.1,**h35**km,**n6**,σ1s**32**/8,
mb3.8/3,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.31**	**124**	Pn	**Pn**		**03 12 15.7**	**-0.7**
	3.0nm,0.3s,baz=139,slow=19,SNR=2.6							
PMG				Sn	**Sn**		**03 13 17.2**	**+0.9**
	3.5nm,0.3s,baz=46,slow=21,SNR=2.2							
	11nm,0.4s							
WRA	**Warramunga Arr**	**15.69**	**210**	Pn	**Pn**		**03 14 36.0**	**-2.1**
	0.2nm,0.3s,baz=30,slow=13,SNR=8.8							
WRA				Sn	Sn		03 17 20.9	-10
	0.1nm,0.3s,baz=154,slow=17,SNR=1.4							
WRA				Lg	Lg		03 19 17.0	
	0.2nm,0.3s,baz=33,slow=28,SNR=1.8							
ASAR	**Alice Springs**	**19.10**	**205**	P	**P**		**03 15 20.2**	**+0.7**
	8.2nm,0.7s,baz=34,slow=9.8,SNR=58							
ASAR				Sn	**S**		**03 18 55.8**	**+1.4**
	0.1nm,0.3s,baz=108,slow=38,SNR=2.3							
ASAR				Lg	Lg		03 21 05.2	
	0.1nm,0.3s,baz=18,slow=30,SNR=1.7							
ASAR				LR	LR		03 23 36.7	
	comp=Z,76nm,20.7s,baz=193,slow=40							
MKAR	**Makanchi Array**	**75.16**	**322**	P	**P**		**03 22 38.7**	**+0.4**
	0.6nm,0.9s,baz=133,slow=6.1,SNR=2.2							
	0.6nm,0.9s							
BVAR	**Borovoye Array**	**84.63**	**325**	P	**P**		**03 23 29.9**	**+0.5**
	1.6nm,0.8s,baz=100,slow=6.0,SNR=4.9							
	1.6nm,0.8s							
ILAR	**Eielson Array**	**87.59**	**24**	P	**P**		**03 23 43.5**	**-0.3**
	0.4nm,0.8s,baz=244,slow=3.9,SNR=2.4							
	0.4nm,0.8s							

*AEIC **08** 03:12:12.4±1.1,56°.30N±0°.08×149°.2W±0°.1,h12km±8km,*
Error ellipse: s-maj=12.9km s-min=8.9km az=150.0
NEIC 08 03:12:10.4±1.0,**56°.44N**±0°.09×**149°.19W**±0°.02,
h22km±10km,**ML3.2**/28,**ML3.1**(AEIC),**Error ellipse:**
s-maj=13.8km s-min=1.8km az=177.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.29**	**307**			Pn	03 12 46.5	-0.3
KDAK						Sn	03 13 12.5	-1.8
OHAK	**Old Harbor**	**2.39**	**291**			Pn	03 12 47.3	-0.7
OHAK						Sn	03 13 14.2	-2.4
SII	**Sitkinak Islan**	**2.77**	**275**			Sn	03 13 24.3	-1.9
SYI	**Shuyak Island**	**2.78**	**323**			Pn	03 12 53.4	-0.1
SYI	**Shuyak Island**	**2.78**	**323**			Sn	03 13 26.3	0.0
SYI	**Shuyak Island**	**2.78**	**323**	IAML			03 13 14.3	
	comp=N,34nm,2.2s							
CNPM	**China Poot**	**3.28**	**341**			Pn	03 13 00.5	0.0
CNPM	**China Poot**	**3.28**	**341**			Sn	03 13 39.0	+0.2
CNPM	**China Poot**	**3.28**	**341**	IAML			03 13 37.1	
	comp=E,27nm,2.5s							
Q23K	**Middleton Isla**	**3.36**	**26**			Pn	03 13 00.7	-0.7
MID	**Middleton Isla**	**3.36**	**26**			Pn	03 13 00.7	-0.7
BRSE	**Bradley Lake S**	**3.42**	**347**			Pn	03 13 40.1	-0.5
BRSE						Sn	03 13 40.1	-2.0
BRLK	**Bradley Lake**	**3.46**	**346**			Pn	03 13 02.1	-0.7
BRLK	**Bradley Lake**	**3.46**	**346**	IAML			03 14 44.1	
	comp=N,18nm,2.3s							
BRLK				IAML			03 15 01.2	
	comp=E,23nm,3.2s							
Q19K	**Cape Douglas,**	**3.46**	**318**			Pn	03 13 03.8	+0.9
Q19K	**Cape Douglas,**	**3.46**	**318**	IAML			03 14 28.2	
	comp=E,108nm,2.2s							
Q19K				IAML			03 14 40.7	
	comp=N,86nm,1.7s							
P23K	**Montague Islan**	**3.69**	**14**			Pn	03 13 05.9	-0.1
P19K	**Oil Pt**	**3.87**	**328**			Pn	03 13 08.5	-0.1
P19K	**Oil Pt**	**3.87**	**328**	IAML			03 13 56.1	
	comp=N,38nm,2.3s							
P19K				IAML			03 15 11.0	
	comp=E,40nm,2.1s							
CNTC	**Contact Creek**	**4.06**	**300**			Pn	03 13 11.6	+0.4
O22K	**Cooper Landing**	**4.07**	**356**	Pn		Pn	03 13 12.1	+0.9
O22K				IAML			03 15 02.9	
	comp=N,72nm,0.8s							
O22K				IAML			03 15 07.1	
	comp=E,74nm,0.7s							
ILSW	**Iliamna Southw**	**4.12**	**331**	Pn		Pn	03 13 12.4	+0.4
ILSW				IAML			03 14 41.9	
	comp=E,17nm,2.0s							
ILSW				IAML			03 15 52.5	
	comp=N,14nm,2.8s							
HIN	**Hinchinbrook I**	**4.21**	**18**			Pn	03 13 13.2	-0.1
HIN	**Hinchinbrook I**	**4.21**	**18**	IAML			03 15 25.4	
	comp=N,74nm,2.9s							
KAIM	**Kayak Island**	**4.31**	**34**			Pn	03 13 14.5	-0.1
P18K	**Big Mountain,**	**4.38**	**315**			Pn	03 13 15.1	-0.4
P18K	**Big Mountain,**	**4.38**	**315**	IAML			03 14 23.4	
	comp=N,16nm,3.6s							
P18K				IAML			03 14 41.0	
	comp=E,15nm,3.7s							
RDSO	**Redoubt South**	**4.44**	**337**			Pn	03 13 16.1	-0.4
RSO	**Redoubt South**	**4.45**	**337**	Pn		Pn	03 13 16.8	+0.2
EYAK	**Cordova Ski Ar**	**4.50**	**22**			Pn	03 13 17.4	+0.3
RAGM	**Ragged Mountai**	**4.62**	**29**			Pn	03 13 18.6	-0.1
RC01	**Rabbit Creek A**	**4.67**	**357**	Pn		Pn	03 13 18.7	-0.8
O18K	**Koktuh Hills**	**4.68**	**320**			Pn	03 13 19.3	-0.3
HMT	**Hamilton**	**4.69**	**31**	Pn		Pn	03 13 20.2	+0.5
P17K	**Kvichak River**	**4.76**	**309**			Pn	03 13 21.3	+0.6
GOAT	**Goat Mountain**	**4.77**	**28**			Pn	03 13 20.9	0.0
BERG	**Berg Lake**	**4.90**	**34**			Pn	03 13 22.8	+0.1
KNK	**Knik Glacier**	**5.00**	**4**	Pn		Pn	03 13 22.2	-1.9
BMRM	**Bremner River**	**5.13**	**26**			Pn	03 13 26.1	+0.2
CHGN	**Chignik**	**5.13**	**272**	Pn		Pn	03 13 26.1	+0.3
N19K	**Bonanza Creek**	**5.19**	**330**	Pn		Pn	03 13 26.7	+0.1
KLU	**Klutina**	**5.34**	**17**			Pn	03 13 29.1	+0.3
GHO	**Glory Hole Cre**	**5.35**	**1**	Pn		Pn	03 13 29.9	+1.0
CRQM	**Cirque**	**5.36**	**34**	Pn		Pn	03 13 29.5	+0.3

SML	**Sawmill**	**5.40**	**4**	Pn	Pn	03 13 29.5	-0.1
TGL	**Tana Glacier**	**5.46**	**35**		Pn	03 13 30.2	-0.1
GRNC	**Granite Creek**	**5.80**	**39**		Pn	03 13 34.9	-0.3
M20K	**Styx River**	**5.83**	**341**	Pn	Pn	03 13 34.3	-1.1
PCA	**Pinnacle**	**5.97**	**48**		Pn	03 13 37.5	+0.1
BCPM	**Bancas Point**	**6.16**	**51**		Pn	03 13 40.5	+0.7
O29M	**Mount Kennedy**	**6.79**	**51**		Pn	03 13 48.9	+0.2
P29M	**Windy Craggy**	**6.87**	**57**		Pn	03 13 49.7	0.0
S31K	**Pelican**	**7.20**	**72**		Pn	03 13 53.1	-1.1

*AFAD **08** 03:20:53.7±0.0,38.65N×39.61E,h7km±6km,ML1.5*
ISK 08 03:20:53.5,38.76N×39.74E,h9km,ML1.8/6,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOVA	**Elazig, Kovanc**	**0.08**	**133**	P	Pg	03 20 58.0	+2.2
KOVA				S	Sg	03 21 00.7	+3.3
KOVA				*i* AML	AML	03 21 01.0	
	comp=E,145nm,0.4s						
PTK	**Pertek**	**0.30**	**296**	Pg	Pg	03 21 00.2	+0.6
PTK				Sg	Sg	03 21 04.6	+0.9
TNCL	**Tunceli-Merkez**	**0.39**	**337**	P	Pb	03 21 02.4	-0.2
TNCL				S	Sb	03 21 08.6	-0.2
TNCL				*i* AML	AML	03 21 10.0	
	comp=Z,21nm,0.2s						
TNCL				*i* AML	AML	03 21 10.0	
	comp=N,39nm,0.7s						
TNCL				*i* AML	AML	03 21 10.0	
	comp=E,34nm,0.6s						
HANI	**Diyarbakir_Han**	**0.62**	**123**	P	Pb	03 21 06.4	-0.2
HANI				S	Sb	03 21 14.8	-0.6
BNGB	**Bingl**	**0.77**	**72**	Pg	Pg	03 21 08.7	+0.4
DYBB	**Diyarbakir**	**0.86**	**159**	Pg	Pb	03 21 10.5	-0.2
DIYA	**Diyarbakir**	**0.89**	**160**	P	Pn	03 21 11.8	-0.4
DIYA				S	Sb	03 21 24.1	+1.1
DIYA				*i* AML	AML	03 21 25.0	
	comp=Z,21nm,0.3s						
DIYA				*i* AML	AML	03 21 25.0	
	comp=E,22nm,0.2s						
DIYA				*i* AML	AML	03 21 26.0	
	comp=N,25nm,0.2s						
ILIC	**ilic-Erzincan**	**1.14**	**308**	Pn	Pb	03 21 15.7	+0.1
ARPR	**Arapgir-MALATY**	**1.15**	**287**	Pn	Pg	03 21 14.9	-0.6
MAZI	**Mazidag**	**1.41**	**157**	Pn	Pb	03 21 20.1	0.0
MAZI				Sn	Sg	03 21 39.3	+0.4

*IDC **08** 03:33:22.7±0.5,6.24S×143.03E,h0km,mb4.9/12,*
mbtmp4.9/15,ML4.3/2,MS4.0/1,Error ellipse:
s-maj=33.9km s-min=13.1km az=86.0
*NEIC **08** 03:33:24.5±1.1,6.27S±0.08×143.0E±0.1,h10km±1km,*
mb5.3/79,Error ellipse: s-maj=21.9km s-min=13.2km
az=287.0
ISC 08 03:33:27.9±0.3,6.36S±0.05×143.14E±0.08,h35km,n417,
σ0s85/418,mb5.2/47,1C,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.00**	**128**	Pn	**Pn**	**03 34 40.5**	**0.0**
PMG	**Port Moresby**	**5.00**	**128**	P	**Pn**	**03 34 40.8**	**+0.4**
PMG	**Port Moresby**	**5.00**	**128**	P	**Pn**	**03 34 40.9**	**+0.4**
PMG	**Port Moresby**	**5.00**	**128**	Pn	**Pn**	**03 34 40.9**	**+0.4**
	54nm,0.2s,baz=268,slow=7.6,SNR=25						
PMG				Sn	**Sn**	**03 35 35.4**	**-1.7**
	17nm,0.3s,baz=245,slow=23,SNR=9.2						
PMG				LR	LR	03 36 55.5	
	comp=Z,2μm,21.0s,baz=290,slow=41						
MANU	**Manus Island**	**6.01**	**45**	Pn	**Pn**	**03 34 54.4**	**+0.1**
COEN	**Coen**	**7.55**	**180**	Pn	**Pn**	**03 35 15.8**	**+0.2**
COEN	**Coen**	**7.55**	**180**	P	**Pn**	**03 35 19.0**	**+3.4**
CTA	**Charters Tower**	**13.98**	**168**	Pn	**Pn**	**03 36 43.4**	**-0.3**
	0.4nm,0.3s,baz=355,slow=7.4,SNR=2.5						
	1.7nm,0.4s						
QIS	**Mount Isa**	**14.53**	**193**	P	**Pn**	**03 36 53.6**	**+2.5**
WB0	**Warramunga Arr**	**15.81**	**212**	Pn	**Pn**	**03 37 07.1**	**-0.9**
WR0	**Warramunga Arr**	**15.89**	**211**	Pn	**Pn**	**03 37 07.8**	**-1.3**
WRAB	**Tennant Creek**	**15.97**	**212**	Pn	**Pn**	**03 37 08.6**	**-1.4**
WB2	**Warramunga Arr**	**15.98**	**211**	Pn	**Pn**	**03 37 09.0**	**-1.1**
WRA	**Warramunga Arr**	**15.98**	**212**		**Pn**	**03 37 08.8**	**-1.4**
WRA	**Warramunga Arr**	**15.98**	**212**	Pn	**Pn**	**03 37 09.6**	**-0.6**
	2.7nm,0.3s,baz=30,slow=13,SNR=63						
	12nm,0.7s						
AS31	**Alice Springs**	**19.37**	**206**	P	**P**	**03 37 50.4**	**-0.4**
ASAR	**Alice Springs**	**19.37**	**206**	P	**P**	**03 37 50.1**	**-0.6**
ASAR	**Alice Springs**	**19.37**	**206**	P	**Pn**	**03 37 54.6**	**+2.6**
	87nm,0.6s,baz=34,slow=10,SNR=668						
ASAR				Lg	Lg	03 43 38.1	
	baz=26,slow=29						
EIDS	**Eidsvold**	**20.38**	**159**	P	Pn	03 38 03.3	-0.6
OOD	**Oodnadatta**	**22.46**	**198**	P	**P**	**03 38 27.4**	**+3.3**
WRKA	**Warakurna**	**23.39**	**216**	P	**P**	**03 38 35.7**	**+1.9**
LCRK	**Leigh Creek**	**24.41**	**190**	P	**P**	**03 38 44.8**	**+1.6**
ARMA	**Armidale**	**25.23**	**163**	P	**P**	**03 38 52.9**	**+2.1**
MULG	**Mulgathing**	**25.29**	**199**	P	**P**	**03 38 53.5**	**+2.4**
STKA	**Stephens Creek**	**25.43**	**183**	P	**P**	**03 38 53.0**	**+0.6**
STKA	**Stephens Creek**	**25.43**	**183**	P	**P**	**03 38 54.8**	**+2.4**
STKA	**Stephens Creek**	**25.43**	**183**	P	**P**	**03 38 52.4**	**0.0**
	7.3nm,0.8s,baz=360,slow=8.5,SNR=12						
	7.3nm,0.8s						
BBOO	**Buckleboo**	**27.13**	**193**	P	**P**	**03 39 08.2**	**+0.4**
MJAR	**Matsushiro Arr**	**42.92**	**354**	P	**P**	**03 41 21.8**	**-1.5**
	1.6nm,0.6s,baz=168,slow=6.2,SNR=5.7						
	1.6nm,0.6s						
NJ2	**Nanjing**	**44.67**	**330**	*e*P	**P**	**03 41 36.7**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,450nm,4.7s						
ASAJ	**Asahikawa**	**50.24**	**359**	P	**P**	**03 42 20.0**	**-0.5**
	comp=Z,4.3nm,0.6s,baz=176,slow=7.3,SNR=4.6						
	comp=Z,4.3nm,0.6s						
USRK	**Ussuriysk Ar.**	**51.32**	**350**	P	**P**	**03 42 28.4**	**-0.3**
USRK	**Ussuriysk Ar.**	**51.32**	**350**	P	**P**	**03 42 28.4**	**-0.3**
	comp=Z,34nm,0.8s,baz=184,slow=7.1,SNR=74						
	comp=Z,34nm,0.8s						
PZH	**PanZhiHua**	**51.74**	**311**	P	**P**	**03 42 31.5**	**-0.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,170nm,5.3s						
TNCH	**TengChong**	**53.45**	**308**	*e*P	**P**	**03 42 45.0**	**-0.1**
TNCH				PcS	**PcS**	**03 47 50.2**	**-1.1**
TNCH				S	**S**	**03 50 14.9**	**-0.8**
TNCH				pmax	pmax		
	comp=Z,64nm,0.6s						
TNCH				pmax	pmax		
	comp=Z,240nm,4.6s						
TNCH				LR	LR		
	comp=N,1μm,8.6s						
TNCH				LR	LR		
	comp=E,890nm,11.0s						
TNCH				LR	LR		
	comp=Z,1μm,16.1s						
HHC	**Hu-ho-hao-te**	**55.20**	**331**	*e*P	**P**	**03 42 58.3**	**+0.8**
HHC				pP	pP	03 43 02.5	-6.0
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,190nm,4.9s						
HHC				LR	LR		
	comp=N,700nm,14.8s						
HHC				LR	LR		
	comp=E,1μm,16.2s						
HHC				LR	LR		
	comp=Z,620nm,17.0s						
PETK	**Petropavlovsk-**	**60.51**	**10**	P	**P**	**03 43 34.2**	**-0.1**
	comp=Z,6.3nm,0.6s,baz=169,slow=6.8,SNR=22						
	comp=Z,6.3nm,0.6s						
MA2	**Magadan**	**66.00**	**4**	P	**P**	**03 44 10.4**	**-0.2**
MA2	**Magadan**	**66.00**	**4**	P	**P**	**03 44 10.3**	**-0.2**
	comp=Z,19nm,0.7s,baz=170,slow=6.4,SNR=21						
	comp=Z,19nm,0.7s						
SEY	**Seymchan**	**69.45**	**4**	P	**P**	**03 44 32.3**	**0.0**
	comp=Z,12nm,0.5s,baz=181,slow=6.1,SNR=65						
	comp=Z,12nm,0.5s						
WMQ	**Urumqi**	**70.60**	**321**	*i*P	**P**	**03 44 41.3**	**+1.5**
WMQ				LR	LR		
	comp=N,1μm,16.7s						
WMQ				LR	LR		
	comp=E,490nm,18.9s						
WMQ				LR	LR		
	comp=Z,980nm,24.5s						
VNDA	**Vanda**	**71.81**	**176**	P	**P**	**03 44 48.3**	**+1.8**
VNDA	**Vanda**	**71.81**	**176**	P	**P**	**03 44 48.2**	**+1.8**

	comp=Z,3.6nm,0.6s,baz=331,slow=7.2,SNR=21							
	comp=Z,3.6nm,0.6s							
UNV	**Unalaska Valle**	**73.31**	**28**	P	**P**	**03 44 57.5**	**+1.8**
	baz=233							
SDPT	**Sand Point**	**77.06**	**29**	P	**P**	**03 45 20.1**	**+2.8**
	baz=238							
CHNA	**Chernabura Isl**	**77.22**	**30**	P	**P**	**03 45 20.7**	**+2.5**
	baz=239							
ZALV	**Zalesovo Beam**	**77.30**	**329**	P	**P**	**03 45 16.6**	**-2.0**
	comp=Z,18nm,0.8s,baz=106,slow=5.3,SNR=8.0							
	comp=Z,18nm,0.8s							
M11K	**Mekoryuk**	**77.44**	**23**	P	**P**	**03 45 21.5**	**+2.3**
	baz=232							
GAMB	**Gambell**	**77.71**	**19**	P	**P**	**03 45 22.4**	**+1.7**
	baz=226							
TIXI	**Tiksi**	**78.42**	**355**	P	**P**	**03 45 24.4**	**-0.1**
TIXI				IAmb	IAmb	03 45 36.7	
	comp=Z,22nm,0.8s							
CHGN	**Chignik**	**78.54**	**29**	P	**P**	**03 45 25.4**	**-0.1**
	baz=240							
M13K	**Dall Lake**	**78.59**	**24**	P	**P**	**03 45 26.0**	**+0.3**
	baz=235							
O14K	**Tigyukauivet M**	**78.80**	**26**	P	**P**	**03 45 27.0**	**+0.1**
	baz=237							
N14K	**Kuskokwak Cree**	**79.00**	**25**	P	**P**	**03 45 28.4**	**+0.5**
	baz=236							
M14K	**Bethel**	**79.35**	**24**	P	**P**	**03 45 30.6**	**+0.8**
	baz=236							
O15K	**Ungalikthiuk R**	**79.39**	**26**	P	**P**	**03 45 30.3**	**+0.2**
	baz=238							
L14K	**Kuka Creek**	**79.39**	**23**	P	**P**	**03 45 30.5**	**+0.5**
L14K	**Kuka Creek**	**79.39**	**23**	P	**P**	**03 45 31.1**	**+1.0**
	baz=235							
N15K	**Kwethluk River**	**79.80**	**25**	P	**P**	**03 45 32.7**	**+0.4**
	baz=239							
M15K	**Kasigluk River**	**79.84**	**25**	P	**P**	**03 45 32.5**	**0.0**
	baz=237							
J14K	**Nanvaranak Lak**	**79.88**	**22**	P	**P**	**03 45 33.7**	**+1.0**
	baz=234							
L15K	**Ungalak Mounta**	**80.06**	**23**	P	**P**	**03 45 33.8**	**+0.2**
	baz=236							
ANM	**Nome**	**80.32**	**20**	P	**P**	**03 45 35.0**	**-0.1**
	baz=232							
O16K	**Kokwok River B**	**80.36**	**26**	P	**P**	**03 45 35.6**	**+0.3**
	baz=240							
K15K	**Wolf Creek Mou**	**80.39**	**23**	P	**P**	**03 45 35.5**	**0.0**
	baz=236							
N16K	**Nishlik Lake**	**80.52**	**25**	P	**P**	**03 45 37.5**	**+1.2**
	baz=239							
F14K	**Arctic Creek**	**80.57**	**19**	P	**P**	**03 45 37.2**	**+0.8**
	baz=231							
Q17K	**Contact Creek**	**80.70**	**28**	P	**P**	**03 45 36.9**	**-0.5**
	baz=242							
M16K	**Timber Creek**	**80.73**	**25**	P	**P**	**03 45 37.9**	**+0.5**
M16K	**Timber Creek**	**80.73**	**25**	P	**P**	**03 45 38.0**	**+0.7**
	baz=239							
SII	**Sitkinak Islan**	**80.73**	**30**	P	**P**	**03 45 37.9**	**+0.4**
	baz=244							
L16K	**Owhat River**	**80.88**	**24**	P	**P**	**03 45 38.0**	**-0.1**
	baz=238							
O17K	**Koliganek Bris**	**80.89**	**26**	P	**P**	**03 45 38.4**	**+0.3**
	baz=241							
P17K	**Kvichak River**	**80.90**	**27**	P	**P**	**03 45 38.6**	**+0.4**
	baz=241							
G15K	**Niukluk**	**81.04**	**20**	P	**P**	**03 45 39.1**	**+0.2**
	baz=234							
N17K	**Nushagak Hills**	**81.22**	**26**	P	**P**	**03 45 40.4**	**+0.5**
	baz=240							
F15K	**North Star Dit**	**81.27**	**19**	P	**P**	**03 45 40.8**	**+0.7**
	baz=233							
J16K	**Anvik River**	**81.29**	**22**	P	**P**	**03 45 41.2**	**+0.9**
	baz=237							
H16K	**Elim**	**81.45**	**21**	P	**P**	**03 45 41.6**	**+0.5**
	baz=235							
OHAK	**Old Harbor**	**81.47**	**30**	P	**P**	**03 45 41.3**	**0.0**
	baz=244							
P18K	**Big Mountain,**	**81.54**	**27**	P	**P**	**03 45 42.7**	**+1.0**
	baz=242							
M17K	**Holitna River**	**81.56**	**25**	P	**P**	**03 45 42.0**	**+0.3**
M17K	**Holitna River**	**81.56**	**25**	P	**P**	**03 45 42.5**	**+0.8**
	baz=240							
L17K	**Donlin**	**81.58**	**24**	P	**P**	**03 45 42.5**	**+0.7**
	baz=239							
O18K	**Koktuh Hills**	**81.76**	**27**	P	**P**	**03 45 42.8**	**-0.1**
	baz=242							
G16K	**Koyuk River**	**81.85**	**20**	P	**P**	**03 45 43.4**	**+0.2**
	baz=235							
N18K	**Kilae Creek**	**81.86**	**26**	P	**P**	**03 45 44.1**	**+0.7**
	baz=242							
K17K	**Iditarod**	**81.88**	**23**	P	**P**	**03 45 44.2**	**+0.8**
	baz=239							
J17K	**VABM Dome**	**81.93**	**23**	P	**P**	**03 45 44.4**	**+0.8**
	baz=238							
Q19K	**Cape Douglas,**	**82.05**	**28**	P	**P**	**03 45 46.8**	**+2.3**
	baz=244							
L18K	**Granite Mounta**	**82.27**	**24**	P	**P**	**03 45 46.2**	**+0.8**
	baz=241							
M18K	**Stony River**	**82.27**	**25**	P	**P**	**03 45 46.4**	**+0.9**
	baz=242							
H17K	**Granite Mounta**	**82.45**	**21**	P	**P**	**03 45 46.9**	**+0.5**
	baz=237							
G17K	**Kiwalik Mounta**	**82.50**	**20**	P	**P**	**03 45 47.3**	**+0.8**
	baz=237							
N19K	**Bonanza Creek**	**82.53**	**26**	P	**P**	**03 45 47.1**	**+0.2**
	baz=243							
P19K	**Oil Pt**	**82.56**	**27**	P	**P**	**03 45 46.2**	**-0.9**
	baz=244							
C16K	**Lisburne Hills**	**82.64**	**17**	P	**P**	**03 45 47.3**	**+0.1**
	baz=232							
F17K	**Baldwin Pennin**	**82.82**	**20**	P	**P**	**03 45 48.7**	**+0.5**
	baz=236							
J18K	**Innoko River**	**82.88**	**23**	P	**P**	**03 45 47.9**	**-0.8**
	baz=240							
TTA	**Tatalina**	**82.89**	**24**	P	**P**	**03 45 49.4**	**+0.6**
	baz=241							
D17K	**Noatak River**	**82.96**	**18**	P	**P**	**03 45 49.8**	**+0.9**
	baz=234							
L19K	**White Mountain**	**83.01**	**25**	P	**P**	**03 45 49.4**	**+0.1**
L19K	**White Mountain**	**83.01**	**25**	P	**P**	**03 45 49.9**	**+0.6**
	baz=242							
M19K	**Big River Lodg**	**83.07**	**25**	P	**P**	**03 45 50.4**	**+0.7**
	baz=243							
H18K	**Honhosa River**	**83.12**	**21**	P	**P**	**03 45 50.1**	**+0.3**
	baz=239							
C17K	**DeLong Mountai**	**83.39**	**17**	P	**P**	**03 45 51.4**	**+0.2**
	baz=234							
G18K	**Tagagawik**	**83.41**	**21**	P	**P**	**03 45 51.5**	**+0.1**
G18K				IAmb	IAmb	03 46 44.2	
	comp=Z,37nm,1.6s							
G18K	**Tagagawik**	**83.41**	**21**	P	**P**	**03 45 51.6**	**+0.2**
	baz=238							
F18K	**Selawik**	**83.44**	**20**	P	**P**	**03 45 51.4**	**0.0**
	baz=238							
GCSA	**Galena City Sc**	**83.46**	**22**	P	**P**	**03 45 51.9**	**+0.4**
	baz=240							
L20K	**Farewell, AK**	**83.55**	**25**	P	**P**	**03 45 52.7**	**+0.6**
	baz=243							
J19K	**Poorman**	**83.56**	**23**	P	**P**	**03 45 52.5**	**+0.4**
	baz=242							
E18K	**Tukpahlearik C**	**83.58**	**19**	P	**P**	**03 45 52.4**	**+0.2**
E18K				IAmb	IAmb	03 46 51.7	
	comp=Z,15nm,1.0s							
E18K	**Tukpahlearik C**	**83.58**	**19**	P	**P**	**03 45 52.5**	**+0.4**
	baz=236							
M20K	**Styx River**	**83.59**	**25**	P	**P**	**03 45 52.4**	**-0.1**
	baz=244							
QSPA	**South Pole Qui**	**83.61**	**180**	P	**P**	**03 45 53.5**	**+1.0**
QSPA	**South Pole Qui**	**83.61**	**180**	P	**P**	**03 45 53.2**	**+0.6**
	comp=Z,36nm,0.9s,baz=320,slow=1.0,SNR=135							
	comp=Z,36nm,0.9s							
N20K	**Mount Spurr**	**83.69**	**26**	P	**P**	**03 45 53.0**	**0.0**
	baz=245							
BRSE	**Bradley Lake S**	**83.75**	**28**	P	**P**	**03 45 53.3**	**+0.1**
	baz=246							
K20K	**Telida**	**83.87**	**24**	P	**P**	**03 45 54.2**	**+0.5**
	baz=243							
CAPN	**Captain Cook N**	**83.98**	**27**	P	**P**	**03 45 55.2**	**+1.0**
	baz=246							
H19K	**Roundabout Mou**	**84.00**	**21**	P	**P**	**03 45 54.7**	**+0.4**
	baz=241							
G19K	**Purcell Mounta**	**84.09**	**21**	P	**P**	**03 45 55.1**	**+0.3**
G19K	**Purcell Mounta**	**84.09**	**21**	P	**P**	**03 45 55.6**	**+0.8**
	baz=240,SNR=5.1							
C18K	**Utukok River**	**84.09**	**18**	P	**P**	**03 45 54.8**	**0.0**
C18K				IAmb	IAmb	03 46 33.7	
	comp=Z,17nm,1.1s							
C18K	**Utukok River**	**84.09**	**18**	P	**P**	**03 45 55.1**	**+0.3**
	baz=236							

F19K	**Shaleruckik Mo**	**84.20**	**20**	P	**P**	**03 45 55.6**	**+0.3**
	baz=239							
J20K	**Nowinta River**	**84.22**	**23**	P	**P**	**03 45 56.1**	**+0.6**
J20K				IAmb	IAmb	03 46 40.4	
	comp=Z,24nm,1.0s							
J20K	**Nowinta River**	**84.22**	**23**	P	**P**	**03 45 56.4**	**+0.9**
	baz=243,SNR=7.0							
B18K	**Kokolik River**	**84.32**	**17**	P	**P**	**03 45 56.7**	**+0.8**
	baz=235							
SKT	**Skwentna**	**84.32**	**26**	P	**P**	**03 45 54.7**	**-1.4**
	baz=245							
I20K	**Naaghedeneel**	**84.38**	**22**	P	**P**	**03 45 57.2**	**+1.0**
	baz=242							
PPLA	**Purkeypile**	**84.43**	**25**	P	**P**	**03 45 57.3**	**+0.5**
	baz=245							
SUA	**Susitna One**	**84.44**	**26**	P	**P**	**03 45 55.8**	**-1.1**
	baz=246							
SEW	**Seward**	**84.49**	**28**	P	**P**	**03 45 56.6**	**-0.3**
	baz=247							
O22K	**Cooper Landing**	**84.51**	**27**	P	**P**	**03 45 56.7**	**-0.3**
	baz=247							
H20K	**Anotleneega Mo**	**84.56**	**22**	P	**P**	**03 45 57.3**	**+0.1**
	baz=242							
CAST	**Castle Rocks**	**84.70**	**24**	P	**P**	**03 45 57.7**	**-0.3**
CAST	**Castle Rocks**	**84.70**	**24**	P	**P**	**03 45 57.7**	**-0.3**
	baz=245							
E19K	**Redstone River**	**84.70**	**20**	P	**P**	**03 45 58.2**	**+0.3**
E19K				IAmb	IAmb	03 46 44.6	
	comp=Z,18nm,0.9s							
E19K	**Redstone River**	**84.70**	**20**	P	**P**	**03 45 58.4**	**+0.5**
	baz=240,SNR=10							
RC01	**Rabbit Creek A**	**84.74**	**27**	P	**P**	**03 45 57.6**	**-0.6**
RC01	**Rabbit Creek A**	**84.74**	**27**	P	**P**	**03 45 57.5**	**-0.6**
	baz=247,SNR=6.5							
CHUM	**Lake Minchumin**	**84.81**	**24**	P	**P**	**03 45 58.7**	**+0.3**
	baz=244,SNR=12							
BVAR	**Borovoye Array**	**84.82**	**325**	P	**P**	**03 45 57.3**	**-1.4**
	comp=Z,58nm,1.0s,baz=128,slow=9.0,SNR=12							
	comp=Z,58nm,1.0s							
C19K	**Lookout Ridge**	**84.83**	**18**	P	**P**	**03 45 58.8**	**+0.2**
C19K	**Lookout Ridge**	**84.83**	**18**	P	**P**	**03 45 59.3**	**+0.7**
	baz=237							
M22K	**Willow**	**84.84**	**26**	P	**P**	**03 45 57.8**	**-0.7**
	baz=247							
D19K	**Kuna River**	**84.96**	**18**	P	**P**	**03 45 59.3**	**+0.2**
D19K				IAmb	IAmb	03 46 39.1	
	comp=Z,23nm,0.9s							
D19K	**Kuna River**	**84.96**	**18**	P	**P**	**03 45 59.1**	**-0.1**
	baz=239							
F20K	**Avaraart Lake**	**85.01**	**20**	P	**P**	**03 45 59.5**	**+0.1**
F20K				IAmb	IAmb	03 47 11.8	
	comp=Z,40nm,1.9s							
F20K	**Avaraart Lake**	**85.01**	**20**	P	**P**	**03 45 59.5**	**+0.1**
	baz=241,SNR=8.6							
PMR	**Palmer**	**85.21**	**26**	P	**P**	**03 45 60.0**	**-0.5**
PMR	**Palmer**	**85.21**	**26**	P	**P**	**03 45 59.8**	**-0.6**
	baz=248							
KTH	**Kantishna Hill**	**85.23**	**24**	P	**P**	**03 46 00.2**	**-0.4**
H21K	**Melozitna Rive**	**85.40**	**22**	P	**P**	**03 46 01.6**	**+0.1**
H21K				IAmb	IAmb	03 48 12.6	
	comp=Z,35nm,1.9s							
H21K	**Melozitna Rive**	**85.40**	**22**	P	**P**	**03 46 01.0**	**-0.4**
	baz=244							
BPAW	**Bear Paw Mtn.**	**85.43**	**24**	P	**P**	**03 46 01.4**	**-0.2**
BPAW				IAmb	IAmb	03 46 47.2	
	comp=Z,38nm,1.7s							
BPAW	**Bear Paw Mtn.**	**85.43**	**24**	P	**P**	**03 46 00.8**	**-0.9**
	baz=246							
KNK	**Knik Glacier**	**85.44**	**27**	P	**P**	**03 46 01.5**	**-0.2**
KNK	**Knik Glacier**	**85.44**	**27**	P	**P**	**03 46 01.3**	**-0.4**
	baz=248							
TRF	**Thorofare Moun**	**85.45**	**24**	P	**P**	**03 46 00.8**	**-1.0**
TRF	**Thorofare Moun**	**85.45**	**24**	P	**P**	**03 46 01.3**	**-0.6**
	baz=246							
E20K	**Nigu River**	**85.45**	**19**	P	**P**	**03 46 01.9**	**+0.2**
	baz=241							
I21K	**Tanana**	**85.50**	**23**	P	**P**	**03 46 02.1**	**+0.2**
	baz=245							
D20K	**Etivluk River**	**85.54**	**19**	P	**P**	**03 46 02.0**	**-0.1**
	baz=240							
SML	**Sawmill**	**85.64**	**26**	P	**P**	**03 46 02.4**	**-0.3**
SML	**Sawmill**	**85.64**	**26**	P	**P**	**03 46 02.4**	**-0.3**
	baz=248							
F21K	**Alatna River**	**85.86**	**20**	P	**P**	**03 46 03.6**	**-0.1**
	baz=243							
M23K	**Glacier View**	**85.90**	**26**	P	**P**	**03 46 03.4**	**-0.6**
	baz=249							
MLY	**Manley**	**85.92**	**23**	P	**P**	**03 46 03.9**	**-0.2**
MLY				IAmb	IAmb	03 46 51.1	
	comp=Z,18nm,0.9s							
MLY	**Manley**	**85.92**	**23**	P	**P**	**03 46 03.9**	**-0.2**
	baz=246,SNR=9.1							
RND	**Reindeer**	**86.03**	**25**	P	**P**	**03 46 03.6**	**-1.0**
RND				IAmb	IAmb	03 46 51.7	
	comp=Z,20nm,0.8s							
B20K	**Meade River**	**86.03**	**17**	P	**P**	**03 46 04.6**	**+0.2**
	baz=240							
H22K	**Ishtalitna Cre**	**86.04**	**22**	P	**P**	**03 46 04.3**	**-0.3**
	baz=245							
BWN	**Browne**	**86.07**	**24**	P	**P**	**03 46 04.9**	**+0.1**
SCM	**Sheep Creek Mo**	**86.09**	**26**	P	**P**	**03 46 04.6**	**-0.4**
	baz=249							
MCK	**McKinley**	**86.12**	**24**	P	**P**	**03 46 04.1**	**-0.9**
	baz=248							
E21K	**Killik River**	**86.26**	**19**	P	**P**	**03 46 06.0**	**+0.4**
	baz=243							
C21K	**Knifeblade Rid**	**86.34**	**18**	P	**P**	**03 46 06.7**	**+0.7**
	baz=242							
NEA2	**Nenana**	**86.40**	**24**	P	**P**	**03 46 05.4**	**-0.9**
NEA2	**Nenana**	**86.40**	**24**	P	**P**	**03 46 05.8**	**-0.5**
	baz=248,SNR=5.7							
G22K	**Bettles**	**86.43**	**21**	P	**P**	**03 46 06.1**	**-0.4**
	baz=245							
I23K	**Minto, Yukon-K**	**86.50**	**23**	P	**P**	**03 46 06.5**	**-0.3**
I23K	**Minto, Yukon-K**	**86.50**	**23**	P	**P**

B22K	Teshekpuk Lake	87.31	18	P	P	03 46 10.8	+0.2		
	baz=243								
IL31		87.33	24	P	P	03 46 09.4	-1.5		
ILAR	Eielson Array	87.33	24	P	P	03 46 09.4	-1.6		
ILAR	Eielson Array	87.33	24	P	P	03 46 09.2	-1.7		
	comp=Z,3.7nm,0.7s,baz=264,slow=4.4,SNR=50								
	comp=Z,3.7nm,0.7s								
H24K	Noodor Dome	87.33	23	P	P	03 46 11.1	+0.1		
H24K				IAmb	IAmb	03 46 56.9			
	comp=Z,12nm,0.9s								
H24K	Noodor Dome	87.33	23	P	P	03 46 10.9	0.0		
	baz=248								
GLB	Gilahina Butte	87.55	27	P	P	03 46 11.7	-0.4		
GLB				IAmb	IAmb	03 47 04.3			
	comp=Z,16nm,1.1s								
E23K	Chandalar	87.56	20	P	P	03 46 13.1	+1.0		
	baz=247								
D23K	Nanushuk River	87.57	19	P	P	03 46 13.1	+1.2		
	baz=246								
CRQE	Cirque	87.67	28	P	P	03 46 13.0	+0.2		
	baz=253								
G24K	Hadweenzic Riv	87.81	22	P	P	03 46 13.4	+0.2		
G24K				IAmb	IAmb	03 46 60.0			
	comp=Z,20nm,1.2s								
G24K	Hadweenzic Riv	87.81	22	P	P	03 46 13.5	+0.3		
	baz=249,SNR=5.9								
RIDG	Independent Ri	87.82	25	P	P	03 46 13.2	-0.2		
	baz=251								
MCARA	McCarthy VSAT	87.89	28	P	P	03 46 13.7	0.0		
	baz=253								
J25K	Salcha River,	87.89	24	P	P	03 46 13.4	-0.3		
J25K				IAmb	IAmb	03 46 14.1			
	comp=Z,16nm,1.1s								
J25K	Salcha River,	87.89	24	P	P	03 46 13.4	-0.3		
	baz=251								
C23K	Itkillik River	87.96	19	P	P	03 46 14.3	+0.6		
C23K	Itkillik River	87.96	19	P	P	03 46 14.6	+0.8		
	baz=246								
F24K	Squaw Lake	87.96	21	P	P	03 46 14.4	+0.4		
F24K				IAmb	IAmb	03 46 56.2			
	comp=Z,18nm,0.9s								
F24K	Squaw Lake	87.96	21	P	P	03 46 14.9	+1.0		
	baz=248								
PRP	Porcupine Dome	88.13	23	P	P	03 46 16.9	+2.0		
	baz=251								
M26K	Nabesna, AK	88.20	27	P	P	03 46 15.6	+0.4		
	baz=253								
L26K	Log Cabin Wild	88.24	26	P	P	03 46 15.1	-0.2		
L26K				IAmb	IAmb	03 46 16.5			
	comp=Z,28nm,1.6s								
L26K	Log Cabin Wild	88.24	26	P	P	03 46 15.1	-0.2		
	baz=253								
SCRK	Sand Creek	88.26	25	P	P	03 46 15.3	-0.2		
SCRK	Sand Creek	88.26	25	P	P	03 46 15.1	-0.4		
	baz=252								
D24K	Happy Valley	88.26	19	P	P	03 46 16.2	+0.9		
	baz=248								
H25L	Birch Creek	88.27	23	P	P	03 46 15.6	+0.3		
	baz=250								
G25K	Bearman Lake	88.34	22	P	P	03 46 16.1	+0.5		
	baz=250								
BARN	Barnard Glacie	88.43	28	P	P	03 46 16.6	+0.1		
C24K	Franklin Bluff	88.52	19	P	P	03 46 16.8	+0.4		
	baz=248								
CTG	Chitna Glacier	88.55	28	P	P	03 46 17.5	+0.5		
	baz=254								
J26L	Joseph Creek	88.60	25	P	P	03 46 17.1	0.0		
J26L				IAmb	IAmb	03 47 01.9			
	comp=Z,12nm,0.9s								
J26L	Joseph Creek	88.60	25	P	P	03 46 17.4	+0.3		
	baz=252								
FYU	Fort Yukon	88.60	22	P	P	03 46 17.4	+0.6		
M27K	Edge Creek, AK	88.69	27	P	P	03 46 17.7	+0.1		
M27K	Edge Creek, AK	88.69	27	P	P	03 46 18.0	+0.4		
	baz=254,SNR=7.3								
F25K	Christian Rive	88.79	21	P	P	03 46 18.4	+0.6		
	baz=250								
PINM	Pinnacle	88.84	29	P	P	03 46 19.3	+1.0		
	baz=256								
L27K	Beaver Creek,	88.91	26	P	P	03 46 18.6	+0.1		
L27K	Beaver Creek,	88.91	26	P	P	03 46 18.9	+0.4		
	baz=254								
BCAR	Beaver Creek A	88.93	26	P	P	03 46 18.7	+0.1		
E25K	Arctic Village	89.00	21	P	P	03 46 18.9	+0.1		
E25K				IAmb	IAmb	03 47 16.7			
	comp=Z,15nm,1.2s								
E25K	Arctic Village	89.00	21	P	P	03 46 19.4	+0.6		
	baz=251,SNR=8.1								
I26K	Coal Creek Min	89.01	24	P	P	03 46 18.7	-0.1		
	baz=253								
K27K	Chicken	89.08	25	P	P	03 46 19.6	+0.4		
	baz=254								
BMAR	Burnt Mountain	89.12	22	P	P	03 46 19.8	+0.4		
D25K	Kavik River	89.13	20	P	P	03 46 20.1	+0.7		
D25K				IAmb	IAmb	03 46 20.8			
	comp=Z,30nm,1.8s								
D25K	Kavik River	89.13	20	P	P	03 46 19.9	+0.5		
	baz=250								
PNL	Peninsula	89.16	30	P	P	03 46 19.8	+0.1		
	baz=256								
BVCY	Beaver Creek	89.16	27	P	P	03 46 20.2	+0.5		
	baz=255								
YUK3	Moose Creek	89.18	28	P	P	03 46 20.1	+0.1		
	baz=255								
G26K	Porcupine Rive	89.26	22	P	P	03 46 20.9	+0.9		
	baz=252,SNR=19								
F26K	Sheenjek River	89.36	21	P	P	03 46 21.6	+1.1		
	baz=252,SNR=17								
YUK8	Steele Glacier	89.38	28	P	P	03 46 21.0	0.0		
	baz=256								
EGAK	Eagle	89.67	25	P	P	03 46 22.0	0.0		
EGAK	Eagle	89.67	25	P	P	03 46 21.9	0.0		
	baz=255,SNR=6.2								
O29M	Mount Kennedy	89.71	29	P	P	03 46 23.0	+0.6		
	baz=257								
I27K	Kandik River	89.71	24	P	P	03 46 22.6	+0.4		
	baz=254								
C26K	Camden Bay	89.82	19	P	P	03 46 23.3	+0.8		
	baz=251								
YUK4	Talbot Arm	89.91	28	P	P	03 46 24.0	+0.6		
	baz=257								
H27K	Steamboat Moun	89.92	23	P	P	03 46 23.7	+0.6		
	baz=254								
P29M	Windy Craggy	89.97	30	P	P	03 46 23.7	+0.2		
	baz=258								
DAWY	Dawson	90.23	25	P	P	03 46 24.9	+0.3		
DAWY				IAmb	IAmb	03 47 10.7			
	comp=Z,20nm,1.1s								
DAWY	Dawson	90.23	25	P	P	03 46 25.1	+0.4		
	baz=256,SNR=8.5								
M29M	Somme Creek	90.25	27	P	P	03 46 25.2	+0.3		
M29M	Somme Creek	90.25	27	P	P	03 46 25.0	+0.1		
	baz=257								
HYT	Haines Junctio	90.34	29	P	P	03 46 25.4	+0.1		
	baz=258								
I28M	Miner Creek	90.34	24	P	P	03 46 25.4	+0.2		
I28M	Miner Creek	90.34	24	P	P	03 46 25.1	-0.1		
	baz=256								
S31K	Pelican	90.39	32	P	P	03 46 25.8	+0.4		
	baz=259								
P30M	Million Dollar	90.45	30	P	P	03 46 26.3	+0.5		
	baz=258								
L29M	L29M	90.55	26	P	P	03 46 26.6	+0.5		
L29M				IAmb	IAmb	03 47 13.7			
	comp=Z,19nm,0.9s								
L29M	L29M	90.55	26	P	P	03 46 26.7	+0.5		
	baz=257								
PLBC	Pleasant Camp	90.61	30	P	P	03 46 26.5	0.0		
	baz=259								
N30M	Aishikik Lake	90.67	28	P	P	03 46 26.9	+0.1		
	baz=258								
F28M	Old Crow	90.91	22	P	P	03 46 27.9	+0.2		
	baz=256								
K29M	Barlow Dome	90.98	26	P	P	03 46 28.5	+0.2		
K29M				IAmb	IAmb	03 47 30.8			
	comp=Z,23nm,1.2s								
K29M	Barlow Dome	90.98	26	P	P	03 46 28.5	+0.2		
	baz=258								
O30N	Mendenhall	91.01	29	P	P	03 46 28.4	+0.1		
	baz=259								
M30M	Minto, Yukon	91.04	27	P	P	03 46 28.5	+0.1		
	baz=258								
SKAG	Skagway	91.14	30	P	P	03 46 28.8	-0.1		
	baz=260								
H29M	Whitestone	91.15	23	P	P	03 46 29.1	+0.2		
	baz=257								
J30M	Hart River	91.64	25	P	P	03 46 31.5	+0.3		
J30M	Hart River	91.64	25	P	P	03 46 31.6	+0.3		
	baz=259								
D28M	Stokes Point	91.73	20	P	P	03 46 31.8	+0.4		
	baz=257								
I30M	Mount Dempster	91.75	25	P	P	03 46 31.7	-0.1		
I30M	Mount Dempster	91.75	25	P	P	03 46 31.4	-0.4		
	baz=259								
E29M	Blow River	91.81	21	P	P	03 46 32.0	+0.1		
	baz=258								
EPYK	Eagle Plains	91.84	23	P	P	03 46 32.3	+0.2		
EPYK	Eagle Plains	91.84	23	P	P	03 46 31.9	-0.2		
	baz=259								
P32M	Atlin	91.97	30	P	P	03 46 33.0	+0.2		
	baz=261								
M31M	Drury Creek, Y	92.07	28	P	P	03 46 33.3	+0.1		
	baz=261								
G30M	tAoh Zraii Nji	92.15	23	P	P	03 46 33.9	+0.4		
	baz=259								
ARU	Arti	92.25	326	PKKPbc	PKKPbc	04 03 49.9	-1.6		
	comp=Z,26nm,0.6s,baz=102,slow=1.7,SNR=12								
F30M	Barrier River	92.44	22	P	P	03 46 35.0	+0.2		
	baz=260								
V35K	Ketchikan	92.47	35	P	P	03 46 35.6	+0.5		
	baz=263								
P33M	Teslin, Yukon	92.51	30	P	P	03 46 35.3	0.0		
	baz=262								
N32M	Quiet Lake	92.52	29	P	P	03 46 36.2	+0.8		
	baz=262								
FARO	Faro, Yukon	92.55	28	P	P	03 46 35.4	-0.1		
	baz=262								
G31M	Satah River	92.90	23	P	P	03 46 36.8	-0.1		
	baz=261								
S34M	Telegraph Cree	93.07	32	P	P	03 46 38.0	+0.2		
	baz=263								
F31M	Tsiigehtchic	93.18	23	P	P	03 46 38.2	0.0		
	baz=262								
R33M	Jennings River	93.33	31	P	P	03 46 39.1	-0.1		
	baz=264								
INK	Inuvik	93.39	22	P	P	03 46 39.0	-0.1		
	baz=262								
T35M	Bob Quinn	93.43	33	P	P	03 46 41.3	+1.7		
	baz=264								
DLBC	Dease Lake	93.71	32	P	P	03 46 41.1	+0.2		
	baz=264								
WTLY	Watson Lake, Y	94.50	30	P	P	03 46 44.5	+0.1		
WTLY				IAmb	IAmb	03 46 45.5			
	comp=Z,8.3nm,1.0s								
WTLY	Watson Lake, Y	94.50	30	P	P	03 46 44.7	+0.3		
	baz=265								
TGTN	Hyland Airport	94.86	29	P	P	03 46 46.0	-0.1		
	baz=266								
KOTAN	Kotaneelee Air	96.87	30	P	P	03 46 56.2	+1.0		
	baz=270								
C36M	Paulatuk	96.89	21	P	P	03 46 56.4	+1.3		
	baz=271								
WRGLY	Wrigley	97.17	27	P	Pdif	03 46 57.2	+0.7		
	baz=270								
AFDM	Forest Hills D	98.53	52	P	P	03 47 03.2	-0.1		
AFDM				IAmb	IAmb	03 47 04.1			
	comp=Z,4.2nm,0.8s								
PINE	Pine Mountain	98.63	47	P	Pdif	03 47 03.9	0.0		
PKM	Mcpherson Peak	99.37	56	P	Pdif	03 47 08.1	+0.8		
	baz=269								
SNCC	San Nicolas Is	99.58	57	P	Pdif	03 47 09.4	+1.4		
	baz=269								
ISA	Isabella, Lake	100.48	55	P	Pdif	03 47 12.3	+0.2		
	baz=270								
NVAR	Mina Array Basa	100.61	52	P	Pdif	03 47 13.6	+0.7		
	comp=Z,1.9nm,0.6s,baz=259,slow=5.8,SNR=21								
CWC	Cottonwood Cre	100.80	54	P	Pdif	03 47 14.4	+0.8		
	baz=270								
EDW2	Edwards Air Fo	100.87	56	P	Pdif	03 47 14.7	+0.9		
	baz=270								
BFSC	Mount Baldy Ra	101.14	56	P	Pdif	03 47 16.7	+1.6		
	baz=270								
NEW	Newport	101.19	42	P	Pdif	03 47 15.9	+0.9		
	baz=273								
YKA	Yellowknife Ar	101.27	28	P	Pdif	03 47 14.3	-0.5		
	comp=Z,0.3nm,0.8s,baz=283,slow=5.4,SNR=6.1								
YKA				PKKPbc	PKKPbc	04 03 24.6	-2.4		
	comp=Z,0.2nm,0.7s,baz=101,slow=3.1,SNR=4.7								
MPMC	Manual Prospec	101.28	55	P	Pdif	03 47 16.3	+0.5		
	baz=271								
MURC	Muskeg	101.53	57	P	Pdif	03 47 17.5	+0.8		
	baz=270								
MONP2	Monument Peak	102.18	58	P	Pdif	03 47 20.3	+0.4		
	baz=270								
TUQ	Turquoise Moun	102.56	55	P	Pdif	03 47 21.6	+0.2		
	baz=271								
HLID	Hailey	103.37	47	P	Pdif	03 47 25.1	+0.2		
	baz=274								
EGMT	Eagleton	106.13	42	P	PKiKP	03 51 47.3	-1.4		
	baz=279								
PDAR	Pinedale Array	106.98	47	Pdiff	Pdif	03 47 41.0	0.0		
	comp=Z,0.5nm,0.6s,baz=178,slow=2.5,SNR=7.8								
ANMO	Albuquerque	110.33	55	P	PKiKP	03 51 56.1	-1.0		
	baz=277								
ISCO	Idaho Springs	110.34	50	P	PKiKP	03 51 57.5	+0.3		
	baz=279								
SDCO	Great Sand Dun	110.73	52	P	PKiKP	03 51 57.4	-0.5		
	baz=278								
Q24A	Divide	110.83	51	P	PKiKP	03 51 57.5	-0.5		
	baz=279								
MNTX	Cornudas Mount	111.57	59	P	PKiKP	03 52 00.2	+0.8		
	baz=276								
KSCO	Kaye Shedlock'	112.75	50	P	PKiKP	03 52 00.9	-0.6		
	baz=281								
MSTX	Muleshoe	113.47	56	P	PKiKP	03 52 01.8	-1.2		
	baz=279								
NB2	NORSAR Subarra	114.79	336	PKPdf	PKiKP	03 52 04.0	-0.6		
	comp=Z,17nm,1.0s,baz=44,slow=1.9								
NOA	NORSAR Array B	114.79	336	PKP	PKiKP	03 52 04.0	-0.6		
	comp=Z,0.6nm,0.6s,baz=52,slow=2.0,SNR=4.3								
CBKS	Cedar Bluff	115.00	50	P	PKPdf	03 52 06.3	+0.6		
	baz=283								
AGMN	Agassiz Nation	115.07	39	P	PKiKP	03 52 04.9	-0.5		
	baz=290								
BGNE	Belgrade	115.57	47	P	PKPdf	03 52 07.1	+0.4		
	baz=285								
ABTX	Abilene, Hawle	116.27	57	P	PKiKP	03 52 08.5	+0.2		
	baz=280								
JCT	Junction City	116.47	59	P	PKPdf	03 52 08.5	-0.2		
	baz=279								
WMOK	Wichita Mounta	116.59	54	P	PKPdf	03 52 08.6	-0.3		
	baz=282								
BRDY	Brady	117.03	58		PKPdf	03 52 09.4	-0.4		
833A	Chaparral WMA,	117.13	62	P	PKPdf	03 52 09.8	-0.2		
	baz=278								
KSU1	Kansas State U	117.30	49	P	PKiKP	03 52 10.4	+0.4		
	baz=285								
EYMN	Ely	117.92	38	P	PKPdf	03 52 11.0	0.0		
	baz=294								
SPMN	Marine on St.	118.11	42	P	PKPdf	03 52 11.2	-0.2		
	baz=291								
ZVC	Zvikov	119.42	324	*e*PKPDF	PKiKP	03 52 14.3	+0.4		
CKRC	Cesky Krumlov	119.63	324	*e*PKPDF	PKiKP	03 52 14.8	+0.5		
KHC	Kasperske Hory	119.92	324	*e*PKPDF	PKiKP	03 52 15.4	+0.5		
GERES	GERESS Array B	119.98	324	PKP	PKiKP	03 52 15.7	+0.5		
	comp=Z,1.4nm,0.6s,baz=46,slow=3.9,SNR=5.5								
JFWS	Jewell Farm	120.67	43	P	PKPdf	03 52 15.8	-0.6		
	baz=292								
MIAR	Mount Ida	120.82	53	P	PKiKP	03 52 17.2	+0.1		
	baz=285								
LESA	Schwarzleotal	121.25	323	*i* PKiKP	PKiKP	03 52 17.6	0.0		
	comp=Z,2.6nm,0.6s								
CCM	Cathedral Cave	121.63	49	P	PKPdf	03 52 18.2	-0.2		
	baz=289								
ABTA	Abfaltersbach	121.66	322	*i* PKiKP	PKiKP	03 52 18.5	0.0		
	comp=Z,4.4nm,0.7s								
STAL	STALIGIAL	121.77	322	PKPdf	PKPdf	03 52 18.2	-0.3		
WTTA	Wattenberg	121.95	323	*i* PKiKP	PKPdf	03 52 19.1	+0.1		
	comp=Z,5.5nm,0.6s								
HDIL	Hopedale	122.20	46	P	PKPdf	03 52 19.4	0.0		
	baz=292								
MOTA	Moosalm	122.23	323	*e*PKiKP	PKPdf	03 52 19.5	0.0		
	comp=Z,5.1nm,0.7s								
RETA	Reutte	122.36	324	*e*PKiKP	PKiKP	03 52 20.3	+0.5		
	comp=Z,6.2nm,1.6s								
L44A	Lake County Fo	122.55	43	P	PKPdf	03 52 20.0	0.0		
	baz=294								
DAVA	Damuels	122.98	324	*e*PKiKP	PKiKP	03 52 21.6	+0.5		
	comp=Z,8.2nm,0.8s								
GLMI	Grayling	123.56	39	P	PKPdf	03 52 21.6	-0.4		
	baz=298								
SFIN	Lafayette	123.82	45	P	PKPdf	03 52 22.6	+0.1		
	baz=294								
PLCA	Paso Flores	123.84	149	PKhKP	PKPpre	03 52 19.8			
	comp=Z,3.5nm,0.7s,baz=26,slow=1.2,SNR=2.9								
PLCA				PKP	PKiKP	03 52 23.7	+0.7		
	comp=Z,3.5nm,0.7s,baz=241,slow=3.2,SNR=15								
OXF	Oxford	124.13	52	P	PKiKP	03 52 23.8	+0.2		
	baz=288								
EKA	Eskdalemuir Ar	124.25	337	PKP	PKiKP	03 52 23.2	0.0		
	comp=Z,1.5nm,0.5s,baz=29,slow=2.6,SNR=12								
WVT	Waverly	124.84	50	P	PKPdf	03 52 24.5	-0.1		
	baz=290								
O48B	Farmland	125.23	44	P	PKPdf	03 52 25.1	-0.1		
	baz=295								
WCI	Wyandotte Cave	125.23	47	P	PKPdf	03 52 25.2	-0.1		
	baz=293								
P49A	Miami Univ. Ec	125.84	45	P	PKPdf	03 52 26.1	-0.4		
	baz=295								
SCHQ	Schefferville	126.00	21	PKP	PKiKP	03 52 27.3	+0.6		
	comp=Z,1.7nm,0.6s,baz=320,slow=6.6,SNR=5.3								
LRAL	Lakeview Retre	126.50	53	P	PKPdf	03 52 27.6	-0.3		
	baz=289								
ACSO	Alum Creek Sta	126.74	44	P	PKPdf	03 52 28.2	+0.1		
	baz=297								
P52A	Corning	127.59	44	P	PKPdf	03 52 29.4	-0.4		
	baz=297								
BO02	Sierra Bellavi	128.05	144		PKPdf	03 52 30.8	-0.2		
KEST	Kesra	128.58	311	PKP	PKiKP	03 52 33.6	+1.0		
	comp=Z,3.3nm,0.8s,baz=27,slow=4.5,SNR=2.2								
SSPA	Standing Stone	129.94	41	P	PKPdf	03 52 34.1	-0.1		
	baz=302								
KMSC	Kings Mountain	130.11	49	P	PKPdf	03 52 34.9	+0.2		
	baz=295								
CO03	El Pedregal	130.85	141	PKPdf	PKPdf	03 52 36.0	-0.4		
CO01	Juntas del Tor	131.81	140		PKPdf	03 52 37.7	-0.8		
NHSC	New Hope	131.82	51	P	PKPdf	03 52 38.2	+0.2		
	baz=294								
MCRA	Macar, Loja	135.67	103		PKPdf	03 52 45.0	-0.8		
LPAZ	La Paz	141.74	126	PKhKP	PKPpre	03 52 52.5			
	comp=Z,4.2nm,0.8s,baz=259,slow=4.6,SNR=10								
LPAZ				PKP	PKiKP	03 52 59.2	-1.2		
	comp=Z,5.3nm,0.9s,baz=227,slow=2.4,SNR=8.1								
CPUP	Villa Florida	141.92	149	PKhKP	PKPpre	03 52 51.9			
	comp=Z,3.8nm,0.8s,baz=209,slow=3.6,SNR=3.2								
CPUP				PKP	PKPdf	03 52 58.2	+1.4		
	comp=Z,3.3nm,0.7s,baz=24,slow=0.9,SNR=7.3								
SDDR	Presa de Saban	144.23	66	PKPdf	PKPab	03 52 58.9	-0.1		
SDV	Santo Domingo	146.44	84	PKPdf	PKPdf	03 53 04.0	-1.3		
ETMB	Extrema	146.63	119	PKPdf	PKPdf	03 53 04.6	-0.8		
TRCB	Terra Rica	147.17	152	PKPdf	PKPdf	03 53 05.5	-0.7		
AQDB	Aquidauana	147.53	146		PKPbc	03 53 09.1	-0.3		
DBIC	Dimbokro	148.21	272	PKPab	PKiKP	03 53 12.7	-0.3		
DBIC	Dimbokro	148.21	272	PKiKP	PKiKP	03 53 12.7	-0.3		
DBIC	Dimbokro	148.21	272	PKPbc	PKPbc	03 53 12.0	+0.6		
	comp=Z,38nm,0.6s,baz=86,slow=2.5,SNR=60								
BAUV	El Baul	148.99	83		PKPbc	03 53 12.2	-1.2		
GCPR	Guaynabo City	149.14	65		PKPbc	03 53 12.9	-0.7		
HUMP	Col San Antoni	149.40	65		PKPbc	03 53 14.2	0.0		
SAML	Samuel	149.67	120	*e*P	PKPdf	03 53 03.4	-7.0		
VILB	Vilhena	149.90	130	PKPdf	PKPdf	03 53 10.7	-0.1		
VILB	Vilhena	149.90	130	*e*P	PKPdf	03 53 12.2	+1.5		
TEFE	Tefe	150.59	109	*e*P	PKPdf	03 53 12.4	+0.5		
SMRT	St. Maarten	151.91	63		PKPbc	03 53 19.6	-0.6		
BDFB	Brasilia	155.51	153	PKP	PKPdf	03 53 20.0	+1.0		
	comp=Z,4.5nm,1.0s,baz=266,slow=5.1,SNR=4.6								
BDFB				PKPab	PKPab	03 53 44.3	-0.3		
	comp=Z,2.5nm,0.8s,baz=148,slow=3.3,SNR=4.0								

BJI ***08*** *03:33:51.5±0.0, 3˚.53S×131˚.22E, h13km, mb5.2/83, mB5.4/57, Ms5.2/79, Ms7 4.9/77*

IDC ***08*** *03:33:53.5±0.4, 3˚.32S×131˚.04E, h0km, mb5.2/31, mbtmp5.3/34, ML5.4/3, MS5.0/7, Error ellipse: s-maj=21.3km s-min=9.5km az=80.0*

MOS ***08*** *03:33:54.3±1.0, 3˚.29S×130˚.97E, h17km, mb5.6/62, Error ellipse: s-maj=8.9km s-min=4.4km az=113.8*

NEIC ***08*** *03:33:56.4, 3˚.64S×131˚.02E, h20km, Moment Tensor Solution. Duration: 2s4 Moment tensor: Scale 10^17Nm; Mrr1.39; Mθθ-0.57; Mφφ-0.82; Mrθ0.37; Mθφ0.83; Mφr-0.10; Fault plane solution: M0 1.51000×10^17 NP1: φs130.17000°, δ51.84000°, λ78.35000°. NP2: φs328.63000°, δ39.64000°, λ104.41000°. Principal axes: T 1.4594, Plg79.0000°, Azm352.0000°; N 0.1105, Plg9.0000°, Azm137.0000°; P -1.5699, Plg6.0000°, Azm228.0000°;*

NEIC ***08*** *03:33:56.1±1.6, 3˚.35S±0˚.06×130˚.91E±0˚.05, h10km±1km, mb5.5/152, Mww5.4/25 Error ellipse: s-maj=10.5km s-min=8.1km az=163.0*

NEIC ***08*** *03:33:56.4, 3˚.34S×130˚.92E, h20km*

DJA ***08*** *03:33:57.7±0.5, 3˚S±2˚×13˚1E±˚, h28km±4km, M5.5/97, mb5.4/97, mB5.9/73, MLv5.4/12, Mw(mB)5.5/73, MwMwp5.3/37, Mwp5.5/37*

GCMT ***08*** *03:33:58.1±0.1, 3˚.26S±0˚.01×131˚.00E±0˚.01, h15km, MW5.4/133, Moment Tensor Solution. s132, c229; s133, c216; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr1.13±.02; Mθθ-0.51±.02; Mφφ-0.61±.02; Mrθ-0.73±.04; Mθφ0.76±.02; Mφr1.03±.05; Best double couple: M0 1.76100×10^17 NP1: φs323.00000°, δ68.00000°, λ95.00000°. NP2: φs129.00000°, δ23.00000°, λ77.00000°. Principal axes: T 1.6720, Plg67.0000°, Azm242.0000°; N 0.1790, Plg5.0000°, Azm141.0000°; P -1.8490, Plg23.0000°, Azm49.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 03:33:56.2±0.3, 3˚37S±0˚.03×130˚.97E±0˚.03, h18km±1km, h19km; pP-P, n820, σ1s63/870, mb5.4/192, MS4.9/39, 31C-4D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	1.35	71	Pn	Pb	03 34 21.3	+0.4
FAKI				Sn

MPSI	**Mapaga**	**11.66 288**	P		**Pn**	03 36 42.1	+0.3	
	97nm,0.8s,2µm8µm							
DAV	**Davao City (W)**	**11.69 333**	Pn		**Pn**	03 36 43.1	+1.0	
	48nm,0.3s,baz=140,slow=18,SNR=1.4							
	125nm,0.3s							
DAV	**Davao City (W)**	**11.69 333**	P		**Pn**	03 36 45.3	+3.2	
BASI	**Baing, Sumba**	**12.36 236**	P		**Pn**	03 36 51.4	+0.1	
	431nm,1.5s,6µm10µm							
KNRA	**Kununurra**	**12.42 190**	P		**Pn**	03 36 48.9	-3.2	
	baz=12,SNR=59							
KNRA	**Kununurra**	**12.42 190**	Pn		**Pn**	03 36 49.4	-2.7	
KNRA	**Kununurra**	**12.42 190**	P		**Pn**	03 36 49.4	-2.7	
PLAI	**Plampang**	**14.19 247**	P		**Pn**	03 37 15.8	-0.6	
PLAI	**Plampang**	**14.19 247**	P		**Pn**	03 37 16.8	+0.4	
	442nm,1.0s,5µm8µm							
BKB	**Balikpapan**	**14.22 278**	Pn		**Pn**	03 37 15.4	-1.3	
BKB	**Balikpapan**	**14.22 278**	P		P	03 37 30.4	+6.4	
TWSI	**Taliwang, Sumb**	**14.99 249**	P		**Pn**	03 37 28.9	+1.7	
	201nm,0.8s,3µm7µm							
FITZ	**Fitzroy Crossi**	**15.54 199**	P		**Pn**	03 37 30.2	-4.2	
	baz=16,SNR=63							
FITZ	**Fitzroy Crossi**	**15.54 199**	Pn		**Pn**	03 37 31.0	-3.5	
FITZ	**Fitzroy Crossi**	**15.54 199**	P		**Pn**	03 37 31.4	-3.1	
COEN	**Coen**	**15.99 132**	P		Pn	03 37 32.9	-7.5	
	baz=16,SNR=5.3							
MTKI	**Muara Teweh, K**	**16.24 278**	P		**P**	03 37 45.7	-0.9	
SRBI	**Singaraja**	**16.36 253**	P		**Pn**	03 37 45.7	+0.6	
	316nm,1.2s,4µm7µm							
MANU	**Manus Island**	**16.43 86**	Pn		**Pn**	03 37 45.5	-0.5	
DNP	**Denpasar**	**16.53 251**	P		**P**	03 37 49.2	-0.5	
	330nm,0.7s							
WRA	**Warramunga Arr**	**16.80 169**	Pn		**Pn**	03 37 49.6	-1.0	
	5.0nm,0.3s,baz=348,slow=13,SNR=9.5							
WRA			Sn		Sn	03 40 43.5	-13	
	5.8nm,0.3s,baz=356,slow=22,SNR=5.4							
	80nm,0.8s							
WC3	**Warramunga Arr**	**16.82 169**	P		**Pn**	03 37 50.3	-0.5	
	baz=17							
PMG	**Port Moresby**	**17.16 111**	S		**Sn**	03 40 56.7	-9.1	
	6.9nm,0.4s,baz=282,slow=14,SNR=1.3							
PMG			LR		LR	03 46 50.1		
	comp=Z,6µm,19.8s,baz=276,slow=45							
ABJI	**Asem Bagus**	**17.22 255**	P		**P**	03 37 57.7	+0.3	
	291nm,1.1s,5µm8µm							
KMMI	**Kalianget**	**17.32 257**	P		**P**	03 37 59.6	+1.1	
	518nm,1.3s,5µm							
KKM	**Kota Kinabalu**	**17.45 302**			**Pn**	03 37 57.5	-1.4	
KKM			IAmb		IAmb	03 38 03.8		
	comp=Z,307nm,1.1s							
JAGI	**Jajag, Banyuwa**	**17.47 252**			**Pn**	03 37 58.0	-1.1	
JAGI	**Jajag, Banyuwa**	**17.47 252**	P		**P**	03 37 59.7	-0.5	
JAGI	**Jajag, Banyuwa**	**17.47 252**	P		**Pn**	03 37 58.0	-1.1	
	comp=Z,119nm,0.6s,comp=Z,3µmcomp=Z,6µm							
BLJI	**Banyuglugur**	**17.83 255**	P		**P**	03 38 04.9	+0.8	
	comp=Z,355nm,0.8s,comp=Z,5µm							
GMJI	**Gumukmas**	**18.10 254**	P		**Pn**	03 38 06.8	0.0	
GRJI	**Gresik**	**18.75 258**	P		**Pn**	03 38 14.9	+0.2	
	comp=Z,548nm,0.9s,comp=Z,7µmcomp=Z,8µm							
QIS	**Mount Isa**	**19.04 154**	P		**Pn**	03 38 18.3	+0.1	
	baz=19							
QIS	**Mount Isa**	**19.04 154**	P		**Pn**	03 38 18.5	+0.2	
SBUM	**Sibu**	**19.61 287**	P		**P**	03 38 24.1	+0.4	
PWJI	**Pagerwojo**	**19.62 256**	P		**P**	03 38 22.6	-1.2	
	comp=Z,153nm,0.9s,comp=Z,2µm							
MTSU	**Mount Surprise**	**19.65 139**	P		**Pn**	03 38 25.5	-0.2	
	baz=20,SNR=11							
MTSU	**Mount Surprise**	**19.65 139**	P		**Pn**	03 38 27.3	+1.7	
STKI	**Sintang**	**19.78 280**	P		**Pn**	03 38 27.0	-0.2	
	comp=Z,210nm,1.2s,comp=Z,5µm							
NGJI	**Ngawi**	**19.82 258**	P		**Pn**	03 38 27.6	0.0	
	comp=Z,331nm,1.2s,comp=Z,7µmcomp=Z,9µm							
TGY	**Tagaytay City**	**20.01 330**	P		**P**	03 38 28.4	+0.2	
	comp=Z,67nm,0.3s,baz=256,slow=1.3,SNR=15							
TGY			LR		LR	03 48 39.0		
	comp=Z,2µm,18.7s,baz=100,slow=44							
	comp=Z,147nm,0.3s							
ASAR	**Alice Springs**	**20.38 172**	P		**P**	03 38 32.7	+0.7	
	comp=Z,243nm,0.6s,baz=352,slow=10,SNR=72							
ASAR			S		**S**	03 42 10.1	-10	
	comp=Z,30nm,0.9s,baz=0.3,slow=27,SNR=6.2							
	comp=Z,243nm,0.6s							
ASPA	**Alice Springs**	**20.38 172**	P		**P**	03 38 32.7	+0.7	
	baz=20							
AS01	**Alice Springs**	**20.38 172**	P		**P**	03 38 32.9	+0.8	
	comp=Z,448nm,0.9s							
SMRI	**Semarang**	**20.77 259**	P		**P**	03 38 36.0	-0.3	
SMRI	**Semarang**	**20.77 259**	P		**P**	03 38 35.6	-0.7	
	comp=Z,353nm,1.0s,comp=Z,8µm							
MBWA	**Marble Bar**	**20.79 211**	P		**P**	03 38 33.9	-2.6	
MBWA	**Marble Bar**	**20.79 211**	P		**P**	03 38 35.0	-1.5	
UGM	**Wanagama**	**20.84 257**	P		**P**	03 38 35.0	-2.1	
UGM	**Wanagama**	**20.84 257**	P		**P**	03 38 36.4	-0.7	
UGM	**Wanagama**	**20.84 257**	P		**P**	03 38 37.9	+0.8	
	comp=Z,168nm,1.5s,comp=Z,5µm							
PSA00	**Pilbara Seismi**	**21.08 210**	P		**P**	03 38 37.7	-1.9	
PSA00			IAmb		IAmb	03 38 39.8		
	comp=Z,193nm,0.9s							
PSA00	**Pilbara Seismi**	**21.08 210**	P		**P**	03 38 37.5	-2.1	
PSA00			IAmb		IAmb	03 38 39.7		
	comp=Z,141nm,1.1s							
PSA00	**Pilbara Seismi**	**21.08 210**	P		**P**	03 38 38.3	-1.3	
RABL	**Rabaul**	**21.16 93**	P		**P**	03 38 41.5	+0.8	
TV1H	**Townsville Har**	**22.10 137**	P		**P**	03 38 54.4	+3.8	
KPJI	**Karang Pucung**	**22.29 259**	P		**P**	03 38 50.3	-2.4	
	comp=Z,211nm,1.4s,comp=Z,3µm							
CTA	**Charters Tower**	**22.32 139**	P		**P**	03 38 53.8	+0.7	
	comp=Z,60nm,0.8s,baz=317,slow=11,SNR=14							
	comp=Z,60nm,0.8s							
CTAO	**Charters Tower**	**22.32 139**	P		**P**	03 38 53.7	+0.7	
CTAO	**Charters Tower**	**22.32 139**	P		**P**	03 38 55.0	+2.0	
CTAO	**Charters Tower**	**22.32 139**	P		**P**	03 38 53.7	+0.7	
CTAO			pmax		pmax			
	comp=Z,146nm,1.3s							
CMJI	**Cimerak**	**22.84 258**	P		**P**	03 38 54.4	-4.1	
	comp=Z,144nm,1.0s,comp=Z,2µmcomp=Z,3µm							
LEM	**Lembang**	**23.51 261**	P		**P**	03 39 04.5	-1.0	
LEM			pmax		pmax			
	comp=Z,109nm,1.0s							
LEM	**Lembang**	**23.51 261**	LR		LR	03 50 39.7		
	comp=Z,8µm,19.2s,baz=82,slow=43							
LEM	**Lembang**	**23.51 261**	P		**P**	03 39 04.1	-1.4	
	comp=Z,109nm,1.0s,comp=Z,2µmcomp=Z,2µm							
CBJI	**Citeko**	**24.22 262**	P		**P**	03 39 10.3	-1.8	
DBJI	**Dramaga**	**24.33 262**	P		**P**	03 39 11.8	-1.4	
	comp=Z,98nm,0.9s							
SKJI	**Sukabumi**	**24.58 261**	P		**P**	03 39 11.8	-3.6	
	comp=Z,181nm,1.3s,comp=Z,7µmcomp=Z,2µm							
OOD	**Oodnadatta**	**24.70 170**	P		**P**	03 39 18.5	+2.2	
PPBI	**Pangkal Pinang**	**24.83 272**	P		**P**	03 39 18.6	+0.9	
	comp=Z,109nm,1.4s,comp=Z,71µmcomp=Z,3µm							
GIRL	**Giralia**	**25.10 219**	P		**P**	03 39 19.3	-0.7	
	baz=25,SNR=11							
GIRL	**Giralia**	**25.10 219**	P		**P**	03 39 19.8	-0.2	
MEEK	**Meekatharra**	**25.99 206**	P		**P**	03 39 26.6	-1.5	
	baz=26,SNR=43							
MEEK	**Meekatharra**	**25.99 206**	P		**P**	03 39 26.2	-1.9	
XMIS	**Christmas Isla**	**26.09 253**	P		**P**	03 39 27.8	-1.3	
PMBI	**Palembang**	**26.16 270**	P		**P**	03 39 31.4	+1.6	
	comp=Z,553nm,0.5s							
QLP	**Quilpie**	**26.35 152**	P		**P**	03 39 32.4	+1.2	
	baz=26,SNR=6.5							
QLP	**Quilpie**	**26.35 152**	P		**P**	03 39 32.5	+1.2	
KASI	**Kota Agung**	**26.48 264**	P		**P**	03 39 30.3	-2.3	
	comp=Z,130nm,1.0s,comp=Z,888nm							
DSRI	**Dabo**	**26.53 276**	P		**P**	03 39 34.3	+1.2	
	comp=Z,112nm,2.0s,comp=Z,3µm							
TPRI	**Tanjung Pinang**	**26.77 279**	P		**P**	03 39 37.1	+1.8	
	comp=Z,234nm,0.9s,comp=Z,5µm							
LWLI	**Liwa**	**26.89 266**	P		**P**	03 39 35.6	-0.9	
	comp=Z,182nm,0.8s							
MULG	**Mulgathing**	**26.93 174**	P		**P**	03 39 37.3	+0.9	
LHSI	**Lahat**	**27.40 268**	P		**P**	03 39 41.4	+0.5	
	comp=Z,179nm,0.9s,comp=Z,13µm							
FORT	**Forrest**	**27.40 185**	P		**P**	03 39 40.6	-0.1	
	baz=27,SNR=12							
FORT	**Forrest**	**27.40 185**	P		**P**	03 39 40.2	-0.5	
FORT	**Forrest**	**27.40 185**	P		**P**	03 39 41.9	+1.2	
MYKOM	**Kota Tinggi**	**27.59 280**	P		**P**	03 39 42.5	-0.1	
MYKOM			IAmb		IAmb	03 39 50.8		
	comp=Z,91nm,0.8s							
LCRK	**Leigh Creek**	**27.79 166**	P		**P**	03 39 45.4	+1.2	
SSLB	**Suanglung**	**28.70 341**	P		**P**	03 39 51.5	-1.0	
KMBL	**Kambalda**	**29.14 196**	P		**P**	03 39 55.2	-1.0	
	baz=29,SNR=31							
KMBL	**Kambalda**	**29.14 196**	P		**P**	03 39 55.2	-1.0	
EIDS	**Eidsvold**	**29.20 140**	P		**P**	03 39 57.8	+1.0	
MORW	**Morawa**	**29.23 208**	P		**P**	03 39 55.5	-1.5	
	baz=29,SNR=20							
MORW	**Morawa**	**29.23 208**	P		**P**	03 39 56.1	-0.9	
MORW	**Morawa**	**29.23 208**	P		**P**	03 39 55.4	-1.7	
KRJI	**Kerinci**	**29.50 272**	P		**P**	03 40 00.3	+0.5	
	comp=Z,522nm,1.0s,comp=Z,29µm							
BBOO	**Buckleboo**	**29.67 171**	P		**P**	03 40 01.1	+0.2	
	baz=30							
BBOO	**Buckleboo**	**29.67 171**	P		**P**	03 40 02.8	+1.9	
STKA	**Stephens Creek**	**30.07 162**	P		**P**	03 40 05.3	+0.8	
	baz=30,SNR=7.8							
STKA	**Stephens Creek**	**30.07 162**	P		**P**	03 40 06.2	+1.8	
STKA	**Stephens Creek**	**30.07 162**	*i* P		**P**	03 40 03.6	-0.8	
STKA	**Stephens Creek**	**30.07 162**	P		**P**	03 40 04.5	+0.1	
	comp=Z,58nm,1.0s,baz=338,slow=8.5,SNR=12							
STKA			LR		LR	03 53 10.9		
	comp=Z,4µm,20.4s,baz=333,slow=38							
	comp=Z,58nm,1.0s							
JOW	**Kunigami**	**30.14 355**	LR		LR	03 50 55.2		
	comp=Z,4µm,21.8s,baz=158,slow=34							
BKNI	**Bangkinang**	**30.14 276**	P		**P**	03 40 05.9	+0.6	
	comp=Z,238nm,1.0s,comp=Z,10µm							
BLDU	**Ballidu**	**30.26 205**	P		**P**	03 40 05.0	-1.2	
	baz=30,SNR=26							
BLDU	**Ballidu**	**30.26 205**	P		**P**	03 40 05.4	-0.8	
QIZ	**Qiongzhong**	**30.46 318**	P		**P**	03 40 08.6	+0.6	
QIZ			S		**S**	03 45 10.6	+2.1	
QIZ			pmax		pmax			
	comp=Z,55nm,1.9s							
QIZ			LR		LR			
	comp=Z,2µm,18.8s							
QIZ			LR		LR			
	comp=Z,1µm,14.9s							
QIZ			LR		LR			
	comp=Z,2µm,22.8s							
PDSI	**Padang**	**30.58 274**	P		**P**	03 40 08.8	-0.5	
	comp=Z,134nm,1.1s,comp=Z,4µm							
QZH	**Quanzhou**	**30.61 338** ⇑ *i* P			**P**	03 40 09.3	+0.1	
QZH			S		**S**	03 45 09.6	-1.0	
QZH			SS		**ScP**	03 46 58.4	+8.8	
QZH			pmax		pmax			
	comp=Z,140nm,0.9s							
QZH			LR		LR			
	comp=Z,2µm,19.2s							
QZH			LR		LR			
	comp=Z,2µm,28.9s							
QZH			LR		LR			
	comp=Z,3µm,19.9s							
KLBR	**Kellerberrin**	**30.71 202**	P		**P**	03 40 09.0	-1.1	
	baz=31,SNR=48							
KLBR	**Kellerberrin**	**30.71 202**	P		**P**	03 40 09.3	-0.8	
HTT	**Hallett**	**30.82 167**	P		**P**	03 40 12.1	+1.0	
IPM	**Ipoh**	**30.92 284**	P		**P**	03 40 12.6	+0.3	
PPSI	**Pulau Pagai**	**30.92 270**	P		**P**	03 40 12.1	-0.1	
	comp=Z,144nm,1.4s							
CMSA	**Cobar Meteorol**	**31.26 155**	P		**P**	03 40 16.4	+1.4	
	baz=31,SNR=12							
CMSA	**Cobar Meteorol**	**31.26 155**	P		**P**	03 40 16.3	+1.4	
UBPT	**Khong Chiam**	**31.32 307**	P		**P**	03 40 16.6	+1.0	
UBPT			IAmb		IAmb	03 40 17.9		
	comp=Z,64nm,1.3s							
GZH	**Guangzhou**	**31.42 328**	P		**P**	03 40 21.0	+4.5	
GZH			S		S	03 45 33.1	+10	
GZH			SS		**SnSn**	03 47 22.6	+14	
GZH			pmax		pmax			
	comp=Z,44nm,1.1s							
GZH			LR		LR			
	comp=Z,980nm,12.7s							
GZH			LR		LR			
	comp=Z,950nm,11.9s							
KULM	**Kulim**	**31.49 286**	P		**P**	03 40 17.2	0.0	
MUN	**Mundaring**	**31.66 204**	P		**P**	03 40 17.5	-1.1	
	baz=32,SNR=9.3							
MUN	**Mundaring**	**31.66 204**	P		**P**	03 40 17.4	-1.1	
SISI	**Saibi**	**31.92 273**	P		**P**	03 40 20.1	-0.9	
	comp=Z,128nm,1.1s,comp=Z,2µm							
NWAO	**Narrogin (SRO)**	**32.09 202**	P		**P**	03 40 21.2	-1.1	
	baz=32,SNR=12							
NWAO			P		**P**	03 40 21.2	-1.1	
	baz=32,SNR=12							
NWAO	**Narrogin (SRO)**	**32.09 202**	IAmb		IAmb	03 40 23.8		
	comp=Z,32nm,0.8s							
NWAO	**Narrogin (SRO)**	**32.09 202**	P		**P**	03 40 20.3	-2.0	
NWAO	**Narrogin (SRO)**	**32.09 202**	P		**P**	03 40 21.0	-1.3	
NWAO	**Narrogin (SRO)**	**32.09 202**	P		**P**	03 40 21.4	-0.9	
NWAO			pmax		pmax			
	comp=Z,33nm,0.8s							
NWAO	**Narrogin (SRO)**	**32.09 202**	P		**P**	03 40 21.1	-1.3	
	comp=Z,29nm,0.7s,baz=25,slow=9.6,SNR=14							
	comp=Z,29nm,0.7s							
NWAO	**Narrogin (SRO)**	**32.09 202**	P		**P**	03 40 21.4	-0.9	
JCJ	**Chichijima**	**32.17 19**	LR		LR	03 51 21.1		
	comp=Z,2µm,20.9s,baz=206,slow=33							
ARMA	**Armidale**	**33.24 146**	P		**P**	03 40 33.1	+0.6	
	baz=33,SNR=6.9							
ARMA	**Armidale**	**33.24 146**	P		**P**	03 40 34.4	+1.8	
ARMA	**Armidale**	**33.24 146**	P		**P**	03 40 34.4	+1.8	
SRIT	**Nakonsritamara**	**33.46 291**	P		**P**	03 40 35.0	+0.5	
RKGY	**Rocky Gully**	**33.70 201**	P		**P**	03 40 36.7	+0.4	
	baz=34,SNR=12							
RKGY	**Rocky Gully**	**33.70 201**	P		**P**	03 40 37.0	+0.7	
GSI	**Gunungsitoli**	**33.70 277**	P		**P**	03 40 35.6	-1.1	
GSI			IAmb		IAmb	03 40 37.4		
	comp=Z,73nm,0.9s							
GSI	**Gunungsitoli**	**33.70 277**	P		**P**	03 40 35.2	-1.5	
	comp=Z,78nm,1.0s,comp=Z,4µm							
KCSI	**Kotacane, Aceh**	**33.88 281**	P		**P**	03 40 37.5	-0.7	
	comp=Z,31nm,1.5s,comp=Z,3µm							
ARPS	**Mount Arapiles**	**34.71 165**	P		**P**	03 40 46.7	+1.6	
	baz=35,SNR=14							
ARPS	**Mount Arapiles**	**34.71 165**	P		**P**	03 40 46.6	+1.6	
GULI	**GuiLin**	**34.81 326** ⇑ P			**P**	03 40 46.7	+0.7	
GULI			S		**S**	03 46 17.8	+1.7	
GULI			pmax		pmax			
	comp=Z,30nm,1.2s							
GULI			LR		LR			
	comp=Z,1µm,23.9s							
GULI			LR		LR			
	comp=Z,1µm,23.0s							
GULI			LR		LR			
	comp=Z,2µm,27.1s							
SNSI	**Sinabang, Aceh**	**35.10 279**	P		**P**	03 40 49.2	+0.4	
	comp=Z,59nm,1.0s							
MLSI	**Meulaboh, Aceh**	**35.36 282**	P		**P**	03 40 51.6	+0.6	
	comp=Z,100nm,0.9s							
CNSH	**ChangSha**	**35.86 332**	*e* P		**P**	03 40 55.0	0.0	
CNSH			S		**S**	03 46 31.5	-0.6	
CNSH			pmax		pmax			
	comp=Z,44nm,1.3s							
CNSH			LR		LR			
	comp=Z,2µm,28.2s							
CNSH			LR		LR			
	comp=Z,2µm,22.2s							
CNSH			LR		LR			
	comp=Z,1µm,23.5s							
CAN	**Canberra**	**35.91 154**	P		**P**	03 40 56.1	+0.6	
CAN	**Canberra**	**35.91 154**	P		**P**	03 40 57.6	+2.1	
CAN	**Canberra**	**35.91 154**	P		**P**	03 40 56.1	+0.6	
CAN			pmax		pmax			
	comp=Z,86nm,0.8s							
CNB	**Canberra Magne**	**36.07 154**	P		**P**	03 40 58.7	+1.9	
	baz=36,SNR=13							
CNB	**Canberra Magne**	**36.07 154**	P		**P**	03 40 58.9	+2.0	
SLVN	**Son La**	**36.13 314**	P		**P**	03 40 57.3	-0.3	
SLVN			IAmb		IAmb	03 41 15.6		
	comp=Z,70nm,1.4s							
JNU	**Nakatsue**	**36.30 360**	P		**P**	03 40 58.6	-0.1	
JNU			IAmb		IAmb	03 41 01.4		
	comp=Z,82nm,1.0s							
JNU	**Nakatsue**	**36.30 360**	P		**P**	03 40 58.0	-0.7	
	comp=Z,52nm,0.9s,baz=132,slow=3.0,SNR=7.0							
JNU			LR		LR	03 53 51.8		
	comp=Z,1µm,21.6s,baz=184,slow=33							
	comp=Z,52nm,0.9s							
TOO	**Toolangi**	**36.55 160**	P		**P**	03 41 03.2	+2.2	
	baz=37,SNR=14							
TOO	**Toolangi**	**36.55 160**	P		**P**	03 41 02.5	+1.6	
TOO	**Toolangi**	**36.55 160**	P		**P**	03 41 03.1	+2.2	
TOO	**Toolangi**	**36.55 160**	P		**P**	03 41 02.5	+1.6	
TOO			pmax		pmax			
	comp=Z,36nm,0.9s							
JMN	**Monobe**	**37.00 4**	P		**P**	03 41 05.0	+0.2	
JMN			IAmb		IAmb	03 41 07.4		
	comp=Z,64nm,0.9s							
NJ2	**Nanjing**	**37.06 343**	*e* P		**P**	03 41 06.6	+1.4	
NJ2			pP		**pP**	03 41 10.3	-0.4	
NJ2			pmax		pmax			
	comp=Z,32nm,0.9s							
NJ2			pmax		pmax			
	comp=Z,390nm,4.3s							
NJ2			LR		LR			
	comp=Z,940nm,14.9s							
NJ2			LR		LR			
	comp=Z,1µm,18.2s							
NJ2			LR		LR			
	comp=Z,2µm,21.8s							
PHRA	**Phrae**	**37.27 307**	P		**P**	03 41 06.8	-0.4	
WHN	**Wuhan**	**37.27 336** ⇑ *i* P			**P**	03 41 08.2	+1.1	
WHN			pP		**pP**	03 41 12.9	+0.4	
WHN			sP		**sP**	03 41 14.8	-0.1	
WHN			S		**S**	03 46 57.3	+3.6	
WHN			pmax		pmax			
	comp=Z,380nm,1.0s							
WHN			pmax		pmax			
	comp=Z,2µm,2.9s							
WHN			LR		LR			
	comp=Z,6µm,22.8s							
MILA	**Mila**	**37.46 156**	P		**P**	03 41 10.7	+2.1	
	baz=38,SNR=3.1							
GYA	**Guiyang**	**37.84 323** ⇓ P			**P**	03 41 13.3	+1.2	
GYA			S		**S**	03 47 01.4	-1.3	
GYA			pmax		pmax			
	comp=Z,38nm,1.3s							
GYA			pmax		pmax			
	comp=Z,460nm,5.2s							
GYA			LR		LR			
	comp=Z,920nm,17.8s							
GYA			LR		LR			
	comp=Z,910nm,21.4s							
GYA			LR		LR			
	comp=Z,1µm,26.8s							
CRAI	**Chiangrai**	**38.11 309**	P		**P**	03 41 14.5	+0.2	
CM31	**Chiang Mai Arr**	**38.28 306**	P		**P**	03 41 15.9	0.0	
CM31			IAmb		IAmb	03 41 34.9		
	comp=Z,99nm,1.1s							
CMAR	**Chiang Mai Arr**	**38.28 306**	*i* P		**P**	03 41 17.0	+1.2	
CMAR			pmax		pmax			
	comp=Z,22nm,0.9s							
CMAR	**Chiang Mai Arr**	**38.28 306**	P		**P**	03 41 16.3	+0.5	
	comp=Z,30nm,1.0s,baz=132,slow=6.9,SNR=88							
CMAR			ScP		**ScP**	03 47 19.5	+2.4	
	comp=Z,1.3nm,0.3s,baz=153,slow=3.4,SNR=5.1							
	comp=Z,30nm,1.0s							
CHTO	**Chiang Mai**	**38.47 306**	P		**P**	03 41 17.4	0.0	
CHTO			IAmb		IAmb	03 41 36.2		
	comp=Z,130nm,1.1s							
CHTO	**Chiang Mai**	**38.47 306**	P		**P**	03 41 17.4	0.0	
CHTO			pmax		pmax			
	comp=Z,130nm,1.2s							
CHTO	**Chiang Mai**	**38.47 306**	P		**P**	03 41 18.7	+1.3	
INU	**Inuyama**	**38.93 8**	P		**P**	03 41 21.0	0.0	
DZM	**Mont Dzumac**	**39.11 121**	*e* P		**P**	03 41 26.2	+3.4	
	comp=Z,114nm,1.1s							
DZM			*e* S		**S**	03 47 24.9	+2.9	
	comp=Z,1µm,25.0s							
JGF	**Kuroka**	**39.23 8**	P		**P**	03 41 22.9	-0.6	
ENH	**Enshi**	**39.26 330**	P		**P**	03 41 24.5	+0.7	
KMI	**Kunming**	**39.41 318** ⇑ P			**P**	03 41 26.9	+1.5	
KMI			sP		sP	03 41 32.2	-0.9	
KMI			PP		**PP**	03 42 56.3	+0.2	
KMI			S		**S**	03 47 27.6	+1.0	
KMI			pmax		pmax			
	comp=Z,56nm,1.3s							
KMI			pmax		pmax			
	comp=Z,400nm,4.3s							
KMI			LR		LR			
	comp=Z,1µm,20.4s							
KMI			LR		LR			
	comp=Z,730nm,22.5s							
KMI			LR		LR			
	comp=Z,1µm,18.8s							
OUENC	**Ouen Island, N**	**39.58 122**	P		**P**	03 41 29.0	+2.3	
TJN	**Taejon**	**39.69 355**	P		**P**	03 41 26.7	-0.6	
TJN	**Taejon**	**39.69 355**	*ce* P		**P**	03 41 28.0	+0.7	
MAJO	**Matsushiro**	**40.28 9**	P		**P**	03 41 30.5	-1.8	
MAJO			IAmb		IAmb	03 41 32.9		
	comp=Z,75nm,0.8s							
MAJO	**Matsushiro**	**40.28 9**	*i* P		**P**	03 41 29.8	-2.4	
MAJO			pmax		pmax			
	comp=Z,81nm,0.9s							
MJAR	**Matsushiro Arr**	**40.28 9**	P		**P**	03 41 30.1	-2.1	
	comp=Z,38nm,0.8s,baz=189,slow=8.6,SNR=53							
	comp=Z,38nm,0.8s							
MJB9	**Matsu-Tunnel**	**40.28 9**	P		**P**	03 41 31.4	-0.9	
MJB9			IAmb		IAmb	03 41 33.9		
	comp=Z,75nm,0.8s							
KSRS	**Korea Array**	**40.72 356**	P		**P**	03 41 35.0	-0.7	
	comp=Z,16nm,0.7s,baz=178,slow=9.6,SNR=48							
	comp=Z,16nm,0.7s							
KS19	**Wonju Array Si**	**40.77 356**	P		**P**	03 41 36.5	+0.3	
PZH	**PanZhiHua**	**41.00 318**	P		**P**	03 41 38.6	+0.1	
PZH			sP		**sP**	03 41 47.6	+1.4	
PZH			S		**S**	03 47 47.9	-2.3	
PZH			sS		**sS**	03 48 01.6	+2.4	
PZH			SS		**SS**	03 50 52.1	-0.5	
PZH			pmax		pmax			
	comp=Z,40nm,0.9s							
PZH			pmax		pmax			
	comp=Z,190nm,3.5s							
PZH			LR		LR			
	comp=Z,770nm,17.9s							
PZH			LR		LR			
	comp=Z,950nm,18.8s							
PZH			LR

DL2 LR LR
comp=Z,1μm,21.0s
DL2 LR LR
comp=Z,2μm,21.9s
DL2 LR LR
comp=Z,1μm,24.3s
HNS HongShan 43.29 341 ⇑P **P 03 41 56.8 0.0**
HNS S **S 03 48 21.1 -2.3**
HNS pmax pmax
comp=Z,46nm,1.2s
HNS LR LR
comp=Z,1μm,23.9s
HNS LR LR
comp=Z,1μm,24.0s
HNS LR LR
comp=Z,950nm,24.0s
TIY Taiyuan 44.35 339 *e*P **P 03 42 05.2 -0.3**
TIY S **S 03 48 37.0 -2.1**
TIY pmax pmax
comp=Z,51nm,0.7s
TIY LR LR
comp=Z,990nm,26.1s
TIY LR LR
comp=Z,900nm,26.8s
TIY LR LR
comp=Z,980nm,26.8s
BJT Baijiatuau 45.27 344 IAmb IAmb 03 42 15.1
comp=Z,59nm,1.0s
BJT Baijiatuau 45.27 344 P **P 03 42 12.8 +0.1**
BJI Beijing 45.29 344 P **P 03 42 12.7 -0.1**
BJI sP **sP 03 42 26.5 +5.8**
BJI S **S 03 48 50.2 -2.2**
BJI pmax pmax
comp=Z,28nm,1.1s
BJI LR LR
comp=Z,300nm,21.8s
BJI LR LR
comp=Z,530nm,25.5s
BJI LR LR
comp=Z,580nm,23.4s
SNY Shenyang 45.49 352 ⇑P **P 03 42 14.6 +0.3**
SNY S **S 03 48 53.3 -1.9**
SNY pmax pmax
comp=Z,47nm,1.0s
SNY pmax pmax
comp=Z,430nm,4.3s
SNY LR LR
comp=Z,1μm,22.4s
SNY LR LR
comp=Z,880nm,20.2s
SNY LR LR
comp=Z,2μm,21.2s
LZH Lanzhou 46.73 330 ⇑P **P 03 42 25.6 +1.1**
LZH sP sP 03 42 33.1 +0.8
LZH S **S 03 49 10.2 -3.5**
LZH sS sS 03 49 27.0 +4.2
LZH pmax pmax
comp=Z,100nm,1.4s
LZH pmax pmax
comp=Z,370nm,4.8s
LZH LR LR
comp=Z,1μm,17.9s
LZH LR LR
comp=Z,1μm,16.5s
LZH LR LR
comp=Z,1μm,16.5s
CN2 Changchun 47.22 355 *e*P **P 03 42 29.0 +1.1**
CN2 *es*P sP 03 42 37.9 +2.0
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 LR LR
comp=Z,480nm,17.0s
CN2 LR LR
comp=Z,410nm,17.0s
USA0B Ussuriysk Arra 47.37 1 IAmb IAmb 03 42 30.4
comp=Z,43nm,0.8s
USA0B Ussuriysk Arra 47.37 1 *i* P **P 03 42 27.9 -1.2**
HHC Hu-ho-hao-te 47.45 340 ⇑*i*P **P 03 42 30.7 +0.7**
HHC sP sP 03 42 37.1 -0.8
HHC S **S 03 49 23.9 +0.2**
HHC sS sS 03 49 38.5 +5.5
HHC ScS **ScS 03 52 22.3 -1.0**
HHC SS **SS 03 52 46.9 -4.9**
HHC pmax pmax
comp=Z,39nm,1.3s
HHC pmax pmax
comp=Z,230nm,4.0s
HHC LR LR
comp=Z,700nm,16.5s
HHC LR LR
comp=Z,1μm,19.4s
HHC LR LR
comp=Z,1μm,22.2s
BTO Baotou 47.78 338 *e*P **P 03 42 33.5 +1.0**
BTO pP **pP 03 42 38.3 +0.2**
BTO sP **sP 03 42 40.9 +0.4**
BTO S **S 03 49 31.9 +3.5**
BTO SS **SS 03 52 54.6 -2.6**
BTO pmax pmax
comp=Z,21nm,1.0s
BTO pmax pmax
comp=Z,420nm,3.9s
BTO LR LR
comp=Z,1μm,19.6s
BTO LR LR
comp=Z,2μm,15.7s
BTO LR LR
comp=Z,1μm,12.2s
MDJ Mudanjiang 47.79 359 P **P 03 42 32.8 +0.4**
MDJ ScS ScS 03 52 24.5 -0.6
MDJ pmax pmax
comp=Z,62nm,1.0s
MDJ pmax pmax
comp=Z,370nm,4.8s
MDJ LR LR
comp=Z,750nm,18.5s
MDJ LR LR
comp=Z,900nm,18.8s
MDJ LR LR
comp=Z,1μm,24.7s
MDJ Mudanjiang 47.79 359 IAmb IAmb 03 42 33.7
comp=Z,40nm,0.8s
MSVF Nonsavu 48.27 111 *i* P **P 03 42 36.5 -0.2**
MSVF pmax pmax
comp=Z,28nm,1.1s
ASAJ Asahikawa 48.41 11 P **P 03 42 35.4 -1.8**
comp=Z,23nm,0.8s,baz=226,slow=15,SNR=12
comp=Z,23nm,0.8s
JKA Kamikawa-asahi 48.41 11 IAmb IAmb 03 42 39.9
comp=Z,35nm,0.9s
TEY Ternei 48.45 5 *e*P **P 03 42 35.4 -2.1**
TEY *e* 03 49 37.7
XLT XiLinHaoTe 48.92 346 *e*P **P 03 42 41.2 -0.1**
XLT S **S 03 49 43.7 -0.7**
XLT pmax pmax
comp=Z,49nm,1.3s
XLT pmax pmax
comp=Z,190nm,3.5s
XLT LR LR
comp=Z,120nm,16.7s
XLT LR LR
comp=Z,580nm,22.0s
XLT LR LR
comp=Z,1μm,23.7s
BNX BinXian 49.00 357 ⇑P **P 03 42 41.3 -0.4**
BNX pP **pP 03 42 44.6 -2.6**
BNX sP **sP 03 42 46.1 -3.5**
BNX PP **PP 03 44 34.5 -0.9**
BNX S **S 03 49 47.3 +2.1**
BNX sS **sS 03 49 53.8 -0.7**
BNX pmax pmax
comp=Z,23nm,0.9s
BNX pmax pmax
comp=Z,400nm,4.3s
BNX LR LR
comp=Z,1μm,28.7s
BNX LR LR
comp=Z,910nm,20.1s
BNX LR LR
comp=Z,2μm,22.8s
LSA Lhasa 50.33 314 IAmb IAmb 03 42 55.4
comp=Z,34nm,0.8s
LSA Lhasa 50.33 314 P **P 03 42 53.9 +1.1**
LSA P **P 03 42 53.9 +1.1**
YSS Yuzh-Sakhalins 51.18 10 P **P 03 42 58.2 +0.1**
YSS IAmb IAmb 03 43 00.5
comp=Z,47nm,1.1s
YSS Yuzh-Sakhalins 51.18 10⇑*e*P **P 03 42 58.2 +0.1**
YSS *e* 03 44 56.3
YSS *e*S **S 03 50 08.6 -6.9**
YSS *e*PS **pS 03 50 20.6 -1.5**
YSS *e*SS **ScS 03 52 50.0 +2.1**
YSS pmax pmax
comp=Z,200nm,4.7s
YSS pmax pmax
comp=Z,40nm,0.7s
PALK Pallekele 51.27 282 P **P 03 42 58.7 -0.8**
PALK Pallekele 51.27 282 P **P 03 42 58.7 -0.8**
PALK pmax pmax
comp=Z,167nm,2.0s
PALK Pallekele 51.27 282 P **P 03 42 59.6 +0.1**
GTA Gaotai 51.33 329 P **P 03 43 00.3 +0.7**
GTA pP pP 03 43 05.4 +0.2
GTA S **S 03 50 14.6 -3.6**
GTA pmax pmax
comp=Z,44nm,1.5s
GTA pmax pmax
comp=Z,220nm,5.0s
GTA LR LR
comp=Z,700nm,23.6s
GTA LR LR
comp=Z,720nm,24.4s
GTA LR LR
comp=Z,1μm,22.5s
GOMU GeErMu 51.86 323 P **P 03 43 04.8 +0.8**
GOMU S **S 03 50 23.2 -2.9**
GOMU pmax pmax
comp=Z,11nm,1.5s
GOMU LR LR
comp=Z,660nm,14.9s
GOMU LR LR
comp=Z,670nm,14.5s
GOMU LR LR
comp=Z,750nm,14.9s
KLR Kul'dur 52.39 1⇑*e*P **P 03 43 05.2 -2.0**
KLR pmax pmax
comp=Z,94nm,1.7s
KLR Kul'dur 52.39 1 P **P 03 43 05.2 -2.0**
comp=Z,24nm,0.8s,baz=198,slow=5.2,SNR=12
comp=Z,24nm,0.8s
UGL Uglegorsk 53.12 9 *e*P **P 03 43 12.5 -0.1**
UGL pmax pmax
comp=Z,670nm,5.0s
UGL pmax pmax
comp=Z,70nm,0.9s
HIA Hailar 53.33 351 *i* P **P 03 43 13.3 -0.9**
HIA pmax pmax
comp=Z,13nm,1.0s
LBZ Lake Benmore 53.47 146 P **P 03 43 16.3 +1.0**
LBZ IAmb IAmb 03 43 42.6
comp=Z,74nm,1.1s
HEH HeiHe 53.50 357 *e*P **P 03 43 15.3 -0.1**
HEH S **S 03 50 46.2 -1.1**
HEH pmax pmax
comp=Z,82nm,1.5s
HEH pmax pmax
comp=Z,480nm,4.1s
HEH LR LR
comp=Z,1μm,23.8s
HEH LR LR
comp=Z,780nm,20.8s
HEH LR LR
comp=Z,1μm,21.6s
GRNR Gornyy 54.13 4⇓*i*P **P 03 43 20.3 +0.3**
GRNR pmax pmax
comp=Z,6.0nm,1.2s
GRNR MLR MLR
comp=E,480nm,10.0s
GRNR MLR MLR
comp=Z,540nm,14.0s
ULN Ulaanbaatar 55.16 341 P **P 03 43 28.1 +0.4**
ULN IAmb IAmb 03 43 31.2
comp=Z,74nm,1.1s
ULN Ulaanbaatar 55.16 341*ce*P **P 03 43 28.7 +1.0**
ULN pmax pmax
comp=Z,121nm,1.7s
ULN Ulaanbaatar 55.16 341 P **P 03 43 28.4 +0.7**
ULN P **P 03 43 28.4 +0.7**
SONM Songino Array 55.35 340 P **P 03 43 29.9 +0.8**
SONM IAmb IAmb 03 43 32.5
comp=Z,39nm,1.1s
SONM Songino Array 55.35 340 P **P 03 43 29.9 +0.8**
SONM pmax pmax
comp=Z,39nm,1.1s
SONM Songino Array 55.35 340 P **P 03 43 29.5 +0.4**
comp=Z,26nm,1.0s,baz=154,slow=5.4,SNR=67
comp=Z,26nm,1.0s
HYB Hyderabad 55.67 294 *e*P **P 03 43 31.1 -0.7**
HYB IVmB_BB 03 43 32.1
comp=Z,573nm,1.3s
HYB *e* 03 48 29.2
HYB *e* 03 51 15.6
ZEA Zeya 56.99 357 *e*P **P 03 43 40.5 0.0**
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=E,10.0nm,1.0s
ZEA pmax pmax
comp=Z,60nm,0.8s
CIT Chita 57.13 347 *e*P **P 03 43 41.2 -0.4**
KAAM Kaadhehdhoo 58.07 273 P **P 03 43 50.3 +1.4**
DGAR Diego Garcia 58.36 263 *i* P **P 03 43 51.1 +0.2**
DGAR pmax pmax
comp=Z,170nm,1.1s
DGAR Diego Garcia 58.36 263 P **P 03 43 52.7 +1.8**
ZAK Zakamensk 58.60 340 *e*P **P 03 43 52.3 +0.3**
ZAK pmax pmax
comp=Z,20nm,1.3s
IRK Irkutsk 59.85 341 *e*P **P 03 44 00.3 -0.2**
IRK pmax pmax
comp=Z,96nm,2.3s
MOY Mondy 60.47 339 *e*P **P 03 44 06.3 +1.4**
MOY pmax pmax
comp=Z,107nm,2.3s
PETK Petropavlovsk- 60.60 18 P **P 03 44 05.8 +0.2**
comp=Z,12nn,0.8s,baz=198,slow=7.6,SNR=5.2
comp=Z,12nn,0.8s
PET Petropavlovsk 60.83 19 *e*P P 03 44 13.6 +6.5
PET *e* 03 44 56.5
PET *e*S **S 03 52 28.9 +5.2**
PET *e*SS **SS 03 56 18.8 -4.2**
PET pmax pmax
comp=Z,300nm,9.3s
PET pmax pmax
comp=Z,63nm,1.0s
WMQ Urumqi 60.94 325⇑*i*P **P 03 44 09.4 +1.2**
WMQ S **S 03 52 21.6 -4.0**
WMQ ScS SKKSac 03 53 57.9 -0.6
WMQ pmax pmax
comp=Z,70nm,1.9s
WMQ pmax pmax
comp=Z,310nm,3.7s
WMQ LR LR
comp=Z,1μm,17.7s
WMQ LR LR
comp=Z,610nm,23.1s
WMQ LR LR
comp=Z,900nm,24.1s
BOD Bodaibo 62.51 350 *e*P **P 03 44 18.9 +0.5**
BOD pmax pmax
comp=Z,87nm,1.5s
MA2 Magadan 64.67 11 *i* P **P 03 44 32.6 -0.1**
MA2 pmax pmax
comp=Z,54nm,1.7s
MA2 Magadan 64.67 11 P **P 03 44 32.9 +0.3**
comp=Z,8.2nm,0.7s,baz=203,slow=7.4,SNR=7.7
comp=Z,8.2nm,0.7s
ZSN Zaisan 64.73 327 *e*P **P 03 44 33.3 0.0**
ZSN *e*S **S 03 53 13.9 +0.9**
ZSN pmax pmax
comp=Z,21nm,0.9s
ZSN Zaisan 64.73 327 *e*P **P 03 44 33.3 0.0**
comp=Z,21nm,0.9s,baz=327
ZSN *e*S **S 03 53 14.0 +0.9**
baz=327
YAK Yakutsk 65.23 359 P **P 03 44 36.6 +0.5**
YAK Yakutsk 65.23 359*c i*P **P 03 44 36.6 +0.5**
YAK *e**PP **pP 03 44 41.2 -0.7**
YAK *e* 03 45 10.3
YAK *e*S **S 03 53 17.0 -1.5**
YAK *e* 03 54 27.4
YAK *e*SS **SS 03 57 27.8 -3.7**
YAK pmax pmax
comp=Z,245nm,0.9s
YAK pmax pmax
comp=N,31nm,0.9s
YAK pmax pmax
comp=E,14nm,0.9s
YAK smax smax
comp=N,453nm,4.2s
YAK smax smax
comp=E,95nm,3.5s
YAK Yakutsk 65.23 359 P **P 03 44 36.7 +0.5**
comp=E,195nm,0.8s,baz=145,slow=1.2,SNR=34
comp=E,195nm,0.8s
SHLS Shalkode 65.49 321 *e*P **P 03 44 36.6 -1.9**
SHLS pmax pmax
comp=Z,21nm,0.9s
SHLS Shalkode 65.49 321 *e*P **P 03 44 36.7 -1.9**
comp=Z,21nm,0.9s,baz=321
PDGK Podgornoye 65.56 321 P **P 03 44 38.6 -0.4**
NIL Nilore 65.64 309 P **P 03 44 39.5 0.0**
NIL Nilore 65.64 309 P **P 03 44 39.5 0.0**
NIL pmax pmax
comp=Z,54nm,0.7s
NIL Nilore 65.64 309 P **P 03 44 40.3 +0.7**
UZB Uzynbulak 65.76 321 *e*P **P 03 44 40.0 -0.3**
UZB pmax pmax
comp=Z,31nm,1.3s
UZB Uzynbulak 65.76 321 *e*P **P 03 44 40.1 -0.3**
comp=Z,30nm,1.3s,baz=321
MK31 Makanchi Array 65.77 326 *i* P **P 03 44 40.8 +0.7**
MK31 pmax pmax
comp=Z,87nm,0.9s
MKAR Makanchi Array 65.77 326 P **P 03 44 40.9 +0.8**
MKAR Makanchi Array 65.77 326 P **P 03 44 40.6 +0.5**
comp=Z,30nm,0.8s,baz=120,slow=7.2,SNR=122
comp=Z,30nm,0.8s
MAKZ Makanchi 65.95 325 P **P 03 44 42.0 +0.7**
MAKZ Makanchi 65.95 325 P **P 03 44 42.0 +0.7**
MAKZ pmax pmax
comp=Z,88nm,1.1s
KSH Kashi 66.05 316 P **P 03 44 43.7 +1.5**
KSH sP sP 03 44 55.0 +4.8
KSH PcP **PcP 03 45 14.1 +1.4**
KSH S **S 03 53 26.4 -3.3**
KSH pmax pmax
comp=Z,34nm,1.4s
KSH LR LR
comp=Z,2μm,23.5s
KSH LR LR
comp=Z,1μm,23.4s
KSH LR LR
comp=Z,2μm,25.5s
SATY Saty 66.11 320 *e*P **P 03 44 42.1 -0.4**
SATY pmax pmax
comp=Z,26nm,0.9s
SATY Saty 66.11 320 *e*P **P 03 44 42.2 -0.3**
comp=Z,26nm,0.9s,baz=320
ZHN Zhinishke 66.14 321 *e*P **P 03 44 42.6 -0.1**
ZHN pmax pmax
comp=Z,31nm,1.5s
ZHN Zhinishke 66.14 321 *e*P **P 03 44 42.6 -0.1**
comp=Z,31nm,1.5s,baz=320
MDOK Medeo 67.03 320 *e*P **P 03 44 48.2 -0.2**
MDOK *e*S **S 03 53 42.1 +0.7**
MDOK Medeo 67.03 320 *e*P **P 03 44 48.3 -0.2**
baz=320
MDOK *e*S **S 03 53 42.2 +0.7**
baz=320
ARXS Arharly 67.05 321 *e*P **P 03 44 47.7 -0.7**
TDK Taldyqorghan 67.09 322 *e*P **P 03 44 48.6 0.0**
TDK pmax pmax
comp=Z,44nm,1.5s
TDK Taldyqorghan 67.09 322 *e*P **P 03 44 48.6 0.0**
comp=Z,44nm,1.5s,baz=322
ULHL Ulahol 67.11 319 P **P 03 44 50.7 +1.6**
SNR=8.9
CHKK Chushkaly 67.40 321 *e*P **P 03 44 50.4 -0.2**
CHKK Chushkaly 67.40 321 *e*P **P 03 44 50.4 -0.2**
baz=321
BOOM Boomskoye usch 67.43 319 P **P 03 44 51.9 +0.9**
KUU Kurty 67.83 320 *e*P **P 03 44 53.1 -0.2**
KUU pmax pmax
comp=Z,36nm,0.8s
KUU Kurty 67.83 320 *e*P **P 03 44 53.1 -0.2**
comp=Z,36nm,0.8s,baz=320
TKM2 Tokmak 2 67.85 319 P **P 03 44 56.1 +2.4**
SNR=18
TKM2 Tokmak 2 67.85 319 *i* P **P 03 44 52.7 -1.0**
TKM2 pmax pmax
comp=Z,49nm,1.1s
SEY Seymchan 68.09 10*ce*P **P 03 44 54.4 -0.1**
SEY pmax pmax
comp=Z,137nm,1.7s
SEY Seymchan 68.09 10 P **P 03 44 55.5 +1.1**
comp=Z,52nm,0.9s,baz=200,slow=3.9,SNR=31
comp=Z,52nm,0.9s
KBK Karagaybulak 68.15 319 P **P 03 44 58.1 +2.6**
SNR=11
UCH Uchtor 68.25 318 P **P 03 44 57.9 +1.4**
SNR=52
CHMS Chumysh 68.44 319 P **P 03 44 59.2 +2.0**
SNR=8.1
AAK Ala-Archa 68.44 319 P **P 03 44 58.5 +1.1**
SNR=22
AAK Ala-Archa 68.44 319 P **P 03 44 57.2 -0.2**
AAK IAmb IAmb 03 45 19.1
comp=Z,47nm,1.3s
AAK Ala-Archa 68.44 319*ce*P **P 03 44 58.8 +1.4**
AAK pmax pmax
comp=Z,45nm,1.7s
AAK Ala-Archa 68.44 319 *i* P **P 03 44 58.1 +0.7**
SNR=27
AAK Ala-Archa 68.44 319 P **P 03 44 58.7 +1.4**
AAK P **P 03 44 58.7 +1.4**
SGDS Sogindy 68.72 319 *e*P **P 03 44 58.9 -0.1**
SGDS Sogindy 68.72 319 *e*P **P 03 44 58.9 -0.1**
baz=319
USP Ospenovka 68.72 319 P **P 03 44 59.8 +0.8**
SNR=70
ZAA0 Zalesovo Array 68.80 333 IAmb IAmb 03 45 01.2
comp=Z,44nm,1.0s
ZALV Zalesovo Beam 68.80 333 P **P 03 44 59.0 -0.1**
comp=Z,34nm,0.9s,baz=113,slow=5.3,SNR=53
ZALV PP **PP 03 47 30.8 -0.4**
comp=Z,7.1nm,1.0s,baz=129,slow=4.6,SNR=3.1
comp=Z,34nm,0.9s
EKS2 Erkin-Say 68.93 318 P **P 03 45 01.7 +1.3**
SNR=28
KBL Kabul 69.22 309 P **P 03 45 02.4 0.0**
KBL IAmb IAmb 03 45 19.9
comp=Z,45nm,1.2s
KBL Kabul 69.22 309 P **P 03 45 02.4 0.0**
KBL pmax pmax
comp=Z,45nm,1.2s
KBL Kabul 69.22 309 P **P 03 45 02.5 0.0**
SNR=13
KBL P **P 03 45 02.5 0.0**
SNR=13
BTLS Baital 69.81 321 *e*P **P 03 45 05.6 0.0**
BTLS pmax pmax
comp=Z,24nm,1.2s
BTLS Baital 69.81 321 *e*P **P 03 45 05.7 0.0**
comp=Z,24nm,1.2s,baz=321
BTK Batken 69.89 315 IAmb IAmb 03 45 24.4
comp=Z,68nm,1.3s
BTK Batken 69.89 315 P **P 03 45 07.1 +0.8**
KURBB Kurchatov Arra 69.97 327 P **P 03 45 06.9 +0.5**
comp=Z,37nm,0.6s,baz=121,slow=5.7,SNR=13
comp=Z,37nm,0.6s
KURK Kurchatov 69.97 328 P **P 03 45 07.0 +0.6**
KURK Kurchatov 69.97 328*ce*P **P 03 45 07.0 +0.6**
KURK pmax pmax
comp=Z,98nm,1.7s
KURK Kurchatov 69.97 328 P **P 03 45 07.5 +1.1**
KURK P **P 03 45 07.5 +1.1**
CHGR Chuyangaron 70.56 313 P **P 03 45 10.5 +0.1**
DZA Taraz 70.66 318 *e*P **P 03 45 10.2 -0.7**
DZA Taraz 70.66 318 *e*P **P 03 45 10.2 -0.7**
baz=318
SIMJ Simiganj 70.67 313 P **P 03 45 11.4 +0.3**
SIMJ IAmb IAmb 03 45 44.6
comp=Z,23nm,0.7s
IUG Iuzhnay 71.24 317 *e*P **P 03 45 13.6 -0.9**
IUG *e*S **S 03 54 32.2 +0.9**
IUG pmax pmax
comp=Z,46nm,1.4s

IUG	**Iuzhnay**	**71.24**	**317**	*e*P		**P**	**03 45 13.7**	**-0.9**
	comp=Z,46nm,1.4s,baz=317							
IUG				*e*S		**S**	**03 54 32.2**	**+0.9**
	baz=317							
KK31	**Karatay Array**	**71.29**	**318**	IAmb		IAmb	03 45 34.1	
	comp=Z,53nm,1.2s							
KK31	**Karatay Array**	**71.29**	**318**	*i* P		**P**	**03 45 15.0**	**+0.3**
KKAR	**Karatay Array**	**71.29**	**318**	IAmb		IAmb	03 45 34.1	
	comp=Z,52nm,1.2s							
CHM	**Chimkent**	**71.60**	**317**	*e*P		**P**	**03 45 15.9**	**-0.7**
CHM	**Chimkent**	**71.60**	**317**	*e*P		**P**	**03 45 16.0**	**-0.7**
	baz=317							
BRLS	**Boroldaу**	**71.72**	**317**	*e*P		**P**	**03 45 16.8**	**-0.5**
BRLS				pmax		pmax		
	comp=Z,26nm,1.5s							
BRLS	**Boroldaу**	**71.72**	**317**	*e*P		**P**	**03 45 16.9**	**-0.5**
	comp=Z,26nm,1.5s,baz=317							
OTUK	**Ortayu**	**72.31**	**323**	P		**P**	**03 45 20.5**	**-0.2**
BRZS	**Berezniki**	**72.90**	**325**	*e*P		**P**	**03 45 23.8**	**-0.4**
BRZS				pmax		pmax		
	comp=Z,49nm,2.1s							
BRZS	**Berezniki**	**72.90**	**325**	*e*P		**P**	**03 45 23.8**	**-0.4**
	comp=Z,49nm,2.1s,baz=325							
NGCH	**Negor - Chabah**	**73.35**	**298**	P		**P**	**03 45 28.7**	**+1.4**
JLN	**Jalan Bani Buh**	**74.28**	**294**	P		**P**	**03 45 33.9**	**+1.0**
	SNR=9.1							
JLN				P		**P**	**03 45 33.9**	**+1.0**
	SNR=9.1							
WBK	**Wadi Bani Khal**	**74.77**	**294**	P		**P**	**03 45 36.7**	**+0.9**
	SNR=8.9							
WBK				P		**P**	**03 45 36.7**	**+0.9**
	SNR=8.9							
TIXI	**Tiksi**	**74.89**	**359**	*ce*P		**P**	**03 45 34.8**	**-0.6**
TIXI				pmax		pmax		
	comp=Z,53nm,1.7s							
BILL	**Bilibino**	**75.38**	**13**	P		**P**	**03 45 40.1**	**+1.8**
MHTO	**MHTO**	**75.41**	**293**	P		**P**	**03 45 39.8**	**+0.4**
	SNR=8.5							
MHTO				P		**P**	**03 45 39.8**	**+0.4**
	SNR=8.5							
JMDO	**Jabal Madar**	**75.52**	**294**	P		**P**	**03 45 42.0**	**+1.9**
	SNR=11							
JMDO				P		**P**	**03 45 42.0**	**+1.9**
	SNR=11							
BVA0	**Borovoye Array**	**75.54**	**327**	*i* P		**P**	**03 45 40.0**	**+0.5**
BVAR	**Borovoye Array**	**75.54**	**327**	P		**P**	**03 45 40.1**	**+0.5**
	comp=Z,37nm,0.9s,baz=121,slow=7.8,SNR=84							
	comp=Z,37nm,0.9s							
BRVK	**Borovoye**	**75.62**	**327**	P		**P**	**03 45 40.9**	**+1.0**
BRVK				IAmb		IAmb	03 45 59.3	
	comp=Z,60nm,1.0s							
BRVK	**Borovoye**	**75.62**	**327**	*ce*P		**P**	**03 45 40.5**	**+0.6**
BRVK				pmax		pmax		
	comp=Z,104nm,1.7s							
BRVK	**Borovoye**	**75.62**	**327**	P		**P**	**03 45 41.0**	**+1.0**
BRVK				P		**P**	**03 45 41.0**	**+1.0**
SMDO	**Samad**	**75.68**	**295**	P		**P**	**03 45 43.0**	**+1.9**
	SNR=11							
SMDO				P		**P**	**03 45 43.0**	**+1.9**
	SNR=11							
BIDO	**Bidbid**	**75.69**	**295**	P		**P**	**03 45 43.0**	**+2.0**
	SNR=21							
VNDA	**Vanda**	**75.91**	**173**	P		**P**	**03 45 42.5**	**+1.3**
VNDA	**Vanda**	**75.91**	**173**	P		**P**	**03 45 42.5**	**+1.3**
VNDA				pmax		pmax		
	comp=Z,11nm,0.7s							
VNDA	**Vanda**	**75.91**	**173**	P		**P**	**03 45 42.1**	**+0.9**
	comp=Z,13nm,0.8s,baz=323,slow=7.2,SNR=19							
	comp=Z,13nm,0.8s							
JASK	**Jask - Hormozg**	**76.35**	**297**	P		**P**	**03 45 46.9**	**+2.3**
	SNR=7.9							
BSY	**Bisya**	**76.40**	**294**	P		**P**	**03 45 46.0**	**+0.9**
	SNR=12							
BSY				P		**P**	**03 45 46.0**	**+0.9**
	SNR=12							
HOQ	**Hoqain**	**76.44**	**295**	P		**P**	**03 45 46.3**	**+1.0**
	SNR=23							
HOQ				P		**P**	**03 45 46.3**	**+1.0**
	SNR=23							
UNV	**Unalaska Valle**	**76.95**	**33**	P		**P**	**03 45 48.7**	**+1.3**
	baz=245							
ARQ	**Araqi**	**77.11**	**295**	P		**P**	**03 45 49.7**	**+0.6**
	SNR=15							
ARQ				P		**P**	**03 45 49.7**	**+0.6**
	SNR=15							
SHAO	**Shalim**	**77.15**	**289**	*i* P		**P**	**03 45 50.1**	**+0.7**
	SNR=6.3							
SHAO	**Shalim**	**77.15**	**289**	P		**P**	**03 45 49.7**	**+0.4**
SHAO				P		**P**	**03 45 49.7**	**+0.4**
SHAO				P		**pP**	**03 45 49.9**	**-5.3**
SHAO				P		**pP**	**03 45 49.9**	**-5.3**
SOHO	**SOHO**	**77.23**	**296**	*i* P		**P**	**03 45 50.3**	**+0.5**
	SNR=13							
SOHO	**SOHO**	**77.23**	**296**	P		**P**	**03 45 50.2**	**+0.5**
SOHO				P		**P**	**03 45 50.2**	**+0.5**
MDH	**Madha**	**77.64**	**297**	P		**P**	**03 45 52.9**	**+0.9**
MDH				P		**P**	**03 45 52.9**	**+0.9**
UOSS	**Minazif**	**77.67**	**296**	P		**P**	**03 45 52.1**	**0.0**
UOSS				IAmb		IAmb	03 46 11.1	
	comp=Z,75nm,1.4s							
UOSS	**Minazif**	**77.67**	**296**	*i* P		**P**	**03 45 52.9**	**+0.7**
	SNR=6.4							
UOSS	**Minazif**	**77.67**	**296**	P		**P**	**03 45 52.8**	**+0.7**
UOSS				P		**P**	**03 45 52.8**	**+0.7**
HATD	**Hatta, Dubai**	**77.71**	**296**	*i* P		**P**	**03 45 53.3**	**+1.0**
	SNR=7.4							
HATD	**Hatta, Dubai**	**77.71**	**296**	P		**P**	**03 45 53.4**	**+1.0**
	SNR=13							
HATD				P		**P**	**03 45 53.4**	**+1.0**
	SNR=13							
DMTO	**DMTO**	**77.75**	**289**	P		**P**	**03 45 53.1**	**+0.4**
DMTO				P		**P**	**03 45 53.1**	**+0.4**
ASHO	**Ashiyiah**	**77.75**	**296**	*i* P		**P**	**03 45 53.1**	**+0.4**
	SNR=11							
ASHO	**Ashiyiah**	**77.75**	**296**	P		**P**	**03 45 55.0**	**+2.3**
	SNR=13							
ASHO				P		**P**	**03 45 55.0**	**+2.3**
	SNR=13							
MSFE	**Esma-Masafi**	**77.78**	**297**	*i* P		**P**	**03 45 54.2**	**+1.4**
	SNR=15							
MASF	**Masafi**	**77.78**	**297**	P		**P**	**03 45 53.8**	**+1.0**
	SNR=14							
MASF				P		**P**	**03 45 53.8**	**+1.0**
	SNR=14							
SHME	**Shamm**	**77.91**	**297**	*i* P		**P**	**03 45 54.4**	**+1.0**
	SNR=10							
SHME	**Shamm**	**77.91**	**297**	P		**P**	**03 45 54.8**	**+1.4**
	SNR=7.0							
ALNE	**Al Ain**	**77.93**	**295**	*i* P		**P**	**03 45 54.5**	**+0.9**
	SNR=15							
ALNE	**Al Ain**	**77.93**	**295**	P		**P**	**03 45 55.3**	**+1.7**
	SNR=30							
ALNE				P		**P**	**03 45 55.3**	**+1.7**
	SNR=30							
NAZ	**Nazwa, Dubai**	**78.16**	**296**	*i* P		**P**	**03 45 55.3**	**+0.4**
	SNR=7.5							
NAZ	**Nazwa, Dubai**	**78.16**	**296**	P		**P**	**03 45 57.0**	**+2.2**
	SNR=8.1							
NAZ				P		**P**	**03 45 57.0**	**+2.2**
	SNR=8.1							
FAQ	**Al Faqa, Dubai**	**78.18**	**296**	*i* P		**P**	**03 45 55.5**	**+0.5**
	SNR=7.5							
FAQ	**Al Faqa, Dubai**	**78.18**	**296**	P		**P**	**03 45 57.1**	**+2.1**
	SNR=11							
FAQ				P		**P**	**03 45 57.1**	**+2.1**
	SNR=11							
UMQ	**Umm Al-Quwin**	**78.25**	**297**	P		**P**	**03 45 56.7**	**+1.4**
UMZA	**Um Al Zommool**	**78.26**	**294**	P		**P**	**03 45 55.9**	**+0.5**
UMZA				P		**P**	**03 45 55.9**	**+0.5**
NRIK	**Noril'sk**	**78.30**	**346**	IAmb		IAmb	03 46 01.3	
	comp=Z,53nm,1.1s							
NRIK	**Noril'sk**	**78.30**	**346**	*ce*P		**P**	**03 45 55.2**	**+0.5**
NRIK				pmax		pmax		
	comp=Z,65nm,1.3s							
NRIK	**Noril'sk**	**78.30**	**346**	P		**P**	**03 45 55.5**	**+0.7**
	comp=Z,25nm,0.7s,baz=129,slow=6.2,SNR=40							
	comp=Z,25nm,0.7s							
ASUD	**Al Ashush, Dub**	**78.40**	**296**	P		**P**	**03 45 57.4**	**+1.2**
RBK	**Rabkut**	**78.43**	**289**	P		**P**	**03 45 57.0**	**+0.5**
	SNR=8.9							
RBK				P		**P**	**03 45 57.0**	**+0.5**
	SNR=8.9							
GEYT	**Alibeck**	**78.64**	**310**	IAmb		IAmb	03 46 00.4	
	comp=Z,46nm,0.8s							
GEYT	**Alibeck**	**78.64**	**310**	P		**P**	**03 45 58.6**	**+1.3**
	comp=Z,34nm,0.8s,baz=143,slow=3.7,SNR=56							
	comp=Z,34nm,0.8s							

DOK	**Doka**	**78.64**	**290**	P		**P**	**03 45 59.0**	**+1.3**
	SNR=15							
DOK				P		**P**	**03 45 59.0**	**+1.3**
	SNR=15							
MAW	**Mawson**	**78.66**	**201**	P		**P**	**03 45 57.8**	**+1.1**
	comp=Z,9.8nm,0.6s,baz=99,slow=3.9,SNR=2.3							
	comp=Z,9.8nm,0.6s							
AJN	**Ajban**	**78.70**	**296**	*i* P		**P**	**03 45 58.9**	**+1.1**
	SNR=7.8							
AJN	**Ajban**	**78.70**	**296**	P		**P**	**03 45 59.4**	**+1.6**
	SNR=6.3							
AJN				P		**P**	**03 45 59.4**	**+1.6**
	SNR=6.3							
WHFO	**Wadi Hawf**	**78.89**	**289**	P		**P**	**03 45 60.0**	**+0.9**
	SNR=7.2							
WHFO				P		**P**	**03 45 60.0**	**+0.9**
	SNR=7.2							
PPT2	**Papeete2**	**78.94**	**107**	*e*S		**SKSac**	**03 56 08.9**	**-6.0**
	comp=Z,362nm,25.5s							
PPT2	**Papeete2**	**78.94**	**107**	*e*LR		LR	04 10 28.2	
	comp=Z,767nm,23.8s							
PPT2				*e*LR		LR	04 10 36.4	
	comp=Z,642nm,25.8s							
FALS	**False Pass**	**79.01**	**32**	P		**P**	**03 45 60.0**	**+1.1**
	baz=248							
GAMB	**Gambell**	**79.22**	**22**	P		**P**	**03 46 00.8**	**+1.0**
	baz=239							
ABTO	**Aybut**	**79.27**	**288**	P		**P**	**03 46 03.1**	**+1.9**
	SNR=11							
ABTO				P		**P**	**03 46 03.1**	**+1.9**
	SNR=11							
M11K	**Mekoryuk**	**79.88**	**27**	P		**P**	**03 46 04.3**	**+0.8**
	baz=244							
AB31	**Akbulak array**	**80.30**	**321**	*i* P		**P**	**03 46 05.8**	**-0.2**
ABKAR	**Akbulak array**	**80.30**	**321**	IAmb		IAmb	03 46 26.3	
	comp=Z,75nm,1.3s							
JRN	**Qaqain Island**	**80.67**	**296**	P		**P**	**03 46 10.6**	**+2.0**
	SNR=9.4							
JRN				P		**P**	**03 46 10.6**	**+2.0**
	SNR=9.4							
SDPT	**Sand Point**	**80.76**	**33**	P		**P**	**03 46 09.1**	**+0.7**
	baz=250							
CHNA	**Chernabura Isl**	**81.07**	**33**	P		**P**	**03 46 10.6**	**+0.6**
	baz=251							
M13K	**Dall Lake**	**81.18**	**27**	P		**P**	**03 46 11.4**	**+1.0**
	baz=247							
TNA	**Tin City**	**81.51**	**22**	P		**P**	**03 46 13.2**	**+1.1**
	baz=242							
O14K	**Tigyukauivet M**	**81.72**	**29**	IAmb		IAmb	03 46 17.2	
	comp=Z,54nm,0.9s							
O14K	**Tigyukauivet M**	**81.72**	**29**	P		**P**	**03 46 14.6**	**+1.2**
	baz=249							
N14K	**Kuskokwak Cree**	**81.77**	**28**	P		**P**	**03 46 14.6**	**+1.1**
	baz=249							
L14K	**Kuka Creek**	**81.84**	**26**	IAmb		IAmb	03 46 17.9	
	comp=Z,53nm,0.9s							
L14K	**Kuka Creek**	**81.84**	**26**	P		**P**	**03 46 15.1**	**+1.2**
	baz=248							
M14K	**Bethel**	**81.94**	**27**	P		**P**	**03 46 16.1**	**+1.6**
	baz=248,SNR=7.0							
J14K	**Nanvaranak Lak**	**82.02**	**25**	P		**P**	**03 46 16.1**	**+1.2**
	baz=246							
ANM	**Nome**	**82.03**	**23**	P		**P**	**03 46 15.6**	**+0.6**
	baz=245							
F14K	**Arctic Creek**	**82.07**	**22**	P		**P**	**03 46 16.1**	**+1.0**
	baz=244							
TRNA	**Turayna**	**82.12**	**295**	P		**P**	**03 46 18.0**	**+1.7**
	SNR=14							
CHGN	**Chignik**	**82.17**	**32**	IAmb		IAmb	03 46 19.2	
	comp=Z,29nm,1.0s							
CHGN	**Chignik**	**82.17**	**32**	P		**P**	**03 46 16.3**	**+0.5**
	baz=252							
SVE	**Sverdlovsk**	**82.19**	**328**	*e*P		**P**	**03 46 16.7**	**+0.8**
SVE				pmax		pmax		
	comp=Z,72nm,1.4s							
O15K	**Ungalikthiuk R**	**82.39**	**29**	P		**P**	**03 46 17.8**	**+0.9**
	baz=250							
SMRA	**Abu-Samra**	**82.47**	**295**	P		**P**	**03 46 20.1**	**+2.0**
	SNR=17							
SHMA	**Al-Shehemyia**	**82.49**	**296**	P		**P**	**03 46 20.2**	**+2.1**
	SNR=7.3							
L15K	**Ungalak Mounta**	**82.50**	**26**	P		**P**	**03 46 18.6**	**+1.1**
	baz=248							
M15K	**Kasigluk River**	**82.51**	**27**	P		**P**	**03 46 18.4**	**+0.9**
	baz=249							
N15K	**Kwethluk River**	**82.60**	**28**	P		**P**	**03 46 19.1**	**+1.1**
	baz=250							
K15K	**Wolf Creek Mou**	**82.71**	**26**	IAmb		IAmb	03 46 22.2	
	comp=Z,47nm,0.9s							
K15K	**Wolf Creek Mou**	**82.71**	**26**	P		**P**	**03 46 19.9**	**+1.4**
	baz=248							
G15K	**Niukluk**	**82.73**	**23**	P		**P**	**03 46 20.1**	**+1.5**
	baz=246							
F15K	**North Star Dit**	**82.80**	**22**	IAmb		IAmb	03 46 23.0	
	comp=Z,31nm,1.0s							
F15K	**North Star Dit**	**82.80**	**22**	P		**P**	**03 46 20.6**	**+1.6**
	baz=245							
ARU	**Arti**	**83.16**	**328**	P		**P**	**03 46 21.2**	**+0.3**
ARU				IAmb		IAmb	03 46 22.8	
	comp=Z,28nm,1.1s							
ARU	**Arti**	**83.16**	**328**	*c* P		**P**	**03 46 21.3**	**+0.3**
ARU				S		**S**	**03 56 43.1**	**+3.0**
ARU				SS		**SS**	**04 02 09.3**	**+4.7**
ARU				pmax		pmax		
	comp=Z,35nm,1.1s							
P16K	**Nushagak River**	**83.24**	**30**	P		**P**	**03 46 22.8**	**+1.5**
	baz=252,SNR=12							
H16K	**Elim**	**83.30**	**23**	P		**P**	**03 46 22.8**	**+1.3**
	baz=248,SNR=5.6							
N16K	**Nishlik Lake**	**83.32**	**28**	P		**P**	**03 46 23.5**	**+1.7**
	baz=251							
VOI	**Vohitsoka**	**83.36**	**248**	P		**P**	**03 46 22.4**	**-0.5**
VOI	**Vohitsoka**	**83.36**	**248**	P		P	03 46 32.0	+9.1
O16K	**Kokwok River B**	**83.36**	**29**	IAmb		IAmb	03 46 31.2	
	comp=Z,29nm,1.1s							
O16K	**Kokwok River B**	**83.36**	**29**	P		**P**	**03 46 23.0**	**+1.1**
	baz=252							
L16K	**Owhat River**	**83.41**	**27**	P		**P**	**03 46 23.2**	**+1.1**
L16K				IAmb		IAmb	03 46 25.4	
	comp=Z,35nm,0.8s							
L16K	**Owhat River**	**83.41**	**27**	P		**P**	**03 46 23.8**	**+1.7**
	baz=250							
M16K	**Timber Creek**	**83.41**	**27**	IAmb		IAmb	03 46 25.3	
	comp=Z,30nm,0.8s							
M16K	**Timber Creek**	**83.41**	**27**	P		**P**	**03 46 23.6**	**+1.4**
	baz=251							
J16K	**Anvik River**	**83.47**	**25**	IAmb		IAmb	03 46 26.9	
	comp=Z,38nm,0.9s							
J16K	**Anvik River**	**83.47**	**25**	P		**P**	**03 46 24.1**	**+1.7**
	baz=249							
G16K	**Koyuk River**	**83.54**	**23**	IAmb		IAmb	03 46 26.7	
	comp=Z,37nm,1.0s							
G16K	**Koyuk River**	**83.54**	**23**	P		**P**	**03 46 24.4**	**+1.6**
	baz=247,SNR=6.1							
I17K	**Unalakleet**	**83.64**	**24**	P		**P**	**03 46 25.0**	**+1.7**
	baz=249							
C16K	**Lisburne Hills**	**83.65**	**20**	IAmb		IAmb	03 46 25.3	
	comp=Z,32nm,0.9s							
C16K	**Lisburne Hills**	**83.65**	**20**	P		**P**	**03 46 24.8**	**+1.6**
	baz=244							
Q16K	**King Salmon**	**83.79**	**30**	P		**P**	**03 46 25.1**	**+0.9**
	baz=253							
O17K	**Koliganek Bris**	**83.90**	**29**	P		**P**	**03 46 26.1**	**+1.4**
	baz=253							
P17K	**Kvichak River**	**84.05**	**30**	P		**P**	**03 46 26.8**	**+1.4**
	baz=253							
Q17K	**Contact Creek**	**84.06**	**31**	P		**P**	**03 46 26.1**	**+0.4**
	baz=254,SNR=6.4							
L17K	**Donlin**	**84.08**	**26**	P		**P**	**03 46 26.7**	**+1.2**
	baz=251							
N17K	**Nushagak Hills**	**84.08**	**28**	P		**P**	**03 46 27.5**	**+1.8**
	baz=252							
J17K	**VABM Dome**	**84.15**	**25**	P		**P**	**03 46 27.7**	**+1.8**
	baz=250							
D17K	**Noatak River**	**84.19**	**21**	P		**P**	**03 46 28.0**	**+2.0**
	baz=246,SNR=8.0							
M17K	**Holitna River**	**84.23**	**27**	IAmb		IAmb	03 46 31.0	
	comp=Z,22nm,0.8s							
M17K	**Holitna River**	**84.23**	**27**	P		**P**	**03 46 28.1**	**+1.7**
	baz=252							
G17K	**Kiwalik Mounta**	**84.24**	**23**	P		**P**	**03 46 28.3**	**+1.9**
	baz=249							
K17K	**Iditarod**	**84.26**	**26**	P		**P**	**03 46 28.5**	**+2.0**
	baz=251							
H17K	**Granite Mounta**	**84.33**	**24**	IAmb		IAmb	03 46 30.9	
	comp=Z,47nm,1.1s							
H17K	**Granite Mounta**	**84.33**	**24**	P		**P**	**03 46 28.4**	**+1.6**
	baz=250							

F17K	**Baldwin Pennin**	**84.36**	**22**	P		**P**	**03 46 28.9**	**+2.0**
	baz=248							
C17K	**DeLong Mountai**	**84.47**	**20**	P		**P**	**03 46 29.1**	**+1.6**
	baz=246							
SII	**Sitkinak Islan**	**84.50**	**32**	P		**P**	**03 46 29.1**	**+1.2**
	baz=256							
P18K	**Big Mountain,**	**84.70**	**30**	P		**P**	**03 46 29.7**	**+0.8**
	baz=254							
N18K	**Kilae Creek**	**84.74**	**28**	IAmb		IAmb	03 46 33.2	
	comp=Z,32nm,1.2s							
N18K	**Kilae Creek**	**84.74**	**28**	P		**P**	**03 46 30.9**	**+1.9**
	baz=254							
L18K	**Granite Mounta**	**84.82**	**27**	IAmb		IAmb	03 46 33.5	
	comp=Z,39nm,0.9s							
L18K	**Granite Mounta**	**84.82**	**27**	P		**P**	**03 46 31.3**	**+1.9**
	baz=253							
O18K	**Koktuh Hills**	**84.84**	**29**	P		**P**	**03 46 30.6**	**+1.1**
	baz=254							
E18K	**Tukpahlearik C**	**84.96**	**21**	P		**P**	**03 46 32.1**	**+2.2**
	baz=249							
M18K	**Stony River**	**85.00**	**27**	P		**P**	**03 46 32.3**	**+2.0**
	baz=254							
SVW2	**Sparrevohn**	**85.00**	**28**	IAmb		IAmb	03 46 34.5	
	comp=Z,26nm,1.0s							
F18K	**Selawik**	**85.02**	**22**	P		**P**	**03 46 31.7**	**+1.5**
	baz=250							
H18K	**Honhosa River**	**85.03**	**24**	IAmb		IAmb	03 46 34.5	
	comp=Z,34nm,1.1s							
H18K	**Honhosa River**	**85.03**	**24**	P		**P**	**03 46 31.6**	**+1.3**
	baz=251							
OHAK	**Old Harbor**	**85.14**	**32**	P		**P**	**03 46 32.3**	**+1.3**
	baz=256							
G18K	**Tagagawik**	**85.16**	**23**	P		**P**	**03 46 32.4**	**+1.4**
	baz=251							
J18K	**Innoko River**	**85.18**	**25**	IAmb		IAmb	03 46 33.0	
	comp=Z,25nm,0.8s							
J18K	**Innoko River**	**85.18**	**25**	P		**P**	**03 46 32.8**	**+1.7**
	baz=253							
C18K	**Utukok River**	**85.21**	**20**	P		**P**	**03 46 32.7**	**+1.5**
	baz=248							
B18K	**Kokolik River**	**85.28**	**19**	P		**P**	**03 46 33.2**	**+1.7**
	baz=248							
TTA	**Tatalina**	**85.33**	**26**	P		**P**	**03 46 32.9**	**+0.9**
TTA				IAmb		IAmb	03 46 34.0	
	comp=Z,26nm,0.8s							
TTA	**Tatalina**	**85.33**	**26**	P		**P**	**03 46 32.9**	**+0.9**
TTA				pmax		pmax		
	comp=Z,26nm,0.8s							
TTA	**Tatalina**	**85.33**	**26**	P		**P**	**03 46 33.2**	**+1.3**
	baz=253							
O19K	**Port Alsworth**	**85.36**	**29**	P		**P**	**03 46 33.4**	**+1.4**
	baz=255							
Q19K	**Cape Douglas,**	**85.37**	**30**	P		**P**	**03 46 33.9**	**+1.7**
	baz=256							
N19K	**Bonanza Creek**	**85.44**	**28**	P		**P**	**03 46 34.4**	**+1.8**
	baz=255							
GCSA	**Galena City Sc**	**85.50**	**24**	P		**P**	**03 46 34.3**	**+1.7**
	baz=252							
L19K	**White Mountain**	**85.63**	**27**	P		**P**	**03 46 34.8**	**+1.3**
	baz=254							
KDAK	**Kodiak Island**	**85.64**	**31**	P		**P**	**03 46 34.8**	**+1.3**
	baz=257							
P19K	**Oil Pt**	**85.75**	**30**	P		**P**	**03 46 35.9**	**+1.8**
	baz=256							
M19K	**Big River Lodg**	**85.77**	**27**	IAmb		IAmb	03 46 38.2	
	comp=Z,38nm,1.1s							
M19K	**Big River Lodg**	**85.77**	**27**	P		**P**	**03 46 35.9**	**+1.8**
	baz=255							
F19K	**Shaleruckik Mo**	**85.80**	**22**	P		**P**	**03 46 35.8**	**+1.7**
	baz=251							
J19K	**Poorman**	**85.80**	**25**	IAmb		IAmb	03 46 38.1	
	comp=Z,48nm,1.4s							
J19K	**Poorman**	**85.80**	**25**	P		**P**	**03 46 35.6**	**+1.4**
	baz=254							
G19K	**Purcell Mounta**	**85.84**	**23**	IAmb		IAmb	03 46 39.0	
	comp=Z,24nm,1.0s							
G19K	**Purcell Mounta**	**85.84**	**23**	P		**P**	**03 46 36.3**	**+2.0**
	baz=252							
H19K	**Roundabout Mou**	**85.91**	**23**	P		**P**	**03 46 36.9**	**+2.2**
	baz=253							
C19K	**Lookout Ridge**	**85.92**	**20**	P		**P**	**03 46 36.1**	**+1.4**
	baz=250							
LKRN	**Lenkeran, Azer**	**86.00**	**309**	P		**P**	**03 46 36.6**	**+0.9**
L20K	**Farewell, AK**	**86.15**	**27**	P		**P**	**03 46 37.9**	**+1.8**
	baz=255							
E19K	**Redstone River**	**86.20**	**22**	P		**P**	**03 46 37.4**	**+1.3**
	baz=252							
D19K	**Kuna River**	**86.21**	**20**	P		**P**	**03 46 37.0**	**+0.8**
	baz=251							
K20K	**Telida**	**86.29**	**26**	P		**P**	**03 46 37.8**	**+1.1**
	baz=255							
M20K	**Styx River**	**86.34**	**27**	IAmb		IAmb	03 46 46.6	
	comp=Z,32nm,1.0s							
M20K	**Styx River**	**86.34**	**27**	P		**P**	**03 46 38.2**	**+1.2**
	baz=256							
J20K	**Nowinta River**	**86.47**	**25**	P		**P**	**03 46 39.1**	**+1.6**
	baz=255							
I20K	**Naaghedeneel**	**86.50**	**24**	P		**P**	**03 46 39.2**	**+1.6**
	baz=255							
QSPA	**South Pole Qui**	**86.58**	**180**	P		**P**	**03 46 38.5**	**+0.3**
	comp=Z,12nm,0.8s,baz=333,slow=5.1,SNR=5.5							
	comp=Z,12nm,0.8s							
N20K	**Mount Spurr**	**86.61**	**28**	P		**P**	**03 46 38.9**	**+0.5**
	baz=257,SNR=6.3							
F20K	**Avaraart Lake**	**86.63**	**22**	P		**P**	**03 46 39.2**	**+1.0**
	baz=253							
D20K	**Etivluk River**	**86.80**	**20**	P		**P**	**03 46 39.8**	**+0.7**
	baz=252							
E20K	**Nigu River**	**86.82**	**21**	P		**P**	**03 46 40.1**	**+0.9**
	baz=253							
BRLK	**Bradley Lake**	**86.94**	**30**	IAmb		IAmb	03 46 56.7	
	comp=Z,35nm,1.1s							
BRSE	**Bradley Lake S**	**87.00**	**30**	P		**P**	**03 46 41.2**	**+1.0**
	baz=258							
PPLA	**Purkeypile**	**87.01**	**27**	P		**P**	**03 46 41.1**	**+0.8**
	baz=257							
CAPN	**Captain Cook N**	**87.02**	**29**	P		**P**

RC01 Rabbit Creek A 87.76 29 P P 03 46 44.1 +0.3
baz=259,SNR=5.3
CUT Chulitna 87.77 27 P P 03 46 44.4 +0.6
baz=258
BPAW Bear Paw Mtn. 87.80 25 P P 03 46 46.2 +2.1
baz=258
TRF Thorofare Moun 87.97 26 P P 03 46 45.6 +0.6
baz=258
ZKTA Zakatala 87.99 312 P P 03 46 46.2 +0.8
MLY Manley 88.10 25 P P 03 46 46.3 +0.9
baz=258
GANJ Ganja 88.11 311 P P 03 46 46.7 +0.7
PMR Palmer 88.14 28 IAmb IAmb 03 46 47.1
comp=Z,18nm,1.0s
PMR Palmer 88.14 28 P P 03 46 46.0 +0.5
baz=260
G22K Bettles 88.20 23 P P 03 46 46.6 +0.8
baz=257
D22K Ayikyak River 88.23 21 P P 03 46 47.0 +1.1
baz=256
B22K Teshekpuk Lake 88.34 19 P P 03 46 47.2 +0.8
baz=255
E22K Anaktuvuk Pass 88.36 21 P P 03 46 47.3 +0.7
baz=257
KNK Knik Glacier 88.43 28 IAmb IAmb 03 46 54.7
comp=Z,54nm,1.2s
KNK Knik Glacier 88.43 28 P P 03 46 48.3 +1.3
baz=260,SNR=5.7
KIRV Kirov 88.45 329 ce P P 03 46 46.9 -0.2
BWN Browne 88.47 26 IAmb IAmb 03 46 52.3
comp=Z,36nm,1.0s
SML Sawmill 88.55 28 IAmb IAmb 03 47 07.0
comp=Z,37nm,0.9s
SML Sawmill 88.55 28 P P 03 46 48.2 +0.6
baz=260
BELG Belogornoye 88.58 322 i P P 03 46 47.8 -0.1
BELG pmax pmax
comp=Z,6.0nm,0.9s
RND Reindeer 88.60 26 P P 03 46 47.9 0.0
NAX Nakhchivan 88.60 309 P P 03 46 49.0 +0.6
MCK McKinley 88.62 26 P P 03 46 49.2 +1.3
baz=260
I23K Minto, Yukon-K 88.70 25 IAmb IAmb 03 46 53.3
comp=Z,24nm,1.0s
I23K Minto, Yukon-K 88.70 25 P P 03 46 49.1 +1.0
baz=259
NEA2 Nenana 88.72 25 P P 03 46 49.5 +1.2
baz=260
G23K Bananza Creek 88.73 23 P P 03 46 49.4 +1.0
baz=259
GROC Groznyy 88.77 313 eP P 03 46 48.9 -0.1
GROC e 03 50 18.3
GROC eS SKSac 03 57 16.6 -1.1
GROC pmax pmax
comp=Z,27nm,1.0s
COLD Coldfoot 88.77 22 P P 03 46 49.5 +1.1
baz=258
M23K Glacier View 88.84 28 P P 03 46 49.6 +0.7
baz=261
D23K Nanushuk River 88.95 21 P P 03 46 50.1 +0.7
baz=258
SCM Sheep Creek Mo 89.03 28 P P 03 46 50.3 +0.4
baz=261
MDM Murphy Dome 89.14 25 IAmb IAmb 03 46 55.2
comp=Z,6.4nm,0.9s
E23K Chandalar 89.15 22 P P 03 46 50.8 +0.4
baz=259
C23K Itkillik River 89.16 20 P P 03 46 50.9 +0.7
baz=258
CCB Clear Creek Bu 89.26 25 IAmb IAmb 03 46 55.3
comp=Z,18nm,1.1s
GNI Garni 89.27 310 P P 03 46 51.5 -0.1
GNI IAmb IAmb 03 47 29.0
comp=Z,20nm,0.9s
GNI Garni 89.27 310 ce P P 03 46 50.8 -0.9
GNI pmax pmax
comp=Z,23nm,1.7s
H24K Noodor Dome 89.43 24 P P 03 46 52.9 +1.2
baz=261
POKR Poker Plat Res 89.50 25 P P 03 46 53.2 +1.2
baz=261
HDA Harding Lake 89.59 25 IAmb IAmb 03 46 57.0
comp=Z,15nm,1.0s
HDA Harding Lake 89.59 25 P P 03 46 53.4 +1.0
baz=261
M24K Tolsona, Glenn 89.61 28 P P 03 46 53.6 +1.0
baz=262
ILAR Eielson Array 89.67 25 P P 03 46 52.8 0.0
comp=Z,2.6nm,0.7s,baz=260,slow=4.3,SNR=4.8
ILAR PP PP 03 50 25.1 +0.3
comp=Z,1.8nm,1.0s,baz=258,slow=6.6,SNR=4.4
comp=Z,2.6nm,0.7s
F24K Squaw Lake 89.70 22 P P 03 46 53.6 +0.6
baz=261
G24K Hadweenzic Riv 89.73 23 P P 03 46 53.9 +0.9
baz=261
C24K Franklin Bluff 89.79 20 P P 03 46 54.1 +0.9
baz=260
K24K Donnelly Dome 90.02 26 P P 03 46 55.1 +0.7
baz=262
PAX Paxson 90.05 27 P P 03 46 55.4 +0.7
baz=263
HARP HAARP 90.12 28 P P 03 46 55.4 +0.4
baz=263
BMRM Bremner River 90.21 29 P P 03 46 56.4 +0.9
baz=264
G25K Bearman Lake 90.28 23 P P 03 46 56.3 +0.8
baz=262
N25K Chitina, Valde 90.29 28 P P 03 46 57.8 +2.0
baz=264
J25K Salcha River, 90.30 25 P P 03 46 57.6 +1.8
baz=263
H25L Birch Creek 90.32 24 P P 03 46 57.1 +1.4
baz=262
PRP Porcupine Dome 90.35 24 P P 03 46 56.0 -0.1
baz=263
RIDG Independent Ri 90.42 26 P P 03 46 57.2 +0.9
baz=263
D25K Kavik River 90.53 21 P P 03 46 58.3 +1.5
baz=262
F25K Christian River 90.57 22 P P 03 46 58.1 +1.2
baz=263
E25K Arctic Village 90.66 22 P P 03 46 58.5 +1.1
baz=263
SCRK Sand Creek 90.82 26 P P 03 46 59.8 +1.4
baz=264
KBZ Khabaz 90.91 314 i P P 03 46 59.1 +0.1
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 90.91 314 P P 03 46 58.3 -0.7
comp=Z,2.6nm,0.8s,baz=132,slow=4.7,SNR=5.5
comp=Z,2.6nm,0.8s
CRQE Cirque 90.92 29 P P 03 47 00.0 +1.2
baz=265
L26K Log Cabin Wild 91.01 27 P P 03 47 00.4 +1.3
baz=265
MCARA McCarthy VSAT 91.02 29 P P 03 47 00.7 +1.6
baz=265
J26L Joseph Creek 91.06 26 P P 03 47 00.5 +1.1
baz=264
KIV Kislovodsk 91.08 314 eP P 03 46 58.3 -1.6
KIV e 03 50 34.8
KIV e 03 57 29.9
KIV eSS SS 04 04 01.8 +0.6
KIV pmax pmax
comp=Z,3.0nm,1.1s
C26K Camden Bay 91.12 20 P P 03 47 00.9 +1.5
baz=263
M26K Nabesna, AK 91.12 28 P P 03 47 00.9 +1.3
baz=265
F26K Sheenjek River 91.15 22 P P 03 47 00.9 +1.3
baz=264
G26K Porcupine Rive 91.21 23 P P 03 47 01.3 +1.5
baz=264
I26K Coal Creek Min 91.31 25 P P 03 47 01.9 +1.5
baz=265
MESA MESA 91.44 30 P P 03 47 02.3 +0.9
baz=266
M27K Edge Creek, AK 91.64 28 P P 03 47 03.2 +1.0
baz=266
K27K Chicken 91.67 26 P P 03 47 03.3 +1.2
baz=266
L27K Beaver Creek, 91.71 27 IAmb IAmb 03 47 03.9
comp=Z,12nm,0.8s
L27K Beaver Creek, 91.71 27 P P 03 47 03.4 +1.1
baz=266
CTG Chitna Glacier 91.80 29 P P 03 47 03.9 +1.0
baz=266

I27K Kandik River 91.97 25 P P 03 47 04.7 +1.2
baz=266
H27K Steamboat Moun 92.05 24 P P 03 47 05.0 +1.1
baz=266
BVCY Beaver Creek 92.11 28 P P 03 47 05.0 +0.8
baz=267
EGAK Eagle 92.11 25 P P 03 47 04.7 +0.6
baz=267
VRH Novokhopyorsk 92.13 321 eP P 03 47 02.3 -2.2
VRH pmax pmax
comp=Z,4.0nm,0.5s
ELIB Princess Elisa 92.22 197 dP P 03 47 05.8 +1.1
comp=Z,27nm,0.9s
ELIB dPP PP 03 50 44.7 0.0
YUK3 Moose Creek 92.27 28 P P 03 47 05.7 +0.6
baz=267
PINM Pinnacle 92.28 30 P P 03 47 05.5 +0.4
baz=267
YUK8 Steele Glacier 92.58 29 P P 03 47 07.6 +0.9
baz=268
I28M Miner Creek 92.66 25 P P 03 47 07.8 +1.0
baz=268
F28M Old Crow 92.77 23 P P 03 47 08.1 +1.0
baz=268,SNR=7.1
KIBK Kibwezi 92.78 268 P P 03 47 08.4 0.0
DAWY Dawson 92.85 26 P P 03 47 09.0 +1.4
baz=268,SNR=5.3
YUK4 Talbot Arm 93.12 29 P P 03 47 10.0 +0.9
baz=269
SOC Sochi 93.21 313 eP P 03 47 06.4 -3.3
SOC e 03 50 48.4
SOC eS SKSac 03 57 40.1 -3.1
SOC eSS SS 04 04 27.1 -4.5
SOC eSSS SSS 04 08 08.6
M29M Somme Creek 93.23 28 P P 03 47 10.2 +0.8
baz=269
D28M Stokes Point 93.23 21 P P 03 47 10.5 +1.3
baz=269
J29N Klondike Camp 93.37 26 P P 03 47 11.3 +1.3
baz=269
L29M L29M 93.39 27 P P 03 47 11.4 +1.3
baz=269
E29M Blow River 93.53 22 P P 03 47 11.6 +1.0
baz=270
KLMR Klimovskoe 93.63 331 eP P 03 47 08.6 -2.6
KLMR e 03 50 55.5
KLMR pmax pmax
comp=Z,9.0nm,1.0s
VORD Divnogorie 93.65 321 eP P 03 47 10.6 -0.9
VORD pmax pmax
comp=Z,20nm,0.6s
HYT Haines Junctio 93.67 29 P P 03 47 12.5 +0.9
baz=270
K29M Barlow Dome 93.67 26 P P 03 47 12.7 +1.2
baz=270
VSR Storozhevoye 93.74 321 eP P 03 47 10.2 -1.7
VSR pmax pmax
comp=Z,4.0nm,0.7s
N30M Aishikik Lake 93.87 29 P P 03 47 13.5 +1.1
baz=270
LPSR Galich'ya Gora 93.90 322 eP P 03 47 11.1 -1.5
LPSR pmax pmax
comp=Z,10.0nm,1.0s
P30M Million Dollar 93.93 30 P P 03 47 13.7 +1.0
baz=270
EPYK Eagle Plains 94.00 24 IAmb IAmb 03 47 31.4
comp=Z,53nm,1.6s
EPYK Eagle Plains 94.00 24 P P 03 47 14.1 +1.2
baz=271
M30M Mito, Yukon 94.00 28 P P 03 47 13.6 +0.6
baz=270
I30M Mount Dempster 94.15 25 P P 03 47 14.8 +1.1
baz=271
G30M tAoh Zraii Nji 94.18 23 IAmb IAmb 03 47 15.7
comp=Z,16nm,1.0s
G30M tAoh Zraii Nji 94.18 23 P P 03 47 14.5 +0.8
baz=271
J30M Hart River 94.19 26 IAmb IAmb 03 47 17.0
comp=Z,15nm,0.9s
J30M Hart River 94.19 26 P P 03 47 14.8 +1.0
baz=271
F30M Barrier River 94.33 23 P P 03 47 15.0 +0.7
baz=272
O30N Mendenhall 94.36 29 P P 03 47 15.5 +0.9
baz=271
SKAG Skagway 94.77 31 P P 03 47 16.7 +0.3
baz=272
G31M Satah River 94.95 23 IAmb IAmb 03 47 19.2
comp=Z,22nm,1.1s
G31M Satah River 94.95 23 P P 03 47 17.4 +0.3
baz=273
WHY Whitehorse 94.96 30 P P 03 47 18.2 +0.8
baz=272
F31M Tsiigehtchic 95.13 23 IAmb IAmb 03 47 19.9
comp=Z,18nm,1.1s
F31M Tsiigehtchic 95.13 23 P P 03 47 18.2 +0.3
baz=274
INK Inuvik 95.15 22 IAmb IAmb 03 47 26.4
comp=Z,20nm,1.4s
INK Inuvik 95.15 22 P P 03 47 17.7 -0.3
INK Inuvik 95.15 22 P P 03 47 18.3 +0.3
baz=274
OBN Obninsk 95.27 325 i P P 03 47 21.8 +3.0
OBN pmax pmax
comp=Z,7.0nm,1.2s
P32M Atlin 95.58 31 P P 03 47 21.9 +1.6
baz=273
FARO Faro, Yukon 95.62 28 IAmb IAmb 03 47 40.0
comp=Z,29nm,1.6s
FARO Faro, Yukon 95.62 28 P P 03 47 21.0 +0.6
baz=274
N32M Quiet Lake 95.81 29 P P 03 47 22.3 +1.0
baz=274
NVL N'lazarevskaya 96.08 197 eP P 03 47 21.9 -0.3
NVL pmax pmax
comp=Z,10.0nm,1.0s
GHAJ Ghor Haditha 96.36 301 IAmb IAmb 03 47 26.5
comp=Z,12nm,0.9s
MMAI Mount Meron Ar 96.49 303 P P 03 47 25.5 +0.4
comp=Z,0.4nm,0.3s,baz=95,slow=7.6,SNR=4.2
comp=Z,0.4nm,0.3s
R33M Jennings River 97.00 31 P P 03 47 27.3 +0.5
baz=275
S34M Telegraph Cree 97.04 32 P Pdif 03 47 27.2 +0.2
baz=275
SIM Simferopol' 97.22 315 eP P 03 47 23.9 -4.1
SIM eS S 03 58 44.5 -6.4
SIM pmax pmax
comp=Z,22nm,1.0s
SIM smax smax
comp=N,46nm,12.9s
A36M Sachs Harbour 97.44 18 IAmb IAmb 03 47 30.6
comp=Z,10nm,0.9s
A36M Sachs Harbour 97.44 18 P Pdif 03 47 28.6 +0.3
baz=282
T35M Bob Quinn 97.60 33 P P 03 47 29.1 -0.4
baz=276
BRTR Keskin Array B 97.78 309 P Pdif 03 47 31.4 +0.6
comp=Z,1.0nm,0.6s,baz=118,slow=6.9,SNR=3.3
comp=Z,1.0nm,0.6s
TROLL Troll, Antarti 97.89 194 ⇑P Pdif 03 47 32.3 +1.6
comp=Z,523nm,0.8s
TGTN Hyland Airport 98.08 28 P Pdif 03 47 31.6 +0.1
baz=278
SPITS Spitsbergen Ar 98.21 349 P P 03 47 31.3 -0.4
comp=Z,11nm,0.9s,baz=349,slow=5.9,SNR=2.3
comp=Z,11nm,0.9s
C36M Paulatuk 98.40 20 P P 03 47 32.7 0.0
baz=283
BELA Belgrano 2 98.47 183 P Pdif 03 47 34.3 +1.3
ARCES ARCESS Array B 98.53 340 P P 03 47 32.4 -0.9
comp=Z,7.0nm,0.8s,baz=66,slow=5.5,SNR=10
comp=Z,7.0nm,0.8s
SNAA Sanae 99.39 193 ⇑Pdiff Pdif 03 47 37.6 +0.3
comp=Z,99nm,0.6s
SNAA Sanae 99.39 193 P Pdif 03 47 38.1 +0.8
comp=Z,8.1nm,1.0s,baz=236,slow=8.6,SNR=5.9
comp=Z,8.1nm,1.0s
WRGLY Wrigley 99.99 26 P Pdif 03 47 40.3 +0.4
baz=282
AKASG Malin Array Be 100.04 321 P Pdif 03 47 39.7 -0.7
comp=Z,0.2nm,0.3s,baz=78,slow=3.5,SNR=4.3
AKASG PP PP 03 51 48.1 +2.4
comp=Z,0.5nm,0.6s,baz=70,slow=6.8,SNR=5.4
FINES FINESS Array B 100.05 332 P Pdif 03 47 40.1 -0.1
comp=Z,1.2nm,0.8s,baz=16,slow=10,SNR=3.2
KOTAN Kotaneelee Air 100.35 29 P Pdif 03 47 42.4 +0.7
baz=281

BOSA Boshof 102.12 240 P Pdif 03 47 50.6 +0.3
comp=Z,6.1nm,0.8s,baz=111,slow=3.5,SNR=12
YKA Yellowknife Ar 104.09 26 Pdiff Pdif 03 47 58.2 +0.1
comp=Z,1.0nm,0.9s,baz=292,slow=4.7,SNR=8.5
YKA PP PP 03 52 08.8 -6.9
comp=Z,0.6nm,0.9s,baz=296,slow=5.6,SNR=3.9
YKA PKKPbc PKKPbc 04 03 47.4 -2.1
comp=Z,0.5nm,0.8s,baz=104,slow=2.7,SNR=7.5
HFS Hagfors 106.23 332 Pdiff Pdif 03 48 05.8 -1.9
comp=Z,1.8nm,0.8s,baz=353,slow=4.5,SNR=1.2
NOA NORSAR Array B 106.99 334 Pdiff Pdif 03 48 11.3 +0.1
comp=Z,1.6nm,0.9s,baz=64,slow=4.7,SNR=4.0
NOA PP PP 03 52 37.5 +0.2
comp=Z,1.1nm,0.8s,baz=40,slow=8.5,SNR=3.4
NVAR Mina Array Bea 108.28 51 Pdiff Pdif 03 48 17.9 +0.3
comp=Z,0.2nm,0.6s,baz=74,slow=14,SNR=1.8
NVAR PP PP 03 52 48.5 +0.8
comp=Z,0.4nm,0.8s,baz=302,slow=8.6,SNR=2.2
NVAR PKKP PKKPab 04 03 48.5 -0.2
comp=Z,0.8nm,0.9s,baz=123,slow=5.5,SNR=4.4
CLL Collm 109.84 324 ePKiKP PKiKP 03 52 30.0 +3.7
CLL AMS AMS 04 35 00.0
comp=N,600nm,22.5s
CLL AMS AMS 04 35 00.0
comp=E,600nm,26.5s
R11B Troy Canyon, C 110.39 50 P PKiKP 03 52 28.1 +0.1
baz=282
MONP2 Monument Peak 110.76 56 P PKiKP 03 52 29.4 +0.5
baz=280
BELC Belle Mtn. Jos 110.92 55 P PKiKP 03 52 30.0 +0.9
baz=280
IKP In-Ko-Pah, Jac 111.06 56 P PKiKP 03 52 29.2 0.0
baz=280
EGMT Eagleton 111.78 39 P PKiKP 03 52 31.1 +0.9
baz=290
PDAR Pinedale Array 113.65 44 PKKPbc PKKPbc 04 03 17.8 -0.9
comp=E,1.7nm,0.8s,baz=115,slow=4.6,SNR=12
LAO LASA Array 114.50 39 P PKPdf 03 52 35.9 +0.5
baz=293
O20A White River Ci 115.42 47 P PKPdf 03 52 38.1 +0.5
baz=288
K22A Casper 115.80 44 P PKPdf 03 52 39.4 +1.2
baz=291
ISCO Idaho Springs 117.44 46 P PKPdf 03 52 41.4 -0.2
baz=290
Q24A Divide 118.06 47 P PKiKP 03 52 43.5 +0.6
baz=290
SDCO Great Sand Dun 118.21 49 P PKiKP 03 52 43.4 +0.3
baz=289
ANMO Albuquerque 118.35 52 P PKiKP 03 52 44.3 +0.9
baz=287
ULM Lac du Bonnet 118.89 32 PKP PKiKP 03 52 43.7 0.0
comp=E,2.3nm,0.7s,baz=300,slow=5.7,SNR=5.7
ULM PKKPbc PKKPbc 04 03 00.5 +0.3
comp=E,2.0nm,0.8s,baz=115,slow=9.3,SNR=4.1
OGNE Ogallala 119.55 44 P PKiKP 03 52 46.0 +0.6
baz=294
KSCO Kaye Shedlock' 119.88 46 P PKiKP 03 52 46.5 +0.3
baz=292
AGMN Agassiz Nation 119.97 34 P PKiKP 03 52 46.7 +0.8
baz=303
MNTX Cornudas Mount 120.13 55 P PKiKP 03 52 47.0 +0.3
baz=286
F33A 5 Mile Ranch, 121.02 37 PKPdf PKiKP 03 52 48.3 +0.3
MSTX Muleshoe 121.54 52 P PKPdf 03 52 49.5 +0.1
baz=289
ECSD EROS Data Cent 121.89 39 PKPdf PKiKP 03 52 50.0 +0.2
BGNE Belgrade 122.00 42 P PKiKP 03 52 50.7 +0.6
baz=297
CBKS Cedar Bluff 122.03 45 P PKiKP 03 52 50.6 +0.3
baz=294
TXAR Lajitas Array 122.20 57 PKP PKiKP 03 52 51.2 +0.3
comp=E,0.7nm,0.8s,baz=204,slow=2.7,SNR=4.0
TXAR PKKPbc PKKPab 04 02 47.0 -0.3
comp=E,1.5nm,0.8s,baz=124,slow=6.7,SNR=12
EYMN Ely 122.57 33 P PKiKP 03 52 51.9 +0.9
baz=307
F36A Milaca 122.64 36 PKPdf PKiKP 03 52 52.0 +0.8
SPMN Marine on St. 123.42 36 P PKiKP 03 52 53.3 +0.5
baz=304
KSU1 Kansas State U 124.10 44 P PKiKP 03 52 55.1 +0.8
baz=297
WMOK Wichita Mounta 124.36 50 P PKiKP 03 52 55.3 +0.3
baz=293
ABTX Abilene, Hawle 124.47 52 P PKiKP 03 52 55.2 0.0
baz=291
JCT Junction City 125.06 55 PKiKP 03 52 56.7 +0.2
JCT Junction City 125.06 55 PKIKP PKiKP 03 52 56.7 +0.2
JCT Junction City 125.06 55 P PKPdf 03 52 56.1 -0.1
baz=289
ESDC Sonseca Array 125.54 318 PKP PKiKP 03 52 57.8 +0.6
comp=E,0.6nm,0.9s,baz=64,slow=3.4,SNR=2.4
ESDC PP PP 03 54 51.7 +4.0
comp=E,1.5nm,1.0s,baz=31,slow=6.5,SNR=4.6
P38A Dawn 125.94 42 PKiKP 03 52 57.8 -0.1
JFWS Jewell Farm 126.25 37 P PKPdf 03 52 58.0 0.0
baz=306
SCHQ Schefferville 126.69 13 PKP PKPdf 03 52 58.7 +0.2
comp=E,2.0nm,0.8s,baz=315,slow=4.3,SNR=2.1
S39A Bolivar 127.04 44 PKiKP 03 53 00.4 +0.2
L44A Lake County Fo 128.07 36 P PKPdf 03 53 01.8 +0.3
baz=307
HDIL Hopedale 128.19 39 P PKiKP 03 53 02.3 0.0
baz=305
GLMI Grayling 128.23 32 P PKiKP 03 53 02.4 0.0
baz=312
CCM Cathedral Cave 128.28 43 P PKiKP 03 53 02.4 -0.2
baz=301
MIAR Mount Ida 128.33 48 P PKPdf 03 53 02.6 +0.3
baz=297
TORD Torodi Ar. Bea 128.96 284 PKP PKPdf 03 53 03.7 -0.2
SFIN Lafayette 129.65 38 P PKPdf 03 53 04.7 +0.2
baz=307
O48B Farmland 130.90 37 P PKPdf 03 53 06.7 -0.2
baz=309
OXF Oxford 131.37 45 P PKPdf 03 53 07.5 -0.5
baz=301
WCI Wyandotte Cave 131.43 39 P PKiKP 03 53 08.8 -0.2
baz=306
P49A Miami Univ. Ec 131.61 37 P PKPdf 03 53 08.7 +0.3
baz=309
WVT Waverly 131.62 43 P PKiKP 03 53 09.2 -0.2
baz=303
PLCA Paso Flores 131.90 158 PKPdf 03 53 09.4 +0.5
PLCA Paso Flores 131.90 158 PKIKP PKPdf 03 53 09.5 +0.5
PLCA Paso Flores 131.90 158 PKP PKPdf 03 53 09.2 +0.2
comp=E,3.9nm,0.8s,baz=198,slow=3.3,SNR=7.6
PLCA SKPbc SKPab 03 56 35.5 +0.6
comp=E,4.9nm,0.9s,baz=192,slow=4.9,SNR=7.1
ACSO Alum Creek Sta 132.19 35 P PKiKP 03 53 10.4 0.0
baz=311
KIC Kosan Boka 135.78 276 ⇑i PKP1 PKPdf 03 53 12.4 -4.5
comp=E,54nm,0.7s
TIC Toumodi 136.05 276 ⇑i PKP1 PKPdf 03 53 13.1 -4.3
comp=E,54nm,0.5s
LIC Lamto 136.07 275 ⇑i PKP1 PKPdf 03 53 13.1 -4.3
comp=E,219nm,0.7s
VA03 San Esteban 138.68 152 PKPdf 03 53 22.2 +0.3
AC01 Pan de Azucar 143.98 146 PKPdf PKPdf 03 53 31.1 -0.3
PLTB Pedras Altas 144.79 173 PKPdf PKPdf 03 53 33.1 +0.4
PLTB Pedras Altas 144.79 173 eP PKPdf 03 53 33.0 +0.2
ITQB Itaqui 146.35 168 PKPdf PKPdf 03 53 35.5 +0.1
LVC Limon Verde 147.69 144 PKPdf PKPdf 03 53 37.4 -0.9
LVC Limon Verde 147.69 144 PKIKP PKPdf 03 53 37.4 -0.9
LVC Limon Verde 147.69 144 eP PKPdf 03 53 37.8 -0.5
MCRA Macar, Loja 148.16 104 PKPbc PKPbc 03 53 42.4 +0.2
ARNL Arenillas 148.23 102 PKPab 03 53 45.0 -0.2
COHC Cochancay 149.24 100 PKPab 03 53 48.2 -1.1
CPUP Villa Florida 149.40 165 PKPdf PKPdf 03 53 41.4 +0.9
CPUP Villa Florida 149.40 165 PKHKP PKPdf 03 53 41.4 +0.9
CPUP Villa Florida 149.40 165 PKPbc PKPbc 03 53 45.2 +0.3
comp=E,11nm,0.9s,baz=200,slow=2.1,SNR=13
ITAB Concordia 149.43 175 eP PKPbc 03 53 44.9 -0.1
OTAV Otavalo 150.43 95 eP PKPdf 03 53 42.5 -0.5
LPAZ La Paz 152.83 137 PKPdf PKPdf 03 53 46.3 -0.5
LPAZ La Paz 152.83 137 PKIKP PKPdf 03 53 46.3 -0.5
LPAZ La Paz 152.83 137 PKPbc PKiKP 03 53 55.0 +0.9
comp=E,12nm,0.7s,baz=2.7,slow=3.5,SNR=18
IPMB Ipameri, GO 158.77 182 eP PKPab 03 54 28.4 -0.8
BDFB Brasilia 161.08 183 PKP PKPdf 03 53 57.0 +0.3
comp=E,5.2nm,0.9s,baz=85,slow=4.4,SNR=5.9
BDFB PKPab PKPab 03 54 39.5 0.0
comp=E,4.0nm,0.8s,baz=159,slow=5.3,SNR=2.5
SDBA SAO DESIDERIO 163.80 195 eP PKPdf 03 53 59.7 +0.4
SMTB Santa Maria do 167.76 187 eP PKPdf 03 54 02.7 +0.1
TMAB Tom-Au,PA,Br 174.22 189 eP PKPdf 03 54 05.5 -0.4

BJI ***08*** *03:51:04.0±0.0,3.˚46S×131.˚14E,h11km,mb5.2/83, mB5.6/48,Ms5.4/80,Ms7 5.2/76*

IDC ***08*** *03:51:05.7±0.3,3.˚26S×130.˚93E,h0km,mb5.2/38, mbtmp5.2/41,ML3.3/1,MS5.1/47,Error ellipse: s-maj=18.9km s-min=9.6km az=74.0*

MOS ***08*** *03:51:06.4±0.9,3.˚29S×130.˚96E,h17km,mb5.7/62, MS5.1/12,Error ellipse: s-maj=8.5km s-min=4.5km az=116.7*

NEIC ***08*** *03:51:06.8,3.˚35S×131.˚16E,h18km,Moment Tensor Solution. Duration: 3s1 Moment tensor: Scale 10¹⁷Nm; Mrr2.77; Mθθ-0.58; Mφφ-2.19; Mrθ-1.50; Mθφ1.63; Mφr1.25; Fault plane solution: M₀3.58000×10¹⁷ NP1: ϕs317.28000°,δ61.80000°,λ78.50000°. NP2: ϕs160.58000°,δ30.27000°,λ110.40000°. Principal axes: T 3.4169, Plg71.0000°, Azm202.0000°; N 0.3229, Plg10.0000°, Azm323.0000°; P -3.7398, Plg16.0000°, Azm56.0000°;*

NEIC ***08*** *03:51:06.8,3.˚35S×130.˚96E,h18km*

NEIC ***08*** *03:51:07.2±1.8,3.˚34S±0.˚06×130.˚93E±0.˚05,h10km±1km, mb5.7/239,Ms_20 5.5/456,Mww5.6/21,Error ellipse: s-maj=10.2km s-min=7.7km az=163.0*

DJA ***08*** *03:51:08.8±0.5,3.˚5S±2.˚3×13.˚1E±.˚,h22km±4km,M5.7/118, mb5.6/118,mB6.0/66,MLv5.8/14,Mw(mB)5.7/66, MwMwp5.7/12,Mwp5.8/12*

GCMT ***08*** *03:51:11.2±0.1,3.˚27S±0.˚01×130.˚92E±0.˚01,h15km, MW5.7/154,Moment Tensor Solution. s132,c234; s154,c288; Duration: 1s7 Moment tensor: Scale 10¹⁷ Nm; Mrr2.61±.05; Mθθ-0.81±.04; Mφφ-1.80±.04; Mrθ-2.05±.11; Mθφ2.30±.03; Mφr2.09±.11; Best double couple: M₀4.29300×10¹⁷ NP1:ϕs316.00000°,δ67.00000°, λ85.00000°. NP2:ϕs149.00000°,δ24.00000°,λ102.00000°. Principal axes: T 3.7800, Plg68.0000°, Azm216.0000°; N 1.0230, Plg5.0000°, Azm318.0000°; P -4.8060, Plg21.0000°, Azm50.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 03:51:07.7±0.4,3.˚37S±0.˚03×130.˚87E±0.˚04,h13km±2km, h13km:pP-P,n1197,σ1s47/1004,mb5.6/245,MS5.4/311, 26C-9D,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.45**	**72**	Pn	**Pn**	**03 51 32.8**	**-0.7**
FAKI				Sn	**Sn**	**03 51 49.6**	**-2.7**
FAKI	**Fak Fak**	**1.45**	**72**	P	**Pn**	**03 51 33.2**	**-0.3**
FAKI	**Fak Fak**	**1.45**	**72**	P	**Pn**	**03 51 32.8**	**-0.7**
BNDI	**Bandanaira**	**1.50**	**220**	P	**Pg**	**03 51 37.7**	**+1.2**
BNDI	**Bandanaira**	**1.50**	**220**	P	**Pg**	**03 51 36.2**	**-0.3**
SWI	**Sorong**	**2.52**	**9**	P	**Pn**	**03 51 46.7**	**-1.6**
SWI	**Sorong**	**2.52**	**9**	P	**Pn**	**03 51 46.8**	**-1.6**
NLAI	**Namlea**	**3.77**	**272**	P	**Pn**	**03 52 06.4**	**+0.9**
LBMI	**Labuha**	**4.33**	**309**	P	**Pn**	**03 52 12.8**	**-0.4**
SAUI	**Saumlaki**	**4.60**	**175**	Pn	**Pn**	**03 52 18.1**	**+1.2**
SAUI	**Saumlaki**	**4.60**	**175**	P	**Pn**	**03 52 19.5**	**+2.6**
SAUI	**Saumlaki**	**4.60**	**175**	P	**Pn**	**03 52 17.8**	**+0.9**
SANI	**Sanana**	**5.05**	**285**	P	**Pn**	**03 52 22.2**	**-1.0**
SANI	**Sanana**	**5.05**	**285**	P	**Pn**	**03 52 22.0**	**-1.2**
	829nm,0.6s,15μm4.6nm						
TNTI	**Ternate**	**5.41**	**320**		**Pn**	**03 52 27.5**	**-0.6**
TNTI	**Ternate**	**5.41**	**320**	P	**Pn**	**03 52 29.6**	**+1.5**
TNTI	**Ternate**	**5.41**	**320**	P	**Pn**	**03 52 29.2**	**+1.1**
	535nm,1.1s,7μm13μm2.0nm						
KMSI	**Cibinong**	**7.93**	**300**	P	**Pn**	**03 53 02.8**	**+0.1**
	1μm,0.7s,13μm13nm						
SMPI	**Sarmi**	**7.95**	**80**	P	**Pn**	**03 53 03.4**	**+0.4**
	442nm,1.3s,20μm46μm2.1nm						
LUWI	**Luwuk**	**8.42**	**286**		**Pn**	**03 53 08.3**	**-1.2**
LUWI	**Luwuk**	**8.42**	**286**	P	**Pn**	**03 53 10.2**	**+0.7**
LUWI	**Luwuk**	**8.42**	**286**	P	**Pn**	**03 53 09.5**	**0.0**
	591nm,0.9s,10μm						
BBSI	**Bau Bau**	**8.54**	**255**	P	**Pn**	**03 53 12.0**	**+0.9**
	755nm,1.1s,10μm30μm						
GTOI	**Gorontalo**	**8.81**	**297**	P	**Pn**	**03 53 16.5**	**+1.7**
	263nm,0.8s,2μm						
SGSI	**Sangihe**	**8.82**	**323**	P	**Pn**	**03 53 14.9**	**0.0**
	1μm,0.7s,12μm						
DRS	**Darwin Rock St**	**9.00**	**180**	P	**Pn**	**03 53 17.4**	**0.0**
SOEI	**Soe**	**9.12**	**226**	Pn	**Pn**	**03 53 20.2**	**+1.0**
SOEI	**Soe**	**9.12**	**226**	P	**Pn**	**03 53 23.5**	**+4.3**
SOEI	**Soe**	**9.12**	**226**	P	**Pn**	**03 53 19.4**	**+0.2**
	769nm,1.0s,22μm						
GENI	**Genyem**	**9.31**	**85**	P	**Pn**	**03 53 23.6**	**+1.9**
GENI	**Genyem**	**9.31**	**85**	P	**Pn**	**03 53 21.6**	**-0.1**
	898nm,0.9s,9μm33μm						
KDU	**Kakadu**	**9.39**	**170**	P	**Pn**	**03 53 20.5**	**-2.2**
MTN	**Manton Dam**	**9.41**	**178**	Pn	**Pn**	**03 53 22.3**	**-0.8**
MTN	**Manton Dam**	**9.41**	**178**	P	**Pn**	**03 53 22.9**	**-0.2**
MRSI	**Marisa**	**9.71**	**293**	P	**Pn**	**03 53 25.2**	**-2.0**
	404nm,0.8s,4μm						
MMRI	**Maumere**	**10.05**	**238**	P	**Pn**	**03 53 33.5**	**+1.6**
MMRI	**Maumere**	**10.05**	**238**	P	**Pn**	**03 53 35.3**	**+3.4**
	479nm,0.9s,12μm48μm						
BKSI	**Bulukumba**	**10.89**	**259**	P	**Pn**	**03 53 47.0**	**+3.6**
	444nm,1.3s,11μm28μm						
TOLI2	**Tolitoli**	**11.03**	**294**	Pn	**Pn**	**03 53 44.5**	**-0.7**
TOLI2	**Tolitoli**	**11.03**	**294**	P	**Pn**	**03 53 45.1**	**-0.1**
TTSI	**Tana Toraja**	**11.04**	**271**	P	**Pn**	**03 53 47.9**	**+2.5**
	168nm,1.0s,4μm						
KAPI	**Kappang**	**11.21**	**261**	Pn	**Pn**	**03 53 48.9**	**+1.1**
KAPI	**Kappang**	**11.21**	**261**	P	**Pn**	**03 53 51.4**	**+3.7**
KAPI	**Kappang**	**11.21**	**261**	*i* P	**Pn**	**03 53 50.9**	**+3.2**
KAPI	**Kappang**	**11.21**	**261**	P	**Pn**	**03 53 52.2**	**+4.4**
KAPI				P	**Pn**	**03 53 52.2**	**+4.4**
I39PW	**PALAU INFRASON**	**11.44**	**19**	I	I	05 02 00.0	
	baz=199,slow=314,SNR=1.0						
DAV	**Davao City (W)**	**11.64**	**333**	Pn	**Pn**	**03 53 50.5**	**-3.1**
	149nm,0.3s,baz=254,slow=13,SNR=1.1						
BASI	**Baing, Sumba**	**12.27**	**236**	P	**Pn**	**03 54 05.9**	**+3.6**
	371nm,1.3s,9μm						
KNRA	**Kununurra**	**12.40**	**190**	Pn	**Pn**	**03 54 00.6**	**-3.4**
KNRA	**Kununurra**	**12.40**	**190**	P	**Pn**	**03 54 01.4**	**-2.6**
PLAI	**Plampang**	**14.10**	**247**	P	**Pn**	**03 54 29.2**	**+1.9**
PLAI	**Plampang**	**14.10**	**247**	P	**Pn**	**03 54 28.0**	**+0.7**
	615nm,1.1s,7μm						
BKB	**Balikpapan**	**14.12**	**278**	P	**Pn**	**03 54 29.6**	**+2.0**
BKB	**Balikpapan**	**14.12**	**278**	P	**P**	**03 54 31.9**	**-3.3**
BKB	**Balikpapan**	**14.12**	**278**	P	**Pn**	**03 54 30.8**	**+3.2**
	432nm,1.3s,9μm						
TWSI	**Taliwang, Sumb**	**14.89**	**248**	P	**Pn**	**03 54 39.3**	**+1.2**
	378nm,0.7s,4μm						
FITZ	**Fitzroy Crossi**	**15.51**	**199**	Pn	**Pn**	**03 54 42.5**	**-3.6**
FITZ	**Fitzroy Crossi**	**15.51**	**199**	P	**Pn**	**03 54 43.6**	**-2.6**
COEN	**Coen**	**16.06**	**132**		**Pn**	**03 54 50.6**	**-2.9**
COEN	**Coen**	**16.06**	**132**	P	**Pn**	**03 54 51.3**	**-2.1**
SRBI	**Singaraja**	**16.27**	**253**	P	**Pn**	**03 54 57.3**	**+1.3**
	437nm,1.2s,7μm						
MANU	**Manus Island**	**16.53**	**86**	P	**Pn**	**03 54 57.9**	**-1.5**
MANU	**Manus Island**	**16.53**	**86**	P	**Pn**	**03 55 00.3**	**+0.9**
WB0	**Warramunga Arr**	**16.65**	**168**		**Pn**	**03 54 55.2**	**-5.7**
WRAB	**Tennant Creek**	**16.80**	**169**	P	**Pn**	**03 54 58.8**	**-4.1**
WRAB	**Tennant Creek**	**16.80**	**169**	P	**Pn**	**03 54 58.8**	**-4.1**
WRAB				pmax	pmax		
	comp=Z,208nm,0.9s						
WRA	**Warramunga Arr**	**16.81**	**169**	Pn	**Pn**	**03 54 59.1**	**-3.9**
	comp=Z,5.2nm,0.3s,baz=351,slow=13,SNR=64						
WRA				Sn	Sn	03 57 59.0	-11
	comp=Z,11nm,0.3s,baz=351,slow=22,SNR=6.3						
WB2	**Warramunga Arr**	**16.81**	**169**		**Pn**	**03 54 57.4**	**-5.6**
WR0	**Warramunga Arr**	**16.87**	**168**	P	**Pn**	**03 54 59.4**	**-4.3**
ABJI	**Asem Bagus**	**17.13**	**254**	P	**P**	**03 55 08.4**	**-0.2**
	comp=Z,325nm,1.1s,comp=Z,10μmcomp=Z,22μm						
KMMI	**Kalianget**	**17.23**	**257**	P	**P**	**03 55 10.8**	**+1.1**
	comp=Z,569nm,1.3s,comp=Z,8μm						
PMG	**Port Moresby**	**17.25**	**111**	Pn	**Pn**	**03 55 07.0**	**-1.5**
PMG	**Port Moresby**	**17.25**	**111**	P	**P**	**03 55 10.2**	**+0.2**
PMG	**Port Moresby**	**17.25**	**111**	P	**P**	**03 55 10.0**	**0.0**
PMG	**Port Moresby**	**17.25**	**111**	*ce*P	**P**	**03 55 09.2**	**-0.8**
PMG				pmax	pmax		
	comp=Z,354nm,1.7s						
PMG	**Port Moresby**	**17.25**	**111**	P	**Pn**	**03 55 08.8**	**+0.3**
	comp=Z,3.7nm,0.3s,baz=298,slow=9.7,SNR=16						
	comp=Z,117nm,0.8s						
KKM	**Kota Kinabalu**	**17.37**	**303**		**Pn**	**03 55 09.0**	**-1.1**
KKM				IAmb	IAmb	03 55 18.8	
	comp=Z,830nm,1.9s						
KKM	**Kota Kinabalu**	**17.37**	**303**	P	**Pn**	**03 55 10.4**	**+0.3**
JAGI	**Jajag, Banyuwa**	**17.38**	**252**	P	**Pn**	**03 55 08.8**	**-1.3**
JAGI	**Jajag, Banyuwa**	**17.38**	**252**	P	**Pn**	**03 55 08.9**	**-1.3**
JAGI	**Jajag, Banyuwa**	**17.38**	**252**	P	**Pn**	**03 55 08.6**	**-1.5**
	comp=Z,242nm,0.6s,comp=Z,5μm						
BLJI	**Banyuglugur**	**17.73**	**255**	P	**P**	**03 55 16.3**	**+1.0**
	comp=Z,897nm,0.7s,comp=Z,23μm						
GMJI	**Gumukmas**	**18.01**	**254**	P	**Pn**	**03 55 15.8**	**-2.0**
GRJI	**Gresik**	**18.65**	**258**	P	**Pn**	**03 55 26.9**	**+1.1**
	comp=Z,768nm,1.1s,comp=Z,8μm						
QIS	**Mount Isa**	**19.08**	**154**	P	**P**	**03 55 30.5**	**+0.4**
SBUM	**Sibu**	**19.52**	**287**	P	**P**	**03 55 34.9**	**-0.1**
PWJI	**Pagerwojo**	**19.52**	**256**	P	**P**	**03 55 33.3**	**-1.7**
	comp=Z,178nm,0.6s,comp=Z,3μm						
STKI	**Sintang**	**19.68**	**280**	P	**Pn**	**03 55 38.7**	**+0.5**
	comp=Z,473nm,1.2s						
MTSU	**Mount Surprise**	**19.71**	**139**	P	**Pn**	**03 55 38.3**	**-0.2**
NGJI	**Ngawi**	**19.73**	**258**	P	**Pn**	**03 55 38.2**	**-0.5**
	comp=Z,446nm,1.1s						
TGY	**Tagaytay City**	**19.96**	**331**	P	**P**	**03 55 39.8**	**0.0**
	comp=Z,160nm,0.4s,baz=147,slow=3.8,SNR=12						
TGY				LR	LR	04 04 02.6	
	comp=Z,3μm,18.3s,baz=121,slow=39						
AS31	**Alice Springs**	**20.38**	**172**	P	**P**	**03 55 44.2**	**-0.1**
AS31				IAmb	IAmb	03 55 49.3	
	comp=Z,188nm,0.6s						
ASAR	**Alice Springs**	**20.39**	**172**	P	**P**	**03 55 44.0**	**-0.4**
ASAR	**Alice Springs**	**20.39**	**172**	P	**P**	**03 55 44.4**	**+0.1**
	comp=Z,443nm,0.7s,baz=352,slow=11,SNR=645						
ASAR				S	**S**	**03 59 29.2**	**-3.4**
	comp=Z,16nm,0.7s,baz=345,slow=17,SNR=4.5						
AS01	**Alice Springs**	**20.39**	**172**	P	**P**	**03 55 44.0**	**-0.4**
SMRI	**Semarang**	**20.67**	**259**	P	**P**	**03 55 46.9**	**-0.6**
SMRI				IAMs_20	IAMs_20	04 04 30.1	
	comp=Z,20μm,20.0s						
SMRI	**Semarang**	**20.67**	**259**	P	**P**	**03 55 46.6**	**-0.9**
SMRI	**Semarang**	**20.67**	**259**	P	**P**	**03 55 46.8**	**-0.7**
	comp=Z,324nm,0.9s						
MBWA	**Marble Bar**	**20.74**	**211**	P	**P**	**03 55 46.6**	**-1.5**
MBWA	**Marble Bar**	**20.74**	**211**	P	**P**	**03 55 46.2**	**-2.0**
UGM	**Wanagama**	**20.74**	**257**	P	**P**	**03 55 47.1**	**-1.2**
UGM				IAmb	IAmb	03 56 05.2	
	comp=Z,332nm,1.3s						
UGM	**Wanagama**	**20.74**	**257**	P	**P**	**03 55 46.8**	**-1.5**
UGM	**Wanagama**	**20.74**	**257**	P	**P**	**03 55 47.6**	**-0.7**
	comp=Z,171nm,0.6s,comp=Z,4μm						
YOGI	**Yogyakarta**	**20.95**	**257**	P	**P**	**03 55 50.4**	**-0.1**
	comp=Z,244nm,0.7s,comp=Z,2μm						
PSA00	**Pilbara Seismi**	**21.03**	**210**	P	**P**	**03 55 50.0**	**-1.3**
PSA00				IAmb	IAmb	03 56 07.9	
	comp=Z,340nm,1.4s						
PSA00	**Pilbara Seismi**	**21.03**	**210**	P	**P**	**03 55 49.5**	**-1.8**
RABL	**Rabaul**	**21.26**	**93**	P	**P**	**03 55 53.0**	**-0.9**
RABL				IAmb	IAmb	03 55 57.4	
	comp=Z,335nm,0.8s						
RABL	**Rabaul**	**21.26**	**93**	P	**P**	**03 55 56.3**	**+2.4**
WRKA	**Warakurna**	**21.68**	**186**	P	**P**	**03 55 57.2**	**-1.1**
TV1H	**Townsville Har**	**22.17**	**137**	P	**P**	**03 56 06.0**	**+2.4**
KPJI	**Karang Pucung**	**22.19**	**259**	P	**P**	**03 56 02.0**	**-1.9**
	comp=Z,223nm,0.9s,comp=Z,3μm						
CTA	**Charters Tower**	**22.38**	**139**	P	**P**	**03 56 06.4**	**+0.5**
CTA	**Charters Tower**	**22.38**	**139**	P	**P**	**03 56 06.6**	**+0.7**
CTAO	**Charters Tower**	**22.38**	**139**	P	**P**	**03 56 05.0**	**-0.9**
CTAO				IAmb	IAmb	03 56 26.6	
	comp=Z,187nm,1.1s						
CTAO	**Charters Tower**	**22.38**	**139**	P	**P**	**03 56 07.0**	**+1.1**
CTAO	**Charters Tower**	**22.38**	**139**	P	**P**	**03 56 05.0**	**-0.9**
CTAO				pmax	pmax		
	comp=Z,187nm,1.1s						
CTAO				MLR	MLR		
	comp=Z,13μm,22.0s						
JCJI	**Jatiwangi**	**22.73**	**261**	P	**P**	**03 56 08.8**	**-0.8**
	comp=Z,233nm,0.8s						
CMJI	**Cimerak**	**22.74**	**258**	P	**P**	**03 56 04.6**	**-5.1**
	comp=Z,159nm,1.3s						
SZP	**Santa**	**23.20**	**334**	P	**P**	**03 56 15.3**	**+0.9**
LEM	**Lembang**	**23.41**	**261**	P	**P**	**03 56 15.7**	**-1.2**
LEM				pmax	pmax		
	comp=Z,148nm,0.7s						
LEM	**Lembang**	**23.41**	**261**	LR	LR	04 07 17.6	
	comp=Z,18μm,21.1s,baz=86,slow=41						
LEM	**Lembang**	**23.41**	**261**	P	**P**	**03 56 15.0**	**-1.9**
	comp=Z,147nm,0.7s,comp=Z,2μm						
BBJI	**Bungbulang**	**23.47**	**259**	P	**P**	**03 56 14.4**	**-2.9**
CBJI	**Citeko**	**24.12**	**262**	P	**P**	**03 56 21.5**	**-2.0**
DBJI	**Dramaga**	**24.24**	**262**	P	**P**	**03 56 22.9**	**-1.7**
	comp=Z,128nm,1.2s,comp=Z,10μm						
OOD	**Oodnadatta**	**24.71**	**170**	P	**P**	**03 56 29.3**	**+0.6**
PPBI	**Pangkal Pinang**	**24.74**	**272**	P	**P**	**03 56 29.6**	**+0.5**
	comp=Z,185nm,0.7s,comp=Z,13μm						
GIRL	**Giralia**	**25.04**	**219**	P	**P**	**03 56 31.2**	**-0.5**
GIRL				IAmb	IAmb	03 57 04.1	
	comp=Z,179nm,1.0s						
MEEK	**Meekatharra**	**25.94**	**206**	P	**P**	**03 56 39.1**	**-0.9**
XMI	**Christmas Isla**	**25.95**	**253**	P	**P**	**03 56 39.4**	**-0.8**
XMIS	**Christmas Isla**	**26.00**	**253**	IAmb	IAmb	03 56 42.5	
	comp=Z,132nm,0.8s						
XMIS	**Christmas Isla**	**26.00**	**253**	P	**P**	**03 56 39.7**	**-0.9**
INKA	**Innaminka**	**26.00**	**160**	P	**P**	**03 56 41.1**	**+0.7**
PMBI	**Palembang**	**26.07**	**270**	IAMs_20	IAMs_20	04 08 14.6	
	comp=Z,12μm,21.0s						
KASI	**Kota Agung**	**26.38**	**264**	P	**P**	**03 56 41.6**	**-2.4**
	comp=Z,126nm,1.1s						
QLP	**Quilpie**	**26.39**	**152**	P	**P**	**03 56 44.5**	**+0.6**
DSRI	**Dabo**	**26.44**	**276**	P	**P**	**03 56 45.7**	**+1.2**
	comp=Z,211nm,1.2s						
TPRI	**Tanjung Pinang**	**26.68**	**279**	P	**P**	**03 56 48.2**	**+1.5**
	comp=Z,486nm,1.0s						
LWLI	**Liwa**	**26.79**	**266**	P	**P**	**03 56 46.8**	**-1.1**
	comp=Z,209nm,0.9s						
MULG	**Mulgathing**	**26.93**	**174**	P	**P**	**03 56 49.8**	**+1.0**
LHSI	**Lahat**	**27.30**	**268**	P	**P**	**03 56 51.5**	**-0.8**
	comp=Z,235nm,1.1s						
FORT	**Forrest**	**27.39**	**185**	P	**P**	**03 56 52.2**	**-0.6**
FORT				IAMs_20	IAMs_20	04 09 28.2	
	comp=Z,11μm,19.0s						
FORT	**Forrest**	**27.39**	**185**	P	**P**	**03 56 52.8**	**-0.1**
RK1H	**Rockhampton Ha**	**27.49**	**138**	P	**P**	**03 56 57.2**	**+3.3**
MYKOM	**Kota Tinggi**	**27.50**	**280**	P	**P**	**03 56 54.5**	**+0.4**
LCRK	**Leigh Creek**	**27.81**	**166**	P	**P**	**03 56 57.6**	**+0.9**
MNAI	**Manna**	**27.87**	**267**	IAMs_20	IAMs_20	04 08 58.6	
	comp=Z,11μm,21.0s						
TPUB	**Ta-pu**	**28.33**	**340**	P	**P**	**03 57 00.1**	**-1.3**
TPUB	**Ta-pu**	**28.33**	**340**	P	**P**	**03 57 01.1**	**-0.3**
SSLB	**Suanglung**	**28.68**	**341**	P	**P**	**03 57 03.3**	**-1.2**
SSLB				IAmb	IAmb	03 57 11.0	
	comp=Z,92nm,1.1s						
SSLB	**Suanglung**	**28.68**	**341**	P	**P**	**03 57 04.3**	**-0.2**
KMBL	**Kambalda**	**29.11**	**196**	P	**P**	**03 57 07.5**	**-0.7**
MORW	**Morawa**	**29.18**	**207**	P	**P**	**03 57 07.1**	**-1.8**
MORW	**Morawa**	**29.18**	**207**	P	**P**	**03 57 07.7**	**-1.2**
PATS	**Pohnpei**	**29.21**	**70**	IAMs_20	IAMs_20	04 07 58.0	
	comp=Z,13μm,20.0s						
EIDS	**Eidsvold**	**29.25**	**140**	P	**P**	**03 57 09.7**	**+0.1**
EIDS				IAmb	IAmb	03 57 30.8	
	comp=Z,96nm,1.1s						
EIDS	**Eidsvold**	**29.25**	**140**	P	**P**	**03 57 12.0**	**+2.4**
KRJI	**Kerinci**	**29.41**	**272**	P	**P**	**03 57 11.8**	**+0.6**
	comp=Z,681nm,1.1s						
BBOO	**Buckleboo**	**29.68**	**171**	P	**P**	**03 57 12.3**	**-1.0**
BBOO	**Buckleboo**	**29.68**	**171**	P	**P**	**03 57 15.0**	**+1.7**
BKNI	**Bangkinang**	**30.05**	**276**	P	**P**	**03 57 18.3**	**+1.5**
BKNI	**Bangkinang**	**30.05**	**276**	P	**P**	**03 57 17.9**	**+1.1**
	comp=Z,190nm,1.3s						
STKA	**Stephens Creek**	**30.09**	**162**	P	**P**	**03 57 16.7**	**-0.3**
STKA	**Stephens Creek**	**30.09**	**162**	P	**P**	**03 57 17.2**	**+0.2**
STKA	**Stephens Creek**	**30.09**	**162**	*i* P	**P**	**03 57 17.1**	**+0.1**
STKA	**Stephens Creek**	**30.09**	**162**	P	**P**	**03 57 16.6**	**-0.3**
	comp=Z,51nm,0.7s,baz=341,slow=9.0,SNR=34						
STKA				LR	LR	04 10 35.0	
	comp=Z,8μm,19.0s,baz=330,slow=39						
	comp=Z,51nm,0.7s						
JOW	**Kunigami**	**30.13**	**355**	P	**P**	**03 57 16.3**	**-1.1**
JOW				IAmb	IAmb	03 57 22.2	
	comp=Z,156nm,1.2s						
JOW				IAMs_20	IAMs_20	04 08 44.4	
	comp=Z,10μm,20.0s						
JOW	**Kunigami**	**30.13**	**355**	P	**P**	**03 57 16.6**	**-0.8**
	comp=Z,73nm,1.0s,baz=143,slow=15,SNR=3.2						
JOW				LR	LR	04 09 04.9	
	comp=Z,10μm,20.6s,baz=182,slow=36						
	comp=Z,73nm,1.0s						
WHYH	**Whyalla**	**30.16**	**169**	P	**P**	**03 57 18.1**	**+0.6**
BLDU	**Ballidu**	**30.22**	**205**	P	**P**	**03 57 17.3**	**-0.8**
QIZ	**Qiongzhong**	**30.40**	**318**	P	**P**	**03 57 21.0**	**+1.2**
QIZ				S	**S**	**04 02 24.6**	**+4.3**
QIZ				LR	LR		
	comp=Z,4μm,18.2s						
QIZ				LR	LR		
	comp=Z,3μm,18.4s						
QIZ				LR	LR		
	comp=Z,3μm,20.4s						
PDSI	**Padang**	**30.49**	**274**	P	**P**	**03 57 20.1**	**-0.6**
	comp=Z,201nm,1.0s						
QZH	**Quanzhou**	**30.57**	**338**	⇑*i*P	**P**	**03 57 21.5**	**+0.3**
QZH				S	**S**	**04 02 24.0**	**+1.1**
QZH				SS	**ScP**	**04 04 08.9**	**+6.5**
QZH				pmax	pmax		
	comp=Z,130nm,0.9s						
QZH				LR	LR		
	comp=Z,4μm,27.1s						
QZH				LR	LR		
	comp=Z,4μm,26.8s						
QZH				LR	LR		
	comp=Z,6μm,22.3s						
KLBR	**Kellerberrin**	**30.67**	**202**	P	**P**	**03 57 21.2**	**-0.8**
PPSI	**Pulau Pagai**	**30.83**	**270**	P	**P**	**03 57 22.5**	**-1.2**
	comp=Z,133nm,0.7s						
IPM	**Ipoh**	**30.83**	**284**	P	**P**	**03 57 23.1**	**-0.6**
IPM	**Ipoh**	**30.83**	**284**	P	**P**	**03 57 24.6**	**+0.9**
HTT	**Hallett**	**30.83**	**167**	P	**P**	**03 57 25.8**	**+2.2**
UBPT	**Khong Chiam**	**31.24**	**307**	P	**P**	**03 57 28.1**	**+0.9**
UBPT				IAmb	IAmb	03 57 50.9	
	comp=Z,208nm,2.0s						
UBPT	**Khong Chiam**	**31.24**	**307**	P	**P**	**03 57 28.8**	**+1.5**
CMSA	**Cobar Meteorol**	**31.30**	**155**	P	**P**	**03 57 27.8**	**+0.2**
GZH	**Guangzhou**	**31.37**	**328**	P	**P**	**03 57 31.9**	**+3.6**
GZH				S	**S**	**04 02 43.8**	**+8.3**
GZH				SS	**SnSn**	**04 04 33.0**	**+13**
GZH				pmax	pmax		
	comp=Z,67nm,0.8s						
GZH				LR	LR		
	comp=Z,1μm,14.0s						
GZH				LR	LR		
	comp=Z,2μm,11.9s						
KULM	**Kulim**	**31.39**	**286**	P	**P**	**03 57 29.4**	**+0.7**
MUN	**Mundaring**	**31.62**	**204**	P	**P**	**03 57 30.0**	**-0.4**
SISI	**Saibi**	**31.82**	**273**	P	**P**	**03 57 31.2**	**-1.2**
	comp=Z,230nm,1.1s						
NWAO	**Narrogin (SRO)**	**32.05**	**202**	P	**P**	**03 57 32.4**	**-1.9**
NWAO				IAmb	IAmb	03 57 36.8	
	comp=Z,43nm,0.6s						
NWAO	**Narrogin (SRO)**	**32.05**	**202**	P	**P**	**03 57 34.3**	**0.0**
NWAO	**Narrogin (SRO)**	**32.05**	**202**	P	**P**	**03 57 32.4**	**-1.9**
NWAO				pmax	pmax		
	comp=Z,43nm,0.6s						
NWAO	**Narrogin (SRO)**	**32.05**	**202**	P	**P**	**03 57 34.2**	**0.0**
NWAO				P	**P**	**03 57 34.2**	**0.0**
JCJ	**Chichijima**	**32.20**	**19**	IAMs_20	IAMs_20	04 08 38.3	
	comp=Z,7μm,19.0s						
JCJ	**Chichijima**	**32.20**	**19**	LR	LR	04 08 54.2	
	comp=Z,6μm,19.6s,baz=202,slow=33						
PBSI	**Pulau Batu**	**32.74**	**275**	P	**P**	**03 57 39.4**	**-1.1**
	comp=Z,133nm,1.3s						
AUDCS	**Dubbo College**	**33.20**	**152**	P	**P**	**03 57 44.6**	**+0.3**
ARMA	**Armidale**	**33.30**	**146**	P	**P**	**03 57 45.4**	**+0.1**
ARMA	**Armidale**	**33.30**	**146**	P	**P**	**03 57 47.0**	**+1.7**
SRIT	**Nakonsritamara**	**33.37**	**291**	P	**P**	**03 57 46.2**	**+0.2**
SRIT				IAmb	IAmb	03 58 06.4	
	comp=Z,81nm,0.8s						
SRIT	**Nakonsritamara**	**33.37**	**291**	P	**P**	**03 57 47.8**	**+1.8**
AUPHS	**Peel High Scho**	**33.42**	**148**	P	**P**	**03 57 49.0**	**+2.7**
SURA	**Surathani**	**33.54**	**292**	P	**P**	**03 57 49.9**	**+2.4**
GSI	**Gunungsitoli**	**33.61**	**277**	P	**P**	**03 57 47.5**	**-0.6**
GSI				IAmb	IAmb	03 57 51.6	
	comp=Z,114nm,0.8s						
GSI	**Gunungsitoli**	**33.61**	**277**	P	**P**	**03 57 47.8**	**-0.3**
GSI	**Gunungsitoli**	**33.61**	**277**	P	**P**	**03 57 47.2**	**-0.9**
	comp=Z,121nm,1.1s,comp=Z,15μm						
RKGY	**Rocky Gully

WHN LR LR
comp=Z,6µm,14.5s
WHN LR LR
comp=Z,13µm,22.8s
WHN LR LR
comp=Z,13µm,26.2s
JHJ Hachijo jima 2 37.26 12 LR LR 04 12 52.3
comp=Z,8µm,18.6s,baz=184,slow=35
MILA Mila 37.49 156 P **P** **03 58 25.1 +3.8**
GYA Guiyang 37.79 323 ⇓P **P** **03 58 25.2 +1.2**
GYA S **S** **04 04 15.9 +1.2**
GYA pmax pmax
comp=Z,38nm,1.0s
GYA pmax pmax
comp=Z,710nm,13.8s
GYA LR LR
comp=Z,2µm,19.0s
GYA LR LR
comp=Z,2µm,26.0s
GYA LR LR
comp=Z,2µm,24.4s
CM31 Chiang Mai Arr 38.21 306 IAmb IAmb 03 58 45.6
comp=Z,242nm,1.1s
CMAR Chiang Mai Arr 38.21 306 P **P** **03 58 27.4 -0.1**
CMAR Chiang Mai Arr 38.21 306 *i* P **P** **03 58 28.8 +1.3**
CMAR pmax pmax
comp=Z,36nm,1.0s
CMAR Chiang Mai Arr 38.21 306 P **P** **03 58 28.0 +0.5**
comp=Z,39nm,1.1s,baz=132,slow=6.9,SNR=101
CMAR ScP **ScP** **04 04 30.4 +0.7**
comp=Z,1.7nm,0.4s,baz=151,slow=2.7,SNR=8.6
comp=Z,39nm,1.1s
CHTO Chiang Mai 38.39 306 P **P** **03 58 28.9 -0.1**
CHTO Chiang Mai 38.39 306 P **P** **03 58 30.0 +1.0**
CHTO Chiang Mai 38.39 306 P **P** **03 58 28.9 -0.1**
CHTO pmax pmax
comp=Z,383nm,1.4s
CHTO MLR MLR
comp=Z,3µm,22.0s
CHTO Chiang Mai 38.39 306 P **P** **03 58 30.7 +1.6**
CHTO P **P** **03 58 30.7 +1.6**
INU Inuyama 38.95 8 P **P** **03 58 32.4 -1.1**
INU Inuyama 38.95 8 P **P** **03 58 33.6 +0.2**
DZM Mont Dzumac 39.19 121 *e*P P 03 58 49.4 +14
comp=Z,308nm,1.2s
ENH Enshi 39.21 330 IAmb IAmb 03 58 47.6
comp=Z,335nm,1.7s
ENH Enshi 39.21 330 P **P** **03 58 35.4 -0.4**
JGF Kuroka 39.24 8 P **P** **03 58 34.8 -1.1**
JGF Kuroka 39.24 8 P **P** **03 58 35.2 -0.8**
KMI Kunming 39.35 318 ⇓P **P** **03 58 38.6 +1.4**
KMI S **S** **04 04 35.7 -2.8**
KMI pmax pmax
comp=Z,65nm,1.3s
KMI pmax pmax
comp=Z,820nm,11.7s
KMI LR LR
comp=Z,4µm,22.2s
KMI LR LR
comp=Z,2µm,22.3s
KMI LR LR
comp=Z,3µm,24.5s
TJN Taejon 39.68 356 P **P** **03 58 38.4 -1.1**
TJN Taejon 39.68 356 P **P** **03 58 39.6 +0.1**
TJN Taejon 39.68 356 *ce*P **P** **03 58 38.0 -1.5**
MJAR Matsushiro Arr 40.30 9 P **P** **03 58 42.1 -2.6**
comp=Z,25nm,0.8s,baz=189,slow=8.8,SNR=32
MJAR LR LR 04 14 14.2
comp=Z,3µm,20.9s,baz=191,slow=35
comp=Z,25nm,0.8s
MAJO Matsushiro 40.30 9 P **P** **03 58 42.5 -2.2**
MAJO Matsushiro 40.30 9 P **P** **03 58 42.9 -1.8**
MAJO Matsushiro 40.30 9 *i* P **P** **03 58 40.9 -3.8**
MAJO pmax pmax
comp=Z,41nm,0.8s
MJB9 Matsu-Tunnel 40.30 9 P **P** **03 58 42.9 -1.8**
AULHS Lilydale High 40.47 161 P **P** **03 58 48.1 +2.0**
GLAD Gladstone 40.50 160 P **P** **03 58 48.6 +2.3**
KSRS Korea Array 40.71 356 P **P** **03 58 47.5 -0.6**
comp=Z,14nm,0.6s,baz=176,slow=9.5,SNR=50
KSRS LR LR 04 15 03.3
comp=Z,4µm,21.0s,baz=170,slow=35
comp=Z,14nm,0.6s
KS19 Wonju Array Si 40.76 356 P **P** **03 58 47.3 -1.3**
KS19 IAmb IAmb 03 59 21.8
comp=Z,247nm,2.0s
INCN Inchon 40.84 355 IAMs_20 IAMs_20 04 15 25.7
comp=Z,6µm,20.0s
INCN Inchon 40.84 355 P **P** **03 58 50.1 +0.9**
PZH PanZhiHua 40.94 318 P **P** **03 58 51.2 +0.9**
PZH PcP **PcP** **04 00 54.7 +4.0**
PZH S **S** **04 05 01.6 -0.4**
PZH pmax pmax
comp=Z,40nm,0.9s
PZH pmax pmax
comp=Z,200nm,6.9s
PZH LR LR
comp=Z,2µm,22.4s
PZH LR LR
comp=Z,2µm,20.6s
PZH LR LR
comp=Z,2µm,22.8s
TIA Tai'an 41.42 343 P **P** **03 58 54.0 0.0**
TIA S **S** **04 05 08.6 -0.2**
TIA pmax pmax
comp=Z,23nm,0.9s
TIA LR LR
comp=Z,1µm,21.1s
TIA LR LR
comp=Z,1µm,17.2s
TIA LR LR
comp=Z,1µm,22.6s
LYN LuoYang 41.51 337 ⇓P **P** **03 58 55.0 +0.3**
LYN sP pP 03 58 59.5 +0.8
LYN S **S** **04 05 07.9 -2.2**
LYN pmax pmax
comp=Z,61nm,1.0s
LYN LR LR
comp=Z,3µm,24.0s
LYN LR LR
comp=Z,6µm,24.7s
LYN LR LR
comp=Z,4µm,22.3s
MOO Moorlands 41.54 162 P **P** **03 58 58.8 +3.9**
WAKE Wake Island 41.77 56 IAMs_20 IAMs_20 04 15 14.5
comp=Z,5µm,21.0s
TAU Tasmania Unive 42.00 162 IAMs_20 IAMs_20 04 18 20.3
comp=Z,6µm,18.0s
TAU Tasmania Unive 42.00 162 P **P** **03 59 02.6 +4.0**
JMM Marumori 42.05 12 P **P** **03 58 58.2 -0.8**
JMM IAMs_20 IAMs_20 04 15 26.4
comp=Z,4µm,19.0s
JMM Marumori 42.05 12 P **P** **03 59 00.4 +1.3**
TNCH TengChong 42.23 314 P **P** **03 59 03.0 +2.0**
TNCH pP pP 03 59 05.5 +0.4
TNCH S **S** **04 05 22.5 +1.1**
TNCH SS **SS** **04 08 24.6 -5.2**
TNCH ScS **ScS** **04 09 03.7 0.0**
TNCH pmax pmax
comp=Z,54nm,0.4s
TNCH pmax pmax
comp=Z,240nm,2.8s
TNCH LR LR
comp=Z,1µm,13.4s
TNCH LR LR
comp=Z,850nm,15.9s
TNCH LR LR
comp=Z,2µm,25.0s
TARA Tarawa 42.29 84 IAMs_20 IAMs_20 04 16 14.8
comp=Z,4µm,19.0s
MND Mandalay 42.33 308 P **P** **03 59 01.8 +0.2**
XAN Xi'an 42.58 333 ⇑P **P** **03 59 03.0 -0.6**
XAN S **S** **04 05 22.1 -4.0**
XAN pmax pmax
comp=Z,87nm,1.1s
XAN LR LR
comp=Z,4µm,20.0s
XAN LR LR
comp=Z,3µm,19.7s
XAN LR LR
comp=Z,4µm,21.0s
CD2 Chengdu 42.79 325 P **P** **03 59 05.0 -0.3**
CD2 S **S** **04 05 30.9 +1.7**
CD2 pmax pmax
comp=Z,50nm,0.9s
CD2 LR LR
comp=Z,4µm,26.0s
CD2 LR LR
comp=Z,4µm,28.0s
CD2 LR LR
comp=Z,3µm,24.5s
DL2 Dalian 42.93 349 P **P** **03 59 06.6 +0.4**
DL2 S **S** **04 05 29.1 -1.7**
DL2 pmax pmax
comp=Z,94nm,0.9s
DL2 LR LR
comp=Z,3µm,19.8s
DL2 LR LR
comp=Z,4µm,22.2s
DL2 LR LR
comp=Z,2µm,23.9s
HNS HongShan 43.26 341 ⇓P **P** **03 59 08.2 -0.7**
HNS S **S** **04 05 32.2 -3.6**
HNS pmax pmax
comp=Z,40nm,1.0s
HNS LR LR
comp=Z,3µm,19.1s
HNS LR LR
comp=Z,3µm,22.3s
TIY Taiyuan 44.32 339 *e*P **P** **03 59 17.8 +0.3**
TIY pmax pmax
comp=Z,56nm,0.6s
JTM Tenmabayashi 44.93 11 IAMs_20 IAMs_20 04 17 17.6
comp=Z,4µm,20.0s
JTM Tenmabayashi 44.93 11 P **P** **03 59 23.6 +1.4**
BJT Baijiatuan 45.24 344 IAmb IAmb 03 59 36.0
comp=Z,69nm,1.0s
BJT Baijiatuan 45.24 344 P **P** **03 59 24.7 -0.1**
BJT Baijiatuan 45.24 344 P **P** **03 59 25.0 +0.2**
BJI Beijing 45.26 344 P **P** **03 59 24.6 -0.3**
BJI S **S** **04 06 04.6 -0.2**
BJI pmax pmax
comp=Z,39nm,1.0s
BJI LR LR
comp=Z,660nm,15.2s
BJI LR LR
comp=Z,920nm,21.7s
BJI LR LR
comp=Z,970nm,19.5s
SNY Shenyang 45.48 352 ⇑P **P** **03 59 27.0 +0.4**
SNY S **S** **04 06 03.0 -4.9**
SNY pmax pmax
comp=Z,2µm,12.0s
SNY LR LR
comp=Z,3µm,21.1s
SNY LR LR
comp=Z,2µm,21.1s
SNY LR LR
comp=Z,4µm,18.8s
ERM Erimo 46.53 13 IAMs_20 IAMs_20 04 19 16.0
comp=Z,4µm,19.0s
JEM Erimo 46.54 13 IAMs_20 IAMs_20 04 16 19.3
comp=Z,5µm,21.0s
LZH Lanzhou 46.69 330 *e*P **P** **03 59 37.3 +0.9**
LZH pP sP 03 59 43.1 +0.8
LZH S **S** **04 06 24.0 -1.9**
LZH pmax pmax
comp=Z,71nm,1.2s
LZH LR LR
comp=Z,3µm,16.8s
LZH LR LR
comp=Z,2µm,16.8s
LZH LR LR
comp=Z,4µm,16.5s
CN2 Changchun 47.21 355 *e*P **P** **03 59 40.2 0.0**
CN2 *ep*P sP 03 59 46.3 +0.3
CN2 *es*P pP 03 59 49.2 +4.9
CN2 *e*S **S** **04 06 32.4 -0.4**
CN2 *es*S sS 04 06 42.6 +3.0
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,930nm,3.5s
CN2 LR LR
comp=Z,810nm,15.0s
CN2 LR LR
comp=Z,660nm,15.0s
CN2 LR LR
comp=Z,2µm,17.0s
USA0B Ussuriysk Arra 47.37 1 IAmb IAmb 03 59 57.3
comp=Z,50nm,0.9s
USA0B Ussuriysk Arra 47.37 1 *i* P **P** **03 59 38.8 -2.6**
USRK Ussuriysk Ar. 47.37 1 P **P** **03 59 40.9 -0.5**
comp=Z,29nm,0.6s,baz=181,slow=6.8,SNR=83
comp=Z,29nm,0.6s
HHC Hu-ho-hao-te 47.42 340 *e*P **P** **03 59 43.6 +1.6**
HHC pP sP 03 59 49.6 +1.7
HHC S **S** **04 06 34.5 -1.6**
HHC sS sS 04 06 52.8 +10
HHC SS **SS** **04 09 55.3 -8.8**
HHC pmax pmax
comp=Z,40nm,1.0s
HHC pmax pmax
comp=Z,300nm,4.3s
HHC LR LR
comp=Z,2µm,18.5s
HHC LR LR
comp=Z,1µm,22.5s
HHC LR LR
comp=Z,3µm,22.3s
BTO Baotou 47.75 339 *e*P P 03 59 49.4 +4.8
BTO pP sP 03 59 54.4 +4.0
BTO sP pP 03 59 56.4 +7.8
BTO PP **PP** **04 01 36.6 +0.1**
BTO pmax pmax
comp=Z,58nm,1.0s
BTO pmax pmax
comp=Z,660nm,4.5s
BTO LR LR
comp=Z,4µm,17.7s
BTO LR LR
comp=Z,3µm,19.0s
BTO LR LR
comp=Z,3µm,16.6s
MDJ Mudanjiang 47.79 359 P **P** **03 59 45.3 +0.6**
MDJ pP pP 03 59 48.2 -0.6
MDJ S **S** **04 06 42.2 +1.2**
MDJ ScS **ScS** **04 09 40.0 +2.0**
MDJ pmax pmax
comp=Z,48nm,1.0s
MDJ pmax pmax
comp=Z,390nm,5.4s
MDJ LR LR
comp=Z,3µm,17.9s
MDJ LR LR
comp=Z,910nm,16.7s
MDJ LR LR
comp=Z,4µm,17.7s
MDJ Mudanjiang 47.79 359 IAmb IAmb 04 00 15.4
comp=Z,47nm,1.1s
MDJ IAMs_20 IAMs_20 04 22 32.8
comp=Z,3µm,19.0s
MDJ Mudanjiang 47.79 359 P **P** **03 59 44.6 -0.1**
MSVF Nonsavu 48.36 111 P **P** **03 59 47.4 -2.2**
MSVF IAmb IAmb 04 00 35.2
comp=Z,96nm,1.5s
MSVF Nonsavu 48.36 111 P **P** **03 59 53.2 +3.5**
MSVF Nonsavu 48.36 111 *i* P **P** **03 59 48.8 -0.9**
MSVF pmax pmax
comp=Z,57nm,1.5s
ASAJ Asahikawa 48.44 11 LR LR 04 20 50.8
comp=Z,2µm,19.4s,baz=200,slow=37
JKA Kamikawa-asahi 48.44 11 IAmb IAmb 04 00 05.9
comp=Z,76nm,1.4s
XLT XiLinHaoTe 48.90 346 *e*P **P** **03 59 53.4 0.0**
XLT pP pP 03 59 57.4 -0.1
XLT sP sP 04 00 00.8 +1.5
XLT S **S** **04 06 53.8 -3.1**
XLT pmax pmax
comp=Z,61nm,1.7s
XLT LR LR
comp=Z,180nm,18.0s
XLT LR LR
comp=Z,1µm,17.7s
XLT LR LR
comp=Z,2µm,21.9s
BNX BinXian 49.00 357 ⇑P **P** **03 59 53.9 -0.1**
BNX pP **pP** **03 59 57.9 -0.2**
BNX sP **sP** **03 59 59.3 -0.5**
BNX PP **PP** **04 01 50.1 +2.5**
BNX S **S** **04 06 58.5 +0.5**
BNX sS **sS** **04 07 03.9 -0.9**
BNX pmax pmax
comp=Z,21nm,0.7s
BNX pmax pmax
comp=Z,700nm,3.8s
BNX LR LR
comp=Z,2µm,20.6s
BNX LR LR
comp=Z,1µm,16.3s
BNX LR LR
comp=Z,4µm,21.7s
DGTI Dogotuki 49.69 108 P **P** **04 00 01.7 +1.9**
LSA Lhasa 50.27 314 IAmb IAmb 04 00 22.2
comp=Z,61nm,0.8s
LSA Lhasa 50.27 314 P **P** **04 00 06.3 +1.7**
LSA P **P** **04 00 06.3 +1.7**
PALK Pallekele 51.17 282 P **P** **04 00 10.8 -0.4**
PALK IAmb IAmb 04 00 29.9
comp=Z,130nm,1.6s
PALK Pallekele 51.17 282 IAMs_20 IAMs_20 04 23 36.8
comp=Z,4µm,21.0s
PALK Pallekele 51.17 282 *i* P **P** **04 00 11.1 0.0**
PALK pmax pmax
comp=Z,99nm,1.7s
PALK Pallekele 51.17 282 LR LR 04 23 58.3
comp=Z,4µm,21.0s,baz=210,slow=38
PALK Pallekele 51.17 282 P **P** **04 00 12.2 +1.1**
PALK P **P** **04 00 12.2 +1.1**
YSS Yuzh-Sakhalins 51.20 10 P **P** **04 00 09.7 -0.9**
YSS Yuzh-Sakhalins 51.20 10 P **P** **04 00 10.6 0.0**
YSS Yuzh-Sakhalins 51.20 10 *ce*P **P** **04 00 10.8 +0.2**
YSS pmax pmax
comp=Z,76nm,1.7s
GTA Gaotai 51.28 329 P **P** **04 00 12.2 +0.6**
GTA sP sP 04 00 26.7 +9.3
GTA ScP **ScP** **04 05 24.2 +1.2**
GTA S **S** **04 07 27.9 -2.4**
GTA pmax pmax
comp=Z,41nm,1.1s
GTA LR LR
comp=Z,2µm,21.4s
GTA LR LR
comp=Z,1µm,22.5s
GTA LR LR
comp=Z,2µm,22.2s
GOMU GeErMu 51.80 323 P **P** **04 00 17.2 +1.3**
GOMU pP sP 04 00 24.6 +2.9
GOMU sP pP 04 00 27.1 +7.0
GOMU S S 04 07 27.9 -10
GOMU pmax pmax
comp=Z,8.0nm,0.9s
GOMU LR LR
comp=Z,2µm,17.7s
GOMU LR LR
comp=Z,1µm,17.7s
GOMU LR LR
comp=Z,1µm,18.2s
KLR Kul'dur 52.40 1 *ce*P **P** **04 00 19.3 -0.3**
KLR pmax pmax
comp=Z,73nm,1.7s
KLR Kul'dur 52.40 1 P **P** **04 00 19.1 -0.5**
comp=Z,22nm,0.8s,baz=192,slow=3.1,SNR=69
KLR LR LR 04 22 18.3
comp=Z,1µm,19.6s,baz=176,slow=36
comp=Z,22nm,0.8s
JCZ Jackson Bay 52.54 146 P **P** **04 00 24.1 +3.2**
UGL Uglegorsk 53.14 9 *e*P **P** **04 00 25.0 0.0**
UGL *e*S **S** **04 07 57.9 +2.8**
UGL pmax pmax
comp=Z,70nm,0.8s
UGL pmax pmax
comp=Z,340nm,2.0s
UGL smax smax
comp=N,670nm,7.5s
UGL smax smax
comp=E,1µm,10.0s
TOZ Tahuroa Road 53.21 136 IAMs_20 IAMs_20 04 21 42.0
comp=Z,4µm,22.0s
WHZ Wether Hill Ro 53.26 148 P **P** **04 00 26.1 -0.1**
WHZ IAmb IAmb 04 01 31.5
comp=Z,155nm,1.8s
HIA Hailar 53.31 351 P **P** **04 00 25.7 -0.7**
HIA Hailar 53.31 351 IAMs_20 IAMs_20 04 23 32.4
comp=Z,4µm,21.0s
HIA Hailar 53.31 351 P **P** **04 00 27.4 +1.0**
HIA Hailar 53.31 351 *i* P **P** **04 00 25.3 -1.1**
HIA pmax pmax
comp=Z,18nm,1.0s
HEH HeiHe 53.50 357 *e*P **P** **04 00 27.1 -0.6**
HEH pP **pP** **04 00 30.9 -0.9**
HEH sP **sP** **04 00 33.4 -0.1**
HEH S **S** **04 07 59.8 -0.3**
HEH pmax pmax
comp=Z,58nm,1.0s
HEH LR LR
comp=Z,2µm,19.2s
HEH LR LR
comp=Z,2µm,18.8s
HEH LR LR
comp=Z,4µm,22.6s
LBZ Lake Benmore 53.52 146 P **P** **04 00 27.5 -0.5**
LBZ IAMs_20 IAMs_20 04 25 16.4
comp=Z,4µm,19.0s
NNZ Nelson 53.59 141 IAMs_20 IAMs_20 04 24 52.2
comp=Z,5µm,21.0s
THZ Tophouse 53.59 142 IAMs_20 IAMs_20 04 24 39.3
comp=Z,4µm,20.0s
RPZ Rata Peaks 53.61 144 LR LR 04 25 33.9
comp=Z,3µm,18.1s,baz=310,slow=38
TUWZ Tuamarina 54.06 141 P **P** **04 00 32.0 0.0**
GRNR Gornyy 54.14 4 ⇓*i*P **P** **04 00 33.6 +1.2**
GRNR pmax pmax
comp=Z,10.0nm,1.1s
MQZ McQueen's Vall 54.54 144 IAMs_20 IAMs_20 04 26 46.5
comp=Z,4µm,21.0s
URZ Urewera 54.58 136 LR LR 04 23 34.1
comp=Z,2µm,21.6s,baz=30,slow=36
BKZ Black Stump Fm 54.58 137 P **P** **04 00 37.6 +1.7**
BHW Baring Head 54.64 140 IAMs_20 IAMs_20 04 25 01.0
comp=Z,3µm,18.0s
RTZ Ruatahuna 54.65 136 IAMs_20 IAMs_20 04 27 45.3
comp=Z,4µm,19.0s
TYV Tymovskoe 54.96 9 *e*P **P** **04 00 38.5 +0.2**
TYV *e*S **S** **04 08 22.4 +2.6**
TYV pmax pmax
comp=Z,200nm,3.4s
TYV pmax pmax
comp=Z,19nm,0.8s
TYV smax smax
comp=N,500nm,7.8s
TYV smax smax
comp=E,600nm,7.8s
ULN Ulaanbaatar 55.13 341 P **P** **04 00 39.8 0.0**
ULN IAmb IAmb 04 00 45.7
comp=Z,75nm,1.1s
ULN Ulaanbaatar 55.13 341 *ce*P **P** **04 00 40.0 +0.2**
ULN pmax pmax
comp=Z,105nm,1.3s
ULN Ulaanbaatar 55.13 341 P **P** **04 00 41.8 +2.0**
ULN P **P** **04 00 41.8 +2.0**
SONM Songino Array 55.32 340 P **P** **04 00 41.4 +0.2**
SONM IAmb IAmb 04 00 47.0
comp=Z,78nm,1.3s
SONM Songino Array 55.32 340 P **P** **04 00 41.7 +0.5**
comp=Z,18nm,0.9s,baz=154,slow=6.8,SNR=63
SONM LR LR 04 26 37.5
comp=Z,988nm,20.7s,baz=158,slow=39
SONM PKP2bc 04 30 59.1
comp=Z,0.3nm,0.8s,baz=241,slow=2.1,SNR=3.7
comp=Z,18nm,0.9s
HYB Hyderabad 55.59 294 *e*P **P** **04 00 43.2 -0.3**
HYB IVmB_BB 04 00 48.3
comp=Z,718nm,2.3s
NKL Nikolayevsk 56.92 7 *e*P **P** **04 00 49.7 -2.6**
NKL *e*S **S** **04 08 41.5 -4.2**
NKL pmax pmax
comp=E,66nm,1.5s
NKL pmax pmax
comp=N,78nm,0.9s
NKL pmax pmax
comp=Z,234nm,1.1s
NKL smax smax
comp=E,379nm,5.6s
NKL smax smax
comp=N,175nm,8.3s
ZEA Zeya 56.99 357 *e*P **P** **04 00 52.6 -0.2**
ZEA *e* 04 01 03.5

ZEA pmax pmax
comp=N,20nm,1.2s
ZEA pmax pmax
comp=Z,40nm,0.9s
ZEA pmax pmax
comp=Z,200nm,5.5s
CIT Chita 57.12 347 *e*P **P 04 00 56.7 +2.9**
CIT *e* 04 01 44.4
CIT pmax pmax
comp=Z,208nm,2.3s
AFI Afiamalu 57.52 104 P **P 04 00 59.2 +1.8**
KAAM Kaadhehdhoo 57.98 273 IAMs_20 IAMs_20 04 25 50.6
comp=Z,2µm,20.0s
DGAR Diego Garcia 58.27 263 P **P 04 01 02.4 -0.2**
DGAR IAMs_20 IAMs_20 04 24 44.5
comp=Z,5µm,21.0s
DGAR Diego Garcia 58.27 263*ce*P **P 04 01 03.5 +0.9**
DGAR pmax pmax
comp=Z,512nm,1.7s
DGAR Diego Garcia 58.27 263 P **P 04 01 03.3 +0.8**
ZAK Zakamensk 58.57 340 *e*P **P 04 01 03.9 -0.2**
ZAK pmax pmax
comp=Z,32nm,1.5s
IRK Irkutsk 59.82 341 *e*P **P 04 01 13.4 +0.8**
IRK pmax pmax
comp=Z,149nm,2.3s
MOY Mondy 60.44 339 *e*P **P 04 01 18.4 +1.4**
MOY pmax pmax
comp=Z,147nm,2.5s
PEA0B Petropavlovsk- 60.63 18 P **P 04 01 18.5 +0.3**
PEA0B IAmb IAmb 04 01 20.0
comp=Z,72nm,1.1s
PEA0B IAMs_20 IAMs_20 04 23 01.7
comp=Z,3µm,22.0s
PEA0B Petropavlovsk- 60.63 18*ce*P **P 04 01 18.3 +0.1**
PETK Petropavlovsk- 60.63 18 P **P 04 01 18.0 -0.2**
PETK Petropavlovsk- 60.63 18 P **P 04 01 17.3 -0.8**
comp=Z,26nm,0.9s,baz=200,slow=6.8,SNR=12
PETK LR LR 04 23 57.9
comp=Z,2µm,21.4s,baz=195,slow=33
comp=Z,26nm,0.9s
PET Petropavlovsk 60.86 19 *i* P **P 04 01 19.7 0.0**
PET pmax pmax
comp=Z,93nm,1.4s
WMQ Urumqi 60.88 325 P **P 04 01 21.5 +1.3**
WMQ ScP **ScP 04 06 05.2 +0.1**
WMQ S **S 04 09 37.6 -0.2**
WMQ pmax pmax
comp=Z,68nm,1.1s
WMQ pmax pmax
comp=Z,380nm,3.8s
WMQ LR LR
comp=Z,2µm,19.3s
WMQ LR LR
comp=Z,890nm,13.7s
WMQ LR LR
comp=Z,2µm,21.3s
BOD Bodaibo 62.49 350 *e*P **P 04 01 31.6 +1.0**
BOD pmax pmax
comp=Z,150nm,1.7s
ZSN Zaisan 64.68 327 *e*P **P 04 01 44.8 -0.5**
ZSN *e*S **S 04 10 25.2 0.0**
ZSN pmax pmax
comp=Z,49nm,0.9s
ZSN Zaisan 64.68 327 *e*P **P 04 01 44.9 -0.5**
comp=Z,48nm,0.9s,baz=327
ZSN *e*S **S 04 10 25.3 0.0**
baz=327
MA2 Magadan 64.70 11 P **P 04 01 44.9 -0.3**
MA2 IAmb IAmb 04 01 53.0
comp=Z,135nm,1.8s
MA2 Magadan 64.70 11 P **P 04 01 45.6 +0.4**
MA2 Magadan 64.70 11*ce*P **P 04 01 43.5 -1.7**
MA2 pmax pmax
comp=Z,52nm,1.7s
DGZ Jazzator, Alta 64.78 330 *i* P **P 04 01 46.9 +0.8**
DGZ pmax pmax
comp=Z,137nm,1.4s
YAK Yakutsk 65.23 359 P **P 04 01 48.4 -0.1**
YAK Yakutsk 65.23 359 IAMs_20 IAMs_20 04 30 13.7
comp=Z,2µm,20.0s
YAK Yakutsk 65.23 359 *e*P **P 04 01 48.2 -0.3**
YAK *e**PP **pP 04 01 53.1 +0.2**
YAK *e* 04 02 20.9
YAK *e* 04 04 11.3
YAK *e*S **S 04 10 31.1 -0.2**
YAK *e* 04 11 40.7
YAK pmax pmax
comp=Z,105nm,0.9s
YAK pmax pmax
comp=N,17nm,1.1s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=Z,151nm,2.5s
YAK pmax pmax
comp=E,58nm,2.7s
YAK smax smax
comp=N,302nm,3.0s
YAK smax smax
comp=E,226nm,3.5s
YAK MLR MLR
comp=Z,2µm,20.0s
YAK MLR MLR
comp=N,2µm,20.0s
YAK MLR MLR
comp=E,306nm,21.0s
YAK Yakutsk 65.23 359 P **P 04 01 47.7 -0.9**
comp=E,99nm,0.8s,baz=346,slow=1.1,SNR=20
YAK LR LR 04 30 32.2
comp=E,1µm,20.2s,baz=176,slow=36
comp=E,99nm,0.8s
SHLS Shalkode 65.43 321 *e*P **P 04 01 48.8 -1.7**
SHLS pmax pmax
comp=Z,28nm,1.3s
SHLS Shalkode 65.43 321 *e*P **P 04 01 48.8 -1.7**
comp=Z,28nm,1.3s,baz=321
PDGK Podgornoye 65.50 321 P **P 04 01 51.1 +0.2**
UZB Uzynbulak 65.70 321 *e*P **P 04 01 52.4 +0.2**
UZB *e*S **S 04 10 38.2 0.0**
UZB pmax pmax
comp=Z,30nm,1.0s
UZB Uzynbulak 65.70 321 *e*P **P 04 01 52.4 +0.2**
comp=Z,30nm,1.0s,baz=321
UZB *e*S **S 04 10 38.2 0.0**
baz=321
MK31 Makanchi Array 65.72 326*ce*P **P 04 01 52.6 +0.5**
MKAR Makanchi Array 65.72 326 P **P 04 01 51.9 -0.2**
comp=Z,38nm,0.8s,baz=122,slow=6.8,SNR=209
MKAR PKP2bc 04 30 35.2
comp=Z,0.9nm,0.9s,baz=7.6,slow=3.7,SNR=4.6
MKAR LR LR 04 33 38.8
comp=Z,865nm,19.2s,baz=122,slow=39
comp=Z,38nm,0.8s
TARG Taragay, Kyrgy 65.78 319 IAmb IAmb 04 02 21.3
comp=Z,71nm,1.1s
MAKZ Makanchi 65.90 325 P **P 04 01 52.9 -0.3**
MAKZ Makanchi 65.90 325 P **P 04 01 53.0 -0.3**
SATY Saty 66.05 321 *e*P **P 04 01 54.4 -0.1**
SATY *e*S **S 04 10 42.7 +0.3**
SATY pmax pmax
comp=Z,33nm,0.9s
SATY Saty 66.05 321 *e*P **P 04 01 54.4 -0.1**
comp=Z,32nm,0.9s,baz=320
SATY *e*S **S 04 10 42.8 +0.3**
baz=320
ZHN Zhinishke 66.08 321 *e*P **P 04 01 54.7 +0.1**
ZHN pmax pmax
comp=Z,41nm,1.0s
ZHN Zhinishke 66.08 321 *e*P **P 04 01 54.8 +0.1**
comp=Z,42nm,1.0s,baz=320
SHEM Shemya Is, Ala 66.67 27 LR LR 04 27 29.8
comp=Z,2µm,20.0s,baz=234,slow=33
MDOK Medeo 66.97 320 *e*P **P 04 02 00.3 -0.1**
MDOK *e*S **S 04 10 53.8 +0.2**
MDOK MLR MLR
comp=Z,763nm,21.0s
MDOK Medeo 66.97 320 *e*P **P 04 02 00.3 -0.1**
baz=320
MDOK *e*S **S 04 10 53.9 +0.2**
baz=320
MDOK LR LR 04 31 39.0
comp=Z,763nm,20.6s,baz=320
ARXS Arharly 66.99 321 *e*P **P 04 02 00.0 -0.4**
TDK Taldyqorghan 67.03 322 *e*P **P 04 02 00.7 +0.2**
TDK pmax pmax
comp=Z,25nm,0.9s
TDK MLR MLR
comp=Z,464nm,17.0s
TDK Taldyqorghan 67.03 322 *e*P **P 04 02 00.8 +0.2**
comp=Z,26nm,0.9s,baz=322
TDK LR LR 04 31 41.0
comp=Z,464nm,17.4s,baz=322
ULHL Ulahol 67.05 319 P **P 04 02 02.6 +1.6**
SNR=5.9
AAA Alma-Ata 67.07 320 *e*P **P 04 02 00.6 -0.3**
AAA pmax pmax
comp=Z,26nm,0.8s
AAA Alma-Ata 67.07 320 *e*P **P 04 02 00.7 -0.3**
comp=Z,26nm,0.8s,baz=320
CHKK Chushkaly 67.34 321 *e*P **P 04 02 02.6 +0.1**
CHKK Chushkaly 67.34 321 *e*P **P 04 02 02.7 +0.1**
baz=321
BOOM Boomskoye usch 67.36 319 P **P 04 02 03.7 +0.8**
KUU Kurty 67.77 320 *e*P **P 04 02 05.1 -0.1**
KUU pmax pmax
comp=Z,49nm,0.8s
KUU Kurty 67.77 320 *e*P **P 04 02 05.1 -0.1**
comp=Z,49nm,0.8s,baz=320
TKM2 Tokmak 2 67.79 319 P **P 04 02 06.3 +0.7**
SNR=9.6
TKM2 Tokmak 2 67.79 319 *i* P **P 04 02 05.9 +0.2**
TKM2 pmax pmax
comp=Z,98nm,1.1s
SEY Seymchan 68.11 10*ce*P **P 04 02 07.5 +0.6**
SEY pmax pmax
comp=Z,110nm,1.7s
SEY Seymchan 68.11 10 LR LR 04 31 57.5
comp=Z,1µm,19.7s,baz=179,slow=36
CHMS Chumysh 68.38 319 P **P 04 02 10.8 +1.7**
SNR=6.2
AAK Ala-Archa 68.38 319*ce*P **P 04 02 10.2 +0.9**
AAK pmax pmax
comp=Z,37nm,1.3s
AAK Ala-Archa 68.38 319 P **P 04 02 09.7 +0.4**
comp=Z,14nm,0.9s,baz=134,slow=4.5,SNR=23
AAK LR LR 04 35 18.5
comp=Z,406nm,20.1s,baz=102,slow=39
comp=Z,14nm,0.9s
AAK Ala-Archa 68.38 319 P **P 04 02 10.5 +1.1**
AAK P **P 04 02 10.5 +1.1**
SGDS Sogindy 68.66 319 *e*P **P 04 02 11.3 +0.4**
SGDS Sogindy 68.66 319 *e*P **P 04 02 11.3 +0.4**
baz=319
USP Ospenovka 68.66 319 P **P 04 02 11.3 +0.4**
SNR=26
ZALV Zalesovo Beam 68.76 333 *i* P **P 04 02 11.1 -0.1**
ZALV pmax pmax
comp=Z,22nm,0.7s
ZALV Zalesovo Beam 68.76 333 P **P 04 02 10.7 -0.5**
comp=Z,22nm,0.9s,baz=107,slow=5.0,SNR=60
ZALV PKP2bc 04 30 25.8
comp=Z,0.4nm,0.3s,baz=99,slow=18,SNR=3.4
ZALV LR LR 04 34 37.2
comp=Z,820nm,20.7s,baz=132,slow=38
comp=Z,22nm,0.9s
EKS2 Erkin-Say 68.87 318 P **P 04 02 14.3 +2.0**
SNR=9.8
RAR Rarotonga 69.55 111 LR LR 04 31 57.2
comp=Z,527nm,22.0s,baz=280,slow=35
BTLS Baital 69.76 321 *e*P **P 04 02 17.3 -0.3**
BTLS pmax pmax
comp=Z,30nm,1.1s
BTLS Baital 69.76 321 *e*P **P 04 02 17.4 -0.3**
comp=Z,30nm,1.1s,baz=321
GAR Garm 69.78 314 IAMs_20 IAMs_20 04 36 34.9
comp=Z,3µm,22.0s
KURBB Kurchatov Arra 69.92 328 P **P 04 02 18.5 +0.1**
comp=Z,88nm,0.9s,baz=126,slow=5.7,SNR=165
KURBB PKP2bc 04 30 21.9
comp=Z,1.1nm,1.0s,baz=292,slow=3.9,SNR=5.1
comp=Z,88nm,0.9s
KURK Kurchatov 69.92 328 P **P 04 02 18.8 +0.4**
KURK Kurchatov 69.92 328*ce*P **P 04 02 19.2 +0.8**
KURK pmax pmax
comp=Z,85nm,1.3s
DZA Taraz 70.60 318 *e*P **P 04 02 23.1 +0.3**
DZA pmax pmax
comp=Z,40nm,0.8s
DZA Taraz 70.60 318 *e*P **P 04 02 23.1 +0.3**
comp=Z,40nm,0.8s,baz=318
ADK Adak 70.65 31 IAMs_20 IAMs_20 04 28 23.7
comp=Z,3µm,22.0s
KK31 Karatay Array 71.23 318 *i* P **P 04 02 27.5 +0.8**
CHM Chimkent 71.54 317 *e*P **P 04 02 28.9 +0.3**
CHM pmax pmax
comp=Z,39nm,0.9s
CHM Chimkent 71.54 317 *e*P **P 04 02 28.9 +0.3**
comp=Z,39nm,0.9s,baz=317
BRLS Borolday 71.66 317 *e*P **P 04 02 29.7 +0.5**
BRLS *e*S **S 04 11 49.6 +0.9**
BRLS pmax pmax
comp=Z,25nm,0.9s
BRLS Borolday 71.66 317 *e*P **P 04 02 29.8 +0.5**
comp=Z,25nm,0.9s,baz=317
BRLS *e*S **S 04 11 49.7 +0.9**
baz=317
ATKA Atka Island 72.13 32 IAMs_20 IAMs_20 04 27 11.7
comp=Z,2µm,22.0s
BRZS Berezniki 72.84 325 *e*P **P 04 02 36.1 -0.1**
BRZS pmax pmax
comp=Z,40nm,1.4s
BRZS Berezniki 72.84 325 *e*P **P 04 02 36.2 0.0**
comp=Z,40nm,1.4s,baz=325
NGCH Negor - Chabah 73.27 298 P **P 04 02 40.1 +0.9**
SNR=6.6
KIP Kipapa 73.75 67*ce*P **P 04 02 41.7 -0.4**
KIP pmax pmax
comp=Z,179nm,1.7s
JLN Jalan Bani Buh 74.20 294 P **P 04 02 45.8 +1.1**
SNR=9.4
JLN P **P 04 02 45.8 +1.1**
SNR=9.4
HRA Herat 74.46 307 P **P 04 02 45.9 -0.4**
WBK Wadi Bani Khal 74.68 294 P **P 04 02 50.0 +2.4**
SNR=20
WBK P **P 04 02 50.0 +2.4**
SNR=20
CLES Cleveland East 74.72 33 IAMs_20 IAMs_20 04 28 37.5
comp=Z,3µm,22.0s
TIXI Tiksi 74.90 359 P **P 04 02 47.1 -0.6**
TIXI Tiksi 74.90 359 IAMs_20 IAMs_20 04 35 18.8
comp=Z,3µm,21.0s
TIXI Tiksi 74.90 359*ce*P **P 04 02 47.5 -0.2**
TIXI pmax pmax
comp=Z,72nm,2.5s
TIXI Tiksi 74.90 359 LR LR 04 35 29.3
comp=Z,2µm,21.0s,baz=194,slow=36
WSAR Wadi Sarin 75.10 295 P **P 04 02 49.8 -0.2**
comp=Z,48nm,1.2s,baz=122,slow=6.5,SNR=29
WSAR LR LR 04 39 14.9
comp=Z,634nm,20.0s,baz=124,slow=38
comp=Z,48nm,1.2s
MHTO MHTO 75.32 293 P **P 04 02 53.1 +1.8**
SNR=12
MHTO P **P 04 02 53.1 +1.8**
SNR=12
NIKH Nikolski High 75.36 33 P **P 04 02 51.5 +0.8**
baz=244
BILL Bilibino 75.41 13 P **P 04 02 50.7 -0.1**
BILL Bilibino 75.41 13*ce*P **P 04 02 50.6 -0.2**
BILL pmax pmax
comp=Z,32nm,2.5s
JMDO Jabal Madar 75.43 294 P **P 04 02 54.0 +2.2**
SNR=17
JMDO P **P 04 02 54.0 +2.2**
SNR=17
BVA0 Borovoye Array 75.50 327 *i* P **P 04 02 51.5 -0.1**
BVAR Borovoye Array 75.50 327 P **P 04 02 51.2 -0.4**
comp=Z,38nm,0.8s,baz=130,slow=7.8,SNR=131
BVAR LR LR 04 38 05.5
comp=Z,1µm,21.8s,baz=111,slow=37
comp=Z,38nm,0.8s
DQM DQM 75.55 291 P **P 04 02 53.2 +0.7**
SNR=5.4
DQM P **P 04 02 53.2 +0.7**
SNR=5.4
BRVK Borovoye 75.57 327 P **P 04 02 51.7 -0.3**
BRVK Borovoye 75.57 327*ce*P **P 04 02 52.6 +0.6**
BRVK pmax pmax
comp=Z,75nm,1.3s
BRVK Borovoye 75.57 327 P **P 04 02 52.5 +0.5**
BRVK P **P 04 02 52.5 +0.5**
SMDO Samad 75.60 295 P **P 04 02 55.0 +2.0**
SNR=18
SMDO P **P 04 02 55.0 +2.0**
SNR=18
BIDO Bidbid 75.61 295 P **P 04 02 53.8 +1.0**
SNR=30
HPAH Hawaii Prepara 75.65 68 IAMs_20 IAMs_20 04 28 20.3
comp=Z,3µm,22.0s
HMH Humu'ula Sheep 75.79 69 P **P 04 02 53.1 -1.2**
MLH Mauna Loa 75.86 69 P **P 04 02 52.8 -1.8**
VNDA Vanda 75.92 173 P **P 04 02 53.6 +0.1**
VNDA IAmb IAmb 04 03 17.1
comp=Z,59nm,1.6s
VNDA Vanda 75.92 173 P **P 04 02 53.8 +0.1**
comp=Z,12nm,0.8s,baz=320,slow=7.3,SNR=32
VNDA LR LR 04 38 03.3
comp=Z,2µm,18.5s,baz=341,slow=37
comp=Z,12nm,0.8s
JASK Jask - Hormozg 76.26 298 P **P 04 02 58.6 +2.1**
SNR=9.2
BSY Bisya 76.32 294 P **P 04 02 57.9 +0.9**
SNR=23
BSY P **P 04 02 57.9 +0.9**
SNR=23
HOQ Hoqain 76.36 295 P **P 04 02 58.6 +1.5**
SNR=41
HOQ P **P 04 02 58.6 +1.5**
SNR=41
SPIA Saint Paul Isl 76.59 29 P **P 04 02 57.3 -0.4**
baz=241
P08K Saint George I 76.65 29 P **P 04 02 58.7 +0.7**
baz=242
UNV Unalaska Valle 77.00 33 P **P 04 03 00.3 +0.3**
baz=245
ARQ Araqi 77.03 295 P **P 04 03 01.9 +0.9**
SNR=24
ARQ P **P 04 03 01.9 +0.9**
SNR=24
SHAO Shalim 77.06 289 *i* P **P 04 03 01.1 -0.1**
SNR=7.1
SHAO Shalim 77.06 289 P **P 04 03 02.0 +0.8**
SNR=5.2
SHAO P **P 04 03 02.0 +0.8**
SNR=5.2
SOHO SOHO 77.15 296 *i* P **P 04 03 01.8 +0.3**
SNR=16
UOSS Minazif 77.58 296 P **P 04 03 04.5 +0.5**
UOSS IAmb IAmb 04 05 14.1
comp=Z,59nm,0.7s
UOSS Minazif 77.58 296 *i* P **P 04 03 04.9 +0.9**
SNR=11
UOSS Minazif 77.58 296 P **P 04 03 03.8 -0.3**
UOSS P **P 04 03 03.8 -0.3**
HATD Hatta, Dubai 77.62 296 *i* P **P 04 03 05.0 +0.7**
SNR=23
HATD Hatta, Dubai 77.62 296 P **P 04 03 05.9 +1.6**
SNR=22
HATD P **P 04 03 05.9 +1.6**
SNR=22
DMTO DMTO 77.66 289 P **P 04 03 04.3 -0.3**
DMTO P **P 04 03 04.3 -0.3**
ASHO Ashiyiah 77.67 296 *i* P **P 04 03 04.4 -0.1**
SNR=9.6
ASHO Ashiyiah 77.67 296 P **P 04 03 05.8 +1.2**
SNR=19
ASHO P **P 04 03 05.8 +1.2**
SNR=19
MSFE Esma-Masafi 77.69 297 *i* P **P 04 03 06.0 +1.4**
SNR=20
MASF Masafi 77.69 297 P **P 04 03 06.0 +1.3**
SNR=22
MASF P **P 04 03 06.0 +1.3**
SNR=22
SHME Shamm 77.82 297 *i* P **P 04 03 06.2 +0.8**
SNR=15
ALNE Al Ain 77.84 295 *i* P **P 04 03 06.0 +0.5**
SNR=27
ALNE Al Ain 77.84 295 P **P 04 03 06.7 +1.2**
SNR=39
ALNE P **P 04 03 06.7 +1.2**
SNR=39
NAZ Nazwa, Dubai 78.07 296 *i* P **P 04 03 07.2 +0.5**
SNR=11
NAZ Nazwa, Dubai 78.07 296 P **P 04 03 08.2 +1.5**
SNR=16
NAZ P **P 04 03 08.2 +1.5**
SNR=16
FAQ Al Faqa, Dubai 78.10 296 *i* P **P 04 03 06.6 -0.2**
SNR=14
FAQ Al Faqa, Dubai 78.10 296 P **P 04 03 08.0 +1.1**
SNR=13
FAQ P **P 04 03 08.0 +1.1**
SNR=13
UMZA Um Al Zommool 78.17 294 P **P 04 03 07.3 0.0**
UMZA P **P 04 03 07.3 0.0**
NRIK Noril'sk 78.28 346 IAMs_20 IAMs_20 04 38 44.6
comp=Z,3µm,21.0s
NRIK Noril'sk 78.28 346*ce*P **P 04 03 07.4 +0.5**
NRIK pmax pmax
comp=Z,42nm,1.1s
NRIK Noril'sk 78.28 346 P **P 04 03 06.3 -0.6**
comp=Z,28nm,0.9s,baz=132,slow=6.3,SNR=29
comp=Z,28nm,0.9s
ASUD Al Ashush, Dub 78.31 296 P **P 04 03 09.2 +1.1**
RBK Rabkut 78.34 289 P **P 04 03 09.6 +1.2**
RBK P **P 04 03 09.6 +1.2**
DOK Doka 78.55 290 P **P 04 03 09.9 +0.4**
SNR=20
DOK P **P 04 03 09.9 +0.4**
SNR=20
GEYT Alibeck 78.57 310 P **P 04 03 10.0 +0.7**
GEYT Alibeck 78.57 310 P **P 04 03 10.0 +0.7**
comp=Z,35nm,0.7s,baz=134,slow=4.3,SNR=50
comp=Z,35nm,0.7s
AJN Ajban 78.61 296 *i* P **P 04 03 10.1 +0.4**
SNR=12
AJN Ajban 78.61 296 P **P 04 03 10.9 +1.2**
SNR=10
AJN P **P 04 03 10.9 +1.2**
SNR=10
MAW Mawson 78.62 201 P **P 04 03 10.1 +1.2**
comp=Z,24nm,0.8s,baz=90,slow=11,SNR=6.8
MAW LR LR 04 34 04.3
comp=Z,2µm,21.6s,baz=70,slow=33
comp=Z,24nm,0.8s
WHFO Wadi Hawf 78.80 289 P **P 04 03 11.1 +0.2**
SNR=10
WHFO P **P 04 03 11.1 +0.2**
SNR=10
PPT Papeete 79.03 107 P **P 04 03 12.7 +0.5**
comp=Z,14nm,0.7s,baz=234,slow=5.2,SNR=2.3
PPT LR LR 04 35 46.2
comp=Z,388nm,21.9s,baz=266,slow=34
comp=Z,14nm,0.7s
PPT2 Papeete2 79.03 107 *e*LR LR 04 27 42.3
comp=Z,2µm,24.5s
PPT2 *e*LR LR 04 27 50.3
comp=Z,2µm,33.0s
FALS False Pass 79.06 32 P **P 04 03 11.5 0.0**
baz=248
ABTO Aybut 79.18 288 P **P 04 03 15.0 +2.0**
SNR=13
ABTO P **P 04 03 15.0 +2.0**
SNR=13
GAMB Gambell 79.26 22 P **P 04 03 12.6 +0.2**
baz=239
M11K Mekoryuk 79.92 27 P **P 04 03 16.5 +0.4**
baz=244
AB31 Akbulak array 80.24 321 *i* P **P 04 03 18.0 -0.1**
ABKAR Akbulak array 80.24 321 IAmb IAmb 04 03 36.7
comp=Z,127nm,1.3s
GHWR Ruwais 80.43 295 P **P 04 03 21.2 +1.6**
GHWR P **P 04 03 21.2 +1.6**
JRN Qarnain Island 80.59 296 P **P 04 03 21.4 +0.9**
SNR=12
JRN P **P 04 03 21.4 +0.9**
SNR=12
SDPT Sand Point 80.82 33 IAMs_20 IAMs_20 04 38 35.0
comp=Z,2µm,22.0s
SDPT Sand Point 80.82 33 P **P 04 03 20.7 -0.3**
baz=250
CHNA Chernabura Isl 81.13 33 P **P 04 03 22.8 +0.1**
baz=251
M13K Dall Lake 81.23 27 P **P 04 03 23.4 +0.3**
baz=247
TNA Tin City 81.55 22 P **P 04 03 24.7 +0.1**
baz=242
AKTO Aktyubinsk 81.77 322 P **P 04 03 26.6 +0.4**

comp=Z,32nm,1.1s,baz=104,slow=4.6,SNR=30
AKTO LR LR 04 43 25.0
comp=Z,1µm,21.9s,baz=100,slow=38
comp=Z,32nm,1.1s
O14K Tigyukauivet M 81.77 29 IAmb IAmb 04 03 39.6
comp=Z,96nm,1.4s
O14K Tigyukauivet M 81.77 29 P **P** **04 03 26.3 +0.3**
baz=249
N14K Kuskokwak Cree 81.81 28 P **P** **04 03 26.5 +0.3**
baz=249
L14K Kuka Creek 81.89 27 IAmb IAmb 04 03 29.6
comp=Z,57nm,1.1s
L14K IAMs_20 IAMs_20 04 34 11.1
comp=Z,2µm,21.0s
L14K Kuka Creek 81.89 27 P **P** **04 03 26.5 0.0**
baz=248
M14K Bethel 81.99 27 IAmb IAmb 04 03 29.5
comp=Z,42nm,0.8s
M14K IAMs_20 IAMs_20 04 33 52.9
comp=Z,2µm,22.0s
M14K Bethel 81.99 27 P **P** **04 03 27.6 +0.5**
baz=248
TRNA Turayna 82.03 295 P **P** **04 03 29.5 +1.4**
SNR=20
J14K Nanvaranak Lak 82.06 25 IAmb IAmb 04 03 46.3
comp=Z,82nm,1.4s
J14K IAMs_20 IAMs_20 04 39 26.7
comp=Z,1µm,21.0s
J14K Nanvaranak Lak 82.06 25 P **P** **04 03 27.8 +0.4**
baz=247
ANM Nome 82.07 23 P **P** **04 03 28.1 +0.6**
baz=245
F14K Arctic Creek 82.11 22 P **P** **04 03 28.6 +1.0**
baz=244
SVE Sverdlovsk 82.14 329 *e*P **P** **04 03 29.2 +1.2**
SVE pmax pmax
comp=Z,78nm,1.2s
CHGN Chignik 82.23 32 IAMs_20 IAMs_20 04 35 20.2
comp=Z,2µm,22.0s
CHGN Chignik 82.23 32 P **P** **04 03 28.8 +0.4**
baz=252
SMRA Abu-Samra 82.39 295 P **P** **04 03 31.2 +1.2**
SNR=31
SHMA Al-Shehemyia 82.40 296 P **P** **04 03 31.3 +1.2**
SNR=12
O15K Ungalikthiuk R 82.44 29 P **P** **04 03 29.2 -0.3**
baz=250
L15K Ungalak Mounta 82.55 26 P **P** **04 03 30.0 0.0**
baz=249
M15K Kasigluk River 82.55 27 P **P** **04 03 30.4 +0.3**
baz=249
N15K Kwethluk River 82.65 28 IAmb IAmb 04 03 50.0
comp=Z,81nm,1.2s
N15K IAMs_20 IAMs_20 04 35 00.3
comp=Z,2µm,22.0s
N15K Kwethluk River 82.65 28 P **P** **04 03 31.2 +0.6**
baz=250
K15K Wolf Creek Mou 82.75 26 IAmb IAmb 04 03 34.2
comp=Z,53nm,1.1s
K15K IAMs_20 IAMs_20 04 35 28.0
comp=Z,2µm,20.0s
K15K Wolf Creek Mou 82.75 26 P **P** **04 03 31.3 +0.2**
baz=248
G15K Niukluk 82.77 23 P **P** **04 03 31.9 +0.7**
baz=246
F15K North Star Dit 82.84 22 IAmb IAmb 04 03 45.6
comp=Z,96nm,1.5s
F15K North Star Dit 82.84 22 P **P** **04 03 31.3 -0.2**
baz=245
ABPO Ambohimpanom 82.91 251 P **P** **04 03 32.9 -0.2**
ABPO IAmb IAmb 04 03 47.6
comp=Z,99nm,1.9s
ABPO Ambohimpanom 82.91 251 P **P** **04 03 32.9 -0.2**
ABPO pmax pmax
comp=Z,99nm,1.9s
ARU Arti 83.11 328 P **P** **04 03 32.5 -0.6**
ARU IAmb IAmb 04 03 51.5
comp=Z,56nm,1.0s
ARU Arti 83.11 328 *c i*P **P** **04 03 33.3 +0.2**
ARU 04 06 46.6
ARU S **SKSac** **04 13 54.9 +0.2**
ARU SS **SS** **04 19 17.3 +0.6**
ARU pmax pmax
comp=Z,38nm,1.1s
ARU Arti 83.11 328 P **P** **04 03 33.3 +0.2**
comp=Z,6.9nm,0.2s,baz=150,slow=2.3,SNR=16
comp=Z,6.9nm,0.2s
VOI Vohitsoka 83.26 248 P **P** **04 03 34.6 -0.2**
VOI IAmb IAmb 04 03 38.6
comp=Z,32nm,0.6s
VOI Vohitsoka 83.26 248 P **P** **04 03 37.8 +2.9**
VOI Vohitsoka 83.26 248 P **P** **04 03 35.8 +1.0**
P16K Nushagak River 83.29 30 P **P** **04 03 34.3 +0.4**
baz=252,SNR=12
H16K Elim 83.34 24 P **P** **04 03 34.7 +0.6**
baz=248
N16K Nishlik Lake 83.37 28 P **P** **04 03 34.7 +0.3**
baz=251
O16K Kokwok River B 83.41 29 IAmb IAmb 04 03 52.3
comp=Z,58nm,1.3s
O16K IAMs_20 IAMs_20 04 41 10.5
comp=Z,2µm,20.0s
O16K Kokwok River B 83.41 29 P **P** **04 03 35.1 +0.6**
baz=252,SNR=6.0
L16K Owhat River 83.46 27 IAmb IAmb 04 03 37.0
comp=Z,33nm,0.9s
L16K IAMs_20 IAMs_20 04 34 36.6
comp=Z,2µm,22.0s
L16K Owhat River 83.46 27 P **P** **04 03 35.2 +0.5**
baz=250,SNR=11
M16K Timber Creek 83.46 27 IAmb IAmb 04 03 37.8
comp=Z,43nm,0.8s
M16K IAMs_20 IAMs_20 04 35 22.8
comp=Z,2µm,22.0s
M16K Timber Creek 83.46 27 P **P** **04 03 35.1 +0.3**
baz=251,SNR=11
J16K Anvik River 83.51 25 IAmb IAmb 04 03 38.5
comp=Z,36nm,0.9s
J16K IAMs_20 IAMs_20 04 38 54.0
comp=Z,1µm,21.0s
J16K Anvik River 83.51 25 P **P** **04 03 35.8 +0.8**
baz=249
G16K Koyuk River 83.58 23 IAmb IAmb 04 03 53.3
comp=Z,77nm,1.2s
G16K Koyuk River 83.58 23 P **P** **04 03 36.0 +0.7**
baz=247
I17K Unalakleet 83.69 24 IAmb IAmb 04 03 54.5
comp=Z,89nm,1.4s
I17K Unalakleet 83.69 24 P **P** **04 03 36.5 +0.7**
baz=249
C16K Lisburne Hills 83.69 20 P **P** **04 03 36.7 +0.9**
baz=244
Q16K King Salmon 83.84 30 P **P** **04 03 36.9 +0.1**
baz=253
O17K Koliganek Bris 83.95 29 P **P** **04 03 37.8 +0.6**
baz=253,SNR=10
P17K Kvichak River 84.10 30 P **P** **04 03 38.5 +0.5**
baz=253
Q17K Contact Creek 84.11 31 P **P** **04 03 38.2 -0.1**
baz=254,SNR=9.1
L17K Donlin 84.12 26 P **P** **04 03 38.7 +0.6**
baz=251
N17K Nushagak Hills 84.13 28 IAmb IAmb 04 03 43.6
comp=Z,114nm,1.9s
N17K IAMs_20 IAMs_20 04 36 08.5
comp=Z,2µm,22.0s
N17K Nushagak Hills 84.13 28 P **P** **04 03 38.7 +0.5**
baz=252,SNR=5.5
J17K VABM Dome 84.19 25 IAmb IAmb 04 03 46.4
comp=Z,73nm,1.1s
J17K IAMs_20 IAMs_20 04 39 14.8
comp=Z,2µm,22.0s
J17K VABM Dome 84.19 25 P **P** **04 03 39.0 +0.5**
baz=251
D17K Noatak River 84.22 21 P **P** **04 03 39.4 +0.9**
baz=246
M17K Holitna River 84.28 27 IAmb IAmb 04 03 47.9
comp=Z,27nm,0.9s
M17K IAMs_20 IAMs_20 04 35 48.4
comp=Z,2µm,20.0s
M17K Holitna River 84.28 27 P **P** **04 03 39.7 +0.7**
baz=252
G17K Kiwalik Mounta 84.28 23 P **P** **04 03 39.8 +0.8**
baz=249
K17K Iditarod 84.31 26 P **P** **04 03 39.7 +0.6**
baz=251
H17K Granite Mounta 84.38 24 P **P** **04 03 40.2 +0.8**
baz=250
F17K Baldwin Pennin 84.40 22 IAmb IAmb 04 03 56.9
comp=Z,68nm,1.4s
F17K Baldwin Pennin 84.40 22 P **P** **04 03 40.3 +0.8**
baz=248
C17K DeLong Mountai 84.50 20 P **P** **04 03 40.4 +0.4**
baz=246
SII Sitkinak Islan 84.55 32 P **P** **04 03 40.8 +0.3**
baz=256
P18K Big Mountain, 84.75 30 P **P** **04 03 41.3 -0.1**
baz=254
N18K Kilae Creek 84.79 28 IAMs_20 IAMs_20 04 36 39.7
comp=Z,2µm,22.0s
N18K Kilae Creek 84.79 28 P **P** **04 03 42.3 +0.7**
baz=254
L18K Granite Mounta 84.87 27 IAmb IAmb 04 03 45.2
comp=Z,85nm,1.2s
L18K IAMs_20 IAMs_20 04 35 30.9
comp=Z,2µm,22.0s
L18K Granite Mounta 84.87 27 P **P** **04 03 42.4 +0.4**
baz=253,SNR=22
O18K Koktuh Hills 84.89 29 IAmb IAmb 04 03 47.9
comp=Z,104nm,1.9s
O18K Koktuh Hills 84.89 29 P **P** **04 03 42.8 +0.7**
baz=254
E18K Tukpahlearik C 85.00 21 IAmb IAmb 04 04 00.6
comp=Z,42nm,1.1s
E18K Tukpahlearik C 85.00 21 P **P** **04 03 42.7 +0.2**
baz=249
M18K Stony River 85.05 27 P **P** **04 03 43.4 +0.5**
baz=254
SVW2 Sparrevohn 85.05 28 IAmb IAmb 04 03 53.1
comp=Z,124nm,1.8s
SVW2 IAMs_20 IAMs_20 04 36 46.4
comp=Z,2µm,21.0s
F18K Selawik 85.06 22 P **P** **04 03 43.4 +0.7**
baz=250
H18K Honhosa River 85.07 24 IAmb IAmb 04 04 00.6
comp=Z,73nm,1.4s
H18K Honhosa River 85.07 24 P **P** **04 03 43.5 +0.6**
baz=251
OHAK Old Harbor 85.19 32 IAmb IAmb 04 03 48.0
comp=Z,89nm,1.5s
OHAK IAMs_20 IAMs_20 04 37 07.7
comp=Z,2µm,22.0s
OHAK Old Harbor 85.19 32 P **P** **04 03 44.1 +0.5**
baz=256
G18K Tagagawik 85.20 23 IAmb IAmb 04 04 01.2
comp=Z,69nm,1.4s
G18K Tagagawik 85.20 23 P **P** **04 03 44.1 +0.6**
baz=251
J18K Innoko River 85.22 25 IAmb IAmb 04 03 45.7
comp=Z,35nm,0.8s
J18K Innoko River 85.22 25 P **P** **04 03 44.3 +0.5**
baz=253
C18K Utukok River 85.24 20 IAmb IAmb 04 04 00.8
comp=Z,45nm,1.4s
C18K Utukok River 85.24 20 P **P** **04 03 44.2 +0.5**
baz=248
B18K Kokolik River 85.31 19 P **P** **04 03 44.8 +0.8**
baz=248,SNR=8.6
TTA Tatalina 85.37 26 P **P** **04 03 45.0 +0.4**
baz=253,SNR=36
O19K Port Alsworth, 85.41 29 IAmb IAmb 04 04 09.4
comp=Z,112nm,1.9s
O19K Port Alsworth 85.41 29 P **P** **04 03 45.2 +0.5**
baz=255
Q19K Cape Douglas, 85.42 30 IAMs_20 IAMs_20 04 39 30.7
comp=Z,2µm,21.0s
Q19K Cape Douglas, 85.42 30 P **P** **04 03 45.0 +0.2**
baz=256
N19K Bonanza Creek 85.49 28 IAMs_20 IAMs_20 04 36 38.2
comp=Z,2µm,21.0s
N19K Bonanza Creek 85.49 28 P **P** **04 03 45.8 +0.6**
baz=255
GCSA Galena City Sc 85.54 24 P **P** **04 03 46.0 +0.8**
baz=252
L19K White Mountain 85.68 27 IAMs_20 IAMs_20 04 37 02.4
comp=Z,2µm,21.0s
L19K White Mountain 85.68 27 P **P** **04 03 46.4 +0.3**
baz=254,SNR=27
KDAK Kodiak Island 85.69 31 P **P** **04 03 45.7 -0.4**
KDAK Kodiak Island 85.69 31 IAMs_20 IAMs_20 04 36 34.9
comp=Z,2µm,22.0s
KDAK Kodiak Island 85.69 31 *i*P **P** **04 03 43.4 -2.7**
KDAK pmax pmax
comp=Z,171nm,2.0s
KDAK Kodiak Island 85.69 31 P **P** **04 03 46.7 +0.6**
baz=257
KDAK Kodiak Island 85.69 31 LR LR 04 37 21.6
comp=Z,2µm,21.8s,baz=259,slow=32
P19K Oil Pt 85.80 30 IAMs_20 IAMs_20 04 38 04.8
comp=Z,1µm,19.0s
P19K Oil Pt 85.80 30 P **P** **04 03 47.1 +0.4**
baz=256
M19K Big River Lodg 85.82 27 IAMs_20 IAMs_20 04 36 47.6
comp=Z,2µm,22.0s
M19K Big River Lodg 85.82 27 P **P** **04 03 47.4 +0.7**
baz=255
F19K Shaleruckik Mo 85.84 22 P **P** **04 03 47.5 +0.9**
baz=252
J19K Poorman 85.84 25 P **P** **04 03 47.4 +0.7**
baz=254
G19K Purcell Mounta 85.88 23 IAmb IAmb 04 04 05.0
comp=Z,59nm,1.2s
G19K Purcell Mounta 85.88 23 P **P** **04 03 47.5 +0.6**
baz=252
ILSW Iliamna Southw 85.93 29 IAmb IAmb 04 04 03.8
comp=Z,64nm,1.6s
LKRN Lenkeran, Azer 85.93 309 P **P** **04 03 47.4 -0.3**
H19K Roundabout Mou 85.95 23 IAmb IAmb 04 04 04.4
comp=Z,47nm,1.2s
H19K Roundabout Mou 85.95 23 P **P** **04 03 47.7 +0.4**
baz=253
C19K Lookout Ridge 85.95 20 IAmb IAmb 04 04 04.6
comp=Z,98nm,1.4s
C19K Lookout Ridge 85.95 20 P **P** **04 03 47.7 +0.5**
baz=250
Q20K Shuyak Island 85.98 31 P **P** **04 03 47.7 +0.1**
baz=257
SYI Shuyak Island 85.98 31 IAMs_20 IAMs_20 04 40 17.4
comp=Z,2µm,20.0s
L20K Farewell, AK 86.20 27 P **P** **04 03 49.3 +0.7**
baz=255,SNR=20
O20K Slope Mountain 86.20 29 P **P** **04 03 48.2 -0.5**
baz=257
E19K Redstone River 86.23 22 P **P** **04 03 48.9 +0.3**
baz=252
D19K Kuna River 86.25 20 IAmb IAmb 04 04 05.5
comp=Z,101nm,1.8s
D19K IAMs_20 IAMs_20 04 39 41.3
comp=Z,1µm,22.0s
D19K Kuna River 86.25 20 P **P** **04 03 49.3 +0.5**
baz=251
K20K Telida 86.34 26 P **P** **04 03 49.6 +0.3**
baz=255
M20K Styx River 86.39 27 P **P** **04 03 49.9 +0.3**
baz=256
J20K Nowinta River 86.52 25 IAmb IAmb 04 04 08.3
comp=Z,122nm,1.6s
J20K Nowinta River 86.52 25 P **P** **04 03 50.5 +0.4**
baz=255,SNR=25
I20K Naaghedeneel 86.54 24 P **P** **04 03 50.3 +0.2**
baz=255
H20K Anotleneega Mo 86.56 24 P **P** **04 03 50.5 +0.2**
baz=254
QSPA South Pole Qui 86.58 180 P **P** **04 03 49.9 -0.7**
QSPA IAmb IAmb 04 04 13.4
comp=Z,64nm,1.3s
QSPA South Pole Qui 86.58 180 P **P** **04 03 49.7 -0.9**
comp=Z,5.7nm,0.6s,baz=178,slow=1.1,SNR=34
QSPA LR LR 04 42 46.2
comp=Z,2µm,20.5s,baz=349,slow=36
comp=Z,5.7nm,0.6s
HOM Homer 86.59 30 IAMs_20 IAMs_20 04 39 01.4
comp=Z,1µm,20.0s
HOM Homer 86.59 30 P **P** **04 03 50.7 +0.2**
baz=258
N20K Mount Spurr 86.66 28 P **P** **04 03 51.2 +0.2**
baz=257,SNR=13
F20K Avaraart Lake 86.67 22 IAmb IAmb 04 04 08.7
comp=Z,54nm,1.8s
F20K Avaraart Lake 86.67 22 P **P** **04 03 51.5 +0.8**
baz=253
CNPM China Poot 86.76 30 IAMs_20 IAMs_20 04 39 53.1
comp=Z,2µm,21.0s
D20K Etivluk River 86.84 20 P **P** **04 03 52.3 +0.7**
baz=252
E20K Nigu River 86.85 21 P **P** **04 03 52.2 +0.4**
baz=253
BRLK Bradley Lake 86.99 30 IAmb IAmb 04 04 12.6
comp=Z,56nm,1.2s
BRLK IAMs_20 IAMs_20 04 40 12.7
comp=Z,1µm,20.0s
B20K Meade River 87.05 19 IAmb IAmb 04 04 09.3
comp=Z,48nm,1.3s
B20K Meade River 87.05 19 P **P** **04 03 53.3 +0.7**
baz=252
BRSE Bradley Lake S 87.06 30 P **P** **04 03 53.1 +0.3**
baz=258
PPLA Purkeypile 87.06 27 P **P** **04 03 53.2 +0.3**
baz=257,SNR=12
CAPN Captain Cook N 87.07 29 P **P** **04 03 53.2 +0.4**
baz=258
RAYN Ar Rayn 87.09 294 P **P** **04 03 53.6 -0.2**
RAYN Ar Rayn 87.09 294 IAMs_20 IAMs_20 04 44 06.9
comp=Z,2µm,22.0s
RAYN Ar Rayn 87.09 294 P **P** **04 03 53.6 -0.2**
RAYN pmax pmax
comp=Z,110nm,1.2s
RAYN MLR MLR
comp=Z,2µm,22.0s
RAYN Ar Rayn 87.09 294 *i* P **P** **04 03 54.5 +0.6**
SNR=69
RAYN Ar Rayn 87.09 294 P **P** **04 03 54.8 +0.9**
SKT Skwentna 87.15 28 IAmb IAmb 04 04 08.8
comp=Z,87nm,1.6s
SKT IAMs_20 IAMs_20 04 37 17.2
comp=Z,2µm,22.0s
SKT Skwentna 87.15 28 P **P** **04 03 53.3 0.0**
baz=257,SNR=16
CAST Castle Rocks 87.22 26 IAmb IAmb 04 04 10.3
comp=Z,47nm,1.4s
CAST Castle Rocks 87.22 26 P **P** **04 03 53.4 -0.2**
baz=257,SNR=15
CHUM Lake Minchumin 87.23 26 P **P** **04 03 53.7 +0.2**
baz=257,SNR=33
SUA Susitna One 87.41 28 IAMs_20 IAMs_20 04 37 37.0
comp=Z,2µm,22.0s
SUA Susitna One 87.41 28 P **P** **04 03 54.7 +0.1**
baz=258,SNR=22
MAK Makhachkala 87.43 313 *c i*P P 04 03 49.8 -5.2
MAK *e* 04 14 14.0
MAK *e*SS SS 04 20 21.1 +0.4
MAK pmax pmax
comp=Z,147nm,1.2s
H21K Melozitna Rive 87.44 24 P **P** **04 03 54.6 0.0**
baz=256
SEKA Sheki 87.44 311 P **P** **04 03 54.5 -0.7**
MNGR Mingechevir, A 87.48 311 P **P** **04 03 55.1 -0.2**
F21K Alatna River 87.56 22 P **P** **04 03 54.9 -0.2**
baz=255
C21K Knifeblade Rid 87.60 20 P **P** **04 03 56.1 +0.8**
baz=254
A21K Barrow 87.63 18 P **P** **04 03 56.3 +1.0**
baz=252,SNR=17
I21K Tanana 87.66 24 P **P** **04 03 56.4 +0.8**
baz=257
E21K Killik River 87.70 21 P **P** **04 03 55.7 -0.1**
baz=255
O22K Cooper Landing 87.70 29 P **P** **04 03 55.9 0.0**
baz=259,SNR=9.4
M22K Willow 87.76 28 IAMs_20 IAMs_20 04 37 48.3
comp=Z,2µm,22.0s
M22K Willow 87.76 28 P **P** **04 03 56.5 +0.3**
baz=259,SNR=13
SEW Seward 87.76 30 P **P** **04 03 56.3 +0.2**
baz=259,SNR=6.2
B21K Ikpikpuk River 87.79 20 IAmb IAmb 04 04 12.6
comp=Z,74nm,1.5s
B21K Ikpikpuk River 87.79 20 P **P** **04 03 56.6 +0.5**
baz=254
RC01 Rabbit Creek A 87.81 29 IAMs_20 IAMs_20 04 37 42.7
comp=Z,2µm,22.0s
RC01 Rabbit Creek A 87.81 29 P **P** **04 03 56.3 -0.1**
baz=259,SNR=20
CUT Chulitna 87.82 27 IAMs_20 IAMs_20 04 37 49.0
comp=Z,1µm,21.0s
CUT Chulitna 87.82 27 P **P** **04 03 56.6 +0.2**
baz=259
BPAW Bear Paw Mtn. 87.85 25 IAmb IAmb 04 04 15.0
comp=Z,50nm,1.4s
BPAW Bear Paw Mtn. 87.85 25 P **P** **04 03 56.9 +0.4**
baz=258,SNR=7.2
ZKTA Zakatala 87.92 312 P **P** **04 03 57.1 -0.3**
TRF Thorofare Moun 88.02 26 IAMs_20 IAMs_20 04 38 53.1
comp=Z,2µm,22.0s
TRF Thorofare Moun 88.02 26 P **P** **04 03 57.6 0.0**
baz=258
GANJ Ganja 88.04 311 P **P** **04 03 57.9 -0.1**
H22K Ishtalitna Cre 88.07 24 P **P** **04 03 58.0 +0.4**
baz=257
MLY Manley 88.15 25 P **P** **04 03 58.5 +0.5**
baz=258,SNR=20
PMR Palmer 88.19 28 IAmb IAmb 04 04 14.5
comp=Z,62nm,1.3s
PMR IAMs_20 IAMs_20 04 37 55.8
comp=Z,2µm,21.0s
PMR Palmer 88.19 28 P **P** **04 03 58.9 +0.7**
baz=260,SNR=9.5
G22K Bettles 88.24 23 P **P** **04 03 58.6 +0.2**
baz=257
D22K Ayikyak River 88.26 21 P **P** **04 03 58.9 +0.4**
baz=256
GHO Glory Hole Cre 88.32 28 IAmb IAmb 04 04 39.0
comp=Z,89nm,1.6s
GHO IAMs_20 IAMs_20 04 38 53.2
comp=Z,2µm,21.0s
B22K Teshekpuk Lake 88.37 19 P **P** **04 03 58.9 +0.1**
baz=255,SNR=24
E22K Anaktuvuk Pass 88.40 21 IAmb IAmb 04 04 15.9
comp=Z,46nm,1.4s
E22K Anaktuvuk Pass 88.40 21 P **P** **04 03 59.3 +0.1**
baz=257
KIRV Kirov 88.40 329 *i* P **P** **04 03 59.6 +0.4**
KIRV Kirov 88.40 329 P **P** **04 03 59.0 -0.2**
comp=Z,5.2nm,0.5s,baz=177,slow=1.8,SNR=6.4
comp=Z,5.2nm,0.5s
KNK Knik Glacier 88.48 28 IAMs_20 IAMs_20 04 38 25.3
comp=Z,2µm,22.0s
KNK Knik Glacier 88.48 28 P **P** **04 03 59.8 +0.2**
baz=260,SNR=18
BWN Browne 88.51 26 IAmb IAmb 04 04 18.9
comp=Z,63nm,1.2s
NAX Nakhchivan 88.53 309 P **P** **04 04 00.0 -0.4**
BELG Belogornoye 88.53 322 *i* P **P** **04 03 58.6 -1.4**
BELG pmax pmax
comp=Z,8.0nm,1.3s
BELG Belogornoye 88.53 322 P **P** **04 03 59.1 -0.8**
comp=Z,15nm,0.7s,baz=334,slow=2.8,SNR=6.4
BELG LR LR 04 47 41.1
comp=Z,461nm,21.1s,baz=93,slow=38
comp=Z,15nm,0.7s
SML Sawmill 88.60 28 IAMs_20 IAMs_20 04 40 12.7
comp=Z,2µm,21.0s
SML Sawmill 88.60 28 P **P** **04 04 00.3 +0.1**
baz=260,SNR=12
RND Reindeer 88.64 26 IAmb IAmb 04 04 01.2
comp=Z,19nm,0.7s
RND IAMs_20 IAMs_20 04 38 11.6
comp=Z,2µm,22.0s
RND Reindeer 88.64 26 P **P** **04 03 59.3 -1.1**
MCK McKinley 88.66 26 P **P** **04 04 00.7 +0.2**
MCK McKinley 88.66 26 P **P** **04 04 00.4 -0.1**
baz=260,SNR=9.5
GROC Groznyy 88.70 313 *e*P **P** **04 04 01.2 +0.2**
GROC *e*S **SKSac** **04 14 28.6 -1.6**
GROC pmax pmax
comp=Z,71nm,1.0s
ATD Arta Tunnel 88.73 282 LR LR 04 42 26.9
comp=Z,43nm,20.5s,baz=88,slow=35
I23K Minto, Yukon-K 88.74 25 IAmb IAmb 04 04 15.3
comp=Z,29nm,0.9s
I23K Minto, Yukon-K 88.74 25 P **P** **04 04 01.0 +0.2**
baz=259,SNR=17
P23K Montague Islan 88.76 30 P **P** **04 04 01.4 +0.5**
baz=261
NEA2 Nenana 88.76 25 P **P** **04 04 00.9 0.0**
baz=260
G23K Bananza Creek 88.77 23 IAmb IAmb 04 04 17.7
comp=Z,31nm,1.1s
G23K Bananza Creek 88.77 23 P **P** **04 04 01.3 +0.3**
baz=259
COLD Coldfoot 88.81 22 P **P** **04 04 01.3 +0.3**
baz=258,SNR=12
M23K Glacier View 88.88 28 P **P** **04 04 00.9 -0.6**
baz=261,SNR=9.0

D23K	**Nanushuk River** baz=258	88.99	21	P	**P**	04 04 02.3	+0.4		
SCM	**Sheep Creek Mo** comp=Z,2µm,22.0s	89.08	28	IAMs_20	IAMs_20	04 38 20.2			
SCM	**Sheep Creek Mo** baz=261	89.08	28	P	**P**	04 04 02.7	+0.2		
WRH	**Wood River Hil** comp=Z,40nm,1.2s	89.16	25	IAmb	IAmb	04 04 16.9			
E23K	**Chandalar** baz=259,SNR=17	89.19	22	P	**P**	04 04 03.0	0.0		
C23K	**Itkillik River** comp=Z,22nm,0.8s	89.19	20	IAmb	IAmb	04 04 16.3			
C23K	**Itkillik River** baz=258	89.19	20	P	**P**	04 04 03.0	+0.2		
GNI	**Garni**	89.19	310	P	**P**	04 04 04.4	+0.7		
GNI	comp=Z,87nm,1.4s			IAmb	IAmb	04 05 21.9			
GNI	**Garni**	89.19	310	*ce*P	**P**	04 04 05.3	+1.6		
GNI	comp=Z,35nm,2.5s			pmax	pmax				
GNI	**Garni**	89.19	310	P	**P**	04 04 03.3	-0.3		
	comp=Z,2.0nm,0.4s,baz=5.3,slow=17,SNR=2.0								
GNI	comp=Z,2.0nm,0.4s **Garni**	89.19	310	P	**P**	04 04 04.9	+1.3		
GNI				P	**P**	04 04 04.9	+1.3		
Q23K	**Middleton Isla** baz=262	89.20	30	P	**P**	04 04 03.2	+0.2		
HIN	**Hinchinbrook I** comp=Z,1µm,21.0s	89.26	30	IAMs_20	IAMs_20	04 40 28.2			
CCB	**Clear Creek Bu** comp=Z,34nm,1.1s	89.31	25	IAmb	IAmb	04 04 16.8			
COLA	**College**	89.33	25	P	**P**	04 04 02.4	-1.0		
COLA	**College**	89.33	25	*i* P	**P**	04 04 01.1	-2.4		
COLA	comp=Z,24nm,2.2s			pmax	pmax				
COLA	**College** baz=261	89.33	25	P	**P**	04 04 03.7	+0.2		
H24K	**Noodor Dome** baz=261,SNR=18	89.47	24	P	**P**	04 04 04.4	+0.1		
POKR	**Poker Plat Res** baz=261	89.54	25	P	**P**	04 04 04.5	0.0		
HDA	**Harding Lake** comp=Z,1µm,22.0s	89.64	25	IAMs_20	IAMs_20	04 39 40.9			
HDA	**Harding Lake** baz=262,SNR=7.7	89.64	25	P	**P**	04 04 05.3	+0.3		
EYAK	**Cordova Ski Ar** baz=263	89.65	29	P	**P**	04 04 05.5	+0.4		
M24K	**Tolsona, Glenn** comp=Z,55nm,1.1s	89.66	28	IAmb	IAmb	04 04 38.6			
M24K	comp=Z,2µm,22.0s			IAMs_20	IAMs_20	04 39 11.5			
M24K	**Tolsona, Glenn** baz=262	89.66	28	P	**P**	04 04 05.4	+0.2		
D24K	**Happy Valley** comp=Z,33nm,1.2s	89.68	21	IAmb	IAmb	04 04 21.9			
D24K	**Happy Valley** baz=260	89.68	21	P	**P**	04 04 05.5	+0.4		
KLU	**Klutina** comp=Z,2µm,20.0s	89.69	28	IAMs_20	IAMs_20	04 39 59.5			
KLU	**Klutina** baz=262	89.69	28	P	**P**	04 04 05.4	0.0		
ILAR	**Eielson Array** comp=Z,5.0nm,0.8s,baz=246,slow=4.8,SNR=41	89.72	25	P	**P**	04 04 03.6	-1.7		
ILAR	comp=Z,2.8nm,1.0s,baz=246,slow=6.3,SNR=5.2			PP	**PP**	04 07 43.0	+5.7		
ILAR	comp=Z,0.4nm,0.6s,baz=39,slow=1.0,SNR=3.9			PKKPbc	**PKKPbc**	04 21 40.0	-1.4		
ILAR	comp=Z,614nm,21.9s,baz=252,slow=32			LR	LR	04 38 25.5			
F24K	comp=Z,5.0nm,0.8s **Squaw Lake** comp=Z,51nm,1.5s	89.74	22	IAmb	IAmb	04 04 22.3			
F24K	**Squaw Lake** baz=261	89.74	22	P	**P**	04 04 05.9	+0.4		
G24K	**Hadweenzic Riv** comp=Z,48nm,1.3s	89.77	23	IAmb	IAmb	04 04 22.2			
G24K	comp=Z,2µm,22.0s			IAMs_20	IAMs_20	04 41 57.4			
G24K	**Hadweenzic Riv** baz=261,SNR=12	89.77	23	P	**P**	04 04 05.8	+0.3		
C24K	**Franklin Bluff** baz=260,SNR=9.6	89.82	20	P	**P**	04 04 06.2	+0.4		
K24K	**Donnelly Dome** baz=262,SNR=7.6	90.06	26	P	**P**	04 04 06.9	-0.1		
PAX	**Paxson** baz=263,SNR=7.6	90.09	27	P	**P**	04 04 07.3	+0.1		
RAGM	**Ragged Mountai** comp=Z,2µm,22.0s	90.16	30	IAMs_20	IAMs_20	04 41 27.9			
HARP	**HAARP** baz=263	90.17	28	P	**P**	04 04 07.6	+0.1		
KAIM	**Kayak Island** baz=264	90.24	30	P	**P**	04 04 07.9	+0.1		
BMRM	**Bremner River** baz=264	90.26	29	P	**P**	04 04 08.1	+0.1		
G25K	**Bearman Lake** baz=262	90.32	23	P	**P**	04 04 08.3	+0.3		
N25K	**Chitina, Valde** baz=264	90.33	28	P	**P**	04 04 08.2	-0.2		
J25K	**Salcha River,** baz=263	90.34	25	P	**P**	04 04 08.2	-0.1		
HMT	**Hamilton** comp=Z,2µm,21.0s	90.36	30	IAMs_20	IAMs_20	04 41 33.2			
H25L	**Birch Creek** baz=262	90.36	24	P	**P**	04 04 08.5	+0.2		
PRP	**Porcupine Dome** comp=Z,1µm,21.0s	90.39	24	IAMs_20	IAMs_20	04 41 09.8			
PRP	**Porcupine Dome** baz=263	90.39	24	P	**P**	04 04 08.4	-0.2		
RIDG	**Independent Ri** comp=Z,28nm,1.1s	90.46	26	IAmb	IAmb	04 04 22.0			
RIDG	**Independent Ri** baz=263	90.46	26	P	**P**	04 04 08.9	0.0		
D25K	**Kavik River** baz=262	90.57	21	P	**P**	04 04 09.2	-0.1		
F25K	**Christian River** baz=263	90.61	22	P	**P**	04 04 09.3	-0.2		
FYU	**Fort Yukon** comp=Z,86nm,1.7s	90.64	23	IAmb	IAmb	04 04 12.2			
BERG	**Berg Lake** comp=Z,2µm,21.0s	90.64	30	IAMs_20	IAMs_20	04 41 52.7			
GLB	**Gilahina Butte** comp=Z,1µm,21.0s	90.69	29	IAMs_20	IAMs_20	04 40 31.0			
E25K	**Arctic Village** comp=Z,52nm,1.6s	90.70	22	IAmb	IAmb	04 04 26.8			
E25K	comp=Z,1µm,22.0s			IAMs_20	IAMs_20	04 42 35.0			
E25K	**Arctic Village** baz=263,SNR=10	90.70	22	P	**P**	04 04 10.2	+0.3		
KBZ	**Khabaz**	90.84	314	*i* P	**P**	04 04 09.5	-1.5		
KBZ	comp=Z,15nm,1.3s			pmax	pmax				
KBZ	**Khabaz**	90.84	314	P	**P**	04 04 10.6	-0.4		
KBZ	comp=Z,2.5nm,0.9s,baz=214,slow=3.6,SNR=5.5			LR	LR	04 51 34.1			
VRDI	comp=Z,198nm,19.7s,baz=82,slow=40 comp=Z,2.5nm,0.9s **Verde Repeater** comp=Z,2µm,21.0s	90.84	29	IAMs_20	IAMs_20	04 40 27.0			
SCRK	**Sand Creek** baz=264	90.87	26	P	**P**	04 04 10.8	-0.1		
CRQM	**Cirque** comp=Z,2µm,22.0s	90.95	29	IAMs_20	IAMs_20	04 42 06.5			
CRQE	**Cirque** baz=265	90.97	29	P	**P**	04 04 11.4	-0.1		
KVAR	**Kislovodsk Arr** comp=Z,204nm,18.3s,baz=274,slow=41	91.00	314	LR	LR	04 52 36.6			
KIV	**Kislovodsk**	91.01	314	*e*P	**P**	04 04 14.1	+2.1		
KIV				*e*		04 07 50.5			
KIV				*e*		04 14 45.7			
KIV				*e*SS	SS	04 21 15.4	+2.4		
KIV	comp=Z,9.0nm,1.0s			pmax	pmax				
KIV	comp=Z,353nm,20.0s			MLR	MLR				
KIV	**Kislovodsk**	91.01	314	P	**P**	04 04 13.8	+1.8		
KIV				P	**P**	04 04 13.8	+1.8		
SNH	**Sunshine Point** comp=Z,2µm,20.0s	91.05	30	IAMs_20	IAMs_20	04 42 04.5			
L26K	**Log Cabin Wild** baz=265	91.06	27	P	**P**	04 04 11.5	-0.2		
MCARA	**McCarthy VSAT** comp=Z,2µm,21.0s	91.06	29	IAMs_20	IAMs_20	04 40 43.8			
MCARA	**McCarthy VSAT** baz=265	91.06	29	P	**P**	04 04 11.8	+0.1		
WAX	**Waxell Ridge** comp=Z,1µm,20.0s	91.07	30	IAMs_20	IAMs_20	04 45 07.9			
J26L	**Joseph Creek** baz=264	91.10	26	P	**P**	04 04 12.0	0.0		
TGL	**Tana Glacier** comp=Z,2µm,22.0s	91.10	29	IAMs_20	IAMs_20	04 41 57.9			
C26K	**Camden Bay** baz=263	91.15	20	P	**P**	04 04 12.2	+0.3		
M26K	**Nabesna, AK** comp=Z,2µm,22.0s	91.17	28	IAMs_20	IAMs_20	04 43 54.4			
M26K	**Nabesna, AK** baz=265	91.17	28	P	**P**	04 04 12.6	+0.4		
F26K	**Sheenjek River** baz=264,SNR=7.6	91.19	22	P	**P**	04 04 13.0	+0.8		
G26K	**Porcupine Rive** baz=264,SNR=15	91.25	23	P	**P**	04 04 12.8	+0.4		
ISLE	**Juniper Island** comp=Z,1µm,21.0s	91.33	30	IAMs_20	IAMs_20	04 40 35.9			
I26K	**Coal Creek Min** baz=265	91.35	25	P	**P**	04 04 13.2	+0.3		
MESA	**MESA** comp=Z,2µm,20.0s	91.49	30	IAMs_20	IAMs_20	04 42 41.2			
MESA	**MESA** baz=266	91.49	30	P	**P**	04 04 13.9	-0.1		
GRNC	**Granite Creek** comp=Z,2µm,22.0s	91.63	29	IAMs_20	IAMs_20	04 40 44.5			
M27K	**Edge Creek, AK** comp=Z,2µm,22.0s	91.68	28	IAMs_20	IAMs_20	04 44 41.0			
M27K	**Edge Creek, AK** baz=266	91.68	28	P	**P**	04 04 15.0	+0.2		
BARN	**Barnard Glacie** comp=Z,38nm,1.2s	91.70	29	IAmb	IAmb	04 04 36.9			
K27K	**Chicken** comp=Z,62nm,1.2s	91.71	26	IAmb	IAmb	04 04 29.9			
K27K	**Chicken** baz=266	91.71	26	P	**P**	04 04 14.6	0.0		
L27K	**Beaver Creek,** comp=Z,24nm,1.0s	91.75	27	IAmb	IAmb	04 04 31.1			
L27K	comp=Z,2µm,22.0s			IAMs_20	IAMs_20	04 41 04.0			
L27K	**Beaver Creek,** baz=266,SNR=12	91.75	27	P	**P**	04 04 15.4	+0.5		
CTG	**Chitna Glacier** baz=266	91.85	29	P	**P**	04 04 15.7	+0.1		
CTGM	**Chitina Glacie** comp=Z,1µm,22.0s	91.85	29	IAMs_20	IAMs_20	04 41 01.5			
TABL	**Table Mountain** comp=Z,2µm,21.0s	91.91	30	IAMs_20	IAMs_20	04 42 56.2			
LOGN	**Logan Glacier** comp=Z,1µm,20.0s	92.00	29	IAMs_20	IAMs_20	04 41 18.3			
I27K	**Kandik River** baz=266	92.02	25	P	**P**	04 04 16.4	+0.3		
VRH	**Novokhopyorsk**	92.07	321	*e*P	**P**	04 04 14.0	-2.6		
VRH	comp=Z,10.0nm,0.3s			pmax	pmax				
H27K	**Steamboat Moun** baz=266	92.09	24	P	**P**	04 04 17.1	+0.7		
EGAK	**Eagle** baz=267,SNR=5.9	92.16	25	P	**P**	04 04 17.3	+0.6		
BVCY	**Beaver Creek** baz=267,SNR=8.1	92.16	28	P	**P**	04 04 17.1	+0.3		
ELIB	**Princess Elisa** comp=Z,20nm,0.9s	92.19	197	*d*P	**P**	04 04 17.8	+0.9		
YUK3	**Moose Creek** baz=267	92.31	28	P	**P**	04 04 17.7	0.0		
PINM	**Pinnacle** baz=267	92.34	30	P	**P**	04 04 17.9	+0.2		
YUK8	**Steele Glacier** baz=268	92.63	29	P	**P**	04 04 19.5	+0.2		
BCPM	**Bancas Point** comp=Z,2µm,21.0s	92.64	30	IAMs_20	IAMs_20	04 43 47.5			
KIBK	**Kibwezi**	92.69	268		**P**	04 04 19.4	-1.0		
KIBK	comp=Z,29nm,1.1s			IAmb	IAmb	04 04 43.0			
KIBK	**Kibwezi** SNR=6.4	92.69	268	P	**P**	04 04 21.7	+1.3		
I28M	**Miner Creek** baz=268	92.71	25	P	**P**	04 04 19.8	+0.4		
PNL	**Peninsula** baz=268	92.75	31	P	**P**	04 04 19.6	0.0		
F28M	**Old Crow** comp=Z,63nm,1.7s	92.81	23	IAmb	IAmb	04 04 32.5			
F28M	**Old Crow** baz=268	92.81	23	P	**P**	04 04 19.6	0.0		
DAWY	**Dawson** comp=Z,36nm,1.2s	92.89	26	IAmb	IAmb	04 04 34.6			
DAWY	**Dawson** baz=268,SNR=19	92.89	26	P	**P**	04 04 20.2	0.0		
SOC	**Sochi**	93.14	313	*e*P	**P**	04 04 19.7	-2.0		
SOC				*e*		04 08 02.5			
SOC				*e*PPP	PPP	04 10 02.4			
SOC				*e*S	**SKSac**	04 14 53.4	-2.3		
SOC				*e*SS	**SS**	04 21 37.6	-5.9		
YUK4	**Talbot Arm** baz=269	93.17	29	P	**P**	04 04 22.0	+0.3		
O29M	**Mount Kennedy** baz=269	93.18	30	P	**P**	04 04 21.5	-0.2		
D28M	**Stokes Point** baz=269	93.27	21	P	**P**	04 04 22.2	+0.6		
M29M	**Somme Creek** comp=Z,24nm,1.1s	93.28	28	IAmb	IAmb	04 04 38.5			
M29M	**Somme Creek** baz=269	93.28	28	P	**P**	04 04 22.2	+0.1		
YUK6	**Outpost Mounta** baz=269	93.30	29	P	**P**	04 04 22.2	-0.1		
H29M	**Whitestone** baz=269	93.37	24	P	**P**	04 04 23.4	+1.1		
J29N	**Klondike Camp** comp=Z,49nm,1.4s	93.41	26	IAmb	IAmb	04 04 39.8			
J29N	comp=Z,1µm,22.0s			IAMs_20	IAMs_20	04 46 21.8			
J29N	**Klondike Camp** baz=269,SNR=9.0	93.41	26	P	**P**	04 04 23.1	+0.5		
L29M	**L29M** comp=Z,43nm,1.1s	93.44	27	IAmb	IAmb	04 04 42.1			
L29M	comp=Z,2µm,22.0s			IAMs_20	IAMs_20	04 41 53.5			
L29M	**L29M** baz=269	93.44	27	P	**P**	04 04 23.6	+0.9		
E29M	**Blow River** comp=Z,28nm,1.4s	93.57	22	IAmb	IAmb	04 04 40.1			
E29M	**Blow River** baz=270	93.57	22	P	**P**	04 04 23.5	+0.4		
KLMR	**Klimovskoe**	93.59	331	*e*P	**P**	04 04 20.7	-2.6		
KLMR				*e*		04 08 06.3			
KLMR	comp=Z,23nm,1.3s			pmax	pmax				
KLMR	comp=Z,1µm,22.0s			MLR	MLR				
P29M	**Windy Craggy** comp=Z,2µm,21.0s	93.59	31	IAMs_20	IAMs_20	04 41 51.7			
P29M	**Windy Craggy** baz=270	93.59	31	P	**P**	04 04 24.0	+0.5		
VSR	**Storozhevoye**	93.68	321	*e*P	**P**	04 04 21.2	-2.8		
VSR	comp=Z,10.0nm,1.6s			pmax	pmax				
HYT	**Haines Junctio** baz=270	93.72	29	P	**P**	04 04 24.5	+0.3		
K29M	**Barlow Dome** comp=Z,60nm,1.4s	93.72	26	IAmb	IAmb	04 04 41.8			
K29M	**Barlow Dome** baz=270	93.72	26	P	**P**	04 04 24.8	+0.8		
LPSR	**Galich'ya Gora**	93.84	322	*e*P	**P**	04 04 23.0	-1.7		
LPSR	comp=Z,10.0nm,0.6s			pmax	pmax				
N30M	**Aishikik Lake** comp=Z,1µm,21.0s	93.92	29	IAMs_20	IAMs_20	04 42 55.2			
N30M	**Aishikik Lake** baz=270	93.92	29	P	**P**	04 04 25.6	+0.6		
P30M	**Million Dollar** baz=270	93.98	30	P	**P**	04 04 26.3	+1.0		
EPYK	**Eagle Plains** baz=271,SNR=10	94.04	24	P	**P**	04 04 25.8	+0.4		
M30M	**Minto, Yukon** comp=Z,49nm,1.9s	94.05	28	IAmb	IAmb	04 04 29.8			
M30M	comp=Z,1µm,22.0s			IAMs_20	IAMs_20	04 44 41.4			
M30M	**Minto, Yukon** baz=270	94.05	28	P	**P**	04 04 25.5	0.0		
ARPR	**Arapgir-MALATY** comp=Z,47nm,1.2s	94.08	309	IAmb	IAmb	04 04 46.6			
I30M	**Mount Dempster** baz=271	94.20	25	P	**P**	04 04 26.5	+0.3		
G30M	**tAoh Zraii Nji** comp=Z,44nm,1.2s	94.22	23	IAmb	IAmb	04 04 41.9			
G30M	**tAoh Zraii Nji** baz=271,SNR=13	94.22	23	P	**P**	04 04 26.3	0.0		
J30M	**Hart River** baz=271,SNR=21	94.23	26	P	**P**	04 04 26.7	+0.3		
F30M	**Barrier River** baz=272,SNR=10	94.38	23	P	**P**	04 04 27.3	+0.4		
S31K	**Pelican**	94.38	32	IAMs_20	IAMs_20	04 43 55.5			
	comp=Z,1µm,20.0s								
S31K	**Pelican** baz=271	94.38	32	P	**P**	04 04 27.2	+0.1		
O30N	**Mendenhall** comp=Z,2µm,21.0s	94.41	29	IAMs_20	IAMs_20	04 43 43.2			
O30N	**Mendenhall** baz=271	94.41	29	P	**P**	04 04 27.6	+0.3		
MAYO	**Mayo, Yukon** baz=271	94.44	27	P	**P**	04 04 27.7	+0.4		
ANN	**Anapa**	94.80	315	*e*P	P	04 04 24.4	-4.9		
ANN				*e**PP	**PcP**	04 04 29.1	-0.5		
ANN				*e*S	**SKSac**	04 14 59.3	-5.4		
ANN	comp=Z,43nm,0.9s			pmax	pmax				
SKAG	**Skagway** comp=Z,1µm,21.0s	94.82	31	IAMs_20	IAMs_20	04 42 26.2			
SKAG	**Skagway** baz=272	94.82	31	P	**P**	04 04 29.2	+0.1		
G31M	**Satah River** baz=273,SNR=10	94.99	23	P	**P**	04 04 29.8	+0.1		
WHY	**Whitehorse** comp=Z,2µm,20.0s	95.01	30	IAMs_20	IAMs_20	04 44 44.0			
WHY	**Whitehorse** baz=272	95.01	30	P	**P**	04 04 29.8	-0.3		
ASF	**Jabal al Asfar** comp=Z,1µm,20.0s,baz=63,slow=40	95.15	302	LR	LR	04 53 41.7			
F31M	**Tsiigehtchic** baz=274,SNR=14	95.17	23	P	**P**	04 04 30.4	-0.1		
M31M	**Drury Creek, Y** comp=Z,2µm,22.0s	95.18	28	IAMs_20	IAMs_20	04 42 12.5			
M31M	**Drury Creek, Y** baz=273	95.18	28	P	**P**	04 04 30.5	-0.2		
INK	**Inuvik** comp=Z,50nm,1.2s	95.19	22	IAmb	IAmb	04 04 46.9			
INK	**Inuvik**	95.19	22	P	**P**	04 04 30.2	-0.3		
INK	**Inuvik** baz=274,SNR=12	95.19	22	P	**P**	04 04 30.5	0.0		
INK	**Inuvik** comp=Z,0.6nm,0.5s,baz=186,slow=1.4,SNR=9.4	95.19	22	PKKPbc	PKKPbc	04 21 24.0	-3.3		
OBN	**Obninsk**	95.22	325	*i* P	**P**	04 04 27.2	-3.7		
OBN				*i*		04 04 35.7			
OBN				*i*		04 08 19.5			
OBN	comp=Z,30nm,1.3s			pmax	pmax				
OBN	comp=Z,1µm,22.0s			MLR	MLR				
OBN	**Obninsk** comp=Z,11nm,0.4s,baz=45,slow=5.7,SNR=4.1	95.22	325	P	**P**	04 04 30.4	-0.5		
OBN	comp=Z,639nm,21.3s,baz=78,slow=37			LR	LR	04 50 26.4			
S32K	comp=Z,11nm,0.4s **Killisnoo** baz=272	95.28	33	P	**P**	04 04 30.8	-0.3		
JIS	**Juneau Island** comp=Z,2µm,21.0s	95.35	32	IAMs_20	IAMs_20	04 42 58.2			
P32M	**Atlin** comp=Z,1µm,21.0s	95.64	31	IAMs_20	IAMs_20	04 42 42.7			
P32M	**Atlin** baz=273	95.64	31	P	**P**	04 04 32.4	-0.4		
FARO	**Faro, Yukon** comp=Z,2µm,21.0s	95.67	28	IAMs_20	IAMs_20	04 42 47.4			
FARO	**Faro, Yukon** baz=274	95.67	28	P	**P**	04 04 32.7	-0.2		
LODK	**Lodwar**	95.69	273	P	**P**	04 04 32.6	-1.5		
LODK	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	04 44 39.1			
N32M	**Quiet Lake** comp=Z,15nm,1.0s	95.86	29	IAmb	IAmb	04 04 49.2			
N32M	**Quiet Lake** baz=274	95.86	29	P	**P**	04 04 33.6	-0.2		
APA	**Apatity**	95.96	338	‖ *i* P	**P**	04 04 32.5	-1.6		
APA	comp=Z,14nm,1.3s			pmax	pmax				
P33M	**Teslin, Yukon** comp=Z,1µm,20.0s	96.05	30	IAMs_20	IAMs_20	04 43 28.7			
U33K	**Whale Pass** comp=Z,1µm,20.0s	96.14	34	IAMs_20	IAMs_20	04 44 40.2			
BALJ	**Balqa** comp=Z,1µm,19.0s	96.21	302	IAMs_20	IAMs_20	04 55 42.0			
GHAJ	**Ghor Haditha** comp=Z,2µm,22.0s	96.27	301	IAMs_20	IAMs_20	04 52 17.7			
MMAI	**Mount Meron Ar** comp=Z,5.1nm,0.9s,baz=126,slow=7.3,SNR=6.1	96.41	303	P	**P**	04 04 37.2	+0.2		
MMAI	comp=Z,740nm,20.5s,baz=44,slow=39			LR	LR	04 53 50.5			
Q32M	comp=Z,5.1nm,0.9s **Nakina River** baz=274	96.42	31	P	**P**	04 04 36.7	+0.1		
EIL	**Elat** comp=Z,720nm,20.4s,baz=94,slow=39	96.80	299	LR	LR	04 53 55.6			
V35K	**Ketchikan** comp=Z,1µm,21.0s	97.04	35	IAMs_20	IAMs_20	04 42 52.0			
V35K	**Ketchikan** baz=274	97.04	35	P	Pdif	04 04 39.3	0.0		
R33M	**Jennings River** comp=Z,2µm,22.0s	97.05	31	IAMs_20	IAMs_20	04 43 36.1			
S34M	**Telegraph Cree** comp=Z,1µm,20.0s	97.10	32	IAMs_20	IAMs_20	04 48 34.4			
S34M	**Telegraph Cree** baz=275	97.10	32	P	Pdif	04 04 39.7	+0.1		
SIM	**Simferopol'**	97.16	315	*e*P	P	04 04 33.4	-6.6		
SIM				*e*S	S	04 15 53.3	-10		
SIM	comp=Z,371nm,0.8s			pmax	pmax				
A36M	**Sachs Harbour** comp=Z,18nm,1.1s	97.47	18	IAmb	IAmb	04 04 55.0			
A36M	**Sachs Harbour** baz=282	97.47	18	P	Pdif	04 04 41.1	+0.2		
DLBC	**Dease Lake** comp=Z,2µm,22.0s	97.63	32	IAMs_20	IAMs_20	04 44 19.5			
DLBC	**Dease Lake** baz=276	97.63	32	P	Pdif	04 04 42.0	0.0		
DLBC	**Dease Lake** comp=Z,2µm,21.7s,baz=292,slow=33	97.63	32	LR	LR	04 44 09.0			
T35M	**Bob Quinn** comp=Z,1µm,20.0s	97.66	33	IAMs_20	IAMs_20	04 53 23.3			
T35M	**Bob Quinn** baz=276	97.66	33	P	**P**	04 04 41.9	-0.1		
BR131	**Keskin Array S**	97.71	309	*i* P	Pdif	04 04 43.2	+0.3		
BRTR	**Keskin Array B**	97.71	309	P	**P**	04 04 42.7	-0.2		
BRTR	comp=Z,0.8nm,0.5s,baz=106,slow=7.3,SNR=2.5			PP	**PP**	04 08 41.4	+0.5		
TROLL	comp=Z,2.2nm,0.9s,baz=152,slow=5.6,SNR=4.0 comp=Z,0.8nm,0.5s **Troll, Antarti** comp=Z,49nm,0.5s	97.87	194	⇑P	Pdif	04 04 44.5	+1.6		
RUBB	**Prince Rupert** comp=Z,2µm,21.0s	97.91	36	IAMs_20	IAMs_20	04 42 28.1			
WTLY	**Watson Lake, Y** comp=Z,28nm,1.7s	98.06	30	IAmb	IAmb	04 04 50.2			
WTLY	**Watson Lake, Y** baz=277	98.06	30	P	**P**	04 04 43.4	-0.4		
TGTN	**Hyland Airport** baz=278	98.13	28	P	**P**	04 04 44.0	-0.1		
SPITS	**Spitsbergen Ar** comp=Z,7.1nm,0.9s,baz=79,slow=10,SNR=6.6	98.20	349	P	**P**	04 04 43.0	-1.1		
SPITS	comp=Z,2µm,21.1s,baz=21,slow=37			LR	LR	04 51 26.0			
C36M	comp=Z,7.1nm,0.9s **Paulatuk** comp=Z,30nm,1.1s	98.43	20	IAmb	IAmb	04 05 01.2			
C36M	**Paulatuk** baz=283,SNR=8.8	98.43	20	P	**P**	04 04 45.0	-0.2		
BELA	**Belgrano 2**	98.46	183	P	**P**	04 04 44.5	-0.8		
BELA	comp=Z,16nm,1.2s			IAmb	IAmb	04 04 53.1			
ARCES	**ARCESS Array B** comp=Z,10nm,0.9s,baz=75,slow=5.3,SNR=4.4	98.50	340	P	**P**	04 04 44.5	-1.0		
ARCES	comp=Z,1µm,21.2s,baz=76,slow=39			LR	LR	04 54 30.4			
SNAA	comp=Z,2.7nm,0.9s **Sanae** comp=Z,23nm,0.5s	99.37	193	⇑P	Pdif	04 04 50.8	+1.2		
SNAA	**Sanae** comp=Z,6.7nm,0.9s,baz=198,slow=9.0,SNR=6.2	99.37	193	P	Pdif	04 04 50.6	+1.1		
SNAA	comp=Z,2µm,18.3s,baz=112,slow=37			LR	LR	04 52 19.3			
BBB	comp=Z,6.7nm,0.9s **Bella Bella** comp=Z,1µm,21.2s,baz=266,slow=32	99.41	38	LR	LR	04 43 29.1			
AKASG	**Malin Array Be** comp=Z,0.1nm,0.3s,baz=251,slow=35,SNR=1.8	99.98	321	P	Pdif	04 04 51.5	-1.0		
AKASG	comp=Z,1.0nm,0.8s,baz=62,slow=7.8,SNR=5.3			PP	**PP**	04 08 57.6	0.0		
AKASG	comp=Z,559nm,21.2s,baz=76,slow=39 comp=Z,0.1nm,0.3s			LR	LR	04 55 21.1			
FINES	**FINESS Array B**	100.01	332	*i* P	Pdif	04 04 52.5	+0.1		

FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 100.01 332 P **Pdif 04 04 51.3 -1.1**
comp=Z,1.7nm,0.8s,baz=20,slow=6.1,SNR=6.0
FINES PKiKP **PKiKP 04 09 20.4 +0.2**
comp=Z,2.2nm,0.9s,baz=111,slow=6.1,SNR=2.1
FINES LR LR 04 53 34.9
comp=Z,1µm,19.9s,baz=80,slow=38
comp=Z,1.7nm,0.8s
MNK Minsk 100.28 325 *i* P **Pdif 04 04 51.6 -2.1**
MNK *i* 04 08 56.1
MNK *i* PPP PPP 04 11 04.9
MNK *i* S **SKSac 04 15 30.4 -1.9**
MNK *i* SS **SS 04 23 20.9 -2.6**
MNK *i* SSS SSS 04 27 13.6
MNK pmax pmax
comp=N,12nm,1.0s
MNK pmax pmax
comp=E,6.0nm,0.8s
MNK pmax pmax
comp=Z,8.0nm,1.1s
MNK MLR MLR
comp=N,746nm,18.0s
MNK MLR MLR
comp=Z,842nm,21.0s
MNK MLR MLR
comp=E,257nm,18.0s
KOTAN Kotaneelee Air 100.40 29 P **Pdif 04 04 54.8 +0.6**
baz=282
LSZ Lusaka 101.32 254 IAMs_20 IAMs_20 04 52 33.0
comp=Z,1µm,20.0s
LSZ Lusaka 101.32 254 P **Pdif 04 05 00.2 +0.8**
BOSA Boshof 102.03 240 P **Pdif 04 05 02.2 -0.2**
comp=Z,4.7nm,0.6s,baz=100,slow=2.9,SNR=17
CLRS Cowichan Lake 102.39 41 IAMs_20 IAMs_20 04 45 50.0
comp=Z,1µm,21.0s
NLWA Neilton Lookou 102.79 42 IAMs_20 IAMs_20 04 42 24.3
comp=Z,1µm,22.0s
PGC Sidney 102.86 41 IAMs_20 IAMs_20 04 45 39.4
comp=Z,2µm,22.0s
BUR08 Bucovina Ar. S 103.03 318 Pdif **Pdif 04 05 06.4 +0.1**
GNW Green Mountain 103.46 42 IAMs_20 IAMs_20 04 48 56.3
comp=Z,1µm,21.0s
G03D McMinnville, O 103.55 44 IAMs_20 IAMs_20 04 49 23.8
comp=Z,2µm,22.0s
F04D Rainier, OR 103.58 43 IAMs_20 IAMs_20 04 49 17.7
comp=Z,1µm,22.0s
F04A Amboy 104.01 44 IAMs_20 IAMs_20 04 45 45.1
comp=Z,1µm,21.0s
YKA Yellowknife Ar 104.13 26 Pdiff **Pdif 04 05 09.9 -0.8**
comp=Z,0.8nm,0.9s,baz=298,slow=4.6,SNR=7.9
YKA PP **PKiKP 04 09 25.6 -2.1**
comp=Z,1.0nm,1.0s,baz=290,slow=7.5,SNR=4.6
YKA PKKPbc **PKKPbc 04 21 01.6 -0.1**
comp=Z,0.4nm,0.8s,baz=100,slow=2.6,SNR=4.8
LON Longmire 104.29 43 IAMs_20 IAMs_20 04 46 49.2
comp=Z,1µm,22.0s
KWP Kalwaria Pacla 104.29 320 IAMs_20 IAMs_20 05 00 27.4
comp=Z,1µm,21.0s
I04A Tendick Farm, 104.37 46 IAMs_20 IAMs_20 04 46 22.8
comp=Z,2µm,20.0s
H04A Detroit Lake 104.39 45 IAMs_20 IAMs_20 04 46 36.0
comp=Z,1µm,20.0s
HOOD Mount Hood Mea 104.65 44 IAMs_20 IAMs_20 04 50 10.0
comp=Z,1µm,20.0s
L04D Klamath Falls 104.70 47 IAMs_20 IAMs_20 04 43 57.5
comp=Z,1µm,20.0s
LTY Liberty 104.96 42 IAMs_20 IAMs_20 04 47 05.0
comp=Z,2µm,20.0s
K04D Chiloquin, OR 105.04 47 IAMs_20 IAMs_20 04 44 08.4
comp=Z,1µm,21.0s
CRVS Cervenica-Dubn 105.24 320 *e*PDIFF **Pdif 04 05 19.5 +3.5**
G06A Carlson Farm, 105.37 44 IAMs_20 IAMs_20 04 50 34.1
comp=Z,994nm,20.0s
K05A Summer Lake 105.64 47 IAMs_20 IAMs_20 04 45 12.5
comp=Z,2µm,21.0s
HAWA Hanford 105.90 43 IAMs_20 IAMs_20 04 48 30.5
comp=Z,1µm,20.0s
HFS Hagfors 106.19 332 Pdiff **Pdif 04 05 19.8 -0.1**
comp=Z,4.1nm,1.1s,baz=63,slow=11,SNR=5.3
E08A Dider Farm, El 106.19 43 IAMs_20 IAMs_20 04 50 23.7
comp=Z,1µm,20.0s
AFDM Forest Hills D 106.21 51 IAMs_20 IAMs_20 04 50 33.8
comp=Z,1µm,20.0s
G08A Pilot Rock 106.52 44 IAMs_20 IAMs_20 04 44 52.4
comp=Z,1µm,22.0s
CMB Columbia Colle 106.81 51 IAMs_20 IAMs_20 04 50 04.6
comp=Z,1µm,20.0s
E09A Wood Farm, Sta 106.81 42 IAMs_20 IAMs_20 04 48 26.9
comp=Z,1µm,20.0s
EMB Emerald Bay 106.87 50 IAMs_20 IAMs_20 04 47 23.3
comp=Z,2µm,21.0s
MPK Martis Peak 106.88 50 IAMs_20 IAMs_20 04 49 40.2
comp=Z,2µm,22.0s
NB2 NORSAR Subarra 106.95 334 P **Pdif 04 05 22.3 -1.1**
comp=Z,4.0nm,1.1s,baz=68,slow=4.6
NOA NORSAR Array B 106.95 334 Pdiff **Pdif 04 05 22.7 -0.7**
comp=Z,1.1nm,0.8s,baz=68,slow=4.5,SNR=4.3
NEW Newport 107.06 40 IAMs_20 IAMs_20 04 44 25.2
comp=Z,2µm,22.0s
NEW Newport 107.06 40 P **PKiKP 04 09 33.4 -0.2**
baz=284
OKC Ostrava-Krasne 107.11 321 AMS AMS 05 04 50.0
comp=Z,1µm,20.5s
PNTR Pine Nut 107.24 50 IAMs_20 IAMs_20 04 50 02.0
comp=Z,2µm,21.0s
J08A Circle Bar Ran 107.27 46 IAMs_20 IAMs_20 04 50 26.3
comp=Z,2µm,21.0s
PAHR Pah Rah Range 107.30 50 IAMs_20 IAMs_20 04 46 43.4
comp=Z,1µm,22.0s
WVOR Wild Horse Val 107.34 47 IAMs_20 IAMs_20 04 45 45.9
comp=Z,1µm,22.0s
WAKR Walker 107.47 51 IAMs_20 IAMs_20 04 47 50.0
comp=Z,2µm,21.0s
MORC Moravsky Berou 107.51 321 *e*PP **PP 04 09 53.5 -0.3**
YERR Yerington 107.53 50 IAMs_20 IAMs_20 04 50 08.8
comp=Z,2µm,20.0s
F10A Beach Ranch, E 107.55 43 IAMs_20 IAMs_20 04 47 11.6
comp=Z,1µm,21.0s
JAVC Velka Javorina 107.68 320 *e*PP **PP 04 09 53.5 -1.5**
PKM Mcpherson Peak 107.74 55 P **PKiKP 04 09 35.8 +0.4**
baz=278
BMO Blue Mountains 107.76 44 IAMs_20 IAMs_20 04 48 26.9
comp=Z,1µm,20.0s
MDPB Devils Postpil 107.89 52 IAMs_20 IAMs_20 04 43 13.4
comp=Z,1µm,22.0s
KRLC Kraliky 107.89 322 AMS AMS 05 03 20.0
comp=Z,800nm,18.8s
DPC Dobruska-Polom 108.10 322 AMS AMS 05 08 40.0
comp=Z,800nm,20.2s
OSTC Ostas 108.10 322 AMS AMS 05 00 10.0
comp=Z,900nm,18.6s
RYN Ryan 108.15 50 IAMs_20 IAMs_20 04 48 24.1
comp=Z,1µm,21.0s
VRAC Vranov 108.23 321 *e*PP **PP 04 09 58.3 -0.7**
UPC Upice 108.24 322 AMS AMS 05 06 40.0
comp=Z,1µm,18.1s
KONO Kongsberg 108.27 333 IAMs_20 IAMs_20 04 58 16.5
comp=Z,2µm,20.0s
NVAR Mina Array Bea 108.36 51 Pdiff **Pdif 04 05 30.0 -0.4**
comp=Z,0.3nm,0.7s,baz=264,slow=40,SNR=4.2
NVAR PKiKP **PKiKP 04 09 37.0 +0.5**
comp=Z,0.1nm,0.4s,baz=243,slow=4.0,SNR=2.2
NVAR PP **PP 04 09 59.6 -1.0**
comp=Z,1.3nm,0.9s,baz=262,slow=3.7,SNR=6.7
NVAR PKKP **PKKPab 04 20 58.4 -2.2**
comp=Z,0.5nm,0.7s,baz=129,slow=4.0,SNR=4.2
KRUC Moravsky 108.43 321 *e*PP **PP 04 10 00.3 -0.1**
NV11 Mina Array Sit 108.47 51 IAMs_20 IAMs_20 04 48 44.5
comp=Z,1µm,20.0s
PLID Pearl Lake 108.60 43 IAMs_20 IAMs_20 04 52 25.5
comp=Z,1µm,21.0s
BMN Battle Mountai 108.79 48 IAMs_20 IAMs_20 04 51 04.8
comp=Z,2µm,22.0s
DSP Deep Springs 108.81 52 IAMs_20 IAMs_20 04 50 25.5
comp=Z,1µm,21.0s
RONA Rosalia, Austr 108.88 320 *e*pPKiKP **PKiKP 04 09 38.5 +1.5**
comp=Z,12nm,1.5s
TREC Trest 108.93 321 AMS AMS 05 03 50.0
comp=Z,1µm,20.7s
CONA Conrad Observa 109.10 320 *i* PKiKP **PKiKP 04 09 38.2 +0.7**
comp=Z,13nm,1.4s
MFID Camas Ranch 109.13 45 IAMs_20 IAMs_20 04 49 48.3
comp=Z,1µm,21.0s
PRU Pruhonice 109.30 322 AMS AMS 04 58 10.0
comp=Z,1µm,21.6s
PRA Prague 109.34 322 AMS AMS 04 57 50.0
comp=Z,1µm,20.9s

RICC Richard 109.39 323 AMS AMS 05 04 20.0
comp=Z,1µm,23.3s
ARSA Arzberg 109.51 319 *i* PKiKP **PKiKP 04 09 38.5 +0.3**
comp=Z,9.2nm,1.6s
ZVC Zvikov 109.69 322 AMS AMS 05 01 10.0
comp=Z,900nm,21.9s
HSKC Hora Svate Kat 109.77 323 AMS AMS 05 02 30.0
comp=Z,1µm,20.7s
CKRC Cesky Krumlov 109.81 321 AMS AMS 05 03 50.0
comp=Z,900nm,22.2s
SOKA Soboth 110.00 319 *e*PKiKP **PKiKP 04 09 38.8 -0.4**
comp=Z,21nm,2.2s
GWY Greenwater Val 110.05 53 IAMs_20 IAMs_20 05 01 37.6
comp=Z,1µm,20.0s
HLID Hailey 110.09 45 IAMs_20 IAMs_20 04 49 37.6
comp=Z,1µm,21.0s
KHC Kasperske Hory 110.17 322 IAMs_20 IAMs_20 05 02 03.0
comp=Z,989nm,22.0s
KHC Kasperske Hory 110.17 322 AMS AMS 05 01 30.0
comp=Z,1µm,22.9s
ELK Elko 110.19 48 PP **PP 04 10 13.6 -0.3**
comp=Z,1.5nm,1.0s,baz=266,slow=9.0,SNR=3.5
OBKA Obir 110.37 319 *e*PKiKP **PKiKP 04 09 40.5 +0.5**
comp=Z,8.5nm,1.4s
R11B Troy Canyon, C 110.46 50 IAMs_20 IAMs_20 04 49 37.3
comp=Z,1µm,22.0s
NKC Novy Kostel 110.49 323 AMS AMS 05 10 10.0
comp=Z,900nm,17.9s
S11A Rachel 110.49 51 IAMs_20 IAMs_20 04 43 13.0
comp=Z,1µm,22.0s
BIOA Bad Ischl, Aus 110.60 320 *e*PKiKP **PKiKP 04 09 38.5 -1.8**
comp=Z,7.9nm,1.2s
Q12A Willow Creek R 110.89 49 IAMs_20 IAMs_20 04 57 07.5
comp=Z,1µm,22.0s
MYKA Terra Mystica 110.93 319 *e*PKiKP **PKiKP 04 09 38.4 -2.5**
comp=Z,0.4nm,0.5s
KBA Koelnbreinsper 110.98 320 *e*pPKiKP **PKiKP 04 09 42.3 +1.1**
comp=Z,9.1nm,1.7s
SABO M.te Sabotino 111.16 318 IAMs_20 IAMs_20 05 06 12.9
comp=Z,788nm,21.0s
SHPR Sheep Range 111.18 52 IAMs_20 IAMs_20 04 49 20.6
comp=Z,1µm,20.0s
LESA Schwarzleotal 111.30 320 *i* PKiKP **PKiKP 04 09 42.5 +0.8**
comp=Z,9.3nm,1.5s
GRA1 Grafenberg Arr 111.42 323 IAMs_20 IAMs_20 04 59 25.9
comp=Z,939nm,22.0s
GRFO Grafenberg 111.42 323 IAMs_20 IAMs_20 04 59 26.0
comp=Z,956nm,22.0s
BOZ Bozeman (W) 111.42 42 IAMs_20 IAMs_20 04 51 44.6
comp=Z,1µm,21.0s
ABTA Abfaltersbach 111.63 319 *e*PKiKP **PKiKP 04 09 42.6 +0.2**
comp=Z,9.3nm,1.5s
VTX Valle De La Tr 111.63 58 IAMs_20 IAMs_20 04 48 42.7
comp=Z,1µm,21.0s
IRM Iron Mountain 111.66 55 P **PKiKP 04 09 43.1 +0.4**
baz=281
HVU Hansel Valley 111.73 46 IAMs_20 IAMs_20 04 49 46.5
comp=Z,2µm,22.0s
PSUT Pine Spring 111.75 50 IAMs_20 IAMs_20 04 55 41.2
comp=Z,1µm,20.0s
EGMT Eagleton 111.84 39 IAMs_20 IAMs_20 04 48 46.5
comp=Z,1µm,22.0s
EGMT Eagleton 111.84 39 P **PKiKP 04 09 43.4 +0.7**
baz=290
CPBX Cerro Prieto 111.85 56 IAMs_20 IAMs_20 04 54 45.6
comp=Z,1µm,19.0s
WTTA Wattenberg 112.02 320 *e*PKiKP **PKiKP 04 09 43.7 +0.6**
comp=Z,7.3nm,0.8s
WATA Walderalm 112.03 320 *e*PKiKP **PKiKP 04 09 42.9 -0.2**
comp=Z,13nm,1.8s
SPUT South Promonto 112.09 47 IAMs_20 IAMs_20 04 49 44.1
comp=Z,2µm,22.0s
DUG Duway, Tooele 112.12 48 IAMs_20 IAMs_20 04 53 11.5
comp=Z,1µm,21.0s
GUMA Gualdo di Mace 112.21 315 IAMs_20 IAMs_20 05 07 48.9
comp=Z,1µm,22.0s
SQTA Sankt Quirin 112.31 320 *i* PKiKP **PKiKP 04 09 44.1 +0.5**
comp=Z,9.8nm,1.4s
YNM Yellowstone No 112.32 43 IAMs_20 IAMs_20 04 49 51.7
comp=Z,1µm,20.0s
MOTA Moosalm 112.33 320 *i* pPKiKP **PKiKP 04 09 45.5 +1.8**
comp=Z,13nm,1.2s
YNR Norris Junctio 112.34 43 IAMs_20 IAMs_20 04 49 51.2
comp=Z,1µm,22.0s
NRCA Norcia 112.44 315 IAMs_20 IAMs_20 05 07 43.8
comp=Z,957nm,22.0s
SFX San Felipe 112.47 58 IAMs_20 IAMs_20 04 48 27.2
comp=Z,1µm,20.0s
RETA Reutte 112.50 321 *e*PKiKP **PKiKP 04 09 43.4 -0.5**
comp=Z,1.5nm,0.7s
LCMT Little Creek M 112.57 51 IAMs_20 IAMs_20 04 52 48.2
comp=Z,1µm,21.0s
NLU North Lily Min 112.73 48 IAMs_20 IAMs_20 04 53 42.1
comp=Z,2µm,22.0s
LOHW Long Hollow 112.73 44 IAMs_20 IAMs_20 04 54 48.8
comp=Z,1µm,21.0s
TCRU Three Creeks R 112.80 49 IAMs_20 IAMs_20 04 54 40.0
comp=Z,1µm,20.0s
DAVA Damuels 113.13 321 *e*PP **PP 04 10 31.0 -3.5**
comp=Z,9.1nm,1.3s
PIX Pinacate 113.55 57 IAMs_20 IAMs_20 04 55 23.6
comp=Z,1µm,20.0s
Q16A Castle Valley 113.68 49 IAMs_20 IAMs_20 04 48 24.4
comp=Z,1µm,22.0s
BW06 Boulder Array 113.72 44 P **PKiKP 04 09 46.2 -0.4**
baz=289
PDAR Pinedale Array 113.72 44 PKiKP **PKiKP 04 09 46.1 -0.6**
comp=Z,0.5nm,0.9s,baz=342,slow=2.3,SNR=2.1
PDAR PKKPbc **PKKPbc 04 20 30.5 -0.3**
comp=Z,0.9nm,0.6s,baz=114,slow=4.9,SNR=8.4
TUE Stuetta 113.77 320 IAMs_20 IAMs_20 05 04 50.4
comp=Z,1µm,22.0s
214A Organ Pipe Nat 114.02 57 P PKPdf 04 09 47.0 -0.3
baz=282
SRU San Rafael Swe 114.11 48 IAMs_20 IAMs_20 04 50 51.8
comp=Z,2µm,21.0s
WUAZ Wupatki 114.39 52 P **PKiKP 04 09 48.4 +0.4**
baz=284
LAO LASA Array 114.56 39 P PKPdf 04 09 48.4 +0.5
baz=293
W18A Petrified Fore 115.79 52 P **PKPdf 04 09 50.4 -0.4**
baz=285
K22A Casper 115.87 44 IAMs_20 IAMs_20 04 52 38.8
comp=Z,1µm,21.0s
K22A Casper 115.87 44 P **PKiKP 04 09 49.7 -0.9**
baz=291
HSIG 116.17 59 IAMs_20 IAMs_20 04 54 07.3
comp=Z,1µm,21.0s
MVCO Mesa Verde 116.18 50 P **PKPdf 04 09 50.7 -0.9**
baz=287
EKA Eskdalemuir Ar 116.39 333 PKP **PKiKP 04 09 51.5 +0.4**
comp=Z,1.1nm,0.7s,baz=22,slow=4.6,SNR=4.1
N23A Red Feather La 116.89 45 P **PKPdf 04 09 51.4 -1.4**
baz=291
RSSD Black Hills 116.99 41 PKPdf **PKPdf 04 09 50.7 -2.2**
RSSD Black Hills 116.99 41 PKiKP **PKPdf 04 09 50.7 -2.2**
RSSD Black Hills 116.99 41 P **PKPdf 04 09 51.9 -1.0**
baz=294
319A Douglas 117.08 56 IAMs_20 IAMs_20 04 58 12.1
comp=Z,1µm,18.0s
TATN Tataouine 117.20 305 IAMs_20 IAMs_20 05 06 47.3
comp=Z,1µm,21.0s
KEST Kesra 117.31 309 PKP **PKiKP 04 09 53.7 +0.2**
comp=Z,2.7nm,0.8s,baz=350,slow=4.1,SNR=2.3
KEST PP **PP 04 11 04.1 -0.1**
comp=Z,8.8nm,0.9s,baz=360,slow=5.4,SNR=4.3
ISCO Idaho Springs 117.51 46 P **PKPdf 04 09 53.2 -0.9**
baz=290
121A Cookes Peak, D 118.03 55 P **PKPdf 04 09 53.9 -1.2**
baz=285
MDND Maddock 118.11 36 P **PKPdf 04 09 54.1 -0.5**
baz=299
Q24A Divide 118.14 47 P **PKPdf 04 09 53.9 -1.4**
baz=290
SDCO Great Sand Dun 118.28 49 P **PKPdf 04 09 54.9 -0.7**
baz=289
Y22D IRIS PASSCAL I 118.31 53 P **PKPdf 04 09 55.0 -0.6**
baz=286
Y22F Passcal Instru 118.31 53 P **PKPdf 04 09 53.7 -1.9**
baz=286
ANMO Albuquerque 118.42 52 IAMs_20 IAMs_20 04 53 51.8
comp=Z,2µm,20.0s
ANMO Albuquerque 118.42 52 P **PKPdf 04 09 55.8 0.0**
baz=287
ULM Lac du Bonnet 118.94 32 PKP **PKiKP 04 09 56.2 +0.1**
comp=Z,1.6nm,0.6s,baz=329,slow=2.2,SNR=4.8
ULM PKKPbc **PKKPab 04 20 13.6 +0.3**
comp=Z,1.5nm,0.6s,baz=33,slow=1.6,SNR=3.9

T25A Trinidad 119.31 49 P **PKPdf 04 09 57.4 -0.2**
baz=290
OGNE Ogallala 119.62 44 P **PKiKP 04 09 58.2 +0.3**
baz=294
AGMN Agassiz Nation 120.03 34 P **PKPdf 04 09 57.5 -0.8**
baz=303
SUSD Miller 120.14 39 P **PKPdf 04 09 57.9 -0.8**
baz=298
MNTX Cornudas Mount 120.22 55 P **PKiKP 04 09 59.7 +0.5**
baz=286
F33A 5 Mile Ranch, 121.08 37 PKPdf **PKPdf 04 09 57.6 -2.7**
MSTX Muleshoe 121.62 52 P **PKiKP 04 10 02.7 +0.6**
baz=289
ECSD EROS Data Cent 121.96 39 **PKPdf 04 10 00.4 -1.8**
BGNE Belgrade 122.07 42 P **PKiKP 04 10 02.9 +0.3**
baz=297
CBKS Cedar Bluff 122.10 45 P **PKPdf 04 10 02.7 0.0**
baz=294
AMTX Amarillo 122.16 50 P **PKPdf 04 10 02.8 -0.1**
baz=291
TXAR Lajitas Array 122.29 57 PKP **PKPdf 04 10 03.3 0.0**
comp=Z,0.4nm,0.5s,baz=267,slow=2.4,SNR=4.1
TXAR PKKPab **PKKPbc 04 20 01.6 +2.2**
comp=Z,1.3nm,0.7s,baz=109,slow=6.5,SNR=10.0
EYMN Ely 122.62 33 P **PKPdf 04 10 03.3 0.0**
baz=307
SPMN Marine on St. 123.48 36 P **PKiKP 04 10 05.5 +0.3**
baz=304
OK038 West end E0370 123.77 48 IAMs_20 IAMs_20 04 46 16.5
comp=Z,763nm,21.0s
KSU1 Kansas State U 124.17 44 P **PKiKP 04 10 07.2 +0.4**
baz=297
WMOK Wichita Mounta 124.43 50 P **PKPdf 04 10 07.1 -0.1**
baz=293
ABTX Abilene, Hawle 124.54 52 P **PKiKP 04 10 07.6 -0.1**
baz=291
SCIA State Center 125.04 39 P **PKPdf 04 10 07.5 -0.6**
baz=302
JCT Junction City 125.14 55 P **PKPdf 04 10 07.8 -0.9**
baz=289
ES08 SONSECA Array 125.45 318 IAMs_20 IAMs_20 05 16 46.7
comp=Z,982nm,20.0s
ES07 SONSECA Array 125.47 318 IAMs_20 IAMs_20 05 16 41.3
comp=Z,933nm,19.0s
ES01 SONSECA Array 125.47 318 IAMs_20 IAMs_20 05 14 02.4
comp=Z,676nm,18.0s
ES06 SONSECA Array 125.47 318 IAMs_20 IAMs_20 05 16 58.4
comp=Z,1µm,21.0s
ES04 SONSECA Array 125.48 318 IAMs_20 IAMs_20 05 16 41.5
comp=Z,1µm,19.0s
ESDC Sonseca Array 125.48 318 PKPdf **PKiKP 04 10 09.8 +0.3**
ESDC IAMs_20 IAMs_20 05 16 54.6
comp=Z,1µm,19.0s
ESDC Sonseca Array 125.48 318 PKP **PKiKP 04 10 09.3 -0.2**
comp=Z,3.5nm,1.2s,baz=55,slow=4.1,SNR=6.2
PAB San Pablo 125.80 318 IAMs_20 IAMs_20 05 17 12.2
comp=Z,1µm,18.0s
833A Chaparral WMA, 126.17 57 P **PKiKP 04 10 11.2 +0.2**
baz=288
TUL3 Leonard 126.18 47 P **PKPdf 04 10 10.6 +0.1**
baz=296
JFWS Jewell Farm 126.31 37 **PKPdf 04 10 07.7 -2.8**
JFWS Jewell Farm 126.31 37 PKIKP **PKPdf 04 10 07.7 -2.8**
JFWS Jewell Farm 126.31 37 P **PKPdf 04 10 10.6 +0.1**
baz=306
WHTX Lake Whitney, 126.50 52 P **PKiKP 04 10 11.5 -0.1**
baz=292
RLO Rose Lookout 126.62 46 IAMs_20 IAMs_20 04 47 10.7
comp=Z,1µm,20.0s
SCHQ Schefferville 126.72 13 PKP **PKPdf 04 10 10.8 -0.2**
comp=Z,3.6nm,0.9s,baz=37,slow=3.5,SNR=4.7
435B Jarrell 126.84 54 P **PKPdf 04 10 11.2 -0.7**
baz=291
S39A Bolivar 127.11 44 PKPdf **PKPdf 04 10 08.3 -3.9**
L44A Lake County Fo 128.13 36 P **PKiKP 04 10 14.5 -0.1**
baz=307
HDIL Hopedale 128.25 39 P **PKPdf 04 10 14.2 -0.1**
baz=305
GLMI Grayling 128.28 32 P **PKPdf 04 10 14.3 +0.1**
baz=312
CCM Cathedral Cave 128.35 42 P **PKiKP 04 10 15.8 +0.6**
baz=302
MIAR Mount Ida 128.41 48 P **PKiKP 04 10 15.5 +0.1**
baz=297
TOA2 Torodi Ar. Sit 128.87 284 IAMs_20 IAMs_20 05 06 33.6
comp=Z,1µm,22.0s
TORD Torodi Ar. Bea 128.87 284 PKP **PKPdf 04 10 16.4 +0.3**
SFIN Lafayette 129.71 38 P **PKiKP 04 10 18.1 +0.3**
baz=307
AAM Ann Arbor 130.49 34 P **PKPdf 04 10 18.8 +0.3**
baz=312
O48B Farmland 130.96 37 P **PKPdf 04 10 18.9 -0.5**
baz=309
WCI Wyandotte Cave 131.49 39 P **PKiKP 04 10 21.3 -0.2**
baz=306
P49A Miami Univ. Ec 131.67 37 P **PKPdf 04 10 20.1 -0.7**
baz=309
WVT Waverly 131.68 43 P **PKPdf 04 10 20.2 -0.7**
baz=303
PLCA Paso Flores 131.93 158 PKP **PKiKP 04 10 22.6 +0.2**
comp=Z,2.3nm,0.7s,baz=23,slow=1.0,SNR=11
PLCA SKPbc **SKPbc 04 13 47.0 -0.2**
comp=Z,2.3nm,1.0s,baz=210,slow=5.3,SNR=3.0
PLCA Paso Flores 131.93 158 *e*P **PKPdf 04 10 20.9 -0.5**
P52A Corning 133.13 35 P **PKiKP 04 10 24.5 -0.3**
baz=312
LRAL Lakeview Retre 133.92 46 P **PKPdf 04 10 25.6 +0.3**
baz=302
DBIC Dimbokro 135.79 276 PKhKP PKPpre 04 10 23.2
comp=Z,3.5nm,0.9s,baz=143,slow=5.1,SNR=2.4
DBIC PKP **PKPdf 04 10 29.6 +0.4**
comp=Z,8.0nm,0.9s,baz=63,slow=2.0,SNR=5.0
DBIC SKPbc **SKPbc 04 14 00.0 -0.7**
comp=Z,6.2nm,1.1s,baz=143,slow=5.1,SNR=4.2
MT13 San Alfonso 138.02 153 **PKPdf 04 10 30.4 -2.6**
MT05 Renca 138.11 153 IAMs_20 IAMs_20 04 54 24.5
comp=Z,966nm,19.0s
TGUH Tegucigalpa,Un 140.89 72 IAMs_20 IAMs_20 05 09 14.7
comp=Z,796nm,20.0s
LCO Las Campanas 141.71 149 PKPdf **PKPdf 04 10 36.2 -3.9**
LCO Las Campanas 141.71 149 PKIKP **PKPdf 04 10 36.2 -3.9**
JTS Las Juntas de 143.80 77 PKPbc 04 10 41.7 +0.3
JTS Las Juntas de 143.80 77 PKIKP PKPbc 04 10 41.7 +0.3
AC01 Pan de Azucar 144.03 146 PKPdf PKPbc 04 10 42.3 +0.6
PLTB Pedras Altas 144.80 173 PKPdf **PKPab 04 10 43.6 -0.3**
LVC Limon Verde 147.74 144 PKPab **PKPdf 04 10 52.1 +1.4**
LVC Limon Verde 147.74 144 PKP2 **PKPdf 04 10 52.2 +1.4**
LVC Limon Verde 147.74 144 *e*P **PKPdf 04 10 50.3 -0.5**
NNA Nana 148.50 119 PKPab **PKiKP 04 10 57.3 +0.4**
NNA Nana 148.50 119 PKP2 **PKiKP 04 10 57.3 +0.4**
CPUP Villa Florida 149.42 165 PKP **PKPdf 04 10 54.0 +1.0**
comp=Z,12nm,0.7s,baz=178,slow=1.8,SNR=13
CPUP PKPbc **PKiKP 04 10 58.1 -0.3**
comp=Z,12nm,0.7s,baz=233,slow=1.3,SNR=16
CHSH Refugio Sur-Vo 149.88 99 **PKiKP 04 11 01.5 +1.0**
CHSH IAMs_20 IAMs_20 05 17 27.3
comp=Z,959nm,22.0s
OTAV Otavalo 150.53 95 *e*P **PKPdf 04 10 54.7 -0.9**
LPAZ La Paz 152.89 137 PKP **PKPdf 04 11 00.9 +1.6**
comp=Z,2.6nm,0.9s,baz=282,slow=1.1,SNR=9.0
LPAZ PKPbc **PKiKP 04 11 07.6 +1.0**
comp=Z,9.1nm,0.5s,baz=235,slow=1.9,SNR=42
ROSC El Rosal 154.83 86 PKPbc **PKiKP 04 11 12.1 +1.6**
comp=Z,2.9nm,0.3s,baz=102,slow=9.3,SNR=1.5
SIV San Ignacio 157.42 149 PKP **PKPdf 04 11 06.3 +1.6**
comp=Z,2.5nm,0.6s,baz=193,slow=1.4,SNR=16
SIV PKPab **PKPab 04 11 37.1 +1.2**
comp=Z,6.2nm,0.9s,baz=199,slow=4.4,SNR=11
OBIP Obispado Ponce 157.51 48 PKPab **PKPab 04 11 35.3 -1.1**
SDV Santo Domingo 157.93 75 *e*P **PKPdf 04 11 05.0 -0.6**
BDFB Brasilia 161.07 183 PKP **PKPdf 04 11 10.3 +1.2**
comp=Z,3.7nm,0.9s,baz=272,slow=1.6,SNR=4.7
BDFB PKPab **PKPab 04 11 52.8 +1.1**
comp=Z,3.2nm,0.8s,baz=204,slow=6.2,SNR=1.9
RCBR Riachuelo 163.94 235 PKPab **PKPab 04 12 04.8 +0.2**
comp=Z,4.7nm,0.9s,baz=120,slow=14,SNR=1.7

*IGIL **08** 03:51:17.3, 37.40N× 16.30W, h30km, ML2.5*
*MDD **08** 03:51:18.4± 0.7, 37.62N× 16.15W, h28km± 17km, Mb4.6/16, M_mb4.1/12, Error ellipse: s-maj=15.4km s-min=5.2km az=81.0*
*INMG **08** 03:51:19.5± 2.0, 37.41N× 16.30W, h20km, ML2.9, Error ellipse: s-maj=7.3km s-min=4.3km az=122.0*
*CNRM **08** 03:51:23.7, 37.22N× 15.59W, h74km*

ISC 08 03:51:13.8±2.2, 37°43N±0°07×16°0W±0°1, h10km, n77, σ3°20/125, 16C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMPST	Porto Santo, M	4.35	184	eS	Sn	03 53 03.9	-6.9
PMPS	Porto Santo	4.38	184	eP	Pn	03 52 20.6	+0.3
PMPS				eS	Sn	03 53 03.1	-8.2
PMPS				A	A	03 53 08.0	
	20nm,0.8s						
PMAR	Madeira	4.76	190	eS	Sn	03 53 13.2	-8.0
PMAR				A	A	03 53 14.9	
	27nm,0.5s						
PMAFR	Mafra	5.48	72	eP	Pn	03 52 39.3	+3.8
PMAFR				eS	Sn	03 53 38.0	-0.5
PMAFR				A	A	03 53 41.7	
	20nm,0.2s						
PMAFR	Mafra	5.48	72	Pn	Pn	03 52 38.9	+3.5
PMAFR				Sn	Sn	03 53 38.4	-0.1
PFVI	Vila Bisbo	5.70	91	eS	Sn	03 53 42.5	-1.4
PFVI	Vila Bisbo	5.70	91	Sn	Sn	03 53 41.9	-2.0
PTEO	Sao Teotonio	5.76	87	eP	Pn	03 52 42.5	+3.2
PTEO				eS	Sn	03 53 43.6	-1.8
PTEO				A	A	03 53 50.8	
	16nm,0.8s						
MORF	Marmelete	5.82	89	eP	Pn	03 52 43.3	+3.1
MORF				eS	Sn	03 53 46.4	-0.7
MORF				A	A	03 53 51.6	
	6.9nm,0.3s						
MORF	Marmelete	5.82	89	eP	Pn	03 52 43.3	+3.1
MORF				eS	Sn	03 53 46.1	-1.0
MORF				IAML		03 53 48.6	
	comp=E,5.1nm,0.2s						
PNCL	Nicolau / Gran	5.93	81	eP	Pn	03 52 44.5	+2.9
PNCL				eS	Sn	03 53 48.7	-0.9
PNCL				A	A	03 53 50.4	
	comp=E,5.0nm,0.3s						
PNCL	Nicolau / Gran	5.93	81	Pn	Pn	03 52 44.2	+2.5
PNCL				Sn	Sn	03 53 48.4	-1.1
PSBE	So Bento	5.99	68	eP	Pn	03 52 46.1	+3.5
PSBE				eS	Sn	03 53 50.6	-0.7
PSBE				A	A	03 54 05.7	
	comp=E,9.1nm,0.8s						
MESJ	Messejana	6.16	84	eP	Pn	03 52 48.5	+3.7
MESJ				eS	Sn	03 53 55.0	-0.3
MESJ				A	A	03 53 59.3	
	comp=E,3.6nm,0.1s						
MESJ	Messejana	6.16	84	eP	Pn	03 52 48.0	+3.2
MESJ				eS	Sn	03 53 53.8	-1.5
MESJ				IAML		03 53 56.7	
	comp=E,4.2nm,0.2s						
PCVE	Castro Verde	6.30	86	eP	Pn	03 52 50.4	+3.6
PCVE				eS	Sn	03 53 57.6	-1.2
PCVE				A	A	03 54 04.7	
	comp=E,3.0nm,0.2s						
PCVE	Castro Verde	6.30	86	Pn	Pn	03 52 49.5	+2.7
PCVE				Sn	Sn	03 53 56.7	-2.1
PMTG	Montargil	6.30	73	eP	Pn	03 52 49.6	+2.8
PMTG				eS	Sn	03 53 57.3	-1.6
PMTG				A	A	03 54 00.6	
	comp=E,4.6nm,0.4s						
EVO	Evora	6.37	78	eP	Pn	03 52 51.1	+3.3
EVO				eS	Sn	03 53 59.3	-1.3
EVO				A	A	03 54 02.4	
	comp=E,6.0nm,0.3s						
EVO	Evora	6.37	78	Pn	Pn	03 52 51.1	+3.3
EVO				Sn	Sn	03 53 59.0	-1.6
PCAS	Casmilo, Conde	6.39	64	eP	Pn	03 52 51.0	+2.9
PCAS				eS	Sn	03 53 59.6	-1.5
PCAS				A	A	03 54 05.3	
	comp=E,3.5nm,0.4s						
PBDV	Barranco-do-Ve	6.40	89	eP	Pn	03 52 51.0	+2.8
PBDV				eS	Sn	03 54 01.0	-0.3
PBDV				A	A	03 54 10.3	
	comp=E,5.2nm,0.8s						
PBDV	Barranco-do-Ve	6.40	89	Pn	Pn	03 52 50.9	+2.8
PBDV				Sn	Sn	03 54 00.5	-0.8
PBEJ	Beja	6.44	82	eP	Pn	03 52 54.0	+5.3
PBEJ				eS	Sn	03 54 01.5	-0.8
PBEJ				A	A	03 54 04.9	
	comp=E,3.8nm,0.4s						
COI	Coimbra	6.51	62	eP	Pn	03 52 53.0	+3.3
PVAQ	Vaqueiros	6.56	88	eP	Pn	03 52 54.1	+3.7
PVAQ				eS	Sn	03 54 03.5	-1.7
PVAQ				A	A	03 54 11.8	
	comp=E,5.1nm,0.2s						
PVAQ	Vaqueiros	6.56	88	Pn	Pn	03 52 54.1	+3.7
PVAQ				Sn	Sn	03 54 04.5	-0.8
PVAQ	Vaqueiros	6.56	88	P	Pn	03 52 53.3	+2.9
EGRO	El Granado	6.74	87	Pn	Pn	03 52 56.2	+3.4
EGRO				Sn	Sn	03 54 07.5	-2.1
EGRO	El Granado	6.74	87	P	Pn	03 52 57.1	+4.3
EGRO				⇑iVmb_V		03 53 02.9	
	comp=E,309nm,SNR=1.4						
EGRO				S	Sn	03 54 07.4	-2.2
PESTR	Estremoz	6.75	75	eP	Pn	03 52 56.2	+3.2
PESTR				eS	Sn	03 54 08.3	-1.6
PESTR				A	A	03 54 11.9	
	comp=E,3.9nm,0.4s						
PESTR	Estremoz	6.75	75	Sn	Sn	03 54 07.0	-2.9
PESTR				Pn	Pn	03 52 55.7	+2.7
PESTR	Estremoz	6.75	75	P	Pn	03 52 56.2	+3.2
PESTR	Estremoz	6.75	75	S	Sn	03 54 10.0	+0.1
PTO	Porto	6.80	55	eP	Pn	03 52 55.6	+2.0
PTO				eS	Sn	03 54 05.5	-5.6
PMRV	Marv??o	7.02	71	eP	Pn	03 53 00.2	+3.6
PMRV				eS	Sn	03 54 14.7	-1.8
PMRV				A	A	03 54 17.9	
	comp=E,4.1nm,0.7s						
PCBR	Castelo Branco	7.06	67	eP	Pn	03 53 00.2	+3.0
PCBR				eS	Sn	03 54 15.0	-2.5
PCBR				A	A	03 54 19.8	
	comp=E,2.7nm,0.7s						
PVIS	Viseu	7.08	60	eP	Pn	03 53 00.3	+2.8
PVIS				eS	Sn	03 54 13.6	-4.5
PVIS				A	A	03 54 18.4	
	comp=E,4.0nm,0.5s						
PBAR	Barrancos	7.10	81	eP	Pn	03 53 02.0	+4.2
PBAR				eS	Sn	03 54 16.6	-2.0
PBAR				A	A	03 54 24.6	
	comp=E,3.1nm,0.4s						
PBAR	Barrancos	7.10	81	Pn	Pn	03 53 01.4	+3.6
PBAR				Sn	Sn	03 54 16.3	-2.3
EBAD	Badajoz	7.18	77	Pn	Pn	03 53 01.6	+2.7
EBAD				Sn	Sn	03 54 17.8	-2.6
EBAD	Badajoz	7.18	77	P	Pn	03 53 01.8	+3.0
EBAD				⇑iVmb_V		03 53 10.9	
	comp=E,160nm,SNR=1.1						
EBAD				S	Sn	03 54 18.0	-2.4
MTE	Manteigas	7.20	63	eP	Pn	03 53 02.1	+2.9
MTE				eS	Sn	03 54 18.6	-2.4
MTE				A	A	03 54 26.1	
	comp=E,4.4nm,0.5s						
EZAM	Zamans	7.31	48	⇑iVmb_V		03 53 06.8	
	comp=E,487nm,SNR=1.6						
EZAM				S	Sn	03 54 17.3	-6.4
PGAV	Gavieira, Arco	7.46	50	eP	Pn	03 53 04.7	+1.9
PGAV				eS	Sn	03 54 22.2	-5.3
PGAV				A	A	03 54 28.6	
	comp=E,5.5nm,1.0s						
PCAB	Cabril	7.47	53	eP	Pn	03 53 05.8	+3.0
ELOB	Lobios	7.53	52	P	Pn	03 53 05.8	+2.0
ELOB				⇑iVmb_V		03 53 08.9	
	comp=E,244nm,SNR=1.1						
ELOB				S	Sn	03 54 24.4	-4.9
EMAZ	Mazaricos	7.67	42	P	Pn	03 53 08.5	+2.9
EMAZ				⇑iVmb_V		03 53 10.2	
	comp=E,388nm,SNR=1.1						
MVO	Moncorvo	7.86	59	eP	Pn	03 53 10.8	+2.5
MVO				eS	Sn	03 54 31.3	-6.1
MVO				A	A	03 54 38.2	
	comp=E,3.3nm,0.7s						
EAGO	Agolada(Pontev	8.07	46	P	Pn	03 53 11.6	+0.6
EAGO				⇑iVmb_V		03 53 17.1	
	comp=E,336nm,SNR=1.4						
EAGO				S	Sn	03 54 34.0	-8.4
ESPR	Espera	8.09	91	⇑iVmb_V		03 53 17.2	
	comp=E,233nm,SNR=1.4						
ESPR				S	Sn	03 54 42.7	-0.1
EPLA	Plasencia	8.16	68	P	Pn	03 53 15.1	+2.8
EPLA				⇑iVmb_V		03 53 23.7	
	comp=E,296nm,SNR=1.9						
PBRG	Braganca	8.35	56	eP	Pn	03 53 17.2	+2.3
ECAB	El Cabril	8.38	82	Pn	Pn	03 53 18.7	+3.4
ECAB				Sn	Sn	03 54 45.6	-4.4
ECAB	El Cabril	8.38	82	P	Pn	03 53 18.7	+3.4
ECAB				⇑iVmb_V		03 53 20.0	
	comp=E,87nm,SNR=0.7						
ECAB				S	Sn	03 54 45.6	-4.4
ECAL	Calabor	8.42	55	Pn	Pn	03 53 18.1	+2.2
ECAL				Sn	Sn	03 54 47.0	-3.9
ECAL	Calabor	8.42	55	P	Pn	03 53 18.1	+2.2
ECAL				⇑iVmb_V		03 53 20.5	
	comp=E,212nm,SNR=1.3						
ECAL				S	Sn	03 54 47.0	-3.9
EJUZ	Juzbado, Salam	8.62	62	P	Pn	03 53 21.5	+2.8
EPON	Pontenova	8.93	46	P	Pn	03 53 24.2	+1.2
EPON				⇑iVmb_V		03 53 29.9	
	comp=E,263nm,SNR=1.0						
EPON				S	Sn	03 54 55.9	-7.7
EADA	Adamuz	9.04	82	Pn	Pn	03 53 27.9	+3.5
EADA				Sn	Sn	03 55 01.5	-4.9
EADA	Adamuz	9.04	82	P	Pn	03 53 27.5	+3.1
EADA				⇑iVmb_V		03 53 36.2	
	comp=E,128nm,SNR=1.1						
EADA				S	Sn	03 55 03.5	-2.8
TTIG	Tnine Tigouga,	9.28	136	P	Pn	03 53 28.8	+1.1
TTIG	Tnine Tigouga,	9.28	136	Sn	Sn	03 55 08.8	-3.5
PAB	San Pablo	9.35	73	P	Pn	03 53 31.1	+2.4
PAB				⇑iVmb_V		03 53 35.0	
	comp=E,78nm,SNR=0.8						
PAB				S	Sn	03 55 09.9	-4.0
ESDC	Sonseca Array	9.66	73	P	Pn	03 53 36.1	+3.1
ESDC				⇑iVmb_V		03 53 36.6	
	comp=E,92nm,SNR=1.2						
ESDC				S	Sn	03 55 17.1	-4.5
TIO	Tiouine	9.69	129	Pn	Pn	03 53 38.2	+4.8
TIO				Sn	Sn	03 55 18.3	-4.2
TIO	Tiouine	9.69	129	P	Pn	03 53 37.5	+4.0
TIO	Tiouine	9.69	129	S	Sn	03 55 19.8	-2.7
PSIM	Granatula de C	9.72	78	P	Pn	03 53 36.9	+3.2
PSIM				S	Sn	03 55 20.3	-2.6
GUD	Guadarrama	9.73	67	P	Pn	03 53 36.1	+2.1
GUD				⇑iVmb_V		03 53 37.1	
	comp=E,101nm,SNR=0.9						
GUD				S	Sn	03 55 20.8	-2.6
OUZM	OUZ	10.02	128	P	Pn	03 53 40.1	+2.2
OUZM	OUZ	10.02	128	S	Sn	03 55 26.9	-3.6
EARI	Arriondas	10.08	51	P	Pn	03 53 42.0	+3.4
EARI				⇑iVmb_V		03 53 44.1	
	comp=E,262nm,SNR=1.0						
MD31	MD31	10.24	113	P	Pn	03 53 43.2	+2.3
MD31	MD31	10.24	113	S	Sn	03 55 32.5	-3.3
MDT	Midelt	10.38	113	P	Pn	03 53 44.6	+1.8
MDT	Midelt	10.38	113	S	Sn	03 55 36.9	-2.3

KRSC 08 03:54:22.5±1.7, 49°53N×156°85E, h15km±20km, MI4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	1.25	338	eP	Pn	03 54 43.0	-2.4
SKR				eS	Sb	03 54 58.8	-2.8
PAU	Pauzhetka	1.94	359	eP	Pn	03 54 56.1	+1.2
PAU				eS	Sb	03 55 21.6	0.0
KDTR	Khodutka, Kamc	2.41	18	eP	Pn	03 55 02.8	+1.4
KDTR				eS	Sb	03 55 33.4	-1.8
ASAK	Asacha	2.93	13	eP	Pn	03 55 11.0	+2.4
MTVR	Mutnovka	3.08	15	eP	Pn	03 55 13.1	+2.4
MTVR				eS	Sb	03 55 51.5	-2.8
RUS	Russkaya	3.09	19	eP	Pn	03 55 12.8	+2.1
RUS				eS	Sn	03 55 50.0	+2.6
GRL	Gorelyy	3.12	14	eP	Pb	03 55 14.6	-3.2
GRL				eS	Sb	03 55 52.6	-3.1
KRMR	Karymshinskiy	3.40	13	eP	Pn	03 55 18.3	+3.3
DALK	Dalny	3.71	18	eP	Pn	03 55 22.3	+3.1
AVH	Avacha	3.92	17	eP	Pb	03 55 27.0	-4.4
KOK	Koryaka	3.93	16	eP	Pn	03 55 26.7	+4.3
SMAR	Somma	3.93	17	eP	Pn	03 55 26.4	+3.9
KRER	Koryakskii	3.96	17	eP	Pn	03 55 27.4	+4.5
KRX	Arik	4.00	16	eP	Pn	03 55 27.9	+4.6
SPN	Mys Shipunski	4.09	28	eP	Pn	03 55 27.9	+3.4
GNL	Ganaly	4.23	9	eP	Pn	03 55 30.7	+4.2

*NEIC **08** 04:00:16.1±1.8, 37°32N±0°02×71°89E±0°09, h206km±4km, mb4.4/13, Error ellipse: s-maj=10.0km s-min=2.0km az=82.0*

ISC 08 04:00:15.2±0.7, 37°29N±0°08×71°97E±0°07, h200km, n35, σ1°38/37, mb4.4/5, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAR	Garm	2.15	323		Pn	04 00 56.7	+1.3
GAR				Sn	Sn	04 01 25.2	-1.5
DRK	Karamyk	2.19	357		Pn	04 00 58.0	+2.0
DRK				Sn	Sn	04 01 27.7	-0.3
CHGR	Chuyangaron	2.61	302		Pn	04 01 01.0	+0.7
SIMJ	Simiganj	2.71	301		Pn	04 01 02.2	+0.6
BTK	Batken	2.91	342		Pn	04 01 05.2	+1.4
KBL	Kabul	3.62	222	Pn	Pn	04 01 14.4	+1.8
NIL	Nilore	3.78	164		Pn	04 01 16.5	+2.2
NRN	Naryn	5.19	36		Pn	04 01 32.0	-0.2
AAK	Ala-Archa	5.69	19		Pn	04 01 39.9	+1.4
KK31	Karatay Array	5.92	350		Pn	04 01 42.1	+0.8
KKAR	Karatay Array	5.92	350		Pn	04 01 42.0	+0.8
KKAR	Karatay Array	5.92	350		Pn	04 01 41.6	+0.4
BOOM	Boomskoye usch	6.03	29		Pn	04 01 43.7	+0.8
TARG	Taragay, Kyrgy	6.33	44	Pn	Pn	04 01 48.4	+1.4
TARG	Taragay, Kyrgy	6.33	44	P	Pn	04 01 48.4	+1.4
PRZ	Przheval'sk	7.17	42	Pn	Pn	04 01 54.9	-2.8
PRZ	Przheval'sk	7.17	42	P	Pn	04 01 54.9	-2.8
BRVK	Borovoye	15.82	356	P	P	04 03 46.5	-0.3
BRVK				IAmb	IAmb	04 03 51.0	
	comp=Z,29nm,0.9s						
ARPR	Arapgir-MALATY	26.41	284	P	P	04 05 31.9	-1.6
ARPR				IAmb	IAmb	04 05 35.2	
	comp=Z,111nm,1.0s						
SONB4	Songino Array	27.23	56	P	P	04 05 39.5	-1.1
SONB4				IAmb	IAmb	04 05 40.2	
	comp=Z,8.3nm,1.4s						
SONM	Songino Array	27.25	56	P	P	04 05 40.1	-0.7
CM16	Chiang Mai Arr	30.17	121	P	P	04 06 07.3	+0.5
JTU	Tsushima	45.99	75	P	P	04 08 20.6	+2.1
PETK	Petropavlovsk-	58.86	45	P	P	04 09 51.9	-0.8
TOA2	Torodi Ar. Sit	66.51	269	P	P	04 10 43.5	-0.2
TOA2				IAmb	IAmb	04 10 46.4	
	comp=Z,5.1nm,0.8s						
LSZ	Lusaka	66.56	227	P	P	04 10 42.2	-1.8
IM04	Indian Mountai	71.19	18	P	P	04 11 11.4	-0.3
C36M	Paulatuk	73.02	6	P	P	04 11 23.2	+0.7
N19K	Bonanza Creek	75.14	22	P	P	04 11 35.1	+0.1
J30M	Hart River	76.06	12	P	P	04 11 40.4	+0.1
J30M				IAmb	IAmb	04 11 42.8	
	comp=Z,10nm,1.4s						
BC04	Beaver Creek A	76.39	15	P	P	04 11 41.7	-0.4
N30M	Aishikik Lake	78.80	14	P	P	04 11 55.6	+0.1
N30M				IAmb	IAmb	04 12 05.1	
	comp=Z,26nm,1.3s						
WHY	Whitehorse	79.95	13	P	P	04 12 04.5	+2.8
YKAR7	New YK Array r	80.42	3	P	P	04 12 04.4	+0.3
YKA	Yellowknife Ar	80.42	3	P	P	04 12 04.8	+0.8

*IDC **08** 04:01:45.8±0.6, 3°29S×130°96E, h0km, mb4.3/16, mbtmp4.4/18, ML4.1/1, Error ellipse: s-maj=39.6km s-min=13.3km az=75.0*

*NEIC **08** 04:01:46.8±1.5, 3°42S±0°05×131°01E±0°04, h10km±1km, mb4.7/27, Error ellipse: s-maj=10.6km s-min=2.9km az=213.0*

*DJA **08** 04:01:48.4±0.3, 3°S±3°×13°1E±°, h10km, M4.6/9, mb4.7/1, MLv4.5/9*

ISC 08 04:01:49.6±0.4, 3°34S±0°04×130°97E±0°04, h30km, n88, σ1°47/89, mb4.5/30, 1D, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	Fak Fak	1.34	72	Pn	Pn	04 02 11.5	-0.9
FAKI				Sn	Sn	04 02 29.1	-0.2
FAKI	Fak Fak	1.34	72	P	Pb	04 02 13.7	-0.5
FAKI	Fak Fak	1.34	72	P	Pb	04 02 13.4	-0.8
FAKI				S	Sb	04 02 32.3	+1.3
BNDI	Bandanaira	1.59	222	P	Pb	04 02 17.5	-0.8
SWI	Sorong	2.48	7	P	Pn	04 02 26.9	-1.1
SWI				S	Sn	04 02 56.0	-1.2
NLAI	Namlea	3.87	271	P	Pn	04 02 46.9	-0.2
LBMI	Labuha	4.38	308	P	Pn	04 02 53.5	-0.8
SAUI	Saumlaki	4.62	176	P	Pn	04 03 00.8	+3.3
SANI	Sanana	5.14	284	P	Pn	04 03 02.6	-2.0
DRS	Darwin Rock St	9.03	180	P	Pn	04 03 58.1	0.0
KDU	Kakadu	9.41	171	P	Pn	04 04 01.9	-1.3
MTN	Manton Dam	9.45	179		Pn	04 04 02.5	-1.3
TOLI2	Tolitoli	11.10	293	Pn	Pn	04 04 26.2	-0.3
KAPI	Kappang	11.31	261	Pn	Pn	04 04 29.5	+0.2
DAV	Davao City (W)	11.66	333	Pn	Pn	04 04 30.9	-3.2
	312nm,0.4s,baz=318,slow=1.3,SNR=2.5						
KNRA	Kununurra	12.45	190	Pn	Pn	04 04 41.3	-3.6
FITZ	Fitzroy Crossi	15.57	199	Pn	Pn	04 05 23.6	-3.6
COEN	Coen	16.01	132	Pn	Pn	04 05 31.5	-1.4
COEN	Coen	16.01	132	P	P	04 05 34.7	-1.4
WB0	Warramunga Arr	16.67	169	Pn	Pn	04 05 39.3	-1.9
WB0				IAmb	IAmb	04 05 51.4	
	comp=Z,38nm,0.9s						
WRAB	Tennant Creek	16.82	169		Pn	04 05 41.8	-1.3
WRA	Warramunga Arr	16.83	169	Pn	Pn	04 05 39.3	-3.9
WRA	Warramunga Arr	16.83	169	Pn	Pn	04 05 41.7	-1.5
	comp=Z,0.7nm,0.3s,baz=345,slow=12,SNR=2.9						
WRA				Sn	Sn	04 08 37.8	-12
	comp=Z,0.9nm,0.3s,baz=351,slow=24,SNR=2.7						
	comp=Z,19nm,0.8s						
WB2	Warramunga Arr	16.83	169	Pn	Pn	04 05 39.8	-3.4
WR0	Warramunga Arr	16.88	168	Pn	Pn	04 05 41.2	-2.7
QIS	Mount Isa	19.07	154	P	Pn	04 06 11.5	+0.7
AS31	Alice Springs	20.41	172	Pn	P	04 06 23.9	-0.6
AS31				IAmb	IAmb	04 06 26.6	
	comp=Z,22nm,0.6s						
ASAR	Alice Springs	20.41	172	P	P	04 06 24.9	+0.5
ASAR	Alice Springs	20.41	172	P	P	04 06 25.1	+0.7
	comp=Z,49nm,0.6s,baz=350,slow=10,SNR=100						
ASAR				S	S	04 10 10.2	-1.4
	comp=Z,7.8nm,1.1s,baz=353,slow=19,SNR=8.1						
	comp=Z,49nm,0.6s						
AS01	Alice Springs	20.41	172	P	P	04 06 25.0	+0.5
	comp=Z,97nm,0.7s						
MBWA	Marble Bar	20.82	211	P	P	04 06 26.5	-2.4
MBWA				IAmb	IAmb	04 06 46.7	
	comp=Z,28nm,1.1s						
MBWA	Marble Bar	20.82	211	P	P	04 06 26.9	-1.9
PSA00	Pilbara Seismi	21.11	210	P	P	04 06 29.9	-2.0
PSA00				IAmb	IAmb	04 06 39.2	
	comp=Z,34nm,1.1s						
PSA00	Pilbara Seismi	21.11	210	P	P	04 06 28.8	-3.2
PSA00				IAmb	IAmb	04 06 39.1	
	comp=Z,28nm,1.4s						
PSA00	Pilbara Seismi	21.11	210	P	P	04 06 30.9	-1.1
WRKA	Warakurna	21.73	187	P	P	04 06 38.4	-0.2
OOD	Oodnadatta	24.73	170	P	P	04 07 10.1	+1.6
MEEK	Meekatharra	26.02	206	P	P	04 07 19.7	-0.6
KMBL	Kambalda	29.17	196	P	P	04 07 48.3	-0.1
	comp=Z,36nm,1.1s						
BBOO	Buckleboo	29.70	171	P	P	04 07 54.7	+1.6
STKA	Stephens Creek	30.09	162	P	P	04 07 58.8	+2.2
STKA	Stephens Creek	30.09	162	P	P	04 07 57.2	+0.6
	comp=Z,9.9nm,0.7s,baz=343,slow=7.1,SNR=5.1						
	comp=Z,4.9nm,0.7s						
BLDU	Ballidu	30.29	205	P	P	04 07 59.7	+1.3
KLBR	Kellerberrin	30.73	202	P	P	04 08 02.1	-0.2
CMSA	Cobar Meteorol	31.29	155	P	P	04 08 08.4	+1.2
WHN	Wuhan	37.25	336	P	P	04 09 05.8	+7.1
CMAR	Chiang Mai Arr	38.27	306	P	P	04 09 10.5	+3.0
CMAR	Chiang Mai Arr	38.27	306	P	P	04 09 08.7	+1.1
	comp=Z,1.3nm,0.4s,baz=130,slow=8.0,SNR=4.1						
	comp=Z,1.3nm,0.4s						
MJAR	Matsushiro Arr	40.25	9	P	P	04 09 22.6	-1.3
	comp=Z,2.2nm,0.6s,baz=192,slow=8.4,SNR=4.2						
	comp=Z,2.2nm,0.6s						
KSRS	Korea Array	40.68	356	P	P	04 09 28.4	+1.0
	comp=Z,1.1nm,0.7s,baz=172,slow=7.2,SNR=2.2						
	comp=Z,1.1nm,0.7s						
LZH	Lanzhou	46.70	330	eP	P	04 10 18.0	+1.9
LZH				sP	sP	04 10 31.4	+2.9
LZH				pmax	pmax		
	comp=Z,18nm,1.5s						
USRK	Ussuriysk Ar.	47.33	1	P	P	04 10 20.7	+0.1
	comp=Z,2.6nm,0.7s,baz=179,slow=7.6,SNR=5.9						
	comp=Z,2.6nm,0.7s						
HHC	Hu-ho-hao-te	47.42	340	eP	P	04 10 26.2	+4.6
HHC				pP	sP	04 10 35.5	+1.7
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,400nm,5.7s						
HHC				LR	LR		
	comp=N,490nm,15.3s						
HHC				LR	LR		
	comp=E,700nm,13.1s						
HHC				LR	LR		
	comp=Z,1μm,17.2s						
GTA	Gaotai	51.30	329	eP	P	04 10 52.2	+0.9
GTA				sP	sP	04 11 05.5	+1.8
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KLR	Kul'dur	52.36	1	P	P	04 10 59.8	+0.9
	comp=Z,2.3nm,0.7s,baz=216,slow=2.0,SNR=6.3						
	comp=Z,2.3nm,0.7s						
HEH	HeiHe	53.47	357	eP	P	04 11 07.0	0.0
HEH				pmax	pmax		
	comp=Z,10.0nm,1.7s						
ULN	Ulaanbaatar	55.13	341	P	P	04 11 19.9	+0.5
ULN				IAmb	IAmb	04 11 36.7	
	comp=Z,12nm,1.4s						
SONM	Songino Array	55.33	340	P	P	04 11 20.8	+0.1
	comp=Z,2.3nm,1.0s,baz=167,slow=8.0,SNR=8.1						
	comp=Z,2.3nm,1.0s						
MK31	Makanchi Array	65.74	326	P	P	04 12 31.6	-0.1
MKAR	Makanchi Array	65.74	326	P	P	04 12 32.3	+0.6
MKAR	Makanchi Array	65.74	326	P	P	04 12 32.0	+0.3
	comp=Z,3.2nm,0.8s,baz=125,slow=7.3,SNR=22						
	comp=Z,3.2nm,0.8s						
MAKZ	Makanchi	65.93	325	P	P	04 12 33.5	+0.6
NRN	Naryn	66.88	318	P	P	04 12 39.6	+0.1
NRN				IAmb	IAmb	04 12 57.0	
	comp=Z,3.8nm,0.9s					

comp=Z,1.3nm,0.7s
RAYN Ar Rayn 87.17 294 P P 04 14 32.5 -1.1
ELIB Princess Elisa 92.25 197 dP P 04 14 57.6 +1.0
ARCES ARCESS Array B 98.50 340 P Pdif 04 15 25.1 +0.1
comp=Z,6.8nm,1.1s,baz=90,slow=8.1,SNR=2.4
TORD Torodi Ar. Bea 128.96 284 PKP PKiKP 04 20 56.9 +0.6
CPUP Villa Florida 149.43 165 PKPbc PKPab 04 21 39.0 -2.3
comp=Z,1.7nm,0.9s,baz=213,slow=1.6,SNR=3.0
LPAZ La Paz 152.85 136 PKPbc PKiKP 04 21 48.0 +2.2
comp=Z,1.3nm,0.4s,baz=12,slow=1.3,SNR=5.1

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*IDC **08** 04:08:06.7±0.9,55°.81N×149°.26W,h0km,mb4.0/14, mbtmp4.1/20,ML4.1/6,MS3.7/4,Error ellipse: s-maj=21.6km s-min=14.0km az=27.0*
*NEIC **08** 04:08:07.0±1.5,55°.77N±0°.08×149°.20W±0°.09,h8km±5km, mb4.4/10,ML4.5/48,ML4.3(AEIC),Error ellipse: s-maj=11.6km s-min=7.5km az=173.0*
*AEIC **08** 04:08:12.1±1.5,55°.79N±0°.09×149°.2W±0°.1,h12km±5km, Error ellipse: s-maj=12.4km s-min=8.3km az=176.0*
ISC 08 04:08:08.1±0.6,55°.90N±0°.07×149°.20W±0°.04,h10km, n427,σ0s97/404,mb4.3/20,MS4.4/3,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	Old Harbor	2.62	302		Pn	04 08 49.8	-0.6
OHAK				IAML		04 09 20.6	
	comp=N,1μm,0.8s						
OHAK	Old Harbor	2.62	302		Sn	04 09 19.5	-2.7
OHAK	Old Harbor	2.62	302	P	Pn	04 08 49.7	-0.7
	baz=121						
KDAK	Kodiak Island	2.65	317		Pn	04 08 50.9	+0.1
KDAK	Kodiak Island	2.65	317		Sn	04 09 20.9	-2.0
KDAK	Kodiak Island	2.65	317	Pn	Pn	04 08 50.7	0.0
	comp=N,100nm,0.3s,baz=160,slow=4.8,SNR=2119						
KDAK				Sn	Sn	04 09 20.0	-2.9
	comp=N,62nm,0.3s,baz=35,slow=19,SNR=9.5						
KDAK				LR	LR	04 09 33.3	
	comp=N,275nm,21.8s,baz=71,slow=32						
	comp=N,205nm,0.3s						
SII	Sitkinak Islan	2.86	285		Pn	04 08 52.5	-1.2
SII					Sn	04 09 24.9	-3.2
SII	Sitkinak Islan	2.86	285	IAML		04 09 26.6	
	comp=E,3μm,0.7s						
SII				IAML		04 09 27.7	
	comp=N,2μm,0.5s						
SII	Sitkinak Islan	2.86	285	P	Pn	04 08 52.5	-1.2
	baz=104						
SII				S	Sn	04 09 25.6	-2.5
	baz=104						
SYI	Shuyak Island	3.22	329		Pn	04 08 59.1	+0.5
SYI	Shuyak Island	3.22	329		Sn	04 09 36.4	-0.6
Q20K	Shuyak Island	3.22	329	P	Pn	04 08 58.9	+0.2
	baz=147						
Q20K				S	Sn	04 09 37.1	+0.1
	baz=147						
CNPM	China Poot	3.79	344	Pn	Pn	04 09 06.7	+0.2
CNPM	China Poot	3.79	344		Sn	04 09 50.0	-1.1
Q23K	Middleton Isla	3.85	22		Pn	04 09 07.8	+0.6
Q23K	Middleton Isla	3.85	22	IAML		04 09 51.5	
	comp=N,574nm,0.7s						
Q23K				IAML		04 09 52.7	
	comp=E,654nm,0.6s						
Q23K	Middleton Isla	3.85	22	P	Pn	04 09 07.8	+0.6
	baz=204						
MID	Middleton Isla	3.85	22		Pn	04 09 07.7	+0.4
MID					Sn	04 09 51.0	-1.5
MID	Middleton Isla	3.85	22	IAML		04 09 51.5	
	comp=N,620nm,1.0s						
MID				IAML		04 09 53.0	
	comp=E,576nm,0.9s						
Q19K	Cape Douglas,	3.87	323		Pn	04 09 08.6	+1.0
Q19K				IAML		04 10 03.8	
	comp=E,873nm,0.9s						
Q19K				IAML		04 10 06.0	
	comp=N,527nm,0.7s						
Q19K	Cape Douglas,	3.87	323	P	Pn	04 09 08.3	+0.7
	baz=141						
BRSE	Bradley Lake S	3.94	349		Pn	04 09 08.6	+0.1
BRSE	Bradley Lake S	3.94	349	P	Pn	04 09 08.6	+0.1
	baz=168						
BRLK	Bradley Lake	3.98	348	Pn	Pn	04 09 08.8	-0.2
BRLK				IAML		04 09 57.8	
	comp=N,316nm,0.4s						
BRLK				IAML		04 09 58.1	
	comp=E,414nm,0.4s						
BRLK	Bradley Lake	3.98	348		Sn	04 09 55.9	+0.2
HOM	Homer	3.99	342		Pn	04 09 09.5	+0.4
HOM	Homer	3.99	342	IAML		04 10 00.1	
	comp=N,919nm,0.7s						
HOM				IAML		04 10 02.5	
	comp=E,580nm,0.8s						
HOM	Homer	3.99	342	P	Pn	04 09 09.5	+0.4
	baz=160						
KAKN	Katmai Knife C	4.00	309		Pn	04 09 10.0	+0.6
ACHA	Angle Creek He	4.07	307		Pn	04 09 11.0	+0.6
ANCK	Angle Creek	4.14	306		Pn	04 09 11.9	+0.6
AUCH	Augustine Cone	4.15	328		Pn	04 09 12.4	+0.9
AUL	Augustine Lava	4.17	329		Pn	04 09 12.5	+0.9
KAHC	Katmai Hardscr	4.18	314		Pn	04 09 12.9	+0.9
KAHC	Katmai Hardscr	4.18	314	P	Pn	04 09 12.9	+0.9
	baz=130						
SEW	Seward	4.21	358		Pn	04 09 12.2	-0.1
SEW					Sn	04 09 59.0	-2.5
SEW	Seward	4.21	358	P	Pn	04 09 12.2	-0.1
	baz=178						
SEW				S	Sn	04 09 59.0	-2.5
	baz=178						
P23K	Montague Islan	4.22	12		Pn	04 09 12.8	+0.4
P23K					Sn	04 09 59.5	-2.0
P23K	Montague Islan	4.22	12	P	Pn	04 09 12.7	+0.4
	baz=194						
P23K				S	Sn	04 09 59.5	-2.0
	baz=194						
P19K	Oil Pt	4.33	332		Pn	04 09 14.5	+0.5
P19K	Oil Pt	4.33	332	IAML		04 10 13.3	
	comp=E,370nm,0.5s						
P19K				IAML		04 10 13.4	
	comp=N,352nm,0.5s						
P19K	Oil Pt	4.33	332	P	Pn	04 09 14.2	+0.2
	baz=149						
CNTC	Contact Creek	4.35	306		Pn	04 09 14.6	+0.4
Q17K	Contact Creek	4.35	306	P	Pn	04 09 14.6	+0.4
	baz=122						
O20K	Slope Mountain	4.57	338		Pn	04 09 17.2	0.0
O20K	Slope Mountain	4.57	338	P	Pn	04 09 17.1	-0.1
	baz=156						
ILSW	Iliamna Southw	4.60	334		Pn	04 09 17.7	0.0
ILSW				IAML		04 10 13.2	
	comp=N,200nm,0.4s						
O22K	Cooper Landing	4.60	357		Pn	04 09 17.5	0.0
O22K	Cooper Landing	4.60	357	P	Pn	04 09 17.7	+0.1
	baz=177						
SLKM	Skilak Lake	4.65	354		Pn	04 09 18.2	-0.1
HIN	Hinchinbrook I	4.73	16		Pn	04 09 19.9	+0.6
HIN	Hinchinbrook I	4.73	16	IAML		04 10 15.6	
	comp=E,572nm,0.9s						
P18K	Big Mountain,	4.77	320	Pn	Pn	04 09 20.0	+0.1
P18K	Big Mountain,	4.77	320	P	Pn	04 09 19.9	-0.1
	baz=136						
KAIM	Kayak Island	4.77	30		Pn	04 09 20.4	+0.5
KAIM	Kayak Island	4.77	30	P	Pn	04 09 20.4	+0.5
	baz=214						
RED	Redoubt Volcan	4.91	339		Pn	04 09 21.3	-0.6
Q16K	King Salmon	4.91	308		Pn	04 09 22.2	+0.4
Q16K	King Salmon	4.91	308	P	Pn	04 09 22.2	+0.4
	baz=123						
RSO	Redoubt South	4.94	339		Pn	04 09 22.2	-0.2
RDT	Redoubt	4.98	341		Pn	04 09 22.1	-0.7
RDWB	Redoubt West	4.98	339		Pn	04 09 22.4	-0.6
CAPN	Captain Cook N	4.99	349		Pn	04 09 24.1	+1.3
EYAK	Cordova Ski Ar	5.00	20		Pn	04 09 23.9	+0.8
EYAK	Cordova Ski Ar	5.00	20	P	Pn	04 09 23.8	+0.8
EYAK	Cordova Ski Ar	5.00	20	P	Pn	04 09 23.9	+0.8
	baz=202						
DFR	Drift River	5.05	340		Pn	04 09 23.3	-0.6
NCT	North Crescent	5.07	339		Pn	04 09 23.6	-0.5
RDJH	Redoubt Jeurge	5.07	339		Pn	04 09 23.7	-0.4
SUCK	Suckling Hills	5.08	32		Pn	04 09 24.8	+0.6
SUCK	Suckling Hills	5.08	32	IAML		04 10 27.1	
	comp=N,456nm,0.7s						
SUCK				IAML		04 10 28.3	
	comp=E,434nm,0.8s						
O19K	Port Alsworth	5.09	330		Pn	04 09 24.3	0.0
O19K				IAML		04 10 26.9	
	comp=E,536nm,0.5s						
O19K				IAML		04 10 29.1	
	comp=N,475nm,0.4s						
O19K	Port Alsworth	5.09	330	P	Pn	04 09 24.2	-0.1
	baz=146						
RAGM	Ragged Mountai	5.09	26		Pn	04 09 25.1	+0.7
O18K	Koktuh Hills	5.09	323	Pn	Pn	04 09 24.6	+0.2
O18K	Koktuh Hills	5.09	323	P	Pn	04 09 24.5	+0.1
	baz=139						
P17K	Kvichak River	5.11	313		Pn	04 09 25.3	+0.8
P17K	Kvichak River	5.11	313	P	Pn	04 09 25.3	+0.8
	baz=128						
NICHA	Nichawak Mount	5.16	30		Pn	04 09 26.1	+0.9
HMT	Hamilton	5.16	28		Pn	04 09 26.3	+1.0
CHGN	Chignik	5.17	278		Pn	04 09 24.3	-1.2
CHGN	Chignik	5.17	278	IAML		04 10 28.4	
	comp=E,365nm,0.5s						
CHGN	Chignik	5.17	278	P	Pn	04 09 24.7	-0.7
	baz=92						
RC01	Rabbit Creek A	5.21	357		Pn	04 09 26.2	+0.3
RC01	Rabbit Creek A	5.21	357	IAML		04 10 26.8	
	comp=N,409nm,0.6s						
RC01				IAML		04 10 31.8	
	comp=E,296nm,0.6s						
RC01	Rabbit Creek A	5.21	357	P	Pn	04 09 26.2	+0.3
	baz=177						
GOAT	Goat Mountain	5.25	25		Pn	04 09 27.3	+0.8
BGLC	Bering Glacier	5.27	34		Pn	04 09 27.6	+0.9
BGLC	Bering Glacier	5.27	34	P	Pn	04 09 27.7	+0.9
	baz=218						
FIS	Fire Island	5.28	355		Pn	04 09 28.3	+1.4
BERG	Berg Lake	5.36	31	Pn	Pn	04 09 28.8	+0.8
GRIN	Grindle Hills	5.38	33		Pn	04 09 29.3	+0.9
SNH	Sunshine Point	5.46	36		Pn	04 09 30.1	+0.7
CYK	Cape Yakataga	5.50	38		Pn	04 09 31.5	+1.5
KHIT	Khitrov Hills	5.53	32		Pn	04 09 31.0	+0.5
DIV	Divide	5.54	17		Pn	04 09 31.4	+0.9
KNK	Knik Glacier	5.54	4		Pn	04 09 31.0	+0.5
KNK	Knik Glacier	5.54	4	P	Pn	04 09 31.0	+0.5
	baz=184						
N20K	Mount Spurr	5.54	345	P	Pn	04 09 30.0	-0.5
	baz=163						
SPCR	Spurr Chakacha	5.54	345		Pn	04 09 30.0	-0.5
SPCN	Chakachatna No	5.56	345		Pn	04 09 30.7	-0.1
VNHG	Veniaminof 1	5.59	277		Pn	04 09 31.1	-0.2
SPCP	Crater Peak Br	5.59	345		Pn	04 09 32.0	+0.6
SPCG	Spurr Capps Gl	5.60	346		Pn	04 09 31.4	0.0
BMRM	Bremner River	5.62	24		Pn	04 09 32.5	+0.9
BMRM	Bremner River	5.62	24	P	Pn	04 09 32.5	+0.9
	baz=207						
SPBG	Spurr Blockage	5.62	344		Pn	04 09 31.7	+0.1
SUA	Susitna One	5.63	352		Pn	04 09 31.8	-0.1
SUA	Susitna One	5.63	352	P	Pn	04 09 31.8	-0.1
	baz=171						
N19K	Bonanza Creek	5.65	333		Pn	04 09 31.8	-0.4
N19K	Bonanza Creek	5.65	333	P	Pn	04 09 31.8	-0.4
	baz=149						
WAX	Waxell Ridge	5.66	34		Pn	04 09 33.0	+0.8
P16K	Nushagak River	5.69	307		Pn	04 09 33.0	+0.6
P16K	Nushagak River	5.69	307	P	Pn	04 09 32.9	+0.5
	baz=121						
PMR	Palmer	5.71	0		Pn	04 09 33.4	+0.7
PMR	Palmer	5.71	0	P	Pn	04 09 33.5	+0.7
PMR	Palmer	5.71	0	P	Pn	04 09 33.2	+0.5
	baz=180						
VNKR	Veniaminof 5	5.71	275		Pn	04 09 32.3	-0.6
O17K	Koliganek Bris	5.73	316		Pn	04 09 32.7	-0.3
O17K	Koliganek Bris	5.73	316	P	Pn	04 09 32.7	-0.3
	baz=130						
BARK	Barkley Ridge	5.74	35		Pn	04 09 34.1	+0.7
MESA	MESA	5.76	39		Pn	04 09 34.3	+0.6
MESA	MESA	5.76	39	P	Pn	04 09 34.3	+0.6
	baz=224						
SPNN	North Nagishla	5.78	343		Pn	04 09 33.9	0.0
STLK	Strandline Lak	5.78	347		Pn	04 09 33.9	+0.1
CRQM	Cirque	5.82	31		Pn	04 09 35.1	+0.6
VNWF	Veniaminof 8	5.82	277		Pn	04 09 34.0	-0.3
VNSW	Veniaminof 7	5.82	276		Pn	04 09 33.9	-0.5
CRQE	Cirque	5.83	31	P	Pn	04 09 35.1	+0.5
	baz=216						
KLU	Klutina	5.86	16		Pn	04 09 36.3	+1.4
KLU	Klutina	5.86	16	P	Pn	04 09 36.1	+1.2
	baz=198						
M22K	Willow	5.89	356		Pn	04 09 36.2	+1.0
GHO	Glory Hole Cre	5.89	1		Pn	04 09 36.6	+1.3
TGL	Tana Glacier	5.91	32		Pn	04 09 36.3	+0.7
BAGL	Bagley Icefiel	5.94	36		Pn	04 09 36.5	+0.6
SML	Sawmill	5.94	4	Pn	Pn	04 09 37.3	+1.3
SML	Sawmill	5.94	4	P	Pn	04 09 37.3	+1.3
	baz=185						
ISLE	Juniper Island	5.94	35	Pn	Pn	04 09 36.8	+0.7
N18K	Kilae Creek	5.95	326		Pn	04 09 35.9	-0.2
N18K	Kilae Creek	5.95	326	P	Pn	04 09 35.9	-0.2
	baz=142						
CHNA	Chernabura Isl	6.02	264	P	Pn	04 09 34.6	-2.5
	baz=77						
CNBA	Chernabura Isl	6.03	264		Pn	04 09 34.6	-2.6
SCM	Sheep Creek Mo	6.03	8		Pn	04 09 38.4	+1.2
O16K	Kokwok River B	6.03	312		Pn	04 09 37.6	+0.5
O16K	Kokwok River B	6.03	312	P	Pn	04 09 37.6	+0.5
	baz=125						
VRDI	Verde Repeater	6.13	27	Pn	Pn	04 09 39.3	+0.6
SAMH	Samovar Hills	6.16	43		Pn	04 09 39.9	+0.8
KIAG	Kiagna River	6.18	33		Pn	04 09 39.9	+0.4
SVW2	Sparrevohn	6.19	330		Pn	04 09 38.8	-0.6
SVW2	Sparrevohn	6.19	330	P	Pn	04 09 39.0	-0.4
N25K	Chitina, Valde	6.20	21		Pn	04 09 40.5	+0.9
N25K	Chitina, Valde	6.20	21	P	Pn	04 09 40.5	+0.9
	baz=204						
SKT	Skwentna	6.21	350		Pn	04 09 40.2	+0.5
SKT	Skwentna	6.21	350	P	Pn	04 09 40.0	+0.3
	baz=168						
GLB	Gilahina Butte	6.22	25	Pn	Pn	04 09 40.8	+0.9
GRNC	Granite Creek	6.23	36	Pn	Pn	04 09 40.9	+0.8
TABL	Table Mountain	6.23	40		Pn	04 09 41.3	+1.1
YKU2	Yakutat	6.26	51		Pn	04 09 40.9	+0.6
YKU2	Yakutat	6.26	51	P	Pn	04 09 41.4	+1.1
N17K	Nushagak Hills	6.27	321		Pn	04 09 40.5	+0.1
N17K	Nushagak Hills	6.27	321	P	Pn	04 09 40.7	+0.3
	baz=135						
M20K	Styx River	6.33	343		Pn	04 09 41.4	-0.1
M20K	Styx River	6.33	343	P	Pn	04 09 41.4	-0.1
	baz=160						
PCA	Pinnacle	6.34	45		Pn	04 09 42.5	+0.9
PINM	Pinnacle	6.34	45	P	Pn	04 09 42.5	+0.9
	baz=232						
PTPK	Patty Peak	6.36	31		Pn	04 09 42.9	+0.9
MCARA	McCarthy VSAT	6.37	28		Pn	04 09 43.0	+1.2
MCARA	McCarthy VSAT	6.37	28	P	Pn	04 09 42.7	+0.8
	baz=213						
SDPT	Sand Point	6.41	270	Pn	Pn	04 09 40.5	-1.9
SDPT	Sand Point	6.41	270	P	Pn	04 09 41.2	-1.2
SDPT	Sand Point	6.41	270	P	Pn	04 09 40.9	-1.5
	baz=82						
M24K	Tolsona, Glenn	6.41	13		Pn	04 09 44.1	+1.6
PNL	Peninsula	6.46	50		Pn	04 09 43.7	+0.6
PNL	Peninsula	6.46	50	P	Pn	04 09 44.0	+0.9
PNL	Peninsula	6.46	50	P	Pn	04 09 43.7	+0.6
	baz=238						
BARN	Barnard Glacie	6.50	34		Pn	04 09 45.0	+1.0
BCPM	Bancas Point	6.51	48		Pn	04 09 45.0	+1.2
CTG	Chitna Glacier	6.54	36	P	Pn	04 09 45.1	+0.8
	baz=222						
CTGM	Chitna Glacie	6.54	36		Pn	04 09 45.2	+0.8
CUT	Chulitna	6.54	356		Pn	04 09 45.3	+1.1
LOGN	Logan Glacier	6.55	38		Pn	04 09 45.3	+0.8
M18K	Stony River	6.58	331		Pn	04 09 44.3	-0.5
M18K	Stony River	6.58	331	P	Pn	04 09 44.4	-0.3
	baz=146						
M19K	Big River Lodg	6.59	338		Pn	04 09 44.4	-0.5
M19K	Big River Lodg	6.59	338	P	Pn	04 09 44.5	-0.4
	baz=154						
O15K	Ungalikthiuk R	6.59	304		Pn	04 09 45.2	+0.3
O15K	Ungalikthiuk R	6.59	304	P	Pn	04 09 45.2	+0.3
	baz=116						
N16K	Nishlik Lake	6.82	316		Pn	04 09 48.7	+0.6
HARP	HAARP	6.84	16		Pn	04 09 50.0	+1.7
L19K	White Mountain	6.94	337		Pn	04 09 49.2	-0.4
L19K	White Mountain	6.94	337	P	Pn	04 09 49.2	-0.4
	baz=153						
M17K	Holitna River	6.99	325	Pn	Pn	04 09 50.8	+0.5
M17K	Holitna River	6.99	325	P	Pn	04 09 50.6	+0.3
	baz=139						
L20K	Farewell, AK	7.02	342		Pn	04 09 50.2	-0.6
L20K	Farewell, AK	7.02	342	P	Pn	04 09 50.2	-0.6
	baz=158						
PS1A	Pavlof South-1	7.11	271		Pn	04 09 50.5	-1.5
O29M	Mount Kennedy	7.15	48		Pn	04 09 54.0	+1.3
O29M	Mount Kennedy	7.15	48	P	Pn	04 09 54.0	+1.3
	baz=236						
PVV	Pavlof Volcano	7.15	271		Pn	04 09 50.7	-1.8
P29M	Windy Craggy	7.18	54		Pn	04 09 53.3	+0.4
P29M	Windy Craggy	7.18	54	P	Pn	04 09 53.0	0.0
	baz=243						
PPLA	Purkeypile	7.18	349		Pn	04 09 54.0	+0.9
PPLA	Purkeypile	7.18	349	P	Pn	04 09 54.0	+0.9
	baz=167						
N15K	Kwethluk River	7.19	311		Pn	04 09 54.2	+1.1
N15K	Kwethluk River	7.19	311	P	Pn	04 09 54.2	+1.1
	baz=123						
HAG	Hague Volcano	7.22	271		Pn	04 09 52.1	-1.5
M16K	Timber Creek	7.24	319		Pn	04 09 54.1	+0.3
M26K	Nabesna, AK	7.25	23		Pn	04 09 54.4	+0.4
PN7A	Pavlof North-7	7.26	272		Pn	04 09 52.8	-1.3
O14K	Tigyukauivet M	7.30	302		Pn	04 09 55.3	+0.7
S31K	Pelican	7.39	68		Pn	04 09 53.5	-2.4
S31K	Pelican	7.39	68	P	Pn	04 09 54.9	-0.9
	baz=258						
L18K	Granite Mounta	7.41	332		Pn	04 09 55.5	-0.7
L18K	Granite Mounta	7.41	332	P	Pn	04 09 55.5	-0.7
	baz=146						
M27K	Edge Creek, AK	7.48	27		Pn	04 09 58.4	+1.1
RND	Reindeer	7.53	1		Pn	04 09 58.9	+1.1
MENT	Mentasta	7.59	19	Pn	Pn	04 10 00.0	+1.4
TRF	Thorofare Moun	7.59	356		Pn	04 09 59.4	+0.6
TRF	Thorofare Moun	7.59	356	P	Pn	04 09 59.4	+0.6
	baz=176						
CAST	Castle Rocks	7.68	350	Pn	Pn	04 10 00.9	+1.0
CAST	Castle Rocks	7.68	350	P	Pn	04 10 00.7	+0.9
	baz=168						
M15K	Kasigluk River	7.72	313		Pn	04 10 01.0	+0.7
M15K	Kasigluk River	7.72	313	P	Pn	04 10 01.0	+0.7
	baz=124						
KTH	Kantishna Hill	7.72	354		Pn	04 10 01.3	+0.8
L26K	Log Cabin Wild	7.74	20		Pn	04 10 03.0	+2.4
R31K	City Hall, Gus	7.74	65		Pn	04 10 00.1	-0.5
R31K	City Hall, Gus	7.74	65	P	Pn	04 10 00.1	-0.5
	baz=256						
PLBC	Pleasant Camp	7.74	57		Pn	04 10 01.2	+0.5
PLBC	Pleasant Camp	7.74	57	P	Pn	04 10 01.2	+0.5
	baz=247						
P30M	Million Dollar	7.75	52		Pn	04 10 01.9	+1.0
P30M	Million Dollar	7.75	52	P	Pn	04 10 01.9	+1.0
	baz=242						
SIT	Sitka	7.77	76		Pn	04 09 57.5	-3.6
SIT	Sitka	7.77	76	P	Pn	04 09 57.5	-3.6
	baz=266						
N14K	Kuskokwak Cree	7.77	306		Pn	04 10 01.8	+0.8
BVCY	Beaver Creek	7.80	30		Pn	04 10 03.0	+1.4
BVCY	Beaver Creek	7.80	30	P	Pn	04 10 03.0	+1.4
	baz=217						
L17K	Donlin	7.81	327		Pn	04 10 01.3	-0.3
TTA	Tatalina	7.85	337		Pn	04 10 01.3	-1.0
TTA	Tatalina	7.85	337	P	Pn	04 10 01.9	-0.4
MCK	McKinley	7.86	1		Pn	04 10 03.7	+1.5
MCK	McKinley	7.86	1	P	Pn	04 10 03.7	+1.5
	baz=181						
K20K	Telida	7.87	344		Pn	04 10 02.0	-0.5
K20K	Telida	7.87	344	P	Pn	04 10 02.0	-0.5
	baz=160						
HYT	Haines Junctio	7.88	46	Pn	Pn	04 10 03.9	+1.3
HYT	Haines Junctio	7.88	46	P	Pn	04 10 03.9	+1.3
	baz=236						
L16K	Owhat River	7.89	322		Pn	04 10 02.4	-0.3
L16K	Owhat River	7.89	322	P	Pn	04 10 02.4	-0.3
	baz=134						
L27K	Beaver Creek,	8.10	25		Pn	04 10 06.3	+0.7
L27K	Beaver Creek,	8.10	25	P	Pn	04 10 06.2	+0.7
	baz=211						
RIDG	Independent Ri	8.16	14		Pn	04 10 07.9	+1.4
FALS	False Pass	8.17	269		Pn	04 10 04.9	-1.6
FALS	False Pass	8.17	269	P	Pn	04 10 05.4	-1.1
FALS	False Pass	8.17	269	P	Pn	04 10 04.9	-1.6
	baz=78						
S32K	Killisnoo	8.20	73		Pn	04 10 04.9	-2.1
S32K	Killisnoo	8.20	73	P	Pn	04 10 05.1	-1.9
	baz=264						
BESE	Bessie Mountai	8.23	65		Pn	04 10 06.6	-0.8
SKAG	Skagway	8.24	59		Pn	04 10 08.1	+0.6
SKAG	Skagway	8.24	59	P	Pn	04 10 08.3	+0.8
SKAG	Skagway	8.24	59	P	Pn	04 10 08.1	+0.6
	baz=250						
K17K	Iditarod	8.26	330		Pn	04 10 07.1	-0.6
K17K	Iditarod	8.26	330	P	Pn	04 10 07.1	-0.6
	baz=142						
BPAW	Bear Paw Mtn.	8.27	355	Pn	Pn	04 10 08.0	+0.1
BPAW	Bear Paw Mtn.	8.27	355	P	Pn	04 10 07.7	-0.2
	baz=173						
M14K	Bethel	8.28	311		Pn	04 10 09.0	+1.0
BWN	Browne	8.30	359		Pn	04 10 09.1	+0.8
ISLZ	Isanotski Laza	8.36	268		Pn	04 10 07.3	-1.9
ISNN	Isanotski Nort	8.38	269		Pn	04 10 08.2	-1.2
N30M	Aishikik Lake	8.41	44		Pn	04 10 11.1	+1.3
JIS	Juneau Island	8.41	67		Pn	04 10 08.8	-1.0
JIS	Juneau Island	8.41	67	P	Pn	04 10 09.0	-0.8
O30N	Mendenhall	8.44	49		Pn	04 10 11.2	+0.9
O30N	Mendenhall	8.44	49	P	Pn	04 10 10.5	+0.2
	baz=240						
J18K	Innoko River	8.48	337		Pn	04 10 10.9	+0.1
SCRK	Sand Creek	8.51	16	Pn	Pn	04 10 12.1	+0.8
SSIS	Shishaldin Sou	8.53	268		Pn	04 10 10.3	-1.3
M29M	Somme Creek	8.56	36		Pn	04 10 13.3	+1.4
HDA	Harding Lake	8.61	7

I23K	Minto, Yukon-K	9.28	360	P		Pn	04 10 22.1 +0.5
	baz=180						
POKR	Poker Plat Res	9.29	5			Pn	04 10 23.0 +1.2
POKR	Poker Plat Res	9.29	5	P		Pn	04 10 23.0 +1.2
	baz=186						
J16K	Anvik River	9.38	327			Pn	04 10 22.9 -0.2
I21K	Tanana	9.41	353			Pn	04 10 23.9 +0.4
WRAK	Wrangell Islan	9.42	80			Pn	04 10 20.9 -2.7
DAWY	Dawson	9.54	27	Pn		Pn	04 10 26.2 +0.9
Q32M	Nakina River	9.62	64			Pn	04 10 26.6 0.0
Q32M	Nakina River	9.62	64	P		Pn	04 10 26.6 0.0
	baz=258						
AKUT	Akutan	9.68	266	P		Pn	04 10 26.1 -1.1
P33M	Teslin, Yukon	9.69	57			Pn	04 10 27.6 +0.3
P33M	Teslin, Yukon	9.69	57	P		Pn	04 10 27.7 +0.3
	baz=250						
EGAK	Eagle	9.74	21	Pn		Pn	04 10 29.2 +1.1
AKBBA	Akutan Broad B	9.78	266			Pn	04 10 27.8 -0.8
PRP	Porcupine Dome	9.81	9	Pn		Pn	04 10 30.7 +1.5
K29M	Barlow Dome	9.88	32			Pn	04 10 31.5 +1.5
I26K	Coal Creek Min	9.88	15			Pn	04 10 32.0 +2.0
M31M	Drury Creek, Y	9.88	44			Pn	04 10 31.9 +1.9
M31M	Drury Creek, Y	9.88	44	P		Pn	04 10 31.9 +1.9
	baz=236						
N32M	Quiet Lake	9.92	51			Pn	04 10 31.8 +1.2
H21K	Melozitna Rive	9.94	351			Pn	04 10 31.2 +0.4
H24K	Noodor Dome	9.99	3			Pn	04 10 32.5 +1.0
H20K	Anotleneega Mo	10.01	346			Pn	04 10 32.4 +0.7
H20K	Anotleneega Mo	10.01	346	P		Pn	04 10 32.4 +0.7
	baz=162						
S34M	Telegraph Cree	10.08	71			Pn	04 10 32.0 -0.7
S34M	Telegraph Cree	10.08	71	P		Pn	04 10 32.0 -0.7
	baz=266						
J29N	Klondike Camp	10.15	28			Pn	04 10 34.5 +0.8
MAYO	Mayo, Yukon	10.20	36			Pn	04 10 36.0 +1.6
H19K	Roundabout Mou	10.28	343			Pn	04 10 35.1 -0.2
H18K	Honhosa River	10.30	338			Pn	04 10 35.4 -0.4
FAHO	Faro, Yukon	10.31	46	Pn		Pn	04 10 37.9 +2.0
IMAR	Indian Mountai	10.35	350	Pn		Pn	04 10 35.6 -0.7
R33M	Jennings River	10.37	63			Pn	04 10 37.1 +0.3
H17K	Granite Mounta	10.48	334			Pn	04 10 38.2 +0.1
I28M	Miner Creek	10.58	21			Pn	04 10 41.8 +2.1
DLBC	Dease Lake	10.71	68	Pn		Pn	04 10 41.1 -0.2
	comp=E,5.2nm,0.3s,baz=191,slow=22,SNR=109						
DLBC				Sn		Sn	04 12 37.4 -3.8
	baz=183,slow=23						
	comp=E,9.1nm,0.3s						
U35K	Hyder	10.76	82			Pn	04 10 40.9 -1.1
J30M	Hart River	10.77	31			Pn	04 10 44.2 +1.9
G23K	Bananza Creek	10.85	358			Pn	04 10 43.2 -0.1
FYU	Fort Yukon	10.87	8	Pn		Pn	04 10 44.9 +1.5
G24K	Hadweenzic Riv	10.87	4			Pn	04 10 44.1 +0.7
G19K	Purcell Mounta	10.95	343			Pn	04 10 44.9 +0.3
G18K	Tagagawik	11.01	339	Pn		Pn	04 10 45.2 -0.2
I30M	Mount Dempster	11.25	29	Pn		Pn	04 10 50.9 +2.1
F21K	Alatna River	11.54	352	Pn		Pn	04 10 53.1 +0.5
WTLY	Watson Lake, Y	11.60	60			Pn	04 10 53.4 0.0
F20K	Avaraart Lake	11.60	347			Pn	04 10 53.0 -0.4
F24K	Squaw Lake	11.67	2	Pn		Pn	04 10 55.6 +1.1
F19K	Shaleruckik Mo	11.70	343			Pn	04 10 54.7 -0.1
E19K	Redstone River	12.19	345			Pn	04 11 02.5 +1.0
E22K	Anaktuvuk Pass	12.34	355			Pn	04 11 05.4 +1.9
E25K	Arctic Village	12.38	6			Pn	04 11 04.7 +0.6
G30M	tAoh Zraii Nji	12.69	24	Pn		Pn	04 11 09.4 +1.0
E18K	Tukpahlearik C	12.73	340	Pn		Pn	04 11 09.2 +0.4
E21K	Killik River	12.77	352			Pn	04 11 10.3 +0.8
BBB	Bella Bella	12.92	98	Pn		Pn	04 11 10.9 -0.7
	comp=E,0.2nm,0.3s,baz=320,slow=7.5,SNR=5.2						
BBB				Sn		Sn	04 13 22.8 -12
	comp=E,0.3nm,0.3s,baz=54,slow=19,SNR=7.4						
	comp=E,7.3nm,1.0s						
G31M	Satah River	13.11	27	Pn		Pn	04 11 15.0 +1.0
D22K	Ayikyak River	13.12	354			Pn	04 11 15.5 +1.3
D24K	Happy Valley	13.30	1			Pn	04 11 18.4 +1.8
D25K	Kavik River	13.53	4			Pn	04 11 21.5 +1.7
F31M	Tsiigehtchic	13.64	26	Pn		Pn	04 11 23.2 +2.0
B21K	Ikpikpuk River	13.98	352	Pn		Pn	04 11 25.3 -0.6
C23K	Itkillik River	14.00	358	Pn		Pn	04 11 26.9 +0.7
FLDN	Fort Liard	14.24	62	P		Pn	04 11 30.1 +0.7
INK	Inuvik	14.37	24	Pn		Pn	04 11 32.3 +1.0
INK	Inuvik	14.37	24	Pn		Pn	04 11 33.1 +1.8
	comp=E,0.1nm,0.3s,baz=206,slow=14,SNR=15						
INK				Sn		Sn	04 14 02.4 -8.1
	baz=155,slow=17,SNR=1.3						
	comp=E,8.3nm,1.0s						
C16K	Lisburne Hills	14.46	335	Pn		Pn	04 11 33.8 +1.4
B20K	Meade River	14.59	349			Pn	04 11 32.8 -1.4
B22K	Teshekpuk Lake	14.61	354			Pn	04 11 33.9 -0.6
WRGLY	Wrigley	14.88	50	Pn		Pn	04 11 38.6 +0.5
C36M	Paulatuk	17.55	30			Pn	04 12 12.5 +0.2
YKA	Yellowknife Ar	18.72	55			P	04 12 25.2 -1.2
YKA	Yellowknife Ar	18.72	55	P		P	04 12 27.6 +1.2
	comp=E,0.3nm,0.3s,baz=264,slow=11,SNR=22						
	comp=E,3.1nm,0.7s						
A36M	Sachs Harbour	19.01	23	P		P	04 12 30.1 +0.5
NEW	Newport	20.99	98	P		P	04 12 52.3 +1.0
	comp=E,1.1nm,0.7s,baz=317,slow=9.4,SNR=2.3						
	comp=E,1.1nm,0.7s						
BILL	Bilibino	23.56	319	P		P	04 13 18.6 +0.4
BILL				IAmb		IAmb	04 13 20.1
	comp=Z,27nm,1.5s						
NVAR	Mina Array Bea	27.00	117	P		P	04 13 51.4 +1.3
	comp=Z,0.5nm,0.6s,baz=314,slow=8.0,SNR=4.3						
	comp=Z,0.5nm,0.6s						
PDAR	Pinedale Array	28.55	101	P		P	04 14 03.8 -0.2
	comp=Z,0.2nm,0.5s,baz=315,slow=7.3,SNR=2.0						
	comp=Z,0.2nm,0.5s						
PETK	Petropavlovsk-	30.33	287	P		P	04 14 19.0 -0.4
	comp=Z,6.4nm,0.9s,baz=58,slow=8.7,SNR=2.2						
	comp=Z,6.4nm,0.9s						
L56A	Greenwood	46.82	75	P		P	04 16 38.0 +0.3
M57A	Sunshine Farm,	47.60	76	P		P	04 16 43.0 -0.7
NRIK	Noril'sk	48.47	337	P		P	04 16 50.8 +0.7
	comp=Z,1.9nm,0.5s,baz=55,slow=5.3,SNR=3.7						
	comp=Z,1.9nm,0.5s						
H11N2	WAKE ISLAND Hy	48.73	240	T		T	05 08 09.1
	baz=22,slow=74,SNR=26						
H11N3	WAKE ISLAND Hy	48.74	240	T		T	05 08 43.1
	SNR=28						
H11N1	WAKE ISLAND Hy	48.75	240	T		T	05 08 27.8
	baz=12,slow=74,SNR=25						
H11S1	WAKE ISLAND Hy	49.87	240	T		T	05 11 33.1
	baz=28,slow=76,SNR=21						
H11S2	WAKE ISLAND Hy	49.88	240	T		T	05 11 37.1
	baz=28,slow=76,SNR=6.1						
H11S3	WAKE ISLAND Hy	49.89	240	T		T	05 11 31.4
	baz=28,slow=76,SNR=16						
ARCES	ARCESS Array B	54.81	2	P		P	04 17 37.8 +0.3
	comp=Z,11nm,1.2s,baz=355,slow=7.7,SNR=6.6						
	comp=Z,11nm,1.2s						
SONM	Songino Array	58.92	310	P		P	04 18 08.3 +1.2
	comp=Z,1.3nm,0.7s,baz=47,slow=6.1,SNR=5.7						
	comp=Z,1.3nm,0.7s						
ZALV	Zalesovo Beam	61.91	327	P		P	04 18 28.1 +0.9
	comp=Z,1.3nm,0.5s,baz=38,slow=7.5,SNR=6.5						
	comp=Z,1.3nm,0.5s						
HHC	Hu-ho-hao-te	61.98	302	eP		P	04 18 30.4 +2.3
HHC				pP		sP	04 18 35.3 +4.8
HHC				sP		pwP	04 18 37.4 +1.7
HHC				pmax		pmax	
	comp=Z,7.0nm,0.6s						
NB201	NORSAR Array S	62.38	11	P		P	04 18 30.5 +0.2
FINES	FINESS Array B	62.93	3	P		P	04 18 34.2 +0.3
FINES	FINESS Array B	62.93	3	P		P	04 18 34.8 +0.8
	comp=Z,1.3nm,0.6s,baz=4.6,slow=8.6,SNR=9.0						
	comp=Z,1.3nm,0.6s						
KURK	Kurchatov	66.58	329	P		P	04 18 57.1 -0.8
KURK				IAmb		IAmb	04 18 59.3
	comp=Z,5.5nm,1.5s						
BRVK	Borovoye	66.64	335	P		P	04 18 58.7 +0.4
BRVK				IAmb		IAmb	04 18 59.6
	comp=Z,2.5nm,1.2s						
BVAR	Borovoye Array	66.65	335	P		P	04 18 58.9 +0.5
	comp=Z,1.3nm,0.6s,baz=38,slow=7.5,SNR=10.0						
	comp=Z,1.3nm,0.6s						
KURBB	Kurchatov Arra	66.69	329	P		P	04 18 58.8 +0.2
	comp=Z,0.7nm,0.6s,baz=27,slow=6.5,SNR=5.8						
	comp=Z,0.7nm,0.6s						
MK31	Makanchi Array	68.93	325	P		P	04 19 12.9 +0.1
MK31				IAmb		IAmb	04 19 14.0
	comp=Z,3.1nm,1.2s						
MKAR	Makanchi Array	68.93	325	P		P	04 19 13.4 +0.6
MKAR	Makanchi Array	68.93	325	P		P	04 19 13.2 +0.3
	comp=Z,1.0nm,0.7s,baz=35,slow=6.0,SNR=11						
	comp=Z,1.0nm,0.7s						
ABKAR	Akbulak array	72.42	340	P		P	04 19 34.5 +0.5
ABKAR	Akbulak array	72.42	340	P		P	04 19 34.6 +0.5
ABKAR				IAmb		IAmb	04 19 35.6
	comp=Z,1.7nm,0.8s						
AKASG	Malin Array Be	73.75	1	P		P	04 19 42.1 +0.3
	comp=Z,1.3nm,0.6s,baz=359,slow=5.9,SNR=5.7						
	comp=Z,1.3nm,0.6s						
PZH	PanZhiHua	78.35	300	P		P	04 20 07.6 -1.0
PZH				pmax		pmax	
	comp=Z,10.0nm,0.5s						
PZH				pmax		pmax	
	comp=Z,60nm,5.4s						
DZM	Mont Dzumac	86.28	221	LR		LR	04 49 37.9
	comp=Z,163nm,20.3s,baz=153,slow=29						
CMAR	Chiang Mai Arr	86.50	298	P		P	04 20 51.5 +0.4
	comp=Z,1.1nm,0.4s,baz=354,slow=4.0,SNR=1.5						
	comp=Z,1.1nm,0.4s						
IDI	Anoyia	89.03	5	LR		LR	05 00 57.4
	comp=Z,7.1nm,21.7s,baz=90,slow=36						
RPN	Rapa Nui	89.40	145	LR		LR	04 52 48.3
	comp=Z,338nm,20.8s,baz=248,slow=30						
QSPA	South Pole Qui	145.69	180	PKPbc		PKPdf	04 27 45.6 +0.5
	comp=Z,1.1nm,0.8s,baz=146,slow=0.1,SNR=1.5						

NEIC ***08*** *04:12:35.4±1.1,56.04N±0.09×149.2W±0.1,h22km±9km, ML3.7/26,ML3.5(AEIC),Error ellipse: s-maj=13.1km s-min=8.1km az=167.0*

AEIC ***08*** *04:12:38.8±0.9,56.05N±0.09×149.2W±0.1,h12km±7km, Error ellipse: s-maj=12.8km s-min=8.9km az=180.0*

ISC 08 04:12:33.1±1.3,56.09N±0.07×149.22W±0.06,h10km, n174,σ1ş43/178,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	Kodiak Island	2.51	314		Pn	04 13 14.9	+1.0
KDAK					Sn	04 13 43.0	-1.5
OHAK	Old Harbor	2.52	299		Pn	04 13 14.7	+0.8
OHAK					Sn	04 13 42.8	-1.9
OHAK	Old Harbor	2.52	299	IAML		04 13 44.0	
	comp=N,175nm,0.3s						
OHAK				IAML		04 13 44.5	
	comp=E,165nm,0.6s						
OHAK	Old Harbor	2.52	299	P	Pn	04 13 14.8	+0.8
OHAK	Old Harbor	2.52	299	P	Pn	04 13 14.7	+0.8
	baz=117						
OHAK				S	Sn	04 13 42.9	-1.8
	baz=117						
SII	Sitkinak Islan	2.80	282		Pn	04 13 18.5	+0.5
SII					Sn	04 13 49.4	-2.4
SII	Sitkinak Islan	2.80	282	IAML		04 13 54.0	
	comp=N,392nm,0.7s						
SII	Sitkinak Islan	2.80	282	P	Pn	04 13 18.5	+0.5
	baz=99						
SII				S	Sn	04 13 49.8	-2.1
	baz=99						
Q20K	Shuyak Island	3.06	327	P	Pn	04 13 22.7	+1.2
	baz=145						
Q20K				S	Sn	04 13 58.6	+0.6
	baz=145						
SYI	Shuyak Island	3.06	327		Pn	04 13 22.8	+1.4
SYI	Shuyak Island	3.06	327		Sn	04 13 57.7	-0.4
CNPM	China Poot	3.61	343		Pn	04 13 30.2	+1.1
CNPM				IAML		04 14 15.8	
	comp=N,66nm,0.4s						
CNPM	China Poot	3.61	343		Sn	04 14 10.8	-1.0
MID	Middleton Isla	3.69	24		Pn	04 13 31.3	+1.2
Q23K	Middleton Isla	3.69	23		Pn	04 13 31.3	+1.2
Q23K	Middleton Isla	3.69	23	IAML		04 15 53.3	
	comp=N,277nm,2.5s						
Q23K	Middleton Isla	3.69	23	P	Pn	04 13 31.3	+1.2
	baz=205						
Q19K	Cape Douglas,	3.72	322		Pn	04 13 32.3	+1.7
Q19K	Cape Douglas,	3.72	322	IAML		04 14 22.2	
	comp=E,220nm,1.1s						
Q19K				IAML		04 14 37.2	
	comp=N,103nm,1.2s						
Q19K	Cape Douglas,	3.72	322	P	Pn	04 13 32.3	+1.7
	baz=139						
BRSE	Bradley Lake S	3.75	348		Pn	04 13 31.9	+0.9
BRSE					Sn	04 14 13.3	-1.9
BRSE	Bradley Lake S	3.75	348	P	Pn	04 13 31.9	+0.9
	baz=167						
BRSE				S	Sn	04 14 13.3	-1.9
	baz=167						
BRLK	Bradley Lake	3.79	347		Pn	04 13 32.3	+0.7
BRLK	Bradley Lake	3.79	347	IAML		04 14 21.3	
	comp=E,73nm,0.4s						
HOM	Homer	3.81	341		Pn	04 13 33.2	+1.5
HOM	Homer	3.81	341	IAML		04 14 18.6	
	comp=E,181nm,0.4s						
HOM				IAML		04 14 21.9	
	comp=N,239nm,0.7s						
HOM	Homer	3.81	341	P	Pn	04 13 33.0	+1.3
	baz=159						
KAKN	Katmai Knife C	3.87	307		Pn	04 13 34.5	+1.8
ACHA	Angle Creek He	3.95	305		Pn	04 13 35.4	+1.6
ANCK	Angle Creek	4.02	304		Pn	04 13 36.7	+2.0
SEW	Seward	4.03	358		Pn	04 13 35.4	+0.6
SEW					Sn	04 14 19.4	-2.6
SEW	Seward	4.03	358	P	Pn	04 13 35.4	+0.6
	baz=178						
SEW				S	Sn	04 14 19.4	-2.6
	baz=178						
P23K	Montague Islan	4.04	13		Pn	04 13 35.9	+1.0
P23K					Sn	04 14 19.7	-2.5
P23K	Montague Islan	4.04	13	P	Pn	04 13 35.9	+1.0
	baz=194						
P23K				S	Sn	04 14 19.7	-2.5
	baz=194						
P19K	Oil Pt	4.17	331		Pn	04 13 38.2	+1.4
P19K	Oil Pt	4.17	331	IAML		04 14 29.3	
	comp=E,165nm,0.3s						
P19K				IAML		04 14 29.3	
	comp=N,162nm,0.3s						
P19K	Oil Pt	4.17	331	P	Pn	04 13 38.2	+1.4
	baz=148						
CNTC	Contact Creek	4.23	304		Pn	04 13 39.4	+1.8
Q17K	Contact Creek	4.23	304	P	Pn	04 13 39.4	+1.7
	baz=119						
O20K	Slope Mountain	4.39	337		Pn	04 13 40.8	+1.0
O20K	Slope Mountain	4.39	337	P	Pn	04 13 40.8	+1.0
	baz=155						
O22K	Cooper Landing	4.42	357	Pn	Pn	04 13 41.9	+1.8
ILSW	Iliamna Southw	4.43	334		Pn	04 13 41.1	+0.7
ILSW	Iliamna Southw	4.43	334	IAML		04 14 33.0	
	comp=N,45nm,0.8s						
ILSW				IAML		04 14 33.8	
	comp=E,59nm,0.8s						
SLKM	Skilak Lake	4.47	354		Pn	04 13 41.7	+0.9
HIN	Hinchinbrook I	4.56	17		Pn	04 13 43.3	+1.2
P18K	Big Mountain,	4.62	318		Pn	04 13 43.9	+1.0
P18K	Big Mountain,	4.62	318	P	Pn	04 13 44.0	+1.0
	baz=134						
KAIM	Kayak Island	4.62	32		Pn	04 13 44.3	+1.4
KAIM	Kayak Island	4.62	32	P	Pn	04 13 44.3	+1.4
	baz=215						
RED	Redoubt Volcan	4.73	338		Pn	04 13 44.8	+0.3
RSO	Redoubt South	4.77	338		Pn	04 13 46.2	+1.1
RDT	Redoubt	4.80	341		Pn	04 13 46.2	+0.8
CAPN	Captain Cook N	4.80	349	Pn	Pn	04 13 47.8	+2.4
EYAK	Cordova Ski Ar	4.84	21		Pn	04 13 47.1	+1.3
EYAK	Cordova Ski Ar	4.84	21	P	Pn	04 13 47.5	+1.7
EYAK	Cordova Ski Ar	4.84	21	P	Pn	04 13 47.1	+1.3
	baz=203						
O19K	Port Alsworth	4.93	329		Pn	04 13 48.0	+0.9
SUCK	Suckling Hills	4.93	34		Pn	04 13 49.0	+1.8
O18K	Koktuh Hills	4.94	322		Pn	04 13 48.2	+0.9
O18K	Koktuh Hills	4.94	322	P	Pn	04 13 48.2	+0.9
	baz=138						
P17K	Kvichak River	4.97	312		Pn	04 13 49.8	+2.1
P17K	Kvichak River	4.97	312	P	Pn	04 13 49.8	+2.1
	baz=126						
HMT	Hamilton	5.00	30		Pn	04 13 49.8	+1.6
NICHA	Nichawak Mount	5.01	32		Pn	04 13 49.7	+1.5
RC01	Rabbit Creek A	5.03	357	Pn	Pn	04 13 49.4	+0.9
BGLC	Bering Glacier	5.13	35		Pn	04 13 51.3	+1.5
BGLC	Bering Glacier	5.13	35	P	Pn	04 13 51.3	+1.5
	baz=220						
CHGN	Chignik	5.14	276	Pn	Pn	04 13 51.2	+1.2
BERG	Berg Lake	5.21	32		Pn	04 13 52.2	+1.2
GRIN	Grindle Hills	5.24	34		Pn	04 13 52.9	+1.5
N20K	Mount Spurr	5.36	344	P	Pn	04 13 53.5	+0.4
	baz=162						
SPCR	Spurr Chakacha	5.36	344		Pn	04 13 53.5	+0.4
CKL	Chakachamna La	5.38	344		Pn	04 13 54.0	+0.6
KHIT	Khitrov Hills	5.39	33		Pn	04 13 54.9	+1.4
SUA	Susitna One	5.45	352	Pn	Pn	04 13 54.9	+0.5
BMRM	Bremner River	5.46	24		Pn	04 13 55.7	+1.2
BMRM	Bremner River	5.46	24	P	Pn	04 13 55.7	+1.2
	baz=208						
N19K	Bonanza Creek	5.49	332		Pn	04 13 55.5	+0.6
N19K	Bonanza Creek	5.49	332	P	Pn	04 13 55.5	+0.6
	baz=148						
WAX	Waxell Ridge	5.52	35		Pn	04 13 56.5	+1.3
P16K	Nushagak River	5.57	306		Pn	04 13 58.0	+2.1
P16K	Nushagak River	5.57	306	P	Pn	04 13 58.0	+2.1
	baz=119						
O17K	Koliganek Bris	5.59	315		Pn	04 13 57.3	+1.1
O17K	Koliganek Bris	5.59	315	P	Pn	04 13 57.3	+1.1
	baz=128						
STLK	Strandline Lak	5.60	347		Pn	04 13 57.3	+0.9
SPNN	North Nagishla	5.60	343		Pn	04 13 57.4	+0.9
BARK	Barkley Ridge	5.60	37		Pn	04 13 58.0	+1.5
MESA	MESA	5.63	40		Pn	04 13 58.3	+1.4
MESA	MESA	5.63	40	P	Pn	04 13 58.3	+1.4
	baz=226						
CRQM	Cirque	5.67	32		Pn	04 13 59.0	+1.5
CRQE	Cirque	5.68	32	P	Pn	04 13 59.0	+1.4
	baz=217						
KLU	Klutina	5.69	16		Pn	04 13 59.3	+1.7
KLU	Klutina	5.69	16	P	Pn	04 13 59.3	+1.7
	baz=199						
GHO	Glory Hole Cre	5.71	1	Pn	Pn	04 13 59.3	+1.4
SML	Sawmill	5.76	4	Pn	Pn	04 14 00.9	+2.4
TGL	Tana Glacier	5.76	33		Pn	04 13 60.0	+1.3
N18K	Kilae Creek	5.79	325		Pn	04 13 59.6	+0.7
N18K	Kilae Creek	5.79	325	P	Pn	04 13 59.6	+0.7
	baz=140						
ISLE	Juniper Island	5.80	36		Pn	04 14 00.5	+1.2
BAGL	Bagley Icefiel	5.80	37		Pn	04 14 00.4	+1.3
SCM	Sheep Creek Mo	5.85	9	Pn	Pn	04 14 02.5	+2.7
O16K	Kokwok River B	5.90	310		Pn	04 14 02.2	+1.8
VRDI	Verde Repeater	5.97	28		Pn	04 14 02.6	+1.0
SVW2	Sparrevohn	6.02	329	P	Pn	04 14 03.2	+1.0
CHNA	Chernabura Isl	6.03	262	P	Pn	04 14 02.9	+0.6
	baz=74						
SKT	Skwentna	6.03	350	Pn	Pn	04 14 03.6	+1.3
CNBA	Chernabura Isl	6.03	262		Pn	04 14 02.9	+0.6
N25K	Chitina, Valde	6.03	22		Pn	04 14 03.9	+1.5
N25K	Chitina, Valde	6.03	22	P	Pn	04 14 03.9	+1.5
	baz=205						
KIAG	Kiagna River	6.04	34		Pn	04 14 03.6	+1.1
GLB	Gilahina Butte	6.06	25		Pn	04 14 04.1	+1.3
GRNC	Granite Creek	6.09	37		Pn	04 14 04.7	+1.4
TABL	Table Mountain	6.10	41		Pn	04 14 04.9	+1.5
N17K	Nushagak Hills	6.12	320		Pn	04 14 04.4	+0.9
N17K	Nushagak Hills	6.12	320	P	Pn	04 14 04.4	+0.9
	baz=134						
YKU2	Yakutat	6.15	52		Pn	04 14 05.6	+1.7
PTPK	Patty Peak	6.21	32		Pn	04 14 06.5	+1.6
MCARA	McCarthy VSAT	6.21	29		Pn	04 14 06.3	+1.5
PCA	Pinnacle	6.22	46		Pn	04 14 06.4	+1.4
PINM	Pinnacle	6.23	46	P	Pn	04 14 06.4	+1.4
	baz=233						
M24K	Tolsona, Glenn	6.24	13	Pn	Pn	04 14 07.5	+2.4
PNL	Peninsula	6.35	52		Pn	04 14 08.1	+1.4
PNL	Peninsula	6.35	52	P	Pn	04 14 08.8	+2.1
PNL	Peninsula	6.35	52	P	Pn	04 14 08.1	+1.4
	baz=239						
BARN	Barnard Glacie	6.36	35		Pn	04 14 08.3	+1.3
CTG	Chitna Glacier	6.40	37	P	Pn	04 14 08.6	+1.1
	baz=223						
CTGM	Chitina Glacie	6.40	37		Pn	04 14 08.6	+1.1
SDPT	Sand Point	6.40	268		Pn	04 14 08.3	+0.9
SDPT	Sand Point	6.40	268	P	Pn	04 14 08.5	+1.1
SDPT	Sand Point	6.40	268	P	Pn	04 14 08.3	+0.9
	baz=79						
M18K	Stony River	6.41	330		Pn	04 14 08.1	+0.6
M18K	Stony River	6.41	330	P	Pn	04 14 08.1	+0.6
	baz=145						
O15K	Ungalikthiuk R	6.48	303		Pn	04 14 10.2	+1.8
O15K	Ungalikthiuk R	6.48	303	P	Pn	04 14 10.2	+1.8
	baz=114						
L19K	White Mountain	6.76	337		Pn	04 14 12.7	+0.4
L19K	White Mountain	6.76	337	P	Pn	04 14 12.7	+0.4
	baz=152						
M17K	Holitna River	6.83	325	Pn	Pn	04 14 14.6	+1.4
O29M	Mount Kennedy	7.04	49		Pn	04 14 18.2	+2.0
O29M	Mount Kennedy	7.04	49	P	Pn	04 14 18.2	+2.0
	baz=237						
P29M	Windy Craggy	7.08	55		Pn	04 14 17.9	+1.2
P29M	Windy Craggy	7.08	55	P	Pn	04 14 17.9	+1.2
	baz=244						
PS1A	Pavlof South-1	7.10	270		Pn	04 14 17.9	+0.9
PVV	Pavlof Volcano	7.13	269		Pn	04 14 18.2	+0.8
PN7A	Pavlof North-7	7.24	270		Pn	04 14 19.7	+0.8
S31K	Pelican	7.34	70		Pn	04 14 20.2	+0.1
S31K	Pelican	7.34	70	P	Pn

UNIC				*i* S	Sg	04 17 21.6	-0.5	
UNIC				IAML		04 17 25.3		
	comp=Z,2µm,1.0s							
QUEZ	**Alcaldia de Qu**	**0.99**	**194**	*e*P	Pg	**04 17 10.1**	**-0.1**	
QUEZ				*e*S	Sg	**04 17 23.4**	**+0.3**	
QUEZ	**Alcaldia de Qu**	**0.99**	**194**	*i* P	Pg	**04 17 10.1**	**-0.1**	
QUEZ				*i* S	Sg	**04 17 23.3**	**+0.2**	
QUEZ				IAML		04 17 27.9		
	comp=Z,13µm,1.0s							
IZABA	**Izabal, Puerto**	**1.02**	**25**	*i* P	Pn	**04 17 12.8**	**+1.0**	
IZABA				*i* S	Sn	**04 17 28.4**	**+2.1**	
IZABA				IAML		04 17 30.8		
	comp=Z,21nm,1.0s							
CEDA	**San Andres**	**1.05**	**199**	*i* P	Pg	**04 17 11.0**	**-0.4**	
CEDA				*i* S	Sg	**04 17 25.2**	**+0.1**	
CEDA				IAML		04 17 36.7		
	comp=Z,10µm,1.0s							
SLOZ	**Alcaldia de Sa**	**1.06**	**223**	*e*P	Pg	**04 17 11.2**	**-0.3**	
PIC2	**El Picacho**	**1.07**	**192**	*e*P	Pb	**04 17 12.0**	**-0.2**	
PIC2				*e*S	Sn	**04 17 27.9**	**-0.2**	
PIC2				*e*S	Sb	**04 17 29.8**	**+3.2**	
RTR	**El Retiro**	**1.08**	**213**	*e*P	Pg	**04 17 12.0**	**+0.1**	
LOAL	**Lomas de Alarc**	**1.08**	**222**	*e*P	Pg	**04 17 11.6**	**-0.4**	
LOAL				*e*S	Sb	**04 17 26.4**	**0.0**	
LOAL	**Lomas de Alarc**	**1.08**	**222**	*i* P	Pg	**04 17 11.5**	**-0.4**	
LOAL				IAML		04 17 12.7		
	comp=Z,6µm,1.0s							
LOAL				*i* S	Sg	**04 17 26.0**	**+0.1**	
SNJE	**San Jose**	**1.08**	**211**	*e*P	Pg	**04 17 11.8**	**-0.2**	
SNJE				*e*P	Pg	**04 17 11.8**	**-0.2**	
SNJE				*e*S	Sn	**04 17 28.3**	**+0.1**	
PAVA	**Las Pavas**	**1.09**	**175**	*e*P	Pg	**04 17 12.1**	**0.0**	
PAVA	**Las Pavas**	**1.09**	**175**	*i* P	Pg	**04 17 11.9**	**-0.2**	
PAVA				*i* S	Sb	**04 17 26.6**	**-0.2**	
PAVA				IAML		04 17 30.9		
	comp=Z,5µm,1.0s							
BOQS	**Boqueron**	**1.09**	**193**	*e*P	Pg	**04 17 12.1**	**0.0**	
UDBS	**Universidad Do**	**1.09**	**186**	*e*P	Pg	**04 17 11.8**	**-0.3**	
UDBS				*e*S	Sg	**04 17 26.4**	**+0.1**	
UDBS	**Universidad Do**	**1.09**	**186**	*i* P	Pg	**04 17 11.8**	**-0.3**	
UDBS				*i* S	Sg	**04 17 26.3**	**+0.1**	
UDBS				IAML		04 17 29.4		
	comp=Z,2µm,1.0s							
UESS	**Universidad de**	**1.09**	**189**	*e*P	Pg	**04 17 11.8**	**-0.3**	
UESS				*e*S	Sn	**04 17 28.4**	**+0.2**	
IGN	**Direccin Gen**	**1.09**	**187**	*i* P	Pg	**04 17 12.0**	**-0.1**	
IGN				*i* S	Sb	**04 17 26.7**	**-0.1**	
IGN				IAML		04 17 34.8		
	comp=Z,8µm,1.0s							
UEES	**Universidad Ev**	**1.10**	**191**	*e*P	Pg	**04 17 12.1**	**-0.2**	
UEES				*e*S	Sg	**04 17 26.4**	**-0.1**	
UEES	**Universidad Ev**	**1.10**	**191**	*i* P	Pg	**04 17 12.0**	**-0.3**	
UEES				*i* S	Sg	**04 17 26.9**	**+0.3**	
UEES				IAML		04 17 33.5		
	comp=Z,2µm,1.0s							
AEIL	**Aeropuerto Ilo**	**1.10**	**184**	*e*P	Pg	**04 17 12.2**	**-0.2**	
AEIL				*e*S	Sg	**04 17 26.8**	**+0.1**	
UTEC	**Universidad Te**	**1.11**	**188**	*i* P	Pb	**04 17 12.7**	**0.0**	
UTEC				*i* S	Sb	**04 17 27.9**	**+0.6**	
UTEC				IAML		04 17 32.0		
	comp=Z,2µm,1.0s							
SEMO	**Seminario San**	**1.11**	**190**	*i* P	Pb	**04 17 12.6**	**-0.1**	
SEMO				*i* S	Sb	**04 17 27.4**	**0.0**	
SEMO				IAML		04 17 30.7		
	comp=Z,6µm,1.0s							
SBLS	**San Blas**	**1.12**	**211**	*e*P	Pg	**04 17 12.4**	**-0.2**	
PMON	**Piamonte**	**1.12**	**194**	*e*P	Pg	**04 17 12.5**	**-0.1**	
PMON				*e*S	Sb	**04 17 28.1**	**+0.4**	
PMON	**Piamonte**	**1.12**	**194**	*i* P	Pg	**04 17 12.5**	**-0.1**	
PMON				*i* S	Sg	**04 17 27.5**	**+0.3**	
PMON				IAML		04 17 34.6		
	comp=Z,4µm,1.0s							
CEVE	**Cerro Verde**	**1.13**	**211**	*e*P	Pg	**04 17 12.7**	**-0.1**	
CEVE				*e*S	Sb	**04 17 28.1**	**+0.1**	
CEVE	**Cerro Verde**	**1.13**	**211**	*i* P	Pg	**04 17 12.7**	**-0.1**	
CEVE				*i* S	Sg	**04 17 27.8**	**+0.3**	
CEVE				IAML		04 17 31.4		
	comp=Z,4µm,1.0s							
SNET	**Serv Nac Est T**	**1.13**	**190**	*e*P	Pg	**04 17 12.5**	**-0.4**	
SNET				*e*S	Sn	**04 17 29.5**	**+0.4**	
SNET	**Serv Nac Est T**	**1.13**	**190**	*i* P	Pg	**04 17 12.4**	**-0.4**	
SNET				*i* S	Sn	**04 17 29.8**	**+0.6**	
SNET				IAML		04 17 32.8		
	comp=Z,4µm,1.0s							
SCLA	**Alcaldia de Sa**	**1.13**	**165**	*e*P	Pn	**04 17 13.2**	**-0.3**	
SCLA				*e*S	Sn	**04 17 28.9**	**-0.3**	
SCLA	**Alcaldia de Sa**	**1.13**	**165**	*i* P	Pn	**04 17 13.1**	**-0.3**	
SCLA				*i* S	Sn	**04 17 28.7**	**-0.6**	
SCLA				IAML		04 17 36.8		
	comp=Z,3µm,1.0s							
NUBE	**Las Nubes**	**1.15**	**219**	*e*P	Pg	**04 17 12.8**	**-0.5**	
NUBE				*e*S	Sb	**04 17 28.6**	**-0.1**	
NUBE	**Las Nubes**	**1.15**	**219**	*i* P	Pg	**04 17 12.6**	**-0.7**	
NUBE				*i* S	Sg	**04 17 28.3**	**0.0**	
NUBE				IAML		04 17 31.6		
	comp=Z,1µm,1.0s							
LOMA	**Loma Larga**	**1.16**	**187**	*e*P	Pg	**04 17 13.0**	**-0.5**	
LOMA				*e*S	Sb	**04 17 28.9**	**0.0**	
LOMA	**Loma Larga**	**1.16**	**187**	*i* P	Pg	**04 17 13.1**	**-0.4**	
LOMA				*i* S	Sg	**04 17 28.6**	**+0.1**	
LOMA				IAML		04 17 31.6		
	comp=Z,2µm,1.0s							
SJTE	**Alcalda de S**	**1.18**	**179**	*e*P	Pb	**04 17 13.6**	**-0.3**	
SJTE				*e*S	Sg	**04 17 28.3**	**-1.0**	
SJTE	**Alcalda de S**	**1.18**	**179**	*i* P	Pb	**04 17 13.5**	**-0.5**	
SJTE				*i* S	Sg	**04 17 29.1**	**-0.2**	
SJTE				IAML		04 17 32.1		
	comp=Z,1µm,1.0s							
UESV	**Universidad de**	**1.18**	**168**	*i* P	Pb	**04 17 13.6**	**-0.3**	
UESV				*i* S	Sb	**04 17 29.0**	**-0.5**	
UESV				IAML		04 17 33.6		
	comp=Z,2µm,1.0s							
COEG	**Centro de Oper**	**1.19**	**173**	*e*P	Pb	**04 17 13.8**	**-0.3**	
COEG				*e*S	Sb	**04 17 29.8**	**+0.2**	
COEG	**Centro de Oper**	**1.19**	**173**	*i* P	Pb	**04 17 13.7**	**-0.3**	
COEG				*i* S	Sg	**04 17 29.5**	**+0.1**	
COEG				IAML		04 17 39.4		
	comp=Z,2µm,1.0s							
PANCS	**Alcalda de**	**1.19**	**187**	*i* P	Pb	**04 17 13.5**	**-0.6**	
PANCS				*i* S	Sb	**04 17 29.1**	**-0.7**	
PANCS				IAML		04 17 32.2		
	comp=Z,4µm,1.0s							
JAYA	**Jayaque - finc**	**1.21**	**200**	*e*P	Pb	**04 17 13.9**	**-0.6**	
JAYA				*e*S	Sb	**04 17 30.3**	**-0.1**	
JAYA	**Jayaque - finc**	**1.21**	**200**	*i* P	Pb	**04 17 13.8**	**-0.7**	
JAYA				*i* S	Sb	**04 17 30.2**	**-0.2**	
JAYA				IAML		04 17 32.9		
	comp=Z,4µm,1.0s							
PQSS	**Presa 15 de Se**	**1.26**	**159**	*i* P	Pb	**04 17 15.1**	**-0.1**	
PQSS				*i* S	Sn	**04 17 32.3**	**0.0**	
PQSS				IAML		04 17 35.4		
	comp=Z,2µm,1.0s							
TECO	**Alcaldia de Te**	**1.28**	**169**	*e*P	Pn	**04 17 15.3**	**-0.2**	
TECO				*e*S	Sg	**04 17 32.6**	**+0.2**	
TECO	**Alcaldia de Te**	**1.28**	**169**	*i* P	Pn	**04 17 15.2**	**-0.2**	
TECO				*i* S	Sb	**04 17 32.4**	**+0.1**	
TECO				IAML		04 17 35.0		
	comp=Z,1µm,1.0s							
GUNB	**GUNB**	**1.29**	**261**	*i* P	Pn	**04 17 15.1**	**-0.7**	
GUNB				*i* S	Sb	**04 17 32.4**	**-0.3**	
GUNB				IAML		04 17 34.4		
	comp=Z,5µm,1.0s							
NBG	**Las Nubes**	**1.29**	**261**	*e*P	Pg	**04 17 16.7**	**+0.8**	
NBG				*e*S	Sn	**04 17 34.1**	**+0.7**	
LALI	**Alcalda de L**	**1.34**	**192**	*e*P	Pb	**04 17 16.5**	**0.0**	
LALI				*e*S	Sg	**04 17 34.7**	**+0.5**	
LALI	**Alcalda de L**	**1.34**	**192**	*i* P	Pb	**04 17 16.3**	**-0.2**	
LALI				*i* S	Sn	**04 17 34.2**	**0.0**	
LALI				IAML		04 17 37.3		
	comp=Z,570nm,1.0s							
TECA	**Tecapa**	**1.40**	**158**	*e*P	Pb	**04 17 17.7**	**0.0**	
GCG4	**OSOP**	**1.47**	**262**	*i* S	Sg	**04 17 39.0**	**+0.6**	
COMHN	**El Horno**	**1.47**	**104**	*i* P	Pg	**04 17 19.1**	**-0.4**	
COMHN				*i* S	Sg	**04 17 40.3**	**+1.7**	
AVCB	**Coban**	**1.48**	**297**	*i* P	Pb	**04 17 19.0**	**-0.1**	
AVCB				*i* S	Sg	**04 17 40.1**	**+1.2**	
AVCB				IAML		04 17 43.6		
	comp=Z,7µm,1.0s							
PACA	**Pacayal**	**1.50**	**152**	*e*P	Pg	**04 17 19.6**	**-0.3**	
PACA	**Pacayal**	**1.50**	**152**	*i* P	Pb	**04 17 19.4**	**+0.1**	
PACA				*i* S	Sg	**04 17 40.2**	**+0.9**	
PACA				IAML		04 17 47.0		
	comp=Z,6µm,1.0s							
GUMI	**Mixco**	**1.54**	**264**	*i* P	Pg	**04 17 20.4**	**-0.3**	
GUMI				*i* S	Sg	**04 17 41.1**	**+0.4**	
GUMI				IAML		04 17 46.3		
	comp=Z,10µm,1.0s							
RANC	**El Ranchito**	**1.54**	**152**	*i* P	Pb	**04 17 19.9**	**-0.2**	
RANC				IAML		04 17 48.6		
	comp=Z,650nm,1.0s							
BLLM	**Bellamira**	**1.56**	**150**	*e*P	Pb	**04 17 20.4**	**0.0**	
PCG	**Pacaya**	**1.58**	**255**	*e*P	Pg	**04 17 22.1**	**+0.7**	
PCG				*e*S	Sg	**04 17 42.9**	**+0.9**	
FUG	**Fuego 3**	**1.79**	**259**	*e*P	Pg	**04 17 25.1**	**-0.4**	
FUG				*e*S	Sg	**04 17 49.0**	**+0.4**	
LCND	**La Caada**	**1.85**	**143**	*e*P	Pb	**04 17 25.4**	**+0.1**	
LCND	**La Caada**	**1.85**	**143**	*i* P	Pb	**04 17 25.3**	**-0.1**	
LCND				*i* S	Sg	**04 17 52.0**	**+1.2**	
LCND				IAML		04 17 53.5		
	comp=Z,800nm,1.0s							
TGUH	**Tegucigalpa,Un**	**1.86**	**113**	*i* P	Pg	**04 17 26.0**	**-0.8**	
TGUH				IAML		04 17 27.8		
	comp=Z,2µm,1.0s							
TGUH				*i* S	Sg	**04 17 52.8**	**+1.8**	
CNCH	**Conchagua**	**1.91**	**142**	*i* P	Pb	**04 17 26.2**	**-0.2**	
CNCH				*i* S	Sg	**04 17 53.3**	**+0.6**	
CNCH				IAML		04 18 01.9		
	comp=Z,2µm,1.0s							
AMPH	**Amapala**	**2.01**	**138**	*i* P	Pb	**04 17 28.0**	**-0.1**	
AMPH				*i* S	Sg	**04 17 56.0**	**+0.1**	
PETF	**Flores**	**2.25**	**339**	*i* P	Pb	**04 17 30.5**	**-1.6**	
PETF				*i* S	Sb	**04 17 58.7**	**-1.4**	
PETF				IAML		04 18 01.0		
	comp=Z,860nm,1.0s							
YUSH	**Yuscaran**	**2.28**	**111**	*i* P	Pn	**04 17 30.3**	**+1.0**	
YUSH				*i* S	Sg	**04 18 03.6**	**-1.0**	
CSGN	**Cosiguina Volc**	**2.31**	**142**	*i* P	Pb	**04 17 32.7**	**-0.5**	
CSGN				IAML		04 17 39.5		
	comp=Z,650nm,1.0s							
POTN	**Potosi Cosigui**	**2.33**	**140**	*i* P	Pb	**04 17 33.7**	**+0.3**	
POTN				IAML		04 17 44.4		
	comp=Z,130nm,1.0s							
POTN				*i* S	Sg	**04 18 07.1**	**+1.1**	
HUEH	**Huehuetenango**	**2.44**	**282**	*i* P	Pb	**04 17 35.2**	**-0.3**	
HUEH				*i* S	Sg	**04 18 07.8**	**-1.8**	
HUEH				IAML		04 18 17.3		
	comp=Z,2µm,1.0s							
STG3	**Santiaguito 3,**	**2.46**	**268**	*e*P	Pg	**04 17 37.9**	**-0.4**	
LIMN	**Finca el Limon**	**3.11**	**123**	*i* P	Pn	**04 17 41.6**	**+0.8**	
LIMN				*i* S	Sg	**04 18 29.6**	**-1.7**	
LIMN				IAML		04 18 43.5		
	comp=Z,190nm,1.0s							
RCPN	**Sur Rio San Ju**	**3.12**	**114**	*i* P	Pn	**04 17 41.0**	**+0.1**	
RCPN				*i* S	Sg	**04 18 30.1**	**-1.4**	
RCPN				IAML		04 18 33.1		
	comp=Z,0.8nm,1.0s							
COPN	**Copaltepe**	**3.53**	**137**	*i* P	Pn	**04 17 47.8**	**+1.4**	
COPN				IAML		04 19 02.6		
	comp=Z,64nm,1.0s							
MATN	**Matagalpa**	**3.55**	**121**	*i* P	Pn	**04 17 47.7**	**+1.0**	
MATN				IAML		04 18 01.3		
	comp=Z,90nm,1.0s							
MATN				*i* S	Sg	**04 18 43.9**	**-1.3**	
BOAB	**BOACO BROADBAN**	**4.02**	**125**	*i* P	Pn	**04 17 54.0**	**+0.8**	
BOAB				*i* S	Sg	**04 18 56.7**	**-3.8**	
BOAB				IAML		04 19 03.1		
	comp=Z,110nm,1.0s							

*DJA **08** 04:20:13.3±0.8,3°S±5°×13°1E±°, h17km±7km, M3.5/7, mb3.6/1, MLv3.4/7*
*IDC **08** 04:20:16.3±4.4,3°.85S×132°.15E, h0km, mb3.4/1, mbtmp3.7/3, ML3.7/2, Error ellipse: s-maj=273.1km s-min=29.2km az=75.0*
ISC 08 04:20:12.3±1.0,3°.43S±0°.06×131°.16E±0°.10, h30km, n8, σ3°69/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.21**	**65**	P	**Pb**	**04 20 36.8**	**+2.3**
BNDI	**Bandanaira**	**1.65**	**229**	P	**Pn**	**04 20 41.8**	**+2.6**
SWI	**Sorong**	**2.56**	**2**	P	**Pn**	**04 20 51.4**	**-0.3**
SWI				S	**Sn**	**04 21 20.7**	**-1.1**
LBMI	**Labuha**	**4.59**	**307**	P	**Pn**	**04 21 17.5**	**-2.2**
GTOI	**Gorontalo**	**9.09**	**296**	P	**Pn**	**04 22 23.0**	**+1.5**
WRA	**Warramunga Arr**	**16.70**	**170**	Pn	**Pn**	**04 24 04.4**	**+0.2**
	0.2nm,0.3s,baz=356,slow=13,SNR=2.3						
WRA				Sn	**Sn**	**04 27 03.3**	**-5.6**
	0.1nm,0.3s,baz=351,slow=13,SNR=2.1 0.7nm,0.5s						
ASAR	**Alice Springs**	**20.29**	**173**	P	**P**	**04 24 48.9**	**+3.1**
	0.7nm,0.3s,baz=351,slow=11,SNR=30						
ASAR				S	**S**	**04 28 26.1**	**-5.8**
	1.9nm,1.0s,baz=80,slow=31,SNR=4.4 2.7nm,0.5s						
MKAR	**Makanchi Array**	**65.92**	**325**	P	P	04 31 09.9	+14
	0.4nm,0.8s,baz=116,slow=7.2,SNR=1.6 0.4nm,0.8s						

AUST 08 04:21:14.4±8.1,22°.41S×148°.39E, h10km±49km, Error ellipse: s-maj=50.6km s-min=14.1km az=49.0, Mining explosion., Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**3.05**	**319**	P	Pn	04 22 02.9	+0.2
	baz=3.1						
CTA				S	Sn	04 22 40.6	+1.4
	baz=3.1						
EIDS	**Eidsvold**	**3.84**	**141**	P	Pn	04 22 13.8	+0.3
	baz=3.8						
EIDS				S	Sn	04 22 59.7	+0.9
	baz=3.8						
QLP	**Quilpie**	**5.62**	**221**	P	Pn	04 22 38.4	+0.5
	baz=5.6						
QIS	**Mount Isa**	**8.38**	**281**	P	Pn	04 23 15.3	-0.7
	baz=8.4						

*IDC **08** 04:27:34.2±0.7,24°.30N×123°.70E, h0km, mb3.8/14, mbtmp3.8/15, ML3.3/1, MS3.8/1, Error ellipse: s-maj=24.4km s-min=16.0km az=73.0*
*JMA **08** 04:27:36.8±0.1,24°.2N±0°.3×123°.9E±0°.2, h15km, MD4.0/10, MV3.9/10, NEAR ISHIGAKIJIMA ISLAND*
JMA Felt II J1 at NEAR ISHIGAKIJIMA ISLAND.
ISC 08 04:27:36.5±0.8,24°.25N±0°.05×123°.78E±0°.03, h16km±4km, n42, σ1°14/39, mb3.7/14, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.09**	**333**	*i* P	**Pg**	**04 27 40.6**	**+0.7**
IRIF				S	**Sg**	**04 27 43.5**	**+1.4**
IRIF	**Iriomote-Funau**	**0.09**	**333**	A	A	04 27 40.6	
	comp=E,56nm,2.1s,comp=N,90nm,1.2s						
HATJ	**Hateruma jima**	**0.20**	**172**	*i* P	**Pg**	**04 27 41.0**	**-0.2**
HATJ				S	**Sg**	**04 27 44.4**	**0.0**
HATJ	**Hateruma jima**	**0.20**	**172**	A	A	04 27 41.0	
	comp=E,33nm,2.1s,comp=N,41nm,2.1s						
JKRS	**Kuro-shima**	**0.21**	**94**	*i* P	**Pg**	**04 27 40.8**	**-0.6**
JKRS				S	**Sg**	**04 27 43.6**	**-1.2**
JKRS	**Kuro-shima**	**0.21**	**94**	A	A	04 27 40.8	
	comp=E,87nm,1.3s,comp=N,97nm,4.0s						
JIJ	**Ishigaki jima**	**0.35**	**72**	*i* P	**Pg**	**04 27 42.9**	**-0.9**
JIJ				S	**Sg**	**04 27 47.3**	**-1.5**
JIJ	**Ishigaki jima**	**0.35**	**72**	A	A	04 27 42.9	
	comp=E,14nm,1.5s,comp=N,8.0nm,1.4s						
JISG	**Ishigakijimahi**	**0.59**	**55**	*i* P	**Pb**	**04 27 47.5**	**-0.9**
JISG				S	**Sb**	**04 27 55.6**	**-0.9**
JISG	**Ishigakijimahi**	**0.59**	**55**	A	A	04 27 47.5	
	comp=E,22nm,0.6s,comp=N,31nm,0.5s						
YOJ	**Yonaguni jima**	**0.73**	**287**	P	**Pn**	**04 27 52.3**	**+0.2**
YOJ	**Yonaguni jima**	**0.73**	**287**	P	**Pn**	**04 27 52.2**	**+0.1**
YOJ				S	**Sn**	**04 28 03.0**	**+0.1**
YOJ	**Yonaguni jima**	**0.73**	**287**	A	A	04 27 52.2	
	comp=E,7.0nm,3.8s,comp=N,5.0nm,0.7s						
JYNG	**Yonagunijimaku**	**0.78**	**285**	P	**Pn**	**04 27 52.9**	**+0.1**
JYNG				S	**Sn**	**04 28 04.1**	**-0.2**
JYNG	**Yonagunijimaku**	**0.78**	**285**	A	A	04 27 52.9	
	comp=E,12nm,0.7s,comp=N,6.0nm,1.3s						
JTJ	**Tarama**	**0.93**	**65**	*i* P	**Pb**	**04 27 53.6**	**-0.6**
JTJ				S	**Sg**	**04 28 05.6**	**-1.1**
JTJ	**Tarama**	**0.93**	**65**	A	A	04 27 53.6	
	comp=E,13nm,0.7s,comp=N,13nm,2.3s						
NACB	**Ninganchiao**	**1.99**	**268**	P	**Pb**	**04 28 11.3**	**-1.1**
TATO	**Taipei**	**2.20**	**290**	P	**Pb**	**04 28 14.7**	**-1.3**
YHNB	**Yeheng**	**2.23**	**281**	P	**Pb**	**04 28 14.8**	**-1.6**
YULB	**Yu-li**	**2.43**	**250**	P	**Pn**	**04 28 16.2**	**+0.7**
SSLB	**Suanglung**	**2.62**	**260**	P	**Pn**	**04 28 20.2**	**+2.0**
TWGBT	**Beinan**	**2.86**	**241**	P	**Pn**	**04 28 22.0**	**+0.6**
JOW	**Kunigami**	**4.81**	**57**	Pn	**Pn**	**04 28 50.1**	**+1.9**
	comp=N,2.9nm,0.3s,baz=276,slow=19,SNR=1.5						
JOW				Sn	**Sn**	**04 29 46.4**	**+2.8**
	comp=N,1.6nm,0.3s,baz=264,slow=19,SNR=2.0 comp=N,23nm,0.8s						
DAV	**Davao City (W)**	**17.17**	**174**	LR	LR	04 39 14.0	
	comp=N,266nm,18.4s,baz=304,slow=41						
SONM	**Songino Array**	**27.29**	**334**	P	**P**	**04 33 21.0**	**+0.7**
	comp=N,0.3nm,0.4s,baz=153,slow=11,SNR=2.7 comp=N,0.3nm,0.4s						
PETK	**Petropavlovsk-**	**38.51**	**33**	P	**P**	**04 34 59.7**	**+1.8**
	comp=N,3.6nm,0.9s,baz=234,slow=12,SNR=1.5 comp=N,3.6nm,0.9s						
MKAR	**Makanchi Array**	**39.95**	**315**	P	**P**	**04 35 10.4**	**+0.4**
	comp=N,0.4nm,0.4s,baz=97,slow=8.8,SNR=15 comp=N,0.4nm,0.4s						
H11N1	**WAKE ISLAND Hy**	**40.12**	**88**	T	T	05 17 52.8	
	baz=289,slow=74						
H11N2	**WAKE ISLAND Hy**	**40.12**	**88**	T	T	05 17 52.1	
	baz=289						
H11N3	**WAKE ISLAND Hy**	**40.13**	**88**	T	T	05 17 56.7	
	baz=289,slow=74						
KURBB	**Kurchatov Arra**	**43.60**	**319**	P	**P**	**04 35 39.6**	**-0.2**
	comp=N,0.3nm,0.5s,baz=98,slow=9.2,SNR=5.3 comp=N,0.3nm,0.5s						
WRA	**Warramunga Arr**	**45.12**	**166**	P	**P**	**04 35 52.8**	**+0.5**
	comp=N,3.7nm,0.8s,baz=348,slow=9.0,SNR=13 comp=N,3.7nm,0.8s						
TIXI	**Tiksi**	**47.51**	**2**	P	**P**	**04 36 08.6**	**-1.8**
	comp=N,2.3nm,0.4s,baz=90,slow=1.0,SNR=11 comp=N,2.3nm,0.4s						
ASAR	**Alice Springs**	**48.64**	**168**	P	**P**	**04 36 20.4**	**+0.7**
	comp=N,0.8nm,0.6s,baz=351,slow=5.5,SNR=7.3 comp=N,0.8nm,0.6s						
BVAR	**Borovoye Array**	**49.13**	**320**	P	**P**	**04 36 22.4**	**-0.9**
	comp=N,0.3nm,0.4s,baz=94,slow=10,SNR=2.0 comp=N,0.3nm,0.4s						
STKA	**Stephens Creek**	**58.35**	**162**	P	**P**	**04 37 31.8**	**+0.8**
	comp=N,1.3nm,0.5s,baz=320,slow=6.4,SNR=3.3 comp=N,1.3nm,0.5s						
ILAR	**Eielson Array**	**68.06**	**28**	P	**P**	**04 38 35.0**	**+0.1**
	comp=N,0.3nm,0.6s,baz=278,slow=4.8,SNR=5.0 comp=N,0.3nm,0.6s						
FINES	**FINESS Array B**	**72.58**	**330**	P	**P**	**04 39 03.5**	**+0.9**
	comp=N,0.5nm,0.6s,baz=70,slow=4.6,SNR=1.1 comp=N,0.5nm,0.6s						
NOA	**NORSAR Array B**	**79.26**	**333**	P	**P**	**04 39 39.3**	**-1.5**
	comp=N,0.4nm,0.6s,baz=66,slow=7.3,SNR=2.0 comp=N,0.4nm,0.6s						
YKA	**Yellowknife Ar**	**81.98**	**24**	P	**P**	**04 39 54.6**	**-0.6**
	comp=N,0.2nm,0.5s,baz=309,slow=5.0,SNR=6.2 comp=N,0.2nm,0.5s						
GERES	**GERESS Array B**	**84.28**	**321**	P	**P**	**04 40 07.5**	**-0.2**
	comp=N,1.0nm,0.8s,baz=46,slow=7.0,SNR=2.6 comp=N,1.0nm,0.8s						

IDC 08 04:29:14.4±2.7,3°.68S×130°.36E, h0km, mb3.2/2, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=160.3km s-min=31.4km az=71.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.62**	**167**	Pn	Pn	04 33 10.0	+1.0
	0.1nm,0.3s,baz=347,slow=11,SNR=2.1 0.4nm,0.8s						
ASAR	**Alice Springs**	**20.16**	**171**	P	P	04 33 50.2	-0.4
	1.1nm,0.6s,baz=350,slow=10,SNR=9.0 1.1nm,0.6s						
MKAR	**Makanchi Array**	**65.68**	**326**	P	P	04 40 00.8	0.0
	0.1nm,0.3s,baz=108,slow=7.7,SNR=1.5 0.1nm,0.3s						

*ISN **08** 04:33:14.0±1.0,34°.92N×46°.30E, h5km±11km, ML3.2*
*TEH **08** 04:33:15.8,34°.86N×46°.38E, h7km±59km, ML3.3*
ISC 08 04:33:15.8±0.8,34°.89N±0°.03×46°.31E±0°.03, h10km, n28, σ1°70/32, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.20**	**161**	Pg	**Pg**	**04 33 19.7**	**-0.4**
ILIN	**Lien**	**0.54**	**87**	Pg	**Pg**	**04 33 25.5**	**-0.9**
IGHG	**Ghaleghazi**	**0.60**	**159**	Pg	**Pg**	**04 33 27.1**	**-0.4**
KGS1	**Ghasr-e-Shirin**	**0.70**	**237**	Pg	**Pb**	**04 33 30.0**	**-0.2**
KCHF	**Cheshme Sefid,**	**0.86**	**135**	Pg	**Pg**	**04 33 31.3**	**-1.2**
ILBA	**Ilam Banvizeh**	**1.27**	**184**	Pg	**Pg**	**04 33 39.4**	**-0.6**
IBZA	**Bozab**	**1.35**	**108**	Pg	**Pn**	**04 33 40.4**	**-0.5**
IKRK	**Kirkuk**	**1.69**	**288**	*e*Pn	**Pb**	**04 33 46.0**	**-1.0**
IKRK				*e*Sn	**Sg**	**04 34 09.0**	**-1.1**
IBDR	**Badra**	**1.80**	**190**	*e*Pn	**Pb**	**04 33 48.0**	**-0.9**
IBDR				*e*Sn	**Sg**	**04 34 12.0**	**-1.7**
IBDR				AML	AML	04 34 17.4	
	comp=E,228nm,0.5s						
IBDR				AML	AML	04 34 18.6

KOPT				S	Sn	04 34 00.6	+2.0	
ETEKE	**Tekederesi - E**	**1.30**	**40**	P	Pg	04 33 41.8	-0.2	
ETEKE				S	Sn	04 34 00.8	+1.5	
BTMN	**Batman**	**1.31**	**133**	P	Pn	04 33 41.4	-0.4	
BTMN				S	Sn	04 33 59.3	-0.1	
KEMA	**Kemaliye**	**1.31**	**291**	P	Pn	04 33 40.1	-1.7	
KEMA				S	Sb	04 33 57.2	-1.9	
ILIC	**ilic-Erzincan**	**1.34**	**300**	Pn	Pn	04 33 40.8	-1.4	
MAZI	**Mazidag**	**1.37**	**167**	Pn	Pn	04 33 41.7	-0.9	
MAYA	**Malatya/Merkez**	**1.37**	**250**	P	Pn	04 33 42.1	-0.5	
MAYA				S	Sg	04 34 01.4	+0.2	
NARI	**Adyaman-Kaht**	**1.37**	**229**	P	Pg	04 33 42.9	-0.6	
NARI				S	Sg	04 34 01.8	+0.5	
ARPR	**Arapgir-MALATY**	**1.38**	**283**	Pn	Pn	04 33 41.8	-1.0	
EDAM	**Erzurum-Paland**	**1.44**	**40**	Pn	Pn	04 33 42.8	-0.9	
HANM	**anlurfa/Hi**	**1.53**	**218**	P	Pn	04 33 44.8	0.0	
HANM				S	Sb	04 34 05.4	+0.1	
GURO	**Guroymak-BITLI**	**1.56**	**99**	Pn	Pn	04 33 45.3	+0.1	
BAYT	**Aydıntepe-Bayb**	**1.59**	**2**	Pn	Pb	04 33 46.4	-0.5	
KOPR	**Koprukoy-ERZUR**	**1.83**	**49**	Pn	Pb	04 33 49.6	-1.3	
MLAZ	**Malazgirt-MUS**	**1.96**	**79**	Pn	Pn	04 33 51.2	+0.4	
DARE	**Darende-Malaty**	**2.04**	**264**	Pn	Pn	04 33 51.5	-0.2	
KTUT	**Trabzon**	**2.20**	**354**	Pn	Pn	04 33 54.4	+0.5	
ESPY	**Espiye-Giresun**	**2.35**	**334**	Pn	Pn	04 33 56.5	+0.5	
CHOM	**Cayeli-Rize**	**2.36**	**13**	Pn	Pn	04 33 56.9	+0.8	
SVSK	**Karacayir**	**2.63**	**296**	Pn	Pn	04 34 00.5	+0.7	
RSDY	**Resadiye-TOKAT**	**2.65**	**308**	Pn	Pn	04 34 00.9	+0.8	
GAZ	**Gaziantep**	**2.78**	**235**	Pn	Pn	04 34 02.7	+0.8	
KMRS	**Kahramanmaras**	**2.81**	**244**	Pn	Pn	04 34 03.6	+1.3	
SARI	**SarD1z-Kayseri**	**2.88**	**263**	Pn	Pn	04 34 04.2	+0.7	
TOKT	**Tokat**	**3.12**	**300**	Pn	Pn	04 34 07.6	+1.0	
ABS	**Abastumani**	**3.62**	**35**	P	Pg	04 34 25.2	-1.4	
DMNI	**Dmanisi**	**4.05**	**50**	P	Pg	04 34 34.0	-0.7	
TRLG	**Trialeti**	**4.13**	**47**	P	Pn	04 34 22.1	+1.5	
DGRG	**David-gareji**	**4.85**	**55**	P	Pn	04 34 32.0	+1.6	
SHTL	**Shatili**	**5.46**	**43**	P	Pn	04 34 40.5	+1.7	

*IDC **08** 04:35:01.4±0.7,3.27S×131.11E,h0km,mb4.2/14, mbtmp4.2/14, Error ellipse: s-maj=45.9km s-min=16.3km az=76.0*
*NEIC **08** 04:35:03.4±1.1,3.38S±0.08×130.83E±0.08,h10km±1km, mb4.7/37, Error ellipse: s-maj=15.3km s-min=10.5km az=316.0*
*DJA **08** 04:35:05.1±0.6,3.3S±2.°×13.1E±.°,h16km±4km,M4.3/11, mB5.6/2,mb4.5/11,MLv4.2/9,Mw(mB)5.1/2*
ISC 08 04:35:05.5±0.4,**3.36S**±0.05×**130.97E**±0.05,**h30**km,**n81,** σ1§**63**/80,**mb4.4**/28,**Seram**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.35**	**71**		**Pb**	**04 35 30.1**	**-0.1**
FAKI				Sn	**Sb**	**04 35 48.0**	**+0.9**
FAKI	**Fak Fak**	**1.35**	**71**	P	**Pb**	**04 35 30.4**	**+0.2**
FAKI	**Fak Fak**	**1.35**	**71**	P	**Pb**	**04 35 29.8**	**-0.4**
BNDI	**Bandanaira**	**1.57**	**223**	P	**Pb**	**04 35 34.5**	**+0.5**
SWI	**Sorong**	**2.50**	**7**	P	**Pn**	**04 35 42.6**	**-1.5**
SWI				S	**Sn**	**04 36 11.4**	**-2.1**
NLAI	**Namlea**	**3.87**	**272**	P	**Pn**	**04 36 03.5**	**+0.5**
LBMI	**Labuha**	**4.40**	**308**	P	**Pn**	**04 36 09.3**	**-1.0**
SANI	**Sanana**	**5.14**	**285**	P	**Pn**	**04 36 20.3**	**-0.3**
	51nm,0.6s,0.2nm						
SOEI	**Soe**	**9.20**	**226**	P	Pn	04 37 23.0	+6.6
SOEI	**Soe**	**9.20**	**226**	P	**Pn**	**04 37 19.9**	**+3.5**
	53nm,0.8s						
MTN	**Manton Dam**	**9.43**	**179**	Pn	**Pn**	**04 37 18.4**	**-1.0**
MRSI	**Marisa**	**9.80**	**293**	P	**Pn**	**04 37 23.3**	**-1.2**
	44nm,0.5s,1µm						
EDFI	**Ende, Flores**	**10.67**	**239**	P	**Pn**	**04 37 39.4**	**+2.9**
	29nm,1.0s,4µm						
BKSI	**Bulukumba**	**10.99**	**259**	P	**Pn**	**04 37 42.9**	**+2.1**
	36nm,1.1s						
KNRA	**Kununurra**	**12.43**	**190**		**Pn**	**04 37 57.9**	**-2.6**
PLAI	**Plampang**	**14.20**	**247**	P	**P**	**04 38 30.2**	**-1.6**
PLAI	**Plampang**	**14.20**	**247**	P	**Pn**	**04 38 27.3**	**+2.6**
	49nm,0.9s						
FITZ	**Fitzroy Crossi**	**15.55**	**199**	Pn	**Pn**	**04 38 39.5**	**-3.3**
FITZ	**Fitzroy Crossi**	**15.55**	**199**	P	**P**	**04 38 47.0**	**+0.2**
COEN	**Coen**	**16.00**	**132**	Pn	**Pn**	**04 38 49.6**	**+1.0**
WB0	**Warramunga Arr**	**16.65**	**169**	Pn	**Pn**	**04 38 53.6**	**-3.2**
WB0				IAmb	IAmb	04 39 09.1	
	comp=Z,69nm,1.5s						
WRA	**Warramunga Arr**	**16.81**	**169**	Pn	**Pn**	**04 38 55.7**	**-3.2**
WRA	**Warramunga Arr**	**16.81**	**169**	Pn	**Pn**	**04 38 55.2**	**-3.6**
	comp=Z,0.8nm,0.3s,baz=194,slow=12,SNR=18						
WRA				Sn	Sn	04 41 53.6	-11
	comp=Z,1.5nm,0.3s,baz=7.4,slow=22,SNR=8.2						
WB2	**Warramunga Arr**	**16.81**	**169**	Pn	**Pn**	**04 38 55.6**	**-3.3**
WB2				IAmb	IAmb	04 39 10.3	
	comp=Z,29nm,0.9s						
WB1	**Warramunga Ar.**	**16.83**	**169**	P	**P**	**04 39 02.5**	**+1.5**
WR0	**Warramunga Arr**	**16.86**	**168**	Pn	**Pn**	**04 38 55.6**	**-3.9**
QIS	**Mount Isa**	**19.05**	**154**	P	**Pn**	**04 39 27.8**	**+1.3**
AS31	**Alice Springs**	**20.39**	**172**		**P**	**04 39 40.5**	**+0.4**
AS31				IAmb	IAmb	04 39 42.7	
	comp=Z,19nm,0.6s						
ASAR	**Alice Springs**	**20.39**	**172**		**P**	**04 39 40.6**	**+0.5**
ASAR	**Alice Springs**	**20.39**	**172**	P	Pn	04 39 41.4	-0.9
	comp=Z,33nm,0.5s,baz=351,slow=11,SNR=319						
ASAR				S	**S**	**04 43 23.7**	**-3.4**
	comp=Z,12nm,1.1s,baz=355,slow=20,SNR=11						
	comp=Z,33nm,0.5s						
AS01	**Alice Springs**	**20.39**	**172**	P	Pn	04 39 41.5	-0.8
MBWA	**Marble Bar**	**20.80**	**211**	P	**P**	**04 39 42.9**	**-1.6**
PSA00	**Pilbara Seismi**	**21.09**	**210**	P	**P**	**04 39 45.8**	**-1.8**
PSA00				IAmb	IAmb	04 39 50.4	
	comp=Z,20nm,1.1s						
PSA00	**Pilbara Seismi**	**21.09**	**210**	P	**P**	**04 39 45.5**	**-2.2**
PSA00				IAmb	IAmb	04 39 50.3	
	comp=Z,7.2nm,0.9s						
CTAO	**Charters Tower**	**22.33**	**139**	P	**P**	**04 40 02.5**	**+1.5**
CTAO				IAmb	IAmb	04 40 10.0	
	comp=Z,44nm,1.4s						
OOD	**Oodnadatta**	**24.71**	**170**	P	**P**	**04 40 25.7**	**+1.5**
INKA	**Innaminka**	**25.98**	**160**	P	**P**	**04 40 37.9**	**+2.2**
FORT	**Forrest**	**27.41**	**185**		**P**	**04 40 48.5**	**-0.1**
FORT				IAmb	IAmb	04 40 49.4	
	comp=Z,16nm,0.8s						
MORW	**Morawa**	**29.24**	**207**	P	**P**	**04 41 04.1**	**-0.9**
MORW				IAmb	IAmb	04 41 31.4	
	comp=Z,21nm,1.3s						
BBOO	**Buckleboo**	**29.68**	**171**	P	**P**	**04 41 08.5**	**-0.3**
BBOO				IAmb	IAmb	04 41 38.4	
	comp=Z,17nm,1.2s						
STKA	**Stephens Creek**	**30.08**	**162**	P	**P**	**04 41 11.8**	**-0.5**
STKA	**Stephens Creek**	**30.08**	**162**	P	**P**	**04 41 13.2**	**+0.8**
	comp=Z,6.3nm,0.9s,baz=338,slow=7.5,SNR=5.7						
	comp=Z,6.3nm,0.9s						
NWAO	**Narrogin (SRO)**	**32.11**	**202**	P	**P**	**04 41 29.5**	**-0.7**
NWAO				IAmb	IAmb	04 42 04.2	
	comp=Z,29nm,1.4s						
MJAR	**Matsushiro Arr**	**40.27**	**9**	P	**P**	**04 42 38.1**	**-1.8**
	comp=Z,1.1nm,0.3s,baz=194,slow=10.0,SNR=2.3						
	comp=Z,1.1nm,0.3s						
KSRS	**Korea Array**	**40.70**	**356**	P	**P**	**04 42 43.1**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=178,slow=10,SNR=5.1						
	comp=Z,1.3nm,0.7s						
JMM	**Marumori**	**42.02**	**12**	P	**P**	**04 42 55.1**	**+0.9**
USA0B	**Ussuriysk Arra**	**47.35**	**1**	P	**P**	**04 43 37.2**	**+0.5**
USA0B				IAmb	IAmb	04 43 59.1	
	comp=Z,16nm,1.4s						
USRK	**Ussuriysk Ar.**	**47.35**	**1**	P	**P**	**04 43 37.0**	**+0.3**
USRK	**Ussuriysk Ar.**	**47.35**	**1**	P	**P**	**04 43 36.7**	**0.0**
	comp=Z,1.9nm,0.6s,baz=170,slow=6.6,SNR=6.9						
	comp=Z,1.9nm,0.6s						
ULN	**Ulaanbaatar**	**55.15**	**341**	P	**P**	**04 44 35.2**	**-0.1**
SONM	**Songino Array**	**55.34**	**340**	P	**P**	**04 44 36.7**	**0.0**
SONM	**Songino Array**	**55.34**	**340**	P	**P**	**04 44 37.0**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=153,slow=7.4,SNR=5.2						
	comp=Z,1.0nm,0.7s						
MK31	**Makanchi Array**	**65.76**	**326**	P	**P**	**04 45 47.6**	**-0.1**
MK31				IAmb	IAmb	04 46 04.7	
	comp=Z,6.2nm,0.8s						
MKAR	**Makanchi Array**	**65.76**	**326**	P	**P**	**04 45 47.7**	**0.0**
MKAR	**Makanchi Array**	**65.76**	**326**	P	**P**	**04 45 48.0**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=121,slow=7.7,SNR=20						
	comp=Z,1.9nm,0.8s						
MAKZ	**Makanchi**	**65.94**	**325**	P	**P**	**04 45 49.0**	**+0.1**
MAKZ				IAmb	IAmb	04 46 05.7	
	comp=Z,8.6nm,0.9s						
ZALV	**Zalesovo Beam**	**68.79**	**333**	P	**P**	**04 46 06.5**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=127,slow=9.6,SNR=3.6						
	comp=Z,1.2nm,0.8s						
KURBB	**Kurchatov Arra**	**69.95**	**327**	P	**P**	**04 46 14.2**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=127,slow=5.6,SNR=16						
	comp=Z,1.3nm,0.6s						
KURK	**Kurchatov**	**69.96**	**328**	P	**P**	**04 46 14.4**	**+0.5**
BVAR	**Borovoye Array**	**75.53**	**327**	P	**P**	**04 46 47.4**	**+0.3**
	comp=Z,3.9nm,1.0s,baz=139,slow=7.0,SNR=8.2						
	comp=Z,3.9nm,1.0s						
BRVK	**Borovoye**	**75.61**	**327**	P	**P**	**04 46 47.9**	**+0.4**
BRVK				IAmb	IAmb	04 47 04.9	
	comp=Z,9.0nm,0.8s						
VNDA	**Vanda**	**75.93**	**173**	P	**P**	**04 46 49.7**	**+0.8**
VNDA				IAmb	IAmb	04 47 13.4	
	comp=Z,4.9nm,1.3s						
UNV	**Unalaska Valle**	**76.94**	**33**	P	**P**	**04 46 55.7**	**+0.7**
NRIK	**Noril'sk**	**78.29**	**346**	P	**P**	**04 47 04.1**	**+1.9**
	comp=Z,1.8nm,0.6s,baz=86,slow=6.1,SNR=3.8						
	comp=Z,1.8nm,0.6s						
GEYT	**Alibeck**	**78.63**	**310**	P	**P**	**04 47 07.0**	**+2.0**
	comp=Z,2.7nm,0.6s,baz=177,slow=5.3,SNR=5.0						
	comp=Z,2.7nm,0.6s						
ABKAR	**Akbulak array**	**80.29**	**321**	P	**P**	**04 47 13.7**	**0.0**
M14K	**Bethel**	**81.93**	**27**	P	**P**	**04 47 23.5**	**+1.5**
K15K	**Wolf Creek Mou**	**82.70**	**26**	P	**P**	**04 47 28.1**	**+2.0**
M16K	**Timber Creek**	**83.40**	**27**	P	**P**	**04 47 31.0**	**+1.2**
J16K	**Anvik River**	**83.45**	**25**	P	**P**	**04 47 31.5**	**+1.5**
C16K	**Lisburne Hills**	**83.64**	**20**	P	**P**	**04 47 31.7**	**+0.9**
C16K				IAmb	IAmb	04 47 39.0	
	comp=Z,13nm,1.4s						
L18K	**Granite Mounta**	**84.81**	**27**	P	**P**	**04 47 38.8**	**+1.9**
L18K				IAmb	IAmb	04 47 42.3	
	comp=Z,13nm,1.3s						
O18K	**Koktuh Hills**	**84.83**	**29**	P	**P**	**04 47 37.6**	**+0.5**
OHAK	**Old Harbor**	**85.13**	**32**	P	**P**	**04 47 40.4**	**+1.8**
D19K	**Kuna River**	**86.20**	**20**	P	**P**	**04 47 44.5**	**+0.7**
D19K				IAmb	IAmb	04 47 50.1	
	comp=Z,3.8nm,0.8s						
QSPA	**South Pole Qui**	**86.59**	**180**	P	**P**	**04 47 46.9**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=26,slow=4.2,SNR=2.2						
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**89.66**	**25**	P	**P**	**04 48 01.2**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=260,slow=4.2,SNR=5.3						
	comp=Z,0.3nm,0.6s						
GURO	**Guroymak-BITLI**	**91.24**	**308**	P	**P**	**04 48 05.6**	**-2.8**
GURO				IAmb	IAmb	04 48 30.7	
	comp=Z,4.4nm,0.6s						
ARCES	**ARCESS Array B**	**98.52**	**340**	P	Pdif	04 48 41.5	+0.6
	comp=Z,1.5nm,0.8s,baz=72,slow=5.8,SNR=3.5						
CPUP	**Villa Florida**	**149.41**	**165**	PKPbc	**PKPbc**	**04 54 52.3**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=169,slow=2.5,SNR=2.5						
LPAZ	**La Paz**	**152.84**	**136**	PKPbc	**PKPbc**	**04 55 00.9**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=232,slow=9.5,SNR=2.3						

*IDC **08** 04:35:13.4±7.2,23.12N×123.89E,h0km,mb3.5/6, mbtmp3.5/6, Error ellipse: s-maj=190.4km s-min=52.9km az=12.0.*
*JMA **08** 04:35:21.2±0.1,24.2N±0.3×123.9E±0.2,h15km±1km, MD3.7/10,MV3.6/10,NEAR ISHIGAKIJIMA ISLAND*
JMA Felt II J1 at NEAR ISHIGAKIJIMA ISLAND.
ISC 08 04:35:22.0±0.7,**24.22N**±0.03×**123.85E**±0.03,**h18**km,**n30,** σ1§**34**/28,**mb3.4**/6,**Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKRS	**Kuro-shima**	**0.15**	**83**	*i* P	**Pb**	**04 35 25.2**	**-0.4**
JKRS				S	**Sg**	**04 35 28.3**	**-0.8**
JKRS	**Kuro-shima**	**0.15**	**83**	A	A	04 35 25.2	
	comp=E,49nm,1.4s,comp=N,61nm,2.5s						
IRIF	**Iriomote-Funau**	**0.16**	**318**	*i* P	**Pb**	**04 35 25.0**	**-0.8**
IRIF				S	**Sg**	**04 35 27.9**	**-1.3**
IRIF	**Iriomote-Funau**	**0.16**	**318**	A	A	04 35 25.0	
	comp=E,31nm,0.8s,comp=N,56nm,1.1s						
HATJ	**Hateruma jima**	**0.17**	**193**	*i* P	**Pb**	**04 35 25.5**	**-0.6**
HATJ				S	**Sb**	**04 35 28.8**	**+0.1**
HATJ	**Hateruma jima**	**0.17**	**193**	A	A	04 35 25.5	
	comp=E,51nm,0.8s,comp=N,46nm,0.3s						
JIJ	**Ishigaki jima**	**0.31**	**62**	*i* P	**Pg**	**04 35 27.4**	**-1.3**
JIJ				S	**Sg**	**04 35 31.7**	**-1.5**
JIJ	**Ishigaki jima**	**0.31**	**62**	A	A	04 35 27.4	
	comp=E,5.0nm,1.9s,comp=N,7.0nm,1.2s						
JISG	**Ishigakijimahi**	**0.56**	**49**	*i* P	**Pg**	**04 35 31.9**	**-1.4**
JISG				S	**Sg**	**04 35 39.7**	**-1.0**
JISG	**Ishigakijimahi**	**0.56**	**49**	A	A	04 35 31.9	
	comp=E,9.0nm,0.6s,comp=N,5.0nm,0.4s						
YOJ	**Yonaguni jima**	**0.80**	**288**	P	**Pb**	**04 35 36.6**	**-0.8**
YOJ	**Yonaguni jima**	**0.80**	**288**	P	**Pb**	**04 35 36.7**	**-0.7**
YOJ				*e*S	**Sb**	**04 35 47.4**	**-0.4**
JYNG	**Yonagunijimaku**	**0.85**	**286**	P	**Pb**	**04 35 37.7**	**-0.6**
JYNG				S	**Sb**	**04 35 48.7**	**-0.7**
JYNG	**Yonagunijimaku**	**0.85**	**286**	A	A	04 35 37.7	
	comp=E,5.0nm,2.5s,comp=N,5.0nm,4.0s						
JTJ	**Tarama**	**0.89**	**62**	P	**Pb**	**04 35 38.0**	**-0.8**
JTJ				S	**Sg**	**04 35 50.0**	**-1.0**
JTJ	**Tarama**	**0.89**	**62**	A	A	04 35 38.0	
	comp=E,7.0nm,2.7s,comp=N,8.0nm,2.5s						
NACB	**Ninganchiao**	**2.06**	**269**	P	**Pn**	**04 35 55.8**	**+0.1**
YHNB	**Yeheng**	**2.30**	**282**	P	**Pn**	**04 36 00.4**	**+1.4**
SSLB	**Suanglung**	**2.68**	**261**	P	**Pn**	**04 36 05.4**	**+1.1**
TWGBT	**Beinan**	**2.90**	**242**	P	**Pb**	**04 36 10.0**	**-3.2**
TPUB	**Ta-pu**	**3.08**	**253**	P	**Pn**	**04 36 11.5**	**+1.6**
SONM	**Songino Array**	**27.34**	**334**	P	**P**	**04 41 09.1**	**+3.1**
	comp=N,0.3nm,0.6s,baz=142,slow=7.3,SNR=2.1						
	comp=N,0.3nm,0.6s						
MKAR	**Makanchi Array**	**40.02**	**315**	P	**P**	**04 42 56.4**	**+0.5**
	comp=N,0.2nm,0.4s,baz=99,slow=9.5,SNR=8.0						
	comp=N,0.2nm,0.4s						
H11N1	**WAKE ISLAND Hy**	**40.06**	**88**	T	T	05 25 33.9	
	baz=284,slow=74,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**40.06**	**88**	T	T	05 25 35.1	
	baz=284,slow=74,SNR=5.2						
H11N3	**WAKE ISLAND Hy**	**40.07**	**88**	T	T	05 25 35.1	
	baz=284,slow=74,SNR=4.8						
ZALV	**Zalesovo Beam**	**41.56**	**326**	P	**P**	**04 43 09.9**	**+1.5**
	comp=N,0.4nm,0.4s,baz=139,slow=6.8,SNR=1.4						
	comp=N,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**43.66**	**319**	P	**P**	**04 43 27.2**	**+1.7**
	comp=N,0.3nm,0.5s,baz=119,slow=7.6,SNR=2.4						
	comp=N,0.3nm,0.5s						
BVAR	**Borovoye Array**	**49.20**	**320**	P	**P**	**04 44 09.5**	**+0.5**
	comp=N,0.3nm,0.5s,baz=107,slow=9.2,SNR=2.3						
	comp=N,0.3nm,0.5s						
YKA	**Yellowknife Ar**	**81.98**	**24**	P	**P**	**04 47 40.1**	**-0.5**
	comp=N,0.3nm,0.7s,baz=313,slow=5.0,SNR=5.0						
	comp=N,0.3nm,0.7s						

*IDC **08** 04:35:32.5±1.5,1.33S×129.56E,h0km,mb4.6/7, mbtmp4.5/8,Error ellipse: s-maj=48.3km s-min=32.2km az=72.0*
ISC 08 04:35:37.7±1.2,**1.5S**±0.2×**129.4E**±0.2,**h35**km,**n9,**σ1§**27**/9, **mb4.8**/7,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANI	**Sanana**	**3.43**	**260**	P	**Pn**	**04 36 27.7**	**-1.0**
WRA	**Warramunga Arr**	**19.02**	**166**	P	**P**	**04 39 57.1**	**+0.4**
	1.7nm,0.6s,baz=349,slow=11,SNR=0.4						
CMAR	**Chiang Mai Arr**	**35.87**	**305**	P	**P**	**04 42 36.7**	**+2.1**
	2.3nm,0.3s,baz=132,slow=8.7,SNR=4.2						
	2.3nm,0.3s						
KSRS	**Korea Array**	**38.73**	**358**	P	**P**	**04 42 57.7**	**-0.8**
	1.5nm,0.5s,baz=175,slow=9.3,SNR=5.3						
	1.5nm,0.5s						
PETK	**Petropavlovsk-**	**59.30**	**19**	P	**P**	**04 45 35.8**	**-0.1**
	8.8nm,1.0s,baz=231,slow=6.9,SNR=3.6						
	8.8nm,1.0s						
MKAR	**Makanchi Array**	**63.29**	**326**	P	**P**	**04 46 04.3**	**+1.3**
	8.3nm,0.8s,baz=119,slow=7.8,SNR=24						
	8.3nm,0.8s						
ZALV	**Zalesovo Beam**	**66.37**	**333**	P	**P**	**04 46 21.6**	**-1.2**
	2.1nm,0.7s,baz=112,slow=6.4,SNR=5.3						
	2.1nm,0.7s						
KURBB	**Kurchatov Arra**	**67.49**	**328**	P	**P**	**04 46 29.9**	**-0.2**
	12nm,0.9s,baz=126,slow=5.6,SNR=30						
	12nm,0.9s						
BVAR	**Borovoye Array**	**73.07**	**327**	P	**P**	**04 47 03.7**	**-0.5**
	9.8nm,0.8s,baz=123,slow=5.5,SNR=20						
	9.8nm,0.8s						

*IDC **08** 04:38:18.6±2.1,5.89S×143.45E,h0km,mb3.8/4, mbtmp3.9/6,ML4.1/2,MS4.1/1,Error ellipse: s-maj=90.4km s-min=28.6km az=88.0*
ISC 08 04:38:24.5±2.0,**6.20S**±0.2×**143.1E**±0.6,**h35**km,**n7,**σ1§**39**/6, **mb3.7**/4,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.23**	**211**	Pn	**P**	**04 42 13.2**	**+0.4**
	1.2nm,0.3s,baz=20,slow=11,SNR=4.5						
WRA				Lg	Lg	04 46 58.2	
	0.1nm,0.3s,baz=125,slow=43,SNR=2.3						
	4.9nm,0.6s						
ASAR	**Alice Springs**	**19.64**	**206**	P	**Pn**	**04 42 51.3**	**-0.6**
	0.2nm,0.3s,baz=33,slow=8.9,SNR=3.4						
ASAR				Lg	Lg	04 48 47.8	
	baz=22,slow=33						
	3.6nm,0.9s						
STKA	**Stephens Creek**	**25.77**	**183**	LR	LR	04 55 24.0	
	comp=Z,364nm,18.0s,baz=335,slow=40						
MKAR	**Makanchi Array**	**75.03**	**322**	P	**P**	**04 50 04.1**	**+1.5**
	0.3nm,0.5s,baz=107,slow=7.7,SNR=5.0						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**78.91**	**324**	P	**P**	**04 50 24.9**	**+0.6**
	0.5nm,0.8s,baz=115,slow=4.4,SNR=3.1						
	0.5nm,0.8s						
QSPA	**South Pole Qui**	**83.96**	**180**	P	**P**	**04 50 51.3**	**+0.3**
	0.8nm,0.6s,baz=308,slow=2.6,SNR=6.6						
	0.8nm,0.6s						
BVAR	**Borovoye Array**	**84.48**	**325**	P	**P**	**04 50 52.1**	**-1.6**
	0.6nm,0.7s,baz=110,slow=6.9,SNR=2.7						
	0.6nm,0.7s						

*SNET **08** 04:43:58.7±2.4, 14.82N×89.07W, h8km, ML4.2*
*CATAC **08** 04:43:59.7±0.2, 14.76N×89.09W, h2km±2km, ML4.2*
*IDC **08** 04:44:00.0±1.3, 14.77N×89.11W, h0km, mb3.5/4, mbtmp3.6/8, ML3.5/3, Error ellipse: s-maj=41.4km s-min=14.5km az=42.0*
*GCG **08** 04:44:03.1±3.0, 14.94N×89.22W, h14km±57km, MD3.8*
ISC 08 04:43:58.2±1.1,**14.80N**±0.02×**89.04W**±0.02,**h6**km±9km, **n95,** σ1§**07**/153,**mb3.4**/4,**Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESQI	**Esquipulas**	**0.38**	**230**	*i* P	**Pg**	**04 44 06.3**	**+0.7**
ESQI				*i* S	**Sg**	**04 44 10.7**	**+0.1**
ESQI				IAML		04 44 12.1	
	comp=Z,15µm,1.0s						
MTO3	**Montecristo**	**0.51**	**218**	*e*P	**Pg**	**04 44 08.5**	**+0.4**
MTO3				*e*S	**Sg**	**04 44 14.9**	**+0.1**
MTO3	**Montecristo**	**0.51**	**218**	*i* P	**Pg**	**04 44 08.4**	**+0.4**
MTO3				*i* S	**Sg**	**04 44 14.6**	**-0.1**
MTO3				IAML		04 44 16.1	
	comp=Z,5µm,1.0s						
LLGN	**La Laguna**	**0.64**	**172**	*e*P	**Pb**	**04 44 11.2**	**-0.8**
LLGN				*e*S	**Sg**	**04 44 20.3**	**+1.2**
LLGN	**La Laguna**	**0.64**	**172**	*i* P	**Pg**	**04 44 11.1**	**+0.4**
LLGN				*i* S	**Sg**	**04 44 19.5**	**+0.5**
LLGN				IAML		04 44 25.5	
	comp=Z,7µm,1.0s						
MRL	**Marmol**	**0.68**	**294**	*e*P	**Pn**	**04 44 12.9**	**-1.8**
JUAM	**Asuncion Mita**	**0.80**	**234**	*i* P	**Pg**	**04 44 13.4**	**-0.1**
JUAM				*i* S	**Sg**	**04 44 23.7**	**-0.2**
JUAM				IAML		04 44 25.5	
	comp=Z,4µm,1.0s						
UNIC	**Universidad Ca**	**0.95**	**211**	*e*P	**Pg**	**04 44 16.6**	**0.0**
UNIC				*e*S	**Sg**	**04 44 29.2**	**+0.2**
UNIC	**Universidad Ca**	**0.95**	**211**	*i* P	**Pg**	**04 44 16.4**	**-0.2**
UNIC				*i* S	**Sg**	**04 44 28.8**	**-0.2**
UNIC				IAML		04 44 32.9	
	comp=Z,3µm,1.0s						
QUEZ	**Alcaldia de Qu**	**0.99**	**193**	*e*P	**Pb**	**04 44 17.4**	**-0.4**
QUEZ	**Alcaldia de Qu**	**0.99**	**193**	*i* P	**Pb**	**04 44 17.3**	**-0.5**
QUEZ				*i* S	**Sg**	**04 44 30.6**	**+0.5**
QUEZ				IAML		04 44 35.

UESV				*i* S		**Sn**	**04 44 37.6**	**-0.3**	
UESV				IAML			04 44 40.9		
	comp=Z,2µm,1.0s								
COEG	**Centro de Oper**	**1.19**	**172**	*eP*		**Pg**	**04 44 21.0**	**0.0**	
COEG				*eS*		**Sn**	**04 44 37.7**	**-0.3**	
COEG	**Centro de Oper**	**1.19**	**172**	*i P*		**Pg**	**04 44 21.0**	**0.0**	
COEG				*i S*		**Sg**	**04 44 37.2**	**+0.8**	
COEG				IAML			04 44 46.7		
	comp=Z,3µm,1.0s								
PANCS	**Alcalda de**	**1.19**	**187**	*eP*		**Pn**	**04 44 20.6**	**-0.9**	
PANCS				*eS*		**Sb**	**04 44 36.4**	**-0.7**	
PANCS	**Alcalda de**	**1.19**	**187**	*i P*		**Pn**	**04 44 20.6**	**-0.9**	
PANCS				*i S*		**Sb**	**04 44 36.4**	**-0.7**	
PANCS				IAML			04 44 39.4		
	comp=Z,5µm,1.0s								
JAYA	**Jayaque - finc**	**1.21**	**199**	*eP*		**Pb**	**04 44 21.2**	**-0.5**	
JAYA				*eS*		**Sb**	**04 44 35.6**	**-2.0**	
JAYA	**Jayaque - finc**	**1.21**	**199**	*i P*		**Pb**	**04 44 21.2**	**-0.5**	
JAYA				IAML			04 44 40.2		
	comp=Z,6µm,1.0s								
PQSS	**Presa 15 de Se**	**1.26**	**158**	*i P*		**Pg**	**04 44 22.4**	**-0.1**	
PQSS				*i S*		**Sg**	**04 44 39.4**	**+0.6**	
PQSS				IAML			04 44 41.9		
	comp=Z,3µm,1.0s								
GUNB	**GUNB**	**1.28**	**261**	*i P*		**Pg**	**04 44 22.2**	**-0.6**	
GUNB				*i S*		**Sb**	**04 44 38.8**	**-1.0**	
GUNB				IAML			04 44 40.9		
	comp=Z,6µm,1.0s								
NBG	**Las Nubes**	**1.28**	**261**	*eP*		**Pg**	**04 44 23.8**	**+0.9**	
NBG				*eS*		**Sg**	**04 44 41.1**	**+1.6**	
TECO	**Alcaldia de Te**	**1.28**	**169**	*eP*		**Pb**	**04 44 22.6**	**-0.3**	
TECO				*eS*		**Sn**	**04 44 40.0**	**-0.3**	
TECO	**Alcaldia de Te**	**1.28**	**169**	*i P*		**Pb**	**04 44 22.5**	**-0.3**	
TECO				*i S*		**Sn**	**04 44 39.8**	**-0.5**	
TECO				IAML			04 44 45.9		
	comp=Z,2µm,1.0s								
LALI	**Alcalda de L**	**1.33**	**192**	*eP*		**Pb**	**04 44 23.7**	**-0.1**	
LALI				*eS*		**Sg**	**04 44 41.9**	**+0.7**	
LALI	**Alcalda de L**	**1.33**	**192**	*i P*		**Pb**	**04 44 23.6**	**-0.1**	
LALI				*i S*		**Sn**	**04 44 40.8**	**-0.8**	
LALI				IAML			04 44 44.0		
	comp=Z,780nm,1.0s								
COEB	**Comit de Eme**	**1.39**	**159**	*i P*		**Pn**	**04 44 19.8**	**-4.5**	
COEB				IAML			04 44 40.0		
	comp=Z,3µm,1.0s								
TECA	**Tecapa**	**1.40**	**158**	*eP*		**Pg**	**04 44 25.1**	**-0.1**	
GCG4	**OSOP**	**1.46**	**262**	*i P*		**Pg**	**04 44 25.5**	**-0.8**	
GCG4				*i S*		**Sg**	**04 44 46.3**	**+1.1**	
GCG4				IAML			04 44 48.1		
	comp=Z,5µm,1.0s								
AVCB	**Coban**	**1.48**	**297**	*i P*		**Pg**	**04 44 25.1**	**-1.5**	
AVCB				*i S*		**Sg**	**04 44 46.1**	**+0.3**	
AVCB				IAML			04 44 50.7		
	comp=Z,10µm,1.0s								
COMHN	**El Horno**	**1.48**	**104**	*i P*		**Pg**	**04 44 26.4**	**-0.3**	
PACA	**Pacayal**	**1.50**	**152**	*eP*		**Pg**	**04 44 26.9**	**-0.1**	
PACA	**Pacayal**	**1.50**	**152**	*i P*		**Pg**	**04 44 26.7**	**-0.3**	
PACA				*i S*		**Sg**	**04 44 47.6**	**+1.2**	
PACA				IAML			04 44 49.9		
	comp=Z,14µm,1.0s								
GUMI	**Mixco**	**1.53**	**264**	*i P*		**Pg**	**04 44 27.5**	**-0.2**	
GUMI				*i S*		**Sg**	**04 44 48.2**	**+0.7**	
GUMI				IAML			04 44 51.4		
	comp=Z,16µm,1.0s								
RANC	**El Ranchito**	**1.54**	**152**	*eP*		**Pg**	**04 44 27.3**	**-0.7**	
RANC	**El Ranchito**	**1.54**	**152**	*i P*		**Pg**	**04 44 27.2**	**-0.7**	
RANC				*i S*		**Sg**	**04 44 49.0**	**+1.1**	
RANC				IAML			04 45 07.6		
	comp=Z,3µm,1.0s								
LCY	**Lacayo**	**1.55**	**152**	*eP*		**Pb**	**04 44 26.9**	**-0.6**	
BLLM	**Bellamira**	**1.56**	**150**	*eP*		**Pg**	**04 44 27.6**	**-0.6**	
CNRM	**Centro Naciona**	**1.57**	**147**	*i P*		**Pg**	**04 44 27.8**	**-0.5**	
CNRM				*i S*		**Sg**	**04 44 49.3**	**+0.6**	
CNRM				IAML			04 44 52.2		
	comp=Z,9µm,1.0s								
PCG	**Pacaya**	**1.57**	**255**	*eP*		**Pg**	**04 44 29.4**	**+1.0**	
PCG				*eS*		**Sg**	**04 44 49.8**	**+1.0**	
FUG	**Fuego 3**	**1.78**	**259**	*eP*		**Pg**	**04 44 32.1**	**-0.3**	
FUG				*eS*		**Sg**	**04 44 57.6**	**+2.1**	
LCND	**La Caada**	**1.86**	**143**	*eP*		**Pg**	**04 44 33.0**	**-0.9**	
LCND				*eS*		**Sg**	**04 44 58.1**	**+0.1**	
LCND	**La Caada**	**1.86**	**143**	*i P*		**Pb**	**04 44 32.7**	**+0.1**	
LCND				*i S*		**Sg**	**04 44 57.8**	**-0.2**	
LCND				IAML			04 45 03.1		
	comp=Z,2µm,1.0s								
TGUH	**Tegucigalpa,Un**	**1.87**	**113**	*i P*		**Pg**	**04 44 33.4**	**-0.7**	
TGUH				*i S*		**Sg**	**04 44 59.5**	**+1.2**	
TGUH				IAML			04 45 04.8		
	comp=Z,5µm,1.0s								
CNCH	**Conchagua**	**1.92**	**142**	*i P*		**Pb**	**04 44 33.7**	**0.0**	
CNCH				IAML			04 45 09.2		
	comp=Z,6µm,1.0s								
AMPH	**Amapala**	**2.02**	**138**	*i P*		**Pb**	**04 44 35.2**	**-0.2**	
PETF	**Flores**	**2.25**	**339**	*i P*		**Pb**	**04 44 37.4**	**-1.9**	
PETF				*i S*		**Sb**	**04 45 05.9**	**-1.5**	
PETF				IAML			04 45 08.2		
	comp=Z,2µm,1.0s								
YUSH	**Yuscaran**	**2.29**	**111**	*i P*		**Pb**	**04 44 37.8**	**-2.3**	
CSGN	**Cosiguina Volc**	**2.32**	**141**	*i P*		**Pb**	**04 44 40.5**	**0.0**	
CSGN				IAML			04 45 13.3		
	comp=Z,2µm,1.0s								
POTN	**Potosi Cosigui**	**2.33**	**140**	*i P*		**Pb**	**04 44 40.6**	**-0.1**	
POTN				IAML			04 44 45.0		
	comp=Z,260nm,1.0s								
HUEH	**Huehuetenango**	**2.43**	**282**	*i P*		**Pb**	**04 44 42.2**	**-0.4**	
HUEH				IAML			04 45 24.4		
	comp=Z,3µm,1.0s								
STG3	**Santiaguito 3,**	**2.45**	**268**	*eP*		**Pb**	**04 44 40.5**	**-2.4**	
JTS	**Las Juntas de**	**6.00**	**138**	Pn		**Pn**	**04 45 29.7**	**+1.9**	
	comp=Z,0.5nm,0.3s,baz=272,slow=10,SNR=2.0								
JTS				Pg		**Pg**	**04 45 51.5**	**-1.9**	
	comp=Z,2.0nm,0.3s,baz=298,slow=18,SNR=6.3								
JTS				Sn		**Sn**	**04 46 43.3**	**+6.4**	
	comp=Z,0.2nm,0.3s,baz=276,slow=20,SNR=1.2								
JTS				Lg		Lg	04 47 11.5		
	comp=Z,0.4nm,0.3s,baz=245,slow=22,SNR=1.5								
	comp=Z,3.8nm,0.7s								
CMIG	**Matias Romero**	**6.06**	**293**	Pn		**Pn**	**04 45 28.7**	**+0.2**	
	comp=Z,0.9nm,0.3s,baz=107,slow=6.5,SNR=9.5								
CMIG				Pg		**Pb**	**04 45 47.2**	**+2.8**	
	comp=Z,2.1nm,0.3s,baz=98,slow=16,SNR=7.6								
CMIG				Sn		**Sn**	**04 46 34.4**	**-3.9**	
	comp=Z,2.3nm,0.3s,baz=63,slow=23,SNR=8.7								
CMIG				Lg		Lg	04 47 10.7		
	comp=Z,1.2nm,0.3s,baz=72,slow=11,SNR=3.8								
	comp=Z,2.3nm,0.2s								
ROSC	**El Rosal**	**17.55**	**123**	P		**P**	**04 48 05.7**	**+0.4**	
	comp=Z,2.9nm,0.5s,baz=308,slow=23,SNR=1.2								
TXAR	**Lajitas Array**	**19.79**	**319**	P		**Pn**	**04 48 32.4**	**+1.4**	
	comp=Z,0.1nm,0.3s,baz=136,slow=11,SNR=5.9								
	comp=Z,0.3nm,0.6s								
NVAR	**Mina Array Bea**	**34.93**	**318**	P		P	04 50 55.2	+4.0	
	comp=Z,0.4nm,0.8s,baz=130,slow=9.6,SNR=2.8								
	comp=Z,0.4nm,0.8s								
SCHQ	**Schefferville**	**43.52**	**19**	P		P	04 52 05.8	+3.3	
	comp=Z,2.0nm,0.6s,baz=247,slow=4.6,SNR=5.4								
	comp=Z,2.0nm,0.6s								
YKA	**Yellowknife Ar**	**50.95**	**345**	P		**P**	**04 53 01.4**	**+1.0**	
	comp=Z,0.4nm,0.8s,baz=143,slow=7.5,SNR=5.3								
	comp=Z,0.4nm,0.8s								
ILAR	**Eielson Array**	**63.26**	**336**	P		P	04 54 30.9	+3.4	
	comp=Z,0.2nm,0.8s,baz=140,slow=4.7,SNR=2.1								
	comp=Z,0.2nm,0.8s								

IDC ***08*** *04:46:29.6±0.8, 15°.72S×174°.14W, h0km, mb3.9/9, mbtmp3.9/9, Error ellipse: s-maj=36.7km s-min=22.4km az=133.0*

ISC 08 04:46:41.6±0.8, 15°.7S±0°.2×174°.2W±0°.2, h94km, n15, σ0s58/9, mb3.7/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy**	**38.85**	**330**	T	T	05 34 37.5	
	baz=149,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**38.86**	**330**	T	T	05 34 51.4	
	baz=149,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**38.87**	**330**	T	T	05 34 25.0	
	baz=149,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**39.82**	**332**	T	T	05 35 35.1	
	baz=150,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hy**	**39.82**	**332**	T	T	05 36 00.7	
	baz=150,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hy**	**39.84**	**332**	T	T	05 35 35.6	
	baz=150,slow=76,SNR=11						

WRA	**Warramunga Arr**	**49.00**	**257**	P		**P**	**04 55 18.6**	**-0.5**	
	1.2nm,0.9s,baz=90,slow=7.0,SNR=5.4								
	1.2nm,0.9s								
ASAR	**Alice Springs**	**49.26**	**252**	P		**P**	**04 55 20.6**	**-0.5**	
	1.5nm,0.5s,baz=86,slow=8.4,SNR=14								
	1.5nm,0.5s								
VNDA	**Vanda**	**62.97**	**186**	P		**P**	**04 56 58.0**	**+0.2**	
	1.0nm,0.8s,baz=56,slow=7.3,SNR=2.1								
	1.0nm,0.8s								
PETK	**Petropavlovsk-**	**72.71**	**343**	P		**P**	**04 57 59.9**	**+0.7**	
	11nm,1.1s,baz=168,slow=7.4,SNR=3.0								
	11nm,1.1s								
QSPA	**South Pole Qui**	**74.31**	**180**	P		**P**	**04 58 09.1**	**+0.4**	
	0.8nm,0.7s,baz=342,slow=3.2,SNR=3.2								
	0.8nm,0.7s								
NVAR	**Mina Array Bea**	**75.10**	**42**	P		**P**	**04 58 13.8**	**0.0**	
	0.5nm,0.8s,baz=219,slow=9.2,SNR=3.1								
	0.5nm,0.8s								
TXAR	**Lajitas Array**	**81.45**	**56**	P		**P**	**04 58 48.0**	**-0.8**	
	1.1nm,1.1s,baz=218,slow=7.9,SNR=4.1								
	1.1nm,1.1s								
ILAR	**Eielson Array**	**82.92**	**11**	P		**P**	**04 58 55.9**	**+0.3**	
	0.6nm,0.9s,baz=211,slow=6.1,SNR=4.9								
	0.6nm,0.9s								
PDAR	**Pinedale Array**	**83.04**	**42**	P		**P**	**04 58 56.9**	**-0.2**	
	0.4nm,0.9s,baz=318,slow=1.2,SNR=2.5								
	0.4nm,0.9s								

IDC ***08*** *04:56:05.7±0.5, 34°.49N×26°.70E, h0km, mb4.3/26, mbtmp4.2/40, ML4.2/12, Error ellipse: s-maj=12.5km s-min=10.6km az=172.0*
MOS ***08*** *04:56:06.1±1.2, 34°.33N×26°.71E, h17km, mb4.5/30, Error ellipse: s-maj=5.3km s-min=2.8km az=105.6*
HLW ***08*** *04:56:07.8, 34°.40N×26°.91E, h10km±12km, Md4.0, Ml4.5*
NEIC ***08*** *04:56:09.8±2.0, 34°.30N±0°.08×26°.69E±0°.08, h33km±8km, mb4.2/36, Error ellipse: s-maj=13.0km s-min=8.1km az=210.0*
ATH ***08*** *04:56:11.9, 34°.38N×26°.79E, h19km±4km, ML3.8/12, Error ellipse: s-maj=4.8km s-min=2.1km az=332.0*
NIC ***08*** *04:56:11.4, 34°.24N×26°.99E, h40km±29km, Ml4.6/13*
GII ***08*** *04:56:13.6±0.3, 34°.258N±0°.002×27°.162E±0°.001, h60km, mB4.3/17, Md4.2/2, Mws4.1, confirmed*
ISK ***08*** *04:56:13.0, 34°.61N×26°.75E, h77km, ML3.9/25*
TIR ***08*** *04:56:13.3, 34°.89N×25°.40E, h3km±36km, Ml4.5*
AFAD ***08*** *04:56:15.0±0.0, 34°.72N×26°.67E, h40km, MW4.1*
THE ***08*** *04:56:16.4, 34°.66N×26°.66E, h41km±3km, ML3.7/23, Error ellipse: s-maj=3.6km s-min=0.6km az=334.0*
NAO ***08*** *04:56:19.5, 35°.08N×24°.47E, h33km, mb3.9*
ISC 08 04:56:09.4±1.1, 34°.32N±0°.04×26°.78E±0°.03, h29km±8km, n568, σ1s95/620, mb4.3/67, 27C-13D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.92**	**330**	Pg	**Pb**	**04 56 28.4**	**+1.6**
ZKR	**Zakros**	**0.92**	**330**	P	**Pb**	**04 56 27.8**	**+1.1**
ZKR				S	**Sn**	**04 56 36.5**	**-2.0**
	4µm,0.5s						
ZKR	**Zakros**	**0.92**	**330**	P	**Pb**	**04 56 27.9**	**+1.1**
ZKR				AML	AML	04 56 44.1	
	4.4nm,0.5s						
ZKR				AML	AML	04 56 48.2	
	12nm,0.6s						
ZKR	**Zakros**	**0.92**	**330**	P	**Pb**	**04 56 28.1**	**+1.3**
ZKR				S	**Sb**	**04 56 39.4**	**+0.7**
ZKR				AML	AML	04 56 45.3	
	comp=N,4610µm,0.5s						
ZKR				AML	AML	04 56 49.4	
	comp=E,12228µm,0.6s						
FRMA	**Ierapetra Chan**	**1.10**	**309**	P	**Pb**	**04 56 30.0**	**+0.1**
FRMA				S	**Sn**	**04 56 40.5**	**-2.7**
	comp=E,2µm,0.4s						
FRMA	**Ierapetra Chan**	**1.10**	**309**	P	**Pb**	**04 56 30.3**	**+0.4**
FRMA				S	**Sb**	**04 56 44.0**	**0.0**
FRMA				AML	AML	04 56 51.0	
	comp=E,11456µm,0.7s						
FRMA				AML	AML	04 56 51.2	
	comp=N,10801µm,0.4s						
KARP	**Karpathos**	**1.26**	**14**	Pg	**Pb**	**04 56 32.8**	**+0.2**
KARP	**Karpathos**	**1.26**	**14**	Pn	**Pn**	**04 56 31.7**	**+0.6**
KARP	**Karpathos**	**1.26**	**14**	P	**Pb**	**04 56 33.3**	**+0.7**
KARP				S	**Sn**	**04 56 46.0**	**-1.1**
	comp=N,4µm,0.8s						
KARP	**Karpathos**	**1.26**	**14**	P	**Pb**	**04 56 33.2**	**+0.7**
KARP				S	**Sb**	**04 56 50.2**	**+1.8**
KARP				AML	AML	04 56 53.1	
	comp=N,8.1nm,0.5s						
KARP				AML	AML	04 57 01.4	
	comp=N,5.4nm,0.4s						
KARP	**Karpathos**	**1.26**	**14**	P	**Pb**	**04 56 33.6**	**+1.0**
KARP	**Karpathos**	**1.26**	**14**	P	**Pb**	**04 56 33.6**	**+1.0**
KARP				S	**Sb**	**04 56 47.9**	**-0.5**
KARP				AML	AML	04 56 53.5	
	comp=E,8156µm,0.5s						
KARP				AML	AML	04 57 07.7	
	comp=N,7012µm,1.1s						
KSTL	**Kastelli Herak**	**1.71**	**305**	P	**Pn**	**04 56 36.4**	**-0.9**
KSTL				S	**Sn**	**04 56 51.7**	**-6.5**
	comp=N,770nm,0.8s						
KSTL	**Kastelli Herak**	**1.71**	**305**	P	**Pn**	**04 56 36.8**	**-0.5**
KSTL				AML	AML	04 56 55.9	
	comp=N,6600µm,0.6s						
KSTL				AML	AML	04 57 00.3	
	comp=E,2397µm,0.5s						
IACM	**Heraklion**	**1.71**	**305**	P	**Pb**	**04 56 40.1**	**-0.2**
IACM	**Heraklion**	**1.71**	**305**	P	**Pb**	**04 56 40.2**	**0.0**
TMBK	**Timbaki Herakl**	**1.82**	**295**	P	**Pb**	**04 56 41.7**	**-0.4**
IDI	**Anoyia**	**1.83**	**302**	Pn	**Pb**	**04 56 41.7**	**-0.6**
IDI				Sn	**Sn**	**04 57 02.5**	**+1.3**
IDI	**Anoyia**	**1.83**	**302**		**Pn**	**04 56 40.5**	**+1.6**
IDI	**Anoyia**	**1.83**	**302**	P	**Pb**	**04 56 41.3**	**-1.0**
IDI				S	**Sn**	**04 57 01.3**	**+0.1**
	comp=E,1µm,0.6s						
IDI	**Anoyia**	**1.83**	**302**	Pg	**Pb**	**04 56 41.5**	**-0.8**
	comp=E,1.0nm,0.3s,baz=134,slow=11,SNR=237						
IDI				Lg	Lg	04 57 01.1	
	comp=E,1.6nm,0.3s,baz=234,slow=19,SNR=19						
IDI	**Anoyia**	**1.83**	**302**	P	**Pb**	**04 56 41.6**	**-0.7**
IDI				AML	AML	04 57 04.0	
	comp=N,3235µm,0.6s						
IDI				AML	AML	04 57 04.0	
	comp=E,3236µm,0.6s						
PRNS	**Prines Rethymn**	**2.14**	**300**	P	**Pb**	**04 56 46.7**	**-0.9**
PRNS				S	**Sn**	**04 57 10.7**	**+1.9**
ARG	**Arkhangelos**	**2.19**	**30**	Pn	**Pn**	**04 56 45.5**	**+1.8**
ARG	**Arkhangelos**	**2.19**	**30**		**Pn**	**04 56 45.6**	**+1.8**
ARG	**Arkhangelos**	**2.19**	**30**	P	**Pb**	**04 56 46.7**	**-1.6**
ARG				S	**Sn**	**04 57 10.9**	**+1.1**
	comp=E,998nm,0.3s						
ARG	**Arkhangelos**	**2.19**	**30**	P	**Pn**	**04 56 45.6**	**+1.8**
ARG	**Arkhangelos**	**2.19**	**30**	P	**Pb**	**04 56 46.6**	**-1.7**
ARG				AML	AML	04 57 12.2	
	comp=E,2.0nm,0.3s						
ARG				S	**Sb**	**04 57 12.3**	**-2.6**
ARG				AML	AML	04 57 16.5	
	comp=E,2.0nm,0.4s						
ARG	**Arkhangelos**	**2.19**	**30**	P	**Pb**	**04 56 46.8**	**-1.5**
ARG				AML	AML	04 57 12.4	
	comp=N,1976µm,0.3s						
ARG				AML	AML	04 57 13.3	
	comp=E,2069µm,0.3s						
GVD	**Gavdhos**	**2.28**	**284**	Pn	**Pb**	**04 56 47.8**	**-2.1**
GVD	**Gavdhos**	**2.28**	**284**	P	**Pn**	**04 56 47.5**	**+2.4**
GVD				S	**Sn**	**04 57 13.5**	**+1.3**
	comp=E,1µm,0.4s						
GVD	**Gavdhos**	**2.28**	**284**	P	**Pn**	**04 56 47.5**	**+2.4**
GVD				AML	AML	04 57 16.6	
	comp=N,2364µm,0.5s						
GVD				AML	AML	04 57 17.4	
	comp=E,2909µm,0.4s						
NISR	**Nisiros**	**2.30**	**7**	P	**Pn**	**04 56 46.3**	**+1.0**
NISR				S	**Sn**	**04 57 10.6**	**-2.0**
	comp=E,905nm,0.8s						
NISR	**Nisiros**	**2.30**	**7**	P	**Pn**	**04 56 46.1**	**+0.8**
THR8	**Santorini-Mono**	**2.34**	**333**	P	**Pn**	**04 56 46.3**	**+0.5**
SFIR	**Foira Santorin**	**2.37**	**333**	P	**Pn**	**04 56 47.7**	**+1.4**
YAZI	**Mula-Datşa-**	**2.42**	**13**	P	**Pn**	**04 56 47.6**	**+0.6**
YAZI				S	**Sn**	**04 57 11.4**	**-4.1**
CMBO	**Columbo, Santo**	**2.42**	**333**	P	**Pn**	**04 56 48.3**	**+1.3**
CMBO				S	**Sn**	**04 57 12.1**	**-3.5**
	comp=E,2µm,0.5s						
DAT	**Datca**	**2.49**	**15**	Pn	**Pn**	**04 56 49.5**	**+1.5**
DAT				Sn	**Sn**	**04 57 15.7**	**-1.7**

DAT	**Datca**	**2.49**	**15**	P		**Pn**	**04 56 49.3**	**+1.3**	
DAT				S		**Sn**	**04 57 16.7**	**-0.7**	
DAT	**Datca**	**2.49**	**15**	P		**Pn**	**04 56 49.0**	**+1.0**	
DAT				S		**Sn**	**04 57 14.6**	**-2.8**	
CHAN	**Chania**	**2.55**	**299**	P		**Pn**	**04 56 51.6**	**+2.8**	
CHAN				AML		AML	04 57 24.4		
	comp=N,2677µm,0.5s								
CHAN				AML		AML	04 57 24.7		
	comp=E,2769µm,0.5s								
IMMV	**Iera Moni Meta**	**2.57**	**297**	Pn		**Pn**	**04 56 52.0**	**+2.9**	
IMMV				Sn		**Sn**	**04 57 20.8**	**+1.6**	
IMMV	**Iera Moni Meta**	**2.57**	**297**	P		**Pn**	**04 56 51.8**	**+2.8**	
IMMV				S		**Sn**	**04 57 19.9**	**+0.7**	
	comp=E,1µm,0.5s								
IMMV	**Iera Moni Meta**	**2.57**	**297**	P		**Pn**	**04 56 51.9**	**+2.9**	
TURN	**Turunc**	**2.72**	**26**	P		**Pn**	**04 56 53.2**	**+2.1**	
TURN				S		**Sn**	**04 57 20.6**	**-2.4**	
BODT	**Bodrum**	**2.77**	**9**	Pn		**Pn**	**04 56 52.9**	**+1.2**	
BODT	**Bodrum**	**2.77**	**9**	P		**Pn**	**04 56 53.0**	**+1.2**	
BODT				S		**Sn**	**04 57 21.8**	**-2.4**	
RODP	**Rodopos**	**2.77**	**297**	Pn		**Pn**	**04 56 55.1**	**+3.2**	
RODP	**Rodopos**	**2.77**	**297**	P		**Pn**	**04 56 55.1**	**+3.2**	
RODP				S		**Sn**	**04 57 24.7**	**+0.3**	
	comp=E,435nm,0.4s								
BDRM	**Kayabasi**	**2.79**	**11**	P		**Pn**	**04 56 51.8**	**-0.3**	
BDRM				S		**Sn**	**04 57 20.2**	**-4.5**	
YKAV	**Yalikavak-Bodr**	**2.82**	**8**	Pn		**Pn**	**04 56 53.8**	**+1.3**	
IZZE	**Mula-Seydike**	**2.90**	**43**	P		**Pn**	**04 56 55.3**	**+1.6**	
IZZE				S		**Sn**	**04 57 24.0**	**-3.5**	
DALY	**Dalyan (Mula)**	**2.92**	**31**	Pn		**Pn**	**04 56 55.7**	**+1.9**	
APE	**Apeiranthos**	**2.92**	**340**	||P		**Pn**	**04 56 54.8**	**+0.8**
APE	**Apeiranthos**	**2.92**	**340**	Pn		**Pn**	**04 56 54.4**	**+0.5**	
APE	**Apeiranthos**	**2.92**	**340**	P		**Pn**	**04 56 54.3**	**+0.3**	
APE				S		**Sn**	**04 57 26.0**	**-2.1**	
	comp=E,380nm,0.5s								
APE	**Apeiranthos**	**2.92**	**340**	*i P*		**Pn**	**04 56 54.1**	**+0.1**	
APE	**Apeiranthos**	**2.92**	**340**	P		**Pn**	**04 56 54.4**	**+0.5**	
APE				AML		AML	04 57 32.3		
	comp=E,745µm,0.3s								
APE				AML		AML	04 57 34.2		
	comp=N,828µm,0.4s								
KSL	**Kastellorizon**	**2.93**	**51**	P		**Pn**	**04 56 56.0**	**+2.0**	
KSL				S		**Sn**	**04 57 30.4**	**+2.2**	
	comp=N,515nm,0.3s								
KSL	**Kastellorizon**	**2.93**	**51**	P		**Pn**	**04 56 54.6**	**+0.6**	
KSL				S		**Sn**	**04 57 28.7**	**+0.6**	
KSL				AML		AML	04 57 34.1		
	comp=N,1.3nm,0.4s								
KSL				AML		AML	04 57 36.4		
	comp=N,0.7nm,0.3s								
KSL	**Kastellorizon**	**2.93**	**51**	P		**Pn**	**04 56 56.1**	**+2.0**	
KSL				AML		AML	04 57 34.5		
	comp=E,1350µm,0.4s								
KSL				AML		AML	04 57 36.8		
	comp=N,711µm,0.3s								
FETY	**Fethiye**	**2.97**	**38**	Pn		**Pn**	**04 56 56.9**	**+2.3**	
FETY	**Fethiye**	**2.97**	**38**	P		**Pn**	**04 56 58.3**	**+3.6**	
FETY				S		**Sn**	**04 57 32.0**	**+2.6**	
AKAS	**Kas**	**2.99**	**50**	Pn		**Pn**	**04 56 56.8**	**+1.7**	
AKAS	**Kas**	**2.99**	**50**	P		**Pn**	**04 56 56.6**	**+1.6**	
MHLO	**Agia Marina, M**	**3.06**	**321**	P		**Pn**	**04 56 56.9**	**+1.2**	
MHLO				S		**Sn**	**04 57 28.9**	**-2.4**	
	comp=N,2µm,0.4s								
MHLO	**Agia Marina, M**	**3.06**	**321**	P		**Pn**	**04 56 57.1**	**+1.4**	
MLSB	**Milas**	**3.07**	**15**	Pn		**Pn**	**04 56 57.7**	**+1.7**	
SLUM	**Salum**	**3.12**	**205**	P		**Pn**	**04 56 58.2**	**+1.7**	
	baz=207								
DDIM	**Aydin, Didim**	**3.15**	**7**	P		**Pn**	**04 56 56.0**	**-1.0**	
MULA	**Mugla, Merkez-**	**3.18**	**23**	P		**Pn**	**04 57 00.3**	**+2.7**	
MULA				S		**Sn**	**04 57 28.5**	**-6.0**	
DEMR	**Demre-Antalya**	**3.19**	**52**	Pn		**Pn**	**04 57 00.6**	**+3.0**	
ANKY	**Antikythira Is**	**3.24**	**299**	P		**Pn**	**04 57 00.3**	**+2.0**	
ANKY				S		**Sn**	**04 57 35.4**	**-0.5**	
	comp=N,980nm,0.6s								
ANKY	**Antikythira Is**	**3.24**	**299**	P		**Pn**	**04 57 00.2**	**+1.9**	
ANKY				AML		AML	04 57 40.1		
	comp=E,2050µm,0.6s							

comp=N,5.0nm,0.3s
NATA AML AML 04 58 17.8
comp=N,3.3nm,0.5s
PYL PYLOS 4.84 303 P **Pn** **04 57 20.1 -0.2**
PYL S **Sn** **04 58 12.0 -3.4**
comp=N,230nm,0.4s
ALFC Alefka 4.86 79 P **Pn** **04 57 20.7 +0.1**
ALFC AML AML 04 58 17.2
comp=N,1.5nm,0.4s
ALFC AML AML 04 58 17.2
comp=N,1.9nm,0.2s
SIGR SIGRI 4.94 352 Pn **Pn** **04 57 22.4 +0.9**
DEMI Demirci 4.96 18 P **Pn** **04 57 23.2 +1.2**
TROD Troodos 5.05 81 P **Pn** **04 57 23.9 +0.5**
TROD AML AML 04 58 26.2
comp=N,1.3nm,0.8s
TROD AML AML 04 58 26.3
comp=N,1.8nm,0.4s
SWA2 5.19 193 P **Pn** **04 57 26.6 +1.5**
baz=194
ASGA Asgata 5.36 83 P **Pn** **04 57 27.5 +0.1**
ASGA AML AML 04 58 30.9
comp=N,1.6nm,0.4s
ASGA AML AML 04 58 31.6
comp=N,2.2nm,0.4s
CSS Mathiatis 5.44 81 Pn **Pn** **04 57 28.9 +0.4**
CSS Mathiatis 5.44 81 P **Pn** **04 57 28.7 +0.2**
CSS AML AML 04 58 30.0
comp=N,1.1nm,0.8s
CSS AML AML 04 58 34.7
comp=N,0.8nm,0.4s
CSS Mathiatis 5.44 81 P **Pn** **04 57 28.7 +0.2**
CSS Mathiatis 5.44 81 P **Pn** **04 57 28.5 0.0**
CSS Mathiatis 5.44 81 S **Sn** **04 58 26.3 -3.7**
HMYD Mayadein 5.66 142 P **Pn** **04 57 32.1 +0.6**
baz=143
MVOU Mavrovouni 5.69 81 P **Pn** **04 57 32.9 +1.0**
MVOU AML AML 04 58 38.0
comp=N,1.0nm,0.3s
MVOU AML AML 04 58 42.8
comp=N,0.7nm,0.5s
HNAT Natroun 5.70 144 P **Pn** **04 57 33.0 +0.9**
baz=145
LTHK Lithakia 5.88 307 P **Pn** **04 57 37.7 +3.1**
LTHK S **Sn** **04 58 38.9 -2.1**
comp=N,260nm,0.5s
AGG Agios Georgios 5.90 324 Pn **Pn** **04 57 34.4 -0.4**
AGG Agios Georgios 5.90 324 P **Pn** **04 57 34.4 -0.4**
PARAL Paralimni 6.02 82 P **Pn** **04 57 37.9 +1.5**
PARAL AML AML 04 58 53.0
comp=N,0.5nm,0.4s
PARAL AML AML 04 58 54.9
comp=N,0.5nm,0.6s
KOT Kottamia 6.13 134 P **Pn** **04 57 38.5 +0.5**
baz=135
KOT S **Sn** **04 58 43.9 -3.2**
baz=135
VLS Valsamata 6.31 309 P **Pn** **04 57 42.4 +1.9**
OUR Ouranopolis 6.40 340 P **Pn** **04 57 43.5 +1.8**
KEF3 Kipouria, Keph 6.48 309 P **Pn** **04 57 44.3 +1.5**
KEF3 S **Sn** **04 58 52.5 -3.2**
ALN Alexandroupoli 6.59 355 Pn **Pn** **04 57 45.4 +1.2**
ALN Alexandroupoli 6.59 355 P **Pn** **04 57 45.4 +1.2**
LIT Litokhoron 6.71 331 **Pn** **04 57 47.1 +1.2**
LIT Litokhoron 6.71 331 P **Pn** **04 57 47.1 +1.2**
SUZ Suez 6.81 129 P **Pn** **04 57 47.3 0.0**
baz=130
RDO Rodhopi 6.88 352 **Pn** **04 57 49.1 +0.8**
THE Thessaloniki 6.99 335 P **Pn** **04 57 51.7 +1.9**
THE pmax pmax
comp=Z,27nm,1.0s
ZAF Zafarana 7.02 134 P **Pn** **04 57 49.9 -0.4**
baz=135
SOH Sokhos 7.03 338 P **Pn** **04 57 52.4 +2.0**
SOH pmax pmax
comp=Z,10.0nm,0.6s
OFRI `Ofer 7.06 102 S **Sn** **04 59 05.8 -4.3**
OFRI `Ofer 7.06 102 P **Pn** **04 57 49.6 -1.2**
MDUB Mudurnu 7.07 29 Pn **Pn** **04 57 51.6 +0.6**
HNTI Hanita 7.10 98 S **Sn** **04 59 07.0 -4.1**
HNTI Hanita 7.10 98 P **Pn** **04 57 50.6 -0.8**
JAN Janina 7.13 320 P **Pn** **04 57 54.9 +3.2**
ZNM Zenema 7.15 132 P **Pn** **04 57 52.1 0.0**
baz=133
BLGI Bet Lehem HaGe 7.20 100 P **Pn** **04 57 52.0 -0.6**
BLGI Bet Lehem HaGe 7.20 100 S **Sn** **04 59 09.2 -4.2**
SLTI Sal'it 7.22 104 P **Pn** **04 57 53.2 +0.2**
SLTI Sal'it 7.22 104 S **Sn** **04 59 09.9 -4.1**
SLTI Sal'it 7.22 104 P **Pn** **04 57 52.3 -0.7**
SRS Serrai 7.24 341 P **Pn** **04 57 55.4 +2.2**
SRS pmax pmax
comp=Z,15nm,0.6s
KZIT Kziot 7.27 116 P **Pn** **04 57 53.0 -0.7**
KZIT Kziot 7.27 116 S **Sn** **04 59 11.6 -3.6**
KZIT Kziot 7.27 116 P **Pn** **04 57 53.2 -0.4**
HFRF Wahat Farafira 7.27 169 P **Pn** **04 57 54.6 +0.9**
baz=170
MMC7 Mount Meron ar 7.29 98 P **Pn** **04 57 53.8 -0.3**
MMC7 Mount Meron ar 7.29 98 S **Sn** **04 59 12.9 -3.1**
MMA0B Mount Meron ar 7.30 98 P **Pn** **04 57 53.4 -0.8**
MMA0B Mount Meron ar 7.30 98 S **Sn** **04 59 12.1 -4.0**
MMAI Mount Meron Ar 7.30 98 Pn **Pn** **04 57 55.0 +0.8**
comp=Z,18nm,0.3s,baz=283,slow=11,SNR=21
MMAI Sn **Sn** **04 59 12.8 -3.3**
comp=Z,33nm,0.3s,baz=317,slow=24,SNR=9.5
comp=Z,8.9nm,0.3s
IGT Igoumenitsa 7.33 317 P **Pn** **04 57 53.3 -1.1**
baz=321
IGT Igoumenitsa 7.33 317 P **Pn** **04 57 53.3 -1.1**
BHL Bhannes 7.37 91 *e*P **Pn** **04 57 55.0 -0.1**
AMAZ Amatzia 7.38 110 P **Pn** **04 57 55.8 +0.6**
AMAZ Amatzia 7.38 110 S **Sn** **04 59 14.1 -3.9**
AMAZ Amatzia 7.38 110 P **Pn** **04 57 54.7 -0.6**
QRWL Qaraoun 7.44 93 *e*P **Pn** **04 57 56.0 0.0**
MMLI Mount Malkishu 7.47 102 S **Sn** **04 59 15.7 -4.4**
MMLI Mount Malkishu 7.47 102 P **Pn** **04 57 55.9 -0.5**
GRG Griva 7.48 334 P **Pn** **04 57 58.6 +2.1**
GRG pmax pmax
comp=Z,24nm,1.1s
GEM Giv'at Ha'Em 7.48 96 P **Pn** **04 57 55.9 -0.6**
GEM Giv'at Ha'Em 7.48 96 S **Sn** **04 59 15.7 -4.6**
KNT Kendrikon 7.49 337 P **Pn** **04 57 59.2 +2.6**
KNT pmax pmax
comp=Z,22nm,0.7s
NATI Neve Ativ 7.53 96 P **Pn** **04 57 57.7 +0.5**
NATI Neve Ativ 7.53 96 S **Sn** **04 59 17.7 -3.9**
NATI Neve Ativ 7.53 96 P **Pn** **04 57 56.9 -0.3**
ZAHL Zahle 7.57 91 *e*P **Pn** **04 57 57.8 0.0**
RCY Rachaya 7.57 94 *e*P **Pn** **04 57 57.7 -0.2**
HWQ Hawqa 7.58 88 *e*P **Pn** **04 57 58.4 +0.3**
HMDT Nahal Hemdat 7.61 103 P **Pn** **04 57 58.4 +0.1**
HMDT Nahal Hemdat 7.61 103 S **Sn** **04 59 19.3 -4.2**
HMDT Nahal Hemdat 7.61 103 P **Pn** **04 57 57.7 -0.6**
YTIR Yattir 7.61 111 P **Pn** **04 57 57.7 -0.7**
YTIR Yattir 7.61 111 S **Sn** **04 59 19.8 -3.8**
YTIR Yattir 7.61 111 P **Pn** **04 57 57.7 -0.7**
QRNJ Al-Qirein 7.62 103 P **Pn** **04 57 58.9 +0.5**
LSK Leskovik 7.62 322 P **Pn** **04 57 58.4 -0.2**
baz=326
LSK S Sn 04 59 14.9 -9.1
baz=326
LSK AMP
comp=N,0.5nm,0.5s,baz=326
KSHT Keshet 7.65 98 S **Sn** **04 59 20.6 -3.9**
KSHT Keshet 7.65 98 P **Pn** **04 57 58.9 0.0**
UJAP Al Uja 7.66 106 P **Pn** **04 57 59.8 +0.9**
SHMJ Saham 7.67 99 P **Pn** **04 57 59.8 +0.7**
BR131 Keskin Array S 7.69 43 Pn **Pn** **04 58 00.7 +1.2**
BR131 Keskin Array S 7.69 43 *i* P **Pn** **04 58 00.2 +0.7**
BRTR Keskin Array B 7.69 43 Pn **Pn** **04 57 59.4 -0.1**
comp=N,3.0nm,1.0s,baz=279,slow=11,SNR=3.6
BRTR Sn **Sn** **04 59 22.9 -2.8**
comp=N,0.6nm,0.3s,baz=216,slow=30,SNR=3.1
DSI Dead Sea 7.73 108 P **Pn** **04 58 00.1 +0.1**
DSI Dead Sea 7.73 108 S **Sn** **04 59 22.6 -3.9**
DSI Dead Sea 7.73 108 P **Pn** **04 57 59.3 -0.6**
FNA Florina 7.75 328 Pn **Pn** **04 58 00.0 -0.2**
FNA Florina 7.75 328 S **Sn** **04 59 21.0 -5.9**
baz=333
FNA AMP
comp=Z,0.1nm,0.4s,baz=333
FNA Florina 7.75 328 P **Pn** **04 58 00.0 -0.2**
BALJ Balqa 7.75 104 Pn **Pn** **04 58 00.5 +0.3**
BALJ Balqa 7.75 104 P **Pn** **04 58 00.6 +0.3**

SRN Sarande 7.75 318 P **Pn** **04 57 58.6 -1.6**
baz=321
SRN S **Sn** **04 59 20.4 -6.5**
baz=321
KEK Kerkira 7.75 316 Pn Pn 04 57 55.1 -5.2
BEIL Beino 7.77 86 *e*P **Pn** **04 58 00.1 -0.4**
MDBI Mazsada 7.82 110 P **Pn** **04 58 00.3 -0.8**
MSBI Mazada 7.82 110 P **Pn** **04 58 01.0 -0.1**
MSBI Mazada 7.82 110 S **Sn** **04 59 24.5 -4.1**
MSBI Mazada 7.82 110 P **Pn** **04 58 00.6 -0.5**
KBN Korca 7.89 325 Pn **Pn** **04 58 02.1 -0.1**
KBN Korca 7.89 325 P **Pn** **04 58 04.3 +2.1**
baz=329
KBN S **Sn** **04 59 25.6 -4.9**
baz=329
KBN AMP
comp=N,0.3nm,0.6s,baz=329
KBN Korca 7.89 325 P **Pn** **04 58 02.1 -0.1**
KRMI Paran Flat 7.93 120 S **Sn** **04 59 26.9 -4.6**
KRMI Paran Flat 7.93 120 P **Pn** **04 58 02.2 -0.5**
LISJ El Lisan 7.94 110 P **Pn** **04 58 03.2 +0.4**
FKH Fakeheh 7.97 88 *e*P **Pn** **04 58 03.9 +0.6**
GHAJ Ghor Haditha 7.98 110 Pn **Pn** **04 58 03.7 +0.3**
GHAJ Ghor Haditha 7.98 110 P **Pn** **04 58 04.9 +1.5**
GHAJ Ghor Haditha 7.98 110 P **Pn** **04 58 03.2 -0.2**
GHAJ Ghor Haditha 7.98 110 S **Sn** **04 59 28.6 -4.1**
PRNI Paran 8.00 117 P **Pn** **04 58 02.9 -0.9**
PRNI Paran 8.00 117 S **Sn** **04 59 28.5 -4.9**
PRNI Paran 8.00 117 P **Pn** **04 58 03.2 -0.5**
ZFRI Zfri 8.03 116 P **Pn** **04 58 03.9 -0.2**
ZFRI Zfri 8.03 116 S **Sn** **04 59 29.8 -4.1**
ZFRI Zfri 8.03 116 P **Pn** **04 58 03.3 -0.7**
KARJ KARJ 8.13 111 P **Pn** **04 58 01.1 -4.3**
HRFI Mount Harif 8.20 119 S **Sn** **04 59 34.6 -3.5**
HRFI Mount Harif 8.20 119 P **Pn** **04 58 06.0 -0.4**
MBRI Mt Berech 8.25 121 P **Pn** **04 58 07.6 +0.5**
MBRI Mt Berech 8.25 121 P **Pn** **04 58 07.4 +0.3**
MBRI Mt Berech 8.25 121 S **Sn** **04 59 35.7 -3.6**
EIL Elat 8.34 122 Pn **Pn** **04 58 08.9 +0.5**
comp=N,5.6nm,0.3s,baz=287,slow=5.1,SNR=61
EIL Sn **Sn** **04 59 36.4 -5.3**
comp=N,18nm,0.3s,baz=306,slow=19,SNR=11
comp=N,14nm,0.3s
EIL Elat 8.34 122 P **Pn** **04 58 08.9 +0.5**
EIL Elat 8.34 122 S **Sn** **04 59 37.9 -3.8**
EIL Elat 8.34 122 P **Pn** **04 58 08.5 +0.1**
AQBJ Aqaba 8.38 121 P **Pn** **04 58 10.3 +1.4**
SWQJ Swaqa 8.39 109 P **Pn** **04 58 09.8 +0.6**
VLO Vlora 8.44 319 Pn **Pn** **04 58 08.6 -1.0**
VLO Vlora 8.44 319 P **Pn** **04 58 08.7 -0.9**
baz=322
VLO S **Sn** **04 59 37.1 -6.7**
baz=322
VLO Vlora 8.44 319 P **Pn** **04 58 08.6 -1.0**
BNN Bunyan 8.57 56 Pn **Pn** **04 58 11.3 -0.3**
ASF Jabal al Asfar 8.74 101 Pn **Pn** **04 58 13.8 -0.1**
comp=N,1.6nm,0.3s,baz=330,slow=5.9,SNR=9.0
ASF Sn **Sn** **04 59 46.9 -4.6**
comp=N,1.8nm,0.3s,baz=333,slow=14,SNR=2.0
comp=N,6.3nm,0.4s
ASF Jabal al Asfar 8.74 101 P **Pn** **04 58 14.4 +0.5**
SCTE Santa Cesarea 8.77 313 Pn **Pn** **04 58 12.4 -1.8**
SCTE Santa Cesarea 8.77 313 P **Pn** **04 58 12.9 -1.2**
baz=316
SCTE S **Sn** **04 59 43.3 -8.6**
baz=316
TIR Tirane 8.89 324 Pn **Pn** **04 58 16.0 +0.1**
TIR Tirane 8.89 324 P **Pn** **04 58 17.1 +1.2**
baz=328
TIR S **Sn** **04 59 49.3 -5.7**
baz=328
TIR Tirane 8.89 324 P **Pn** **04 58 16.0 +0.1**
TIP Timpagrande 9.39 304 ⇓P **Pn** **04 58 19.1 -3.7**
TIP Timpagrande 9.39 304 Pn **Pn** **04 58 21.8 -0.9**
PUK Puka 9.42 327 Pn **Pn** **04 58 23.4 +0.2**
PUK Puka 9.42 327 P **Pn** **04 58 23.4 +0.2**
baz=331
PUK S **Sn** **05 00 03.3 -4.8**
baz=331
PUK AMP
comp=N,0.3nm,0.4s,baz=331
CEL Celeste 9.62 297 **Pn** **04 58 25.9 -0.1**
BLKB Belogradchik 9.82 342 ⇑P **Pn** **04 58 31.2 +2.6**
MATE Matera 10.19 311 ⇓P **Pn** **04 58 30.0 -3.7**
CUC Castrocucco 10.42 306 Pn **Pn** **04 58 35.9 -0.9**
RAFF Raffo Rosso 10.50 290 Pn **Pn** **04 58 36.8 -1.0**
VAE Valguarnera 10.52 291 Pn **Pn** **04 58 35.8 -2.4**
comp=N,1.9nm,0.3s,baz=85,slow=12,SNR=4.0
VAE Sn Sn 05 00 24.0 -11
comp=N,3.3nm,0.3s,baz=156,slow=10.0,SNR=2.9
comp=N,12nm,0.8s
HERR Herculane 11.07 344 ⇑P **Pn** **04 58 48.5 +2.9**
MDVR Moldovita 11.15 341 ⇓P **Pn** **04 58 49.4 +2.6**
ARR Arges 11.15 352 ⇓P Pn 04 58 51.9 +5.0
MLR Muntele Rosu 11.17 357 ⇑P Pn 04 58 53.0 +5.8
MLR Muntele Rosu 11.17 357 Pn Pn **04 58 46.2 -1.0**
MLR Muntele Rosu 11.17 357 ⇑P Pn 04 58 53.0 +5.8
MLR Muntele Rosu 11.17 357 Pn **Pn** **04 58 45.8 -1.4**
comp=N,0.1nm,0.3s,baz=156,slow=19,SNR=1.9
MLR Lg Lg 05 01 44.5
comp=N,0.1nm,0.3s,baz=130,slow=21,SNR=1.6
comp=N,2.7nm,0.9s
VOIR 11.18 354 ⇑P Pn 04 58 52.5 +5.2
VOIR 11.18 354 P Pn 04 58 52.4 +5.2
BISRR Bisoca 11.21 360 ⇓P Pn 04 58 54.2 +6.5
LOT Lotru 11.35 349 ⇓P **Pn** **04 58 53.3 +3.8**
SPBR Spulber 11.41 360 ⇑P Pn 04 58 57.2 +6.8
GZR Gura Zlata 11.47 346 ⇓P **Pn** **04 58 53.4 +2.1**
GZR Gura Zlata 11.47 346 ⇓P **Pn** **04 58 53.4 +2.1**
PLOR Plostina 11.52 360 ⇑P Pn 04 58 58.6 +6.8
PLOR Plostina 11.52 360 P Pn 04 58 58.5 +6.7
VRI Vrincioaia 11.53 360 ⇑P Pn 04 58 58.5 +6.6
VRI Vrincioaia 11.53 360 ⇑P Pn 04 58 58.5 +6.5
TURR Turia 11.73 357 ⇓P Pn 04 59 00.8 +6.0
BZS Buzias 11.95 342 ⇑P **Pn** **04 58 59.7 +2.0**
BZS Buzias 11.95 342 ⇑P **Pn** **04 58 59.7 +2.0**
SURR Surduc 11.96 344 ⇑P **Pn** **04 59 00.8 +3.0**
SIRR Siria 12.55 343 ⇑P **Pn** **04 59 08.4 +2.4**
MARR Marisel-Cluj 12.65 348 ⇓P **Pn** **04 59 11.2 +3.8**
DRGR 12.83 347 ⇑P **Pn** **04 59 13.5 +3.7**
DRGR 12.83 347 ⇑P **Pn** **04 59 13.5 +3.7**
ANN Anapa 13.29 35 *e*P Pn 04 59 10.6 -5.4
ANN pmax pmax
comp=Z,77nm,1.1s
BURAR Bucovina Array 13.33 355 ⇑P **P** **04 59 22.2 -3.8**
BURAR Bucovina Array 13.33 355 ⇑P **P** **04 59 22.2 -3.8**
MORH Mrgy, Hungar 13.39 335 ⇑P **Pn** **04 59 19.0 +1.6**
NRCA Norcia 13.64 313 **Pn** **04 59 19.7 -1.2**
SORM Soroca 13.85 4 ⇑P **P** **04 59 30.8 -0.8**
SORM Soroca 13.85 4 ⇑P **P** **04 59 30.8 -0.8**
KEST Kesra 14.36 281 Pn **Pn** **04 59 29.8 -0.9**
KEST Kesra 14.36 281 Pn **Pn** **04 59 29.5 -1.2**
comp=Z,2.5nm,0.8s,baz=58,slow=9.5,SNR=1.9
KEST Sn **Sn** **05 02 01.4 -7.6**
comp=Z,0.1nm,0.3s,baz=75,slow=20,SNR=1.4
PSZ Piszkesteto 14.53 341 ⇓P **Pn** **04 59 34.0 +1.0**
PSZ Piszkesteto 14.53 341 Pn **Pn** **04 59 30.0 -3.0**
PSZ Piszkesteto 14.53 341 ⇓P **Pn** **04 59 34.0 +1.0**
KOLS Kolonicke sedl 14.98 348 *e*P **P** **04 59 44.5 +0.3**
KOLS Kolonicke sedl 14.98 348 *e*P **P** **04 59 44.4 +0.3**
CRVS Cervenica-Dubn 15.09 346 *e*P **P** **04 59 45.8 +0.4**
CRVS Cervenica-Dubn 15.09 346 *e*P **P** **04 59 45.8 +0.4**
SOKA Soboth 15.21 328 *i* Pn **Pn** **04 59 40.7 -1.5**
comp=Z,3.3nm,0.5s
NEUR Neytrino 15.27 50 *i* P **Pn** **04 59 43.3 +0.3**
OBKA Obir 15.30 326 *i* Pn **Pn** **04 59 41.7 -1.6**
comp=Z,3.7nm,0.7s
VYHS Vyhne 15.35 340 *e*P **Pn** **04 59 43.5 -0.3**
VYHS Vyhne 15.35 340 *e*PN **Pn** **04 59 43.5 -0.3**
SABO M.te Sabotino 15.37 323 Pn **Pn** **04 59 40.6 -3.6**
SABO IAmb IAmb 05 00 01.2
comp=Z,31nm,1.3s
ONI Oni 15.43 53 Pn **Pn** **04 59 44.7 -0.3**
ONI IAmb IAmb 05 00 14.5
comp=Z,20nm,1.3s
ONI Oni 15.43 53 P **Pn** **04 59 44.7 -0.3**
ONI pmax pmax
comp=Z,20nm,1.3s
GNI Garni 15.43 63 *i* P **P** **04 59 48.1 -1.3**
GNI Garni 15.43 63 Pn **Pn** **04 59 46.6 +1.4**
comp=Z,1.6nm,0.3s,baz=315,slow=8.9,SNR=4.3
comp=Z,3.6nm,0.5s
ARSA Arzberg 15.45 330 *e*Pn **Pn** **04 59 43.8 -1.4**

comp=Z,3.6nm,0.5s
RONA Rosalia, Austr 15.51 333 *i* Pn **Pn** **04 59 45.2 -0.8**
comp=Z,9.9nm,0.9s
KIV Kislovodsk 15.62 47 Pn **Pn** **04 59 45.7 -1.8**
KIV IAmb IAmb 04 59 56.5
comp=Z,13nm,0.9s
KIV Kislovodsk 15.62 47 *e*P **Pn** **04 59 49.1 +1.6**
KIV pmax pmax
comp=Z,12nm,1.0s
KVAR Kislovodsk Arr 15.63 47 Pn **P** **04 59 50.0 -1.5**
baz=267,slow=19
comp=Z,1.7nm,0.5s
STHS Stebnicka Huta 15.63 346 *e*P **Pn** **04 59 49.0 +1.5**
STHS Stebnicka Huta 15.63 346 *e*PN **Pn** **04 59 49.0 +1.5**
KBZ Khabaz 15.63 48 *i* P **P** **04 59 49.8 -1.6**
KBZ pmax pmax
comp=Z,17nm,1.1s
KBZ Khabaz 15.63 48 Pn **Pn** **04 59 49.4 +1.9**
comp=Z,0.2nm,0.3s,baz=244,slow=11,SNR=9.5
comp=Z,4.1nm,1.0s
PRED Cave del Predi 15.72 324 Pn **Pn** **04 59 46.0 -2.8**
PRED IAmb IAmb 05 00 28.3
comp=Z,16nm,1.5s
MYKA Terra Mystica 15.82 325 *e*Pn **P** **04 59 56.1 +2.6**
comp=Z,2.3nm,0.5s
NIE Niedzica 15.83 344 P **P** **04 59 57.0 +3.4**
CONA Conrad Observa 15.86 332 *i* Pn **Pn** **04 59 49.5 -1.1**
comp=Z,2.8nm,0.7s
TEOL Teolo 15.98 318 Pn **Pn** **04 59 49.1 -2.9**
TEOL IAmb IAmb 05 00 05.6
comp=Z,12nm,0.8s
STAL STALIGIAL 16.01 322 Pn **Pn** **04 59 49.1 -3.4**
JAVC Velka Javorina 16.02 338 *e*P **Pn** **04 59 51.5 -1.1**
KBA Koelnbreinsper 16.28 325 *i* Pn **Pn** **04 59 54.6 -1.4**
comp=Z,0.8nm,0.3s
CTI Castel Tesino 16.42 320 Pn **Pn** **04 59 56.6 -1.2**
CTI IAmb IAmb 05 00 00.8
comp=Z,9.0nm,0.7s
CTI Castel Tesino 16.42 320 P **Pn** **04 59 56.6 -1.2**
CTI pmax pmax
comp=Z,9.0nm,0.7s
MAUC Maruska 16.42 339 *e*P **Pn** **04 59 57.6 -0.1**
ABTA Abfaltersbach 16.45 323 *i* Pn **Pn** **04 59 55.5 -2.5**
comp=Z,3.6nm,0.5s
MOA Molln 16.45 329 *e*Pn **Pn** **04 59 57.1 -0.9**
comp=Z,2.0nm,0.5s
KIEV Kiev 16.46 5 Pn **Pn** **04 59 57.5 -0.5**
KIEV IAmb IAmb 05 00 01.2
comp=Z,20nm,0.7s
KIEV Kiev 16.46 5 P **Pn** **04 59 57.5 -0.5**
KIEV pmax pmax
comp=Z,20nm,0.7s
AKASG Malin Array Be 16.46 5 Pn **Pn** **04 59 57.5 -0.7**
AKASG IAmb IAmb 05 00 01.2
comp=Z,24nm,0.8s
AKASG Malin Array Be 16.46 5 P **Pn** **04 59 57.5 -0.7**
AKASG pmax pmax
comp=Z,24nm,0.8s
AKASG Malin Array Be 16.46 5 Pn **Pn** **04 59 56.2 -1.9**
comp=Z,4.0nm,0.3s,baz=192,slow=11,SNR=33
AKASG Sn **Sn** **05 03 00.4 +0.6**
baz=191,slow=23
comp=Z,3.6nm,0.5s
AKBB Malin Array Si 16.46 5 Pn **Pn** **04 59 57.2 -0.9**
AKBB IAmb IAmb 05 00 01.2
comp=Z,22nm,0.7s
AKBB Malin Array Si 16.46 5 *i* P **Pn** **04 59 57.3 -0.9**
BIOA Bad Ischl, Aus 16.60 327 *i* Pn **P** **05 00 02.4 +0.1**
comp=Z,1.7nm,0.3s
KRUC Moravsky 16.62 336 *e*P **Pn** **04 59 58.5 -1.6**
OJC Ojcow 16.69 344 Pn **Pn** **05 00 00.6 -0.4**
OJC Ojcow 16.69 344 P **Pn** **05 00 00.1 -0.9**
OJC pmax pmax
comp=Z,6.0nm,0.7s
VRAC Vranov 16.76 336 *e*P **Pn** **05 00 00.5 -1.5**
VRAC Vranov 16.76 336 Pn **Pn** **04 59 58.7 -3.2**
comp=Z,0.3nm,0.3s,baz=173,slow=13,SNR=2.7
comp=Z,2.1nm,0.5s
LESA Schwarzleotal 16.85 325 *i* Pn **Pn** **05 00 01.8 -1.3**
comp=Z,0.3nm,0.2s
MORC Moravsky Berou 16.88 339 Pn **Pn** **05 00 02.4 -1.0**
MORC Moravsky Berou 16.88 339 P **Pn** **05 00 02.4 -1.0**
MORC pmax pmax
comp=Z,8.0nm,0.8s
CKRC Cesky Krumlov 17.20 331 *e*P **Pn** **05 00 06.0 -1.4**
CKRC Cesky Krumlov 17.20 331 *e*P **Pn** **05 00 06.0 -1.4**
WTTA Wattenberg 17.24 323 *i* Pn **Pn** **05 00 06.4 -1.7**
comp=Z,1.4nm,0.4s
WTTA Wattenberg 17.24 323 P **P** **05 00 08.9 -0.5**
WTTA pmax pmax
comp=Z,12nm,1.3s
WATA Walderalm 17.32 323 *e*Pn **Pn** **05 00 07.6 -1.5**
comp=Z,2.2nm,0.4s
KRLC Kraliky 17.37 338 *e*P **Pn** **05 00 08.5 -1.1**
KRLC Kraliky 17.37 338 *e*P **Pn** **05 00 08.5 -1.1**
SQTA Sankt Quirin 17.42 322 *i* Pn **Pn** **05 00 09.4 -0.9**
comp=Z,2.7nm,0.5s
GEC2 GERESS Array S 17.46 330 **Pn** **05 00 10.6 -0.1**
GERES GERESS Array B 17.46 330 Pn **Pn** **05 00 09.6 -1.1**
GERES GERESS Array B 17.46 330 P **Pn** **05 00 09.6 -1.1**
GERES GERESS Array B 17.46 330 P **Pn** **05 00 08.5 -2.3**
comp=Z,0.7nm,0.3s,baz=135,slow=12,SNR=7.2
comp=Z,3.0nm,0.6s
FUORN Ofenpass-Fuorn 17.53 319 **Pn** **05 00 10.7 -1.1**
FETA Feichten 17.54 321 *i* Pn **P** **05 00 13.0 +0.3**
comp=Z,1.9nm,0.5s
MOTA Moosalm 17.56 322 *i* Pn **Pn** **05 00 11.4 -0.6**
comp=Z,3.5nm,0.7s
KHC Kasperske Hory 17.74 330 **Pn** **05 00 13.1 -1.0**
KHC Kasperske Hory 17.74 330 *i* P **Pn** **05 00 10.8 -3.3**
KHC Kasperske Hory 17.74 330 *e*P **Pn** **05 00 12.4 -1.7**
ZVC Zvikov 17.74 332 *e*P **Pn** **05 00 12.4 -1.7**
DPC Dobruska-Polom 17.75 338 *e*P **Pn** **05 00 13.2 -1.1**
DPC Dobruska-Polom 17.75 338 *e*P **Pn** **05 00 13.2 -1.1**
RETA Reutte 17.83 322 *i* Pn P 05 00 24.6 +8.8
comp=Z,4.4nm,0.3s
DAVOX Davos/Dischmat 17.84 319 P **Pn** **05 00 15.0 -0.5**
comp=Z,1.0nm,0.3s,baz=116,slow=8.9,SNR=18
comp=Z,7.4nm,0.6s
GOPC GO Pecny, Ondr 17.90 334 *e*P **Pn** **05 00 13.7 -2.4**
GOPC GO Pecny, Ondr 17.90 334 *e*P **Pn** **05 00 13.7 -2.4**
TUE Stuetta 17.94 318 **Pn** **05 00 16.6 -0.2**
UPC Upice 17.99 337 *e*P **Pn** **05 00 15.6 -1.6**
UPC Upice 17.99 337 *e*P **Pn** **05 00 15.6 -1.6**
WET Wettzell 18.04 329 P **Pn** **05 00 17.0 -0.8**
WET pmax pmax
comp=Z,8.0nm,1.1s
CHVC Chvalec 18.05 337 *e*P **Pn** **05 00 16.4 -1.5**
CHVC Chvalec 18.05 337 *e*P **Pn** **05 00 16.4 -1.5**
PRU Pruhonice 18.05 334 *e*P **Pn** **05 00 16.1 -1.8**
PRU Pruhonice 18.05 334 *e*P **Pn** **05 00 16.1 -1.8**
DAVA Damuels 18.15 321 *i* Pn **P** **05 00 20.5 +1.0**
comp=Z,4.1nm,0.5s
PVCC Panska Ves 18.49 335 P **P** **05 00 22.3 -0.7**
PVCC pmax pmax
comp=Z,24nm,1.3s
MBDF Montbardon 18.56 310 *e*P **Pn** **05 00 24.7 +0.4**
MBDF pmax pmax
comp=Z,11nm,0.8s
LPG La Plagne 18.94 312 *e*P **Pn** **05 00 29.9 +0.9**
LPG pmax pmax
comp=Z,6.0nm,0.8s
LPL La Plagne 18.96 312 *e*P **Pn** **05 00 29.8 +0.6**
LPL pmax pmax
comp=Z,8.0nm,0.8s
VORD Divnogorie 18.96 25 *e*P **P** **05 00 27.9 -0.2**
VORD pmax pmax
comp=Z,10.0nm,0.8s
BRG Berggiesshubel 19.00 334 *e*P **P** **05 00 28.1 -0.6**
BRG Amp 05 00 28.4
comp=Z,4.1nm,0.8s
BRG Berggiesshubel 19.00 334 P **Pn** **05 00 33.5 +4.0**
BRG Amp 05 00 34.2
comp=Z,4.1nm,0.8s
BRG Amp 05 02 44.0
comp=Z,0.9nm,18.0s
BRG Amp 05 02 47.0
comp=N,0.6nm,17.1s
BRG Amp 05 02 47.0
comp=E,0.6nm,15.3s
BRG Berggiesshubel 19.00 334 *e*P **P** **05 00 28.0 -0.6**
BRG pmax pmax
comp=Z,4.0nm,0.8s
SENIN Lac Senin/Sane 19.05 315 P **P** **05 00 28.2 -1.2**
NKC Novy Kostel 19.06 331 *e*P **P** **05 00 27.9 -1.3**

NKC Novy Kostel 19.06 331 eP P 05 00 27.9 -1.3
VSR Storozhevoye 19.13 24 eP Pn 05 00 30.9 -0.1
VSR pmax pmax
comp=Z,8.0nm,0.4s
ORIF Oris-en-Rattie 19.21 310 eP Pn 05 00 32.1 -0.1
ORIF pmax pmax
comp=Z,9.0nm,0.9s
VORR Voronezh 19.53 24 eP P 05 00 30.8 -3.5
VORR pmax pmax
comp=Z,80nm,0.5s
RAYN Ar Rayn 19.57 118 P 05 00 35.2 +0.1
RAYN Ar Rayn 19.57 118 P P 05 00 35.2 +0.1
RAYN pmax pmax
comp=Z,8.0nm,1.2s
CLL Collm 19.70 334 P P 05 00 35.2 -1.0
CLL IAmb IAmb 05 00 36.9
comp=Z,8.2nm,0.7s
CLL Collm 19.70 334 i P P 05 00 36.0 -0.2
CLL pmax pmax
comp=Z,9.0nm,0.6s
CLL Collm 19.70 334 i P P 05 00 36.0 -0.2
comp=Z,9.0nm,0.6s
MOX Moxa 19.71 330 P P 05 00 36.4 0.0
MOX pmax pmax
comp=Z,11nm,1.1s
SUW Suwalki 19.85 354 P P 05 00 36.9 -0.9
SUW Suwalki 19.85 354 P P 05 00 36.9 -0.9
SUW pmax pmax
comp=Z,35nm,0.7s
SUW Suwalki 19.85 354 eP P 05 00 37.9 +0.1
VRH Novokhopyorsk 20.05 28 eP P 05 00 39.7 -0.3
VRH pmax pmax
comp=Z,20nm,0.6s
HINF Hinteralfeld 20.11 318 eP P 05 00 39.5 -1.3
HINF pmax pmax
comp=Z,4.0nm,0.6s
GKP Gorka Klasztor 20.12 343 eP P 05 00 40.4 -0.3
ECH Echery 20.17 319 P P 05 00 41.6 +0.2
ECH IAmb IAmb 05 00 42.5
comp=Z,8.6nm,0.8s
ECH Echery 20.17 319 P P 05 00 41.6 +0.2
ECH pmax pmax
comp=Z,9.0nm,0.8s
CDF Champ du Feu 20.23 320 eP P 05 00 41.8 -0.3
CDF pmax pmax
comp=Z,16nm,0.8s
LPSR Galich'ya Gora 20.23 22 eP P 05 00 42.4 +0.4
LPSR pmax pmax
comp=Z,30nm,1.4s
HAU Haudompre 20.50 318 eP P 05 00 44.1 -0.8
HAU pmax pmax
comp=Z,4.0nm,0.4s
NACGM Naroch 20.58 0 eP P 05 00 45.0 -0.7
comp=Z,12nm,0.9s,baz=180
TNS Taunus Mts 20.80 325 P P 05 00 48.0 -0.3
TNS pmax pmax
comp=Z,13nm,0.7s
ISAL Salakas 21.25 359 eP P 05 00 54.7 +1.7
SMF Signal de Mont 21.27 312 eP P 05 00 52.5 -0.7
SMF pmax pmax
comp=Z,85nm,2.1s
PABE Paberze 21.27 356 P P 05 00 51.9 -1.3
PABE Paberze 21.27 356 eP P 05 00 51.6 -1.5
LOR Lormes 21.55 314 eP P 05 00 54.7 -1.5
LOR pmax pmax
comp=Z,8.0nm,1.0s
SSF Saint Saulge 21.66 313 eP P 05 00 57.1 -0.4
SSF pmax pmax
comp=Z,14nm,1.0s
CAF Calviac 21.70 307 eP P 05 00 57.2 -0.8
CAF pmax pmax
comp=Z,32nm,1.6s
VSVD Vaisvydziai 21.75 356 eP P 05 00 57.3 -0.9
TAM Tamanrasset 21.88 244 P P 05 00 59.3 -0.8
TAM IAmb IAmb 05 01 06.9
comp=Z,4.3nm,0.8s
TAM Tamanrasset 21.88 244 P P 05 00 59.3 -0.8
TAM pmax pmax
comp=Z,4.0nm,0.8s
OBN Obninsk 21.88 15 i P P 05 00 59.1 -0.5
OBN i 05 01 38.8
OBN pmax pmax
comp=Z,7.0nm,1.1s
PBUR Paburge 21.96 353 eP P 05 01 00.0 -0.5
TCF Toulx Ste Croi 22.13 310 eP P 05 01 02.5 0.0
TCF pmax pmax
comp=Z,36nm,1.8s
RJF Les Rejaudoux 22.20 307 eP P 05 01 02.6 -0.7
RJF pmax pmax
comp=Z,25nm,1.2s
EPF Esparros 22.33 301 eP P 05 01 05.1 +0.4
EPF pmax pmax
comp=Z,5.0nm,0.9s
BSD Bornholm Skovb 22.37 342 i P P 05 01 04.0 -1.0
BSD IAmb IAmb 05 01 08.1
comp=Z,1.3nm,0.3s
BSD Bornholm Skovb 22.37 342 eP P 05 01 03.1 -1.8
GIVF Givet 22.53 321 eP P 05 01 05.2 -1.5
GIVF pmax pmax
comp=Z,9.0nm,0.7s
BAIF Baives 22.82 320 eP P 05 01 09.9 +0.1
BAIF pmax pmax
comp=Z,11nm,0.5s
LUNU Lund 23.22 341 i P P 05 01 10.4 -3.4
BLEU Blekinge 23.24 344 i P P 05 01 09.9 -4.1
BELG Belogornoye 23.43 33 i P P 05 01 18.4 +2.5
BELG pmax pmax
comp=Z,3.0nm,0.8s
SLIT Slitere, Latvi 23.51 354 eP P 05 01 15.1 -1.5
COP Copenhagen 23.55 339 i P P 05 01 14.5 -2.6
BJUU Bjuv 23.73 341 i P P 05 01 16.1 -2.6
DEL Delary 23.85 342 i P P 05 01 16.4 -3.6
DEL Delary 23.85 342 eP P 05 01 17.3 -2.6
GRR Gorron 24.89 313 eP P 05 01 29.4 -0.1
GRR pmax pmax
comp=Z,48nm,1.5s
ESDC Sonseca Array 25.06 291 P P 05 01 31.4 +0.2
comp=Z,1.7nm,0.6s,baz=81,slow=9.6,SNR=28
comp=Z,1.7nm,0.6s
VIKU Vikbolandet 25.11 347 eP P 05 01 30.5 -0.8
BORU Boraas 25.16 342 i P P 05 01 32.5 +0.6
ONAU Onsala 25.18 341 i P P 05 01 30.5 -1.5
GEYT Alibeck 25.50 73 P P 05 01 36.7 +1.4
GEYT Alibeck 25.50 73 P P 05 01 36.7 +1.4
GEYT pmax pmax
comp=Z,11nm,0.7s
GEYT Alibeck 25.50 73 P P 05 01 36.4 +1.1
comp=Z,7.3nm,0.4s,baz=263,slow=10,SNR=12
comp=Z,7.3nm,0.4s
GYA0B ALIBECK ARRAY 25.50 73 P P 05 01 36.9 +1.7
TJOU Tjoern 25.81 341 i P P 05 01 36.7 -1.0
AAL Aland 26.25 352 eP P 05 01 40.6 -1.0
STRU Stroemstad 26.80 342 i P P 05 01 43.3 -3.3
RAF Rauma 26.91 355 eP P 05 01 46.6 -1.0
FINES FINESS Array B 27.14 359 i P P 05 01 48.9 -0.8
FINES pmax pmax
comp=Z,4.0nm,0.6s
FINES FINESS Array B 27.14 359 P P 05 01 48.5 -1.2
comp=Z,3.9nm,0.6s,baz=163,slow=11,SNR=22
comp=Z,3.9nm,0.6s
HFS Hagfors 27.20 346 P P 05 01 48.4 -1.9
comp=Z,8.0nm,0.8s,baz=139,slow=9.7,SNR=22
comp=Z,8.0nm,0.8s
KONO Kongsberg 27.74 341 eP P 05 01 54.7 -0.4
KLMR Klimovskoe 27.80 13 eP P 05 01 52.3 -3.3
KLMR pmax pmax
comp=Z,32nm,1.9s
NC602 NORSAR Array S 28.21 344 eP P 05 01 57.9 -1.5
NC602 IAmb IAmb 05 02 05.5
comp=Z,47nm,1.6s
NORES NORESS Array B 28.21 344 P P 05 02 00.3 +1.0
NAO01 NORSAR Array S 28.46 344 P P 05 02 00.2 -1.3
BLS5 Blasjo 28.46 338 eP P 05 02 01.1 -0.4
BLS5 IAmb IAmb 05 02 07.7
comp=Z,208nm,2.1s
NB2 NORSAR Subarra 28.56 344 P P 05 02 00.8 -1.6
comp=Z,1.2nm,0.6s,baz=156,slow=9.3
NB2 NORSAR Subarra 28.56 344 P P 05 02 00.8 -1.6
baz=156,slow=9.3
NOA NORSAR Array B 28.56 344 P P 05 02 00.1 -2.3
comp=Z,0.5nm,0.5s,baz=148,slow=9.3,SNR=10
comp=Z,0.5nm,0.5s
ABKAR Akbulak array 28.60 48 P P 05 02 04.1 +1.1
ABKAR IAmb IAmb 05 02 33.2
comp=Z,2.7nm,0.8s

ODD1 Odda 28.80 339 eP P 05 02 03.8 -0.9
EKA Eskdalemuir Ar 29.49 325 P P 05 02 09.8 -1.0
comp=Z,1.7nm,0.5s,baz=121,slow=12,SNR=25
comp=Z,1.7nm,0.5s
DOMB Dombas 29.94 343 eP P 05 02 14.6 -0.1
DOMB IAmb IAmb 05 02 18.3
comp=Z,840nm,3.9s
TORD Torodi Ar. Bea 31.02 233 P P 05 02 25.4 +0.8
NSS Namsos 31.56 348 eP P 05 02 28.1 -0.8
MOR8 Moi Rana 32.72 351 eP P 05 02 38.8 -0.2
MOR8 IAmb IAmb 05 02 39.2
comp=Z,170nm,2.4s
KONS Konsvik 33.21 350 eP P 05 02 42.6 -0.7
FAUS Fauske 33.77 352 eP P 05 02 48.0 -0.1
STEI Steigen 34.30 352 eP P 05 02 51.7 -1.0
STEI IAmb IAmb 05 02 54.1
comp=Z,56nm,1.3s
LOF Lofoten 34.69 351 eP P 05 02 54.0 -2.1
KTK1 Kautokeino 34.80 358 eP P 05 02 56.6 -0.5
KK31 Karatay Array 34.90 62 P P 05 02 59.3 +1.0
KK31 Karatay Array 34.90 62 P P 05 02 59.3 +1.0
KK31 pmax pmax
comp=Z,4.0nm,0.7s
KKAR Karatay Array 34.90 62 P P 05 02 59.3 +1.0
KKAR Karatay Array 34.90 62 P P 05 02 59.5 +1.2
KKAR IAmb IAmb 05 03 00.7
comp=Z,4.2nm,0.7s
KKAR Karatay Array 34.90 62 P P 05 02 59.3 +1.0
KKAR pmax pmax
comp=Z,4.0nm,0.7s
ARA0 ARCESS Array S 35.27 359 eP P 05 03 00.1 -1.1
ARCES ARCESS Array B 35.27 359 P P 05 02 59.5 -1.7
comp=Z,0.8nm,0.4s,baz=176,slow=8.5,SNR=19
ARCES PcP PcP 05 05 32.7 +1.5
comp=Z,7.7nm,1.1s,baz=157,slow=4.9,SNR=2.7
comp=Z,0.8nm,0.4s
JETT Jettan, Norway 35.46 356 eP P 05 03 02.6 -0.2
TRO Tromso 35.63 355 eP P 05 03 03.7 -0.5
VADS Vadso 35.88 2 eP P 05 03 06.2 -0.2
BRVK Borovoye 35.92 45 P P 05 03 08.7 +1.8
BRVK IAmb IAmb 05 03 12.2
comp=Z,4.7nm,1.3s
BRVK Borovoye 35.92 45ceP P 05 03 07.1 +0.2
BRVK pmax pmax
comp=Z,6.0nm,1.7s
BVAR Borovoye Array 35.97 45 P P 05 03 07.4 0.0
comp=Z,2.1nm,0.6s,baz=250,slow=6.6,SNR=11
BVAR PcP PcP 05 05 34.7 +1.1
comp=Z,0.2nm,0.3s,baz=273,slow=4.3,SNR=1.2
comp=Z,2.1nm,0.6s
ARSB Arslanbob 36.81 65 P P 05 03 15.0 +0.1
ARSB Arslanbob 36.81 65 P P 05 03 15.0 +0.1
ARSB pmax pmax
comp=Z,1.0nm,0.8s
AAK Ala-Archa 37.84 63 P P 05 03 24.2 +0.6
AAK IAmb IAmb 05 03 31.5
comp=Z,3.6nm,0.8s
AAK Ala-Archa 37.84 63ceP P 05 03 25.8 +2.2
AAK pmax pmax
comp=Z,3.0nm,0.8s
DBIC Dimbokro 40.12 234 P P 05 03 43.8 +1.1
comp=Z,6.3nm,0.4s,baz=34,slow=8.0,SNR=19
comp=Z,6.3nm,0.4s
KURBB Kurchatov Arra 40.62 50 P P 05 03 46.2 -0.2
comp=Z,3.2nm,0.7s,baz=276,slow=8.8,SNR=26
KURBB PcP PcP 05 05 49.5 +1.5
comp=Z,1.3nm,0.6s,baz=264,slow=4.2,SNR=5.1
comp=Z,3.2nm,0.7s
KURK Kurchatov 40.68 50 P P 05 03 46.8 -0.2
KURK IAmb IAmb 05 03 49.1
comp=Z,4.2nm,0.8s
KURK Kurchatov 40.68 50ceP P 05 03 48.6 +1.6
KURK pmax pmax
comp=Z,4.0nm,1.3s
HOPEN Hopen 42.29 359 IAmb IAmb 05 03 59.4
comp=Z,179nm,1.9s
HOPEN eP P 05 03 59.4 -0.4
MK31 Makanchi Array 43.13 56 P P 05 04 07.4 +0.3
MK31 IAmb IAmb 05 04 09.2
comp=Z,3.8nm,0.7s
MK31 Makanchi Array 43.13 56ceP P 05 04 08.5 +1.4
MKAR Makanchi Array 43.13 56 P P 05 04 07.5 +0.4
MKAR Makanchi Array 43.13 56ceP P 05 04 08.5 +1.4
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MKAR Makanchi Array 43.13 56 P P 05 04 08.3 +1.3
comp=Z,3.6nm,0.5s,baz=268,slow=7.5,SNR=60
MKAR PcP PcP 05 05 57.3 +0.8
comp=Z,1.1nm,0.6s,baz=283,slow=3.0,SNR=3.2
comp=Z,3.6nm,0.5s
SPA0 Spitsbergen Ar 44.19 357 eP P 05 04 15.9 +0.7
SPA0 IAML 05 04 17.9
comp=Z,2.0nm,1.4s
SPITS Spitsbergen Ar 44.19 357 P P 05 04 14.6 -0.5
comp=Z,3.7nm,0.6s,baz=170,slow=11,SNR=2.1
SPITS PcP PcP 05 06 00.5 +1.1
comp=Z,6.6nm,0.8s,baz=160,slow=4.6,SNR=1.2
comp=Z,3.7nm,0.6s
SCO Scoresbysund 44.59 339 i P P 05 04 19.0 +0.6
SCO IAmb IAmb 05 04 19.8
comp=Z,0.2nm,0.4s
ZALV Zalesovo Beam 44.63 46 i P P 05 04 19.8 +0.8
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV Zalesovo Beam 44.63 46 P P 05 04 19.4 +0.4
comp=Z,1.6nm,0.4s,baz=262,slow=9.1,SNR=7.9
comp=Z,1.6nm,0.4s
KBS Kingsbay 45.14 356 IAmb IAmb 05 04 23.7
comp=Z,46nm,1.6s
KBS eP P 05 04 24.6 +1.8
KBS Kingsbay 45.14 356 i P P 05 04 23.7 +1.0
DGZ Jazzator, Alta 46.35 51 i P P 05 04 32.2 -0.7
DGZ pmax pmax
comp=Z,2.0nm,0.6s
NRIK Noril'sk 48.07 25 P P 05 04 46.5 +0.6
comp=Z,0.8nm,0.3s,baz=318,slow=8.6,SNR=2.2
comp=Z,0.8nm,0.3s
NOR Nord 49.95 352 i P P 05 04 59.4 -0.6
NOR IAmb IAmb 05 05 01.8
comp=Z,0.4nm,0.3s
ICESG Greenland Ices 50.01 335 i P P 05 05 01.6 +0.5
ICESG IAmb IAmb 05 05 06.5
comp=Z,0.7nm,0.3s
SUMG Summit 50.23 339 i P P 05 05 02.0 -0.8
SUMG IAmb IAmb 05 05 06.4
comp=Z,0.6nm,0.3s
DY2G Dye2 52.34 331 i P P 05 05 21.9 +3.4
DY2G IAmb IAmb 05 05 23.9
comp=Z,0.6nm,0.3s
LSA Lhasa 53.97 76 P P 05 05 30.4 -0.9
LSA Lhasa 53.97 76 P P 05 05 30.4 -0.9
LSA pmax pmax
comp=Z,5.0nm,0.5s
NEEM North Greenlan 54.14 345 i P P 05 05 33.0 +1.4
NEEM IAmb IAmb 05 05 42.3
comp=Z,0.5nm,0.3s
SONM Songino Array 58.98 51 P P 05 06 08.0 +1.7
SONM Songino Array 58.98 51 P P 05 06 08.0 +1.7
comp=Z,2.4nm,0.5s,baz=284,slow=7.6,SNR=19
comp=Z,2.4nm,0.5s
ULN Ulaanbaatar 59.39 50ceP P 05 06 10.3 +1.1
ULN pmax pmax
comp=Z,6.0nm,1.7s
BOSA Boshof 62.61 182 P P 05 06 33.4 +2.3
comp=Z,1.5nm,0.4s,baz=2.5,slow=6.9,SNR=8.5
comp=Z,1.5nm,0.4s
SCHQ Schefferville 64.68 320 P P 05 06 44.3 -0.1
comp=Z,3.2nm,0.4s,baz=65,slow=4.8,SNR=14
comp=Z,3.2nm,0.4s
HHC Hu-ho-hao-te 64.99 56 eP P 05 06 48.7 +2.0
HHC pP sP 05 06 59.7 +1.3
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,160nm,6.3s
CMAR Chiang Mai Arr 65.34 84 P P 05 06 50.5 +1.3
comp=Z,2.2nm,0.4s,baz=298,slow=7.5,SNR=13
comp=Z,2.2nm,0.4s
HEH HeiHe 70.59 42 eP P 05 07 22.6 +0.9
HEH pmax pmax
comp=Z,9.0nm,0.8s
HEH pmax pmax
comp=Z,210nm,5.0s
KLR Kul'dur 73.52 41ceP P 05 07 38.8 -0.5
KLR pmax pmax
comp=Z,6.0nm,2.5s

USRK Ussuriysk Ar. 76.48 46 P P 05 07 57.2 +0.8
comp=Z,3.0nm,0.5s,baz=296,slow=5.7,SNR=12
comp=Z,3.0nm,0.5s
KSRS Korea Array 77.72 53 P P 05 08 04.3 +0.7
KSRS Korea Array 77.72 53 P P 05 08 04.0 +0.5
comp=Z,1.7nm,0.6s,baz=318,slow=4.9,SNR=6.0
comp=Z,1.7nm,0.6s
KSRS Korea Array 77.72 53 P P 05 08 04.2 +0.7
comp=Z,2.7nm,0.9s,baz=166,slow=7.4,SNR=4.1
KSRS Korea Array 77.72 53
comp=Z,2.7nm,0.9s
YKA Yellowknife Ar 78.65 343 i P P 05 08 09.3 +1.1
YKA Yellowknife Ar 78.65 343 P P 05 08 08.2 0.0
comp=Z,0.3nm,0.7s,baz=53,slow=7.4,SNR=5.6
comp=Z,0.3nm,0.7s
ILAR Eielson Array 81.11 357 P P 05 08 22.0 +0.5
ILAR Eielson Array 81.11 357 P P 05 08 21.9 +0.5
comp=Z,0.3nm,0.6s,baz=335,slow=3.4,SNR=6.6
comp=Z,0.3nm,0.6s
ULM Lac du Bonnet 81.74 327 P P 05 08 25.4 +0.3
comp=Z,1.2nm,0.4s,baz=64,slow=6.4,SNR=3.3
comp=Z,1.2nm,0.4s
MJAR Matsushiro Arr 84.88 49 P P 05 08 42.4 +0.8
comp=Z,2.0nm,0.6s,baz=332,slow=5.1,SNR=4.3
comp=Z,2.0nm,0.6s
BDFB Brasilia 86.63 249 P P 05 08 51.5 +0.9
comp=Z,2.1nm,0.7s,baz=29,slow=5.8,SNR=3.9
comp=Z,2.1nm,0.7s
PDAR Pinedale Array 93.51 329 P P 05 09 22.0 -0.7
comp=Z,0.3nm,0.8s,baz=90,slow=1.5,SNR=2.5
comp=Z,0.3nm,0.8s
WRA Warramunga Arr 115.16 98 PKP PKPdf 05 14 48.3 +0.1
comp=Z,0.9nm,1.0s,baz=305,slow=1.8,SNR=1.4
ASAR Alice Springs 116.58 102 PKP PKiKP 05 14 51.1 +0.2
comp=Z,0.8nm,0.6s,baz=316,slow=2.6,SNR=2.7
QSPA South Pole Qui 124.18 180 PKP PKiKP 05 15 04.7 +0.2
comp=Z,2.3nm,0.8s,baz=318,slow=1.6,SNR=7.2

IDC ***08*** *04:59:04.1±0.6, 3.37S×130.93E, h0km, mb4.1/14, mbtmp4.1/15, ML3.8/1, MS3.7/1, Error ellipse: s-maj=34.4km s-min=11.1km az=75.0*
NEIC ***08*** *04:59:05.9±1.4, 3.37S±0.04×130.97E±0.06, h10km±1km, mb4.3/18, Error ellipse: s-maj=11.5km s-min=6.0km az=299.0*
DJA ***08*** *04:59:08.0±0.6, 3°S±3°×13°1E±°, h28km±6km, M4.4/10, mb4.7/6, mB5.6/2, MLv4.2/10, Mw(mB)5.1/2*

ISC 08 04:59:08.2±0.5, 3.36S±0.05×130.92E±0.06, h30km, n57, σ1s24/58, mb4.2/19, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	Fak Fak	1.40	72	P	Pn	04 59 31.1	-0.7
FAKI				Sn	Sn	04 59 48.7	-0.5
FAKI	Fak Fak	1.40	72	P	Pn	04 59 31.8	0.0
BNDI	Bandanaira	1.53	221	P	Pb	04 59 36.2	+0.2
SWI	Sorong	2.51	8	P	Pn	04 59 45.1	-1.9
SWI				S	Sn	05 00 14.4	-2.2
NLAI	Namlea	3.81	272	P	Pn	05 00 02.1	-2.8
LBMI	Labuha	4.36	308	P	Pn	05 00 09.9	-2.6
SANI	Sanana	5.09	285	P	Pn	05 00 20.7	-1.9
LUWI	Luwuk	8.46	286	P	Pn	05 01 07.2	-1.6
	33nm,0.6s,2μm						
SOEI	Soe	9.16	226	Pn	Pn	05 01 18.7	+0.1
SOEI	Soe	9.16	226	P	Pn	05 01 19.9	+1.3
	37nm,1.1s						
MTN	Manton Dam	9.42	179		Pn	05 01 21.5	-0.5
TOLI2	Tolitoli	11.06	294	Pn	Pn	05 01 45.6	+1.1
KNRA	Kununurra	12.42	190		Pn	05 02 00.9	-2.2
WB0	Warramunga Arr	16.65	169	Pn	Pn	05 02 56.2	-3.4
WRA	Warramunga Arr	16.81	169	Pn	Pn	05 02 59.5	-2.1
	0.4nm,0.3s,baz=360,slow=13,SNR=12						
WRA				Sn	Sn	05 06 07.1	-0.6
	0.6nm,0.3s,baz=350,slow=24,SNR=3.0						
	5.9nm,1.0s						
WB2	Warramunga Arr	16.82	169	Pn	Pn	05 02 58.8	-2.9
WR0	Warramunga Arr	16.87	168	P	Pn	05 03 02.5	+0.1
JAGI	Jajag, Banyuwa	17.43	252	P	P	05 03 10.9	+0.6
JAGI				IAmb	IAmb	05 03 13.5	
	comp=Z,9.5nm,0.8s						
AS31	Alice Springs	20.39	172	P	P	05 03 42.5	-0.3
AS31				IAmb	IAmb	05 03 45.5	
	comp=Z,7.5nm,0.7s						
ASAR	Alice Springs	20.39	172	P	Pn	05 03 44.5	-0.5
ASAR	Alice Springs	20.39	172	P	P	05 03 43.5	+0.7
	comp=Z,16nm,0.6s,baz=349,slow=9.8,SNR=123						
ASAR				S	Sn	05 07 33.3	-0.8
	comp=Z,1.3nm,0.7s,baz=20,slow=27,SNR=2.0						
	comp=Z,16nm,0.6s						
MBWA	Marble Bar	20.77	211	P	P	05 03 46.0	-0.9
MBWA				IAmb	IAmb	05 03 54.1	
	comp=Z,20nm,1.4s						
PSA00	Pilbara Seismi	21.06	210	P	P	05 03 48.9	-1.1
PSA00				IAmb	IAmb	05 03 50.1	
	comp=Z,12nm,1.2s						
PSA00	Pilbara Seismi	21.06	210	P	P	05 03 48.9	-1.1
PSA00				IAmb	IAmb	05 03 50.1	
	comp=Z,29nm,1.2s						
FORT	Forrest	27.40	185	P	P	05 04 52.2	+1.0
STKA	Stephens Creek	30.09	162	P	P	05 05 14.7	-0.5
STKA	Stephens Creek	30.09	162	P	P	05 05 15.3	+0.1
	comp=Z,5.0nm,0.7s,baz=335,slow=7.9,SNR=8.8						
	comp=Z,5.0nm,0.7s						
CMAR	Chiang Mai Arr	38.23	306	P	P	05 06 25.8	-0.1
	comp=Z,1.6nm,0.3s,baz=127,slow=7.1,SNR=7.8						
	comp=Z,1.6nm,0.3s						
MJAR	Matsushiro Arr	40.28	9	P	P	05 06 43.5	+0.8
	comp=Z,0.8nm,0.3s,baz=187,slow=7.6,SNR=1.2						
	comp=Z,0.8nm,0.3s						
KSRS	Korea Array	40.70	356	P	P	05 06 45.5	-0.6
	comp=Z,1.1nm,0.7s,baz=179,slow=8.8,SNR=2.0						
	comp=Z,1.1nm,0.7s						
USRK	Ussuriysk Ar.	47.36	1	P	P	05 07 39.3	-0.2
	comp=Z,2.5nm,1.1s,baz=166,slow=7.3,SNR=2.2						
	comp=Z,2.5nm,1.1s						
ASAJ	Asahikawa	48.42	11	LR	LR	05 26 22.1	
	comp=Z,83nm,21.8s,baz=301,slow=34						
SONM	Songino Array	55.33	340	P	P	05 08 40.7	+1.3
	comp=Z,0.3nm,0.5s,baz=162,slow=9.4,SNR=3.1						
	comp=Z,0.3nm,0.5s						
MK31	Makanchi Array	65.73	326		P	05 09 50.9	+0.6
MK31				IAmb	IAmb	05 09 51.7	
	comp=Z,1.6nm,0.9s						
MKAR	Makanchi Array	65.73	326		P	05 09 50.8	+0.5
MKAR	Makanchi Array	65.73	326	P	P	05 09 51.1	+0.8
	comp=Z,1.8nm,0.8s,baz=122,slow=7.7,SNR=17						
	comp=Z,1.8nm,0.8s						
MAKZ	Makanchi	65.92	325		P	05 09 51.8	+0.3
MAKZ				IAmb	IAmb	05 09 59.3	
	comp=Z,4.0nm,1.1s						
AAK	Ala-Archa	68.40	319	P	P	05 10 07.7	+0.2
AAK				IAmb	IAmb	05 10 14.3	
	comp=Z,1.7nm,1.1s						
ZALV	Zalesovo Beam	68.77	333	P	P	05 10 09.6	+0.3
	comp=Z,2.5nm,0.4s,baz=140,slow=4.9,SNR=3.5						
	comp=Z,0.5nm,0.4s						
KURBB	Kurchatov Arra	69.93	328	P	P	05 10 17.2	+0.6
	comp=Z,1.6nm,0.7s,baz=125,slow=5.3,SNR=11						
	comp=Z,1.6nm,0.7s						
KURK	Kurchatov	69.93	328	P	P	05 10 17.4	+0.9
KURK				IAmb	IAmb	05 10 18.3	
	comp=Z,3.0nm,1.0s						
BVAR	Borovoye Array	75.51	327	P	P	05 10 50.2	+0.5
	comp=Z,1.9nm,0.8s,baz=131,slow=6.8,SNR=9.3						
	comp=Z,1.9nm,0.8s						
BRVK	Borovoye	75.58	327	P	P	05 10 50.1	+0.1
BRVK				IAmb	IAmb	05 10 51.9	
	comp=Z,3.3nm,0.8s						
GEYT	Alibeck	78.59	310	P	P	05 11 08.4	+1.0
	comp=Z,1.4nm,0.6s,baz=77,slow=6.2,SNR=2.5						
	comp=Z,1.4nm,0.6s						
ABKAR	Akbulak array	80.26	321	P	P	05 11 15.4	-0.8
D19K	Kuna River	86.22	20	P	P	05 11 47.0	+0.4
QSPA	South Pole Qui	86.59	180	P	P	05 11 49.3	+0.8
QSPA	South Pole Qui	86.59	180	P	P	05 11 49.5	+0.9
	comp=Z,2.1nm,1.0s,baz=330,slow=2.2,SNR=3.0						
	comp=Z,2.1nm,1.0s						
B20K	Meade River	87.03	19	P	P	05 11 51.6	+1.2
RAYN	Ar Rayn	87.13	294	P	P	05 11 51.5	-0.5
ILAR	Eielson Array	89.69	25	P	P	05 12 04.5	+1.3
	comp=Z,0.3nm,0.8s,baz=238,slow=6.0,SNR=1.8						
	comp=Z,0.3nm,0.8s						
ARCES	ARCESS Array B	98.50	340	P	Pdif	05 12 44.0	+0.5
	comp=Z,2.4nm,0.8s,baz=73,slow=9.2,SNR=1.5						
TORD	Torodi Ar. Bea	128.91	284	PKP	PKiKP	05 18 15.9	+1.1
LPAZ	La Paz	152.87	137	PKPbc	PKiKP	05 19 05.7	+1.1

comp=Z,0.7nm,0.4s,baz=208,slow=9.4,SNR=0.8
ROSC El Rosal 154.79 86 PKPbc **PKiKP** **05 19 08.9 +0.6**
comp=Z,1.8nm,0.4s,baz=114,slow=23,SNR=1.4
ROSC PKPab **PKPab** **05 19 23.6 +0.3**
comp=Z,3.9nm,0.5s,baz=277,slow=15,SNR=2.1
SIV San Ignacio 157.41 149 PKPab **PKPab** **05 19 32.6 -1.2**
comp=Z,0.8nm,0.7s,baz=243,slow=3.6,SNR=6.3
BDFB Brasilia 161.09 183 PKPab **PKPab** **05 19 50.0 +0.3**
comp=Z,1.1nm,0.6s,baz=108,slow=3.2,SNR=2.4

*IDC **08** 04:59:42.8±0.8, 6˚.14S×142˚.52E, h0km, mb4.3/12, mbtmp4.3/14, ML2.4/1, MS4.0/7, Error ellipse: s-maj=34.8km s-min=19.4km az=79.0*
*DJA **08** 04:59:44.1±1.1, 6˚.5S±4˚×14˚.3E±˚, h34km±11km, M4.9/9, mB5.2/6, mb4.5/9, MLv5.2/3, Mw(mB)4.7/6*
*NEIC **08** 04:59:44.4±1.3, 6˚.25S±0˚.08×142˚.39E±0˚.07, h10km±1km, mb5.0/47, Error ellipse: s-maj=15.9km s-min=5.9km az=40.0*
*BJI **08** 04:59:46.0±0.0, 6˚.47S×142˚.61E, h47km, mb4.6/38, mB5.3/13, Ms5.2/1, Ms7 4.8/1*

ISC 08 04:59:47.4±0.5, 6˚.34S±0˚.06×142˚.36E±0˚.07, h35km, n146, σ1s35/142, mb4.9/45, 1C-1D, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMPI	**Merauke**	**2.88**	**223**	P	**Pn**	**05 00 32.0**	**+1.2**
GENI	**Genyem**	**4.31**	**330**	P	Pn	05 00 45.4	-5.1
GENI				S	**Sn**	**05 01 34.0**	**-5.7**
GENI	**Genyem**	**4.31**	**330**	P	**Pn**	**05 00 48.0**	**-2.5**
PMG	**Port Moresby**	**5.65**	**123**		**Pn**	**05 01 09.9**	**+1.0**
PMG	**Port Moresby**	**5.65**	**123**	Pn	**Pn**	**05 01 09.8**	**+0.9**
	6.7nm,0.3s,baz=197,slow=1.4,SNR=6.3						
PMG				Sn	**Sn**	**05 02 08.5**	**-4.1**
	1.5nm,0.3s,baz=304,slow=14,SNR=5.1						
PMG				LR	LR	05 04 14.8	
	comp=Z,176nm,19.4s,baz=251,slow=48						
	27nm,0.5s						
COEN	**Coen**	**7.61**	**174**	Pn	**Pn**	**05 01 39.5**	**+3.6**
MTN	**Manton Dam**	**12.81**	**239**	Pn	**Pn**	**05 02 46.7**	**-0.4**
CTA	**Charters Tower**	**14.18**	**165**	Lg	Lg	05 07 14.8	
	0.2nm,0.3s,baz=72,slow=16,SNR=1.6						
CTA				LR	LR	05 08 30.0	
	comp=Z,361nm,18.8s,baz=310,slow=37						
WR0	**Warramunga Arr**	**15.52**	**209**	Pn	**Pn**	**05 03 23.1**	**-0.7**
WRA	**Warramunga Arr**	**15.61**	**209**		**Pn**	**05 03 23.9**	**-1.0**
WRA	**Warramunga Arr**	**15.61**	**209**	Pn	**Pn**	**05 03 24.5**	**-0.4**
	1.7nm,0.3s,baz=28,slow=13,SNR=21						
WRA				Sn	**S**	**05 06 25.1**	**-6.1**
	0.9nm,0.3s,baz=26,slow=22,SNR=4.8						
WRA				Lg	Lg	05 07 55.8	
	0.6nm,0.3s,baz=39,slow=26,SNR=4.9						
WRA				LR	LR	05 10 11.0	
	comp=Z,1μm,18.2s,baz=96,slow=40						
KNRA	**Kununurra**	**16.24**	**234**	Pn	**Pn**	**05 03 31.6**	**-1.4**
KNRA				IAmb	IAmb	05 03 40.1	
	comp=Z,183nm,2.0s						
SOEI	**Soe**	**18.23**	**258**	P	**Pn**	**05 03 58.2**	**+0.3**
SOEI				IAmb	IAmb	05 04 07.5	
	comp=Z,72nm,0.9s						
SOEI	**Soe**	**18.23**	**258**	P	**Pn**	**05 03 58.5**	**+0.6**
	comp=Z,102nm,1.0s,comp=Z,1μm						
ASAR	**Alice Springs**	**19.05**	**204**	P	**Pn**	**05 04 07.3**	**-0.5**
ASAR	**Alice Springs**	**19.05**	**204**	P	**Pn**	**05 04 09.9**	**+2.1**
	comp=Z,19nm,0.7s,baz=32,slow=9.1,SNR=44						
ASAR				Lg	Lg	05 09 51.8	
	comp=Z,0.5nm,0.3s,baz=28,slow=30,SNR=4.3						
ASAR				LR	LR	05 12 11.4	
	comp=Z,1μm,18.3s,baz=47,slow=39						
FITZ	**Fitzroy Crossi**	**20.06**	**233**		Pn	05 04 19.6	-0.2
EDFI	**Ende, Flores**	**20.63**	**262**	P	**P**	**05 04 23.5**	**-0.6**
	comp=Z,19nm,1.8s						
BKSI	**Bulukumba**	**22.14**	**271**	P	**P**	**05 04 39.4**	**-0.9**
	comp=Z,53nm,1.5s,comp=Z,745nm						
STKA	**Stephens Creek**	**25.42**	**182**	P	**P**	**05 05 12.1**	**+0.3**
STKA				IAmb	IAmb	05 05 19.1	
	comp=Z,1.8nm,0.9s						
STKA	**Stephens Creek**	**25.42**	**182**	LR	LR	05 16 38.4	
	comp=Z,309nm,18.0s,baz=357,slow=40						
MBWA	**Marble Bar**	**26.40**	**234**	P	**P**	**05 05 18.7**	**-2.1**
PSA00	**Pilbara Seismi**	**26.52**	**233**	P	**P**	**05 05 20.9**	**-1.0**
PSA00				IAmb	IAmb	05 05 29.1	
	comp=Z,82nm,1.9s						
DZM	**Mont Dzumac**	**28.03**	**126**	P	**P**	**05 05 33.5**	**-2.1**
NWAO	**Narrogin (SRO)**	**35.29**	**218**	LR	LR	05 21 53.0	
	comp=Z,442nm,18.6s,baz=10.0,slow=37						
PPBI	**Pangkal Pinang**	**36.35**	**275**	P	**P**	**05 06 45.4**	**-3.0**
MJAR	**Matsushiro Arr**	**42.83**	**355**	LR	LR	05 26 02.6	
	comp=Z,52nm,18.1s,baz=42,slow=37						
NJ2	**Nanjing**	**44.27**	**331**	*e*P	**P**	**05 07 55.8**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
GYA	**Guiyang**	**47.54**	**315**	⇑P	**P**	**05 08 21.4**	**+1.6**
GYA				pmax	pmax		
	comp=Z,12nm,1.6s						
LYN	**LuoYang**	**49.51**	**327**	*e*P	**P**	**05 08 35.4**	**+0.8**
LYN				pmax	pmax		
	comp=Z,22nm,1.6s						
XAN	**Xi'an**	**51.12**	**324**	P	**P**	**05 08 47.2**	**+0.3**
XAN				pmax	pmax		
	comp=Z,17nm,1.3s						
PZH	**PanZhiHua**	**51.14**	**311**	P	**P**	**05 08 50.0**	**+2.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,140nm,6.5s						
USRK	**Ussuriysk Ar.**	**51.17**	**350**	P	**P**	**05 08 46.5**	**-0.5**
	comp=Z,4.1nm,0.8s,baz=164,slow=10,SNR=6.2						
	comp=Z,4.1nm,0.8s						
CN2	**Changchun**	**52.20**	**345**	*e*P	**P**	**05 08 55.8**	**+1.1**
CD2	**Chengdu**	**52.29**	**317**	*e*P	**P**	**05 08 57.0**	**+1.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
TNCH	**TengChong**	**52.82**	**308**	*e*P	**P**	**05 09 02.6**	**+2.6**
TNCH				pP	sP	05 09 16.4	+1.7
TNCH				pmax	pmax		
	comp=Z,32nm,0.7s						
BNX	**BinXian**	**53.54**	**347**	⇓P	**P**	**05 09 03.7**	**-0.9**
BNX				pmax	pmax		
	comp=Z,13nm,1.2s						
BNX				pmax	pmax		
	comp=Z,340nm,4.6s						
HHC	**Hu-ho-hao-te**	**54.81**	**332**	*e*P	P	05 09 19.6	+5.5
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,100nm,5.3s						
LZH	**Lanzhou**	**55.55**	**322**	*e*P	**P**	**05 09 21.0**	**+1.4**
LZH				pmax	pmax		
	comp=Z,11nm,1.3s						
GTA	**Gaotai**	**60.13**	**323**	*e*P	**P**	**05 09 52.8**	**+1.1**
GTA				pP	sP	05 10 09.0	+2.4
GTA				pmax	pmax		
	comp=Z,5.0nm,1.5s						
PETK	**Petropavlovsk-**	**60.63**	**11**	P	**P**	**05 09 54.1**	**-0.5**
	comp=Z,9.9nm,1.0s,baz=159,slow=6.7,SNR=13						
	comp=Z,9.9nm,1.0s						
SONM	**Songino Array**	**62.55**	**334**	P	**P**	**05 10 07.4**	**-0.5**
SONM	**Songino Array**	**62.55**	**334**	P	**P**	**05 10 09.3**	**+1.4**
	comp=Z,1.9nm,1.1s,baz=165,slow=6.0,SNR=4.9						
	comp=Z,1.9nm,1.1s						
WMQ	**Urumqi**	**70.09**	**321**	*e*P	**P**	**05 10 58.3**	**+2.1**
MK31	**Makanchi Array**	**74.86**	**322**	P	**P**	**05 11 24.5**	**0.0**
MK31				IAmb	IAmb	05 11 27.3	
	comp=Z,18nm,1.8s						
MKAR	**Makanchi Array**	**74.86**	**322**		**P**	**05 11 25.0**	**+0.4**
MKAR	**Makanchi Array**	**74.86**	**322**	P	**P**	**05 11 25.3**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=107,slow=6.5,SNR=6.1						
	comp=Z,1.5nm,0.7s						
MAKZ	**Makanchi**	**75.06**	**322**	P	**P**	**05 11 25.2**	**-0.5**
MAKZ				IAmb	IAmb	05 11 27.4	
	comp=Z,30nm,1.9s						
KSH	**Kashi**	**76.20**	**313**	P	**P**	**05 11 35.4**	**+2.9**
KSH				pmax	pmax		
	comp=Z,5.0nm,1.8s						
ZALV	**Zalesovo Beam**	**76.89**	**329**	P	**P**	**05 11 35.6**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=99,slow=4.7,SNR=2.6						
	comp=Z,0.7nm,0.4s						
BOOM	**Boomskoye usch**	**77.27**	**316**	P	**P**	**05 11 39.2**	**+0.7**
KURK	**Kurchatov**	**78.76**	**324**		**P**	**05 11 46.6**	**+0.2**
KURK				IAmb	IAmb	05 11 51.6	
	comp=Z,13nm,1.4s						
KURBB	**Kurchatov Arra**	**78.77**	**324**	P	**P**	**05 11 46.9**	**+0.5**
	comp=Z,3.1nm,1.1s,baz=122,slow=5.1,SNR=7.3						
	comp=Z,3.1nm,1.1s						
K15K	**Wolf Creek Mou**	**80.67**	**23**	P	**P**	**05 11 57.1**	**+0.6**
O16K	**Kokwok River B**	**80.69**	**26**	P	**P**	**05 11 56.4**	**-0.3**
O16K				IAmb	IAmb	05 12 03.3	
	comp=Z,26nm,1.4s						
O17K	**Koliganek Bris**	**81.22**	**26**	P	**P**	**05 11 59.4**	**0.0**
	baz=241						
KKAR	**Karatay Array**	**81.25**	**315**	P	**P**	**05 12 00.3**	**+0.3**
J16K	**Anvik River**	**81.57**	**23**	P	**P**	**05 12 01.2**	**-0.1**
J16K				IAmb	IAmb	05 12 03.3	
	comp=Z,39nm,1.7s						
O18K	**Koktuh Hills**	**82.10**	**27**	P	**P**	**05 12 04.0**	**-0.2**
O18K				IAmb	IAmb	05 12 10.7	
	comp=Z,37nm,1.9s						
G16K	**Koyuk River**	**82.10**	**20**	P	**P**	**05 12 05.9**	**+1.9**
G16K				IAmb	IAmb	05 12 11.6	
	comp=Z,24nm,1.6s						
K17K	**Iditarod**	**82.17**	**24**	P	**P**	**05 12 05.1**	**+0.6**
K17K	**Iditarod**	**82.17**	**24**	P	**P**	**05 12 05.4**	**+1.0**
	baz=240						
SVW2	**Sparrevohn**	**82.51**	**26**	P	**P**	**05 12 07.3**	**+1.1**
SVW2				IAmb	IAmb	05 12 11.8	
	comp=Z,10.0nm,1.2s						
G17K	**Kiwalik Mounta**	**82.76**	**21**	P	**P**	**05 12 07.9**	**+0.5**
	baz=237						
QSPA	**South Pole Qui**	**83.63**	**180**	P	**P**	**05 12 14.2**	**+2.0**
QSPA				IAmb	IAmb	05 12 14.6	
	comp=Z,24nm,1.8s						
QSPA	**South Pole Qui**	**83.63**	**180**	P	**P**	**05 12 13.4**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=285,slow=1.9,SNR=8.9						
	comp=Z,1.4nm,0.8s						
E18K	**Tukpahlearik C**	**83.82**	**19**	P	**P**	**05 12 13.4**	**+0.6**
E18K				IAmb	IAmb	05 12 17.9	
	comp=Z,8.2nm,1.1s						
E18K	**Tukpahlearik C**	**83.82**	**19**	P	**P**	**05 12 13.5**	**+0.6**
	baz=237						
M20K	**Styx River**	**83.91**	**25**	P	**P**	**05 12 13.9**	**+0.3**
M20K				IAmb	IAmb	05 12 14.6	
	comp=Z,22nm,1.4s						
M20K	**Styx River**	**83.91**	**25**	P	**P**	**05 12 14.2**	**+0.6**
	baz=244						
K20K	**Telida**	**84.17**	**24**	P	**P**	**05 12 15.1**	**+0.3**
K20K	**Telida**	**84.17**	**24**	P	**P**	**05 12 14.6**	**-0.1**
	baz=243						
NRIK	**Noril'sk**	**84.21**	**343**	P	**P**	**05 12 15.1**	**+0.3**
NRIK				IAmb	IAmb	05 12 15.9	
	comp=Z,14nm,1.2s						
NRIK	**Noril'sk**	**84.21**	**343**	P	**P**	**05 12 15.1**	**+0.3**
	comp=Z,2.3nm,0.5s,baz=137,slow=5.1,SNR=7.9						
	comp=Z,2.3nm,0.5s						
BVAR	**Borovoye Array**	**84.35**	**325**	P	**P**	**05 12 16.6**	**+0.7**
	comp=Z,2.2nm,0.5s,baz=120,slow=6.5,SNR=8.7						
	comp=Z,2.2nm,0.5s						
BRVK	**Borovoye**	**84.42**	**325**		**P**	**05 12 16.5**	**+0.3**
BRVK				IAmb	IAmb	05 12 23.6	
	comp=Z,12nm,1.2s						
F19K	**Shaleruckik Mo**	**84.45**	**20**	P	**P**	**05 12 16.4**	**+0.3**
	baz=240						
J20K	**Nowinta River**	**84.51**	**23**	P	**P**	**05 12 17.6**	**+1.1**
J20K	**Nowinta River**	**84.51**	**23**	P	**P**	**05 12 16.7**	**+0.3**
	baz=243						
H20K	**Anotleneega Mo**	**84.83**	**22**	P	**P**	**05 12 18.6**	**+0.5**
	baz=242						
E19K	**Redstone River**	**84.95**	**20**	P	**P**	**05 12 19.0**	**+0.4**
E19K				IAmb	IAmb	05 12 19.2	
	comp=Z,8.6nm,1.2s						
E19K	**Redstone River**	**84.95**	**20**	P	**P**	**05 12 19.5**	**+0.8**
	baz=240						
CAST	**Castle Rocks**	**85.00**	**24**	P	**P**	**05 12 19.1**	**+0.1**
CAST				IAmb	IAmb	05 12 19.8	
	comp=Z,23nm,1.8s						
CAST	**Castle Rocks**	**85.00**	**24**	P	**P**	**05 12 18.9**	**-0.1**
	baz=245						
C19K	**Lookout Ridge**	**85.05**	**18**	P	**P**	**05 12 19.6**	**+0.5**
C19K	**Lookout Ridge**	**85.05**	**18**	P	**P**	**05 12 20.0**	**+0.9**
	baz=238						
RC01	**Rabbit Creek A**	**85.08**	**27**	P	**P**	**05 12 18.9**	**-0.5**
RC01	**Rabbit Creek A**	**85.08**	**27**	P	**P**	**05 12 19.1**	**-0.3**
	baz=248						
CHUM	**Lake Minchumin**	**85.11**	**24**	P	**P**	**05 12 19.9**	**+0.5**
	baz=245						
D19K	**Kuna River**	**85.19**	**19**	P	**P**	**05 12 19.7**	**-0.1**
D19K				IAmb	IAmb	05 12 25.2	
	comp=Z,28nm,1.8s						
D19K	**Kuna River**	**85.19**	**19**	P	**P**	**05 12 19.4**	**-0.4**
	baz=239						
F20K	**Avaraart Lake**	**85.26**	**20**	P	**P**	**05 12 20.7**	**+0.5**
	baz=242						
E20K	**Nigu River**	**85.69**	**19**	P	**P**	**05 12 22.7**	**+0.4**
	baz=241						
D20K	**Etuk River**	**85.77**	**19**	P	**P**	**05 12 23.0**	**+0.3**
	baz=241						
MLY	**Manley**	**86.20**	**23**	P	**P**	**05 12 24.9**	**-0.1**
MLY				IAmb	IAmb	05 12 29.9	
	comp=Z,24nm,1.9s						
MLY	**Manley**	**86.20**	**23**	P	**P**	**05 12 24.7**	**-0.3**
	baz=246						
RND	**Reindeer**	**86.34**	**25**	P	**P**	**05 12 24.8**	**-0.9**
RND				IAmb	IAmb	05 12 28.3	
	comp=Z,17nm,1.4s						
MCK	**McKinley**	**86.42**	**25**	P	**P**	**05 12 24.9**	**-1.1**
	baz=248						
C21K	**Knifeblade Rid**	**86.57**	**19**	P	**P**	**05 12 27.0**	**+0.4**
	baz=242						
B21K	**Ikpikpuk River**	**86.84**	**18**	P	**P**	**05 12 28.3**	**+0.4**
B21K				IAmb	IAmb	05 12 32.7	
	comp=Z,22nm,1.6s						
B21K	**Ikpikpuk River**	**86.84**	**18**	P	**P**	**05 12 28.3**	**+0.4**
	baz=242						
DHY	**Denali Highway**	**86.84**	**25**	P	**P**	**05 12 28.3**	**+0.1**
	baz=250						
WRH	**Wood River Hil**	**87.04**	**24**	P	**P**	**05 12 27.9**	**-1.1**
WRH				IAmb	IAmb	05 12 28.7	
	comp=Z,9.6nm,1.2s						
A21K	**Barrow**	**87.06**	**16**	P	**P**	**05 12 29.4**	**+0.5**
	baz=240						
E22K	**Anaktuvuk Pass**	**87.09**	**20**	P	**P**	**05 12 29.6**	**+0.4**
	baz=245						
CCB	**Clear Creek Bu**	**87.22**	**24**	P	**P**	**05 12 28.6**	**-1.3**
COLD	**Coldfoot**	**87.28**	**21**	P	**P**	**05 12 31.1**	**+1.0**
	baz=247						
B22K	**Teshekpuk Lake**	**87.53**	**18**	P	**P**	**05 12 31.1**	**-0.1**
	baz=244						
IL31		**87.63**	**24**	P	**P**	**05 12 30.1**	**-1.7**
ILAR	**Eielson Array**	**87.63**	**24**	P	**P**	**05 12 30.1**	**-1.8**
	comp=Z,2.1nm,0.9s,baz=263,slow=5.3,SNR=14						
	comp=Z,2.1nm,0.9s						
D23K	**Nanushuk River**	**87.81**	**19**	P	**P**	**05 12 33.9**	**+1.3**
	baz=246						
E23K	**Chandalar**	**87.81**	**20**	P	**P**	**05 12 33.9**	**+1.1**
	baz=247						
G24K	**Hadweenzic Riv**	**88.08**	**22**	P	**P**	**05 12 34.2**	**+0.3**
G24K	**Hadweenzic Riv**	**88.08**	**22**	P	**P**	**05 12 34.8**	**+0.8**
	baz=249						
RIDG	**Independent Ri**	**88.14**	**25**	P	**P**	**05 12 34.5**	**+0.2**
	baz=252						
C23K	**Itkillik River**	**88.19**	**19**	P	**P**	**05 12 35.2**	**+0.8**
	baz=246						
J25K	**Salcha River,**	**88.19**	**24**	P	**P**	**05 12 34.1**	**-0.5**
J25K	**Salcha River,**	**88.19**	**24**	P	**P**	**05 12 34.4**	**-0.2**
	baz=251						
F24K	**Squaw Lake**	**88.22**	**21**	P	**P**	**05 12 35.5**	**+0.8**
F24K	**Squaw Lake**	**88.22**	**21**	P	**P**	**05 12 35.8**	**+1.1**
	baz=249						
D24K	**Happy Valley**	**88.50**	**20**	P	**P**	**05 12 37.1**	**+1.2**
	baz=248						
C24K	**Franklin Bluff**	**88.75**	**19**	P	**P**	**05 12 38.2**	**+1.2**
	baz=248						
J26L	**Joseph Creek**	**88.90**	**25**	P	**P**	**05 12 37.9**	**-0.1**
J26L				IAmb	IAmb	05 12 44.7	
	comp=Z,21nm,1.6s						
J26L	**Joseph Creek**	**88.90**	**25**	P	**P**	**05 12 38.5**	**+0.5**
	baz=253						
M27K	**Edge Creek, AK**	**89.03**	**27**	P	**P**	**05 12 39.6**	**+0.9**
	baz=254						
F25K	**Christian Rive**	**89.06**	**21**	P	**P**	**05 12 39.5**	**+0.8**
	baz=251						
L27K	**Beaver Creek,**	**89.24**	**26**	P	**P**	**05 12 39.8**	**+0.3**
L27K				IAmb	IAmb	05 12 40.9	
	comp=Z,8.4nm,1.3s						
L27K	**Beaver Creek,**	**89.24**	**26**	P	**P**	**05 12 40.3**	**+0.8**
	baz=254						
E25K	**Arctic Village**	**89.26**	**21**	P	**P**	**05 12 40.5**	**+1.0**
E25K	**Arctic Village**	**89.26**	**21**	P	**P**	**05 12 40.4**	**+1.0**
	baz=251						
GEYT	**Alibeck**	**89.33**	**308**	P	**P**	**05 12 41.5**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=20,slow=4.6,SNR=1.5						
	comp=Z,0.9nm,0.5s						
BMAR	**Burnt Mountain**	**89.39**	**22**	P	**P**	**05 12 40.8**	**+0.7**
K27K	**Chicken**	**89.39**	**25**	P	**P**	**05 12 41.1**	**+0.9**
	baz=254						
G26K	**Porcupine Rive**	**89.54**	**22**	P	**P**	**05 12 41.9**	**+1.1**
	baz=253						
F26K	**Sheenjek River**	**89.63**	**21**	P	**P**	**05 12 42.3**	**+1.0**
	baz=252						
EGAK	**Eagle**	**89.97**	**25**	P	**P**	**05 12 42.7**	**-0.2**
	baz=255						
I27K	**Kandik River**	**90.00**	**24**	P	**P**	**05 12 43.6**	**+0.5**
	baz=255						
C26K	**Camden Bay**	**90.06**	**19**	P	**P**	**05 12 44.7**	**+1.6**
	baz=252						
H27K	**Steamboat Moun**	**90.21**	**23**	P	**P**	**05 12 45.0**	**+1.0**
	baz=255						
DAWY	**Dawson**	**90.55**	**26**	P	**P**	**05 12 44.1**	**-1.5**
L29M	**L29M**	**90.88**	**27**	P	**P**	**05 12 48.3**	**+1.0**
	baz=258						
K29M	**Barlow Dome**	**91.30**	**26**	P	**P**	**05 12 50.1**	**+0.9**
	baz=258						
PLCA	**Paso Flores**	**124.25**	**150**	PKP	**PKiKP**	**05 18 45.0**	**+1.7**
	comp=Z,1.5nm,1.0s,baz=146,slow=2.6,SNR=6.2						
ETMB	**Extrema**	**147.32**	**119**	PKPdf	**PKPdf**	**05 19 24.7**	**-1.4**
DBIC	**Dimbokro**	**147.43**	**272**	PKPbc	**PKPbc**	**05 19 29.5**	**+0.8**
	comp=Z,4.5nm,0.8s,baz=100,slow=6.1,SNR=3.9						
PTLB	**Pontes e Lacer**	**149.63**	**136**	PKPdf	**PKPdf**	**05 19 27.5**	**-2.3**

*IDC **08** 05:04:54.7±0.9, 5˚.25S×147˚.52E, h0km, mb4.1/9, mbtmp4.1/10, ML2.2/1, Error ellipse: s-maj=50.2km s-min=19.4km az=80.0*

ISC 08 05:04:59.3±0.9, 5˚.24S±0˚.09×147˚.5E±0˚.3, h29km, n10, σ0s59/11, mb4.1/9, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.15**	**185**	Pn	**Pn**	**05 06 00.7**	**-0.1**
	11nm,0.3s,baz=346,slow=10,SNR=7.4						
PMG				Sn	**Sn**	**05 06 48.8**	**+0.4**
	4.8nm,0.3s,baz=293,slow=20,SNR=1.3						
	41nm,0.4s						
CMAR	**Chiang Mai Arr**	**53.36**	**297**	P	**P**	**05 14 17.4**	**+0.8**
	2.1nm,0.3s,baz=116,slow=5.3,SNR=4.8						
	2.1nm,0.3s						
SONM	**Songino Array**	**64.00**	**330**	P	**P**	**05 15 30.2**	**0.0**
	1.0nm,1.0s,baz=131,slow=5.9,SNR=2.6						
	1.0nm,1.0s						
VNDA	**Vanda**	**72.63**	**177**	P	**P**	**05 16 23.6**	**-0.1**
	3.3nm,0.9s,baz=323,slow=6.1,SNR=7.6						
	3.3nm,0.9s						
MKAR	**Makanchi Array**	**77.25**	**320**	P	**P**	**05 16 50.5**	**-0.4**
	0.6nm,0.9s,baz=119,slow=5.6,SNR=2.7						
	0.6nm,0.9s						
ZALV	**Zalesovo Beam**	**78.65**	**328**	P	**P**	**05 16 57.6**	**-0.9**
	0.9nm,0.5s,baz=89,slow=5.9,SNR=4.0						
	0.9nm,0.5s						
ILAR	**Eielson Array**	**84.58**	**23**	P	**P**	**05 17 30.5**	**+0.9**
	0.5nm,0.8s,baz=256,slow=5.0,SNR=8.8						
	0.5nm,0.8s						
NRIK	**Noril'sk**	**84.72**	**342**	P	**P**	**05 17 30.0**	**-0.2**
	1.9nm,0.4s,baz=113,slow=3.0,SNR=4.6						
	1.9nm,0.4s						
QSPA	**South Pole Qui**	**84.72**	**180**	P	**P**	**05 17 30.1**	**-0.4**
	3.1nm,0.9s,baz=344,slow=2.7,SNR=9.3						
	3.1nm,0.9s						
BVAR	**Borovoye Array**	**86.47**	**324**	P	**P**	**05 17 39.1**	**-0.2**
	0.7nm,0.7s,baz=97,slow=4.6,SNR=3.1						
	0.7nm,0.7s						

TAP 08 05:06:15.0, 24˚.45N×121˚.79E, h10km, ML1.9, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EWUT	**Wuta**	**0.01**	**272**	*i* P	Pg	05 06 17.4	+0.6
	baz=268						
EWUT				*i* S	Sg	05 06 18.4	+0.5
	baz=268						
ENA	**Nanau**	**0.05**	**249**	P	Pg	05 06 17.7	+0.8
	baz=242						
ENA				*i* S	Sg	05 06 19.2	+0.9
	baz=242						
EAHA	**Aohua**	**0.12**	**201**	P	Pg	05 06 18.6	+0.7
	baz=201						
EAHA				S	Sg	05 06 20.8	+0.8
	baz=201						
ESAO	**Su ao**	**0.14**	**21**	P	Pg	05 06 18.8	+0.6
	baz=21						
ESAO				S	Sg	05 06 20.7	+0.3
	baz=21						
TWC	**Suao**	**0.17**	**18**	P	Pg	05 06 19.5	+0.8
	baz=21						
TWC				S	Sg	05 06 22.1	+0.8
	baz=21						
NDS	**Dongshan**	**0.20**	**340**	P	Pg	05 06 20.4	+1.2
	baz=340						
NDS				S	Sg	05 06 23.5	+1.4
	baz=340						
LATG	**Datong**	**0.26**	**291**	P	Pb	05 06 21.5	-0.3
	baz=290						
LATG				S	Sb	05 06 25.7	-0.7
	baz=290						
ENTT	**Nioudou**	**0.28**	**314**	*e*P	Pb	05 06 22.0	-0.2
	baz=314						
NDT	**Datong Townshi**	**0.30**	**302**	P	Pb	05 06 22.4	-0.1
	baz=301						
NDT				S	Sb	05 06 27.1	-0.4
	baz=301						
NACB	**Ninganchiao**	**0.32**	**213**	P	Pb	05 06 22.2	-0.7
	baz=213						
NACB				S	Sg	05 06 26.5	+0.8
	baz=213						
FUSB	**Fushanzhiwuyua**	**0.36**	**330**	P	Pb	05 06 23.7	0.0
	baz=329						
FUSB				*i* S	Sb	05 06 28.9	-0.5
	baz=329						
ETLH	**Xiulin Townshi**	**0.37**	**230**	*e*P	Pg	05 06 22.9	+0.6
	baz=229						
NNSB	**Datong**	**0.37**	**268**	*

*DJA **08** 05:11:40.1±0.6,3°S±5°×13°1E±°,h11km±6km,M3.6/6, MLv3.6/6*
*IDC **08** 05:11:49.5±1.8,4°58S×130°03E,h0km,mb3.9/3, mbtmp3.9/5,ML4.0/2,Error ellipse: s-maj=86.7km s-min=24.1km az=67.0*
ISC 08 05:11:41.7±1.2,3°26S±0°08×130°93E±0°07,h35km,n10, σ1§48/8,mb4.0/3,Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.36**	**76**	P			**Pn**	**05 12 04.9**	**+0.6**
FAKI				S			**Sn**	**05 12 22.7**	**+1.5**
BNDI	**Bandanaira**	**1.62**	**219**	P			**Pn**	**05 12 08.8**	**+1.0**
SWI	**Sorong**	**2.40**	**8**	P			**Pn**	**05 12 18.4**	**-0.2**
NLAI	**Namlea**	**3.82**	**270**	P			**Pn**	**05 12 38.9**	**+0.8**
LBMI	**Labuha**	**4.30**	**307**	P			**Pn**	**05 12 45.1**	**+0.4**
WRA	**Warramunga Arr**	**16.92**	**169**	Pn			**Pn**	**05 15 33.4**	**-2.5**
	0.4nm,0.3s,baz=345,slow=11,SNR=7.9								
WRA				Sn			Sn	05 18 32.1	-11
	0.3nm,0.3s,baz=339,slow=24,SNR=4.6 0.6nm,0.5s								
ASAR	**Alice Springs**	**20.50**	**172**	P			**P**	**05 16 16.9**	**0.0**
	1.0nm,0.3s,baz=351,slow=10,SNR=20 4.8nm,0.5s								
CMAR	**Chiang Mai Arr**	**38.18**	**306**	P			P	05 19 12.9	+15
	0.7nm,0.3s,baz=116,slow=6.1,SNR=1.4 0.7nm,0.3s								
MKAR	**Makanchi Array**	**65.65**	**326**	P			P	05 22 39.2	+17
	0.9nm,0.7s,baz=119,slow=8.4,SNR=4.5 0.9nm,0.7s								
BVAR	**Borovoye Array**	**75.42**	**327**	P			P	05 23 38.2	+16
	0.7nm,0.6s,baz=115,slow=9.7,SNR=4.5 0.7nm,0.6s								

*SOME **08** 05:16:33.6,42°15N×80°78E,h10km*
*KRNET **08** 05:16:34.4±0.1,42°10N×80°75E,h22km,mb3.5*
*NNC **08** 05:16:34.1±1.0,42°11N×80°70E,h0km,mb3.9,mpv3.7, Error ellipse: s-maj=6.5km s-min=4.9km az=148.0*
ISC 08 05:16:37.1±1.5,42°29N±0°06×80°68E±0°05,h10km,n70, σ1§82/112,19C-14D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.18**	**349**	*eP*			**Pb**	**05 16 59.5**	**-0.2**
	28nm,0.1s								
KTMS				*eS*			**Sn**	**05 17 18.2**	**+2.1**
	132nm,0.2s								
KTMS	**Ketmen**	**1.18**	**349**	P			**Pb**	**05 16 59.5**	**-0.2**
	28nm,0.1s								
KTMS				S			**Sn**	**05 17 18.2**	**+2.1**
	132nm,0.2s								
KTMS	**Ketmen**	**1.18**	**349**	*eP*			**Pb**	**05 16 59.5**	**-0.2**
	baz=48								
KTMS				*eS*			**Sn**	**05 17 18.2**	**+2.1**
	baz=48								
SHLS	**Shalkode**	**1.25**	**315**	*eP*			**Pn**	**05 16 57.3**	**-3.4**
	221nm,0.1s								
SHLS				*eS*			**Sb**	**05 17 14.9**	**-2.1**
	765nm,0.2s								
SHLS	**Shalkode**	**1.25**	**315**	P			**Pn**	**05 16 57.3**	**-3.4**
	221nm,0.1s								
SHLS				S			**Sb**	**05 17 14.9**	**-2.1**
	765nm,0.2s								
SHLS	**Shalkode**	**1.25**	**315**	*eP*			**Pn**	**05 16 57.3**	**-3.4**
	baz=29								
SHLS				*eS*			**Sb**	**05 17 14.9**	**-2.1**
	baz=29								
PDGK	**Podgornoye**	**1.36**	**320**	P			**Pn**	**05 17 02.2**	**-0.1**
	20nm,0.3s								
PDGK				S			**Sg**	**05 17 23.3**	**+2.5**
	37nm,0.2s								
PDGK	**Podgornoye**	**1.36**	**320**	⇑P			**Pn**	**05 17 02.1**	**-0.1**
	27nm,0.5s								
PDGK				⇑S			**Sg**	**05 17 23.8**	**+3.0**
	57nm,0.5s								
UZB	**Uzynbulak**	**1.49**	**306**	*eP*			**Pn**	**05 17 04.2**	**+0.2**
	36nm,0.4s								
UZB				*eS*			**Sg**	**05 17 26.9**	**+1.9**
	56nm,0.1s								
UZB	**Uzynbulak**	**1.49**	**306**	P			**Pn**	**05 17 04.3**	**+0.2**
	36nm,0.4s								
UZB				S			**Sg**	**05 17 26.9**	**+1.9**
	56nm,0.1s								
UZB	**Uzynbulak**	**1.49**	**306**	*eP*			**Pn**	**05 17 04.3**	**+0.2**
	baz=10.0								
UZB				*eS*			**Sg**	**05 17 27.0**	**+1.9**
	baz=10.0								
PRZ	**Przheval'sk**	**1.70**	**277**	⇓*iP*			**Pn**	**05 17 07.6**	**+0.7**
	baz=84								
PRZ				⇓*iS*			**Sb**	**05 17 31.0**	**+1.1**
	baz=84								
SATY	**Saty**	**1.84**	**296**	*eP*			**Pn**	**05 17 09.8**	**+0.9**
	32nm,0.2s								
SATY				*eS*			**Sg**	**05 17 36.4**	**+0.1**
	114nm,0.1s								
SATY	**Saty**	**1.84**	**296**	Pg			**Pn**	**05 17 09.8**	**+0.9**
	32nm,0.2s								
SATY				Lg			Lg	05 17 36.4	
	114nm,0.1s								
SATY	**Saty**	**1.84**	**296**	*eP*			**Pn**	**05 17 09.8**	**+0.9**
	baz=0.0								
SATY				*eS*			**Sg**	**05 17 36.4**	**+0.1**
	baz=0.0								
ZHN	**Zhinishke**	**1.87**	**299**	*eP*			**Pb**	**05 17 10.8**	**-0.6**
	48nm,0.2s								
ZHN				*eS*			**Sg**	**05 17 38.4**	**+1.1**
	159nm,0.2s								
ZHN	**Zhinishke**	**1.87**	**299**	Pg			**Pb**	**05 17 10.8**	**-0.6**
	48nm,0.2s								
ZHN				Lg			Lg	05 17 38.3	
	159nm,0.2s								
KPKS	**Kokpek**	**1.88**	**310**	*eP*			**Pb**	**05 17 11.2**	**-0.3**
	58nm,0.3s								
KPKS				*eS*			**Sg**	**05 17 38.3**	**+0.9**
	196nm,0.3s								
KPKS	**Kokpek**	**1.88**	**310**	Pg			**Pb**	**05 17 11.2**	**-0.3**
	58nm,0.3s								
KPKS				Lg			Lg	05 17 38.3	
	196nm,0.3s								
KPKS	**Kokpek**	**1.88**	**310**	*eP*			**Pb**	**05 17 11.2**	**-0.3**
	baz=13								
KPKS				*eS*			**Sg**	**05 17 38.3**	**+0.9**
	baz=13								
DJR	**Jarkent**	**2.14**	**343**	*eP*			**Pb**	**05 17 16.4**	**+0.3**
	5.6nm,0.1s								
DJR				*eS*			**Sg**	**05 17 47.3**	**+1.3**
	125nm,0.2s								
DJR	**Jarkent**	**2.14**	**343**	Pg			**Pb**	**05 17 16.4**	**+0.3**
	5.6nm,0.1s								
DJR				Lg			Lg	05 17 47.3	
	125nm,0.2s								
TARG	**Taragay, Kyrgy**	**2.21**	**256**	⇑*iP*			**Pn**	**05 17 13.8**	**-0.4**
	baz=61								
TARG				⇑*iS*			**Sn**	**05 17 42.4**	**+0.6**
	baz=61								
ANVS	**Anan'yevo**	**2.28**	**284**	⇑*eP*			**Pn**	**05 17 16.0**	**+1.1**
	baz=88								
ANVS				⇑*eS*			**Sb**	**05 17 45.9**	**-0.8**
	baz=88								
KNOS	**Konyrlen**	**2.34**	**333**	Pg			**Pb**	**05 17 19.5**	**0.0**
	34nm,0.1s								
KNOS				Lg			Lg	05 17 52.5	
	53nm,0.3s								
BLB	**Baldybastay**	**2.42**	**319**	Pg			**Pb**	**05 17 21.2**	**+0.4**
	28nm,0.2s								
BLB				Lg			Lg	05 17 56.0	
	63nm,0.2s								
KDJ	**Kajisay**	**2.60**	**268**	⇑*iP*			**Pn**	**05 17 19.6**	**+0.3**
	baz=72								
KDJ				⇑*iS*			**Sn**	**05 17 52.2**	**+1.1**
	baz=72								
KOTS	**Kotyrbulak**	**2.79**	**291**	*eP*			**Pb**	**05 17 26.8**	**-0.3**
	20nm,0.2s								
KOTS				*eS*			**Sg**	**05 18 04.9**	**-1.7**
	77nm,0.5s								
KOTS	**Kotyrbulak**	**2.79**	**291**	Pg			**Pb**	**05 17 25.1**	**-2.0**
	20nm,0.2s								
KOTS				Lg			Lg	05 18 02.2	
	48nm,0.4s								
MDOK	**Medeo**	**2.81**	**289**	*eP*			**Pb**	**05 17 27.2**	**-0.3**
	12nm,0.5s								
MDOK				*eS*			**Sg**	**05 18 06.6**	**-0.8**
	30nm,0.5s								
MDOK	**Medeo**	**2.81**	**289**	Pg			**Pb**	**05 17 26.3**	**-1.1**
	9.4nm,0.5s								
MDOK				Pg			**Pb**	**05 17 27.2**	**-0.3**
	12nm,0.5s								
MDOK				Lg			Lg	05 18 06.6	
	30nm,0.5s								
MDOK				Lg			Lg	05 18 07.1	
	26nm,0.6s								
ARXS	**Arharly**	**2.83**	**314**	*eP*			**Pb**	**05 17 28.2**	**+0.4**
	12nm,0.7s								
ARXS				*eS*			**Sg**	**05 18 07.5**	**-0.6**
	65nm,0.5s								
ARXS	**Arharly**	**2.83**	**314**	Pg			**Pb**	**05 17 28.2**	**+0.4**
	12nm,0.7s								
ARXS				Lg			Lg	05 18 07.5	
	65nm,0.5s								
TNSS	**Tian-Shan**	**2.85**	**287**	*eP*			**Pb**	**05 17 27.5**	**-0.8**
	16nm,0.3s								
TNSS				*eS*			**Sb**	**05 18 06.1**	**+2.7**
	18nm,0.3s								
TNSS	**Tian-Shan**	**2.85**	**287**	Pg			**Pb**	**05 17 26.0**	**-2.3**
	16nm,0.3s								
TNSS				Lg			Lg	05 18 04.1	
	13nm,0.3s								
IZV	**Izvestkoviy**	**3.09**	**285**	*eP*			**Pb**	**05 17 32.1**	**-0.1**
	6.6nm,0.2s								
IZV				*eS*			**Sg**	**05 18 14.6**	**-1.7**
	26nm,0.2s								
IZV	**Izvestkoviy**	**3.09**	**285**	Pg			**Pb**	**05 17 32.1**	**-0.1**
	6.6nm,0.2s								
IZV				Lg			Lg	05 18 14.6	
	26nm,0.2s								
CHKK	**Chushkaly**	**3.12**	**301**	*eP*			**Pb**	**05 17 32.5**	**-0.1**
	7.3nm,0.3s								
CHKK				*eS*			**Sg**	**05 18 15.0**	**-2.3**
	36nm,0.5s								
CHKK	**Chushkaly**	**3.12**	**301**	Pg			**Pb**	**05 17 32.5**	**-0.1**
	7.3nm,0.3s								
CHKK				Lg			Lg	05 18 15.0	
	36nm,0.5s								
KAPS	**Kapalarasan**	**3.15**	**343**	*eP*			**Pb**	**05 17 32.8**	**-0.2**
	5.0nm,0.3s								
KAPS				*eS*			**Sg**	**05 18 15.5**	**-2.6**
	53nm,0.2s								
KAPS	**Kapalarasan**	**3.15**	**343**	Pg			**Pb**	**05 17 32.8**	**-0.2**
	5.0nm,0.3s								
KAPS				Lg			Lg	05 18 15.5	
	53nm,0.2s								
MTBS	**Maitube**	**3.24**	**287**	*eP*			**Pb**	**05 17 34.2**	**-0.5**
	7.1nm,0.2s								
MTBS				*eS*			**Sb**	**05 18 17.7**	**+3.4**
	13nm,0.2s								
MTBS	**Maitube**	**3.24**	**287**	Pg			**Pn**	**05 17 30.8**	**+2.8**
	7.1nm,0.2s								
MTBS				Lg			Lg	05 18 12.3	
	12nm,0.4s								
KTBS	**Karatobe**	**3.26**	**297**	*eP*			**Pb**	**05 17 35.0**	**0.0**
	13nm,0.3s								
KTBS				*eS*			**Sg**	**05 18 19.0**	**-2.6**
	60nm,0.4s								
KTBS	**Karatobe**	**3.26**	**297**	Pg			**Pb**	**05 17 35.0**	**0.0**
	13nm,0.3s								
KTBS				Lg			Lg	05 18 19.0	
	60nm,0.4s								
ULHL	**Ulahol**	**3.29**	**271**	⇓*iP*			**Pn**	**05 17 29.5**	**+0.7**
	baz=74								
ULHL				⇓*iS*			**Sn**	**05 18 09.3**	**+1.2**
	baz=74								
BOOM	**Boomskoye usch**	**3.51**	**275**	⇓*iP*			**Pn**	**05 17 32.6**	**+0.7**
	baz=78								
BOOM				⇓*iS*			**Sn**	**05 18 14.4**	**+0.8**
	baz=78								
KST	**Kastek**	**3.56**	**284**	*eP*			**Pb**	**05 17 41.1**	**+1.0**
	9.4nm,0.4s								
KST				*eS*			**Sg**	**05 18 29.6**	**-1.6**
	20nm,0.6s								
KST	**Kastek**	**3.56**	**284**	Pg			**Pb**	**05 17 41.1**	**+1.0**
	9.4nm,0.4s								
KST				Lg			Lg	05 18 29.6	
	20nm,0.6s								
KUU	**Kurty**	**3.56**	**298**	*eP*			**Pb**	**05 17 40.4**	**+0.3**
	5.7nm,0.3s								
KUU				*eS*			**Sg**	**05 18 28.3**	**-3.0**
	23nm,0.4s								
KUU	**Kurty**	**3.56**	**298**	Pg			**Pb**	**05 17 40.4**	**+0.3**
	5.7nm,0.3s								
KUU				Lg			Lg	05 18 28.3	
	23nm,0.4s								
NRN	**Naryn**	**3.59**	**258**	⇑*iP*			**Pn**	**05 17 33.3**	**+0.2**
	baz=61								
NRN				⇑*eS*			**Sn**	**05 18 16.3**	**+0.5**
	baz=61								
DGS	**Degeres**	**3.73**	**286**	*eP*			**Pb**	**05 17 44.1**	**+1.0**
	9.3nm,0.3s								
DGS				*eS*			**Sg**	**05 18 34.9**	**-2.0**
	22nm,0.6s								
DGS	**Degeres**	**3.73**	**286**	Pg			**Pb**	**05 17 44.1**	**+1.0**
	9.3nm,0.3s								
DGS				Lg			Lg	05 18 34.9	
	22nm,0.6s								
TKM2	**Tokmak 2**	**3.80**	**281**	⇓Pg			**Pb**	**05 17 46.7**	**+2.3**
	4.9nm,0.7s								
TKM2				⇑Lg			Lg	05 18 38.1	
	8.6nm,0.4s								
TKM2	**Tokmak 2**	**3.80**	**281**	⇑*iP*			**Pn**	**05 17 37.0**	**+1.1**
	baz=84								
TKM2				⇑*iS*			**Sn**	**05 18 22.3**	**+1.5**
	baz=84								
KRBS	**Karabastau**	**3.93**	**293**	*eP*			**Pb**	**05 17 47.6**	**+1.1**
	4.3nm,0.3s								
KRBS				*eS*			**Sg**	**05 18 40.7**	**-2.5**
	9.7nm,0.4s								
KRBS	**Karabastau**	**3.93**	**293**	Pg			**Pb**	**05 17 47.6**	**+1.1**
	4.3nm,0.3s								
KRBS				Lg			Lg	05 18 40.7	
	9.7nm,0.4s								
KBK	**Karagaybulak**	**4.25**	**277**	⇑*iP*			**Pn**	**05 17 43.0**	**+1.0**
	baz=79								
KBK				⇑*iS*			**Sn**	**05 18 32.8**	**+1.0**
	baz=79								
CHMS	**Chumysh**	**4.43**	**281**	⇓*iP*			**Pn**	**05 17 45.5**	**+1.2**
	baz=83								
CHMS				⇓*iS*			**Sn**	**05 18 37.3**	**+1.4**
	baz=83								
MAKZ	**Makanchi**	**4.62**	**11**	⇓Pn			**Pn**	**05 17 48.5**	**+1.6**
	1.1nm,0.3s								
MAKZ				⇓Sn			**Sn**	**05 18 44.6**	**+4.1**
	2.4nm,0.3s								
MK31	**Makanchi Array**	**4.65**	**14**	⇑Pn			**Pn**	**05 17 49.4**	**+2.0**
	0.3nm,0.2s,baz=204,slow=13,SNR=38								
MK31				Pg			**Pg**	**05 18 02.4**	**-3.8**
	0.7nm,0.3s,baz=196,slow=16,SNR=5.4								
MK31				⇓Sn			**Sn**	**05 18 46.5**	**+5.1**
	0.7nm,0.3s,baz=150,slow=46,SNR=3.9								
MK31				⇑Lg			Lg	05 19 03.1	
	1.8nm,0.3s,baz=157,slow=38,SNR=4.1								
MRKS	**Merke**	**5.53**	**277**	*eP*			**Pb**	**05 18 17.7**	**+4.1**
	1.3nm,0.2s								
MRKS				*eS*			**Sg**	**05 19 32.2**	**-2.1**
	3.4nm,0.4s								
MRKS	**Merke**	**5.53**	**277**	Pg			**Pb**	**05 18 16.5**	**+2.9**
	3.2nm,0.4s								
MRKS				Lg			Lg	05 19 30.6	
	3.9nm,0.4s								
ZSN	**Zaisan**	**5.96**	**29**	*eP*			**Pb**	**05 18 22.8**	**+1.8**
	2.2nm,0.3s								
ZSN				*eS*			**Sg**	**05 19 41.2**	**-7.1**
	6.2nm,0.7s								
ZSN	**Zaisan**	**5.96**	**29**	Pg			**Pb**	**05 18 22.8**	**+1.8**
	2.2nm,0.3s								
ZSN				Lg			Lg	05 19 41.2	
	6.2nm,0.7s								
KK31	**Karatay Array**	**7.53**	**280**	Pg			Pg	05 18 55.8	-5.4
	0.4nm,0.5s,baz=90,slow=16,SNR=6.3								
KK31				⇑Lg			Lg	05 20 35.4	
	1.1nm,0.5s,baz=92,slow=29,SNR=3.9								
OTUK	**Ortayu**	**8.37**	**318**	⇓Lg			Lg	05 21 01.6	
	2.8nm,0.8s								
KURBB	**Kurchatov Arra**	**8.47**	**351**	⇓Lg			Lg	05 21 04.9	
	8.8nm,0.7s								
KURK	**Kurchatov**	**8.55**	**351**	⇑Lg			Lg	05 21 05.5	
	6.0nm,0.9s								

IDC 08 05:24:39.0±5.2,6°21S×143°08E,h0km,mb3.5/2, mbtmp3.4/4,ML3.1/1,Error ellipse: s-maj=187.4km s-min=34.7km az=98.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.07**	**211**	Pn			Pn	05 28 25.2	-1.4
	0.1nm,0.3s,baz=31,slow=11,SNR=1.4 0.4nm,0.6s								
ASAR	**Alice Springs**	**19.47**	**206**	P			P	05 29 08.1	+0.5
	0.8nm,0.7s,baz=38,slow=10,SNR=6.5								
MKAR	**Makanchi Array**	**75.21**	**322**	P			P	05 36 23.7	+0.1
	0.2nm,0.6s,baz=120,slow=5.8,SNR=2.6 0.2nm,0.6s								
BVAR	**Borovoye Array**	**84.67**	**325**	P			P	05 37 14.6	0.0
	0.3nm,0.4s,baz=85,slow=5.1,SNR=2.4 0.3nm,0.4s								

*PGC **08** 05:52:13.4,47°78N×122°36W,h24km,ML2.5,ML2.2/24, 20km northeast of Seattle, Wa Washington*
*NEIC **08** 05:52:13.2±2.2,47°81N±0°02×122°40W±0°03,h27km±3km, Error ellipse: s-maj=3.6km s-min=3.2km az=201.0*
*SEA **08** 05:52:13.4±2.3,47°78N±0°02×122°36W±0°03,h24km±6km, ML2.5/45,ML2.6/49(NEIC),Error ellipse: s-maj=3.4km s-min=3.0km az=224.0*
ISC 08 05:52:13.1±0.8,47°79N±0°02×122°39W±0°02,h32km±3km, n190,σ1§22/232,Washington

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SCCW	**Shoreline CC**	**0.04**	**156**				**Pb**	**05 52 17.5**	**-1.1**
SCCW							**Sb**	**05 52 21.3**	**-0.9**
LYNC	**Lynnwood City**	**0.07**	**62**				**Pb**	**05 52 17.4**	**-1.2**
LYNC							**Sb**	**05 52 20.9**	**-1.5**
BRKS	**Brookside Elem**	**0.08**	**118**				**Pb**	**05 52 21.3**	**+2.7**
NIHS	**Ingelmoor High**	**0.12**	**114**				**Pb**	**05 52 18.2**	**-0.8**
NIHS							**Sb**	**05 52 22.4**	**-0.4**
FINN	**Finn Hill Juni**	**0.13**	**124**				**Pb**	**05 52 18.2**	**-0.7**
FINN							**Sb**	**05 52 22.6**	**-0.4**
LAWT	**Lawton Element**	**0.13**	**180**				**Pb**	**05 52 18.6**	**-0.5**
LAWT							**Sb**	**05 52 23.4**	**+0.4**
NOWS	**NOAA--Sand Poi**	**0.14**	**139**				**Pb**	**05 52 18.4**	**-0.6**
NOWS							**Sb**	**05 52 23.1**	**0.0**
BEVT	**Boeing Everett**	**0.15**	**32**				**Pb**	**05 52 18.4**	**-0.8**
BEVT							**Sb**	**05 52 22.7**	**-0.6**
EVGW	**Everett Gatewa**	**0.17**	**68**				**Pb**	**05 52 18.3**	**-1.1**
EVGW							**Sb**	**05 52 22.4**	**-1.1**
KINR	**Kitsap County**	**0.18**	**257**				**Pb**	**05 52 18.9**	**-0.5**
KINR							**Sb**	**05 52 23.6**	**-0.1**
LEOT	**Leota Junior H**	**0.19**	**97**				**Pb**	**05 52 18.6**	**-0.9**
KDKW	**Coast Env Seat**	**0.20**	**169**				**Pb**	**05 52 19.4**	**-0.2**
KDKW							**Sb**	**05 52 24.9**	**+1.0**
KITP	**Kitsap County**	**0.20**	**235**				**Pb**	**05 52 19.4**	**-0.3**
BABE	**Bainbridge Sch**	**0.21**	**208**				**Pb**	**05 52 19.6**	**-0.1**
SWID	**South Whidbey**	**0.22**	**356**				**Pb**	**05 52 19.2**	**-0.6**
SWID							**Sb**	**05 52 24.6**	**+0.2**
MARYW	**Marymoor Park**	**0.22**	**125**				**Pb**	**05 52 19.4**	**-0.5**
KIMB	**Kimball Elemen**	**0.22**	**165**				**Pb**	**05 52 19.7**	**-0.2**
WISC	**Wilburton Inst**	**0.23**	**141**				**Pb**	**05 52 19.6**	**-0.3**
EARN	**East Ridge Ele**	**0.24**	**102**				**Pb**	**05 52 19.3**	**-0.8**
BLH	**Bald Hill**	**0.24**	**79**				**Pb**	**05 52 18.8**	**-1.3**
EVCC	**Everett Colleg**	**0.25**	**30**				**Pb**	**05 52 19.6**	**-0.6**
EVCC							**Sb**	**05 52 24.8**	**-0.1**
SP2	**Seward Park 2**	**0.25**	**158**				**Pb**	**05 52 19.8**	**-0.4**
TKCO	**King County**	**0.26**	**167**				**Sb**	**05 52 25.6**	**+0.5**
PNLK	**Pine Lake Midd**	**0.32**	**131**				**Pb**	**05 52 20.4**	**-0.7**
B013	**Quilcene**	**0.35**	**274**				**Pb**	**05 52 20.7**	**-0.8**
B013							**Sb**	**05 52 26.3**	**-0.9**
B013	**Quilcene**	**0.35**	**274**				**Pb**	**05 52 20.7**	**-0.8**
MBPA	**Monroe Substat**	**0.35**	**72**				**Pb**	**05 52 20.4**	**-1.1**
MBPA							**Sb**	**05 52 25.6**	**-1.6**
GMW	**Gold Mountain**	**0.36**	**228**				**Pb**	**05 52 20.7**	**-1.0**
VVHS	**Vashon High Sc**	**0.37**	**187**				**Pb**	**05 52 21.2**	**-0.5**
GNW	**Green Mountain**	**0.37**	**233**				**Pb**	**05 52 20.6**	**-1.2**
GNW	**Green Mountain**	**0.37**	**233**				**Sb**	**05 52 26.6**	**-1.0**
GNW	**Green Mountain**	**0.37**	**233**	IAML				05 52 26.9	
	comp=N,2μm,0.2s								
GNW				IAML				05 52 27.0	
	comp=E,1μm,0.2s								
GNW	**Green Mountain**	**0.37**	**233**	P			**Pb**	**05 52 20.8**	**-0.9**
GNW				S			**Sb**	**05 52 26.6**	**-1.0**
C04A	**Brinnon**	**0.40**	**260**				**Pb**	**05 52 21.3**	**-0.8**
C04A							**Sb**	**05 52 27.4**	**-0.9**
BLN	**Blyn Mountain**	**0.45**	**299**				**Pb**	**05 52 22.2**	**-0.8**
TTW	**Tolt Reservoir**	**0.48**	**101**				**Pb**	**05 52 22.2**	**-1.2**
TTW							**Sb**	**05 52 28.7**	**-1.8**
C05A	**Tolt Reservoir**	**0.48**	**101**				**Pb**	**05 52 22.2**	**-1.2**
C05A	**Tolt Reservoir**	**0.48**	**101**	P			**Pb**	**05 52 22.2**	**-1.2**
C05A				S			**Sb**	**05 52 28.3**	**-2.2**
JCW	**Jim Creek**	**0.51**	**37**				**Pb**	**05 52 23.0**	**-0.8**
JCW	**Jim Creek**	**0.51**	**37**	P			**Pb**	**05 52 23.0**	**-0.8**
SVOH	**Skagit Valley**	**0.53**	**342**				**Pb**	**05 52 23.4**	**-0.7**
SVOH	**Skagit Valley**	**0.53**	**342**	P			**Pb**	**05 52 23.4**	**-0.7**
SQM	**Sequim**	**0.53**	**303**				**Pb**	**05 52 23.9**	**-0.2**
SQM							**Sb**	**05 52 31.3**	**-0.3**
RATT	**Rattlesnake La**	**0.54**	**132**				**Pb**	**05 52 23.2**	**-1.1**
RAW	**Raver**	**0.55**	**146**				**Pb**	**05 52 23.6**	**-0.8**
CDMR	**Cedar Moraine**	**0.56**	**131**				**Pb**	**05 52 23.7**	**-1.0**
D05A	**Enumclaw**	**0.66**	**156**				**Pb**	**05 52 25.7**	**-0.6**
D05A					Sg		**Sb**	**05 52 35.1**	**-0.2**
D05A	**Enumclaw**	**0.66**	**156**	P			**Pb**	**05 52 25.7**	**-0.6**
D05A				S			**Sb**	**05 52 34.4**	**-0.9**
GSM	**Grass Mountain**	**0.71**	**145**				**Pb**	**05 52 26.1**	**-1.1**
GHW	**Garrison Hill**	**0.75**	**174**				**Pb**	**05 52 26.6**	**-1.2**
B04A	**Port Angeles**	**0.80**	**290**				**Pb**	**05 52 27.5**	**-1.0**
B04A	**Port Angeles**	**0.80**	**290**				**Pb**	**05 52 27.8**	**-0.8**
B04A				IAML				05 52 40.5	
	comp=E,87nm,0.2s								
SMW	**South Mountain**	**0.80**	**234**				**Pb**	**05 52 28.1**	**-0.5**
SMW	**South Mountain**	**0.80**	**234**	P			**Pb**	**05 52 28.0**	**-0.6**
PCFR	**Pierce County**	**0.80**	**183**				**Pb**	**05 52 27

SYMB	**Survey Mountai**	**1.22 310**			**Pn**	**05 52 33.7**	**-0.3**
SYMB	**Survey Mountai**	**1.22 310**	P		**Pn**	**05 52 33.9**	**-0.1**
SYMB			S		**Sn**	**05 52 49.5**	**+0.1**
SLFW	**Sugar Loaf**	**1.25 91**			**Pn**	**05 52 35.1**	**+0.5**
LTY	**Liberty**	**1.28 114**			**Pn**	**05 52 35.8**	**+0.9**
LTY				IAML		05 52 52.7	
	comp=N,148nm,0.3s						
LTY				IAML		05 52 53.8	
	comp=E,125nm,0.2s						
LTY	**Liberty**	**1.28 114**	P		**Pn**	**05 52 35.8**	**+0.9**
LTY			S		**Sn**	**05 52 51.6**	**+0.6**
KOSW	**Kosmos**	**1.34 174**			**Pn**	**05 52 36.5**	**+0.9**
TBM	**Table Mountain**	**1.36 116**			**Pn**	**05 52 37.6**	**+1.6**
GOBB	**Galiano Island**	**1.38 328**			**Pn**	**05 52 37.1**	**+1.0**
GOBB	**Galiano Island**	**1.38 328**	P		**Pn**	**05 52 37.1**	**+1.0**
GOBB			S		**Sb**	**05 52 54.7**	**-0.9**
ETW	**Entiat**	**1.40 97**			**Pn**	**05 52 37.6**	**+1.0**
NLW	**Nelson Butte**	**1.41 77**			**Pn**	**05 52 37.8**	**+1.1**
B019	**Raymond**	**1.43 218**			**Pn**	**05 52 38.5**	**+1.7**
BMW	**Boistfort Moun**	**1.44 204**			**Pn**	**05 52 37.9**	**+0.9**
TDL	**Tradedollar La**	**1.45 175**			**Pn**	**05 52 38.0**	**+0.8**
E03A	**Lebam**	**1.48 213**			**Pn**	**05 52 38.9**	**+1.4**
E03A				IAML		05 53 02.3	
	comp=E,59nm,0.5s						
E03A				IAML		05 53 07.6	
	comp=N,55nm,0.5s						
E03A	**Lebam**	**1.48 213**	P		**Pn**	**05 52 38.8**	**+1.3**
E03A			S		**Sb**	**05 52 58.3**	**-0.2**
ERK	**Elk Rock**	**1.49 179**			**Pn**	**05 52 38.5**	**+0.8**
B201	**Coldwater, Mou**	**1.49 177**			**Pn**	**05 52 38.6**	**+0.9**
NAC	**Naches**	**1.50 134**			**Pn**	**05 52 39.4**	**+1.6**
HNBB	**Haney**	**1.50 355**			**Pb**	**05 52 39.1**	**-1.3**
HNBB	**Haney**	**1.50 355**	P		**Pn**	**05 52 39.0**	**+1.1**
HNBB			S		**Sb**	**05 52 57.9**	**-1.2**
EBG	**Ellensburg**	**1.52 125**			**Pb**	**05 52 40.4**	**-0.3**
JRO	**Jston Ridge Ob**	**1.52 176**			**Pn**	**05 52 39.5**	**+1.3**
PTRF	**Port Renfrew**	**1.55 300**	P		**Pn**	**05 52 38.9**	**+0.5**
PTRF			S		**Sn**	**05 52 58.5**	**+1.1**
B926	**Mesachie Lake**	**1.55 312**			**Pn**	**05 52 39.5**	**+1.0**
B926	**Mesachie Lake**	**1.55 312**	P		**Pn**	**05 52 39.1**	**+0.6**
B926			S		**Sb**	**05 52 59.0**	**-1.5**
CLRS	**Cowichan Lake**	**1.55 312**	Pn		**Pn**	**05 52 39.2**	**+0.7**
CLRS	**Cowichan Lake**	**1.55 312**	P		**Pn**	**05 52 39.2**	**+0.7**
CLRS			S		**Sn**	**05 52 58.7**	**+1.1**
SOSW	**Source of Smit**	**1.56 174**			**Pn**	**05 52 39.8**	**+1.1**
PFB	**Port Renfrew**	**1.58 300**	P		**Pn**	**05 52 39.6**	**+0.7**
PFB			S		**Sn**	**05 52 59.5**	**+1.2**
BOLM	**Sugar Bowl**	**1.58 175**			**Pn**	**05 52 40.6**	**+1.4**
CBSW	**Chelan Butte S**	**1.58 89**			**Pn**	**05 52 40.3**	**+1.3**
VALT	**Mount Saint He**	**1.58 175**			**Pn**	**05 52 40.4**	**+1.3**
FL2	**Flat Top 2**	**1.59 179**			**Pn**	**05 52 40.3**	**+1.0**
ESD	**East Dome**	**1.60 174**			**Pn**	**05 52 41.2**	**+1.8**
SWF2	**Southwest Flan**	**1.62 176**			**Pn**	**05 52 41.1**	**+1.6**
B203	**Quarry, Mount**	**1.62 179**			**Pn**	**05 52 40.6**	**+1.1**
HSR	**South Ridge**	**1.62 175**			**Pn**	**05 52 41.3**	**+1.6**
WTV	**Waterville**	**1.65 92**			**Pb**	**05 52 42.1**	**-0.8**
RVW	**Rose Valley**	**1.66 189**			**Pn**	**05 52 41.7**	**+1.7**
RADR	**Rader Ridge**	**1.68 216**	Pn		**Pn**	**05 52 42.2**	**+2.0**
RADR				IAML		05 53 18.1	
	comp=E,40nm,1.6s						
RADR				IAML		05 53 19.6	
	comp=N,39nm,1.6s						
CDFW	**Cedar Flats**	**1.69 172**			**Pn**	**05 52 42.1**	**+1.6**
HOPB	**Hope**	**1.72 22**	S		**Sn**	**05 53 03.1**	**+1.4**
BIB	**Bowen Island**	**1.73 340**			**Pn**	**05 52 42.5**	**+1.6**
BIB	**Bowen Island**	**1.73 340**	P		**Pn**	**05 52 42.6**	**+1.6**
ASR	**Mount Adams--S**	**1.73 161**			**Pn**	**05 52 43.1**	**+2.0**
B023	**Clatskanie**	**1.75 196**			**Pn**	**05 52 42.8**	**+1.7**
F04D	**Rainier, OR**	**1.76 194**	Pn		**Pn**	**05 52 42.8**	**+1.4**
MTMW	**Mount Mitchell**	**1.77 176**			**Pn**	**05 52 43.5**	**+1.9**
DHW2	**Dyer Hill 2**	**1.77 83**			**Pn**	**05 52 43.1**	**+1.5**
NLLB	**Nanaimo Lost L**	**1.79 324**			**Pn**	**05 52 43.3**	**+1.6**
NLLB	**Nanaimo Lost L**	**1.79 324**	P		**Pn**	**05 52 43.0**	**+1.2**
NLLB	**Nanaimo Lost L**	**1.79 324**	S		**Sb**	**05 53 05.8**	**-1.5**
YA2	**Yakima**	**1.79 134**			**Pb**	**05 52 44.3**	**-1.0**
F04A	**Amboy**	**1.86 181**			**Pn**	**05 52 44.6**	**+1.9**
MXC	**Moxie City**	**1.88 130**			**Pn**	**05 52 45.0**	**+2.1**
MXC				IAML		05 53 11.3	
	comp=N,70nm,0.4s						
MXC				IAML		05 53 12.0	
	comp=E,81nm,0.5s						
WPB	**Watts Point**	**1.94 344**			**Pn**	**05 52 45.8**	**+1.8**
WPB	**Watts Point**	**1.94 344**	P		**Pn**	**05 52 45.5**	**+1.5**
TRW	**Toppenish Ridg**	**1.96 139**			**Pb**	**05 52 47.3**	**-0.9**
F03A	**Seaside**	**2.03 204**			**Pn**	**05 52 46.8**	**+1.7**
F03A				IAML		05 53 17.8	
	comp=E,90nm,0.4s						
F03A				IAML		05 53 18.5	
	comp=N,88nm,0.5s						
SHB	**Sechelt**	**2.06 332**			**Pn**	**05 52 47.7**	**+2.1**
SHB	**Sechelt**	**2.06 332**	P		**Pn**	**05 52 47.3**	**+1.7**
SHB	**Sechelt**	**2.06 332**	S		**Sb**	**05 53 13.4**	**-1.7**
B928	**Bamfield**	**2.11 301**	P		**Pb**	**05 52 49.0**	**-1.7**
BFSB	**Bamfield**	**2.11 301**	P		**Pn**	**05 52 48.3**	**+2.2**
E07A	**Sunnyside**	**2.12 125**	Pn		**Pn**	**05 52 49.0**	**+2.6**
E07A				IAML		05 53 21.7	
	comp=E,88nm,0.4s						
B08A	**Colville Reser**	**2.13 73**	Pn		**Pn**	**05 52 47.6**	**+1.2**
B927	**Port Alberni**	**2.15 312**	P		**Pn**	**05 52 48.8**	**+2.1**
B927	**Port Alberni**	**2.15 312**	S		**Sb**	**05 53 15.5**	**-2.2**
WPO	**West Portland**	**2.24 187**			**Pb**	**05 52 51.6**	**-1.2**
SNIWA	**Snively Ranch**	**2.29 124**			**Pb**	**05 52 52.9**	**-0.8**
WSLR	**Whistler**	**2.36 352**	P		**Pb**	**05 52 52.5**	**-2.5**
WSLR	**Whistler**	**2.36 352**	Sg		**Sb**	**05 53 22.4**	**-1.5**
RSW	**Rattlesnake Hi**	**2.37 125**			**Pb**	**05 52 53.7**	**-1.4**
OZB	**Mount Ozzard**	**2.38 301**	Pn		**Pn**	**05 52 52.1**	**+2.2**
OZB				IAML		05 53 20.4	
	comp=E,29nm,2.6s						
OZB				IAML		05 54 05.0	
	comp=N,32nm,1.9s						
OZB	**Mount Ozzard**	**2.38 301**	P		**Pn**	**05 52 52.1**	**+2.2**
OZB	**Mount Ozzard**	**2.38 301**	S		**Sn**	**05 53 19.4**	**+1.5**
B012	**Ucluelet**	**2.39 300**	P		**Pn**	**05 52 51.4**	**+1.4**
B012	**Ucluelet**	**2.39 300**	S		**Sb**	**05 53 21.4**	**-3.0**
PNT	**Penticton**	**2.39 49**	P		**Pn**	**05 52 51.5**	**+1.4**
PNT	**Penticton**	**2.39 49**	Sg		**Sb**	**05 53 26.2**	**+1.6**
HAWA	**Hanford**	**2.40 125**	Pn		**Pn**	**05 52 52.0**	**+1.8**
HAWA				IAML		05 53 31.3	
	comp=N,25nm,0.6s						
HAWA				IAML		05 53 31.5	
	comp=N,30nm,0.5s						
D08A	**Wollman Farm,**	**2.47 106**	Pn		**Pn**	**05 52 52.0**	**+0.9**
D08A				IAML		05 53 28.7	
	comp=N,39nm,0.4s						
D08A				IAML		05 53 30.2	
	comp=E,27nm,0.3s						
HOOD	**Mount Hood Mea**	**2.52 168**	Pn		**Pn**	**05 52 53.0**	**+1.0**
HOOD				IAML		05 53 13.2	
	comp=E,23nm,0.1s						
HOOD				IAML		05 54 19.6	
	comp=N,17nm,1.4s						
TDH	**Tom, Dick, Har**	**2.54 170**			**Pb**	**05 52 56.2**	**-1.9**
TOFB	**Tofino**	**2.71 302**	Sg		**Sb**	**05 53 35.6**	**+1.9**
HEBO	**Mount Hebo**	**2.75 201**	Pn		**Pn**	**05 52 54.7**	**-0.3**
HEBO				IAML		05 53 14.7	
	comp=N,44nm,2.8s						
C09A	**Chrisman Ranch**	**2.77 88**	Pn		**Pn**	**05 52 56.0**	**+0.7**
C09A	**Chrisman Ranch**	**2.77 88**	P		**Pn**	**05 52 55.9**	**+0.5**
C09A	**Chrisman Ranch**	**2.77 88**	Sg		**Sb**	**05 53 37.1**	**+1.5**
LLLB	**Lillooet**	**2.84 7**	P		**Pn**	**05 52 59.6**	**+3.4**
GDR	**Gold River**	**3.13 311**	P		**Pb**	**05 53 05.4**	**-2.6**
GDR			Sg		**Sb**	**05 53 46.2**	**+0.6**
BPO	**Bald Peter**	**3.18 171**			**Pn**	**05 53 01.3**	**+0.3**
G08A	**Pilot Rock**	**3.44 135**	Pn		**Pn**	**05 53 06.1**	**+1.4**
G08A				IAML		05 54 04.8	
	comp=E,9.2nm,1.1s						
G08A				IAML		05 54 29.9	
	comp=N,10nm,4.7s						
WOSB	**Woss**	**3.63 312**	P		**Pn**	**05 53 10.9**	**+3.7**
F10A	**Beach Ranch, E**	**3.98 115**	Pn		**Pn**	**05 53 11.6**	**-0.4**
F10A				IAML		05 54 24.7	
	comp=N,18nm,0.7s						
MAYB	**Maynard**	**4.09 312**	P		**Pn**	**05 53 17.8**	**+4.4**

*MOS **08** 05:58:36.9±0.8, 29°.29N×142°.16E, h14km, mb5.7/102, MS5.1/42, Error ellipse: s-maj=7.7km s-min=3.8km az=117.1*
*BJI **08** 05:58:36.0±0.0, 29°.30N×142°.10E, h10km, mb5.2/86, mB5.3/58, Ms5.3/89, Ms7 5.2/85*
*IDC **08** 05:58:37.1±0.4, 29°.23N×142°.09E, h0km, mb5.3/31, mbtmp5.3/35, ML4.2/5, MS4.9/74, Error ellipse: s-maj=14.4km s-min=8.8km az=83.0*
*NEIC **08** 05:58:39.0±1.2, 29°.34N±0°.04×142°.23E±0°.08, h10km±1km, mb5.5/576, Ms_20 5.1/330, Mww5.2/20, Error ellipse: s-maj=12.4km s-min=5.1km az=241.0*
*NEIC **08** 05:58:39.1, 29°.35N×142°.19E, h20km, Moment Tensor Solution. Duration: 1s9 Moment tensor: Scale 10^16^Nm; Mrr7.54; Mθθ1.17; Mϕϕ-8.71; Mrθ2.46; Mθϕ 1.53; Mϕr0.95; Fault plane solution: Mo8.73000×10^16^ NP1:ϕs10.16000°, δ50.28000°, λ116.29000°. NP2:ϕs152.46000°, δ46.40000°, λ61.94000°. Principal axes: T 8.4913, Plg70.0000°, Azm346.0000°; N 0.4694, Plg20.0000°, Azm173.0000°; P -8.9607, Plg2.0000°, Azm82.0000°;*
*NIED **08** 05:58:39.8, 29°.36N×142°.25E, h49km, MW5.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^17^Nm; Mrr0.85; Mθθ0.09; Mϕϕ -0.94; Mrθ0.01; Mθϕ 0.26; Mϕr1.80; Fault plane solution: Mo2.02000×10^17^ NP1: ϕs359.00000°, δ77.00000°, λ97.00000°. NP2: ϕs151.00000°, δ15.00000°, λ63.00000°.*
*JMA **08** 05:58:39.8±0.2, 29°.4N±0°.7×14°.2E±°, h49km, MD5.5/33, MW5.2/33, NEAR TORISHIMA IS*
*NEIC **08** 05:58:39.1, 29°.35N×142°.19E, h20km*
*GCMT **08** 05:58:42.0±0.1, 29°.30N±0°.01×142°.30E±0°.01, h22km, MW5.3/144, Moment Tensor Solution. s96, c169; s144, c257; Duration: 1s1 Moment tensor: Scale 10^17^ Nm; Mrr1.03±.02; Mθθ-0.03±.01; Mϕϕ-1.00±.01; Mrθ-0.01±.02; Mθϕ0.21±.01; Mϕr0.65±.02; Best double couple: Mo1.22300×10^17^ NP1:ϕs354.00000°, δ61.00000°, λ95.00000°. NP2:ϕs163.00000°, δ29.00000°, λ80.00000°. Principal axes: T 1.2210, Plg73.0000°, Azm277.0000°; N 0.0040, Plg5.0000°, Azm171.0000°; P -1.2240, Plg16.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 05:58:39.4±0.4, 29°.34N±0°.03×142°.19E±0°.03, h16km±1km, h15km:pP-P, n1743, σ1932/1538, mb5.5/502, MS5.1/284, 98C-44D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.24**	**180**	P		**Pn**	**05 59 15.8**	**-0.1**
CBIJ				*e*S		**Sn**	**05 59 41.9**	**-1.3**
CBIJ	**Chichi jima**	**2.24**	**180**	A		A	05 59 15.8	
	comp=E,78nm,5.4s,comp=N,47nm,6.4s							
JCJ	**Chichijima**	**2.24**	**180**	P		**Pn**	**05 59 15.6**	**-0.3**
JCJ	**Chichijima**	**2.24**	**180**	P		**Pb**	**05 59 18.7**	**-0.8**
JCJ	**Chichijima**	**2.24**	**180**	Pn		**Pn**	**05 59 11.9**	**-4.0**
	comp=N,113nm,0.3s,baz=358,slow=14,SNR=20							
JCJ				Sn		**Sn**	**05 59 38.5**	**-4.6**
	comp=N,568nm,0.3s,baz=283,slow=20,SNR=11							
JHH2	**Haha-jima-NKT2**	**2.70**	**180**	P		**Pn**	**05 59 22.5**	**+0.3**
JHH2	**Haha-jima-NKT2**	**2.70**	**180**	A		A	05 59 22.5	
	comp=E,59nm,3.4s,comp=N,48nm,4.5s							
JHJ2	**Mitsune**	**4.27**	**332**	Pn		**Pn**	**05 59 43.6**	**-0.2**
JHJ2	**Mitsune**	**4.27**	**332**	P		**Pn**	**05 59 44.9**	**+1.1**
JHJ	**Hachijo jima 2**	**4.29**	**332**	Pn		**Pn**	**05 59 42.9**	**-1.2**
	comp=N,52nm,0.3s,baz=259,slow=22,SNR=11							
JHJ				Sn		**Sn**	**06 00 33.2**	**-0.6**
	comp=N,128nm,0.3s,baz=134,slow=22,SNR=6.7							
JHJ				LR		LR	06 01 39.0	
	comp=N,22µm,18.4s,baz=105,slow=42 comp=N,429nm,1.0s							
JMYK	**Miyake Tsubota**	**5.21**	**335**	*e*P		**Pn**	**05 59 57.5**	**+0.7**
BSO1	**Boso 1**	**5.39**	**349**	P		**Pn**	**05 59 59.2**	**+0.5**
BSO3	**Boso 3**	**5.63**	**346**	P		**Pn**	**06 00 02.4**	**+0.2**
BSO4	**Boso 4**	**5.85**	**345**	*e*P		**Pn**	**06 00 06.4**	**+1.1**
JSG	**Sagara**	**6.31**	**328**	Pn		**Pn**	**06 00 11.7**	**-0.2**
JSG	**Sagara**	**6.31**	**328**	P		**Pn**	**06 00 16.0**	**+4.2**
JOD2	**Odawara 2**	**6.46**	**337**	P		**Pn**	**06 00 14.9**	**+0.9**
HMMJ	**Hamamatsu 2**	**6.68**	**327**	*e*P		**Pn**	**06 00 18.4**	**+1.5**
JNY	**Yasuok**	**7.03**	**330**	A		A	06 00 22.8	
	comp=E,4.0nm,4.8s,comp=N,3.0nm,8.0s							
JTNC	**Tanabenakahech**	**7.17**	**310**	*e*P		**Pn**	**06 00 25.4**	**+1.8**
JRY	**Ryogami san**	**7.21**	**338**	P		**Pn**	**06 00 25.3**	**+1.1**
JRY				*e*S		**Sn**	**06 01 45.5**	**-0.3**
JHO	**Hitachi**	**7.38**	**350**	*e*P		**Pn**	**06 00 25.0**	**-1.5**
JHO				*e*S		**Sn**	**06 01 43.2**	**-6.7**
INU	**Inuyama**	**7.42**	**325**	Pn		**Pn**	**06 00 27.0**	**0.0**
INU	**Inuyama**	**7.42**	**325**	P		**Pn**	**06 00 28.6**	**+1.6**
JAG	**Ashikaga**	**7.43**	**343**	A		A	06 00 28.2	
	comp=E,3.0nm,3.3s,comp=N,3.0nm,3.6s							
JGF	**Kuroka**	**7.46**	**328**	Pn		**Pn**	**06 00 28.1**	**+0.5**
JGF	**Kuroka**	**7.46**	**328**	P		**Pn**	**06 00 29.7**	**+2.1**
MJAR	**Matushiro Arr**	**7.92**	**336**	Pn		**Pn**	**06 00 34.4**	**+0.5**
	comp=N,3.7nm,0.3s,baz=157,slow=10,SNR=105							
MJAR				Sn		**Sn**	**06 02 05.3**	**+2.1**
	baz=77,slow=24							
MJAR				LR		LR	06 03 44.5	
	comp=N,9µm,19.5s,baz=149,slow=38 comp=N,148nm,0.8s							
MAJO	**Matsushiro**	**7.92**	**336**	Pn		**Pn**	**06 00 33.7**	**-0.3**
MAJO	**Matsushiro**	**7.92**	**336**	P		**Pn**	**06 00 35.8**	**+1.8**
MAJO	**Matsushiro**	**7.92**	**336**	*i* P		**Pn**	**06 00 34.6**	**+0.6**
MJB9	**Matsu-Tunnel**	**7.92**	**336**	Pn		**Pn**	**06 00 34.9**	**+0.9**
JMM	**Marumori**	**8.58**	**353**			**Pn**	**06 00 41.9**	**-1.1**
JYS	**Shirataka**	**9.03**	**349**	A		A	06 00 50.2	
	comp=E,7.0nm,2.0s,comp=N,5.0nm,1.9s							
JOU	**Okura**	**9.09**	**352**	A		A	06 00 51.0	
	comp=E,3.0nm,2.9s,comp=N,3.0nm,1.9s							
JYYZ	**Yamagatayuza**	**9.83**	**350**	A		A	06 01 01.1	
	comp=E,9.0nm,5.9s,comp=N,8.0nm,5.1s							
JMZ	**Minamidaito 2**	**10.34**	**253**			**Pn**	**06 01 07.5**	**+0.4**
JMZ	**Minamidaito 2**	**10.34**	**253**	P		**Pn**	**06 01 10.5**	**+3.4**
JNU	**Nakatsue**	**10.39**	**294**	Pn		**Pn**	**06 01 08.2**	**+0.4**
JNU	**Nakatsue**	**10.39**	**294**	P		**Pn**	**06 01 12.2**	**+4.4**
JNU	**Nakatsue**	**10.39**	**294**	Pn		**Pn**	**06 01 11.7**	**+3.9**
	comp=N,0.4nm,0.3s,baz=96,slow=11,SNR=7.0							
JNU				LR		LR	06 05 13.1	
	comp=N,14µm,18.1s,baz=121,slow=38							
JTM	**Tenmabayashi**	**11.46**	**356**	Pn		**Pn**	**06 01 20.7**	**-1.7**
JTM	**Tenmabayashi**	**11.46**	**356**	P		**Pn**	**06 01 22.4**	**0.0**
JOW	**Kunigami**	**12.53**	**262**			**Pn**	**06 01 37.0**	**-0.2**
JOW	**Kunigami**	**12.53**	**262**	P		**Pn**	**06 01 41.0**	**+3.8**
JOW	**Kunigami**	**12.53**	**262**	Pn		**Pn**	**06 01 39.2**	**+2.1**
	comp=N,1.7nm,0.3s,baz=53,slow=9.0,SNR=5.0							
JOW				LR		LR	06 05 52.6	
	comp=N,13µm,21.2s,baz=81,slow=35							
ERM	**Erimo**	**12.67**	**3**	Pn		**Pn**	**06 01 35.1**	**-3.8**
ERM	**Erimo**	**12.67**	**3**	*i* P		**Pn**	**06 01 36.3**	**-2.7**
NMR	**Nemuro--Hokkai**	**14.29**	**11**	⇑*i*P		**Pn**	**06 01 56.8**	**-4.2**
TJN	**Taejon**	**14.29**	**303**	Pn		**Pn**	**06 02 00.8**	**-0.3**
TJN	**Taejon**	**14.29**	**303**	P		**P**	**06 02 05.1**	**-3.1**
TJN	**Taejon**	**14.29**	**303**	*i* P		**Pn**	**06 02 01.7**	**+0.6**
KSRS	**Korea Array**	**14.39**	**308**	Pn		**Pn**	**06 02 03.9**	**+1.4**
	comp=N,1.0nm,0.3s,baz=115,slow=11,SNR=28							
KSRS				LR		LR	06 07 38.9	
	comp=N,7µm,18.2s,baz=125,slow=38 comp=N,8.8nm,0.9s							
KSAR	**Wonju Array Be**	**14.41**	**308**			**Pn**	**06 02 03.5**	**+0.7**
KSAR	**Wonju Array Be**	**14.41**	**308**	P		**Pn**	**06 02 03.5**	**+0.7**
KS19	**Wonju Array Si**	**14.45**	**308**	Pn		**Pn**	**06 02 03.0**	**-0.4**
ASAJ	**Asahikawa**	**14.75**	**1**	P		**Pn**	**06 02 04.6**	**-2.8**
ASAJ	**Asahikawa**	**14.75**	**1**	Pn		**Pn**	**06 02 05.1**	**-2.3**
	comp=N,1.7nm,0.3s,baz=209,slow=8.2,SNR=14							
ASAJ				Sn		Sn	06 04 41.3	-9.2
	comp=N,1.0nm,0.3s,baz=36,slow=26,SNR=3.6							
ASAJ				LR		LR	06 09 27.1	
	comp=N,2µm,21.0s,baz=190,slow=44							
JKA	**Kamikawa-asahi**	**14.75**	**1**	Pn		**Pn**	**06 02 04.6**	**-2.8**
YUK	**Yuzh-Kuril'sk**	**14.96**	**10**	P		**Pn**	**06 02 05.7**	**-4.4**
YUK				pmax		pmax		
	comp=Z,25nm,0.2s							
YUK				MLR		MLR		
	comp=Z,1µm,10.0s							
SHO	**Shikotan**	**14.97**	**13**	P		**Pn**	**06 02 06.7**	**-3.6**
SHO				pmax		pmax		
	comp=Z,12nm,0.3s							
INCN	**Inchon**	**15.30**	**306**	Pn		**Pn**	**06 02 14.9**	**+0.1**
INCN				IAmb		IAmb	06 02 21.4	
	comp=Z,307nm,1.1s							
INCN	**Inchon**	**15.30**	**306**	P		**P**	**06 02 18.3**	**-1.3**
INCN	**Inchon**	**15.30**	**306**	P		**Pn**	**06 02 14.9**	**+0.1**
INCN				pmax		pmax		
	comp=Z,307nm,1.1s							
INCN	**Inchon**	**15.30**	**306**	P		**P**	**06 02 20.4**	**+0.8**
INCN				P		**P**	**06 02 20.4**	**+0.8**
MSHR	**Mys Shultsa**	**15.92**	**329**	*ce*P		**Pn**	**06 02 21.7**	**-1.1**
MSHR				pmax		pmax		
	comp=Z,211nm,1.7s							
TEY	**Ternei**	**16.28**	**346**	⇑*e*P		**Pn**	**06 02 25.8**	**-1.5**
TEY				pmax		pmax		
	comp=N,30nm,0.9s							
TEY				pmax		pmax		
	comp=Z,20nm,0.8s							
TEY				MLR		MLR		
	comp=E,100nm,10.0s							
TEY				MLR		MLR		
	comp=N,100nm,14.0s							
TEY				MLR		MLR		
	comp=Z,100nm,14.0s							
KUR	**Kuril'sk**	**16.49**	**14**	P		Pn	06 02 20.5	-9.5
KUR				pmax		pmax		
	comp=Z,85nm,0.7s							
USA0B	**Ussuriysk Arra**	**16.91**	**334**			**Pn**	**06 02 33.8**	**-1.5**
USA0B	**Ussuriysk Arra**	**16.91**	**334**	*i* P		**Pn**	**06 02 32.9**	**-2.4**
USRK	**Ussuriysk Ar.**	**16.91**	**334**	Pn		**Pn**	**06 02 33.8**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=153,slow=9.9,SNR=28							
USRK				LR		LR	06 08 56.2	
	comp=Z,5µm,18.6s,baz=147,slow=36 comp=Z,30nm,0.9s							
YSS	**Yuzh-Sakhalins**	**17.59**	**1**			**Pn**	**06 02 43.1**	**-0.6**
YSS				IAmb		IAmb	06 02 51.6	
	comp=Z,601nm,2.0s							
YSS	**Yuzh-Sakhalins**	**17.59**	**1**	P		**Pn**	**06 02 44.0**	**+0.2**
YSS	**Yuzh-Sakhalins**	**17.59**	**1**	*e*P		**Pn**	**06 02 43.2**	**-0.6**
YSS				*e*S		**Sn**	**06 05 55.7**	**-3.7**
YSS				pmax		pmax		
	comp=Z,110nm,1.2s							
YSS				pmax		pmax		
	comp=Z,1µm,4.8s							
YSS				MLR		MLR		
	comp=Z,3µm,16.0s							
YSS				MLR		MLR		
	comp=E,2µm,14.0s							
YOJ	**Yonaguni jima**	**17.77**	**259**	P		**P**	**06 02 49.2**	**+2.2**
YOJ	**Yonaguni jima**	**17.77**	**259**	P		**P**	**06 02 49.4**	**+2.4**
YOJ				pmax		pmax		
	comp=Z,413nm,1.2s							
MDJ	**Mudanjiang**	**18.23**	**330**	P		**Pn**	**06 02 50.7**	**-1.1**
MDJ				pP		pP	06 02 53.7	-1.3
MDJ				SS		**SnSn**	**06 02 36.5**	**+3.7**
MDJ				PcP		**PcP**	**06 07 22.3**	**-1.7**
MDJ				pmax		pmax		
	comp=Z,130nm,1.7s							
MDJ				pmax		pmax		
	comp=Z,1µm,6.1s							
MDJ				LR		LR		
	comp=Z,4µm,18.9s							
MDJ				LR		LR		
	comp=Z,5µm,16.6s							
MDJ				LR		LR		
	comp=Z,9µm,16.1s							
MDJ	**Mudanjiang**	**18.23**	**330**			**Pn**	**06 02 50.9**	**-0.8**
MDJ	**Mudanjiang**	**18.23**	**330**	P		**Pn**	**06 02 50.5**	**-1.3**
SSE	**Sheshan**	**18.23**	**281**	P		**P**	**06 02 52.5**	**+0.5**
SSE				S		**Sn**	**06 06 14.5**	**-0.6**
SSE				SS		**SnSn**	**06 06 28.8**	**0.0**
SSE				pmax		pmax		
	comp=Z,35nm,0.8s							
SSE				pmax		pmax		
	comp=Z,660nm,4.7s							
TATO	**Taipei**	**18.92**	**262**	P		**P**	**06 02 57.8**	**-1.8**
TATO	**Taipei**	**18.92**	**262**	P		**Pn**	**06 03 01.3**	**+1.0**
TATO	**Taipei**	**18.92**	**262**	P		**Pn**	**06 03 01.2**	**+0.9**
TATO				P		**Pn**	**06 03 01.2**	**+0.9**
NACB	**Ninganchiao**	**19.09**	**259**	P		**Pn**	**06 03 02.9**	**+0.6**
YHNB	**Yeheng**	**19.11**	**261**	P		**P**	**06 03 02.1**	**+0.3**
YHNB				IAmb		IAmb	06 03 04.0	
	comp=Z,218nm,1.0s							
YHNB	**Yeheng**	**19.11**	**261**	P		**Pn**	**06 03 02.7**	**0.0**
DL2	**Dalian**	**19.48**	**305**	P		**P**	**06 03 05.5**	**-0.1**
DL2				*e*S		**Sn**	**06 06 45.1**	**0.0**
DL2				pmax		pmax		
	comp=Z,89nm,0.9s							
DL2				pmax		pmax		
	comp=Z,1µm,6.8s							
DL2				LR		LR		
	comp=Z,5µm,16.4s							
DL2				LR		LR		
	comp=Z,8

QZH S **S** **06 07 25.6 +1.2**
QZH SS **SnSn** **06 07 52.9 +5.3**
QZH pmax pmax
comp=Z,130nm,1.0s
QZH LR LR
comp=Z,3μm,15.8s
QZH LR LR
comp=Z,4μm,15.5s
QZH LR LR
comp=Z,6μm,17.9s
TYV Tymovskoe 21.50 1 *e*P **P** **06 03 29.3 +1.9**
TYV *e*S Sn 06 07 31.5 -2.1
TYV pmax pmax
comp=Z,59nm,1.1s
TYV pmax pmax
comp=Z,200nm,3.0s
KNMB Chin-men Tao 21.76 263 P **P** **06 03 30.0 -0.4**
KNMB IAmb IAmb 06 03 40.6
comp=Z,122nm,0.7s
GRNR Gornyy 21.84 350⇑ *i*P **P** **06 03 32.7 +1.6**
GRNR *e*S Sn 06 07 38.3 -3.5
GRNR pmax pmax
comp=Z,40nm,1.0s
GRNR MLR MLR
comp=N,910nm,15.0s
GRNR MLR MLR
comp=Z,2μm,16.0s
TIA Tai'an 22.12 295 P **P** **06 03 32.4 -1.9**
TIA S **S** **06 07 29.8 -7.8**
TIA pmax pmax
comp=Z,19nm,1.6s
TIA pmax pmax
comp=Z,330nm,6.0s
TIA LR LR
comp=Z,2μm,16.5s
TIA LR LR
comp=Z,1μm,20.6s
TIA LR LR
comp=Z,2μm,18.6s
SZP Santa 23.09 244 P **P** **06 03 46.1 +1.5**
HEH HeiHe 23.69 336 *e*P **P** **06 03 50.3 0.0**
HEH pP **sP** **06 03 54.4 -1.0**
HEH S **S** **06 08 05.8 +1.3**
HEH sS **sS** **06 08 12.0 +1.9**
HEH pmax pmax
comp=Z,320nm,1.3s
HEH pmax pmax
comp=Z,2μm,6.5s
HEH LR LR
comp=Z,5μm,19.0s
HEH LR LR
comp=Z,6μm,19.0s
HEH LR LR
comp=Z,6μm,17.4s
NKL Nikolayevsk 23.81 358 *e*P **P** **06 03 49.7 -1.8**
NKL *e*S **S** **06 08 07.9 +1.5**
NKL pmax pmax
comp=N,208nm,1.2s
NKL pmax pmax
comp=E,515nm,1.2s
NKL pmax pmax
comp=Z,1μm,1.2s
NKL smax smax
comp=N,840nm,3.8s
NKL smax smax
comp=E,246nm,3.8s
NKL MLR MLR
comp=E,9μm,23.0s
NKL MLR MLR
comp=N,4μm,15.0s
NKL MLR MLR
comp=Z,5μm,18.0s
BJT Baijiatuau 23.82 303 P **P** **06 03 51.9 +0.2**
BJT Baijiatuau 23.82 303 IAms_20 IAms_20 06 13 55.7
comp=Z,6μm,18.0s
BJT Baijiatuau 23.82 303 P **P** **06 03 50.3 -1.4**
BJT Baijiatuau 23.82 303 P **P** **06 03 51.9 +0.2**
BJT pmax pmax
comp=Z,70nm,1.2s
BJT MLR MLR
comp=Z,6μm,18.0s
BJI Beijing 23.82 304 P **P** **06 03 49.2 -2.5**
BJI S **S** **06 08 09.3 +2.4**
BJI pmax pmax
comp=Z,23nm,1.1s
BJI pmax pmax
comp=Z,320nm,9.6s
BJI LR LR
comp=Z,1μm,16.6s
BJI LR LR
comp=Z,3μm,17.2s
BJI LR LR
comp=Z,4μm,17.4s
WHN Wuhan 24.13 280⇑ *i*P **P** **06 03 53.7 -1.0**
WHN sP **sP** **06 03 59.8 +0.3**
WHN S **S** **06 08 09.0 -3.0**
WHN pmax pmax
comp=Z,340nm,1.0s
WHN LR LR
comp=Z,4μm,12.3s
WHN LR LR
comp=Z,6μm,13.2s
WHN LR LR
comp=Z,11μm,18.6s
HNS HongShan 24.25 297⇓ P **P** **06 03 54.2 -1.6**
HNS PP **PnPn** **06 04 26.1 +0.5**
HNS S **S** **06 08 06.0 -7.8**
HNS pmax pmax
comp=Z,36nm,1.5s
HNS LR LR
comp=Z,2μm,16.7s
HNS LR LR
comp=Z,2μm,15.9s
HNS LR LR
comp=Z,5μm,17.6s
H11N2 WAKE ISLAND Hy 24.39 107 T T 06 29 30.7
baz=296,slow=74,SNR=83
H11N1 WAKE ISLAND Hy 24.39 108 T T 06 29 39.4
baz=296,slow=74,SNR=111
H11N3 WAKE ISLAND Hy 24.41 108 T T 06 29 32.0
baz=296,slow=74,SNR=78
H11S3 WAKE ISLAND Hy 24.81 110 T T 06 29 59.5
baz=304,slow=75,SNR=16
H11S1 WAKE ISLAND Hy 24.82 110 T T 06 30 04.1
baz=304,slow=75,SNR=16
TGY Tagaytay City 24.83 237 LR LR 06 13 58.8
comp=Z,4μm,18.5s,baz=68,slow=37
H11S2 WAKE ISLAND Hy 24.83 110 T T 06 30 05.9
baz=304,slow=75,SNR=19
XLT XiLinHaoTe 25.36 312 *e*P **P** **06 04 04.9 -1.0**
XLT S **S** **06 08 28.9 -2.8**
XLT sS pS 06 08 34.6 -1.0
XLT SS **SnSn** **06 09 31.4 +7.8**
XLT PcS **PcS** **06 11 17.0 -1.6**
XLT pmax pmax
comp=Z,27nm,0.7s
XLT pmax pmax
comp=Z,590nm,6.4s
XLT LR LR
comp=Z,2μm,16.6s
XLT LR LR
comp=Z,3μm,17.8s
CNSH ChangSha 25.64 275⇑ P **P** **06 04 07.5 -1.0**
CNSH S **S** **06 08 34.7 -1.6**
CNSH pmax pmax
comp=Z,110nm,1.2s
CNSH LR LR
comp=Z,3μm,17.3s
CNSH LR LR
comp=Z,2μm,22.8s
CNSH LR LR
comp=Z,4μm,16.0s
LYN LuoYang 25.70 289⇑ P **P** **06 04 06.4 -2.5**
LYN pP pP 06 04 09.4 -2.9
LYN PP **PnPn** **06 04 48.9 +3.6**
LYN pmax pmax
comp=Z,53nm,1.2s
LYN pmax pmax
comp=Z,650nm,5.7s
LYN LR LR
comp=Z,3μm,15.8s
LYN LR LR
comp=Z,4μm,19.2s
LYN LR LR
comp=Z,7μm,19.2s
TIY Taiyuan 26.09 296 *e*P **P** **06 04 14.2 +1.7**
TIY S **S** **06 08 45.4 +2.1**
TIY pmax pmax
comp=Z,380nm,5.8s
TIY LR LR
comp=Z,3μm,17.5s
TIY LR LR
comp=Z,3μm,16.8s
TIY LR LR
comp=Z,3μm,17.7s
HIA Hailar 26.24 326 P **P** **06 04 14.2 +0.5**
HIA Hailar 26.24 326 P **P** **06 04 15.1 +1.4**
HIA Hailar 26.24 326 P **P** **06 04 14.2 +0.5**
HIA pmax pmax
comp=Z,258nm,1.1s
HIA MLR MLR
comp=Z,3μm,18.0s
PETK Petropavlovsk- 26.34 21 P **P** **06 04 14.1 -0.4**
PETK Petropavlovsk- 26.34 21 P **P** **06 04 16.1 +1.5**
comp=Z,5.6nm,0.9s,baz=187,slow=10,SNR=2.8
PETK LR LR 06 17 18.8
comp=Z,1μm,18.8s,baz=204,slow=42
comp=Z,5.6nm,0.9s
PET Petropavlovsk 26.58 22 P **P** **06 04 15.6 -1.1**
PET IAmb IAmb 06 04 21.9
comp=Z,133nm,1.5s
PET Petropavlovsk 26.58 22 P **P** **06 04 19.9 +3.2**
PET Petropavlovsk 26.58 22 *e*P **P** **06 04 19.9 +3.2**
PET *e*S **S** **06 08 49.8 -0.8**
PET pmax pmax
comp=Z,76nm,1.6s
PET pmax pmax
comp=Z,400nm,3.6s
PET pmax pmax
comp=Z,300nm,4.1s
ZEA Zeya 26.71 340 *e*P **P** **06 04 18.9 +1.1**
ZEA *e*S **S** **06 08 49.3 -3.3**
ZEA pmax pmax
comp=E,30nm,0.8s
ZEA pmax pmax
comp=N,90nm,0.9s
ZEA pmax pmax
comp=Z,140nm,0.9s
ZEA pmax pmax
comp=E,100nm,2.2s
ZEA pmax pmax
comp=Z,300nm,1.4s
ZEA smax smax
comp=N,200nm,4.5s
ZEA smax smax
comp=E,200nm,5.1s
ZEA MLR MLR
comp=N,1μm,15.0s
PATS Pohnpei 27.06 143 IAMs_20 IAMs_20 06 12 47.3
comp=Z,4μm,20.0s
DAV Davao City (W) 27.12 218 LR LR 06 14 10.3
comp=Z,2μm,21.1s,baz=44,slow=35
HHC Hu-ho-hao-te 27.42 303⇓ P **P** **06 04 23.4 -1.2**
HHC sP sP 06 04 30.8 +1.3
HHC PP **PnPn** **06 05 06.7 -2.3**
HHC S **S** **06 09 04.5 +0.1**
HHC sS sS 06 09 11.2 +0.8
HHC SS **SnSn** **06 10 22.0 +8.0**
HHC pmax pmax
comp=Z,39nm,1.0s
HHC pmax pmax
comp=Z,230nm,3.8s
HHC LR LR
comp=Z,3μm,17.2s
HHC LR LR
comp=Z,5μm,17.2s
HHC LR LR
comp=Z,8μm,17.1s
ENH Enshi 28.34 280 P **P** **06 04 31.0 -1.7**
ENH IAmb IAmb 06 04 35.8
comp=Z,49nm,0.8s
ENH IAMs_20 IAMs_20 06 16 22.4
comp=Z,4μm,18.0s
ENH Enshi 28.34 280 P **P** **06 04 31.7 -1.1**
BTO Baotou 28.50 302 *e*P **P** **06 04 34.0 -0.2**
BTO sP **pwP** **06 04 40.9 -2.3**
BTO PP **PnPn** **06 05 26.9 +3.2**
BTO PcP **PcP** **06 07 48.1 +2.3**
BTO S **S** **06 09 23.2 +1.8**
BTO pmax pmax
comp=Z,77nm,1.0s
BTO pmax pmax
comp=Z,690nm,6.7s
BTO LR LR
comp=Z,10μm,16.7s
BTO LR LR
comp=Z,18μm,17.3s
BTO LR LR
comp=Z,22μm,16.3s
GULI GuiLin 28.51 270⇑ P **P** **06 04 33.4 -0.9**
GULI S **S** **06 09 26.3 +4.7**
GULI pmax pmax
comp=Z,60nm,1.2s
GULI LR LR
comp=Z,1μm,16.9s
GULI LR LR
comp=Z,5μm,17.3s
GULI LR LR
comp=Z,6μm,18.2s
XAN Xi'an 28.61 288⇑ P **P** **06 04 32.9 -2.3**
XAN PP **PnPn** **06 05 23.9 -1.3**
XAN PcP **PcP** **06 07 47.3 +1.2**
XAN S **S** **06 09 20.3 -2.9**
XAN ScP **SS** **06 11 25.5 +1.3**
XAN pmax pmax
comp=Z,100nm,1.4s
XAN pmax pmax
comp=Z,610nm,7.3s
XAN LR LR
comp=Z,3μm,16.2s
XAN LR LR
comp=Z,6μm,18.4s
XAN LR LR
comp=Z,8μm,18.1s
MA2 Magadan 30.79 9 P **P** **06 04 53.1 -1.0**
MA2 IAmb IAmb 06 04 56.1
comp=Z,62nm,1.2s
MA2 Magadan 30.79 9 P **P** **06 04 55.2 +1.1**
MA2 Magadan 30.79 9 *ce*P **P** **06 04 54.4 +0.3**
MA2 pmax pmax
comp=Z,119nm,2.5s
CIT Chita 31.04 325 *e*P **P** **06 04 57.5 +1.1**
CIT *e* 06 05 07.0
CIT *e* 06 06 06.1
CIT pmax pmax
comp=Z,154nm,2.8s
QIZ Qiongzhong 31.15 258 P P 06 04 48.4 -9.3
QIZ S **S** **06 10 05.7 +2.6**
QIZ SS **SS** **06 12 19.8 +3.5**
QIZ pmax pmax
comp=Z,45nm,1.9s
QIZ LR LR
comp=N,1μm,16.9s
QIZ LR LR
comp=E,2μm,20.0s
QIZ LR LR
comp=Z,2μm,17.2s
GYA Guiyang 31.45 273⇓ P **P** **06 04 59.6 -0.9**
GYA S S 06 09 59.1 -8.9
GYA pmax pmax
comp=Z,80nm,1.2s
GYA pmax pmax
comp=Z,430nm,9.8s
GYA LR LR
comp=Z,4μm,16.0s
GYA LR LR
comp=Z,2μm,23.7s
GYA LR LR
comp=Z,3μm,21.8s
TNTI Ternate 31.73 209 P **P** **06 05 02.3 -0.5**
TNTI IAmb IAmb 06 05 05.0
comp=Z,119nm,1.3s
SWI Sorong 31.80 201 P **P** **06 05 02.8 -0.6**
SWI pmax pmax
comp=Z,74nm,0.9s
SWI Sorong 31.80 201 P **P** **06 05 01.7 -1.7**
comp=Z,75nm,0.9s
ULN Ulaanbaatar 32.73 314 P **P** **06 05 11.7 +0.2**
ULN IAmb IAmb 06 05 14.7
comp=Z,106nm,1.1s
ULN Ulaanbaatar 32.73 314 IAMs_20 IAMs_20 06 18 48.3
comp=Z,3μm,19.0s
ULN Ulaanbaatar 32.73 314*ce*P **P** **06 05 11.7 +0.2**
ULN pmax pmax
comp=Z,117nm,1.3s
ULN Ulaanbaatar 32.73 314 P **P** **06 05 12.2 +0.7**
ULN P **P** **06 05 12.2 +0.7**
LZH Lanzhou 32.80 292 *e*P **P** **06 05 10.7 -1.6**
LZH sP pwP 06 05 20.4 -1.0
LZH SS **SnSn** **06 12 22.1 -3.0**
LZH pmax pmax
comp=Z,22nm,1.4s
LZH pmax pmax
comp=Z,240nm,5.8s
LZH LR LR
comp=Z,3μm,14.8s
LZH LR LR
comp=Z,5μm,15.5s
LZH LR LR
comp=Z,7μm,15.8s
LBMI Labuha 32.95 208 P **P** **06 05 13.8 +0.3**
comp=Z,176nm,1.3s,comp=Z,3μm
SHEM Shenya Is, Ala 33.10 36 LR LR 06 16 58.8
comp=Z,912nm,19.4s,baz=290,slow=33
SONM Songino Array 33.13 314 P **P** **06 05 15.0 0.0**
SONM IAmb IAmb 06 05 18.1
comp=Z,59nm,1.0s
SONM Songino Array 33.13 314 P **P** **06 05 15.2 +0.2**
comp=Z,32nm,0.8s,baz=123,slow=8.2,SNR=76
SONM PcP **PcP** **06 07 57.9 0.0**
comp=Z,5.1nm,1.0s,baz=124,slow=2.1,SNR=2.8
SONM ScP **ScP** **06 11 41.1 -0.5**
comp=Z,1.4nm,0.9s,baz=129,slow=4.0,SNR=3.6
SONM LR LR 06 19 12.9
comp=Z,3μm,18.4s,baz=109,slow=37
comp=Z,32nm,0.8s
CD2 Chengdu 33.17 282 P **P** **06 05 13.6 -1.8**
CD2 S **S** **06 10 34.0 -0.5**
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 LR LR
comp=Z,2μm,18.0s
CD2 LR LR
comp=Z,3μm,15.3s
CD2 LR LR
comp=Z,4μm,15.7s
FAKI Fak Fak 33.46 198 P **P** **06 05 16.6 -1.4**
FAKI IAmb IAmb 06 05 23.8
comp=Z,39nm,0.7s
FAKI Fak Fak 33.46 198 P **P** **06 05 17.4 -0.6**
KMSI Cibinong 33.46 215 P **P** **06 05 18.8 +0.8**
comp=Z,381nm,0.8s,comp=Z,6μm
YAK Yakutsk 33.72 349 P **P** **06 05 19.6 -0.1**
YAK Yakutsk 33.72 349*c* *i*P **P** **06 05 19.6 -0.1**
YAK *e**PP **pwP** **06 05 27.7 -1.8**
YAK *e* 06 06 31.0
YAK *e* 06 07 57.0
YAK *e*S **S** **06 10 42.0 -0.2**
YAK *e*SS **SnSn** **06 12 55.2 +8.8**
YAK *e* 06 15 39.3
YAK pmax pmax
comp=Z,105nm,1.2s
YAK pmax pmax
comp=N,44nm,1.1s
YAK pmax pmax
comp=E,11nm,1.3s
YAK pmax pmax
comp=Z,76nm,1.8s
YAK pmax pmax
comp=E,72nm,2.4s
YAK pmax pmax
comp=N,68nm,2.0s
YAK smax smax
comp=N,229nm,3.1s
YAK smax smax
comp=E,113nm,3.8s
YAK MLR MLR
comp=Z,1μm,13.0s
YAK MLR MLR
comp=N,1μm,13.0s
YAK Yakutsk 33.72 349 LR LR 06 19 53.2
comp=N,2μm,18.3s,baz=150,slow=38
KKM Kota Kinabalu 33.73 232 P **P** **06 05 21.1 +0.6**
KKM IAmb IAmb 06 05 22.7
comp=Z,105nm,1.2s
KKM IAMs_20 IAMs_20 06 18 46.0
comp=Z,3μm,19.0s
KKM Kota Kinabalu 33.73 232 P **P** **06 05 21.7 +1.2**
GTOI Gorontalo 33.90 216 P **P** **06 05 21.1 -0.7**
comp=Z,79nm,0.9s,comp=Z,648nm
SEY Seymchan 34.25 8*ce*P **P** **06 05 24.1 -0.2**
SEY pmax pmax
comp=Z,63nm,1.3s
BOD Bodaibo 34.54 334 *e*P **P** **06 05 27.4 +0.4**
BOD pmax pmax
comp=Z,130nm,1.4s
MRSI Marisa 34.59 218 P **P** **06 05 28.1 +0.3**
comp=Z,362nm,1.0s,comp=Z,3μm
TOLI2 Tolitoli 34.70 220 P **P** **06 05 27.9 -0.8**
TOLI2 IAmb IAmb 06 05 29.6
comp=Z,87nm,1.0s
TOLI2 Tolitoli 34.70 220 P **P** **06 05 28.5 -0.2**
SANI Sanana 34.85 209 P **P** **06 05 28.7 -1.3**
SANI Sanana 34.85 209 P **P** **06 05 28.2 -1.8**
comp=Z,109nm,1.1s,comp=Z,1μm
KMI Kunming 35.21 273⇑ P **P** **06 05 32.5 -0.9**
KMI S **S** **06 10 58.5 -8.0**
KMI pmax pmax
comp=Z,32nm,1.0s
KMI pmax pmax
comp=Z,250nm,4.8s
KMI LR LR
comp=Z,2μm,18.1s
KMI LR LR
comp=Z,2μm,22.8s
KMI LR LR
comp=Z,3μm,19.5s
SLVN Son La 35.38 266 P **P** **06 05 34.6 -0.1**
SLVN IAmb IAmb 06 05 35.9
comp=Z,75nm,1.2s
SLVN IAMs_20 IAMs_20 06 20 13.4
comp=Z,4μm,20.0s
LUWI Luwuk 35.46 215 P **P** **06 05 33.8 -1.4**
LUWI Luwuk 35.46 215 P **P** **06 05 34.6 -0.7**
LUWI Luwuk 35.46 215 P **P** **06 05 34.3 -1.0**
comp=Z,210nm,0.5s,comp=Z,3μm
PZH PanZhiHua 35.73 275 P **P** **06 05 36.2 -1.5**
PZH pP **sP** **06 05 43.8 +1.3**
PZH PP **PP** **06 06 59.7 +0.8**
PZH S **S** **06 11 11.4 -2.8**
PZH sS **sS** **06 11 24.1 +3.6**
PZH pmax pmax
comp=Z,70nm,1.2s
PZH pmax pmax
comp=Z,320nm,3.5s
PZH LR LR
comp=Z,2μm,19.6s
PZH LR LR
comp=Z,1μm,17.1s
PZH LR LR
comp=Z,1μm,16.7s
ZAK Zakamensk 35.95 317 *e*P **P** **06 05 39.6 +0.3**
ZAK pmax pmax
comp=Z,84nm,1.5s
IRK Irkutsk 36.10 320 *e*P **P** **06 05 40.9 +0.5**
IRK pmax pmax
comp=Z,253nm,2.2s
GTA Gaotai 36.10 298 P **P** **06 05 38.8 -2.0**
GTA sP pwP 06 05 50.8 +1.0
GTA PP **PP** **06 07 04.7 +1.9**
GTA PcP **PcP** **06 08 06.4 -0.2**
GTA sS sS 06 11 30.4 +4.9
GTA ScP **ScP** **06 11 51.4 -1.0**
GTA pmax pmax
comp=Z,18nm,1.5s
GTA pmax pmax
comp=Z,230nm,6.2s
GTA LR LR
comp=Z,820nm,13.8s
GTA LR LR
comp=Z,2μm,14.9s
GTA LR LR
comp=Z,4μm,15.6s
UBPT Khong Chiam 36.57 256 P **P** **06 05 45.2 +0.4**
UBPT Khong Chiam 36.57 256 P **P** **06 05 45.6 +0.8**
NONG Nongkai 37.31 261 P **P** **06 05 51.6 +0.5**
MOY Mondy 37.76 318 *e*P **P** **06 05 55.1 +0.4**
MOY pmax pmax

comp=Z,188nm,1.3s
TTSI Tana Toraja 38.69 217 P **P** **06 06 03.9 +1.2**
comp=Z,28nm,0.8s,comp=Z,2µm
PMG Port Moresby 38.82 172 P **P** **06 06 02.4 -1.3**
PMG Port Moresby 38.82 172 P **P** **06 06 04.5 +0.7**
PMG Port Moresby 38.82 172 P **P** **06 06 04.9 +1.1**
PMG Port Moresby 38.82 172 *ce*P **P** **06 06 03.7 -0.1**
PMG pmax pmax
comp=Z,36nm,1.0s
CRAI Chiangrai 38.86 266 P **P** **06 06 04.1 -0.1**
CRAI IAmb IAmb 06 06 05.6
comp=Z,181nm,1.1s
BKB Balikpapan 38.87 223 P **P** **06 06 00.8 -3.4**
comp=Z,201nm,1.0s
TNCH TengChong 38.91 274 *e*P **P** **06 06 04.1 -0.7**
TNCH pP pP 06 06 07.2 -1.1
TNCH PP **PnPn** **06 07 37.2 +0.9**
TNCH S **S** **06 12 03.7 +0.8**
TNCH pmax pmax
comp=Z,160nm,0.9s
TNCH LR LR
comp=Z,970nm,17.9s
TNCH LR LR
comp=Z,2µm,20.2s
TNCH LR LR
comp=Z,4µm,18.8s
SBUM Sibu 39.06 232 P **P** **06 06 06.1 +0.2**
PHRA Phrae 39.65 264 P **P** **06 06 10.7 -0.1**
MTKI Muara Teweh, K 39.84 226 P **P** **06 06 12.3 0.0**
comp=Z,226nm,0.6s,comp=Z,19µm
GOMU GeErMu 40.10 292 P **P** **06 06 13.6 -1.2**
GOMU PcP **PcP** **06 08 19.1 -0.3**
GOMU pmax pmax
comp=Z,23nm,0.9s
GOMU LR LR
comp=Z,2µm,16.7s
GOMU LR LR
comp=Z,2µm,15.7s
GOMU LR LR
comp=Z,4µm,15.4s
KAPI Kappang 40.39 216 P **P** **06 06 16.8 -0.1**
KAPI Kappang 40.39 216 P **P** **06 06 17.3 +0.4**
KAPI Kappang 40.39 216 *i* P **P** **06 06 15.3 -1.6**
KAPI Kappang 40.39 216 P **P** **06 06 16.8 -0.1**
KAPI P **P** **06 06 16.8 -0.1**
BKSI Bulukumba 40.46 215 P **P** **06 06 18.4 +0.9**
comp=Z,40nm,1.0s,comp=Z,729nm
NAYO Nakonayok 40.55 257 P **P** **06 06 18.8 +0.5**
CHTO Chiang Mai 40.65 265 P **P** **06 06 18.4 -0.7**
CHTO Chiang Mai 40.65 265 IAMs_20 IAMs_20 06 23 01.8
comp=Z,3µm,20.0s
CHTO Chiang Mai 40.65 265 P **P** **06 06 18.7 -0.3**
CHTO Chiang Mai 40.65 265 P **P** **06 06 18.4 -0.7**
CHTO pmax pmax
comp=Z,169nm,1.0s
CHTO MLR MLR
comp=Z,3µm,20.0s
CHTO Chiang Mai 40.65 265 P **P** **06 06 18.8 -0.3**
CHTO P **P** **06 06 18.8 -0.3**
CM31 Chiang Mai Arr 40.79 265 P **P** **06 06 20.1 -0.1**
CMAR Chiang Mai Arr 40.79 265 *i* P **P** **06 06 19.8 -0.5**
CMAR pmax pmax
comp=Z,30nm,0.9s
CMAR Chiang Mai Arr 40.79 265 P **P** **06 06 19.9 -0.4**
comp=Z,31nm,0.9s,baz=51,slow=8.5,SNR=157
CMAR PcP **PcP** **06 08 22.6 +1.3**
comp=Z,14nm,0.9s,baz=51,slow=0.6,SNR=9.8
CMAR LR LR 06 25 01.4
comp=Z,3µm,18.3s,baz=65,slow=39
comp=Z,31nm,0.9s
BILL Bilibino 41.28 13 P **P** **06 06 24.0 +0.3**
BILL Bilibino 41.28 13 ⇑ *e*P **P** **06 06 22.7 -1.0**
BILL pmax pmax
comp=Z,52nm,1.0s
STKI Sintang 41.30 231 P **P** **06 06 25.3 +0.8**
MND Mandalay 41.94 271 P **P** **06 06 29.3 -0.4**
CLES Cleveland East 42.05 42 IAMs_20 IAMs_20 06 24 38.7
comp=Z,3µm,21.0s
HNR Honiara 42.18 153 IAMs_20 IAMs_20 06 22 40.2
comp=Z,2µm,21.0s
HNR Honiara 42.18 153 LR LR 06 23 53.4
comp=Z,15µm,19.9s,baz=324,slow=36
SRDT SRDT 42.41 259 P **P** **06 06 34.1 +0.5**
SOEI Soe 42.54 207 P **P** **06 06 33.8 -0.8**
SOEI IAmb IAmb 06 07 09.7
comp=Z,102nm,1.0s
SOEI Soe 42.54 207 P **P** **06 06 34.1 -0.5**
SOEI Soe 42.54 207 P **P** **06 06 36.2 +1.6**
comp=Z,123nm,1.1s,comp=Z,1µm
NIKH Nikolski High 42.70 42 P **P** **06 06 34.5 -1.0**
baz=256
EDFI Ende, Flores 42.71 211 P **P** **06 06 34.9 -1.1**
comp=Z,126nm,1.0s,comp=Z,1µm
KDU Kakadu 42.82 194 P **P** **06 06 35.2 -1.6**
TIXI Tiksi 42.99 354 P **P** **06 06 37.2 -0.3**
TIXI Tiksi 42.99 354 *ce*P **P** **06 06 37.6 +0.1**
TIXI pmax pmax
comp=Z,32nm,1.0s
COEN Coen 43.05 179 P **P** **06 06 38.5 -0.1**
COEN IAmb IAmb 06 06 40.5
comp=Z,87nm,0.9s
COEN Coen 43.05 179 P **P** **06 06 39.4 +0.7**
MTN Manton Dam 43.27 196 P **P** **06 06 39.5 -1.0**
MTN Manton Dam 43.27 196 P **P** **06 06 39.6 -0.8**
P08K Saint George I 43.31 37 P **P** **06 06 40.3 0.0**
baz=252
LSA Lhasa 44.11 284 P **P** **06 06 47.0 -0.8**
LSA Lhasa 44.11 284 P **P** **06 06 47.0 -0.8**
LSA pmax pmax
comp=Z,14nm,1.1s
LSA MLR MLR
comp=Z,2µm,21.0s
LSA Lhasa 44.11 284 P **P** **06 06 46.4 -1.3**
UNV Unalaska Valle 44.27 42 P **P** **06 06 47.4 -0.6**
baz=257
SURA Surathani 44.59 252 P **P** **06 06 52.4 +1.3**
PLAI Plampang 44.65 216 P **P** **06 06 50.4 -1.1**
PLAI Plampang 44.65 216 P **P** **06 06 50.3 -1.2**
comp=Z,134nm,1.0s,comp=Z,1µm
SRIT Nakonsritamara 44.92 251 P **P** **06 06 54.3 +0.5**
SRIT Nakonsritamara 44.92 251 P **P** **06 06 54.8 +1.0**
TWSI Taliwang, Sumb 45.03 217 P **P** **06 06 53.6 -1.0**
comp=Z,139nm,1.0s,comp=Z,1µm
GAMB Gambell 45.12 27 P **P** **06 06 54.4 -0.3**
baz=243
WMQ Urumqi 45.30 304 ⇑ *i*P **P** **06 06 56.1 -0.5**
WMQ pP sP 06 07 03.0 +1.4
WMQ PcP **PcP** **06 08 37.6 +1.4**
WMQ S **S** **06 13 34.8 -1.7**
WMQ pmax pmax
comp=Z,72nm,1.5s
WMQ pmax pmax
comp=Z,370nm,7.7s
WMQ LR LR
comp=Z,2µm,18.9s
WMQ LR LR
comp=Z,2µm,17.7s
WMQ LR LR
comp=Z,2µm,18.9s
SRBI Singaraja 45.38 219 P **P** **06 06 58.6 +1.2**
comp=Z,107nm,0.8s,comp=Z,1µm
MYKOM Kota Tinggi 45.60 240 P **P** **06 06 59.7 +0.6**
MYKOM IAMs_20 IAMs_20 06 25 13.5
comp=Z,2µm,19.0s
TPRI Tanjung Pinang 45.66 239 P **P** **06 07 01.2 +1.5**
comp=Z,94nm,1.4s
ABJI Asem Bagus 45.69 220 P **P** **06 07 00.7 +0.9**
comp=Z,224nm,1.0s
DGZ Jazzator, Alta 45.74 312 *c i*P **P** **06 07 00.7 +0.6**
DGZ pmax pmax
comp=Z,84nm,0.7s
KULM Kulim 45.94 247 P **P** **06 07 02.0 +0.1**
KULM IAMs_20 IAMs_20 06 27 30.3
comp=Z,1µm,18.0s
BLJI Banyuglugur 46.01 221 P **P** **06 07 01.4 -1.0**
comp=Z,66nm,0.9s
IPM Ipoh 46.12 246 P **P** **06 07 02.7 -0.6**
IPM Ipoh 46.12 246 P **P** **06 07 03.4 +0.1**
M11K Mekoryuk 46.18 33 P **P** **06 07 02.1 -1.0**
baz=252
JAGI Jajag, Banyuwa 46.29 220 P **P** **06 07 02.5 -2.0**
JAGI Jajag, Banyuwa 46.29 220 P **P** **06 07 03.9 -0.6**
JAGI Jajag, Banyuwa 46.29 220 P **P** **06 07 03.5 -1.0**
comp=Z,195nm,1.1s,comp=Z,2µm
GMJI Gumukmas 46.53 221 P **P** **06 07 05.9 -0.5**
comp=Z,54nm,1.0s
DSRI Dabo 46.56 237 P **P** **06 07 08.2 +1.5**
comp=Z,64nm,1.4s
PPBI Pangkal Pinang 46.59 234 P **P** **06 07 08.1 +1.1**
comp=Z,40nm,0.6s,comp=Z,15µm
KNRA Kununurra 46.59 198 P **P** **06 07 06.2 -0.6**
KNRA IAmb IAmb 06 07 40.0
comp=Z,42nm,0.8s
KNRA Kununurra 46.59 198 P **P** **06 07 06.6 -0.2**
NGJI Ngawi 46.97 224 P **P** **06 07 10.4 +0.5**
comp=Z,99nm,0.9s
PWJI Pagerwojo 47.28 223 P **P** **06 07 10.6 -1.7**
comp=Z,135nm,0.9s,comp=Z,1µm
ZSN Zaisan 47.31 309 *c i*P **P** **06 07 12.5 +0.2**
ZSN pmax pmax
comp=Z,61nm,1.0s
ZSN Zaisan 47.31 309 ⇑ *i*P **P** **06 07 12.6 +0.2**
comp=Z,61nm,1.0s,baz=309
TNA Tin City 47.36 26 P **P** **06 07 12.1 -0.2**
baz=245
M13K Dall Lake 47.54 33 P **P** **06 07 13.6 -0.2**
baz=254
ZAA0 Zalesovo Array 47.81 318 P **P** **06 07 16.4 +0.4**
ZALV Zalesovo Beam 47.81 318 P **P** **06 07 16.3 +0.2**
comp=Z,118nm,1.0s,baz=101,slow=6.2,SNR=215
ZALV PcP **PcP** **06 08 44.8 +0.1**
comp=Z,13nm,0.8s,baz=111,slow=8.1,SNR=2.0
ZALV LR LR 06 28 12.0
comp=Z,3µm,18.1s,baz=102,slow=37
comp=Z,118nm,1.0s
F14K Arctic Creek 47.94 26 P **P** **06 07 17.7 +0.9**
baz=247,SNR=6.4
ANM Nome 47.97 27 IAmb IAmb 06 07 32.8
comp=Z,30nm,0.7s
ANM Nome 47.97 27 P **P** **06 07 16.8 -0.3**
baz=249,SNR=9.8
UGM Wanagama 47.97 224 P **P** **06 07 16.4 -1.3**
UGM Wanagama 47.97 224 P **P** **06 07 16.7 -1.0**
comp=Z,150nm,1.2s,comp=Z,2µm
SDPT Sand Point 47.99 40 IAMs_20 IAMs_20 06 23 29.7
comp=Z,1µm,21.0s
SDPT Sand Point 47.99 40 P **P** **06 07 16.3 -1.0**
baz=262
YOGI Yogyakarta 48.04 225 P **P** **06 07 17.4 -0.8**
comp=Z,166nm,1.0s,comp=Z,2µm
L14K Kuka Creek 48.11 32 P **P** **06 07 17.3 -0.8**
baz=254
J14K Nanvaranak Lak 48.12 30 P **P** **06 07 18.2 -0.1**
baz=252
N14K Kuskokwak Cree 48.22 34 P **P** **06 07 19.0 0.0**
baz=256
O14K Tigyukauivet M 48.28 35 P **P** **06 07 19.5 0.0**
baz=257
M14K Bethel 48.29 33 IAmb IAmb 06 07 40.9
comp=Z,58nm,1.0s
M14K Bethel 48.29 33 P **P** **06 07 19.5 -0.1**
baz=255
CHNA Chernabura Isl 48.42 41 P **P** **06 07 20.0 -0.7**
baz=263
KPJI Karang Pucung 48.51 227 P **P** **06 07 21.0 -0.9**
comp=Z,270nm,1.0s,comp=Z,2µm
G15K Niukluk 48.66 27 P **P** **06 07 23.0 +0.6**
baz=250
F15K North Star Dit 48.67 26 P **P** **06 07 22.8 +0.3**
F15K IAmb IAmb 06 07 48.1
comp=Z,62nm,1.1s
F15K North Star Dit 48.67 26 P **P** **06 07 23.3 +0.8**
baz=248
BKNI Bangkinang 48.68 241 IAMs_20 IAMs_20 06 25 45.2
comp=Z,2µm,20.0s
L15K Ungalak Mounta 48.75 32 P **P** **06 07 24.1 +1.0**
baz=255
M15K Kasigluk River 48.88 33 P **P** **06 07 25.2 +1.0**
baz=257
K15K Wolf Creek Mou 48.89 31 IAmb IAmb 06 07 38.0
comp=Z,51nm,1.4s
K15K Wolf Creek Mou 48.89 31 P **P** **06 07 25.2 +0.9**
baz=254
LHMI Lhok Sumawe 48.97 250 P **P** **06 07 27.3 +1.8**
LHMI Lhok Sumawe 48.97 250 P **P** **06 07 25.7 +0.2**
comp=Z,227nm,1.1s
LEM Lembang 48.98 228 LR LR 06 27 10.7
comp=Z,616nm,22.0s,baz=40,slow=35
O15K Ungalikthiuk R 48.99 35 P **P** **06 07 25.8 +0.7**
baz=259,SNR=8.9
N15K Kwethluk River 49.06 34 IAmb IAmb 06 07 31.6
comp=Z,52nm,0.9s
N15K Kwethluk River 49.06 34 P **P** **06 07 26.9 +1.3**
baz=258
MK31 Makanchi Array 49.07 308 P **P** **06 07 25.6 -0.3**
MK31 IAmb IAmb 06 07 26.9
comp=Z,42nm,0.9s
MK31 Makanchi Array 49.07 308 *i* P **P** **06 07 25.5 -0.4**
MK31 pmax pmax
comp=Z,55nm,0.8s
MKAR Makanchi Array 49.07 308 P **P** **06 07 25.6 -0.2**
MKAR Makanchi Array 49.07 308 *i* P **P** **06 07 25.7 -0.2**
MKAR pmax pmax
comp=Z,42nm,0.8s
MKAR Makanchi Array 49.07 308 P **P** **06 07 25.9 0.0**
comp=Z,42nm,0.8s,baz=92,slow=8.9,SNR=240
MKAR PcP **PcP** **06 08 50.0 +0.6**
comp=Z,22nm,1.1s,baz=72,slow=4.7,SNR=4.0
MKAR LR LR 06 29 11.0
comp=Z,3µm,18.5s,baz=99,slow=37
comp=Z,42nm,0.8s
H16K Elim 49.27 28 P **P** **06 07 27.3 +0.2**
baz=252,SNR=7.1
CHGN Chignik 49.27 39 P **P** **06 07 27.6 +0.4**
baz=263
MAKZ Makanchi 49.29 308 P **P** **06 07 27.6 0.0**
MAKZ IAmb IAmb 06 07 28.8
comp=Z,69nm,1.2s
MAKZ Makanchi 49.29 308 P **P** **06 07 27.8 +0.2**
KCSI Kotacane, Aceh 49.29 247 P **P** **06 07 26.8 -1.1**
comp=Z,60nm,1.3s,comp=Z,4µmcomp=Z,49µm
CTA Charters Tower 49.30 175 P **P** **06 07 28.6 +0.8**
CTA Charters Tower 49.30 175 P **P** **06 07 28.3 +0.5**
CTA Charters Tower 49.30 175 LR LR 06 28 39.7
comp=Z,357nm,19.7s,baz=357,slow=37
CTAO Charters Tower 49.30 175 P **P** **06 07 27.7 -0.1**
CTAO IAmb IAmb 06 07 29.4
comp=Z,48nm,1.1s
CTAO Charters Tower 49.30 175 P **P** **06 07 28.8 +1.0**
CTAO Charters Tower 49.30 175 P **P** **06 07 27.7 -0.1**
CTAO pmax pmax
comp=Z,49nm,1.1s
DBJI Dramaga 49.34 229 P **P** **06 07 27.9 -0.4**
comp=Z,65nm,0.5s,comp=Z,13µm
WB0 Warramunga Arr 49.40 190 P **P** **06 07 27.7 -0.8**
C16K Lisburne Hills 49.42 23 P **P** **06 07 28.6 +0.5**
baz=246
BBJI Bungbulang 49.43 228 P **P** **06 07 28.3 -0.7**
G16K Koyuk River 49.46 27 P **P** **06 07 29.0 +0.5**
baz=251
WR0 Warramunga Arr 49.56 189 P **P** **06 07 29.1 -0.7**
WRAB Tennant Creek 49.57 190 P **P** **06 07 29.0 -0.8**
WRAB Tennant Creek 49.57 190 *c i*P **P** **06 07 28.6 -1.2**
WRAB pmax pmax
comp=Z,145nm,1.0s
WB2 Warramunga Arr 49.58 190 P **P** **06 07 29.1 -0.8**
WRA Warramunga Arr 49.58 190 P **P** **06 07 29.1 -0.8**
WRA Warramunga Arr 49.58 190 *i* P **P** **06 07 28.0 -1.9**
WRA pmax pmax
comp=Z,100nm,1.0s
WRA Warramunga Arr 49.58 190 P **P** **06 07 29.4 -0.5**
comp=Z,91nm,0.9s,baz=9.5,slow=7.7,SNR=93
WRA PcP **PcP** **06 08 51.7 +0.2**
comp=Z,29nm,0.9s,baz=359,slow=3.6,SNR=5.9
WRA S **S** **06 14 35.0 -2.6**
comp=Z,3.9nm,0.9s,baz=3.4,slow=14,SNR=5.7
comp=Z,91nm,0.9s
WB1 Warramunga Ar. 49.59 190 P **P** **06 07 29.6 -0.4**
QIS Mount Isa 49.67 183 P **P** **06 07 30.6 0.0**
L16K Owhat River 49.69 32 P **P** **06 07 29.9 -0.4**
baz=257
I17K Unalakleet 49.69 29 P **P** **06 07 31.2 +0.9**
baz=254
N16K Nishlik Lake 49.76 34 P **P** **06 07 31.4 +0.4**
baz=259
M16K Timber Creek 49.78 33 P **P** **06 07 31.4 +0.3**
baz=258
FITZ Fitzroy Crossi 49.79 201 P **P** **06 07 31.3 -0.2**
FITZ Fitzroy Crossi 49.79 201 P **P** **06 07 31.2 -0.4**
P16K Nushagak River 49.89 36 P **P** **06 07 33.1 +1.2**
baz=261
R16K Pilot Point 49.89 38 P **P** **06 07 32.3 +0.4**
baz=262
PDSI Padang 49.92 240 P **P** **06 07 32.8 +0.1**
comp=Z,23nm,0.8s,comp=Z,8µm
O16K Kokwok River B 49.94 35 IAmb IAmb 06 07 57.1
comp=Z,52nm,1.2s
O16K Kokwok River B 49.94 35 P **P** **06 07 32.6 +0.4**
baz=260
KRJI Kerinci 49.94 238 P **P** **06 07 29.3 -3.7**
comp=Z,423nm,0.5s
MLSI Meulaboh, Aceh 49.96 249 P **P** **06 07 33.5 +0.4**
comp=Z,46nm,0.9s
D17K Noatak River 49.98 24 P **P** **06 07 33.9 +1.4**
baz=248,SNR=19
KASI Kota Agung 50.12 232 P **P** **06 07 32.1 -2.1**
comp=Z,56nm,0.8s
G17K Kiwalik Mounta 50.17 27 P **P** **06 07 34.9 +1.0**
baz=253
F17K Baldwin Pennin 50.23 26 IAmb IAmb 06 07 50.0
comp=Z,33nm,0.7s
F17K Baldwin Pennin 50.23 26 P **P** **06 07 35.3 +1.0**
baz=251
C17K DeLong Mountai 50.24 23 P **P** **06 07 35.4 +0.9**
baz=248,SNR=7.9
J17K VABM Dome 50.26 30 P **P** **06 07 34.9 +0.3**
baz=256
H17K Granite Mounta 50.31 28 P **P** **06 07 35.2 +0.2**
baz=254
L17K Donlin 50.32 32 P **P** **06 07 36.2 +1.0**
baz=258,SNR=5.5
SEM Semipalatinsk 50.40 313 *e*P **P** **06 07 36.1 0.0**
SEM pmax pmax
comp=Z,66nm,1.0s
SEM Semipalatinsk 50.40 313 *e*P **P** **06 07 36.2 0.0**
comp=Z,66nm,1.0s,baz=313
SEM LR LR 06 29 09.6
baz=313
K17K Iditarod 50.45 31 P **P** **06 07 36.3 +0.2**
baz=257
O17K Koliganek Bris 50.46 35 P **P** **06 07 36.8 +0.5**
baz=261,SNR=13
Q16K King Salmon 50.53 36 P **P** **06 07 36.6 -0.1**
baz=262
N17K Nushagak Hills 50.54 34 IAmb IAmb 06 07 51.3
comp=Z,40nm,0.9s
N17K Nushagak Hills 50.54 34 P **P** **06 07 36.4 -0.4**
baz=260,SNR=12
NRIK Noril'sk 50.57 338 P **P** **06 07 37.8 +0.9**
NRIK Noril'sk 50.57 338 *ce*P **P** **06 07 37.6 +0.7**
NRIK pmax pmax
comp=Z,160nm,1.1s
NRIK Noril'sk 50.57 338 P **P** **06 07 37.6 +0.7**
comp=Z,86nm,1.0s,baz=110,slow=8.4,SNR=91
NRIK LR LR 06 30 07.0
comp=Z,2µm,18.6s,baz=116,slow=37
comp=Z,86nm,1.0s
M17K Holitna River 50.58 33 IAmb IAmb 06 07 53.2
comp=Z,63nm,1.0s
M17K Holitna River 50.58 33 P **P** **06 07 37.5 +0.4**
baz=259,SNR=11
P17K Kvichak River 50.71 36 P **P** **06 07 38.3 +0.2**
baz=262,SNR=12
GSI Gunungsitoli 50.77 245 P **P** **06 07 38.4 -0.7**
GSI IAMs_20 IAMs_20 06 26 46.5
comp=Z,1µm,20.0s
GSI Gunungsitoli 50.77 245 P **P** **06 07 38.4 -0.7**
GSI Gunungsitoli 50.77 245 P **P** **06 07 38.5 -0.7**
comp=Z,210nm,1.6s,comp=Z,3µm
E18K Tukpahlearik C 50.78 25 P **P** **06 07 39.4 +0.8**
baz=251,SNR=15
Q17K Contact Creek 50.88 37 P **P** **06 07 39.7 +0.2**
baz=263
F18K Selawik 50.88 26 P **P** **06 07 39.7 +0.4**
baz=253,SNR=21
C18K Utukok River 50.98 23 IAmb IAmb 06 08 05.2
comp=Z,94nm,1.6s
C18K Utukok River 50.98 23 P **P** **06 07 40.0 -0.2**
baz=250
H18K Honhosa River 51.00 28 P **P** **06 07 41.0 +0.7**
H18K Honhosa River 51.00 28 P **P** **06 07 40.7 +0.5**
baz=255,SNR=7.6
B18K Kokolik River 51.03 22 P **P** **06 07 40.9 +0.5**
baz=249,SNR=21
PBSI Pulau Batu 51.05 243 P **P** **06 07 41.7 +0.4**
comp=Z,117nm,1.4s
G18K Tagagawik 51.07 27 IAmb IAmb 06 08 05.8
comp=Z,70nm,1.2s
G18K Tagagawik 51.07 27 P **P** **06 07 41.1 +0.3**
baz=254,SNR=19
L18K Granite Mounta 51.08 32 P **P** **06 07 41.6 +0.8**
baz=259
SNSI Sinabang, Aceh 51.10 247 P **P** **06 07 41.5 -0.2**
comp=Z,309nm,1.3s,comp=Z,4µm
N18K Kilae Creek 51.20 34 IAmb IAmb 06 08 03.2
comp=Z,68nm,1.4s
N18K Kilae Creek 51.20 34 P **P** **06 07 42.6 +0.8**
baz=261
SISI Saibi 51.23 241 P **P** **06 07 41.9 -0.7**
comp=Z,83nm,1.0s
PDGK Podgornoye 51.27 304 P **P** **06 07 41.6 -1.2**
SHLS Shalkode 51.31 304 *c i*P **P** **06 07 40.2 -2.9**
SHLS Shalkode 51.31 304 ⇑ *i*P **P** **06 07 40.3 -2.9**
baz=304
P18K Big Mountain, 51.35 36 IAmb IAmb 06 07 48.5
comp=Z,79nm,1.2s
P18K IAMs_20 IAMs_20 06 26 59.5
comp=Z,1µm,20.0s
P18K Big Mountain, 51.35 36 P **P** **06 07 43.1 +0.1**
baz=263,SNR=18
M18K Stony River 51.36 33 P **P** **06 07 43.0 +0.1**
baz=261
SVW2 Sparrevohn 51.41 33 P **P** **06 07 45.1 +1.7**
O18K Koktuh Hills 51.42 35 IAmb IAmb 06 08 05.6
comp=Z,87nm,1.1s
O18K Koktuh Hills 51.42 35 P **P** **06 07 44.3 +0.8**
baz=262,SNR=16
KURK Kurchatov 51.43 313 P **P** **06 07 43.9 +0.2**
KURK Kurchatov 51.43 313 IAMs_20 IAMs_20 06 30 17.1
comp=Z,2µm,18.0s
KURK Kurchatov 51.43 313 *ce*P **P** **06 07 43.7 0.0**
KURK pmax pmax
comp=Z,449nm,1.3s
KURK MLR MLR
comp=Z,2µm,18.0s
KURK Kurchatov 51.43 313 P **P** **06 07 44.3 +0.6**
KURK P **P** **06 07 44.3 +0.6**
PPSI Pulau Pagai 51.47 239 P **P** 06 07 52.6 +8.2
KURBB Kurchatov Arra 51.49 313 P **P** **06 07 44.5 +0.3**
comp=Z,293nm,1.1s,baz=91,slow=8.0,SNR=5.1
KURBB LR LR 06 30 06.2
comp=Z,1µm,19.6s,baz=127,slow=37
comp=Z,293nm,1.1s
GCSA Galena City Sc 51.51 29 P **P** **06 07 44.7 +0.7**
baz=257
TTA Tatalina 51.52 31 P **P** **06 07 45.8 +1.5**
TTA Tatalina 51.52 31 P **P** **06 07 45.1 +0.8**
baz=259
SII Sitkinak Islan 51.63 39 P **P** **06 07 46.5 +1.4**
SII Sitkinak Islan 51.63 39 P **P** **06 07 45.6 +0.5**
baz=266
UZB Uzynbulak 51.63 304 *c i*P **P** **06 07 44.9 -0.6**
UZB Uzynbulak 51.63 304 ⇑ *i*P **P** **06 07 44.9 -0.6**
baz=304
F19K Shaleruckik Mo 51.67 26 P **P** **06 07 45.9 +0.7**
F19K Shaleruckik Mo 51.67 26 P **P** **06 07 45.2 0.0**
baz=255
C19K Lookout Ridge 51.69 23 P **P** **06 07 45.6 +0.2**
baz=251
G19K Purcell Mounta 51.76 27 P **P** **06 07 45.9 +0.1**
baz=256
H19K Roundabout Mou 51.87 28 P **P** **06 07 46.5 -0.1**
baz=257
TDK Taldyqorghan 51.88 306 *e*P **P** **06 07 47.2 +0.1**
TDK MLR MLR
comp=Z,1µm,16.0s
TDK Taldyqorghan 51.88 306 *e*P **P** **06 07 47.3 +0.1**
baz=306
TDK LR LR 06 30 03.6
comp=Z,1µm,15.9s,baz=306
J19K Poorman 51.89 30 P **P** **06 07 47.5 +0.6**
baz=259
N19K Bonanza Creek 51.90 34 P **P** **06 07 46.5 -0.7**
baz=262
O19K Port Alsworth 51.90 35 IAmb IAmb 06 08 08.7
comp=Z,75nm,1.1s
O19K Port Alsworth 51.90 35 P **P** **06 07 47.3 +0.3**
baz=263,SNR=12
L19K White Mountain 51.92 32 P **P** **06 07 46.3 -0.9**
baz=261

D19K Kuna River 52.01 24 IAmb IAmb 06 08 13.0
comp=Z,58nm,1.2s
D19K Kuna River 52.01 24 P P 06 07 48.1 +0.3
baz=253,SNR=14
E19K Redstone River 52.04 25 IAmb IAmb 06 08 10.7
comp=Z,44nm,0.9s
E19K Redstone River 52.04 25 P P 06 07 48.2 +0.2
baz=255,SNR=36
ZHN Zhinishke 52.06 304 eP P 06 07 47.9 -0.7
ZHN Zhinishke 52.06 304 eP P 06 07 47.9 -0.7
baz=304
SATY Saty 52.09 304 c iP P 06 07 48.4 -0.5
SATY Saty 52.09 304 ⇑ iP P 06 07 48.5 -0.5
baz=304
M19K Big River Lodg 52.10 32 P P 06 07 48.4 -0.1
baz=262
Q19K Cape Douglas, 52.11 36 P P 06 07 48.9 +0.2
Q19K IAmb IAmb 06 08 34.1
comp=Z,43nm,0.9s
Q19K IAMs_20 IAMs_20 06 29 45.6
comp=Z,2µm,20.0s
Q19K Cape Douglas, 52.11 36 P P 06 07 48.5 -0.2
baz=265
PRZ Przheval'sk 52.17 303 P P 06 07 50.1 +0.5
PRZ IAmb IAmb 06 07 51.4
comp=Z,113nm,1.2s
PRZ Przheval'sk 52.17 303 P P 06 07 50.1 +0.5
PRZ pmax pmax
comp=Z,113nm,1.2s
PRZ MLR MLR
comp=Z,3µm,18.0s
OHAK Old Harbor 52.17 38 IAMs_20 IAMs_20 06 30 40.2
comp=Z,1µm,20.0s
OHAK Old Harbor 52.17 38 P P 06 07 50.0 +1.0
OHAK Old Harbor 52.17 38 P P 06 07 48.7 -0.4
baz=266
P19K Oil Pt 52.39 35 IAmb IAmb 06 07 56.0
comp=Z,47nm,0.8s
P19K Oil Pt 52.39 35 P P 06 07 49.8 -1.0
baz=264
L20K Farewell, AK 52.42 32 P P 06 07 50.1 -0.8
baz=262
K20K Telida 52.46 31 P P 06 07 51.1 -0.1
baz=261
H20K Anotleneega Mo 52.50 28 P P 06 07 50.8 -0.7
baz=258,SNR=15
F20K Avaraart Lake 52.50 26 P P 06 07 50.9 -0.5
baz=256
I20K Naaghedeneel 52.53 29 IAmb IAmb 06 08 19.4
comp=Z,63nm,1.1s
I20K Naaghedeneel 52.53 29 P P 06 07 52.2 +0.6
baz=259
J20K Nowinta River 52.56 30 IAmb IAmb 06 08 07.6
comp=Z,40nm,0.8s
J20K Nowinta River 52.56 30 P P 06 07 52.6 +0.7
baz=260,SNR=19
KDAK Kodiak Island 52.58 38 P P 06 07 52.5 +0.4
KDAK IAmb IAmb 06 07 57.2
comp=Z,69nm,0.8s
KDAK Kodiak Island 52.58 38 IAMs_20 IAMs_20 06 30 16.1
comp=Z,2µm,20.0s
KDAK Kodiak Island 52.58 38 i P P 06 07 51.8 -0.3
KDAK pmax pmax
comp=Z,117nm,0.9s
KDAK Kodiak Island 52.58 38 P P 06 07 51.6 -0.5
baz=266
KDAK Kodiak Island 52.58 38 LR LR 06 28 57.5
comp=Z,2µm,21.2s,baz=273,slow=34
D20K Etivluk River 52.60 24 P P 06 07 52.3 +0.2
baz=254
E20K Nigu River 52.63 24 P P 06 07 52.4 0.0
baz=255,SNR=22
M20K Styx River 52.68 33 P P 06 07 53.2 +0.3
baz=263
Q20K Shuyak Island 52.74 37 P P 06 07 53.2 0.0
baz=266
O20K Slope Mountain 52.74 35 P P 06 07 53.2 -0.1
baz=265
SYI Shuyak Island 52.74 37 P P 06 07 53.1 -0.2
SYI IAmb IAmb 06 07 58.0
comp=Z,63nm,0.8s
SYI IAMs_20 IAMs_20 06 30 26.2
comp=Z,1µm,20.0s
B20K Meade River 52.78 22 P P 06 07 53.4 +0.1
baz=253,SNR=19
XMI Christmas Isla 52.95 227 P P 06 07 54.1 -1.2
CHKK Chushkaly 53.02 305 eP P 06 07 55.2 -0.4
CHKK Chushkaly 53.02 305 eP P 06 07 55.2 -0.4
baz=305
N20K Mount Spurr 53.05 33 P P 06 07 55.4 -0.2
baz=264,SNR=17
IMAR Indian Mountai 53.05 27 P P 06 07 56.4 +0.9
MDOK Medeo 53.06 304 i P P 06 07 56.1 0.0
MDOK Medeo 53.06 304 i P P 06 07 56.2 0.0
baz=304
MDOK LR LR 06 30 46.9
baz=304
AAA Alma-Ata 53.16 304 eP P 06 07 56.6 -0.1
AAA pmax pmax
comp=Z,89nm,1.0s
AAA Alma-Ata 53.16 304 eP P 06 07 56.6 -0.1
comp=Z,89nm,1.0s,baz=304
AAA LR LR 06 30 49.8
baz=304
TNSS Tian-Shan 53.16 304 eP P 06 07 56.6 -0.5
TNSS Tian-Shan 53.16 304 eP P 06 07 56.6 -0.5
baz=304
PPLA Purkeypile 53.24 31 P P 06 07 58.1 +1.0
PPLA IAmb IAmb 06 08 22.6
comp=Z,109nm,1.4s
PPLA Purkeypile 53.24 31 P P 06 07 57.7 +0.6
baz=263,SNR=8.0
AS01 Alice Springs 53.29 189 P P 06 07 57.5 -0.2
AS31 Alice Springs 53.30 189 P P 06 07 57.4 -0.4
ASAR Alice Springs 53.30 189 P P 06 07 56.7 -1.1
ASAR Alice Springs 53.30 189 P P 06 07 57.2 -0.6
comp=Z,20nm,1.0s,baz=8.1,slow=7.6,SNR=84
ASAR PcP PcP 06 09 06.3 +1.0
comp=Z,14nm,0.9s,baz=12,slow=3.8,SNR=6.3
ASAR S S 06 15 29.5 +0.6
comp=Z,3.9nm,1.0s,baz=23,slow=17,SNR=4.5
ASAR LR LR 06 29 45.6
comp=Z,957nm,21.1s,baz=22,slow=35
ASAR PKPPKP P'P'df 06 38 25.6 +12
comp=Z,1.0nm,0.9s,baz=125,slow=3.4,SNR=4.6
comp=Z,20nm,1.0s
CHUM Lake Minchumin 53.31 30 P P 06 07 57.9 +0.5
baz=262
A21K Barrow 53.34 21 P P 06 07 58.0 +0.6
baz=252,SNR=11
C21K Knifeblade Rid 53.35 23 P P 06 07 58.4 +0.8
baz=256,SNR=10
CAST Castle Rocks 53.36 31 P P 06 07 58.3 +0.5
baz=263,SNR=21
H21K Melozitna Rive 53.38 28 IAmb IAmb 06 08 23.5
comp=Z,62nm,1.1s
H21K Melozitna Rive 53.38 28 P P 06 07 58.6 +0.7
baz=260
CNPM China Poot 53.39 36 IAmb IAmb 06 08 12.4
comp=Z,59nm,1.1s
CNPM IAMs_20 IAMs_20 06 32 59.5
comp=Z,1µm,20.0s
F21K Alatna River 53.40 26 P P 06 07 58.7 +0.7
baz=259,SNR=15
SKT Skwentna 53.45 33 P P 06 07 58.6 +0.1
baz=264,SNR=11
E21K Killik River 53.47 24 P P 06 07 59.2 +0.6
baz=257
KUU Kurty 53.48 305 c iP P 06 07 57.6 -1.4
KUU pmax pmax
comp=Z,71nm,1.0s
KUU MLR MLR
comp=Z,1µm,15.0s
KUU Kurty 53.48 305 ⇑ iP P 06 07 57.7 -1.4
comp=Z,71nm,1.0s,baz=305
KUU LR LR 06 31 00.4
comp=Z,1µm,14.8s,baz=305
CAPN Captain Cook N 53.52 34 P P 06 07 59.0 +0.1
baz=266
B21K Ikpikpuk River 53.52 23 IAmb IAmb 06 08 23.6
comp=Z,54nm,1.0s
B21K Ikpikpuk River 53.52 23 P P 06 07 59.4 +0.5
baz=256
BRLK Bradley Lake 53.59 35 IAmb IAmb 06 08 12.9
comp=Z,40nm,1.0s
BRLK IAMs_20 IAMs_20 06 32 48.3
comp=Z,1µm,19.0s

I21K Tanana 53.64 29 P P 06 08 00.4 +0.6
baz=262
BRSE Bradley Lake S 53.66 35 P P 06 08 00.2 +0.2
baz=267
SUA Susitna One 53.77 33 P P 06 08 01.1 +0.1
SUA Susitna One 53.77 33 P P 06 08 01.7 +0.7
baz=265
ULHL Ulahol 53.78 303 P P 06 08 01.5 -0.1
SNR=27
KTH Kantishna Hill 53.89 31 IAmb IAmb 06 08 25.2
comp=Z,49nm,1.2s
BPAW Bear Paw Mtn. 53.92 30 P P 06 08 02.8 +0.8
baz=263
BOOM Boomskoye usch 53.97 303 P P 06 08 02.9 +0.1
BOOM IAmb IAmb 06 09 10.0
comp=Z,34nm,0.9s
BOOM Boomskoye usch 53.97 303 P P 06 08 02.9 +0.1
BOOM pmax pmax
comp=Z,35nm,0.9s
H22K Ishtalitna Cre 54.00 28 P P 06 08 03.3 +0.9
baz=262
D22K Ayikyak River 54.02 24 IAmb IAmb 06 08 27.6
comp=Z,97nm,1.2s
D22K Ayikyak River 54.02 24 P P 06 08 03.6 +1.0
baz=258,SNR=24
CUT Chulitna 54.08 32 P P 06 08 03.4 +0.4
baz=265
NRN Naryn 54.09 302 P P 06 08 03.7 -0.2
NRN IAmb IAmb 06 08 06.9
comp=Z,61nm,1.2s
NRN Naryn 54.09 302 P P 06 08 03.7 -0.2
NRN pmax pmax
comp=Z,61nm,1.2s
NRN MLR MLR
comp=Z,3µm,20.0s
M22K Willow 54.09 33 IAmb IAmb 06 08 18.2
comp=Z,54nm,0.9s
M22K Willow 54.09 33 P P 06 08 03.2 +0.1
baz=266,SNR=6.9
B22K Teshekpuk Lake 54.09 22 P P 06 08 04.2 +1.2
baz=256
G22K Bettles 54.10 26 P P 06 08 04.0 +0.8
baz=261
MLY Manley 54.14 29 IAmb IAmb 06 08 19.0
comp=Z,63nm,1.6s
MLY Manley 54.14 29 P P 06 08 03.9 +0.4
baz=263,SNR=18
TKM2 Tokmak 2 54.15 304 P P 06 08 04.2 0.0
SNR=30
TKM2 Tokmak 2 54.15 304 i P P 06 08 03.2 -1.0
TKM2 pmax pmax
comp=Z,54nm,1.2s
TRF Thorofare Moun 54.16 31 P P 06 08 04.1 +0.2
baz=264,SNR=9.4
E22K Anaktuvuk Pass 54.20 25 P P 06 08 04.5 +0.6
baz=260
O22K Cooper Landing 54.21 35 IAMs_20 IAMs_20 06 32 46.0
comp=Z,2µm,20.0s
O22K Cooper Landing 54.21 35 P P 06 08 03.9 -0.1
baz=267
RC01 Rabbit Creek A 54.23 34 IAmb IAmb 06 08 26.3
comp=Z,48nm,1.2s
RC01 Rabbit Creek A 54.23 34 P P 06 08 04.0 -0.2
baz=267
SEW Seward 54.32 35 P P 06 08 04.8 -0.1
baz=268,SNR=5.2
KSH Kashi 54.45 300 P P 06 08 09.2 +2.9
KSH sP pwP 06 08 16.0 +0.6
KSH S S 06 15 42.2 -2.4
KSH pmax pmax
comp=Z,32nm,1.3s
KSH LR LR
comp=Z,1µm,17.2s
KSH LR LR
comp=Z,2µm,17.2s
KSH LR LR
comp=Z,2µm,18.1s
PMR Palmer 54.55 33 P P 06 08 06.5 0.0
PMR Palmer 54.55 33 P P 06 08 07.0 +0.5
PMR Palmer 54.55 33 P P 06 08 06.5 0.0
PMR pmax pmax
comp=Z,30nm,0.9s
PMR Palmer 54.55 33 P P 06 08 06.6 0.0
baz=267,SNR=11
G23K Bananza Creek 54.65 27 IAmb IAmb 06 08 23.5
comp=Z,59nm,1.0s
G23K Bananza Creek 54.65 27 P P 06 08 07.5 +0.3
baz=262
COLD Coldfoot 54.66 26 P P 06 08 07.8 +0.6
baz=262,SNR=21
GHO Glory Hole Cre 54.66 33 IAmb IAmb 06 08 29.3
comp=Z,51nm,1.1s
KBK Karagaybulak 54.67 304 P P 06 08 08.1 +0.2
SNR=20
MBWA Marble Bar 54.67 206 P P 06 08 07.4 -0.4
MBWA IAmb IAmb 06 08 22.4
comp=Z,36nm,0.9s
MBWA Marble Bar 54.67 206 P P 06 08 07.5 -0.3
MBWA Marble Bar 54.67 206 P P 06 08 07.0 -0.8
MBWA P P 06 08 07.0 -0.8
I23K Minto, Yukon-K 54.74 29 IAmb IAmb 06 08 31.3
comp=Z,63nm,1.4s
I23K Minto, Yukon-K 54.74 29 P P 06 08 08.0 +0.2
baz=264,SNR=16
D23K Nanushuk River 54.75 24 P P 06 08 08.2 +0.3
baz=260
CHMS Chumysh 54.75 304 P P 06 08 08.3 -0.1
SNR=18
SGDS Sogindy 54.77 305 eP P 06 08 08.6 +0.1
SGDS pmax pmax
comp=Z,62nm,0.9s
SGDS Sogindy 54.77 305 eP P 06 08 08.6 +0.1
comp=Z,62nm,0.9s,baz=304
MCK McKinley 54.79 31 P P 06 08 08.9 +0.6
MCK IAmb IAmb 06 08 23.4
comp=Z,48nm,1.1s
MCK McKinley 54.79 31 P P 06 08 08.9 +0.6
MCK pmax pmax
comp=Z,48nm,1.1s
MCK McKinley 54.79 31 P P 06 08 08.8 +0.6
baz=265,SNR=16
RND Reindeer 54.80 31 P P 06 08 08.7 +0.3
NEA2 Nenana 54.80 29 IAmb IAmb 06 08 23.4
comp=Z,44nm,0.9s
NEA2 Nenana 54.80 29 P P 06 08 08.6 +0.3
baz=265,SNR=13
KNK Knik Glacier 54.87 33 IAmb IAmb 06 08 23.5
comp=Z,49nm,0.8s
KNK IAMs_20 IAMs_20 06 30 25.4
comp=Z,1µm,21.0s
KNK Knik Glacier 54.87 33 P P 06 08 08.5 -0.4
baz=268,SNR=20
FRU1 Bishkek 54.87 304 P P 06 08 09.5 +0.2
FRU1 IAMs_20 IAMs_20 06 34 20.4
comp=Z,1µm,18.0s
FRU1 Bishkek 54.87 304 P P 06 08 09.5 +0.2
FRU1 pmax pmax
comp=Z,113nm,1.3s
FRU1 MLR MLR
comp=Z,1µm,18.0s
USP Ospenovka 54.89 304 P P 06 08 09.1 -0.3
SNR=23
C23K Itkillik River 54.93 23 IAmb IAmb 06 08 34.0
comp=Z,80nm,1.1s
C23K Itkillik River 54.93 23 P P 06 08 09.8 +0.7
baz=260,SNR=31
SML Sawmill 54.95 33 IAmb IAmb 06 08 24.8
comp=Z,74nm,1.1s
SML Sawmill 54.95 33 P P 06 08 09.4 -0.1
baz=267,SNR=13
BTLS Baital 54.95 307 c iP P 06 08 09.5 -0.2
BTLS Baital 54.95 307 ⇑ iP P 06 08 09.5 -0.2
baz=306
E23K Chandalar 55.00 25 P P 06 08 10.4 +0.6
baz=262,SNR=34
AAK Ala-Archa 55.00 304 P P 06 08 10.2 -0.1
SNR=25
AAK Ala-Archa 55.00 304 P P 06 08 10.0 -0.2
AAK Ala-Archa 55.00 304 IAMs_20 IAMs_20 06 34 41.8
comp=Z,2µm,19.0s
AAK Ala-Archa 55.00 304 ce P P 06 08 10.1 -0.2
AAK pmax pmax
comp=Z,33nm,1.0s
AAK Ala-Archa 55.00 304 i P P 06 08 10.0 -0.2
SNR=31
AAK Ala-Archa 55.00 304 LR LR 06 34 45.1
comp=Z,2µm,18.3s,baz=76,slow=39

AAK Ala-Archa 55.00 304 P P 06 08 10.6 +0.3
AAK P P 06 08 10.6 +0.3
PSA00 Pilbara Seismi 55.01 206 P P 06 08 09.8 -0.5
PSA00 IAmb IAmb 06 08 15.7
comp=Z,69nm,1.2s
PSA00 Pilbara Seismi 55.01 206 P P 06 08 09.7 -0.5
UCH Uchtor 55.05 303 P P 06 08 11.7 +0.6
SNR=63
EIDS Eidsvold 55.06 170 P P 06 08 10.7 +0.1
EIDS IAmb IAmb 06 08 21.0
comp=Z,63nm,1.1s
EIDS Eidsvold 55.06 170 P P 06 08 11.4 +0.8
MDM Murphy Dome 55.20 29 P P 06 08 11.8 +0.7
MDM IAmb IAmb 06 08 36.3
comp=Z,76nm,1.4s
M23K Glacier View 55.23 33 P P 06 08 11.7 +0.3
baz=268
BRZS Berezniki 55.27 313 c iP P 06 08 12.0 +0.1
BRZS pmax pmax
comp=Z,100nm,1.0s
BRZS Berezniki 55.27 313 ⇑ iP P 06 08 12.1 +0.1
comp=Z,100nm,1.0s,baz=313
P23K Montague Islan 55.35 35 P P 06 08 12.3 0.0
baz=269
COLA College 55.35 29 P P 06 08 12.5 +0.3
COLA College 55.35 29 P P 06 08 13.5 +1.3
COLA College 55.35 29 i P P 06 08 11.5 -0.7
COLA pmax pmax
comp=Z,11nm,0.9s
COLA College 55.35 29 P P 06 08 11.7 -0.5
baz=266
CCB Clear Creek Bu 55.35 29 P P 06 08 12.0 -0.2
H24K Noodor Dome 55.42 28 P P 06 08 12.6 -0.2
baz=265,SNR=18
SCM Sheep Creek Mo 55.42 33 P P 06 08 12.5 -0.4
SCM IAmb IAmb 06 08 28.1
comp=Z,55nm,0.8s
SCM Sheep Creek Mo 55.42 33 P P 06 08 12.5 -0.4
SCM pmax pmax
comp=Z,55nm,0.8s
SCM Sheep Creek Mo 55.42 33 P P 06 08 11.7 -1.2
baz=268,SNR=12
D24K Happy Valley 55.44 24 IAmb IAmb 06 08 28.6
comp=Z,69nm,0.9s
D24K Happy Valley 55.44 24 P P 06 08 13.2 +0.4
baz=262
EKS2 Erkin-Say 55.52 304 P P 06 08 14.0 0.0
SNR=22
POKR Poker Plat Res 55.55 29 P P 06 08 14.7 +1.1
baz=266
C24K Franklin Bluff 55.57 23 P P 06 08 15.4 +1.7
baz=262
F24K Squaw Lake 55.58 26 IAmb IAmb 06 08 29.8
comp=Z,29nm,0.7s
F24K Squaw Lake 55.58 26 P P 06 08 15.0 +1.1
baz=264
QLP Quilpie 55.64 178 P P 06 08 14.4 -0.3
G24K Hadweenzic Riv 55.66 27 P P 06 08 15.7 +1.2
baz=265,SNR=16
WRKA Warakurna 55.69 195 P P 06 08 14.7 -0.4
OTUK Ortayu 55.69 311 P P 06 08 15.3 +0.3
HDA Harding Lake 55.71 30 IAmb IAmb 06 08 33.7
comp=Z,51nm,1.4s
HDA Harding Lake 55.71 30 P P 06 08 15.3 +0.4
baz=267,SNR=13
IL31 55.76 29 P P 06 08 15.5 +0.4
IL31 IAmb IAmb 06 08 36.6
comp=Z,45nm,1.1s
ILAR Eielson Array 55.76 29 P P 06 08 15.3 +0.2
comp=Z,7.9nm,0.7s,baz=264,slow=5.9,SNR=50
ILAR PKPPKP P'P'df 06 38 15.1 -8.3
comp=Z,0.1nm,0.6s,baz=316,slow=2.5,SNR=2.3
comp=Z,7.9nm,0.7s
HIN Hinchinbrook I 55.80 35 IAMs_20 IAMs_20 06 30 36.1
comp=Z,1µm,21.0s
Q23K Middleton Isla 55.88 36 P P 06 08 16.7 +0.6
baz=271
M24K Tolsona, Glenn 55.97 33 IAmb IAmb 06 09 12.4
comp=Z,50nm,1.1s
M24K Tolsona, Glenn 55.97 33 P P 06 08 17.1 +0.2
baz=269
KLU Klutina 56.09 33 IAmb IAmb 06 08 37.6
comp=Z,53nm,1.2s
KLU Klutina 56.09 33 P P 06 08 17.0 -0.7
baz=270,SNR=9.9
EYAK Cordova Ski Ar 56.17 34 P P 06 08 20.1 +1.9
EYAK Cordova Ski Ar 56.17 34 P P 06 08 17.6 -0.6
baz=270
NOUC Port Laguerre 56.17 153 P P 06 08 19.9 +1.3
K24K Donnelly Dome 56.19 31 P P 06 08 18.8 +0.4
baz=268
DZM Mont Dzumac 56.20 153 P P 06 08 20.4 +1.5
DZM Mont Dzumac 56.20 153 LR LR 06 32 56.0
comp=Z,1µm,18.9s,baz=351,slow=37
G25K Bearman Lake 56.21 27 P P 06 08 18.4 0.0
baz=266
H25L Birch Creek 56.29 28 P P 06 08 19.2 +0.2
baz=267,SNR=16
PAX Paxson 56.31 32 P P 06 08 19.8 +0.5
PAX Paxson 56.31 32 P P 06 08 19.8 +0.5
PAX Paxson 56.31 32 P P 06 08 19.4 +0.1
baz=269,SNR=18
D25K Kavik River 56.33 24 IAmb IAmb 06 08 47.0
comp=Z,86nm,1.5s
D25K Kavik River 56.33 24 P P 06 08 19.7 +0.4
baz=264
PRP Porcupine Dome 56.37 28 P P 06 08 19.4 -0.3
baz=267,SNR=7.7
J25K Salcha River, 56.40 30 P P 06 08 20.0 +0.2
baz=268
BVA0 Borovoye Array 56.41 316 i P P 06 08 20.4 +0.4
BVAR Borovoye Array 56.41 316 P P 06 08 20.6 +0.6
comp=Z,110nm,0.9s,baz=91,slow=7.7,SNR=276
BVAR LR LR 06 34 07.0
comp=Z,2µm,18.3s,baz=81,slow=38
comp=Z,110nm,0.9s
F25K Christian Rive 56.45 26 P P 06 08 20.3 +0.1
baz=266
HARP HAARP 56.45 32 P P 06 08 20.0 -0.3
baz=270
BRVK Borovoye 56.47 317 P P 06 08 21.1 +0.6
BRVK Borovoye 56.47 317 ce P P 06 08 21.0 +0.6
BRVK pmax pmax
comp=Z,307nm,1.3s
BRVK Borovoye 56.47 317 P P 06 08 21.1 +0.6
BRVK P P 06 08 21.1 +0.6
E25K Arctic Village 56.51 25 IAmb IAmb 06 08 27.6
comp=Z,48nm,0.9s
E25K Arctic Village 56.51 25 P P 06 08 21.1 +0.5
baz=266,SNR=39
RIDG Independent Ri 56.61 31 P P 06 08 21.6 +0.3
baz=269
RAGM Ragged Mountai 56.71 35 IAMs_20 IAMs_20 06 35 29.1
comp=Z,1µm,20.0s
N25K Chitina, Valde 56.72 33 IAMs_20 IAMs_20 06 36 29.4
comp=Z,1µm,18.0s
N25K Chitina, Valde 56.72 33 P P 06 08 22.3 +0.1
baz=271
BMRM Bremner River 56.73 34 P P 06 08 21.6 -0.6
BMRM IAmb IAmb 06 08 42.1
comp=Z,80nm,1.0s
BMRM Bremner River 56.73 34 P P 06 08 22.6 +0.3
baz=271,SNR=7.6
INKA Innaminka 56.78 182 P P 06 08 22.3 -0.5
C26K Camden Bay 56.90 23 P P 06 08 24.2 +1.0
baz=265
HMT Hamilton 56.91 35 IAMs_20 IAMs_20 06 35 43.6
comp=Z,1µm,20.0s
SCRK Sand Creek 56.99 30 P P 06 08 24.0 -0.2
baz=270,SNR=22
F26K Sheenjek River 57.02 26 P P 06 08 24.3 +0.1
baz=267,SNR=36
GLB Gilahina Butte 57.10 33 IAMs_20 IAMs_20 06 32 05.4
comp=Z,1µm,21.0s
MENT Mentasta 57.12 32 P P 06 08 26.9 +2.0
G26K Porcupine Rive 57.13 27 P P 06 08 25.4 +0.5
baz=268,SNR=13
OOD Oodnadatta 57.15 187 P P 06 08 25.3 -0.1
J26L Joseph Creek 57.18 30 P P 06 08 25.3 -0.1
J26L Joseph Creek 57.18 30 P P 06 08 25.9 +0.5
baz=270,SNR=26
DZA Taraz 57.24 304 eP P 06 08 26.0 -0.1
DZA Taraz 57.24 304 eP P 06 08 26.1 -0.1
baz=304
L26K Log Cabin Wild 57.28 31 IAmb IAmb 06 08 49.1
comp=Z,49nm,1.3s
L26K IAMs_20 IAMs_20 06 31 56.2

comp=Z,1µm,20.0s
L26K Log Cabin Wild 57.28 31 P P 06 08 26.6 +0.5
baz=271,SNR=15
I26K Coal Creek Min 57.35 29 P P 06 08 27.8 +1.3
baz=270
CRQM Cirque 57.45 34 IAmb IAmb 06 08 42.6
comp=Z,60nm,1.0s
CRQM IAMs_20 IAMs_20 06 35 48.4
comp=Z,1µm,20.0s
M26K Nabesna, AK 57.46 32 IAMs_20 IAMs_20 06 34 15.9
comp=Z,1µm,19.0s
M26K Nabesna, AK 57.46 32 P P 06 08 28.2 +0.8
baz=272
CRQE Cirque 57.48 34 P P 06 08 28.1 +0.5
baz=273,SNR=9.2
MCARA McCarthy VSAT 57.48 33 IAmb IAmb 06 08 42.5
comp=Z,70nm,1.1s
MCARA McCarthy VSAT 57.48 33 P P 06 08 28.2 +0.7
baz=272
TGL Tana Glacier 57.60 34 IAmb IAmb 06 08 43.4
comp=Z,53nm,1.1s
TGL IAMs_20 IAMs_20 06 35 02.8
comp=Z,1µm,19.0s
WAX Waxell Ridge 57.61 35 IAMs_20 IAMs_20 06 36 25.9
comp=Z,1µm,19.0s
DRK Karamyk 57.62 300 IAmb IAmb 06 08 30.6
comp=Z,96nm,1.5s
KK31 Karatay Array 57.79 305 P P 06 08 30.2 +0.1
KK31 IAmb IAmb 06 08 31.4
comp=Z,60nm,0.8s
KK31 Karatay Array 57.79 305 *i* P P 06 08 29.1 -0.9
KKAR Karatay Array 57.79 305 P P 06 08 30.3 +0.3
KKAR Karatay Array 57.79 305 P P 06 08 30.3 +0.3
K27K Chicken 57.83 30 P P 06 08 31.1 +1.1
baz=271
ISLE Juniper Island 57.85 34 IAMs_20 IAMs_20 06 35 40.4
comp=Z,1µm,18.0s
NIL Nilore 57.95 293 P P 06 08 31.0 -0.3
NIL Nilore 57.95 293 P P 06 08 31.0 -0.3
NIL pmax pmax
comp=Z,157nm,1.5s
NIL MLR MLR
comp=Z,800nm,19.0s
NIL Nilore 57.95 293 P P 06 08 31.7 +0.4
NIL P P 06 08 31.7 +0.4
L27K Beaver Creek, 57.97 31 IAMs_20 IAMs_20 06 33 26.5
comp=Z,1µm,20.0s
L27K Beaver Creek, 57.97 31 P P 06 08 31.6 +0.6
baz=272,SNR=19
M27K Edge Creek, AK 57.98 32 IAmb IAmb 06 08 58.5
comp=Z,67nm,1.6s
M27K IAMs_20 IAMs_20 06 33 28.7
comp=Z,1µm,20.0s
M27K Edge Creek, AK 57.98 32 P P 06 08 32.1 +0.9
baz=273,SNR=7.8
I27K Kandik River 58.00 28 P P 06 08 32.1 +1.0
baz=271,SNR=12
H27K Steamboat Moun 58.02 28 P P 06 08 32.0 +0.7
baz=270
MESA MESA 58.07 35 P P 06 08 32.2 +0.2
baz=274
GRNC Granite Creek 58.13 34 IAMs_20 IAMs_20 06 35 18.7
comp=Z,1µm,20.0s
EGAK Eagle 58.21 29 P P 06 08 32.9 +0.3
EGAK Eagle 58.21 29 P P 06 08 33.0 +0.5
baz=272,SNR=15
BTK Batken 58.22 301 IAmb IAmb 06 08 42.5
comp=Z,47nm,1.1s
BTK Batken 58.22 301 P P 06 08 32.9 -0.3
BRLS Borolday 58.29 305 *c i* P P 06 08 34.4 +0.9
BRLS Borolday 58.29 305 *i* P P 06 08 34.5 +0.9
baz=304
CTG Chitna Glacier 58.32 34 P P 06 08 33.8 +0.2
baz=274
CTGM Chitina Glacie 58.32 34 IAMs_20 IAMs_20 06 35 27.7
comp=Z,1µm,19.0s
IUG Iuzhnay 58.34 304 *e* P P 06 08 33.8 -0.1
IUG pmax pmax
comp=Z,80nm,0.8s
IUG Iuzhnay 58.34 304 *e* P P 06 08 33.9 -0.1
comp=Z,80nm,0.8s,baz=304
BVCY Beaver Creek 58.45 32 P P 06 08 35.0 +0.7
baz=274,SNR=6.2
TABL Table Mountain 58.46 34 IAMs_20 IAMs_20 06 33 03.3
comp=Z,1µm,20.0s
CHM Chimkent 58.61 304 *e* P P 06 08 35.6 -0.1
CHM Chimkent 58.61 304 *e* P P 06 08 35.7 -0.1
baz=304
CHM LR LR 06 34 07.4
baz=304
F28M Old Crow 58.66 26 IAmb IAmb 06 08 56.7
comp=Z,41nm,1.2s
F28M Old Crow 58.66 26 P P 06 08 36.8 +1.2
baz=271,SNR=17
YUK3 Moose Creek 58.68 33 P P 06 08 37.3 +1.2
baz=274
I28M Miner Creek 58.70 29 P P 06 08 37.2 +1.1
baz=272
AULRC Lightning Ridg 58.70 174 P P 06 08 36.7 +0.4
GAR Garm 58.85 300 P P 06 08 37.3 -0.3
PINM Pinnacle 58.93 35 P P 06 08 39.3 +1.5
baz=275
HYB Hyderabad 58.99 274 *e* P P 06 08 37.9 -0.8
HYB IVmB_BB 06 08 38.2
comp=Z,435nm,1.6s
DAWY Dawson 59.01 30 IAmb IAmb 06 08 53.7
comp=Z,43nm,1.1s
DAWY Dawson 59.01 30 P P 06 08 39.6 +1.4
baz=274,SNR=20
D28M Stokes Point 59.04 24 P P 06 08 40.1 +1.9
baz=271
YUK8 Steele Glacier 59.06 33 P P 06 08 39.7 +0.9
baz=275
H29M Whitestone 59.30 28 P P 06 08 41.2 +1.0
baz=273,SNR=8.7
E29M Blow River 59.37 25 P P 06 08 42.5 +1.9
baz=272
J29N Klondike Camp 59.49 30 IAmb IAmb 06 09 06.5
comp=Z,24nm,0.8s
J29N Klondike Camp 59.49 30 P P 06 08 41.8 +0.2
baz=275,SNR=19
M29M Somme Creek 59.56 32 P P 06 08 42.6 +0.5
baz=276
LCRK Leigh Creek 59.58 184 P P 06 08 42.6 +0.3
YUK4 Talbot Arm 59.59 33 P P 06 08 43.5 +1.1
baz=276,SNR=12
L29M L29M 59.65 31 IAMs_20 IAMs_20 06 33 27.8
comp=Z,1µm,21.0s
L29M L29M 59.65 31 P P 06 08 43.1 +0.5
baz=275,SNR=22
O29M Mount Kennedy 59.74 34 P P 06 08 44.7 +1.3
baz=277
YUK6 Outpost Mounta 59.77 34 P P 06 08 44.9 +1.2
baz=276,SNR=5.9
MULG Mulgathing 59.80 188 P P 06 08 43.7 -0.2
CHGR Chuyangaron 59.81 300 P P 06 08 44.1 -0.1
CHGR Chuyangaron 59.81 300 P P 06 08 44.1 -0.1
CHGR pmax pmax
comp=Z,225nm,0.9s
CHGR MLR MLR
comp=Z,3µm,19.0s
K29M Barlow Dome 59.85 30 IAmb IAmb 06 09 07.9
comp=Z,44nm,1.1s
K29M Barlow Dome 59.85 30 P P 06 08 45.3 +1.2
baz=276
SIMJ Simiganj 59.92 300 P P 06 08 44.5 -0.6
SIMJ IAMs_20 IAMs_20 06 36 22.3
comp=Z,1µm,19.0s
EPYK Eagle Plains 59.96 27 P P 06 08 45.3 +0.5
baz=275,SNR=38
MEEK Meekatharra 60.07 204 P P 06 08 47.0 +1.1
G30M tAoh Zraii Nji 60.10 27 P P 06 08 47.0 +1.3
baz=275,SNR=28
ARMA Armidale 60.10 171 P P 06 08 46.3 +0.2
ARMA IAmb IAmb 06 08 56.4
comp=Z,57nm,1.3s
ARMA Armidale 60.10 171 P P 06 08 47.1 +1.0
HYT Haines Junctio 60.20 34 P P 06 08 47.6 +1.0
baz=277,SNR=18
I30M Mount Dempster 60.21 29 IAmb IAmb 06 09 07.0
comp=Z,75nm,1.3s
I30M Mount Dempster 60.21 29 P P 06 08 46.9 +0.4
baz=276
F30M Barrier River 60.22 26 P P 06 08 47.5 +1.1
baz=275,SNR=18
P29M Windy Craggy 60.24 35 IAmb IAmb 06 09 10.7
comp=Z,36nm,0.9s
P29M Windy Craggy 60.24 35 P P 06 08 47.5 +0.8
baz=278,SNR=6.1
J30M Hart River 60.29 29 P P 06 08 47.3 +0.1
J30M Hart River 60.29 29 P P 06 08 47.5 +0.4
baz=276,SNR=11
M30M Minto, Yukon 60.32 32 P P 06 08 48.4 +1.1
baz=277,SNR=8.5
N30M Aishikik Lake 60.32 33 P P 06 08 47.7 +0.4
baz=277
P30M Million Dollar 60.56 35 P P 06 08 48.8 -0.1
baz=278
MAYO Mayo, Yukon 60.60 31 IAmb IAmb 06 09 19.6
comp=Z,44nm,1.0s
MAYO Mayo, Yukon 60.60 31 P P 06 08 49.8 +0.7
baz=277
CMSA Cobar Meteorol 60.63 177 P P 06 08 50.6 +1.0
AUPHS Peel High Scho 60.67 171 P P 06 08 51.2 +1.3
G31M Satah River 60.87 27 P P 06 08 52.1 +1.3
baz=277,SNR=22
STKA Stephens Creek 60.88 181 P P 06 08 51.0 -0.3
STKA Stephens Creek 60.88 181 P P 06 08 51.0 -0.3
STKA Stephens Creek 60.88 181 *i* P P 06 08 50.7 -0.6
STKA Stephens Creek 60.88 181 P P 06 08 51.1 -0.2
comp=Z,24nm,0.9s,baz=347,slow=7.6,SNR=42
comp=Z,24nm,0.9s
O30N Mendenhall 60.89 34 P P 06 08 51.6 +0.4
baz=278,SNR=5.7
PLBC Pleasant Camp 60.96 35 P P 06 08 52.2 +0.7
baz=279,SNR=8.9
H31M Peel River 60.98 28 IAMs_20 IAMs_20 06 35 57.9
comp=Z,1µm,21.0s
INK Inuvik 61.00 25 P P 06 08 52.6 +0.9
INK Inuvik 61.00 25 P P 06 08 52.4 +0.7
baz=277,SNR=12
INK Inuvik 61.00 25 LR LR 06 37 00.7
comp=Z,235nm,20.1s,baz=350,slow=38
F31M Tsiigehtchic 61.02 26 IAmb IAmb 06 09 12.6
comp=Z,49nm,1.2s
F31M Tsiigehtchic 61.02 26 P P 06 08 52.8 +1.0
baz=277,SNR=13
KBL Kabul 61.04 295 P P 06 08 52.1 -0.8
KBL IAmb IAmb 06 09 14.1
comp=Z,38nm,1.0s
KBL IAMs_20 IAMs_20 06 38 12.1
comp=Z,1µm,19.0s
KBL Kabul 61.04 295 P P 06 08 52.1 -0.8
KBL pmax pmax
comp=Z,38nm,1.0s
KBL MLR MLR
comp=Z,1µm,19.0s
KBL Kabul 61.04 295 P P 06 08 52.1 -0.8
SNR=15
KBL P P 06 08 52.1 -0.8
SNR=15
S31K Pelican 61.27 37 IAMs_20 IAMs_20 06 31 24.9
comp=Z,1µm,21.0s
S31K Pelican 61.27 37 P P 06 08 55.3 +1.6
baz=280
FORT Forrest 61.28 194 P P 06 08 53.8 -0.2
FORT Forrest 61.28 194 P P 06 08 53.5 -0.5
SVE Sverdlovsk 61.46 322 *d i* P P 06 08 56.0 +1.0
SVE *e* S S 06 17 21.7 +6.2
SVE pmax pmax
comp=Z,135nm,1.1s
SVE MLR MLR
comp=Z,2µm,18.0s
M31M Drury Creek, Y 61.48 32 IAMs_20 IAMs_20 06 37 20.1
comp=Z,1µm,19.0s
M31M Drury Creek, Y 61.48 32 P P 06 08 55.9 +0.8
baz=279,SNR=12
SKAG Skagway 61.48 35 IAmb IAmb 06 09 14.1
comp=Z,30nm,1.1s
SKAG Skagway 61.48 35 P P 06 08 57.0 +1.9
SKAG Skagway 61.48 35 P P 06 08 55.9 +0.8
baz=280
WHY Whitehorse 61.50 34 P P 06 08 56.3 +0.9
baz=280,SNR=10
AUDCS Dubbo College 61.54 174 P P 06 08 57.1 +1.4
PALK Pallekele 61.65 262 P P 06 08 56.6 -0.4
PALK IAmb IAmb 06 08 57.8
comp=Z,27nm,0.9s
PALK Pallekele 61.65 262 *i* P P 06 08 55.5 -1.5
PALK pmax pmax
comp=Z,40nm,1.0s
PALK Pallekele 61.65 262 LR LR 06 35 39.8
comp=Z,707nm,20.8s,baz=157,slow=36
PALK Pallekele 61.65 262 P P 06 08 56.8 -0.2
PALK P P 06 08 56.8 -0.2
SIT Sitka 61.92 38 IAMs_20 IAMs_20 06 31 38.1
comp=Z,1µm,22.0s
FARO Faro, Yukon 61.95 32 P P 06 08 59.5 +1.2
FARO IAmb IAmb 06 09 21.1
comp=Z,34nm,1.1s
FARO Faro, Yukon 61.95 32 P P 06 08 59.3 +1.0
baz=280,SNR=9.5
BBOO Buckleboo 62.09 186 P P 06 08 59.2 -0.3
BBOO IAMs_20 IAMs_20 06 34 50.4
comp=Z,847nm,19.0s
BBOO Buckleboo 62.09 186 P P 06 08 59.1 -0.3
JIS Juneau Island 62.18 36 IAmb IAmb 06 09 15.1
comp=Z,69nm,1.2s
JIS IAMs_20 IAMs_20 06 32 48.9
comp=Z,1µm,20.0s
JIS Juneau Island 62.18 36 P P 06 09 02.1 +2.3
WHYH Whyalla 62.19 184 P P 06 09 00.4 +0.4
S32K Killisnoo 62.24 37 IAMs_20 IAMs_20 06 33 05.5
comp=Z,1µm,20.0s
S32K Killisnoo 62.24 37 P P 06 09 01.2 +1.0
baz=282
P32M Atlin 62.27 35 P P 06 09 01.2 +0.7
P32M IAmb IAmb 06 09 16.0
comp=Z,36nm,1.2s
P32M Atlin 62.27 35 P P 06 09 01.7 +1.2
baz=281,SNR=6.3
N32M Quiet Lake 62.28 33 IAmb IAmb 06 09 14.6
comp=Z,31nm,1.1s
N32M Quiet Lake 62.28 33 P P 06 09 01.6 +1.1
baz=281
HTT Hallett 62.51 183 P P 06 09 02.5 +0.2
P33M Teslin, Yukon 62.59 34 P P 06 09 03.7 +1.1
P33M IAmb IAmb 06 09 18.2
comp=Z,28nm,1.1s
P33M IAMs_20 IAMs_20 06 33 17.5
comp=Z,1µm,20.0s
P33M Teslin, Yukon 62.59 34 P P 06 09 03.2 +0.5
baz=282,SNR=12
ARU Arti 62.66 322 P P 06 09 03.4 +0.4
ARU IAMs_20 IAMs_20 06 38 23.8
comp=Z,1µm,18.0s
ARU Arti 62.66 322 *c i* P P 06 09 03.5 +0.4
ARU 06 09 44.2
ARU 06 11 17.3
ARU S S 06 17 34.4 +3.7
ARU 06 18 50.5
ARU pmax pmax
comp=Z,215nm,1.1s
ARU MLR MLR
comp=Z,1µm,18.0s
ARU Arti 62.66 322 LR LR 06 39 23.7
comp=Z,1µm,18.4s,baz=78,slow=39
Q32M Nakina River 63.12 35 IAmb IAmb 06 09 34.5
comp=Z,61nm,1.6s
Q32M Nakina River 63.12 35 P P 06 09 07.0 +0.6
baz=283
A36M Sachs Harbour 63.18 20 P P 06 09 07.0 +0.7
A36M IAmb IAmb 06 09 22.9
comp=Z,30nm,0.8s
A36M Sachs Harbour 63.18 20 P P 06 09 07.4 +1.1
baz=282,SNR=17
MORW Morawa 63.22 206 P P 06 09 06.5 -0.6
MORW Morawa 63.22 206 P P 06 09 08.0 +0.9
SYDH Sydney Hard Ro 63.28 172 P P 06 09 09.2 +1.9
U33K Whale Pass 63.31 39 IAmb IAmb 06 09 40.2
comp=Z,48nm,1.2s
U33K Whale Pass 63.31 39 P P 06 09 08.2 +0.8
baz=283
KMBL Kambalda 63.39 199 P P 06 09 07.7 -0.4
CRAG Craig 63.47 39 P P 06 09 10.6 +2.2
CRAG Craig 63.47 39 P P 06 09 09.0 +0.6
baz=284
AB31 Akbulak array 63.54 314 *i* P P 06 09 09.5 +0.4
ABKAR Akbulak array 63.54 314 P P 06 09 09.5 +0.5
YNG Young 63.57 174 P P 06 09 10.5 +1.2
WRAK Wrangell Islan 63.66 38 IAmb IAmb 06 09 33.4
comp=Z,32nm,1.2s
WRAK Wrangell Islan 63.66 38 P P 06 09 10.5 +0.8
baz=284
R33M Jennings River 63.68 35 IAmb IAmb 06 09 30.2
comp=Z,101nm,1.9s
R33M Jennings River 63.68 35 P P 06 09 10.9 +1.0
baz=283,SNR=5.3
S34M Telegraph Cree 63.95 36 IAmb IAmb 06 09 18.4
comp=Z,30nm,1.1s
S34M IAMs_20 IAMs_20 06 32 10.5
comp=Z,929nm,21.0s
S34M Telegraph Cree 63.95 36 P P 06 09 12.3 +0.8
baz=284,SNR=11
C36M Paulatuk 64.18 23 IAmb IAmb 06 09 33.7
comp=Z,37nm,0.9s
C36M Paulatuk 64.18 23 P P 06 09 13.7 +0.8
baz=284,SNR=17
V35K Ketchikan 64.33 39 P P 06 09 15.2 +1.1
baz=285
BLDU Ballidu 64.37 204 P P 06 09 15.5 +0.9
DLBC Dease Lake 64.38 36 IAMs_20 IAMs_20 06 33 50.1
comp=Z,1µm,22.0s
DLBC Dease Lake 64.38 36 P P 06 09 14.9 +0.3
baz=285,SNR=8.9
DLBC Dease Lake 64.38 36 LR LR 06 34 23.1
comp=Z,876nm,21.9s,baz=288,slow=33
DIB Dawson Inlet, 64.40 42 IAmb IAmb 06 09 31.2
comp=Z,48nm,1.2s
AKTO Aktyubinsk 64.44 315 P P 06 09 14.2 -0.7
AKTO Aktyubinsk 64.44 315 LR LR 06 38 39.2
comp=Z,2µm,20.0s,baz=84,slow=37
TGTN Hyland Airport 64.45 32 P P 06 09 15.9 +1.0
baz=285,SNR=20
WTLY Watson Lake, Y 64.57 34 P P 06 09 16.9 +1.2
baz=285,SNR=6.9
CAN Canberra 64.64 174 P P 06 09 17.2 +0.9
CAN Canberra 64.64 174 P P 06 09 17.9 +1.6
CAN Canberra 64.64 174 P P 06 09 17.2 +0.9
CAN pmax pmax
comp=Z,92nm,1.3s
T35M Bob Quinn 64.64 37 IAmb IAmb 06 09 32.4
comp=Z,31nm,1.1s
T35M Bob Quinn 64.64 37 P P 06 09 17.1 +0.9
baz=285,SNR=6.6
CNB Canberra Magne 64.67 174 P P 06 09 17.4 +0.9
KLBR Kellerberrin 64.90 203 P P 06 09 18.6 +0.6
RUBB Prince Rupert 65.36 40 IAmb IAmb 06 09 40.9
comp=Z,31nm,1.1s
GRNB Grenville Isla 65.67 41 P P 06 09 23.3 +0.4
GRNB IAmb IAmb 06 09 29.0
comp=Z,43nm,1.0s
AUSMG Snowy Mountain 65.69 174 P P 06 09 24.2 +1.0
ARPS Mount Arapiles 65.76 180 P P 06 09 24.0 +0.5
WRGLY Wrigley 66.13 30 P P 06 09 26.8 +1.1
baz=288,SNR=40
NWAO Narrogin (SRO) 66.29 203 P P 06 09 26.6 -0.3
NWAO Narrogin (SRO) 66.29 203 P P 06 09 27.5 +0.5
NWAO Narrogin (SRO) 66.29 203 P P 06 09 26.7 -0.3
NWAO pmax pmax
comp=Z,63nm,1.0s
NWAO Narrogin (SRO) 66.29 203 LR LR 06 38 28.3
comp=Z,326nm,20.7s,baz=28,slow=36
NWAO Narrogin (SRO) 66.29 203 P P 06 09 27.6 +0.5
NWAO P P 06 09 27.6 +0.5
MILA Mila 66.37 174 P P 06 09 28.7 +1.2
HRA Herat 66.41 297 P P 06 09 28.1 -0.1
HRA IAmb IAmb 06 09 29.7
comp=Z,31nm,0.9s
BRAT Ballarat 66.56 178 P P 06 09 30.3 +1.7
TOO Toolangi 66.63 177 P P 06 09 29.6 +0.5
TOO IAmb IAmb 06 09 46.1
comp=Z,36nm,0.9s
TOO Toolangi 66.63 177 P P 06 09 30.3 +1.2
TOO Toolangi 66.63 177 P P 06 09 29.7 +0.5
TOO pmax pmax
comp=Z,36nm,1.0s
KOTAN Kotaneelee Air 66.84 33 P P 06 09 32.1 +1.8
baz=289,SNR=5.9
KIRV Kirov 66.85 325 *ce* P P 06 09 30.9 +0.6
KIRV Kirov 66.85 325 LR LR 06 41 17.2
comp=Z,2µm,18.5s,baz=74,slow=38
BBB Bella Bella 67.23 42 LR LR 06 36 49.9
comp=Z,284nm,20.0s,baz=272,slow=34
HOPEN Hopen 67.65 347 *e* P P 06 09 36.4 +1.2
HOPEN IAmb IAmb 06 09 37.6
comp=Z,129nm,1.1s
EUNU Eureka 67.69 8 P P 06 09 36.2 +0.8
RKGY Rocky Gully 67.92 202 P P 06 09 38.6 +1.3
SPA0 Spitsbergen Ar 68.18 350 *e* P P 06 09 39.6 +1.1
SPA0 IAmb IAmb 06 09 40.7
comp=Z,105nm,1.2s
SPB2 Spitsbergen Ar 68.18 350 IAmb IAmb 06 09 40.9
comp=Z,49nm,0.9s
SPITS Spitsbergen Ar 68.18 350 P P 06 09 39.5 +1.0
comp=Z,62nm,1.0s,baz=81,slow=10,SNR=12
comp=Z,62nm,1.0s
GEYT Alibeck 68.30 302 P P 06 09 40.2 +0.3
GEYT Alibeck 68.30 302 P P 06 09 40.5 +0.5
comp=Z,51nm,0.9s,baz=67,slow=5.0,SNR=60
GEYT LR LR 06 42 25.6
comp=Z,2µm,18.5s,baz=73,slow=38
comp=Z,51nm,0.9s
GYA0B ALIBECK ARRAY 68.30 302 P P 06 09 40.2 +0.3
KBS Kingsbay 68.33 351 P P 06 09 40.0 +0.6
KBS Kingsbay 68.33 351 *ce* P P 06 09 41.5 +2.1
KBS pmax pmax
comp=Z,120nm,1.0s
KBS Kingsbay 68.33 351 *e* P P 06 09 40.7 +1.3
KBS IAmb IAmb 06 09 42.0
comp=Z,124nm,1.1s
KBS Kingsbay 68.33 351 *i* P P 06 09 40.0 +0.6
NOR Nord 68.75 357 *i* P P 06 09 42.5 +0.5
NOR IAmb IAmb 06 09 48.3
comp=Z,5.1nm,0.9s
HSPB Hornsund (broa 69.09 349 *e* P P 06 09 45.6 +1.5
HSPB Hornsund (broa 69.09 349 *e* P P 06 09 45.3 +1.1
LVZ Lovozero 69.41 337 P P 06 09 46.4 +0.1
LVZ Lovozero 69.41 337 *ce* P P 06 09 48.3 +2.0
LVZ pmax pmax
comp=Z,176nm,2.5s
RAO Raoul Island 69.61 143 LR LR 06 36 14.8
comp=Z,561nm,19.4s,baz=348,slow=32
RES Resolute Bay 69.89 14 P P 06 09 49.6 +0.5
RES Resolute Bay 69.89 14 P P 06 09 49.6 +0.5
RES pmax pmax
comp=Z,23nm,0.9s
RES Resolute Bay 69.89 14 LR LR 06 45 02.5
comp=Z,349nm,19.0s,baz=342,slow=40
OZB Mount Ozzard 69.92 45 IAmb IAmb 06 09 52.6
comp=Z,46nm,1.0s
BELG Belogornoye 69.96 319 *c i* P P 06 09 49.9 0.0
BELG pmax pmax
comp=Z,62nm,1.1s
BELG Belogornoye 69.96 319 LR LR 06 42 36.2
comp=Z,2µm,18.6s,baz=62,slow=38
APA Apatity 69.98 337 ‖ *i* P P 06 09 48.9 -0.9
APA pmax pmax
comp=Z,63nm,1.0s
VADS Vadso 69.99 340 *e* P P 06 09 50.6 +0.8
YKA Yellowknife Ar 70.18 29 *i* P P 06 09 51.5 +0.4
YKA pmax pmax
comp=Z,14nm,0.9s
YKA Yellowknife Ar 70.18 29 P P 06 09 51.8 +0.7
comp=Z,13nm,0.9s,baz=295,slow=6.1,SNR=115
YKA PKP2ab 06 37 49.1
comp=Z,0.4nm,1.1s,baz=108,slow=6.8,SNR=3.9
YKA LR LR 06 42 38.7
comp=Z,258nm,19.4s,baz=308,slow=38
comp=Z,13nm,0.9s
GLAD Gladstone 70.18 175 P P 06 09 52.1 +0.9
AULHS Lilydale High 70.39 176 P P 06 09 53.3 +0.8
KLMR Klimovskoe 70.65 330 *e* P P 06 09 50.9 -3.1
KLMR *e* 06 12 27.9
KLMR S S 06 19 02.2 -5.0
KLMR pmax pmax
comp=Z,110nm,1.3s
KLMR MLR MLR
comp=Z,827nm,14.0s
NGCH Negor - Chabah 70.70 289 P P 06 09 55.9 +1.0
CLRS Cowichan Lake 70.81 44 IAmb IAmb 06 10 10.8
comp=Z,30nm,0.9s
KEV Kevo 70.87 341 P P 06 09 55.9 +0.7
KEV Kevo 70.87 341 P P 06 09 55.9 +0.7
KEV pmax pmax
comp=Z,99nm,1.2s
KEV MLR MLR
comp=Z,2µm,19.0s
HAMF Hammerfest 71.30 342 *e* P P 06 09 58.5 +0.8

HAMF IAmb IAmb 06 09 59.2
comp=Z,108nm,1.3s
ARA0 ARCESS Array S 71.43 341 *e*P **P 06 09 59.8 +1.2**
ARA0 IAmb IAmb 06 10 00.7
comp=Z,65nm,0.9s
ARCES ARCESS Array B 71.43 341 P **P 06 09 59.3 +0.7**
ARCES ARCESS Array B 71.43 341 P **P 06 09 59.3 +0.7**
comp=Z,46nm,0.9s,baz=56,slow=7.4,SNR=26
ARCES LR LR 06 46 06.9
comp=Z,2µm,19.0s,baz=66,slow=40
comp=Z,46nm,0.9s
B04A Port Angeles 71.49 45 IAmb IAmb 06 10 15.3
comp=Z,29nm,0.8s
NLWA Neilton Lookou 71.53 46 IAmb IAmb 06 10 15.8
comp=Z,40nm,0.8s
WISH Wishkah 71.70 46 P **P 06 10 00.3 -0.3**
TAU Tasmania Unive 72.05 176 P **P 06 10 03.8 +1.3**
TAU IAmb IAmb 06 10 11.9
comp=Z,73nm,1.3s
TAU Tasmania Unive 72.05 176 P **P 06 10 03.8 +1.3**
TAU pmax pmax
comp=Z,73nm,1.3s
E03A Lebam 72.06 46 IAMs_20 IAMs_20 06 45 11.5
comp=Z,987nm,18.0s
GNW Green Mountain 72.11 45 IAmb IAmb 06 10 19.1
comp=Z,41nm,1.1s
GNW IAMs_20 IAMs_20 06 36 33.8
comp=Z,636nm,18.0s
SGF Sodankyl 72.31 339 P **P 06 10 05.0 +1.1**
KTK1 Kautokeino 72.39 341 *e*P **P 06 10 04.7 +0.3**
KTK1 IAmb IAmb 06 10 10.1
comp=Z,73nm,1.1s
HEBO Mount Hebo 72.47 48 IAMs_20 IAMs_20 06 41 36.7
comp=Z,1µm,21.0s
BRLDA Berland Lookou 72.48 37 IAmb IAmb 06 10 26.3
comp=Z,37nm,0.9s
G03D McMinnville, O 72.79 48 IAmb IAmb 06 10 16.2
comp=Z,41nm,1.0s
G03D IAMs_20 IAMs_20 06 41 32.1
comp=Z,970nm,18.0s
JETT Jettan, Norway 72.85 342 *e*P **P 06 10 08.2 +1.1**
JETT IAmb IAmb 06 10 11.7
comp=Z,46nm,0.9s
COR Corvallis 73.02 48 IAMs_20 IAMs_20 06 35 36.2
comp=Z,1µm,21.0s
COR Corvallis 73.02 48 P **P 06 10 12.0 +3.4**
F04A Amboy 73.03 47 P **P 06 10 08.9 +0.3**
LON Longmire 73.07 46 P **P 06 10 09.1 +0.2**
LON Longmire 73.07 46 P **P 06 10 09.1 +0.2**
LON pmax pmax
comp=Z,24nm,1.0s
NEEM North Greenlan 73.16 3 *i* P **P 06 10 10.1 +0.9**
NEEM IAmb IAmb 06 10 18.2
comp=Z,27nm,0.8s
JASK Jask - Hormozg 73.18 291 P **P 06 10 11.1 +1.3**
SNR=8.7
J01E Myrtle Point 73.20 50 IAmb IAmb 06 10 12.7
comp=Z,59nm,1.0s
TRO Tromso 73.20 342 *e*P **P 06 10 09.8 +0.6**
TRO IAmb IAmb 06 10 10.7
comp=Z,71nm,1.1s
BUCK Buck Mountain 73.39 48 IAmb IAmb 06 10 17.9
comp=Z,62nm,1.0s
BUCK IAMs_20 IAMs_20 06 36 43.0
comp=Z,1µm,20.0s
H04D Lebanon 73.42 48 IAmb IAmb 06 10 26.9
comp=Z,41nm,1.0s
H04D IAMs_20 IAMs_20 06 35 26.7
comp=Z,1µm,21.0s
JLN Jalan Bani Buh 73.47 286 P **P 06 10 12.1 +0.5**
SNR=6.3
JLN P **P 06 10 12.1 +0.5**
SNR=6.3
LTY Liberty 73.56 45 P **P 06 10 12.1 +0.2**
K02D Willamette Mer 73.57 50 IAmb IAmb 06 10 28.1
comp=Z,46nm,1.1s
K02D IAMs_20 IAMs_20 06 35 04.9
comp=Z,1µm,21.0s
WBK Wadi Bani Khal 73.64 287 P **P 06 10 13.0 +0.4**
SNR=9.1
WBK P **P 06 10 13.0 +0.4**
SNR=9.1
WSAR Wadi Sarin 73.66 288 LR LR 06 45 30.1
comp=Z,728nm,21.3s,baz=84,slow=38
H04A Detroit Lake 73.71 48 P **P 06 10 13.0 +0.3**
H04A IAmb IAmb 06 10 28.1
comp=Z,53nm,0.9s
H04A IAMs_20 IAMs_20 06 36 10.3
comp=Z,815nm,20.0s
HOOD Mount Hood Mea 73.78 47 IAmb IAmb 06 10 22.8
comp=Z,72nm,0.9s
HOOD IAMs_20 IAMs_20 06 39 56.1
comp=Z,706nm,19.0s
VRH Novokhopyorsk 73.79 320 *e*P **P 06 10 12.0 -0.9**
VRH pmax pmax
comp=Z,60nm,1.0s
VRH MLR MLR
comp=Z,2µm,16.0s
MAK Makhachkala 73.81 310 *c i*P **P 06 10 09.5 -3.7**
MAK *e*PPP PPP 06 14 39.6
MAK *e*S **SKiKP 06 19 40.4 -1.6**
MAK *e*SS **SS 06 24 21.8 -5.6**
MAK pmax pmax
comp=Z,133nm,0.9s
MAK MLR MLR
comp=Z,3µm,17.0s
I04A Tendick Farm, 73.94 49 IAmb IAmb 06 10 29.4
comp=Z,35nm,0.9s
I04A IAMs_20 IAMs_20 06 36 12.5
comp=Z,1µm,20.0s
BIDO Bidbid 73.95 288 P **P 06 10 15.0 +0.6**
SNR=14
BIDO P **P 06 10 15.0 +0.6**
SNR=14
G05A Wamic 74.03 47 IAmb IAmb 06 10 42.9
comp=Z,86nm,1.3s
VALR Valaam 74.08 332 *c i*P **P 06 10 14.8 +0.4**
VALR pmax pmax
comp=Z,157nm,1.1s
HUMO Hull Mountain 74.08 50 IAMs_20 IAMs_20 06 35 33.4
comp=Z,1µm,20.0s
MXC Moxie City 74.09 45 IAmb IAmb 06 10 30.4
comp=Z,29nm,0.8s
SMDO Samad 74.22 288 P **P 06 10 17.0 +0.9**
SNR=11
SMDO P **P 06 10 17.0 +0.9**
SNR=11
KHMM Horse Mountain 74.30 52 IAmb IAmb 06 10 22.7
comp=Z,82nm,1.1s
I05D Terrebonne, OR 74.40 48 IAMs_20 IAMs_20 06 45 54.7
comp=Z,824nm,20.0s
JMDO Jabal Madar 74.47 287 P **P 06 10 18.0 +0.5**
SNR=7.6
JMDO P **P 06 10 18.0 +0.5**
SNR=7.6
SHME Shamm 74.51 291 *i* P **P 06 10 18.0 +0.4**
SNR=7.2
SHME Shamm 74.51 291 P **P 06 10 18.4 +0.8**
SNR=6.5
HOQ Hoqain 74.60 289 P **P 06 10 19.0 +0.8**
SNR=19
HOQ P **P 06 10 19.0 +0.8**
SNR=19
YBH Yreka Blue Hor 74.62 51 LR LR 06 37 04.8
comp=Z,589nm,21.0s,baz=309,slow=31
HAWA Hanford 74.64 45 IAmb IAmb 06 10 24.6
comp=Z,75nm,1.8s
LPSR Galich'ya Gora 74.68 322 *e*P **P 06 10 17.5 -0.6**
LPSR pmax pmax
comp=Z,80nm,1.0s
LPSR MLR MLR
comp=Z,910nm,15.0s
L04D Klamath Falls 74.69 50 IAmb IAmb 06 10 24.4
comp=Z,43nm,1.0s
OBN Obninsk 74.69 325 P **P 06 10 18.4 +0.3**
OBN Obninsk 74.69 325 *i* P **P 06 10 17.8 -0.3**
OBN *i* 06 10 30.5
OBN *i* 06 13 04.5
OBN pmax pmax
comp=Z,69nm,1.2s
OBN MLR MLR
comp=Z,3µm,17.0s
OBN Obninsk 74.69 325 LR LR 06 46 03.3
comp=Z,3µm,19.2s,baz=50,slow=38
LKRN Lenkeran, Azer 74.75 306 P **P 06 10 17.8 -1.0**
URZ Urewera 74.76 152 LR LR 06 39 44.8
comp=Z,738nm,21.8s,baz=52,slow=33

SEKA Sheki 74.77 309 P **P 06 10 17.5 -1.5**
C09A Chrisman Ranch 74.78 44 IAmb IAmb 06 10 25.0
comp=Z,113nm,1.9s
MASF Masafi 74.78 291 P **P 06 10 20.4 +1.1**
SNR=7.0
MASF P **P 06 10 20.4 +1.1**
SNR=7.0
MSFE Esma-Masafi 74.79 291 *i* P **P 06 10 19.4 +0.1**
SNR=8.0
GROC Groznyy 74.84 311 *e*P **P 06 10 19.6 +0.4**
GROC *e* 06 10 33.1
GROC *e*S **S 06 19 55.1 -0.5**
GROC pmax pmax
comp=Z,144nm,1.4s
K04D Chiloquin, OR 74.88 49 IAMs_20 IAMs_20 06 39 57.4
comp=Z,1µm,20.0s
PINE Pine Mountain 74.90 48 IAmb IAmb 06 10 35.9
comp=Z,65nm,0.8s
PINE IAMs_20 IAMs_20 06 36 02.9
comp=Z,1µm,19.0s
UOSS Minazif 74.93 290 P **P 06 10 19.5 -0.6**
UOSS Minazif 74.93 290 *i* P **P 06 10 20.2 +0.2**
SNR=6.6
UOSS Minazif 74.93 290 P **P 06 10 20.2 +0.2**
UOSS P **P 06 10 20.2 +0.2**
J05D Fort Rock, OR 74.93 49 IAmb IAmb 06 10 35.8
comp=Z,45nm,0.9s
J05D IAMs_20 IAMs_20 06 38 20.7
comp=Z,1µm,19.0s
VORR Voronezh 74.97 321 *e*P **P 06 10 20.2 +0.4**
VORR pmax pmax
comp=Z,150nm,1.5s
ZKTA Zakatala 74.97 309 P **P 06 10 19.0 -1.1**
SOHO SOHO 75.01 289 *i* P **P 06 10 20.4 0.0**
SNR=15
SOHO SOHO 75.01 289 P **P 06 10 20.5 0.0**
SOHO P **P 06 10 20.5 0.0**
EDM Edmonton 75.03 37 IAmb IAmb 06 10 35.3
comp=Z,56nm,0.8s
MNGR Mingechevir, A 75.04 308 P **P 06 10 19.4 -1.0**
HATD Hatta, Dubai 75.04 290 *i* P **P 06 10 21.0 +0.3**
SNR=12
HATD Hatta, Dubai 75.04 290 P **P 06 10 22.0 +1.2**
SNR=14
HATD P **P 06 10 22.0 +1.2**
SNR=14
BSY Bisya 75.06 288 P **P 06 10 21.1 +0.2**
SNR=17
BSY P **P 06 10 21.1 +0.2**
SNR=17
ASHO Ashiyiah 75.16 290 *i* P **P 06 10 21.2 -0.2**
SNR=13
ASHO Ashiyiah 75.16 290 P **P 06 10 21.5 0.0**
ASHO P **P 06 10 21.5 0.0**
ASHO P **P 06 10 22.0 +0.5**
SNR=17
ASHO P **P 06 10 22.0 +0.5**
SNR=17
PUL Pulkovo 75.17 331 *ce*P **P 06 10 22.2 +1.4**
PUL pmax pmax
comp=Z,28nm,0.4s
RAR Rarotonga 75.18 125 LR LR 06 36 31.3
comp=Z,888nm,19.7s,baz=315,slow=30
MHTO MHTO 75.18 286 P **P 06 10 22.0 +0.4**
SNR=13
MHTO P **P 06 10 22.0 +0.4**
SNR=13
VSR Storozhevoye 75.21 321 *e*P **P 06 10 20.6 -0.6**
VSR pmax pmax
comp=Z,80nm,1.1s
VSR MLR MLR
comp=Z,2µm,17.0s
VORD Divnogorie 75.26 320 *e*P **P 06 10 20.4 -1.1**
VORD pmax pmax
comp=Z,50nm,1.0s
VORD MLR MLR
comp=Z,1µm,14.0s
NEW Newport 75.26 43 IAmb IAmb 06 10 24.1
comp=Z,38nm,1.1s
NEW Newport 75.26 43 P **P 06 10 22.4 +0.8**
NEW Newport 75.26 43 P **P 06 10 22.6 +1.0**
baz=298,SNR=35
NEW Newport 75.26 43 LR LR 06 38 26.4
comp=Z,362nm,21.3s,baz=308,slow=32
STEI Steigen 75.34 342 *e*P **P 06 10 22.3 +0.6**
STEI IAmb IAmb 06 10 23.2
comp=Z,93nm,1.1s
NAZ Nazwa, Dubai 75.35 291 *i* P **P 06 10 22.9 +0.3**
SNR=6.1
NAZ Nazwa, Dubai 75.35 291 P **P 06 10 24.0 +1.5**
SNR=8.6
NAZ P **P 06 10 24.0 +1.5**
SNR=8.6
ARQ Araqi 75.36 289 P **P 06 10 23.1 +0.5**
SNR=14
ARQ P **P 06 10 23.1 +0.5**
SNR=14
K05A Summer Lake 75.40 49 IAMs_20 IAMs_20 06 39 24.3
comp=Z,1µm,19.0s
FAQ Al Faqa, Dubai 75.52 290 *i* P **P 06 10 23.4 -0.1**
SNR=6.3
GANJ Ganja 75.61 309 P **P 06 10 22.7 -1.1**
ALNE Al Ain 75.69 290 *i* P **P 06 10 23.9 -0.6**
SNR=9.5
ALNE Al Ain 75.69 290 P **P 06 10 24.7 +0.3**
SNR=18
ALNE P **P 06 10 24.7 +0.3**
SNR=18
I07A Izee 75.70 47 IAMs_20 IAMs_20 06 36 54.0
comp=Z,1µm,22.0s
FAUS Fauske 75.71 341 *e*P **P 06 10 24.7 +0.9**
FAUS IAmb IAmb 06 10 25.4
comp=Z,106nm,1.0s
GOF Gofitskoye 75.78 314 *c i*P **P 06 10 25.5 +0.9**
FIA1 FINESS Array S 75.94 334 P **P 06 10 25.3 +0.1**
FIA1 IAMs_20 IAMs_20 06 47 37.2
comp=Z,922nm,18.0s
FINES FINESS Array B 75.94 334 P **P 06 10 25.8 +0.6**
FINES FINESS Array B 75.94 334 P **P 06 10 25.8 +0.6**
FINES FINESS Array B 75.94 334 P **P 06 10 25.6 +0.4**
comp=Z,36nm,0.9s,baz=84,slow=7.9,SNR=63
FINES PP **PP 06 13 13.2 -1.9**
comp=Z,10.0nm,1.1s,baz=46,slow=8.2,SNR=5.1
FINES LR LR 06 48 07.0
comp=Z,635nm,18.3s,baz=52,slow=39
comp=Z,36nm,0.9s
GUDG Gudauri 76.04 311 P **P 06 10 27.6 +1.2**
AJN Ajban 76.09 290 *i* P **P 06 10 26.7 0.0**
SNR=7.4
AJN Ajban 76.09 290 P **P 06 10 27.1 +0.4**
SNR=5.8
AJN P **P 06 10 27.1 +0.4**
SNR=5.8
ORV Oroville 76.41 52 IAmb IAmb 06 10 33.4
comp=Z,36nm,0.9s
ORV IAMs_20 IAMs_20 06 42 24.1
comp=Z,816nm,18.0s
KBZ Khabaz 76.49 313 *ce*P **P 06 10 29.7 +1.1**
KBZ MLR MLR
comp=Z,789nm,20.0s
KBZ Khabaz 76.49 313 P **P 06 10 29.8 +1.1**
comp=Z,84nm,0.8s,baz=74,slow=4.2,SNR=151
KBZ LR LR 06 47 23.4
comp=Z,753nm,20.0s,baz=62,slow=38
comp=Z,84nm,0.8s
KVAR Kislovodsk Arr 76.51 313 LR LR 06 47 24.7
comp=Z,785nm,18.1s,baz=309,slow=38
KIV Kislovodsk 76.52 313 ⇓P **P 06 10 30.4 +1.4**
KIV Kislovodsk 76.52 313 P **P 06 10 29.8 +0.8**
KIV IAMs_20 IAMs_20 06 46 48.7
comp=Z,1µm,20.0s
KIV Kislovodsk 76.52 313 *e*P **P 06 10 30.0 +1.0**
KIV *e*S **S 06 20 16.5 +2.1**
KIV *e*SS **SS 06 25 12.1 +3.5**
KIV pmax pmax
comp=Z,68nm,1.0s
KIV pmax pmax
comp=Z,146nm,4.2s
KIV MLR MLR
comp=Z,762nm,18.0s
KIV Kislovodsk 76.52 313 *i* P **P 06 10 29.4 +0.4**
SNR=16
KIV Kislovodsk 76.52 313 P **P 06 10 29.9 +1.0**
KIV P **P 06 10 29.9 +1.0**
ONI Oni 76.65 311 P **P 06 10 31.4 +1.7**
J08A Circle Bar Ran 76.69 48 IAmb IAmb 06 10 45.7
comp=Z,32nm,0.8s
J08A IAMs_20 IAMs_20 06 38 08.4
comp=Z,980nm,20.0s
BMO Blue Mountains 76.74 46 IAMs_20 IAMs_20 06 36 51.4
comp=Z,690nm,22.0s
UMZA Um Al Zommool 76.76 289 P **P 06 10 30.1 -0.4**
UMZA P **P 06 10 30.1 -0.4**
MOR8 Moi Rana 76.80 341 *e*P **P 06 10 29.3 -0.7**
MOR8 IAmb IAmb 06 10 30.4
comp=Z,100nm,1.0s
NEUR Neytrino 76.83 312 *i* P **P 06 10 32.2 +1.3**
NEUR pmax pmax
comp=Z,5.0nm,0.9s
NAX Nakhchivan 76.84 308 P **P 06 10 29.8 -1.1**
GNI Garni 76.92 309 P **P 06 10 32.5 +1.2**
GNI Garni 76.92 309 IAMs_20 IAMs_20 06 47 58.5
comp=Z,1µm,18.0s
GNI Garni 76.92 309 *ce*P **P 06 10 32.2 +0.8**
GNI pmax pmax
comp=Z,200nm,1.7s
GNI MLR MLR
comp=Z,1µm,17.0s
GNI Garni 76.92 309 P **P 06 10 32.7 +1.3**
GNI Garni 76.92 309 LR LR 06 48 01.1
comp=Z,1µm,18.3s,baz=75,slow=38
GNI Garni 76.92 309 P **P 06 10 33.3 +2.0**
GNI P **P 06 10 33.3 +2.0**
WVOR Wild Horse Val 77.02 49 IAmb IAmb 06 10 50.0
comp=Z,36nm,1.1s
WVOR IAMs_20 IAMs_20 06 40 40.0
comp=Z,1µm,19.0s
WVOR Wild Horse Val 77.02 49 P **P 06 10 33.3 +1.4**
KHZ Kahutara 77.03 157 P **P 06 10 30.6 -0.8**
AFDM Forest Hills D 77.05 53 IAMs_20 IAMs_20 06 47 30.2
comp=Z,875nm,20.0s
ERBR Yeremizino-Bor 77.07 315 *e*P **P 06 10 29.2 -2.7**
ERBR *e**PP **pP 06 10 33.3 -2.5**
ERBR *i* S **S 06 20 17.8 -2.3**
ERBR pmax pmax
comp=Z,95nm,0.7s
STOK Stokkvaagen 77.09 341 *e*P **P 06 10 31.9 +0.3**
STOK IAmb IAmb 06 10 33.4
comp=Z,28nm,0.9s
MEF Metsahovi 77.34 333 *e*P **P 06 10 34.0 +0.9**
RPZ Rata Peaks 77.37 159 P **P 06 10 35.9 +2.5**
RPZ IAmb IAmb 06 10 41.0
comp=Z,68nm,1.2s
RPZ Rata Peaks 77.37 159 LR LR 06 42 26.4
comp=Z,255nm,20.9s,baz=350,slow=34
VSU Vasula 77.44 331 *ce*P **P 06 10 34.7 +1.0**
VSU pmax pmax
comp=Z,118nm,1.3s
PLID Pearl Lake 77.44 45 IAMs_20 IAMs_20 06 48 44.0
comp=Z,741nm,19.0s
MPK Martis Peak 77.54 52 IAMs_20 IAMs_20 06 37 01.0
comp=Z,904nm,22.0s
EMB Emerald Bay 77.64 52 IAmb IAmb 06 10 50.9
comp=Z,49nm,0.9s
EMB IAMs_20 IAMs_20 06 48 08.7
comp=Z,984nm,20.0s
JRN Qarnain Island 77.67 292 P **P 06 10 35.1 -0.4**
JRN P **P 06 10 35.1 -0.4**
RAF Rauma 77.85 335 *e*P **P 06 10 36.6 +0.7**
CMB Columbia Colle 77.88 53 IAmb IAmb 06 10 42.2
comp=Z,58nm,1.1s
CMB IAMs_20 IAMs_20 06 40 31.1
comp=Z,1µm,20.0s
PNTR Pine Nut 77.93 52 IAMs_20 IAMs_20 06 50 40.4
comp=Z,926nm,18.0s
YERR Yerington 78.23 52 IAmb IAmb 06 10 44.5
comp=Z,64nm,1.1s
YERR IAMs_20 IAMs_20 06 50 42.3
comp=Z,909nm,19.0s
WAKR Walker 78.32 52 IAMs_20 IAMs_20 06 49 12.7
comp=Z,1µm,19.0s
SUMG Summit 78.36 0 P **P 06 10 41.0 +1.9**
SUMG Summit 78.36 0 *i* P **P 06 10 40.0 +0.9**
SUMG *i* P **P 06 10 40.0 +0.9**
SUMG *i* P **P 06 10 40.0 +0.9**
SUMG IAmb IAmb 06 10 55.7
comp=Z,31nm,0.8s
MFID Camas Ranch 78.36 47 IAmb IAmb 06 10 42.0
comp=Z,49nm,1.1s
BCA Borcka 78.40 311 ⇑P **P 06 10 40.5 +1.1**
PMPB Monarch Peak 78.43 55 IAmb IAmb 06 11 03.1
comp=Z,82nm,1.4s
VSLR Vesyoloye 78.44 313 *c i*P **P 06 10 40.4 +0.8**
VSLR pmax pmax
comp=Z,197nm,0.9s
SHAO Shalim 78.48 284 P **P 06 10 39.8 -0.5**
SOC Sochi 78.58 314 *e*P **P 06 10 39.9 -0.5**
SOC *e* 06 13 35.1
SOC *e*PPP PPP 06 15 27.1
SOC *e*S **S 06 20 37.9 +1.4**
SOC *e*SS **SS 06 25 41.7 +2.2**
SOC *e*SSS SSS 06 29 04.2
SOC pmax pmax
comp=Z,57nm,0.8s
NSS Namsos 78.71 340 *e*P **P 06 10 40.8 +0.1**
NSS IAmb IAmb 06 10 41.8
comp=Z,46nm,0.9s
SHMA Al-Shehemyia 78.77 293 P **P 06 10 42.1 +0.4**
SNR=7.2
RYN Ryan 78.89 52 IAMs_20 IAMs_20 06 49 25.8
comp=Z,758nm,20.0s
BMN Battle Mountai 78.91 50 IAMs_20 IAMs_20 06 46 12.1
comp=Z,648nm,20.0s
KOPR Koprukoy-ERZUR 78.94 310 P **P 06 10 44.6 +1.9**
AKDM Akdamar-Van 78.97 308 P **P 06 10 44.1 +1.2**
KVN Kaiserville 78.98 51 IAmb IAmb 06 10 58.3
comp=Z,35nm,0.8s
KVN IAMs_20 IAMs_20 06 44 10.1
comp=Z,936nm,20.0s
MDPB Devils Postpil 78.98 53 IAMs_20 IAMs_20 06 41 03.2
comp=Z,1µm,19.0s
SLWR Sila 79.00 291 P **P 06 10 43.4 +0.4**
SLWR P **P 06 10 43.4 +0.4**
CUKT Cukurca 79.05 307 P **P 06 10 43.3 0.0**
SAKB Bahrain 79.06 294 P **P 06 10 43.5 +0.2**
AAL Aland 79.06 334 *e*P **P 06 10 43.1 +0.4**
TRNA Turayna 79.08 292 P **P 06 10 44.0 +0.5**
SNR=6.6
LHV Little Huntoon 79.08 52 IAmb IAmb 06 10 58.8
comp=Z,53nm,1.0s
LHV IAMs_20 IAMs_20 06 49 03.9
comp=Z,1µm,19.0s
NVAR Mina Array Bea 79.14 52 P **P 06 10 45.2 +1.4**
comp=Z,15nm,0.7s,baz=287,slow=5.2,SNR=146
NVAR LR LR 06 48 48.6
comp=Z,573nm,18.1s,baz=298,slow=38
comp=Z,15nm,0.7s
MLAC Mammoth, Mammo 79.15 53 P **P 06 10 44.8 +0.8**
baz=299,SNR=17
HLID Hailey 79.18 46 P **P 06 10 44.8 +0.9**
baz=300,SNR=30
DMTO DMTO 79.19 284 P **P 06 10 44.4 +0.3**
SNR=5.6
DMTO P **P 06 10 44.4 +0.3**
SNR=5.6
NV11 Mina Array Sit 79.24 52 IAmb IAmb 06 10 51.6
comp=Z,88nm,1.7s
NV11 IAMs_20 IAMs_20 06 50 56.0
comp=Z,898nm,20.0s
MNK Minsk 79.26 327 *i* P **P 06 10 43.0 -0.8**
MNK *i* 06 13 41.6
MNK *i* PPP PPP 06 15 29.0
MNK *i* S **S 06 20 44.9 +1.6**
MNK *i* SS **SS 06 25 51.2 +2.2**
MNK *i* SSS SSS 06 29 16.6
MNK pmax pmax
comp=Z,125nm,1.0s
MNK pmax pmax
comp=N,56nm,1.1s
MNK pmax pmax
comp=E,27nm,1.1s
MNK MLR MLR
comp=N,1µm,17.0s
MNK MLR MLR
comp=Z,2µm,17.0s
MNK MLR MLR
comp=E,747nm,16.0s
ANN Anapa 79.39 316 *e*P **P 06 10 41.1 -3.7**
ANN *e**PP **pP 06 10 45.4 -3.3**
ANN *e*S **S 06 20 41.5 -3.6**
ANN pmax pmax
comp=Z,50nm,1.2s

ANN MLR MLR
comp=E,1µm,16.0s
ANN MLR MLR
comp=N,725nm,17.0s
ANN MLR MLR
comp=Z,1µm,18.0s
SMRA Abu-Samra 79.39 292 P **P** **06 10 45.0 -0.1**
SNR=11
SMMC Simmler 79.43 56 P **P** **06 10 45.9 +0.6**
baz=298,SNR=7.7
ISAL Salakas 79.43 329 *e*P **P** **06 10 46.5 +1.7**
DOK Doka 79.47 285 P **P** **06 10 46.0 +0.3**
SNR=15
DOK P **P** **06 10 46.0 +0.3**
SNR=15
GURO Guroymak-BITLI 79.52 308 IAmb IAmb 06 10 48.6
comp=Z,71nm,1.1s
VRTB Varto-Mus 79.62 309 P **P** **06 10 46.6 +0.3**
EGMT Eagleton 79.65 40 IAmb IAmb 06 11 01.2
comp=Z,52nm,0.9s
EGMT Eagleton 79.65 40 P **P** **06 10 47.5 +1.2**
baz=302,SNR=25
UMMG Uummannaq 79.74 5 *i* P **P** **06 10 47.2 +1.0**
UMMG IAmb IAmb 06 11 01.2
comp=Z,12nm,0.9s
PKM Mcpherson Peak 79.77 56 P **P** **06 10 48.4 +1.1**
baz=299,SNR=21
SCO Scoresbysund 79.81 355 IAmb IAmb 06 10 49.6
comp=Z,66nm,1.3s
SCO Scoresbysund 79.81 355 *i* P **P** **06 10 47.2 +0.7**
SCO IAmb IAmb 06 10 49.9
comp=Z,11nm,1.0s
SLIT Slitere, Latvi 79.81 332 *e*P **P** **06 10 46.7 -0.1**
KARO Karliova-Bingo 79.82 309 P **P** **06 10 48.9 +1.4**
VES Vestal, Richgr 79.83 55 P **P** **06 10 47.5 +0.1**
baz=299,SNR=12
BOZ Bozeman (W) 79.85 43 P **P** **06 10 48.3 +0.8**
baz=302,SNR=22
TIN Tinemaha, Big 79.85 53 P **P** **06 10 48.1 +0.5**
baz=299
DSP Deep Springs 79.88 53 IAMs_20 IAMs_20 06 41 46.0
comp=Z,1µm,20.0s
RBK Rabkut 79.92 284 P **P** **06 10 49.0 +0.9**
RBK P **P** **06 10 49.0 +0.9**
SNR=13
BCW Bitter Crk WRg 80.03 56 IAmb IAmb 06 10 54.6
comp=Z,61nm,1.1s
SBC Santa Barbara 80.05 56 P **P** **06 10 49.3 +0.7**
baz=299
ELK Elko 80.06 49 P **P** **06 10 50.2 +1.3**
ELK Elko 80.06 49 LR LR 06 47 55.5
comp=Z,866nm,18.0s,baz=296,slow=37
WHFO Wadi Hawf 80.09 285 P **P** **06 10 49.0 -0.1**
WHFO P **P** **06 10 49.0 -0.1**
SNR=15
UPP Uppsala 80.16 335 *e*P **P** **06 10 48.6 0.0**
VSVD Vaisvydziai 80.16 330 *e*P **P** **06 10 50.2 +1.5**
TBLU Trondheim 80.17 340 *e*P **P** **06 10 48.2 -0.4**
TBLU IAmb IAmb 06 10 48.5
comp=Z,84nm,1.3s
BNGB Bingl 80.23 309 P **P** **06 10 51.0 +1.4**
CWC Cottonwood Cre 80.25 54 P **P** **06 10 51.0 +1.1**
baz=299
SVAN Silvan-Diyarba 80.29 308 P **P** **06 10 50.9 +1.1**
ISA Isabella, Lake 80.35 55 P **P** **06 10 51.1 +0.8**
baz=299,SNR=17
ARVC Arvin 80.36 55 P **P** **06 10 50.7 +0.5**
baz=299,SNR=7.7
PABE Paberze 80.44 329 IAMs_20 IAMs_20 06 49 17.4
comp=Z,783nm,18.0s
PABE Paberze 80.44 329 *e*P **P** **06 10 51.2 +1.0**
ESPY Espiye-Giresun 80.56 312 P **P** **06 10 51.0 -0.2**
PPT Papeete 80.65 116 LR LR 06 44 03.6
comp=Z,393nm,18.6s,baz=287,slow=34
OSI Osito Audit: C 80.68 56 P **P** **06 10 52.7 +0.6**
baz=299
ABTO Aybut 80.75 285 P **P** **06 10 53.0 +0.3**
SNR=13
ABTO P **P** **06 10 53.0 +0.3**
SNR=13
SNCC San Nicolas Is 80.76 57 P **P** **06 10 53.0 +0.6**
baz=299
AKASG Malin Array Be 80.81 324 P **P** **06 10 52.2 -0.2**
comp=Z,26nm,0.9s,baz=46,slow=5.6,SNR=90
AKASG LR LR 06 49 05.3
comp=Z,2µm,20.1s,baz=54,slow=38
comp=Z,26nm,0.9s
AKBB Malin Array Si 80.81 324 IAmb IAmb 06 10 53.4
comp=Z,63nm,1.1s
AKBB Malin Array Si 80.81 324 *c i* P **P** **06 10 52.2 -0.1**
AKBB pmax pmax
comp=Z,68nm,1.0s
KIEV Kiev 80.83 324 ⇑P **P** **06 10 52.4 0.0**
KIEV Kiev 80.83 324 P **P** **06 10 52.2 -0.2**
KIEV IAmb IAmb 06 10 53.4
comp=Z,57nm,1.1s
KIEV Kiev 80.83 324 ⇑P **P** **06 10 52.4 0.0**
KIEV *e* 06 10 53.5
KIEV Kiev 80.83 324 *i* P **P** **06 10 52.3 0.0**
SNR=32
MPMC Manual Prospec 80.86 54 P **P** **06 10 54.4 +1.3**
baz=300,SNR=21
AK05 Malin Array Si 80.87 324 P **P** **06 10 52.4 -0.2**
AK05 IAmb IAmb 06 10 53.9
comp=Z,47nm,1.1s
CCAC Calif City Air 80.93 55 IAmb IAmb 06 10 58.9
comp=Z,55nm,1.0s
PBUR Paburge 81.00 331 *e*P **P** **06 10 54.2 +1.0**
LRMC Laurel Mtn Rad 81.01 54 P **P** **06 10 55.3 +1.4**
baz=300,SNR=7.7
R11B Troy Canyon, C 81.04 51 IAmb IAmb 06 11 00.4
comp=Z,90nm,1.5s
R11B IAMs_20 IAMs_20 06 39 30.5
comp=Z,803nm,20.0s
R11B Troy Canyon, C 81.04 51 P **P** **06 10 54.9 +0.9**
baz=300,SNR=63
EDW2 Edwards Air Fo 81.08 55 P **P** **06 10 55.0 +0.8**
baz=300,SNR=29
DYBB Diyarbakir 81.11 309 P **P** **06 10 55.7 +1.4**
H17A Grant Village 81.12 44 P **P** **06 10 56.3 +1.8**
baz=302,SNR=46
HVU Hansel Valley 81.13 47 IAMs_20 IAMs_20 06 42 03.8
comp=Z,842nm,20.0s
DECC Green Verdugo 81.14 56 P **P** **06 10 55.0 +0.6**
baz=299
PTK Pertek 81.14 310 P **P** **06 10 56.3 +1.7**
MAZI Mazidag 81.15 308 P **P** **06 10 55.7 +1.1**
IMW Indian Meadow 81.16 44 IAmb IAmb 06 11 11.0
comp=Z,36nm,0.8s
YMP Mirror Lake Pl 81.19 43 IAmb IAmb 06 11 28.7
comp=Z,78nm,1.2s
Q12A Willow Creek R 81.20 50 IAMs_20 IAMs_20 06 40 38.7
comp=Z,702nm,20.0s
FLWY Flagg Ranch 81.21 44 IAmb IAmb 06 11 11.1
comp=Z,60nm,1.0s
ILULI Ilulissat 81.25 5 IAmb IAmb 06 10 56.8
comp=Z,93nm,1.4s
SIM Simferopol' 81.32 317 *e*P **P** **06 10 53.8 -1.4**
SIM *e*S **S** **06 20 58.5 -6.8**
SIM pmax pmax
comp=Z,120nm,0.9s
NC303 NORSAR Array S 81.34 338 IAmb IAmb 06 10 56.5
comp=Z,62nm,1.3s
HFS Hagfors 81.37 337 P **P** **06 10 55.2 +0.1**
comp=Z,7.6nm,0.5s,baz=99,slow=4.9,SNR=26
HFS LR LR 06 49 23.4
comp=Z,416nm,20.8s,baz=42,slow=37
comp=Z,7.6nm,0.5s
GWY Greenwater Val 81.37 53 IAmb IAmb 06 11 10.9
comp=Z,50nm,0.9s
GWY IAMs_20 IAMs_20 06 40 12.5
comp=Z,731nm,22.0s
ILIC ilic-Erzincan 81.41 310 P **P** **06 10 57.4 +1.5**
BGU Big Grassy Mou 81.41 48 IAMs_20 IAMs_20 06 42 51.3
comp=Z,1µm,20.0s
FMP Fort Macarthur 81.43 56 P **P** **06 10 57.4 +1.4**
baz=300
VIKU Vikbolandet 81.44 334 *e*P **P** **06 10 55.5 0.0**
DOMB Dombas 81.45 340 *e*P **P** **06 10 56.0 +0.4**
DOMB IAmb IAmb 06 10 56.3
comp=Z,37nm,1.0s
MOL Molde 81.49 341 *e*P **P** **06 10 56.5 +0.9**
MOL IAmb IAmb 06 10 57.3
comp=Z,70nm,1.3s
CIS Catalina Islan 81.50 57 P **P** **06 10 57.2 +0.9**
baz=300
NB201 NORSAR Array S 81.50 338 IAmb IAmb 06 10 57.3
comp=Z,77nm,1.2s
RLMT Red Lodge 81.51 43 IAmb IAmb 06 11 12.0
comp=Z,47nm,1.1s
RLMT Red Lodge 81.51 43 P **P** **06 10 57.3 +0.8**
baz=303,SNR=39
NB2 NORSAR Subarra 81.53 338 P **P** **06 10 53.2 -2.8**
NB2 pmax pmax
comp=Z,53nm,1.5s
NB2 NORSAR Subarra 81.53 338 P **P** **06 10 55.8 -0.2**
comp=Z,100nm,1.4s,baz=41,slow=5.3
NB2 NORSAR Subarra 81.53 338 P **P** **06 10 55.8 -0.2**
baz=41,slow=5.3
NOA NORSAR Array B 81.53 338 P **P** **06 10 56.2 +0.2**
comp=Z,23nm,1.1s,baz=41,slow=5.2,SNR=31
NOA LR LR 06 51 38.4
comp=Z,770nm,20.0s,baz=45,slow=39
comp=Z,23nm,1.1s
SPR3 Spring Creek 3 81.55 50 IAMs_20 IAMs_20 06 38 13.1
comp=Z,702nm,20.0s
BFSC Mount Baldy Ra 81.64 56 P **P** **06 10 58.1 +0.8**
baz=300,SNR=10.0
NC602 NORSAR Array S 81.65 338 IAmb IAmb 06 11 02.4
comp=Z,133nm,2.0s
NORES NORESS Array B 81.65 338 P **P** **06 10 59.6 +3.0**
AHID Auburn Hatcher 81.67 45 IAmb IAmb 06 11 03.7
comp=Z,45nm,1.1s
GSC Goldstone, Bar 81.72 54 IAMs_20 IAMs_20 06 41 59.7
comp=Z,1µm,19.0s
GSC Goldstone, Bar 81.72 54 P **P** **06 10 58.3 +0.7**
baz=300,SNR=19
SUW Suwalki 81.74 329 *e*P **P** **06 10 57.3 +0.1**
SUW Suwalki 81.74 329 IAMs_20 IAMs_20 06 53 29.7
comp=Z,683nm,21.0s
SUW Suwalki 81.74 329 *e*P **P** **06 10 58.1 +0.9**
ARPR Arapgir-MALATY 81.75 310 P **P** **06 10 59.2 +1.4**
ARPR Arapgir-MALATY 81.75 310 IAmb IAmb 06 11 17.7
comp=Z,62nm,1.1s
SHOC Shoshone, Teco 81.79 53 P **P** **06 10 59.0 +1.1**
baz=300,SNR=10
RRX Edison Barstow 81.79 55 P **P** **06 10 58.8 +0.9**
baz=300
ICESG Greenland Ices 81.85 1 *i* P **P** **06 10 58.5 +0.6**
ICESG IAmb IAmb 06 11 04.7
comp=Z,34nm,0.7s
DUG Dugway, Tooele 81.94 48 IAmb IAmb 06 11 05.2
comp=Z,69nm,1.3s
DUG IAMs_20 IAMs_20 06 46 56.1
comp=Z,1µm,20.0s
DUG Dugway, Tooele 81.94 48 P **P** **06 10 59.7 +1.0**
DUG Dugway, Tooele 81.94 48 P **P** **06 10 59.5 +0.8**
baz=302,SNR=45
AKN Aaknes 81.96 340 *e*P **P** **06 10 58.4 +0.2**
AKN IAmb IAmb 06 10 59.9
comp=Z,81nm,1.2s
HWUT Hardware Ranch 81.99 47 IAmb IAmb 06 11 01.9
comp=Z,57nm,1.1s
PSUT Pine Spring 82.11 50 IAMs_20 IAMs_20 06 40 31.9
comp=Z,646nm,21.0s
BBRC Big Bear Solar 82.15 55 P **P** **06 11 01.0 +0.9**
baz=300,SNR=5.3
KVT Kavak 82.20 313 P **P** **06 11 01.5 +1.5**
SVSK Karacayir 82.20 311 P **P** **06 11 01.6 +1.7**
SHPR Sheep Range 82.26 52 IAMs_20 IAMs_20 06 42 53.1
comp=Z,566nm,19.0s
TUQ Turquoise Moun 82.27 54 P **P** **06 11 01.4 +0.8**
baz=300,SNR=33
TOKT Tokat 82.28 312 P **P** **06 11 01.3 +0.9**
HEC Hector,Ludlow 82.29 54 P **P** **06 11 01.3 +0.7**
baz=300,SNR=9.0
MURC Murrieta 82.29 56 P **P** **06 11 01.0 +0.5**
baz=300,SNR=15
TCUT Toone Canyon 82.36 47 IAmb IAmb 06 11 16.0
comp=Z,38nm,0.9s
CTU Camp Tracy 82.36 47 IAmb IAmb 06 11 03.4
comp=Z,28nm,0.9s
CTU IAMs_20 IAMs_20 06 40 11.3
comp=Z,962nm,21.0s
LAO LASA Array 82.39 40 P **P** **06 11 01.3 +0.4**
baz=305,SNR=36
LAO LASA Array 82.39 40 P **P** **06 11 02.5 +1.6**
baz=305
DIKM Dikmen 82.40 314 ⇓P **P** **06 11 02.4 +1.4**
DGMT Dagmar 82.47 38 IAmb IAmb 06 11 03.2
comp=Z,53nm,1.1s
DGMT Dagmar 82.47 38 P **P** **06 11 02.2 +1.0**
baz=306,SNR=14
DGMT Dagmar 82.47 38 P **P** **06 11 02.0 +0.8**
baz=306
OSL Oslo 82.52 338 *e*P **P** **06 11 01.7 +0.6**
NLU North Lily Min 82.54 48 IAMs_20 IAMs_20 06 44 03.2
comp=Z,1µm,20.0s
DARE Darende-Malaty 82.59 310 P **P** **06 11 04.5 +2.4**
BW06 Boulder Array 82.62 45 P **P** **06 11 02.7 +0.3**
baz=303,SNR=21
PDAR Pinedale Array 82.62 45 P **P** **06 11 03.3 +0.9**
comp=Z,15nm,1.0s,baz=287,slow=2.5,SNR=62
PDAR PKPPKP **P'P'df** **06 37 32.1 -5.1**
comp=Z,0.4nm,0.8s,baz=108,slow=0.5,SNR=3.9
PDAR LR LR 06 43 10.5
comp=Z,359nm,20.2s,baz=314,slow=32
comp=Z,15nm,1.0s
109C Camp Elliot, M 82.71 56 IAmb IAmb 06 11 08.7
comp=Z,57nm,1.6s
109C Camp Elliot, M 82.71 56 P **P** **06 11 03.1 +0.4**
baz=300
SKAR Skarslia 82.73 339 *e*P **P** **06 11 03.0 +0.7**
SKAR IAmb IAmb 06 11 04.0
comp=Z,35nm,1.1s
SORM Soroca 82.78 322 ⇑P **P** **06 11 02.6 -0.1**
SORM Soroca 82.78 322 ⇑P **P** **06 11 02.6 -0.1**
GMRC Granite Mounta 82.79 54 P **P** **06 11 03.9 +0.6**
baz=301,SNR=34
PFO Pinyon Flats O 82.81 56 P **P** **06 11 03.5 +0.2**
PFO IAmb IAmb 06 11 08.6
comp=Z,36nm,1.1s
PFO Pinyon Flats O 82.81 56 *i* P **P** **06 11 04.4 +1.0**
PFO pmax pmax
comp=Z,56nm,1.1s
PFO Pinyon Flats O 82.81 56 P **P** **06 11 03.6 +0.2**
baz=300,SNR=29
PFO Pinyon Flats O 82.81 56 LR LR 06 46 35.6
comp=Z,386nm,18.3s,baz=278,slow=35
TPFO Pinon Flats 82.82 56 P **P** **06 11 03.5 +0.1**
baz=300,SNR=30
PMD Palm Desert 82.85 55 IAmb IAmb 06 11 08.5
comp=Z,43nm,1.2s
PMD IAMs_20 IAMs_20 06 52 02.9
comp=Z,764nm,19.0s
V12A Nelson 82.88 53 IAmb IAmb 06 11 09.3
comp=Z,28nm,1.0s
TJX Tijuana 82.93 57 IAMs_20 IAMs_20 06 39 42.2
comp=Z,563nm,20.0s
BELC Belle Mtn. Jos 82.94 55 P **P** **06 11 04.2 +0.1**
baz=301,SNR=27
CCUT Cedar City 82.95 51 IAmb IAmb 06 11 10.0
comp=Z,37nm,1.1s
FOO Floro 82.98 341 *e*P **P** **06 11 04.0 +0.5**
HYA Hoyanger 83.00 340 *e*P **P** **06 11 04.5 +1.0**
TCRU Three Creeks R 83.01 50 IAMs_20 IAMs_20 06 47 25.7
comp=Z,849nm,20.0s
STRU Stroemstad 83.05 337 *e*P **P** **06 11 02.8 -1.1**
KONO Kongsberg 83.11 338 *e*P **P** **06 11 04.8 +0.6**
BAR Barrett 83.13 56 IAmb IAmb 06 11 10.7
comp=Z,37nm,1.4s
HORU Horodok 83.15 323 P **P** **06 11 03.7 -1.0**
KIS Kishinev 83.20 321 *e*P **P** **06 11 04.0 -1.0**
comp=Z,30nm,0.4s
KIS *e*L L 06 50 00.0
KIS LRM MLR 06 51 14.0
comp=Z,600nm,16.5s
KIS Kishinev 83.20 321 *e*P **P** **06 11 04.0 -1.0**
KIS pmax pmax
comp=Z,30nm,0.4s
MONP2 Monument Peak 83.20 56 P **P** **06 11 06.2 +0.6**
baz=301,SNR=11
TKX Tecate 83.23 57 IAmb IAmb 06 11 11.2
comp=Z,34nm,1.3s
MILM Milestii Mici 83.25 321 ⇑ *i* P **P** **06 11 04.4 -0.8**
comp=Z,10.0nm,1.3s
MILM *e*L L 06 49 58.0
MILM LRM MLR 06 51 06.0
comp=Z,1µm,16.0s
MILM Milestii Mici 83.25 321 ⇓P **P** **06 11 05.1 -0.2**
MILM Milestii Mici 83.25 321 *c i* P **P** **06 11 04.4 -0.8**
MILM pmax pmax
comp=Z,10.0nm,1.3s
MILM MLR MLR
comp=Z,2µm,15.0s
LCMT Little Creek M 83.32 51 IAmb IAmb 06 11 11.8
comp=Z,45nm,1.1s
LCMT IAMs_20 IAMs_20 06 52 55.9
comp=Z,772nm,20.0s
SARI SarD1z-Kayseri 83.38 310 P **P** **06 11 07.7 +1.4**
IRM Iron Mountain 83.47 55 P **P** **06 11 06.8 +0.1**
baz=301,SNR=22
SFJD Kangerlussuaq 83.47 5 P **P** **06 11 06.5 +0.6**
SFJD IAmb IAmb 06 11 08.1
comp=Z,57nm,1.2s
SFJD Kangerlussuaq 83.47 5 P **P** **06 11 06.5 +0.6**
SFJD pmax pmax
comp=Z,57nm,1.3s
SFJD Kangerlussuaq 83.47 5 *i* P **P** **06 11 06.1 +0.1**
SFJD IAML 06 11 21.2
comp=Z,294nm,0.9s
SFJD Kangerlussuaq 83.47 5 LR LR 06 57 04.0
comp=Z,136nm,18.3s,baz=349,slow=42
MTPU Mount Pierson 83.49 50 IAmb IAmb 06 11 13.2
comp=Z,28nm,1.1s
GAZ Gaziantep 83.51 309 P **P** **06 11 08.6 +1.7**
BC3 Big Chuckawall 83.51 55 P **P** **06 11 06.8 -0.2**
baz=301,SNR=27
BNN Bunyan 83.52 311 P **P** **06 11 08.3 +1.3**
NEE2 Needles Airpor 83.53 54 P **P** **06 11 06.4 -0.6**
baz=301
KMRS Kahramanmaras 83.54 309 P **P** **06 11 08.2 +1.2**
IKP In-Ko-Pah, Jac 83.55 56 P **P** **06 11 07.8 +0.6**
baz=301,SNR=9.6
CORM Corum 83.60 313 P **P** **06 11 08.9 +1.6**
KNB Kanab 83.60 51 IAMs_20 IAMs_20 06 42 38.4
comp=Z,869nm,19.0s
SWSC Sam W. Stewart 83.62 56 P **P** **06 11 07.9 +0.5**
baz=301
P17A Butcher Ranch, 83.67 48 IAmb IAmb 06 11 14.1
comp=Z,44nm,1.0s
YUH Yuha Desert 83.69 56 IAmb IAmb 06 11 13.8
comp=Z,64nm,1.8s
Q16A Castle Valley 83.69 49 IAmb IAmb 06 11 23.1
comp=Z,58nm,1.1s
PKCU Pink Cliffs 83.72 50 IAmb IAmb 06 11 16.5
comp=Z,84nm,1.7s
PKCU IAMs_20 IAMs_20 06 41 33.5
comp=Z,1µm,22.0s
ODD1 Odda 83.86 339 *e*P **P** **06 11 08.5 +0.3**
W13A Hualapai Mount 83.87 53 IAMs_20 IAMs_20 06 44 02.8
comp=Z,1µm,20.0s
P18A Preston Nutter 83.91 48 IAmb IAmb 06 11 23.8
comp=Z,49nm,1.3s
DEL Delary 83.97 334 *e*P **P** **06 11 09.3 +0.6**
VASR Vaslui 83.98 321 ⇑P **P** **06 11 09.5 +0.5**
ESJX Sierra Juarez 84.00 57 IAmb IAmb 06 11 15.7
comp=Z,68nm,2.0s
LVV L'vov 84.00 325 *e*P **P** **06 11 08.4 -0.6**
LVV *e* 06 14 21.8
LVV *e*S **SKSac** **06 21 29.4 -2.3**
LVV *e*PS **PnS** **06 22 19.1 -6.4**
LVV pmax pmax
comp=Z,120nm,1.4s
LVV MLR MLR
comp=E,2µm,18.0s
LVV MLR MLR
comp=N,1µm,17.0s
LVV MLR MLR
comp=Z,1µm,18.0s
SRU San Rafael Swe 84.01 48 IAmb IAmb 06 11 24.8
comp=Z,42nm,0.9s
SRU IAMs_20 IAMs_20 06 48 15.0
comp=Z,1µm,20.0s
FRB Frobisher Bay 84.10 13 LR LR 06 52 43.9
comp=Z,218nm,19.4s,baz=356,slow=38
PDMCI Parker Dam,Lak 84.11 54 P **P** **06 11 11.4 +1.6**
baz=302,SNR=12
BLYC Blythe 84.13 55 IAmb IAmb 06 11 16.2
comp=Z,51nm,1.4s
RAYN Ar Rayn 84.25 294 P **P** **06 11 11.5 +0.7**
RAYN Ar Rayn 84.25 294 IAMs_20 IAMs_20 06 54 30.8
comp=Z,1µm,20.0s
RAYN Ar Rayn 84.25 294 P **P** **06 11 13.1 +2.3**
RAYN Ar Rayn 84.25 294 *i* P **P** **06 11 11.7 +0.9**
SNR=144
BEL Belsk 84.26 328 *e*P **P** **06 11 10.8 +0.6**
DY2G Dye2 84.27 3 *i* P **P** **06 11 10.7 +0.3**
DY2G IAmb IAmb 06 11 16.8
comp=Z,15nm,0.7s
U15A North Rim 84.27 51 IAMs_20 IAMs_20 06 46 32.2
comp=Z,945nm,19.0s
KOZT Kozan 84.28 310 P **P** **06 11 11.5 +0.8**
TLCR 84.28 319 ⇑P **P** **06 11 11.0 +0.5**
TLCR 84.28 319 ⇑P **P** **06 11 11.0 +0.5**
BLS5 Blasjo 84.30 339 *e*P **P** **06 11 11.0 +0.6**
VLDR Vladesti 84.30 320 ⇓P **P** **06 11 11.0 +0.4**
GIUM Giurgiulesti 84.44 320 ⇑P **P** **06 11 12.5 +1.2**
SCTR Scanteiesti 84.45 320 ⇓P **P** **06 11 12.4 +1.0**
BR131 Keskin Array S 84.48 313 P **P** **06 11 12.0 +0.1**
BR131 Keskin Array S 84.48 313 P **P** **06 11 12.0 +0.1**
BR131 Keskin Array S 84.48 313 *c i* P **P** **06 11 11.9 +0.1**
BRTR Keskin Array B 84.48 313 P **P** **06 11 11.9 +0.1**
BRTR Keskin Array B 84.48 313 P **P** **06 11 12.3 +0.4**
comp=Z,65nm,0.9s,baz=98,slow=3.7,SNR=102
BRTR LR LR 06 51 56.8
comp=Z,650nm,20.7s,baz=74,slow=38
comp=Z,65nm,0.9s
HMU Henry Mountain 84.50 49 IAmb IAmb 06 11 27.2
comp=Z,43nm,0.9s
HMU IAMs_20 IAMs_20 06 45 37.2
comp=Z,754nm,19.0s
BSD Bornholm Skovb 84.53 333 *i* P **P** **06 11 10.8 -0.8**
BSD IAmb IAmb 06 11 12.6
comp=Z,26nm,0.8s
BSD Bornholm Skovb 84.53 333 *e*P **P** **06 11 11.2 -0.4**
K22A Casper 84.54 44 IAmb IAmb 06 11 14.4
comp=Z,39nm,0.9s
K22A Casper 84.54 44 P **P** **06 11 13.3 +1.2**
baz=305,SNR=17
K22A Casper 84.54 44 P **P** **06 11 12.8 +0.7**
baz=305
GHRR 84.54 321 ⇑P **P** **06 11 13.0 +1.2**
NEGRR Negrea 84.60 320 ⇓P **P** **06 11 12.3 +0.2**
TAHT Tahtakopru-Hat 84.63 309 P **P** **06 11 13.7 +1.2**
CFR Carcaliu 84.67 320 ⇑P **P** **06 11 12.7 +0.2**
CFR Carcaliu 84.67 320 P **P** **06 11 12.6 +0.2**
TESR Tescani 84.69 321 ⇑P **P** **06 11 12.8 +0.2**
TPGR Topolog 84.70 319 ⇑P **P** **06 11 13.3 +0.6**
CMRD Camardi-Nigde 84.73 310 P **P** **06 11 13.7 +0.5**
BUR08 Bucovina Ar. S 84.76 323 IAmb IAmb 06 11 14.7
comp=Z,41nm,1.2s
BURAR Bucovina Array 84.77 323 ⇑P **P** **06 11 13.5 +0.4**
BURAR Bucovina Array 84.77 323 IAmb IAmb 06 11 15.1
comp=Z,29nm,1.1s
BURAR Bucovina Array 84.77 323 P **P** **06 11 14.8 +1.7**
KWP Kalwaria Pacla 84.78 325 *e*P **P** **06 11 13.9 +0.8**
KWP Kalwaria Pacla 84.78 325 P **P** **06 11 13.8 +0.8**
PANC Panciu 84.80 321 ⇑P **P** **06 11 14.3 +1.2**
YAYX Yaylak 84.81 312 P **P** **06 11 13.9 +0.4**
GULA Gulagac 84.86 311 P **P** **06 11 14.4 +0.6**
O20A White River Ci 84.91 46 P **P** **06 11 15.3 +1.2**
baz=304,SNR=25
KARA Karaisali 84.91 310 P **P** **06 11 14.6 +0.7**
TIRR Tirgusor 84.94 319 ⇓P **P** **06 11 14.5 +0.7**
TIRR Tirgusor 84.94 319 P **P** **06 11 13.7 -0.2**
TIRR Tirgusor 84.94 319 ⇓P **P** **06 11 14.5 +0.7**
ANTO Ankara 84.94 313 ⇑P **P** **06 11 15.3 +1.3**
ANTO Ankara 84.94 313 P **P** **06 11 14.7 +0.6**
ANTO Ankara 84.94 313 ⇑P **P** **06 11 15.3 +1.3**
ANTO Ankara 84.94 313 P **P** **06 11 15.4 +1.3**
ANTO P **P** **06 11 15.4 +1.3**
SERE Sereflikochisa 84.96 312 P **P** **06 11 14.7 +0.4**
AFSR Afar-Bala (An 85.00 313 P **P** **06 11 14.4 0.0**
VRI Vrincioaia 85.04 321 ⇓P **P** **06 11 15.2 +0.8**
VRI Vrincioaia 85.04 321 P **P** **06 11 14.9 +0.5**
VRI Vrincioaia 85.04 321 ⇓P **P** **06 11 15.2 +0.8**
HARR Harsova 85.08 319 ⇑P **P** **06 11 14.7 +0.1**
HARR Harsova 85.08 319 P **P** **06 11 15.6 +1.1**
PLOR Plostina 85.09 321 ⇓P **P** **06 11 15.4 +0.7**
PLOR Plostina 85.09 321 ⇓P **P** **06 11 15.4 +0.7**
Y14A Wickenburg 85.10 54 IAmb IAmb 06 11 30.3
comp=Z,26nm,0.9s
Y14A IAMs_20 IAMs_20 06 48 42.4
comp=Z,858nm,20.0s
RSSD Black Hills 85.14 41 P **P** **06 11 14.5 -0.7**
RSSD IAmb IAmb 06 11 22.0

comp=Z,37nm,1.2s
RSSD Black Hills 85.14 41 P **P** **06 11 14.5 -0.7**
RSSD pmax pmax
comp=Z,37nm,1.2s
RSSD Black Hills 85.14 41 P **P** **06 11 15.8 +0.6**
baz=307
RSSD Black Hills 85.14 41 P **P** **06 11 15.8 +0.6**
baz=307
113A Mohawk Valley, 85.18 55 IAmb IAmb 06 11 21.3
comp=Z,42nm,1.4s
MANR Mangalia 85.22 318 ⇓P **P** **06 11 15.9 +0.6**
BISRR Bisoca 85.24 320 ⇓P **P** **06 11 16.4 +0.9**
KULU Kulu 85.27 312 P **P** **06 11 16.4 +0.6**
MDND Maddock 85.28 37 P **P** **06 11 16.7 +1.1**
baz=310,SNR=11
MDND Maddock 85.28 37 P **P** **06 11 16.7 +1.1**
baz=310
SFX San Felipe 85.30 57 IAMs_20 IAMs_20 06 52 32.8
comp=Z,708nm,19.0s
TURR Turia 85.31 321 ⇑P **P** **06 11 16.7 +0.9**
COVR Voineasa-Covas 85.34 321 ⇓P **P** **06 11 16.0 +0.1**
YUVA Yuva-Kibriscik 85.34 314 P **P** **06 11 16.6 +0.4**
ANGG Ammassalik, Gr 85.35 360 *i* P **P** **06 11 15.1 -0.4**
ANGG IAmb IAmb 06 11 21.0
comp=Z,11nm,0.7s
WUAZ Wupatki 85.39 52 IAmb IAmb 06 11 32.1
comp=Z,42nm,0.9s
WUAZ Wupatki 85.39 52 P **P** **06 11 18.4 +1.8**
baz=303,SNR=34
OZUR 85.41 321 ⇓P **P** **06 11 17.1 +0.8**
KOLS Kolonicke sedl 85.45 325 *e*P **P** **06 11 17.5 +1.1**
KOLS pmax pmax
comp=Z,15nm,0.9s
KOLS Kolonicke sedl 85.45 325 *e*P **P** **06 11 17.5 +1.1**
BOSR Bodos 85.49 321 ⇓P **P** **06 11 17.7 +1.0**
E28A Huff 85.51 38 IAmb IAmb 06 11 31.4
comp=Z,59nm,1.1s
E28A Huff 85.51 38 P **P** **06 11 18.0 +1.2**
baz=309
ULM Lac du Bonnet 85.57 33 IAmb IAmb 06 11 22.2
comp=Z,34nm,1.1s
ULM Lac du Bonnet 85.57 33 *i* P **P** **06 11 16.9 0.0**
ULM Lac du Bonnet 85.57 33 P **P** **06 11 17.1 +0.2**
comp=Z,23nm,1.1s,baz=307,slow=6.0,SNR=22
ULM LR LR 06 47 43.7
comp=Z,482nm,21.9s,baz=310,slow=34
comp=Z,23nm,1.1s
RGN Rugen 85.58 333 IAMs_20 IAMs_20 06 52 52.2
comp=Z,887nm,19.0s
MDUB Mudurnu 85.61 314 P **P** **06 11 17.7 +0.3**
BMR Baia Mare 85.64 324 P **P** **06 11 17.9 +0.6**
STHS Stebnicka Huta 85.64 326 *e*P **P** **06 11 17.5 +0.2**
STHS pmax pmax
comp=Z,16nm,1.1s
STHS Stebnicka Huta 85.64 326 *e*P **P** **06 11 17.5 +0.2**
MLR Muntele Rosu 85.70 321 ⇑P **P** **06 11 18.6 +0.7**
MLR Muntele Rosu 85.70 321 IAmb IAmb 06 11 43.7
comp=Z,29nm,1.1s
MLR IAMs_20 IAMs_20 06 52 15.1
comp=Z,1000nm,19.0s
MLR Muntele Rosu 85.70 321 ⇑P **P** **06 11 18.6 +0.7**
MLR Muntele Rosu 85.70 321 LR LR 06 52 25.6
comp=Z,906nm,18.7s,baz=56,slow=38
MUD Monsted U'grnd 85.71 336 *i* P **P** **06 11 16.2 -1.2**
MUD IAmb IAmb 06 11 19.4
comp=Z,18nm,1.0s
DOPR Dopca 85.71 321 ⇑P **P** **06 11 18.2 +0.5**
OJC Ojcow 85.80 327 *e*P **P** **06 11 18.2 +0.1**
OJC Ojcow 85.80 327 IAmb IAmb 06 11 19.5
comp=Z,45nm,1.1s
OJC Ojcow 85.80 327 P **P** **06 11 18.3 +0.2**
CRVS Cervenica-Dubn 85.87 325 *e*P **P** **06 11 18.8 +0.3**
CRVS pmax pmax
comp=Z,95nm,1.5s
CRVS Cervenica-Dubn 85.87 325 *e*P **P** **06 11 18.8 +0.3**
CRVS *e*PP **PP** **06 14 37.9 +0.5**
N23A Red Feather La 85.91 45 P **P** **06 11 20.1 +0.9**
baz=306,SNR=52
X16A Lo Mia Camp, P 85.94 53 IAmb IAmb 06 11 25.9
comp=Z,34nm,1.3s
X16A IAMs_20 IAMs_20 06 45 01.4
comp=Z,858nm,20.0s
PHWY Pilot Hill 85.97 44 IAmb IAmb 06 11 34.5
comp=Z,36nm,1.1s
SVRH Sivrihisar-ESK 85.99 313 P **P** **06 11 20.6 +1.2**
SULR 86.03 320 ⇑P **P** **06 11 19.6 +0.3**
GULT Gulveren 86.05 315 P **P** **06 11 19.9 +0.3**
NIE Niedzica 86.10 326 *e*P **P** **06 11 20.1 +0.5**
NUUK Nuuk 86.15 6 *i* P **P** **06 11 20.0 +0.5**
NUUK IAmb IAmb 06 11 26.7
comp=Z,33nm,0.8s
LADK Ladik-KONYA 86.16 312 P **P** **06 11 20.2 0.0**
VOIR 86.23 321 ⇑P **P** **06 11 20.4 0.0**
VOIR 86.23 321 ⇑P **P** **06 11 20.4 0.0**
SMCO Snowmass 86.26 47 IAmb IAmb 06 11 27.5
comp=Z,53nm,1.1s
SMCO IAMs_20 IAMs_20 06 42 51.4
comp=Z,1000nm,20.0s
SSRD Sdr. Stenderup 86.29 335 *i* P **P** **06 11 20.3 -0.1**
SSRD IAmb IAmb 06 11 22.0
comp=Z,38nm,0.8s
214A Organ Pipe Nat 86.29 55 IAmb IAmb 06 11 36.5
comp=Z,26nm,0.9s
214A Organ Pipe Nat 86.29 55 P **P** **06 11 21.6 +0.6**
baz=302,SNR=14
HRT Hereke 86.35 315 P **P** **06 11 21.1 +0.1**
MVCO Mesa Verde 86.39 49 IAmb IAmb 06 11 27.6
comp=Z,36nm,1.2s
MVCO IAMs_20 IAMs_20 06 43 04.3
comp=Z,849nm,22.0s
MVCO Mesa Verde 86.39 49 P **P** **06 11 22.0 +0.4**
baz=304,SNR=17
IKL Isikli 86.39 310 P **P** **06 11 20.9 -0.4**
MARR Marisel-Cluj 86.48 323 ⇓P **P** **06 11 21.6 0.0**
ARR Arges 86.50 321 ⇓P **P** **06 11 22.6 +0.9**
ADVT Abdulvahap 86.53 315 P **P** **06 11 21.3 -0.6**
CAVI Cavuskoy 86.60 315 P **P** **06 11 22.1 -0.2**
DRGR 86.62 323 ⇑P **P** **06 11 22.0 -0.3**
DRGR 86.62 323 P **P** **06 11 22.5 +0.2**
KECS Kecovo 86.64 325 *e*P **P** **06 11 22.8 +0.6**
KECS Kecovo 86.64 325 *e*P **P** **06 11 22.8 +0.6**
YLV Yalova 86.68 315 P **P** **06 11 22.6 -0.1**
LANS Liptovska Anna 86.68 326 *e*P **P** **06 11 23.8 +1.3**
LANS pmax pmax
comp=Z,13nm,1.3s
LANS Liptovska Anna 86.68 326 *e*P **P** **06 11 23.8 +1.3**
W18A Petrified Fore 86.73 51 P **P** **06 11 22.8 -0.4**
baz=304
ISCO Idaho Springs 86.75 46 P **P** **06 11 23.3 -0.1**
baz=306,SNR=21
ISCO Idaho Springs 86.75 46 P **P** **06 11 24.2 +0.8**
baz=306
OKC Ostrava-Krasne 86.84 327 AMS AMS 06 53 20.0
comp=Z,1μm,16.9s
AGMN Agassiz Nation 86.89 35 P **P** **06 11 23.6 +0.2**
baz=312
AGMN Agassiz Nation 86.89 35 P **P** **06 11 23.1 -0.3**
baz=312
X18A Snowflake 86.91 52 IAMs_20 IAMs_20 06 45 31.0
comp=Z,957nm,19.0s
MMAI Mount Meron Ar 86.99 306 P **P** **06 11 25.0 +0.7**
comp=Z,23nm,0.8s,baz=55,slow=6.2,SNR=19
MMAI LR LR 06 54 59.5
comp=Z,1μm,18.1s,baz=318,slow=39
comp=Z,23nm,0.8s
KSP Ksiaz 86.99 329 *e*P **P** **06 11 24.1 +0.2**
D32A Dogwood Acres, 87.08 36 IAmb IAmb 06 11 26.1
comp=Z,47nm,0.9s
D32B Dogwood Acres, 87.08 36 P **P** **06 11 25.1 +0.7**
baz=311
MORC Moravsky Berou 87.17 328 ⇓P **P** **06 11 24.5 -0.4**
MORC Moravsky Berou 87.17 328 *e*P **P** **06 11 24.5 -0.4**
MORC Moravsky Berou 87.17 328 P **P** **06 11 26.2 +1.3**
BSEG Bad Segeberg 87.22 334 *e*P **P** **06 11 24.9 0.0**
comp=Z,39nm,1.0s,baz=41,slow=4.8
OSTC Ostas 87.23 329 AMS AMS 06 54 10.0
comp=Z,2μm,16.8s
CHVC Chvalec 87.28 329 AMS AMS 06 54 10.0
comp=Z,2μm,16.7s
MMLI Mount Malkishu 87.29 306 P **P** **06 11 25.9 +0.1**
PSZ Piszkesteto 87.31 325 ⇓P **P** **06 11 26.2 +0.6**
PSZ Piszkesteto 87.31 325 IAmb IAmb 06 11 27.0
comp=Z,35nm,1.3s
PSZ Piszkesteto 87.31 325 P **P** **06 11 27.2 +1.6**
KRLC Kraliky 87.31 328 AMS AMS 06 54 10.0
comp=Z,2μm,16.4s
BALJ Balqa 87.33 305 IAmb IAmb 06 11 28.5
comp=Z,75nm,1.0s
DPC Dobruska-Polom 87.33 329 *e*P **P** **06 11 25.8 +0.2**
DPC MLR MLR
comp=Z,2μm,16.6s
DPC Dobruska-Polom 87.33 329 *e*P **P** **06 11 25.8 +0.2**
DPC AMS AMS 06 54 20.0
comp=Z,2μm,16.6s
CSS Mathiatis 87.34 309 IAmb IAmb 06 11 30.9
comp=Z,41nm,0.9s
CSS IAMs_20 IAMs_20 06 54 13.6
comp=Z,980nm,20.0s
UPC Upice 87.36 329 *e*S **S** **06 22 10.5 +5.0**
VYHS Vyhne 87.44 326 *e*P **P** **06 11 26.5 +0.3**
VYHS pmax pmax
comp=Z,35nm,1.2s
VYHS Vyhne 87.44 326 *e*P **P** **06 11 26.5 +0.3**
GZR Gura Zlata 87.49 322 ⇑P **P** **06 11 26.2 -0.3**
SIRR Siria 87.51 323 ⇓P **P** **06 11 26.7 +0.1**
Q24A Divide 87.53 46 P **P** **06 11 27.7 +0.5**
baz=306,SNR=9.3
TUC Tucson 87.55 54 P **P** **06 11 26.4 -0.6**
TUC IAmb IAmb 06 11 33.5
comp=Z,63nm,2.0s
TUC Tucson 87.55 54 IAMs_20 IAMs_20 06 50 03.1
comp=Z,1μm,20.0s
TUC Tucson 87.55 54 P **P** **06 11 26.5 -0.6**
TUC pmax pmax
comp=Z,63nm,2.0s
TUC MLR MLR
comp=Z,1μm,20.0s
TUC Tucson 87.55 54 P **P** **06 11 27.8 +0.7**
baz=303
LEF Lefka 87.55 309 P **P** **06 11 26.1 -0.8**
ISP Isparta 87.57 313 IAMs_20 IAMs_20 06 54 01.1
comp=Z,732nm,22.0s
SURR Surduc 87.60 323 ⇑P **P** **06 11 26.4 -0.6**
SRE Strehaia 87.73 321 ⇓P **P** **06 11 28.4 +0.8**
SRE Strehaia 87.73 321 ⇓P **P** **06 11 28.4 +0.8**
JAVC Velka Javorina 87.75 327 *e*P **P** **06 11 28.4 +0.7**
PLVB Pleven 87.76 320 ⇑P **P** **06 11 28.4 +0.6**
SUSD Miller 87.80 39 P **P** **06 11 29.0 +1.0**
baz=310
GHAJ Ghor Haditha 87.81 305 P **P** **06 11 28.4 +0.2**
GHAJ IAMs_20 IAMs_20 06 55 31.1
comp=Z,631nm,18.0s
B35A Bob, Littlefor 87.89 34 IAmb IAmb 06 11 33.9
comp=Z,42nm,1.1s
B35A Bob, Littlefor 87.89 34 P **P** **06 11 28.6 +0.3**
baz=314,SNR=13
VRAC Vranov 87.94 328 ⇑P **P** **06 11 28.8 +0.2**
VRAC Vranov 87.94 328 *e*P **P** **06 11 28.5 0.0**
VRAC Vranov 87.94 328 ⇑P **P** **06 11 28.8 +0.2**
VRAC *e* 06 11 29.9
VRAC Vranov 87.94 328 LR LR 06 52 08.6
comp=Z,672nm,21.9s,baz=46,slow=36
BZS Buzias 87.96 323 ⇓P **P** **06 11 28.2 -0.5**
BZS Buzias 87.96 323 ⇓P **P** **06 11 28.2 -0.5**
BRG Berggiesshubel 88.01 330 *e*P **P** **06 11 28.7 -0.2**
BRG Amp 06 11 29.2
comp=Z,10.0nm,1.0s
BRG PP **PP** **06 14 52.9 -1.7**
BRG Amp 06 14 57.4
comp=Z,18nm,1.1s
BRG Berggiesshubel 88.01 330 SS SS 06 28 09.0 +11
BRG Amp 06 54 07.0
comp=Z,0.9nm,17.1s
BRG Amp 06 54 20.0
comp=N,0.6nm,18.1s
BRG Amp 06 54 20.0
comp=E,0.6nm,15.0s
BRG Berggiesshubel 88.01 330 *e*P **P** **06 11 28.6 -0.2**
BRG 06 14 52.8
BRG S **S** **06 22 17.0 +5.3**
BRG pmax pmax
comp=Z,10.0nm,1.0s
BRG pmax pmax
comp=Z,18nm,1.1s
BRG MLR MLR
comp=Z,879nm,17.1s
BRG MLR MLR
comp=N,613nm,18.1s
BRG MLR MLR
comp=E,588nm,15.0s
BRG Berggiesshubel 88.01 330 *e*P **P** **06 11 28.5 -0.3**
comp=E,10.0nm,1.0s,baz=41,slow=4.8
HERR Herculane 88.02 322 ⇑P **P** **06 11 28.2 -0.8**
SDCO Great Sand Dun 88.03 47 P **P** **06 11 30.2 +0.6**
baz=306,SNR=12
SDCO Great Sand Dun 88.03 47 P **P** **06 11 30.9 +1.4**
baz=306
KRBG Karabiga-Canak 88.05 316 P **P** **06 11 29.3 +0.1**
FLTG Flechtingen 88.06 332 *e*P **P** **06 11 28.4 -0.6**
comp=E,24nm,1.1s,baz=41,slow=4.8
CLL Collm 88.09 331 IAmb IAmb 06 11 34.4
comp=Z,32nm,1.3s
CLL Collm 88.09 331 *i* P **P** **06 11 28.6 -0.6**
CLL *e*S **S** **06 22 06.0 -6.5**
CLL pmax pmax
comp=Z,20nm,1.0s
CLL MLR MLR
comp=Z,1μm,17.6s
CLL Collm 88.09 331 *i* P **P** **06 11 28.6 -0.6**
comp=Z,19nm,1.1s
CLL *i* sP **sP** **06 11 33.2 -0.7**
comp=Z,20nm,1.0s
CLL *e*PP **PP** **06 14 57.0 +1.8**
comp=Z,28nm,1.5s
CLL *e*S **S** **06 22 06.0 -6.5**
CLL Collm 88.09 331 *e*P **P** **06 11 28.7 -0.6**
comp=Z,15nm,1.0s,baz=41,slow=4.8
SMOL Smolenice 88.10 327 *e*P **P** **06 11 29.8 +0.5**
SMOL pmax pmax
comp=Z,17nm,1.3s
RICC Richard 88.18 330 AMS AMS 06 53 50.0
comp=Z,1μm,20.0s
KRUC Moravsky 88.20 328 *e*P **P** **06 11 29.4 -0.4**
OGNE Ogallala 88.25 43 P **P** **06 11 30.5 +0.2**
baz=308
MODS Modra-Piesok 88.27 327 *e*P **P** **06 11 30.6 +0.5**
MODS pmax pmax
comp=Z,130nm,1.8s
MODS Modra-Piesok 88.27 327 *e*P **P** **06 11 30.6 +0.5**
F33A 5 Mile Ranch, 88.31 37 P **P** **06 11 30.6 +0.3**
baz=312
GOPC GO Pecny, Ondr 88.33 329 AMS AMS 06 54 50.0
comp=Z,2μm,17.7s
KULA Kula-Manisa 88.34 314 P **P** **06 11 29.7 -1.1**
ERIK Erikli-Kesan 88.35 317 P **P** **06 11 30.4 -0.2**
PRU Pruhonice 88.39 329 AMS AMS 06 55 20.0
comp=Z,1μm,17.2s
NRDL Niedersach Rie 88.39 333 *e*P **P** **06 11 30.5 0.0**
comp=Z,12nm,1.0s,baz=41,slow=4.8
HSKC Hora Svate Kat 88.42 330 AMS AMS 06 54 20.0
comp=Z,1μm,16.0s
MDVR Moldovita 88.46 322 ⇓P **P** **06 11 30.4 -0.7**
TREC Trest 88.46 328 *e*P **P** **06 11 30.9 -0.1**
TREC MLR MLR
comp=Z,2μm,18.7s
TREC Trest 88.46 328 *e*P **P** **06 11 30.9 -0.1**
TREC AMS AMS 06 54 50.0
comp=Z,2μm,18.7s
ALN Alexandroupoli 88.49 317 IAMs_20 IAMs_20 06 54 36.2
comp=Z,614nm,20.0s
RETH Rethem/Aller, 88.50 334 *e*P **P** **06 11 30.7 -0.3**
comp=Z,22nm,1.1s,baz=41,slow=4.8
K30B Basset 88.57 41 P **P** **06 11 32.3 +0.6**
baz=310
RDO Rodhopi 88.64 318 IAmb IAmb 06 11 33.1
comp=Z,28nm,1.2s
RDO IAMs_20 IAMs_20 06 55 13.1
comp=Z,715nm,20.0s
BLKB Belogradchik 88.69 321 ⇓P **P** **06 11 32.3 0.0**
CLZ Clausthal 88.78 332 *e*P **P** **06 11 32.6 +0.1**
comp=Z,27nm,1.0s,baz=41,slow=4.8
HRFI Mount Harif 88.88 304 P **P** **06 11 32.8 -0.6**
ZVC Zvikov 88.94 329 *e*P **P** **06 11 33.3 0.0**
ZVC AMS AMS 06 55 20.0
comp=Z,2μm,18.2s
ANMO Albuquerque 89.04 50 P **P** **06 11 33.5 -0.8**
ANMO Albuquerque 89.04 50 P **P** **06 11 33.5 -0.8**
ANMO pmax pmax
comp=Z,8.0nm,1.1s
ANMO Albuquerque 89.04 50 P **P** **06 11 35.0 +0.7**
baz=306
ANMO Albuquerque 89.04 50 P **P** **06 11 35.0 +0.7**
baz=306
ANMO Albuquerque 89.04 50 LR LR 06 47 09.5
comp=Z,482nm,20.3s,baz=34,slow=33
KSCO Kaye Shedlock' 89.08 45 P **P** **06 11 35.3 +1.0**
baz=308
T25A Trinidad 89.09 47 P **P** **06 11 35.3 +0.8**
baz=307,SNR=8.5
MORH Mrgy, Hungar 89.09 325 ⇓P **P** **06 11 33.3 -0.7**
NKC Novy Kostel 89.13 330 AMS AMS 06 55 10.0
comp=Z,1μm,15.7s
319A Douglas 89.13 54 IAMs_20 IAMs_20 06 50 14.0
comp=Z,911nm,19.0s
EIL Elat 89.14 304 P **P** **06 11 33.9 -0.7**
EIL Elat 89.14 304 LR LR 06 56 52.4
comp=Z,590nm,18.5s,baz=54,slow=39
MOX Moxa 89.17 331 *e*L L 06 54 56.1
comp=Z,935nm,18.2s
GTTG Gottingen 89.18 332 *e*P **P** **06 11 34.3 0.0**
comp=Z,32nm,1.0s,baz=41,slow=4.8
RONA Rosalia, Austr 89.21 327 *i* PcP **P** **06 11 34.7 +0.1**
comp=Z,16nm,1.1s,SNR=6.5
RONA *i* PP **PP** **06 15 05.7 +1.4**
comp=Z,10nm,1.5s
FRGS Fruska Gora 89.21 323 ⇑P **P** **06 11 34.5 -0.2**
HSIG 89.23 57 IAMs_20 IAMs_20 06 43 28.9
comp=Z,572nm,20.0s
EYMN Ely 89.24 33 IAmb IAmb 06 11 40.5
comp=Z,43nm,1.1s
EYMN Ely 89.24 33 P **P** **06 11 35.5 +0.8**
baz=315,SNR=13
EYMN Ely 89.24 33 P **P** **06 11 35.2 +0.5**
baz=315,SNR=13
CONA Conrad Observa 89.26 327 *e*PcP **P** **06 11 35.1 +0.2**
comp=Z,19nm,1.0s,SNR=8.5
CONA *i* PP **PP** **06 15 06.6 +1.8**
comp=Z,6.0nm,0.9s
Y22A Socorro 89.28 51 P **P** **06 11 35.6 +0.2**
baz=305
CKRC Cesky Krumlov 89.34 329 AMS AMS 06 55 30.0
comp=Z,2μm,17.0s
KHC Kasperske Hory 89.44 329 *c*eP **P** **06 11 34.3 -1.4**
KHC pmax pmax
comp=Z,62nm,2.5s
KHC Kasperske Hory 89.44 329 *e*P **P** **06 11 35.5 -0.2**
KHC *e*SKS **SKSac** **06 22 12.5 +7.1**
KHC AMS AMS 06 55 40.0
comp=Z,2μm,17.8s
IBBN Ibbenburen 89.45 334 *e*P **P** **06 11 35.4 -0.2**
comp=Z,48nm,1.0s,baz=41,slow=4.8
MANZ Manzenberg 89.46 330 *e*P **P** **06 11 35.6 -0.1**
comp=Z,3.1nm,1.2s,baz=41,slow=4.8
121A Cookes Peak, D 89.52 53 P **P** **06 11 36.9 +0.3**
baz=305,SNR=5.7
121A Cookes Peak, D 89.52 53 P **P** **06 11 38.4 +1.8**
baz=305,SNR=5.7
ECSD EROS Data Cent 89.54 38 IAmb IAmb 06 11 38.0
comp=Z,37nm,1.2s
ROTZ Rotzenmuhle 89.58 330 *e*P **P** **06 11 36.4 +0.2**
comp=Z,6.5nm,1.3s,baz=41,slow=4.8
GEC2 GERESS Array S 89.59 329 *e*P **P** **06 11 35.9 -0.6**
comp=Z,10.0nm,1.0s,baz=41,slow=4.8
GERES GERESS Array B 89.59 329 P **P** **06 11 36.1 -0.3**
GERES GERESS Array B 89.59 329 P **P** **06 11 36.4 0.0**
comp=Z,5.1nm,0.8s,baz=38,slow=6.8,SNR=11
GERES LR LR 06 56 28.7
comp=Z,2μm,18.2s,baz=53,slow=39
comp=Z,5.1nm,0.8s
MLSB Milas 89.63 313 P **P** **06 11 36.3 -0.5**
F36A Milaca 89.72 35 P **P** **06 11 37.0 +0.1**
baz=314,SNR=9.4
WET Wettzell 89.74 329 *e*P **P** **06 11 36.9 -0.1**
comp=Z,13nm,1.4s,baz=41,slow=4.8
ARSA Arzberg 89.90 327 *i* PcP **P** **06 11 38.1 +0.2**
comp=Z,19nm,1.4s
ARSA *e*PP **PP** **06 15 08.2 -1.6**
comp=Z,15nm,1.9s
GRF Grafenberg Arr 90.06 331 *e*P **P** **06 11 38.7 +0.2**
comp=Z,37nm,1.1s,baz=41,slow=4.8
GRF *e*L L 06 58 52.6
comp=Z,939nm,19.2s
GRFO Grafenberg 90.06 331 P **P** **06 11 37.9 -0.6**
GRFO IAmb IAmb 06 11 39.8
comp=Z,35nm,1.1s
GRFO Grafenberg 90.06 331 P **P** **06 11 37.9 -0.6**
GRFO pmax pmax
comp=Z,35nm,1.1s
MOA Molln 90.06 328 *i* PcP **P** **06 11 38.5 0.0**
comp=Z,12nm,0.9s
MOA *i* PP **PP** **06 15 12.0 +0.9**
comp=Z,13nm,1.5s
E38A The Farm, Brul 90.17 34 IAmb IAmb 06 11 44.6
comp=Z,46nm,1.1s
E38A The Farm, Brul 90.17 34 P **P** **06 11 39.5 +0.5**
baz=315,SNR=8.3
BGNE Belgrade 90.22 41 P **P** **06 11 40.0 +0.6**
baz=311,SNR=8.4
BGNE Belgrade 90.22 41 P **P** **06 11 39.9 +0.5**
baz=311
BIOA Bad Ischl, Aus 90.47 328 *i* PcP **P** **06 11 40.6 +0.2**
comp=Z,29nm,1.4s,SNR=6.5
BIOA *e*PP **PP** **06 15 11.6 -2.7**
comp=Z,1.9nm,0.6s
SPMN Marine on St. 90.52 35 IAmb IAmb 06 11 43.4
comp=Z,43nm,1.4s
SPMN Marine on St. 90.52 35 P **P** **06 11 41.5 +0.8**
baz=314,SNR=6.5
SPMN Marine on St. 90.52 35 P **P** **06 11 40.8 +0.1**
baz=314,SNR=6.5
PERS Pernice 90.54 327 *e*P **P** **06 11 40.2 -0.6**
SOKA Soboth 90.55 327 *i* P **P** **06 11 40.4 -0.5**
comp=Z,23nm,1.0s,SNR=10
SOKA *i* PP **PP** **06 15 15.8 +0.8**
comp=Z,7.9nm,1.2s
EKA Eskdalemuir Ar 90.59 341 P **P** **06 11 40.9 0.0**
comp=Z,6.0nm,0.9s,baz=39,slow=5.4,SNR=8.3
comp=Z,6.0nm,0.9s
TNS Taunus Mts 90.81 332 *e*P **P** **06 11 41.8 -0.2**
comp=Z,9.7nm,1.0s,baz=41,slow=4.8
RJOB Jochberg 90.82 329 *e*P **P** **06 11 42.2 0.0**
comp=Z,20nm,0.9s,baz=41,slow=4.8
GCIS Gornji Cirnik 90.84 326 *e*P **P** **06 11 41.5 -0.7**
L34A Svendsen Farm, 90.85 40 P **P** **06 11 43.1 +0.8**
baz=312,SNR=7.8
OBKA Obir 90.90 327 *i* P **P** **06 11 41.7 -0.8**
comp=Z,12nm,1.0s
OBKA *e*PP **PP** **06 15 14.5 -3.3**
CBKS Cedar Bluff 90.96 44 IAmb IAmb 06 11 57.4
comp=Z,48nm,1.1s
CBKS Cedar Bluff 90.96 44 P **P** **06 11 43.2 +0.2**
baz=310
CBKS Cedar Bluff 90.96 44 P **P** **06 11 43.5 +0.5**
baz=310
KBA Koelnbreinsper 91.05 328 *i* PcP **P** **06 11 43.0 -0.4**
comp=Z,6.4nm,0.8s
KBA *i* PP **PP** **06 15 18.4 -0.7**
comp=Z,41nm,1.4s
I37A Lemond, Waseca 91.06 37 IAmb IAmb 06 11 49.5
comp=Z,27nm,0.8s
I37B Waseca 91.06 37 P **P** **06 11 44.5 +1.3**
baz=314,SNR=6.1
LESA Schwarzeotal 91.11 328 *i* P **P** **06 11 43.1 -0.4**
comp=Z,18nm,1.0s
LESA *i* PP **PP** **06 15 20.2 +0.8**
comp=Z,16nm,1.5s
MYKA Terra Mystica 91.24 327 *i* P **P** **06 11 43.0 -1.1**
comp=Z,15nm,1.0s
MYKA *i* PP **PP** **06 15 20.2 -0.3**
comp=Z,28nm,1.3s
D41A Chassel 91.25 32 P **P** **06 11 45.0 +1.0**
baz=318
VISS Visnje 91.27 326 *e*P **P** **06 11 43.3 -0.9**
MEM Membach 91.47 334 *d*P **P** **06 11 44.9 -0.1**
comp=Z,9.5nm,1.1s
STU Stuttgart 91.62 331 IAMs_20 IAMs_20 06 56 34.0
comp=Z,839nm,18.0s
MNTX Cornudas Mount 91.67 52 P **P** **06 11 46.9 +0.6**
baz=306,SNR=14
MNTX Cornudas Mount 91.67 52 P **P** **06 11 47.5 +1.1**
baz=306,SNR=14
WATA Walderalm 91.67 329 *e*PcP **P** **06 11 45.9 -0.3**
comp=Z,12nm,1.1s
WATA *i* PP **PP** **06 15 22.7 -1.2**
comp=Z,24nm,1.3s
BHOU Houvegnez 91.67 334 *d*P **P** **06 11 46.0 0.0**
ABTA Abfaltersbach 91.68 328 *i* P **P** **06 11 45.0 -1.2**
comp=Z,22nm,0.9s,SNR=6.4
ABTA *i* PP **PP** **06 15 23.7 -0.3**

comp=Z,8.0nm,1.2s
WTTA Wattenberg 91.70 329 *i* P **P** **06 11 45.7 -0.6**
comp=Z,9.8nm,1.0s
WTTA *e*PP **PP** **06 15 23.0 -1.2**
comp=Z,32nm,1.4s
KBN Korca 91.72 319 IAMs_20 IAMs_20 06 56 14.6
comp=Z,865nm,20.0s
SABO M.te Sabotino 91.74 327 IAmb IAmb 06 11 47.3
comp=Z,68nm,1.5s
SABO IAMs_20 IAMs_20 06 57 38.8
comp=Z,2µm,18.0s
G40A Rib Lake 91.78 34 IAmb IAmb 06 11 52.5
comp=Z,52nm,1.6s
G40A Rib Lake 91.78 34 P **P** **06 11 46.6 0.0**
baz=316
R32A Long Quarter, 91.83 43 IAmb IAmb 06 11 53.3
comp=Z,44nm,1.4s
R32A Long Quarter, 91.83 43 P **P** **06 11 47.5 +0.5**
baz=310
MOTA Moosalm 91.88 329 *i* P **P** **06 11 46.4 -0.8**
comp=Z,12nm,1.0s
MOTA *i* PP **PP** **06 15 24.9 -0.7**
comp=Z,26nm,1.2s
RETA Reutte 91.92 329 *i* PcP **P** **06 11 47.4 +0.1**
comp=Z,18nm,1.1s
RETA *i* PP **PP** **06 15 25.1 -0.7**
comp=Z,4.2nm,0.7s
SQTA Sankt Quirin 91.92 329 *i* PcP **P** **06 11 46.9 -0.5**
comp=Z,10nm,0.9s
SQTA *i* PP **PP** **06 15 25.3 -0.5**
comp=Z,31nm,1.5s
STAL STALIGIAL 91.95 328 IAmb IAmb 06 11 46.8
comp=Z,28nm,1.0s
N35A Tabor 92.00 40 P **P** **06 11 49.1 +1.4**
baz=312,SNR=6.8
MSTX Muleshoe 92.06 49 P **P** **06 11 48.6 +0.3**
baz=308
RCHB Rochefort 92.13 334 *d*P **P** **06 11 47.5 -0.6**
comp=Z,8.6nm,1.2s
WLF Walferdange 92.17 333 IAMs_20 IAMs_20 06 57 28.3
comp=Z,728nm,20.0s
WLF Walferdange 92.17 333 *d*PcP **PcP** **06 11 48.8 -0.3**
BMRD Maredsous 92.19 334 *d*PcP **P** **06 11 48.6 +0.2**
AMTX Amarillo 92.21 48 P **P** **06 11 49.6 +0.7**
baz=308
AMTX Amarillo 92.21 48 P **P** **06 11 50.2 +1.3**
baz=308,SNR=11
FETA Feichten 92.29 329 *e*PcP **P** **06 11 48.8 -0.3**
comp=Z,12nm,1.0s,SNR=6.2
FETA *i* PP **PP** **06 15 30.6 +1.8**
comp=Z,13nm,1.3s
BFO Black Forest 92.33 331 P **P** **06 11 48.6 -0.5**
BFO IAmb IAmb 06 11 49.8
comp=Z,29nm,1.0s
BFO IAMs_20 IAMs_20 06 57 03.7
comp=Z,796nm,18.0s
BFO Black Forest 92.33 331 P **P** **06 11 48.6 -0.5**
BFO pmax pmax
comp=Z,29nm,1.0s
BFO MLR MLR
comp=Z,800nm,18.0s
BFO Black Forest 92.33 331 *e*P **P** **06 11 48.8 -0.3**
comp=Z,31nm,1.0s,baz=41,slow=4.8
LPIG La Paz 92.41 61 LR LR 06 47 38.8
comp=Z,539nm,19.8s,baz=312,slow=32
DAVA Damuels 92.46 330 *i* PcP **P** **06 11 49.7 -0.2**
comp=Z,28nm,1.0s,SNR=9.5
DAVA *e*PP **PP** **06 15 31.3 +1.1**
comp=Z,16nm,1.4s
VHRN Van Horn 92.48 53 IAmb IAmb 06 11 56.7
comp=Z,20nm,1.0s
SCHQ Schefferville 92.53 16 IAmb IAmb 06 11 55.6
comp=Z,18nm,0.9s
SCHQ Schefferville 92.53 16 P **P** **06 11 50.6 +0.7**
comp=Z,11nm,0.8s,baz=325,slow=6.3,SNR=10
SCHQ LR LR 06 58 45.3
comp=Z,293nm,19.4s,baz=336,slow=39
comp=Z,11nm,0.8s
CTI Castel Tesino 92.60 328 IAmb IAmb 06 11 55.4
comp=Z,17nm,1.1s
KSU1 Kansas State U 92.62 42 P **P** **06 11 51.5 +0.9**
baz=312,SNR=10
KSU1 Kansas State U 92.62 42 P **P** **06 11 51.3 +0.7**
baz=312,SNR=10
CDF Champ du Feu 92.70 332 *e*P **P** **06 11 50.1 -0.8**
CDF pmax pmax
comp=Z,27nm,1.1s
IDI Anoyia 92.70 313 LR LR 06 59 06.5
comp=Z,5.3nm,18.1s,baz=66,slow=39
DAVOX Davos/Dischmat 92.85 329 LR LR 06 57 13.4
comp=Z,470nm,18.0s,baz=48,slow=38
PECS Pecos 92.90 52 IAmb IAmb 06 11 58.2
comp=Z,19nm,0.8s
ECH Echery 92.91 332 IAmb IAmb 06 11 52.4
comp=Z,22nm,1.1s
U32A Winter Ranch, 92.96 45 IAmb IAmb 06 11 54.5
comp=Z,29nm,0.9s
OK032 Salt Plains WL 93.17 44 IAMs_20 IAMs_20 07 00 05.3
comp=Z,813nm,19.0s
KAN14 Manchester OK 93.23 44 IAmb IAmb 06 12 08.4
comp=Z,38nm,1.2s
TUE Stuetta 93.32 329 IAmb IAmb 06 11 54.6
comp=Z,21nm,1.0s
HINF Hinteralfeld 93.35 332 *e*P **P** **06 11 52.6 -1.2**
HINF pmax pmax
comp=Z,18nm,1.1s
N38A Joes South For 93.38 39 P **P** **06 11 54.9 +0.9**
baz=314
HAU Haudompre 93.41 332 *e*P **P** **06 11 53.0 -1.0**
HAU pmax pmax
comp=Z,20nm,1.1s
POST Post 93.45 49 IAmb IAmb 06 12 00.5
comp=Z,30nm,1.1s
JFWS Jewell Farm 93.46 36 P **P** **06 11 55.1 +0.8**
baz=316
JFWS Jewell Farm 93.46 36 P **P** **06 11 54.8 +0.4**
baz=316
KAN13 South Haven SW 93.48 44 IAmb IAmb 06 12 00.3
comp=Z,26nm,0.9s
CROK Carrier 93.51 44 IAmb IAmb 06 12 09.8
comp=Z,28nm,0.9s
L40A Anamosa 93.56 37 P **P** **06 11 55.9 +1.0**
baz=316
ALPN Alpine 93.66 52 IAmb IAmb 06 12 11.1
comp=Z,17nm,0.9s
BLOK Blackwell 93.81 44 IAmb IAmb 06 12 11.1
comp=Z,24nm,0.9s
SN07 Snyder 07 93.84 49 IAmb IAmb 06 12 10.8
comp=Z,22nm,1.0s
SN05 Snyder 5 93.98 49 IAmb IAmb 06 12 11.8
comp=Z,18nm,0.8s
P38A Dawn 94.02 40 IAmb IAmb 06 12 02.8
comp=Z,27nm,0.9s
P38A Dawn 94.02 40 P **P** **06 11 58.0 +1.0**
baz=314,SNR=9.0
T35A Sooner Cattle 94.13 43 IAmb IAmb 06 11 59.5
comp=Z,35nm,1.2s
T35B Sooner Cattle 94.13 43 P **P** **06 11 58.8 +1.2**
baz=312,SNR=6.1
WMOK Wichita Mounta 94.15 46 IAmb IAmb 06 12 03.6
comp=Z,26nm,1.0s
WMOK Wichita Mounta 94.15 46 P **P** **06 11 58.1 +0.3**
baz=310,SNR=20
WMOK Wichita Mounta 94.15 46 P **P** **06 11 58.8 +1.0**
baz=310,SNR=20
APMT Aspermont 94.19 48 IAmb IAmb 06 12 03.9
comp=Z,23nm,0.9s
OK048 Pawnee Station 94.20 44 IAmb IAmb 06 11 59.8
comp=Z,28nm,1.1s
HPIG 94.26 56 IAmb IAmb 06 12 23.1
comp=Z,43nm,1.8s
HPIG IAMs_20 IAMs_20 06 58 07.0
comp=Z,700nm,20.0s
TX31 Lajitas Ar. Si 94.26 53 IAmb IAmb 06 12 14.2
comp=Z,34nm,0.9s
TX31 Lajitas Ar. Si 94.26 53 P **P** **06 12 00.0 +1.6**
baz=307
TXAR Lajitas Array 94.26 53 P **P** **06 11 59.8 +1.3**
comp=Z,15nm,0.9s,baz=302,slow=2.3,SNR=102
TXAR PKPPKP **P'P'df** **06 37 11.6 -3.3**
comp=Z,0.2nm,0.9s,baz=190,slow=3.8,SNR=3.8
TXAR LR LR 06 54 51.6
comp=Z,247nm,18.1s,baz=296,slow=36
comp=Z,15nm,0.9s
SGCY Sterling City 94.42 50 IAmb IAmb 06 12 14.5
comp=Z,30nm,0.9s
OK052 Battle Ridge R 94.56 44 IAMs_20 IAMs_20 06 55 51.0
comp=Z,884nm,19.0s

CABF La Chapelle 94.62 331 *e*P **P** **06 11 58.8 -0.9**
CABF pmax pmax
comp=Z,9.0nm,0.8s
DEOK Depew 94.85 44 IAmb IAmb 06 12 15.9
comp=Z,33nm,1.0s
P40A Paris 94.91 39 IAmb IAmb 06 12 06.8
comp=Z,23nm,0.9s
P40A Paris 94.91 39 P **P** **06 12 01.7 +0.6**
baz=315,SNR=8.8
ABTX Abilene, Hawle 94.95 48 P **P** **06 12 01.9 +0.5**
baz=310,SNR=10
ABTX Abilene, Hawle 94.95 48 P **P** **06 12 02.1 +0.6**
baz=310,SNR=10
TIP Timpagrande 94.97 321 IAMs_20 IAMs_20 07 00 05.5
comp=Z,634nm,18.0s
WTFS Witchita Falls 94.98 47 IAmb IAmb 06 12 16.4
comp=Z,23nm,1.0s
LOR Lormes 95.00 333 *e*P **P** **06 12 00.5 -0.9**
LOR pmax pmax
comp=Z,30nm,1.2s
W35A Tecumseh 95.07 45 IAmb IAmb 06 12 07.6
comp=Z,30nm,1.1s
L44A Lake County Fo 95.17 35 P **P** **06 12 01.5 -0.7**
baz=318
LPG La Plagne 95.22 330 *e*P **P** **06 12 01.9 -0.9**
LPG pmax pmax
comp=Z,17nm,1.1s
TUL3 Leonard 95.23 44 IAmb IAmb 06 12 17.0
comp=Z,17nm,0.9s
TUL3 Leonard 95.23 44 P **P** **06 12 03.2 +0.6**
baz=312
CASP Castiglione de 95.42 326 IAMs_20 IAMs_20 06 59 17.8
comp=Z,686nm,22.0s
S39A Bolivar 95.48 41 IAmb IAmb 06 12 08.5
comp=Z,40nm,1.5s
S39A Bolivar 95.48 41 P **P** **06 12 03.8 0.0**
baz=314
RLO Rose Lookout 95.52 43 IAmb IAmb 06 12 15.6
comp=Z,12nm,1.0s
AVF Avril sur Loir 95.59 333 *e*P **P** **06 12 03.3 -0.7**
AVF pmax pmax
comp=Z,23nm,1.2s
HDIL Hopedale 95.66 37 P **P** **06 12 05.2 +0.7**
baz=317
HDIL Hopedale 95.66 37 P **P** **06 12 04.8 +0.3**
baz=317
R40A Maddies Statio 95.66 40 P **P** **06 12 04.5 0.0**
baz=314
PLPT Palo Pinto 95.69 47 IAmb IAmb 06 12 20.1
comp=Z,26nm,1.0s
U38A Gravette 95.71 43 IAmb IAmb 06 12 10.1
comp=Z,20nm,1.1s
U38A Gravette 95.71 43 P **P** **06 12 04.9 0.0**
baz=313
FW07 Weatherford 96.10 47 IAmb IAmb 06 12 22.1
comp=Z,25nm,1.1s
JCT Junction City 96.20 50 IAmb IAmb 06 12 21.7
comp=Z,20nm,1.1s
JCT Junction City 96.20 50 P **P** **06 12 07.8 +0.6**
baz=309
JCT Junction City 96.20 50 P **P** **06 12 08.2 +0.9**
baz=309
X37A Clayton 96.37 44 P **P** **06 12 08.9 +1.1**
baz=312
CCM Cathedral Cave 96.40 40 P **P** **06 12 08.1 +0.2**
CCM Cathedral Cave 96.40 40 P **P** **06 12 08.1 +0.2**
CCM pmax pmax
comp=Z,116nm,2.0s
CCM Cathedral Cave 96.40 40 P **P** **06 12 08.5 +0.6**
baz=315
CCM Cathedral Cave 96.40 40 P **P** **06 12 07.8 -0.1**
baz=315
MGMO Mountain Grove 96.45 41 IAmb IAmb 06 12 09.2
comp=Z,18nm,1.1s
FW13 Cleburne 96.56 47 IAmb IAmb 06 12 24.2
comp=Z,16nm,0.9s
VIVF Saint-Julien-l 96.62 331 *e*P **P** **06 12 07.8 -1.0**
VIVF pmax pmax
comp=Z,17nm,1.1s
U40A Yellville 96.67 42 P **P** **06 12 09.5 +0.3**
baz=314
U40A P **P** **06 12 09.5 +0.3**
baz=314
WHTX Lake Whitney, 96.77 48 P **P** **06 12 10.6 +0.9**
baz=311
WHTX Lake Whitney, 96.77 48 P **P** **06 12 11.1 +1.4**
baz=311
SFIN Lafayette 96.92 36 P **P** **06 12 10.6 +0.4**
baz=318
LMR La Mourre 97.03 329 *e*P **P** **06 12 09.2 -1.4**
LMR pmax pmax
comp=Z,18nm,1.1s
SADO Sadowa 97.17 28 LR LR 06 55 52.1
comp=Z,266nm,21.8s,baz=290,slow=35
435B Jaell 97.47 49 P Pdif 06 12 13.5 +0.5
baz=311
VAE Valguarnera 97.48 321 LR LR 06 59 07.1
comp=Z,368nm,18.3s,baz=137,slow=37
MIAR Mount Ida 97.49 43 P **P** **06 12 12.0 -0.9**
baz=313
MIAR Mount Ida 97.49 43 P **P** **06 12 12.8 -0.1**
baz=313
WHAR Wooly Hollow 97.74 42 IAmb IAmb 06 12 19.0
comp=Z,27nm,1.4s
PBMO Poplar Bluff 97.76 40 IAmb IAmb 06 12 37.6
comp=Z,14nm,1.1s
833A Chaparral WMA, 97.83 52 IAMs_20 IAMs_20 06 58 37.2
comp=Z,729nm,20.0s
833A Chaparral WMA, 97.83 52 P Pdif 06 12 14.7 +0.1
baz=309
O48B Farmland 97.99 35 P **P** **06 12 14.5 -0.6**
baz=320
ZAIG Zacatecas 98.98 58 IAMs_20 IAMs_20 06 50 59.3
comp=Z,731nm,21.0s
ACSO Alum Creek Sta 99.07 33 P **Pdif** **06 12 19.4 -0.5**
baz=321
M53A WI Miller and 99.19 31 P **Pdif** **06 12 20.5 +0.1**
baz=323
WVT Waverly 99.67 39 P **Pdif** **06 12 22.2 -0.5**
baz=317
LODK Lodwar 102.91 281 IAMs_20 IAMs_20 07 07 56.1
comp=Z,456nm,18.0s
ES10 SONSECA Array 104.45 334 IAMs_20 IAMs_20 06 59 31.2
comp=Z,687nm,19.0s
ES06 SONSECA Array 104.45 334 IAMs_20 IAMs_20 07 08 35.3
comp=Z,616nm,18.0s
CART Cartagena 105.02 330 IAMs_20 IAMs_20 07 06 23.7
comp=Z,774nm,20.0s
PVAQ Vaqueiros 107.86 335 IAMs_20 IAMs_20 07 01 32.5
comp=Z,653nm,22.0s
PETF Flores 111.90 54 IAMs_20 IAMs_20 06 54 04.2
comp=Z,611nm,20.0s
QSPA South Pole Qui 119.10 180 PKPdf **PKPdf** **06 17 26.6 -0.3**
QSPA South Pole Qui 119.10 180 PKP **PKPdf** **06 17 26.7 -0.1**
comp=Z,12nm,0.9s,baz=331,slow=0.6,SNR=29
TORD Torodi Ar. Bea 123.09 312 PKP **PKPdf** **06 17 36.1 +0.1**
LBTB Lobatse 124.03 258 PKPdf **PKPdf** **06 17 37.2 -0.4**
LBTB Lobatse 124.03 258 PKIKP **PKPdf** **06 17 37.2 -0.4**
BOSA Boshof 125.44 254 PKP **PKiKP** **06 17 40.6 -0.1**
comp=Z,3.5nm,0.9s,baz=119,slow=13,SNR=2.9
ELIB Princess Elisa 126.48 200 *d*PKPdf **PKiKP** **06 17 41.4 0.0**
SDV Santo Domingo 130.56 45 PKPdf **PKPdf** **06 17 50.6 +0.1**
SDV Santo Domingo 130.56 45 *e*P **PKiKP** **06 17 51.3 -0.2**
ROSC El Rosal 131.19 52 PKP **PKiKP** **06 17 52.8 -0.2**
comp=Z,6.2nm,0.7s,baz=53,slow=2.0,SNR=6.8
OTAV Otavalo 131.34 60 IAMs_20 IAMs_20 07 05 42.1
comp=Z,439nm,22.0s
OTAV Otavalo 131.34 60 *e*P **PKiKP** **06 17 53.3 -0.1**
BELA Belgrano 2 131.36 181 PKPdf **PKiKP** **06 17 50.7 -0.2**
TROLL Troll, Antarti 132.08 196 ⇓PKPdf **PKPdf** **06 17 52.1 +0.4**
comp=Z,504nm,0.7s
TROLL ⇑SKP 06 21 11.0
comp=Z,246nm,0.9s
DBIC Dimbokro 132.18 313 PKIKP **PKiKP** **06 17 54.0 -0.5**
DBIC Dimbokro 132.18 313 PKP **PKiKP** **06 17 54.0 -0.5**
comp=Z,5.0nm,0.8s,baz=53,slow=3.8,SNR=6.4
SNAA Sanae 133.54 194 ⇓PKPdf **PKPdf** **06 17 53.7 -0.5**
comp=Z,149nm,0.9s
SNAA Sanae 133.54 194 PKP **PKPdf** **06 17 54.2 -0.1**
comp=Z,11nm,1.0s,baz=292,slow=5.9,SNR=3.7
VNA2 Neumayer--Watz 135.07 194 ⇓PKPdf **PKiKP** **06 17 58.3 -0.2**
comp=Z,21nm,0.9s,baz=193,slow=3.2
VNA2 ⇑SKP 06 21 20.1
comp=Z,8.5nm,0.4s,baz=266,slow=15
CZSB Cruzeiro do Su 140.79 64 *e*P **PKPdf** **06 18 09.5 +0.2**
TEFE Tefe 143.84 50 *e*P PKPbc 06 18 12.4 0.0
MG03 Isla Dawson 145.93 145 PKPdf **PKPab** **06 18 19.3 +1.1**

ETMB Extrema 147.09 60 PKPdf **PKPdf** **06 18 20.1 -0.2**
ETMB Extrema 147.09 60 *e*P **PKPdf** **06 18 21.0 +0.7**
MCPB Macapa, AP 148.14 28 *e*P **PKPdf** **06 18 23.6 +1.5**
MALB Monte Alegre 148.50 33 *e*P **PKPdf** **06 18 23.6 +0.9**
COYC Coyhaique 148.63 131 PKPab **PKPab** **06 18 33.3 +4.0**
SAML Samuel 148.74 55 *e*P **PKPdf** **06 18 23.9 +0.9**
LPAZ La Paz 149.29 72 PKP **PKPdf** **06 18 25.9 +1.3**
comp=Z,33nm,0.9s,baz=1.1,slow=3.0,SNR=21
LPAZ La Paz 149.29 72 *e*P **PKPdf** **06 18 25.8 +1.2**
ITTB Itaituba 149.91 38 *e*P **PKPdf** **06 18 25.6 +0.7**
PLCA Paso Flores 151.05 122 PKPbc **PKiKP** **06 18 33.1 +0.7**
comp=Z,42nm,0.9s,baz=240,slow=3.0,SNR=81
PLCA Paso Flores 151.05 122 *e*P **PKPdf** **06 18 27.2 +1.2**
VA06 Catapilco 151.17 105 **PKiKP** **06 18 32.5 -0.2**
LVC Limon Verde 151.31 84 *e*P **PKPdf** **06 18 28.9 +1.6**
TMAB Tom-Au,PA,Br 151.45 22 *e*P **PKPdf** **06 18 27.6 +0.3**
CO03 El Pedregal 151.57 101 **PKiKP** **06 18 34.0 +0.2**
BO04 La Punta 151.78 108 IAMs_20 IAMs_20 07 26 05.1
comp=Z,205nm,19.0s
NPGB Novo Progresso 152.34 40 *e*P **PKPdf** **06 18 29.4 +0.7**
VILB Vilhena 153.59 57 PKPdf **PKPdf** **06 18 29.4 -1.1**
VILB PKPab **PKPab** **06 18 51.1 +0.4**
VILB Vilhena 153.59 57 *e*P **PKPdf** **06 18 30.8 +0.3**
PDRB Porto dos Gac 155.06 49 *e*P **PKPdf** **06 18 33.6 +1.1**
PTLB Pontes e Lacer 155.98 59 *e*P **PKPdf** **06 18 34.7 +1.0**
NBPB Pedra_Branca-C 156.27 4 *e*P **PKPdf** **06 18 35.3 +1.1**
SMTB Santa Maria do 157.66 26 *e*P **PKPdf** **06 18 37.3 +1.4**
SALV Santo Antonio 158.80 55 *e*P **PKPdf** **06 18 37.9 +0.8**
ARAG Araguaiana, MT 161.28 47 *e*P **PKPdf** **06 18 40.7 +0.8**
AQDB Aquidauana 161.55 65 *e*P **PKPdf** **06 18 40.7 +0.6**
CPUP Villa Florida 162.48 85 PKP **PKPdf** **06 18 41.8 +0.8**
comp=Z,6.0nm,1.2s,baz=74,slow=2.9,SNR=4.6
CPUP PKPab **PKPab** **06 19 29.6 +0.8**
comp=Z,3.7nm,0.8s,baz=278,slow=3.7,SNR=5.7
BDFB Brasilia 163.44 37 PKP **PKPdf** **06 18 42.9 +0.6**
comp=Z,2.7nm,0.7s,baz=15,slow=9.2,SNR=3.7
BDFB PKPab **PKPab** **06 19 33.5 +0.3**
comp=Z,6.7nm,1.1s,baz=135,slow=3.6,SNR=3.9
JANB Januaria 164.57 24 *e*P **PKPdf** **06 18 43.9 +0.6**
IPMB Ipameri, GO 165.23 42 *e*P **PKPdf** **06 18 44.8 +1.0**
PCMB Pacaembu 165.63 61 *e*P **PKPdf** **06 18 45.2 +1.3**
CPSB Cacapava Do Su 166.40 98 *e*P **PKPdf** **06 18 45.9 +1.6**
SJMB Sao Joao De Ma 168.97 17 *e*P **PKPdf** **06 18 47.1 +0.7**

KRSC 08 06:19:23.5±1.6, 54°.93N×164°.19E, h51km±38km, Ml3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.06**	**74**	*e*P		Pn	06 19 44.3	+2.4
BKI				*e*S		Sn	06 19 57.0	+1.3
KBG	**Krutoberegovo**	**1.57**	**328**	*e*P		Pn	06 19 49.6	+0.7
KBG				*e*S		Sn	06 20 07.7	-0.4
TUMD	**Tumrok D**	**2.20**	**279**	*e*P		Pn	06 19 59.4	+1.9
BZP	**Bezymyannyi-Pe**	**2.30**	**297**	*e*P		Pn	06 20 01.4	+2.4
BZMR	**Bezymyannaya**	**2.34**	**297**	*e*P		Pn	06 20 02.5	+2.9
BZWR	**Bezymyannyi-We**	**2.35**	**298**	*e*P		Pn	06 20 02.6	+2.9
BZWR				*e*S		Sn	06 20 32.5	+5.2
TUMR	**Tumrok**	**2.35**	**280**	*e*P		Pn	06 20 02.4	+2.7
BDR	**Baidarnaya**	**2.35**	**315**	*e*P		Pn	06 20 02.8	+3.1
BDR				*e*S		Sn	06 20 33.1	+5.8
KMNR	**Kamenistaya**	**2.41**	**292**	*e*P		Pn	06 20 02.9	+2.5
KMNR				*e*S		Sn	06 20 32.6	+4.0
KIRR	**Kirishev**	**2.42**	**297**	*e*P		Pn	06 20 04.0	+3.4
KRSR	**Krestovskiy**	**2.43**	**304**	*e*P		Pn	06 20 02.9	+2.1
KLY	**Klyuchi**	**2.44**	**306**	*e*P		Pn	06 20 01.8	+1.1
KLY				*e*S		Sn	06 20 30.4	+1.1
KPT	**Kopyto**	**2.49**	**296**	*e*P		Pn	06 20 05.0	+3.5
SRDR	**Sredinnyy**	**2.89**	**301**	*e*P		Pn	06 20 10.0	+2.9
SRDR				*e*S		Sn	06 20 45.7	+5.1
ESO	**Esso**	**3.28**	**290**	*e*P		Pn	06 20 14.8	+2.4
SMAR	**Somma**	**3.59**	**244**	*e*P		Pn	06 20 19.9	+3.2
KRER	**Koryakskii**	**3.59**	**245**	*e*P		Pn	06 20 20.1	+3.3
AVH	**Avacha**	**3.62**	**245**	*e*P		Pn	06 20 20.6	+3.5
KRX	**Arik**	**3.62**	**246**	*e*P		Pn	06 20 20.3	+3.3
KOK	**Koryaka**	**3.66**	**246**	*e*P		Pn	06 20 20.5	+2.9
GNL	**Ganaly**	**3.86**	**254**	*e*P		Pn	06 20 23.4	+3.0
ASAK	**Asacha**	**4.53**	**238**	*e*P		Pn	06 20 33.1	+3.6
KDTR	**Khodutka, Kamc**	**4.81**	**232**	*e*P		Pn	06 20 37.3	+4.0

IDC 08 06:35:38.3±5.7, 5°.43S×128°.85E, h124km±58km, mb3.1/1, mbtmp3.6/3, Error ellipse: s-maj=178.3km s-min=18.2km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.38**	**160**	P		Pn	06 39 08.0	-0.8
	0.5nm,0.4s,baz=342,slow=12,SNR=11						
WRA				S		Sn	06 41 48.7	-11
	0.4nm,0.3s,baz=335,slow=22,SNR=7.3						
ASAR	**Alice Springs**	**18.77**	**165**	P		P	06 39 48.5	+0.5
	1.7nm,0.5s,baz=347,slow=11,SNR=34						
ASAR				S		S	06 43 16.0	+0.7
	0.2nm,0.3s,baz=357,slow=21,SNR=2.0						
MKAR	**Makanchi Array**	**66.29**	**327**	P		P	06 46 13.4	0.0
	0.2nm,0.4s,baz=120,slow=8.2,SNR=4.1						
	0.2nm,0.4s						

*IDC **08** 06:44:44.5±0.5, 29°.25N×142°.03E, h0km, mb4.1/24, mbtmp4.1/28, ML3.5/4, MS3.6/4, Error ellipse: s-maj=19.0km s-min=11.8km az=72.0*
*MOS **08** 06:44:45.2±1.3, 29°.24N×141°.90E, h14km, mb4.7/20, Error ellipse: s-maj=16.8km s-min=6.7km az=124.5*
*NEIC **08** 06:44:51.0±1.1, 30°.07N±0°.04×141°.49E±0°.07, h10km±1km, mb4.7/38, Error ellipse: s-maj=11.9km s-min=5.5km az=118.0*

ISC 08 06:44:49.1±0.5, 29°.22N±0°.05×141°.91E±0°.09, h30km, n132, σ1°36/112, mb4.5/54, 11C-1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.13**	**173**	Pn		Pb	06 45 37.0	+10
JCJ	**Chichijima**	**2.13**	**173**	Pn		**Pn**	**06 45 20.9**	**-1.8**
	14nm,0.3s,baz=244,slow=22,SNR=2.0						
JCJ				Sn		**Sn**	**06 45 48.2**	**0.0**
	50nm,0.3s,baz=286,slow=21,SNR=6.2						
JHJ	**Hachijo jima 2**	**4.29**	**335**	Pn		**Pn**	**06 45 51.1**	**-1.2**
	23nm,0.3s,baz=67,slow=16,SNR=1.4						
JHJ				Sn		**Sn**	**06 46 41.6**	**+0.3**
	25nm,0.3s,baz=79,slow=21,SNR=1.9						
JHJ				LR	LR		06 47 35.9	
	comp=Z,640nm,19.9s,baz=53,slow=40						
	80nm,0.4s						
JGF	**Kuroka**	**7.43**	**330**	Pn		Pn	06 46 24.1	-11
MJAR	**Matsushiro Arr**	**7.93**	**338**	Pn		**Pn**	**06 46 41.0**	**-1.4**
	0.6nm,0.3s,baz=163,slow=13,SNR=13						
MJAR				Sn		**Sn**	**06 48 11.9**	**+0.8**
	0.1nm,0.3s,baz=332,slow=45,SNR=1.4						
	4.9nm,0.3s						
MAJO	**Matsushiro**	**7.93**	**338**	Pn		Pn	06 46 31.0	-11
MAJO	**Matsushiro**	**7.93**	**338**	*i* P		**Pn**	**06 46 42.9**	**+0.5**
MJB9	**Matsu-Tunnel**	**7.94**	**338**	Pn		Pn	06 46 34.0	-8.4
JMN	**Monobe**	**8.20**	**305**	Pn		Pn	06 46 37.2	-8.8
JNU	**Nakatsue**	**10.21**	**295**	LR	LR		06 51 03.2	
	comp=Z,340nm,21.6s,baz=34,slow=37						
JTM	**Tennabayashi**	**11.56**	**357**	Pn		Pn	06 47 23.6	-8.4
ERM	**Erimo**	**12.80**	**4**	Pn		Pn	06 47 40.5	-8.5
ERM	**Erimo**	**12.80**	**4**	P		Pn	06 47 40.5	-8.5
KSRS	**Korea Array**	**14.27**	**309**	Pn		**Pn**	**06 48 09.9**	**+0.8**
	2.1nm,1.0s,baz=82,slow=15,SNR=2.3						
KSRS				LR	LR		06 53 35.0	
	comp=Z,195nm,18.7s,baz=60,slow=37						
JKA	**Kamikawa-asahi**	**14.87**	**2**	Pn		Pn	06 48 09.6	-7.7
ASAJ	**Asahikawa**	**14.88**	**2**	P		Pn	06 48 09.6	-7.6
YUK	**Yuzh-Kuril'sk**	**15.12**	**11**	*i* P		**P**	**06 48 24.1**	**-1.2**
USA0B	**Ussuriysk Arra**	**16.91**	**335**	Pn		Pn	06 48 34.9	-8.5
USA0B	**Ussuriysk Arra**	**16.91**	**335**	P		Pn	06 48 34.9	-8.5
USA0B				pmax	pmax			
	comp=Z,3.0nm,1.1s						
USRK	**Ussuriysk Ar.**	**16.91**	**335**	Pn		Pn	06 48 34.2	-9.2
USRK	**Ussuriysk Ar.**	**16.91**	**335**	P		Pn	06 48 34.2	-9.2
USRK	**Ussuriysk Ar.**	**16.91**	**335**	Pn		**Pn**	**06 48 43.3**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=142,slow=10,SNR=2.8						
	comp=Z,1.4nm,0.6s						
NACB	**Ninganchiao**	**18.83**	**259**	P		**Pn**	**06 49 07.3**	**+0.1**
YHNB	**Yeheng**	**18.85**	**261**	P		**Pn**	**06 49 08.4**	**+0.8**
YHNB				IAmb	IAmb		06 49 16.6	
	comp=Z,38nm,1.1s						
SSLB	**Suanglung**	**19.51**	**259**	P		**Pn**	**06 49 15.7**	**+0.3**
SSLB				IAmb	IAmb		06 49 19.1	

comp=Z,30nm,0.9s
KLR Kul'dur 21.43 342 *i* P **P 06 49 35.5 +0.9**
KLR pmax pmax
comp=Z,10.0nm,2.0s
KLR Kul'dur 21.43 342 P **P 06 49 34.0 -0.6**
comp=Z,2.1nm,0.8s,baz=131,slow=12,SNR=7.1
comp=Z,2.1nm,0.8s
H11N2 WAKE ISLAND Hy 24.58 107 T T 07 15 38.6
baz=297,slow=75,SNR=13
H11N1 WAKE ISLAND Hy 24.59 107 T T 07 15 44.1
baz=297,slow=75,SNR=5.8
H11N3 WAKE ISLAND Hy 24.60 107 T T 07 15 47.7
baz=297,slow=75,SNR=10.0
H11S3 WAKE ISLAND Hy 25.00 110 T T 07 16 10.9
baz=305
H11S1 WAKE ISLAND Hy 25.00 110 T T 07 16 12.4
baz=305
H11S2 WAKE ISLAND Hy 25.02 110 T T 07 16 13.2
baz=305
HIA Hailar 26.20 326 P **P 06 50 17.0 -4.0**
HIA lAmb lAmb 06 50 23.4
comp=Z,20nm,1.2s
HIA Hailar 26.20 326 P **P 06 50 17.0 -4.0**
HIA pmax pmax
comp=Z,21nm,1.2s
ZEA Zeya 26.73 340 *eP* **P 06 50 26.0 +0.2**
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=Z,200nm,15.0s
TNTI Ternate 31.51 209 P P 06 51 18.4 +10
MANU Manus Island 31.53 170 P **P** 06 51 20.9 +12
ULN Ulaanbaatar 32.64 314 P **P 06 51 15.4 -3.0**
ULN Ulaanbaatar 32.64 314 *ceP* **P 06 51 19.1 +0.7**
ULN pmax pmax
comp=Z,6.0nm,1.3s
SONM Songino Array 33.04 314 P **P 06 51 18.8 -3.1**
SONM Songino Array 33.04 314 P **P 06 51 22.0 +0.1**
comp=Z,2.1nm,0.7s,baz=120,slow=6.3,SNR=12
comp=Z,2.1nm,0.7s
SEY Seymchan 34.40 8 *ceP* **P 06 51 36.6 +3.3**
SEY pmax pmax
comp=Z,16nm,1.7s
ZAK Zakamensk 35.87 317 *eP* **P 06 51 47.7 +1.4**
ZAK pmax pmax
comp=Z,4.0nm,1.0s
MOY Mondy 37.68 318 *eP* **P 06 52 02.9 +1.2**
MOY pmax pmax
comp=Z,33nm,1.2s
SAUI Saumlaki 38.38 197 P P 06 52 17.6 +10
PHRA Phrae 39.40 264 P **P 06 52 17.6 +1.2**
CHTO Chiang Mai 40.40 265 P **P 06 52 25.7 +1.0**
CHTO lAmb lAmb 06 52 26.6
comp=Z,8.4nm,0.8s
CHTO Chiang Mai 40.40 265 P **P 06 52 25.7 +1.0**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
TARA Tarawa 40.51 128 P P 06 52 36.4 +11
CM31 Chiang Mai Arr 40.54 264 P **P 06 52 27.4 +1.5**
CMAR Chiang Mai Arr 40.54 264 P **P 06 52 27.8 +1.9**
CMAR Chiang Mai Arr 40.54 264 P **P 06 52 27.8 +1.9**
CMAR Chiang Mai Arr 40.54 264 P **P 06 52 26.0 +0.1**
comp=Z,1.3nm,0.4s,baz=80,slow=4.9,SNR=9.5
comp=Z,1.3nm,0.4s
TIXI Tiksi 43.08 354 P **P 06 52 43.8 -2.1**
TIXI Tiksi 43.08 354 P **P 06 52 43.8 -2.1**
TIXI pmax pmax
comp=Z,4.0nm,1.2s
DGZ Jazzator, Alta 45.64 312 *i* P **P 06 53 07.8 +0.9**
DGZ pmax pmax
comp=Z,6.0nm,0.8s
KNRA Kununurra 46.41 198 P P 06 53 22.2 +9.2
KNRA lAmb lAmb 06 53 43.7
comp=Z,7.9nm,0.8s
ZAA0 Zalesovo Array 47.74 318 P **P 06 53 21.2 -1.9**
ZAA0 lAmb lAmb 06 53 24.5
comp=Z,9.6nm,1.1s
ZALV Zalesovo Beam 47.74 318 P **P 06 53 20.8 -2.3**
ZALV Zalesovo Beam 47.74 318 *i* P **P 06 53 23.7 +0.6**
ZALV pmax pmax
comp=Z,6.0nm,0.9s
ZALV Zalesovo Beam 47.74 318 P **P 06 53 23.1 0.0**
comp=Z,5.8nm,0.9s,baz=103,slow=6.7,SNR=15
ZALV PcP **PcP 06 54 50.8 -1.1**
comp=Z,0.6nm,0.3s,baz=84,slow=5.9,SNR=2.0
comp=Z,5.8nm,0.9s
MK31 Makanchi Array 48.95 308 P **P 06 53 31.3 -1.3**
MK31 lAmb lAmb 06 53 33.8
comp=Z,2.9nm,0.8s
MK31 Makanchi Array 48.95 308 *ceP* **P 06 53 33.2 +0.6**
MKAR Makanchi Array 48.95 308 P **P 06 53 31.6 -1.1**
MKAR Makanchi Array 48.95 308 *ceP* **P 06 53 33.0 +0.4**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 48.95 308 P **P 06 53 32.6 -0.1**
comp=Z,3.5nm,0.8s,baz=92,slow=9.4,SNR=30
comp=Z,3.5nm,0.8s
MAKZ Makanchi 49.17 308 P **P 06 53 33.2 -1.0**
MAKZ lAmb lAmb 06 53 35.5
comp=Z,3.5nm,1.1s
MAKZ Makanchi 49.17 308 P **P 06 53 33.3 -1.0**
MAKZ pmax pmax
comp=Z,3.0nm,1.1s
WRA Warramunga Arr 49.42 189 P **P 06 53 36.4 0.0**
comp=Z,1.4nm,0.5s,baz=8.2,slow=7.8,SNR=13
WRA PcP **PcP 06 54 57.6 -0.8**
comp=Z,0.3nm,0.3s,baz=0.6,slow=4.0,SNR=1.0
comp=Z,1.4nm,0.5s
NRIK Noril'sk 50.59 338 P **P 06 53 43.2 -1.5**
NRIK lAmb lAmb 06 53 46.3
comp=Z,4.0nm,0.9s
NRIK Noril'sk 50.59 338 *ceP* **P 06 53 45.5 +0.8**
NRIK Noril'sk 50.59 338 P **P 06 53 44.4 -0.3**
comp=Z,2.0nm,0.6s,baz=97,slow=12,SNR=5.0
comp=Z,2.0nm,0.6s
KURK Kurchatov 51.34 313 P **P 06 53 48.8 -1.8**
KURK lAmb lAmb 06 53 52.7
comp=Z,15nm,1.0s
KURK Kurchatov 51.34 313 P **P 06 53 51.8 +1.2**
KURBB Kurchatov Arra 51.40 313 P **P 06 53 51.8 +0.8**
comp=Z,5.5nm,0.7s,baz=103,slow=4.7,SNR=42
ASAR Alice Springs 53.15 189 P **P 06 54 04.7 +0.4**
comp=Z,0.3nm,0.5s,baz=1.1,slow=5.1,SNR=5.8
comp=Z,0.3nm,0.5s
IMAR Indian Mountai 53.27 27 P **P 06 54 04.2 -0.5**
PPLA Purkeypile 53.47 31 P **P 06 54 06.3 -0.1**
PPLA lAmb lAmb 06 54 17.3
comp=Z,5.7nm,1.2s
BOOM Boomskoye usch 53.83 303 P **P 06 54 07.5 -1.9**
BOOM Boomskoye usch 53.83 303 P **P 06 54 07.5 -1.9**
BOOM pmax pmax
comp=Z,2.0nm,0.9s
AAK Ala-Archa 54.86 304 *ceP* **P 06 54 18.3 +1.4**
AAK pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 55.98 29 P **P 06 54 23.9 -0.5**
comp=Z,0.7nm,0.9s,baz=263,slow=5.7,SNR=4.5
comp=Z,0.7nm,0.9s
ARSB Arslanbob 56.20 302 P **P 06 54 24.7 -1.9**
ARSB Arslanbob 56.20 302 P **P 06 54 24.7 -1.9**
ARSB pmax pmax
comp=Z,1.0nm,1.1s
BVAR Borovoye Array 56.33 316 P **P 06 54 28.1 +1.1**
comp=Z,6.7nm,0.6s,baz=94,slow=8.9,SNR=30
BVAR PcP **PcP 06 55 24.6 +0.5**
comp=Z,1.1nm,0.8s,baz=99,slow=9.1,SNR=1.0
comp=Z,6.7nm,0.6s
BRVK Borovoye 56.39 317 P **P 06 54 25.0 -2.5**
BRVK lAmb lAmb 06 54 30.2
comp=Z,9.5nm,0.9s
BRVK Borovoye 56.39 317 *ceP* **P 06 54 29.3 +1.8**
BRVK pmax pmax
comp=Z,10.0nm,0.8s
KK31 Karatay Array 57.66 305 P **P 06 54 35.6 -1.1**
KK31 lAmb lAmb 06 54 38.2
comp=Z,5.5nm,0.9s
KK31 Karatay Array 57.66 305 P **P 06 54 35.6 -1.1**
KK31 pmax pmax
comp=Z,6.0nm,0.9s
KKAR Karatay Array 57.66 305 P **P 06 54 35.8 -0.9**
KKAR lAmb lAmb 06 54 38.2
comp=Z,5.4nm,0.9s
KKAR Karatay Array 57.66 305 P **P 06 54 35.8 -0.9**
CHGR Chuyangaron 59.66 300 P **P 06 54 50.0 -0.8**
CHGR pmax pmax
comp=Z,15nm,0.7s
SIMJ Simiganj 59.77 300 P **P 06 54 51.0 -0.7**
SIMJ lAmb lAmb 06 54 52.8
comp=Z,4.0nm,0.8s
STKA Stephens Creek 60.77 180 P **P 06 54 59.3 +1.2**
comp=Z,1.9nm,0.9s,baz=4.6,slow=18,SNR=3.0
comp=Z,1.9nm,0.9s
ARU Arti 62.60 322 P **P 06 55 07.8 -2.4**
ARU lAmb lAmb 06 55 11.5
comp=Z,6.4nm,0.8s
ARU Arti 62.60 322 *d iP* **P 06 55 10.3 0.0**
ARU 06 57 24.3
ARU S **S 07 03 38.4 +2.2**
ARU SS **SS 07 07 40.0 -0.2**
ARU pmax pmax
comp=Z,11nm,1.2s
ABKAR Akbulak array 63.45 314 P **P 06 55 14.7 -1.3**
GEYT Alibeck 68.16 302 P **P 06 55 46.1 -0.6**
GEYT lAmb lAmb 06 55 49.6
comp=Z,4.3nm,0.9s
GEYT Alibeck 68.16 302 P **P 06 55 47.7 +1.0**
comp=Z,2.8nm,0.8s,baz=61,slow=9.2,SNR=6.5
comp=Z,2.8nm,0.8s
SPB5 Spitsbergen Ar 68.25 350 P **P 06 55 45.8 -0.7**
SPA3 Spitsbergen Ar 68.25 350 P **P 06 55 45.8 -0.7**
YKA Yellowknife Ar 70.39 29 *ceP* P 06 56 05.0 +5.1
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 70.39 29 P **P 06 55 58.8 -1.1**
comp=Z,0.2nm,0.6s,baz=296,slow=6.5,SNR=4.3
comp=Z,0.2nm,0.6s
ARCES ARCESS Array B 71.46 341 P **P 06 56 06.3 0.0**
comp=Z,6.9nm,1.0s,baz=61,slow=10,SNR=2.3
comp=Z,6.9nm,1.0s
WISH Wishkah 71.95 46 P **P 06 56 12.4 +2.8**
WISH lAmb lAmb 06 56 12.8
comp=Z,15nm,1.1s
OBN Obninsk 74.65 325 LR LR 07 31 08.7
comp=Z,71nm,18.5s,baz=126,slow=37
FIA1 FINESS Array S 75.94 334 P **P 06 56 31.9 -0.8**
FIA1 lAmb lAmb 06 56 54.4
comp=Z,11nm,1.1s
FINES FINESS Array B 75.94 334 P **P 06 56 32.4 -0.3**
FINES FINESS Array B 75.94 334 *i* P **P 06 56 32.9 +0.2**
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 75.94 334 P **P 06 56 32.8 +0.1**
comp=Z,2.3nm,0.8s,baz=34,slow=4.8,SNR=5.5
comp=Z,2.3nm,0.8s
DGAR Diego Garcia 76.00 253 *ceP* **P 06 56 31.8 -2.0**
DGAR pmax pmax
comp=Z,267nm,2.5s
KBZ Khabaz 76.39 313 *ceP* **P 06 56 37.1 +1.5**
KBZ pmax pmax
comp=Z,6.0nm,0.8s
KBZ Khabaz 76.39 313 P **P 06 56 36.6 +1.0**
comp=Z,6.5nm,0.8s,baz=72,slow=4.1,SNR=17
comp=Z,6.5nm,0.8s
KIV Kislovodsk 76.42 313 *eP* **P 06 56 34.7 -1.2**
KIV pmax pmax
comp=Z,6.0nm,1.0s
NVAR Mina Array Bea 79.40 52 P **P 06 56 52.6 -0.2**
comp=Z,0.7nm,0.7s,baz=293,slow=5.0,SNR=5.7
comp=Z,0.7nm,0.7s
LRM Limekiln Ridge 79.49 43 P **P 06 56 54.9 +1.7**
AKASG Malin Array Be 80.77 324 P **P 06 56 59.6 0.0**
comp=Z,1.2nm,0.7s,baz=46,slow=5.6,SNR=6.1
comp=Z,1.2nm,0.7s
HFS Hagfors 81.38 337 P **P 06 57 02.6 -0.1**
comp=Z,0.8nm,0.4s,baz=152,slow=9.5,SNR=1.6
comp=Z,0.8nm,0.4s
NOA NORSAR Array B 81.55 338 P **P 06 57 03.8 +0.2**
comp=Z,2.7nm,1.1s,baz=195,slow=9.9,SNR=2.8
comp=Z,2.7nm,1.1s
PDAR Pinedale Array 82.88 45 P **P 06 57 10.9 -0.4**
comp=Z,0.4nm,0.8s,baz=41,slow=5.9,SNR=2.3
comp=Z,0.4nm,0.8s
RAYN Ar Rayn 84.07 294 P **P 06 57 18.8 +1.4**
RAYN lAmb lAmb 06 57 19.8
comp=Z,11nm,1.1s
RAYN Ar Rayn 84.07 294 P **P 06 57 18.8 +1.4**
RAYN pmax pmax
comp=Z,11nm,1.1s
BRTR Keskin Array B 84.38 313 P **P 06 57 18.9 +0.1**
BRTR Keskin Array B 84.38 313 *ceP* **P 06 57 19.8 +0.9**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 84.38 313 P **P 06 57 19.6 +0.8**
comp=Z,3.9nm,0.9s,baz=104,slow=3.1,SNR=7.3
comp=Z,3.9nm,0.9s
MMAI Mount Meron Ar 86.86 306 P **P 06 57 31.7 +0.5**
comp=Z,0.6nm,0.2s,baz=167,slow=20,SNR=2.0
comp=Z,0.6nm,0.2s
TXAR Lajitas Array 94.52 53 P **P 06 58 07.5 +0.3**
comp=Z,0.3nm,0.5s,baz=303,slow=2.7,SNR=9.3
comp=Z,0.3nm,0.5s
LPAZ La Paz 149.55 72 PKPbc **PKPbc 07 04 36.6 -0.4**
comp=Z,1.6nm,0.9s,baz=281,slow=4.6,SNR=3.5
PLCA Paso Flores 151.19 122 PKIKP **PKPbc 07 04 40.0 +0.4**
PLCA Paso Flores 151.19 122 PKPbc **PKPbc 07 04 40.0 +0.4**
comp=Z,1.5nm,0.9s,baz=286,slow=2.9,SNR=2.8

*IDC **08** 06:56:07.7±1.1,62°.13S×159°.51W,h0km,mb4.0/4, mbtmp3.9/5,ML3.5/1,MS4.1/19,Error ellipse: s-maj=45.7km s-min=29.2km az=8.0*
*GCMT **08** 06:56:12.0±0.3,62°.67S±0°.02×159°.07W±0°.05,h12km, MW5.0/78,Moment Tensor Solution. s19,c22; s78,c88; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.94±.12; Mθθ2.75±.09; Mφφ-1.81±.11; Mrθ-0.62±.30; Mθφ0.34±.09; Mφr2.29±.37; Best double couple: M0:3.31300×10^16 NP1:φs125.00000°,δ71.00000°,λ-37.00000°. NP2: φs230.00000°,δs55.00000°,λ-156.00000°. Principal axes: T 2.8520, Plg10.0000°, Azm181.0000°; N 0.9190, Plg49.0000°, Azm282.0000°; P -3.7740, Plg40.0000°, Azm82.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
ISC 08 06:56:09.1±1.1,62°.2S±0°.2×159°.5W±0°.2,h10km,n32,
σ0s6.6/8,mb4.1/4,MS4.0/18,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**19.61**	**204**	P	**Pn**	**07 00 38.4**	**0.0**
VNDA	0.1nm,0.3s,baz=70,slow=18,SNR=11			LR	LR	07 05 54.8	
	comp=Z,539nm,21.7s,baz=56,slow=30						
	0.9nm,0.5s						
URZ	**Urewera**	**27.97**	**318**	LR	LR	07 10 24.9	
	comp=Z,363nm,20.8s,baz=302,slow=31						
RAO	**Raoul Island**	**35.13**	**331**	LR	LR	07 13 45.8	
	comp=Z,652nm,19.8s,baz=322,slow=30						
RAR	**Rarotonga**	**41.00**	**360**	LR	LR	07 17 45.1	
	comp=Z,115nm,19.5s,baz=172,slow=32						
PPT2	**Papeete2**	**45.15**	**13**	*eLR*	LR	07 16 49.2	
	541nm,28.0s						
PPT2				*eLR*	LR	07 16 58.1	
	338nm,28.5s						
PPT	**Papeete**	**45.17**	**13**	LR	LR	07 18 23.3	
	comp=Z,163nm,20.4s,baz=201,slow=30						
SNAA	**Sanae**	**45.40**	**170**	LR	LR	07 20 50.1	
	comp=Z,445nm,20.6s,baz=170,slow=33						
DZM	**Mont Dzumac**	**46.37**	**314**	*eLR*	LR	07 17 40.9	
	342nm,22.2s						
DZM	**Mont Dzumac**	**46.37**	**314**	LR	LR	07 20 26.7	
	comp=Z,282nm,19.1s,baz=178,slow=32						
MAW	**Mawson**	**46.87**	**201**	LR	LR	07 22 27.7	
	comp=Z,258nm,19.4s,baz=227,slow=34						
STKA	**Stephens Creek**	**47.92**	**281**	P	**P**	**07 04 48.2**	**+0.9**
	1.7nm,0.8s,baz=140,slow=11,SNR=4.7						
STKA				LR	LR	07 22 18.7	
	comp=Z,133nm,19.0s,baz=178,slow=33						
	1.7nm,0.8s						
RPN	**Rapa Nui**	**48.09**	**67**	LR	LR	07 19 51.3	
	comp=Z,297nm,20.4s,baz=228,slow=30						
CTA	**Charters Tower**	**56.02**	**293**	LR	LR	07 26 17.5	
	comp=Z,64nm,19.6s,baz=96,slow=32						
H03S2	**Juan Fernandez**	**56.39**	**100**	T	T	08 06 44.4	
	baz=212,slow=74,SNR=73						
H03S1	**Juan Fernandez**	**56.40**	**100**	T	T	08 06 42.8	
	baz=212,slow=74,SNR=81						
H03S3	**Juan Fernandez**	**56.41**	**100**	T	T	08 06 42.2	
	baz=212,slow=74,SNR=102						
H01W1	**Cape Leeuwin H**	**58.14**	**255**	T	T	08 09 45.7	
	baz=147,slow=76,SNR=9.4						
H01W2	**Cape Leeuwin H**	**58.15**	**255**	T	T	08 09 44.8	
	baz=147,slow=76,SNR=9.9						
H01W3	**Cape Leeuwin H**	**58.16**	**255**	T	T	08 09 45.7	
	baz=147,slow=76,SNR=9.1						
NWAO	**Narrogin (SRO)**	**58.38**	**259**	LR	LR	07 25 29.7	
	comp=Z,192nm,19.2s,baz=115,slow=30						
ASAR	**Alice Springs**	**58.45**	**279**	P	**P**	**07 06 04.6**	**-0.3**
	1.6nm,0.9s,baz=154,slow=6.9,SNR=8.5						
ASAR				LR	LR	07 27 12.0	
	comp=Z,114nm,21.1s,baz=148,slow=32						
	1.6nm,0.9s						
HNR	**Honiara**	**60.34**	**312**	LR	LR	07 29 07.3	
	comp=Z,1μm,19.6s,baz=150,slow=33						
WRA	**Warramunga Arr**	**61.47**	**282**	P	**P**	**07 06 25.4**	**-0.2**
	1.6nm,1.0s,baz=158,slow=5.4,SNR=4.4						
	1.6nm,1.0s						
PMG	**Port Moresby**	**65.20**	**299**	LR	LR	07 33 19.5	
	comp=Z,90nm,19.0s,baz=187,slow=34						
LPAZ	**La Paz**	**76.38**	**99**	P	**P**	**07 07 59.5**	**+0.4**
	0.4nm,0.3s,baz=225,slow=3.9,SNR=4.0						
	0.4nm,0.3s						
LEM	**Lembang**	**85.35**	**264**	LR	LR	07 39 31.3	
	comp=Z,79nm,21.7s,baz=254,slow=30						
SUR	**Sutherland**	**85.71**	**180**	LR	LR	07 42 31.1	
	comp=Z,313nm,21.1s,baz=238,slow=32						
BOSA	**Boshof**	**89.39**	**184**	LR	LR	07 44 27.5	
	comp=Z,134nm,21.3s,baz=210,slow=32						
LBTB	**Lobatse**	**92.95**	**185**	LR	LR	07 47 22.6	
	comp=Z,135nm,20.2s,baz=206,slow=33						
ILAR	**Eielson Array**	**127.05**	**7**	PKP	**PKiKP**	**07 15 11.8**	**-0.2**
	0.6nm,0.9s,baz=210,slow=2.1,SNR=5.8						
KURBB	**Kurchatov Arra**	**147.04**	**277**	PKPbc	**PKPbc**	**07 15 49.7**	**-1.0**
	1.0nm,0.8s,baz=134,slow=2.6,SNR=4.8						
BVAR	**Borovoye Array**	**152.42**	**274**	PKPbc	**PKiKP**	**07 16 04.0**	**-0.2**
	0.2nm,0.4s,baz=124,slow=2.6,SNR=2.2						

*SSNC **08** 06:56:40.7±1.1,18°.87N×73°.20W,h74km±79km,MD2.9, ML2.5*
*OSPL **08** 06:56:41.4±3.0,18°.76N×73°.68W,h0km±23km,ML2.7*
ISC 08 06:56:38.8±3.3,18°.8N±0°.1×73°.61W±0°.06,h1km±25km,n10,
σ0s93/19,Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASC	**Masc**	**1.47**	**337**	*eP*	**Pn**	**06 57 07.2**	**+0.8**
MASC				*eS*	**Sn**	**06 57 25.5**	**-0.8**
MASC	**Masc**	**1.47**	**337**	*i* P	**Pn**	**06 57 07.0**	**+0.5**
MASC				*eS*	**Sn**	**06 57 26.5**	**+0.2**
MASC				IAML		06 57 27.1	
	comp=Z,19nm,1.2s						
GTBY	**Guantanamo Bay**	**1.79**	**308**	*eP*	**Pb**	**06 57 12.3**	**-0.2**
GTBY				*eS*	**Sb**	**06 57 36.6**	**+1.2**
GTBY	**Guantanamo Bay**	**1.79**	**308**	*i* P	**Pb**	**06 57 12.4**	**0.0**
GTBY				*eS*	**Sn**	**06 57 34.5**	**+0.2**
LOPE2	**Hotel El Peder**	**1.94**	**114**	*i* P	**Pn**	**06 57 13.7**	**+0.7**
LOPE2				*eS*	**Sn**	**06 57 36.5**	**-1.4**
LOPE2				IAML		06 57 51.9	
	comp=Z,61nm,1.5s						
SDDR	**Presa de Saban**	**2.21**	**85**	*i* P	**Pb**	**06 57 19.2**	**-0.4**
SABCS	**La Quijada**	**2.22**	**314**	*eP*	**Pn**	**06 57 17.6**	**+0.8**
SABCS				*eS*	**Sb**	**06 57 46.2**	**-1.5**
SABCS				IAML		06 57 48.8	
	comp=N,13nm,0.6s						
SABCS				IAML		06 57 51.0	
	comp=E,19nm,0.6s						
RCC	**Rio Carpintero**	**2.29**	**301**	*eP*	**Pn**	**06 57 18.3**	**+0.6**
RCC				*eS*	**Sn**	**06 57 46.9**	**+0.3**
PODR	**Polo**	**2.31**	**106**	*i* P	**Pn**	**06 57 19.7**	**+1.5**
PODR				*eS*	**Sb**	**06 57 50.3**	**-0.2**
MARVS	**Santiago de Cu**	**2.46**	**299**	*eP*	**Pb**	**06 57 22.7**	**-1.1**
MARVS				*eS*	**Sb**	**06 57 54.1**	**-0.5**

*UCR **08** 07:01:09.9±1.5,10°.70N×85°.03W,h5km±2km,MW4.0*
*CATAC **08** 07:01:10.7±0.2,10°.69N×85°.02W,h3km±2km,ML3.2*
ISC 08 07:01:11.0±0.8,10°.69N±0°.02×85°.02W±0°.01,h10km±5km,
n115,σ1s14/158,30C-11D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACAL	**Aguas Claras**	**0.06**	**193**	*i* P	**Pg**	**07 01 12.4**	**-0.8**
ACAL				*eS*	**Sg**	**07 01 13.8**	**-1.0**
CUI	**Cuipilapa**	**0.14**	**256**	*eP*	**Pg**	**07 01 14.1**	**-0.2**
CUI				*eS*	**Sg**	**07 01 16.9**	**+0.2**
VMAR	**Armenia, Volca**	**0.15**	**323**	*i* P	**Pg**	**07 01 14.4**	**0.0**
VMAR				*eS*	**Sg**	**07 01 17.8**	**+1.0**
CAMAV	**Centro de Prod**	**0.17**	**273**	*i* P	**Pg**	**07 01 14.6**	**-0.1**
CAMAV				*eS*	**Sg**	**07 01 17.7**	**+0.4**
VERA	**Finca Concepci**	**0.22**	**43**	*i* P	**Pg**	**07 01 15.6**	**0.0**
CNAS	**Canas**	**0.27**	**195**	*i* P	**Pg**	**07 01 16.4**	**0.0**
BAGA	**Bagaces**	**0.29**	**235**	*eP*	**Pb**	**07 01 17.8**	**-0.5**
BAGA				*eS*	**Sb**	**07 01 26.5**	**+3.3**
GPS3	**Bodega del ICE**	**0.34**	**281**	*i* P	**Pb**	**07 01 20.2**	**+1.0**
GPS3				*eS*	**Sb**	**07 01 24.7**	**-0.1**
VRLE	**La Escondida,**	**0.35**	**286**	*i* P	**Pg**	**07 01 17.9**	**-0.2**
VRLE				*eS*	**Sg**	**07 01 23.1**	**+0.4**
CEDE	**Laguna Cedeo**	**0.37**	**123**	*i* P	**Pb**	**07 01 18.7**	**-1.1**
CEDE				*eS*	**Sb**	**07 01 28.3**	**+2.6**
ARE1	**Arenal 1**	**0.38**	**128**	*i* P	**Pg**	**07 01 18.7**	**+0.2**
GB1A	**Borinquen Arri**	**0.39**	**289**	*eP*	**Pg**	**07 01 18.5**	**-0.2**
GB1A				*eS*	**Sb**	**07 01 25.1**	**-1.1**
VACR	**Volcan Arenal**	**0.40**	**123**	*i* P	**Pg**	**07 01 19.1**	**+0.2**
VACR				*eS*	**Sb**	**07 01 29.4**	**+3.0**
JTS	**Las Juntas de**	**0.40**	**170**	*i* P	**Pg**	**07 01 18.3**	**-0.7**
JTS				*eS*	**Sg**	**07 01 24.1**	**-0.3**
JUNT	**Juntas**	**0.41**	**171**	*eP*	**Pg**	**07 01 18.5**	**-0.6**
JUNT				*eS*	**Sg**	**07 01 24.3**	**-0.2**
ERIA	**Liberia**	**0.41**	**262**	*i* P	**Pb**	**07 01 19.5**	**-1.0**
ERIA				*eS*	**Sb**	**07 01 26.0**	**-0.8**
MTEVE	**Monteverde**	**0.42**	**153**	*eP*	**Pg**	**07 01 19.3**	**0.0**
TUNA	**La Fortuna**	**0.43**	**121**	*i* P	**Pb**	**07 01 20.7**	**-0.1**
LCHIL	**Los Chiles**	**0.46**	**41**	*i* P	**Pg**	**07 01 19.5**	**-0.4**
LCHIL				*eS*	**Sg**	**07 01 26.5**	**+0.5**
PLVR	**Palo Verde**	**0.47**	**224**	*eP*	**Pg**	**07 01 19.8**	**-0.5**
SOCE	**Pocosol**	**0.50**	**128**	*i* P	**Pg**	**07 01 20.3**	**-0.4**
SOCE	**Pocosol**	**0.50**	**128**	*i* P	**Pg**	**07 01 20.4**	**-0.4**
SOCE				IAML		07 01 33.0	
	comp=Z,2μm,1.0s						
ALIBA	**Liberia Airpor**	**0.53**	**259**	*i* P	**Pb**	**07 01 22.7**	**+0.4**
ALIBA				*eS*	**Sb**	**07 01 31.0**	**+1.1**
ELI1	**Hacienda Flor**	**0.53**	**265**	*eP*	**Pg**	**07 01 21.0**	**-0.2**
ELI1				*eS*	**Sb**	**07 01 28.8**	**-1.2**
ORTG	**Ortega, Santa**	**0.54**	**233**	*eP*	**Pg**	**07 01 21.0**	**-0.6**
ORTG	**Ortega, Santa**	**0.54**	**233**	*i* P	**Pg**	**07 01 21.1**	**-0.5**
ORTG				*i* S	**Sb**	**07 01 29.1**	**-1.4**
ORTG				IAML		07 01 32.4	
	comp=Z,520nm,1.0s						
HZTE	**Horizontes, Gu**	**0.56**	**272**	*i* P	**Pb**	**07 01 21.9**	**-1.1**
HZTE				*eS*	**Sb**	**07 01 30.5**	**-0.6**
HZTE	**Horizontes, Gu**	**0.56**	**272**	*i* P	**Pb**	**07 01 21.9**	**-1.1**
HZTE				*i* S	**Sb**	**07 01 30.5**	**-0.6**
HZTE				IAML		07 01 32.5	
	comp=Z,1μm,1.0s						
DELF	**Filadelfia**	**0.58**	**245**	*eP*	**Pg**	**07 01 21.4**	**-0.8**
DELF				*eS*	**Sb**	**07 01 30.7**	**-0.7**
COVE	**Coope Vega, Sa**	**0.61**	**87**	*i* P	**Pg**	**07 01 21.9**	**-0.9**
COVE	**Coope Vega, Sa**	**0.61**	**87**	*i* P	**Pg**	**07 01 21.9**	**-0.9**
COVE				*i* S	**Sg**	**07 01 31.2**	**+0.3**
COVE				IAML		07 01 35.7	
	comp=Z,2μm,1.0s						
NICO	**Nicoya**	**0.69**	**217**	*eP*	**Pg**	**07 01 23.4**	**-1.0**
SACU	**Santa Cruz**	**0.70**	**232**	*eP*	**Pg**	**07 01 24.1**	**-0.5**
LCRUZ	**La Cruz**	**0.71**	**303**	*eP*	**Pb**	**07 01 25.1**	**-0.4**
JUD3	**Juan Diaz 3**	**0.73**	**224**	*i* P	**Pg**	**07 01 24.5**	**-0.6**
JUD3				*eS*	**Sb**	**07 01 35.2**	**-0.8**
CPMI	**Catarata Coope**	**0.75**	**123**	*i* P	**Pg**	**07 01 24.7**	**-0.8**
CPMI				*eS*	**Sg**	**07 01 35.7**	**+0.3**
CPMI	**Catarata Coope**	**0.75**	**123**	*i* P	**Pg**	**07 01 24.8**	**-0.7**
CPMI				*i* S	**Sg**	**07 01 34.9**	**-0.4**
CPMI				IAML		07 01 38.3	
	comp=Z,660nm,1.0s						
DUNO	**Dulce Nombre,**	**0.77**	**217**	*eP*	**Pg**	**07 01 25.2**	**-0.6**
DUNO	**Dulce Nombre,**	**0.77**	**217**	*i* P	**Pg**	**07 01 25.5**	**-0.3**
DUNO				*i* S	**Sg**	**07 01 35.7**	**-0.1**
DUNO				IAML		07 01 42.8	
	comp=Z,870nm,1.0s						
ITAL	**Pital**	**0.77**	**108**	*i* P	**Pg**	**07 01 24.6**	**-1.3**
CMARA	**Lajas Hojancha**	**0.78**	**211**	*eP*	**Pg**	**07 01 25.3**	**-0.7**
ARZA	**Esparza**	**0.78**	**153**	*eP*	**Pb**	**07 01 26.0**	**-0.6**
ZARE	**Zarcero**	**0.80**	**129**	*i* P	**

SRA1	**San Ramn**	**0.80**	**139**	*e*P		**Pg**	**07 01 25.4**	**-1.2**
RAMO	**San Ramon**	**0.81**	**138**	*e*P		**Pb**	**07 01 27.0**	**-0.3**
LAFE	**Finca La Fe, P**	**0.89**	**173**	*e*P		**Pg**	**07 01 26.9**	**-1.1**
LAFE	**Finca La Fe, P**	**0.89**	**173**	*i* P		**Pg**	**07 01 26.8**	**-1.3**
LAFE				*i* S		**Sg**	**07 01 39.6**	**0.0**
LAFE				IAML			07 01 43.9	
	comp=Z,2.1nm,1.0s							
SARCI	**Sarchi**	**0.89**	**132**	*e*P		**Pg**	**07 01 27.6**	**-0.7**
SAJU	**San Juanillo,**	**0.92**	**228**	*i* P		**Pg**	**07 01 27.8**	**-0.9**
SAJU				IAML			07 01 42.3	
	comp=Z,390nm,1.0s							
INDI	**Punta indio, G**	**0.95**	**210**	*e*P		**Pg**	**07 01 28.2**	**-1.0**
INDI	**Punta indio, G**	**0.95**	**210**	*i* P		**Pg**	**07 01 28.2**	**-1.0**
INDI				IAML			07 01 30.9	
	comp=Z,220nm,1.0s							
TRB2	**Turrubares**	**0.96**	**144**⇑	*e*P		**Pg**	**07 01 28.4**	**-1.0**
TCS1	**Tacares**	**0.96**	**132**⇑	*i*P		**Pg**	**07 01 28.4**	**-1.0**
TCS1				*e*S		**Sn**	**07 01 48.2**	**+3.8**
TCS1	**Tacares**	**0.96**	**132**	*i* P		**Pg**	**07 01 28.5**	**-1.0**
TCS1				IAML			07 01 56.1	
	comp=Z,2µm,1.0s							
GRZA	**Playa Garza**	**0.98**	**218**	*i* P		**Pg**	**07 01 29.1**	**-0.8**
GRZA				IAML			07 01 32.4	
	comp=Z,21nm,1.0s							
OMEN	**Al SSO del Vol**	**1.01**	**324**	*i* P		**Pn**	**07 01 31.3**	**+0.1**
OMEN				IAML			07 01 43.4	
	comp=Z,730nm,1.0s							
SARA	**Sarapiqu**	**1.01**	**104**	*e*P		**Pg**	**07 01 28.6**	**-1.8**
JAPN	**Al SSO del Vol**	**1.05**	**322**	*i* P		**Pb**	**07 01 31.1**	**-0.2**
JAPN				IAML			07 01 33.4	
	comp=Z,790nm,1.0s							
JACO	**JACO, Garabito**	**1.08**	**161**⇑	*i*P		**Pg**	**07 01 30.2**	**-1.6**
JACO	**JACO, Garabito**	**1.08**	**161**	*i* P		**Pg**	**07 01 30.3**	**-1.6**
JACO				*i* S		**Sg**	**07 01 45.4**	**-0.5**
JACO				IAML			07 01 54.5	
	comp=Z,160nm,1.0s							
BELE	**Belen**	**1.08**	**131**	*e*P		**Pg**	**07 01 31.3**	**-0.6**
CBL1	**Cabuya**	**1.10**	**184**	*e*P		**Pg**	**07 01 30.9**	**-1.3**
SANTA	**Santa Ana**	**1.12**	**132**	*e*P		**Pg**	**07 01 30.7**	**-1.8**
HDC	**Heredia**	**1.13**	**127**⇑	*e*P		**Pg**	**07 01 30.9**	**-1.8**
HDC	**Heredia**	**1.13**	**127**	*i* P		**Pg**	**07 01 31.6**	**-1.1**
HDC				IAML			07 01 32.9	
	comp=Z,270nm,1.0s							
HDC				*i* S		**Sn**	**07 01 49.8**	**+1.2**
HDC3	**Heredia 3**	**1.13**	**127**	*e*P		**Pg**	**07 01 31.4**	**-1.3**
HDC3	**Heredia 3**	**1.13**	**127**	*i* P		**Pg**	**07 01 31.6**	**-1.1**
HDC3				IAML			07 01 32.9	
	comp=Z,290nm,1.0s							
HDC3				*i* S		**Sn**	**07 01 50.1**	**+1.5**
RIFO	**Rio Frio, Sara**	**1.14**	**109**⇑	*e*P		**Pg**	**07 01 31.0**	**-2.0**
RIFO	**Rio Frio, Sara**	**1.14**	**109**	*i* P		**Pg**	**07 01 31.4**	**-1.6**
RIFO				IAML			07 01 51.9	
	comp=Z,590nm,1.0s							
MEXI	**Barrio Mexico**	**1.19**	**129**	*e*P		**Pb**	**07 01 33.4**	**-0.2**
LUPE	**Guadalupe**	**1.20**	**128**	*e*P		**Pg**	**07 01 32.7**	**-1.4**
SJS	**Escuela Geolog**	**1.21**	**128**	*e*P		**Pg**	**07 01 32.8**	**-1.5**
SJS3	**Mercedes San J**	**1.21**	**128**	*e*P		**Pg**	**07 01 32.9**	**-1.4**
ACOS	**Acosta**	**1.23**	**136**⇓	*e*P		**Pg**	**07 01 32.7**	**-1.9**
ACOS				*e*S		**Sn**	**07 01 52.8**	**+1.7**
AMPA	**Desamparados**	**1.23**	**130**	*e*P		**Pg**	**07 01 32.6**	**-2.1**
AMPA				*e*S		**Sn**	**07 01 52.8**	**+1.6**
CORON	**Coronado**	**1.23**	**125**	*e*P		**Pg**	**07 01 33.5**	**-1.2**
CVIMO	**Finca Echandi**	**1.25**	**122**⇑	*e*P		**Pg**	**07 01 33.4**	**-1.6**
ACON	**Acoyapa**	**1.28**	**353**⇓	*i*P		**Pg**	**07 01 33.6**	**-1.9**
ACON				*e*S		**Sg**	**07 01 51.1**	**-1.0**
ACON	**Acoyapa**	**1.28**	**353**	*i* P		**Pg**	**07 01 33.7**	**-1.9**
ACON				*i* S		**Sg**	**07 01 51.3**	**-0.9**
ACON				IAML			07 01 53.3	
	comp=Z,840nm,1.0s							
TRIO	**Tres Rios**	**1.28**	**128**	*e*P		**Pn**	**07 01 35.8**	**+0.7**
TRT1	**Tortuguero**	**1.30**	**94**	*e*P		**Pn**	**07 01 34.0**	**-1.3**
CARI	**Cariari**	**1.30**	**104**	*e*P		**Pn**	**07 01 34.9**	**-0.4**
CARI				*e*S		**Sn**	**07 01 54.5**	**+1.6**
OCM	**Ochomogo**	**1.31**	**127**	*e*P		**Pg**	**07 01 34.1**	**-2.1**
OCM	**Ochomogo**	**1.31**	**127**	*i* P		**Pg**	**07 01 34.3**	**-1.9**
OCM				IAML			07 01 35.2	
	comp=Z,480nm,1.0s							
VICA	**Volcano Irazu**	**1.35**	**121**⇑	*e*P		**Pg**	**07 01 35.0**	**-2.1**
TAGO	**Cartago**	**1.36**	**127**	*e*P		**Pn**	**07 01 35.1**	**-1.0**
ABE2	**San Pablo**	**1.37**	**136**	*e*P		**Pn**	**07 01 34.7**	**-1.7**
ICR3	**Volcano Irazu**	**1.37**	**121**	*e*P		**Pn**	**07 01 35.0**	**-1.5**
LCR2	**La Lucha 2**	**1.38**	**133**⇑	*e*P		**Pn**	**07 01 34.7**	**-1.7**
LCR2	**La Lucha 2**	**1.38**	**133**	*i* P		**Pn**	**07 01 35.0**	**-1.5**
LCR2				IAML			07 01 37.6	
	comp=Z,330nm,1.0s							
LCR2				*i* S		**Sg**	**07 01 54.6**	**-0.7**
RAFA	**San Farael, Vo**	**1.40**	**121**	*e*P		**Pn**	**07 01 35.8**	**-1.1**
PCAYA	**Pacayas**	**1.42**	**123**	*e*P		**Pn**	**07 01 36.5**	**-0.6**
RAZU	**San Marcos de**	**1.42**	**136**	*e*P		**Pn**	**07 01 34.9**	**-2.1**
REPA	**Paraso**	**1.42**	**127**	*e*P		**Pn**	**07 01 37.1**	**+0.1**
VTCV	**VTCV, Calle Va**	**1.46**	**119**	*i* P		**Pn**	**07 01 37.2**	**-0.4**
VTCV				IAML			07 01 37.4	
	comp=Z,300nm,1.0s							
RIMA	**Rio Macho**	**1.46**	**129**	*e*P		**Pn**	**07 01 36.5**	**-1.1**
RIMA	**Rio Macho**	**1.46**	**129**	*i* P		**Pn**	**07 01 36.8**	**-0.9**
RIMA				IAML			07 01 37.8	
	comp=Z,360nm,1.0s							
RIMA				*i* S		**Sg**	**07 01 58.1**	**-0.1**
VERB	**Verbena**	**1.50**	**120**	*e*P		**Pn**	**07 01 37.4**	**-0.7**
LLNJ	**Naranjito**	**1.51**	**143**	*e*P		**Pn**	**07 01 38.1**	**-0.1**
RVLA	**Villa Bonita**	**1.52**	**112**⇑	*i*P		**Pn**	**07 01 37.7**	**-0.6**
RVLA				*e*S		**Sb**	**07 01 59.1**	**+0.3**
RVSTA	**Santa Teresita**	**1.53**	**118**	*e*P		**Pn**	**07 01 37.6**	**-0.8**
TURIB	**Turrialba**	**1.53**	**121**	*e*P		**Pn**	**07 01 37.2**	**-1.3**
LCOCO	**El Coco**	**1.56**	**113**⇓	*i*P		**Pn**	**07 01 38.2**	**-0.6**
CDM	**Cerro de Muert**	**1.68**	**132**⇑	*e*P		**Pn**	**07 01 39.9**	**-0.9**
CDM				*e*Sn		**Sb**	**07 02 03.9**	**+0.3**
CDM	**Cerro de Muert**	**1.68**	**132**	*i* P		**Pn**	**07 01 40.1**	**-0.7**
CDM				IAML			07 01 41.5	
	comp=Z,320nm,1.0s							
CDM				*i* S		**Sg**	**07 02 05.0**	**0.0**
PEZE	**Perez Zeledon,**	**1.86**	**134**	*e*P		**Pn**	**07 01 43.2**	**+0.3**
PEZE	**Perez Zeledon,**	**1.86**	**134**	*i* P		**Pn**	**07 01 43.3**	**+0.3**
PEZE				IAML			07 01 43.7	
	comp=Z,240nm,1.0s							
PEZE				*i* S		**Sb**	**07 02 08.5**	**+0.1**
BOAB	**BOACO BROADBAN**	**1.86**	**340**	*i* P		**Pn**	**07 01 42.9**	**0.0**
BOAB				*i* S		**Sb**	**07 02 08.3**	**-0.1**
BOAB				IAML			07 02 08.7	
	comp=Z,270nm,1.0s							
DRK0	**Durika**	**2.25**	**129**⇑	*e*P		**Pn**	**07 01 49.1**	**+0.6**
EDBA	**Buenos Aires**	**2.29**	**131**	*e*Pn		**Pn**	**07 01 50.2**	**+1.2**
EDPN	**Palmar Norte**	**2.31**	**138**	*e*Pn		**Pn**	**07 01 50.5**	**+1.4**
MATN	**Matagalpa**	**2.39**	**338**	*i* P		**Pn**	**07 01 51.5**	**+1.1**
MATN				*i* S		**Sb**	**07 02 24.0**	**+0.1**
MATN				IAML			07 02 32.2	
	comp=Z,130nm,1.0s							
EDP2	**Potrero Grande**	**2.46**	**132**	*e*Pn		**Pn**	**07 01 53.0**	**+1.7**
POTG	**Potrero Grande**	**2.48**	**131**	*e*P		**Pn**	**07 01 52.6**	**+1.0**
POTG	**Potrero Grande**	**2.48**	**131**	*i* P		**Pn**	**07 01 53.2**	**+1.6**
POTG				IAML			07 02 32.6	
	comp=Z,150nm,1.0s							

AFAD ***08*** *07:12:39.6±0.0, 38°.84N×25°.99E, h41km, ML2.8*
ISK ***08*** *07:12:40.5, 38°.87N×26°.00E, h14km, ML2.9/27*
THE ***08*** *07:12:40.9, 38°.86N×26°.04E, h6km±1km, ML2.8/9, Error ellipse: s-maj=1.9km s-min=0.7km az=70.0*
ATH ***08*** *07:12:41.1, 38°.86N×25°.99E, h11km±1km, ML2.7/5, Error ellipse: s-maj=2.3km s-min=1.1km az=100.0*

ISC 08 07:12:40.8±0.9, 38°.86N±0°.02×26°.01E±0°.02, h15km±7km, n63, σ0s54/95, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIGR	**SIGRI**	**0.37**	**342**	Pg	**Pg**	**07 12 48.6**	**+0.2**
SIGR				Sg	**Sg**	**07 12 54.1**	**+0.6**
SIGR	**SIGRI**	**0.37**	**342**	P	**Pg**	**07 12 48.5**	**+0.2**
SIGR				S	**Sg**	**07 12 53.5**	**0.0**
	2µm,0.3s						
SIGR	**SIGRI**	**0.37**	**342**	P	**Pg**	**07 12 48.6**	**+0.2**
SIGR				S	**Sg**	**07 12 53.1**	**-0.4**
SIGR				AML	AML	07 12 54.8	
	comp=N,6438µm,0.3s						
SIGR				AML	AML	07 12 56.6	
	comp=E,2889µm,0.3s						
PRK	**Paraskevi**	**0.44**	**28**	P	**Pg**	**07 12 49.4**	**-0.2**
PRK				S	**Sg**	**07 12 55.7**	**+0.2**
	comp=E,1µm,0.4s						
PRK	**Paraskevi**	**0.44**	**28**	P	**Pg**	**07 12 49.4**	**-0.2**
PRK				S	**Sg**	**07 12 55.8**	**+0.2**
PRK				AML	AML	07 12 57.0	
	comp=N,2282µm,0.4s						
PRK				AML	AML	07 12 57.7	
	comp=E,1738µm,0.4s						
PSRA	**Psara**	**0.47**	**228**	P	**Pb**	**07 12 50.6**	**-0.2**
PSRA				S	**Sg**	**07 12 55.9**	**-0.6**
PSRA				AML	AML	07 12 58.1	
	comp=E,6395µm,0.2s						
PSRA				AML	AML	07 12 59.8	
	comp=N,5129µm,0.2s						
CHOS	**Chios island**	**0.47**	**175**	Pg	**Pg**	**07 12 50.5**	**+0.2**
CHOS	**Chios island**	**0.47**	**175**	P	**Pg**	**07 12 50.4**	**+0.2**
CHOS				S	**Sg**	**07 12 56.2**	**-0.5**
	comp=N,942nm,0.3s						
CHOS	**Chios island**	**0.47**	**175**	P	**Pg**	**07 12 50.5**	**+0.2**
CHOS				S	**Sg**	**07 12 55.8**	**-0.9**
CHOS				AML	AML	07 12 58.5	
	comp=E,1620µm,0.3s						
CHOS				AML	AML	07 12 59.4	
	comp=N,2052µm,0.3s						
LESV	**Lesvos island,**	**0.50**	**60**	P	**Pg**	**07 12 50.5**	**-0.2**
LESV				S	**Sg**	**07 12 56.6**	**-0.8**
	comp=N,4µm,0.3s						
FOCM	**Foa**	**0.58**	**104**	Pg	**Pg**	**07 12 52.1**	**-0.2**
FOCM				Sg	**Sb**	**07 13 01.4**	**+0.6**
GPNR	**Gulpinar-Canak**	**0.60**	**9**	Pg	**Pg**	**07 12 52.2**	**-0.5**
GPNR				Sg	**Sb**	**07 13 01.7**	**+0.3**
CAND	**Candarli**	**0.63**	**81**	Pg	**Pg**	**07 12 53.4**	**+0.3**
AYVA	**Ayvalik**	**0.70**	**50**	P	**Pg**	**07 12 53.6**	**-0.8**
AYVA				S	**Sg**	**07 13 03.0**	**-0.6**
AYVA				*i* AML	AML	07 13 06.0	
	comp=N,737nm,0.4s						
AYVA				*i* AML	AML	07 13 06.0	
	comp=N,768nm,0.3s						
IZMD	**zmir-Dikili-**	**0.73**	**80**	P	**Pg**	**07 12 54.4**	**-0.7**
IZMD				S	**Sb**	**07 13 05.5**	**+0.4**
DKL	**Dikili**	**0.73**	**73**	Pg	**Pg**	**07 12 54.9**	**-0.2**
DKL				Sg	**Sb**	**07 13 06.1**	**+1.0**
ZEDA	**zmir-Bergama**	**0.84**	**82**	P	**Pg**	**07 12 56.8**	**-0.3**
ZEDA				S	**Sb**	**07 13 08.8**	**+0.6**
ZEDA				*i* AML	AML	07 13 11.0	
	comp=N,168nm,0.3s						
BLCB	**Balcova**	**0.94**	**120**	Pg	**Pb**	**07 12 58.7**	**-0.1**
BLCB	**Balcova**	**0.94**	**120**	P	**Pb**	**07 12 58.2**	**-0.6**
BLCB				S	**Sb**	**07 13 11.1**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**0.97**	**25**	P	**Pb**	**07 12 59.2**	**-0.2**
BAYC				S	**Sn**	**07 13 13.5**	**-0.1**
BAYC				*i* AML	AML	07 13 15.0	
	comp=N,148nm,0.2s						
BOZC	**Bozcaada**	**0.98**	**2**	P	**Pb**	**07 12 58.7**	**-0.8**
BOZC				P	**Pg**	**07 12 58.9**	**-0.9**
BOZC				S	**Sg**	**07 13 12.9**	**+0.3**
BOZC				*i* AML	AML	07 13 15.0	
	comp=N,170nm,0.3s						
BOZC				*i* AML	AML	07 13 16.0	
	comp=N,255nm,0.2s						
BOZC				*i* AML	AML	07 13 18.0	
	comp=N,182nm,0.2s						
EZN	**Ezine**	**1.00**	**14**	Pg	**Pb**	**07 12 59.5**	**-0.3**
EZN	**Ezine**	**1.00**	**14**	P	**Pb**	**07 12 59.4**	**-0.3**
EZN				S	**Sn**	**07 13 13.8**	**-0.2**
	comp=N,545nm,0.4s						
EFSA	**Agios Efstrati**	**1.04**	**311**	P	**Pn**	**07 13 01.1**	**+0.2**
BUHA	**Balikesir, Bur**	**1.05**	**52**	P	**Pb**	**07 13 00.1**	**-0.5**
BUHA				S	**Sg**	**07 13 15.3**	**+0.5**
BUHA				*i* AML	AML	07 13 16.0	
	comp=N,287nm,0.7s						
BUHA				*i* AML	AML	07 13 16.0	
	comp=N,346nm,0.5s						
GMLD	**Gumuldur**	**1.06**	**137**	Pg	**Pg**	**07 13 01.4**	**+0.2**
ECEA	**Canakkale, Ece**	**1.19**	**6**	P	**Pn**	**07 13 01.9**	**-1.0**
ECEA				S	**Sg**	**07 13 20.4**	**+1.1**
ECEA				*i* AML	AML	07 13 22.0	
	comp=N,284nm,0.3s						
ECEA				*i* AML	AML	07 13 25.0	
	comp=N,197nm,0.2s						
LIA	**Limnos Island**	**1.22**	**329**	P	**Pn**	**07 13 03.6**	**+0.3**
LIA				S	**Sg**	**07 13 20.3**	**+0.2**
	comp=N,745nm,0.4s						
LIA	**Limnos Island**	**1.22**	**329**	P	**Pn**	**07 13 03.6**	**+0.3**
LIA				S	**Sb**	**07 13 18.6**	**-0.5**
CNKL	**anakkale-Mer**	**1.24**	**14**	P	**Pn**	**07 13 02.3**	**-1.3**
CNKL				S	**Sg**	**07 13 21.4**	**+0.6**
CNKL				*i* AML	AML	07 13 23.0	
	comp=N,176nm,0.4s						
CNKL				*i* AML	AML	07 13 27.0	
	comp=N,178nm,0.4s						
COMU	**Canakkale**	**1.29**	**16**	Pn	**Pn**	**07 13 04.4**	**+0.1**
SMG	**Samos**	**1.32**	**150**	P	**Pb**	**07 13 05.5**	**+0.1**
SMG				S	**Sg**	**07 13 23.4**	**-0.1**
	comp=N,295nm,0.6s						
SMG	**Samos**	**1.32**	**150**	P	**Pb**	**07 13 05.4**	**+0.1**
SMG				AML	AML	07 13 24.9	
	comp=N,549µm,0.3s						
SMG				AML	AML	07 13 25.8	
	comp=E,626µm,0.6s						
GADA	**Gvkgeada**	**1.33**	**356**	Pn	**Pn**	**07 13 04.7**	**-0.1**
CANM	**Can-anakkale**	**1.41**	**35**	Pn	**Pn**	**07 13 05.3**	**-0.6**
STEP	**BALIKESIR_Sava**	**1.43**	**68**	P	**Pn**	**07 13 05.8**	**-0.4**
STEP				S	**Sg**	**07 13 27.5**	**+0.7**
STEP				*i* AML	AML	07 13 30.0	
	comp=E,165nm,0.4s						
STEP				*i* AML	AML	07 13 31.0	
	comp=E,103nm,0.7s						
KYMI	**Kymi, Euboea I**	**1.51**	**262**	P	**Pn**	**07 13 07.9**	**+0.6**
KYMI				S	**Sg**	**07 13 29.1**	**-0.3**
	comp=E,55nm,0.6s						
BALY	**Balya**	**1.53**	**54**	P	**Pn**	**07 13 07.3**	**-0.3**
BALY				S	**Sn**	**07 13 27.0**	**-0.3**
BALY				*i* AML	AML	07 13 35.0	
	comp=E,92nm,0.4s						
GELI	**Tayfur-Gelibol**	**1.58**	**13**	Pn	**Pb**	**07 13 09.4**	**-0.3**
LPK	**Lapseki**	**1.62**	**21**	Pn	**Pn**	**07 13 08.8**	**0.0**
SMTH	**Samothraki Isl**	**1.65**	**347**	P	**Pn**	**07 13 09.0**	**-0.2**
SMTH	**Samothraki Isl**	**1.65**	**347**	P	**Pn**	**07 13 09.2**	**-0.1**
BKES	**Balkesir-Mer**	**1.73**	**59**	P	**Pn**	**07 13 10.6**	**+0.2**
BKES				S	**Sn**	**07 13 32.5**	**+0.4**
GONE	**Gonen-Balikesi**	**1.76**	**47**	Pn	**Pn**	**07 13 11.1**	**+0.4**
APE	**Apeiranthos**	**1.83**	**192**	P	**Pn**	**07 13 11.0**	**-0.7**
KRBG	**Karabiga-Canak**	**1.83**	**33**	Pn	**Pn**	**07 13 11.3**	**-0.3**
BLKS	**Balkesir-Sus**	**1.83**	**56**	P	**Pn**	**07 13 09.9**	**-1.8**
BLKS				S	**Sn**	**07 13 34.2**	**-0.4**
ERIK	**Erikli-Kesan**	**1.85**	**12**	Pn	**Pn**	**07 13 12.5**	**+0.5**
ENEZ	**Enez**	**1.88**	**3**	Pn	**Pn**	**07 13 13.3**	**+1.0**
THAS	**Thassos island**	**2.01**	**331**	P	**Pn**	**07 13 14.0**	**-0.1**
ALN	**Alexandroupoli**	**2.04**	**1**	Pn	**Pn**	**07 13 14.5**	**0.0**
ALN	**Alexandroupoli**	**2.04**	**1**	P	**Pn**	**07 13 14.6**	**0.0**
RKY	**Sarkoy-Tekirda**	**2.04**	**26**	Pn	**Pn**	**07 13 15.5**	**+0.9**
EDC	**Edincik**	**2.06**	**43**	Pn	**Pn**	**07 13 15.6**	**+0.7**
MRMT	**Marmara Adasi**	**2.13**	**35**	Pn	**Pn**	**07 13 16.4**	**+0.5**
OUR	**Ouranopolis**	**2.15**	**314**	P	**Pn**	**07 13 16.5**	**+0.4**
BAND	**Balkesir-Ban**	**2.20**	**47**	P	**Pn**	**07 13 16.7**	**-0.1**
BAND				S	**Sn**	**07 13 43.5**	**-0.3**
BAND				*i* AML	AML	07 13 45.0	
	comp=E,56nm,0.2s						
KCTX	**Karacabey (Bur**	**2.30**	**52**	Pn	**Pn**	**07 13 18.7**	**+0.6**
RDO	**Rodhopi**	**2.31**	**351**	P	**Pn**	**07 13 18.7**	**+0.4**
UKOP	**Uzunkopru-Edir**	**2.32**	**12**	Pn	**Pn**	**07 13 19.4**	**+1.0**
SIMA	**Simav-Kutahya**	**2.33**	**84**	Pn	**Pn**	**07 13 19.2**	**+0.5**
TVSB	**Tavsanli**	**2.75**	**77**	Pn	**Pn**	**07 13 25.5**	**+1.0**
ARMT	**Armutlu**	**2.78**	**51**	Pn	**Pn**	**07 13 25.8**	**+1.0**

JSN ***08*** *07:17:49.4±0.7, 18°.38N×77°.82W, h0km±999km, MD3.0*
SSNC ***08*** *07:17:50.2±0.9, 18°.64N×77°.77W, h28km±38km, MD2.8, ML1.7*

ISC 08 07:17:48.7±2.6, 18°.6N±0°.1×77°.7W±0°.2, h33km±9km, n8, σ0s74/14, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STH	**Stony Hill**	**1.04**	**122**	*i* P	**Pn**	**07 18 07.4**	**+0.5**
STH				*i* S	**Sb**	**07 18 21.6**	**+0.1**
GWJ	**Greenwich**	**1.10**	**120**	*i* P	**Pb**	**07 18 09.3**	**-0.1**
HOJ	**Hope**	**1.12**	**123**	*i* P	**Pb**	**07 18 09.2**	**-0.5**
PILO	**Pilon**	**1.31**	**14**	*e*P	**Pn**	**07 18 11.0**	**+0.3**
PILO				*e*S	**Sn**	**07 18 25.9**	**-1.2**
PILO				IAML		07 18 27.4	
	comp=N,10nm,0.2s						
PILO				IAML		07 18 27.6	
	comp=E,6.5nm,0.2s						
LMGC	**Las Mercedes**	**1.58**	**26**	*e*P	**Pn**	**07 18 15.3**	**+0.8**
LMGC				*e*S	**Sn**	**07 18 33.6**	**-0.2**
LMGC				IAML		07 18 36.7	
	comp=E,19nm,0.0s						
LMGC				IAML		07 18 37.0	
	comp=N,16nm,0.1s						
CHIV	**Chivirico**	**1.83**	**43**	*e*P	**Pn**	**07 18 18.9**	**+1.0**
CHIV				*e*S	**Sn**	**07 18 39.5**	**-0.4**
MARVS	**Santiago de Cu**	**2.21**	**52**	*e*P	**Pn**	**07 18 23.7**	**+0.7**
MARVS				*e*S	**Sn**	**07 18 48.9**	**-0.2**
RCC	**Rio Carpintero**	**2.36**	**54**	*e*P	**Pn**	**07 18 25.5**	**+0.5**
RCC				*e*S	**Sn**	**07 18 52.0**	**-0.9**

SJA ***08*** *07:37:39.2±0.5, 23°.19S×68°.39W, h123km±3km, ML3.5, MW3.7*
GUC ***08*** *07:37:41.3±0.6, 23°.06S×68°.39W, h121km±3km, ML3.5*

ISC 08 07:37:40.5±1.4, 23°.17S±0°.04×68°.41W±0°.06, h122km±10km, n29, σ1s05/45, 3C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AF01	**San Pedro de A**	**0.30**	**45**	*i* P	**Pn**	**07 37 57.5**	**-0.5**
AF01				IAML		07 38 18.3	
	comp=E,3µm,0.1s						
LVC	**Limon Verde**	**0.72**	**320**	*e*P	Pn	07 37 54.8	-5.8
LVC				*e*P		07 38 00.4	
LVC				*e*S	**Sn**	**07 38 15.9**	**+0.2**
LVC				IAML		07 38 16.2	
	comp=Z,709nm,0.4s						
LVC	**Limon Verde**	**0.72**	**320**	*i* P	**Pn**	**07 38 00.2**	**-0.4**
LVC				*i* S	**Sn**	**07 38 14.6**	**-1.1**
PB15	**IPOC Station P**	**0.98**	**267**	*e*P	**Pn**	**07 38 02.7**	**0.0**
PB15				*e*S	**Sn**	**07 38 20.6**	**+1.2**
PB15	**IPOC Station P**	**0.98**	**267**⇑	*i*P	**Pn**	**07 38 03.4**	**+0.7**
PB15				*i* S	**Sn**	**07 38 20.6**	**+1.2**
PB06	**IPOC Station P**	**1.17**	**293**	*e*P	**Pn**	**07 38 04.2**	**-0.3**
PB06				*e*S	**Sn**	**07 38 23.1**	**+0.4**
PB06				IAML		07 38 25.2	
	comp=Z,1µm,0.4s						
PB06	**IPOC Station P**	**1.17**	**293**⇑	*i*P	**Pn**	**07 38 04.9**	**+0.4**
PB06				*i* S	**Sn**	**07 38 22.7**	**0.0**
PB06				IAML		07 38 25.1	
	comp=E,1µm,0.2s						
PB09	**IPOC Station P**	**1.57**	**330**	*e*P	**Pn**	**07 38 08.9**	**-0.1**
PB09				*e*S	**Sn**	**07 38 31.4**	**+0.8**
PB09				IAML		07 38 35.2	
	comp=Z,387nm,0.4s						
PB09	**IPOC Station P**	**1.57**	**330**	*e*P	**Pn**	**07 38 09.3**	**+0.3**
PB09				*i* S	**Sn**	**07 38 29.7**	**-0.9**
PB09				IAML		07 38 38.0	
	comp=E,339nm,0.2s						
PB04	**IPOC Station P**	**1.81**	**297**	*e*P	**Pn**	**07 38 12.0**	**+0.2**
PB04				*e*S	**Sn**	**07 38 36.3**	**+0.5**
PB04				IAML		07 38 41.3	
	comp=Z,393nm,0.3s						
PB04	**IPOC Station P**	**1.81**	**297**⇑	*i*P	**Pn**	**07 38 12.0**	**+0.2**
PB04				*i* S	**Sn**	**07 38 35.2**	**-0.5**
PB04				IAML		07 38 41.6	
	comp=N,641nm,0.3s						
PB07	**IPOC Station P**	**1.98**	**316**	*e*P	**Pn**	**07 38 14.1**	**+0.1**
PB07				*e*S	**Sn**	**07 38 39.8**	**+0.3**
PB07				IAML		07 38 42.1	
	comp=Z,342nm,0.3s						
PB07	**IPOC Station P**	**1.98**	**316**	*e*P	**Pn**	**07 38 14.0**	**+0.1**
PB07				*i* S	**Sn**	**07 38 38.5**	**-1.0**
PB07				IAML		07 38 42.4	
	comp=E,544nm,0.2s						
PB02	**IPOC Station P**	**2.30**	**323**	*e*P	**Pn**	**07 38 18.0**	**+0.1**
PB02				*e*S	**Sn**	**07 38 46.8**	**+0.3**
PB02				IAML		07 38 51.7	
	comp=Z,450nm,0.4s						
PB02	**IPOC Station P**	**2.30**	**323**	*e*P	**Pn**	**07 38 17.6**	**-0.2**
PB02				*e*S	**Sn**	**07 38 45.3**	**-1.2**
PB02				IAML		07 38 51.0	
	comp=E,465nm,0.2s						
PB01	**IPOC Station P**	**2.34**	**334**	*e*P	**Pn**	**07 38 18.5**	**+0.1**
PB01				*e*S	**Sn**	**07 38 47.9**	**+0.5**
PB01				IAML	

MKAR **Makanchi Array** 75.19 322 P P 07 50 24.6 -0.1
MKAR **Makanchi Array** 75.19 322 P P 07 50 25.5 +0.7
0.9nm,0.6s,baz=105,slow=6.9,SNR=14
0.9nm,0.6s
MAKZ **Makanchi** 75.39 322 P P 07 50 26.1 +0.2
ZALV **Zalesovo Beam** 77.18 329 P P 07 50 35.2 -0.6
0.8nm,0.3s,baz=116,slow=6.6,SNR=3.9
0.8nm,0.3s
BOOM **Boomskoye usch** 77.62 316 P P 07 50 39.3 +0.5
KURK **Kurchatov** 79.07 324 P P 07 50 46.4 0.0
KURBB **Kurchatov Arra** 79.09 324 P P 07 50 46.7 +0.2
0.5nm,0.5s,baz=110,slow=4.3,SNR=1.8
L14K **Kuka Creek** 79.66 24 P P 07 50 49.2 -0.1
O16K **Kokwok River B** 80.64 26 P P 07 50 54.1 -0.6
O16K IAmb IAmb 07 51 28.8
comp=Z,11nm,1.2s
K15K **Wolf Creek Mou** 80.64 23 P P 07 50 54.9 +0.2
K15K IAmb IAmb 07 51 11.9
comp=Z,12nm,1.2s
M16K **Timber Creek** 81.00 25 P P 07 50 56.5 -0.1
L16K **Owhat River** 81.14 24 P P 07 50 57.3 -0.1
L16K IAmb IAmb 07 51 22.4
comp=Z,21nm,1.5s
N17K **Nushagak Hills** 81.50 26 P P 07 50 59.1 -0.1
J16K **Anvik River** 81.55 22 P P 07 50 59.1 -0.3
KKAR **Karatay Array** 81.59 315 P P 07 51 00.4 +0.2
SVW2 **Sparrevohn** 82.46 26 P P 07 51 05.2 +0.8
SVW2 IAmb IAmb 07 51 35.7
comp=Z,8.2nm,1.2s
QSPA **South Pole Qui** 83.51 180 P P 07 51 11.5 +1.6
comp=Z,1.0nm,0.6s,baz=312,slow=2.1,SNR=7.8
comp=Z,1.0nm,0.6s
CNPM **China Poot** 83.72 28 P P 07 51 10.2 -0.7
M20K **Styx River** 83.87 25 P P 07 51 11.1 -0.6
M20K IAmb IAmb 07 51 39.6
comp=Z,12nm,1.5s
K20K **Telida** 84.14 24 P P 07 51 12.7 -0.3
K20K IAmb IAmb 07 51 22.9
comp=Z,4.9nm,1.4s
C18K **Utukok River** 84.32 18 P P 07 51 13.8 -0.1
C18K IAmb IAmb 07 51 26.9
comp=Z,4.4nm,1.3s
NRIK **Noril'sk** 84.44 343 P P 07 51 14.3 0.0
comp=Z,1.3nm,0.5s,baz=119,slow=4.6,SNR=5.2
comp=Z,1.3nm,0.5s
BVAR **Borovoye Array** 84.66 325 P P 07 51 16.4 +0.5
comp=Z,4.3nm,0.7s,baz=112,slow=6.4,SNR=24
comp=Z,4.3nm,0.7s
SUA **Susitna One** 84.72 26 P P 07 51 15.3 -0.7
SUA IAmb IAmb 07 51 39.7
comp=Z,3.0nm,1.1s
E19K **Redstone River** 84.94 20 P P 07 51 16.9 0.0
E19K IAmb IAmb 07 51 18.3
comp=Z,2.6nm,0.8s
RC01 **Rabbit Creek A** 85.02 27 P P 07 51 16.6 -0.9
RC01 IAmb IAmb 07 51 58.0
comp=Z,13nm,1.5s
F20K **Avaraart Lake** 85.25 20 P P 07 51 18.5 0.0
F20K IAmb IAmb 07 51 19.8
comp=Z,2.4nm,0.8s
IMAR **Indian Mountai** 85.45 22 P P 07 51 18.8 -0.7
H21K **Melozitna Rive** 85.66 22 P P 07 51 19.8 -0.7
H21K IAmb IAmb 07 51 25.5
comp=Z,5.3nm,1.3s
TRF **Thorofare Moun** 85.72 25 P P 07 51 19.3 -1.8
TRF IAmb IAmb 07 51 28.8
comp=Z,4.8nm,1.4s
SML **Sawmill** 85.92 26 P P 07 51 21.2 -0.8
CCB **Clear Creek Bu** 87.19 24 P P 07 51 26.1 -1.9
CCB IAmb IAmb 07 51 30.0
comp=Z,3.0nm,1.0s
B22K **Teshekpuk Lake** 87.54 18 P P 07 51 29.2 -0.4
B22K IAmb IAmb 07 51 54.7
comp=Z,4.2nm,1.5s
IL31 87.60 24 P P 07 51 27.8 -2.2
IL31 IAmb IAmb 07 51 54.7
comp=Z,7.8nm,1.5s
ILAR **Eielson Array** 87.60 24 P P 07 51 28.4 -1.7
ILAR **Eielson Array** 87.60 24 P P 07 51 28.5 -1.5
comp=Z,1.8nm,0.7s,baz=255,slow=5.1,SNR=30
comp=Z,1.8nm,0.7s
C23K **Itkillik River** 88.19 19 P P 07 51 33.0 +0.3
BARN **Barnard Glacie** 88.72 28 P P 07 51 35.5 -0.2
J26L **Joseph Creek** 88.86 25 P P 07 51 36.1 -0.1
J26L IAmb IAmb 07 51 37.9
comp=Z,2.4nm,0.9s
M27K **Edge Creek, AK** 88.97 27 P P 07 51 36.2 -0.6
BCAR **Beaver Creek A** 89.21 26 P P 07 51 38.0 +0.2
K27K **Chicken** 89.35 25 P P 07 51 38.8 +0.4
K27K IAmb IAmb 07 51 52.5
comp=Z,7.3nm,1.4s
L29M **L29M** 90.83 27 P P 07 51 45.4 +0.1
L29M IAmb IAmb 07 52 10.5
comp=Z,9.0nm,1.4s
K29M **Barlow Dome** 91.26 26 P P 07 51 46.8 -0.6
K29M IAmb IAmb 07 52 12.9
comp=Z,5.8nm,1.4s
DBIC **Dimbokro** 147.80 272 PKPbc PKiKP 07 58 29.6 -0.5
comp=Z,1.9nm,0.7s,baz=321,slow=3.9,SNR=3.5

*IDC **08** 08:02:32.4±2.6,29°09N×141°80E, h0km, mb3.6/7, mbtmp3.7/8, ML3.1/2, Error ellipse: s-maj=113.7km s-min=15.8km az=73.0*

ISC 08 08:02:35.6±2.5,29°2N±0°2×142°1E±0°7, h30km, n13, σ1§10/11, mb3.8/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**2.07**	**179**	Pn		**Pn**	**08 03 06.9**	**-1.6**
	8.3nm,0.3s,baz=345,slow=20,SNR=2.3							
JCJ				Sn		**Sn**	**08 03 34.2**	**+1.0**
	13nm,0.3s,baz=270,slow=20,SNR=2.7							
MJAR	**Matsushiro Arr**	**8.05**	**337**	Pn		**Pn**	**08 04 29.4**	**-1.2**
	0.2nm,0.3s,baz=160,slow=12,SNR=9.2							
	2.8nm,0.4s							
KLR	**Kul'dur**	**21.54**	**341**	P		**P**	**08 07 23.2**	**+0.8**
	0.6nm,0.5s,baz=163,slow=10,SNR=4.2							
	0.6nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**24.38**	**107**	T		T	08 33 25.0	
	baz=296							
H11N1	**WAKE ISLAND Hy**	**24.38**	**107**	T		T	08 33 24.9	
	baz=296							
H11N3	**WAKE ISLAND Hy**	**24.40**	**107**	T		T	08 33 26.4	
	baz=296							
SONM	**Songino Array**	**33.21**	**314**	P		**P**	**08 09 09.9**	**-0.1**
	0.3nm,0.5s,baz=128,slow=9.3,SNR=2.6							
	0.3nm,0.5s							
MKAR	**Makanchi Array**	**49.14**	**308**	P		**P**	**08 11 20.0**	**-0.6**
	0.6nm,0.7s,baz=91,slow=9.0,SNR=6.7							
	0.6nm,0.7s							
WRA	**Warramunga Arr**	**49.41**	**190**	P		**P**	**08 11 23.2**	**+0.4**
	0.4nm,0.4s,baz=8.3,slow=8.3,SNR=6.9							
	0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**51.57**	**313**	P		**P**	**08 11 38.9**	**0.0**
	0.8nm,0.4s,baz=90,slow=9.2,SNR=6.4							
ASAR	**Alice Springs**	**53.13**	**189**	P		**P**	**08 11 51.0**	**+0.3**
	0.2nm,0.6s,baz=359,slow=4.6,SNR=1.6							
	0.2nm,0.6s							
BVAR	**Borovoye Array**	**56.50**	**317**	P		**P**	**08 12 14.6**	**-0.2**
	1.0nm,0.5s,baz=86,slow=9.1,SNR=7.5							
	1.0nm,0.5s							
KBZ	**Khabaz**	**76.57**	**313**	P		**P**	**08 14 25.0**	**+1.9**
	1.9nm,0.8s,baz=56,slow=7.9,SNR=4.8							
	1.9nm,0.8s							

*NEIC **08** 08:08:29.1±1.6,35°557N±0°007×120°87W±0°01, h10km±2km, Error ellipse: s-maj=3.0km s-min=1.9km az=35.0*

*NCEDC **08** 08:08:29.4±1.6,35°559N±0°009×120°87W±0°02, h7km±5km, ML3.2/24, ML2.8/36(NEIC), Error ellipse: s-maj=2.2km s-min=1.1km az=70.0*

*ANF **08** 08:08:30.8±0.6,35°49N×120°74W, h15km, ML3.2/22, Error ellipse: s-maj=6.4km s-min=3.0km az=104.0*

ISC 08 08:08:28.8±0.9,35°54N±0°02×120°91W±0°02, h17km±6km, n171, σ0§94/188, Central California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAMR	**Ramage Ranch**	**0.10**	**18**			**Pg**	**08 08 31.7**	**-0.7**
PTAM	**Tassajara Cree**	**0.22**	**133**			**Pg**	**08 08 34.0**	**0.0**
PANM	**San Antonio Re**	**0.24**	**360**			**Pg**	**08 08 34.3**	**0.0**
LSDC	**Los Osos Digit**	**0.25**	**168**			**Pb**	**08 08 35.2**	**+0.3**
EFD	**Emergency Oper**	**0.27**	**146**			**Pg**	**08 08 34.9**	**+0.2**
EFD						**Sg**	**08 08 38.8**	**+0.1**
TCAS	**Cass Winery, P**	**0.29**	**77**			**Pg**	**08 08 35.0**	**-0.1**
TCAS						**Sb**	**08 08 39.5**	**-0.6**
PHSB	**Hesperia Broad**	**0.30**	**337**			**Pg**	**08 08 35.7**	**+0.3**
PHSB						**Sg**	**08 08 40.4**	**+0.5**
DPD	**Davis Peak**	**0.33**	**162**			**Pb**	**08 08 36.5**	**+0.3**
DPD						**Sb**	**08 08 42.5**	**+1.4**
DCD	**Diablo Creek**	**0.33**	**171**			**Pg**	**08 08 36.5**	**+0.7**
PPO	**Portuguese Can**	**0.40**	**36**			**Pb**	**08 08 37.3**	**-0.2**
PWKM	**Work Ranch**	**0.42**	**50**			**Pb**	**08 08 37.5**	**-0.3**
TCHL	**Shandon**	**0.44**	**70**			**Pb**	**08 08 37.8**	**-0.3**
TSCN	**Private Proper**	**0.46**	**90**			**Pb**	**08 08 38.2**	**-0.2**
TSCS	**Shell Creek So**	**0.46**	**103**			**Pg**	**08 08 37.9**	**-0.3**
PSAM	**San Ardo**	**0.48**	**2**			**Pg**	**08 08 38.6**	**+0.1**
PVCM	**Vineyard Canyo**	**0.48**	**38**			**Pg**	**08 08 38.4**	**-0.2**
PKD	**Bear Valley Ra**	**0.50**	**36**			**Pg**	**08 08 38.5**	**-0.4**
PHPM	**Hope Ranch**	**0.50**	**29**			**Pg**	**08 08 38.6**	**-0.2**
PSTM	**Stockdale Moun**	**0.50**	**40**			**Pg**	**08 08 38.6**	**-0.4**
PKLM	**Kerr Lake**	**0.52**	**63**			**Pg**	**08 08 39.0**	**-0.1**
PHFM	**Heflinger Ranc**	**0.53**	**50**			**Pg**	**08 08 39.2**	**-0.2**
GHC	**Gold Hill**	**0.53**	**57**			**Pg**	**08 08 39.2**	**-0.3**
TRAM	**Private Proper**	**0.54**	**75**			**Pb**	**08 08 39.5**	**-0.2**
HULI	**Fort Hunter Li**	**0.55**	**331**			**Pg**	**08 08 40.3**	**+0.6**
THIS	**South End of C**	**0.58**	**72**			**Pg**	**08 08 40.2**	**-0.2**
PPTM	**Peach Tree Val**	**0.58**	**15**			**Pg**	**08 08 40.4**	**-0.1**
PSMM	**Smith Mountain**	**0.58**	**26**			**Pg**	**08 08 40.5**	**0.0**
PCCM	**Crazy Canyon**	**0.58**	**339**			**Pg**	**08 08 40.9**	**+0.5**
PMRM	**Maxey Ranch**	**0.60**	**66**			**Pg**	**08 08 40.4**	**-0.3**
PSRM	**Scobie Ranch**	**0.60**	**58**			**Pg**	**08 08 40.4**	**-0.3**
CTM	**Castle Mountai**	**0.60**	**50**			**Pb**	**08 08 41.0**	**0.0**
TRAY	**Twisselman Ran**	**0.64**	**89**			**Pg**	**08 08 41.2**	**-0.2**
PBPM	**Bitterwater Pu**	**0.68**	**87**			**Pb**	**08 08 42.1**	**-0.1**
PMPB	**Mustang Peak**	**0.68**	**7**			**Pg**	**08 08 41.8**	**-0.4**
LRC	**Lone Oak Road**	**0.71**	**351**			**Pg**	**08 08 42.8**	**0.0**
PJUM	**Juniper Ridge**	**0.73**	**20**			**Pb**	**08 08 43.3**	**+0.2**
SMMC	**Simmler**	**0.78**	**107**			**Pg**	**08 08 43.9**	**-0.2**
SMMC	**Simmler**	**0.78**	**107**	P		**Pg**	**08 08 43.8**	**-0.2**
	baz=289,SNR=142							
SMMC				S		**Sg**	**08 08 53.8**	**-0.6**
	baz=289							
PKEM	**Kettleman Hill**	**0.83**	**51**			**Pn**	**08 08 45.9**	**+0.2**
LRV	**Little Rabbit**	**0.89**	**354**			**Pg**	**08 08 46.2**	**+0.1**
CARC	**Carrizo Plain**	**0.90**	**105**			**Pb**	**08 08 46.2**	**+0.3**
PDRM	**Domengine Ranc**	**0.90**	**29**			**Pb**	**08 08 47.0**	**+1.0**
BSGM	**Shirttail Guic**	**0.91**	**342**			**Pg**	**08 08 46.2**	**-0.4**
BSMM	**Soledad Missio**	**0.93**	**333**			**Pg**	**08 08 46.9**	**-0.2**
BPIM	**Pinnacles**	**0.97**	**347**			**Pg**	**08 08 47.2**	**-0.4**
BBNM	**San Benito**	**0.97**	**352**			**Pg**	**08 08 47.8**	**0.0**
BPOM	**Post Ranch**	**0.98**	**315**			**Pg**	**08 08 47.2**	**-0.6**
HAST	**Hastings Reser**	**0.99**	**328**			**Pg**	**08 08 47.8**	**-0.3**
CRGC	**Crocker Grade**	**1.01**	**107**			**Pg**	**08 08 48.1**	**-0.3**
BBGB	**Big Mountain B**	**1.04**	**354**	Pg		**Pg**	**08 08 49.0**	**0.0**
GATR	**Gnd/Air Tx Cnt**	**1.04**	**161**			**Pg**	**08 08 49.0**	**0.0**
PWMM	**Westland Maint**	**1.05**	**32**			**Pn**	**08 08 49.5**	**+0.7**
BVL	**Bear Valley**	**1.06**	**347**			**Pg**	**08 08 48.7**	**-0.6**
BJCM	**Johnson Can.**	**1.08**	**339**			**Pg**	**08 08 48.9**	**-0.7**
BPRM	**Ponciano Ridge**	**1.09**	**322**			**Pg**	**08 08 49.1**	**-0.8**
BAVM	**Antelope Valle**	**1.11**	**355**			**Pg**	**08 08 49.9**	**-0.3**
FIGC	**Figueroa Mtn.**	**1.11**	**137**			**Pg**	**08 08 49.6**	**-0.6**
PKM	**Mcpherson Peak**	**1.11**	**126**			**Pg**	**08 08 49.5**	**-0.8**
PKM	**Mcpherson Peak**	**1.11**	**126**	P		**Pg**	**08 08 49.6**	**-0.7**
	baz=308,SNR=117							
PKM				S		**Sb**	**08 09 04.6**	**+0.8**
	baz=308							
SCZ	**Santa Cruz**	**1.13**	**339**			**Pb**	**08 08 49.6**	**-0.3**
BJOM	**Mount Johnson**	**1.13**	**343**			**Pb**	**08 08 49.4**	**-0.5**
NJQ	**Nojoqui County**	**1.17**	**149**			**Pb**	**08 08 50.5**	**-0.1**
BPCNC	**Pine Canyon**	**1.18**	**331**			**Pb**	**08 08 50.7**	**-0.1**
BSRM	**Salinas Radio**	**1.23**	**336**			**Pn**	**08 08 50.9**	**-0.3**
BSLM	**Silva Ranch**	**1.28**	**344**			**Pn**	**08 08 52.8**	**+0.9**
SAO	**San Andreas Ge**	**1.29**	**340**	Pg		**Pn**	**08 08 51.8**	**-0.3**
FRP	**Fremont Peak**	**1.30**	**339**			**Pn**	**08 08 51.8**	**-0.4**
HMOM	**Monterey**	**1.34**	**322**			**Pn**	**08 08 52.7**	**0.0**
HSFM	**Saint Francis**	**1.35**	**339**			**Pn**	**08 08 52.6**	**-0.3**
BCW	**Bitter Crk WRg**	**1.36**	**116**			**Pn**	**08 08 53.3**	**+0.2**
HBTM	**San Juan Bauti**	**1.41**	**338**			**Pn**	**08 08 53.9**	**+0.3**
HERM	**Elkhorn Road**	**1.41**	**333**			**Pn**	**08 08 53.8**	**+0.1**
HTUM	**Tustin Road**	**1.41**	**335**			**Pn**	**08 08 53.4**	**-0.3**
ANZ	**Anzar Road**	**1.45**	**338**			**Pn**	**08 08 54.1**	**-0.2**
VOG	**Valley Oaks Go**	**1.46**	**57**			**Pn**	**08 08 53.6**	**-0.8**
VOG	**Valley Oaks Go**	**1.46**	**57**	P		**Pn**	**08 08 54.6**	**+0.2**
	baz=238							
VOG				S		**Sn**	**08 09 13.5**	**+0.4**
	baz=238							
SBC	**Santa Barbara**	**1.47**	**138**			**Pn**	**08 08 54.7**	**+0.2**
SBC	**Santa Barbara**	**1.47**	**138**	P		**Pn**	**08 08 54.8**	**+0.2**
	baz=320							
SBC				S		**Sn**	**08 09 12.7**	**-0.6**
	baz=320							
HCOM	**Corn Cob Canyo**	**1.49**	**334**			**Pn**	**08 08 54.8**	**0.0**
HFEM	**San Felipe**	**1.49**	**345**			**Pn**	**08 08 55.6**	**+0.8**
VES	**Vestal, Richgr**	**1.51**	**78**			**Pn**	**08 08 55.5**	**+0.3**
VES	**Vestal, Richgr**	**1.51**	**78**	P		**Pn**	**08 08 55.4**	**+0.3**
	baz=260,SNR=36							
VES				S		**Sn**	**08 09 13.8**	**-0.5**
	baz=260							
HCBM	**Chamberlain**	**1.52**	**336**			**Pn**	**08 08 55.5**	**+0.4**
HPCM	**Pacheco Lake**	**1.54**	**349**			**Pn**	**08 08 56.0**	**+0.5**
SLD	**San Luis Dam**	**1.55**	**351**			**Pn**	**08 08 56.2**	**+0.5**
CDC	**Canada Road**	**1.55**	**343**			**Pn**	**08 08 55.0**	**-0.6**
BSM	**San Miguel Isl**	**1.57**	**163**			**Pn**	**08 08 55.7**	**-0.2**
HLPM	**Lions Peak**	**1.61**	**339**			**Pn**	**08 08 56.2**	**-0.1**
GHS	**Gilroy Hot Spr**	**1.61**	**344**			**Pn**	**08 08 56.6**	**+0.1**
MRHM	**Rocky Hill**	**1.65**	**63**			**Pn**	**08 08 56.5**	**-0.5**
FRI	**Friant**	**1.74**	**33**			**Pn**	**08 08 58.4**	**+0.2**
JLAB	**Laurel Hill**	**1.74**	**338**			**Pn**	**08 08 58.5**	**+0.2**
ARVC	**Arvin**	**1.75**	**103**			**Pn**	**08 08 58.1**	**-0.3**
ARVC	**Arvin**	**1.75**	**103**	P		**Pn**	**08 08 58.0**	**-0.3**
	baz=285							
CCOB	**Coe Ranch Numb**	**1.82**	**340**			**Pn**	**08 08 59.9**	**+0.6**
TEJ	**El Tejon**	**1.84**	**99**			**Pn**	**08 08 59.2**	**-0.4**
CMPM	**Mikes Peak**	**1.84**	**350**			**Pn**	**08 09 00.4**	**+0.7**
SPG2	**Springville 2**	**1.86**	**69**			**Pn**	**08 08 59.8**	**0.0**
SCZ2	**Santa Cruz Isl**	**1.86**	**146**	P		**Pn**	**08 08 59.8**	**-0.1**
	baz=327							
SCZ2				S		**Sn**	**08 09 23.3**	**+0.1**
	baz=327							
JJOM	**Saint Joseph's**	**1.87**	**333**			**Pn**	**08 08 59.6**	**-0.4**
ARN	**Arnold Ranch**	**1.87**	**345**			**Pn**	**08 09 00.5**	**+0.4**
MYLM	**Yosemite Lake**	**1.88**	**12**			**Pn**	**08 09 00.4**	**+0.3**
WASM	**Alta Sierra Ca**	**1.92**	**83**			**Pn**	**08 09 00.9**	**0.0**
CMMM	**Mount Mocho**	**1.97**	**346**			**Pn**	**08 09 01.9**	**+0.4**
ISA	**Isabella, Lake**	**1.99**	**86**			**Pn**	**08 09 01.6**	**-0.1**
ISA					IAML		08 09 32.7	
	comp=E,87nm,0.4s							
ISA	**Isabella, Lake**	**1.99**	**86**	P		**Pn**	**08 09 01.8**	**+0.1**
	baz=268,SNR=36							
ISA				S		**Sn**	**08 09 25.8**	**-0.4**
	baz=268							
MTOS	**Mt Oso, Westle**	**1.99**	**350**			**Pn**	**08 09 02.7**	**+1.0**
OSI	**Osito Audit: C**	**2.02**	**117**	P		**Pn**	**08 09 03.1**	**+1.1**
	baz=299							
OSI				Sg		**Sg**	**08 09 32.1**	**-1.6**
	baz=299							
JPSM		**2.02**	**325**			**Pn**	**08 09 02.1**	**+0.1**
JFP	**Foothills Park**	**2.09**	**331**			**Pn**	**08 09 02.6**	**-0.5**
JSFB	**Stanford Teles**	**2.12**	**332**			**Pn**	**08 09 03.2**	**-0.2**
BGH	**Bear Gulch**	**2.13**	**328**			**Pn**	**08 09 03.5**	**-0.1**
CSTL	**Corral Hollow**	**2.15**	**347**			**Pn**	**08 09 04.9**	**+1.1**
JRSC	**Jasper Ridge**	**2.15**	**330**			**Pn**	**08 09 03.2**	**-0.5**
WORM	**Onyx Ranch**	**2.18**	**85**			**Pn**	**08 09 05.1**	**+0.9**
OAT	**Oat Mountain**	**2.23**	**122**			**Pn**	**08 09 05.7**	**+0.6**
JCHM	**Cahill Ridge**	**2.30**	**329**			**Pn**	**08 09 05.4**	**-0.5**
SAC	**San Andreas**	**2.37**	**330**			**Pn**	**08 09 06.8**	**-0.1**
CCAC	**Calif City Air**	**2.39**	**99**			**Pn**	**08 09 07.5**	**+0.3**
CCAC					IAML		08 09 48.2	
	comp=E,84nm,0.6s							
JMGM	**Milagra Ridge**	**2.44**	**329**			**Pn**	**08 09 07.4**	**-0.5**
CMCM	**Mills College**	**2.46**	**336**			**Pb**	**08 09 11.8**	**-0.7**
CWC	**Cottonwood Cre**	**2.46**	**68**	P		**Pn**	**08 09 10.4**	**+2.1**
	baz=250							
CWC				S		**Sn**	**08 09 38.4**	**+0.4**
	baz=250							
WNMM	**Nine Mile Cany**	**2.46**	**82**			**Pn**	**08 09 09.0**	**+0.9**
EDW2	**Edwards Air Fo**	**2.47**	**105**	P		**Pn**	**08 09 08.7**	**+0.3**
	baz=287,SNR=14							
DECC	**Green Verdugo**	**2.48**	**121**	P		**Pn**	**08 09 08.9**	**+0.5**
	baz=303							
CMB	**Columbia Colle**	**2.52**	**9**			**Pn**	**08 09 10.5**	**+1.5**
CMB					IAML		08 09 41.8	
	comp=E,50nm,0.7s							
CMB					IAML		08 09 42.4	
	comp=N,54nm,0.6s							
MRDM	**Red Cones**	**2.53**	**35**			**Pn**	**08 09 11.3**	**+1.9**
SCHCA	**Scheelite**	**2.55**	**44**			**Pn**	**08 09 11.4**	**+1.9**
MDPB	**Devils Postpil**	**2.55**	**35**			**Pn**	**08 09 10.8**	**+1.1**
MDPB					IAML		08 09 44.6	
	comp=E,63nm,0.4s							
MDPB					IAML		08 09 45.9	
	comp=N,87nm,0.7s							
SNCC	**San Nicolas Is**	**2.56**	**153**	P		**Pn**	**08 09 09.6**	**+0.2**
	baz=335							
SNCC				S		**Sn**	**08 09 40.8**	**+0.6**
	baz=335							
BKS	**Berkeley--Byer**	**2.56**	**336**			**Pn**	**08 09 09.4**	**-0.1**
MMSM	**Mammoth Summit**	**2.57**	**35**			**Pn**	**08 09 12.3**	**+2.3**
MINS	**Minaret Summit**	**2.58**	**35**			**Pn**	**08 09 11.9**	**+1.9**
MDYM	**Dry Creek**	**2.60**	**35**			**Pn**	**08 09 13.1**	**+2.7**
MLCM	**Laurel Creek C**	**2.61**	**37**			**Pn**	**08 09 12.5**	**+2.0**
RCCR	**Rock Creek Can**	**2.62**	**42**			**Pn**	**08 09 12.7**	**+2.1**
BHPR	**Bishop**	**2.62**	**47**			**Pn**	**08 09 12.6**	**+2.0**
PASC	**Pasadena Art C**	**2.62**	**121**	Pn		**Pn**	**08 09 10.4**	**+0.1**
PASC					IAML		08 10 00.2	
	comp=E,36nm,0.8s							
TIN	**Tinemaha, Big**	**2.64**	**54**			**Pn**	**08 09 13.4**	**+2.7**
TIN	**Tinemaha, Big**	**2.64**	**54**	P		**Pn**	**08 09 12.8**	**+2.2**
	baz=236,SNR=8.9							
TIN				S		**Sn**	**08 09 43.8**	**+1.5**
	baz=236							
MEMM	**East Mammoth H**	**2.65**	**36**			**Pn**	**08 09 13.4**	**+2.5**
MCBM	**Casa Benchmark**	**2.65**	**37**			**Pn**	**08 09 13.7**	**+2.7**
MLAC	**Mammoth, Mammo**	**2.67**	**38**			**Pn**	**08 09 13.6**	**+2.4**
MLAC	**Mammoth, Mammo**	**2.67**	**38**	P		**Pn**	**08 09 13.4**	**+2.2**
	baz=219,SNR=26							
MLAC				S		**Sb**	**08 09 47.1**	**-1.7**
	baz=219							
MDRNC	**Doe Ridge**	**2.67**	**38**			**Pn**	**08 09 13.8**	**+2.5**
CGO	**Cerro Gordo**	**2.71**	**67**			**Pb**	**08 09 15.7**	**-1.3**
MLHM	**Little Hot Cre**	**2.72**	**38**			**Pn**	**08 09 14.6**	**+2.8**
ORC	**Owens River**	**2.76**	**40**			**Pn**	**08 09 15.0**	**+2.5**
CASR	**Casa Diablo Mo**	**2.78**	**42**			**Pn**	**08 09 15.0**	**+2.3**
MPMC	**Manual Prospec**	**2.83**	**79**	P		**Pn**	**08 09 14.1**	**+0.7**
	baz=261,SNR=19							
CIS	**Catalina Islan**	**2.97**	**135**	P		**Pn**	**08 09 14.6**	**-0.5**
	baz=318							
CIS				S		**Sn**	**08 09 50.6**	**+0.3**
	baz=318							
BFSC	**Mount Baldy Ra**	**2.97**	**115**	P		**Pn**	**08 09 15.5**	**+0.3**
	baz=298,SNR=11							
DSP	**Deep Springs**	**2.99**	**52**			**Pn**	**08 09 17.1**	**+1.8**
DSP					IAML		08 10 08.2	
	comp=E,24nm,0.7s							
DSP					IAML		08 10 12.4	
	comp=N,22nm,0.7s							
ANTCA	**Antelope Range**	**3.03**	**38**			**Pn**	**08 09 14.1**	**-2.0**
LCH	**Last Change Ra**	**3.13**	**56**			**Pn**	**08 09 17.6**	**+0.2**
LCH					IAML		08 10 11.9	
	comp=N,22nm,0.8s							
LCH					IAML		08 10 12.7	
	comp=E,32nm,0.8s							
WAKR	**Walker**	**3.18**	**21**			**Pn**	**08 09 20.0**	**+1.8**
WAKR					IAML		08 10 12.4	
	comp=E,37nm,0.8s							
WAKR					IAML		08 10 19.2	
	comp=N,30nm,0.8s							
AFDM	**Forest Hills D**	**3.40**	**359**			**Pn**	**08 09 22.6**	**+1.5**
AFDM					IAML		08 10 06.0	
	comp=E,13nm,0.6s							
ELS	**Elsinore Mount**	**3.44**	**122**			**Pn**	**08 09 21.2**	**-0.4**
GWY	**Greenwater Val**	**3.50**	**78**			**Pn**	**08 09 22.7**	**+0.1**
GWY					IAML		08 10 24.1	
	comp=E,18nm,1.0s							
GWY					IAML		08 10 40.5	
	comp=N,15nm,1.4s							
NVAR	**Mina Array Bea**	**3.56**	**35**			**Pn**	**08 09 24.9**	**+1.5**
MURC	**Murrieta**	**3.62**	**121**	P		**Pn**	**08 09 24.4**	**+0.2**
	baz=304							
HEC	**Hector Ludlow**	**3.81**	**99**	P		**Pn**	**08 09 27.0**	**+0.2**
	baz=282							
TUQ	**Turquoise Moun**	**4.07**	**90**	P		**Pn**	**08 09 30.2**	**-0.1**
	baz=273							
PFO	**Pinyon Flats O**	**4.14**	**116**	Pn		**Pn**	**08 09 31.8**	**+0.4**
PFO					IAML		08 11 19.0	
	comp=N,7.5nm,4.7s							
PFO	**Pinyon Flats O**	**4.14**	**116**	P		**Pn**	**08 09 32.2**	**+0.8**
	baz=299							
PMD	**Palm Desert**	**4.19**	**116**			**Pn**	**08 09 32.0**	**+0.2**
BELC	**Belle Mtn. Jos**	**4.32**	**109**	P		**Pn**	**08 09 34.4**	**+0.5**
	baz=293							
MONP2	**Monument Peak**	**4.56**	**124**	P		**Pn**	**08 09 37.3**	**+0.1**
	baz=307,SNR=5.5							
SHPR	**Sheep Range**	**4.75**	**77**			**Pn**	**08 09 41.2**	**+1.4**
IKP	**In-Ko-P

OOD	**Oodnadatta**	**43.10**	**248**	P		**P**	**08 53 07.7**	**-0.3**
BBOO	**Buckleboo**	**43.35**	**241**	P		**P**	**08 53 08.9**	**-1.0**
WRA	**Warramunga Arr**	**44.43**	**259**	P		**P**	**08 53 16.8**	**-1.6**
	1.3nm,0.6s,baz=96,slow=7.1,SNR=25							
	1.3nm,0.6s							
ASAR	**Alice Springs**	**44.63**	**254**	P		**P**	**08 53 18.9**	**-1.1**
	13nm,0.6s,baz=95,slow=7.3,SNR=142							
ASAR				PcP		**PcP**	**08 54 49.8**	**-1.2**
	0.2nm,0.4s,baz=99,slow=3.6,SNR=1.3							
	13nm,0.6s							
MULG	**Mulgathing**	**44.72**	**244**	P		**P**	**08 53 19.4**	**-1.2**
PETK	**Petropavlovsk-**	**73.23**	**345**	P		**P**	**08 56 31.5**	**+0.5**
	3.2nm,0.9s,baz=132,slow=8.1,SNR=1.2							
	3.2nm,0.9s							
NVAR	**Mina Array Bea**	**79.34**	**44**	P		**P**	**08 57 05.3**	**+0.1**
	0.4nm,0.8s,baz=219,slow=10.0,SNR=3.8							
	0.4nm,0.8s							
ILAR	**Eielson Array**	**85.57**	**13**	P		**P**	**08 57 35.3**	**-0.5**
	0.2nm,0.4s,baz=216,slow=5.4,SNR=7.9							
	0.2nm,0.4s							
TXAR	**Lajitas Array**	**86.03**	**58**	P		**P**	**08 57 39.9**	**+1.0**
	0.3nm,0.7s,baz=230,slow=5.6,SNR=6.3							
	0.3nm,0.7s							
PDAR	**Pinedale Array**	**87.26**	**44**	P		**P**	**08 57 45.0**	**+0.4**
	0.2nm,0.5s,baz=208,slow=3.1,SNR=5.1							
	0.2nm,0.5s							
YKA	**Yellowknife Ar**	**94.09**	**25**	P		**P**	**08 58 14.7**	**-0.7**
	0.3nm,1.0s,baz=240,slow=4.9,SNR=2.5							
	0.3nm,1.0s							

*PRE **08** 08:49:36.2±2.4, 16˚.28S×35˚.36E, h5km, ML4.9*
*BJI **08** 08:49:41.7±0.0, 16˚.75S×35˚.31E, h5km, mb5.3/60, mB5.6/46, Ms5.5/54, Ms7 5.3/53*
*BGR **08** 08:49:42.0, 16˚.46S×37˚.46E, h18km, mb5.3*
*IDC **08** 08:49:43.1±0.4, 16˚.69S×35˚.54E, h0km, mb5.1/33, mbtmp5.2/36, ML5.6/3, MS5.1/58, Error ellipse: s-maj=14.6km s-min=11.1km az=92.0*
*IPGP **08** 08:49:44.0, 16˚.76S×35˚.43E, h14km, Mw5.6, Fault plane solution: NP1:ϕ=144.00000°, δ51.00000°, λ-84.00000°. NP2:ϕ=315.00000°, δ40.00000°, λ-97.00000°.*
*MOS **08** 08:49:44.1±0.9, 16˚.64S×35˚.61E, h15km, mb5.5/89, MS5.1/23, Error ellipse: s-maj=8.7km s-min=3.8km az=90.1*
*EAF **08** 08:49:44.0±7.6, 16˚.85S×35˚.38E, h0km±31km*
*NEIC **08** 08:49:44.4, 16˚.76S×35˚.45E, h5km*
*NEIC **08** 08:49:46.1, 16˚.76S×35˚.43E, h26km*
*NEIC **08** 08:49:46.1, 16˚.86S×35˚.43E, h26km, Moment Tensor Solution. Duration: 3s0 Moment tensor: Scale 10¹⁷Nm; Mrr-2.70; Mθθ1.20; Mϕϕ 1.51; Mrθ0.10; Mθϕ-1.15; Mϕr0.12; Fault plane solution: M₀2.61000×10¹⁷ NP1: ϕs141.79000°, δ45.32000°, λ-85.84000°. NP2: ϕs315.88000°, δ44.83000°, λ-94.20000°. Principal axes: T 2.5117, Plg0.0000°, Azm229.0000°; N 0.2010, Plg3.0000°, Azm319.0000°; P -2.7127, Plg87.0000°, Azm134.0000°;*
*NEIC **08** 08:49:46.1±1.9, 16˚.76S±0˚.08×35˚.43E±0˚.08, h17km±1km, mb5.6/88, Ms_20 5.4/305, Mwb5.5/40, Mww5.5/35 Error ellipse: s-maj=13.5km s-min=12.2km az=183.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-1.89; Mθθ0.93; Mϕϕ0.96; Mrθ0.14; Mθϕ-1.01; Mϕr0.51; Fault plane solution: M₀2.00000×10¹⁷ NP1: ϕs302.47000°, δ42.58000°, λ-109.73000°. NP2: ϕs148.44000°, δ50.44000°, λ-72.76000°. Principal axes: T 1.9762, Plg4.0000°, Azm226.0000°; N 0.0421, Plg13.0000°, Azm317.0000°; P -2.0184, Plg76.0000°, Azm120.0000°;*
*GCMT **08** 08:49:48.2±0.1, 16˚.71S±0˚.01×35˚.42E±0˚.01, h23km, MW5.6/156, Moment Tensor Solution. s138,c251; s156,c299; Duration: 1s5 Moment tensor: Scale 10¹⁷ Nm; Mrr-3.02±.04; Mθθ1.26±.03; Mϕϕ1.76±.03; Mrθ0.29±.05; Mθϕ-1.42±.02; Mϕr0.61±.05; Best double couple: M₀3.05800×10¹⁷ NP1:ϕs151.00000°, δ49.00000°, λ-76.00000°. NP2:ϕs309.00000°, δ43.00000°, λ-106.00000°. Principal axes: T 2.9650, Plg3.0000°, Azm231.0000°; N 0.1870, Plg11.0000°, Azm321.0000°; P -3.1520, Plg79.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 08:49:45.0±0.4, 16˚.79S±0˚.03×35˚.36E±0˚.04, h13km±2km, h14km:pP-P, n1357, σ1s45/1270, mb5.5/246, MS5.3/230, 78C-66D, Malawi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZOMB	**Zomba**	**1.40**	**360**	*i* PG		**Pn**	**08 50 09.7**	**-0.7**
ZOMB				*i* SG		**Sn**	**08 50 27.4**	**-1.4**
ZOMB	**Zomba**	**1.40**	**360**	*i* P		**Pb**	**08 50 11.0**	**-0.1**
ZOMB	**Zomba**	**1.40**	**360**	*e*Pg		**Pn**	**08 50 09.7**	**-0.7**
ZOMB				*e*Sg		**Sn**	**08 50 27.4**	**-1.4**
ZOMB	**Zomba**	**1.40**	**360**	*i* PG		**Pn**	**08 50 09.7**	**-0.7**
ZOMB				*i* SG		**Sn**	**08 50 27.4**	**-1.4**
KRI	**Karoi**	**5.50**	**269**	*i* P		**Pn**	**08 51 07.7**	**+0.9**
KRI	**Karoi**	**5.50**	**269**	*e*P		**Pn**	**08 51 08.1**	**+1.3**
KRI	**Karoi**	**5.50**	**269**	*i* P		**Pn**	**08 51 09.1**	**+2.3**
LSZ	**Lusaka**	**7.06**	**281**	Pn		**Pn**	**08 51 27.9**	**-0.3**
LSZ	**Lusaka**	**7.06**	**281**	*i* P		**Pn**	**08 51 28.4**	**+0.2**
LSZ	**Lusaka**	**7.06**	**281**	Pn		**Pn**	**08 51 28.5**	**+0.3**
	96nm,0.3s,baz=109,slow=14,SNR=199							
LSZ				Sn		**Sn**	**08 52 47.9**	**-0.5**
	147nm,0.3s,baz=171,slow=5.5,SNR=4.2							
LSZ				Lg		Lg	08 53 27.6	
	210nm,0.3s,baz=172,slow=19,SNR=3.7							
LSZ				LR		LR	08 54 00.8	
	comp=Z,11μm,18.9s,baz=107,slow=36							
	259nm,0.3s							
LSZ	**Lusaka**	**7.06**	**281**	P		**Pn**	**08 51 29.6**	**+1.4**
LSZ				P		**Pn**	**08 51 29.6**	**+1.4**
LSZ	**Lusaka**	**7.06**	**281**	*i* P		**Pn**	**08 51 29.9**	**+1.7**
BLWY	**Bulawayo**	**7.22**	**242**	*i* P		**Pn**	**08 51 31.6**	**+1.2**
BLWY	**Bulawayo**	**7.22**	**242**	*i* P		**Pn**	**08 51 34.8**	**+4.4**
MUSN	**Musina, Limpop**	**7.53**	**223**	*i* P		**Pn**	**08 51 35.5**	**+0.9**
MUSN	**Musina, Limpop**	**7.53**	**223**	*e*P		**Pn**	**08 51 35.5**	**+0.9**
MUSN				*e*S		**Sn**	**08 53 01.2**	**+1.3**
MUSN				IAML			08 53 56.0	
	comp=Z,3μm,0.6s							
MUSN	**Musina, Limpop**	**7.53**	**223**	*i* P		**Pn**	**08 51 37.1**	**+2.5**
MOPA	**Mopani**	**7.65**	**208**	*i* P		**Pn**	**08 51 37.6**	**+1.4**
MOPA	**Mopani**	**7.65**	**208**	⇑*i* P		**Pn**	**08 51 37.1**	**+0.8**
MOPA				*e*S		**Sn**	**08 53 04.8**	**+1.9**
MOPA				IAML			08 53 55.2	
	comp=Z,2μm,0.5s							
MOPA	**Mopani**	**7.65**	**208**	*i* P		**Pn**	**08 51 38.8**	**+2.5**
PDHT	**Panda Hill**	**8.03**	**345**	*i* P		**Pn**	**08 51 41.7**	**+0.1**
PDHT				*i* S		**Sn**	**08 53 09.6**	**-2.9**
HOED	**Hoedspruit, Li**	**8.64**	**208**	*e*P		**Pn**	**08 51 48.6**	**-1.2**
PILG	**Pilgrimsrest,**	**9.19**	**207**	⇑*i*P		**Pn**	**08 51 57.2**	**-0.3**
WTBG	**Waterberg Wild**	**9.55**	**218**	⇑*i*P		**Pn**	**08 52 02.0**	**-0.5**
WTBG				*e*P			08 52 05.8	
DULL	**Dullstroom, Mp**	**9.80**	**209**	*e*P		**Pn**	**08 52 02.0**	**-3.9**
LEPH	**Lephalale, Lim**	**9.98**	**224**	⇑*i*P		**Pn**	**08 52 06.7**	**-1.6**
CRLN	**Carolina, Mapu**	**10.42**	**208**	*e*P		**Pn**	**08 52 14.1**	**-0.1**
RUST	**Rust De Winter**	**10.55**	**216**	*e*P		**Pn**	**08 52 17.2**	**+1.2**
TEMBE	**Tembe Elephant**	**10.55**	**194**	⇑*i*P		**Pn**	**08 52 17.3**	**+1.3**
TSWA	**Tswaing Meteor**	**10.94**	**217**	*e*P		**Pn**	**08 52 19.1**	**-2.3**
NHAM	**Northam, North**	**11.03**	**222**	*e*P		**Pn**	**08 52 23.1**	**+0.4**
NYAT	**Nyati, Northwe**	**11.21**	**219**	*e*P		**Pn**	**08 52 25.2**	**+0.2**
OPO	**Ambohidratompo**	**11.41**	**101**	Pn		**Pn**	**08 52 26.2**	**-1.7**
	comp=Z,1.9nm,0.3s,baz=270,slow=15,SNR=52							
OPO				Sn		Sn	08 54 26.3	-9.1
	comp=Z,3.5nm,0.3s,baz=336,slow=21,SNR=3.3							
OPO				LR		LR	08 56 32.9	
	comp=Z,8μm,20.4s,baz=264,slow=36							
	comp=Z,96nm,0.5s							
ABPO	**Ambohimpanom**	**11.51**	**103**	Pn		**Pn**	**08 52 26.8**	**-2.5**
ABPO	**Ambohimpanom**	**11.51**	**103**	*i* P		**Pn**	**08 52 27.9**	**-1.4**
ABPO	**Ambohimpanom**	**11.51**	**103**	P		**Pn**	**08 52 26.8**	**-2.5**
ABPO	**Ambohimpanom**	**11.51**	**103**	*e*P		**Pn**	**08 52 27.7**	**-1.6**
ABPO				*e*S		Sn	08 54 28.1	-10
ABPO				IAML			08 54 38.9	
	comp=Z,165nm,0.6s							
HRAO	**HartRAO**	**11.53**	**217**	*e*P		**Pn**	**08 52 29.8**	**+0.3**
HRAO				IAML			08 54 41.1	
	comp=Z,177nm,0.4s							
HRAO	**HartRAO**	**11.53**	**217**	*e*P		**Pn**	**08 52 30.0**	**+0.5**
VOI	**Vohitsoka**	**11.93**	**117**	Pn		**Pn**	**08 52 32.3**	**-2.6**
VOI	**Vohitsoka**	**11.93**	**117**	P		**Pn**	**08 52 32.9**	**-2.0**
VOI	**Vohitsoka**	**11.93**	**117**	P		**Pn**	**08 52 33.0**	**-2.0**
KSR	**Koster**	**11.97**	**220**	*e*P		**Pn**	**08 52 35.1**	**-0.4**
KSR				*e*S		**Sn**	**08 54 47.0**	**-2.2**
KSR				IAML			08 55 59.4	
	comp=Z,2μm,0.6s							
KSR	**Koster**	**11.97**	**220**	⇑*i*P		**Pn**	**08 52 35.9**	**+0.3**
NWCL	**Newcastle**	**12.01**	**204**	*e*P		**Pn**	**08 52 34.1**	**-1.9**
LBTB	**Lobatse**	**12.25**	**226**	Pn		**Pn**	**08 52 37.6**	**-1.7**
LBTB	**Lobatse**	**12.25**	**226**	P		**Pn**	**08 52 37.6**	**-1.7**
LBTB	**Lobatse**	**12.25**	**226**	*e*P		**Pn**	**08 52 38.8**	**-0.5**
LBTB				IAML			08 56 15.0	
	comp=Z,694nm,0.6s							
LBTB	**Lobatse**	**12.25**	**226**	⇑*i*P		**Pn**	**08 52 38.4**	**-0.8**
LBTB	**Lobatse**	**12.25**	**226**	Pn		**Pn**	**08 52 37.5**	**-1.8**
	comp=Z,17nm,0.3s,baz=40,slow=14,SNR=159							
LBTB				Sn		**Sn**	**08 54 48.5**	**-7.3**
	comp=Z,27nm,0.3s,baz=11,slow=10,SNR=7.4							
LBTB				Lg		Lg	08 56 00.2	
	comp=Z,51nm,0.3s,baz=134,slow=23,SNR=8.8							
LBTB				LR		LR	08 57 32.8	
	comp=Z,13μm,20.0s,baz=39,slow=38							
LBTB	**Lobatse**	**12.25**	**226**	*i* P		**Pn**	**08 52 39.0**	**-0.3**
PRYS	**Parys**	**12.52**	**215**	*e*P		**Pn**	**08 52 42.3**	**-0.7**
SNKL	**Senekal, Frees**	**13.40**	**210**	*e*P		**Pn**	**08 52 53.8**	**-1.3**
PMBG	**Pietermaritzbu**	**13.42**	**199**	*e*P		**Pn**	**08 52 55.4**	**+0.2**
FOMA	**Nahampoana Res**	**13.56**	**129**	Pn		**Pn**	**08 52 57.9**	**+0.8**
FOMA	**Nahampoana Res**	**13.56**	**129**	P		**Pn**	**08 52 55.0**	**-2.1**
SWZ	**Schweizer**	**13.90**	**220**	*e*P		**Pn**	**08 52 60.0**	**-1.9**
GETA	**Geita**	**14.00**	**351**	*i* P		**Pn**	**08 53 01.2**	**-2.0**
GETA				*i* S		**S**	**08 56 04.8**	**+4.5**
KIBK	**Kibwezi**	**14.60**	**11**	Pn		**Pn**	**08 53 08.4**	**-3.1**
KIBK	**Kibwezi**	**14.60**	**11**	*e*P		**Pn**	**08 53 08.1**	**-3.4**
KIBK				*i* S		S	08 56 55.5	+43
KSTD	**Kokstad**	**14.83**	**201**	*e*P		**Pn**	**08 53 15.2**	**+0.6**
KSTD				IAML			08 55 54.9	
	comp=Z,41nm,0.9s							
KSTD	**Kokstad**	**14.83**	**201**	⇑*i*P		**Pn**	**08 53 14.6**	**0.0**
BOSA	**Boshof**	**15.00**	**217**	Pn		**Pn**	**08 53 13.2**	**-3.7**
BOSA	**Boshof**	**15.00**	**217**	*i* P		**Pn**	**08 53 13.8**	**-3.0**
BOSA	**Boshof**	**15.00**	**217**	P		**Pn**	**08 53 13.2**	**-3.7**
BOSA				pmax		pmax		
	comp=Z,128nm,1.0s							
BOSA	**Boshof**	**15.00**	**217**	*e*P		**Pn**	**08 53 16.6**	**-0.2**
BOSA	**Boshof**	**15.00**	**217**	*e*P		**Pn**	**08 53 14.3**	**-2.6**
BOSA	**Boshof**	**15.00**	**217**	Pn		**Pn**	**08 53 13.1**	**-3.7**
	comp=Z,4.6nm,0.3s,baz=43,slow=12,SNR=36							
BOSA				Sn		**Sn**	**08 55 53.0**	**-10**
	comp=Z,6.4nm,0.3s,baz=322,slow=17,SNR=2.5							
BOSA				Lg		Lg	08 57 28.9	
	comp=Z,20nm,0.3s,baz=350,slow=16,SNR=3.5							
BOSA				LR		LR	08 59 08.7	
	comp=Z,14μm,19.4s,baz=44,slow=37							
BOSA	**Boshof**	**15.00**	**217**	*i* P		**Pn**	**08 53 14.3**	**-2.6**
HVD	**Gariep Dam**	**16.44**	**211**	*e*P		**Pn**	**08 53 36.1**	**+0.6**
MBAR	**Mbarara**	**16.72**	**344**			**Pn**	**08 53 37.8**	**-1.5**
MBAR	**Mbarara**	**16.72**	**344**	*i* P		Pn	08 53 29.2	-10
MBAR	**Mbarara**	**16.72**	**344**	*ce*P		**Pn**	**08 53 39.1**	**-0.2**
MBAR				pmax		pmax		
	comp=Z,90nm,1.7s							
MBAR	**Mbarara**	**16.72**	**344**	*e*P		**Pn**	**08 53 35.0**	**-4.3**
MBAR	**Mbarara**	**16.72**	**344**	Pn		**Pn**	**08 53 38.7**	**-0.6**
	comp=Z,10.0nm,0.3s,baz=186,slow=13,SNR=21							
MBAR				Sn		**Sn**	**08 56 42.1**	**-2.9**
	comp=Z,4.4nm,0.3s,baz=159,slow=17,SNR=3.8							
MBAR				Lg		Lg	08 58 23.7	
	comp=Z,24nm,0.3s,baz=233,slow=20,SNR=6.5							
MBAR				LR		LR	09 00 06.4	
	comp=Z,21μm,18.4s,baz=153,slow=37							
	comp=Z,19nm,0.2s							
MBAR	**Mbarara**	**16.72**	**344**	P		**Pn**	**08 53 38.9**	**-0.4**
MBAR				P		**Pn**	**08 53 38.9**	**-0.4**
MBAR	**Mbarara**	**16.72**	**344**	*e*P		**Pn**	**08 53 38.2**	**-1.0**
MBAR				*e*S		**Sn**	**08 56 48.3**	**+3.3**
MBAR	**Mbarara**	**16.72**	**344**	*i* P		Pn	08 53 29.8	-10
MBAR	**Mbarara**	**16.72**	**344**	*e*P		**Pn**	**08 53 38.2**	**-1.0**
MBAR				*e*S		**S**	**08 56 52.0**	**-4.2**
MBAR				IAML			08 58 40.9	
	comp=Z,382nm,0.7s							
MBAR				IAML			08 58 56.8	
	comp=Z,296nm,0.6s							
TSUM	**Tsumeb**	**17.08**	**259**	Pn		**Pn**	**08 53 41.6**	**-2.1**
TSUM	**Tsumeb**	**17.08**	**259**	*i* P		**Pn**	**08 53 43.0**	**-0.7**
TSUM	**Tsumeb**	**17.08**	**259**	*e*P		**Pn**	**08 53 42.8**	**-0.9**
TSUM	**Tsumeb**	**17.08**	**259**	*e*P		**P**	**08 53 45.0**	**-0.4**
TSUM	**Tsumeb**	**17.08**	**259**	P		**Pn**	**08 53 42.3**	**-1.4**
	comp=Z,126nm,0.8s,baz=90,slow=13,SNR=75							
TSUM				S		**Sn**	**08 56 45.8**	**-7.9**
	comp=Z,357nm,1.2s,baz=103,slow=19,SNR=4.8							
TSUM				Lg		Lg	08 58 43.4	
	comp=Z,8.6nm,0.3s,baz=109,slow=3.7,SNR=7.8							
TSUM				LR		LR	09 00 36.2	
	comp=Z,19μm,18.5s,baz=78,slow=38							
TSUM	**Tsumeb**	**17.08**	**259**	*i* P		**P**	**08 53 45.3**	**-0.2**
PKA	**Prieska**	**17.25**	**220**	*e*P		**Pn**	**08 53 44.2**	**-1.6**
UPI	**Upington**	**17.37**	**226**	*e*P		**Pn**	**08 53 46.6**	**-0.7**
WIN	**Windhoek**	**18.12**	**249**	Pn		**Pn**	**08 53 52.5**	**-4.2**
WIN				IAmb		IAmb	08 54 06.2	
	comp=Z,446nm,0.9s							
WIN	**Windhoek**	**18.12**	**249**	P		**Pn**	**08 53 52.5**	**-4.2**
WIN				pmax		pmax		
	comp=Z,446nm,0.9s							
SOE	**Somerset East**	**18.16**	**207**	P		**Pn**	**08 53 56.6**	**-0.3**
SOE	**Somerset East**	**18.16**	**207**	*e*P		**Sn**	**08 57 22.5**	**+2.9**
GRAF	**Camdeboo Natio**	**18.30**	**211**	*e*P		**P**	**08 54 03.1**	**+4.3**
GRAF	**Camdeboo Natio**	**18.30**	**211**	*e*P		pS	08 57 46.8	+0.5
GRHM	**Grahamstown, E**	**18.30**	**205**	P		**P**	**08 53 59.8**	**+1.0**
GRHM	**Grahamstown, E**	**18.30**	**205**	*e*P		**P**	**08 54 02.5**	**+3.7**
GRHM				IAML			08 54 38.5	
	comp=Z,22nm,0.6s							
GRHM	**Grahamstown, E**	**18.30**	**205**	*e*P		**P**	**08 54 03.6**	**+4.8**
BFON	**Badsfontein, M**	**18.32**	**213**	*e*P		**Pn**	**08 53 58.2**	**-0.8**
BFON	**Badsfontein, M**	**18.32**	**213**	*e*P		**P**	**08 54 02.2**	**+3.1**
BRAK	**Brakfontein**	**18.73**	**215**	*e*P		**Pn**	**08 54 06.6**	**+2.6**
BRAK	**Brakfontein**	**18.73**	**215**	*e*P		**Pn**	**08 54 06.0**	**+2.1**
ROOI	**Rooidraai Farm**	**18.94**	**212**	*e*P		**Pn**	**08 54 06.6**	**+0.1**
GRAN	**Grantham**	**19.52**	**215**	*e*P		**Pn**	**08 54 14.0**	**+0.5**
GRAN	**Grantham**	**19.52**	**215**	⇑*i*P		**Pn**	**08 54 13.8**	**+0.3**
FRAZ	**Fraserburg**	**19.68**	**217**	*e*P		**Pn**	**08 54 16.4**	**+0.9**
BUFB	**Buffelsbos**	**19.74**	**207**	*e*P		**Pn**	**08 54 18.8**	**+2.8**
BUFB				IAML			08 56 37.6	
	comp=Z,19nm,0.6s							
BUFB	**Buffelsbos**	**19.74**	**207**	*e*P		Pn	08 54 25.1	+9.2
RER	**Riviere de l'E**	**19.76**	**106**	P		**P**	**08 54 14.0**	**-0.9**
RER				IAmb		IAmb	08 54 23.0	
	comp=Z,299nm,0.9s							
LODK	**Lodwar**	**20.09**	**0**	P		Pn	08 54 19.4	-0.9
LODK	**Lodwar**	**20.09**	**0**	P		Pn	08 54 20.0	-0.3
	SNR=40							
LODK	**Lodwar**	**20.09**	**0**	*i* P		Pn	08 54 19.5	-0.8
LODK				*e*S		Sn	08 58 12.0	+5.7
LODK	**Lodwar**	**20.09**	**0**	*e*P		**P**	**08 54 19.1**	**+0.6**
LODK				*e*S		Sn	08 58 05.8	-0.6
LODK				IAML			09 00 43.1	
	comp=E,85nm,0.7s							
LODK				IAML			09 00 43.8	
	comp=N,91nm,0.8s							
LODK	**Lodwar**	**20.09**	**0**	*e*P		Pn	08 54 20.0	-0.3
MERW	**Merweville**	**20.16**	**216**	*e*P		**P**	**08 54 18.6**	**-0.7**
SUR	**Sutherland**	**20.36**	**218**	P		**P**	**08 54 21.9**	**+0.5**
SUR	**Sutherland**	**20.36**	**218**	IAMs_20		IAMs_20	09 02 00.5	
	comp=Z,25μm,19.0s							
SUR	**Sutherland**	**20.36**	**218**	*i* P		Pn	08 54 24.1	+0.6
SUR				*i* P		Pn	08 54 24.2	+0.7
SUR	**Sutherland**	**20.36**	**218**	*e*P		Pn	08 54 23.7	+0.2
SUR	**Sutherland**	**20.36**	**218**	P		Pn	08 54 23.4	-0.1
	comp=Z,323nm,1.0s,baz=41,slow=8.4,SNR=87							
SUR				S		**S**	**08 58 01.7**	**-7.8**
	comp=Z,66nm,0.7s,baz=333,slow=23,SNR=2.5							
SUR				Lg		Lg	09 00 19.4	
	comp=Z,13nm,0.3s,baz=120,slow=20,SNR=6.5							
SUR				LR		LR	09 02 19.1	
	comp=Z,13μm,19.5s,baz=41,slow=37							
	comp=Z,323nm,1.0s							
SUR	**Sutherland**	**20.36**	**218**	*i* P		Pn	08 54 24.1	+0.6
CVNA	**Calvinia**	**20.37**	**221**	⇓*i*P		Pn	08 54 23.3	-0.3
KOMG	**Komaggas**	**20.87**	**229**	*e*P		**P**	**08 54 23.7**	**-3.1**
KOMG	**Komaggas**	**20.87**	**229**	*e*P		**P**	**08 54 27.1**	**+0.3**
DILA	**Dilla**	**23.26**	**7**	*e*P		**P**	**08 54 54.0**	**+1.4**
DILA				*e*S		Sn	08 59 15.2	-7.5
FURI	**Furi**	**25.74**	**8**	P		**P**	**08 55 17.2**	**+1.4**
FURI				IAmb		IAmb	08 55 28.3	
	comp=Z,110nm,1.1s							
FURI	**Furi**	**25.74**	**8**	IAMs_20		IAMs_20	09 05 17.4	
	comp=Z,13μm,19.0s							
FURI	**Furi**	**25.74**	**8**	*e*P		**P**	**08 55 16.7**	**+1.0**
FURI				*e*S		**S**	**08 59 55.0**	**+10**
WLRA	**Wolmera**	**25.94**	**8**	*e*P		**P**	**08 55 15.0**	**-2.6**
WLRA				*e*S		S	09 00 06.4	+18
HARA	**HARA**	**27.07**	**17**	*e*P		**P**	**08 55 25.9**	**-1.8**
HARA				*e*S		**S**	**09 00 05.3**	**-0.3**
ATD	**Arta Tunnel**	**29.10**	**15**	P		**P**	**08 55 44.4**	**-1.3**
ATD	**Arta Tunnel**	**29.10**	**15**	*e*P		**P**	**08 55 45.5**	**-0.1**
ATD				*e*S		**S**	**09 00 43.5**	**+6.2**
ABTO	**Aybut**	**38.26**	**28**	P		**P**	**08 57 06.1**	**+0.9**
	SNR=14							
RBK	**Rabkut**	**38.81**	**29**	P		**P**	**08 57 11.0**	**+1.2**
	SNR=19							
WHFO	**Wadi Hawf**	**38.97**	**29**	P		**P**	**08 57 12.0**	**+0.9**
	SNR=20							
WHFO				P		**P**	**08 57 12.0**	**+0.9**
	SNR=20							
DMTO	**DMTO**	**39.35**	**30**	P		**P**	**08 57 14.0**	**-0.2**
DMTO				P		**P**	**08 57 14.0**	**-0.2**
SHEL	**Horse Pasture**	**39.40**	**265**	IAMs_20		IAMs_20	09 12 55.3	
	comp=Z,4μm,20.0s							
DOK	**Doka**	**39.74**	**29**	P		**P**	**08 57 18.0**	**+0.5**
	SNR=52							
DOK				P		**P**	**08 57 18.0**	**+0.5**
	SNR=52							
KAAM	**Kaadhehdhoo**	**40.88**	**69**	P		**P**	**08 57 27.4**	**+0.3**
KAAM				IAmb		IAmb	08 57 47.6	
	comp=Z,176nm,1.1s							
RAYN	**Ar Rayn**	**41.28**	**14**	P		**P**	**08 57 30.2**	**0.0**
RAYN	**Ar Rayn**	**41.28**	**14**	P		**P**	**08 57 30.2**	**0.0**
RAYN				pmax		pmax		
	comp=Z,15nm,1.0s							
RAYN	**Ar Rayn**	**41.28**	**14**	*i* P		**P**	**08 57 30.8**	**+0.5**
	SNR=14							
RAYN	**Ar Rayn**	**41.28**	**14**	P		**P**	**08 57 30.9**	**+0.7**
DQM	**DQM**	**42.50**	**32**	P		**P**	**08 57 39.7**	**-0.6**
MHTO	**MHTO**	**43.61**	**31**	P		**P**	**08 57 49.1**	**-0.1**
	SNR=36							
MHTO				P		**P**	**08 57 49.1**	**-0.1**
	SNR=36							
MHTO				P		**P**	**08 57 49.1**	**-0.1**
	SNR=36							
UMZA	**Um Al Zommool**	**43.78**	**27**	P		**P**	**08 57 50.4**	**-0.1**
UMZA				P		**P**	**08 57 50.4**	**-0.1**
SMRA	**Abu-Samra**	**43.95**	**20**	P		**P**	**08 57 52.0**	**+0.2**
	SNR=14							
TRNA	**Turayna**	**44.08**	**21**	P		**P**	**08 57 54.0**	**+1.1**
	SNR=9.2							
HMDM	**Hanimaadhoo**	**44.13**	**61**	IAMs_20		IAMs_20	09 12 30.1	
	comp=Z,4μm,20.0s							
TORD	**Torodi Ar. Bea**	**44.62**	**310**	P		**P**	**08 57 57.9**	**+0.4**
BSY	**Bisya**	**44.73**	**29**	P		**P**	**08 57 59.0**	**+0.8**
	SNR=44							
BSY				P		**P**	**08 57 59.0**	**+0.8**
	SNR=44							
JMDO	**Jabal Madar**	**44.84**	**30**	P		**P**	**08 57 60.0**	**+0.9**
	SNR=14							
JRN	**Qarnain Island**	**44.85**	**23**	P		**P**	**08 57 59.5**	**+0.5**
	SNR=5.6							
ARQ	**Araqi**	**44.93**	**28**	P		**P**	**08 58 01.0**	**+1.2**
	SNR=29							
ARQ				P		**P**	**08 58 01.0**	**+1.2**
	SNR=29							
SHMA	**Al-Shehemyia**	**45.03**	**20**	P		**P**	**08 58 02.0**	**+1.5**
	SNR=6.7							
ALNE	**Al Ain**

TAM	**Tamanrasset**	**48.99**	**323**	P	**P**	**08 58 32.5**	**+0.8**			
TAM				IAmb	IAmb	08 58 42.8				
comp=Z,62nm,1.0s										
TAM	**Tamanrasset**	**48.99**	**323**	P	**P**	**08 58 32.5**	**+0.8**			
TAM				pmax	pmax					
comp=Z,62nm,1.0s										
MMAI	**Mount Meron Ar**	**49.53**	**0**	P	**P**	**08 58 34.7**	**-0.8**			
comp=Z,22nm,0.9s,baz=176,slow=9.2,SNR=7.8										
MMAI				LR	LR	09 20 22.0				
comp=Z,2µm,18.2s,baz=124,slow=37										
comp=Z,22nm,0.9s										
PALK	**Pallekele**	**50.82**	**66**	P	**P**	**08 58 44.7**	**-1.0**			
PALK				IAmb	IAmb	08 58 54.5				
comp=Z,54nm,1.1s										
PALK	**Pallekele**	**50.82**	**66**	⇑P	**P**	**08 58 44.7**	**-1.0**			
PALK				*e*		08 58 54.7				
PALK	**Pallekele**	**50.82**	**66**	LR	LR	09 16 42.3				
comp=Z,3µm,18.5s,baz=341,slow=32										
CSS	**Mathiatis**	**51.51**	**358**	P	**P**	**08 58 51.1**	**+0.7**			
CSS				IAmb	IAmb	08 59 01.1				
comp=Z,120nm,1.5s										
ZKR	**Zakros**	**52.35**	**351**	P	**P**	**08 58 56.8**	**+0.2**			
KARP	**Karpathos**	**52.63**	**352**	IAMs_20	IAMs_20	09 20 23.9				
comp=Z,3µm,19.0s										
KARP	**Karpathos**	**52.63**	**352**	P	**P**	**08 58 58.0**	**-0.8**			
IDI	**Anoyia**	**52.74**	**349**	P	**P**	**08 59 00.1**	**+0.5**			
KSL	**Kastellorizon**	**52.94**	**354**	P	P	08 59 10.3	+9.3			
ELL	**Elmali**	**53.50**	**355**	IAMs_20	IAMs_20	09 21 54.8				
comp=Z,4µm,21.0s										
GAZ	**Gaziantep**	**53.70**	**2**	P	**P**	**08 59 07.2**	**+0.5**			
GAZ				IAmb	IAmb	08 59 18.8				
comp=Z,68nm,1.1s										
GAZ				IAMs_20	IAMs_20	09 21 32.9				
comp=Z,4µm,18.0s										
MAW	**Mawson**	**53.79**	**167**	P	**P**	**08 59 07.9**	**+1.0**			
comp=Z,38nm,1.1s,baz=333,slow=6.8,SNR=5.2										
MAW				LR	LR	09 19 53.9				
comp=Z,1000nm,18.4s,baz=315,slow=34										
comp=Z,38nm,1.1s										
APE	**Apeiranthos**	**54.37**	**350**	⇓P	**P**	**08 59 12.0**	**+0.5**			
APE	**Apeiranthos**	**54.37**	**350**	P	**P**	**08 59 12.1**	**+0.5**			
APE	**Apeiranthos**	**54.37**	**350**	*i* P	**P**	**08 59 11.5**	**0.0**			
APE				pmax	pmax					
comp=Z,67nm,0.9s										
HYB	**Hyderabad**	**54.46**	**53**	*e*P	**P**	**08 59 12.3**	**-0.2**			
HYB				IVmB_BB		08 59 21.7				
comp=Z,553nm,4.6s										
HYB				IVMs_BB	IVMs_BB	09 19 34.2				
comp=Z,1µm,19.2s										
ISP	**Isparta**	**54.51**	**355**	*i* P	**P**	**08 59 13.7**	**+1.1**			
ISP				pmax	pmax					
comp=Z,45nm,1.0s										
TATN	**Tataouine**	**54.54**	**334**	P	**P**	**08 59 14.1**	**+1.2**			
TATN				IAmb	IAmb	08 59 22.8				
comp=Z,71nm,1.1s										
TATN				IAMs_20	IAMs_20	09 23 48.4				
comp=Z,4µm,18.0s										
BNN	**Bunyan**	**55.35**	**0**	P	**P**	**08 59 19.3**	**+0.5**			
BNN				IAMs_20	IAMs_20	09 23 01.6				
comp=Z,5µm,18.0s										
GURO	**Guroymak-BITLI**	**55.41**	**6**	IAMs_20	IAMs_20	09 23 43.8				
comp=Z,5µm,18.0s										
CHOS	**Chios island**	**55.58**	**351**	P	**P**	**08 59 19.2**	**-1.1**			
ELIB	**Princess Elisa**	**55.60**	**185**	*d*P	**P**	**08 59 20.9**	**+0.8**			
comp=Z,29nm,1.1s										
ARPR	**Arapgir-MALATY**	**55.66**	**3**	P	**P**	**08 59 21.4**	**+0.5**			
ARPR				IAmb	IAmb	08 59 32.6				
comp=Z,41nm,0.9s										
ARPR				IAMs_20	IAMs_20	09 24 18.7				
comp=Z,3µm,18.0s										
NVL	**N'lazarevskaya**	**55.81**	**189**	*e*P	**P**	**08 59 21.8**	**+0.3**			
NVL				*e*S	S	**09 07 07.7**	**-0.2**			
NVL				pmax	pmax					
comp=Z,99nm,1.5s										
NVL				smax	smax					
comp=N,2µm,14.2s										
WDD	**Wied Dalam**	**55.94**	**340**	IAMs_20	IAMs_20	09 24 48.1				
comp=Z,5µm,20.0s										
BR131	**Keskin Array S**	**56.25**	**358**	P	**P**	**08 59 25.3**	**+0.1**			
BR131	**Keskin Array S**	**56.25**	**358**	*i* P	**P**	**08 59 25.6**	**+0.5**			
BRTR	**Keskin Array B**	**56.25**	**358**	P	**P**	**08 59 24.8**	**-0.3**			
BRTR	**Keskin Array B**	**56.25**	**358**	*ce*P	**P**	**08 59 25.6**	**+0.5**			
BRTR				pmax	pmax					
comp=Z,23nm,0.9s										
BRTR	**Keskin Array B**	**56.25**	**358**	P	**P**	**08 59 25.3**	**+0.1**			
comp=Z,23nm,0.9s,baz=179,slow=8.1,SNR=39										
BRTR				LR	LR	09 25 22.7				
comp=Z,2µm,18.0s,baz=182,slow=38										
comp=Z,23nm,0.9s										
AGG	**Agios Georgios**	**56.85**	**348**	P	**P**	**08 59 29.4**	**+0.1**			
AGG	**Agios Georgios**	**56.85**	**348**	P	**P**	**08 59 29.4**	**+0.1**			
AGG				pmax	pmax					
comp=Z,24nm,0.9s										
EZN	**Ezine**	**56.95**	**352**	P	**P**	**08 59 29.8**	**-0.2**			
EZN	**Ezine**	**56.95**	**352**	P	**P**	**08 59 29.7**	**-0.2**			
HRA	**Herat**	**56.97**	**26**	P	**P**	**08 59 29.3**	**-1.2**			
HRA				IAmb	IAmb	08 59 37.1				
comp=Z,93nm,1.1s										
MDUB	**Mudurnu**	**57.10**	**356**	P	**P**	**08 59 31.3**	**+0.2**			
GNI	**Garni**	**57.32**	**9**	IAMs_20	IAMs_20	09 25 00.3				
comp=Z,2µm,19.0s										
GNI	**Garni**	**57.32**	**9**	*i* P	**P**	**08 59 33.0**	**+0.2**			
GNI				pmax	pmax					
comp=Z,12nm,0.9s										
GNI	**Garni**	**57.32**	**9**	P	**P**	**08 59 33.4**	**+0.6**			
GNI	**Garni**	**57.32**	**9**	LR	LR	09 25 12.4				
comp=Z,2µm,19.6s,baz=196,slow=37										
THL	**Klokotos Trika**	**57.43**	**348**	P	**P**	**08 59 33.2**	**-0.2**			
PAIG	**Paliouri**	**57.47**	**349**	P	**P**	**08 59 34.1**	**+0.5**			
VAE	**Valguarnera**	**57.47**	**340**	LR	LR	09 24 13.0				
comp=Z,3µm,19.6s,baz=150,slow=36										
CEL	**Celeste**	**57.73**	**342**	IAMs_20	IAMs_20	09 25 32.4				
comp=Z,3µm,20.0s										
KEST	**Kesra**	**57.76**	**335**	P	**P**	**08 59 36.5**	**+0.6**			
KEST				IAmb	IAmb	08 59 39.3				
comp=Z,65nm,1.1s										
KEST				IAMs_20	IAMs_20	09 26 20.7				
comp=Z,3µm,19.0s										
KEST	**Kesra**	**57.76**	**335**	P	**P**	**08 59 36.3**	**+0.4**			
comp=Z,43nm,1.0s,baz=144,slow=2.4,SNR=24										
KEST				LR	LR	09 26 22.6				
comp=Z,3µm,18.3s,baz=111,slow=38										
comp=Z,43nm,1.0s										
OUR	**Ouranopolis**	**57.81**	**350**	P	**P**	**08 59 35.7**	**-0.3**			
ISK	**Istanbul-Kandi**	**57.86**	**354**	P	**P**	**08 59 36.9**	**+0.6**			
ENEZ	**Enez**	**57.87**	**352**	P	**P**	**08 59 36.8**	**+0.4**			
ALN	**Alexandroupoli**	**58.04**	**352**	P	P	08 59 32.3	-5.3			
KEK	**Kerkira**	**58.06**	**346**	IAMs_20	IAMs_20	09 23 38.0				
comp=Z,3µm,21.0s										
DIKM	**Dikmen**	**58.15**	**360**	⇑P	**P**	**08 59 38.1**	**-0.3**			
HORT	**Hortiatis**	**58.22**	**349**	P	**P**	**08 59 38.9**	**-0.1**			
TIP	**Timpagrande**	**58.34**	**343**	⇓P	**P**	**08 59 41.3**	**+1.4**			
TROLL	**Troll, Antarti**	**58.46**	**191**	⇑P	**P**	**08 59 42.8**	**+2.4**			
comp=Z,2µm,0.8s										
GEYT	**Alibeck**	**58.48**	**21**	P	**P**	**08 59 40.2**	**-0.7**			
GEYT				IAmb	IAmb	08 59 48.2				
comp=Z,55nm,1.1s										
GEYT	**Alibeck**	**58.48**	**21**	P	**P**	**08 59 40.2**	**-0.7**			
GEYT				pmax	pmax					
comp=Z,55nm,1.2s										
GEYT	**Alibeck**	**58.48**	**21**	P	**P**	**08 59 39.6**	**-1.3**			
comp=Z,24nm,1.1s,baz=205,slow=6.4,SNR=30										
GEYT				LR	LR	09 25 46.6				
comp=Z,2µm,21.3s,baz=201,slow=37										
comp=Z,24nm,1.1s										
GYA0	**ALIBECK ARRAY**	**58.48**	**21**	P	**P**	**08 59 40.6**	**-0.3**			
GYA0B	**ALIBECK ARRAY**	**58.48**	**21**	P	**P**	**08 59 40.2**	**-0.6**			
GYA0B				IAmb	IAmb	08 59 48.8				
comp=Z,39nm,1.0s										
GYA0B				IAMs_20	IAMs_20	09 25 35.8				
comp=Z,3µm,20.0s										
TRLG	**Trialeti**	**58.60**	**8**	P	**P**	**08 59 42.2**	**+0.5**			
SRS	**Serrai**	**58.64**	**350**	P	**P**	**08 59 39.8**	**-2.0**			
GRG	**Griva**	**58.70**	**349**	P	**P**	**08 59 42.8**	**+0.5**			
KBN	**Korca**	**58.71**	**347**	IAMs_20	IAMs_20	09 26 12.8				
comp=Z,3µm,20.0s										
FNA	**Florina**	**58.74**	**348**	P	**P**	**08 59 43.4**	**+0.8**			
KNT	**Kendrikon**	**58.81**	**349**	P	**P**	**08 59 43.0**	**0.0**			
VLO	**Vlora**	**58.85**	**346**	IAMs_20	IAMs_20	09 24 15.6				
comp=Z,3µm,22.0s										
EDRB	**Edirne**	**58.88**	**352**	P	**P**	**08 59 43.6**	**+0.1**			
VAY	**Valandovo**	**59.02**	**349**	*i* P	**P**	**08 59 45.5**	**+1.0**			
OHR	**Ohrid**	**59.17**	**347**	*i* P	**P**	**08 59 47.5**	**+1.9**			
SNAA	**Sanae**	**59.30**	**193**	P	**P**	**08 59 48.6**	**+2.5**			
SNAA				IAmb	IAmb	08 59 55.7				
comp=Z,82nm,1.3s										
SNAA	**Sanae**	**59.30**	**193**	*ce*P	P	08 59 52.2	+6.0			
SNAA				pmax	pmax					
comp=Z,71nm,1.3s										
SNAA	**Sanae**	**59.30**	**193**	⇑P	**P**	**08 59 48.8**	**+2.6**			
comp=Z,600nm,1.0s										
SNAA	**Sanae**	**59.30**	**193**	P	**P**	**08 59 47.1**	**+1.0**			
comp=Z,26nm,1.3s,baz=30,slow=8.1,SNR=3.4										
comp=Z,26nm,1.3s										
PLD	**Plovdiv**	**59.46**	**351**	*e*P	**P**	**08 59 47.8**	**+0.3**			
JMB	**Yambol**	**59.55**	**352**	*e*P	**P**	**08 59 48.3**	**+0.2**			
ONI	**Oni**	**59.55**	**7**	P	**P**	**08 59 46.5**	**-1.7**			
TIR	**Tirane**	**59.60**	**347**	P	**P**	**08 59 51.1**	**+2.6**			
TIR				pmax	pmax					
comp=Z,304nm,1.0s										
MATE	**Matera**	**59.72**	**344**	⇑P	**P**	**08 59 50.4**	**+1.1**			
VNA2	**Neumayer--Watz**	**59.84**	**195**	⇑P	**P**	**08 59 52.4**	**+2.6**			
comp=Z,18nm,0.9s,baz=56,slow=6.2										
SKO	**Skopje**	**59.87**	**348**	*i* P	**P**	**08 59 51.4**	**+1.1**			
VNA1	**Neumayer--Stat**	**59.88**	**195**	⇑P	**P**	**08 59 50.8**	**+0.8**			
comp=Z,39nm,0.8s										
PGB	**Panagyurishte**	**59.90**	**350**	*e*P	**P**	**08 59 50.6**	**0.0**			
ELND	**Elena**	**60.06**	**352**	⇓P	**P**	**08 59 51.6**	**-0.1**			
PRD	**Provadia**	**60.10**	**353**	*e*P	**P**	**08 59 52.9**	**+1.0**			
NEUR	**Neytrino**	**60.14**	**6**	*i* P	**P**	**08 59 52.6**	**+0.2**			
NEUR				pmax	pmax					
comp=Z,25nm,1.4s										
SOC	**Sochi**	**60.21**	**4**	*e*P	**P**	**08 59 50.5**	**-2.1**			
SOC				*e*		09 02 03.9				
SOC				*e*PPP	PPP	09 03 28.3				
SOC				*e*S	**S**	**09 08 03.2**	**-2.8**			
SOC				*e*SS	**SS**	**09 12 02.0**	**-1.8**			
SOC				MLR	MLR					
comp=Z,946nm,16.0s										
MBO	**M'Bour**	**60.23**	**298**	IAMs_20	IAMs_20	09 22 37.9				
comp=Z,2µm,20.0s										
PUK	**Puka**	**60.26**	**347**	IAMs_20	IAMs_20	09 27 12.2				
comp=Z,2µm,21.0s										
KBL	**Kabul**	**60.27**	**32**	P	**P**	**08 59 52.8**	**-0.7**			
KBL				IAmb	IAmb	09 00 01.1				
comp=Z,58nm,1.1s										
KBL	**Kabul**	**60.27**	**32**	P	**P**	**08 59 52.8**	**-0.7**			
KBL				pmax	pmax					
comp=Z,58nm,1.1s										
KBL	**Kabul**	**60.27**	**32**	P	**P**	**08 59 53.6**	**+0.1**			
SNR=31										
KBL				P	**P**	**08 59 53.6**	**+0.1**			
SNR=31										
SZH	**Strazhitsa**	**60.38**	**352**	*e*P	**P**	**08 59 54.2**	**+0.4**			
GROC	**Groznyy**	**60.46**	**9**	*e*P	**P**	**08 59 53.4**	**-1.0**			
GROC				*e*		09 00 39.6				
GROC				pmax	pmax					
comp=Z,102nm,1.0s										
PSN	**Preselentsi**	**60.50**	**354**	*e*P	**P**	**08 59 55.2**	**+0.6**			
MAK	**Makhachkala**	**60.50**	**10**	*e*P	**P**	**08 59 51.6**	**-3.0**			
MAK				*e*S	**S**	**09 08 06.1**	**-3.6**			
MAK				pmax	pmax					
comp=Z,193nm,1.3s										
MAK				MLR	MLR					
comp=Z,2µm,15.0s										
RAZG	**Razgrad**	**60.61**	**353**	⇑P	**P**	**08 59 56.0**	**+0.6**			
VNA3	**Neumayer Olymp**	**60.61**	**195**	⇑P	**P**	**08 59 55.0**	**-0.1**			
comp=Z,15nm,0.6s										
KBZ	**Khabaz**	**60.62**	**6**	*ce*P	**P**	**08 59 55.5**	**+0.1**			
KBZ				pmax	pmax					
comp=Z,12nm,0.9s										
KBZ				MLR	MLR					
comp=Z,4µm,16.0s										
KBZ	**Khabaz**	**60.62**	**6**	P	**P**	**08 59 55.0**	**-0.4**			
comp=Z,5.9nm,1.0s,baz=181,slow=8.8,SNR=12										
KBZ				LR	LR	09 27 13.4				
comp=Z,3µm,18.5s,baz=190,slow=37										
comp=Z,5.9nm,1.0s										
PLVB	**Pleven**	**60.69**	**351**	⇑P	**P**	**08 59 56.5**	**+0.6**			
MPEP	**Malo Peshtene**	**60.80**	**350**	*e*P	**P**	**08 59 57.2**	**+0.6**			
KIV	**Kislovodsk**	**60.82**	**6**	⇑P	**P**	**08 59 57.3**	**+0.3**			
KIV	**Kislovodsk**	**60.82**	**6**	P	**P**	**08 59 56.5**	**-0.4**			
KIV				IAmb	IAmb	09 00 07.8				
comp=Z,36nm,1.1s										
KIV	**Kislovodsk**	**60.82**	**6**	*e*P	**P**	**08 59 56.8**	**-0.1**			
KIV				*e*		09 00 40.9				
KIV				*e*S	**S**	**09 08 13.2**	**-0.9**			
KIV				pmax	pmax					
comp=Z,21nm,1.0s										
KIV				MLR	MLR					
comp=Z,2µm,17.0s										
KIV	**Kislovodsk**	**60.82**	**6**	P	**P**	**08 59 56.9**	**-0.1**			
KIV	**Kislovodsk**	**60.82**	**6**	P	**P**	**08 59 57.2**	**+0.3**			
KIV				P	**P**	**08 59 57.2**	**+0.3**			
KVAR	**Kislovodsk Arr**	**60.82**	**6**	LR	LR	09 27 34.0				
comp=Z,3µm,18.1s,baz=90,slow=37										
EFOR	**EFORIE**	**60.89**	**354**	⇑P	**P**	**08 59 58.7**	**+1.5**			
MFTR	**Murfatlar**	**61.00**	**354**	⇑P	**P**	**08 59 58.5**	**+0.5**			
VALD	**Valchedram**	**61.17**	**350**	P	**P**	**08 59 59.0**	**-0.1**			
BLKB	**Belogradchik**	**61.23**	**350**	⇑P	**P**	**08 59 59.7**	**0.0**			
TIRR	**Tirgusor**	**61.28**	**354**	⇑P	**P**	**09 00 00.5**	**+0.6**			
TIRR	**Tirgusor**	**61.28**	**354**	P	**P**	**09 00 00.2**	**+0.3**			
TIRR				IAmb	IAmb	09 00 06.7				
comp=Z,79nm,1.1s										
TIRR				IAMs_20	IAMs_20	09 29 22.0				
comp=Z,2µm,19.0s										
TIRR	**Tirgusor**	**61.28**	**354**	⇑P	**P**	**09 00 00.5**	**+0.6**			
ANN	**Anapa**	**61.32**	**2**	*e*P	**P**	**08 59 57.1**	**-3.0**			
ANN				*e**PP	**pP**	**09 00 00.6**	**-3.8**			
ANN				*e*S	**S**	**09 08 15.7**	**-4.5**			
ANN				pmax	pmax					
comp=Z,63nm,1.0s										
ANN				MLR	MLR					
comp=Z,911nm,13.0s										
ANN				MLR	MLR					
comp=E,442nm,12.0s										
ANN				MLR	MLR					
comp=N,199nm,9.0s										
SIM	**Simferopol'**	**61.45**	**359**	*e*P	P	09 00 05.9	+4.8			
SIM				*e*S	**S**	**09 08 20.3**	**-1.6**			
SIM				pmax	pmax					
comp=Z,31µm,1.0s										
SIM				smax	smax					
comp=N,122nm,15.8s										
TPGR	**Topolog**	**61.68**	**354**	⇑P	**P**	**09 00 02.7**	**+0.1**			
NIL	**Nilore**	**61.82**	**36**	P	**P**	**09 00 03.9**	**0.0**			
NIL				IAmb	IAmb	09 00 25.1				
comp=Z,46nm,1.1s										
NIL	**Nilore**	**61.82**	**36**	P	**P**	**09 00 03.9**	**0.0**			
NIL				pmax	pmax					
comp=Z,46nm,1.1s										
NIL				MLR	MLR					
comp=Z,2µm,19.0s										
NIL	**Nilore**	**61.82**	**36**	P	**P**	**09 00 04.6**	**+0.8**			
NIL				P	**P**	**09 00 04.6**	**+0.8**			
GOF	**Gofitskoye**	**61.95**	**6**	*ce*P	**P**	**09 00 04.1**	**-0.3**			
CFR	**Carcaliu**	**62.02**	**354**	⇑P	**P**	**09 00 05.6**	**+0.8**			
CFR	**Carcaliu**	**62.02**	**354**	⇑P	**P**	**09 00 05.6**	**+0.8**			
ISR	**Istrita**	**62.13**	**353**	⇑P	**P**	**09 00 07.3**	**+1.6**			
ISR	**Istrita**	**62.13**	**353**	⇑P	**P**	**09 00 07.3**	**+1.6**			
MDT	**Midelt**	**62.40**	**322**	LR	LR	09 29 05.0				
comp=Z,3µm,18.4s,baz=144,slow=38										
CAMP	**Campotosto**	**62.40**	**342**	IAMs_20	IAMs_20	09 28 49.2				
comp=Z,2µm,20.0s										
HERR	**Herculane**	**62.50**	**350**	⇑P	**P**	**09 00 08.8**	**+0.7**			
MDVR	**Moldovita**	**62.53**	**349**	⇑P	**P**	**09 00 08.6**	**+0.3**			
BISRR	**Bisoca**	**62.54**	**353**	⇑P	**P**	**09 00 09.8**	**+1.4**			
MLR	**Muntele Rosu**	**62.57**	**353**	⇓P	**P**	**09 00 09.8**	**+1.1**			
MLR	**Muntele Rosu**	**62.57**	**353**	P	**P**	**09 00 09.8**	**+1.1**			
MLR	**Muntele Rosu**	**62.57**	**353**	LR	LR	09 31 55.6				
comp=Z,818nm,18.1s,baz=185,slow=40										
ARR	**Arges**	**62.63**	**352**	⇓P	**P**	**09 00 09.5**	**+0.5**			
VOIR		**62.64**	**352**	⇓P	**P**	**09 00 09.4**	**+0.2**			
VOIR		**62.64**	**352**	P	**P**	**09 00 09.3**	**+0.2**			
CESX	**Cesi**	**62.72**	**341**	P	**P**	**09 00 09.5**	**-0.1**			
CESX				IAmb	IAmb	09 00 18.2				
comp=Z,59nm,1.3s										
LOT	**Lotru**	**62.83**	**351**	⇑P	**P**	**09 00 11.5**	**+1.1**			
PLOR	**Plostina**	**62.84**	**353**	⇑P	**P**	**09 00 10.8**	**+0.4**			
PLOR	**Plostina**	**62.84**	**353**	P	**P**	**09 00 10.8**	**+0.4**			
VRI	**Vrincioaia**	**62.85**	**353**	⇑P	**P**	**09 00 11.9**	**+1.4**			
VRI	**Vrincioaia**	**62.85**	**353**	P	**P**	**09 00 11.8**	**+1.4**			
COVR	**Voineasa-Covas**	**62.89**	**353**	⇓P	**P**	**09 00 11.4**	**+0.6**			
GUMA	**Gualdo di Mace**	**62.91**	**342**	IAMs_20	IAMs_20	09 29 37.2				
comp=Z,2µm,19.0s										
GZR	**Gura Zlata**	**62.94**	**350**	⇑P	**P**	**09 00 11.5**	**+0.4**			
GZR	**Gura Zlata**	**62.94**	**350**	P	**P**	**09 00 11.5**	**+0.4**			
GHRR		**62.97**	**354**	⇓P	**P**	**09 00 12.4**	**+1.2**			
SNSI	**Sinabang, Aceh**	**63.10**	**78**	P	**P**	**09 00 14.7**	**+1.9**			
comp=Z,130nm,1.1s										
DOPR	**Dopca**	**63.11**	**352**	⇑P	**P**	**09 00 12.0**	**-0.2**			
TURR	**Turia**	**63.12**	**353**	⇓P	**P**	**09 00 12.4**	**+0.1**			
OZUR		**63.19**	**353**	⇓P	**P**	**09 00 12.5**	**-0.2**			
FRGS	**Fruska Gora**	**63.26**	**348**	⇑P	**P**	**09 00 14.2**	**+1.1**			
BZS	**Buzias**	**63.35**	**349**	⇑P	**P**	**09 00 15.2**	**+1.5**			
BZS	**Buzias**	**63.35**	**349**	P	**P**	**09 00 15.2**	**+1.5**			
SURR	**Surduc**	**63.40**	**350**	⇑P	**P**	**09 00 15.4**	**+1.4**			
MAHO	**Mahon**	**63.41**	**334**	IAMs_20	IAMs_20	09 31 46.0				
comp=Z,3µm,19.0s										
VASR	**Vaslui**	**63.51**	**354**	⇓P	**P**	**09 00 14.9**	**+0.2**			
SIMJ	**Simiganj**	**63.53**	**29**	P	**P**	**09 00 14.6**	**-0.7**			
CHGR	**Chuyangaron**	**63.60**	**29**	P	**P**	**09 00 14.9**	**-0.8**			
CHGR				IAMs_20	IAMs_20	09 31 21.2				
comp=Z,2µm,18.0s										
CHGR	**Chuyangaron**	**63.60**	**29**	P	**P**	**09 00 14.9**	**-0.8**			
CHGR				pmax	pmax					
comp=Z,195nm,1.1s										
CHGR				MLR	MLR					
comp=Z,2µm,18.0s										
MILM	**Milestii Mici**	**63.69**	**355**	⇓*i* P	**P**	**09 00 15.5**	**-0.4**			
comp=Z,260nm,3.9s										
MILM	**Milestii Mici**	**63.69**	**355**	*d* *i* P	**P**	**09 00 15.5**	**-0.4**			
MILM				*e*		09 00 51.0				
MILM				*i* S	**S**	**09 08 52.0**	**+2.1**			
MILM				*e*PS	**PnS**	**09 09 14.0**	**+7.0**			
MILM				pmax	pmax					
comp=Z,260nm,3.9s										
MILM				smax	smax					
comp=E,430nm,6.5s										
KIS	**Kishinev**	**63.77**	**355**	*e*P	**P**	**09 00 15.7**	**-0.7**			
comp=E,120nm,5.5s										
KIS				*e*S	**S**	**09 08 55.0**	**+4.2**			
KIS	**Kishinev**	**63.77**	**355**	*e*P	**P**	**09 00 15.7**	**-0.7**			
KIS				*e*		09 00 22.0				
KIS				*e*S	**S**	**09 08 55.0**	**+4.2**			
KIS				*e*PS	**PnS**	**09 09 14.0**	**+5.9**			
KIS				pmax	pmax					
comp=Z,120nm,5.5s										
MLSI	**Meulaboh, Aceh**	**63.82**	**77**	P	**P**	**09 00 19.2**	**+1.7**			
comp=Z,90nm,1.1s										
GSI	**Gunungsitoli**	**63.90**	**80**	P	**P**	**09 00 18.5**	**+0.4**			
GSI				IAMs_20	IAMs_20	09 24 12.1				
comp=Z,3µm,19.0s										
GSI	**Gunungsitoli**	**63.90**	**80**	P	**P**	**09 00 19.3**	**+1.2**			
GSI	**Gunungsitoli**	**63.90**	**80**	P	**P**	**09 00 20.1**	**+2.0**			
comp=Z,74nm,1.3s,comp=Z,6µm										
SIRR	**Siria**	**63.97**	**349**	⇑P	**P**	**09 00 19.1**	**+1.3**			
CART	**Cartagena**	**64.00**	**328**	IAMs_20	IAMs_20	09 31 33.9				
comp=Z,2µm,21.0s										
CJR	**Cluj-Napoca**	**64.09**	**351**	⇑P	**P**	**09 00 19.7**	**+1.0**			
CJR	**Cluj-Napoca**	**64.09**	**351**	⇑P	**P**	**09 00 19.7**	**+1.0**			
MARR	**Marisel-Cluj**	**64.13**	**351**	⇓P	**P**	**09 00 19.6**	**+0.6**			
PBSI	**Pulau Batu**	**64.13**	**82**	P	**P**	**09 00 21.7**	**+2.1**			
comp=Z,123nm,1.1s										
DRGR		**64.31**	**350**	⇑P	**P**	**09 00 21.5**	**+1.3**			
DRGR		**64.31**	**350**	P	**P**	**09 00 21.4**	**+1.3**

MTLF Montolieu 67.12 334 *e*P **P** **09 00 39.9 +1.6**
MTLF pmax pmax
comp=Z,27nm,1.2s
LANS Liptovska Anna 67.15 349 *e*P **P** **09 00 39.4 +1.0**
LANS pmax pmax
comp=Z,22nm,1.1s
LANS Liptovska Anna 67.15 349 *e*P **P** **09 00 39.4 +1.0**
PAB San Pablo 67.19 328 IAMs_20 IAMs_20 09 32 37.4
comp=Z,3µm,18.0s
PAB San Pablo 67.19 328 P **P** **09 00 40.3 +1.4**
JAVC Velka Javorina 67.23 347 *e*P **P** **09 00 39.5 +0.6**
WTTA Wattenberg 67.23 343 *i* P **P** **09 00 40.2 +1.1**
comp=Z,48nm,1.2s,SNR=13
NIE Niedzica 67.26 349 *e*P **P** **09 00 41.7 +2.6**
NIE Niedzica 67.26 349 P **P** **09 00 40.2 +1.2**
FETA Feichten 67.28 342 *i* P **P** **09 00 40.4 +1.1**
comp=Z,69nm,1.1s,SNR=25
MNAI Manna 67.31 88 IAMs_20 IAMs_20 09 26 19.5
comp=Z,1µm,18.0s
MNAI Manna 67.31 88 P **P** **09 00 41.8 +1.6**
MNAI Manna 67.31 88 P **P** **09 00 42.3 +2.1**
comp=Z,206nm,1.0s
WATA Walderalm 67.31 343 *e*P **P** **09 00 40.5 +1.0**
comp=Z,38nm,1.3s,SNR=7.1
SQTA Sankt Quirin 67.31 342 *e*P **P** **09 00 40.6 +1.1**
comp=Z,58nm,1.1s,SNR=18
DAVOX Davos/Dischmat 67.31 341 LR LR 09 32 07.5
comp=Z,1µm,19.0s,baz=164,slow=38
KIEV Kiev 67.41 356 ⇓P **P** **09 00 39.2 -0.7**
KIEV Kiev 67.41 356 *i* P **P** **09 00 39.1 -0.8**
SNR=16
AKASG Malin Array Be 67.42 356 P **P** **09 00 38.9 -1.1**
comp=Z,16nm,1.0s,baz=177,slow=5.6,SNR=36
AKASG LR LR 09 32 14.1
comp=Z,763nm,19.0s,baz=157,slow=38
comp=Z,16nm,1.0s
AKBB Malin Array Si 67.42 356*ce*P **P** **09 00 39.0 -0.9**
AKBB pmax pmax
comp=Z,34nm,1.1s
BRLS Boroldav 67.43 27*d* *i*P **P** **09 00 37.3 -3.0**
BRLS Boroldav 67.43 27 ⇓*i*P **P** **09 00 37.3 -3.0**
baz=27
PVAQ Vaqueiros 67.45 324 *e*P P 09 00 46.3 +5.8
PVAQ *e*S **S** **09 09 41.6 +5.3**
PVAQ Vaqueiros 67.45 324 *e*LQ LQ 09 24 33.4
PVAQ *e*LR LR 09 26 41.3
comp=Z,938nm,16.0s
MOTA Moosalm 67.46 342 *i* P **P** **09 00 41.5 +1.0**
comp=Z,59nm,1.1s,SNR=22
PBDV Barranco-do-Ve 67.46 324 *e*P P 09 00 47.4 +6.8
VORD Divnogorie 67.55 3 *e*P **P** **09 00 39.2 -1.6**
VORD pmax pmax
comp=Z,40nm,1.2s
PBAR Barrancos 67.62 325 *e*P **P** **09 00 42.4 +0.9**
KSH Kashi 67.64 33 P **P** **09 00 37.8 -4.0**
KSH S **S** **09 09 30.5 -8.3**
KSH pmax pmax
comp=Z,13nm,0.9s
KSH LR LR
comp=Z,1µm,19.2s
KSH LR LR
comp=Z,640nm,17.9s
KSH LR LR
comp=Z,1µm,21.3s
EPF Esparros 67.67 333 *e*P **P** **09 00 41.7 -0.1**
EPF pmax pmax
comp=Z,39nm,1.2s
MAUC Maruska 67.68 348 *e*P **P** **09 00 42.2 +0.5**
MAUC *ex* x 09 00 47.9
RETA Reutte 67.69 342 *i* P **P** **09 00 42.5 +0.6**
comp=Z,70nm,1.2s,SNR=18
KRUC Moravsky 67.69 347 *e*P **P** **09 00 40.8 -1.0**
DAVA Damuels 67.77 342 *i* P **P** **09 00 43.2 +0.8**
comp=Z,77nm,1.2s,SNR=15
KK31 Karatay Array 67.78 27 P **P** **09 00 41.4 -1.2**
KK31 Karatay Array 67.78 27 *i* P **P** **09 00 42.0 -0.5**
KKAR Karatay Array 67.78 27 P **P** **09 00 41.6 -0.9**
KKAR Karatay Array 67.78 27 P **P** **09 00 41.6 -0.9**
PCVE Castro Verde 67.79 324 *e*P **P** **09 00 44.6 +2.0**
VSR Storozhevoye 67.80 3 *e*P **P** **09 00 40.7 -1.6**
VSR pmax pmax
comp=Z,30nm,1.1s
SSB Saint Sauveur 67.82 337 IAMs_20 IAMs_20 09 31 29.6
comp=Z,2µm,20.0s
VRAC Vranov 67.88 347 *e*P **P** **09 00 42.6 -0.4**
VRAC Vranov 67.88 347 LR LR 09 34 35.9
comp=Z,1µm,18.6s,baz=177,slow=40
PFVI Vila Bisbo 67.89 323 *e*P P 09 00 49.1 +5.8
comp=Z,206nm,1.8s
MORF Marmelete 67.91 323 *e*P **P** **09 00 45.5 +2.0**
comp=Z,120nm,1.2s
MORF Marmelete 67.91 323 *e*P **P** **09 00 44.0 +0.6**
MORF Marmelete 67.91 323 *e*P **P** **09 00 44.1 +0.6**
MORF IAMs_20 IAMs_20 09 35 45.1
comp=Z,1µm,10.7s
VRH Novokhopyorsk 67.93 4 *e*P **P** **09 00 41.4 -1.8**
VRH pmax pmax
comp=Z,60nm,1.3s
CKRC Cesky Krumlov 67.95 345 *e*P **P** **09 00 43.9 +0.5**
CKRC *e*S **S** **09 09 39.4 -2.6**
CKRC MLR MLR
comp=Z,1µm,16.0s
CKRC Cesky Krumlov 67.95 345 *e*P **P** **09 00 43.9 +0.5**
CKRC *e*S **S** **09 09 39.4 -2.6**
CKRC AMS AMS 09 35 20.0
comp=Z,1µm,16.0s
ETSF Etsaut 67.96 332 *e*P **P** **09 00 44.4 +0.7**
ETSF pmax pmax
comp=Z,21nm,0.8s
PBEJ Beja 67.97 324 *e*P **P** **09 00 46.1 +2.3**
DZA Taraz 67.98 28 *e*P **P** **09 00 43.0 -0.7**
DZA pmax pmax
comp=Z,46nm,1.1s
DZA Taraz 67.98 28 *e*P **P** **09 00 43.0 -0.7**
comp=Z,46nm,1.1s,baz=28
MESJ Messejana 68.04 324 *e*P **P** **09 00 46.8 +2.6**
comp=Z,59nm,1.6s
MESJ Messejana 68.04 324 *e*P **P** **09 00 44.7 +0.5**
MESJ *e*S **S** **09 09 45.7 +2.4**
MESJ Messejana 68.04 324 *e*P **P** **09 00 44.8 +0.5**
MESJ *e*S **S** **09 09 45.8 +2.4**
MESJ IAMs_20 IAMs_20 09 33 47.4
comp=Z,2µm,15.7s
UBR Ueberruh 68.05 342 *e*P **P** **09 00 45.2 +1.0**
comp=Z,66nm,1.1s,baz=153,slow=6.2
OKC Ostrava-Krasne 68.06 348 AMS AMS 09 36 00.0
comp=Z,700nm,19.1s
PTEO Sao Teotonio 68.12 323 *e*P **P** **09 00 47.5 +2.8**
MORC Moravsky Berou 68.12 348 ⇑P **P** **09 00 44.8 +0.3**
MORC Moravsky Berou 68.12 348 *e*P **P** **09 00 44.5 0.0**
MORC Moravsky Berou 68.12 348 ⇑P **P** **09 00 44.8 +0.3**
GEC2 GERESS Array S 68.13 345 P **P** **09 00 44.2 -0.5**
GEC2 IAmb IAmb 09 00 51.3
comp=Z,34nm,1.0s
GEC2 GERESS Array S 68.13 345 *e*P **P** **09 00 45.2 +0.6**
comp=Z,34nm,1.1s,baz=153,slow=6.2
GEC2 *ep*P **sP** **09 00 50.1 -0.4**
GERES GERESS Array B 68.13 345 P **P** **09 00 44.8 +0.1**
comp=Z,17nm,1.0s,baz=123,slow=3.6,SNR=36
GERES LR LR 09 34 30.5
comp=Z,655nm,18.2s,baz=148,slow=40
comp=Z,17nm,1.0s
KULM Kulim 68.13 77 P **P** **09 00 44.3 -1.0**
KULM IAMs_20 IAMs_20 09 28 57.3
comp=Z,2µm,18.0s
IPM Ipoh 68.21 78 P **P** **09 00 45.5 -0.4**
IPM Ipoh 68.21 78 P **P** **09 00 46.2 +0.4**
VORR Voronezh 68.25 3 *e*P **P** **09 00 44.6 -0.6**
VORR pmax pmax
comp=Z,42nm,1.1s
SRIT Nakonsritamara 68.34 73 P **P** **09 00 46.3 -0.3**
SRIT IAmb IAmb 09 00 47.7
comp=Z,59nm,1.0s
SRIT Nakonsritamara 68.34 73 P **P** **09 00 46.6 0.0**
PNCL Nicolau / Gran 68.40 324 *e*P **P** **09 00 48.2 +1.7**
EVO Evora 68.41 325 *e*P **P** **09 00 50.3 +3.8**
PESTR Estremoz 68.42 325 *e*P **P** **09 00 48.4 +1.8**
comp=Z,69nm,1.1s
PESTR Estremoz 68.42 325 P **P** **09 00 47.1 +0.5**
PESTR IAmb IAmb 09 00 50.0
comp=Z,56nm,1.0s
KHC Kasperske Hory 68.42 345 *e*P **P** **09 00 46.9 +0.5**
KHC *e* 09 00 51.8
KHC *e*S **S** **09 09 48.8 +1.2**
KHC MLR MLR
comp=Z,1µm,15.4s
KHC Kasperske Hory 68.42 345 *e*P **P** **09 00 46.9 +0.5**
KHC *ep*P **sP** **09 00 51.8 -0.6**
KHC *ex* x 09 03 00.0
KHC *e*S **S** **09 09 48.8 +1.2**
KHC AMS AMS 09 35 40.0
comp=Z,1µm,15.4s
SJPF Ste Jean 68.43 332 *e*P **P** **09 00 48.8 +2.3**
SJPF pmax pmax
comp=Z,20nm,0.9s
KASI Kota Agung 68.47 89 P **P** **09 00 47.9 +0.5**
comp=Z,103nm,1.2s,comp=Z,933nm
CAF Calviac 68.49 335 *e*P **P** **09 00 47.7 +0.8**
CAF pmax pmax
comp=Z,18nm,0.9s
ZVC Zvikov 68.56 345 *e*P **P** **09 00 47.1 -0.1**
ZVC *ex* x 09 00 52.3
KRLC Kraliky 68.57 347 *e*P P 09 00 52.8 +5.5
KRLC Kraliky 68.57 347 *ep*P pP 09 00 52.8 +1.2
WET Wettzell 68.61 344 *e*P **P** **09 00 47.8 +0.2**
comp=Z,17nm,1.2s,baz=153,slow=6.2
PMRV Marv??o 68.71 326 *e*P **P** **09 00 49.7 +1.3**
comp=Z,45nm,1.4s
PMRV Marv??o 68.71 326 *e*LQ LQ 09 26 31.9
PMRV *e*LR LR 09 28 41.6
comp=Z,2µm,18.0s
CASY Casey 68.79 155 IAMs_20 IAMs_20 09 30 39.1
comp=Z,1µm,18.0s
GOPC GO Pecny, Ondr 68.86 346 AMS AMS 09 36 20.0
comp=Z,1µm,17.8s
PMTG Montargil 68.91 325 *e*P **P** **09 00 51.3 +1.7**
EKS2 Erkin-Say 68.92 29 P **P** **09 00 49.5 -0.3**
SNR=24
DPC Dobruska-Polom 68.92 347 *e*P **P** **09 00 49.8 +0.3**
DPC MLR MLR
comp=Z,1µm,15.6s
DPC Dobruska-Polom 68.92 347 *e*P **P** **09 00 49.8 +0.3**
DPC AMS AMS 09 34 30.0
comp=Z,1µm,15.6s
UCH Uchtor 68.94 30 P **P** **09 00 49.7 -0.6**
SNR=36
PRU Pruhonice 68.98 346 AMS AMS 09 36 10.0
comp=Z,1µm,20.5s
RJF Les Rejaudoux 69.02 335 *e*P **P** **09 00 50.7 +0.5**
RJF pmax pmax
comp=Z,28nm,1.0s
PACT Alcochete 69.03 324 *e*P **P** **09 00 50.5 +0.1**
PCBR Castelo Branco 69.05 326 *e*P **P** **09 00 51.5 +1.0**
NRN Naryn 69.07 32 P **P** **09 00 50.3 -0.7**
NRN IAmb IAmb 09 00 57.8
comp=Z,41nm,1.2s
NRN Naryn 69.07 32 P **P** **09 00 50.3 -0.7**
NRN pmax pmax
comp=Z,41nm,1.2s
UPC Upice 69.14 347 AMS AMS 09 34 40.0
comp=Z,1µm,18.6s
OSTC Ostas 69.14 347 AMS AMS 09 34 30.0
comp=Z,1µm,21.2s
LPSR Galich'ya Gora 69.17 2 *e*P **P** **09 00 49.4 -1.5**
LPSR pmax pmax
comp=Z,20nm,1.0s
BFO Black Forest 69.17 341 *e*P **P** **09 00 52.3 +1.2**
comp=Z,20nm,1.1s,baz=153,slow=6.2
LIS Lisbon 69.18 324 *e*P **P** **09 00 51.9 +0.7**
LIS Lisbon 69.18 324 *e*P **P** **09 00 52.0 +0.7**
LIS IAMs_20 IAMs_20 09 33 58.5
comp=N,3µm,17.0s
HINF Hinteralfeld 69.19 340 *e*P **P** **09 00 51.3 0.0**
HINF pmax pmax
comp=Z,38nm,1.2s
CHVC Chvalec 69.21 347 *e*P **P** **09 00 51.2 0.0**
CHVC MLR MLR
comp=Z,1µm,20.7s
CHVC Chvalec 69.21 347 *e*P **P** **09 00 51.2 0.0**
CHVC AMS AMS 09 34 40.0
comp=Z,1µm,20.7s
AAK Ala-Archa 69.24 30 P **P** **09 00 51.8 -0.1**
SNR=21
AAK Ala-Archa 69.24 30*ce*P **P** **09 00 51.6 -0.2**
AAK pmax pmax
comp=Z,30nm,1.3s
AAK Ala-Archa 69.24 30 *i* P **P** **09 00 51.7 -0.1**
SNR=23
AAK Ala-Archa 69.24 30 P **P** **09 00 52.0 +0.2**
AAK P **P** **09 00 52.0 +0.2**
AB31 Akbulak array 69.28 17 *i* P **P** **09 00 50.1 -1.6**
ABKAR Akbulak array 69.28 17 P **P** **09 00 50.4 -1.3**
ABKAR IAmb IAmb 09 00 57.9
comp=Z,50nm,1.1s
STU Stuttgart 69.30 342 P **P** **09 00 54.5 +2.7**
STU pmax pmax
comp=Z,149nm,1.1s
ROTZ Rotzenmuhle 69.36 344 *e*P **P** **09 00 52.8 +0.7**
comp=Z,8.9nm,1.1s,baz=153,slow=6.2
ROTZ *ep*P **sP** **09 00 57.8 -0.3**
FRU1 Bishkek 69.44 30 P **P** **09 00 52.5 -0.4**
FRU1 IAmb IAmb 09 01 00.6
comp=Z,88nm,1.2s
FRU1 Bishkek 69.44 30 P **P** **09 00 52.5 -0.4**
FRU1 pmax pmax
comp=Z,88nm,1.2s
PMBI Palembang 69.45 87 IAMs_20 IAMs_20 09 29 06.6
comp=Z,2µm,20.0s
KBK Karagaybulak 69.47 30 P **P** **09 00 53.4 +0.1**
SNR=57
MTE Manteigas 69.48 326 *e*P **P** **09 00 54.7 +1.5**
MTE *e*S **S** **09 10 07.4 +6.8**
MTE Manteigas 69.48 326 *e*LQ LQ 09 26 02.4
MTE *e*LR LR 09 27 42.1
comp=Z,1µm,18.0s
MTE Manteigas 69.48 326 IAMs_20 IAMs_20 09 34 22.2
comp=Z,2µm,18.0s
BELA Belgrano 2 69.52 192 P **P** **09 00 54.0 +1.1**
BELA IAmb IAmb 09 01 01.9
comp=Z,62nm,1.2s
BELA IAMs_20 IAMs_20 09 28 54.3
comp=Z,4µm,19.0s
HAU Haudompre 69.53 340 *e*P **P** **09 00 52.4 -0.9**
HAU pmax pmax
comp=Z,89nm,1.1s
AVF Avril sur Loir 69.54 337 *e*P **P** **09 00 53.6 +0.2**
AVF pmax pmax
comp=Z,42nm,1.0s
GRF Grafenberg Arr 69.55 344 *e*P **P** **09 00 54.5 +1.1**
comp=Z,75nm,1.1s,baz=153,slow=6.2
GRF *ep*P **sP** **09 00 59.6 +0.3**
TCF Toulx Ste Croi 69.56 336 *e*P **P** **09 00 54.4 +0.9**
TCF pmax pmax
comp=Z,59nm,1.1s
MANZ Manzenberg 69.59 344 *e*P **P** **09 00 54.3 +0.7**
comp=Z,8.3nm,1.1s,baz=153,slow=6.2
MANZ *ep*P **sP** **09 00 59.3 -0.3**
CHMS Chumysh 69.64 30 P **P** **09 00 54.1 0.0**
SNR=14
BELG Belogornoye 69.72 8 *i* P **P** **09 00 53.4 -0.8**
BELG pmax pmax
comp=Z,21nm,1.1s
SSF Saint Saulge 69.72 337 *e*P **P** **09 00 55.4 +1.0**
SSF pmax pmax
comp=Z,17nm,1.0s
USP Ospenovka 69.72 29 P **P** **09 00 54.5 -0.1**
SNR=26
PCAS Casmilo, Conde 69.75 325 *e*P **P** **09 00 57.5 +2.7**
comp=Z,68nm,2.0s
LOR Lormes 69.76 338 *e*P **P** **09 00 54.8 +0.1**
LOR pmax pmax
comp=Z,26nm,1.1s
MVO Moncorvo 69.77 327 *e*P **P** **09 00 57.1 +2.1**
comp=Z,40nm,1.4s
MVO Moncorvo 69.77 327 *e*LQ LQ 09 26 40.4
MVO *e*LR LR 09 29 09.2
comp=Z,2µm,18.0s
ULHL Ulahol 69.79 31 P **P** **09 00 55.0 -0.4**
SNR=25
COI Coimbra 69.81 326 IAMs_20 IAMs_20 09 34 26.0
comp=Z,2µm,20.0s
HSKC Hora Svate Kat 69.83 345 AMS AMS 09 34 50.0
comp=Z,1µm,16.6s
AKTO Aktyubinsk 69.85 15 P **P** **09 00 53.8 -1.4**
AKTO Aktyubinsk 69.85 15 LR LR 09 35 43.9
comp=Z,2µm,18.2s,baz=217,slow=40
TANN Tannenbergstha 69.89 345 *e*P **P** **09 00 56.4 +0.9**
comp=Z,32nm,1.1s,baz=153,slow=6.2
TANN *ep*P **sP** **09 01 01.5 0.0**
PVIS Viseu 69.90 326 *e*P **P** **09 00 56.0 +0.2**
SGDS Sogindy 69.92 29 *e*P **P** **09 00 55.0 -0.9**
SGDS pmax pmax
comp=Z,38nm,1.0s
SGDS Sogindy 69.92 29 *e*P **P** **09 00 55.1 -0.9**
comp=Z,38nm,1.0s,baz=29
BRG Berggiesshubel 69.95 346 *i* P **P** **09 00 56.1 +0.3**
BRG Amp 09 00 58.3
comp=Z,12nm,1.1s
BRG Berggiesshubel 69.95 346 Amp 09 01 03.0
comp=Z,13nm,1.1s
BRG Berggiesshubel 69.95 346 *i* P **P** **09 00 56.1 +0.3**
BRG 09 01 01.4
BRG 09 01 19.6
BRG 09 03 30.2
BRG S **S** **09 10 07.0 +1.5**
BRG pmax pmax
comp=Z,12nm,1.1s
BRG pmax pmax
comp=Z,3.0nm,0.8s
BRG MLR MLR
comp=E,653nm,15.4s
BRG MLR MLR
comp=Z,682nm,17.2s
BRG MLR MLR
comp=N,354nm,15.8s
BRG Berggiesshubel 69.95 346 *e*P **P** **09 00 56.1 +0.3**
comp=N,11nm,1.1s,baz=153,slow=6.2
BRG Berggiesshubel 69.95 346 P P 09 01 01.5 +5.7
TKM2 Tokmak 2 69.98 30 P **P** **09 00 56.0 -0.4**
SNR=44
TKM2 Tokmak 2 69.98 30 *i* P **P** **09 00 55.4 -1.1**
TKM2 pmax pmax
comp=Z,112nm,1.2s
MYKOM Kota Tinggi 69.99 82 IAMs_20 IAMs_20 09 28 02.5
comp=Z,2µm,19.0s
PLN Plauen 70.03 344 *e*P **P** **09 00 57.1 +0.8**
comp=Z,22nm,1.0s,baz=153,slow=6.2
PLN *ep*P **sP** **09 01 02.2 -0.1**
PBRG Braganca 70.08 328 *e*P P 09 01 03.7 +6.8
SRDT SRDT 70.14 68 P **P** **09 00 58.6 +0.9**
PVRL Vila Real 70.20 327 *e*P **P** **09 00 59.8 +2.2**
MOX Moxa 70.32 344 *e*P **P** **09 00 59.0 +0.9**
comp=Z,20nm,1.1s,baz=153,slow=6.2
MOX *ep*P **sP** **09 01 03.8 -0.2**
DBJI Dramaga 70.35 91 P **P** **09 01 00.2 +1.1**
PMOZ Porto Moniz, M 70.40 315 *e*LR LR 09 27 10.3
comp=Z,3µm,18.0s
RCBR Riachuelo 70.42 270 P **P** **09 01 00.4 +0.8**
RCBR Riachuelo 70.42 270 IAMs_20 IAMs_20 09 28 34.2
comp=Z,2µm,20.0s
RCBR Riachuelo 70.42 270 P **P** **09 01 00.4 +0.8**
RCBR pmax pmax
comp=Z,33nm,1.3s
RCBR Riachuelo 70.42 270 LR LR 09 28 36.8
comp=Z,1µm,19.2s,baz=93,slow=33
CBJI Citeko 70.48 91 P **P** **09 01 01.4 +1.5**
comp=Z,165nm,1.1s,comp=Z,8µm
CLL Collm 70.58 345 P **P** **09 00 59.5 -0.1**
CLL Collm 70.58 345 *i* P **P** **09 01 00.2 +0.6**
CLL *e*S **S** **09 10 18.0 +5.2**
CLL pmax pmax
comp=Z,30nm,1.1s
CLL MLR MLR
comp=Z,900nm,19.7s
CLL Collm 70.58 345 AMS AMS 09 35 00.0
comp=Z,900nm,19.7s
CLL Collm 70.58 345 *e*P **P** **09 01 00.3 +0.6**
comp=Z,25nm,1.2s,baz=153,slow=6.2
CLL Collm 70.58 345 *i* P **P** **09 01 00.2 +0.6**
comp=Z,25nm,1.2s
CLL Collm 70.58 345 *i* pP pP 09 01 04.9 +0.9
comp=Z,30nm,1.1s
CLL Collm 70.58 345 *i* PcP **PcP** **09 01 21.3 +0.6**
comp=Z,18nm,1.0s
CLL Collm 70.58 345 *e*PP PP 09 03 35.0 -1.3
CLL Collm 70.58 345 *e*PPP PPP 09 05 18.0
CLL Collm 70.58 345 *e*S **S** **09 10 18.0 +5.2**
CLL Collm 70.58 345 *e*SKSac **SKSac** **09 11 11.0 +10**
CLL Collm 70.58 345 *e*SS SS 09 15 18.0 +33
CLL Collm 70.58 345 *e*SSS SSS 09 18 24.0
TNSS Tian-Shan 70.73 31 *e*P **P** **09 01 00.6 -0.7**
TNSS Tian-Shan 70.73 31 *e*P **P** **09 01 00.6 -0.7**
baz=31
NEUB Neuenburg 70.79 345 *e*P **P** **09 01 02.0 +1.0**
comp=Z,116nm,1.7s,baz=153,slow=6.2
TNS Taunus Mts 70.82 342 *e*P **P** **09 01 02.3 +1.1**
comp=Z,37nm,1.1s,baz=153,slow=6.2
TNS *ep*P **sP** **09 01 07.2 +0.1**
AAA Alma-Ata 70.84 31 *e*P **P** **09 01 00.7 -0.8**
AAA pmax pmax
comp=Z,33nm,1.2s
AAA Alma-Ata 70.84 31 *e*P **P** **09 01 00.8 -0.8**
comp=Z,33nm,1.2s,baz=31
MDOK Medeo 70.87 31 *i* P **P** **09 01 01.2 -0.6**
MDOK Medeo 70.87 31 *i* P **P** **09 01 01.3 -0.6**
baz=31
MDOK LR LR 09 35 44.4
comp=Z,545nm,13.4s,baz=31
BTLS Baital 70.88 28*d* *i*P **P** **09 01 00.6 -1.0**
BTLS pmax pmax
comp=Z,31nm,1.2s
BTLS Baital 70.88 28 ⇓*i*P **P** **09 01 00.7 -1.0**
comp=Z,31nm,1.2s,baz=28
MND Mandalay 70.90 59 P **P** **09 01 01.4 -0.8**
LSA Lhasa 70.91 50 IAMs_20 IAMs_20 09 30 24.5
comp=Z,2µm,18.0s
LSA Lhasa 70.91 50 P **P** **09 01 03.0 +0.3**
LSA P **P** **09 01 03.0 +0.3**
BBJI Bungbulang 70.97 92 P **P** **09 01 03.6 +0.6**
PPBI Pangkal Pinang 70.98 86 P **P** **09 01 02.3 -0.6**
CLF Chambon-Foret 70.98 337 IAMs_20 IAMs_20 09 34 04.2
comp=Z,2µm,20.0s
PGAV Gavieira, Arco 70.99 327 *e*P **P** **09 01 05.1 +2.6**
comp=Z,68nm,1.2s
PGAV Gavieira, Arco 70.99 327 *e*LR LR 09 28 39.7
comp=Z,1µm,16.0s
WLF Walferdange 71.03 340 P **P** **09 01 03.0 +0.5**
WLF IAmb IAmb 09 01 04.7
comp=Z,42nm,1.1s
WLF IAMs_20 IAMs_20 09 35 05.3
comp=Z,1µm,18.0s
WLF Walferdange 71.03 340 P **P** **09 01 03.0 +0.5**
WLF pmax pmax
comp=Z,42nm,1.1s
WLF MLR MLR
comp=Z,1µm,18.0s
WLF Walferdange 71.03 340 *d*P **P** **09 01 03.8 +1.3**
WLF *dx* x 09 01 08.8
WLF Walferdange 71.03 340 *e*P **P** **09 01 03.7 +1.3**
comp=Z,41nm,1.1s,baz=153,slow=6.2
KUU Kurty 71.07 30 *e*P **P** **09 01 01.5 -1.3**
KUU pmax pmax
comp=Z,45nm,1.1s
KUU MLR MLR
comp=Z,785nm,12.0s
KUU Kurty 71.07 30 *e*P **P** **09 01 01.5 -1.3**
comp=Z,45nm,1.1s,baz=30
KUU LR LR 09 36 22.5
comp=Z,785nm,12.5s,baz=30
LEM Lembang 71.11 92 LR LR 09 30 11.4
comp=Z,1µm,18.1s,baz=238,slow=34
SUW Suwalki 71.29 352 *e*P **P** **09 01 03.7 -0.1**
SUW Suwalki 71.29 352 P **P** **09 01 03.3 -0.6**
SUW Suwalki 71.29 352 P **P** **09 01 03.3 -0.6**
SUW pmax pmax
comp=Z,161nm,0.9s
SUW MLR MLR
comp=Z,900nm,20.0s
SUW Suwalki 71.29 352 *e*P **P** **09 01 04.6 +0.7**
MNK Minsk 71.30 355 *i* LRM MLR 09 35 19.4
comp=Z,656nm,17.9s
MNK Minsk 71.30 355 *i* P **P** **09 01 02.3 -1.6**
MNK *i* 09 03 38.7
MNK *i* PPP PPP 09 05 26.3
MNK *i* S **S** **09 10 19.2 -1.8**
MNK *i* SS **SS** **09 14 54.0 -1.7**
MNK pmax pmax
comp=Z,63nm,1.0s
MNK pmax pmax
comp=N,40nm,1.0s
MNK pmax pmax
comp=E,8.0nm,0.9s
MNK MLR MLR
comp=E,150nm,12.0s
MNK MLR MLR
comp=N,2µm,13.0s
MNK MLR MLR

comp=Z,656nm,18.0s
MNK Minsk 71.30 355 *i* P **P 09 01 02.3 -1.6**
comp=Z,63nm,1.0s,baz=172
MNK Minsk 71.30 355 *i* P **P 09 01 02.3 -1.6**
comp=N,40nm,1.0s
MNK Minsk 71.30 355 *i* P **P 09 01 02.3 -1.6**
comp=E,8.0nm,0.9s
MNK Minsk 71.30 355 *i* PP PP 09 03 38.7 -3.6
MNK Minsk 71.30 355 *i* PPP PPP 09 05 26.3
MNK Minsk 71.30 355 *i* S **S 09 10 19.2 -1.8**
MNK Minsk 71.30 355 *i* SS SS 09 14 54.0 -1.7
MNK Minsk 71.30 355 *i* SSS SSS 09 18 13.4
MNK Minsk 71.30 355 *i* LQ LQ 09 26 59.6
MNK Minsk 71.30 355 *i* LR LR 09 31 46.2
MNK Minsk 71.30 355 *i* LRM MLR 09 34 34.7
comp=E,150nm,12.1s
MNK Minsk 71.30 355 *i* LRM MLR 09 34 39.0
comp=N,2µm,12.9s
CHKK Chushkaly 71.35 30 *eP* **P 09 01 03.7 -0.8**
CHKK Chushkaly 71.35 30 *eP* **P 09 01 03.8 -0.8**
baz=30
SATY Saty 71.47 32 *d* iP **P 09 01 05.1 -0.3**
SATY pmax pmax
comp=Z,26nm,1.4s
SATY Saty 71.47 32⇓ *i* P **P 09 01 05.1 -0.3**
comp=Z,26nm,1.4s,baz=32
RUE Ruedersdorf 71.48 346 *ep*P pP 09 01 10.9 +1.5
GKP Gorka Klasztor 71.51 349 *eP* **P 09 01 08.1 +2.9**
AHRW Bad Neuenahr-A 71.51 341 *eP* **P 09 01 07.2 +1.9**
comp=Z,49nm,1.0s,baz=153,slow=6.2
AHRW epP **sP 09 01 12.2 +0.9**
RIB01 Linhares ES 71.52 255 *eP* **P 09 01 05.3 -0.8**
ALF01 Guarapari-ES 71.56 253 *eP* **P 09 01 06.6 +0.3**
ZHN Zhinishke 71.57 32 *d* iP **P 09 01 05.5 -0.4**
ZHN pmax pmax
comp=Z,16nm,0.8s
ZHN Zhinishke 71.57 32⇓ *i* P **P 09 01 05.6 -0.4**
comp=Z,16nm,0.8s,baz=32
OBN Obninsk 71.63 1⇑ iP **P 09 01 03.7 -2.1**
OBN *i* 09 01 26.2
OBN pmax pmax
comp=Z,23nm,1.0s
OBN MLR MLR
comp=Z,962nm,18.0s
CMJI Cimerak 71.66 93 P **P 09 01 07.8 +0.8**
comp=Z,177nm,1.2s
BHOU Houvegnez 71.68 341 *dP* **P 09 01 07.8 +1.5**
BHOU *dx* x 09 01 13.4
CMAR Chiang Mai Arr 71.69 64 P **P 09 01 05.6 -1.5**
CMAR Chiang Mai Arr 71.69 64 P **P 09 01 06.7 -0.4**
comp=Z,9.9nm,0.8s,baz=250,slow=6.3,SNR=56
CMAR LR LR 09 28 11.0
comp=Z,654nm,21.6s,baz=250,slow=32
comp=Z,9.9nm,0.8s
KASTN Kahler Asten 71.70 343 *eP* **P 09 01 08.0 +1.5**
comp=Z,26nm,1.1s,baz=153,slow=6.2
RCHB Rochefort 71.76 340 *dP* **P 09 01 08.0 +1.2**
RCHB *dx* x 09 01 13.4
RCHB *dx* x 09 01 50.2
BTNL Ternell 71.84 341 *dP* **P 09 01 08.1 +0.8**
BTNL *dx* x 09 01 14.1
CHTO Chiang Mai 71.84 63 P **P 09 01 07.9 -0.1**
CHTO Chiang Mai 71.84 63 P **P 09 01 07.5 -0.5**
CHTO P **P 09 01 07.5 -0.5**
GIVF Givet 71.84 340 *eP* **P 09 01 07.5 +0.2**
GIVF pmax pmax
comp=Z,34nm,1.0s
UZB Uzynbulak 71.85 32 *eP* **P 09 01 07.1 -0.6**
UZB pmax pmax
comp=Z,34nm,1.3s
UZB Uzynbulak 71.85 32 *eP* **P 09 01 07.2 -0.6**
comp=Z,34nm,1.3s,baz=32
MEM Membach 71.90 341 *dP* **P 09 01 09.4 +1.8**
MEM *dx* x 09 01 13.8
DOU Dourbes 71.92 340 *dP* **P 09 01 08.6 +0.9**
DOU *dx* x 09 01 13.8
DOU *d*PP **PP 09 03 46.3 -1.5**
ASSE Asse, Remlinge 71.92 344 *eP* **P 09 01 08.9 +1.3**
comp=Z,30nm,1.1s,baz=153,slow=6.2
FLTG Flechtingen 71.95 345 *eP* **P 09 01 08.6 +0.7**
comp=Z,20nm,1.2s,baz=153,slow=6.2
BCLA Clavier 71.96 340 *dP* **P 09 01 09.3 +1.3**
BCLA *dx* x 09 01 14.5
BGES Gesves 72.00 340 *dP* **P 09 01 09.4 +1.2**
BGES *dx* x 09 01 15.3
BGES *d*PcP **PcP 09 01 26.3 -0.5**
BSTI Sart Tilman 72.02 341 *dP* **P 09 01 10.2 +1.9**
BSTI *dx* x 09 01 15.5
BMRD Maredsous 72.03 340 *dP* **P 09 01 09.6 +1.2**
BMRD *dx* x 09 01 15.0
NAYO Nakonayok 72.08 68 P **P 09 01 09.8 +0.3**
SHLS Shalkode 72.08 32 *eP* **P 09 01 09.8 +0.7**
SHLS pmax pmax
comp=Z,28nm,1.1s
SHLS Shalkode 72.08 32 *eP* **P 09 01 09.8 +0.7**
comp=Z,28nm,1.1s,baz=32
PDGK Podgornoye 72.22 32 P **P 09 01 08.3 -1.6**
KPJI Karang Pucung 72.23 92 P **P 09 01 11.2 +0.7**
comp=Z,68nm,1.1s
BUG Bochum--Univer 72.24 342 *eP* **P 09 01 11.1 +1.4**
comp=Z,62nm,1.2s,baz=153,slow=6.2
BUG epP **sP 09 01 16.1 +0.5**
KLNR Kaliningrad 72.28 351 *i* P **P 09 01 10.5 +0.7**
KLNR pmax pmax
comp=Z,135nm,1.0s
LDF La Druitiere 72.36 336 *eP* **P 09 01 10.5 +0.1**
LDF pmax pmax
comp=Z,47nm,1.2s
SJMB Sao Joao De Ma 72.37 255 *eP* **P 09 01 10.9 -0.4**
NRDL Niedersach Rie 72.39 344 *eP* **P 09 01 12.0 +1.5**
comp=Z,32nm,1.1s,baz=153,slow=6.2
FLN La Foliniere 72.63 336 *eP* **P 09 01 12.0 -0.1**
FLN pmax pmax
comp=Z,70nm,1.3s
PABE Paberze 72.66 353 *eP* **P 09 01 12.8 +0.8**
OTUK Ortayu 72.67 25 P **P 09 01 11.6 -0.7**
RETH Rethem/Aller, 72.81 344 *eP* **P 09 01 14.4 +1.4**
comp=Z,26nm,1.2s,baz=153,slow=6.2
PHRA Phrae 72.81 64 P **P 09 01 12.5 -1.3**
TDK Taldyqorghan 72.89 30 *eP* **P 09 01 13.2 -0.5**
TDK pmax pmax
comp=Z,58nm,1.3s
TDK MLR MLR
comp=Z,928nm,13.0s
TDK Taldyqorghan 72.89 30 *eP* **P 09 01 13.2 -0.5**
comp=Z,58nm,1.3s,baz=30
TDK LR LR 09 37 26.2
comp=Z,928nm,12.7s,baz=30
QSPA South Pole Qui 73.34 180 P **P 09 01 17.0 +0.8**
comp=Z,51nm,1.1s,baz=242,slow=4.4,SNR=43
QSPA LR LR 09 30 57.7
comp=Z,812nm,20.0s,baz=246,slow=34
comp=Z,51nm,1.1s
UGM Wanagama 73.61 93 IAMs_20 IAMs_20 09 28 39.3
comp=Z,1µm,20.0s
BSEG Bad Segeberg 73.65 345 *eP* **P 09 01 18.6 +0.7**
comp=Z,56nm,1.2s,baz=153,slow=6.2
BSEG *ep*P **sP 09 01 23.8 0.0**
MUN Mundaring 73.69 119 P **P 09 01 19.9 +1.0**
BSD Bornholm Skovb 73.70 348 *i* P **P 09 01 16.8 -1.4**
BSD IAmb IAmb 09 01 18.9
comp=Z,69nm,1.1s
BSD Bornholm Skovb 73.70 348 *eP* **P 09 01 18.6 +0.4**
SMRI Semarang 73.75 93 P **P 09 01 19.0 -0.6**
SMRI Semarang 73.75 93 P **P 09 01 21.0 +1.5**
RKGY Rocky Gully 73.89 122 P **P 09 01 21.7 +1.7**
MORW Morawa 74.06 116 P **P 09 01 19.9 -1.3**
MORW IAmb IAmb 09 01 23.6
comp=Z,90nm,1.1s
MORW Morawa 74.06 116 P **P 09 01 22.2 +1.1**
BRZS Berezniki 74.19 24 *d* iP **P 09 01 21.1 -0.1**
BRZS pmax pmax
comp=Z,33nm,1.2s
BRZS Berezniki 74.19 24⇓ *i* P **P 09 01 21.1 -0.1**
comp=Z,33nm,1.2s,baz=24
TNCH TengChong 74.25 57 P **P 09 01 22.3 0.0**
TNCH pP pP 09 01 25.5 -1.2
TNCH S **S 09 10 55.8 -0.5**
TNCH pmax pmax
comp=Z,63nm,0.5s
TNCH pmax pmax
comp=Z,310nm,2.8s
TNCH LR LR
comp=Z,840nm,16.8s
TNCH LR LR
comp=Z,630nm,16.6s
TNCH LR LR
comp=Z,1µm,18.9s
BLDU Ballidu 74.35 118 P **P 09 01 23.5 +0.7**
NWAO Narrogin (SRO) 74.38 120 P **P 09 01 21.6 -1.3**
NWAO IAmb IAmb 09 01 25.4
comp=Z,97nm,1.1s
NWAO Narrogin (SRO) 74.38 120 P **P 09 01 24.2 +1.3**
NWAO Narrogin (SRO) 74.38 120 P **P 09 01 21.6 -1.3**
NWAO pmax pmax
comp=Z,97nm,1.1s
NWAO Narrogin (SRO) 74.38 120 LR LR 09 27 45.1
comp=Z,299nm,21.8s,baz=258,slow=31
NWAO Narrogin (SRO) 74.38 120 P **P 09 01 23.3 +0.4**
NWAO P **P 09 01 23.3 +0.4**
NGJI Ngawi 74.65 93 P **P 09 01 27.3 +2.6**
comp=Z,82nm,1.1s
PWJI Pagerwojo 74.80 94 P **P 09 01 25.3 -0.3**
comp=Z,107nm,1.0s,comp=Z,982nm
KLBR Kellerberrin 75.06 119 P **P 09 01 28.4 +1.6**
DEL Delary 75.18 348 *eP* **P 09 01 27.4 +0.6**
BSCB Bom Sucesso 75.19 252 *eP* **P 09 01 27.2 -0.6**
VSU Vasula 75.31 355 *ce*P **P 09 01 28.0 +0.5**
VSU pmax pmax
comp=Z,75nm,1.7s
ARU Arti 75.50 13 P **P 09 01 27.6 -1.0**
ARU IAmb IAmb 09 01 35.5
comp=Z,77nm,1.0s
ARU IAMs_20 IAMs_20 09 38 43.2
comp=Z,1µm,18.0s
ARU Arti 75.50 13 *d* iP **P 09 01 28.1 -0.6**
ARU 09 04 14.6
ARU S **S 09 11 08.4 -0.2**
ARU SS **SS 09 15 52.0 -7.9**
ARU pmax pmax
comp=Z,87nm,1.1s
ARU MLR MLR
comp=Z,1µm,17.0s
ARU Arti 75.50 13 LR LR 09 38 04.2
comp=Z,711nm,18.8s,baz=216,slow=38
BRVK Borovoye 75.81 21 P **P 09 01 29.5 -1.0**
BRVK Borovoye 75.81 21 IAMs_20 IAMs_20 09 39 47.3
comp=Z,1µm,18.0s
BRVK Borovoye 75.81 21 *ce*P **P 09 01 30.2 -0.3**
BRVK pmax pmax
comp=Z,22nm,1.3s
BRVK Borovoye 75.81 21 P **P 09 01 30.4 -0.2**
BRVK P **P 09 01 30.4 -0.2**
BVA0 Borovoye Array 75.82 21 *i* P **P 09 01 29.7 -0.9**
BVAR Borovoye Array 75.82 21 P **P 09 01 29.6 -1.0**
comp=Z,18nm,0.9s,baz=218,slow=6.4,SNR=70
BVAR PP **PP 09 04 18.8 -2.2**
comp=Z,11nm,1.0s,baz=215,slow=7.0,SNR=3.8
BVAR LR LR 09 38 00.9
comp=Z,520nm,18.0s,baz=217,slow=38
comp=Z,18nm,0.9s
MAKZ Makanchi 75.92 31 P **P 09 01 30.4 -0.9**
MAKZ IAmb IAmb 09 01 32.1
comp=Z,64nm,1.1s
MAKZ Makanchi 75.92 31⇑ P **P 09 01 30.8 -0.5**
MAKZ *e* 09 01 32.3
KIRV Kirov 75.99 8 *ce*P **P 09 01 31.0 -0.4**
MK31 Makanchi Array 76.07 31 P **P 09 01 30.4 -1.7**
MK31 IAmb IAmb 09 01 38.8
comp=Z,56nm,1.2s
MK31 Makanchi Array 76.07 31 *i* P **P 09 01 31.3 -0.9**
MK31 pmax pmax
comp=Z,106nm,1.3s
MKAR Makanchi Array 76.07 31 *i* P **P 09 01 31.5 -0.7**
MKAR pmax pmax
comp=Z,31nm,0.9s
MKAR Makanchi Array 76.07 31 P **P 09 01 31.3 -0.9**
comp=Z,31nm,0.9s,baz=222,slow=5.3,SNR=170
MKAR LR LR 09 35 47.4
comp=Z,739nm,20.4s,baz=250,slow=36
comp=Z,31nm,0.9s
UBPT Khong Chiam 76.16 69 IAMs_20 IAMs_20 09 32 25.8
comp=Z,1µm,18.0s
UBPT Khong Chiam 76.16 69 P **P 09 01 33.4 +0.1**
MUD Monsted U'grnd 76.21 345 *i* P **P 09 01 34.0 +1.3**
MUD IAmb IAmb 09 01 40.0
comp=Z,84nm,1.1s
GMJI Gumukmas 76.30 95 P **P 09 01 34.6 +0.4**
comp=Z,52nm,1.1s
SVE Sverdlovsk 76.33 14 *ce*P **P 09 01 32.8 -0.6**
SVE pmax pmax
comp=Z,53nm,1.1s
PUL Pulkovo 76.40 357 *ce*P **P 09 01 35.7 +2.0**
PUL pmax pmax
comp=Z,116nm,0.8s
BLJI Banyuglugur 76.59 94 P **P 09 01 37.4 +1.6**
comp=Z,50nm,1.3s,comp=Z,1µm
PET01 Itanhaem-SP 76.73 248 *eP* **P 09 01 35.5 -1.0**
STKI Sintang 76.73 86 P **P 09 01 37.2 +0.5**
comp=Z,149nm,1.1s
VAO Valinhos 76.74 250 *eP* **P 09 01 36.9 +0.2**
MEEK Meekatharra 76.78 114 P **P 09 01 37.4 +0.6**
JAGI Jajag, Banyuwa 76.93 95 P **P 09 01 36.4 -1.4**
JAGI Jajag, Banyuwa 76.93 95 P **P 09 01 38.0 +0.2**
JAGI Jajag, Banyuwa 76.93 95 P **P 09 01 37.5 -0.3**
comp=Z,115nm,1.1s,comp=Z,2µm
WMQ Urumqi 76.97 36 *eP* **P 09 01 36.6 -0.8**
WMQ pP sP 09 01 43.5 +0.1
WMQ S **S 09 11 28.2 +2.8**
WMQ pmax pmax
comp=Z,49nm,1.3s
WMQ pmax pmax
comp=Z,280nm,5.1s
WMQ LR LR
comp=Z,530nm,24.0s
WMQ LR LR
comp=Z,810nm,23.9s
WMQ LR LR
comp=Z,460nm,17.9s
GOMU GeErMu 77.00 46 P **P 09 01 39.1 +0.9**
GOMU S **S 09 11 28.9 +2.2**
GOMU pmax pmax
comp=Z,40nm,1.0s
GOMU LR LR
comp=Z,1µm,18.3s
GOMU LR LR
comp=Z,910nm,17.9s
GOMU LR LR
comp=Z,1µm,18.0s
SPB Sao Paulo 77.02 249 IAMs_20 IAMs_20 09 31 14.0
comp=Z,2µm,19.0s
SPB Sao Paulo 77.02 249 *eP* **P 09 01 37.6 -0.6**
KURBB Kurchatov Arra 77.08 27 P **P 09 01 36.1 -1.6**
KURBB Kurchatov Arra 77.08 27 P **P 09 01 37.5 -0.3**
comp=Z,53nm,0.7s,baz=226,slow=6.3,SNR=77
comp=Z,53nm,0.7s
KMMI Kalianget 77.13 94 P **P 09 01 40.4 +1.5**
comp=Z,149nm,1.1s
KURK Kurchatov 77.19 27 P **P 09 01 38.2 -0.1**
KURK Kurchatov 77.19 27 IAMs_20 IAMs_20 09 40 27.6
comp=Z,1µm,20.0s
KURK Kurchatov 77.19 27 *ce*P **P 09 01 38.2 -0.1**
KURK pmax pmax
comp=Z,72nm,1.3s
KURK Kurchatov 77.19 27 P **P 09 01 38.4 +0.1**
MEF Metsahovi 77.25 354 *eP* **P 09 01 39.4 +0.9**
PMNB Patos De Minas 77.27 254 *eP* **P 09 01 38.9 -0.8**
RCLB Rio Claro- Sao 77.37 250 *eP* **P 09 01 39.6 -0.7**
KLMR Klimovskoe 77.45 2 *eP* **P 09 01 35.7 -3.9**
KLMR S **S 09 11 23.1 -6.6**
KLMR pmax pmax
comp=Z,87nm,1.2s
PZH PanZhiHua 77.50 57 P **P 09 01 40.2 -0.7**
PZH sP **pP 09 01 45.7 +0.5**
PZH S **S 09 11 29.6 -2.4**
PZH pmax pmax
comp=Z,50nm,1.1s
PZH pmax pmax
comp=Z,310nm,4.9s
PZH LR LR
comp=Z,790nm,20.4s
PZH LR LR
comp=Z,760nm,18.8s
PZH LR LR
comp=Z,1µm,20.4s
SEM Semipalatinsk 77.67 28 *eP* **P 09 01 43.6 +2.3**
SEM MLR MLR
comp=Z,489nm,17.0s
SEM Semipalatinsk 77.67 28 *eP* **P 09 01 43.7 +2.3**
baz=27
SEM LR LR 09 38 39.0
comp=Z,488nm,17.1s,baz=27
AAL Aland 77.70 352 *eP* **P 09 01 41.3 +0.3**
KMI Kunming 77.72 59⇓ P **P 09 01 41.9 -0.3**
KMI S **S 09 11 32.9 -1.8**
KMI SS **SS 09 16 40.5 +5.4**
KMI pmax pmax
comp=Z,31nm,1.0s
KMI pmax pmax
comp=Z,340nm,10.6s
KMI LR LR
comp=Z,980nm,17.8s
KMI LR LR
comp=Z,1µm,18.5s
KMI LR LR
comp=Z,2µm,19.1s
UPP Uppsala 77.73 351 *eP* **P 09 01 42.1 +1.0**
ZSN Zaisan 77.80 32 *d* iP **P 09 01 41.5 -0.4**
ZSN pmax pmax
comp=Z,29nm,1.0s
ZSN Zaisan 77.80 32⇓ *i* P **P 09 01 41.6 -0.4**
comp=Z,29nm,1.0s,baz=32
VALR Valaam 77.97 358 *i* P **P 09 01 42.8 +0.4**
VALR pmax pmax
comp=Z,64nm,1.4s
SRBI Singaraja 78.04 95 P **P 09 01 44.7 +0.7**
comp=Z,99nm,1.1s,comp=Z,1µm
STRU Stroemstad 78.11 348 *eP* **P 09 01 44.2 +1.0**
SBUM Sibu 78.15 84 P **P 09 01 44.4 -0.2**
SBUM IAmb IAmb 09 01 52.1
comp=Z,52nm,1.3s
RAF Rauma 78.31 353 *eP* **P 09 01 44.5 +0.1**
FIA1 FINESS Array S 78.32 355 IAMs_20 IAMs_20 09 40 04.3
comp=Z,1µm,19.0s
FINES FINESS Array B 78.32 355 P **P 09 01 44.5 +0.1**
comp=Z,18nm,1.0s,baz=149,slow=6.2,SNR=25
FINES LR LR 09 40 16.0
comp=Z,1µm,19.3s,baz=174,slow=39
comp=Z,18nm,1.0s
KMBL Kambalda 78.56 119 P **P 09 01 47.6 +1.0**
BB19B Bebedouro 78.59 251 *eP* **P 09 01 45.9 -1.1**
HFS Hagfors 78.64 349 P **P 09 01 46.5 +0.2**
comp=Z,24nm,1.0s,baz=152,slow=6.7,SNR=16
comp=Z,24nm,1.0s
CNLB Canela 78.75 243 *eP* **P 09 01 47.1 -0.7**
EKA Eskdalemuir Ar 78.90 339 P **P 09 01 48.6 +0.9**
comp=Z,8.6nm,1.0s,baz=140,slow=5.6,SNR=7.9
comp=Z,8.6nm,1.0s
ESK Eskdalemuir 78.90 339 IAMs_20 IAMs_20 09 36 39.5
comp=Z,1µm,20.0s
PMSA Palmer Station 78.91 206 LR LR 09 33 09.4
comp=Z,1µm,19.3s,baz=120,slow=33
FRTB Fartura 78.99 249 *eP* **P 09 01 48.4 -0.8**
KONO Kongsberg 79.00 347 *ce*P **P 09 01 49.7 +1.5**
KONO pmax pmax
comp=Z,22nm,1.0s
MBWA Marble Bar 79.00 109 P **P 09 01 49.6 +0.4**
MBWA Marble Bar 79.00 109 P **P 09 01 48.6 -0.7**
MBWA P **P 09 01 48.6 -0.7**
PSA00 Pilbara Seismi 79.01 109 P **P 09 01 48.9 -0.4**
PSA00 IAMs_20 IAMs_20 09 36 10.2
comp=Z,1µm,21.0s
PSA00 Pilbara Seismi 79.01 109 P **P 09 01 49.5 +0.2**
IPMB Ipameri, GO 79.04 254 *eP* **P 09 01 49.1 -0.5**
EFI East Falkland 79.10 219 IAMs_20 IAMs_20 09 36 03.5
comp=Z,1µm,18.0s
SMAI San Martin Ant 79.12 202 IAMs_20 IAMs_20 09 34 27.6
comp=Z,2µm,18.0s
KEF Keuruu 79.13 355 *eP* **P 09 01 49.3 +0.4**
BDFB Brasilia 79.43 257 IAMs_20 IAMs_20 09 33 15.7
comp=Z,2µm,20.0s
BDFB Brasilia 79.43 257 P **P 09 01 54.1 +2.4**
comp=Z,52nm,1.1s,baz=102,slow=4.8,SNR=39
BDFB LR LR 09 33 55.6
comp=Z,2µm,19.0s,baz=112,slow=33
comp=Z,52nm,1.1s
TWSI Taliwang, Sumb 79.46 96 P **P 09 01 50.8 -1.0**
comp=Z,169nm,1.0s,comp=Z,1µm
JOF Joensuu 79.51 358 *eP* **P 09 01 50.9 0.0**
NORES NORESS Array B 79.60 348 P **P 09 01 52.3 +0.8**
NORES pmax pmax
comp=Z,11nm,1.1s
NB2 NORSAR Subarra 79.95 348 P **P 09 01 53.2 -0.2**
comp=Z,15nm,1.0s,baz=156,slow=5.9
NB2 NORSAR Subarra 79.95 348 P **P 09 01 53.2 -0.2**
baz=156,slow=5.9
NOA NORSAR Array B 79.95 348 P **P 09 01 53.6 +0.1**
comp=Z,20nm,1.0s,baz=152,slow=5.0,SNR=34
NOA LR LR 09 42 23.5
comp=Z,471nm,18.3s,baz=170,slow=40
comp=Z,20nm,1.0s
VAF Ylistaro 80.19 354 P **P 09 01 55.3 +0.7**
VAF pmax pmax
comp=Z,40nm,1.0s
VAF Ylistaro 80.19 354 *eP* **P 09 01 55.4 +0.7**
PLAI Plampang 80.29 96 P **P 09 01 56.7 +0.4**
PLAI Plampang 80.29 96 P **P 09 01 56.3 0.0**
comp=Z,72nm,1.1s
ITAB Concordia 80.33 244 *eP* **P 09 01 56.1 -0.2**
LDASE Londrina, Braz 80.36 248 *eP* **P 09 01 56.4 -0.2**
PLTB Pedras Altas 80.49 240 *eP* **P 09 01 56.9 -0.3**
DGZ Jazzator, Alta 80.57 31⇓ *i* P **P 09 01 57.3 +0.1**
DGZ pmax pmax
comp=Z,80nm,1.3s
ITRB Iturama 80.58 252 *eP* **P 09 01 58.2 +0.4**
CPSB Cacapava Do Su 80.68 241 *eP* **P 09 01 57.3 -0.8**
PCMB Pacaembu 80.93 250 *eP* **P 09 02 00.2 +0.6**
VNDA Vanda 81.00 170 P **P 09 01 59.5 +0.5**
comp=Z,13nm,1.2s,baz=237,slow=6.4,SNR=10
VNDA LR LR 09 34 49.3
comp=Z,1µm,21.9s,baz=222,slow=33
comp=Z,13nm,1.2s
CD2 Chengdu 81.01 54 P **P 09 02 00.0 +0.2**
CD2 pmax pmax
comp=Z,60nm,0.9s
QIZ Qiongzhong 81.41 67 P **P 09 02 02.5 +0.3**
QIZ S **S 09 12 15.2 +1.7**
QIZ SS **SS 09 17 32.4 +2.2**
QIZ LR LR
comp=Z,500nm,18.6s
QIZ LR LR
comp=Z,850nm,20.6s
QIZ LR LR
comp=Z,1µm,14.7s
QIZ Qiongzhong 81.41 67 IAMs_20 IAMs_20 09 40 13.3
comp=Z,1µm,18.0s
GYA Guiyang 81.49 59⇓ P **P 09 02 02.2 -0.4**
GYA S **S 09 12 12.3 -2.1**
GYA pmax pmax
comp=Z,48nm,0.8s
GYA pmax pmax
comp=Z,560nm,19.2s
GYA LR LR
comp=Z,680nm,20.4s
GYA LR LR
comp=Z,690nm,25.0s
GYA LR LR
comp=Z,1µm,24.4s
BKB Balikpapan 81.53 89 IAMs_20 IAMs_20 09 36 49.8
comp=Z,2µm,18.0s
TRCB Terra Rica 81.86 249 *eP* **P 09 02 05.2 +0.6**
OUL Oulu 81.94 356 P **P 09 02 04.5 +0.6**
OUL pmax pmax
comp=Z,61nm,1.5s
GTA Gaotai 82.04 45 P **P 09 02 05.2 0.0**
GTA pP pP 09 02 08.8 -0.8
GTA PP **PP 09 05 19.4 +6.0**
GTA S **S 09 12 18.4 -1.2**
GTA pmax pmax
comp=Z,33nm,1.3s
GTA pmax pmax
comp=Z,340nm,8.0s
GTA LR LR
comp=Z,720nm,19.6s
GTA LR LR
comp=Z,750nm,17.8s
GTA LR LR
comp=Z,930nm,19.3s
ZAA0 Zalesovo Array 82.16 27 P **P 09 02 04.4 -0.9**
ZALV Zalesovo Beam 82.16 27 *i* P **P 09 02 04.6 -0.7**
ZALV pmax pmax
comp=Z,63nm,1.0s
ZALV Zalesovo Beam 82.16 27 P **P 09 02 04.7 -0.6**
comp=Z,62nm,1.0s,baz=224,slow=5.4,SNR=115
ZALV LR LR 09 43 37.3
comp=Z,653nm,18.2s,baz=240,slow=39

comp=Z,62nm,1.0s
MSF Maaselka 82.59 357 P **P** **09 02 08.6 +1.3**
LZH Lanzhou 83.33 49 *e*P **P** **09 02 10.7 -1.4**
LZH sP sP 09 02 20.7 +2.6
LZH S **S** **09 12 31.7 -1.2**
LZH SS **SS** **09 17 55.6 -3.0**
LZH pmax pmax
comp=Z,460nm,5.5s
LZH LR LR
comp=Z,850nm,18.6s
LZH LR LR
comp=Z,940nm,18.9s
LZH LR LR
comp=Z,1μm,18.9s
BKSI Bulukumba 83.48 94 P **P** **09 02 13.6 +0.5**
comp=Z,50nm,1.2s,comp=Z,743nm
ITQB Itaqui 83.54 241 *e*P **P** **09 02 14.4 +1.3**
TTSI Tana Toraja 83.83 91 P P 09 02 20.8 +5.9
FORT Forrest 83.83 120 P **P** **09 02 14.8 +0.2**
FORT Forrest 83.83 120 P **P** **09 02 15.9 +1.2**
EDFI Ende, Flores 84.03 97 P **P** **09 02 15.4 -0.7**
comp=Z,47nm,1.2s,comp=Z,652nm
GULI GuiLin 84.13 62 ⇑P **P** **09 02 16.9 +0.7**
GULI SKS **SKSac** **09 12 39.7 0.0**
GULI S **SKKSac** **09 12 46.5 +1.6**
GULI pmax pmax
comp=Z,30nm,1.1s
GULI pmax pmax
comp=Z,400nm,3.8s
GULI LR LR
comp=Z,410nm,18.4s
GULI LR LR
comp=Z,560nm,21.7s
GULI LR LR
comp=Z,900nm,18.5s
APA Apatity 84.13 359 ⇓*i*P **P** **09 02 13.1 -2.1**
APA pmax pmax
comp=Z,22nm,1.1s
APA MLR MLR
comp=Z,1μm,16.0s
USHA Ushuaia 84.14 214 LR LR 09 35 58.0
comp=Z,2μm,21.4s,baz=314,slow=33
MPSI Mapaga 84.87 88 P **P** **09 02 20.1 -0.1**
comp=Z,100nm,1.2s,comp=Z,1μm
CPUP Villa Florida 85.05 244 P **P** **09 02 22.5 +1.6**
comp=Z,20nm,1.2s,baz=111,slow=8.6,SNR=12
CPUP LR LR 09 36 24.9
comp=Z,4μm,19.2s,baz=114,slow=33
comp=Z,20nm,1.2s
AQDB Aquidauana 85.22 250 P **P** **09 02 23.5 +1.6**
AQDB Aquidauana 85.22 250 *e*P **P** **09 02 22.9 +1.0**
ENH Enshi 85.26 57 P **P** **09 02 22.1 +0.3**
TRQA Tornquist 85.43 232 IAMs_20 IAMs_20 09 37 18.0
comp=Z,3μm,19.0s
WRKA Warakurna 85.62 115 P **P** **09 02 24.8 +0.9**
TOLI2 Tolitoli 85.93 88 IAMs_20 IAMs_20 09 37 36.3
comp=Z,1μm,20.0s
TOLI2 Tolitoli 85.93 88 P **P** **09 02 25.0 -0.5**
SOEI Soe 86.20 99 P **P** **09 02 28.3 +1.3**
SOEI Soe 86.20 99 P **P** **09 02 28.6 +1.6**
comp=Z,152nm,1.2s,comp=Z,2μm
XAN Xi'an 86.27 53 ⇓P **P** **09 02 26.3 -0.5**
XAN S **S** **09 12 59.8 -2.2**
XAN pmax pmax
comp=Z,74nm,1.1s
XAN pmax pmax
comp=Z,490nm,8.3s
XAN LR LR
comp=Z,1μm,17.5s
XAN LR LR
comp=Z,1μm,17.5s
XAN LR LR
comp=Z,1μm,18.1s
ARCES ARCESS Array B 86.38 357 P **P** **09 02 26.2 -0.2**
comp=Z,27nm,0.9s,baz=173,slow=3.2,SNR=22
ARCES LR LR 09 44 09.4
comp=Z,683nm,19.5s,baz=166,slow=38
comp=Z,27nm,0.9s
MRSI Marisa 86.86 89 P P 09 02 36.8 +6.7
LUWI Luwuk 87.22 90 IAMs_20 IAMs_20 09 38 13.5
comp=Z,1μm,20.0s
LUWI Luwuk 87.22 90 P **P** **09 02 32.1 +0.2**
LUWI Luwuk 87.22 90 P **P** **09 02 32.1 +0.2**
comp=Z,322nm,1.2s,comp=Z,6μm
CNSH ChangSha 87.30 60 ⇑P **P** **09 02 31.6 -0.3**
CNSH S **S** **09 13 11.5 -0.6**
CNSH pmax pmax
comp=Z,12nm,0.6s
CNSH LR LR
comp=Z,330nm,3.9s
CNSH LR LR
comp=Z,430nm,3.7s
CNSH LR LR
comp=Z,890nm,16.3s
KNRA Kununurra 88.72 106 P **P** **09 02 38.5 -0.4**
MOY Mondy 88.77 35 *e*P **P** **09 02 38.5 0.0**
MOY pmax pmax
comp=Z,38nm,1.7s
MULG Mulgathing 88.93 121 P **P** **09 02 40.1 +0.4**
LYN LuoYang 89.18 54 ⇑P **P** **09 02 40.6 -0.1**
LYN sP sP 09 02 46.2 -0.5
LYN S **S** **09 13 34.7 +5.0**
LYN pmax pmax
comp=Z,30nm,1.0s
LYN pmax pmax
comp=Z,430nm,9.6s
LYN LR LR
comp=Z,1μm,14.8s
LYN LR LR
comp=Z,650nm,20.6s
LYN LR LR
comp=Z,1μm,19.9s
WHN Wuhan 89.28 58 P **P** **09 02 41.4 +0.2**
WHN S **S** **09 13 28.6 -2.2**
WHN LR LR
comp=Z,3μm,16.8s
ZAK Zakamensk 89.43 36 *e*P **P** **09 02 41.1 -0.5**
ZAK pmax pmax
comp=Z,18nm,1.3s
AY03 Cochrane 89.48 220 P **P** **09 02 44.4 +2.5**
AY03 IAmb IAmb 09 02 53.0
comp=Z,56nm,1.4s
MDP Montagnes des 89.55 275 LR LR 09 39 12.7
comp=Z,388nm,19.8s,baz=108,slow=33
BTO Baotou 89.61 47 *e*P **P** **09 02 43.7 +1.0**
BTO pP **sP** **09 02 48.8 +0.1**
BTO sP **pP** **09 02 50.5 +3.4**
BTO S **S** **09 13 34.8 +1.0**
BTO SS **SS** **09 19 30.2 -0.2**
BTO pmax pmax
comp=Z,15nm,0.5s
BTO pmax pmax
comp=Z,720nm,4.3s
BTO LR LR
comp=Z,2μm,15.7s
BTO LR LR
comp=Z,1μm,19.2s
BTO LR LR
comp=Z,2μm,16.7s
BBOO Buckleboo 89.71 124 P **P** **09 02 43.7 +0.4**
BBOO IAmb IAmb 09 02 46.0
comp=Z,61nm,1.1s
BBOO Buckleboo 89.71 124 P **P** **09 02 44.8 +1.5**
PTLB Pontes e Lacer 89.79 254 P **P** **09 02 45.5 +1.5**
PTLB IAmb IAmb 09 02 53.3
comp=Z,44nm,1.1s
COYC Coyhaique 89.84 222 IAMs_20 IAMs_20 09 42 10.5
comp=Z,1μm,20.0s
TGY Tagaytay City 89.88 75 LR LR 09 42 01.4
comp=Z,251nm,18.2s,baz=200,slow=35
SANI Sanana 90.02 92 P **P** **09 02 45.5 +0.4**
SANI Sanana 90.02 92 P P 09 02 52.0 +6.9
SONM Songino Array 90.14 40 P **P** **09 02 45.0 0.0**
SONM Songino Array 90.14 40 P **P** **09 02 45.0 0.0**
SONM pmax pmax
comp=Z,8.0nm,1.0s
SONM Songino Array 90.14 40 P **P** **09 02 45.1 +0.1**
comp=Z,7.5nm,1.0s,baz=240,slow=3.4,SNR=28
SONM PKKPbc **PKKPbc** **09 20 15.7 -1.4**
comp=Z,1.0nm,1.0s,baz=48,slow=2.1,SNR=4.7
comp=Z,7.5nm,1.0s
ULN Ulaanbaatar 90.56 40 P **P** **09 02 46.5 -0.5**
ULN Ulaanbaatar 90.56 40 *ce*P **P** **09 02 47.5 +0.5**
ULN pmax pmax
comp=Z,16nm,1.3s
ULN Ulaanbaatar 90.56 40 P **P** **09 02 47.3 +0.4**
ULN P **P** **09 02 47.3 +0.4**
PLCA Paso Flores 90.74 227 IAMs_20 IAMs_20 09 39 17.6
comp=Z,2μm,20.0s
PLCA Paso Flores 90.74 227 P **P** **09 02 49.4 +1.3**
comp=Z,5.8nm,1.1s,baz=98,slow=6.9,SNR=5.8
PLCA LR LR 09 39 19.4
comp=Z,1μm,19.7s,baz=151,slow=33
comp=Z,5.8nm,1.1s
HHC Hu-ho-hao-te 90.79 47 *e*P **P** **09 02 47.7 -0.5**
HHC pP sP 09 02 53.7 -0.5
HHC SKS **SKSac** **09 13 19.6 -0.3**
HHC S **ScS** **09 13 48.4 +0.4**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,130nm,4.3s
HHC LR LR
comp=Z,1μm,17.9s
HHC LR LR
comp=Z,870nm,16.4s
HHC LR LR
comp=Z,830nm,16.6s
WHYH Whyalla 90.83 125 P **P** **09 02 50.3 +1.8**
ASAR Alice Springs 90.91 115 P **P** **09 02 48.1 -1.0**
ASAR Alice Springs 90.91 115 P **P** **09 02 48.1 -1.0**
ASAR Alice Springs 90.91 115 P **P** **09 02 48.6 -0.6**
comp=Z,11nm,0.9s,baz=251,slow=4.3,SNR=50
ASAR LR LR 09 40 07.4
comp=Z,777nm,19.1s,baz=264,slow=33
comp=Z,11nm,0.9s
AS31 Alice Springs 90.91 115 P **P** **09 02 48.4 -0.8**
AS01 Alice Springs 90.95 115 P **P** **09 02 49.3 0.0**
QZH Quanzhou 91.03 64 ⇑*i*P **P** **09 02 48.5 -1.0**
OOD Oodnadatta 91.09 119 P **P** **09 02 49.7 -0.1**
SIV San Ignacio 91.41 253 LR LR 09 42 10.9
comp=Z,1μm,18.1s,baz=115,slow=34
VILB Vilhena 91.52 256 P **P** **09 02 52.7 +0.6**
VILB IAmb IAmb 09 03 01.3
comp=Z,36nm,1.1s
HTT Hallett 91.74 126 P **P** **09 02 54.1 +1.3**
LL03 Petrohue 91.86 226 IAMs_20 IAMs_20 09 41 27.3
comp=Z,2μm,20.0s
HNS HongShan 91.87 52 ⇓P **P** **09 02 52.4 -0.7**
HNS PP **PP** **09 06 31.1 -1.5**
HNS S **S** **09 13 49.4 -4.9**
HNS pmax pmax
comp=Z,17nm,1.2s
HNS LR LR
comp=Z,410nm,16.7s
HNS LR LR
comp=Z,780nm,18.3s
HNS LR LR
comp=Z,1μm,18.3s
BORG Borgarnes 91.93 339 LR LR 09 44 50.3
comp=Z,675nm,21.9s,baz=134,slow=36
LR05 Currie 91.96 227 IAMs_20 IAMs_20 09 39 57.9
comp=Z,2μm,20.0s
DAV Davao City (W) 92.22 83 LR LR 09 40 33.7
comp=Z,686nm,21.9s,baz=264,slow=33
LCRK Leigh Creek 92.25 123 P **P** **09 02 56.2 +1.0**
WRA Warramunga Arr 92.48 112 P **P** **09 02 55.6 -0.9**
comp=Z,8.7nm,1.1s,baz=250,slow=3.0,SNR=20
WRA PP **PP** **09 06 35.0 -2.5**
comp=Z,6.4nm,1.2s,baz=256,slow=6.2,SNR=6.3
comp=Z,8.7nm,1.1s
WRAB Tennant Creek 92.49 112 *i* P **P** **09 02 56.2 -0.3**
WRAB pmax pmax
comp=Z,34nm,1.5s
JMIC Jan Mayen 92.58 347 LR LR 09 48 27.1
comp=Z,275nm,18.7s,baz=74,slow=38
ARPS Mount Arapiles 92.70 130 P **P** **09 02 58.7 +1.6**
BO02 Sierra Bellavi 93.21 232 IAMs_20 IAMs_20 09 41 45.7
comp=Z,2μm,19.0s
NJ2 Nanjing 93.41 58 *e*P **P** **09 03 02.2 +1.8**
NJ2 pmax pmax
comp=Z,14nm,0.6s
NJ2 pmax pmax
comp=Z,630nm,4.0s
NRIK Noril'sk 93.44 16 *ce*P **P** **09 02 59.3 -0.3**
NRIK pmax pmax
comp=Z,13nm,1.1s
NRIK Noril'sk 93.44 16 P **P** **09 02 59.2 -0.5**
comp=Z,7.7nm,1.0s,baz=210,slow=2.9,SNR=8.6
NRIK PP **PP** **09 06 43.5 -0.6**
comp=Z,6.5nm,1.0s,baz=237,slow=4.9,SNR=5.5
NRIK LR LR 09 52 19.9
comp=Z,1μm,18.0s,baz=241,slow=40
comp=Z,7.7nm,1.0s
MT16 CCHEN 93.54 234 IAMs_20 IAMs_20 09 42 34.5
comp=Z,2μm,20.0s
BO01 Tunca 93.60 233 IAMs_20 IAMs_20 09 42 06.9
comp=Z,2μm,20.0s
PEL Peldehue 93.78 234 IAMs_20 IAMs_20 09 43 27.5
comp=Z,2μm,20.0s
BJT Baijiatuan 93.81 49 IAMs_20 IAMs_20 09 43 50.8
comp=Z,835nm,19.0s
VA03 San Esteban 93.82 234 IAMs_20 IAMs_20 09 49 14.8
comp=Z,1μm,21.0s
MT01 Popeta 93.93 233 IAMs_20 IAMs_20 09 44 16.8
comp=Z,1μm,19.0s
GO05 Huala 94.00 232 IAMs_20 IAMs_20 09 45 38.3
comp=Z,2μm,18.0s
STKA Stephens Creek 94.41 125 P **P** **09 03 05.7 +0.6**
STKA Stephens Creek 94.41 125 *i* P **P** **09 03 06.9 +1.8**
STKA Stephens Creek 94.41 125 P **P** **09 03 04.9 -0.2**
comp=Z,4.4nm,1.1s,baz=210,slow=11,SNR=5.6
STKA PKKPbc **PKKPdf** **09 20 03.9 +0.1**
comp=Z,3.0nm,1.0s,baz=341,slow=9.3,SNR=3.4
STKA LR LR 09 40 30.0
comp=Z,528nm,18.6s,baz=230,slow=32
comp=Z,4.4nm,1.1s
CO01 Juntas del Tor 94.51 237 IAMs_20 IAMs_20 09 43 11.5
comp=Z,2μm,20.0s
XLT XiLinHaoTe 94.98 46 *e*P **P** **09 03 06.5 -0.9**
XLT SKS **SKSac** **09 13 38.8 -4.1**
XLT SS **SS** **09 20 45.2 -2.2**
XLT pmax pmax
comp=Z,14nm,1.0s
XLT pmax pmax
comp=Z,120nm,5.6s
XLT LR LR
comp=Z,1μm,19.6s
XLT LR LR
comp=Z,1μm,22.2s
INKA Innaminka 95.30 121 P **P** **09 03 09.5 +0.3**
LCO Las Campanas 95.37 238 IAMs_20 IAMs_20 09 43 52.2
comp=Z,2μm,18.0s
SPITS Spitsbergen Ar 95.41 356 LR LR 09 48 46.8
comp=Z,430nm,19.9s,baz=122,slow=37
SAML Samuel 95.52 259 IAMs_20 IAMs_20 09 44 23.0
comp=Z,2μm,19.0s
GO02 Mina Guanaco 95.88 242 IAMs_20 IAMs_20 09 43 00.2
comp=Z,2μm,19.0s
AC04 Llanos de Chal 95.98 238 IAMs_20 IAMs_20 09 43 12.4
comp=Z,2μm,19.0s
CIT Chita 96.01 37 *e*P **P** **09 03 12.0 +0.1**
CIT *e* 09 03 17.3
LVC Limon Verde 96.22 244 LR LR 09 44 07.4
comp=Z,1μm,19.1s,baz=119,slow=34
BOAV Boa Vista 96.31 271 IAMs_20 IAMs_20 09 45 49.0
comp=Z,1μm,19.0s
PB15 IPOC Station P 96.49 244 IAMs_20 IAMs_20 09 44 40.5
comp=Z,936nm,20.0s
PB09 IPOC Station P 96.80 245 IAMs_20 IAMs_20 09 46 51.8
comp=Z,2μm,18.0s
QIS Mount Isa 96.93 114 P **P** **09 03 16.2 -0.6**
PB08 IPOC Station P 97.31 247 IAMs_20 IAMs_20 09 45 05.4
comp=Z,2μm,19.0s
GO01 Chusmiza 97.51 247 IAMs_20 IAMs_20 09 47 40.8
comp=Z,2μm,18.0s
LPAZ La Paz 97.73 250 IAMs_20 IAMs_20 09 44 29.9
comp=Z,1μm,20.0s
LPAZ La Paz 97.73 250 P Pdif 09 03 22.2 +0.9
comp=Z,2.6nm,0.9s,baz=96,slow=6.0,SNR=6.6
LPAZ PKKPbc **PKKPbc** **09 19 57.4 +1.1**
comp=Z,0.8nm,0.7s,baz=319,slow=4.6,SNR=4.2
LPAZ LR LR 09 44 50.8
comp=Z,1μm,19.6s,baz=103,slow=34
comp=Z,2.6nm,0.9s
CMSA Cobar Meteorol 97.74 126 P Pdif 09 03 21.2 +0.9
PB11 IPOC Station P 97.89 247 IAMs_20 IAMs_20 09 45 16.7
comp=Z,2μm,20.0s
ETMB Extrema 98.09 257 IAMs_20 IAMs_20 09 46 05.7
comp=Z,1μm,18.0s
TA02 Huaiquique 98.12 246 IAMs_20 IAMs_20 09 55 55.9
comp=Z,1μm,19.0s
BOD Bodaibo 98.14 32 *e*P **P** **09 03 19.7 -1.6**
BOD pmax pmax
comp=Z,8.0nm,0.9s
PB16 IPOC Station P 98.26 248 IAMs_20 IAMs_20 09 45 58.7
comp=Z,2μm,19.0s
HIA Hailar 98.95 41 IAMs_20 IAMs_20 09 47 32.4
comp=Z,1μm,20.0s
KSRS Korea Array 102.00 54 P **Pdif** **09 03 37.4 -1.6**
comp=Z,2.3nm,0.9s,baz=260,slow=5.9,SNR=5.5
CZSB Cruzeiro do Su 104.83 257 IAMs_20 IAMs_20 09 49 38.4
comp=Z,2μm,19.0s
YAK Yakutsk 106.69 29 IAMs_20 IAMs_20 09 58 03.6
comp=Z,801nm,19.0s
TIXI Tiksi 106.91 19 IAMs_20 IAMs_20 09 58 13.9
comp=Z,2μm,20.0s
SDV Santo Domingo 107.75 274 IAMs_20 IAMs_20 09 53 54.8
comp=Z,848nm,18.0s
PKME Peaks-Kenny Pk 111.99 313 P **PKiKP** **09 08 20.3 +0.3**
baz=92
SLOR San Lorenzo - 112.57 262 IAMs_20 IAMs_20 09 56 30.4
comp=Z,830nm,18.0s
IMBA Imbabura, San 112.60 263 IAMs_20 IAMs_20 09 54 30.2
comp=Z,2μm,19.0s
CHSH Refugio Sur-Vo 112.68 261 IAMs_20 IAMs_20 09 57 46.3
comp=Z,1μm,18.0s
OTAV Otavalo 112.82 263 IAMs_20 IAMs_20 09 55 04.7
comp=Z,1μm,18.0s
HRV Adam Dziewonsk 113.54 309 P **PKiKP** **09 08 22.8 -0.2**
baz=92
LBNH Lisbon 113.84 311 P **PKiKP** **09 08 23.6 0.0**
baz=90
YSS Yuzh-Sakhalins 113.91 46 IAMs_20 IAMs_20 09 56 11.8
comp=Z,701nm,20.0s
YSS Yuzh-Sakhalins 113.91 46 *i* PKIKP **PKiKP** **09 08 22.5 -1.1**
YSS *e*SS SS 09 25 17.0 +10
YSS pmax pmax
comp=Z,300nm,13.0s
YSS pmax pmax
comp=N,100nm,16.0s
YSS pmax pmax
comp=E,100nm,10.0s
SEY Seymchan 117.03 27 *c i*PKIKP **PKiKP** **09 08 29.9 +0.7**
SEY pmax pmax
comp=Z,5.0nm,1.0s
MA2 Magadan 117.15 31 IAMs_20 IAMs_20 10 02 37.7
comp=Z,816nm,19.0s
MA2 Magadan 117.15 31 *c i*PKIKP **PKiKP** **09 08 29.6 +0.1**
MA2 pmax pmax
comp=Z,11nm,1.7s
SSPA Standing Stone 118.29 307 P **PKiKP** **09 08 33.1 +0.7**
baz=88
CNNC Cliffs of the 118.32 301 P **PKPdf** **09 08 31.5 -1.0**
baz=91
DZM Mont Dzumac 118.47 127 *e*P **PKiKP** **09 08 35.7 +2.3**
comp=Z,123nm,23.6s
DZM Mont Dzumac 118.47 127 *e*LR LR 09 44 42.9
comp=Z,1μm,21.9s
ERPA Erie 119.80 309 P **PKiKP** **09 08 35.5 +0.3**
baz=86
MCWV Mont Chateau 119.83 306 P **PKiKP** **09 08 35.5 +0.1**
baz=87
BILL Bilibino 120.13 19 ⇑*e*PKIKP **PKiKP** **09 08 36.1 +1.0**
BILL pmax pmax
comp=Z,22nm,1.7s
NHSC New Hope 120.18 299 P **PKPdf** **09 08 35.8 -0.3**
baz=91
M53A WI Miller and 120.36 308 P **PKiKP** **09 08 37.0 +0.7**
baz=86
BLA Blacksburg 120.36 304 P **PKiKP** **09 08 37.1 +0.6**
baz=88
O53A New Philadelph 120.85 307 P **PKiKP** **09 08 37.6 +0.3**
baz=86
KMSC Kings Mountain 121.14 301 P **PKiKP** **09 08 38.1 0.0**
baz=89
COVE Coope Vega, Sa 121.36 272 IAMs_20 IAMs_20 10 03 05.5
comp=Z,978nm,18.0s
P52A Corning 121.59 306 P **PKiKP** **09 08 38.9 +0.1**
baz=86
ACSO Alum Creek Sta 122.20 307 P **PKiKP** **09 08 40.5 +0.5**
baz=85
PETK Petropavlovsk- 122.55 37 PKP **PKPdf** **09 08 39.4 -0.7**
comp=Z,7.9nm,0.9s,baz=307,slow=0.7,SNR=2.6
GLMI Grayling 122.84 313 P **PKiKP** **09 08 41.7 +0.6**
baz=81
TZTN Tazewell 122.90 303 P **PKiKP** **09 08 41.7 +0.1**
baz=87
GOGA Godfrey 122.93 299 P **PKPdf** **09 08 41.2 -0.2**
baz=89
TIGA Tifton 123.05 297 P **PKPdf** **09 08 41.6 -0.1**
baz=90
P49A Miami Univ. Ec 123.59 307 P **PKPdf** **09 08 42.5 0.0**
baz=84
A36M Sachs Harbour 123.64 353 P **PKPdf** **09 08 41.5 -0.1**
baz=22,SNR=8.1
O48B Farmland 123.85 307 P **PKPdf** **09 08 42.6 -0.4**
baz=84
CRIN San Cristobal 124.31 274 IAMs_20 IAMs_20 10 03 59.8
comp=Z,680nm,21.0s
TGUH Tegucigalpa,Un 124.79 276 IAMs_20 IAMs_20 10 04 49.4
comp=Z,623nm,18.0s
WCI Wyandotte Cave 124.95 305 P **PKPdf** **09 08 45.1 0.0**
baz=84
A21K Barrow 125.01 5 P **PKiKP** **09 08 44.8 +0.2**
baz=346,SNR=25
SFIN Lafayette 125.31 308 P **PKiKP** **09 08 45.9 -0.2**
baz=82
L44A Lake County Fo 125.64 310 P **PKiKP** **09 08 46.6 -0.1**
baz=80
LRAL Lakeview Retre 125.90 299 P **PKiKP** **09 08 47.4 -0.2**
baz=87
C36M Paulatuk 125.92 351 P **PKiKP** **09 08 46.4 0.0**
baz=24
B22K Teshekpuk Lake 126.20 4 P **PKiKP** **09 08 47.3 +0.3**
baz=350
B20K Meade River 126.25 5 P **PKiKP** **09 08 47.3 +0.2**
baz=345
B18K Kokolik River 126.37 7 P **PKiKP** **09 08 48.1 +0.7**
baz=339
WVT Waverly 126.38 303 P **PKPdf** **09 08 47.5 -0.4**
baz=84
EYMN Ely 126.79 318 P **PKiKP** **09 08 49.0 +0.1**
baz=73
B21K Ikpikpuk River 126.83 4 P **PKiKP** **09 08 48.3 0.0**
baz=348
C23K Itkillik River 126.85 3 P **PKiKP** **09 08 48.8 +0.5**
baz=353
C19K Lookout Ridge 126.87 7 P **PKiKP** **09 08 48.2 -0.3**
baz=342
C16K Lisburne Hills 126.88 9 P **PKiKP** **09 08 48.3 -0.1**
baz=335
C26K Camden Bay 126.89 0 P **PKiKP** **09 08 48.2 -0.2**
baz=360
HDIL Hopedale 126.94 308 P **PKiKP** **09 08 49.2 -0.2**
baz=80
C17K DeLong Mountai 127.02 8 P **PKPdf** **09 08 48.1 -0.1**
baz=338
C24K Franklin Bluff 127.03 2 P **PKiKP** **09 08 48.8 +0.1**
baz=355,SNR=24
C18K Utukok River 127.12 8 P **PKiKP** **09 08 48.9 -0.1**
baz=340
JFWS Jewell Farm 127.19 311 P **PKiKP** **09 08 49.8 0.0**
baz=78
C21K Knifeblade Rid 127.27 5 P **PKiKP** **09 08 49.8 +0.6**
baz=348
D28M Stokes Point 127.36 357 P **PKiKP** **09 08 49.7 +0.4**
baz=7.0
D25K Kavik River 127.48 1 P **PKiKP** **09 08 50.2 +0.5**
baz=358
D20K Ettivluk River 127.55 5 P **PKiKP** **09 08 50.0 +0.2**
baz=345
D24K Happy Valley 127.60 2 P **PKiKP** **09 08 50.3 +0.4**
baz=355
D19K Kuna River 127.62 6 P **PKiKP** **09 08 50.0 0.0**
baz=344
D22K Ayikyak River 127.69 4 P **PKiKP** **09 08 50.3 +0.2**
baz=350
D23K Nanushuk River 127.71 3 P **PKiKP** **09 08 50.4 +0.3**
baz=353
D17K Noatak River 127.75 9 P **PKiKP** **09 08 50.7 +0.5**
baz=337
OXF Oxford 127.81 301 P **PKPdf** **09 08 50.7 0.0**
baz=85,SNR=7.2
INK Inuvik 128.03 355 P **PKiKP** **09 08 50.9 +0.2**
baz=14,SNR=18
E20K Nigu River 128.03 5 P **PKiKP** **09 08 50.7 -0.1**
baz=346,SNR=20
N41A Harden Midland 128.08 309 IAMs_20 IAMs_20 09 57 55.6
comp=Z,775nm,18.0s
FVM French Village 128.21 305 IAMs_20 IAMs_20 10 03 54.6

comp=Z,1µm,21.0s
E29M Blow River 128.25 357 P PKiKP 09 08 51.5 +0.3
baz=8.1
E18K Tukpahlearik C 128.35 8 P PKiKP 09 08 51.5 +0.1
baz=340
SPMN Marine on St. 128.42 315 P PKiKP 09 08 52.0 -0.2
baz=74
E22K Anaktuvuk Pass 128.48 3 IAMs_20 IAMs_20 10 14 45.7
comp=Z,1µm,19.0s
E22K Anaktuvuk Pass 128.48 3 P PKiKP 09 08 51.8 0.0
baz=351
E23K Chandalar 128.66 2 P PKiKP 09 08 52.2 0.0
baz=354
E24K Your Creek 128.69 2 P PKiKP 09 08 51.8 -0.4
baz=355
E25K Arctic Village 128.70 0 P PKiKP 09 08 51.9 -0.2
baz=359,SNR=15
E19K Redstone River 128.71 6 P PKiKP 09 08 52.2 0.0
baz=344
ULM Lac du Bonnet 128.72 322 PKIKP PKPdf 09 08 52.0 0.0
ULM Lac du Bonnet 128.72 322 PKP PKPdf 09 08 52.0 0.0
comp=Z,21nm,1.0s,baz=72,slow=2.4,SNR=22
CCM Cathedral Cave 128.84 306 P PKPdf 09 08 52.7 +0.1
baz=81
TNA Tin City 128.84 12 P PKiKP 09 08 52.4 0.0
baz=331
F30M Barrier River 128.89 356 P PKiKP 09 08 52.4 0.0
baz=11,SNR=8.9
F31M Tsiigehtchic 128.89 355 P PKiKP 09 08 52.6 +0.2
baz=13,SNR=18
VBMS Vicksburg 128.92 298 P PKPdf 09 08 52.7 -0.2
baz=86
HUEH Huehuetenango 129.04 276 IAMs_20 IAMs_20 10 07 33.0
comp=Z,768nm,18.0s
F28M Old Crow 129.12 358 P PKiKP 09 08 53.0 0.0
baz=5.8
F26K Sheenjek River 129.13 360 P PKiKP 09 08 53.0 0.0
baz=0.5
F17K Baldwin Pennin 129.19 9 P PKiKP 09 08 53.5 +0.5
baz=339
F25K Christian Rive 129.23 0 P PKiKP 09 08 53.5 +0.3
baz=359
F14K Arctic Creek 129.23 11 P PKPdf 09 08 52.8 +0.3
baz=333
F18K Selawik 129.25 8 P PKPdf 09 08 52.7 +0.3
baz=341
F19K Shaleruckik Mo 129.26 7 P PKiKP 09 08 52.9 -0.3
baz=344
F20K Avaraart Lake 129.26 6 P PKPdf 09 08 52.8 +0.3
baz=346,SNR=6.2
F24K Squaw Lake 129.26 2 P PKiKP 09 08 53.4 +0.1
baz=356
F21K Alatna River 129.27 4 P PKiKP 09 08 53.2 -0.1
baz=349
F15K North Star Dit 129.33 11 P PKPdf 09 08 52.7 0.0
baz=335
AGMN Agassiz Nation 129.44 319 P PKPdf 09 08 53.3 -0.1
baz=69
G31M Satah River 129.44 355 P PKPdf 09 08 53.0 +0.1
baz=13,SNR=21
COLD Coldfoot 129.47 3 P PKiKP 09 08 53.2 -0.4
baz=353
G30M tAoh Zraii Nji 129.54 356 P PKPdf 09 08 53.4 +0.3
baz=10,SNR=7.7
SCIA State Center 129.56 311 P PKPdf 09 08 53.9 0.0
baz=76
G22K Bettles 129.70 4 P PKiKP 09 08 54.4 +0.3
baz=351
YKA Yellowknife Ar 129.74 342 PKP PKPdf 09 08 53.4 -0.2
comp=Z,10nm,1.0s,baz=38,slow=2.1,SNR=42
YKA PP PP 09 11 05.3 +1.2
comp=Z,2.1nm,1.1s,baz=28,slow=6.6,SNR=6.4
G26K Porcupine Rive 129.87 360 P PKPdf 09 08 53.9 +0.2
baz=1.0
G23K Bananza Creek 129.99 3 P PKiKP 09 08 54.5 -0.3
baz=353
G19K Purcell Mounta 130.00 7 P PKiKP 09 08 54.6 -0.1
baz=344
G16K Koyuk River 130.00 10 P PKPdf 09 08 54.0 +0.1
baz=338
G25K Bearman Lake 130.05 1 P PKPdf 09 08 54.2 +0.2
baz=358
G18K Tagagawik 130.05 7 P PKiKP 09 08 54.5 -0.4
baz=342
G15K Niukluk 130.09 11 P PKiKP 09 08 54.8 -0.1
baz=335
G24K Hadweenzic Riv 130.09 1 P PKiKP 09 08 55.0 +0.1
baz=356
G17K Kiwalik Mounta 130.16 9 P PKiKP 09 08 54.6 -0.5
baz=340
EPYK Eagle Plains 130.18 356 P PKPdf 09 08 54.2 -0.2
baz=9.8,SNR=14
ANM Nome 130.23 12 P PKPdf 09 08 54.5 0.0
baz=334
H29M Whitestone 130.44 357 P PKPdf 09 08 54.9 +0.1
baz=7.8
H31M Peel River 130.54 354 P PKPdf 09 08 55.3 +0.2
baz=13
H25L Birch Creek 130.56 1 P PKPdf 09 08 55.2 +0.2
baz=358
H27K Steamboat Moun 130.56 358 P PKiKP 09 08 55.6 -0.3
baz=3.8
H19K Roundabout Mou 130.66 6 P PKiKP 09 08 56.0 -0.1
baz=345
H16K Elim 130.72 10 P PKPdf 09 08 55.4 0.0
baz=338
H22K Ishtalitna Cre 130.73 4 P PKiKP 09 08 56.3 +0.1
baz=351
H17K Granite Mounta 130.80 9 P PKiKP 09 08 56.3 -0.1
baz=340
H18K Honhosa River 130.80 8 P PKiKP 09 08 56.2 -0.2
baz=342
H20K Anotleneega Mo 130.86 6 P PKiKP 09 08 56.3 -0.3
baz=347,SNR=7.5
H21K Melozitna Rive 130.87 4 P PKiKP 09 08 56.1 -0.5
baz=350
H24K Noodor Dome 130.95 2 P PKiKP 09 08 56.4 -0.3
baz=356
I27K Kandik River 131.19 358 P PKPdf 09 08 56.6 +0.3
baz=3.8
MIAR Mount Ida 131.22 301 P PKPdf 09 08 56.8 -0.5
baz=82,SNR=11
I28M Miner Creek 131.28 357 P PKPdf 09 08 56.4 -0.1
baz=5.9
I30M Mount Dempster 131.29 355 P PKPdf 09 08 56.5 -0.1
baz=10
PRP Porcupine Dome 131.31 0 P PKPdf 09 08 56.4 -0.3
baz=359,SNR=7.6
WRGLY Wrigley 131.34 347 P PKiKP 09 08 57.2 -0.3
baz=27
GCSA Galena City Sc 131.37 7 P PKPdf 09 08 56.7 +0.2
baz=344
I21K Tanana 131.40 4 P PKPdf 09 08 57.0 +0.3
baz=350
I26K Coal Creek Min 131.52 359 P PKPdf 09 08 57.0 +0.1
baz=1.8
I20K Naaghehedeneel 131.58 6 P PKiKP 09 08 57.4 -0.5
baz=347
I23K Minto, Yukon-K 131.58 3 P PKPdf 09 08 56.8 -0.2
baz=354
MLY Manley 131.63 3 P PKPdf 09 08 57.2 0.0
baz=352
I17K Unalakleet 131.67 9 P PKPdf 09 08 56.9 -0.2
baz=339
POKR Poker Plat Res 131.68 2 P PKPdf 09 08 56.7 -0.5
baz=356
COLA College 131.91 2 P PKPdf 09 08 57.9 +0.3
baz=356
J30M Hart River 131.93 355 P PKPdf 09 08 57.6 -0.2
baz=11,SNR=11
MDND Maddock 131.93 320 P PKPdf 09 08 58.2 +0.1
baz=66
EGAK Eagle 132.00 358 P PKPdf 09 08 57.4 -0.4
baz=4.4
ILAR Eielson Array 132.04 1 PKP PKPdf 09 08 57.3 -0.6
comp=Z,6.4nm,0.9s,baz=330,slow=2.6,SNR=33
NEA2 Nenana 132.15 3 P PKPdf 09 08 57.8 -0.2
baz=354
J29N Klondike Camp 132.18 356 P PKiKP 09 08 58.9 -0.5
baz=8.2,SNR=11
J20K Nowinta River 132.21 6 IAMs_20 IAMs_20 10 17 36.4
comp=Z,601nm,20.0s
J20K Nowinta River 132.21 6 P PKiKP 09 08 58.8 -0.5
baz=348
J25K Salcha River, 132.22 0 P PKPdf 09 08 58.7 +0.4
baz=359
J14K Nanvaranak Lak 132.22 12 P PKiKP 09 08 58.9 -0.4
baz=335
J19K Poorman 132.24 7 P PKiKP 09 08 58.9 -0.4
baz=346
J16K Anvik River 132.25 10 P PKiKP 09 08 59.0 -0.4
baz=339
J26L Joseph Creek 132.33 359 P PKiKP 09 08 59.1 -0.5
baz=1.3
HDA Harding Lake 132.40 1 P PKiKP 09 08 59.1 -0.6
baz=357,SNR=6.8
NATX Nacogdoches 132.46 298 P PKPdf 09 08 59.5 -0.2
baz=84
BPAW Bear Paw Mtn. 132.54 4 P PKPdf 09 08 59.3 +0.4
baz=352
J18K Innoko River 132.63 7 IAMs_20 IAMs_20 10 14 55.4
comp=Z,976nm,20.0s
J18K Innoko River 132.63 7 P PKiKP 09 08 60.0 -0.2
baz=344
DAWY Dawson 132.64 357 P PKPdf 09 08 58.9 -0.2
baz=6.7
CHUM Lake Minchumin 132.66 5 P PKPdf 09 08 59.1 +0.1
baz=350
K29M Barlow Dome 132.74 356 P PKPdf 09 08 59.5 +0.1
baz=9.2
KSU1 Kansas State U 132.75 308 P PKPdf 09 09 00.5 +0.5
baz=76
K27K Chicken 132.78 358 P PKiKP 09 08 59.9 -0.5
baz=3.2
TUL3 Leonard 132.79 304 P PKPdf 09 08 59.9 -0.2
baz=79
SUSD Miller 132.82 316 P PKiKP 09 09 00.6 -0.5
baz=69
MAYO Mayo, Yukon 132.85 355 P PKPdf 09 08 59.7 +0.2
baz=11
SCRK Sand Creek 132.86 360 P PKPdf 09 08 59.5 -0.1
baz=0.8
MCK McKinley 133.01 3 P PKPdf 09 08 59.7 -0.1
baz=354
K15K Wolf Creek Mou 133.02 11 P PKPdf 09 09 00.1 +0.3
baz=338
K20K Telida 133.03 6 P PKPdf 09 08 59.9 +0.1
baz=348
K24K Donnelly Dome 133.03 1 P PKPdf 09 08 59.8 0.0
baz=358
RIDG Independent Ri 133.10 0 P PKiKP 09 09 00.6 -0.5
baz=360
CAST Castle Rocks 133.14 5 P PKPdf 09 09 00.0 0.0
baz=350,SNR=9.6
K17K Iditarod 133.14 9 P PKiKP 09 09 00.6 -0.6
baz=342
TRF Thorofare Moun 133.23 3 P PKPdf 09 09 00.1 -0.3
baz=352
TTA Tatalina 133.23 7 P PKPdf 09 09 00.5 +0.2
baz=345
BGNE Belgrade 133.26 311 P PKPdf 09 09 00.5 -0.5
baz=72
L29M L29M 133.51 356 P PKPdf 09 09 01.3 +0.6
baz=8.5
L15K Ungalak Mounta 133.60 11 P PKiKP 09 09 01.5 -0.7
baz=337
HKT Hockley 133.64 296 IAMs_20 IAMs_20 10 07 27.7
comp=Z,1µm,18.0s
PPLA Purkeypile 133.65 5 P PKPdf 09 09 01.4 +0.3
baz=350
L14K Kuka Creek 133.68 12 P PKPdf 09 09 01.0 0.0
baz=336
L17K Donlin 133.69 9 P PKPdf 09 09 01.2 +0.2
baz=342
L27K Beaver Creek, 133.74 358 P PKPdf 09 09 01.7 +0.6
baz=3.6
M11K Mekoryuk 133.76 15 P PKPdf 09 09 01.6 +0.4
baz=331
L26K Log Cabin Wild 133.81 359 P PKPdf 09 09 01.6 +0.3
baz=1.6
TGTN Hyland Airport 133.83 349 P PKPdf 09 09 01.7 +0.3
baz=22
L18K Granite Mounta 133.84 8 P PKPdf 09 09 01.6 +0.3
baz=344
PAX Paxson 133.87 1 P PKPdf 09 09 02.1 +0.6
baz=359
L20K Farewell, AK 133.91 6 P PKPdf 09 09 01.1 -0.4
baz=348
L16K Owhat River 133.91 10 P PKPdf 09 09 01.6 +0.2
baz=340
FARO Faro, Yukon 133.92 353 P PKPdf 09 09 01.5 -0.1
baz=15
M30M Minto, Yukon 133.94 355 P PKPdf 09 09 01.9 +0.3
baz=10
FLDN Fort Liard 133.99 346 P PKiKP 09 09 02.4 -0.5
baz=29
M31M Drury Creek, Y 134.07 353 P PKPdf 09 09 01.1 -0.7
baz=14
L19K White Mountain 134.09 7 P PKiKP 09 09 02.6 -0.6
baz=346
M29M Somme Creek 134.19 356 P PKPdf 09 09 02.7 +0.5
baz=8.2
KOTAN Kotaneelee Air 134.22 346 P PKiKP 09 09 02.9 -0.6
baz=28
BVCY Beaver Creek 134.35 358 P PKPdf 09 09 02.5 +0.1
baz=5.0,SNR=6.0
M14K Bethel 134.37 12 P PKiKP 09 09 03.2 -0.5
baz=336
DGMT Dagmar 134.38 323 P PKPdf 09 09 02.9 +0.1
baz=60
M13K Dall Lake 134.39 13 P PKPdf 09 09 02.4 +0.1
baz=334
M19K Big River Lodg 134.42 6 P PKPdf 09 09 02.9 +0.4
baz=347
M26K Nabesna, AK 134.43 359 P PKPdf 09 09 02.7 +0.2
baz=2.1
HARP HAARP 134.44 0 P PKPdf 09 09 02.6 +0.1
baz=359
M27K Edge Creek, AK 134.45 358 IAMs_20 IAMs_20 10 16 13.3
comp=Z,718nm,20.0s
M27K Edge Creek, AK 134.45 358 P PKPdf 09 09 02.5 -0.1
baz=3.6
M17K Holitna River 134.52 9 P PKPdf 09 09 03.1 +0.4
baz=343
OK032 Salt Plains WL 134.52 305 IAMs_20 IAMs_20 10 03 28.7
comp=Z,977nm,19.0s
M20K Styx River 134.56 6 P PKPdf 09 09 03.0 +0.2
baz=348
SKT Skwentna 134.60 5 P PKPdf 09 09 02.4 -0.4
baz=351,SNR=16
M16K Timber Creek 134.65 10 P PKPdf 09 09 02.9 0.0
baz=340
M18K Stony River 134.65 8 P PKPdf 09 09 02.8 -0.1
baz=345
M15K Kasigluk River 134.66 11 P PKPdf 09 09 02.6 -0.3
baz=342
M24K Tolsona, Glenn 134.73 1 P PKiKP 09 09 03.8 -0.7
baz=358
WHTX Lake Whitney, 134.79 299 P PKPdf 09 09 03.5 -0.5
baz=82,SNR=12
M22K Willow 134.93 4 P PKPdf 09 09 03.6 +0.2
baz=352,SNR=9.3
N32M Quiet Lake 134.93 352 P PKPdf 09 09 04.0 +0.5
baz=16
SML Sawmill 134.96 2 P PKPdf 09 09 03.4 -0.1
baz=355
GHO Glory Hole Cre 134.97 3 IAMs_20 IAMs_20 10 18 07.3
comp=Z,688nm,19.0s
SCM Sheep Creek Mo 134.97 2 P PKPdf 09 09 03.5 -0.1
baz=356
YUK3 Moose Creek 134.97 357 P PKPdf 09 09 03.4 -0.3
baz=5.6
M23K Glacier View 135.00 2 P PKPdf 09 09 03.3 -0.2
baz=356
OK038 West end E0370 135.01 305 IAMs_20 IAMs_20 10 11 02.7
comp=Z,1µm,21.0s
435B Jarrell 135.06 297 P PKPdf 09 09 04.8 +0.2
baz=83
N30M Aishikik Lake 135.06 355 P PKPdf 09 09 03.6 -0.2
baz=10
PMR Palmer 135.14 3 P PKPdf 09 09 03.2 -0.5
baz=354
SUA Susitna One 135.17 4 P PKPdf 09 09 04.7 +0.7
baz=352
CBKS Cedar Bluff 135.18 309 P PKPdf 09 09 04.3 -0.3
baz=73
N14K Kuskokwak Cree 135.18 12 P PKPdf 09 09 03.6 -0.3
baz=336
N16K Nishlik Lake 135.20 10 P PKPdf 09 09 04.0 +0.1
baz=341
WTLY Watson Lake, Y 135.24 349 P PKPdf 09 09 04.5 +0.5
baz=22
N25K Chitina, Valde 135.24 360 P PKPdf 09 09 03.9 -0.2
baz=360
N15K Kwethluk River 135.26 11 P PKPdf 09 09 04.3 +0.3
baz=339
YUK4 Talbot Arm 135.30 356 P PKiKP 09 09 05.4 -0.5
baz=8.2
N20K Mount Spurr 135.32 5 P PKPdf 09 09 03.7 -0.6
baz=350,SNR=8.5
SPIA Saint Paul Isl 135.34 20 P PKPdf 09 09 03.4 -0.8
baz=324
KLU Klutina 135.35 1 P PKPdf 09 09 04.3 0.0
baz=358
KNK Knik Glacier 135.35 3 P PKPdf 09 09 04.4 +0.2
baz=355
N17K Nushagak Hills 135.40 9 P PKPdf 09 09 03.6 -0.6
baz=343
WMOK Wichita Mounta 135.42 303 P PKPdf 09 09 05.3 +0.2
baz=78,SNR=19
N18K Kilae Creek 135.43 8 P PKPdf 09 09 04.0 -0.4
baz=344
YUK8 Steele Glacier 135.43 357 P PKPdf 09 09 04.7 0.0
baz=6.6,SNR=6.5
MCARA McCarthy VSAT 135.45 359 P PKPdf 09 09 04.7 +0.3
baz=2.1,SNR=14
N19K Bonanza Creek 135.47 7 P PKPdf 09 09 04.8 +0.3
baz=346
RC01 Rabbit Creek A 135.61 4 P PKPdf 09 09 04.1 -0.6
baz=353,SNR=7.4
WHY Whitehorse 135.63 353 P PKPdf 09 09 04.5 -0.3
baz=13
O30N Mendenhall 135.65 354 P PKPdf 09 09 04.8 -0.1
baz=12
YUK6 Outpost Mounta 135.68 356 P PKPdf 09 09 04.9 -0.2
baz=8.5
HYT Haines Junctio 135.73 355 P PKPdf 09 09 05.3 +0.2
baz=9.7
P33M Teslin, Yukon 135.80 352 P PKPdf 09 09 05.6 +0.4
baz=16
CTG Chitna Glacier 135.82 358 P PKPdf 09 09 06.0 +0.7
baz=4.4
CAPN Captain Cook N 135.83 5 P PKiKP 09 09 06.0 -0.6
baz=351
BMRM Bremner River 135.88 360 P PKPdf 09 09 05.7 +0.4
baz=360,SNR=8.1
O14K Tigyukauivet M 135.88 12 P PKPdf 09 09 05.7 +0.5
baz=337
CRQE Cirque 136.09 359 P PKPdf 09 09 06.1 +0.4
baz=2.0,SNR=5.5
O19K Port Alsworth 136.09 7 P PKPdf 09 09 05.5 0.0
baz=346
O17K Koliganek Bris 136.13 9 P PKPdf 09 09 05.5 -0.1
baz=343
O16K Kokwok River B 136.15 10 P PKPdf 09 09 05.4 -0.2
baz=341
OGNE Ogallala 136.18 312 P PKPdf 09 09 06.1 -0.4
baz=69,SNR=8.8
O22K Cooper Landing 136.22 4 P PKPdf 09 09 05.5 -0.3
baz=353
O15K Ungalikthiuk R 136.24 11 P PKPdf 09 09 05.4 -0.5
baz=339
EYAK Cordova Ski Ar 136.30 1 P PKPdf 09 09 05.9 0.0
baz=358
R33M Jennings River 136.30 350 P PKPdf 09 09 06.1 -0.1
baz=19
RSSD Black Hills 136.30 317 P PKPdf 09 09 06.8 0.0
baz=64
O18K Koktuh Hills 136.32 8 P PKPdf 09 09 06.2 +0.1
baz=345
O29M Mount Kennedy 136.33 356 P PKPdf 09 09 06.8 +0.6
baz=8.3
P30M Million Dollar 136.37 354 P PKPdf 09 09 06.4 +0.2
baz=11
O20K Slope Mountain 136.38 6 P PKPdf 09 09 05.9 -0.3
baz=349
LAO LASA Array 136.46 322 P PKPdf 09 09 07.1 +0.3
baz=60
ABTX Abilene, Hawle 136.53 300 P PKPdf 09 09 07.1 -0.2
baz=80,SNR=13
P32M Atlin 136.53 352 P PKPdf 09 09 07.0 +0.5
baz=15
SEW Seward 136.61 4 P PKPdf 09 09 06.1 -0.4
baz=353
MESA MESA 136.63 358 P PKPdf 09 09 06.1 -0.7
baz=3.6
PINM Pinnacle 136.64 357 P PKPdf 09 09 06.9 +0.2
baz=5.0
P16K Nushagak River 136.70 10 P PKPdf 09 09 07.5 +0.8
baz=341
P19K Oil Pt 136.75 6 P PKPdf 09 09 06.5 -0.3
baz=348
P18K Big Mountain, 136.76 8 P PKPdf 09 09 05.9 -1.1
baz=345
P17K Kvichak River 136.78 9 P PKPdf 09 09 07.0 +0.2
baz=343
SKAG Skagway 136.85 353 P PKPdf 09 09 07.6 +0.6
baz=13
BRSE Bradley Lake S 136.88 5 P PKPdf 09 09 07.2 +0.1
baz=351
833A Chaparral WMA, 136.89 294 P PKPdf 09 09 08.7 +0.6
baz=84
Q32M Nakina River 136.92 351 P PKPdf 09 09 08.0 +0.6
baz=17
KAIM Kayak Island 136.93 360 P PKiKP 09 09 08.4 -0.5
baz=0.2
P29M Windy Craggy 136.93 355 P PKiKP 09 09 08.3 -0.7
baz=9.6
PLBC Pleasant Camp 136.97 354 P PKiKP 09 09 08.1 -0.9
baz=12
JCT Junction City 137.00 297 P PKPdf 09 09 07.9 -0.3
baz=82
PNL Peninsula 137.01 356 P PKPdf 09 09 07.6 +0.2
baz=7.3
DLBC Lease Lake 137.03 349 P PKPdf 09 09 07.5 0.0
baz=21
KSCO Kaye Shedlock' 137.26 310 IAMs_20 IAMs_20 10 09 42.6
comp=Z,1µm,20.0s
KSCO Kaye Shedlock' 137.26 310 P PKPdf 09 09 08.2 -0.4
baz=71
Q19K Cape Douglas, 137.41 7 P PKPdf 09 09 08.3 +0.2
baz=347
AMTX Amarillo 137.71 304 P PKPdf 09 09 09.4 -0.1
baz=76
EGMT Eagleton 137.76 325 P PKPdf 09 09 09.0 -0.2
baz=54
Q17K Contact Creek 137.76 9 P PKPdf 09 09 08.0 -0.9
baz=344
Q20K Shuyak Island 137.86 6 P PKiKP 09 09 10.3 -0.5
baz=349
JIS Juneau Island 137.89 352 IAMs_20 IAMs_20 10 09 30.8
comp=Z,844nm,21.0s
R16K Pilot Point 138.16 10 P PKPdf 09 09 09.8 +0.4
baz=341
S31K Pelican 138.42 353 P PKPdf 09 09 09.6 -0.3
baz=12
T35M Bob Quinn 138.44 348 P PKPdf 09 09 10.2 +0.1
baz=21
K22A Casper 138.58 317 P PKPdf 09 09 10.8 -0.2
baz=63
KDAK Kodiak Island 138.65 6 P PKPdf 09 09 10.2 -0.1
baz=348
S32K Killisnoo 138.70 352 P PKPdf 09 09 09.6 -0.8
baz=15
MSTX Muleshoe 138.81 303 P PKPdf 09 09 11.2 -0.4
baz=76
N23A Red Feather La 138.94 314 P PKPdf 09 09 11.3 -0.5
baz=66,SNR=12
OHAK Old Harbor 139.12 7 P PKPdf 09 09 12.1 +0.9
baz=347
Q24A Divide 139.12 311 P PKPdf 09 09 11.2 -1.1
baz=68
ISCO Idaho Springs 139.14 312 P PKPdf 09 09 12.0 -0.3
baz=67
SIT Sitka 139.20 352 P PKPdf 09 09 10.8 -0.5
baz=14
CHGN Chignik 139.20 12 P PKPdf 09 09 12.0 +0.6
baz=340
NIKH Nikolski High 139.20 22 P PKPdf 09 09 11.3 -0.2
baz=323
T25A Trinidad 139.20 308 P PKPdf 09 09 13.3 +1.0
baz=71
FALS False Pass 139.35 17 P PKPdf 09 09 12.3 +0.6
baz=332
WRAK Wrangell Islan 139.36 350 P PKiKP 09 09 12.8 -1.2
baz=18
U35K Hyder 139.39 347 P PKPdf 09 09 12.3 +0.6
baz=22
SDPT Sand Point 139.64 14 P PKPdf 09 09 12.6 +0.4
baz=336
BOZ Bozeman (W) 140.21 323 P PKPdf 09 09 14.4 +0.6
baz=54
TXAR Lajitas Array 140.48 296 PKhKP PKPpre 09 09 09.9
comp=Z,7.3nm,1.1s,baz=106,slow=3.0,SNR=29

BW06	**Boulder Array**	**140.49**	**318**	P	**PKPdf**	09 09 14.1	**-0.4**
	baz=60,SNR=15							
PDAR	**Pinedale Array**	**140.49**	**318**	PKhKP	PKPpre	09 09 07.5		
	comp=Z,15nm,1.0s,baz=77,slow=4.1,SNR=7.7							
PDAR				PKP	**PKPdf**	**09 09 14.8**	**+0.2**	
	comp=Z,13nm,0.9s,baz=72,slow=2.9,SNR=41							
O20A	**White River Ci**	**140.85**	**314**	P	**PKPdf**	**09 09 15.3**	**+0.1**	
	baz=64							
TPAW	**Teton Pass**	**140.99**	**320**	IAms_20	IAms_20	10 11 48.6		
	comp=Z,1µm,20.0s							
NEW	**Newport**	**141.38**	**330**	P	**PKPdf**	**09 09 16.2**	**+0.4**	
	baz=45							
B08A	**Colville Reser**	**142.33**	**332**	IAms_20	IAms_20	10 18 41.2		
	comp=Z,599nm,18.0s							
HLID	**Hailey**	**143.02**	**323**	P	**PKPdf**	**09 09 18.6**	**-0.4**	
	baz=53,SNR=12							
121A	**Cookes Peak, D**	**143.24**	**302**	P	**PKPdf**	**09 09 19.4**	**-0.3**	
	baz=74,SNR=37							
BGU	**Big Grassy Mou**	**143.66**	**318**	IAms_20	IAms_20	10 15 21.7		
	comp=Z,1µm,19.0s							
BMO	**Blue Mountains**	**143.81**	**326**	IAms_20	IAms_20	10 13 53.6		
	comp=Z,1µm,20.0s							
DUG	**Dugway, Tooele**	**143.90**	**317**	P	**PKPdf**	**09 09 21.8**	**+1.2**	
	baz=59							
W18A	**Petrified Fore**	**143.94**	**307**	P	**PKPdf**	**09 09 22.2**	**+1.3**	
	baz=68,SNR=12							
G08A	**Pilot Rock**	**144.37**	**328**	IAms_20	IAms_20	10 16 19.8		
	comp=Z,1µm,19.0s							
GNW	**Green Mountain**	**144.44**	**334**	IAms_20	IAms_20	10 17 03.9		
	comp=Z,897nm,19.0s							
WUAZ	**Wupatki**	**145.03**	**309**	P	**PKPdf**	**09 09 23.5**	**+0.8**	
	baz=66,SNR=93							
I07A	**Izee**	**145.49**	**327**	IAms_20	IAms_20	10 18 04.6		
	comp=Z,1µm,19.0s							
PPT2	**Papeete2**	**145.49**	**172**	*e*P	**PKPbc**	**09 09 19.7**	**-4.1**	
	comp=Z,310nm,24.0s							
PPT2	**Papeete2**	**145.49**	**172**	*e*PP	**PP**	**09 12 41.2**	**-0.8**	
	comp=Z,182nm,25.8s							
PPT2	**Papeete2**	**145.49**	**172**	*e*SS	SS	09 31 45.4	+12	
	comp=Z,279nm,23.5s							
PPT2	**Papeete2**	**145.49**	**172**	*e*LR	LR	09 57 12.3		
	comp=Z,991nm,25.0s							
PPT2				*e*LR	LR	09 57 19.8		
	comp=Z,744nm,26.0s							
PPT	**Papeete**	**145.51**	**172**	PKPbc	**PKPab**	**09 09 25.7**	**+1.7**	
	comp=Z,46nm,1.1s,baz=94,slow=10.0,SNR=6.4							
TUC	**Tucson**	**145.72**	**303**	P	**PKiKP**	**09 09 26.3**	**-1.6**	
	baz=71							
H04A	**Detroit Lake**	**146.38**	**331**	IAms_20	IAms_20	10 16 02.7		
	comp=Z,997nm,20.0s							
R11B	**Troy Canyon, C**	**146.70**	**316**	P	**PKPab**	**09 09 28.3**	**0.0**	
	baz=58							
214A	**Organ Pipe Nat**	**147.46**	**304**	P	**PKPab**	**09 09 30.6**	**-0.7**	
	baz=70,SNR=38							
PDMCI	**Parker Dam,Lak**	**147.60**	**308**	P	**PKiKP**	**09 09 30.9**	**-0.7**	
	baz=65,SNR=41							
NEE2	**Needles Airpor**	**147.76**	**309**	P	**PKiKP**	**09 09 31.0**	**-1.0**	
	baz=64,SNR=5.9							
113A	**Mohawk Valley,**	**147.93**	**305**	IAms_20	IAms_20	10 18 36.5		
	comp=Z,854nm,19.0s							
MZP	**Montezuma Peak**	**148.24**	**316**	IAms_20	IAms_20	10 19 18.2		
	comp=Z,757nm,18.0s							
SRIG	**Santa Rosalia**	**148.28**	**295**	IAms_20	IAms_20	10 31 05.5		
	comp=Z,368nm,18.0s							
NV11	**Mina Array Sit**	**148.33**	**318**	IAms_20	IAms_20	10 17 41.2		
	comp=Z,1µm,20.0s							
GMN	**Gold Mountain**	**148.38**	**316**	IAms_20	IAms_20	10 11 27.0		
	comp=Z,473nm,20.0s							
TUQ	**Turquoise Moun**	**148.40**	**312**	P	**PKiKP**	**09 09 33.0**	**-0.5**	
	baz=61,SNR=56							
IRM	**Iron Mountain**	**148.41**	**309**	P	**PKiKP**	**09 09 33.3**	**-0.1**	
	baz=64,SNR=91							
NVAR	**Mina Array Bea**	**148.43**	**318**	PKPbc	**PKPbc**	**09 09 30.8**	**-1.2**	
	comp=Z,60nm,1.0s,baz=47,slow=1.7,SNR=115							
SHOC	**Shoshone, Teco**	**148.43**	**313**	P	**PKiKP**	**09 09 33.5**	**+0.2**	
	baz=60,SNR=43							
RYN	**Ryan**	**148.45**	**319**	IAms_20	IAms_20	10 19 59.3		
	comp=Z,802nm,20.0s							
GMRC	**Granite Mounta**	**148.51**	**310**	P	**PKiKP**	**09 09 33.7**	**0.0**	
	baz=62,SNR=27							
BC3	**Big Chuckawall**	**148.86**	**308**	P	**PKiKP**	**09 09 34.2**	**-0.2**	
	baz=64,SNR=37							
MPK	**Martis Peak**	**148.97**	**321**	IAms_20	IAms_20	10 18 37.8		
	comp=Z,1µm,20.0s							
HEC	**Hector,Ludlow**	**148.99**	**311**	P	**PKiKP**	**09 09 34.9**	**+0.3**	
	baz=62,SNR=57							
GSC	**Goldstone, Bar**	**149.10**	**312**	P	**PKiKP**	**09 09 35.6**	**+0.8**	
	baz=60,SNR=55							
BELC	**Belle Mtn. Jos**	**149.12**	**309**	P	**PKiKP**	**09 09 35.6**	**+0.6**	
	baz=63,SNR=31							
TIN	**Tinemaha, Big**	**149.16**	**316**	P	**PKiKP**	**09 09 35.4**	**+0.4**	
	baz=56							
MPMC	**Manual Prospec**	**149.19**	**314**	P	**PKiKP**	**09 09 35.8**	**+0.7**	
	baz=58,SNR=122							
MLAC	**Mammoth, Mammo**	**149.23**	**317**	P	**PKiKP**	**09 09 35.9**	**+0.7**	
	baz=54,SNR=16							
UABX	**UABC, Campus M**	**149.28**	**306**	IAms_20	IAms_20	10 14 09.3		
	comp=Z,757nm,19.0s							
MDPB	**Devils Postpil**	**149.39**	**318**	IAms_20	IAms_20	10 16 56.3		
	comp=Z,1µm,20.0s							
CWC	**Cottonwood Cre**	**149.40**	**315**	P	**PKiKP**	**09 09 36.0**	**+0.5**	
	baz=57							
SWSC	**Sam W. Stewart**	**149.43**	**307**	P	**PKiKP**	**09 09 35.6**	**+0.1**	
	baz=65,SNR=13							
RRX	**Edison Barstow**	**149.44**	**311**	P	**PKiKP**	**09 09 36.3**	**+0.8**	
	baz=61							
LRMC	**Laurel Mtn Rad**	**149.63**	**313**	P	**PKiKP**	**09 09 36.7**	**+0.7**	
	baz=59,SNR=52							
TPFO	**Pinon Flats**	**149.63**	**309**	P	**PKiKP**	**09 09 36.9**	**+0.8**	
	baz=63,SNR=32							
PFO	**Pinyon Flats O**	**149.63**	**309**	P	**PKiKP**	**09 09 36.9**	**+0.3**	
	baz=63,SNR=28							
ORV	**Oroville**	**149.67**	**323**	IAms_20	IAms_20	10 19 27.8		
	comp=Z,752nm,19.0s							
BBRC	**Big Bear Solar**	**149.68**	**310**	P	**PKiKP**	**09 09 36.9**	**+0.7**	
	baz=62,SNR=6.3							
RMX	**La Rumorosa**	**149.78**	**307**	IAms_20	IAms_20	10 20 03.0		
	comp=Z,1µm,22.0s							
IKP	**In-Ko-Pah, Jac**	**149.78**	**307**	P	**PKiKP**	**09 09 37.1**	**+0.8**	
	baz=65,SNR=20							
MONP2	**Monument Peak**	**149.92**	**307**	P	**PKiKP**	**09 09 36.9**	**+0.2**	
	baz=64,SNR=32							
ISA	**Isabella, Lake**	**150.08**	**314**	P	**PKiKP**	**09 09 37.3**	**+0.4**	
	baz=58,SNR=69							
EDW2	**Edwards Air Fo**	**150.15**	**312**	P	**PKiKP**	**09 09 37.5**	**+0.5**	
	baz=59,SNR=29							
MURC	**Murrieta**	**150.19**	**309**	P	**PKiKP**	**09 09 37.3**	**+0.3**	
	baz=62,SNR=14							
TKX	**Tecate**	**150.20**	**307**	IAms_20	IAms_20	10 29 16.5		
	comp=Z,785nm,19.0s							
BFSC	**Mount Baldy Ra**	**150.23**	**311**	P	**PKiKP**	**09 09 37.4**	**+0.1**	
	baz=61,SNR=15							
VOG	**Valley Oaks Go**	**150.34**	**316**	P	**PKiKP**	**09 09 37.3**	**+0.1**	
	baz=55							
VES	**Vestal, Richgr**	**150.41**	**315**	P	**PKPbc**	**09 09 36.8**	**+0.2**	
	baz=56,SNR=20							
109C	**Camp Elliot, M**	**150.44**	**308**	P	**PKiKP**	**09 09 37.6**	**+0.1**	
	baz=64,SNR=9.1							
ARVC	**Arvin**	**150.61**	**313**	P	**PKiKP**	**09 09 38.9**	**+1.1**	
	baz=58,SNR=11							
DECC	**Green Verdugo**	**150.71**	**311**	P	**PKiKP**	**09 09 38.8**	**+0.7**	
	baz=60							
OSI	**Osito Audit: C**	**150.80**	**312**	P	**PKiKP**	**09 09 39.1**	**+0.7**	
	baz=59							
FMP	**Fort Macarthur**	**150.94**	**310**	P	**PKiKP**	**09 09 39.3**	**+0.8**	
	baz=61							
CIS	**Catalina Islan**	**151.18**	**310**	P	**PKiKP**	**09 09 39.8**	**+0.7**	
	baz=61,SNR=5.1							
SMMC	**Simmler**	**151.31**	**315**	P	**PKiKP**	**09 09 41.2**	**+1.9**	
	baz=56,SNR=49							
PKM	**Mcpherson Peak**	**151.42**	**314**	P	**PKiKP**	**09 09 40.7**	**+0.9**	
	baz=57,SNR=25							
SBC	**Santa Barbara**	**151.59**	**313**	P	**PKiKP**	**09 09 41.0**	**+1.2**	
	baz=58							
SCZ2	**Santa Cruz Isl**	**151.77**	**312**	P	**PKiKP**	**09 09 41.0**	**+0.7**	
	baz=59,SNR=8.9							
TAOE	**Nuku Hiva Isla**	**154.13**	**190**	*e*LR	LR	10 01 21.2		
	comp=Z,535nm,27.7s							

ROM 08 08:49:54.8±0.1, 37°.624N±0°.009×15°.06E±0°.01, h2km, ML3.0/9, 1C-1D, Error ellipse: s-maj=1.0km s-min=0.9km az=36.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.10**	**317**	⇑P	Pg	08 49 55.8	-0.9
ESLN				S	Sg	08 49 57.1	-0.9
ESML	**S. M. di Licod**	**0.14**	**268**	⇓P	Pg	08 49 57.5	-0.1
ESML				S	Sg	08 50 00.7	+1.3
ESML				AML	AML		
	comp=N,19286µm,0.8s						
ESML				AML	AML		
	comp=E,26837µm,0.9s						
EMSG	**Monte Spagnolo**	**0.21**	**337**	P	Pg	08 49 59.4	+0.4
EMSG				S	Sg	08 50 04.0	+2.2
EMSG				AML	AML		
	comp=E,21400µm,0.4s						
EMSG				AML	AML		
	comp=N,20300µm,0.4s						
EMSG				AML	AML		
	comp=E,21400µm,1.6s						
EPZF	**Pizzo Felice**	**0.26**	**322**	P	Pg	08 49 59.7	0.0
EPZF				S	Sg	08 50 05.0	+1.9
EPZF				AML	AML		
	comp=E,7070µm,1.4s						
EPZF				AML	AML		
	comp=E,7070µm,0.6s						
EPZF				AML	AML		
	comp=N,8145µm,1.1s						
HAGA	**Augusta**	**0.35**	**167**	P	Pg	08 50 01.8	+0.4
AGST	**Augusta-Monte**	**0.39**	**160**	P	Pg	08 50 03.4	+1.1
GALF	**Gagliano Caste**	**0.40**	**283**	P	Pb	08 50 03.7	-1.0
CAGR	**Agira**	**0.44**	**270**	P	Pb	08 50 04.7	-0.7
MUCR	**Ucria**	**0.44**	**341**	P	Pg	08 50 03.7	+0.3
MUCR				AML	AML		
	comp=E,1270µm,0.7s						
MUCR				AML	AML		
	comp=N,1135µm,0.8s						
MUCR				AML	AML		
	comp=N,1135µm,1.2s						
SSY	**Sortino**	**0.47**	**179**	P	Pb	08 50 06.4	+0.5
SSY				AML	AML		
	comp=E,388µm,1.2s						
SSY				AML	AML		
	comp=N,692µm,0.8s						
SSY				AML	AML		
	comp=N,692µm,1.2s						
SSY				AML	AML		
	comp=E,388µm,0.8s						
MPNC	**Port Mandanici**	**0.57**	**24**	P	Pb	08 50 07.5	0.0
MTTG	**Motta San Giov**	**0.63**	**53**	P	Pb	08 50 08.6	0.0
RAFF	**Raffo Rosso**	**0.68**	**234**	P	Pb	08 50 09.0	-0.5
MSRU	**Castanea**	**0.73**	**29**	P	Pb	08 50 09.9	-0.4
VPL	**Vulcano Piano**	**0.76**	**356**	P	Pb	08 50 11.2	+0.4
PETRA	**Petralia Sopra**	**0.78**	**286**	P	Pb	08 50 10.8	-0.4
PLLN	**Pollina**	**0.81**	**297**	P	Pb	08 50 12.2	+0.5
CSLB	**Castelbuono**	**0.85**	**292**	P	Pb	08 50 12.8	+0.4
GIB	**Gibilmanna**	**0.89**	**294**	P	Pb	08 50 13.3	+0.2
SOI	**Samo**	**0.91**	**60**	P	Pg	08 50 12.6	+0.4
CEL	**Celeste**	**0.92**	**46**	P	Pb	08 50 13.2	-0.3
ALJA	**Alia**	**1.04**	**277**	P	Pb	08 50 15.8	+0.2
PLAC	**Placanica**	**1.37**	**53**	P	Pg	08 50 21.0	0.0

ROM 08 08:50:47.0±0.0, 37°.69N×14°.94E, h0km±1km, ML3.3, 1D, Sicily

PRU 08 08:58:35.9, 50°.07N×18°.46E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.31**	**221**	*e*PG	Pg	08 58 41.6	-0.2
OKC				*e*SG	Sg	08 58 45.8	0.0
	comp=Z,9.5nm,0.7s						
MORC	**Moravsky Berou**	**0.66**	**244**	*e*PG	Pg	08 58 47.6	-1.0
MORC				*e*SG	Sg	08 58 57.2	+0.1
DPC	**Dobruska-Polom**	**1.40**	**282**	*e*PG	Pg	08 59 00.8	-2.0
DPC				*e*SG	Sg	08 59 20.3	-0.6

VIE 08 08:59:45.8±0.2, 47°.10N×15°.40E, h0km, mb1.6/4, ml1.4/6, Error ellipse: s-maj=3.2km s-min=1.3km az=131.0, Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSA	**Arzberg**	**0.17**	**30**	*i* Pg	Pg	08 59 49.4	+0.3
	7.8nm,0.2s						
ARSA				*i* Sg	Sg	08 59 51.6	+0.2
	20nm,0.2s						
SOKA	**Soboth**	**0.49**	**211**	*e*Pg	Pg	08 59 55.5	+0.3
	1.0nm,0.2s						
SOKA				*e*Sg	Sg	09 00 02.0	+0.5
	3.5nm,0.3s						
OBKA	**Obir**	**0.83**	**225**	*e*Pg	Pg	09 00 02.3	+0.6
OBKA				*e*Sg	Sb	09 00 14.1	-0.7
	5.3nm,0.4s						
RONA	**Rosalia, Austr**	**0.86**	**45**	*e*Pg	Pg	09 00 02.2	0.0
	0.7nm,0.2s						
RONA				*e*Sg	Sg	09 00 13.5	+0.2
	2.2nm,0.4s						
CONA	**Conrad Observa**	**0.89**	**21**	*e*Pg	Pg	09 00 02.9	+0.1
	0.9nm,0.2s						
CONA				*e*Sg	Sb	09 00 16.5	0.0
	1.0nm,0.3s						
MYKA	**Terra Mystica**	**1.29**	**249**	*e*Pg	Pn	09 00 11.3	+0.1
	0.3nm,0.2s						
MYKA				*e*Sg	Sg	09 00 27.3	0.0
	1.7nm,0.4s						

*IDC **08** 09:14:02.5±1.1, 5°.91S×142°.31E, h0km, mb3.7/5, mbtmp3.7/7, ML1.8/1, Error ellipse: s-maj=36.0km s-min=23.1km az=70.0*
ISC 08 09:14:03.6±0.9, 6°.20S±0°.09×142°.13E±0°.10, h10km, n8, σ2s05/11, mb3.8/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.92**	**123**	Pn	**Pn**	**09 15 30.9**	**-0.6**
	1.5nm,0.3s,baz=57,slow=4.4,SNR=2.4						
PMG				Sn	**Sn**	**09 16 39.1**	**-0.3**
	2.2nm,0.3s,baz=229,slow=23,SNR=6.0						
	12nm,0.8s						
WRA	**Warramunga Arr**	**15.62**	**208**	Pn	**P**	**09 17 45.7**	**-2.6**
	0.3nm,0.3s,baz=28,slow=13,SNR=9.7						
WRA				Sn	**Sn**	**09 20 36.0**	**-1.3**
	0.1nm,0.3s,baz=28,slow=21,SNR=1.9						
WRA				Lg	Lg	09 22 31.3	
	0.2nm,0.3s,baz=32,slow=26,SNR=4.5						
ASAR	**Alice Springs**	**19.09**	**204**	P	**Pn**	**09 18 31.3**	**+3.9**
	4.5nm,0.9s,baz=33,slow=9.9,SNR=20						
ASAR				S	**Sn**	**09 21 59.6**	**-1.8**
	0.3nm,0.4s,baz=15,slow=29,SNR=1.2						
ASAR				Lg	Lg	09 24 18.2	
	0.1nm,0.3s,baz=20,slow=32,SNR=2.5						
MKAR	**Makanchi Array**	**74.61**	**322**	P	**P**	**09 25 43.0**	**-0.1**
	0.3nm,0.5s,baz=110,slow=6.9,SNR=5.7						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**78.52**	**324**	P	**P**	**09 26 05.1**	**0.0**
	0.2nm,0.6s,baz=124,slow=5.1,SNR=2.2						
	0.2nm,0.6s						
QSPA	**South Pole Qui**	**83.77**	**180**	P	**P**	**09 26 35.4**	**+2.4**
	0.7nm,0.8s,baz=0.0,slow=4.0,SNR=3.5						
	0.7nm,0.8s						
BVAR	**Borovoye Array**	**84.10**	**325**	P	**P**	**09 26 33.8**	**-0.9**
	0.4nm,0.5s,baz=134,slow=6.2,SNR=2.0						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**87.59**	**24**	P	**P**	**09 26 51.5**	**-0.4**
	0.5nm,0.9s,baz=257,slow=4.7,SNR=2.9						
	0.5nm,0.9s						

IDC 08 09:23:48.9±1.0, 19°.92N×120°.93E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=64.1km s-min=20.0km az=65.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**41.32**	**319**	P	P	09 31 36.5	+0.1
	1.3nm,0.7s,baz=116,slow=9.9,SNR=16						
	1.3nm,0.7s						
WRA	**Warramunga Arr**	**41.74**	**161**	P	P	09 31 39.2	-0.8
	0.9nm,0.7s,baz=342,slow=8.9,SNR=5.8						
	0.9nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**43.13**	**84**	T	T	10 18 20.4	
	baz=281						
H11N1	**WAKE ISLAND Hy**	**43.14**	**82**	T	T	10 18 21.1	
	baz=277						
H11N2	**WAKE ISLAND Hy**	**43.14**	**82**	T	T	10 18 20.5	
	baz=277						
H11S1	**WAKE ISLAND Hy**	**43.15**	**84**	T	T	10 18 27.9	
	baz=281						
H11N3	**WAKE ISLAND Hy**	**43.15**	**82**	T	T	10 18 22.7	
	baz=277						
H11S2	**WAKE ISLAND Hy**	**43.15**	**84**	T	T	10 18 25.8	
	baz=281						
ASAR	**Alice Springs**	**45.13**	**163**	P	P	09 32 07.8	+0.4
	1.0nm,0.5s,baz=346,slow=7.0,SNR=28						
	1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**45.28**	**323**	P	P	09 32 07.8	-0.5
	2.2nm,0.7s,baz=124,slow=7.7,SNR=18						
	2.2nm,0.7s						
YKA	**Yellowknife Ar**	**86.98**	**23**	P	P	09 36 36.0	+0.1
	0.9nm,0.7s,baz=311,slow=4.8,SNR=18						
	0.9nm,0.7s						

*BUL **08** 09:40:10.8±2.9, 16°.78S×35°.77E, h10km, MD4.6*
*EAF **08** 09:40:11.5±2.2, 16°.69S×35°.72E, h10km, MD4.0*
ISC 08 09:40:10.1±1.6, 16°.75S±0°.05×35°.5E±0°.1, h10km, n14, σ2s63/24, 12C-2D, Malawi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZOMB	**Zomba**	**1.37**	**353**	*i* PG	**Pn**	**09 40 37.1**	**+1.7**
ZOMB				*i* SG	**Sb**	**09 40 54.1**	**+0.7**
ZOMB	**Zomba**	**1.37**	**353**	*i* PG	**Pn**	**09 40 37.1**	**+1.7**
ZOMB				*i* SG	**Sb**	**09 40 54.1**	**+0.7**
KRI	**Karoi**	**5.66**	**268**	⇑*i*P	**Pn**	**09 41 31.8**	**-2.7**
KRI				*i* S	Sn	09 42 30.5	-9.2
KRI	**Karoi**	**5.66**	**268**	⇑*i*P	**Pn**	**09 41 31.8**	**-2.7**
KRI				*i* S	Sn	09 42 30.5	-9.2
LSZ	**Lusaka**	**7.21**	**281**	⇑*i*P	**Pn**	**09 41 58.6**	**+2.9**
LSZ				⇑*i*S	**Sn**	**09 43 16.1**	**-1.7**
LSZ	**Lusaka**	**7.21**	**281**	⇑*i*P	**Pn**	**09 41 58.6**	**+2.9**
LSZ				⇑*i*S	**Sn**	**09 43 16.1**	**-1.7**
BLWY	**Bulawayo**	**7.38**	**242**	⇑*i*P	**Pn**	**09 42 02.0**	**+3.9**
BLWY				*i* S	**Sn**	**09 43 22.9**	**+0.9**
BLWY	**Bulawayo**	**7.38**	**242**	⇑*i*P	**Pn**	**09 42 02.0**	**+3.9**
BLWY				*i* S	**Sn**	**09 43 22.9**	**+0.9**
MUSN	**Musina, Limpop**	**7.68**	**223**	*i* P	**Pn**	**09 42 02.8**	**+0.7**
MUSN				⇑*i*S	**Sn**	**09 43 25.6**	**-3.5**
MUSN	**Musina, Limpop**	**7.68**	**223**	*i* P	**Pn**	**09 42 02.8**	**+0.7**
MUSN				⇑*i*S	**Sn**	**09 43 25.6**	**-3.5**
MOPA	**Mopani**	**7.77**	**209**	*i* P	**Pn**	**09 42 04.8**	**+1.4**
MOPA				⇑*i*S	**Sn**	**09 43 27.7**	**-3.8**
MOPA	**Mopani**	**7.77**	**209**	*i* P	**Pn**	**09 42 04.8**	**+1.4**
MOPA				⇑*i*S	**Sn**	**09 43 27.7**	**-3.8**
LBTB	**Lobatse**	**12.39**	**227**	⇓*i*P	**Pn**	**09 43 09.2**	**+2.4**
LBTB	**Lobatse**	**12.39**	**227**	⇓*i*P	**Pn**	**09 43 09.2**	**+2.4**

*IDC **08** 09:42:59.6±1.1, 60°.51S×41°.46W, h0km, mb4.0/4, mbtmp4.0/4, MS3.9/2, Error ellipse: s-maj=50.7km s-min=26.6km az=38.0*
*NEIC **08** 09:43:00.7±1.8, 60°.81S±0°.09×41°.76W±0°.06, h10km±1km, mb4.7/20, Error ellipse: s-maj=16.7km s-min=3.1km az=164.0*
ISC 08 09:43:00.3±0.7, 60°.68S±0°.09×41°.65W±0°.08, h10km, n53, σ1s46/42, mb4.7/13, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORCD	**Orcadas**	**1.52**	**267**	Pn	Pn	09 43 21.0	-6.4
ORCD				Sn	**Sn**	**09 43 43.3**	**-3.8**
HOPE	**Hope Point**	**6.99**	**26**	Pn	**Pn**	**09 44 42.5**	**-0.1**
HOPE				Sn	**Sn**	**09 45 57.6**	**-4.4**
PMSA	**Palmer Station**	**11.03**	**239**	LR	LR	09 49 12.6	
	comp=Z,304nm,20.7s,baz=148,slow=33						
EFI	**East Falkland**	**12.81**	**307**	Pn	**Pn**	**09 46 02.9**	**+0.8**
MG02	**Cerro Sombrero**	**16.96**	**285**	Pn	**Pn**	**09 46 54.5**	**-2.8**
BELA	**Belgrano 2**	**17.43**	**175**	Pn	**Pn**	**09 47 01.0**	**-2.0**
MG05	**Puerto Natales**	**19.22**	**284**	P	**P**	**09 47 24.1**	**0.0**
MG05				IAmb	IAmb	09 47 27.0	
	comp=Z,68nm,1.1s						
GO09	**Cerro Castillo**	**19.41**	**285**	P	**Pn**	**09 47 27.4**	**0.0**
AY01	**Puyuhuapi**	**24.56**	**297**	P	**P**	**09 48 20.7**	**+0.8**
AY01				IAmb	IAmb	09 48 22.3	
	comp=Z,20nm,0.9s						
LL02	**Futaleuf**	**25.21**	**300**	P	**P**	**09 48 26.0**	**+0.2**
LL02				IAmb	IAmb	09 48 39.7	
	comp=Z,22nm,1.4s						
TRQA	**Tornquist**	**26.01**	**321**	P	**P**	**09 48 33.7**	**+0.5**
PLCA	**Paso Flores**	**26.71**	**305**	P	**P**	**09 48 39.4**	**-0.1**
PLCA				IAmb	IAmb	09 48 52.0	
	comp=Z,11nm,1.2s						
PLCA	**Paso Flores**	**26.71**	**305**	P	**P**	**09 48 39.7**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=148,slow=13,SNR=5.8						
	comp=Z,2.1nm,0.9s						
GO06	**Curarrehue**	**28.06**	**305**	P	**P**	**09 48 51.5**	**-0.2**
GO05	**Huala**	**32.21**	**309**	P	**P**	**09 49 28.5**	**+0.1**
GO05				IAmb	IAmb	09 49 29.9	
	comp=Z,15nm,1.1s						
MT09	**Talagante**	**32.96**	**311**	P	**P**	**09 49 34.5**	**-0.5**
MT01	**Popeta**	**32.98**	**311**	P	**P**	**09 49 34.5**	**-0.4**
MT01				IAmb	IAmb	09 49 45.5	
	comp=Z,14nm,1.2s						
VA03	**San Esteban**	**33.71**	**313**	P	**P**	**09 49 42.2**	**+0.8**
CPUP	**Villa Florida**	**35.97**	**336**	P	**P**	**09 50 01.1**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=163,slow=11,SNR=3.4						
	comp=Z,1.6nm,0.7s						
LCO	**Las Campanas**	**37.17**	**315**	P	**P**	**09 50 12.3**	**+0.8**
LCO				IAmb	IAmb	09 50 12.6	
	comp=Z,21nm,1.4s						
AC04	**Llanos de Chal**	**38.04**	**315**	P	**P**	**09 50 19.4**	**+0.9**
AC04				IAmb	IAmb	09 50 32.5	
	comp=Z,21nm,0.8s						
PB01	**IPOC Station P**	**44.17**	**321**	P	**P**	**09 51 10.4**	**+1.3**
PB01				IAmb	IAmb	09 51 23.1	
	comp=Z,8.5nm,1.1s						

IDC ***08*** *09:52:02.7±0.5, 16°.79×35°.47E, h0km, mb4.6/28, mbtmp4.6/33, ML4.7/3, MS4.3/44, Error ellipse: s-maj=15.3km s-min=13.0km az=110.0*

MOS ***08*** *09:52:02.2±0.9, 16°.80S×35°.44E, h10km, mb5.1/53, Error ellipse: s-maj=9.2km s-min=5.2km az=78.6*

BJI ***08*** *09:52:03.8±0.0, 16°.54S×35°.53E, h10km, mb4.9/31, mB5.3/8, Ms4.9/2, Ms7 4.5/3*

NEIC ***08*** *09:52:04.7, 17°.02S×35°.28E, h26km, Moment Tensor Solution. Duration: 1s5 Moment tensor: Scale 10^16 Nm; Mrr=2.57; Mθθ=0.46; Mφφ=2.11; Mrθ=0.68; Mθφ=-0.81; Mφr=0.56; Fault plane solution: Mw=2.65000×10^16 NP1: φs=329.24000°, δ=54.22000°, λ=-99.77000°. NP2: φs=165.66000°, δ=36.92000°, λ=-76.75000°. Principal axes: T 2.5585, Plg9.0000°, Azm66.0000°; N 0.1858, Plg8.0000°, Azm335.0000°; P -2.7443, Plg78.0000°, Azm203.0000°;*

NEIC ***08*** *09:52:04.4±1.6, 16°.83S±0°.09×35°.49E±0°.08, h10km±1km, mb5.1/77, Mww4.9/13 Error ellipse: s-maj=14.4km s-min=12.2km az=180.0*

NEIC ***08*** *09:52:04.7, 16°.82S×35°.49E, h26km*

EAF ***08*** *09:52:07.0±4.0, 16°.86S×35°.41E, h10km*

GCMT ***08*** *09:52:07.4±0.3, 16°.54S±0°.02×35°.43E±0°.02, h29km, MW5.1/81, Moment Tensor Solution. s42,c56; s81,c111; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=3.94±.25; Mθθ=0.56±.18; Mφφ=4.50±.19; Mrθ=1.62±.23; Mθφ=-2.15±.13; Mφr=0.52±.22; Best double couple: Mw=5.00700×10^16 NP1:φs=320.00000°, δ=55.00000°, λ=-117.00000°. NP2: φs=182.00000°, δ=43.00000°, λ=-57.00000°. Principal axes: T 5.4110, Plg7.0000°, Azm69.0000°; N -0.8100, Plg22.0000°, Azm336.0000°; P -4.6040, Plg67.0000°, Azm174.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BUL ***08*** *09:52:12.0±7.8, 17°.21S×34°.96E, h10km*

ISC 08 09:52:04.0±0.3, 16°.81S±0°.04×35°.37E±0°.04, h10km, n660, σ1s41/636, mb5.0/132, MS4.3/46, 26C-22D, Malawi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZOMB	**Zomba**	**1.42**	**359**	*i* PG	**Pn**	**09 52 29.5**	**-0.5**
ZOMB				*i* SG	**Sn**	**09 52 47.4**	**-1.5**
ZOMB	**Zomba**	**1.42**	**359**	*i* PG	**Pn**	**09 52 29.5**	**-0.5**
ZOMB				*i* SG	**Sn**	**09 52 47.4**	**-1.5**
KRI	**Karoi**	**5.51**	**269**	*i* P	**Pn**	**09 53 28.3**	**+2.0**
KRI				*i* S	Sn	09 54 18.5	-11
KRI	**Karoi**	**5.51**	**269**	⇑*i* P	**Pn**	**09 53 27.9**	**+1.6**
KRI				*e*S	**Sn**	**09 54 28.5**	**-1.4**
KRI	**Karoi**	**5.51**	**269**	*i* P	**Pn**	**09 53 28.3**	**+2.0**
KRI				*i* S	Sn	09 54 18.5	-11
LSZ	**Lusaka**	**7.07**	**281**	*i* P	**Pn**	**09 53 49.6**	**+1.8**
LSZ				*i* S	**Sn**	**09 55 05.2**	**-3.1**
LSZ	**Lusaka**	**7.07**	**281**	Pn	**Pn**	**09 53 48.9**	**+1.2**
	72nm,0.3s,baz=122,slow=14,SNR=84						
LSZ				Sn	**Sn**	**09 55 07.3**	**-1.0**
	72nm,0.3s,baz=11,slow=16,SNR=8.9						
LSZ				Lg	Lg	09 55 45.9	
	49nm,0.3s,baz=357,slow=20,SNR=3.8						
LSZ	**Lusaka**	**7.07**	**281**	P	**Pn**	**09 53 49.5**	**+1.8**
LSZ	**Lusaka**	**7.07**	**281**	*i* P	**Pn**	**09 53 49.6**	**+1.8**
LSZ				*i* S	**Sn**	**09 55 06.2**	**-3.1**
BLWY	**Bulawayo**	**7.22**	**242**	*i* P	**Pn**	**09 53 51.3**	**+1.6**
BLWY				*i* S	**Sn**	**09 55 09.6**	**-2.2**
BLWY	**Bulawayo**	**7.22**	**242**	*i* P	**Pn**	**09 53 51.3**	**+1.6**
BLWY				*i* S	**Sn**	**09 55 09.6**	**-2.2**
MUSN	**Musina, Limpop**	**7.52**	**223**	*i* P	**Pn**	**09 55 14.7**	**-4.6**
MUSN	**Musina, Limpop**	**7.52**	**223**	*e*P	Pn	09 53 58.8	+5.0
MUSN	**Musina, Limpop**	**7.52**	**223**	⇑*i* P	**Pn**	**09 53 56.1**	**+2.3**
MUSN				*e*S	**Sn**	**09 55 19.6**	**+0.3**
MUSN				IAML		09 56 00.7	
	comp=Z,1μm,0.6s						
MUSN	**Musina, Limpop**	**7.52**	**223**	*i* S	**Sn**	**09 55 14.7**	**-4.6**
MUSN	**Musina, Limpop**	**7.52**	**223**	*i* P	**Pn**	**09 53 56.5**	**+2.7**
MUSN	**Musina, Limpop**	**7.52**	**223**	*i* P	**Pn**	**09 53 56.5**	**+2.7**
MOPA	**Mopani**	**7.64**	**209**	*i* P	**Pn**	**09 53 57.4**	**+1.9**
MOPA				*i* S	**Sn**	**09 55 18.1**	**-4.0**
MOPA	**Mopani**	**7.64**	**209**	⇑*i* P	**Pn**	**09 53 56.8**	**+1.3**
MOPA				*e*S	**Sn**	**09 55 23.8**	**+1.7**
MOPA				IAML		09 56 20.0	
	comp=Z,579nm,0.7s						
MOPA	**Mopani**	**7.64**	**209**	*i* P	**Pn**	**09 53 57.4**	**+1.9**
MOPA				*i* S	**Sn**	**09 55 18.1**	**-4.0**
PDHT	**Panda Hill**	**8.05**	**345**	*i* P	**Pn**	**09 54 01.0**	**-0.2**
PDHT				*i* S	**Sn**	**09 55 35.8**	**+3.3**
PILG	**Pilgrimsrest,**	**9.18**	**208**	*e*P	**Pn**	**09 54 18.0**	**+1.3**
PILG				IAML		09 56 13.2	
	comp=Z,164nm,0.6s						
PILG	**Pilgrimsrest,**	**9.18**	**208**	*e*P	**Pn**	**09 54 19.0**	**+2.3**
WTBG	**Waterberg Wild**	**9.54**	**218**	*e*P	**Pn**	**09 54 22.3**	**+0.6**
LEPI	**Lephalale, Lim**	**9.97**	**224**	*e*P	Pn	09 54 34.3	+6.8
CRLN	**Carolina, Mapu**	**10.40**	**208**	*e*P	**Pn**	**09 54 33.3**	**-0.1**
CRLN				IAML		09 56 54.9	
	comp=Z,42nm,0.6s						
CRLN	**Carolina, Mapu**	**10.40**	**208**	*e*P	Pn	09 54 43.5	+10
RUST	**Rust De Winter**	**10.54**	**216**	*e*P	**Pn**	**09 54 36.7**	**+1.4**
DODT	**Dodoma, Tanzan**	**10.56**	**2**	*i* P	**Pn**	**09 54 33.2**	**-2.5**
DODT				*i* S	Sn	09 56 21.5	-13
OPO	**Ambohidratompo**	**11.40**	**101**	Pn	**Pn**	**09 54 45.6**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=283,slow=16,SNR=34						
OPO				Sn	**Sn**	**09 56 50.8**	**-3.9**
	comp=Z,1.9nm,0.3s,baz=194,slow=20,SNR=3.2						
OPO				LR	LR	09 58 59.5	
	comp=Z,776nm,19.3s,baz=254,slow=37						
	comp=Z,16nm,0.3s						
ABPO	**Ambohimpanom**	**11.50**	**103**		**Pn**	**09 54 47.0**	**-1.5**
ABPO	**Ambohimpanom**	**11.50**	**103**	P	**Pn**	**09 54 47.0**	**-1.5**
HRAO	**HartRAO**	**11.52**	**217**	*e*P	**Pn**	**09 54 50.5**	**+1.7**
VOI	**Vohitsoka**	**11.91**	**117**	Pn	**Pn**	**09 54 52.2**	**-1.9**
VOI	**Vohitsoka**	**11.91**	**117**	P	**Pn**	**09 54 52.4**	**-1.7**
KSR	**Koster**	**11.96**	**220**	*e*P	**Pn**	**09 54 54.6**	**-0.2**
NWCL	**Newcastle**	**11.99**	**204**	*e*P	**Pn**	**09 54 57.2**	**+2.0**
LBTB	**Lobatse**	**12.24**	**227**	*i* P	**Pn**	**09 54 59.7**	**+1.1**
LBTB	**Lobatse**	**12.24**	**227**	*e*P	**Pn**	**09 54 57.8**	**-0.8**
LBTB	**Lobatse**	**12.24**	**227**	*e*P	**Pn**	**09 54 58.0**	**-0.5**
LBTB	**Lobatse**	**12.24**	**227**	Pn	**Pn**	**09 54 58.0**	**-0.5**
	comp=Z,3.8nm,0.3s,baz=38,slow=14,SNR=39						
LBTB				Sn	**Sn**	**09 57 09.4**	**-5.8**
	comp=Z,13nm,0.3s,baz=312,slow=23,SNR=10.0						
LBTB				Lg	Lg	09 58 18.9	
	comp=Z,26nm,0.3s,baz=133,slow=23,SNR=9.4						
LBTB				LR	LR	09 59 44.3	
	comp=Z,2μm,18.5s,baz=46,slow=37						
	comp=Z,26nm,0.7s						
LBTB	**Lobatse**	**12.24**	**227**	*i* P	**Pn**	**09 54 59.7**	**+1.1**
PRYS	**Parys**	**12.51**	**215**	*e*P	Pn	09 55 07.5	+5.2
SNKL	**Senekal, Frees**	**13.39**	**210**	*e*P	**P**	**09 55 25.9**	**+2.0**
PMBG	**Pietermaritzbu**	**13.40**	**199**	*e*P	**Pn**	**09 55 17.6**	**+3.2**
SWZ	**Schweizer**	**13.89**	**220**	*e*P	**Pn**	**09 55 17.6**	**-3.5**
KIBK	**Kibwezi**	**14.62**	**11**	Pn	**Pn**	**09 55 28.5**	**-2.7**
KIBK	**Kibwezi**	**14.62**	**11**	P	**Pn**	**09 55 28.4**	**-2.7**
	SNR=24						
KIBK	**Kibwezi**	**14.62**	**11**	*e*P	**Pn**	**09 55 26.9**	**-4.3**
KIBK				*e*S	**S**	**09 58 28.4**	**-4.4**
KSTD	**Kokstad**	**14.81**	**201**	*e*P	**P**	**09 55 37.2**	**-2.5**
KSTD	**Kokstad**	**14.81**	**201**	*e*P	**Pn**	**09 55 33.0**	**-0.7**
BOSA	**Boshof**	**14.99**	**217**	Pn	**Pn**	**09 55 34.8**	**-1.3**
BOSA	**Boshof**	**14.99**	**217**	⇑*i* P	**Pn**	**09 55 35.7**	**-0.4**
BOSA	**Boshof**	**14.99**	**217**	P	**Pn**	**09 55 34.8**	**-1.3**
BOSA				pmax	pmax		
	comp=Z,34nm,0.8s						
BOSA	**Boshof**	**14.99**	**217**	*e*P	**Pn**	**09 55 31.5**	**-4.6**
BOSA				IAML		09 57 51.1	
	comp=N,9.9nm,0.7s						
BOSA	**Boshof**	**14.99**	**217**	*e*P	**Pn**	**09 55 34.0**	**-2.0**
BOSA	**Boshof**	**14.99**	**217**	Pn	**Pn**	**09 55 33.5**	**-2.6**
	comp=N,3.6nm,0.3s,baz=43,slow=13,SNR=26						
BOSA				Sn	**Sn**	**09 58 14.4**	**-7.9**
	comp=N,3.8nm,0.3s,baz=313,slow=21,SNR=4.1						
BOSA				Lg	Lg	09 59 50.5	
	comp=N,9.5nm,0.3s,baz=104,slow=22,SNR=5.1						
BOSA				LR	LR	10 01 29.6	
	comp=N,1μm,18.7s,baz=45,slow=38						
BOSA	**Boshof**	**14.99**	**217**	⇑*i* P	**Pn**	**09 55 35.7**	**-0.4**
HVD	**Gariep Dam**	**16.42**	**212**	*e*P	**Pn**	**09 55 55.7**	**+0.9**
MBAR	**Mbarara**	**16.74**	**344**	Pn	**Pn**	**09 55 59.3**	**+0.3**
MBAR	**Mbarara**	**16.74**	**344**	*i* P	**Pn**	**09 55 58.0**	**-1.0**
MBAR	**Mbarara**	**16.74**	**344**	Pn	**Pn**	**09 55 58.1**	**-0.8**
	comp=N,2.3nm,0.3s,baz=155,slow=16,SNR=16						
MBAR				Sn	**Sn**	**09 58 56.0**	**-9.2**
	comp=N,2.6nm,0.3s,baz=26,slow=22,SNR=2.1						
MBAR				Lg	Lg	10 00 41.5	
	comp=N,10nm,0.3s,baz=122,slow=18,SNR=4.9						
MBAR				LR	LR	10 02 24.6	
	comp=N,2μm,18.2s,baz=150,slow=37						
	comp=N,16nm,0.5s						
MBAR	**Mbarara**	**16.74**	**344**	P	**P**	**09 56 01.1**	**-0.1**
MBAR				P	**P**	**09 56 01.1**	**-0.1**
TSUM	**Tsumeb**	**17.08**	**259**	Pn	**Pn**	**09 56 01.8**	**-1.4**
TSUM	**Tsumeb**	**17.08**	**259**	P	**Pn**	**09 56 02.8**	**-0.3**
	comp=N,38nm,0.8s,baz=81,slow=12,SNR=17						
TSUM				S	**Sn**	**09 59 06.7**	**-6.7**
	comp=N,100nm,0.9s,baz=323,slow=10,SNR=7.6						
TSUM				Lg	Lg	10 00 56.2	
	comp=N,3.7nm,0.3s,baz=78,slow=17,SNR=3.5						
TSUM				LR	LR	10 03 05.8	
	comp=N,2μm,18.1s,baz=62,slow=39						
WIN	**Windhoek**	**18.12**	**249**	Pn	**Pn**	**09 56 15.6**	**-0.5**
WIN				IAmb	IAmb	09 56 25.1	
	comp=Z,126nm,0.8s						
WIN	**Windhoek**	**18.12**	**249**	P	**Pn**	**09 56 15.6**	**-0.5**
WIN				pmax	pmax		
	comp=Z,126nm,0.8s						
SOE	**Somerset East**	**18.14**	**207**		**P**	**09 56 16.4**	**-0.1**
SOE	**Somerset East**	**18.14**	**207**	*e*P	**P**	**09 56 20.3**	**+3.8**
GRAF	**Camdeboo Natio**	**18.28**	**211**	*e*P	**P**	**09 56 18.6**	**+0.6**
GRAF				IAML		09 58 39.7	
	comp=Z,12nm,0.6s						
GRAF	**Camdeboo Natio**	**18.28**	**211**	*e*P	P	09 56 29.5	+11
GRHM	**Grahamstown, E**	**18.29**	**205**		**Pn**	**09 56 16.7**	**-1.2**
GRHM	**Grahamstown, E**	**18.29**	**205**	*e*P	**P**	**09 56 23.7**	**+5.6**
BFON	**Badsfontein, M**	**18.30**	**213**	*e*P	**Pn**	**09 56 18.1**	**-0.2**
BFON				IAML		09 58 48.5	
	comp=Z,7.1nm,0.5s						
BFON	**Badsfontein, M**	**18.30**	**213**	*e*P	**P**	**09 56 21.2**	**+2.9**
BRAK	**Brakfontein**	**18.72**	**215**	*e*P	**Pn**	**09 56 23.5**	**+0.2**
BRAK				IAML		09 58 27.9	
	comp=Z,9.3nm,0.6s						
BRAK	**Brakfontein**	**18.72**	**215**	*e*P	**Pn**	**09 56 27.4**	**+4.2**
GRAN	**Grantham**	**19.51**	**215**	*e*P	**Pn**	**09 56 33.5**	**+0.7**
GRAN				IAML		09 58 44.7	
	comp=Z,8.1nm,0.5s						
GRAN	**Grantham**	**19.51**	**215**	*e*P	**Pn**	**09 56 32.8**	**0.0**
FRAZ	**Fraserburg**	**19.67**	**218**	*e*P	**Pn**	**09 56 35.3**	**+0.5**
FRAZ	**Fraserburg**	**19.67**	**218**	*e*P	**P**	**09 56 33.8**	**+0.4**
LODK	**Lodwar**	**20.11**	**360**	P	Pn	09 56 40.3	+0.3
	SNR=8.6						
SUR	**Sutherland**	**20.34**	**218**		Pn	09 56 43.3	+0.5
SUR				IAmb	IAmb	09 56 57.0	
	comp=Z,88nm,0.8s						
SUR	**Sutherland**	**20.34**	**218**	*e*P	Pn	09 56 43.7	+0.9
SUR	**Sutherland**	**20.34**	**218**	P	Pn	09 56 42.0	-0.8
	comp=Z,61nm,0.9s,baz=45,slow=10,SNR=35						
SUR				S	**S**	**10 00 21.6**	**-7.3**
	comp=Z,26nm,0.8s,baz=164,slow=21,SNR=3.9						
SUR				Lg	Lg	10 02 38.0	
	comp=Z,2.9nm,0.3s,baz=130,slow=23,SNR=5.1						
SUR				LR	LR	10 04 32.5	
	comp=Z,1μm,21.2s,baz=42,slow=37						
	comp=Z,61nm,0.9s						
SUR	**Sutherland**	**20.34**	**218**	P	Pn	09 56 43.1	+0.3
CVNA	**Calvinia**	**20.36**	**221**	*e*P	Pn	09 56 42.8	-0.1
KOMG	**Komaggas**	**20.86**	**229**	*e*P	Pn	09 56 55.6	+6.9
KOMG				IAML		10 03 04.2	
	comp=Z,72nm,0.7s						
CER	**Ceres**	**21.94**	**218**	*e*P	P	09 57 06.4	+8.7
ATD	**Arta Tunnel**	**29.12**	**15**	LR	LR	10 09 47.1	
	comp=Z,27nm,21.2s,baz=194,slow=37						
ABTO	**Aybut**	**38.27**	**28**	P	**P**	**09 59 26.5**	**+1.7**
ABTO				P	**P**	**09 59 26.5**	**+1.7**
WHFO	**Wadi Hawf**	**38.98**	**29**	P	**P**	**09 59 35.1**	**+4.4**
WHFO				P	**P**	**09 59 35.1**	**+4.4**
DOK	**Doka**	**39.75**	**28**	P	**P**	**09 59 38.2**	**+1.1**
DOK				P	**P**	**09 59 38.2**	**+1.1**
RAYN	**Ar Rayn**	**41.30**	**14**	P	**P**	**09 59 49.7**	**-0.1**
RAYN	**Ar Rayn**	**41.30**	**14**	P	**P**	**09 59 49.7**	**-0.1**
RAYN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MHTO	**MHTO**	**43.62**	**31**	P	**P**	**10 00 10.0**	**+1.2**
	SNR=11						
UMZA	**Um Al Zommool**	**43.80**	**27**	P	**P**	**10 00 10.6**	**+0.4**
TRNA	**Turayna**	**44.09**	**21**	P	**P**	**10 00 12.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**44.65**	**310**	P	**P**	**10 00 17.3**	**+0.2**
BSY	**Bisya**	**44.74**	**29**	P	**P**	**10 00 19.0**	**+1.2**
	SNR=12						
JMDO	**Jabal Madar**	**44.85**	**30**	P	**P**	**10 00 18.8**	**+0.1**
	SNR=5.2						
JRN	**Qarnain Island**	**44.87**	**23**	P	**P**	**10 00 22.3**	**+3.6**
ARQ	**Araqi**	**44.94**	**28**	P	**P**	**10 00 20.8**	**+1.4**
	SNR=7.2						
SHMA	**Al-Shehemyia**	**45.05**	**20**	P	**P**	**10 00 19.9**	**-0.2**
ALNE	**Al Ain**	**45.23**	**27**	P	**P**	**10 00 23.4**	**+1.7**
	SNR=8.3						
JLN	**Jalan Bani Buh**	**45.32**	**32**	P	**P**	**10 00 23.0**	**+0.6**
JLN				P	**P**	**10 00 23.0**	**+0.6**
SMDO	**Samad**	**45.41**	**30**	P	**P**	**10 00 22.9**	**-0.3**
	SNR=6.8						
WBK	**Wadi Bani Khal**	**45.48**	**31**	P	**P**	**10 00 25.2**	**+1.5**
HOQ	**Hoqain**	**45.52**	**29**	P	**P**	**10 00 24.9**	**+1.0**
	SNR=5.8						
HOQ				P	**P**	**10 00 24.9**	**+1.0**
	SNR=5.8						
SOHO	**SOHO**	**45.64**	**27**	P	**P**	**10 00 25.2**	**+0.3**
SOHO				P	**P**	**10 00 25.2**	**+0.3**
WSAR	**Wadi Sarin**	**45.85**	**30**	LR	LR	10 19 56.1	
	comp=Z,319nm,18.4s,baz=222,slow=37						
KIC	**Kosan Boka**	**45.86**	**297**	⇓*i* P	**P**	**10 00 27.0**	**+0.2**
	comp=Z,6.1nm,0.6s						
ASHO	**Ashiyiah**	**45.92**	**27**	P	**P**	**10 00 27.9**	**+0.8**
	SNR=2						
LIC	**Lamto**	**46.03**	**296**	⇑*i* P	**P**	**10 00 25.5**	**-2.7**
	comp=Z,4.1nm,0.4s						
HATD	**Hatta, Dubai**	**46.07**	**27**	P	**P**	**10 00 27.8**	**-0.5**
	SNR=7.8						
DBIC	**Dimbokro**	**46.11**	**297**	P	**P**	**10 00 28.6**	**-0.2**
DBIC				IAmb	IAmb	10 00 35.5	
	comp=Z,16nm,0.9s						
DBIC	**Dimbokro**	**46.11**	**297**	P	**P**	**10 00 28.6**	**-0.2**
DBIC				pmax	pmax		
	comp=Z,16nm,1.0s						
DBIC	**Dimbokro**	**46.11**	**297**	P	**P**	**10 00 28.8**	**0.0**
	comp=Z,9.6nm,1.1s,baz=108,slow=9.1,SNR=5.2						
DBIC				LR	LR	10 19 28.2	
	comp=Z,482nm,19.7s,baz=118,slow=36						
	comp=Z,9.6nm,1.1s						
UOSS	**Minazif**	**46.21**	**27**	P	**P**	**10 00 29.1**	**-0.2**
UOSS				IAmb	IAmb	10 00 36.1	
	comp=Z,32nm,1.1s						
UOSS	**Minazif**	**46.21**	**27**	P	**P**	**10 00 30.2**	**+0.8**
UOSS				P	**P**	**10 00 30.2**	**+0.8**
EIL	**Elat**	**46.21**	**359**	LR	LR	10 19 48.3	
	comp=Z,285nm,18.5s,baz=222,slow=36						
TIC	**Toumodi**	**46.24**	**297**	⇑*i* P	**P**	**10 00 27.1**	**-2.7**
	comp=Z,8.6nm,0.3s						
MDH	**Madha**	**46.56**	**26**	P	**P**	**10 00 35.5**	**+3.4**
	SNR=5.0						
MDH				P	**P**	**10 00 35.5**	**+3.4**
	SNR=5.0						
MASF	**Masafi**	**46.56**	**26**	P	**P**	**10 00 32.8**	**+0.6**
	SNR=12						
MASF				P	**P**	**10 00 32.8**	**+0.6**
	SNR=12						
JASK	**Jask - Hormozg**	**47.74**	**28**	P	**P**	**10 00 42.7**	**+1.4**
	SNR=5.3						
MMAI	**Mount Meron Ar**	**49.55**	**0**	P	**P**	**10 00 55.7**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=186,slow=7.3,SNR=5.3						
MMAI				LR	LR	10 20 18.9	
	comp=Z,248nm,18.4s,baz=102,slow=34						
	comp=Z,0.6nm,0.3s						
PALK	**Pallekele**	**50.82**	**66**	LR	LR	10 18 50.3	
	comp=Z,270nm,19.5s,baz=354,slow=32						
IDI	**Anoyia**	**52.76**	**349**	P	**P**	**10 01 19.9**	**+0.6**
MAW	**Mawson**	**53.77**	**167**	LR	LR	10 20 12.8	
	comp=Z,393nm,20.1s,baz=284,slow=31						
HYB	**Hyderabad**	**54.46**	**53**	*e*P	**P**	**10 01 32.6**	**+0.5**
ELIB	**Princess Elisa**	**55.58**	**185**	*d*P	**P**	**10 01 41.2**	**+1.6**
	comp=Z,12nm,1.1s						
ARPR	**Arapgir-MALATY**	**55.68**	**3**	P	**P**	**10 01 40.8**	**+0.2**
ARPR				IAmb	IAmb	10 01 48.3	
	comp=Z,25nm,1.3s						
NVL	**N'lazarevskaya**	**55.79**	**189**	*e*P	**P**	**10 01 41.4**	**+0.6**
NVL				pmax	pmax		
	comp=Z,44nm,1.4s						
BR131	**Keskin Array S**	**56.27**	**358**	P	**P**	**10 01 44.6**	**-0.1**
BR131	**Keskin Array S**	**56.27**	**358**	*i* P	**P**	**10 01 45.4**	**+0.6**
BRTR	**Keskin Array B**	**56.27**	**358**	P	**P**	**10 01 45.1**	**+0.3**
BRTR	**Keskin Array B**	**56.27**	**358**	P	**P**	**10 01 45.5**	**+0.8**
	comp=Z,3.3nm,0.9s,baz=179,slow=11,SNR=7.5						
BRTR				LR	LR	10 26 31.3	
	comp=Z,144nm,19.5s,baz=173,slow=37						
	comp=Z,3.3nm,0.9s						
HRA	**Herat**	**56.98**	**26**	P	**P**	**10 01 48.8**	**-1.3**
HRA				IAmb	IAmb	10 01 56.3	
	comp=Z,27nm,1.0s						
MDUB	**Mudurnu**	**57.12**	**356**	P	**P**	**10 01 52.0**	**+1.1**
GNI	**Garni**	**57.34**	**9**	LR	LR	10 27 29.1	
	comp=Z,264nm,18.8s,baz=193,slow=37						
VAE	**Valguarnera**	**57.49**	**340**	LR	LR	10 27 45.0	
	comp=Z,242nm,18.4s,baz=152,slow=37						
KEST	**Kesra**	**57.78**	**335**	P	**P**	**10 01 56.5**	**+1.0**
	comp=Z,12nm,1.0s,baz=135,slow=4.3,SNR=5.4						
KEST				LR	LR	10 28 13.3	
	comp=Z,251nm,19.1s,baz=194,slow=38						
	comp=Z,12nm,1.0s						
TROLL	**Troll, Antarti**	**58.44**	**191**	⇓P	**P**	**10 02 02.0**	**+2.2**
	comp=Z,709nm,0.8s						
GEYT	**Alibeck**	**58.50**	**21**	P	**P**	**10 02 00.6**	**+0.1**
GEYT				IAmb	IAmb	10 02 06.8	
	comp=Z,13nm,0.9s						
GEYT	**Alibeck**	**58.50**	**21**	P	**P**	**10 02 00.6**	**+0.1**
GEYT				pmax	pmax		
	comp=Z,13nm,1.0s						
GEYT	**Alibeck**	**58.50**	**21**	P	**P**	**10 02 00.7**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=212,slow=8.2,SNR=5.1						
GEYT				LR	LR	10 29 51.8	
	comp=Z,315nm,18.3s,baz=199,slow=39						
	comp=Z,3.4nm,0.8s						
FNA	**Florina**	**58.76**	**348**	IAmb	IAmb	10 02 10.2	
	comp=Z,16nm,1.0s						
SNAA	**Sanae**	**59.28**	**193**	LR	LR	10 25 28.1	
	comp=Z,514nm,18.4s,baz=14,slow=34						
TIR	**Tirane**	**59.62**	**347**	P	**P**	**10 02 08.8**	**+0.7**
NEUR	**Neytrino**	**60.16**	**6**	*i* P	**P**	**10 02 12.3**	**+0.3**
NEUR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KBL	**Kabul**	**60.28**	**32**	P	**P**	**10 02 11.6**	**-1.5**
KBL				IAmb	IAmb	10 02 19.7	
	comp=Z,13nm,0.9s						
KBL	**Kabul**	**60.28**	**32**	P	**P**	**10 02 11.6**	**-1.5**
KBL				pmax	pmax		
	comp=Z,13nm,1.0s						
GROC	**Groznyy**	**60.48**	**9**	*e*P	**P**	**10 02 14.7**	**+0.7**
GROC				pmax	pmax		
	comp=Z,19nm,0.5s						
MAK	**Makhachkala**	**60.52**	**10**	*e*P	P	10 02 09.3	-4.9
MAK				*e*S	**S**	**10 10 22.4**	**-7.4**
MAK				pmax	pmax		
	comp=Z,143nm,1.2s						
MAK				MLR	MLR		
	comp=Z,155nm,14.0s						
KBZ	**Khabaz**	**60.64**	**6**	*i* P	**P**	**10 02 14.9**	**-0.1**
KBZ				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KBZ	**Khabaz**	**60.64**	**6**	P	**P**	**10 02 17.0**	**+2.0**
	comp=Z,4.2nm,0.9s,baz=181,slow=5.5,SNR=7.3						
KBZ				LR	LR	10 29 30.8	
	comp=Z,298nm,19.1s,baz=195,slow=37						
	comp=Z,4.2nm,0.9s						
KIV	**Kislovodsk**	**60.84**	**6**	*e*P	**P**	**10 02 17.1**	**+0.5**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,107nm,17.0s						
VSL	**Villasalto**	**61.05**	**337**	P	**P**	**10 02 18.3**	**+0.3**
TIRR	**Tirgusor**	**61.30**	**354**	P	**P**	**10 02 19.6**	**+0.1**
TIRR				pmax	pmax		
	comp=Z,45nm,1.2s						
CFR	**Carcaliu**	**62.04**	**354**	⇑P	**P**	**10 02 25.1**	**+0.6**
CFR	**Carcaliu**	**62.04**	**354**	⇑P	**P**	**10 02 25.1**	**+0.6**
ISR	**Istrita**	**62.16**	**353**	P	**P**	**10 02 26.7**	**+1.3**
MDT	**Midelt**	**62.42**	**322**	LR	LR	10 31 34.7	
	comp=Z,254nm,18.6s,baz=160,slow=38						
MLR	**Muntele Rosu**	**62.59**	**353**	⇓P	**P**	**10 02 30.0**	**+1.6**
MLR	**Muntele Rosu**	**62.59**	**353**	IAmb	IAmb	10 02 35.9	
	comp=Z,15nm,1.2s						
MLR	**Muntele Rosu**	**62.59**	**353**	⇓P	**P**	**10 02 30.0**	**+1.6**
**

comp=Z,6.0nm,0.9s
LESA Schwarzleotal 67.11 343 *i* P **P** **10 02 58.5 +0.8**
comp=Z,8.7nm,1.6s
LANS Liptovska Anna 67.17 349 *e*P **P** **10 02 59.6 +1.6**
LANS *e* 10 03 05.1
LANS Liptovska Anna 67.17 349 *e*P **P** **10 02 59.6 +1.6**
LANS *e* 10 03 05.1
JAVC Velka Javorina 67.25 347 *e*P **P** **10 02 59.5 +0.9**
WTTA Wattenberg 67.25 343 *e*P **P** **10 02 59.7 +0.9**
comp=Z,14nm,1.4s
NIE Niedzica 67.28 349 P **P** **10 03 01.3 +2.6**
FETA Feichten 67.30 342 *i* P **P** **10 03 00.3 +1.3**
comp=Z,14nm,1.0s
WATA Walderalm 67.33 343 *e*P **P** **10 03 00.7 +1.5**
SQTA Sankt Quirin 67.34 342 *i* P **P** **10 03 00.7 +1.5**
comp=Z,15nm,1.2s
DAVOX Davos/Dischmat 67.34 341 LR LR 10 33 34.4
comp=Z,178nm,20.1s,baz=248,slow=37
KIEV Kiev 67.43 356 P **P** **10 02 58.5 -1.1**
KIEV Kiev 67.43 356 P **P** **10 02 58.5 -1.1**
KIEV pmax pmax
comp=Z,10.0nm,1.0s
AKASG Malin Array Be 67.44 356 P **P** **10 02 58.9 -0.7**
comp=Z,1.9nm,0.7s,baz=180,slow=5.8,SNR=9.2
comp=Z,1.9nm,0.7s
AKBB Malin Array Si 67.44 356 P **P** **10 02 58.5 -1.1**
AKBB IAmb IAmb 10 03 05.5
comp=Z,10nm,0.9s
AKBB Malin Array Si 67.44 356*ce*P **P** **10 02 59.7 +0.1**
BRLS Boroldav 67.45 27 *e*P **P** **10 02 57.2 -2.7**
BRLS pmax pmax
comp=Z,5.0nm,0.9s
BRLS Boroldav 67.45 27 *e*P **P** **10 02 57.2 -2.7**
comp=Z,4.9nm,0.9s,baz=27
MOTA Moosalm 67.48 342 *e*P **P** **10 03 01.2 +1.0**
comp=Z,17nm,1.2s
KSH Kashi 67.65 33 P **P** **10 03 05.8 +4.4**
KSH PcP **PcP** **10 03 32.5 +4.1**
KSH pmax pmax
comp=Z,6.0nm,0.7s
RETA Reutte 67.71 342 *e*P **P** **10 03 02.0 +0.4**
comp=Z,20nm,0.9s
KRUC Moravsky 67.72 347 *e*P **P** **10 03 01.2 -0.2**
DAVA Damuels 67.79 342 *i* P **P** **10 03 03.1 +0.9**
comp=Z,21nm,1.2s
KKAR Karatay Array 67.80 27 P **P** **10 03 00.9 -1.2**
KKAR Karatay Array 67.80 27 P **P** **10 03 01.8 -0.3**
KKAR Karatay Array 67.80 27 P **P** **10 03 01.8 -0.3**
KKAR pmax pmax
comp=Z,44nm,0.9s
VRAC Vranov 67.90 347 *e*P **P** **10 03 02.5 -0.1**
VRAC Vranov 67.90 347 LR LR 10 37 33.6
comp=Z,135nm,18.4s,baz=154,slow=40
DZA Taraz 67.99 28 *e*P **P** **10 03 02.5 -0.8**
DZA pmax pmax
comp=Z,9.0nm,0.7s
DZA Taraz 67.99 28 *e*P **P** **10 03 02.6 -0.8**
comp=Z,9.3nm,0.7s,baz=28
KULM Kulim 68.13 77 P **P** **10 03 04.6 -0.2**
MORC Moravsky Berou 68.15 348 P **P** **10 03 03.4 -0.8**
MORC IAmb IAmb 10 03 11.1
comp=Z,16nm,1.1s
MORC Moravsky Berou 68.15 348 *e*P **P** **10 03 04.0 -0.2**
MORC Moravsky Berou 68.15 348 P **P** **10 03 03.4 -0.8**
MORC pmax pmax
comp=Z,16nm,1.1s
GEC2 GERESS Array S 68.15 345 IAmb IAmb 10 03 11.2
comp=Z,11nm,1.0s
GERES GERESS Array B 68.15 345 P **P** **10 03 04.9 +0.6**
GERES GERESS Array B 68.15 345 P **P** **10 03 04.3 0.0**
comp=Z,2.5nm,0.8s,baz=165,slow=4.1,SNR=8.3
comp=Z,2.5nm,0.8s
KHC Kasperske Hory 68.44 345 IAmb IAmb 10 03 13.4
comp=Z,14nm,1.2s
KHC Kasperske Hory 68.44 345*ce*P **P** **10 03 07.4 +1.3**
KHC pmax pmax
comp=Z,22nm,1.3s
LFF La Frestale 69.06 334 *e*P P 10 03 16.1 +6.2
LFF pmax pmax
comp=Z,18nm,0.9s
HINF Hinteralfeld 69.22 340 *e*P **P** **10 03 11.3 +0.4**
HINF pmax pmax
comp=Z,15nm,1.1s
AAK Ala-Archa 69.25 30 P **P** **10 03 11.2 -0.2**
AAK Ala-Archa 69.25 30*ce*P **P** **10 03 12.1 +0.7**
AAK pmax pmax
comp=Z,8.0nm,1.3s
AAK Ala-Archa 69.25 30 P **P** **10 03 12.2 +0.7**
ABKAR Akbulak array 69.30 17 P **P** **10 03 10.5 -0.8**
ABKAR Akbulak array 69.30 17 IAmb IAmb 10 03 17.2
comp=Z,22nm,1.0s
BELA Belgrano 2 69.50 192 P **P** **10 03 12.9 +0.6**
BELA IAmb IAmb 10 03 15.3
comp=Z,21nm,1.2s
HAU Haudompre 69.55 340 *e*P **P** **10 03 13.5 +0.6**
HAU pmax pmax
comp=Z,34nm,1.0s
AVF Avril sur Loir 69.57 337 *e*P P 10 03 18.7 +5.7
AVF pmax pmax
comp=Z,12nm,1.0s
BELG Belogornoye 69.73 8 *i* P **P** **10 03 16.5 +2.6**
BELG pmax pmax
comp=Z,5.0nm,1.1s
BELG Belogornoye 69.73 8 LR LR 10 34 26.7
comp=Z,133nm,18.9s,baz=224,slow=36
BOOM Boomskoye usch 69.84 31 IAmb IAmb 10 03 21.9
comp=Z,18nm,1.2s
AKTO Aktyubinsk 69.86 15 LR LR 10 36 50.6
comp=Z,138nm,20.1s,baz=202,slow=38
SGDS Sogindy 69.94 29 *e*P **P** **10 03 15.2 -0.3**
SGDS Sogindy 69.94 29 *e*P **P** **10 03 15.2 -0.3**
baz=29
TARG Taragay, Kyrgy 70.22 32 IAmb IAmb 10 03 25.0
comp=Z,13nm,1.1s
RCBR Riachuelo 70.43 270 LR LR 10 30 29.5
comp=Z,164nm,19.2s,baz=92,slow=33
CLL Collm 70.60 345 *i* P **P** **10 03 20.2 +0.9**
CLL Collm 70.60 345 *i* P **P** **10 03 20.2 +0.9**
CLL *i* pP **sP** **10 03 25.1 +1.3**
comp=Z,18nm,1.4s
CLL AMS AMS 14 06 00.0
comp=Z,200nm,19.4s
CLL AMS AMS 15 29 00.0
comp=N,300nm,19.0s
CLL AMS AMS 15 29 00.0
comp=E,200nm,18.5s
CLL AMS AMS 15 29 00.0
comp=Z,500nm,18.8s
TNSS Tian-Shan 70.74 31 *e*P **P** **10 03 20.2 -0.6**
TNSS Tian-Shan 70.74 31 *e*P **P** **10 03 20.3 -0.6**
baz=31
AAA Alma-Ata 70.85 31 *e*P **P** **10 03 20.5 -0.6**
AAA pmax pmax
comp=Z,7.0nm,0.5s
AAA Alma-Ata 70.85 31 *e*P **P** **10 03 20.6 -0.6**
comp=Z,6.7nm,0.5s,baz=31
MDOK Medeo 70.89 31 *e*P **P** **10 03 20.8 -0.6**
MDOK Medeo 70.89 31 *e*P **P** **10 03 20.9 -0.5**
baz=31
BTLS Baital 70.89 28 *e*P **P** **10 03 20.7 -0.5**
BTLS pmax pmax
comp=Z,7.0nm,1.0s
BTLS Baital 70.89 28 *e*P **P** **10 03 20.8 -0.5**
comp=Z,6.5nm,1.0s,baz=28
KUU Kurty 71.08 30 *e*P **P** **10 03 22.2 -0.2**
KUU pmax pmax
comp=Z,11nm,1.0s
KUU Kurty 71.08 30 *e*P **P** **10 03 22.3 -0.2**
comp=Z,11nm,1.0s,baz=30
MNK Minsk 71.32 355 *i* P **P** **10 03 22.1 -1.4**
MNK *i* 10 06 00.8
MNK *i* PPP PPP 10 07 43.6
MNK *i* S **S** **10 12 39.2 -1.9**
MNK *i* SS **SS** **10 17 15.6 -0.3**
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=Z,26nm,0.9s
MNK pmax pmax
comp=N,17nm,0.9s
MNK MLR MLR
comp=N,174nm,15.0s
MNK MLR MLR
comp=Z,121nm,17.0s
MNK MLR MLR
comp=E,73nm,14.0s

CHKK Chushkaly 71.37 30 *e*P **P** **10 03 24.1 0.0**
CHKK Chushkaly 71.37 30 *e*P **P** **10 03 24.1 0.0**
baz=30
SATY Saty 71.49 32 *e*P **P** **10 03 24.2 -0.8**
SATY pmax pmax
comp=Z,9.0nm,1.2s
SATY Saty 71.49 32 *e*P **P** **10 03 24.3 -0.8**
comp=Z,8.6nm,1.2s,baz=32
ZHN Zhinishke 71.58 32 *e*P **P** **10 03 25.1 -0.5**
ZHN pmax pmax
comp=Z,6.0nm,1.0s
ZHN Zhinishke 71.58 32 *e*P **P** **10 03 25.1 -0.5**
comp=Z,5.7nm,1.0s,baz=32
OBN Obninsk 71.65 1 *i* P **P** **10 03 25.1 -0.4**
OBN pmax pmax
comp=Z,8.0nm,0.9s
CMAR Chiang Mai Arr 71.69 64 P **P** **10 03 26.8 +0.2**
comp=Z,1.6nm,0.6s,baz=251,slow=7.2,SNR=9.8
CMAR LR LR 10 31 53.0
comp=Z,41nm,19.4s,baz=225,slow=33
comp=Z,1.6nm,0.6s
BHOU Houvegnez 71.70 341 *d*P **P** **10 03 28.0 +2.0**
BHOU *dx* x 10 03 33.3
CHTO Chiang Mai 71.84 63 P **P** **10 03 26.9 -0.6**
CHTO Chiang Mai 71.84 63 P **P** **10 03 26.9 -0.6**
CHTO pmax pmax
comp=Z,13nm,1.1s
UZB Uzynbulak 71.86 32 *e*P **P** **10 03 26.8 -0.5**
UZB pmax pmax
comp=Z,18nm,1.1s
UZB Uzynbulak 71.86 32 *e*P **P** **10 03 26.9 -0.5**
comp=Z,18nm,1.1s,baz=32
BTNL Ternell 71.86 341 *dx* x 10 03 34.6
MEM Membach 71.92 341 *d*P **P** **10 03 29.4 +2.1**
MEM *dx* x 10 03 34.6
BCLA Clavier 71.98 340 *d*P **P** **10 03 29.6 +1.9**
comp=Z,20nm,1.0s
BCLA *dx* x 10 03 35.1
BGES Gesves 72.02 340 *d*P **P** **10 03 28.8 +0.9**
BGES *dx* x 10 03 35.2
BAIF Baives 72.03 339 *e*P **P** **10 03 28.8 +0.8**
BAIF pmax pmax
comp=Z,32nm,1.3s
BMRD Maredsous 72.06 340 *d*P **P** **10 03 29.7 +1.6**
BMRD *dx* x 10 03 35.0
SHLS Shalkode 72.09 32 *e*P **P** **10 03 29.9 +1.2**
SHLS pmax pmax
comp=Z,8.0nm,0.9s
SHLS Shalkode 72.09 32 *e*P **P** **10 03 30.0 +1.2**
comp=Z,8.5nm,0.9s,baz=33
PHRA Phrae 72.81 64 P **P** **10 03 32.4 -1.0**
TDK Taldyqorghan 72.90 30 *e*P **P** **10 03 32.6 -0.7**
TDK pmax pmax
comp=Z,11nm,0.8s
TDK Taldyqorghan 72.90 30 *e*P **P** **10 03 32.7 -0.7**
comp=Z,11nm,0.8s,baz=30
QSPA South Pole Qui 73.32 180 P **P** **10 03 36.0 +0.3**
QSPA IAmb IAmb 10 03 38.2
comp=Z,26nm,1.1s
QSPA South Pole Qui 73.32 180 P **P** **10 03 36.4 +0.7**
comp=Z,18nm,1.1s,baz=246,slow=4.1,SNR=20
QSPA LR LR 10 34 53.9
comp=Z,287nm,19.0s,baz=242,slow=35
comp=Z,18nm,1.1s
CRAI Chiangrai 73.67 62 IAmb IAmb 10 03 45.1
comp=Z,48nm,1.9s
BRZS Berezniki 74.20 24 *e*P **P** **10 03 40.7 -0.1**
BRZS pmax pmax
comp=Z,7.0nm,1.1s
BRZS Berezniki 74.20 24 *e*P **P** **10 03 40.8 -0.1**
comp=Z,7.0nm,1.1s,baz=24
VSU Vasula 75.34 355*ce*P **P** **10 03 47.9 +0.8**
VSU pmax pmax
comp=Z,14nm,0.7s
ARU Arti 75.52 13 P **P** **10 03 47.9 -0.4**
ARU Arti 75.52 13*c i*P **P** **10 03 47.9 -0.4**
ARU 10 04 01.0
ARU S **S** **10 13 29.6 +0.9**
ARU pmax pmax
comp=Z,17nm,1.0s
ARU Arti 75.52 13 LR LR 10 39 56.0
comp=Z,94nm,19.7s,baz=190,slow=38
BRVK Borovoye 75.83 21 *i* P **P** **10 03 49.3 -0.8**
BRVK pmax pmax
comp=Z,12nm,1.0s
BVAR Borovoye Array 75.84 21 P **P** **10 03 49.9 -0.3**
comp=Z,5.8nm,0.9s,baz=216,slow=4.8,SNR=12
BVAR LR LR 10 42 18.5
comp=Z,172nm,18.3s,baz=209,slow=40
comp=Z,5.8nm,0.9s
MAKZ Makanchi 75.94 31 P **P** **10 03 50.6 -0.3**
MAKZ IAmb IAmb 10 03 57.4
comp=Z,19nm,0.8s
MAKZ Makanchi 75.94 31 P **P** **10 03 50.7 -0.3**
MAKZ pmax pmax
comp=Z,19nm,0.9s
KIRV Kirov 76.01 8*ce*P **P** **10 03 51.3 +0.3**
KIRV Kirov 76.01 8 LR LR 10 40 04.4
comp=Z,77nm,18.1s,baz=186,slow=38
MK31 Makanchi Array 76.08 31 P **P** **10 03 51.1 -0.6**
MK31 IAmb IAmb 10 03 58.1
comp=Z,13nm,0.8s
MK31 Makanchi Array 76.08 31*ce*P **P** **10 03 51.7 -0.1**
MKAR Makanchi Array 76.08 31 P **P** **10 03 51.2 -0.6**
MKAR Makanchi Array 76.08 31 P **P** **10 03 51.2 -0.6**
MKAR Makanchi Array 76.08 31 P **P** **10 03 51.6 -0.2**
comp=Z,5.9nm,0.8s,baz=222,slow=6.2,SNR=15
comp=Z,5.9nm,0.8s
WMQ Urumqi 76.98 36 *e*P **P** **10 03 56.4 -0.6**
WMQ pmax pmax
comp=Z,16nm,0.7s
KURBB Kurchatov Arra 77.09 27 P **P** **10 03 57.5 +0.1**
comp=Z,6.8nm,0.9s,baz=229,slow=6.3,SNR=14
comp=Z,6.8nm,0.9s
KURK Kurchatov 77.20 27 P **P** **10 03 57.8 -0.1**
KURK IAmb IAmb 10 04 04.7
comp=Z,22nm,0.9s
KURK Kurchatov 77.20 27*ce*P **P** **10 03 58.2 +0.3**
KURK pmax pmax
comp=Z,15nm,1.3s
KURK Kurchatov 77.20 27 P **P** **10 03 58.3 +0.4**
KLMR Klimovskoe 77.47 2 *e*P **P** **10 03 57.1 -2.1**
KLMR pmax pmax
comp=Z,42nm,1.4s
PZH PanZhiHua 77.50 57 P **P** **10 04 00.4 0.0**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,80nm,4.8s
ZSN Zaisan 77.82 32 *e*P **P** **10 04 01.5 0.0**
ZSN pmax pmax
comp=Z,8.0nm,1.0s
ZSN Zaisan 77.82 32 *e*P **P** **10 04 01.6 0.0**
comp=Z,7.7nm,1.0s,baz=32
SBUM Sibu 78.14 84 P **P** **10 04 02.7 -1.4**
FINES FINESS Array B 78.34 355 *e*P **P** **10 04 04.2 +0.1**
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 78.34 355 P **P** **10 04 04.0 0.0**
comp=Z,4.0nm,0.8s,baz=158,slow=8.2,SNR=9.0
comp=Z,4.0nm,0.8s
HFS Hagfors 78.66 349 P **P** **10 04 06.0 +0.2**
comp=Z,6.9nm,0.9s,baz=162,slow=5.9,SNR=6.9
comp=Z,6.9nm,0.9s
PMSA Palmer Station 78.90 206 LR LR 10 35 21.1
comp=Z,206nm,19.2s,baz=128,slow=33
EKA Eskdalemuir Ar 78.92 339 P **P** **10 04 08.1 +0.7**
comp=Z,0.6nm,0.5s,baz=134,slow=7.0,SNR=5.2
comp=Z,0.6nm,0.5s
BDFB Brasilia 79.43 257 P **P** **10 04 13.2 +1.9**
BDFB IAmb IAmb 10 04 14.9
comp=Z,33nm,1.0s
BDFB Brasilia 79.43 257 P **P** **10 04 13.2 +1.9**
BDFB pmax pmax
comp=Z,33nm,1.0s
BDFB Brasilia 79.43 257 P **P** **10 04 13.4 +2.1**
comp=Z,20nm,0.8s,baz=107,slow=4.2,SNR=25
BDFB LR LR 10 35 56.6
comp=Z,295nm,18.9s,baz=130,slow=33
comp=Z,20nm,0.8s
TWSI Taliwang, Sumb 79.45 96 P **P** **10 04 10.5 -0.8**
NAO01 NORSAR Array S 79.85 348 IAmb IAmb 10 04 19.7
comp=Z,30nm,1.1s
NB2 NORSAR Subarra 79.97 348 P **P** **10 04 13.3 +0.2**
comp=Z,12nm,1.2s,baz=156,slow=5.9
NOA NORSAR Array B 79.97 348 P **P** **10 04 13.9 +0.9**
comp=Z,4.1nm,0.9s,baz=151,slow=5.0,SNR=12
NOA LR LR 10 44 40.9
comp=Z,48nm,18.3s,baz=275,slow=40
comp=Z,4.1nm,0.9s
NBO00 NORSAR Array S 80.05 348 IAmb IAmb 10 04 20.8
comp=Z,20nm,1.0s
NC303 NORSAR Array S 80.11 348 IAmb IAmb 10 04 20.3
comp=Z,19nm,1.1s
PLTB Pedras Altas 80.49 240 P **P** **10 04 18.7 +2.1**
PLTB IAmb IAmb 10 04 20.7
comp=Z,25nm,1.2s
DGZ Jazzator, Alta 80.58 31 *i* P **P** **10 04 16.7 -0.1**
DGZ pmax pmax
comp=Z,13nm,0.7s
VNDA Vanda 80.98 170 P **P** **10 04 19.3 +0.9**
comp=Z,2.8nm,0.9s,baz=262,slow=7.5,SNR=6.8
VNDA LR LR 10 36 47.7
comp=Z,217nm,21.9s,baz=197,slow=33
comp=Z,2.8nm,0.9s
CD2 Chengdu 81.01 54 P **P** **10 04 20.0 +0.6**
CD2 pmax pmax
comp=Z,20nm,0.6s
GTA Gaotai 82.05 45 *e*P **P** **10 04 24.8 0.0**
GTA sP PcP 10 04 31.1 +0.8
GTA pmax pmax
comp=Z,7.0nm,1.4s
GTA LR LR
comp=Z,140nm,19.3s
GTA LR LR
comp=Z,130nm,18.9s
GTA LR LR
comp=Z,180nm,18.5s
ZAA0 Zalesovo Array 82.17 27 P **P** **10 04 24.5 -0.4**
ZAA0 IAmb IAmb 10 04 31.7
comp=Z,24nm,1.0s
ZALV Zalesovo Beam 82.17 27 P **P** **10 04 24.2 -0.7**
ZALV Zalesovo Beam 82.17 27 P **P** **10 04 24.7 -0.2**
comp=Z,12nm,1.0s,baz=238,slow=4.7,SNR=23
ZALV LR LR 10 43 00.0
comp=Z,67nm,20.1s,baz=20,slow=37
comp=Z,12nm,1.0s
CPUP Villa Florida 85.05 244 P **P** **10 04 41.0 +0.6**
CPUP IAmb IAmb 10 04 49.7
comp=Z,36nm,1.9s
CPUP Villa Florida 85.05 244 P **P** **10 04 41.0 +0.6**
CPUP pmax pmax
comp=Z,36nm,1.9s
CPUP Villa Florida 85.05 244 P **P** **10 04 41.5 +1.1**
comp=Z,4.4nm,1.0s,baz=98,slow=8.2,SNR=4.0
CPUP LR LR 10 38 55.2
comp=Z,356nm,18.6s,baz=94,slow=33
comp=Z,4.4nm,1.0s
AQDB Aquidauana 85.22 250 P **P** **10 04 45.8 +4.4**
TRQA Tornquist 85.42 232 P **P** **10 04 44.1 +2.0**
TRQA Tornquist 85.42 232 P **P** **10 04 44.1 +2.0**
TRQA pmax pmax
comp=Z,29nm,1.4s
TOLI2 Tolitoli 85.93 88 P **P** **10 04 43.6 -1.4**
TOLI2 IAmb IAmb 10 04 51.0
comp=Z,14nm,0.9s
XAN Xi'an 86.27 53 P **P** **10 04 46.4 +0.1**
XAN pmax pmax
comp=Z,13nm,1.2s
ARCES ARCESS Array B 86.40 357 P **P** **10 04 46.0 -0.1**
comp=Z,7.1nm,0.8s,baz=157,slow=6.6,SNR=8.5
comp=Z,7.1nm,0.8s
LYN LuoYang 89.19 54 ⇑P P 10 05 05.4 +5.2
LYN pmax pmax
comp=Z,19nm,0.6s
ZAK Zakamensk 89.44 36 *e*P **P** **10 05 01.4 +0.2**
ZAK pmax pmax
comp=Z,6.0nm,1.4s
BBOO Buckleboo 89.69 124 P **P** **10 05 01.8 -1.0**
BBOO IAmb IAmb 10 05 05.0
comp=Z,18nm,1.1s
SONM Songino Array 90.15 40 *e*P **P** **10 05 05.6 +1.0**
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM Songino Array 90.15 40 P **P** **10 05 04.8 +0.2**
comp=Z,1.2nm,0.9s,baz=243,slow=6.5,SNR=5.7
comp=Z,1.2nm,0.9s
ULN Ulaanbaatar 90.57 40 *i* P **P** **10 05 06.7 +0.1**
ULN pmax pmax
comp=Z,3.0nm,1.0s
PLCA Paso Flores 90.73 227 LR LR 10 43 49.3
comp=Z,104nm,18.4s,baz=105,slow=34
HHC Hu-ho-hao-te 90.80 47 *e*P **P** **10 05 08.2 +0.4**
HHC pP sP 10 05 12.8 +0.5
HHC pmax pmax
comp=Z,8.0nm,0.5s
HHC pmax pmax
comp=Z,180nm,5.8s
HHC LR LR
comp=Z,230nm,14.1s
HHC LR LR
comp=Z,170nm,12.7s
HHC LR LR
comp=Z,150nm,15.5s
ASAR Alice Springs 90.89 115 P **P** **10 05 07.6 -1.0**
ASAR Alice Springs 90.89 115 P **P** **10 05 07.6 -1.0**
ASAR Alice Springs 90.89 115 P **P** **10 05 08.1 -0.6**
comp=Z,2.4nm,0.9s,baz=253,slow=4.5,SNR=15
comp=Z,2.4nm,0.9s
SIV San Ignacio 91.41 253 P **P** **10 05 12.9 +1.8**
comp=Z,5.5nm,0.8s,baz=70,slow=3.1,SNR=3.3
SIV LR LR 10 44 23.7
comp=Z,230nm,18.2s,baz=109,slow=34
comp=Z,5.5nm,0.8s
BORG Borgarnes 91.95 339 LR LR 10 49 30.7
comp=Z,65nm,18.1s,baz=223,slow=38
WRA Warramunga Arr 92.47 112 P **P** **10 05 15.1 -0.8**
WRA Warramunga Arr 92.47 112 *e*P **P** **10 05 16.3 +0.4**
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 92.47 112 P **P** **10 05 15.2 -0.8**
comp=Z,1.2nm,0.7s,baz=250,slow=3.0,SNR=8.8
WRA PKKPbc **PKKPbc** **10 22 29.7 +0.6**
comp=Z,0.2nm,0.6s,baz=73,slow=3.0,SNR=4.7
comp=Z,1.2nm,0.7s
NJ2 Nanjing 93.41 58 *e*P **P** **10 05 19.7 -0.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
NRIK Noril'sk 93.46 16*ce*P **P** **10 05 19.4 +0.2**
NRIK pmax pmax
comp=Z,3.0nm,1.1s
NRIK Noril'sk 93.46 16 LR LR 10 54 37.5
comp=Z,170nm,18.0s,baz=244,slow=40
LVC Limon Verde 96.22 244 LR LR 10 46 37.8
comp=Z,205nm,18.3s,baz=129,slow=34
LPAZ La Paz 97.73 250 LR LR 10 47 12.7
comp=Z,170nm,19.6s,baz=66,slow=34
LBNH Lisbon 113.86 311 P **PKiKP** **10 10 44.4 +1.1**
baz=90
PAL Palisades 115.29 308 P **PKiKP** **10 10 46.5 +0.5**
baz=91
NHSC New Hope 120.20 299 P **PKiKP** **10 10 56.2 +0.4**
baz=91
O53A New Philadelph 120.87 307 P **PKiKP** **10 10 57.2 +0.2**
baz=86
DWPF Disney Wildern 121.08 293 P **PKiKP** **10 10 57.9 +0.2**
baz=94
KMSC Kings Mountain 121.16 301 P **PKiKP** **10 10 57.6 0.0**
baz=89
P52A Corning 121.61 306 P **PKPdf** **10 10 58.2 0.0**
baz=86
ACSO Alum Creek Sta 122.22 307 P **PKiKP** **10 10 59.7 +0.2**
baz=85
GLMI Grayling 122.86 313 P **PKPdf** **10 11 00.6 +0.1**
baz=81
TZTN Tazewell 122.92 303 P **PKPdf** **10 11 00.7 -0.2**
baz=87
GOGA Godfrey 122.95 299 P **PKiKP** **10 11 01.1 -0.1**
baz=89
TIGA Tifton 123.06 297 P **PKPdf** **10 11 01.2 0.0**
baz=90
P49A Miami Univ. Ec 123.61 307 P **PKPdf** **10 11 01.9 -0.2**
baz=84
A36M Sachs Harbour 123.66 353 P **PKiKP** **10 11 01.6 +0.2**
baz=22
O48B Farmland 123.87 307 P **PKiKP** **10 11 02.8 -0.1**
baz=84
WCI Wyandotte Cave 124.97 305 P **PKiKP** **10 11 05.0 -0.1**
baz=84
A21K Barrow 125.03 5 P **PKiKP** **10 11 04.9 +0.7**
baz=346
SFIN Lafayette 125.33 308 P **PKPdf** **10 11 05.5 +0.2**
baz=82

L44A	Lake County Fo	125.66	310	P		PKPdf	10 11 05.8	-0.1	I28M	Miner Creek	131.30	357	P		PKiKP	10 11 17.0	-0.1	YUK6	Outpost Mounta	135.70	356	P		PKiKP	10 11 26.7	+0.4
	baz=80									baz=5.9									baz=8.5										
LRAL	Lakeview Retre	125.92	299	P		PKPdf	10 11 06.7	0.0	I30M	Mount Dempster	131.31	355	P		PKPdf	10 11 16.6	+0.4	HYT	Haines Junctio	135.75	355	P		PKiKP	10 11 26.0	-0.3
	baz=87									baz=10									baz=9.7										
C36M	Paulatuk	125.94	351	P		PKPdf	10 11 05.8	+0.2	PRP	Porcupine Dome	131.33	0	P		PKiKP	10 11 17.9	+0.7	P33M	Teslin, Yukon	135.82	352	P		PKiKP	10 11 26.8	+0.4
	baz=24									baz=359									baz=16										
B22K	Teshekpuk Lake	126.22	4	P		PKiKP	10 11 06.7	+0.1	WRGLY	Wrigley	131.36	347	P		PKiKP	10 11 18.0	+0.9	CTG	Chitna Glacier	135.84	358	P		PKiKP	10 11 26.2	-0.2
	baz=349									baz=27									baz=4.4										
B20K	Meade River	126.26	5	P		PKiKP	10 11 06.5	-0.2	I21K	Tanana	131.42	4	P		PKiKP	10 11 17.5	+0.3	BMRM	Bremner River	135.90	360	P		PKiKP	10 11 26.7	+0.2
	baz=345									baz=350									baz=360										
B18K	Kokolik River	126.39	7	P		PKiKP	10 11 07.7	+0.7	I26K	Coal Creek Min	131.54	359	P		PKiKP	10 11 17.7	+0.3	CRQE	Cirque	136.11	359	P		PKiKP	10 11 26.4	-0.6
	baz=339									baz=1.8									baz=2.0										
WVT	Waverly	126.39	303	P		PKiKP	10 11 07.9	-0.1	I20K	Naaghedeneel	131.59	6	P		PKiKP	10 11 17.7	+0.2	O19K	Port Alsworth	136.11	7	P		PKiKP	10 11 26.4	-0.4
	baz=85									baz=347									baz=346										
EYMN	Ely	126.81	318	P		PKiKP	10 11 09.1	+0.6	I23K	Minto, Yukon-K	131.60	3	P		PKiKP	10 11 17.5	-0.1	OGNE	Ogallala	136.20	312	P		PKiKP	10 11 27.3	-0.4
	baz=73									baz=354									baz=69										
B21K	Ikpikpuk River	126.85	4	P		PKiKP	10 11 08.4	+0.6	MLY	Manley	131.65	3	P		PKiKP	10 11 17.7	-0.1	O22K	Cooper Landing	136.24	4	P		PKiKP	10 11 27.4	+0.4
	baz=348									baz=352									baz=353										
C23K	Itkillik River	126.87	3	P		PKiKP	10 11 08.6	+0.7	J30M	Hart River	131.95	355	P		PKiKP	10 11 18.1	-0.3	RSSD	Black Hills	136.32	317	P		PKiKP	10 11 27.5	-0.5
	baz=353									baz=11									baz=64										
C19K	Lookout Ridge	126.89	7	P		PKiKP	10 11 08.6	+0.5	MDND	Maddock	131.95	320	P		PKiKP	10 11 18.9	+0.1	LAO	LASA Array	136.48	322	P		PKiKP	10 11 28.5	+0.4
	baz=342									baz=66									baz=60										
C16K	Lisburne Hills	126.90	9	P		PKiKP	10 11 08.0	+0.1	EGAK	Eagle	132.02	358	P		PKiKP	10 11 18.9	+0.5	ABTX	Abilene, Hawle	136.54	300	P		PKiKP	10 11 28.7	+0.1
	baz=335									baz=4.4									baz=80										
C26K	Camden Bay	126.91	0	P		PKiKP	10 11 09.0	+1.0	ILAR	Eielson Array	132.06	1	PKP		PKPdf	10 11 17.1	-0.4	P18K	Big Mountain,	136.78	8	P		PKiKP	10 11 28.1	-0.2
	baz=360									comp=Z,1.3nm,0.9s,baz=330,slow=3.6,SNR=14									baz=345										
HDIL	Hopedale	126.96	308	P		PKiKP	10 11 09.1	+0.1	NEA2	Nenana	132.17	3	P		PKiKP	10 11 18.9	+0.1	BRSE	Bradley Lake S	136.90	5	P		PKiKP	10 11 28.4	-0.1
	baz=80									baz=354									baz=351										
C17K	DeLong Mountai	127.03	8	P		PKiKP	10 11 08.8	+0.4	J29N	Klondike Camp	132.20	356	P		PKiKP	10 11 18.9	+0.1	833A	Chaparral WMA,	136.91	294	P		PKiKP	10 11 29.4	-0.1
	baz=338									baz=8.2									baz=84										
C24K	Franklin Bluff	127.05	2	P		PKiKP	10 11 09.0	+0.8	J20K	Nowinta River	132.23	6	P		PKiKP	10 11 18.9	0.0	Q32M	Nakina River	136.94	351	P		PKiKP	10 11 29.6	+0.8
	baz=355									baz=348									baz=17										
C18K	Utukok River	127.14	8	P		PKiKP	10 11 08.6	0.0	J25K	Salcha River,	132.24	0	P		PKiKP	10 11 18.4	-0.5	JCT	Junction City	137.01	297	P		PKiKP	10 11 29.9	+0.2
	baz=340									baz=359									baz=82										
JFWS	Jewell Farm	127.22	311	P		PKiKP	10 11 09.4	0.0	J14K	Nanvaranak Lak	132.24	12	P		PKiKP	10 11 18.8	-0.1	DLBC	Dease Lake	137.06	349	P		PKiKP	10 11 29.7	+0.8
	baz=78									baz=352									baz=21										
C21K	Knifeblade Rid	127.29	5	P		PKiKP	10 11 09.6	+0.8	J19K	Poorman	132.26	7	P		PKiKP	10 11 18.5	-0.5	Q16K	King Salmon	137.27	9	P		PKiKP	10 11 30.2	+1.0
	baz=348									baz=346									baz=343										
D28M	Stokes Point	127.38	357	P		PKiKP	10 11 09.3	+0.4	J16K	Anvik River	132.27	10	P		PKiKP	10 11 18.5	-0.5	KSCO	Kaye Shedlock'	137.28	310	P		PKiKP	10 11 30.6	+0.5
	baz=7.0									baz=339									baz=71										
D25K	Kavik River	127.50	1	P		PKiKP	10 11 09.3	0.0	J26L	Joseph Creek	132.35	359	P		PKPdf	10 11 18.6	+0.5	AMTX	Amarillo	137.73	304	P		PKiKP	10 11 31.2	+0.1
	baz=358									baz=1.3									baz=76										
D20K	Etivluk River	127.57	5	P		PKiKP	10 11 09.4	0.0	HDA	Harding Lake	132.42	1	P		PKiKP	10 11 19.4	+0.2	EGMT	Eagleton	137.78	325	P		PKiKP	10 11 31.3	+0.6
	baz=345									baz=357									baz=54										
D24K	Happy Valley	127.62	2	P		PKiKP	10 11 10.0	+0.5	NATX	Nacogdoches	132.48	298	P		PKiKP	10 11 19.9	-0.4	Q17K	Contact Creek	137.78	9	P		PKiKP	10 11 31.4	+0.9
	baz=355									baz=84									baz=344										
D19K	Kuna River	127.64	6	P		PKiKP	10 11 10.0	+0.5	BPAW	Bear Paw Mtn.	132.56	4	P		PKiKP	10 11 19.6	0.0	S31K	Pelican	138.44	353	P		PKiKP	10 11 32.7	+1.1
	baz=344									baz=352									baz=12										
D22K	Ayikyak River	127.71	4	P		PKiKP	10 11 10.3	+0.6	J18K	Innoko River	132.65	7	P		PKPdf	10 11 19.1	+0.4	K22A	Casper	138.60	316	P		PKiKP	10 11 33.0	+0.4
	baz=350									baz=344									baz=63										
D23K	Nanushuk River	127.73	3	P		PKiKP	10 11 10.3	+0.6	DAWY	Dawson	132.66	357	P		PKPdf	10 11 19.1	+0.4	KDAK	Kodiak Island	138.67	6	P		PKiKP	10 11 32.7	+0.7
	baz=353									baz=6.7									baz=348										
D17K	Noatak River	127.77	9	P		PKiKP	10 11 10.0	+0.3	CHUM	Lake Minchumin	132.68	5	P		PKiKP	10 11 19.6	-0.2	S32K	Killisnoo	138.72	352	P		PKiKP	10 11 33.1	+0.9
	baz=337									baz=350									baz=14										
OXF	Oxford	127.83	301	P		PKiKP	10 11 10.8	0.0	K29M	Barlow Dome	132.76	356	P		PKiKP	10 11 20.0	-0.1	MSTX	Muleshoe	138.83	303	P		PKiKP	10 11 33.4	+0.1
	baz=85									baz=9.2									baz=76										
INK	Inuvik	128.05	355	P		PKiKP	10 11 10.5	+0.2	KSU1	Kansas State U	132.77	308	P		PKiKP	10 11 20.5	-0.2	N23A	Red Feather La	138.96	314	P		PKiKP	10 11 33.6	0.0
	baz=13									baz=76									baz=66										
E20K	Nigu River	128.06	5	P		PKiKP	10 11 11.0	+0.6	TUL3	Leonard	132.81	304	P		PKiKP	10 11 21.0	+0.1	T33K	Petersburg	139.11	350	P		PKiKP	10 11 33.9	+0.9
	baz=346									baz=79									baz=17										
E29M	Blow River	128.27	357	P		PKiKP	10 11 10.9	+0.1	MAYO	Mayo, Yukon	132.88	355	P		PKiKP	10 11 20.7	+0.5	RLMT	Red Lodge	139.11	321	P		PKiKP	10 11 33.8	+0.1
	baz=8.1									baz=11									baz=58										
E18K	Tukpahlearik C	128.37	8	P		PKiKP	10 11 11.4	+0.4	SCRK	Sand Creek	132.88	360	P		PKPdf	10 11 19.5	+0.3	OHAK	Old Harbor	139.14	7	P		PKiKP	10 11 34.0	+1.0
	baz=340									baz=0.7									baz=347										
SPMN	Marine on St.	128.44	315	P		PKiKP	10 11 11.8	0.0	MCK	McKinley	133.03	3	P		PKiKP	10 11 20.6	+0.1	Q24A	Divide	139.14	311	P		PKiKP	10 11 33.6	-0.5
	baz=74									baz=354									baz=68										
E22K	Anaktuvuk Pass	128.50	3	P		PKiKP	10 11 11.5	+0.2	K15K	Wolf Creek Mou	133.04	11	P		PKiKP	10 11 20.6	0.0	ISCO	Idaho Springs	139.16	312	P		PKiKP	10 11 33.3	-0.8
	baz=351									baz=338									baz=67										
E23K	Chandalar	128.68	2	P		PKiKP	10 11 11.9	+0.1	K20K	Telida	133.04	6	P		PKiKP	10 11 20.7	+0.2	T25A	Trinidad	139.22	308	P		PKiKP	10 11 34.0	-0.2
	baz=354									baz=348									baz=71										
E24K	Your Creek	128.71	2	P		PKPdf	10 11 11.4	+0.3	RIDG	Independent Ri	133.12	0	P		PKiKP	10 11 20.8	0.0	SDPT	Sand Point	139.66	14	P		PKiKP	10 11 34.9	+0.7
	baz=355									baz=0.6									baz=336										
E25K	Arctic Village	128.72	0	P		PKiKP	10 11 11.9	+0.2	CAST	Castle Rocks	133.16	5	P		PKiKP	10 11 20.6	-0.2	SII	Sitkinak Islan	139.67	8	P		PKiKP	10 11 34.3	+0.1
	baz=359									baz=350									baz=346										
E19K	Redstone River	128.73	6	P		PKiKP	10 11 12.2	+0.5	K17K	Iditarod	133.16	9	P		PKiKP	10 11 21.0	+0.3	SDCO	Great Sand Dun	139.84	309	P		PKiKP	10 11 35.2	-0.3
	baz=344									baz=342									baz=70										
ULM	Lac du Bonnet	128.74	322	PKP		PKPdf	10 11 11.2	-0.4	TRF	Thorofare Moun	133.25	3	P		PKPdf	10 11 20.5	+0.6	BOZ	Bozeman (W)	140.24	323	P		PKiKP	10 11 35.5	-0.4
	comp=Z,5.2nm,0.9s,baz=58,slow=2.0,SNR=8.1									baz=352									baz=54										
CCM	Cathedral Cave	128.86	306	P		PKiKP	10 11 12.9	0.0	TTA	Tatalina	133.25	7	P		PKiKP	10 11 21.7	+0.6	CRAG	Craig	140.42	350	P		PKiKP	10 11 35.6	-0.1
	baz=81									baz=345									baz=17										
TNA	Tin City	128.86	12	P		PKiKP	10 11 12.5	+0.6	L29M	L29M	133.53	356	P		PKiKP	10 11 21.5	-0.1	TXAR	Lajitas Array	140.50	296	PKhKP		PKPpre	10 11 29.0	
	baz=331									baz=8.5									comp=Z,1.5nm,0.9s,baz=111,slow=2.8,SNR=11										
F30M	Barrier River	128.91	356	P		PKiKP	10 11 12.6	+0.5	L15K	Ungalak Mounta	133.62	11	P		PKiKP	10 11 22.0	+0.3	TXAR					PKP		PKPdf	10 11 34.4	+0.1
	baz=11									baz=337									comp=Z,2.2nm,0.8s,baz=108,slow=2.9,SNR=9.6										
F31M	Tsiigehtchic	128.91	355	P		PKiKP	10 11 12.0	0.0	PPLA	Purkeypile	133.66	5	P		PKiKP	10 11 21.9	-0.1	BW06	Boulder Array	140.51	318	P		PKPdf	10 11 34.9	+0.8
	baz=13									baz=350									baz=60										
VBMS	Vicksburg	128.93	298	P		PKiKP	10 11 13.0	-0.1	L17K	Donlin	133.71	9	P		PKiKP	10 11 21.8	-0.1	PDAR	Pinedale Array	140.51	318	PKhKP		PKPpre	10 11 29.8	
	baz=86									baz=342									comp=Z,4.2nm,0.9s,baz=101,slow=3.2,SNR=24										
F28M	Old Crow	129.14	358	P		PKiKP	10 11 12.7	+0.2	L27K	Beaver Creek,	133.76	358	P		PKiKP	10 11 21.9	-0.1	PDAR					PKP		PKPdf	10 11 34.6	+0.5
	baz=5.8									baz=3.6									comp=Z,4.2nm,0.9s,baz=108,slow=2.9,SNR=22										
F26K	Sheenjek River	129.15	360	P		PKiKP	10 11 12.4	-0.2	M11K	Nikolai	133.78	15	P		PKiKP	10 11 22.0	-0.1	O20A	White River Ci	140.87	314	P		PKPdf	10 11 35.8	+1.0
	baz=0.5									baz=331									baz=64										
F17K	Baldwin Pennin	129.21	9	P		PKiKP	10 11 13.0	+0.3	TGTN	Hyland Airport	133.85	349	P		PKiKP	10 11 22.1	-0.1	NEW	Newport	141.40	330	P		PKPdf	10 11 36.5	+1.2
	baz=339									baz=22									baz=45										
F25K	Christian Rive	129.25	1	P		PKiKP	10 11 13.1	+0.2	L18K	Granite Mounta	133.85	8	P		PKiKP	10 11 22.1	-0.1	ANMO	Albuquerque	141.49	305	P		PKPdf	10 11 37.1	+1.1
	baz=359									baz=344									baz=72										
F14K	Arctic Creek	129.25	11	P		PKiKP	10 11 13.3	+0.5	PAX	Paxson	133.89	1	P		PKPdf	10 11 21.3	+0.2	ANMO	Albuquerque	141.49	305	PKP		PKPdf	10 11 35.3	-0.8
	baz=333									baz=359									comp=Z,0.3nm,0.3s,baz=90,slow=2.0,SNR=2.1										
F18K	Selawik	129.27	8	P		PKiKP	10 11 12.7	0.0	L20K	Farewell, AK	133.93	6	P		PKPdf	10 11 21.5	+0.5	MNTX	Cornudas Mount	141.50	300	P		PKiKP	10 11 37.7	-1.0
	baz=341									baz=348									baz=7										
F19K	Shaleruckit Mo	129.28	7	P		PKiKP	10 11 13.0	+0.2	FARO	Faro, Yukon	133.94	353	P		PKiKP	10 11 22.2	-0.2	DUG	Dugway, Tooele	143.92	317	P		PKiKP	10 11 43.1	-0.5
	baz=344									baz=15									baz=59										
F20K	Avaraart Lake	129.28	6	P		PKiKP	10 11 12.9	+0.1	M31M	Drury Creek, Y	134.09	353	P		PKiKP	10 11 22.8	+0.1	WUAZ	Wupatki	145.05	309	P		PKPdf	10 11 43.4	+1.1
	baz=346									baz=14									baz=66										
F24K	Squaw Lake	129.28	2	P		PKiKP	10 11 13.3	+0.5	M29M	Somme Creek	134.22	356	P		PKiKP	10 11 22.6	-0.5	TUC	Tucson	145.74	303	P		PKiKP	10 11 47.0	-0.5
	baz=356									baz=8.1									baz=71										
F21K	Alatna River	129.29	4	P		PKiKP	10 11 13.6	+0.7	CUT	Chulitna	134.29	4	P		PKiKP	10 11 22.8	-0.2	R11B	Troy Canyon, C	146.72	316	P		PKiKP	10 11 48.9	-0.6
	baz=349									baz=352									baz=58										
F15K	North Star Dit	129.35	11	P		PKiKP	10 11 13.7	+0.7	BVCY	Beaver Creek	134.37	358	P		PKiKP	10 11 23.3	0.0	214A	Organ Pipe Nat	147.48	304	P		PKPab	10 11 50.3	-0.6
	baz=335									baz=4.9									baz=70										
AGMN	Agassiz Nation	129.46	319	P		PKiKP	10 11 13.6	-0.1	DGMT	Dagmar	134.41	323	P		PKiKP	10 11 23.5	-0.3	PDMCI	Parker Dam,Lak	147.62	308	P		PKiKP	10 11 50.7	-0.5
	baz=69									baz=60									baz=65,SNR=13										
G31M	Satah River	129.47	355	P		PKiKP	10 11 13.1	0.0	M19K	Big River Lodg	134.44	6	P		PKiKP	10 11 23.9	+0.5	TUQ	Turquoise Moun	148.42	311	P		PKiKP	10 11 53.3	+0.3
	baz=13									baz=347									baz=61,SNR=16										
COLD	Coldfoot	129.49	3	P		PKiKP	10 11 13.4	+0.1	M26K	Nabesna, AK	134.45	359	P		PKiKP	10 11 23.8	+0.3	IRM	Iron Mountain	148.43	309	P		PKiKP	10 11 52.8	-0.2
	baz=353									baz=2.1									baz=64,SNR=28										
G30M	tAoh Zraii Nji	129.56	356	P		PKiKP	10 11 13.7	+0.2	M27K	Edge Creek, AK	134.47	358	P		PKiKP	10 11 23.5	-0.1	SHOC	Shoshone, Teco	148.45	313	P		PKiKP	10 11 53.1	+0.2
	baz=10									baz=3.6									baz=60										
G22K	Bettles	129.72	4	P		PKiKP	10 11 14.0	+0.3	M17K	Melitta River	134.54	9	P		PKiKP	10 11 23.5	-0.1	NVAR	Mina Array Bea	148.45	318	PKPbc		PKPbc	10 11 50.6	-0.9
	baz=351									baz=343									comp=Z,12nm,0.8s,baz=118,slow=1.9,SNR=44										
YKA	Yellowknife Ar	129.76	342	PKP		PKPdf	10 11 13.2	+0.1	SKT	Skwentna	134.62	5	P		PKPdf	10 11 22.6	+0.2	GMRC	Granite Mounta	148.53	310	P		PKiKP	10 11 53.6	+0.3
	comp=Z,2.6nm,1.0s,baz=42,slow=1.8,SNR=20									baz=351									baz=62,SNR=7.4										
G26K	Porcupine Rive	129.89	360	P		PKiKP	10 11 14.7	+0.7	M16K	Timber Creek	134.67	10	P		PKPdf	10 11 22.5	0.0	BC3	Big Chuckawall	148.88	308	P		PKiKP	10 11 54.4	+0.4
	baz=0.9									baz=340									baz=64,SNR=17										
G23K	Bananza Creek	130.01	3	P		PKiKP	10 11 14.6	+0.2	M18K	Stony River	134.67	8	P		PKPdf	10 11 22.5	0.0	HEC	Hector,Ludlow	149.01	311	P		PKiKP	10 11 55.1	+0.9
	baz=353									baz=345									baz=62,SNR=7.0										
G19K	Purcell Mounta	130.02	7	P		PKiKP	10 11 14.7	+0.4	WHTX	Lake Whitney,	134.81	299	P		PKiKP	10 11 24.6	-0.5	GSC	Goldstone, Ba	149.12	312	P		PKiKP	10 11 55.1	+0.7
	baz=344									baz=82,SNR=6.4									baz=60,SNR=8.5										
G18K	Tagagawik	130.07	7	P		PKiKP	10 11 14.8	+0.3	M22K	Willow	134.95	4	P		PKPdf	10 11 23.4	+0.5	BELC	Belle Mtn. Jos	149.14	309	P		PKiKP	10 11 55.4	+0.8
	baz=342									baz=352									baz=63,SNR=7.6										
G25K	Bearman Lake	130.07	1	P		PKiKP	10 11 14.9	+0.6	SML	Sawmill	134.98	2	P		PKPdf	10 11 23.7	+0.6	TIN	Tinemaha, Big	149.18	316	P		PKiKP	10 11 54.8	+0.3
	baz=358									baz=355									baz=56										
G15K	Niukluk	130.11	11	P		PKiKP	10 11 15.0	+0.5	SCM	Sheep Creek Mo	134.99	2	P		PKPdf	10 11 23.9	+0.7	MPMC	Manual Prospec	149.22	314	P		PKiKP	10 11 55.4	+0.6
	baz=335									baz=356									baz=58										
G24K	Hadweenzic Riv	130.11	1	P		PKiKP	10 11 14.6	0.0	YUK3	Moose Creek	135.00	357	P		PKPdf	10 11 23.8	+0.4	MLAC	Mammoth, Mammo	149.25	317	P		PKiKP	10 11 55.7	+0.9
	baz=356									baz=5.5									baz=54										
G17K	Kiwalik Mounta	130.18	9	P		PKiKP	10 11 14.6	-0.1	M23K	Glacier View	135.02	2	P		PKPdf	10 11 23.2	+0.1	CWC	Cottonwood Cre	149.42	315	P		PKiKP	10 11 55.7	+0.6
	baz=340									baz=356									baz=57										
EPYK	Eagle Plains	130.20	356	P		PKiKP	10 11 14.9	+0.1	N30M	Aishikik Lake	135.09	355	P		PKiKP	10 11 24.2	-0.6	SWSC	Sam W. Stewart	149.44	307	P		PKiKP	10 11 55.4	+0.4
	baz=9.8									baz=10									baz=65										
ANM	Nome	130.25	12	P		PKiKP	10 11 14.8	0.0	PMR	Palmer	135.16	3	P		PKiKP	10 11 24.2	-0.6	RRX	Edison Barstow	149.46	311	P		PKiKP	10 11 56.4	+1.4
	baz=334									baz=354									baz=61										
H29M	Whitestone	130.46	357	P		PKiKP	10 11 15.2	0.0	CBKS	Cedar Bluff	135.20	309	P		PKiKP	10 11 25.0	-0.7	LRMC	Laurel Mtn Rad	149.65	313	P		PKiKP	10 11 56.7	+1.2
	baz=7.8									baz=74									baz=59,SNR=13										
H31M	Peel River	130.57	354	P		PKiKP	10 11 15.4	-0.1	WTLY	Watson Lake, Y	135.26	349	P		PKiKP	10 11 24.7	-0.4	TPFO	Pinon Flats	149.65	309	P		PKiKP	10 11 56.1	+0.5
	baz=13									baz=6.5									baz=63,SNR=7.7										
H25L	Birch Creek	130.58	1	P		PKiKP	10 11 15.7	+0.2	N25K	Chitina, Valde	135.26	360	P		PKiKP	10 11 25.3	+0.1	PFO	Pinyon Flats O	149.66	309	P		PKiKP	10 11 55.8	+0.2
	baz=358									baz=360									baz=63,SNR=7.4										
H27K	Steamboat Moun	130.58	358	P		PKiKP	10 11 15.6	0.0	N15K	Kwethluk River	135.28	11	P		PKPdf	10 11 24.3	+0.6	BBRC	Big Bear Solar	149.70	310	P		PKiKP	10 11 56.4	+0.5
	baz=3.8									baz=339									baz=62,SNR=5.6										
H19K	Roundabout Mou	130.68	6	P		PKiKP	10 11 16.0	+0.3	YUK4	Talbot Arm	135.32	356	P		PKPdf	10 11 24.7	+0.7	IKP	In-Ko-Pah, Jac	149.80	307	P		PKiKP	10 11 57.3	+1.4
	baz=345									baz=8.2									baz=65										
H16K	Elim	130.74	10	P		PKiKP	10 11 16.3	+0.5	N20K	Mount Spurr	135.34	5	P		PKPdf	10 11 24.5	+0.7	MONP2	Monument Peak	149.94	307	P		PKiKP	10 11 57.0	+0.6
	baz=337									baz=350									baz=64,SNR=8.5										
H22K	Ishtalitna Cre	130.75	4	P		PKiKP	10 11 16.3	+0.5	SPIA	Saint Paul Isl	135.35	20	P		PKPdf	10 11 23.6	-0.2	ISA	Isabella, Lake	150.10	314	P		PKiKP	10 11 57.3	+0.9
	baz=351									baz=324									baz=58,SNR=22										
H18K	Honhosa River	130.82	8	P		PKiKP	10 11 16.3	+0.3	KNK	Knik Glacier	135.37	3	P		PKPdf	10 11 24.2	+0.4	EDW2	Edwards Air Fo	150.17	312	P		PKiKP	10 11 57.7	+1.1
	baz=342									baz=355									baz=60,SNR=9.6										
H20K	Anotleneega Mo	130.88	6	P		PKPdf	10 11 15.6	+0.4	WMOK	Wichita Mounta	135.44	303	P		PKiKP	10 11 26.3	0.0	MURC	Murrieta	150.21	309	P		PKiKP	10 11 57.5	+0.9
	baz=347									baz=78									baz=62										
H21K	Melozitna Rive	130.89	4	P		PKiKP	10 11 16.4	+0.2	YUK8	Steele Glacier	135.45	357	P		PKiKP	10 11 25.2	-0.6	BFSC	Mount Baldy Ra	150.25	311	P		PKiKP	10 11 57.8	+1.0
	baz=350									baz=6.5									baz=61										
H24K	Noodor Dome	130.

SBC	**Santa Barbara**	**151.61**	**313**	P		**PKiKP**	**10 12 01.8 +2.4**
	baz=58						
SCZ2	**Santa Cruz Isl**	**151.79**	**312**	P		**PKiKP**	**10 12 01.5 +1.6**
	baz=59						

*RSNC **08** 09:52:37.8±0.8, 6˚S±4˚×8˚0W±1˚0, h213km±7km, mb4.5, mB5.0, ML3.7, Mw(mB)4.3*
*IDC **08** 09:52:46.3±0.9, 4.˚42S×77.˚76W, h0km, mb3.5/8, mbtmp3.7/12, ML3.5/4, Error ellipse: s-maj=34.6km s-min=14.7km az=82.0*
ISC 08 09:52:48.0±0.5, 4.77S±0.03×78.11W±0.06, h10km, n24, σ3$02/32, mb3.6/7, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCRA	**Macar, Loja**	**1.89**	**282**	P	**Pb**	**09 53 21.7**	**-0.9**
MCRA				S	**Sb**	**09 53 43.5**	**-2.7**
ATAH	**Atahualpa**	**2.37**	**187**	Pn	**Pg**	**09 53 33.0**	**-0.5**
	40nm,0.3s,baz=14,slow=13,SNR=162						
ATAH				Sn	**Sg**	**09 54 07.1**	**+3.0**
	59nm,0.3s,baz=37,slow=18,SNR=9.1						
	206nm,0.5s						
COHC	**Cochancay**	**2.56**	**333**	P	**Pn**	**09 53 31.4**	**+1.9**
COHC				S	**Sb**	**09 54 04.2**	**-1.4**
PIAT	**Ana Tenorio**	**3.75**	**358**	P	**Pn**	**09 53 49.1**	**+2.8**
	63nm,0.8s,724nm						
PIAT				S	**Sg**	**09 54 46.1**	**-2.5**
	63nm,0.8s,724nm						
OTAV	**Otavalo**	**4.99**	**356**	P	**Pn**	**09 54 08.0**	**+4.7**
	50nm,0.8s,1μm						
OTAV				S	**Sg**	**09 55 28.7**	**+0.4**
	50nm,0.8s,1μm						
PAC1	**Pacto, Paraso**	**5.05**	**352**	P	**Pn**	**09 54 07.5**	**+3.6**
	189nm,0.7s,3μm						
PAC1				S	**Sb**	**09 55 23.5**	**+6.1**
	189nm,0.7s,3μm						
BONI	**La Bonita**	**5.22**	**6**	P	Pn	09 54 13.7	+7.3
	101nm,0.9s						
BONI				S	**Sg**	**09 55 36.6**	**+0.9**
	101nm,0.9s						
TULM	**Tulcn-Chalpat**	**5.46**	**3**	P	**Pb**	**09 54 20.9**	**-2.9**
	82nm,0.7s						
TULM				S	**Sg**	**09 55 46.1**	**+2.7**
	82nm,0.7s						
CZSB	**Cruzeiro do Su**	**6.12**	**119**	P	**Pn**	**09 54 22.7**	**+4.2**
	170nm,0.6s,3μm						
BBAC	**Balboa, Cauca**	**6.80**	**7**	P	**Pn**	**09 54 32.5**	**+4.4**
	38nm,0.9s						
NNA	**Nana**	**7.28**	**170**	Pn	**Pn**	**09 54 37.9**	**+3.4**
	2.5nm,0.3s,baz=343,slow=12,SNR=5.0						
NNA				Sn	**Sn**	**09 55 57.7**	**+0.4**
	2.6nm,0.3s,baz=16,slow=8.6,SNR=1.6						
	9.3nm,0.4s						
GARC	**Garzon, Huila**	**7.39**	**21**	P	**Pn**	**09 54 38.1**	**+1.9**
POPC	**Popayan, Colom**	**7.40**	**11**	P	Pn	09 54 41.8	+5.5
	14nm,0.8s						
ROSC	**El Rosal**	**10.27**	**22**	Pn	Pn	09 55 08.5	-7.4
	1.6nm,0.3s,baz=273,slow=21,SNR=1.4						
ROSC				Lg	Lg	09 57 57.2	
	2.4nm,0.3s,baz=266,slow=23,SNR=1.7						
	5.4nm,0.3s						
LPAZ	**La Paz**	**15.06**	**140**	Pn	**Pn**	**09 56 21.8**	**+0.2**
	0.1nm,0.3s,baz=358,slow=11,SNR=1.7						
LPAZ				Sn	**Sn**	**09 59 02.6**	**-6.3**
	0.1nm,0.3s,baz=343,slow=25,SNR=1.0						
	0.4nm,0.4s						
SIV	**San Ignacio**	**20.10**	**125**	P	**P**	**09 57 22.6**	**+0.5**
	0.7nm,0.7s,baz=329,slow=17,SNR=2.1						
SIV				S	**S**	**10 01 02.0**	**-6.1**
	1.3nm,0.7s,baz=192,slow=3.5,SNR=2.1						
	0.7nm,0.7s						
PLCA	**Paso Flores**	**36.44**	**170**	P	**P**	**09 59 54.1**	**+1.0**
	1.3nm,1.0s,baz=5.2,slow=11,SNR=4.1						
	1.3nm,1.0s						
TXAR	**Lajitas Array**	**41.86**	**326**	P	**P**	**10 00 38.5**	**-0.1**
	0.2nm,0.5s,baz=156,slow=8.8,SNR=5.9						
	0.2nm,0.5s						
PDAR	**Pinedale Array**	**55.24**	**332**	P	**P**	**10 02 20.2**	**-1.4**
	0.2nm,0.6s,baz=127,slow=6.9,SNR=1.9						
	0.2nm,0.6s						
NVAR	**Mina Array Bea**	**56.86**	**323**	P	**P**	**10 02 32.2**	**-1.1**
	0.4nm,0.7s,baz=133,slow=6.5,SNR=2.8						
	0.4nm,0.7s						
ULM	**Lac du Bonnet**	**56.91**	**346**	P	**P**	**10 02 31.1**	**-2.0**
	1.4nm,0.5s,baz=152,slow=6.7,SNR=5.7						
	1.4nm,0.5s						
YKA	**Yellowknife Ar**	**72.61**	**343**	P	**P**	**10 04 14.1**	**-1.3**
	0.3nm,0.6s,baz=128,slow=7.1,SNR=6.2						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**85.41**	**336**	P	**P**	**10 05 24.7**	**-0.7**
	0.5nm,1.0s,baz=134,slow=2.6,SNR=3.4						
	0.5nm,1.0s						
WRA	**Warramunga Arr**	**139.75**	**231**	PKP	**PKPdf**	**10 12 18.3**	**+1.0**
	0.3nm,0.6s,baz=122,slow=2.9,SNR=1.9						

UPA 08 10:03:33.4±0.3, 7.12N×80.80W, h10km, ML3.1,2D, Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CACAO	**El Cacao, Vera**	**0.23**	**346**	⇓*i*P	Pg	10 03 38.6	+0.4
	baz=166,slow=28						
CACAO				AMP		10 03 39.0	
	comp=Z,3μm,0.1s						
CACAO				*e*S	Sg	10 03 42.1	+0.7
CACAO	**El Cacao, Vera**	**0.23**	**346**	⇓*i*P	Pg	10 03 38.6	+0.4
	baz=166,slow=28						
CACAO				AMP		10 03 39.0	
	comp=Z,3μm,0.1s						
CACAO				*e*S	Sg	10 03 42.6	+1.1
TOSI3	**Tonosi**	**0.46**	**51**	*e*P	Pg	10 03 41.5	-0.9
TOSI3				*e*S	Sg	10 03 49.1	+0.6
MARI3	**Mariato, Verag**	**0.56**	**341**	*e*P	Pg	10 03 44.3	0.0
GMAL	**Guarumal, Vera**	**0.77**	**326**	*e*P	Pg	10 03 44.8	-3.5
AZU	**Azuero**	**0.85**	**38**	*e*P	Pg	10 03 46.8	-3.0
AZU				*e*S	Sg	10 03 59.4	-1.6
CHIT3	**Chitre**	**0.92**	**25**	*e*P	Pg	10 03 49.6	-1.5
RSUS3	**Rio de Jesus,**	**0.93**	**338**	*e*P	Pg	10 03 48.4	-2.9
STIA3	**Santiago, Vera**	**0.99**	**350**	*e*P	Pg	10 03 48.8	-3.6

*CATAC **08** 10:09:11.8±0.4, 11.˚48N×87.˚68W, h10km, ML3.6*
*IDC **08** 10:09:17.4±1.9, 12.˚78N×86.˚80W, h0km, mb3.3/3, mbtmp3.3/4, ML2.7/1, MS3.0/1, Error ellipse: s-maj=112.6km s-min=23.0km az=57.0*
ISC 08 10:09:10.3±0.9, 11.54N±0.04×87.71W±0.04, h10km, n43, σ1$71/55, mb3.3/3, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSHP	**Masachapa**	**1.18**	**76**	*i* P	**Pn**	**10 09 35.2**	**+2.3**
MSHP				IAML		10 10 02.8	
	comp=Z,160nm,1.0s						
COPN	**Copaltepe**	**1.26**	**60**	*i* P	**Pn**	**10 09 35.3**	**+1.3**
COPN				IAML		10 10 22.7	
	comp=Z,830nm,1.0s						
CRIN	**San Cristobal**	**1.32**	**29**	*i* P	**Pn**	**10 09 37.0**	**+2.1**
CRIN				IAML		10 09 57.2	
	comp=Z,3μm,1.0s						
PKGN	**Cerro Pekin**	**1.33**	**32**	*i* P	**Pn**	**10 09 37.5**	**+2.6**
PKGN				*i* S	**Sn**	**10 09 54.7**	**+2.0**
PKGN				IAML		10 10 05.6	
	comp=Z,2μm,1.0s						
TELN	**Telica**	**1.36**	**39**	*i* P	**Pn**	**10 09 37.2**	**+1.8**
TELN				IAML		10 10 03.0	
	comp=Z,210nm,1.0s						
HERN	**Volcan Telica**	**1.36**	**39**	*i* P	**Pn**	**10 09 37.0**	**+1.5**
HERN				IAML		10 10 03.4	
	comp=Z,1μm,1.0s						
MACN	**El Madrono**	**1.36**	**47**	*i* P	**Pg**	**10 09 36.9**	**+0.4**
MACN				IAML		10 10 02.2	
	comp=Z,310nm,1.0s						
CNGA	**Al SSO del Vol**	**1.36**	**46**	*i* P	**Pg**	**10 09 36.8**	**+0.3**
CNGA				IAML		10 09 55.2	
	comp=Z,630nm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.37**	**51**	*i* P	**Pg**	**10 09 36.8**	**+0.2**
LEVN				*i* S	**Sn**	**10 09 54.9**	**+1.3**
LEVN				IAML		10 10 13.5	
	comp=Z,860nm,1.0s						
CNGN	**Cerro Negro**	**1.37**	**46**	*i* P	**Pg**	**10 09 37.9**	**+1.2**
CNGN				IAML		10 10 21.9	
	comp=Z,1μm,1.0s						
ILCN	**San Idelfonso**	**1.42**	**44**	*i* P	**Pg**	**10 09 36.2**	**-1.5**
ILCN				IAML		10 09 57.0	
	comp=Z,260nm,1.0s						
MOMN	**Momotombo**	**1.43**	**53**	*i* P	**Pg**	**10 09 37.4**	**-0.4**
MOMN				IAML		10 10 05.4	
	comp=Z,31nm,1.0s						
CSGN	**Cosiguina Volc**	**1.44**	**6**	*i* P	Pg	10 09 40.8	+2.9
POTN	**Potosi Cosigui**	**1.46**	**8**	*i* P	**Pg**	**10 09 39.6**	**+1.2**
POTN				*i* S	**Sg**	**10 09 58.5**	**+1.0**
POTN				IAML		10 10 16.7	
	comp=Z,210nm,1.0s						
MOM2	**El Cardon**	**1.49**	**53**	*i* P	**Pg**	**10 09 38.8**	**-0.1**
MOM2				IAML		10 09 55.7	
	comp=Z,600nm,1.0s						
APQ2	**Apoyeque**	**1.50**	**64**	*i* P	**Pg**	**10 09 41.4**	**+2.3**
UNAN	**Cigeo UNAN**	**1.51**	**68**	*i* P	**Pg**	**10 09 39.1**	**-0.3**
UNAN				IAML		10 10 24.8	
	comp=Z,4μm,1.0s						
TISN	**Laguna Tiscapa**	**1.53**	**67**	*i* P	**Pg**	**10 09 39.1**	**-0.5**
TISN				IAML		10 10 08.7	
	comp=Z,42nm,1.0s						
R0529	**La Mascota**	**1.55**	**68**	*i* P	**Pg**	**10 09 38.8**	**-1.3**
R0529				IAML		10 10 06.5	
	comp=Z,560nm,1.0s						
R1628	**Naciones Unida**	**1.55**	**69**	*i* P	**Pg**	**10 09 39.4**	**-0.7**
R1628				IAML		10 10 08.0	
	comp=Z,1μm,1.0s						
R1E40	**Villa Flor Nor**	**1.56**	**68**	*i* P	**Pb**	**10 09 38.3**	**-1.1**
R1E40				IAML		10 10 08.5	
	comp=Z,480nm,1.0s						
R1F03	**Distro VII**	**1.58**	**69**	*i* P	**Pg**	**10 09 39.8**	**-0.9**
R1F03				IAML		10 10 06.0	
	comp=Z,550nm,1.0s						
NANN	**Nandasmo**	**1.60**	**75**	*i* P	**Pg**	**10 09 40.6**	**-0.4**
NANN				*i* S	**Sg**	**10 10 01.6**	**-0.2**
NANN				IAML		10 10 25.9	
	comp=Z,9μm,1.0s						
CNCH	**Conchagua**	**1.73**	**356**	*i* P	**Pg**	**10 09 43.4**	**-0.1**
CNCH				*i* S	**Sg**	**10 10 04.3**	**-1.7**
CNCH				IAML		10 10 17.0	
	comp=Z,1μm,1.0s						
LCND	**La Caada**	**1.77**	**354**	*i* P	**Pg**	**10 09 43.3**	**-0.9**
LCND				IAML		10 10 10.3	
	comp=Z,370nm,1.0s						
LIMN	**Finca el Limon**	**2.00**	**41**	*i* P	**Pg**	**10 09 46.4**	**-2.3**
LIMN				IAML		10 10 15.3	
	comp=Z,360nm,1.0s						
PACA	**Pacayal**	**2.01**	**343**	*i* P	**Pg**	**10 09 47.2**	**-1.7**
PACA				*i* S	**Sg**	**10 10 12.9**	**-2.1**
PACA				IAML		10 10 24.5	
	comp=Z,2μm,1.0s						
BOAB	**BOACO BROADBAN**	**2.19**	**65**	*i* P	**Pg**	**10 09 50.2**	**-2.1**
BOAB				IAML		10 10 36.4	
	comp=Z,200nm,1.0s						
HZTE	**Horizontes, Gu**	**2.23**	**111**	*i* P	**Pn**	**10 09 49.6**	**+2.3**
HZTE				IAML		10 10 48.1	
	comp=Z,410nm,1.0s						
PQSS	**Presa 15 de Se**	**2.23**	**338**	*i* P	**Pb**	**10 09 51.0**	**+0.2**
PQSS				*i* S	**Sg**	**10 10 18.7**	**-3.5**
PQSS				IAML		10 10 24.1	
	comp=Z,85nm,1.0s						
SCLA	**Alcaldia de Sa**	**2.37**	**335**	*i* P	**Pb**	**10 09 52.5**	**-0.6**
SCLA				*i* S	**Sb**	**10 10 20.2**	**-2.3**
SCLA				IAML		10 10 38.6	
	comp=Z,150nm,1.0s						
SAJU	**San Juanillo,**	**2.45**	**127**	*i* P	**Pn**	**10 09 51.0**	**+0.7**
SAJU				*i* S	**Sn**	**10 10 19.0**	**-1.3**
SAJU				IAML		10 10 53.3	
	comp=Z,130nm,1.0s						
RCPN	**Sur Rio San Ju**	**2.52**	**38**	*i* P	**Pb**	**10 09 53.8**	**-2.0**
RCPN				IAML		10 10 30.2	
	comp=Z,0.3nm,1.0s						
TGUH	**Tegucigalpa,Un**	**2.54**	**10**	*i* P	**Pg**	**10 09 56.9**	**-2.1**
TGUH				*i* S	**Sb**	**10 10 23.8**	**-3.6**
JTS	**Las Juntas de**	**2.97**	**114**	Pn	**Pg**	**10 10 07.4**	**0.0**
	comp=Z,0.9nm,0.3s,baz=309,slow=14,SNR=7.8						
JTS				Sn	**Sg**	**10 10 44.9**	**-1.0**
	comp=Z,1.8nm,0.3s,baz=303,slow=21,SNR=3.7						
JTS				LR	LR	10 11 24.8	
	comp=Z,260nm,19.0s,baz=84,slow=42						
	comp=Z,5.5nm,0.5s						
JACO	**JACO, Garabito**	**3.53**	**122**	*i* P	**Pg**	**10 10 17.3**	**-0.6**
JACO				*i* S	**Sb**	**10 10 53.7**	**-2.1**
HDC3	**Heredia 3**	**3.85**	**113**	*i* P	**Pb**	**10 10 17.2**	**-1.2**
HDC3				*i* S	**Sn**	**10 10 55.3**	**+0.2**
OCM	**Ochomogo**	**4.03**	**114**	*i* P	**Pn**	**10 10 15.2**	**+3.0**
OCM				IAML		10 10 15.6	
	comp=Z,200nm,1.0s						
OCM				*i* S	Sn	10 10 50.3	-9.3
RIMA	**Rio Macho**	**4.17**	**115**	*i* P	**Pn**	**10 10 12.6**	**-1.6**
RIMA				IAML		10 10 13.9	
	comp=Z,160nm,1.0s						
RIMA				*i* S	Sn	10 10 47.3	-16
VTCV	**VTCV, Calle Va**	**4.20**	**111**	*i* P	**Pn**	**10 10 15.2**	**+0.5**
VTCV				IAML		10 10 16.3	
	comp=Z,300nm,1.0s						
VTCV				*i* S	Sn	10 10 48.5	-16
TXAR	**Lajitas Array**	**23.13**	**322**	P	**P**	**10 14 21.1**	**+4.3**
	comp=Z,0.4nm,0.6s,baz=146,slow=12,SNR=8.4						
	comp=Z,0.4nm,0.6s						
ULM	**Lac du Bonnet**	**39.18**	**352**	P	**P**	**10 16 37.9**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=153,slow=11,SNR=2.1						
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**54.42**	**345**	P	**P**	**10 18 39.0**	**+1.6**
	comp=Z,0.3nm,0.9s,baz=136,slow=7.1,SNR=4.2						
	comp=Z,0.3nm,0.9s						

*IDC **08** 10:26:40.0±1.0, 30.˚66N×57.˚16E, h0km, mb3.6/9, mbtmp3.6/12, ML3.5/3, MS2.2/1, Error ellipse: s-maj=23.2km s-min=19.0km az=114.0*
*TEH **08** 10:26:40.2, 30.˚78N×57.˚21E, h8km±30km, ML4.1*
ISC 08 10:26:41.7±0.6, 30.71N±0.03×57.20E±0.03, h11km, n46, σ1$15/49, mb3.5/9, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRM1	**Kerman Provinc**	**0.21**	**162**	Pg	**Pg**	**10 26 46.5**	**+0.1**
ZRDN	**Zarand Kerman**	**0.62**	**295**	Pg	**Pg**	**10 26 52.4**	**-1.5**
ZRDN				Sg	**Sg**	**10 27 01.7**	**-0.5**
KHGB	**Koh Gabri**	**0.70**	**242**	Pg	**Pg**	**10 26 54.9**	**-0.5**
KHGB				Sg	**Sb**	**10 27 05.5**	**-0.4**
TVBK	**TV Kerman**	**0.81**	**208**	Pg	**Pb**	**10 26 58.0**	**0.0**
CHMN	**Cheshme madani**	**0.89**	**160**	Pg	**Pg**	**10 26 58.6**	**-0.4**
NGRK	**Negar Kerman**	**1.13**	**201**	Pg	**Pn**	**10 27 04.1**	**+0.3**
IBAF	**Bafgh**	**1.65**	**303**	Pg	**Pb**	**10 27 11.4**	**-0.8**
KBAM	**BAM**	**1.91**	**145**	Pn	**Pb**	**10 27 15.4**	**-1.2**
BSRN	**Basiran**	**2.07**	**52**	Pn	**Pn**	**10 27 17.0**	**+0.4**
IKOO	**Kooshah**	**2.31**	**42**	Pn	**Pn**	**10 27 19.6**	**-0.2**
IMEH	**Mehriz**	**2.32**	**288**	Pn	**Pn**	**10 27 21.3**	**+1.3**
TPRV	**Parvadeh(Tabas**	**2.35**	**350**	Pn	**Pn**	**10 27 20.1**	**-0.3**
ITEG	**Tejag**	**2.55**	**31**	Pn	**Pn**	**10 27 22.4**	**-0.8**
TKDS	**Koohdasht(Taba**	**2.90**	**359**	Pn	**Pn**	**10 27 27.7**	**-0.2**
IDAH	**Dahanechah**	**3.05**	**48**	Pn	**Pn**	**10 27 30.3**	**+0.3**
AFRZ	**Afriz**	**3.12**	**29**	Pn	**Pn**	**10 27 30.7**	**-0.3**
TNSJ	**Nastanj**	**3.29**	**351**	Pn	**Pn**	**10 27 33.0**	**-0.2**
IBND	**Bandar-abas**	**3.30**	**190**	Pn	**Pn**	**10 27 35.6**	**+2.3**
ZHDN	**Zahedan**	**3.39**	**112**	Pn	**Pn**	**10 27 35.5**	**+0.8**
ANAR	**Anarak**	**3.85**	**311**	Pn	**Pn**	**10 27 42.1**	**+1.1**
SHRT	**Shahrakht**	**3.93**	**41**	Pn	**Pn**	**10 27 42.6**	**+0.5**
IRAM	**Ramesheh**	**4.27**	**286**	Pn	**Pn**	**10 27 48.0**	**+1.2**
IZEF	**Zefreh**	**4.68**	**299**	Pn	**Pn**	**10 27 53.2**	**+0.7**
TBJM	**Torbat-e-JAM**	**5.26**	**29**	Pn	**Pn**	**10 28 00.8**	**+0.5**
KRSH	**Karshahi**	**5.38**	**309**	Pn	**Pn**	**10 28 02.5**	**+0.5**
ISFB	**Sefidab**	**5.54**	**312**	Pn	**Pn**	**10 28 05.5**	**+1.3**
SRVN	**Saravan**	**5.62**	**125**	Pn	**Pn**	**10 28 07.1**	**+1.8**
SBZV	**Sabzevar**	**5.68**	**3**	Pn	**Pn**	**10 28 06.2**	**+0.1**
IMYA	**Miami**	**6.12**	**23**	Pn	**Pn**	**10 28 13.3**	**+1.1**
IGLO	**Ghaloghah**	**6.43**	**335**	Pn	**Pn**	**10 28 17.0**	**+0.5**
IDMV	**Damavand**	**6.51**	**320**	Pn	**Pn**	**10 28 18.5**	**+0.9**
GEYT	**Alibeck**	**7.25**	**6**	Pn	**Pn**	**10 28 29.1**	**+1.6**
	0.2nm,0.3s,baz=206,slow=19,SNR=2.0						
GEYT				Sn	**Sn**	**10 29 53.9**	**+4.1**
	baz=199,slow=39						
	0.8nm,0.3s						
WSAR	**Wadi Sarin**	**7.55**	**170**	Pn	**Pn**	**10 28 32.6**	**+0.9**
	1.2nm,0.3s,baz=12,slow=9.6,SNR=20						
WSAR				Sn	**Sn**	**10 29 55.8**	**-1.5**
	0.2nm,0.3s,baz=78,slow=9.5,SNR=1.3						
	11nm,0.6s						
KSH	**Kashi**	**17.68**	**55**	P	**Pn**	**10 30 44.7**	**-3.3**
KSH				pmax	pmax		
	comp=Z,5.0nm,1.3s						
AKTO	**Aktyubinsk**	**19.72**	**2**	P	**P**	**10 31 11.4**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=160,slow=9.0,SNR=6.4						
	comp=Z,1.6nm,0.7s						
BRTR	**Keskin Array B**	**21.20**	**302**	P	**P**	**10 31 27.3**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=120,slow=10,SNR=2.2						
	comp=Z,1.2nm,0.7s						
ATD	**Arta Tunnel**	**23.26**	**218**	LR	LR	10 42 53.3	
	comp=Z,5.1nm,19.0s,baz=239,slow=42						
BVAR	**Borovoye Array**	**24.29**	**20**	P	**P**	**10 31 59.6**	**+0.6**
	comp=Z,2.0nm,0.5s,baz=197,slow=7.7,SNR=9.1						
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**25.16**	**43**	P	**P**	**10 32 07.4**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=226,slow=8.4,SNR=7.8						
	comp=Z,0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**25.48**	**33**	P	**P**	**10 32 10.4**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=233,slow=8.7,SNR=10.0						
	comp=Z,1.4nm,0.8s						
ZALV	**Zalesovo Beam**	**30.58**	**33**	P	**P**	**10 32 54.5**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=240,slow=12,SNR=9.2						
	comp=Z,2.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**39.66**	**98**	P	**P**	**10 34 13.8**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=306,slow=11,SNR=1.9						
	comp=Z,0.5nm,0.3s						
SONM	**Songino Array**	**41.01**	**51**	P	**P**	**10 34 25.8**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=256,slow=6.0,SNR=3.6						
	comp=Z,0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**53.84**	**264**	P	**P**	**10 36 04.5**	**-0.5**
ILAR	**Eielson Array**	**82.99**	**10**	P	**P**	**10 39 06.3**	**-0.2**
	comp=Z,0.1nm,0.6s,baz=324,slow=4.5,SNR=1.8						
	comp=Z,0.1nm,0.6s						
YKA	**Yellowknife Ar**	**86.89**	**356**	P	**P**	**10 39 26.8**	**+0.6**
	comp=Z,0.3nm,1.0s,baz=1.3,slow=5.6,SNR=3.1						
	comp=Z,0.3nm,1.0s						

*JMA **08** 10:33:43.8±0.1, 34˚N±2˚×13˚8E±˚, h314km, MV3.2/19, ENSYUNADA*
*IDC **08** 10:33:44.3±1.5, 33.˚96N×138.˚04E, h305km±17km, mb3.0/7, mbtmp3.8/12, Error ellipse: s-maj=34.0km s-min=13.7km az=68.0*
ISC 08 10:33:44.6±0.9, 34.01N±0.10×137.98E±0.08, h304km±8km, n23, σ0$83/28, mb3.2/7, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TK02	**Tokai 2**	**0.19**	**251**	*e*P	**Pn**	**10 34 24.0**	**+1.1**
TTO5	**TONANKAI O.B.S**	**0.32**	**318**	*e*P	**Pn**	**10 34 24.1**	**+1.0**
TTO4	**TONANKAI O.B.S**	**0.36**	**270**	*e*P	**Pn**	**10 34 24.0**	**+0.9**
JIE	**Ise**	**1.12**	**290**	*e*P	**Pn**	**10 34 26.2**	**+0.3**
JYTA	**Yamagatataniai**	**1.88**	**327**	P	**Pn**	**10 34 31.2**	**+0.5**
JRY	**Ryogami san**	**2.14**	**21**	P	**Pn**	**10 34 34.0**	**+1.2**
JRY				S	**S**	**10 35 11.6**	**+0.3**
JWT	**Wachi**	**2.47**	**302**	P	**Pn**	**10 34 35.6**	**0.0**
JWT				S	**S**	**10 35 14.9**	**-1.5**
MJAR	**Matsushiro Arr**	**2.53**	**4**	P	**Pn**	**10 34 36.3**	**+0.1**
	38nm,0.6s,baz=192,slow=9.7,SNR=87						
MAT	**Matsushiro**	**2.53**	**4**	P	**Pn**	**10 34 36.8**	**+0.6**
MAT				*e*S	**S**	**10 35 17.6**	**+0.2**
BSO1	**Boso 1**	**2.57**	**75**	*e*P	**Pn**	**10 34 35.7**	**-0.2**
BSO1				*e*S	**S**	**10 35 16.2**	**-0.7**
JKG	**Kaga**	**2.63**	**330**	P	**Pn**	**10 34 37.3**	**+0.3**
JAG	**Ashikaga**	**2.70**	**26**	P	**Pn**	**10 34 37.4**	**-0.2**
JAG				S	**S**	**10 35 17.8**	**-2.2**
KSRS	**Korea Array**	**8.87**	**296**	P	**Pn**	**10 35 49.4**	**+0.8**
	2.8nm,0.4s,baz=106,slow=13,SNR=9.3						
ASAJ	**Asahikawa**	**10.71**	**18**	P	**Pn**	**10 36 11.4**	**+0.2**
	0.9nm,0.3s,baz=215,slow=12,SNR=6.0						
USRK	**Ussuriysk Ar.**	**11.18**	**337**	P	**Pn**	**10 36 17.1**	**+0.2**
	1.1nm,0.8s,baz=150,slow=12,SNR=1.7						
KLR	**Kul'dur**	**15.89**	**345**	P	**P**	**10 37 11.2**	**+0.2**
	0.9nm,0.5s,baz=171,slow=7.4,SNR=5.6						
SONM	**Songino Array**	**27.35**	**310**	P	**P**	**10 39 03.1**	**+0.8**
	0.5nm,0.5s,baz=105,slow=9.8,SNR=5.2						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**43.42**	**304**	P	**P**	**10 41 18.0**	**+0.1**
	0.8nm,0.5s,baz=90,slow=9.8,SNR=15						
	0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**45.72**	**310**	P	**P**	**10 41 35.1**	**-0.7**
	0.5nm,0.5s,baz=92,slow=7.3,SNR=6.1						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**50.58**	**314**	P	**P**	**10 42 13.3**	**+0.6**
	0.3nm,0.3s,baz=99,slow=9.1,SNR=2.0						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**53.76**	**184**	P	**P**	**10 42 35.4**	**-0.9**
	0.3nm,0.3s,baz=0.3,slow=7.6,SNR=11						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**57.49**	**184**	P	**P**	**10 43 01.9**	**-0.7**
	0.3nm,0.5s,baz=1.9,slow=4.3,SNR=10						
	0.3nm,0.5s						
FINES	**FINESS Array B**	**70.16**	**332**	P	**P**	**10 44 24.3**	**+0.1**
	0.4nm,0.4s

VA03 eS Sn 10 37 37.4 +1.9
VA03 IAML 10 37 41.2
comp=Z,2µm,0.8s
VA03 San Esteban 0.84 331 ⇓*i* P Pn **10 37 20.9 +0.4**
VA03 *i* S Sn **10 37 36.1 +0.6**
VA03 IAML 10 37 38.1
comp=E,6µm,0.2s
MT02 Curacav 0.93 285 *e*P Pn **10 37 21.1 0.0**
MT02 eS Sn **10 37 37.2 +0.5**
MT02 IAML 10 37 37.3
comp=Z,2µm,0.8s
MT02 Curacav 0.93 285 ⇑*i* P Pn **10 37 20.9 -0.2**
MT02 *i* S Sn **10 37 36.4 -0.4**
MT02 IAML 10 37 37.5
comp=N,4µm,0.2s
ROCH El Roble 0.95 304 ⇓*i* P Pn **10 37 21.9 +0.3**
ROCH *i* S Sn **10 37 37.6 0.0**
ROCH IAML 10 37 38.7
comp=N,24µm,0.6s
MT01 Popeta 1.05 250 *e*P Pn **10 37 22.1 -0.2**
MT01 eS Sn **10 37 38.8 -0.2**
MT01 IAML 10 37 39.0
comp=Z,2µm,0.2s
MT01 Popeta 1.05 250 ⇑*i* P Pn **10 37 22.1 -0.2**
MT01 *i* S Sn **10 37 38.3 -0.7**
MT01 IAML 10 37 40.1
comp=E,6µm,0.2s
AAGR Agrelo 1.12 68 *e*P Pn **10 37 24.0 +0.8**
AAGR *e*P 10 37 24.1
AAGR eS Sn **10 37 42.5 +2.1**
ARCO CERRO ARCO 1.16 56 *e*P Pn **10 37 24.6 +1.0**
ARCO IAML 10 37 44.5
comp=Z,704nm,1.2s
BO01 Tunca 1.23 223 *e*P Pn **10 37 23.5 -0.7**
BO01 eS Sn **10 37 42.8 +0.5**
BO01 IAML 10 37 45.0
comp=Z,854nm,0.2s
BO01 Tunca 1.23 223 ⇑*i* P Pn **10 37 24.2 0.0**
BO01 *i* S Sn **10 37 42.0 -0.2**
BO01 IAML 10 37 43.4
comp=N,2µm,0.2s
AVIZ Vizcacheras 1.29 89 *e*P Pn **10 37 26.2 +1.2**
AVIZ eS Sn **10 37 41.1 -2.7**
VA05 Santo Domingo 1.30 263 ⇑*i* P Pn **10 37 24.7 -0.3**
VA05 *i* S Sn **10 37 42.6 -1.1**
VA05 IAML 10 37 44.6
comp=N,4µm,0.3s
ASAL Salagasta 1.38 49 *e*P Pn **10 37 27.3 +1.3**
VA06 Catapilco 1.40 312 ⇑*i* P Pn **10 37 25.9 -0.2**
VA06 *i* S Sn **10 37 44.5 -1.2**
VA06 IAML 10 37 45.6
comp=N,3µm,0.4s
VA01 Torpederas 1.41 289 *e*P Pn 10 37 21.1 -5.2
VA01 *e*P 10 37 26.1
VA01 eS Sn **10 37 47.3 +1.4**
VA01 IAML 10 37 47.8
comp=Z,884nm,0.6s
VA01 Torpederas 1.41 289 *e*P Pn **10 37 26.6 +0.4**
VA01 *i* S Sn **10 37 45.9 -0.1**
VA01 IAML 10 37 49.4
comp=N,2µm,0.1s
BO02 Sierra Bellavi 1.42 205 *e*P Pn **10 37 26.5 +0.1**
BO02 eS Sn **10 37 49.2 +2.9**
BO02 IAML 10 37 50.3
comp=Z,2µm,0.1s
RTLS Leoncito 1.82 21 *e*P Pn **10 37 33.5 +2.0**
RTLS eS Sn **10 37 58.7 +3.4**
RTLS IAML 10 38 02.3
comp=Z,718nm,0.7s
RTCV Cerro Valdivia 2.08 39 *e*P Pn **10 37 35.7 +1.1**
GO05 Huala 2.15 225 *e*P Pn **10 37 34.7 -0.7**
GO05 eS Sn **10 38 02.8 +0.5**
GO05 IAML 10 38 06.2
comp=Z,382nm,0.2s
CO02 Combarbal 2.43 341 *e*P Pn **10 37 39.4 +0.4**
CO02 eS Sn **10 38 09.8 +1.1**
CO02 IAML 10 38 10.8
comp=Z,377nm,0.3s
RTLL Cerro Villicun 2.55 32 *e*P Pn **10 37 41.5 +0.9**
DOCA Reserva Natura 2.68 18 *e*P Pn **10 37 43.7 +1.1**
DOCA eS Sn **10 38 18.7 +3.7**
CO03 El Pedregal 2.71 349 *e*P Pn **10 37 43.1 +0.3**
CO03 eS Sn **10 38 16.9 +1.6**
CO03 IAML 10 38 19.7
comp=Z,361nm,0.5s
ACCO Cerro Coronel 3.03 17 *e*P Pn **10 37 48.5 +1.3**
ACCO eS Sn **10 38 21.1 -2.1**
ACCO eS 10 38 25.6
AROD Rodeo 3.37 9 *e*P Pn **10 37 53.3 +1.7**
AROD eS Sn 10 38 22.1 -9.0
GO04 Tololo Observa 3.38 349 *e*P Pn **10 37 52.2 +0.5**
GO04 eS Sn **10 38 30.6 -0.8**
GO04 IAML 10 38 42.3
comp=Z,292nm,0.5s
ACDV Cuesta del Vie 3.42 14 *e*S Sn **10 38 25.1 -7.1**
AVFE Valle Fertil 3.60 39 *e*S Sn **10 38 35.6 -0.7**
AVFE IAML 10 38 38.4
comp=Z,134nm,0.9s
AGUA GUANDACOL 4.22 19 *e*P Pn **10 38 03.7 +0.9**
AGUA IAML 10 38 54.5
comp=Z,66nm,0.6s
LCO Las Campanas 4.51 353 *e*P Pn **10 38 06.6 -0.3**
LCO IAML 10 39 01.7
comp=Z,65nm,0.3s
PLCA Paso Flores 7.22 183 P Pn **10 38 44.0 +0.7**
comp=Z,0.6nm,0.4s,baz=338,slow=8.2,SNR=8.4
CPUP Villa Florida 13.15 60 P Pn **10 40 00.5 -2.3**
comp=Z,0.5nm,0.3s,baz=9.4,slow=13,SNR=1.4
CPUP S Sn **10 42 21.9 -5.6**
comp=Z,1.7nm,0.6s,baz=322,slow=6.3,SNR=3.0
LPAZ La Paz 17.23 6 P Pn **10 40 55.2 +0.6**
comp=Z,1.4nm,0.7s,baz=188,slow=7.2,SNR=5.1
SIV San Ignacio 19.24 27 P P **10 41 15.7 -0.1**
comp=Z,1.0nm,0.7s,baz=209,slow=8.9,SNR=4.8
QSPA South Pole Qui 56.73 180 P P **10 46 33.9 +1.9**
comp=Z,2.3nm,0.7s,baz=156,slow=12,SNR=20
comp=Z,2.3nm,0.7s
TXAR Lajitas Array 70.13 329 P P **10 48 02.0 +1.5**
comp=Z,1.0nm,0.7s,baz=153,slow=8.6,SNR=12
comp=Z,1.0nm,0.7s
TORD Torodi Ar. Bea 82.50 69 P P **10 49 09.3 -1.3**
PDAR Pinedale Array 84.08 332 P P **10 49 18.0 -0.5**
comp=Z,0.4nm,0.7s,baz=120,slow=5.3,SNR=3.9
comp=Z,0.4nm,0.7s
NVAR Mina Array Bea 84.43 324 P P **10 49 22.1 +1.8**
comp=Z,1.0nm,0.8s,baz=152,slow=4.1,SNR=7.1
comp=Z,1.0nm,0.8s
ELK Elko 84.82 327 P P **10 49 23.8 +1.6**
comp=Z,1.1nm,0.8s,baz=135,slow=4.3,SNR=4.4
comp=Z,1.1nm,0.8s
BVAR Borovoye Array 145.80 43 PKPbc **PKiKP** **10 56 27.2 -1.9**
comp=Z,1.8nm,0.6s,baz=293,slow=3.9,SNR=10
KURBB Kurchatov Arra 151.38 44 PKPbc **PKiKP** **10 56 41.9 +1.2**
comp=Z,1.6nm,0.2s,baz=273,slow=3.7,SNR=8.3
ZALV Zalesovo Beam 152.92 33 PKPbc **PKiKP** **10 56 44.0 +0.3**
comp=Z,0.8nm,0.3s,baz=318,slow=1.9,SNR=6.6
MKAR Makanchi Array 155.20 49 PKPab **PKPab** **10 57 06.0 +0.8**
comp=Z,0.4nm,0.7s,baz=298,slow=3.4,SNR=3.3

*IDC **08** 10:48:20.9±0.9,38˚.19N×97˚.96W, h0km, mb3.2/1, mbtmp3.3/6, ML3.8/3, Error ellipse: s-maj=11.2km s-min=9.7km az=117.0*
*NEIC **08** 10:48:21.4±0.7,38˚.05N±0˚.01×97˚.95W±0˚.04, h11km±8km, mb_Lg3.4/146, Error ellipse: s-maj=4.7km s-min=1.6km az=77.0*
*ANF **08** 10:48:24.1±0.8,38˚.02N×97˚.98W, h20km±6km, Error ellipse: s-maj=2.1km s-min=2.0km az=17.0*
ISC 08 10:48:21.7±1.2,**38˚.01N**±0˚.02×**97˚.95W**±0˚.03,**h7**km±9km, **n139,σ1°22/105,Kansas**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KAN12	**Harper NE Stat**	**0.72**	**183**			**Pg**	**10 48 35.5**	**0.0**
KAN12				Sg		**Sg**	**10 48 44.7**	**-0.1**
R32A	**Long Quarter,**	**0.72**	**304**			**Pg**	**10 48 35.2**	**-0.5**
R32A				Sg		**Sg**	**10 48 44.3**	**-0.8**
R32A	**Long Quarter,** baz=124,SNR=50	**0.72**	**304**	P		**Pg**	**10 48 35.0**	**-0.6**
R32A	baz=124			S		**Sg**	**10 48 44.4**	**-0.7**
KS21	**Milan North St**	**0.76**	**162**	Pg		**Pg**	**10 48 36.6**	**+0.2**
KAN08	**Anthony NE Sta**	**0.79**	**181**			**Pg**	**10 48 36.7**	**-0.1**
KAN01	**Argonia South**	**0.87**	**170**			**Pg**	**10 48 38.5**	**0.0**
KAN10	**Anthony SW Sta**	**0.90**	**187**			**Pg**	**10 48 38.7**	**-0.2**
KAN05	**Bluff City Nor**	**0.91**	**176**			**Pg**	**10 48 39.1**	**0.0**
KAN05	comp=Z,261nm,1.1s			IAmb_Lg			10 48 52.2	
KAN09	**Caldwell North**	**0.92**	**163**			**Pg**	**10 48 39.3**	**0.0**
KAN17	**Caldwell West**	**0.98**	**171**	Pg		**Pg**	**10 48 40.5**	**0.0**
KAN14	**Manchester OK**	**1.05**	**181**			**Pg**	**10 48 41.6**	**-0.4**
KAN13	**South Haven SW**	**1.07**	**159**			**Pg**	**10 48 42.1**	**-0.1**
KAN13	comp=Z,263nm,0.8s			IAmb_Lg			10 48 58.7	
GC02	**Grant County #**	**1.16**	**176**	Pg		**Pg**	**10 48 43.6**	**-0.4**
OK032	**Salt Plains WL**	**1.23**	**190**			**Pb**	**10 48 44.5**	**-0.7**
OK032						**Sb**	**10 49 01.5**	**+0.3**
BLOK	**Blackwell**	**1.38**	**155**	Pn		**Pn**	**10 48 47.7**	**+0.3**
BLOK						**Sb**	**10 49 06.6**	**+0.9**
CROK	**Carrier**	**1.51**	**181**			**Pn**	**10 48 49.4**	**+0.3**
KSU1	**Kansas State U**	**1.51**	**44**			**Pn**	**10 48 49.8**	**+0.6**
KSU1	**Kansas State U** baz=225	**1.51**	**44**	P		**Pn**	**10 48 49.8**	**+0.6**
KSU1	baz=225			S		**Sb**	**10 49 10.1**	**+0.6**
KSU1	**Kansas State U** baz=225,SNR=39	**1.51**	**44**	P		**Pn**	**10 48 49.9**	**+0.7**
KSU1	baz=225			S		**Sn**	**10 49 09.8**	**+0.6**
T35A	**Sooner Cattle**	**1.58**	**133**			**Pn**	**10 48 51.2**	**+1.0**
T35A	comp=Z,212nm,1.0s			IAmb_Lg			10 49 14.1	
T35B	**Sooner Cattle** baz=314,SNR=125	**1.58**	**133**	P		**Pn**	**10 48 51.3**	**+1.1**
T35B	baz=314			S		**Sb**	**10 49 12.6**	**+1.0**
CBKS	**Cedar Bluff**	**1.61**	**300**			**Pn**	**10 48 51.1**	**+0.4**
CBKS	comp=Z,170nm,0.7s			IAmb_Lg			10 49 13.7	
CBKS	**Cedar Bluff** baz=119	**1.61**	**300**	P		**Pn**	**10 48 51.0**	**+0.4**
CBKS	baz=119			S		**Sn**	**10 49 12.2**	**+0.4**
CBKS	**Cedar Bluff** baz=119,SNR=82	**1.61**	**300**	P		**Pn**	**10 48 51.1**	**+0.4**
CBKS	baz=119			S		**Sn**	**10 49 12.1**	**+0.3**
OK038	**West end E0370**	**1.66**	**203**			**Pn**	**10 48 52.1**	**+0.9**
OK048	**Pawnee Station**	**1.79**	**153**	Pn		**Pn**	**10 48 54.2**	**+1.2**
U32A	**Winter Ranch,**	**1.83**	**208**			**Pn**	**10 48 55.0**	**+1.3**
U32A	comp=Z,232nm,0.9s			IAmb_Lg			10 49 23.9	
U32A	**Winter Ranch,** baz=26,SNR=43	**1.83**	**208**	P		**Pn**	**10 48 55.0**	**+1.3**
U32A	baz=26			S		**Sb**	**10 49 19.9**	**+1.2**
QUOK	**Quay**	**2.09**	**151**	Pn		**Pn**	**10 48 58.2**	**+1.0**
OK052	**Battle Ridge R**	**2.22**	**155**	Pn		**Pn**	**10 48 59.8**	**+0.9**
OK029	**Liberty Lake**	**2.25**	**170**	Pn		**Pn**	**10 49 00.2**	**+0.9**
ELIS	**Ellis County** comp=Z,182nm,1.1s	**2.27**	**212**	IAmb_Lg			10 49 38.7	
CSTR	**Hydro, Custer**	**2.44**	**194**			**Pn**	**10 49 03.0**	**+1.0**
DEOK	**Depew**	**2.46**	**151**	Pn		**Pn**	**10 49 03.0**	**+0.8**
OKCSW	**OKLAHOMA CITY**	**2.64**	**171**			**Pn**	**10 49 05.1**	**+0.4**
TUL3	**Leonard**	**2.72**	**140**			**Pn**	**10 49 07.0**	**+1.2**
TUL3	comp=Z,126nm,0.9s			IAmb_Lg			10 49 54.5	
TUL3	**Leonard** baz=321	**2.72**	**140**	P		**Pn**	**10 49 06.9**	**+1.0**
TUL3	baz=321			Sb		**Sb**	**10 49 47.5**	**+3.3**
TUL3	**Leonard** baz=321,SNR=16	**2.72**	**140**	P		**Pn**	**10 49 06.8**	**+1.0**
N33B	**J Bar K, Exete** baz=189,SNR=38	**2.75**	**8**	P		**Pn**	**10 49 06.3**	**+0.1**
N33B	baz=189			S		**Sn**	**10 49 40.1**	**+0.4**
N33A	**J Bar K, Exete**	**2.75**	**8**			**Pn**	**10 49 06.3**	**+0.1**
FNO	**Franklin**	**2.79**	**171**	Pn		**Pn**	**10 49 08.1**	**+1.3**
RLO	**Rose Lookout**	**2.98**	**127**	Pn		**Pn**	**10 49 11.1**	**+1.7**
RLO	comp=Z,83nm,0.7s			IAmb_Lg			10 49 58.6	
W35A	**Tecumseh**	**2.98**	**163**	Pn		**Pn**	**10 49 10.2**	**+0.7**
U38A	**Gravette**	**3.25**	**118**			**Pn**	**10 49 14.7**	**+1.5**
U38A	comp=Z,141nm,0.7s			IAmb_Lg			10 50 09.5	
U38A	**Gravette** baz=300,SNR=39	**3.25**	**118**	P		**Pn**	**10 49 14.8**	**+1.7**
WMOK	**Wichita Mounta**	**3.34**	**192**	Pn		**Pn**	**10 49 15.2**	**+0.9**
WMOK	**Wichita Mounta** baz=11	**3.34**	**192**	P		**Pn**	**10 49 15.5**	**+1.2**
WMOK	**Wichita Mounta** baz=11,SNR=45	**3.34**	**192**	P		**Pn**	**10 49 15.5**	**+1.2**
N35A	**Tabor**	**3.36**	**31**			**Pn**	**10 49 16.5**	**+1.9**
BGNE	**Belgrade**	**3.39**	**357**			**Pn**	**10 49 16.1**	**+1.0**
BGNE	comp=Z,101nm,0.7s			IAmb_Lg			10 50 13.3	
BGNE	**Belgrade** baz=178	**3.39**	**357**	Sb		**Sb**	**10 50 07.3**	**+3.6**
BGNE	**Belgrade** baz=178,SNR=6.8	**3.39**	**357**	P		**Pn**	**10 49 16.1**	**+1.0**
SMWD	**Samnorwood** comp=Z,73nm,0.7s	**3.44**	**213**	IAmb_Lg			10 50 15.5	
HHAR	**Hobbs**	**3.64**	**117**			**Pn**	**10 49 19.8**	**+1.3**
HHAR	comp=Z,74nm,0.7s			IAmb_Lg			10 50 23.6	
S39A	**Bolivar**	**3.68**	**94**			**Pn**	**10 49 20.1**	**+1.2**
S39A	comp=Z,78nm,0.7s			IAmb_Lg			10 50 27.4	
S39A	**Bolivar** baz=277,SNR=31	**3.68**	**94**	P		**Pn**	**10 49 20.2**	**+1.2**
KSCO	**Kaye Shedlock'**	**3.80**	**287**	Pn		**Pn**	**10 49 21.5**	**+0.7**
KSCO	comp=Z,77nm,0.7s			IAmb_Lg			10 50 25.7	
KSCO	**Kaye Shedlock'** baz=104	**3.80**	**287**	P		**Pn**	**10 49 21.3**	**+0.5**
P38A	**Dawn**	**3.81**	**64**			**Pn**	**10 49 21.8**	**+1.1**
P38A	comp=Z,78nm,0.8s			IAmb_Lg			10 50 23.7	
P38A	**Dawn** baz=247,SNR=47	**3.81**	**64**	P		**Pn**	**10 49 21.9**	**+1.1**
X37A	**Clayton**	**4.00**	**148**			**Pn**	**10 49 24.3**	**+0.9**
X37A	comp=Z,144nm,0.8s			IAmb_Lg			10 50 37.1	
X37A	**Clayton** baz=329,SNR=34	**4.00**	**148**	P		**Pn**	**10 49 24.4**	**+1.0**
LOOK	**Love County** comp=Z,109nm,1.2s	**4.06**	**171**	IAmb_Lg			10 50 41.3	
L34A	**Svendsen Farm,** baz=198	**4.13**	**17**	P		**Pn**	**10 49 25.5**	**+0.3**
RTBA	**Rita Blanca**	**4.13**	**249**	Pn		**Pn**	**10 49 25.9**	**+0.5**
OGNE	**Ogallala** baz=132	**4.31**	**314**	Sb		**Sb**	**10 50 33.9**	**+3.9**
AMTX	**Amarillo**	**4.34**	**225**	Pn		**Pn**	**10 49 29.1**	**+0.9**
AMTX	comp=Z,98nm,0.9s			IAmb_Lg			10 50 45.4	
AMTX	**Amarillo** baz=42	**4.34**	**225**	S		**Sn**	**10 50 19.8**	**+0.8**
AMTX	**Amarillo** baz=42,SNR=7.4	**4.34**	**225**	P		**Pn**	**10 49 29.3**	**+1.1**
U40A	**Yellville** baz=294,SNR=30	**4.39**	**111**	P		**Pn**	**10 49 29.9**	**+1.1**
U40A	baz=294,SNR=30			P		**Pn**	**10 49 29.9**	**+1.1**
R40A	**Maddies Statio**	**4.49**	**85**			**Pn**	**10 49 31.8**	**+1.7**
R40A	**Maddies Statio** baz=268,SNR=19	**4.49**	**85**	P		**Pn**	**10 49 31.1**	**+1.0**
N38A	**Joes South For**	**4.59**	**51**			**Pn**	**10 49 32.8**	**+1.3**
N38A	**Joes South For** baz=234,SNR=10	**4.59**	**51**	P		**Pn**	**10 49 32.8**	**+1.3**
MGMO	**Mountain Grove**	**4.59**	**99**	Pn		**Pn**	**10 49 33.0**	**+1.4**
MGMO	comp=Z,83nm,0.7s			IAmb_Lg			10 50 54.5	
K30B	**Basset**	**4.83**	**345**			**Pn**	**10 49 36.3**	**+1.5**
K30B	comp=Z,66nm,0.8s			IAmb_Lg			10 51 02.1	
P40A	**Paris** comp=Z,60nm,0.8s	**4.86**	**70**	IAmb_Lg			10 51 04.4	
MIAR	**Mount Ida** baz=316	**4.95**	**133**	P		**Pn**	**10 49 37.6**	**+1.2**
MIAR	**Mount Ida** baz=316	**4.95**	**133**	P		**Pn**	**10 49 37.6**	**+1.2**
DKNS	**Dickens** comp=Z,68nm,0.9s	**4.96**	**210**	IAmb_Lg			10 51 02.4	
FCAR	**Ozark Folk Cen** comp=Z,70nm,0.8s	**5.12**	**113**	IAmb_Lg			10 51 13.5	
T25A	**Trinidad** comp=Z,76nm,0.9s	**5.21**	**262**	IAmb_Lg			10 51 14.9	
CCM	**Cathedral Cave** comp=Z,66nm,0.8s	**5.29**	**87**	IAmb_Lg			10 51 23.1	
CCM	**Cathedral Cave** baz=272	**5.29**	**87**	P		**Pn**	**10 49 43.1**	**+1.9**
Z38A	**Mt. Pleasant** comp=Z,67nm,0.8s	**5.32**	**152**	IAmb_Lg			10 51 19.2	
X40A	**Basin Creek Fa** comp=Z,83nm,0.8s	**5.43**	**129**	IAmb_Lg			10 51 19.8	
SN07	**Snyder 07** comp=Z,59nm,0.9s	**5.46**	**207**	IAmb_Lg			10 51 22.7	
BRIGG	**Briggsdale** comp=Z,100nm,0.8s	**5.56**	**299**	IAmb_Lg			10 51 24.7	
FW16	**Waxahatchie** comp=Z,42nm,0.8s	**5.59**	**171**	IAmb_Lg			10 51 32.3	
MSTX	**Muleshoe** baz=42	**5.62**	**226**	P		**Pn**	**10 49 46.1**	**+0.3**
MSTX	**Muleshoe** baz=42,SNR=5.4	**5.62**	**226**	P		**Pn**	**10 49 46.0**	**+0.3**
SN05	**Snyder 5** comp=Z,82nm,0.9s	**5.66**	**206**	IAmb_Lg			10 51 35.8	
POST	**Post** comp=Z,61nm,1.1s	**5.72**	**211**	IAmb_Lg			10 51 36.0	
Q24A	**Divide** comp=Z,67nm,0.8s	**5.73**	**282**	IAmb_Lg			10 51 31.8	
LCAR	**Lake Charles**	**5.77**	**108**			**Pn**	**10 49 49.4**	**+1.7**
ECSD	**EROS Data Cent**	**5.80**	**10**			**Pn**	**10 49 48.2**	**0.0**
ECSD	comp=Z,53nm,0.7s			IAmb_Lg			10 51 31.0	
WLAR	**White Oak Lake** comp=Z,66nm,0.9s	**5.84**	**136**	IAmb_Lg			10 51 31.5	
FVM	**French Village** comp=Z,41nm,0.8s	**5.94**	**88**	IAmb_Lg			10 51 29.9	
SDCO	**Great Sand Dun**	**5.98**	**270**			**Pn**	**10 49 51.2**	**+0.4**
SDCO	comp=Z,47nm,1.0s			IAmb_Lg			10 51 38.3	
SDCO	**Great Sand Dun** baz=85,SNR=10	**5.98**	**270**	P		**Pn**	**10 49 51.5**	**+0.6**
SLM	**Saint Louis** comp=Z,58nm,0.8s	**6.10**	**82**	IAmb_Lg			10 51 41.3	
PBMO	**Poplar Bluff**	**6.11**	**99**			**Pn**	**10 49 54.0**	**+1.6**
ISCO	**Idaho Springs**	**6.24**	**289**			**Pn**	**10 49 54.8**	**+0.4**
ISCO	comp=Z,49nm,0.8s			IAmb_Lg			10 51 39.7	
Z41A	**Richland Creek** comp=Z,46nm,0.8s	**6.33**	**137**	IAmb_Lg			10 51 54.8	
SUSD	**Miller** comp=Z,61nm,0.7s	**6.47**	**354**	IAmb_Lg			10 51 54.0	
CGM3	**Cape Girardeau** comp=Z,46nm,0.7s	**6.62**	**94**	IAmb_Lg			10 51 50.7	
PHWY	**Pilot Hill** comp=Z,51nm,1.0s	**6.66**	**302**	IAmb_Lg			10 52 08.8	
P43A	**Skaggs, Pawnee** comp=Z,70nm,0.8s	**6.78**	**74**	IAmb_Lg			10 52 00.4	
N23A	**Red Feather La** comp=Z,61nm,0.8s	**6.82**	**297**	IAmb_Lg			10 52 02.7	
S44A	**Carbondale** comp=Z,57nm,0.9s	**6.89**	**90**	IAmb_Lg			10 52 13.3	
I37A	**Lemond, Waseca** comp=Z,65nm,0.8s	**6.91**	**28**	IAmb_Lg			10 52 08.1	
SIUC	**Southern Illin** comp=Z,68nm,0.9s	**6.92**	**90**	IAmb_Lg			10 52 05.1	
HDIL	**Hopedale** comp=Z,69nm,0.7s	**7.18**	**67**	IAmb_Lg			10 52 28.1	
435B	**Jarrell** comp=Z,32nm,0.8s	**7.22**	**177**	IAmb_Lg			10 52 23.3	
L42A	**Oliver, Polo** comp=Z,56nm,0.8s	**7.50**	**55**	IAmb_Lg			10 52 21.6	
ANMO	**Albuquque** comp=Z,0.3nm,0.3s,baz=64,slow=19,SNR=1.4	**7.50**	**248**	Pn		**Pn**	**10 50 11.1**	**-0.7**
ANMO				Lg		Lg	10 52 13.8	
	comp=Z,0.9nm,0.3s,baz=30,slow=12,SNR=5.2							
143A	**Socs Landing,** comp=Z,51nm,0.8s	**7.53**	**133**	IAmb_Lg			10 52 34.5	
OZNA	**Ozona** comp=Z,37nm,1.0s	**7.54**	**201**	IAmb_Lg			10 52 35.4	
RSSD	**Black Hills** comp=Z,31nm,0.8s	**7.64**	**325**	IAmb_Lg			10 52 25.0	
JFWS	**Jewell Farm** comp=Z,59nm,0.8s	**7.64**	**48**	IAmb_Lg			10 52 38.1	
JCT	**Junction City** comp=Z,42nm,0.9s	**7.67**	**192**	IAmb_Lg			10 52 44.7	
O44A	**Mansfield** comp=Z,48nm,0.8s	**7.68**	**71**	IAmb_Lg			10 52 30.3	
MNHN	**Monahans** comp=Z,37nm,1.0s	**7.75**	**212**	IAmb_Lg			10 52 34.3	
OLIL	**Olney** comp=Z,59nm,1.0s	**7.77**	**82**	IAmb_Lg			10 52 50.3	
F33A	**5 Mile Ranch,** comp=Z,29nm,0.8s	**7.92**	**8**	IAmb_Lg			10 52 35.0	
PLAL	**Pickwick Lake** comp=Z,25nm,0.7s	**8.51**	**108**	IAmb_Lg			10 52 51.4	
HNDO	**Hondo** comp=Z,26nm,1.0s	**8.54**	**188**	IAmb_Lg			10 53 01.3	
SAND	**Sanderson** comp=Z,24nm,1.0s	**8.75**	**205**	IAmb_Lg			10 53 04.8	
E28A	**Huff** comp=Z,25nm,0.7s	**8.79**	**348**	IAmb_Lg			10 53 17.9	
DRIO	**Del Rio** comp=Z,25nm,0.9s	**8.85**	**195**	IAmb_Lg			10 53 20.6	
ALPN	**Alpine** comp=Z,38nm,1.2s	**8.96**	**213**	IAmb_Lg			10 53 25.8	
I42A	**Draeger Farm,** comp=Z,30nm,0.9s	**9.01**	**46**	IAmb_Lg			10 53 19.2	
833A	**Chaparral WMA,** comp=Z,19nm,1.1s	**9.74**	**188**	IAmb_Lg			10 53 40.4	
E38A	**The Farm, Brul** comp=Z,46nm,1.2s	**9.80**	**27**	IAmb_Lg			10 53 38.6	
TXAR	**Lajitas Array** comp=Z,0.2nm,0.3s,baz=34,slow=11,SNR=9.0	**9.88**	**210**	Pn		**Pn**	**10 50 43.6**	**-0.6**
TXAR				Sn		**Sn**	**10 52 35.4**	**0.0**
	comp=Z,0.3nm,0.3s,baz=27,slow=16,SNR=4.0							
TXAR				Lg		Lg	10 53 30.5	
	comp=Z,0.3nm,0.3s,baz=24,slow=25,SNR=9.2 comp=Z,0.3nm,0.4s							
PDAR	**Pinedale Array** comp=Z,0.2nm,0.3s,baz=111,slow=15,SNR=5.6	**10.04**	**302**	Pn		**Pn**	**10 50 46.0**	**-0.6**
PDAR				Lg		Lg	10 53 29.6	
	comp=Z,0.4nm,0.3s,baz=117,slow=28,SNR=2.0 comp=Z,0.4nm,0.5s							
TKL	**Tuckaleechee C** comp=Z,0.3nm,0.3s,baz=340,slow=11,SNR=1.4	**11.60**	**97**	Pn		**Pn**	**10 51 08.0**	**+0.3**
TKL				Sn		**Sn**	**10 53 12.4**	**-5.1**
	comp=Z,0.2nm,0.3s,baz=136,slow=13,SNR=2.0							
TKL				Lg		Lg	10 54 21.3	
	comp=Z,0.7nm,0.3s,baz=188,slow=22,SNR=7.3 comp=Z,1.3nm,0.4s							
ULM	**Lac du Bonnet** comp=Z,0.9nm,0.5s,baz=185,slow=18,SNR=2.5	**12.32**	**6**	Pn		Pn	10 51 11.3	-6.2
ULM				Sn		Sn	10 53 22.1	-13
	comp=Z,0.4nm,0.3s,baz=128,slow=12,SNR=2.6							
ULM				Lg		Lg	10 54 35.0	
	comp=Z,0.1nm,0.3s,baz=169,slow=11,SNR=1.6							
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.7s,baz=145,slow=9.7,SNR=4.5 comp=Z,0.3nm,0.7s	**26.55**	**343**	P		**P**	**10 53 58.8**	**-1.1**

*IDC **08** 10:54:21.9±1.2,6˚.08S×142˚.98E, h0km, mb3.8/4, mbtmp3.8/6, ML1.4/1, Error ellipse: s-maj=42.4km s-min=25.5km az=61.0*
ISC 08 10:54:26.3±0.9,**6˚.51S**±0˚.09×**142˚.61E**±0˚.10,**h35**km,**n7, σ2°57/10,mb3.7/4,New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 0.8nm,0.3s,baz=185,slow=22,SNR=1.6	**5.35**	**123**			**Pn**	**10 55 43.1**	**-0.6**
PMG	0.9nm,0.3s,baz=322,slow=22,SNR=1.8 4.6nm,0.5s			Sn		**Sn**	**10 56 45.0**	**+0.8**
WRA	**Warrananga Arr** 0.2nm,0.3s,baz=31,slow=13,SNR=9.2	**15.58**	**210**	Pn		**P**	**10 58 06.4**	**-1.0**
WRA	0.1nm,0.3s,baz=28,slow=22,SNR=1.0			Sn		**Sn**	**11 00 51.9**	**-3.2**
WRA	0.1nm,0.3s,baz=36,slow=32,SNR=1.9			Lg		Lg	11 02 52.1	
ASAR	**Alice Springs** 1.9nm,0.5s,baz=30,slow=12,SNR=44	**19.00**	**205**	P		**Pn**	**10 58 51.0**	**+4.9**
ASAR	0.6nm,0.7s,baz=15,slow=27,SNR=1.4			S		**S**	**11 02 18.0**	**-1.1**
SONM	**Songino Array** 0.5nm,0.6s,baz=144,slow=5.2,SNR=4.7 0.5nm,0.6s	**62.81**	**333**	P		**P**	**11 04 47.8**	**-0.7**
MKAR	**Makanchi Array** 0.5nm,0.9s,baz=106,slow=5.5,SNR=3.8 0.5nm,0.9s	**75.15**	**322**	P		**P**	**11 06 06.3**	**+1.2**
BVAR	**Borovoye Array** 2.0nm,0.7s,baz=103,slow=6.2,SNR=9.6 2.0nm,0.7s	**84.63**	**325**	P		**P**	**11 06 57.1**	**+0.9**
ILAR	**Eielson Array**	**87.69**	**24**	P		**P**	**11 07 08.7**	**-2.3**

0.3nm,0.8s,baz=243,slow=6.0,SNR=2.1
0.3nm,0.8s

GUC 08 10:55:29.7±0.8, 32.70S×71.82W, h21km±5km, ML3.9, 18D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA01	**Torpederas**	**0.35**	**155**	⇓*iP*	Pb	10 55 36.9	-0.2
VA01				*i* S	Sb	10 55 42.0	-0.2
VA01				IAML		10 55 42.7	
	comp=E,16μm,0.1s						
VA06	**Catapilco**	**0.47**	**72**	⇓*iP*	Pb	10 55 38.8	-0.3
VA06				*i* S	Sb	10 55 45.2	-0.3
VA06				IAML		10 55 45.6	
	comp=N,13μm,0.5s						
ROCH	**El Roble**	**0.73**	**112**	⇓*iP*	Pb	10 55 43.5	-0.4
ROCH				*i* S	Sb	10 55 53.4	-0.2
MT02	**Curacav**	**0.80**	**134**	⇓*iP*	Pb	10 55 44.2	-0.7
VA05	**Santo Domingo**	**0.97**	**170**	⇓*iP*	Pb	10 55 46.8	-1.0
PEL	**Peldehue**	**1.05**	**115**	*i* P	Pb	10 55 48.4	-0.8
PEL				*i* S	Sb	10 56 03.0	+0.4
PEL				IAML		10 56 03.5	
	comp=E,4μm,0.3s						
VA03	**San Esteban**	**1.07**	**94**	⇓*iP*	Pb	10 55 48.7	-0.9
VA03				*i* S	Sb	10 56 02.7	-0.6
MT05	**Renca**	**1.14**	**127**	⇓*iP*	Pn	10 55 50.1	-0.4
MT05				*i* S	Sb	10 56 04.7	-0.4
MT10	**Hacienda Santa**	**1.22**	**118**	⇓*iP*	Pn	10 55 51.5	-0.2
MT10				*i* S	Sb	10 56 07.5	+0.1
MT10				IAML		10 56 12.7	
	comp=E,6μm,0.4s						
MT01	**Popeta**	**1.25**	**158**	⇓*iP*	Pn	10 55 51.3	-0.7
MT01				*i* S	Sn	10 56 07.2	-1.1
MT09	**Talagante**	**1.28**	**147**	⇓*iP*	Pn	10 55 52.0	-0.4
MT09				*i* S	Sn	10 56 08.4	-0.6
MT09				IAML		10 56 09.4	
	comp=N,5μm,0.5s						
MT14	**Cerro Calan**	**1.28**	**123**	⇓*iP*	Pn	10 55 52.4	-0.1
MT14				*i* S	Sn	10 56 09.1	0.0
MT14				IAML		10 56 16.0	
	comp=N,4μm,0.6s						
MT16	**CCHEN**	**1.31**	**124**	⇓*iP*	Pn	10 55 52.8	0.0
MT16				*i* S	Sn	10 56 09.6	-0.1
MT03	**Universidad Ad**	**1.35**	**126**	⇓*iP*	Pn	10 55 53.5	0.0
MT03				*i* S	Sb	10 56 11.5	+0.2
MT03				IAML		10 56 18.7	
	comp=E,5μm,0.3s						
MT15	**Las Vizcachas**	**1.42**	**129**	*i* P	Pn	10 55 54.4	+0.1
MT15				*i* S	Sb	10 56 13.2	0.0
MT15				IAML		10 56 19.7	
	comp=N,6μm,0.2s						
FCH	**Farellones**	**1.43**	**116**	⇓*iP*	Pn	10 55 54.8	+0.1
FCH				*i* S	Sb	10 56 13.5	-0.2
FCH				IAML		10 56 14.1	
	comp=N,2μm,0.3s						
MT12	**Pirque**	**1.48**	**134**	*i* P	Pn	10 55 55.5	+0.3
MT12				*i* S	Sb	10 56 14.8	-0.1
MT04	**Ro Olivares**	**1.58**	**117**	⇓*iP*	Pn	10 55 57.2	+0.5
MT04				*i* S	Sn	10 56 17.0	+0.4
MT04				IAML		10 56 21.7	
	comp=E,2μm,0.2s						
BO04	**La Punta**	**1.63**	**142**	⇓*iP*	Pn	10 55 57.8	+0.5
BO04				*i* S	Sn	10 56 17.6	-0.1
BO04				IAML		10 56 26.2	
	comp=E,1μm,0.4s						
CO02	**Combarbal**	**1.65**	**25**	⇓*iP*	Pn	10 55 57.6	0.0
CO02				*i* S	Sb	10 56 20.0	+0.1
CO02				IAML		10 56 23.9	
	comp=E,4μm,0.5s						
MT13	**San Alfonso**	**1.65**	**129**	*i* P	Pn	10 55 58.4	+0.8
MT13				*i* S	Sb	10 56 19.8	-0.2
MT13				IAML		10 56 24.9	
	comp=E,2μm,0.3s						
LMEL	**Las Melosas**	**1.77**	**131**	*i* P	Pn	10 56 00.4	+1.1
LMEL				*i* S	Sb	10 56 23.9	+0.5
BO01	**Tunca**	**1.79**	**160**	⇓*iP*	Pn	10 55 59.9	+0.5
BO01				*i* S	Sn	10 56 22.0	+0.4
CO06	**Fray Jorge**	**2.03**	**5**	*i* P	Pn	10 56 02.4	-0.3
CO03	**El Pedregal**	**2.10**	**28**	*i* P	Pn	10 56 05.1	+1.4
CO03				*i* S	Sn	10 56 29.6	+0.5
BO02	**Sierra Bellavi**	**2.26**	**158**	⇓*iP*	Pn	10 56 07.2	+1.3
BO02				*i* S	Sb	10 56 36.2	-1.1
BO02				IAML		10 56 46.2	
	comp=E,1μm,0.4s						
GO04	**Tololo Observa**	**2.67**	**19**	*eP*	Pn	10 56 13.0	+1.3
GO04				*eS*	Sb	10 56 48.6	-0.8
GO04				IAML		10 56 56.6	
	comp=E,1μm,0.4s						

*NOU **08** 11:02:03.8, 37.33S×179.24E, h0km, mb4.0/5, Off E. Coast of N. Island, N.Z.*
*WEL **08** 11:02:09.1±0.8, 37°S±3'×17°9E±', h12km, M2.9/16, ML3.2/26, MLv2.9/16, Error ellipse: s-maj=0.0km s-min=0.0km az=91.1*
ISC 08 11:02:08.4±2.8, 37.32S±0.07×178.9E±0.1, h23km±14km, n41, σ1§13/53, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.53**	**242**	P	**Pb**	**11 02 18.7**	**-0.3**
MXZ	**Matakaoa Point**	**0.53**	**242**	P	**Pb**	**11 02 18.7**	**-0.3**
MXZ				S	**Sb**	**11 02 26.3**	**+0.1**
WMGZ	**Waiomatatini S**	**0.63**	**217**	P	**Pn**	**11 02 22.0**	**+0.1**
WMGZ				S	**Sn**	**11 02 32.6**	**+1.4**
PKGZ	**Pakihiroa**	**0.86**	**228**	P	**Pn**	**11 02 25.2**	**0.0**
PKGZ				S	**Sn**	**11 02 37.9**	**+0.7**
PUZ	**Puketiti**	**0.91**	**214**	P	**Pn**	**11 02 25.9**	**+0.2**
PUZ				S	**Sn**	**11 02 38.5**	**+0.4**
HAZ	**Te Kaha**	**0.98**	**243**	P	**Pn**	**11 02 26.0**	**-0.8**
HAZ				S	**Sn**	**11 02 41.1**	**+1.1**
TWGZ	**Tauwhareparae**	**1.12**	**220**	P	**Pb**	**11 02 29.1**	**0.0**
TWGZ				S	**Sn**	**11 02 45.5**	**+2.0**
RUGZ	**Raukumara Rang**	**1.16**	**236**	P	**Pb**	**11 02 30.1**	**+0.2**
CNGZ	**Carnagh Statio**	**1.28**	**205**	P	**Pb**	**11 02 31.8**	**-0.1**
TKGZ	**Te Karaka**	**1.39**	**216**	P	**Pn**	**11 02 32.4**	**0.0**
MWZ	**Matawai**	**1.48**	**226**	P	**Pn**	**11 02 33.8**	**+0.1**
RAGZ	**Rawiri**	**1.66**	**224**	P	**Pn**	**11 02 36.9**	**+0.7**
URZ	**Urewera**	**1.70**	**236**	P	**Pn**	**11 02 37.5**	**+0.9**
URZ	**Urewera**	**1.70**	**236**	P	**Pn**	**11 02 37.3**	**+0.8**
URZ				S	**Sn**	**11 02 58.5**	**+0.9**
SNGZ	**Shannon Statio**	**1.91**	**220**	P	**Pn**	**11 02 39.5**	**-0.1**
RTZ	**Ruatahuna**	**1.99**	**229**	P	**Pn**	**11 02 41.3**	**+0.5**
MUGZ	**Murupara**	**2.04**	**235**	P	**Pn**	**11 02 41.8**	**+0.5**
TARZ	**Mount Tarawera**	**2.10**	**243**	P	**Pn**	**11 02 43.4**	**+1.1**
RAHZ	**Arahi**	**2.14**	**221**	P	**Pn**	**11 02 43.3**	**+0.6**
RRRZ	**Republican Roa**	**2.14**	**241**	P	**Pn**	**11 02 43.7**	**+1.0**
MTHZ	**Maungataniwha**	**2.23**	**226**	P	**Pn**	**11 02 44.5**	**+0.5**
MTHZ				S	**Sn**	**11 03 11.1**	**+0.3**
MRHZ	**Matea Rd**	**2.47**	**231**	P	**Pn**	**11 02 47.7**	**+0.4**
KUZ	**Kuaotunu**	**2.60**	**282**	P	**Pn**	**11 02 47.7**	**-1.3**
KUZ				S	**Sn**	**11 03 16.1**	**-3.8**
BKZ	**Black Stump Fm**	**2.64**	**225**	P	**Pn**	**11 02 50.1**	**+0.4**
BKZ	**Black Stump Fm**	**2.64**	**225**	P	**Pn**	**11 02 49.6**	**0.0**
BKZ				S	**Sn**	**11 03 19.8**	**-1.2**
TOZ	**Tahuroa Road**	**2.73**	**260**	P	**Pn**	**11 02 51.1**	**+0.3**
KWHZ	**Kaweka Forest**	**2.86**	**222**	P	**Pn**	**11 02 51.9**	**-0.8**
KWHZ				S	**Sn**	**11 03 26.0**	**-0.4**
GRZ	**Great Barrier**	**2.96**	**290**	P	**Pn**	**11 02 54.8**	**+0.8**
MKAZ	**Moumakai**	**2.99**	**273**	P	**Pn**	**11 02 55.1**	**+0.7**
WIAZ	**Waiheke Island**	**3.05**	**279**	P	**Pn**	**11 02 56.1**	**+0.8**
OTVZ	**Oturere**	**3.14**	**233**	P	**Pn**	**11 02 56.6**	**0.0**
OTVZ				S	**Sn**	**11 03 30.9**	**-2.5**
SNVZ	**South Ngauruho**	**3.17**	**233**	P	**Pn**	**11 02 55.6**	**-1.4**
ETAZ	**East Tamaki Re**	**3.19**	**275**	P	**Pn**	**11 02 58.4**	**+1.3**
MBAZ	**Motutapu North**	**3.24**	**279**	P	**Pn**	**11 02 59.1**	**+1.2**
HIZ	**Hauiti**	**3.41**	**248**	P	**Pn**	**11 03 01.9**	**+1.8**
HIZ	**Hauiti**	**3.41**	**248**	P	**Pn**	**11 03 01.6**	**+1.4**
RVAZ	**Riverhead Bore**	**3.49**	**278**	P	**Pn**	**11 03 03.1**	**+1.7**
WCZ	**Waipu Caves**	**3.91**	**289**	P	**Pn**	**11 03 07.1**	**+0.1**
OUZ	**Omahuta**	**4.76**	**294**	P	**Pn**	**11 03 20.2**	**+1.4**
OUZ	**Omahuta**	**4.76**	**294**	P	**Pn**	**11 03 19.6**	**+0.8**
TKNZ	**Takaka Hill**	**5.92**	**229**	P	**Pn**	**11 03 32.6**	**-2.0**

*IDC **08** 11:07:53.3±0.9, 6.12S×142.78E, h0km, mb3.9/9, mbtmp4.0/11, ML1.7/1, Error ellipse: s-maj=32.5km s-min=19.7km az=70.0*
ISC 08 11:07:58.1±0.7, 6.46S±0.08×142.50E±0.09, h35km, n12, σ2§22/15, mb4.0/9, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.46**	**123**	Pn	**Pn**	**11 09 17.2**	**+0.1**
	1.4nm,0.3s,baz=236,slow=2.9,SNR=5.2						
PMG				Sn	**Sn**	**11 10 18.2**	**-0.6**
	2.5nm,0.3s,baz=246,slow=22,SNR=8.7						
	11nm,0.6s						
WRA	**Warramunga Arr**	**15.57**	**210**	Pn	**P**	**11 11 36.9**	**-2.2**
	0.3nm,0.3s,baz=27,slow=14,SNR=16						
WRA				Sn	**Sn**	**11 14 21.8**	**-4.8**
	baz=15,slow=37,SNR=2.7						
WRA				Lg	Lg	11 16 20.4	
	0.1nm,0.3s,baz=29,slow=27,SNR=2.8						
ASAR	**Alice Springs**	**19.00**	**205**	P	**Pn**	**11 12 21.9**	**+4.0**
	6.1nm,0.6s,baz=36,slow=8.1,SNR=82						
ASAR				S	**S**	**11 15 51.6**	**+0.7**
	0.2nm,0.6s,baz=18,slow=28,SNR=1.5						
ASAR				Lg	Lg	11 18 09.6	
	baz=27,slow=31,SNR=2.3						
CMAR	**Chiang Mai Arr**	**49.58**	**301**	P	**P**	**11 16 46.8**	**+0.6**
	0.7nm,0.3s,baz=128,slow=5.8,SNR=1.7						
	0.7nm,0.3s						
USRK	**Ussuriysk Ar.**	**51.31**	**350**	P	**P**	**11 16 58.0**	**-0.9**
	2.0nm,0.8s,baz=169,slow=8.1,SNR=3.2						
	2.0nm,0.8s						
SONM	**Songino Array**	**62.72**	**333**	P	**P**	**11 18 19.8**	**0.0**
	0.4nm,0.6s,baz=136,slow=5.0,SNR=2.9						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**75.05**	**322**	P	**P**	**11 19 36.5**	**+0.1**
	0.7nm,0.7s,baz=102,slow=5.9,SNR=5.6						
	0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**77.06**	**329**	P	**P**	**11 19 46.7**	**-0.8**
	0.4nm,0.4s,baz=138,slow=6.7,SNR=1.6						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**78.95**	**324**	P	**P**	**11 19 57.2**	**-0.9**
	0.2nm,0.2s,baz=104,slow=4.1,SNR=4.0						
	0.2nm,0.2s						
QSPA	**South Pole Qui**	**83.51**	**180**	P	**P**	**11 20 24.6**	**+2.3**
	0.8nm,0.6s,baz=306,slow=1.2,SNR=6.6						
	0.8nm,0.6s						
BVAR	**Borovoye Array**	**84.53**	**325**	P	**P**	**11 20 28.6**	**+1.0**
	3.2nm,0.7s,baz=104,slow=6.3,SNR=13						
	3.2nm,0.7s						
ILAR	**Eielson Array**	**87.69**	**24**	P	**P**	**11 20 40.6**	**-2.3**
	0.7nm,0.7s,baz=268,slow=4.6,SNR=7.5						
	0.7nm,0.7s						

*TIR **08** 11:23:57.2, 42.49N×18.91E, h29km±1km, Md3.2, Ml2.8*
*PDG **08** 11:23:58.5±0.1, 42.35N×18.92E, h4km, MD3.0/6, ML2.9/12, Error ellipse: s-maj=0.1km s-min=0.4km az=0.0*
*BEO **08** 11:23:58.8±0.4, 42.30N×18.93E, h7km±2km, ML2.5/16*
*RHSSO **08** 11:23:59.0±0.3, 42.38N×18.94E, h3km±1km, ML2.8/10*
ISC 08 11:23:58.5±1.0, 42.37N±0.02×18.91E±0.02, h3km±8km, n80, σ1§01/147, 28C-13D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUM	**Brajici-Budva**	**0.07**	**193**	⇑*iPg*	**Pg**	**11 23 59.8**	**-0.2**
BUM				*i* Sg	**Sg**	**11 24 00.7**	**-0.2**
CEME	**Cevo**	**0.18**	**1**	⇑*iPg*	**Pg**	**11 24 02.4**	**+0.3**
CEME				*i* Sg	**Sg**	**11 24 05.4**	**+0.9**
DRME	**Dracevica, Mon**	**0.27**	**131**	*ePg*	**Pg**	**11 24 03.5**	**-0.3**
DRME				*eSg*	**Sg**	**11 24 08.0**	**+0.8**
DRME	**Dracevica, Mon**	**0.27**	**131**	⇓*iPg*	**Pg**	**11 24 03.3**	**-0.4**
DRME				*eSg*	**Sg**	**11 24 08.1**	**+0.8**
DRME	**Dracevica, Mon**	**0.27**	**131**	⇓*iPg*	**Pg**	**11 24 03.4**	**-0.3**
DRME				*i* Sg	**Sg**	**11 24 07.7**	**+0.5**
HCY	**Herceg Novi**	**0.32**	**285**	⇓*iPg*	**Pg**	**11 24 04.8**	**+0.1**
HCY				*eSg*	**Sg**	**11 24 10.1**	**+1.2**
HCY	**Herceg Novi**	**0.32**	**285**	⇑*iPg*	**Pg**	**11 24 04.9**	**+0.2**
HCY				*i* Sg	**Sg**	**11 24 09.8**	**+0.9**
NKME	**Niksic**	**0.40**	**4**	⇑*iPg*	**Pg**	**11 24 06.1**	**-0.2**
NKME				*i* Sg	**Sg**	**11 24 12.7**	**+1.1**
ULC	**Ulcinj**	**0.47**	**148**	⇓*iPg*	**Pg**	**11 24 07.2**	**-0.4**
ULC				*i* Sg	**Sg**	**11 24 14.4**	**+0.7**
TREB	**Trebinje**	**0.55**	**310**	*ePg*	**Pg**	**11 24 09.1**	**+0.1**
TREB				*eSg*	**Sb**	**11 24 19.3**	**+0.3**
TREB	**Trebinje**	**0.55**	**310**	⇑*iPg*	**Pg**	**11 24 08.9**	**-0.1**
TREB				*eSg*	**Sg**	**11 24 16.9**	**+0.8**
BRY	**Bratogost**	**0.60**	**333**	⇑*iPg*	**Pg**	**11 24 09.8**	**-0.3**
BRY				*eSg*	**Sg**	**11 24 18.1**	**+0.1**
BRY	**Bratogost**	**0.60**	**333**	⇓*iPg*	**Pg**	**11 24 10.0**	**-0.1**
BRY				*i* Sg	**Sb**	**11 24 19.6**	**-1.2**
DBRK	**Dubrovnik**	**0.64**	**298**	*ePg*	**Pg**	**11 24 10.7**	**-0.2**
DBRK				Sg	**Sb**	**11 24 22.0**	**+0.2**
KOME	**Kolasin**	**0.66**	**42**	*ePg*	**Pg**	**11 24 10.5**	**-0.7**
KOME				*eSg*	**Sb**	**11 24 21.8**	**-0.5**
KOME	**Kolasin**	**0.66**	**42**	⇑*iPg*	**Pg**	**11 24 10.4**	**-0.7**
KOME				*i* Sg	**Sb**	**11 24 21.2**	**-1.1**
PUK	**Puka**	**0.80**	**114**	P	**Pg**	**11 24 14.2**	**+0.4**
	baz=121						
PUK				S	**Sb**	**11 24 26.8**	**+0.6**
	baz=121						
PUK				AMP			
	comp=N,1.2nm,0.2s,baz=121						
PVY	**Plav**	**0.81**	**73**	*ePg*	**Pb**	**11 24 14.6**	**-0.7**
PVY				*eSg*	**Sb**	**11 24 25.4**	**-1.2**
PVY	**Plav**	**0.81**	**73**	⇓*iPg*	**Pg**	**11 24 13.3**	**-0.7**
PVY				*i* Sg	**Sb**	**11 24 26.3**	**-0.3**
UPM	**Unac-Piva**	**0.84**	**360**	⇑*iPg*	**Pg**	**11 24 13.6**	**-1.0**
UPM				*eSg*	**Sg**	**11 24 25.3**	**-0.2**
UPM	**Unac-Piva**	**0.84**	**360**	⇓*iPg*	**Pg**	**11 24 13.8**	**-0.8**
UPM				*i* Sg	**Sb**	**11 24 27.5**	**-0.1**
KLINJ	**Klinje**	**0.84**	**343**	*ePg*	**Pg**	**11 24 14.1**	**-0.6**
KLINJ				*eSg*	**Sg**	**11 24 25.9**	**+0.3**
BCI	**Bajram Curri**	**0.85**	**90**	P	**Pg**	**11 24 14.1**	**-0.8**
	baz=98						
BCI				S	**Sb**	**11 24 26.8**	**-1.1**
	baz=98						
BCI				AMP			
	comp=E,1.8nm,0.4s,baz=98						
BEY	**Berane**	**0.88**	**55**	*ePg*	**Pg**	**11 24 15.4**	**-0.1**
BEY				*eSg*	**Sn**	**11 24 29.6**	**-1.7**
IVA	**Berane**	**0.88**	**55**	⇑*iPg*	**Pg**	**11 24 15.1**	**-0.4**
IVA				*i* Sg	**Sb**	**11 24 29.0**	**+0.2**
PLE	**Pljevlja**	**1.03**	**20**	*ePg*	**Pg**	**11 24 17.6**	**-0.6**
PLE				*eSg*	**Sn**	**11 24 34.6**	**-0.3**
PLE	**Pljevlja**	**1.03**	**20**	⇑*iPg*	**Pg**	**11 24 17.6**	**-0.6**
PLE				*i* Sg	**Sn**	**11 24 34.1**	**-0.8**
STON	**Ston**	**1.03**	**300**	*ePg*	**Pg**	**11 24 17.1**	**-1.2**
STON				Sg	**Sn**	**11 24 33.9**	**-0.8**
NEVS	**Nevesinje**	**1.11**	**328**	*ePg*	**Pg**	**11 24 19.3**	**-0.5**
NEVS				*eSg*	**Sg**	**11 24 33.6**	**-0.6**
SJES	**Sjenica**	**1.19**	**41**	*ePg*	**Pg**	**11 24 20.5**	**-0.8**
SJES				*eSg*	**Sn**	**11 24 38.3**	**-0.6**
SJES	**Sjenica**	**1.19**	**41**	⇑*iPg*	**Pg**	**11 24 20.0**	**-1.3**
SJES				*eSg*	**Sg**	**11 24 36.4**	**-0.3**
TIR	**Tirane**	**1.24**	**145**	P	**Pg**	**11 24 22.8**	**+0.5**
	baz=147						
TIR				S	**Sn**	**11 24 41.3**	**+1.4**
	baz=147						
TIR				AMP			
	comp=N,0.3nm,0.3s,baz=147						
RUDO	**Rudo**	**1.30**	**15**	⇑*iPg*	**Pn**	**11 24 22.2**	**-1.4**
RUDO				*eSg*	**Sb**	**11 24 39.6**	**-1.0**
IVAS	**Ivanjica**	**1.51**	**36**	*ePg*	**Pn**	**11 24 25.6**	**-1.0**
IVAS				*eSg*	**Sg**	**11 24 46.8**	**-0.4**
BBLS	**Lazi&#263i**	**1.54**	**13**	*ePg*	**Pn**	**11 24 26.9**	**-0.1**
BBLS				*eSg*	**Sg**	**11 24 49.1**	**+1.0**
BBLS	**Lazi&#263i**	**1.54**	**13**	⇑*iPn*	**Pb**	**11 24 27.5**	**-0.3**
BBLS				*eSn*	**Sb**	**11 24 47.2**	**-0.6**
LSTV	**Lastovo**	**1.55**	**286**	*ePn*	**Pn**	**11 24 26.9**	**0.0**
MAKA	**Makarska**	**1.67**	**304**	*ePn*	**Pb**	**11 24 30.1**	**+0.2**
MAKA				Sn	**Sg**	**11 24 54.4**	**+2.2**
HAPS	**Han Pijesak,Bl**	**1.72**	**1**	*ePg*	**Pb**	**11 24 30.6**	**-0.3**
HAPS				*eSg*	**Sg**	**11 24 56.3**	**+2.5**
HAPS	**Han Pijesak,Bl**	**1.72**	**1**	*ePn*	**Pb**	**11 24 29.9**	**-1.0**
HAPS				*eSn*	**Sn**	**11 24 51.3**	**-0.7**
RICI	**Ricice**	**1.73**	**311**	*ePn*	**Pb**	**11 24 30.6**	**-0.3**
SELS	**Selova**	**1.83**	**62**	*ePg*	**Pb**	**11 24 31.6**	**-1.1**
SELS				*eSg*	**Sg**	**11 24 57.7**	**+0.2**
DIVS	**Divibare**	**1.90**	**24**	*ePg*	**Pb**	**11 24 33.1**	**-0.9**
DIVS				*eSg*	**Sg**	**11 25 01.8**	**+2.1**
GRUS	**Gruza**	**2.02**	**40**	*ePg*	**Pb**	**11 24 35.0**	**-0.8**
GRUS				*eSg*	**Sg**	**11 25 03.2**	**-0.1**
NOCI	**Noci**	**2.10**	**222**	P	**Pn**	**11 24 33.4**	**-1.2**
	baz=220						
TRUS	**Trudelj**	**2.15**	**30**	*ePg*	**Pb**	**11 24 37.8**	**-0.4**
TRUS				*eSg*	**Sg**	**11 25 08.4**	**+0.7**
BARS	**Barje**	**2.19**	**77**	*ePg*	**Pb**	**11 24 37.4**	**-1.4**
BARS				*eSg*	**Sg**	**11 25 07.5**	**-1.4**
TEKS	**Tekeris**	**2.23**	**11**	*ePg*	**Pb**	**11 24 38.0**	**-1.5**
TEKS				*eSg*	**Sg**	**11 25 12.4**	**+2.3**
TEKS	**Tekeris**	**2.23**	**11**	*ePn*	**Pn**	**11 24 36.8**	**+0.4**
TEKS				*eSn*	**Sn**	**11 25 04.3**	**-0.1**
PRVS	**Prvonek**	**2.34**	**85**	*ePg*	**Pb**	**11 24 40.7**	**-0.8**
PRVS				*eSg*	**Sb**	**11 25 11.7**	**+0.9**
MATE	**Matera**	**2.38**	**225**	⇑P	**Pn**	**11 24 37.4**	**-1.1**
MATE				⇑S	**Sn**	**11 25 07.9**	**-0.3**
FNA	**Florina**	**2.43**	**130**	P	**Pn**	**11 24 40.5**	**+1.4**
	baz=131						
FNA				S	**Sb**	**11 25 12.5**	**-0.8**
	baz=131						
SGRT	**San Giovanni R**	**2.44**	**257**	P	**Pn**	**11 24 39.2**	**-0.1**
	baz=254						
MGRS	**Mrkonjic Grad**	**2.45**	**328**	*ePn*	**Pn**	**11 24 40.1**	**+0.7**
MGRS				*eSn*	**Sn**	**11 25 10.4**	**+0.6**
KIJV	**Kijevo**	**2.46**	**313**	*ePn*	**Pn**	**11 24 41.0**	**+1.5**
BLY	**Banja Luka**	**2.69**	**333**	*ePn*	**Pn**	**11 24 43.2**	**+0.5**
BLY				*eSn*	**Sn**	**11 25 16.3**	**+0.4**
ZIRJ	**Zirje**	**2.72**	**299**	*ePn*	**Pn**	**11 24 44.3**	**+1.2**
A050A	**Klekovaca**	**2.74**	**321**	*ePn*	**Pn**	**11 24 43.5**	**+0.1**
A050A				*eSn*	**Sn**	**11 25 17.4**	**+0.4**
MORI	**Morici**	**2.79**	**304**	*ePn*	**Pn**	**11 24 45.7**	**+1.7**
FRGS	**Fruska Gora**	**2.87**	**13**	⇑P	**Pn**	**11 24 46.4**	**+1.3**
FRGS				⇓S	**Sb**	**11 25 23.1**	**-2.7**
FRGS	**Fruska Gora**	**2.87**	**13**	*ePn*	**Pn**	**11 24 45.5**	**+0.4**
FRGS				*eSn*	**Sn**	**11 25 20.3**	**+0.1**
FRGS	**Fruska Gora**	**2.87**	**13**	*ePn*	**Pn**	**11 24 45.3**	**+0.2**
FRGS				*eSn*	**Sn**	**11 25 20.0**	**-0.2**
ZAPS	**Zavoj**	**2.88**	**70**	*ePn*	**Pn**	**11 24 46.8**	**+1.4**
ZAPS				*eSn*	**Sn**	**11 25 21.1**	**+0.5**
A051A	**Mrakovica**	**3.02**	**332**	*ePn*	**Pn**	**11 24 47.8**	**+0.5**
A051A				*eSn*	**Sn**	**11 25 23.7**	**-0.3**
IGT	**Igoumenitsa**	**3.03**	**159**	P	**Pn**	**11 24 47.1**	**-0.2**
	baz=159						
BLKB	**Belogradchik**	**3.03**	**64**	⇑P	**Pn**	**11 24 49.3**	**+1.8**
BLKB				⇑S	**Sn**	**11 25 26.4**	**+2.1**
MDVR	**Moldovita**	**3.16**	**39**	⇑P	**Pn**	**11 24 50.1**	**+0.9**
MDVR				⇓S	**Sn**	**11 25 29.2**	**+1.8**
VIRC	**Vir**	**3.41**	**306**	*ePn*	**Pn**	**11 24 54.2**	**+1.7**
HERR	**Herculane**	**3.58**	**44**	⇑P	**Pn**	**11 24 55.6**	**+0.7**
HERR				⇑S	**Sn**	**11 25 39.5**	**+1.9**
TIP	**Timpagrande**	**3.58**	**208**	⇑P	**Pn**	**11 24 54.3**	**-0.7**
BZS	**Buzias**	**3.79**	**30**	⇑P	**Pn**	**11 24 59.6**	**+1.8**
BZS				⇑S	**Sn**	**11 25 44.6**	**+1.7**
BOJS	**Bojanci**	**4.10**	**321**	*ePn*	**Pn**	**11 25 01.8**	**-0.3**
BOJS				*eSn*	**Sn**	**11 25 50.2**	**-0.4**
SURR	**Surduc**	**4.10**	**33**	⇓P	**Pn**	**11 25 04.2**	**+2.1**
GZR	**Gura Zlata**	**4.12**	**41**	⇑P	**Pn**	**11 25 04.3**	**+1.9**
GZR				⇑S	**Sn**	**11 25 52.7**	**+1.6**
CRES	**Cresnjev**	**4.26**	**325**	*ePn*	**Pn**	**11 25 04.6**	**+0.3**
CRES				*eSn*	**Sn**	**11 25 53.8**	**-0.7**
SIRR	**Siria**	**4.37**	**26**	⇑P	**Pn**	**11 25 07.7**	**+1.9**
SIRR				⇓S	**Sn**	**11 25 58.8**	**+1.6**
CEY	**Cerknica**	**4.67**	**318**	*ePn*	**Pn**	**11 25 10.5**	**+0.5**
CEY				*eSn*	**Sn**	**11 26 03.6**	**-1.1**
OBKA	**Obir**	**5.19**	**324**	*ePn*	**Pn**	**11 25 17.0**	**-0.1**
DRGR		**5.19**	**30**	⇑P	**Pn**	**11 25 19.2**	**+2.1**
MARR	**Marisel-Cluj**	**5.25**	**33**	⇓P	**Pn**	**11 25 19.1**	**+1.0**
MARR				⇓S	**Sn**	**11 26 20.6**	**+1.4**

NOU 08 11:24:08.0, 22.09S×169.94E, h0km, MLv3.8/8, Southeast of Loyalty Islands, Southeast of Loyalty Islands

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

PSA00	**Pilbara Seismi**	**21.09 210**	P	**P**	**11 29 39.1**	**-1.0**
RABL	**Rabaul**	**21.20 93**	P	**P**	**11 29 40.8**	**-0.6**
WRKA	**Warakurna**	**21.72 186**	P	**P**	**11 29 46.8**	**-0.1**
CTA	**Charters Tower**	**22.36 139**	P	**P**	**11 29 55.2**	**+1.3**
	comp=Z,3.1nm,0.5s,baz=321,slow=12,SNR=1.3					
CTA			LR	LR	11 39 57.2	
	comp=Z,251nm,20.4s,baz=297,slow=40					
	comp=Z,3.1nm,0.5s					
LEM	**Lembang**	**23.48 261**	LR	LR	11 40 53.2	
	comp=Z,232nm,18.8s,baz=70,slow=41					
CBJI	**Citeko**	**24.19 262**	P	**P**	**11 30 16.1**	**+4.0**
OOD	**Oodnadatta**	**24.74 170**	P	**P**	**11 30 18.1**	**+1.2**
MEEK	**Meekatharra**	**26.00 206**	P	**P**	**11 30 27.6**	**-0.9**
MULG	**Mulgathing**	**26.96 174**	P	**P**	**11 30 38.4**	**+1.4**
LHSI	**Lahat**	**27.37 268**	P	**P**	**11 30 35.6**	**-5.3**
FORT	**Forrest**	**27.43 185**	P	**P**	**11 30 42.0**	**+0.8**
FORT			IAmb	IAmb	11 31 02.2	
	comp=Z,13nm,0.7s					
FORT	**Forrest**	**27.43 185**	P	**P**	**11 30 41.3**	**+0.1**
LCRK	**Leigh Creek**	**27.82 166**	P	**P**	**11 30 46.2**	**+1.4**
KMBL	**Kambalda**	**29.16 196**	P	**P**	**11 30 56.8**	**+0.2**
MORW	**Morawa**	**29.24 207**	P	**P**	**11 30 57.6**	**+0.2**
BBOO	**Buckleboo**	**29.71 171**	P	**P**	**11 31 02.5**	**+1.0**
STKA	**Stephens Creek**	**30.10 162**	P	**P**	**11 31 05.7**	**+0.7**
STKA	**Stephens Creek**	**30.10 162**	P	**P**	**11 31 06.1**	**+1.1**
STKA	**Stephens Creek**	**30.10 162**	P	**P**	**11 31 06.1**	**+1.1**
	comp=Z,1.6nm,0.4s,baz=333,slow=6.9,SNR=8.9					
STKA			LR	LR	11 46 01.7	
	comp=Z,167nm,18.1s,baz=15,slow=42					
	comp=Z,1.6nm,0.4s					
JOW	**Kunigami**	**30.11 355**	LR	LR	11 42 01.6	
	comp=Z,130nm,18.8s,baz=16,slow=34					
BLDU	**Ballidu**	**30.28 205**	P	**P**	**11 31 06.3**	**-0.3**
MUN	**Mundaring**	**31.68 204**	P	**P**	**11 31 18.6**	**-0.3**
NWAO	**Narrogin (SRO)**	**32.11 202**	P	**P**	**11 31 22.0**	**-0.7**
NWAO	**Narrogin (SRO)**	**32.11 202**	P	**P**	**11 31 23.0**	**+0.3**
ARPS	**Mount Arapiles**	**34.75 165**	P	**P**	**11 31 47.0**	**+1.4**
CAN	**Canberra**	**35.95 154**	P	**P**	**11 31 57.9**	**+1.8**
CAN			IAmb	IAmb	11 32 14.4	
	comp=Z,23nm,1.4s					
CAN	**Canberra**	**35.95 154**	P	**P**	**11 31 58.0**	**+1.8**
JNU	**Nakatsue**	**36.27 360**	LR	LR	11 47 31.7	
	comp=Z,58nm,18.9s,baz=187,slow=38					
NJ2	**Nanjing**	**37.02 343**	*eP*	**P**	**11 32 07.3**	**+2.1**
NJ2			pmax	pmax		
	comp=Z,9.0nm,0.5s					
CMAR	**Chiang Mai Arr**	**38.24 306**	P	**P**	**11 32 16.5**	**+0.8**
	comp=Z,2.6nm,0.9s,baz=130,slow=5.9,SNR=5.4					
	comp=Z,2.6nm,0.9s					
CHTO	**Chiang Mai**	**38.42 306**	P	**P**	**11 32 16.9**	**-0.4**
CHTO			IAmb	IAmb	11 32 48.9	
	comp=Z,7.3nm,1.1s					
MJAR	**Matsushiro Arr**	**40.25 9**	P	**P**	**11 32 30.5**	**-1.8**
	comp=Z,3.4nm,0.9s,baz=196,slow=9.0,SNR=5.1					
	comp=Z,3.4nm,0.9s					
KSRS	**Korea Array**	**40.68 356**	P	**P**	**11 32 35.4**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=173,slow=10,SNR=6.2					
KSRS			LR	LR	11 49 01.0	
	comp=Z,63nm,20.8s,baz=170,slow=36					
	comp=Z,1.4nm,0.6s					
PZH	**PanZhiHua**	**40.95 318**	P	**P**	**11 32 38.2**	**-0.1**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.6s					
PZH			pmax	pmax		
	comp=Z,120nm,5.1s					
XAN	**Xi'an**	**42.59 333**	P	**P**	**11 32 51.3**	**-0.2**
XAN			pmax	pmax		
	comp=Z,9.0nm,1.0s					
USA0B	**Ussuriysk Arra**	**47.34 1**	P	**P**	**11 33 29.2**	**+0.2**
USRK	**Ussuriysk Ar.**	**47.34 1**	P	**P**	**11 33 29.6**	**+0.6**
USRK	**Ussuriysk Ar.**	**47.34 1**	P	**P**	**11 33 29.4**	**+0.4**
	comp=Z,3.2nm,0.7s,baz=188,slow=8.0,SNR=6.0					
	comp=Z,3.2nm,0.7s					
HHC	**Hu-ho-hao-te**	**47.41 340**	*eP*	**P**	**11 33 31.7**	**+1.8**
HHC			pP	sP	11 33 42.6	+0.4
HHC			pmax	pmax		
	comp=Z,15nm,0.6s					
HHC			pmax	pmax		
	comp=Z,68nm,4.0s					
MDJ	**Mudanjiang**	**47.76 359**	P	**P**	**11 33 33.6**	**+1.3**
MDJ			pmax	pmax		
	comp=Z,8.0nm,1.1s					
MDJ			pmax	pmax		
	comp=Z,260nm,3.5s					
ASAJ	**Asahikawa**	**48.39 11**	LR	LR	11 53 09.7	
	comp=Z,62nm,20.9s,baz=186,slow=35					
PALK	**Pallekele**	**51.23 282**	LR	LR	11 57 31.0	
	comp=Z,80nm,19.1s,baz=226,slow=38					
GTA	**Gaotai**	**51.28 329**	*eP*	**P**	**11 34 00.3**	**+0.8**
GTA			pP	sP	11 34 15.0	+3.1
GTA			pmax	pmax		
	comp=Z,4.0nm,0.9s					
KLR	**Kul'dur**	**52.36 1**	P	**P**	**11 34 07.9**	**+0.7**
	comp=Z,2.2nm,0.8s,baz=219,slow=2.0,SNR=8.7					
KLR			LR	LR	11 56 09.3	
	comp=Z,44nm,19.9s,baz=176,slow=36					
	comp=Z,2.2nm,0.8s					
RPZ	**Rata Peaks**	**53.60 145**	LR	LR	11 57 19.1	
	comp=Z,170nm,18.7s,baz=254,slow=36					
ULN	**Ulaanbaatar**	**55.12 341**	P	**P**	**11 34 27.9**	**+0.3**
ULN			IAmb	IAmb	11 34 29.9	
	comp=Z,5.8nm,1.1s					
SONM	**Songino Array**	**55.32 340**	P	**P**	**11 34 30.0**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=164,slow=8.9,SNR=8.4					
	comp=Z,1.5nm,0.8s					
PETK	**Petropavlovsk-**	**60.58 18**	LR	LR	11 58 46.3	
	comp=Z,34nm,21.8s,baz=185,slow=34					
WMQ	**Urumqi**	**60.89 325**	*eP*	**P**	**11 35 08.6**	**+0.5**
WMQ			pmax	pmax		
	comp=Z,17nm,1.3s					
YAK	**Yakutsk**	**65.20 359**	P	**P**	**11 35 36.6**	**+0.5**
	comp=Z,19nm,0.7s,baz=39,slow=2.1,SNR=5.4					
	comp=Z,19nm,0.7s					
MK31	**Makanchi Array**	**65.73 326**		**P**	**11 35 40.2**	**+0.2**
MK31			IAmb	IAmb	11 35 57.7	
	comp=Z,4.7nm,0.8s					
MKAR	**Makanchi Array**	**65.73 326**		**P**	**11 35 40.6**	**+0.6**
MKAR	**Makanchi Array**	**65.73 326**	P	**P**	**11 35 40.8**	**+0.8**
	comp=Z,3.7nm,0.7s,baz=125,slow=7.6,SNR=27					
	comp=Z,3.7nm,0.7s					
MAKZ	**Makanchi**	**65.91 325**		**P**	**11 35 41.4**	**+0.2**
KSH	**Kashi**	**66.01 316**	P	**P**	**11 35 43.1**	**+1.0**
KSH			pmax	pmax		
	comp=Z,3.0nm,0.9s					
NRN	**Naryn**	**66.86 318**		**P**	**11 35 47.9**	**+0.2**
NRN			IAmb	IAmb	11 35 49.2	
	comp=Z,2.5nm,0.9s					
SEY	**Seymchan**	**68.06 10**	P	**P**	**11 35 55.8**	**+1.4**
	comp=Z,4.9nm,0.8s,baz=168,slow=4.7,SNR=18					
	comp=Z,4.9nm,0.8s					
AAK	**Ala-Archa**	**68.40 319**	LR	LR	12 10 40.2	
	comp=Z,38nm,18.4s,baz=128,slow=40					
ZALV	**Zalesovo Beam**	**68.76 333**	P	**P**	**11 35 58.0**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=121,slow=5.7,SNR=4.9					
	comp=Z,0.9nm,0.5s					
KURBB	**Kurchatov Arra**	**69.92 327**	P	**P**	**11 36 06.8**	**+0.6**
	comp=Z,1.8nm,0.5s,baz=126,slow=5.4,SNR=5.6					
KURK	**Kurchatov**	**69.92 328**	P	**P**	**11 36 06.5**	**+0.2**
KKAR	**Karatay Array**	**71.25 318**	P	**P**	**11 36 14.0**	**-0.6**
TIXI	**Tiksi**	**74.86 359**	LR	LR	12 11 52.1	
	comp=Z,34nm,18.6s,baz=192,slow=38					
BVAR	**Borovoye Array**	**75.50 327**	P	**P**	**11 36 39.8**	**+0.4**
	comp=Z,3.4nm,0.9s,baz=123,slow=7.3,SNR=14					
	comp=Z,3.4nm,0.9s					
BRVK	**Borovoye**	**75.57 327**	P	**P**	**11 36 40.0**	**+0.2**
GEYT	**Alibeck**	**78.60 310**	P	**P**	**11 36 57.6**	**+0.4**
	comp=Z,3.3nm,0.8s,baz=154,slow=4.1,SNR=5.4					
	comp=Z,3.3nm,0.8s					
QSPA	**South Pole Qui**	**86.61 180**	P	**P**	**11 37 39.2**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=318,slow=1.2,SNR=1.5					
	comp=Z,0.3nm,0.4s					
RAYN	**Ar Rayn**	**87.14 294**	P	**P**	**11 37 41.4**	**-0.4**
RAYN			IAmb	IAmb	11 37 43.7	
	comp=Z,6.0nm,0.9s					
ILAR	**Eielson Array**	**89.66 25**	P	**P**	**11 37 51.6**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=250,slow=5.4,SNR=5.5					
	comp=Z,0.4nm,0.7s					
EIL	**Elat**	**96.84 299**	LR	LR	12 31 17.4	
	comp=Z,59nm,18.2s,baz=246,slow=41					
AKASG	**Malin Array Be**	**100.00 321**	LR	LR	12 27 56.0	
	comp=Z,40nm,20.1s,baz=236,slow=38					

BUC 08 11:44:42.6±0.2, 46°02N×21°85E, h10km±3km, ml0.8/5, 12C-2D, Error ellipse: s-maj=2.7km s-min=1.5km az=89.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIRR	**Siria**	**0.28 331**		⇑P	Pg	11 44 47.9	-0.4
SIRR				⇑S	Sg	11 44 52.9	+0.8
SURR	**Surduc**	**0.33 145**		⇓P	Pg	11 44 48.3	-0.9
SURR				⇑S	Sg	11 44 53.5	-0.1
BZS	**Buzias**	**0.44 202**		⇑P	Pg	11 44 51.0	-0.2
BZS				⇓S	Sg	11 44 57.5	+0.5
GZR	**Gura Zlata**	**0.90 134**		⇑P	Pb	11 45 00.9	+0.4
GZR				⇑S	Sn	11 45 13.7	-0.9
DRGR		**0.97 37**		⇑P	Pg	11 45 01.1	-0.2
DRGR				⇑S	Sb	11 45 15.0	+0.5
MARR	**Marisel-Cluj**	**1.09 53**		⇑P	Pn	11 45 04.0	-0.1
MARR				⇑S	Sn	11 45 18.9	-0.4
HERR	**Herculane**	**1.21 161**		⇑P	Pn	11 45 05.4	-0.2
HERR				⇑S	Sn	11 45 22.3	+0.3

BEO 08 11:45:33.9±1.0, 44°15N×22°13E, h0km, ML1.3/4, 8C-2D, Mining explosion., Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAGS	**Zajecar**	**0.34 167**		*e*Pg	Pg	11 45 39.9	-0.5
ZAGS				*e*Sg	Sg	11 45 45.2	+0.4
BLKB	**Belogradchik**	**0.66 143**		⇓P	Pg	11 45 45.7	-0.7
BLKB				⇑S	Sg	11 45 55.7	+0.8
MDVR	**Moldovita**	**0.70 335**		⇑P	Pb	11 45 48.4	-0.7
MDVR				⇑S	Sg	11 45 57.4	+1.0
HERR	**Herculane**	**0.77 16**		⇑P	Pb	11 45 49.4	-0.7
HERR				⇑S	Sb	11 46 00.1	-1.0
ZAPS	**Zavoj**	**0.95 157**		*e*Pg	Pg	11 45 51.0	-1.0
ZAPS				*e*Sg	Sg	11 46 03.2	-1.1
GRUS	**Gruza**	**1.05 256**		*e*Pg	Pg	11 45 53.3	-0.7
GRUS				*e*Sg	Sg	11 46 07.5	-0.1
SELS	**Selova**	**1.18 219**		*e*Pg	Pg	11 45 56.1	-0.4
SELS				*e*Sg	Sg	11 46 11.8	+0.1
GZR	**Gura Zlata**	**1.33 20**		⇑P	Pg	11 45 59.6	+0.2
GZR				⇑S	Sn	11 46 18.7	+0.4
BZS	**Buzias**	**1.52 346**		⇑P	Pn	11 46 02.3	+0.1
BZS				⇓S	Sg	11 46 22.0	-0.6

*IDC **08** 11:56:55.0±1.0, 7°61N×126°57E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=20.0km s-min=14.0km az=142.0*

ISC 08 11:57:00.3±1.2, 7°6N±0°2×126°5E±0°2, h35km, n6, σ0s54/7, mb3.8/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.02 242**		Pg	**Pn**	**11 57 18.1**	**0.0**
	77nm,0.3s,baz=286,slow=5.3,SNR=2.0						
DAV				Lg	Lg	11 57 30.8	
	204nm,0.3s,baz=324,slow=22,SNR=12						
WRA	**Warramunga Arr**	**28.40 164**		P	**P**	**12 02 51.3**	**-0.3**
	0.5nm,0.7s,baz=344,slow=9.8,SNR=5.6						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**31.87 167**		P	**P**	**12 03 22.1**	**-0.2**
	0.3nm,0.5s,baz=344,slow=6.9,SNR=14						
ASAR				PcP	**PcP**	**12 06 13.6**	**+0.9**
	0.2nm,0.5s,baz=349,slow=2.4,SNR=4.1						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**54.31 324**		P	**P**	**12 06 23.4**	**+0.1**
	0.8nm,0.8s,baz=122,slow=8.2,SNR=8.4						
	0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**58.42 326**		P	**P**	**12 06 52.3**	**-0.1**
	1.2nm,0.8s,baz=128,slow=6.1,SNR=8.6						
BVAR	**Borovoye Array**	**64.01 326**		P	**P**	**12 07 29.9**	**-0.3**
	1.0nm,0.9s,baz=126,slow=7.5,SNR=4.4						
	1.0nm,0.9s						

*NOU **08** 12:09:10.6, 37°30S×179°49E, h0km, MLv3.9/7, Off E. Coast of N. Island, N.Z.*
*WEL **08** 12:09:16.2±2.9, 37°S±9°×17°9E±2°4, h12km, M3.2/23, ML3.4/27, MLv3.2/23, Error ellipse: s-maj=0.0km s-min=0.0km az=73.4*

ISC 08 12:09:13.9±3.7, 37°25S±0°10×179°3E±0°2, h10km, n54, σ0s86/54, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.82 248**		P	**Pg**	**12 09 28.9**	**-0.8**
MXZ	**Matakaoa Point**	**0.82 248**		P	**Pg**	**12 09 28.9**	**-0.8**
WMGZ	**Waiomatatini S**	**0.88 230**		P	**Pb**	**12 09 32.2**	**+1.0**
PKGZ	**Pakihiroa**	**1.14 236**		P	**Pg**	**12 09 35.3**	**-0.4**
PUZ	**Puketiti**	**1.14 224**		P	**Pg**	**12 09 35.9**	**+0.1**
HAZ	**Te Kaha**	**1.28 246**		P	**Pn**	**12 09 36.1**	**-1.7**
TWGZ	**Tauwhareparae**	**1.37 227**		P	**Pn**	**12 09 39.3**	**+0.1**
RUGZ	**Raukumara Rang**	**1.45 240**		P	**Pn**	**12 09 40.2**	**0.0**
CNGZ	**Carnagh Statio**	**1.49 214**		P	**Pn**	**12 09 41.7**	**+1.0**
TKGZ	**Te Karaka**	**1.63 223**		P	**Pn**	**12 09 42.3**	**-0.3**
MWZ	**Matawai**	**1.75 231**		P	**Pn**	**12 09 43.9**	**-0.4**
RIGZ	**Rimuhau**	**1.87 219**		P	**Pn**	**12 09 45.9**	**-0.1**
RAGZ	**Rawiri**	**1.92 229**		P	**Pn**	**12 09 46.9**	**+0.3**
URZ	**Urewera**	**1.98 239**		P	**Pn**	**12 09 47.7**	**+0.3**
URZ	**Urewera**	**1.98 239**		P	**Pn**	**12 09 47.5**	**+0.1**
SNGZ	**Shannon Statio**	**2.15 224**		P	**Pn**	**12 09 49.3**	**-0.5**
EDRZ	**Edgecumbe**	**2.18 246**		P	**Pn**	**12 09 50.2**	**0.0**
RTZ	**Ruatahuna**	**2.26 232**		P	**Pn**	**12 09 51.3**	**-0.1**
MUGZ	**Murupara**	**2.32 237**		P	**Pn**	**12 09 51.9**	**-0.2**
RAHZ	**Arahi**	**2.39 225**		P	**Pn**	**12 09 53.0**	**-0.1**
RRRZ	**Republican Roa**	**2.43 243**		P	**Pn**	**12 09 53.8**	**+0.2**
TGRZ	**Tauranga**	**2.43 258**		P	**Pn**	**12 09 53.1**	**-0.6**
MTHZ	**Maungataniwha**	**2.49 229**		P	**Pn**	**12 09 54.6**	**+0.1**
HLRZ	**Highlands Stat**	**2.51 246**		P	**Pn**	**12 09 55.0**	**+0.2**
PRRZ	**Plateau Road**	**2.59 240**		P	**Pn**	**12 09 55.3**	**-0.5**
ALRZ	**Allen Road**	**2.65 240**		P	**Pn**	**12 09 56.5**	**-0.3**
NMHZ	**Naumai**	**2.67 226**		P	**Pn**	**12 09 57.4**	**+0.4**
MRHZ	**Matea Rd**	**2.75 234**		P	**Pn**	**12 09 57.7**	**-0.4**
KUZ	**Kuaotunu**	**2.88 279**		P	**Pn**	**12 09 59.7**	**-0.1**
KUZ	**Kuaotunu**	**2.88 279**		P	**Pn**	**12 09 57.9**	**-1.9**
BKZ	**Black Stump Fm**	**2.90 228**		P	**Pn**	**12 09 59.8**	**-0.4**
BKZ	**Black Stump Fm**	**2.90 228**		P	**Pn**	**12 09 59.7**	**-0.4**
MCHZ	**McNeill Hill**	**2.98 222**		P	**Pn**	**12 10 00.6**	**-0.5**
KWHZ	**Kaweka Forest**	**3.11 225**		P	**Pn**	**12 10 02.1**	**-1.0**
GRZ	**Great Barrier**	**3.21 287**		P	**Pn**	**12 10 05.1**	**+0.7**
MKAZ	**Moumakai**	**3.28 271**		P	**Pn**	**12 10 04.2**	**-1.1**
WIAZ	**Waiheke Island**	**3.33 277**		P	**Pn**	**12 10 06.4**	**+0.3**
BHHZ	**Black Hill Sta**	**3.36 227**		P	**Pn**	**12 10 05.7**	**-0.8**
OTVZ	**Oturere**	**3.42 235**		P	**Pn**	**12 10 06.6**	**-0.7**
SNVZ	**South Ngauruho**	**3.44 235**		P	**Pn**	**12 10 07.0**	**-0.8**
ETAZ	**East Tamaki Re**	**3.48 274**		P	**Pn**	**12 10 08.1**	**+0.1**
MOVZ	**Moawhango**	**3.50 231**		P	**Pn**	**12 10 07.7**	**-0.7**
MBAZ	**Motutapu North**	**3.53 277**		P	**Pn**	**12 10 08.7**	**+0.1**
FWVZ	**Far West T-bar**	**3.54 234**		P	**Pn**	**12 10 08.5**	**-0.5**
WNVZ	**Wahianoa**	**3.55 233**		P	**Pn**	**12 10 08.4**	**-0.8**
EPAZ	**Eden Park BICE**	**3.63 275**		P	**Pn**	**12 10 07.3**	**-2.8**
AWAZ	**Awhitu Peninsu**	**3.69 272**		P	**Pn**	**12 10 11.9**	**+0.9**
HIZ	**Hauiti**	**3.71 249**		P	**Pn**	**12 10 11.9**	**+0.7**
HIZ	**Hauiti**	**3.71 249**		P	**Pn**	**12 10 11.7**	**+0.6**
RVAZ	**Riverhead Bore**	**3.78 276**		P	**Pn**	**12 10 12.7**	**+0.5**
BFZ	**Birch Farm**	**4.15 214**		P	**Pn**	**12 10 15.1**	**-2.2**
WCZ	**Waipu Caves**	**4.17 287**		P	**Pn**	**12 10 17.3**	**-0.2**
PKE	**Pukeiti**	**4.58 243**		P	**Pn**	**12 10 25.5**	**+2.2**
OUZ	**Omahuta**	**5.01 292**		P	**Pn**	**12 10 29.5**	**+0.5**

*IDC **08** 12:15:32.5±1.8, 3°78S×129°76E, h0km, mb3.8/5, mbtmp3.8/5, MS3.0/3, Error ellipse: s-maj=215.5km s-min=23.3km az=70.0*

ISC 08 12:15:34.1±1.3, 4°2S±0°4×129°9E±°, h10km, n9, σ2s21/7, mb3.8/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**11.72 343**		LR	LR	12 23 19.2	
	comp=Z,108nm,18.7s,baz=318,slow=40						
WRA	**Warramunga Arr**	**16.48 162**		Pn	**Pn**	**12 19 23.9**	**-1.6**
	0.4nm,0.3s,baz=345,slow=11,SNR=12						
WRA				Sn	Sn	12 22 16.4	-12
	baz=347,slow=23,SNR=1.3						
ASAR	**Alice Springs**	**19.92 167**		P	**P**	**12 20 08.8**	**+2.7**
	8.4nm,0.5s,baz=351,slow=11,SNR=100						
ASAR				S	**S**	**12 23 48.0**	**-2.4**
	0.5nm,0.7s,baz=358,slow=26,SNR=2.1						
	8.4nm,0.5s						
STKA	**Stephens Creek**	**29.95 158**		P	**P**	**12 21 43.5**	**+0.9**
	0.9nm,0.4s,baz=333,slow=14,SNR=2.7						
	0.9nm,0.4s						
JNU	**Nakatsue**	**37.14 2**		LR	LR	12 39 45.8	
	comp=Z,20nm,18.1s,baz=208,slow=40						
KSRS	**Korea Array**	**41.44 359**		LR	LR	12 39 26.5	
	comp=Z,14nm,21.6s,baz=35,slow=35						
SONM	**Songino Array**	**55.50 342**		P	**P**	**12 25 08.2**	**-1.2**
	0.2nm,0.6s,baz=157,slow=8.9,SNR=1.6						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**65.39 327**		P	**P**	**12 26 16.4**	**-0.5**
	0.2nm,0.4s,baz=122,slow=7.4,SNR=4.9						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**75.21 328**		P	**P**	**12 27 18.0**	**+1.1**
	0.8nm,0.7s,baz=115,slow=9.7,SNR=1.4						
	0.8nm,0.7s						

*IDC **08** 12:16:03.3±23.0, 26°64S×179°86W, h510km±274km, mb3.4/6, mbtmp4.3/6, Error ellipse: s-maj=86.0km s-min=31.8km az=80.0*

ISC 08 12:16:02.5±1.3, 26°7S±0°3×179°8W±0°2, h500km, n6, σ0s48/6, mb4.0/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**31.74 275**		P	**P**	**12 21 45.4**	**+0.4**
	5.2nm,0.4s,baz=96,slow=10,SNR=12						
	5.2nm,0.4s						
STKA	**Stephens Creek**	**33.92 252**		P	**P**	**12 22 03.6**	**+0.2**
	1.5nm,0.4s,baz=89,slow=14,SNR=5.8						
	1.5nm,0.4s						
ASAR	**Alice Springs**	**41.80 264**		P	**P**	**12 23 07.3**	**-0.7**
	3.5nm,0.6s,baz=97,slow=8.0,SNR=23						
	3.5nm,0.6s						
WRA	**Warramunga Arr**	**42.44 269**		P	**P**	**12 23 12.8**	**-0.3**
	4.6nm,0.4s,baz=104,slow=8.8,SNR=20						
	4.6nm,0.4s						
QSPA	**South Pole Qui**	**63.42 180**		P	**P**	**12 25 42.4**	**0.0**
	1.1nm,0.6s,baz=349,slow=1.1,SNR=8.0						
	1.1nm,0.6s						
NVAR	**Mina Array Bea**	**86.64 44**		P	**P**	**12 27 52.8**	**0.0**
	0.6nm,0.7s,baz=223,slow=9.2,SNR=4.8						
	0.6nm,0.7s						

*IDC **08** 12:17:41.1±0.7, 37°21S×176°69E, h293km±6km, mb3.8/10, mbtmp4.4/10, Error ellipse: s-maj=24.4km s-min=14.1km az=39.0*
*NOU **08** 12:17:42.8, 37°67S×176°42E, h314km, mb4.9/19, North Island, New Zealand*
*NEIC **08** 12:17:43.7±1.9, 37°67S±0°09×176°3E±0°1, h305km±7km, mb4.1/10, Error ellipse: s-maj=13.3km s-min=13.0km az=140.0*
*WEL **08** 12:17:46.3, 37°62S×176°43E, h315km, ML4.7, Mw4.4, Moment Tensor Solution. s3 Moment tensor: Mrr241.37; Mθθ318.63; Mφφ-560.00; Mrθ249.93; Mrφ138.87; Mθφ33.48; Fault plane solution: NP1: φ±151.00000°, δ63.00000°, λ30.00000°. NP2:φ±46.00000°, δ64.00000°, λ150.00000°. Principal axes: T 547.6200, Plg39.0000°, Azm8.0000°; N 33.8400, Plg51.0000°, Azm189.0000°; P -581.4600, Plg1.0000°, Azm99.0000°; BAY OF PLENTY REGION*
*WEL **08** 12:17:46.3±0.6, 38°S±4°×17°6E±°, h279km±5km, M4.7/120, MLv4.7/120 Error ellipse: s-maj=0.0km s-min=0.0km az=64.0*

ISC 08 12:17:43.1±0.6, 37°67S±0°06×176°35E±0°06, h308km±5km, n263, σ1s16/282, mb4.1/15, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGRZ	**Tauranga**	**0.09 226**		P	**Pn**	**12 18 22.0**	**0.0**
KARZ	**Kaharoa**	**0.36 193**		P	**Pn**	**12 18 22.6**	**+0.3**
KMRZ	**Kaimai**	**0.37 240**		P	**Pn**	**12 18 22.7**	**+0.3**
MARZ	**Manawahe**	**0.41 141**		P	**Pn**	**12 18 22.8**	**+0.3**
OMRZ	**Omania**	**0.44 177**		P	**Pn**	**12 18 21.2**	**-1.3**
NGRZ	**Ngongotaha**	**0.45 196**		P	**Pn**	**12 18 23.0**	**+0.5**
MKRZ	**Makatiti**	**0.48 168**		P	**Pn**	**12 18 23.7**	**+1.0**
UTU	**Utuhina**	**0.53 193**		P	**Pn**	**12 18 23.5**	**+0.8**
EDRZ	**Edgecumbe**	**0.54 145**		P	**Pn**	**12 18 23.1**	**+0.3**
EDRZ				S	**S**	**12 18 49.5**	**-4.9**
TARZ	**Mount Tarawera**	**0.58 167**		P	**Pn**	**12 18 23.4**	**+0.5**
HLRZ	**Highlands Stat**	**0.59 179**		P	**Pn**	**12 18 23.4**	**+0.6**
HSRZ	**Hossack Road**	**0.65 187**		P	**Pn**	**12 18 23.6**	**+0.6**
TOZ	**Tahuroa Road**	**0.67 264**			**Pn**	**12 18 23.6**	**+0.6**
TOZ	**Tahuroa Road**	**0.67 264**		P	**Pn**	**12 18 23.7**	**+0.6**
WIZ	**White Island**	**0.69 79**		P	**Pn**	**12 18 23.2**	**0.0**
RRRZ	**Republican Roa**	**0.69 169**		P	**Pn**	**12 18 23.4**	**+0.2**
GRRZ	**Galatos Road**	**0.71 195**		P	**Pn**	**12 18 23.9**	**+0.7**
HRRZ	**Handcock Road**	**0.73 184**		P	**Pn**	**12 18 23.7**	**+0.4**
PRRZ	**Plateau Road**	**0.83 177**		P	**Pn**	**12 18 23.8**	**+0.2**
PRRZ				S	**S**	**12 18 54.8**	**-1.1**
URZ	**Urewera**	**0.85 135**		P	**Pn**	**

WTAZ	Waiatarua	1.59 297	P		Pn	12 18 28.5	+0.8	
ABAZ	Army Bay	1.61 311	P		Pn	12 18 28.4	+0.5	
SNVZ	South Ngauruho	1.62 200	P		Pn	12 18 28.5	+0.6	
NGZ	Ngauruhoe	1.62 201	P		Pn	12 18 28.5	+0.6	
WMGZ	Waiomatatini S	1.65 96	P		Pn	12 18 27.8	-0.2	
COVZ	Chateau Observ	1.66 202	P		Pn	12 18 28.7	+0.5	
RVAZ	Riverhead Bore	1.67 302	P		Pn	12 18 28.5	+0.3	
ARHZ	Aropaoanui	1.68 162	P		Pn	12 18 29.1	+1.0	
ARHZ			S		S	12 19 03.6	-0.4	
CNGZ	Carnagh Statio	1.68 120	P		Pn	12 18 28.9	+0.7	
TUVZ	Tukino	1.69 199	P		Pn	12 18 29.1	+0.7	
FWVZ	Far West T-bar	1.71 201	P		Pn	12 18 29.1	+0.5	
KNZ	Kokohu	1.71 143	P		Pn	12 18 28.8	+0.4	
KNZ			S		S	12 19 03.0	-1.5	
MAVZ	Matarangi	1.71 201	P		Pn	12 18 29.3	+0.5	
WHVZ	Whangaehu Hut	1.72 200	P		Pn	12 18 29.5	+0.7	
PRGZ	Paritu Road	1.74 137	P		Pn	12 18 29.3	+0.7	
TRVZ	Turoa	1.75 201	P		Pn	12 18 29.6	+0.6	
KWHZ	Kaweka Forest	1.76 178	P		Pn	12 18 29.6	+0.8	
KWHZ			S		S	12 19 04.4	-0.8	
WNVZ	Wahianoa	1.76 199	P		Pn	12 18 29.5	+0.6	
MCHZ	McNeill Hill	1.80 171	P		Pn	12 18 30.2	+1.2	
MOVZ	Moawhango	1.80 195	P		Pn	12 18 29.4	+0.3	
MOVZ			S		S	12 19 03.6	-2.2	
PKVZ	Pokaka	1.80 205	P		Pn	12 18 29.8	+0.6	
BHHZ	Black Hill Sta	1.83 187	P		Pn	12 18 29.9	+0.5	
BHHZ			S		S	12 19 04.6	-1.7	
MTVZ	Mangateitei	1.85 202	P		Pn	12 18 30.1	+0.7	
VRZ	Vera Road	1.92 220	P		Pn	12 18 30.9	+1.0	
MHGZ	Mahia Peninsul	1.93 141	P		Pn	12 18 30.8	+0.8	
KRHZ	Kereru	1.98 179	P		Pn	12 18 30.9	+0.5	
KRHZ			S		S	12 19 03.7	-1.1	
CKHZ	Cape Kidnapper	2.07 164	P		Pn	12 18 32.2	+1.1	
MHEZ	Mangahewa	2.12 228	P		Pn	12 18 33.6	+2.1	
KAHZ	Kahuranaki	2.17 169	P		Pn	12 18 33.0	+1.1	
KAHZ			S		S	12 19 11.5	+0.7	
PNHZ	Pukenui	2.25 183	P		Pn	12 18 33.0	+0.4	
WAZ	Wanganui	2.34 207	P		Pn	12 18 34.0	+0.6	
LREZ	Lake Rotokare	2.35 220	P		Pn	12 18 34.8	+1.4	
WCZ	Waipu Caves	2.35 316	P		Pn	12 18 33.7	+0.1	
NEZ	North Egmont	2.38 227	P		Pn	12 18 35.5	+1.7	
PREZ	Palmer Road	2.40 225	P		Pn	12 18 35.4	+1.6	
PXZ	Pawanui	2.40 170	P		Pn	12 18 34.6	+0.9	
WPHZ	Waipukurau	2.40 178	P		Pn	12 18 34.5	+0.8	
PKE	Pukeiti	2.40 230	P		Pn	12 18 35.3	+1.5	
TSZ	Takapari Road	2.41 187	P		Pn	12 18 34.3	+0.4	
KHEZ	Kahui Hut	2.45 228	P		Pn	12 18 36.2	+1.9	
KHEZ	Kahui Hut	2.45 228	P		Pn	12 18 36.0	+1.6	
NBEZ	Newall Road No	2.52 230	P		Pn	12 18 36.6	+1.8	
NMEZ	Namu Road	2.61 227	P		Pn	12 18 37.1	+1.5	
PRHZ	Porangahau	2.61 175	P		Pn	12 18 36.6	+0.9	
DVHZ	Dannevirke	2.63 183	P		Pn	12 18 36.4	+0.5	
OHWZ	Ohakea	2.66 197	P		Pn	12 18 37.3	+1.2	
POWZ	Post Office Ro	2.76 189	P		Pn	12 18 37.3	+0.3	
ANWZ	Angora Road	2.79 178	P		Pn	12 18 38.4	+1.1	
PRWZ	Pori Road	2.90 186	P		Pn	12 18 39.1	+0.7	
BFZ	Birch Farm	3.01 181			Pn	12 18 40.1	+0.7	
BFZ	Birch Farm	3.01 181	P		Pn	12 18 40.3	+0.9	
BFZ	Birch Farm	3.01 181	P		Pn	12 18 40.0	+0.5	
MRZ	Mangatainoka R	3.05 191			Pn	12 18 40.0	+0.2	
MRZ	Mangatainoka R	3.05 191	P		Pn	12 18 39.9	+0.2	
TIWZ	Tintock	3.13 186	P		Pn	12 18 41.1	+0.5	
CPWZ	Castlepoint	3.24 182	P		Pn	12 18 42.9	+1.2	
OGWZ	Otaki Gorge	3.28 196	P		Pn	12 18 42.3	+0.2	
HOWZ	Holdsworth Sta	3.29 191	P		Pn	12 18 42.1	-0.1	
OUZ	Omahuta	3.30 317	P		Pn	12 18 42.6	+0.2	
OUZ	Omahuta	3.30 317	P		Pn	12 18 43.0	-0.1	
KIW	Kapiti Island	3.38 199	P		Pn	12 18 43.2	+0.1	
TMWZ	Te Maipa	3.46 186	P		Pn	12 18 44.3	+0.4	
MTW	Mount Morrison	3.55 190	P		Pn	12 18 44.7	-0.1	
CAW	Cannon Point	3.58 196	P		Pn	12 18 45.1	0.0	
DUWZ	D'Urville Isla	3.65 210	P		Pn	12 18 45.8	-0.2	
TRWZ	Traveller	3.76 188	P		Pn	12 18 47.4	+0.3	
PAWZ	Paruwai Farm	3.78 191	P		Pn	12 18 47.2	-0.1	
WEL	Wellington	3.81 198	P		Pn	12 18 47.6	0.0	
MSWZ	Moikau Station	3.84 192			Pn	12 18 47.8	-0.1	
MSWZ					S	12 19 39.0	-1.0	
MSWZ	Moikau Station	3.84 192	P		Pn	12 18 48.1	+0.2	
SNZO	South Karori	3.85 199	Pn		Pn	12 18 48.0	0.0	
SNZO	South Karori	3.85 199	P		Pn	12 18 48.2	+0.2	
TCW	Tory Channel	3.89 204			Pn	12 18 48.5	+0.2	
TCW	Tory Channel	3.89 204	P		Pn	12 18 48.7	+0.3	
BHW	Baring Head	3.91 196			Pn	12 18 48.6	0.0	
BHW	Baring Head	3.91 196	P		Pn	12 18 48.6	0.0	
PLWZ	Palliser	3.99 192	Pn		Pn	12 18 49.4	-0.1	
PLWZ	Palliser	3.99 192	P		Pn	12 18 49.4	-0.1	
TUWZ	Tuamarina	4.19 206			Pn	12 18 51.8	+0.1	
TUWZ	Tuamarina	4.19 206	P		Pn	12 18 51.7	0.0	
NNZ	Nelson	4.22 212			Pn	12 18 51.7	-0.4	
NNZ	Nelson	4.22 212	P		Pn	12 18 51.5	-0.6	
TKNZ	Takaka Hill	4.27 217	P		Pn	12 18 51.3	-1.3	
CMWZ	Cape Campbell	4.40 201			Pn	12 18 54.8	+0.8	
CMWZ	Cape Campbell	4.40 201	P		Pn	12 18 55.6	+1.6	
BSWZ	Blackbirch Sta	4.47 204			Pn	12 18 55.1	+0.3	
BSWZ	Blackbirch Sta	4.47 204	P		Pn	12 18 54.9	+0.1	
MRNZ	Matariki Terra	4.65 216			Pn	12 18 55.6	-1.2	
MRNZ	Matariki Terra	4.65 216	P		Pn	12 18 55.6	-1.2	
THZ	Tophouse	4.88 212			Pn	12 18 58.9	-0.6	
THZ	Tophouse	4.88 212	P		Pn	12 18 58.7	-0.8	
KHZ	Kahutara	5.21 204			Pn	12 19 03.4	+0.2	
KHZ	Kahutara	5.21 204	P		Pn	12 19 03.6	+0.4	
KHZ	Kahutara	5.21 204	P		Pn	12 19 03.4	+0.2	
DSZ	Denniston Nort	5.37 219	P		Pn	12 19 03.7	-1.5	
GVZ	Greta Valley S	5.87 204	P		Pn	12 19 10.5	-0.4	
LTZ	Lake Taylor	5.99 210	P		Pn	12 19 11.7	-0.6	
AMCZ	Amberley	6.18 206	P		Pn	12 19 14.1	-0.5	
INZ	Inchbonnie	6.29 215	P		Pn	12 19 14.8	-1.2	
OXZ	Oxford	6.54 209	P		Pn	12 19 17.5	-1.4	
MQZ	McQueen's Vall	6.65 204	P		Pn	12 19 19.2	-1.1	
AKCZ	Akaroa Harbour	6.73 202	P		Pn	12 19 21.0	-0.2	
RACZ	Rakaia	6.85 206	P		Pn	12 19 21.7	-0.9	
WVZ	Waitaha Valley	6.89 217	P		Pn	12 19 22.0	-1.1	
MHCZ	Mount Hutt	6.89 210	P		Pn	12 19 22.2	-1.0	
WACZ	Wakanui South	7.14 207	P		Pn	12 19 25.5	-0.7	
RPZ	Rata Peaks	7.26 212	P		Pn	12 19 26.9	-0.7	
RPZ	Rata Peaks	7.26 212	P		Pn	12 19 26.6	-1.0	
	122nm,0.4s,baz=247,slow=1.0,SNR=210							
RPZ			S		S	12 20 47.1	-5.1	
	215nm,0.4s,baz=280,slow=3.7,SNR=6.0							
RPZ	Rata Peaks	7.26 212	P		Pn	12 19 26.5	-1.1	
GCSZ	Gaunt Creek Bo	7.27 217	P		Pn	12 19 26.6	-1.2	
ARCZ	Arundel	7.40 210	P		Pn	12 19 28.2	-1.1	
FOZ	Fox Glacier	7.68 218	P		Pn	12 19 30.7	-1.9	
TMZ	Timaru	7.83 209	P		Pn	12 19 34.3	-0.2	
LBZ	Lake Benmore	8.17 213	P		Pn	12 19 37.4	-1.3	
ODZ	Otahua Downs	8.53 208	P		Pn	12 19 43.5	+0.5	
ODZ	Otahua Downs	8.53 208	P		Pn	12 19 43.2	+0.2	
JCZ	Jackson Bay	8.59 219	P		Pn	12 19 43.1	-0.7	
JCZ	Jackson Bay	8.59 219	P		Pn	12 19 42.0	-1.9	
WKZ	Wanaka	9.03 215	P		Pn	12 19 47.2	-2.1	
EAZ	Earnscleugh	9.22 213	P		Pn	12 19 49.4	-2.1	
HHSZ	Highcliff Hill	9.26 206	P		Pn	12 19 53.9	+1.9	
MSZ	Milford Sound	9.45 220	P		Pn	12 19 52.7	-1.5	
TUZ	Tuapeka	9.68 209	P		Pn	12 19 58.0	+1.0	
MLZ	Mavora Lakes	9.86 216	P		Pn	12 19 58.3	-1.0	
WHZ	Wether Hill Ro	10.33 215	P		Pn	12 20 03.7	-1.4	
WHZ	Wether Hill Ro	10.33 215	P		Pn	12 20 03.5	-1.5	
SYZ	Scrubby Hill	10.35 209	P		Pn	12 20 05.1	-0.1	
SYZ	Scrubby Hill	10.35 209	P		Pn	12 20 06.5	+1.3	
DCZ	Deep Cove	10.39 219	Pn		Pn	12 20 04.2	-1.5	
DCZ	Deep Cove	10.39 219	P		Pn	12 20 04.7	-1.1	
APZ	The Paps	11.05 211	P		Pn	12 20 14.1	+0.2	
PYZ	Puysegur Point	11.13 217	P		Pn	12 20 15.2	+0.5	
DZM	Mont Dzumac	17.74 328	P		P	12 21 30.2	+0.6	
DZM	Mont Dzumac	17.74 328	P		P	12 21 29.9	+0.3	
	22nm,0.5s,baz=182,slow=9.4,SNR=34							
MSVF	Nonsavu	19.91 5	P		P	12 21 51.2	-1.6	
MSVF	Nonsavu	19.91 5	P		P	12 21 51.7	-1.1	
TAVE	Taveuni	21.14 10	P		P	12 22 03.6	-1.1	
DGTI	Dogotuki	21.49 9	P		P	12 22 07.4	-0.5	
STKA	Stephens Creek	29.01 271	P		P	12 23 16.1	+1.0	
	2.2nm,0.6s,baz=112,slow=5.6,SNR=5.6							
	2.2nm,0.6s							
CTA	Charters Tower	31.45 295	P		P	12 23 36.9	+0.2	
	4.0nm,0.5s,baz=98,slow=6.3,SNR=2.0							
	4.0nm,0.5s							
PMG	Port Moresby	38.52 309	P		P	12 24 36.9	+0.3	
	13nm,0.5s,baz=89,slow=3.7,SNR=8.4							
	13nm,0.5s							
AS31	Alice Springs	38.75 279	P		P	12 24 39.2	+0.6	
AS31				lAmb	lAmb	12 24 42.2		
	comp=Z,2.7nm,0.4s							
ASAR	Alice Springs	38.76 279	P		P	12 24 39.0	+0.4	
	comp=Z,2.2nm,0.5s,baz=121,slow=8.4,SNR=14							
	comp=Z,2.2nm,0.5s							
FORT	Forrest	40.16 265	P		P	12 24 51.5	+1.5	
FORT				lAmb	lAmb	12 25 12.2		
	comp=Z,16nm,0.8s							
WB2	Warramunga Arr	40.43 284	P		P	12 24 53.0	+0.7	
WB2				lAmb	lAmb	12 24 55.5		
	comp=Z,8.6nm,1.1s							
WRA	Warramunga Arr	40.44 284	P		P	12 24 53.2	+0.8	
WRA	Warramunga Arr	40.44 284	P		P	12 24 53.0	+0.6	
	comp=Z,2.7nm,0.4s,baz=128,slow=6.2,SNR=25							
	comp=Z,2.7nm,0.4s							
WB0	Warramunga Arr	40.50 284	P		P	12 24 53.5	+0.6	
WB0				lAmb	lAmb	12 25 05.5		
	comp=Z,17nm,1.4s							
KNRA	Kununurra	47.23 284	P		P	12 25 47.2	+1.2	
FITZ	Fitzroy Crossi	48.25 279	P		P	12 25 54.9	+1.2	
MBWA	Marble Bar	51.25 272	P		P	12 26 17.6	+1.4	
MBWA				lAmb	lAmb	12 26 53.3		
	comp=Z,21nm,1.4s							
QSPA	South Pole Qui	52.46 180	P		P	12 26 28.2	+3.6	
QSPA				lAmb	lAmb	12 26 29.0		
	comp=Z,6.4nm,0.8s							
QSPA	South Pole Qui	52.46 180	P		P	12 26 28.0	+3.5	
	comp=Z,5.1nm,0.6s,baz=208,slow=4.3,SNR=43							
	comp=Z,5.1nm,0.6s							
PLCA	Paso Flores	80.86 135	P		P	12 29 24.6	+1.5	
	comp=Z,0.7nm,0.5s,baz=250,slow=7.4,SNR=5.3							
	comp=Z,0.7nm,0.5s							
MJAR	Matsushiro Arr	81.84 330	P		P	12 29 27.6	-0.4	
	comp=Z,1.1nm,0.5s,baz=163,slow=8.9,SNR=2.3							
	comp=Z,1.1nm,0.5s							
KSRS	Korea Array	87.10 323	P		P	12 29 54.1	+0.1	
	comp=Z,1.5nm,0.7s,baz=145,slow=5.4,SNR=4.6							
	comp=Z,1.5nm,0.7s							
CMAR	Chiang Mai Arr	91.56 292	P		P	12 30 15.9	+0.6	
CMAR	Chiang Mai Arr	91.56 292	P		P	12 30 16.0	+0.6	
	comp=Z,1.9nm,0.7s,baz=150,slow=3.3,SNR=12							
	comp=Z,1.9nm,0.7s							
MKAR	Makanchi Array	118.73 309	PKP		PKPdf	12 35 52.5	-1.8	
	comp=Z,0.6nm,0.6s,baz=92,slow=3.8,SNR=7.1							
ZALV	Zalesovo Beam	120.22 317	PKP		PKPdf	12 35 54.3	-2.5	
	comp=Z,0.5nm,0.4s,baz=132,slow=2.1,SNR=3.5							
KURBB	Kurchatov Arra	122.53 312	PKP		PKPdf	12 35 59.4	-1.9	
	comp=Z,1.9nm,0.6s,baz=118,slow=1.8,SNR=15							
NRIK	Noril'sk	124.26 335	PKP		PKPdf	12 36 02.6	-1.5	
	comp=Z,1.6nm,0.4s,baz=103,slow=5.0,SNR=4.2							
BVAR	Borovoye Array	128.07 312	PKP		PKPdf	12 36 10.8	-1.1	
	comp=Z,1.3nm,0.6s,baz=287,slow=0.3,SNR=4.4							
SPA0	Spitsbergen Ar	138.51 354	*e*PKPdf		PKPdf	12 36 31.8	+0.9	
SPITS	Spitsbergen Ar	138.51 354	PKP		PKPdf	12 36 31.4	+0.6	
	comp=Z,13nm,1.1s,baz=90,slow=2.9,SNR=7.0							
VADS	Vadso	143.07 342	*e*		PKPab	12 36 35.3	-0.1	
ARA0	ARCESS Array S	144.42 343	*e*PKPbc		PKPab	12 36 39.8	-1.1	
ARCES	ARCESS Array B	144.42 343	PKP		PKPab	12 36 39.5	-1.3	
	comp=Z,6.8nm,0.7s,baz=66,slow=2.8,SNR=44							
KBZ	Khabaz	144.56 295	PKP		PKPbc	12 36 41.5	-0.6	
	comp=Z,0.5nm,0.5s,baz=120,slow=4.0,SNR=4.6							
KTK1	Kautokeino	145.35 343	*e*PKPdf		PKPdf	12 36 42.6	-0.5	
TRO	Tromso	145.74 346	*e*PKPdf		PKPdf	12 36 43.3	-0.4	
STEI	Steigen	147.90 347	*e*PKPdf		PKPdf	12 36 49.1	+1.7	
LOF	Lofoten	148.01 348	*e*PKPdf		PKPdf	12 36 48.8	+1.2	
FAUS	Fauske	148.37 346	*e*PKPdf		PKPdf	12 36 50.1	+1.9	
KONS	Konsvik	149.55 347	*e*PKPdf		PKPdf	12 36 53.3	+3.2	
MOR8	Moi Rana	149.59 346	*e*PKPdf		PKPdf	12 36 53.3	+3.1	
FINES	FINESS Array B	149.85 332	PKPbc		PKPbc	12 36 54.7	-1.2	
	comp=Z,2.9nm,0.3s,baz=48,slow=3.6,SNR=30							
NSS	Namsos	151.53 346	*e*PKPdf		PKPbc	12 36 58.1	-1.6	
AKASG	Malin Array Be	153.30 310	PKPbc		PKPbc	12 37 02.9	-1.2	
	comp=Z,1.2nm,0.5s,baz=63,slow=2.2,SNR=4.6							
DOMB	Dombas	154.35 346	*e*		PKPbc	12 37 04.7	-1.3	
NB2	NORSAR Subarra	154.80 343	PKPdf		PKPbc	12 37 05.5	-1.5	
	comp=Z,0.2nm,0.3s,baz=31,slow=1.9							
NOA	NORSAR Array B	154.80 343	PKPbc		PKPbc	12 37 05.4	-1.6	
	comp=Z,0.1nm,0.3s,baz=30,slow=2.1,SNR=3.8							
HFS	Hagfors	154.94 339	PKPbc		PKiKP	12 37 05.6	-1.7	
	comp=Z,1.1nm,0.5s,baz=72,slow=4.7,SNR=4.9							
HFS			PKPab		PKPab	12 37 22.3	-1.9	
	comp=Z,1.1nm,0.5s,baz=72,slow=6.2,SNR=1.8							

IDC ***08*** *12:58:22.9±1.3, 6.°05S×142.°95E, h0km, mb3.6/3, mbtmp3.7/5, ML1.2/1, Error ellipse: s-maj=42.3km s-min=27.6km az=59.0*

ISC 08 12:58:27.7±1.0, 6.°3S±0.°1×142.°8E±0.°1, h35km, n6, σ1s24/7, mb3.7/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	5.33	126	Pn	Pn	12 59 45.5	+0.7
	0.5nm,0.3s,baz=247,slow=15,SNR=1.4						
PMG				Sn	Sn	13 00 44.5	-0.5
	0.2nm,0.3s,baz=270,slow=20,SNR=1.8						
	2.4nm,0.3s						
WRA	Warramunga Arr	15.88	210	Pn	Pn	13 02 07.2	-1.5
	0.1nm,0.3s,baz=32,slow=12,SNR=5.7						
WRA				Lg	Lg	13 06 55.3	
	baz=12,slow=21,SNR=2.4						
ASAR	Alice Springs	19.29	205	P	Pn	13 02 52.1	+1.1
	6.6nm,1.0s,baz=35,slow=9.5,SNR=31						
MKAR	Makanchi Array	75.08	322	P	P	13 10 06.7	+0.6
	0.1nm,0.5s,baz=116,slow=6.1,SNR=1.8						
	0.1nm,0.5s						
BVAR	Borovoye Array	84.55	325	P	P	13 10 57.6	+0.4
	0.9nm,0.8s,baz=128,slow=9.5,SNR=3.5						
	0.9nm,0.8s						
ILAR	Eielson Array	87.40	24	P	P	13 11 09.9	-1.2
	0.5nm,1.0s,baz=236,slow=6.4,SNR=2.8						
	0.5nm,1.0s						

IDC ***08*** *13:06:09.8±0.5, 5.°89N×116.°53E, h0km, mb4.4/22, mbtmp4.4/22, MS4.3/61, Error ellipse: s-maj=26.6km s-min=12.6km az=66.0*

BJI ***08*** *13:06:11.1±0.0, 5.°92N×116.°61E, h9km, mb4.6/63, mB5.2/38, Ms4.8/61, Ms7 4.6/59*

MOS ***08*** *13:06:12.3±1.9, 6.°14N×116.°64E, h11km, mb5.0/35, Error ellipse: s-maj=12.3km s-min=5.8km az=110.5*

NEIC ***08*** *13:06:13.4, 6.°05N×116.°72E, h12km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 1016Nm; Mrr-5.22; Mθθ 1.01; Mϕϕ 4.21; Mrθ 2.11; Mθϕ 2.19; Mϕr 4.49; Fault plane solution: M07.24000×1016 NP1: ϕs205.71000°, δ66.64000°, λ-90.97000°. NP2:ϕs28.16000°, δ23.38000°, λ-87.75000°. Principal axes: T 7.2892, Plg22.0000°, Azm296.0000°; N -0.1010, Plg1.0000°, Azm206.0000°; P -7.1881, Plg68.0000°, Azm114.0000°;*

NEIC ***08*** *13:06:13.5±2.6, 6.°09N±0.°05×116.°59E±0.°03, h10km±1km, mb5.0/95, Mww5.2/31 Error ellipse: s-maj=10.0km s-min=3.6km az=147.0*

NEIC ***08*** *13:06:13.4, 6.°05N×116.°62E, h12km*

GCMT ***08*** *13:06:14.5±0.1, 6.°15N±0.°01×116.°65E±0.°01, h12km, MW5.2/134, Moment Tensor Solution. s95,c138; s134,c239; Duration: 1s0 Moment tensor: Scale 1017 Nm; Mrr-0.57±.01; Mθθ 0.06±.01; Mϕϕ 0.50±.01; Mrθ 0.52±.03; Mθϕ 0.20±.01; Mϕr 0.45±.03; Best double couple: M0.89300×1017 NP1:ϕs221.00000°, δ71.00000°, λ-76.00000°. NP2:ϕs5.00000°, δ24.00000°, λ-124.00000°. Principal axes: T 0.8620, Plg24.0000°, Azm301.0000°; N 0.0620, Plg13.0000°, Azm37.0000°; P -0.9240, Plg62.0000°, Azm153.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***08*** *13:06:16.4±0.2, 6.°N±2.°×11.°7E±.°, h10km, M5.1/52, mB5.6/37, mb5.1/52, MLv5.4/7, Mw(mB)5.1/37, MwMwp5.0/18, Mwp5.3/18*

ISC 08 13:06:14.2±0.4, 6.°01N±0.°03×116.°55E±0.°04, h12km±2km, h12km:pP-P, n445, σ1s80/414, mb4.9/110, MS4.5/85, 31C-13D, Borneo

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKM	Kota Kinabalu	0.34	275	Pg	Pg	13 06 20.1	-1.0
KKM				Sg	Sg	13 06 26.6	+1.0
KKM	Kota Kinabalu	0.34	275	P	Pg	13 06 20.8	-0.3
SBUM	Sibu	5.58	231	Pn	Pn	13 07 36.1	-1.1
TOLI2	Tolitoli	6.44	139	Pn	Pn	13 07 47.9	-1.1
TOLI2	Tolitoli	6.44	139	P	Pn	13 07 49.2	+0.2
MPSI	Mapaga	6.55	149	P	Pn	13 07 50.2	-0.3
	108nm,0.7s,2μm11μm0.4nm						
MPSI				S	Sn	13 09 02.4	-2.8
	108nm,0.7s,2μm11μm0.4nm						
MTKI	Muara Teweh, K	7.10	194	P	Pn	13 07 59.2	+1.1
	123nm,0.7s,11μm3μm0.9nm						
BKB	Balikpapan	7.23	177	Pn	Pn	13 07 60.0	+0.1
BKB	Balikpapan	7.23	177	P	Pn	13 08 00.1	+0.3
BKB	Balikpapan	7.23	177	P	Pb	13 08 20.8	+1.0
MRSI	Marisa	7.69	135	P	Pn	13 08 02.5	-3.7
	372nm,0.7s,3μm7μm1.3nm						
STKI	Sintang	7.78	221	P	Pn	13 08 08.5	+1.1
	119nm,0.8s,9μm3μm0.6nm						
GTOI	Gorontalo	8.37	129	P	Pn	13 08 13.4	-2.1
	142nm,0.6s,2μm3μm						
DAV	Davao City (W)	9.03	83	LR	LR	13 12 16.4	
	comp=Z,3μm,19.1s,baz=250,slow=40						
DAV	Davao City (W)	9.03	83	*i*P	Pn	13 08 27.0	+2.4
TGY	Tagaytay City	9.12	28	Pn	Pn	13 08 32.0	+6.1
	75nm,0.3s,baz=244,slow=6.5,SNR=6.1						
KMSI	Cibinong	9.17	126	P	Pn	13 08 38.3	+12
	487nm,1.2s,4μm						
LUWI	Luwuk	9.36	138	Pn	Pn	13 08 31.8	+2.6
LUWI	Luwuk	9.36	138	P	Pn	13 08 29.9	+0.8
LUWI	Luwuk	9.36	138	P	Pn	13 08 32.2	+3.1
	219nm,0.7s,4μm5μm						
TTSI	Tana Toraja	9.57	160	P	Pn	13 08 34.7	+2.7
	567nm,0.7s,5μm4μm						
KAPI	Kappang	11.41	164	P	Pn	13 08 58.3	+1.1
KAPI	Kappang	11.41	164	*i*P	Pn	13 09 02.0	+4.8
BKSI	Bulukumba	11.81	162	P	Pn	13 09 05.2	+2.6
	165nm,0.8s,3μm						
SANI	Sanana	12.37	130	P	Pn	13 09 10.3	0.0
SANI	Sanana	12.37	130	P	Pn	13 09 11.8	+1.5
	34nm,0.8s,2μm4μm						
LBMI	Labuha	12.77	121	P	Pn	13 09 14.0	-1.8
	187nm,1.4s,3μm						
BLJI	Banyuglugur	13.98	192	P	P	13 09 49.3	+9.0
	74nm,0.8s,2μm						
SRBI	Singaraja	14.07	185	P	P	13 09 41.2	-0.1
	120nm,1.1s,2μm						
NGJI	Ngawi	14.23	201	P	P	13 09 49.4	+6.3
	69nm,0.9s						
UBPT	Khong Chiam	14.25	311		Pn	13 09 36.2	+0.2
UBPT	Khong Chiam	14.25	311	P	Pn	13 09 36.8	+0.7
QIZ	Qiongzhong	14.49	334	P	Pn	13 09 38.1	-1.3
QIZ				S	Sn	13 12 20.5	+0.4
QIZ				pmax	pmax		
	comp=Z,550nm,6.1s						
QIZ				LR	LR		
	comp=N,2μm,17.6s						
QIZ				LR	LR		
	comp=E,1μm,18.0s						
QIZ				LR	LR		
	comp=Z,2μm,15.2s						
GMJI	Gumukmas	14.53	192	P	P	13 09 56.6	+10
	65nm,1.8s						
JAGI	Jajag, Banyuwa	14.58	189	Pn	Pn	13 09 41.5	+0.8
JAGI	Jajag, Banyuwa	14.58	189	P	Pn	13 09 42.0	+1.4
JAGI	Jajag, Banyuwa	14.58	189	P	Pn	13 09 43.5	+2.9
	122nm,0.6s,2μm						
TWSI	Taliwang, Sumb	14.66	179	P	P	13 09 46.2	-1.7
	135nm,0.7s,2μm						
PWJI	Pagerwojo	14.72	199	P	P	13 09 51.8	+3.2
	53nm,1.4s						
PLAI	Plampang	14.79	175	P	Pn	13 09 45.2	+1.8
PLAI	Plampang	14.79	175	P	Pn	13 09 46.1	+2.7
	390nm,0.9s,5μm2μm						
EDFI	Ende, Flores	15.53	161	P	P	13 09 57.7	0.0
	162nm,0

CHTO Chiang Mai 21.36 308 P **P** **13 11 02.6 +1.0**
CHTO Chiang Mai 21.36 308 P **P** **13 11 02.5 +0.8**
CHTO Chiang Mai 21.36 308 P **P** **13 11 02.7 +1.0**
CHTO pmax pmax
comp=Z,28nm,1.1s
CNSH ChangSha 22.32 352 ⇑P **P** **13 11 10.1 -1.7**
CNSH S **S** **13 15 14.9 -2.2**
CNSH pmax pmax
comp=Z,3.0nm,0.3s
CNSH LR LR
comp=Z,1μm,12.6s
CNSH LR LR
comp=Z,2μm,13.5s
GYA Guiyang 22.41 336 ⇓P **P** **13 11 14.6 +1.6**
GYA pmax pmax
comp=Z,13nm,1.0s
KMI Kunming 23.16 327 ⇑P **P** **13 11 21.9 +0.9**
KMI S **S** **13 15 30.8 -1.9**
KMI pmax pmax
comp=Z,39nm,1.7s
KMI pmax pmax
comp=Z,460nm,4.0s
KMI LR LR
comp=Z,750nm,14.8s
KMI LR LR
comp=Z,980nm,14.0s
KMI LR LR
comp=Z,990nm,15.8s
SMPI Sarmi 23.51 109 P P 13 11 34.2 +10
comp=Z,56nm,1.1s
MTN Manton Dam 23.68 142 P **P** **13 11 24.7 -1.3**
baz=24,SNR=5.6
MTN Manton Dam 23.68 142 P **P** **13 11 25.6 -0.4**
MTN IAmb IAmb 13 11 28.6
comp=Z,94nm,1.4s
MTN Manton Dam 23.68 142 P **P** **13 11 27.2 +1.2**
KDU Kakadu 24.40 140 P **P** **13 11 29.9 -2.9**
baz=24,SNR=13
KDU Kakadu 24.40 140 P **P** **13 11 34.0 +1.2**
WHN Wuhan 24.49 355 P **P** **13 11 36.7 +3.3**
WHN pmax pmax
comp=Z,46nm,0.9s
WHN LR LR
comp=Z,4μm,13.7s
WHN LR LR
comp=Z,2μm,9.8s
WHN LR LR
comp=Z,6μm,14.4s
KNRA Kununurra 24.71 151 P **P** **13 11 33.2 -2.3**
baz=25,SNR=6.3
KNRA Kununurra 24.71 151 P **P** **13 11 33.4 -2.2**
KNRA IAmb IAmb 13 11 43.9
comp=Z,47nm,0.9s
KNRA Kununurra 24.71 151 P **P** **13 11 37.0 +1.5**
PZH PanZhiHua 24.79 327 P **P** **13 11 35.0 -1.4**
PZH pP **sP** **13 11 41.0 -1.3**
PZH S **S** **13 15 55.8 -3.1**
PZH SS **SnSn** **13 16 52.1 +6.1**
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,210nm,7.5s
PZH LR LR
comp=Z,540nm,14.1s
PZH LR LR
comp=Z,620nm,16.5s
PZH LR LR
comp=Z,490nm,12.0s
ENH Enshi 25.03 345 P **P** **13 11 39.3 +0.9**
MND Mandalay 25.36 311 P **P** **13 11 41.3 -0.1**
FITZ Fitzroy Crossi 25.58 160 P **P** **13 11 41.8 -1.6**
baz=26,SNR=9.6
FITZ Fitzroy Crossi 25.58 160 P **P** **13 11 42.2 -1.2**
FITZ Fitzroy Crossi 25.58 160 P **P** **13 11 45.3 +1.9**
TNCH TengChong 25.61 319 P **P** **13 11 44.8 +0.9**
TNCH pP sP 13 11 47.6 -2.2
TNCH S **S** **13 16 10.9 -1.2**
TNCH sS pS 13 16 15.5 -1.1
TNCH pmax pmax
comp=Z,100nm,0.8s
TNCH pmax pmax
comp=Z,370nm,4.4s
TNCH LR LR
comp=Z,540nm,14.4s
TNCH LR LR
comp=Z,550nm,12.2s
TNCH LR LR
comp=Z,1μm,16.3s
NJ2 Nanjing 26.00 4 *e*P **P** **13 11 46.5 -0.5**
NJ2 pP **sP** **13 11 50.6 -2.3**
NJ2 sP **pP** **13 11 55.2 +4.1**
NJ2 pmax pmax
comp=Z,19nm,1.0s
NJ2 pmax pmax
comp=Z,430nm,4.4s
NJ2 LR LR
comp=Z,1μm,14.2s
NJ2 LR LR
comp=Z,930nm,17.5s
NJ2 LR LR
comp=Z,2μm,19.2s
MBWA Marble Bar 27.18 173 P **P** **13 11 56.5 -1.4**
MBWA IAmb IAmb 13 12 03.8
comp=Z,32nm,0.9s
MBWA Marble Bar 27.18 173 P **P** **13 11 57.9 0.0**
CD2 Chengdu 27.53 336 P **P** **13 12 01.0 0.0**
CD2 S **S** **13 16 43.9 +1.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,810nm,18.9s
CD2 LR LR
comp=Z,720nm,14.0s
CD2 LR LR
comp=Z,1μm,15.9s
PSA00 Pilbara Seismi 27.60 173 P **P** **13 12 01.8 +0.1**
PSA00 IAmb IAmb 13 12 07.3
comp=Z,35nm,0.8s
PSA00 Pilbara Seismi 27.60 173 P **P** **13 12 02.6 +1.0**
XAN Xi'an 28.77 347 P **P** **13 12 12.0 0.0**
XAN pmax pmax
comp=Z,9.0nm,1.3s
XAN LR LR
comp=Z,3μm,15.6s
XAN LR LR
comp=Z,2μm,14.9s
XAN LR LR
comp=Z,4μm,15.6s
JNU Nakatsue 30.09 24 LR LR 13 24 32.4
comp=Z,497nm,21.9s,baz=196,slow=36
WB0 Warramunga Arr 31.06 146 P **P** **13 12 28.9 -3.5**
WB0 IAmb IAmb 13 13 31.6
comp=Z,47nm,1.6s
WRAB Tennant Creek 31.17 146 *i* P **P** **13 12 33.4 +0.1**
WRAB pmax pmax
comp=Z,11nm,1.1s
WRA Warramunga Arr 31.17 146 P **P** **13 12 32.1 -1.3**
WRA Warramunga Arr 31.17 146 P **P** **13 12 32.1 -1.3**
WRA Warramunga Arr 31.17 146 P **P** **13 12 29.2 -4.1**
comp=Z,2.1nm,0.5s,baz=323,slow=9.5,SNR=21
WRA PcP **PcP** **13 15 25.3 -3.2**
comp=Z,2.9nm,0.8s,baz=338,slow=2.7,SNR=5.2
comp=Z,2.1nm,0.5s
WB2 Warramunga Arr 31.18 146 P **P** **13 12 30.1 -3.3**
WB2 IAmb IAmb 13 12 37.9
comp=Z,67nm,1.9s
HNS HongShan 31.29 357 *e*P **P** **13 12 35.4 +1.2**
HNS S **S** **13 17 45.2 +4.5**
HNS LR LR
comp=Z,2μm,14.1s
HNS LR LR
comp=Z,510nm,11.6s
HNS LR LR
comp=Z,2μm,14.2s
WR0 Warramunga Arr 31.29 146 P **P** **13 12 30.9 -3.6**
WR0 IAmb IAmb 13 13 29.7
comp=Z,25nm,1.4s
LZH Lanzhou 32.12 340 *e*P **P** **13 12 44.1 +2.3**
LZH sP sP 13 12 53.7 +6.0
LZH S S 13 17 44.4 -10
LZH pmax pmax
comp=Z,16nm,1.2s
LZH LR LR
comp=Z,1μm,17.5s
LZH LR LR
comp=Z,1μm,16.8s
LZH LR LR
comp=Z,2μm,18.6s
MEEK Meekatharra 32.52 177 P **P** **13 12 43.1 -2.1**
baz=33,SNR=10
WRKA Warakurna 32.91 160 P **P** **13 12 47.2 -1.4**
baz=33,SNR=3.4
KSRS Korea Array 32.97 17 P **P** **13 12 47.4 -1.6**
comp=Z,2.3nm,0.9s,baz=203,slow=8.3,SNR=3.0
KSRS LR LR 13 28 31.2
comp=Z,307nm,18.5s,baz=190,slow=41
comp=Z,2.3nm,0.9s
COEN Coen 33.04 127 P **P** **13 12 47.4 -2.5**
COEN IAmb IAmb 13 13 47.2
comp=Z,45nm,1.6s
BJT Baijiatuan 33.86 359 P **P** **13 12 57.8 +1.1**
BJI Beijing 33.88 359 P **P** **13 12 58.6 +1.8**
BJI S **S** **13 18 19.9 -1.2**
BJI pmax pmax
comp=Z,9.0nm,1.3s
BJI LR LR
comp=Z,410nm,15.3s
BJI LR LR
comp=Z,420nm,15.6s
BJI LR LR
comp=Z,620nm,14.8s
AS31 Alice Springs 34.02 151 P **P** **13 12 55.0 -3.3**
ASAR Alice Springs 34.02 151 P **P** **13 12 58.1 -0.2**
ASAR Alice Springs 34.02 151 P **P** **13 12 58.1 -0.2**
ASAR Alice Springs 34.02 151 P **P** **13 12 55.3 -3.0**
comp=Z,1.2nm,0.6s,baz=338,slow=9.9,SNR=22
ASAR PcP **PcP** **13 15 33.1 -3.1**
comp=Z,2.6nm,0.7s,baz=349,slow=2.8,SNR=9.1
ASAR LR LR 13 30 09.9
comp=Z,732nm,18.7s,baz=321,slow=42
comp=Z,1.2nm,0.6s
AS01 Alice Springs 34.04 151 P **P** **13 13 00.0 +1.5**
QIS Mount Isa 34.79 140 P **P** **13 13 02.2 -2.8**
baz=35,SNR=8.1
QIS Mount Isa 34.79 140 P **P** **13 13 06.5 +1.5**
MORW Morawa 34.88 181 P **P** **13 13 05.2 -0.5**
baz=35,SNR=4.7
MORW Morawa 34.88 181 P **P** **13 13 07.7 +2.0**
BTO Baotou 34.94 351 *e*P **P** **13 13 09.3 +3.1**
BTO pP **sP** **13 13 13.0 +0.9**
BTO sP **pP** **13 13 15.9 +5.6**
BTO PcP **PcP** **13 15 40.4 +1.7**
BTO S **S** **13 18 44.3 +6.7**
BTO pmax pmax
comp=Z,28nm,0.9s
BTO pmax pmax
comp=Z,280nm,4.7s
BTO LR LR
comp=Z,1μm,14.1s
BTO LR LR
comp=Z,1μm,12.6s
BTO LR LR
comp=Z,2μm,16.5s
HHC Hu-ho-hao-te 34.97 353 *e*P **P** **13 13 08.8 +2.3**
HHC sP sP 13 13 15.9 +3.5
HHC S **S** **13 18 41.5 +3.3**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,85nm,4.6s
HHC LR LR
comp=Z,540nm,16.7s
HHC LR LR
comp=Z,470nm,14.2s
HHC LR LR
comp=Z,820nm,14.7s
PALK Pallekele 35.62 274 LR LR 13 29 30.6
comp=Z,582nm,18.3s,baz=185,slow=39
MJAR Matsushiro Arr 36.28 30 P **P** **13 13 15.5 -2.2**
comp=Z,1.8nm,0.7s,baz=200,slow=7.7,SNR=2.5
comp=Z,1.8nm,0.7s
BLDU Ballidu 36.42 180 P **P** **13 13 17.6 -1.3**
baz=36,SNR=6.3
GTA Gaotai 36.52 338 *e*P **P** **13 13 18.3 -1.5**
GTA pP pP 13 13 21.9 -2.1
GTA PcP **PcP** **13 15 42.8 -0.7**
GTA S **S** **13 19 00.8 -1.2**
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA LR LR
comp=Z,330nm,14.9s
GTA LR LR
comp=Z,500nm,14.9s
GTA LR LR
comp=Z,560nm,15.3s
KMBL Kambalda 37.52 172 P **P** **13 13 28.0 -0.2**
baz=38,SNR=9.5
KMBL Kambalda 37.52 172 P **P** **13 13 28.4 +0.2**
XLT XiLinHaoTe 37.74 359 *e*P **P** **13 13 32.2 +2.2**
XLT sP sP 13 13 39.3 +3.4
XLT S **S** **13 19 22.6 +2.2**
XLT sS sS 13 19 28.6 +1.5
XLT pmax pmax
comp=Z,22nm,1.1s
XLT pmax pmax
comp=Z,74nm,4.2s
XLT LR LR
comp=Z,840nm,15.4s
XLT LR LR
comp=Z,740nm,17.1s
FORT Forrest 38.21 164 P **P** **13 13 31.1 -2.9**
FORT IAmb IAmb 13 13 46.6
comp=Z,22nm,0.7s
FORT Forrest 38.21 164 P **P** **13 13 36.1 +2.1**
OOD Oodnadatta 38.36 152 P **P** **13 13 37.9 +2.6**
CN2 Changchun 38.44 10 *e*P **P** **13 13 35.2 -0.7**
CN2 *es*P sP 13 13 42.2 +0.5
CN2 *e*S **S** **13 19 32.7 +1.9**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 LR LR
comp=Z,560nm,12.0s
CN2 LR LR
comp=Z,240nm,12.0s
MSHR Mys Shultsa 38.65 17 *ce*P **P** **13 13 37.4 -0.2**
MSHR pmax pmax
comp=Z,57nm,1.3s
NWAO Narrogin (SRO) 38.73 179 P **P** **13 13 36.9 -1.5**
baz=39,SNR=4.8
NWAO P **P** **13 13 36.9 -1.5**
baz=39,SNR=4.8
NWAO Narrogin (SRO) 38.73 179 P **P** **13 13 41.4 +3.0**
NWAO Narrogin (SRO) 38.73 179 P **P** **13 13 41.6 +3.2**
NWAO Narrogin (SRO) 38.73 179 LR LR 13 33 27.5
comp=Z,312nm,18.5s,baz=2.0,slow=42
HYB Hyderabad 38.81 290 *e*P **P** **13 13 39.9 +0.5**
CTA Charters Tower 39.06 132 LR LR 13 31 31.2
comp=Z,363nm,20.1s,baz=292,slow=39
MULG Mulgathing 39.80 156 P **P** **13 13 49.0 +1.6**
MDJ Mudanjiang 40.11 14 P **P** **13 13 48.4 -1.4**
MDJ sP sP 13 13 53.6 -2.1
MDJ PcS **PcS** **13 19 42.3 -2.2**
MDJ S **S** **13 19 56.4 +0.5**
MDJ ScS **ScS** **13 23 54.7 -2.0**
MDJ pmax pmax
comp=Z,18nm,2.0s
MDJ pmax pmax
comp=Z,350nm,4.3s
MDJ LR LR
comp=Z,550nm,15.9s
MDJ LR LR
comp=Z,280nm,13.9s
MDJ LR LR
comp=Z,710nm,18.6s
USRK Ussuriysk Ar. 40.38 17 P **P** **13 13 53.8 +1.8**
USRK Ussuriysk Ar. 40.38 17 P **P** **13 13 53.8 +1.8**
USRK Ussuriysk Ar. 40.38 17 P **P** **13 13 52.1 +0.1**
comp=Z,2.8nm,0.8s,baz=216,slow=6.6,SNR=5.9
USRK LR LR 13 32 50.5
comp=Z,240nm,18.1s,baz=199,slow=40
comp=Z,2.8nm,0.8s
BNX BinXian 40.68 12 ⇑P **P** **13 13 53.5 -1.0**
BNX pmax pmax
comp=Z,14nm,1.1s
BNX pmax pmax
comp=Z,320nm,3.5s
LCRK Leigh Creek 41.78 151 P **P** **13 14 03.1 -0.6**
QLP Quilpie 42.07 142 P **P** **13 14 04.1 -2.1**
baz=42,SNR=8.1
ULN Ulaanbaatar 42.49 351 *ce*P **P** **13 14 07.8 -1.7**
ULN pmax pmax
comp=Z,30nm,2.5s
SONM Songino Array 42.57 350 P **P** **13 14 08.4 -1.7**
SONM Songino Array 42.57 350 P **P** **13 14 08.4 -1.7**
SONM pmax pmax
comp=Z,7.0nm,1.1s
SONM Songino Array 42.57 350 P **P** **13 14 08.4 -1.7**
comp=Z,3.2nm,0.9s,baz=166,slow=8.3,SNR=11
SONM PcP **PcP** **13 16 00.9 -1.5**
comp=Z,0.5nm,0.5s,baz=158,slow=4.6,SNR=1.8
SONM LR LR 13 33 11.9
comp=Z,548nm,18.1s,baz=166,slow=38
comp=Z,3.2nm,0.9s
BBOO Buckleboo 42.83 156 P **P** **13 14 10.7 -1.6**
baz=43,SNR=5.7
BBOO Buckleboo 42.83 156 P **P** **13 14 11.0 -1.2**
BBOO Buckleboo 42.83 156 P **P** **13 14 14.6 +2.3**
ASAJ Asahikawa 44.29 27 LR LR 13 33 42.0
comp=Z,205nm,19.5s,baz=200,slow=37
HTT Hallett 44.60 153 P **P** **13 14 25.2 -1.3**
baz=45,SNR=7.9
STKA Stephens Creek 44.61 149 P **P** **13 14 24.9 -1.8**
baz=45,SNR=12
STKA Stephens Creek 44.61 149 P **P** **13 14 25.0 -1.6**
STKA Stephens Creek 44.61 149 *i* P **P** **13 14 24.7 -1.9**
STKA Stephens Creek 44.61 149 P **P** **13 14 22.6 -4.0**
comp=Z,3.8nm,0.6s,baz=323,slow=9.1,SNR=14
STKA LR LR 13 35 40.3
comp=Z,283nm,18.4s,baz=322,slow=40
comp=Z,3.8nm,0.6s
KLR Kul'dur 44.95 14 *ce*P **P** **13 14 26.9 -2.2**
KLR pmax pmax
comp=Z,18nm,2.0s
KLR Kul'dur 44.95 14 LR LR 13 33 27.4
comp=Z,424nm,21.2s,baz=213,slow=36
HEH HeiHe 45.03 10 *e*P **P** **13 14 28.3 -1.4**
HEH pP **sP** **13 14 32.8 -2.8**
HEH S **S** **13 21 08.0 -0.1**
HEH pmax pmax
comp=Z,23nm,1.4s
HEH pmax pmax
comp=Z,270nm,5.4s
HEH LR LR
comp=Z,260nm,11.8s
HEH LR LR
comp=Z,710nm,14.4s
HEH LR LR
comp=Z,460nm,17.6s
WMQ Urumqi 45.39 331 *e*P **P** **13 14 34.5 +1.7**
WMQ LR LR
comp=Z,710nm,19.1s
WMQ LR LR
comp=Z,600nm,18.3s
WMQ LR LR
comp=Z,400nm,18.3s
ZAK Zakamensk 45.60 348 *e*P **P** **13 14 34.6 +0.2**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
CMSA Cobar Meteorol 46.56 145 P **P** **13 14 40.8 -1.3**
baz=47,SNR=13
YSS Yuzh-Sakhalins 46.60 25 *e*P **P** **13 14 44.8 +2.7**
YSS *e*PPP PPP 13 16 22.5
YSS *e*S **S** **13 21 36.0 +5.1**
YSS pmax pmax
comp=Z,200nm,4.4s
YSS pmax pmax
comp=Z,10.0nm,1.0s
YSS MLR MLR
comp=Z,300nm,16.0s
YSS MLR MLR
comp=N,300nm,14.0s
MOY Mondy 47.30 347 *e*P **P** **13 14 46.9 -0.8**
MOY pmax pmax
comp=Z,30nm,3.0s
ZEA Zeya 48.37 8 *e*P **P** **13 14 54.3 -1.6**
ZEA *e* 13 16 46.9
ZEA *e*S **S** **13 21 55.5 -0.5**
ZEA pmax pmax
comp=N,10.0nm,1.3s
ZEA pmax pmax
comp=Z,20nm,1.1s
ZEA smax smax
comp=N,200nm,5.1s
ZEA smax smax
comp=E,200nm,4.9s
ZEA MLR MLR
comp=N,500nm,16.0s
ZEA MLR MLR
comp=Z,400nm,16.0s
NIL Nilore 48.61 310 P **P** **13 14 55.3 -2.8**
NIL Nilore 48.61 310 P **P** **13 14 55.3 -2.8**
NIL pmax pmax
comp=Z,57nm,1.1s
ARPS Mount Arapiles 48.70 153 P **P** **13 14 56.8 -1.7**
baz=49,SNR=11
KSH Kashi 49.44 319 P **P** **13 15 07.1 +2.6**
KSH S **S** **13 22 13.3 +1.6**
KSH pmax pmax
comp=Z,7.0nm,1.1s
KSH LR LR
comp=Z,190nm,14.7s
KSH LR LR
comp=Z,460nm,16.1s
KSH LR LR
comp=Z,630nm,17.5s
DGZ Jazzator, Alta 49.96 336 ⇓*i*P **P** **13 15 06.4 -1.9**
DGZ pmax pmax
comp=Z,15nm,1.0s
MK31 Makanchi Array 50.18 330 P **P** **13 15 08.4 -1.5**
MK31 Makanchi Array 50.18 330 *ce*P **P** **13 15 09.0 -0.9**
MKAR Makanchi Array 50.18 330 P **P** **13 15 08.3 -1.6**
MKAR Makanchi Array 50.18 330 *c* *i*P **P** **13 15 08.1 -1.8**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 50.18 330 P **P** **13 15 07.3 -2.6**
comp=Z,4.8nm,0.8s,baz=129,slow=8.4,SNR=19
MKAR PcP **PcP** **13 16 27.0 -2.1**
comp=Z,3.6nm,0.8s,baz=137,slow=7.4,SNR=6.1
MKAR LR LR 13 38 19.6
comp=Z,531nm,18.1s,baz=127,slow=38
comp=Z,4.8nm,0.8s
CAN Canberra 51.21 146 P **P** **13 15 16.5 -1.3**
CAN Canberra 51.21 146 P **P** **13 15 16.5 -1.3**
CAN pmax pmax
comp=Z,116nm,1.8s
BOD Bodaibo 51.71 358 *e*P **P** **13 15 19.5 -1.6**
BOD pmax pmax
comp=Z,20nm,1.8s
AAK Ala-Archa 52.04 321 P **P** **13 15 23.5 -0.5**
AAK Ala-Archa 52.04 321 *ce*P **P** **13 15 24.0 -0.1**
AAK pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 52.04 321 LR LR 13 40 15.8
comp=Z,301nm,19.6s,baz=118,slow=39
KBL Kabul 52.17 310 P **P** **13 15 24.3 -0.9**
KBL IAmb IAmb 13 15 29.2
comp=Z,19nm,1.0s
KBL Kabul 52.17 310 P **P** **13 15 24.3 -0.9**
KBL pmax pmax
comp=Z,19nm,1.0s
GAR Garm 53.04 315 IAmb IAmb 13 15 49.8
comp=Z,25nm,1.0s
CHGR Chuyangaron 53.71 314 P **P** **13 15 34.5 -1.9**
CHGR IAmb IAmb 13 15 41.0
comp=Z,15nm,0.9s
CHGR Chuyangaron 53.71 314 P **P** **13 15 34.5 -1.9**
CHGR pmax pmax
comp=Z,15nm,0.9s
SIMJ Simiganj 53.82 314 P **P** **13 15 34.7 -2.6**
SIMJ IAmb IAmb 13 16 10.0
comp=Z,20nm,1.4s
ZALV Zalesovo Beam 54.27 337 P **P** **13 15 37.7 -2.4**
ZALV Zalesovo Beam 54.27 337 *i* P **P** **13 15 38.2 -1.9**
ZALV pmax pmax
comp=Z,4.0nm,0.8s
ZALV Zalesovo Beam 54.27 337 P **P** **13 15 36.9 -3.2**
comp=Z,5.3nm,0.9s,baz=123,slow=7.3,SNR=11
ZALV PcP **PcP** **13 16 42.3 -1.9**
comp=Z,2.0nm,0.7s,baz=143,slow=3.1,SNR=1.8
ZALV LR LR 13 39 46.4
comp=Z,328nm,18.4s,baz=149,slow=37
comp=Z,5.3nm,0.9s
KURBB Kurchatov Arra 54.60 331 P **P** **13 15 40.7 -1.9**
comp=Z,5.9nm,1.0s,baz=122,slow=8.3,SNR=12
KURBB LR LR 13 40 16.5
comp=Z,312nm,18.1s,baz=166,slow=37
comp=Z,5.9nm,1.0s
KURK Kurchatov 54.62 331 P **P** **13 15 40.8 -1.9**

KURK IAmb IAmb 13 15 45.9
comp=Z,9.9nm,0.8s
KURK Kurchatov 54.62 331 *ce*P **P** **13 15 41.3 -1.4**
KURK pmax pmax
comp=Z,10.0nm,0.8s
KK31 Karatay Array 54.80 320 P **P** **13 15 43.1 -1.1**
KK31 Karatay Array 54.80 320 P **P** **13 15 43.1 -1.1**
KK31 pmax pmax
comp=Z,4.0nm,1.0s
KKAR Karatay Array 54.80 320 P **P** **13 15 42.5 -1.6**
KKAR Karatay Array 54.80 320 P **P** **13 15 42.5 -1.6**
YAK Yakutsk 56.74 7 P **P** **13 15 56.1 -1.6**
YAK IAmb IAmb 13 16 00.7
comp=Z,17nm,0.8s
YAK Yakutsk 56.74 7 *e*P **P** **13 15 59.3 +1.6**
YAK *e**PP **sP** **13 16 02.5 -1.2**
YAK *e* 13 16 54.9
YAK *e* 13 18 05.8
YAK *e*S **S** **13 23 52.7 +2.6**
YAK *e**SS sS 13 24 03.1 +5.9
YAK *e* 13 25 46.1
YAK *e*SS **SS** **13 27 40.9 +2.8**
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=Z,108nm,4.0s
YAK smax smax
comp=N,139nm,3.9s
YAK smax smax
comp=E,66nm,3.6s
YAK MLR MLR
comp=Z,381nm,18.0s
YAK MLR MLR
comp=N,322nm,18.0s
YAK MLR MLR
comp=E,264nm,15.0s
YAK Yakutsk 56.74 7 LR LR 13 41 32.4
comp=E,389nm,19.5s,baz=206,slow=37
PETK Petropavlovsk- 57.69 28 P **P** **13 16 02.7 -1.9**
comp=E,5.0nm,0.7s,baz=183,slow=3.2,SNR=11
PETK LR LR 13 43 32.9
comp=E,150nm,18.4s,baz=218,slow=39
comp=E,5.0nm,0.7s
PET Petropavlovsk 58.09 28 *e*P **P** **13 16 08.5 +1.2**
PET *e*S **S** **13 24 08.9 +0.8**
PET pmax pmax
comp=Z,100nm,13.8s
PET MLR MLR
comp=Z,300nm,15.0s
WSAR Wadi Sarin 58.22 294 LR LR 13 40 48.9
comp=Z,237nm,21.9s,baz=106,slow=36
MA2 Magadan 59.46 19 P **P** **13 16 15.6 -1.3**
MA2 IAmb IAmb 13 16 39.6
comp=Z,13nm,1.1s
MA2 Magadan 59.46 19 *ce*P **P** **13 16 19.9 +3.1**
MA2 pmax pmax
comp=Z,19nm,1.7s
MA2 Magadan 59.46 19 LR LR 13 44 14.3
comp=Z,124nm,18.2s,baz=220,slow=38
BVAR Borovoye Array 60.06 330 P **P** **13 16 19.2 -1.9**
comp=Z,4.0nm,0.9s,baz=121,slow=9.0,SNR=22
BVAR LR LR 13 43 35.2
comp=Z,411nm,18.7s,baz=128,slow=37
comp=Z,4.0nm,0.9s
BRVK Borovoye 60.14 330 P **P** **13 16 20.3 -1.3**
BRVK IAmb IAmb 13 16 24.9
comp=Z,7.0nm,0.9s
BRVK Borovoye 60.14 330 *ce*P **P** **13 16 20.7 -0.9**
BRVK pmax pmax
comp=Z,8.0nm,1.0s
GEYT Alibeck 61.61 310 P **P** **13 16 30.9 -1.2**
comp=Z,2.3nm,0.7s,baz=110,slow=13,SNR=4.8
GEYT LR LR 13 47 01.0
comp=Z,254nm,19.6s,baz=122,slow=40
comp=Z,2.3nm,0.7s
SEY Seymchan 62.52 18 *ce*P **P** **13 16 38.2 +0.6**
SEY pmax pmax
comp=Z,7.0nm,1.0s
SEY Seymchan 62.52 18 LR LR 13 47 02.9
comp=Z,155nm,18.5s,baz=295,slow=39
ABKAR Akbulak array 64.07 323 P **P** **13 16 46.3 -1.8**
ABKAR Akbulak array 64.07 323 P **P** **13 16 46.7 -1.4**
ABKAR IAmb IAmb 13 17 26.2
comp=Z,4.5nm,1.1s
AKTO Aktyubinsk 65.67 323 LR LR 13 47 25.3
comp=Z,397nm,21.3s,baz=107,slow=38
SHEM Shemya Is, Ala 65.97 34 LR LR 13 44 34.1
comp=Z,68nm,20.0s,baz=302,slow=35
TIXI Tiksi 66.02 4 *i*P **P** **13 16 56.9 -3.4**
TIXI pmax pmax
comp=Z,28nm,0.9s
TIXI Tiksi 66.02 4 LR LR 13 48 03.5
comp=Z,298nm,19.0s,baz=206,slow=38
NRIK Noril'sk 66.05 349 P **P** **13 16 58.4 -2.1**
NRIK Noril'sk 66.05 349 P **P** **13 16 58.6 -1.9**
comp=Z,23nm,1.0s,baz=138,slow=7.0,SNR=17
NRIK LR LR 13 47 35.6
comp=Z,147nm,19.9s,baz=154,slow=38
comp=Z,23nm,1.0s
ARU Arti 67.70 329 P **P** **13 17 08.7 -2.7**
ARU Arti 67.70 329 LR LR 13 48 43.5
comp=Z,238nm,19.0s,baz=121,slow=38
RPZ Rata Peaks 69.69 141 LR LR 13 47 58.1
comp=Z,259nm,20.9s,baz=276,slow=36
BILL Bilibino 70.23 18⇑ *e*P **P** **13 17 25.0 -1.9**
BILL pmax pmax
comp=Z,56nm,3.9s
RAYN Ar Rayn 70.26 293 P **P** **13 17 26.4 -1.6**
RAYN IAmb IAmb 13 17 31.6
comp=Z,15nm,1.1s
RAYN Ar Rayn 70.26 293 ⇑P **P** **13 17 28.8 +0.8**
RAYN *e* 13 17 31.8
URZ Urewera 71.30 134 LR LR 13 50 49.3
comp=Z,170nm,19.0s,baz=304,slow=38
RTZ Ruatahuna 71.35 134 P **P** **13 17 33.0 -1.3**
GNI Garni 72.25 310 LR LR 13 55 50.8
comp=Z,78nm,20.1s,baz=92,slow=41
BELG Belogornoye 72.46 323 LR LR 13 51 41.2
comp=Z,326nm,21.4s,baz=122,slow=38
ATD Arta Tunnel 72.89 280 LR LR 13 49 58.7
comp=Z,7.3nm,18.7s,baz=62,slow=36
KIRV Kirov 73.08 330 *ce*P **P** **13 17 42.3 -1.8**
KIRV Kirov 73.08 330 LR LR 13 53 14.0
comp=Z,174nm,19.3s,baz=106,slow=39
KBZ Khabaz 74.06 314 P **P** **13 17 49.5 -0.7**
comp=Z,2.6nm,0.9s,baz=201,slow=6.3,SNR=6.3
KBZ LR LR 13 55 01.1
comp=Z,166nm,19.0s,baz=70,slow=40
comp=Z,2.6nm,0.9s
KIV Kislovodsk 74.24 314 *e*P **P** **13 17 50.2 -1.3**
KIV pmax pmax
comp=Z,6.0nm,1.1s
VRH Novokhopyorsk 75.84 321 *e*P **P** **13 17 59.3 -1.1**
VRH pmax pmax
comp=Z,10.0nm,0.9s
VORR Voronezh 77.46 322 *e*P **P** **13 18 10.5 +1.0**
VORR pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 77.73 322 *e*P **P** **13 18 10.8 -0.2**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
KLMR Klimovskoe 78.46 331 *e*P **P** **13 18 11.6 -3.3**
KLMR pmax pmax
comp=Z,19nm,1.3s
MMAI Mount Meron Ar 79.34 302 LR LR 13 59 30.3
comp=Z,124nm,18.6s,baz=63,slow=40
OBN Obninsk 79.36 325 *i*P **P** **13 18 20.1 +0.1**
OBN *i* 13 18 34.6
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,238nm,19.0s
OBN Obninsk 79.36 325 LR LR 13 55 29.2
comp=Z,242nm,19.9s,baz=152,slow=37
EIL Elat 79.76 299 LR LR 14 00 25.9
comp=Z,111nm,18.4s,baz=82,slow=41
C16K Lisburne Hills 80.04 22 P **P** **13 18 23.4 0.0**
baz=261
BRTR Keskin Array B 80.74 309 P **P** **13 18 26.9 -1.2**
comp=Z,0.8nm,0.5s,baz=127,slow=6.1,SNR=1.8
BRTR LR LR 14 01 26.4
comp=Z,219nm,19.0s,baz=113,slow=41
comp=Z,0.8nm,0.5s

D17K Noatak River 80.81 22 P **P** **13 18 26.9 -0.7**
baz=263
H16K Elim 80.83 26 P **P** **13 18 27.7 0.0**
baz=265
G16K Koyuk River 80.85 25 P **P** **13 18 28.0 +0.2**
baz=264
J16K Anvik River 81.44 27 P **P** **13 18 31.6 +0.5**
baz=266
B18K Kokolik River 81.46 21 P **P** **13 18 30.2 -0.8**
baz=264
C18K Utukok River 81.61 22 P **P** **13 18 31.4 -0.5**
baz=265
E18K Tukpahlearik C 81.73 23 P **P** **13 18 32.9 +0.4**
baz=266
H17K Granite Mounta 81.85 25 P **P** **13 18 33.8 +0.6**
baz=267
F18K Selawik 82.05 24 P **P** **13 18 34.2 +0.1**
baz=267
N16K Nishlik Lake 82.18 30 P **P** **13 18 35.7 +0.7**
baz=268
C19K Lookout Ridge 82.23 21 IAmb IAmb 13 18 48.5
comp=Z,22nm,1.3s
K17K Iditarod 82.47 28 P **P** **13 18 35.8 -0.6**
baz=268
O16K Kokwok River B 82.50 31 P **P** **13 18 35.8 -0.8**
baz=269
MAW Mawson 82.55 198 LR LR 13 50 07.1
comp=Z,223nm,21.0s,baz=270,slow=32
D19K Kuna River 82.73 22 P **P** **13 18 37.5 -0.3**
baz=268
E19K Redstone River 83.03 23 P **P** **13 18 38.3 -1.0**
baz=269
G19K Purcell Mounta 83.07 24 P **P** **13 18 38.6 -0.9**
baz=269
B20K Meade River 83.12 20 P **P** **13 18 38.6 -1.1**
baz=268
GCSA Galena City Sc 83.14 26 P **P** **13 18 39.5 -0.3**
baz=269
D20K Etivluk River 83.29 22 P **P** **13 18 40.3 -0.3**
baz=269
H19K Roundabout Mou 83.32 25 P **P** **13 18 40.4 -0.4**
baz=270
A21K Barrow 83.33 19 P **P** **13 18 39.5 -1.2**
baz=269
P17K Kvichak River 83.34 31 P **P** **13 18 40.9 -0.1**
baz=270
TTA Tatalina 83.52 27 P **P** **13 18 41.2 -0.8**
TTA IAmb IAmb 13 18 47.7
comp=Z,16nm,1.3s
TTA Tatalina 83.52 27 P **P** **13 18 41.2 -0.8**
TTA pmax pmax
comp=Z,15nm,1.3s
F20K Avaraart Lake 83.61 23 P **P** **13 18 42.5 +0.2**
baz=270
M18K Stony River 83.62 29 P **P** **13 18 42.7 +0.3**
baz=271
J19K Poorman 83.68 26 IAmb IAmb 13 18 48.1
comp=Z,16nm,1.4s
J19K Poorman 83.68 26 P **P** **13 18 42.8 +0.1**
baz=271
AKASG Malin Array Be 83.70 320 P **P** **13 18 40.4 -2.7**
comp=Z,3.2nm,0.8s,baz=77,slow=4.6,SNR=4.5
AKASG LR LR 13 59 03.3
comp=Z,307nm,19.2s,baz=81,slow=38
comp=Z,3.2nm,0.8s
AKBB Malin Array Si 83.70 320 IAmb IAmb 13 18 46.5
comp=Z,5.3nm,0.8s
AKBB Malin Array Si 83.70 320 *ce*P **P** **13 18 44.9 +1.9**
KIEV Kiev 83.71 320 ⇓P **P** **13 18 44.7 +1.7**
KIEV Kiev 83.71 320 P **P** **13 18 43.3 +0.2**
KIEV IAmb IAmb 13 18 46.5
comp=Z,4.8nm,0.8s
KIEV Kiev 83.71 320 P **P** **13 18 43.3 +0.2**
KIEV pmax pmax
comp=Z,5.0nm,0.8s
C21K Knifeblade Rid 83.95 21 P **P** **13 18 44.3 +0.3**
baz=271
H20K Anotleneega Mo 83.98 25 P **P** **13 18 43.6 -0.7**
baz=271
B21K Ikpikpuk River 84.00 21 P **P** **13 18 44.5 +0.3**
baz=271
L19K White Mountain 84.07 28 P **P** **13 18 45.5 +0.7**
baz=272
N19K Bonanza Creek 84.29 30 P **P** **13 18 45.5 -0.5**
baz=272
J20K Nowinta River 84.33 26 P **P** **13 18 46.7 +0.7**
baz=272
B22K Teshekpuk Lake 84.39 20 P **P** **13 18 45.3 -0.8**
baz=272
K20K Telida 84.39 27 P **P** **13 18 45.7 -0.7**
baz=272
O19K Port Alsworth 84.39 30 P **P** **13 18 44.8 -1.6**
baz=272
IMAR Indian Mountai 84.43 24 P **P** **13 18 46.1 -0.4**
L20K Farewell, AK 84.51 28 P **P** **13 18 47.0 0.0**
baz=272
CFR Carcaliu 84.66 315 ⇓P **P** **13 18 50.0 +1.9**
CFR Carcaliu 84.66 315 P **P** **13 18 49.9 +1.9**
D22K Ayikyak River 84.71 21 IAmb IAmb 13 19 06.4
comp=Z,8.7nm,1.1s
ARCES ARCESS Array B 84.78 339 P **P** **13 18 45.6 -2.5**
comp=Z,10nm,1.1s,baz=102,slow=5.1,SNR=6.2
ARCES LR LR 14 01 37.7
comp=Z,144nm,19.6s,baz=102,slow=39
comp=Z,10nm,1.1s
VSU Vasula 84.83 328 *ce*P **P** **13 18 51.4 +2.8**
VSU pmax pmax
comp=Z,25nm,1.7s
H21K Melozitna Rive 84.83 25 P **P** **13 18 48.0 -0.5**
baz=273
M20K Styx River 84.89 28 P **P** **13 18 49.0 -0.1**
baz=273
FINES FINESS Array B 84.99 331 *i*P **P** **13 18 50.9 +1.5**
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES FINESS Array B 84.99 331 P **P** **13 18 46.9 -2.4**
comp=Z,6.1nm,0.7s,baz=85,slow=6.3,SNR=14
comp=Z,6.1nm,0.7s
E22K Anaktuvuk Pass 85.08 22 P **P** **13 18 50.3 +0.6**
baz=274
CHUM Lake Minchumin 85.15 26 P **P** **13 18 50.7 +0.6**
baz=274
I21K Tanana 85.21 25 P **P** **13 18 50.7 +0.3**
baz=274
G22K Bettles 85.28 23 P **P** **13 18 49.9 -0.8**
baz=274
CAST Castle Rocks 85.28 27 IAmb IAmb 13 18 56.4
comp=Z,12nm,1.0s
CAST Castle Rocks 85.28 27 P **P** **13 18 49.6 -1.2**
baz=274
N20K Mount Spurr 85.38 29 P **P** **13 18 50.7 -0.8**
baz=274
C23K Itkillik River 85.38 20 P **P** **13 18 50.3 -0.9**
baz=275
H22K Ishtalitna Cre 85.41 24 P **P** **13 18 51.2 -0.2**
baz=274
KDAK Kodiak Island 85.42 33 LR LR 13 54 31.8
comp=Z,86nm,21.9s,baz=267,slow=34
D23K Nanushuk River 85.43 21 P **P** **13 18 50.8 -0.7**
baz=275
VRI Vrincioaia 85.61 316 ⇓P **P** **13 18 53.9 +1.1**
VRI Vrincioaia 85.61 316 ⇓P **P** **13 18 53.9 +1.1**
TESR Tescani 85.62 316 ⇑P **P** **13 18 53.7 +0.8**
SKT Skwentna 85.64 28 IAmb IAmb 13 18 57.0
comp=Z,17nm,1.2s
SKT Skwentna 85.64 28 P **P** **13 18 51.3 -1.4**
baz=274
PLOR Plostina 85.66 315 ⇓P **P** **13 18 53.9 +0.7**
PLOR Plostina 85.66 315 P **P** **13 18 53.8 +0.7**
BPAW Bear Paw Mtn. 85.72 26 P **P** **13 18 51.8 -1.2**
BPAW Bear Paw Mtn. 85.72 26 P **P** **13 18 51.8 -1.2**
baz=275
MLY Manley 85.74 25 IAmb IAmb 13 18 58.8
comp=Z,8.5nm,0.8s
MLY Manley 85.74 25 P **P** **13 18 52.9 -0.2**
baz=275
COLD Coldfoot 85.76 23 P **P** **13 18 52.6 -0.5**
baz=275
G23K Bananza Creek 85.88 23 P **P** **13 18 53.5 -0.3**
baz=276
MBAR Mbarara 85.90 269 *ce*P P 13 19 00.1 +5.0
MBAR pmax pmax
comp=Z,7.0nm,1.3s
MBAR Mbarara 85.90 269 LR LR 13 59 01.6
comp=Z,161nm,18.0s,baz=104,slow=37
E23K Chandalar 85.90 22 P **P** **13 18 53.8 -0.2**
baz=276
NEHR Nehoiu 85.94 315 ⇓P **P** **13 18 55.5 +0.9**

C24K Franklin Bluff 86.05 20 P **P** **13 18 54.5 0.0**
baz=276
SUA Susitna One 86.06 29 IAmb IAmb 13 18 57.6
comp=Z,14nm,0.9s
SUA Susitna One 86.06 29 P **P** **13 18 53.9 -1.0**
baz=275
D24K Happy Valley 86.08 21 P **P** **13 18 54.8 +0.1**
baz=276
MLR Muntele Rosu 86.18 315 ⇑P **P** **13 18 58.1 +2.2**
MLR Muntele Rosu 86.18 315 P **P** **13 18 54.3 -1.6**
MLR IAmb IAmb 13 18 59.4
comp=Z,14nm,0.9s
MLR Muntele Rosu 86.18 315 ⇑P **P** **13 18 58.1 +2.2**
MLR Muntele Rosu 86.18 315 LR LR 14 04 23.7
comp=Z,223nm,20.4s,baz=74,slow=40
SPITS Spitsbergen Ar 86.24 348 P **P** **13 18 53.6 -1.7**
comp=Z,7.7nm,0.8s,baz=106,slow=9.8,SNR=2.7
SPITS LR LR 14 02 43.1
comp=Z,221nm,18.1s,baz=14,slow=39
comp=Z,7.7nm,0.8s
RAR Rarotonga 86.29 112 LR LR 13 57 09.7
comp=Z,25nm,18.2s,baz=262,slow=36
I23K Minto, Yukon-K 86.31 25 P **P** **13 18 55.1 -0.8**
baz=276
E24K Your Creek 86.32 22 P **P** **13 18 56.3 +0.3**
baz=277
ELND Elena 86.44 313 ⇓P **P** **13 18 58.6 +1.5**
NEA2 Nenana 86.50 26 IAmb IAmb 13 19 02.8
comp=Z,6.0nm,0.7s
BURAR Bucovina Array 86.50 317 ⇑P **P** **13 18 58.4 +1.0**
BURAR Bucovina Array 86.50 317 P **P** **13 18 58.7 +1.4**
BURAR IAmb IAmb 13 19 01.9
comp=Z,9.3nm,0.9s
BURAR Bucovina Array 86.50 317 ⇑P **P** **13 18 58.4 +1.0**
BUR08 Bucovina Ar. S 86.51 317 P **P** **13 18 55.8 -1.6**
BUR08 IAmb IAmb 13 19 01.2
comp=Z,16nm,1.2s
DOPR Dopca 86.53 316 ⇓P **P** **13 18 57.9 +0.5**
PABE Paberze 86.56 325 P **P** **13 18 56.5 -0.7**
RC01 Rabbit Creek A 86.58 29 P **P** **13 18 56.0 -1.3**
baz=276
F24K Squaw Lake 86.62 23 P **P** **13 18 57.1 -0.3**
baz=277
MCK McKinley 86.66 26 P **P** **13 18 56.2 -1.4**
baz=277
RND Reindeer 86.73 27 IAmb IAmb 13 19 01.6
comp=Z,20nm,1.4s
MDM Murphy Dome 86.81 25 IAmb IAmb 13 19 11.5
comp=Z,20nm,1.5s
H24K Noodor Dome 86.84 24 P **P** **13 18 58.1 -0.5**
baz=278
G24K Hadweenzic Riv 86.89 23 P **P** **13 18 59.3 +0.6**
baz=278
D25K Kavik River 86.92 21 P **P** **13 18 57.7 -1.2**
baz=279
CCB Clear Creek Bu 87.03 25 IAmb IAmb 13 19 03.8
comp=Z,20nm,1.8s
VNDA Vanda 87.10 171 P **P** **13 18 57.7 -1.7**
comp=Z,3.0nm,1.1s,baz=315,slow=8.6,SNR=3.0
VNDA LR LR 13 57 36.6
comp=Z,164nm,19.0s,baz=264,slow=36
comp=Z,3.0nm,1.1s
ARR Arges 87.11 315 ⇑P **P** **13 19 01.5 +1.1**
C26K Camden Bay 87.33 20 P **P** **13 19 00.5 -0.2**
baz=280
E25K Arctic Village 87.40 22 P **P** **13 19 01.0 -0.2**
baz=280
IL31 87.40 25 IAmb IAmb 13 21 45.4
comp=Z,22nm,1.9s
ILAR Eielson Array 87.40 25 P **P** **13 19 00.7 -0.6**
comp=Z,0.6nm,0.6s,baz=288,slow=4.4,SNR=16
comp=Z,0.6nm,0.6s
G25K Bearman Lake 87.42 23 P **P** **13 19 01.2 -0.1**
baz=279
HDA Harding Lake 87.43 26 P **P** **13 19 02.0 +0.7**
baz=278
F25K Christian Rive 87.46 22 P **P** **13 19 01.4 -0.1**
baz=279
BMAR Burnt Mountain 87.89 22 P **P** **13 19 03.4 -0.2**
F26K Sheenjek River 88.01 22 P **P** **13 19 03.8 -0.3**
baz=281
MARR Marisel-Cluj 88.03 317 ⇑P **P** **13 19 06.8 +2.0**
J25K Salcha River, 88.07 25 IAmb IAmb 13 20 37.9
comp=Z,21nm,1.9s
G26K Porcupine Rive 88.29 23 P **P** **13 19 05.6 +0.3**
baz=281
GZR Gura Zlata 88.41 315 ⇓P **P** **13 19 08.1 +1.5**
GZR Gura Zlata 88.41 315 ⇓P **P** **13 19 08.1 +1.5**
BLKB Belogradchik 88.70 314 ⇑P **P** **13 19 09.7 +1.8**
HERR Herculane 88.73 315 ⇓P **P** **13 19 09.0 +1.0**
CRVS Cervenica-Dubn 88.86 319 *e*P **P** **13 19 10.7 +2.2**
CRVS Cervenica-Dubn 88.86 319 *e*P **P** **13 19 10.7 +2.2**
J26L Joseph Creek 88.86 25 P **P** **13 19 09.9 +1.6**
baz=281
I26K Coal Creek Min 88.87 24 P **P** **13 19 09.9 +1.7**
baz=282
D28M Stokes Point 89.57 20 P **P** **13 19 12.1 +0.7**
baz=286
L27K Beaver Creek, 89.92 26 P **P** **13 19 13.7 +0.4**
baz=283
BCAR Beaver Creek A 89.94 26 P **P** **13 19 11.3 -2.0**
LSZ Lusaka 89.99 255 LR LR 13 57 13.9
comp=Z,96nm,21.4s,baz=128,slow=34
H29M Whitestone 90.56 23 P **P** **13 19 16.1 0.0**
baz=286
J29N Klondike Camp 91.12 25 IAmb IAmb 13 19 26.9
comp=Z,44nm,1.9s
J29N Klondike Camp 91.12 25 P **P** **13 19 18.0 -0.8**
baz=286
L29M L29M 91.54 26 P **P** **13 19 21.0 +0.2**
baz=286
INK Inuvik 91.69 20 IAmb IAmb 13 19 26.1
comp=Z,12nm,1.2s
INK Inuvik 91.69 20 LR LR 14 03 05.5
comp=Z,88nm,21.1s,baz=110,slow=37
F31M Tsiigehtchic 91.92 21 P **P** **13 19 20.5 -1.8**
F31M Tsiigehtchic 91.92 21 P **P** **13 19 21.4 -0.9**
baz=290
VRAC Vranov 91.94 320 LR LR 14 03 59.0
comp=Z,341nm,19.1s,baz=57,slow=38
NOA NORSAR Array B 92.13 332 LR LR 14 04 41.8
comp=Z,138nm,18.4s,baz=70,slow=38
H31M Peel River 92.26 23 P **P** **13 19 23.4 -0.6**
baz=290
BRG Berggiesshubel 93.27 322 *e*P **P** **13 19 31.4 +2.5**
BRG Amp 13 19 31.9
comp=Z,5.7nm,0.9s
BRG Berggiesshubel 93.27 322 P P 13 19 35.9 +6.9
BRG Amp 13 19 38.1
comp=Z,5.2nm,1.0s
BRG Amp 14 04 14.0
comp=Z,0.2nm,17.6s
BRG Berggiesshubel 93.27 322 *e*P **P** **13 19 31.4 +2.5**
BRG pmax pmax
comp=Z,6.0nm,0.9s
LBTB Lobatse 93.37 245 LR LR 14 00 21.6
comp=Z,231nm,18.2s,baz=100,slow=35
GERES GERESS Array B 93.90 320 LR LR 14 05 27.2
comp=Z,378nm,18.5s,baz=60,slow=38
FARO Faro, Yukon 93.91 26 P **P** **13 19 31.5 -0.2**
baz=291
BOSA Boshof 93.97 242 LR LR 13 58 30.1
comp=Z,172nm,19.6s,baz=178,slow=33
C36M Paulatuk 94.35 18 P **P** **13 19 34.1 +0.6**
baz=300
JMIC Jan Mayen 95.10 344 LR LR 14 06 24.6
comp=Z,98nm,19.6s,baz=70,slow=38
PPT2 Papeete2 95.47 107 *e*S **S** **13 30 59.0 +2.2**
comp=Z,117nm,28.2s
PPT2 *e*SS **SS** **13 37 26.5 +1.5**
comp=Z,165nm,28.0s
PPT2 Papeete2 95.47 107 *e*LR LR 13 50 19.8
comp=Z,310nm,27.2s
PPT2 *e*LR LR 13 50 28.2
comp=Z,241nm,32.5s
QSPA South Pole Qui 95.91 180 P **P** **13 19 41.6 +0.8**
QSPA South Pole Qui 95.91 180 LR LR 14 03 53.7
comp=Z,194nm,19.2s,baz=253,slow=36
DLBC Dease Lake 96.86 29 LR LR 14 08 25.7
comp=Z,51nm,18.0s,baz=286,slow=38
DAVOX Davos/Dischmat 96.92 318 LR LR 14 07 33.5
comp=Z,287nm,18.4s,baz=71,slow=38
RES Resolute Bay 97.19 8 LR LR 14 10 25.7
comp=Z,96nm,18.1s,baz=12,slow=40
SUR Sutherland 98.03 238 LR LR 13 58 30.5
comp=Z,148nm,21.3s,baz=169,slow=32
YKA Yellowknife Ar 101.39 22 *ce*P **Pdif** **13 20 09.3 +4.0**

YKA					pmax	pmax			
	comp=Z,1.0nm,0.9s								
YKA	**Yellowknife Ar**	**101.39**	**22**	P		**Pdif**	**13 20 03.4**	**-2.0**	
	comp=Z,0.2nm,0.5s,baz=309,slow=4.5,SNR=2.9								
TXAR	**Lajitas Array**	**127.77**	**45**	PKP		**PKPdf**	**13 25 17.7**	**-2.9**	
	comp=Z,0.4nm,0.6s,baz=316,slow=2.5,SNR=4.6								
PLCA	**Paso Flores**	**144.85**	**171**	PKP		**PKPab**	**13 25 48.8**	**-1.9**	
	comp=Z,4.4nm,1.1s,baz=224,slow=3.3,SNR=4.0								

*IDC **08** 13:16:01.9±1.3,6˚.14S×143˚.11E, h0km, mb3.6/4, mbtmp3.7/6, ML1.3/1, Error ellipse: s-maj=45.6km s-min=30.4km az=72.0*

ISC 08 13:16:07.0±0.9,6˚44S±0˚.09×142˚97E±0˚.09, h35km, n14, σ2s50/17, mb3.5/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
PMG	**Port Moresby**	**5.09**	**126**	Pn		**Pn**	**13 17 20.0**		**-0.9**
	0.7nm,0.3s,baz=284,slow=13,SNR=2.2								
PMG				Sn		**Sn**	**13 18 17.6**		**-0.9**
	1.1nm,0.3s,baz=288,slow=20,SNR=1.3								
	5.7nm,0.6s								
KDU	**Kakadu**	**12.06**	**238**	P		**Pn**	**13 18 55.8**		**-0.7**
MTN	**Manton Dam**	**13.28**	**241**	P		**Pn**	**13 19 12.6**		**-0.6**
QIS	**Mount Isa**	**14.41**	**193**	P		**P**	**13 19 38.6**		**+3.6**
WRA	**Warramunga Arr**	**15.82**	**211**	Pn		**Pn**	**13 19 47.2**		**0.0**
	0.4nm,0.3s,baz=31,slow=12,SNR=3.2								
WRA				Sn		**Sn**	**13 22 36.5**		**-5.1**
	0.1nm,0.3s,baz=28,slow=24,SNR=1.6								
KNRA	**Kununurra**	**16.68**	**235**	P		**Pn**	**13 19 56.8**		**-1.3**
AS01	**Alice Springs**	**19.20**	**206**	P		**Pn**	**13 20 31.5**		**+2.4**
ASAR	**Alice Springs**	**19.22**	**206**	P		**Pn**	**13 20 31.3**		**+2.0**
	6.4nm,0.6s,baz=33,slow=9.4,SNR=73								
ASAR				S		**Sn**	**13 24 00.7**		**-3.2**
	0.2nm,0.5s,baz=162,slow=33,SNR=1.4								
OOD	**Oodnadatta**	**22.33**	**197**	P		**P**	**13 21 06.3**		**+4.5**
WRKA	**Warakurna**	**23.22**	**216**	P		**P**	**13 21 12.4**		**+1.2**
MKAR	**Makanchi Array**	**75.32**	**322**	P		**P**	**13 27 46.4**		**-0.3**
	0.3nm,0.6s,baz=98,slow=7.8,SNR=4.3								
	0.3nm,0.6s								
KURBB	**Kurchatov Arra**	**79.21**	**324**	P		**P**	**13 28 07.6**		**-0.8**
	0.1nm,0.4s,baz=99,slow=4.8,SNR=2.4								
	0.1nm,0.4s								
BVAR	**Borovoye Array**	**84.78**	**325**	P		**P**	**13 28 37.9**		**+0.2**
	1.0nm,0.7s,baz=116,slow=6.6,SNR=6.1								
	1.0nm,0.7s								
ILAR	**Eielson Array**	**87.48**	**24**	P		**P**	**13 28 49.5**		**-1.3**
	0.3nm,0.9s,baz=230,slow=5.5,SNR=2.1								
	0.3nm,0.9s								

IDC 08 13:17:59.3±2.0,6˚06S×142˚32E, h0km, mb3.5/1, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=44.0km s-min=30.6km az=51.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
PMG	**Port Moresby**	**5.83**	**125**	Pn		Pn	13 19 27.4		+0.4
	8.8nm,0.9s,baz=293,slow=15,SNR=1.8								
PMG				Sn		Sn	13 20 34.4		-0.3
	0.6nm,0.3s,baz=288,slow=19,SNR=1.7								
WRA	**Warramunga Arr**	**15.83**	**209**	Pn		Pn	13 21 42.4		-1.4
	0.1nm,0.3s,baz=26,slow=13,SNR=1.8								
	0.3nm,0.5s								
ASAR	**Alice Springs**	**19.29**	**204**	P		P	13 22 26.4		+0.5
	0.1nm,0.3s,baz=32,slow=10,SNR=5.1								
ASAR				S		Sn	13 26 00.2		-3.6
	0.9nm,0.9s,baz=17,slow=26,SNR=2.9								
	0.9nm,0.6s								
MKAR	**Makanchi Array**	**74.63**	**322**	P		P	13 29 40.6		+0.1
	0.4nm,0.8s,baz=116,slow=6.6,SNR=3.0								
	0.4nm,0.8s								

*CATAC **08** 13:19:39.3±0.8,8˚.33N×82˚.80W, h17km±2km, ML2.7*
*UPA **08** 13:19:39.5±1.2,8˚.29N×82˚.78W, h10km±7km, ML3.8, MW3.7*

ISC 08 13:19:39.5±1.1,8˚34N±0˚.05×82˚75W±0˚.04, h25km±7km, n23, σ0s99/40, 2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
PTPM	**Petroterminale**	**0.19**	**225**	*e*P		**Pb**	**13 19 44.6**		**-0.4**
PTPM				*e*S		**Sb**	**13 19 48.9**		**+0.1**
CCOL	**Caracol de Cor**	**0.24**	**287**	*i* P		**Pb**	**13 19 45.1**		**-0.6**
CCOL				*i* S		**Sb**	**13 19 49.6**		**-0.2**
CCOL				IAML			13 19 51.2		
	comp=Z,6μm,1.0s								
CDITO	**Canoas**	**0.27**	**331**↓↓	*e*P		**Pb**	**13 19 46.0**		**-0.1**
CDITO				*e*S		**Sb**	**13 19 50.2**		**-0.3**
CDITO	**Canoas**	**0.27**	**331**	*i* P		**Pb**	**13 19 46.0**		**-0.1**
CDITO				*i* S		**Sb**	**13 19 51.0**		**+0.5**
CDITO				IAML			13 19 51.3		
	comp=Z,990nm,1.0s								
DVD	**David**	**0.31**	**72**	*e*S		**Sn**	**13 19 54.8**		**+0.6**
PTAR3	**Potrerillos Ar**	**0.43**	**35**	*e*P		**Pn**	**13 19 50.2**		**0.0**
PTAR3				*e*S		**Sn**	**13 19 57.9**		**+0.6**
BCO2	**Palmira**	**0.43**	**30**↓↓	*i* P		**Pn**	**13 19 50.1**		**-0.2**
BCO2				AMP			13 19 51.8		
	comp=Z,7μm,0.1s								
BCO2				*e*S		**Sn**	**13 19 58.0**		**+0.4**
BRU2	**Volcan**	**0.46**	**7**	*e*P		**Pn**	**13 19 50.2**		**-0.4**
BRU2				*e*S		**Sn**	**13 19 58.2**		**+0.2**
BRU2	**Volcan**	**0.46**	**7**	*i* P		**Pn**	**13 19 50.2**		**-0.4**
BRU2				*i* S		**Sn**	**13 19 58.1**		**0.0**
BRU2				IAML			13 19 59.6		
	comp=Z,490nm,1.0s								
MLIR3	**Monte Lirio, C**	**0.46**	**350**	*e*P		Pb	13 19 43.8		-5.3
MLIR3				*e*S		**Sn**	**13 20 00.3**		**+2.2**
BC3P	**Paso Ancho**	**0.49**	**16**	*e*P		**Pn**	**13 19 50.7**		**-0.4**
BC3P				*e*S		**Sn**	**13 19 58.9**		**-0.1**
LNBQ3	**Los Naranjos,**	**0.54**	**34**	*e*P		**Pb**	**13 19 49.2**		**-1.3**
LNBQ3				*e*S		**Sn**	**13 20 00.3**		**+0.1**
LNBQ3	**Los Naranjos,**	**0.54**	**34**	*e*P		**Pb**	**13 19 49.2**		**-1.3**
POTG	**Potrero Grande**	**0.80**	**332**	*i* P		**Pb**	**13 19 54.5**		**-0.3**
POTG				*i* S		**Sb**	**13 20 04.5**		**-0.8**
POTG				IAML			13 20 08.8		
	comp=Z,1μm,1.0s								
CHGR2	**Aguacate**	**0.84**	**45**	*e*P		**Pn**	**13 19 56.5**		**+0.7**
CHGR2				*e*S		**Sn**	**13 20 08.7**		**+1.4**
PLAN	**Los Planes de**	**0.98**	**290**	*i* P		**Pn**	**13 19 56.4**		**-1.3**
PLAN				*i* S		**Sn**	**13 20 10.9**		**0.0**
PLAN				IAML			13 20 12.1		
	comp=Z,300nm,1.0s								
SRBA	**San Rafael, Bu**	**1.08**	**326**	*i* P		**Pn**	**13 19 58.1**		**-1.0**
SRBA				*i* S		**Sb**	**13 20 12.8**		**-0.5**
SRBA				IAML			13 20 13.3		
	comp=Z,140nm,1.0s								
OCHAL	**Ojochal**	**1.17**	**310**	*i* P		**Pn**	**13 19 59.2**		**-1.1**
OCHAL				IAML			13 20 01.7		
	comp=Z,2.6nm,1.0s								
CDM	**Cerro de Muert**	**1.57**	**320**	*i* P		**Pn**	**13 20 06.0**		**-0.3**
CDM				*i* S		**Sn**	**13 20 26.6**		**+0.6**
CDM				IAML			13 20 32.5		
	comp=Z,54nm,1.0s								
RIMA	**Rio Macho**	**1.80**	**322**	*i* P		**Pn**	**13 20 09.9**		**+0.7**
RIMA				IAML			13 20 13.7		
	comp=Z,38nm,1.0s								
RIMA				*i* S		**Sb**	**13 20 32.9**		**-1.2**
JACO	**JACO, Garabito**	**2.30**	**305**	*i* P		**Pn**	**13 20 16.2**		**+0.3**
SOCE	**Pocosol**	**2.75**	**318**	*i* P		**Pb**	**13 20 26.7**		**-1.3**
SOCE				*i* S		**Sb**	**13 21 03.0**		**+1.7**
OMEN	**Al SSO del Vol**	**4.24**	**318**	*i* P		**Pn**	**13 20 45.7**		**+3.1**

DJA 08 13:30:46.2±0.9,2˚N±8˚×127˚E±˚, h10km, M3.5/6, MLv3.5/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
TNTI	**Ternate**	**1.34**	**142**	P		Pn	13 31 07.8		-3.3
LBMI	**Labuha**	**2.64**	**159**	P		Pn	13 31 29.2		+0.3
LBMI				S		Sn	13 32 03.1		+2.0
KMSI	**Cibinong**	**2.85**	**244**	P		Pn	13 31 32.4		+0.6
SANI	**Sanana**	**3.90**	**188**	P		Pn	13 31 45.3		-1.0

IDC 08 13:31:26.3±2.3,5˚06S×128˚62E, h0km, mb3.4/2, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=232.0km s-min=27.8km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
WRA	**Warramunga Arr**	**15.80**	**160**	Pn		Pn	13 35 08.3		-2.1
	0.1nm,0.3s,baz=332,slow=15,SNR=0.9								
WRA				Sn		Sn	13 38 02.7		-3.7
	baz=342,slow=24,SNR=2.0								
	0.2nm,0.7s								
ASAR	**Alice Springs**	**19.18**	**165**	P		Pn	13 35 52.6		0.0
	0.3nm,0.3s,baz=350,slow=10,SNR=33								
	1.1nm,0.6s								
MKAR	**Makanchi Array**	**65.86**	**327**	P		P	13 42 13.6		-0.3
	0.2nm,0.6s,baz=118,slow=7.2,SNR=2.8								
	0.2nm,0.6s								
KURBB	**Kurchatov Arra**	**70.15**	**329**	P		P	13 42 40.9		+0.2
	0.4nm,0.7s,baz=132,slow=5.5,SNR=4.6								
	0.4nm,0.7s								

*IDC **08** 13:49:33.0±0.9,6˚.24S×142˚.97E, h0km, mb4.0/8, mbtmp4.0/10, ML2.0/1, MS3.4/2, Error ellipse: s-maj=38.6km s-min=21.8km az=63.0*

ISC 08 13:49:34.6±0.7,6˚3S±0˚.1×142˚86E±0˚.09, h10km, n19, σ1s60/18, mb4.0/8, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
PMG	**Port Moresby**	**5.24**	**126**	Pn		**Pn**	**13 50 53.8**		**+0.8**
	3.5nm,0.3s,baz=352,slow=8.3,SNR=14								
PMG				Sn		**Sn**	**13 51 52.2**		**-1.2**
	5.7nm,0.3s,baz=35,slow=7.4,SNR=7.6								
	12nm,0.4s								
COEN	**Coen**	**7.57**	**178**	P		Pb	13 51 39.3		-6.8
KDU	**Kakadu**	**12.02**	**238**	P		**Pn**	**13 52 24.7**		**-1.4**
MTN	**Manton Dam**	**13.24**	**240**	P		**Pn**	**13 52 41.3**		**-1.5**
CTA	**Charters Tower**	**14.06**	**167**	Lg		Lg	13 56 54.6		
	0.1nm,0.3s,baz=356,slow=14,SNR=1.3								
CTA				LR		LR	13 58 31.2		
	comp=Z,63nm,19.4s,baz=261,slow=38								
WRA	**Warramunga Arr**	**15.85**	**211**	Pn		**Pn**	**13 53 14.8**		**-3.2**
	0.4nm,0.3s,baz=30,slow=13,SNR=22								
WRA				Sn		Sn	13 56 01.4		-12
	0.1nm,0.3s,baz=23,slow=22,SNR=2.0								
WRA				Lg		Lg	13 57 55.1		
	0.1nm,0.3s,baz=54,slow=10,SNR=2.2								
KNRA	**Kununurra**	**16.65**	**235**	P		**Pn**	**13 53 26.1**		**-2.1**
ASAR	**Alice Springs**	**19.26**	**206**	P		**P**	**13 54 00.9**		**+1.5**
	5.5nm,0.6s,baz=34,slow=9.6,SNR=65								
ASAR				S		Sn	13 57 24.0		-12
	0.8nm,0.8s,baz=15,slow=29,SNR=4.4								
ASAR				Lg		Lg	13 59 42.3		
	0.1nm,0.3s,baz=18,slow=30,SNR=2.1								
ASAR				LR		LR	14 02 01.5		
	comp=Z,212nm,18.4s,baz=35,slow=39								
FITZ	**Fitzroy Crossi**	**20.46**	**234**	P		**P**	**13 54 13.8**		**+1.3**
OOD	**Oodnadatta**	**22.39**	**197**	P		**P**	**13 54 36.0**		**+2.7**
WRKA	**Warakurna**	**23.24**	**215**	P		**P**	**13 54 44.2**		**+2.0**
SONM	**Songino Array**	**62.78**	**333**	P		**P**	**14 00 01.2**		**+0.9**
	0.4nm,0.6s,baz=146,slow=6.7,SNR=2.7								
	0.4nm,0.6s								
MKAR	**Makanchi Array**	**75.18**	**322**	P		**P**	**14 01 17.4**		**0.0**
	0.7nm,0.8s,baz=123,slow=6.1,SNR=5.6								
	0.7nm,0.8s								
ZALV	**Zalesovo Beam**	**77.15**	**329**	P		**P**	**14 01 27.7**		**-0.7**
	0.3nm,0.3s,baz=122,slow=7.0,SNR=2.1								
	0.3nm,0.3s								
KURBB	**Kurchatov Arra**	**79.07**	**324**	P		**P**	**14 01 38.9**		**-0.1**
	0.4nm,0.3s,baz=124,slow=4.9,SNR=2.2								
	0.4nm,0.3s								
QSPA	**South Pole Qui**	**83.63**	**180**	P		**P**	**14 02 03.4**		**+0.2**
	1.7nm,1.1s,baz=15,slow=16,SNR=2.0								
	1.7nm,1.1s								
NRIK	**Noril'sk**	**84.36**	**343**	P		**P**	**14 02 06.5**		**-0.1**
	1.0nm,0.3s,baz=123,slow=5.8,SNR=3.8								
	1.0nm,0.3s								
BVAR	**Borovoye Array**	**84.64**	**325**	P		**P**	**14 02 08.4**		**0.0**
	2.9nm,0.8s,baz=111,slow=6.5,SNR=16								
	2.9nm,0.8s								
ILAR	**Eielson Array**	**87.44**	**24**	P		**P**	**14 02 20.9**		**-1.1**
	1.0nm,0.8s,baz=255,slow=5.1,SNR=8.5								
	1.0nm,0.8s								

*AZER **08** 13:53:19.9, 41˚.95N×49˚.33E, h5km, ml3.0*
*MOS **08** 13:53:19.1, 41˚.92N×49˚.54E, h18km, MPVA4.1*
*DRS **08** 13:53:22.1, 42˚.01N×49˚.71E, h22km*

ISC 08 13:53:20.7±1.4,42˚03N±0˚.03×49˚55E±0˚.06, h17km±6km, n72, σ1s43/134, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
DRN	**Derbent**	**0.91**	**271**	*e*P		**Pb**	**13 53 37.5**		**-0.4**
DRN				*e*S		**Sb**	**13 53 50.7**		**+1.0**
DRN	**Derbent**	**0.91**	**271**	*e*Pg		**Pb**	**13 53 37.5**		**-0.4**
	342nm,0.3s								
DRN				*e*Sg		**Sb**	**13 53 50.1**		**+0.4**
	98nm,0.2s								
QUBA	**Quba, Azerbaij**	**1.04**	**230**	P		**Pb**	**13 53 39.6**		**-0.6**
QUBA				S		**Sn**	**13 53 54.4**		**-0.2**
SIZA	**Siyzn**	**1.07**	**207**	P		**Pb**	**13 53 40.0**		**-0.6**
SIZA				S		**Sg**	**13 53 56.0**		**+0.7**
QSAR	**Qusar**	**1.09**	**243**	P		**Pn**	**13 53 40.4**		**-0.8**
QSAR				S		**Sb**	**13 53 56.0**		**+1.0**
KSMR	**Kasumkent**	**1.14**	**249**	*e*P		**Pn**	**13 53 41.1**		**-0.8**
KSMR				*e*S		**Sb**	**13 53 56.6**		**+0.1**
KSMR	**Kasumkent**	**1.14**	**249**	*e*Pg		**Pn**	**13 53 41.1**		**-0.8**
	266nm,0.2s								
KSMR				*e*Sg		**Sb**	**13 53 56.6**		**+0.1**
	18nm,0.3s								
ATGJ	**Altiaghaj**	**1.25**	**202**	P		**Pb**	**13 53 44.1**		**+0.2**
ATGJ				S		**Sg**	**13 54 02.0**		**+0.9**
XNQ	**Khinaliq**	**1.36**	**232**	P		**Pn**	**13 53 44.7**		**-0.3**
XNQ				S		**Sn**	**13 54 02.8**		**+0.1**
PQL	**Pirkuli**	**1.43**	**211**	Pn		**Pn**	**13 53 46.4**		**+0.5**
PQL				Sn		**Sg**	**13 54 07.7**		**+0.9**
URKR	**Urkarakh**	**1.43**	**276**	*e*P		**Pn**	**13 53 45.6**		**-0.4**
URKR				*e*S		**Sn**	**13 54 04.7**		**+0.3**
URKR				*i* S		**Sb**	**13 54 05.4**		**+0.5**
URKR				pmax		pmax			
	comp=Z,87nm,0.3s								
URKR				smax		smax			
	comp=E,277nm,0.2s								
URKR				smax		smax			
	comp=N,302nm,0.2s								
URKR				smax		smax			
	comp=N,279nm,0.2s								
URKR	**Urkarakh**	**1.43**	**276**	*e*Pg		**Pn**	**13 53 45.7**		**-0.3**
	comp=N,86nm,0.3s								
URKR				*e*Sg		**Sn**	**13 54 04.7**		**+0.3**
	comp=N,2μm,0.4s								
AKT	**Akhty**	**1.47**	**249**	*e*P		**Pn**	**13 53 46.3**		**-0.1**
AKT				*e*S		**Sn**	**13 54 05.8**		**+0.6**
AKT				*i* S		**Sb**	**13 54 06.3**		**+0.4**
AKT				pmax		pmax			
	comp=Z,261nm,0.2s								
AKT				smax		smax			
	comp=N,952nm,0.3s								
AKT				smax		smax			
	comp=E,2μm,0.4s								
AKT				smax		smax			
	comp=E,1μm,0.3s								
AKT	**Akhty**	**1.47**	**249**	*e*Pg		**Pn**	**13 53 46.4**		**-0.1**
	comp=E,261nm,0.2s								
AKT				*e*Sg		**Sn**	**13 54 05.8**		**+0.6**
	comp=E,296nm,0.4s								
SGKR	**Sergokala**	**1.47**	**288**	*e*P		**Pn**	**13 53 45.8**		**-0.6**
SGKR				*e*S		**Sn**	**13 54 05.6**		**+0.4**
SGKR	**Sergokala**	**1.47**	**288**	*e*Pg		**Pn**	**13 53 46.5**		**+0.2**
	comp=E,90nm,0.3s								
SGKR				*e*Sg		**Sn**	**13 54 06.5**		**+1.3**
	comp=E,635nm,0.7s								
NDR	**Nardaran**	**1.48**	**167**	Pn		**Pg**	**13 53 48.8**		**-0.4**
NDR				Sn		**Sg**	**13 54 11.5**		**+3.0**
GBS	**Qobustan**	**1.56**	**197**	Pn		**Pg**	**13 53 49.9**		**-0.7**
GBS				Sn		**Sg**	**13 54 13.8**		**+2.8**
IML	**Ismayilli**	**1.60**	**220**	Pn		**Pb**	**13 53 49.6**		**-0.3**
IML				Sn		**Sg**	**13 54 11.5**		**-0.9**
QBL	**Gabala**	**1.68**	**231**	Pn		**Pb**	**13 53 51.5**		**+0.5**
QBL				Sn		**Sb**	**13 54 12.3**		**+0.3**
MAK	**Makhachkala**	**1.78**	**302**	P		**Pn**	**13 53 51.4**		**+0.9**
MAK				S		**Sb**	**13 54 15.4**		**+0.7**
MAK				*i* S		**Sn**	**13 54 15.8**		**+3.1**
MAK				pmax		pmax			
	comp=Z,99nm,0.3s								
MAK				smax		smax			
	comp=N,636nm,0.7s								
MAK				smax		smax			
	comp=E,733nm,0.4s								
MAK				smax		smax			
	comp=E,592nm,0.4s								
MAK	**Makhachkala**	**1.78**	**302**	*e*Pg		**Pn**	**13 53 51.5**		**+0.9**
	comp=E,98nm,0.2s								
KMKR	**Kumukh**	**1.83**	**274**	*e*P		**Pn**	**13 53 51.7**		**+0.3**
KMKR				*e*S		**Sn**	**13 54 15.8**		**+1.6**
KMKR				*i* S		**Sb**	**13 54 16.5**		**+0.1**
KMKR				pmax		pmax			
	comp=Z,86nm,0.5s								
KMKR				smax		smax			
	comp=E,238nm,0.2s								
KMKR				smax		smax			
	comp=N,259nm,0.5s								
KMKR				smax		smax			
	comp=N,244nm,0.2s								
KMKR	**Kumukh**	**1.83**	**274**	*e*Pg		**Pn**	**13 53 51.8**		**+0.3**
	comp=N,86nm,0.5s								
KMKR				*e*Sg		**Sn**	**13 54 15.9**		**+1.6**
	comp=N,136nm,0.5s								
KANR	**Karaman**	**1.92**	**308**	*e*P		**Pb**	**13 53 56.9**		**+1.7**
KANR				*e*S		**Sb**	**13 54 18.8**		**0.0**
SEKA	**Sheki**	**1.94**	**246**	P		**Pn**	**13 53 54.5**		**+1.6**
SEKA	**Sheki**	**1.94**	**246**	Pn		**Pn**	**13 53 54.6**		**+1.6**
SEKA				Sn		**Sn**	**13 54 17.9**		**+1.0**
GNBR	**Gunib**	**1.96**	**282**	*e*P		**Pn**	**13 53 53.9**		**+0.8**
GNBR				*e*S		**Sn**	**13 54 18.6**		**+1.4**
GNBR	**Gunib**	**1.96**	**282**	*e*Pg		**Pn**	**13 53 53.9**		**+0.8**
	comp=N,43nm,0.4s								
GNBR				*e*Sg		**Sn**	**13 54 19.5**		**+2.3**
	comp=N,284nm,0.6s								
BUJR	**Buynaksk**	**1.98**	**295**	P		**Pn**	**13 53 53.8**		**+0.5**
BUJR				S		**Sn**	**13 54 20.2**		**+2.5**
BUJR				*i* S		**Sb**	**13 54 20.7**		**+0.2**
BUJR				pmax		pmax			
	comp=Z,44nm,0.2s								
BUJR				smax		smax			
	comp=E,284nm,0.6s								
BUJR				smax		smax			
	comp=N,215nm,0.4s								
BUJR				smax		smax			
	comp=E,250nm,0.3s								
BUJR	**Buynaksk**	**1.98**	**295**	*e*Pg		**Pn**	**13 53 53.9**		**+0.5**
	comp=E,43nm,0.2s								
ARKR	**Arakani**	**1.98**	**288**	*e*P		**Pn**	**13 53 54.2**		**+0.8**
ARKR				*e*S		**Sb**	**13 54 20.7**		**+0.1**
ARKR				*i* S		**Sn**	**13 54 21.5**		**+3.6**
ARKR				pmax		pmax			
	comp=Z,21nm,0.5s								
ARKR				smax		smax			
	comp=E,56nm,0.5s								
ARKR				smax		smax			
	comp=N,56nm,0.2s								
ARKR				smax		smax			
	comp=E,43nm,0.2s								
ARKR	**Arakani**	**1.98**	**288**	*e*Pg		**Pn**	**13 53 54.2**		**+0.8**
	comp=E,20nm,0.5s								
ARKR				*e*Sg		**Sb**	**13 54 20.7**		**+0.1**
	comp=E,72nm,0.3s								
KRNR	**Karanay**	**2.11**	**293**	*e*P		**Pn**	**13 53 56.2**		**+0.9**
KRNR				*e*S		**Sn**	**13 54 24.0**		**+2.8**
KRNR	**Karanay**	**2.11**	**293**	*e*Pg		**Pn**	**13 53 56.2**		**+0.9**
	comp=E,18nm,0.2s								
KRNR				*e*Sg		**Sn**	**13 54 24.0**		**+2.8**
	comp=E,93nm,0.4s								
UNCR	**Uncukul**	**2.15**	**290**	*e*P		**Pn**	**13 53 56.6**		**+0.8**
UNCR				*e*S		**Sn**	**13 54 25.0**		**+2.9**
UNCR				*i* S		**Sb**	**13 54 25.5**		**-0.1**
UNCR				pmax		pmax			
	comp=Z,19nm,0.3s								
UNCR				smax		smax			
	comp=N,93nm,0.4s								
UNCR				smax		smax			
	comp=E,52nm,0.8s								
UNCR				smax		smax			
	comp=N,85nm,0.6s								
UNCR	**Uncukul**	**2.15**	**290**	*e*Pg		**Pn**	**13 53 56.7**		**+0.8**
	comp=N,18nm,0.3s								
UNCR				*e*Sg		**Sn**	**13 54 25.0**		**+2.9**
	comp=N,50nm,0.5s								
HNZR	**Khunzah**	**2.17**	**285**	*e*P		**Pn**	**13 53 57.2**		**+1.1**
HNZR				*e*S		**Sn**	**13 54 25.3**		**+2.7**
XNZR	**Khunzakh**	**2.17**	**285**	*e*Pn		**Pn**	**13 53 57.2**		**+1.0**
	comp=N,19nm,0.3s								
XNZR				*e*Sn		**Sn**	**13 54 25.3**		**+2.6**
	comp=N,67nm,0.4s								
ZKTA	**Zakatala**	**2.22**	**261**	P		**Pn**	**13 53 59.0**		**+2.3**
ZKTA	**Zakatala**	**2.22**	**261**	Pn		**Pn**	**13 53 58.8**		**+2.1**
ZKTA				Sn		**Sb**	**13 54 27.4**		**-0.2**
ZRD	**Zardab**	**2.24**	**220**	Pn		**Pn**	**13 53 57.5**		**+0.6**
ZRD				Sn		**Sb**	**13 54 27.5**		**-0.6**
DBC	**Dubki**	**2.24**	**297**	P		**Pn**	**13 53 58.0**		**+1.0**
DBC				S		**Sn**	**13 54 27.1**		**+2.8**
DBC				*i* S		**Sb**	**13 54 27.7**		**-0.5**
DBC				pmax		pmax			
	comp=Z,12nm,0.2s								
DBC				smax		smax			
	comp=N,67nm,0.4s								
DBC				smax		smax			
	comp=E,89nm,0.4s								
DBC				smax		smax			
	comp=E,80nm,0.3s								
DBC	**Dubki**	**2.24**	**297**	*e*Pn		**Pn**

H01W1	**Cape Leeuwin H**	**25.48**	**305**	T	T	14 34 19.2	
	baz=143,slow=75,SNR=4.7						
H01W2	**Cape Leeuwin H**	**25.49**	**305**	T	T	14 34 18.5	
	baz=143,slow=75,SNR=4.1						
H01W3	**Cape Leeuwin H**	**25.50**	**305**	T	T	14 34 19.6	
	baz=143,slow=75,SNR=4.1						
ASAR	**Alice Springs**	**29.64**	**350**	P	P	14 07 06.7	-0.6
	0.8nm,0.8s,baz=171,slow=9.6,SNR=6.7						
	0.8nm,0.8s						
WRA	**Warramunga Arr**	**33.28**	**351**	P	P	14 07 39.9	+0.6
	0.8nm,0.9s,baz=173,slow=8.0,SNR=3.4						
	0.8nm,0.9s						
H04S1	**CROZET ISLANDS**	**53.29**	**239**	T	T	15 08 48.6	
	baz=131						
H04S2	**CROZET ISLANDS**	**53.30**	**239**	T	T	15 08 48.6	
	baz=131,slow=74						
H04S3	**CROZET ISLANDS**	**53.31**	**239**	T	T	15 08 48.1	
	baz=131,slow=74						

IDC 08 14:01:59.8±22.0, 28°33N×140°85E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=557.3km s-min=46.9km az=173.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**47.78**	**319**	P	P	14 10 37.9	-0.8
	0.3nm,0.4s,baz=102,slow=7.5,SNR=1.5						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**48.78**	**309**	P	P	14 10 46.1	-0.4
	0.4nm,0.5s,baz=97,slow=8.8,SNR=8.1						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**51.34**	**314**	P	P	14 11 07.2	+1.4
	0.6nm,0.4s,baz=107,slow=7.4,SNR=7.5						
	0.6nm,0.4s						
BVAR	**Borovoye Array**	**56.34**	**317**	P	P	14 11 41.8	-0.7
	2.1nm,0.5s,baz=101,slow=6.2,SNR=18						
	2.1nm,0.5s						
ILAR	**Eielson Array**	**57.20**	**29**	P	P	14 11 48.4	0.0
	0.3nm,0.8s,baz=249,slow=7.0,SNR=2.3						
	0.3nm,0.8s						

*GUC **08** 14:15:09.4±2.4, 43.°93S×82.°77W, h10km±999km*
*IDC **08** 14:15:14.8±0.6, 43.°92S×82.°18W, h0km, mb4.5/9, mbtmp4.5/11, ML3.9/2, MS4.7/42, Error ellipse: s-maj=23.7km s-min=18.1km az=118.0*
*GCMT **08** 14:15:17.3±0.1, 44.°38S±0.°01×82.°29W±0.°01, h12km, MW5.3/153, Moment Tensor Solution. s111,c171; s153,c276; Duration: 1ᵹ1 Moment tensor: Scale 10¹⁷ Nm; Mrr=1.03±.01; Mθθ=0.02±.01; Mϕϕ=1.01±.01; Mrθ=0.23±.04; Mθϕ=-0.19±.01; Mϕr=-0.38±.03; Best double couple: Mo=1.12900×10¹⁷ NP1:ϕs=341.00000°, δ=56.00000°, λ=-99.00000°. NP2:ϕs=177.00000°, δ=35.00000°, λ=-77.00000°. Principal axes: T 1.1270, Plg11.0000°, Azm78.0000°; N 0.0090, Plg8.0000°, Azm346.0000°; P -1.1310, Plg77.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **08** 14:15:18, 44.°00S×81.°86W, h12km*
*NEIC **08** 14:15:18, 44.°30S×82.°56W, h12km, Moment Tensor Solution. Duration: 2ᵹ5 Moment tensor: Scale 10¹⁷Nm; Mrr=1.16; Mθθ=0.02; Mϕϕ 1.14; Mrθ=-0.30; Mθϕ=-0.18; Mϕr=0.06; Fault plane solution: Mo=1.20000×10¹⁷ NP1: ϕs=158.27000°, δ=49.01000°, λ=-107.55000°. NP2:ϕs=4.01000°, δ=43.97000°, λ=-70.86000°. Principal axes: T 1.1734, Plg3.0000°, Azm261.0000°; N 0.0627, Plg13.0000°, Azm170.0000°; P -1.2361, Plg77.0000°, Azm2.0000°;*
*NEIC **08** 14:15:18.3±2.5, 43.°99S±0.°08×81.°8W±0.°1, h10km±1km, mb4.9/124, Mww5.3/45 Error ellipse: s-maj=16.2km s-min=12.1km az=246.0*
*BJI **08** 14:15:18.0±0.0, 44.°00S×81.°80W, h15km, Ms5.2/8, Ms7 5.1/8*

ISC 08 14:15:17.6±0.4, 44.°02S±0.°07×81.°96W±0.°07, h10km, n245, σ1ᵹ61/173, mb4.8/59, MS4.7/41, 1C-1D, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LL07	**Hotel Espejo d**	**6.29**	**82**	Pn	Pn	14 16 45.4	-4.9
LL06	**Loncomilla**	**6.36**	**76**	Pn	**Pn**	**14 16 48.8**	**-2.5**
LL06	**Loncomilla**	**6.36**	**76**	*eP*	**Pn**	**14 16 51.0**	**-0.2**
AY02	**Valle Explorad**	**6.66**	**115**		**Pn**	**14 16 57.2**	**+1.8**
AY02	**Valle Explorad**	**6.66**	**115**	*i* P	**Pn**	**14 16 55.1**	**-0.3**
AY01	**Puyuhuapi**	**6.70**	**97**	Pn	**Pn**	**14 16 56.5**	**+0.5**
AY01	**Puyuhuapi**	**6.70**	**97**	*i* P	**Pn**	**14 16 56.6**	**+0.5**
HUDS	**Hudson**	**6.72**	**110**	*i* P	**Pn**	**14 16 55.9**	**-0.4**
LL01	**San Ignacio de**	**7.17**	**80**		**Pn**	**14 16 59.4**	**-2.9**
COYC	**Coyhaique**	**7.20**	**106**	Pn	**Pn**	**14 17 02.5**	**-0.4**
AY03	**Cochrane**	**7.32**	**120**		**Pn**	**14 17 05.0**	**+0.5**
AY03	**Cochrane**	**7.32**	**120**	*i* P	**Pn**	**14 17 05.4**	**+0.9**
LL02	**Futaleuf**	**7.39**	**87**	Pn	**Pn**	**14 17 03.5**	**-2.0**
GO08	**Villa O'Higgin**	**7.89**	**128**	Pn	**Pn**	**14 17 10.9**	**-1.4**
GO08	**Villa O'Higgin**	**7.89**	**128**	*i* P	**Pn**	**14 17 11.4**	**-0.9**
LR05	**Currie**	**8.31**	**66**	Pn	**Pn**	**14 17 17.0**	**-1.1**
LR05	**Currie**	**8.31**	**66**	*i* P	**Pn**	**14 17 16.6**	**-1.4**
LR03	**Panguipulli**	**8.41**	**62**		**Pn**	**14 17 18.9**	**-0.5**
GO06	**Curarrehue**	**9.00**	**64**	Pn	**Pn**	**14 17 26.6**	**-1.0**
GO06	**Curarrehue**	**9.00**	**64**	*i* P	**Pn**	**14 17 27.2**	**-0.4**
PLCA	**Paso Flores**	**9.06**	**73**	Pn	**Pn**	**14 17 27.1**	**-1.4**
PLCA	**Paso Flores**	**9.06**	**73**	Pn	**Pn**	**14 17 26.9**	**-1.5**
	0.2nm,0.3s,baz=250,slow=13,SNR=11						
PLCA				LR	LR	14 20 35.4	
	comp=Z,13μm,19.4s,baz=242,slow=35						
	8.4nm,1.0s						
PLCA	**Paso Flores**	**9.06**	**73**	*i* P	**Pn**	**14 17 27.1**	**-1.4**
PLCA	**Paso Flores**	**9.06**	**73**	*eP*	**Pn**	**14 17 28.7**	**+0.3**
GO09	**Cerro Castillo**	**9.73**	**142**	Pn	**Pn**	**14 17 35.4**	**-2.2**
H03S1	**Juan Fernandez**	**10.43**	**14**	T	T	14 28 53.5	
	baz=190,slow=73,SNR=1196						
H03S2	**Juan Fernandez**	**10.43**	**14**	T	T	14 28 52.3	
	baz=190,slow=73,SNR=1045						
H03S3	**Juan Fernandez**	**10.45**	**14**	T	T	14 28 53.3	
	baz=190,slow=73,SNR=1333						
GO05	**Huala**	**11.86**	**44**	Pn	**Pn**	**14 18 06.2**	**-0.6**
BO02	**Sierra Bellavi**	**12.62**	**47**		**Pn**	**14 18 14.8**	**-2.4**
MT09	**Talagante**	**13.31**	**44**		**Pn**	**14 18 26.3**	**-0.4**
BO04	**La Punta**	**13.33**	**45**	Pn	**Pn**	**14 18 25.8**	**-1.1**
LMEL	**Las Melosas**	**13.65**	**46**		**Pn**	**14 18 30.6**	**-0.7**
MT02	**Curacav**	**13.66**	**42**	Pn	**Pn**	**14 18 31.6**	**+0.3**
MT13	**San Alfonso**	**13.69**	**45**	Pn	**Pn**	**14 18 33.6**	**+1.8**
USHA	**Ushuaia**	**13.92**	**146**	Pn	**Pn**	**14 18 35.9**	**+1.1**
	1.6nm,0.3s,baz=276,slow=0.5,SNR=1.5						
	22nm,0.4s						
PEL	**Peldehue**	**13.97**	**43**	Pn	**Pn**	**14 18 36.3**	**+0.7**
VA06	**Catapilco**	**14.16**	**40**		**Pn**	**14 18 35.1**	**-3.0**
VA03	**San Esteban**	**14.34**	**42**		**Pn**	**14 18 39.4**	**-1.3**
CO02	**Combarbal**	**15.44**	**38**		**Pn**	**14 18 56.0**	**+0.5**
CO06	**Fray Jorge**	**15.63**	**35**		**Pn**	**14 18 55.1**	**-2.7**
CO06				IAmb	IAmb	14 19 06.8	
	comp=Z,98nm,1.4s						
CO03	**El Pedregal**	**15.89**	**38**	P	**P**	**14 19 06.1**	**+1.1**
CO03				IAmb	IAmb	14 19 10.5	
	comp=Z,70nm,1.2s						
TRQA	**Tornquist**	**16.19**	**75**	P	**Pn**	**14 19 05.5**	**+0.3**
TRQA				IAmb	IAmb	14 19 13.3	
	comp=Z,97nm,1.1s						
GO04	**Tololo Observa**	**16.41**	**36**		**Pn**	**14 19 09.1**	**+0.9**
GO04				IAmb	IAmb	14 19 16.7	
	comp=Z,78nm,1.1s						
CO01	**Juntas del Tor**	**16.89**	**38**		**Pn**	**14 19 13.6**	**-0.7**
LCO	**Las Campanas**	**17.47**	**35**		**Pn**	**14 19 19.6**	**-1.9**
GO03	**Copiap**	**18.91**	**34**	P	**Pn**	**14 19 38.6**	**-0.4**
AC06	**Mina Casimiro**	**19.07**	**33**	P	**P**	**14 19 35.8**	**-4.3**
AC02	**Maricunga**	**20.04**	**35**		**P**	**14 19 49.3**	**-1.9**
AC02				IAmb	IAmb	14 20 00.6	
	comp=Z,47nm,1.1s						
AC01	**Pan de Azucar**	**20.07**	**31**		**P**	**14 19 51.5**	**+0.4**
GO02	**Mina Guanaco**	**21.34**	**32**		**P**	**14 20 04.8**	**-0.3**
GO02				IAmb	IAmb	14 20 11.7	
	comp=Z,89nm,1.4s						
PB14	**IPOC Station P**	**21.53**	**30**	P	**P**	**14 20 06.9**	**-0.3**
PB14				IAmb	IAmb	14 20 27.3	
	comp=Z,58nm,1.4s						
PMSA	**Palmer Station**	**23.10**	**160**	LR	LR	14 26 46.8	
	comp=Z,660nm,18.6s,baz=325,slow=30						
PB15	**IPOC Station P**	**23.16**	**30**	P	**P**	**14 20 25.2**	**+0.8**
PB15				IAmb	IAmb	14 20 43.2	
	comp=Z,32nm,1.1s						
PB06	**IPOC Station P**	**23.59**	**30**	P	**P**	**14 20 27.2**	**-1.4**
PB06				IAmb	IAmb	14 20 33.5	
	comp=Z,31nm,1.1s						
PB04	**IPOC Station P**	**23.73**	**28**	P	**P**	**14 20 28.6**	**-1.4**
AF01	**San Pedro de A**	**23.88**	**33**	P	**P**	**14 20 32.3**	**+0.7**
LVC	**Limon Verde**	**23.91**	**31**	P	**P**	**14 20 29.9**	**-2.1**
LVC				IAmb	IAmb	14 20 36.9	
	comp=Z,55nm,1.4s						
LVC	**Limon Verde**	**23.91**	**31**	LR	LR	14 27 47.1	
	comp=Z,2μm,21.0s,baz=209,slow=32						
LVC	**Limon Verde**	**23.91**	**31**	*eP*	**P**	**14 20 34.6**	**+2.6**
PB07	**IPOC Station P**	**24.38**	**28**	IAmb	IAmb	14 20 41.3	
	comp=Z,29nm,1.1s						
PB09	**IPOC Station P**	**24.54**	**30**	P	**P**	**14 20 36.8**	**-0.7**
ITQB	**Itaqui**	**24.70**	**63**	P	**P**	**14 20 39.2**	**+0.4**
ITQB	**Itaqui**	**24.70**	**63**	*eP*	**P**	**14 20 40.0**	**+1.2**
PB01	**IPOC Station P**	**25.15**	**28**	IAmb	IAmb	14 20 49.3	
	comp=Z,39nm,1.3s						
PLTB	**Pedras Altas**	**25.37**	**71**	P	**P**	**14 20 45.5**	**+0.6**
PLTB				IAmb	IAmb	14 20 47.4	
	comp=Z,33nm,1.3s						
PLTB	**Pedras Altas**	**25.37**	**71**	*eP*	**P**	**14 20 45.7**	**+0.8**
CPSB	**Cacapava Do Su**	**26.31**	**69**	*eP*	**P**	**14 20 54.6**	**+1.2**
GO01	**Chusmiza**	**26.52**	**28**	IAmb	IAmb	14 21 10.6	
	comp=Z,28nm,1.5s						
CPUP	**Villa Florida**	**26.61**	**57**	P	**P**	**14 20 56.6**	**+0.5**
CPUP				IAmb	IAmb	14 21 09.5	
	comp=Z,30nm,1.2s						
CPUP	**Villa Florida**	**26.61**	**57**	P	**P**	**14 20 56.1**	**0.0**
	comp=Z,19nm,1.2s,baz=233,slow=9.5,SNR=8.1						
CPUP				LR	LR	14 31 33.6	
	comp=Z,7μm,19.2s,baz=221,slow=37						
	comp=Z,19nm,1.2s						
PB12	**IPOC Station P**	**27.15**	**25**	P	**P**	**14 20 59.0**	**-2.0**
PB12				IAmb	IAmb	14 21 15.3	
	comp=Z,30nm,1.3s						
PB16	**IPOC Station P**	**27.66**	**26**	P	**P**	**14 21 05.9**	**-0.3**
PB16				IAmb	IAmb	14 21 10.5	
	comp=Z,27nm,1.4s						
RPN	**Rapa Nui**	**27.74**	**298**	LR	LR	14 29 06.1	
	comp=Z,4μm,20.4s,baz=129,slow=30						
ITAB	**Concordia**	**29.25**	**65**	*eP*	**P**	**14 21 21.1**	**+1.4**
LPAZ	**La Paz**	**30.02**	**27**	P	P	14 21 22.1	-5.2
LPAZ				IAmb	IAmb	14 21 44.8	
	comp=Z,26nm,1.4s						
LPAZ	**La Paz**	**30.02**	**27**	P	**P**	**14 21 27.0**	**-0.3**
	comp=Z,9.4nm,1.1s,baz=186,slow=8.3,SNR=18						
	comp=Z,9.4nm,1.1s						
LPAZ	**La Paz**	**30.02**	**27**	*eP*	**P**	**14 21 30.5**	**+3.2**
HOPE	**Hope Point**	**30.95**	**126**	P	**P**	**14 21 32.7**	**-1.8**
AQDB	**Aquidauana**	**32.07**	**51**	P	**P**	**14 21 44.0**	**-0.6**
AQDB				IAmb	IAmb	14 22 03.0	
	comp=Z,33nm,1.5s						
AQDB	**Aquidauana**	**32.07**	**51**	*eP*	**P**	**14 21 45.9**	**+1.3**
NNA	**Nana**	**32.22**	**9**	LR	LR	14 31 22.6	
	comp=Z,1μm,21.1s,baz=188,slow=30						
SIV	**San Ignacio**	**33.08**	**39**	LR	LR	14 35 05.5	
	comp=Z,1μm,20.7s,baz=224,slow=36						
PTLB	**Pontes e Lacer**	**34.45**	**41**	P	**P**	**14 22 04.9**	**-0.5**
PTLB	**Pontes e Lacer**	**34.45**	**41**	*eP*	**P**	**14 22 07.0**	**+1.6**
SALV	**Santo Antonio**	**35.80**	**47**	*eP*	**P**	**14 22 19.1**	**+2.0**
ITRB	**Iturama**	**35.80**	**58**	*eP*	**P**	**14 22 18.4**	**+1.3**
ETMB	**Extrema**	**36.71**	**27**	IAmb	IAmb	14 22 27.6	
	comp=Z,20nm,1.2s						
ETMB	**Extrema**	**36.71**	**27**	*eP*	**P**	**14 22 26.3**	**+1.5**
ATAH	**Atahualpa**	**36.87**	**6**	LR	LR	14 33 56.2	
	comp=Z,730nm,20.5s,baz=198,slow=30						
SAML	**Samuel**	**38.57**	**31**	P	**P**	**14 22 40.1**	**-0.4**
SAML				IAmb	IAmb	14 22 43.2	
	comp=Z,27nm,1.4s						
SAML	**Samuel**	**38.57**	**31**	*eP*	**P**	**14 22 42.0**	**+1.5**
BDFB	**Brasilia**	**40.34**	**56**	P	**P**	**14 22 55.4**	**-0.1**
BDFB	**Brasilia**	**40.34**	**56**	P	**P**	**14 22 56.5**	**+0.9**
	comp=Z,14nm,1.0s,baz=203,slow=4.9,SNR=9.5						
BDFB				LR	LR	14 40 10.1	
	comp=Z,4μm,18.4s,baz=215,slow=37						
	comp=Z,14nm,1.0s						
DIAM	**Diamantina, MG**	**41.05**	**64**	*eP*	**P**	**14 23 03.1**	**+1.7**
SNDB	**Serra Nova Dou**	**41.41**	**49**	*eP*	**P**	**14 23 05.9**	**+1.7**
COHC	**Cochancay**	**41.44**	**4**	P	**P**	**14 23 05.0**	**+0.6**
JANB	**Januaria**	**43.06**	**60**	*eP*	**P**	**14 23 19.0**	**+1.3**
NPGB	**Novo Progresso**	**43.56**	**40**	*eP*	**P**	**14 23 22.9**	**+1.2**
SDBA	**SAO DESIDERIO**	**44.74**	**57**	*eP*	**P**	**14 23 33.2**	**+2.0**
GUA01	**Guaratinga, BA**	**44.82**	**66**	*eP*	**P**	**14 23 33.5**	**+1.7**
SNAA	**Sanae**	**45.58**	**154**	LR	LR	14 41 32.1	
	comp=Z,302nm,18.3s,baz=356,slow=34						
SMTB	**Santa Maria do**	**46.02**	**51**	*eP*	**P**	**14 23 43.5**	**+2.2**
QSPA	**South Pole Qui**	**46.23**	**180**	P	**P**	**14 23 43.4**	**+0.8**
QSPA				IAmb	IAmb	14 23 51.4	
	comp=Z,12nm,1.2s						
QSPA	**South Pole Qui**	**46.23**	**180**	P	**P**	**14 23 43.8**	**+1.2**
	comp=Z,6.8nm,1.1s,baz=134,slow=5.2,SNR=9.4						
QSPA				LR	LR	14 39 26.2	
	comp=Z,592nm,18.5s,baz=169,slow=31						
	comp=Z,6.8nm,1.1s						
MALB	**Monte Alegre**	**48.64**	**38**	*eP*	**P**	**14 24 03.5**	**+1.8**
ROSC	**El Rosal**	**49.12**	**10**	LR	LR	14 43 21.3	
	comp=Z,1μm,18.1s,baz=217,slow=34						
BOAV	**Boa Vista**	**50.04**	**28**	P	**P**	**14 24 13.2**	**+0.9**
BOAV				IAmb	IAmb	14 24 14.9	
	comp=Z,18nm,1.4s						
VNDA	**Vanda**	**52.66**	**194**	P	**P**	**14 24 33.9**	**+2.6**
VNDA	**Vanda**	**52.66**	**194**	P	**P**	**14 24 31.6**	**+0.3**
	comp=Z,5.1nm,0.9s,baz=118,slow=8.1,SNR=9.4						
VNDA				LR	LR	14 44 29.9	
	comp=Z,755nm,18.1s,baz=130,slow=33						
	comp=Z,5.1nm,0.9s						
ELIB	**Princess Elisa**	**53.23**	**158**	*dP*	**P**	**14 24 35.6**	**-0.2**
	comp=Z,4.5nm,1.0s						
LCR2	**La Lucha 2**	**53.53**	**357**	P	**P**	**14 24 38.5**	**-0.1**
LCR2				IAmb	IAmb	14 24 47.3	
	comp=Z,11nm,0.8s						
RIMA	**Rio Macho**	**53.55**	**358**	P	**P**	**14 24 39.3**	**+0.5**
RIMA				IAmb	IAmb	14 24 47.7	
	comp=Z,23nm,1.3s						
SDV	**Santo Domingo**	**53.65**	**14**	P	**P**	**14 24 39.0**	**-0.4**
SDV				IAmb	IAmb	14 24 52.9	
	comp=Z,8.8nm,0.8s						
SDV	**Santo Domingo**	**53.65**	**14**	LR	LR	14 45 20.1	
	comp=Z,685nm,21.7s,baz=200,slow=34						
JTS	**Las Juntas de**	**54.12**	**356**	P	**P**	**14 24 42.6**	**0.0**
JTS	**Las Juntas de**	**54.12**	**356**	LR	LR	14 42 41.5	
	comp=Z,416nm,18.8s,baz=136,slow=30						
SOCE	**Pocosol**	**54.19**	**357**	P	**P**	**14 24 43.8**	**+0.5**
SOCE				IAmb	IAmb	14 24 47.5	
	comp=Z,42nm,1.4s						
BAUV	**El Baul**	**54.20**	**17**	P	**P**	**14 24 42.4**	**-0.9**
ORTG	**Ortega, Santa**	**54.21**	**356**	P	**P**	**14 24 43.5**	**0.0**
RCBR	**Riachuelo**	**55.39**	**61**	LR	LR	14 49 20.1	
	comp=Z,2μm,18.8s,baz=216,slow=37						
MDP	**Montagnes des**	**55.57**	**36**	LR	LR	14 47 19.1	
	comp=Z,805nm,21.3s,baz=236,slow=35						
PCRV	**Puerto La Cruz**	**56.19**	**21**	LR	LR	14 47 10.4	
	comp=Z,892nm,19.8s,slow=34						
MTO3	**Montecristo**	**58.52**	**352**	P	**P**	**14 25 14.7**	**+0.3**
MTO3				IAmb	IAmb	14 25 22.5	
	comp=Z,14nm,1.0s						
ESQI	**Esquipulas**	**58.68**	**352**	P	**P**	**14 25 15.8**	**+0.5**
CMIG	**Matias Romero**	**61.95**	**346**	LR	LR	14 46 00.9	
	comp=Z,304nm,20.3s,baz=137,slow=30						
PPT2	**Papeete2**	**61.96**	**272**	*eS*	**S**	**14 34 08.3**	**+6.0**
	comp=Z,629nm,27.8s						
PPT2				*e*SS	**SS**	**14 38 00.8**	**-3.7**
	comp=Z,201nm,25.5s						
PPT2				*e*LR	LR	14 43 42.0	
	comp=Z,2μm,25.5s						
PPT2				*e*LR	LR	14 43 48.6	
	comp=Z,1μm,25.0s						
PPT	**Papeete**	**61.98**	**272**	LR	LR	14 45 55.2	
	comp=Z,645nm,19.7s,baz=129,slow=30						
MAW	**Mawson**	**65.57**	**166**	LR	LR	14 53 25.8	
	comp=Z,501nm,19.9s,baz=234,slow=35						
SOR	**Soroa**	**66.48**	**359**	P	**P**	**14 26 07.3**	**+0.2**
RAR	**Rarotonga**	**66.97**	**262**	LR	LR	14 47 34.5	
	comp=Z,1μm,20.4s,baz=159,slow=29						
RPZ	**Rata Peaks**	**71.09**	**227**	LR	LR	14 49 34.9	
	comp=Z,1μm,21.1s,baz=128,slow=29						
URZ	**Urewera**	**71.38**	**235**	LR	LR	14 50 50.9	
	comp=Z,794nm,18.7s,baz=295,slow=30						
LPIG	**La Paz**	**72.60**	**333**	LR	LR	14 51 12.3	
	comp=Z,273nm,21.3s,baz=153,slow=30						
RAO	**Raoul Island**	**74.27**	**245**	LR	LR	14 56 16.8	
	comp=Z,359nm,18.2s,baz=26,slow=33						
TXAR	**Lajitas Array**	**75.65**	**341**	P	**P**	**14 27 02.1**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=156,slow=6.8,SNR=10						
TXAR				LR	LR	14 54 23.0	
	comp=Z,321nm,21.1s,baz=144,slow=31						
	comp=Z,1.4nm,0.9s						
SAND	**Sanderson**	**75.89**	**342**	P	**P**	**14 27 04.2**	**+0.1**
SAND				IAmb	IAmb	14 27 12.3	
	comp=Z,16nm,1.5s						
SUR	**Sutherland**	**76.46**	**122**	LR	LR	14 53 48.4	
	comp=Z,612nm,21.8s,baz=224,slow=30						
ALPN	**Alpine**	**76.64**	**341**	P	**P**	**14 27 09.0**	**+0.5**
ALPN				IAmb	IAmb	14 27 16.8	
	comp=Z,22nm,1.4s						
SWET	**Sewanee**	**78.94**	**357**	IAmb	IAmb	14 27 28.3	
	comp=Z,10.0nm,1.0s						
TKL	**Tuckaleechee C**	**79.32**	**358**	LR	LR	14 58 27.0	
	comp=Z,152nm,18.8s,baz=161,slow=33						
WHAR	**Wooly Hollow**	**79.49**	**351**	P	**P**	**14 27 24.3**	**+0.4**
WHAR				IAmb	IAmb	14 27 45.0	
	comp=Z,17nm,1.3s						
WMOK	**Wichita Mounta**	**79.86**	**346**	P	**P**	**14 27 25.1**	**-1.0**
WMOK	**Wichita Mounta**	**79.86**	**346**	P	**P**	**14 27 27.1**	**+1.1**
	baz=168						
DUN6	**Lazy B Ranch**	**80.13**	**337**	IAmb	IAmb	14 27 38.8	
	comp=Z,26nm,1.3s						
214A	**Organ Pipe Nat**	**80.69**	**334**	IAmb	IAmb	14 27 38.8	
	comp=Z,9.8nm,0.9s						
214A	**Organ Pipe Nat**	**80.69**	**334**	P	**P**	**14 27 32.4**	**+1.8**
	baz=158						
ANMO	**Albuquerque**	**81.69**	**340**	P	**P**	**14 27 36.2**	**+0.2**
ANMO	**Albuquerque**	**81.69**	**340**	P	**P**	**14 27 36.9**	**+0.8**
	baz=162						
ANMO	**Albuquerque**	**81.69**	**340**	LR	LR	14 58 08.5	
	comp=Z,399nm,19.9s,baz=242,slow=32						
CCM	**Cathedral Cave**	**82.12**	**353**	P	**P**	**14 27 38.4**	**+0.4**
CCM	**Cathedral Cave**	**82.12**	**353**	P	**P**	**14 27 39.0**	**+1.0**
	baz=173						
W18A	**Petrified Fore**	**82.72**	**337**	IAmb	IAmb	14 27 43.8	
	comp=Z,15nm,1.4s						
W18A	**Petrified Fore**	**82.72**	**337**	P	**P**	**14 27 42.5**	**+1.1**
	baz=160						
BC3	**Big Chuckawall**	**83.11**	**332**	P	**P**	**14 27 44.2**	**+0.8**
	baz=156						
T25A	**Trinidad**	**83.31**	**342**	IAmb	IAmb	14 28 05.6	
	comp=Z,8.4nm,1.5s						
T25A	**Trinidad**	**83.31**	**342**	P	**P**	**14 27 45.8**	**+1.4**
	baz=164						
TPFO	**Pinon Flats**	**83.41**	**332**	P	**P**	**14 27 46.4**	**+1.4**
	baz=156						
PFO	**Pinyon Flats O**	**83.42**	**332**	P	**P**	**14 27 43.6**	**-1.4**
PFO				IAmb	IAmb	14 27 48.4	
	comp=Z,7.7nm,1.1s						
PFO	**Pinyon Flats O**	**83.42**	**332**	P	**P**	**14 27 46.7**	**+1.7**
	baz=156						
PFO	**Pinyon Flats O**	**83.42**	**332**	LR	LR	14 57 12.1	
	comp=Z,229nm,19.4s,baz=133,slow=30						
PMD	**Palm Desert**	**83.42**	**332**	IAmb	IAmb	14 27 53.6	
	comp=Z,13nm,1.2s						
IRM	**Iron Mountain**	**83.47**	**333**	P	**P**	**14 27 46.2**	**+1.1**
	baz=157						
TSUM	**Tsumeb**	**83.49**	**110**	LR	LR	15 07 47.7	
	comp=Z,326nm,18.0s,baz=181,slow=38						
WUAZ	**Wupatki**	**83.56**	**336**	P	**P**	**14 27 48.0**	**+2.2**
	baz=159						
BELC	**Belle Mtn. Jos**	**83.61**	**332**	P	**P**	**14 27 47.6**	**+1.6**
	baz=156						
W13A	**Hualapai Mount**	**83.93**	**334**	IAmb	IAmb	14 27 56.3	
	comp=Z,5.7nm,0.9s						
GMRC	**Granite Mounta**	**84.21**	**333**	P	**P**	**14 27 50.3**	**+1.2**
	baz=156						
LBTB	**Lobatse**	**84.62**	**120**	LR	LR	14 59 25.3	
	comp=Z,364nm,21.2s,baz=224,slow=31						
V12A	**Nelson**	**84.81**	**334**	IAmb	IAmb	14 28 00.3	
	comp=Z,11nm,1.0s						
TUQ	**Turquoise Moun**	**84.90**	**333**	P	**P**	**14 27 53.4**	**+0.9**
	baz=156						
DBIC	**Dimbokro**	**85.41**	**76**	P	**P**	**14 27 54.7**	**-0.7**
DBIC	**Dimbokro**	**85.41**	**76**	P	**P**	**14 27 55.2**	**-0.2**
	comp=Z,9.5nm,1.2s,baz=234,slow=5.3,SNR=4.8						
DBIC				LR	LR	15 03 40.5	
	comp=Z,290nm,18.7s,baz=223,slow=34						
	comp=Z,9.5nm,1.2s						
HMU	**Henry Mountain**	**85.64**	**338**	IAmb	IAmb	14 28 09.8	
	comp=Z,9.6nm,1.2s						
QSM	**Queen of Sheba**	**85.69**	**332**	IAmb	IAmb	14 27 59.4	
	comp=Z,7.6nm,1.2s						
PKM	**Mcpherson Peak**	**85.75**	**330**	P	**P**	**14 27 57.8**	**+1.0**
	baz=154	

ILAR Eielson Array 119.64 333 PKP **PKPdf** **14 34 03.5 -3.0**
comp=Z,0.8nm,0.8s,baz=156,slow=1.5,SNR=10
E20K Nigu River 124.72 334 P **PKPdf** **14 34 14.8 -1.4**
baz=122
B22K Teshekpuk Lake 125.02 337 P **PKPdf** **14 34 15.6 -1.0**
baz=123
D20K Etivluk River 125.09 335 P **PKPdf** **14 34 15.6 -1.2**
baz=122
D19K Kuna River 125.45 334 P **PKPdf** **14 34 16.1 -1.5**
baz=121
E18K Tukpahlearik C 125.72 332 P **PKPdf** **14 34 16.6 -1.4**
baz=119
C19K Lookout Ridge 126.22 334 P **PKPdf** **14 34 18.3 -0.7**
baz=119
C16K Lisburne Hills 127.71 332 P **PKPdf** **14 34 20.4 -1.4**
baz=115
PETK Petropavlovsk- 140.55 305 PKP **PKPdf** **14 34 44.9 -1.4**
comp=Z,4.8nm,0.9s,baz=92,slow=8.8,SNR=2.7
TIXI Tiksi 148.54 342 **PKPdf** **14 35 00.2 +0.6**
MJAR Matsushiro Arr 148.70 270 PKPbc **PKPdf** **14 35 01.9 +0.9**
comp=Z,4.0nm,0.8s,baz=146,slow=2.7,SNR=7.9
GEYT Alibeck 149.47 88 PKPbc **PKPdf** **14 35 04.5 +2.3**
comp=Z,2.7nm,0.8s,baz=186,slow=5.8,SNR=4.5
ARU Arti 152.27 49 **PKPdf** **14 35 04.7 -1.2**
ABKAR Akbulak array 153.52 65 **PKPdf** **14 35 12.0 +4.1**
NJ2 Nanjing 159.78 241 *e*PKP **PKPdf** **14 35 17.7 +1.2**
GYA Guiyang 161.14 205 ↑PKP **PKPdf** **14 35 16.2 -2.2**
ARSB Arslanbob 161.40 90 PKPdf **PKPdf** **14 35 16.8 -1.5**
PZH PanZhiHua 162.27 191 PKP **PKPdf** **14 35 18.6 -1.0**
KSH Kashi 162.95 98 PKP **PKPdf** **14 35 19.1 -0.7**
KSH LR LR
comp=Z,110nm,14.4s
KSH LR LR
comp=Z,230nm,17.9s
KSH LR LR
comp=Z,390nm,16.3s
KURBB Kurchatov Arra 165.23 57 PKP **PKPdf** **14 35 17.9 -3.4**
comp=Z,0.3nm,0.5s,baz=308,slow=0.3,SNR=6.9
KURBB PKPab **PKPab** **14 36 17.1 -1.8**
comp=Z,0.9nm,1.1s,baz=290,slow=5.2,SNR=4.2
CD2 Chengdu 166.16 201 PKP **PKPdf** **14 35 23.0 +0.2**
ZALV Zalesovo Beam 166.82 36 PKP **PKPdf** **14 35 18.6 -3.9**
comp=Z,1.6nm,0.8s,baz=333,slow=0.7,SNR=7.5
ZALV PKPab **PKPab** **14 36 23.6 -2.1**
comp=Z,1.0nm,0.8s,baz=318,slow=5.8,SNR=5.9
MKAR Makanchi Array 168.58 70 PKP **PKPdf** **14 35 20.9 -3.2**
baz=315,slow=0.3,SNR=2.3
MKAR PKPab **PKPab** **14 36 31.7 -2.3**
comp=Z,0.5nm,0.9s,baz=270,slow=2.9,SNR=4.1
HHC Hu-ho-hao-te 169.51 257 *e*PKP **PKPdf** **14 35 23.9 -1.0**
HHC LR LR
comp=Z,180nm,20.4s
HHC LR LR
comp=Z,150nm,19.0s
HHC LR LR
comp=Z,280nm,20.3s
LZH Lanzhou 170.92 211 *e*PKP **PKPdf** **14 35 30.5 +4.6**
WMQ Urumqi 172.53 88 *e*PKP **PKPdf** **14 35 27.0 +0.7**
SONM Songino Array 173.03 306 PKP **PKPdf** **14 35 23.4 -3.1**
comp=Z,0.7nm,1.1s,baz=39,slow=1.3,SNR=4.3
SONM PKPab **PKPab** **14 36 50.0 -3.7**
comp=Z,0.2nm,0.4s,baz=107,slow=4.8,SNR=1.6
GTA Gaotai 175.21 197 *e*PKP **PKPdf** **14 35 25.6 -1.9**
GTA sPKP 14 35 31.6
GTA LR LR
comp=Z,120nm,16.4s
GTA LR LR
comp=Z,240nm,18.9s
GTA LR LR
comp=Z,350nm,22.5s

*IDC **08** 14:43:31.8±0.8,6°.03S×142°.77E,h0km,mb3.9/9, mbtmp3.9/11,ML1.7/1,MS3.9/4,Error ellipse: s-maj=35.6km s-min=18.3km az=66.0*
ISC 08 14:43:37.4±0.8,6°.1S±0°.1×142°.74E±0°.10,h35km,n24, σ1§81/22,mb3.7/9,MS4.1/3,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.49**	**127**	Pn	**Pn**	**14 44 56.4**	**-0.3**
	1.5nm,0.3s,baz=5.8,slow=3.9,SNR=7.4						
PMG				Sn	**Sn**	**14 45 58.3**	**-0.4**
	2.4nm,0.3s,baz=11,slow=21,SNR=6.9						
	6.6nm,0.3s						
WRA	**Warramunga Arr**	**16.02**	**210**	Pn	**Pn**	**14 47 16.1**	**-4.1**
	0.3nm,0.3s,baz=24,slow=13,SNR=19						
WRA				Sn	Sn	14 50 04.4	-12
	0.2nm,0.3s,baz=32,slow=21,SNR=3.2						
WRA				Lg	Lg	14 51 58.9	
	0.2nm,0.3s,baz=292,slow=28,SNR=5.6						
SOEI	**Soe**	**18.65**	**258**	P	**Pn**	**14 47 54.5**	**+1.4**
AS01	**Alice Springs**	**19.43**	**205**	P	**P**	**14 48 02.2**	**+1.3**
ASAR	**Alice Springs**	**19.45**	**205**	P	**P**	**14 48 02.0**	**+0.9**
	22nm,0.9s,baz=32,slow=10.0,SNR=68						
ASAR				S	S	14 51 29.2	-10
	0.7nm,0.8s,baz=20,slow=28,SNR=2.7						
ASAR				Lg	Lg	14 53 46.4	
	0.1nm,0.3s,baz=128,slow=17,SNR=2.9						
ASAR				LR	LR	14 56 18.1	
	comp=Z,113nm,21.6s,baz=48,slow=39						
QLP	**Quilpie**	**20.44**	**176**	P	**P**	**14 48 14.3**	**+2.4**
FITZ	**Fitzroy Crossi**	**20.52**	**233**	P	**P**	**14 48 12.8**	**0.0**
INKA	**Innaminka**	**21.63**	**185**	P	**P**	**14 48 27.2**	**+2.6**
OOD	**Oodnadatta**	**22.61**	**196**	P	**P**	**14 48 36.5**	**+1.3**
WRKA	**Warakurna**	**23.39**	**215**	P	**P**	**14 48 42.8**	**-0.4**
MULG	**Mulgathing**	**25.43**	**198**	P	**P**	**14 49 04.2**	**+2.3**
STKA	**Stephens Creek**	**25.69**	**182**	P	**P**	**14 49 08.2**	**+3.9**
STKA	**Stephens Creek**	**25.69**	**182**	P	**P**	**14 49 02.7**	**-1.6**
	1.0nm,0.8s,baz=22,slow=19,SNR=1.8						
	1.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**35.73**	**218**	LR	LR	15 06 01.8	
	comp=Z,154nm,21.5s,baz=208,slow=38						
CMAR	**Chiang Mai Arr**	**49.59**	**300**	P	**P**	**14 52 24.9**	**-0.7**
	0.7nm,0.8s,baz=126,slow=6.1,SNR=6.3						
	0.7nm,0.8s						
SONM	**Songino Array**	**62.48**	**333**	P	**P**	**14 53 58.3**	**+0.8**
	0.3nm,0.6s,baz=152,slow=6.5,SNR=1.5						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**74.89**	**322**	P	**P**	**14 55 14.0**	**-0.7**
	1.6nm,1.0s,baz=105,slow=7.6,SNR=9.2						
	1.6nm,1.0s						
ZALV	**Zalesovo Beam**	**76.86**	**329**	P	**P**	**14 55 25.4**	**-0.3**
	0.2nm,0.3s,baz=116,slow=6.6,SNR=1.6						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**78.78**	**324**	P	**P**	**14 55 36.3**	**-0.1**
	0.7nm,0.7s,baz=108,slow=4.5,SNR=5.8						
	0.7nm,0.7s						
QSPA	**South Pole Qui**	**83.89**	**180**	P	**P**	**14 56 03.9**	**+0.4**
	1.6nm,0.9s,baz=331,slow=2.3,SNR=7.2						
	1.6nm,0.9s						
BVAR	**Borovoye Array**	**84.35**	**325**	P	**P**	**14 56 06.3**	**+0.5**
	2.9nm,0.7s,baz=112,slow=7.2,SNR=17						
	2.9nm,0.7s						
ILAR	**Eielson Array**	**87.24**	**24**	P	**P**	**14 56 19.1**	**-0.8**
	0.6nm,0.8s,baz=236,slow=6.7,SNR=5.6						
	0.6nm,0.8s						
GEYT	**Alibeck**	**89.46**	**308**	LR	LR	15 38 25.2	
	comp=Z,239nm,21.6s,baz=276,slow=37						
ARU	**Arti**	**91.80**	**326**	LR	LR	15 42 01.7	
	comp=Z,62nm,19.1s,baz=258,slow=38						

*IDC **08** 14:49:37.0±1.2,6°.01S×142°.80E,h0km,mb3.6/4, mbtmp3.7/7,ML3.5/2,Error ellipse: s-maj=37.7km s-min=25.0km az=67.0*
ISC 08 14:49:41.5±0.9,6°.38S±0°.09×142°.50E±0°.10,h35km,n7, σ2§46/10,mb3.6/4,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.51**	**123**	Pn	**Pn**	**14 51 01.0**	**-0.2**
	7.9nm,0.7s,baz=338,slow=11,SNR=2.1						
PMG				Sn	**Sn**	**14 52 03.7**	**+0.3**
	2.3nm,0.3s,baz=356,slow=23,SNR=6.3						
WRA	**Warramunga Arr**	**15.64**	**210**	Pn	**P**	**14 53 23.0**	**-0.2**
	0.2nm,0.3s,baz=30,slow=14,SNR=1.1						
WRA				Sn	**Sn**	**14 56 09.4**	**-2.3**
	0.1nm,0.3s,baz=32,slow=20,SNR=1.6						
WRA				Lg	Lg	14 57 59.5	
	baz=116,slow=19						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**19.07**	**205**	P	**Pn**	**14 54 06.6**	**+4.5**
	0.2nm,0.3s,baz=33,slow=10,SNR=5.9						
ASAR				S	**Sn**	**14 57 31.7**	**-3.1**
	1.2nm,0.8s,baz=18,slow=28,SNR=1.7						
ASAR				Lg	Lg	14 59 52.6	
	baz=21,slow=31						
	4.6nm,0.8s						
SONM	**Songino Array**	**62.65**	**333**	P	**P**	**15 00 01.5**	**-1.2**
	0.2nm,0.5s,baz=152,slow=6.5,SNR=2.0						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**74.98**	**322**	P	**P**	**15 01 19.9**	**+0.6**
	0.1nm,0.4s,baz=105,slow=9.1,SNR=2.7						
	0.1nm,0.4s						
BVAR	**Borovoye Array**	**84.46**	**325**	P	**P**	**15 02 12.0**	**+1.4**
	1.2nm,0.7s,baz=101,slow=7.5,SNR=5.9						
	1.2nm,0.7s						
ILAR	**Eielson Array**	**87.61**	**24**	P	**P**	**15 02 24.1**	**-1.9**
	0.4nm,0.7s,baz=241,slow=5.3,SNR=4.4						
	0.4nm,0.7s						

*IDC **08** 15:02:44.1±3.6,18°.58S×178°.01W,h429km±39km, mb3.7/16,mbtmp4.5/16,Error ellipse: s-maj=17.2km s-min=13.5km az=161.0*
*NEIC **08** 15:02:44.7±2.4,18°.6S±0°.1×177°.87W±0°.09,h436km±6km, mb4.3/127,Error ellipse: s-maj=15.3km s-min=12.7km az=159.0*
*NOU **08** 15:02:46.4,18°.18S×177°.82W,h507km,MLv4.5/6,Fiji Islands Region*
ISC 08 15:02:44.5±0.3,18°.57S±0°.07×177°.88W±0°.06,h436km, n254,σ1§07/256,mb4.3/82,17C-10D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TAVE	**Taveuni**	**2.68**	**313**	P	P	15 03 54.7	+6.5
DGTI	**Dogotuki**	**3.21**	**314**	P	P	15 03 57.9	+5.7
MSVF	**Nonsavu**	**3.96**	**281**	P	P	15 04 03.8	+5.2
MSVF				S	**S**	**15 05 00.0**	**+1.3**
MSVF	**Nonsavu**	**3.96**	**281**	P	P	15 04 04.8	+6.2
YSA	**Yasawairara**	**4.71**	**293**	P	P	15 04 10.7	+5.2
AFI	**Afiamalu**	**7.47**	**53**	P	**P**	**15 04 34.5**	**+0.2**
AFI				S	**S**	**15 05 59.5**	**-4.5**
AFI	**Afiamalu**	**7.47**	**53**	P	**P**	**15 04 34.8**	**+0.5**
NIUE	**Niue**	**7.55**	**95**	P	**P**	**15 04 37.9**	**+2.9**
NIUE				S	**S**	**15 06 05.3**	**0.0**
NIUE	**Niue**	**7.55**	**95**	P	**P**	**15 04 38.3**	**+3.3**
FUNA	**Funafuti**	**10.38**	**344**		**P**	**15 05 07.7**	**+1.7**
PINNC	**Pines Island,**	**14.32**	**251**	P	**P**	**15 05 49.8**	**+1.1**
DZM	**Mont Dzumac**	**15.11**	**254**	P	**P**	**15 05 57.3**	**-0.1**
KOUNC	**Koumac, New Ca**	**16.92**	**260**	P	**P**	**15 06 18.8**	**+2.3**
KUZ	**Kuaotunu**	**18.96**	**196**	P	**P**	**15 06 37.3**	**+0.2**
WIAZ	**Waiheke Island**	**19.17**	**197**	P	**P**	**15 06 40.1**	**+1.1**
ETAZ	**East Tamaki Re**	**19.38**	**198**	P	**P**	**15 06 42.2**	**+1.3**
MKAZ	**Moumakai**	**19.45**	**197**	P	**P**	**15 06 42.6**	**+1.0**
WMGZ	**Waiomatatini S**	**19.45**	**189**	P	**P**	**15 06 43.4**	**+1.8**
WTAZ	**Waiatarua**	**19.46**	**198**	P	**P**	**15 06 43.4**	**+1.7**
HAZ	**Te Kaha**	**19.49**	**190**	P	**P**	**15 06 41.1**	**-0.8**
AWAZ	**Awhitu Peninsu**	**19.56**	**198**	P	**P**	**15 06 42.7**	**+0.1**
TWGZ	**Tauwhareparae**	**19.87**	**190**	P	**P**	**15 06 45.1**	**-0.3**
KMRZ	**Kaimai**	**19.95**	**194**	P	**P**	**15 06 47.4**	**+1.1**
TOZ	**Tahuroa Road**	**19.95**	**196**	P	**P**	**15 06 46.3**	**+0.2**
MWZ	**Matawai**	**20.10**	**191**	P	**P**	**15 06 45.4**	**-2.1**
URZ	**Urewera**	**20.10**	**192**	P	**P**	**15 06 45.2**	**-2.3**
	27nm,0.6s,baz=99,slow=4.5,SNR=14						
	27nm,0.6s						
URZ	**Urewera**	**20.10**	**192**	P	**P**	**15 06 45.0**	**-2.5**
RTZ	**Ruatahuna**	**20.47**	**192**	P	**P**	**15 06 48.8**	**-2.2**
TLZ	**Tolley Road**	**20.51**	**195**	P	**P**	**15 06 52.4**	**+1.1**
SNGZ	**Shannon Statio**	**20.57**	**191**	P	**P**	**15 06 50.1**	**-1.7**
MRZ	**Mangatainoka R**	**22.72**	**193**	P	**P**	**15 07 08.7**	**-2.6**
TCW	**Tory Channel**	**23.55**	**195**	P	**P**	**15 07 16.6**	**-2.0**
MRNZ	**Matariki Terra**	**24.12**	**197**	P	**P**	**15 07 21.7**	**-2.2**
GVZ	**Greta Valley S**	**25.51**	**196**	P	**P**	**15 07 33.8**	**-2.4**
PPT	**Papeete**	**26.92**	**92**	P	**P**	**15 07 50.9**	**+1.9**
	11nm,0.5s,baz=206,slow=20,SNR=4.1						
	11nm,0.5s						
FOZ	**Fox Glacier**	**26.96**	**200**	P	**P**	**15 07 47.9**	**-1.1**
MLZ	**Mavora Lakes**	**29.15**	**200**	P	**P**	**15 08 08.1**	**-0.2**
WHZ	**Wether Hill Ro**	**29.67**	**200**	P	**P**	**15 08 12.7**	**-0.1**
ARMA	**Armidale**	**30.05**	**241**	P	**P**	**15 08 17.0**	**+0.5**
ARMA				IAmb	IAmb	15 08 40.0	
	comp=Z,32nm,1.5s						
CAN	**Canberra**	**33.71**	**234**	P	**P**	**15 08 48.3**	**+0.5**
CAN				IAmb	IAmb	15 08 49.0	
	comp=Z,18nm,1.2s						
CTAO	**Charters Tower**	**33.84**	**261**	P	**P**	**15 08 48.5**	**-0.6**
CTAO				IAmb	IAmb	15 09 07.4	
	comp=Z,32nm,1.4s						
TOO	**Toolangi**	**37.15**	**232**	P	**P**	**15 09 16.5**	**-0.1**
TOO				IAmb	IAmb	15 09 17.6	
	comp=Z,14nm,0.8s						
TAU	**Tasmania Unive**	**38.09**	**223**	P	**P**	**15 09 23.8**	**-0.4**
TAU				IAmb	IAmb	15 09 51.6	
	comp=Z,27nm,1.4s						
STKA	**Stephens Creek**	**38.76**	**242**		**P**	**15 09 30.1**	**+0.2**
STKA	**Stephens Creek**	**38.76**	**242**	P	**P**	**15 09 30.1**	**+0.2**
	comp=Z,2.5nm,0.3s,baz=90,slow=10,SNR=30						
	comp=Z,3.5nm,0.3s						
BBOO	**Buckleboo**	**43.53**	**242**	P	**P**	**15 10 07.5**	**-0.6**
BBOO				IAmb	IAmb	15 10 38.3	
	comp=Z,13nm,1.1s						
WB0	**Warramunga Arr**	**44.98**	**260**	P	**P**	**15 10 18.0**	**-1.6**
WB0				IAmb	IAmb	15 10 38.0	
	comp=Z,23nm,1.5s						
WB2	**Warramunga Arr**	**45.00**	**260**	P	**P**	**15 10 17.9**	**-1.8**
WB2				PcP	**pwP**	**15 11 49.3**	**+3.6**
WRA	**Warramunga Arr**	**45.01**	**260**	PcP	**PcP**	**15 11 50.0**	**-2.1**
WRA	**Warramunga Arr**	**45.01**	**260**	P	**P**	**15 10 18.3**	**-1.5**
	comp=Z,1.1nm,0.4s,baz=98,slow=7.4,SNR=55						
	comp=Z,1.1nm,0.4s						
AS31	**Alice Springs**	**45.10**	**255**	P	**P**	**15 10 19.8**	**-0.7**
ASAR	**Alice Springs**	**45.10**	**255**	P	**P**	**15 10 19.0**	**-1.5**
ASAR				PcP	**PcP**	**15 11 50.8**	**-1.6**
ASAR	**Alice Springs**	**45.10**	**255**	P	**P**	**15 10 19.7**	**-0.8**
	comp=Z,7.5nm,0.4s,baz=90,slow=8.7,SNR=376						
	comp=Z,7.5nm,0.4s						
MTN	**Manton Dam**	**49.29**	**269**	P	**P**	**15 10 50.8**	**-1.5**
FORT	**Forrest**	**50.18**	**245**	P	**P**	**15 10 57.6**	**-1.2**
FORT				IAmb	IAmb	15 11 04.7	
	comp=Z,9.7nm,0.8s						
SAUI	**Saumlaki**	**50.42**	**275**	P	**P**	**15 10 59.0**	**-1.7**
KNRA	**Kununurra**	**50.92**	**265**	P	**P**	**15 11 03.1**	**-1.3**
KNRA				IAmb	IAmb	15 11 31.4	
	comp=Z,30nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.42**	**261**	P	**P**	**15 11 21.8**	**-0.6**
SOEI	**Soe**	**56.58**	**270**	P	**P**	**15 11 45.2**	**+0.3**
SOEI				IAmb	IAmb	15 12 00.2	
	comp=Z,13nm,1.0s						
PSA00	**Pilbara Seismi**	**58.23**	**256**	P	**P**	**15 11 55.8**	**-0.2**
PSA00				IAmb	IAmb	15 11 56.2	
	comp=Z,19nm,1.4s						
MBWA	**Marble Bar**	**58.40**	**256**	P	**P**	**15 11 55.8**	**-1.4**
NWAO	**Narrogin (SRO)**	**59.35**	**242**	P	**P**	**15 12 03.2**	**-0.3**
	comp=Z,5.6nm,1.0s,baz=140,slow=7.9,SNR=1.5						
	comp=Z,5.6nm,1.0s						
SBA	**Scott Base**	**59.79**	**184**	P	**P**	**15 12 07.0**	**+1.4**
SBA				IAmb	IAmb	15 12 12.3	
	comp=Z,24nm,1.2s						
VNDA	**Vanda**	**59.83**	**185**	P	**P**	**15 12 06.5**	**+0.6**
VNDA	**Vanda**	**59.83**	**185**	P	**P**	**15 12 06.9**	**+1.0**
	comp=Z,2.0nm,0.5s,baz=328,slow=3.5,SNR=5.4						
	comp=Z,2.0nm,0.5s						
MORW	**Morawa**	**60.68**	**247**	P	**P**	**15 12 11.7**	**-0.7**
MORW				IAmb	IAmb	15 12 48.3	
	comp=Z,16nm,1.3s						
GIRL	**Giralia**	**63.19**	**254**	P	**P**	**15 12 29.5**	**+0.5**
TOLI2	**Tolitoli**	**63.33**	**281**	P	**P**	**15 12 30.2**	**+0.2**
MJAR	**Matsushiro Arr**	**68.73**	**323**	P	**P**	**15 13 02.7**	**-0.8**
	comp=Z,2.1nm,1.0s,baz=152,slow=4.2,SNR=3.0						
	comp=Z,2.1nm,1.0s						
MJB9	**Matsu-Tunnel**	**68.74**	**323**	P	**P**	**15 13 03.8**	**+0.3**
QSPA	**South Pole Qui**	**71.49**	**180**	P	**P**	**15 13 19.8**	**+0.2**
QSPA	**South Pole Qui**	**71.49**	**180**	P	**P**	**15 13 19.9**	**+0.3**
	comp=Z,14nm,0.8s,baz=356,slow=0.6,SNR=64						
	comp=Z,14nm,0.8s						
JKA	**Kamikawa-asahi**	**72.09**	**331**	P	**P**	**15 13 24.9**	**+1.6**
PEA0B	**Petropavlovsk-**	**74.44**	**345**	P	**P**	**15 13 36.7**	**+0.2**
PETK	**Petropavlovsk-**	**74.44**	**345**	P	**P**	**15 13 36.6**	**0.0**
PETK	**Petropavlovsk-**	**74.44**	**345**	P	**P**	**15 13 37.1**	**+0.6**
	comp=Z,7.5nm,0.8s,baz=104,slow=9.6,SNR=6.7						
	comp=Z,7.5nm,0.8s						
SAO	**San Andreas Ge**	**76.55**	**43**	P	**P**	**15 13 49.9**	**+1.1**
SAO				IAmb	IAmb	15 13 50.5	
	comp=Z,6.7nm,0.9s						
KMRM	**Mail Ridge**	**77.20**	**40**	P	**P**	**15 13 53.2**	**+0.9**
CBX	**Cerro Bola**	**77.39**	**50**	P	**P**	**15 13 53.0**	**-0.7**
CBX				IAmb	IAmb	15 14 34.6	
	comp=Z,16nm,1.3s						
SII	**Sitkinak Islan**	**77.45**	**13**	P	**P**	**15 13 52.2**	**-1.0**
ISA	**Isabella, Lake**	**77.91**	**46**	P	**P**	**15 13 56.6**	**+0.3**
ISA				IAmb	IAmb	15 13 58.4	
	comp=Z,5.2nm,0.8s						
CMB	**Columbia Colle**	**77.98**	**43**	P	**P**	**15 13 56.3**	**-0.3**
YUH	**Yuha Desert**	**78.09**	**50**	P	**P**	**15 13 58.5**	**+1.2**
WAKR	**Walker**	**78.86**	**43**	P	**P**	**15 14 01.1**	**-0.4**
WAKR				IAmb	IAmb	15 14 03.6	
	comp=Z,5.2nm,1.0s						
DSP	**Deep Springs**	**79.19**	**45**	P	**P**	**15 14 04.2**	**+1.2**
YERR	**Yerington**	**79.26**	**43**	P	**P**	**15 14 03.0**	**-0.6**
YERR				IAmb	IAmb	15 14 05.3	
	comp=Z,7.5nm,0.7s						
LHV	**Little Huntoon**	**79.32**	**44**	P	**P**	**15 14 05.0**	**+1.2**
LHV				IAmb	IAmb	15 14 06.1	
	comp=Z,6.3nm,1.1s						
LCH	**Last Change Ra**	**79.33**	**45**	P	**P**	**15 14 05.1**	**+1.1**
PIX	**Pinacate**	**79.35**	**52**	P	**P**	**15 14 04.8**	**+0.7**
GRAC	**Grapevine Rang**	**79.39**	**45**	P	**P**	**15 14 05.3**	**+1.0**
GRAC				IAmb	IAmb	15 14 06.1	
	comp=Z,4.2nm,0.8s						
O16K	**Kokwok River B**	**79.54**	**10**	P	**P**	**15 14 03.6**	**-0.8**
O16K				IAmb	IAmb	15 14 35.8	
	comp=Z,15nm,1.4s						
NVAR	**Mina Array Bea**	**79.55**	**44**	P	**P**	**15 14 06.3**	**+1.1**
	comp=Z,2.0nm,0.6s,baz=223,slow=8.7,SNR=20						
	comp=Z,2.0nm,0.6s						
GMN	**Gold Mountain**	**79.62**	**45**	P	**P**	**15 14 06.2**	**+0.5**
NV11	**Mina Array Sit**	**79.65**	**44**	P	**P**	**15 14 06.2**	**+0.5**
NV11				IAmb	IAmb	15 14 07.0	
	comp=Z,6.5nm,1.2s						
BLYC	**Blythe**	**79.67**	**49**	P	**P**	**15 14 06.3**	**+0.6**
BLYC				IAmb	IAmb	15 14 08.0	
	comp=Z,5.7nm,0.7s						
113A	**Mohawk Valley,**	**79.72**	**50**	P	**P**	**15 14 06.5**	**+0.5**
MZP	**Montezuma Peak**	**79.76**	**45**	P	**P**	**15 14 06.4**	**0.0**
N15K	**Kwethluk River**	**79.78**	**9**	P	**P**	**15 14 05.9**	**+0.3**
WCT	**Wildcat Mounta**	**79.78**	**46**	P	**P**	**15 14 05.1**	**-1.2**
P18K	**Big Mountain,**	**79.86**	**12**	P	**P**	**15 14 05.4**	**-0.8**
KVN	**Kaiserville**	**80.03**	**43**	P	**P**	**15 14 08.0**	**+0.2**
O18K	**Koktuh Hills**	**80.30**	**11**	P	**P**	**15 14 07.6**	**-0.8**
M16K	**Timber Creek**	**80.77**	**9**	P	**P**	**15 14 11.1**	**+0.3**
M16K				IAmb	IAmb	15 14 12.7	
	comp=Z,11nm,0.9s						
O19K	**Port Alsworth**	**80.78**	**12**	P	**P**	**15 14 10.4**	**-0.5**
PINE	**Pine Mountain**	**81.00**	**38**	P	**P**	**15 14 11.1**	**-1.7**
PRN	**Pahroc Range**	**81.17**	**46**		**P**	**15 14 14.0**	**+0.3**
PRN				IAmb	IAmb	15 14 15.9	
	comp=Z,5.3nm,0.9s						
N19K	**Bonanza Creek**	**81.33**	**11**	P	**P**	**15 14 13.1**	**-0.8**
N19K				IAmb	IAmb	15 14 15.0	
	comp=Z,6.8nm,0.9s						
L16K	**Owhat River**	**81.35**	**9**	P	**P**	**15 14 13.9**	**+0.1**
L16K				IAmb	IAmb	15 14 40.6	
	comp=Z,16nm,1.4s						
BMN	**Battle Mountai**	**81.35**	**42**		**P**	**15 14 14.1**	**-0.5**
BMN				IAmb	IAmb	15 14 16.3	
	comp=Z,7.6nm,1.1s						
M17K	**Holitna River**	**81.36**	**10**	P	**P**	**15 14 14.3**	**+0.4**
BELA	**Belgrano 2**	**81.45**	**173**	P	**P**	**15 14 13.0**	**-1.3**
BELA				IAmb	IAmb	15 14 15.8	
	comp=Z,9.0nm,1.1s						
WVOR	**Wild Horse Val**	**81.59**	**40**	P	**P**	**15 14 15.4**	**-0.3**
WVOR				IAmb	IAmb	15 14 17.6	
	comp=Z,7.7nm,1.1s						
K15K	**Wolf Creek Mou**	**81.63**	**8**	P	**P**	**15 14 15.8**	**+0.5**
TUC	**Tucson**	**81.71**	**52**	P	**P**	**15 14 16.8**	**+0.3**
TUC				IAmb	IAmb	15 14 19.2	
	comp=Z,6.5nm,0.9s						
I07A	**Izee**	**82.01**	**38**	P	**P**	**15 14 18.4**	**+0.6**
J08A	**Circle Bar Ran**	**82.21**	**39**	P	**P**	**15 14 19.2**	**+0.3**
J08A				IAmb	IAmb	15 14 20.7	
	comp=Z,12nm,1.3s						
X16A	**Lo Mia Camp, P**	**82.22**	**50**	P	**P**	**15 14 19.8**	**+0.6**
L18K	**Granite Mounta**	**82.26**	**10**	P	**P**	**15 14 18.8**	**+0.3**
L18K				IAmb	IAmb	15 14 19.6	
	comp=Z,6.8nm,0.9s						
CCUT	**Cedar City**	**82.40**	**46**	P	**P**	**15 14 20.7**	**+0.5**
319A	**Douglas**	**82.41**	**53**		**P**	**15 14 20.9**	**+0.7**
319A				IAmb	IAmb	15 14 23.0	
	comp=Z,11nm,1.0s						
SPR3	**Spring Creek 3**	**82.48**	**45**	P	**P**	**15 14 20.7**	**+0.1**
PSUT	**Pine Spring**	**82.56**	**45**	P	**P**	**15 14 21.5**	**+0.6**
U15A	**North Rim**	**82.59**	**48**	P	**P**	**15 14 21.9**	**+0.8**
U15A				IAmb	IAmb	15 14 23.5	
	comp=Z,7.9nm,0.8s						
SZCU	**Shurtz Canyon**	**82.61**	**46**	P	**P**	**15 14 20.9**	**-0.3**
SZCU				IAmb	IAmb	15 14 23.9	
	comp=Z,6.9nm,1.3s						
SUA	**Susitna One**	**82.66**	**13**	P	**P**	**15 14 19.8**	**-0.9**
SUA				IAmb	IAmb	15 14 21.2	
	comp=Z,8.3nm,1.0s						
J16K	**Anvik River**	**82.70**	**8**	P	**P**	**15 14 21.1**	**+0.4**
J16K				IAmb	IAmb	15 14 52.6	
	comp=Z,19nm,1.5s						
ELK	**Elko**	**82.80**	**43**	P	**P**	**15 14 22.3**	**+0.3**
PKCU	**Pink Cliffs**	**83.07

SAND IAmb IAmb 15 14 46.7
comp=Z,4.2nm,0.8s
PDAR Pinedale Array 87.48 43 P P 15 14 44.9 0.0
comp=Z,1.4nm,0.8s,baz=214,slow=2.9,SNR=11
comp=Z,1.4nm,0.8s
DAWY Dawson 87.58 16 P P 15 14 44.9 +0.3
DAWY IAmb IAmb 15 15 24.5
comp=Z,6.5nm,1.4s
H17A Grant Village 87.61 41 P P 15 14 47.3 +1.8
I26K Coal Creek Min 87.69 14 P P 15 14 44.2 -0.8
FARO Faro, Yukon 87.88 19 P P 15 14 46.2 +0.2
FARO IAmb IAmb 15 14 51.9
comp=Z,5.4nm,1.3s
D19K Kuna River 88.00 7 P P 15 14 45.7 -0.7
D19K IAmb IAmb 15 14 50.6
comp=Z,4.7nm,1.2s
HHC Hu-ho-hao-te 88.09 314 *e*P **P 15 14 49.8 +2.2**
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,49nm,3.6s
J29N Klondike Camp 88.20 16 P P 15 14 47.9 +0.4
J29N IAmb IAmb 15 14 48.5
comp=Z,3.5nm,0.8s
DRIO Del Rio 88.41 58 P P 15 14 49.6 +0.4
DRIO IAmb IAmb 15 14 51.1
comp=Z,10.0nm,1.2s
E22K Anaktuvuk Pass 88.53 9 P P 15 14 47.4 -1.5
E22K IAmb IAmb 15 14 51.2
comp=Z,9.7nm,1.4s
ELIB Princess Elisa 88.56 186 *d*P **P 15 14 47.4 -1.9**
comp=Z,7.4nm,0.8s
RLMT Red Lodge 88.78 41 P P 15 14 46.5 -4.4
J30M Hart River 88.80 17 P P 15 14 50.4 0.0
D22K Ayikyak River 89.08 9 P P 15 14 50.8 -0.7
D22K IAmb IAmb 15 14 52.3
comp=Z,3.7nm,0.7s
H29M Whitestone 89.58 15 P P 15 14 53.3 -0.5
PZH PanZhiHua 89.91 298 P P 15 14 58.6 +2.2
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,4.9s
G30M tAoh Zraii Nji 90.71 15 P P 15 14 58.6 -0.5
G30M IAmb IAmb 15 14 59.5
comp=Z,4.7nm,0.8s
G31M Satah River 91.16 16 P P 15 15 00.5 -0.5
SONM Songino Array 94.38 319 P P 15 15 16.8 +0.2
comp=Z,0.4nm,0.8s,baz=148,slow=5.7,SNR=2.8
comp=Z,0.4nm,0.8s
YKA Yellowknife Ar 94.72 25 P P 15 15 17.2 -0.2
comp=Z,0.9nm,0.9s,baz=242,slow=4.7,SNR=12
comp=Z,0.9nm,0.9s
MKAR Makanchi Array 109.95 314 PKiKP PKiKP 15 20 22.8 -2.5
comp=Z,0.2nm,0.5s,baz=147,slow=1.3,SNR=2.3
ARCES ARCESS Array B 127.05 350 PKP PKPdf 15 20 56.6 -0.7
comp=Z,5.4nm,1.1s,baz=35,slow=3.3,SNR=6.4
FINES FINESS Array B 133.96 344 PKP PKPdf 15 21 09.8 -0.8
comp=Z,0.9nm,0.6s,baz=132,slow=2.8,SNR=3.5
AKASG Malin Array Be 141.38 332 PKhKP PKPpre 15 21 18.5
comp=Z,0.3nm,0.3s,baz=43,slow=4.0,SNR=6.2
SORM Soroca 143.61 330 P PKPab 15 21 26.4 -0.4
KWP Kalwaria Pacla 144.87 337 PKPdf 15 21 29.8 -0.9
BUR08 Bucovina Ar. S 145.42 332 PKPdf PKPdf 15 21 31.0 -0.9
BUR08 PKPbc 15 21 33.4 +0.5
BURAR Bucovina Array 145.43 332 ⇑P **PKPbc 15 21 33.5 +0.6**
GHRR 145.53 328 P **PKPab 15 21 34.2 +0.1**
TESR Tescani 145.58 330 ⇑P **PKPbc 15 21 33.7 +0.5**
BRTR Keskin Array B 145.60 314 PKPdf **PKPdf 15 21 30.6 -1.9**
BRTR PKPbc 15 21 33.3 -0.4
BRTR Keskin Array B 145.60 314 PKPbc **PKPdf 15 21 33.0 +0.5**
comp=Z,1.8nm,0.6s,baz=143,slow=3.1,SNR=5.5
KOLS Kolonicke sedl 145.61 336 *e*PKP **PKPab 15 21 34.7 +0.3**
TPGR Topolog 145.83 326 ⇑P **PKPbc 15 21 34.8 +0.8**
CRVS Cervenica-Dubn 145.94 337 *e*PKP **PKPab 15 21 35.6 -0.1**
TIRR Tirgusor 146.09 325 ⇑P **PKPab 15 21 36.9 +0.6**
HARR Harsova 146.20 326 P **PKPbc 15 21 35.4 +0.4**
ARCR ARCALIA 146.21 332 P **PKPbc 15 21 35.8 +0.8**
CLL Collm 146.21 348 PKPbc 15 21 34.7 -0.2
CLL Collm 146.21 348 *i* PKPbc **PKPbc 15 21 34.9 0.0**
comp=Z,24nm,0.8s
TURR Turia 146.22 330 P **PKPbc 15 21 36.0 +0.9**
DPC Dobruska-Polom 146.32 344⇑*e*PKP **PKPbc 15 21 36.0 +0.7**
BRG Berggiesshubel 146.42 346 *i* PKP **PKPbc 15 21 35.8 +0.3**
BRG Amp 15 21 36.5
comp=Z,9.3nm,0.8s
BRG Amp 15 29 36.0
comp=Z,0.4nm,15.6s
BRG Amp 15 29 39.0
comp=N,0.2nm,16.8s
BRG Amp 15 29 41.0
comp=E,0.3nm,17.6s
LANS Liptovska Anna 146.43 339 *e*PKP **PKPab 15 21 37.0 -0.7**
KRLC Kraliky 146.44 343⇑*e*PKP **PKPbc 15 21 36.1 +0.5**
MORC Moravsky Berou 146.49 342 P **PKPbc 15 21 35.1 -0.7**
MORC Moravsky Berou 146.49 342 *e*P **PKPbc 15 21 36.0 +0.2**
PVCC Panska Ves 146.60 346⇑*e*PKP **PKPbc 15 21 36.6 +0.6**
MLR Muntele Rosu 146.66 329 ⇑P **PKPbc 15 21 36.6 +0.1**
MLR Muntele Rosu 146.66 329 PKPbc **PKPbc 15 21 35.9 -0.6**
comp=E,1.5nm,0.5s,baz=153,slow=6.8,SNR=3.0
HSKC Hora Svate Kat 146.79 347⇑*e*PKP **PKPbc 15 21 36.9 +0.4**
MMAI Mount Meron Ar 146.92 302 PKPbc **PKPdf 15 21 36.2 +1.4**
comp=E,1.3nm,0.5s,baz=83,slow=2.3,SNR=2.0
MARR Marisel-Cluj 147.07 333 ⇓P **PKPbc 15 21 38.2 +0.7**
PRU Pruhonice 147.11 345⇑*e*PKP **PKPbc 15 21 37.7 +0.3**
VOIR 147.13 330 ⇑P **PKPbc 15 21 37.4 -0.3**
DRGR 147.15 334 ⇓P **PKPbc 15 21 37.6 -0.1**
VRAC Vranov 147.19 342 ⇑P **PKPbc 15 21 38.2 +0.6**
VRAC Vranov 147.19 342 *e*P **PKPbc 15 21 37.9 +0.2**
VRAC Vranov 147.19 342 PKPbc **PKPbc 15 21 37.9 +0.2**
comp=E,5.7nm,0.8s,baz=34,slow=5.0,SNR=3.4
VYHS Vyhne 147.21 339 *e*PKP **PKPbc 15 21 38.2 +0.5**
JAVC Velka Javorina 147.27 341 *e*P **PKiKP 15 21 39.1 -0.7**
PSZ Piszkesteto 147.34 338 P **PKPbc 15 21 37.9 -0.3**
ARR Arges 147.38 330 ⇑P **PKPbc 15 21 38.8 +0.5**
KRUC Moravsky 147.47 342 *e*P **PKPbc 15 21 38.4 0.0**
MODS Modra-Piesok 147.82 341 *e*PKP **PKPbc 15 21 40.2 +0.9**
MEM Membach 147.88 355 *d*PKiKP **PKPbc 15 21 39.4 +0.1**
BTNL Ternell 147.90 355 *d*PKPdf **PKPdf 15 21 34.6 -1.2**
BTNL *d*PKiKP **PKPbc 15 21 39.4 0.0**
SIRR Siria 148.01 334 P **PKPbc 15 21 40.3 +0.4**
KHC Kasperske Hory 148.14 346 PKPbc 15 21 39.7 -0.5
KHC Kasperske Hory 148.14 346⇑*e*PKP **PKPbc 15 21 40.4 +0.3**
KHC *e*PKPAB **PKPab 15 21 44.8 +0.3**
GZR Gura Zlata 148.22 332 ⇑P **PKPbc 15 21 39.3 -1.2**
SURR Surduc 148.22 333 ⇑P **PKPbc 15 21 39.5 -0.9**
CKRC Cesky Krumlov 148.25 345⇑*e*PKP **PKPbc 15 21 41.0 +0.6**
GEC2 GERESS Array S 148.38 345 PKPbc 15 21 39.7 -1.1
GERES GERESS Array B 148.38 345 PKPbc 15 21 39.6 -1.2
GERES GERESS Array B 148.38 345 PKPbc **PKPbc 15 21 40.7 -0.1**
comp=E,4.2nm,0.7s,baz=32,slow=5.3,SNR=15
RCHB Rochefort 148.39 356 *d*PKiKP **PKPbc 15 21 40.7 0.0**
DOU Dourbes 148.49 357 *d*PKiKP **PKPbc 15 21 41.0 +0.1**
ELND Elena 148.49 326 P **PKPab 15 21 46.6 +0.5**
CONA Conrad Observa 148.65 342 *e*PKP **PKPbc 15 21 42.0 +0.5**
comp=E,13nm,1.2s
RONA Rosalia, Austr 148.72 341 *e*PKP **PKPbc 15 21 41.8 +0.2**
comp=E,6.3nm,0.8s
HERR Herculane 148.77 332 ⇓P **PKPbc 15 21 41.2 -0.6**
WLF Walferdange 148.81 355 *d*PKiKP **PKPbc 15 21 41.9 +0.2**
BLKB Belogradchik 149.61 330 P **PKPbc 15 21 43.9 0.0**
LESA Schwarzleotal 149.95 346 *e*PKP **PKPbc 15 21 44.4 -0.3**
comp=E,5.3nm,1.0s
SOKA Soboth 150.02 342 *e*PKP **PKPbc 15 21 44.4 -0.4**
comp=E,4.7nm,1.0s
KBA Koelnbreinsper 150.11 345 *e*PKP **PKPbc 15 21 44.8 -0.4**
comp=E,7.8nm,1.1s
WTTA Wattenberg 150.34 347 *e*PKP **PKPbc 15 21 45.5 -0.2**
comp=E,10nm,0.7s
MOTA Moosalm 150.37 348 *e*PKP **PKPbc 15 21 45.6 -0.2**
comp=E,10nm,0.9s
SQTA Sankt Quirin 150.47 347 *e*PKP **PKPbc 15 21 45.9 0.0**
comp=E,8.5nm,0.8s
ABTA Abfaltersbach 150.62 345 *e*PKP **PKPbc 15 21 45.8 -0.5**
comp=E,11nm,0.8s
DAVA Damuels 150.66 349 *e*PKiKP **PKPbc 15 21 46.8 +0.4**
comp=E,13nm,1.1s
FETA Feichten 150.75 348 *e*PKP **PKPbc 15 21 46.8 +0.2**
comp=E,7.8nm,1.1s
STAL STALIGIAL 151.03 345 PKPbc 15 21 45.7 -1.4
DAVOX Davos/Dischmat 151.15 349 PKPbc **PKPbc 15 21 47.6 0.0**
comp=E,7.7nm,0.8s,baz=254,slow=2.0,SNR=8.3
FUORN Ofenpass-Fuorn 151.23 348 PKPbc 15 21 47.4 -0.5

IDC 08 15:03:38.4±2.0, 6.86°S×143.66°E, h0km, mb3.8/2, mbtmp3.5/4, ML3.0/2, MS4.2/3, Error ellipse: s-maj=87.9km s-min=32.5km az=111.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.84**	**214**	Pn	Pn	15 07 20.9	-2.1
	0.1nm,0.3s,baz=32,slow=14,SNR=1.2						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**19.16**	**208**	P	Pn	15 08 04.0	-0.4
	0.1nm,0.3s,baz=34,slow=9.5,SNR=6.9						
	0.5nm,0.7s						
JHJ	**Hachijo jima 2**	**39.93**	**355**	LR	LR	15 27 33.6	
	comp=Z,582nm,18.7s,baz=81,slow=36						
MJAR	**Matsushiro Arr**	**43.48**	**354**	LR	LR	15 27 33.5	
	comp=Z,276nm,21.8s,baz=134,slow=33						
MKAR	**Makanchi Array**	**76.08**	**322**	P	P	15 15 28.9	+0.9
	0.5nm,0.9s,baz=108,slow=9.3,SNR=3.6						
	0.5nm,0.9s						
ZALV	**Zalesovo Beam**	**78.00**	**329**	LR	LR	15 53 15.4	
	comp=Z,79nm,18.8s,baz=308,slow=38						
ILAR	**Eielson Array**	**87.58**	**24**	P	P	15 16 27.5	-0.7
	1.2nm,1.1s,baz=232,slow=7.0,SNR=4.9						
	1.2nm,1.1s						

*ATH **08** 15:12:57.4, 38.86°N×20.89°E, h6km±1km, ML3.2/21, Manual Solution by G.Panopoulou This location: 2020/05/13 09:02:10 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*THE **08** 15:12:58.1, 38.85°N×20.88°E, h0km±4km, ML3.1/3, Error ellipse: s-maj=4.9km s-min=0.9km az=29.0*
*IDC **08** 15:13:02.5±4.8, 38.73°N×20.69°E, h60km±33km, mb3.5/6, mbtmp3.7/7, ML3.6/1, Error ellipse: s-maj=80.4km s-min=20.5km az=61.0*

ISC 08 15:12:58.0±0.8, 38.86°N±0.02×20.86°E±0.02, h11km±6km, n98, σ1°17/107, mb3.7/6, 3C-4D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSLK	**Tsoukalades, L**	**0.16**	**259**	P	**Pg**	**15 13 01.6**	**0.0**
TSLK				S	**Sg**	**15 13 05.5**	**+1.4**
	13μm,0.9s						
NYDR	**Nydri-Lefkada**	**0.19**	**221**	P	**Pg**	**15 13 01.8**	**-0.2**
NYDR	**Nydri-Lefkada**	**0.19**	**221**	P	**Pg**	**15 13 01.2**	**-0.8**
NYDR				S	**Sg**	**15 13 05.0**	**+0.2**
DRAG	**Dragano-Lefkad**	**0.28**	**232**	P	**Pg**	**15 13 03.7**	**0.0**
DRAG	**Dragano-Lefkad**	**0.28**	**232**	P	**Pg**	**15 13 03.8**	**0.0**
EVGI	**Lefkada island**	**0.28**	**214**	P	**Pg**	**15 13 03.7**	**0.0**
EVGI	**Lefkada island**	**0.28**	**214**	P	**Pg**	**15 13 03.3**	**-0.4**
EVGI				S	**Sg**	**15 13 08.1**	**+0.5**
VAS2	**Vassiliki, Lef**	**0.30**	**221**	P	**Pg**	**15 13 04.3**	**+0.4**
ART2	**Arta**	**0.31**	**20**	P	**Pg**	**15 13 03.0**	**-1.3**
ART2				S	**Sg**	**15 13 08.3**	**-0.2**
ARTB	**Arta**	**0.32**	**17**	P	**Pg**	**15 13 04.0**	**-0.4**
AST1	**Astakos**	**0.36**	**150**	P	**Pg**	**15 13 04.9**	**-0.3**
AST1				S	**Sg**	**15 13 11.1**	**+1.1**
VSK1	**VASILIKIADES**	**0.50**	**207**	P	**Pg**	**15 13 07.5**	**-0.3**
VSK1				S	**Sb**	**15 13 16.4**	**+0.3**
	2μm,0.5s						
PRGA	**Parga**	**0.56**	**321**	P	**Pg**	**15 13 08.5**	**-0.3**
PVO	**Paravola**	**0.57**	**114**	P	**Pg**	**15 13 08.7**	**-0.4**
PVO	**Paravola**	**0.57**	**114**	P	**Pg**	**15 13 08.8**	**-0.4**
PVO				S	**Sg**	**15 13 15.2**	**-1.5**
KEF5	**Kardakata, Kep**	**0.65**	**208**	P	**Pg**	**15 13 10.5**	**-0.2**
KEF5	**Kardakata, Kep**	**0.65**	**208**	P	**Pg**	**15 13 10.4**	**-0.2**
KEF5				S	**Sg**	**15 13 19.4**	**+0.2**
MSL1	**Messolongi**	**0.66**	**137**	P	**Pg**	**15 13 10.3**	**-0.3**
VLS	**Valsamata**	**0.71**	**197**	P	**Pg**	**15 13 11.0**	**-0.7**
VLS				S	**Sg**	**15 13 21.2**	**+0.2**
	2μm,0.5s						
VLS	**Valsamata**	**0.71**	**197**	P	**Pg**	**15 13 10.8**	**-0.9**
ARG2	**Argostoli**	**0.74**	**203**	P	**Pg**	**15 13 11.7**	**-0.5**
EVR	**Evrytania**	**0.74**	**85**	P	**Pb**	**15 13 12.8**	**-0.2**
EVR	**Evrytania**	**0.74**	**85**	P	**Pg**	**15 13 12.2**	**-0.2**
KEF3	**Kipouria, Keph**	**0.77**	**212**	P	**Pg**	**15 13 12.1**	**-0.6**
PSDA	**Pessada-Kefalo**	**0.77**	**196**	P	**Pg**	**15 13 12.1**	**-0.8**
IGT	**Igoumenitsa**	**0.79**	**329**	P	**Pg**	**15 13 12.0**	**-1.3**
IGT	**Igoumenitsa**	**0.79**	**329**	P	**Pg**	**15 13 11.9**	**-1.3**
JAN	**Janina**	**0.80**	**360**	P	**Pn**	**15 13 14.8**	**-0.4**
JAN	**Janina**	**0.80**	**360**	P	**Pg**	**15 13 12.9**	**-0.5**
VVK	**Vomvokou**	**0.86**	**120**	P	**Pg**	**15 13 13.9**	**-0.8**
EFP	**Efpalio**	**0.93**	**117**	P	**Pg**	**15 13 15.7**	**-0.1**
EFP	**Efpalio**	**0.93**	**117**	P	**Pg**	**15 13 14.9**	**-0.9**
RLS	**Riolos of Patr**	**0.93**	**149**	P	**Pg**	**15 13 15.6**	**-0.3**
RLS	**Riolos of Patr**	**0.93**	**149**	P	**Pg**	**15 13 15.2**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.01**	**81**	P	**Pb**	**15 13 16.4**	**-1.0**
MAKR	**Makrakomi, Fth**	**1.01**	**81**	P	**Pb**	**15 13 16.5**	**-1.0**
SERG	**Sergoula**	**1.04**	**115**	P	**Pb**	**15 13 17.7**	**-0.2**
DRO	**Drossia**	**1.12**	**143**	P	**Pb**	**15 13 18.8**	**-0.6**
DRO	**Drossia**	**1.12**	**143**	P	**Pb**	**15 13 18.4**	**-1.0**
KASA	**Kassiopi**	**1.14**	**321**	P	**Pb**	**15 13 19.4**	**-0.3**
THL	**Klokotos Trika**	**1.14**	**51**	P	**Pb**	**15 13 18.9**	**-0.8**
THL	**Klokotos Trika**	**1.14**	**51**	P	**Pb**	**15 13 18.4**	**-1.3**
LTHK	**Lithakia**	**1.15**	**181**	P	**Pb**	**15 13 19.5**	**-0.2**
AGG	**Agios Georgios**	**1.16**	**81**	P	**Pb**	**15 13 19.4**	**-0.7**
AGG	**Agios Georgios**	**1.16**	**81**	P	**Pb**	**15 13 19.0**	**-1.1**
KPRO	**Kipourio**	**1.17**	**19**	P	**Pb**	**15 13 19.2**	**-1.0**
KPRO	**Kipourio**	**1.17**	**19**	P	**Pb**	**15 13 18.8**	**-1.4**
KLV	**Kalavryta, Ach**	**1.30**	**128**	P	**Pn**	**15 13 21.8**	**-0.3**
KLV	**Kalavryta, Ach**	**1.30**	**128**	P	**Pn**	**15 13 21.3**	**-0.8**
PENT	**Pentalofos**	**1.35**	**9**	P	**Pn**	**15 13 23.0**	**0.0**
TYRN	**Tyrnavos**	**1.37**	**51**	P	**Pn**	**15 13 22.6**	**-0.4**
AXAR	**Agios Charalam**	**1.41**	**93**	P	**Pn**	**15 13 23.5**	**-0.1**
GUR	**Goura**	**1.48**	**128**	P	**Pn**	**15 13 25.1**	**+0.4**
GUR	**Goura**	**1.48**	**128**	P	**Pn**	**15 13 24.8**	**+0.1**
THAL	**Thalero**	**1.64**	**119**	P	**Pn**	**15 13 26.0**	**-0.6**
LTK	**Loutraki**	**1.85**	**116**	P	**Pn**	**15 13 29.8**	**+0.1**
XOR	**Xorichti**	**1.89**	**74**	P	**Pn**	**15 13 30.4**	**+0.3**
AMYA	**Amyntaio**	**1.94**	**19**	P	**Pn**	**15 13 31.1**	**+0.3**
FNA	**Florina**	**1.97**	**12**	P	**Pn**	**15 13 33.5**	**-0.3**
FNA	**Florina**	**1.97**	**12**	P	**Pn**	**15 13 32.1**	**+0.8**
PYL	**PYLOS**	**2.08**	**160**	P	**Pn**	**15 13 33.2**	**+0.4**
OHR	**Ohrid**	**2.25**	**359**	*i* Pn	**Pb**	**15 13 38.5**	**-0.2**
HORT	**Hortiatis**	**2.45**	**44**	P	**Pn**	**15 13 38.2**	**+0.2**
DION	**Dionisos Attik**	**2.54**	**107**	P	**Pn**	**15 13 38.5**	**-0.6**
KYMI	**Kymi, Euboea I**	**2.54**	**94**	P	**Pn**	**15 13 39.1**	**-0.1**
TIR	**Tirane**	**2.60**	**343**	⇓P	**Pg**	**15 13 50.2**	**+2.3**
VLI	**Veliai**	**2.70**	**142**	P	**Pn**	**15 13 41.5**	**+0.3**
SOH	**Sokhos**	**2.75**	**44**	P	**Pn**	**15 13 41.1**	**-0.9**
VAY	**Valandovo**	**2.79**	**28**	*i* Pn	**Pb**	**15 13 45.4**	**-2.4**
KOKK	**Kokkinochori,**	**3.11**	**50**	P	**Pn**	**15 13 47.1**	**+0.2**
TIP	**Timpagrande**	**3.21**	**277**	⇑P	**Pn**	**15 13 47.5**	**-0.9**
THAS	**Thassos island**	**3.45**	**58**	P	**Pn**	**15 13 51.6**	**0.0**
DBRK	**Dubrovnik**	**4.33**	**332**	*e*Pn	**Pn**	**15 14 01.1**	**-2.7**
ALN	**Alexandroupoli**	**4.48**	**61**	P	**Pn**	**15 14 05.6**	**-0.2**
STON	**Ston**	**4.67**	**330**	*e*Pn	**Pn**	**15 14 07.5**	**-0.9**
IDI	**Anoyia**	**4.80**	**137**	P	**Pn**	**15 14 14.2**	**+3.9**
	0.3nm,0.9s,baz=220,slow=16,SNR=3.6						
IDI				S	**Sn**	**15 15 06.5**	**+0.5**
	0.2nm,1.0s,baz=261,slow=19,SNR=1.9						
LSTV	**Lastovo**	**4.93**	**324**	*e*Pn	**Pn**	**15 14 10.9**	**-1.1**
PLVB	**Pleven**	**5.34**	**31**	⇓P	**Pn**	**15 14 20.6**	**+2.9**
RICI	**Ricice**	**5.42**	**330**	*e*Pn	**Pn**	**15 14 17.5**	**-1.2**
ELND	**Elena**	**5.57**	**41**	P	**Pn**	**15 14 22.1**	**+1.4**
KIJV	**Kijevo**	**6.14**	**328**	*e*Pn	**Pn**	**15 14 28.2**	**-0.3**
ZIRJ	**Zirje**	**6.20**	**322**	*e*Pn	**Pn**	**15 14 28.7**	**-0.6**
MORI	**Morici**	**6.33**	**324**	*e*Pn	**Pn**	**15 14 31.3**	**+0.2**
DUGI	**Dugi Otok**	**6.73**	**322**	*e*Pn	**Pn**	**15 14 34.4**	**-2.3**
UDBI	**Udbina**	**6.83**	**328**	*i* Pn	**Pn**	**15 14 38.1**	**0.0**
VIRC	**Vir**	**6.96**	**323**	*e*Pn	**Pn**	**15 14 40.1**	**+0.4**
ARR	**Arges**	**7.08**	**22**	⇑P	**Pn**	**15 14 43.3**	**+1.7**
VOIR		**7.28**	**24**	⇓P	**Pn**	**15 14 47.7**	**+3.5**
MLR	**Muntele Rosu**	**7.63**	**28**	⇓P	**Pn**	**15 14 51.5**	**+2.3**
MLR	**Muntele Rosu**	**7.63**	**28**	P	**Pn**	**15 14 53.5**	**+4.4**
	0.3nm,0.3s,baz=264,slow=9.2,SNR=2.8						
	1.8nm,0.6s						
DOPR	**Dopca**	**7.86**	**24**	⇑P	**Pn**	**15 14 55.8**	**+3.7**
DRGR		**8.05**	**9**	P	**Pn**	**15 14 60.0**	**+5.2**
FINES	**FINESS Array B**	**22.84**	**6**	P	**P**	**15 18 01.1**	**+0.3**
	1.0nm,0.7s,baz=200,slow=9.7,SNR=4.6						
	1.0nm,0.7s						
ARCES	**ARCESS Array B**	**30.84**	**3**	P	**P**	**15 19 13.2**	**-0.5**
	2.0nm,0.9s,baz=184,slow=12,SNR=1.8						
	2.0nm,0.9s						
BVAR	**Borovoye Array**	**36.48**	**51**	P	**P**	**15 20 03.2**	**+0.3**
	0.4nm,0.5s,baz=292,slow=4.7,SNR=3.6						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**41.62**	**54**	P	**P**	**15 20 45.7**	**-0.1**
	0.6nm,0.2s,baz=281,slow=9.4,SNR=1.6						
	0.6nm,0.2s						
MKAR	**Makanchi Array**	**44.72**	**59**	P	**P**	**15 21 11.4**	**+0.4**
	0.3nm,0.4s,baz=282,slow=7.1,SNR=8.6						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**45.04**	**49**	P	**P**	**15 21 13.2**	**-0.3**
	1.0nm,0.4s,baz=279,slow=7.1,SNR=5.4						
	1.0nm,0.4s						

THE 08 15:13:07.6, 38.91°N×20.85°E, h2km±30km, ML3.3/4, Error ellipse: s-maj=30.5km s-min=0.7km az=0.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSLK	**Tsoukalades, L**	**0.17**	**241**	P	Pg	15 13 10.2	-0.7
TSLK				S	Sg	15 13 13.8	+0.7
	20μm,0.7s						
NYDR	**Nydri-Lefkada**	**0.23**	**210**	P	Pg	15 13 11.9	0.0
NYDR				S	Sg	15 13 15.3	+0.5
	11μm,0.3s						
DRAG	**Dragano-Lefkad**	**0.31**	**223**	P	Pg	15 13 13.4	-0.1
EVGI	**Lefkada island**	**0.32**	**207**	P	Pg	15 13 13.9	+0.1
EVGI				S	Sg	15 13 18.6	+0.6
	13μm,0.4s						
AST1	**Astakos**	**0.41**	**152**	P	Pg	15 13 15.4	-0.1
VSK1	**VASILIKIADES**	**0.55**	**204**	P	Pg	15 13 18.0	0.0
VSK1				S	Sg	15 13 25.3	+0.2
PVO	**Paravola**	**0.61**	**118**	P	Pg	15 13 19.4	+0.2
PVO				S	Sg	15 13 27.6	+0.5
KEF5	**Kardakata, Kep**	**0.69**	**205**	P	Pg	15 13 21.0	+0.1
PSDA	**Pessada-Kefalo**	**0.82**	**195**	P	Pg	15 13 23.2	-0.1
PSDA				S	Sb	15 13 35.2	-0.9
	2μm,0.2s						

IDC 08 15:17:03.1±905.0, 47.05N×4.41W, h0km, Error ellipse: s-maj=404.0km s-min=175.4km az=91.0, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**12.29**	**75**	I	I	16 28 29.1	
	0.1nm,0.9s,baz=269,slow=316,SNR=5.4						
I48TN	**KESRA INFRASON**	**15.21**	**133**	I	I	16 46 50.0	
	baz=323,slow=320,SNR=0.9						
I43RU	**DUBNA INFRASON**	**27.06**	**54**	I	I	18 04 10.0	
	baz=268,slow=333,SNR=1.0						

IDC 08 15:23:09.4±4.4, 3.15S×131.48E, h0km, mb3.3/2, mbtmp3.3/3, ML3.0/1, Error ellipse: s-maj=297.7km s-min=31.0km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.92**	**171**	Pn	Pn	15 27 06.4	-1.4
	0.1nm,0.3s,baz=352,slow=11,SNR=2.8						
WRA				Sn	Sn	15 30 05.2	-12
	0.1nm,0.3s,baz=356,slow=24,SNR=1.4						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**20.53**	**174**	P	P	15 27 50.1	+0.5
	1.0nm,0.5s,baz=349,slow=10,SNR=50						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**65.88**	**325**	P	P	15 33 57.0	0.0
	0.3nm,0.7s,baz=111,slow=6.3,SNR=2.6						
	0.3nm,0.7s						

*NEIC **08** 15:32:29.6±3.0, 37.24N±0.05×71.97E±0.08, h169km±5km, mb4.0/4, Error ellipse: s-maj=9.7km s-min=7.5km az=96.0*
*IDC **08** 15:32:30.1±5.1, 37.30N×71.89E, h134km±32km, mb3.6/2, mbtmp4.1/8, Error ellipse: s-maj=62.1km s-min=24.0km az=148.0*
*NNC **08** 15:32:34.4±1.8, 37.53N×71.92E, h158km±25km, mb2.8, mpv3.7, Error ellipse: s-maj=17.7km s-min=9.9km az=11.0*

ISC 08 15:32:28.6±0.7, 37.19N±0.05×71.98E±0.05, h142km, n52, σ1°82/69, 1C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**2.23**	**325**	Pn	**Pn**	**15 33 08.8**	**+2.7**
GAR				Sn	**Sn**	**15 33 36.3**	**+1.3**
DRK	**Karamyk**	**2.29**	**357**		**Pn**	**15 33 10.4**	**+3.4**
CHGR	**Chuyangaron**	**2.67**	**304**	Pn	**Pn**	**15 33 13.6**	**+2.1**
CHGR				Sn	**Sn**	**15 33 45.5**	**+0.9**
SIMJ	**Simiganj**	**2.77**	**303**		**Pn**	**15 33 15.0**	**+2.2**
SIMJ				Sn	**Sn**	**15 33 47.3**	**+0.4**
BTK	**Batken**	**3.00**	**343**	Pn	**Pn**	**15 33 17.3**	**+1.6**
BTK				Sn	**Sn**	**15 33 53.9**	**+1.7**
KBL	**Kabul**	**3.56**	**223**	Pn	**Pn**	**15 33 25.8**	**+2.8**
KBL				Sn	**Sn**	**15 34 06.6**	**+1.3**
NIL	**Nilore**	**3.68**	**163**	Pn	**Pn**	**15 33 28.1**	**+3.6**
NIL				Sn	**Sn**	**15 34 10.6**	**+2.7**
ARSB	**Arslanbob**	**4.20**	**10**	Pn	**Pn**	**15 33 32.6**	**+1.3**
ARSB				Sn	**Sn**	**15 34 19.3**	**-0.8**
JMU	**Jammu**	**5.07**	**151**	*e*P	**Pn**	**15 33 45.9**	**+3.2**
JMU				*e*S	**Sn**	**15 34 40.0**	**-0.5**
NRN	**Naryn**	**5.26**	**35**	Pn	**Pn**	**15 33 46.2**	**+0.6**
UCH	**Uchtor**	**5.40**	**20**	P	**Pn**	**15 33 49.4**	**+1.9**
	SNR=94	

comp=N,3.5nm,0.8s,baz=164,slow=11,SNR=16
BRVK Borovoye 15.91 356 P Pn 15 36 03.8 -0.6
AKTO Aktyubinsk 16.60 327 P Pn 15 36 14.1 +1.3
comp=N,0.9nm,0.3s,baz=154,slow=5.2,SNR=8.2
AKTO Aktyubinsk 16.60 327 ⇓P Pn 15 36 13.8 +1.0
comp=N,0.4nm,0.4s
ZAA0 Zalesovo Array 18.96 24 P 15 36 38.0 -0.6
ZAA0 IAmb IAmb 15 36 40.3
comp=Z,9.1nm,0.8s
ZALV Zalesovo Beam 18.96 24 P 15 36 38.4 -0.2
ZALV Zalesovo Beam 18.96 24 P P 15 36 39.4 +0.7
comp=Z,5.1nm,0.4s,baz=222,slow=10,SNR=41
ARCES ARCESS Array B 40.81 337 P P 15 39 54.2 -1.4
ARCES ARCESS Array B 40.81 337 P P 15 39 57.0 +1.4
comp=Z,3.3nm,1.0s,baz=116,slow=8.1,SNR=3.8
comp=Z,3.3nm,1.0s
HFS Hagfors 43.01 321 P P 15 40 15.0 +1.4
comp=Z,1.1nm,0.6s,baz=87,slow=10,SNR=1.4
comp=Z,1.1nm,0.6s

TAP 08 15:32:45.1, 23.71N×122.06E, h36km, ML2.1, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHUL	**Shoufeng**	**0.46**	**280**	*e*P	Pn	15 32 55.1	-0.1
	baz=280						
SHUL				*e*S	Sn	15 33 02.4	+0.2
	baz=280						
TWD	**Chiawan**	**0.56**	**311**	*e*P	Pn	15 32 55.9	-0.7
	baz=312						
TWD				*e*S	Sn	15 33 04.0	-0.7
	baz=312						
ETM	**Tongmen**	**0.58**	**296**	*e*P	Pn	15 32 56.0	-0.9
	baz=296						
ETM				*e*S	Sn	15 33 04.4	-0.8
	baz=296						
ESL	**Shilin**	**0.58**	**280**	*i* P	Pn	15 32 56.0	-0.9
	baz=273						
ESL				*e*S	Sn	15 33 04.2	-1.1
	baz=273						
ETL	**Fush Village**	**0.60**	**318**	*e*P	Pn	15 32 56.4	-0.8
	baz=311						
ETL				*e*S	Sn	15 33 05.0	-0.7
	baz=311						
WARBT	**Fenglin Townsh**	**0.62**	**271**	P	Pn	15 32 56.7	-0.7
	baz=266						
WARBT				*e*S	Sn	15 33 05.1	-1.0
	baz=266						
EOS3	**EOS3**	**0.62**	**22**	*e*P	Pn	15 32 57.6	+0.3
	baz=15						
EOS3				*e*S	Sn	15 33 06.6	+0.6
	baz=15						
HGSD	**Ruisui**	**0.62**	**250**	*e*P	Pn	15 32 56.7	-0.8
	baz=250						
HGSD				*e*S	Sn	15 33 04.9	-1.4
	baz=250						
NACB	**Ninganchiao**	**0.63**	**317**	*e*P	Pn	15 32 56.8	-0.8
	baz=313						
NACB				*e*S	Sn	15 33 05.3	-1.0
	baz=313						
LXIB	**Xiulin Townshi**	**0.67**	**298**	*e*P	Pn	15 32 57.6	-0.7
	baz=298						
LXIB				*e*S	Sn	15 33 07.4	-0.1
	baz=298						
EAHA	**Aohua**	**0.68**	**335**	*e*P	Pn	15 32 57.9	-0.4
	baz=326						
EAHA				*e*S	Sn	15 33 07.9	+0.2
	baz=326						
EHY	**Hungye**	**0.71**	**253**	*e*P	Pn	15 32 58.4	-0.2
	baz=268						
EHY				*e*S	Sn	15 33 07.9	-0.4
	baz=268						
ETLH	**Xiulin Townshi**	**0.72**	**313**	*e*P	Pn	15 32 58.2	-0.7
	baz=313						
ETLH				*e*S	Sn	15 33 08.2	-0.6
	baz=313						
YULB	**Yu-li**	**0.77**	**246**	*e*P	Pn	15 32 59.3	-0.1
	baz=260						
YULB				*e*S	Sn	15 33 09.1	-0.7
	baz=260						
EYUL	**Yuli**	**0.77**	**242**	*e*P	Pn	15 32 59.3	-0.1
	baz=242						
EYUL				*e*S	Sn	15 33 10.2	+0.4
	baz=242						
ENA	**Nanau**	**0.77**	**338**	P	Pn	15 32 59.2	-0.3
	baz=331						
ENA				S	Sn	15 33 10.0	+0.2
	baz=331						
EWUT	**Wuta**	**0.78**	**341**	*e*P	Pn	15 32 59.4	-0.1
	baz=333						
EWUT				*e*S	Sn	15 33 10.6	+0.7
	baz=333						
TWF1	**Yuli**	**0.79**	**243**	*e*P	Pn	15 32 59.7	0.0
	baz=236						
TWF1				*e*S	Sn	15 33 10.3	+0.1
	baz=236						
VWDT	**VWDT**	**0.84**	**273**	*e*P	Pn	15 33 00.7	+0.3
	baz=273						
VWDT				*e*S	Sn	15 33 11.9	+0.2
	baz=273						
OWD	**Renai**	**0.84**	**287**	*e*P	Pn	15 33 00.5	-0.1
	baz=294						
OWD				*e*S	Sn	15 33 11.7	-0.2
	baz=294						
WHF	**Hehuan Shan**	**0.84**	**301**	*e*P	Pn	15 33 00.8	-0.2
	baz=301						
WHF				*e*S	Sn	15 33 12.7	+0.3
	baz=301						
CHGB	**Renai**	**0.88**	**293**	*e*P	Pn	15 33 01.2	0.0
	baz=298						
CHGB				*e*S	Sn	15 33 13.4	+0.4
	baz=298						
WUSB	**Renai**	**0.91**	**288**	*e*P	Pn	15 33 01.5	+0.1
	baz=288						
WUSB				*e*S	Sn	15 33 13.3	-0.1
	baz=288						
FUSS	**Fushou**	**0.92**	**306**	*e*P	Pn	15 33 01.7	0.0
	baz=306						
FUSS				*e*S	Sn	15 33 13.9	0.0
	baz=306						
NNSB	**Datong**	**0.94**	**319**	*e*P	Pn	15 33 01.9	-0.1
	baz=319						
NNSB				*e*S	Sn	15 33 15.0	+0.7
	baz=319						
LATG	**Datong**	**0.95**	**329**	*e*P	Pn	15 33 02.1	0.0
	baz=329						
LATG				*e*S	Sn	15 33 14.3	-0.2
	baz=329						
EHD	**Haiduan**	**0.96**	**235**	*e*P	Pn	15 33 01.6	-0.5
	baz=248						
EHD				*e*S	Sn	15 33 14.0	-0.6
	baz=248						
SSLB	**Suanglung**	**1.01**	**275**	*e*P	Pn	15 33 03.2	+0.4
	baz=275						
SSLB				*e*S	Sn	15 33 15.7	-0.3
	baz=275						
NDT	**Datong Townshi**	**1.02**	**331**	*e*P	Pn	15 33 03.3	+0.4
	baz=331						
NDT				*e*S	Sn	15 33 17.2	+1.3
	baz=331						
ENTT	**Nioudou**	**1.03**	**334**	*e*P	Pn	15 33 03.4	+0.4
	baz=334						
ENTT				*e*S	Sn	15 33 17.4	+1.2
	baz=334						
ELDTW	**Lidau**	**1.09**	**242**	*e*P	Pn	15 33 03.6	-0.4
	baz=242						
ELDTW				*e*S	Sn	15 33 16.8	-1.1
	baz=242						
WCS	**Beigang Elemen**	**1.10**	**288**	*e*P	Pn	15 33 04.7	+0.6
	baz=288						
WCS				*e*S	Sn	15 33 18.6	+0.6
	baz=288						
WHYT	**Xinyi Township**	**1.10**	**269**	*e*P	Pn	15 33 04.9	+0.8
	baz=269						
WHYT				*e*S	Sn	15 33 18.6	+0.5
	baz=269						
FUSB	**Fushanzhiwuyua**	**1.13**	**338**	*e*P	Pn	15 33 04.6	+0.2
	baz=337						
FUSB				*e*S	Sn	15 33 19.4	+0.6
	baz=337						
YHNB	**Yeheng**	**1.14**	**327**	*e*P	Pn	15 33 05.2	+0.5
	baz=327						
YHNB				*e*S	Sn	15 33 19.1	0.0
	baz=327						
NSK	**Sanguang**	**1.15**	**326**	*e*P	Pn	15 33 05.1	+0.3
	baz=316						
NSK				*e*S	Sn	15 33 20.3	+0.9
	baz=316						
ALS	**Alishan**	**1.17**	**260**	*e*P	Pn	15 33 05.9	+0.8
	baz=270						
ALS				*e*S	Sn	15 33 20.8	+0.8
	baz=270						
TIPB	**Shuangxi**	**1.27**	**350**	*e*P	Pn	15 33 07.7	+1.3
	baz=2.0						
TIPB				*e*S	Sn	15 33 23.2	+0.9
	baz=2.0						
TPUB	**Ta-pu**	**1.37**	**253**	*e*P	Pn	15 33 08.2	+0.4
	baz=245						
TPUB				*e*S	Sn	15 33 25.3	+0.5
	baz=245						

JMA 08 15:33:11.9±0.2, 24.2N±0.5×123.8E±0.6, h19km±2km, MV0.9/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.13**	**318**	P	Pg	15 33 16.0	0.0
JKRS	**Kuro-shima**	**0.17**	**90**	*e*S	Sg	15 33 19.9	+0.4
HATJ	**Hateruma jima**	**0.18**	**187**	*i* P	Pg	15 33 16.4	-0.2
HATJ				*e*S	Sg	15 33 19.8	0.0
JIJ	**Ishigaki jima**	**0.31**	**66**	P	Pg	15 33 18.6	-0.2
JIJ				*e*S	Sg	15 33 22.8	-0.6
JISG	**Ishigakijimahi**	**0.56**	**51**	*e*P	Pb	15 33 23.0	-0.1

IDC 08 16:25:18.7±2.5, 6.95S×128.78E, h0km, mb3.0/1, mbtmp3.2/3, ML3.6/2, Error ellipse: s-maj=202.0km s-min=33.1km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.00**	**158**	Pn	Pn	16 28 37.7	-0.8
	0.3nm,0.3s,baz=332,slow=14,SNR=15						
WRA				Sn	Sn	16 31 00.5	-14
	0.2nm,0.3s,baz=334,slow=23,SNR=2.9						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**17.34**	**164**	P	Pn	16 29 22.9	+0.6
	0.2nm,0.3s,baz=339,slow=9.3,SNR=17						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**67.52**	**327**	P	P	16 36 16.8	0.0
	0.1nm,0.4s,baz=142,slow=7.3,SNR=1.4						
	0.1nm,0.4s						

IDC 08 16:32:42.6±2.3, 5.19N×126.47E, h0km, mb3.3/3, mbtmp3.3/3, MS2.9/1, Error ellipse: s-maj=159.3km s-min=29.1km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**10.40**	**329**	LR	LR	16 39 08.7	
	comp=Z,64nm,20.9s,baz=267,slow=37						
WRA	**Warramunga Arr**	**26.15**	**163**	P	P	16 38 19.2	+0.4
	0.4nm,0.6s,baz=343,slow=10,SNR=8.9						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**29.59**	**166**	P	P	16 38 49.0	-0.5
	0.2nm,0.5s,baz=349,slow=7.2,SNR=5.8						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**56.22**	**325**	P	P	16 42 24.5	-0.1
	0.1nm,0.4s,baz=125,slow=7.2,SNR=2.1						
	0.1nm,0.4s						

*IDC **08** 16:37:06.1±1.1, 34.12N×25.24E, h0km, mb3.7/7, mbtmp3.8/12, ML4.1/5, Error ellipse: s-maj=21.7km s-min=18.4km az=5.0*
*ATH **08** 16:37:09.9, 34.11N×25.13E, h10km±2km, ML3.6/7, Error ellipse: s-maj=2.2km s-min=1.4km az=177.0*
*ISK **08** 16:37:09.9, 34.16N×25.20E, h81km, ML3.6/13*
*THE **08** 16:37:10.1, 34.01N×25.18E, h16km±6km, ML3.5/4, Error ellipse: s-maj=8.4km s-min=1.5km az=179.0*
*AFAD **08** 16:37:13.1±0.0, 34.47N×25.66E, h7km±5km, ML3.3*
*GII **08** 16:37:17.9±0.3, 33.71N±0.007×26.15E±0.02, h10km, Mws3.6, confirmed*

ISC 08 16:37:08.4±1.6, 34.07N±0.05×25.22E±0.03, h17km±10km, n128, σ1°17/129, mb3.9/7, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRMA	**Ierapetra Chan**	**1.04**	**24**	P	**Pb**	**16 37 30.0**	**+2.0**
FRMA	**Ierapetra Chan**	**1.04**	**24**	P	**Pn**	**16 37 30.1**	**+1.8**
FRMA				S	**Sn**	**16 37 44.6**	**+2.2**
FRMA				AML	AML	16 37 58.7	
	comp=N,5817μm,0.6s						
FRMA				AML	AML	16 38 00.5	
	comp=E,6517μm,1.0s						
TMBK	**Timbaki Herakl**	**1.07**	**340**	P	**Pg**	**16 37 28.6**	**-0.6**
TMBK				S	**Sb**	**16 37 42.6**	**+0.4**
GVD	**Gavdhos**	**1.21**	**310**	Pn	**Pb**	**16 37 31.3**	**+0.4**
GVD				Sn	**Sn**	**16 37 47.7**	**+1.0**
GVD	**Gavdhos**	**1.21**	**310**	P	**Pg**	**16 37 31.5**	**-0.3**
GVD				S	**Sn**	**16 37 47.7**	**+1.0**
	comp=E,4μm,0.6s						
GVD	**Gavdhos**	**1.21**	**310**	P	**Pb**	**16 37 30.9**	**-0.1**
GVD				S	**Sb**	**16 37 45.8**	**-0.5**
GVD				AML	AML	16 38 00.6	
	comp=N,4575μm,0.4s						
GVD				AML	AML	16 38 07.4	
	comp=E,7898μm,0.6s						
KSTL	**Kastelli Herak**	**1.24**	**355**	P	**Pb**	**16 37 30.5**	**-0.9**
KSTL				S	**Sb**	**16 37 47.8**	**+0.6**
	comp=E,968nm,0.8s						
KSTL	**Kastelli Herak**	**1.24**	**355**	P	**Pb**	**16 37 30.5**	**-0.9**
KSTL				S	**Sb**	**16 37 45.4**	**-1.7**
KSTL				AML	AML	16 37 51.9	
	comp=N,8435μm,0.8s						
KSTL				AML	AML	16 37 54.0	
	comp=E,2973μm,0.8s						
IACM	**Heraklion**	**1.24**	**355**	P	**Pg**	**16 37 32.9**	**+0.5**
IACM	**Heraklion**	**1.24**	**355**	P	**Pb**	**16 37 31.9**	**+0.4**
IACM				S	**Sb**	**16 37 47.9**	**+0.7**
IDI	**Anoyia**	**1.25**	**348**	Pn	**Pb**	**16 37 31.1**	**-0.5**
IDI				Sn	**Sb**	**16 37 47.5**	**0.0**
IDI	**Anoyia**	**1.25**	**348**	P	**Pb**	**16 37 31.6**	**0.0**
IDI				S	**Sn**	**16 37 49.7**	**+2.0**
	comp=E,1μm,0.6s						
IDI	**Anoyia**	**1.25**	**348**	Pn	**Pb**	**16 37 31.7**	**0.0**
	comp=E,0.3nm,0.3s,baz=174,slow=14,SNR=58						
IDI				Sn	**Sb**	**16 37 44.2**	**-3.3**
	comp=E,0.9nm,0.3s,baz=345,slow=16,SNR=13						
IDI	**Anoyia**	**1.25**	**348**	P	**Pb**	**16 37 31.5**	**0.0**
IDI				S	**Sb**	**16 37 47.2**	**-0.2**
IDI				AML	AML	16 37 55.4	
	comp=E,4433μm,0.6s						
IDI				AML	AML	16 37 56.6	
	comp=N,2801μm,0.6s						
ZKR	**Zakros**	**1.33**	**38**	Pn	**Pn**	**16 37 33.2**	**+0.9**
ZKR				Sn	**Sb**	**16 37 50.6**	**+0.7**
ZKR	**Zakros**	**1.33**	**38**	P	**Pn**	**16 37 34.0**	**+1.7**
ZKR	**Zakros**	**1.33**	**38**	P	**Pn**	**16 37 33.8**	**+1.5**
ZKR				S	**Sb**	**16 37 51.5**	**+1.6**
ZKR				AML	AML	16 38 02.5	
	comp=E,4450μm,0.8s						
ZKR				AML	AML	16 38 09.9	
	comp=N,1889μm,0.9s						
PRNS	**Prines Rethymn**	**1.42**	**336**	P	**Pn**	**16 37 34.4**	**+0.8**
PRNS				S	**Sg**	**16 37 53.5**	**-0.9**
	comp=N,948nm,0.7s						
IMMV	**Iera Moni Meta**	**1.72**	**324**	Pn	**Pn**	**16 37 38.6**	**+0.9**
IMMV				Sn	**Sn**	**16 37 58.9**	**-0.4**
IMMV	**Iera Moni Meta**	**1.72**	**324**	P	**Pn**	**16 37 38.6**	**+0.9**
IMMV	**Iera Moni Meta**	**1.72**	**324**	P	**Pn**	**16 37 38.4**	**+0.5**
IMMV				S	**Sn**	**16 37 58.6**	**-0.8**
IMMV				AML	AML	16 38 17.0	
	comp=N,3273μm,0.9s						
IMMV				AML	AML	16 38 24.4	
	comp=E,3918μm,0.8s						
CHAN	**Chania**	**1.74**	**327**	P	**Pn**	**16 37 38.1**	**+0.1**
CHAN				AML	AML	16 38 12.8	
	comp=N,3112μm,1.1s						
CHAN				AML	AML	16 38 26.0	
	comp=E,3718μm,0.8s						
RODP	**Rodopos**	**1.91**	**322**	Pn	**Pn**	**16 37 41.3**	**+1.0**
KARP	**Karpathos**	**2.18**	**47**	Pn	**Pn**	**16 37 44.9**	**+0.9**
KARP	**Karpathos**	**2.18**	**47**	P	**Pn**	**16 37 46.3**	**+2.3**
KARP				S	**Sn**	**16 38 12.6**	**+2.0**
KARP	**Karpathos**	**2.18**	**47**	P	**Pn**	**16 37 44.6**	**+0.6**
KARP	**Karpathos**	**2.18**	**47**	P	**Pn**	**16 37 46.2**	**+2.2**
APE	**Apeiranthos**	**3.01**	**5**	Pn	**Pn**	**16 37 55.8**	**+0.4**
APE	**Apeiranthos**	**3.01**	**5**	P	**Pn**	**16 37 55.4**	**0.0**
ARG	**Arkhangelos**	**3.21**	**47**	Pn	**Pn**	**16 37 59.2**	**+1.1**
ARG	**Arkhangelos**	**3.21**	**47**	P	**Pn**	**16 38 00.2**	**+2.1**
ARG				S	**Sn**	**16 38 36.2**	**+0.2**
ARG	**Arkhangelos**	**3.21**	**47**	P	**Pn**	**16 37 59.9**	**+1.8**
VLI	**Veliai**	**3.23**	**326**	P	**Pn**	**16 37 58.6**	**+0.1**
DAT	**Datca**	**3.28**	**35**	Pn	**Pn**	**16 38 00.1**	**+0.8**
DAT	**Datca**	**3.28**	**35**	P	**Pn**	**16 38 00.1**	**+0.8**
BODT	**Bodrum**	**3.44**	**29**	Pn	**Pn**	**16 38 01.8**	**+0.4**
BODT	**Bodrum**	**3.44**	**29**	P	**Pn**	**16 38 02.0**	**+0.6**
YKAV	**Yalikavak-Bodr**	**3.48**	**28**	Pn	**Pn**	**16 38 03.0**	**+1.1**
TURN	**Turunc**	**3.66**	**42**	P	**Pn**	**16 38 05.4**	**+1.0**
TURN				S	**Sn**	**16 38 44.2**	**-3.0**
TURN				*i* AML	AML	16 38 51.0	
	comp=E,59nm,1.2s						
TURN				*i* AML	AML	16 39 02.0	
	comp=E,52nm,1.4s						
DALY	**Dalyan (Mula)**	**3.93**	**45**	Pn	**Pn**	**16 38 08.7**	**+0.7**
IZZE	**Mula-Seydike**	**4.04**	**53**	P	**Pn**	**16 38 10.4**	**+0.8**
IZZE				S	**Sn**	**16 38 53.0**	**-3.7**
IZZE				*i* AML	AML	16 39 01.0	
	comp=E,109nm,0.4s						
IZZE				*i* AML	AML	16 39 05.0	
	comp=E,196nm,0.4s						
AKAS	**Kas**	**4.20**	**58**	P	**Pn**	**16 38 12.6**	**+0.8**
AKAS				S	**Sn**	**16 38 57.8**	**-2.7**
AKAS				*i* AML	AML	16 39 02.0	
	comp=E,85nm,0.6s						
AKAS				*i* AML	AML	16 39 16.0	
	comp=E,146nm,0.5s						
CAME	**Cameli-Denizli**	**4.40**	**48**	Pn	**Pn**	**16 38 15.4**	**+0.8**
DNZT	**Denizli-Tavas-**	**4.46**	**43**	P	**Pn**	**16 38 16.6**	**+1.2**
DNZT				S	**Sn**	**16 39 07.9**	**+0.9**
DNZT				*i* AML	AML	16 39 36.0	
	comp=E,36nm,1.2s						
DNZT				*i* AML	AML	16 39 59.0	
	comp=E,32nm,1.4s						
KNIK	**Mula-Seydike**	**4.51**	**51**	P	**Pn**	**16 38 17.1**	**+0.9**
KNIK				S	**Sn**	**16 39 06.4**	**-1.9**
KNIK				*i* AML	AML	16 39 21.0	
	comp=E,44nm,1.6s						
KNIK				*i* AML	AML	16 39 25.0	
	comp=E,36nm,0.9s						
CAEL	**Denizli, Camel**	**4.53**	**46**	P	**Pn**	**16 38 19.9**	**+3.5**
CAEL				*i* AML	AML	16 39 19.0	
	comp=E,99nm,0.7s						
CAEL				*i* AML	AML	16 39 22.0	
	comp=E,90nm,0.6s						
TAVA	**DENIZLI_Tavas**	**4.53**	**40**	P	**Pn**	**16 38 18.6**	**+2.2**
TAVA				S	**Sn**	**16 39 07.9**	**-0.8**
TAVA				*i* AML	AML	16 39 46.0	
	comp=E,47nm,2.6s						
TAVA				*i* AML	AML	16 39 58.0	
	comp=E,28nm,1.4s						
GOLH	**Golhisar**	**4.75**	**47**	P	**Pn**	**16 38 20.7**	**+1.3**
GOLH				S	**Sn**	**16 39 12.6**	**-1.5**
GOLH				*i* AML	AML	16 40 08.0	
	comp=E,64nm,2.3s						
GOLH				*i* AML	AML	16 40 14.0	
	comp=E,67nm,2.6s						
AKUM	**Antalya-Kumluc**	**4.76**	**60**	P	**Pn**	**16 38 21.7**	**+2.2**
AKUM				S	**Sn**	**16 39 12.7**	**-1.7**
AKUM				*i* AML	AML	16 39 21.0	
	comp=E,104nm,1.3s						
AKUM				*i* AML	AML	16 40 26.0	
	comp=E,91nm,2.4s						
OFRI	**`Ofer**	**8.30**	**97**	P	**Pn**	**16 39 08.4**	**+0.2**
OFRI	**`Ofer**	**8.30**	**97**	S	Sn	16 40 35.0	-6.5
KZIT	**Kziot**	**8.37**	**110**	P	**Pn**	**16 39 09.5**	**+0.4**
KZIT	**Kziot**	**8.37**	**110**	S	Sn	16 40 36.2	-7.0
KZIT	**Kziot**	**8.37**	**110**	P	**Pn**	**16 39 09.1**	**0.0**
SLTI	**Sal'it**	**8.44**	**100**	P	**Pn**	**16 39 10.2**	**+0.2**
SLTI	**Sal'it**	**8.44**	**100**	P	**Pn**	**16 39 10.2**	**+0.2**
SLTI	**Sal'it**	**8.44**	**100**	S	Sn	16 40 38.5	-6.3
AMAZ	**Amatzia**	**8.55**	**105**	P	**Pn**	**16 39 11.7**	**+0.2**
AMAZ	**Amatzia**	**8.55**	**105**	S	Sn	16 40 41.0	-6.6
AMAZ	**Amatzia**	**8.55**	**105**	P	**Pn**	**16 39 11.8**	**+0.2**
MMC7	**Mount Meron ar**	**8.56**	**94**	P	**Pn**	**16 39 12.4**	**+0.7**
MMA0B	**Mount Meron ar**	**8.57**	**94**	P	**Pn**	**16 39 12.9**	**+1.1**
MMA0B	**Mount Meron ar**	**8.57**	**94**	S	Sn	16 40 42.7	-5.5
MMAI	**Mount Meron Ar**	**8.57**	**94**	Pn	**Pn**	**16 39 12.1**	**+0.2**
	comp=E,2.7nm,0.3s,baz=267,slow=13,SNR=9.0						
MMAI				Sn	Sn	16 40 37.3	-11
	comp=E,1.2nm,0.3s,baz=279,slow=13,SNR=2.2						
	comp=E,2.0nm,0.4s						
MMLI	**Mount Malkishu**	**8.70**	**98**	P	**Pn**	**16 39 14.1**	**+0.5**
MMLI	**Mount Malkishu**	**8.70**	**98**	S	Sn	16 40 44.4	-7.0
GEM	**Giv'at Ha'Em**	**8.75**	**93**	S	Sn	16 40 47.3	-5.3
GEM	**Giv'at Ha'Em**	**8.75**	**93**	P	**Pn**	**16 39 15.1**	**+0.8**
YTIR	**Yattir**	**8.77**	**105**	P	**Pn**	**16 39 14.3**	**-0.3**
YTIR	**Yattir**	**8.77**	**105**	S	Sn	16 40 46.4	-6.6
YTIR	**Yattir**	**8.77**	**105**	P	**Pn**	**16 39 15.1**	**+0.6**
NATI	**Neve Ativ**	**8.81**	**92**	P	Pn	16 39 12.9	-2.1
NATI	**Neve Ativ**	**8.81**	**92**	S	Sn	16 40 48.8	-5.1
NATI	**Neve Ativ**	**8.81**	**92**	P	**Pn**	**16 39 16.2**	**+1.2**
HMDT	**Nahal Hemdat**	**8.83**	**99**	S	Sn	16 40 48.3	-6.3
HMDT	**Nahal Hemdat**	**8.83**	**99**	P	**Pn**	**16 39 15.9**	**+0.6**
QRNJ	**Al-Qirein**	**8.85**	**98**	P	Pn	16 39 13.8	-1.8
UJAP	**Al Uja**	**8.86**	**101**	P	Sn	16 40 50.2	-5.0
UJAP	**Al Uja**	**8.86**	**101**	P	Pn	16 39 13.7	-2.0
DSI	**Dead Sea**	**8.91**	**103**	P	**Pn**	**16 39 17.0**	**+0.6**
DSI	**Dead Sea**	**8.91**	**103**	S	Sn	16 40 50.3	-6.1
DSI	**Dead Sea**	**8.91**	**103**	P	**Pn**	**16 39 17.1**	**+0.6**
KSHT	**Keshet**	**8.91**	**94**	P	**Pn**	**16 39 17.3**	**+0.8**
KSHT	**Keshet**	**8.91**	**94**	S	Sn	16 40 51.1	-5.5
SHMJ	**Saham**	**8.92**	**96**	P	**Pn**	**16 39 16.0**	**-0.6**
BALJ	**Balqa**	**8.97**	**100**	P	**Pn**	**16 39 16.9**	**-0.4**
KRMI	**Paran Flat**	**8.97**	**113**	P	**Pn**	**16 39 17.9**	**+0.5**
KRMI	**Paran Flat**	**8.97**	**113**	S	Sn	16 40 51.2	-6.9
MDBI	**Mazsada**	**8.98**	**105**	P	**Pn**	**16 39 17.6**	**+0.3**
MSBI	**Mazada**	**8.98**	**105**	P	**Pn**	**16 39 18.2**	**+0.9**
MSBI	**Mazada**	**8.98**	**105**	S	Sn	16 40 51.2	-6.8
MSBI	**Mazada**	**8.98**	**105**	P	**Pn**	**16 39 17.7**	**+0.4**
PRNI	**Paran**	**9.08**	**111**	P	**Pn**	**16 39 19.4**	**+0.6**
PRNI	**Paran**	**9.08**	**111**	S	Sn	16 40 53.6	-7.2
PRNI	**Paran**	**9.08**	**111**	P	**Pn**	**16 39 19.3**	**+0.5**
LISJ	**El Lisan**	**9.10**	**105**	P	**Pn**	**16 39 18.3**	**-0.7**
ZFRI	**Zfri**	**9.13**	**110**	P	**Pn**	**16 39 19.6**	**+0.2**
ZFRI	**Zfri**	**9.13**	**110**	S	Sn	16 40 53.4	-8.4
ZFRI	**Zfri**	**9.13**	**110**	P	**Pn**	**16 39 19.7**	**+0.2**
GHAJ	**Ghor Haditha**	**9.15**	**105**	*i* P	Sn	16 40 56.0	-6.3
GHAJ	**Ghor Haditha**	**9.15**	**105**	P	**Pn**	**16 39 20.7**	**+1.0**
GHAJ	**Ghor Haditha**	**9.15**	**105**	P	**Pn**	**16 39 20.2**	**+0.5**
GHAJ	**Ghor Haditha**	**9.15**	**105**	S	Sn	16 40 55.5	-6.8
HRFI	**Mount Harif**	**9.25**	**113**	P	**Pn**	**16 39 21.9**	**+0.7**
HRFI	**Mount Harif**	**9.25**	**113**	P	**Pn**	**16 39 21.5**	**+0.3**
HRFI	**Mount Harif**	**9.25**	**113**	S	Sn	16 40 58.4	-6.6
MBRI	**Mt Berech**	**

comp=E,0.5nm,0.6s
MKAR Makanchi Array 44.34 56 P **P** 16 45 17.9 +0.1
comp=E,1.3nm,0.6s,baz=277,slow=6.9,SNR=14
comp=E,1.3nm,0.6s
ZALV Zalesovo Beam 45.73 45 P **P** 16 45 28.0 -0.6
comp=E,0.7nm,0.4s,baz=295,slow=7.8,SNR=2.1
comp=E,0.7nm,0.4s
SONM Songino Array 60.15 50 P **P** 16 47 15.2 0.0
comp=E,0.7nm,0.7s,baz=286,slow=8.7,SNR=5.8
comp=E,0.7nm,0.7s

*TEH **08** 16:37:50.2,27.˝78N×57.˝37E,h14km±37km,ML3.8*
*OMAN **08** 16:37:52.5±0.1,27.˝81N×57.˝35E,h30km,mb4.0/8,*
ml3.5/19,Error ellipse: s-maj=1.0km s-min=0.6km az=10.0
*DSN **08** 16:37:53.8±1.8,27.˝34N×57.˝96E,h15km,ML3.4/6,Error*
ellipse: s-maj=39.3km s-min=11.3km az=151.0
*IDC **08** 16:37:54.6±4.5,27.˝68N×57.˝37E,h65km±58km,mb3.6/7,*
mbtmp3.9/8,ML3.5/1,Error ellipse: s-maj=42.7km
s-min=19.6km az=148.0

ISC 08 16:37:50.3±1.3,27.79N±0.03×57.35E±0.04,h16km±9km,
n71,σ1≒85/100,mb3.7/6,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.35**	**64**	Pg	**Pg**	**16 37 57.4**	**-0.2**
IBND	**Bandar-abas**	**0.79**	**245**	Pg	**Pn**	**16 38 07.2**	**+0.4**
GENO	**Geno**	**1.11**	**250**	Pg	**Pn**	**16 38 12.2**	**+0.8**
KBAM	**BAM**	**1.65**	**36**	Pg	**Pn**	**16 38 19.6**	**+0.8**
NGRK	**Negar Kerman**	**1.92**	**344**	Pn	**Pn**	**16 38 24.8**	**+2.1**
JASK	**Jask - Hormozg**	**1.97**	**166**	Pn	**Pn**	**16 38 24.1**	**+1.0**
JASK	**Jask - Hormozg**	**1.97**	**166**	P	**Pn**	**16 38 24.2**	**+1.1**
SHME	**Shamm**	**2.04**	**212**	P	**Pb**	**16 38 28.1**	**+1.0**
SHME				S	**Sg**	**16 38 54.5**	**-1.5**
SHME	**Shamm** SNR=51	**2.04**	**212**	P	**Pn**	**16 38 26.1**	**+2.0**
SHME				S	**Sb**	**16 38 51.9**	**-0.3**
CHMN	**Cheshme madani**	**2.07**	**5**	Pn	**Pn**	**16 38 26.6**	**+1.9**
BANOM	**Banah**	**2.08**	**207**	P	**Pb**	**16 38 27.6**	**-0.1**
BANOM				S	**Sb**	**16 38 54.0**	**+0.5**
BANOM	**Banah**	**2.08**	**207**	P	**Pb**	**16 38 27.7**	**-0.1**
BANOM				S	**Sb**	**16 38 54.3**	**+0.9**
TVBK	**TV Kerman**	**2.24**	**347**	Pn	**Pn**	**16 38 29.9**	**+2.7**
MASF	**Masafi**	**2.64**	**204**	P	**Pn**	**16 38 35.2**	**+3.0**
MASF				S	**Sn**	**16 39 06.5**	**+2.6**
LAR1	**LAR**	**2.64**	**268**	Pn	**Pn**	**16 38 34.2**	**+1.9**
MSFE	**Esma-Masafi**	**2.65**	**204**	P	**Pn**	**16 38 35.0**	**+2.6**
MDH	**Madha**	**2.66**	**201**	P	**Pn**	**16 38 32.6**	**+0.1**
MDH	**Madha**	**2.66**	**201**	P	**Pn**	**16 38 32.8**	**+0.3**
MDH				S	**Sn**	**16 39 06.0**	**+1.6**
KHGB	**Koh Gabri**	**2.68**	**344**	Pn	**Pn**	**16 38 35.8**	**+2.7**
UMQ	**Umm Al-Quwin**	**2.72**	**214**	P	**Pn**	**16 38 35.9**	**+2.6**
UMQ				S	**Sn**	**16 39 08.6**	**+2.8**
UOSS	**Minazif**	**3.02**	**200**	P	**Pn**	**16 38 38.8**	**+1.3**
UOSS	**Minazif**	**3.02**	**200**	P	**Pn**	**16 38 40.3**	**+2.8**
UOSS				S	**Sn**	**16 39 17.1**	**+3.8**
HATD	**Hatta, Dubai**	**3.15**	**201**	P	**Pn**	**16 38 41.9**	**+2.6**
HATD	**Hatta, Dubai**	**3.15**	**201**	P	**Pn**	**16 38 42.2**	**+2.8**
NAZ	**Nazwa, Dubai**	**3.18**	**209**	P	**Pn**	**16 38 43.4**	**+3.8**
NAZ	**Nazwa, Dubai**	**3.18**	**209**	P	**Pn**	**16 38 42.1**	**+2.5**
ZRDN	**Zarand Kerman**	**3.24**	**348**	Pn	**Pn**	**16 38 43.4**	**+2.7**
ASHO	**Ashiyiah** SNR=13	**3.31**	**201**	P	**Pn**	**16 38 44.1**	**+2.6**
ASHO				S	**Sn**	**16 39 22.9**	**+2.4**
FAQ	**Al Faqa, Dubai**	**3.42**	**208**	P	**Pn**	**16 38 45.0**	**+2.0**
FAQ				S	**Sn**	**16 39 25.0**	**+1.7**
ZHDN	**Zahedan**	**3.44**	**61**	Pn	**Pn**	**16 38 45.6**	**+2.2**
SOHO	**SOHO**	**3.72**	**192**	P	**Pn**	**16 38 47.1**	**0.0**
AJN	**Ajban**	**3.85**	**214**	P	**Pn**	**16 38 50.6**	**+1.6**
AJN				S	**Sn**	**16 39 34.6**	**+0.7**
ALNE	**Al Ain**	**3.99**	**201**	P	**Pn**	**16 38 53.1**	**+2.2**
NGCH	**Negor - Chabah**	**4.17**	**125**	Pn	**Pn**	**16 38 54.6**	**+1.3**
NGCH	**Negor - Chabah**	**4.17**	**125**	P	**Pn**	**16 38 54.5**	**+1.2**
HOQ	**Hoqain**	**4.19**	**180**	P	**Pn**	**16 38 53.4**	**-0.2**
HOQ				S	**Sn**	**16 39 44.3**	**+1.9**
NHDN	**Nehbandan**	**4.29**	**33**	Pn	**Pn**	**16 38 57.3**	**+2.2**
IMEH	**Mehriz**	**4.30**	**327**	Pn	**Pn**	**16 38 57.6**	**+2.2**
BIDO	**Bidbid**	**4.31**	**170**	P	**Pn**	**16 38 55.3**	**0.0**
BIDO				S	**Sn**	**16 39 45.6**	**+0.3**
BSRN	**Basiran**	**4.43**	**20**	Pn	**Pn**	**16 38 59.5**	**+2.4**
ARQ	**Araqi** SNR=31	**4.50**	**190**	P	**Pn**	**16 39 00.3**	**+2.4**
ARQ				S	**Sn**	**16 39 53.7**	**+3.7**
SRVN	**Saravan**	**4.50**	**94**	Pn	**Pn**	**16 39 00.6**	**+2.6**
WSAR	**Wadi Sarin** 2.0nm,0.3s,baz=10,slow=10,SNR=30	**4.68**	**165**	P	**Pn**	**16 39 00.8**	**+0.4**
WSAR	19nm,0.4s,baz=72,slow=18,SNR=10.0 5.3nm,0.4s			S	**Sn**	**16 39 51.0**	**-3.4**
SMDO	**Samad**	**4.76**	**172**	P	**Pn**	**16 39 02.3**	**+0.8**
SMDO				S	**Sn**	**16 39 56.9**	**+0.5**
IKOO	**Kooshah**	**4.83**	**17**	Pn	**Pn**	**16 39 05.4**	**+2.7**
JRN	**Qarnain Island**	**4.93**	**236**	P	**Pn**	**16 39 04.8**	**+1.0**
JRN				S	**Sn**	**16 39 59.7**	**-0.9**
BSY	**Bisya** SNR=7.1	**5.03**	**182**	P	**Pn**	**16 39 07.8**	**+2.7**
BSY				S	**Sn**	**16 40 05.0**	**+2.0**
MZWR	**Madinat Zayed**	**5.09**	**219**	P	**Pn**	**16 39 06.9**	**+0.9**
MZWR				S	**Sn**	**16 40 04.6**	**+0.2**
TPRV	**Parvadeh(Tabas**	**5.25**	**354**	Pn	**Pn**	**16 39 11.1**	**+2.9**
WBK	**Wadi Bani Khal**	**5.37**	**164**	P	**Pn**	**16 39 09.9**	**+0.1**
WBK				S	**Sn**	**16 40 10.0**	**-1.3**
JMDO	**Jabal Madar**	**5.44**	**173**	P	**Pn**	**16 39 12.5**	**+1.6**
JMDO				S	**Sn**	**16 40 12.8**	**-0.5**
GHWR	**Ruwais**	**5.55**	**228**	P	**Pn**	**16 39 11.9**	**-0.4**
GHWR				S	**Sn**	**16 40 14.3**	**-1.4**
IRAM	**Ramesheh**	**5.88**	**314**	Pn	**Pn**	**16 39 19.3**	**+2.2**
JLN	**Jalan Bani Buh**	**5.92**	**161**	P	**Pn**	**16 39 17.7**	**+0.3**
JLN				S	**Sn**	**16 40 24.0**	**-1.0**
SHMA	**Al-Shehemyia** SNR=29	**6.02**	**253**	P	**Pn**	**16 39 19.3**	**+0.6**
SHMA				S	**Sn**	**16 40 26.1**	**-1.2**
TNSJ	**Nastanj**	**6.18**	**354**	Pn	**Pn**	**16 39 24.0**	**+3.0**
TRNA	**Turayna** SNR=18	**6.29**	**242**	P	**Pn**	**16 39 22.4**	**0.0**
TRNA				S	**Sn**	**16 40 33.7**	**-0.4**
SAKB	**Bahrain**	**6.34**	**255**	P	**Pn**	**16 39 23.5**	**+0.4**
SAKB				S	**Sn**	**16 40 33.2**	**-2.1**
SMRA	**Abu-Samra** SNR=9.8	**6.59**	**244**	P	**Pn**	**16 39 27.0**	**+0.4**
SMRA				S	**Sn**	**16 40 39.2**	**-2.3**
MHTO	**MHTO**	**6.80**	**175**	P	**Pn**	**16 39 31.9**	**+2.4**
MHTO	SNR=6.0			S	**Sn**	**16 40 45.4**	**-1.3**
DOK	**Doka**	**9.60**	**199**	P	**Pn**	**16 40 07.5**	**-0.5**
DOK				S	**Sn**	**16 41 52.4**	**-3.1**
WHFO	**Wadi Hawf** SNR=9.6	**10.37**	**199**	P	**Pn**	**16 40 17.8**	**-0.7**
ABTO	**Aybut** SNR=5.2	**11.04**	**201**	P	**Pn**	**16 40 26.4**	**-1.3**
AAK	**Ala-Archa** 0.8nm,0.7s,baz=218,slow=5.5,SNR=4.2 0.8nm,0.7s	**20.33**	**39**	P	**P**	**16 42 26.4**	**+0.5**
BRTR	**Keskin Array B** 2.1nm,0.7s,baz=118,slow=13,SNR=5.2 2.1nm,0.7s	**22.95**	**307**	P	**P**	**16 42 55.5**	**+1.4**
BVAR	**Borovoye Array** 3.8nm,0.8s,baz=196,slow=8.9,SNR=17 3.8nm,0.8s	**27.00**	**17**	P	**P**	**16 43 31.4**	**0.0**
MKAR	**Makanchi Array** 1.0nm,0.6s,baz=225,slow=8.3,SNR=13 1.0nm,0.6s	**27.26**	**39**	P	**P**	**16 43 33.9**	**0.0**
KURBB	**Kurchatov Arra** 1.0nm,0.8s,baz=226,slow=8.8,SNR=10 1.0nm,0.8s	**27.90**	**29**	P	**P**	**16 43 39.4**	**0.0**
ZALV	**Zalesovo Beam** 1.2nm,0.4s,baz=234,slow=9.7,SNR=9.4 1.2nm,0.4s	**32.99**	**30**	P	**P**	**16 44 24.1**	**-0.3**
FINES	**FINESS Array B** 0.7nm,0.5s,baz=125,slow=9.2,SNR=1.8 0.7nm,0.5s	**39.59**	**337**	P	**P**	**16 45 18.2**	**-2.4**
TORD	**Torodi Ar. Bea**	**53.72**	**266**	P	**P**	**16 47 10.6**	**-1.4**

*NEIC **08** 16:41:56.1±2.5,23.˝00S±0.˝04×69.˝14W±0.˝04,h122km±6km,*
mb4.4/22,Error ellipse: s-maj=6.9km s-min=5.4km
az=219.0
*SJA **08** 16:41:57.3±0.8,22.˝99S×69.˝06W,h80km,ML4.6,MW4.3*
*VAO **08** 16:41:58.5±0.6,22.˝91S×68.˝86W,h97km±4km,mb4.7*
*GUC **08** 16:41:58.6±0.8,22.˝94S×69.˝13W,h109km±5km,ML4.8*
*IDC **08** 16:41:58.4±0.5,22.˝84S×68.˝87W,h104km±3km,mb3.9/10,*
mbtmp4.3/13,MS3.3/3,Error ellipse: s-maj=18.7km
s-min=14.4km az=66.0

ISC 08 16:41:56.8±0.4,22.˝97S±0.˝03×69.˝09W±0.˝04,h111km±3km,
n156,σ1≒80/184,mb4.3/14,5C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.40**	**25**	*eP*	**Pn**	**16 42 14.4**	**+0.8**
LVC				*eS*	**Sn**	**16 42 26.4**	**+0.2**
LVC	comp=Z,9μm,0.2s			IAML		16 42 28.8	
LVC	**Limon Verde** comp=Z,20μm,0.3s,baz=172,slow=4.8	**0.40**	**25**	P	**Pn**	**16 42 14.4**	**+0.8**
LVC	comp=Z,12μm,0.4s,baz=32,slow=20,SNR=74			S	**Sn**	**16 42 26.3**	**+0.2**
LVC	**Limon Verde**	**0.40**	**25**	*eP*	**Pn**	**16 42 14.3**	**+0.7**
LVC				*eS*	**Sn**	**16 42 26.1**	**0.0**
LVC	comp=Z,123μm,0.3s			IAML		16 42 27.1	
LVC	**Limon Verde**	**0.40**	**25**	*eP*	**Pn**	**16 42 14.5**	**+0.8**
PB06	**IPOC Station P**	**0.52**	**301**		**Pn**	**16 42 14.2**	**+0.1**
PB06				Sn	**Sn**	**16 42 27.2**	**+0.2**
PB06	**IPOC Station P**	**0.52**	**301**	*eP*	**Pn**	**16 42 14.9**	**+0.8**
PB06				*eS*	**Sn**	**16 42 27.5**	**+0.5**
PB06	comp=Z,25μm,0.3s			IAML		16 42 27.6	
PB06	**IPOC Station P**	**0.52**	**301**	⇑*iP*	**Pn**	**16 42 14.9**	**+0.8**
PB06				*eS*	**Sn**	**16 42 27.1**	**+0.2**
AF01	**San Pedro de A**	**0.84**	**89**		**Pn**	**16 42 18.4**	**+1.5**
AF01				Sn	**Sn**	**16 42 33.8**	**+1.8**
AF01	**San Pedro de A**	**0.84**	**89**	*iP*	**Pn**	**16 42 18.3**	**+1.5**
AF01				*eS*	**Sn**	**16 42 33.7**	**+1.8**
AF01	comp=E,71μm,0.4s			IAML		16 42 34.4	
PB04	**IPOC Station P**	**1.16**	**303**	Pn	**Pn**	**16 42 20.4**	**+0.4**
PB04				Sn	**Sn**	**16 42 37.7**	**+0.1**
PB04	**IPOC Station P**	**1.16**	**303**	*eP*	**Pn**	**16 42 20.9**	**+0.9**
PB04				*eS*	**Sn**	**16 42 38.3**	**+0.8**
PB04	comp=Z,15μm,0.4s			IAML		16 42 39.6	
PB04	**IPOC Station P**	**1.16**	**303**	⇑*iP*	**Pn**	**16 42 20.9**	**+0.9**
PB04				*eS*	**Sn**	**16 42 37.6**	**+0.1**
PB04	comp=E,22μm,0.3s			IAML		16 42 39.5	
PB09	**IPOC Station P**	**1.18**	**353**		**Pn**	**16 42 21.2**	**+1.0**
PB09				Sn	**Sn**	**16 42 39.5**	**+1.7**
PB09	**IPOC Station P**	**1.18**	**353**	*eP*	**Pn**	**16 42 22.0**	**+1.8**
PB09				*eS*	**Sn**	**16 42 39.7**	**+1.9**
PB09	comp=Z,12μm,0.5s			IAML		16 42 41.0	
PB09	**IPOC Station P**	**1.18**	**353**	⇓*iP*	**Pn**	**16 42 22.0**	**+1.8**
PB09				*eS*	**Sn**	**16 42 39.4**	**+1.6**
PB09	comp=E,24μm,0.3s			IAML		16 42 40.9	
PB07	**IPOC Station P**	**1.44**	**329**		**Pn**	**16 42 23.4**	**+0.2**
PB07				Sn	**Sn**	**16 42 43.3**	**+0.2**
PB07	**IPOC Station P**	**1.44**	**329**	*eP*	**Pn**	**16 42 23.6**	**+0.4**
PB07				*eS*	**Sn**	**16 42 43.7**	**+0.6**
PB07	comp=Z,11μm,0.4s			IAML		16 42 46.0	
PB07	**IPOC Station P**	**1.44**	**329**	⇑*iP*	**Pn**	**16 42 24.2**	**+1.0**
PB07				*eS*	**Sn**	**16 42 43.3**	**+0.2**
PB07	comp=N,12μm,0.3s			IAML		16 42 47.0	
PB02	**IPOC Station P**	**1.80**	**335**		**Pn**	**16 42 28.4**	**+0.9**
PB02				Sn	**Sn**	**16 42 50.3**	**-0.6**
PB02	**IPOC Station P**	**1.80**	**335**	*eP*	**Pn**	**16 42 28.2**	**+0.7**
PB02				*eS*	**Sn**	**16 42 51.0**	**+0.1**
PB02	comp=Z,17μm,0.3s			IAML		16 42 56.2	
PB02	**IPOC Station P**	**1.80**	**335**	*eP*	**Pn**	**16 42 28.5**	**+0.9**
PB02				*eS*	**Sn**	**16 42 50.6**	**-0.3**
PB01	**IPOC Station P**	**1.95**	**349**		**Pn**	**16 42 30.3**	**+0.9**
PB01				Sn	**Sn**	**16 42 54.4**	**+0.2**
PB01	**IPOC Station P**	**1.95**	**349**	*eP*	**Pn**	**16 42 30.1**	**+0.7**
PB01				*eS*	**Sn**	**16 42 55.4**	**+1.2**
PB01	comp=Z,4μm,0.2s			IAML		16 42 58.0	
PB01	**IPOC Station P**	**1.95**	**349**	⇓*iP*	**Pn**	**16 42 30.6**	**+1.2**
PB01				*eS*	**Sn**	**16 42 54.3**	**+0.2**
PB01	comp=N,10μm,0.4s			IAML		16 42 56.9	
PB14	**IPOC Station P**	**2.04**	**216**		**Pn**	**16 42 31.0**	**+0.3**
PB14				Sn	**Sn**	**16 42 54.8**	**-1.7**
PB14	**IPOC Station P**	**2.04**	**216**	*eP*	**Pn**	**16 42 31.0**	**+0.3**
GO02	**Mina Guanaco**	**2.23**	**192**		**Pn**	**16 42 33.9**	**+0.8**
GO02	**Mina Guanaco**	**2.23**	**192**	*eP*	**Pn**	**16 42 34.1**	**+1.0**
GO02				*eS*	Sn	16 42 48.6	-12
GO02	comp=Z,3μm,0.5s			IAML		16 43 06.2	
GO02	**Mina Guanaco**	**2.23**	**192**	⇑*iP*	**Pn**	**16 42 33.9**	**+0.8**
GO02				*eS*	**Sn**	**16 43 01.1**	**+0.3**
PATCX	**Punta Patache**	**2.35**	**335**		**Pn**	**16 42 34.8**	**+0.3**
PATCX	**Punta Patache**	**2.35**	**335**	⇑*iP*	**Pn**	**16 42 34.9**	**+0.3**
PATCX	comp=N,3μm,0.5s			IAML		16 43 29.5	
TA01	**Diego Aracena**	**2.60**	**337**	Pn	**Pn**	**16 42 37.5**	**-0.1**
TA01	**Diego Aracena**	**2.60**	**337**	*eP*	**Pn**	**16 42 37.5**	**-0.1**
HMBC	**Humberstone**	**2.78**	**344**	*eP*	**Pn**	**16 42 40.1**	**0.0**
HMBC	comp=E,3μm,0.5s			IAML		16 43 37.1	
PB08	**IPOC Station P**	**2.82**	**359**		**Pn**	**16 42 41.9**	**+1.0**
PB08	**IPOC Station P**	**2.82**	**359**	*eP*	**Pn**	**16 42 42.1**	**+1.3**
PB08				*eS*	**Sn**	**16 43 10.6**	**-4.0**
PB08	comp=Z,2μm,0.4s			IAML		16 43 11.4	
PB08	**IPOC Station P**	**2.82**	**359**	*iP*	**Pn**	**16 42 42.0**	**+1.2**
PB08	comp=E,1μm,0.2s			IAML		16 43 41.2	
TA02	**Huaiquique**	**2.85**	**340**		**Pn**	**16 42 40.7**	**-0.3**
TA02	**Huaiquique**	**2.85**	**340**	*iP*	**Pn**	**16 42 40.8**	**-0.3**
PB11	**IPOC Station P**	**3.24**	**351**	Pn	**Pn**	**16 42 46.1**	**-0.1**
PB11	**IPOC Station P**	**3.24**	**351**	*eP*	**Pn**	**16 42 46.4**	**+0.2**
PB11				*eS*	Sn	16 43 14.9	-9.3
PB11	comp=Z,1μm,0.6s			IAML		16 43 50.9	
PB11	**IPOC Station P**	**3.24**	**351**	*eP*	**Pn**	**16 42 46.1**	**-0.1**
PB11	comp=N,2μm,0.3s			IAML		16 43 50.9	
GO01	**Chusmiza**	**3.29**	**358**		**Pn**	**16 42 47.8**	**+0.7**
GO01	**Chusmiza**	**3.29**	**358**	*eP*	**Pn**	**16 42 47.5**	**+0.4**
GO01				*eS*	**Sn**	**16 43 18.3**	**-7.6**
GO01	comp=Z,1μm,0.4s			IAML		16 43 20.0	
GO01	**Chusmiza**	**3.29**	**358**	*eP*	**Pn**	**16 42 47.8**	**+0.7**
YJA	**Yavi**	**3.40**	**77**	*eP*	Pn	16 42 52.2	+3.6
AC01	**Pan de Azucar**	**3.45**	**203**	Pn	**Pn**	**16 42 47.8**	**-1.0**
AC01	**Pan de Azucar**	**3.45**	**203**	*eP*	**Pn**	**16 42 47.9**	**-1.0**
SLA	**San Lorenzo**	**3.72**	**119**	*eP*	Pn	16 42 56.3	+3.7
AC02	**Maricunga**	**3.85**	**180**		**Pn**	**16 42 55.9**	**+1.3**
AC02	**Maricunga**	**3.85**	**180**	*eP*	**Pn**	**16 42 55.9**	**+1.3**
PB12	**IPOC Station P**	**4.49**	**345**	Pn	**Pn**	**16 43 01.7**	**-1.2**
PB12	**IPOC Station P**	**4.49**	**345**	*eP*	**Pn**	**16 43 01.7**	**-1.2**
PB12				IAML		16 43 53.5	
AC06	**Mina Casimiro**	**4.52**	**194**		**Pn**	**16 43 01.5**	**-1.6**
AC06	**Mina Casimiro**	**4.52**	**194**	*eP*	**Pn**	**16 43 01.5**	**-1.6**
PB16	**IPOC Station P**	**4.63**	**355**		**Pn**	**16 43 06.1**	**+0.9**
PB16	**IPOC Station P**	**4.63**	**355**	*eP*	**Pn**	**16 43 06.4**	**+1.2**
GO03	**Copiap**	**4.72**	**192**		**Pn**	**16 43 04.7**	**-1.2**
GO03	**Copiap**	**4.72**	**192**	*eP*	**Pn**	**16 43 05.1**	**-0.8**
GO03				*eS*	**Sn**	**16 43 58.1**	**-1.5**
GO03	comp=Z,344nm,0.3s			IAML		16 44 01.2	
GO03	**Copiap**	**4.72**	**192**	*eP*	**Pn**	**16 43 04.8**	**-1.1**
AC04	**Llanos de Chal**	**5.51**	**199**	Pn	**Pn**	**16 43 13.6**	**-3.0**
LPAZ	**La Paz** comp=Z,7.6nm,0.3s,baz=187,slow=7.1,SNR=37	**6.71**	**8**	P	**Pn**	**16 43 35.8**	**+2.3**
CO01	**Juntas del Tor**	**7.04**	**187**		**Pn**	**16 43 35.7**	**-1.8**
GO04	**Tololo Observa**	**7.33**	**192**	Pn	**Pn**	**16 43 37.8**	**-3.7**
CO03	**El Pedregal**	**7.97**	**190**	Pn	**Pn**	**16 43 46.8**	**-3.2**
CO06	**Fray Jorge**	**8.00**	**196**	Pn	**Pn**	**16 43 46.1**	**-4.2**
CO02	**Combarbal**	**8.38**	**191**		**Pn**	**16 43 52.0**	**-3.5**
VA06	**Catapilco**	**9.75**	**191**	Pn	**Pn**	**16 44 08.2**	**-5.8**
VA03	**San Esteban**	**9.84**	**187**		**Pn**	**16 44 11.5**	**-3.8**
SIV	**San Ignacio** comp=Z,10nm,0.4s,baz=231,slow=11,SNR=46	**10.26**	**49**	P	**Pn**	**16 44 19.0**	**-2.1**
SIV	comp=Z,7.6nm,0.3s,baz=313,slow=23,SNR=6.5			S	**Sn**	**16 46 05.9**	**-8.5**
SIV	comp=Z,131nm,21.9s,baz=277,slow=41			LR	LR	16 48 53.7	
MT02	**Curacav**	**10.41**	**190**	Pn	Pn	16 44 17.6	-5.3
LMEL	**Las Melosas**	**10.88**	**185**	Pn	Pn	16 44 22.5	-7.0
MT09	**Talagante**	**10.89**	**188**	Pn	Pn	16 44 22.4	-7.3
MT01	**Popeta**	**11.02**	**189**	Pn	Pn	16 44 23.5	-7.7
CPUP	**Villa Florida**	**11.21**	**110**	Pn	**Pn**	**16 44 32.1**	**-1.6**
CPUP	**Villa Florida** comp=Z,4.9nm,0.6s,baz=293,slow=12,SNR=9.5	**11.21**	**110**	P	**Pn**	**16 44 32.6**	**-1.1**
CPUP	comp=Z,97nm,18.4s,baz=218,slow=43			LR	LR	16 49 49.5	
BO01	**Tunca**	**11.51**	**188**	Pn	**Pn**	**16 44 34.7**	**-3.1**
BO02	**Sierra Bellavi**	**11.87**	**187**		**Pn**	**16 44 39.5**	**-3.1**
PTLB	**Pontes e Lacer**	**12.01**	**53**		**Pn**	**16 44 41.6**	**-2.9**
PTLB	**Pontes e Lacer**	**12.01**	**53**	*eP*	**Pn**	**16 44 42.2**	**-2.3**
AQDB	**Aquidauana**	**12.69**	**81**		**Pn**	**16 44 52.1**	**-1.4**
AQDB	**Aquidauana**	**12.69**	**81**	*eP*	**Pn**	**16 44 53.9**	**+0.4**
ITQB	**Itaqui**	**13.02**	**123**	Pn	**Pn**	**16 44 56.3**	**-1.3**
ITQB	**Itaqui**	**13.02**	**123**	*eP*	**Pn**	**16 44 57.2**	**-0.3**
VILB	**Vilhena**	**13.06**	**42**		**Pn**	**16 44 56.3**	**-2.0**
VILB	**Vilhena**	**13.06**	**42**	*eP*	**Pn**	**16 44 59.4**	**+1.0**
ETMB	**Extrema**	**13.37**	**12**	Pn	**Pn**	**16 45 00.1**	**-2.2**
VA04	**Juan Fernndez**	**13.65**	**217**	Pn	**Pn**	**16 45 03.6**	**-2.2**
BI05	**Punta Hualpn**	**14.18**	**194**	Pn	**Pn**	**16 45 11.0**	**-1.6**
SALV	**Santo Antonio**	**14.46**	**63**	*eP*	**Pn**	**16 45 14.3**	**-2.0**
SAML	**Samuel**	**15.05**	**23**	Pn	**Pn**	**16 45 22.5**	**-1.3**
TRCB	**Terra Rica**	**15.17**	**93**		**Pn**	**16 45 23.6**	**-1.8**
CPSB	**Cacapava Do Su**	**15.82**	**121**	*eP*	**Pn**	**16 45 32.6**	**-0.7**
ITAB	**Concordia**	**15.94**	**109**		**Pn**	**16 45 32.0**	**-2.8**
ITAB	comp=Z,34nm,1.0s			IAmb	IAmb	16 45 35.5	
ITAB	**Concordia**	**15.94**	**109**	*eP*	**P**	**16 45 34.8**	**-1.4**
TRQA	**Tornquist**	**16.23**	**160**		**Pn**	**16 45 35.5**	**-2.8**
PDRB	**Porto dos Gac**	**16.32**	**48**	*eP*	**Pn**	**16 45 38.5**	**-1.2**
LDASE	**Londrina, Braz**	**16.54**	**95**	*eP*	**P**	**16 45 42.4**	**-0.5**
PCMB	**Pacaembu**	**16.56**	**89**	*eP*	**P**	**16 45 42.6**	**-0.6**
GO06	**Curarrehue**	**16.69**	**186**	P	**Pn**	**16 45 41.4**	**-2.7**
GO06	comp=Z,14nm,0.7s			IAmb	IAmb	16 45 48.6	
LR05	**Currie**	**17.38**	**187**		**P**	**16 45 50.5**	**-1.6**
LR05	comp=Z,23nm,0.8s			IAmb	IAmb	16 45 56.1	
CNLB	**Canela**	**17.55**	**115**	*eP*	**Pn**	**16 45 54.0**	**-0.6**
ITRB	**Iturama**	**17.75**	**83**	*eP*	**Pn**	**16 45 57.2**	**+0.1**
PLCA	**Paso Flores**	**17.75**	**184**		**P**	**16 45 55.0**	**-1.2**
PLCA	**Paso Flores** comp=Z,5.4nm,0.8s,baz=344,slow=12,SNR=17	**17.75**	**184**	P	**Pn**	**16 45 58.1**	**+1.2**
PLCA	**Paso Flores**	**17.75**	**184**	*eP*	**Pn**	**16 45 59.5**	**+2.6**
ARAG	**Araguaiana, MT**	**17.83**	**69**	*eP*	**Pn**	**16 45 58.4**	**+0.5**
FRTB	**Fartura**	**17.96**	**95**	*eP*	**Pn**	**16 45 59.5**	**-0.2**
BB19B	**Bebedouro**	**19.16**	**88**	*eP*	**Pn**	**16 46 12.0**	**-1.9**
LL01	**San Ignacio de**	**19.55**	**187**	P	**P**	**16 46 15.0**	**-0.7**
LL06	**Loncomilla**	**19.56**	**190**	P	**P**	**16 46 15.3**	**-0.6**
RCLB	**Rio Claro- Sao**	**19.90**	**93**	*eP*	**P**	**16 46 20.0**	**+0.2**
SPB	**Sao Paulo**	**19.91**	**96**	P	**P**	**16 46 19.4**	**-0.4**
SPB	comp=Z,28nm,1.1s			IAmb	IAmb	16 46 23.9	
PET01	**Itanhaem-SP**	**20.03**	**98**	*eP*	**Pn**	**16 46 22.4**	**-1.6**
SNDB	**Serra Nova Dou**	**20.17**	**60**	*eP*	**P**	**16 46 22.0**	**-0.7**
IPMB	**Ipameri, GO**	**20.18**	**80**	*eP*	Pn	16 46 24.3	-1.4
LL02	**Futaleuf**	**20.30**	**186**	P	**P**	**16 46 23.1**	**-0.7**
LL02	comp=Z,12nm,1.1s			IAmb	IAmb	16 46 28.9	
VAO	**Valinhos**	**20.37**	**94**	*eP*	Pn	16 46 25.7	-2.2
GO07	**Milladeo Hill,**	**20.45**	**190**	P	**P**	**16 46 24.3**	**-1.1**
NPGB	**Novo Progresso**	**20.62**	**42**	*eP*	**P**	**16 46 27.8**	**+0.3**
BDFB	**Brasilia**	**21.17**	**74**	P	**P**	**16 46 32.2**	**-1.4**
BDFB	comp=Z,18nm,0.5s			IAmb	IAmb	16 46 35.8	
BDFB	**Brasilia** comp=Z,14nm,0.4s,baz=250,slow=12,SNR=20 comp=Z,14nm,0.4s	**21.17**	**74**	P	**P**	**16 46 35.0**	**+1.5**
MCRA	**Macar, Loja**	**21.27**	**329**	P	**P**	**16 46 31.9**	**-2.6**
MACA	**Manacapuru-AM**	**21.31**	**24**	P	**P**	**16 46 32.8**	**-2.1**
MACA	**Manacapuru-AM**	**21.31**	**24**	*eP*	**P**	**16 46 36.6**	**+1.7**
PARB	**Paraibuna**	**21.58**	**96**	*eP*	**P**	**16 46 39.1**	**+1.3**
**

Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}3.54±.18; $M_{\theta\theta}$-3.54±.14; $M_{\phi\phi}$0.00±.23; $M_{r\theta}$1.73±1.03; $M_{r\phi}$-0.04±.20; $M_{\theta\phi}$0.88±.99; Best double couple: $M_0$4.04000×10^{15} NP1:ϕ_s77.00000°,δ59.00000°, λ78.00000°. NP2:ϕ_s281.00000°,δ33.00000°,λ110.00000°. Principal axes: T 4.1200, Plg73.0000°, Azm317.00000°; N -0.1600, Plg11.0000°, Azm84.0000°; P -3.9500, Plg13.0000°, Azm176.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.

*NEIC **08** 16:42:36.3±1.8,37.18N±0.04×10.33E±0.06,h11km±4km, mb4.7/128 Error ellipse: s-maj=7.5km s-min=5.6km az=109.0*

*CRAAG **08** 16:42:36.0,37.10N×10.31E,Mb4.6,Tunisie*

*ROM **08** 16:42:37.9,36.94N×10.26E,h20km, mb4.7/9,Mwp4.7/2, Error ellipse: s-maj=7.9km s-min=1.0km az=194.0*

*LDG **08** 16:42:37.6±0.1,37.15N×10.33E,h5km,Ml3.7/12,Error ellipse: s-maj=3.5km s-min=2.6km az=8.0*

ISC 08 16:42:35.5±0.3, 37.17N±0.03×10.22E±0.03, h10km, n442, σ1s87/436, mb4.6/104, MS3.5/19, 32C-16D, Tunisia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLIT	**Baltah**	**1.11**	**246**	*i* P	**Pn**	**16 42 57.7**	**+0.6**
BLIT	**Baltah**	**1.11**	**246**	*i* P	**Pn**	**16 42 57.8**	**+0.6**
KRIT	**Krib**	**1.24**	**228**	*i* P	**Pg**	**16 42 59.3**	**0.0**
HANT	**Hania**	**1.34**	**175**	*i* P	**Pg**	**16 43 01.6**	**+0.4**
I48TN	**KESRA INFRASON**	**1.54**	**208**	Pn	**Pg**	**16 43 05.0**	**-0.1**
	baz=26,slow=26						
I48TN				I	I	16 52 10.0	
	baz=32,slow=330,SNR=5.0						
KEST	**Kesra**	**1.60**	**206**	Pn	**Pb**	**16 43 05.0**	**-0.2**
KEST				Sn	**Sg**	**16 43 26.7**	**-0.2**
KEST	**Kesra**	**1.60**	**206**	Pn	**Pb**	**16 43 05.2**	**0.0**
	128nm,0.3s,baz=346,slow=3.6,SNR=499						
KEST				Sn	**Sg**	**16 43 28.8**	**+1.8**
	182nm,0.3s,baz=202,slow=19,SNR=5.0						
KEST				LR	LR	16 43 56.1	
	comp=Z,1μm,19.1s,baz=348,slow=49						
BKLT	**Bekalta**	**1.67**	**158**	*i* P	**Pg**	**16 43 07.7**	**+0.2**
GHAT	**Ghardimaou**	**1.68**	**247**	*i* P	**Pn**	**16 43 05.3**	**+0.3**
GHAT	**Ghardimaou**	**1.68**	**247**	*i* P	**Pn**	**16 43 05.2**	**+0.3**
THTN	**Thala**	**2.03**	**218**	*i* P	**Pn**	**16 43 10.8**	**+1.0**
CMAH	**Djebel Manchou**	**2.31**	**257**	P	**Pn**	**16 43 13.6**	**-0.1**
ABSA	**Djebel Ababsia**	**2.38**	**249**	P	**Pn**	**16 43 15.8**	**+1.1**
VSL	**Villasalto**	**2.42**	**344**	Pn	**Pn**	**16 43 14.9**	**-0.2**
VSL				Sn	**Sn**	**16 43 42.4**	**-2.3**
VSL	**Villasalto**	**2.42**	**344**	⇑P	**Pn**	**16 43 15.1**	**0.0**
CLTB	**Caltabellotta**	**2.42**	**79**		**Pn**	**16 43 14.0**	**-1.3**
CLTB	**Caltabellotta**	**2.42**	**79**	⇑P	**Pn**	**16 43 13.0**	**-2.2**
CLTB	**Caltabellotta**	**2.42**	**79**	*i* P	**Pn**	**16 43 14.4**	**-0.8**
CAEH	**'Ain El Ouahch**	**2.73**	**263**	P	**Pn**	**16 43 19.0**	**-0.4**
MEDT	**Meda**	**3.06**	**185**	*i* P	**Pn**	**16 43 25.6**	**+1.6**
BERT	**Berda**	**3.08**	**199**	*i* P	**Pn**	**16 43 26.1**	**+1.8**
BERT	**Berda**	**3.08**	**199**	*i* P	**Pn**	**16 43 26.2**	**+1.9**
CASM	**Ain Smara**	**3.13**	**254**	P	**Pn**	**16 43 20.3**	**-4.7**
CTEI	**Djebel Teioual**	**3.26**	**251**	P	**Pn**	**16 43 22.9**	**-3.9**
RAFF	**Raffo Rosso**	**3.31**	**88**	Pn	**Pn**	**16 43 27.2**	**-0.1**
VAE	**Valguarnera**	**3.35**	**83**	Pn	**Pn**	**16 43 27.7**	**-0.3**
	2.0nm,0.3s,baz=56,slow=7.3,SNR=2.0 7.7nm,0.5s						
SGNT	**Sidi Gnaou**	**3.51**	**185**	*i* P	**Pn**	**16 43 31.6**	**+1.4**
SGNT	**Sidi Gnaou**	**3.51**	**185**	*i* P	**Pn**	**16 43 31.5**	**+1.4**
WDD	**Wied Dalam**	**3.71**	**110**	Pn	**Pn**	**16 43 31.1**	**-1.8**
SET	**Setif**	**3.99**	**257**	P	**Pn**	**16 43 38.0**	**+1.1**
TATN	**Tataouine**	**4.59**	**177**	Pn	**Pn**	**16 43 41.1**	**-3.9**
TATN	**Tataouine**	**4.59**	**177**	⇑P	**Pn**	**16 43 41.5**	**-3.5**
TATN	**Tataouine**	**4.59**	**177**	*i* P	**Pn**	**16 43 41.5**	**-3.5**
CEL	**Celeste**	**4.63**	**75**		**Pn**	**16 43 45.1**	**-0.5**
CEL	**Celeste**	**4.63**	**75**	⇑P	**Pn**	**16 43 49.8**	**+4.2**
CUC	**Castrocucco**	**5.21**	**56**	Pn	**Pn**	**16 43 52.0**	**-1.6**
MAHO	**Mahon**	**5.40**	**302**	Pn	**Pn**	**16 43 56.8**	**+0.7**
MAHO	**Mahon**	**5.40**	**302**	⇑P	**Pn**	**16 43 57.1**	**+1.0**
PGF	**Pioggiola**	**5.46**	**350**	*e*Pn	**Pn**	**16 43 59.2**	**+2.2**
PGF				*e*Sn	**Sn**	**16 44 58.6**	**-1.2**
	52nm,0.8s						
PGF	**Pioggiola**	**5.46**	**350**	P	**Pn**	**16 43 58.7**	**+1.8**
PGF				pmax	pmax		
	comp=Z,45nm,1.1s						
PGF	**Pioggiola**	**5.46**	**350**	⇑P	**Pn**	**16 43 59.2**	**+2.2**
TIP	**Timpagrande**	**5.53**	**67**	⇓P	**Pn**	**16 44 00.9**	**+3.0**
TIP	**Timpagrande**	**5.53**	**67**	Pn	**Pn**	**16 43 58.2**	**+0.2**
TIP	**Timpagrande**	**5.53**	**67**	⇓P	**Pn**	**16 43 59.1**	**+1.1**
INTR	**Introdacqua**	**5.61**	**29**		**Pn**	**16 43 59.0**	**-0.1**
CASP	**Castiglione de**	**5.64**	**5**	Pn	**Pn**	**16 44 00.2**	**+0.8**
CESX	**Cesi**	**5.73**	**18**	Pn	**Pn**	**16 44 01.5**	**+0.9**
CAMP	**Campotosto**	**5.89**	**24**	Pn	**Pn**	**16 44 01.9**	**-1.1**
MRVS	**Minervino Murg**	**6.06**	**48**	⇓P	**Pn**	**16 44 05.5**	**+0.3**
NRCA	**Norcia**	**6.08**	**21**		**Pn**	**16 44 04.9**	**-0.5**
SGRT	**San Giovanni R**	**6.26**	**41**	Pn	**Pn**	**16 44 08.1**	**+0.1**
GUMA	**Gualdo di Mace**	**6.35**	**21**		**Pn**	**16 44 07.4**	**-1.8**
GUMA	**Gualdo di Mace**	**6.35**	**21**	S	**Pn**	**16 44 07.8**	**-1.4**
OSSC	**Osservatorio P**	**6.40**	**7**		**Pn**	**16 44 11.7**	**+1.9**
LMR	**La Mourre**	**6.78**	**336**	*e*Pn	**Pn**	**16 44 15.7**	**+0.7**
LMR				*e*Sn	**Sn**	**16 45 29.7**	**-2.6**
	comp=Z,2.5nm,0.3s						
SBF	**Sospel**	**7.01**	**343**	*e*Pn	**Pn**	**16 44 18.9**	**+0.6**
SBF				*e*Sn	**Sn**	**16 45 35.3**	**-2.9**
	comp=Z,19nm,0.6s						
SCTE	**Santa Cesarea**	**7.08**	**63**	Pn	**Pn**	**16 44 18.6**	**-0.5**
ZCCA	**Zocca**	**7.20**	**4**	Pn	**Pn**	**16 44 23.6**	**+2.8**
ISO	**Isola**	**7.41**	**342**	P	**Pn**	**16 44 25.3**	**+1.6**
ISO				pmax	pmax		
	comp=Z,23nm,0.7s						
SMRF	**Simiane la Rot**	**7.66**	**334**	*e*Pn	**Pn**	**16 44 28.3**	**+1.1**
SMRF				*e*Sn	**Sn**	**16 45 50.8**	**-3.3**
MBDF	**Montbardon**	**7.99**	**342**	*e*Pn	**Pn**	**16 44 33.7**	**+1.9**
MBDF				*e*Sn	**Sn**	**16 45 58.5**	**-3.7**
	comp=Z,17nm,0.8s						
TEOL	**Teolo**	**8.26**	**7**	Pn	**Pn**	**16 44 34.5**	**-0.8**
BNI	**Bardonecchia**	**8.32**	**342**	Pn	**Pn**	**16 44 37.9**	**+1.6**
BNI	**Bardonecchia**	**8.32**	**342**	P	**Pn**	**16 44 37.9**	**+1.6**
BNI	**Bardonecchia**	**8.32**	**342**	⇑P	Pn	16 44 41.9	+5.6
ORIF	**Oris-en-Rattie**	**8.41**	**338**	*e*Pn	**Pn**	**16 44 38.2**	**+0.7**
ORIF	**Oris-en-Rattie**	**8.41**	**338**	P	**Pn**	**16 44 39.0**	**+1.5**
ORIF				pmax	pmax		
	comp=Z,12nm,0.6s						
LASF	**Ste Croix**	**8.43**	**327**	*e*Pn	**Pn**	**16 44 38.3**	**+0.7**
LASF				*e*Sn	**Sn**	**16 46 09.1**	**-3.7**
	comp=Z,11nm,0.7s						
SALO	**Salr**	**8.45**	**1**	Pn	**Pn**	**16 44 39.5**	**+1.6**
MTLF	**Montolieu**	**8.68**	**318**	*e*Pn	**Pn**	**16 44 41.7**	**+0.5**
MTLF				*e*Sn	**Sn**	**16 46 15.2**	**-3.9**
	comp=Z,27nm,0.5s						
MTLF	**Montolieu**	**8.68**	**318**	P	**Pn**	**16 44 40.5**	**-0.7**
MTLF				pmax	pmax		
	comp=Z,17nm,2.5s						
VIVF	**Saint-Julien-l**	**8.75**	**333**	*e*Pn	**Pn**	**16 44 42.6**	**+0.5**
VIVF				*e*Sn	**Sn**	**16 46 16.9**	**-3.8**
	comp=Z,1.5nm,0.4s						
CEST	**Esterri de Car**	**8.77**	**311**	Pn	**Pn**	**16 44 42.7**	**+0.3**
CTI	**Castel Tesino**	**8.94**	**6**	Pn	**Pn**	**16 44 44.8**	**+0.1**
CTI	**Castel Tesino**	**8.94**	**6**	P	**Pn**	**16 44 44.8**	**+0.1**
CART	**Cartagena**	**8.95**	**276**		**Pn**	**16 44 45.6**	**+0.8**
SSB	**Saint Sauveur**	**9.16**	**334**	Pn	**Pn**	**16 44 48.8**	**+1.1**
SSB	**Saint Sauveur**	**9.16**	**334**	P	**Pn**	**16 44 48.8**	**+1.1**
STAL	**STALIGIAL**	**9.27**	**11**	Pn	**Pn**	**16 44 48.7**	**-0.6**
TUE	**Stuetta**	**9.32**	**356**		**Pn**	**16 44 51.4**	**+1.3**
TUE	**Stuetta**	**9.32**	**356**	⇓P	Pn	16 44 55.2	+5.1
SENIN	**Lac Senin/Sane**	**9.44**	**348**		**Pn**	**16 44 53.6**	**+1.9**
FUORN	**Ofenpass-Fuorn**	**9.44**	**0**	Pn	**Pn**	**16 44 52.1**	**+0.3**
VNS	**Vrh nad Dolski**	**9.53**	**19**	*i* Pn	**Pn**	**16 44 55.5**	**+2.7**
GORS	**Gorjuse**	**9.56**	**16**	*e*Pn	**Pn**	**16 44 54.9**	**+1.5**
EPF	**Esparros**	**9.57**	**311**	*e*Pn	**Pn**	**16 44 55.1**	**+1.8**
EPF				*e*Sn	**Sn**	**16 46 37.2**	**-3.7**
	comp=Z,1.9nm,0.4s						
PRED	**Cave del Predi**	**9.60**	**14**	Pn	**Pn**	**16 44 54.1**	**+0.4**
DAVOX	**Davos/Dischmat**	**9.61**	**359**	Pn	**Pn**	**16 44 58.2**	**+4.2**
	comp=Z,0.2nm,0.3s,baz=166,slow=14,SNR=12						
ABTA	**Abfaltersbach**	**9.72**	**9**	*i* Pn	**Pn**	**16 44 59.5**	**+4.0**
	comp=Z,8.0nm,0.7s						
PTJ	**Puntijarka**	**9.73**	**24**	P	**Pn**	**16 44 58.8**	**+3.2**
MYKA	**Terra Mystica**	**9.79**	**14**	*i* Pn	**Pn**	**16 45 00.2**	**+3.9**
	comp=Z,7.1nm,0.9s						
FETA	**Feichten**	**9.85**	**2**	*i* Pn	Pn	16 45 02.6	+5.2
	comp=Z,17nm,1.3s,SNR=5.3						
OBKA	**Obir**	**9.87**	**18**	*e*Pn	**Pn**	**16 45 00.6**	**+3.1**
	comp=Z,4.1nm,0.9s						
CAF	**Calviac**	**9.89**	**324**	*e*Pn	**Pn**	**16 44 58.3**	**+0.5**
LIT	**Litokhoron**	**10.04**	**69**	Pn	**Pn**	**16 44 59.3**	**-0.4**
LIT	**Litokhoron**	**10.04**	**69**	P	**Pn**	**16 44 59.3**	**-0.4**
ETSF	**Etsaut**	**10.05**	**308**	*e*Pn	**Pn**	**16 45 00.7**	**+0.7**
SQTA	**Sankt Quirin**	**10.07**	**4**	*e*Pn	Pn	16 45 05.2	+4.9
	comp=Z,9.2nm,1.1s						
DAVA	**Damuels**	**10.11**	**359**	*i* Pn	Pn	16 45 06.8	+5.9
	comp=Z,18nm,1.0s						
DAVA	**Damuels**	**10.11**	**359**	⇑P	Pn	16 45 07.3	+6.4
PERS	**Pernice**	**10.14**	**20**	*e*Pn	**Pn**	**16 45 03.1**	**+2.0**
WTTA	**Wattenberg**	**10.14**	**5**	P	**Pn**	**16 45 05.7**	**+4.4**
WTTA				pmax	pmax		
	comp=Z,18nm,1.0s						
SOKA	**Soboth**	**10.15**	**19**	*e*Pn	**Pn**	**16 45 03.8**	**+2.5**
	comp=Z,14nm,1.7s,SNR=6.7						
KBA	**Koelnbreinsper**	**10.17**	**12**	*e*Pn	**Pn**	**16 45 05.3**	**+3.7**
	comp=Z,7.4nm,0.8s						
KBA	**Koelnbreinsper**	**10.17**	**12**	P	**Pn**	**16 45 05.5**	**+3.8**
KBA				pmax	pmax		
	comp=Z,40nm,1.3s						
KBA	**Koelnbreinsper**	**10.17**	**12**	⇑P	**Pn**	**16 45 05.4**	**+3.7**
MOTA	**Moosalm**	**10.19**	**3**	Pn	**Pn**	**16 45 05.9**	**+3.9**
	comp=Z,27nm,1.6s,SNR=6.5						
GRG	**Griva**	**10.20**	**64**	P	**Pn**	**16 45 01.7**	**-0.3**
GRG				pmax	pmax		
	comp=Z,11nm,1.4s						
WATA	**Walderalm**	**10.21**	**5**	Pn	Pn	16 45 07.3	+5.1
	comp=Z,20nm,1.3s,SNR=6.7						
RETA	**Reutte**	**10.32**	**2**	*e*Pn	Pn	16 45 08.8	+5.1
	comp=Z,8.9nm,1.1s						
LESA	**Schwarzleotal**	**10.41**	**9**	*i* Pn	**Pn**	**16 45 09.5**	**+4.6**
	comp=Z,7.6nm,1.0s						
SJPF	**Ste Jean**	**10.58**	**308**	*e*Pn	**Pn**	**16 45 07.7**	**+0.5**
KNT	**Kendrikon**	**10.62**	**64**	P	**Pn**	**16 45 08.1**	**+0.4**
KNT				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ARSA	**Arzberg**	**10.81**	**20**	*i* Pn	**Pn**	**16 45 13.1**	**+2.8**
	comp=Z,12nm,1.1s,SNR=5.3						
AVF	**Avril sur Loir**	**10.88**	**334**	*e*Pn	**Pn**	**16 45 11.9**	**+0.6**
MOA	**Molln**	**11.08**	**14**	*i* Pn	**Pn**	**16 45 17.6**	**+3.6**
	comp=Z,28nm,1.8s,SNR=7.4						
BFO	**Black Forest**	**11.24**	**354**	Pn	**Pn**	**16 45 17.9**	**+1.7**
BFO	**Black Forest**	**11.24**	**354**	P	**Pn**	**16 45 17.9**	**+1.7**
ECH	**Echery**	**11.27**	**349**	Pn	**Pn**	**16 45 17.9**	**+1.3**
ECH	**Echery**	**11.27**	**349**	P	**Pn**	**16 45 17.9**	**+1.3**
ESBB	**Sonseca Array**	**11.40**	**287**	Pn	**Pn**	**16 45 20.7**	**+2.2**
ESDC	**Sonseca Array**	**11.41**	**287**	Pn	**Pn**	**16 45 20.4**	**+1.9**
ESDC	**Sonseca Array**	**11.41**	**287**	Pn	**Pn**	**16 45 21.7**	**+3.2**
	comp=Z,20nm,0.8s,baz=93,slow=14,SNR=98						
ESDC				LR	LR	16 49 24.8	
	comp=Z,151nm,18.7s,baz=86,slow=36						
RONA	**Rosalia, Austr**	**11.44**	**21**	*i* Pn	**Pn**	**16 45 21.2**	**+2.3**
	comp=Z,34nm,1.6s,SNR=8.9						
CONA	**Conrad Observa**	**11.52**	**19**	Pn	**Pn**	**16 45 22.3**	**+2.2**
	comp=Z,37nm,1.5s,SNR=15						
PAB	**San Pablo**	**11.68**	**286**		**Pn**	**16 45 23.7**	**+1.4**
PAB	**San Pablo**	**11.68**	**286**	⇓P	**Pn**	**16 45 24.5**	**+2.2**
PAB	**San Pablo**	**11.68**	**286**	⇑P	**Pn**	**16 45 25.5**	**+3.2**
DJES	**Djerdap**	**11.93**	**47**	Pn	**Pn**	**16 45 25.6**	**-0.1**
GEC2	**GERESS Array S**	**11.94**	**11**	Pn	**Pn**	**16 45 25.1**	**-0.7**
GERES	**GERESS Array B**	**11.94**	**11**	Pn	**Pn**	**16 45 25.4**	**-0.5**
GERES	**GERESS Array B**	**11.94**	**11**	Pn	**Pn**	**16 45 27.0**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=179,slow=14,SNR=2.0						
GERES				LR	LR	16 50 30.0	
	comp=Z,371nm,18.5s,baz=224,slow=40 comp=Z,0.5nm,0.6s						
IDI	**Anoyia**	**11.99**	**95**	Pn	**Pn**	**16 45 24.6**	**-2.0**
BZS	**Buzias**	**12.01**	**42**	⇓P	Pn	16 45 31.6	+4.9
BZS	**Buzias**	**12.01**	**42**	⇓P	Pn	16 45 31.6	+4.9
WET	**Wettzell**	**12.12**	**8**	P	**Pn**	**16 45 30.9**	**+2.6**
WET				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KHC	**Kasperske Hory**	**12.20**	**10**	Pn	**Pn**	**16 45 29.3**	**-0.1**
KHC	**Kasperske Hory**	**12.20**	**10**	*e*P	**Pn**	**16 45 33.1**	**+3.7**
KHC	**Kasperske Hory**	**12.20**	**10**	*e*PN	**Pn**	**16 45 33.1**	**+3.7**
CLF	**Chambon-Foret**	**12.32**	**334**	Pn	**Pn**	**16 45 32.2**	**+1.2**
SIRR	**Siria**	**12.46**	**40**	⇑P	**Pn**	**16 45 36.8**	**+3.9**
RDO	**Rodhopi**	**12.53**	**67**		**Pn**	**16 45 32.3**	**-1.6**
GRFO	**Grafenberg**	**12.54**	**3**	Pn	**Pn**	**16 45 33.6**	**-0.3**
GRFO	**Grafenberg**	**12.54**	**3**	P	**Pn**	**16 45 33.6**	**-0.3**
GRA1	**Grafenberg Arr**	**12.54**	**3**	Pn	**Pn**	**16 45 34.2**	**+0.3**
GRF	**Grafenberg Arr**	**12.54**	**3**	P	**Pn**	**16 45 34.2**	**+0.3**
KRUC	**Moravsky**	**12.71**	**19**	*e*PN	**Pn**	**16 45 37.5**	**+1.3**
ALN	**Alexandroupoli**	**12.85**	**68**	Pn	**Pn**	**16 45 36.6**	**-1.6**
ALN	**Alexandroupoli**	**12.85**	**68**	P	**Pn**	**16 45 36.6**	**-1.6**
PSZ	**Piszkesteto**	**12.88**	**30**	Pn	**Pn**	**16 45 36.6**	**-2.1**
PSZ	**Piszkesteto**	**12.88**	**30**	P	**Pn**	**16 45 36.6**	**-2.1**
MDT	**Midelt**	**12.91**	**255**	Pn	**Pn**	**16 45 41.0**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=83,slow=16,SNR=9.1						
MDT				LR	LR	16 50 25.2	
	comp=Z,92nm,18.9s,baz=2.5,slow=36 comp=Z,5.6nm,0.8s						
VYHS	**Vyhne**	**12.95**	**26**	*e*P	Pn	16 45 44.8	+5.2
VYHS	**Vyhne**	**12.95**	**26**	*e*PN	Pn	16 45 44.8	+5.2
VRAC	**Vranov**	**12.98**	**19**	*e*Pn	**Pn**	**16 45 41.6**	**+1.6**
VRAC	**Vranov**	**12.98**	**19**	LR	LR	16 51 11.9	
	comp=Z,279nm,18.6s,baz=203,slow=40						
LOT	**Lotru**	**13.11**	**47**	⇑P	**Pn**	**16 45 46.0**	**+4.2**
NKC	**Novy Kostel**	**13.16**	**6**	P	**Pn**	**16 45 45.3**	**+2.9**
NKC				pmax	pmax		
	comp=Z,14nm,1.7s						
ELND	**Elena**	**13.29**	**60**	⇑P	**Pn**	**16 45 48.8**	**+4.6**
DRGR		**13.35**	**40**	⇓P	**P**	**16 45 50.2**	**-4.6**
DRGR		**13.35**	**40**	⇓P	**P**	**16 45 50.2**	**-4.6**
MARR	**Marisel-Cluj**	**13.49**	**41**	⇓P	**P**	**16 45 52.6**	**-3.7**
MORC	**Moravsky Berou**	**13.67**	**20**	Pn	**Pn**	**16 45 47.7**	**-1.7**
MORC	**Moravsky Berou**	**13.67**	**20**	*e*PN	**Pn**	**16 45 51.9**	**+2.6**
MORC	**Moravsky Berou**	**13.67**	**20**	P	**Pn**	**16 45 47.7**	**-1.7**
BCLA	**Clavier**	**13.71**	**347**	*d*PP	**P**	**16 45 57.2**	**-1.4**
BCLA				*d*S	Sn	16 48 09.4	-13
PBAR	**Barrancos**	**13.71**	**279**	*e*P	**Pn**	**16 45 53.3**	**+3.3**
	comp=Z,56nm,1.7s						
PBAR				*i* LQ	LQ	16 46 01.4	
BTNL	**Ternell**	**13.73**	**349**	*dx*	**Pn**	**16 45 54.8**	**+4.7**
VOIR		**13.86**	**49**	⇑P	**Pn**	**16 45 55.7**	**+3.7**
VOIR		**13.86**	**49**	⇑P	**Pn**	**16 45 55.7**	**+3.7**
PBRG	**Braganca**	**13.89**	**295**	*e*P	**Pn**	**16 45 54.9**	**+2.5**
	comp=Z,32nm,1.4s						
PBRG				*i* LQ	LQ	16 46 05.2	
BRG	**Berggiesshubel**	**13.96**	**10**	*e*P	**P**	**16 46 04.5**	**+3.1**
BRG				Amp		16 46 06.4	
	comp=Z,24nm,1.5s						
BRG	**Berggiesshubel**	**13.96**	**10**	Amp		16 52 26.0	
	comp=Z,0.6nm,15.0s						
BRG	**Berggiesshubel**	**13.96**	**10**	*e*P	**P**	**16 46 04.5**	**+3.1**
BRG				pmax	pmax		
	comp=Z,24nm,1.5s						
BRG				MLR	MLR		
	comp=E,316nm,10.8s						
BRG				MLR	MLR		
	comp=N,409nm,17.7s						
BRG				MLR	MLR		
	comp=Z,577nm,15.0s						
BRG	**Berggiesshubel**	**13.96**	**10**	P	P	16 46 10.0	+8.7
BRG	**Berggiesshubel**	**13.96**	**10**	Amp		16 46 11.4	
	comp=Z,22nm,1.3s						
BRG	**Berggiesshubel**	**13.96**	**10**	Amp		16 52 22.0	
	comp=E,0.3nm,10.8s						
BRG	**Berggiesshubel**	**13.96**	**10**	Amp		16 52 23.0	
	comp=N,0.4nm,17.7s						
MVO	**Moncorvo**	**13.96**	**292**	*e*P	**P**	**16 45 57.9**	**-3.7**
	comp=N,53nm,1.8s						
PMRV	**Marv??o**	**14.02**	**285**	*e*P	**Pn**	**16 45 57.7**	**+3.5**
	comp=N,36nm,1.7s						
PCBR	**Castelo Branco**	**14.12**	**286**	*e*P	**Pn**	**16 45 59.3**	**+3.8**
	comp=N,30nm,1.6s						
PESTR	**Estremoz**	**14.15**	**282**	*i* LQ	LQ	16 46 05.3	
PESTR	**Estremoz**	**14.15**	**282**	Pn	**Pn**	**16 45 57.9**	**+1.9**
MTE	**Manteigas**	**14.23**	**289**	*e*P	**Pn**	**16 46 00.2**	**+3.1**
	comp=N,50nm,1.9s						
NIE	**Niedzica**	**14.26**	**28**	*e*P	**Pn**	**16 45 59.0**	**+1.6**
NIE	**Niedzica**	**14.26**	**28**	P	**P**	**16 46 01.1**	**-3.7**
NIE				pmax	pmax		
	comp=Z,6.0nm,1.6s						
CLL	**Collm**	**14.27**	**7**		**Pn**	**16 45 57.0**	**-0.6**
CLL	**Collm**	**14.27**	**7**	P	**Pn**	**16 45 57.0**	**-0.6**
CLL	**Collm**	**14.27**	**7**	*e*P	**Pn**	**16 46 01.0**	**+3.4**
CLL				*i* PP	**PnPn**	**16 46 07.6**	**+2.1**
	comp=Z,14nm,1.0s						
PVAQ	**Vaqueiros**	**14.29**	**276**	*e*P	**Pn**	**16 46 00.2**	**+2.3**
	comp=Z,51nm,1.7s						
PBEJ	**Beja**	**14.37**	**279**	*i* LQ	LQ	16 46 08.3	
MLR	**Muntele Rosu**	**14.43**	**50**	⇑P	**P**	**16 46 03.8**	**-3.0**
MLR	**Muntele Rosu**	**14.43**	**50**		**Pn**	**16 45 59.8**	**0.0**
MLR	**Muntele Rosu**	**14.43**	**50**	P	**Pn**	**16 45 59.8**	**0.0**
MLR	**Muntele Rosu**	**14.43**	**50**	Pn	**Pn**	**16 46 03.3**	**+3.4**
	comp=Z,0.2nm,0.3s,baz=177,slow=10,SNR=3.8						
MLR				LR	LR	16 51 50.0	
	comp=Z,147nm,21.1s,baz=253,slow=39						
PCVE	**Castro Verde**	**14.53**	**277**	*e*P	**Pn**	**16 46 04.1**	**+3.0**
	comp=Z,62nm,1.6s						
PCVE				*i* LQ	LQ	16 46 10.1	
PMTG	**Montargil**	**14.65**	**283**	*e*P	**P**	**16 46 06.4**	**-2.7**
MESJ	**Messejana**	**14.66**	**278**	*e*P	**Pn**	**16 46 06.0**	**+3.1**
	comp=Z,52nm,1.7s						
MESJ				*i* LQ	LQ	16 46 11.4	
MESJ	**Messejana**	**14.66**	**278**	Pn	**Pn**	**16 46 03.8**	**+0.9**
MESJ	**Messejana**	**14.66**	**278**	*e*P	**Pn**	**16 46 05.6**	**+2.7**
MESJ	**Messejana**	**14.66**	**278**	*e*P	**Pn**	**16 46 05.6**	**+2.7**
MESJ				IAmb	IAmb	16 46 12.1	
	comp=Z,32nm,1.0s						
KOLS	**Kolonicke sedl**	**14.67**	**33**	*e*P	**P**	**16 46 12.0**	**+2.7**
COI	**Coimbra**	**14.87**	**287**	Pn	**Pn**	**16 46 05.1**	**-0.6**
COI	**Coimbra**	**14.87**	**287**	P	**Pn**	**16 46 05.1**	**-0.6**
PNCL	**Nicolau / Gran**	**14.89**	**279**	*e*P	**P**	**16 46 10.2**	**-1.6**
PNCL				*i* LQ	LQ	16 46 14.2	
TAM	**Tamanrasset**	**14.89**	**197**	Pn	**Pn**	**16 46 05.2**	**-1.1**
TAM	**Tamanrasset**	**14.89**	**197**	P	**Pn**	**16 46 05.2**	**-1.1**
PCAS	**Casmilo, Conde**	**14.92**	**287**	*e*P	**Pn**	**16 46 09.0**	**+2.6**
	comp=Z,68nm,1.8s						
PCAS				*i* LQ	LQ	16 46 17.5	
AVE	**Averroes**	**14.92**	**260**	Pn	**Pn**	**16 46 05.4**	**-1.1**
MORF	**Marmelete**	**15.04**	**276**	Pn	**Pn**	**16 46 08.3**	**+0.2**
MORF				IAmb	IAmb	16 46 45.0	
	comp=Z,47nm,1.3s						
MORF	**Marmelete**	**15.04**	**276**	P	**Pn**	**16 46 08.3**	**+0.2**
MORF				pmax	pmax		
	comp=Z,47nm,1.3s						
PTEO	**Sao Teotonio**	**15.08**	**277**	*e*P	**P**	**16 46 12.9**	**-1.0**
VRI	**Vrincioaia**	**15.09**	**50**	P	**P**	**16 46 11.4**	**-2.6**
BURAR	**Bucovina Array**	**15.19**	**42**	Pn	**Pn**	**16 46 07.2**	**-3.0**
BURAR	**Bucovina Array**	**15.19**	**42**	P	**Pn**	**16 46 07.2**	**-3.0**
BURAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PFVI	**Vila Bisbo**	**15.19**	**276**	*i* LQ	LQ	16 46 17.6	
BUR08	**Bucovina Ar. S**	**15.20**	**42**	Pn	**Pn**	**16 46 07.7**	**-2.6**

comp=Z,5.4nm,0.8s,baz=306,slow=9.9,SNR=3.7
comp=Z,5.4nm,0.8s
ARPR Arapgir-MALATY 22.17 76 P **P** **16 47 30.9 -0.8**
ARPR IAmb IAmb 16 47 59.5
comp=Z,31nm,1.4s
HFS Hagfors 23.09 4 P **P** **16 47 41.2 0.0**
comp=Z,3.7nm,0.7s,baz=193,slow=5.9,SNR=7.9
HFS LR LR 16 57 42.8
comp=Z,148nm,18.5s,baz=195,slow=39
comp=Z,3.7nm,0.7s
SOC Sochi 23.29 65 *e*P **P** **16 47 43.7 +0.4**
SOC *e*PPP PPP 16 48 14.8
SOC *e*S **S** **16 51 57.4 +1.7**
SOC *e*SS **SnSn** **16 52 30.1 +0.4**
SOC pmax pmax
comp=Z,19nm,1.1s
NC602 NORSAR Array S 23.60 2 P **P** **16 47 45.7 -0.6**
NC602 IAmb IAmb 16 47 56.5
comp=Z,23nm,1.2s
NAO01 NORSAR Array S 23.70 1 P **P** **16 47 46.1 -1.1**
NAO01 IAmb IAmb 16 47 47.9
comp=Z,16nm,1.1s
KOPT Kop Dagi 23.78 74 P **P** **16 47 47.7 -0.8**
KOPT IAmb IAmb 16 47 52.9
comp=Z,40nm,1.4s
NBO00 NORSAR Array S 23.89 1 P **P** **16 47 48.5 -0.6**
NBO00 IAmb IAmb 16 47 52.1
comp=Z,32nm,1.3s
VSU Vasula 23.89 22 *ce*P **P** **16 47 48.8 -0.2**
VSU pmax pmax
comp=Z,36nm,1.3s
NB2 NORSAR Subarra 23.90 1 P **P** **16 47 48.6 -0.6**
comp=Z,43nm,1.7s,baz=182,slow=9.3
NOA NORSAR Array B 23.90 1 P **P** **16 47 49.1 -0.1**
comp=Z,9.5nm,1.2s,baz=183,slow=9.7,SNR=6.1
NOA LR LR 16 57 55.3
comp=Z,98nm,19.4s,baz=185,slow=39
comp=Z,9.5nm,1.2s
NB201 NORSAR Array S 23.91 1 P **P** **16 47 48.7 -0.7**
NB201 IAmb IAmb 16 47 51.1
comp=Z,20nm,1.1s
NC405 NORSAR Array S 23.98 2 P **P** **16 47 49.5 -0.5**
NC303 NORSAR Array S 24.09 1 P **P** **16 47 50.0 -0.9**
NC303 IAmb IAmb 16 48 13.5
comp=Z,36nm,1.4s
MARD Mardin 24.28 80 P **P** **16 47 52.4 -0.7**
MARD IAmb IAmb 16 47 56.9
comp=Z,15nm,1.2s
VSR Storozhevoye 24.86 46 *e*P **P** **16 47 55.7 -2.3**
VSR pmax pmax
comp=Z,40nm,1.5s
VORR Voronezh 25.06 45 P **P** **16 48 00.6 +0.7**
VORR pmax pmax
comp=Z,63nm,1.7s
GURO Guroymak-BITLI 25.09 77 P **P** **16 48 00.9 +0.5**
GURO IAmb IAmb 16 48 07.2
comp=Z,17nm,1.1s
TORD Torodi Ar. Bea 25.11 200 P **P** **16 47 60.0 -0.6**
LPSR Galich'ya Gora 25.30 43 *e*P **P** **16 47 59.9 -2.1**
LPSR pmax pmax
comp=Z,30nm,1.6s
OBN Obninsk 25.36 37 P **P** **16 48 02.4 -0.1**
OBN Obninsk 25.36 37⇑ *i*P **P** **16 48 00.4 -2.1**
OBN *i* 16 48 33.7
OBN *i* S **S** **16 52 33.9 +5.3**
OBN *i* SS **SnSn** **16 53 23.6 +3.6**
OBN pmax pmax
comp=Z,11nm,1.4s
OBN MLR MLR
comp=Z,144nm,18.0s
NEUR Neytrino 25.43 66 *i* P **P** **16 48 04.2 +0.6**
NEUR pmax pmax
comp=Z,5.0nm,1.4s
KIV Kislovodsk 25.46 64 P **P** **16 48 03.0 -0.7**
KIV IAmb IAmb 16 48 08.2
comp=Z,25nm,1.5s
KIV Kislovodsk 25.46 64 *e*P **P** **16 48 03.8 +0.1**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KBZ Khabaz 25.60 65 *ce*P **P** **16 48 05.8 +1.0**
KBZ pmax pmax
comp=Z,10.0nm,1.8s
KBZ Khabaz 25.60 65 P **P** **16 48 06.6 +1.8**
comp=Z,1.9nm,0.9s,baz=262,slow=9.3,SNR=5.0
comp=Z,1.9nm,0.9s
KARS Kars 25.72 72 P **P** **16 48 05.3 -0.8**
KARS Kars 25.72 72 P **P** **16 48 05.3 -0.8**
KARS pmax pmax
comp=Z,42nm,0.5s
ONI Oni 25.96 68 P **P** **16 48 07.2 -1.0**
ONI Oni 25.96 68 P **P** **16 48 07.2 -1.0**
ONI pmax pmax
comp=Z,9.0nm,1.2s
FINES FINESS Array B 26.26 17 P **P** **16 48 10.6 0.0**
comp=Z,4.3nm,0.7s,baz=182,slow=7.4,SNR=10
FINES LR LR 16 59 49.3
comp=Z,192nm,18.2s,baz=220,slow=40
comp=Z,4.3nm,0.7s
FIA1 FINESS Array S 26.26 17 P **P** **16 48 10.9 +0.4**
VRH Novokhopyorsk 26.35 48 *e*P **P** **16 48 09.7 -1.8**
VRH pmax pmax
comp=Z,30nm,0.8s
GNI Garni 27.02 73 P **P** **16 48 16.6 -1.3**
GNI IAmb IAmb 16 48 40.8
comp=Z,19nm,1.2s
GNI Garni 27.02 73 *i* P **P** **16 48 18.2 +0.3**
GNI pmax pmax
comp=Z,12nm,1.2s
KLMR Klimovskoe 30.05 29 *e*P **P** **16 48 39.9 -4.5**
KLMR pmax pmax
comp=Z,29nm,1.2s
BELG Belogornoye 30.20 48 *i* P **P** **16 48 46.4 +0.5**
BELG pmax pmax
comp=Z,4.0nm,1.3s
RAYN Ar Rayn 33.15 104 P **P** **16 49 11.0 -1.1**
RAYN Ar Rayn 33.15 104 P **P** **16 49 11.0 -1.1**
RAYN pmax pmax
comp=Z,4.0nm,0.9s
KIRV Kirov 33.20 37 *ce*P **P** **16 49 13.7 +1.5**
KIRV Kirov 33.20 37 LR LR 17 04 10.0
comp=Z,80nm,18.9s,baz=232,slow=39
DBIC Dimbokro 33.33 208 P **P** **16 49 14.1 +0.4**
comp=Z,4.7nm,0.7s,baz=12,slow=7.3,SNR=6.6
DBIC LR LR 17 03 30.8
comp=Z,106nm,19.3s,baz=33,slow=38
comp=Z,4.7nm,0.7s
ARCES ARCESS Array B 33.47 10 P **P** **16 49 15.2 +0.7**
comp=Z,2.5nm,0.9s,baz=157,slow=4.9,SNR=1.4
ARCES LR LR 17 03 35.9
comp=Z,77nm,19.4s,baz=247,slow=38
comp=Z,2.5nm,0.9s
JMIC Jan Mayen 35.28 350 LR LR 17 03 43.8
comp=Z,69nm,20.7s,baz=344,slow=36
AKTO Aktyubinsk 36.33 53 P **P** **16 49 38.8 -0.5**
comp=Z,1.5nm,0.7s,baz=267,slow=8.0,SNR=5.1
comp=Z,1.5nm,0.7s
ARU Arti 37.33 43 **P** **16 49 47.3 -0.4**
ARU IAmb IAmb 16 49 49.3
comp=Z,13nm,1.2s
ARU Arti 37.33 43 *c i*P **P** **16 49 47.4 -0.3**
ARU 16 51 11.8
ARU S **S** **16 55 37.3 +2.1**
ARU pmax pmax
comp=Z,14nm,1.2s
ARU Arti 37.33 43 P **P** **16 49 46.6 -1.2**
comp=Z,2.3nm,0.7s,baz=259,slow=8.8,SNR=7.3
ARU LR LR 17 07 54.6
comp=Z,52nm,21.1s,baz=257,slow=41
comp=Z,2.3nm,0.7s
SCO Scoresbysund 37.45 343 P **P** **16 49 49.3 +0.7**
SCO IAmb IAmb 16 50 33.0
comp=Z,24nm,1.5s
SCO Scoresbysund 37.45 343 P **P** **16 49 49.3 +0.7**
SCO pmax pmax
comp=Z,24nm,1.5s
ABKAR Akbulak array 37.55 55 P **P** **16 49 48.6 -1.1**
ABKAR Akbulak array 37.55 55 P **P** **16 49 48.4 -1.3**
GEYT Alibeck 37.65 74 P **P** **16 49 50.1 -0.7**
GEYT Alibeck 37.65 74 P **P** **16 49 50.1 -0.7**
GEYT pmax pmax
comp=Z,6.0nm,1.1s
GYA0B ALIBECK ARRAY 37.65 74 P **P** **16 49 49.9 -0.8**
LODK Lodwar 40.75 139 P **P** **16 50 16.6 -0.3**
UOSS Minazif 40.87 94 P **P** **16 50 17.5 -0.2**
UOSS IAmb IAmb 16 50 19.4
comp=Z,12nm,0.8s

SPB3 Spitsbergen Ar 41.20 2 P **P** **16 50 19.8 -0.1**
SPITS Spitsbergen Ar 41.20 2 LR LR 17 07 36.6
comp=Z,49nm,19.3s,baz=146,slow=36
MBAR Mbarara 42.11 148 LR LR 17 08 02.3
comp=Z,133nm,18.6s,baz=278,slow=36
SUMG Summit 42.90 341 P **P** **16 50 34.7 +0.4**
SUMG Summit 42.90 341 P **P** **16 50 34.7 +0.4**
SUMG pmax pmax
comp=Z,8.0nm,1.0s
WSAR Wadi Sarin 43.63 94 LR LR 17 14 32.1
comp=Z,60nm,18.2s,baz=236,slow=44
BRVK Borovoye 43.92 49 P **P** **16 50 42.2 -0.1**
BRVK Borovoye 43.92 49 *ce*P **P** **16 50 42.8 +0.5**
BRVK pmax pmax
comp=Z,9.0nm,1.7s
BVAR Borovoye Array 43.99 49 P **P** **16 50 41.5 -1.3**
comp=Z,1.4nm,1.0s,baz=278,slow=4.3,SNR=7.6
BVAR LR LR 17 11 56.6
comp=Z,66nm,18.4s,baz=288,slow=40
comp=Z,1.4nm,1.0s
SFJD Kangerlussuaq 45.08 331 P **P** **16 50 51.7 +0.4**
SFJD IAmb IAmb 16 51 07.6
comp=Z,8.8nm,1.1s
SFJD Kangerlussuaq 45.08 331 P **P** **16 50 51.7 +0.4**
SFJD pmax pmax
comp=Z,9.0nm,1.1s
KK31 Karatay Array 45.61 63 P **P** **16 50 54.4 -1.5**
KK31 Karatay Array 45.61 63 P **P** **16 50 54.4 -1.5**
KK31 pmax pmax
comp=Z,1.0nm,1.1s
KKAR Karatay Array 45.61 63 P **P** **16 50 54.5 -1.4**
KKAR Karatay Array 45.61 63 P **P** **16 50 54.5 -1.4**
KKAR pmax pmax
comp=Z,1.0nm,1.1s
SIMJ Simiganj 45.70 69 P **P** **16 50 55.1 -1.7**
GAR Garm 46.58 68 P **P** **16 51 02.9 -0.9**
GAR IAmb IAmb 16 51 25.6
comp=Z,5.0nm,1.0s
BTK Batken 46.63 67 P **P** **16 51 03.5 -0.5**
BTK Batken 46.63 67 P **P** **16 51 03.6 -0.5**
BTK pmax pmax
comp=Z,3.0nm,1.2s
ARSB Arslanbob 47.85 65 P **P** **16 51 11.8 -1.8**
ARSB Arslanbob 47.85 65 P **P** **16 51 11.8 -1.8**
ARSB pmax pmax
comp=Z,2.0nm,1.4s
AAK Ala-Archa 48.56 62 LR LR 17 15 49.2
comp=Z,34nm,19.0s,baz=323,slow=41
KURBB Kurchatov Arra 49.32 51 P **P** **16 51 24.1 -0.5**
comp=Z,1.6nm,1.1s,baz=288,slow=8.2,SNR=11
comp=Z,1.6nm,1.1s
KURK Kurchatov 49.36 51 P **P** **16 51 23.8 -1.1**
KURK IAmb IAmb 16 51 26.9
comp=Z,6.5nm,1.2s
KURK Kurchatov 49.36 51 *ce*P **P** **16 51 25.1 +0.2**
KURK pmax pmax
comp=Z,10.0nm,1.7s
KSH Kashi 50.58 66 P **P** **16 51 34.4 -0.1**
KSH pmax pmax
comp=Z,2.0nm,1.1s
NIL Nilore 50.66 74 P **P** **16 51 34.3 -0.7**
NIL IAmb IAmb 16 51 38.6
comp=Z,8.9nm,0.8s
NIL Nilore 50.66 74 P **P** **16 51 34.3 -0.7**
NIL pmax pmax
comp=Z,9.0nm,0.8s
NRIK Noril'sk 51.35 26 P **P** **16 51 39.4 -0.3**
NRIK IAmb IAmb 16 51 43.2
comp=Z,7.0nm,1.1s
NRIK Noril'sk 51.35 26 *ce*P **P** **16 51 41.2 +1.5**
NRIK pmax pmax
comp=Z,4.0nm,1.2s
NRIK Noril'sk 51.35 26 P **P** **16 51 40.1 +0.5**
comp=Z,1.9nm,0.6s,baz=264,slow=5.6,SNR=5.4
comp=Z,1.9nm,0.6s
ZALV Zalesovo Beam 52.36 46 P **P** **16 51 46.2 -1.3**
ZALV Zalesovo Beam 52.36 46 P **P** **16 51 47.0 -0.4**
comp=Z,0.3nm,0.3s,baz=250,slow=8.6,SNR=2.7
comp=Z,0.3nm,0.3s
FRB Frobisher Bay 52.55 327 LR LR 17 12 44.1
comp=Z,59nm,18.7s,baz=320,slow=34
MK31 Makanchi Array 52.69 55 P **P** **16 51 48.8 -1.3**
MK31 Makanchi Array 52.69 55 *ce*P **P** **16 51 50.4 +0.3**
MKAR Makanchi Array 52.69 55 P **P** **16 51 48.7 -1.4**
MKAR Makanchi Array 52.69 55 P **P** **16 51 49.8 -0.3**
comp=Z,0.8nm,0.7s,baz=292,slow=5.0,SNR=9.4
comp=Z,0.8nm,0.7s
SCHQ Schefferville 53.54 315 P **P** **16 51 55.5 -0.7**
SCHQ Schefferville 53.54 315 P **P** **16 51 55.7 -0.5**
comp=Z,6.6nm,0.8s,baz=32,slow=9.5,SNR=6.3
comp=Z,6.6nm,0.8s
LSZ Lusaka 54.84 159 LR LR 17 20 01.2
comp=Z,220nm,18.1s,baz=205,slow=41
F64A Sherman 57.25 305 P **P** **16 52 23.3 +0.3**
D62A Allapoint, All 57.26 307 P **P** **16 52 23.7 +0.7**
F63A Nahmakanta, Br 57.80 306 P **P** **16 52 27.7 +0.7**
LMQ La Malbaie 57.90 308 P **P** **16 52 27.7 +0.1**
TIXI Tiksi 63.30 18 P **P** **16 53 04.1 +0.1**
TIXI IAmb IAmb 16 53 06.8
comp=Z,7.5nm,1.1s
TIXI Tiksi 63.30 18 *ce*P **P** **16 53 04.9 +0.9**
TIXI pmax pmax
comp=Z,16nm,1.7s
TIXI Tiksi 63.30 18 LR LR 17 22 53.2
comp=Z,71nm,19.3s,baz=318,slow=38
BOD Bodaibo 66.02 35 *e*P **P** **16 53 22.2 +0.2**
BOD pmax pmax
comp=Z,11nm,1.7s
A36M Sachs Harbour 66.76 346 P **P** **16 53 27.1 +0.6**
A36M IAmb IAmb 16 53 28.7
comp=Z,4.7nm,0.9s
R58B Mineral 67.08 301 P **P** **16 53 28.4 -0.7**
SONM Songino Array 67.25 47 P **P** **16 53 28.4 -1.8**
SONM IAmb IAmb 16 53 59.1
comp=Z,5.8nm,1.4s
SONM Songino Array 67.25 47 P **P** **16 53 30.6 +0.4**
comp=Z,0.9nm,0.8s,baz=297,slow=7.8,SNR=6.9
comp=Z,0.9nm,0.8s
GTA Gaotai 67.37 57 *e*P **P** **16 53 32.6 +1.5**
GTA sP sP 16 53 46.4 +11
GTA pmax pmax
comp=Z,2.0nm,1.2s
ULN Ulaanbaatar 67.62 46 *ce*P **P** **16 53 33.3 +0.7**
ULN pmax pmax
comp=Z,3.0nm,1.3s
VOI Vohitsoka 68.12 143 P **P** **16 53 34.6 -1.3**
N51A Ashland 68.59 306 P **P** **16 53 35.9 -2.7**
YAK Yakutsk 69.80 26 P **P** **16 53 45.2 -0.4**
YAK Yakutsk 69.80 26 *e*P **P** **16 53 46.6 +0.9**
YAK *e* 16 54 08.3
YAK *e* 16 56 20.0
YAK *e*PPP PPP 16 58 05.7
YAK *e*S **S** **17 02 56.8 +2.2**
YAK *e* 17 03 49.8
YAK *e*SS **SS** **17 07 28.9 +6.8**
YAK pmax pmax
comp=Z,16nm,1.2s
YAK pmax pmax
comp=E,8.0nm,1.5s
YAK pmax pmax
comp=N,8.0nm,1.4s
YAK pmax pmax
comp=Z,176nm,3.8s
YAK pmax pmax
comp=N,63nm,4.4s
YAK pmax pmax
comp=E,71nm,4.7s
YAK smax smax
comp=N,163nm,5.6s
YAK Yakutsk 69.80 26 LR LR 17 28 16.5
comp=N,65nm,18.1s,baz=348,slow=39
YKA Yellowknife Ar 71.28 336 P **P** **16 53 54.9 +0.2**
YKA Yellowknife Ar 71.28 336 P **P** **16 53 56.0 +1.3**
comp=N,0.7nm,0.7s,baz=46,slow=5.9,SNR=11
comp=N,0.7nm,0.7s
YKAB2 New Yellowknif 71.33 336 P **P** **16 53 54.8 -0.1**
ULM Lac du Bonnet 71.39 319 P **P** **16 53 56.0 +0.4**
comp=N,2.0nm,0.8s,baz=34,slow=8.4,SNR=3.9
comp=N,2.0nm,0.8s
E29M Blow River 72.09 348 P **P** **16 54 00.6 +1.1**
E29M IAmb IAmb 16 54 02.4
comp=Z,8.1nm,1.1s
B22K Teshekpuk Lake 72.14 354 P **P** **16 54 00.5 +0.8**
B22K IAmb IAmb 16 54 26.1
comp=Z,8.7nm,1.2s
F31M Tsiigehtchic 72.19 346 P **P** **16 54 00.9 +0.8**
F31M IAmb IAmb 16 54 07.2
comp=Z,10nm,1.2s
C23K Itkillik River 72.39 353 P **P** **16 54 02.3 +1.1**
C23K IAmb IAmb 16 54 06.8
comp=Z,5.7nm,0.9s
P46A Rosedale 72.40 307 P **P** **16 54 02.4 +0.5**
D25K Kavik River 72.42 351 P **P** **16 54 02.2 +0.6**
D25K IAmb IAmb 16 54 23.0
comp=Z,8.0nm,1.3s
B20K Meade River 72.73 355 IAmb IAmb 16 54 08.6
comp=Z,7.9nm,1.1s
G31M Satah River 72.75 346 P **P** **16 54 05.2 +1.7**
G31M IAmb IAmb 16 54 31.4
comp=Z,11nm,1.5s
B21K Ikpikpuk River 72.94 354 P **P** **16 54 05.4 +0.9**
B21K IAmb IAmb 16 54 08.5
comp=Z,4.6nm,0.9s
F28M Old Crow 73.11 348 P **P** **16 54 06.3 +0.7**
TOLK Toolik Lake Re 73.43 352 P **P** **16 54 08.5 +0.9**
E25K Arctic Village 73.46 351 P **P** **16 54 09.6 +1.9**
L40A Anamosa 73.53 310 P **P** **16 54 08.8 +0.3**
BILL Bilibino 73.57 9 P **P** **16 54 09.2 +0.8**
BILL IAmb IAmb 16 54 12.4
comp=Z,7.3nm,1.2s
C19K Lookout Ridge 73.77 356 P **P** **16 54 10.9 +1.4**
BMAR Burnt Mountain 73.98 350 P **P** **16 54 12.5 +1.7**
H29M Whitestone 74.13 347 P **P** **16 54 13.3 +1.7**
H29M IAmb IAmb 16 54 15.1
comp=Z,3.5nm,0.8s
E22K Anaktuvuk Pass 74.15 353 P **P** **16 54 12.9 +1.1**
HHC Hu-ho-hao-te 74.17 51 *eP* **P** **16 54 11.8 -0.6**
HHC pP sP 16 54 17.5 +0.6
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,77nm,4.4s
D19K Kuna River 74.29 356 P **P** **16 54 14.3 +1.7**
C18K Utukok River 74.30 357 P **P** **16 54 14.0 +1.3**
C18K IAmb IAmb 16 54 17.9
comp=Z,14nm,1.4s
I30M Mount Dempster 74.66 346 P **P** **16 54 17.2 +2.3**
I30M IAmb IAmb 16 54 18.7
comp=Z,3.9nm,0.8s
C16K Lisburne Hills 74.82 358 P **P** **16 54 17.1 +1.6**
C16K IAmb IAmb 16 54 56.9
comp=Z,17nm,1.5s
FYU Fort Yukon 74.88 350 P **P** **16 54 18.2 +2.2**
FYU IAmb IAmb 16 54 23.2
comp=Z,9.4nm,1.0s
I28M Miner Creek 75.11 348 P **P** **16 54 18.7 +1.2**
F21K Alatna River 75.19 354 P **P** **16 54 19.2 +1.4**
F21K IAmb IAmb 16 54 23.5
comp=Z,11nm,1.2s
E19K Redstone River 75.26 355 P **P** **16 54 19.6 +1.4**
E19K IAmb IAmb 16 54 23.2
comp=Z,8.1nm,1.0s
G23K Bananza Creek 75.34 352 P **P** **16 54 20.0 +1.3**
G23K IAmb IAmb 16 54 23.8
comp=Z,7.7nm,1.1s
E18K Tukpahlearik C 75.50 356 P **P** **16 54 21.3 +1.8**
E18K IAmb IAmb 16 54 22.8
comp=Z,9.3nm,1.1s
F20K Avaraart Lake 75.55 354 P **P** **16 54 21.2 +1.4**
F20K IAmb IAmb 16 54 24.2
comp=Z,8.8nm,1.4s
BDFB Brasilia 75.88 238 P **P** **16 54 22.8 +0.3**
BDFB IAmb IAmb 16 54 26.1
comp=Z,9.4nm,1.0s
BDFB Brasilia 75.88 238 P **P** **16 54 25.3 +2.8**
comp=Z,7.6nm,0.9s,baz=57,slow=7.5,SNR=8.4
comp=Z,7.6nm,0.9s
F19K Shaleruckik Mo 75.92 355 P **P** **16 54 23.2 +1.3**
F19K IAmb IAmb 16 54 24.8
comp=Z,8.4nm,1.2s
DAWY Dawson 76.27 347 P **P** **16 54 25.0 +0.9**
DAWY IAmb IAmb 16 55 05.0
comp=Z,8.8nm,1.4s
XAN Xi'an 76.42 58 ⇑P **P** **16 54 26.7 +1.3**
XAN pmax pmax
comp=Z,11nm,1.4s
IMAR Indian Mountai 76.43 353 P **P** **16 54 25.5 +0.6**
J26L Joseph Creek 76.58 349 P **P** **16 54 26.9 +1.1**
H21K Melozitna Rive 76.66 353 P **P** **16 54 27.7 +1.6**
H21K IAmb IAmb 16 54 32.6
comp=Z,6.4nm,1.1s
ILAR Eielson Array 76.81 350 P **P** **16 54 28.9 +1.8**
comp=Z,0.8nm,1.1s,baz=333,slow=4.2,SNR=5.9
comp=Z,0.8nm,1.1s
G18K Tagagawik 76.90 355 P **P** **16 54 29.4 +1.8**
SCRK Sand Creek 77.14 349 P **P** **16 54 30.9 +1.8**
RIDG Independent Ri 77.49 349 P **P** **16 54 31.3 +0.3**
BCAR Beaver Creek A 77.62 347 P **P** **16 54 34.4 +2.8**
CMAR Chiang Mai Arr 78.10 76 *i* P **P** **16 54 35.2 +0.2**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 78.10 76 P **P** **16 54 34.9 -0.1**
comp=Z,0.6nm,0.7s,baz=313,slow=7.4,SNR=6.9
comp=Z,0.6nm,0.7s
MA2 Magadan 78.23 19 *ce*P **P** **16 54 35.6 +0.5**
MA2 pmax pmax
comp=Z,11nm,1.3s
J20K Nowinta River 78.23 353 P **P** **16 54 37.1 +2.1**
J20K IAmb IAmb 16 54 39.3
comp=Z,5.8nm,1.2s
J19K Poorman 78.55 354 IAmb IAmb 16 54 41.1
comp=Z,14nm,1.4s
K20K Telida 79.03 353 P **P** **16 54 40.7 +1.3**
K20K IAmb IAmb 16 54 44.8
comp=Z,7.3nm,1.1s
PPLA Purkeypile 79.28 352 P **P** **16 54 42.1 +1.2**
TTA Tatalina 79.63 354 P **P** **16 54 44.5 +1.7**
TTA IAmb IAmb 16 54 49.5
comp=Z,6.3nm,1.2s
TTA Tatalina 79.63 354 P **P** **16 54 44.5 +1.7**
TTA pmax pmax
comp=Z,6.0nm,1.2s
MOOW Moose Ponds 83.30 321 P **P** **16 55 03.9 +1.1**
PDAR Pinedale Array 83.41 320 P **P** **16 55 04.2 +0.9**
comp=Z,0.8nm,0.7s,baz=50,slow=4.1,SNR=6.7
comp=Z,0.8nm,0.7s
PTLB Pontes e Lacer 83.55 245 P **P** **16 55 05.1 +1.1**
NJ2 Nanjing 84.20 54 *eP* **P** **16 55 07.3 0.0**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
ETMB Extrema 85.25 254 P **P** **16 55 13.8 +1.1**
ETMB IAmb IAmb 16 55 15.5
comp=Z,9.3nm,1.3s
YSS Yuzh-Sakhalins 86.08 30 *eP* **P** **16 55 16.5 +0.1**
YSS pmax pmax
comp=Z,10.0nm,1.2s
MTO3 Montecristo 88.86 287 P **P** **16 55 30.9 +0.2**
CPUP Villa Florida 89.52 236 P **P** **16 55 33.2 +0.1**
CPUP IAmb IAmb 16 55 39.2
comp=Z,3.8nm,1.1s
CPUP Villa Florida 89.52 236 P **P** **16 55 33.2 +0.1**
CPUP pmax pmax
comp=Z,4.0nm,1.1s
NVAR Mina Array Bea 91.05 322 P **P** **16 55 40.5 0.0**
comp=Z,0.4nm,0.7s,baz=53,slow=5.1,SNR=2.8
comp=Z,0.4nm,0.7s

ROM 08 16:43:58.1±0.1, **43°.066N**±0°.002×**13°.026E**±0°.004,
h9km, ML1.5/16, **5C, Error ellipse: s-maj=0.3km**
s-min=0.1km az=280.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FEMA	**Monte Fema**	**0.11**	**170**	P	Pg	16 44 01.1	+0.3
FEMA				S	Sg	16 44 03.1	+0.4
CESI	**CESI - Serrava**	**0.11**	**235**	⇑P	Pg	16 44 01.3	+0.6
CESI				S	Sg	16 44 03.5	+0.8
CESI				AML	AML		
	comp=E,186μm,0.4s						
CESI				AML	AML		
	comp=N,328μm,0.3s						
CSP1	**Cessapalombo**	**0.13**	**79**	⇑P	Pg	16 44 01.5	+0.3
CSP1				S	Sg	16 44 04.0	+0.6
CSP1				AML	AML		
	comp=E,92μm,0.3s						
CSP1				AML	AML		
	comp=N,34μm,0.9s						
CSP1				AML	AML		
	comp=E,92μm,0.3s						
CSP1				AML	AML		

	comp=N,34μm,1.1s							
PF6	**Pievefavera**	**0.15**	**56**	⇑P	Pg	16 44 01.7	+0.3	
PF6				S	Sg	16 44 04.3	+0.6	
PF6				AML	AML			
	comp=E,90μm,0.8s							
PF6				AML	AML			
	comp=N,42μm,0.9s							
MC2	**Monte Cornacci**	**0.20**	**142**	P	Pg	16 44 03.0	+0.8	
MC2				S	Sg	16 44 06.3	+1.2	
SNTG	**Esanatoglia**	**0.20**	**342**	P	Pg	16 44 02.9	+0.6	
SNTG				S	Sg	16 44 06.3	+1.3	
SNTG				AML	AML			
	comp=E,43μm,1.2s							
SNTG				AML	AML			
	comp=N,73μm,0.2s							
SNTG				AML	AML			
	comp=N,73μm,0.2s							
SNTG				AML	AML			
	comp=E,43μm,1.2s							
GUMA	**Gualdo di Mace**	**0.23**	**91**	⇑P	Pg	16 44 03.5	+0.8	
GUMA				AML	AML			
	comp=E,414μm,0.3s							
GUMA				AML	AML			
	comp=N,194μm,0.5s							
NRCA	**Norcia**	**0.24**	**164**	⇑P	Pg	16 44 03.5	+0.5	
NRCA				S	Sg	16 44 07.8	+1.4	
NRCA				AML	AML			
	comp=N,190μm,0.2s							
NRCA				AML	AML			
	comp=E,324μm,0.1s							
T1221	**Campello sul C**	**0.24**	**213**	P	Pg	16 44 03.8	+0.7	
T1221				S	Sg	16 44 08.0	+1.6	
EL6	**Elcito**	**0.27**	**12**	P	Pg	16 44 04.1	+0.5	
EL6				S	Sb	16 44 08.8	-1.0	
EL6				AML	AML			
	comp=E,138μm,0.4s							
EL6				AML	AML			
	comp=N,91μm,1.0s							
EL6				AML	AML			
	comp=N,91μm,1.0s							
MMO1	**Montemonaco**	**0.28**	**127**	P	Pg	16 44 04.2	+0.6	
MMO1				S	Sg	16 44 08.7	+1.3	
MF5	**Montefalcone A**	**0.33**	**103**	P	Pb	16 44 05.6	-0.5	
MF5				S	Sb	16 44 11.3	-0.1	
MF5				AML	AML			
	comp=E,117μm,1.0s							
MF5				AML	AML			
	comp=N,148μm,0.7s							
CING	**Cingoli**	**0.33**	**22**	P	Pg	16 44 05.2	+0.5	
CING				S	Sb	16 44 10.9	-0.8	
CING				AML	AML			
	comp=E,141μm,0.6s							
CING				AML	AML			
	comp=N,68μm,0.6s							
T1214	**Arquata del Tr**	**0.34**	**156**	P	Pg	16 44 05.2	+0.4	
T1214				S	Sb	16 44 10.6	-1.1	
GAVE	**Gavelli**	**0.39**	**195**	P	Pg	16 44 06.4	+0.7	
GAVE				S	Sb	16 44 12.6	-0.6	
GAVE				AML	AML			
	comp=E,81μm,0.5s							
GAVE				AML	AML			
	comp=N,81μm,0.9s							

*GCMT **08** 16:51:40.8±0.5,48.˚65S±0.˚04×87.˚37W±0.˚04,h14km±1km, MW4.9/55,Moment Tensor Solution. s27,c31; s55,c75; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.55±.18; $M_{\theta\theta}$-0.32±.11; $M_{\phi\phi}$-2.23±.13; $M_{r\theta}$0.93±.28; $M_{r\phi}$-0.11±.08; $M_{\theta\phi}$0.85±.25; Best double couple: M_o2.67700×10^{16} NP1:ϕs171.00000°,δ36.00000°,λ66.00000°. Principal axes: T 2.9410, Plg72.0000°, Azm330.0000°; N -0.5300, Plg14.0000°, Azm191.0000°; P -2.4130, Plg11.0000°, Azm98.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **08** 16:51:41.2±0.5,48.˚39S×87.˚32W,h0km,mb4.5/10, mbtmp4.4/11,ML4.0/1,MS4.1/15 Error ellipse: s-maj=25.8km s-min=17.0km az=104.0*

*MOS **08** 16:51:41.7±1.4,48.˚24S×87.˚14W,h10km,mb5.0/16,Error ellipse: s-maj=17.7km s-min=9.9km az=75.6*

*NEIC **08** 16:51:42.8±1.8,48.˚30S±0.˚10×87.˚2W±0.˚2,h10km±1km, mb5.0/95,Error ellipse: s-maj=18.7km s-min=16.7km az=268.0*

ISC 08 16:51:42.2±0.3,**48.˚33S**±0.˚07×**87.˚26W**±0.˚07,**h10**km,**n278,** σ1**º02**/268,**mb5.0**/61,**MS4.0**/14,**10C-1D,Southern Pacific Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO08	**Villa O'Higgin**	**9.78**	**96**		**Pn**	**16 54 03.5**	**+0.7**
AY03	**Cochrane**	**9.93**	**89**		**Pn**	**16 54 05.3**	**+0.4**
MG05	**Puerto Natales**	**10.07**	**115**	Pn	**Pn**	**16 54 06.2**	**-0.6**
GO09	**Cerro Castillo**	**10.08**	**113**	Pn	**Pn**	**16 54 06.8**	**-0.2**
MG04	**Isla Riesco**	**10.95**	**120**	Pn	**Pn**	**16 54 19.1**	**+0.4**
LL02	**Futaleuf**	**11.92**	**70**		**Pn**	**16 54 32.3**	**+0.1**
LL01	**San Ignacio de**	**12.01**	**66**		**Pn**	**16 54 33.2**	**-0.1**
MG02	**Cerro Sombrero**	**12.29**	**118**	Pn	**Pn**	**16 54 37.6**	**+0.5**
LL03	**Petrohue**	**12.76**	**61**	Pn	**Pn**	**16 54 43.0**	**-0.6**
LR05	**Currie**	**13.58**	**59**		**Pn**	**16 54 55.3**	**+0.5**
LR03	**Panguipulli**	**13.80**	**56**	Pn	**Pn**	**16 54 57.8**	**0.0**
PLCA	**Paso Flores**	**14.11**	**64**		**Pn**	**16 55 02.5**	**+0.3**
PLCA	**Paso Flores**	**14.11**	**64**	Pn	**Pn**	**16 55 05.3**	**+3.2**
	0.2nm,0.3s,baz=243,slow=12,SNR=3.6						
PLCA				LR	LR	16 59 20.2	
	comp=Z,1μm,21.4s,baz=231,slow=32 4.1nm,1.2s						
PLCA	**Paso Flores**	**14.11**	**64**	*eP*	**Pn**	**16 55 05.7**	**+3.5**
GO06	**Curarrehue**	**14.32**	**58**	Pn	**Pn**	**16 55 06.3**	**+1.3**
BI05	**Punta Hualpn**	**15.51**	**47**	Pn	**Pn**	**16 55 19.2**	**-1.6**
H03S1	**Juan Fernandez**	**15.77**	**26**	T	T	17 11 31.1	
	baz=198,slow=74,SNR=5.0						
H03S2	**Juan Fernandez**	**15.77**	**26**	T	T	17 11 29.6	
	baz=198,slow=74,SNR=6.2						
H03S3	**Juan Fernandez**	**15.78**	**26**	T	T	17 11 29.1	
	baz=198,slow=74,SNR=5.8						
ML02	**Panimavida**	**17.16**	**49**	P	**Pn**	**16 55 41.4**	**-0.7**
ML02				IAmb	IAmb	16 55 46.8	
	comp=Z,177nm,1.6s						
GO05	**Huala**	**17.51**	**46**	P	**Pn**	**16 55 44.8**	**-1.6**
BO02	**Sierra Bellavi**	**18.25**	**48**	P	**Pn**	**16 55 53.8**	**-1.8**
BO01	**Tunca**	**18.42**	**47**	P	**Pn**	**16 55 56.5**	**-1.1**
VA05	**Santo Domingo**	**18.77**	**44**	P	**P**	**16 55 59.0**	**-2.3**
MT01	**Popeta**	**18.77**	**45**	P	**P**	**16 56 00.2**	**-1.2**
MT09	**Talagante**	**18.97**	**46**	P	**P**	**16 56 02.1**	**-1.6**
BO04	**La Punta**	**18.98**	**47**	P	**P**	**16 56 02.1**	**-1.6**
EFI	**East Falkland**	**19.00**	**111**	P	**P**	**16 56 02.6**	**-1.1**
EFI				IAmb	IAmb	16 56 11.1	
	comp=Z,272nm,2.0s						
EFI	**East Falkland**	**19.00**	**111**	P	**P**	**16 56 02.7**	**-1.1**
EFI				pmax	pmax		
	comp=Z,273nm,2.0s						
LMEL	**Las Melosas**	**19.29**	**48**	P	**P**	**16 56 06.2**	**-1.0**
LMEL				IAmb	IAmb	16 56 12.4	
	comp=Z,111nm,1.9s						
MT02	**Curacav**	**19.32**	**45**		**P**	**16 56 07.6**	**+0.2**
MT13	**San Alfonso**	**19.33**	**47**	P	**P**	**16 56 07.0**	**-0.7**
PEL	**Peldehue**	**19.63**	**45**	P	**P**	**16 56 10.2**	**-0.6**
PEL	**Peldehue**	**19.63**	**45**	P	**P**	**16 56 10.2**	**-0.6**
PEL				pmax	pmax		
	comp=Z,76nm,1.6s						
VA06	**Catapilco**	**19.83**	**43**		**P**	**16 56 12.6**	**-0.3**
VA03	**San Esteban**	**20.00**	**45**	P	**P**	**16 56 14.8**	**-0.2**
VA03				IAmb	IAmb	16 56 19.4	
	comp=Z,80nm,1.4s						
PMSA	**Palmer Station**	**20.65**	**151**	LR	LR	17 02 07.4	
	comp=Z,309nm,19.4s,baz=300,slow=30						
TRQA	**Tornquist**	**21.01**	**70**	P	**P**	**16 56 25.5**	**-0.3**
TRQA	**Tornquist**	**21.01**	**70**	P	**P**	**16 56 25.5**	**-0.3**
TRQA				pmax	pmax		
	comp=Z,34nm,1.2s						
CO06	**Fray Jorge**	**21.29**	**40**	P	**P**	**16 56 28.1**	**-0.7**
CO06				IAmb	IAmb	16 56 34.5	
	comp=Z,99nm,1.6s						
CO03	**El Pedregal**	**21.56**	**42**	P	**P**	**16 56 31.9**	**+0.1**
CO03				IAmb	IAmb	16 56 34.7	
	comp=Z,66nm,1.4s						
CO01	**Juntas del Tor**	**22.56**	**42**	P	**P**	**16 56 42.6**	**-0.1**
CO01				IAmb	IAmb	16 56 47.2	
	comp=Z,73nm,1.6s						
GO03	**Copiap**	**24.57**	**39**	P	**P**	**16 57 02.1**	**-0.2**
GO03				IAmb	IAmb	16 57 05.9	
	comp=Z,28nm,1.2s						
AC06	**Mina Casimiro**	**24.73**	**38**	P	**P**	**16 57 03.9**	**+0.2**
AC06				IAmb	IAmb	16 57 07.4	
	comp=Z,46nm,1.6s						
AC02	**Maricunga**	**25.70**	**40**	P	**P**	**16 57 13.1**	**+0.1**
AC01	**Pan de Azucar**	**25.70**	**36**	P	**P**	**16 57 12.2**	**-0.3**
AC01				IAmb	IAmb	16 57 17.1	
	comp=Z,60nm,1.6s						
GO02	**Mina Guanaco**	**26.98**	**37**	P	**P**	**16 57 23.6**	**-0.8**
GO02				IAmb	IAmb	16 57 30.7	
	comp=Z,58nm,1.5s						
RPN	**Rapa Nui**	**27.26**	**313**	LR	LR	17 05 09.8	
	comp=Z,378nm,21.3s,baz=136,slow=30						
LVC	**Limon Verde**	**29.54**	**36**	P	**P**	**16 57 46.7**	**-0.6**
LVC				IAmb	IAmb	16 57 50.9	
	comp=Z,43nm,1.6s						
LVC	**Limon Verde**	**29.54**	**36**	P	**P**	**16 57 46.7**	**-0.6**
LVC				pmax	pmax		
	comp=Z,43nm,1.6s						
LVC	**Limon Verde**	**29.54**	**36**	LR	LR	17 06 41.3	
	comp=Z,279nm,20.9s,baz=213,slow=30						
LVC	**Limon Verde**	**29.54**	**36**	*eP*	**P**	**16 57 48.0**	**+0.6**
PB01	**IPOC Station P**	**30.74**	**34**	P	**P**	**16 57 58.5**	**+0.8**
PB01				IAmb	IAmb	16 58 00.1	
	comp=Z,25nm,1.3s						
CPUP	**Villa Florida**	**32.05**	**58**	P	**P**	**16 58 09.4**	**+0.4**
CPUP	**Villa Florida**	**32.05**	**58**	P	**P**	**16 58 09.6**	**+0.6**
	comp=Z,3.0nm,0.8s,baz=218,slow=11,SNR=4.3						
CPUP				LR	LR	17 10 34.5	
	comp=Z,523nm,18.5s,baz=214,slow=35 comp=Z,3.0nm,0.8s						
PB16	**IPOC Station P**	**33.22**	**32**	P	**P**	**16 58 20.1**	**+0.2**
PB16				IAmb	IAmb	16 58 24.0	
	comp=Z,48nm,1.5s						
ITAB	**Concordia**	**34.41**	**65**	P	**P**	**16 58 29.1**	**-0.5**
ITAB				IAmb	IAmb	16 58 32.1	
	comp=Z,38nm,1.2s						
ITAB	**Concordia**	**34.41**	**65**	*eP*	**P**	**16 58 30.2**	**+0.6**
LPAZ	**La Paz**	**35.60**	**33**	P	**P**	**16 58 40.7**	**+0.1**
LPAZ				IAmb	IAmb	16 58 44.5	
	comp=Z,39nm,1.6s						
LPAZ	**La Paz**	**35.60**	**33**	P	**P**	**16 58 42.5**	**+1.9**
	comp=Z,7.7nm,1.1s,baz=190,slow=7.1,SNR=19 comp=Z,7.7nm,1.1s						
LPAZ	**La Paz**	**35.60**	**33**	*eP*	**P**	**16 58 42.3**	**+1.7**
NNA	**Nana**	**37.26**	**17**	*ceP*	**P**	**16 58 51.7**	**-2.5**
NNA				pmax	pmax		
	comp=Z,48nm,2.5s						
NNA	**Nana**	**37.26**	**17**	LR	LR	17 10 42.9	
	comp=Z,93nm,19.3s,baz=202,slow=31						
LDASE	**Londrina, Braz**	**37.89**	**62**	*eP*	**P**	**16 58 59.5**	**0.0**
SIV	**San Ignacio**	**38.75**	**43**	LR	LR	17 14 22.0	
	comp=Z,190nm,19.1s,baz=122,slow=35						
PCMB	**Pacaembu**	**39.19**	**60**	*eP*	**P**	**16 59 11.6**	**+1.2**
PTLB	**Pontes e Lacer**	**40.12**	**45**	P	**P**	**16 59 17.7**	**-0.4**
PTLB				IAmb	IAmb	16 59 20.0	
	comp=Z,40nm,1.9s						
BB19B	**Bebedouro**	**41.21**	**62**	*eP*	**P**	**16 59 28.1**	**+1.0**
SALV	**Santo Antonio**	**41.42**	**50**	*eP*	**P**	**16 59 29.3**	**+0.4**
QSPA	**South Pole Qui**	**41.91**	**180**	P	**P**	**16 59 33.4**	**+0.9**
QSPA	**South Pole Qui**	**41.91**	**180**	P	**P**	**16 59 33.3**	**+0.9**
	comp=Z,10nm,1.1s,baz=149,slow=8.4,SNR=9.5						
QSPA				PcP	**PcP**	**17 01 28.4**	**+0.6**
	comp=Z,10nm,1.1s,baz=168,slow=0.2,SNR=6.4 comp=Z,10nm,1.1s						
ETMB	**Extrema**	**42.27**	**32**		**P**	**16 59 35.9**	**+0.1**
ETMB				IAmb	IAmb	16 59 37.5	
	comp=Z,38nm,1.7s						
ETMB	**Extrema**	**42.27**	**32**	*eP*	**P**	**16 59 36.9**	**+1.1**
SNAA	**Sanae**	**43.36**	**153**	P	**P**	**16 59 44.5**	**+0.4**
	comp=Z,13nm,1.0s,baz=248,slow=0.9,SNR=3.6 comp=Z,13nm,1.0s						
BSCB	**Bom Sucesso**	**43.52**	**66**	*eP*	**P**	**16 59 47.5**	**+1.5**
SAML	**Samuel**	**44.19**	**35**		**P**	**16 59 51.0**	**-0.3**
SAML	**Samuel**	**44.19**	**35**	P	**P**	**16 59 51.0**	**-0.3**
SAML				pmax	pmax		
	comp=Z,19nm,1.7s						
SAML	**Samuel**	**44.19**	**35**	*eP*	**P**	**16 59 51.8**	**+0.5**
MCRA	**Macar, Loja**	**44.24**	**10**	P	**P**	**16 59 51.5**	**-0.3**
PDRB	**Porto dos Gac**	**44.59**	**45**	*eP*	**P**	**16 59 54.9**	**+0.3**
BDFB	**Brasilia**	**45.77**	**58**	P	**P**	**17 00 05.0**	**+1.0**
	comp=Z,3.5nm,0.9s,baz=70,slow=2.8,SNR=4.2						
BDFB				LR	LR	17 19 46.0	
	comp=Z,339nm,18.0s,baz=166,slow=37 comp=Z,3.5nm,0.9s						
COHC	**Cochancay**	**46.21**	**11**	P	**P**	**17 00 07.6**	**+0.3**
COHC				PcP	**PcP**	**17 01 43.3**	**+0.3**
SJMB	**Sao Joao De Ma**	**47.45**	**68**	*eP*	**P**	**17 00 18.5**	**+1.4**
RIB01	**Linhares ES**	**47.48**	**69**	*eP*	**P**	**17 00 18.4**	**+1.1**
VNDA	**Vanda**	**47.53**	**196**	LR	LR	17 16 45.8	
	comp=Z,216nm,20.2s,baz=162,slow=32						
NVL	**N'lazarevskaya**	**48.11**	**154**	*eP*	**P**	**17 00 20.3**	**-1.2**
NVL				pmax	pmax		
	comp=Z,28nm,1.2s						
JANB	**Januaria**	**48.38**	**62**	*eP*	**P**	**17 00 25.5**	**+1.2**
TEFE	**Tefe**	**48.69**	**31**	*eP*	**P**	**17 00 26.1**	**-0.5**
OTAV	**Otavalo**	**48.98**	**12**		**P**	**17 00 28.7**	**-0.7**
OTAV				PcP	**PcP**	**17 01 53.2**	**-0.2**
OTAV	**Otavalo**	**48.98**	**12**	P	**P**	**17 00 28.7**	**-0.7**
OTAV				pmax	pmax		
	comp=Z,38nm,1.3s						
OTAV	**Otavalo**	**48.98**	**12**	*eP*	**P**	**17 00 30.8**	**+1.5**
NPGB	**Novo Progresso**	**49.23**	**44**	*eP*	**P**	**17 00 31.4**	**+0.6**
GUA01	**Guaratinga, BA**	**49.91**	**67**	*eP*	**P**	**17 00 37.0**	**+1.0**
SDBA	**SAO DESIDERIO**	**50.15**	**59**	*eP*	**P**	**17 00 38.2**	**+0.4**
ELIB	**Princess Elisa**	**50.62**	**158**	*dP*	**P**	**17 00 40.0**	**-0.9**
	comp=Z,11nm,1.1s						
ITTB	**Itaituba**	**51.42**	**42**	*eP*	**P**	**17 00 47.9**	**+0.5**
ROSC	**El Rosal**	**54.15**	**16**	LR	LR	17 21 16.4	
	comp=Z,163nm,18.1s,baz=211,slow=33						
NBLA	**Lagarto - SE**	**55.46**	**65**	*eP*	**P**	**17 01 17.3**	**+0.2**
BOAV	**Boa Vista**	**55.63**	**33**	P	**P**	**17 01 17.0**	**-1.2**
BOAV				IAmb	IAmb	17 01 19.2	
	comp=Z,19nm,1.4s						
JTS	**Las Juntas de**	**58.40**	**3**	LR	LR	17 19 59.9	
	comp=Z,100nm,20.7s,baz=52,slow=29						
PPT2	**Papeete2**	**58.71**	**279**	*eP*	P	17 01 46.2	+6.0
	comp=Z,44nm,23.5s						
PPT2				*eS*	**S**	**17 09 44.3**	**-0.7**
	comp=Z,150nm,25.8s						
PPT2				*eLR*	LR	17 18 50.2	
	comp=Z,612nm,24.0s						
PPT2				*eLR*	LR	17 18 57.2	
	comp=Z,410nm,22.5s						
PPT	**Papeete**	**58.73**	**279**	LR	LR	17 20 14.2	
	comp=Z,335nm,21.7s,baz=144,slow=29						
TAOE	**Nuku Hiva Isla**	**59.22**	**293**	*eLR*	LR	17 19 07.1	
	comp=Z,606nm,25.9s						
RCBR	**Riachuelo**	**60.68**	**63**	LR	LR	17 28 20.4	
	comp=Z,231nm,18.9s,baz=232,slow=36						
MDP	**Montagnes des**	**61.23**	**40**	LR	LR	17 27 55.1	
	comp=Z,98nm,18.7s,baz=236,slow=36						
MAW	**Mawson**	**62.21**	**168**	P	**P**	**17 02 04.5**	**+1.2**
	comp=Z,23nm,1.0s,baz=256,slow=5.4,SNR=5.0 comp=Z,23nm,1.0s						
CMIG	**Matias Romero**	**65.48**	**352**	LR	LR	17 25 12.2	
	comp=Z,55nm,18.6s,baz=179,slow=31						
ZAIG	**Zacatecas**	**72.09**	**345**	P	**P**	**17 03 07.9**	**+1.1**
ZAIG				IAmb	IAmb	17 03 10.8	
	comp=Z,17nm,1.3s						
HBVL	**Hebbronville**	**75.75**	**350**	P	**P**	**17 03 29.4**	**+1.6**
HPIG		**76.72**	**343**	P	**P**	**17 03 34.2**	**+0.7**
HPIG				IAmb	IAmb	17 03 37.3	
	comp=Z,23nm,1.4s						
833A	**Chaparral WMA,** baz=172	**77.08**	**349**	P	**P**	**17 03 37.2**	**+1.9**
HNDO	**Hondo**	**78.25**	**349**	P	**P**	**17 03 42.9**	**+1.0**
HKT	**Hockley**	**78.30**	**352**	*i* P	**P**	**17 03 40.5**	**-1.5**
HKT				pmax	pmax		
	comp=Z,19nm,1.3s						
DRIO	**Del Rio**	**78.32**	**348**	P	**P**	**17 03 42.8**	**+0.6**
DRIO				IAmb	IAmb	17 03 44.5	
	comp=Z,11nm,1.1s						
TX31	**Lajitas Ar. Si**	**78.70**	**345**	P	**P**	**17 03 45.1**	**+0.7**
TX31				IAmb	IAmb	17 03 47.6	
	comp=Z,30nm,1.5s						
TXAR	**Lajitas Array**	**78.70**	**345**	P	**P**	**17 03 45.1**	**+0.7**
TXAR	**Lajitas Array**	**78.70**	**345**	P	**P**	**17 03 46.5**	**+2.1**
	comp=Z,6.4nm,1.1s,baz=169,slow=7.1,SNR=27 comp=Z,6.4nm,1.1s						
SAND	**Sanderson**	**79.06**	**347**	P	**P**	**17 03 46.9**	**+0.5**
SAND				IAmb	IAmb	17 03 49.1	
	comp=Z,29nm,1.8s						
JCT	**Junction City** baz=172	**79.25**	**349**	P	**P**	**17 03 49.4**	**+2.0**
ALPN	**Alpine**	**79.71**	**346**	P	**P**	**17 03 50.8**	**+0.8**
ALPN				IAmb	IAmb	17 03 52.9	
	comp=Z,18nm,1.2s						
OZNA	**Ozona**	**79.87**	**348**	P	**P**	**17 03 51.0**	**+0.3**
OZNA				IAmb	IAmb	17 03 53.1	
	comp=Z,48nm,1.7s						
BRDY	**Brady**	**79.95**	**350**	P	**P**	**17 03 51.4**	**+0.2**
BRDY				IAmb	IAmb	17 03 53.1	
	comp=Z,15nm,1.3s						
MNHN	**Monahans**	**80.52**	**347**	P	**P**	**17 03 54.4**	**+0.2**
MNHN				IAmb	IAmb	17 03 57.0	
	comp=Z,25nm,1.5s						
LRAL	**Lakeview Retre** baz=180	**81.00**	**0**	P	**P**	**17 03 57.6**	**+1.0**
MNTX	**Cornudas Mount** baz=168	**81.31**	**344**	P	**P**	**17 03 60.0**	**+1.6**
GOGA	**Godfrey** baz=182	**81.44**	**3**	P	**P**	**17 04 00.2**	**+1.2**
POST	**Post**	**82.03**	**348**	P	**P**	**17 04 02.4**	**+0.2**
X48A	**Hartselle**	**82.41**	**0**	P	**P**	**17 04 04.0**	**0.0**
X48A				IAmb	IAmb	17 04 05.5	
	comp=Z,22nm,1.3s						
X51A	**Calhoun**	**82.55**	**2**	P	**P**	**17 04 04.8**	**-0.1**
MSTX	**Muleshoe** baz=170	**83.10**	**347**	P	**P**	**17 04 09.3**	**+1.5**
SWET	**Sewanee**	**83.18**	**1**	P	**P**	**17 04 07.9**	**-0.2**
WMOK	**Wichita Mounta**	**83.34**	**350**	P	**P**	**17 04 08.8**	**-0.2**
WMOK				IAmb	IAmb	17 06 02.8	
	comp=Z,14nm,1.7s						
WMOK	**Wichita Mounta**	**83.34**	**350**	P	**P**	**17 04 08.8**	**-0.2**
WMOK				pmax	pmax		
	comp=Z,15nm,1.7s						
WMOK	**Wichita Mounta** baz=172	**83.34**	**350**	P	**P**	**17 04 10.2**	**+1.2**
WHAR	**Wooly Hollow**	**83.37**	**356**	P	**P**	**17 04 08.9**	**-0.1**
CPCT	**Cooper Cave**	**83.44**	**2**	P	**P**	**17 04 09.7**	**+0.3**
V48A	**Smith Brothers**	**83.70**	**0**	P	**P**	**17 04 10.2**	**-0.5**
V53A	**Saluda**	**83.72**	**4**	P	**P**	**17 04 10.1**	**-0.8**
V53A				IAmb	IAmb	17 04 11.9	
	comp=Z,18nm,1.1s						
FCAR	**Ozark Folk Cen**	**83.96**	**356**	P	**P**	**17 04 11.7**	**-0.3**
FCAR				IAmb	IAmb	17 04 13.3	
	comp=Z,7.7nm,0.9s						
ESJX	**Sierra Juarez**	**84.00**	**336**	P	**P**	**17 04 13.3**	**+0.7**
ESJX				IAmb	IAmb	17 04 15.4	
	comp=Z,11nm,1.3s						
DZM	**Mont Dzumac**	**84.00**	**244**	*e*LR	LR	17 30 43.2	
	comp=Z,139nm,22.6s						
CLTN	**Cedars of Leba**	**84.05**	**1**	P	**P**	**17 04 12.3**	**-0.3**
CLTN				IAmb	IAmb	17 04 13.8	
	comp=Z,21nm,1.2s						
WVT	**Waverly**	**84.09**	**360**	P	**P**	**17 04 12.2**	**-0.5**
WVT				IAmb	IAmb	17 04 13.7	
	comp=Z,13nm,1.1s						
WVT	**Waverly**	**84.09**	**360**	P	**P**	**17 04 12.2**	**-0.5**
WVT				pmax	pmax		
	comp=Z,13nm,1.1s						
WVT	**Waverly** baz=180	**84.09**	**360**	P	**P**	**17 04 13.3**	**+0.6**
LCAR	**Lake Charles**	**84.10**	**357**	P	**P**	**17 04 12.3**	**-0.4**
LCAR				IAmb	IAmb	17 04 13.9	
	comp=Z,21nm,1.4s						
DEOK	**Depew**	**84.20**	**352**	P	**P**	**17 04 13.0**	**-0.4**
TUL3	**Leonard** baz=174	**84.21**	**353**	P	**P**	**17 04 14.6**	**+1.2**
U49A	**Red Boiling Sp**	**84.48**	**1**	P	**P**	**17 04 14.2**	**-0.5**
ANMO	**Albuquerque**	**84.66**	**344**		**P**	**17 04 18.1**	**+2.1**
ANMO	**Albuquerque**	**84.66**	**344**		**P**	**17 04 15.7**	**-0.2**
ANMO	**Albuquerque**	**84.66**	**344**	P	**P**	**17 04 15.7**	**-0.2**
ANMO				pmax	pmax		
	comp=Z,7.0nm,1.3s						
ANMO	**Albuquerque** baz=167	**84.66**	**344**	P	**P**	**17 04 18.0**	**+2.1**
T47A	**Sharon Grove**	**84.94**	**0**	P	**P**	**17 04 16.6**	**-0.5**
MGMO	**Mountain Grove**	**85.23**	**356**	P	**P**	**17 04 18.2**	**-0.2**
MGMO				IAmb	IAmb	17 04 19.2	
	comp=Z,12nm,1.1s						
T35A	**Sooner Cattle**	**85.27**	**353**	P	**P**	**17 04 19.5**	**+0.8**
BC3	**Big Chuckawall** baz=162	**85.43**	**337**	P	**P**	**17 04 21.1**	**+1.4**
S51A	**Beattyville**	**85.66**	**3**	P	**P**	**17 04 20.1**	**-0.5**
S51A				IAmb	IAmb	17 04 21.1	
	comp=Z,16nm,0.9s						
PFO	**Pinyon Flats O**	**85.66**	**336**	*i* P	**P**	**17 04 20.3**	**-0.5**
PFO				pmax	pmax		
	comp=Z,14nm,1.5s						
PDMCI	**Parker Dam,Lak** baz=162	**85.70**	**338**	P	**P**	**17 04 21.8**	**+0.9**
IRM	**Iron Mountain** baz=162	**85.82**	**337**	P	**P**	**17 04 23.1**	**+1.6**
BELC	**Belle Mtn. Jos** baz=161	**85.90**	**336**	P	**P**	**17 04 24.4**	**+2.3**
CCM	**Cathedral Cave**	**86.08**	**357**		**P**	**17 04 21.4**	**-1.2**
CCM				IAmb	IAmb	17 04 23.9	
	comp=Z,22nm,1.2s						
CCM	**Cathedral Cave**	**86.08**	**357**	P	**P**	**17 04 21.4**	**-1.2**
CCM				pmax	pmax		
	comp=Z,22nm,1.2s						
CCM	**Cathedral Cave** baz=177	**86.08**	**357**	P	**P**	**17 04 23.2**	**+0.6**
W13A	**Hualapai Mount**	**86.40**	**338**	P	**P**	**17 04 25.2**	**+0.6**
TUQ	**Turquoise Moun** baz=161	**87.23**	**337**	P	**P**	**17 04 31.2**	**+2.7**
MVCO	**Mesa Verde** baz=166	**87.24**	**343**	P	**P**	**17 04 31.3**	**+2.6**
CBKS	**Cedar Bluff**	**87.47**	**350**	P	**P**	**17 04 29.5**	**0.0**
CBKS	**Cedar Bluff**	**87.47**	**350**	P	**P**	**17 04 29.5**	**0.0**
CBKS				pmax	pmax		
	comp=Z,84nm,1.5s						
CBKS	**Cedar Bluff** baz=172	**87.47**	**350**	P	**P**	**17 04 31.6**	**+2.1**
P49A	**Miami Univ. Ec** baz=182	**87.51**	**2**	P	**P**	**17 04 29.7**	**0.0**
P52A	**Corning** baz=183	**87.70**	**4**	P	**P**	**17

comp=Z,1.5nm,1.0s,baz=188,slow=6.0,SNR=5.8
comp=Z,1.5nm,1.0s

ULM Lac du Bonnet 98.48 354 *i* P **P** 17 05 19.0 -1.0
ILAR Eielson Array 121.89 334 PKP **PKPdf** 17 10 35.4 +0.1
comp=Z,1.2nm,0.8s,baz=172,slow=1.5,SNR=11
A36M Sachs Harbour 122.97 347 **PKPdf** 17 10 36.7 -0.4
C26K Camden Bay 125.14 339 P **PKiKP** 17 10 42.9 +1.2
baz=136
TOLK Toolik Lake Re 125.41 337 P **PKiKP** 17 10 43.2 +0.9
baz=133
F21K Alatna River 125.54 334 P **PKiKP** 17 10 43.3 +0.7
baz=131
D24K Happy Valley 125.57 337 P **PKiKP** 17 10 43.3 +0.7
baz=134
F19K Shaleruckik Mo 126.58 332 P **PKiKP** 17 10 45.4 +0.7
baz=128
D20K Etivluk River 127.40 335 P **PKiKP** 17 10 47.4 +1.1
baz=128
B21K Ikpikpuk River 127.42 336 PKPdf **PKPdf** 17 10 45.4 -0.3
B21K Ikpikpuk River 127.42 336 P **PKiKP** 17 10 47.4 +1.1
baz=129
B22K Teshekpuk Lake 127.56 337 P **PKiKP** 17 10 46.9 +0.5
baz=130
C19K Lookout Ridge 128.50 334 P **PKiKP** 17 10 49.2 +0.7
baz=126
C18K Utukok River 128.71 333 PKPdf **PKPdf** 17 10 47.0 -1.3
C18K Utukok River 128.71 333 P **PKiKP** 17 10 49.6 +0.6
baz=125
D17K Noatak River 128.76 332 P **PKiKP** 17 10 50.0 +1.0
baz=124
GERES GERESS Array B 130.01 58 *e*PKIKP **PKPdf** 17 10 50.5 -0.9
GERES pmax pmax
comp=Z,1.0nm,0.7s
CLL Collm 130.87 55 *e*PKIKP **PKiKP** 17 10 54.0 +0.3
CLL Collm 130.87 55 *e*PKPdf **PKiKP** 17 10 54.0 +0.3
MODS Modra-Piesok 131.81 60 *e*PKIKP **PKiKP** 17 10 56.9 +1.1
MODS Modra-Piesok 131.81 60 *e*PKP **PKiKP** 17 10 56.9 +1.1
VYHS Vyhne 132.78 61 *e*PKIKP **PKiKP** 17 10 57.5 -0.2
VYHS Vyhne 132.78 61 *e*PKP **PKiKP** 17 10 57.5 -0.2
BRTR Keskin Array B 137.59 79 *c i*PKIKP **PKPdf** 17 11 06.3 +0.3
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 137.59 79 PKP **PKPdf** 17 11 06.4 +0.4
comp=Z,1.8nm,0.9s,baz=197,slow=3.9,SNR=4.7
AKASG Malin Array Be 139.82 62 *c i*PKIKP **PKPdf** 17 11 10.5 +1.0
AKASG pmax pmax
comp=Z,1.0nm,0.9s
AKASG Malin Array Be 139.82 62 PKP **PKPdf** 17 11 08.8 -0.7
comp=Z,1.0nm,0.9s,baz=287,slow=1.0,SNR=4.3
AKBB Malin Array Si 139.82 62 *c i*PKIKP **PKPdf** 17 11 09.8 +0.3
SEY Seymchan 144.74 317 *c i*PKIKP PKPbc 17 11 17.4 +0.5
SEY pmax pmax
comp=Z,25nm,1.3s
MJA0 Matsu Arr-Jizo 144.90 268 *e*PKIKP **PKPab** 17 11 18.6 +0.3
MJA0 pmax pmax
comp=Z,8.0nm,1.1s
MJAR Matsushiro Arr 144.93 268 PKP **PKPab** 17 11 18.1 -0.2
comp=Z,8.1nm,1.1s,baz=156,slow=3.2,SNR=8.0
GNI Garni 145.14 85 *c i*PKIKP **PKPdf** 17 11 20.5 +0.9
GNI pmax pmax
comp=Z,68nm,1.7s
NAX Nakhchivan 145.15 87 PKIKP **PKPbc** 17 11 19.2 +0.1
MA2 Magadan 145.18 311 **PKPbc** 17 11 17.9 -0.5
MA2 Magadan 145.18 311 *c i*PKIKP **PKPbc** 17 11 18.7 +0.3
MA2 pmax pmax
comp=Z,50nm,1.3s
LVZ Lovozero 145.37 34 *c i*PKIKP **PKPab** 17 11 20.9 +1.8
LVZ pmax pmax
comp=Z,99nm,2.5s
OBN Obninsk 145.39 57 *i*PKIKP **PKPbc** 17 11 18.8 -0.4
OBN pmax pmax
comp=Z,60nm,1.7s
OBN Obninsk 145.39 57 PKPbc **PKPbc** 17 11 18.5 -0.6
comp=Z,6.8nm,0.4s,baz=259,slow=5.2,SNR=7.9
UBPT Khong Chiam 145.41 202 **PKPbc** 17 11 20.5 +0.1
ONI Oni 145.45 81 **PKPbc** 17 11 18.6 -1.3
ONI Oni 145.45 81 PKP2 **PKPbc** 17 11 18.6 -1.3
KIV Kislovodsk 145.54 78 PKPdf **PKPdf** 17 11 19.7 -0.3
KIV Kislovodsk 145.54 78 *e*PKIKP **PKPab** 17 11 20.7 +0.2
KIV pmax pmax
comp=Z,14nm,1.1s
KBZ Khabaz 145.59 79 *e*PKIKP **PKPab** 17 11 20.6 +0.1
KBZ *i* 17 11 21.2
KBZ pmax pmax
comp=Z,7.0nm,1.1s
KBZ Khabaz 145.59 79 PKPbc **PKPab** 17 11 21.2 +0.7
comp=Z,6.6nm,1.1s,baz=243,slow=2.8,SNR=8.9
GANJ Ganja 146.44 86 PKIKP **PKPdf** 17 11 21.6 0.0
YSS Yuzh-Sakhalins 146.76 287 *e*PKP2 **PKPbc** 17 11 23.6 0.0
YSS pmax pmax
comp=Z,20nm,1.1s
MNGR Mingechevir, A 147.01 86 PKIKP **PKPdf** 17 11 22.5 0.0
HYB Hyderabad 147.06 155 *e*PKPbc **PKPbc** 17 11 25.1 -0.3
LKRN Lenkeran, Azer 147.10 90 PKIKP **PKPdf** 17 11 22.5 -0.2
ZKTA Zakatala 147.11 84 PKIKP **PKPdf** 17 11 23.1 +0.4
GROC Groznyy 147.26 81 *e*PKIKP **PKPdf** 17 11 23.6 +0.8
GROC pmax pmax
comp=Z,43nm,1.2s
SEKA Sheki 147.29 85 PKIKP **PKPdf** 17 11 23.0 0.0
KLMR Klimovskoe 147.67 47 *e*PKHKP PKPpre 17 11 20.7
KLMR pmax pmax
comp=Z,54nm,1.3s
CMAR Chiang Mai Arr 149.78 192 **PKPdf** 17 11 26.7 -1.0
CMAR Chiang Mai Arr 149.78 192 *c i*PKHKP PKPpre 17 11 31.2
CMAR pmax pmax
comp=Z,14nm,1.1s
CMAR Chiang Mai Arr 149.78 192 PKP **PKPdf** 17 11 28.3 +0.6
comp=Z,14nm,1.1s,baz=221,slow=2.7,SNR=13
CMAR PKPbc **PKPbc** 17 11 32.0 -0.4
comp=Z,13nm,1.1s,baz=208,slow=2.6,SNR=28
CHTO Chiang Mai 150.13 192 **PKPdf** 17 11 27.4 -0.9
CHTO PKPbc **PKPbc** 17 11 33.2 -0.1
CHTO Chiang Mai 150.13 192 PKIKP **PKPdf** 17 11 27.4 -0.9
CHTO 17 11 33.2
TIXI Tiksi 151.30 337 **PKPbc** 17 11 33.3 -1.1
TIXI Tiksi 151.30 337 *c i*PKIKP **PKPbc** 17 11 34.2 -0.2
TIXI pmax pmax
comp=Z,25nm,1.3s
PZH PanZhiHua 157.10 201 PKP **PKPdf** 17 11 38.6 +0.4
ARU Arti 157.81 56 PKPdf **PKPdf** 17 11 38.2 +0.4
ARU PKPab **PKPab** 17 12 11.3 +0.5
ARU Arti 157.81 56 *i*PKIKP **PKPdf** 17 11 38.9 +1.0
ABKAR Akbulak array 158.46 75 **PKPdf** 17 11 38.7 -0.2
ABKAR PKPab **PKPab** 17 12 13.6 -0.3
NRIK Noril'sk 158.77 5 PKP **PKPdf** 17 11 35.6 -3.1
comp=Z,0.7nm,0.3s,baz=347,slow=1.8,SNR=3.6
NRIK PKPab **PKPab** 17 12 14.7 +0.2
comp=Z,1.2nm,0.6s,baz=63,slow=4.5,SNR=4.0
CD2 Chengdu 160.68 210 PKP **PKPdf** 17 11 41.5 -0.6
HHC Hu-ho-hao-te 164.67 248 *e*P **PKPdf** 17 11 43.8 -2.0
BRVK Borovoye 165.02 63 **PKPdf** 17 11 45.2 -0.4
BRVK Borovoye 165.02 63 PKIKP **PKPdf** 17 11 45.2 -0.4
KSH Kashi 165.07 120 PKP **PKPdf** 17 11 47.0 +0.8
BVAR Borovoye Array 165.09 63 PKP **PKPdf** 17 11 45.0 -0.6
comp=Z,3.8nm,1.2s,baz=126,slow=2.0,SNR=9.5
GTA Gaotai 169.73 212 *e*PKP **PKPdf** 17 11 49.7 +0.1
GTA PKPab **PKPab** 17 13 03.8 +0.1
KURBB Kurchatov Arra 170.47 71 PKP **PKPdf** 17 11 49.0 -0.5
comp=Z,3.7nm,1.1s,baz=348,slow=0.7,SNR=12
KURK Kurchatov 170.51 70 **PKPdf** 17 11 48.8 -0.6
KURK PKPab **PKPab** 17 13 07.0 +0.2
KURK Kurchatov 170.51 70 PKIKP **PKPdf** 17 11 49.0 -0.5
SONM Songino Array 170.84 272 PKPab **PKPab** 17 13 08.8 +0.2
comp=Z,0.6nm,1.0s,baz=90,slow=5.8,SNR=3.9
ZAA0 Zalesovo Array 172.49 39 **PKPdf** 17 11 48.3 -2.0
ZALV Zalesovo Beam 172.49 39 **PKPdf** 17 11 48.0 -2.4
ZALV PKPab **PKPab** 17 13 15.2 -0.2
ZALV Zalesovo Beam 172.49 39 PKP **PKPdf** 17 11 48.8 -1.5
comp=Z,7.5nm,1.2s,baz=222,slow=2.0,SNR=16
ZALV PKPab **PKPab** 17 13 15.8 +0.4
comp=Z,1.5nm,0.9s,baz=336,slow=3.3,SNR=4.3
MKAR Makanchi Array 172.76 98 **PKPdf** 17 11 49.5 -1.2
MKAR PKPab **PKPab** 17 13 15.2 -1.8
MKAR Makanchi Array 172.76 98 PKP **PKPdf** 17 11 50.6 -0.2
comp=Z,2.3nm,1.1s,baz=333,slow=0.5,SNR=13
MKAR PKPab **PKPab** 17 13 16.1 -0.9
comp=Z,0.7nm,0.9s,baz=267,slow=2.4,SNR=4.6
WMQ Urumqi 174.28 140 *e*P **PKPdf** 17 11 52.7 +1.2
WMQ LR LR
comp=N,4μm,14.1s
WMQ LR LR
comp=E,7μm,14.1s
WMQ LR LR
comp=Z,3μm,16.3s

*IDC **08** 16:58:08.5±9.0, 21°.99N×143°.55E, h0km, mb3.4/6, mbtmp3.4/6, MS3.1/2, Error ellipse: s-maj=375.9km s-min=23.2km az=77.0*
ISC 08 16:58:11.8±8.4, 22°.1N±0°.6×14°.4E±°, h35km, n8, σ0s63/6, mb3.5/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**23.42**	**254**	LR	LR		17 10 37.9	
	comp=Z,59nm,20.7s,baz=183,slow=33							
CMAR	**Chiang Mai Arr**	**42.44**	**274**	LR	LR		17 24 48.7	
	comp=Z,16nm,18.4s,baz=135,slow=38							
WRA	**Warramunga Arr**	**42.85**	**194**	P	**P**		**17 06 06.2**	**-0.6**
	0.7nm,1.0s,baz=8.0,slow=6.9,SNR=3.0							
	0.7nm,1.0s							
ASAR	**Alice Springs**	**46.55**	**193**	P	**P**		**17 06 36.8**	**+0.5**
	0.2nm,0.6s,baz=17,slow=9.7,SNR=4.5							
	0.2nm,0.6s							
ZALV	**Zalesovo Beam**	**54.47**	**321**	P	**P**		**17 07 35.2**	**-0.4**
	0.4nm,0.5s,baz=101,slow=6.0,SNR=2.0							
	0.4nm,0.5s							
MKAR	**Makanchi Array**	**55.10**	**312**	P	**P**		**17 07 40.3**	**-0.1**
	0.1nm,0.5s,baz=77,slow=6.2,SNR=1.2							
	0.1nm,0.5s							
KURBB	**Kurchatov Arra**	**57.85**	**317**	P	**P**		**17 07 59.4**	**-0.5**
	0.4nm,0.8s,baz=89,slow=7.2,SNR=3.4							
	0.4nm,0.8s							
BVAR	**Borovoye Array**	**62.96**	**319**	P	**P**		**17 08 35.0**	**+0.3**
	0.6nm,0.5s,baz=93,slow=6.3,SNR=5.4							
	0.6nm,0.5s							

*IDC **08** 16:59:43.5±1.4, 12°.85N×86°.75W, h0km, mb3.6/3, mbtmp3.6/4, ML3.2/1, MS3.4/3, Error ellipse: s-maj=135.1km s-min=19.5km az=56.0*
*SNET **08** 16:59:47.5±1.0, 12°.18N×87°.66W, h24km±5km, ML3.5*
*CATAC **08** 16:59:51.5±0.6, 12°.71N×87°.33W, h66km±6km, ML3.5*
ISC 08 16:59:51.0±1.1, 12°.40N±0°.08×87°.54W±0°.06, h64km±9km, n36, σ1s84/54, mb3.7/3, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.57**	**58**	*e*P		**Pn**	**17 00 04.2**	**+0.2**
CRIN				*e*S		**Sn**	**17 00 15.0**	**+1.4**
CRIN	**San Cristobal**	**0.57**	**58**	*i* P		**Pn**	**17 00 04.4**	**+0.4**
CRIN				*i* S		**Sn**	**17 00 15.7**	**+2.1**
CRIN				IAML			17 00 20.5	
	comp=Z,5μm,1.0s							
CSGN	**Cosiguina Volc**	**0.57**	**358**	*i* P		**Pn**	**17 00 03.3**	**-0.8**
CSGN				*i* S		**Sn**	**17 00 13.2**	**-0.5**
CSGN				IAML			17 00 23.2	
	comp=Z,9μm,1.0s							
TEL3	**Telica 3**	**0.70**	**76**	*i* P		**Pn**	**17 00 04.1**	**-1.4**
TELN	**Telica**	**0.72**	**74**	*i* P		**Pn**	**17 00 05.3**	**-0.5**
TELN				*i* S		**Sn**	**17 00 16.1**	**-0.7**
TELN				IAML			17 00 29.5	
	comp=Z,130nm,1.0s							
HERN	**Volcan Telica**	**0.73**	**73**	*i* P		**Pn**	**17 00 05.2**	**-0.6**
HERN				*i* S		**Sn**	**17 00 16.2**	**-0.6**
HERN				IAML			17 00 17.7	
	comp=Z,2μm,1.0s							
CNGN	**Cerro Negro**	**0.83**	**83**	*e*P		**Pn**	**17 00 05.1**	**-2.0**
CNGN				*e*S		**Sn**	**17 00 19.0**	**0.0**
CNGN	**Cerro Negro**	**0.83**	**83**	*i* P		**Pn**	**17 00 05.3**	**-1.8**
CNGN				*i* S		**Sn**	**17 00 19.0**	**0.0**
AMPH	**Amapala**	**0.89**	**353**	*e*P		**Pn**	**17 00 07.2**	**-0.6**
AMPH				*e*S		**Sn**	**17 00 21.9**	**+1.7**
LEVN	**Ruinas Leon Vi**	**0.91**	**90**	*i* P		**Pn**	**17 00 07.5**	**-0.4**
LEVN				*i* S		**Sn**	**17 00 20.5**	**0.0**
LEVN				IAML			17 00 34.0	
	comp=Z,1μm,1.0s							
CNCH	**Conchagua**	**0.92**	**342**	*e*P		**Pn**	**17 00 07.7**	**-0.6**
CNCH				*e*S		**Sn**	**17 00 23.4**	**+2.4**
CNCH				IAML			17 00 32.4	
	comp=Z,4μm,0.3s							
CNCH	**Conchagua**	**0.92**	**342**	*i* P		**Pn**	**17 00 08.1**	**-0.2**
CNCH				*i* S		**Sn**	**17 00 19.3**	**-1.7**
CNCH				IAML			17 00 27.3	
	comp=Z,3μm,1.0s							
COPN	**Copaltepe**	**0.95**	**103**	*i* P		**Pn**	**17 00 06.6**	**-2.0**
LCND	**La Caada**	**0.97**	**340**	*e*P		**Pn**	**17 00 08.2**	**-0.6**
LCND				*e*S		**Sn**	**17 00 24.4**	**+2.5**
LCND				IAML			17 00 31.9	
	comp=Z,1μm,0.3s							
MOM2	**El Cardon**	**1.03**	**88**	*i* P		**Pn**	**17 00 09.3**	**-0.3**
MOM2				*i* S		**Sn**	**17 00 20.7**	**-2.7**
MOM2				IAML			17 00 32.0	
	comp=Z,940nm,1.0s							
JUCU	**Jucuarįn**	**1.09**	**321**	*i* P		**Pn**	**17 00 06.4**	**-4.1**
JUCU				*i* S		**Sn**	**17 00 25.6**	**+0.7**
SAPS	**Ciudad Sandino**	**1.14**	**101**	*i* P		**Pn**	**17 00 09.9**	**-1.0**
SAPS				*i* S		**Sn**	**17 00 29.1**	**+3.3**
SAPS				IAML			17 00 40.5	
	comp=Z,1μm,1.0s							
APQ2	**Apoyeque**	**1.21**	**99**	*i* P		**Pn**	**17 00 11.2**	**-0.6**
APQ2				*i* S		**Sn**	**17 00 30.8**	**+3.4**
APQ2				IAML			17 00 34.6	
	comp=Z,1μm,1.0s							
BLLM	**Bellamira**	**1.24**	**327**	*e*P		**Pn**	**17 00 11.2**	**-1.2**
RANC	**El Ranchito**	**1.26**	**325**	*e*P		**Pn**	**17 00 11.3**	**-1.4**
PACA	**Pacayal**	**1.31**	**325**	*e*P		**Pn**	**17 00 12.2**	**-1.1**
PACA	**Pacayal**	**1.31**	**325**	*i* P		**Pn**	**17 00 12.8**	**-0.5**
PACA				*i* S		**Sn**	**17 00 32.7**	**+2.6**
PACA				IAML			17 00 36.0	
	comp=Z,8μm,1.0s							
LIMN	**Finca el Limon**	**1.32**	**60**	*i* P		**Pn**	**17 00 14.6**	**+1.1**
LIMN				*i* S		**Sn**	**17 00 24.0**	**-6.4**
WILN	**Americas 2**	**1.35**	**100**	*i* P		**Pn**	**17 00 12.6**	**-1.1**
WILN				*i* S		**Sn**	**17 00 34.2**	**+3.5**
WILN				IAML			17 00 37.8	
	comp=Z,650nm,1.0s							
TECA	**Tecapa**	**1.44**	**319**	*e*P		**Pn**	**17 00 13.8**	**-1.3**
TECA				*e*S		**Sn**	**17 00 34.8**	**+1.6**
TGUH	**Tegucigalpa,Un**	**1.67**	**9**	*e*P		**Pn**	**17 00 19.1**	**+0.9**
SCLA	**Alcaldia de Sa**	**1.74**	**318**	*e*P		**Pn**	**17 00 18.1**	**-0.8**
SCLA				IAML			17 00 49.9	
	comp=Z,151nm,0.3s							
LFRS	**El Faro**	**1.92**	**310**	*e*P		**Pn**	**17 00 19.9**	**-1.6**
JTS	**Las Juntas de**	**3.29**	**129**	Pn		Pn	17 00 34.8	-5.4
	comp=Z,3.3nm,0.3s,baz=289,slow=20,SNR=4.1							
JTS				Pg		**Pn**	**17 00 40.6**	**+0.5**
	comp=Z,4.4nm,0.3s,baz=249,slow=8.6,SNR=8.4							
JTS				Lg		Lg	17 01 27.5	
	comp=Z,1.9nm,0.3s,baz=315,slow=20,SNR=1.9							
	comp=Z,5.5nm,0.3s							
CMIG	**Matias Romero**	**8.49**	**304**	LR		LR	17 05 42.5	
	comp=Z,99nm,20.4s,baz=142,slow=40							
TXAR	**Lajitas Array**	**22.56**	**321**	P		**P**	**17 04 47.7**	**+1.6**
	comp=Z,2.5nm,0.7s,baz=137,slow=10,SNR=14							
	comp=Z,2.5nm,0.7s							
PDAR	**Pinedale Array**	**35.77**	**332**	P		**P**	**17 06 44.6**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=124,slow=8.0,SNR=5.0							
	comp=Z,0.7nm,0.8s							
NEW	**Newport**	**43.41**	**331**	LR		LR	17 28 37.3	
	comp=Z,64nm,18.4s,baz=69,slow=40							
SCHQ	**Schefferville**	**45.35**	**17**	LR		LR	17 25 27.6	
	comp=Z,63nm,18.3s,baz=198,slow=34							
YKA	**Yellowknife Ar**	**53.64**	**345**	P		**P**	**17 09 05.3**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=140,slow=7.0,SNR=6.1							
	comp=Z,0.3nm,0.7s							
CMAR	**Chiang Mai Arr**	**148.68**	**348**	PKP		**PKPdf**	**17 19 26.8**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=343,slow=2.8,SNR=1.9							
CMAR				PKPbc		**PKPbc**	**17 19 31.4**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=330,slow=2.2,SNR=5.3							

IDC 08 17:26:50.8±13.0, 11°.33N×138°.45E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=713.4km s-min=25.6km az=79.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**35.06**	**187**	P		P	17 33 45.6	-0.1
	0.3nm,0.6s,baz=350,slow=10,SNR=11							
	0.3nm,0.6s							
SONM	**Songino Array**	**45.23**	**330**	P		P	17 35 09.6	-0.4
	0.2nm,0.3s,baz=121,slow=11,SNR=3.3							
	0.2nm,0.3s							
ZALV	**Zalesovo Beam**	**59.92**	**327**	P		P	17 36 57.8	-0.9
	0.5nm,0.4s,baz=109,slow=7.6,SNR=3.6							
	0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**62.38**	**322**	P		P	17 37 16.4	+1.0
	0.6nm,0.5s,baz=109,slow=7.3,SNR=6.0							
	0.6nm,0.5s							
BVAR	**Borovoye Array**	**67.86**	**323**	P		P	17 37 50.8	-0.2
	0.7nm,0.5s,baz=96,slow=6.8,SNR=5.4							
	0.7nm,0.5s							

*CATAC **08** 17:38:08.9±0.6, 12°.96N×89°.04W, h24km±4km, ML3.5*
*SNET **08** 17:38:10.3±0.9, 13°.04N×89°.00W, h41km±44km, ML3.3*
ISC 08 17:38:08.6±1.5, 13°.01N±0°.06×89°.00W±0°.03, h16km±9km, n44, σ0s85/64, El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.53**	**53**	*i* P		Pg	17 38 13.0	-6.0
ALJI				*i* S		**Sg**	**17 38 21.4**	**-4.7**
TECO	**Alcaldia de Te**	**0.57**	**22**	*i* P		**Pn**	**17 38 21.9**	**-0.2**
TECO				*i* S		**Sn**	**17 38 31.5**	**+0.4**
TECO				IAML			17 38 32.4	
	comp=Z,2μm,1.0s							
LALI	**Alcalda de L**	**0.57**	**327**	*i* P		**Pn**	**17 38 21.5**	**-0.6**
LALI				*i* S		**Sn**	**17 38 30.2**	**-0.9**
LALI				IAML			17 38 30.6	
	comp=Z,470nm,1.0s							
SJTE	**Alcalda de S**	**0.60**	**359**	*i* P		**Pn**	**17 38 22.3**	**-0.3**
SJTE				*i* S		**Sn**	**17 38 32.3**	**+0.2**
SJTE				IAML			17 38 32.8	
	comp=Z,880nm,1.0s							
LFRS	**El Faro**	**0.61**	**354**	*e*P		**Pn**	**17 38 22.4**	**-0.4**
LFRS				*e*S		**Sn**	**17 38 32.0**	**-0.4**
COEG	**Centro de Oper**	**0.62**	**11**	*e*P		**Pn**	**17 38 22.5**	**-0.4**
COEG	**Centro de Oper**	**0.62**	**11**	*i* P		**Pn**	**17 38 22.9**	**+0.1**
COEG				*i* S		**Sn**	**17 38 32.7**	**+0.2**
COEG				IAML			17 38 36.7	
	comp=Z,790nm,1.0s							
LOMA	**Loma Larga**	**0.65**	**345**	*e*P		**Pn**	**17 38 23.0**	**-0.4**
LOMA	**Loma Larga**	**0.65**	**345**	*i* P		**Pn**	**17 38 23.0**	**-0.4**
LOMA				*i* S		**Sn**	**17 38 33.5**	**+0.1**
LOMA				IAML			17 38 34.2	
	comp=Z,2μm,1.0s							
UESV	**Universidad de**	**0.66**	**18**	*i* P		**Pn**	**17 38 23.2**	**-0.1**
UESV				IAML			17 38 23.7	
	comp=Z,2μm,1.0s							
UESV				*i* S		**Sn**	**17 38 33.6**	**+0.2**
PAVA	**Las Pavas**	**0.70**	**5**	*e*P		**Pn**	**17 38 24.1**	**0.0**
PAVA				IAML			17 38 37.3	
	comp=Z,665nm,0.2s							
PAVA	**Las Pavas**	**0.70**	**5**	*i* P		**Pn**	**17 38 24.0**	**0.0**
PAVA				*i* S		**Sn**	**17 38 35.2**	**+0.6**
PAVA				IAML			17 38 37.1	
	comp=Z,2μm,1.0s							
ITCA	**Escuela Especi**	**0.71**	**338**	*i* P		**Pn**	**17 38 23.8**	**-0.4**
ITCA				*i* S		**Sn**	**17 38 34.1**	**-0.8**
ITCA				IAML			17 38 35.8	
	comp=Z,2μm,1.0s							
IGN	**Direccin Gen**	**0.72**	**347**	*i* P		**Pn**	**17 38 24.1**	**-0.1**
IGN				*i* S		**Sn**	**17 38 34.9**	**-0.1**
IGN				IAML			17 38 37.3	
	comp=Z,4μm,1.0s							
SCLA	**Alcaldia de Sa**	**0.74**	**21**	*i* P		**Pn**	**17 38 24.7**	**+0.3**
SCLA				IAML			17 38 24.8	
	comp=Z,2μm,1.0s							
SCLA				*i* S		**Sn**	**17 38 36.3**	**+0.9**
UEES	**Universidad Ev**	**0.74**	**342**	*i* P		**Pn**	**17 38 24.2**	**-0.3**
UEES				IAML			17 38 36.3	
	comp=Z,650nm,1.0s							
LFU	**La Fuente**	**0.74**	**352**	*e*P		**Pn**	**17 38 24.3**	**-0.2**
PQSS	**Presa 15 de Se**	**0.75**	**35**	*e*P		**Pn**	**17 38 24.7**	**+0.2**
PQSS	**Presa 15 de Se**	**0.75**	**35**	*i* P		**Pn**	**17 38 24.7**	**+0.2**
PQSS				IAML			17 38 36.9	
	comp=Z,6μm,1.0s							
PMON	**Piamonte**	**0.76**	**336**	*i* P		**Pg**	**17 38 24.4**	**+0.9**
PMON				*i* S		**Sn**	**17 38 35.8**	**-0.3**
PMON				IAML			17 38 39.5	
	comp=Z,2μm,1.0s							
BOQS	**Boqueron**	**0.77**	**339**	*e*P		**Pn**	**17 38 24.9**	**-0.2**
BOQS				*e*S		**Sn**	**17 38 36.0**	**-0.5**
PIC2	**El Picacho**	**0.77**	**341**	*e*P		**Pn**	**17 38 25.0**	**-0.1**
JAYA	**Jayaque - finc**	**0.78**	**326**	*e*P		**Pg**	**17 38 24.5**	**+0.7**
JAYA				IAML			17 38 37.0	
	comp=Z,2μm,0.2s							
JAYA	**Jayaque - finc**	**0.78**	**326**	*i* P		**Pg**	**17 38 24.5**	**+0.7**
JAYA				*i* S		**Sg**	**17 38 35.2**	**+1.2**
JAYA				IAML			17 38 37.1	
	comp=Z,6μm,1.0s							
LCY	**Lacayo**	**0.80**	**59**	*e*P		**Pg**	**17 38 25.3**	**+1.0**
LCY				*e*S		**Sn**	**17 38 36.7**	**-0.4**
PACA	**Pacayal**	**0.80**	**55**	*e*P		**Pn**	**17 38 25.5**	**+0.1**
PACA	**Pacayal**	**0.80**	**55**	*i* P		**Pn**	**17 38 26.1**	**+0.7**
PACA				*i* S		**Sn**	**17 38 38.4**	**+1.3**
PACA				IAML			17 38 38.9	
	comp=Z,19μm,1.0s							
RANC	**El Ranchito**	**0.81**	**59**	*i* P		**Pg**	**17 38 25.4**	**+0.9**
RANC				*i* S		**Sn**	**17 38 37.8**	**+0.4**
RANC				IAML			17 38 38.6	
	comp=Z,1μm,1.0s							
BLLM	**Bellamira**	**0.86**	**60**	*e*P		**Pg**	**17 38 26.0**	**+0.7**
BLLM				*e*S		**Sg**	**17 38 37.8**	**+1.1**
CEVE	**Cerro Verde**	**1.01**	**323**	*i* P		Pg	17 38 36.1	+7.8
UNIC	**Universidad Ca**	**1.10**	**331**	*i* P		**Pn**	**17 38 29.5**	**0.0**
UNIC				IAML			17 38 29.9	
	comp=Z,460nm,1.0s							
LCND	**La Caada**	**1.12**	**75**	*e*P		**Pn**	**17 38 29.3**	**-0.4**
LCND				IAML			17 38 48.3	
	comp=Z,539nm,0.3s							
LCND	**La Caada**	**1.12**	**75**	*i* P		**Pn**	**17 38 29.2**	**-0.4**
LCND				*i* S		**Sn**	**17 38 44.8**	**0.0**
LCND				IAML			17 38 48.1	
	comp=Z,610nm,1.0s							
LLGN	**La Laguna**	**1.15**	**3**	*i* P		**Pn**	**17 38 28.4**	**-1.7**
NUBE	**Las Nubes**	**1.17**	**320**	*e*P		**Pn**	**17 38 29.9**	**-0.6**
NUBE	**Las Nubes**	**1.17**	**320**	*i* P		**Pn**	**17 38 29.9**	**-0.6**
NUBE				*i* S		**Sb**	**17 38 45.3**	**-0.2**
NUBE				IAML			17 38 45.8	
	comp=Z,960nm,1.0s							
CNCH	**Conchagua**	**1.17**	**77**	*e*P		**Pn**	**17 38 29.7**	**-0.7**
CNCH	**Conchagua**	**1.17**	**77**	*i* P		**Pn**	**17 38 29.8**	**-0.7**
CNCH				IAML			17 38 52.5	
	comp=Z,890nm,1.0s							
AMPH	**Amapala**	**1.34**	**78**	*e*P		**Pn**	**17 38 32.1**	**-0.5**
CSGN	**Cosiguina

Fault plane solution: $M_0$1.09000×10^{19} NP1: ϕ_s207.54000°,δ72.54000°,λ166.96000°. NP2: ϕ_s301.51000°,δ77.57000°,λ17.89000°. Principal axes: T 1.1209, Plg21.0000°, Azm165.0000°; N -0.0693, Plg68.0000°, Azm335.0000°; P -1.0516, Plg3.0000°, Azm74.0000°;

*NEIC **08** 17:39:52.2,4°.41S×153°.17E,h25km*

*DJA **08** 17:39:52.4±0.5,4°S×2°×15°3E±°,h36km±4km,M6.6/137, mb6.4/137,mB6.9/132,MLv7.1/3,Mw6.8/53, Mw(mB)6.7/132,MwMwp6.4/118,Mwp6.3/118*

*GCMT **08** 17:39:59.1±0.0,4°.37S×153°.26E,h33km,MW6.8/177, Moment Tensor Solution. s177,c467; s176,c829; Duration: 5s9 Moment tensor: Scale 10^{19}Nm; M_{rr}0.22±.01; $M_{\theta\theta}$1.48±.01; $M_{\phi\phi}$-1.70±.01; $M_{r\theta}$-0.64±.01; $M_{\theta\phi}$0.50±.01; $M_{\phi r}$-0.14±.01; Best double couple: $M_0$1.80000×10^{19} NP1:ϕ_s214.00000°,δ75.00000°, λ163.00000°. NP2:ϕ_s309.00000°,δ74.00000°,λ15.00000°. Principal axes: T 1.8230, Plg22.0000°, Azm171.0000°; N -0.0470, Plg68.0000°, Azm355.0000°; P -1.7770, Plg1.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 08 17:39:51.5±0.3,4°44S×0.0°03×153°23E×0.0°03,h29km±1km, h31km;pP-P,n2183,σ2s02/2032,mb6.3/411,MS6.7/495, 115C-91D,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.09**	**283**		**Pn**	**17 40 11.0**	**+0.1**
RABL	**Rabaul**	**1.09**	**283**	P	**Pb**	**17 40 14.3**	**+2.4**
RABL	**Rabaul**	**1.09**	**283**	↑P	**Pn**	**17 40 10.0**	**-0.9**
KRVT	**Keravat (AS076**	**1.21**	**276**	Pn	**Pb**	**17 40 13.5**	**-0.3**
	baz=214,slow=0.0						
KRVT				LR	LR	17 40 32.1	
	comp=Z,25μm,20.3s,baz=11,slow=33						
I40PG	**Keravat**	**1.22**	**277**	Pn	**Pb**	**17 40 15.7**	**+1.6**
	baz=188,slow=67						
I40PG				I	I	17 45 10.0	
	0.1nm,0.6s,baz=92,slow=301,SNR=1.1						
MANU	**Manus Island**	**6.32**	**292**	Pn	**Pn**	**17 41 24.6**	**+1.8**
MANU	**Manus Island**	**6.32**	**292**	P	**Pn**	**17 41 27.1**	**+4.3**
MANU	**Manus Island**	**6.32**	**292**	↓P	**Pn**	**17 41 25.5**	**+2.7**
PMG	**Port Moresby**	**7.79**	**230**	Pn	**Pn**	**17 41 46.4**	**+3.5**
PMG	**Port Moresby**	**7.79**	**230**	P	Pn	17 41 47.8	+4.9
PMG	**Port Moresby**	**7.79**	**230**	P	**Pn**	**17 41 47.7**	**+4.8**
PMG	**Port Moresby**	**7.79**	**230**	↑P	**Pn**	**17 41 46.4**	**+3.5**
PMG	**Port Moresby**	**7.79**	**230**	Pn	**Pn**	**17 41 47.4**	**+4.5**
	61nm,0.3s,baz=45,slow=6.6,SNR=168						
PMG				Sn	**Sn**	**17 43 16.2**	**+6.1**
	220nm,0.3s,baz=217,slow=20,SNR=2.6						
HNR	**Honiara**	**8.31**	**127**	Pn	**Pn**	**17 41 52.4**	**+2.3**
HNR				Sn	**Sn**	**17 43 24.6**	**+1.6**
HNR	**Honiara**	**8.31**	**127**	P	**Pn**	**17 41 54.0**	**+3.9**
HNR	**Honiara**	**8.31**	**127**	↓P	**Pn**	**17 41 51.6**	**+1.5**
HNR	**Honiara**	**8.31**	**127**	↓P	**Pn**	**17 41 51.9**	**+1.8**
HNR	**Honiara**	**8.31**	**127**	Pn	**Pn**	**17 41 52.9**	**+2.8**
	5μm,0.3s,baz=184,slow=6.0,SNR=157						
PATS	**Pohnpei**	**12.30**	**24**	P	**Pn**	**17 42 42.4**	**-2.4**
	baz=12,SNR=57						
PATS	**Pohnpei**	**12.30**	**24**	Pn	**Pn**	**17 42 42.0**	**-2.9**
GENI	**Genyem**	**13.17**	**278**	P	**Pn**	**17 43 00.7**	**+4.0**
GENI	**Genyem**	**13.17**	**278**	↓P	**Pn**	**17 42 59.4**	**+2.8**
GENI	**Genyem**	**13.17**	**278**	P	**Pn**	**17 42 59.5**	**+2.8**
	10μm,2.1s,249μm475μm						
MMPI	**Merauke**	**13.37**	**252**	P	**Pn**	**17 43 01.5**	**+2.0**
	7μm,1.6s,114μm486μm						
MMPI				S	**Sn**	**17 45 29.6**	**+2.3**
	7μm,1.6s,114μm486μm						
COEN	**Coen**	**13.70**	**226**	P	**Pn**	**17 43 07.8**	**+3.9**
	baz=14,SNR=102						
COEN	**Coen**	**13.70**	**226**	Pn	**Pn**	**17 43 07.9**	**+3.9**
COEN	**Coen**	**13.70**	**226**	P	**P**	**17 43 08.3**	**-4.0**
COEN	**Coen**	**13.70**	**226**	↑P	**Pn**	**17 43 07.5**	**+3.5**
TV1H	**Townsville Har**	**16.01**	**203**	P	**P**	**17 43 38.7**	**+0.7**
MTSU	**Mount Surprise**	**16.16**	**212**	P	**P**	**17 43 38.6**	**-1.1**
	baz=16,SNR=163						
MTSU	**Mount Surprise**	**16.16**	**212**	P	**P**	**17 43 39.9**	**+0.2**
CTA	**Charters Tower**	**16.97**	**203**	P	**P**	**17 43 50.5**	**+1.8**
CTA	**Charters Tower**	**16.97**	**203**	P	**P**	**17 43 48.3**	**-0.3**
	3.1nm,0.3s,baz=22,slow=12,SNR=33						
CTA				S	**S**	**17 47 01.2**	**-3.1**
	151nm,1.0s,baz=10,slow=11,SNR=2.2						
CTA				LR	LR	17 49 56.3	
	comp=Z,197μm,21.0s,baz=22,slow=36						
	80nm,0.9s						
CTAO	**Charters Tower**	**16.97**	**203**	P	**P**	**17 43 50.4**	**+1.8**
CTAO	**Charters Tower**	**16.97**	**203**	P	**P**	**17 43 50.3**	**+1.7**
CTAO	**Charters Tower**	**16.97**	**203**	P	**P**	**17 43 50.4**	**+1.8**
CTAO				pmax	pmax		
	comp=Z,3μm,1.4s						
CTAO	**Charters Tower**	**16.97**	**203**	↑P	**P**	**17 43 49.8**	**+1.2**
RK1H	**Rockhampton Ha**	**19.02**	**188**	P	**Pn**	**17 44 13.8**	**+1.7**
KOUNC	**Koumac, New Ca**	**19.29**	**147**	P	**Pn**	**17 44 15.3**	**0.0**
KOUNC	**Koumac, New Ca**	**19.29**	**147**	P	**Pn**	**17 44 16.2**	**+0.9**
KOUNC	**Koumac, New Ca**	**19.29**	**147**	↑P	**Pn**	**17 44 15.5**	**+0.2**
TARA	**Tarawa**	**20.50**	**74**	P	**P**	**17 44 28.2**	**+0.7**
QIS	**Mount Isa**	**20.79**	**218**	P	Pn	17 44 31.9	-1.2
	baz=21,SNR=80						
QIS	**Mount Isa**	**20.79**	**218**	P	Pn	17 44 32.5	-0.6
EIDS	**Eidsvold**	**20.91**	**185**	P	Pn	17 44 35.1	+0.8
	baz=21,SNR=201						
EIDS	**Eidsvold**	**20.91**	**185**	P	Pn	17 44 33.7	-0.7
EIDS				IAmb	IAmb	17 44 49.7	
	comp=Z,2μm,1.1s						
EIDS	**Eidsvold**	**20.91**	**185**	P	Pn	17 44 33.8	-0.6
EIDS	**Eidsvold**	**20.91**	**185**	↑P	Pn	17 44 34.0	-0.4
FAKI	**Fak Fak**	**20.99**	**273**		Pn	17 44 34.5	-0.9
FAKI				IAMs_20	IAMs_20	17 52 46.5	
	comp=Z,335μm,20.0s						
FAKI	**Fak Fak**	**20.99**	**273**	P	Pn	17 44 35.3	-0.2
FAKI	**Fak Fak**	**20.99**	**273**	↓P	**P**	**17 44 32.4**	**-0.4**
FAKI	**Fak Fak**	**20.99**	**273**	P	Pn	17 44 34.2	-1.3
	comp=Z,5μm,1.6s,comp=Z,136μmcomp=Z,214μm						
LIFNC	**LIFOU**	**21.19**	**141**	P	**P**	**17 44 35.4**	**+0.6**
LIFNC	**LIFOU**	**21.19**	**141**	P	**P**	**17 44 36.5**	**+1.6**
NOUC	**Port Laguerre**	**21.65**	**145**	P	**P**	**17 44 41.0**	**+1.3**
DZM	**Mont Dzumac**	**21.70**	**145**	P	**P**	**17 44 41.1**	**+0.7**
DZM				IAmb	IAmb	17 45 02.6	
	comp=Z,3μm,1.1s						
DZM	**Mont Dzumac**	**21.70**	**145**	P	**P**	**17 44 41.7**	**+1.3**
DZM	**Mont Dzumac**	**21.70**	**145**	↑P	**P**	**17 44 40.4**	**-0.1**
DZM	**Mont Dzumac**	**21.70**	**145**	P	**P**	**17 44 40.4**	**-0.1**
	comp=Z,275nm,0.9s,baz=321,slow=9.4,SNR=59						
DZM				S	**S**	**17 48 42.0**	**+2.6**
	comp=Z,48nm,1.1s,baz=49,slow=20,SNR=1.1						
DZM				LR	LR	17 52 46.1	
	comp=Z,107μm,19.0s,baz=318,slow=36						
	comp=Z,275nm,0.9s						
ONTNC	**Ouen Toro**	**21.90**	**145**	P	**P**	**17 44 42.6**	**+0.2**
ONTNC	**Ouen Toro**	**21.90**	**145**	P	**P**	**17 44 44.6**	**+2.2**
ONTNC	**Ouen Toro**	**21.90**	**145**	↑P	**P**	**17 44 42.3**	**-0.1**
SAUI	**Saumlaki**	**22.08**	**260**	P	**P**	**17 44 43.5**	**-1.0**
SAUI				IAMs_20	IAMs_20	17 54 26.8	
	comp=Z,272μm,20.0s						
SAUI	**Saumlaki**	**22.08**	**260**	↓P	**P**	**17 44 44.4**	**-0.1**
SAUI	**Saumlaki**	**22.08**	**260**	P	**P**	**17 44 45.5**	**+1.0**
	comp=Z,3μm,1.4s,comp=Z,77μmcomp=Z,223μm						
KDU	**Kakadu**	**22.08**	**247**	P	**P**	**17 44 43.9**	**-0.5**
	baz=22,SNR=870						
KDU	**Kakadu**	**22.08**	**247**	P	**P**	**17 44 45.2**	**+0.7**
OUENC	**Ouen Island, N**	**22.20**	**145**	P	**P**	**17 44 46.2**	**+0.5**
OUENC				IAmb	IAmb	17 45 07.3	
	comp=Z,1μm,0.9s						
OUENC	**Ouen Island, N**	**22.20**	**145**	P	**P**	**17 44 47.4**	**+1.7**
MARNC	**Mare, Loyalty**	**22.21**	**141**	P	**P**	**17 44 46.5**	**+0.8**
MARNC	**Mare, Loyalty**	**22.21**	**141**	P	**P**	**17 44 46.9**	**+1.1**
MARNC	**Mare, Loyalty**	**22.21**	**141**	↓P	**P**	**17 44 47.3**	**+1.5**
SWI	**Sorong**	**22.23**	**279**	P	**P**	**17 44 46.1**	**0.0**
SWI				pmax	pmax		
	comp=Z,3μm,1.0s						
SWI	**Sorong**	**22.23**	**279**	P	**P**	**17 44 46.3**	**+0.2**
	comp=Z,3μm,1.1s,comp=Z,68μmcomp=Z,161μm						
RMQ	**Roma**	**22.33**	**191**	P	**P**	**17 44 49.6**	**+2.6**
	baz=22,SNR=20						
RMQ	**Roma**	**22.33**	**191**	P	**P**	**17 44 49.7**	**+2.6**
PINNC	**Pines Island,**	**22.71**	**144**	P	**P**	**17 44 51.2**	**+0.1**
PINNC				IAmb	IAmb	17 45 15.7	
	comp=Z,1μm,1.1s						
PINNC	**Pines Island,**	**22.71**	**144**	P	**P**	**17 44 53.1**	**+2.0**
BNDI	**Bandanaira**	**23.25**	**269**	P	**P**	**17 44 57.5**	**+0.7**
BNDI	**Bandanaira**	**23.25**	**269**	↓P	**P**	**17 44 56.3**	**-0.5**
BNDI	**Bandanaira**	**23.25**	**269**	P	**P**	**17 44 57.1**	**+0.3**
	comp=Z,5μm,1.8s,comp=Z,104μmcomp=Z,184μm						
MTN	**Manton Dam**	**23.37**	**248**	P	**P**	**17 44 57.2**	**-0.7**
	baz=23,SNR=268						
MTN	**Manton Dam**	**23.37**	**248**	P	**P**	**17 44 56.8**	**-1.1**
MTN	**Manton Dam**	**23.37**	**248**	P	**P**	**17 44 59.2**	**+1.3**
MTN	**Manton Dam**	**23.37**	**248**	↑P	**P**	**17 44 57.3**	**-0.6**
DRS	**Darwin Rock St**	**23.45**	**249**	P	**P**	**17 45 00.5**	**+1.8**
QLP	**Quilpie**	**23.64**	**200**	P	**P**	**17 45 01.4**	**+1.0**
	baz=24,SNR=274						
QLP	**Quilpie**	**23.64**	**200**	P	**P**	**17 45 01.7**	**+1.3**
QLP	**Quilpie**	**23.64**	**200**	↑P	**P**	**17 45 01.4**	**+1.0**
WB0	**Warramunga Arr**	**23.85**	**229**	P	**P**	**17 45 02.6**	**0.0**
WR0	**Warramunga Arr**	**23.86**	**228**	P	**P**	**17 45 02.0**	**-0.6**
WRAB	**Tennant Creek**	**23.99**	**228**	P	**P**	**17 45 04.3**	**+0.5**
WRAB	**Tennant Creek**	**23.99**	**228**	*c* *i*P	**P**	**17 45 04.3**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,4μm,1.7s						
WRAB				MLR	MLR		
	comp=Z,141μm,17.0s						
WRA	**Warramunga Arr**	**24.00**	**228**	P	**P**	**17 45 04.0**	**+0.1**
	comp=Z,1μm,0.7s,baz=53,slow=9.6,SNR=518						
WRA				S	**S**	**17 49 21.0**	**+1.7**
	comp=Z,318nm,1.1s,baz=44,slow=16,SNR=10						
WRA				ScP	**ScP**	**17 52 21.6**	**-0.7**
	comp=Z,197nm,1.1s,baz=50,slow=3.1,SNR=6.3						
WRA				LR	LR	17 55 04.7	
	comp=Z,127μm,18.6s,baz=56,slow=38						
ARMA	**Armidale**	**25.88**	**183**	P	**P**	**17 45 23.1**	**+2.1**
	baz=26,SNR=310						
ARMA	**Armidale**	**25.88**	**183**	P	**P**	**17 45 22.2**	**+1.1**
ARMA	**Armidale**	**25.88**	**183**	P	**P**	**17 45 23.4**	**+2.4**
ARMA	**Armidale**	**25.88**	**183**	↑P	**P**	**17 45 22.3**	**+1.3**
LBMI	**Labuha**	**25.98**	**278**	P	**P**	**17 45 22.9**	**+0.9**
	comp=Z,4μm,1.2s,comp=Z,89μm						
INKA	**Innaminka**	**26.05**	**206**	P	**P**	**17 45 24.0**	**+1.6**
NLAI	**Namlea**	**26.10**	**272**	P	**P**	**17 45 23.6**	**+0.5**
	comp=Z,729nm,1.4s,comp=Z,20μm						
FUNA	**Funafuti**	**26.11**	**100**	P	**P**	**17 45 23.3**	**+0.1**
FUNA	**Funafuti**	**26.11**	**100**	↑P	**P**	**17 45 23.4**	**+0.2**
TNTI	**Ternate**	**26.36**	**281**	P	**P**	**17 45 26.9**	**+1.5**
TNTI				IAmb	IAmb	17 45 48.6	
	comp=Z,1μm,1.2s						
TNTI	**Ternate**	**26.36**	**281**	P	**P**	**17 45 26.9**	**+1.5**
TNTI	**Ternate**	**26.36**	**281**	↓P	**P**	**17 45 25.4**	**0.0**
TNTI	**Ternate**	**26.36**	**281**	P	**P**	**17 45 25.9**	**+0.5**
	comp=Z,1μm,1.3s,comp=Z,31μmcomp=Z,54μm						
H11S3	**WAKE ISLAND Hy**	**26.37**	**30**	T	T	18 12 58.6	
	baz=210,slow=76,SNR=543						
H11S2	**WAKE ISLAND Hy**	**26.38**	**30**	T	T	18 13 02.3	
	baz=210,slow=76,SNR=697						
H11S1	**WAKE ISLAND Hy**	**26.39**	**30**	T	T	18 13 00.7	
	baz=210,slow=76,SNR=606						
KNRA	**Kunurra**	**26.51**	**243**	P	**P**	**17 45 27.8**	**+1.1**
	baz=26,SNR=1000						
KNRA	**Kununurra**	**26.51**	**243**	P	**P**	**17 45 29.4**	**+2.6**
AS01	**Alice Springs**	**26.67**	**222**	P	**P**	**17 45 29.5**	**+1.3**
AS31	**Alice Springs**	**26.70**	**222**	P	**P**	**17 45 28.3**	**-0.1**
ASAR	**Alice Springs**	**26.70**	**222**	P	**P**	**17 45 27.8**	**-0.7**
ASAR	**Alice Springs**	**26.70**	**222**	P	**P**	**17 45 28.4**	**-0.1**
	comp=Z,336nm,1.0s,baz=56,slow=8.5,SNR=281						
ASAR				S	**S**	**17 50 05.0**	**+2.7**
	comp=Z,66nm,1.0s,baz=49,slow=14,SNR=3.2						
ASAR				ScP	**ScP**	**17 52 30.1**	**+0.2**
	comp=Z,40nm,0.8s,baz=41,slow=2.8,SNR=6.6						
ASAR				LR	LR	17 57 43.0	
	comp=Z,158μm,19.0s,baz=53,slow=40						
ASAR				P3KPbc		18 18 17.0	
	comp=Z,0.5nm,0.8s,baz=212,slow=2.8,SNR=2.4						
	comp=Z,336nm,1.0s						
ASPA	**Alice Springs**	**26.70**	**222**	P	**P**	**17 45 28.6**	**+0.1**
	baz=27						
YSA	**Yasawairara**	**26.81**	**119**	P	**P**	**17 45 30.9**	**+1.4**
WAKE	**Wake Island**	**27.03**	**29**	P	**P**	**17 45 31.3**	**0.0**
WAKE				IAmb	IAmb	17 45 51.8	
	comp=Z,2μm,1.9s						
SANI	**Sanana**	**27.30**	**274**	P	**P**	**17 45 36.0**	**+2.1**
SANI	**Sanana**	**27.30**	**274**	P	**P**	**17 45 32.2**	**-1.7**
SANI	**Sanana**	**27.30**	**274**	↓P	**P**	**17 45 33.8**	**-0.1**
SANI	**Sanana**	**27.30**	**274**	P	**P**	**17 45 34.1**	**+0.2**
	comp=Z,889nm,0.9s,comp=Z,32μmcomp=Z,90μm						
LHI	**Lord Howe Isla**	**27.49**	**169**	IAmb	IAmb	17 46 02.0	
	comp=Z,1μm,1.4s						
LHI				IAMs_20	IAMs_20	17 54 44.1	
	comp=Z,190μm,22.0s						
LHI	**Lord Howe Isla**	**27.49**	**169**	P	**P**	**17 45 37.5**	**+2.1**
LHI	**Lord Howe Isla**	**27.49**	**169**	↑P	**P**	**17 45 36.4**	**+1.0**
H11N1	**WAKE ISLAND Hy**	**27.51**	**29**	T	T	18 14 37.2	
	baz=194,slow=76,SNR=336						
H11N3	**WAKE ISLAND Hy**	**27.52**	**29**	T	T	18 14 36.0	
	baz=194						
H11N2	**WAKE ISLAND Hy**	**27.53**	**29**	T	T	18 14 36.3	
	baz=194,slow=76,SNR=223						
MSVF	**Nonsavu**	**27.65**	**120**	P	**P**	**17 45 37.6**	**+0.5**
MSVF				IAMs_20	IAMs_20	17 56 03.7	
	comp=Z,257μm,18.0s						
MSVF	**Nonsavu**	**27.65**	**120**	P	**P**	**17 45 37.6**	**+0.5**
MSVF				pmax	pmax		
	comp=Z,2μm,1.2s						
MSVF				MLR	MLR		
	comp=Z,257μm,18.0s						
CMSA	**Cobar Meteorol**	**27.87**	**194**	P	**P**	**17 45 39.5**	**+0.7**
	baz=28,SNR=267						
CMSA	**Cobar Meteorol**	**27.87**	**194**	P	**P**	**17 45 39.6**	**+0.8**
DGTI	**Dogotuki**	**28.57**	**116**	P	**P**	**17 45 46.1**	**+0.9**
OOD	**Oodnadatta**	**28.61**	**214**	P	**P**	**17 45 45.9**	**+0.5**
MGCD	**Mangrove Creek**	**28.69**	**184**	P	**P**	**17 45 48.1**	**+2.0**
	baz=29,SNR=81						
MGCD	**Mangrove Creek**	**28.69**	**184**	P	**P**	**17 45 48.0**	**+2.0**
SGSI	**Sangihe**	**28.83**	**286**	P	**P**	**17 45 47.8**	**+0.2**
	comp=Z,2μm,1.7s,comp=Z,38μmcomp=Z,61μm						
TAVE	**Taveuni**	**29.03**	**117**	P	**P**	**17 45 50.8**	**+1.5**
SOEI	**Soe**	**29.21**	**258**	IAmb	IAmb	17 46 54.8	
	comp=Z,725nm,0.9s						
SOEI	**Soe**	**29.21**	**258**	P	**P**	**17 45 52.7**	**+1.6**
SOEI	**Soe**	**29.21**	**258**	P	**P**	**17 45 51.9**	**+0.8**
SOEI	**Soe**	**29.21**	**258**	↓P	**P**	**17 45 52.2**	**+1.1**
SOEI	**Soe**	**29.21**	**258**	P	**P**	**17 45 51.7**	**+0.6**
	comp=Z,689nm,1.3s,comp=Z,25μmcomp=Z,138μm						
SYDH	**Sydney Hard Ro**	**29.26**	**184**	P	**P**	**17 45 52.7**	**+1.6**
STKA	**Stephens Creek**	**29.39**	**200**	P	**P**	**17 45 52.6**	**+0.2**
	baz=30,SNR=219						
STKA	**Stephens Creek**	**29.39**	**200**	P	**P**	**17 45 52.5**	**+0.1**
STKA	**Stephens Creek**	**29.39**	**200**	P	**P**	**17 45 52.6**	**+0.2**
STKA	**Stephens Creek**	**29.39**	**200**	*c* *i*P	**P**	**17 45 52.7**	**+0.3**
STKA	**Stephens Creek**	**29.39**	**200**	P	**P**	**17 45 52.6**	**+0.2**
	comp=Z,374nm,0.8s,baz=8.9,slow=9.2,SNR=325						
STKA				ScP	**ScP**	**17 52 40.5**	**+2.4**
	comp=Z,73nm,1.0s,baz=44,slow=9.1,SNR=3.9						
STKA				LR	LR	17 57 47.3	
	comp=Z,168μm,20.4s,baz=14,slow=36						
	comp=Z,374nm,0.8s						
LCRK	**Leigh Creek**	**29.49**	**207**	P	**P**	**17 45 53.7**	**+0.4**
KMSI	**Cibinong**	**29.64**	**279**	P	**P**	**17 45 55.8**	**+1.0**
	comp=Z,4μm,0.8s,comp=Z,44μmcomp=Z,62μm						
DAV	**Davao City (W)**	**29.87**	**292**	P	**P**	**17 45 56.8**	**-0.1**
DAV	**Davao City (W)**	**29.87**	**292**	↓*i*P	**P**	**17 46 00.0**	**+3.2**
DAV	**Davao City (W)**	**29.87**	**292**	P	**P**	**17 45 57.7**	**+0.9**
DAV				P	**P**	**17 45 57.7**	**+0.9**
DAV				S	**S**	**17 50 49.0**	**-3.4**
DAV				S	**S**	**17 50 49.0**	**-3.4**
YNG	**Young**	**30.04**	**188**	P	**P**	**17 45 59.8**	**+1.7**
	baz=30,SNR=209						
YNG	**Young**	**30.04**	**188**	P	**P**	**17 46 00.0**	**+1.9**
FITZ	**Fitzroy Crossi**	**30.20**	**241**	P	**P**	**17 45 59.0**	**-0.7**
	baz=30,SNR=852						
FITZ	**Fitzroy Crossi**	**30.20**	**241**	IAmb	IAmb	17 46 09.9	
	comp=Z,555nm,1.1s						
FITZ	**Fitzroy Crossi**	**30.20**	**241**	P	**P**	**17 45 59.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**30.20**	**241**	↑P	**P**	**17 45 59.0**	**-0.7**
BBSI	**Bau Bau**	**30.56**	**267**	P	**P**	**17 46 04.8**	**+1.9**
	comp=Z,790nm,1.8s,comp=Z,13μmcomp=Z,67μm						
LUWI	**Luwuk**	**30.61**	**275**	P	**P**	**17 46 05.4**	**+2.1**
LUWI	**Luwuk**	**30.61**	**275**	P	**P**	**17 46 02.1**	**-1.2**
LUWI	**Luwuk**	**30.61**	**275**	↓P	**P**	**17 46 02.5**	**-0.8**
LUWI	**Luwuk**	**30.61**	**275**	P	**P**	**17 46 03.9**	**+0.6**
	comp=Z,2μm,1.1s,comp=Z,24μmcomp=Z,71μm						
GTOI	**Gorontalo**	**30.61**	**279**	P	**P**	**17 46 05.1**	**+1.7**
	comp=Z,424nm,0.9s,comp=Z,8μmcomp=Z,19μm						
CNB	**Canberra Magne**	**30.93**	**186**	P	**P**	**17 46 08.0**	**+2.0**
	baz=31,SNR=222						
CNB	**Canberra Magne**	**30.93**	**186**	P	**P**	**17 46 08.1**	**+2.1**
CAN	**Canberra**	**30.97**	**187**	P	**P**	**17 46 07.3**	**+1.0**
CAN				IAMs_20	IAMs_20	17 59 07.5	
	comp=Z,171μm,18.0s						
CAN	**Canberra**	**30.97**	**187**	P	**P**	**17 46 08.1**	**+1.7**
CAN	**Canberra**	**30.97**	**187**	P	**P**	**17 46 07.4**	**+1.0**
CAN				pmax	pmax		
	comp=Z,1μm,1.2s						
CAN				MLR	MLR		
	comp=Z,171μm,18.0s						
CAN	**Canberra**	**30.97**	**187**	↑P	**P**	**17 46 08.1**	**+1.7**
MMRI	**Maumere**	**31.06**	**261**	P	**P**	**17 46 08.9**	**+1.5**
MMRI	**Maumere**	**31.06**	**261**	↓P	**P**	**17 46 06.3**	**-1.1**
MMRI	**Maumere**	**31.06**	**261**	P	**P**	**17 46 06.0**	**-1.4**
	comp=Z,991nm,1.4s,comp=Z,12μmcomp=Z,97μm						
MULG	**Mulgathing**	**31.43**	**213**	P	**P**	**17 46 10.1**	**-0.3**
WRKA	**Warakurna**	**31.51**	**227**	P	**P**	**17 46 10.9**	**-0.4**
	baz=32,SNR=301						
WRKA	**Warakurna**	**31.51**	**227**	P	**P**	**17 46 11.5**	**+0.2**
WRKA	**Warakurna**	**31.51**	**227**	↑P	**P**	**17 46 10.9**	**-0.4**
EDFI	**Ende, Flores**	**31.61**	**261**	P	**P**	**17 46 10.8**	**-1.5**
	comp=Z,393nm,0.8s,comp=Z,7μmcomp=Z,76μm						
MRSI	**Marisa**	**31.64**	**278**	P	**P**	**17 46 12.2**	**-0.3**
	comp=Z,417nm,1.2s,comp=Z,8μmcomp=Z,50μm						
HTT	**Hallett**	**31.78**	**203**	P	**P**	**17 46 14.0**	**+0.5**
	baz=32,SNR=392						
HTT	**Hallett**	**31.78**	**203**	P	**P**	**17 46 14.2**	**+0.7**
HTT	**Hallett**	**31.78**	**203**	P	**P**	**17 46 14.2**	**+0.7**
HTT	**Hallett**	**31.78**	**203**	↑P	**P**	**17 46 13.9**	**+0.5**
PTPS	**Port Pirie**	**31.93**	**205**	P	**P**	**17 46 16.1**	**+1.4**
WHYH	**Whyalla**	**31.98**	**205**	P	**P**	**17 46 16.0**	**+0.8**
BBOO	**Buckleboo**	**32.47**	**208**	P	**P**	**17 46 19.6**	**+0.1**
	baz=33,SNR=236						
BBOO	**Buckleboo**	**32.47**	**208**	P	**P**	**17 46 19.3**	**-0.2**
BBOO	**Buckleboo**	**32.47**	**208**	P	**P**	**17 46 19.6**	**+0.1**
MILA	**Mila**	**32.67**	**186**	P	**P**	**17 46 23.2**	**+1.9**
	baz=33,SNR=140						
MILA	**Mila**	**32.67**	**186**	P	**P**	**17 46 23.4**	**+2.1**
MILA	**Mila**	**32.67**	**186**	↑P	**P**	**17 46 23.1**	**+1.9**
BASI	**Baing, Sumba**	**32.87**	**258**	P	**P**	**17 46 23.9**	**+0.6**
	comp=Z,2μm,1.4s,comp=Z,35μmcomp=Z,58μm						
TOLI2	**Tolitoli**	**32.89**	**279**	P	**P**	**17 46 22.8**	**-0.6**
TOLI2	**Tolitoli**	**32.89**	**279**	P	**P**	**17 46 24.2**	**+0.8**
BKSI	**Bulukumba**	**33.00**	**267**	P	**P**	**17 46 23.9**	**-0.5**
	comp=Z,373nm,1.2s,comp=Z,6μmcomp=Z,65μm						
JCJ	**Chichijima**	**33.12**	**342**	P	**P**	**17 46 24.4**	**-0.8**
JCJ	**Chichijima**	**33.12**	**342**	P	**P**	**17 46 27.8**	**+2.6**
JCJ	**Chichijima**	**33.12**	**342**	↑P	**P**	**17 46 27.1**	**+1.9**
JCJ	**Chichijima**	**33.12**	**342**	LR	LR	17 58 19.8	
	comp=Z,31μm,21.9s,baz=202,slow=34						
TTSI	**Tana Toraja**	**33.37**	**271**	P	**P**	**17 46 28.1**	**+0.5**
	comp=Z,432nm,1.3s,comp=Z,7μmcomp=Z,51μm						
KAPI	**Kappang**	**33.37**	**268**	P	**P**	**17 46 27.9**	**+0.3**
KAPI				IAmb	IAmb	17 46 31.1	
	comp=Z,590nm,1.1s						
KAPI	**Kappang**	**33.37**	**268**	*d* *i*P	**P**	**17 46 28.4**	**+0.8**
KAPI				pmax	pmax		
	comp=Z,724nm,1.1s						
KAPI				MLR	MLR		
	comp=Z,62μm,19.0s						
KAPI	**Kappang**	**33.37**	**268**	↓P

ABJI **Asem Bagus** 38.91 263 P **P** 17 47 13.9 -1.1
comp=Z,491nm,1.3s,comp=Z,8µmcomp=Z,37µm
JAGI **Jajag, Banyuwa** 39.02 262 IAmb IAmb 17 47 22.2
comp=Z,842nm,1.1s
JAGI **Jajag, Banyuwa** 39.02 262 P **P** 17 47 16.0 0.0
JAGI **Jajag, Banyuwa** 39.02 262 ⇓P **P** 17 47 13.5 -2.5
JAGI **Jajag, Banyuwa** 39.02 262 P **P** 17 47 13.7 -2.3
comp=Z,904nm,1.2s,comp=Z,8µmcomp=Z,39µm
KMMI **Kallanget** 39.14 264 P **P** 17 47 17.9 +0.9
HIZ **Hauiti** 39.21 153 IAmb IAmb 17 47 44.7
comp=Z,1µm,1.4s
HIZ **Hauiti** 39.21 153 P **P** 17 47 19.0 +1.8
HIZ **Hauiti** 39.21 153 P **P** 17 47 19.3 +2.1
JOW **Kunigami** 39.36 324 P **P** 17 47 19.1 +0.5
JOW **Kunigami** 39.36 324 P **P** 17 47 20.0 +1.4
JOW **Kunigami** 39.36 324 ⇓P **P** 17 47 19.9 +1.3
TLZ **Tolley Road** 39.38 152 P **P** 17 47 22.1 +3.4
BLJI **Banyuglugur** 39.53 263 P **P** 17 47 19.2 -1.1
comp=Z,331nm,0.8s,comp=Z,5µmcomp=Z,37µm
OMRZ **Omania** 39.60 151 P **P** 17 47 24.5 +4.0
VRZ **Vera Road** 39.66 153 P **P** 17 47 20.7 -0.3
HSRZ **Hossack Road** 39.70 151 P **P** 17 47 25.7 +4.4
GMJI **Gumukmas** 39.71 262 P **P** 17 47 19.8 -1.9
comp=Z,259nm,1.2s
MEEK **Meekatharra** 39.76 233 P **P** 17 47 21.4 -0.6
baz=40,SNR=1000
MEEK **Meekatharra** 39.76 233 P **P** 17 47 22.5 +0.5
WATZ **Wairara** 39.77 152 P **P** 17 47 25.7 +3.8
HRRZ **Handcock Road** 39.78 151 P **P** 17 47 26.0 +4.0
JAM **Amami Oshima** 39.80 327 *e*P **P** 17 47 24.2 +1.9
KMBL **Kambalda** 39.80 224 P **P** 17 47 22.6 +0.3
baz=40,SNR=111
KMBL **Kambalda** 39.80 224 P **P** 17 47 23.1 +0.8
TWVZ **Taurewa** 39.93 153 P **P** 17 47 25.4 +2.1
HAZ **Te Kaha** 40.03 149 P **P** 17 47 24.6 +0.6
WTVZ **West Tongariro** 40.03 153 P **P** 17 47 27.3 +3.1
URZ **Urewera** 40.08 150 P **P** 17 47 26.1 +1.7
URZ **Urewera** 40.08 150 ⇑P **P** 17 47 24.7 +0.3
URZ **Urewera** 40.08 150 LR LR 18 02 08.1
comp=Z,82µm,21.6s,baz=53,slow=33
URZ **Urewera** 40.08 150 P **P** 17 47 25.6 +1.2
COVZ **Chateau Observ** 40.08 153 P **P** 17 47 27.5 +3.0
FWVZ **Far West T-bar** 40.13 153 P **P** 17 47 26.9 +1.7
MXZ **Matakaoa Point** 40.15 149 IAmb IAmb 17 48 20.6
comp=Z,910nm,1.4s
MXZ IAMs_20 IAMs_20 18 02 40.8
comp=Z,92µm,19.0s
MXZ **Matakaoa Point** 40.15 149 P **P** 17 47 27.3 +2.3
TRVZ **Turoa** 40.16 153 P **P** 17 47 28.2 +2.8
WHVZ **Whangaehu Hut** 40.17 153 P **P** 17 47 28.9 +3.5
WNVZ **Wahianoa** 40.21 153 P **P** 17 47 27.9 +2.2
PKGZ **Pakihiroa** 40.28 149 P **P** 17 47 26.4 +0.3
RTZ **Ruatahuna** 40.29 151 IAmb IAmb 17 48 06.6
comp=Z,770nm,1.0s
MOVZ **Moawhango** 40.34 153 P **P** 17 47 29.1 +2.4
MWZ **Matawai** 40.34 150 P **P** 17 47 27.0 +0.3
BWJI **Bawean** 40.43 266 P **P** 17 47 28.5 +0.8
comp=Z,2µm,1.4s,comp=Z,22µmcomp=Z,42µm
TWGZ **Tauwhareparae** 40.45 149 P **P** 17 47 29.0 +1.4
BKZ **Black Stump Fm** 40.49 152 P **P** 17 47 28.7 +0.8
BKZ **Black Stump Fm** 40.49 152 P **P** 17 47 28.3 +0.4
SNGZ **Shannon Statio** 40.60 151 P **P** 17 47 29.7 +0.9
GRJI **Gresik** 40.62 265 P **P** 17 47 28.9 -0.3
comp=Z,701nm,1.3s,comp=Z,7µmcomp=Z,38µm
DSZ **Denniston Nort** 40.69 159 IAMs_20 IAMs_20 18 05 56.6
comp=Z,120µm,18.0s
NNZ **Nelson** 40.83 157 IAmb IAmb 17 48 04.2
comp=Z,512nm,1.0s
NNZ IAMs_20 IAMs_20 18 01 21.5
comp=Z,99µm,22.0s
THZ **Tophouse** 41.11 157 IAmb IAmb 17 48 05.9
comp=Z,807nm,0.9s
THZ IAMs_20 IAMs_20 18 01 19.0
comp=Z,97µm,22.0s
YOJ **Yonaguni jima** 41.11 316 P **P** 17 47 35.7 +2.6
YOJ pmax pmax
comp=Z,1µm,1.0s
YOJ **Yonaguni jima** 41.11 316 ⇑P P 17 47 26.9 -6.3
MRZ **Mangatainoka R** 41.28 154 IAmb IAmb 17 48 17.5
comp=Z,491nm,0.9s
PWJI **Pagerwojo** 41.32 263 P **P** 17 47 33.8 -1.2
comp=Z,633nm,1.1s,comp=Z,7µm
INZ **Inchbonnie** 41.42 160 IAMs_20 IAMs_20 18 02 38.0
comp=Z,128µm,21.0s
SNZO **South Karori** 41.45 155 P **P** 17 47 35.6 -0.1
SNZO IAmb IAmb 17 48 11.3
comp=Z,379nm,0.8s
SNZO **South Karori** 41.45 155 P **P** 17 47 37.2 +1.6
SNZO **South Karori** 41.45 155 ⇑P **P** 17 47 35.4 -0.2
TWGBT **Beinan** 41.48 312 P **P** 17 47 38.1 +1.9
BFZ **Birch Farm** 41.59 153 IAmb IAmb 17 48 07.5
comp=Z,1µm,1.5s
BFZ IAMs_20 IAMs_20 18 05 10.8
comp=Z,89µm,19.0s
BFZ **Birch Farm** 41.59 153 P **P** 17 47 37.4 +0.5
FOZ **Fox Glacier** 41.60 162 IAmb IAmb 17 47 39.3
comp=Z,550nm,0.9s
NGJI **Ngawi** 41.64 264 P **P** 17 47 38.1 +0.5
comp=Z,505nm,1.2s,comp=Z,8µmcomp=Z,42µm
YULB **Yu-li** 41.66 313 IAmb IAmb 17 47 54.0
comp=Z,703nm,1.1s
YULB **Yu-li** 41.66 313 P **P** 17 47 39.5 +1.8
LTZ **Lake Taylor** 41.76 159 P **P** 17 47 37.9 -0.4
LTZ IAmb IAmb 17 48 01.1
comp=Z,2µm,1.5s
LTZ IAMs_20 IAMs_20 18 02 17.0
comp=Z,135µm,22.0s
JCZ **Jackson Bay** 41.78 163 P **P** 17 47 40.0 +1.5
GIRL **Giralia** 41.81 241 P **P** 17 47 40.3 +1.3
baz=42,SNR=106
GIRL **Giralia** 41.81 241 P **P** 17 47 40.0 +1.0
GIRL **Giralia** 41.81 241 ⇑P **P** 17 47 40.2 +1.3
PLWZ **Palliser** 41.89 155 P **P** 17 47 38.2 -1.1
KHZ **Kahutara** 41.91 157 IAmb IAmb 17 48 17.7
comp=Z,742nm,1.0s
KHZ IAMs_20 IAMs_20 18 05 18.2
comp=Z,106µm,19.0s
KHZ **Kahutara** 41.91 157 P **P** 17 47 40.1 +0.6
KHZ **Kahutara** 41.91 157 ⇑P **P** 17 47 39.2 -0.3
NACB **Ninganchiao** 41.93 314 P **P** 17 47 41.5 +1.6
STKI **Sintang** 41.95 275 P **P** 17 47 41.4 +1.2
comp=Z,922nm,1.6s,comp=Z,16µmcomp=Z,39µm
TPUB **Ta-pu** 42.10 312 P **P** 17 47 40.9 -0.4
TPUB IAmb IAmb 17 48 20.6
comp=Z,524nm,1.0s
TPUB **Ta-pu** 42.10 312 P **P** 17 47 42.3 +1.0
JMN **Monobe** 42.14 336 P **P** 17 47 41.6 +0.1
JMN IAmb IAmb 17 48 09.2
comp=Z,683nm,1.3s
JMN **Monobe** 42.14 336 P **P** 17 47 42.0 +0.5
JMN **Monobe** 42.14 336 ⇑P **P** 17 47 46.0 +4.5
JMN **Monobe** 42.14 336 *e*P **P** 17 47 46.3 +4.7
OXZ **Oxford** 42.15 159 IAmb IAmb 17 48 16.1
comp=Z,592nm,1.0s
OXZ IAMs_20 IAMs_20 18 03 00.4
comp=Z,113µm,21.0s
SSLB **Suanglung** 42.15 313 IAmb IAmb 17 48 13.2
comp=Z,816nm,1.3s
SSLB IAMs_20 IAMs_20 18 02 55.1
comp=Z,87µm,19.0s
SSLB **Suanglung** 42.15 313 P **P** 17 47 42.7 +1.0
RPZ **Rata Peaks** 42.16 161 P **P** 17 47 41.4 -0.1
RPZ **Rata Peaks** 42.16 161 P **P** 17 47 42.5 +1.0
RPZ **Rata Peaks** 42.16 161 LR LR 18 03 27.5
comp=Z,243µm,21.0s,baz=326,slow=34
GVZ **Greta Valley S** 42.20 158 IAmb IAmb 17 48 22.1
comp=Z,795nm,0.8s
YHNB **Yeheng** 42.39 315 P **P** 17 47 45.5 +1.8
JOHN **Johnston Islan** 42.39 59 P **P** 17 47 44.6 +0.9
JOHN **Johnston Islan** 42.39 59 IAMs_20 IAMs_20 18 02 11.3
comp=Z,93µm,21.0s
INU **Inuyama** 42.41 340 P **P** 17 47 46.3 +2.7
INU **Inuyama** 42.41 340 ⇓P **P** 17 47 43.7 +0.1
JRY **Ryogami san** 42.43 343 *e*P **P** 17 47 44.0 +0.2
LBZ **Lake Benmore** 42.49 162 P **P** 17 47 43.6 -0.5
LBZ IAmb IAmb 17 47 46.9
comp=Z,624nm,0.9s
TATO **Taipei** 42.51 315 P **P** 17 47 43.7 -0.8
TATO IAmb IAmb 17 48 09.0
comp=Z,1µm,1.2s
TATO **Taipei** 42.51 315 IAMs_20 IAMs_20 18 01 54.1
comp=Z,105µm,22.0s
TATO **Taipei** 42.51 315 P **P** 17 47 46.1 +1.6
TATO **Taipei** 42.51 315 P **P** 17 47 44.3 -0.2

TATO S **S** 17 54 03.7 -1.4
JGF **Kuroka** 42.53 341 P **P** 17 47 47.3 +2.7
JGF **Kuroka** 42.53 341 ⇑P **P** 17 47 46.0 +1.3
UGM **Wanagama** 42.58 263 P **P** 17 47 44.6 -0.8
UGM **Wanagama** 42.58 263 P **P** 17 47 46.8 +1.4
UGM **Wanagama** 42.58 263 P **P** 17 47 44.8 -0.6
comp=Z,980nm,1.3s,comp=Z,16µmcomp=Z,40µm
DCZ **Deep Cove** 42.63 166 IAmb IAmb 17 47 47.7
comp=Z,602nm,1.0s
SMRI **Semarang** 42.64 264 P **P** 17 47 43.6 -2.3
SMRI IAmb IAmb 17 48 02.6
comp=Z,714nm,1.0s
SMRI **Semarang** 42.64 264 ⇓P **P** 17 47 46.2 +0.3
SMRI **Semarang** 42.64 264 P **P** 17 47 46.2 +0.3
comp=Z,762nm,1.3s,comp=Z,13µmcomp=Z,40µm
MQZ **McQueen's Vall** 42.70 159 IAmb IAmb 17 47 48.6
comp=Z,1µm,1.4s
MQZ IAMs_20 IAMs_20 18 03 27.0
comp=Z,92µm,21.0s
MLZ **Mavora Lakes** 42.79 165 P **P** 17 47 46.6 0.0
MLZ IAMs_20 IAMs_20 18 02 38.1
comp=Z,93µm,22.0s
YOGI **Yogyakarta** 42.81 263 P **P** 17 47 47.4 +0.2
comp=Z,828nm,1.0s,comp=Z,12µmcomp=Z,19µm
KLBR **Kellerberrin** 42.86 227 P **P** 17 47 46.3 -1.1
baz=43,SNR=136
KLBR **Kellerberrin** 42.86 227 P **P** 17 47 47.1 -0.3
MORW **Morawa** 42.90 231 P **P** 17 47 46.9 -0.9
baz=43,SNR=233
MORW **Morawa** 42.90 231 P **P** 17 47 47.0 -0.9
MORW **Morawa** 42.90 231 P **P** 17 47 48.2 +0.4
MORW **Morawa** 42.90 231 ⇑P **P** 17 47 46.9 -0.9
JWT **Wachi** 42.92 338 *e*P **P** 17 47 47.7 0.0
JNU **Nakatsue** 42.95 332 P **P** 17 47 47.5 -0.5
JNU IAmb IAmb 17 48 06.0
comp=Z,677nm,1.0s
JNU **Nakatsue** 42.95 332 P **P** 17 47 49.4 +1.4
JNU **Nakatsue** 42.95 332 ⇓P **P** 17 47 48.8 +0.7
JNU **Nakatsue** 42.95 332 *e*P **P** 17 47 48.8 +0.7
MIDW **Midway** 43.08 39 P **P** 17 47 49.6 +0.5
MIDW IAmb IAmb 17 48 06.4
comp=Z,2µm,1.9s
JAD **Aida** 43.09 337 *e*P **P** 17 47 53.5 +4.4
JGN **Niukaw** 43.11 341 *e*P **P** 17 47 49.8 +0.5
MJAR **Matsushiro Arr** 43.12 342 P **P** 17 47 49.4 0.0
comp=Z,15nm,0.8s,baz=172,slow=8.4,SNR=18
MJAR ScP **ScP** 17 53 26.8 -1.4
comp=Z,4.4nm,0.9s,baz=184,slow=3.3,SNR=2.0
MJAR LR LR 18 04 01.9
comp=Z,27µm,21.4s,baz=162,slow=34
comp=Z,15nm,0.8s
MAJO **Matsushiro** 43.12 342 P **P** 17 47 47.7 -1.7
MAJO **Matsushiro** 43.12 342 P **P** 17 47 49.9 +0.5
MAJO **Matsushiro** 43.12 342 *i*P **P** 17 47 48.7 -0.7
MAJO pmax pmax
comp=Z,414nm,1.6s
MAJO MLR MLR
comp=Z,41µm,17.0s
MAJO **Matsushiro** 43.12 342 ⇑P **P** 17 47 48.8 -0.6
MAT **Matsushiro** 43.12 342 *e*P **P** 17 47 50.1 +0.7
BLDU **Ballidu** 43.13 229 P **P** 17 47 48.7 -0.9
baz=43,SNR=210
BLDU **Ballidu** 43.13 229 P **P** 17 47 49.2 -0.4
PYZ **Puysegur Point** 43.18 166 IAMs_20 IAMs_20 18 04 23.3
comp=Z,88µm,20.0s
PYZ **Puysegur Point** 43.18 166 P **P** 17 47 51.2 +1.5
ODZ **Otahua Downs** 43.22 162 P **P** 17 47 50.0 -0.1
ODZ **Otahua Downs** 43.22 162 ⇑P **P** 17 47 50.0 -0.1
WHZ **Wether Hill Ro** 43.23 165 IAmb IAmb 17 47 51.9
comp=Z,467nm,0.9s
JHS **Saijyo** 43.56 336 *e*P **P** 17 47 52.9 0.0
JFU **Fukue jima 2** 43.60 330 *e*P **P** 17 47 55.2 +1.9
JMM **Marumori** 43.65 346 P **P** 17 47 56.3 +2.7
JMM **Marumori** 43.65 346 ⇓P **P** 17 47 55.0 +1.4
NWAO **Narrogin (SRO)** 43.94 225 P **P** 17 47 56.0 -0.1
baz=44,SNR=33
NWAO P **P** 17 47 56.0 -0.1
baz=44,SNR=33
NWAO **Narrogin (SRO)** 43.94 225 P **P** 17 47 55.0 -1.1
NWAO **Narrogin (SRO)** 43.94 225 IAMs_20 IAMs_20 18 06 33.1
comp=Z,106µm,20.0s
NWAO **Narrogin (SRO)** 43.94 225 P **P** 17 47 56.6 +0.5
NWAO **Narrogin (SRO)** 43.94 225 P **P** 17 47 57.2 +1.1
NWAO **Narrogin (SRO)** 43.94 225 P **P** 17 47 55.0 -1.1
NWAO pmax pmax
comp=Z,374nm,1.2s
NWAO MLR MLR
comp=Z,106µm,20.0s
NWAO **Narrogin (SRO)** 43.94 225 LR LR 18 06 55.6
comp=Z,100µm,20.5s,baz=50,slow=37
NWAO **Narrogin (SRO)** 43.94 225 P **P** 17 47 56.2 +0.1
NWAO P **P** 17 47 56.2 +0.1
NWAO S **S** 17 54 24.0 -2.0
NWAO S **S** 17 54 24.0 -2.0
KPJI **Karang Pucung** 44.15 264 P **P** 17 47 57.9 -0.1
comp=Z,862nm,1.2s,comp=Z,11µm
SYZ **Scrubby Hill** 44.15 164 P **P** 17 47 58.8 +1.4
MUN **Mundaring** 44.19 227 P **P** 17 47 58.1 +0.1
baz=44,SNR=36
MUN **Mundaring** 44.19 227 P **P** 17 47 58.7 +0.6
KNMB **Chin-men Tao** 44.44 312 P **P** 17 48 00.1 0.0
KNMB IAmb IAmb 17 48 25.0
comp=Z,783nm,1.1s
MTKN **Mount Kenneth** 44.48 228 P **P** 17 48 02.6 +2.2
JSD **Sado** 44.49 343 *e*P **P** 17 48 02.1 +1.8
QZH **Quanzhou** 44.57 313 ⇑*i*P **P** 17 48 02.8 +1.6
QZH sP **sP** 17 48 13.6 +0.3
QZH S **S** 17 54 36.4 +1.1
QZH sS **sS** 17 54 49.2 -1.1
QZH SS **SS** 17 57 50.0 -5.9
QZH pmax pmax
comp=Z,930nm,1.0s
QZH pmax pmax
comp=Z,17µm,9.9s
QZH LR LR
comp=Z,17µm,16.5s
QZH LR LR
comp=Z,60µm,19.9s
QZH LR LR
comp=Z,98µm,27.8s
JYA **Atsumi** 44.61 345 *e*P **P** 17 48 01.9 +0.6
CMJI **Cimerak** 44.63 263 P **P** 17 48 00.7 -1.2
comp=Z,2µm,1.0s,comp=Z,15µmcomp=Z,33µm
JCJI **Jatiwangi** 44.79 265 P **P** 17 48 03.0 -0.1
comp=Z,2µm,1.4s,comp=Z,21µmcomp=Z,36µm
JTU **Tsushima** 44.80 332 ⇑P P 17 48 08.9 +6.1
RKGY **Rocky Gully** 45.03 224 P **P** 17 48 05.4 +0.6
baz=45,SNR=114
RKGY **Rocky Gully** 45.03 224 P **P** 17 48 05.8 +1.0
BBJI **Bungbulang** 45.42 264 P **P** 17 48 07.7 -0.5
LEM **Lembang** 45.44 265 P **P** 17 48 08.9 +0.4
LEM pmax pmax
comp=Z,535nm,1.0s
LEM **Lembang** 45.44 265 LR LR 18 10 11.8
comp=Z,38µm,19.7s,baz=94,slow=40
LEM **Lembang** 45.44 265 P **P** 17 48 08.5 0.0
comp=Z,535nm,1.0s,comp=Z,8µmcomp=Z,33µm
CNJI **Cibinong** 45.93 264 P **P** 17 48 11.8 -0.4
CBJI **Citeko** 46.20 265 P **P** 17 48 13.2 -1.1
comp=Z,822nm,1.5s,comp=Z,11µmcomp=Z,35µm
DBJI **Dramaga** 46.30 265 P **P** 17 48 14.7 -0.4
comp=Z,325nm,0.9s,comp=Z,13µmcomp=Z,34µm
JTM **Tenmabayashi** 46.37 347 P **P** 17 48 15.7 +0.5
JTM **Tenmabayashi** 46.37 347 ⇑P **P** 17 48 15.0 -0.2
JTM **Tenmabayashi** 46.37 347 P **P** 17 48 15.2 +0.1
SKJI **Sukabumi** 46.50 265 P **P** 17 48 15.9 -0.8
comp=Z,1µm,1.0s,comp=Z,16µmcomp=Z,34µm
HKC **Hong Kong Obse** 46.53 306 ⇑P **P** 17 48 20.0 +3.3
HKPS **Hong Kong Po S** 46.54 306 P **P** 17 48 18.5 +1.6
SSE **Sheshan** 46.73 321 P **P** 17 48 19.6 +1.4
SSE S **S** 17 55 07.1 +0.8
SSE ScS **ScS** 17 58 13.9 +2.7
SSE pmax pmax
comp=Z,140nm,1.4s
SSE pmax pmax
comp=Z,5µm,3.9s
SSE LR LR
comp=Z,7µm,23.9s
SBJI **Serang** 46.92 266 P **P** 17 48 20.1 +0.2
comp=Z,353nm,1.5s
MCO **Taipa Grande** 46.94 306 P **P** 17 48 22.0 +2.1
JOT **Ohata** 46.94 347 *e*P **P** 17 48 21.7 +2.0
PPBI **Pangkal Pinang** 47.06 271 P **P** 17 48 21.7 +0.6
comp=Z,358nm,1.7s,comp=Z,8µmcomp=Z,35µm
ERM **Erimo** 47.14 350 P **P** 17 48 23.0 +1.9

ERM **Erimo** 47.14 350 *i* P **P** 17 48 21.4 +0.3
ERM pmax pmax
comp=Z,902nm,3.8s
JEM **Erimo** 47.14 350 P **P** 17 48 22.6 +1.5
H01W1 **Cape Leeuwin H** 47.15 225 P **P** 17 48 23.6 +2.4
baz=75,slow=6.2,SNR=12
H01W3 **Cape Leeuwin H** 47.16 225 P **P** 17 48 24.0 +2.7
baz=75,slow=6.2,SNR=12
H01W2 **Cape Leeuwin H** 47.17 225 P **P** 17 48 23.8 +2.5
baz=75,slow=6.2,SNR=10
TJN **Taejon** 47.27 331 P **P** 17 48 23.5 +1.2
TJN **Taejon** 47.27 331 *e*P **P** 17 48 23.7 +1.4
CTZ **Chatham Island** 47.32 150 P **P** 17 48 24.1 +1.5
XMI **Christmas Isla** 47.47 260 P **P** 17 48 24.5 +0.2
XMI **Christmas Isla** 47.47 260 ⇓P **P** 17 48 25.1 +0.7
XMIS **Christmas Isla** 47.51 260 P **P** 17 48 23.9 -0.7
XMIS IAmb IAmb 17 48 27.4
comp=Z,792nm,1.4s
XMIS **Christmas Isla** 47.51 260 P **P** 17 48 26.9 +2.3
GZH **Guangzhou** 47.59 307 P **P** 17 48 25.8 +0.8
GZH PP **PP** 17 50 17.4 +0.6
GZH S **S** 17 55 21.2 +2.5
GZH ScS **ScS** 17 58 19.7 +2.6
GZH SS **SS** 17 58 46.0 -1.2
GZH pmax pmax
comp=Z,54nm,0.9s
GZH LR LR
comp=Z,7µm,20.5s
GZH LR LR
comp=Z,17µm,18.0s
KSRS **Korea Array** 47.88 333 P **P** 17 48 27.8 +0.8
comp=Z,49nm,1.0s,baz=148,slow=7.3,SNR=37
KSRS ScP **ScP** 17 53 47.5 -0.3
comp=Z,13nm,0.9s,baz=153,slow=5.1,SNR=5.5
comp=Z,49nm,1.0s
KS19 **Wonju Array Si** 47.94 333 IAmb IAmb 17 48 49.5
comp=Z,347nm,1.1s
JSH **Shimam** 48.37 347 *e*P **P** 17 48 29.9 -0.8
PMBI **Palembang** 48.38 270 P **P** 17 48 32.2 +0.9
comp=Z,799nm,1.3s,comp=Z,11µmcomp=Z,35µm
INCN **Inchon** 48.50 332 P **P** 17 48 32.2 +0.3
INCN **Inchon** 48.50 332 P **P** 17 48 32.2 +0.3
INCN pmax pmax
comp=Z,2µm,1.2s
INCN **Inchon** 48.50 332 ⇑P **P** 17 48 32.9 +1.0
INCN **Inchon** 48.50 332 P **P** 17 48 32.9 +1.0
INCN P **P** 17 48 32.9 +1.0
INCN S **S** 17 55 30.7 -0.6
INCN S **S** 17 55 30.7 -0.6
RAR **Rarotonga** 48.53 114 P **P** 17 48 31.2 -1.2
RAR **Rarotonga** 48.53 114 P **P** 17 48 34.3 +1.9
RAR **Rarotonga** 48.53 114 P **P** 17 48 31.2 -1.2
RAR pmax pmax
comp=Z,781nm,1.3s
RAR **Rarotonga** 48.53 114 ⇑P **P** 17 48 32.9 +0.5
RAR **Rarotonga** 48.53 114 LR LR 18 06 25.4
comp=Z,41µm,21.5s,baz=282,slow=33
KASI **Kota Agung** 48.55 267 P **P** 17 48 30.8 -1.8
comp=Z,659nm,1.2s,comp=Z,6µmcomp=Z,29µm
QIZ **Qiongzhong** 48.66 300 P **P** 17 48 35.0 +1.6
QIZ PP **PP** 17 50 27.4 +0.8
QIZ S **S** 17 55 37.5 +3.4
QIZ ScS **ScS** 17 58 27.0 +2.5
QIZ pmax pmax
comp=Z,89nm,1.3s
QIZ pmax pmax
comp=Z,3µm,4.7s
QIZ LR LR
comp=Z,31µm,21.1s
QIZ LR LR
comp=Z,59µm,20.6s
QIZ LR LR
comp=Z,118µm,22.6s
QIZ **Qiongzhong** 48.66 300 IAmb IAmb 17 48 56.2
comp=Z,534nm,1.4s
QIZ **Qiongzhong** 48.66 300 P **P** 17 48 34.2 +0.8
YUK **Yuzh-Kuril'sk** 48.71 353 *e*P P 17 48 27.1 -6.2
YUK *e* 17 50 24.0
YUK *e*S **S** 17 55 27.7 -6.2
YUK *e*SS **SS** 17 58 55.8 -9.0
YUK *e*SSS SSS 18 00 11.8
YUK pmax pmax
comp=Z,727nm,1.2s
YUK pmax pmax
comp=N,411nm,1.1s
YUK pmax pmax
comp=E,558nm,1.1s
YUK pmax pmax
comp=Z,2µm,3.8s
DSRI **Dabo** 48.75 273 P **P** 17 48 34.5 +0.3
comp=Z,501nm,1.7s,comp=Z,8µmcomp=Z,31µm
NJ2 **Nanjing** 48.84 320 ⇓P **P** 17 48 36.8 +2.3
NJ2 pP **pP** 17 48 41.0 -2.3
NJ2 sP **sP** 17 48 47.2 +0.4
NJ2 S **S** 17 55 39.3 +3.1
NJ2 SS **SS** 17 59 07.8 +0.5
NJ2 pmax pmax
comp=Z,180nm,1.3s
NJ2 pmax pmax
comp=Z,4µm,5.4s
NJ2 LR LR
comp=Z,44µm,20.0s
NJ2 LR LR
comp=Z,27µm,21.6s
NJ2 LR LR
comp=Z,67µm,24.7s
TPRI **Tanjung Pinang** 48.95 275 P **P** 17 48 36.3 +0.6
comp=Z,534nm,2.0s,comp=Z,9µmcomp=Z,32µm
LWLI **Liwa** 49.00 267 P **P** 17 48 34.8 -1.4
comp=Z,1µm,0.9s,comp=Z,9µmcomp=Z,30µm
JKA **Kamikawa-asahi** 49.27 350 IAmb IAmb 17 48 55.1
comp=Z,614nm,1.3s
ASAJ **Asahikawa** 49.28 350 P **P** 17 48 38.6 +1.0
ASAJ **Asahikawa** 49.28 350 LR LR 18 07 07.4
comp=Z,32µm,20.9s,baz=169,slow=33
HJU **Haeju** 49.38 331 P **P** 17 48 40.5 +1.9
HJU S **S** 17 55 45.6 +2.0
HJU AmB
comp=Z,7µm,2.3s
HJU AMS AMS
comp=Z,42µm,20.8s
LHSI **Lahat** 49.57 269 P **P** 17 48 40.0 -0.5
comp=Z,351nm,1.5s,comp=Z,5µm
JMBI **JAMBI** 49.59 272 P **P** 17 48 42.9 +2.3
comp=Z,257nm,1.2s,comp=Z,6µm
KUR **Kuril'sk** 49.69 355 *e*P **P** 17 48 40.6 -0.1
KUR *e* 17 50 39.3
KUR *e*S **S** 17 55 48.7 +1.1
KUR *e*SSS SSS 18 00 42.6
KUR pmax pmax
comp=Z,2µm,1.3s
KUR pmax pmax
comp=E,446nm,1.4s
KUR pmax pmax
comp=N,379nm,1.3s
KUR pmax pmax
comp=Z,14µm,11.0s
KUR MLR MLR
comp=Z,39µm,17.0s
KUR MLR MLR
comp=N,46µm,18.0s
KUR MLR MLR
comp=E,14µm,17.0s
XMAS **Kiritimati** 49.71 84 P **P** 17 48 42.2 +0.7
XMAS **Kiritimati** 49.71 84 IAMs_20 IAMs_20 18 05 33.0
comp=Z,97µm,22.0s
XMAS **Kiritimati** 49.71 84 ⇑P **P** 17 48 43.3 +1.8
HHU **Hamhung** 50.09 334 P **P** 17 48 45.0 +1.2
HHU S **S** 17 55 55.6 +2.3
HHU AmB
comp=Z,4µm,2.2s
MNAI **Manna** 50.12 268 IAmb IAmb 17 49 08.2
comp=Z,488nm,1.1s
MNAI **Manna** 50.12 268 P **P** 17 48 45.3 +0.7
MNAI **Manna** 50.12 268 ⇑P **P** 17 48 43.5 -1.1
MNAI **Manna** 50.12 268 P **P** 17 48 42.9 -1.7
comp=Z,400nm,0.9s,comp=Z,7µmcomp=Z,34µm
MCQ **Macquarie Isla** 50.12 176 P **P** 17 48 45.9 +2.0
baz=50,SNR=58
MCQ **Macquarie Isla** 50.12 176 P **P** 17 48 46.3 +2.4
MCQ **Macquarie Isla** 50.12 176 ⇓P **P** 17 48 45.5 +1.6
PYAG **Pyongyang** 50.17 332 P **P** 17 48 45.5 +1.0
PYAG S **S** 17 55 57.1 +2.5
PYAG AmB
comp=Z,4µm,2.0s

PYAG AMS AMS
comp=Z,19µm,15.3s
CNSH ChangSha 50.57 312 ⇓P **P** **17 48 49.9 +2.1**
CNSH S **S** **17 56 03.7 +3.1**
CNSH pmax pmax
comp=Z,33nm,0.7s
CNSH LR LR
comp=Z,15µm,22.9s
CNSH LR LR
comp=Z,43µm,20.8s
CNSH LR LR
comp=Z,65µm,30.4s
WHN Wuhan 50.90 316 ⇑*i*P **P** **17 48 52.0 +1.8**
WHN S **S** **17 56 02.3 -2.7**
WHN SS **SS** **17 59 32.9 -7.4**
WHN pmax pmax
comp=Z,1µm,1.0s
WHN pmax pmax
comp=Z,21µm,5.2s
WHN LR LR
comp=Z,113µm,21.4s
WHN LR LR
comp=Z,53µm,16.6s
WHN LR LR
comp=Z,133µm,18.1s
MSHR Mys Shultsa 50.91 339 *i*P **P** **17 48 49.0 -1.0**
MSHR pmax pmax
comp=Z,279nm,1.5s
MSHR MLR MLR
comp=Z,24µm,19.0s
GULI GuiLin 51.03 308 ⇓P **P** **17 48 53.3 +2.0**
GULI pP **pP** **17 48 56.3 -3.8**
GULI sP **sP** **17 49 04.2 +0.6**
GULI S **S** **17 56 06.7 -0.4**
GULI pmax pmax
comp=Z,210nm,1.3s
GULI pmax pmax
comp=Z,3µm,4.9s
GULI LR LR
comp=Z,45µm,22.8s
GULI LR LR
comp=Z,54µm,21.7s
GULI LR LR
comp=Z,74µm,21.8s
PSTR Posyet 51.10 339 *i*P **P** **17 48 52.1 +0.6**
VLA Vladivostok 51.13 340 *i*P **P** **17 48 54.0 +2.3**
VLA pmax pmax
comp=Z,935nm,1.7s
UBPT Khong Chiam 51.19 294 IAmb IAmb 17 49 41.1
comp=Z,556nm,1.7s
UBPT IAMs_20 IAMs_20 18 06 52.6
comp=Z,82µm,22.0s
UBPT Khong Chiam 51.19 294 P **P** **17 48 53.7 +1.0**
UBPT Khong Chiam 51.19 294 ⇑P **P** **17 48 54.5 +1.9**
TEY Ternei 51.46 345*ce*P **P** **17 48 56.8 +2.7**
TEY pmax pmax
comp=N,300nm,14.2s
TEY pmax pmax
comp=Z,500nm,14.0s
SUJ Sinuiju 51.60 332 P **P** **17 48 55.7 +0.5**
SUJ S **S** **17 56 17.1 +2.8**
SUJ AmB
comp=Z,5µm,2.8s
SUJ AMS AMS
comp=Z,36µm,22.5s
KRJI Kerinci 51.73 271 P **P** **17 48 56.1 -0.8**
comp=Z,913nm,1.3s,comp=Z,15µmcomp=Z,29µm
YSS Yuzh-Sakhalins 52.01 351 P **P** **17 48 56.8 -1.4**
YSS IAmb IAmb 17 49 14.9
comp=Z,600nm,1.6s
YSS Yuzh-Sakhalins 52.01 351 P **P** **17 48 59.6 +1.4**
YSS Yuzh-Sakhalins 52.01 351 *eP* **P** **17 48 59.0 +0.8**
YSS *e* 17 49 10.5
YSS *eS* **S** **17 56 15.4 -4.3**
YSS pmax pmax
comp=Z,80nm,1.1s
YSS Yuzh-Sakhalins 52.01 351 ⇑P **P** **17 48 58.5 +0.3**
USA0B Ussuriysk Arra 52.05 341 IAmb IAmb 17 49 15.0
comp=Z,423nm,1.1s
USA0B Ussuriysk Arra 52.05 341 *i*P **P** **17 48 59.1 +0.5**
USRK Ussuriysk Ar. 52.05 341 P **P** **17 48 58.3 -0.3**
comp=Z,59nm,0.7s,baz=172,slow=8.3,SNR=74
USRK S **S** **17 56 19.0 -1.5**
comp=Z,2.3nm,0.8s,baz=164,slow=14,SNR=1.6
USRK LR LR 18 10 34.2
comp=Z,13µm,18.7s,baz=154,slow=36
comp=Z,59nm,0.7s
DL2 Dalian 52.09 329 P **P** **17 48 59.6 +0.6**
DL2 pP **pwP** **17 49 10.7 -0.2**
DL2 S **S** **17 56 18.2 -3.0**
DL2 pmax pmax
comp=Z,430nm,1.3s
DL2 pmax pmax
comp=Z,2µm,6.9s
DL2 LR LR
comp=Z,41µm,16.7s
DL2 LR LR
comp=Z,35µm,17.1s
DL2 LR LR
comp=Z,39µm,21.4s
BKNI Bangkinang 52.35 274 IAmb IAmb 17 49 09.6
comp=Z,568nm,1.0s
BKNI Bangkinang 52.35 274 P **P** **17 49 03.2 +1.8**
BKNI Bangkinang 52.35 274 P **P** **17 48 57.8 -3.6**
BKNI Bangkinang 52.35 274 ⇓P **P** **17 49 01.6 +0.2**
BKNI Bangkinang 52.35 274 P **P** **17 49 02.0 +0.6**
comp=Z,615nm,1.6s,comp=Z,9µmcomp=Z,32µm
TIA Tai'an 52.69 323 P **P** **17 49 03.7 +0.2**
TIA S **S** **17 56 25.6 -3.9**
TIA pmax pmax
comp=Z,81nm,0.9s
TIA pmax pmax
comp=Z,4µm,5.2s
TIA LR LR
comp=Z,17µm,19.2s
TIA LR LR
comp=Z,14µm,19.8s
TIA LR LR
comp=Z,30µm,19.8s
PDSI Padang 52.81 272 P **P** **17 49 03.8 -1.1**
comp=Z,238nm,0.6s,comp=Z,5µmcomp=Z,26µm
KEKH Kekaha 53.00 58 P **P** **17 49 05.4 -0.6**
KEKH IAmb IAmb 17 49 24.9
comp=Z,800nm,1.2s
PPSI Pulau Pagai 53.13 270 P **P** **17 49 06.3 -0.9**
comp=Z,291nm,1.4s,comp=Z,7µmcomp=Z,22µm
MDJ Mudanjiang 53.24 339 P **P** **17 49 07.4 0.0**
MDJ pP pP 17 49 12.2 -3.3
MDJ PcS **PcS** **17 54 12.9 -0.8**
MDJ S **S** **17 56 40.1 +3.4**
MDJ sS sS 17 56 49.7 -1.6
MDJ pmax pmax
comp=Z,120nm,1.4s
MDJ pmax pmax
comp=Z,2µm,5.4s
MDJ LR LR
comp=Z,18µm,20.1s
MDJ LR LR
comp=Z,10µm,14.6s
MDJ LR LR
comp=Z,39µm,23.4s
MDJ Mudanjiang 53.24 339 IAmb IAmb 17 49 36.3
comp=Z,475nm,1.2s
MDJ Mudanjiang 53.24 339 P **P** **17 49 08.6 +1.2**
SNY Shenyang 53.38 333 ⇑P **P** **17 49 08.6 +0.1**
SNY S **S** **17 56 38.2 -0.5**
SNY pmax pmax
comp=Z,1µm,5.5s
SNY LR LR
comp=Z,10µm,19.1s
SNY LR LR
comp=Z,20µm,17.2s
SNY LR LR
comp=Z,26µm,16.7s
KULM Kulim 53.40 280 IAmb IAmb 17 49 11.6
comp=Z,416nm,0.8s
SISI Saibi 54.15 272 P **P** **17 49 14.2 -0.4**
comp=Z,509nm,1.5s,comp=Z,10µmcomp=Z,27µm
CN2 Changchun 54.15 335 *eP* **P** **17 49 13.8 -0.3**
CN2 *es*P pwP 17 49 27.6 +1.7
CN2 LR LR
comp=Z,7µm,18.0s
CN2 LR LR
comp=Z,7µm,18.0s
CN2 LR LR
comp=Z,8µm,18.0s

UGL Uglegorsk 54.18 351 *eP* **P** **17 49 15.7 +1.5**
UGL *e* 17 51 15.7
UGL *eS* **S** **17 56 54.2 +4.9**
UGL pmax pmax
comp=Z,310nm,1.0s
UGL pmax pmax
comp=E,2µm,4.0s
UGL pmax pmax
comp=N,8µm,11.0s
UGL pmax pmax
comp=Z,14µm,10.0s
UGL smax smax
comp=N,26µm,16.0s
NONG Nongkai 54.20 296 P **P** **17 49 16.2 +1.3**
HON Honolulu 54.21 60 P **P** **17 49 13.5 -1.4**
HON Honolulu 54.21 60 P **P** **17 49 13.5 -1.4**
HON pmax pmax
comp=Z,1µm,1.2s
ENH Enshi 54.23 313 P **P** **17 49 16.0 +1.0**
KIP Kipapa 54.23 60 P **P** **17 49 15.4 +0.4**
KIP Kipapa 54.23 60*ce*P **P** **17 49 17.3 +2.2**
KIP pmax pmax
comp=Z,1µm,1.7s
KIP MLR MLR
comp=Z,32µm,17.0s
OPA Opana 54.34 59 P **P** **17 49 18.9 +3.1**
GYA Guiyang 54.52 307 ⇓*i*P **P** **17 49 19.7 +2.4**
GYA ScP **ScP** **17 54 18.3 +1.3**
GYA S **S** **17 56 56.5 +1.6**
GYA ScS **ScS** **17 59 06.3 +1.2**
GYA pmax pmax
comp=Z,140nm,1.4s
GYA pmax pmax
comp=Z,3µm,6.5s
GYA LR LR
comp=Z,34µm,20.0s
GYA LR LR
comp=Z,50µm,18.5s
GYA LR LR
comp=Z,74µm,19.2s
LYN LuoYang 54.56 319 ⇑P **P** **17 49 18.0 +0.8**
LYN sP pP 17 49 22.3 -3.8
LYN PcP **PcP** **17 50 22.9 +2.7**
LYN S **S** **17 56 50.8 -4.1**
LYN sS sS 17 57 11.7 +1.9
LYN SS **SS** **18 00 32.2 -5.8**
LYN pmax pmax
comp=Z,240nm,0.9s
LYN pmax pmax
comp=Z,16µm,11.5s
LYN LR LR
comp=Z,58µm,23.4s
LYN LR LR
comp=Z,58µm,23.4s
LYN LR LR
comp=Z,140µm,24.7s
SLVN Son La 54.69 300 IAMs_20 IAMs_20 18 08 54.1
comp=Z,63µm,21.0s
NAYO Nakonayok 54.74 291 P **P** **17 49 20.4 +1.6**
HNS HongShan 54.92 323 ⇓P **P** **17 49 20.5 +0.7**
HNS S **S** **17 56 53.3 -6.4**
HNS pmax pmax
comp=Z,430nm,1.4s
HNS pmax pmax
comp=Z,9µm,6.3s
HNS LR LR
comp=Z,10µm,21.6s
HNS LR LR
comp=Z,46µm,22.4s
HNS LR LR
comp=Z,52µm,22.1s
SKR Severo-Kuril's 54.96 2 *eP* **P** **17 49 23.5 +3.7**
SKR *eS* S 17 57 11.9 +12
SKR pmax pmax
comp=Z,483nm,1.4s
SKR pmax pmax
comp=Z,11µm,9.7s
SKR MLR MLR
comp=Z,42µm,19.0s
BNX BinXian 55.00 338 ⇓P **P** **17 49 19.1 -1.1**
BNX pP **pP** **17 49 28.3 0.0**
BNX sP **pwP** **17 49 31.8 -0.2**
BNX PP **PP** **17 51 23.0 -0.6**
BNX S **S** **17 56 59.2 -1.2**
BNX sS **sS** **17 57 15.5 +0.5**
BNX pmax pmax
comp=Z,430nm,1.1s
BNX pmax pmax
comp=Z,7µm,4.6s
BNX LR LR
comp=Z,12µm,18.4s
BNX LR LR
comp=Z,19µm,18.4s
BNX LR LR
comp=Z,21µm,18.4s
SRIT Nakonsritamara 55.02 284 IAmb IAmb 17 49 30.5
comp=Z,694nm,1.2s
PBSI Pulau Batu 55.06 273 P **P** **17 49 20.7 -0.6**
comp=Z,197nm,1.0s,comp=Z,7µmcomp=Z,25µm
SURA Surathani 55.11 284 P **P** **17 49 22.4 +0.9**
POHA Pohakuloa 55.80 63 P **P** **17 49 25.4 -1.3**
POHA Pohakuloa 55.80 63 IAMs_20 IAMs_20 18 13 31.7
comp=Z,60µm,18.0s
POHA Pohakuloa 55.80 63 ⇓P **P** **17 49 29.6 +2.9**
BJT Baijiatuau 55.83 326 IAmb IAmb 17 50 15.8
comp=Z,801nm,1.9s
TYV Tymovskoe 55.83 352 *eP* **P** **17 49 27.8 +1.7**
TYV *eS* S 17 57 21.2 +10
TYV pmax pmax
comp=Z,400nm,3.1s
TYV pmax pmax
comp=Z,88nm,1.3s
BJI Beijing 55.84 326 P **P** **17 49 26.6 +0.3**
BJI S **S** **17 57 08.7 -3.1**
BJI pmax pmax
comp=Z,92nm,1.1s
BJI pmax pmax
comp=Z,6µm,11.7s
BJI LR LR
comp=Z,14µm,22.7s
BJI LR LR
comp=Z,12µm,25.0s
BJI LR LR
comp=Z,25µm,23.1s
HLP Hilina Pali 55.84 63 P **P** **17 49 25.9 -0.9**
SDHHI Sand Hill 55.89 63 P **P** **17 49 25.6 -1.6**
WRMHI West Rim 55.89 63 P **P** **17 49 26.0 -1.2**
UWE Uwekahuna 55.90 63 P **P** **17 49 25.9 -1.4**
GSI Gunungsitoli 55.90 275 ⇓P **P** **17 49 26.5 -0.8**
GSI Gunungsitoli 55.90 275 P **P** **17 49 26.5 -0.8**
comp=Z,771nm,1.6s,comp=Z,11µmcomp=Z,26µm
PUH Pauahi 55.95 63 P **P** **17 49 27.4 -0.2**
PUH IAmb IAmb 17 49 50.5
comp=Z,337nm,1.0s
KCSI Kotacane, Aceh 55.97 277 P **P** **17 49 26.8 -1.0**
comp=Z,328nm,0.9s,comp=Z,5µmcomp=Z,21µm
COCO West Island 56.24 258 P **P** **17 49 29.4 -0.3**
COCO West Island 56.24 258 P **P** **17 49 29.4 -0.3**
COCO pmax pmax
comp=Z,2µm,1.3s
COCO MLR MLR
comp=Z,26µm,22.0s
TIY Taiyuan 56.51 322 *eP* **P** **17 49 32.7 +1.4**
TIY pP **pP** **17 49 36.8 -3.5**
TIY sP **sP** **17 49 41.6 -2.2**
TIY S **S** **17 57 19.4 -1.7**
TIY sS **pS** **17 57 32.7 +0.7**
TIY SS **SS** **18 01 14.6 +5.7**
TIY pmax pmax
comp=Z,65nm,1.3s
TIY pmax pmax
comp=Z,2µm,6.5s
TIY LR LR
comp=Z,16µm,27.5s
TIY LR LR
comp=Z,25µm,27.5s
TIY LR LR
comp=Z,43µm,26.8s
KLR Kul'dur 56.63 343*ce*P **P** **17 49 31.8 0.0**
KLR pmax pmax
comp=Z,994nm,1.7s
KLR MLR MLR
comp=Z,17µm,20.0s
KLR Kul'dur 56.63 343 LR LR 18 12 34.7
comp=Z,11µm,21.1s,baz=170,slow=35

XAN Xi'an 56.66 316 ⇑P **P** **17 49 33.2 +0.8**
XAN S **S** **17 57 20.1 -3.0**
XAN SS **SS** **18 01 07.9 -3.4**
XAN pmax pmax
comp=Z,440nm,1.0s
XAN pmax pmax
comp=Z,12µm,8.6s
XAN LR LR
comp=Z,55µm,20.0s
XAN LR LR
comp=Z,86µm,20.3s
XAN LR LR
comp=Z,105µm,20.3s
GRNR Gornyy 56.87 347 ⇓*i*P **P** **17 49 33.3 -0.2**
GRNR *eS* **S** **17 57 30.6 +5.5**
GRNR pmax pmax
comp=E,4.0nm,1.0s
GRNR pmax pmax
comp=N,10.0nm,1.1s
GRNR pmax pmax
comp=Z,30nm,0.9s
GRNR smax smax
comp=N,2.0nm,0.9s
LHMI Lhok Sumawe 57.03 279 P **P** **17 49 36.2 +0.9**
LHMI Lhok Sumawe 57.03 279 ⇑P **P** **17 49 35.7 +0.4**
LHMI Lhok Sumawe 57.03 279 P **P** **17 49 35.2 -0.1**
comp=N,822nm,0.9s,comp=N,13µmcomp=N,24µm
KMI Kunming 57.15 304 ⇓P **P** **17 49 38.6 +2.4**
KMI sP sP 17 49 49.0 +0.4
KMI ScP **ScP** **17 54 29.4 +0.7**
KMI S **S** **17 57 31.1 +1.0**
KMI SS **SS** **18 01 23.0 +3.4**
KMI pmax pmax
comp=N,190nm,1.6s
KMI LR LR
comp=N,28µm,23.0s
KMI LR LR
comp=N,53µm,21.5s
KMI LR LR
comp=N,80µm,24.7s
SNSI Sinabang, Aceh 57.27 276 P **P** **17 49 36.9 -0.1**
comp=N,517nm,1.2s,comp=N,9µmcomp=N,24µm
CRAI Chiangrai 57.39 297 IAmb IAmb 17 50 01.9
comp=Z,545nm,1.4s
MLSI Meulaboh, Aceh 57.43 278 P **P** **17 49 37.4 -0.7**
comp=Z,632nm,0.9s,comp=Z,7µmcomp=Z,509nm
PPT Papeete 57.43 108 P **P** **17 49 39.5 +1.4**
comp=Z,173nm,0.8s,baz=345,slow=5.8,SNR=13
PPT LR LR 18 10 25.9
comp=Z,23µm,22.0s,baz=270,slow=32
comp=Z,173nm,0.8s
PET Petropavlovsk 57.44 4 P **P** **17 49 35.9 -1.6**
PET IAmb IAmb 17 50 05.0
comp=Z,717nm,1.6s
PET Petropavlovsk 57.44 4 P **P** **17 49 38.8 +1.4**
PET Petropavlovsk 57.44 4 *eP* **P** **17 49 36.3 -1.1**
PET *eS* **S** **17 57 31.4 -1.1**
PET *eS*S **SS** **18 01 21.5 -1.2**
PET pmax pmax
comp=Z,2µm,11.2s
PET pmax pmax
comp=Z,4µm,14.3s
PET pmax pmax
comp=Z,110nm,0.8s
PET smax smax
comp=N,13µm,18.6s
PET smax smax
comp=E,13µm,19.7s
PET MLR MLR
comp=Z,29µm,19.0s
PET Petropavlovsk 57.44 4 ⇓P **P** **17 49 38.1 +0.7**
PPTF Pamatai, Papee 57.44 108 P **P** **17 49 38.6 +0.4**
PPTF IAmb IAmb 17 50 05.8
comp=Z,765nm,1.3s
PPTF Pamatai, Papee 57.44 108 P **P** **17 49 40.0 +1.8**
PPTF Pamatai, Papee 57.44 108 ⇓P **P** **17 49 39.3 +1.1**
PEA0B Petropavlovsk- 57.46 3*ce*P **P** **17 49 40.0 +2.4**
PETK Petropavlovsk- 57.46 3 P **P** **17 49 37.8 +0.1**
PETK Petropavlovsk- 57.46 3 P **P** **17 49 37.8 +0.1**
PETK Petropavlovsk- 57.46 3 P **P** **17 49 37.6 0.0**
comp=Z,52nm,0.8s,baz=180,slow=5.2,SNR=67
PETK LR LR 18 10 42.1
comp=Z,27µm,21.8s,baz=186,slow=32
PETK PKP2bc 18 19 30.6
comp=Z,30nm,1.3s,baz=140,slow=7.8,SNR=4.2
comp=Z,52nm,0.8s
CMAR Chiang Mai Arr 58.12 295 *i*P **P** **17 49 44.0 +1.1**
CMAR pmax pmax
comp=Z,36nm,0.9s
CMAR Chiang Mai Arr 58.12 295 P **P** **17 49 44.0 +1.1**
comp=Z,34nm,0.9s,baz=116,slow=5.1,SNR=123
CMAR LR LR 18 13 18.8
comp=Z,34µm,21.1s,baz=95,slow=35
CMAR PKPPKP P'P'df 18 19 17.6 -8.1
comp=Z,2.3nm,1.1s,baz=256,slow=4.8,SNR=7.0
CMAR PKP2bc 18 19 37.5
comp=Z,2.8nm,0.9s,baz=280,slow=4.0,SNR=8.0
CMAR P4KPbc 18 26 56.1
comp=Z,1.1nm,0.9s,baz=127,slow=2.4,SNR=6.1
comp=Z,34nm,0.9s
CHTO Chiang Mai 58.22 295 P **P** **17 49 44.4 +0.7**
CHTO Chiang Mai 58.22 295 P **P** **17 49 45.1 +1.5**
CHTO Chiang Mai 58.22 295 P **P** **17 49 44.4 +0.7**
CHTO pmax pmax
comp=Z,311nm,1.4s
CHTO MLR MLR
comp=Z,47µm,21.0s
CHTO Chiang Mai 58.22 295 ⇓P **P** **17 49 44.8 +1.2**
CHTO Chiang Mai 58.22 295 P **P** **17 49 45.4 +1.7**
CHTO P **P** **17 49 45.4 +1.7**
CHTO S **S** **17 57 42.0 -2.0**
CHTO S **S** **17 57 42.0 -2.0**
NKL Nikolayevsk 58.35 351 *eP* **P** **17 49 44.2 +0.4**
NKL *eS* **S** **17 57 49.9 +5.5**
NKL pmax pmax
comp=N,43nm,0.9s
NKL pmax pmax
comp=E,143nm,1.1s
NKL pmax pmax
comp=Z,394nm,1.1s
NKL smax smax
comp=N,667nm,4.2s
NKL smax smax
comp=E,457nm,4.2s
PZH PanZhiHua 58.52 305 P **P** **17 49 46.8 +1.0**
PZH sP **pP** **17 49 55.7 +1.0**
PZH PcP **PcP** **17 50 32.1 -4.0**
PZH PcS **PcS** **17 54 39.2 +1.2**
PZH S **S** **17 57 47.2 -0.7**
PZH ScS **ScS** **17 59 30.5 -3.6**
PZH SS **SS** **18 01 37.4 -3.6**
PZH pmax pmax
comp=E,70nm,1.4s
PZH pmax pmax
comp=E,7µm,10.7s
PZH LR LR
comp=E,31µm,23.0s
PZH LR LR
comp=E,41µm,24.9s
PZH LR LR
comp=E,73µm,24.3s
XLT XiLinHaoTe 58.58 329 *eP* **P** **17 49 46.0 +0.2**
XLT pP sP 17 49 56.8 -0.3
XLT sP pwP 17 50 00.3 +2.6
XLT S **S** **17 57 47.4 -0.6**
XLT sS sS 17 58 00.6 -1.8
XLT SS **SS** **18 01 40.4 -0.9**
XLT pmax pmax
comp=E,430nm,1.1s
XLT pmax pmax
comp=E,5µm,5.7s
XLT LR LR
comp=E,2µm,19.4s
XLT LR LR
comp=E,19µm,16.9s
XLT LR LR
comp=E,26µm,17.6s
CD2 Chengdu 58.83 310 P **P** **17 49 48.7 +0.9**
CD2 pP pP 17 49 53.2 -3.5
CD2 sP sP 17 49 56.2 -4.0
CD2 S **S** **17 57 51.1 -0.6**
CD2 SS **SS** **18 01 47.0 +1.4**
CD2 pmax pmax
comp=E,350nm,0.9s
CD2 pmax pmax
comp=E,8µm,5.8s

CD2 LR LR
comp=E,38µm,23.5s
CD2 LR LR
comp=E,49µm,21.2s
CD2 LR LR
comp=E,40µm,25.9s
HEH HeiHe 58.86 341 *e*P **P 17 49 45.8 -1.7**
HEH pP **pP 17 49 50.2 -5.5**
HEH S **S 17 57 45.3 -5.9**
HEH pmax pmax
comp=E,150nm,0.8s
HEH pmax pmax
comp=E,6µm,5.0s
HEH LR LR
comp=E,12µm,19.9s
HEH LR LR
comp=E,22µm,16.8s
HEH LR LR
comp=E,36µm,24.8s
HHC Hu-ho-hao-te 59.01 324 ⇓P **P 17 49 50.5 +1.6**
HHC sP pP 17 49 58.7 +0.8
HHC PcP **PcP 17 50 34.4 -3.3**
HHC S **S 17 57 52.8 -1.0**
HHC sS pS 17 58 00.8 -4.1
HHC SS **SS 18 01 52.9 +4.7**
HHC pmax pmax
comp=E,90nm,1.3s
HHC pmax pmax
comp=E,5µm,5.8s
HHC LR LR
comp=E,20µm,18.6s
HHC LR LR
comp=E,25µm,17.9s
HHC LR LR
comp=E,35µm,19.2s
SHEM Shemya Is, Ala 59.64 15 LR LR 18 12 44.8
comp=E,112µm,19.8s,baz=200,slow=33
BTO Baotou 59.77 323 *e*P **P 17 49 56.4 +2.3**
BTO pP **sP 17 50 07.0 +1.5**
BTO sP **pP 17 50 10.4 +7.2**
BTO PP **PP 17 52 11.5 +5.1**
BTO S **S 17 58 10.0 +6.3**
BTO SS **SS 18 01 59.4 -0.8**
BTO pmax pmax
comp=E,56nm,0.7s
BTO pmax pmax
comp=E,15µm,6.4s
BTO LR LR
comp=E,48µm,22.9s
BTO LR LR
comp=E,45µm,21.9s
BTO LR LR
comp=E,60µm,20.6s
TNCH TengChong 60.65 302 ⇑P **P 17 50 01.2 +0.7**
TNCH pP pP 17 50 04.3 -5.2
TNCH sP sP 17 50 06.3 -6.7
TNCH PP **PP 17 52 21.9 +7.4**
TNCH S **S 17 58 16.7 +1.1**
TNCH SS **SS 18 02 16.3 +1.7**
TNCH pmax pmax
comp=E,300nm,1.3s
TNCH pmax pmax
comp=E,4µm,5.2s
TNCH LR LR
comp=E,10µm,19.7s
TNCH LR LR
comp=E,13µm,25.2s
TNCH LR LR
comp=E,46µm,28.4s
HIA Hailar 60.89 336 IAmb IAmb 17 50 26.1
comp=Z,730nm,1.7s
HIA Hailar 60.89 336 P **P 17 50 02.7 +1.2**
LZH Lanzhou 61.28 315 *e*P **P 17 50 06.3 +1.7**
LZH pP pP 17 50 10.8 -2.8
LZH S **S 17 58 22.8 -0.4**
LZH SS **SS 18 02 26.8 +2.8**
LZH pmax pmax
comp=Z,310nm,1.3s
LZH pmax pmax
comp=Z,6µm,4.5s
LZH LR LR
comp=Z,30µm,17.9s
LZH LR LR
comp=Z,48µm,17.2s
LZH LR LR
comp=Z,64µm,17.9s
ADK Adak 61.68 21 P **P 17 50 07.0 +0.3**
ADK Adak 61.68 21 P **P 17 50 08.4 +1.7**
ADK Adak 61.68 21 P **P 17 50 07.0 +0.3**
ADK pmax pmax
comp=Z,609nm,1.1s
ADK MLR MLR
comp=Z,36µm,19.0s
MND Mandalay 61.73 298 P **P 17 50 08.6 +1.0**
ZEA Zeya 61.93 343 *e*P **P 17 50 08.5 +0.1**
ZEA *e* 17 50 28.8
ZEA *e* 17 52 27.1
ZEA *e*S **S 17 58 27.8 -2.6**
ZEA *e* 17 59 05.6
ZEA pmax pmax
comp=E,20nm,1.1s
ZEA pmax pmax
comp=N,60nm,1.0s
ZEA pmax pmax
comp=Z,110nm,1.0s
ZEA pmax pmax
comp=E,800nm,8.8s
ZEA pmax pmax
comp=N,1µm,12.5s
ZEA pmax pmax
comp=Z,3µm,13.7s
ZEA pmax pmax
comp=E,700nm,14.6s
ZEA pmax pmax
comp=Z,2µm,15.9s
ZEA smax smax
comp=N,5µm,16.1s
ZEA smax smax
comp=E,2µm,16.1s
PBA Port Blair 62.24 286 *e*P **P 17 50 11.8 +0.6**
PBA IAMs_20 IAMs_20 18 20 08.4
comp=Z,28µm,19.0s
PBA IAMs_20 IAMs_20 18 24 40.0
comp=Z,25µm,20.8s
DGPR DIGLIPUR 62.37 287 *e*P **P 17 50 12.0 -0.1**
DGPR IAMs_20 IAMs_20 18 27 57.9
comp=Z,15µm,14.9s
ATKA Atka Island 62.84 22 IAMs_20 IAMs_20 18 11 42.1
comp=Z,60µm,22.0s
MA2 Magadan 63.85 359 P **P 17 50 19.5 -1.5**
MA2 IAmb IAmb 17 50 48.4
comp=Z,334nm,1.0s
MA2 Magadan 63.85 359 P **P 17 50 21.7 +0.7**
MA2 Magadan 63.85 359*ce*P **P 17 50 19.2 -1.9**
MA2 pmax pmax
comp=Z,437nm,1.1s
MA2 MLR MLR
comp=Z,38µm,20.0s
MA2 Magadan 63.85 359 ⇓P **P 17 50 19.8 -1.2**
MA2 Magadan 63.85 359 LR LR 18 17 50.9
comp=Z,27µm,19.3s,baz=178,slow=36
IMP Imphal 64.49 300 *e*P **P 17 50 26.2 +0.1**
IMP IAMs_20 IAMs_20 18 15 12.8
comp=Z,58µm,21.4s
SAIH SAIHA 64.63 297 *e*P **P 17 50 28.2 +1.1**
SAIH IAMs_20 IAMs_20 18 14 32.3
comp=Z,90µm,26.2s
KOHI KOHIMA 64.64 301 *e*P **P 17 50 26.9 -0.2**
KOHI IAMs_20 IAMs_20 18 14 53.7
comp=Z,50µm,28.5s
JORH JORHAT 64.85 302 *e*P **P 17 50 29.6 +1.4**
ITAN ITANAGAR 65.42 302 *e*P **P 17 50 34.1 +2.1**
ZIRO ZIRO 65.44 303 *e*P **P 17 50 33.6 +1.2**
ZIRO IAMs_20 IAMs_20 18 15 06.8
comp=Z,91µm,28.5s
NIKH Nikolski High 65.52 24 P **P 17 50 33.6 +1.6**
NIKH Nikolski High 65.52 24 P **P 17 50 30.8 -1.3**
baz=222
CIT Chita 65.56 334 *e*P **P 17 50 32.8 +0.3**
CIT *e* 17 50 43.8
CIT *e* 17 51 02.5
CIT *e* 17 52 52.3
CIT *e* 17 54 38.9
GTA Gaotai 65.69 317 *e*P **P 17 50 34.2 +0.6**
GTA pP pP 17 50 36.9 -5.9
GTA sP sP 17 50 40.1 -6.2
GTA S **S 17 59 16.2 -1.8**
GTA pmax pmax
comp=Z,2µm,5.5s
GTA LR LR
comp=Z,21µm,20.0s
GTA LR LR
comp=Z,11µm,24.0s
GTA LR LR
comp=Z,42µm,24.3s
BRDH Bariadhala 65.88 297 LR LR 18 18 16.3
comp=Z,15µm,21.3s,baz=179,slow=35
ULN Ulaanbaatar 65.92 328 IAMs_20 IAMs_20 18 19 55.2
comp=Z,43µm,19.0s
ULN Ulaanbaatar 65.92 328*ce*P **P 17 50 35.6 +0.6**
ULN pmax pmax
comp=Z,253nm,1.1s
ULN MLR MLR
comp=Z,41µm,19.0s
ULN Ulaanbaatar 65.92 328 ⇓P **P 17 50 35.7 +0.7**
ULN Ulaanbaatar 65.92 328 P **P 17 50 35.7 +0.7**
ULN P **P 17 50 35.7 +0.7**
ULN S **S 17 59 20.7 +0.1**
ULN S **S 17 59 20.7 +0.1**
BELO BELONIA 66.21 298 ⇓*i*P **P 17 50 38.8 +1.7**
BELO IAMs_20 IAMs_20 18 15 44.9
comp=Z,17µm,19.0s
TAOE Nuku Hiva Isla 66.25 98 P **P 17 50 37.5 -0.2**
TAOE IAmb IAmb 17 51 05.2
comp=Z,525nm,1.3s
TAOE Nuku Hiva Isla 66.25 98 ⇓P **P 17 50 39.1 +1.4**
SONM Songino Array 66.25 328 P **P 17 50 36.6 -0.5**
SONM IAmb IAmb 17 51 08.2
comp=Z,402nm,1.5s
SONM Songino Array 66.25 328 P **P 17 50 37.5 +0.4**
comp=Z,48nm,0.9s,baz=145,slow=7.1,SNR=95
SONM PKPPKP **P'P'df 18 19 06.5 -3.9**
comp=Z,1.0nm,0.8s,baz=12,slow=1.5,SNR=4.5
SONM LR LR 18 20 55.9
comp=Z,40µm,18.3s,baz=134,slow=37
comp=Z,48nm,0.9s
SHL Shillong 66.50 300 *e*P **P 17 50 40.1 +0.9**
SHL IAMs_20 IAMs_20 18 16 39.8
comp=Z,36µm,25.3s
GUWA GUWAHATI 66.85 301 *e*P **P 17 50 42.0 +0.9**
UNV Unalaska Valle 67.12 25 P **P 17 50 43.8 +1.5**
UNV Unalaska Valle 67.12 25 P **P 17 50 41.5 -0.8**
baz=224
SEY Seymchan 67.19 360*ce*P **P 17 50 42.7 +0.1**
SEY pmax pmax
comp=Z,283nm,1.3s
SEY MLR MLR
comp=Z,25µm,18.0s
SEY Seymchan 67.19 360 LR LR 18 23 09.1
comp=Z,7µm,18.0s,baz=169,slow=39
GOMU GeErMu 67.84 312 P **P 17 50 49.6 +1.9**
GOMU S **S 17 59 40.3 -4.4**
GOMU SS **SS 18 04 08.3 +1.5**
GOMU pmax pmax
comp=Z,50nm,1.5s
GOMU LR LR
comp=Z,22µm,20.8s
GOMU LR LR
comp=Z,35µm,20.8s
GOMU LR LR
comp=Z,59µm,21.6s
P08K Saint George I 67.98 21 P **P 17 50 46.1 -1.6**
baz=221
SPIA Saint Paul Isl 68.17 20 P **P 17 50 47.6 -1.2**
baz=220
LSA Lhasa 68.39 304 IAmb IAmb 17 51 18.0
comp=Z,592nm,1.6s
LSA IAMs_20 IAMs_20 18 18 02.2
comp=Z,42µm,21.0s
LSA Lhasa 68.39 304 P **P 17 50 51.3 -0.1**
CASY Casey 68.48 197 P **P 17 50 51.4 +0.7**
CASY Casey 68.48 197 ⇑P **P 17 50 50.0 -0.7**
YAK Yakutsk 68.71 348 P **P 17 50 51.2 -0.9**
YAK Yakutsk 68.71 348 *e*P **P 17 50 51.9 -0.2**
YAK *e* 17 51 18.0
YAK *e* 17 53 29.9
YAK *e*PPP PPP 17 55 09.4
YAK *e*S **S 17 59 55.7 +2.5**
YAK *e*SS **SS 18 04 11.5 -6.9**
YAK *e*SSS SSS 18 07 17.6
YAK pmax pmax
comp=Z,470nm,1.2s
YAK pmax pmax
comp=N,139nm,1.3s
YAK pmax pmax
comp=E,96nm,1.2s
YAK pmax pmax
comp=Z,3µm,4.0s
YAK pmax pmax
comp=E,593nm,3.8s
YAK pmax pmax
comp=N,1µm,4.3s
YAK MLR MLR
comp=Z,20µm,18.0s
YAK MLR MLR
comp=N,10µm,16.0s
YAK MLR MLR
comp=E,11µm,20.0s
YAK Yakutsk 68.71 348 ⇑P **P 17 50 52.7 +0.5**
YAK Yakutsk 68.71 348 LR LR 18 20 22.1
comp=E,7µm,20.2s,baz=156,slow=35
FALS False Pass 69.12 25 P **P 17 50 53.6 -1.2**
baz=227
ZAK Zakamensk 69.41 328 *e*P **P 17 50 56.7 -0.2**
ZAK pmax pmax
comp=Z,236nm,1.3s
BOD Bodaibo 69.61 339 *e*P **P 17 50 57.0 -0.8**
BOD pmax pmax
comp=Z,233nm,1.5s
GTK Tadong 69.82 301 *e*P **P 17 51 01.5 +1.6**
IRK Irkutsk 70.01 330 *e*P **P 17 50 59.2 -1.2**
IRK pmax pmax
comp=Z,487nm,4.0s
SDPT Sand Point 70.71 26 P **P 17 51 03.8 -0.8**
SDPT IAmb IAmb 17 51 30.6
comp=Z,352nm,0.8s
SDPT Sand Point 70.71 26 P **P 17 51 06.8 +2.2**
SDPT Sand Point 70.71 26 P **P 17 51 03.5 -1.1**
baz=230
CNBA Chernabura Isl 70.77 27 IAMs_20 IAMs_20 18 15 26.1
comp=Z,67µm,22.0s
CHNA Chernabura Isl 70.77 27 P **P 17 51 03.9 -1.1**
baz=231
BOK Bokaro 71.28 297 *e*P **P 17 51 10.6 +1.8**
BOK IAMs_20 IAMs_20 18 18 53.3
comp=Z,36µm,14.9s
MOY Mondy 71.33 329 *e*P **P 17 51 08.6 0.0**
MOY pmax pmax
comp=Z,311nm,1.9s
EVN Everest 71.52 301 ⇑P **P 17 51 11.3 +0.5**
M11K Mekoryuk 71.98 20 P **P 17 51 10.8 -1.3**
baz=223
CHGN Chignik 72.22 26 P **P 17 51 12.1 -1.5**
baz=232
VIS Vishakhapatnam 72.34 290 *e*P **P 17 51 16.9 +1.7**
VIS IAMs_20 IAMs_20 18 20 55.3
comp=Z,33µm,20.8s
JHSG JHARSUGUGA 72.73 294 *e*P **P 17 51 18.9 +1.4**
BILL Bilibino 72.90 5 P **P 17 51 16.4 -1.1**
BILL IAmb IAmb 17 51 39.1
comp=Z,877nm,1.7s
BILL Bilibino 72.90 5⇑ *e*P **P 17 51 17.4 -0.1**
BILL pmax pmax
comp=Z,98nm,1.2s
BILL MLR MLR
comp=Z,37µm,18.3s
GAMB Gambell 72.93 15 P **P 17 51 16.2 -1.5**
baz=217
O14K Tigyukauivet M 72.96 23 IAmb IAmb 17 52 03.3
comp=Z,613nm,1.3s
O14K IAMs_20 IAMs_20 18 20 26.8
comp=Z,38µm,20.0s
O14K Tigyukauivet M 72.96 23 P **P 17 51 17.1 -1.0**
baz=228
M13K Dall Lake 72.99 21 IAmb IAmb 17 52 04.0
comp=Z,676nm,1.3s
M13K IAMs_20 IAMs_20 18 23 20.4
comp=Z,34µm,20.0s
M13K Dall Lake 72.99 21 P **P 17 51 16.5 -1.6**
baz=226
VNDA Vanda 73.17 178 P **P 17 51 19.1 +0.1**
VNDA Vanda 73.17 178 P **P 17 51 19.8 +0.8**
comp=Z,449nm,1.0s,baz=330,slow=6.5,SNR=353
VNDA S **S 18 00 45.5 +0.8**
comp=Z,2.1nm,0.9s,baz=129,slow=16,SNR=3.3
CHIR Chirikof Islan 73.17 27 P **P 17 51 18.2 -1.2**
baz=234
HALK Hakmana 73.19 278 ⇑P **P 17 51 20.7 +0.3**
N14K Kuskokwak Cree 73.26 22 P **P 17 51 18.9 -0.8**
baz=228
PALK Pallekele 73.30 279 P **P 17 51 21.2 +0.1**
PALK IAmb IAmb 17 51 30.7
comp=Z,267nm,1.1s
PALK Pallekele 73.30 279 ⇑P **P 17 51 22.4 +1.3**
PALK *e* 17 51 31.5
PALK Pallekele 73.30 279 LR LR 18 25 09.3
comp=Z,10µm,20.5s,baz=209,slow=37
PALK Pallekele 73.30 279 P **P 17 51 22.9 +1.9**
PALK S **S 18 00 47.3 -1.2**
R16K Pilot Point 73.36 25 P **P 17 51 19.4 -1.1**
baz=233
O15K Ungalikthiuk R 73.47 23 P **P 17 51 20.0 -1.1**
baz=230
MALK Mahakanadarawa 73.60 280 P **P 17 51 20.1 -2.6**
MALK Mahakanadarawa 73.60 280 ⇓P **P 17 51 23.9 +1.1**
SBA Scott Base 73.71 177 P **P 17 51 23.2 +1.0**
SBA Scott Base 73.71 177 P **P 17 51 23.2 +1.0**
SBA pmax pmax
comp=Z,864nm,1.2s
SBA MLR MLR
comp=Z,30µm,20.0s
M14K Bethel 73.72 21 IAmb IAmb 17 52 02.0
comp=Z,532nm,1.2s
M14K IAMs_20 IAMs_20 18 26 23.8
comp=Z,36µm,19.0s
M14K Bethel 73.72 21 P **P 17 51 21.6 -0.9**
baz=227,SNR=11
L14K Kuka Creek 73.87 20 IAmb IAmb 17 52 12.0
comp=Z,446nm,1.2s
L14K Kuka Creek 73.87 20 P **P 17 51 23.3 0.0**
baz=226
VLK Valmikinagar 73.89 300 *e*P **P 17 51 25.5 +1.3**
N15K Kwethluk River 74.02 22 IAmb IAmb 17 52 11.5
comp=Z,522nm,1.2s
N15K IAMs_20 IAMs_20 18 20 59.7
comp=Z,36µm,20.0s
N15K Kwethluk River 74.02 22 P **P 17 51 24.2 0.0**
baz=229
P16K Nushagak River 74.11 24 P **P 17 51 24.1 -0.6**
baz=231
M15K Kasigluk River 74.14 22 P **P 17 51 24.6 -0.4**
baz=228
VAR Varanasi 74.17 298 *e*P **P 17 51 26.6 +0.8**
SII Sitkinak Islan 74.26 27 IAmb IAmb 17 52 02.1
comp=Z,589nm,1.0s
SII IAMs_20 IAMs_20 18 20 04.3
comp=Z,42µm,20.0s
SII Sitkinak Islan 74.26 27 P **P 17 51 27.5 +1.7**
SII Sitkinak Islan 74.26 27 P **P 17 51 24.6 -1.2**
baz=235
O16K Kokwok River B 74.42 23 IAMs_20 IAMs_20 18 17 31.4
comp=Z,51µm,22.0s
O16K Kokwok River B 74.42 23 P **P 17 51 25.4 -1.2**
baz=231
Q16K King Salmon 74.43 25 P **P 17 51 25.7 -1.0**
baz=233
Q17K Contact Creek 74.50 25 P **P 17 51 25.7 -1.6**
baz=233
MDRS Chennai 74.51 285 *e*P **P 17 51 29.4 +1.3**
MDRS IAMs_20 IAMs_20 18 21 29.0
comp=Z,25µm,31.6s
L15K Ungalak Mounta 74.52 21 P **P 17 51 26.1 -1.0**
baz=227
J14K Nanvaranak Lak 74.56 19 IAmb IAmb 17 51 49.7
comp=Z,346nm,1.0s
J14K IAMs_20 IAMs_20 18 18 23.0
comp=Z,40µm,22.0s
J14K Nanvaranak Lak 74.56 19 P **P 17 51 27.7 +0.4**
baz=225
VJD Vijayawada 74.66 288 *e*P **P 17 51 30.7 +1.8**
N16K Nishlik Lake 74.72 22 P **P 17 51 28.4 0.0**
baz=230
P17K Kvichak River 74.84 24 P **P 17 51 27.9 -1.1**
baz=233
K15K Wolf Creek Mou 74.92 20 IAmb IAmb 17 51 51.5
comp=Z,418nm,1.1s
K15K IAMs_20 IAMs_20 18 18 32.5
comp=Z,50µm,22.0s
K15K Wolf Creek Mou 74.92 20 P **P 17 51 28.6 -0.8**
baz=227,SNR=18
O17K Koliganek Bris 74.93 24 P **P 17 51 28.6 -0.9**
baz=232
M16K Timber Creek 75.00 22 IAmb IAmb 17 52 00.8
comp=Z,401nm,1.1s
M16K IAMs_20 IAMs_20 18 21 42.6
comp=Z,39µm,20.0s
M16K Timber Creek 75.00 22 P **P 17 51 28.9 -1.0**
baz=230,SNR=17
OHAK Old Harbor 75.04 27 IAmb IAmb 17 52 14.4
comp=Z,293nm,1.1s
OHAK Old Harbor 75.04 27 P **P 17 51 31.4 +1.2**
OHAK Old Harbor 75.04 27 P **P 17 51 29.4 -0.8**
baz=236
ALBI Allahabad 75.24 297 *e*P **P 17 51 32.8 +0.7**
L16K Owhat River 75.26 21 IAmb IAmb 17 51 53.0
comp=Z,666nm,1.6s
L16K IAMs_20 IAMs_20 18 19 13.4
comp=Z,38µm,22.0s
L16K Owhat River 75.26 21 P **P 17 51 31.5 +0.1**
baz=229,SNR=12
ANM Nome 75.31 17 IAmb IAmb 17 51 54.4
comp=Z,380nm,1.3s
ANM IAMs_20 IAMs_20 18 20 45.6
comp=Z,44µm,20.0s
ANM Nome 75.31 17 P **P 17 51 31.3 -0.3**
baz=223,SNR=15
TNA Tin City 75.34 16 P **P 17 51 31.7 0.0**
baz=220
N17K Nushagak Hills 75.36 23 IAmb IAmb 17 52 19.1
comp=Z,888nm,1.8s
N17K IAMs_20 IAMs_20 18 21 21.2
comp=Z,44µm,20.0s
N17K Nushagak Hills 75.36 23 P **P 17 51 31.9 -0.2**
baz=232
P18K Big Mountain, 75.45 24 IAmb IAmb 17 52 23.4
comp=Z,394nm,1.6s
P18K IAMs_20 IAMs_20 18 18 22.8
comp=Z,51µm,22.0s
P18K Big Mountain, 75.45 24 P **P 17 51 31.1 -1.5**
baz=234
KDAK Kodiak Island 75.67 27 P **P 17 51 33.2 -0.6**
KDAK IAmb IAmb 17 52 10.3
comp=Z,472nm,1.4s
KDAK Kodiak Island 75.67 27 *i*P **P 17 51 32.7 -1.1**
KDAK pmax pmax
comp=Z,332nm,1.1s
KDAK Kodiak Island 75.67 27 P **P 17 51 32.7 -1.1**
baz=237
KDAK Kodiak Island 75.67 27 LR LR 18 19 27.5
comp=Z,47µm,21.4s,baz=250,slow=31
F14K Arctic Creek 75.71 16 P **P 17 51 32.5 -1.4**
baz=222
O18K Koktuh Hills 75.73 24 IAMs_20 IAMs_20 18 19 29.2
comp=Z,56µm,21.0s
O18K Koktuh Hills 75.73 24 P **P 17 51 33.6 -0.6**
baz=234
WMQ Urumqi 75.77 317 ⇓P **P 17 51 36.4 +1.5**
WMQ sP pwP 17 51 46.9 +0.2
WMQ S **S 18 01 13.9 -1.2**
WMQ SKS **SKSac 18 01 37.2 -6.1**
WMQ SS **SS 18 06 12.1 +4.7**
WMQ pmax pmax
comp=Z,100nm,1.7s
WMQ pmax pmax
comp=Z,2µm,3.9s
WMQ LR LR
comp=Z,26µm,24.1s
WMQ LR LR
comp=Z,21µm,23.1s
WMQ LR LR
comp=Z,29µm,24.1s
M17K Holitna River 75.81 22 IAmb IAmb 17 51 57.2
comp=Z,958nm,1.7s
M17K IAMs_20 IAMs_20 18 21 58.0
comp=Z,45µm,20.0s
M17K Holitna River 75.81 22 P **P 17 51 34.3 -0.3**
baz=231
Q19K Cape Douglas, 75.85 25 IAMs_20 IAMs_20 18 18 33.3

comp=Z,60µm,22.0s
Q19K Cape Douglas, 75.85 25 P **P** **17 51 34.5 -0.4**
baz=235
J16K Anvik River 75.91 20 IAmb IAmb 17 52 23.2
comp=Z,590nm,1.4s
J16K Anvik River 75.91 20 P **P** **17 51 35.0 -0.1**
baz=228
L17K Donlin 75.96 21 P **P** **17 51 35.8 +0.4**
baz=230
N18K Kilae Creek 75.96 23 IAmb IAmb 17 52 06.5
comp=Z,627nm,1.2s
N18K IAMs_20 IAMs_20 18 19 15.1
comp=Z,39µm,22.0s
N18K Kilae Creek 75.96 23 P **P** **17 51 35.1 -0.3**
baz=233
G15K Niukluk 76.02 17 P **P** **17 51 35.9 +0.2**
baz=224
PTCN Pitcairn Islan 76.06 115 IAMs_20 IAMs_20 18 19 22.9
comp=Z,41µm,20.0s
Q20K Shuyak Island 76.21 26 P **P** **17 51 36.1 -0.8**
baz=237
SYI Shuyak Island 76.21 26 IAmb IAmb 17 52 14.3
comp=Z,664nm,1.4s
I17K Unalakleet 76.29 19 IAmb IAmb 17 51 59.8
comp=Z,573nm,1.4s
I17K IAMs_20 IAMs_20 18 19 25.5
comp=Z,35µm,21.0s
I17K Unalakleet 76.29 19 P **P** **17 51 38.2 +1.0**
baz=228,SNR=9.8
O19K Port Alsworth 76.30 24 IAMs_20 IAMs_20 18 19 56.1
comp=Z,57µm,21.0s
O19K Port Alsworth 76.30 24 P **P** **17 51 37.0 -0.4**
baz=234
H16K Elim 76.31 18 P **P** **17 51 37.4 0.0**
baz=226
K17K Iditarod 76.33 21 IAmb IAmb 17 52 08.7
comp=Z,596nm,1.4s
K17K Iditarod 76.33 21 P **P** **17 51 37.6 +0.1**
baz=230
SVW2 Sparrevohn 76.33 23 IAmb IAmb 17 52 24.6
comp=Z,882nm,1.8s
F15K North Star Dit 76.36 17 P **P** **17 51 37.9 +0.3**
baz=224
P19K Oil Pt 76.43 25 IAmb IAmb 17 52 05.1
comp=Z,392nm,0.8s
P19K IAMs_20 IAMs_20 18 19 03.7
comp=Z,40µm,22.0s
P19K Oil Pt 76.43 25 P **P** **17 51 37.4 -0.8**
baz=236
M18K Stony River 76.47 23 P **P** **17 51 38.3 -0.1**
baz=233
J17K VABM Dome 76.50 20 IAmb IAmb 17 52 00.9
comp=Z,545nm,1.3s
J17K IAMs_20 IAMs_20 18 20 05.3
comp=Z,39µm,21.0s
J17K VABM Dome 76.50 20 P **P** **17 51 38.0 -0.4**
baz=229
N19K Bonanza Creek 76.59 23 IAmb IAmb 17 52 16.0
comp=Z,610nm,1.9s
N19K IAMs_20 IAMs_20 18 19 34.9
comp=Z,49µm,22.0s
N19K Bonanza Creek 76.59 23 P **P** **17 51 38.9 -0.3**
baz=234
L18K Granite Mounta 76.60 22 IAmb IAmb 17 52 36.7
comp=Z,634nm,1.6s
L18K IAMs_20 IAMs_20 18 23 22.0
comp=Z,44µm,20.0s
L18K Granite Mounta 76.60 22 P **P** **17 51 40.4 +1.3**
baz=232
HYB Hyderabad 76.78 289⇓ *e*P **P** **17 51 41.9 +0.8**
HYB *e*pP **pP** **17 51 47.8 -2.6**
HYB *e*PcP **PcP** **17 51 51.3 -1.0**
HYB IVmB_BB 17 51 53.3
comp=Z,4µm,3.3s
HYB *e*PP **PP** **17 54 33.2 -0.9**
HYB *e*S **S** **18 01 26.6 -0.4**
HYB *e*SS **SS** **18 06 22.7 -0.9**
HYB IVMs_BB IVMs_BB 18 22 21.4
comp=Z,8µm,22.9s
HYB Hyderabad 76.78 289 *e*P **P** **17 51 41.6 +0.5**
G16K Koyuk River 76.80 18 IAMs_20 IAMs_20 18 22 23.1
comp=Z,36µm,21.0s
G16K Koyuk River 76.80 18 P **P** **17 51 40.7 +0.6**
baz=226
KOD Kodaikanal 76.83 282 *e*P **P** **17 51 43.8 +2.0**
O20K Slope Mountain 76.93 25 P **P** **17 51 41.4 +0.3**
baz=236
HOM Homer 77.11 25 P **P** **17 51 41.2 -0.8**
HOM IAMs_20 IAMs_20 18 19 36.5
comp=Z,52µm,22.0s
HOM Homer 77.11 25 P **P** **17 51 41.8 -0.2**
baz=237
TRD Trivandrum 77.13 280 *e*P **P** **17 51 44.7 +1.7**
TRD IAMs_20 IAMs_20 18 22 17.1
comp=Z,35µm,29.8s
H17K Granite Mounta 77.25 19 IAmb IAmb 17 52 04.9
comp=Z,816nm,1.6s
H17K Granite Mounta 77.25 19 P **P** **17 51 43.0 +0.3**
baz=228,SNR=29
L19K White Mountain 77.26 22 IAmb IAmb 17 52 13.8
comp=Z,435nm,1.3s
L19K White Mountain 77.26 22 P **P** **17 51 42.7 -0.1**
baz=234
M19K Big River Lodg 77.27 23 IAmb IAmb 17 52 14.2
comp=Z,699nm,1.4s
M19K IAMs_20 IAMs_20 18 25 22.7
comp=Z,36µm,20.0s
M19K Big River Lodg 77.27 23 P **P** **17 51 43.3 +0.4**
baz=234
TTA Tatalina 77.28 21 P **P** **17 51 44.6 +1.6**
TTA Tatalina 77.28 21 ⇑P **P** **17 51 43.4 +0.4**
TTA Tatalina 77.28 21 P **P** **17 51 43.2 +0.2**
baz=232,SNR=16
J18K Innoko River 77.36 21 P **P** **17 51 43.0 -0.4**
J18K IAMs_20 IAMs_20 18 20 18.1
comp=Z,34µm,21.0s
J18K Innoko River 77.36 21 P **P** **17 51 43.2 -0.2**
baz=232,SNR=19
G17K Kiwalik Mounta 77.39 18 P **P** **17 51 43.2 -0.3**
baz=227
LGTI Lohaghat 77.48 301 *e*P **P** **17 51 45.6 +0.9**
BRLK Bradley Lake 77.49 25 IAmb IAmb 17 52 13.4
comp=Z,295nm,0.9s
BRLK IAMs_20 IAMs_20 18 23 22.2
comp=Z,55µm,20.0s
PTH Pithoragarh 77.52 301 *e*P **P** **17 51 45.4 +0.2**
BRSE Bradley Lake S 77.54 25 P **P** **17 51 44.1 -0.3**
baz=238
TIXI Tiksi 77.60 352 P **P** **17 51 43.1 -1.4**
TIXI IAmb IAmb 17 52 22.2
comp=Z,452nm,1.7s
TIXI Tiksi 77.60 352 *ce*P **P** **17 51 43.7 -0.8**
TIXI pmax pmax
comp=Z,252nm,1.5s
TIXI Tiksi 77.60 352 ⇑P **P** **17 51 43.4 -1.1**
TIXI Tiksi 77.60 352 LR LR 18 22 58.9
comp=Z,18µm,21.7s,baz=170,slow=33
N20K Mount Spurr 77.72 24 P **P** **17 51 44.7 -0.9**
baz=236,SNR=11
M20K Styx River 77.74 23 IAmb IAmb 17 52 16.5
comp=Z,880nm,1.6s
M20K IAMs_20 IAMs_20 18 20 23.3
comp=Z,55µm,22.0s
M20K Styx River 77.74 23 P **P** **17 51 44.6 -1.0**
baz=235
L20K Farewell, AK 77.80 22 P **P** **17 51 46.2 +0.4**
baz=234,SNR=18
F17K Baldwin Pennin 77.86 17 IAmb IAmb 17 52 18.3
comp=Z,442nm,1.1s
F17K Baldwin Pennin 77.86 17 P **P** **17 51 46.6 +0.6**
baz=227,SNR=18
H18K Honhosa River 77.88 19 IAMs_20 IAMs_20 18 20 15.7
comp=Z,36µm,22.0s
H18K Honhosa River 77.88 19 P **P** **17 51 45.9 -0.3**
baz=230
CAPN Captain Cook N 77.92 24 IAMs_20 IAMs_20 18 21 30.9
comp=Z,47µm,20.0s
CAPN Captain Cook N 77.92 24 P **P** **17 51 46.6 +0.1**
baz=237
C16K Lisburne Hills 78.06 15 IAmb IAmb 17 52 41.9
comp=Z,513nm,1.4s
C16K Lisburne Hills 78.06 15 P **P** **17 51 47.6 +0.6**
baz=222
DGZ Jazzator, Alta 78.06 323 *i* P **P** **17 51 47.8 +0.1**
DGZ pmax pmax
comp=Z,237nm,1.1s
DGZ MLR MLR
comp=Z,29µm,19.0s
J19K Poorman 78.07 21 IAmb IAmb 17 52 09.6
comp=Z,644nm,1.6s
J19K IAMs_20 IAMs_20 18 21 33.9
comp=Z,32µm,20.0s
J19K Poorman 78.07 21 P **P** **17 51 47.8 +0.5**
baz=233
GCSA Galena City Sc 78.11 20 P **P** **17 51 47.8 +0.4**
baz=231
JHNI Jhansi 78.17 297 *e*P **P** **17 51 48.2 -0.5**
D17K Noatak River 78.23 16 P **P** **17 51 49.2 +1.1**
baz=225,SNR=31
K20K Telida 78.25 21 IAmb IAmb 17 52 43.2
comp=Z,915nm,1.8s
K20K Telida 78.25 21 P **P** **17 51 48.6 +0.3**
baz=234
G18K Tagagawik 78.28 18 IAmb IAmb 17 52 10.1
comp=Z,396nm,1.2s
G18K IAMs_20 IAMs_20 18 23 06.0
comp=Z,31µm,20.0s
G18K Tagagawik 78.28 18 P **P** **17 51 48.8 +0.4**
baz=229,SNR=23
SEW Seward 78.28 26 P **P** **17 51 48.3 -0.2**
baz=239,SNR=8.3
O22K Cooper Landing 78.36 25 P **P** **17 51 49.0 +0.1**
baz=239,SNR=11
SKT Skwentna 78.43 23 IAMs_20 IAMs_20 18 21 16.3
comp=Z,55µm,21.0s
SKT Skwentna 78.43 23 P **P** **17 51 49.2 -0.2**
baz=237
F18K Selawik 78.44 17 P **P** **17 51 49.5 +0.3**
baz=228,SNR=8.0
SUA Susitna One 78.46 24 IAmb IAmb 17 52 20.3
comp=Z,500nm,1.4s
SUA IAMs_20 IAMs_20 18 20 21.2
comp=Z,46µm,22.0s
SUA Susitna One 78.46 24 P **P** **17 51 48.6 -1.1**
baz=238,SNR=16
FIS Fire Island 78.50 24 IAMs_20 IAMs_20 18 23 25.4
comp=Z,33µm,20.0s
RC01 Rabbit Creek A 78.67 25 IAmb IAmb 17 52 22.5
comp=Z,343nm,1.0s
RC01 Rabbit Creek A 78.67 25 P **P** **17 51 50.7 +0.1**
baz=239,SNR=17
PPLA Purkeypile 78.68 22 P **P** **17 51 49.5 -1.3**
baz=236,SNR=7.3
J20K Nowinta River 78.70 21 IAmb IAmb 17 52 23.7
comp=Z,388nm,1.1s
J20K Nowinta River 78.70 21 P **P** **17 51 50.3 -0.5**
baz=234,SNR=36
E18K Tukpahlearik C 78.72 17 IAmb IAmb 17 52 12.9
comp=Z,623nm,1.7s
E18K Tukpahlearik C 78.72 17 P **P** **17 51 51.1 +0.3**
baz=227
AKL Akola 78.73 292 *e*P **P** **17 51 52.5 +0.7**
H19K Roundabout Mou 78.74 19 IAmb IAmb 17 52 13.0
comp=Z,622nm,1.2s
H19K IAMs_20 IAMs_20 18 20 18.5
comp=Z,55µm,22.0s
H19K Roundabout Mou 78.74 19 P **P** **17 51 51.3 +0.4**
baz=232
C17K DeLong Mountai 78.76 15 P **P** **17 51 50.7 -0.3**
baz=224
M22K Willow 78.87 24 IAmb IAmb 17 52 21.1
comp=Z,510nm,1.1s
M22K IAMs_20 IAMs_20 18 20 44.0
comp=Z,45µm,22.0s
M22K Willow 78.87 24 P **P** **17 51 50.8 -0.9**
baz=238,SNR=9.2
ZSN Zaisan 78.87 320 *e*P **P** **17 51 52.2 +0.1**
ZSN *e*S **S** **18 01 49.9 +1.4**
ZSN pmax pmax
comp=Z,169nm,1.4s
ZSN Zaisan 78.87 320 *e*P **P** **17 51 52.3 +0.1**
comp=Z,169nm,1.4s,baz=320
ZSN *e*S **S** **18 01 49.9 +1.4**
baz=320
G19K Purcell Mounta 78.93 18 IAmb IAmb 17 52 14.2
comp=Z,622nm,1.2s
G19K IAMs_20 IAMs_20 18 22 34.2
comp=Z,33µm,20.0s
G19K Purcell Mounta 78.93 18 P **P** **17 51 51.5 -0.4**
baz=231,SNR=39
I20K Naaghedeneel 78.95 20 IAmb IAmb 17 52 14.4
comp=Z,759nm,1.2s
I20K IAMs_20 IAMs_20 18 21 08.2
comp=Z,39µm,22.0s
I20K Naaghedeneel 78.95 20 P **P** **17 51 50.4 -1.7**
baz=234
CAST Castle Rocks 79.02 22 IAMs_20 IAMs_20 18 24 55.8
comp=Z,46µm,20.0s
CAST Castle Rocks 79.02 22 P **P** **17 51 51.6 -1.0**
baz=236,SNR=28
P23K Montague Islan 79.12 26 P **P** **17 51 52.3 -0.8**
baz=241
CUT Chulitna 79.16 23 IAMs_20 IAMs_20 18 21 06.7
comp=Z,49µm,21.0s
CUT Chulitna 79.16 23 P **P** **17 51 52.0 -1.3**
baz=238
F19K Shaleruckik Mo 79.16 18 IAMs_20 IAMs_20 18 20 53.3
comp=Z,40µm,22.0s
F19K Shaleruckik Mo 79.16 18 P **P** **17 51 53.0 -0.2**
baz=230
PMR Palmer 79.19 24 IAmb IAmb 17 52 28.9
comp=Z,267nm,1.1s
PMR Palmer 79.19 24 P **P** **17 51 54.8 +1.4**
PMR Palmer 79.19 24 P **P** **17 51 52.7 -0.7**
baz=239,SNR=12
CHUM Lake Minchumin 79.19 22 P **P** **17 51 53.2 -0.2**
baz=236,SNR=50
H20K Anotleneega Mo 79.24 20 P **P** **17 51 54.0 +0.3**
baz=233
Q23K Middleton Isla 79.31 27 IAMs_20 IAMs_20 18 21 12.1
comp=Z,41µm,20.0s
Q23K Middleton Isla 79.31 27 P **P** **17 51 54.1 0.0**
baz=242
GHO Glory Hole Cre 79.36 24 IAmb IAmb 17 52 38.6
comp=Z,975nm,1.6s
GHO IAMs_20 IAMs_20 18 24 42.1
comp=Z,32µm,21.0s
KNK Knik Glacier 79.37 25 IAmb IAmb 17 52 32.1
comp=Z,504nm,1.3s
KNK Knik Glacier 79.37 25 P **P** **17 51 53.8 -0.7**
baz=240,SNR=15
C18K Utukok River 79.40 15 IAmb IAmb 17 52 17.3
comp=Z,1µm,1.8s
C18K Utukok River 79.40 15 P **P** **17 51 53.8 -0.8**
baz=226
DDI Dehra Dun 79.52 302 *e*P **P** **17 51 57.2 +1.1**
DDI IAMs_20 IAMs_20 18 27 25.1
comp=Z,32µm,29.8s
KTH Kantishna Hill 79.52 22 IAmb IAmb 17 52 37.9
comp=Z,370nm,1.3s
SML Sawmill 79.62 24 IAmb IAmb 17 52 15.8
comp=Z,642nm,1.2s
SML IAMs_20 IAMs_20 18 24 01.0
comp=Z,46µm,21.0s
SML Sawmill 79.62 24 P **P** **17 51 55.1 -0.8**
baz=240,SNR=51
HIN Hinchinbrook I 79.70 26 P **P** **17 51 56.7 +0.3**
HIN IAMs_20 IAMs_20 18 25 39.3
comp=Z,42µm,20.0s
TRF Thorofare Moun 79.71 22 IAMs_20 IAMs_20 18 25 07.1
comp=Z,50µm,20.0s
TRF Thorofare Moun 79.71 22 P **P** **17 51 55.4 -1.1**
baz=238,SNR=11
E19K Redstone River 79.72 17 IAmb IAmb 17 52 25.9
comp=Z,515nm,1.0s
E19K Redstone River 79.72 17 P **P** **17 51 57.1 +0.8**
baz=230
MNGI Mangalore 79.73 284 *e*P **P** **17 51 59.0 +1.6**
B18K Kokolik River 79.74 15 P **P** **17 51 57.1 +0.8**
baz=226
BPAW Bear Paw Mtn. 79.80 22 IAMs_20 IAMs_20 18 26 26.5
comp=Z,32µm,20.0s
BPAW Bear Paw Mtn. 79.80 22 P **P** **17 51 55.9 -0.9**
baz=237,SNR=15
M23K Glacier View 79.86 24 P **P** **17 51 56.7 -0.5**
baz=240,SNR=7.5
F20K Avaraart Lake 79.92 18 IAmb IAmb 17 52 19.8
comp=Z,480nm,1.4s
F20K Avaraart Lake 79.92 18 P **P** **17 51 57.8 +0.5**
baz=232
NDI New Delhi 79.92 300 *e*P **P** **17 51 58.2 0.0**
H21K Melozitna Rive 80.03 20 IAmb IAmb 17 52 20.0
comp=Z,388nm,1.4s
H21K IAMs_20 IAMs_20 18 21 51.6
comp=Z,42µm,22.0s
H21K Melozitna Rive 80.03 20 P **P** **17 51 58.1 0.0**
baz=235,SNR=20
I21K Tanana 80.04 20 IAmb IAmb 17 52 20.0
comp=Z,574nm,1.1s
I21K Tanana 80.04 20 P **P** **17 51 58.9 +0.8**
baz=236
SCM Sheep Creek Mo 80.05 25 IAmb IAmb 17 52 28.7
comp=Z,716nm,1.5s
SCM Sheep Creek Mo 80.05 25 P **P** **17 51 58.0 -0.3**
baz=241,SNR=14
EYAK Cordova Ski Ar 80.11 26 P **P** **17 51 57.9 -0.5**
baz=242
D19K Kuna River 80.14 16 IAmb IAmb 17 52 20.5
comp=Z,705nm,1.5s
D19K Kuna River 80.14 16 P **P** **17 51 59.0 +0.4**
baz=230
C19K Lookout Ridge 80.14 15 P **P** **17 51 58.8 +0.2**
baz=228
RND Reindeer 80.23 23 IAmb IAmb 17 52 30.5
comp=Z,244nm,1.0s
RND IAMs_20 IAMs_20 18 21 52.0
comp=Z,47µm,22.0s
H08S2 Diego Garcia H 80.25 263 P **P** **17 52 02.2 +2.3**
baz=39,slow=6.3,SNR=21
H08S3 Diego Garcia H 80.27 263 P **P** **17 52 02.0 +1.9**
baz=39,slow=6.3,SNR=17
H08S1 Diego Garcia H 80.27 263 P **P** **17 52 02.5 +2.5**
baz=39,slow=6.3,SNR=15
KAAM Kaadhehdhoo 80.30 271 P **P** **17 52 00.6 0.0**
KAAM IAmb IAmb 17 52 12.3
comp=Z,656nm,1.1s
KAAM Kaadhehdhoo 80.30 271 ⇑P **P** **17 52 02.2 +1.7**
KAAM Kaadhehdhoo 80.30 271 P **P** **17 52 02.5 +2.0**
SNR=10
DGAR Diego Garcia 80.31 263 P **P** **17 52 01.6 +1.1**
DGAR S **S** **18 02 02.6 -2.3**
MK31 Makanchi Array 80.34 319 *i* P **P** **17 51 59.8 -0.3**
MK31 pmax pmax
comp=Z,153nm,1.0s
MKAR Makanchi Array 80.34 319 P **P** **17 52 00.2 +0.1**
comp=Z,22nm,0.5s,baz=101,slow=6.3,SNR=73
MKAR S **S** **18 01 59.3 -4.8**
comp=Z,2.7nm,1.1s,baz=101,slow=6.2,SNR=1.5
MKAR PKKPbc **PKKPbc** **18 10 41.3 -3.1**
comp=Z,1.1nm,0.8s,baz=302,slow=2.6,SNR=4.3
MKAR PKPPKP **P'P'df** **18 18 48.5 +2.2**
comp=Z,2.3nm,1.1s,baz=331,slow=1.5,SNR=4.0
MKAR LR LR 18 27 03.9
comp=Z,23µm,21.2s,baz=118,slow=35
comp=Z,22nm,0.5s
MCK McKinley 80.37 22 P **P** **17 51 59.1 -0.8**
baz=239,SNR=60
MLY Manley 80.40 21 IAmb IAmb 17 52 31.4
comp=Z,939nm,1.8s
MLY Manley 80.40 21 P **P** **17 51 59.3 -0.8**
baz=237,SNR=66
BWN Browne 80.40 22 IAMs_20 IAMs_20 18 27 23.1
comp=Z,46µm,19.0s
KAIM Kayak Island 80.41 27 P **P** **17 51 59.8 -0.4**
KAIM IAmb IAmb 17 52 34.5
comp=Z,1µm,1.8s
KAIM Kayak Island 80.41 27 P **P** **17 52 00.2 +0.1**
baz=244
SMLA Simla 80.42 302 *e*P **P** **17 52 01.8 +1.0**
KUDL Kundal 80.45 299 *e*P **P** **17 52 01.2 +0.2**
KLU Klutina 80.47 25 IAmb IAmb 17 52 23.0
comp=Z,644nm,1.3s
KLU Klutina 80.47 25 P **P** **17 52 00.6 0.0**
baz=242,SNR=28
KKR Kurukshetra 80.50 301 *e*P **P** **17 52 02.7 +1.4**
RAGM Ragged Mountai 80.50 26 IAmb IAmb 17 52 31.2
comp=Z,519nm,1.2s
E20K Nigu River 80.53 17 P **P** **17 52 01.1 +0.4**
baz=231
MAKZ Makanchi 80.55 319 P **P** **17 52 01.1 -0.2**
MAKZ Makanchi 80.55 319 P **P** **17 52 01.1 -0.2**
MAKZ pmax pmax
comp=Z,157nm,0.9s
MAKZ MLR MLR
comp=Z,24µm,20.0s
H22K Ishtalitna Cre 80.65 20 P **P** **17 52 00.8 -0.5**
baz=236
M24K Tolsona, Glenn 80.66 25 IAmb IAmb 17 52 38.2
comp=Z,552nm,1.1s
M24K Tolsona, Glenn 80.66 25 P **P** **17 52 01.4 -0.2**
baz=242,SNR=21
D20K Etivluk River 80.70 17 P **P** **17 52 01.3 -0.2**
baz=231,SNR=33
F21K Alatna River 80.72 18 IAMs_20 IAMs_20 18 22 17.8
comp=Z,43µm,20.0s
F21K Alatna River 80.72 18 P **P** **17 52 01.3 -0.4**
baz=234
SUCK Suckling Hills 80.77 27 IAmb IAmb 17 53 08.6
comp=Z,706nm,1.6s
NEA2 Nenana 80.77 22 IAMs_20 IAMs_20 18 29 06.2
comp=Z,28µm,19.0s
NEA2 Nenana 80.77 22 P **P** **17 52 01.2 -0.7**
baz=239,SNR=37
BMRM Bremner River 80.80 26 P **P** **17 52 01.9 -0.4**
baz=243,SNR=12
KAD Karad 80.90 288 *e*P **P** **17 52 04.2 +0.5**
BERG Berg Lake 80.94 27 IAmb IAmb 17 52 39.6
comp=Z,549nm,1.2s
I23K Minto, Yukon-K 80.95 21 IAMs_20 IAMs_20 18 24 59.0
comp=Z,33µm,20.0s
I23K Minto, Yukon-K 80.95 21 P **P** **17 52 02.7 -0.2**
baz=238,SNR=12
MNCY Minicoy 80.97 279 *e*P **P** **17 52 06.0 +1.9**
GOA Goa 81.01 286 *e*P **P** **17 52 05.7 +1.5**
GOA IAMs_20 IAMs_20 18 25 09.7
comp=Z,22µm,17.9s
BGLC Bering Glacier 81.01 27 P **P** **17 52 02.8 -0.5**
baz=245
WRH Wood River Hil 81.07 22 IAmb IAmb 17 52 34.0
comp=Z,520nm,1.4s
WRH IAMs_20 IAMs_20 18 27 42.1
comp=Z,32µm,19.0s
N25K Chitina, Valde 81.09 25 IAmb IAmb 17 52 35.7
comp=Z,401nm,1.2s
N25K Chitina, Valde 81.09 25 P **P** **17 52 03.8 -0.1**
baz=243,SNR=17
ZALV Zalesovo Beam 81.10 326 *i* P **P** **17 52 02.7 -1.2**
ZALV pmax pmax
comp=Z,10.0nm,0.6s
ZALV Zalesovo Beam 81.10 326 P **P** **17 52 02.8 -1.1**
comp=Z,9.6nm,0.6s,baz=108,slow=5.3,SNR=35
ZALV S **S** **18 02 06.7 -4.9**
comp=Z,0.7nm,0.4s,baz=50,slow=4.5,SNR=1.6
ZALV PKPPKP **P'P'df** **18 18 47.9 +3.6**
comp=Z,2.1nm,0.9s,baz=262,slow=3.0,SNR=4.6
ZALV LR LR 18 27 43.2
comp=Z,13µm,21.1s,baz=114,slow=35
comp=Z,9.6nm,0.6s
BHK Bhakra 81.11 303 *e*P **P** **17 52 05.2 +0.7**
HARP HAARP 81.22 24 P **P** **17 52 04.0 -0.4**
baz=243
SNH Sunshine Point 81.24 27 IAmb IAmb 17 52 33.7
comp=Z,350nm,1.2s
SNH IAMs_20 IAMs_20 18 21 23.9
comp=Z,47µm,22.0s
CCB Clear Creek Bu 81.27 22 IAmb IAmb 17 52 34.9
comp=Z,713nm,1.8s
CCB IAMs_20 IAMs_20 18 29 00.3
comp=Z,33µm,20.0s
MDM Murphy Dome 81.27 22 IAmb IAmb 17 52 35.0
comp=Z,685nm,1.8s
MDM IAMs_20 IAMs_20 18 25 56.3
comp=Z,35µm,20.0s
SHLS Shalkode 81.29 315 *e*P **P** **17 52 04.0 -1.3**
SHLS pmax pmax
comp=Z,193nm,1.6s
SHLS Shalkode 81.29 315 *e*P **P** **17 52 04.1 -1.3**
comp=Z,193nm,1.6s,baz=315
E21K Killik River 81.30 17 IAMs_20 IAMs_20 18 26 36.9
comp=Z,35µm,20.0s
E21K Killik River 81.30 17 P **P** **17 52 04.6 -0.1**
baz=234
PDGK Podgornoye 81.31 315 P **P** **17 52 05.0 -0.5**
WAX Waxell Ridge 81.35 27 IAmb IAmb 17 52 32.6
comp=Z,261nm,1.0s
CRQM Cirque 81.35 26 IAmb IAmb 17 52 37.8
comp=Z,335nm,1.1s
GLB Gilahina Butte 81.35 26 IAmb IAmb 17 52 28.2
comp=Z,431nm,1.1s
GLB IAMs_20 IAMs_20 18 20 34.8
comp=Z,48µm,22.0s
PAX Paxson 81.36 24 P **P** **17 52 04.8 -0.5**
baz=242,SNR=12

DHRM DHARAMSHALA 81.36 303 *e*P P 17 52 06.2 +0.1
DHRM IAMs_20 IAMs_20 18 25 30.6
comp=Z,58µm,32.7s
COLA College 81.36 22 P P 17 52 02.5 -2.5
COLA College 81.36 22 IAMs_20 IAMs_20 18 26 08.7
comp=Z,36µm,20.0s
COLA College 81.36 22 P P 17 52 06.7 +1.6
COLA College 81.36 22 *i* P P 17 52 02.8 -2.3
COLA pmax pmax
comp=Z,182nm,0.9s
COLA MLR MLR
comp=Z,28µm,17.0s
COLA College 81.36 22 P P 17 52 03.9 -1.1
baz=240
COLA College 81.36 22 ⇓P P 17 52 03.4 -1.7
CRQE Cirque 81.37 26 P P 17 52 04.7 -0.7
baz=245,SNR=13
POO Poona 81.37 289 *e*P P 17 52 05.2 -1.0
POO IAMs_20 IAMs_20 18 25 00.8
comp=Z,25µm,26.8s
B20K Meade River 81.38 15 IAmb IAmb 17 52 33.8
comp=Z,354nm,1.1s
B20K Meade River 81.38 15 P P 17 52 04.9 -0.2
baz=230
VRDI Verde Repeater 81.42 26 IAmb IAmb 17 52 40.3
comp=Z,256nm,1.0s
HDA Harding Lake 81.47 22 IAmb IAmb 17 52 59.1
comp=Z,534nm,1.6s
HDA IAMs_20 IAMs_20 18 27 55.7
comp=Z,35µm,19.0s
HDA Harding Lake 81.47 22 P P 17 52 04.7 -1.0
baz=241,SNR=15
TGL Tana Glacier 81.49 26 IAmb IAmb 17 52 47.7
comp=Z,402nm,1.2s
C21K Knifeblade Rid 81.49 17 P P 17 52 05.3 -0.4
baz=233
G23K Bananza Creek 81.56 20 IAMs_20 IAMs_20 18 23 12.9
comp=Z,49µm,22.0s
G23K Bananza Creek 81.56 20 P P 17 52 06.0 -0.2
baz=238,SNR=20
UZB Uzunbulak 81.60 315 *e*P P 17 52 07.2 +0.2
UZB *e*S S 18 02 18.8 +1.3
UZB pmax pmax
comp=Z,209nm,1.7s
UZB Uzynbulak 81.60 315 *e*P P 17 52 07.3 +0.2
comp=Z,209nm,1.7s,baz=315
UZB *e*S S 18 02 18.9 +1.3
baz=315
K24K Donnelly Dome 81.63 23 P P 17 52 06.0 -0.6
baz=242,SNR=11
POKR Poker Plat Res 81.64 22 P P 17 52 05.0 -1.7
baz=240,SNR=9.8
ISLE Juniper Island 81.64 27 IAMs_20 IAMs_20 18 21 39.5
comp=Z,55µm,22.0s
MESA MESA 81.64 27 IAmb IAmb 17 52 44.3
comp=Z,352nm,1.2s
MESA IAMs_20 IAMs_20 18 21 11.6
comp=Z,43µm,22.0s
MESA MESA 81.64 27 P P 17 52 07.0 0.0
baz=246
IL31 81.67 22 IAmb IAmb 17 53 06.2
comp=Z,462nm,1.6s
ILAR Eielson Array 81.67 22 P P 17 52 04.2 -2.5
comp=Z,12nm,0.7s,baz=255,slow=1.9,SNR=64
ILAR PKKP PKKPdf 18 10 25.8 -6.4
comp=Z,1.3nm,0.9s,baz=238,slow=4.9,SNR=4.4
ILAR PKKPbc PKKPbc 18 10 41.2 -0.9
comp=Z,3.8nm,1.0s,baz=360,slow=1.1,SNR=8.6
ILAR PKPPKP P'P'df 18 18 41.1 -1.4
comp=Z,2.1nm,1.0s,baz=339,slow=1.1,SNR=5.8
ILAR LR LR 18 27 42.9
comp=Z,23µm,18.1s,baz=228,slow=35
comp=Z,12nm,0.7s
MCARA McCarthy VSAT 81.67 26 IAmb IAmb 17 53 15.0
comp=Z,380nm,1.0s
MCARA IAMs_20 IAMs_20 18 22 21.2
comp=Z,47µm,21.0s
MCARA McCarthy VSAT 81.67 26 P P 17 52 05.8 -1.1
baz=245,SNR=22
E22K Anaktuvuk Pass 81.77 18 IAMs_20 IAMs_20 18 23 04.5
comp=Z,46µm,22.0s
E22K Anaktuvuk Pass 81.77 18 P P 17 52 07.2 -0.1
baz=236
COLD Coldfoot 81.78 19 P P 17 52 07.5 +0.2
baz=237,SNR=16
AJM Ajmer 81.80 297 *e*P P 17 52 08.4 +0.1
B21K Ikpikpuk River 81.83 16 P P 17 52 07.6 +0.2
baz=233
H24K Noodor Dome 81.84 21 IAMs_20 IAMs_20 18 25 16.5
comp=Z,39µm,20.0s
H24K Noodor Dome 81.84 21 P P 17 52 07.2 -0.5
baz=240
PRZ Przheval'sk 81.88 314 P P 17 52 10.3 +1.7
PRZ pmax pmax
comp=Z,336nm,1.4s
THN Thein Dam 81.88 303 *e*P P 17 52 08.4 -0.1
D22K Ayikyak River 81.94 17 IAmb IAmb 17 52 53.2
comp=Z,849nm,1.4s
D22K IAMs_20 IAMs_20 18 25 26.8
comp=Z,45µm,20.0s
D22K Ayikyak River 81.94 17 P P 17 52 08.7 +0.6
baz=235
GRNC Granite Creek 81.96 27 IAMs_20 IAMs_20 18 21 59.9
comp=Z,46µm,22.0s
RIDG Independent Ri 81.96 23 IAMs_20 IAMs_20 18 30 58.8
comp=Z,39µm,19.0s
RIDG Independent Ri 81.96 23 P P 17 52 08.3 -0.1
baz=243
SATY Saty 82.01 314 *e*P P 17 52 09.4 +0.2
SATY *e*S S 18 02 23.0 +1.2
SATY pmax pmax
comp=Z,175nm,1.6s
SATY Saty 82.01 314 *e*P P 17 52 09.4 +0.2
comp=Z,175nm,1.6s,baz=314
SATY *e*S S 18 02 23.0 +1.2
baz=314
ZHN Zhinishke 82.02 315 *e*P P 17 52 09.5 +0.3
ZHN *e*S S 18 02 23.0 +1.2
ZHN Zhinishke 82.02 315 *e*P P 17 52 09.5 +0.3
baz=314
ZHN *e*S S 18 02 23.0 +1.2
baz=314
MENT Mentasta 82.05 24 IAmb IAmb 17 52 40.5
comp=Z,501nm,1.6s
PAF Port-aux-Franc 82.10 221 P P 17 52 08.0 -1.3
PAF IAMs_20 IAMs_20 18 27 21.0
comp=Z,30µm,19.0s
PAF Port-aux-Franc 82.10 221 P P 17 52 08.0 -1.3
PAF pmax pmax
comp=Z,725nm,1.2s
PAF MLR MLR
comp=Z,30µm,19.0s
PAF Port-aux-Franc 82.10 221 ⇑P P 17 52 10.8 +1.4
TABL Table Mountain 82.11 27 IAmb IAmb 17 52 51.1
comp=Z,299nm,1.1s
TABL IAMs_20 IAMs_20 18 21 26.1
comp=Z,38µm,22.0s
M26K Nabesna, AK 82.12 25 IAmb IAmb 17 52 45.7
comp=Z,379nm,1.6s
M26K IAMs_20 IAMs_20 18 30 27.8
comp=Z,29µm,19.0s
M26K Nabesna, AK 82.12 25 P P 17 52 08.8 -0.4
baz=245,SNR=12
BARN Barnard Glacie 82.13 26 IAmb IAmb 17 52 46.1
comp=Z,266nm,1.0s
BARN IAMs_20 IAMs_20 18 22 19.5
comp=Z,51µm,22.0s
J25K Salcha River, 82.17 22 P P 17 52 08.3 -1.2
baz=242
CTG Chitna Glacier 82.24 27 P P 17 52 08.6 -1.4
baz=246,SNR=18
CTGM Chitina Glacie 82.24 27 IAmb IAmb 17 52 33.7
comp=Z,296nm,1.0s
CTGM IAMs_20 IAMs_20 18 22 09.3
comp=Z,47µm,22.0s
L26K Log Cabin Wild 82.25 24 P P 17 52 09.0 -0.8
baz=244,SNR=20
LOGN Logan Glacier 82.33 27 IAMs_20 IAMs_20 18 21 47.8
comp=Z,45µm,22.0s
A21K Barrow 82.36 14 P P 17 52 10.3 +0.1
baz=231
PINM Pinnacle 82.39 28 P P 17 52 10.1 -0.6
baz=247
SCRK Sand Creek 82.41 23 IAmb IAmb 17 52 42.2
comp=Z,563nm,1.5s
SCRK IAMs_20 IAMs_20 18 27 56.6
comp=Z,35µm,20.0s

SCRK Sand Creek 82.41 23 P P 17 52 10.6 -0.2
baz=244,SNR=23
E23K Chandalar 82.42 19 P P 17 52 10.9 +0.1
baz=238
G24K Hadweenzic Riv 82.42 20 IAmb IAmb 17 52 44.5
comp=Z,531nm,1.6s
G24K IAMs_20 IAMs_20 18 23 16.8
comp=Z,31µm,22.0s
G24K Hadweenzic Riv 82.42 20 P P 17 52 10.7 0.0
baz=240
TDK Taldyqorghan 82.48 316 *e*P P 17 52 11.7 +0.3
TDK Taldyqorghan 82.48 316 *e*P P 17 52 11.7 +0.3
baz=316
TDK LR LR 18 23 54.6
comp=Z,20µm,21.5s,baz=316
PRP Porcupine Dome 82.53 22 IAMs_20 IAMs_20 18 26 43.8
comp=Z,36µm,19.0s
PRP Porcupine Dome 82.53 22 P P 17 52 11.1 -0.4
baz=242
M27K Edge Creek, AK 82.57 25 IAMs_20 IAMs_20 18 24 21.1
comp=Z,46µm,21.0s
M27K Edge Creek, AK 82.57 25 P P 17 52 11.7 0.0
baz=246
D23K Nanushuk River 82.58 18 P P 17 52 11.9 +0.4
baz=237
B22K Teshekpuk Lake 82.59 16 IAmb IAmb 17 52 56.5
comp=Z,321nm,1.3s
B22K Teshekpuk Lake 82.59 16 P P 17 52 11.4 0.0
baz=234
JMU Jammu 82.61 304 *e*P P 17 52 14.4 +2.1
BCPM Bancas Point 82.62 28 IAMs_20 IAMs_20 18 33 12.5
comp=Z,34µm,18.0s
PNL Peninsula 82.62 28 P P 17 52 13.3 +1.4
PNL Peninsula 82.62 28 P P 17 52 12.2 +0.3
baz=248,SNR=5.8
F24K Squaw Lake 82.70 19 IAmb IAmb 17 52 46.5
comp=Z,384nm,1.2s
F24K IAMs_20 IAMs_20 18 24 09.0
comp=Z,49µm,21.0s
F24K Squaw Lake 82.70 19 P P 17 52 12.7 +0.6
baz=239
TOLK Toolik Lake Re 82.75 18 IAmb IAmb 17 52 41.0
comp=Z,277nm,1.1s
TOLK IAMs_20 IAMs_20 18 23 22.3
comp=Z,49µm,22.0s
TOLK Toolik Lake Re 82.75 18 P P 17 52 12.3 -0.1
baz=238
H25L Birch Creek 82.79 21 P P 17 52 12.5 -0.1
baz=242
E24K Your Creek 82.79 19 IAMs_20 IAMs_20 18 26 59.3
comp=Z,46µm,20.0s
E24K Your Creek 82.79 19 P P 17 52 12.9 +0.3
baz=239
J26L Joseph Creek 82.81 23 P P 17 52 12.9 0.0
baz=244
L27K Beaver Creek, 82.89 25 IAmb IAmb 17 52 45.2
comp=Z,458nm,1.4s
L27K Beaver Creek, 82.89 25 P P 17 52 13.2 0.0
baz=246
G25K Bearman Lake 82.93 20 P P 17 52 13.3 0.0
baz=241,SNR=43
YUK3 Moose Creek 82.95 26 P P 17 52 13.9 +0.1
baz=247,SNR=20
MDOK Medeo 83.00 314 *e*P P 17 52 14.0 -0.4
MDOK *e*S S 18 02 32.9 +0.9
MDOK Medeo 83.00 314 *e*P P 17 52 14.0 -0.4
baz=314
MDOK *e*S S 18 02 32.9 +0.9
baz=314
MDOK LR LR 18 25 17.4
comp=Z,10µm,21.9s,baz=314
BVCY Beaver Creek 83.03 25 P P 17 52 13.8 -0.2
baz=246
KSH Kashi 83.03 311 P P 17 52 16.4 +1.8
KSH pP PcP 17 52 18.7 -0.5
KSH S SKSac 18 02 34.4 -0.4
KSH pmax pmax
comp=Z,91nm,1.1s
KSH pmax pmax
comp=Z,8µm,11.1s
KSH LR LR
comp=Z,17µm,21.1s
KSH LR LR
comp=Z,40µm,19.6s
KSH LR LR
comp=Z,43µm,21.6s
TNSS Tian-Shan 83.05 314 *e*P P 17 52 14.3 -0.7
TNSS Tian-Shan 83.05 314 *e*P P 17 52 14.3 -0.7
baz=314
YUK8 Steele Glacier 83.07 27 P P 17 52 14.5 0.0
baz=248,SNR=17
C23K Itkillik River 83.09 17 IAmb IAmb 17 52 43.8
comp=Z,541nm,1.2s
C23K Itkillik River 83.09 17 P P 17 52 14.6 +0.5
baz=237
AAA Alma-Ata 83.11 314 LR LR 18 25 58.2
comp=Z,21µm,20.5s,baz=314
FYU Fort Yukon 83.14 21 IAmb IAmb 17 52 46.2
comp=Z,556nm,1.5s
FYU IAMs_20 IAMs_20 18 34 15.6
comp=Z,32µm,18.0s
K27K Chicken 83.19 24 IAmb IAmb 17 52 47.1
comp=Z,564nm,1.5s
K27K Chicken 83.19 24 P P 17 52 15.0 +0.3
baz=242
CHKK Chushkaly 83.20 315 *e*P P 17 52 15.0 -0.2
CHKK Chushkaly 83.20 315 *e*P P 17 52 15.1 -0.2
baz=315
O29M Mount Kennedy 83.24 28 IAmb IAmb 17 52 50.4
comp=Z,235nm,1.0s
O29M IAMs_20 IAMs_20 18 23 38.9
comp=Z,42µm,21.0s
O29M Mount Kennedy 83.24 28 P P 17 52 15.1 -0.2
baz=249
D24K Happy Valley 83.25 18 IAmb IAmb 17 53 17.4
comp=Z,400nm,1.4s
D24K Happy Valley 83.25 18 P P 17 52 15.4 +0.5
baz=238
I26K Coal Creek Min 83.32 22 IAmb IAmb 17 52 46.6
comp=Z,706nm,1.8s
I26K IAMs_20 IAMs_20 18 23 59.7
comp=Z,52µm,22.0s
I26K Coal Creek Min 83.32 22 P P 17 52 14.9 -0.5
baz=244
ULHL Ulahol 83.39 313 P P 17 52 16.8 +0.3
SNR=53
P29M Windy Craggy 83.40 29 IAmb IAmb 17 52 56.0
comp=Z,510nm,1.4s
P29M IAMs_20 IAMs_20 18 23 15.0
comp=Z,51µm,21.0s
P29M Windy Craggy 83.40 29 P P 17 52 16.5 +0.6
baz=250
F25K Christian River 83.48 20 P P 17 52 16.4 +0.2
baz=242
S31K Pelican 83.57 30 IAmb IAmb 17 52 49.6
comp=Z,290nm,1.2s
S31K Pelican 83.57 30 P P 17 52 16.7 0.0
baz=251,SNR=5.5
YUK6 Outpost Mounta 83.57 27 P P 17 52 16.9 -0.1
baz=249,SNR=6.3
C24K Franklin Bluff 83.58 17 P P 17 52 17.0 +0.4
baz=238
YUK4 Talbot Arm 83.59 27 P P 17 52 18.0 +0.9
baz=249,SNR=16
KUU Kurty 83.67 315 *e*P P 17 52 17.0 -0.6
KUU *e*S S 18 02 38.2 -0.2
KUU Kurty 83.67 315 *e*P P 17 52 17.1 -0.6
baz=315
KUU *e*S S 18 02 38.2 -0.2
baz=315
KUU LR LR 18 26 26.3
comp=Z,10µm,16.4s,baz=315
SIT Sitka 83.75 31 P P 17 52 14.3 -3.4
SIT IAmb IAmb 17 52 40.4
comp=Z,203nm,1.0s
SIT Sitka 83.75 31 P P 17 52 14.3 -3.4
SIT pmax pmax
comp=Z,203nm,1.0s
SIT Sitka 83.75 31 P P 17 52 17.9 +0.3
baz=252
KURK Kurchatov 83.75 322 P P 17 52 16.3 -1.6
KURK IAmb IAmb 17 52 59.2
comp=Z,458nm,1.6s
KURK Kurchatov 83.75 322 *ce*P P 17 52 17.7 -0.2
KURK pmax pmax
comp=Z,162nm,1.3s
KURK MLR MLR
comp=Z,13µm,18.0s

KURK Kurchatov 83.75 322 P P 17 52 18.4 +0.5
KURK S S 18 02 33.2 -5.7
E25K Arctic Village 83.76 19 IAMs_20 IAMs_20 18 25 26.1
comp=Z,36µm,21.0s
E25K Arctic Village 83.76 19 P P 17 52 17.7 +0.1
baz=242,SNR=17
KURBB Kurchatov Arra 83.78 322 P P 17 52 17.3 -0.7
KURBB Kurchatov Arra 83.78 322 P P 17 52 16.9 -1.1
comp=Z,35nm,1.1s,baz=107,slow=4.0,SNR=75
KURBB PKKPbc PKKPbc 18 10 34.1 -2.5
comp=Z,1.8nm,1.0s,baz=276,slow=3.1,SNR=4.7
KURBB PKPPKP P'P'df 18 18 41.1 +1.4
comp=Z,0.9nm,0.7s,baz=285,slow=2.8,SNR=4.0
KURBB LR LR 18 30 14.1
comp=Z,12µm,19.7s,baz=119,slow=36
comp=Z,35nm,1.1s
G26K Porcupine Rive 83.82 21 P P 17 52 18.3 +0.4
baz=243,SNR=70
EGAK Eagle 83.86 23 IAmb IAmb 17 52 52.0
comp=Z,491nm,1.2s
EGAK IAMs_20 IAMs_20 18 29 43.1
comp=Z,32µm,20.0s
EGAK Eagle 83.86 23 P P 17 52 18.2 0.0
baz=246,SNR=38
EGAK Eagle 83.86 23 ⇑P P 17 52 17.5 -0.6
HYT Haines Junctio 83.92 27 P P 17 52 18.9 +0.2
baz=250,SNR=21
P30M Million Dollar 83.93 28 P P 17 52 18.4 -0.3
baz=250
R31K City Hall, Gus 83.96 30 P P 17 52 17.9 -0.8
baz=252
TKM2 Tokmak 2 83.99 314 P P 17 52 19.9 +0.3
SNR=61
TKM2 Tokmak 2 83.99 314 *i* P P 17 52 19.4 -0.2
TKM2 pmax pmax
comp=Z,248nm,1.1s
PLBC Pleasant Camp 84.00 29 P P 17 52 18.7 -0.2
baz=251,SNR=7.6
I27K Kandik River 84.03 22 P P 17 52 18.8 -0.3
baz=246
F26K Sheenjek River 84.04 20 P P 17 52 19.3 +0.2
baz=243,SNR=20
M29M Somme Creek 84.07 26 IAMs_20 IAMs_20 18 28 40.7
comp=Z,38µm,20.0s
M29M Somme Creek 84.07 26 P P 17 52 19.5 +0.1
baz=249,SNR=31
D25K Kavik River 84.09 18 IAmb IAmb 17 52 48.2
comp=Z,158nm,1.0s
D25K IAMs_20 IAMs_20 18 28 15.6
comp=Z,42µm,20.0s
D25K Kavik River 84.09 18 P P 17 52 19.0 -0.2
baz=241
NIL Nilore 84.13 304 P P 17 52 19.6 -0.6
NIL Nilore 84.13 304 IAMs_20 IAMs_20 18 29 16.8
comp=Z,31µm,21.0s
NIL Nilore 84.13 304 P P 17 52 19.6 -0.6
NIL pmax pmax
comp=Z,440nm,1.0s
NIL MLR MLR
comp=Z,31µm,21.0s
H02S1 DAWSON INLET T 84.21 36 T T 19 25 28.1
S32K Killisnoo 84.26 31 P P 17 52 20.4 +0.1
baz=253
DAWY Dawson 84.29 24 IAmb IAmb 17 52 52.6
comp=Z,366nm,1.3s
DAWY Dawson 84.29 24 P P 17 52 20.5 +0.1
baz=248,SNR=29
H27K Steamboat Moun 84.33 22 P P 17 52 20.7 +0.2
baz=246,SNR=40
N30M Aishikik Lake 84.33 27 IAmb IAmb 17 52 52.8
comp=Z,486nm,1.7s
N30M IAMs_20 IAMs_20 18 25 29.7
comp=Z,33µm,21.0s
N30M Aishikik Lake 84.33 27 P P 17 52 20.8 +0.1
baz=250
KBK Karagaybulak 84.41 313 P P 17 52 22.2 +0.5
SNR=60
CRAG Craig 84.46 33 P P 17 52 21.4 +0.1
baz=254
L29M L29M 84.46 25 IAmb IAmb 17 52 53.6
comp=Z,525nm,1.4s
L29M L29M 84.46 25 P P 17 52 21.7 +0.4
baz=249
SKAG Skagway 84.50 29 IAmb IAmb 17 52 56.8
comp=Z,514nm,1.6s
SKAG Skagway 84.50 29 P P 17 52 21.9 +0.4
baz=252
R32K Eaglecrest 84.53 30 IAmb IAmb 17 53 01.9
comp=Z,239nm,1.4s
R32K Eaglecrest 84.53 30 P P 17 52 22.1 +0.4
baz=253
O30N Mendenhall 84.56 28 IAmb IAmb 17 52 58.6
comp=Z,547nm,1.6s
O30N IAMs_20 IAMs_20 18 24 38.7
comp=Z,37µm,21.0s
O30N Mendenhall 84.56 28 P P 17 52 21.9 +0.1
baz=251,SNR=14
JIS Juneau Island 84.60 30 IAmb IAmb 17 52 54.2
comp=Z,480nm,1.7s
I28M Miner Creek 84.61 23 IAMs_20 IAMs_20 18 27 18.7
comp=Z,40µm,20.0s
I28M Miner Creek 84.61 23 P P 17 52 22.1 +0.1
baz=247
CHMS Chumysh 84.62 314 P P 17 52 22.4 -0.2
SNR=71
U33K Whale Pass 84.64 33 P P 17 52 21.6 -0.6
U33K IAmb IAmb 17 52 44.3
comp=Z,194nm,1.0s
U33K IAMs_20 IAMs_20 18 21 36.2
comp=Z,39µm,22.0s
U33K Whale Pass 84.64 33 P P 17 52 22.5 +0.3
baz=254
UCH Uchtor 84.64 313 P P 17 52 23.8 +0.6
SNR=98
FRU1 Bishkek 84.67 314 IAmb IAmb 17 52 29.5
comp=Z,280nm,1.0s
FRU1 Bishkek 84.67 314 P P 17 52 23.8 +1.0
FRU1 pmax pmax
comp=Z,298nm,1.0s
ARLS Aral 84.71 313 P P 17 52 24.2 +1.0
ARLS pmax pmax
comp=Z,330nm,1.2s
AAK Ala-Archa 84.73 313 P P 17 52 23.8 +0.6
SNR=78
AAK Ala-Archa 84.73 313 P P 17 52 22.9 -0.4
AAK IAmb IAmb 17 52 29.9
comp=Z,238nm,0.9s
AAK Ala-Archa 84.73 313 *ce*P P 17 52 23.6 +0.4
AAK pmax pmax
comp=Z,141nm,1.3s
AAK MLR MLR
comp=Z,23µm,20.0s
AAK Ala-Archa 84.73 313 *i* P P 17 52 22.9 -0.4
SNR=48
AAK Ala-Archa 84.73 313 LR LR 18 30 01.6
comp=Z,25µm,21.7s,baz=100,slow=36
AAK Ala-Archa 84.73 313 P P 17 52 23.7 +0.4
AAK S SKSac 18 02 43.1 -2.7
SGDS Sogindy 84.79 314 *e*P P 17 52 23.6 +0.2
SGDS pmax pmax
comp=Z,145nm,1.5s
SGDS Sogindy 84.79 314 *e*P P 17 52 23.6 +0.2
comp=Z,145nm,1.5s,baz=314
C26K Camden Bay 84.82 18 P P 17 52 23.8 +0.9
baz=242
M30M Minto, Yukon 84.84 26 IAmb IAmb 17 52 55.4
comp=Z,286nm,1.2s
M30M IAMs_20 IAMs_20 18 29 13.2
comp=Z,46µm,20.0s
M30M Minto, Yukon 84.84 26 P P 17 52 23.1 -0.1
baz=250,SNR=15
USP Ospenovka 84.85 314 P P 17 52 23.5 -0.2
SNR=180
J29N Klondike Camp 84.91 24 IAmb IAmb 17 52 56.2
comp=Z,612nm,1.6s
J29N IAMs_20 IAMs_20 18 24 02.7
comp=Z,98µm,22.0s
J29N Klondike Camp 84.91 24 P P 17 52 24.1 +0.5
baz=249,SNR=26
T33K Petersburg 84.92 32 P P 17 52 24.0 +0.4
baz=254
K29M Barlow Dome 84.98 25 IAMs_20 IAMs_20 18 24 29.6
comp=Z,33µm,22.0s
K29M Barlow Dome 84.98 25 P P 17 52 24.3 +0.4
baz=249
WHY Whitehorse 85.09 28 P P 17 52 24.9 +0.3
baz=252,SNR=13
WRAK Wrangell Islan 85.14 32 IAmb IAmb 17 52 56.9

comp=Z,536nm,1.5s
WRAK Wrangell Islan 85.14 32 IAMs_20 IAMs_20 18 22 02.4
comp=Z,42µm,22.0s
WRAK Wrangell Islan 85.14 32 P **P** 17 52 24.9 +0.2
baz=255
JASL Jaisalmer 85.17 297 *e*P **P** **17 52 25.6 0.0**
V35K Ketchikan 85.25 34 IAmb IAmb 17 52 47.2
comp=Z,288nm,1.1s
V35K IAMs_20 IAMs_20 18 23 41.5
comp=Z,29µm,20.0s
V35K Ketchikan 85.25 34 P **P** **17 52 25.1 -0.2**
baz=255,SNR=9.3
EKS2 Erkin-Say 85.26 313 P **P** **17 52 25.8 -0.1**
SNR=103
P32M Atlin 85.32 29 IAmb IAmb 17 53 01.0
comp=Z,676nm,1.9s
P32M Atlin 85.32 29 P **P** **17 52 25.3 -0.3**
baz=253,SNR=5.4
F28M Old Crow 85.48 21 IAmb IAmb 17 53 00.5
comp=Z,438nm,1.6s
F28M IAMs_20 IAMs_20 18 25 40.7
comp=Z,38µm,21.0s
F28M Old Crow 85.48 21 P **P** **17 52 26.4 +0.1**
baz=247,SNR=25
H29M Whitestone 85.50 22 IAmb IAmb 17 53 47.6
comp=Z,226nm,1.2s
H29M Whitestone 85.50 22 P **P** **17 52 26.4 0.0**
baz=248,SNR=5.8
BTLS Baital 85.50 316 *e*P **P** **17 52 27.2 +0.4**
BTLS pmax pmax
comp=Z,227nm,1.4s
BTLS Baital 85.50 316 *e*P **P** **17 52 27.2 +0.4**
comp=Z,228nm,1.4s,baz=316
QSPA South Pole Qui 85.52 180 P **P** **17 52 26.6 -0.1**
QSPA South Pole Qui 85.52 180 IAMs_20 IAMs_20 18 26 50.6
comp=Z,32µm,22.0s
QSPA South Pole Qui 85.52 180 P **P** **17 52 26.8 +0.2**
comp=Z,259nm,0.4s,baz=171,slow=1.1,SNR=694
QSPA S **SKSac** **18 02 45.8 -4.0**
comp=Z,15nm,1.1s,baz=105,slow=22,SNR=9.3
QSPA PKKPbc **PKKPbc** **18 10 30.5 -3.1**
comp=Z,1.6nm,0.8s,baz=232,slow=3.3,SNR=1.7
QSPA LR LR 18 29 40.5
comp=Z,15µm,18.5s,baz=16,slow=35
MAYO Mayo, Yukon 85.57 25 P **P** **17 52 26.5 -0.3**
baz=251
ARSB Arslanbob 85.61 312 IAmb IAmb 17 53 06.5
comp=Z,250nm,1.4s
OHH Osh 85.62 311 P **P** **17 52 28.5 +0.8**
OHH pmax pmax
comp=Z,330nm,0.8s
J30M Hart River 85.72 24 IAMs_20 IAMs_20 18 25 25.1
comp=Z,45µm,22.0s
J30M Hart River 85.72 24 P **P** **17 52 28.2 +0.5**
baz=250
NRIK Noril'sk 85.77 341 IAMs_20 IAMs_20 18 29 03.7
comp=Z,28µm,20.0s
NRIK Noril'sk 85.77 341 *ce*P **P** **17 52 26.6 -1.0**
NRIK pmax pmax
comp=Z,541nm,1.5s
NRIK Noril'sk 85.77 341 P **P** **17 52 27.6 0.0**
comp=Z,42nm,0.7s,baz=116,slow=4.9,SNR=49
NRIK S **SKSac** **18 02 46.7 -4.1**
comp=Z,2.4nm,0.8s,baz=202,slow=22,SNR=7.4
NRIK LR LR 18 29 15.2
comp=Z,28µm,21.5s,baz=120,slow=35
comp=Z,42nm,0.7s
RUBB Prince Rupert 85.77 35 IAmb IAmb 17 52 50.1
comp=Z,241nm,1.0s
D27M Malcolm River 85.77 19 IAmb IAmb 17 53 13.2
comp=Z,279nm,1.1s
D27M IAMs_20 IAMs_20 18 26 55.1
comp=Z,28µm,21.0s
D27M Malcolm River 85.77 19 P **P** **17 52 28.0 +0.3**
baz=246
M31M Drury Creek, Y 85.78 27 IAmb IAmb 17 52 59.6
comp=Z,402nm,1.5s
M31M Drury Creek, Y 85.78 27 P **P** **17 52 28.1 +0.2**
baz=252,SNR=28
BHUJ Bhuj 85.85 294 *e*P **P** **17 52 30.1 +1.1**
Q32M Nakina River 85.86 30 P **P** **17 52 28.6 0.0**
baz=254,SNR=7.8
G29M Pine Creek 85.88 22 IAMs_20 IAMs_20 18 25 42.3
comp=Z,50µm,22.0s
G29M Pine Creek 85.88 22 P **P** **17 52 28.3 0.0**
baz=249
I30M Mount Dempster 85.92 23 P **P** **17 52 28.3 -0.4**
baz=250
P33M Teslin, Yukon 85.93 29 IAmb IAmb 17 53 00.6
comp=Z,503nm,1.9s
P33M Teslin, Yukon 85.93 29 P **P** **17 52 28.5 -0.2**
baz=254,SNR=13
E28M Babbage River 85.99 20 IAMs_20 IAMs_20 18 29 24.9
comp=Z,37µm,20.0s
E28M Babbage River 85.99 20 P **P** **17 52 29.0 +0.2**
baz=247
MAW Mawson 86.06 203 P **P** **17 52 29.6 +0.4**
baz=86,SNR=20
MAW Mawson 86.06 203 IAmb IAmb 17 52 32.2
comp=Z,298nm,1.6s
MAW Mawson 86.06 203 P **P** **17 52 30.0 +0.9**
MAW Mawson 86.06 203 P **P** **17 52 30.0 +0.9**
comp=Z,194nm,1.0s,baz=96,slow=5.7,SNR=69
MAW LR LR 18 27 32.0
comp=Z,34µm,21.6s,baz=83,slow=33
comp=Z,194nm,1.0s
N32M Quiet Lake 86.07 28 P **P** **17 52 29.2 -0.2**
baz=254
S34M Telegraph Cree 86.16 31 IAmb IAmb 17 53 02.4
comp=Z,357nm,1.2s
S34M Telegraph Cree 86.16 31 P **P** **17 52 29.5 -0.3**
baz=256,SNR=19
EPYK Eagle Plains 86.18 22 IAMs_20 IAMs_20 18 29 05.1
comp=Z,29µm,20.0s
EPYK Eagle Plains 86.18 22 P **P** **17 52 28.8 -1.0**
baz=250,SNR=50
DRK Karamyk 86.20 310 IAmb IAmb 17 52 37.7
comp=Z,421nm,1.2s
FARO Faro, Yukon 86.26 27 IAmb IAmb 17 53 02.0
comp=Z,489nm,1.5s
FARO Faro, Yukon 86.26 27 P **P** **17 52 29.8 -0.4**
baz=253,SNR=25
U35K Hyder 86.27 33 IAMs_20 IAMs_20 18 23 52.4
comp=Z,34µm,20.0s
U35K Hyder 86.27 33 P **P** **17 52 30.7 +0.4**
baz=257
T35M Bob Quinn 86.40 32 IAmb IAmb 17 53 03.5
comp=Z,264nm,1.4s
T35M Bob Quinn 86.40 32 P **P** **17 52 31.3 +0.3**
baz=256,SNR=7.0
ARK Arkit 86.44 312 P **P** **17 52 32.6 +0.9**
ARK pmax pmax
comp=Z,233nm,1.4s
E29M Blow River 86.47 20 IAmb IAmb 17 53 04.7
comp=Z,322nm,1.4s
E29M IAMs_20 IAMs_20 18 25 53.7
comp=Z,50µm,22.0s
E29M Blow River 86.47 20 P **P** **17 52 30.7 -0.4**
baz=249
D28M Stokes Point 86.53 19 P **P** **17 52 31.4 0.0**
baz=248
BBB Bella Bella 86.56 37 LR LR 18 24 45.8
comp=Z,22µm,20.6s,baz=262,slow=31
G30M tAoh Zraii Nji 86.57 22 P **P** **17 52 31.2 -0.5**
baz=250,SNR=34
R33M Jennings River 86.62 30 IAmb IAmb 17 53 04.6
comp=Z,503nm,1.4s
R33M Jennings River 86.62 30 P **P** **17 52 32.1 -0.1**
baz=256
DLBC Dease Lake 86.86 31 P **P** **17 52 32.9 -0.5**
baz=256,SNR=17
DLBC Dease Lake 86.86 31 PKPPKP 18 18 21.9
comp=Z,1.1nm,0.4s,baz=357,slow=3.5,SNR=1.9
DLBC LR LR 18 25 26.0
comp=Z,81µm,20.4s,baz=268,slow=32
H31M Peel River 86.91 23 P **P** **17 52 32.7 -0.6**
baz=252
F30M Barrier River 86.94 21 P **P** **17 52 33.0 -0.5**
baz=251
DZA Taraz 87.07 313 *e*P **P** **17 52 34.7 +0.1**
DZA Taraz 87.07 313 *e*P **P** **17 52 34.8 +0.1**
baz=313
OTUK Ortayu 87.23 319 P **P** **17 52 33.9 -1.4**
G31M Satah River 87.28 22 IAMs_20 IAMs_20 18 25 52.2
comp=Z,35µm,22.0s
G31M Satah River 87.28 22 P **P** **17 52 34.3 -0.8**
baz=252,SNR=34
MMPY Sheldon Lake, 87.30 27 IAmb IAmb 17 53 07.6
comp=Z,330nm,1.3s
MMPY Sheldon Lake, 87.30 27 P **P** **17 52 35.2 -0.2**
baz=255,SNR=23
BRZS Berezniki 87.31 320 *e*P **P** **17 52 35.8 +0.2**
BRZS Berezniki 87.31 320 *e*P **P** **17 52 35.9 +0.2**
baz=320
JCC Jacoby Creek, 87.39 49 IAMs_20 IAMs_20 18 23 09.4
comp=Z,37µm,22.0s
F31M Tsiigehtchic 87.63 22 P **P** **17 52 36.1 -0.6**
baz=253,SNR=21
KBU Kabul Universi 87.63 305 P **P** **17 52 38.2 +0.4**
KK31 Karatay Array 87.70 313 *i* P **P** **17 52 36.6 -1.1**
KBL Kabul 87.71 305 P **P** **17 52 36.8 -1.4**
KBL IAMs_20 IAMs_20 18 30 36.6
comp=Z,31µm,22.0s
KBL Kabul 87.71 305 P **P** **17 52 36.8 -1.4**
KBL Kabul 87.71 305 P **P** **17 52 37.4 -0.8**
SNR=41
WTLY Watson Lake, Y 87.86 29 P **P** **17 52 37.9 -0.1**
baz=257
IUG luzhnay 87.92 312 *e*P **P** **17 52 38.8 0.0**
IUG *e*S **SKSac** **18 03 06.0 +0.5**
IUG luzhnay 87.92 312 *e*P **P** **17 52 38.9 0.0**
baz=312
IUG *e*S **SKSac** **18 03 06.0 +0.5**
baz=312
INK Inuvik 87.97 21 IAmb IAmb 17 53 28.7
comp=Z,302nm,1.2s
INK Inuvik 87.97 21 P **P** **17 52 37.5 -0.8**
INK pmax pmax
comp=Z,211nm,1.4s
INK Inuvik 87.97 21 P **P** **17 52 37.8 -0.5**
baz=253,SNR=35
INK Inuvik 87.97 21 LR LR 18 27 55.7
comp=Z,35µm,21.9s,baz=238,slow=33
CHGR Chuyangaron 88.12 309 P **P** **17 52 39.2 -0.7**
CHGR pmax pmax
comp=Z,768nm,0.8s
BRLS Boroday 88.18 313 *e*P **P** **17 52 39.8 -0.2**
BRLS Boroday 88.18 313 *e*P **P** **17 52 39.8 -0.2**
baz=313
SIMJ Simiganj 88.24 309 P **P** **17 52 39.5 -1.0**
SIMJ IAmb IAmb 17 52 51.5
comp=Z,216nm,0.8s
CHM Chimkent 88.25 312 LR LR 18 30 40.5
baz=312
TGTN Hyland Airport 88.41 28 P **P** **17 52 40.9 +0.2**
baz=258,SNR=19
HUMO Hull Mountain 88.43 47 P **P** **17 52 40.6 -0.6**
HUMO IAMs_20 IAMs_20 18 31 51.7
comp=Z,35µm,18.0s
NLWA Neilton Lookou 88.44 42 P **P** **17 52 41.1 0.0**
NLWA IAMs_20 IAMs_20 18 29 55.5
comp=Z,30µm,19.0s
YBH Yreka Blue Hor 88.50 48 P **P** **17 52 41.2 -0.4**
YBH Yreka Blue Hor 88.50 48 P **P** **17 52 41.2 -0.4**
YBH pmax pmax
comp=Z,74nm,1.2s
YBH MLR MLR
comp=Z,50µm,21.0s
YBH Yreka Blue Hor 88.50 48 LR LR 18 24 19.9
comp=Z,41µm,21.7s,baz=264,slow=30
H04D Lebanon 88.83 45 P **P** **17 52 41.5 -1.5**
PGC Sidney 88.89 41 P **P** **17 52 44.1 +1.0**
ORV Oroville 89.16 50 P **P** **17 52 43.9 -0.8**
ORV IAMs_20 IAMs_20 18 24 10.2
comp=Z,45µm,22.0s
ORV Oroville 89.16 50 P **P** **17 52 43.9 -0.8**
ORV pmax pmax
comp=Z,192nm,2.0s
ORV MLR MLR
comp=Z,45µm,22.0s
GNW Green Mountain 89.16 42 P **P** **17 52 42.3 -2.1**
BVA0 Borovoye Array 89.21 323 *i* P **P** **17 52 42.5 -2.1**
BVAR Borovoye Array 89.21 323 P **P** **17 52 43.4 -1.2**
comp=Z,70nm,0.9s,baz=107,slow=5.0,SNR=106
BVAR PKPPKP **P'P'df** **18 18 28.6 -1.0**
comp=Z,0.9nm,0.9s,baz=29,slow=3.3,SNR=2.2
BVAR LR LR 18 33 06.4
comp=Z,19µm,20.0s,baz=102,slow=36
comp=Z,70nm,0.9s
BRVK Borovoye 89.28 323 P **P** **17 52 42.7 -2.2**
BRVK IAmb IAmb 17 53 00.8
comp=Z,191nm,1.0s
BRVK Borovoye 89.28 323 *ce*P **P** **17 52 43.3 -1.6**
BRVK pmax pmax
comp=Z,117nm,1.3s
BRVK MLR MLR
comp=Z,19µm,20.0s
BRVK Borovoye 89.28 323 P **P** **17 52 44.2 -0.7**
BRVK S **SKSac** **18 03 07.1 -5.8**
PMPB Monarch Peak 89.35 54 P **P** **17 52 45.2 -0.5**
PMPB IAmb IAmb 17 53 15.4
comp=Z,181nm,1.2s
AFDM Forest Hills D 89.50 51 P **P** **17 52 44.5 -1.8**
J05D Fort Rock, OR 89.77 47 P **P** **17 52 45.8 -1.9**
J05D IAmb IAmb 17 53 14.2
comp=Z,194nm,1.2s
I05D Terrebonne, OR 89.81 46 IAmb IAmb 17 53 31.5
comp=Z,183nm,1.2s
CMB Columbia Colle 89.86 52 P **P** **17 52 45.2 -2.8**
CMB Columbia Colle 89.86 52 P **P** **17 52 45.3 -2.8**
CMB pmax pmax
comp=Z,203nm,1.9s
CMB MLR MLR
comp=Z,65µm,20.0s
SMMC Simmler 89.91 55 P **P** **17 52 47.8 -0.5**
baz=265,SNR=8.6
G05A Wamic 89.92 45 P **P** **17 52 47.8 -0.3**
G05A IAmb IAmb 17 53 29.0
comp=Z,435nm,1.6s
K05A Summer Lake 89.95 47 IAmb IAmb 17 53 32.8
comp=Z,466nm,1.7s
PKM Mcpherson Peak 90.02 55 P **P** **17 52 48.6 -0.5**
baz=265
SBC Santa Barbara 90.06 56 P **P** **17 52 49.4 +0.5**
baz=265
SCZ2 Santa Cruz Isl 90.08 56 P **P** **17 52 49.5 +0.4**
baz=265
SNCC San Nicolas Is 90.11 57 P **P** **17 52 49.4 +0.2**
baz=265
KOTAN Kotaneelee Air 90.19 30 P **P** **17 52 48.8 -0.2**
baz=262
BCW Bitter Crk WRg 90.35 55 IAmb IAmb 17 53 24.7
comp=Z,221nm,1.1s
FLDN Fort Liard 90.49 30 P **P** **17 52 50.6 +0.2**
baz=262
FLDN S **S** **18 03 46.0 +2.5**
baz=262
VOG Valley Oaks Go 90.50 54 P **P** **17 52 50.5 -0.5**
baz=265
PNTR Pine Nut 90.57 51 P **P** **17 52 50.1 -1.5**
VES Vestal, Richgr 90.70 54 P **P** **17 52 51.7 -0.2**
baz=265
ARVC Arvin 90.84 55 P **P** **17 52 52.9 +0.3**
baz=265
OSI Osito Audit: C 90.89 56 P **P** **17 52 53.3 +0.4**
baz=265
OSI S **S** **18 03 55.1 +6.8**
baz=265
SCI2 San Clemente I 90.90 57 P **P** **17 52 52.9 0.0**
baz=265
SCI2 S **S** **18 03 51.6 +3.3**
baz=265
WRGLY Wrigley 90.92 27 P **P** **17 52 52.6 +0.3**
baz=262
CIS Catalina Islan 91.04 57 P **P** **17 52 53.7 +0.1**
baz=266
CIS S **S** **18 03 54.8 +5.1**
baz=266
MLAC Mammoth, Mammo 91.05 53 P **P** **17 52 53.9 0.0**
baz=265
E07A Sunnyside 91.07 44 IAmb IAmb 17 53 19.8
comp=Z,233nm,1.5s
FMP Fort Macarthur 91.17 56 P **P** **17 52 54.4 +0.3**
baz=266
ISA Isabella, Lake 91.18 55 P **P** **17 52 54.3 +0.1**
baz=266
ISA S **S** **18 03 55.8 +4.9**
baz=266
DECC Green Verdugo 91.18 56 P **P** **17 52 54.1 -0.2**
baz=266
HAWA Hanford 91.28 44 P **P** **17 52 52.8 -1.6**
HAWA IAmb IAmb 17 53 20.7
comp=Z,176nm,1.4s
PASC Pasadena Art C 91.30 56 IAMs_20 IAMs_20 18 25 40.4
comp=Z,37µm,21.0s
PNT Penticton 91.48 41 P P 17 52 50.1 -5.2
PNT pmax pmax
comp=Z,89nm,1.1s
TIN Tinemaha, Big 91.48 53 P **P** **17 52 55.4 -0.2**
baz=266
EDW2 Edwards Air Fo 91.51 55 P **P** **17 52 56.1 +0.3**
baz=266
EDW2 S **S** **18 03 57.4 +3.4**
baz=266
NVAR Mina Array Bea 91.53 52 P **P** **17 52 55.5 -0.5**
comp=Z,5.2nm,0.8s,baz=253,slow=5.6,SNR=21
NVAR PKKPbc **PKKPbc** **18 10 17.4 -0.1**
comp=Z,1.8nm,0.7s,baz=78,slow=2.3,SNR=6.1
NVAR PKPPKP P'P'df 18 18 13.7 -13
comp=Z,0.7nm,0.9s,baz=355,slow=1.1,SNR=2.4
NVAR LR LR 18 28 52.9
comp=Z,52µm,19.4s,baz=266,slow=32
comp=Z,5.2nm,0.8s
C36M Paulatuk 91.55 21 IAMs_20 IAMs_20 18 28 37.9
comp=Z,36µm,21.0s
C36M Paulatuk 91.55 21 P **P** **17 52 54.6 -0.4**
baz=262
CWC Cottonwood Cre 91.56 54 P **P** **17 52 55.2 -0.9**
baz=266
CWC S **S** **18 03 57.6 +3.0**
baz=266
A36M Sachs Harbour 91.57 18 IAmb IAmb 17 53 26.3
comp=Z,167nm,1.1s
A36M Sachs Harbour 91.57 18 P **P** **17 52 54.8 -0.4**
baz=261
A36M S **S** **18 03 50.5 -2.4**
baz=261
WVOR Wild Horse Val 91.59 48 IAmb IAmb 17 54 01.8
comp=Z,154nm,1.4s
WVOR IAMs_20 IAMs_20 18 28 26.3
comp=Z,42µm,20.0s
E08A Dider Farm, El 91.61 44 IAmb IAmb 17 53 40.5
comp=Z,224nm,1.4s
NV11 Mina Array Sit 91.64 52 IAmb IAmb 17 53 23.1
comp=Z,222nm,1.5s
DSP Deep Springs 91.71 53 IAmb IAmb 17 53 23.6
comp=Z,198nm,1.3s
BFSC Mount Baldy Ra 91.74 56 P **P** **17 52 56.6 -0.3**
baz=266
BFSC S **S** **18 03 57.6 +1.4**
baz=266
D08A Wollman Farm, 91.75 43 IAmb IAmb 17 53 41.1
comp=Z,211nm,1.8s
J08A Circle Bar Ran 91.78 47 IAmb IAmb 17 53 40.7
comp=Z,171nm,1.4s
LRMC Laurel Mtn Rad 91.81 55 P **P** **17 52 57.2 0.0**
baz=266,SNR=20
LRMC S **S** **18 04 00.8 +3.9**
baz=266
MPMC Manual Prospec 92.00 54 P **P** **17 52 58.2 -0.1**
baz=266,SNR=15
MPMC S **S** **18 03 59.0 +0.3**
baz=266
MURC Murrieta 92.08 57 P **P** **17 52 57.2 -1.2**
baz=266
MURC S **S** **18 04 02.4 +3.3**
baz=266
109C Camp Elliot, M 92.10 57 IAMs_20 IAMs_20 18 29 35.8
comp=Z,39µm,19.0s
109C Camp Elliot, M 92.10 57 P **P** **17 52 59.0 +0.5**
baz=266
109C S **S** **18 04 05.6 +6.3**
baz=266
MZP Montezuma Peak 92.20 53 IAmb IAmb 17 53 25.8
comp=Z,130nm,1.3s
E09A Wood Farm, Sta 92.24 44 IAmb IAmb 17 53 43.3
comp=Z,245nm,1.3s
RRX Edison Barstow 92.33 55 P **P** **17 52 59.5 0.0**
baz=266
BBRC Big Bear Solar 92.35 56 P **P** **17 52 59.4 -0.5**
baz=266
BAR Barrett 92.45 58 IAmb IAmb 17 53 27.5
comp=Z,157nm,1.3s
QSM Queen of Sheba 92.50 54 IAmb IAmb 17 53 26.8
comp=Z,140nm,1.1s
GSC Goldstone, Bar 92.51 55 P **P** **17 53 00.3 -0.1**
baz=266
GSC S **S** **18 04 03.2 +0.2**
baz=266
GWY Greenwater Val 92.67 54 IAmb IAmb 17 53 53.6
comp=Z,137nm,1.3s
MONP2 Monument Peak 92.68 57 P **P** **17 53 01.7 +0.2**
baz=266
MONP2 S **S** **18 04 09.6 +4.7**
baz=266
PFO Pinyon Flats O 92.69 57 P **P** **17 52 59.8 -1.6**
PFO Pinyon Flats O 92.69 57 *i* P **P** **17 53 00.5 -0.9**
PFO pmax pmax
comp=Z,120nm,1.0s
PFO MLR MLR
comp=Z,27µm,17.0s
PFO Pinyon Flats O 92.69 57 P **P** **17 53 01.0 -0.4**
baz=266
PFO S **S** **18 04 10.3 +5.5**
baz=266
PFO Pinyon Flats O 92.69 57 PKPPKP 18 18 21.1
comp=Z,1.3nm,0.6s,baz=58,slow=6.2,SNR=1.8
PFO LR LR 18 27 05.1
comp=Z,38µm,21.9s,baz=264,slow=31
TPFO Pinon Flats 92.69 57 P **P** **17 53 00.7 -0.6**
baz=266
TPFO S **S** **18 04 10.1 +5.3**
baz=266
BMO Blue Mountains 92.72 45 IAmb IAmb 17 53 27.3
comp=Z,221nm,1.4s
WCT Wildcat Mounta 92.75 53 IAmb IAmb 17 53 28.1
comp=Z,161nm,1.2s
HEC Hector,Ludlow 92.86 55 P **P** **17 53 02.1 0.0**
baz=267
IKP In-Ko-Pah, Jac 92.92 58 P **P** **17 53 02.8 +0.4**
baz=267
IKP S **S** **18 04 10.9 +4.1**
baz=267
RMX La Rumorosa 92.95 58 IAmb IAmb 17 53 30.4
comp=Z,190nm,1.5s
SHOC Shoshone, Teco 92.98 54 P **P** **17 53 02.0 -0.5**
baz=267
ESJX Sierra Juarez 93.02 58 IAmb IAmb 17 53 31.0
comp=Z,322nm,1.8s
NEW Newport 93.05 42 IAMs_20 IAMs_20 18 29 05.4
comp=Z,39µm,20.0s
NEW Newport 93.05 42 P **P** **17 53 01.9 -0.7**
NEW pmax pmax
comp=Z,78nm,1.2s
NEW Newport 93.05 42 P **P** **17 53 02.2 -0.4**
baz=267
NEW Newport 93.05 42 LR LR 18 29 07.0
comp=Z,30µm,20.0s,baz=262,slow=32
YUH Yuha Desert 93.08 58 IAmb IAmb 17 53 30.6
comp=Z,223nm,1.4s
BELC Belle Mtn. Jos 93.09 56 P **P** **17 53 03.3 +0.1**
baz=267
BELC S **S** **18 04 13.7 +5.3**
baz=267
VTX Valle De La Tr 93.13 59 IAmb IAmb 17 53 31.4
comp=Z,329nm,1.5s
BRLDA Berland Lookou 93.19 36 IAmb IAmb 17 53 25.2
comp=Z,280nm,1.2s
SWSC Sam W. Stewart 93.20 57 P **P** **17 53 02.9 -0.6**
baz=267
SWSC S **S** **18 04 15.5 +6.5**
baz=267
TUQ Turquoise Moun 93.24 55 P **P** **17 53 03.2 -0.6**
baz=267
TUQ S **S** **18 04 14.1 +4.5**
baz=267
GMRC Granite Mounta 93.42 56 P **P** **17 53 04.8 +0.1**
baz=267
GMRC S **S** **18 04 16.0 +4.8**
baz=267
BC3 Big Chuckawall 93.53 57 P **P** **17 53 05.7 +0.4**
baz=267,SNR=9.9
BC3 S **S** **18 04 16.8 +4.6**
baz=267
R11B Troy Canyon, C 93.66 52 P **P** **17 53 05.6 -0.2**
baz=267
R11B S **S** **18 04 16.0 +2.7**
baz=267
PLID Pearl Lake 93.66 45 IAMs_20 IAMs_20 18 29 28.9
comp=Z,38µm,20.0s
MFID Camas Ranch 93.71 47 IAMs_20 IAMs_20 18 32 02.4
comp=Z,23µm,20.0s
NGCH Negor - Chabah 93.77 295 P **P** **17 53 06.2 -0.2**

SNR=9.6
NGCH S **SKSac** **18 03 37.8 -1.7**
IRM **Iron Mountain** **93.81 56** P **P** **17 53 07.3 +0.9**
baz=267,SNR=17
IRM S **S** **18 04 16.1 +1.7**
baz=267
SFX **San Felipe** **93.91 59** IAmb IAmb 17 53 34.6
comp=Z,145nm,1.3s
ELK **Elko** **94.03 50** IAMs_20 IAMs_20 18 30 13.2
comp=Z,40µm,20.0s
ELK **Elko** **94.03 50** PKPPKP 18 18 22.0
comp=Z,1.2nm,0.9s,baz=298,slow=10,SNR=3.0
ELK LR LR 18 29 14.8
comp=Z,40µm,20.5s,baz=264,slow=32
V12A **Nelson** **94.12 55** IAmb IAmb 17 53 34.9
comp=Z,198nm,1.3s
NEE2 **Needles Airpor** **94.27 56** P **P** **17 53 08.7 +0.2**
baz=268
Q12A **Willow Creek R** **94.28 51** IAmb IAmb 17 53 37.9
comp=Z,151nm,1.1s
BLYC **Blythe** **94.31 57** P **P** **17 53 06.8 -1.8**
BLYC IAmb IAmb 17 53 39.4
comp=Z,219nm,1.5s
RPN **Rapa Nui** **94.59 118** LR LR 18 29 06.2
comp=Z,21µm,20.6s,baz=266,slow=31
CRZF **Crozet Islands** **94.61 223** P **P** **17 53 07.7 -2.0**
CRZF IAmb IAmb 17 53 12.7
comp=Z,211nm,1.4s
PDMCI **Parker Dam,Lak** **94.65 56** P **P** **17 53 10.4 +0.2**
baz=268
HLID **Hailey** **94.74 47** IAMs_20 IAMs_20 18 27 41.7
comp=Z,27µm,21.0s
HLID **Hailey** **94.74 47** P **P** **17 53 10.5 -0.1**
baz=268
HLID S **S** **18 04 23.9 +1.4**
baz=268
W13A **Hualapai Mount** **94.89 55** IAmb IAmb 17 53 42.0
comp=Z,202nm,1.4s
113A **Mohawk Valley,** **94.90 58** P **P** **17 53 09.6 -1.8**
YKA **Yellowknife Ar** **94.91 28** P **P** **17 53 09.2 -1.5**
comp=Z,12nm,1.2s,baz=267,slow=4.5,SNR=34
YKA PKKPbc **PKKPdf** **18 10 05.6 -3.3**
comp=Z,2.7nm,0.6s,baz=83,slow=3.0,SNR=16
YKA PKPPKP P'P'df 18 18 05.8 -13
comp=Z,0.4nm,0.8s,baz=98,slow=4.5,SNR=3.8
YKA LR LR 18 32 06.6
comp=Z,48µm,20.3s,baz=276,slow=33
comp=Z,12nm,1.2s
SVE **Sverdlovsk** **95.11 327** *de* P **P** **17 53 11.0 -0.8**
SVE *e* 17 57 05.9
SVE *e* S **SKSac** **18 03 45.6 +0.2**
SVE *e* 18 05 43.3
SVE *e* SS **SS** **18 10 54.0 +3.2**
SVE pmax pmax
comp=Z,2µm,15.6s
SVE pmax pmax
comp=Z,112nm,1.4s
SVE MLR MLR
comp=Z,21µm,19.0s
SVE MLR MLR
comp=E,19µm,22.0s
JLN **Jalan Bani Buh** **95.19 292** P **P** **17 53 12.9 0.0**
SNR=20
JLN S **SKSac** **18 03 45.4 -1.9**
AB31 **Akbulak array** **95.48 319** *i* P **P** **17 53 10.4 -3.3**
EDM **Edmonton** **95.58 37** IAmb IAmb 17 53 35.4
comp=Z,200nm,1.1s
214A **Organ Pipe Nat** **95.68 58** IAmb IAmb 17 53 36.1
comp=Z,327nm,2.0s
214A **Organ Pipe Nat** **95.68 58** P **P** **17 53 15.4 +0.4**
baz=268
214A S **S** **18 04 38.3 +7.4**
baz=268
KNB **Kanab** **95.80 53** IAmb IAmb 17 53 54.7
comp=Z,237nm,1.4s
DUG **Dugway, Tooele** **95.86 50** P **P** **17 53 14.8 -1.0**
DUG IAMs_20 IAMs_20 18 29 07.8
comp=Z,34µm,21.0s
DUG **Dugway, Tooele** **95.86 50** P **P** **17 53 14.8 -1.0**
DUG pmax pmax
comp=Z,57nm,1.5s
DUG MLR MLR
comp=Z,34µm,21.0s
DUG **Dugway, Tooele** **95.86 50** P **P** **17 53 15.3 -0.5**
baz=269
DUG S **S** **18 04 35.2 +2.9**
baz=269
SPUT **South Promonto** **96.15 49** P **P** **17 53 13.5 -3.6**
PKCU **Pink Cliffs** **96.22 53** IAmb IAmb 17 53 49.2
comp=Z,241nm,1.4s
U15A **North Rim** **96.22 54** IAmb IAmb 17 53 48.6
comp=Z,150nm,1.4s
ARU **Arti** **96.26 326** P **P** **17 53 14.0 -3.1**
ARU **Arti** **96.26 326** *c i* P **P** **17 53 14.1 -2.9**
ARU 17 57 06.5
ARU PPP PPP 17 59 14.3
ARU S **SKSac** **18 03 50.4 -1.1**
ARU SP **SP** **18 05 57.4 +3.7**
ARU PS PS 18 06 41.4 +43
ARU pmax pmax
comp=Z,39nm,1.2s
ARU MLR MLR
comp=Z,18µm,20.0s
ARU **Arti** **96.26 326** LR LR 18 37 22.2
comp=Z,15µm,20.9s,baz=88,slow=36
AKTO **Aktyubinsk** **96.72 320** P **P** **17 53 15.5 -3.8**
AKTO **Aktyubinsk** **96.72 320** LR LR 18 35 57.0
comp=Z,15µm,20.9s,baz=92,slow=35
GEYT **Alibeck** **96.74 308** P **P** **17 53 19.6 -0.1**
comp=Z,48nm,1.1s,baz=144,slow=1.3,SNR=45
GEYT LR LR 18 37 22.3
comp=Z,16µm,21.5s,baz=99,slow=36
comp=Z,48nm,1.1s
GYA0B **ALIBECK ARRAY** **96.74 308** IAmb IAmb 17 53 34.2
comp=Z,102nm,1.1s
BOZ **Bozeman (W)** **96.75 45** IAMs_20 IAMs_20 18 31 17.6
comp=Z,37µm,20.0s
BOZ **Bozeman (W)** **96.75 45** P **P** **17 53 19.0 -0.7**
baz=271
BOZ S **S** **18 04 41.6 +1.9**
baz=271
HWUT **Hardware Ranch** **96.82 49** IAMs_20 IAMs_20 18 33 19.9
comp=Z,35µm,20.0s
X16A **Lo Mia Camp, P** **96.88 56** P **P** **17 53 19.7 -0.9**
WUAZ **Wupatki** **96.95 55** IAmb IAmb 17 53 51.8
comp=Z,324nm,1.9s
WUAZ IAMs_20 IAMs_20 18 28 07.0
comp=Z,36µm,22.0s
WUAZ **Wupatki** **96.95 55** P **P** **17 53 20.4 -0.5**
baz=270
YHL **Hebgen Lake** **97.07 46** IAmb IAmb 17 53 50.9
comp=Z,213nm,1.9s
FXWY **Fox Creek** **97.20 47** IAMs_20 IAMs_20 18 31 48.8
comp=Z,31µm,20.0s
ELIB **Princess Elisa** **97.25 194** *d* P **P** **17 53 20.3 -1.1**
TPAW **Teton Pass** **97.26 47** IAMs_20 IAMs_20 18 29 13.2
comp=Z,39µm,22.0s
IMW **Indian Meadow** **97.26 46** IAMs_20 IAMs_20 18 32 00.3
comp=Z,21µm,20.0s
MOOW **Moose Ponds** **97.40 47** IAMs_20 IAMs_20 18 32 16.2
comp=Z,22µm,20.0s
TUC **Tucson** **97.41 58** P **P** **17 53 20.8 -2.2**
TUC **Tucson** **97.41 58** P **P** **17 53 20.8 -2.2**
TUC pmax pmax
comp=Z,41nm,1.4s
TUC MLR MLR
comp=Z,40µm,19.0s
TUC **Tucson** **97.41 58** P **P** **17 53 22.3 -0.6**
baz=270
TUC S S 18 04 55.0 +9.2
baz=270
TUC **Tucson** **97.41 58** *e* P **S** **18 04 54.8 +8.9**
FLWY **Flagg Ranch** **97.43 46** IAMs_20 IAMs_20 18 31 06.9
comp=Z,30µm,21.0s
BSUT **Blindstream Ca** **97.43 50** P Pdif 17 53 23.6 +0.3
HMU **Henry Mountain** **97.46 52** IAmb IAmb 17 54 01.1
comp=Z,184nm,1.5s
LOHW **Long Hollow** **97.51 47** IAMs_20 IAMs_20 18 29 34.0
comp=Z,31µm,21.0s
H17A **Grant Village** **97.51 46** P **P** **17 53 23.1 -0.2**
baz=271
SRU **San Rafael Swe** **97.63 51** P **P** **17 53 21.7 -2.2**
SRU **San Rafael Swe** **97.63 51** P **P** **17 53 21.7 -2.2**
SRU pmax pmax
comp=Z,33nm,1.1s
BELA **Belgrano 2** **97.68 178** IAmb IAmb 17 53 28.5
comp=Z,193nm,1.4s

LPIG **La Paz** **97.69 66** LR LR 18 33 23.4
comp=Z,26µm,18.3s,baz=270,slow=33
SOHO **SOHO** **97.90 294** *i* P **P** **17 53 23.5 -1.7**
SNR=18
EGMT **Eagleton** **97.98 42** P **P** **17 53 21.7 -3.5**
EGMT IAmb IAmb 17 53 51.1
comp=Z,209nm,1.8s
EGMT IAMs_20 IAMs_20 18 34 54.9
comp=Z,24µm,19.0s
EGMT **Eagleton** **97.98 42** P **P** **17 53 24.9 -0.2**
baz=272
UOSS **Minazif** **98.22 294** P **P** **17 53 24.0 -2.7**
UOSS **Minazif** **98.22 294** *i* P **P** **17 53 23.8 -2.8**
SNR=10
MSFE **Esma-Masafi** **98.27 295** *i* P **P** **17 53 24.4 -2.4**
SNR=14
HATD **Hatta, Dubai** **98.28 294** *i* P **P** **17 53 24.1 -2.8**
SNR=15
W18A **Petrified Fore** **98.29 55** P **P** **17 53 26.8 -0.2**
baz=270
BW06 **Boulder Array** **98.29 48** P **P** **17 53 25.8 -1.1**
baz=272
PDAR **Pinedale Array** **98.29 48** P **P** **17 53 26.0 -0.9**
comp=Z,3.0nm,1.1s,baz=270,slow=2.5,SNR=8.3
PDAR PP **PP** **17 57 25.2 -1.7**
comp=Z,7.4nm,1.1s,baz=231,slow=5.7,SNR=2.1
PDAR PKKPbc **PKKPbc** **18 09 58.6 -1.0**
comp=Z,2.4nm,0.8s,baz=83,slow=4.6,SNR=8.6
PDAR PKPPKP P'P'df 18 18 05.8 -7.9
comp=Z,1.3nm,1.1s,baz=116,slow=3.4,SNR=4.0
PDAR LR LR 18 35 30.7
comp=Z,35µm,18.0s,baz=270,slow=34
comp=Z,3.0nm,1.1s
ASHO **Ashiyiah** **98.35 294** *i* P **P** **17 53 25.2 -2.0**
SNR=5.6
RLMT **Red Lodge** **98.42 45** P **P** **17 53 26.9 -0.5**
baz=272
ALNE **Al Ain** **98.62 294** *i* P **P** **17 53 26.9 -1.5**
SNR=10
MVCO **Mesa Verde** **99.26 53** IAMs_20 IAMs_20 18 30 54.0
comp=Z,33µm,22.0s
MVCO **Mesa Verde** **99.26 53** Pdiff **Pdif** **17 53 30.9 -0.4**
baz=272
O20A **White River Ci** **99.37 50** Pdiff **Pdif** **17 53 31.4 -0.3**
baz=272
121A **Cookes Peak, D** **99.95 58** Pdiff **Pdif** **17 53 34.6 +0.2**
baz=271
RES **Resolute Bay** **99.96 15** LR LR 18 36 03.3
comp=Z,16µm,21.8s,baz=285,slow=34
RWWY **Rawlins** **100.08 49** IAMs_20 IAMs_20 18 37 50.2
comp=Z,30µm,19.0s
LAO **LASA Array** **100.45 43** Pdiff **Pdif** **17 53 35.8 -0.4**
baz=275
K22A **Casper** **100.53 48** Pdiff **Pdif** **17 53 36.7 -0.1**
baz=274
Y22D **IRIS PASSCAL I** **100.63 56** IAMs_20 IAMs_20 18 33 54.6
comp=Z,31µm,20.0s
Y22D **IRIS PASSCAL I** **100.63 56** Pdiff **Pdif** **17 53 37.6 +0.2**
baz=272
Y22F **Passcal Instru** **100.63 56** Pdiff **Pdif** **17 53 36.7 -0.6**
baz=272
NVL **N'lazarevskaya** **100.70 192** *e* P **Pdif** **17 53 35.1 -1.6**
NVL *e* S **SKSac** **18 04 10.9 -2.5**
NVL *e* PS **PS** **18 06 46.5 +1.3**
NVL *e* SS **SS** **18 12 17.0 +9.0**
NVL pmax pmax
comp=Z,132nm,1.4s
NVL smax smax
comp=E,2µm,9.1s
NVL MLR MLR
comp=Z,33µm,15.0s
KIRV **Kirov** **100.97 329** *c e* P **Pdif** **17 53 37.5 -0.5**
ANMO **Albuquerque** **100.98 55** IAMs_20 IAMs_20 18 32 09.8
comp=Z,19µm,22.0s
ANMO **Albuquerque** **100.98 55** Pdiff **Pdif** **17 53 38.4 -0.6**
baz=272
ANMO **Albuquerque** **100.98 55** PKPPKP 18 18 04.7
comp=Z,1.7nm,1.0s,baz=90,slow=6.1,SNR=2.1
N23A **Red Feather La** **101.08 49** Pdiff **Pdif** **17 53 38.8 -0.6**
baz=274
TROLL **Troll, Antarti** **101.36 189** ⇑Pdiff **Pdif** **17 53 38.6 -1.2**
comp=Z,2µm,0.7s
TROLL ⇓SKSac **SKSac** **18 04 13.1 -3.9**
comp=Z,4µm,3.4s
ISCO **Idaho Springs** **101.40 50** Pdiff **Pdif** **17 53 40.0 -0.9**
baz=274
PHWY **Pilot Hill** **101.42 49** IAMs_20 IAMs_20 18 31 58.6
comp=Z,24µm,22.0s
SDCO **Great Sand Dun** **101.62 53** Pdiff **Pdif** **17 53 40.9 -1.0**
baz=274
DGMT **Dagmar** **101.65 42** IAMs_20 IAMs_20 18 44 54.9
comp=Z,25µm,19.0s
DGMT **Dagmar** **101.65 42** Pdiff **Pdif** **17 53 41.0 -0.4**
baz=277
Q24A **Divide** **101.82 51** Pdiff **Pdif** **17 53 42.2 -0.5**
baz=274
MNTX **Cornudas Mount** **102.01 59** Pdiff **Pdif** **17 53 43.6 +0.2**
baz=272
RSSD **Black Hills** **102.22 46** IAMs_20 IAMs_20 18 40 14.5
comp=Z,23µm,19.0s
RSSD **Black Hills** **102.22 46** Pdiff **Pdif** **17 53 43.7 -0.6**
baz=276
SMAI **San Martin Ant** **102.32 166** IAMs_20 IAMs_20 18 32 50.3
comp=Z,28µm,22.0s
SNAA **Sanae** **102.44 188** ⇓PP **PP** **17 57 51.5 -5.3**
comp=Z,5µm,1.6s
SNAA ⇑Pdiff **Pdif** **17 53 42.9 -1.6**
comp=Z,244nm,0.6s
SNAA ⇑SKSac **SKSac** **18 04 20.1 -1.8**
comp=Z,438nm,1.3s
SNAA **Sanae** **102.44 188** P **Pdif** **17 53 43.9 -0.6**
comp=Z,26nm,1.0s,baz=173,slow=9.7,SNR=19
SNAA PP **PP** **17 57 50.2 -6.6**
comp=Z,22nm,1.0s,baz=152,slow=10,SNR=4.9
T25A **Trinidad** **102.52 53** Pdiff **Pdif** **17 53 45.8 0.0**
baz=274
HOPEN **Hopen** **102.69 349** *e* P **Pdif** **17 53 46.6 +1.3**
HOPEN *e* PP **PP** **17 57 56.5 -2.2**
HOPEN *e* SKSac **SKSac** **18 04 21.8 -0.8**
HOPEN *e* SP **SP** **18 07 05.4 +3.6**
HOPEN *e* SS **SS** **18 12 40.8 +5.0**
HOPEN IVMs_BB IVMs_BB 18 38 32.5
comp=Z,6µm,21.0s
NOR **Nord** **102.74 358** P **Pdif** **17 53 45.0 -0.5**
NOR pmax pmax
comp=Z,12nm,0.9s
NOR **Nord** **102.74 358** *e* Pdif **Pdif** **17 53 55.8 +10**
FOMA **Nahampoana Res** **102.76 243** IAMs_20 IAMs_20 18 41 29.9
comp=Z,22µm,19.0s
BELG **Belogornoye** **103.01 323** ⇓*i* P **Pdif** **17 53 46.4 -0.9**
BELG pmax pmax
comp=Z,19nm,1.1s
SPA0 **Spitsbergen Ar** **103.02 352** *e* P **Pdif** **17 53 48.9 +2.0**
SPA0 IAmb IAmb 17 53 49.7
comp=Z,310nm,2.8s
SPA0 *e* PP **PP** **17 58 02.6 +1.4**
SPA0 *e* SKSac **SKSac** **18 04 24.2 0.0**
SPA0 *e* SP **SP** **18 07 09.1 +3.7**
SPA0 *e* SS **SS** **18 12 46.4 +5.9**
SPITS **Spitsbergen Ar** **103.02 352** P **Pdif** **17 53 46.6 -0.2**
comp=Z,7.7nm,1.1s,baz=35,slow=5.3,SNR=4.1
SPITS PKKPbc **PKKPbc** **18 09 44.3 -2.4**
comp=Z,6.8nm,0.8s,baz=138,slow=5.1,SNR=8.7
KBS **Kingsbay** **103.06 353** *e* P **Pdif** **17 53 48.1 +1.1**
KBS IVmB_BB 17 54 04.1
comp=Z,444nm,2.4s
KBS *e* SKSac **SKSac** **18 04 26.5 +2.1**
KBS *e* SP **SP** **18 07 10.0 +4.4**
KBS IVMs_BB IVMs_BB 18 33 05.5
comp=Z,5µm,25.2s
VOI **Vohitsoka** **103.50 246** P **Pdif** **17 53 55.9 +5.5**
TXAR **Lajitas Array** **103.58 61** Pdiff **Pdif** **17 53 52.8 +2.3**
comp=Z,0.3nm,0.8s,baz=237,slow=3.1,SNR=2.1
TXAR PP **PP** **17 58 05.3 -1.8**
comp=Z,5.9nm,1.1s,baz=236,slow=5.9,SNR=4.4
TXAR PKKPbc **PKKPbc** **18 09 43.9 +0.2**
comp=Z,3.2nm,0.8s,baz=99,slow=4.6,SNR=9.2
TXAR PKPPKP P'P'df 18 17 52.1 -12
comp=Z,0.5nm,0.9s,baz=185,slow=5.4,SNR=2.2
ABPO **Ambohimpanom** **103.60 249** IAMs_20 IAMs_20 18 39 02.8
comp=Z,20µm,19.0s
VNA3 **Neumayer Olymp** **103.62 186** ⇑Pdiff **Pdif** **17 53 48.6 -1.1**
comp=Z,32nm,1.0s
VNA2 **Neumayer--Watz** **103.68 186** ⇑Pdiff **Pdif** **17 53 51.2 +1.2**
comp=Z,26nm,1.0s,baz=178,slow=1.6
OPO **Ambohidratompo** **103.71 250** PP **PP** **17 58 08.8 +0.5**
comp=Z,5.1nm,0.7s,baz=70,slow=5.8,SNR=3.3

KSCO **Kaye Shedlock'** **103.77 51** Pdiff **Pdif** **17 53 50.5 -0.7**
baz=276
OGNE **Ogallala** **104.03 49** IAMs_20 IAMs_20 18 34 19.7
comp=Z,26µm,22.0s
OGNE **Ogallala** **104.03 49** Pdiff **Pdif** **17 53 51.9 -0.4**
baz=276
MSTX **Muleshoe** **104.08 56** Pdiff **Pdif** **17 53 51.9 -0.7**
baz=274
TULEG **Thule** **104.38 9** IAMs_20 IAMs_20 18 39 52.9
comp=Z,24µm,21.0s
MAK **Makhachkala** **104.51 313** *e* P **Pdif** **17 53 53.0 -1.2**
MAK *e* 17 58 13.1
MAK *e* PPP PPP 18 00 28.8
MAK *e* 18 04 30.3
MAK *e* 18 05 14.3
MAK *e* PS **PS** **18 07 30.2 +3.4**
MAK *e* SS SS 18 13 03.7 +0.9
MAK *e* SSS SSS 18 17 01.3
MAK pmax pmax
comp=Z,43nm,0.8s
MAK MLR MLR
comp=Z,13µm,19.0s
MDND **Maddock** **104.78 42** Pdiff **Pdif** **17 53 55.5 +0.2**
baz=280
AMTX **Amarillo** **104.90 55** IAMs_20 IAMs_20 18 36 32.6
comp=Z,31µm,20.0s
AMTX **Amarillo** **104.90 55** Pdiff **Pdif** **17 53 56.2 -0.1**
baz=275
BJO1 **Bjornoya** **105.14 348** *e* P **Pdif** **17 53 57.7 +1.4**
BJO1 IVmB_BB 17 54 04.5
comp=Z,2µm,3.8s
BJO1 *e* PP **PP** **17 58 18.2 +1.2**
BJO1 *e* SKSac **SKSac** **18 04 33.7 -0.2**
BJO1 *e* SP **SP** **18 07 31.6 +4.0**
APA **Apatity** **105.15 340** ⇓*i* P **Pdif** **17 53 57.0 +0.5**
APA *i* 17 58 14.0
APA *i* 18 04 31.0
APA *i* 18 05 09.0
APA *i* PS **PS** **18 07 21.0 -11**
APA *i* PPS PPS 18 08 27.0
APA *i* SS SS 18 13 17.0 +7.0
APA pmax pmax
comp=Z,12nm,1.1s
VADS **Vadso** **105.21 343** *e* P **Pdif** **17 53 58.6 +1.9**
VADS IVmB_BB 17 54 08.9
comp=Z,2µm,3.2s
VADS *e* PP **PP** **17 58 18.7 +1.1**
VADS *e* SKSac **SKSac** **18 04 33.6 -0.9**
VADS *e* PS **PS** **18 07 33.2 +0.2**
VADS *e* SS **SKKPbc** **18 13 17.8 -3.6**
VADS IVMs_BB IVMs_BB 18 43 31.7
comp=Z,5µm,21.2s
KLMR **Klimovskoe** **105.27 332** *e* P **Pdif** **17 53 53.4 -3.7**
KLMR *e* 17 58 14.2
KLMR 18 04 32.2
KLMR *e* SP SP 18 07 29.0 -0.5
KLMR PS **PS** **18 07 32.5 -1.5**
KLMR SS **SKKPbc** **18 13 31.0 +10**
KLMR pmax pmax
comp=Z,53nm,1.2s
KLMR MLR MLR
comp=Z,27µm,22.0s
GROC **Groznyy** **105.72 314** *e* P **Pdif** **17 54 01.0 +1.4**
GROC *e* 17 58 22.9
GROC *e* 18 04 36.0
GROC *e* 18 05 21.0
GROC *e* PS **PS** **18 07 39.1 -0.3**
GROC pmax pmax
comp=Z,33nm,1.3s
KEV **Kevo** **106.09 343** IAMs_20 IAMs_20 18 46 11.3
comp=Z,21µm,21.0s
HAMF **Hammerfest** **106.51 344** *e* P **Pdif** **17 54 02.6 +0.2**
HAMF IVmBBB 17 54 12.9
comp=Z,1µm,2.8s
HAMF *e* PP **PP** **17 58 24.3 -2.8**
HAMF *e* SKSac **SKSac** **18 04 38.6 -1.6**
HAMF *e* SP **SP** **18 07 45.8 +3.9**
HAMF IVMs_BB IVMs_BB 18 45 14.9
comp=Z,6µm,20.9s
ARA0 **ARCESS Array S** **106.65 343** *e* P **Pdif** **17 54 04.8 +1.6**
ARA0 IVmBBB 17 54 05.1
comp=Z,1µm,2.5s
ARA0 *e* PP **PP** **17 58 30.2 +1.9**
ARA0 *e* SKSac **SKSac** **18 04 36.8 -4.2**
ARA0 *e* SP **SP** **18 07 46.0 +2.6**
ARA0 IVMs_BB IVMs_BB 18 45 49.7
comp=Z,9µm,21.8s
ARCES **ARCESS Array B** **106.65 343** Pdiff **Pdif** **17 54 04.9 +1.7**
comp=Z,4.9nm,0.8s,baz=60,slow=7.2,SNR=9.6
ARCES PKiKP **PKiKP** **17 58 13.2 -0.3**
comp=Z,2.6nm,0.6s,baz=94,slow=1.9,SNR=13
ARCES PKKPbc PKKPbc 18 09 27.0 -8.6
comp=Z,4.9nm,1.0s,baz=205,slow=3.6,SNR=2.7
ULM **Lac du Bonnet** **106.70 39** PP **PP** **17 58 33.4 +4.2**
comp=Z,6.2nm,0.7s,baz=288,slow=8.5,SNR=5.0
ULM PKKPbc **PKKPbc** **18 09 33.0 -1.8**
comp=Z,2.0nm,0.4s,baz=126,slow=2.8,SNR=6.1
ULM PKKP **PKKPdf** **18 09 44.7 -2.3**
comp=Z,21nm,1.2s,baz=102,slow=5.6,SNR=3.4
VRH **Novokhopyorsk** **106.84 322** *e* P **Pdif** **17 54 01.7 -2.7**
VRH *e* SP SP 18 07 38.1 -8.2
VRH pmax pmax
comp=Z,10.0nm,0.4s
VRH MLR MLR
comp=Z,16µm,20.0s
OK035 **E0210 Rd and N** **107.11 53** IAMs_20 IAMs_20 18 35 56.7
comp=Z,32µm,22.0s
OK038 **West end E0370** **107.11 53** IAMs_20 IAMs_20 18 38 27.8
comp=Z,24µm,20.0s
AGMN **Agassiz Nation** **107.15 41** IAMs_20 IAMs_20 18 42 20.4
comp=Z,21µm,20.0s
GOF **Gofitskoye** **107.35 316** *c e* P **Pdif** **17 54 18.0 +11**
OK032 **Salt Plains WL** **107.49 53** IAMs_20 IAMs_20 18 40 29.9
comp=Z,24µm,20.0s
ONI **Oni** **107.52 313** IAMs_20 IAMs_20 18 49 09.0
comp=Z,25µm,20.0s
ECSD **EROS Data Cent** **107.58 46** IAMs_20 IAMs_20 18 40 17.3
comp=Z,32µm,20.0s
KTK1 **Kautokeino** **107.62 343** *e* P **Pdif** **17 54 08.6 +1.2**
KTK1 IVmBBB 17 54 29.0
comp=Z,691nm,2.1s
KTK1 *e* PP **PP** **17 58 37.7 +2.4**
KTK1 *e* SKSac **SKSac** **18 04 41.3 -3.9**
KTK1 *e* SP **SP** **18 07 57.2 +3.9**
KTK1 *e* SS **SS** **18 13 46.7 +3.3**
KTK1 IVMs_BB IVMs_BB 18 44 10.0
comp=Z,5µm,20.5s
KULLO **Kullorsuaq** **107.70 8** *e* Pdif **Pdif** **17 54 10.5 +2.8**
KBZ **Khabaz** **107.71 314** Pdiff **Pdif** **17 54 08.4 +0.1**
comp=Z,3.3nm,0.8s,baz=91,slow=3.8,SNR=9.2
KBZ PP PP 17 58 28.3 -8.5
comp=Z,7.5nm,0.9s,baz=78,slow=5.6,SNR=2.9
KBZ PKKP **PKKPab** **18 09 44.5 +0.1**
comp=Z,3.3nm,0.9s,baz=263,slow=4.7,SNR=4.2
KIV **Kislovodsk** **107.81 315** *i* P **Pdif** **17 54 06.6 -2.4**
KIV *e* 17 58 35.3
KIV *e* 18 04 45.9
KIV *e* PS **PS** **18 07 57.4 -3.8**
KIV *e* SS SS 18 13 47.2 -0.7
KIV *e* SSS SSS 18 17 50.5
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,15µm,21.0s
RAYN **Ar Rayn** **108.01 293** P **Pdif** **17 54 11.1 +0.8**
JETT **Jettan, Norway** **108.07 344** *e* P **Pdif** **17 54 10.4 +0.9**
JETT *e* PP **PP** **17 58 45.4 +6.7**
JETT *e* SKSac **SKSac** **18 04 48.8 +1.6**
JETT *e* SP **SP** **18 08 01.9 +4.0**
JETT IVMs_BB IVMs_BB 18 42 22.7
comp=Z,10µm,24.6s
LPSR **Galich'ya Gora** **108.13 324** *e* P **Pdif** **17 54 07.6 -2.5**
LPSR pmax pmax
comp=Z,20nm,0.8s
VORD **Divnogorie** **108.39 322** *e* P **Pdif** **17 54 09.5 -1.7**
VORD pmax pmax
comp=Z,4.0nm,0.4s
VORD MLR MLR
comp=Z,4µm,14.0s
VSR **Storozhevoye** **108.39 323** *e* P **Pdif** **17 54 09.2 -2.1**
VSR *e* SP SP 18 07 54.3 -7.8
VSR pmax pmax
comp=Z,10.0nm,0.8s
TRO **Tromso** **108.41 345** *e* P **Pdif** **17 54 14.3 +3.3**

TRO IVmB_BB 17 54 22.2
comp=Z,1μm,3.5s
TRO ePP PP 17 58 47.9 +6.8
TRO eSKSac SKSac 18 04 47.5 -1.0
TRO eSP SP 18 08 03.9 +2.6
TRO eSS SS 18 13 58.8 +4.7
TRO IVMs_BB IVMs_BB 18 45 02.7
comp=Z,11μm,23.0s
OK048 Pawnee Station 108.56 53 IAMs_20 IAMs_20 18 39 52.1
comp=Z,26μm,20.0s
ESPZ Base Esperanza 108.61 166 IAMs_20 IAMs_20 18 35 44.8
comp=Z,27μm,22.0s
OK033 Mehan 108.62 54 IAMs_20 IAMs_20 18 39 43.7
comp=Z,24μm,20.0s
OBN Obninsk 108.66 327 *i* P **Pdif 17 54 11.7 -0.6**
OBN *i* 17 58 41.9
OBN *i* PS **PS 18 07 58.8 -10**
OBN *i* SS SS 18 13 57.4 -0.9
OBN MLR MLR
comp=Z,17μm,21.0s
OK052 Battle Ridge R 108.73 54 IAMs_20 IAMs_20 18 39 46.7
comp=Z,22μm,20.0s
KVTX Kingsville 108.77 63 IAMs_20 IAMs_20 18 34 14.8
comp=Z,34μm,22.0s
TUL3 Leonard 109.56 54 IAMs_20 IAMs_20 18 44 57.5
comp=Z,26μm,19.0s
SOC Sochi 109.99 315 *i* P **Pdif 17 54 18.7 +0.1**
EYMN Ely 110.07 40 IAMs_20 IAMs_20 18 43 13.6
comp=Z,25μm,19.0s
HARA HARA 110.37 278 *e*P **PKiKP 17 58 25.2 +2.9**
STEI Steigen 110.56 344 *e*P **Pdif 17 54 20.9 +0.4**
STEI IVmBBB 17 54 30.5
comp=Z,708nm,3.4s
STEI *e*SKSac **SKSac 18 04 57.9 +0.3**
STEI *e*PS **PS 18 08 27.2 0.0**
STEI *e*SS **SS 18 14 26.1 +3.2**
STEI IVMs_BB IVMs_BB 18 44 22.4
comp=Z,9μm,21.6s
LOF Lofoten 110.87 345 *e*P **Pdif 17 54 23.3 +1.4**
LOF IVmB_BB 17 54 26.1
comp=Z,736nm,3.3s
LOF *e*PP **PP 17 59 03.0 +4.2**
LOF *e*SKSac **SKSac 18 05 00.3 +1.5**
LOF *e*SP **SP 18 08 29.2 +3.8**
LOF *e*SS **SS 18 14 30.6 +3.7**
LOF IVMs_BB IVMs_BB 18 43 15.2
comp=Z,8μm,26.4s
FINES FINESS Array B 110.91 336 Pdiff **Pdif 17 54 21.1 -1.1**
comp=Z,3.6nm,0.6s,baz=70,slow=4.4,SNR=24
FINES PKiKP **PKiKP 17 58 21.2 -0.4**
comp=Z,2.2nm,0.5s,baz=104,slow=3.0,SNR=12
FINES PKKPbc **PKKPbc 18 09 18.1 -3.6**
comp=Z,1.0nm,0.4s,baz=233,slow=2.3,SNR=7.7
FAUS Fauske 110.93 344 *e*P **Pdif 17 54 23.1 +0.9**
FAUS IVmB_BB 17 54 37.5
comp=Z,661nm,3.0s
FAUS *e*PP **PP 17 59 00.9 +1.5**
FAUS *e*SKSac **SKSac 18 05 02.6 +3.5**
FAUS *e*SP **SP 18 08 26.8 +0.7**
FAUS *e*SS **SS 18 14 30.6 +2.7**
FAUS IVMs_BB IVMs_BB 18 47 49.2
comp=Z,9μm,23.2s
NATX Nacogdoches 111.10 58 IAMs_20 IAMs_20 18 37 43.9
comp=Z,29μm,22.0s
ANN Anapa 111.28 317 *i* PKiKP **PKiKP 17 58 19.2 -3.6**
ANN *e* 17 59 10.4
ANN *e* 18 04 58.2
ANN pmax pmax
comp=Z,89nm,1.1s
VAF Ylistaro 111.34 338 *e*P **PKiKP 17 58 22.9 +0.5**
SUMG Summit 111.56 4 IAMs_20 IAMs_20 18 50 07.9
comp=Z,21μm,19.0s
UMMG Uummannaq 111.87 9 *e*PP **PP 17 59 11.4 +5.5**
MG05 Puerto Natales 111.91 151 IAMs_20 IAMs_20 18 36 53.4
comp=Z,23μm,22.0s
MOR8 Moi Rana 112.03 343 *e*P **Pdif 17 54 29.4 +2.3**
MOR8 IVmB_BB 17 54 39.9
comp=Z,666nm,3.3s
MOR8 *e*PP **PP 17 59 08.0 +0.7**
MOR8 *e*SKSac **SKSac 18 05 02.7 -1.1**
MOR8 *e*SP **SP 18 08 38.6 +2.5**
MOR8 *e*SS **SS 18 14 43.8 +1.2**
MOR8 IVMs_BB IVMs_BB 18 41 44.2
comp=Z,8μm,27.0s
KONS Konsvik 112.17 344 *e*P **Pdif 17 54 29.4 +1.8**
KONS *e*PP **PP 17 59 14.1 +5.9**
JFWS Jewell Farm 112.29 45 IAMs_20 IAMs_20 18 42 07.9
comp=Z,29μm,20.0s
STOK Stokkvaagen 112.31 344 *e*P **Pdif 17 54 28.0 -0.3**
STOK IVmB_BB 17 54 31.6
comp=Z,566nm,2.2s
STOK *e*PP **PP 17 59 06.9 -2.3**
STOK *e*SP SP 18 08 41.1 +2.4
STOK *e*SS **SS 18 14 51.4 +5.2**
STOK IVMs_BB IVMs_BB 18 45 05.5
comp=Z,10μm,21.8s
JMIC Jan Mayen 112.52 354 *e*P **Pdif 17 54 27.5 -1.7**
JMIC *e*PP **PP 17 59 05.2 -5.3**
JMIC *e*PS **PS 18 08 45.5 +0.3**
JMIC *e*SS SS 18 14 51.7 +3.0
JMI Jan Mayen 112.60 354 *e*P **Pdif 17 54 28.2 -1.4**
JMI *e*PP **PP 17 59 07.4 -3.7**
JMI *e*SP SP 18 08 47.9 +6.8
RAF Rauma 112.87 337 *e*P **PKiKP 17 58 28.2 +2.9**
ILULI Ilulissat 113.34 9 IAMs_20 IAMs_20 18 46 28.1
comp=Z,29μm,20.0s
ILULI Ilulissat 113.34 9 *e*PP **PP 17 59 20.3 +3.9**
SIM Simferopol' 113.49 317 *i* PKiKP **PKiKP 17 58 23.5 -3.6**
SIM *e* 17 59 20.1
SIM pmax pmax
comp=Z,36μm,0.8s
MNK Minsk 113.51 329 *i* P **Pdif 17 54 31.6 -2.4**
MNK *i* 17 59 15.5
MNK *i* 18 05 31.2
MNK *i* SS SS 18 15 02.2 -0.7
MNK *i* SSS SSS 18 19 18.1
MNK MLR MLR
comp=E,5μm,21.0s
MNK MLR MLR
comp=Z,18μm,20.0s
MNK MLR MLR
comp=N,10μm,18.0s
ISAL Salakas 113.89 330 *e*P **PKiKP 17 58 31.2 +3.7**
GO08 Villa O'Higgin 113.91 149 IAMs_20 IAMs_20 18 37 30.7
comp=Z,20μm,22.0s
NSS Namsos 113.93 343 *e*P **Pdif 17 54 36.6 +1.0**
NSS *e*PP **PP 17 59 20.6 -0.1**
NSS *e*SP SP 18 08 55.0 +1.4
NSS *e*SS **SS 18 15 15.3 +7.7**
AKASG Malin Array Be 114.45 325 PKP **PKiKP 17 58 26.3 -2.4**
comp=Z,4.1nm,0.5s,baz=45,slow=2.5,SNR=33
AKASG PKKPbc **PKKPbc 18 09 07.5 -2.0**
comp=Z,1.2nm,0.5s,baz=260,slow=3.7,SNR=7.8
KIEV Kiev 114.47 325 ⇑P **PKiKP 17 58 27.9 -0.9**
KIEV Kiev 114.47 325 IAMs_20 IAMs_20 18 46 26.9
comp=Z,22μm,22.0s
KIEV Kiev 114.47 325 PKIKP **PKiKP 17 58 27.8 -0.9**
KIEV Kiev 114.47 325 P **PKiKP 17 58 28.5 -0.2**
AY03 Cochrane 114.64 147 IAMs_20 IAMs_20 18 43 32.3
comp=Z,16μm,19.0s
VSVD Vaisvydziai 114.75 331 *e*P PKPdf 17 58 30.7 +1.6
ICESG Greenland Ices 114.88 5 *e*PP PP 17 59 30.7 +3.0
WLRA Wolmera 114.89 278 *e*P PKPdf 17 58 27.1 -4.0
FURI Furi 114.91 278 *e*P PKPdf 17 58 27.1 -4.0
OXF Oxford 114.95 54 IAMs_20 IAMs_20 18 42 04.4
comp=Z,22μm,21.0s
PABE Paberze 114.98 331 IAMs_20 IAMs_20 18 51 44.4
comp=Z,26μm,20.0s
PABE Paberze 114.98 331 *e*P PKPdf 17 58 30.7 +1.1
BRTR Keskin Array B 115.38 312 PKP **PKiKP 17 58 30.1 -0.9**
comp=Z,4.1nm,0.6s,baz=130,slow=3.2,SNR=9.0
TBLU Trondheim 115.39 342 *e*PKPdf **PKPdf 17 58 30.4 +0.2**
TBLU *e*PP **PP 17 59 34.4 +3.4**
SFJD Kangerlussuaq 115.41 10 IAMs_20 IAMs_20 18 47 13.9
comp=Z,17μm,21.0s
SFJD Kangerlussuaq 115.41 10 *e*PP PP 17 59 37.3 +6.3
MMAI Mount Meron Ar 115.64 304 PKP **PKPdf 17 58 31.4 -0.2**
comp=Z,9.0nm,0.9s,baz=111,slow=3.7,SNR=7.2
PBUR Paburge 115.67 332 *e*P **PKPdf 17 58 31.2 +0.3**
PLAL Pickwick Lake 115.91 53 IAMs_20 IAMs_20 18 44 55.8
comp=Z,25μm,19.0s
ANTO Ankara 115.97 312 ⇓P **PKPdf 17 58 31.7 -0.4**
ANTO Ankara 115.97 312 **PKPdf 17 58 30.1 -1.9**
ANTO Ankara 115.97 312 ⇓PKIKP **PKPdf 17 58 31.7 -0.4**

SORM Soroca 116.04 322 ⇓P **PKiKP 17 58 30.7 -1.1**
SORM Soroca 116.04 322 ⇓PKIKP **PKiKP 17 58 30.7 -1.1**
SUW Suwalki 116.15 330 IAMs_20 IAMs_20 18 49 28.6
comp=Z,22μm,21.0s
SUW Suwalki 116.15 330 *e*P **PKPdf 17 58 35.0 +3.1**
KIS Kishinev 116.22 321 *e*PP PP 17 59 43.0 +5.5
comp=Z,700nm,5.2s
KIS *e*SKS **SKSac 18 05 15.0 -5.7**
KIS Kishinev 116.22 321 *e*PS PS 18 09 19.0 -1.0
KIS *e*L L 18 35 54.0
KIS LQM 18 46 47.0
comp=Z,4μm,28.0s
KIS LRM MLR 18 48 12.0
comp=Z,4μm,22.5s
MILM Milestii Mici 116.25 321 ⇓P **PKPdf 17 58 31.3 -1.0**
MILM Milestii Mici 116.25 321 ⇓PKIKP **PKPdf 17 58 31.3 -1.0**
PAYG Puerto Ayora 116.34 93 IAMs_20 IAMs_20 18 42 38.3
comp=Z,18μm,19.0s
AY01 Puyuhuapi 116.34 145 IAMs_20 IAMs_20 18 39 46.5
comp=Z,18μm,21.0s
VIKU Vikbolandet 116.45 336 *e*P **PKiKP 17 58 33.7 +1.4**
HFS Hagfors 116.50 339 PKP **PKPdf 17 58 32.2 -0.2**
comp=Z,3.3nm,0.6s,baz=85,slow=3.3,SNR=10
HFS PP **PP 17 59 39.5 +0.5**
comp=Z,9.9nm,1.0s,baz=52,slow=7.5,SNR=2.0
HFS PKKPbc **PKKPbc 18 09 01.5 -1.2**
comp=Z,1.8nm,0.7s,baz=251,slow=4.5,SNR=7.5
GO07 Milladeo Hill, 116.52 143 IAMs_20 IAMs_20 18 39 18.4
comp=Z,20μm,22.0s
DY2G Dye2 116.60 9 *e*PP PP 17 59 47.7 +8.0
DOMB Dombas 116.67 342 *e*P **Pdif 17 54 49.3 +1.4**
DOMB IVmBBB 17 55 00.5
comp=Z,804nm,3.1s
DOMB *e*PP **PP 17 59 44.0 +4.0**
DOMB *e*SKSac **SKSac 18 05 22.6 +0.7**
DOMB *e*SP **SP 18 09 21.5 +2.8**
DOMB *e*SS **SS 18 15 47.4 +3.7**
DOMB IVMs_BB IVMs_BB 18 48 32.0
comp=Z,7μm,23.0s
MOL Molde 116.72 343 *e*P **Pdif 17 54 47.9 -0.2**
MOL *e*PP **PP 17 59 43.3 +3.0**
MOL *e*SP SP 18 09 22.5 +3.5
MOL IVMs_BB IVMs_BB 18 47 26.7
comp=Z,6μm,28.4s
NB2 NORSAR Subarra116.72 340 P **Pdif 17 54 50.2 +2.0**
comp=Z,3.5nm,1.1s,baz=51,slow=4.6
NB2 NORSAR Subarra116.72 340 PKPdf **PKPdf 17 58 31.8 -1.1**
comp=Z,3.3nm,0.6s,baz=44,slow=1.9
NB2 PKKP **PKKPbc 18 08 58.9 -3.1**
comp=Z,31nm,1.7s,baz=224,slow=4.4
NB2 NORSAR Subarra116.72 340 PKPdf **PKPdf 17 58 31.8 -1.1**
baz=44,slow=1.9
NOA NORSAR Array B 116.72 340 PKP **PKPdf 17 58 30.8 -2.0**
comp=Z,2.1nm,0.7s,baz=46,slow=1.9,SNR=14
NOA PKKPbc **PKKPbc 18 08 59.2 -2.8**
comp=Z,1.5nm,1.0s,baz=44,slow=3.4,SNR=3.1
LL07 Hotel Espejo d 116.80 143 IAMs_20 IAMs_20 18 44 33.7
comp=Z,15μm,18.0s
NC602 NORSAR Array S 116.83 340 *e*P **Pdif 17 54 47.4 -1.2**
NC602 IAmb IAmb 17 54 50.9
comp=Z,183nm,2.4s
NC602 *e*PP **PP 17 59 45.9 +4.7**
NC602 *e*SKSac **SKSac 18 05 24.4 +1.9**
NC602 *e*SP **SP 18 09 18.9 -1.4**
NC602 *e*SS **SS 18 15 45.5 -0.4**
MDUB Mudurnu 116.95 313 IAMs_20 IAMs_20 18 50 27.6
comp=Z,28μm,22.0s
LL06 Loncomilla 117.06 143 IAMs_20 IAMs_20 18 40 37.9
comp=Z,16μm,20.0s
VLDR Vladesti 117.15 320 ⇑P **PKPdf 17 58 34.1 0.0**
AKN Aaknes 117.18 343 *e*P **Pdif 17 54 51.7 +1.5**
AKN IVmBBB 17 55 03.2
comp=Z,1μm,3.1s
AKN *e*PKPdf **PiKiP 17 58 35.2 +1.5**
AKN *e*PP **PP 17 59 47.3 +3.7**
AKN *e*SKSac **SKSac 18 05 23.0 -0.8**
AKN *e*SP **SP 18 09 26.4 +3.1**
AKN *e*SS **SS 18 15 44.4 -5.9**
AKN IVMs_BB IVMs_BB 18 49 59.6
comp=Z,6μm,25.1s
LRAL Lakeview Retre 117.23 55 IAMs_20 IAMs_20 18 46 31.0
comp=Z,28μm,21.0s
TPGR Topolog 117.32 319 ⇑P **PKPdf 17 58 34.2 -0.3**
CFR Carcaliu 117.38 319 ⇑P **PKPdf 17 58 33.5 -1.0**
CFR Carcaliu 117.38 319 ⇑PKIKP **PKPdf 17 58 33.5 -1.0**
GHRR 117.49 320 ⇑P **PKiKP 17 58 35.2 +0.5**
MFTR Murfatlar 117.58 318 ⇑P **PKPdf 17 58 34.9 0.0**
LL05 Los Muermos 117.62 142 IAMs_20 IAMs_20 18 39 35.8
comp=Z,22μm,22.0s
OSL Oslo 117.69 340 *e*PP **PP 17 59 48.6 +1.4**
OSL *e*PS **PS 18 09 32.7 0.0**
LL01 San Ignacio de 117.70 143 IAMs_20 IAMs_20 18 47 46.6
comp=Z,14μm,18.0s
HARR Harsova 117.70 319 ⇓P **PKPdf 17 58 34.9 -0.3**
HARR Harsova 117.70 319 PKIKP **PKPdf 17 58 34.8 -0.3**
TESR Tescani 117.78 321 ⇓P **PKPdf 17 58 34.6 -0.7**
LVV L'vov 117.83 325 *e*P **Pdif 17 54 57.1 +3.8**
LVV *i* 17 58 35.9
LVV *e*PPP PPP 18 02 24.1
LVV *e* 18 05 24.6
LVV *i* 18 09 31.9
LVV *e*SS SS 18 16 15.3 +16
LVV MLR MLR
comp=N,8μm,23.0s
LVV MLR MLR
comp=E,11μm,23.0s
LVV MLR MLR
comp=Z,5μm,23.0s
SKAR Skarslia 117.94 341 *e*P **Pdif 17 54 54.2 +0.5**
SKAR *e*PKPdf **PKiKP 17 58 36.0 +0.8**
SKAR *e*PP **PP 17 59 52.9 +3.9**
SKAR *e*SKSac **SKSac 18 05 28.9 +2.2**
SKAR *e*SP **SP 18 09 33.8 +3.5**
SKAR *e*SS **SS 18 16 02.6 +2.2**
SKAR IVMs_BB IVMs_BB 18 46 17.3
comp=Z,6μm,27.0s
PSN Preselentsi 117.97 318 *e*P **PKiKP 17 58 36.4 +0.7**
BISRR Bisoca 118.14 320 ⇑P **PKiKP 17 58 36.4 +0.3**
BURAR Bucovina Array 118.17 323 ⇓P **PKiKP 17 58 36.7 +0.5**
BURAR Bucovina Array 118.17 323 PKIKP **PKiKP 17 58 36.6 +0.5**
FOO Floro 118.21 343 *e*P **Pdif 17 54 58.8 +4.1**
FOO *e*PKPdf **PiKiKP 17 58 37.4 +1.8**
FOO *e*PP **PP 17 59 51.5 +0.8**
FOO *e*SKSac **SKSac 18 05 28.9 +1.5**
FOO *e*PS **PS 18 09 37.1 -0.2**
HYA Hoyanger 118.22 343 *e*P **Pdif 17 54 54.7 0.0**
HYA IVmB_BB 17 55 06.5
comp=Z,2μm,3.3s
HYA *e*PP **PP 17 59 49.4 -1.4**
HYA *e*SKSac **SKSac 18 05 27.6 +0.2**
HYA *e*SP **SP 18 09 34.5 +1.9**
HYA *e*SS **SS 18 16 08.8 +5.1**
HYA IVMs_BB IVMs_BB 18 44 42.6
comp=Z,6μm,27.9s
TEIG Tepich 118.24 70 IAMs_20 IAMs_20 18 42 37.2
comp=Z,21μm,21.0s
KONO Kongsberg 118.29 340 IAMs_20 IAMs_20 18 51 20.4
comp=Z,17μm,20.0s
KONO Kongsberg 118.29 340 *e*P **Pdif 17 54 54.7 -0.4**
KONO *e*PKPdf **PiKiKP 17 58 36.8 +0.9**
KONO *e*PP **PP 17 59 53.5 +2.2**
KONO *e*SKSac **SKSac 18 05 27.6 -0.2**
KONO *e*SP **SP 18 09 36.6 +3.2**
KONO *e*SS **SS 18 16 04.6 -0.2**
KONO IVMs_BB IVMs_BB 18 47 29.6
comp=Z,6μm,19.7s
ACSO Alum Creek Sta 118.29 46 IAMs_20 IAMs_20 18 46 35.0
comp=Z,25μm,21.0s
TURR Turia 118.37 321 ⇑P **PKPdf 17 58 36.0 -0.5**
LL03 Petrohue 118.43 142 IAMs_20 IAMs_20 18 40 00.2
comp=Z,20μm,22.0s
ANGG Ammassalik, Gr 118.46 5 IAMs_20 IAMs_20 18 45 50.1
comp=Z,29μm,22.0s
NEHR Nehoiu 118.46 320 ⇑P **PKPdf 17 58 35.9 -0.8**
OZUR 118.50 321 ⇑P **PKPdf 17 58 36.5 -0.2**
MLR Muntele Rosu 118.66 320 ⇓P **PiKiKP 17 58 37.4 +0.2**
MLR Muntele Rosu 118.66 320 ⇓PKIKP **PiKiKP 17 58 37.4 +0.2**
KWP Kalwaria Pacla 118.67 326 IAMs_20 IAMs_20 18 49 59.1
comp=Z,25μm,22.0s
SUE Sulen 118.73 343 *e*P **Pdif 17 54 58.8 +1.8**
SUE *e*PKPdf **PiKiKP 17 58 37.1 +0.5**
SUE *e*PP **PP 17 59 55.7 +1.4**
SUE *e*SKSac **SKSac 18 05 29.1 -0.1**
SUE *e*PS **PS 18 09 41.9 -0.1**

SUE *e*SS **SS 18 16 15.7 +5.5**
SUE IVMs_BB IVMs_BB 18 44 30.1
comp=Z,5μm,24.0s
DOPR Dopca 118.80 321 ⇑P **PKiKP 17 58 37.5 +0.1**
DEL Delary 118.94 336 *e*P **PKiKP 17 58 38.2 +1.0**
ELL Elmali 119.06 310 IAMs_20 IAMs_20 18 56 31.8
comp=Z,24μm,22.0s
ODD1 Odda 119.07 341 *e*P **Pdif 17 54 57.3 -1.3**
ODD1 *e*PKPdf **PKPdf 17 58 36.1 -1.3**
ODD1 *e*PP **PP 17 59 58.6 +1.9**
ODD1 *e*SKSac **SKSac 18 05 28.7 -2.0**
ODD1 *e*SP **SP 18 09 43.4 +2.9**
ODD1 *e*SS **SS 18 16 20.6 +5.7**
ODD1 IVMs_BB IVMs_BB 18 49 41.7
comp=Z,5μm,20.8s
RAZG Razgrad 119.09 318 ⇑P **PKPdf 17 58 37.4 -0.5**
BER Bergen 119.10 342 *e*P **Pdif 17 54 58.9 +0.2**
BER *e*PKPdf **PKiKP 17 58 38.6 +1.2**
BER *e*PP **PP 17 59 58.8 +2.0**
BER *e*PS **PS 18 09 45.2 -0.1**
BER *e*SS SS 18 16 18.6 +3.6
BER IVMs_BB IVMs_BB 18 45 06.4
comp=Z,4μm,22.9s
P52A Corning 119.11 47 IAMs_20 IAMs_20 18 43 09.7
comp=Z,28μm,22.0s
BMR Baia Mare 119.17 323 ⇓P **PKiKP 17 58 38.2 +0.2**
BMR Baia Mare 119.17 323 PKIKP **PKiKP 17 58 38.1 +0.2**
KOLS Kolonicke sedl 119.26 325 *e*PKIKP **PKiKP 17 58 38.7 +0.6**
KOLS Kolonicke sedl 119.26 325 *e*PKP **PKiKP 17 58 38.7 +0.6**
LR03 Panguipulli 119.34 141 IAMs_20 IAMs_20 18 40 22.5
comp=Z,17μm,22.0s
BSD Bornholm Skovb 119.39 334 *e*PP PP 17 59 58.8 -0.3
BSD *e*PP **PP 18 00 02.5 +3.4**
BSD Bornholm Skovb 119.39 334 *e*P **PKiKP 17 58 38.4 +0.3**
GKP Gorka Klasztor 119.49 331 *e*PKP **PKiKP 17 58 38.9 +0.5**
GKP *e*PS **PS 18 09 55.5 +6.3**
GKP Gorka Klasztor 119.49 331 *e*P **PKiKP 17 58 39.0 +0.7**
BLS5 Blasjo 119.51 341 *e*P **Pdif 17 55 02.6 +2.0**
BLS5 *e*PKPdf **PKPdf 17 58 36.7 -1.5**
BLS5 *e*PP **PP 17 59 59.9 +0.2**
BLS5 *e*SP SP 18 09 48.6 +4.3
BLS5 *e*SS **SS 18 16 24.4 +3.9**
BLS5 IVMs_BB IVMs_BB 18 46 15.3
comp=Z,6μm,21.7s
O53A New Philadelph 119.56 46 IAMs_20 IAMs_20 18 51 16.3
comp=Z,27μm,20.0s
SZH Strazhitsa 119.57 318 *e*P **PKPdf 17 58 38.8 0.0**
STHS Stebnicka Huta 119.59 326 *e*PKIKP **PKPdf 17 58 38.4 -0.3**
STHS Stebnicka Huta 119.59 326 *e*PKP **PKPdf 17 58 38.4 -0.3**
TGUH Tegucigalpa,Un 119.67 76 IAMs_20 IAMs_20 18 42 46.7
comp=Z,24μm,20.0s
HUMR Humele 119.69 320 ⇓P **PKPdf 17 58 37.9 -1.1**
HOMB Homborsund 119.70 339 *e*P **Pdif 17 55 02.9 +1.5**
HOMB *e*PKPdf **PiKiKP 17 58 40.6 +2.0**
HOMB *e*PP **PP 18 00 01.9 +0.8**
HOMB *e*SKSac **SKSac 18 05 32.8 0.0**
HOMB *e*SP **SP 18 09 49.7 +3.6**
HOMB IVMs_BB IVMs_BB 18 50 46.6
comp=Z,7μm,21.6s
CRVS Cervenica-Dubn 119.74 325 *i* P **Pdif 17 55 03.6 +1.7**
CRVS *e* 17 58 39.1
CRVS Cervenica-Dubn 119.74 325 *e*PDIFF **Pdif 17 55 03.5 +1.7**
CRVS Cervenica-Dubn 119.74 325 *e*PKP **PKiKP 17 58 39.1 0.0**
ELND Elena 119.77 318 ⇓P **PKPdf 17 58 38.3 -0.9**
PLCA Paso Flores 119.80 143 IAMs_20 IAMs_20 18 46 11.4
comp=Z,17μm,19.0s
PLCA Paso Flores 119.80 143 PKP **PKPdf 17 58 39.3 -0.2**
comp=Z,3.9nm,0.5s,baz=276,slow=3.4,SNR=6.6
PLCA PKKPab **PKKPbc 18 08 50.5 0.0**
comp=Z,7.6nm,0.8s,baz=56,slow=5.8,SNR=6.2
MARR Marisel-Cluj 119.88 323 ⇓P **PKPdf 17 58 38.9 -0.5**
GOGA Godfrey 120.00 54 IAMs_20 IAMs_20 18 52 07.2
comp=Z,22μm,19.0s
KMY Karmoy 120.06 342 *e*PKPdf **PKPdf 17 58 39.2 0.0**
KMY *e*SKSac **SKSac 18 05 34.3 +0.3**
KMY *e*SP **SP 18 09 52.6 +3.4**
KMY IVMs_BB IVMs_BB 18 49 38.4
comp=Z,4μm,31.4s
COP Copenhagen 120.06 336 *e*PP PP 18 00 11.4 +7.8
DRGR 120.06 323 ⇑P **PKPdf 17 58 39.4 -0.3**
DRGR 120.06 323 PKIKP **PKPdf 17 58 39.4 -0.3**
SNART Snartemo 120.10 340 *e*PKPdf **PiKiKP 17 58 39.5 +0.1**
SNART *e*PP **PP 18 00 03.2 -0.6**
SNART *e*SKSac **SKSac 18 05 34.2 0.0**
SNART *e*SS **SKKSdf 18 16 34.0 +1.4**
SNART IVMs_BB IVMs_BB 18 48 29.1
comp=Z,24μm,25.8s
NIE Niedzica 120.12 326 *e*PKP **PiKiKP 17 58 40.8 +1.0**
NIE *e*PP **PP 18 00 11.0 +6.6**
NIE *e*PS **PS 18 10 02.4 +7.2**
NIE *e*SS SS 18 17 05.1 +36
BOSA Boshof 120.18 233 **PKPdf 17 58 39.3 -1.3**
BOSA IAMs_20 IAMs_20 18 50 02.6
comp=Z,23μm,18.0s
BOSA Boshof 120.18 233 PKIKP **PKPdf 17 58 39.3 -1.3**
BOSA MLR MLR
comp=Z,23μm,18.0s
BOSA Boshof 120.18 233 PKP **PKPdf 17 58 40.2 -0.4**
comp=Z,21nm,0.5s,baz=137,slow=1.5,SNR=56
SCHQ Schefferville 120.28 26 PKP **PKPdf 17 58 39.4 -0.5**
comp=Z,3.0nm,0.9s,baz=90,slow=4.0,SNR=1.6
SCHQ PKKPbc **PKKPab 18 08 46.0 -2.6**
comp=Z,27nm,1.1s,baz=138,slow=5.5,SNR=13
DIM Dimitrovgrad 120.33 317 *e*P **PKPdf 17 58 39.7 -0.6**
PLVB Pleven 120.41 319 ⇓P **PKPdf 17 58 39.6 -0.8**
RGN Rugen 120.46 334 IAMs_20 IAMs_20 18 55 57.1
comp=Z,20μm,21.0s
ALN Alexandroupoli 120.46 316 P **PKPdf 17 58 38.8 -1.8**
EZN Ezine 120.67 314 P **PKPdf 17 58 39.4 -1.6**
GZR Gura Zlata 120.69 321 PKIKP PKiKP 17 58 51.2 +10
LANS Liptovska Anna 120.72 327 *e*PKIKP **PKiKP 17 58 42.9 +1.9**
LANS Liptovska Anna 120.72 327 *e*PKP **PKiKP 17 58 42.9 +1.9**
LANS *e* 18 08 57.4
RDO Rodhopi 120.72 316 P **PKPdf 17 58 39.4 -1.7**
SURR Surduc 120.92 322 ⇑P **PKPdf 17 58 40.0 -1.3**
HOPE Hope Point 120.92 173 IAMs_20 IAMs_20 18 50 39.9
comp=Z,21μm,19.0s
SIRR Siria 120.95 323 ⇓P **PKPdf 17 58 39.8 -1.6**
SMTH Samothraki Isl 120.99 315 P **PKPdf 17 58 41.5 -0.1**
MPEP Malo Peshtene 121.00 319 *e*P **PKPdf 17 58 41.1 -0.5**
OKC Ostrava-Krasne 121.05 328 AMS AMS 18 54 40.0
comp=Z,14μm,18.7s
VALD Valchedram 121.06 319 *e*P **PiKiKP 17 58 41.8 +0.1**
PGB Panagyurishte 121.08 318 *e*P **PKPdf 17 58 41.5 -0.3**
LRW Lerwick 121.11 345 *e*P **PKPdf 17 58 41.2 0.0**
LRW IAMs_20 IAMs_20 18 47 59.2
comp=Z,18μm,23.2s
PSZ Piszkesteto 121.14 325 ⇓P **PKPdf 17 58 41.4 -0.4**
PSZ Piszkesteto 121.14 325 IAMs_20 IAMs_20 18 54 27.8
comp=Z,25μm,22.0s
PSZ Piszkesteto 121.14 325 ⇓PKIKP **PKPdf 17 58 41.4 -0.4**
HERR Herculane 121.16 321 ⇓P **PKPdf 17 58 40.8 -1.0**
BZS Buzias 121.30 322 ⇑P **PKPdf 17 58 40.9 -1.2**
BZS Buzias 121.30 322 ⇑PKIKP **PKPdf 17 58 40.9 -1.2**
BOAB BOACO BROADBAND 121.31 78 PKP **PKiKP 17 58 44.7 +1.7**
LBTB Lobatse 121.33 237 IAMs_20 IAMs_20 18 54 52.4
comp=Z,17μm,18.0s
LBTB Lobatse 121.33 237 PKP **PKPdf 17 58 41.7 -1.2**
comp=Z,44nm,0.9s,baz=151,slow=1.8,SNR=31
SSRD Sdr. Stenderup 121.34 337 *e*PP PP 18 00 18.8 +6.5
MORC Moravsky Berou 121.41 328 ⇓P **PKPdf 17 58 42.2 -0.1**
MORC Moravsky Berou 121.41 328 *e*PKP **PiKiKP 17 58 42.5 +0.2**
MORC *e*PP **PP 18 00 17.7 +4.5**
MORC *e*SP SP 18 10 05.8 +3.8
MORC Moravsky Berou 121.41 328 PKIKP **PKPdf 17 58 42.1 -0.1**
KSP Ksiaz 121.42 330 *e*PKP **PKPdf 17 58 42.2 0.0**
KSP *e*PP **PP 18 00 18.8 +5.6**
KSP *e*PS **PS 18 10 13.6 +7.0**
KSP *e*SS SS 18 16 48.7 +3.0
VYHS Vyhne 121.43 326 *e*P **Pdif 17 55 10.9 +1.5**
VYHS *e* 17 58 41.9
VYHS Vyhne 121.43 326 *e*PDIFF **Pdif 17 55 10.9 +1.5**
VYHS Vyhne 121.43 326 *e*PKP **PKPdf 17 58 41.9 -0.4**
VYHS *e* 18 09 03.5
LIA Limnos Island 121.46 315 P **PKPdf 17 58 40.3 -2.2**
KAVA Kavala 121.49 316 P **PKPdf 17 58 40.6 -2.0**
MAUC Maruska 121.49 327 *e*PKPDF **PiKiKP 17 58 43.8 +1.3**
BLKB Belogradchik 121.58 320 ⇓P **PKPdf 17 58 41.3 -1.4**
RUE Ruedersdorf 121.62 332 *e*P **PiKiKP 17 58 43.4 +0.8**
KRLC Kraliky 121.63 329 *e*PKIKP **PiKiKP 17 58 42.8 0.0**
KRLC MLR MLR
comp=Z,14μm,20.5s

KRLC Kraliky 121.63 329 *e*PKPDF **PKiKP** **17 58 42.8 0.0**
KRLC AMS AMS 18 53 50.0
comp=Z,14µm,20.5s

OSTC Ostas 121.63 329 *e*PKIKP **PKiKP** **17 58 43.7 +1.0**
OSTC MLR MLR
comp=Z,25µm,22.8s

OSTC Ostas 121.63 329 *e*PKPDF **PKiKP** **17 58 43.7 +1.0**
OSTC AMS AMS 18 49 30.0
comp=Z,25µm,22.8s

VTS Vitosha 121.66 318 *e*P **PKPdf** **17 58 42.6 -0.5**
NRS Narsarsuaq 121.69 10 IAMs_20 IAMs_20 18 51 50.9
comp=Z,24µm,20.0s

CHVC Chvalec 121.70 329 *e*PKIKP **PKiKP** **17 58 43.7 +0.8**
CHVC MLR MLR
comp=Z,21µm,20.2s

CHVC Chvalec 121.70 329 *e*PKPDF **PKiKP** **17 58 43.7 +0.8**
CHVC AMS AMS 18 57 00.0
comp=Z,21µm,20.2s

DPC Dobruska-Polom 121.70 329 *e*PKIKP **PKPdf** **17 58 42.8 0.0**
DPC MLR MLR
comp=Z,22µm,26.0s

DPC Dobruska-Polom 121.70 329 *e*PKPDF **PKPdf** **17 58 42.8 0.0**
DPC AMS AMS 18 49 40.0
comp=Z,22µm,26.0s

SSPA Standing Stone 121.75 44 **PKPdf** **17 58 42.8 -0.3**
UPC Upice 121.77 329 *e*PKIKP **PKiKP** **17 58 43.6 +0.6**
UPC MLR MLR
comp=Z,23µm,19.9s

UPC Upice 121.77 329 *e*PKPDF **PKiKP** **17 58 43.6 +0.6**
UPC AMS AMS 18 57 10.0
comp=Z,23µm,19.9s

MMB Musomishta 121.78 317 *e*P **PKPdf** **17 58 41.6 -1.6**
NVR Nevrokopi 121.79 317 P **PKPdf** **17 58 42.1 -1.1**
JAVC Velka Javorina 121.86 327 *e*PKP **PKiKP** **17 58 43.4 +0.1**
JAVC *e*PP **PP** **18 00 20.1 +3.7**
JAVC *e*SP SP 18 10 10.0 +3.9
SUR Sutherland 121.87 227 IAMs_20 IAMs_20 18 49 14.9
comp=Z,19µm,19.0s

SUR Sutherland 121.87 227 PKP **PKiKP** **17 58 44.1 +0.1**
comp=Z,52nm,1.1s,baz=93,slow=3.6,SNR=10.0

KOKK Kokkinochori, 121.92 316 P **PKPdf** **17 58 41.2 -2.2**
JTS Las Juntas de 122.07 81 PKP **PKPdf** **17 58 44.5 +0.1**
comp=Z,3.7nm,0.4s,baz=0.0,slow=3.0,SNR=2.6

SRS Serrai 122.07 317 P **PKPdf** **17 58 41.7 -2.0**
KKB Krupnik 122.07 318 *e*P **PKPdf** **17 58 41.6 -2.1**
SRO Srobarova 122.10 326 *e*PKIKP **PKiKP** **17 58 44.2 +0.5**
SRO Srobarova 122.10 326 *e*PKP **PKiKP** **17 58 44.2 +0.5**
BSEG Bad Segeberg 122.16 335 *e*PKPdf **PKPdf** **17 58 43.1 -0.3**
baz=48,slow=6.7
BSEG *e*PP **PP** **18 00 24.1 +6.1**
LSZ Lusaka 122.16 249 **PKPdf** **17 58 43.2 -1.5**
LSZ IAMs_20 IAMs_20 18 51 02.4
comp=Z,16µm,19.0s

LSZ Lusaka 122.16 249 PKIKP **PKPdf** **17 58 44.0 -0.7**
LSZ Lusaka 122.16 249 PKP **PKPdf** **17 58 44.0 -0.7**
comp=Z,33nm,0.5s,baz=110,slow=1.6,SNR=49

VRAC Vranov 122.18 328 *e*PKP **PKPdf** **17 58 43.6 -0.1**
VRAC *e*PP **PP** **18 00 22.5 +4.1**
VRAC *e*SP SP 18 10 13.7 +4.9
SMOL Smolenice 122.19 327 *e*PKIKP **PKiKP** **17 58 45.4 +1.5**
BOVS Bovan 122.20 320 ⇓P **PKPdf** **17 58 42.6 -1.2**
GO05 Huala 122.22 137 IAMs_20 IAMs_20 18 51 01.2
comp=Z,15µm,18.0s

MBAR Mbarara 122.33 266 *e*P **PKPdf** **17 58 40.2 -4.9**
MODS Modra-Piesok 122.36 327 *e*PKP **PKiKP** **17 58 44.4 +0.2**
KRUC Moravsky 122.43 328 *e*PKP **PKPdf** **17 58 43.1 -1.0**
KRUC *e*PP **PP** **18 00 23.3 +3.2**
KRUC *e*SP SP 18 10 14.2 +3.2
PVCC Panska Ves 122.48 330 *e*PKIKP **PKiKP** **17 58 44.4 0.0**
PVCC MLR MLR
comp=Z,23µm,21.5s

PVCC Panska Ves 122.48 330 *e*PKPDF **PKiKP** **17 58 44.4 0.0**
PVCC AMS AMS 18 51 20.0
comp=Z,23µm,21.5s

ZST Bratislava 122.55 327 *e*PKIKP **PKiKP** **17 58 45.3 +0.7**
ZST Bratislava 122.55 327 *e*PKP **PKiKP** **17 58 45.3 +0.7**
BRG Berggiesshubel 122.57 331 *e*PKP **PKPdf** **17 58 43.5 -0.9**
BRG Amp 17 59 00.0
comp=Z,39nm,0.8s

BRG PP PP 18 00 29.9 +9.0
BRG Amp 18 00 30.3
comp=Z,34nm,1.1s

BRG Berggiesshubel 122.57 331 Amp 18 09 11.2
comp=Z,19nm,1.5s

BRG Berggiesshubel 122.57 331 *e*PKIKP **PKPdf** **17 58 43.4 -0.9**
BRG 18 00 29.9
BRG SP SP 18 10 16.0 +3.9
BRG SS SS 18 17 20.0 +20
BRG pmax pmax
comp=Z,39nm,0.8s

BRG pmax pmax
comp=Z,34nm,1.1s

BRG MLR MLR
comp=Z,19µm,20.6s

BRG MLR MLR
comp=E,7µm,20.2s

BRG MLR MLR
comp=N,15µm,22.1s

BRG Berggiesshubel 122.57 331 *e*PKPdf **PKPdf** **17 58 43.5 -0.9**
baz=48,slow=6.7
BRG *e*PP **PP** **18 00 27.0 +6.1**
BRG Berggiesshubel 122.57 331 Amp 18 02 49.3
comp=Z,32nm,1.4s

BRG Berggiesshubel 122.57 331 PKKP **PKKPdf** **18 09 10.0 -7.0**
FRGS Fruska Gora 122.63 322⇑*i*P **PKPdf** **17 58 42.9 -1.8**
VAY Valandovo 122.68 317 *i* P **PKPdf** **17 58 43.3 -1.5**
RICC Richard 122.70 330 *e*PKPDF **PKiKP** **17 58 44.8 0.0**
RICC AMS AMS 18 51 50.0
comp=Z,27µm,23.4s

CLL Collm 122.75 331 IAMs_20 IAMs_20 18 53 23.8
comp=Z,23µm,22.0s

CLL Collm 122.75 331 *e*P **Pdif** **17 55 25.0 +10**
CLL *i* 17 58 44.5
CLL *e* 18 00 33.0
CLL pmax pmax
comp=Z,22nm,0.7s

CLL MLR MLR
comp=Z,26µm,22.7s

CLL Collm 122.75 331 *e*PKPdf **PKPdf** **17 58 43.5 -1.1**
baz=48,slow=6.7
CLL *e*PP **PP** **18 00 28.7 +6.6**
GOPC GO Pecny, Ondr 122.75 329 *e*PKIKP **PKPdf** **17 58 44.8 0.0**
GOPC MLR MLR
comp=Z,21µm,22.1s

GOPC GO Pecny, Ondr 122.75 329 *e*PKPDF **PKPdf** **17 58 44.8 0.0**
GOPC AMS AMS 18 51 20.0
comp=Z,21µm,22.1s

TREC Trest 122.77 328 *e*PKIKP **PKiKP** **17 58 45.5 +0.5**
TREC MLR MLR
comp=Z,20µm,21.4s

TREC Trest 122.77 328 *e*PKPDF **PKiKP** **17 58 45.5 +0.5**
TREC AMS AMS 18 52 40.0
comp=Z,20µm,21.4s

PRU Pruhonice 122.83 330 *e*PKIKP **PKPdf** **17 58 44.9 0.0**
PRU MLR MLR
comp=Z,28µm,22.5s

PRU Pruhonice 122.83 330 *e*PKPDF **PKPdf** **17 58 44.9 0.0**
PRU AMS AMS 18 51 20.0
comp=Z,28µm,22.5s

PRA Prague 122.83 330 AMS AMS 18 51 10.0
comp=Z,28µm,22.2s

FLTG Flechtingen 122.88 333 *e*PKPdf **PKPdf** **17 58 44.8 -0.1**
baz=48,slow=6.7
FLTG *e*PP **PP** **18 00 29.5 +6.6**
HDC Heredia 122.90 81 IAMs_20 IAMs_20 18 44 19.7
comp=Z,23µm,20.0s

GRG Griva 122.95 317 P **PKPdf** **17 58 43.7 -1.7**
HLG Helgoland 122.98 337 *e*PP **PP** **18 00 28.8 +5.4**
HSKC Hora Svate Kat 122.99 331 *e*PKPDF **PKPdf** **17 58 45.2 0.0**
HSKC AMS AMS 18 57 50.0
comp=Z,22µm,19.3s

DWPF Disney Wildern 123.06 59 IAMs_20 IAMs_20 18 47 26.8
comp=Z,26µm,22.0s

TEKS Tekeris 123.11 322⇑*i*P **PKPdf** **17 58 45.2 -0.4**
BO01 Tunca 123.14 136 IAMs_20 IAMs_20 18 49 50.6
comp=Z,15µm,18.0s

SKO Skopje 123.14 318 *i* P **PKPdf** **17 58 44.9 -0.8**
VA05 Santo Domingo 123.17 135 IAMs_20 IAMs_20 18 42 18.6
comp=Z,24µm,22.0s

ATHU Athens Univers 123.22 313 P **PKPdf** **17 58 44.7 -1.3**
BIGH Upper Bighouse 123.23 346 *e*P **PKPdf** **17 58 45.0 -0.3**
BIGH IAMs_20 IAMs_20 18 52 56.8
comp=Z,19µm,25.3s

NRDL Niedersach Rie 123.27 334 *e*PKPdf **PKiKP** **17 58 45.8 +0.1**
baz=48,slow=6.7

RONA Rosalia, Austr 123.28 327 *i* PKP **PKPdf** **17 58 44.9 -0.9**
comp=Z,59nm,1.6s,SNR=19
RONA *e*PKKP PKKPdf 18 09 07.1 -8.5
comp=Z,17nm,1.6s

MT01 Popeta 123.31 136 IAMs_20 IAMs_20 18 42 22.3
comp=Z,21µm,22.0s

ZVC Zvikov 123.35 329 AMS AMS 18 54 30.0
comp=Z,21µm,21.2s

IDI Amoyia 123.38 310 P **PKPdf** **17 58 45.2 -1.3**
CONA Conrad Observa 123.39 327 *e*pPdiff **pPdif** **17 55 23.6 -3.3**
comp=Z,5.2nm,1.1s

CONA *i* PKP **PKPdf** **17 58 46.1 0.0**
comp=Z,33nm,1.0s,SNR=13

CONA *e*PP **PP** **18 00 33.7 +7.0**
comp=Z,2µm,5.3s

CONA *e*PKKP **PKKPdf** **18 09 12.4 -3.1**
comp=Z,303nm,4.9s

CONA *e*P'P' 18 17 19.0

RETH Rethem/Aller, 123.42 335 *e*PKPdf **PKiKP** **17 58 46.2 +0.2**
baz=48,slow=6.7
RETH *e*PP **PP** **18 00 30.8 +4.3**
SJES Sjenica 123.48 320⇑*i*P **PKiKP** **17 58 46.8 +0.1**
VA01 Torpederas 123.49 135 IAMs_20 IAMs_20 18 41 55.3
comp=Z,25µm,22.0s

BBLS Lazi&#263i 123.54 321 *e*P **PKiKP** **17 58 46.7 -0.1**
MT09 Talagante 123.55 136 IAMs_20 IAMs_20 18 42 50.4
comp=Z,19µm,22.0s

TANN Tannenbergstha 123.59 331 *e*PKPdf **PKPdf** **17 58 45.7 -0.7**
baz=48,slow=6.7
TANN *e*PP **PP** **18 00 32.5 +4.7**
CLZ Clausthal 123.60 333 *e*PKPdf **PKPdf** **17 58 45.4 -1.0**
baz=48,slow=6.7

TYRN Tyrnavos 123.61 316 P **PKPdf** **17 58 43.8 -2.9**
CKRC Cesky Krumlov 123.67 329 *e*PKIKP **PKPdf** **17 58 45.5 -1.1**
CKRC MLR MLR
comp=Z,21µm,25.6s

CKRC Cesky Krumlov 123.67 329 *e*PKPDF **PKPdf** **17 58 45.5 -1.1**
CKRC AMS AMS 18 51 30.0
comp=Z,21µm,25.6s

PLN Plauen 123.69 331 *e*PKPdf **PKPdf** **17 58 46.0 -0.5**
baz=48,slow=6.7
PLN *e*PP **PP** **18 00 33.6 +5.1**
AXAR Agios Charalam 123.70 314 P **PKPdf** **17 58 45.6 -1.3**
HAPS Han Pijesak,Bl 123.71 322⇑*i*P **PKPdf** **17 58 45.9 -1.0**
NKC Novy Kostel 123.71 331 *e*PKIKP **PKiKP** **17 58 46.9 0.0**
NKC MLR MLR
comp=Z,28µm,20.8s

NKC Novy Kostel 123.71 331 *e*PKPDF **PKiKP** **17 58 46.9 0.0**
NKC AMS AMS 18 57 00.0
comp=Z,28µm,20.8s

MT02 Curacav 123.72 135 IAMs_20 IAMs_20 18 42 01.2
comp=Z,25µm,21.0s

FNA Florina 123.73 317 P **PKPdf** **17 58 44.8 -2.2**
THL Klokotos Trika 123.82 316 P **PKPdf** **17 58 46.2 -0.9**
AGG Agios Georgios 123.83 315 P **PKPdf** **17 58 45.2 -2.0**
MOX Moxa 123.84 332 *e*PKPdf **PKPdf** **17 58 46.7 -0.1**
baz=48,slow=6.7
MOX *e*PP **PP** **18 00 33.6 +4.1**
MOX *e*L L 18 55 13.1
comp=Z,21µm,22.0s

LINV Loch Inver, As 123.84 346 *e*P **PKPdf** **17 58 44.7 -1.8**
LINV IAMs_20 IAMs_20 18 49 30.3
comp=Z,16µm,28.3s

KHC Kasperske Hory 123.86 329 *e*PKIKP **PKiKP** **17 58 47.3 +0.1**
KHC *e* 17 58 55.0
KHC *e*PS **PS** **18 10 24.3 -4.0**
KHC MLR MLR
comp=Z,23µm,21.7s

KHC Kasperske Hory 123.86 329 *e*PKPDF **PKiKP** **17 58 47.3 +0.1**
KHC *e*pPKP **pPKPdf** **17 58 55.0 -0.6**
KHC *e*PP PP 18 00 14.0 -16
KHC *e*SP SP 18 10 24.3 +0.7
KHC AMS AMS 18 52 00.0
comp=Z,23µm,21.7s

MCD Coleburn Disti 123.87 345 *e*P **PKPdf** **17 58 45.8 -0.8**
KRND KRANIDI 123.91 313 P **PKPdf** **17 58 46.8 -0.5**
OHR Ohrid 123.97 318 *i* P PKPdf 17 58 36.0 -11
ARSA Arzberg 123.97 326 *e*Pdiff **Pdif** **17 55 22.4 +1.7**
comp=Z,5.4nm,1.4s

ARSA *i* PKP **PKPdf** **17 58 46.8 -0.4**
comp=Z,25nm,1.5s,SNR=5.9

GEC2 GERESS Array S 123.97 329 *e*PKPdf **PKPdf** **17 58 46.2 -1.0**
baz=48,slow=6.7
GEC2 *e*PP **PP** **18 00 32.6 +2.0**
GERES GERESS Array B 123.97 329 PKP **PKPdf** **17 58 45.8 -1.4**
comp=Z,12nm,0.6s,baz=47,slow=3.8,SNR=40

MAKR Makrakomi, Fth 123.98 315 P **PKPdf** **17 58 46.0 -1.5**
VA06 Catapilco 123.99 134 IAMs_20 IAMs_20 18 42 09.3
comp=Z,21µm,22.0s

MT03 Universidad Ad 124.03 136 IAMs_20 IAMs_20 18 42 43.3
comp=Z,19µm,22.0s

MANZ Manzenberg 124.04 331 *e*PKPdf **PKPdf** **17 58 46.7 -0.5**
baz=48,slow=6.7
MT16 CCHEN 124.06 136 IAMs_20 IAMs_20 18 43 06.1
comp=Z,17µm,20.0s

KPRO Kipourio 124.11 316 P **PKPdf** **17 58 46.0 -1.7**
PEL Peldehio 124.11 135 IAMs_20 IAMs_20 18 49 25.5
comp=Z,23µm,18.0s

NEST Nestorio 124.11 317 P **PKPdf** **17 58 46.1 -1.7**
ROTZ Rotzenmuhle 124.14 330 *e*PP **PP** **18 00 34.8 +3.3**
UPM Unac-Piva 124.19 321 *e*P **PKPdf** **17 58 46.8 -1.1**
WET Wettzell 124.20 330 *e*PKPdf **PKPdf** **17 58 47.7 +0.1**
baz=48,slow=6.7
WET *e*PP **PP** **18 00 34.8 +2.8**
LEWI Lewis, Hebride 124.22 347 *e*P **PKPdf** **17 58 47.0 -0.2**
LEWI IAMs_20 IAMs_20 18 55 31.6
comp=Z,19µm,22.3s

DRUM Mains of Drumt 124.25 344 *e*P **PKPdf** **17 58 46.6 -0.7**
DRUM IAMs_20 IAMs_20 18 56 46.5
comp=Z,18µm,20.8s

GUR Goura 124.27 314 P **PKPdf** **17 58 46.4 -1.8**
MOA Molln 124.29 328 *e*PKP **PKiKP** **17 58 48.1 0.0**
comp=Z,13nm,0.9s

LOBO Lobor 124.30 325 *i* P **PKPdf** **17 58 47.5 -0.4**
VLI Veliai 124.33 312 P **PKiKP** **17 58 49.5 +1.1**
KLV Kalavryta, Ach 124.37 314 P **PKPdf** **17 58 47.0 -1.3**
EFP Efpalio 124.38 314 P **PKiKP** **17 58 49.9 +1.4**
BLY Banja Luka 124.43 323⇑*i*P **PKPdf** **17 58 48.2 +0.1**
A051A Mrakovica 124.45 324⇑*i*P **PKPdf** **17 58 46.6 -1.6**
UBBA Unterbreizbach 124.48 333 *e*PKPdf **PKiKP** **17 58 48.2 +0.1**
baz=48,slow=6.7
DRME Dracevica, Mon 124.52 320 *e*P **PKPdf** **17 58 47.2 -1.2**
LSK Leskovik 124.54 317 P **PKPdf** **17 58 47.5 -1.1**
PERS Pernice 124.56 326 *e*PKPdf **PKPdf** **17 58 48.1 -0.3**
PERS *e* 18 00 46.1
BRY Bratogost 124.57 321 *e*P **PKPdf** **17 58 46.0 -2.6**
PVO Paravola 124.57 315 P **PKPdf** **17 58 48.1 -0.5**
SOKA Soboth 124.58 326 *e*pPdiff **pPdif** **17 55 28.3 -4.0**
comp=Z,5.0nm,1.2s

SOKA *i* PKP **PKPdf** **17 58 47.2 -1.3**
comp=Z,55nm,1.4s,SNR=22

JAN Janina 124.59 316 P **PKiKP** **17 58 49.7 +0.8**
GRA1 Grafenberg Arr 124.67 331 IAMs_20 IAMs_20 18 59 08.7
comp=Z,17µm,20.0s

GRF Grafenberg Arr 124.67 331 *e*PP **PP** **18 00 41.0 +6.0**
GRF *e*L L 18 59 09.2
comp=Z,17µm,20.0s

GRFO Grafenberg 124.67 331 IAMs_20 IAMs_20 18 58 58.7
comp=Z,17µm,20.0s

MGRS Mrkonjic Grad 124.67 323 *e*P **PKiKP** **17 58 50.6 +1.7**
KPL Plockton 124.68 346 *e*P **PKPdf** **17 58 46.2 -1.9**
KPL IAMs_20 IAMs_20 18 56 41.8
comp=Z,15µm,19.4s

BIOA Bad Ischl, Aus 124.72 328 *i* PKP **PKPdf** **17 58 48.2 -0.4**
comp=Z,30nm,1.3s,SNR=14

CO06 Fray Jorge 124.74 132 IAMs_20 IAMs_20 18 45 59.4
comp=Z,16µm,20.0s

HCY Herceg Novi 124.83 320 *e*P **PKPdf** **17 58 44.8 -4.2**
CRES Cresnjev 124.84 325⇑*i*P **PKPdf** **17 58 48.9 0.0**
RLS Riolos of Patr 124.85 314 P **PKiKP** **17 58 50.3 +0.9**
KASTN Kahler Asten 124.92 334 *e*PKPdf **PKPdf** **17 58 48.5 -0.4**
baz=48,slow=6.7
CO02 Combarbal 124.92 133 IAMs_20 IAMs_20 18 44 29.3
comp=Z,17µm,21.0s

OBKA Obir 124.95 326 *i* PKP **PKPdf** **17 58 47.9 -1.3**
comp=Z,32nm,1.5s,SNR=6.7

OBKA Obir 124.95 326⇑*i*P **PKPdf** **17 58 48.4 -0.8**
A050A Klekovaca 124.97 323⇑*i*P **PKPdf** **17 58 48.4 -0.9**
IGT Igoumenitsa 125.00 316 P **PKPdf** **17 58 48.3 -1.1**
INVG Invergeldie, C 125.09 345 *e*P **PKPdf** **17 58 48.0 -1.0**
INVG IAMs_20 IAMs_20 18 58 43.3
comp=Z,22µm,21.0s

HRV Adam Dziewonsk 125.10 40 IAMs_20 IAMs_20 18 54 37.2
comp=Z,18µm,20.0s

NYDR Nydri-Lefkada 125.11 315 P **PKiKP** **17 58 50.2 +0.3**

STON Ston 125.12 321⇑*i*P **PKPdf** **17 58 48.6 -0.8**
MOZS Mozjanca 125.14 326 *e*PKPdf **PKPdf** **17 58 49.2 -0.3**
RICI Ricice 125.14 322 *i* P **PKPdf** **17 58 49.0 -0.6**
BOJS Bojanci 125.14 325⇑*i*P **PKiKP** **17 58 49.8 0.0**
RJOB Jochberg 125.14 328 *e*PKPdf **PKPdf** **17 58 49.0 -0.5**
baz=48,slow=6.7
RJOB *e*PP **PP** **18 00 44.2 +5.8**
EVGI Lefkada island 125.19 315 P **PKPdf** **17 58 49.4 -0.3**
LJU Ljubljana 125.24 326 *e*PKPdf **PKiKP** **17 58 49.9 -0.1**
LJU *e* 18 00 49.2
LJU *e*SKSac **SKSac** **18 05 49.7 -2.1**
BUG Bochum--Univer 125.25 335 *e*PP **PP** **18 00 43.1 +4.4**
KBA Koelnbreinsper 125.26 327 *i* PKP **PKPdf** **17 58 49.0 -0.9**
comp=Z,22nm,0.8s,SNR=11

KIJV Kijevo 125.31 323 *i* P **PKPdf** **17 58 49.1 -0.7**
CO03 El Pedregal 125.34 133 IAMs_20 IAMs_20 18 44 08.4
comp=Z,15µm,21.0s

MYKA Terra Mystica 125.38 327 *i* PKP **PKPdf** **17 58 49.6 -0.4**
comp=Z,35nm,1.7s,SNR=5.5

UDBI Udbina 125.40 324 *i* P **PKPdf** **17 58 49.2 -0.8**
LESA Schwarzleotal 125.40 328 *e*PKP **PKPdf** **17 58 49.4 -0.6**
comp=Z,21nm,0.6s

LESA *e*PP **PP** **18 00 45.9 +5.8**
comp=Z,919nm,4.5s

LESA *e*SKKP 18 12 09.8
comp=Z,14nm,1.6s

CEY Cerknica 125.47 326⇑*i*P **PKPdf** **17 58 49.9 -0.2**
JAVS Javornik 125.59 326 *e*SKSac **SKSac** **18 05 50.9 -2.2**
JAVS *e*PS PS 18 10 50.0 +6.2
JAVS *e* 18 12 32.9
LAWE Loch Awe, Argy 125.59 346 *e*P **PKiKP** **17 58 53.3 +3.0**
LAWE IAMs_20 IAMs_20 18 53 12.6
comp=Z,17µm,21.0s

TNS Taunus Mts 125.61 333 *e*PP **PP** **18 00 46.1 +4.8**
FUR Furstenfeldbru 125.65 329 *e*PP **PP** **18 00 46.6 +4.9**
LSTV Lastovo 125.67 321 *i* P **PKPdf** **17 58 48.3 -2.2**
EKA Eskdalemuir Ar 125.81 344 PKhKP PKPpre 17 58 44.8
comp=Z,0.9nm,0.5s,baz=57,slow=2.6,SNR=3.6

EKA PKP **PKPdf** **17 58 50.2 -0.2**
comp=Z,2.6nm,0.5s,baz=24,slow=3.7,SNR=16

ESK Eskdalemuir 125.84 344 *e*P **PKiKP** **17 58 51.5 +0.6**
ESK IAMs_20 IAMs_20 18 59 16.9
comp=Z,22µm,19.6s

EDMD Edmundbyers 125.90 343 *e*P **PKPdf** **17 58 49.4 -1.2**
EDMD IAMs_20 IAMs_20 18 47 59.3
comp=Z,17µm,27.1s

ABTA Abfaltersbach 125.91 327 *e*Pdiff **Pdif** **17 55 28.9 -0.5**
comp=Z,10.0nm,2.0s

ABTA *i* PKP **PKPdf** **17 58 49.3 -1.7**
comp=Z,73nm,1.3s,SNR=17

VIRC Vir 125.95 324 *i* P **PKPdf** **17 58 50.4 -0.6**
WATA Walderalm 126.03 329 *e*Pdiff **Pdif** **17 55 29.7 -0.3**
comp=Z,4.0nm,1.1s

WATA *i* PKP **PKPdf** **17 58 50.9 -0.4**
comp=Z,45nm,0.7s,SNR=20

SMRN Sveta Marina 126.04 325 *i* P **PKPdf** **17 58 49.5 -1.6**
WTTA Wattenberg 126.05 328 *e*Pdiff **Pdif** **17 55 29.4 -0.8**
comp=Z,8.7nm,0.8s

WTTA *i* PKP **PKPdf** **17 58 50.8 -0.6**
comp=Z,43nm,0.9s,SNR=30

DUGI Dugi Otok 126.12 323 *i* P **PKPdf** **17 58 50.9 -0.5**
CO01 Juntas del Tor 126.23 132 IAMs_20 IAMs_20 18 48 17.1
comp=Z,15µm,20.0s

STU Stuttgart 126.27 331 IAMs_20 IAMs_20 18 57 55.0
comp=Z,14µm,20.0s

STU Stuttgart 126.27 331 *e*PKPdf **PKiKP** **17 58 51.9 -0.1**
baz=48,slow=6.7
STU *e*PP **PP** **18 00 52.1 +6.4**
MOTA Moosalm 126.27 329 *e*Pdiff **Pdif** **17 55 28.4 -2.7**
comp=Z,3.5nm,0.8s

MOTA *i* PKP **PKPdf** **17 58 51.4 -0.3**
comp=Z,97nm,1.5s,SNR=18

SQTA Sankt Quirin 126.30 329 *e*Pdiff **Pdif** **17 55 27.8 -3.4**
comp=Z,6.5nm,0.8s

SQTA *i* PKP **PKPdf** **17 58 51.4 -0.4**
comp=Z,66nm,1.3s,SNR=20

SQTA *e*SKKP 18 12 44.2
comp=Z,35nm,1.5s

NEWG New Galloway 126.30 344 *e*P **PKPdf** **17 58 47.9 -3.4**
NEWG IAMs_20 IAMs_20 18 58 23.4
comp=Z,14µm,19.5s

RETA Reutte 126.36 329 *i* PKP **PKPdf** **17 58 51.6 -0.2**
comp=Z,14nm,0.8s,SNR=6.0

BTNL Ternell 126.36 335 *d*PKP **PKPdf** **17 58 50.6 -1.0**
EMMW East Machias 126.37 35 IAMs_20 IAMs_20 18 58 19.3
comp=Z,24µm,20.0s

MEM Membach 126.40 335 *d*PKP **PKPdf** **17 58 51.1 -0.6**
MEM *d*PKiKP **PKiKP** **17 58 52.3 +0.2**
AC04 Llanos de Chal 126.41 130 IAMs_20 IAMs_20 18 51 19.1
comp=Z,13µm,18.0s

KESW Keswick, Cumbr 126.45 343 *e*P **PKiKP** **17 58 53.1 +1.0**
KESW IAMs_20 IAMs_20 18 53 24.8
comp=Z,15µm,20.7s

UBR Ueberruh 126.56 330 *e*PKPdf **PKPdf** **17 58 51.8 -0.4**
baz=48,slow=6.7
UBR *e*PP **PP** **18 00 51.4 +3.6**
TRQA Tornquist 126.57 145 **PKPdf** **17 58 49.7 -2.8**
TRQA Tornquist 126.57 145 PKIKP **PKPdf** **17 58 49.7 -2.8**
TRQA MLR MLR
comp=Z,13µm,22.0s

BHOU Houvegnez 126.59 334 *d*PKP **PKPdf** **17 58 51.7 -0.4**
BSTI Sart Tilman 126.61 335 *d*PKP **PKiKP** **17 58 53.2 +0.6**
FETA Feichten 126.68 329 *i* PKP **PKPdf** **17 58 52.7 +0.1**
comp=Z,57nm,1.3s,SNR=12

BCLA Clavier 126.84 335 *d*PKP **PKPdf** **17 58 52.8 +0.2**
BCLA *d*PP **PP** **18 00 51.9 +2.6**
MATE Matera 126.90 319 ⇓P **PKPdf** **17 58 53.1 +0.1**
DAVA Damuels 126.94 329 *i* PKP **PKPdf** **17 58 52.3 -0.7**
comp=Z,64nm,1.5s,SNR=7.2

SGRT San Giovanni R 126.94 321 IAMs_20 IAMs_20 18 59 53.3
comp=Z,19µm,20.0s

BGES Gesves 126.96 335 *d*PKP **PKiKP** **17 58 53.6 +0.4**
BFO Black Forest 126.99 331 **PKPdf** **17 58 51.2 -1.7**
BFO Black Forest 126.99 331 PKIKP **PKPdf** **17 58 51.2 -1.7**
BFO Black Forest 126.99 331 *e*PKPdf **PKPdf** **17 58 52.6 -0.3**
baz=48,slow=6.7
BFO *e*PP **PP** **18 00 56.0 +5.5**
WLF Walferdange 127.03 334 IAMs_20 IAMs_20 18 56 12.1
comp=Z,23µm,22.0s

WLF Walferdange 127.03 334 *d*PKP **PKiKP** **17 58 53.4 0.0**
WLF Walferdange 127.03 334 PKP **PKiKP** **17 58 53.2 -0.2**
RCHB Rochefort 127.07 335 *d*PKP **PKPdf** **17 58 52.9 0.0**
BCIP Isla Barro Col 127.14 82 IAMs_20 IAMs_20 18 42 02.9
comp=Z,16µm,22.0s

BMRD Maredsous 127.16 335 *d*PKP **PKiKP** **17 58 53.7 +0.1**
FUORN Ofenpass-Fuorn 127.18 329 IAMs_20 IAMs_20 18 58 33.2
comp=Z,15µm,21.0s

ATAH Atahualpa 127.21 102 PKP **PKiKP** **17 58 55.2 -0.1**
comp=Z,14nm,0.8s,baz=170,slow=3.3,SNR=7.2

DOU Dourbes 127.38 335 *d*PKP **PKPdf** **17 58 53.3 -0.2**
NNA Nana 127.61 109 PKP **PKiKP** **17 58 57.1 +1.4**
comp=Z,4.1nm,0.3s,baz=45,slow=4.3,SNR=1.6

TIP Timpagrande 127.61 317 ⇓P **PKPdf** **17 58 52.8 -1.7**
TIP Timpagrande 127.61 317 IAMs_20 IAMs_20 19 01 17.4
comp=Z,18µm,22.0s

ECH Echery 127.63 332 IAMs_20 IAMs_20 19 01 07.8
comp=Z,22µm,19.0s

TUE Stuetta 127.75 329 IAMs_20 IAMs_20 19 00 52.2
comp=Z,22µm,20.0s

AC01 Pan de Azucar 127.79 128 IAMs_20 IAMs_20 18 43 06.9
comp=Z,22µm,22.0s

CUC Castrocucco 127.82 319 IAMs_20 IAMs_20 18 59 40.9
comp=Z,16µm,22.0s

LLW Llanuwychllyn 128.12 342 *e*P **PKPdf** **17 58 54.9 0.0**
LLW IAMs_20 IAMs_20 18 58 00.1
comp=Z,9µm,23.4s

AC02 Maricunga 128.59 130 IAMs_20 IAMs_20 18 49 35.8
comp=Z,16µm,19.0s

PB14 IPOC Station P 128.67 126 IAMs_20 IAMs_20 18 44 28.5
comp=Z,16µm,22.0s

GO02 Mina Guanaco 129.06 128 IAMs_20 IAMs_20 18 43 45.7
comp=Z,16µm,22.0s

IGLA Glengowla, Co 129.13 347 P **PKiKP** **17 58 57.9 +0.4**
CLF Chambon-Foret 129.96 335 IAMs_20 IAMs_20 18 59 47.3
comp=Z,21µm,21.0s

BNI Bardonecchia 130.09 329 IAMs_20 IAMs_20 19 02 39.0
comp=Z,21µm,19.0s

PB06 IPOC Station P 130.24 125 IAMs_20 IAMs_20 18 44 45.2
comp=Z,16µm,22.0s

PB07 IPOC Station P 130.42 123 PKP **PKiKP** **17 59 02.0 +0.7**
TSUM Tsumeb 130.43 240 **PKPdf** **17 59 00.1 -0.4**
TSUM Tsumeb 130.43 240 IAMs_20 IAMs_20 18 53 44.9
comp=Z,16µm,21.0s

GTBY Guantanamo Bay 130.51 68 IAMs_20 IAMs_20 18 46 31.2
comp=Z,14µm,22.0s

PATCX	Punta Patache	130.59	122	IAMs_20	IAMs_20	18 47 10.9		
	comp=Z,21µm,20.0s							
TA01	Diego Aracena	130.68	122	IAMs_20	IAMs_20	18 46 51.2		
	comp=Z,23µm,22.0s							
VAL	Valentia	130.71	347	P	PKiKP	17 59 00.3	-0.4	
LVC	Limon Verde	130.82	125		PKPdf	17 58 59.1	-2.3	
LVC	Limon Verde	130.82	125	IAMs_20	IAMs_20	18 44 51.6		
	comp=Z,18µm,21.0s							
LVC	Limon Verde	130.82	125	PKP	PKPdf	17 59 00.5	-1.0	
	comp=Z,5.3nm,0.7s,baz=226,slow=5.3,SNR=3.9							
LVC				SKPab	SKPab	18 02 25.3	+1.5	
	comp=Z,18nm,0.9s,baz=281,slow=4.5,SNR=5.3							
TA02	Huaiquique	130.85	122	IAMs_20	IAMs_20	18 48 01.7		
	comp=Z,22µm,21.0s							
SSB	Saint Sauveur	130.99	331	IAMs_20	IAMs_20	18 57 36.9		
	comp=Z,16µm,22.0s							
AF01	San Pedro de A	131.26	126	IAMs_20	IAMs_20	18 44 56.0		
	comp=Z,20µm,22.0s							
PB11	IPOC Station P	131.47	121	IAMs_20	IAMs_20	18 48 06.1		
	comp=Z,15µm,20.0s							
PB08	IPOC Station P	131.73	122	IAMs_20	IAMs_20	18 45 27.0		
	comp=Z,16µm,22.0s							
PB08	IPOC Station P	131.73	122	PKP	PKiKP	17 59 05.4	+1.2	
GO01	Chusmiza	131.90	121	IAMs_20	IAMs_20	18 48 30.6		
	comp=Z,14µm,20.0s							
ROSC	El Rosal	132.61	88	PKP	PKPdf	17 59 03.5	-1.6	
	comp=Z,20nm,0.6s,baz=294,slow=17,SNR=1.9							
GRTK	Grand Turk	133.77	64	IAMs_20	IAMs_20	18 54 17.0		
	comp=Z,18µm,20.0s							
EJON	La Jonquera	133.87	329	PKP	PKiKP	17 59 06.9	-0.6	
LPAZ	La Paz	134.21	118	PKhKP	PKPpre	17 59 00.5		
	comp=Z,1.6nm,0.6s,baz=340,slow=3.8,SNR=4.0							
LPAZ				PKP	PKPdf	17 59 07.1	-1.1	
	comp=Z,7.2nm,0.7s,baz=355,slow=1.7,SNR=9.6							
LPAZ				SKPab	SKPbc	18 02 36.4	+0.5	
	comp=Z,48nm,1.3s,baz=298,slow=2.0,SNR=3.5							
LPAZ				SKKPbc	SKKPbc	18 11 39.5	-7.2	
	comp=Z,5.0nm,0.8s,baz=160,slow=2.3,SNR=4.4							
KEST	Kesra	134.43	318	PKP	PKiKP	17 59 08.3	-0.5	
	comp=Z,10.0nm,0.6s,baz=284,slow=5.1,SNR=10							
KEST				SKPab	SKPbc	18 02 35.5	+0.1	
	comp=Z,45nm,0.8s,baz=330,slow=4.1,SNR=6.5							
MAHO	Mahon	134.94	326	PKP	PKPdf	17 59 08.8	+0.7	
ETOS	Mallorca	135.83	327	PKP	PKiKP	17 59 11.7	+0.2	
SDV	Santo Domingo	136.23	82	IAMs_20	IAMs_20	18 47 47.0		
	comp=Z,15µm,22.0s							
SDV	Santo Domingo	136.23	82	PKP	PKPdf	17 59 11.0	-0.6	
	comp=Z,16nm,0.4s,baz=107,slow=2.6,SNR=7.8							
TRIS	Tristan da Cun	136.56	197	IAMs_20	IAMs_20	18 54 21.1		
	comp=Z,17µm,21.0s							
EIBI	Ibiza	137.16	327	PKP	PKiKP	17 59 14.0	-0.3	
CPUP	Villa Florida	137.44	138	IAMs_20	IAMs_20	18 57 30.9		
	comp=Z,15µm,18.0s							
CPUP	Villa Florida	137.44	138	PKhKP	PKPpre	17 59 02.4		
	comp=Z,3.0nm,0.8s,baz=319,slow=3.8,SNR=3.2							
CPUP				PKP	PKPdf	17 59 12.9	-0.3	
	comp=Z,8.6nm,0.8s,baz=250,slow=0.7,SNR=8.8							
CPUP				SKPab	SKPbc	18 02 46.7	+1.8	
	comp=Z,9.8nm,0.8s,baz=260,slow=3.8,SNR=3.5							
HATO	Hato, Curacao	137.60	77	IAMs_20	IAMs_20	18 50 30.9		
	comp=Z,22µm,22.0s							
ECHE	Chera	137.94	330	PKP	PKiKP	17 59 15.4	-0.5	
ETMB	Extrema	138.23	110	IAMs_20	IAMs_20	18 55 06.6		
	comp=Z,16µm,20.0s							
ECAL	Calabor	138.60	337	PKP	PKiKP	17 59 16.8	-0.4	
PBRG	Braganca	138.72	337	ePKPdf	PKiKP	17 59 16.9	-0.5	
PBRG	Braganca	138.72	337	ePPP	PP	18 02 18.6	+13	
BAUV	El Baul	138.79	82		PKPdf	17 59 12.6	-3.5	
ETOB	Tobarra	138.95	329	PKP	PKPdf	17 59 14.5	-1.3	
PGAV	Gavieira, Arco	139.15	339	ePKPdf	PKPdf	17 59 16.0	-0.1	
PGAV	Gavieira, Arco	139.15	339	ePPP	PP	18 02 12.3	+4.2	
PGAV	Gavieira, Arco	139.15	339	eSS	SS	18 21 15.8	+53	
PGAV	Gavieira, Arco	139.15	339	eLQ	LQ	18 41 03.7		
PGAV				eLR	LR	18 46 31.1		
	comp=Z,15µm,22.0s							
ESDC	Sonseca Array	139.31	333	PKP	PKPdf	17 59 13.2	-3.2	
	comp=Z,2.3nm,0.9s,baz=29,slow=3.4,SNR=5.1							
ESDC				SKPbc	SKPbc	18 02 49.4	-0.5	
	comp=Z,9.9nm,0.8s,baz=31,slow=4.3,SNR=4.2							
ESDC				SKKPbc	SKKPbc	18 11 27.1	-0.8	
	comp=Z,12nm,1.2s,baz=229,slow=3.5,SNR=7.7							
MVO	Moncorvo	139.38	337	ePKPdf	PKPdf	17 59 16.6	+0.1	
MVO	Moncorvo	139.38	337	ePPP	PP	18 02 13.1	+3.6	
MVO	Moncorvo	139.38	337	eSS	SS	18 21 15.1	+49	
MVO	Moncorvo	139.38	337	eLQ	LQ	18 42 00.9		
MVO				eLR	LR	18 48 50.5		
	comp=Z,12µm,20.0s							
EMUR	La Murta	139.40	328	PKP	PKPdf	17 59 16.8	+0.2	
CART	Cartagena	139.47	328	IAMs_20	IAMs_20	19 05 57.3		
	comp=Z,13µm,21.0s							
CART	Cartagena	139.47	328	PKP	PKiKP	17 59 18.5	-0.4	
PVRL	Vila Real	139.54	338	ePKPdf	PKiKP	17 59 19.1	0.0	
PVRL	Vila Real	139.54	338	ePPP	PP	18 02 27.6	+17	
PAB	San Pablo	139.59	333		PKPdf	17 59 14.2	-2.8	
PAB	San Pablo	139.59	333	PKIKP	PKPdf	17 59 14.2	-2.8	
PAB				MLR	MLR			
	comp=Z,11µm,20.0s							
PVIS	Viseu	140.09	337	ePKPdf	PKPdf	17 59 16.2	-1.6	
PVIS	Viseu	140.09	337	ePPP	PP	18 02 22.7	+8.8	
ITAB	Concordia	140.10	144		PKPdf	17 59 17.3	-0.8	
MTE	Manteigas	140.23	337	ePKPdf	PKPdf	17 59 18.3	+0.2	
MTE	Manteigas	140.23	337	ePPP	PP	18 02 22.7	+7.9	
MTE	Manteigas	140.23	337	eSS	SS	18 21 49.5	+74	
MTE	Manteigas	140.23	337	eLQ	LQ	18 42 15.3		
MTE				eLR	LR	18 49 23.4		
	comp=Z,14µm,22.0s							
MTE	Manteigas	140.23	337	IAMs_20	IAMs_20	19 09 44.9		
	comp=Z,15µm,20.0s							
SIV	San Ignacio	140.45	122	PKhKP	PKPpre	17 59 12.1		
	comp=Z,2.9nm,0.5s,baz=259,slow=6.2,SNR=5.3							
SIV				PKP	PKPdf	17 59 16.7	-2.3	
	comp=Z,5.2nm,0.7s,baz=262,slow=3.6,SNR=11							
SIV				SKPbc	SKPbc	18 02 53.2	-0.4	
	comp=Z,26nm,0.9s,baz=230,slow=2.9,SNR=5.1							
FRBT	Francisco Belt	140.45	141	eP	PKPdf	17 59 19.6	+0.7	
PCBR	Castelo Branco	140.68	336	ePKPdf	PKPdf	17 59 16.9	-1.9	
PCBR	Castelo Branco	140.68	336	ePPP	PP	18 02 30.6	+13	
COI	Coimbra	140.73	338	ePKPdf	PKPdf	17 59 16.1	-2.8	
COI	Coimbra	140.73	338	ePPP	PP	18 02 30.6	+13	
COI	Coimbra	140.73	338	IAMs_20	IAMs_20	19 07 43.1		
	comp=Z,17µm,21.0s							
MCR1	Marechal Candi	140.89	139	eP	PKPdf	17 59 18.9	-0.7	
PCAS	Casmilo, Conde	140.90	338	ePKPdf	PKPdf	17 59 18.2	-1.0	
PCAS	Casmilo, Conde	140.90	338	ePPP	PP	18 02 28.1	+9.3	
PMRV	Marv??o	141.00	336	ePKPdf	PKPdf	17 59 19.9	+0.5	
PMRV	Marv??o	141.00	336	ePPP	PP	18 02 29.8	+10	
PMRV	Marv??o	141.00	336	eSS	SS	18 21 09.9	+25	
PMRV	Marv??o	141.00	336	eLQ	LQ	18 39 18.9		
PMRV	Marv??o	141.00	336	eLR	LR	18 50 06.6		
	comp=Z,17µm,20.0s							
ANTJ	Antonio Joao (	141.15	134	eP	PKPdf	17 59 17.7	-2.5	
SAML	Samuel	141.34	110		PKPpre	17 59 10.9		
SAML	Samuel	141.34	110	IAMs_20	IAMs_20	18 53 18.0		
	comp=Z,13µm,22.0s							
SAML	Samuel	141.34	110	PKHKP	PKPpre	17 59 10.9		
SAML				MLR	MLR			
	comp=Z,13µm,22.0s							
SAML	Samuel	141.34	110	eP	PKPdf	17 59 20.2	-0.5	
PSBE	So Bento	141.48	337	ePKPdf	PKPdf	17 59 20.9	+0.6	
PSBE	So Bento	141.48	337	ePPP	PP	18 02 26.4	+4.1	
BDQN	Bodoquena, MS	141.55	131	eP	PKPdf	17 59 20.5	-0.4	
PESTR	Estremoz	141.56	336	ePKPdf	PKPdf	17 59 18.2	-2.2	
PESTR	Estremoz	141.56	336	ePPP	PP	18 02 29.2	+6.4	
PMTG	Montargil	141.64	336	ePKPdf	PKPdf	17 59 19.5	-1.0	
PMTG	Montargil	141.64	336	ePPP	PP	18 02 31.2	+7.5	
PBAR	Barrancos	141.91	334	ePKPdf	PKPdf	17 59 22.5	+1.5	
PBAR	Barrancos	141.91	334	ePPP	PP	18 02 30.6	+5.6	
SABA	Saba	141.98	67	IAMs_20	IAMs_20	18 53 36.9		
	comp=Z,19µm,22.0s							
EVO	Evora	142.01	336	ePKPdf	PKPdf	17 59 20.8	-0.4	
EVO	Evora	142.01	336	ePPP	PP	18 02 33.8	+8.2	
PCRV	Puerto La Cruz	142.04	79	PKP	PKPdf	17 59 19.0	-3.0	
	comp=Z,23nm,1.1s,baz=329,slow=5.9,SNR=2.1							
PMAFR	Mafra	142.15	338	ePKPdf	PKPdf	17 59 20.9	-0.6	
PMAFR	Mafra	142.15	338	ePPP	PP	18 02 34.6	+8.2	
SEUS	St. Eustatius	142.25	67	IAMs_20	IAMs_20	18 53 33.2		
	comp=Z,20µm,22.0s							
LIS	Lisbon	142.31	337	ePKIKP	PKPdf	17 59 20.8	-0.9	
LIS				e		18 02 27.8		
LIS	Lisbon	142.31	337	ePKPdf	PKPdf	17 59 20.8	-0.9	
LIS				ePP	PP	18 02 27.9	+0.6	
LIS				IAMs_20	IAMs_20	19 04 50.0		
	comp=Z,21µm,14.4s							
AQDB	Aquidauana	142.32	132	eP	PKPdf	17 59 19.2	-3.0	
PBEJ	Beja	142.38	335	ePKPdf	PKPdf	17 59 20.0	-1.9	
PBEJ	Beja	142.38	335	ePPP	PP	18 02 43.0	+15	
VILB	Vilhena	142.56	118	IAMs_20	IAMs_20	18 52 46.6		
	comp=Z,18µm,22.0s							
PNCL	Nicolau / Gran	142.58	336	ePKPdf	PKPdf	17 59 20.9	-1.3	
PNCL	Nicolau / Gran	142.58	336	ePPP	PP	18 02 37.0	+8.0	
MESJ	Messejana	142.69	335	ePKPdf	PKPdf	17 59 22.9	+0.5	
MESJ	Messejana	142.69	335	ePPP	PP	18 02 39.7	+10	
MESJ	Messejana	142.69	335	ePKIKP	PKPdf	17 59 21.5	-0.9	
MESJ				e		18 02 30.3		
MESJ	Messejana	142.69	335	ePKPdf	PKPdf	17 59 21.6	-0.9	
MESJ				ePP	PP	18 02 30.3	+0.6	
MESJ				IAMs_20	IAMs_20	19 04 42.8		
	comp=Z,24µm,30.2s							
PCVE	Castro Verde	142.79	335	ePKPdf	PKiKP	17 59 24.4	-1.4	
PCVE	Castro Verde	142.79	335	ePPP	PP	18 02 43.3	+13	
PVAQ	Vaqueiros	142.85	335	ePKPdf	PKiKP	17 59 25.1	-0.8	
PVAQ	Vaqueiros	142.85	335	ePPP	PP	18 02 43.5	+13	
PVAQ	Vaqueiros	142.85	335	eSS	SS	18 21 17.6	+12	
PVAQ	Vaqueiros	142.85	335	eLQ	LQ	18 40 04.7		
PVAQ				eLR	LR	18 47 44.5		
	comp=Z,13µm,20.0s							
SFS	San Fernando	142.94	332	IAMs_20	IAMs_20	19 13 06.9		
	comp=Z,16µm,19.0s							
PBDV	Barranco-do-Ve	143.07	335	ePKPdf	PKPdf	17 59 24.1	+0.9	
PBDV	Barranco-do-Ve	143.07	335	ePPP	PP	18 02 43.0	+11	
PTEO	Sao Teotonio	143.15	336	ePKPdf	PKPdf	17 59 23.9	+0.7	
MORF	Marmelete	143.32	335	ePKPdf	PKPdf	17 59 23.4	-0.2	
MORF	Marmelete	143.32	335	ePPP	PP	18 02 44.2	+11	
MORF	Marmelete	143.32	335	ePKIKP	PKPdf	17 59 22.6	-1.0	
MORF				e		18 02 34.1		
MORF	Marmelete	143.32	335	ePKPdf	PKPdf	17 59 22.6	-1.0	
MORF				ePP	PP	18 02 34.1	+0.6	
MORF				IAMs_20	IAMs_20	19 15 21.4		
	comp=Z,14µm,19.9s							
ANBD	Bethesda, Anti	143.49	67	eP	PKPab	17 59 18.7	-1.9	
PFVI	Vila Bisbo	143.54	336	ePKPdf	PKPdf	17 59 25.3	+1.3	
PFVI	Vila Bisbo	143.54	336	ePPP	PP	18 02 50.1	+15	
TAM	Tamanrasset	143.84	303		PKPab	17 59 22.1	-0.1	
TAM	Tamanrasset	143.84	303	PKIKP	PKPab	17 59 22.1	0.0	
TAM				MLR	MLR			
	comp=Z,11µm,21.0s							
ABD	La Joyeuse, An	143.90	68	IAMs_20	IAMs_20	18 56 23.0		
	comp=Z,22µm,22.0s							
ABD	La Joyeuse, An	143.90	68	eP	PKPbc	17 59 23.6	+0.8	
EKNA	AfricaArray -	144.01	271	eP	PKPdf	17 59 25.3	-0.2	
MAGL	Barre de l'ile	144.23	69	IAMs_20	IAMs_20	19 12 42.8		
	comp=Z,20µm,21.0s							
GDSD	La Dsirade Is	144.33	68	IAMs_20	IAMs_20	18 59 46.5		
	comp=Z,18µm,21.0s							
FRTB	Fartura	144.54	142	eP	PKPab	17 59 23.3	-1.2	
SVN	Savane Anatole	144.60	71	IAMs_20	IAMs_20	19 13 26.0		
	comp=Z,15µm,20.0s							
FDF	Fort de France	144.65	71	IAMs_20	IAMs_20	19 14 20.1		
	comp=Z,16µm,19.0s							
GRHS	Sauteurs	144.68	75	eP	PKPab	17 59 19.0	-6.3	
GRGR	Grenville	144.68	75	IAMs_20	IAMs_20	19 03 34.3		
	comp=Z,13µm,21.0s							
GRGR	Grenville	144.68	75	eP	PKPab	17 59 23.9	-1.3	
H07N1	FLORES T-PHASE	144.69	6	ePKP	PKiKP	17 59 44.6	+15	
PCMB	Pacaembu	144.70	138	eP	PKPab	17 59 23.9	-1.2	
BIM	Bigot	144.77	71	IAMs_20	IAMs_20	19 01 59.5		
	comp=Z,17µm,20.0s							
BIM	Bigot	144.77	71	eP	PKPab	17 59 15.2	-10	
GCMP	Grenada, Carri	144.84	75	eP	PKPab	17 59 20.4	-5.4	
SVB	Belmont	144.86	73	eP	PKPab	17 59 17.9	-8.0	
ILAM	Ilet Lapin Mar	144.90	71	IAMs_20	IAMs_20	18 58 57.6		
	comp=Z,15µm,22.0s							
SALV	Santo Antonio	144.96	126	eP	PKPab	17 59 24.2	-2.0	
SLBI	Saint Lucia, B	144.97	72	eP	PKPab	17 59 17.9	-8.4	
MPOM	Morne Pois Mar	144.99	71	IAMs_20	IAMs_20	18 58 31.1		
	comp=Z,18µm,22.0s							
MPOM	Morne Pois Mar	144.99	71	eP	PKPab	17 59 25.0	-1.4	
H07S1	FLORES T-PHASE	144.99	6	ePKP	PKiKP	17 59 44.6	+14	
TRN	Trinidad (W)	145.14	78	eP	PKPbc	17 59 17.8	-9.1	
PET01	Itanhaem-SP	145.15	146	eP	PKPbc	17 59 24.9	-1.8	
MACA	Manacapuru-AM	145.28	102	eP	PKPbc	17 59 24.6	-2.8	
SRBC	Serra Branca	145.55	2	ePKP	PKiKP	17 59 40.8	+9.4	
PGRA	Graciosa	145.56	2	ePKP	PKiKP	17 59 44.3	+13	
SPB	Sao Paulo	145.61	145	IAMs_20	IAMs_20	18 58 46.4		
	comp=Z,18µm,22.0s							
SPB	Sao Paulo	145.61	145	eP	PKPdf	17 59 27.1	-0.9	
PSBA	Serra de Santa	145.83	1	ePKP	PKiKP	17 59 44.4	+12	
PSCM	Serra do Cume	145.90	0	ePKP	PKiKP	17 59 43.8	+12	
PCED	Cedros	145.93	3	ePKP	PKiKP	17 59 44.4	+12	
ADH	Angra Heroismo	145.94	1	ePKP	PKiKP	17 59 40.6	+8.4	
PMAN	Manadas	145.95	2	ePKP	PKiKP	17 59 45.4	+13	
CALA	Caldeira	145.97	3	ePKP	PKiKP	17 59 46.0	+14	
PICO	Pico	146.07	2	ePKP	PKiKP	17 59 45.5	+13	
AVE	Averroes	146.09	330		PKPdf	17 59 27.0	-1.5	
AVE				IAMs_20	IAMs_20	19 18 24.3		
	comp=Z,11µm,20.0s							
PCAN	Candelaria	146.10	2	ePKP	PKiKP	17 59 44.6	+12	
PDRB	Porto dos Gac	146.20	118	eP	PKPdf	17 59 28.6	-0.6	
BOAV	Boa Vista	146.25	92		PKPdf	17 59 28.1	-1.2	
BOAV	Boa Vista	146.25	92	eP	PKPdf	17 59 28.6	-0.7	
VAO	Valinhos	146.34	145	eP	PKPdf	17 59 28.3	-1.0	
BBGH	Gun Hill	146.50	73	eP	PKPdf	17 59 17.5	-12	
PSET	Sete Cidades	146.76	358	ePKP	PKiKP	17 59 47.5	+14	
BART	Pico Bartolome	146.79	358	ePKP	PKiKP	17 59 46.0	+12	
CMLA	Cha da Macela	146.82	358	ePKP	PKiKP	17 59 48.4	+14	
PARB	Paraibuna	146.82	147	eP	PKPdf	17 59 28.9	-1.2	
PDA	Ponta Delgada	146.84	358	ePKP	PKiKP	17 59 46.8	+13	
BB19B	Bebedouro	146.86	141	eP	PKPdf	17 59 30.2	0.0	
CLDB	Colider	147.34	118	eP	PKPdf	17 59 30.8	-0.3	
PSMN	Pico do Norte,	147.56	357	ePKP	PKiKP	17 59 49.1	+13	
PSMA	Santa Maria	147.57	358	ePKP	PKiKP	17 59 53.7	+18	
ARAG	Araguaiana, MT	148.14	129	eP	PKPdf	17 59 31.1	-1.2	
VAS01	Vassouras-RJ	148.83	149	eP	PKPdf	17 59 33.3	-0.1	
BSCB	Bom Sucesso	149.16	146	eP	PKPdf	17 59 33.3	-0.7	
NPGB	Novo Progresso	149.27	112	eP	PKPdf	17 59 33.0	-1.3	
IPMB	Ipameri, GO	149.28	137	eP	PKPdf	17 59 34.2	0.0	
DUB01	Friburgo-RJ	149.53	151	eP	PKPdf	17 59 34.6	0.0	
ITTB	Itaituba	149.77	106	eP	PKPdf	17 59 33.6	-1.5	
PMPST	Porto Santo, M	149.89	342	ePKPdf	PKPbc	17 59 39.7	+0.1	
PMPST	Porto Santo, M	149.89	342	ePPP	PP	18 03 21.3	+9.2	
PMPS	Porto Santo	149.91	342	ePKPdf	PKiKP	17 59 40.2	-0.3	
PMNB	Patos De Minas	150.05	140	eP	PKPdf	17 59 33.9	-1.6	
PMOZ	Porto Moniz, M	150.38	344	ePKPdf	PKPdf	17 59 33.8	-1.9	
PMOZ	Porto Moniz, M	150.38	344	ePPP	PP	18 03 21.4	+6.4	
PMOZ	Porto Moniz, M	150.38	344	eLR	LR	18 52 16.4		
	comp=Z,8µm,20.0s							
PMAR	Madeira	150.39	343	ePKPdf	PKPdf	17 59 36.4	+0.6	
PMAR	Madeira	150.39	343	ePPP	PP	18 03 22.3	+7.1	
FUL	Funchal	150.46	343	ePKPdf	PKPab	17 59 53.7	+6.4	
FUL	Funchal	150.46	343	ePPP	PP	18 03 28.9	+14	
TORD	Torodi Ar. Bea	150.60	289	PKP	PKPdf	17 59 35.5	-0.8	
TORD				PKPbc	PKPbc	17 59 41.1	-0.7	
SNDB	Serra Nova Dou	150.66	124	eP	PKPdf	17 59 35.2	-1.3	
BDFB	Brasilia	151.01	134	PKP	PKPdf	17 59 36.9	-0.2	
	comp=Z,41nm,0.8s,baz=214,slow=3.8,SNR=18							
BDFB				PKPbc	PKPbc	17 59 41.7	-1.1	
	comp=Z,41nm,0.8s,baz=240,slow=1.8,SNR=20							
ALF01	Guarapari-ES	151.58	152	eP	PKPdf	17 59 36.1	-1.6	
MALB	Monte Alegre	151.82	102	eP	PKPdf	17 59 36.1	-2.1	
DIAM	Diamantina, MG	151.92	144	eP	PKPdf	17 59 37.7	-0.8	
RIB01	Linhares ES	152.85	151	eP	PKPdf	17 59 39.6	-0.1	
SJMB	Sao Joao De Ma	152.97	149	eP	PKPdf	17 59 39.6	-0.3	
JANB	Januaria	153.97	138	eP	PKPdf	17 59 40.8	-0.6	
MCPB	Macapa, AP	154.29	100	eP	PKPdf	17 59 40.8	-1.1	
SDBA	SAO DESIDERIO	155.40	133	eP	PKPdf	17 59 42.4	-1.0	
GUA01	Guaratinga, BA	155.45	149	eP	PKPdf	17 59 43.0	-0.3	
TMAB	Tom-Au,PA,Br	157.64	107	eP	PKPdf	17 59 46.8	+0.5	
KIC	Kosan Boka	157.99	276	ePKP1	PKPdf	17 59 45.4	-1.3	
	comp=Z,217nm,1.6s							
DBIC	Dimbokro	158.08	277		PKPdf	17 59 45.7	-1.1	
DBIC				IAMs_20	IAMs_20	19 15 28.5		
	comp=Z,18µm,22.0s							
DBIC	Dimbokro	158.08	277	PKIKP	PKPdf	17 59 45.7	-1.1	
DBIC				MLR	MLR			
	comp=Z,18µm,22.0s							
DBIC	Dimbokro	158.08	277	PKP	PKPdf	17 59 46.4	-0.4	
	comp=Z,24nm,1.1s,baz=80,slow=1.4,SNR=13							
DBIC				PKPab	PKPab	18 00 18.1	-2.3	
	comp=Z,28nm,0.6s,baz=66,slow=3.2,SNR=9.3							
TIC	Toumodi	158.24	277	ePKP1	PKPdf	17 59 45.1	-1.9	
	comp=Z,24nm,0.9s							
LIC	Lamto	158.28	276	ePKP1	PKPdf	17 59 46.0	-1.1	
	comp=Z,75nm,1.2s							
NBLA	Lagarto - SE	161.15	144	eP	PKPdf	17 59 50.2	-0.1	
NBAN	Anadia - AL	163.08	146	eP	PKPdf	17 59 52.4	+0.1	
NBLV	Livramento - P	164.51	139	eP	PKPdf	17 59 52.7	-1.0	
NBCL	Cascavel-CE	165.63	127	eP	PKPdf	17 59 54.9	+0.3	
RCBR	Riachuelo	166.32	138	eP	PKPdf	17 59 54.2	-0.9	

NEIC 08 17:41:32.7±2.2, 31°21N±0°.02×103°24W±0°.04, h5km±2km, mb_Lg2.5/12, ML2.4/12, Error ellipse: s-maj=6.9km s-min=3.0km az=120.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNHN	Monahans	0.43	73		Pb	17 41 42.6	-0.3
PECS	Pecos	0.56	287		Pg	17 41 44.1	+0.6
PECS				IAML		17 41 56.4	
	180nm,0.4s						
PECS				IAML		17 42 01.7	
	284nm,0.6s						
ALPN	Alpine	0.90	202		Pg	17 41 49.4	-0.7
ALPN				IAML		17 42 08.1	
	78nm,0.5s						
ODSA	Odessa	1.08	33	Pg	Pb	17 41 54.3	+0.3
CLNB	Carlsbad	1.18	333	Pg	Pg	17 41 54.8	-0.7
CLN7	Carlsbad 7	1.29	338	Pn	Pg	17 41 57.2	-0.3
GDL2	Guadalupe Moun	1.37	316	Pn	Pg	17 41 59.2	+0.1
VHRN	Van Horn	1.56	255	Pg	Pn	17 42 01.2	0.0
VHRN					Sn	17 42 21.4	-0.4
SAND	Sanderson	1.58	142	Pg	Pb	17 42 02.7	+0.2
OZNA	Ozona	1.84	99		Pb	17 42 06.9	0.0
OZNA				IAmb_Lg		17 42 34.6	
	comp=Z,15nm,1.2s						
CPRX	Cap Rock	1.89	344	Pn	Pn	17 42 05.0	-0.9
TX31	Lajitas Ar. Si	1.91	191		Pb	17 42 07.2	-0.9
TXAR	Lajitas Array	1.91	191	Pn	Pb	17 42 07.2	-0.9
SGCY	Sterling City	1.94	68		Pb	17 42 08.8	+0.2
SGCY				IAmb_Lg		17 42 38.4	
	comp=Z,16nm,0.8s						
POST	Post	2.37	38		Pb	17 42 14.7	-1.2
SN05	Snyder 5	2.60	50	Pn	Pn	17 42 15.8	+0.3
SN05				IAmb_Lg		17 43 00.8	
	comp=Z,27nm,0.7s						
SN07	Snyder 07	2.73	46		Pn	17 42 17.4	+0.1
MSTX	Muleshoe	2.78	8		Pn	17 42 18.0	0.0
DRIO	Del Rio	2.88

DRME	**Dracevica, Mon**	**0.61**	**309**	⇓*i*	Pg	**Pg**	17 56 09.2	**-0.8**
DRME				*i*	Sg	**Sg**	17 56 18.2	**+0.1**
PVY	**Plav**	**0.80**	**7**	⇑*i*	Pg	**Pb**	17 56 12.9	**-1.0**
PVY				*i*	Sg	**Sb**	17 56 25.2	**+0.5**
BUM	**Brajici-Budva**	**0.85**	**306**	⇓*i*	Pg	**Pg**	17 56 13.5	**-1.1**
BUM				*i*	Sg	**Sb**	17 56 25.9	**-0.2**
CEME	**Cevo**	**1.00**	**318**	⇓*i*	Pg	**Pg**	17 56 15.9	**-1.5**
CEME				*i*	Sg	**Sb**	17 56 31.4	**+1.0**
OHR	**Ohrid**	**1.01**	**133**	*e*	Pg	**Pb**	17 56 17.1	**-0.4**
OHR				*e*	Sg	**Sn**	17 56 32.7	**+0.5**
IVA	**Berane**	**1.07**	**3**	⇑*i*	Pg	**Pb**	17 56 18.0	**-0.5**
IVA				*i*	Sg	**Sn**	17 56 34.0	**+0.3**
KOME	**Kolasin**	**1.07**	**348**	⇓*i*	Pg	**Pg**	17 56 18.2	**-0.4**
KOME				*i*	Sg	**Sn**	17 56 34.2	**+0.5**
NKME	**Niksic**	**1.16**	**327**	⇑*i*	Pg	**Pg**	17 56 19.5	**-0.9**
NKME				*i*	Sg	**Sn**	17 56 36.6	**+0.8**
HCY	**Herceg Novi**	**1.18**	**304**	*e*	Pg	**Pg**	17 56 18.5	**-2.3**
HCY				*e*	Sg	**Sn**	17 56 36.6	**+0.4**
HCY	**Herceg Novi**	**1.18**	**304**	⇓*i*	Pg	**Pg**	17 56 18.8	**-2.0**
HCY				*i*	Sg	**Sn**	17 56 37.7	**+1.5**
SKO	**Skopje**	**1.22**	**82**	*e*	Pg	**Pg**	17 56 20.1	**-1.5**
SKO				*e*	Sg	**Sn**	17 56 38.0	**+0.7**
KBN	**Korca**	**1.39**	**148**	AMP				
	comp=N,0.2nm,0.5s,baz=148							
KBN	**Korca**	**1.39**	**148**	P		**Pn**	17 56 23.6	**+0.3**
KBN				S		**Sg**	17 56 45.3	**+2.4**
	comp=N,65nm,0.6s							
TREB	**Trebinje**	**1.42**	**310**	*e*	Pg	**Pn**	17 56 24.0	**+0.3**
TREB				*e*	Sg	**Sg**	17 56 44.5	**+0.6**
BRY	**Bratogost**	**1.45**	**320**	⇑*i*	Pg	**Pb**	17 56 24.9	**-0.2**
BRY				*e*	Sg	**Sg**	17 56 45.0	**+0.1**
BRY	**Bratogost**	**1.45**	**320**	⇓*i*	Pg	**Pb**	17 56 24.8	**-0.3**
BRY				*i*	Sg	**Sg**	17 56 46.6	**+1.7**
SJES	**Sjenica**	**1.46**	**4**	*e*	Pg	**Pg**	17 56 25.0	**-1.2**
SJES				*e*	Sg	**Sg**	17 56 46.3	**+1.1**
SJES	**Sjenica**	**1.46**	**4**	⇑*i*	Pn	**Pb**	17 56 24.6	**-0.6**
SJES				*e*	Sn	**Sg**	17 56 45.1	**-0.1**
DBRK	**Dubrovnik**	**1.51**	**305**	*e*	Pn	**Pn**	17 56 24.2	**-0.7**
DBRK				Sn		**Sg**	17 56 46.0	**-0.8**
UPM	**Unac-Piva**	**1.55**	**335**	*e*	Pn	**Pb**	17 56 26.3	**-0.5**
UPM				*e*	Sn	**Sg**	17 56 48.0	**-0.2**
UPM	**Unac-Piva**	**1.55**	**335**	⇑*i*	Pg	**Pg**	17 56 27.0	**-1.0**
UPM				*i*	Sg	**Sg**	17 56 49.9	**+1.7**
FNA	**Florina**	**1.56**	**130**	P		**Pn**	17 56 25.8	**+0.3**
	baz=130							
FNA				S		**Sg**	17 56 47.6	**-0.6**
	baz=130							
FNA				AMP				
	comp=N,0.2nm,0.5s,baz=130							
FNA	**Florina**	**1.56**	**130**	P		**Pb**	17 56 26.2	**-0.6**
FNA				S		**Sg**	17 56 49.0	**+0.8**
	comp=N,108nm,0.4s							
PLE	**Pljevlja**	**1.56**	**348**	⇑*i*	Pg	**Pg**	17 56 26.8	**-1.3**
PLE				*i*	Sg	**Sg**	17 56 49.9	**+1.6**
NEST	**Nestorio**	**1.67**	**146**	P		**Pb**	17 56 28.5	**-0.3**
NEST				S		**Sg**	17 56 52.6	**+0.7**
SELS	**Selova**	**1.71**	**34**	*e*	Pg	**Pb**	17 56 29.0	**-0.4**
SELS				*e*	Sg	**Sg**	17 56 51.8	**-1.4**
IVAS	**Ivanjica**	**1.79**	**8**	*e*	Pg	**Pb**	17 56 30.1	**-0.7**
IVAS				*e*	Sg	**Sg**	17 56 55.7	**0.0**
BARS	**Barje**	**1.79**	**55**	*e*	Pg	**Pg**	17 56 31.2	**-1.3**
BARS				*e*	Sg	**Sg**	17 56 53.5	**-2.3**
PRVS	**Prvonek**	**1.82**	**67**	*e*	Pg	**Pb**	17 56 31.0	**-0.3**
PRVS				*e*	Sg	**Sg**	17 56 54.5	**-2.2**
RUDO	**Rudo**	**1.84**	**350**	*e*	Pn	**Pb**	17 56 30.4	**-1.3**
RUDO				*e*	Sn	**Sb**	17 56 54.2	**-0.5**
STON	**Ston**	**1.90**	**305**	*e*	Pn	**Pn**	17 56 30.5	**+0.3**
STON				Sn		**Sn**	17 56 55.2	**+1.2**
STON	**Ston**	**1.90**	**305**	*e*	Pn	**Pn**	17 56 30.3	**+0.1**
STON				*e*	Sn	**Sn**	17 56 55.4	**+1.4**
NEVS	**Nevesinje**	**1.96**	**320**	*e*	Sn	**Sb**	17 56 57.5	**-0.6**
BBLS	**Lazi&#263i**	**2.08**	**352**	*e*	Pn	**Pb**	17 56 34.2	**-1.6**
BBLS				*e*	Sn	**Sn**	17 57 00.0	**+1.3**
KEK	**Kerkira**	**2.09**	**180**	P		**Pn**	17 56 33.0	**+0.2**
GRG	**Griva**	**2.12**	**113**	P		**Pb**	17 56 34.7	**-1.7**
HAPS	**Han Pijesak,BI**	**2.37**	**345**	*e*	Pn	**Pn**	17 56 37.9	**+1.1**
HAPS				*e*	Sn	**Sn**	17 57 07.3	**+1.5**
LSTV	**Lastovo**	**2.38**	**295**	*e*	Pn	**Pn**	17 56 36.2	**-0.6**
RICI	**Ricice**	**2.60**	**311**	*e*	Pn	**Pn**	17 56 40.9	**+1.0**
TEKS	**Tekeris**	**2.75**	**356**	*e*	Pn	**Pn**	17 56 42.0	**0.0**
TEKS				*e*	Sn	**Sn**	17 57 17.1	**+2.0**
BLKB	**Belogradchik**	**2.78**	**48**	⇓S		**Sb**	17 57 19.3	**-2.4**
MDVR	**Moldovita**	**3.28**	**24**	⇑P		**Pn**	17 56 51.2	**+1.9**
MDVR				⇑S		**Sn**	17 57 31.2	**+3.0**
KIJV	**Kijevo**	**3.33**	**312**	*e*	Pn	**Pn**	17 56 51.0	**+1.1**
FRGS	**Fruska Gora**	**3.35**	**360**	⇓P		**Pn**	17 56 51.5	**+1.3**
FRGS				⇓S		**Sn**	17 57 31.4	**+1.5**
ZIRJ	**Zirje**	**3.59**	**302**	*e*	Pn	**Pn**	17 56 53.6	**+0.2**
ZIRJ				Sn		**Sn**	17 57 35.3	**-0.3**
HERR	**Herculane**	**3.61**	**31**	⇑P		**Pn**	17 56 55.9	**+2.1**
BZS	**Buzias**	**4.03**	**18**	⇑P		**Pn**	17 57 00.9	**+1.4**
BZS				⇑S		**Sn**	17 57 47.7	**+1.2**
GZR	**Gura Zlata**	**4.18**	**30**	⇑P		**Pn**	17 57 03.5	**+1.8**
VIRC	**Vir**	**4.29**	**307**	*e*	Pn	**Pn**	17 57 03.5	**+0.5**
SURR	**Surduc**	**4.29**	**22**	⇓P		**Pn**	17 57 04.4	**+1.4**
LOT	**Lotru**	**4.63**	**37**	⇓P		**Pn**	17 57 09.9	**+1.9**

*ISN **08** 17:56:55.7±0.4,34°.82N×45°.72E,h10km±22km,ML2.9*
TEH 08 17:56:55.7,34°.82N×45°.74E,h10km±362km,ML2.7,
Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.33**	**202**	Pg	Pg	17 57 02.9	+0.6
IDHR	**Dehrash**	**0.55**	**102**	Pg	Pg	17 57 06.9	+0.5
IDHR				Sg	Sb	17 57 14.8	-0.7
IGHG	**Ghaleghazi**	**0.84**	**125**	Pg	Pg	17 57 12.0	+0.1
IGHG				Sg	Sb	17 57 25.0	+1.0
ILBA	**Ilam Banvizeh**	**1.25**	**162**	Pg	Pn	17 57 19.1	-0.2
IKRK	**Kirkuk**	**1.29**	**297**	*e*Pg	Pb	17 57 20.0	0.0
IKRK				*e*Sg	Sg	17 57 38.0	+0.9
IKRK				AML	AML	17 57 44.2	
	comp=N,233nm,0.3s						
IKRK				AML	AML	17 57 44.6	
	comp=E,224nm,0.6s						
IBDR	**Badra**	**1.71**	**175**	*e*Pn	Pb	17 57 27.3	+0.1
IBDR				*e*Sn	Sg	17 57 50.5	-0.1
BHD	**Baghdad**	**1.91**	**217**	*e*Pn	Pb	17 57 30.0	-0.6
BHD				*e*Sn	Sb	17 57 55.0	+0.5
RAFI	**Al-Rafai**	**3.10**	**174**	*e*Pn	Pn	17 57 47.0	+2.3
RAFI				*e*Sn	Sn	17 58 24.0	+2.2

*NEIC **08** 18:00:25.7±1.7,4°.0N±0°.1×125°.29E±0°.08,h58km±10km,*
mb4.4/8,Error ellipse: s-maj=18.5km s-min=8.3km
az=211.0
*IDC **08** 18:00:31.0±4.5,2°.93N×126°.06E,h0km,mb3.8/3,*
mbtmp3.8/3,Error ellipse: s-maj=180.1km s-min=68.1km
az=71.0
ISC 08 18:00:23.8±1.3,4°.0N±0°.1×125°.26E±0°.09,h35km,n17,
σ1s51/17,mb4.0/6,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**3.84**	**147**	**Pn**	**Pn**	**18 01 21.4**	**+1.0**
TOLI2	**Tolitoli**	**5.32**	**237**	Pn	**Pn**	**18 01 41.0**	**+0.2**
TOLI2				Sn	**Sn**	**18 02 42.5**	**+1.6**
LUWI	**Luwuk**	**5.60**	**206**	Pn	Pn	18 01 49.1	+4.5
KNRA	**Kununurra**	**19.86**	**170**	Pn	**Pn**	**18 04 54.0**	**+0.2**
KNRA				IAmb	IAmb	18 05 31.5	
	comp=Z,34nm,1.2s						
FITZ	**Fitzroy Crossi**	**21.97**	**179**	P	**P**	**18 05 13.6**	**-1.1**
WB0	**Warramunga Arr**	**25.27**	**160**	P	**P**	**18 05 45.7**	**-1.3**
WB0				IAmb	IAmb	18 06 00.6	
	comp=Z,24nm,1.4s						
WRA	**Warramunga Arr**	**25.42**	**160**	P	**P**	**18 05 48.6**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=342,slow=10.0,SNR=12						
	comp=Z,1.9nm,0.6s						
WB2	**Warramunga Arr**	**25.42**	**160**	P	**P**	**18 05 47.5**	**-0.8**
WR0	**Warramunga Arr**	**25.50**	**159**	P	**P**	**18 05 49.0**	**-0.1**
WR0				IAmb	IAmb	18 05 56.2	
	comp=Z,5.9nm,1.1s						
MBWA	**Marble Bar**	**25.59**	**192**	P	**P**	**18 05 48.5**	**-1.4**
AS31	**Alice Springs**	**28.77**	**163**	P	**P**	**18 06 16.9**	**-1.5**
ASAR	**Alice Springs**	**28.77**	**163**	P	**P**	**18 06 15.6**	**-2.8**
ASAR	**Alice Springs**	**28.77**	**163**	P	**P**	**18 06 18.3**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=341,slow=7.6,SNR=7.0						
	comp=Z,0.3nm,0.6s						
BBOO	**Buckleboo**	**38.02**	**165**	P	**P**	**18 07 37.0**	**-1.7**
STKA	**Stephens Creek**	**38.92**	**158**	P	**P**	**18 07 49.4**	**+3.1**
	comp=Z,1.4nm,0.6s,baz=343,slow=14,SNR=1.5						
	comp=Z,1.4nm,0.6s						
ZAA0	**Zalesovo Array**	**59.68**	**334**	P	**P**	**18 10 24.5**	**-0.1**
ZAA0				IAmb	IAmb	18 11 05.3	
	comp=Z,5.9nm,1.2s						
ZALV	**Zalesovo Beam**	**59.68**	**334**	P	**P**	**18 10 25.0**	**+0.4**

*UPP **08** 18:01:23.9±0.1,67°.07N×20°.94E,h0km,ML2.7,Suspected*
explosion
*HEL **08** 18:01:23.6±0.3,67°.05N×20°.76E,h0km,ML2.1,Explosion*
*IDC **08** 18:01:25.3±0.9,67°.08N×21°.20E,h0km,mbtmp3.1/4,*
ML2.0/3,Error ellipse: s-maj=17.0km s-min=8.2km
az=116.0
ISC 08 18:01:24.3±0.8,67°.10N±0°.03×20°.92E±0°.03,h0km,n39,
σ0s89/60,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.14**	**280**	P	**Pg**	**18 01 27.1**	**+0.1**
DUNU				S	**Sg**	18 01 29.4	+0.6
MASU	**Masugnsbyn**	**0.55**	**49**	P	**Pg**	18 01 34.8	-0.1
PAJU	**Pajala**	**0.86**	**94**	P	**Pg**	18 01 39.8	-1.0
KUA	**Kurravaara**	**0.89**	**346**	P	**Pg**	18 01 40.8	-0.5
RATU	**Laukkuluspa**	**0.89**	**326**	P	**Pg**	18 01 40.8	-0.5
SALU	**Saltoluokta**	**0.98**	**288**	P	**Pg**	18 01 42.5	-0.6
LANU	**Lannavaara**	**1.04**	**23**	P	**Pg**	18 01 43.6	-0.6
LANU	**Lannavaara**	**1.04**	**23**	PG	**Pg**	18 01 43.3	-0.8
LANU				SB	**Sb**	**18 01 59.2**	**-0.1**
KOVU	**Salmi**	**1.17**	**346**	P	**Pg**	**18 01 46.2**	**-0.4**
KLF	**Kolari**	**1.20**	**82**	PG	**Pg**	**18 01 46.0**	**-1.2**
KLF				MSG		18 02 02.0	
	comp=Z,24nm,0.2s						
KLF				SG	**Sg**	**18 02 03.0**	**+0.4**
KALU	**Kalix**	**1.58**	**141**	P	**Pn**	**18 01 52.8**	**-0.7**
KALU	**Kalix**	**1.58**	**141**	PG	**Pn**	**18 01 52.6**	**-0.9**
	baz=321						
KALU				SN	**Sb**	**18 02 15.3**	**+0.5**
SJUU	**Sjulsmark**	**1.62**	**170**	P	**Pn**	**18 01 53.2**	**-0.8**
HEF	**Hetta**	**1.68**	**37**	*e*P	**Pn**	**18 01 54.1**	**-0.7**
HEF	**Hetta**	**1.68**	**37**	PG	**Pn**	**18 01 54.6**	**-0.3**
	baz=220						
HEF				MSG		18 02 15.9	
	comp=Z,7.9nm,0.2s						
HEF				SN	**Sb**	**18 02 18.0**	**+0.4**
TOF	**Tornio**	**1.70**	**125**	PG	**Pn**	**18 01 54.9**	**-0.2**
TOF				MSG		18 02 15.2	
	comp=Z,17nm,0.2s						
TOF				SN	**Sn**	**18 02 17.8**	**+0.3**
KIF	**Kilpisjarvi**	**1.92**	**359**	*e*P	**Pb**	**18 01 59.9**	**-0.1**
KIF	**Kilpisjarvi**	**1.92**	**359**	PG	**Pb**	**18 01 59.6**	**-0.4**
KIF				MSG		18 02 22.9	
	comp=Z,38nm,0.2s						
KIF				SG	**Sg**	**18 02 27.0**	**+1.3**
RNF	**Rovaniemi**	**2.07**	**101**	PG	**Pn**	**18 02 00.6**	**+0.3**
RNF				SG	**Sb**	**18 02 29.0**	**+0.1**
KTK1	**Kautokeino**	**2.11**	**23**	PG	**Pb**	**18 02 02.3**	**-1.1**
KTK1				SG	**Sg**	**18 02 31.4**	**-0.5**
I37NO	**I37NO**	**2.17**	**337**	I	I	18 17 51.1	
	baz=154,slow=318,SNR=4.1						
SGF	**Sodankyl**	**2.20**	**78**	PG	**Pn**	**18 02 03.2**	**+1.1**
SGF				SG	**Sb**	**18 02 33.1**	**+0.4**
BURU	**Burvik**	**2.53**	**176**	PB	**Pn**	**18 02 07.0**	**+0.5**
	baz=356						
RANF	**Ranua**	**2.59**	**112**	PN	**Pn**	**18 02 07.6**	**+0.3**
	baz=298						
RANF				SG	**Sb**	**18 02 43.2**	**-0.5**
OUL	**Oulu**	**2.86**	**133**	PB	**Pn**	**18 02 12.6**	**+1.5**
OUL				SG	**Sb**	**18 02 52.2**	**+0.6**
OBF4	**Vikkela, Lumij**	**2.86**	**141**	PB	**Pn**	**18 02 11.4**	**+0.3**
OBF4				MSG		18 02 47.8	
	comp=Z,5.2nm,0.2s						
OBF0	**Syolatti, Pyha**	**2.95**	**151**	PB	**Pn**	**18 02 14.2**	**+2.0**
OBF0				MSG		18 02 49.9	
	comp=Z,7.0nm,0.2s						
ARCES	**ARCESS Array B**	**2.98**	**33**	Pn	**Pn**	**18 02 13.0**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=211,slow=14,SNR=68						
ARCES				Sn	**Sn**	**18 02 50.3**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=211,slow=24,SNR=9.2						
	comp=Z,4.3nm,0.8s						
KMNF	**Kaamanen**	**3.07**	**45**	PN	**Pn**	**18 02 14.1**	**+0.1**
KMNF				SN	**Sn**	**18 02 52.6**	**+1.3**
RAJF	**Raja-Jooseppi**	**3.13**	**60**	PN	**Pn**	**18 02 14.8**	**+0.1**
RAJF				SG	**Sb**	**18 03 01.0**	**+1.7**
OUF	**Merijarvi**	**3.16**	**148**	PB	**Pn**	**18 02 16.4**	**+1.2**
	baz=333						
UMAU	**Umeaa**	**3.23**	**182**	PB	**Pn**	**18 02 16.3**	**+0.1**
	baz=359						
UMAU				SB	**Sn**	**18 02 55.6**	**+0.3**
VRF	**Varrio**	**3.41**	**75**	PN	**Pn**	**18 02 19.4**	**+0.7**
VRF				SN	**Sn**	**18 03 01.0**	**+1.2**
MSF	**Maaselka**	**3.46**	**106**	PN	**Pn**	**18 02 20.6**	**+1.2**
MSF				SG	**Sb**	**18 03 10.2**	**+1.2**
KEV	**Kevo**	**3.49**	**37**	PN	**Pn**	**18 02 18.5**	**-1.2**
KEV				SN	**Sn**	**18 03 03.2**	**+1.6**
KU6	**Riekki**	**3.74**	**103**	PN	**Pn**	**18 02 24.1**	**+0.9**
KU6				SB	**Sb**	**18 03 15.4**	**-1.5**
FINES	**FINESS Array B**	**6.10**	**156**	Pn	**Pn**	**18 02 56.4**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=345,slow=13,SNR=9.9						
FINES				Sn	**Sn**	**18 04 05.8**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=338,slow=22,SNR=6.8						
	comp=Z,3.7nm,0.9s						
NOA	**NORSAR Array B**	**7.41**	**219**	Pn	**Pn**	**18 03 14.3**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=38,slow=10,SNR=4.6						
NOA				Sn	**Sn**	**18 04 36.2**	**-2.1**
	baz=193,slow=20						
HFS	**Hagfors**	**7.69**	**208**	Pn	**Pn**	**18 03 17.0**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=24,slow=13,SNR=8.7						
	comp=Z,4.5nm,1.0s						

MEX 08 18:04:29.6±0.6,30°.61N×110°.85W,h20km±99km,MD3.8,
Sonora

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NZIG	**Nacozari, Sono**	**1.15**	**102**	*e*P	Pn	18 04 47.5	-3.1
NZIG				*e*S	Sb	18 05 01.2	-4.2
TUC	**Tucson**	**1.69**	**2**	*e*S	Sn	18 05 15.4	-3.9
214A	**Organ Pipe Nat**	**2.15**	**309**	*e*P	Pb	18 05 08.0	+0.2
214A				*e*S	Sb	18 05 42.6	+8.6
CGIG		**2.49**	**95**	*e*P	Pn	18 05 08.0	-1.2
CGIG				*i*S	Sn	18 05 37.3	-1.9
121A	**Cookes Peak, D**	**3.24**	**53**	*e*P	Pn	18 05 19.3	-0.2
121A				*e*S	Sn	18 05 49.5	-8.2

*IDC **08** 18:06:32.6±0.8,10°.29N×126°.17E,h0km,mb4.0/12,*
mbtmp4.0/12,Error ellipse: s-maj=47.8km s-min=15.4km
az=66.0
*NEIC **08** 18:06:33.7±1.7,10°.42N±0°.08×126°.3E±0°.1,h10km±1km,*
mb4.8/33,Error ellipse: s-maj=23.1km s-min=13.1km
az=277.0
ISC 08 18:06:37.4±0.5,10°.23N±0°.07×126°.2E±0°.1,h35km,n54,
σ1s26/52,mb4.3/22,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.19**	**190**	Pn	**Pn**	**18 07 26.7**	**+1.6**
LUWI	**Luwuk**	**11.69**	**197**	Pn	**Pn**	**18 09 20.2**	**-1.6**
YULB	**Yu-li**	**13.88**	**341**	Pn	**Pn**	**18 09 54.0**	**+2.2**
TPUB	**Ta-pu**	**14.03**	**339**	Pn	**P**	**18 10 01.0**	**-0.1**
FAKI	**Fak Fak**	**14.41**	**155**	Pn	**Pn**	**18 09 58.4**	**-0.6**
SOEI	**Soe**	**19.94**	**185**	P	**P**	**18 11 05.4**	**-1.2**
SOEI				IAmb	IAmb	18 11 15.7	
	comp=Z,40nm,1.5s						
UBPT	**Khong Chiam**	**20.78**	**286**	P	**P**	**18 11 15.0**	**-0.6**
MTN	**Manton Dam**	**23.45**	**168**	P	**P**	**18 11 44.7**	**+0.9**
MTN				IAmb	IAmb	18 12 10.9	
	comp=Z,55nm,1.4s						
KNRA	**Kununurra**	**25.87**	**174**	P	**P**	**18 12 05.4**	**-0.6**
KNRA				IAmb	IAmb	18 12 20.8	
	comp=Z,36nm,1.4s						
PHRA	**Phrae**	**26.39**	**291**	P	**P**	**18 12 10.6**	**-0.2**
CRAI	**Chiangrai**	**26.74**	**295**	P	**P**	**18 12 15.1**	**+1.1**
CRAI				IAmb	IAmb	18 12 35.4	
	comp=Z,16nm,2.0s						
CM31	**Chiang Mai Arr**	**27.57**	**290**	P	**P**	**18 12 21.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**27.57**	**290**	P	**P**	**18 12 22.6**	**+1.2**
	comp=Z,2.6nm,0.7s,baz=102,slow=7.1,SNR=18						
	comp=Z,2.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**28.15**	**181**	P	**P**	**18 12 26.7**	**+0.2**
WB0	**Warramunga Arr**	**30.89**	**165**	P	**P**	**18 12 50.9**	**+0.1**
WB0				IAmb	IAmb	18 13 02.2	
	comp=Z,20nm,1.4s						
WRA	**Warramunga Arr**	**31.05**	**165**	P	**P**	**18 12 52.6**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=343,slow=8.9,SNR=7.3						
	comp=Z,0.9nm,0.6s						
WB2	**Warramunga Arr**	**31.05**	**165**	P	**P**	**18 12 51.0**	**-1.2**
WB2				IAmb	IAmb	18 13 35.1	
	comp=Z,40nm,1.9s						
WR0	**Warramunga Arr**	**31.12**	**165**	P	**P**	**18 12 53.2**	**+0.4**
AS31	**Alice Springs**	**34.53**	**167**	P	**P**	**18 13 23.2**	**+0.6**
ASAR	**Alice Springs**	**34.53**	**167**	P	**P**	**18 13 23.3**	**+0.7**
ASAR	**Alice Springs**	**34.53**	**167**	P	**P**	**18 13 23.6**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=354,slow=7.0,SNR=28						
	comp=Z,0.6nm,0.4s						
FORT	**Forrest**	**40.82**	**177**	P	**P**	**18 14 17.2**	**+1.5**
FORT				IAmb	IAmb	18 14 18.0	
	comp=Z,16nm,0.7s						
SONM	**Songino Array**	**41.01**	**340**	P	**P**	**18 14 18.1**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=156,slow=9.8,SNR=9.2						
	comp=Z,0.5nm,0.4s						
BBOO	**Buckleboo**	**43.83**	**168**	P	**P**	**18 14 41.9**	**+1.7**
STKA	**Stephens Creek**	**44.40**	**161**	P	**P**	**18 14 45.9**	**+1.2**
STKA	**Stephens Creek**	**44.40**	**161**	P	**P**	**18 14 45.3**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=337,slow=11,SNR=4.7						
	comp=Z,0.8nm,0.3s						
MK31	**Makanchi Array**	**51.99**	**323**	P	**P**	**18 15 43.4**	**+0.2**
MKAR	**Makanchi Array**	**51.99**	**323**	P	**P**	**18 15 42.9**	**-0.3**
MKAR	**Makanchi Array**	**51.99**	**323**	P	**P**	**18 15 43.4**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=122,slow=7.2,SNR=18						
MKAR				PcP	**PcP**	**18 16 55.6**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=109,slow=5.9,SNR=1.8						
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**54.60**	**331**	P	**P**	**18 16 01.6**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=123,slow=6.1,SNR=4.4						
	comp=Z,0.9nm,0.4s						
KURK	**Kurchatov**	**56.03**	**326**	P	**P**	**18 16 12.6**	**-0.1**
KURK				IAmb	IAmb	18 16 42.9	
	comp=Z,4.9nm,1.1s						
KURBB	**Kurchatov Arra**	**56.04**	**325**	P	**P**	**18 16 12.4**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=124,slow=6.9,SNR=17						
	comp=Z,1.2nm,0.5s						
GAR	**Garm**	**57.22**	**310**	P	**P**	**18 16 20.4**	**-1.2**
GAR				IAmb	IAmb	18 16 59.2	
	comp=Z,18nm,1.5s						
KK31	**Karatay Array**	**58.19**	**315**	P	**P**	**18 16 28.4**	**+0.3**
KK31				IAmb	IAmb	18 16 29.3	
	comp=Z,13nm,1.9s						
KKAR	**Karatay Array**	**58.19**	**315**	P	**P**	**18 16 27.7**	**-0.5**
BVAR	**Borovoye Array**	**61.63**	**325**	P	**P**	**18 16 51.0**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=123,slow=11,SNR=3.8						
	comp=Z,0.7nm,0.6s						
ABKAR	**Akbulak array**	**66.83**	**319**	P	**P**	**18 17 23.3**	**-2.3**
E18K	**Tukpahlearik C**	**74.20**	**23**	P	**P**	**18 18 08.7**	**-1.6**
F19K	**Shaleruckik Mo**	**75.18**	**23**	P	**P**	**18 18 16.3**	**+0.4**
TTA	**Tatalina**	**75.42**	**28**		**PcP**	**18 18 29.2**	**-1.3**
E19K	**Redstone River**	**75.48**	**23**	P	P	18 18 13.2	-4.5
H19K	**Roundabout Mou**	**75.53**	**25**	P	**P**	**18 18 16.0**	**-2.0**
B20K	**Meade River**	**75.90**	**20**		**PcP**	**18 18 31.7**	**-0.6**
B22K	**Teshekpuk Lake**	**77.21**	**20**	P	**P**	**18 18 25.7**	**-1.7**
D22K	**Ayikyak River**	**77.34**	**22**	P	**P**	**18 18 28.1**	**-0.1**
I21K	**Tanana**	**77.36**	**25**	P	**P**	**18 18 24.7**	**-3.7**
MLY	**Manley**	**77.88**	**26**	P	**P**	**18 18 29.6**	**-1.7**
MLY				IAmb	IAmb	18 19 24.4	
	comp=Z,20nm,1.5s						
C23K	**Itkillik River**	**78.13**	**21**	P	**P**	**18 18 30.4**	**-2.1**
RC01	**Rabbit Creek A**	**78.27**	**30**	P	**P**	**18 18 31.1**	**-2.4**
RIDG	**Independent Ri**	**80.47**	**27**	P	P	18 18 40.8	-4.8
N25K	**Chitina, Valde**	**80.73**	**29**	P	P	18 18 42.2	-4.8
ARCES	**ARCESS

WRA Lg Lg 18 47 30.9
baz=28,slow=26
ASAR Alice Springs 19.32 206 P **P** **18 43 40.8 +1.5**
11nm,0.7s,baz=33,slow=9.5,SNR=114
ASAR S S 18 47 05.3 -11
1.6nm,0.8s,baz=18,slow=27,SNR=7.4
ASAR Lg Lg 18 49 24.4
baz=24,slow=28,SNR=1.5
STKA Stephens Creek 25.47 183 P **P** **18 44 42.4 +0.6**
1.7nm,0.5s,baz=25,slow=9.8,SNR=4.6
1.7nm,0.5s
MKAR Makanchi Array 75.19 322 P **P** **18 50 56.6 +0.7**
1.0nm,0.6s,baz=103,slow=7.5,SNR=8.7
1.0nm,0.6s
ZALV Zalesovo Beam 77.15 329 P **P** **18 51 06.6 -0.3**
0.9nm,0.6s,baz=102,slow=6.5,SNR=3.7
0.9nm,0.6s
KURBB Kurchatov Arra 79.08 324 P **P** **18 51 17.6 0.0**
0.4nm,0.3s,baz=104,slow=5.1,SNR=4.0
0.4nm,0.3s
QSPA South Pole Qui 83.66 180 P **P** **18 51 42.5 +0.6**
2.2nm,0.9s,baz=274,slow=1.5,SNR=9.2
2.2nm,0.9s
BVAR Borovoye Array 84.65 325 P **P** **18 51 47.8 +0.8**
6.4nm,0.7s,baz=111,slow=6.6,SNR=34
6.4nm,0.7s
ILAR Eielson Array 87.38 24 P **P** **18 51 59.2 -1.0**
1.5nm,0.7s,baz=259,slow=4.9,SNR=16
1.5nm,0.7s

DJA 08 18:42:38.1±0.3, 6°S±3°×107°E±°, h10km, M4.1/16, mb4.4/5, MLv4.0/16, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**0.94**	**7**	P	Pg	18 42 55.5	-0.7
KASI				S	Sg	18 43 05.8	-2.6
LWLI	**Liwa**	**1.47**	**347**	P	Pn	18 43 04.9	+0.1
SBJI	**Serang**	**1.76**	**79**	P	Pn	18 43 08.7	0.0
SKJI	**Sukabumi**	**2.22**	**104**	P	Pn	18 43 13.7	-1.3
DBJI	**Dramaga**	**2.35**	**92**	P	Pn	18 43 16.9	+0.1
CBJI	**Citeko**	**2.44**	**89**	P	Pb	18 43 20.4	-1.8
CBJI				S	Sb	18 43 52.7	+0.3
MNAI	**Manna**	**2.53**	**326**	P	Pn	18 43 20.4	+1.1
LHSI	**Lahat**	**2.75**	**342**	P	Pn	18 43 22.0	-0.4
LEM	**Lembang**	**3.23**	**97**	P	Pn	18 43 29.8	+0.8
CMJI	**Cimerak**	**4.24**	**108**	P	Pn	18 43 42.6	-0.2
PPBI	**Pangkal Pinang**	**4.61**	**22**	P	Pn	18 43 48.2	+0.3
PPSI	**Pulau Pagai**	**5.71**	**310**	P	Pn	18 44 03.3	+0.3
	38nm,0.6s,0.2nm						
UGM	**Wanagama**	**6.25**	**104**	P	Pn	18 44 10.2	-0.3
	110nm,1.7s,0.7nm						
SISI	**Saibi**	**7.34**	**314**	P	Pn	18 44 24.1	-1.4
	16nm,1.1s,0.2nm						
PWJI	**Pagerwojo**	**7.52**	**102**	P	Pn	18 44 30.0	+2.1
	12nm,1.9s,0.1nm						
JAGI	**Jajag, Banyuwa**	**9.88**	**102**	P	Pn	18 45 00.4	0.0

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*IDC **08** 18:44:24.6±1.6, 4.7°S×153.5°E, h0km, mb4.2/5, mbtmp4.2/6, ML2.1/1, Error ellipse: s-maj=49.8km s-min=28.9km az=104.0*

ISC 08 18:44:33.1±2.2, 4.9°S±0.4×153.5°E±0.3, h35km, n7, σ1§46/6, mb4.3/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.72**	**234**	Pn	**Pn**	**18 46 24.1**	**+1.0**
	1.3nm,0.3s,baz=49,slow=20,SNR=2.0						
PMG				Sn	**Sn**	**18 47 49.1**	**-0.3**
	1.6nm,0.3s,baz=35,slow=16,SNR=1.9						
	5.1nm,0.3s						
WRA	**Warramunga Arr**	**23.90**	**230**	P	**P**	**18 49 41.6**	**-2.3**
	3.6nm,0.4s,baz=53,slow=9.9,SNR=16						
	3.6nm,0.4s						
ASAR	**Alice Springs**	**26.55**	**223**	P	**P**	**18 50 07.9**	**0.0**
	1.8nm,0.4s,baz=55,slow=9.0,SNR=6.9						
	1.8nm,0.4s						
STKA	**Stephens Creek**	**29.06**	**201**	P	**P**	**18 50 30.4**	**+0.1**
	4.4nm,0.6s,baz=22,slow=13,SNR=11						
	4.4nm,0.6s						
MKAR	**Makanchi Array**	**80.87**	**319**	P	P	18 56 41.0	-2.8
	0.1nm,0.4s,baz=88,slow=6.5,SNR=5.8						
	0.1nm,0.4s						
QSPA	**South Pole Qui**	**85.05**	**180**	P	P	18 57 04.2	-0.9
	3.3nm,0.8s,baz=186,slow=1.1,SNR=25						
	3.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**151.01**	**288**	PKPbc	**PKPdf**	**19 04 18.0**	**+0.3**

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*IDC **08** 18:47:57.6±1.4, 4.4°S×153.2°E, h0km, mb4.0/6, mbtmp4.0/7, ML1.5/1, MS5.0/1, Error ellipse: s-maj=52.4km s-min=26.1km az=106.0*

ISC 08 18:48:06.5±1.1, 4.5°S±0.2×152.8°E±0.2, h55km, n10, σ1§40/10, mb3.9/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.43**	**229**	Pn	**Pn**	**18 49 52.9**	**+0.5**
	0.4nm,0.3s,baz=203,slow=18,SNR=1.6						
PMG				Sn	**Sn**	**18 51 14.4**	**-1.0**
	1.0nm,0.3s,baz=244,slow=18,SNR=1.6						
	4.1nm,0.6s						
WRA	**Warramunga Arr**	**23.65**	**228**	P	**P**	**18 53 14.8**	**+1.6**
	4.8nm,0.3s,baz=51,slow=10,SNR=31						
	4.8nm,0.3s						
ASAR	**Alice Springs**	**26.38**	**222**	P	**P**	**18 53 39.0**	**+1.1**
	0.8nm,0.4s,baz=56,slow=9.0,SNR=12						
	0.8nm,0.4s						
STKA	**Stephens Creek**	**29.20**	**200**	P	**P**	**18 54 02.7**	**-0.3**
	1.2nm,0.4s,baz=21,slow=14,SNR=4.5						
	1.2nm,0.4s						
KLR	**Kul'dur**	**56.57**	**344**	LR	LR	19 22 10.6	
	comp=Z,1μm,19.0s,baz=344,slow=36						
MKAR	**Makanchi Array**	**80.12**	**319**	P	**P**	**19 00 09.2**	**-1.6**
	0.1nm,0.5s,baz=90,slow=4.3,SNR=1.6						
	0.1nm,0.5s						
QSPA	**South Pole Qui**	**85.45**	**180**	P	**P**	**19 00 37.5**	**-0.7**
	2.0nm,0.5s,baz=192,slow=1.5,SNR=24						
	2.0nm,0.5s						
BVAR	**Borovoye Array**	**89.02**	**323**	P	**P**	**19 00 56.6**	**+1.1**
	0.5nm,0.7s,baz=101,slow=7.5,SNR=2.6						
	0.5nm,0.7s						
AKASG	**Malin Array Be**	**114.27**	**324**	PKP	**PKiKP**	**19 06 41.5**	**+1.5**
	0.4nm,0.4s,baz=61,slow=0.8,SNR=2.5						
TORD	**Torodi Ar. Bea**	**150.23**	**289**	PKPbc	**PKPbc**	**19 07 51.1**	**-1.5**

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*LDG **08** 18:52:57.5±0.1, 41.99N×4.09E, h10km, Md2.2/2, Ml2.3/9, Error ellipse: s-maj=2.8km s-min=1.6km az=166.0*
*STR **08** 18:52:58.2±0.8, 42.N±6°×°±°, h10km, MLv2.8/12, Error ellipse: s-maj=0.0km s-min=0.0km az=177.8, preliminary*
*MRB **08** 18:52:59.6±0.3, 42.00N×3.95E, ML1.1/7, Error ellipse: s-maj=6.6km s-min=3.8km az=273.0*
*MDD **08** 18:53:00.3±0.9, 42.03N×3.88E, h10km±1km, mb_Lg1.9/3, Error ellipse: s-maj=6.9km s-min=6.5km az=68.0*

ISC 08 18:52:56.5±1.4, 42.01N±0.05×4.11E±0.03, h17km±9km, n33, σ0§95/62, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPAL	**Palau Saverder**	**0.76**	**294**	P	**Pg**	**18 53 12.3**	**+0.9**
CPAL				S	**Sg**	**18 53 22.1**	**+0.6**
	9.2nm,0.1s						
CCAS	**Cassa de la Se**	**0.90**	**263**	P	**Pg**	**18 53 14.4**	**+0.4**
CCAS				S	**Sg**	**18 53 25.4**	**-0.6**
	3.7nm,0.2s						
EJON	**La Jonquera**	**1.01**	**297**	Pg	**Pg**	**18 53 16.4**	**+0.4**
EJON				Sg	**Sg**	**18 53 28.6**	**-0.7**
EJON	**La Jonquera**	**1.01**	**297**	Pg	**Pg**	**18 53 16.4**	**+0.4**
EJON				Sg	**Sg**	**18 53 28.6**	**-0.7**
EJON				*i* Vmb_Lg		18 53 32.1	
SJAF	**Saint Jean de**	**1.03**	**298**	P	**Pg**	**18 53 16.2**	**-0.1**
SJAF				S	**Sg**	**18 53 29.3**	**-0.6**
	3.5nm,0.1s						
SJAF	**Saint Jean de**	**1.03**	**298**	Pg	**Pg**	**18 53 15.9**	**-0.4**
SJAF				Sg	**Sg**	**18 53 28.9**	**-0.9**
CBEU	**Beuda**	**1.09**	**284**	P	**Pg**	**18 53 17.5**	**-0.1**
CBEU				S	**Sg**	**18 53 30.6**	**-1.4**
	7.2nm,0.3s						
CFON	**Fontmartina**	**1.27**	**260**	P	**Pn**	**18 53 19.8**	**+0.3**
CFON				S	**Sb**	**18 53 34.7**	**-1.4**
	7.0nm,0.2s						
FILF	**Fillols**	**1.27**	**296**	P	**Pn**	**18 53 21.4**	**+1.9**
FILF				S	**Sb**	**18 53 37.7**	**+1.6**
	2.7nm,0.1s						
FILF	**Fillols**	**1.27**	**296**	Pn	**Pn**	**18 53 21.0**	**+1.5**
FILF				Sg	**Sb**	**18 53 37.8**	**+1.6**
CLAF	**Gruissan**	**1.36**	**327**	Pn	**Pn**	**18 53 20.5**	**-0.1**
CLAF				Sg	**Sb**	**18 53 37.0**	**-1.4**
CBRU	**Bruguera**	**1.46**	**282**	P	**Pn**	**18 53 22.8**	**+0.6**
CORI	**Orista**	**1.53**	**270**	P	**Pn**	**18 53 23.7**	**+0.6**
CORI				S	**Sn**	**18 53 41.2**	**-1.4**
	2.5nm,0.3s						
CARF	**Carcanieres**	**1.64**	**296**	Pn	**Pn**	**18 53 25.3**	**+0.6**
CARF				Sn	**Sn**	**18 53 45.8**	**+0.4**
FNEB	**Nbias**	**1.73**	**302**	Pn	**Pn**	**18 53 26.5**	**+0.7**
FNEB				Sn	**Sn**	**18 53 47.5**	**0.0**
A199A	**Bergerie de la**	**1.77**	**350**	Pn	**Pn**	**18 53 26.9**	**+0.6**
A199A				Sn	**Sn**	**18 53 47.9**	**-0.4**
LEPF	**PUYLOUBIER**	**1.92**	**37**	Sn	**Sn**	**18 53 52.0**	**-0.1**
MTLF	**Montolieu**	**1.93**	**314**	*e*Pn	**Pn**	**18 53 28.9**	**+0.4**
MTLF				*e*Sn	**Sn**	**18 53 51.5**	**-0.9**
	2.5nm,0.3s						
MTLF	**Montolieu**	**1.93**	**314**	Pn	**Pn**	**18 53 29.0**	**+0.5**
MTLF				Sn	**Sn**	**18 53 51.4**	**-0.9**
A205A	**Foret Domanial**	**1.97**	**52**	Pn	**Pn**	**18 53 30.1**	**+1.0**
A205A				Sn	**Sn**	**18 53 52.1**	**-1.4**
DUNF	**Dun**	**1.98**	**302**	Pn	**Pn**	**18 53 30.4**	**+1.2**
DUNF				Sn	**Sn**	**18 53 54.3**	**+0.7**
ARTF	**Artigues**	**2.02**	**38**	Pn	**Pn**	**18 53 31.2**	**+1.5**
ARTF				Sn	**Sn**	**18 53 55.0**	**+0.5**
LASF	**Ste Croix**	**2.08**	**355**	*e*Pn	**Pn**	**18 53 30.7**	**+0.1**
LASF				*e*Sn	**Sn**	**18 53 56.0**	**-0.1**
	2.5nm,0.4s						
FLAF	**Flassans-sur-l**	**2.10**	**48**	Pn	**Pn**	**18 53 32.7**	**+1.9**
FLAF				Sn	**Sn**	**18 53 56.2**	**-0.4**
A206A	**Radio balise V**	**2.21**	**56**	Pn	**Pn**	**18 53 33.6**	**+1.3**
A206A				Sn	**Sn**	**18 53 58.1**	**-1.1**
LMR	**La Mourre**	**2.21**	**52**	*e*Pn	**Pn**	**18 53 34.3**	**+1.9**
LMR				*e*Sn	**Sn**	**18 53 58.6**	**-0.8**
	5.4nm,0.2s						
TRIGF	**Trigance**	**2.43**	**43**	Pn	**Pn**	**18 53 36.6**	**+1.2**
TRIGF				Sn	**Sn**	**18 54 05.3**	**+0.5**
CALF	**Calern**	**2.71**	**49**	Pn	**Pn**	**18 53 40.7**	**+1.4**
CALF				Sn	**Sn**	**18 54 11.2**	**-0.5**
VIVF	**Saint-Julien-l**	**2.88**	**8**	*e*Pn	**Pn**	**18 53 41.7**	**+0.1**
VIVF				*e*Sn	**Sn**	**18 54 15.2**	**-0.7**
	1.4nm,0.3s						
SBF	**Sospel**	**3.07**	**52**	*e*Sn	**Sn**	**18 54 19.6**	**-1.0**
	2.9nm,0.2s						
ORIF	**Oris-en-Rattie**	**3.19**	**23**	*e*Pn	**Pn**	**18 53 45.9**	**0.0**
ORIF				*e*Sn	**Sn**	**18 54 22.8**	**-0.7**
MBDF	**Montbardon**	**3.34**	**35**	*e*Pn	**Pn**	**18 53 47.8**	**-0.3**
MBDF				*e*Sn	**Sn**	**18 54 26.4**	**-1.1**
	1.3nm,0.5s						
PGF	**Pioggiola**	**3.67**	**80**	*e*Pn	**Pn**	**18 53 52.3**	**-0.2**
PGF				*e*Sn	Sn	18 54 30.6	-4.9
	1.3nm,0.2s						

JMA 08 18:53:09.6±0.2, 24.2°N±0.4×123.8°E±0.4, h17km±1km, MV1.2/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.14**	**315**	P	Pg	18 53 13.5	0.0
IRIF				*e*S	Sb	18 53 16.4	-0.2
JKRS	**Kuro-shima**	**0.16**	**90**	P	Pg	18 53 13.8	0.0
JKRS				*e*S	Sb	18 53 17.0	-0.2
HATJ	**Hateruma jima**	**0.18**	**189**	P	Pg	18 53 14.0	-0.1
HATJ				*e*S	Sg	18 53 17.4	+0.2
JIJ	**Ishigaki jima**	**0.31**	**66**	*i* P	Pg	18 53 15.9	-0.3
JIJ				*e*S	Sg	18 53 20.4	-0.2
JISG	**Ishigakijimahi**	**0.56**	**51**	P	Pg	18 53 20.7	0.0
JISG				*e*S	Sb	18 53 28.5	-0.2
JTJ	**Tarama**	**0.89**	**63**	*e*S	Sn	18 53 39.3	-0.6

TAP 08 18:53:22.9, 24.1°N×121.72E, h14km±1km, ML1.0, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETL	**Fush Village**	**0.09**	**261**	P	Pg	18 53 26.7	+0.7
	baz=260						
ETL				S	Sg	18 53 29.1	+1.0
	baz=260						
NACB	**Ninganchiao**	**0.11**	**270**	*i* P	Pb	18 53 26.7	-0.1
	baz=270						
NACB				S	Sb	18 53 29.4	0.0
	baz=270						
EAHA	**Aohua**	**0.16**	**8**	*e*S	Sb	18 53 30.2	-0.6
	baz=7.0						
ETLH	**Xiulin Townshi**	**0.22**	**279**	P	Pg	18 53 28.3	+0.4
	baz=279						
ETLH				*e*S	Sb	18 53 32.2	-0.3
	baz=279						
ENA	**Nanau**	**0.26**	**5**	*e*S	Sb	18 53 33.6	-0.1
	baz=6.0						
LXIB	**Xiulin Townshi**	**0.31**	**241**	*e*S	Sb	18 53 35.4	-0.1
	baz=241						
LATG	**Datong**	**0.40**	**335**	*e*P	Pb	18 53 31.9	0.0
	baz=334						
LATG				*e*S	Sb	18 53 38.2	+0.3
	baz=334						
NNS	**Nan Shan**	**0.41**	**310**	*e*S	Sb	18 53 38.7	+0.5
	baz=310						
ENTT	**Nioudou**	**0.48**	**344**	S	Sb	18 53 40.8	+0.6
	baz=344						

IDC 08 19:09:21.1±5.4, 3.93S×151.93E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=160.8km s-min=39.2km az=105.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.22**	**221**	Pn	Pn	19 11 14.5	+6.5
	0.5nm,0.3s,baz=302,slow=22,SNR=2.1						
WRA	**Warramunga Arr**	**23.40**	**226**	P	P	19 14 32.5	+0.6
	0.6nm,0.4s,baz=51,slow=9.9,SNR=11						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**26.23**	**220**	P	P	19 14 57.8	-0.4
	0.4nm,0.9s,baz=53,slow=8.7,SNR=2.3						
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**79.10**	**319**	P	P	19 21 27.5	-0.2
	0.1nm,0.4s,baz=103,slow=8.3,SNR=1.4						
	0.1nm,0.4s						

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*IDC **08** 19:12:16.4±1.4, 4.35S×153.46E, h0km, mb4.0/11, mbtmp4.0/12, ML1.9/1, MS4.8/1, Error ellipse: s-maj=47.6km s-min=17.5km az=113.0*

ISC 08 19:12:21.8±1.2, 4.4°S±0.2×153.5°E±0.2, h35km, n17, σ0§90/14, mb4.0/11, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.00**	**231**	Pn	**Pn**	**19 14 15.5**	**0.0**
	0.8nm,0.3s,baz=97,slow=16,SNR=2.2						
PMG				Sn	**Sn**	**19 15 44.7**	**0.0**
	1.2nm,0.3s,baz=235,slow=18,SNR=2.9						
	6.2nm,0.8s						
WRA	**Warramunga Arr**	**24.21**	**229**	P	**P**	**19 17 35.6**	**+0.3**
	4.1nm,0.5s,baz=53,slow=9.7,SNR=36						
	4.1nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**26.21**	**29**	T	T	19 45 25.0	
	baz=209,slow=74,SNR=24						
H11S2	**WAKE ISLAND Hy**	**26.21**	**30**	T	T	19 45 25.4	
	baz=209,slow=74,SNR=25						
H11S1	**WAKE ISLAND Hy**	**26.23**	**29**	T	T	19 45 20.7	
	baz=209,slow=74,SNR=14						
ASAR	**Alice Springs**	**26.89**	**223**	P	**P**	**19 17 59.5**	**-0.2**
	0.9nm,0.7s,baz=56,slow=8.8,SNR=12						
	0.9nm,0.7s						
STKA	**Stephens Creek**	**29.53**	**201**	P	**P**	**19 18 23.4**	**+0.3**
	1.5nm,0.7s,baz=41,slow=12,SNR=5.3						
	1.5nm,0.7s						
LEM	**Lembang**	**45.67**	**265**	LR	LR	19 43 08.4	
	comp=Z,1μm,19.7s,baz=326,slow=40						
PETK	**Petropavlovsk-**	**57.39**	**3**	P	**P**	**19 22 08.0**	**+1.4**
	1.0nm,0.4s,baz=149,slow=6.3,SNR=6.3						
	1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**58.29**	**295**	P	**P**	**19 22 14.5**	**+1.0**
	0.5nm,0.3s,baz=117,slow=5.6,SNR=6.8						
	0.5nm,0.3s						
SONM	**Songino Array**	**66.32**	**327**	P	**P**	**19 23 07.2**	**+0.3**
	1.1nm,0.6s,baz=145,slow=5.5,SNR=7.4						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**80.44**	**319**	P	**P**	**19 24 29.5**	**-0.6**
	0.3nm,0.7s,baz=99,slow=7.2,SNR=5.0						
	0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**81.17**	**326**	P	**P**	**19 24 32.8**	**-0.9**
	0.5nm,0.5s,baz=76,slow=6.1,SNR=2.0						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**81.53**	**22**	P	**P**	**19 24 35.5**	**+0.1**
	0.5nm,1.0s,baz=270,slow=3.6,SNR=2.3						
	0.5nm,1.0s						
NRIK	**Noril'sk**	**85.78**	**341**	P	**P**	**19 24 56.2**	**-0.9**
	1.6nm,0.5s,baz=154,slow=6.7,SNR=2.2						
	1.6nm,0.5s						
BVAR	**Borovoye Array**	**89.30**	**323**	P	**P**	**19 25 12.6**	**-1.8**
	1.5nm,0.8s,baz=81,slow=9.2,SNR=5.0						
	1.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**150.79**	**289**	PKPbc	**PKPbc**	**19 32 10.9**	**-0.6**

IDC 08 19:13:53.7±4.3, 56.63S×150.81E, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=314.5km s-min=45.5km az=75.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**32.97**	**296**	T	T	19 54 32.5	
	baz=145,slow=75,SNR=25						
H01W2	**Cape Leeuwin H**	**32.97**	**296**	T	T	19 54 31.8	
	baz=145,slow=75,SNR=29						
H01W3	**Cape Leeuwin H**	**32.98**	**296**	T	T	19 54 34.2	
	baz=145,slow=75,SNR=28						
ASAR	**Alice Springs**	**35.17**	**332**	P	P	19 20 49.1	-0.1
	0.5nm,0.7s,baz=169,slow=10,SNR=2.5						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**38.64**	**335**	P	P	19 21 18.6	0.0
	1.8nm,0.8s,baz=166,slow=7.2,SNR=3.4						
	1.8nm,0.8s						
H08S2	**Diego Garcia H**	**77.23**	**276**	T	T	20 49 04.7	
	baz=148,slow=76,SNR=5.0						
H08S1	**Diego Carcia H**	**77.24**	**276**	T	T	20 49 07.6	
	baz=148,slow=76,SNR=5.4						
H08S3	**Diego Garcia H**	**77.25**	**276**	T	T	20 49 13.6	
	baz=148,slow=76,SNR=6.6						
H03S2	**Juan Fernandez**	**80.52**	**140**	T	T	20 55 04.7	
	baz=201,slow=74,SNR=5.1						
H03S1	**Juan Fernandez**	**80.52**	**140**	T	T	20 55 05.9	
	baz=201,slow=74,SNR=7.2						
H03S3	**Juan Fernandez**	**80.54**	**140**	T	T	20 55 05.5	
	baz=201,slow=74,SNR=6.8						
DBIC	**Dimbokro**	**126.61**	**211**	PKP	PKPdf	19 32 58.8	-0.1
	2.1nm,0.8s,baz=180,slow=4.0,SNR=3.1						
AKASG	**Malin Array Be**	**145.82**	**285**	PKPbc	PKPdf	19 33 33.0	-0.1
	0.4nm,0.5s,baz=104,slow=0.1,SNR=4.1						
FINES	**FINESS Array B**	**151.91**	**303**	PKPbc	PKPbc	19 33 48.4	-0.6
	1.8nm,0.9s,baz=108,slow=4.5,SNR=4.1						

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*SJA **08** 19:15:48.0±0.8, 30.95S×71.52W, h30km±2km, ML3.5, MW3.5*
*GUC **08** 19:15:50.0±0.7, 31.04S×71.34W, h54km±2km, ML3.6*

ISC 08 19:15:49.2±1.3, 31.03S±0.02×71.52W±0.05, h21km±5km, n49, σ0§99/71, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.37**	**345**	⇑*i* P	**Pn**	**19 16 00.8**	**+1.5**
CO06				*e*S	**Sn**	**19 16 08.8**	**+2.9**
CO06				IAML		19 16 11.0	
	comp=E,4μm,0.2s						
CO02	**Combarbal**	**0.48**	**111**	*e*P	**Pb**	**19 15 59.6**	**+0.5**
CO02				*e*S	**Sb**	**19 16 07.3**	**+1.6**
CO02				IAML		19 16 07.6	
	comp=Z,5μm,0.3s						
CO02	**Combarbal**	**0.48**	**111**	⇓*i* P	**Pb**	**19 15 59.7**	**+0.7**
CO02				*e*S	**Sb**	**19 16 06.4**	**+0.7**
CO03	**El Pedregal**	**0.74**	**75**	*e*P	**Pb**	**19 16 12.5**	**-1.0**
CO03				*e*S	**Sb**	**19 16 12.4**	**-0.8**
CO03				IAML		19 16 12.9	
	comp=Z,2μm,0.1s						
CO03	**El Pedregal**	**0.74**	**75**	⇓*i* P	**Pb**	**19 16 02.7**	**-0.8**
CO03				*e*S	**Sb**	**19 16 11.8**	**-1.4**
CO03				IAML		19 16 12.4	
	comp=E,9μm,0.1s						
GO04	**Tololo Observa**	**1.06**	**36**	*e*P	**Pn**	**19 16 08.1**	**-1.0**
GO04				*e*S	**Sb**	**19 16 21.8**	**-0.7**
GO04	**Tololo Observa**	**1.06**	**36**	*i* P	**Pn**	**19 16 08.0**	**-1.0**
GO04				IAML		19 16 23.7	
	comp=E,5μm,0.3s						
CO05	**La Serena**	**1.13**	**13**	*i* P	**Pb**	**19 16 09.9**	**-0.2**
CO05				*e*S	**Sn**	**19 16 24.4**	**-0.4**
CO05				IAML		19 16 30.3	
	comp=E,2μm,0.2s						
VA06	**Catapilco**	**1.54**	**173**	*i* P	**Pn**	**19 16 15.4**	**-0.1**
CO01	**Juntas del Tor**	**1.62**	**50**	*e*P	**Pn**	**19 16 16.1**	**-0.7**
CO01				*e*S	**Sn**	**19 16 36.2**	**-0.9**
CO01				IAML		19 16 36.5	
	comp=Z,565nm,0.1s						
CO01	**Juntas del Tor**	**1.62**	**50**	*i* P	**Pn**	**19 16 16.1**	**-0.7**
CO01				*e*S	**Sn**	**19 16 35.1**	**-2.0**
CO01				IAML		19 16 36.6	
	comp=N,1μm,0.2s						
VA03	**San Esteban**	**1.92**	**155**	*e*P	**Pn**	**19 16 20.3**	**-0.5**
VA03				*e*S	**Sn**	**19 16 44.6**	**+0.3**
VA03				IAML		19 16 49.5	
	comp=Z,286nm,0.1s						
VA03	**San Esteban**	**1.92**	**155**	⇑*i* P	**Pn**	**19 16 20.2**	**-0.5**
VA03				*e*S	**Sn**	**19 16 43.4**	**-1.0**
VA03				IAML		19 16 48.1	
	comp=E,895nm,0.2s						
AROD	**Rodeo**	**1.97**	**65**	*e*P	**Pn**	**19 16 22.3**	**+0.7**
AROD				*e*S	**Sn**	**19 16 47.2**	**+1.4**
ROCH	**El Roble**	**1.98**	**167**	*i* P	**Pn**	**19 16 21.7**	**-0.1**
ROCH				*i* P	**Pn**	**19 16 21.7**	**-0.1**
ROCH				*e*S	**Sn**	**19 16 45.8**	**-0.4**
ROCH				*e*S		19 16 46.0	
ROCH				IAML		19 16 48.7	
	comp=N,1μm,0.4s						
ROCH				IAML		19 16 48.8	
	comp=N,526nm,0.5s						
ROC1	**El Roble**	**1.99**	**168**	*e*P	**Pn**	**19 16 21.3**	**-0.6**
ROC1				*e*S	**Sb**	**19 16 51.2**	**+2.0**
VA01	**Torpederas**	**1.99**	**183**	*e*P	**Pn**	**19 16 22.8**	**+1.1**
VA01	**Torpederas**	**1.99**	**183**	*i* P	**Pn**	**19 16 21.6**	**-0.1**
RTLS	**Leoncito**	**2.05**	**113**	*e*P	**Pn**	**19 16

RTCV	**Cerro Valdivia**	**2.68**	**109**	*eP*	**Pn**	**19 16 33.5**	**+2.2**
RTCV				*eS*	Sb	19 17 24.4	+15
MT15	**Las Vizcachas**	**2.70**	**162**	*i P*	**Pn**	**19 16 31.2**	**-0.3**
ASAL	**Salagasta**	**2.77**	**125**	*eP*	**Pn**	**19 16 33.7**	**+1.3**
MT09	**Talagante**	**2.78**	**171**	*i P*	**Pn**	**19 16 32.5**	**-0.1**
MT01	**Popeta**	**2.84**	**175**	*eP*	**Pn**	**19 16 32.9**	**-0.4**
MT01				*eS*	**Sb**	**19 17 14.7**	**+1.3**
MT01				IAML		19 17 14.8	
	comp=Z,130nm,0.6s						
MT01	**Popeta**	**2.84**	**175**	*i P*	**Pn**	**19 16 32.8**	**-0.5**
ARCO	**CERRO ARCO**	**2.85**	**130**	*eP*	**Pn**	**19 16 35.9**	**+2.3**
ARCO				IAML		19 17 18.7	
	comp=Z,146nm,0.8s						
MT13	**San Alfonso**	**2.90**	**159**	*i P*	**Pn**	**19 16 34.6**	**+0.3**
LMEL	**Las Melosas**	**3.02**	**159**	*i P*	**Pn**	**19 16 36.8**	**+0.7**
BO04	**La Punta**	**3.05**	**166**	*i P*	**Pn**	**19 16 35.8**	**-0.5**
AAGR	**Agrelo**	**3.07**	**133**	*eP*	Pn	19 16 28.0	-8.7
AAGR				IAML		19 17 23.4	
	comp=Z,75nm,0.7s						
BO01	**Tunca**	**3.37**	**174**	*eP*	**Pn**	**19 16 40.2**	**-0.4**
BO01				IAML		19 17 34.1	
	comp=Z,75nm,0.6s						
BO02	**Sierra Bellavi**	**3.81**	**171**	*eP*	**Pn**	**19 16 46.6**	**-0.1**
BO02				IAML		19 17 45.9	
	comp=Z,76nm,0.5s						
GO05	**Huala**	**3.98**	**185**	*eP*	**Pn**	**19 16 48.2**	**-0.9**

*MOS **08** 19:21:38.4, 42˚.02N×45˚.83E, h19km, MPVA3.1*
*NORS **08** 19:21:39.1, 41˚.99N×45˚.79E, h1km, MPVA3.2*
*AZER **08** 19:21:39.3, 41˚.88N×45˚.80E, h28km, ml1.9*
*DRS **08** 19:31:35.9, 42˚.72N×45˚.91E, h6km*

ISC 08 19:21:39.7±1.1, 42˚.00N±0˚.03×45˚.82E±0˚.02, h18km±6km, n18, σ9̸80/36, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZKTA	**Zakatala**	**0.70**	**121**	P	**Pn**	**19 21 54.1**	**-0.6**
ZKTA				S	**Sn**	**19 22 05.5**	**+0.4**
XNZR	**Khunzakh**	**0.85**	**50**	*e*Pg	**Pg**	**19 21 55.7**	**-0.5**
XNZR				*e*Sg	**Sn**	**19 22 07.8**	**-1.2**
KMKR	**Kumukh**	**0.96**	**82**	*e*Pg	**Pg**	19 21 58.3	-0.1
KMKR				*e*Sg	**Sn**	**19 22 12.3**	**+0.4**
QZX	**Qazax, Azerbai**	**1.00**	**200**	P	**Pb**	19 21 58.2	-0.3
QZX				S	**Sn**	**19 22 12.3**	**-0.3**
UNCR	**Uncukul**	**1.01**	**45**	*e*Pg	**Pg**	**19 21 59.5**	**+0.1**
UNCR				*e*Sg	**Sn**	**19 22 13.9**	**+1.1**
ARKR	**Arakani**	**1.06**	**55**	*e*Pg	**Pg**	**19 22 00.1**	**-0.1**
ARKR				*e*Sg	**Sg**	**19 22 15.5**	**+1.5**
GUDG	**Gudauri**	**1.10**	**295**	*e*Pg	**Pb**	19 21 59.6	-0.6
GUDG				*e*Sg	**Sn**	**19 22 14.9**	**-0.3**
KRNR	**Karanay**	**1.15**	**44**	*e*Pg	**Pb**	**19 22 00.6**	**-0.5**
KRNR				*e*Sg	**Sg**	**19 22 16.5**	**-0.6**
DBC	**Dubki**	**1.26**	**36**	*e*Pg	**Pb**	19 22 02.5	-0.5
DBC				*e*Sg	**Sg**	**19 22 19.8**	**-0.7**
KMGR	**Komgaron**	**1.27**	**327**	*e*Pg	**Pg**	**19 22 04.2**	**0.0**
KMGR				*e*Sg	**Sg**	**19 22 22.2**	**+1.5**
GDB	**GEDABAY**	**1.28**	**182**	P	**Pn**	**19 22 02.3**	**-0.5**
GDB				S	**Sb**	**19 22 19.8**	**+0.2**
SEKA	**Sheki**	**1.30**	**127**	P	**Pg**	**19 22 04.0**	**-0.8**
SEKA				S	**Sg**	**19 22 23.3**	**+1.5**
LACR	**Lac**	**1.40**	**307**	*e*Pg	**Pb**	**19 22 04.5**	**-0.8**
LACR				*e*Sg	**Sb**	**19 22 23.3**	**+0.5**
GANJ	**Ganja**	**1.41**	**164**	P	**Pn**	**19 22 04.3**	**-0.1**
GANJ				S	**Sb**	**19 22 24.0**	**+0.9**
AKT	**Akhty**	**1.52**	**109**	*e*Pg	**Pb**	**19 22 07.7**	**+0.3**
AKT				*e*Sg	**Sg**	**19 22 28.8**	**-0.1**
ARNR	**Ardon**	**1.63**	**317**	*e*Pg	**Pg**	**19 22 10.8**	**-0.3**
ARNR				*e*Sg	**Sg**	**19 22 33.7**	**+1.3**
KORR	**Kora**	**1.69**	**310**	*e*Pg	**Pg**	**19 22 11.1**	**-1.0**
KORR				*e*Sg	**Sg**	**19 22 35.1**	**+1.0**
DIGR	**Digorskoe uzhe**	**1.88**	**299**	*e*Pg	**Pb**	**19 22 13.4**	**-0.3**
DIGR				*e*Sg	**Sb**	**19 22 38.2**	**+1.3**

*IDC **08** 20:00:18.9±1.3, 6˚.15S×143˚.39E, h0km, mb4.0/3, mbtmp4.0/5, ML1.5/1, Error ellipse: s-maj=46.4km s-min=30.8km az=74.0*

ISC 08 20:00:23.5±1.0, 6˚.4S±0˚.1×143˚.3E±0˚.1, h35km, n6, σ2̸05/7, mb3.9/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.84**	**128**	Pn	**Pn**	**20 01 34.7**	**+0.8**
	1.4nm,0.3s,baz=344,slow=7.4,SNR=2.1						
PMG				Sn	**Sn**	**20 02 27.8**	**-0.9**
	1.2nm,0.3s,baz=234,slow=19,SNR=2.3 4.7nm,0.4s						
WRA	**Warramunga Arr**	**16.03**	**212**	Pn	**Pn**	**20 04 03.8**	**-2.6**
	0.2nm,0.3s,baz=30,slow=13,SNR=12						
ASAR	**Alice Springs**	**19.40**	**207**	P	**P**	**20 04 49.4**	**+2.7**
	6.3nm,0.7s,baz=32,slow=10,SNR=65						
MKAR	**Makanchi Array**	**75.51**	**322**	P	**P**	**20 12 04.9**	**+0.6**
	1.2nm,0.9s,baz=99,slow=7.7,SNR=8.9 1.2nm,0.9s						
BVAR	**Borovoye Array**	**84.95**	**325**	P	**P**	**20 12 54.9**	**-0.2**
	1.8nm,0.9s,baz=116,slow=6.8,SNR=6.7 1.8nm,0.9s						
ILAR	**Eielson Array**	**87.31**	**24**	P	**P**	**20 13 05.6**	**-0.8**
	0.5nm,0.9s,baz=260,slow=5.4,SNR=2.1 0.5nm,0.9s						

*IDC **08** 20:00:34.2±8.9, 40˚.28N×48˚.46E, h0km, mb3.3/2, mbtmp3.2/3, ML2.6/1, Error ellipse: s-maj=175.0km s-min=24.8km az=17.0*
*AZER **08** 20:00:38.1, 40˚.84N×48˚.72E, h6km, ml2.5*

ISC 08 20:00:40.5±0.8, 40˚.87N±0˚.02×48˚.70E±0˚.02, h10km±5km, n35, σ1̸44/66, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PQL	**Pirkuli**	**0.11**	**225**	P	**Pg**	**20 00 42.2**	**-1.2**
PQL				S	**Sg**	**20 00 45.3**	**-0.1**
ATGJ	**Altiaghaj**	**0.18**	**92**	P	**Pg**	**20 00 43.7**	**-0.7**
ATGJ				S	**Sb**	**20 00 47.9**	**+0.8**
SIZA	**Siyzn**	**0.26**	**36**	P	**Pb**	**20 00 46.5**	**-0.9**
SIZA				S	**Sb**	**20 00 53.0**	**+1.1**
GBS	**Qobustan**	**0.38**	**151**	P	**Pg**	**20 00 47.2**	**-0.9**
GBS				S	**Sb**	**20 00 55.5**	**+0.1**
IML	**Ismayilli**	**0.40**	**259**	P	**Pg**	**20 00 47.9**	**-0.5**
IML				S	**Sb**	**20 00 56.1**	**+0.2**
QUBA	**Quba, Azerbaij**	**0.51**	**342**	P	**Pn**	**20 00 52.1**	**-1.8**
QUBA				S	**Sn**	**20 01 01.7**	**-1.1**
XNQ	**Khinaliq**	**0.52**	**306**	P	**Pg**	**20 00 50.5**	**-0.2**
XNQ				S	**Sb**	**20 00 58.7**	**-0.9**
KDMR	**Kurdemir**	**0.63**	**219**	P	**Pg**	**20 00 52.1**	**-0.5**
KDMR				S	**Sn**	**20 01 03.8**	**-1.8**
QBL	**Gabala**	**0.66**	**277**	P	**Pg**	**20 00 52.6**	**-0.6**
QBL				S	**Sb**	**20 01 03.6**	**+0.3**
QSAR	**Qusar**	**0.72**	**333**	P	**Pn**	**20 00 55.7**	**-1.2**
QSAR				S	**Sn**	**20 01 07.8**	**-0.3**
GOBA	**Gobu**	**0.92**	**120**	P	**Pn**	**20 00 59.3**	**-0.2**
GOBA				S	**Sn**	**20 01 13.8**	**+1.1**
ALIB	**&Aumlli-Bayram**	**0.94**	**165**	P	**Pg**	**20 00 58.3**	**-0.2**
ALIB				S	**Sn**	**20 01 19.6**	**+6.4**
ZRD	**Zardab**	**0.97**	**233**	P	**Pb**	**20 00 58.5**	**-0.9**
ZRD				S	**Sn**	**20 01 14.8**	**+0.8**
NDR	**Nardaran**	**1.02**	**106**	P	**Pn**	**20 01 00.8**	**-0.1**
NDR				S	**Sn**	**20 01 15.3**	**0.0**
SEKA	**Sheki**	**1.18**	**287**	P	**Pn**	**20 01 02.2**	**-1.0**
SEKA				S	**Sn**	**20 01 21.0**	**+1.6**
MNGR	**Mingechevir, A**	**1.23**	**266**	P	**Pg**	**20 01 03.9**	**-0.1**
MNGR				S	**Sg**	**20 01 22.6**	**+2.6**
BRDA	**Brd**	**1.30**	**243**	Pn	**Pb**	**20 01 04.8**	**-0.3**
BRDA				Sn	**Sg**	**20 01 25.2**	**+2.7**
AGDM	**Agdam**	**1.43**	**238**	Pn	**Pn**	**20 01 05.7**	**-0.9**
AGDM				Sn	**Sg**	**20 01 26.9**	**+0.5**
BLQ	**Beylaqan**	**1.44**	**218**	Pn	**Pn**	**20 01 05.0**	**-1.7**
BLQ				Sn	**Sg**	**20 01 26.6**	**-0.2**
GLBA	**Clilabad**	**1.64**	**188**	Pn	**Pn**	**20 01 08.9**	**-0.5**
GLBA				S	**Sg**	**20 01 32.5**	**-0.7**
ZKTA	**Zakatala**	**1.74**	**297**	Pn	**Pb**	**20 01 12.1**	**-0.6**
ZKTA				Sn	**Sg**	**20 01 40.1**	**+3.6**
QRD	**Qoradiz**	**1.76**	**217**	Pn	**Pn**	**20 01 09.8**	**-1.2**
QRD				Sn	**Sb**	**20 01 34.6**	**-0.4**
GANJ	**Ganja**	**1.82**	**264**	Pn	**Pn**	**20 01 11.0**	**-0.9**
GANJ				Sn	**Sb**	**20 01 36.4**	**-0.3**
YRD	**Yardimli**	**1.98**	**190**	Pn	**Pn**	**20 01 13.5**	**-0.8**
YRD				Sn	**Sb**	**20 01 41.2**	**-0.4**
LKRN	**Lenkeran, Azer**	**2.16**	**178**	Pn	**Pn**	**20 01 16.5**	**-0.1**
LKRN				Sn	**Sb**	**20 01 45.3**	**-1.1**
GDB	**GEDABAY**	**2.24**	**267**	Pn	**Pn**	**20 01 17.8**	**0.0**
GDB				Sn	**Sb**	**20 01 48.3**	**-0.7**
LRK	**Lerik**	**2.24**	**187**	Pn	**Pn**	**20 01 17.7**	**-0.1**
LRK				Sn	**Sb**	**20 01 48.2**	**-0.8**
ASTR	**Astara**	**2.31**	**178**	Pn	**Pn**	**20 01 19.1**	**+0.5**
ASTR				Sn	**Sb**	**20 01 51.0**	**+0.2**
QZX	**Qazax, Azerbai**	**2.52**	**275**	Pn	**Pn**	**20 01 22.6**	**+1.0**
QZX				Sn	**Sb**	**20 01 54.5**	**-2.6**
SBZ	**Shahbuz**	**2.82**	**240**	Pn	**Pn**	**20 01 27.0**	**+1.2**
SBZ				Sg	**Sb**	**20 02 07.0**	**+1.3**
ORD	**Ordubad**	**2.84**	**228**	Pn	**Pn**	**20 01 26.1**	**0.0**
ORD				Sn	**Sb**	**20 02 03.7**	**-2.5**
KBZ	**Khabaz**	**5.16**	**306**	Pg	**Pb**	**20 02 13.5**	**+2.6**
	0.1nm,0.3s,baz=97,slow=6.6,SNR=4.1						
BVAR	**Borovoye Array**	**19.07**	**43**	P	**Pn**	**20 05 04.3**	**+0.5**
	baz=256,slow=12,SNR=2.6 0.3nm,0.5s						
FINES	**FINESS Array B**	**24.77**	**334**	P	**P**	**20 06 01.2**	**-0.9**
	0.6nm,0.5s,baz=137,slow=9.9,SNR=5.8 0.6nm,0.5s						
MKAR	**Makanchi Array**	**24.82**	**65**	P	**P**	**20 06 01.8**	**-1.0**
	0.2nm,0.5s,baz=266,slow=9.9,SNR=4.1 0.2nm,0.5s						

*IDC **08** 20:21:15.1±1.5, 4˚.40S×153˚.41E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=58.8km s-min=25.9km az=97.0*

ISC 08 20:21:18.5±1.7, 4˚.8S±0˚.4×153˚.8E±0˚.2, h10km, n8, σ2̸35/9, mb3.9/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.03**	**235**	Pn	**Pn**	**20 23 17.7**	**+2.4**
	1.0nm,0.3s,baz=0.0,slow=11,SNR=2.7						
PMG				Sn	**Sn**	**20 24 45.0**	**-1.2**
	2.7nm,0.3s,baz=221,slow=21,SNR=6.3						
WRA	**Warramunga Arr**	**24.20**	**230**	P	**P**	**20 26 34.0**	**-1.6**
	2.6nm,0.6s,baz=53,slow=9.9,SNR=18						
WRA				PcP	**PcP**	**20 30 14.3**	**-2.0**
	0.2nm,0.4s,baz=52,slow=1.8,SNR=5.0 2.6nm,0.6s						
ASAR	**Alice Springs**	**26.83**	**224**	P	**P**	**20 26 56.7**	**-2.7**
	0.3nm,0.5s,baz=54,slow=8.8,SNR=6.7						
ASAR				PcP	**PcP**	**20 30 19.6**	**-2.6**
	0.5nm,0.8s,baz=64,slow=2.6,SNR=4.6 0.3nm,0.5s						
STKA	**Stephens Creek**	**29.25**	**202**	P	**P**	**20 27 21.4**	**+0.6**
	2.1nm,0.7s,baz=36,slow=11,SNR=7.2 2.1nm,0.7s						
SONM	**Songino Array**	**66.90**	**327**	P	P	20 32 06.2	-4.9
	0.5nm,0.7s,baz=140,slow=6.6,SNR=3.8 0.5nm,0.7s						
MKAR	**Makanchi Array**	**81.02**	**319**	P	P	20 33 28.8	-5.0
	0.1nm,0.5s,baz=118,slow=6.4,SNR=1.8 0.1nm,0.5s						
QSPA	**South Pole Qui**	**85.13**	**180**	P	**P**	**20 33 55.5**	**+0.7**
	1.0nm,0.4s,baz=174,slow=1.4,SNR=5.9 1.0nm,0.4s						
TORD	**Torodi Ar. Bea**	**151.29**	**289**	PKPbc	**PKPdf**	**20 41 09.7**	**+2.1**

JMA 08 20:48:13.9±0.2, 24˚.2N±0˚.3×123˚.8E±0˚.4, h17km±1km, MV1.6/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.12**	**320**	*i* P	Pg	20 48 17.6	0.0
IRIF				*e*S	Sg	20 48 20.2	+0.1
JKRS	**Kuro-shima**	**0.18**	**91**	P	Pg	20 48 18.3	0.0
JKRS				*e*S	Sb	20 48 21.8	-0.1
HATJ	**Hateruma jima**	**0.18**	**183**	*i* P	Pg	20 48 18.3	-0.1
JIJ	**Ishigaki jima**	**0.32**	**68**	P	Pg	20 48 20.5	-0.2
JIJ				*e*S	Sg	20 48 25.1	-0.3
JISG	**Ishigakijimahi**	**0.57**	**52**	P	Pg	20 48 25.1	-0.1
JISG				*e*S	Sb	20 48 33.3	+0.1

TAP 08 20:48:32.8, 23˚.11N×122˚.08E, h40km±2km, ML1.9, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HGSD	**Ruisui**	**0.71**	**302**	P	Pn	20 48 44.9	-1.5
	baz=303						
HGSD				S	Sn	20 48 53.8	-2.4
	baz=303						
FULB	**Fuli**	**0.73**	**277**	*e*P	Pn	20 48 44.9	-1.8
	baz=277						
FULB				*e*S	Sn	20 48 53.7	-3.0
	baz=277						
EYUL	**Yuli**	**0.74**	**289**	*e*P	Pn	20 48 45.6	-1.1
	baz=281						
EYUL				*e*S	Sn	20 48 56.3	-0.5
	baz=281						
TWF1	**Yuli**	**0.76**	**289**	*e*P	Pn	20 48 45.6	-1.4
	baz=283						
YULB	**Yu-li**	**0.77**	**291**	P	Pn	20 48 46.2	-1.0
	baz=286						
YULB				*e*S	Sn	20 48 56.7	-1.0
	baz=286						
EHY	**Hungye**	**0.80**	**300**	P	Pn	20 48 46.5	-1.2
	baz=300						
EHY				S	Sn	20 48 58.1	-0.3
	baz=300						
EGFH	**Guangfu**	**0.82**	**313**	P	Pn	20 48 47.3	-0.6
	baz=313						
EGFH				S	Sn	20 48 58.1	-0.7
	baz=313						
SHUL	**Shoufeng**	**0.82**	**325**	*e*S	Sn	20 48 59.0	+0.1
	baz=325						
WARBT	**Fenglin Townsh**	**0.88**	**314**	*i* P	Pn	20 48 48.1	-0.6
	baz=322						
WARBT				*i* S	Sn	20 48 59.0	-1.3
	baz=322						
ESL	**Shilin**	**0.92**	**320**	*e*P	Pn	20 48 49.0	-0.2
	baz=328						
ESL				*e*S	Sn	20 48 59.9	-1.3
	baz=328						
ELDTW	**Lidau**	**0.98**	**275**	P	Pn	20 48 48.7	-1.5
	baz=275						
VWDT	**VWDT**	**1.07**	**307**	P	Pn	20 48 51.6	+0.2
	baz=307						
VWDT				*e*S	Sn	20 49 05.2	+0.2
	baz=307						
LXIB	**Xiulin Townshi**	**1.09**	**326**	*e*S	Sn	20 49 05.4	-0.3
	baz=334						
SSLB	**Suanglung**	**1.23**	**303**	P	Pn	20 48 53.7	+0.1
	baz=304						
SSLB				S	Sn	20 49 08.6	-0.5
	baz=304						
WUSB	**Renai**	**1.24**	**315**	*i* P	Pn	20 48 54.3	+0.5
	baz=315						
WUSB				*i* S	Sn	20 49 09.1	-0.3
	baz=315						
CHGB	**Renai**	**1.26**	**319**	*i* P	Pn	20 48 54.5	+0.3
	baz=319						
CHGB				*e*S	Sn	20 49 10.2	+0.3
	baz=319						
TPUB	**Ta-pu**	**1.35**	**278**	*e*P	Pn	20 48 56.0	+0.9
	baz=279						
WTP	**Ta-pu**	**1.35**	**276**	*e*P	Pn	20 48 57.2	+1.9
	baz=280						
WTP				*e*S	Sn	20 49 15.0	+2.9
	baz=280						

IDC 08 20:57:50.9±2.1, 6˚.47S×143˚.07E, h0km, mb3.7/2, mbtmp3.6/4, ML3.0/2, Error ellipse: s-maj=105.1km s-min=32.7km az=110.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.86**	**212**	Pn	Pn	21 01 33.7	-2.0
	0.1nm,0.3s,baz=32,slow=13,SNR=3.2 0.9nm,0.9s						
ASAR	**Alice Springs**	**19.24**	**206**	P	Pn	21 02 17.6	-0.2
	0.1nm,0.3s,baz=31,slow=11,SNR=11 1.1nm,0.8s						
BVAR	**Borovoye Array**	**84.86**	**325**	P	P	21 10 28.0	+0.5
	0.7nm,0.6s,baz=107,slow=9.2,SNR=5.8 0.7nm,0.8s						
ILAR	**Eielson Array**	**87.46**	**24**	P	P	21 10 39.5	-0.6
	0.3nm,0.7s,baz=260,slow=5.2,SNR=2.3 0.3nm,0.7s						

*NEIC **08** 20:59:29.2±1.2, 40˚.94N±0˚.05×116˚.37W±0˚.07, h0km±1km, Error ellipse: s-maj=8.4km s-min=7.9km az=82.0*

REN 08 20:59:31.9±1.3, 40˚.95N±0˚.05×116˚.36W±0˚.07, h0km±4km, ML2.5/9, ML2.5/66(NEIC), Error ellipse: s-maj=7.1km s-min=6.7km az=84.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BMN	**Battle Mountai**	**0.83**	**232**		Pg	20 59 48.0	0.0
ELK	**Elko**	**0.87**	**103**		Pg	20 59 49.0	+0.4
ELK	**Elko**	**0.87**	**103**	IAML		20 59 55.8	
	14nm,0.3s						
ELK				IAML		21 00 04.9	
	28nm,0.7s						
Q12A	**Willow Creek R**	**2.23**	**148**		Pn	21 00 09.3	-1.1
Q12A				IAML		21 00 48.6	
	comp=N,35nm,0.7s						
Q12A				IAML		21 00 50.6	
	comp=E,33nm,1.0s						
WVOR	**Wild Horse Val**	**2.27**	**312**		Pn	21 00 10.0	-0.7
KVN	**Kaiserville**	**2.32**	**216**	Pn	Pn	21 00 10.1	-1.4
KVN				IAML		21 00 56.7	
	comp=E,18nm,0.9s						
SPR3	**Spring Creek 3**	**2.49**	**141**		Pn	21 00 12.3	-1.7
SPR3				IAML		21 01 00.7	
	comp=E,14nm,0.9s						
MFID	**Camas Ranch**	**2.50**	**9**		Pn	21 00 13.0	-0.9
MFID				IAML		21 00 51.7	
	comp=E,16nm,1.9s						
MFID				IAML		21 01 05.1	
	comp=E,17nm,1.6s						
BGU	**Big Grassy Mou**	**2.52**	**89**		Pn	21 00 12.7	-1.6
BGU				IAML		21 00 57.3	
	comp=E,13nm,2.1s						
R11B	**Troy Canyon, C**	**2.66**	**167**		Pn	21 00 14.8	-1.5
DUG	**Dugway, Tooele**	**2.80**	**104**		Pn	21 00 17.3	-0.9
DUG				IAML		21 01 05.1	
	comp=E,11nm,2.6s						
DUG				IAML		21 01 20.5	
	comp=E,16nm,2.4s						
HVU	**Hansel Valley**	**2.82**	**72**		Pn	21 00 17.2	-1.2
HVU				IAML		21 01 07.2	
	comp=E,14nm,0.8s						
HVU				IAML		21 01 07.4	
	comp=N,18nm,0.8s						
RYN	**Ryan**	**2.85**	**217**		Pn	21 00 16.6	-2.3
RYN				IAML		21 01 07.7	
	comp=N,14nm,0.7s						
RYN				IAML		21 01 13.5	
	comp=E,14nm,1.0s						
J08A	**Circle Bar Ran**	**2.88**	**328**		Pn	21 00 17.2	-2.0
J08A				IAML		21 01 12.1	
	comp=N,16nm,1.2s						
J08A				IAML		21 01 35.3	
	comp=E,17nm,4.2s						
NVAR	**Mina Array Bea**	**2.93**	**212**		Pn	21 00 18.1	-1.8
SPUT	**South Promonto**	**2.97**	**82**		Pn	21 00 18.9	-1.6
SPUT				IAML		21 01 18.5	
	comp=E,14nm,3.7s						
SPUT				IAML		21 02 01.7	
	comp=N,11nm,4.7s						
HLID	**Hailey**	**2.99**	**28**	Pn	Pn	21 00 19.5	-1.2
HLID				IAML		21 01 10.4	
	comp=N,8.5nm,3.2s						
HLID				IAML		21 01 26.1	
	comp=N,10nm,4.9s						
PSUT	**Pine Spring**	**3.08**	**141**	Pn	Pn	21 00 22.3	+0.2
PSUT				IAML		21 01 15.2	
	comp=E,24nm,0.6s						
LHV	**Little Huntoon**	**3.16**	**212**		Pn	21 00 21.7	-1.2
LHV				IAML		21 01 24.1	
	comp=N,20nm,1.7s						
S11A	**Rachel**	**3.33**	**172**		Pn	21 00 24.4	-1.0
MZP	**Montezuma Peak**	**3.34**	**194**		Pn	21 00 24.1	-1.5
MZP				IAML		21 01 24.6	
	comp=E,8.3nm,0.5s						
WAKR	**Walker**	**3.40**	**225**	Pn	Pn	21 00 24.8	-1.7
WAKR				IAML		21 01 30.2	
	comp=E,16nm,4.5s						
WAKR				IAML		21 02 04.5	
	comp=N,14nm,5.0s						
GMN	**Gold Mountain**	**3.71**	**191**		Pn	21 00 29.2	-1.5
GMN				IAML		21 01 36.5	
	comp=E,10nm,0.7s						
GMN				IAML		21 01 38.3	
	comp=N,12nm,0.7s						
DSP	**Deep Springs**	**3.78**	**200**	Pg	Pb	21 00 41.6	+2.0
DSP				IAML		21 01 41.7	
	comp=N,7.2nm,4.1s						
DSP				IAML		21 01 47.3	
	comp=E,5.7nm,1.8s						
LCH	**Last Change Ra**	**3.84**	**196**		Pn	21 00 30.8	-1.7
LCH				IAML		21 01 57.4	
	comp=N,6.0nm,4.5s						
WCT	**Wildcat Mounta**	**4.15**	**183**	Pn	Pn	21 00 35.0	-1.6
WCT				IAML		21 01 51.0	
	comp=N,5.7nm,0.8s						
WCT				IAML		21 01 59.1	
	comp=E,9.2nm,3.7s						
LCMT	**Little Creek M**	**4.62**	**147**		Pb	21 00 53.5	-0.3
FXWY	**Fox Creek**	**4.78**	**54**		Pb	21 00 54.4	-2.3
IMW	**Indian Meadow**	**4.98**	**52**		Pb	21 00 54.6	-5.5
MOOW	**Moose Ponds**	**5.01**	**54**		Pb	21 00 56.1	-4.5
FLWY	**Flagg Ranch**	**5.22**	**51**		Pb	21 01 01.0	-3.3
U15A	**North Rim**	**5.52**	**144**		Pg	21 01 14.7	-2.9

IDC 08 21:14:02.4±6.1, 5˚.74S×141˚.54E, h0km, mb3.5/2, mbtmp3.4/4, ML3.5/2, MS3.8/1, Error ellipse: s-maj=236.6km s-min=32.9km az=95.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.65**	**124**	LR	LR	21 19 19.2	
	comp=Z,718nm,18.4s,baz=250,slow=48						
WRA	**Warramunga Arr**	**15.76**	**206**	Pn	Pn	21 17 44.4	-1.5
	0.2nm,0.3s,baz=26,slow=13,SNR=11						
WRA				Sn	Sn	21 20 33.9	-7.5
	0.2nm,0.3s,baz=37,slow=24,SNR=2.8 0.5nm,0.5s						
ASAR	**Alice Springs**	**19.28**	**202**	P	Pn	21 18 29.6	-0.2
	0.1nm,0.3s,baz=32,slow=11,SNR=13						
ASAR				S	Sn	21 22 00.1	-6.7
	0.4nm,0.5s,baz=19,slow=25,SNR=3.0 0.8nm,0.6s						
MKAR	**Makanchi Array**	**73.90**	**322**	P	P	21 25 39.5	+0.1
	0.2nm,0.6s,baz=116,slow=6.6,SNR=1.2 0.2nm,0.6s						
BVAR	**Borovoye Array**	**83.40**	**325**

OHAK S Sn 21 49 12.6 -2.4
baz=124
KDAK Kodiak Island 2.75 319 Pn 21 48 42.4 -0.2
KDAK Sn Sn 21 49 11.3 -5.1
KDAK Kodiak Island 2.75 319 *i* P Pn 21 48 41.6 -1.0
KDAK Kodiak Island 2.75 319 Pn Pn 21 48 42.3 -0.4
21nm,0.3s,baz=136,slow=4.6,SNR=658
KDAK Sn Sn 21 49 14.9 -1.5
24nm,0.3s,baz=39,slow=23,SNR=7.7
KDAK LR LR 21 50 02.5
comp=Z,2µm,20.1s,baz=192,slow=44
143nm,0.6s
SII Sitkinak Islan 2.90 288 Pn 21 48 42.9 -1.7
SII Sn 21 49 16.6 -3.4
SII Sitkinak Islan 2.90 288 IAML 21 49 19.2
comp=E,498nm,0.8s
SII IAML 21 49 23.6
comp=N,839nm,0.7s
SII Sitkinak Islan 2.90 288 P Pn 21 48 43.0 -1.6
baz=106
SII S Sn 21 49 16.6 -3.4
baz=106
Q20K Shuyak Island 3.35 330 P Pn 21 48 50.6 -0.1
baz=149
Q20K S Sn 21 49 28.6 -2.4
baz=149
SYI Shuyak Island 3.35 330 Pn 21 48 50.9 +0.1
SYI Shuyak Island 3.35 330 Sn 21 49 28.6 -2.4
CNPM China Poot 3.94 345 Pn 21 48 58.8 -0.1
CNPM IAML 21 49 47.8
comp=E,163nm,0.7s
CNPM China Poot 3.94 345 Sn 21 49 42.0 -3.7
Q19K Cape Douglas, 3.99 325 Pn 21 49 00.1 +0.4
Q19K IAML 21 50 01.2
comp=E,901nm,1.2s
Q19K IAML 21 50 01.7
comp=N,643nm,0.9s
Q19K Cape Douglas, 3.99 325 P Pn 21 49 00.2 +0.6
baz=142
Q23K Middleton Isla 4.00 22 Pn Pn 21 48 59.3 -0.4
Q23K IAML 21 49 48.5
comp=N,334nm,0.9s
Q23K IAML 21 50 10.3
comp=E,367nm,0.9s
Q23K Middleton Isla 4.00 22 Sn 21 49 43.8 -3.2
Q23K Middleton Isla 4.00 22 P Pn 21 48 59.2 -0.4
baz=203
Q23K S Sn 21 49 44.5 -2.6
baz=203
MID Middleton Isla 4.00 22 Pn Pn 21 48 59.1 -0.6
MID IAML 21 49 46.4
comp=E,355nm,0.6s
MID IAML 21 49 48.5
comp=N,349nm,0.9s
MID Middleton Isla 4.00 22 P Pn 21 48 59.8 +0.1
MID Middleton Isla 4.00 22 P Pn 21 48 59.1 -0.6
BRSE Bradley Lake S 4.08 349 Pn 21 49 00.5 -0.4
BRSE Sn 21 49 48.1 -1.2
BRSE Bradley Lake S 4.08 349 P Pn 21 49 00.5 -0.4
baz=168
BRSE S Sn 21 49 48.1 -1.2
baz=168
KAKN Katmai Knife C 4.09 311 Pn 21 49 01.2 +0.2
KCE Katmai Mt Cerb 4.11 310 Pn 21 49 02.7 +1.4
BRLK Bradley Lake 4.12 348 Pn 21 49 01.0 -0.5
BRLK IAML 21 49 53.1
comp=E,234nm,0.5s
BRLK IAML 21 49 55.8
comp=N,148nm,0.8s
BRLK Bradley Lake 4.12 348 Sn 21 49 49.8 -0.4
HOM Homer 4.13 343 Pn 21 49 01.5 0.0
HOM Homer 4.13 343 IAML 21 49 50.0
comp=N,640nm,1.7s
HOM IAML 21 50 03.2
comp=E,572nm,1.0s
HOM Homer 4.13 343 P Pn 21 49 01.5 0.0
baz=161
ACHA Angle Creek He 4.15 309 Pn 21 49 02.0 +0.1
ANCK Angle Creek 4.22 308 Pn 21 49 03.2 +0.3
PLK3 Peulik 3 4.34 299 Pn 21 49 04.6 +0.1
P23K Montague Islan 4.37 12 Pn 21 49 04.6 -0.2
P23K Sn 21 49 53.8 -2.4
P23K Montague Islan 4.37 12 P Pn 21 49 04.3 -0.5
baz=193
P23K S Sn 21 49 53.8 -2.4
baz=193
SEW Seward 4.37 358 Pn 21 49 04.3 -0.5
SEW Seward 4.37 358 P Pn 21 49 04.3 -0.5
baz=178
Q17K Contact Creek 4.43 307 P Pn 21 49 05.8 0.0
baz=123
P19K Oil Pt 4.47 333 Pn 21 49 06.1 -0.1
P19K IAML 21 50 06.1
comp=N,272nm,0.7s
P19K IAML 21 50 09.6
comp=E,325nm,0.5s
P19K Oil Pt 4.47 333 P Pn 21 49 06.8 +0.6
baz=150
O20K Slope Mountain 4.71 339 Pn 21 49 09.5 0.0
O20K Slope Mountain 4.71 339 P Pn 21 49 09.5 0.0
baz=156
ILSW Iliamna Southw 4.73 335 Pn 21 49 09.5 -0.4
ILSW Iliamna Southw 4.73 335 IAML 21 50 09.4
comp=N,142nm,0.9s
ILSW IAML 21 50 15.4
comp=E,124nm,0.7s
O22K Cooper Landing 4.75 357 Pn 21 49 09.5 -0.5
O22K Cooper Landing 4.75 357 P Pn 21 49 09.5 -0.5
baz=177
SLKM Skilak Lake 4.80 354 Sn 21 50 06.2 -0.7
HIN Hinchinbrook I 4.88 16 Sn 21 50 06.8 -2.0
P18K Big Mountain, 4.88 321 Pn 21 49 11.5 -0.4
P18K Big Mountain, 4.88 321 P Pn 21 49 11.6 -0.2
baz=137
KAIM Kayak Island 4.91 29 Pn 21 49 12.2 -0.1
KAIM Kayak Island 4.91 29 P Pn 21 49 12.4 +0.2
baz=213
RED Redoubt Volcan 5.05 340 Pn 21 49 13.4 -0.8
RSO Redoubt South 5.08 340 Pn 21 49 14.2 -0.6
RDWB Redoubt West 5.12 339 Pn 21 49 14.4 -0.9
CAPN Captain Cook N 5.14 349 Pn Pn 21 49 15.0 -0.3
EYAK Cordova Ski Ar 5.15 19 P Pn 21 49 15.9 +0.4
EYAK Cordova Ski Ar 5.15 19 P Pn 21 49 15.6 +0.1
baz=202
CHGN Chignik 5.19 280 Pn Pn 21 49 15.2 -0.8
CHGN IAML 21 51 45.1
comp=N,404nm,0.1s
DFR Drift River 5.19 341 Pn 21 49 15.6 -0.6
P17K Kvichak River 5.21 315 Pn 21 49 16.7 +0.5
P17K Kvichak River 5.21 315 P Pn 21 49 16.7 +0.5
baz=129
O18K Koktuh Hills 5.21 325 Pn 21 49 15.8 -0.7
O18K IAML 21 50 35.7
comp=N,96nm,0.8s
O18K Koktuh Hills 5.21 325 P Pn 21 49 16.2 -0.2
baz=140
SUCK Suckling Hills 5.21 32 Pn 21 49 16.6 +0.2
SUCK Suckling Hills 5.21 32 IAML 21 50 16.7
comp=N,341nm,0.3s
SUCK IAML 21 50 30.0
comp=E,350nm,1.1s
O19K Port Alsworth 5.22 331 Pn Pn 21 49 16.1 -0.3
O19K IAML 21 50 27.4
comp=N,372nm,0.5s
RAGM Ragged Mountai 5.24 26 Pn 21 49 16.7 0.0
NICHA Nichawak Mount 5.29 30 Pn 21 49 17.8 +0.3
RC01 Rabbit Creek A 5.36 357 Pn 21 49 18.4 -0.1
RC01 Rabbit Creek A 5.36 357 P Pn 21 49 18.3 -0.1
baz=177
GOAT Goat Mountain 5.39 24 Pn 21 49 19.1 +0.1
BERG Berg Lake 5.50 30 Pn 21 49 20.2 -0.1
SNH Sunshine Point 5.59 35 Pn 21 49 21.5 -0.1
N20K Mount Spurr 5.69 345 P Pn 21 49 22.8 -0.2
baz=163
SPCR Spurr Chakacha 5.69 345 Pn 21 49 22.2 -0.7
KNK Knik Glacier 5.69 4 Pn 21 49 23.3 +0.3
KNK Knik Glacier 5.69 4 P Pn 21 49 23.4 +0.3
baz=184
SPCP Crater Peak Br 5.74 346 Pn 21 49 23.7 -0.1
SPCG Spurr Capps Gl 5.75 346 Pn 21 49 23.9 0.0
BMRM Bremner River 5.77 23 Pn 21 49 23.6 -0.4
BMRM Bremner River 5.77 23 P Pn 21 49 23.9 -0.1
baz=206
P16K Nushagak River 5.77 308 Pn 21 49 24.1 0.0
P16K Nushagak River 5.77 308 P Pn 21 49 24.1 0.0
baz=122
SUA Susitna One 5.79 353 Pn 21 49 23.7 -0.7
SUA Susitna One 5.79 353 P Pn 21 49 23.7 -0.7
baz=172
N19K Bonanza Creek 5.79 333 Pn 21 49 23.0 -1.4
N19K Bonanza Creek 5.79 333 P Pn 21 49 23.6 -0.8
baz=150
WAX Waxell Ridge 5.79 33 Pn 21 49 24.2 -0.3
O17K Koliganek Bris 5.83 317 P Pn 21 49 24.8 -0.1
baz=131
PMR Palmer 5.86 0 Pn 21 49 25.3 0.0
PMR Palmer 5.86 0 P Pn 21 49 26.2 +1.0
PMR Palmer 5.86 0 P Pn 21 49 25.3 0.0
baz=180
MESA MESA 5.89 38 Pn 21 49 25.6 -0.2
MESA MESA 5.89 38 P Pn 21 49 25.6 -0.2
baz=224
SPNN North Nagishla 5.92 344 Pn 21 49 26.0 -0.3
STLK Strandline Lak 5.92 348 Pn 21 49 25.9 -0.3
CRQM Cirque 5.96 30 Pn 21 49 26.6 -0.2
CRQE Cirque 5.97 30 P Pn 21 49 26.5 -0.4
baz=215
KLU Klutina 6.01 15 Pn 21 49 27.6 +0.1
KLU Klutina 6.01 15 P Pn 21 49 27.3 -0.1
baz=198
GHO Glory Hole Cre 6.04 1 Pn 21 49 27.9 +0.1
TGL Tana Glacier 6.04 31 Pn 21 49 28.0 0.0
BAGL Bagley Icefiel 6.07 36 Pn 21 49 28.1 +0.1
N18K Kilae Creek 6.07 327 Pn Pn 21 49 27.0 -1.2
N18K Kilae Creek 6.07 327 P Pn 21 49 27.6 -0.6
baz=142
ISLE Juniper Island 6.07 34 Pn 21 49 28.3 0.0
SML Sawmill 6.09 4 Pn 21 49 28.9 +0.4
SML Sawmill 6.09 4 P Pn 21 49 28.9 +0.4
baz=185
M23K Glacier View 6.11 7 Pn 21 49 29.6 +0.9
M23K Glacier View 6.11 7 P Pn 21 49 29.7 +0.9
baz=188
O16K Kokwok River B 6.12 313 Pn Pn 21 49 28.6 -0.2
O16K Kokwok River B 6.12 313 P Pn 21 49 28.9 +0.1
baz=126
SCM Sheep Creek Mo 6.18 8 Pn 21 49 30.2 +0.5
SCM Sheep Creek Mo 6.18 8 P Pn 21 49 30.2 +0.5
SCM Sheep Creek Mo 6.18 8 P Pn 21 49 30.4 +0.6
baz=190
VRDI Verde Repeater 6.27 26 Pn 21 49 31.0 0.0
SAMH Samovar Hills 6.28 42 Pn 21 49 31.7 +0.6
SVW2 Sparrevohn 6.32 331 Pn 21 49 31.2 -0.3
N25K Chitina, Valde 6.35 20 Pn 21 49 32.4 +0.3
N25K Chitina, Valde 6.35 20 P Pn 21 49 32.4 +0.3
baz=204
TABL Table Mountain 6.36 39 Pn 21 49 32.1 -0.2
SKT Skwentna 6.36 350 Pn 21 49 32.2 0.0
SKT Skwentna 6.36 350 P Pn 21 49 32.3 +0.1
baz=168
N17K Nushagak Hills 6.38 322 Pn 21 49 32.0 -0.4
N17K Nushagak Hills 6.38 322 P Pn 21 49 32.0 -0.4
baz=136
SDPT Sand Point 6.41 271 Pn Pn 21 49 30.1 -2.6
SDPT Sand Point 6.41 271 P Pn 21 49 30.7 -2.0
PCA Pinnacle 6.46 44 Pn 21 49 34.0 +0.5
PINM Pinnacle 6.46 44 P Pn 21 49 33.8 +0.2
baz=231
M20K Styx River 6.48 343 Pn 21 49 32.9 -1.0
M20K Styx River 6.48 343 P Pn 21 49 32.9 -1.0
baz=160
PTPK Patty Peak 6.50 30 Pn 21 49 34.4 +0.2
MCARA McCarthy VSAT 6.51 27 Pn 21 49 34.4 +0.1
MCARA McCarthy VSAT 6.51 27 P Pn 21 49 34.3 +0.1
baz=212
PNL Peninsula 6.56 49 Pn 21 49 34.5 -0.5
PNL Peninsula 6.56 49 P Pn 21 49 35.1 +0.1
M24K Tolsona, Glenn 6.57 13 Pn 21 49 35.9 +0.9
M24K Tolsona, Glenn 6.57 13 P Pn 21 49 36.0 +0.9
baz=195
BARN Barnard Glacie 6.64 34 Pn 21 49 36.4 +0.2
CTG Chitna Glacier 6.67 35 P Pn 21 49 36.6 +0.1
baz=221
O15K Ungalikthiuk R 6.67 305 Pn 21 49 36.3 -0.1
O15K Ungalikthiuk R 6.67 305 P Pn 21 49 36.3 -0.1
baz=117
LOGN Logan Glacier 6.68 37 Pn 21 49 36.7 0.0
CUT Chulitna 6.70 356 Pn 21 49 37.0 +0.2
M18K Stony River 6.71 332 Pn 21 49 36.1 -0.9
M18K Stony River 6.71 332 P Pn 21 49 36.5 -0.4
baz=147
WASW Wrangell South 6.72 21 Pn 21 49 37.9 +0.6
N16K Nishlik Lake 6.93 317 Pn 21 49 40.1 +0.2
N16K Nishlik Lake 6.93 317 P Pn 21 49 40.1 +0.2
baz=130
HARP HAARP 6.99 16 Pn 21 49 41.6 +0.8
HARP HAARP 6.99 16 P Pn 21 49 41.6 +0.8
baz=199
L19K White Mountain 7.08 338 Pn 21 49 41.4 -0.6
L19K White Mountain 7.08 338 P Pn 21 49 42.1 +0.2
baz=154
M17K Holitna River 7.11 326 Pn Pn 21 49 41.6 -0.8
PS1A Pavlof South-1 7.11 273 Pn 21 49 39.7 -2.7
L20K Farewell, AK 7.16 342 Pn 21 49 42.2 -0.9
L20K Farewell, AK 7.16 342 P Pn 21 49 42.3 -0.8
baz=159
HAG Hague Volcano 7.22 272 Pn 21 49 41.8 -2.1
HAG Hague Volcano 7.22 272 P Pn 21 49 41.8 -2.1
PN7A Pavlof North-7 7.25 273 Pn 21 49 42.9 -1.6
O29M Mount Kennedy 7.26 47 Pn 21 49 44.9 +0.3
O29M Mount Kennedy 7.26 47 P Pn 21 49 44.9 +0.3
baz=235
P29M Windy Craggy 7.28 53 Pn 21 49 43.8 -0.9
P29M Windy Craggy 7.28 53 P Pn 21 49 44.6 -0.1
baz=242
N15K Kwethluk River 7.28 312 Pn 21 49 44.7 -0.1
N15K Kwethluk River 7.28 312 P Pn 21 49 45.4 +0.6
baz=124
PPLA Purkeypile 7.33 349 Pn 21 49 46.5 +1.0
PPLA Purkeypile 7.33 349 P Pn 21 49 45.8 +0.3
baz=167
M16K Timber Creek 7.36 320 Pn 21 49 46.0 +0.2
M16K Timber Creek 7.36 320 P Pn 21 49 45.4 -0.3
baz=132
O14K Tigyukauivet M 7.38 303 Pn 21 49 45.6 -0.5
O14K Tigyukauivet M 7.38 303 P Pn 21 49 45.4 -0.7
baz=114
S31K Pelican 7.46 67 Pn 21 49 44.2 -2.9
S31K Pelican 7.46 67 P Pn 21 49 44.7 -2.4
baz=257
PAX Paxson 7.49 13 Pn Pn 21 49 47.7 0.0
PAX Paxson 7.49 13 P Pn 21 49 47.7 0.0
L18K Granite Mounta 7.54 332 Pn 21 49 47.1 -1.3
L18K Granite Mounta 7.54 332 P Pn 21 49 47.1 -1.3
baz=146
YUK3 Moose Creek 7.56 33 Pn 21 49 49.2 +0.4
YUK3 Moose Creek 7.56 33 P Pn 21 49 49.2 +0.4
baz=220
M27K Edge Creek, AK 7.63 27 Pn 21 49 50.0 +0.4
M27K Edge Creek, AK 7.63 27 P Pn 21 49 50.0 +0.4
baz=213
RND Reindeer 7.68 1 Pn 21 49 50.9 +0.5
RND Reindeer 7.68 1 P Pn 21 49 50.9 +0.5
MENT Mentasta 7.74 19 Pn 21 49 51.9 +0.8
TRF Thorofare Moun 7.74 356 Pn Pn 21 49 51.4 +0.1
TRF Thorofare Moun 7.74 356 P Pn 21 49 51.5 +0.3
baz=176
SIT Sitka 7.82 75 Pn Pn 21 49 50.1 -2.0
SIT Sitka 7.82 75 P Pn 21 49 49.2 -2.9
SIT Sitka 7.82 75 P Pn 21 49 50.1 -2.0
CAST Castle Rocks 7.83 350 Pn 21 49 52.8 +0.5
CAST Castle Rocks 7.83 350 P Pn 21 49 52.4 +0.1
baz=168
PLBC Pleasant Camp 7.84 56 Pn 21 49 52.2 -0.2
PLBC Pleasant Camp 7.84 56 P Pn 21 49 52.2 -0.2
baz=247
P30M Million Dollar 7.85 51 Pn 21 49 52.7 0.0
P30M Million Dollar 7.85 51 P Pn 21 49 52.7 0.0
baz=241
N14K Kuskokwak Cree 7.86 307 Pn 21 49 52.8 +0.2
N14K Kuskokwak Cree 7.86 307 P Pn 21 49 52.4 -0.2
baz=118
KTH Kantishna Hill 7.88 354 Pn 21 49 53.0 0.0
L26K Log Cabin Wild 7.88 20 Pn Pn 21 49 54.6 +1.6
HYT Haines Junctio 7.99 46 Pn 21 49 54.7 +0.1
HYT Haines Junctio 7.99 46 P Pn 21 49 54.7 +0.1
baz=235
TTA Tatalina 7.99 337 Pn 21 49 54.0 -0.6
TTA Tatalina 7.99 337 P Pn 21 49 54.5 -0.1
TTA Tatalina 7.99 337 P Pn 21 49 54.0 -0.6
L16K Owhat River 8.01 322 Pn Pn 21 49 54.3 -0.3
L16K Owhat River 8.01 322 P Pn 21 49 54.4 -0.3
baz=134
MCK McKinley 8.01 1 Pn Pn 21 49 54.9 +0.1
MCK McKinley 8.01 1 P Pn 21 49 54.9 +0.1
L27K Beaver Creek, 8.24 24 Pn 21 49 57.5 -0.4
BCAR Beaver Creek A 8.25 24 Pn Pn 21 49 58.7 +0.5
S32K Killisnoo 8.26 72 Pn 21 49 56.1 -2.1
S32K Killisnoo 8.26 72 P Pn 21 49 55.4 -2.8
baz=263
K24K Donnelly Dome 8.26 11 Pn 21 49 58.2 0.0
K24K Donnelly Dome 8.26 11 P Pn 21 49 58.2 0.0
baz=194
BESE Bessie Mountai 8.30 64 Pn 21 49 57.9 -1.0
RIDG Independent Ri 8.31 14 Pn 21 50 00.2 +1.3
SKAG Skagway 8.33 58 Pn Pn 21 49 59.3 +0.2
SKAG Skagway 8.33 58 P Pn 21 49 59.4 +0.3
M14K Bethel 8.38 312 Pn Pn 21 50 00.1 +0.3
K17K Iditarod 8.39 330 Pn 21 49 59.1 -0.9
K17K Iditarod 8.39 330 P Pn 21 49 59.1 -0.9
baz=143
R32K Eaglecrest 8.41 66 Pn 21 49 59.7 -0.6
BPAW Bear Paw Mtn. 8.42 355 Pn 21 50 00.1 -0.4
BPAW Bear Paw Mtn. 8.42 355 P Pn 21 50 00.4 -0.1
baz=173
BWN Browne 8.45 359 Pn 21 50 01.5 +0.7
JIS Juneau Island 8.48 67 Pn 21 50 00.5 -0.7
JIS Juneau Island 8.48 67 P Pn 21 50 01.5 +0.3
N30M Aishikik Lake 8.53 43 Pn 21 50 02.2 +0.3
N30M Aishikik Lake 8.53 43 P Pn 21 50 02.4 +0.5
baz=233
O30N Mendenhall 8.55 49 Pn 21 50 02.3 +0.1
O30N Mendenhall 8.55 49 P Pn 21 50 02.3 +0.1
baz=239
J18K Innoko River 8.62 337 Pn 21 50 02.3 -0.7
J18K Innoko River 8.62 337 P Pn 21 50 02.3 -0.7
baz=151
SCRK Sand Creek 8.66 15 Pn 21 50 03.6 -0.2
SCRK Sand Creek 8.66 15 P Pn 21 50 03.6 -0.2
baz=200
M29M Somme Creek 8.69 35 Pn 21 50 04.6 +0.4
M29M Somme Creek 8.69 35 P Pn 21 50 04.9 +0.7
baz=224
L15K Ungalak Mounta 8.71 318 Pn 21 50 04.7 +0.4
L15K Ungalak Mounta 8.71 318 P Pn 21 50 04.3 0.0
baz=128
HDA Harding Lake 8.76 6 Pn 21 50 05.6 +0.5
WRH Wood River Hil 8.77 3 Pn Pn 21 50 05.7 +0.5
J20K Nowinta River 8.80 346 Pn Pn 21 50 05.0 -0.6
M13K Dall Lake 8.82 308 Pn 21 50 05.3 -0.5
M13K Dall Lake 8.82 308 P Pn 21 50 05.4 -0.4
baz=116
J19K Poorman 8.87 341 Pn 21 50 05.6 -0.9
J19K Poorman 8.87 341 P Pn 21 50 05.6 -0.9
baz=156
NEA2 Nenana 8.87 0 Pn 21 50 07.3 +0.7
CCB Clear Creek Bu 8.95 4 Pn 21 50 08.4 +0.7
L14K Kuka Creek 8.99 314 Pn 21 50 08.1 0.0
L14K Kuka Creek 8.99 314 P Pn 21 50 07.0 -1.1
baz=123
WHY Whitehorse 9.02 51 Pn 21 50 09.1 +0.4
WHY Whitehorse 9.02 51 P Pn 21 50 08.8 +0.1
baz=243
U33K Whale Pass 9.04 81 Pn 21 50 04.0 -4.9
U33K Whale Pass 9.04 81 P Pn 21 50 04.9 -4.0
baz=274
J25K Salcha River, 9.09 11 Pn 21 50 09.8 +0.1
J25K Salcha River, 9.09 11 P Pn 21 50 09.2 -0.5
baz=194
K15K Wolf Creek Mou 9.12 321 Pn 21 50 09.9 0.0
IL31 9.12 6 Pn 21 50 11.0 +1.0
ILAR Eielson Array 9.12 6 Pn Pn 21 50 10.9 +1.0
ILAR Eielson Array 9.12 6 P Pn 21 50 11.0 +1.0
ILAR Eielson Array 9.12 6 Pn Pn 21 50 10.3 +0.3
comp=N,1.2nm,0.3s,baz=194,slow=12,SNR=58
ILAR Sn Sn 21 51 48.3 -4.9
comp=N,1.4nm,0.3s,baz=184,slow=18,SNR=13
ILAR LR LR 21 53 50.6
comp=N,547nm,19.6s,baz=232,slow=38
comp=N,6.3nm,0.6s
P32M Atlin 9.15 59 Pn 21 50 09.6 -0.9
P32M Atlin 9.15 59 P Pn 21 50 09.6 -0.9
baz=251
COLA College 9.18 4 Pn 21 50 10.9 +0.2
COLA College 9.18 4 P Pn 21 50 12.5 +1.7
COLA College 9.18 4 *i* P Pn 21 50 12.4 +1.7
J26L Joseph Creek 9.22 15 Pn 21 50 11.9 +0.5
MDM Murphy Dome 9.25 3 Pn 21 50 11.7 -0.1
L29M L29M 9.28 33 Pn 21 50 12.5 +0.3
M30M Minto, Yukon 9.34 38 Pn 21 50 13.4 +0.4
M30M Minto, Yukon 9.34 38 P Pn 21 50 13.4 +0.4
baz=228
MLY Manley 9.34 356 Pn 21 50 12.8 -0.3
MLY Manley 9.34 356 P Pn 21 50 12.8 -0.3
baz=175
I23K Minto, Yukon-K 9.43 360 Pn 21 50 14.7 +0.5
I23K Minto, Yukon-K 9.43 360 P Pn 21 50 14.5 +0.4
baz=180
POKR Poker Plat Res 9.44 5 Pn 21 50 14.7 +0.3
J16K Anvik River 9.50 327 Pn 21 50 14.5 -0.7
J16K Anvik River 9.50 327 P Pn 21 50 14.5 -0.7
baz=138
I21K Tanana 9.56 353 Pn 21 50 16.4 +0.5
DAWY Dawson 9.68 27 Pn Pn 21 50 17.9 +0.3
Q32M Nakina River 9.70 64 Pn 21 50 17.7 -0.4
Q32M Nakina River 9.70 64 P Pn 21 50 17.7 -0.4
baz=257
P33M Teslin, Yukon 9.78 56 Pn Pn 21 50 19.2 +0.1
EGAK Eagle 9.89 20 Pn Pn 21 50 21.8 +1.3
PRP Porcupine Dome 9.96 9 Pn Pn 21 50 22.5 +0.9
I17K Unalakleet 9.98 329 Pn Pn 21 50 21.9 +0.2
M31M Drury Creek, Y 10.00 44 Pn 21 50 23.3 +1.3
J14K Nanvaranak Lak 10.14 320 Pn Pn 21 50 24.5 +0.7
S34M Telegraph Cree 10.14 70 Pn Pn 21 50 22.8 -1.1
H24K Noodor Dome 10.14 3 Pn Pn 21 50 25.3 +1.3
J29N Klondike Camp 10.29 28 Pn Pn 21 50 26.2 +0.1
H19K Roundabout Mou 10.42 343 Pn 21 50 28.3 +0.6
FARO Faro, Yukon 10.43 45 Pn Pn 21 50 29.0 +1.0
H18K Honhosa River 10.44 338 Pn 21 50 27.7 -0.4
IMAR Indian Mountai 10.50 350 Pn Pn 21 50 29.6 +0.7
I28M Miner Creek 10.73 21 Pn 21 50 33.3 +1.2
DLBC Dease Lake 10.77 68 Pn Pn 21 50 32.0 -0.7
DLBC Dease Lake 10.77 68 P Pn Pn 21 50 32.7 0.0
comp=N,0.9nm,0.3s,baz=268,slow=6.3,SNR=9.6
DLBC LR LR 21 53 58.6
comp=N,1µm,20.3s,baz=275,slow=33
comp=N,1.8nm,0.3s
J30M Hart River 10.91 31 Pn Pn 21 50 36.0 +1.4
G19K Purcell Mounta 11.10 343 Pn 21 50 37.2 +0.3
G18K Tagagawik 11.15 340 Pn Pn 21 50 37.3 -0.5
I30M Mount Dempster 11.39 28 Pn 21 50 41.7 +0.6
MMPY Sheldon Lake, 11.46 46 Pn 21 50 42.5 +0.5
G16K Koyuk River 11.60 332 Pn Pn 21 50 44.6 +0.7
F21K Hatna River 11.69 352 Pn 21 50 45.8 +0.7
H29M Whitestone 11.72 22 Pn Pn 21 50 46.9 +1.3
F20K Avaraart Lake 11.75 347 Pn 21 50 45.8 -0.1
F24K Squaw Lake 11.83 2 Pn 21 50 48.4 +1.3
F19K Shaleruckik Mo 11.84 343 Pn 21 50 47.0 -0.1
ANM Nome 11.91 324 Pn Pn 21 50 48.6 +0.5
ANM Nome 11.91 324 P Pn 21 50 48.6 +0.5
BMAR Burnt Mountain 11.92 9 Pn Pn 21 50 49.4 +1.1
F17K Baldwin Pennin 12.17 337 Pn 21 50 52.0 +0.4
E19K Redstone River 12.34 345 Pn 21 50 54.2 +0.3
E24K Your Creek 12.38 1 Pn 21 50 55.3 +0.8
H31M Peel River 12.39 30 Pn Pn 21 50 56.5 +1.8
G29M Pine Creek 12.39 21 Pn 21 50 57.1 +2.5
F15K North Star Dit 12.47 329 Pn Pn 21 50 55.6 -0.2
E22K Anaktuvuk Pass 12.49 355 Pn 21 50 56.9 +0.9
E25K Arctic Village 12.53 6 Pn Pn 21 50 56.4 -0.2
F28M Old Crow 12.68 16 Pn Pn 21 50 59.9 +1.2
G30M tAoh Zraii Nji 12.83 23 Pn Pn 21 51 01.5 +0.8
E18K Tukpahlearik C 12.87 340 Pn Pn 21 51 01.3 +0.1
E21K Killik River 12.92 352 Pn 21 51 00.2 -1.8
TOLK Toolik Lake Re 12.94 359 Pn 21 51 03.5 +1.4
G31M Satah River 13.25 26 Pn Pn 21 51 07.9 +1.5
D22K Ayikyak River 13.27 355 Pn Pn 21 51 07.2 +0.5
D19K Kuna River 13.43 346 Pn Pn 21 51 08.8 0.0
D24K Happy Valley 13.46 1 Pn 21 51 09.2 0.0
D25K Kavik River 13.68 4 Pn 21 51 13.0 +0.7
E29M Blow River 13.71 18 Pn 21 51 14.0 +1.4
F31M Tsiigehtchic 13.79 26 Pn Pn 21 51 13.9 +0.3

D27M Malcolm River 14.05 12 Pn **Pn** **21 51 18.1 +0.9**
C18K Utukok River 14.05 342 **Pn** **21 51 19.3 +1.9**
C23K Itkillik River 14.15 358 **Pn** **21 51 20.5 +1.8**
INK Inuvik 14.52 24 Pn **Pn** **21 51 25.7 +2.1**
INK Inuvik 14.52 24 P **Pn** **21 51 25.7 +2.1**
INK Inuvik 14.52 24 Pn **Pn** **21 51 24.9 +1.3**
comp=N,0.2nm,0.3s,baz=204,slow=15,SNR=23
comp=N,13nm,0.9s
C16K Lisburne Hills 14.59 336 **P** **21 51 30.4 -0.9**
C36M Paulatuk 17.68 30 Pn **Pn** **21 52 02.3 -2.2**
YKA Yellowknife Ar 18.81 55 P **P** **21 52 18.4 +0.4**
comp=N,0.1nm,0.3s,baz=267,slow=10,SNR=28
YKA LR LR 21 59 17.2
comp=N,516nm,19.4s,baz=250,slow=36
comp=N,1.8nm,0.7s
A36M Sachs Harbour 19.16 23 IAmb IAmb 21 52 25.5
comp=Z,39nm,0.8s
NEW Newport 20.98 97 Pn 21 52 44.9 +0.6
NEW Newport 20.98 97 P Pn 21 52 44.9 +0.6
NEW pmax pmax
comp=Z,10.0nm,1.1s
NEW Newport 20.98 97 P Pn 21 52 43.1 -1.2
comp=Z,2.0nm,0.7s,baz=278,slow=6.3,SNR=3.6
comp=Z,2.0nm,0.7s
YBH Yreka Blue Hor 22.23 118 LR LR 21 59 19.6
comp=Z,412nm,19.6s,baz=321,slow=31
BILL Bilibino 23.67 319 P **P** **21 53 10.3 +0.4**
BILL Bilibino 23.67 319‖ *eP* **P** **21 53 09.6 -0.3**
BILL pmax pmax
comp=Z,4.0nm,0.6s
NVAR Mina Array Bea 26.93 117 P **P** **21 53 39.7 -0.5**
comp=Z,0.6nm,0.5s,baz=315,slow=9.2,SNR=4.5
NVAR LR LR 22 02 05.8
comp=Z,340nm,20.0s,baz=287,slow=32
comp=Z,0.6nm,0.5s
RES Resolute Bay 28.02 27 LR LR 22 04 21.6
comp=Z,271nm,20.8s,baz=228,slow=35
FCC Fort Churchill 29.26 61 P **P** **21 54 01.1 +0.6**
FCC Fort Churchill 29.26 61 P **P** **21 54 01.1 +0.6**
FCC pmax pmax
comp=Z,5.0nm,0.8s
SEY Seymchan 29.66 308 *ce*P **P** **21 54 04.2 +0.2**
SEY pmax pmax
comp=Z,6.0nm,0.9s
SEY Seymchan 29.66 308 LR LR 22 07 10.2
comp=Z,240nm,18.9s,baz=352,slow=39
PETK Petropavlovsk- 30.37 288 P **P** **21 54 09.4 -1.0**
comp=Z,2.0nm,0.6s,baz=69,slow=9.9,SNR=2.3
comp=Z,2.0nm,0.6s
EUNU Eureka 31.00 17 P **P** **21 54 18.3 +2.6**
MA2 Magadan 31.37 302 P **P** **21 54 20.1 +0.9**
MA2 IAmb IAmb 21 54 21.8
comp=Z,4.7nm,0.7s
MA2 Magadan 31.37 302 P **P** **21 54 20.1 +0.9**
MA2 pmax pmax
comp=Z,5.0nm,0.7s
MA2 Magadan 31.37 302 LR LR 22 08 28.9
comp=Z,139nm,18.9s,baz=92,slow=39
TIXI Tiksi 36.14 328 P **P** **21 55 01.7 +1.3**
TIXI Tiksi 36.14 328 *i* P **P** **21 55 01.6 +1.1**
TIXI pmax pmax
comp=Z,17nm,2.4s
KULLO Kullorsuaq 37.86 26 *i* P **P** **21 55 15.6 +0.6**
KULLO IAmb IAmb 21 55 17.3
comp=Z,9.6nm,0.8s
NEEM North Greenlan 38.06 21 *i* P **P** **21 55 16.5 -0.6**
NEEM IAmb IAmb 21 55 19.3
comp=Z,16nm,1.0s
FRB Frobisher Bay 38.78 44 LR LR 22 11 26.1
comp=Z,216nm,18.2s,baz=348,slow=36
UPNV Upernavik 38.89 28 *i* P **P** **21 55 23.9 +0.2**
UPNV IAmb IAmb 21 55 26.2
comp=Z,7.3nm,0.8s
YAK Yakutsk 39.77 313 P **P** **21 55 31.5 +0.4**
YAK IAmb IAmb 21 55 32.7
comp=Z,16nm,0.7s
YAK Yakutsk 39.77 313 *eP* **P** **21 55 30.8 -0.4**
YAK pmax pmax
comp=Z,11nm,0.8s
YAK Yakutsk 39.77 313 LR LR 22 12 30.4
comp=Z,103nm,20.9s,baz=79,slow=37
NOR Nord 40.57 10 *i* P **P** **21 55 37.4 -0.2**
NOR IAmb IAmb 21 55 39.0
comp=Z,2.2nm,0.6s
TXAR Lajitas Array 41.60 110 P **P** **21 55 46.9 0.0**
comp=Z,0.3nm,0.6s,baz=316,slow=6.9,SNR=5.1
TXAR PcP **PcP** **21 57 42.6 -1.2**
comp=Z,0.4nm,0.7s,baz=264,slow=2.7,SNR=2.6
O44A Mansfield 42.14 85 P **P** **21 55 49.1 -1.9**
SUMG Summit 43.44 24 P **P** **21 56 02.8 +1.2**
SUMG IAmb IAmb 21 56 04.2
comp=Z,13nm,1.1s
SUMG Summit 43.44 24 P **P** **21 56 02.8 +1.2**
SUMG pmax pmax
comp=Z,13nm,1.1s
SUMG Summit 43.44 24 *i* P **P** **21 56 01.2 -0.4**
SUMG IAmb IAmb 21 56 05.0
comp=Z,7.8nm,0.8s
SCHQ Schefferville 44.27 55 P **P** **21 56 08.4 +0.4**
comp=Z,5.2nm,0.7s,baz=306,slow=9.5,SNR=4.6
SCHQ LR LR 22 14 30.0
comp=Z,453nm,18.0s,baz=304,slow=36
comp=Z,5.2nm,0.7s
KBS Kingsbay 45.10 5 *i* P **P** **21 56 15.3 +1.0**
DY2G Dye2 45.20 33 *i* P **P** **21 56 14.8 -0.8**
DY2G IAmb IAmb 21 56 19.3
comp=Z,3.3nm,1.5s
ICESG Greenland Ices 45.42 28 *i* P **P** **21 56 16.5 -0.9**
ICESG IAmb IAmb 21 56 19.9
comp=Z,8.7nm,0.8s
SPITS Spitsbergen Ar 46.04 4 P **P** **21 56 22.2 +0.4**
comp=Z,13nm,0.8s,baz=30,slow=6.7,SNR=4.8
comp=Z,13nm,0.8s
KLR Kul'dur 46.10 297 *ce*P **P** **21 56 23.1 +0.5**
KLR pmax pmax
comp=Z,10.0nm,1.1s
ISOG Isortoq, Green 48.04 32 *i* P **P** **21 56 35.6 -2.0**
ISOG IAmb IAmb 21 56 40.8
comp=Z,8.6nm,0.8s
ANGG Ammassalik, Gr 48.39 31 *i* P **P** **21 56 38.8 -1.4**
ANGG IAmb IAmb 21 56 40.4
comp=Z,13nm,0.7s
NRIK Noril'sk 48.61 337 P **P** **21 56 42.3 +0.4**
NRIK IAmb IAmb 21 56 43.1
comp=Z,6.3nm,0.8s
NRIK Noril'sk 48.61 337 *ce*P **P** **21 56 42.4 +0.5**
NRIK pmax pmax
comp=Z,8.0nm,0.8s
NRIK Noril'sk 48.61 337 P **P** **21 56 42.0 +0.2**
comp=Z,5.0nm,0.7s,baz=52,slow=7.5,SNR=8.3
NRIK LR LR 22 19 16.4
comp=Z,147nm,20.8s,baz=19,slow=39
comp=Z,5.0nm,0.7s
BOD Bodaibo 48.62 315 *eP* **P** **21 56 42.1 0.0**
BOD pmax pmax
comp=Z,5.0nm,1.1s
H11N2 WAKE ISLAND Hy 48.65 240 T T 22 49 12.0
baz=32,slow=76,SNR=50
H11N3 WAKE ISLAND Hy 48.66 240 T T 22 49 12.4
baz=32,slow=76,SNR=68
H11N1 WAKE ISLAND Hy 48.67 240 T T 22 49 13.3
baz=32,slow=76,SNR=51
H11S1 WAKE ISLAND Hy 49.79 240 T T 22 50 32.3
baz=29,slow=74
H11S2 WAKE ISLAND Hy 49.80 240 T T 22 50 37.5
baz=29
H11S3 WAKE ISLAND Hy 49.80 240 T T 22 50 31.8
baz=29,slow=74
MJAR Matsushiro Arr 51.29 280 P **P** **21 57 02.4 -0.4**
comp=Z,1.3nm,0.6s,baz=51,slow=6.4,SNR=4.3
comp=Z,1.3nm,0.6s
ARCES ARCESS Array B 54.96 2 P **P** **21 57 29.3 0.0**
comp=Z,4.5nm,0.6s,baz=8.9,slow=8.6,SNR=16
comp=Z,4.5nm,0.6s
ULN Ulaanbaatar 58.70 310 *i* P **P** **21 57 56.5 +0.1**
ULN pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 59.01 310 P **P** **21 57 58.4 -0.1**
SONM Songino Array 59.01 310 P **P** **21 57 58.4 -0.1**
SONM pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 59.01 310 P **P** **21 57 59.1 +0.6**
comp=Z,1.1nm,0.7s,baz=46,slow=5.8,SNR=9.7
SONM LR LR 22 22 52.7
comp=Z,133nm,20.8s,baz=45,slow=36
comp=Z,1.1nm,0.7s
JOF Joensuu 61.67 360 *eP* **P** **21 58 16.8 +0.7**

ZAA0 Zalesovo Array 62.03 327 P **P** **21 58 18.9 +0.1**
ZAA0 IAmb IAmb 21 58 19.9
comp=Z,3.7nm,0.7s
ZALV Zalesovo Beam 62.03 327 P **P** **21 58 19.1 +0.3**
comp=Z,4.6nm,0.6s,baz=27,slow=7.0,SNR=23
comp=Z,4.6nm,0.6s
HHC Hu-ho-hao-te 62.05 302 *eP* **P** **21 58 23.7 +4.4**
HHC pP pwP 21 58 28.9 +4.2
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,100nm,4.2s
NC204 NORSAR Array S 62.25 11 P **P** **21 58 20.0 -0.3**
KEF Keuruu 62.33 3 *eP* **P** **21 58 21.0 +0.3**
NC405 NORSAR Array S 62.51 10 P **P** **21 58 22.1 +0.2**
NB2 NORSAR Subarra 62.53 11 P **P** **21 58 22.1 0.0**
comp=Z,6.6nm,0.8s,baz=348,slow=6.9
NOA NORSAR Array B 62.53 11 P **P** **21 58 22.3 +0.2**
comp=Z,3.0nm,0.7s,baz=348,slow=6.7,SNR=24
comp=Z,3.0nm,0.7s
FIA1 FINESS Array S 63.09 3 P **P** **21 58 26.2 +0.5**
FINES FINESS Array B 63.09 3 P **P** **21 58 25.2 -0.5**
FINES FINESS Array B 63.09 3 P **P** **21 58 26.2 +0.5**
comp=Z,10nm,0.7s,baz=7.9,slow=7.5,SNR=35
comp=Z,10nm,0.7s
VALR Valaam 63.23 360 *i* P **P** **21 58 27.8 +1.1**
VALR pmax pmax
comp=Z,20nm,0.7s
RAF Rauma 63.35 5 *eP* **P** **21 58 27.6 +0.2**
HFS Hagfors 63.67 9 P **P** **21 58 29.7 +0.1**
comp=Z,2.2nm,0.6s,baz=298,slow=3.2,SNR=11
comp=Z,2.2nm,0.6s
DGZ Jazzator, Alta 64.82 323 *i* P **P** **21 58 38.6 +1.1**
DGZ pmax pmax
comp=Z,21nm,1.7s
KIRV Kirov 65.04 349 *ce*P **P** **21 58 40.0 +1.5**
SVE Sverdlovsk 65.20 342 *eP* **P** **21 58 40.0 +0.3**
SVE pmax pmax
comp=Z,7.0nm,0.7s
VIKU Vikbolandet 65.54 8 *eP* **P** **21 58 42.4 +0.6**
EKA Eskdalemuir Ar 65.86 20 P **P** **21 58 44.3 +0.3**
comp=Z,2.3nm,0.7s,baz=315,slow=4.9,SNR=11
comp=Z,2.3nm,0.7s
ARU Arti 65.92 344 P **P** **21 58 44.2 -0.2**
ARU Arti 65.92 344 *c* *i* P **P** **21 58 44.2 -0.2**
ARU 21 59 12.1
ARU S **S** **22 07 31.8 -0.2**
ARU SS **SS** **22 11 44.0 -1.6**
ARU pmax pmax
comp=Z,21nm,1.8s
VSU Vasula 66.09 2 *ce*P **P** **21 58 46.5 +1.1**
VSU pmax pmax
comp=Z,48nm,1.0s
KURK Kurchatov 66.71 329 P **P** **21 58 49.1 -0.4**
KURK IAmb IAmb 21 58 52.1
comp=Z,3.8nm,0.9s
KURK Kurchatov 66.71 329 *ce*P **P** **21 58 50.2 +0.8**
KURK pmax pmax
comp=Z,11nm,1.7s
BRVK Borovoye 66.78 335 P **P** **21 58 49.8 0.0**
BRVK IAmb IAmb 21 58 51.6
comp=Z,4.9nm,0.9s
BRVK Borovoye 66.78 335 *ce*P **P** **21 58 49.6 -0.3**
BRVK pmax pmax
comp=Z,12nm,1.7s
BVAR Borovoye Array 66.78 335 P **P** **21 58 50.0 +0.1**
comp=Z,7.2nm,0.7s,baz=32,slow=6.7,SNR=31
comp=Z,7.2nm,0.7s
KURBB Kurchatov Arra 66.82 329 P **P** **21 58 50.2 0.0**
comp=Z,2.7nm,0.7s,baz=30,slow=6.7,SNR=23
KURBB LR LR 22 32 41.8
comp=Z,101nm,18.7s,baz=188,slow=40
comp=Z,2.7nm,0.7s
DEL Delary 67.30 10 *eP* **P** **21 58 53.6 +0.5**
PABE Paberze 68.96 4 P **P** **21 59 04.4 +0.8**
PABE Paberze 68.96 4 *eP* **P** **21 59 04.4 +0.8**
MK31 Makanchi Array 69.05 325 *ce*P **P** **21 59 04.3 0.0**
MKAR Makanchi Array 69.05 325 P **P** **21 59 04.4 0.0**
comp=Z,3.1nm,0.6s,baz=47,slow=7.2,SNR=48
comp=Z,3.1nm,0.6s
OBN Obninsk 69.39 356 *i* P **P** **21 59 06.7 +0.5**
OBN pmax pmax
comp=Z,9.0nm,0.5s
MNK Minsk 70.08 2 *i* P **P** **21 59 10.4 -0.1**
MNK *i* 22 01 44.1
MNK *i* PPP PPP 22 03 26.2
MNK *i* S **S** **22 08 21.1 -0.6**
MNK *i* SS **SS** **22 12 51.2 +1.4**
MNK pmax pmax
comp=Z,17nm,0.8s
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK pmax pmax
comp=N,10.0nm,0.9s
MNK MLR MLR
comp=N,83nm,20.0s
MNK MLR MLR
comp=Z,112nm,26.0s
SUW Suwalki 70.42 5 P **P** **21 59 12.2 -0.4**
SUW Suwalki 70.42 5 P **P** **21 59 12.2 -0.4**
SUW pmax pmax
comp=Z,24nm,1.1s
BELG Belogornoye 71.33 349 *i* P **P** **21 59 17.6 -0.5**
BELG pmax pmax
comp=Z,6.0nm,2.2s
CLL Collm 72.29 12 P **P** **21 59 24.2 +0.3**
CLL IAmb IAmb 21 59 25.9
comp=Z,4.5nm,0.7s
CLL Collm 72.29 12 P **P** **21 59 24.2 +0.3**
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 72.29 12 *i* P **P** **21 59 24.4 +0.4**
comp=Z,5.0nm,0.6s
BRG Berggiesshubel 72.83 11 *eP* **P** **21 59 28.1 +1.0**
BRG Amp 21 59 29.5
comp=Z,6.1nm,0.9s
BRG Berggiesshubel 72.83 11 *eP* **P** **21 59 28.1 +1.0**
BRG pmax pmax
comp=Z,6.0nm,0.9s
HSKC Hora Svate Kat 73.03 11 *eP* **P** **21 59 29.3 +0.9**
PVCC Panska Ves 73.23 11 *eP* **P** **21 59 30.6 +1.0**
PVCC Panska Ves 73.23 11 *eP* **P** **21 59 30.6 +1.0**
NKC Novy Kostel 73.29 12 *eP* **P** **21 59 31.2 +1.3**
NKC Novy Kostel 73.29 12 *eP* **P** **21 59 31.2 +1.3**
OSTC Ostas 73.37 10 *eP* **P** **21 59 31.3 +0.9**
OSTC Ostas 73.37 10 *eP* **P** **21 59 31.3 +0.9**
DPC Dobruska-Polom 73.58 10 *eP* **P** **21 59 33.0 +1.3**
DPC Dobruska-Polom 73.58 10 *eP* **P** **21 59 33.0 +1.3**
PRU Pruhonice 73.76 11 *eP* **P** **21 59 33.9 +1.2**
PRU Pruhonice 73.76 11 *eP* **P** **21 59 33.9 +1.2**
KRLC Kraliky 73.90 9 *eP* **P** **21 59 34.7 +1.1**
KRLC Kraliky 73.90 9 *eP* **P** **21 59 34.7 +1.1**
AKASG Malin Array Be 73.91 1 P **P** **21 59 33.1 -0.4**
AKASG Malin Array Be 73.91 1 *i* P **P** **21 59 33.4 -0.1**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 73.91 1 P **P** **21 59 33.6 +0.1**
comp=Z,4.8nm,0.7s,baz=360,slow=5.7,SNR=23
comp=Z,4.8nm,0.7s
AKBB Malin Array Si 73.91 1 *ce*P **P** **21 59 33.5 0.0**
AKBB pmax pmax
comp=Z,7.0nm,0.7s
KIEV Kiev 73.92 1 ⇓P **P** **21 59 33.5 0.0**
KIEV Kiev 73.92 1 ⇓P **P** **21 59 33.5 0.0**
PRZ Przheval'sk 74.15 325 P **P** **21 59 35.0 -0.3**
PRZ IAmb IAmb 21 59 38.1
comp=Z,6.1nm,0.7s
PRZ Przheval'sk 74.15 325 P **P** **21 59 35.0 -0.3**
PRZ pmax pmax
comp=Z,6.0nm,0.7s
MORC Moravsky Berou 74.26 9 P **P** **21 59 35.4 -0.3**
MORC IAmb IAmb 21 59 37.1
comp=Z,3.8nm,0.6s
MORC Moravsky Berou 74.26 9 *eP* **P** **21 59 36.0 +0.3**
MORC Moravsky Berou 74.26 9 P **P** **21 59 35.4 -0.3**
MORC pmax pmax
comp=Z,4.0nm,0.6s
ZVC Zvikov 74.27 11 *eP* **P** **21 59 36.8 +1.1**
KHC Kasperske Hory 74.50 12 P **P** **21 59 37.5 +0.4**
KHC IAmb IAmb 21 59 38.6
comp=Z,5.8nm,1.0s
KHC Kasperske Hory 74.50 12 *ce*P **P** **21 59 38.4 +1.3**
KHC pmax pmax
comp=Z,41nm,2.5s
KHC Kasperske Hory 74.50 12 *eP* **P** **21 59 38.1 +1.0**

TKM2 Tokmak 2 74.63 328 P **P** **21 59 38.7 +0.6**
SNR=6.8
VRAC Vranov 74.64 10 ⇓P **P** **21 59 39.1 +1.2**
VRAC Vranov 74.64 10 *e*P **P** **21 59 38.5 +0.6**
VRAC Vranov 74.64 10 ⇓P **P** **21 59 39.1 +1.2**
USP Ospenovka 74.64 328 P **P** **21 59 39.1 +1.0**
SNR=5.6
GEC2 GERESS Array S 74.80 12 P **P** **21 59 39.1 +0.2**
GEC2 IAmb IAmb 21 59 40.3
comp=Z,3.3nm,0.7s
GERES GERESS Array B 74.80 12 P **P** **21 59 39.8 +0.9**
GERES GERESS Array B 74.80 12 P **P** **21 59 39.8 +0.9**
GERES GERESS Array B 74.80 12 P **P** **21 59 39.4 +0.5**
comp=Z,2.5nm,0.6s,baz=12,slow=7.1,SNR=4.0
comp=Z,2.5nm,0.6s
KRUC Moravsky 74.87 10 *eP* **P** **21 59 39.3 +0.2**
CKRC Cesky Krumlov 74.89 11 *eP* **P** **21 59 39.9 +0.6**
CKRC Cesky Krumlov 74.89 11 *eP* **P** **21 59 39.9 +0.6**
STHS Stebnicka Huta 74.90 6 *eP* **P** **21 59 40.2 +0.8**
STHS pmax pmax
comp=Z,8.0nm,0.7s
STHS Stebnicka Huta 74.90 6 *eP* **P** **21 59 40.2 +0.8**
TARG Taragay, Kyrgy 75.02 325 P **P** **21 59 40.4 -0.3**
TARG IAmb IAmb 21 59 43.6
comp=Z,3.6nm,0.6s
TARG Taragay, Kyrgy 75.02 325 P **P** **21 59 40.4 -0.3**
TARG pmax pmax
comp=Z,4.0nm,0.6s
FRU1 Bishkek 75.02 328 P **P** **21 59 40.0 -0.3**
FRU1 IAmb IAmb 21 59 41.7
comp=Z,7.0nm,0.7s
FRU1 Bishkek 75.02 328 P **P** **21 59 40.0 -0.3**
FRU1 pmax pmax
comp=Z,7.0nm,0.7s
LANS Liptovska Anna 75.04 8 *eP* **P** **21 59 41.9 +1.7**
LANS pmax pmax
comp=Z,3.0nm,0.7s
LANS Liptovska Anna 75.04 8 *eP* **P** **21 59 41.9 +1.7**
KBK Karagaybulak 75.07 328 P **P** **21 59 41.6 +1.0**
SNR=5.4
JAVC Velka Javorina 75.19 9 *eP* **P** **21 59 42.7 +1.6**
AAK Ala-Archa 75.22 328 P **P** **21 59 42.2 +0.7**
SNR=5.3
AAK Ala-Archa 75.22 328 P **P** **21 59 41.7 +0.2**
AAK IAmb IAmb 21 59 43.0
comp=Z,2.9nm,0.7s
AAK Ala-Archa 75.22 328 *ce*P **P** **21 59 42.4 +0.9**
AAK pmax pmax
comp=Z,6.0nm,1.7s
EKS2 Erkin-Say 75.41 329 P **P** **21 59 43.5 +0.9**
SNR=5.1
MODS Modra-Piesok 75.63 9 *eP* **P** **21 59 45.3 +1.7**
MODS Modra-Piesok 75.63 9 *eP* **P** **21 59 45.3 +1.7**
VYHS Vyhne 75.64 8 *eP* **P** **21 59 44.5 +0.8**
VYHS Vyhne 75.64 8 *eP* **P** **21 59 44.5 +0.8**
NRN Naryn 75.86 327 P **P** **21 59 46.1 +0.8**
NRN Naryn 75.86 327 P **P** **21 59 46.2 +0.8**
NRN pmax pmax
comp=Z,3.0nm,0.8s
BIOA Bad Ischl, Aus 75.93 12 *eP* **P** **21 59 46.2 +0.9**
comp=Z,3.2nm,0.7s
KK31 Karatay Array 75.93 331 P **P** **21 59 45.6 +0.2**
KK31 IAmb IAmb 21 59 47.1
comp=Z,4.7nm,0.8s
KK31 Karatay Array 75.93 331 P **P** **21 59 45.6 +0.2**
KK31 pmax pmax
comp=Z,5.0nm,0.8s
CONA Conrad Observa 75.94 10 *eP* **P** **21 59 46.4 +1.0**
comp=Z,3.7nm,0.7s
WATA Walderalm 76.03 13 *eP* **P** **21 59 46.7 +0.7**
comp=Z,6.4nm,1.1s
SQTA Sankt Quirin 76.09 14 *eP* **P** **21 59 47.5 +1.2**
comp=Z,5.2nm,0.8s
WTTA Wattenberg 76.10 13 *eP* **P** **21 59 47.6 +1.1**
comp=Z,5.8nm,0.7s
FETA Feichten 76.22 14 *eP* **P** **21 59 48.7 +1.5**
comp=Z,4.1nm,0.9s
PSZ Piszkesteto 76.30 8 ⇑P **P** **21 59 48.8 +1.3**
PSZ Piszkesteto 76.30 8 ⇑P **P** **21 59 48.8 +1.3**
SORM Soroca 76.47 2 ⇑P **P** **21 59 48.1 -0.2**
SORM Soroca 76.47 2 ⇑P **P** **21 59 48.1 -0.2**
KBA Koelnbreinsper 76.50 12 *eP* **P** **21 59 49.7 +1.0**
comp=Z,6.9nm,0.6s
BUR08 Bucovina Ar. S 76.87 4 P **P** **21 59 51.3 +0.5**
BUR08 IAmb IAmb 21 59 52.9
comp=Z,3.5nm,0.8s
ARSB Arslanbob 76.87 329 P **P** **21 59 51.5 +0.5**
ARSB Arslanbob 76.87 329 P **P** **21 59 51.5 +0.5**
ARSB pmax pmax
comp=Z,1.0nm,0.7s
BURAR Bucovina Array 76.90 4 ⇓P **P** **21 59 51.8 +0.9**
BURAR Bucovina Array 76.90 4 P **P** **21 59 51.2 +0.3**
BURAR IAmb IAmb 21 59 53.0
comp=Z,2.4nm,0.7s
BURAR Bucovina Array 76.90 4 ⇓P **P** **21 59 51.8 +0.9**
SOKA Soboth 77.08 11 *eP* **P** **21 59 52.3 +0.3**
comp=Z,3.0nm,0.6s
OBKA Obir 77.20 11 *eP* **P** **21 59 53.0 +0.4**
comp=Z,9.9nm,0.6s
DRGR 77.60 6 ⇓P **P** **21 59 55.6 +0.7**
DRGR 77.60 6 ⇓P **P** **21 59 55.6 +0.7**
KSH Kashi 77.61 326 P **P** **21 59 58.4 +3.3**
KSH pmax pmax
comp=Z,5.0nm,0.7s
MARR Marisel-Cluj 77.74 5 ⇑P **P** **21 59 56.0 +0.4**
PZH PanZhiHua 78.42 300 P **P** **22 00 03.7 +4.0**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,70nm,4.5s
GHRR 78.52 2 ⇑P **P** **22 00 00.8 +1.0**
SURR Surduc 78.60 6 ⇑P **P** **22 00 01.0 +0.7**
BTK Batken 78.67 330 P **P** **22 00 00.3 -0.6**
BTK IAmb IAmb 22 00 01.7
comp=Z,4.4nm,0.8s
BTK Batken 78.67 330 P **P** **22 00 00.3 -0.6**
BTK pmax pmax
comp=Z,4.0nm,0.9s
VRI Vrincioaia 78.70 3 ⇑P **P** **22 00 02.4 +1.6**
VRI Vrincioaia 78.70 3 ⇑P **P** **22 00 02.4 +1.6**
COVR Voineasa-Covas 78.70 3 ⇓P **P** **22 00 02.5 +1.6**
BZS Buzias 78.71 7 ⇑P **P** **22 00 00.1 -0.8**
BZS Buzias 78.71 7 ⇑P **P** **22 00 00.1 -0.8**
PLOR Plostina 78.71 3 ⇑P **P** **22 00 01.5 +0.5**
PLOR Plostina 78.71 3 ⇑P **P** **22 00 01.5 +0.5**
DRK Karamyk 78.92 329 P **P** **22 00 02.4 -0.2**
DRK IAmb IAmb 22 00 04.1
comp=Z,6.6nm,0.6s
SCTR Scanteiesti 78.92 2 ⇓P **P** **22 00 03.2 +1.1**
GZR Gura Zlata 79.00 6 ⇑P **P** **22 00 02.9 +0.3**
GZR Gura Zlata 79.00 6 ⇑P **P** **22 00 02.9 +0.3**
MLR Muntele Rosu 79.05 3 ⇑P **P** **22 00 04.7 +1.8**
MLR Muntele Rosu 79.05 3 ⇑P **P** **22 00 04.7 +1.8**
VOIR 79.07 4 ⇑P **P** **22 00 04.2 +1.3**
VOIR 79.07 4 ⇑P **P** **22 00 04.3 +1.3**
ARR Arges 79.12 4 ⇓P **P** **22 00 04.2 +1.0**
CFR Carcaliu 79.42 2 ⇓P **P** **22 00 04.8 +0.1**
CFR Carcaliu 79.42 2 ⇓P **P** **22 00 04.8 +0.1**
MDVR Moldovita 79.55 7 ⇑P **P** **22 00 06.1 +0.5**
GAR Garm 79.79 330 P **P** **22 00 06.6 -0.5**
GAR IAmb IAmb 22 00 07.9
comp=Z,7.5nm,0.8s
TIRR Tirgusor 80.14 2 P **P** **22 00 09.1 +0.4**
TIRR IAmb IAmb 22 00 10.6
comp=Z,9.1nm,0.8s
TIRR Tirgusor 80.14 2 P **P** **22 00 09.1 +0.4**
TIRR pmax pmax
comp=Z,9.0nm,0.8s
KIV Kislovodsk 80.16 351 ⇑P **P** **22 00 09.6 +0.7**
KIV Kislovodsk 80.16 351 *eP* **P** **22 00 09.5 +0.6**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KBZ Khabaz 80.36 351 *ce*P **P** **22 00 11.7 +1.8**
KBZ pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 80.36 351 P **P** **22 00 10.9 +1.1**
comp=Z,3.7nm,0.8s,baz=339,slow=5.6,SNR=15
comp=Z,3.7nm,0.8s
ESBB Sonseca Array 80.45 26 P **P** **22 00 10.7 +0.2**
ESBB IAmb IAmb 22 00 12.8
comp=Z,3.9nm,0.8s
ESDC Sonseca Array 80.45 26 P **P** **22 00 11.1 +0.6**
ESDC Sonseca Array 80.45 26 P **P** **22 00 11.1 +0.6**
comp=Z,2.6nm,0.8s,baz=336,slow=5.1,SNR=17

	comp=Z,2.6nm,0.8s							
SIMJ	**Simiganj**	**80.48**	**331**	P	**P**	**22 00 10.6**	**-0.3**
SIMJ				IAmb	IAmb	22 00 11.9	
	comp=Z,6.8nm,0.7s							
LSA	**Lhasa**	**80.60**	**310**	P	**P**	**22 00 11.8**	**-0.1**
LSA	**Lhasa**	**80.60**	**310**	P	**P**	**22 00 11.9**	**-0.1**
LSA				pmax	pmax		
	comp=Z,3.0nm,1.1s							
RDO	**Rodhopi**	**83.37**	**4**	P	**P**	**22 00 26.7**	**+0.9**
RDO				IAmb	IAmb	22 00 27.4	
	comp=Z,5.8nm,0.7s							
GEYT	**Alibeck**	**83.82**	**339**	P	**P**	**22 00 27.8**	**-0.4**
GEYT				IAmb	IAmb	22 00 30.7	
	comp=Z,6.6nm,1.1s							
GEYT	**Alibeck**	**83.82**	**339**	P	**P**	**22 00 27.8**	**-0.4**
GEYT				pmax	pmax		
	comp=Z,7.0nm,1.1s							
GEYT	**Alibeck**	**83.82**	**339**	P	**P**	**22 00 28.8**	**+0.6**
	comp=Z,3.2nm,0.7s,baz=318,slow=8.0,SNR=6.9							
	comp=Z,3.2nm,0.7s							
GYA0B	**ALIBECK ARRAY**	**83.82**	**339**	P	**P**	**22 00 27.7**	**-0.5**
GYA0B				IAmb	IAmb	22 00 31.3	
	comp=Z,5.7nm,0.9s							
NIL	**Nilore**	**83.86**	**325**	P	**P**	**22 00 27.5**	**-1.0**
NIL	**Nilore**	**83.86**	**325**	P	**P**	**22 00 27.5**	**-1.0**
NIL				pmax	pmax		
	comp=Z,8.0nm,1.1s							
BRTR	**Keskin Array B**	**84.86**	**358**	*i* P	**P**	**22 00 33.7**	**+0.1**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s							
BRTR	**Keskin Array B**	**84.86**	**358**	P	**P**	**22 00 34.1**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=318,slow=1.7,SNR=4.2							
	comp=Z,1.5nm,0.7s							
CMAR	**Chiang Mai Arr**	**86.56**	**298**	P	**P**	**22 00 42.1**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=14,slow=4.7,SNR=24							
	comp=Z,3.0nm,0.7s							
QSPA	**South Pole Qui**	**145.54**	**180**	P	P	22 07 33.7	+10	
QSPA	**South Pole Qui**	**145.54**	**180**	PKPbc	**PKPdf**	**22 07 34.2**	**-1.5**	
	comp=Z,4.5nm,0.7s,baz=32,slow=0.5,SNR=18							
BOSA	**Boshof**	**152.59**	**11**	PKPbc	**PKPbc**	**22 07 54.2**	**-1.0**	
	comp=Z,2.4nm,0.6s,baz=329,slow=3.9,SNR=8.1							

*NEIC **08** 21:54:40.9±1.9, 0.°05N±0.°07×123.°34E±0.°06, h133km±8km, mb4.4/28, Error ellipse: s-maj=9.9km s-min=8.5km az=199.0*

*IDC **08** 21:54:41.6±9.8, 0.°02N×123.°20E, h154km±96km, mb3.6/10, mbtmp4.1/10, Error ellipse: s-maj=48.0km s-min=15.0km az=77.0*

*DJA **08** 21:54:42.2±0.2, 0.°S±3.°×12.°3E±.°, h131km±3km, M4.5/13, mb4.7/6, mB5.1/1, MLv4.4/13, Mw(mB)4.4/1*

ISC 08 21:54:41.3±0.6, 0.°05S±0.°05×123.°32E±0.°05, h148km±5km, n57, σ1§17/66, mb4.2/23, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.75**	**336**	P	**Pn**	**21 55 04.5**	**+0.6**
GTOI				S	**Sn**	**21 55 22.0**	**+0.9**
KMSI	**Cibinong**	**0.91**	**47**	P	**Pn**	**21 55 06.6**	**+1.5**
KMSI				S	**Sn**	**21 55 22.9**	**-0.4**
LUWI	**Luwuk**	**1.12**	**209**	Pn	**Pn**	**21 55 06.4**	**-0.5**
LUWI				Sn	**Sn**	**21 55 24.7**	**-1.9**
LUWI	**Luwuk**	**1.12**	**209**	P	**Pn**	**21 55 05.7**	**-1.3**
LUWI				S	**Sn**	**21 55 24.4**	**-2.2**
MRSI	**Marisa**	**1.47**	**291**	P	**Pn**	**21 55 08.7**	**-1.7**
TOLI2	**Tolitoli**	**2.78**	**295**	Pn	**Pn**	**21 55 24.8**	**-1.0**
TOLI2				Sn	**Sn**	**21 55 57.4**	**-2.8**
SANI	**Sanana**	**3.33**	**127**	P	**Pn**	**21 55 33.0**	**+0.2**
MPSI	**Mapaga**	**3.44**	**276**	P	**Pn**	**21 55 34.1**	**-0.1**
TNTI	**Ternate**	**4.13**	**79**		**Pn**	**21 55 41.4**	**-1.9**
TNTI				Sn	**Sn**	**21 56 29.2**	**-2.2**
TNTI	**Ternate**	**4.13**	**79**	P	**Pn**	**21 55 44.1**	**+0.8**
LBMI	**Labuha**	**4.23**	**98**	P	**Pn**	**21 55 44.4**	**-0.1**
TTSI	**Tana Toraja**	**4.59**	**230**	P	**Pn**	**21 55 49.6**	**+0.3**
NLAI	**Namlea**	**4.93**	**130**	P	**Pn**	**21 55 55.5**	**+1.7**
KKM	**Kota Kinabalu**	**9.32**	**311**		**Pn**	**21 56 54.9**	**+2.4**
FAKI	**Fak Fak**	**9.37**	**108**	Pn	**Pn**	**21 56 53.0**	**-0.1**
MTN	**Manton Dam**	**14.89**	**149**	P	**P**	**21 58 06.7**	**+0.1**
KNRA	**Kununurra**	**16.43**	**161**	P	**P**	**21 58 24.9**	**+1.3**
KNRA				IAmb	IAmb	21 58 27.1	
	comp=Z,15nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.08**	**173**	P	**P**	**21 58 42.7**	**+1.0**
DSRI	**Dabo**	**18.74**	**269**	P	**P**	**21 58 49.9**	**+0.9**
	comp=Z,32nm,0.7s,comp=Z,999nm						
XMIS	**Christmas Isla**	**20.39**	**239**	P	**P**	**21 59 07.5**	**+0.7**
XMIS				IAmb	IAmb	21 59 43.7	
	comp=Z,35nm,1.4s						
WB0	**Warramunga Arr**	**22.40**	**152**	P	**P**	**21 59 28.1**	**+0.3**
WB0				IAmb	IAmb	21 59 29.4	
	comp=Z,13nm,1.1s						
WRAB	**Tennant Creek**	**22.52**	**152**	P	**P**	**21 59 29.3**	**+0.3**
WRAB				IAmb	IAmb	21 59 30.3	
	comp=Z,8.2nm,0.7s						
WRA	**Warramunga Arr**	**22.53**	**152**	P	**P**	**21 59 28.3**	**-0.7**
WRA	**Warramunga Arr**	**22.53**	**152**	P	**P**	**21 59 29.3**	**+0.3**
	comp=Z,5.3nm,0.5s,baz=331,slow=10,SNR=120						
	comp=Z,5.3nm,0.5s						
WB2	**Warramunga Arr**	**22.53**	**152**	P	**P**	**21 59 29.5**	**+0.5**
WB2				IAmb	IAmb	21 59 30.3	
	comp=Z,8.9nm,0.6s						
WR0	**Warramunga Arr**	**22.64**	**152**	P	**P**	**21 59 30.2**	**+0.2**
WR0				IAmb	IAmb	21 59 31.8	
	comp=Z,7.3nm,0.8s						
PDSI	**Padang**	**22.87**	**268**	P	**P**	**21 59 33.1**	**+0.8**
	comp=Z,13nm,0.7s						
KULM	**Kulim**	**23.25**	**284**	P	**P**	**21 59 36.4**	**+0.6**
KULM				IAmb	IAmb	21 59 37.3	
	comp=Z,15nm,0.9s						
UBPT	**Khong Chiam**	**23.30**	**312**	P	**P**	**21 59 37.7**	**+1.5**
UBPT				IAmb	IAmb	22 00 21.3	
	comp=Z,42nm,1.4s						
TPUB	**Ta-pu**	**23.36**	**354**	P	**P**	**21 59 37.1**	**+0.4**
YULB	**Yu-li**	**23.39**	**355**	P	**P**	**21 59 37.8**	**+0.9**
ASAR	**Alice Springs**	**25.63**	**157**	P	**P**	**21 59 58.0**	**+0.7**
	comp=Z,2.1nm,0.7s,baz=339,slow=10,SNR=15						
	comp=Z,2.1nm,0.7s						
CHTO	**Chiang Mai**	**30.40**	**309**	P	**P**	**22 00 40.6**	**+0.8**
CHTO				IAmb	IAmb	22 00 43.0	
	comp=Z,4.2nm,0.7s						
FORT	**Forrest**	**30.89**	**172**	P	**P**	**22 00 43.9**	**0.0**
STKA	**Stephens Creek**	**36.07**	**153**	P	**P**	**22 01 29.9**	**+1.1**
STKA	**Stephens Creek**	**36.07**	**153**	P	**P**	**22 01 30.0**	**+1.1**
	comp=Z,2.3nm,0.5s,baz=330,slow=10.0,SNR=8.4						
	comp=Z,2.3nm,0.5s						
MJAR	**Matsushiro Arr**	**38.95**	**19**	P	**P**	**22 01 52.0**	**-1.0**
	comp=Z,3.8nm,0.6s,baz=192,slow=9.2,SNR=7.8						
	comp=Z,3.8nm,0.6s						
JMM	**Marumori**	**41.03**	**21**	P	**P**	**22 02 09.9**	**-0.2**
LSA	**Lhasa**	**42.60**	**317**	P	**P**	**22 02 24.3**	**+0.7**
LSA				IAmb	IAmb	22 02 25.8	
	comp=Z,3.0nm,0.6s						
JTM	**Tenmabayashi**	**43.73**	**20**	P	**P**	**22 02 31.8**	**-0.1**
USA0B	**Ussuriysk Arra**	**44.73**	**9**	P	**P**	**22 02 38.3**	**-1.5**
USRK	**Ussuriysk Ar.**	**44.73**	**9**	P	**P**	**22 02 39.3**	**-0.5**
USRK	**Ussuriysk Ar.**	**44.73**	**9**	P	**P**	**22 02 39.5**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=212,slow=7.6,SNR=5.3						
	comp=Z,1.8nm,0.6s						
GTA	**Gaotai**	**44.77**	**334**	*e*P	**P**	**22 02 41.8**	**+1.4**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ULN	**Ulaanbaatar**	**49.78**	**346**	P	**P**	**22 03 19.3**	**+0.3**
ULN				IAmb	IAmb	22 03 20.0	
	comp=Z,2.1nm,0.6s						
SONM	**Songino Array**	**49.91**	**345**	P	**P**	**22 03 20.1**	**0.0**
SONM	**Songino Array**	**49.91**	**345**	P	**P**	**22 03 19.2**	**-0.8**
	comp=Z,1.8nm,0.6s,baz=162,slow=8.8,SNR=16						
SONM				PcP	**PcP**	**22 04 37.0**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=175,slow=3.4,SNR=2.9						
	comp=Z,1.8nm,0.6s						
MK31	**Makanchi Array**	**58.82**	**328**	P	**P**	**22 04 23.7**	**-0.6**
MKAR	**Makanchi Array**	**58.82**	**328**	P	**P**	**22 04 23.4**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=126,slow=8.4,SNR=21						
MKAR				PcP	**PcP**	**22 05 10.7**	**-1.6**
	comp=Z,1.2nm,0.9s,baz=143,slow=3.8,SNR=6.0						
	comp=Z,0.5nm,0.3s						
KBL	**Kabul**	**61.21**	**310**	P	**P**	**22 04 41.6**	**+0.5**
KBL				IAmb	IAmb	22 04 42.0	
	comp=Z,4.9nm,0.6s						
ARSB	**Arslanbob**	**61.30**	**319**	P	**P**	**22 04 40.9**	**-0.6**
ZALV	**Zalesovo Beam**	**62.49**	**335**	P	**P**	**22 04 47.2**	**-1.8**
	comp=Z,0.5nm,0.4s,baz=134,slow=8.3,SNR=2.8						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**63.17**	**330**	P	**P**	**22 04 52.2**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=123,slow=5.9,SNR=13						
KURBB				PcP	**pP**	**22 05 28.7**	**0.0**
	comp=Z,0.4nm,0.9s,baz=126,slow=4.8,SNR=5.1						
	comp=Z,0.7nm,0.6s						
KURK	**Kurchatov**	**63.18**	**330**	P	**P**	**22 04 52.4**	**-1.1**
MA2	**Magadan**	**63.20**	**15**	P	**P**	**22 04 53.9**	**+0.4**
MA2				IAmb	IAmb	22 04 54.7	
	comp=Z,5.9nm,0.7s						
BVAR	**Borovoye Array**	**68.69**	**329**	P	**P**	**22 05 27.5**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=147,slow=8.2,SNR=4.1						
	comp=Z,0.4nm,0.4s						
ABKAR	**Akbulak array**	**72.96**	**322**	P	**P**	**22 05 52.0**	**-2.7**

*NEIC **08** 21:56:14.8±1.7, 4.°24S±0.°07×153.°37E±0.°06, h51km±9km, mb4.5/20, Error ellipse: s-maj=11.6km s-min=7.8km az=211.0*

*IDC **08** 21:56:17.1±2.2, 4.°43S×153.°30E, h68km±22km, mb3.8/14, mbtmp4.2/16, MS4.0/3, Error ellipse: s-maj=17.7km s-min=12.9km az=119.0*

ISC 08 21:56:14.9±0.6, 4.°33S±0.°07×153.°33E±0.°06, h35km, n84, σ1§43/57, mb4.5/31, MS4.0/3, 3D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.17**	**277**	Pn	**Pn**	**21 56 33.9**	**-0.9**
RABL				Sn	**Sn**	**21 56 49.7**	**+0.2**
MANU	**Manus Island**	**6.37**	**291**	Pn	**Pn**	**21 57 48.1**	**+1.8**
PMG	**Port Moresby**	**7.93**	**230**	Pn	**Pn**	**21 58 09.5**	**+1.7**
PMG				Sn	**Sn**	**21 59 38.5**	**+2.1**
PMG	**Port Moresby**	**7.93**	**230**	P	**Pn**	**21 58 09.7**	**+1.9**
PMG	**Port Moresby**	**7.93**	**230**	P	**Pn**	**21 58 09.9**	**+2.1**
PMG	**Port Moresby**	**7.93**	**230**	P	**Pn**	**21 58 08.8**	**+1.0**
	49nm,0.7s,baz=19,slow=9.4,SNR=15						
PMG				S	**Sn**	**21 59 37.0**	**+0.6**
	141nm,0.6s,baz=305,slow=22,SNR=12						
HNR	**Honiara**	**8.30**	**128**	Pn	**Pn**	**21 58 13.8**	**+1.0**
HNR	**Honiara**	**8.30**	**128**	P	**Pn**	**21 58 14.4**	**+1.6**
HNR	**Honiara**	**8.30**	**128**	P	**Pn**	**21 58 13.9**	**+1.1**
	2μm,0.6s,baz=246,slow=3.0,SNR=7.0						
HNR				S	**Sn**	**21 59 44.5**	**-0.9**
	17μm,0.9s,baz=314,slow=22,SNR=11						
PATS	**Pohnpei**	**12.16**	**24**		Pn	21 59 03.2	-2.4
COEN	**Coen**	**13.85**	**226**		**Pn**	**21 59 29.7**	**+0.8**
MTSU	**Mount Surprise**	**16.31**	**212**	P	**Pn**	**22 00 04.3**	**+2.9**
CTA	**Charters Tower**	**17.11**	**203**	P	**Pn**	**22 00 11.4**	**-0.1**
	8.7nm,0.8s,baz=24,slow=11,SNR=5.4						
CTAO	**Charters Tower**	**17.11**	**203**	Pn	**Pn**	**22 00 10.8**	**-0.7**
CTAO				IAmb	IAmb	22 00 29.4	
	comp=Z,25nm,1.1s						
QIS	**Mount Isa**	**20.94**	**218**	P	**P**	**22 00 56.6**	**+1.7**
EIDS	**Eidsvold**	**21.03**	**186**	P	**P**	**22 00 55.3**	**-0.4**
EIDS				IAmb	IAmb	22 00 58.8	
	comp=Z,14nm,0.8s						
DZM	**Mont Dzumac**	**21.74**	**145**	P	**P**	**22 01 03.6**	**+0.1**
	comp=Z,23nm,1.2s,baz=294,slow=20,SNR=1.8						
	comp=Z,23nm,1.2s						
KDU	**Kakadu**	**22.22**	**247**	P	**P**	**22 01 06.6**	**-2.0**
MTN	**Manton Dam**	**23.50**	**248**	P	**P**	**22 01 19.8**	**-2.0**
MTN				IAmb	IAmb	22 01 25.9	
	comp=Z,28nm,0.9s						
QLP	**Quilpie**	**23.78**	**201**	P	**P**	**22 01 23.9**	**-0.5**
WB0	**Warramunga Arr**	**24.00**	**229**	P	**P**	**22 01 25.0**	**-1.6**
WB0				IAmb	IAmb	22 01 30.2	
	comp=Z,32nm,1.1s						
WR0	**Warramunga Arr**	**24.01**	**228**	P	**P**	**22 01 25.2**	**-1.4**
WR0				IAmb	IAmb	22 01 28.4	
	comp=Z,20nm,0.8s						
WRAB	**Tennant Creek**	**24.14**	**228**	P	**P**	**22 01 26.4**	**-1.3**
WB2	**Warramunga Arr**	**24.14**	**228**	P	**P**	**22 01 26.1**	**-1.7**
WRA	**Warramunga Arr**	**24.15**	**228**	P	**P**	**22 01 25.9**	**-2.1**
WRA	**Warramunga Arr**	**24.15**	**228**	P	**P**	**22 01 26.3**	**-1.6**
	comp=Z,14nm,0.5s,baz=51,slow=10,SNR=34						
WRA				S	**S**	**22 05 39.7**	**-4.1**
	comp=Z,1.3nm,1.0s,baz=49,slow=16,SNR=2.3						
	comp=Z,14nm,0.5s						
WB1	**Warramunga Ar.**	**24.15**	**228**	P	**P**	**22 01 26.8**	**-1.2**
ARMA	**Armidale**	**26.00**	**183**		**P**	**22 01 43.5**	**-1.2**
ARMA				IAmb	IAmb	22 01 44.9	
	comp=Z,17nm,0.7s						
ARMA	**Armidale**	**26.00**	**183**	P	**P**	**22 01 44.4**	**-0.3**
INKA	**Innaminka**	**26.19**	**206**	P	**P**	**22 01 48.5**	**+2.2**
H11S3	**WAKE ISLAND Hy**	**26.22**	**30**	T	T	22 29 26.7	
	baz=210,SNR=40						
H11S2	**WAKE ISLAND Hy**	**26.23**	**30**	T	T	22 29 26.7	
	baz=210,slow=74,SNR=33						
H11S1	**WAKE ISLAND Hy**	**26.24**	**30**	T	T	22 29 26.7	
	baz=210,slow=74,SNR=17						
KNRA	**Kununurra**	**26.65**	**243**		**P**	**22 01 50.0**	**-0.7**
KNRA	**Kununurra**	**26.65**	**243**	P	**P**	**22 01 49.2**	**-1.4**
AUPHS	**Peel High Scho**	**26.73**	**185**	P	**P**	**22 01 50.7**	**-0.5**
AS31	**Alice Springs**	**26.85**	**222**		**P**	**22 01 51.0**	**-1.4**
ASAR	**Alice Springs**	**26.85**	**222**		**P**	**22 01 51.5**	**-0.9**
ASAR	**Alice Springs**	**26.85**	**222**	P	**P**	**22 01 50.6**	**-1.8**
	comp=Z,2.2nm,0.5s,baz=57,slow=9.3,SNR=11						
	comp=Z,2.2nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**27.36**	**29**	T	T	22 31 09.9	
	baz=218,slow=76						
H11N3	**WAKE ISLAND Hy**	**27.38**	**29**	T	T	22 31 06.5	
	baz=218						
H11N2	**WAKE ISLAND Hy**	**27.38**	**29**	T	T	22 31 09.7	
	baz=218,slow=76						
OOD	**Oodnadatta**	**28.76**	**214**	P	**P**	**22 02 11.1**	**+1.7**
STKA	**Stephens Creek**	**29.54**	**201**		P	22 02 13.7	-2.5
STKA	**Stephens Creek**	**29.54**	**201**	P	P	22 02 14.3	-1.9
	comp=Z,4.5nm,0.7s,baz=28,slow=10,SNR=8.1						
	comp=Z,4.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**30.34**	**241**	P	P	22 02 21.0	-2.5
FITZ	**Fitzroy Crossi**	**30.34**	**241**	P	P	22 02 21.1	-2.5
CAN	**Canberra**	**31.10**	**187**	P	P	22 02 24.6	-5.4
CAN				IAmb	IAmb	22 02 30.1	
	comp=Z,13nm,0.9s						
MULG	**Mulgathing**	**31.58**	**213**	P	**P**	**22 02 35.2**	**+0.9**
WRKA	**Warakurna**	**31.66**	**227**	P	**P**	**22 02 35.3**	**+0.1**
HTT	**Hallett**	**31.92**	**203**	P	**P**	**22 02 37.5**	**+0.2**
FORT	**Forrest**	**35.48**	**219**	P	P	22 03 06.5	-1.8
FORT	**Forrest**	**35.48**	**219**	P	**P**	**22 03 06.9**	**-1.4**
MBWA	**Marble Bar**	**36.66**	**240**	P	P	22 03 16.6	-1.9
PSA00	**Pilbara Seismi**	**36.72**	**239**	P	P	22 03 16.6	-2.5
PSA00				IAmb	IAmb	22 03 18.3	
	comp=Z,8.2nm,1.1s						
PSA00	**Pilbara Seismi**	**36.72**	**239**	P	P	22 03 16.8	-2.2
MEEK	**Meekatharra**	**39.91**	**233**	P	**P**	**22 03 45.5**	**-0.3**
RPZ	**Rata Peaks**	**42.24**	**161**	LR	LR	22 21 39.3	
	comp=Z,229nm,18.2s,baz=353,slow=36						
NWAO	**Narrogin (SRO)**	**44.09**	**225**	LR	LR	22 23 50.9	
	comp=Z,184nm,18.2s,baz=36,slow=38						
NJ2	**Nanjing**	**48.82**	**320**	*e*P	**P**	**22 04 56.8**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**51.98**	**341**	P	P	22 05 19.9	-0.7
	comp=Z,5.0nm,0.9s,baz=170,slow=5.7,SNR=5.5						
	comp=Z,5.0nm,0.9s						
HNS	**HongShan**	**54.89**	**323**	||P	P	22 05 41.2	-0.9
BNX	**BinXian**	**54.93**	**338**	||P	P	22 05 40.5	-1.7
BNX				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BNX				AMB	AMB		
	comp=Z,350nm,4.3s						
XAN	**Xi'an**	**56.65**	**316**	P	P	22 05 53.4	-1.5
XAN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PETK	**Petropavlovsk-**	**57.34**	**3**	P	P	22 05 59.1	-0.3
	comp=Z,2.9nm,0.8s,baz=160,slow=6.1,SNR=2.4						
	comp=Z,2.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**58.16**	**295**	P	**P**	**22 06 05.3**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=100,slow=5.0,SNR=2.8						
	comp=Z,0.4nm,0.3s						
PZH	**PanZhiHua**	**58.54**	**305**	P	**P**	**22 06 10.5**	**+2.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,80nm,4.4s						
HEH	**HeiHe**	**58.78**	**341**	*e*P	P	22 06 07.3	-2.2
HEH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HEH				pmax	pmax		
	comp=Z,250nm,5.3s						
HHC	**Hu-ho-hao-te**	**58.98**	**324**	*e*P	P	22 06 10.5	-0.7
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,73nm,5.5s						
LZH	**Lanzhou**	**61.26**	**315**	*e*P	**P**	**22 06 27.0**	**0.0**
LZH				pP	pP	22 06 40.0	+2.8
LZH				pmax	pmax		
	comp=Z,11nm,1.2s						
GTA	**Gaotai**	**65.67**	**317**	*e*P	**P**	**22 06 55.5**	**-0.6**
GTA				sP	pwP	22 07 13.3	+6.9
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
SONM	**Songino Array**	**66.21**	**327**	P	P	22 06 58.4	-1.0
	comp=Z,0.8nm,0.7s,baz=150,slow=5.6,SNR=5.9						
	comp=Z,0.8nm,0.7s						
VNDA	**Vanda**	**73.28**	**178**	P	**P**	**22 07 40.7**	**-1.5**
	comp=Z,1.3nm,0.8s,baz=356,slow=7.2,SNR=2.2						
	comp=Z,1.3nm,0.8s						
WMQ	**Urumqi**	**75.75**	**317**	*e*P	**P**	**22 07 57.0**	**-0.3**
C19K	**Lookout Ridge**	**80.00**	**15**	P	**P**	**22 08 20.2**	**-0.1**
C19K				IAmb	IAmb	22 08 33.5	
	comp=Z,4.8nm,0.9s						
MLY	**Manley**	**80.26**	**21**	P	**P**	**22 08 21.7**	**-0.1**
MKAR	**Makanchi Array**	**80.32**	**319**	P	P	22 08 20.7	-1.8
	comp=Z,0.3nm,0.5s,baz=114,slow=6.4,SNR=3.1						
	comp=Z,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**81.06**	**326**	P	P	22 08 25.4	-0.8
	comp=Z,0.5nm,0.4s,baz=87,slow=6.2,SNR=2.7						
	comp=Z,0.5nm,0.4s						
ILAR	**Eielson Array**	**81.53**	**22**	P	**P**	**22 08 28.6**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=243,slow=5.6,SNR=5.7						
	comp=Z,0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**83.76**	**322**	P	P	22 08 38.1	-2.3
	comp=Z,0.4nm,0.7s,baz=96,slow=4.7,SNR=2.3						
	comp=Z,0.4nm,0.7s						
AAK	**Ala-Archa**	**84.73**	**313**	P	P	22 08 42.3	-3.4
AAK				IAmb	IAmb	22 08 53.1	
	comp=Z,2.7nm,1.1s						
BVAR	**Borovoye Array**	**89.18**	**323**	P	P	22 09 04.2	-2.8
	comp=Z,1.6nm,0.8s,baz=101,slow=7.7,SNR=7.0						
	comp=Z,1.6nm,0.8s						
ELIB	**Princess Elisa**	**97.39**	**194**	*d*P	**P**	**22 09 45.4**	**+0.9**
LPIG	**La Paz**	**97.55**	**66**	LR	LR	22 45 32.8	
	comp=Z,41nm,21.1s,baz=65,slow=30						

IDC 08 22:08:41.5±4.8, 3.°88S×151.°85E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=145.9km s-min=29.1km az=104.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.37**	**226**	P	P	22 13 52.2	+0.2
	3.0nm,0.5s,baz=50,slow=9.8,SNR=33						
	3.0nm,0.5s						
ASAR	**Alice Springs**	**26.21**	**220**	P	P	22 14 18.3	0.0
	0.3nm,0.4s,baz=56,slow=8.9,SNR=11						
	0.3nm,0.4s						
SONM	**Songino Array**	**65.05**	**328**	P	P	22 19 24.2	+0.4
	0.6nm,1.0s,baz=140,slow=4.9,SNR=3.2						
	0.6nm,1.0s						
MKAR	**Makanchi Array**	**79.01**	**319**	P	P	22 20 46.9	-0.6
	0.2nm,0.7s,baz=108,slow=5.2,SNR=2.4						
	0.2nm,0.7s						

TAP 08 22:14:27.4, 24.°02N×121.°69E, h19km, ML2.3, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.09**	**240**	*e*P	Pg	22 14 32.5	+1.3
	baz=235						
HWA				S	Sg	22 14 36.2	+2.5
	baz=235						
TWD	**Chiawan**	**0.10**	**305**	*e*P	Pg	22 14 31.9	+0.5
	baz=308						
TWD				S	Sg	22 14 34.9	+0.9
	baz=308						
ETL	**Fush Village**	**0.15**	**337**	*e*P	Pg	22 14 32.4	+0.5
	baz=336						
ETL				S	Sg	22 14 35.7	+0.7
	baz=336						
NACB	**Ninganchiao**	**0.17**	**331**	P	Pg	22 14 32.6	+0.4
	baz=330						
NACB				S	Sg	22 14 36.1	+0.7
	baz=330						
ETM	**Tongmen**	**0.19**	**253**	*e*P	Pg	22 14 32.9	+0.6
	baz=252						
ETM				*e*S	Sg	22 14 36.8	+1.1
	baz=252						
LXIB	**Xiulin Townshi**	**0.25**	**270**	*e*P	Pg	22 14 33.9	+0.5
	baz=269						
LXIB				*e*S	Sg	22 14 38.5	+1.0
	baz=269						
SHUL	**Shoufeng**	**0.26**	**206**	*e*P	Pg	22 14 34.6	+1.2
	baz=206						
SHUL				*e*S	Sn	22 14 40.2	-1.5
	baz=206						
ETLH	**Xiulin Townshi**	**0.26**	**315**	*e*P	Pg	22 14 34.0	+0.4
	baz=314						
ETLH				*e*S	Sg	22 14 38.8	+1.0

EHY	**Hungye**	**0.61**	**213**	*e*P		Pb	22 14 39.1	-0.4
	baz=212							
ENTT	**Nioudou**	**0.63**	**350**	*e*P		Pg	22 14 40.5	+0.5
	baz=350							
ENTT				*e*S		Sn	22 14 49.8	-1.0
	baz=350							
TWE	**Neicheng**	**0.70**	**358**	*e*P		Pg	22 14 41.5	+0.2
	baz=359							
YHNB	**Yeheng**	**0.71**	**336**	*e*P		Pg	22 14 41.7	+0.2
	baz=336							
SSLB	**Suanglung**	**0.71**	**251**	*e*P		Pn	22 14 42.1	-0.4
	baz=250							
SSLB				*e*S		Sg	22 14 50.8	-0.2
	baz=250							
WCS	**Beigang Elemen**	**0.71**	**273**	*e*P		Pg	22 14 41.7	+0.3
	baz=272							
NSK	**Sanguang**	**0.72**	**335**	*e*P		Pg	22 14 41.9	+0.3
	baz=335							
NSK				*i* S		Sg	22 14 51.2	0.0
	baz=335							
YULB	**Yu-li**	**0.72**	**210**	*e*P		Pg	22 14 41.5	-0.1
	baz=209							
WHP	**Taichung City**	**0.72**	**291**	*e*S		Sn	22 14 53.2	-0.1
	baz=290							
SMLT	**Sun Moon Lake**	**0.73**	**259**	*e*P		Pg	22 14 42.1	+0.1
	baz=258							
SMLT				*e*S		Sg	22 14 52.6	+0.9
	baz=258							
FUSB	**Fushanzhiwuyua**	**0.74**	**353**	*e*P		Pg	22 14 42.1	+0.1
	baz=352							
FUSB				*i* S		Sn	22 14 53.3	-0.4
	baz=352							
TWF1	**Yuli**	**0.76**	**208**	*e*P		Pb	22 14 42.0	0.0
	baz=207							
TYC	**Yuchr**	**0.77**	**261**	*e*P		Pg	22 14 42.5	0.0
	baz=261							
TYC				*e*S		Sg	22 14 53.1	+0.3
	baz=261							
NWLT	**Wulai**	**0.77**	**347**	*e*S		Sn	22 14 53.7	-0.7
	baz=347							
NFF	**Wufeng Townshi**	**0.80**	**320**	*e*S		Sn	22 14 54.7	-0.4
	baz=319							
LIOB	**Emei**	**0.87**	**316**	*e*P		Pn	22 14 46.0	+1.3
	baz=315							
LIOB				*i* S		Sn	22 14 57.5	+0.6
	baz=315							
NSTT	**Nanjuang**	**0.87**	**314**	*e*S		Sn	22 14 57.2	+0.3
	baz=314							
ALS	**Alishan**	**0.95**	**238**	*e*P		Pg	22 14 46.2	+0.1
	baz=237							
TIPB	**Shuangxi**	**0.95**	**8**	*i* S		Sn	22 14 59.4	+0.5
	baz=7.0							
ELDTW	**Lidau**	**1.03**	**217**	*e*P		Pb	22 14 46.8	0.0
	baz=216							

JMA 08 22:14:58.0±0.2,24°2.N±0.4°×123°8.E±0.4°,h17km±1km, MV1.2/8,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.13**	**317**	P	Pg	22 15 01.7	-0.1
IRIF				S	Sb	22 15 05.0	+0.2
JKRS	**Kuro-shima**	**0.16**	**90**	P	Pg	22 15 02.2	0.0
JKRS				*e*S	Sg	22 15 05.3	+0.2
HATJ	**Hateruma jima**	**0.18**	**187**	*i* P	Pg	22 15 02.3	-0.1
HATJ				*e*S	Sg	22 15 05.7	+0.2
JIJ	**Ishigaki jima**	**0.31**	**66**	P	Pg	22 15 04.3	-0.3
JIJ				*e*S	Sg	22 15 08.9	-0.3
JISG	**Ishigakijimahi**	**0.56**	**51**	*e*P	Pg	22 15 09.0	-0.1
JISG				S	Sb	22 15 17.5	+0.4
JTJ	**Tarama**	**0.89**	**63**	*e*S	Sn	22 15 27.8	-0.5

*IDC **08** 22:21:08.4±5.2,55°.31N×121°.78W,h0km,mbtmp2.4/1, ML2.1/1,Error ellipse: s-maj=49.1km s-min=20.8km az=176.0*
*PGC **08** 22:21:09.7±0.0,55°.38N×121°.84W,h0km,ML2.3/6,110km Wsw of Dawson Creek, Bc British Columbia, Canada Mining explosion.*

ISC 08 22:21:09.6±1.0,55°.43N±0°.06×121°.76W±0°.04,h0km,n14, σ1s18/15,British Columbia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMTB	**Bullhead Mount**	**0.65**	**341**	P	**Pg**	**22 21 22.0**	**-0.1**
BMTB				S	**Sg**	**22 21 31.6**	**+1.1**
NBC4	**NorthernBC 4**	**0.67**	**67**	P	**Pg**	**22 21 22.8**	**+0.3**
NBC4				S	**Sg**	**22 21 31.1**	**-0.1**
WTMTA	**White Mountain**	**1.45**	**79**	Pn	**Pn**	**22 21 36.9**	**-0.4**
WTMTA				Sn	**Sg**	**22 21 56.5**	**+0.2**
BDMTA	**Bald Mountain**	**1.75**	**110**	Pn	**Pn**	**22 21 41.6**	**+0.4**
BDMTA	**Bald Mountain**	**1.75**	**110**	Sg	**Sb**	**22 22 05.4**	**+0.3**
FSJB	**Fort St James**	**1.76**	**237**	Pn	**Pn**	**22 21 39.8**	**-1.6**
FSJB	**Fort St James**	**1.76**	**237**	Sg	**Sn**	**22 22 03.0**	**-1.5**
NBC5	**NorthernBC 5**	**2.16**	**347**	Pn	**Pn**	**22 21 46.2**	**-0.8**
NBC5	**NorthernBC 5**	**2.16**	**347**	Sn	**Sn**	**22 22 13.1**	**-1.3**
FNSB	**Fort Nelson**	**3.42**	**351**	Sg	**Sg**	**22 23 00.1**	**+0.5**
DLBC	**Dease Lake**	**5.44**	**307**	Pg	**Pb**	**22 22 47.3**	**+1.8**
	0.2nm,0.3s,baz=126,slow=8.7,SNR=3.4						
DLBC				Lg	Lg	22 23 58.0	
	0.1nm,0.3s,baz=263,slow=21,SNR=3.7						
I56US	**NEWPORT INFRAS**	**7.73**	**156**	I	I	23 06 30.0	
	baz=346,slow=323,SNR=1.0						
YKA	**Yellowknife Ar**	**7.98**	**25**	Pn	**Pn**	**22 23 04.8**	**-2.0**
	baz=210,slow=14,SNR=2.8						
YKA				Lg	Lg	22 25 20.1	
	0.1nm,0.3s,baz=212,slow=29,SNR=6.7						
	0.2nm,0.6s						
I10CA	**LAC DU BONNET**	**16.36**	**98**	I	I	23 59 10.0	
	baz=295,slow=328,SNR=3.7						

*NEIC **08** 22:25:13.3±1.7,55°.50N±0°.10×149°.2W±0°.1,h7km±6km, ML3.7/30,ML3.5(AEIC),Error ellipse: s-maj=14.1km s-min=8.6km az=168.0*
*IDC **08** 22:25:14.4±1.4,55°.56N×149°.41W,h0km,mb3.9/8, mbtmp3.8/12,ML3.2/4,MS3.1/2,Error ellipse: s-maj=30.7km s-min=22.3km az=46.0*
*AEIC **08** 22:25:18.6±1.9,55°.63N±0°.08×149°.28W±0°.10,h2km±6km, Error ellipse: s-maj=12.9km s-min=5.4km az=149.0*

ISC 08 22:25:16.6±0.9,55°.76N±0°.08×149°.24W±0°.05,h10km, n242,σ0s98/229,mb4.1/8,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.68**	**305**		**Pn**	**22 25 58.6**	**-1.1**
OHAK	**Old Harbor**	**2.68**	**305**		**Sn**	**22 26 29.4**	**-2.8**
OHAK	**Old Harbor**	**2.68**	**305**	P	**Pn**	**22 25 58.6**	**-1.1**
	baz=125						
OHAK				S	**Sn**	**22 26 30.8**	**-1.4**
	baz=125						
KDAK	**Kodiak Island**	**2.74**	**319**	Pn	**Pn**	**22 26 00.2**	**-0.3**
KDAK	**Kodiak Island**	**2.74**	**319**		**Sn**	**22 26 32.2**	**-1.4**
KDAK	**Kodiak Island**	**2.74**	**319**	S	**Sn**	**22 26 32.5**	**-1.1**
	baz=139						
KDAK	**Kodiak Island**	**2.74**	**319**	Pn	**Pn**	**22 25 59.8**	**-0.7**
	4.8nm,0.3s,baz=130,slow=4.9,SNR=161						
KDAK				Sn	**Sn**	**22 26 32.8**	**-0.8**
	3.9nm,0.3s,baz=205,slow=7.9,SNR=7.0						
KDAK				LR	LR	22 27 18.9	
	comp=Z,237nm,19.8s,baz=215,slow=44 29nm,0.6s						
SII	**Sitkinak Islan**	**2.88**	**288**		Pn	22 26 00.7	-1.8
SII					**Sn**	**22 26 34.8**	**-2.4**
SII	**Sitkinak Islan**	**2.88**	**288**	IAML		22 26 38.8	
	comp=N,200nm,0.6s						
SII				IAML		22 26 45.2	
	comp=E,222nm,0.8s						
SII	**Sitkinak Islan**	**2.88**	**288**	P	**Pn**	**22 26 01.2**	**-1.2**
	baz=109						
SII				S	**Sn**	**22 26 36.2**	**-0.9**
	baz=109						
SYI	**Shuyak Island**	**3.33**	**330**		**Pn**	**22 26 07.6**	**-1.1**
SYI				IAML		22 26 56.8	
	comp=N,68nm,1.1s						
SYI	**Shuyak Island**	**3.33**	**330**		**Sn**	**22 26 46.7**	**-1.6**
SYI	**Shuyak Island**	**3.33**	**330**	IAML		22 26 46.6	
	comp=E,48nm,1.4s						
Q20K	**Shuyak Island**	**3.33**	**330**	P	**Pn**	**22 26 08.2**	**-0.5**
	baz=149						
Q20K				S	**Sn**	**22 26 47.9**	**-0.4**
	baz=149						
CNPM	**China Poot**	**3.93**	**345**		**Pn**	**22 26 16.4**	**-0.4**
CNPM					**Sn**	**22 27 03.2**	**+0.2**
CNPM	**China Poot**	**3.93**	**345**	IAML		22 27 04.0	
	comp=N,41nm,1.4s						
CNPM				IAML		22 27 25.4	
	comp=E,57nm,1.4s						
Q19K	**Cape Douglas,**	**3.97**	**325**		**Pn**	**22 26 17.9**	**+0.4**
Q19K	**Cape Douglas,**	**3.97**	**325**	P	**Pn**	**22 26 18.0**	**+0.4**
	baz=143						
MID	**Middleton Isla**	**4.00**	**22**	Pn	**Pn**	**22 26 16.5**	**-1.2**
MID				IAML		22 27 29.0	
	comp=N,171nm,1.4s						
MID				IAML		22 27 54.5	
	comp=E,165nm,1.3s						
Q23K	**Middleton Isla**	**4.00**	**22**		**Pn**	**22 26 16.7**	**-1.1**
Q23K	**Middleton Isla**	**4.00**	**22**	IAML		22 27 29.0	
	comp=N,147nm,1.5s						
Q23K				IAML		22 27 54.6	
	comp=E,149nm,1.3s						
Q23K	**Middleton Isla**	**4.00**	**22**	P	**Pn**	**22 26 16.7**	**-1.1**
	baz=202						
KAKN	**Katmai Knife C**	**4.07**	**311**		**Pn**	**22 26 19.1**	**+0.2**
BRSE	**Bradley Lake S**	**4.08**	**349**		**Pn**	**22 26 18.4**	**-0.5**
BRSE					**Sn**	**22 27 06.2**	**-0.4**
BRSE	**Bradley Lake S**	**4.08**	**349**	P	**Pn**	**22 26 18.4**	**-0.5**
	baz=168						
BRSE				S	**Sn**	**22 27 06.2**	**-0.4**
	baz=168						
BRLK	**Bradley Lake**	**4.11**	**348**		**Pn**	**22 26 18.8**	**-0.6**
BRLK					**Sn**	**22 27 07.4**	**-0.2**
BRLK	**Bradley Lake**	**4.11**	**348**	IAML		22 27 16.0	
	comp=E,53nm,1.5s						
ACHA	**Angle Creek He**	**4.14**	**309**		**Pn**	**22 26 19.5**	**-0.3**
ANCK	**Angle Creek**	**4.21**	**308**		**Pn**	**22 26 20.8**	**+0.1**
SEW	**Seward**	**4.36**	**359**		**Pn**	**22 26 21.8**	**-0.9**
SEW					**Sn**	**22 27 11.9**	**-1.6**
SEW	**Seward**	**4.36**	**359**	P	**Pn**	**22 26 21.8**	**-0.9**
	baz=178						
SEW				S	**Sn**	**22 27 12.0**	**-1.6**
	baz=178						
P23K	**Montague Islan**	**4.36**	**12**		**Pn**	**22 26 21.9**	**-1.0**
P23K					**Sn**	**22 27 11.7**	**-2.0**
P23K	**Montague Islan**	**4.36**	**12**	P	**Pn**	**22 26 21.9**	**-1.0**
	baz=193						
P23K				S	**Sn**	**22 27 11.7**	**-2.0**
	baz=193						
CNTC	**Contact Creek**	**4.42**	**307**		**Pn**	**22 26 23.4**	**-0.2**
Q17K	**Contact Creek**	**4.42**	**307**	P	**Pn**	**22 26 23.4**	**-0.2**
	baz=124						
P19K	**Oil Pt**	**4.45**	**333**		**Pn**	**22 26 23.3**	**-0.8**
P19K	**Oil Pt**	**4.45**	**333**	IAML		22 27 26.8	
	comp=E,79nm,0.5s						
P19K				IAML		22 27 27.1	
	comp=N,95nm,1.2s						
P19K	**Oil Pt**	**4.45**	**333**	P	**Pn**	**22 26 23.3**	**-0.8**
	baz=151						
ILSW	**Iliamna Southw**	**4.72**	**335**		**Pn**	**22 26 27.1**	**-0.7**
ILSW				IAML		22 27 25.7	
	comp=N,30nm,1.4s						
ILSW				IAML		22 27 29.1	
	comp=E,37nm,1.2s						
Q22K	**Cooper Landing**	**4.74**	**357**	Pn	**Pn**	**22 26 28.8**	**+0.8**
SLKM	**Skilak Lake**	**4.79**	**354**		**Pn**	**22 26 27.9**	**-0.8**
SLKM					**Sn**	**22 27 23.8**	**-0.4**
P18K	**Big Mountain,**	**4.86**	**321**		**Pn**	**22 26 29.1**	**-0.6**
P18K	**Big Mountain,**	**4.86**	**321**	IAML		22 27 27.3	
	comp=N,22nm,1.2s						
HIN	**Hinchinbrook I**	**4.87**	**16**		**Sn**	**22 27 24.3**	**-2.0**
KAIM	**Kayak Island**	**4.91**	**30**	Pn	**Pn**	**22 26 29.8**	**-0.5**
KAIM				IAML		22 27 30.3	
	comp=E,81nm,1.3s						
CHGN	**Chignik**	**5.17**	**280**	Pn	**Pn**	**22 26 32.2**	**-1.7**
O18K	**Koktuh Hills**	**5.20**	**325**		**Pn**	**22 26 33.8**	**-0.5**
SUCK	**Suckling Hills**	**5.21**	**32**	Pn	**Pn**	**22 26 33.8**	**-0.7**
RC01	**Rabbit Creek A**	**5.35**	**357**		Pn	22 26 41.4	+5.0
RC01					**Sn**	**22 27 38.6**	**+0.6**
RC01	**Rabbit Creek A**	**5.35**	**357**		**Pn**	**22 26 36.2**	**-0.2**
GOAT	**Goat Mountain**	**5.39**	**24**		**Pn**	**22 26 36.7**	**-0.4**
BERG	**Berg Lake**	**5.50**	**30**	Pn	**Pn**	**22 26 37.8**	**-0.6**
GRIN	**Grindle Hills**	**5.52**	**32**		**Pn**	**22 26 38.5**	**-0.2**
SNH	**Sunshine Point**	**5.59**	**35**	Pn	**Pn**	**22 26 38.7**	**-1.0**
KHIT	**Khitrov Hills**	**5.67**	**32**		**Pn**	**22 26 40.0**	**-0.8**
N20K	**Mount Spurr**	**5.67**	**345**	P	**Pn**	**22 26 40.0**	**-0.9**
	baz=163						
SPCR	**Spurr Chakacha**	**5.67**	**345**		**Pn**	**22 26 40.0**	**-0.9**
KNK	**Knik Glacier**	**5.69**	**4**	Pn	**Pn**	**22 26 41.3**	**+0.3**
SPCP	**Crater Peak Br**	**5.73**	**346**		**Pn**	**22 26 41.6**	**-0.1**
BMRM	**Bremner River**	**5.76**	**23**		**Pn**	**22 26 41.5**	**-0.6**
BMRM	**Bremner River**	**5.76**	**23**	P	**Pn**	**22 26 41.5**	**-0.6**
	baz=206						
N19K	**Bonanza Creek**	**5.77**	**334**		**Pn**	**22 26 41.6**	**-0.6**
N19K	**Bonanza Creek**	**5.77**	**334**	P	**Pn**	**22 26 41.6**	**-0.6**
	baz=150						
SUA	**Susitna One**	**5.78**	**353**	Pn	**Pn**	**22 26 43.0**	**+0.7**
WAX	**Waxell Ridge**	**5.79**	**33**		**Pn**	**22 26 42.3**	**-0.3**
PMR	**Palmer**	**5.85**	**1**	Pn	**Pn**	**22 26 42.4**	**-0.8**
MESA	**MESA**	**5.89**	**38**	Pn	**Pn**	**22 26 43.4**	**-0.6**
STLK	**Strandline Lak**	**5.91**	**348**		**Pn**	**22 26 43.9**	**-0.3**
CRQM	**Cirque**	**5.96**	**30**	Pn	**Pn**	**22 26 44.9**	**0.0**
CRQE	**Cirque**	**5.97**	**30**	P	**Pn**	**22 26 44.5**	**-0.5**
	baz=214						
KLU	**Klutina**	**6.01**	**15**		**Pn**	**22 26 45.4**	**-0.1**
KLU	**Klutina**	**6.01**	**15**	P	**Pn**	**22 26 45.4**	**-0.1**
	baz=197						
GHO	**Glory Hole Cre**	**6.04**	**1**		**Pn**	**22 26 46.1**	**+0.3**
TGL	**Tana Glacier**	**6.04**	**31**		**Pn**	**22 26 45.2**	**-0.8**
N18K	**Kilae Creek**	**6.05**	**327**	Pn	**Pn**	**22 26 45.6**	**-0.4**
BAGL	**Bagley Icefiel**	**6.07**	**36**		**Pn**	**22 26 45.3**	**-0.9**
ISLE	**Juniper Island**	**6.07**	**34**		**Pn**	**22 26 45.7**	**-0.8**
SML	**Sawmill**	**6.09**	**4**	Pn	**Pn**	**22 26 47.1**	**+0.5**
O16K	**Kokwok River B**	**6.11**	**313**		**Pn**	**22 26 46.7**	**-0.1**
O16K	**Kokwok River B**	**6.11**	**313**	P	**Pn**	**22 26 46.7**	**-0.1**
	baz=127						
SCM	**Sheep Creek Mo**	**6.17**	**8**		**Pn**	**22 26 48.5**	**+0.7**
VRDI	**Verde Repeater**	**6.27**	**27**		**Pn**	**22 26 48.4**	**-0.7**
SVW2	**Sparrevohn**	**6.30**	**331**	Pn	**Pn**	**22 26 49.1**	**-0.4**
KIAG	**Kiagna River**	**6.32**	**32**		**Pn**	**22 26 49.2**	**-0.6**
N25K	**Chitina, Valde**	**6.34**	**21**		**Pn**	**22 26 50.1**	**0.0**
N25K	**Chitina, Valde**	**6.34**	**21**	P	**Pn**	**22 26 50.1**	**0.0**
	baz=203						
SKT	**Skwentna**	**6.35**	**350**	Pn	**Pn**	**22 26 49.9**	**-0.2**
TABL	**Table Mountain**	**6.36**	**39**		**Pn**	**22 26 50.0**	**-0.4**
GRNC	**Granite Creek**	**6.36**	**35**		**Pn**	**22 26 49.6**	**-0.9**
N17K	**Nushagak Hills**	**6.37**	**322**	Pn	**Pn**	**22 26 50.3**	**0.0**
GLB	**Gilahina Butte**	**6.37**	**24**		**Pn**	**22 26 50.4**	**+0.1**
SDPT	**Sand Point**	**6.39**	**271**	Pn	**Pn**	22 26 48.4	-2.3
M20K	**Styx River**	**6.46**	**343**	Pn	**Pn**	**22 26 50.6**	**-1.2**
PTPK	**Patty Peak**	**6.50**	**30**		**Pn**	**22 26 51.6**	**-0.7**
MCARA	**McCarthy VSAT**	**6.51**	**27**		**Pn**	**22 26 52.2**	**0.0**
MCARA	**McCarthy VSAT**	**6.51**	**27**	P	**Pn**	**22 26 52.2**	**0.0**
	baz=211						
M24K	**Tolsona, Glenn**	**6.56**	**13**		**Pn**	**22 26 52.9**	**-0.1**
M24K	**Tolsona, Glenn**	**6.56**	**13**	P	**Pn**	**22 26 52.9**	**-0.1**
	baz=194						
PNL	**Peninsula**	**6.57**	**49**		**Pn**	**22 26 52.4**	**-0.8**
PNL	**Peninsula**	**6.57**	**49**	P	**Pn**	**22 26 52.3**	**-0.8**
	baz=236						
BCPM	**Bancas Point**	**6.63**	**47**		Pn	22 26 51.6	-2.3
O15K	**Ungalikthiuk R**	**6.66**	**305**		**Pn**	**22 26 54.1**	**-0.2**
O15K	**Ungalikthiuk R**	**6.66**	**305**	P	**Pn**	**22 26 54.1**	**-0.2**
	baz=118						
CTG	**Chitna Glacier**	**6.67**	**35**	P	**Pn**	**22 26 53.5**	**-1.1**
	baz=220						
CTGM	**Chitina Glacie**	**6.67**	**35**		**Pn**	**22 26 53.5**	**-1.1**
LOGN	**Logan Glacier**	**6.68**	**37**		**Pn**	**22 26 53.8**	**-1.0**
CUT	**Chulitna**	**6.69**	**356**	Pn	**Pn**	**22 26 54.4**	**-0.3**
M18K	**Stony River**	**6.70**	**332**		**Pn**	**22 26 53.9**	**-0.9**
M18K	**Stony River**	**6.70**	**332**	P	**Pn**	**22 26 53.9**	**-0.9**
	baz=147						
M19K	**Big River Lodg**	**6.72**	**339**	Pn	**Pn**	**22 26 55.2**	**+0.1**
N16K	**Nishlik Lake**	**6.91**	**317**		**Pn**	**22 26 57.8**	**0.0**
N16K	**Nishlik Lake**	**6.91**	**317**	P	**Pn**	**22 26 57.8**	**0.0**
	baz=130						
HARP	**HAARP**	**6.98**	**16**		**Pn**	**22 26 58.4**	**-0.4**
HARP	**HAARP**	**6.98**	**16**	P	**Pn**	**22 26 58.4**	**-0.4**
	baz=198						
L19K	**White Mountain**	**7.06**	**338**	Pn	**Pn**	**22 26 59.7**	**-0.2**
PS4A	**Pavlof South-4**	**7.17**	**272**		Pn	22 26 58.7	-2.6
PN7A	**Pavlof North-7**	**7.24**	**273**		Pn	22 27 00.0	-2.3
O29M	**Mount Kennedy**	**7.26**	**47**		**Pn**	**22 27 02.4**	**-0.4**
N15K	**Kwethluk River**	**7.27**	**312**		**Pn**	**22 27 03.7**	**+1.0**
P29M	**Windy Craggy**	**7.28**	**53**		**Pn**	**22 27 02.4**	**-0.6**
P29M	**Windy Craggy**	**7.28**	**53**	P	**Pn**	**22 27 02.3**	**-0.6**
	baz=241						
M16K	**Timber Creek**	**7.34**	**320**	Pn	**Pn**	**22 27 03.8**	**+0.1**
O14K	**Tigyukauivet M**	**7.36**	**303**	Pn	**Pn**	**22 27 04.0**	**+0.1**
M26K	**Nabesna, AK**	**7.39**	**23**	Pn	**Pn**	**22 27 04.6**	**+0.1**
S31K	**Pelican**	**7.47**	**67**		Pn	22 27 01.9	-3.5
S31K	**Pelican**	**7.47**	**67**	P	Pn	22 27 01.9	-3.5
	baz=256						
L18K	**Granite Mounta**	**7.53**	**332**	Pn	**Pn**	**22 27 05.2**	**-1.1**
M27K	**Edge Creek, AK**	**7.62**	**27**	Pn	**Pn**	**22 27 07.9**	**+0.2**
RND	**Reindeer**	**7.67**	**1**	Pn	**Pn**	**22 27 07.8**	**-0.6**
MENT	**Mentasta**	**7.73**	**19**	Pn	**Pn**	**22 27 09.1**	**0.0**
TRF	**Thorofare Moun**	**7.74**	**357**	Pn	**Pn**	**22 27 09.8**	**+0.5**
CAST	**Castle Rocks**	**7.82**	**351**		**Pn**	**22 27 11.8**	**+1.5**
SIT	**Sitka**	**7.83**	**75**	Pn	**Pn**	22 27 06.0	-4.4
KTH	**Kantishna Hill**	**7.87**	**354**	Pn	**Pn**	**22 27 12.2**	**+1.2**
L26K	**Log Cabin Wild**	**7.88**	**20**	Pn	**Pn**	**22 27 13.4**	**+2.2**
TTA	**Tatalina**	**7.98**	**337**	Pn	**Pn**	**22 27 12.1**	**-0.3**
L16K	**Owhat River**	**7.99**	**322**	Pn	**Pn**	**22 27 12.8**	**+0.3**
HYT	**Haines Junctio**	**8.00**	**46**	Pn	**Pn**	**22 27 12.7**	**-0.1**
K20K	**Telida**	**8.00**	**344**	Pn	**Pn**	**22 27 11.9**	**-0.9**
L27K	**Beaver Creek,**	**8.24**	**24**	Pn	**Pn**	**22 27 15.3**	**-0.7**
BCAR	**Beaver Creek A**	**8.25**	**24**	Pn	**Pn**	**22 27 15.8**	**-0.4**
S32K	**Killisnoo**	**8.27**	**72**		Pn	22 27 12.7	-3.7
S32K	**Killisnoo**	**8.27**	**72**	P	Pn	22 27 12.7	-3.7
	baz=262						
RIDG	**Independent Ri**	**8.31**	**14**		**Pn**	**22 27 16.8**	**-0.2**
SKAG	**Skagway**	**8.34**	**58**	Pn	Pn	22 27 14.9	-2.4
M14K	**Bethel**	**8.36**	**312**	Pn	**Pn**	**22 27 17.5**	**-0.2**
K17K	**Ititarod**	**8.37**	**330**	Pn	**Pn**	**22 27 17.1**	**-0.7**
BPAW	**Bear Paw Mtn.**	**8.41**	**355**	Pn	**Pn**	**22 27 18.9**	**+0.4**
N30M	**Aishikik Lake**	**8.53**	**43**	Pn	**Pn**	**22 27 19.9**	**-0.1**
O30N	**Mendenhall**	**8.55**	**49**	Pn	**Pn**	**22 27 19.5**	**-0.8**
J18K	**Innoko River**	**8.60**	**337**	Pn	**Pn**	**22 27 22.4**	**+1.4**
SCRK	**Sand Creek**	**8.65**	**16**	Pn	**Pn**	**22 27 22.8**	**+1.0**
M29M	**Somme Creek**	**8.69**	**35**		**Pn**	**22 27 22.3**	**0.0**
HDA	**Harding Lake**	**8.75**	**7**	Pn	**Pn**	**22 27 24.3**	**+1.3**
WRH	**Wood River Hil**	**8.76**	**3**	Pn	**Pn**	**22 27 23.6**	**+0.5**
J20K	**Nowinta River**	**8.79**	**346**	Pn	**Pn**	**22 27 24.6**	**+1.1**
M13K	**Dall Lake**	**8.80**	**308**	Pn	Pn	22 27 21.5	-2.2
J19K	**Poorman**	**8.86**	**341**	Pn	**Pn**	**22 27 23.8**	**-0.6**
NEA2	**Nenana**	**8.87**	**0**	Pn	**Pn**	**22 27 23.4**	**-1.1**
CCB	**Clear Creek Bu**	**8.95**	**4**	Pn	**Pn**	**22 27 26.0**	**+0.3**
L14K	**Kuka Creek**	**8.97**	**314**	Pn	**Pn**	**22 27 26.9**	**+0.9**
WHY	**Whitehorse**	**9.02**	**51**	Pn	**Pn**	**22 27 27.1**	**+0.2**
K27K	**Chicken**	**9.04**	**20**	Pn	Pn	22 27 22.8	-4.4
U33K	**Whale Pass**	**9.06**	**81**		Pn	22 27 22.8	-4.4
U33K	**Whale Pass**	**9.06**	**81**	P	Pn	22 27 22.8	-4.4
	baz=273						
J25K	**Salcha River,**	**9.09**	**11**	Pn	**Pn**	**22 27 27.7**	**0.0**
K15K	**Wolf Creek Mou**	**9.10**	**321**	Pn	**Pn**	**22 27 29.1**	**+1.3**
IL31		**9.12**	**6**	Pn	**Pn**	**22 27 29.3**	**+1.4**
ILAR	**Eielson Array**	**9.12**	**6**	Pn	**Pn**	**22 27 29.0**	**+1.0**
ILAR	**Eielson Array**	**9.12**	**6**	Pn	**Pn**	**22 27 29.3**	**+1.3**
	comp=E,0.4nm,0.3s,baz=189,slow=14,SNR=15						
ILAR				Sn	**Sn**	**22 29 06.7**	**-3.9**
	comp=E,0.2nm,0.3s,baz=186,slow=22,SNR=6.1						
	comp=E,1.0nm,0.4s						
P32M	**Atlin**	**9.16**	**59**	Pn	**Pn**	**22 27 27.3**	**-1.3**
J26L	**Joseph Creek**	**9.21**	**16**	Pn	**Pn**	**22 27 30.2**	**+0.8**
MDM	**Murphy Dome**	**9.24**	**3**	Pn	**Pn**	**22 27 30.5**	**+0.7**
L29M	**L29M**	**9.28**	**33**	Pn	**Pn**	**22 27 30.9**	**+0.6**
MLY	**Manley**	**9.33**	**356**	Pn	**Pn**	**22 27 30.8**	**-0.3**
M30M	**Minto, Yukon**	**9.34**	**38**	Pn	**Pn**	**22 27 31.3**	**+0.1**
I23K	**Minto, Yukon-K**	**9.42**	**360**	Pn	**Pn**	**22 27 32.9**	**+0.7**
J16K	**Anvik River**	**9.49**	**327**	Pn	**Pn**	**22 27 34.1**	**+1.1**
I21K	**Tanana**	**9.55**	**353**	Pn	**Pn**	**22 27 34.5**	**+0.6**
DAWY	**Dawson**	**9.68**	**27**	Pn	**Pn**	**22 27 35.9**	**+0.2**
Q32M	**Nakina River**	**9.71**	**64**	Pn	**Pn**	**22 27 34.6**	**-1.7**
P33M	**Teslin, Yukon**	**9.79**	**56**	Pn	**Pn**	**22 27 36.6**	**-0.7**
PRP	**Porcupine Dome**	**9.96**	**9**	Pn	**Pn**	**22 27 40.1**	**+0.4**
I17K	**Unalakleet**	**9.97**	**329**	Pn	**Pn**

az=47.0
*IDC **08** 22:27:28.4±2.4,4.˝76S×153˚27E,h110km±23km,mb3.9/13, mbtmp4.3/15,MS3.7/8,Error ellipse: s-maj=16.4km s-min=14.7km az=93.0*
ISC 08 22:27:23.6±0.5,4˚49S±0˚06×153˚22E±0˚06,h55km,n123, σ1s77/115,mb4.8/37,MS3.8/7,2D,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.09**	**285**		**Pn**	**22 27 39.8**	**-2.9**
RABL				Sn	**Sn**	**22 27 54.9**	**-1.9**
MANU	**Manus Island**	**6.32**	**292**	Pn	**Pn**	**22 28 52.6**	**-1.7**
MANU	**Manus Island**	**6.32**	**292**	P	**Pn**	**22 28 55.9**	**+1.6**
PMG	**Port Moresby**	**7.75**	**231**	Pn	**Pn**	**22 29 14.7**	**+0.8**
PMG					**Sn**	**22 30 40.3**	**0.0**
PMG	**Port Moresby**	**7.75**	**231**	P	Pn	22 29 18.8	+4.9
PMG	**Port Moresby**	**7.75**	**231**	P	**Pn**	**22 29 18.6**	**+4.7**
PMG	**Port Moresby** 56nm,0.7s,baz=11,slow=9.7,SNR=16	**7.75**	**231**	P	**Pn**	**22 29 16.5**	**+2.6**
PMG	59nm,0.7s,baz=104,slow=15,SNR=6.8			S	**Sn**	**22 30 42.8**	**+2.6**
PMG	comp=Z,293nm,20.0s,baz=20,slow=40			LR	LR	22 32 34.0	
HNR	**Honiara** 817nm,0.3s,baz=261,slow=9.2,SNR=5.5	**8.29**	**127**	P	**Pn**	**22 29 23.3**	**+2.0**
HNR	1μm,0.3s,baz=96,slow=23,SNR=2.3			S	**Sn**	**22 30 52.8**	**-0.9**
HNR	comp=Z,7μm,18.5s,baz=294,slow=40			LR	LR	22 32 53.8	
COEN	**Coen** baz=14,SNR=5.0	**13.66**	**226**	P	**Pn**	**22 30 37.5**	**+2.7**
COEN	**Coen**	**13.66**	**226**		**Pn**	**22 30 35.8**	**+1.0**
COEN	**Coen**	**13.66**	**226**	P	**Pn**	**22 30 37.7**	**+3.0**
MTSU	**Mount Surprise** baz=16,SNR=8.5	**16.12**	**212**	P	**Pn**	**22 31 09.4**	**+2.7**
MTSU	**Mount Surprise**	**16.12**	**212**	P	**P**	**22 31 09.9**	**+0.7**
CTA	**Charters Tower** 11nm,1.1s,baz=23,slow=13,SNR=2.2	**16.93**	**203**	P	**Pn**	**22 31 16.1**	**-0.8**
QIS	**Mount Isa** baz=21,SNR=26	**20.75**	**218**	P	**P**	**22 32 01.1**	**+1.1**
QIS	**Mount Isa**	**20.75**	**218**	P	Pn	22 32 03.4	+0.5
EIDS	**Eidsvold** baz=21,SNR=3.4	**20.87**	**185**	P	**P**	**22 32 01.1**	**-0.1**
LIFNC	**LIFOU**	**21.17**	**141**	P	**P**	**22 32 08.9**	**+4.4**
DZM	**Mont Dzumac** comp=Z,90nm,21.3s,baz=287,slow=29	**21.68**	**145**	LR	LR	22 37 50.9	
KDU	**Kakadu** baz=22,SNR=46	**22.05**	**247**	P	**P**	**22 32 11.4**	**-2.7**
SWI	**Sorong** 59nm,0.8s,1μm	**22.22**	**279**	P	**P**	**22 32 19.0**	**+3.1**
MTN	**Manton Dam** baz=24,SNR=3.8	**23.34**	**248**	P	**P**	**22 32 24.7**	**-2.6**
MTN	**Manton Dam**	**23.34**	**248**	P	**P**	**22 32 26.8**	**-0.6**
MTN	comp=Z,39nm,0.9s			IAmb	IAmb	22 32 29.9	
DRS	**Darwin Rock St**	**23.43**	**249**	P	**P**	**22 32 30.5**	**+2.3**
QLP	**Quilpie**	**23.59**	**200**	P	**P**	**22 32 29.7**	**+0.1**
WB0	**Warramunga Arr**	**23.82**	**229**	P	**P**	**22 32 31.4**	**-0.4**
WB0	comp=Z,42nm,0.8s			IAmb	IAmb	22 32 35.5	
WR0	**Warramunga Arr**	**23.82**	**228**	P	**P**	**22 32 32.1**	**+0.3**
WR0	comp=Z,61nm,1.1s			IAmb	IAmb	22 32 35.6	
WRAB	**Tennant Creek**	**23.95**	**229**	P	**P**	**22 32 33.4**	**+0.4**
WRAB	comp=Z,43nm,0.7s			IAmb	IAmb	22 32 35.8	
WB2	**Warramunga Arr** baz=24	**23.95**	**229**	P	**P**	**22 32 32.5**	**-0.5**
WB2	**Warramunga Arr**	**23.95**	**229**	P	**P**	**22 32 32.6**	**-0.5**
WB2	comp=Z,41nm,0.6s			IAmb	IAmb	22 32 35.9	
WRA	**Warramunga Arr**	**23.96**	**229**	P	**P**	**22 32 33.4**	**+0.2**
WRA	**Warramunga Arr** comp=Z,21nm,0.5s,baz=52,slow=9.7,SNR=60 comp=Z,21nm,0.5s	**23.96**	**229**	P	**P**	**22 32 31.4**	**-1.7**
AULRC	**Lightning Ridg**	**25.30**	**191**	P	**P**	**22 32 43.7**	**-1.4**
ARMA	**Armidale** baz=26,SNR=6.2	**25.84**	**183**	P	**P**	**22 32 49.2**	**-1.0**
LBMI	**Labuha** comp=Z,67nm,0.8s	**25.97**	**278**	P	**P**	**22 32 54.3**	**+2.9**
INKA	**Innaminka**	**26.00**	**206**	P	**P**	**22 32 50.1**	**-1.4**
H11S3	**WAKE ISLAND Hy** baz=210,slow=76,SNR=29	**26.41**	**30**	T	T	23 00 22.8	
H11S2	**WAKE ISLAND Hy** baz=210,slow=76,SNR=15	**26.42**	**30**	T	T	23 00 34.0	
H11S1	**WAKE ISLAND Hy** baz=210,slow=76,SNR=9.6	**26.43**	**30**	T	T	23 00 28.7	
KNRA	**Kununurra** baz=27,SNR=29	**26.48**	**243**	P	**P**	**22 32 55.3**	**-0.7**
KNRA	**Kununurra**	**26.48**	**243**	P	**P**	**22 32 55.4**	**-0.6**
KNRA	**Kununurra**	**26.48**	**243**	P	**P**	**22 32 57.1**	**+1.1**
AS01	**Alice Springs**	**26.63**	**222**	P	**P**	**22 32 57.9**	**+0.6**
AS31	**Alice Springs**	**26.66**	**223**	P	**P**	**22 32 58.0**	**+0.5**
ASAR	**Alice Springs**	**26.66**	**223**	P	**P**	**22 32 57.7**	**+0.1**
ASAR	**Alice Springs** comp=Z,0.8nm,0.4s,baz=56,slow=8.9,SNR=31	**26.66**	**223**	P	**P**	**22 32 55.6**	**-1.9**
ASAR	comp=Z,100nm,18.9s,baz=346,slow=39 comp=Z,0.8nm,0.4s			LR	LR	22 44 50.1	
ASPA	**Alice Springs** baz=27	**26.66**	**223**	P	**P**	**22 32 58.4**	**+0.8**
CMSA	**Cobar Meteorol** baz=28	**27.82**	**194**	P	**P**	**22 33 05.2**	**-2.7**
CMSA	**Cobar Meteorol**	**27.82**	**194**	P	**P**	**22 33 06.8**	**-1.1**
OOD	**Oodnadatta**	**28.57**	**214**	P	**P**	**22 33 12.3**	**-2.2**
STKA	**Stephens Creek** baz=30,SNR=12	**29.35**	**200**	P	**P**	**22 33 19.2**	**-2.2**
STKA	**Stephens Creek**	**29.35**	**200**	P	**P**	**22 33 20.6**	**-0.8**
STKA	**Stephens Creek**	**29.35**	**200**	P	**P**	**22 33 19.2**	**-2.2**
STKA	**Stephens Creek** comp=Z,7.3nm,0.7s,baz=30,slow=12,SNR=11 comp=Z,7.3nm,0.7s	**29.35**	**200**	P	**P**	**22 33 18.9**	**-2.6**
KMSI	**Cibinong** comp=Z,201nm,0.8s	**29.64**	**279**	P	**P**	**22 33 28.8**	**+4.6**
YNG	**Young** baz=30	**30.00**	**188**	P	**P**	**22 33 26.9**	**-0.3**
FITZ	**Fitzroy Crossi** baz=30,SNR=17	**30.17**	**241**	P	**P**	**22 33 26.1**	**-2.8**
FITZ	**Fitzroy Crossi**	**30.17**	**241**	P	**P**	**22 33 27.1**	**-1.8**
FITZ	comp=Z,3.8nm,0.7s			IAmb	IAmb	22 33 30.2	
LUWI	**Luwuk**	**30.60**	**276**	P	**P**	**22 33 31.1**	**-1.6**
MULG	**Mulgathing**	**31.39**	**213**	P	**P**	**22 33 37.1**	**-2.4**
WRKA	**Warakurna** baz=32,SNR=28	**31.48**	**227**	P	**P**	**22 33 37.9**	**-2.4**
WRKA	**Warakurna**	**31.48**	**227**	P	**P**	**22 33 40.6**	**+0.2**
HTT	**Hallett** baz=32,SNR=8.1	**31.73**	**203**	P	**P**	**22 33 40.4**	**-2.1**
HTT	**Hallett**	**31.73**	**203**	P	**P**	**22 33 40.7**	**-1.8**
BBOO	**Buckleboo** baz=33	**32.42**	**208**	P	**P**	**22 33 48.5**	**-0.1**
TOLI2	**Tolitoli**	**32.88**	**279**		P	22 33 49.1	-3.7
TOLI2	comp=Z,11nm,0.6s			IAmb	IAmb	22 33 56.5	
TOLI2	**Tolitoli**	**32.88**	**279**	P	**P**	**22 33 53.1**	**+0.3**
MPSI	**Mapaga** comp=Z,35nm,0.7s,comp=Z,2μm	**33.63**	**277**	P	**P**	**22 33 59.7**	**+0.4**
ARPS	**Mount Arapiles** baz=34,SNR=6.6	**33.79**	**197**	P	**P**	**22 33 59.2**	**-1.1**
ARPS	**Mount Arapiles**	**33.79**	**197**	P	**P**	**22 33 58.9**	**-1.5**
FORT	**Forrest** baz=36,SNR=9.2	**35.29**	**219**	P	**P**	**22 34 15.3**	**+1.8**
FORT	**Forrest**	**35.29**	**219**	P	**P**	**22 34 13.7**	**+0.2**
FORT	**Forrest**	**35.29**	**219**	P	**P**	**22 34 15.4**	**+1.9**
MBWA	**Marble Bar**	**36.49**	**240**	P	**P**	**22 34 22.6**	**-1.2**
MBWA	comp=Z,21nm,0.9s			IAmb	IAmb	22 34 25.0	
MBWA	**Marble Bar**	**36.49**	**240**	P	**P**	**22 34 23.0**	**-0.8**
MBWA	**Marble Bar**	**36.49**	**240**	P	**P**	**22 34 22.6**	**-1.2**
PSA00	**Pilbara Seismi**	**36.55**	**239**	P	**P**	**22 34 24.1**	**-0.3**
PSA00	comp=Z,13nm,0.8s			IAmb	IAmb	22 34 34.7	
JAGI	**Jajag, Banyuwa**	**39.00**	**262**	P	**P**	**22 34 42.6**	**-2.6**
MEEK	**Meekatharra** baz=40,SNR=18	**39.72**	**233**	P	**P**	**22 34 50.8**	**-0.3**
MEEK	**Meekatharra**	**39.72**	**233**	P	**P**	**22 34 51.8**	**+0.7**
KMBL	**Kambalda** baz=40,SNR=4.5	**39.77**	**224**	P	**P**	**22 34 51.7**	**+0.4**
PWJI	**Pagerwojo**	**41.30**	**263**	P	**P**	**22 35 02.0**	**-2.2**
STKI	**Sintang**	**41.94**	**275**	P	**P**	**22 35 11.5**	**+2.0**
KLBR	**Kellerberrin** baz=43,SNR=5.7	**42.82**	**227**	P	**P**	**22 35 15.7**	**-0.7**
MORW	**Morawa** baz=43,SNR=5.1	**42.87**	**231**	P	**P**	**22 35 16.5**	**-0.3**
NWAO	**Narrogin (SRO)** comp=Z,93nm,21.6s,baz=194,slow=35	**43.90**	**225**	LR	LR	22 53 14.6	
NJ2	**Nanjing**	**48.87**	**320**	*eP*	**P**	**22 36 05.0**	**+1.0**
NJ2	comp=Z,11nm,0.5s			pmax	pmax		
USRK	**Ussuriysk Ar.** comp=Z,1.6nm,0.7s,baz=161,slow=13,SNR=2.0 comp=Z,1.6nm,0.7s	**52.09**	**341**	P	**P**	**22 36 29.7**	**+1.6**
HNS	**HongShan**	**54.95**	**323**	⇓P	**P**	**22 36 49.6**	**+0.4**
BNX	**BinXian**	**55.03**	**338**	⇓P	**P**	**22 36 50.0**	**+0.4**
BNX	comp=Z,9.0nm,1.3s			pmax	pmax		
BNX	comp=Z,250nm,5.2s			pmax	pmax		
XAN	**Xi'an**	**56.68**	**316**	P	**P**	**22 37 01.8**	**+0.1**
XAN	comp=Z,11nm,0.9s			pmax	pmax		
XAN	**Xi'an**	**56.68**	**316**	P	**P**	**22 37 01.9**	**+0.2**
PETK	**Petropavlovsk-** comp=Z,1.6nm,0.7s,baz=178,slow=7.9,SNR=1.6 comp=Z,1.6nm,0.7s	**57.50**	**3**	P	**P**	**22 37 07.6**	**+0.5**
CMAR	**Chiang Mai Arr** comp=Z,1.2nm,0.3s,baz=119,slow=5.4,SNR=12 comp=Z,1.2nm,0.3s	**58.12**	**295**	P	**P**	**22 37 13.5**	**+1.4**
PZH	**PanZhiHua**	**58.53**	**305**	P	**P**	**22 37 14.7**	**-0.3**
PZH	comp=Z,10.0nm,0.6s			pmax	pmax		
PZH	comp=Z,90nm,4.8s			pmax	pmax		
CD2	**Chengdu**	**58.85**	**310**	*eP*	**P**	**22 37 16.0**	**-1.0**
HHC	**Hu-ho-hao-te**	**59.04**	**324**	*eP*	**P**	**22 37 19.8**	**+1.6**
HHC	comp=Z,4.0nm,0.6s			pmax	pmax		
HHC	comp=Z,86nm,6.0s			pmax	pmax		
LZH	**Lanzhou**	**61.30**	**316**	*eP*	**P**	**22 37 34.9**	**+1.1**
LZH				pP	pP	22 37 53.2	+4.2
LZH	comp=Z,12nm,1.2s			pmax	pmax		
DRV	**Dumont d'Urvil**	**62.75**	**186**	P	**P**	**22 37 40.8**	**-2.0**
GTA	**Gaotai**	**65.71**	**317**	*eP*	**P**	**22 38 04.1**	**+1.2**
GTA				sP	pP	22 38 10.4	-7.9
GTA	comp=Z,4.0nm,1.1s			pmax	pmax		
SONM	**Songino Array** comp=Z,1.2nm,0.6s,baz=148,slow=6.1,SNR=9.3 comp=Z,1.2nm,0.6s	**66.28**	**328**	P	**P**	**22 38 06.5**	**+0.2**
LSA	**Lhasa**	**68.40**	**304**	P	**P**	**22 38 18.4**	**-2.2**
LSA	comp=Z,4.1nm,0.7s			IAmb	IAmb	22 38 22.7	
LSA	**Lhasa**	**68.40**	**304**	P	**P**	**22 38 22.3**	**+1.7**
VNDA	**Vanda** comp=Z,4.8nm,0.9s,baz=327,slow=7.3,SNR=16 comp=Z,4.8nm,0.9s	**73.13**	**178**	P	**P**	**22 38 45.2**	**-2.6**
WMQ	**Urumqi**	**75.79**	**317**	*eP*	**P**	**22 39 05.6**	**+1.6**
MK31	**Makanchi Array**	**80.36**	**319**	P	**P**	**22 39 28.4**	**-0.8**
MKAR	**Makanchi Array**	**80.36**	**319**	P	**P**	**22 39 27.9**	**-1.3**
MKAR	**Makanchi Array** comp=Z,0.9nm,0.7s,baz=100,slow=6.6,SNR=8.1 comp=Z,0.9nm,0.7s	**80.36**	**319**	P	**P**	**22 39 27.0**	**-2.2**
ZALV	**Zalesovo Beam** comp=Z,0.4nm,0.4s,baz=108,slow=4.7,SNR=2.5 comp=Z,0.4nm,0.4s	**81.12**	**326**	P	**P**	**22 39 32.4**	**-0.6**
ILAR	**Eielson Array** comp=Z,0.6nm,0.8s,baz=252,slow=5.7,SNR=5.9 comp=Z,0.6nm,0.8s	**81.71**	**22**	P	**P**	**22 39 36.9**	**+0.9**
KSH	**Kashi**	**83.05**	**311**	P	**P**	**22 39 45.8**	**+2.1**
KSH				pP	pP	22 40 01.1	+2.2
KSH	comp=Z,3.0nm,1.0s			pmax	pmax		
AAK	**Ala-Archa**	**84.75**	**313**	P	**P**	**22 39 51.8**	**-0.5**
QSPA	**South Pole Qui**	**85.47**	**180**	P	**P**	**22 39 52.3**	**-3.1**
QSPA	comp=Z,4.2nm,0.9s			IAmb	IAmb	22 40 00.9	
QSPA	**South Pole Qui** comp=Z,1.4nm,0.5s,baz=202,slow=0.7,SNR=18 comp=Z,1.4nm,0.5s	**85.47**	**180**	P	**P**	**22 39 52.3**	**-3.1**
ARSB	**Arslanbob**	**85.62**	**312**	P	**P**	**22 39 56.7**	**0.0**
DRK	**Karamyk**	**86.22**	**310**	P	**P**	**22 39 58.6**	**-1.3**
DRK	comp=Z,6.9nm,0.9s			IAmb	IAmb	22 40 09.1	
CHGR	**Chuyangaron**	**88.14**	**309**	P	**P**	**22 40 06.7**	**-2.2**
SIMJ	**Simiganj**	**88.25**	**309**	P	**P**	**22 40 08.8**	**-0.7**
SIMJ	comp=Z,5.1nm,0.9s			IAmb	IAmb	22 40 10.7	
YBH	**Yreka Blue Hor** comp=Z,34nm,19.0s,baz=106,slow=32	**88.54**	**48**	LR	LR	23 14 42.6	
BVAR	**Borovoye Array** comp=Z,2.3nm,0.7s,baz=98,slow=6.1,SNR=13 comp=Z,2.3nm,0.7s	**89.24**	**323**	P	**P**	**22 40 12.4**	**-1.2**
NVAR	**Mina Array Bea** comp=Z,76nm,19.2s,baz=126,slow=32	**91.56**	**52**	LR	LR	23 15 45.6	
PFO	**Pinyon Flats O** comp=Z,38nm,20.7s,baz=58,slow=31	**92.72**	**57**	LR	LR	23 14 45.6	
PDAR	**Pinedale Array** comp=Z,46nm,18.2s,baz=104,slow=36	**98.33**	**48**	LR	LR	23 25 50.1	

*IDC **08** 22:32:17.4±2.2,6.˚61S×129˚38E,h0km,mbtmp4.5/2, ML4.5/2,Error ellipse: s-maj=135.8km s-min=31.7km az=68.0*
*NEIC **08** 22:32:32.7±1.1,6.˚96S±0˚08×129˚11E±0˚08,h158km±15km, mb4.3/7,Error ellipse: s-maj=13.0km s-min=10.2km az=143.0*
ISC 08 22:32:32.3±0.7,7˚08S±0˚07×129˚16E±0˚07,h156km,n29, σ1s70/32,mb4.4/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.31**	**113**	Pn	**Pn**	**22 33 13.1**	**+1.6**
SAUI	**Saumlaki**	**2.31**	**113**	P	**Pn**	**22 33 14.3**	**+2.9**
FAKI	**Fak Fak**	**5.15**	**37**	Pn	**Pn**	**22 33 47.5**	**-0.4**
FAKI				Sn	**Sn**	**22 34 45.3**	**-1.6**
FAKI	**Fak Fak**	**5.15**	**37**	P	**Pn**	**22 33 48.8**	**+0.9**
SOEI	**Soe**	**5.52**	**241**		**Pn**	**22 33 53.5**	**+0.6**
SOEI				Sn	**Sn**	**22 34 56.3**	**+0.5**
SOEI	**Soe**	**5.52**	**241**	P	**Pn**	**22 33 55.1**	**+2.2**
MTN	**Manton Dam**	**6.05**	**161**		**Pn**	**22 34 00.3**	**+0.4**
MTN	**Manton Dam**	**6.05**	**161**	P	**Pn**	**22 34 00.0**	**+0.2**
KNRA	**Kununurra**	**8.56**	**183**	Pn	**Pn**	**22 34 32.7**	**-0.4**
PLAI	**Plampang**	**11.40**	**260**	P	**Pn**	**22 35 10.5**	**-0.3**
WB0	**Warramunga Arr**	**13.60**	**159**	Pn	**Pn**	**22 35 36.7**	**-2.3**
WRAB	**Tennant Creek**	**13.74**	**159**	Pn	**Pn**	**22 35 41.2**	**+0.4**
WRA	**Warramunga Arr**	**13.74**	**159**	Pn	**Pn**	**22 35 40.0**	**-0.9**
WRA	**Warramunga Arr** 1.9nm,0.3s,baz=339,slow=12,SNR=23	**13.74**	**159**	Pn	**Pn**	**22 35 38.2**	**-2.7**
WRA	1.7nm,0.3s,baz=325,slow=24,SNR=7.6 1.7nm,0.2s			Sn	Sn	22 38 04.4	-8.9
WB2	**Warramunga Arr**	**13.75**	**159**	Pn	**Pn**	**22 35 39.5**	**-1.4**
WR0	**Warramunga Arr**	**13.83**	**158**	Pn	**Pn**	**22 35 39.8**	**-2.1**
JAGI	**Jajag, Banyuwa**	**14.93**	**264**	Pn	**Pn**	**22 35 54.3**	**-1.4**
JAGI	**Jajag, Banyuwa**	**14.93**	**264**	P	**Pn**	**22 35 54.0**	**-1.7**
COEN	**Coen**	**15.38**	**118**	P	**P**	**22 36 02.4**	**-0.1**
COEN	comp=Z,18nm,1.4s			IAmb	IAmb	22 36 16.8	
AS31	**Alice Springs**	**17.11**	**165**	P	**Pn**	**22 36 22.8**	**+0.5**
AS31	comp=Z,4.6nm,0.6s			IAmb	IAmb	22 36 23.9	
ASAR	**Alice Springs**	**17.11**	**165**	P	**Pn**	**22 36 22.6**	**+0.2**
ASAR	**Alice Springs** comp=Z,1.9nm,0.3s,baz=342,slow=11,SNR=53	**17.11**	**165**	P	**Pn**	**22 36 23.3**	**+0.9**
ASAR	comp=Z,0.6nm,0.4s,baz=350,slow=30,SNR=4.5 comp=Z,0.1nm,0.6s			S	**S**	**22 39 27.1**	**-5.0**
KKM	**Kota Kinabalu**	**18.35**	**315**	P	**P**	**22 36 33.4**	**-1.8**
KKM	comp=Z,18nm,1.1s			IAmb	IAmb	22 36 35.6	
CTAO	**Charters Tower**	**21.03**	**130**	P	**P**	**22 37 05.0**	**+1.0**
FORT	**Forrest**	**23.60**	**182**	P	**P**	**22 37 30.0**	**+1.0**
BBOO	**Buckleboo**	**26.40**	**167**	P	**P**	**22 37 55.0**	**+0.6**
BBOO	comp=Z,10nm,1.1s			IAmb	IAmb	22 38 10.9	
STKA	**Stephens Creek**	**27.27**	**156**	P	**P**	**22 38 02.8**	**+0.7**
TOO	**Toolangi**	**33.79**	**156**	P	**P**	**22 39 00.6**	**+1.1**
TOO	comp=Z,11nm,1.4s			IAmb	IAmb	22 39 38.1	
MKAR	**Makanchi Array** comp=Z,0.2nm,0.5s,baz=129,slow=8.6,SNR=5.0	**67.83**	**327**	P	**P**	**22 43 15.8**	**+2.2**

*NEIC **08** 22:43:44.8±1.0,18.˚5N±0˚1×145˚4E±0˚1,h466km±8km, mb4.2/181,Error ellipse: s-maj=17.1km s-min=15.2km az=110.0*
*IDC **08** 22:43:46.4±1.6,18˚46N×145˚45E,h500km±17km, mb3.5/27,mbtmp4.4/29,Error ellipse: s-maj=13.1km s-min=9.2km az=94.0*
ISC 08 22:43:45.6±1.4,18˚44N±0˚07×145˚41E±0˚09, h488km±15km,n228,σ0s79/237,mb4.2/115,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima** 46nm,0.5s,baz=287,slow=19,SNR=1.8	**9.11**	**342**	P	**P**	**22 45 51.6**	**-1.7**
INU	**Inuyama**	**18.41**	**338**		**PcP**	**22 51 35.4**	**+0.1**
JGF	**Kuroka**	**18.52**	**339**	P	**P**	**22 47 29.5**	**-1.8**
JGF	comp=Z,14nm,1.1s			IAmb	IAmb	22 47 47.2	
MJAR	**Matsushiro Arr** comp=Z,2.8nm,0.6s,baz=174,slow=8.3,SNR=4.7	**19.11**	**342**	P	**P**	**22 47 36.1**	**-0.6**
JNU	**Nakatsue**	**19.58**	**321**	P	**P**	**22 47 40.6**	**-0.4**
JNU	**Nakatsue** comp=Z,14nm,0.7s,baz=55,slow=7.0,SNR=8.9	**19.58**	**321**	P	**P**	**22 47 41.3**	**+0.2**
SSLB	**Suanglung**	**23.41**	**287**	P	**P**	**22 48 15.9**	**+0.1**
ERM	**Erimo**	**23.57**	**356**	P	**P**	**22 48 17.1**	**+0.2**
KSRS	**Korea Array** comp=Z,8.4nm,0.6s,baz=144,slow=9.1,SNR=25 comp=Z,8.4nm,0.6s	**24.36**	**325**	P	**P**	**22 48 24.1**	**+0.1**
KSAR	**Wonju Array Be**	**24.38**	**325**	P	**P**	**22 48 23.8**	**-0.3**
KS19	**Wonju Array Si**	**24.43**	**325**	P	**P**	**22 48 24.1**	**-0.5**
FAKI	**Fak Fak**	**24.87**	**213**	P	**P**	**22 48 28.2**	**-0.6**
USA0B	**Ussuriysk Arra**	**28.04**	**339**	P	**P**	**22 48 56.5**	**+0.1**
USA0B	comp=Z,15nm,1.2s			IAmb	IAmb	22 49 13.3	
USRK	**Ussuriysk Ar.**	**28.04**	**339**	P	**P**	**22 48 56.5**	**+0.2**
USRK	**Ussuriysk Ar.** comp=Z,1.2nm,0.3s,baz=163,slow=8.1,SNR=8.4	**28.04**	**339**	P	**P**	**22 48 56.8**	**+0.4**
USRK	comp=Z,2.1nm,0.7s,baz=144,slow=15,SNR=2.6 comp=Z,1.2nm,0.3s			S	**S**	**22 53 05.1**	**-0.8**
TOLI2	**Tolitoli**	**29.68**	**237**	P	**P**	**22 49 11.0**	**-0.1**
TOLI2	comp=Z,5.7nm,0.4s			IAmb	IAmb	22 49 11.5	
KKM	**Kota Kinabalu**	**31.01**	**250**	P	**P**	**22 49 23.6**	**+0.8**
COEN	**Coen**	**32.27**	**184**	P	**P**	**22 49 33.4**	**0.0**
COEN	comp=Z,14nm,1.2s			IAmb	IAmb	22 49 40.8	
KLR	**Kul'dur** comp=Z,5.6nm,0.7s,baz=144,slow=5.2,SNR=16 comp=Z,5.6nm,0.7s	**32.63**	**343**	P	**P**	**22 49 36.1**	**+0.1**
MTN	**Manton Dam**	**34.13**	**205**	P	**P**	**22 49 49.0**	**-0.1**
HEH	**HeiHe**	**34.85**	**340**	*eP*	**P**	**22 49 54.4**	**-0.3**
HEH	comp=Z,10.0nm,1.3s			pmax	pmax		
HEH	comp=Z,190nm,5.1s			pmax	pmax		
PETK	**Petropavlovsk-** comp=Z,2.3nm,0.7s,baz=148,slow=7.1,SNR=12 comp=Z,2.3nm,0.7s	**35.90**	**13**	P	**P**	**22 50 03.7**	**+0.2**
KNRA	**Kununurra**	**37.66**	**207**	P	**P**	**22 50 18.9**	**+0.5**
WB0	**Warramunga Arr**	**39.48**	**196**	P	**P**	**22 50 32.9**	**-0.4**
WB0	comp=Z,17nm,1.5s			IAmb	IAmb	22 51 09.7	
WB2	**Warramunga Arr**	**39.66**	**196**	P	**P**	**22 50 34.6**	**-0.1**
WB2	comp=Z,9.2nm,1.4s			IAmb	IAmb	22 51 16.5	
WRA	**Warramunga Arr**	**39.66**	**196**	P	**P**	**22 50 34.6**	**-0.1**
WRA	**Warramunga Arr** comp=Z,1.2nm,0.6s,baz=7.0,slow=8.6,SNR=38	**39.66**	**196**	P	**P**	**22 50 34.6**	**-0.1**
WRA	comp=Z,0.8nm,0.4s,baz=16,slow=3.4,SNR=7.3			PcP	**PcP**	**22 52 29.6**	**-0.2**
WRA	comp=Z,1.4nm,0.7s,baz=12,slow=4.1,SNR=11 comp=Z,1.2nm,0.6s			ScP	**ScP**	**22 55 31.2**	**-0.7**
FITZ	**Fitzroy Crossi**	**41.19**	**209**	P	**P**	**22 50 47.0**	**+0.1**
MA2	**Magadan**	**41.26**	**4**	P	**P**	**22 50 47.4**	**+0.4**
MA2	comp=Z,11nm,0.9s			IAmb	IAmb	22 50 48.3	
MA2	**Magadan** comp=Z,7.6nm,0.6s,baz=202,slow=6.4,SNR=10 comp=Z,7.6nm,0.6s	**41.26**	**4**	P	**P**	**22 50 47.0**	**0.0**
ULN	**Ulaanbaatar**	**42.80**	**322**	P	**P**	**22 51 00.4**	**+0.8**
SONM	**Songino Array**	**43.17**	**322**	P	**P**	**22 51 03.0**	**+0.5**
SONM	**Songino Array** comp=Z,2.4nm,0.6s,baz=138,slow=7.2,SNR=22	**43.17**	**322**	P	**P**	**22 51 03.0**	**+0.5**
SONM	comp=Z,1.1nm,0.8s,baz=141,slow=3.8,SNR=4.6 comp=Z,2.4nm,0.6s			PcP	**PcP**	**22 52 41.1**	**-0.2**
ASAR	**Alice Springs**	**43.33**	**195**	P	**P**	**22 51 03.5**	**-0.4**
ASAR	**Alice Springs** comp=Z,0.9nm,0.4s,baz=16,slow=6.9,SNR=13	**43.33**	**195**	P	**P**	**22 51 03.4**	**-0.5**
ASAR	comp=Z,0.1nm,0.2s,baz=28,slow=2.4,SNR=4.4			PcP	**PcP**	**22 52 41.7**	**-0.3**
ASAR	comp=Z,0.5nm,0.7s,baz=12,slow=4.1,SNR=5.2 comp=Z,0.9nm,0.4s			ScP	**ScP**	**22 55 45.7**	**-0.9**
CMAR	**Chiang Mai Arr** comp=Z,1.8nm,0.8s,baz=66,slow=6.5,SNR=8.1 comp=Z,1.8nm,0.8s	**43.98**	**278**	P	**P**	**22 51 09.8**	**+0.8**
SEY	**Seymchan** comp=Z,2.5nm,0.6s,baz=187,slow=7.5,SNR=11 comp=Z,2.5nm,0.6s	**44.71**	**5**	P	**P**	**22 51 14.4**	**+0.5**
LSA	**Lhasa**	**50.40**	**294**	P	**P**	**22 51 59.9**	**+2.0**
BILL	**Bilibino**	**51.32**	**10**	P	**P**	**22 52 03.8**	**+0.4**
BILL	comp=Z,10nm,0.5s			IAmb	IAmb	22 52 04.6	
TIXI	**Tiksi**	**54.09**	**354**	P	**P**	**22 52 22.6**	**-0.6**
TIXI	**Tiksi** comp=Z,1.5nm,0.3s,baz=158,slow=4.9,SNR=4.2 comp=Z,1.5nm,0.3s	**54.09**	**354**	P	**P**	**22 52 22.4**	**-0.8**
HLK	**Haleakala**	**54.76**	**77**	P	**P**	**22 52 29.2**	**+0.1**
SDPT	**Sand Point**	**54.84**	**34**	P	**P**	**22 52 28.9**	**+0.1**
M13K	**Dall Lake**	**55.40**	**28**	P	**P**	**22 52 33.8**	**+1.2**
L14K	**Kuka Creek**	**56.10**	**27**	P	**P**	**22 52 38.3**	**+0.9**
L14K	comp=Z,15nm,1.1s			IAmb	IAmb	22 53 08.3	
M14K	**Bethel**	**56.16**	**28**	P	**P**	**22 52 38.6**	**+0.7**
J14K	**Nanvaranak Lak**	**56.36**	**25**	P	**P**	**22 52 39.9**	**+0.7**
J14K	comp=Z,24nm,1.4s			IAmb	IAmb	22 52 46.8	
ANM	**Nome**	**56.54**	**23**	P	**P**	**22 52 41.3**	**+0.8**
**N

comp=Z,6.8nm,0.6s
O18K Koktuh Hills 58.97 30 P P 22 52 58.0 +0.9
L18K Granite Mounta 59.06 28 P P 22 52 59.0 +1.3
H18K Honhosa River 59.47 24 P P 22 53 00.9 +0.5
J18K Innoko River 59.49 26 P P 22 53 01.2 +0.6
TTA Tatalina 59.60 27 P P 22 53 01.9 +0.5
TTA IAmb IAmb 22 53 15.8
comp=Z,12nm,1.4s
N19K Bonanza Creek 59.60 30 P P 22 53 02.3 +0.8
E18K Tukpahlearik C 59.63 21 P P 22 53 02.6 +1.2
E18K IAmb IAmb 22 53 03.1
comp=Z,5.4nm,0.7s
G18K Tagagawik 59.66 23 P P 22 53 02.3 +0.6
G18K IAmb IAmb 22 53 03.0
comp=Z,8.2nm,1.1s
L19K White Mountain 59.86 28 P P 22 53 04.0 +0.9
L19K IAmb IAmb 22 53 19.1
comp=Z,14nm,1.4s
C18K Utukok River 60.01 20 P P 22 53 04.5 +0.5
J19K Poorman 60.13 26 P P 22 53 05.9 +1.0
G19K Purcell Mounta 60.35 23 P P 22 53 07.2 +0.9
G19K IAmb IAmb 22 53 07.7
comp=Z,6.6nm,0.8s
H19K Roundabout Mou 60.36 24 P P 22 53 07.2 +1.0
F19K Shaleruckik Mo 60.37 22 P P 22 53 06.5 +0.1
M20K Styx River 60.54 29 P P 22 53 08.7 +0.9
M20K IAmb IAmb 22 53 46.6
comp=Z,9.9nm,1.4s
K20K Telida 60.58 27 P P 22 53 08.9 +1.1
K20K IAmb IAmb 22 53 09.8
comp=Z,8.0nm,0.8s
C19K Lookout Ridge 60.74 20 P P 22 53 09.9 +1.0
C19K IAmb IAmb 22 53 10.9
comp=Z,6.1nm,0.5s
J20K Nowinta River 60.81 26 P P 22 53 10.5 +1.2
J20K IAmb IAmb 22 53 14.0
comp=Z,6.2nm,0.9s
E19K Redstone River 60.82 22 P P 22 53 10.4 +1.0
E19K IAmb IAmb 22 53 11.1
comp=Z,5.8nm,0.7s
PRZ Przheval'sk 60.93 309 P P 22 53 12.5 +1.7
PRZ IAmb IAmb 22 53 13.3
comp=Z,13nm,0.8s
D19K Kuna River 60.95 21 P P 22 53 11.0 +0.7
D19K IAmb IAmb 22 53 52.8
comp=Z,13nm,1.4s
F20K Avaraart Lake 61.20 23 P P 22 53 12.8 +1.0
F20K IAmb IAmb 22 53 13.6
comp=Z,3.7nm,0.7s
KURK Kurchatov 61.28 318 P P 22 53 13.1 +0.4
SKT Skwentna 61.30 29 P P 22 53 12.4 -0.2
SKT IAmb IAmb 22 53 21.0
comp=Z,13nm,1.4s
KURBB Kurchatov Arra 61.33 318 P P 22 53 13.4 +0.4
comp=Z,17nm,0.4s,baz=95,slow=7.3,SNR=78
CAST Castle Rocks 61.45 27 P P 22 53 14.3 +0.7
CAST IAmb IAmb 22 53 14.9
comp=Z,7.6nm,0.8s
SUA Susitna One 61.53 29 P P 22 53 14.5 +0.3
SUA IAmb IAmb 22 53 19.2
comp=Z,11nm,1.2s
IMAR Indian Mountai 61.56 24 P P 22 53 15.1 +0.8
NRIK Noril'sk 61.76 340 P P 22 53 15.4 -0.1
NRIK IAmb IAmb 22 53 16.1
comp=Z,7.1nm,0.6s
NRIK Noril'sk 61.76 340 P P 22 53 15.3 -0.1
comp=Z,6.7nm,0.6s,baz=106,slow=8.7,SNR=20
comp=Z,6.7nm,0.6s
B20K Meade River 61.90 19 P P 22 53 17.4 +1.0
RC01 Rabbit Creek A 61.91 30 P P 22 53 16.6 0.0
RC01 IAmb IAmb 22 53 54.3
comp=Z,13nm,1.1s
KTH Kantishna Hill 61.99 27 P P 22 53 17.4 +0.2
KTH IAmb IAmb 22 53 19.3
comp=Z,15nm,1.3s
I21K Tanana 62.01 25 P P 22 53 18.1 +0.9
I21K IAmb IAmb 22 53 19.4
comp=Z,5.4nm,0.9s
F21K Alatna River 62.08 23 P P 22 53 18.4 +0.7
BPAW Bear Paw Mtn. 62.11 26 P P 22 53 18.2 +0.3
BPAW IAmb IAmb 22 53 18.7
comp=Z,5.1nm,0.7s
TRF Thorofare Moun 62.23 27 P P 22 53 18.6 -0.4
TRF IAmb IAmb 22 53 43.2
comp=Z,8.9nm,1.4s
PMR Palmer 62.31 29 P P 22 53 18.5 -0.7
MLY Manley 62.47 25 P P 22 53 20.9 +0.7
B21K Ikpikpuk River 62.56 20 P P 22 53 21.6 +1.0
B21K IAmb IAmb 22 53 21.8
comp=Z,3.8nm,0.6s
KNK Knik Glacier 62.59 30 P P 22 53 21.6 +0.5
NRN Naryn 62.72 308 P P 22 53 23.4 +0.8
SML Sawmill 62.73 29 P P 22 53 22.5 +0.5
SML IAmb IAmb 22 53 24.0
comp=Z,13nm,1.1s
D22K Ayikyak River 62.93 21 P P 22 53 24.3 +1.2
E22K Anaktuvuk Pass 62.99 22 P P 22 53 24.5 +1.0
I23K Minto, Yukon-K 63.06 25 P P 22 53 24.9 +0.9
I23K IAmb IAmb 22 53 54.4
comp=Z,8.5nm,1.5s
B22K Teshekpuk Lake 63.20 19 P P 22 53 25.5 +0.7
B22K IAmb IAmb 22 53 26.1
comp=Z,7.6nm,0.6s
G23K Bananza Creek 63.22 24 P P 22 53 25.0 -0.1
G23K IAmb IAmb 22 53 27.4
comp=Z,13nm,1.5s
HIN Hinchinbrook I 63.33 31 P P 22 53 26.2 +0.3
WRH Wood River Hil 63.42 26 P P 22 53 25.8 -0.6
WRH IAmb IAmb 22 53 27.7
comp=Z,10nm,1.5s
MDM Murphy Dome 63.48 26 P P 22 53 27.4 +0.7
MDM IAmb IAmb 22 53 28.2
comp=Z,3.7nm,0.8s
AAK Ala-Archa 63.81 309 P P 22 53 30.1 +0.6
AAK IAmb IAmb 22 53 30.4
comp=Z,2.1nm,0.5s
H24K Noodor Dome 63.83 25 P P 22 53 29.6 +0.6
H24K IAmb IAmb 22 53 40.6
comp=Z,7.6nm,1.5s
TOLK Toolik Lake Re 63.93 22 P P 22 53 30.7 +1.0
TOLK IAmb IAmb 22 53 31.0
comp=Z,5.5nm,0.5s
C23K Itkillik River 63.94 20 P P 22 53 30.4 +0.9
IL31 63.99 26 P P 22 53 28.9 -1.1
IL31 IAmb IAmb 22 53 29.2
comp=Z,3.8nm,0.5s
ILAR Eielson Array 63.99 26 P P 22 53 28.9 -1.2
comp=Z,2.5nm,0.5s,baz=246,slow=6.2,SNR=47
comp=Z,2.5nm,0.5s
IL03 Eielson Array 64.01 26 P P 22 53 29.0 -1.1
E24K Your Creek 64.16 22 P P 22 53 32.0 +0.9
E24K IAmb IAmb 22 53 32.8
comp=Z,3.6nm,0.6s
F24K Squaw Lake 64.24 23 P P 22 53 32.8 +1.2
PAX Paxson 64.26 28 P P 22 53 32.3 +0.4
PAX IAmb IAmb 22 53 32.4
comp=Z,5.4nm,0.5s
D24K Happy Valley 64.34 21 P P 22 53 33.5 +1.4
J25K Salcha River, 64.60 26 P P 22 53 33.3 -0.7
SUCK Suckling Hills 64.63 32 P P 22 53 34.4 +0.2
RIDG Independent Ri 64.67 27 P P 22 53 34.5 +0.1
ARSB Arslanbob 64.99 308 P P 22 53 37.8 +0.8
FYU Fort Yukon 65.04 24 P P 22 53 36.6 0.0
FYU IAmb IAmb 22 53 47.3
comp=Z,9.0nm,1.2s
SCRK Sand Creek 65.09 27 P P 22 53 37.2 +0.1
SCRK IAmb IAmb 22 53 40.4
comp=Z,4.5nm,1.0s
D25K Kavik River 65.22 21 P P 22 53 38.7 +0.9
D25K IAmb IAmb 22 53 39.0
comp=Z,6.0nm,0.6s
L26K Log Cabin Wild 65.23 28 P P 22 53 38.4 +0.5
L26K IAmb IAmb 22 53 38.7
comp=Z,3.5nm,0.6s
E25K Arctic Village 65.23 23 P P 22 53 39.1 +1.2
E25K IAmb IAmb 22 53 40.0
comp=Z,7.1nm,1.3s
M26K Nabesna, AK 65.30 29 P P 22 53 38.9 +0.5
M26K IAmb IAmb 22 54 01.2
comp=Z,5.8nm,1.2s
J26L Joseph Creek 65.35 27 P P 22 53 38.8 0.0
NIL Nilore 65.41 299 P P 22 53 40.8 +1.1
BMAR Burnt Mountain 65.46 24 P P 22 53 40.6 +1.3
I26K Coal Creek Min 65.65 26 P P 22 53 39.7 -0.8
I26K IAmb IAmb 22 54 02.9
comp=Z,7.6nm,1.5s
GRNC Granite Creek 65.70 31 P P 22 53 41.9 +0.7
M27K Edge Creek, AK 65.81 29 P P 22 53 42.2 +0.5
M27K IAmb IAmb 22 54 25.4
comp=Z,8.2nm,1.4s
L27K Beaver Creek, 65.92 28 P P 22 53 42.8 +0.5
K27K Chicken 65.93 27 P P 22 53 43.1 +0.9
BCAR Beaver Creek A 65.94 28 P P 22 53 42.8 +0.4
PCA Pinnacle 66.39 32 P P 22 53 45.8 +0.5
EGAK Eagle 66.42 27 P P 22 53 46.1 +0.8
EGAK IAmb IAmb 22 54 02.4
comp=Z,10nm,1.5s
BVAR Borovoye Array 66.50 320 P P 22 53 46.1 +0.1
comp=Z,9.2nm,0.5s,baz=101,slow=8.1,SNR=64
comp=Z,9.2nm,0.5s
BRVK Borovoye 66.56 321 P P 22 53 46.7 +0.3
BRVK IAmb IAmb 22 53 47.4
comp=Z,6.7nm,0.6s
KK31 Karatay Array 66.72 310 P P 22 53 48.2 +0.6
KK31 IAmb IAmb 22 53 48.8
comp=Z,6.5nm,0.7s
KKAR Karatay Array 66.72 310 P P 22 53 48.3 +0.6
KKAR Karatay Array 66.72 310 P P 22 53 48.0 +0.4
KKAR IAmb IAmb 22 53 48.8
comp=Z,6.5nm,0.7s
I28M Miner Creek 67.01 26 P P 22 53 49.5 +0.5
D27M Malcolm River 67.10 22 P P 22 53 50.9 +1.3
D27M IAmb IAmb 22 53 51.1
comp=Z,4.2nm,0.7s
DAWY Dawson 67.11 27 P P 22 53 50.4 +0.8
DAWY IAmb IAmb 22 53 51.0
comp=Z,7.5nm,1.4s
GAR Garm 67.21 305 P P 22 53 51.4 +0.5
GAR IAmb IAmb 22 53 51.9
comp=Z,6.6nm,0.7s
F28M Old Crow 67.28 24 P P 22 53 51.4 +0.8
F28M IAmb IAmb 22 53 52.8
comp=Z,4.2nm,0.9s
M29M Somme Creek 67.41 29 P P 22 53 52.8 +1.2
M29M IAmb IAmb 22 53 53.1
comp=Z,3.3nm,0.6s
L29M L29M 67.60 29 P P 22 53 54.0 +1.3
L29M IAmb IAmb 22 53 54.7
comp=Z,5.4nm,0.9s
H29M Whitestone 67.72 25 P P 22 53 54.0 +0.6
HYT Haines Junctio 67.79 31 P P 22 53 55.3 +1.3
HYT IAmb IAmb 22 53 56.0
comp=Z,5.7nm,0.7s
K29M Barlow Dome 67.91 28 P P 22 53 55.5 +0.8
G29M Pine Creek 67.92 24 P P 22 53 55.5 +0.9
G29M IAmb IAmb 22 53 57.3
comp=Z,3.6nm,0.7s
N30M Aishikik Lake 68.01 30 P P 22 53 56.2 +0.9
N30M IAmb IAmb 22 53 57.1
comp=Z,8.0nm,1.2s
E29M Blow River 68.10 23 P P 22 53 56.7 +1.1
E29M IAmb IAmb 22 54 00.4
comp=Z,6.6nm,1.4s
CHGR Chuyangaron 68.14 305 P P 22 53 55.6 -1.0
M30M Minto, Yukon 68.19 29 P P 22 53 57.1 +0.8
SIMJ Simiganj 68.26 305 P P 22 53 57.6 +0.3
SIMJ IAmb IAmb 22 53 58.4
comp=Z,6.4nm,0.7s
EPYK Eagle Plains 68.40 25 P P 22 53 58.2 +0.7
EPYK IAmb IAmb 22 54 32.1
comp=Z,13nm,1.4s
J30M Hart River 68.47 27 P P 22 53 58.7 +0.6
J30M IAmb IAmb 22 54 03.3
comp=Z,6.5nm,1.4s
I30M Mount Dempster 68.48 26 P P 22 53 58.5 +0.4
G30M tAoh Zraii Nji 68.63 24 P P 22 53 59.3 +0.4
G30M IAmb IAmb 22 54 00.9
comp=Z,9.7nm,1.3s
M31M Drury Creek, Y 69.30 30 P P 22 54 03.6 +0.6
H31M Peel River 69.34 26 P P 22 54 04.0 +0.8
H31M IAmb IAmb 22 54 05.0
comp=Z,5.7nm,1.0s
G31M Satah River 69.40 25 P P 22 54 03.8 +0.4
INK Inuvik 69.71 23 P P 22 54 05.3 0.0
INK IAmb IAmb 22 54 06.1
comp=Z,4.4nm,0.9s
INK Inuvik 69.71 23 P P 22 54 05.2 -0.1
comp=Z,2.6nm,0.7s,baz=276,slow=6.5,SNR=9.2
comp=Z,2.6nm,0.7s
FARO Faro, Yukon 69.79 30 P 22 54 06.4 +0.5
FARO IAmb IAmb 22 54 23.0
comp=Z,8.1nm,1.5s
Q32M Nakina River 70.45 33 P P 22 54 11.0 +0.9
MMPY Sheldon Lake, 70.74 29 P P 22 54 13.1 +1.5
R33M Jennings River 71.09 33 P P 22 54 14.9 +1.1
S34M Telegraph Cree 71.12 34 P P 22 54 15.1 +1.2
S34M IAmb IAmb 22 54 15.4
comp=Z,2.8nm,0.6s
DLBC Dease Lake 71.66 33 P P 22 54 18.2 +1.1
DLBC IAmb IAmb 22 54 19.0
comp=Z,9.1nm,1.5s
ARU Arti 73.11 325 P P 22 54 25.5 0.0
ABKAR Akbulak array 73.34 317 P P 22 54 26.8 -0.1
ABKAR Akbulak array 73.34 317 P P 22 54 26.8 -0.1
ABKAR IAmb IAmb 22 54 27.3
comp=Z,5.2nm,0.7s
GEYT Alibeck 76.82 306 P P 22 54 46.9 +0.1
comp=Z,2.0nm,0.8s,baz=86,slow=11,SNR=4.0
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 78.34 28 P P 22 54 54.2 -0.2
comp=Z,1.3nm,0.5s,baz=290,slow=5.5,SNR=19
comp=Z,1.3nm,0.5s
HUMO Hull Mountain 78.92 49 P P 22 54 58.9 +0.9
HUMO IAmb IAmb 22 55 14.7
comp=Z,18nm,1.5s
KCPM Cahto Peak 79.22 52 P P 22 55 00.7 +0.9
SPA1 Spitsbergen Ar 79.37 351 P P 22 54 59.9 +0.1
SPB2 Spitsbergen Ar 79.37 351 P P 22 54 60.0 +0.2
SPA3 Spitsbergen Ar 79.38 351 P P 22 54 59.8 +0.1
SPB3 Spitsbergen Ar 79.38 351 P P 22 54 59.8 0.0
L04D Klamath Falls 79.49 49 P P 22 55 01.7 +0.4
RES Resolute Bay 79.74 14 P P 22 55 02.3 +0.6
NEW Newport 81.29 42 P P 22 55 10.3 0.0
comp=Z,1.2nm,0.5s,baz=117,slow=2.3,SNR=3.8
comp=Z,1.2nm,0.5s
KEV Kevo 82.09 342 P P 22 55 13.3 -0.7
BMO Blue Mountains 82.22 45 P P 22 55 15.7 +0.4
WAKR Walker 82.64 52 P P 22 55 18.2 +0.6
WAKR IAmb IAmb 22 55 18.9
comp=Z,11nm,1.5s
ARCES ARCESS Array B 82.65 342 P P 22 55 16.5 -0.3
ARCES ARCESS Array B 82.65 342 P P 22 55 16.5 -0.3
comp=Z,4.0nm,0.6s,baz=87,slow=8.7,SNR=40
comp=Z,4.0nm,0.6s
PLID Pearl Lake 83.02 45 P P 22 55 19.3 -0.2
NVAR Mina Array Bea 83.51 52 P P 22 55 22.8 +0.7
NVAR Mina Array Bea 83.51 52 P P 22 55 22.7 +0.6
comp=Z,3.5nm,0.6s,baz=265,slow=6.0,SNR=20
comp=Z,3.5nm,0.6s
DSP Deep Springs 84.10 53 P P 22 55 25.4 +0.8
MZP Montezuma Peak 84.43 52 P P 22 55 26.1 -0.7
GMN Gold Mountain 84.66 53 P P 22 55 28.4 +0.6
LRM Limekiln Ridge 85.11 43 P P 22 55 30.1 +0.2
MCMT McKenzie Canyo 85.21 44 P P 22 55 30.3 -0.1
WCT Wildcat Mounta 85.30 53 P P 22 55 31.2 +0.5
KBZ Khabaz 86.13 315 P P 22 55 33.6 -0.8
comp=Z,2.7nm,0.9s,baz=180,slow=2.2,SNR=8.9
comp=Z,2.7nm,0.9s
FIA1 FINESS Array S 87.00 335 P P 22 55 36.6 -1.5
FINES FINESS Array B 87.00 335 P P 22 55 36.6 -1.5
FINES FINESS Array B 87.00 335 P P 22 55 36.5 -1.7
comp=Z,2.2nm,0.5s,baz=58,slow=4.9,SNR=36
comp=Z,2.2nm,0.5s
FFC Flin Flon 87.46 32 P P 22 55 40.3 -0.2
PDAR Pinedale Array 88.20 45 P P 22 55 43.0 -1.6
comp=Z,0.2nm,0.5s,baz=191,slow=1.6,SNR=4.2
comp=Z,0.2nm,0.5s
HFS Hagfors 92.52 338 P P 22 56 01.7 -2.1
comp=Z,1.8nm,0.6s,baz=87,slow=5.2,SNR=10
comp=Z,1.8nm,0.6s
NC303 NORSAR Array S 92.53 340 P P 22 56 03.0 -0.9
NB2 NORSAR Subarra 92.72 340 P P 22 56 02.5 -2.3
comp=Z,1.8nm,1.0s,baz=42,slow=4.6
NOA NORSAR Array B 92.72 340 P P 22 56 02.9 -1.9
comp=Z,0.4nm,0.6s,baz=46,slow=4.9,SNR=4.2
comp=Z,0.4nm,0.6s
LPAZ La Paz 147.94 91 PKPbc PKPbc 23 02 37.0 0.0
comp=Z,1.6nm,0.5s,baz=15,slow=2.3,SNR=5.5
SAML Samuel 150.70 75 PKPbc PKPbc 23 02 42.7 -0.3
SAML PKPab **PKPab 23 02 51.5 -0.7**

PRU 08 22:48:30.0, 50.31N×18.87E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MORC	**Moravsky Berou**	**1.01**	**239**	*e*PG	Pg	22 48 48.4	-0.9
MORC				*e*SG	Sg	22 49 00.5	-1.9
LANS	**Liptovska Anna**	**1.22**	**161**	*e*PG	Pg	22 48 49.5	-3.9
LANS				*e*SG	Sg	22 49 04.6	-4.7
KRLC	**Kraliky**	**1.36**	**261**	*e*PG	Pg	22 48 53.4	-2.7
KRLC				*e*SG	Sg	22 49 12.5	-1.2
DPC	**Dobruska-Polom**	**1.63**	**272**	*e*PG	Pn	22 48 59.5	-0.5
DPC				*e*SG	Sg	22 49 22.4	0.0

*STR **08** 22:48:41.7±1.7, 43.7N±8.1×1.4E±1.4, h10km, MLv4.1/22, Error ellipse: s-maj=0.0km s-min=0.0km az=96.7, preliminary*
*LDG **08** 22:48:45.9±0.1, 43.06N×13.04E, h10km, Ml3.1/25, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*ROM **08** 22:48:46.3±0.0, 43.061N±0.001×13.027E±0.003, h8km, ML3.5/204, Mw3.5, Error ellipse: s-maj=0.2km s-min=0.1km az=64.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr-1.69; Mθθ0.12; Mφφ 1.57; Mrθ0.53; Mθφ-1.14; Mφr0.06; Fault plane solution: M₀2.03760×10¹⁴ NP1:φs170.00000°, δ45.00000°, λ-62.00000°. NP2:φs313.00000°, δ51.00000°, λ-116.00000°.*
*PRU **08** 22:48:48.3, 43.03N×13.50E, h10km*
*IDC **08** 22:48:48.6±1.8, 43.22N×13.37E, h0km, mb3.4/2, mbtmp3.5/6, ML3.1/3, Error ellipse: s-maj=34.9km s-min=18.5km az=84.0*
*THE **08** 22:48:53.6, 42.80N×13.59E, h5km±50km, ML3.1/1, Error ellipse: s-maj=66.0km s-min=4.1km az=292.0*

ISC 08 22:48:46.5±0.7, 43.05N±0.01×12.98E±0.02, h11km±4km, n201, σ2.36/281, 24C-11D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CESI	**CESI - Serrava**	**0.07**	**231**	⇑P	**Pg**	**22 48 49.6**	**+0.7**
CESI				S	**Sg**	**22 48 52.0**	**+1.3**
CESI				AML	AML		
	comp=E,57350μm,0.6s						
CESI				AML	AML		
	comp=N,65050μm,0.5s						
CESI				AML	AML		
	comp=E,57350μm,1.4s						
SEF1	**Sefro**	**0.10**	**347**	⇓P	**Pg**	**22 48 49.2**	**0.0**
SEF1				S	**Sg**	**22 48 51.3**	**0.0**
SEF1				AML	AML		
SEF1				AML	AML		
FEMA	**Monte Fema**	**0.10**	**149**	⇑P	**Pg**	**22 48 49.3**	**0.0**
FEMA				S	**Sg**	**22 48 51.5**	**0.0**
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
PIO1	**Pioraco**	**0.13**	**2**	⇓P	**Pg**	**22 48 49.4**	**-0.2**
PIO1				S	**Sg**	**22 48 51.5**	**-0.4**
FIU1	**Fiuminata**	**0.14**	**346**	P	**Pg**	**22 48 49.9**	**+0.1**
FIU1				S	**Sg**	**22 48 52.5**	**+0.2**
CSP1	**Cessapalombo**	**0.17**	**75**	⇑P	**Pg**	**22 48 49.7**	**-0.7**
CSP1				S	**Sg**	**22 48 52.1**	**-1.0**
CSP1				AML	AML		
	comp=E,32400μm,0.8s						
CSP1				AML	AML		
	comp=N,11600μm,0.6s						
PF6	**Pievefavera**	**0.19**	**58**	⇑P	**Pg**	**22 48 49.8**	**-0.8**
PF6				S	**Sg**	**22 48 52.2**	**-1.2**
PF6				AML	AML		
	comp=E,24800μm,0.3s						
PF6				AML	AML		
	comp=N,8220μm,0.8s						
PF6				AML	AML		
	comp=N,8215μm,0.8s						
MDAR	**Monte D'Aria**	**0.19**	**40**	⇑P	**Pg**	**22 48 50.0**	**-0.6**
MDAR				S	**Sg**	**22 48 52.6**	**-0.9**
MDAR				AML	AML		
	comp=E,25050μm,0.6s						
MDAR				AML	AML		
	comp=N,34000μm,1.6s						
MDAR				AML	AML		
	comp=E,25100μm,0.6s						
MDAR				AML	AML		
	comp=E,25100μm,1.4s						
MDAR				AML	AML		
	comp=N,34000μm,0.4s						
GAG1	**Gagliole**	**0.20**	**19**	P	**Pg**	**22 48 50.7**	**0.0**
GAG1				S	**Sg**	**22 48 54.0**	**+0.2**
MC2	**Monte Cornacci**	**0.21**	**131**	⇓P	**Pg**	**22 48 50.9**	**-0.1**
MC2				S	**Sg**	**22 48 54.3**	**+0.2**
SNTG	**Esanatoglia**	**0.21**	**353**	⇓P	**Pg**	**22 48 50.9**	**0.0**
SNTG				S	**Sg**	**22 48 54.4**	**+0.4**
SNTG				AML	AML		
	comp=E,16450μm,0.9s						
SNTG				AML	AML		
	comp=E,16850μm,0.9s						
SNTG				AML	AML		
	comp=E,16450μm,1.1s						
SNTG				AML	AML		
	comp=N,17550μm,0.7s						
SNTG				AML	AML		
	comp=N,16600μm,0.8s						
SNTG				AML	AML		
	comp=E,16850μm,1.1s						
MTL1	**Matelica**	**0.21**	**6**	P	**Pg**	**22 48 51.0**	**+0.1**
MTL1				S	**Sg**	**22 48 54.6**	**+0.6**
MTL1				AML	AML		
	comp=E,60650μm,0.6s						
MTL1				AML	AML		
	comp=N,71350μm,0.5s						
MTL1				AML	AML		
	comp=N,71350μm,1.5s						
MTL1				AML	AML		
	comp=E,60600μm,0.6s						
SSM1	**San Severino M**	**0.23**	**39**	⇑P	**Pg**	**22 48 50.8**	**-0.5**
SSM1				S	**Sg**	**22 48 54.4**	**-0.2**
NRCA	**Norcia**	**0.24**	**155**	⇓P	**Pg**	**22 48 51.7**	**+0.2**
NRCA				S	**Sg**	**22 48 55.7**	**+0.9**
NRCA				AML	AML		
	comp=E,45400μm,0.2s						
NRCA				AML	AML		
	comp=N,45000μm,1.4s						
NRCA				AML	AML		
	comp=N,46950μm,1.4s						
NRCA				AML	AML		
	comp=E,43700μm,0.2s						
NRCA				AML	AML		
	comp=N,45000μm,0.6s						
NRCA				AML	AML		
	comp=N,46950μm,0.6s						
GUMA	**Gualdo di Mace**	**0.26**	**87**	⇑P	**Pg**	**22 48 51.6**	**-0.2**
GUMA				S	**Sg**	**22 48 55.7**	**+0.2**
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
GUMA				AML	AML		
FOSV	**Fossato di Vic**	**0.29**	**327**	⇑P	**Pg**	**22 48 52.9**	**+0.5**
FOSV				S	**Sg**	**22 48 58.0**	**+1.6**
FOSV				AML	AML		
	comp=N,11375μm,0.3s						
FOSV				AML	AML		
	comp=E,8900μm,0.6s						
FOSV				AML	AML		
	comp=N,11375μm,1.7s						
EL6	**Elcito**	**0.29**	**18**	⇑P	**Pg**	**22 48 52.2**	**-0.3**
EL6				S	**Sg**	**22 48 56.9**	**+0.4**
EL6				AML	AML		
	comp=E,34550μm,1.6s						
EL6				AML	AML		
	comp=N,24650μm,1.0s						
EL6				AML	AML		
	comp=E,34550μm,0.4s						
MMO1	**Montemonaco**	**0.30**	**120**	P	**Pg**	**22 48 52.2**	**-0.3**
MMO1				S	**Sg**	**22 48 56.8**	**+0.2**
MF5	**Montefalcone A**	**0.36**	**99**	⇑P	**Pg**	**22 48 53.6**	**0.0**
MF5				S	**Sg**	**22 48 59.1**	**+0.6**
MF5				AML	AML		

	comp=E,36700µm,0.6s						
MF5				AML	AML		
	comp=E,36650µm,0.6s						
MF5				AML	AML		
	comp=N,33750µm,0.4s						
MF5				AML	AML		
	comp=E,36650µm,1.4s						
CING	**Cingoli**	**0.36**	**26**	⇑P	**Pg**	**22 48 53.3**	**-0.4**
CING				S	**Sg**	**22 48 59.0**	**+0.3**
CING				AML	AML		
	comp=E,31500µm,0.2s						
CING				AML	AML		
	comp=N,18050µm,0.1s						
MNTP	**Montappone**	**0.37**	**76**	⇑P	**Pg**	**22 48 53.8**	**0.0**
MNTP				S	**Sg**	**22 49 00.2**	**+1.4**
MNTP				AML	AML		
	comp=N,13350µm,0.9s						
MNTP				AML	AML		
	comp=N,13350µm,0.9s						
MNTP				AML	AML		
	comp=E,16950µm,0.9s						
MNTP				AML	AML		
	comp=N,13350µm,1.1s						
MOMA	**Monte Martano**	**0.39**	**231**	⇑P	**Pb**	**22 48 55.1**	**-0.2**
MOMA				S	**Sb**	**22 49 02.1**	**+0.8**
MOMA				AML	AML		
	comp=E,8065µm,0.6s						
MOMA				AML	AML		
	comp=N,8080µm,1.4s						
MOMA				AML	AML		
	comp=N,8085µm,1.4s						
MOMA				AML	AML		
	comp=N,8080µm,0.6s						
MOMA				AML	AML		
	comp=N,8085µm,0.6s						
MOMA				AML	AML		
	comp=E,8315µm,0.6s						
MMUR	**Monte Murano**	**0.39**	**2**	P	**Pg**	**22 48 54.3**	**+0.1**
MMUR				S	**Sg**	**22 49 00.7**	**+1.2**
MMUR				AML	AML		
	comp=E,38350µm,1.4s						
MMUR				AML	AML		
	comp=E,38350µm,0.6s						
MMUR				AML	AML		
	comp=N,17950µm,0.4s						
SSFR	**Montelago di S**	**0.41**	**340**	P	**Pg**	**22 48 54.8**	**+0.2**
SSFR				S	**Sg**	**22 49 01.9**	**+1.7**
SSFR				AML	AML		
	comp=E,13850µm,0.3s						
SSFR				AML	AML		
	comp=N,9100µm,0.7s						
SSFR				AML	AML		
	comp=N,11250µm,0.7s						
SSFR				AML	AML		
	comp=E,13750µm,0.3s						
MTRA	**Matera**	**0.42**	**133**	⇓P	**Pg**	**22 48 54.6**	**-0.3**
MTRA				S	**Sg**	**22 49 01.1**	**+0.6**
MTRA				AML	AML		
	comp=E,16700µm,0.7s						
MTRA				AML	AML		
	comp=E,16750µm,0.7s						
MTRA				AML	AML		
	comp=N,15500µm,0.4s						
MTRA				AML	AML		
	comp=N,14550µm,0.4s						
ATSC	**Scheggia e Pas**	**0.43**	**331**	P	**Pg**	**22 48 55.2**	**+0.3**
ATSC				S	**Sg**	**22 49 02.3**	**+1.6**
LNSS	**Leonessa**	**0.45**	**174**	⇓P	**Pg**	**22 48 55.6**	**+0.3**
LNSS				S	**Sb**	**22 49 02.9**	**-0.2**
LNSS				AML	AML		
	comp=E,16900µm,0.3s						
LNSS				AML	AML		
	comp=N,15750µm,0.8s						
LNSS				AML	AML		
	comp=E,16900µm,1.7s						
ARVD	**Arcevia**	**0.45**	**357**	⇑P	**Pg**	**22 48 55.2**	**-0.1**
ARVD				S	**Sg**	**22 49 02.5**	**+1.2**
ARVD				AML	AML		
	comp=E,10415µm,0.3s						
ARVD				AML	AML		
	comp=N,5265µm,1.6s						
ARVD				AML	AML		
	comp=E,10415µm,1.7s						
ARVD				AML	AML		
	comp=N,5265µm,0.4s						
SMA1	**SAN MARTINO**	**0.49**	**148**	⇓P	**Pg**	**22 48 55.9**	**-0.2**
SMA1				S	**Sb**	**22 49 03.9**	**-0.6**
SMA1				AML	AML		
	comp=E,10445µm,0.5s						
SMA1				AML	AML		
	comp=N,13050µm,0.4s						
SMA1				AML	AML		
	comp=N,13050µm,1.6s						
ARRO	**Arrone**	**0.49**	**198**	⇑P	**Pb**	**22 48 56.8**	**-0.4**
ARRO				S	**Sb**	**22 49 05.0**	**+0.6**
ARRO				AML	AML		
	comp=E,9060µm,0.3s						
ARRO				AML	AML		
	comp=N,5550µm,0.2s						
ARRO				AML	AML		
	comp=N,5550µm,1.8s						
FRON	**Frontone**	**0.50**	**339**	P	**Pg**	**22 48 56.5**	**+0.2**
FRON				S	**Sg**	**22 49 04.6**	**+1.6**
CESX	**Cesi**	**0.53**	**214**	⇑P	**Pg**	**22 48 57.3**	**+0.6**
CESX				S	**Sb**	**22 49 06.2**	**+0.9**
CESX				AML	AML		
	comp=N,11100µm,0.4s						
CESX				AML	AML		
	comp=N,11100µm,1.6s						
CESX				AML	AML		
	comp=E,10600µm,0.4s						
OFFI	**Offida**	**0.53**	**102**	⇑P	**Pg**	**22 48 57.2**	**+0.4**
OFFI				AML	AML		
	comp=E,13550µm,0.7s						
OFFI				AML	AML		
	comp=N,18150µm,0.7s						
OFFI				AML	AML		
	comp=E,13550µm,1.3s						
ATVO	**AVT- Monte Val**	**0.53**	**309**	⇑P	**Pg**	**22 48 57.4**	**+0.5**
ATVO				S	**Sb**	**22 49 06.2**	**+0.6**
ATVO				AML	AML		
	comp=E,2920µm,0.3s						
ATVO				AML	AML		
	comp=N,2480µm,0.3s						
ATVA	**AVT- Monte Val**	**0.56**	**295**	⇑P	**Pg**	**22 48 57.8**	**+0.5**
ATVA				S	**Sg**	**22 49 05.9**	**+1.2**
PP3	**Marolino**	**0.57**	**54**	P	**Pg**	**22 48 57.5**	**0.0**
PP3				AML	AML		
	comp=E,7615µm,0.7s						
PP3				AML	AML		
	comp=N,9095µm,0.9s						
PP3				AML	AML		
	comp=E,7365µm,0.7s						
PP3				AML	AML		
	comp=N,9100µm,0.9s						
PP3				AML	AML		
	comp=E,7615µm,1.3s						
PP3				AML	AML		
	comp=E,7365µm,1.3s						
PP3				AML	AML		
	comp=N,9005µm,0.8s						
RM33	**Pellescritta (**	**0.57**	**162**	⇓P	**Pg**	**22 48 57.4**	**-0.2**
RM33				S	**Sb**	**22 49 06.6**	**0.0**
RM33				AML	AML		
	comp=E,5125µm,0.3s						
RM33				AML	AML		
	comp=N,4905µm,0.8s						
RM33				AML	AML		
	comp=N,4850µm,0.8s						
RM33				AML	AML		
	comp=N,4905µm,0.8s						
RM33				AML	AML		
	comp=E,5110µm,0.4s						
RM33				AML	AML		
	comp=N,4905µm,1.2s						
RM33				AML	AML		
	comp=N,4850µm,1.2s						
RM33				AML	AML		
	comp=E,5125µm,0.4s						
CIMA	**Civitanova Mar**	**0.57**	**63**	P	**Pg**	**22 48 57.7**	**+0.2**
CIMA				AML	AML		
	comp=N,6825µm,0.9s						
CIMA				AML	AML		
	comp=N,6830µm,0.9s						
CIMA				AML	AML		
	comp=N,6830µm,1.1s						
CIMA				AML	AML		
	comp=E,7230µm,0.9s						
ATPC	**Poggio Castell**	**0.57**	**319**	P	**Pg**	**22 48 58.2**	**+0.5**
ATPI	**Pietralunga -**	**0.58**	**314**	⇑P	**Pg**	**22 48 58.2**	**+0.4**
ATPI				S	**Sb**	**22 49 07.7**	**+0.7**
COR1	**Corinaldo**	**0.58**	**2**	⇑P	**Pg**	**22 48 58.3**	**+0.5**
COR1				AML	AML		
	comp=E,3945µm,0.5s						
COR1				AML	AML		
	comp=N,6945µm,0.5s						
COR1				AML	AML		
	comp=E,4060µm,0.8s						
COR1				AML	AML		
	comp=N,6940µm,0.5s						
COR1				AML	AML		
	comp=E,4060µm,1.2s						
CADA	**Capodarco di F**	**0.59**	**76**	P	**Pg**	**22 48 58.6**	**+0.6**
CADA				AML	AML		
	comp=E,11185µm,0.6s						
CADA				AML	AML		
	comp=N,9770µm,0.7s						
CADA				AML	AML		
	comp=N,9770µm,1.3s						
CADA				AML	AML		
	comp=E,11185µm,1.4s						
MPAG	**Monte Paganucc**	**0.60**	**345**	P	**Pg**	**22 48 58.5**	**+0.3**
MPAG				AML	AML		
	comp=E,3800µm,1.4s						
MPAG				AML	AML		
	comp=N,3110µm,0.3s						
MPAG				AML	AML		
	comp=N,3110µm,1.7s						
MPAG				AML	AML		
	comp=E,3800µm,0.6s						
CAMP	**Campotosto**	**0.60**	**148**	⇓P	**Pg**	**22 48 57.7**	**-0.5**
CAMP				S	**Sb**	**22 49 07.0**	**-0.6**
CAMP				AML	AML		
	comp=E,2815µm,1.0s						
CAMP				AML	AML		
	comp=E,2815µm,1.0s						
CAMP				AML	AML		
	comp=N,3080µm,0.5s						
TERO	**Teramo**	**0.63**	**133**	⇓P	**Pg**	**22 48 57.9**	**-0.7**
TERO				S	**Sb**	**22 49 07.4**	**-0.8**
TERO				AML	AML		
	comp=E,2410µm,0.4s						
TERO				AML	AML		
	comp=N,2585µm,0.7s						
TERO				AML	AML		
	comp=E,4480µm,0.9s						
TERO				AML	AML		
	comp=N,2585µm,1.3s						
TERO				AML	AML		
	comp=N,3920µm,0.5s						
TERO				AML	AML		
	comp=E,4480µm,1.1s						
NARO	**Abbazia di Nar**	**0.63**	**333**	P	**Pg**	**22 48 58.8**	**+0.1**
NARO				S	**Sb**	**22 49 09.0**	**+0.6**
NARO				AML	AML		
	comp=N,1870µm,1.5s						
NARO				AML	AML		
	comp=N,1870µm,0.5s						
NARO				AML	AML		
	comp=E,1835µm,0.8s						
MGAB	**Montegabbione**	**0.65**	**258**	⇑P	**Pb**	**22 48 59.8**	**0.0**
MGAB				AML	AML		
	comp=E,4935µm,1.6s						
MGAB				AML	AML		
	comp=N,4235µm,0.4s						
MGAB				AML	AML		
	comp=N,4540µm,0.5s						
MGAB				AML	AML		
	comp=E,4570µm,0.6s						
FSSB	**Fossombrone**	**0.66**	**347**	P	**Pg**	**22 48 59.2**	**0.0**
FSSB				S	**Sb**	**22 49 10.1**	**+0.9**
FSSB				AML	AML		
	comp=E,8480µm,0.3s						
FSSB				AML	AML		
	comp=N,9385µm,0.4s						
AOI	**Ancona**	**0.68**	**42**	⇑P	**Pg**	**22 48 59.0**	**-0.6**
AOI				S	**Sb**	**22 49 09.8**	**+0.1**
AOI				AML	AML		
	comp=E,2145µm,0.7s						
AOI				AML	AML		
	comp=N,2240µm,0.7s						
AOI				AML	AML		
	comp=N,2240µm,1.3s						
AOI				AML	AML		
	comp=E,2145µm,1.3s						
SENI	**Senigallia**	**0.68**	**16**	P	**Pg**	**22 49 00.1**	**+0.5**
SENI				AML	AML		
	comp=N,11900µm,0.4s						
SENI				AML	AML		
	comp=N,11900µm,1.6s						
SENI				AML	AML		
	comp=E,12250µm,0.4s						
PCRO	**Pietralacroce**	**0.69**	**36**	P	**Pg**	**22 48 59.6**	**-0.2**
BADI	**Badiali**	**0.71**	**311**	⇑P	**Pg**	**22 49 00.6**	**+0.4**
BADI				AML	AML		
	comp=E,1920µm,0.7s						
BADI				AML	AML		
	comp=E,1915µm,0.7s						
BADI				AML	AML		
	comp=N,2360µm,0.6s						
TRTR	**Tortoreto Alta**	**0.73**	**109**	P	**Pb**	**22 49 01.1**	**0.0**
TRTR				AML	AML		
	comp=E,13150µm,0.6s						
TRTR				AML	AML		
	comp=N,18300µm,0.5s						
PE3	**Peglio**	**0.74**	**332**	P	**Pg**	**22 49 01.4**	**+0.7**
GIGS	**Gran Sasso**	**0.74**	**144**	P	**Pg**	**22 48 59.9**	**-0.9**
GIGS				AML	AML		
	comp=N,1225µm,0.5s						
GIGS				AML	AML		
	comp=E,1330µm,0.3s						
FIAM	**Fiamignano**	**0.79**	**172**	P	**Pg**	**22 49 01.5**	**-0.2**
FIAM				S	**Sn**	**22 49 13.5**	**-1.8**
FIAM				AML	AML		
	comp=E,3460µm,0.4s						
FIAM				AML	AML		
	comp=N,5105µm,0.6s						
FIAM				AML	AML		
	comp=N,5105µm,1.4s						
CAFI	**Castiglion Fio**	**0.79**	**291**	P	**Pg**	**22 49 02.3**	**+0.6**
CAFI				AML	AML		
	comp=E,2390µm,0.6s						
CAFI				AML	AML		
	comp=N,2000µm,0.9s						
CAFI				AML	AML		
	comp=N,2055µm,0.9s						
CAFI				AML	AML		
	comp=N,2000µm,1.1s						
CAFI				AML	AML		
	comp=N,2055µm,1.1s						
CAFI				AML	AML		
	comp=E,2380µm,0.6s						
PARC	**Parchiule**	**0.81**	**318**	P	**Pg**	**22 49 02.4**	**+0.4**
PARC				AML	AML		
	comp=E,1455µm,0.6s						
PARC				AML	AML		
	comp=N,1725µm,0.8s						
PARC				AML	AML		
	comp=N,1725µm,1.2s						
SACS	**San Casciano d**	**0.81**	**256**	P	**Pb**	**22 49 02.8**	**+0.3**
SACS				AML	AML		
	comp=N,2190µm,0.8s						
SACS				AML	AML		
	comp=E,2440µm,0.7s						
SACS				AML	AML		
	comp=E,2565µm,0.7s						
SACS				AML	AML		
	comp=N,2200µm,0.8s						
SSP9	**Sansepolcro**	**0.81**	**311**	P	**Pg**	**22 49 02.9**	**+0.8**
SSP9				AML	AML		
	comp=N,1820µm,1.5s						
SSP9				AML	AML		
	comp=E,1540µm,0.6s						
SSP9				AML	AML		
	comp=N,2250µm,1.4s						
SSP9				AML	AML		
	comp=E,1540µm,1.4s						
SSP9				AML	AML		
	comp=N,2250µm,0.6s						
RCAV	**Rocca di Cave**	**1.20**	**181**	AML	AML		
	comp=N,1575µm,0.6s						
RCAV				AML	AML		
	comp=E,1765µm,0.4s						
LRP	**Arpino**	**1.47**	**162**	AML	AML		
	comp=N,584µm,1.6s						
LRP				AML	AML		
	comp=E,820µm,0.8s						
LRP				AML	AML		
	comp=N,584µm,0.4s						
DUGI	**Dugi Otok**	**1.78**	**57**	*e*Pn	**Pb**	**22 49 18.9**	**-0.2**
BRJN	**Brijuni**	**1.94**	**16**	*e*Pn	**Pn**	**22 49 20.2**	**+0.9**
VIRC	**Vir**	**1.95**	**50**	*e*Pn	**Pn**	**22 49 19.5**	**0.0**
ZIRJ	**Zirje**	**2.04**	**72**	*e*Pn	**Pn**	**22 49 21.1**	**+0.5**
NVLJ	**Novalja**	**2.04**	**42**	*e*Pn	**Pn**	**22 49 21.0**	**+0.2**
RABC	**Rab**	**2.14**	**37**	*e*Pn	**Pn**	**22 49 22.2**	**+0.1**
MORI	**Morici**	**2.15**	**67**	*e*Pn	**Pn**	**22 49 22.8**	**+0.6**
SMRN	**Sveta Marina**	**2.16**	**23**	*e*Pn	**Pn**	**22 49 22.5**	**+0.2**
UDBI	**Udbina**	**2.50**	**53**	*e*Pn	**Pn**	**22 49 28.7**	**+1.6**
RIY	**Rijeka**	**2.52**	**25**	*e*Pn	**Pn**	**22 49 28.0**	**+0.7**
HVAR	**Hvar**	**2.54**	**86**	*e*Pn	**Pn**	**22 49 27.6**	**0.0**
SKDS	**Skadanscina**	**2.61**	**16**	*e*Pn	**Pn**	**22 49 28.4**	**-0.1**
SKDS				*e*Sn	**Sn**	**22 50 00.3**	**+0.1**
SKDS				IAML		22 50 03.1	
	comp=Z,40nm,0.3s						
MORSI	**Morsiglia**	**2.65**	**269**	P	**Pn**	**22 49 30.1**	**+1.0**
KIJV	**Kijevo**	**2.67**	**68**	*e*Pn	**Pn**	**22 49 30.2**	**+0.9**
KNDS	**Knezji Dol**	**2.67**	**22**	*i* Pn	**Pn**	**22 49 29.8**	**+0.3**
KNDS				*e*Sn	**Sn**	**22 50 03.4**	**+1.4**
KNDS				IAML		22 50 21.0	
	comp=Z,212nm,0.9s						
CEY	**Cerknica**	**2.88**	**21**	*e*Pn	**Pn**	**22 49 32.3**	**0.0**
LSTV	**Lastovo**	**2.89**	**94**	*e*Pn	**Pn**	**22 49 32.6**	**+0.2**
A050A	**Klekovaca**	**2.95**	**60**	*e*Pn	**Pn**	**22 49 33.1**	**-0.1**
BOJS	**Bojanci**	**2.95**	**33**	*e*Pn	**Pn**	**22 49 33.4**	**+0.2**
SABO	**M.te Sabotino**	**2.96**	**8**	AML	AML		
	comp=E,388µm,1.2s						
SABO				AML	AML		
	comp=E,1560µm,0.8s						
SABO				AML	AML		
	comp=N,1725µm,0.8s						
SABO				AML	AML		
	comp=E,388µm,0.8s						
SABO				AML	AML		
	comp=N,437µm,0.8s						
SABO				AML	AML		
	comp=N,437µm,1.2s						
SABO				AML	AML		
	comp=N,1725µm,1.2s						
SABO				AML	AML		
	comp=E,1560µm,1.2s						
MAKA	**Makarska**	**2.97**	**84**	*e*Pn	**Pn**	**22 49 34.5**	**+1.1**
PGF	**Pioggiola**	**2.97**	**262**	*e*P	**Pn**	**22 49 34.0**	**+0.4**
PGF				*e*Sn	**Sn**	**22 50 06.1**	**-3.1**
	comp=E,13nm,0.6s						
PGF	**Pioggiola**	**2.97**	**262**	P	**Pn**	**22 49 34.5**	**+0.9**
RICI	**Ricice**	**3.07**	**80**	*e*Pn	**Pn**	**22 49 35.7**	**+0.8**
OZLJ	**Ozalj**	**3.13**	**34**	*e*Pn	**Pn**	**22 49 36.4**	**+0.8**
LJU	**Ljubljana**	**3.19**	**20**	AML	AML		
	comp=N,3780µm,0.7s						
LJU				AML	AML		
	comp=E,1495µm,0.4s						
ROBS	**Robic**	**3.22**	**7**	*i* Pn	**Pn**	**22 49 37.1**	**+0.3**
ROBS				*e*Sn	**Sn**	**22 50 14.7**	**-0.5**
PANI	**Panarotta**	**3.22**	**339**	*e*Pn	**Pn**	**22 49 39.6**	**+2.4**
MGRS	**Mrkonjic Grad**	**3.27**	**64**	*e*Pn	**Pn**	**22 49 38.5**	**+0.8**
CIMO	**Cimolais**	**3.28**	**353**	AML	AML		
	comp=N,61µm,0.6s						
CIMO				AML	AML		
	comp=E,67µm,0.8s						
CIMO				AML	AML		
	comp=N,61µm,1.4s						
CLUD	**Cludinico**	**3.41**	**359**	AML	AML		
	comp=E,218µm,1.2s						
CLUD				AML	AML		
	comp=E,224µm,1.1s						
CLUD				AML	AML		
	comp=E,218µm,0.8s						
CLUD				AML	AML		
	comp=N,160µm,0.9s						
CLUD				AML	AML		
	comp=N,165µm,0.7s						
A051A	**Mrakovica**	**3.45**	**54**	*e*Pn	**Pn**	**22 49 39.1**	**-1.0**
STON	**Ston**	**3.47**	**91**	*e*Pn	**Pn**	**22 49 40.6**	**+0.3**
STON	**Ston**	**3.47**	**91**	*e*Pn	**Pn**	**22 49 40.0**	**-0.3**
BLY	**Banja Luka**	**3.48**	**59**	*e*Pn	Pn	22 49 35.0	-5.5
ZOU	**Zoufplan**	**3.51**	**360**	AML	AML		
	comp=N,228µm,1.3s						
ZOU				AML	AML		
	comp=E,228µm,1.3s						
ZOU				AML	AML		
	comp=N,218µm,0.8s						
ZOU				AML	AML		
	comp=E,210µm,1.3s						
ZOU				AML	AML		
	comp=N,228µm,0.7s						
ZOU				AML	AML		
	comp=E,228µm,0.7s						
ZOU				AML	AML		
	comp=E,210µm,0.7s						
ZOU				AML	AML		
	comp=N,218µm,1.2s						
PCP	**Piancastagn**	**3.54**	**296**	P	**Pn**	**22 49 42.0**	**+0.6**
MYKA	**Terra Mystica**	**3.61**	**7**	*i* Pn	**Pn**	**22 49 44.0**	**+1.7**
	comp=N,7.8nm,0.5s,SNR=7.6						
MYKA				*e*Sn	**Sb**	**22 50 32.5**	**-1.7**
	comp=N,33nm,0.8s						
CANO	**Canova, Maglio**	**3.63**	**290**	P	**Pn**	**22 49 43.1**	**+0.5**
CANO	**Canova, Maglio**	**3.63**	**290**	S	**Sn**	**22 50 27.9**	**+2.4**
OBKA	**Obir**	**3.64**	**17**	*e*Pn	**Pn**	**22 49 43.7**	**+0.9**
	comp=N,2.3nm,0.3s						
OBKA	**Obir**	**3.64**	**17**	*e*Pn	**Pn**	**22 49 43.2**	**+0.5**
ABTA	**Abfaltersbach**	**3.71**	**355**	*i* Pn	**Pn**	**22 49 45.4**	**+1.6**
	comp=N,14nm,0.4s,SNR=16						
LOBO	**Lobor**	**3.81**	**34**	*e*Pn	**Pn**	**22 49 45.1**	**+0.1**
DBRK	**Dubrovnik**	**3.82**	**94**	*e*Pn	**Pn**	**22 49 47.6**	**+2.5**
SOKA	**Soboth**	**3.91**	**21**	*e*Pn	**Pn**	**22 49 47.3**	**+0.8**
	comp=N,1.3nm,0.4s						
SOKA				*e*Sn	**Sn**	**22 50 33.4**	**+1.0**
	comp=N,24nm,0.7s						
KBA	**Koelnbreinsper**	**4.04**	**4**	*i* Pn	**Pn**	**22 49 49.8**	**+1.4**
	comp=N,16nm,0.6s,SNR=12						
KBA				*e*Sn	**Sn**	**22 50 37.3**	**+1.7**
	comp=N,5.9nm,0.2s						
BRY	**Bratogost**	**4.08**	**90**	*e*Pn	**Pn**	**22 49 51.1**	**+2.2**
SBF	**Sospel**	**4.12**	**283**	*e*P	**Pn**	**22 49 51.4**	**+2.1**
SBF				*e*Sn	**Sn**	**22 50 33.4**	**-4.1**
	comp=N,27nm,0.6s						
STV	**Sant Anna di V**	**4.27**	**288**	P	**Pn**	**22 49 54.8**	**+3.3**
FETA	**Feichten**	**4.28**	**339**	*i* Pn	**Pn**	**22 49 54.9**	**+3.2**
	comp=N,7.5nm,0.7s,SNR=11						
FETA				*e*Sn	**Sb**	**22 50 49.9**	**-3.6**
	comp=N,13nm,0.6s						
SPIF	**crte de Spivo**	**4.29**	**286**	P	**Pn**	**22 49 54.2**	**+2.4**
WTTA	**Wattenberg**	**4.32**	**348**	*i* Pn	**Pn**	**22 49 55.5**	**+3.3**
	comp=N,3.5nm,0.2s,SNR=6.4						
WTTA				*e*Sn	**Sb**	**22 50 49.6**	**-5.0**
	comp=N,25nm,0.5s						
DAVOX	**Davos/Dischmat**	**4.33**	**331**	Pn	**Pn**	**22 49 56.1**	**+3.8**
	comp=N,29nm,0.7s,baz=160,slow=18						
DAVOX				Sn	**Sb**	**22 50 49.6**	**-5.4**
	comp=N,1.0nm,0.3s,baz=300,slow=23,SNR=2.0						
SQTA	**Sankt Quirin**	**4.36**	**344**	*i* Pn	**Pn**	**22 49 55.2**	**+2.5**
	comp=N,4.5nm,0.2s,SNR=5.8						
SQTA				*e*Sn	**Sn**	**22 50 48.9**	**+5.4**
	comp=N,18nm,0.5s						
LESA	**Schwarzleotal**	**4.38**	**357**	*e*Pn	**Pn**	**22 49 55.6**	**+2.7**
	comp=N,1.6nm,0.2s						
LESA				*e*Sn	**Sn**	**22 50 46.9**	**+2.9**
	comp=N,18nm,0.5s						
WATA	**Walderalm**	**4.40**	**347**	*i* Pn	**Pn**	**22 49 56.4**	**+3.1**
	comp=N,2.5nm,0.2s,SNR=8.3						
WATA				*e*Sn	**Sb**	**22 50 51.7**	**-5.2**
	comp=N,24nm,0.5s						
HAPS	**Han Pijesak,Bl**	**4.46**	**75**	*e*Pn	**Pn**	**22 49 54.5**	**+0.4**
CALF	**Calern**	**4.47**	**281**	P	**Pn**	**22 49 55.4**	**+1.2**
PZZ	**Stroppo**	**4.49**	**291**	P	**Pn**	**22 49 56.4**	**+1.9**
TRAV	**Traversella**	**4.49**	**305**	P	**Pn**	**22 49 55.8**	**+1.3**
TRAV	**Traversella**	**4.49**	**305**	S	**Sn**	**22 50 48.7**	**+2.0**
MOTA	**Moosalm**	**4.50**	**344**	*i* Pn	**Pn**	**22 49 58.5**	**+3.9**
	comp=N,17nm,0.8s,SNR=8.5						
MOTA				*e*Sn	**Sb**	**22 50 54.2**	**-5.5**
	comp=N,9.3nm,0.4s						
ARSA	**Arzberg**	**4.57**	**22**	*e*Pn	**Pn**	**22 49 55.8**	**+0.3**
	comp=N,3.4nm,0.5s						
ARSA				*e*Sn	**Sn**	**22 50 47.9**	**-0.7**
	comp=N,12nm,0.8s						
SALSA	**La sagne**	**4.65**	**282**	P	**Pn**	**22 49 59.4**	**+2.7**
DRME	**Dracevica, Mon**	**4.66**	**99**	*e*Pn	**Pn**	**22 49 57.1**	**+0.4**

BIOA **Bad Ischl, Aus** 4.67 5 *i* Pn **Pn** 22 49 58.8 +1.9
comp=N,9.2nm,0.4s,SNR=9.3
BIOA *e*Sn **Sn** 22 50 55.0 +4.1
comp=N,42nm,0.6s
SURF Saint Ours 4.69 290 P **Pn** 22 49 59.7 +2.4
RUDO Rudo 4.70 81 *e*Pn **Pn** 22 49 56.1 -1.1
RETA Reutte 4.71 341 *e*Pn **Pn** 22 50 00.4 +3.0
comp=N,2.8nm,0.3s
JAUF Jausiers 4.72 289 P **Pn** 22 50 00.1 +2.4
LMR La Mourre 4.74 276 *e*P **Pn** 22 49 58.8 +1.0
LMR *e*Sn **Sn** 22 50 48.4 -4.3
comp=N,5.5nm,0.6s
BBLS Lazi&#263i 4.75 78 *e*Pn Pb 22 50 03.9 -5.8
DAVA Damuels 4.77 334 *i* Pn Pn 22 50 03.0 +4.7
comp=N,17nm,0.6s,SNR=12
DAVA *e*Sn **Sn** 22 51 00.5 +6.8
comp=N,18nm,0.6s
MBDF Montbardon 4.79 293 *e*P **Pn** 22 50 00.8 +2.2
MBDF *e*Sn **Sn** 22 50 49.7 -4.5
comp=N,22nm,0.9s
TRIGF Trigance 4.84 281 P **Pn** 22 50 01.5 +2.2
LSD Lago del Serru 4.84 302 P **Pn** 22 50 00.4 +0.9
MOA Molln 4.89 10 *e*Pn **Pn** 22 50 01.2 +1.4
comp=N,3.2nm,0.4s
MOA *e*Sn **Sn** 22 50 58.7 +2.3
comp=N,15nm,0.7s
FLAF Flassans-sur-I 4.92 276 P **Pn** 22 50 02.0 +1.6
DIX Grande Dixence 5.00 309 P **Pn** 22 50 05.1 +3.5
LPG La Plagne 5.10 301 *e*P **Pn** 22 50 05.6 +2.6
LPG *e*Sn **Sn** 22 50 56.9 -5.0
comp=N,14nm,0.7s
LPL La Plagne 5.12 301 *e*P **Pn** 22 50 05.9 +2.7
LPL *e*Sn **Sn** 22 50 57.2 -5.1
comp=N,8.4nm,0.6s
SJES Sjenica 5.12 85 *e*Pn **Pn** 22 50 03.1 -0.1
RONA Rosalia, Austr 5.21 26 *e*Pn **Pn** 22 50 05.1 +0.8
comp=N,2.8nm,0.3s
RONA *e*Sn **Sn** 22 51 05.9 +1.7
comp=N,5.7nm,0.5s
ARTF Artigues 5.26 278 P **Pn** 22 50 05.9 +1.0
RSL Roselend 5.26 302 P **Pn** 22 50 08.5 +3.4
CONA Conrad Observa 5.28 22 *e*Pn **Pn** 22 50 05.9 +0.5
comp=N,3.1nm,0.3s
CONA *e*Sn **Sn** 22 51 05.3 -0.9
comp=N,16nm,0.6s
FRGS Fruska Gora 5.35 64 *e*Pn **Pn** 22 50 04.9 -1.3
ORIF Oris-en-Rattie 5.45 292 *e*P **Pn** 22 50 10.5 +2.8
ORIF *e*Sn **Sn** 22 51 05.5 -4.9
comp=N,10nm,0.8s
SMRF Simiane la Rot 5.46 282 *e*P **Pn** 22 50 10.4 +2.6
SMRF *e*Sn **Sn** 22 51 05.4 -5.2
comp=N,2.2nm,0.5s
BALST Balsthal 5.68 321 P **Pn** 22 50 13.0 +2.1
BALST Balsthal 5.68 321 S **Sn** 22 51 17.4 +1.3
GERES GERESS Array B 5.82 5 Pn **Pn** 22 50 13.9 +1.2
comp=N,0.6nm,0.3s,baz=169,slow=12,SNR=7.1
GERES Sn **Sn** 22 51 18.2 -1.2
comp=N,1.4nm,0.3s,baz=173,slow=24,SNR=6.9
comp=N,1.0nm,0.3s
CKRC Cesky Krumlov 5.85 9 *e*PN **Pn** 22 50 13.2 +0.2
CKRC *e*SN **Sn** 22 51 18.4 -1.6
GIMEL St. Georges / 5.91 308 P **Pn** 22 50 17.9 +3.9
BOURR Bourrignon 5.95 319 P **Pn** 22 50 14.8 +0.4
BOURR Bourrignon 5.95 319 S **Sn** 22 51 24.6 +2.1
ENDD Endenburg 5.95 323 P **Pn** 22 50 15.6 +1.2
CABF La Chapelle 6.06 308 *e*P **Pn** 22 50 18.7 +2.7
CABF *e*Sn **Sn** 22 51 19.7 -5.6
comp=N,17nm,0.8s
KIZ Kirchzarten 6.06 326 P **Pn** 22 50 17.3 +1.3
KHC Kasperske Hory 6.10 4 *e*PN **Pn** 22 50 17.7 +1.2
KHC *e*SN **Sn** 22 51 24.3 -1.9
KEK Kerkira 6.12 121 P **Pn** 22 50 15.9 -0.8
KEK S **Sn** 22 51 23.6 -3.1
CHMF Charmoille 6.13 315 P **Pn** 22 50 18.9 +1.9
CHMF S **Sn** 22 51 29.5 +2.3
SRN Sarande 6.15 119 P **Pn** 22 50 19.2 +2.0
VIVF Saint-Julien-l 6.26 290 *e*P **Pn** 22 50 21.8 +3.1
VIVF *e*Sn **Sn** 22 51 24.5 -5.8
comp=N,0.7nm,0.3s
MOF Molkenrain 6.32 321 P **Pn** 22 50 21.4 +1.8
BOUC Bouclans 6.34 314 P **Pn** 22 50 21.7 +1.9
HINF Hinteralfeld 6.42 320 *e*P **Pn** 22 50 22.9 +1.9
HINF *e*Sn **Sn** 22 51 28.3 -6.0
comp=N,22nm,0.7s
ZVC Zvikov 6.45 7 *e*PN **Pn** 22 50 22.2 +1.0
KRUC Moravsky 6.47 20 *e*PN **Pn** 22 50 21.6 +0.1
KRUC *e*SN **Sn** 22 51 32.4 -2.8
TREC Trest 6.49 15 *e*SN **Sn** 22 51 32.7 -3.0
IGT Igoumenitsa 6.56 120 P **Pn** 22 50 24.3 +1.5
IGT S **Sn** 22 51 35.3 -2.3
ECH Echery 6.58 324 P **Pn** 22 50 24.7 +1.6
ECH S **Sn** 22 51 38.2 +0.1
NEST Nestorio 6.59 111 P **Pn** 22 50 25.5 +2.2
NEST S **Sn** 22 51 36.3 -2.1
comp=N,12nm,0.5s
WLS Welschbruch 6.65 326 P **Pn** 22 50 26.6 +2.5
FNA Florina 6.66 107 P **Pn** 22 50 26.2 +1.9
CDF Champ du Feu 6.68 325 *e*P **Pn** 22 50 26.1 +1.5
CDF *e*Sn **Sn** 22 51 34.1 -6.6
comp=N,17nm,0.7s
LASF Ste Croix 6.71 282 *e*P **Pn** 22 50 27.3 +2.5
LASF *e*Sn **Sn** 22 51 35.2 -6.0
comp=N,0.9nm,0.3s
VRAC Vranov 6.74 21 *e*PN **Pn** 22 50 25.0 -0.3
VRAC *e*SN **Sn** 22 51 38.8 -3.3
HAU Haudompre 6.80 319 *e*P **Pn** 22 50 28.7 +2.6
HAU *e*Sn **Sn** 22 51 37.0 -6.5
comp=N,25nm,0.7s
PRU Pruhonice 7.03 8 *e*SN **Sn** 22 51 46.9 -2.1
NYDR Nydri-Lefkada 7.28 124 P **Pn** 22 50 34.9 +2.3
SMF Signal de Mont 7.42 302 *e*P **Pn** 22 50 37.7 +3.1
SMF *e*Sn **Sn** 22 51 52.3 -6.5
comp=N,5.2nm,0.6s
PAGF Fort de Pagny 7.48 320 *e*P **Pn** 22 50 38.1 +2.7
PAGF *e*Sn **Sn** 22 51 53.4 -6.8
comp=N,3.8nm,0.5s
SFTF Sexfontaines 7.58 316 *e*P **Pn** 22 50 39.9 +3.0
baz=130
SFTF *e*Sn **Sn** 22 51 55.8 -7.0
comp=N,5.8nm,0.6s
LOR Lormes 7.70 306 *e*P **Pn** 22 50 41.7 +3.2
baz=120
LOR *e*Sn **Sn** 22 51 58.7 -7.0
comp=N,4.8nm,0.5s
AVF Avril sur Loir 7.79 302 *e*P **Pn** 22 50 42.7 +3.1
AVF *e*Sn **Sn** 22 52 00.8 -6.9
comp=N,0.9nm,0.4s
SSF Saint Saulge 7.81 304 *e*P **Pn** 22 50 43.2 +3.2
SSF *e*Sn **Sn** 22 52 01.5 -6.9
comp=N,2.5nm,0.7s
KEST Kesra 7.83 202 Pn Pn 22 50 47.1 +6.8
comp=N,0.4nm,0.3s,baz=329,slow=8.2,SNR=11
comp=N,2.7nm,0.5s
BRG Berggiesshubel 7.86 4 *e*P Pb 22 50 54.5 -8.0
BRG Amp 22 50 55.7
comp=Z,1.4nm,0.6s
BRG r 22 52 06.7
BRG r 22 52 34.9
BRG r 22 53 12.5
BRG Amp 22 53 21.4
comp=Z,7.3nm,1.1s
MAKR Makrakomi, Fth 8.01 117 P **Pn** 22 50 45.3 +2.6
BGF Bois d'Agland 8.01 299 *e*P **Pn** 22 50 45.3 +2.6
BGF *e*Sn **Sn** 22 52 06.5 -6.8
comp=Z,5.0nm,0.6s
EFP Efpalio 8.20 121 P **Pn** 22 50 48.4 +3.1
NVR Nevrokopi 8.26 98 P **Pn** 22 50 48.1 +2.0
CLL Collm 8.26 0 *e*Sg **Sg** 22 53 12.0 +0.6
CLL *e*(Sn) **Sn** 22 52 17.0 -2.4
TCF Toulx Ste Croi 8.33 297 *e*P **Pn** 22 50 50.8 +3.7
FINES FINESS Array B 20.02 19 P Pn 22 53 20.1 -0.5
comp=Z,0.1nm,0.3s,baz=200,slow=12,SNR=4.7
comp=Z,1.3nm,0.7s
BVAR Borovoye Array 38.69 55 P **P** 22 56 11.4 +1.4
comp=Z,0.6nm,0.8s,baz=308,slow=7.1,SNR=2.9
comp=Z,0.6nm,0.8s
MKAR Makanchi Array 47.77 60 P **P** 22 57 24.4 +0.9
comp=Z,0.3nm,0.6s,baz=288,slow=7.0,SNR=2.3
comp=Z,0.3nm,0.6s

*NEIC **08** 22:52:08.0±1.4,55°.6N±0°.1×149°.2W±0°.1,h8km±8km, ML3.2/20,ML3.3(AEIC),Error ellipse: s-maj=17.3km s-min=9.5km az=179.0*

*AEIC **08** 22:52:12.8±1.9,55°.6N±0°.1×149°.3W±0°.1,h7km±8km,Error ellipse: s-maj=16.7km s-min=8.9km az=173.0*

ISC 08 22:52:08.5±1.9,**55.7N**±0.1×**149.22W**±0.07,**h10**km,**n95,** σ1**9**0**7**/96,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.73**	**306**		**Pn**	**22 52 52.7**	**+0.5**
OHAK	**Old Harbor**	**2.73**	**306**		**Sn**	**22 53 23.6**	**-1.6**
OHAK	**Old Harbor** baz=124	**2.73**	**306**	P	**Pn**	**22 52 52.7**	**+0.5**
OHAK				S	**Sn**	**22 53 23.5**	**-1.6**
KDAK	**Kodiak Island** baz=124	**2.79**	**320**		**Pn**	**22 52 54.0**	**+0.8**
KDAK				IAML		22 53 35.0	
KDAK	**Kodiak Island** 44nm,1.4s	**2.79**	**320**		**Sn**	**22 53 26.3**	**-0.5**
KDAK	**Kodiak Island** baz=136	**2.79**	**320**	S	**Sn**	**22 53 26.3**	**-0.5**
SII	**Sitkinak Islan**	**2.91**	**289**		**Pn**	**22 52 55.2**	**+0.4**
SII	**Sitkinak Islan** comp=N,101nm,1.4s	**2.91**	**289**	IAML		22 54 35.0	
SII	**Sitkinak Islan** baz=107	**2.91**	**289**	P	**Pn**	**22 52 55.2**	**+0.4**
SII	**Sitkinak Islan**	**2.91**	**289**	P	**Pn**	**22 52 55.0**	**+0.2**
Q20K	**Shuyak Island** baz=148	**3.39**	**331**	P	**Pn**	**22 53 02.2**	**+0.8**
Q20K				S	**Sn**	**22 53 41.1**	**-0.5**
SYI	**Shuyak Island**	**3.39**	**331**		**Pn**	**22 53 02.2**	**+0.8**
SYI	**Shuyak Island**	**3.39**	**331**		**Sn**	**22 53 41.4**	**-0.3**
SYI	comp=N,34nm,1.3s			IAML		22 53 56.2	
SYI	**Shuyak Island**	**3.39**	**331**	P	**Pn**	**22 53 02.6**	**+1.2**
CNPM	**China Poot**	**3.99**	**345**		**Pn**	**22 53 08.8**	**-0.8**
CNPM	comp=N,27nm,1.3s			IAML		22 53 58.4	
CNPM	comp=E,23nm,1.0s			IAML		22 54 05.3	
CNPM	**China Poot**	**3.99**	**345**		**Sn**	**22 53 56.3**	**-0.2**
Q19K	**Cape Douglas,**	**4.03**	**325**		**Pn**	**22 53 11.2**	**+0.9**
Q19K	**Cape Douglas,** baz=142	**4.03**	**325**	P	**Pn**	**22 53 11.2**	**+0.9**
BRSE	**Bradley Lake S**	**4.14**	**349**		**Pn**	**22 53 12.3**	**+0.7**
BRSE					**Sn**	**22 53 58.8**	**-1.3**
BRSE	**Bradley Lake S** baz=168	**4.14**	**349**	P	**Pn**	**22 53 12.3**	**+0.7**
BRSE	baz=168			S	**Sn**	**22 53 58.7**	**-1.3**
BRLK	**Bradley Lake**	**4.18**	**348**		**Pn**	**22 53 12.6**	**+0.4**
BRLK	comp=E,32nm,1.0s			IAML		22 54 03.6	
BRLK	comp=N,35nm,1.3s			IAML		22 54 06.8	
BRLK	**Bradley Lake**	**4.18**	**348**		**Sn**	**22 54 00.6**	**-0.4**
SEW	**Seward**	**4.42**	**359**		**Sn**	**22 54 05.0**	**-2.0**
SEW	**Seward** baz=178	**4.42**	**359**	S	**Sn**	**22 54 05.0**	**-2.0**
CNTC	**Contact Creek**	**4.46**	**308**		**Pn**	**22 53 17.5**	**+1.3**
Q17K	**Contact Creek** baz=123	**4.46**	**308**	P	**Pn**	**22 53 17.5**	**+1.3**
SLKM	**Skilak Lake**	**4.86**	**354**		**Pn**	**22 53 21.9**	**+0.4**
P18K	**Big Mountain,**	**4.92**	**321**		**Pn**	**22 53 22.9**	**+0.5**
P18K	**Big Mountain,** comp=N,15nm,1.5s	**4.92**	**321**	IAML		22 54 23.9	
P18K	**Big Mountain,** baz=137	**4.92**	**321**	P	**Pn**	**22 53 22.9**	**+0.5**
CAPN	**Captain Cook N**	**5.19**	**349**	Pn	**Pn**	**22 53 24.9**	**-1.1**
O18K	**Koktuh Hills**	**5.26**	**325**		**Pn**	**22 53 27.5**	**+0.5**
O18K	**Koktuh Hills** comp=N,15nm,1.3s	**5.26**	**325**	IAML		22 54 30.0	
O18K	comp=E,9.6nm,1.3s			IAML		22 54 54.0	
O18K	**Koktuh Hills** baz=140	**5.26**	**325**	P	**Pn**	**22 53 27.5**	**+0.5**
BERG	**Berg Lake**	**5.55**	**30**	Pn	**Pn**	**22 53 31.4**	**+0.5**
SNH	**Sunshine Point**	**5.64**	**34**	Pn	**Pn**	**22 53 33.2**	**+1.0**
N19K	**Bonanza Creek**	**5.83**	**334**		**Pn**	**22 53 35.5**	**+0.5**
N19K	**Bonanza Creek** baz=149	**5.83**	**334**	P	**Pn**	**22 53 35.5**	**+0.5**
WAX	**Waxell Ridge**	**5.84**	**33**		**Pn**	**22 53 35.6**	**+0.5**
STLK	**Strandline Lak**	**5.98**	**348**		**Pn**	**22 53 37.7**	**+0.7**
CRQM	**Cirque**	**6.00**	**30**		**Pn**	**22 53 38.1**	**+0.7**
CRQE	**Cirque** baz=214	**6.01**	**30**	P	**Pn**	**22 53 38.1**	**+0.6**
KLU	**Klutina**	**6.06**	**15**		**Pn**	**22 53 38.5**	**+0.4**
KLU	**Klutina** baz=197	**6.06**	**15**	P	**Pn**	**22 53 38.5**	**+0.4**
GHO	**Glory Hole Cre**	**6.10**	**1**	Pn	**Pn**	**22 53 40.5**	**+1.9**
N18K	**Kilae Creek**	**6.11**	**328**		**Pn**	**22 53 39.8**	**+1.0**
N18K	**Kilae Creek** baz=142	**6.11**	**328**	P	**Pn**	**22 53 39.8**	**+1.0**
ISLE	**Juniper Island**	**6.12**	**34**	Pn	**Pn**	**22 53 38.6**	**-0.4**
O16K	**Kokwok River B**	**6.16**	**313**	Pn	**Pn**	**22 53 40.1**	**+0.8**
KIAG	**Kiagna River**	**6.37**	**32**		**Pn**	**22 53 42.9**	**+0.5**
TABL	**Table Mountain**	**6.40**	**39**	Pn	**Pn**	**22 53 43.1**	**+0.2**
GLB	**Gilaina Bute**	**6.42**	**24**	Pn	**Pn**	**22 53 43.5**	**+0.5**
N17K	**Nushagak Hills**	**6.42**	**322**	Pn	**Pn**	**22 53 43.8**	**+0.8**
MCARA	**McCarthy VSAT**	**6.56**	**27**	Pn	**Pn**	**22 53 45.6**	**+0.8**
PNL	**Peninsula**	**6.60**	**49**		**Pn**	**22 53 46.0**	**+0.5**
PNL	**Peninsula** baz=236	**6.60**	**49**	P	**Pn**	**22 53 46.0**	**+0.5**
BCPM	**Bancas Point**	**6.66**	**46**			**22 53 47.0**	**+0.8**
BARN	**Barnard Glacie**	**6.69**	**33**	Pn	**Pn**	**22 53 47.1**	**+0.3**
CTGM	**Chitina Glacie**	**6.72**	**35**	Pn	**Pn**	**22 53 47.5**	**+0.3**
LOGN	**Logan Glacier**	**6.72**	**37**	Pn	**Pn**	**22 53 47.3**	**+0.1**
M18K	**Stony River**	**6.76**	**332**		**Pn**	**22 53 47.9**	**+0.4**
M18K	**Stony River** baz=146	**6.76**	**332**	P	**Pn**	**22 53 47.9**	**+0.4**
L19K	**White Mountain**	**7.12**	**338**	Pn	**Pn**	**22 53 53.3**	**+0.6**
M17K	**Holitna River**	**7.15**	**326**	Pn	**Pn**	**22 53 54.2**	**+1.2**
O29M	**Mount Kennedy**	**7.30**	**46**		**Pn**	**22 53 56.1**	**+1.0**
O29M	**Mount Kennedy** baz=235	**7.30**	**46**	P	**Pn**	**22 53 55.9**	**+0.7**
P29M	**Windy Craggy**	**7.31**	**53**		**Pn**	**22 53 55.6**	**+0.4**
P29M	**Windy Craggy** baz=242	**7.31**	**53**	P	**Pn**	**22 53 55.6**	**+0.4**
N15K	**Kwethluk River**	**7.32**	**312**	Pn	**Pn**	**22 53 57.3**	**+2.1**
M16K	**Timber Creek**	**7.39**	**320**	Pn	**Pn**	**22 53 58.2**	**+1.9**
O14K	**Tigyukauivet M**	**7.40**	**304**	Pn	**Pn**	**22 53 57.9**	**+1.5**
S31K	**Pelican**	**7.48**	**67**		**Pn**	**22 53 56.1**	**-1.4**
S31K	**Pelican** baz=257	**7.48**	**67**	P	**Pn**	**22 53 56.1**	**-1.4**
L18K	**Granite Mounta**	**7.59**	**333**	Pn	**Pn**	**22 54 00.1**	**+1.1**
CAST	**Castle Rocks**	**7.88**	**351**	Pn	**Pn**	**22 54 05.6**	**+2.6**
TTA	**Tatalina**	**8.04**	**337**	Pn	**Pn**	**22 54 06.4**	**+1.2**
L16K	**Owhat River**	**8.05**	**323**	Pn	**Pn**	**22 54 06.7**	**+1.5**
S32K	**Killisnoo**	**8.28**	**72**		**Pn**	**22 54 07.2**	**-1.2**
S32K	**Killisnoo** baz=263	**8.28**	**72**	P	**Pn**	**22 54 07.2**	**-1.2**
M14K	**Bethel**	**8.41**	**312**	Pn	**Pn**	**22 54 11.1**	**+0.9**
K17K	**Iditarod**	**8.43**	**330**	Pn	**Pn**	**22 54 10.8**	**+0.3**
N30M	**Aishikik Lake**	**8.57**	**43**	Pn	**Pn**	**22 54 13.9**	**+1.4**
M29M	**Somme Creek**	**8.74**	**35**		**Pn**	**22 54 16.3**	**+1.5**
M13K	**Dall Lake**	**8.85**	**308**	Pn	**Pn**	**22 54 17.5**	**+1.3**
L14K	**Kuka Creek**	**9.02**	**314**	Pn	**Pn**	**22 54 20.3**	**+1.7**
WHY	**Whitehorse**	**9.05**	**51**	Pn	**Pn**	**22 54 20.6**	**+1.4**
K15K	**Wolf Creek Mou**	**9.16**	**321**	Pn	**Pn**	**22 54 21.8**	**+1.3**
ILAR	**Eielson Array**	**9.18**	**6**	Pn	**Pn**	**22 54 21.8**	**+1.1**
P32M	**Atlin**	**9.18**	**58**	Pn	**Pn**	**22 54 20.9**	**+0.1**
J16K	**Anvik River**	**9.54**	**327**	Pn	**Pn**	**22 54 28.2**	**+2.4**
I21K	**Tanana**	**9.61**	**353**	Pn	**Pn**	**22 54 27.9**	**+1.2**
P33M	**Teslin, Yukon**	**9.81**	**56**	Pn	**Pn**	**22 54 29.9**	**+0.4**
H21K	**Melozitna Rive**	**10.15**	**352**	Pn	**Pn**	**22 54 35.7**	**+1.7**
H24K	**Noodor Dome**	**10.20**	**3**	Pn	**Pn**	**22 54 36.9**	**+2.2**
R33M	**Jennings River**	**10.48**	**62**	Pn	**Pn**	**22 54 38.5**	**-0.2**

*SJA **08** 22:52:44.4±0.6, 19°.78S×69°.31W,h105km±2km, ML3.5, MW3.5*

*GUC **08** 22:52:46.0±0.5, 19°.77S×69°.27W, h98km±2km, ML3.4*

ISC 08 22:52:46.5±1.3,**19.81S**±0.03×**69.37W**±0.05,**h98**km±7km, **n31**,σ1**9**0**8**/57,**4C**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO01	**Chusmiza**	**0.22**	**50**	*e*P	**Pn**	**22 53 00.3**	**-0.7**
GO01				*e*S	**Sn**	**22 53 12.2**	**+0.3**
GO01	comp=Z,970nm,0.1s			IAML		22 53 13.1	
GO01	**Chusmiza**	**0.22**	**50**	*i* P	**Pn**	**22 53 00.2**	**-0.9**
GO01				*e*S	**Sn**	**22 53 11.4**	**-0.5**
PB11	**IPOC Station P**	**0.27**	**280**	*e*P	**Pn**	**22 53 00.4**	**-0.4**
PB11				*e*S	**Sn**	**22 53 12.4**	**+0.8**
PB11				IAML		22 53 13.2	
PB11	**IPOC Station P**	**0.27**	**280**	⇑*i*P	**Pn**	**22 53 00.6**	**-0.3**
PB11	comp=Z,678nm,0.1s			*e*S	**Sn**	**22 53 11.8**	**+0.2**
PB11				IAML		22 53 12.8	
PB08	**IPOC Station P**	**0.39**	**148**	*e*P	**Pn**	**22 53 01.1**	**-0.7**
PB08				*e*S	**Sn**	**22 53 13.5**	**+0.3**
PB08	comp=E,2μm,0.2s			IAML		22 53 14.5	
PB08	**IPOC Station P**	**0.39**	**148**	*i* P	**Pn**	**22 53 01.2**	**-0.5**
PB08				*e*S	**Sn**	**22 53 12.6**	**-0.5**
PB08	comp=Z,1μm,0.2s			IAML		22 53 14.7	
HMBC	**Humberstone**	**0.68**	**226**	⇑*i*P	**Pn**	**22 53 03.7**	**+0.1**
HMBC				*e*S	**Sn**	**22 53 17.0**	**+0.6**
HMBC	comp=E,3μm,0.1s			IAML		22 53 19.4	
TA02	**Huaiquique**	**0.85**	**237**	*e*P	**Pn**	**22 53 04.8**	**-0.3**
TA02				*e*S	**Sn**	**22 53 21.5**	**+2.4**
TA02	comp=Z,839nm,0.1s			IAML		22 53 23.8	
TA02	**Huaiquique**	**0.85**	**237**	*i* P	**Pn**	**22 53 05.3**	**+0.2**
TA02				*e*S	**Sn**	**22 53 19.6**	**+0.5**
TA02	comp=N,2μm,0.2s			IAML		22 53 21.3	
TA01	**Diego Aracena**	**1.07**	**225**	*e*P	**Pn**	**22 53 07.4**	**-0.1**
TA01				*e*S	**Sn**	**22 53 25.3**	**+1.9**
TA01	comp=Z,314nm,0.3s			IAML		22 53 26.2	
TA01	**Diego Aracena**	**1.07**	**225**	⇑*i*P	**Pn**	**22 53 07.2**	**-0.3**
TA01				*e*S	**Sn**	**22 53 23.9**	**+0.5**
TA01	comp=E,707nm,0.3s			IAML		22 53 25.4	
PX02	**IPOC Station P**	**1.15**	**317**	*i* P	**Pn**	**22 53 07.7**	**-0.8**
PX02				*e*S	**Sn**	**22 53 25.0**	**-0.1**
PB01	**IPOC Station P**	**1.23**	**185**	*e*P	Pn	22 53 03.7	-5.8
PB01				*e*P		22 53 09.1	
PB01				*e*S	**Sn**	**22 53 27.8**	**+0.9**
PB01	comp=Z,2μm,0.5s			IAML		22 53 28.2	
PB01	**IPOC Station P**	**1.23**	**185**	*i* P	**Pn**	**22 53 09.2**	**-0.3**
PB01				*e*S	**Sn**	**22 53 26.9**	**+0.1**
PB01	comp=N,3μm,0.3s			IAML		22 53 28.4	
PATCX	**Punta Patache**	**1.25**	**216**	*i* P	**Pn**	**22 53 09.5**	**-0.1**
PATCX	comp=N,655nm,0.3s			IAML		22 53 28.9	
PB16	**IPOC Station P**	**1.47**	**355**	*e*P	**Pn**	**22 53 11.9**	**-0.9**
PB16				*e*S	**Sn**	**22 53 33.9**	**+1.2**
PB16	comp=Z,271nm,0.3s			IAML		22 53 34.8	
PB16	**IPOC Station P**	**1.47**	**355**	*i* P	**Pn**	**22 53 12.8**	**-0.1**
PB16				*e*S	**Sn**	**22 53 32.6**	**-0.1**
PB16	comp=N,423nm,0.5s			IAML		22 53 34.7	
PB12	**IPOC Station P**	**1.49**	**323**	*e*P	**Pn**	**22 53 12.1**	**-0.5**
PB12				*e*S	**Sn**	**22 53 33.6**	**+1.2**
PB12	**IPOC Station P**	**1.49**	**323**	*i* P	**Pn**	**22 53 12.0**	**-0.7**
PB12				*e*S	**Sn**	**22 53 31.8**	**-0.7**
PB12	comp=E,382nm,0.3s			IAML		22 53 36.3	
PB02	**IPOC Station P**	**1.58**	**198**	*e*P	**Pn**	**22 53 13.5**	**-0.3**
PB02				*e*S	**Sn**	**22 53 35.7**	**+1.2**
PB02	comp=Z,724nm,0.3s			IAML		22 53 42.5	
PB02	**IPOC Station P**	**1.58**	**198**	*i* P	**Pn**	**22 53 13.4**	**-0.3**
PB02				*e*S	**Sn**	**22 53 34.6**	**+0.1**
PB02	comp=E,784nm,0.2s			IAML		22 53 40.4	
PB07	**IPOC Station P**	**1.97**	**194**	*e*P	**Pn**	**22 53 18.4**	**-0.3**
PB07				*e*S	**Sn**	**22 53 44.0**	**+0.7**
PB07	comp=Z,323nm,0.4s			IAML		22 53 54.1	
PB07	**IPOC Station P**	**1.97**	**194**	*i* P	**Pn**	**22 53 18.5**	**-0.3**
PB09	**IPOC Station P**	**1.98**	**177**	*e*P	**Pn**	**22 53 18.6**	**-0.4**
PB09				*e*S	**Sn**	**22 53 44.7**	**+1.1**
PB09	comp=Z,235nm,0.4s			IAML		22 53 47.9	
PB09	**IPOC Station P**	**1.98**	**177**	⇑*i*P	**Pn**	**22 53 18.9**	**0.0**
PB09				*e*S	**Sn**	**22 53 44.0**	**+0.4**
PB09	comp=N,328nm,0.3s			IAML		22 53 49.9	
PB04	**IPOC Station P**	**2.62**	**196**	*e*P	**Pn**	**22 53 27.1**	**-0.2**
PB04				*e*S	**Sn**	**22 53 52.7**	**-5.8**
PB04	comp=Z,159nm,0.6s			IAML		22 54 25.6	
LVC	**Limon Verde**	**2.82**	**171**	*e*P	**Pn**	**22 53 29.9**	**-0.2**
LVC				*e*S	**Sn**	**22 54 03.7**	**0.0**
PB06	**IPOC Station P**	**2.89**	**184**	*e*P	**Pn**	**22 53 30.5**	**-0.4**
PB06				*e*S	**Sn**	**22 54 04.3**	**-0.7**
PB06	comp=E,124nm,0.3s			IAML		22 54 13.8	
PB15	**IPOC Station P**	**3.38**	**182**	*e*P	**Pn**	**22 53 38.2**	**+0.6**
PB15				*e*S	**Sn**	**22 54 16.2**	**-0.7**
PB15	comp=Z,302nm,0.2s			IAML		22 54 27.9	
LPAZ	**La Paz**	**3.69**	**19**	*e*P	**Pn**	**22 53 42.5**	**+0.3**
YJA	**Yavi**	**4.30**	**124**	*e*P	**Pn**	**22 53 51.4**	**+1.3**

*ISN **08** 22:55:32.0±1.0,34°.91N×46°.22E,h8km±12km,ML2.7*

TEH 08 22:55:33.4,34.89N×46.23E,h10km±102**km,ML2.6, Western Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.23**	**146**	Pg	Pg	22 55 38.1	-0.1
ILIN	**Lien**	**0.60**	**87**	Pg	Pg	22 55 45.3	+0.2
IGHG	**Ghaleghazi**	**0.62**	**153**	Pg	Pb	22 55 46.3	-0.2
KGS1	**Ghasr-e-Shirin**	**0.65**	**234**	Pg	Pg	22 55 46.3	+0.3
KGS1				Sg	Sb	22 55 55.9	-0.2
KCHF	**Cheshme Sefid,**	**0.91**	**132**	Pg	Pg	22 55 51.0	+0.2
ILBA	**Ilam Banvizeh**	**1.26**	**181**	Pg	Pb	22 55 57.4	+0.1
IKRK	**Kirkuk**	**1.63**	**289**	*e*Pn	Pb	22 56 03.0	-0.6
IKRK				*e*Sn	Sb	22 56 25.0	+0.7
IKRK	comp=N,167nm,0.6s			AML	AML	22 56 29.4	
IKRK	comp=E,108nm,0.5s			AML	AML	22 56 33.7	
IBDR	**Badra**	**1.79**	**188**	*e*Pn	Pn	22 56 05.0	+0.6
IBDR				*e*Sn	Sb	22 56 29.0	+0.2
IBDR	comp=E,77nm,0.5s			AML	AML	22 56 41.0	
IBDR	comp=N,56nm,0.8s			AML	AML	22 56 46.0	
BHD	**Baghdad**	**2.23**	**224**	*e*Pn	Pn	22 56 11.0	+0.6
BHD				*e*Sn	Sb	22 56 40.0	-1.4
RAFI	**Al-Rafai**	**3.16**	**182**	*e*Pn	Pn	22 56 24.5	+1.3
RAFI				*e*Sn	Sn	22 57 03.0	+2.1

*IDC **08** 23:01:44.8±1.7, 4°.34S×153°.52E, h0km, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=55.3km s-min=23.9km az=90.0*

*NEIC **08** 23:01:48.4±1.1, 4°.1S±0°.6×153°.5E±0°.2, h31km±26km, mb4.3/11, Error ellipse: s-maj=85.6km s-min=10.4km az=194.0*

ISC 08 23:01:50.1±0.9,**4.4S**±

KNRA				IAmb	IAmb	23 07 30.2	
	comp=Z,14nm,1.1s						
ASAR	**Alice Springs**	**26.88**	**223**	P	**P**	**23 07 27.7**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=60,slow=8.4,SNR=2.3						
	comp=Z,0.3nm,0.5s						
STKA	**Stephens Creek**	**29.52**	**201**	P	**P**	**23 07 52.5**	**+1.2**
	comp=Z,0.9nm,0.5s,baz=17,slow=11,SNR=3.6						
	comp=Z,0.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**30.41**	**241**	P	**P**	**23 07 58.6**	**-0.7**
BBOO	**Buckleboo**	**32.61**	**208**	P	**P**	**23 08 20.3**	**+1.7**
BBOO				IAmb	IAmb	23 08 30.1	
	comp=Z,3.6nm,0.9s						
MBWA	**Marble Bar**	**36.72**	**240**	P	**P**	**23 08 53.6**	**-0.7**
MBWA				IAmb	IAmb	23 08 53.9	
	comp=Z,6.9nm,0.9s						
BFZ	**Birch Farm**	**41.55**	**154**	P	**P**	**23 09 33.0**	**-1.3**
CMAR	**Chiang Mai Arr**	**58.28**	**295**	P	**P**	**23 11 42.8**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=108,slow=4.5,SNR=4.5						
	comp=Z,0.4nm,0.5s						
SONM	**Songino Array**	**66.32**	**327**	P	**P**	**23 12 36.1**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=140,slow=4.9,SNR=5.5						
	comp=Z,0.6nm,0.6s						
VNDA	**Vanda**	**73.22**	**178**	P	**P**	**23 13 17.6**	**+0.5**
MKAR	**Makanchi Array**	**80.43**	**319**	P	**P**	**23 13 58.5**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=105,slow=8.7,SNR=1.8						
	comp=Z,0.2nm,0.7s						
QSPA	**South Pole Qui**	**85.57**	**180**	P	**P**	**23 14 24.9**	**+0.2**
QSPA	**South Pole Qui**	**85.57**	**180**	P	**P**	**23 14 25.2**	**+0.6**
	comp=Z,1.1nm,0.9s,baz=169,slow=1.2,SNR=12						
	comp=Z,1.1nm,0.9s						
BVAR	**Borovoye Array**	**89.29**	**323**	P	**P**	**23 14 41.6**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=87,slow=6.5,SNR=3.9						
	comp=Z,0.4nm,0.6s						

*IDC **08** 23:04:21.2±3.1,55°.18N×149°.33W,h0km,mb3.8/3,*
mbtmp3.5/6,ML3.4/3,MS3.4/1,Error ellipse: s-maj=59.0km
s-min=40.4km az=173.0
*NEIC **08** 23:04:24.6±1.8,55°.60N±0°.08×149°.2W±0°.1,h12km±7km,*
ML3.6/32,ML3.5(AEIC),Error ellipse: s-maj=12.4km
s-min=8.1km az=201.0
*AEIC **08** 23:04:28.2±1.8,55°.65N±0°.09×149°.2W±0°.1,h3km±7km,*
Error ellipse: s-maj=13.4km s-min=9.0km az=173.0

ISC 08 23:04:26.0±1.3,55°.78N±0°.10×149°.25W±0°.06,h10km,
n187,σ0s93/187,mb3.9/3,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.66**	**305**		**Pn**	**23 05 08.1**	**-0.8**
OHAK				Sn	**Sn**	**23 05 40.0**	**-1.3**
OHAK	**Old Harbor**	**2.66**	**305**	P	**Pn**	**23 05 08.2**	**-0.7**
	baz=124						
OHAK				S	**Sn**	**23 05 39.8**	**-1.5**
	baz=124						
KDAK	**Kodiak Island**	**2.72**	**319**		**Pn**	**23 05 09.5**	**-0.2**
KDAK				Sn	**Sn**	**23 05 41.8**	**-0.8**
KDAK	**Kodiak Island**	**2.72**	**319**	Pn	**Pn**	**23 05 09.7**	**0.0**
	8.4nm,0.3s,baz=151,slow=6.7,SNR=321						
KDAK				Sn	**Sn**	**23 05 41.8**	**-0.8**
	4.7nm,0.3s,baz=21,slow=21,SNR=6.2						
	22nm,0.4s						
SII	**Sitkinak Islan**	**2.87**	**288**		**Pn**	**23 05 10.7**	**-1.1**
SII					**Sn**	**23 05 44.4**	**-2.0**
SII	**Sitkinak Islan**	**2.87**	**288**	IAML		23 05 47.3	
	comp=E,140nm,1.0s						
SII				IAML		23 05 49.6	
	comp=N,153nm,1.4s						
SYI	**Shuyak Island**	**3.31**	**330**	Pn	**Pn**	**23 05 18.1**	**+0.2**
SYI	**Shuyak Island**	**3.31**	**330**		**Sn**	**23 05 56.9**	**-0.3**
Q20K	**Shuyak Island**	**3.31**	**330**	P	**Pn**	**23 05 17.8**	**0.0**
	baz=149						
Q20K				S	**Sn**	**23 05 57.9**	**+0.7**
	baz=149						
CNPM	**China Poot**	**3.90**	**345**	Pn	**Pn**	**23 05 25.9**	**-0.1**
CNPM				Sn	**Sn**	**23 06 12.0**	**+0.1**
CNPM				IAML		23 06 16.4	
	comp=N,54nm,0.3s						
CNPM				IAML		23 06 42.7	
	comp=E,41nm,1.5s						
Q19K	**Cape Douglas,**	**3.95**	**325**	Pn	**Pn**	**23 05 27.8**	**+1.1**
Q23K	**Middleton Isla**	**3.98**	**22**	Pn	**Pn**	**23 05 25.6**	**-1.4**
Q23K				IAML		23 06 03.6	
	comp=N,159nm,1.5s						
Q23K				IAML		23 06 04.8	
	comp=E,159nm,1.5s						
BRSE	**Bradley Lake S**	**4.05**	**349**		**Pn**	**23 05 27.8**	**-0.3**
BRSE					**Sn**	**23 06 14.5**	**-1.0**
BRSE	**Bradley Lake S**	**4.05**	**349**	P	**Pn**	**23 05 27.8**	**-0.3**
	baz=168						
BRSE				S	**Sn**	**23 06 14.5**	**-1.0**
	baz=168						
KAKN	**Katmai Knife C**	**4.05**	**311**		**Pn**	**23 05 28.7**	**+0.5**
BRLK	**Bradley Lake**	**4.09**	**348**	Pn	**Pn**	**23 05 28.4**	**-0.1**
BRLK				IAML		23 06 18.9	
	comp=N,33nm,0.9s						
BRLK				IAML		23 06 19.0	
	comp=E,55nm,1.2s						
BRLK	**Bradley Lake**	**4.09**	**348**		**Sn**	**23 06 15.4**	**-1.1**
HOM	**Homer**	**4.09**	**343**	Pn	**Pn**	**23 05 28.5**	**-0.1**
ANCK	**Angle Creek**	**4.19**	**308**		**Pn**	**23 05 30.4**	**+0.5**
PLK3	**Peulik 3**	**4.31**	**299**		**Pn**	**23 05 31.8**	**+0.2**
SEW	**Seward**	**4.34**	**359**		**Pn**	**23 05 31.7**	**-0.2**
SEW					**Sn**	**23 06 20.8**	**-1.6**
SEW	**Seward**	**4.34**	**359**	P	**Pn**	**23 05 31.7**	**-0.2**
	baz=178						
SEW				S	**Sn**	**23 06 20.8**	**-1.6**
	baz=178						
P23K	**Montague Islan**	**4.34**	**12**		**Sn**	**23 06 21.0**	**-1.6**
P23K	**Montague Islan**	**4.34**	**12**	S	**Sn**	**23 06 21.0**	**-1.6**
	baz=193						
CNTC	**Contact Creek**	**4.40**	**307**		**Pn**	**23 05 33.1**	**+0.2**
Q17K	**Contact Creek**	**4.40**	**307**	P	**Pn**	**23 05 33.1**	**+0.2**
	baz=123						
P19K	**Oil Pt**	**4.43**	**333**	Pn	**Pn**	**23 05 33.5**	**+0.3**
P19K				IAML		23 06 30.7	
	comp=N,78nm,1.3s						
P19K				IAML		23 06 36.7	
	comp=E,76nm,1.2s						
ILSW	**Iliamna Southw**	**4.70**	**335**	Pn	**Pn**	**23 05 36.8**	**-0.2**
ILSW				IAML		23 06 33.4	
	comp=N,38nm,1.3s						
ILSW				IAML		23 06 34.5	
	comp=E,27nm,1.2s						
Q22K	**Cooper Landing**	**4.72**	**357**	Pn	**Pn**	**23 05 36.8**	**-0.4**
P18K	**Big Mountain,**	**4.84**	**321**	Pn	**Pn**	**23 05 38.7**	**-0.2**
P18K	**Big Mountain,**	**4.84**	**321**	P	**Pn**	**23 05 38.8**	**-0.2**
	baz=137						
HIN	**Hinchinbrook I**	**4.85**	**16**	Pn	**Pn**	**23 05 38.0**	**-1.1**
HIN				IAML		23 06 37.4	
	comp=E,94nm,1.2s						
KAIM	**Kayak Island**	**4.89**	**30**	Pn	**Pn**	**23 05 39.7**	**+0.1**
KAIM				IAML		23 08 44.2	
	comp=N,77nm,1.4s						
RSO	**Redoubt South**	**5.05**	**340**	Pn	**Pn**	**23 05 41.7**	**-0.2**
O18K	**Koktuh Hills**	**5.18**	**325**		**Pn**	**23 05 43.8**	**+0.3**
O18K				IAML		23 06 55.6	
	comp=N,18nm,1.2s						
O18K				IAML		23 07 09.8	
	comp=E,16nm,1.4s						
O18K	**Koktuh Hills**	**5.18**	**325**	P	**Pn**	**23 05 43.4**	**-0.1**
	baz=140						
RC01	**Rabbit Creek A**	**5.33**	**357**	Pn	**Pn**	**23 05 45.7**	**+0.1**
GOAT	**Goat Mountain**	**5.38**	**25**		**Pn**	**23 05 46.2**	**-0.1**
BERG	**Berg Lake**	**5.48**	**30**	Pn	**Pn**	**23 05 48.1**	**+0.4**
GRIN	**Grindle Hills**	**5.50**	**32**		**Pn**	**23 05 47.9**	**0.0**
SNH	**Sunshine Point**	**5.58**	**35**	Pn	**Pn**	**23 05 47.9**	**-1.0**
KHIT	**Khitrov Hills**	**5.65**	**32**		**Pn**	**23 05 49.5**	**-0.6**
KNK	**Knik Glacier**	**5.66**	**4**	Pn	**Pn**	**23 05 52.2**	**+2.0**
P16K	**Nushagak River**	**5.74**	**308**	P	**Pn**	**23 05 51.7**	**+0.6**
	baz=122						
N19K	**Bonanza Creek**	**5.75**	**333**		**Pn**	**23 05 51.0**	**-0.5**
N19K	**Bonanza Creek**	**5.75**	**333**	P	**Pn**	**23 05 51.0**	**-0.5**
	baz=150						
SUA	**Susitna One**	**5.75**	**353**	Pn	**Pn**	**23 05 51.1**	**-0.4**
WAX	**Waxell Ridge**	**5.78**	**33**		**Pn**	**23 05 51.7**	**-0.2**
O17K	**Koliganek Bris**	**5.80**	**317**		**Pn**	**23 05 52.3**	**+0.3**
O17K	**Koliganek Bris**	**5.80**	**317**	P	**Pn**	**23 05 52.3**	**+0.3**
	baz=131						
PMR	**Palmer**	**5.83**	**1**	Pn	**Pn**	**23 05 53.5**	**+1.1**
MESA	**MESA**	**5.87**	**38**	Pn	**Pn**	**23 05 53.1**	**-0.1**
STLK	**Strandline Lak**	**5.89**	**348**		**Pn**	**23 05 53.0**	**-0.4**
CRQM	**Cirque**	**5.94**	**30**		**Pn**	**23 05 54.0**	**-0.1**
KLU	**Klutina**	**5.99**	**15**	Pn	**Pn**	**23 05 55.3**	**+0.7**
KLU	**Klutina**	**5.99**	**15**	P	**Pn**	**23 05 54.8**	**+0.1**
	baz=198						

GHO	**Glory Hole Cre**	**6.01**	**1**		**Pn**	**23 05 55.9**	**+0.9**
TGL	**Tana Glacier**	**6.03**	**32**		**Pn**	**23 05 55.1**	**-0.2**
N18K	**Kilae Creek**	**6.03**	**327**	Pn	**Pn**	**23 05 55.4**	**+0.1**
BAGL	**Bagley Icefiel**	**6.05**	**36**		**Pn**	**23 05 55.2**	**-0.3**
ISLE	**Juniper Island**	**6.06**	**34**	Pn	**Pn**	**23 05 55.9**	**+0.1**
SML	**Sawmill**	**6.06**	**4**	Pn	**Pn**	**23 05 56.4**	**+0.7**
O16K	**Kokwok River B**	**6.09**	**313**		**Pn**	**23 05 56.5**	**+0.5**
O16K	**Kokwok River B**	**6.09**	**313**	P	**Pn**	**23 05 56.5**	**+0.5**
	baz=126						
SCM	**Sheep Creek Mo**	**6.15**	**9**		**Pn**	**23 05 58.1**	**+1.2**
VRDI	**Verde Repeater**	**6.25**	**27**		**Pn**	**23 05 59.0**	**+0.7**
SAMH	**Samovar Hills**	**6.27**	**42**		**Pn**	**23 05 58.6**	**+0.1**
SVW2	**Sparrevohn**	**6.28**	**331**	Pn	**Pn**	**23 05 57.8**	**-0.9**
KIAG	**Kiagna River**	**6.30**	**32**		**Pn**	**23 05 58.9**	**-0.1**
N25K	**Chitina, Valde**	**6.32**	**21**		**Pn**	**23 05 60.0**	**+0.7**
SKT	**Skwentna**	**6.33**	**350**		**Pn**	**23 05 59.5**	**+0.2**
TABL	**Table Mountain**	**6.34**	**39**		**Pn**	**23 05 59.9**	**+0.2**
GRNC	**Granite Creek**	**6.34**	**35**	Pn	**Pn**	**23 05 60.0**	**+0.2**
N17K	**Nushagak Hills**	**6.34**	**322**	Pn	**Pn**	**23 05 59.5**	**0.0**
GLB	**Gilahina Butte**	**6.35**	**24**	Pn	**Pn**	**23 05 59.7**	**+0.1**
M20K	**Styx River**	**6.44**	**343**	Pn	**Pn**	**23 06 00.7**	**-0.2**
PCA	**Pinnacle**	**6.45**	**44**		**Pn**	**23 06 00.8**	**-0.2**
PINM	**Pinnacle**	**6.45**	**44**	P	**Pn**	**23 06 00.8**	**-0.2**
	baz=230						
PTPK	**Patty Peak**	**6.48**	**30**		**Pn**	**23 06 01.2**	**-0.3**
MCARA	**McCarthy VSAT**	**6.49**	**28**	Pn	**Pn**	**23 06 02.4**	**+0.9**
M24K	**Tolsona, Glenn**	**6.54**	**13**	Pn	**Pn**	**23 06 03.8**	**+1.5**
PNL	**Peninsula**	**6.56**	**50**		**Pn**	**23 06 01.6**	**-0.8**
PNL	**Peninsula**	**6.56**	**50**	P	**Pn**	**23 06 01.7**	**-0.8**
	baz=236						
BCPM	**Bancas Point**	**6.62**	**47**		**Pn**	**23 06 03.3**	**+0.1**
BARN	**Barnard Glacie**	**6.62**	**34**	Pn	**Pn**	**23 06 03.7**	**+0.2**
CTG	**Chitna Glacier**	**6.66**	**35**	P	**Pn**	**23 06 03.6**	**-0.3**
	baz=221						
CTGM	**Chitina Glacie**	**6.66**	**35**	Pn	**Pn**	**23 06 04.0**	**+0.1**
LOGN	**Logan Glacier**	**6.67**	**37**	Pn	**Pn**	**23 06 03.6**	**-0.4**
M19K	**Big River Lodg**	**6.69**	**339**	Pn	**Pn**	**23 06 04.7**	**+0.4**
N16K	**Nishlik Lake**	**6.89**	**317**		**Pn**	**23 06 07.8**	**+0.8**
N16K	**Nishlik Lake**	**6.89**	**317**	P	**Pn**	**23 06 07.8**	**+0.8**
	baz=130						
L19K	**White Mountain**	**7.04**	**338**	Pn	**Pn**	**23 06 08.9**	**-0.2**
M17K	**Holitna River**	**7.07**	**326**	Pn	**Pn**	**23 06 09.6**	**+0.1**
M17K	**Holitna River**	**7.07**	**326**	P	**Pn**	**23 06 09.5**	**+0.1**
	baz=140						
N15K	**Kwethluk River**	**7.25**	**312**	Pn	**Pn**	**23 06 13.1**	**+1.2**
O29M	**Mount Kennedy**	**7.25**	**47**		**Pn**	**23 06 12.2**	**+0.1**
O29M	**Mount Kennedy**	**7.25**	**47**	P	**Pn**	**23 06 12.1**	**+0.1**
	baz=235						
P29M	**Windy Craggy**	**7.27**	**53**	Pn	**Pn**	**23 06 11.9**	**-0.4**
P29M	**Windy Craggy**	**7.27**	**53**	P	**Pn**	**23 06 11.7**	**-0.6**
	baz=242						
M16K	**Timber Creek**	**7.32**	**320**		**Pn**	**23 06 13.0**	**+0.1**
M16K	**Timber Creek**	**7.32**	**320**	P	**Pn**	**23 06 13.0**	**+0.1**
	baz=132						
O14K	**Tigyukauivet M**	**7.34**	**303**	Pn	**Pn**	**23 06 13.5**	**+0.3**
M26K	**Nabesna, AK**	**7.38**	**23**	Pn	**Pn**	**23 06 13.7**	**0.0**
S31K	**Pelican**	**7.46**	**68**	Pn	Pn	23 06 11.8	-3.0
S31K	**Pelican**	**7.46**	**68**	P	Pn	23 06 11.6	-3.2
	baz=257						
L18K	**Granite Mounta**	**7.51**	**332**	Pn	**Pn**	**23 06 14.9**	**-0.5**
M27K	**Edge Creek, AK**	**7.61**	**27**	Pn	**Pn**	**23 06 17.6**	**+0.7**
RND	**Reindeer**	**7.65**	**1**	Pn	**Pn**	**23 06 18.8**	**+1.3**
TRF	**Thorofare Moun**	**7.71**	**357**	Pn	**Pn**	**23 06 18.7**	**+0.3**
CAST	**Castle Rocks**	**7.79**	**351**	Pn	**Pn**	**23 06 20.6**	**+1.2**
N14K	**Kuskokwak Cree**	**7.82**	**307**		**Pn**	**23 06 19.9**	**+0.2**
N14K	**Kuskokwak Cree**	**7.82**	**307**	P	**Pn**	**23 06 19.9**	**+0.2**
	baz=118						
SIT	**Sitka**	**7.83**	**75**	Pn	Pn	23 06 15.5	-4.4
KTH	**Kantishna Hill**	**7.84**	**355**		**Pn**	**23 06 20.8**	**+0.7**
TTA	**Tatalina**	**7.96**	**337**	Pn	**Pn**	**23 06 21.1**	**-0.6**
L16K	**Owhat River**	**7.97**	**322**	Pn	**Pn**	**23 06 21.9**	**+0.2**
K20K	**Telida**	**7.98**	**344**	Pn	**Pn**	**23 06 21.6**	**-0.3**
HYT	**Haines Junctio**	**7.98**	**46**	Pn	**Pn**	**23 06 21.9**	**-0.2**
L27K	**Beaver Creek,**	**8.22**	**24**	Pn	**Pn**	**23 06 25.8**	**+0.5**
BCAR	**Beaver Creek A**	**8.23**	**24**	Pn	**Pn**	**23 06 26.0**	**+0.5**
S32K	**Killisnoo**	**8.27**	**72**		Pn	23 06 22.7	-3.2
S32K	**Killisnoo**	**8.27**	**72**	P	Pn	23 06 22.7	-3.2
	baz=263						
RIDG	**Independent Ri**	**8.29**	**14**	Pn	**Pn**	**23 06 27.8**	**+1.6**
BESE	**Bessie Mountai**	**8.31**	**64**		**Pn**	**23 06 24.2**	**-2.3**
M14K	**Mt. Hayes**	**8.34**	**312**	Pn	**Pn**	**23 06 27.4**	**+0.6**
K17K	**Iditarod**	**8.35**	**330**	Pn	**Pn**	**23 06 26.6**	**-0.4**
BPAW	**Bear Paw Mtn.**	**8.39**	**355**	Pn	**Pn**	**23 06 28.1**	**+0.5**
N30M	**Aishikik Lake**	**8.52**	**43**	Pn	**Pn**	**23 06 29.2**	**-0.1**
O30N	**Mendenhall**	**8.54**	**49**	Pn	**Pn**	**23 06 28.7**	**-0.9**
J18K	**Innoko River**	**8.58**	**337**	Pn	**Pn**	**23 06 30.2**	**+0.1**
M29M	**Somme Creek**	**8.68**	**35**		**Pn**	**23 06 32.4**	**+0.8**
M29M	**Somme Creek**	**8.68**	**35**	P	**Pn**	**23 06 31.5**	**0.0**
	baz=224						
J20K	**Nowinta River**	**8.77**	**346**	Pn	**Pn**	**23 06 33.8**	**+1.0**
M13K	**Dall Lake**	**8.79**	**308**	Pn	**Pn**	**23 06 33.5**	**+0.6**
J19K	**Poorman**	**8.83**	**341**	Pn	**Pn**	**23 06 33.7**	**+0.1**
CCB	**Clear Creek Bu**	**8.92**	**4**	Pn	**Pn**	**23 06 36.3**	**+1.5**
L14K	**Kuka Creek**	**8.95**	**314**		**Pn**	**23 06 36.1**	**+0.9**
WHY	**Whitehorse**	**9.01**	**51**	Pn	**Pn**	**23 06 36.5**	**+0.3**
WHY	**Whitehorse**	**9.01**	**51**	P	**Pn**	**23 06 35.9**	**-0.3**
	baz=242						
K27K	**Chicken**	**9.02**	**21**	Pn	**Pn**	**23 06 37.2**	**+1.1**
U33K	**Whale Pass**	**9.06**	**81**	Pn	Pn	23 06 32.6	-4.1
U33K	**Whale Pass**	**9.06**	**81**	P	Pn	23 06 32.8	-3.8
	baz=273						
K15K	**Wolf Creek Mou**	**9.08**	**321**	Pn	**Pn**	**23 06 38.2**	**+1.2**
IL31		**9.10**	**6**	Pn	**Pn**	**23 06 39.6**	**+2.5**
ILAR	**Eielson Array**	**9.10**	**6**	Pn	**Pn**	**23 06 39.5**	**+2.3**
ILAR	**Eielson Array**	**9.10**	**6**	Pn	**Pn**	**23 06 39.7**	**+2.5**
	comp=E,0.2nm,0.3s,baz=188,slow=13,SNR=9.1						
ILAR				Sn	**Sn**	**23 08 17.3**	**-2.2**
	comp=E,0.3nm,0.3s,baz=183,slow=22,SNR=7.9						
	comp=E,0.5nm,0.5s						
P32M	**Atlin**	**9.15**	**59**	Pn	**Pn**	**23 06 37.0**	**-1.0**
J26L	**Joseph Creek**	**9.19**	**16**	Pn	**Pn**	**23 06 40.7**	**+2.1**
MDM	**Murphy Dome**	**9.22**	**3**	Pn	**Pn**	**23 06 40.3**	**+1.3**
L29M	**L29M**	**9.27**	**33**		**Pn**	**23 06 40.2**	**+0.7**
M30M	**Minto, Yukon**	**9.33**	**38**	Pn	**Pn**	**23 06 40.7**	**+0.3**
J16K	**Anvik River**	**9.46**	**327**	Pn	**Pn**	**23 06 43.5**	**+1.3**
I21K	**Tanana**	**9.53**	**353**	Pn	**Pn**	**23 06 44.5**	**+1.4**
Q32M	**Nakina River**	**9.71**	**64**	Pn	**Pn**	**23 06 45.3**	**-0.4**
P33M	**Teslin, Yukon**	**9.78**	**56**		**Pn**	**23 06 45.9**	**-0.8**
PRP	**Porcupine Dome**	**9.94**	**9**	Pn	**Pn**	**23 06 48.9**	**+0.1**
M31M	**Drury Creek, Y**	**9.99**	**44**		**Pn**	**23 06 50.8**	**+1.3**
K29M	**Barlow Dome**	**9.99**	**31**	Pn	**Pn**	**23 06 50.5**	**+0.8**
I26K	**Coal Creek Min**	**10.01**	**15**	Pn	**Pn**	**23 06 50.0**	**+0.9**
H21K	**Medozitna Rive**	**10.06**	**352**	Pn	**Pn**	**23 06 51.4**	**+1.0**
J14K	**Nanvaranak Lak**	**10.10**	**320**	Pn	**Pn**	**23 06 52.4**	**+1.5**
H24K	**Noodor Dome**	**10.11**	**3**	Pn	**Pn**	**23 06 53.2**	**+2.1**
S34M	**Telegraph Cree**	**10.15**	**70**	Pn	**Pn**	**23 06 49.0**	**-2.7**
H19K	**Roundabout Mou**	**10.39**	**343**	Pn	**Pn**	**23 06 55.9**	**+1.0**
H18K	**Honhosa River**	**10.41**	**338**	Pn	**Pn**	**23 06 55.9**	**+0.8**
R33M	**Jennings River**	**10.45**	**62**	Pn	**Pn**	**23 06 54.8**	**-1.1**
IMAR	**Indian Mountai**	**10.46**	**350**	Pn	**Pn**	**23 06 56.5**	**+0.6**
H17K	**Granite Mounta**	**10.57**	**335**	Pn	**Pn**	**23 06 58.0**	**+0.6**
I28M	**Miner Creek**	**10.71**	**21**	Pn	**Pn**	**23 07 00.3**	**+1.0**
G21K	**Allakaket**	**10.96**	**351**	Pn	**Pn**	**23 07 03.9**	**+1.2**
MMPY	**Sheldon Lake,**	**11.46**	**46**	Pn	**Pn**	**23 07 10.4**	**+0.9**
F21K	**Alatna River**	**11.65**	**352**	Pn	**Pn**	**23 07 12.8**	**+0.6**
F20K	**Avaraart Lake**	**11.71**	**347**	Pn	**Pn**	**23 07 12.9**	**-0.1**
BMAR	**Burnt Mountain**	**11.89**	**9**	Pn	**Pn**	**23 07 17.3**	**+1.8**
F17K	**Baldwin Pennin**	**12.13**	**337**	Pn	**Pn**	**23 07 18.4**	**-0.3**
E19K	**Redstone River**	**12.30**	**345**	Pn	**Pn**	**23 07 22.2**	**+1.2**
F15K	**North Star Dit**	**12.44**	**329**	Pn	**Pn**	**23 07 26.1**	**+3.3**
E18K	**Tukpahlearik C**	**12.84**	**340**	Pn	**Pn**	**23 07 28.5**	**+0.2**
C23K	**Itkillik River**	**14.12**	**358**	P	**Pn**	**23 07 48.1**	**+2.3**
YKA	**Yellowknife Ar**	**18.81**	**55**	P	**P**	**23 08 46.4**	**+1.0**
	comp=E,0.1nm,0.3s,baz=267,slow=11,SNR=4.0						
	comp=E,0.1nm,0.3s						
NEW	**Newport**	**21.00**	**97**	LR	LR	23 15 56.9	
	comp=E,101nm,18.9s,baz=42,slow=33						
H11N2	**WAKE ISLAND Hy**	**48.65**	**240**	T	T	00 05 34.3	
	baz=32,slow=76,SNR=6.6						
H11N3	**WAKE ISLAND Hy**	**48.65**	**240**	T	T	00 05 35.4	
	baz=32,slow=76,SNR=6.4						
H11N1	**WAKE ISLAND Hy**	**48.67**	**240**	T	T	00 05 32.9	
	baz=32,slow=76,SNR=4.6						
FINES	**FINESS Array B**	**63.06**	**3**	P	**P**	**23 14 53.5**	**+0.8**
	comp=E,1.5nm,0.9s,baz=14,slow=8.5,SNR=4.7						
	comp=E,1.5nm,0.9s						
BVAR	**Borovoye Array**	**66.75**	**335**	P	**P**	**23 15 16.9**	**0.0**
	comp=E,0.5nm,0.6s,baz=28,slow=7.0,SNR=4.2						
	comp=E,0.5nm,0.6s						
MKAR	**Makanchi Array**	**69.02**	**325**	P	**P**	**23 15 31.3**	**-0.1**
	comp=E,0.3nm,0.4s,baz=34,slow=5.1,SNR=8.2						
	comp=E,0.3nm,0.4s						

IDC 08 23:06:49.3±2.1,4°.56S×151°.53E,h0km,mb3.9/3,
mbtmp3.9/3,Error ellipse: s-maj=144.8km
s-min=33.3km az=129.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.67**	**226**	P	P	23 11 52.9	+0.4
	1.9nm,0.4s,baz=51,slow=10,SNR=44						
	1.9nm,0.4s						
ASAR	**Alice Springs**	**25.49**	**220**	P	P	23 12 18.9	-0.5
	0.5nm,0.4s,baz=59,slow=8.6,SNR=8.2						
	0.5nm,0.4s						
YKA	**Yellowknife Ar**	**95.81**	**28**	P	P	23 20 17.4	+0.1
	0.5nm,1.1s,baz=264,slow=6.1,SNR=3.7						
	0.5nm,1.1s						

*NOU **08** 23:13:49.2,18°.28S×168°.86E,h63km,MLv4.2/9,Vanuatu*
Islands
*IDC **08** 23:13:50.4±14.0,18°.06S×167°.14E,h0km,mb4.0/3,*
mbtmp4.0/4,ML3.8/1,Error ellipse: s-maj=234.6km
s-min=38.4km az=69.0

ISC 08 23:13:35.5±4.7,17°.5S±0°.3×169°.5E±0°.4,h35km,n10,
σ0s71/10,mb4.0/3,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**3.93**	**212**	P	**Pn**	**23 14 31.8**	**-1.5**
MARNC	**Mare, Loyalty**	**4.23**	**199**	P	**Pn**	**23 14 38.0**	**+0.5**
DZM	**Mont Dzumac**	**5.41**	**212**	P	**Pn**	**23 14 54.0**	**+0.2**
DZM	**Mont Dzumac**	**5.41**	**212**	Pn	**Pn**	**23 14 54.1**	**+0.2**
	6.7nm,0.3s,baz=72,slow=13,SNR=97						
DZM				Sn	Sn	23 15 41.2	-14
	22nm,0.3s,baz=196,slow=23,SNR=23						
	18nm,0.4s						
NOUC	**Port Laguerre**	**5.51**	**213**	P	**Pn**	**23 14 55.5**	**+0.4**
ONTNC	**Ouen Toro**	**5.61**	**210**	P	**Pn**	**23 14 56.9**	**+0.5**
KOUNC	**Koumac, New Ca**	**5.81**	**237**	P	**Pn**	**23 14 59.7**	**+0.5**
STKA	**Stephens Creek**	**29.02**	**235**	P	**P**	**23 19 32.5**	**+0.2**
	1.7nm,0.5s,baz=82,slow=8.8,SNR=4.7						
	1.7nm,0.5s						
WRA	**Warramunga Arr**	**33.35**	**260**	P	**P**	**23 20 10.4**	**-0.2**
	0.4nm,0.5s,baz=90,slow=9.3,SNR=4.7						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**33.83**	**253**	P	**P**	**23 20 14.4**	**-0.3**
	2.0nm,0.5s,baz=83,slow=8.8,SNR=29						
	2.0nm,0.5s						

*ROM **08** 23:32:18.6±0.0,43°.062N±0°.002×13°.027E±0°.003,*
h8km,ML3.4/183,Mw3.3,Error ellipse: s-maj=0.2km
s-min=0.1km az=56.0,Moment Tensor Solution. Moment
tensor: Scale 10^14^Nm; Mrr=0.94; Mθθ=0.38; Mφφ=0.56;
Mrθ=0.47; Mθφ=-0.74; Mφr=0.08; Fault plane solution:
M0=1.19918×10^14^ NP1:φs162.00000°,δ44.00000°,
*

SNTG AML AML
comp=N,13000µm,0.9s
SNTG AML AML
comp=E,11950µm,0.3s
SNTG AML AML
comp=E,11950µm,1.7s
SNTG AML AML
comp=N,14100µm,0.9s
SNTG AML AML
comp=N,13000µm,0.9s
SNTG AML AML
comp=E,11938µm,0.3s
SNTG AML AML
comp=E,12517µm,0.3s
SNTG AML AML
comp=N,9681µm,0.1s
SNTG AML AML
comp=N,9395µm,0.3s
MTL1 Matelica 0.20 8 ⇑P Pg 23 32 23.3 0.0
MTL1 S **Sg 23 32 26.9 +0.6**
MC2 Monte Cornacci 0.22 132 ⇓P Pg 23 32 23.2 -0.4
MC2 S **Sg 23 32 26.8 -0.1**
SSM1 San Severino M 0.23 41 ⇑P Pg 23 32 23.1 -0.6
SSM1 S **Sg 23 32 26.6 -0.3**
NRCA Norcia 0.25 155 ⇑P Pg 23 32 24.0 -0.1
NRCA S **Sg 23 32 28.1 +0.5**
NRCA AML AML
comp=N,59000µm,0.2s
NRCA AML AML
comp=E,45650µm,0.4s
NRCA AML AML
comp=N,62050µm,0.2s
NRCA AML AML
comp=E,44600µm,0.4s
NRCA AML AML
comp=N,59000µm,0.1s
NRCA AML AML
comp=E,40360µm,0.2s
NRCA AML AML
comp=E,39029µm,0.2s
NRCA AML AML
comp=N,62036µm,0.2s
GUMA Gualdo di Mace 0.27 89 ⇑P Pg 23 32 24.0 -0.4
GUMA S **Sg 23 32 28.1 +0.1**
GUMA AML AML
GUMA AML AML
GUMA AML AML
GUMA AML AML
GUMA AML AML
GUMA AML AML
GUMA AML AML
GUMA AML AML
GUMA AML AML
ATCC AVT- Casa Cast 0.28 297 ⇓P Pb 23 32 25.5 -0.3
ATCC S **Sb 23 32 31.0 +0.5**
ATCC AML AML
comp=E,12800µm,0.3s
ATCC AML AML
comp=N,16000µm,0.7s
ATCC AML AML
comp=E,11166µm,0.1s
ATCC AML AML
comp=N,14496µm,0.1s
FOSV Fossato di Vic 0.28 327 ⇓P Pb 23 32 25.2 -0.8
FOSV S **Sb 23 32 30.2 -0.5**
EL6 Elcito 0.29 19 ⇑P Pb 23 32 24.6 -1.5
EL6 S **Sb 23 32 29.2 -1.7**
EL6 AML AML
comp=N,23700µm,0.4s
EL6 AML AML
comp=E,32350µm,0.3s
EL6 AML AML
comp=N,23700µm,1.6s
EL6 AML AML
comp=E,32323µm,0.3s
EL6 AML AML
comp=N,22876µm,0.2s
MMO1 Montemonaco 0.30 121 ⇓P Pg 23 32 24.5 -0.6
MMO1 S **Sg 23 32 29.1 -0.2**
CING Cingoli 0.36 27 ⇑P Pb 23 32 25.7 -1.5
CING S **Sb 23 32 31.4 -1.5**
CING AML AML
comp=N,17750µm,0.3s
CING AML AML
comp=E,25500µm,0.1s
CING AML AML
comp=E,25456µm,0.1s
CING AML AML
comp=N,15660µm,0.1s
MF5 Montefalcone A 0.36 101 P Pg 23 32 26.0 -0.2
MF5 S **Sb 23 32 31.7 -1.4**
MF5 AML AML
comp=E,28300µm,0.6s
MF5 AML AML
comp=N,32300µm,0.3s
MF5 AML AML
comp=N,32300µm,1.7s
MF5 AML AML
comp=N,32298µm,0.3s
MF5 AML AML
comp=E,28309µm,0.6s
MNTP Montappone 0.37 78 ⇑P Pb 23 32 26.2 -1.3
MNTP S **Sb 23 32 32.4 -0.8**
MNTP AML AML
comp=E,17900µm,0.8s
MNTP AML AML
comp=N,18150µm,0.3s
MNTP AML AML
comp=E,17900µm,1.2s
MNTP AML AML
comp=E,15078µm,0.5s
MNTP AML AML
comp=N,18132µm,0.3s
MMUR Monte Murano 0.38 3 P Pb 23 32 26.4 -1.3
MMUR S **Sb 23 32 32.9 -0.8**
MMUR AML AML
comp=N,18800µm,1.6s
MMUR AML AML
comp=E,30000µm,0.2s
MMUR AML AML
comp=N,17537µm,0.2s
MURB Monte Urbino 0.39 302 ⇓P Pb 23 32 27.5 -0.3
MURB S **Sb 23 32 34.7 +1.0**
MURB AML AML
comp=N,11085µm,0.2s
MURB AML AML
comp=N,12050µm,0.2s
MURB AML AML
comp=E,11700µm,0.3s
MURB AML AML
comp=N,11106µm,0.2s
MURB AML AML
comp=N,12057µm,0.2s
MURB AML AML
comp=E,10735µm,0.3s
MOMA Monte Martano 0.39 229 ⇑P Pb 23 32 27.5 -0.4
MOMA S **Sb 23 32 34.4 +0.5**
MOMA AML AML
comp=E,3230µm,1.3s
MOMA AML AML
comp=N,3870µm,1.6s
MOMA AML AML
comp=N,3885µm,0.7s
MOMA AML AML
comp=E,3230µm,1.3s
MOMA AML AML
comp=N,3875µm,1.6s
MOMA AML AML
comp=E,3430µm,1.3s
MOMA AML AML
comp=E,3230µm,0.7s
MOMA AML AML
comp=E,3430µm,0.7s
MOMA AML AML
comp=N,3589µm,0.3s
MOMA AML AML
comp=E,2901µm,0.2s
MOMA AML AML
comp=E,2898µm,0.2s
MOMA AML AML
comp=N,3544µm,0.3s
SSFR Montelago di S 0.40 340 P Pb 23 32 27.1 -0.9
SSFR S **Sb 23 32 34.2 0.0**
SSFR AML AML
comp=E,13100µm,0.2s
SSFR AML AML
comp=N,17200µm,0.2s
SSFR AML AML
comp=E,11350µm,0.2s
SSFR AML AML
comp=N,13350µm,0.9s
SSFR AML AML
comp=N,17172µm,0.2s
SSFR AML AML
comp=E,13094µm,0.2s
SSFR AML AML
comp=E,11344µm,0.2s
SSFR AML AML
comp=N,12942µm,0.2s
ATSC Scheggia e Pas 0.42 330 P Pb 23 32 27.6 -0.8
ATSC S **Sb 23 32 34.6 -0.1**
MTRA Matera 0.43 134 ⇓P Pg 23 32 26.9 -0.5
MTRA S **Sg 23 32 33.5 +0.2**
MTRA AML AML
comp=E,12300µm,0.3s
MTRA AML AML
comp=N,9705µm,0.4s
MTRA AML AML
comp=N,9475µm,0.4s
MTRA AML AML
comp=N,9705µm,0.4s
MTRA AML AML
comp=E,12300µm,0.3s
MTRA AML AML
comp=E,12350µm,0.3s
MTRA AML AML
comp=E,12390µm,0.3s
MTRA AML AML
comp=N,9704µm,0.4s
MTRA AML AML
comp=N,9476µm,0.4s
MTRA AML AML
comp=E,12289µm,0.3s
ARVD Arcevia 0.44 357 ⇑P Pb 23 32 27.5 -1.2
ARVD S **Sb 23 32 34.8 -0.4**
ARVD AML AML
comp=E,11050µm,0.3s
ARVD AML AML
comp=N,7285µm,1.1s
ARVD AML AML
comp=N,7285µm,0.9s
ARVD AML AML
comp=E,11058µm,0.3s
ARVD AML AML
comp=N,5497µm,0.1s
LNSS Leonessa 0.46 174 ⇑P Pg 23 32 27.9 0.0
LNSS S **Sg 23 32 35.3 +1.3**
LNSS AML AML
comp=E,15650µm,0.3s
LNSS AML AML
comp=N,11750µm,0.9s
LNSS AML AML
comp=N,11750µm,1.1s
LNSS AML AML
comp=E,15649µm,0.3s
LNSS AML AML
comp=N,11040µm,0.4s
FRON Frontone 0.49 339 ⇑P Pb 23 32 28.7 -0.9
FRON S **Sb 23 32 37.0 +0.2**
FRON AML AML
comp=N,6735µm,0.4s
FRON AML AML
comp=E,3670µm,0.6s
FRON AML AML
comp=E,2916µm,0.3s
FRON AML AML
comp=N,4919µm,0.4s
ARRO Arrone 0.50 198 ⇑P Pg 23 32 29.1 +0.4
ARRO S **Sb 23 32 37.5 +0.6**
ARRO AML AML
comp=N,3780µm,1.5s
ARRO AML AML
comp=E,4995µm,0.8s
ARRO AML AML
comp=N,3780µm,0.5s
ARRO AML AML
comp=E,4883µm,0.3s
ARRO AML AML
comp=N,3398µm,0.3s
SMA1 SAN MARTINO 0.50 148 ⇓P Pg 23 32 28.3 -0.5
SMA1 S **Sg 23 32 36.1 +0.6**
SMA1 AML AML
comp=N,8135µm,0.4s
SMA1 AML AML
comp=E,8330µm,0.3s
SMA1 AML AML
comp=E,8304µm,0.3s
SMA1 AML AML
comp=N,8139µm,0.4s
ATVO AVT- Monte Val 0.53 308 ⇓P Pb 23 32 29.7 -0.4
ATVO S **Sb 23 32 38.7 +1.0**
ATVO AML AML
comp=E,1575µm,1.1s
ATVO AML AML
comp=E,1580µm,0.8s
ATVO AML AML
comp=N,1430µm,0.8s
ATVO AML AML
comp=E,1516µm,0.6s
ATVO AML AML
comp=N,1367µm,0.5s
CESX Cesi 0.53 213 ⇑P Pg 23 32 29.7 +0.4
CESX S **Sb 23 32 38.7 +0.8**
CESX AML AML
comp=E,5035µm,0.5s
CESX AML AML
comp=N,5460µm,0.6s
CESX AML AML
comp=N,5460µm,1.4s
CESX AML AML
comp=E,5035µm,1.5s
CESX AML AML
comp=E,5033µm,0.5s
CESX AML AML
comp=N,4653µm,0.4s
OFFI Offida 0.54 103 ⇓P Pb 23 32 29.6 -0.7
OFFI AML AML
comp=E,10600µm,0.4s
OFFI AML AML
comp=N,13850µm,0.6s
OFFI AML AML
comp=N,13845µm,0.6s
OFFI AML AML
comp=E,10580µm,0.4s
ATVA AVT- Monte Val 0.55 294 P Pb 23 32 30.2 -0.4
ATVA S **Sb 23 32 39.5 +1.1**
PP3 Marolino 0.56 55 ⇑P Pb 23 32 30.1 -0.7
PP3 AML AML
comp=N,8265µm,0.5s
PP3 AML AML
comp=E,9005µm,0.4s
PP3 AML AML
comp=N,8390µm,0.5s
PP3 AML AML
comp=E,8940µm,0.5s
PP3 AML AML
comp=E,8940µm,1.5s
PP3 AML AML
comp=E,9005µm,1.6s
PP3 AML AML
comp=N,8260µm,0.5s
PP3 AML AML
comp=N,8395µm,0.5s
PP3 AML AML
comp=E,8928µm,0.5s
PP3 AML AML
comp=E,8997µm,0.4s
PP3 AML AML
comp=N,6643µm,0.6s
PP3 AML AML
comp=N,6422µm,0.7s
ATPC Poggio Castell 0.57 318 P Pb 23 32 30.3 -0.5
CIMA Civitanova Mar 0.57 64 P Pb 23 32 29.9 -0.8
CIMA AML AML
comp=N,5275µm,1.1s
CIMA AML AML
comp=E,8185µm,0.7s
CIMA AML AML
comp=N,5275µm,0.9s
CIMA AML AML
comp=E,8185µm,1.3s
CIMA AML AML
comp=E,8185µm,0.7s
CIMA AML AML
comp=N,5151µm,0.7s
ATPI Pietralunga - 0.57 313 P Pb 23 32 30.7 -0.2
ATPI S **Sb 23 32 40.0 +1.0**
ATPI AML AML
comp=E,1825µm,1.2s
ATPI AML AML
comp=N,1980µm,0.6s
ATPI AML AML
comp=E,1825µm,0.8s
ATPI AML AML
comp=E,1800µm,0.5s
ATPI AML AML
comp=N,1982µm,0.6s
COR1 Corinaldo 0.57 2 ⇑P Pb 23 32 30.6 -0.3
COR1 AML AML
comp=N,7620µm,0.3s
COR1 AML AML
comp=N,6910µm,0.3s
COR1 AML AML
comp=E,7695µm,0.7s
COR1 AML AML
comp=E,3650µm,0.5s
COR1 AML AML
comp=N,7616µm,0.3s
COR1 AML AML
comp=E,6177µm,0.3s
COR1 AML AML
comp=N,6911µm,0.3s
COR1 AML AML
comp=E,3143µm,0.3s
RM33 Pellescritta (0.58 162 ⇓P Pg 23 32 29.7 -0.4
RM33 S **Sb 23 32 39.0 -0.2**
RM33 AML AML
comp=E,3800µm,1.4s
RM33 AML AML
comp=N,4400µm,0.3s
RM33 AML AML
comp=N,4365µm,0.3s
RM33 AML AML
comp=N,4400µm,0.3s
RM33 AML AML
comp=E,3695µm,1.1s
RM33 AML AML
comp=N,4401µm,0.3s
RM33 AML AML
comp=N,4365µm,0.3s
RM33 AML AML
comp=E,3511µm,0.5s
RM33 AML AML
comp=E,3572µm,0.4s
ATMI Monte Miggiano 0.58 298 P Pb 23 32 31.3 +0.2
ATMI AML AML
comp=E,2805µm,1.6s
ATMI AML AML
comp=N,3175µm,0.6s
ATMI AML AML
comp=E,2805µm,0.4s
ATMI AML AML
comp=E,2718µm,0.6s
ATMI AML AML
comp=N,3171µm,0.6s
MPAG Monte Paganucc 0.59 345 P Pb 23 32 30.8 -0.4
MPAG S **Sb 23 32 40.2 +0.5**
MPAG AML AML
comp=E,6600µm,0.3s
MPAG AML AML
comp=N,3910µm,0.4s
MPAG AML AML
comp=N,3895µm,0.4s
MPAG AML AML
comp=E,6340µm,0.2s
MPAG AML AML
comp=E,6340µm,0.2s
MPAG AML AML
comp=N,3899µm,0.4s
CADA Capodarco di F 0.59 77 P Pb 23 32 31.0 -0.2
CADA AML AML
comp=N,12500µm,0.7s
CADA AML AML
comp=E,10210µm,0.5s
CADA AML AML
comp=E,10207µm,0.5s
CADA AML AML
comp=N,11542µm,0.4s
CAMP Campotosto 0.61 148 ⇓P Pg 23 32 30.1 -0.8
CAMP S **Sg 23 32 39.1 +0.2**
CAMP AML AML
comp=E,4570µm,0.2s
CAMP AML AML
comp=N,2450µm,0.7s
CAMP AML AML
comp=E,4570µm,0.2s
CAMP AML AML
comp=N,2452µm,0.7s
NARO Abbazia di Nar 0.62 333 P Pb 23 32 31.0 -0.7
NARO S **Sb 23 32 41.2 +0.8**
NARO AML AML
comp=E,2255µm,0.9s
NARO AML AML
comp=N,1475µm,1.2s
NARO AML AML
comp=E,2255µm,1.1s
NARO AML AML
comp=N,1475µm,0.8s
NARO AML AML
comp=N,1078µm,0.4s
NARO AML AML
comp=E,1465µm,0.2s
TERO Teramo 0.64 133 P Pg 23 32 30.4 -0.8
TERO S **Sg 23 32 40.0 +0.3**
TERO AML AML
comp=E,2600µm,0.5s
TERO AML AML
comp=N,1700µm,1.5s
TERO AML AML
comp=E,3785µm,1.5s
TERO AML AML
comp=N,3110µm,0.3s
TERO AML AML
comp=E,3785µm,0.5s
TERO AML AML
comp=N,1700µm,0.5s
TERO AML AML
comp=N,1529µm,0.3s
TERO AML AML
comp=E,2603µm,0.5s
TERO AML AML
comp=E,3474µm,0.3s
TERO AML AML
comp=N,3113µm,0.3s
MGAB Montegabbione 0.65 257 P Pb 23 32 32.2 0.0
MGAB AML AML
comp=E,1785µm,0.9s
MGAB AML AML
comp=N,2100µm,0.8s
MGAB AML AML
comp=N,2135µm,0.8s
MGAB AML AML
comp=E,1880µm,0.9s
MGAB AML AML
comp=N,1920µm,0.5s
MGAB AML AML
comp=E,1877µm,0.9s
MGAB AML AML
comp=N,1570µm,0.6s
MGAB AML AML
comp=E,1788µm,0.9s
AOI Ancona 0.67 43 ⇑P Pb 23 32 31.4 -1.2
AOI S **Sb 23 32 41.8 -0.1**
AOI AML AML
comp=E,2205µm,0.6s
AOI AML AML
comp=N,1915µm,0.3s
AOI AML AML
comp=N,1914µm,0.3s
AOI AML AML
comp=E,2012µm,0.2s
SENI Senigallia 0.67 16 P Pb 23 32 32.2 -0.4
SENI AML AML
comp=E,12050µm,0.3s
SENI AML AML
comp=E,2470µm,0.8s
SENI AML AML
comp=N,9510µm,0.8s
SENI AML AML
comp=E,2465µm,0.8s

SENI				AML	AML			
	comp=N,9510µm,1.2s							
SENI				AML	AML			
	comp=E,2465µm,1.2s							
SENI				AML	AML			
	comp=N,1465µm,0.6s							
SENI				AML	AML			
	comp=E,2308µm,0.6s							
SENI				AML	AML			
	comp=N,9018µm,0.3s							
SENI				AML	AML			
	comp=N,1463µm,0.6s							
SENI				AML	AML			
	comp=E,12026µm,0.3s							
PCRO	**Pietralacroce**	**0.68**	**36**	P	**Pb**	**23 32 32.0**	**-0.8**	
ATMC	**Monte Cedrone**	**0.69**	**304**	P	**Pb**	**23 32 32.8**	**-0.1**	
BADI	**Badiali**	**0.70**	**310**	⇑P	**Pb**	**23 32 33.0**	**-0.1**	
BADI				AML	AML			
	comp=E,1008µm,0.1s							
BADI				AML	AML			
	comp=N,1525µm,0.4s							
BADI				AML	AML			
	comp=N,1525µm,0.4s							
BADI				AML	AML			
	comp=E,1010µm,0.1s							
PE3	**Peglio**	**0.73**	**332**	P	**Pb**	**23 32 33.5**	**0.0**	
TRTR	**Tortoreto Alta**	**0.73**	**110**	P	**Pb**	**23 32 33.5**	**-0.2**	
TRTR				AML	AML			
	comp=E,10155µm,0.4s							
TRTR				AML	AML			
	comp=N,14250µm,0.4s							
TRTR				AML	AML			
	comp=N,14221µm,0.4s							
TRTR				AML	AML			
	comp=E,10143µm,0.4s							
GIGS	**Gran Sasso**	**0.75**	**144**	P	**Pg**	**23 32 32.2**	**-1.2**	
GIGS				S	**Sg**	**23 32 43.4**	**+0.1**	
GIGS				AML	AML			
	comp=E,1315µm,0.3s							
GIGS				AML	AML			
	comp=N,934µm,0.4s							
GIGS				AML	AML			
	comp=E,1311µm,0.3s							
GIGS				AML	AML			
	comp=N,934µm,0.4s							
CAFI	**Castiglion Fio**	**0.79**	**291**	P	**Pb**	**23 32 34.5**	**0.0**	
CAFI				AML	AML			
	comp=E,1270µm,0.6s							
CAFI				AML	AML			
	comp=N,1090µm,1.1s							
CAFI				AML	AML			
	comp=E,1255µm,0.6s							
CAFI				AML	AML			
	comp=N,1044µm,1.1s							
CAFI				AML	AML			
	comp=E,1270µm,1.4s							
CAFI				AML	AML			
	comp=E,1255µm,1.4s							
CAFI				AML	AML			
	comp=N,888µm,0.8s							
CAFI				AML	AML			
	comp=E,1252µm,0.6s							
CAFI				AML	AML			
	comp=N,864µm,0.8s							
CAFI				AML	AML			
	comp=E,1269µm,0.6s							
FIAM	**Fiamignano**	**0.80**	**172**	P	**Pg**	**23 32 33.6**	**-0.7**	
FIAM				S	**Sb**	**23 32 45.8**	**+0.2**	
FIAM				AML	AML			
	comp=E,2450µm,0.5s							
FIAM				AML	AML			
	comp=N,3360µm,0.6s							
FIAM				AML	AML			
	comp=N,3357µm,0.6s							
FIAM				AML	AML			
	comp=E,2454µm,0.5s							
PARC	**Parchiule**	**0.80**	**318**	P	**Pb**	**23 32 34.5**	**-0.2**	
PARC				AML	AML			
	comp=E,789µm,1.5s							
PARC				AML	AML			
	comp=N,1106µm,0.5s							
PARC				AML	AML			
	comp=E,789µm,0.5s							
PARC				AML	AML			
	comp=E,777µm,0.5s							
PARC				AML	AML			
	comp=N,1106µm,0.5s							
SSP9	**Sansepolcro**	**0.80**	**310**	P	**Pb**	**23 32 35.2**	**+0.4**	
SSP9				AML	AML			
	comp=E,967µm,1.3s							
SSP9				AML	AML			
	comp=N,970µm,0.8s							
SSP9				AML	AML			
	comp=E,968µm,1.3s							
SSP9				AML	AML			
	comp=N,1120µm,1.2s							
SSP9				AML	AML			
	comp=E,968µm,0.7s							
SSP9				AML	AML			
	comp=N,1120µm,0.8s							
SSP9				AML	AML			
	comp=N,1124µm,1.2s							
SSP9				AML	AML			
	comp=E,967µm,1.3s							
SACS	**San Casciano d**	**0.81**	**255**	P	**Pb**	**23 32 35.2**	**+0.3**	
SACS				AML	AML			
	comp=E,1145µm,0.7s							
SACS				AML	AML			
	comp=N,1029µm,1.5s							
SACS				AML	AML			
	comp=E,1080µm,0.7s							
SACS				AML	AML			
	comp=N,1024µm,0.7s							
SACS				AML	AML			
	comp=N,1029µm,0.5s							
SACS				AML	AML			
	comp=E,1145µm,1.3s							
SACS				AML	AML			
	comp=E,1080µm,1.3s							
SACS				AML	AML			
	comp=N,1024µm,1.3s							
SACS				AML	AML			
	comp=N,1009µm,0.7s							
SACS				AML	AML			
	comp=E,1144µm,0.7s							
SACS				AML	AML			
	comp=N,1026µm,0.7s							
SACS				AML	AML			
	comp=E,1078µm,0.7s							
RIBO	**Ribolla Roccas**	**1.42**	**266**	AML	AML			
	comp=E,284µm,0.7s							
DUGI	**Dugi Otok**	**1.78**	**58**	*e*Pn	**Pn**	**23 32 49.2**	**-0.4**	
BRJN	**Brijuni**	**1.93**	**17**	*e*Pn	**Pn**	**23 32 51.5**	**-0.1**	
VIRC	**Vir**	**1.95**	**50**	*e*Pn	**Pn**	**23 32 51.6**	**-0.2**	
VIRC				Sn	**Sn**	**23 33 16.1**	**-0.1**	
NVLJ	**Novalja**	**2.04**	**42**	*e*Pn	**Pn**	**23 32 52.9**	**-0.2**	
ZIRJ	**Zirje**	**2.04**	**72**	*e*Pn	**Pn**	**23 32 53.1**	**+0.1**	
RABC	**Rab**	**2.14**	**37**	*e*Pn	**Pn**	**23 32 54.3**	**-0.1**	
MORI	**Morici**	**2.15**	**67**	*e*Pn	**Pn**	**23 32 54.9**	**+0.4**	
SMRN	**Sveta Marina**	**2.15**	**23**	*e*Pn	**Pn**	**23 32 54.6**	**0.0**	
UDBI	**Udbina**	**2.50**	**53**	*e*Pn	**Pn**	**23 33 00.7**	**+1.2**	
RIY	**Rijeka**	**2.51**	**25**	*e*Pn	**Pn**	**23 33 00.1**	**+0.5**	
HVAR	**Hvar**	**2.55**	**86**	*e*Pn	**Pn**	**23 33 00.2**	**+0.1**	
SKDS	**Skadanscina**	**2.60**	**16**	*e*Pn	**Pn**	**23 33 00.7**	**-0.1**	
SKDS				*i* Sn	**Sn**	**23 33 33.1**	**+0.8**	
SKDS				IAML		23 33 34.7		
	comp=Z,36nm,0.3s							
KNDS	**Knezji Dol**	**2.67**	**22**	*i* Pn	**Pn**	**23 33 02.2**	**+0.4**	
KNDS				*e*Sn	**Sn**	**23 33 34.4**	**+0.2**	
KNDS				IAML		23 33 38.7		
	comp=Z,111nm,0.7s							
KIJV	**Kijevo**	**2.67**	**68**	*e*Pn	**Pn**	**23 33 03.0**	**+1.2**	
KIJV				Sn	**Sn**	**23 33 35.6**	**+1.5**	
TRI	**Trieste**	**2.71**	**12**	AML	AML			
	comp=N,85µm,0.9s							
TRI				AML	AML			
	comp=N,100µm,1.4s							
TRI				AML	AML			
	comp=N,100µm,0.6s							
TRI				AML	AML			
	comp=E,133µm,1.2s							
TRI				AML	AML			
	comp=E,113µm,0.6s							
LSTV	**Lastovo**	**2.89**	**94**	*e*Pn	**Pn**	**23 33 05.1**	**+0.4**	
SABO	**M.te Sabotino**	**2.96**	**9**	AML	AML			
	comp=E,1017µm,0.7s							
SABO				AML	AML			
	comp=E,1016µm,0.7s							
SABO				AML	AML			
	comp=E,214µm,0.5s							
SABO				AML	AML			
	comp=N,370µm,0.8s							
SABO				AML	AML			
	comp=N,1395µm,0.8s							
SABO				AML	AML			
	comp=E,214µm,0.5s							
SABO				AML	AML			
	comp=N,1398µm,0.8s							
SABO				AML	AML			
	comp=N,370µm,0.8s							
MAKA	**Makarska**	**2.97**	**84**	*e*Pn	**Pn**	**23 33 07.0**	**+1.2**	
PGF	**Pioggiola**	**2.97**	**261**	*e*P	**Pn**	**23 33 07.1**	**+1.1**	
PGF				*e*Sn	**Sn**	**23 33 38.2**	**-3.4**	
	comp=N,3.3nm,0.4s							
RICI	**Ricice**	**3.07**	**80**	*e*Pn	**Pn**	**23 33 08.1**	**+0.9**	
OZLJ	**Ozalj**	**3.12**	**34**	*e*Pn	**Pn**	**23 33 07.7**	**-0.2**	
A251A	**Rujevac**	**3.15**	**48**	*e*Pn	**Pn**	**23 33 09.3**	**+1.0**	
LJU	**Ljubljana**	**3.19**	**20**	*i* Pn	**Pn**	**23 33 09.7**	**+0.9**	
LJU				*e*Sn	**Sn**	**23 33 48.1**	**+1.4**	
LJU				IAML		23 33 49.2		
	comp=Z,52nm,0.5s							
ROBS	**Robic**	**3.21**	**7**	*i* Pn	**Pn**	**23 33 09.4**	**+0.3**	
ROBS				*e*Sn	**Sn**	**23 33 47.3**	**0.0**	
ROBS				IAML		23 33 50.1		
	comp=Z,28nm,0.3s							
GEPF	**Gemona**	**3.22**	**2**	AML	AML			
	comp=N,134µm,1.4s							
GEPF				AML	AML			
	comp=N,134µm,0.6s							
GEPF				AML	AML			
	comp=E,116µm,0.7s							
CIMO	**Cimolais**	**3.27**	**354**	AML	AML			
	comp=E,44µm,0.8s							
CIMO				AML	AML			
	comp=N,42µm,0.8s							
CIMO				AML	AML			
	comp=E,44µm,1.2s							
CIMO				AML	AML			
	comp=N,42µm,1.2s							
CIMO				AML	AML			
	comp=N,45µm,0.6s							
CIMO				AML	AML			
	comp=E,44µm,0.8s							
CIMO				AML	AML			
	comp=N,39µm,0.8s							
CIMO				AML	AML			
	comp=E,52µm,1.0s							
MABI	**Malga Bissina**	**3.47**	**330**	AML	AML			
	comp=E,32µm,0.8s							
MABI				AML	AML			
	comp=N,44µm,0.6s							
MABI				AML	AML			
	comp=E,32µm,1.2s							
STON	**Ston**	**3.47**	**91**	*e*Pn	**Pn**	**23 33 12.6**	**-0.2**	
MYKA	**Terra Mystica**	**3.60**	**7**	*i* Pn	**Pn**	**23 33 16.1**	**+1.5**	
	comp=E,2.5nm,0.2s							
MYKA				*i* Sn	**Sn**	**23 33 59.9**	**+2.8**	
	comp=E,6.8nm,0.3s							
OBKA	**Obir**	**3.63**	**17**	*i* Pn	**Pn**	**23 33 15.8**	**+0.8**	
	comp=E,3.1nm,0.2s,SNR=9.9							
ABTA	**Abfaltersbach**	**3.70**	**355**	*i* Pn	**Pn**	**23 33 17.7**	**+1.7**	
	comp=E,4.3nm,0.2s,SNR=10							
ABTA				*e*Sn	**Sn**	**23 34 03.0**	**+3.3**	
	comp=E,8.2nm,0.2s							
LOBO	**Lobor**	**3.80**	**34**	*e*Pn	**Pn**	**23 33 17.2**	**-0.1**	
SOKA	**Soboth**	**3.90**	**21**	*i* Pn	**Pn**	**23 33 19.6**	**+0.8**	
	comp=E,1.1nm,0.3s,SNR=5.0							
SOKA				*e*Sn	**Sn**	**23 34 04.7**	**+0.2**	
	comp=E,9.4nm,0.4s							
KBA	**Koelnbreinsper**	**4.03**	**4**	*i* Pn	**Pn**	**23 33 21.9**	**+1.4**	
	comp=E,2.8nm,0.3s,SNR=10							
KBA				*e*Sn	**Sn**	**23 34 08.6**	**+0.9**	
	comp=E,26nm,0.7s							
SBF	**Sospel**	**4.11**	**283**	*e*P	**Pn**	**23 33 23.4**	**+1.8**	
SBF				*e*Sn	**Sn**	**23 34 05.4**	**-4.3**	
	comp=E,7.6nm,0.4s							
FETA	**Feichten**	**4.27**	**339**	*i* Pn	**Pn**	**23 33 27.3**	**+3.4**	
	comp=E,4.0nm,0.6s,SNR=10							
FETA				*e*Sn	**Sn**	**23 34 13.6**	**-0.2**	
	comp=E,8.8nm,1.0s							
WTTA	**Wattenberg**	**4.31**	**348**	*e*Pn	**Pn**	**23 33 27.7**	**+3.2**	
	comp=E,3.2nm,0.3s,SNR=7.5							
WTTA				*e*Sn	**Sn**	**23 34 15.9**	**+1.2**	
	comp=E,15nm,0.5s							
DAVOX	**Davos/Dischmat**	**4.32**	**331**	Pn	**Pn**	**23 33 28.1**	**+3.5**	
	comp=E,1.9nm,0.3s,baz=143,slow=12,SNR=26							
DAVOX				Sn	**Sb**	**23 34 21.7**	**-5.4**	
	comp=E,0.8nm,0.3s,baz=244,slow=15,SNR=2.4							
	comp=E,12nm,0.5s							
SQTA	**Sankt Quirin**	**4.34**	**344**	Pn	**Pn**	**23 33 28.3**	**+3.4**	
	comp=E,3.0nm,0.2s,SNR=12							
LESA	**Schwarzleotal**	**4.37**	**357**	*i* Pn	**Pn**	**23 33 27.4**	**+2.2**	
	comp=E,2.9nm,0.4s							
WATA	**Walderalm**	**4.39**	**347**	Pn	**Pn**	**23 33 28.6**	**+3.1**	
	comp=E,2.4nm,0.2s,SNR=9.3							
WATA				*e*Sn	**Sn**	**23 34 18.5**	**+1.8**	
	comp=E,6.8nm,0.2s							
MOTA	**Moosalm**	**4.49**	**344**	*i* Pn	**Pn**	**23 33 30.3**	**+3.5**	
	comp=E,5.3nm,0.5s,SNR=11							
ARSA	**Arzberg**	**4.56**	**22**	*i* Pn	**Pn**	**23 33 28.1**	**+0.3**	
	comp=E,4.2nm,0.3s,SNR=11							
ARSA				*e*Sn	**Sn**	**23 34 20.0**	**-0.7**	
	comp=E,2.7nm,0.3s							
BIOA	**Bad Ischl, Aus**	**4.66**	**6**	*i* Pn	**Pn**	**23 33 30.9**	**+1.8**	
	comp=E,5.7nm,0.3s,SNR=15							
BIOA				*e*Sn	**Sn**	**23 34 26.4**	**+3.3**	
	comp=E,14nm,0.4s							
RETA	**Reutte**	**4.70**	**341**	*i* Pn	**Pn**	**23 33 28.1**	**-1.5**	
	comp=E,2.3nm,0.2s							
LMR	**La Mourre**	**4.73**	**276**	*e*P	**Pn**	**23 33 31.9**	**+1.8**	
LMR				*e*Sn	**Sn**	**23 34 20.1**	**-4.8**	
	comp=E,1.6nm,0.4s							
DAVA	**Damuels**	**4.76**	**334**	*i* Pn	**Pn**	**23 33 34.8**	**+4.2**	
	comp=E,8.5nm,0.5s,SNR=7.5							
DAVA				*e*Sn	**Sn**	**23 34 26.6**	**+0.8**	
	comp=E,4.5nm,0.6s							
MBDF	**Montbardon**	**4.78**	**293**	*e*P	**Pn**	**23 33 32.9**	**+2.0**	
MBDF				*e*Sn	**Sn**	**23 34 21.4**	**-5.0**	
	comp=E,8.2nm,0.6s							
MOA	**Molln**	**4.88**	**10**	*i* Pn	**Pn**	**23 33 33.3**	**+1.2**	
	comp=E,2.4nm,0.3s,SNR=9.5							
LPG	**La Plagne**	**5.09**	**301**	*e*P	**Pn**	**23 33 37.5**	**+2.2**	
LPG				*e*Sn	**Sn**	**23 34 28.9**	**-5.2**	
	comp=E,3.6nm,0.5s							
LPL	**La Plagne**	**5.11**	**301**	*e*P	**Pn**	**23 33 37.7**	**+2.2**	
LPL				*e*Sn	**Sn**	**23 34 29.2**	**-5.3**	
	comp=E,9.9nm,0.7s							
RONA	**Rosalia, Austr**	**5.20**	**26**	*i* Pn	**Pn**	**23 33 37.3**	**+0.7**	
	comp=E,4.1nm,0.4s,SNR=5.3							
RONA				*e*Sn	**Sn**	**23 34 36.8**	**+0.4**	
	comp=E,5.3nm,0.4s							
CONA	**Conrad Observa**	**5.28**	**22**	*i* Pn	**Pn**	**23 33 38.2**	**+0.6**	
	comp=E,4.6nm,0.3s,SNR=13							
ORIF	**Oris-en-Rattie**	**5.45**	**292**	*e*P	**Pn**	**23 33 42.2**	**+2.2**	
ORIF				*e*Sn	**Sn**	**23 34 37.2**	**-5.4**	
	comp=E,4.7nm,0.7s							
SMRF	**Simiane la Rot**	**5.46**	**282**	*e*P	**Pn**	**23 33 42.4**	**+2.3**	
SMRF				*e*Sn	**Sn**	**23 34 37.4**	**-5.4**	
	comp=E,1.8nm,0.4s							
GERES	**GERESS Array B**	**5.81**	**5**	Pn	**Pn**	**23 33 46.0**	**+1.0**	
	comp=E,0.5nm,0.3s,baz=166,slow=13,SNR=8.9							
GERES				Sn	**Sn**	**23 34 51.0**	**-0.5**	
	comp=E,1.7nm,0.3s,baz=166,slow=23,SNR=10							
	comp=E,0.7nm,0.3s							
CKRC	**Cesky Krumlov**	**5.84**	**9**	*e*PN	**Pn**	**23 33 44.9**	**-0.4**	
CKRC				*e*SN	**Sn**	**23 34 50.2**	**-1.9**	
CABF	**La Chapelle**	**6.05**	**308**	*e*P	**Pn**	**23 33 50.4**	**+2.2**	
CABF				*e*Sn	**Sn**	**23 34 51.7**	**-5.7**	
	comp=E,1.9nm,0.4s							
KHC	**Kasperske Hory**	**6.09**	**4**	*e*PN	**Pn**	**23 33 49.0**	**+0.3**	
KHC				*e*SN	**Sn**	**23 34 56.7**	**-1.6**	
MODS	**Modra-Piesok**	**6.11**	**28**	*e*PN	Pb	23 33 57.9	-7.3	
HINF	**Hinteralfeld**	**6.42**	**320**	*e*P	**Pn**	**23 33 54.7**	**+1.5**	
HINF				*e*Sn	**Sn**	**23 34 59.9**	**-6.5**	
	comp=E,7.1nm,0.5s							
ZVC	**Zvikov**	**6.44**	**7**	*e*PN	**Pn**	**23 33 54.3**	**+0.8**	
ZVC				*e*SN	**Sn**	**23 35 06.0**	**-0.9**	
KRUC	**Moravsky**	**6.46**	**20**	*e*PN	**Pn**	**23 33 53.5**	**-0.3**	
KRUC				*e*SN	**Sn**	**23 35 04.6**	**-2.8**	
TREC	**Trest**	**6.48**	**15**	*e*SN	**Sn**	**23 35 06.2**	**-1.7**	
CDF	**Champ du Feu**	**6.67**	**325**	*e*P	**Pn**	**23 33 58.0**	**+1.2**	
CDF				*e*Sn	**Sn**	**23 35 05.8**	**-7.0**	
	comp=E,9.0nm,0.7s							
LASF	**Ste Croix**	**6.70**	**282**	*e*P	**Pn**	**23 33 59.6**	**+2.5**	
LASF				*e*Sn	**Sn**	**23 35 07.4**	**-6.0**	
	comp=E,1.6nm,0.4s							
VRAC	**Vranov**	**6.74**	**21**	*e*SN	**Sn**	**23 35 10.3**	**-3.9**	
HAU	**Haudompre**	**6.79**	**319**	*e*P	**Pn**	**23 34 00.6**	**+2.2**	
HAU				*e*Sn	**Sn**	**23 35 08.9**	**-6.7**	
	comp=E,10.0nm,0.3s							
VYHS	**Vyhne**	**6.81**	**35**	*e*PN	**Pn**	**23 33 59.9**	**+1.3**	
VYHS				*e*PG	**Pg**	**23 34 31.9**	**+2.8**	
SMF	**Signal de Mont**	**7.41**	**302**	*e*P	**Pn**	**23 34 09.7**	**+2.8**	
SMF				*e*Sn	**Sn**	**23 35 24.1**	**-6.8**	
	comp=E,1.1nm,0.2s							
PAGF	**Fort de Pagny**	**7.47**	**320**	*e*P	**Pn**	**23 34 10.2**	**+2.5**	
PAGF				*e*Sn	**Sn**	**23 35 25.3**	**-7.0**	
	comp=E,9.1nm,0.7s							
SFTF	**Sexfontaines**	**7.58**	**316**	*e*P	**Pn**	**23 34 11.7**	**+2.6**	
SFTF				*e*Sn	**Sn**	**23 35 27.8**	**-7.1**	
	comp=E,1.8nm,0.3s							
LOR	**Lormes**	**7.69**	**306**	*e*P	**Pn**	**23 34 13.8**	**+3.1**	
	baz=120							
LOR				*e*Sn	**Sn**	**23 35 30.8**	**-7.0**	
	comp=E,2.8nm,0.4s							
MEZF	**Maizieres J'vi**	**7.76**	**317**	*e*P	**Pn**	**23 34 14.1**	**+2.4**	
MEZF				*e*Sn	**Sn**	**23 35 31.8**	**-7.6**	
	comp=E,1.3nm,0.3s							
AVF	**Avril sur Loir**	**7.78**	**302**	*e*P	**Pn**	**23 34 14.9**	**+3.0**	
SSF	**Saint Saulge**	**7.80**	**304**	*e*P	**Pn**	**23 34 14.9**	**+2.6**	
SSF				*e*Sn	**Sn**	**23 35 33.4**	**-7.1**	
	comp=E,1.0nm,0.4s							
KEST	**Kesra**	**7.84**	**202**	Pn	Pn	23 34 21.1	+8.3	
	comp=E,0.2nm,0.3s,baz=13,slow=12,SNR=4.8							
	comp=E,2.3nm,0.8s							
BGF	**Bois d'Agland**	**8.01**	**299**	*e*P	**Pn**	**23 34 17.9**	**+2.9**	
CLL	**Collm**	**8.25**	**0**	*e*Sg	Sg	23 36 42.0	-1.5	
TCF	**Toulx Ste Croi**	**8.32**	**297**	*e*P	**Pn**	**23 34 22.5**	**+3.1**	
FINES	**FINESS Array B**	**20.01**	**19**	P	**P**	**23 36 52.1**	**+0.9**	
	comp=E,0.1nm,0.3s,baz=224,slow=7.8,SNR=4.1							
	comp=E,1.9nm,0.9s							
MKAR	**Makanchi Array**	**47.77**	**60**	P	**P**	**23 40 56.8**	**+1.0**	
	comp=E,0.2nm,0.6s,baz=295,slow=5.6,SNR=2.5							
	comp=E,0.2nm,0.6s							
SONM	**Songino Array**	**61.76**	**50**	P	**P**	**23 42 39.1**	**+1.9**	
	comp=E,0.5nm,1.0s,baz=297,slow=6.3,SNR=2.4							
	comp=E,0.5nm,1.0s							

IDC 08 23:48:56.1±4.0, 9°10N×125°60E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=353.9km s-min=29.4km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.11**	**163**	P	P	23 55 07.7	0.0
	0.4nm,0.8s,baz=341,slow=9.3,SNR=1.1						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**33.56**	**166**	P	P	23 55 38.0	0.0
	0.3nm,0.5s,baz=348,slow=6.9,SNR=4.9						
	0.3nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**41.26**	**71**	T	T	00 39 47.2	
	baz=264,slow=75,SNR=10						
H11N2	**WAKE ISLAND Hy**	**41.27**	**70**	T	T	00 39 51.6	
	baz=264,slow=75,SNR=9.3						
H11N3	**WAKE ISLAND Hy**	**41.28**	**71**	T	T	00 39 47.6	
	baz=264,slow=75,SNR=12						
MKAR	**Makanchi Array**	**52.56**	**324**	P	P	23 58 11.4	-0.1
	0.3nm,0.7s,baz=119,slow=7.8,SNR=3.9						
	0.3nm,0.7s						

WEL ***08*** *23:56:00.1±0.4, 41°S±3°×17°4E±°, h26km±5km, M3.1/33, ML3.4/39, MLv3.1/33, Error ellipse: s-maj=0.0km s-min=0.0km az=131.5*
NOU ***08*** *23:56:00.4, 40°52S×174°38E, h27km, MLv3.7/10, Cook Strait, New Zealand*

ISC 08 23:56:00.1±1.3, 40°51S±0°03×174°45E±0°03, h28km±14km, n86, σ0°89/92, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.50**	**233**	P	**Pn**	**23 56 11.9**	**+0.5**
DUWZ				S	**Sn**	**23 56 20.3**	**+1.1**
KIW	**Kapiti Island**	**0.50**	**135**	P	**Pn**	**23 56 11.3**	**-0.1**
KIW				S	**Sn**	**23 56 19.4**	**+0.3**
OGWZ	**Otaki Gorge**	**0.63**	**120**	P	**Pb**	**23 56 12.7**	**+0.1**
OGWZ				S	**Sn**	**23 56 22.2**	**-0.2**
TCW	**Tory Channel**	**0.71**	**190**	P	**Pn**	**23 56 14.4**	**0.0**
TCW				S	**Sn**	**23 56 24.5**	**0.0**
OHWZ	**Ohakea**	**0.73**	**66**	P	**Pb**	**23 56 14.3**	**+0.1**
OHWZ				S	**Sn**	**23 56 26.0**	**+1.3**
CAW	**Cannon Point**	**0.76**	**142**	P	**Pb**	**23 56 14.9**	**+0.1**
CAW				S	**Sb**	**23 56 25.3**	**+0.4**
WEL	**Wellington**	**0.81**	**163**	P	**Pn**	**23 56 15.9**	**+0.1**
SNZO	**South Karori**	**0.83**	**166**	P	**Pn**	**23 56 16.1**	**+0.2**
WAZ	**Wanganui**	**0.86**	**29**	P	**Pb**	**23 56 16.2**	**-0.3**
MRZ	**Mangatainoka R**	**0.88**	**100**	P	**Pn**	**23 56 15.3**	**-1.3**
HOWZ	**Holdsworth Sta**	**0.90**	**116**	P	**Pn**	**23 56 17.1**	**+0.1**
BHW	**Baring Head**	**0.96**	**161**	P	**Pb**	**23 56 18.1**	**+0.1**
TUWZ	**Tuamarina**	**1.00**	**202**	P	**Pn**	**23 56 18.0**	**-0.2**
POWZ	**Post Office Ro**	**1.01**	**84**	P	**Pn**	**23 56 18.2**	**-0.3**
MTW	**Mount Morrison**	**1.03**	**129**	P	**Pn**	**23 56 18.7**	**-0.1**
NNZ	**Nelson**	**1.08**	**228**	P	**Pn**	**23 56 19.6**	**+0.3**
PAWZ	**Paruwai Farm**	**1.15**	**140**	P	**Pn**	**23 56 20.9**	**+0.5**
PRWZ	**Pori Road**	**1.16**	**93**	P	**Pn**	**23 56 21.1**	**+0.6**
PREZ	**Palmer Road**	**1.18**	**349**	P	**Pn**	**23 56 21.4**	**+0.5**
PLWZ	**Palliser**	**1.23**	**150**	P	**Pn**	**23 56 21.6**	**+0.1**
TSZ	**Takapari Road**	**1.24**	**69**	P	**Pn**	**23 56 20.5**	**-1.2**
TKNZ	**Takaka Hill**	**1.25**	**245**	P	**Pn**	**23 56 22.1**	**+0.4**
KHEZ	**Kahui Hut**	**1.26**	**344**	P	**Pb**	**23 56 22.8**	**-0.4**
KHEZ	**Kahui Hut**	**1.26**	**344**	P	**Pb**	**23 56 22.8**	**-0.4**
BSWZ	**Blackbirch Sta**	**1.28**	**200**	P	**Pn**	**23 56 22.3**	**+0.1**
TRWZ	**Traveller**	**1.29**	**134**	P	**Pb**	**23 56 23.6**	**-0.3**
DVHZ	**Dannevirke**	**1.33**	**82**	P	**Pn**	**23 56 20.7**	**-2.1**
PKE	**Pukeiti**	**1.36**	**345**	P	**Pn**	**23 56 23.5**	**+0.2**
MTVZ	**Mangateitei**	**1.37**	**35**	P	**Pn**	**23 56 23.3**	**-0.1**
BFZ	**Birch Farm**	**1.38**	**98**	P	**Pb**	**23 56 24.8**	**-0.5**
BFZ	**Birch Farm**	**1.38**	**98**	P	**Pn**	**23 56 24.1**	**+0.6**
VRZ	**Vera Road**	**1.40**	**10**	P	**Pn**	**23 56 23.5**	**-0.3**
PNHZ	**Pukenui**	**1.47**	**67**	P	**Pn**	**23 56 23.1**	**-1.7**
WNVZ	**Wahianoa**	**1.47**	**37**	P	**Pn**	**23 56 24.2**	**-0.8**
TRVZ	**Turoa**	**1.47**	**35**	P	**Pn**	**23 56 24.6**	**-0.4**
MOVZ	**Moawhango**	**1.49**	**43**	P	**Pn**	**23 56 24.1**	**-1.0**
MAVZ	**Matarangi**	**1.50**

RPZ	Rata Peaks	4.08	217	P		Pn	23 57 00.7	0.0
RPZ	Rata Peaks	4.08	217	P		Pn	23 56 59.6	-1.1
GCSZ	Gaunt Creek Bo	4.16	226	P		Pn	23 57 02.3	+0.5
FOZ	Fox Glacier	4.59	227	P		Pn	23 57 06.5	-1.1
TMZ	Timaru	4.64	212	P		Pn	23 57 05.9	-2.4
ODZ	Otahua Downs	5.33	210	P		Pn	23 57 18.0	+0.2
JCZ	Jackson Bay	5.51	228	P		Pn	23 57 20.0	-0.3
JCZ	Jackson Bay	5.51	228	P		Pn	23 57 18.6	-1.8

IDC ***08*** *23:56:28.1±1.6,28.58N×88.05E,h0km,mb3.4/5, mbtmp3.4/6,ML3.2/1,Error ellipse: s-maj=60.6km s-min=23.5km az=63.0*

ISC 08 23:56:33.4±1.6,28.6N±0.2×88.0E±0.4,h35km,n6,σ0.58/6, mb3.5/5,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MKAR	**Makanchi Array**	**18.68**	**348**	P		**Pn**	**00 00 48.7**	**-0.2**
	0.1nm,0.3s,baz=162,slow=12,SNR=3.6 0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**23.11**	**344**	P		**P**	**00 01 35.4**	**-0.6**
	0.7nm,0.8s,baz=166,slow=9.3,SNR=4.0 0.7nm,0.8s							
SONM	**Songino Array**	**23.88**	**32**	P		**P**	**00 01 44.1**	**+0.4**
	0.4nm,0.6s,baz=218,slow=12,SNR=4.2 0.4nm,0.6s							
FINES	**FINESS Array B**	**51.93**	**327**	P		**P**	**00 05 38.9**	**+0.5**
	1.1nm,0.8s,baz=91,slow=7.0,SNR=5.3 1.1nm,0.8s							
WRA	**Warramunga Arr**	**65.82**	**132**	P		**P**	**00 07 15.1**	**-0.3**
	0.3nm,0.6s,baz=324,slow=6.5,SNR=2.1 0.3nm,0.6s							
ASAR	**Alice Springs**	**68.23**	**135**	P		**P**	**00 07 30.6**	**0.0**
	0.3nm,0.7s,baz=321,slow=7.3,SNR=2.1 0.3nm,0.7s							

IDC ***09*** *00:05:41.4±10.0,17.82S×177.73W,h464km±109km, mb3.4/6,mbtmp4.2/6,Error ellipse: s-maj=49.8km s-min=37.2km az=72.0*

NEIC ***09*** *00:05:51.5±0.9,17.6S±0.2×178.0W±0.2,h579km±25km, mb4.2/7,Error ellipse: s-maj=34.7km s-min=17.3km az=152.0*

ISC 09 00:05:50.3±0.9,17.8S±0.2×178.1W±0.1,h550km,n17, σ1.58/18,mb4.1/11,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MSVF	**Nonsavu**	**3.66**	**270**			**P**	**00 07 13.6**	**+3.8**
NIUE	**Niue**	**7.88**	**101**	P		**P**	**00 07 47.5**	**+0.7**
BFZ	**Birch Farm**	**23.34**	**191**	P		**P**	**00 10 19.1**	**+3.0**
MRZ	**Mangatainoka R**	**23.44**	**192**	P		**P**	**00 10 17.1**	**+0.1**
MRZ	comp=Z,43nm,1.4s			IAmb		IAmb	00 10 19.9	
CTA	**Charters Tower**	**33.74**	**260**	P		**P**	**00 11 44.5**	**-2.4**
	comp=Z,2.9nm,0.5s,baz=98,slow=7.1,SNR=1.4 comp=Z,2.9nm,0.5s							
STKA	**Stephens Creek**	**38.94**	**241**	P		**P**	**00 12 29.4**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=86,slow=9.3,SNR=5.3 comp=Z,2.2nm,0.6s							
BBOO	**Buckleboo**	**43.71**	**241**	P		**P**	**00 13 07.5**	**+0.3**
BBOO	comp=Z,18nm,1.5s			IAmb		IAmb	00 13 24.7	
WB0	**Warramunga Arr**	**44.90**	**260**	P		**P**	**00 13 16.4**	**-0.1**
WB0	comp=Z,7.8nm,1.1s			IAmb		IAmb	00 13 22.7	
WB2	**Warramunga Arr**	**44.92**	**259**	P		**P**	**00 13 16.2**	**-0.5**
WB2	comp=Z,8.9nm,1.4s			IAmb		IAmb	00 13 26.1	
WRA	**Warramunga Arr**	**44.93**	**259**	P		**P**	**00 13 16.4**	**-0.5**
WRA	**Warramunga Arr**	**44.93**	**259**	P		**P**	**00 13 16.6**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=94,slow=7.0,SNR=40 comp=Z,1.4nm,0.5s							
AS31	**Alice Springs**	**45.09**	**254**	P		**P**	**00 13 18.1**	**0.0**
AS31	comp=Z,2.5nm,0.6s			IAmb		IAmb	00 13 19.1	
ASAR	**Alice Springs**	**45.10**	**254**	P		**P**	**00 13 17.5**	**-0.6**
ASAR	**Alice Springs**	**45.10**	**254**	P		**P**	**00 13 18.1**	**+0.1**
	comp=Z,10nm,0.6s,baz=88,slow=8.5,SNR=103							
ASAR	comp=Z,0.4nm,0.6s,baz=112,slow=4.1,SNR=3.4 comp=Z,10nm,0.6s			PcP		**PcP**	**00 14 46.8**	**-0.2**
VNDA	**Vanda**	**60.59**	**185**	P		**P**	**00 15 05.0**	**-2.4**
	comp=Z,3.1nm,1.1s,baz=55,slow=7.5,SNR=3.0 comp=Z,3.1nm,1.1s							
ILAR	**Eielson Array**	**85.70**	**13**	P		**P**	**00 17 29.8**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=224,slow=5.6,SNR=6.1 comp=Z,0.3nm,0.8s							
BRTR	**Keskin Array B**	**144.89**	**315**	PKPbc		**PKPdf**	**00 24 25.6**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=84,slow=3.4,SNR=5.3							

IDC 09 00:06:50.3±5.5,30.76N×79.72E,h0km,mb3.5/3, mbtmp3.6/4,ML3.2/1,Error ellipse: s-maj=165.4km s-min=30.3km az=70.0,Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MKAR	**Makanchi Array**	**16.13**	**6**	Pn		Pn	00 10 37.5	-0.9
	0.1nm,0.3s,baz=192,slow=11,SNR=8.8 0.7nm,0.6s							
CMAR	**Chiang Mai Arr**	**21.30**	**121**	P		P	00 11 38.5	-0.2
	1.0nm,0.3s,baz=317,slow=9.1,SNR=2.0 1.0nm,0.3s							
ZALV	**Zalesovo Beam**	**23.46**	**8**	P		P	00 12 00.5	-0.7
	0.3nm,0.4s,baz=198,slow=8.8,SNR=4.1 0.3nm,0.4s							
WRA	**Warramunga Arr**	**72.77**	**127**	P		P	00 18 21.0	+0.2
	0.8nm,1.2s,baz=319,slow=5.8,SNR=1.5 0.8nm,1.2s							

IDC 09 00:11:31.8±1.9,4.28S×152.84E,h0km,mb3.7/4, mbtmp3.7/4,Error ellipse: s-maj=71.4km s-min=30.7km az=110.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**23.82**	**228**	P		P	00 16 48.3	+1.6
	2.2nm,0.5s,baz=53,slow=10.0,SNR=16							
WRA	0.3nm,0.6s,baz=50,slow=2.5,SNR=1.7 2.2nm,0.5s			PcP		PcP	00 20 28.8	-1.7
ASAR	**Alice Springs**	**26.56**	**222**	P		P	00 17 13.6	+1.9
	0.5nm,0.7s,baz=58,slow=8.8,SNR=2.1 0.5nm,0.7s							
STKA	**Stephens Creek**	**29.41**	**200**	P		P	00 17 36.4	-0.7
	1.1nm,0.6s,baz=5.7,slow=10,SNR=1.7 1.1nm,0.5s							
MKAR	**Makanchi Array**	**79.97**	**319**	P		P	00 23 44.1	+1.0
	0.4nm,0.9s,baz=101,slow=6.6,SNR=2.4 0.4nm,0.9s							
TORD	**Torodi Ar. Bea**	**150.18**	**289**	PKPbc		PKPbc	00 31 23.5	-2.3

BJI ***09*** *00:37:11.3±0.0,55.29N×149.26W,h10km,mb4.9/64, mB5.4/35,Ms5.0/29,Ms7 4.7/30*

IDC ***09*** *00:37:13.8±0.6,55.67N×149.27W,h0km,mb4.6/33, mbtmp4.6/38,ML4.3/5,MS4.2/80,Error ellipse: s-maj=15.0km s-min=10.2km az=23.0*

MOS ***09*** *00:37:14.6±0.9,55.73N×149.28W,h10km,mb5.3/104, MS4.2/10,Error ellipse: s-maj=9.4km s-min=3.4km az=93.9*

NEIC ***09*** *00:37:15.5,55.61N×149.23W,h12km*

NEIC ***09*** *00:37:15.8±1.8,55.63N±0.07×149.22W±0.08,h17km±3km, mb4.9/286,ML5.0/46,Mww5.0/40,ML4.9(AEIC),Error ellipse: s-maj=10.1km s-min=7.0km az=183.0*

NEIC ***09*** *00:37:15.5,55.41N×149.41W,h12km,Moment Tensor Solution. Duration: 196 Moment tensor: Scale 10^16Nm; Mrr2.21; Mθθ-1.22; Mφφ-0.99; Mrθ1.52; Mθφ3.36; Mφr-0.01; Fault plane solution: M04.00000×10^16 NP1: φs100.96000°,δ66.67000°,λ42.93000°. NP2: φs350.74000°,δ51.29000°,λ149.50000°. Principal axes: T 3.3626, Plg46.0000°, Azm322.0000°; N 1.2811, Plg42.0000°, Azm124.0000°; P -4.6437, Plg9.0000°, Azm223.0000°;*

GCMT ***09*** *00:37:16.8±0.3,55.68N±0.01×149.13W±0.02,h12km, MW5.0/114,Moment Tensor Solution. s32,c36; s114,c173; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.07±.11; Mθθ-1.27±.10; Mφφ-0.80±.11; Mrθ0.90±.33; Mθφ3.86±.09; Mφr0.66±.33; Best double couple: M04.26000×10^16 NP1:φ94.00000°,δ67.00000°, λ28.00000°. NP2:φ353.00000°,δ64.00000°,λ154.00000°. Principal axes: T 3.6090, Plg35.0000°, Azm314.0000°; N 1.2960, Plg54.0000°, Azm131.0000°; P -4.9100, Plg2.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

AEIC ***09*** *00:37:18.5±2.2,55.59N±0.08×149.21W±0.09,h10km±4km Error ellipse: s-maj=11.0km s-min=7.5km az=178.0*

BGR ***09*** *00:37:19.0,55.75N×149.87W,h33km,mb5.2,Ms4.2*

ISC 09 00:37:15.9±0.5,55.67N±0.05×149.18W±0.03,h13km±2km, h13km:pP-P,n1172,σ1.28/1089,mb5.0/315,MS4.3/93, 46C-20D,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
OHAK	**Old Harbor**	**2.76**	**306**			**Pn**	**00 37 58.6**	**-1.2**
OHAK					Sn	**Sn**	**00 38 29.2**	**-3.8**
OHAK	**Old Harbor**	**2.76**	**306**	P		**Pn**	**00 37 58.6**	**-1.2**
OHAK	**Old Harbor**	**2.76**	**306**	P		**Pn**	**00 37 58.2**	**-1.6**
	baz=124,SNR=76							
OHAK	baz=124				S	**Sn**	**00 38 29.4**	**-3.7**
KDAK	**Kodiak Island**	**2.83**	**320**			**Pn**	**00 37 59.6**	**-1.1**
KDAK					Sn	**Sn**	**00 38 31.7**	**-3.0**
KDAK	**Kodiak Island**	**2.83**	**320**	↑	*i*P	**Pn**	**00 37 59.7**	**-1.1**
KDAK	**Kodiak Island**	**2.83**	**320**	P		**Pn**	**00 37 59.6**	**-1.1**
	baz=138							
KDAK	baz=138				S	**Sn**	**00 38 32.2**	**-2.6**
KDAK	**Kodiak Island**	**2.83**	**320**	Pn		**Pn**	**00 37 59.3**	**-1.5**
	79nm,0.3s,baz=140,slow=4.5,SNR=1119							
KDAK	157nm,0.3s,baz=163,slow=19,SNR=17				Sn	**Sn**	**00 38 31.7**	**-3.0**
KDAK	comp=Z,7μm,20.3s,baz=167,slow=45 361nm,0.5s				LR	LR	00 39 19.9	
SII	**Sitkinak Islan**	**2.94**	**290**			**Sn**	**00 38 34.3**	**-3.2**
SII	**Sitkinak Islan**	**2.94**	**290**			**Pn**	**00 38 00.4**	**-1.9**
SII	comp=N,2μm,0.9s				IAML		00 38 38.5	
SII	**Sitkinak Islan**	**2.94**	**290**	P		**Pn**	**00 38 01.0**	**-1.3**
SII	**Sitkinak Islan**	**2.94**	**290**	P		**Pn**	**00 38 00.3**	**-2.1**
SII	baz=106 baz=106				S	**Sn**	**00 38 34.4**	**-3.2**
SYI	**Shuyak Island**	**3.43**	**331**			**Pn**	**00 38 08.0**	**-1.0**
SYI					Sn	**Sn**	**00 38 47.7**	**-1.8**
Q20K	**Shuyak Island**	**3.43**	**331**	P		**Pn**	**00 38 07.9**	**-1.1**
Q20K	baz=149,SNR=15 baz=149				S	**Sn**	**00 38 47.4**	**-2.1**
CNPM	**China Poot**	**4.02**	**345**			**Pn**	**00 38 15.9**	**-1.3**
CNPM	comp=E,1μm,1.0s				IAML		00 39 04.6	
CNPM	comp=N,883nm,0.6s				IAML		00 39 17.9	
CNPM	**China Poot**	**4.02**	**345**			**Sn**	**00 39 01.9**	**-2.2**
MID	**Middleton Isla**	**4.07**	**21**			**Pn**	**00 38 16.9**	**-0.8**
MID	comp=N,2μm,0.8s				IAML		00 39 08.4	
MID	comp=E,1μm,0.8s				IAML		00 39 27.5	
MID	**Middleton Isla**	**4.07**	**21**	P		**Pn**	**00 38 16.9**	**-0.8**
Q23K	**Middleton Isla**	**4.07**	**21**			**Pn**	**00 38 16.8**	**-1.0**
Q23K	comp=N,1μm,0.8s				IAML		00 39 08.4	
Q23K	comp=E,2μm,1.1s				IAML		00 39 08.8	
Q23K	**Middleton Isla**	**4.07**	**21**			**Sn**	**00 39 01.2**	**-3.9**
Q23K	**Middleton Isla**	**4.07**	**21**	P		**Pn**	**00 38 16.2**	**-1.5**
	baz=203,SNR=5.2							
Q23K	baz=203				S	**Sn**	**00 39 01.2**	**-3.9**
KAPH	**Katmai Pasha**	**4.07**	**318**			**Pn**	**00 38 17.6**	**-0.2**
Q19K	**Cape Douglas,**	**4.07**	**325**			**Pn**	**00 38 17.3**	**-0.5**
Q19K	**Cape Douglas,**	**4.07**	**325**	P		**Pn**	**00 38 17.3**	**-0.5**
	baz=142,SNR=19							
Q19K	baz=142				S	**Sn**	**00 39 04.7**	**-0.6**
KAKN	**Katmai Knife C**	**4.16**	**312**			**Pn**	**00 38 18.5**	**-0.6**
BRSE	**Bradley Lake S**	**4.17**	**349**			**Pn**	**00 38 17.7**	**-1.4**
BRSE	**Bradley Lake S**	**4.17**	**349**	P		**Pn**	**00 38 17.8**	**-1.4**
	baz=168,SNR=29							
BRSE	baz=168				S	**Sn**	**00 39 05.1**	**-2.6**
KCE	**Katmai Mt Cerb**	**4.18**	**311**			**Pn**	**00 38 19.7**	**+0.4**
BRLK	**Bradley Lake**	**4.21**	**348**			**Pn**	**00 38 18.1**	**-1.7**
BRLK	comp=E,1μm,0.6s				IAML		00 39 11.7	
BRLK	comp=N,1μm,0.9s				IAML		00 39 13.1	
BRLK	**Bradley Lake**	**4.21**	**348**			**Sn**	**00 39 05.7**	**-3.0**
HOM	**Homer**	**4.21**	**343**			**Pn**	**00 38 19.1**	**-0.7**
HOM	**Homer**	**4.21**	**343**		IAML		00 39 17.2	
HOM	comp=N,4μm,0.7s				IAML		00 39 32.5	
HOM	comp=E,3μm,0.9s				IAML		00 39 32.5	
HOM	**Homer**	**4.21**	**343**	P		**Pn**	**00 38 19.1**	**-0.7**
	baz=161,SNR=5.7							
HOM	baz=161				S	**Sn**	**00 39 07.6**	**-1.2**
ACHA	**Angle Creek He**	**4.22**	**310**			**Pn**	**00 38 19.6**	**-0.4**
KAHC	**Katmai Hardscr**	**4.36**	**316**			**Pn**	**00 38 21.7**	**-0.1**
PLK3	**Peulik 3**	**4.40**	**300**			**Pn**	**00 38 21.9**	**-0.5**
P23K	**Montague Islan**	**4.44**	**12**			**Pn**	**00 38 22.1**	**-0.8**
P23K						**Sn**	**00 39 10.7**	**-3.8**
P23K	**Montague Islan**	**4.44**	**12**	P		**Pn**	**00 38 22.1**	**-0.8**
	baz=193							
P23K	baz=193				S	**Sn**	**00 39 11.3**	**-3.2**
SEW	**Seward**	**4.45**	**358**			**Pn**	**00 38 21.5**	**-1.5**
SEW						**Sn**	**00 39 10.6**	**-4.0**
SEW	**Seward**	**4.45**	**358**	P		**Pn**	**00 38 21.5**	**-1.5**
	baz=178,SNR=14							
SEW	baz=178				S	**Sn**	**00 39 10.3**	**-4.3**
CNTC	**Contact Creek**	**4.50**	**308**			**Sn**	**00 39 13.6**	**-2.4**
Q17K	**Contact Creek**	**4.50**	**308**	P		**Pn**	**00 38 23.2**	**-0.6**
	baz=123,SNR=111							
P19K	**Oil Pt**	**4.55**	**333**			**Pn**	**00 38 22.8**	**-1.6**
P19K	comp=N,2μm,0.6s				IAML		00 39 20.1	
P19K	comp=E,2μm,1.0s				IAML		00 39 26.6	
P19K	**Oil Pt**	**4.55**	**333**	P		**Pn**	**00 38 23.7**	**-0.7**
	baz=150,SNR=16							
P19K	baz=150				S	**Sn**	**00 39 16.6**	**-0.5**
PLK1	**Peulik 1**	**4.62**	**301**			**Pn**	**00 38 24.9**	**-0.4**
O20K	**Slope Mountain**	**4.79**	**339**	P		**Pn**	**00 38 26.6**	**-1.1**
	baz=156							
O20K	baz=156				S	**Sn**	**00 39 21.6**	**-1.6**
ILSW	**Iliamna Southw**	**4.82**	**336**	Pn		**Pn**	**00 38 26.8**	**-1.4**
ILSW	comp=N,991nm,0.9s				IAML		00 39 30.9	
ILSW	comp=E,800nm,0.7s				IAML		00 39 31.5	
O22K	**Cooper Landing**	**4.83**	**357**			**Pn**	**00 38 27.3**	**-0.9**
O22K	**Cooper Landing**	**4.83**	**357**	P		**Pn**	**00 38 27.5**	**-0.8**
	baz=177,SNR=15							
O22K	baz=177				S	**Sn**	**00 39 20.6**	**-3.4**
HIN	**Hinchinbrook I**	**4.95**	**16**	Pn		**Pn**	**00 38 29.7**	**-0.2**
P18K	**Big Mountain,**	**4.96**	**321**	Pn		**Pn**	**00 38 28.8**	**-1.2**
P18K	**Big Mountain,**	**4.96**	**321**	P		**Pn**	**00 38 28.9**	**-1.0**
	baz=137,SNR=21							
P18K	baz=137				S	**Sn**	**00 39 23.1**	**-4.0**
KAIM	**Kayak Island**	**4.97**	**29**	Pn		**Pn**	**00 38 29.7**	**-0.5**
KAIM	comp=N,2μm,0.9s				IAML		00 39 27.7	
KAIM	comp=E,2μm,1.1s				IAML		00 39 35.5	
KAIM	**Kayak Island**	**4.97**	**29**	P		**Pn**	**00 38 29.9**	**-0.3**
	baz=213,SNR=11							
KAIM	baz=213				S	**Sn**	**00 39 24.5**	**-2.9**
R16K	**Pilot Point**	**5.01**	**296**			**Pn**	**00 38 29.9**	**-0.9**
R16K	**Pilot Point**	**5.01**	**296**		IAML		00 39 48.1	
R16K	comp=N,793nm,1.3s comp=E,914nm,1.4s				IAML		00 40 11.9	
Q16K	**King Salmon**	**5.06**	**310**			**Pn**	**00 38 30.4**	**-1.0**
Q16K	**King Salmon**	**5.06**	**310**	P		**Pn**	**00 38 30.6**	**-0.8**
	baz=124,SNR=16							
RED	**Redoubt Volcan**	**5.13**	**340**			**Pn**	**00 38 30.6**	**-1.8**
RSO	**Redoubt South**	**5.17**	**340**			**Pn**	**00 38 31.5**	**-1.5**
ANNW	**Aniakchak Nort**	**5.20**	**288**			**Pn**	**00 38 32.2**	**-1.2**
RDT	**Redoubt**	**5.21**	**342**			**Pn**	**00 38 31.9**	**-1.6**
CAPN	**Captain Cook N**	**5.22**	**349**			**Pn**	**00 38 33.1**	**-0.4**
CAPN	comp=E,2μm,1.1s				IAML		00 39 59.2	
CAPN	**Captain Cook N**	**5.22**	**349**	P		**Pn**	**00 38 33.7**	**+0.2**
	baz=168							
EYAK	**Cordova Ski Ar**	**5.22**	**19**			**Pn**	**00 38 33.2**	**-0.3**
EYAK	**Cordova Ski Ar**	**5.22**	**19**	P		**Pn**	**00 38 33.5**	**0.0**
EYAK	**Cordova Ski Ar**	**5.22**	**19**	P		**Pn**	**00 38 33.1**	**-0.5**
	baz=202,SNR=60							
CHGN	**Chignik**	**5.23**	**281**	Pn		**Pn**	**00 38 32.6**	**-1.0**
CHGN	**Chignik**	**5.23**	**281**	P		**Pn**	**00 38 31.9**	**-1.7**
	baz=94							
SUCK	**Suckling Hills**	**5.27**	**31**			**Pn**	**00 38 33.9**	**-0.4**
SUCK	comp=N,2μm,1.2s				IAML		00 39 39.6	
P17K	**Kvichak River**	**5.28**	**315**			**Pn**	**00 38 33.9**	**-0.5**
P17K	**Kvichak River**	**5.28**	**315**	P		**Pn**	**00 38 34.0**	**-0.4**
	baz=129,SNR=47							
O18K	**Koktuh Hills**	**5.29**	**325**	Pn		**Pn**	**00 38 33.4**	**-1.2**
O18K	comp=N,656nm,0.8s				IAML		00 39 52.6	
O18K	comp=E,459nm,1.3s				IAML		00 40 01.7	
O18K	**Koktuh Hills**	**5.29**	**325**	P		**Pn**	**00 38 33.5**	**-1.2**
	baz=140,SNR=26							
O19K	**Port Alsworth**	**5.30**	**331**	Pn		**Pn**	**00 38 33.7**	**-1.0**
O19K	comp=N,2μm,0.5s				IAML		00 39 37.3	
O19K	**Port Alsworth**	**5.30**	**331**	P		**Pn**	**00 38 33.1**	**-1.5**
	baz=147,SNR=12							
RAGM	**Ragged Mountai**	**5.30**	**25**			**Pn**	**00 38 34.7**	**-0.1**
NICHA	**Nichawak Mount**	**5.35**	**29**			**Pn**	**00 38 34.8**	**-0.7**
HMT	**Hamilton**	**5.36**	**27**			**Pn**	**00 38 35.4**	**-0.2**
RC01	**Rabbit Creek A**	**5.44**	**357**			**Pn**	**00 38 35.8**	**-0.8**
RC01	**Rabbit Creek A**	**5.44**	**357**	P		**Pn**	**00 38 35.9**	**-0.8**
	baz=177,SNR=25							
BGLC	**Bering Glacier**	**5.46**	**33**	P		**Pn**	**00 38 36.5**	**-0.3**
	baz=218							
GOAT	**Goat Mountain**	**5.46**	**24**			**Pn**	**00 38 36.4**	**-0.6**
FIS	**Fire Island**	**5.52**	**355**			**Pn**	**00 38 36.3**	**-1.4**
BERG	**Berg Lake**	**5.56**	**29**	Pn		**Pn**	**00 38 37.7**	**-0.5**
GRIN	**Grindle Hills**	**5.58**	**32**			**Pn**	**00 38 38.1**	**-0.4**
VNSG	**Veniaminof 6**	**5.59**	**279**			**Pn**	**00 38 37.9**	**-0.9**
VNHG	**Veniaminof 1**	**5.64**	**280**			**Pn**	**00 38 38.3**	**-1.1**
SNH	**Sunshine Point**	**5.64**	**34**			**Pn**	**00 38 39.0**	**-0.4**
CYK	**Cape Yakataga**	**5.68**	**36**			**Pn**	**00 38 39.1**	**-0.8**
N20K	**Mount Spurr**	**5.77**	**345**	P		**Pn**	**00 38 39.8**	**-1.5**
	baz=163,SNR=24							
SPCR	**Spurr Chakacha**	**5.77**	**345**			**Pn**	**00 38 39.8**	**-1.5**
KNK	**Knik Glacier**	**5.77**	**3**			**Pn**	**00 38 40.4**	**-0.8**
KNK	**Knik Glacier**	**5.77**	**3**	P		**Pn**	**00 38 40.7**	**-0.5**
	baz=184,SNR=13							
SPCN	**Chakachatna No**	**5.79**	**345**			**Pn**	**00 38 40.3**	**-1.2**
BMRM	**Bremner River**	**5.83**	**22**			**Pn**	**00 38 41.4**	**-0.7**
BMRM	**Bremner River**	**5.83**	**22**	P		**Pn**	**00 38 41.5**	**-0.5**
	baz=206,SNR=41							
P16K	**Nushagak River**	**5.84**	**309**			**Pn**	**00 38 41.5**	**-0.5**
P16K	**Nushagak River**	**5.84**	**309**	P		**Pn**	**00 38 41.6**	**-0.5**
	baz=122,SNR=49							
WAX	**Waxell Ridge**	**5.85**	**32**			**Pn**	**00 38 41.3**	**-1.0**
SPBG	**Spurr Blockage**	**5.85**	**345**			**Pn**	**00 38 41.3**	**-1.0**
N19K	**Bonanza Creek**	**5.87**	**334**			**Pn**	**00 38 40.8**	**-1.8**
N19K	**Bonanza Creek**	**5.87**	**334**	P		**Pn**	**00 38 41.2**	**-1.4**
	baz=150,SNR=17							
SUA	**Susitna One**	**5.87**	**353**			**Pn**	**00 38 41.2**	**-1.4**
SUA	**Susitna One**	**5.87**	**353**	P		**Pn**	**00 38 41.1**	**-1.5**
	baz=172,SNR=11							
O17K	**Koliganek Bris**	**5.91**	**317**			**Pn**	**00 38 41.5**	**-1.5**
O17K	**Koliganek Bris**	**5.91**	**317**	P		**Pn**	**00 38 42.2**	**-0.8**
	baz=131,SNR=26							
BARK	**Barkley Ridge**	**5.93**	**34**			**Pn**	**00 38 42.5**	**-0.9**
MESA	**MESA**	**5.94**	**37**			**Pn**	**00 38 42.7**	**-0.9**
MESA	**MESA**	**5.94**	**37**	P		**Pn**	**00 38 42.9**	**-0.7**
	baz=224,SNR=16							
PMR	**Palmer**	**5.94**	**0**			**Pn**	**00 38 42.6**	**-0.9**
PMR	**Palmer**	**5.94**	**0**	P		**Pn**	**00 38 43.5**	**+0.1**
PMR	**Palmer**	**5.94**	**0**	P		**Pn**	**00 38 42.6**	**-0.9**
PMR	**Palmer**	**5.94**	**0**	P		**Pn**	**00 38 42.5**	**-0.9**
	baz=180,SNR=15							
SPNN	**North Nagishla**	**6.00**	**344**			**Pn**	**00 38 43.1**	**-1.4**
CRQM	**Cirque**	**6.01**	**30**			**Pn**	**00 38 43.9**	**-0.8**
CHNA	**Chernabura Isl**	**6.02**	**266**	P		**Pn**	**00 38 41.3**	**-3.2**
	baz=78							
CNBA	**Chernabura Isl**	**6.02**	**266**	Pn		**Pn**	**00 38 41.0**	**-3.5**
CRQE	**Cirque**	**6.02**	**30**	P		**Pn**	**00 38 44.0**	**-0.7**
	baz=215,SNR=65							
KLU	**Klutina**	**6.08**	**15**			**Pn**	**00 38 44.8**	**-0.7**
KLU	**Klutina**	**6.08**	**15**	P		**Pn**	**00 38 45.2**	**-0.3**
	baz=198,SNR=50							
TGL	**Tana Glacier**	**6.10**	**31**			**Pn**	**00 38 45.0**	**-0.8**
BAGL	**Bagley Icefiel**	**6.12**	**35**			**Pn**	**00 38 45.3**	**-0.6**
M22K	**Willow**	**6.12**	**356**			**Pn**	**00 38 46.0**	**+0.1**
M22K	**Willow**	**6.12**	**356**	P		**Pn**	**00 38 45.1**	**-0.8**
	baz=175							
GHO	**Glory Hole Cre**	**6.12**	**1**			**Pn**	**00 38 44.8**	**-1.2**
ISLE	**Juniper Island**	**6.13**	**33**			**Pn**	**00 38 45.4**	**-0.8**
N18K	**Kilae Creek**	**6.15**	**328**			**Pn**	**00 38 44.9**	**-1.4**
N18K	**Kilae Creek**	**6.15**	**328**	P		**Pn**	**00 38 45.1**	**-1.3**
	baz=142							
SML	**Sawmill**	**6.17**	**4**			**Pn**	**00 38 46.3**	**-0.3**
SML	**Sawmill**	**6.17**	**4**	P		**Pn**	**00 38 46.4**	**-0.3**
	baz=185,SNR=61							
M23K	**Glacier View**	**6.19**	**6**			**Pn**	**00 38 46.8**	**-0.1**
M23K	**Glacier View**	**6.19**	**6**	P		**Pn**	**00 38 46.9**	**-0.1**
	baz=188,SNR=38							
O16K	**Kokwok River B**	**6.20**	**313**	P		**Pn**	**00 38 46.4**	**-0.6**
	baz=126,SNR=42							
SCM	**Sheep Creek Mo**	**6.26**	**8**			**Pn**	**00 38 48.1**	**+0.2**
SCM	**Sheep Creek Mo**	**6.26**	**8**	P		**Pn**	**00 38 48.1**	**+0.2**
SCM	**Sheep Creek Mo**	**6.26**	**8**	P		**Pn**	**00 38 48.5**	**+0.6**

WACK	Wrangell Chich	6.81	20			Pn	00 38 55.3	-0.4
N16K	Nishlik Lake	7.00	317			Pn	00 38 57.4	-0.7
N16K	Nishlik Lake baz=130,SNR=50	7.00	317	P		Pn	00 38 57.6	-0.5
HARP	HAARP	7.06	15			Pn	00 38 59.1	+0.3
HARP	HAARP baz=199,SNR=30	7.06	15	P		Pn	00 38 59.3	+0.4
PS1A	Pavlof South-1	7.14	273			Pn	00 38 57.7	-2.2
L19K	White Mountain	7.16	338			Pn	00 38 58.5	-1.8
L19K	White Mountain baz=154,SNR=16	7.16	338	P		Pn	00 38 58.4	-1.8
M17K	Holitna River	7.19	326			Pn	00 38 59.7	-0.8
M17K	Holitna River baz=140,SNR=39	7.19	326	P		Pn	00 38 59.4	-1.1
PS4A	Pavlof South-4	7.21	273			Pn	00 38 59.0	-1.9
HAG	Hague Volcano	7.24	272			Pn	00 38 59.5	-1.9
HAG	Hague Volcano	7.24	272	P		Pn	00 38 59.5	-1.9
L20K	Farewell, AK	7.25	342			Pn	00 38 59.8	-1.6
L20K	Farewell, AK baz=159,SNR=9.5	7.25	342	P		Pn	00 38 59.4	-2.0
PN7A	Pavlof North-7	7.28	273			Pn	00 39 00.1	-1.8
O29M	Mount Kennedy	7.30	46			Pn	00 39 02.2	0.0
O29M	Mount Kennedy baz=235	7.30	46	P		Pn	00 39 02.2	0.0
P29M	Windy Craggy	7.31	52			Pn	00 39 01.4	-0.9
P29M	Windy Craggy baz=242,SNR=131	7.31	52	P		Pn	00 39 01.7	-0.5
N15K	Kwethluk River baz=124,SNR=73	7.35	312	P		Pn	00 39 02.7	-0.2
PPLA	Purkeypile	7.41	349			Pn	00 39 03.3	-0.4
PPLA	Purkeypile baz=167	7.41	349	P		Pn	00 39 02.8	-1.0
M16K	Timber Creek	7.43	320			Pn	00 39 02.9	-1.0
M16K	Timber Creek baz=132,SNR=19	7.43	320	P		Pn	00 39 03.2	-0.7
O14K	Tigyukauivet M	7.44	304			Pn	00 39 03.4	-0.7
O14K	Tigyukauivet M baz=114,SNR=17	7.44	304	P		Pn	00 39 03.3	-0.7
M26K	Nabesna, AK	7.46	23			Pn	00 39 03.8	-0.6
M26K	Nabesna, AK baz=208,SNR=17	7.46	23	P		Pn	00 39 04.1	-0.3
S31K	Pelican	7.47	67			Pn	00 39 01.2	-3.1
S31K	Pelican baz=257,SNR=10	7.47	67	P		Pn	00 39 01.9	-2.5
YUK8	Steele Glacier baz=225,SNR=50	7.48	37	P		Pn	00 39 04.9	+0.1
PAX	Paxson	7.56	13			Pn	00 39 05.8	0.0
PAX	Paxson	7.56	13	P		Pn	00 39 05.8	0.0
PAX	Paxson baz=196,SNR=34	7.56	13	P		Pn	00 39 05.7	0.0
YUK3	Moose Creek baz=220,SNR=56	7.62	33	P		Pn	00 39 07.0	+0.4
L18K	Granite Mounta	7.63	333			Pn	00 39 04.7	-1.9
L18K	Granite Mounta baz=146	7.63	333	P		Pn	00 39 04.4	-2.2
M27K	Edge Creek, AK	7.69	26			Pn	00 39 06.9	-0.7
M27K	Edge Creek, AK baz=213,SNR=24	7.69	26	P		Pn	00 39 07.2	-0.3
RND	Reindeer	7.76	1			Pn	00 39 08.6	+0.1
RND	Reindeer	7.76	1	P		Pn	00 39 08.6	+0.1
YUK6	Outpost Mounta baz=232,SNR=162	7.76	43	P		Pn	00 39 09.5	+0.8
MENT	Mentasta	7.80	19	P		Pn	00 39 10.3	+1.2
SIT	Sitka	7.82	74	Pn		Pn	00 39 06.1	-3.1
SIT	Sitka	7.82	74	P		Pn	00 39 06.1	-3.1
SIT	Sitka baz=265	7.82	74	P		Pn	00 39 05.5	-3.7
TRF	Thorofare Moun	7.83	356			Pn	00 39 08.8	-0.7
TRF	Thorofare Moun baz=176	7.83	356	P		Pn	00 39 08.8	-0.7
PLBC	Pleasant Camp baz=246,SNR=181	7.86	56	P		Pn	00 39 09.4	-0.4
P30M	Million Dollar	7.89	51			Pn	00 39 10.3	+0.1
P30M	Million Dollar baz=241	7.89	51	P		Pn	00 39 10.4	+0.1
M15K	Kasigluk River baz=125,SNR=32	7.89	314	P		Pn	00 39 09.7	-0.5
CAST	Castle Rocks baz=168,SNR=35	7.91	350	P		Pn	00 39 10.0	-0.5
YUK4	Talbot Arm baz=228,SNR=91	7.92	40	P		Pn	00 39 12.8	+2.1
N14K	Kuskokwak Cree	7.92	308			Pn	00 39 10.2	-0.4
N14K	Kuskokwak Cree baz=118,SNR=30	7.92	308	P		Pn	00 39 10.1	-0.5
L26K	Log Cabin Wild baz=205,SNR=11	7.95	20	P		Pn	00 39 13.0	+2.0
BVCY	Beaver Creek baz=216,SNR=11	8.00	29	P		Pn	00 39 12.3	+0.6
L17K	Donlin baz=140	8.01	328	P		Pn	00 39 10.5	-1.4
HYT	Haines Junctio	8.03	45			Pn	00 39 12.4	+0.1
HYT	Haines Junctio baz=235,SNR=27	8.03	45	P		Pn	00 39 12.6	+0.3
TTA	Tatalina	8.07	337			Pn	00 39 10.6	-2.1
TTA	Tatalina	8.07	337	P		Pn	00 39 11.2	-1.6
TTA	Tatalina	8.07	337	P		Pn	00 39 10.6	-2.1
TTA	Tatalina baz=152,SNR=11	8.07	337	P		Pn	00 39 10.7	-2.1
L16K	Owhat River baz=134,SNR=19	8.08	323	P		Pn	00 39 12.2	-0.7
MCK	McKinley baz=181,SNR=15	8.09	1	P		Pn	00 39 13.1	+0.1
K20K	Telida	8.10	344			Pn	00 39 11.2	-2.0
K20K	Telida baz=160	8.10	344	P		Pn	00 39 11.1	-2.0
FALS	False Pass baz=79	8.18	270	P		Pn	00 39 09.6	-4.5
S32K	Killisnoo	8.26	71			Pn	00 39 12.4	-2.9
S32K	Killisnoo baz=263,SNR=17	8.26	71	P		Pn	00 39 13.1	-2.2
L27K	Beaver Creek, baz=210,SNR=14	8.30	24	P		Pn	00 39 15.1	-0.9
K24K	Donnelly Dome	8.34	10			Pn	00 39 16.2	-0.1
K24K	Donnelly Dome baz=194,SNR=24	8.34	10	P		Pn	00 39 17.2	+0.8
SKAG	Skagway	8.35	57			Pn	00 39 16.1	-0.4
SKAG	Skagway	8.35	57	P		Pn	00 39 16.5	0.0
SKAG	Skagway baz=249,SNR=18	8.35	57	P		Pn	00 39 16.1	-0.4
ISLZ	Isanotski Laza	8.37	270			Pn	00 39 14.2	-2.6
RIDG	Independent Ri baz=197	8.38	13	P		Pn	00 39 17.2	+0.2
CHUM	Lake Minchumin	8.39	350			Pn	00 39 16.4	-0.7
CHUM	Lake Minchumin baz=168,SNR=39	8.39	350	P		Pn	00 39 16.7	-0.3
R32K	Eaglecrest baz=258	8.42	66	P		Pn	00 39 16.3	-1.2
M14K	Bethel	8.45	312	Pn		Pn	00 39 17.2	-0.6
M14K	Bethel baz=122,SNR=19	8.45	312	P		Pn	00 39 16.7	-1.2
K17K	Iditarod	8.47	330			Pn	00 39 16.6	-1.6
K17K	Iditarod baz=143	8.47	330	P		Pn	00 39 16.4	-1.8
JIS	Juneau Island	8.49	66			Pn	00 39 16.4	-2.0
JIS	Juneau Island	8.49	66	P		Pn	00 39 17.0	-1.4
BPAW	Bear Paw Mtn.	8.51	355			Pn	00 39 17.1	-1.6
BPAW	Bear Paw Mtn. baz=173,SNR=18	8.51	355	P		Pn	00 39 17.4	-1.3
N30M	Aishikik Lake baz=233,SNR=71	8.57	42	P		Pn	00 39 19.6	0.0
O30N	Mendenhall	8.59	48			Pn	00 39 19.6	-0.2
O30N	Mendenhall baz=239,SNR=17	8.59	48	P		Pn	00 39 19.8	+0.1
J18K	Innoko River baz=151,SNR=14	8.70	337	P		Pn	00 39 19.5	-1.7
SCRK	Sand Creek	8.73	15			Pn	00 39 21.7	-0.1
SCRK	Sand Creek baz=200,SNR=13	8.73	15	P		Pn	00 39 22.3	+0.5
M29M	Somme Creek	8.74	35			Pn	00 39 22.1	+0.1
M29M	Somme Creek baz=224,SNR=93	8.74	35	P		Pn	00 39 22.5	+0.5
L15K	Ungalak Mounta	8.79	318			Pn	00 39 21.6	-0.8
L15K	Ungalak Mounta baz=128	8.79	318	P		Pn	00 39 21.7	-0.7
HDA	Harding Lake baz=188,SNR=17	8.84	6	P		Pn	00 39 24.6	+1.4
WRH	Wood River Hil	8.85	3			Pn	00 39 22.9	-0.4
M13K	Dall Lake	8.89	308			Pn	00 39 23.3	-0.5
M13K	Dall Lake baz=116,SNR=16	8.89	308	P		Pn	00 39 23.4	-0.5
J20K	Nowinta River	8.89	346			Pn	00 39 22.1	-1.8
J20K	Nowinta River baz=162	8.89	346	P		Pn	00 39 22.4	-1.5
J19K	Poorman	8.95	341			Pn	00 39 22.4	-2.4
J19K	Poorman	8.95	341	P		Pn	00 39 22.9	-1.9
	baz=156							
NEA2	Nenana baz=181,SNR=22	8.95	0	P		Pn	00 39 24.5	-0.3
U33K	Whale Pass	9.04	81			Pn	00 39 21.7	-4.2
U33K	Whale Pass baz=274	9.04	81	P		Pn	00 39 21.7	-4.1
WHY	Whitehorse	9.05	51			Pn	00 39 26.1	-0.1
WHY	Whitehorse baz=243,SNR=72	9.05	51	P		Pn	00 39 26.4	+0.2
L14K	Kuka Creek	9.06	314			Pn	00 39 25.6	-0.6
L14K	Kuka Creek baz=123	9.06	314	P		Pn	00 39 25.6	-0.6
CRAG	Craig baz=278	9.10	85	P		Pn	00 39 24.8	-1.9
K27K	Chicken	9.11	20			Pn	00 39 26.2	-0.6
K27K	Chicken baz=206,SNR=8.9	9.11	20	P		Pn	00 39 26.7	-0.2
J25K	Salcha River,	9.17	10			Pn	00 39 26.6	-1.2
J25K	Salcha River, baz=194,SNR=11	9.17	10	P		Pn	00 39 27.2	-0.5
P32M	Atlin	9.17	58			Pn	00 39 26.8	-1.0
P32M	Atlin baz=251,SNR=27	9.17	58	P		Pn	00 39 26.8	-1.0
K15K	Wolf Creek Mou	9.20	321			Pn	00 39 27.8	-0.2
K15K	Wolf Creek Mou baz=131,SNR=10	9.20	321	P		Pn	00 39 27.8	-0.2
ILAR	Eielson Array comp=N,2.6nm,0.3s,baz=190,slow=13,SNR=72	9.20	6	Pn		Pn	00 39 27.1	-1.1
ILAR	comp=N,6.0nm,0.3s,baz=182,slow=18,SNR=16			Sn		Sn	00 41 05.7	-5.8
ILAR	comp=N,2µm,20.0s,baz=192,slow=38 comp=N,16nm,0.5s			LR		LR	00 43 07.7	
COLA	College	9.26	4			Pn	00 39 30.0	+1.1
COLA	College	9.26	4	P		Pn	00 39 29.6	+0.7
COLA	College	9.26	4	*i* P		Pn	00 39 28.5	-0.4
J26L	Joseph Creek	9.29	15			Pn	00 39 28.9	-0.5
J26L	Joseph Creek baz=200,SNR=30	9.29	15	P		Pn	00 39 29.9	+0.4
MDM	Murphy Dome	9.33	2			Pn	00 39 29.7	-0.3
L29M	L29M	9.34	32			Pn	00 39 30.1	+0.1
L29M	L29M baz=222,SNR=55	9.34	32	P		Pn	00 39 30.4	+0.4
M30M	Minto, Yukon	9.39	37			Pn	00 39 30.6	-0.2
M30M	Minto, Yukon baz=228,SNR=15	9.39	37	P		Pn	00 39 30.7	-0.2
MLY	Manley	9.42	356			Pn	00 39 29.6	-1.7
MLY	Manley baz=175,SNR=19	9.42	356	P		Pn	00 39 30.5	-0.7
WRAK	Wrangell Islan baz=272	9.45	79	P		Pn	00 39 30.8	-0.8
I23K	Minto, Yukon-K baz=180,SNR=9.8	9.51	360	P		Pn	00 39 32.4	0.0
POKR	Poker Plat Res baz=186,SNR=11	9.52	4	P		Pn	00 39 33.2	+0.7
J16K	Anvik River	9.58	327			Pn	00 39 31.4	-2.0
J16K	Anvik River baz=138	9.58	327	P		Pn	00 39 32.2	-1.2
I21K	Tanana baz=171	9.64	353	P		Pn	00 39 34.0	-0.2
Q32M	Nakina River	9.72	63			Pn	00 39 34.8	-0.7
Q32M	Nakina River baz=257,SNR=5.3	9.72	63	P		Pn	00 39 34.9	-0.5
DAWY	Dawson baz=215,SNR=18	9.74	26	P		Pn	00 39 35.3	-0.3
P33M	Teslin, Yukon	9.81	56			Pn	00 39 35.9	-0.7
P33M	Teslin, Yukon baz=249,SNR=59	9.81	56	P		Pn	00 39 35.8	-0.7
EGAK	Eagle baz=207,SNR=19	9.96	20	P		Pn	00 39 39.9	+1.4
PRP	Porcupine Dome	10.04	9	Pn		Pn	00 39 39.6	-0.1
PRP	Porcupine Dome baz=192,SNR=21	10.04	9	P		Pn	00 39 39.5	-0.3
M31M	Drury Creek, Y	10.04	43			Pn	00 39 40.5	+0.7
M31M	Drury Creek, Y baz=236,SNR=65	10.04	43	P		Pn	00 39 40.6	+0.9
N32M	Quiet Lake baz=244,SNR=23	10.06	50	P		Pn	00 39 39.9	0.0
I17K	Unalakleet	10.06	330	Pn		Pn	00 39 39.4	-0.5
I17K	Unalakleet baz=140,SNR=9.2	10.06	330	P		Pn	00 39 38.6	-1.3
K29M	Barlow Dome baz=221	10.07	31	P		Pn	00 39 40.8	+0.6
I26K	Coal Creek Min baz=200,SNR=17	10.11	15	P		Pn	00 39 41.5	+1.0
S34M	Telegraph Cree baz=265	10.15	70	P		Pn	00 39 40.2	-0.9
H21K	Melozitna Rive baz=168	10.18	351	P		Pn	00 39 41.2	-0.3
M11K	Mekoryuk baz=110,SNR=5.1	10.18	305	P		Pn	00 39 41.0	-0.5
J14K	Nanvaranak Lak baz=128	10.21	320	P		Pn	00 39 42.2	+0.3
H24K	Noodor Dome baz=184,SNR=23	10.22	3	P		Pn	00 39 43.0	+0.9
H20K	Anotleneega Mo baz=162	10.24	347	P		Pn	00 39 42.4	0.0
H22K	Ishtalitna Cre baz=173	10.31	355	P		Pn	00 39 42.9	-0.5
R33M	Jennings River baz=257,SNR=16	10.47	62	P		Pn	00 39 44.8	-0.9
FARO	Faro, Yukon	10.47	45	Pn		Pn	00 39 46.6	+1.1
FARO	Faro, Yukon baz=238,SNR=28	10.47	45	P		Pn	00 39 46.5	+0.9
H19K	Roundabout Mou baz=157	10.51	343	P		Pn	00 39 45.7	-0.3
H18K	Honhosa River baz=151	10.53	338	P		Pn	00 39 45.2	-1.1
T35M	Bob Quinn baz=271	10.59	75	P		Pn	00 39 46.0	-1.3
I27K	Kandik River baz=204,SNR=18	10.62	17	P		Pn	00 39 48.9	+1.2
H17K	Granite Mounta baz=146,SNR=11	10.69	335	P		Pn	00 39 46.9	-1.7
H25L	Birch Creek baz=190,SNR=9.6	10.76	7	P		Pn	00 39 49.6	+0.2
DLBC	Dease Lake	10.78	67	Pn		Pn	00 39 49.2	-0.7
DLBC	Dease Lake baz=263,SNR=9.8	10.78	67	P		Pn	00 39 48.9	-1.0
DLBC	Dease Lake comp=N,2.9nm,0.3s,baz=254,slow=12,SNR=42	10.78	67	Pn		Pn	00 39 48.8	-1.2
DLBC	comp=N,4µm,20.8s,baz=264,slow=33 comp=N,6.3nm,0.4s			LR		LR	00 43 16.0	
I28M	Miner Creek baz=209	10.80	21	P		Pn	00 39 50.6	+0.6
J30M	Hart River baz=221	10.96	30	P		Pn	00 39 53.5	+1.1
H16K	Elim baz=138,SNR=8.6	11.07	330	P		Pn	00 39 53.2	-0.6
G21K	Allakaket baz=167	11.08	351	P		Pn	00 39 53.7	-0.1
G23K	Bananza Creek baz=178,SNR=30	11.09	358	P		Pn	00 39 53.6	-0.3
G24K	Hadweenzic Riv baz=185	11.10	4	P		Pn	00 39 54.1	0.0
G19K	Purcell Mounta baz=156	11.18	343	P		Pn	00 39 54.4	-0.8
H27K	Steamboat Moun baz=203,SNR=14	11.22	16	P		Pn	00 39 56.3	+0.5
G25K	Bearman Lake baz=189,SNR=9.8	11.23	6	P		Pn	00 39 56.0	+0.1
G18K	Tagagawik	11.24	340	Pn		Pn	00 39 55.3	-0.7
G18K	Tagagawik baz=152,SNR=7.3	11.24	340	P		Pn	00 39 54.8	-1.2
G17K	Kiwalik Mounta baz=145	11.34	335	P		Pn	00 39 55.9	-1.5
G22K	Bettles baz=173	11.35	355	P		Pn	00 39 56.8	-0.7
I30M	Mount Dempster baz=219,SNR=21	11.45	28	P		Pn	00 40 00.6	+1.6
MMPY	Sheldon Lake, baz=241,SNR=28	11.51	45	P		Pn	00 40 00.1	+0.4
G26K	Porcupine Rive baz=195	11.61	11	P		Pn	00 40 00.5	-0.5
COLD	Coldfoot baz=177,SNR=14	11.61	358	P		Pn	00 40 00.5	-0.6
G16K	Koyuk River baz=141	11.68	332	P		Pn	00 40 01.4	-0.6
WTLY	Watson Lake, Y baz=256	11.70	59	P		Pn	00 40 02.3	-0.1
F21K	Alatna River baz=168,SNR=31	11.77	352	P		Pn	00 40 02.8	-0.5
H29M	Whitestone baz=211,SNR=8.8	11.79	22	P		Pn	00 40 04.4	+0.9
F20K	Avaraart Lake baz=162,SNR=17	11.83	347	P		Pn	00 40 03.7	-0.4
G15K	Niukluk baz=135	11.86	328	P		Pn	00 40 03.2	-1.3
F24K	Squaw Lake baz=184	11.91	2	P		Pn	00 40 04.9	-0.3
F19K	Shaleruckik Mo baz=156,SNR=12	11.92	343	P		Pn	00 40 04.2	-1.1
ANM	Nome	11.99	325	Pn		Pn	00 40 07.1	+0.8
ANM	Nome	11.99	325	P		Pn	00 40 07.1	+0.8
ANM	Nome baz=131,SNR=9.4	11.99	325	P		Pn	00 40 05.1	-1.2
BMAR	Burnt Mountain	12.00	9	Pn		Pn	00 40 09.3	+2.9
F18K	Selawik baz=151,SNR=11	12.05	340	P		Pn	00 40 06.0	-1.0
F25K	Christian Rive baz=190	12.08	6	P		Pn	00 40 06.8	-0.8
F17K	Baldwin Pennin baz=146	12.25	337	P		Pn	00 40 09.2	-0.6
EPYK	Eagle Plains baz=212,SNR=14	12.28	24	P		Pn	00 40 11.1	+0.8
F26K	Sheenjek River baz=194,SNR=7.8	12.29	9	P		Pn	00 40 10.3	-0.2
TGTN	Hyland Airport baz=251,SNR=26	12.35	53	P		Pn	00 40 11.5	+0.3
E19K	Redstone River baz=158	12.42	345	P		Pn	00 40 10.7	-1.4
E23K	Chandalar baz=179,SNR=10	12.44	359	P		Pn	00 40 11.8	-0.6
H31M	Peel River baz=222,SNR=15	12.45	29	P		Pn	00 40 12.7	+0.1
E24K	Your Creek baz=182,SNR=11	12.46	1	P		Pn	00 40 12.5	-0.2
G29M	Pine Creek baz=211	12.46	21	P		Pn	00 40 14.9	+2.3
F15K	North Star Dit baz=136	12.55	329	P		Pn	00 40 13.1	-0.8
E22K	Anaktuvuk Pass baz=173,SNR=18	12.57	355	P		Pn	00 40 15.9	+1.6
E25K	Arctic Village baz=190	12.61	6	P		Pn	00 40 15.2	+0.4
F28M	Old Crow baz=205,SNR=16	12.75	16	P		Pn	00 40 17.8	+1.1
BBB	Bella Bella comp=N,469nm,18.1s,baz=312,slow=32	12.88	97	LR		LR	00 44 08.2	
F14K	Arctic Creek baz=132	12.90	327	P		Pn	00 40 18.8	+0.1
G30M	tAoh Zraii Nji baz=215,SNR=28	12.90	23	P		Pn	00 40 20.7	+2.0
E18K	Tukpahlearik C baz=150,SNR=17	12.95	340	P		Pn	00 40 19.2	-0.2
E21K	Killik River baz=168,SNR=11	13.01	352	P		Pn	00 40 20.4	+0.2
TOLK	Toolik Lake Re baz=179,SNR=18	13.02	359	P		Pn	00 40 22.1	+1.7
E20K	Nigu River baz=162	13.04	348	P		Pn	00 40 20.4	-0.3
G31M	Satah River	13.31	26	Pn		Pn	00 40 24.8	+0.5
G31M	Satah River baz=219,SNR=21	13.31	26	P		Pn	00 40 24.4	+0.1
D22K	Ayikyak River baz=172	13.36	354	P		Pn	00 40 25.1	+0.2
D23K	Nanushuk River baz=176	13.36	358	P		Pn	00 40 26.4	+1.4
TNA	Tin City baz=129	13.46	325	P		Pn	00 40 25.9	-0.5
D19K	Kuna River baz=158	13.51	346	P		Pn	00 40 26.3	-0.7
F30M	Barrier River baz=214	13.52	22	P		Pn	00 40 27.7	+0.6
D20K	Etivluk River baz=162	13.53	348	P		Pn	00 40 26.6	-0.7
D24K	Happy Valley baz=181	13.54	1	P		Pn	00 40 27.7	+0.4
D17K	Noatak River baz=145,SNR=10	13.70	337	P		Pn	00 40 29.0	-0.6
D25K	Kavik River baz=187,SNR=15	13.76	4	P		Pn	00 40 30.4	-0.1
C21K	Knifeblade Rid baz=167,SNR=19	13.77	352	P		Pn	00 40 30.4	-0.2
E29M	Blow River baz=208	13.78	18	P		Pn	00 40 31.0	+0.4
F31M	Tsiigehtchic baz=219,SNR=13	13.85	25	P		Pn	00 40 31.7	+0.1
KOTAN	Kotaneelee Air baz=262,SNR=10	14.04	61	P		Pn	00 40 34.6	+0.3
C24K	Franklin Bluff baz=181	14.11	1	P		Pn	00 40 35.0	-0.1
D27M	Malcolm River baz=199,SNR=24	14.12	12	P		Pn	00 40 35.0	-0.3
C18K	Utukok River baz=151	14.14	342	P		Pn	00 40 35.3	-0.3
B21K	Ikpikpuk River baz=168	14.21	352	P		Pn	00 40 35.0	-1.6
C23K	Itkillik River baz=177,SNR=27	14.23	358	P		Pn	00 40 36.0	-0.8
C19K	Lookout Ridge baz=156	14.29	345	P		Pn	00 40 36.5	-1.1
C17K	DeLong Mountai baz=147	14.37	339	P		Pn	00 40 38.1	-0.6
C26K	Camden Bay baz=190	14.43	6	P		Pn	00 40 39.4	-0.1
D28M	Stokes Point baz=204,SNR=37	14.49	15	P		Pn	00 40 39.3	-1.1
INK	Inuvik baz=217,SNR=49	14.58	23	P		Pn	00 40 42.4	+0.8
INK	Inuvik comp=N,0.6nm,0.3s,baz=211,slow=11,SNR=67	14.58	23	Pn		Pn	00 40 41.4	-0.2
INK	comp=N,2µm,20.0s,baz=182,slow=38 comp=N,38nm,1.0s			LR		LR	00 46 23.5	
C16K	Lisburne Hills baz=142	14.68	336	P		Pn	00 40 41.8	-1.1
B20K	Meade River baz=162,SNR=14	14.82	349	P		Pn	00 40 43.0	-1.9
B22K	Teshekpuk Lake baz=171,SNR=45	14.85	354	P		Pn	00 40 44.7	-0.4
B18K	Kokolik River baz=151	14.87	342	P		Pn	00 40 44.6	-0.9
WRGLY	Wrigley comp=Z,85nm,1.6s	15.02	49	IAmb		IAmb	00 40 52.7	
WRGLY	Wrigley baz=252,SNR=9.5	15.02	49	P		Pn	00 40 47.6	+0.1
A21K	Barrow baz=165	16.04	351	P		Pn	00 40 59.1	-1.7
CLRS	Cowichan Lake	16.74	104	P		P	00 41 15.0	+2.9
C36M	Paulatuk comp=Z,52nm,0.9s	17.74	30	IAmb		IAmb	00 41 23.5	
C36M	Paulatuk baz=232,SNR=20	17.74	30	P		Pn	00 41 21.7	-0.5
BRLDA	Berland Lookou	18.27	82	P		P	00 41 33.4	+4.3
YKA	Yellowknife Ar	18.84	55	*i* P		P	00 41 28.6	-6.6
YKA	Yellowknife Ar comp=Z,0.4nm,0.3s,baz=264,slow=11,SNR=41	18.84	55	P		P	00 41 35.3	+0.2
YKA	comp=Z,2µm,19.3s,baz=270,slow=36 comp=Z,6.8nm,0.8s			LR		LR	00 48 33.8	
A36M	Sachs Harbour comp=Z,90nm,0.8s	19.22	23	IAmb		IAmb	00 41 47.5	
A36M	Sachs Harbour baz=224,SNR=60	19.22	23	P		P	00 41 40.0	+0.7
LTY	Liberty	19.54	104			P	00 41 44.3	+1.3
H04A	Detroit Lake comp=Z,52nm,1.0s	20.34	111	IAmb		IAmb	00 42 03.5	
G05A	Wamic comp=Z,50nm,1.0s	20.44	109	IAmb		IAmb	00 42 01.7	
HAWA	Hanford	20.68	104			Pn	00 41 59.9	+2.2
HAWA	comp=Z,58nm,1.9s			IAmb		IAmb	00 42 06.6	
F07A	Phinny Hill Vi comp=Z,42nm,1.1s	20.77	106	IAmb		IAmb	00 42 05.3	
EDM	Edmonton	20.83	82	Pn		P	00 41 58.5	+1.5
EDM	comp=Z,77nm,1.4s			IAmb		IAmb	00 42 09.4	
EDM	Edmonton	20.83	82	P		P	00 41 58.5	+1.5
EDM	comp=Z,77nm,1.4s			pmax		pmax		
I04A	Tendick Farm, comp=Z,103nm,1.5s	20.84	114	IAmb		IAmb	00 42 08.4	
NEW	Newport	20.95	97	Pn		P	00 42 00.1	+1.8
NEW	comp=Z,36nm,0.9s			IAmb		IAmb	00 42 10.3	
NEW	Newport	20.95	97	P

comp=Z,297nm,22.0s,baz=298,slow=32
comp=Z,10.0nm,0.9s
K02D Willamette Mer 20.98 118 IAmb IAmb 00 42 09.6
comp=Z,52nm,1.0s
I05D Terrebonne, OR 21.02 111 IAmb IAmb 00 42 11.2
comp=Z,27nm,0.8s
E09A Wood Farm, Sta 21.37 102 IAmb IAmb 00 42 11.2
comp=Z,43nm,1.1s
HUMO Hull Mountain 21.40 117 IAmb IAmb 00 42 13.2
comp=Z,50nm,0.9s
SHEM Shemya Is, Ala 21.52 278 LR LR 00 50 02.8
comp=Z,660nm,21.2s,baz=106,slow=36
J05D Fort Rock, OR 21.80 113 IAmb IAmb 00 42 17.5
comp=Z,51nm,0.9s
K04D Chiloquin, OR 22.00 115 IAmb IAmb 00 42 19.4
comp=Z,63nm,0.9s
L04D Klamath Falls 22.02 116 IAmb IAmb 00 42 25.0
comp=Z,42nm,1.1s
YBH Yreka Blue Hor 22.17 118 IAmb IAmb 00 42 20.3
comp=Z,71nm,1.8s
YBH Yreka Blue Hor 22.17 118 LR LR 00 48 36.7
comp=Z,1µm,20.3s,baz=321,slow=31
I07A Izee 22.18 109 IAmb IAmb 00 42 20.4
comp=Z,28nm,0.9s
F10A Beach Ranch, E 22.21 102 IAmb IAmb 00 42 25.1
comp=Z,32nm,1.1s
K05A Summer Lake 22.38 113 IAmb IAmb 00 42 23.1
comp=Z,44nm,1.0s
BILL Bilibino 23.74 319 P **P** **00 42 27.5 +0.1**
BILL Bilibino 23.74 319 *e*P **P** **00 42 27.5 +0.1**
BILL pmax pmax
comp=Z,233nm,1.7s
WVOR Wild Horse Val 23.77 111 IAmb IAmb 00 42 37.1
comp=Z,24nm,1.0s
WVOR Wild Horse Val 23.77 111 P **P** **00 42 29.9 +1.9**
WVOR pmax pmax
comp=Z,27nm,1.2s
EGMT Eagleton 25.24 91 IAmb IAmb 00 42 58.6
comp=Z,19nm,0.9s
EGMT Eagleton 25.24 91 P **P** **00 42 40.4 -1.0**
baz=302
HLID Hailey 25.28 104 P **P** **00 42 41.1 -0.8**
baz=311
BOZ Bozeman (W) 25.56 97 IAmb IAmb 00 43 00.4
comp=Z,33nm,2.0s
BOZ Bozeman (W) 25.56 97 P **P** **00 42 43.5 -0.9**
baz=307
PNTR Pine Nut 25.72 118 IAmb IAmb 00 42 55.1
comp=Z,33nm,0.8s
CMB Columbia Colle 26.15 120 P **P** **00 42 54.7 +5.0**
CMB Columbia Colle 26.15 120 P **P** **00 42 54.7 +5.0**
CMB pmax pmax
comp=Z,5.0nm,0.9s
WAKR Walker 26.25 118 IAmb IAmb 00 43 01.4
comp=Z,32nm,1.7s
ELK Elko 26.76 110 P **P** **00 42 56.8 +1.4**
ELK Elko 26.76 110 LR LR 00 51 44.2
comp=Z,432nm,18.6s,baz=308,slow=32
NVAR Mina Array Bea 26.88 117 P **P** **00 42 56.6 +0.1**
comp=Z,5.7nm,0.8s,baz=317,slow=8.7,SNR=31
NVAR PcP **PcP** **00 46 19.3 +0.8**
comp=Z,1.4nm,0.9s,baz=251,slow=2.5,SNR=3.6
NVAR LR LR 00 51 44.0
comp=Z,1µm,18.8s,baz=318,slow=32
comp=Z,5.7nm,0.8s
H17A Grant Village 26.88 98 P **P** **00 42 55.1 -1.5**
baz=309,SNR=6.3
RLMT Red Lodge 27.17 96 P **P** **00 42 58.3 -0.8**
baz=307
TPH Tonopah 27.70 116 IAmb IAmb 00 43 12.4
comp=Z,46nm,1.0s
LAO LASA Array 27.98 91 IAmb IAmb 00 43 15.0
comp=Z,14nm,0.9s
LAO LASA Array 27.98 91 P **P** **00 43 06.5 +0.4**
baz=305
RES Resolute Bay 28.08 27 P **P** **00 43 07.6 +1.0**
RES Resolute Bay 28.08 27 P **P** **00 43 07.6 +1.0**
RES pmax pmax
comp=Z,9.0nm,0.9s
RES Resolute Bay 28.08 27 P **P** **00 43 07.0 +0.5**
comp=Z,5.1nm,0.7s,baz=264,slow=10.0,SNR=24
RES LR LR 00 54 55.3
comp=Z,1µm,18.8s,baz=237,slow=38
comp=Z,5.1nm,0.7s
Q12A Willow Creek R 28.21 112 IAmb IAmb 00 43 17.9
comp=Z,20nm,0.9s
R11B Troy Canyon, C 28.33 114 IAmb IAmb 00 43 18.5
comp=Z,13nm,0.9s
R11B **PcP** **00 46 23.4 +1.4**
R11B Troy Canyon, C 28.33 114 P **P** **00 43 09.6 -1.3**
baz=319,SNR=15
DUG Dugway, Tooele 28.45 108 P **P** **00 43 12.3 +1.8**
DUG pmax pmax
comp=Z,8.0nm,1.1s
DUG Dugway, Tooele 28.45 108 P **P** **00 43 10.4 0.0**
baz=315,SNR=5.2
BW06 Boulder Array 28.49 100 P **P** **00 43 09.2 -1.7**
baz=311
PDAR Pinedale Array 28.49 100 P **P** **00 43 11.4 +0.5**
comp=Z,0.7nm,0.7s,baz=316,slow=5.0,SNR=8.1
PDAR LR LR 00 55 02.0
comp=Z,158nm,18.9s,baz=311,slow=37
comp=Z,0.7nm,0.7s
SPR3 Spring Creek 3 28.50 111 IAmb IAmb 00 43 21.4
comp=Z,19nm,1.0s
VES Vestal, Richgr 28.52 121 P **P** **00 43 09.6 -1.3**
baz=324
CWC Cottonwood Cre 28.53 119 P **P** **00 43 11.3 +0.1**
baz=322
PKM Mcpherson Peak 28.94 124 P **P** **00 43 14.3 -0.6**
baz=325
ISA Isabella, Lake 28.96 121 P **P** **00 43 15.1 +0.2**
baz=323
FURC Furnace Creek, 29.12 118 P **P** **00 43 16.7 +0.5**
baz=322
MPMC Manual Prospec 29.13 119 P **P** **00 43 16.8 +0.3**
baz=322,SNR=8.3
FCC Fort Churchill 29.28 61 P **P** **00 43 18.5 +1.1**
FCC Fort Churchill 29.28 61 P **P** **00 43 18.5 +1.1**
FCC pmax pmax
comp=Z,8.0nm,0.8s
LRMC Laurel Mtn Rad 29.49 120 P **P** **00 43 20.1 +0.4**
baz=323
QSM Queen of Sheba 29.51 118 IAmb IAmb 00 43 28.8
comp=Z,13nm,1.1s
SEY Seymchan 29.73 308 *ce*P **P** **00 43 21.9 +0.5**
SEY pmax pmax
comp=Z,41nm,1.7s
SEY Seymchan 29.73 308 LR LR 00 56 53.7
comp=Z,771nm,18.7s,baz=56,slow=40
SHOC Shoshone, Teco 29.86 118 P **P** **00 43 23.3 +0.5**
baz=322
PET Petropavlovsk 29.93 287 *e*P **P** **00 43 23.0 -0.3**
PET *e*S **S** **00 48 12.8 -7.3**
PET pmax pmax
comp=Z,100nm,14.6s
PET MLR MLR
comp=Z,300nm,15.0s
GSC Goldstone, Bar 30.07 119 P **P** **00 43 25.5 +0.8**
baz=323
SZCU Shurtz Canyon 30.20 112 IAmb IAmb 00 43 34.8
comp=Z,11nm,1.0s
TUQ Turquoise Moun 30.40 118 P **P** **00 43 28.7 +1.0**
baz=322
PETK Petropavlovsk- 30.41 288 P **P** **00 43 27.1 -0.4**
comp=Z,3.0nm,0.5s,baz=68,slow=13,SNR=17
comp=Z,3.0nm,0.5s
SRU San Rafael Swe 30.46 107 IAmb IAmb 00 43 38.1
comp=Z,32nm,1.3s
BFSC Mount Baldy Ra 30.50 121 P **P** **00 43 29.3 +0.7**
baz=324
HEC Hector,Ludlow 30.67 119 P **P** **00 43 31.0 +0.9**
baz=323
V12A Nelson 30.71 116 IAmb IAmb 00 43 39.8
comp=Z,12nm,0.9s
PKCU Pink Cliffs 30.72 111 IAmb IAmb 00 43 40.8
comp=Z,17nm,0.9s
RSSD Black Hills 30.74 93 P **P** **00 43 32.1 +1.3**
RSSD IAmb IAmb 00 43 39.4
comp=Z,12nm,0.8s
RSSD Black Hills 30.74 93 P **P** **00 43 32.1 +1.3**
RSSD pmax pmax
comp=Z,12nm,0.8s
RSSD Black Hills 30.74 93 P **P** **00 43 31.4 +0.6**
baz=308
KNB Kanab 30.77 112 IAmb IAmb 00 43 40.7
comp=Z,10nm,0.9s
O20A White River Ci 31.00 103 IAmb IAmb 00 43 41.5
comp=Z,15nm,0.8s
O20A White River Ci 31.00 103 P **P** **00 43 34.3 +1.2**
baz=314,SNR=5.0
GMRC Granite Mounta 31.05 118 P **P** **00 43 35.1 +1.6**
baz=323
EUNU Eureka 31.07 17 P **P** **00 43 33.0 -0.1**
EUNU IAmb IAmb 00 43 36.1
comp=Z,24nm,1.2s
MDND Maddock 31.07 83 P **P** **00 43 33.0 -0.4**
MDND IAmb IAmb 00 43 42.5
comp=Z,24nm,0.9s
MDND Maddock 31.07 83 P **P** **00 43 35.0 +1.6**
baz=303
HMU Henry Mountain 31.20 108 P **P** **00 43 35.0 +0.1**
HMU IAmb IAmb 00 43 44.5
comp=Z,26nm,1.0s
MURC Murrieta 31.24 122 P **P** **00 43 35.4 +0.4**
baz=325
MA2 Magadan 31.43 302 P **P** **00 43 35.0 -1.5**
MA2 Magadan 31.43 302 *ce*P **P** **00 43 37.9 +1.4**
MA2 pmax pmax
comp=Z,104nm,2.5s
MA2 Magadan 31.43 302 LR LR 00 57 53.6
comp=Z,600nm,18.2s,baz=84,slow=40
U15A North Rim 31.50 112 P **P** **00 43 37.2 -0.4**
U15A **pP** **00 43 39.6 -0.6**
U15A IAmb IAmb 00 43 47.1
comp=Z,10nm,1.1s
BELC Belle Mtn. Jos 31.50 120 P **P** **00 43 38.0 +0.5**
baz=324
PFO Pinyon Flats O 31.59 121 P **P** **00 43 38.8 +0.6**
baz=324
PFO Pinyon Flats O 31.59 121 LR LR 00 54 40.3
comp=Z,483nm,18.5s,baz=325,slow=33
TPFO Pinon Flats 31.60 121 P **P** **00 43 39.3 +1.0**
baz=324
W13A Hualapai Mount 31.69 116 P **P** **00 43 38.5 -0.8**
W13A **pP** **00 43 41.1 -0.7**
W13A IAmb IAmb 00 43 48.4
comp=Z,11nm,1.1s
N23A Red Feather La 31.75 99 P **P** **00 43 40.6 +0.8**
baz=312
IRM Iron Mountain 31.80 118 P **P** **00 43 41.8 +1.9**
baz=323,SNR=7.5
109C Camp Elliot, M 31.87 122 P **P** **00 43 41.9 +1.4**
baz=325
ULM Lac du Bonnet 31.88 77 P **P** **00 43 39.1 -1.4**
comp=Z,1.6nm,0.6s,baz=290,slow=7.2,SNR=4.3
ULM LR LR 00 55 58.5
comp=Z,686nm,18.1s,baz=300,slow=35
comp=Z,1.6nm,0.6s
BC3 Big Chuckawall 32.05 119 P **P** **00 43 43.1 +0.9**
baz=324
PDMCI Parker Dam,Lak 32.19 117 P **P** **00 43 44.5 +1.2**
baz=322
MONP2 Monument Peak 32.19 121 P **P** **00 43 44.3 +0.6**
baz=325
BLYC Blythe 32.44 118 IAmb IAmb 00 43 54.5
comp=Z,13nm,0.8s
SWSC Sam W. Stewart 32.45 120 P **P** **00 43 46.5 +0.9**
baz=324
IKP In-Ko-Pah, Jac 32.54 121 P **P** **00 43 46.5 0.0**
baz=325
WUAZ Wupatki 32.67 112 IAmb IAmb 00 43 57.5
comp=Z,21nm,0.9s
WUAZ Wupatki 32.67 112 P **P** **00 43 49.7 +1.9**
baz=320,SNR=9.6
ISCO Idaho Springs 32.69 101 P **P** **00 43 47.4 -0.6**
baz=314
AGMN Agassiz Nation 32.92 80 IAmb IAmb 00 43 58.1
comp=Z,8.5nm,0.8s
AGMN Agassiz Nation 32.92 80 P **P** **00 43 49.9 +0.3**
baz=303
MVCO Mesa Verde 32.94 107 IAmb IAmb 00 44 00.6
comp=Z,11nm,1.1s
MVCO Mesa Verde 32.94 107 P **P** **00 43 50.6 +0.4**
baz=317
Y14A Wickenburg 33.05 116 IAmb IAmb 00 43 59.9
comp=Z,13nm,1.0s
X16A Lo Mia Camp, P 33.48 114 IAmb IAmb 00 44 04.9
comp=Z,18nm,0.9s
OGNE Ogallala 33.92 96 P **P** **00 43 58.2 -0.3**
baz=312
B35A Bob, Littlefor 34.08 79 IAmb IAmb 00 44 09.8
comp=Z,20nm,1.4s
K30B Basset 34.16 91 IAmb IAmb 00 44 09.3
comp=Z,27nm,0.8s
X18A Snowflake 34.18 112 IAmb IAmb 00 44 10.6
comp=Z,15nm,1.0s
SDCO Great Sand Dun 34.19 103 P **P** **00 44 02.1 +0.9**
baz=316
214A Organ Pipe Nat 34.73 118 P **P** **00 44 07.2 +1.7**
baz=324
KSCO Kaye Shedlock' 34.90 99 P **P** **00 44 07.8 +0.8**
baz=314
T25A Trinidad 35.23 103 P **P** **00 44 10.6 +0.5**
baz=316
TUC Tucson 35.48 115 P **P** **00 44 14.3 +2.3**
TUC pmax pmax
comp=Z,7.0nm,1.3s
TUC Tucson 35.48 115 P **P** **00 44 13.6 +1.6**
baz=323
EYMN Ely 35.55 78 P **P** **00 44 13.3 +0.9**
EYMN **pwP** **00 44 19.2 -1.5**
EYMN IAmb IAmb 00 44 21.2
comp=Z,19nm,0.8s
EYMN Ely 35.55 78 P **P** **00 44 12.9 +0.5**
baz=305
ANMO Albuquerque 35.73 107 P **P** **00 44 15.8 +1.5**
ANMO Albuquerque 35.73 107 P **P** **00 44 15.8 +1.5**
ANMO pmax pmax
comp=Z,6.0nm,1.0s
ANMO Albuquerque 35.73 107 P **P** **00 44 15.2 +0.9**
baz=319
ANMO Albuquerque 35.73 107 LR LR 00 56 54.0
comp=Z,247nm,20.6s,baz=45,slow=33
TIXI Tiksi 36.23 328 P **P** **00 44 18.5 +0.7**
TIXI Tiksi 36.23 328 *ce*P **P** **00 44 18.6 +0.7**
TIXI pmax pmax
comp=Z,2.0nm,0.2s
TIXI Tiksi 36.23 328 LR LR 01 01 57.7
comp=Z,255nm,19.0s,baz=66,slow=41
E38A The Farm, Brul 36.29 80 P **P** **00 44 19.4 +0.7**
E38A IAmb IAmb 00 44 28.7
comp=Z,35nm,1.1s
SPMN Marine on St. 36.41 82 P **P** **00 44 20.2 +0.3**
baz=307
CBKS Cedar Bluff 36.66 96 P **P** **00 44 22.0 -0.1**
baz=314
121A Cookes Peak, D 36.86 111 IAmb IAmb 00 44 33.5
comp=Z,13nm,0.9s
121A Cookes Peak, D 36.86 111 P **P** **00 44 25.1 +1.1**
baz=321,SNR=5.0
N35A Tabor 37.59 90 IAmb IAmb 00 44 39.6
comp=Z,30nm,0.9s
KULLO Kullorsuaq 37.92 26 *i* P **P** **00 44 32.5 +0.2**
KULLO IAmb IAmb 00 44 35.3
comp=Z,14nm,0.8s
NEEM North Greenlan 38.13 21 *i* P **P** **00 44 34.5 +0.1**
NEEM IAmb IAmb 00 44 37.2
comp=Z,19nm,0.8s
AMTX Amarillo 38.39 103 IAmb IAmb 00 44 45.7
comp=Z,23nm,1.2s
AMTX Amarillo 38.39 103 P **P** **00 44 37.9 +1.1**
baz=318
MSTX Muleshoe 38.47 105 P **P** **00 44 38.7 +1.3**
baz=319
MNTX Cornudas Mount 38.79 110 P **P** **00 44 42.0 +1.9**
baz=321,SNR=5.8
FRB Frobisher Bay 38.82 44 LR LR 01 00 45.1
comp=Z,1µm,18.8s,baz=316,slow=36
JFWS Jewell Farm 39.30 83 P **P** **00 44 44.0 -0.2**
baz=310
TYV Tymovskoe 39.56 293 *e*P **P** **00 44 47.4 +1.1**
TYV *e*S **S** **00 50 51.1 +2.8**
TYV pmax pmax
comp=Z,200nm,3.1s
TYV pmax pmax
comp=Z,24nm,1.3s
TYV smax smax
comp=N,200nm,5.5s
TYV smax smax
comp=E,100nm,5.5s
P38A Dawn 39.61 90 P **P** **00 44 46.4 -0.5**
H43A Windswept, Lux 39.70 80 P **P** **00 44 45.2 -2.3**
H43A IAmb IAmb 00 44 58.8
comp=Z,37nm,1.1s
DKNS Dickens 39.71 103 P **P** **00 44 47.5 -0.3**
DKNS IAmb IAmb 00 44 56.3
comp=Z,20nm,1.3s
VHRN Van Horn 39.71 110 P **P** **00 44 47.3 -0.6**
YAK Yakutsk 39.84 313 P **P** **00 44 47.0 -1.4**
YAK Yakutsk 39.84 313 *eP* **P** **00 44 48.3 -0.2**
YAK *e**PP **sP** **00 44 52.4 +0.4**
YAK *e* 00 46 19.7
YAK *e* 00 46 57.4
YAK *eS* **S** **00 50 53.2 +1.0**
YAK pmax pmax
comp=Z,62nm,1.7s
YAK pmax pmax
comp=N,16nm,1.9s
YAK pmax pmax
comp=E,12nm,1.0s
YAK pmax pmax
comp=Z,196nm,3.1s
YAK pmax pmax
comp=N,163nm,3.5s
YAK pmax pmax
comp=E,193nm,4.1s
YAK smax smax
comp=E,245nm,7.7s
YAK smax smax
comp=N,50nm,3.2s
YAK MLR MLR
comp=N,340nm,18.0s
YAK MLR MLR
comp=E,130nm,14.0s
YAK Yakutsk 39.84 313 P **P** **00 44 47.5 -1.0**
comp=E,24nm,0.5s,baz=60,slow=15,SNR=13
YAK LR LR 01 01 48.4
comp=E,319nm,19.4s,baz=84,slow=37
comp=E,24nm,0.5s
PECS Pecos 39.85 108 P **P** **00 44 48.4 -0.7**
ODSA Odessa 39.99 106 P **P** **00 44 50.0 -0.2**
ODSA IAmb IAmb 00 44 59.4
comp=Z,15nm,0.9s
WMOK Wichita Mounta 40.10 100 P **P** **00 44 50.2 -0.8**
WMOK Wichita Mounta 40.10 100 P **P** **00 44 50.3 -0.8**
WMOK pmax pmax
comp=Z,7.0nm,0.9s
WMOK Wichita Mounta 40.10 100 P **P** **00 44 51.6 +0.6**
baz=317
SN07 Snyder 07 40.16 104 P **P** **00 44 51.2 -0.3**
SN07 IAmb IAmb 00 45 13.2
comp=Z,28nm,1.6s
L42A Oliver, Polo 40.21 84 P **P** **00 44 50.4 -1.5**
L42A IAmb IAmb 00 44 52.2
comp=Z,34nm,1.4s
OKCSW OKLAHOMA CITY 40.37 98 P **P** **00 44 51.7 -1.5**
NOR Nord 40.64 10 P **P** **00 44 56.1 +1.2**
NOR pmax pmax
comp=Z,22nm,1.8s
NOR Nord 40.64 10 *i* P **P** **00 44 55.4 +0.4**
NOR IAmb IAmb 00 44 57.0
comp=Z,4.1nm,0.9s
ALPN Alpine 40.75 109 P **P** **00 44 55.0 -1.6**
TUL3 Leonard 40.93 96 P **P** **00 44 58.5 +0.7**
baz=316
WTFS Witchita Falls 41.00 101 P **P** **00 44 58.2 -0.2**
S39A Bolivar 41.06 92 P **P** **00 44 57.6 -1.3**
ABTX Abilene, Hawle 41.20 103 P **P** **00 44 58.8 -1.3**
ABTX IAmb IAmb 00 45 09.1
comp=Z,17nm,1.2s
ABTX Abilene, Hawle 41.20 103 P **P** **00 44 59.5 -0.6**
baz=319
R40A Maddies Statio 41.24 90 P **P** **00 44 59.4 -1.0**
HDIL Hopedale 41.38 85 P **P** **00 45 01.3 -0.2**
HDIL IAmb IAmb 00 45 09.7
comp=Z,34nm,0.8s
HDIL Hopedale 41.38 85 P **P** **00 45 00.9 -0.6**
baz=312
M44A Midewin, Midew 41.53 84 P **P** **00 45 03.6 +0.9**
M44A IAmb IAmb 00 45 11.7
comp=Z,58nm,1.2s
TX31 Lajitas Ar. Si 41.55 110 P **P** **00 45 01.9 -1.2**
TXAR Lajitas Array 41.55 110 P **P** **00 45 02.2 -0.9**
TXAR Lajitas Array 41.55 110 P **P** **00 45 04.0 +0.9**
comp=Z,1.7nm,0.9s,baz=313,slow=6.1,SNR=15
TXAR PcP **PcP** **00 46 59.8 -0.5**
comp=Z,1.0nm,0.9s,baz=327,slow=1.1,SNR=4.7
TXAR LR LR 01 01 33.5
comp=Z,249nm,18.9s,baz=310,slow=35
comp=Z,1.7nm,0.9s
OZNA Ozona 41.68 106 P **P** **00 45 03.3 -0.8**
HHAR Hobbs 41.71 94 P **P** **00 45 04.1 -0.2**
HHAR IAmb IAmb 00 45 26.8
comp=Z,43nm,2.0s
FW03 Perrin-Whitt E 41.76 101 P **P** **00 45 02.6 -2.1**
FW03 IAmb IAmb 00 45 05.8
comp=Z,14nm,0.6s
PLPT Palo Pinto 41.79 101 P **P** **00 45 04.3 -0.7**
PLPT IAmb IAmb 00 45 13.8
comp=Z,19nm,1.4s
YSS Yuzh-Sakhalins 41.82 288 *eP* **P** **00 45 06.6 +1.6**
YSS pmax pmax
comp=Z,20nm,1.3s
YSS MLR MLR
comp=Z,400nm,16.0s
SAND Sanderson 41.89 108 P **P** **00 45 04.3 -1.5**
CCM Cathedral Cave 41.99 90 P **P** **00 45 05.1 -1.4**
baz=314
Z35A Perchaven, San 42.00 100 P **P** **00 45 07.0 +0.4**
Z35A IAmb IAmb 00 45 15.0
comp=Z,42nm,1.4s
O44A Mansfield 42.12 85 P **P** **00 45 07.3 -0.2**
O44A IAmb IAmb 00 45 16.3
comp=Z,45nm,1.5s
X37A Clayton 42.12 97 P **P** **00 45 07.0 -0.6**
X37A IAmb IAmb 00 45 16.2
comp=Z,16nm,1.1s
ILULI Ilulissat 42.16 32 P **P** **00 45 06.1 -1.3**
ILULI IAmb IAmb 00 46 02.3
comp=Z,17nm,1.1s
ILULI Ilulissat 42.16 32 P **P** **00 45 06.1 -1.3**
ILULI pmax pmax
comp=Z,17nm,1.1s
FW07 Weatherford 42.17 101 P **P** **00 45 07.1 -0.9**
FW07 IAmb IAmb 00 45 16.0
comp=Z,59nm,1.7s
LPIG La Paz 42.46 122 LR LR 01 00 19.3
comp=Z,259nm,19.3s,baz=340,slow=33
BRDY Brady 42.57 104 P **P** **00 45 09.2 -2.1**
SFIN Lafayette 42.74 84 P **P** **00 45 12.2 -0.4**
baz=312
JCT Junction City 42.75 105 P **P** **00 45 12.3 -0.5**
JCT IAmb IAmb 00 45 21.9
comp=Z,25nm,0.9s
JCT Junction City 42.75 105 P **P** **00 45 12.3 -0.5**
JCT pmax pmax
comp=Z,25nm,1.0s
JCT Junction City 42.75 105 P **P** **00 45 12.9 +0.1**
baz=321,SNR=5.7
FCAR Ozark Folk Cen 43.02 93 P **P** **00 45 12.9 -1.9**
VLDQ Val d'Or 43.06 69 P **P** **00 45 13.1 -2.0**
VLDQ IAmb IAmb 00 45 28.1
comp=Z,47nm,1.7s
DRIO Del Rio 43.12 107 P **P** **00 45 14.8 -1.1**
DRIO IAmb IAmb 00 45 23.7
comp=Z,13nm,0.9s
MIAR Mount Ida 43.17 95 P **P** **00 45 14.8 -1.3**
MIAR IAmb IAmb 00 45 24.2
comp=Z,20nm,1.2s
MIAR Mount Ida 43.17 95 P **P** **00 45 14.8 -1.3**
MIAR pmax pmax
comp=Z,20nm,1.2s
MIAR Mount Ida 43.17 95 P **P** **00 45 16.6 +0.5**
baz=317
P46A Rosedale 43.20 85 P **P** **00 45 14.0 -2.2**
P46A IAmb IAmb 00 45 38.7
comp=Z,15nm,1.0s
OLIL Olney 43.30 87 P **P** **00 45 16.6 -0.6**
OLIL IAmb IAmb 00 45 25.1
comp=Z,20nm,0.9s
S44A Carbondale 43.37 89 P **P** **00 45 16.8 -0.9**
S44A IAmb IAmb 00 45 42.1
comp=Z,21nm,1.3s
SIUC Southern Illin 43.37 89 P **P** **00 45 16.4 -1.3**
SIUC IAmb IAmb 00 45 43.7
comp=Z,63nm,1.9s
AAM Ann Arbor 43.39 79 P **P** **00 45 18.2 +0.4**
AAM Ann Arbor 43.39 79 P **P** **00 45 18.2 +0.4**
AAM pmax pmax
comp=Z,99nm,1.9s

CGM3 Cape Girardeau 43.42 89 P **P** **00 45 17.0 -1.0**
CGM3 IAmb IAmb 00 45 24.5
comp=Z,19nm,1.4s
SUMG Summit 43.50 24 P **P** **00 45 18.0 -0.8**
SUMG IAmb IAmb 00 45 21.3
comp=Z,37nm,1.0s
SUMG Summit 43.50 24 P **P** **00 45 18.0 -0.8**
SUMG pmax pmax
comp=Z,37nm,1.0s
SUMG Summit 43.50 24 *i* P **P** **00 45 18.6 -0.2**
SUMG IAmb IAmb 00 45 21.5
comp=Z,18nm,0.9s
SFJD Kangerlussuaq 43.56 34 P **P** **00 45 18.4 -0.5**
SFJD IAmb IAmb 00 45 20.5
comp=Z,14nm,1.0s
SFJD Kangerlussuaq 43.56 34 P **P** **00 45 18.4 -0.5**
SFJD pmax pmax
comp=Z,14nm,1.0s
SFJD Kangerlussuaq 43.56 34 *i* P **P** **00 45 19.2 +0.3**
SFJD IAmb IAmb 00 45 21.5
comp=Z,6.8nm,0.8s
SFJD Kangerlussuaq 43.56 34 LR LR 01 02 59.0
comp=Z,918nm,21.1s,baz=320,slow=35
JKA Kamikawa-asahi 43.70 284 P **P** **00 45 18.1 -2.2**
ASAJ Asahikawa 43.70 284 P **P** **00 45 18.1 -2.2**
ASAJ pmax pmax
comp=Z,90nm,1.4s
ASAJ Asahikawa 43.70 284 LR LR 01 01 24.7
comp=Z,172nm,20.6s,baz=68,slow=33
435B Jarrell 43.73 103 P **P** **00 45 20.7 0.0**
435B IAmb IAmb 00 45 29.7
comp=Z,34nm,1.2s
PARMO Parma 43.81 90 P **P** **00 45 20.8 -0.5**
PARMO IAmb IAmb 00 45 29.3
comp=Z,24nm,0.8s
BLO Bloomington 43.89 85 P **P** **00 45 20.9 -1.0**
BLO IAmb IAmb 00 45 30.2
comp=Z,16nm,0.9s
BLO Bloomington 43.89 85 P **P** **00 45 20.9 -1.0**
BLO pmax pmax
comp=Z,16nm,1.0s
N49A Columbus Grove 44.01 81 P **P** **00 45 21.5 -1.3**
N49A IAmb IAmb 00 45 32.3
comp=Z,17nm,1.0s
SADO Sadowa 44.26 74 LR LR 01 03 23.3
comp=Z,594nm,18.1s,baz=28,slow=35
SCHQ Schefferville 44.29 55 P **P** **00 45 24.3 -0.6**
SCHQ IAmb IAmb 00 45 46.3
comp=Z,45nm,1.7s
SCHQ Schefferville 44.29 55 P **P** **00 45 25.0 0.0**
comp=Z,8.3nm,0.8s,baz=312,slow=11,SNR=12
SCHQ LR LR 01 03 46.2
comp=Z,1µm,19.4s,baz=299,slow=36
comp=Z,8.3nm,0.8s
P48A Milroy 44.31 84 P **P** **00 45 24.1 -1.1**
P48A IAmb IAmb 00 45 32.5
comp=Z,63nm,1.7s
ACSO Alum Creek Sta 45.15 81 P **P** **00 45 32.1 +0.2**
baz=313
KBS Kingsbay 45.18 5 P **P** **00 45 31.9 +0.2**
KBS Kingsbay 45.18 5 *ce*P **P** **00 45 33.2 +1.5**
KBS pmax pmax
comp=Z,52nm,1.3s
KBS Kingsbay 45.18 5 *i* P **P** **00 45 33.2 +1.5**
DY2G Dye2 45.26 33 *i* P **P** **00 45 32.9 +0.1**
HKT Hockley 45.34 102 P **P** **00 45 32.5 -1.0**
HKT IAmb IAmb 00 45 43.1
comp=Z,30nm,1.4s
HKT Hockley 45.34 102 P **P** **00 45 32.5 -1.0**
HKT pmax pmax
comp=Z,30nm,1.5s
ICESG Greenland Ices 45.48 28 *i* P **P** **00 45 35.3 +0.7**
ICESG IAmb IAmb 00 45 36.8
comp=Z,11nm,0.8s
ZEA Zeya 45.53 304 *e*P **P** **00 45 34.8 0.0**
ZEA *e* 00 52 07.4
ZEA pmax pmax
comp=Z,10.0nm,1.7s
ERPA Erie 45.54 77 P **P** **00 45 33.6 -1.4**
OXF Oxford 45.55 92 P **P** **00 45 33.8 -1.3**
OXF IAmb IAmb 00 47 13.9
comp=Z,20nm,0.9s
OXF Oxford 45.55 92 P **P** **00 45 33.8 -1.3**
OXF pmax pmax
comp=Z,20nm,1.0s
OXF Oxford 45.55 92 P **P** **00 45 35.3 +0.2**
baz=317
Q51A Peebles 45.78 83 P **P** **00 45 36.5 -0.4**
Q51A IAmb IAmb 00 45 46.6
comp=Z,24nm,0.9s
O52A Adamsville 45.87 80 P **P** **00 45 36.4 -1.2**
DBG Daneborg 45.90 17 *i* P **P** **00 45 36.8 -0.6**
DBG IAmb IAmb 00 45 39.8
comp=Z,16nm,0.8s
P52A Corning 46.04 81 P **P** **00 45 38.0 -0.9**
P52A IAmb IAmb 00 45 46.9
comp=Z,36nm,1.1s
P52A Corning 46.04 81 P **P** **00 45 39.6 +0.6**
baz=314
SPITS Spitsbergen Ar 46.12 4 P **P** **00 45 39.1 -0.1**
comp=Z,23nm,0.9s,baz=11,slow=5.1,SNR=16
SPITS LR LR 01 04 27.3
comp=Z,294nm,20.3s,baz=320,slow=35
comp=Z,23nm,0.9s
SPB2 Spitsbergen Ar 46.12 4 P **P** **00 45 38.4 -0.8**
O53A New Philadelph 46.13 80 P **P** **00 45 39.7 0.0**
baz=313
KLR Kul'dur 46.16 297 *ce*P **P** **00 45 40.4 +0.6**
KLR pmax pmax
comp=Z,92nm,1.7s
KLR Kul'dur 46.16 297 LR LR 01 05 52.1
comp=Z,171nm,20.3s,baz=36,slow=37
LDAQ Lac Daran 46.39 65 P **P** **00 45 40.3 -1.4**
Q52A Bidwell 46.43 82 P **P** **00 45 40.6 -1.5**
P53A Whipple 46.55 81 P **P** **00 45 42.3 -0.7**
P53A IAmb IAmb 00 45 51.1
comp=Z,24nm,0.9s
O54A Avella 46.64 79 P **P** **00 45 42.1 -1.6**
O54A IAmb IAmb 00 45 58.6
comp=Z,22nm,0.9s
LONY Lake Ozonia 46.82 71 P **P** **00 45 45.3 +0.2**
baz=312
MCWV Mont Chateau 47.30 79 P **P** **00 45 48.8 0.0**
baz=314
TZTN Tazewell 47.41 85 P **P** **00 45 48.7 -1.0**
baz=316
HEH HeiHe 47.66 300 *e*P **P** **00 45 50.8 -0.7**
HEH pmax pmax
comp=Z,28nm,1.3s
HEH pmax pmax
comp=Z,170nm,4.3s
HEH LR LR
comp=Z,250nm,18.0s
HEH LR LR
comp=Z,510nm,16.2s
HEH LR LR
comp=Z,520nm,16.9s
BINY Binghamton 47.68 74 P **P** **00 45 51.3 -0.5**
baz=313
SSPA Standing Stone 47.71 77 P **P** **00 45 50.8 -1.2**
baz=314
TKL Tuckaleechee C 47.91 86 LR LR 01 05 39.0
comp=Z,305nm,18.1s,baz=319,slow=36
ISOG Isortoq, Green 48.10 32 *i* P **P** **00 45 54.5 -0.2**
ISOG IAmb IAmb 00 45 56.1
comp=Z,9.8nm,0.7s
U54A Nelsons Funny 48.40 84 IAmb IAmb 00 46 06.2
comp=Z,21nm,0.9s
H11N2 WAKE ISLAND Hy 48.63 241 T T 01 38 24.9
baz=32,slow=76,SNR=135
H11N3 WAKE ISLAND Hy 48.63 241 T T 01 38 23.2
baz=32,slow=76,SNR=126
H11N1 WAKE ISLAND Hy 48.65 241 T T 01 38 26.2
baz=32,slow=76,SNR=149
BLA Blacksburg 48.69 82 P **P** **00 45 57.9 -1.8**
BLA Blacksburg 48.69 82 P **P** **00 45 57.9 -1.8**
BLA pmax pmax
comp=Z,104nm,2.0s
BLA Blacksburg 48.69 82 P **P** **00 45 58.2 -1.5**
baz=315
BOD Bodaibo 48.69 315 *e*P **P** **00 45 59.5 +0.1**
BOD pmax pmax
comp=Z,39nm,1.7s
NRIK Noril'sk 48.69 337 P **P** **00 45 59.0 -0.2**
NRIK Noril'sk 48.69 337 *ce*P **P** **00 46 00.1 +0.9**
NRIK pmax pmax
comp=Z,74nm,1.1s
NRIK Noril'sk 48.69 337 P **P** **00 45 59.0 -0.2**
comp=Z,17nm,0.6s,baz=52,slow=6.2,SNR=44
NRIK LR LR 01 08 21.7
comp=Z,575nm,20.8s,baz=40,slow=38
comp=Z,17nm,0.6s
BG3 Lake Jocassee 48.87 86 P **P** **00 45 59.5 -1.5**
BG3 IAmb IAmb 00 46 09.6
comp=Z,28nm,1.1s
PQI Presque Isle 48.89 65 P **P** **00 45 59.5 -1.6**
LUPA Lehigh Univers 49.12 75 P **P** **00 46 02.2 -0.6**
WAKE Wake Island 49.13 241 P **P** **00 46 02.0 -1.1**
USRK Ussuriysk Ar. 49.35 292 P **P** **00 46 03.5 -1.1**
comp=Z,3.2nm,0.8s,baz=63,slow=9.1,SNR=5.3
USRK LR LR 01 08 25.9
comp=Z,222nm,19.1s,baz=61,slow=38
comp=Z,3.2nm,0.8s
KMSC Kings Mountain 49.66 85 P **P** **00 46 07.5 +0.4**
baz=317
H11S1 WAKE ISLAND Hy 49.77 240 T T 01 39 45.8
baz=29,slow=76,SNR=102
H11S2 WAKE ISLAND Hy 49.78 240 T T 01 39 48.2
baz=29,slow=76,SNR=94
H11S3 WAKE ISLAND Hy 49.78 240 T T 01 39 51.0
baz=29,slow=76,SNR=128
MDJ Mudanjiang 50.32 293 P **P** **00 46 11.4 -0.6**
MDJ PcP **PcP** **00 47 30.0 -0.5**
MDJ PP **PP** **00 48 07.4 +0.3**
MDJ S **S** **00 53 23.5 -0.7**
MDJ sS sS 00 53 33.8 +5.3
MDJ ScS **ScS** **00 56 02.2 -0.3**
MDJ SS **SS** **00 56 56.8 -0.4**
MDJ pmax pmax
comp=Z,20nm,1.5s
MDJ pmax pmax
comp=Z,350nm,4.1s
MDJ LR LR
comp=Z,500nm,20.6s
MDJ LR LR
comp=Z,380nm,20.3s
MDJ LR LR
comp=Z,290nm,20.3s
JMIC Jan Mayen 50.59 16 LR LR 01 08 46.5
comp=Z,181nm,20.7s,baz=249,slow=37
BNX BinXian 50.68 296 ⇓P **P** **00 46 13.8 -0.8**
BNX pmax pmax
comp=Z,21nm,1.5s
BNX pmax pmax
comp=Z,230nm,5.4s
MJAR Matsushiro Arr 51.33 280 P **P** **00 46 18.6 -1.2**
comp=Z,1.6nm,0.4s,baz=43,slow=7.4,SNR=4.6
MJAR LR LR 01 07 51.8
comp=Z,146nm,20.4s,baz=64,slow=36
comp=Z,1.6nm,0.4s
CN2 Changchun 53.03 295 ⇑P **P** **00 46 32.6 +0.4**
CN2 *es*P pwP 00 46 39.0 -1.9
CN2 *eS* **S** **00 53 59.0 -2.4**
CN2 pmax pmax
comp=Z,30nm,0.8s
CN2 pmax pmax
comp=Z,200nm,5.0s
BORG Borgarnes 53.47 25 LR LR 01 10 06.1
comp=Z,414nm,20.3s,baz=324,slow=37
ARCES ARCESS Array B 55.04 2 P **P** **00 46 44.9 -1.6**
comp=Z,7.8nm,0.7s,baz=1.1,slow=7.6,SNR=39
ARCES LR LR 01 09 25.7
comp=Z,80nm,21.8s,baz=343,slow=35
comp=Z,7.8nm,0.7s
JCJ Chichijima 56.13 269 LR LR 01 07 19.9
comp=Z,68nm,21.0s,baz=116,slow=32
CMIG Matias Romero 56.16 111 LR LR 01 09 53.8
comp=Z,207nm,19.2s,baz=321,slow=35
KSRS Korea Array 56.31 288 P **P** **00 46 56.1 0.0**
comp=Z,4.3nm,0.8s,baz=52,slow=7.9,SNR=7.3
KSRS LR LR 01 10 44.3
comp=Z,61nm,19.2s,baz=50,slow=36
comp=Z,4.3nm,0.8s
IRK Irkutsk 56.59 315 *e*P **P** **00 46 58.0 +0.1**
IRK pmax pmax
comp=Z,57nm,2.3s
LVZ Lovozero 56.71 358 P **P** **00 46 59.7 +1.1**
LVZ Lovozero 56.71 358 *ce*P **P** **00 47 00.3 +1.7**
LVZ pmax pmax
comp=Z,104nm,1.7s
APA Apatity 57.06 359 ⇓*i*P **P** **00 47 00.4 -0.6**
APA pmax pmax
comp=Z,9.0nm,1.0s
SGF Sodankyl 57.16 2 P **P** **00 47 03.1 +1.4**
SGF pmax pmax
comp=Z,68nm,1.6s
XLT XiLinHaoTe 57.62 301 *e*P **P** **00 47 06.0 +0.6**
XLT pP sP 00 47 10.6 +1.6
XLT sP pwP 00 47 13.1 -1.0
XLT PcP **PcP** **00 47 59.2 +0.7**
XLT PP **PP** **00 49 19.2 +6.4**
XLT pmax pmax
comp=Z,10.0nm,1.1s
XLT pmax pmax
comp=Z,120nm,4.9s
XLT LR LR
comp=Z,510nm,18.7s
XLT LR LR
comp=Z,300nm,14.9s
JNU Nakatsue 57.92 283 LR LR 01 11 15.6
comp=Z,166nm,21.2s,baz=30,slow=35
MOY Mondy 58.33 316 *e*P **P** **00 47 11.5 +1.2**
MOY pmax pmax
comp=Z,54nm,1.7s
ZAK Zakamensk 58.42 314 *e*P **P** **00 47 10.8 -0.1**
ZAK pmax pmax
comp=Z,8.0nm,1.4s
MSF Maaselka 58.73 1 P **P** **00 47 10.7 -2.1**
MSF pmax pmax
comp=Z,52nm,1.7s
ULN Ulaanbaatar 58.77 310 P **P** **00 47 14.5 +1.0**
ULN IAmb IAmb 00 47 15.5
comp=Z,12nm,1.2s
ULN Ulaanbaatar 58.77 310 *ce*P **P** **00 47 14.4 +0.9**
ULN pmax pmax
comp=Z,24nm,2.5s
SONM Songino Array 59.08 310 P **P** **00 47 15.8 +0.2**
comp=Z,10nm,0.9s,baz=48,slow=6.7,SNR=57
SONM LR LR 01 15 02.8
comp=Z,333nm,18.4s,baz=26,slow=38
comp=Z,10nm,0.9s
OUL Oulu 59.51 2 P **P** **00 47 18.9 +0.8**
OUL pmax pmax
comp=Z,78nm,1.2s
BJI Beijing 60.48 298 P **P** **00 47 25.2 +0.1**
BJI pmax pmax
comp=Z,5.0nm,1.2s
VAF Ylistaro 61.45 4 *e*P **P** **00 47 32.0 +0.6**
JOF Joensuu 61.75 360 *e*P **P** **00 47 32.2 -1.2**
ZALV Zalesovo Beam 62.11 327 *i* P **P** **00 47 36.5 +0.5**
ZALV pmax pmax
comp=Z,6.0nm,0.5s
ZALV Zalesovo Beam 62.11 327 P **P** **00 47 35.9 -0.1**
comp=Z,6.0nm,0.5s,baz=28,slow=6.7,SNR=52
ZALV LR LR 01 17 52.6
comp=Z,292nm,19.4s,baz=24,slow=39
comp=Z,6.0nm,0.5s
HHC Hu-ho-hao-te 62.11 302 ⇑*i*P **P** **00 47 37.3 +0.9**
HHC pP pwP 00 47 43.5 -1.6
HHC sP sP 00 47 47.9 +7.9
HHC *eS* **S** **00 56 05.5 +4.5**
HHC pmax pmax
comp=Z,23nm,0.7s
HHC pmax pmax
comp=Z,74nm,4.3s
HHC LR LR
comp=Z,260nm,16.3s
HHC LR LR
comp=Z,240nm,13.1s
HHC LR LR
comp=Z,430nm,17.3s
KEF Keuruu 62.41 3 *e*P **P** **00 47 37.0 -0.9**
NBO00 NORSAR Array S 62.57 11 P **P** **00 47 38.1 -0.8**
NC405 NORSAR Array S 62.59 10 P **P** **00 47 38.9 -0.1**
NB201 NORSAR Array S 62.60 11 P **P** **00 47 38.4 -0.9**
NB2 NORSAR Subarra 62.61 11 P **P** **00 47 39.4 +0.1**
comp=Z,33nm,1.1s,baz=348,slow=6.9
NB2 NORSAR Subarra 62.61 11 P **P** **00 47 39.4 +0.1**
baz=348,slow=6.9
NOA NORSAR Array B 62.61 11 P **P** **00 47 39.2 0.0**
comp=Z,8.8nm,0.9s,baz=348,slow=6.7,SNR=33
NOA LR LR 01 16 46.2
comp=Z,104nm,19.2s,baz=340,slow=38
comp=Z,8.8nm,0.9s
NAO01 NORSAR Array S 62.76 11 P **P** **00 47 40.0 -0.3**
NAO01 IAmb IAmb 00 47 41.8
comp=Z,20nm,1.1s
NC602 NORSAR Array S 62.94 10 P **P** **00 47 41.1 -0.3**
NORES NORESS Array B 62.94 10 P **P** **00 47 42.5 +1.1**
BTO Baotou 63.04 303 *e*P **P** **00 47 42.7 +0.2**
BTO pP **sP** **00 47 47.1 +0.9**
BTO sP **pwP** **00 47 49.8 -1.5**
BTO PP **PP** **00 50 02.6 +1.9**
BTO S **S** **00 56 14.8 +2.2**
BTO sS **sS** **00 56 21.6 +4.6**
BTO SS **SS** **01 00 17.0 -0.5**
BTO pmax pmax
comp=Z,25nm,0.7s
BTO pmax pmax
comp=Z,370nm,7.5s
BTO LR LR
comp=Z,820nm,16.4s
BTO LR LR
comp=Z,810nm,19.1s
BTO LR LR
comp=Z,440nm,23.1s
FIA1 FINESS Array S 63.17 3 P **P** **00 47 42.9 0.0**
FINES FINESS Array B 63.17 3 *i* P **P** **00 47 43.5 +0.6**
FINES pmax pmax
comp=Z,25nm,0.9s
FINES FINESS Array B 63.17 3 P **P** **00 47 43.0 +0.1**
comp=Z,24nm,0.9s,baz=3.5,slow=8.7,SNR=72
comp=Z,24nm,0.9s
HNS HongShan 63.24 298 ⇑P **P** **00 47 44.6 +0.9**
HNS S **S** **00 56 17.3 +2.4**
HNS pmax pmax
comp=Z,24nm,1.5s
HNS LR LR
comp=Z,430nm,17.8s
HNS LR LR
comp=Z,260nm,18.6s
VALR Valaam 63.31 360 *i* P **P** **00 47 44.7 +0.9**
RAF Rauma 63.43 5 *e*P **P** **00 47 44.3 -0.3**
KLMR Klimovskoe 63.62 355 *e*P **P** **00 47 43.4 -2.5**
KLMR pmax pmax
comp=Z,61nm,1.3s
HFS Hagfors 63.74 9 P **P** **00 47 46.5 -0.3**
comp=Z,3.7nm,0.5s,baz=355,slow=1.6,SNR=19
HFS LR LR 01 16 17.3
comp=Z,114nm,21.4s,baz=348,slow=37
comp=Z,3.7nm,0.5s
MEF Metsahovi 64.35 4 *e*P **P** **00 47 50.9 +0.2**
MATN Matagalpa 64.42 105 P **P** **00 47 50.8 -1.0**
MATN IAmb IAmb 00 48 00.2
comp=Z,12nm,0.9s
STRU Stroemstad 64.57 11 *i* P **P** **00 47 53.2 +1.0**
STRU Stroemstad 64.57 11 *e*P **P** **00 47 53.4 +1.2**
SNART Snartemo 64.77 14 *i* P **P** **00 47 53.7 +0.3**
DGZ Jazzator, Alta 64.90 323 ⇑*i*P **P** **00 47 56.6 +1.9**
DGZ pmax pmax
comp=Z,66nm,1.6s
PUL Pulkovo 64.90 0 *ce*P **P** **00 47 56.2 +1.9**
PUL pmax pmax
comp=Z,60nm,0.5s
KIRV Kirov 65.12 349 *ce*P **P** **00 47 56.5 +0.8**
KIRV Kirov 65.12 349 LR LR 01 20 06.6
comp=Z,105nm,18.4s,baz=12,slow=40
NJ2 Nanjing 65.25 291 *e*P **P** **00 47 56.4 -0.6**
NJ2 pP **pP** **00 47 57.9 -1.8**
NJ2 pmax pmax
comp=Z,12nm,0.6s
SVE Sverdlovsk 65.28 342 *de*P **P** **00 47 57.5 +0.6**
SVE pmax pmax
comp=Z,67nm,1.6s
TJOU Tjoern 65.60 11 *i* P **P** **00 47 59.2 +0.3**
VIKU Vikbolandet 65.61 8 *e*P **P** **00 47 59.8 +0.8**
EKA Eskdalemuir Ar 65.93 20 P **P** **00 48 01.2 +0.1**
comp=Z,7.1nm,0.8s,baz=334,slow=4.9,SNR=15
comp=Z,7.1nm,0.8s
ARU Arti 66.01 344 P **P** **00 48 01.2 -0.3**
ARU Arti 66.01 344 *c i*P **P** **00 48 01.4 -0.1**
ARU 00 48 30.1
ARU 00 50 24.4
ARU S **S** **00 56 48.9 +0.3**
ARU SS **SS** **01 00 58.1 -4.5**
ARU pmax pmax
comp=Z,50nm,1.2s
ARU MLR MLR
comp=Z,265nm,22.0s
ARU Arti 66.01 344 LR LR 01 20 33.9
comp=Z,199nm,18.1s,baz=12,slow=39
BORU Boraas 66.11 11 *i* P **P** **00 48 02.4 +0.2**
VSU Vasula 66.17 2 *ce*P **P** **00 48 03.9 +1.4**
VSU pmax pmax
comp=Z,169nm,1.3s
ONAU Onsala 66.26 11 *i* P **P** **00 48 02.9 -0.2**
SEM Semipalatinsk 66.58 328 *e*P **P** **00 48 05.6 0.0**
SEM Semipalatinsk 66.58 328 *e*P **P** **00 48 05.7 0.0**
baz=328
LYN LuoYang 66.59 297 ⇓P **P** **00 48 06.8 +1.2**
LYN sP pwP 00 48 13.1 -1.3
LYN pmax pmax
comp=Z,39nm,1.3s
LYN pmax pmax
comp=Z,250nm,6.2s
LYN LR LR
comp=Z,660nm,22.3s
LYN LR LR
comp=Z,510nm,23.4s
LYN LR LR
comp=Z,320nm,22.7s
FABU Falkenberg 66.73 11 *i* P **P** **00 48 06.1 0.0**
KURK Kurchatov 66.79 329 P **P** **00 48 06.1 -0.6**
KURK Kurchatov 66.79 329 *ce*P **P** **00 48 07.1 +0.5**
KURK pmax pmax
comp=Z,33nm,1.3s
SLIT Slitere, Latvi 66.84 5 *e*P **P** **00 48 06.7 -0.2**
BRVK Borovoye 66.86 335 P **P** **00 48 06.9 -0.2**
BRVK Borovoye 66.86 335 *ce*P **P** **00 48 07.4 +0.3**
BRVK pmax pmax
comp=Z,61nm,1.7s
BVA0 Borovoye Array 66.87 335 *i* P **P** **00 48 06.8 -0.3**
BVAR Borovoye Array 66.87 335 P **P** **00 48 07.0 -0.1**
comp=Z,16nm,0.8s,baz=35,slow=5.3,SNR=64
BVAR LR LR 01 20 53.3
comp=Z,233nm,19.7s,baz=25,slow=39
comp=Z,16nm,0.8s
KURBB Kurchatov Arra 66.90 329 P **P** **00 48 06.7 -0.6**
comp=Z,7.3nm,0.7s,baz=24,slow=5.8,SNR=37
KURBB LR LR 01 21 18.9
comp=Z,336nm,19.3s,baz=145,slow=40
comp=Z,7.3nm,0.7s
DEL Delary 67.37 10 *i* P **P** **00 48 11.1 +0.9**
DEL Delary 67.37 10 *e*P **P** **00 48 11.1 +0.9**
BJUU Bjuv 67.68 11 *i* P **P** **00 48 12.3 +0.1**
ZSN Zaisan 67.70 324 *e*P **P** **00 48 12.4 -0.1**
ZSN Zaisan 67.70 324 *e*P **P** **00 48 12.4 -0.1**
baz=324
BLEU Blekinge 67.72 9 *i* P **P** **00 48 12.3 -0.1**
LUNU Lund 68.16 11 *i* P **P** **00 48 16.4 +1.2**
VSVD Vaisvydziai 68.57 4 *e*P **P** **00 48 18.0 +0.3**
GTA Gaotai 68.67 309 *e*P **P** **00 48 18.9 0.0**
GTA pP pwP 00 48 25.3 -2.3
GTA pmax pmax
comp=Z,11nm,1.8s
GTA LR LR
comp=Z,350nm,18.2s
GTA LR LR
comp=Z,290nm,19.3s
GTA LR LR
comp=Z,510nm,19.6s
XAN Xi'an 68.77 299 P **P** **00 48 19.8 +0.3**
XAN pmax pmax
comp=Z,21nm,1.4s
WHN Wuhan 68.80 293 P **P** **00 48 20.5 +0.9**
MOS Moscow 68.81 356 *e*P **P** **00 48 18.6 -0.7**
MOS *e* 00 48 43.0
MOS pmax pmax
comp=Z,67nm,1.6s
BSD Bornholm Skovb 68.81 10 *i* P **P** **00 48 20.4 +1.2**
PABE Paberze 69.04 4 *e*P **P** **00 48 20.1 -0.6**
ISAL Salakas 69.05 3 *e*P **P** **00 48 21.4 +0.7**
BRZS Berezniki 69.09 333 *c i*P **P** **00 48 21.1 0.0**
BRZS pmax pmax
comp=Z,17nm,1.2s
BRZS Berezniki 69.09 333 ⇑*i*P **P** **00 48 21.2 0.0**
comp=Z,17nm,1.2s,baz=332

MK31	**Makanchi Array**	**69.13**	**325**		IAmb	IAmb	00 48 23.0		
	comp=Z,20nm,1.1s								
MK31	**Makanchi Array**	**69.13**	**325**	*i* P		**P**	**00 48 21.1**	**-0.4**	
MK31					pmax	pmax			
	comp=Z,25nm,1.0s								
MKAR	**Makanchi Array**	**69.13**	**325**	*ce* P		**P**	**00 48 21.6**	**+0.1**	
MKAR					pmax	pmax			
	comp=Z,5.0nm,0.4s								
MKAR	**Makanchi Array**	**69.13**	**325**	P		**P**	**00 48 20.2**	**-1.2**	
	comp=Z,4.5nm,0.5s,baz=29,slow=6.1,SNR=81								
MKAR					LR	LR	01 22 51.8		
	comp=Z,229nm,18.3s,baz=36,slow=40								
	comp=Z,4.5nm,0.5s								
MAKZ	**Makanchi**	**69.22**	**325**	P		**P**	**00 48 22.2**	**+0.1**	
MAKZ	**Makanchi**	**69.22**	**325**	P		**P**	**00 48 22.3**	**+0.3**	
BSEG	**Bad Segeberg**	**69.46**	**13**	*eP*		**P**	**00 48 24.6**	**+1.3**	
	comp=Z,31nm,1.1s,baz=349,slow=6.0								
OBN	**Obninsk**	**69.48**	**356**	P		**P**	**00 48 24.3**	**+0.9**	
OBN	**Obninsk**	**69.48**	**356**	*ce* P		**P**	**00 48 23.9**	**+0.5**	
OBN				*e*			00 50 56.1		
OBN				*eS*		**S**	**00 57 29.4**	**-0.7**	
OBN				*eSS*		**SS**	**01 01 59.0**	**+2.9**	
OBN					pmax	pmax			
	comp=Z,66nm,1.1s								
OBN					MLR	MLR			
	comp=Z,119nm,21.0s								
OBN	**Obninsk**	**69.48**	**356**		LR	LR	01 23 49.9		
	comp=Z,70nm,18.6s,baz=6.5,slow=40								
LZH	**Lanzhou**	**69.56**	**304**	*eP*		**P**	**00 48 23.9**	**-0.6**	
LZH					pP	pwP	00 48 31.0	-2.2	
LZH					pmax	pmax			
	comp=Z,25nm,1.1s								
LZH					LR	LR			
	comp=Z,190nm,15.1s								
LZH					LR	LR			
	comp=Z,460nm,14.8s								
LZH					LR	LR			
	comp=Z,370nm,17.6s								
KLNR	**Kaliningrad**	**69.74**	**7**	⇓*iP*		**P**	**00 48 26.5**	**+1.5**	
WMQ	**Urumqi**	**69.85**	**320**	⇑*iP*		**P**	**00 48 27.4**	**+1.4**	
WMQ					pP	pwP	00 48 32.2	-2.6	
WMQ					pmax	pmax			
	comp=Z,32nm,1.3s								
WMQ					pmax	pmax			
	comp=Z,290nm,3.7s								
WMQ					LR	LR			
	comp=Z,320nm,22.1s								
WMQ					LR	LR			
	comp=Z,170nm,20.3s								
MNK	**Minsk**	**70.16**	**2**	*i* P		**P**	**00 48 28.7**	**+1.1**	
MNK				*i*			00 48 50.7		
MNK				*i* PPP		PPP	00 52 45.0		
MNK				*i* S		**S**	**00 57 39.8**	**+1.6**	
MNK				*i*			00 58 30.8		
MNK				*i* SS		**SS**	**01 02 10.0**	**+3.3**	
MNK					pmax	pmax			
	comp=N,61nm,1.1s								
MNK					pmax	pmax			
	comp=Z,84nm,0.9s								
MNK					pmax	pmax			
	comp=E,6.0nm,0.9s								
MNK					MLR	MLR			
	comp=Z,92nm,19.0s								
MNK					MLR	MLR			
	comp=N,107nm,19.0s								
MNK					MLR	MLR			
	comp=E,53nm,20.0s								
SUW	**Suwalki**	**70.50**	**5**	*eP*		**P**	**00 48 30.1**	**+0.4**	
SUW	**Suwalki**	**70.50**	**5**	*eP*		**P**	**00 48 29.1**	**-0.7**	
RETH	**Rethem/Aller,**	**70.51**	**14**	*eP*		**P**	**00 48 31.1**	**+1.4**	
	comp=E,50nm,2.5s,baz=349,slow=6.0								
IBBN	**Ibbenburen**	**70.71**	**15**	*eP*		**P**	**00 48 32.3**	**+1.3**	
	comp=E,41nm,1.4s,baz=349,slow=6.0								
OTUK	**Ortayu**	**70.77**	**332**	P		**P**	**00 48 31.3**	**-0.2**	
GKP	**Gorka Klasztor**	**70.85**	**9**	P		**P**	**00 48 34.1**	**+2.3**	
GKP	**Gorka Klasztor**	**70.85**	**9**	*eP*		**P**	**00 48 32.5**	**+0.6**	
NRDL	**Niedersach Rie**	**70.85**	**13**	*eP*		**P**	**00 48 33.0**	**+1.2**	
	comp=E,30nm,1.0s,baz=349,slow=6.0								
FLTG	**Flechtingen**	**71.15**	**13**	*eP*		**P**	**00 48 34.2**	**+0.6**	
	comp=E,21nm,1.0s,baz=349,slow=6.0								
ASSE	**Asse, Remlinge**	**71.28**	**13**	*eP*		**P**	**00 48 35.5**	**+1.1**	
	comp=E,18nm,1.2s,baz=349,slow=6.0								
RUE	**Ruedersdorf**	**71.30**	**11**	*eP*		**P**	**00 48 34.3**	**-0.2**	
RUE	**Ruedersdorf**	**71.30**	**11**	*eP*		**P**	**00 48 35.7**	**+1.2**	
	comp=E,53nm,1.0s,baz=349,slow=6.0								
BELG	**Belogornoye**	**71.41**	**349**	⇑*iP*		**P**	**00 48 35.6**	**+0.4**	
BELG					pmax	pmax			
	comp=Z,18nm,1.2s								
BELG	**Belogornoye**	**71.41**	**349**		LR	LR	01 23 07.8		
	comp=Z,137nm,19.9s,baz=335,slow=39								
BUG	**Bochum--Univer**	**71.48**	**15**	*eP*		**P**	**00 48 36.7**	**+1.0**	
	comp=Z,34nm,1.0s,baz=349,slow=6.0								
CLZ	**Clausthal**	**71.52**	**13**	*eP*		**P**	**00 48 37.4**	**+1.4**	
	comp=Z,39nm,1.1s,baz=349,slow=6.0								
GTTG	**Gottingen**	**71.76**	**14**	*eP*		**P**	**00 48 38.7**	**+1.4**	
	comp=Z,40nm,1.0s,baz=349,slow=6.0								
AKTO	**Aktyubinsk**	**71.87**	**342**	P		**P**	**00 48 38.0**	**-0.1**	
AKTO	**Aktyubinsk**	**71.87**	**342**		LR	LR	01 26 55.7		
	comp=Z,94nm,18.4s,baz=304,slow=42								
KASTN	**Kahler Asten**	**71.88**	**15**	*eP*		**P**	**00 48 39.2**	**+1.1**	
	comp=Z,21nm,1.1s,baz=349,slow=6.0								
LPSR	**Galich'ya Gora**	**71.89**	**355**	*eP*		**P**	**00 48 37.5**	**-0.6**	
LPSR					pmax	pmax			
	comp=Z,50nm,1.3s								
TDK	**Taldyqorghan**	**71.96**	**327**	*eP*		**P**	**00 48 39.0**	**+0.3**	
TDK	**Taldyqorghan**	**71.96**	**327**	*eP*		**P**	**00 48 39.1**	**+0.3**	
	baz=326								
BSTI	**Sart Tilman**	**72.05**	**17**	*dP*		**P**	**00 48 40.2**	**+1.0**	
MEM	**Membach**	**72.09**	**16**	*dP*		**P**	**00 48 40.5**	**+1.1**	
	comp=Z,13nm,1.0s								
BTNL	**Ternell**	**72.14**	**16**	*dP*		**P**	**00 48 40.9**	**+1.2**	
	comp=Z,11nm,1.0s								
BGES	**Gesves**	**72.16**	**17**	*dP*		**P**	**00 48 39.1**	**-0.7**	
BCLA	**Clavier**	**72.16**	**17**	*dP*		**P**	**00 48 40.3**	**+0.5**	
	comp=Z,7.6nm,1.3s								
BMRD	**Maredsous**	**72.19**	**17**	*dP*		**P**	**00 48 41.1**	**+1.1**	
	comp=Z,7.2nm,1.0s								
NEUB	**Neuenburg**	**72.32**	**12**	*eP*		**P**	**00 48 41.7**	**+1.0**	
	comp=Z,44nm,1.0s,baz=349,slow=6.0								
AHRW	**Bad Neuenahr-A**	**72.33**	**16**	*eP*		**P**	**00 48 42.1**	**+1.3**	
	comp=Z,20nm,1.3s,baz=349,slow=6.0								
BAIF	**Baives**	**72.33**	**18**	*eP*		**P**	**00 48 41.6**	**+0.8**	
BAIF					pmax	pmax			
	comp=Z,27nm,1.3s								
DOU	**Dourbes**	**72.36**	**17**	*dP*		**P**	**00 48 40.9**	**-0.1**	
	comp=Z,4.4nm,1.1s								
CLL	**Collm**	**72.37**	**12**		IAmb	IAmb	00 48 43.1		
	comp=Z,22nm,1.0s								
CLL	**Collm**	**72.37**	**12**	*i* P		**P**	**00 48 41.6**	**+0.6**	
CLL					pmax	pmax			
	comp=Z,43nm,1.4s								
CLL	**Collm**	**72.37**	**12**	*i* P		**P**	**00 48 41.6**	**+0.6**	
	comp=Z,43nm,1.4s								
CLL	**Collm**	**72.37**	**12**	*eP*		**P**	**00 48 41.7**	**+0.7**	
	comp=Z,212nm,2.4s,baz=349,slow=6.0								
GIVF	**Givet**	**72.39**	**17**	*eP*		**P**	**00 48 41.8**	**+0.6**	
GIVF					pmax	pmax			
	comp=Z,29nm,1.3s								
RCHB	**Rochefort**	**72.41**	**17**	*dP*		**P**	**00 48 42.0**	**+0.8**	
	comp=Z,8.1nm,1.1s								
UBBA	**Unterbreizbach**	**72.47**	**14**	*eP*		**P**	**00 48 42.7**	**+1.2**	
	comp=Z,46nm,1.6s,baz=349,slow=6.0								
AB31	**Akbulak array**	**72.65**	**340**	*i* P		**P**	**00 48 42.8**	**+0.1**	
FLN	**La Foliniere**	**72.69**	**21**	*eP*		**P**	**00 48 43.3**	**+0.3**	
FLN					pmax	pmax			
	comp=Z,51nm,1.4s								
VORR	**Voronezh**	**72.80**	**355**	*eP*		**P**	**00 48 41.4**	**-2.2**	
VORR					pmax	pmax			
	comp=Z,50nm,1.4s								
TNS	**Taunus Mts**	**72.84**	**15**	*eP*		**P**	**00 48 44.9**	**+1.0**	
	comp=Z,20nm,1.3s,baz=349,slow=6.0								
MOX	**Moxa**	**72.85**	**13**	*eP*		**P**	**00 48 44.9**	**+0.9**	
	comp=Z,27nm,1.0s,baz=349,slow=6.0								
MOX				*eL*		L	01 23 07.0		
	comp=Z,123nm,20.8s								
BRG	**Berggiesshubel**	**72.90**	**11**	*i* P		**P**	**00 48 45.3**	**+1.0**	
BRG					Amp		00 48 46.7		
	comp=Z,26nm,1.1s								
BRG	**Berggiesshubel**	**72.90**	**11**	*i* P		**P**	**00 48 45.2**	**+1.0**	
BRG							00 48 56.0		
BRG					pmax	pmax			
	comp=Z,26nm,1.1s								
BRG	**Berggiesshubel**	**72.90**	**11**	*eP*		**P**	**00 48 45.2**	**+1.0**	
	comp=Z,26nm,1.1s,baz=349,slow=6.0								
PPT	**Papeete**	**72.95**	**180**		LR	LR	01 13 23.8		
	comp=Z,235nm,19.9s,baz=7.5,slow=30								

GRR	**Gorron**	**72.97**	**21**	*eP*		**P**	**00 48 44.3**	**-0.4**	
GRR					pmax	pmax			
	comp=Z,20nm,1.2s								
WLF	**Walferdange**	**73.03**	**16**	*dP*		**P**	**00 48 46.2**	**+1.2**	
WLF	**Walferdange**	**73.03**	**16**	*eP*		**P**	**00 48 46.4**	**+1.4**	
	comp=Z,53nm,1.5s,baz=349,slow=6.0								
PLN	**Plauen**	**73.08**	**12**	*eP*		**P**	**00 48 46.2**	**+0.9**	
	comp=Z,16nm,1.0s,baz=349,slow=6.0								
HSKC	**Hora Svate Kat**	**73.11**	**11**	*eP*		**P**	**00 48 46.8**	**+1.3**	
VRH	**Novokhopyorsk**	**73.11**	**353**	*eP*		**P**	**00 48 43.8**	**-1.6**	
VRH					pmax	pmax			
	comp=Z,10.0nm,0.9s								
PDGK	**Podgornoye**	**73.12**	**325**	P		**P**	**00 48 45.7**	**-0.1**	
KSP	**Ksiaz**	**73.17**	**10**	*eP*		**P**	**00 48 47.1**	**+1.2**	
TANN	**Tannenbergstha**	**73.18**	**12**	*eP*		**P**	**00 48 47.0**	**+1.1**	
	comp=Z,17nm,1.1s,baz=349,slow=6.0								
BTLS	**Baital**	**73.24**	**330**	*ci* P		**P**	**00 48 46.7**	**+0.4**	
BTLS					pmax	pmax			
	comp=Z,22nm,1.3s								
BTLS	**Baital**	**73.24**	**330**	⇑*iP*		**P**	**00 48 46.8**	**+0.4**	
	comp=Z,22nm,1.3s,baz=330								
RICC	**Richard**	**73.24**	**11**	*eP*		**P**	**00 48 48.5**	**+2.3**	
VSR	**Storozhevoye**	**73.26**	**355**	*eP*		**P**	**00 48 45.5**	**-0.8**	
VSR					pmax	pmax			
	comp=Z,30nm,1.0s								
SHLS	**Shalkode**	**73.28**	**325**	⇑*eP*		**P**	**00 48 46.5**	**-0.3**	
SHLS					pmax	pmax			
	comp=Z,24nm,1.3s								
SHLS	**Shalkode**	**73.28**	**325**	⇑*eP*		**P**	**00 48 46.6**	**-0.3**	
	comp=Z,24nm,1.3s,baz=325								
PVCC	**Panska Ves**	**73.31**	**11**	*eP*		**P**	**00 48 48.9**	**+2.3**	
PVCC	**Panska Ves**	**73.31**	**11**	*eP*		**P**	**00 48 48.9**	**+2.3**	
NKC	**Novy Kostel**	**73.36**	**12**	*eP*		**P**	**00 48 48.4**	**+1.4**	
NKC	**Novy Kostel**	**73.36**	**12**	*eP*		**P**	**00 48 48.4**	**+1.4**	
CHVC	**Chvalec**	**73.40**	**10**	*eP*		**P**	**00 48 48.6**	**+1.4**	
CHVC	**Chvalec**	**73.40**	**10**	*eP*		**P**	**00 48 48.6**	**+1.4**	
UZB	**Uzynbulak**	**73.43**	**325**	*eP*		**P**	**00 48 48.1**	**+0.4**	
UZB					pmax	pmax			
	comp=Z,16nm,1.2s								
UZB	**Uzynbulak**	**73.43**	**325**	*eP*		**P**	**00 48 48.1**	**+0.4**	
	comp=Z,16nm,1.2s,baz=325								
OSTC	**Ostas**	**73.44**	**10**	*eP*		**P**	**00 48 48.7**	**+1.2**	
OSTC	**Ostas**	**73.44**	**10**	*eP*		**P**	**00 48 48.7**	**+1.2**	
UPC	**Upice**	**73.47**	**10**	*eP*		**P**	**00 48 49.0**	**+1.4**	
UPC	**Upice**	**73.47**	**10**	*eP*		**P**	**00 48 49.0**	**+1.4**	
VORD	**Divnogorie**	**73.50**	**354**	*eP*		**P**	**00 48 46.9**	**-0.8**	
VORD					pmax	pmax			
	comp=Z,20nm,0.9s								
GOMU	**GeErMu**	**73.53**	**311**	P		**P**	**00 48 49.6**	**+1.0**	
GOMU					pmax	pmax			
	comp=Z,12nm,2.0s								
GOMU					LR	LR			
	comp=Z,250nm,15.5s								
GOMU					LR	LR			
	comp=Z,250nm,15.5s								
GOMU					LR	LR			
	comp=Z,310nm,15.7s								
MANZ	**Manzenberg**	**73.56**	**12**	*eP*		**P**	**00 48 49.1**	**+0.9**	
	comp=Z,4.2nm,1.2s,baz=349,slow=6.0								
KUU	**Kurty**	**73.60**	**327**	*eP*		**P**	**00 48 48.4**	**-0.1**	
KUU					pmax	pmax			
	comp=Z,22nm,0.9s								
KUU	**Kurty**	**73.60**	**327**	*eP*		**P**	**00 48 48.5**	**-0.1**	
	comp=Z,22nm,0.9s,baz=327								
DPC	**Dobruska-Polom**	**73.66**	**10**	*eP*		**P**	**00 48 50.2**	**+1.4**	
DPC	**Dobruska-Polom**	**73.66**	**10**	*eP*		**P**	**00 48 50.2**	**+1.4**	
SATY	**Saty**	**73.71**	**326**	*eP*		**P**	**00 48 49.6**	**+0.3**	
SATY	**Saty**	**73.71**	**326**	*eP*		**P**	**00 48 49.7**	**+0.3**	
	baz=326								
GRA1	**Grafenberg Arr**	**73.74**	**13**		IAmb	IAmb	00 48 51.8		
	comp=Z,20nm,1.0s								
GRF	**Grafenberg Arr**	**73.74**	**13**	*eP*		**P**	**00 48 50.5**	**+1.3**	
	comp=Z,20nm,1.0s,baz=349,slow=6.0								
GRF				*eL*		L	01 19 27.6		
	comp=Z,144nm,21.6s								
GRFO	**Grafenberg**	**73.74**	**13**	P		**P**	**00 48 51.4**	**+2.2**	
GRFO					IAmb	IAmb	00 48 51.7		
	comp=Z,21nm,1.0s								
GRFO	**Grafenberg**	**73.74**	**13**	P		**P**	**00 48 51.4**	**+2.2**	
GRFO					pmax	pmax			
	comp=Z,21nm,1.0s								
ROTZ	**Rotzenmuhle**	**73.79**	**12**	*eP*		**P**	**00 48 50.6**	**+1.1**	
	comp=Z,4.8nm,1.0s,baz=349,slow=6.0								
PRU	**Pruhonice**	**73.84**	**11**	*eP*		**P**	**00 48 51.2**	**+1.4**	
PRU	**Pruhonice**	**73.84**	**11**	*eP*		**P**	**00 48 51.2**	**+1.4**	
CD2	**Chengdu**	**73.84**	**301**	P		**P**	**00 48 47.2**	**-3.0**	
KRLC	**Kraliky**	**73.97**	**9**	*eP*		**P**	**00 48 52.1**	**+1.5**	
KRLC	**Kraliky**	**73.97**	**9**	*eP*		**P**	**00 48 52.1**	**+1.5**	
AKASG	**Malin Array Be**	**73.99**	**1**		IAmb	IAmb	00 48 51.3		
	comp=Z,15nm,1.4s								
AKASG	**Malin Array Be**	**73.99**	**1**	*ce* P		**P**	**00 48 50.7**	**+0.1**	
AKASG					pmax	pmax			
	comp=Z,12nm,0.7s								
AKASG	**Malin Array Be**	**73.99**	**1**	P		**P**	**00 48 50.4**	**-0.2**	
	comp=Z,13nm,0.8s,baz=359,slow=5.8,SNR=62								
AKASG					LR	LR	01 21 30.2		
	comp=Z,114nm,21.6s,baz=359,slow=36								
	comp=Z,13nm,0.8s								
AKBB	**Malin Array Si**	**73.99**	**1**	*ce* P		**P**	**00 48 51.0**	**+0.4**	
AKBB					pmax	pmax			
	comp=Z,57nm,1.0s								
KIEV	**Kiev**	**74.00**	**1**	⇓P		**P**	**00 48 50.7**	**+0.1**	
KIEV	**Kiev**	**74.00**	**1**	P		**P**	**00 48 50.6**	**-0.1**	
KIEV	**Kiev**	**74.00**	**1**	P		**P**	**00 48 50.7**	**+0.1**	
AAA	**Alma-Ata**	**74.05**	**327**	*eP*		**P**	**00 48 51.7**	**+0.5**	
AAA					pmax	pmax			
	comp=Z,20nm,0.9s								
AAA	**Alma-Ata**	**74.05**	**327**	*eP*		**P**	**00 48 51.7**	**+0.5**	
	comp=Z,20nm,0.9s,baz=327								
MDOK	**Medeo**	**74.05**	**327**	*i* P		**P**	**00 48 51.6**	**+0.3**	
MDOK	**Medeo**	**74.05**	**327**	*i* P		**P**	**00 48 51.6**	**+0.3**	
	baz=327								
TNSS	**Tian-Shan**	**74.19**	**327**	*eP*		**P**	**00 48 52.2**	**-0.2**	
TNSS	**Tian-Shan**	**74.19**	**327**	*eP*		**P**	**00 48 52.3**	**-0.2**	
	baz=327								
OKC	**Ostrava-Krasne**	**74.33**	**8**	*eP*		**P**	**00 48 53.8**	**+1.2**	
OKC	**Ostrava-Krasne**	**74.33**	**8**	*eP*		**P**	**00 48 53.8**	**+1.2**	
MORC	**Moravsky Berou**	**74.34**	**9**	⇓P		**P**	**00 48 53.6**	**+0.8**	
MORC	**Moravsky Berou**	**74.34**	**9**		IAmb	IAmb	00 48 56.1		
	comp=Z,12nm,0.9s								
MORC	**Moravsky Berou**	**74.34**	**9**	*eP*		**P**	**00 48 53.0**	**+0.2**	
MORC	**Moravsky Berou**	**74.34**	**9**	P		**P**	**00 48 53.5**	**+0.8**	
ZVC	**Zvikov**	**74.34**	**11**	*eP*		**P**	**00 48 53.9**	**+1.2**	
STU	**Stuttgart**	**74.36**	**15**	*eP*		**P**	**00 48 53.9**	**+1.0**	
	comp=Z,66nm,1.4s,baz=349,slow=6.0								
CDF	**Champ du Feu**	**74.43**	**16**	*eP*		**P**	**00 48 54.1**	**+0.7**	
CDF					pmax	pmax			
	comp=Z,43nm,1.5s								
WET	**Wettzell**	**74.48**	**12**	*eP*		**P**	**00 48 54.8**	**+1.3**	
	comp=Z,24nm,1.3s,baz=349,slow=6.0								
SGDS	**Sogindy**	**74.52**	**328**	*eP*		**P**	**00 48 54.2**	**+0.3**	
SGDS	**Sogindy**	**74.52**	**328**	*eP*		**P**	**00 48 54.2**	**+0.3**	
	baz=328								
KHC	**Kasperske Hory**	**74.58**	**12**		IAmb	IAmb	00 48 57.0		
	comp=Z,23nm,1.1s								
KHC	**Kasperske Hory**	**74.58**	**12**	*ce* P		**P**	**00 48 55.8**	**+1.6**	
KHC					pmax	pmax			
	comp=Z,127nm,2.5s								
KHC	**Kasperske Hory**	**74.58**	**12**	*eP*		**P**	**00 48 55.7**	**+1.6**	
ECH	**Echery**	**74.60**	**16**		IAmb	IAmb	00 48 56.5		
	comp=Z,27nm,1.2s								
ECH	**Echery**	**74.60**	**16**	P		**P**	**00 48 55.5**	**+1.2**	
BFO	**Black Forest**	**74.67**	**15**	P		**P**	**00 48 56.0**	**+1.3**	
BFO					IAmb	IAmb	00 48 56.9		
	comp=Z,19nm,1.2s								
BFO	**Black Forest**	**74.67**	**15**	P		**P**	**00 48 56.0**	**+1.3**	
BFO					pmax	pmax			
	comp=Z,19nm,1.2s								
BFO	**Black Forest**	**74.67**	**15**	*eP*		**P**	**00 48 55.5**	**+0.9**	
	comp=Z,19nm,1.2s,baz=349,slow=6.0								
HAU	**Haudompre**	**74.67**	**17**	*eP*		**P**	**00 48 55.3**	**+0.6**	
HAU					pmax	pmax			
	comp=Z,17nm,1.2s								
TKM2	**Tokmak 2**	**74.71**	**328**	P		**P**	**00 48 56.2**	**+1.0**	
	SNR=22								
TKM2	**Tokmak 2**	**74.71**	**328**	*i* P		**P**	**00 48 55.4**	**+0.1**	
TKM2					pmax	pmax			
	comp=Z,32nm,1.2s								
VRAC	**Vranov**	**74.72**	**10**	⇓P		**P**	**00 48 56.2**	**+1.2**	
VRAC	**Vranov**	**74.72**	**10**	*eP*		**P**	**00 48 55.6**	**+0.7**	
VRAC	**Vranov**	**74.72**	**10**	P		**P**	**00 48 56.1**	**+1.2**	
VRAC	**Vranov**	**74.72**	**10**	LR		LR	01 24 27.7		
	comp=Z,59nm,19.4s,baz=344,slow=38								
USP	**Ospenovka**	**74.72**	**328**	P		**P**	**00 48 56.0**	**+0.9**	
	SNR=27								

LVV	**L'vov**	**74.73**	**5**	*eP*		**P**	**00 48 55.7**	**+0.8**	
MAUC	**Maruska**	**74.77**	**9**	*eP*		**P**	**00 48 57.4**	**+2.1**	
MFF	**Saint Martin d**	**74.82**	**22**	*eP*		**P**	**00 48 56.2**	**+0.7**	
MFF					pmax	pmax			
	comp=Z,109nm,1.8s								
KWP	**Kalwaria Pacla**	**74.85**	**5**	*eP*		**P**	**00 48 57.2**	**+1.5**	
GEC2	**GERESS Array S**	**74.87**	**12**		IAmb	IAmb	00 48 59.3		
	comp=Z,51nm,1.9s								
GEC2	**GERESS Array S**	**74.87**	**12**	*eP*		**P**	**00 48 56.8**	**+0.9**	
	comp=Z,19nm,1.2s,baz=349,slow=6.0								
GERES	**GERESS Array B**	**74.87**	**12**	P		**P**	**00 48 56.2**	**+0.2**	
	comp=Z,4.5nm,0.7s,baz=2.2,slow=6.8,SNR=20								
	comp=Z,4.5nm,0.7s								
CHMS	**Chumysh**	**74.89**	**328**	P		**P**	**00 48 57.0**	**+0.9**	
	SNR=17								
NIE	**Niedzica**	**74.91**	**7**	*eP*		**P**	**00 48 57.5**	**+1.4**	
KRUC	**Moravsky**	**74.94**	**10**	*eP*		**P**	**00 48 56.6**	**+0.4**	
CKRC	**Cesky Krumlov**	**74.97**	**11**	*eP*		**P**	**00 48 57.1**	**+0.7**	
CKRC	**Cesky Krumlov**	**74.97**	**11**	*eP*		**P**	**00 48 57.1**	**+0.7**	
STHS	**Stebnicka Huta**	**74.98**	**6**	*eP*		**P**	**00 48 57.2**	**+0.8**	
STHS					pmax	pmax			
	comp=Z,21nm,0.9s								
STHS	**Stebnicka Huta**	**74.98**	**6**	*eP*		**P**	**00 48 57.2**	**+0.8**	
LANS	**Liptovska Anna**	**75.12**	**8**	*eP*		**P**	**00 48 59.1**	**+1.8**	
LANS					pmax	pmax			
	comp=Z,16nm,1.0s								
LANS	**Liptovska Anna**	**75.12**	**8**	*eP*		**P**	**00 48 59.1**	**+1.8**	
ULHL	**Ulahol**	**75.13**	**327**	P		**P**	**00 48 58.7**	**+1.0**	
	SNR=14								
KBK	**Karagaybulak**	**75.15**	**328**	P		**P**	**00 48 58.8**	**+1.0**	
	SNR=12								
FUR	**Furstenfeldbru**	**75.24**	**13**	*eP*		**P**	**00 48 59.0**	**+1.0**	
	comp=Z,33nm,1.0s,baz=349,slow=6.0								
JAVC	**Velka Javorina**	**75.26**	**9**	*eP*		**P**	**00 48 59.8**	**+1.7**	
AAK	**Ala-Archa**	**75.30**	**328**	P		**P**	**00 48 59.7**	**+1.1**	
	SNR=20								
AAK	**Ala-Archa**	**75.30**	**328**	P		**P**	**00 48 59.5**	**+0.8**	
AAK					IAmb	IAmb	00 49 00.9		
	comp=Z,27nm,1.2s								
AAK	**Ala-Archa**	**75.30**	**328**	*ce* P		**P**	**00 48 59.4**	**+0.8**	
AAK					pmax	pmax			
	comp=Z,39nm,1.7s								
AAK	**Ala-Archa**	**75.30**	**328**		LR	LR	01 26 17.0		
	comp=Z,239nm,19.9s,baz=25,slow=39								
AVF	**Avril sur Loir**	**75.33**	**19**	*eP*		**P**	**00 48 58.8**	**+0.4**	
AVF					pmax	pmax			
	comp=Z,21nm,1.2s								
BGF	**Bois d'Agland**	**75.45**	**20**	*eP*		**P**	**00 48 59.6**	**+0.4**	
BGF					pmax	pmax			
	comp=Z,22nm,1.3s								
EKS2	**Erkin-Say**	**75.49**	**329**	P		**P**	**00 49 00.8**	**+1.1**	
	SNR=37								
CRVS	**Cervenica-Dubn**	**75.50**	**6**	*eP*		**P**	**00 49 00.6**	**+1.1**	
CRVS					pmax	pmax			
	comp=Z,123nm,1.9s								
CRVS	**Cervenica-Dubn**	**75.50**	**6**	*eP*		**P**	**00 49 00.6**	**+1.1**	
KOLS	**Kolonicke sedl**	**75.52**	**6**	*eP*		**P**	**00 49 01.3**	**+1.7**	
KOLS					pmax	pmax			
	comp=Z,18nm,1.3s								
KOLS	**Kolonicke sedl**	**75.52**	**6**	*eP*		**P**	**00 49 01.3**	**+1.7**	
SMF	**Signal de Mont**	**75.56**	**19**	*eP*		**P**	**00 49 00.1**	**+0.3**	
SMF					pmax	pmax			
	comp=Z,31nm,1.4s								
UBR	**Ueberruh**	**75.56**	**14**	*eP*		**P**	**00 49 00.9**	**+1

comp=Z,250nm,19.5s,baz=344,slow=30
LPL La Plagne 77.16 17 *e*P **P 00 49 10.7 +1.5**
LPL pmax pmax
comp=Z,28nm,1.4s
SOKA Soboth 77.16 11 *i* pP **P 00 49 10.0 +1.0**
comp=Z,35nm,1.2s,SNR=19
LPG La Plagne 77.18 17 *e*P **P 00 49 11.1 +1.7**
LPG pmax pmax
comp=Z,40nm,1.4s
PRED Cave del Predi 77.22 12 IAmb IAmb 00 49 10.9
comp=Z,10nm,1.2s
OBKA Obir 77.27 11 *i* pP **P 00 49 10.6 +1.0**
comp=Z,34nm,1.0s,SNR=16
CTI Castel Tesino 77.37 14 IAmb IAmb 00 49 14.6
comp=Z,29nm,1.7s
HNR Honiara 77.38 232 LR LR 01 15 47.0
comp=Z,4μm,21.1s,baz=353,slow=30
VIVF Saint-Julien-l 77.44 19 *e*P **P 00 49 11.2 +0.7**
VIVF pmax pmax
comp=Z,26nm,1.4s
CADS Cadrg 77.46 12 *i* P **P 00 49 10.6 -0.1**
ARCR ARCALIA 77.47 5 ⇓P **P 00 49 12.3 +1.7**
KOGS Kog 77.52 10 *i* P **P 00 49 11.9 +1.0**
BNI Bardonecchia 77.60 17 IAmb IAmb 00 49 14.9
comp=Z,22nm,1.1s
DRGR 77.68 6 ⇑P **P 00 49 12.5 +0.6**
DRGR 77.68 6 P **P 00 49 12.5 +0.6**
SABO M.te Sabotino 77.69 12 IAmb IAmb 00 49 13.4
comp=Z,24nm,1.1s
KIS Kishinev 77.69 1 *e*P **P 00 49 12.0 +0.2**
comp=Z,70nm,1.2s
KIS Kishinev 77.69 1 *e*P **P 00 49 12.0 +0.2**
KIS pmax pmax
comp=Z,70nm,1.2s
KSH Kashi 77.69 326 P **P 00 49 15.9 +3.7**
KSH sP PcP 00 49 23.5 +1.2
KSH pmax pmax
comp=Z,23nm,1.3s
KSH LR LR
comp=Z,290nm,14.3s
KSH LR LR
comp=Z,490nm,14.9s
KSH LR LR
comp=Z,360nm,14.1s
MILM Milestii Mici 77.77 1⇑ *i*P **P 00 49 12.0 -0.2**
comp=Z,230nm,2.1s
MILM Milestii Mici 77.77 1 ⇓P **P 00 49 12.9 +0.7**
MILM Milestii Mici 77.77 1*c i*P **P 00 49 12.0 -0.2**
MILM pmax pmax
comp=Z,230nm,2.1s
MARR Marisel-Cluj 77.82 5 ⇑P **P 00 49 12.3 -0.4**
MBDF Montbardon 77.93 17 *e*P **P 00 49 14.9 +1.5**
MBDF pmax pmax
comp=Z,17nm,1.2s
ETSF Etsaut 78.26 23 *e*P **P 00 49 16.2 +1.0**
ETSF pmax pmax
comp=Z,5.0nm,0.9s
BOJS Bojanci 78.34 11 *e*P **P 00 49 15.9 +0.4**
MTLF Montolieu 78.42 21 *e*P **P 00 49 16.6 +0.6**
MTLF pmax pmax
comp=Z,18nm,1.2s
PZH PanZhiHua 78.48 300 P **P 00 49 16.7 0.0**
PZH pmax pmax
comp=Z,30nm,1.5s
PZH pmax pmax
comp=Z,170nm,3.6s
OZUR 78.52 4 P **P 00 49 17.8 +1.3**
PCRV Puerto La Cruz 78.60 89 LR LR 01 22 57.9
comp=Z,143nm,19.9s,slow=35
SPBR Spulber 78.89 3 P **P 00 49 19.1 +0.5**
OTAV Otavalo 79.02 106 P **P 00 49 20.9 +0.7**
OTAV IAmb IAmb 00 49 21.9
comp=Z,31nm,1.9s
OTAV Otavalo 79.02 106 P **P 00 49 20.9 +0.7**
OTAV pmax pmax
comp=Z,31nm,1.9s
GOF Gofitskoye 79.11 351*ce*P **P 00 49 20.4 +0.7**
MLR Muntele Rosu 79.13 3 LR LR 01 24 21.9
comp=Z,137nm,22.0s,baz=5.5,slow=36
KMI Kunming 79.13 299 ⇑P **P 00 49 20.0 -0.4**
KMI pmax pmax
comp=Z,13nm,1.3s
KMI LR LR
comp=Z,250nm,24.4s
KMI LR LR
comp=Z,320nm,27.9s
KMI LR LR
comp=Z,170nm,18.5s
MDVR Moldovita 79.62 7 P **P 00 49 22.3 -0.3**
ANN Anapa 79.75 355 *e*P **P 00 49 23.2 +0.1**
ANN pmax pmax
comp=Z,19nm,0.6s
HARR Harsova 79.98 2 P **P 00 49 25.3 +0.9**
HARR Harsova 79.98 2 P **P 00 49 25.3 +0.9**
TIRR Tirgusor 80.22 2 P **P 00 49 26.6 +0.9**
KVAR Kislovodsk Arr 80.24 351 LR LR 01 26 05.6
comp=Z,75nm,21.9s,baz=226,slow=36
KIV Kislovodsk 80.24 351 P **P 00 49 27.0 +1.0**
KIV IAmb IAmb 00 49 28.3
comp=Z,26nm,1.0s
KIV Kislovodsk 80.24 351 *e*P **P 00 49 26.8 +0.8**
KIV pmax pmax
comp=Z,17nm,1.0s
KIV MLR MLR
comp=Z,58nm,19.0s
PGF Pioggiola 80.41 16 *e*P **P 00 49 27.7 +0.7**
PGF pmax pmax
comp=Z,31nm,1.2s
KBZ Khabaz 80.45 351*ce*P **P 00 49 28.1 +1.2**
KBZ pmax pmax
comp=Z,44nm,2.5s
KBZ Khabaz 80.45 351 P **P 00 49 27.7 +0.7**
comp=Z,7.5nm,0.8s,baz=9.0,slow=5.9,SNR=28
KBZ LR LR 01 26 50.2
comp=Z,111nm,21.3s,baz=1.5,slow=37
comp=Z,7.5nm,0.8s
ESBB Sonseca Array 80.51 27 IAmb IAmb 00 49 29.9
comp=Z,19nm,1.1s
ESDC Sonseca Array 80.51 27 IAmb IAmb 00 49 30.0
comp=Z,19nm,1.1s
ESDC Sonseca Array 80.51 27 P **P 00 49 28.2 +0.7**
comp=Z,8.3nm,0.9s,baz=338,slow=5.2,SNR=40
ESDC LR LR 01 24 17.7
comp=Z,271nm,20.1s,baz=332,slow=35
comp=Z,8.3nm,0.9s
CHGR Chuyangaron 80.52 331 P **P 00 49 28.1 +0.5**
PAB San Pablo 80.53 27 P **P 00 49 29.7 +2.1**
PAB IAmb IAmb 00 49 30.1
comp=Z,48nm,1.8s
PAB San Pablo 80.53 27 P **P 00 49 29.7 +2.1**
PAB pmax pmax
comp=Z,48nm,1.8s
SIMJ Simiganj 80.56 331 P **P 00 49 28.3 +0.4**
GROC Groznyy 80.68 349 *e*P **P 00 49 28.6 +0.3**
GROC *e* 00 49 36.4
GROC *e* 00 52 30.0
GROC pmax pmax
comp=Z,25nm,1.4s
NRCA Norcia 80.72 13 IAmb IAmb 00 49 30.8
comp=Z,16nm,1.1s
SOC Sochi 80.83 353 *e*P **P 00 49 29.3 +0.3**
SOC *e**PP **sP 00 49 31.9 -0.8**
SOC *e*S **S 00 59 34.7 -2.0**
SOC *e*SS **SS 01 04 54.2 +5.6**
SOC pmax pmax
comp=Z,36nm,1.3s
SOC MLR MLR
comp=Z,238nm,19.0s
BLKB Belogradchik 80.84 6 P **P 00 49 29.2 +0.1**
NEUR Neytrino 80.92 351 *i* P **P 00 49 30.1 +0.3**
NEUR pmax pmax
comp=Z,27nm,1.6s
CAMP Campotosto 81.05 13 IAmb IAmb 00 49 32.6
comp=Z,26nm,1.2s
MPEP Malo Peshtene 81.16 5 *e*P **P 00 49 30.9 +0.1**
PLVB Pleven 81.17 5 P **P 00 49 31.2 +0.3**
SZH Strazhitsa 81.35 4 *e*P **P 00 49 32.3 +0.5**
PRD Provadia 81.50 3 *e*P **P 00 49 33.9 +1.3**
ONI Oni 81.53 351 IAmb IAmb 00 49 35.8
comp=Z,25nm,1.5s
ONI Oni 81.53 351 P **P 00 49 34.1 +1.2**
DAV Davao City (W) 81.53 270 LR LR 01 22 10.2
comp=Z,71nm,20.0s,baz=336,slow=33
PGB Panagyurishte 82.03 5 *e*P **P 00 49 35.4 0.0**
ZKTA Zakatala 82.14 348 P **P 00 49 38.2 +2.2**

SEKA Sheki 82.49 348 P **P 00 49 39.3 +1.3**
TRLG Trialeti 82.50 350 P **P 00 49 38.1 0.0**
MNGR Mingechevir, A 82.93 348 P **P 00 49 41.7 +1.6**
GANJ Ganja 83.15 348 P **P 00 49 42.8 +1.5**
PMG Port Moresby 83.44 243 LR LR 01 21 30.8
comp=Z,154nm,20.5s,baz=30,slow=32
FNA Florina 83.58 7 IAmb IAmb 00 49 45.2
comp=Z,8.5nm,1.1s
GNI Garni 83.82 349 P **P 00 49 47.4 +2.4**
GNI Garni 83.82 349*ce*P **P 00 49 46.6 +1.7**
GNI pmax pmax
comp=Z,47nm,1.7s
GNI Garni 83.82 349 LR LR 01 32 24.8
comp=Z,109nm,18.7s,baz=43,slow=40
GEYT Alibeck 83.90 339 P **P 00 49 46.3 +1.1**
comp=Z,12nm,1.0s,baz=354,slow=1.4,SNR=37
GEYT LR LR 01 33 46.6
comp=Z,152nm,18.2s,baz=19,slow=40
comp=Z,12nm,1.0s
NIL Nilore 83.94 326 P **P 00 49 46.6 +1.1**
NIL Nilore 83.94 326 P **P 00 49 46.6 +1.1**
NIL pmax pmax
comp=Z,29nm,1.1s
KBL Kabul 84.40 329 P **P 00 49 47.0 -1.0**
KBL IAmb IAmb 00 49 48.3
comp=Z,21nm,1.4s
KBL Kabul 84.40 329 P **P 00 49 47.0 -1.0**
NAX Nakhchivan 84.70 349 P **P 00 49 51.4 +2.1**
LKRN Lenkeran, Azer 84.75 346 P **P 00 49 51.0 +1.6**
ANTO Ankara 84.81 358 P **P 00 49 50.6 +0.7**
BR131 Keskin Array S 84.94 358 IAmb IAmb 00 49 52.8
comp=Z,12nm,1.1s
BR131 Keskin Array S 84.94 358⇓ *i*P **P 00 49 51.6 +1.0**
BRTR Keskin Array B 84.94 358*ce*P **P 00 49 51.2 +0.6**
BRTR pmax pmax
comp=Z,5.0nm,1.0s
BRTR Keskin Array B 84.94 358 P **P 00 49 50.9 +0.3**
comp=Z,5.3nm,1.0s,baz=6.5,slow=3.7,SNR=18
BRTR LR LR 01 28 33.7
comp=Z,90nm,21.8s,baz=3.5,slow=36
comp=Z,5.3nm,1.0s
ATAH Atahualpa 85.22 110 P **P 00 49 54.0 +1.4**
comp=Z,3.1nm,0.6s,baz=350,slow=6.1,SNR=4.8
comp=Z,3.1nm,0.6s
DZM Mont Dzumac 86.11 221 LR LR 01 20 31.6
comp=Z,239nm,21.7s,baz=52,slow=30
VAE Valguarnera 86.16 13 LR LR 01 30 59.3
comp=Z,88nm,19.7s,baz=339,slow=37
CHTO Chiang Mai 86.32 298 P **P 00 49 56.9 -0.7**
CHTO IAmb IAmb 00 49 58.6
comp=Z,13nm,1.2s
CHTO Chiang Mai 86.32 298 P **P 00 49 56.9 -0.7**
CHTO pmax pmax
comp=Z,13nm,1.3s
CMAR Chiang Mai Arr 86.62 298*ce*P **P 00 49 59.2 +0.1**
CMAR pmax pmax
comp=Z,6.0nm,0.9s
CMAR Chiang Mai Arr 86.62 298 P **P 00 49 58.7 -0.4**
comp=Z,4.6nm,0.8s,baz=20,slow=4.8,SNR=31
CMAR LR LR 01 33 38.6
comp=Z,97nm,18.7s,baz=15,slow=39
comp=Z,4.6nm,0.8s
MDT Midelt 86.81 29 LR LR 01 28 34.7
comp=Z,295nm,18.3s,baz=3.0,slow=36
KEST Kesra 87.12 17 P **P 00 50 00.6 -0.8**
comp=Z,3.0nm,0.8s,baz=0.5,slow=6.7,SNR=4.9
KEST LR LR 01 28 32.8
comp=Z,96nm,21.9s,baz=204,slow=35
comp=Z,3.0nm,0.8s
RAO Raoul Island 88.08 205 LR LR 01 23 52.0
comp=Z,226nm,19.2s,baz=50,slow=32
RPN Rapa Nui 89.20 145 LR LR 01 23 25.9
comp=Z,91nm,18.9s,baz=181,slow=31
MDP Montagnes des 89.51 82 LR LR 01 28 01.2
comp=Z,139nm,21.0s,baz=314,slow=34
CTA Charters Tower 93.02 238 LR LR 01 25 51.0
comp=Z,96nm,21.6s,baz=77,slow=31
URZ Urewera 97.88 206 LR LR 01 28 37.5
comp=Z,221nm,19.9s,baz=122,slow=32
WSAR Wadi Sarin 97.91 334 LR LR 01 43 20.6
comp=Z,60nm,18.3s,baz=74,slow=40
LPAZ La Paz 98.34 107 LR LR 01 37 09.8
comp=Z,55nm,20.0s,baz=341,slow=36
QSPA South Pole Qui 145.46 180 PKPbc **PKPdf 00 56 51.4 -0.7**
comp=Z,25nm,0.9s,baz=74,slow=1.2,SNR=38
BOSA Boshof 152.67 11 PKPbc **PKPbc 00 57 10.1 -1.9**
comp=Z,3.7nm,0.8s,baz=8.5,slow=0.7,SNR=10

IDC 09 00:46:23.7±2.2, 5°83S×143°82E, h0km, mb3.5/3, mbtmp3.6/3, Error ellipse: s-maj=92.0km s-min=36.6km az=107.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.79**	**212**	Pn	Pn	00 50 15.8	-4.6
	0.2nm,0.3s,baz=30,slow=13,SNR=11						
ASAR	**Alice Springs**	**20.14**	**207**	P	P	00 50 59.6	-0.1
	1.1nm,0.6s,baz=36,slow=9.7,SNR=13						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**75.37**	**321**	P	P	00 58 09.4	+0.2
	0.2nm,0.4s,baz=111,slow=5.6,SNR=4.2						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**86.58**	**24**	P	P	00 59 08.6	-0.1
	0.6nm,1.0s,baz=244,slow=5.9,SNR=1.7						
	0.6nm,1.0s						

*IDC **09** 00:49:27.9±3.4, 55°.29N×149°.25W, h0km, mb3.7/3, mbtmp3.3/6, ML2.9/3, Error ellipse: s-maj=62.3km s-min=41.6km az=178.0*
*NEIC **09** 00:49:30.9±1.1, 55°.7N±0°.1×149°.25W±0°.09, h8km±8km, ML3.2(AEIC), Error ellipse: s-maj=16.1km s-min=7.4km az=171.0*
*AEIC **09** 00:49:34.7±1.1, 55°.7N±0°.1×149°.3W±0°.1, h2km±8km, Error ellipse: s-maj=15.8km s-min=9.4km az=174.0*
ISC 09 00:49:31.8±1.4, 55°.7N±0°.1×149°.34W±0°.07, h10km, n85, σ0°69/89, mb4.0/3, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.65**	**306**		**Pn**	**00 50 14.5**	**0.0**
OHAK					**Sn**	**00 50 44.6**	**-2.0**
KDAK	**Kodiak Island**	**2.72**	**320**		**Pn**	**00 50 15.6**	**+0.1**
KDAK					**Sn**	**00 50 47.3**	**-1.2**
KDAK	**Kodiak Island**	**2.72**	**320**	Pn	**Pn**	**00 50 15.5**	**+0.1**
	1.9nm,0.3s,baz=144,slow=4.6,SNR=41						
KDAK				Sn	**Sn**	**00 50 46.9**	**-1.6**
	2.0nm,0.3s,baz=174,slow=14,SNR=6.6						
	8.6nm,0.5s						
SII	**Sitkinak Islan**	**2.83**	**289**		**Sn**	**00 50 50.4**	**-0.9**
SII	**Sitkinak Islan**	**2.83**	**289**	Pn	**Pn**	**00 50 17.0**	**-0.1**
SYI	**Shuyak Island**	**3.33**	**331**		**Pn**	**00 50 24.1**	**+0.3**
SYI					**Sn**	**00 51 02.5**	**-0.9**
CNPM	**China Poot**	**3.94**	**346**		**Pn**	**00 50 32.5**	**+0.3**
CNPM					**Sn**	**00 51 17.9**	**-0.5**
Q19K	**Cape Douglas,**	**3.96**	**326**		**Pn**	**00 50 32.8**	**+0.2**
MID	**Middleton Isla**	**4.04**	**22**	Pn	**Pn**	**00 50 33.2**	**-0.4**
Q23K	**Middleton Isla**	**4.04**	**22**	Pn	**Pn**	**00 50 33.1**	**-0.5**
BRSE	**Bradley Lake S**	**4.09**	**350**		**Pn**	**00 50 34.0**	**-0.3**
ANCK	**Angle Creek**	**4.18**	**309**		**Pn**	**00 50 36.8**	**+1.2**
CNTC	**Contact Creek**	**4.39**	**308**		**Pn**	**00 50 39.1**	**+0.7**
SLKM	**Skilak Lake**	**4.81**	**355**		**Pn**	**00 50 43.8**	**-0.4**
P18K	**Big Mountain,**	**4.85**	**322**		**Pn**	**00 50 45.2**	**+0.4**
KAIM	**Kayak Island**	**4.96**	**30**	Pn	**Pn**	**00 50 44.9**	**-1.3**
O18K	**Koktuh Hills**	**5.19**	**325**		**Pn**	**00 50 49.8**	**+0.4**
EYAK	**Cordova Ski Ar**	**5.19**	**20**		**Pn**	**00 50 49.4**	**+0.1**
SUCK	**Suckling Hills**	**5.26**	**32**		**Pn**	**00 50 50.2**	**-0.2**
GOAT	**Goat Mountain**	**5.44**	**25**		**Pn**	**00 50 53.3**	**+0.4**
BERG	**Berg Lake**	**5.55**	**30**	Pn	**Pn**	**00 50 54.2**	**-0.1**
GRIN	**Grindle Hills**	**5.57**	**33**		**Pn**	**00 50 54.5**	**-0.2**
SNH	**Sunshine Point**	**5.64**	**35**	Pn	**Pn**	**00 50 55.7**	**0.0**
KHIT	**Khitrov Hills**	**5.72**	**32**		**Pn**	**00 50 56.6**	**-0.2**
P16K	**Nushagak River**	**5.73**	**309**		**Pn**	**00 50 57.3**	**+0.6**
SUA	**Susitna One**	**5.79**	**353**		**Pn**	**00 50 58.4**	**+0.6**
BMRM	**Bremner River**	**5.81**	**23**		**Pn**	**00 50 58.0**	**0.0**
WAX	**Waxell Ridge**	**5.85**	**33**		**Pn**	**00 50 57.9**	**-0.6**
MESA	**MESA**	**5.94**	**38**	Pn	**Pn**	**00 51 00.6**	**+0.7**
CRQM	**Cirque**	**6.00**	**30**	Pn	**Pn**	**00 51 00.7**	**-0.1**
KLU	**Klutina**	**6.04**	**16**		**Pn**	**00 51 01.5**	**+0.3**
N18K	**Kilae Creek**	**6.05**	**328**	Pn	**Pn**	**00 51 01.1**	**-0.1**
GHO	**Glory Hole Cre**	**6.06**	**2**		**Pn**	**00 51 01.7**	**+0.3**
O16K	**Kokwok River B**	**6.08**	**313**	Pn	**Pn**	**00 51 02.6**	**+0.9**
TGL	**Tana Glacier**	**6.09**	**32**		**Pn**	**00 51 01.3**	**-0.6**
SML	**Sawmill**	**6.11**	**4**	Pn	**Pn**	**00 51 02.2**	**0.0**
BAGL	**Bagley Icefiel**	**6.12**	**36**		**Pn**	**00 51 02.1**	**-0.1**
ISLE	**Juniper Island**	**6.12**	**34**	Pn	**Pn**	**00 51 01.8**	**-0.6**
SCM	**Sheep Creek Mo**	**6.21**	**9**	Pn	**Pn**	**00 51 04.5**	**+1.1**
SKT	**Skwentna**	**6.37**	**351**	Pn	**Pn**	**00 51 06.2**	**+0.6**
KIAG	**Kiagna River**	**6.37**	**32**		**Pn**	**00 51 05.4**	**-0.3**
N25K	**Chitina, Valde**	**6.39**	**21**	Pn	**Pn**	**00 51 05.8**	**-0.1**
GLB	**Gilahina Butte**	**6.41**	**24**		**Pn**	**00 51 06.0**	**-0.2**
GRNC	**Granite Creek**	**6.41**	**36**	Pn	**Pn**	**00 51 05.7**	**-0.7**
TABL	**Table Mountain**	**6.41**	**39**		**Pn**	**00 51 05.8**	**-0.6**
MCARA	**McCarthy VSAT**	**6.56**	**28**	Pn	**Pn**	**00 51 08.4**	**+0.3**
M24K	**Tolsona, Glenn**	**6.60**	**13**	Pn	**Pn**	**00 51 08.8**	**+0.1**
PNL	**Peninsula**	**6.63**	**49**		**Pn**	**00 51 08.7**	**-0.5**
BCPM	**Bancas Point**	**6.69**	**47**	Pn	**Pn**	**00 51 09.4**	**-0.5**
BARN	**Barnard Glacie**	**6.69**	**34**		**Pn**	**00 51 09.7**	**-0.4**
CTGM	**Chitina Glacie**	**6.72**	**35**	Pn	**Pn**	**00 51 10.0**	**-0.6**
M17K	**Holitna River**	**7.08**	**327**	Pn	**Pn**	**00 51 15.8**	**+0.5**
N15K	**Kwethluk River**	**7.24**	**312**	Pn	**Pn**	**00 51 19.2**	**+1.7**
O29M	**Mount Kennedy**	**7.32**	**47**		**Pn**	**00 51 18.4**	**-0.4**
M16K	**Timber Creek**	**7.32**	**320**	Pn	**Pn**	**00 51 19.7**	**+1.0**
O14K	**Tigyukauivet M**	**7.33**	**304**	Pn	**Pn**	**00 51 19.4**	**+0.7**
P29M	**Windy Craggy**	**7.34**	**53**		**Pn**	**00 51 18.2**	**-0.7**
S31K	**Pelican**	**7.53**	**67**		Pn	00 51 19.2	-2.2
M27K	**Edge Creek, AK**	**7.67**	**27**	Pn	**Pn**	**00 51 23.9**	**+0.4**
CAST	**Castle Rocks**	**7.83**	**351**	Pn	**Pn**	**00 51 26.9**	**+1.3**
KTH	**Kantishna Hill**	**7.88**	**355**	Pn	**Pn**	**00 51 27.4**	**+1.0**
L16K	**Owhat River**	**7.98**	**323**	Pn	**Pn**	**00 51 27.9**	**+0.3**
L27K	**Beaver Creek,**	**8.28**	**24**	Pn	**Pn**	**00 51 32.0**	**+0.2**
BCAR	**Beaver Creek A**	**8.30**	**25**	Pn	**Pn**	**00 51 32.3**	**+0.3**
S32K	**Killisnoo**	**8.33**	**72**	Pn	**Pn**	**00 51 31.4**	**-1.0**
BPAW	**Bear Paw Mtn.**	**8.43**	**355**	Pn	**Pn**	**00 51 34.9**	**+0.9**
M29M	**Somme Creek**	**8.74**	**35**	Pn	**Pn**	**00 51 38.4**	**+0.2**
J20K	**Nowinta River**	**8.80**	**346**	Pn	**Pn**	**00 51 40.2**	**+1.3**
L14K	**Kuka Creek**	**8.95**	**314**	Pn	**Pn**	**00 51 42.4**	**+1.4**
WHY	**Whitehorse**	**9.08**	**51**	Pn	**Pn**	**00 51 43.1**	**+0.2**
ILAR	**Eielson Array**	**9.15**	**7**	Pn	**Pn**	**00 51 44.2**	**+0.5**
ILAR	**Eielson Array**	**9.15**	**7**	Pn	**Pn**	**00 51 44.8**	**+1.1**
	0.1nm,0.3s,baz=189,slow=14,SNR=5.6						
	0.3nm,0.4s						
L29M	**L29M**	**9.33**	**33**	Pn	**Pn**	**00 51 45.9**	**-0.3**
M30M	**Minto, Yukon**	**9.40**	**38**	Pn	**Pn**	**00 51 46.8**	**-0.4**
I21K	**Tanana**	**9.57**	**353**	Pn	**Pn**	**00 51 50.0**	**+0.6**
P33M	**Teslin, Yukon**	**9.85**	**56**	Pn	**Pn**	**00 51 52.5**	**-0.8**
K29M	**Barlow Dome**	**10.06**	**31**	Pn	**Pn**	**00 51 56.5**	**+0.2**
M31M	**Drury Creek, Y**	**10.06**	**44**	Pn	**Pn**	**00 51 56.7**	**+0.5**
H21K	**Melozitna Rive**	**10.10**	**352**	Pn	**Pn**	**00 51 57.6**	**+0.9**
P33M	**Jennings River**	**10.52**	**62**	Pn	**Pn**	**00 52 01.7**	**-0.8**
FYU	**Fort Yukon**	**11.05**	**9**	Pn	**Pn**	**00 52 09.9**	**+0.3**
YKA	**Yellowknife Ar**	**18.88**	**55**	P	**P**	**00 53 51.6**	**-0.2**
	baz=263,slow=6.3,SNR=1.9						
	0.2nm,0.7s						
FINES	**FINESS Array B**	**63.11**	**2**	P	**P**	**00 59 59.6**	**+0.8**
	0.6nm,0.6s,baz=341,slow=7.3,SNR=4.3						
	0.6nm,0.6s						
BVAR	**Borovoye Array**	**66.77**	**335**	P	**P**	**01 00 23.2**	**+0.4**
	0.5nm,0.5s,baz=18,slow=7.7,SNR=2.5						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**69.03**	**325**	P	**P**	**01 00 37.3**	**+0.1**
	0.2nm,0.5s,baz=48,slow=6.2,SNR=2.8						
	0.2nm,0.5s						

*IDC **09** 00:50:40.2±1.0, 55°.45N×149°.20W, h0km, mb4.1/21, mbtmp4.1/26, ML3.4/5, MS3.4/2, Error ellipse: s-maj=24.1km s-min=18.3km az=12.0*
*NEIC **09** 00:50:41.1±1.7, 55°.57N±0°.06×149°.3W±0°.1, h7km±6km, mb4.0/2, ML3.9/30, ML3.8(AEIC), Error ellipse: s-maj=9.4km s-min=8.5km az=138.0*
*AEIC **09** 00:50:45.4±1.7, 55°.57N±0°.06×149°.3W±0°.1, h8km±6km, Error ellipse: s-maj=9.4km s-min=8.5km az=138.0*
ISC 09 00:50:42.9±0.7, 55°.71N±0°.07×149°.24W±0°.05, h10km, n265, σ0°99/263, mb4.2/23, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.71**	**306**	Pn	**Pn**	**00 51 25.5**	**-1.0**
OHAK				Sn	**Sn**	**00 51 56.5**	**-2.7**
OHAK	**Old Harbor**	**2.71**	**306**	P	**Pn**	**00 51 25.2**	**-1.3**
	baz=125						
OHAK				S	**Sn**	**00 51 56.3**	**-2.9**
	baz=125						
KDAK	**Kodiak Island**	**2.78**	**320**		**Pn**	**00 51 26.8**	**-0.6**
KDAK				Sn	**Sn**	**00 51 59.5**	**-1.4**
KDAK	**Kodiak Island**	**2.78**	**320**	S	**Sn**	**00 51 59.0**	**-2.0**
	baz=139						
KDAK	**Kodiak Island**	**2.78**	**320**	Pn	**Pn**	**00 51 26.7**	**-0.6**
	10nm,0.3s,baz=145,slow=7.0,SNR=18						
KDAK				Sn	**Sn**	**00 51 59.3**	**-1.6**
	11nm,0.3s,baz=120,slow=20,SNR=7.2						
	40nm,0.4s						
SII	**Sitkinak Islan**	**2.90**	**289**		**Sn**	**00 52 01.4**	**-2.6**
SII	**Sitkinak Islan**	**2.90**	**289**	S	**Sn**	**00 52 01.4**	**-2.6**
	baz=108						
Q20K	**Shuyak Island**	**3.38**	**331**	P	**Pn**	**00 51 34.9**	**-0.8**
	baz=149						
Q20K				S	**Sn**	**00 52 14.7**	**-1.0**
	baz=149						
SYI	**Shuyak Island**	**3.38**	**331**	Pn	**Pn**	**00 51 34.9**	**-0.7**
SYI				Sn	**Sn**	**00 52 15.6**	**0.0**
CNPM	**China Poot**	**3.97**	**345**	Pn	**Pn**	**00 51 44.0**	**+0.2**
CNPM				IAML		00 52 30.9	
	comp=N,61nm,1.0s						
CNPM				IAML		00 52 36.2	
	comp=E,67nm,1.2s						
CNPM	**China Poot**	**3.97**	**345**		**Sn**	**00 52 29.7**	**-0.8**
Q19K	**Cape Douglas,**	**4.01**	**325**	Pn	**Pn**	**00 51 45.0**	**+0.6**
Q19K				IAML		00 52 42.6	
	comp=N,321nm,0.8s						
Q19K	**Cape Douglas,**	**4.01**	**325**	P	**Pn**	**00 51 43.5**	**-0.9**
	baz=143						
Q23K	**Middleton Isla**	**4.04**	**21**	Pn	**Pn**	**00 51 43.5**	**-1.2**
Q23K				IAML		00 53 13.8	
	comp=N,193nm,1.1s						
Q23K				IAML		00 53 47.7	
	comp=E,252nm,1.2s						
Q23K	**Middleton Isla**	**4.04**	**21**	P	**Pn**	**00 51 44.2**	**-0.5**
	baz=203						
MID	**Middleton Isla**	**4.04**	**22**		**Pn**	**00 51 44.3**	**-0.4**
MID	**Middleton Isla**	**4.04**	**22**	IAML		00 52 31.3	
	comp=N,173nm,1.1s						
MID				IAML		00 53 47.6	
	comp=E,260nm,1.2s						
KAKN	**Katmai Knife C**	**4.11**	**312**		**Pn**	**00 51 45.5**	**-0.2**
BRSE	**Bradley Lake S**	**4.12**	**349**		**Pn**	**00 51 45.2**	**-0.7**
BRSE					**Sn**	**00 52 34.0**	**-0.1**
BRSE	**Bradley Lake S**	**4.12**	**349**	P	**Pn**	**00 51 45.2**	**-0.7**
	baz=169						
BRSE				S	**Sn**	**00 52 34.0**	**-0.1**
	baz=169						
HOM	**Homer**	**4.16**	**343**	Pn	**Pn**	**00 51 46.5**	**+0.1**
ANCK	**Angle Creek**	**4.24**	**309**		**Pn**	**00 51 47.1**	**-0.4**
SEW	**Seward**	**4.41**	**359**		**Pn**	**00 51 49.5**	**-0.3**
SEW					**Sn**	**00 52 38.1**	**-2.9**
SEW	**Seward**	**4.41**	**359**	P	**Pn**	**00 51 49.5**	**-0.3**
	baz=179						
SEW				S	**Sn**	**00 52 38.1**	**-2.9**
	baz=179						
P23K	**Montague Islan**	**4.41**	**12**		**Pn**	**00 51 49.4**	**-0.4**
P23K					**Sn**	**00 52 38.6**	**-2.5**
P23K	**Montague Islan**	**4.41**	**12**	P	**Pn**	**00 51 49.4**	**-0.4**
	baz=193						
P23K				S	**Sn**	**00 52 38.6**	**-2.5**
	baz=193						
CNTC	**Contact Creek**	**4.45**	**308**		**Pn**	**00 51 50.0**	**-0.4**
Q17K	**Contact Creek**	**4.45**	**308**	P	**Pn**	**00 51 50.0**	**-0.4**
	baz=124						
P19K	**Oil Pt**	**4.49**	**333**	Pn	**Pn**	**00 51 51.0**	**0.0**
P19K				IAML		00 52 51.0	
	comp=N,127nm,1.4s						
P19K				IAML		00 53 07.5	
	comp=E,120nm,0.9s						
P19K	**Oil Pt**	**4.49**	**333**	P	**Pn**	**00 51 50.2**	**-0.9**
	baz=151						
ILSW	**Iliamna Southw**	**4.76**	**336**		**Pn**	**00 51 54.0**	**-0.8**
ILSW	**Iliamna Southw**	**4.76**	**336**	IAML		00 53 19.3	
	comp=E,58nm,1.1s						
ILSW				IAML		00 53 19.3	
	comp=N,50nm,1.1s						
O22K	**Cooper Landing**	**4.79**	**357**		**Pn**	**00 51 54.5**	**-0.5**
O22K	**Cooper Landing**	**4.79**	**357**	P	**Pn**	**00 51 54.5**	**-0.5**
	ba

P18K Big Mountain, 4.90 321 Pn 00 51 56.4 -0.2
P18K IAML 00 52 57.9
comp=N,25nm,1.4s
P18K Big Mountain, 4.90 321 Sn 00 52 51.2 -2.2
P18K Big Mountain, 4.90 321 P Pn 00 51 55.6 -1.0
baz=137
P18K S **Sn 00 52 51.2 -2.2**
baz=137
HIN Hinchinbrook I 4.92 16 Pn Pn 00 51 57.2 +0.4
HIN Pg **Pg 00 52 17.5 +0.5**
RSO Redoubt South 5.12 340 Pb 00 52 18.2 +5.6
EYAK Cordova Ski Ar 5.19 19 Pn Pn 00 52 00.2 -0.3
EYAK Cordova Ski Ar 5.19 19 P Pn 00 52 00.2 -0.3
baz=202
P17K Kvichak River 5.22 315 Pn 00 51 59.9 -1.2
P17K Kvichak River 5.22 315 P Pn 00 51 59.9 -1.2
baz=130
O18K Koktuh Hills 5.24 325 Pn 00 52 00.9 -0.4
O18K IAML 00 53 06.9
comp=E,28nm,1.4s
O18K IAML 00 53 29.9
comp=N,31nm,0.7s
O18K Koktuh Hills 5.24 325 P Pn 00 52 00.4 -0.8
baz=141
SUCK Suckling Hills 5.25 31 Pn Pn 00 51 58.6 -2.8
SUCK IAML 00 53 04.2
comp=E,122nm,1.5s
SUCK IAML 00 53 10.1
comp=N,118nm,0.6s
KHIT Khitrov Hills 5.71 31 Pn 00 52 07.1 -0.6
N20K Mount Spurr 5.72 345 P Pn 00 52 07.2 -0.7
baz=163
SPCR Spurr Chakacha 5.72 345 Pn 00 52 07.2 -0.8
KNK Knik Glacier 5.73 4 Pn Pn 00 52 08.8 +0.8
P16K Nushagak River 5.79 309 Pn 00 52 08.2 -0.5
P16K Nushagak River 5.79 309 P Pn 00 52 08.2 -0.5
baz=122
BMRM Bremner River 5.80 23 Pn 00 52 08.4 -0.6
BMRM Bremner River 5.80 23 P Pn 00 52 08.4 -0.6
baz=206
N19K Bonanza Creek 5.81 334 Pn Pn 00 52 08.1 -1.1
N19K Bonanza Creek 5.81 334 P Pn 00 52 08.3 -1.0
baz=150
SUA Susitna One 5.82 353 Pn Pn 00 52 08.7 -0.7
WAX Waxell Ridge 5.83 33 Pn Pn 00 52 08.7 -0.7
O17K Koliganek Bris 5.85 317 Pn 00 52 08.6 -1.1
O17K Koliganek Bris 5.85 317 P Pn 00 52 08.6 -1.1
baz=132
PMR Palmer 5.90 0 Pn Pn 00 52 09.9 -0.3
MESA MESA 5.92 38 Pn Pn 00 52 11.1 +0.3
MESA MESA 5.92 38 P Pn 00 52 10.1 -0.7
baz=223
CRQM Cirque 5.99 30 Pn 00 52 12.0 +0.2
CRQE Cirque 6.00 30 P Pn 00 52 11.2 -0.7
baz=215
KLU Klutina 6.05 15 Pn 00 52 08.7 -3.8
GHO Glory Hole Cre 6.08 1 Pn 00 52 12.9 +0.1
TGL Tana Glacier 6.08 31 Pn 00 52 12.2 -0.7
N18K Kilae Creek 6.10 328 Pn Pn 00 52 12.2 -0.8
BAGL Bagley Icefiel 6.10 35 Pn 00 52 12.4 -0.6
ISLE Juniper Island 6.11 34 Pn 00 52 12.8 -0.5
SML Sawmill 6.13 4 Pn 00 52 12.2 -1.3
SML Sawmill 6.13 4 P Pn 00 52 13.1 -0.5
baz=185
O16K Kokwok River B 6.14 313 Pn Pn 00 52 13.3 -0.3
O16K Kokwok River B 6.14 313 P Pn 00 52 12.5 -1.1
baz=127
SCM Sheep Creek Mo 6.22 8 Pn 00 52 13.7 -1.0
VRDI Verde Repeater 6.31 26 Pn 00 52 16.4 +0.3
SAMH Samovar Hills 6.31 42 Pn 00 52 15.3 -0.7
SVW2 Sparrevohn 6.34 331 Pn Pn 00 52 15.6 -0.8
KIAG Kiagna River 6.36 32 Pn 00 52 15.9 -0.8
N25K Chitina, Valde 6.38 20 Pn 00 52 15.8 -1.3
N25K Chitina, Valde 6.38 20 P Pn 00 52 16.2 -0.8
baz=204
TABL Table Mountain 6.39 39 Pn 00 52 17.1 -0.2
SDPT Sand Point 6.39 271 Pn 00 52 14.7 -2.4
SDPT Sand Point 6.39 271 P Pn 00 52 14.7 -2.4
baz=83
GRNC Granite Creek 6.40 35 Pn 00 52 16.9 -0.4
SKT Skwentna 6.40 350 Pn 00 52 16.9 -0.2
N17K Nushagak Hills 6.40 322 Pn 00 52 16.1 -1.1
N17K Nushagak Hills 6.40 322 P Pn 00 52 16.1 -1.1
baz=136
GLB Gilahina Butte 6.41 24 Pn 00 52 16.5 -0.8
PCA Pinnacle 6.49 44 Pn 00 52 18.2 -0.3
PINM Pinnacle 6.50 44 P Pn 00 52 18.2 -0.3
baz=231
M20K Styx River 6.51 344 Pn 00 52 17.4 -1.3
PTPK Patty Peak 6.54 30 Pn 00 52 18.5 -0.7
MCARA McCarthy VSAT 6.55 27 Pn 00 52 19.4 +0.3
MCARA McCarthy VSAT 6.55 27 P Pn 00 52 18.9 -0.2
baz=212
PNL Peninsula 6.60 49 Pn 00 52 19.5 -0.4
PNL Peninsula 6.60 49 P Pn 00 52 19.5 -0.4
baz=236
M24K Tolsona, Glenn 6.61 13 Pn 00 52 20.7 +0.7
M24K Tolsona, Glenn 6.61 13 P Pn 00 52 19.9 -0.1
baz=195
BCPM Bancas Point 6.66 46 Pn 00 52 20.4 -0.3
BARN Barnard Glacier 6.67 33 Pn 00 52 21.1 -0.1
O15K Ungalikthiuk R 6.69 306 Pn 00 52 20.8 -0.3
O15K Ungalikthiuk R 6.69 306 P Pn 00 52 20.8 -0.3
baz=118
CTG Chitna Glacier 6.71 35 P Pn 00 52 20.9 -0.6
baz=221
CTGM Chitina Glacie 6.71 35 Pn 00 52 21.1 -0.4
LOGN Logan Glacier 6.71 37 Pn Pn 00 52 21.3 -0.3
M18K Stony River 6.74 332 Pn 00 52 21.0 -0.8
M18K Stony River 6.74 332 P Pn 00 52 21.0 -0.8
baz=147
N16K Nishlik Lake 6.95 317 Pn 00 52 23.6 -1.1
N16K Nishlik Lake 6.95 317 P Pn 00 52 23.6 -1.1
baz=130
HARP HAARP 7.03 16 Pn 00 52 25.8 0.0
HARP HAARP 7.03 16 P Pn 00 52 25.8 0.0
baz=199
L19K White Mountain 7.11 338 Pn Pn 00 52 26.6 -0.2
M17K Holitna River 7.13 326 Pn 00 52 27.0 -0.2
PN7A Pavlof North-7 7.24 273 Pn 00 52 26.4 -2.4
O29M Mount Kennedy 7.29 47 Pn 00 52 29.3 -0.2
O29M Mount Kennedy 7.29 47 P Pn 00 52 29.3 -0.2
baz=235
N15K Kwethluk River 7.30 312 Pn 00 52 29.8 +0.3
P29M Windy Craggy 7.31 53 Pn 00 52 29.5 -0.1
P29M Windy Craggy 7.31 53 P Pn 00 52 29.0 -0.6
baz=242
M16K Timber Creek 7.38 320 Pn 00 52 30.7 +0.1
M16K Timber Creek 7.38 320 P Pn 00 52 29.6 -1.0
baz=133
O14K Tigyukauivet M 7.39 304 Pn Pn 00 52 30.7 0.0
S31K Pelican 7.48 67 Pn Pn 00 52 29.7 -2.3
S31K Pelican 7.48 67 P Pn 00 52 29.4 -2.5
baz=257
L18K Granite Mounta 7.57 333 Pn 00 52 32.2 -1.1
L18K Granite Mounta 7.57 333 P Pn 00 52 32.2 -1.1
baz=147
M27K Edge Creek, AK 7.66 27 Pn 00 52 34.6 0.0
M27K Edge Creek, AK 7.66 27 P Pn 00 52 33.9 -0.8
baz=212
RND Reindeer 7.72 1 Pn Pn 00 52 35.3 -0.1
MENT Mentasta 7.77 19 Pn Pn 00 52 36.8 +0.8
TRF Thorofare Moun 7.78 356 Pn Pn 00 52 37.8 +1.5
CAST Castle Rocks 7.86 351 Pn Pn 00 52 38.6 +1.4
PLBC Pleasant Camp 7.87 56 Pn 00 52 36.4 -0.9
PLBC Pleasant Camp 7.87 56 P Pn 00 52 36.4 -0.9
baz=246
N14K Kuskokwak Cree 7.87 308 Pn 00 52 36.2 -1.1
N14K Kuskokwak Cree 7.87 308 P Pn 00 52 36.2 -1.1
baz=118
P30M Million Dollar 7.88 51 Pn 00 52 38.1 +0.6
P30M Million Dollar 7.88 51 P Pn 00 52 38.1 +0.6
baz=240
KTH Kantishna Hill 7.91 355 Pn Pn 00 52 38.9 +0.9
L26K Log Cabin Wild 7.92 20 Pn Pn 00 52 37.6 -0.5
TTA Tatalina 8.02 337 Pn Pn 00 52 38.8 -0.6
HYT Haines Junctio 8.03 46 Pn Pn 00 52 39.0 -0.6
HYT Haines Junctio 8.03 46 P Pn 00 52 38.8 -0.8
baz=235
L16K Owhat River 8.03 323 Pn Pn 00 52 39.8 +0.3
S32K Killisnoo 8.28 72 Pn Pn 00 52 41.2 -1.8
S32K Killisnoo 8.28 72 P Pn 00 52 40.9 -2.0
baz=263
BCAR Beaver Creek A 8.29 24 Pn Pn 00 52 43.4 +0.3

BESE Bessie Mountai 8.33 64 Pn Pn 00 52 42.3 -1.4
SKAG Skagway 8.36 58 Pn Pn 00 52 43.5 -0.5
M14K Bethel 8.39 312 Pn Pn 00 52 44.5 0.0
K17K Iditarod 8.41 330 Pn Pn 00 52 43.8 -0.9
R32K Eaglecrest 8.43 66 Pn Pn 00 52 44.6 -0.4
BPAW Bear Paw Mtn. 8.46 355 Pn Pn 00 52 46.3 +0.9
N30M Aishikik Lake 8.56 43 Pn 00 52 46.9 +0.1
O30N Mendenhall 8.58 48 Pn Pn 00 52 47.5 +0.4
J18K Innoko River 8.64 337 Pn Pn 00 52 48.5 +0.5
SCRK Sand Creek 8.70 15 Pn Pn 00 52 50.9 +2.1
M29M Somme Creek 8.72 35 Pn 00 52 49.7 +0.5
M29M Somme Creek 8.72 35 P Pn 00 52 48.7 -0.4
baz=224
HDA Harding Lake 8.80 7 Pn Pn 00 52 51.7 +1.7
WRH Wood River Hil 8.81 3 Pn Pn 00 52 51.7 +1.6
M13K Dall Lake 8.83 308 Pn 00 52 49.8 -0.6
J20K Nowinta River 8.84 346 Pn Pn 00 52 51.1 +0.5
J19K Poorman 8.90 342 Pn Pn 00 52 50.5 -0.9
WHY Whitehorse 9.05 51 Pn Pn 00 52 53.8 +0.2
K27K Chicken 9.08 20 Pn Pn 00 52 54.4 +0.5
J25K Salcha River, 9.13 11 Pn Pn 00 52 54.9 +0.2
K15K Wolf Creek Mou 9.14 321 Pn Pn 00 52 54.9 +0.2
IL31 9.16 6 Pn 00 52 55.8 +0.8
ILAR Eielson Array 9.16 6 Pn Pn 00 52 56.0 +1.0
ILAR Eielson Array 9.16 6 Pn Pn 00 52 55.8 +0.7
comp=N,0.4nm,0.3s,baz=190,slow=14,SNR=15
ILAR Sn **Sn 00 54 33.7 -4.3**
comp=N,0.3nm,0.3s,baz=190,slow=24,SNR=5.1
comp=N,1.4nm,0.4s
P32M Atlin 9.18 59 Pn Pn 00 52 54.7 -0.6
P32M Atlin 9.18 59 P Pn 00 52 54.1 -1.1
baz=251
J26L Joseph Creek 9.26 15 Pn 00 52 56.7 +0.4
MDM Murphy Dome 9.29 3 Pn 00 52 57.7 +0.9
L29M L29M 9.32 33 Pn Pn 00 52 58.0 +0.8
M30M Minto, Yukon 9.38 38 Pn Pn 00 52 58.5 +0.5
MLY Manley 9.38 356 Pn Pn 00 52 58.1 +0.1
POKR Poker Plat Res 9.48 5 Pn Pn 00 53 00.3 +1.0
J16K Anvik River 9.53 327 Pn Pn 00 53 00.5 +0.5
DAWY Dawson 9.71 26 Pn Pn 00 53 03.2 +0.5
Q32M Nakina River 9.73 64 Pn Pn 00 53 02.5 -0.5
P33M Teslin, Yukon 9.81 56 Pn Pn 00 53 02.8 -1.2
PRP Porcupine Dome 10.00 9 Pn Pn 00 53 06.8 +0.2
M31M Drury Creek, Y 10.04 44 Pn 00 53 07.5 +0.5
K29M Barlow Dome 10.05 31 Pn 00 53 08.1 +0.9
N32M Quiet Lake 10.06 51 Pn Pn 00 53 07.2 -0.1
I26K Coal Creek Min 10.07 15 Pn Pn 00 53 08.8 +1.3
H21K Melozitna River 10.13 352 Pn 00 53 08.7 +0.4
J14K Nanvaranak Lak 10.16 320 Pn Pn 00 53 07.6 -1.0
H24K Noodor Dome 10.18 3 Pn 00 53 09.8 +0.8
FARO Faro, Yukon 10.46 45 Pn Pn 00 53 12.8 -0.1
H18K Honhosa River 10.47 338 Pn Pn 00 53 12.5 -0.5
IMAR Indian Mountai 10.53 350 Pn Pn 00 53 13.7 -0.1
T35M Bob Quinn 10.61 75 Pn Pn 00 53 14.3 -0.6
H17K Granite Mounta 10.64 335 Pn Pn 00 53 14.6 -0.7
DLBC Dease Lake 10.80 67 Pn Pn 00 53 16.8 -0.7
DLBC Dease Lake 10.80 67 Pn Pn 00 53 16.4 -1.1
comp=N,0.3nm,0.3s,baz=254,slow=7.4,SNR=5.3
DLBC LR LR 00 56 31.2
comp=N,184nm,19.9s,baz=286,slow=32
comp=N,0.9nm,0.3s
J30M Hart River 10.95 31 Pn Pn 00 53 21.0 +1.4
G23K Bananza Creek 11.04 358 Pn Pn 00 53 20.1 -0.6
FYU Fort Yukon 11.06 8 Pn Pn 00 53 20.7 -0.2
MMPY Sheldon Lake, 11.50 46 Pn Pn 00 53 27.5 +0.4
F21K Alatna River 11.72 352 Pn 00 53 30.4 +0.4
H29M Whitestone 11.76 22 Pn Pn 00 53 31.6 +1.0
F20K Avaraart Lake 11.78 347 Pn Pn 00 53 30.9 +0.1
F24K Squaw Lake 11.87 3 Pn Pn 00 53 33.0 +1.0
F19K Shaleruckik Mo 11.87 343 Pn Pn 00 53 31.2 -0.8
BMAR Bunt Mountain 11.96 9 Pn Pn 00 53 32.9 -0.4
F17K Baldwin Pennin 12.20 337 Pn Pn 00 53 37.4 +0.9
CLES Cleveland East 12.41 265 Pn Pn 00 53 39.1 -0.3
E24K Your Creek 12.41 1 Pn Pn 00 53 40.2 +0.7
H31M Peel River 12.42 29 Pn Pn 00 53 40.3 +0.7
G29M Pine Creek 12.43 21 Pn Pn 00 53 41.6 +2.0
F15K North Star Dit 12.50 329 Pn Pn 00 53 39.8 -0.8
E22K Anaktuvuk Pass 12.52 356 Pn Pn 00 53 42.6 +1.6
TOLK Toolik Lake Re 12.98 359 Pn Pn 00 53 46.8 -0.4
G31M Satah River 13.29 26 Pn Pn 00 53 51.6 +0.2
D25K Kavik River 13.72 4 Pn Pn 00 53 58.1 +0.8
E29M Blow River 13.75 18 Pn 00 53 58.6 +1.0
F31M Tsiigehtchic 13.82 26 Pn 00 53 59.4 +0.8
C18K Utukok River 14.09 342 Pn Pn 00 54 03.1 +0.8
B21K Ikpikpuk River 14.17 352 Pn Pn 00 54 04.6 +1.3
C19K Lookout Ridge 14.23 345 Pn Pn 00 54 04.6 +0.3
INK Inuvik 14.56 24 Pn Pn 00 54 09.3 +0.7
INK Inuvik 14.56 24 Pn Pn 00 54 09.6 +0.9
comp=N,0.1nm,0.3s,baz=213,slow=10,SNR=15
INK LR LR 00 59 51.2
comp=N,140nm,18.3s,baz=258,slow=37
comp=N,12nm,1.1s
B22K Teshekpuk Lake 14.80 354 Pn 00 54 12.2 +0.3
GSTR Great Sitkin T 16.17 268 P Pn 00 54 32.0 +1.9
C36M Paulatuk 17.72 30 Pn Pn 00 54 48.5 -0.9
C36M IAmb IAmb 00 54 53.8
comp=Z,8.5nm,1.1s
YKA Yellowknife Ar 18.84 55 P P 00 55 02.0 -0.7
YKA Yellowknife Ar 18.84 55 P P 00 55 03.0 +0.4
comp=Z,0.1nm,0.3s,baz=263,slow=11,SNR=8.4
comp=Z,2.2nm,1.1s
A36M Sachs Harbour 19.20 23 P 00 55 06.5 0.0
A36M IAmb IAmb 00 55 09.4
comp=Z,12nm,0.8s
NVAR Mina Array Bea 26.93 117 P P 00 56 23.3 -1.1
comp=Z,0.6nm,0.8s,baz=297,slow=12,SNR=2.3
comp=Z,0.6nm,0.8s
SCHQ Scheffervill 44.30 55 P P 00 58 53.1 +0.7
comp=Z,2.9nm,0.8s,baz=292,slow=15,SNR=2.0
comp=Z,2.9nm,0.8s
SPITS Spitsbergen Ar 46.08 4 P P 00 59 06.9 +0.6
comp=Z,4.6nm,0.8s,baz=309,slow=9.1,SNR=1.4
comp=Z,4.6nm,0.8s
H11N2 WAKE ISLAND Hy 48.62 240 T T 01 51 43.7
baz=31,slow=76,SNR=10
H11N3 WAKE ISLAND Hy 48.63 240 T T 01 51 45.9
baz=31,slow=76,SNR=13
H11N1 WAKE ISLAND Hy 48.64 240 T T 01 51 46.9
baz=31,slow=76,SNR=12
NRIK Noril'sk 48.64 337 P P 00 59 27.2 +0.9
comp=Z,1.9nm,0.5s,baz=50,slow=7.5,SNR=6.7
comp=Z,1.9nm,0.5s
H11S1 WAKE ISLAND Hy 49.76 240 T T 01 53 12.9
baz=30,slow=76,SNR=8.6
H11S2 WAKE ISLAND Hy 49.77 240 T T 01 53 15.3
baz=30,slow=76,SNR=8.2
H11S3 WAKE ISLAND Hy 49.78 240 T T 01 53 14.9
baz=30,slow=76,SNR=9.5
ARCES ARCESS Array B 55.00 2 P P 01 00 13.7 0.0
comp=Z,1.3nm,0.5s,baz=7.6,slow=7.5,SNR=7.3
comp=Z,1.3nm,0.5s
SONM Songino Array 59.03 310 P P 01 00 42.9 +0.2
comp=Z,0.6nm,0.8s,baz=42,slow=4.5,SNR=4.5
comp=Z,0.6nm,0.8s
ZALV Zalesovo Beam 62.05 327 P P 01 01 03.4 +0.3
comp=Z,1.4nm,0.7s,baz=36,slow=7.9,SNR=7.8
comp=Z,1.4nm,0.7s
NB2 NORSAR Subarra 62.57 11 P P 01 01 06.0 -0.5
comp=Z,0.8nm,0.6s,baz=347,slow=6.9
NOA NORSAR Array B 62.57 11 P P 01 01 06.2 -0.4
comp=Z,1.6nm,0.8s,baz=349,slow=6.8,SNR=6.9
comp=Z,1.6nm,0.8s
FINES FINESS Array B 63.13 3 P P 01 01 10.8 +0.7
comp=Z,4.1nm,0.8s,baz=5.7,slow=9.3,SNR=12
comp=Z,4.1nm,0.8s
HFS Hagfors 63.70 9 P P 01 01 14.1 +0.2
comp=Z,3.6nm,0.9s,baz=289,slow=4.4,SNR=3.4
comp=Z,3.6nm,0.9s
EKA Eskemuir Ar 65.90 20 P P 01 01 28.1 -0.2
comp=Z,0.7nm,0.7s,baz=300,slow=5.7,SNR=3.5
comp=Z,0.7nm,0.7s
BVAR Borovoye Array 66.81 335 P P 01 01 34.5 +0.2
comp=Z,2.2nm,0.8s,baz=37,slow=7.7,SNR=9.5
comp=Z,2.2nm,0.8s
KURBB Kurchatov Arra 66.84 329 P P 01 01 34.6 +0.1
comp=Z,0.4nm,0.3s,baz=28,slow=4.2,SNR=4.4
comp=Z,0.4nm,0.3s
MKAR Makanchi Array 69.08 325 P P 01 01 48.9 +0.3
comp=Z,0.8nm,0.5s,baz=27,slow=6.4,SNR=12
comp=Z,0.8nm,0.5s
AKASG Malin Array Be 73.95 1 P P 01 02 17.8 -0.1
comp=Z,2.6nm,0.8s,baz=358,slow=5.7,SNR=8.2
comp=Z,2.6nm,0.8s
GERES GERESS Array B 74.84 12 P P 01 02 23.8 +0.6
comp=Z,1.1nm,0.7s,baz=2.3,slow=4.9,SNR=3.7
comp=Z,1.1nm,0.7s
AAK Ala-Archa 75.25 328 P P 01 02 26.4 +0.6
comp=Z,1.0nm,0.7s,baz=296,slow=2.2,SNR=3.5
comp=Z,1.0nm,0.7s
KBA Koelnbreinsper 76.54 12 *i* pP **P 01 02 34.3 +1.2**
comp=Z,1.8nm,0.6s
OBKA Obir 77.24 11 *i* pP **P 01 02 37.8 +0.9**
comp=Z,1.7nm,0.5s
KBZ Khabaz 80.40 351 P P 01 02 55.3 +1.1
comp=Z,1.2nm,0.9s,baz=20,slow=6.1,SNR=3.7
comp=Z,1.2nm,0.9s
ESDC Sonseca Array 80.49 26 P P 01 02 55.5 +0.6
comp=Z,1.1nm,0.8s,baz=341,slow=5.7,SNR=7.1
comp=Z,1.1nm,0.8s
GEYT Alibeck 83.85 339 P P 01 03 14.1 +1.6
comp=Z,1.3nm,0.8s,baz=35,slow=5.3,SNR=4.6
comp=Z,1.3nm,0.8s
CMAR Chiang Mai Arr 86.57 298 P P 01 03 26.4 +0.1
comp=Z,0.9nm,0.3s,baz=10,slow=5.5,SNR=5.3
comp=Z,0.9nm,0.3s
QSPA South Pole Qui 145.50 180 PKPbc PKPdf 01 10 15.3 -4.3
comp=Z,2.9nm,0.9s,baz=18,slow=3.2,SNR=5.6

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*IDC **09** 01:02:17.3±8.7,36.°60N×76.°79E,h70km±57km,mb3.4/4, mbtmp3.6/9,ML3.1/5, Error ellipse: s-maj=77.9km s-min=31.8km az=1.0*
ISC 09 01:02:17.1±2.4,**36.5N**±0.°2×**76.9E**±0.°2,**h77**km,**n9,** σ1§**32**/10,**mb3.6**/4,**Kashmir-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**6.35**	**344**	P	**Pn**	**01 03 48.4**	**+0.2**
	0.4nm,0.3s,baz=162,slow=5.4,SNR=7.2						
AAK				S	Sn	01 05 07.8	+8.4
	4.5nm,0.6s,baz=251,slow=15,SNR=1.8						
	1.3nm,0.4s						
MKAR	**Makanchi Array**	**11.01**	**20**	P	**Pn**	**01 04 50.0**	**-1.6**
	0.1nm,0.3s,baz=200,slow=13,SNR=6.3						
MKAR				S	**Sn**	**01 06 53.8**	**+0.8**
	0.4nm,0.5s,baz=199,slow=24,SNR=5.2						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**14.12**	**4**	P	**Pn**	**01 05 33.4**	**+0.1**
	0.1nm,0.3s,baz=192,slow=11,SNR=1.7						
	0.3nm,0.2s						
BVAR	**Borovoye Array**	**17.09**	**347**	P	**Pn**	**01 06 10.7**	**-0.1**
	baz=161,slow=9.2,SNR=2.5						
	0.8nm,0.6s						
AKTO	**Aktyubinsk**	**19.41**	**322**	P	**P**	**01 06 35.5**	**-1.3**
	0.2nm,0.3s,baz=112,slow=11,SNR=2.9						
	0.8nm,0.5s						
ARU	**Arti**	**23.40**	**334**	P	**P**	**01 07 20.5**	**+1.5**
	0.8nm,0.4s,baz=260,slow=4.6,SNR=3.3						
	0.8nm,0.4s						
SONM	**Songino Array**	**24.47**	**53**	P	**P**	**01 07 30.3**	**+1.4**
	0.5nm,0.7s,baz=248,slow=7.6,SNR=1.5						
	0.5nm,0.7s						
FINES	**FINESS Array B**	**40.13**	**325**	P	**P**	**01 09 45.7**	**+0.8**
	1.0nm,0.8s,baz=114,slow=9.1,SNR=7.9						
	1.0nm,0.8s						
ARCES	**ARCESS Array B**	**42.96**	**336**	P	**P**	**01 10 06.5**	**-1.5**
	4.2nm,0.9s,baz=104,slow=9.4,SNR=2.3						
	4.2nm,0.9s						

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*IDC **09** 01:02:51.5±6.2,36.°55N×71.°03E,h63km±33km,mb3.5/3, mbtmp3.7/8,ML3.3/5, Error ellipse: s-maj=84.6km s-min=25.3km az=146.0*
*NNC **09** 01:02:51.2±9.0,37.°08N×71.°31E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=73.6km s-min=55.3km az=159.0*
ISC 09 01:02:54.7±1.8,**36.8N**±0.°1×**70.75E**±0.°09,**h88**km,**n13,** σ2§**18**/17,**mb3.9**/3,**4C-3D**,**Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.25**	**358**	P	**Pn**	**01 04 25.4**	**+1.1**
	0.7nm,0.2s,baz=302,slow=12,SNR=31						
KK31				⇑S	**Sn**	**01 05 33.4**	**-0.9**
	11nm,0.7s,baz=190,slow=24,SNR=7.4						
AAK	**Ala-Archa**	**6.46**	**25**	P	**Pn**	**01 04 28.5**	**+1.2**
	1.9nm,0.3s,baz=125,slow=4.9,SNR=7.3						
AAK				S	**Sn**	**01 05 40.5**	**+0.9**
	4.0nm,0.4s,baz=34,slow=22,SNR=4.8						
	5.3nm,0.3s						
CHMS	**Chumysh**	**6.87**	**25**	⇑P	**Pn**	**01 04 28.9**	**-3.8**
	6.2nm,0.4s						
CHMS				⇑S	**Sn**	**01 05 46.4**	**-2.9**
	10nm,0.8s						
TKM2	**Tokmak 2**	**7.12**	**30**	⇓P	Pn	01 04 29.6	-6.6
	2.9nm,0.7s						
TKM2				⇓S	Sn	01 05 44.9	-11
	8.4nm,0.8s						
GEYT	**Alibeck**	**10.12**	**280**	P	**Pn**	**01 05 16.4**	**-0.6**
	0.6nm,0.3s,baz=116,slow=13,SNR=9.9						
GEYT				S	**Sn**	**01 07 05.1**	**-3.5**
	1.0nm,0.4s,baz=187,slow=23,SNR=3.5						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**13.13**	**37**	P	**Pn**	**01 05 56.2**	**-1.4**
	0.1nm,0.3s,baz=226,slow=13,SNR=4.9						
	0.5nm,0.6s						
AB31	**Akbulak array**	**14.69**	**331**	P	**Pn**	**01 06 16.5**	**-1.3**
	0.5nm,0.5s,baz=140,slow=11,SNR=22						
AB31				⇑S	**Sn**	**01 09 01.3**	**+1.9**
	0.3nm,0.3s,baz=141,slow=24,SNR=5.8						
BVAR	**Borovoye Array**	**16.18**	**359**	P	**P**	**01 06 40.1**	**+2.0**
	baz=167,slow=8.8,SNR=2.2						
	0.5nm,0.4s						
AKTO	**Aktyubinsk**	**16.38**	**330**	⇓P	**P**	**01 06 40.4**	**0.0**
	2.4nm,0.9s						
ZALV	**Zalesovo Beam**	**19.69**	**25**	P	**P**	**01 07 15.7**	**-0.9**
	0.3nm,0.3s,baz=214,slow=10,SNR=3.3						
	0.7nm,0.3s						
ARCES	**ARCESS Array B**	**40.75**	**338**	P	**P**	**01 10 28.8**	**+2.3**
	4.2nm,1.0s,baz=114,slow=8.9,SNR=1.8						
	4.2nm,1.0s						
HFS	**Hagfors**	**42.67**	**322**	P	**P**	**01 10 44.7**	**+2.4**
	1.1nm,0.6s,baz=94,slow=11,SNR=4.7						
	1.1nm,0.6s						
NOA	**NORSAR Array B**	**43.99**	**323**	P	**P**	**01 10 54.9**	**+2.0**
	0.1nm,0.4s,baz=112,slow=8.2,SNR=1.0						
	0.1nm,0.4s						

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*IDC **09** 01:09:00.5±0.7,55.°66N×149.°19W,h0km,mb4.4/24, mbtmp4.3/28,ML3.6/4,MS3.6/23, Error ellipse: s-maj=19.5km s-min=12.0km az=24.0*
*NEIC **09** 01:09:00.2±1.6,55.°65N±0.°05×149.°23W±0.°09,h6km±5km, mb4.6/36,ML3.9/26,ML4.1(AEIC), Error ellipse: s-maj=8.4km s-min=6.4km az=47.0*
*MOS **09** 01:09:02.0±0.8,55.°92N×149.°27W,h10km,mb5.0/50, Error ellipse: s-maj=19.7km s-min=4.3km az=89.8*
*AEIC **09** 01:09:04.7±1.6,55.°64N±0.°09×149.°2W±0.°1,h7km±5km, Error ellipse: s-maj=12.7km s-min=8.1km az=185.0*
*BGR **09** 01:09:12.5,56.°98N×149.°59W,h33km,mb4.7*
ISC 09 01:09:01.3±1.8,**55.71N**±0.°04×**149.11W**±0.°04,**h7**km±11km, **n545,** σ1§**30**/547,**mb4.7**/119,**MS3.7**/20,**25C-8D**,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.77**	**305**		**Pn**	**01 09 44.2**	**-1.8**
OHAK					**Sn**	**01 10 14.7**	**-4.9**
OHAK	**Old Harbor**	**2.77**	**305**	P	**Pn**	**01 09 44.3**	**-1.7**
OHAK	**Old Harbor**	**2.77**	**305**	P	**Pn**	**01 09 44.2**	**-1.8**
	baz=123						
OHAK				S	**Sn**	**01 10 15.4**	**-4.2**
	baz=123						
KDAK	**Kodiak Island**	**2.82**	**319**		**Pn**	**01 09 45.1**	**-1.6**
KDAK	**Kodiak Island**	**2.82**	**319**		**Sn**	**01 10 16.9**	**-4.1**
KDAK	**Kodiak Island**	**2.82**	**319**	P	**Pn**	**01 09 45.1**	**-1.6**
KDAK						01 10 16.9	
KDAK	**Kodiak Island**	**2.82**	**319**	S	**Sn**	**01 10 16.9**	**-4.1**
	baz=138						
KDAK	**Kodiak Island**	**2.82**	**319**	Pn	**Pn**	**01 09 45.4**	**-1.3**
	10nm,0.3s,baz=135,slow=5.4,SNR=232						
KDAK				Sn	**Sn**	**01 10 17.2**	**-3.7**
	14nm,0.3s,baz=143,slow=23,SNR=10						
	105nm,0.6s						
SII	**Sitkinak Islan**	**2.97**	**289**		**Pn**	**01 09 46.4**	**-2.3**
SII					**Sn**	**01 10 19.1**	**-5.4**
SII	**Sitkinak Islan**	**2.97**	**289**	IAML		01 10 24.1	
	comp=N,347nm,1.2s						
SII				IAML		01 10 29.6	
	comp=E,371nm,1.0s						
SII	**Sitkinak Islan**	**2.97**	**289**	P	**Pn**	**01 09 46.8**	**-2.0**
	baz=106						

SII S Sn 01 10 20.1 -4.4
baz=106
Q20K Shuyak Island 3.41 330 P Pn 01 09 53.7 -1.1
baz=148
Q20K S Sn 01 10 30.6 -4.9
baz=148
SYI Shuyak Island 3.41 330 Pn 01 09 53.7 -1.1
SYI Sn 01 10 32.2 -3.2
CNPM China Poot 3.99 344 Pn 01 10 01.8 -1.0
CNPM Sn 01 10 46.9 -2.9
CNPM China Poot 3.99 344 IAML 01 11 03.1
comp=N,118nm,1.2s
CNPM IAML 01 11 13.1
comp=E,148nm,1.0s
Q23K Middleton Isla 4.01 21 Pn 01 10 02.8 -0.3
MID Middleton Isla 4.01 21 Pn 01 10 03.0 0.0
MID Middleton Isla 4.01 21 P Pn 01 10 03.0 0.0
Q19K Cape Douglas, 4.06 325 Pn 01 10 02.3 -1.4
Q19K Cape Douglas, 4.06 325 P Pn 01 10 02.3 -1.4
baz=142
BRSE Bradley Lake S 4.13 348 Pn 01 10 03.6 -1.2
BRSE Sn 01 10 50.2 -3.1
BRSE Bradley Lake S 4.13 348 P Pn 01 10 03.9 -0.8
baz=168
BRSE S Sn 01 10 50.3 -3.1
baz=168
KAKN Katmai Knife C 4.16 311 Pn 01 10 03.9 -1.3
BRLK Bradley Lake 4.17 348 Pn 01 10 04.3 -1.0
BRLK Sn 01 10 52.2 -2.2
BRLK Bradley Lake 4.17 348 IAML 01 10 59.8
comp=N,120nm,0.9s
BRLK IAML 01 11 01.5
comp=E,126nm,0.7s
KCE Katmai Mt Cerb 4.18 310 Pn 01 10 05.8 +0.3
ACHA Angle Creek He 4.23 309 Pn 01 10 05.8 -0.3
ANCK Angle Creek 4.29 308 Pn 01 10 06.5 -0.5
KVTA Katmai Vly 10 4.31 311 Pn 01 10 07.2 0.0
KAHC Katmai Hardscr 4.36 315 Pn 01 10 07.9 0.0
P23K Montague Islan 4.39 11 Pn 01 10 07.7 -0.6
P23K Sn 01 10 56.3 -3.3
P23K Montague Islan 4.39 11 P Pn 01 10 07.7 -0.6
baz=194
SEW Seward 4.41 358 Pn 01 10 07.7 -0.8
SEW Seward 4.41 358 P Pn 01 10 07.7 -0.8
baz=178
PLK3 Peulik 3 4.42 300 Pn 01 10 07.7 -1.0
CNTC Contact Creek 4.50 307 Pn 01 10 09.2 -0.8
Q17K Contact Creek 4.50 307 P Pn 01 10 09.2 -0.8
baz=123
P19K Oil Pt 4.53 332 Pn 01 10 09.6 -0.6
P19K Oil Pt 4.53 332 IAML 01 11 08.5
comp=E,168nm,0.4s
P19K IAML 01 11 09.0
comp=N,209nm,0.6s
KELA Mount Kelaz 4.54 310 Pn 01 10 10.0 -0.4
PLK1 Peulik 1 4.63 300 Pn 01 10 10.7 -0.8
O20K Slope Mountain 4.77 338 Pn 01 10 12.3 -1.2
O20K Slope Mountain 4.77 338 P Pn 01 10 12.3 -1.2
baz=156
ILSW Iliamna Southw 4.79 335 Pn 01 10 12.7 -1.3
ILSW Iliamna Southw 4.79 335 IAML 01 11 16.8
comp=N,112nm,0.7s
ILSW IAML 01 11 20.1
comp=E,103nm,1.1s
SLKM Skilak Lake 4.85 353 Pn 01 10 13.8 -0.8
SLKM Sn 01 11 07.5 -3.4
HIN Hinchinbrook I 4.90 15 Sn 01 11 09.1 -3.1
P18K Big Mountain, 4.95 321 Pn 01 10 14.4 -1.5
P18K Big Mountain, 4.95 321 IAML 01 11 18.4
comp=N,69nm,2.2s
P18K IAML 01 12 09.2
comp=E,56nm,3.2s
P18K Big Mountain, 4.95 321 P Pn 01 10 14.4 -1.5
baz=137
RSO Redoubt South 5.14 339 Pn 01 10 16.7 -2.0
EYAK Cordova Ski Ar 5.17 19 Pn 01 10 18.6 -0.3
EYAK Cordova Ski Ar 5.17 19 P Pn 01 10 19.9 +1.0
EYAK Cordova Ski Ar 5.17 19 P Pn 01 10 18.6 -0.3
baz=202
RDWB Redoubt West 5.18 339 Pn 01 10 17.4 -1.8
P17K Kvichak River 5.28 314 Pn 01 10 19.2 -1.2
P17K Kvichak River 5.28 314 P Pn 01 10 19.2 -1.2
baz=129
O18K Koktuh Hills 5.28 324 Pn 01 10 19.2 -1.3
O18K Koktuh Hills 5.28 324 IAML 01 11 34.2
comp=E,67nm,2.9s
O18K IAML 01 11 42.8
comp=N,75nm,3.3s
O18K Koktuh Hills 5.28 324 P Pn 01 10 19.2 -1.3
baz=140
NICHA Nichawak Mount 5.30 29 Pn 01 10 22.5 +1.8
RC01 Rabbit Creek A 5.40 357 Pn 01 10 21.3 -0.9
RC01 Rabbit Creek A 5.40 357 P Pn 01 10 21.3 -0.9
baz=177
GOAT Goat Mountain 5.41 24 Pn 01 10 21.8 -0.4
BERG Berg Lake 5.50 29 Pn 01 10 23.5 0.0
SNH Sunshine Point 5.58 34 Pn 01 10 24.4 -0.3
KHIT Khitrov Hills 5.67 31 Pn 01 10 25.8 -0.1
DIV Divide 5.71 16 Pn 01 10 25.7 -0.7
KNK Knik Glacier 5.73 3 Pn 01 10 26.3 -0.4
N20K Mount Spurr 5.74 345 P Pn 01 10 25.8 -1.0
baz=163
SPCR Spurr Chakacha 5.74 345 Pn 01 10 25.1 -1.8
BMRM Bremner River 5.78 22 Pn 01 10 27.4 0.0
BMRM Bremner River 5.78 22 P Pn 01 10 27.4 0.0
baz=207
WAX Waxell Ridge 5.79 32 Pn 01 10 27.4 -0.2
SPCP Crater Peak Br 5.79 345 Pn 01 10 27.1 -0.6
SPCG Spurr Capps Gl 5.80 346 Pn 01 10 26.6 -1.1
SUA Susitna One 5.83 352 Pn 01 10 26.9 -1.2
SUA Susitna One 5.83 352 P Pn 01 10 27.2 -1.0
baz=172
P16K Nushagak River 5.84 308 Pn 01 10 27.4 -0.8
P16K Nushagak River 5.84 308 P Pn 01 10 27.4 -0.8
baz=122
N19K Bonanza Creek 5.85 333 Pn 01 10 26.8 -1.6
N19K Bonanza Creek 5.85 333 P Pn 01 10 27.1 -1.3
baz=150
MESA MESA 5.88 37 Pn 01 10 28.6 -0.3
MESA MESA 5.88 37 P Pn 01 10 28.6 -0.3
baz=224
PMR Palmer 5.90 360 Pn 01 10 28.8 -0.1
PMR Palmer 5.90 360 P Pn 01 10 29.0 +0.1
PMR Palmer 5.90 360 P Pn 01 10 28.8 -0.1
O17K Koliganek Bris 5.90 317 Pn 01 10 27.9 -1.1
O17K Koliganek Bris 5.90 317 P Pn 01 10 27.9 -1.1
baz=131
CRQM Cirque 5.96 29 Pn 01 10 30.0 +0.1
CRQE Cirque 5.97 30 P Pn 01 10 30.0 0.0
baz=215
STLK Strandline Lak 5.98 347 Pn 01 10 29.2 -0.9
KLU Klutina 6.03 15 Pn 01 10 30.5 -0.4
KLU Klutina 6.03 15 P Pn 01 10 30.5 -0.4
baz=198
TGL Tana Glacier 6.04 31 Pn 01 10 31.3 +0.2
BAGL Bagley Icefiel 6.06 35 Pn 01 10 31.3 +0.1
ISLE Juniper Island 6.07 33 Pn 01 10 31.4 0.0
GHO Glory Hole Cre 6.08 1 Pn 01 10 31.5 0.0
SML Sawmill 6.13 3 Pn 01 10 31.9 -0.2
SML Sawmill 6.13 3 P Pn 01 10 31.9 -0.2
baz=185
N18K Kilae Creek 6.14 327 Pn 01 10 30.6 -1.6
N18K Kilae Creek 6.14 327 P Pn 01 10 30.6 -1.6
baz=142
O16K Kokwok River B 6.20 313 Pn 01 10 32.2 -0.8
SCM Sheep Creek Mo 6.21 8 Pn 01 10 33.6 +0.3
SCM Sheep Creek Mo 6.21 8 P Pn 01 10 33.6 +0.3
SCM Sheep Creek Mo 6.21 8 P Pn 01 10 33.6 +0.3
baz=190
SAMH Samovar Hills 6.27 42 Pn 01 10 35.1 +1.0
VRDI Verde Repeater 6.28 26 Pn 01 10 34.1 -0.2
KIAG Kiagna River 6.32 31 Pn 01 10 35.0 +0.2
YKU2 Yakutat 6.34 49 Pn 01 10 34.9 -0.1
TABL Table Mountain 6.35 38 Pn 01 10 35.5 +0.2
GRNC Granite Creek 6.36 35 Pn 01 10 35.5 +0.1
N25K Chitina, Valde 6.36 20 Pn 01 10 35.9 +0.5
N25K Chitina, Valde 6.36 20 P Pn 01 10 35.9 +0.5
baz=204
GLB Gilahina Butte 6.38 24 Pn 01 10 35.6 0.0
SVW2 Sparrevohn 6.38 330 Pn 01 10 34.4 -1.2
SVW2 Sparrevohn 6.38 330 P Pn 01 10 26.7 -8.9
SKT Skwentna 6.41 350 Pn 01 10 35.6 -0.4
PCA Pinnacle 6.45 43 Pn 01 10 37.1 +0.6
PINM Pinnacle 6.45 43 P Pn 01 10 37.1 +0.6
baz=231
N17K Nushagak Hills 6.45 322 Pn 01 10 35.3 -1.2
N17K Nushagak Hills 6.45 322 P Pn 01 10 35.3 -1.2
baz=136
PTPK Patty Peak 6.50 30 Pn 01 10 37.5 0.0
MCARA McCarthy VSAT 6.52 27 Pn 01 10 37.7 +0.3
M20K Styx River 6.53 343 Pn 01 10 36.5 -1.2
M20K Styx River 6.53 343 P Pn 01 10 36.5 -1.2
baz=160
PNL Peninsula 6.54 49 Pn 01 10 37.9 0.0
PNL Peninsula 6.54 49 P Pn 01 10 38.7 +0.9
PNL Peninsula 6.54 49 P Pn 01 10 37.9 0.0
baz=237
M24K Tolsona, Glenn 6.59 12 Pn 01 10 38.6 0.0
M24K Tolsona, Glenn 6.59 12 P Pn 01 10 38.6 0.0
baz=195
BCPM Bancas Point 6.61 46 Pn 01 10 38.9 +0.2
BARN Barnard Glacie 6.64 33 Pn 01 10 39.2 0.0
CTG Chitna Glacier 6.67 35 P Pn 01 10 39.4 -0.2
baz=222
CTGM Chitina Glacie 6.67 35 Pn 01 10 39.4 -0.2
LOGN Logan Glacier 6.67 36 Pn 01 10 39.6 -0.1
WASW Wrangell South 6.74 20 Pn 01 10 40.9 +0.2
O15K Ungalikthiuk R 6.75 305 Pn 01 10 39.6 -1.0
O15K Ungalikthiuk R 6.75 305 P Pn 01 10 39.6 -1.0
baz=117
M18K Stony River 6.77 332 Pn 01 10 39.4 -1.5
M18K Stony River 6.77 332 P Pn 01 10 39.7 -1.3
baz=147
M19K Big River Lodg 6.79 338 Pn 01 10 39.8 -1.4
M19K Big River Lodg 6.79 338 P Pn 01 10 40.0 -1.2
baz=154
N16K Nishlik Lake 7.00 317 Pn 01 10 43.5 -0.6
L19K White Mountain 7.13 338 Pn 01 10 44.5 -1.4
L19K White Mountain 7.13 338 P Pn 01 10 44.5 -1.4
baz=154
M17K Holitna River 7.17 326 Pn 01 10 45.4 -1.1
M17K Holitna River 7.17 326 P Pn 01 10 45.4 -1.1
baz=140
O29M Mount Kennedy 7.24 46 Pn 01 10 47.9 +0.4
O29M Mount Kennedy 7.24 46 P Pn 01 10 47.9 +0.4
baz=235
P29M Windy Craggy 7.25 53 Pn 01 10 47.4 -0.1
P29M Windy Craggy 7.25 53 P Pn 01 10 47.4 -0.1
baz=242
PN7A Pavlof North-7 7.32 273 Pn 01 10 45.6 -2.9
N15K Kwethluk River 7.35 312 Pn 01 10 48.7 -0.2
M26K Nabesna, AK 7.41 23 Pn 01 10 50.5 +0.8
S31K Pelican 7.41 67 Pn 01 10 47.9 -1.8
S31K Pelican 7.41 67 P Pn 01 10 47.9 -1.8
baz=258
M16K Timber Creek 7.42 320 Pn 01 10 49.1 -0.7
DHY Denali Highway 7.44 6 Pn 01 10 51.8 +1.5
O14K Tigyukauivet M 7.45 303 Pn 01 10 49.0 -1.2
PAX Paxson 7.51 13 Pn 01 10 52.5 +1.3
PAX Paxson 7.51 13 P Pn 01 10 52.5 +1.3
M27K Edge Creek, AK 7.63 26 Pn 01 10 53.3 +0.4
RND Reindeer 7.72 1 Pn 01 10 54.6 +0.6
RND Reindeer 7.72 1 P Pn 01 10 54.6 +0.6
MENT Mentasta 7.75 19 Pn 01 10 54.4 0.0
SIT Sitka 7.77 74 Pn 01 10 52.2 -2.4
TRF Thorofare Moun 7.79 356 Pn 01 10 54.8 -0.2
PLBC Pleasant Camp 7.80 56 Pn 01 10 55.5 +0.4
PLBC Pleasant Camp 7.80 56 P Pn 01 10 55.5 +0.4
baz=247
CAST Castle Rocks 7.88 350 Pn 01 10 56.0 -0.1
M15K Kasigluk River 7.89 314 Pn 01 10 55.6 -0.7
L26K Log Cabin Wild 7.90 19 Pn Pn 01 10 57.4 +1.0
KTH Kantishna Hill 7.92 354 Pn 01 10 55.8 -0.9
N14K Kuskokwak Cree 7.93 307 Pn 01 10 56.1 -0.7
HYT Haines Junctio 7.97 45 Pn 01 10 58.3 +0.7
L17K Donlin 8.00 327 Pn 01 10 56.5 -1.2
MCK McKinley 8.05 1 P Pn 01 10 59.0 +0.6
K20K Telida 8.07 344 Pn 01 10 57.4 -1.4
K20K Telida 8.07 344 P Pn 01 10 57.4 -1.4
baz=160
L16K Owhat River 8.07 322 Pn Pn 01 10 57.9 -0.9
S32K Killisnoo 8.21 72 Pn 01 10 58.9 -1.8
S32K Killisnoo 8.21 72 P Pn 01 10 59.5 -1.2
baz=264
L27K Beaver Creek, 8.25 24 Pn 01 11 01.4 +0.2
BESE Bessie Mountai 8.26 64 Pn 01 11 00.6 -0.9
SKAG Skagway 8.30 57 Pn Pn 01 11 02.5 +0.7
SKAG Skagway 8.30 57 P Pn 01 11 02.4 +0.6
RIDG Independent Ri 8.33 13 Pn 01 11 03.8 +1.4
JIS Juneau Island 8.44 66 P Pn 01 11 03.3 -0.5
M14K Bethel 8.45 312 Pn 01 11 02.3 -1.6
K17K Iditarod 8.45 330 Pn 01 11 02.6 -1.4
K17K Iditarod 8.45 330 P Pn 01 11 02.6 -1.4
baz=143
BPAW Bear Paw Mtn. 8.47 354 Pn 01 11 02.8 -1.4
BPAW Bear Paw Mtn. 8.47 354 P Pn 01 11 03.2 -1.1
baz=173
N30M Aishikik Lake 8.51 43 Pn 01 11 05.5 +0.6
N30M Aishikik Lake 8.51 43 P Pn 01 11 05.5 +0.6
baz=233
O30N Mendenhall 8.53 48 Pn 01 11 04.8 -0.3
O30N Mendenhall 8.53 48 P Pn 01 11 04.8 -0.3
baz=239
J18K Nunoko River 8.67 337 Pn 01 11 05.1 -1.9
SCRK Sand Creek 8.68 15 Pn 01 11 06.6 -0.6
M29M Somme Creek 8.69 35 Pn 01 11 08.4 +1.1
L15K Ungalak Mounta 8.78 318 Pn 01 11 07.9 -0.6
HDA Harding Lake 8.79 6 Pn 01 11 09.2 +0.5
WRH Wood River Hil 8.80 3 Pn 01 11 09.1 +0.3
J20K Nowinta River 8.86 346 Pn 01 11 08.5 -1.0
J20K Nowinta River 8.86 346 P Pn 01 11 08.5 -1.0
baz=162
M13K Dall Lake 8.89 308 Pn 01 11 09.6 -0.4
NEA2 Nenana 8.91 0 Pn 01 11 10.5 +0.2
J19K Poorman 8.93 341 Pn 01 11 08.4 -2.1
CCB Clear Creek Bu 8.99 4 Pn 01 11 11.5 +0.2
U33K Whale Pass 8.99 81 Pn 01 11 09.2 -2.1
U33K Whale Pass 8.99 81 P Pn 01 11 09.0 -2.3
baz=274
WHY Whitehorse 8.99 51 Pn Pn 01 11 11.7 +0.2
K27K Chicken 9.05 20 Pn Pn 01 11 12.6 +0.4
L14K Kuka Creek 9.06 314 Pn 01 11 11.4 -0.8
P32M Atlin 9.12 58 Pn Pn 01 11 13.2 +0.1
J25K Salcha River, 9.12 10 Pn 01 11 12.9 -0.3
IL31 9.16 6 Pn Pn 01 11 13.4 -0.1
ILAR Eielson Array 9.16 6 Pn Pn 01 11 14.7 +1.1
comp=N,0.6nm,0.3s,baz=191,slow=13,SNR=36
ILAR Sn Sn 01 12 52.1 -4.6
comp=N,0.8nm,0.3s,baz=186,slow=19,SNR=13
ILAR LR LR 01 14 53.3
comp=N,305nm,20.0s,baz=208,slow=38
COLA College 9.21 3 Pn 01 11 13.9 -0.5
COLA College 9.21 3 *i* P Pn 01 11 15.4 +1.0
J26L Joseph Creek 9.24 15 Pn Pn 01 11 15.0 +0.2
L29M L29M 9.28 32 Pn Pn 01 11 15.8 +0.4
MDM Murphy Dome 9.29 2 Pn Pn 01 11 15.4 0.0
M30M Minto, Yukon 9.33 38 Pn Pn 01 11 15.4 -0.7
MLY Manley 9.38 356 Pn Pn 01 11 16.3 -0.4
I21K Tanana 9.60 353 Pn 01 11 19.4 -0.4
DAWY Dawson 9.68 26 Pn Pn 01 11 20.4 -0.5
P33M Teslin, Yukon 9.75 56 Pn Pn 01 11 21.5 -0.4
EGAK Eagle 9.90 20 Pn Pn 01 11 24.2 +0.3
M31M Drury Creek, Y 9.99 43 Pn 01 11 26.0 +1.0
PRP Porcupine Dome 9.99 9 Pn Pn 01 11 25.2 0.0
N32M Quiet Lake 10.00 50 Pn 01 11 25.7 +0.4
K29M Barlow Dome 10.01 31 Pn Pn 01 11 26.1 +0.7
I26K Coal Creek Min 10.06 14 Pn 01 11 26.7 +0.7
H21K Melozitna Rive 10.14 351 Pn 01 11 25.9 -1.2
H24K Noodor Dome 10.18 3 Pn 01 11 28.4 +0.8
R33M Jennings River 10.41 62 Pn 01 11 30.8 -0.2
IMAR Indian Mountai 10.55 350 Pn Pn 01 11 31.4 -1.3
DLBC Dease Lake 10.73 67 Pn Pn 01 11 35.3 0.0
comp=N,0.5nm,0.3s,baz=270,slow=9.3,SNR=7.9
DLBC Sn Sn 01 13 28.6 -7.0
comp=N,0.2nm,0.3s,baz=173,slow=22,SNR=1.4
DLBC LR LR 01 15 02.0
comp=N,284nm,20.7s,baz=272,slow=34
comp=N,1.2nm,0.3s
J30M Hart River 10.91 30 Pn Pn 01 11 39.2 +1.5
G21K Allakaket 11.04 351 Pn 01 11 38.7 -0.7
G23K Bananza Creek 11.05 358 Pn 01 11 39.3 -0.2
I30M Mount Dempster 11.39 28 Pn 01 11 44.3 0.0
F21K Alatna River 11.73 352 Pn 01 11 47.8 -1.0
H29M Whitestone 11.74 22 Pn 01 11 49.0 +0.1
F20K Avaraart Lake 11.80 347 Pn Pn 01 11 48.5 -1.2
F24K Squaw Lake 11.86 2 Pn Pn 01 11 51.2 +0.5
EPYK Eagle Plains 12.23 24 Pn Pn 01 11 56.5 +0.8
E19K Redstone River 12.39 345 Pn 01 11 57.5 -0.2
H31M Peel River 12.39 29 Pn 01 11 58.0 +0.2
G29M Pine Creek 12.40 21 Pn 01 11 58.2 +0.2
E24K Your Creek 12.41 1 Pn 01 11 58.4 +0.2
E22K Anaktuvuk Pass 12.53 355 Pn 01 11 59.5 -0.3
E25K Arctic Village 12.56 6 Pn Pn 01 12 00.1 -0.1
F28M Old Crow 12.70 16 Pn 01 12 02.4 +0.4
G30M tAoh Zraii Nji 12.84 23 Pn 01 12 05.8 +1.8
BBB Bella Bella 12.85 97 Sn Sn 01 14 20.2 -7.0
comp=N,0.1nm,0.3s,baz=274,slow=19,SNR=1.5
TOLK Toolik Lake Re 12.98 359 Pn 01 12 06.6 +0.7
G31M Satah River 13.26 26 Pn Pn 01 12 11.1 +1.5
D24K Happy Valley 13.49 0 Pn 01 12 12.7 -0.2
D25K Kavik River 13.72 4 Pn Pn 01 12 16.0 +0.1
E29M Blow River 13.73 18 Pn Pn 01 12 17.7 +1.7
F31M Tsiigehtchic 13.79 25 Pn Pn 01 12 18.4 +1.5
D27M Malcolm River 14.07 12 Pn Pn 01 12 20.3 -0.5
B21K Ikpikpuk River 14.18 352 Pn Pn 01 12 21.8 -0.3
C23K Itkillik River 14.19 358 Pn 01 12 21.6 -0.8
INK Inuvik 14.53 23 Pn Pn 01 12 26.7 -0.2
INK Inuvik 14.53 23 P Pn 01 12 26.7 -0.2
INK Inuvik 14.53 23 Pn Pn 01 12 27.7 +0.8
comp=N,0.1nm,0.3s,baz=201,slow=14,SNR=16
INK LR LR 01 18 09.6
comp=N,232nm,18.9s,baz=168,slow=38
comp=N,8.7nm,0.9s
C16K Lisburne Hills 14.65 336 Pn Pn 01 12 27.7 -0.9
B20K Meade River 14.79 349 Pn 01 12 26.9 -3.5
B22K Teshekpuk Lake 14.81 354 Pn Pn 01 12 30.2 -0.5
C36M Paulatuk 17.69 30 Pn 01 13 06.0 -1.7
YKA Yellowknife Ar 18.78 55 P Pn 01 13 22.3 +1.1
comp=N,0.1nm,0.3s,baz=268,slow=10,SNR=20
YKA LR LR 01 20 10.3
comp=N,177nm,20.0s,baz=284,slow=35
comp=N,2.0nm,0.8s
A36M Sachs Harbour 19.17 23 P P 01 13 23.4 -1.5
A36M IAmb IAmb 01 13 28.8
comp=Z,20nm,0.8s
C09A Chrisman Ranch 20.52 100 P P 01 13 39.8 -0.1
C09A IAmb IAmb 01 13 44.6
comp=Z,14nm,1.3s
NEW Newport 20.91 97 P P 01 13 42.8 -1.3
NEW Newport 20.91 97 P P 01 13 42.8 -1.3
NEW pmax pmax
comp=Z,11nm,1.2s
NEW Newport 20.91 97 P Pn 01 13 45.8 -0.9
comp=Z,6.1nm,1.0s,baz=311,slow=7.9,SNR=6.6
comp=Z,6.1nm,1.0s
SHEM Shemya Is, Ala 21.55 277 LR LR 01 21 57.0
comp=Z,129nm,18.9s,baz=314,slow=36
YBH Yreka Blue Hor 22.16 118 LR LR 01 19 58.4
comp=Z,92nm,18.5s,baz=335,slow=30
F10A Beach Ranch, E 22.18 103 P P 01 13 56.3 -1.5
BMO Blue Mountains 22.84 105 P P 01 14 04.0 -0.7
BMO Blue Mountains 22.84 105 P P 01 14 04.1 -0.7
BMO pmax pmax
comp=Z,8.0nm,1.4s
BILL Bilibino 23.73 319 P P 01 14 12.2 -1.4
BILL IAmb IAmb 01 14 15.0
comp=Z,38nm,1.4s
BILL Bilibino 23.73 319 *i eP* P 01 14 13.8 +0.2
BILL pmax pmax
comp=Z,41nm,1.7s
BPMT Black Pine Rid 24.01 98 P P 01 14 15.8 -0.9
YHL Hebgen Lake 26.23 98 P P 01 14 35.9 -1.0
ELK Elko 26.74 110 P P 01 14 40.0 -1.5
ELK Elko 26.74 110 P P 01 14 40.0 -1.5
ELK pmax pmax
comp=Z,3.0nm,1.1s
NVAR Mina Array Bea 26.86 117 P P 01 14 43.0 +0.4
comp=Z,1.4nm,0.8s,baz=318,slow=8.1,SNR=7.3
NVAR PcP PcP 01 18 05.0 +0.2
comp=Z,1.1nm,0.9s,baz=309,slow=0.3,SNR=4.4
comp=Z,1.4nm,0.8s
RES Resolute Bay 28.02 27 P P 01 14 52.7 +0.3
RES Resolute Bay 28.02 27 LR LR 01 26 32.0
comp=Z,110nm,20.1s,baz=194,slow=37
R11B Troy Canyon, C 28.31 114 P P 01 14 53.9 -1.7
PDAR Pinedale Array 28.46 100 P P 01 14 57.0 0.0
comp=Z,0.3nm,0.7s,baz=320,slow=5.1,SNR=4.6
PDAR LR LR 01 26 14.1
comp=Z,60nm,18.0s,baz=114,slow=36
comp=Z,0.3nm,0.7s
SPR3 Spring Creek 3 28.48 111 P P 01 14 55.2 -2.1
SPR3 IAmb IAmb 01 15 00.2
comp=Z,7.5nm,1.3s
QSM Queen of Sheba 29.50 118 P P 01 15 03.9 -1.9
SEY Seymchan 29.73 308 *ceP* P 01 15 08.7 +1.0
SEY pmax pmax
comp=Z,5.0nm,1.0s
MVU Marysvale 29.97 109 P P 01 15 07.7 -2.6
MVU IAmb IAmb 01 15 12.2
comp=Z,15nm,1.2s
PETK Petropavlovsk- 30.44 288 P P 01 15 14.3 +0.3
comp=Z,2.1nm,0.7s,baz=89,slow=13,SNR=2.1
comp=Z,2.1nm,0.7s
SRU San Rafael Swe 30.44 107 P P 01 15 13.6 -0.8
SRU IAmb IAmb 01 15 16.1
comp=Z,6.4nm,1.2s
SRU San Rafael Swe 30.44 107 P P 01 15 13.6 -0.8
SRU pmax pmax
comp=Z,6.0nm,1.2s
V12A Nelson 30.70 116 P P 01 15 16.1 -0.5
V12A IAmb IAmb 01 15 17.8
comp=Z,5.8nm,1.3s
PKCU Pink Cliffs 30.70 111 P P 01 15 14.0 -2.9
PKCU IAmb IAmb 01 15 20.6
comp=Z,7.9nm,1.2s
RSSD Black Hills 30.70 93 P P 01 15 17.1 +0.4
RSSD pmax pmax
comp=Z,6.0nm,1.6s
MA2 Magadan 31.44 302 *ceP* P 01 15 24.4 +1.6
MA2 pmax pmax
comp=Z,17nm,2.5s
MA2 Magadan 31.44 302 LR LR 01 29 30.2
comp=Z,66nm,18.4s,baz=126,slow=39
ULM Lac du Bonnet 31.83 77 LR LR 01 27 21.5
comp=Z,91nm,18.6s,baz=350,slow=34
TIXI Tiksi 36.21 328 P P 01 16 04.2 +0.2
TIXI IAmb IAmb 01 16 05.9
comp=Z,12nm,1.4s
TIXI Tiksi 36.21 328 *ceP* P 01 16 05.4 +1.4
TIXI pmax pmax
comp=Z,14nm,2.5s
E38A The Farm, Brul 36.24 80 P P 01 16 04.9 +0.3
E38A IAmb IAmb 01 16 06.5
comp=Z,10nm,1.0s
NEEM North Greenlan 38.08 21 *eP* P 01 16 21.3 +1.1
NEEM IAmb IAmb 01 16 22.4
comp=Z,15nm,1.1s
FRB Frobisher Bay 38.77 44 LR LR 01 32 10.5
comp=Z,164nm,19.4s,baz=350,slow=36
UPNV Upernavik 38.89 28 *eP* P 01 16 28.2 +1.4
UPNV IAmb IAmb 01 16 28.5
comp=Z,7.7nm,0.9s
YAK Yakutsk 39.84 313 *ceP* P 01 16 35.1 +0.4
YAK pmax pmax
comp=Z,5.0nm,0.4s
TXAR Lajitas Array 41.53 110 P P 01 16 50.1 +0.9
comp=Z,1.2nm,1.0s,baz=287,slow=6.3,SNR=5.5
TXAR PcP PcP 01 18 46.3 -0.3
comp=Z,0.5nm,0.8s,baz=352,slow=1.8,SNR=3.7
comp=Z,1.2nm,1.0s
YSS Yuzh-Sakhalins 41.84 288 *eP* P 01 16 48.7 -2.7
YSS pmax pmax
comp=Z,10.0nm,1.1s
SUMG Summit 43.45 24 P P 01 17 06.1 +1.4
SUMG IAmb IAmb 01 17 07.0
comp=Z,12nm,0.9s
SUMG Summit 43.45 24 P P 01 17 06.1 +1.4
SUMG pmax pmax
comp=Z,12nm,0.9s
SUMG Summit 43.45 24 *i* P P 01 17 05.8 +1.1
SUMG IAmb IAmb 01 17 07.1
comp=Z,15nm,1.1s
SFJD Kangerlussuaq 43.51 34 LR LR 01 35 28.5
comp=Z,87nm,19.1s,baz=330,slow=36
ASAJ Asahikawa 43.73 284 P P 01 17 06.6 -0.1
comp=Z,14nm,0.8s,baz=352,slow=6.3,SNR=7.1
comp=Z,14nm,0.8s
SCHQ Schefferville 44.24 55 P P 01 17 11.3 +0.5
SCHQ Schefferville 44.24 55 P P 01 17 11.7 +0.9
comp=Z,3.5nm,0.7s,baz=292,slow=8.8,SNR=6.9
SCHQ LR LR 01 35 30.5

comp=Z,88nm,19.0s,baz=308,slow=36
comp=Z,3.5nm,0.7s
KBS Kingsbay 45.14 5 P **P 01 17 19.8 +2.2**
KBS Kingsbay 45.14 5 P **P 01 17 19.8 +2.2**
KBS pmax pmax
comp=Z,27nm,1.4s
ICESG Greenland Ices 45.43 28 *e*P **P 01 17 21.5 +1.0**
ICESG IAmb IAmb 01 17 22.6
comp=Z,35nm,1.4s
DBG Daneborg 45.84 17 *e*P **P 01 17 24.0 +0.7**
DBG IAmb IAmb 01 17 25.0
comp=Z,10.0nm,0.9s
SPB5 Spitsbergen Ar 46.07 4 P **P 01 17 26.2 +1.2**
SPA2 Spitsbergen Ar 46.07 4 P **P 01 17 25.1 0.0**
SPB3 Spitsbergen Ar 46.07 4 P **P 01 17 25.0 -0.1**
KLR Kul'dur 46.17 297 *ce*P **P 01 17 26.8 +0.6**
KLR pmax pmax
comp=Z,28nm,2.5s
TKL Tuckaleechee C 47.87 86 LR LR 01 38 39.0
comp=Z,80nm,18.1s,baz=94,slow=37
L59A Walton 48.15 74 P **P 01 17 42.2 +0.4**
NRIK Noril'sk 48.67 337 P **P 01 17 45.5 +0.1**
NRIK IAmb IAmb 01 17 46.9
comp=Z,11nm,1.0s
NRIK Noril'sk 48.67 337 *ce*P **P 01 17 46.1 +0.8**
NRIK pmax pmax
comp=Z,15nm,1.2s
NRIK Noril'sk 48.67 337 P **P 01 17 46.0 +0.6**
comp=Z,6.9nm,0.8s,baz=53,slow=5.7,SNR=16
NRIK LR LR 01 39 55.8
comp=Z,64nm,18.8s,baz=90,slow=38
comp=Z,6.9nm,0.8s
H11N2 WAKE ISLAND Hy 48.69 241 T T 02 10 08.2
baz=32,slow=76,SNR=38
H11N3 WAKE ISLAND Hy 48.69 241 T T 02 10 08.6
baz=32,slow=76,SNR=37
BOD Bodaibo 48.69 315 *e*P **P 01 17 45.6 0.0**
BOD pmax pmax
comp=Z,7.0nm,1.0s
H11N1 WAKE ISLAND Hy 48.70 241 T T 02 10 09.6
baz=32,slow=76,SNR=38
F64A Sherman 49.21 66 P **P 01 17 49.4 -0.4**
HODGE Hodges 49.76 86 P **P 01 17 54.0 -0.1**
HODGE IAmb IAmb 01 18 02.8
comp=Z,4.4nm,0.9s
H11S1 WAKE ISLAND Hy 49.82 240 T T 02 11 31.7
baz=30,slow=76,SNR=24
H11S2 WAKE ISLAND Hy 49.83 240 T T 02 11 34.5
baz=30,slow=76,SNR=21
H11S3 WAKE ISLAND Hy 49.84 240 T T 02 11 34.9
baz=30,slow=76,SNR=26
BORG Borgarnes 53.41 25 LR LR 01 41 41.5
comp=Z,63nm,18.7s,baz=283,slow=37
ARCES ARCESS Array B 55.00 2 P **P 01 18 32.6 +0.1**
ARCES IAmb IAmb 01 18 33.6
comp=Z,9.5nm,0.9s
ARCES ARCESS Array B 55.00 2 P **P 01 18 32.6 +0.1**
ARCES pmax pmax
comp=Z,10.0nm,1.0s
ARCES ARCESS Array B 55.00 2 P **P 01 18 32.7 +0.2**
comp=Z,3.8nm,0.6s,baz=1.4,slow=7.3,SNR=21
comp=Z,3.8nm,0.6s
LVZ Lovozero 56.67 358 P **P 01 18 44.9 +0.3**
LVZ Lovozero 56.67 358 P **P 01 18 44.9 +0.3**
LVZ pmax pmax
comp=Z,13nm,0.8s
APA Apatity 57.02 359 ⇓ *i*P **P 01 18 45.7 -1.3**
APA pmax pmax
comp=Z,6.0nm,0.8s
SGF Sodankyl 57.12 2 P **P 01 18 48.4 +0.7**
SGF pmax pmax
comp=Z,29nm,1.6s
SONM Songino Array 59.08 311 P **P 01 19 02.0 +0.1**
SONM IAmb IAmb 01 19 03.6
comp=Z,7.2nm,1.2s
SONM Songino Array 59.08 311 P **P 01 19 02.0 +0.1**
SONM pmax pmax
comp=Z,7.0nm,1.2s
SONM Songino Array 59.08 311 P **P 01 19 02.8 +0.9**
comp=Z,2.9nm,0.9s,baz=48,slow=6.9,SNR=16
SONM PcP **PcP 01 19 51.0 +0.4**
comp=Z,2.1nm,0.9s,baz=45,slow=2.6,SNR=4.9
comp=Z,2.9nm,0.9s
JOF Joensuu 61.70 360 *e*P **P 01 19 20.1 +0.7**
ZALV Zalesovo Beam 62.09 327 P **P 01 19 21.9 -0.3**
ZALV Zalesovo Beam 62.09 327 P **P 01 19 22.8 +0.6**
comp=Z,3.7nm,0.6s,baz=30,slow=6.9,SNR=22
ZALV LR LR 01 47 21.0
comp=Z,44nm,18.4s,baz=354,slow=37
comp=Z,3.7nm,0.6s
HHC Hu-ho-hao-te 62.12 302 *e*P **P 01 19 23.4 +0.7**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,140nm,4.4s
NC204 NORSAR Array S 62.28 11 P **P 01 19 24.1 +0.8**
KEF Keuruu 62.36 3 *e*P **P 01 19 24.6 +0.7**
NB201 NORSAR Array S 62.56 11 P **P 01 19 25.1 -0.2**
NB2 NORSAR Subarra 62.56 11 P **P 01 19 25.8 +0.5**
comp=Z,1.7nm,0.6s,baz=347,slow=6.9
NOA NORSAR Array B 62.56 11 P **P 01 19 25.7 +0.5**
comp=Z,2.9nm,0.7s,baz=348,slow=6.7,SNR=15
NOA LR LR 01 48 57.7
comp=Z,26nm,18.2s,baz=245,slow=38
comp=Z,2.9nm,0.7s
FIA1 FINESS Array S 63.12 3 P **P 01 19 29.5 +0.6**
FINES FINESS Array B 63.12 3 P **P 01 19 29.4 +0.5**
FINES FINESS Array B 63.12 3 *i*P **P 01 19 29.7 +0.8**
FINES pmax pmax
comp=Z,9.0nm,0.7s
FINES FINESS Array B 63.12 3 P **P 01 19 29.8 +0.9**
comp=Z,8.7nm,0.7s,baz=4.1,slow=7.6,SNR=30
comp=Z,8.7nm,0.7s
VALR Valaam 63.27 0 *i*P **P 01 19 31.0 +1.1**
KLMR Klimovskoe 63.58 355 *e*P **P 01 19 31.0 -0.9**
KLMR pmax pmax
comp=Z,17nm,1.2s
HFS Hagfors 63.69 10 P **P 01 19 33.2 +0.5**
comp=Z,2.2nm,0.6s,baz=22,slow=1.6,SNR=8.6
HFS LR LR 01 50 03.4
comp=Z,35nm,18.1s,baz=56,slow=39
comp=Z,2.2nm,0.6s
DGZ Jazzator, Alta 64.89 323 ⇑ *i*P **P 01 19 42.1 +1.2**
DGZ pmax pmax
comp=Z,16nm,1.6s
SVE Sverdlovsk 65.26 343 *e*P **P 01 19 44.0 +1.0**
EKA Eskdalemuir Ar 65.88 21 P **P 01 19 47.5 +0.5**
EKA Eskdalemuir Ar 65.88 21 P **P 01 19 47.8 +0.7**
comp=Z,5.2nm,1.0s,baz=319,slow=4.6,SNR=7.3
comp=Z,5.2nm,1.0s
ARU Arti 65.98 344 P **P 01 19 47.8 +0.2**
ARU Arti 65.98 344 *c i*P **P 01 19 47.9 +0.2**
ARU S **S 01 28 35.4 +0.3**
ARU SS **SS 01 32 47.6 -1.4**
ARU pmax pmax
comp=Z,21nm,1.8s
VSU Vasula 66.13 2 *ce*P **P 01 19 50.2 +1.6**
VSU pmax pmax
comp=Z,28nm,0.8s
LYN LuoYang 66.61 297 ⇓ P **P 01 19 52.7 +0.6**
LYN sP pwP 01 19 59.6 +0.9
LYN pmax pmax
comp=Z,13nm,0.9s
LYN pmax pmax
comp=Z,410nm,4.6s
KURK Kurchatov 66.77 329 *ce*P **P 01 19 53.6 +0.8**
KURK pmax pmax
comp=Z,2.0nm,0.7s
BRVK Borovoye 66.84 335 P **P 01 19 53.3 +0.1**
BRVK IAmb IAmb 01 19 54.5
comp=Z,9.4nm,1.1s
BRVK Borovoye 66.84 335 *ce*P **P 01 19 53.8 +0.6**
BRVK pmax pmax
comp=Z,12nm,1.7s
BVAR Borovoye Array 66.84 335 P **P 01 19 53.6 +0.3**
comp=Z,6.2nm,0.7s,baz=32,slow=7.0,SNR=37
BVAR LR LR 01 52 04.0
comp=Z,51nm,19.5s,baz=11,slow=39
comp=Z,6.2nm,0.7s
KURBB Kurchatov Arra 66.88 329 P **P 01 19 53.8 +0.3**
comp=Z,3.5nm,0.8s,baz=27,slow=6.4,SNR=6.0
comp=Z,3.5nm,0.8s
DEL Delary 67.32 10 *e*P **P 01 19 57.0 +0.8**
VSVD Vaisvydziai 68.52 4 *e*P **P 01 20 04.7 +0.9**
PABE Paberze 69.00 4 *e*P **P 01 20 08.0 +1.2**
ISAL Salakas 69.01 3 *e*P **P 01 20 07.7 +0.9**

MK31 Makanchi Array 69.12 325 P **P 01 20 07.5 -0.2**
MK31 IAmb IAmb 01 20 08.7
comp=Z,5.3nm,1.0s
MK31 Makanchi Array 69.12 325 *ce*P **P 01 20 07.9 +0.2**
MKAR Makanchi Array 69.12 325 P **P 01 20 08.0 +0.2**
MKAR Makanchi Array 69.12 325 P **P 01 20 07.8 +0.1**
comp=Z,5.6nm,0.8s,baz=42,slow=6.1,SNR=36
comp=Z,5.6nm,0.8s
OBN Obninsk 69.44 357 ⇑ *i*P **P 01 20 09.8 +0.4**
OBN pmax pmax
comp=Z,40nm,2.5s
NACGM Naroch 69.69 3 *e*P **P 01 20 12.3 +1.3**
comp=Z,26nm,0.9s,baz=358
KLNR Kaliningrad 69.70 7 *i*P **P 01 20 12.2 +1.1**
KLNR pmax pmax
comp=Z,50nm,0.8s
MNK Minsk 70.12 2 *i*P **P 01 20 14.0 +0.3**
comp=E,5.0nm,0.9s
MNK *i*P **P 01 20 14.0 +0.3**
comp=N,11nm,0.8s
MNK *i*P **P 01 20 14.0 +0.3**
comp=Z,27nm,0.8s,baz=358
MNK *i* PcP **PcP 01 20 36.1 +0.5**
MNK *i* PP **PP 01 22 48.5 +0.5**
MNK *i* PPP PPP 01 24 30.1
MNK *i* S **S 01 29 24.8 +0.2**
MNK *i* ScS **ScS 01 30 16.1 0.0**
MNK *i* SS **SS 01 33 54.8 +1.9**
MNK *i* SSS SSS 01 37 12.7
MNK *i* LQ LQ 01 45 47.4
MNK *i* LR LR 01 49 18.6
MNK *i* LRM MLR 01 52 05.6
comp=N,77nm,16.8s
MNK *i* LRM MLR 01 52 14.9
comp=Z,66nm,18.8s
MNK *i* LRM MLR 01 52 16.6
comp=E,51nm,24.0s
MNK Minsk 70.12 2 *i*P **P 01 20 14.0 +0.3**
MNK *i* 01 20 36.1
MNK *i* 01 22 48.4
MNK *i* PPP PPP 01 24 30.0
MNK *i* S **S 01 29 24.8 +0.2**
MNK *i* 01 30 16.1
MNK *i* SS **SS 01 33 54.8 +1.9**
MNK pmax pmax
comp=Z,27nm,0.9s
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK pmax pmax
comp=N,11nm,0.9s
MNK MLR MLR
comp=N,77nm,17.0s
MNK MLR MLR
comp=Z,66nm,19.0s
MNK MLR MLR
comp=E,51nm,24.0s
SUW Suwalki 70.45 5 *e*P **P 01 20 16.9 +1.1**
NRDL Niedersach Rie 70.80 13 *e*P **P 01 20 18.9 +1.1**
comp=E,7.5nm,0.8s,baz=349,slow=6.0
BUG Bochum--Univer 71.43 15 *e*P **P 01 20 22.7 +1.0**
comp=E,9.0nm,0.9s,baz=349,slow=6.0
GTTG Gottingen 71.71 14 *e*P **P 01 20 25.0 +1.6**
comp=E,14nm,1.0s,baz=349,slow=6.0
KASTN Kahler Asten 71.83 15 *e*P **P 01 20 25.4 +1.2**
comp=E,12nm,1.2s,baz=349,slow=6.0
NEUB Neuenburg 72.27 12 *e*P **P 01 20 27.9 +1.2**
comp=E,16nm,0.9s,baz=349,slow=6.0
CLL Collm 72.32 12 *i*P **P 01 20 27.6 +0.6**
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 72.32 12 *i*P **P 01 20 27.6 +0.6**
comp=Z,6.0nm,0.9s
CLL Collm 72.32 12 *e*P **P 01 20 27.7 +0.6**
comp=Z,5.3nm,0.9s,baz=349,slow=6.0
ABKAR Akbulak array 72.62 341 P **P 01 20 29.6 +0.7**
ABKAR IAmb IAmb 01 20 30.4
comp=Z,6.4nm,0.8s
ABKAR Akbulak array 72.62 341 P **P 01 20 29.5 +0.6**
SGMF Saint Gilles 72.68 23 P **P 01 20 29.8 +0.5**
SGMF pmax pmax
comp=Z,41nm,1.5s
TNS Taunus Mts 72.79 15 *e*P **P 01 20 31.2 +1.2**
comp=Z,4.4nm,0.7s,baz=349,slow=6.0
MOX Moxa 72.80 13 P **P 01 20 31.5 +1.5**
MOX pmax pmax
comp=Z,12nm,0.9s
MOX Moxa 72.80 13 *e*P **P 01 20 31.1 +1.1**
comp=Z,8.0nm,0.8s,baz=349,slow=6.0
BRG Berggiesshubel 72.85 11 ⇓ *i*P **P 01 20 31.5 +1.3**
BRG Amp 01 20 32.3
comp=Z,5.5nm,0.9s
BRG Berggiesshubel 72.85 11 ⇓ *i*P **P 01 20 31.5 +1.3**
BRG pmax pmax
comp=Z,6.0nm,0.9s
BRG Berggiesshubel 72.85 11 *e*P **P 01 20 31.3 +1.1**
comp=Z,5.5nm,0.9s,baz=349,slow=6.0
GRR Gorron 72.91 22 *e*P **P 01 20 31.2 +0.5**
GRR pmax pmax
comp=Z,41nm,1.7s
WLF Walferdange 72.98 17 *e*P **P 01 20 32.4 +1.4**
comp=Z,18nm,1.3s,baz=349,slow=6.0
PLN Plauen 73.03 12 *e*P **P 01 20 32.5 +1.1**
comp=Z,6.4nm,0.7s,baz=349,slow=6.0
TANN Tannenbergstha 73.13 12 *e*P **P 01 20 33.2 +1.2**
comp=Z,2.7nm,0.8s,baz=349,slow=6.0
PVCC Panska Ves 73.26 11 P **P 01 20 34.0 +1.4**
PVCC pmax pmax
comp=Z,18nm,0.7s
PVCC Panska Ves 73.26 11 *e*P **P 01 20 34.1 +1.4**
NKC Novy Kostel 73.31 12 *e*P **P 01 20 34.3 +1.3**
NKC Novy Kostel 73.31 12 *e*P **P 01 20 34.3 +1.3**
CHVC Chvalec 73.35 10 *e*P **P 01 20 34.1 +0.8**
CHVC Chvalec 73.35 10 *e*P **P 01 20 34.1 +0.8**
OSTC Ostas 73.40 10 *e*P **P 01 20 33.9 +0.4**
OSTC Ostas 73.40 10 *e*P **P 01 20 33.9 +0.4**
MANZ Manzenberg 73.51 13 *e*P **P 01 20 35.3 +1.1**
comp=Z,0.4nm,0.7s,baz=349,slow=6.0
DPC Dobruska-Polom 73.61 10 *e*P **P 01 20 36.1 +1.3**
DPC Dobruska-Polom 73.61 10 *e*P **P 01 20 36.1 +1.3**
GRF Grafenberg Arr 73.69 13 *e*P **P 01 20 36.6 +1.3**
comp=Z,8.4nm,0.9s,baz=349,slow=6.0
ROTZ Rotzenmuhle 73.74 12 *e*P **P 01 20 36.6 +1.1**
comp=Z,1.3nm,0.8s,baz=349,slow=6.0
PRU Pruhonice 73.79 11 *e*P **P 01 20 37.1 +1.3**
PRU Pruhonice 73.79 11 *e*P **P 01 20 37.1 +1.3**
KRLC Kraliky 73.93 9 *e*P **P 01 20 38.1 +1.4**
KRLC Kraliky 73.93 9 *e*P **P 01 20 38.1 +1.4**
AKASG Malin Array Be 73.95 1 P **P 01 20 36.9 +0.2**
comp=Z,4.7nm,0.6s,baz=358,slow=5.7,SNR=20
comp=Z,4.7nm,0.6s
AKBB Malin Array Si 73.95 1 *ce*P **P 01 20 36.9 +0.2**
AKBB pmax pmax
comp=Z,13nm,0.9s
KIEV Kiev 73.95 1 P **P 01 20 37.1 +0.4**
KIEV pmax pmax
comp=Z,53nm,1.1s
OKC Ostrava-Krasne 74.28 9 P **P 01 20 38.4 -0.3**
OKC pmax pmax
comp=Z,11nm,1.1s
MORC Moravsky Berou 74.29 9 *e*P **P 01 20 39.8 +1.0**
CDF Champ du Feu 74.38 16 *e*P **P 01 20 40.0 +0.6**
CDF pmax pmax
comp=Z,30nm,1.9s
WET Wettzell 74.43 12 *e*P **P 01 20 40.9 +1.3**
baz=349,slow=6.0
KHC Kasperske Hory 74.53 12 *e*P **P 01 20 41.6 +1.4**
KHC Kasperske Hory 74.53 12 *e*P **P 01 20 41.6 +1.4**
BFO Black Forest 74.62 15 *e*P **P 01 20 41.8 +1.1**
comp=Z,31nm,1.8s,baz=349,slow=6.0
HAU Haudompre 74.62 17 *e*P **P 01 20 43.0 +2.3**
HAU pmax pmax
comp=Z,14nm,1.3s
VRAC Vranov 74.67 10 ⇓ P **P 01 20 42.4 +1.4**
VRAC Vranov 74.67 10 *e*P **P 01 20 42.2 +1.2**
VRAC Vranov 74.67 10 P **P 01 20 42.4 +1.4**
LVV L'vov 74.68 5 *e*P **P 01 20 42.3 +1.3**
TKM2 Tokmak 2 74.70 328 P **P 01 20 42.4 +0.9**
SNR=10.0
USP Ospenovka 74.71 329 P **P 01 20 42.2 +0.9**
SNR=9.4
MFF Saint Martin d 74.76 22 *e*P **P 01 20 42.0 +0.5**
MFF pmax pmax
comp=Z,85nm,2.2s
KWP Kalwaria Pacla 74.80 6 P **P 01 20 41.3 -0.4**
GEC2 GERESS Array S 74.82 12 *e*P **P 01 20 43.2 +1.2**
comp=Z,4.8nm,1.0s,baz=349,slow=6.0
GERES GERESS Array B 74.82 12 P **P 01 20 43.2 +1.2**
comp=Z,2.6nm,0.6s,baz=15,slow=5.8,SNR=13
comp=Z,2.6nm,0.6s
NIE Niedzica 74.87 7 P **P 01 20 43.6 +1.5**
NIE pmax pmax
comp=Z,5.0nm,1.1s
KRUC Moravsky 74.89 10 *e*P **P 01 20 43.0 +0.7**
LOR Lormes 74.91 19 *e*P **P 01 20 42.7 +0.3**
LOR pmax pmax
comp=Z,29nm,1.8s
CKRC Cesky Krumlov 74.92 11 *e*P **P 01 20 43.5 +1.1**
CKRC Cesky Krumlov 74.92 11 *e*P **P 01 20 43.5 +1.1**
STHS Stebnicka Huta 74.93 7 *e*P **P 01 20 43.2 +0.7**
STHS Stebnicka Huta 74.93 7 *e*P **P 01 20 43.2 +0.7**
SSF Saint Saulge 75.04 19 *e*P **P 01 20 43.5 +0.4**
SSF pmax pmax
comp=Z,9.0nm,1.1s
LANS Liptovska Anna 75.07 8 *e*P **P 01 20 45.8 +2.5**
LANS Liptovska Anna 75.07 8 *e*P **P 01 20 45.8 +2.5**
KBK Karagaybulak 75.13 328 P **P 01 20 45.0 +1.0**
SNR=5.2
JAVC Velka Javorina 75.21 9 *e*P **P 01 20 46.2 +2.0**
AVF Avril sur Loir 75.27 19 *e*P **P 01 20 44.5 0.0**
AVF pmax pmax
comp=Z,28nm,1.7s
AAK Ala-Archa 75.29 328 P **P 01 20 45.8 +0.9**
SNR=5.9
AAK Ala-Archa 75.29 328 *ce*P **P 01 20 45.8 +0.9**
AAK pmax pmax
comp=Z,8.0nm,1.7s
HORU Horodok 75.38 3 P **P 01 20 45.4 +0.4**
EKS2 Erkin-Say 75.48 329 P **P 01 20 47.3 +1.4**
SNR=7.2
SMF Signal de Mont 75.50 19 *e*P **P 01 20 45.9 +0.1**
SMF pmax pmax
comp=Z,53nm,2.2s
UBR Ueberruh 75.51 14 *e*P **P 01 20 47.4 +1.4**
comp=Z,7.1nm,1.1s,baz=349,slow=6.0
MODS Modra-Piesok 75.66 9 *e*P **P 01 20 48.5 +1.8**
MODS Modra-Piesok 75.66 9 *e*P **P 01 20 48.5 +1.8**
VYHS Vyhne 75.67 8 *e*P **P 01 20 47.9 +1.1**
VYHS Vyhne 75.67 8 *e*P **P 01 20 47.9 +1.1**
RJOB Jochberg 75.81 12 *e*P **P 01 20 48.8 +1.2**
comp=Z,5.8nm,0.8s,baz=349,slow=6.0
DAVA Damuels 75.86 15 *i* pP pP 01 20 53.4 +4.5
comp=Z,7.6nm,1.4s
MOA Molln 75.87 11 *i*P **P 01 20 48.4 +0.5**
comp=Z,4.3nm,1.1s
BIOA Bad Ischl, Aus 75.95 12 *i*P **P 01 20 49.0 +0.6**
comp=Z,5.0nm,0.8s
CONA Conrad Observa 75.96 10 *i*P **P 01 20 49.8 +1.3**
comp=Z,3.3nm,0.7s
MOTA Moosalm 75.98 14 *i*P **P 01 20 50.3 +1.6**
comp=Z,5.9nm,1.3s
WATA Walderalm 76.05 13 *i*P **P 01 20 49.9 +0.8**
comp=Z,4.9nm,0.8s
LESA Schwarzleotal 76.10 13 *i*P **P 01 20 49.8 +0.5**
comp=Z,5.5nm,1.1s
SQTA Sankt Quirin 76.11 14 *i*P **P 01 20 50.9 +1.5**
comp=Z,7.4nm,0.8s
WTTA Wattenberg 76.13 13 *i*P **P 01 20 50.9 +1.3**
comp=Z,9.0nm,0.8s,SNR=4.8
KSV Kosov 76.23 4 P **P 01 20 49.4 -0.5**
FETA Feichten 76.24 14 *i*P **P 01 20 51.7 +1.5**
comp=Z,5.0nm,0.9s
TRSU Trosnyk 76.35 5 P **P 01 20 52.1 +1.5**
SORM Soroca 76.50 2 ⇑ P **P 01 20 51.8 +0.3**
SORM Soroca 76.50 2 P **P 01 20 51.7 +0.3**
KBA Koelnbreinsper 76.52 12 *i*P **P 01 20 53.4 +1.5**
comp=Z,8.7nm,0.6s
KBA Koelnbreinsper 76.52 12 P **P 01 20 53.4 +1.5**
KBA pmax pmax
comp=Z,18nm,1.0s
ARSA Arzberg 76.60 11 *i*P **P 01 20 53.6 +1.5**
comp=Z,4.6nm,0.9s
ABTA Abfaltersbach 76.75 13 *i*P **P 01 20 54.5 +1.5**
comp=Z,7.6nm,1.4s
CAF Calviac 76.82 21 *e*P **P 01 20 54.8 +1.4**
CAF pmax pmax
comp=Z,39nm,2.1s
BURAR Bucovina Array 76.93 4 ⇑ P **P 01 20 55.5 +1.4**
BURAR Bucovina Array 76.93 4 P **P 01 20 55.4 +1.4**
MYKA Terra Mystica 77.00 12 *e*P **P 01 20 54.4 0.0**
comp=Z,1.8nm,0.6s
LPL La Plagne 77.10 17 *e*P **P 01 20 56.5 +1.3**
LPL pmax pmax
comp=Z,17nm,1.7s
SOKA Soboth 77.11 11 *i*P **P 01 20 56.1 +1.0**
comp=Z,3.5nm,0.7s,SNR=4.8
RAR Rarotonga 77.15 190 LR LR 01 51 43.1
comp=Z,44nm,18.5s,baz=92,slow=33
PERS Pernice 77.16 11 *i*P **P 01 20 56.2 +0.9**
OBKA Obir 77.22 11 *i*P **P 01 20 56.7 +1.0**
comp=Z,11nm,0.6s,SNR=15
VIVF Saint-Julien-l 77.38 19 *e*P **P 01 20 57.1 +0.6**
VIVF pmax pmax
comp=Z,11nm,1.2s
CADS Cadrg 77.41 12 *i*P **P 01 20 56.7 0.0**
DRGR 77.64 6 ⇑ P **P 01 20 58.3 +0.3**
DRGR 77.64 6 P **P 01 20 58.3 +0.3**
KSH Kashi 77.68 326 P **P 01 21 01.8 +3.4**
KSH pmax pmax
comp=Z,6.0nm,0.8s
MARR Marisel-Cluj 77.77 5 ⇑ P **P 01 20 59.2 +0.4**
ETSF Etsaut 78.20 23 *e*P **P 01 21 02.7 +1.5**
ETSF pmax pmax
comp=Z,13nm,1.5s
OZUR 78.47 4 P **P 01 21 03.8 +1.2**
SURR Surduc 78.64 6 ⇓ P **P 01 21 04.3 +0.9**
BTK Batken 78.73 330 P **P 01 21 05.0 +0.8**
COVR Voineasa-Covas 78.74 3 ⇑ P **P 01 21 05.6 +1.6**
BZS Buzias 78.74 7 ⇑ P **P 01 21 04.7 +0.6**
BZS Buzias 78.74 7 P **P 01 21 04.6 +0.6**
PLOR Plostina 78.75 3 ⇑ P **P 01 21 05.7 +1.6**
PLOR Plostina 78.75 3 P **P 01 21 05.7 +1.6**
SPBR Spulber 78.85 3 P **P 01 21 05.5 +0.9**
GZR Gura Zlata 79.03 6 ⇓ P **P 01 21 06.6 +0.9**
GZR Gura Zlata 79.03 6 P **P 01 21 06.6 +0.9**
ARR Arges 79.15 4 ⇓ P **P 01 21 07.7 +1.3**
CFR Carcaliu 79.45 2 ⇑ P **P 01 21 08.7 +0.8**
CFR Carcaliu 79.45 2 P **P 01 21 08.7 +0.8**
MDVR Moldovita 79.58 7 P **P 01 21 08.8 +0.1**
KIV Kislovodsk 80.20 351 *e*P **P 01 21 14.1 +2.0**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KBZ Khabaz 80.41 351 *ce*P **P 01 21 15.1 +2.0**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KBZ Khabaz 80.41 351 P **P 01 21 14.7 +1.6**
comp=Z,3.7nm,0.8s,baz=335,slow=4.6,SNR=13
comp=Z,3.7nm,0.8s
ESDC Sonseca Array 80.45 27 P **P 01 21 14.9 +1.4**
comp=Z,3.7nm,0.8s,baz=339,slow=5.5,SNR=21
ESDC LR LR 01 57 28.5
comp=Z,69nm,19.0s,baz=314,slow=36
comp=Z,3.7nm,0.8s
CHGR Chuyangaron 80.50 331 P **P 01 21 14.3 +0.5**
CHGR pmax pmax
comp=Z,50nm,0.8s
BRTR Keskin Array B 84.90 358 *i*P **P 01 21 37.7 +0.9**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
CMAR Chiang Mai Arr 86.64 298 *i*P **P 01 21 45.5 0.0**
CMAR pmax pmax
comp=Z,4.0nm,0.7s
CMAR Chiang Mai Arr 86.64 298 P **P 01 21 45.6 0.0**
comp=Z,2.9nm,0.7s,baz=12,slow=5.1,SNR=16
comp=Z,2.9nm,0.7s
KEST Kesra 87.07 17 P **P 01 21 48.4 +0.9**
comp=Z,2.7nm,0.9s,baz=348,slow=9.3,SNR=2.4
comp=Z,2.7nm,0.9s
EIL Elat 94.89 356 LR LR 02 12 21.3
comp=Z,32nm,18.5s,baz=246,slow=40
QSPA South Pole Qui 145.50 180 PKPbc **PKPdf 01 28 37.8 -0.7**
comp=Z,14nm,1.0s,baz=47,slow=2.1,SNR=23
BOSA Boshof 152.62 11 PKPbc **PKPbc 01 28 57.2 -1.0**
comp=Z,3.3nm,0.7s,baz=352,slow=4.1,SNR=6.7

IDC ***09*** *01:13:43.2±1.9,5°.38S×142°.12E,h0km,mb3.6/3, mbtmp3.6/5,ML3.7/2,MS3.8/1,Error ellipse: s-maj=74.3km s-min=23.7km az=105.0*
ISC 09 01:13:46.5±1.6,5.7S±0°.2×141°.9E±0°.5,h25km,n6,σ3⅜00/7,

mb3.6/3, **New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.92**	**207**	Pn	**P**	**01 17 33.0**	**+0.6**
	0.3nm,0.3s,baz=33,slow=13,SNR=6.3						
WRA				Sn	**Sn**	**01 20 22.6**	**-2.1**
	0.1nm,0.3s,baz=23,slow=26,SNR=1.3						
WRA				Lg	Lg	01 22 20.9	
	0.1nm,0.3s,baz=30,slow=30,SNR=1.7						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**19.42**	**202**	P	**Pn**	**01 18 16.6**	**+4.3**
	0.1nm,0.3s,baz=31,slow=10,SNR=14						
ASAR				S	**S**	**01 21 46.5**	**-2.8**
	0.5nm,0.8s,baz=20,slow=27,SNR=2.2						
ASAR				Lg	Lg	01 24 13.3	
	baz=18,slow=31,SNR=1.9						
	1.2nm,0.7s						
STKA	**Stephens Creek**	**26.02**	**181**	LR	LR	01 30 23.6	
	comp=Z,234nm,21.9s,baz=30,slow=38						
KURBB	**Kurchatov Arra**	**77.98**	**324**	P	**P**	**01 25 43.7**	**+1.1**
	0.5nm,0.6s,baz=127,slow=6.7,SNR=6.4						
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**83.56**	**325**	P	**P**	**01 26 11.4**	**-1.0**
	0.2nm,0.5s,baz=104,slow=6.1,SNR=2.6						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**87.27**	**24**	P	**P**	**01 26 29.2**	**-1.5**
	0.3nm,0.8s,baz=251,slow=5.6,SNR=1.9						
	0.3nm,0.8s						

PRU 09 01:24:24.6, 50.14N×18.88E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**0.94**	**248**	*e*Pg	Pg	01 24 41.7	-0.8
MORC				*e*Sg	Sg	01 24 55.1	+0.4
MAUC	**Maruska**	**1.03**	**222**	*e*Pg	Pg	01 24 43.2	-1.2
MAUC				*e*Sg	Sg	01 24 57.7	0.0
LANS	**Liptovska Anna**	**1.06**	**159**	*e*Pg	Pg	01 24 40.0	-4.9
LANS				*e*Sg	Sg	01 24 53.5	-5.2
LANS				*e*SN	Sb	01 24 53.8	-6.5
KRLC	**Kraliky**	**1.35**	**268**	*e*Sg	Sg	01 25 07.8	-0.2
KRLC	**Kraliky**	**1.35**	**268**	*e*	Sg	01 25 07.8	-0.2
VYHS	**Vyhne**	**1.65**	**181**	*e*PN	Pn	01 24 49.8	-5.0
VYHS				*e*SN	Sn	01 25 11.6	-5.1
DPC	**Dobruska-Polom**	**1.66**	**278**	*e*Pg	Pn	01 24 54.1	-0.8
DPC				*e*SG	Sn	01 25 16.9	0.0

*BUL **09** 01:24:56.9±2.7, 17.04S×35.45E, h10km, MD4.7*
*EAF **09** 01:24:57.9±2.8, 17.01S×35.36E, h10km, MD4.1*
ISC 09 01:24:54.4±1.6, 16.78S±0.09×35.2E±0.1, h10km, n18, σ2s18/20, Malawi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZOMB	**Zomba**	**1.40**	**5**	*i* Pg	**Pg**	**01 25 20.1**	**-1.1**
ZOMB				*i* Sg	**Sn**	**01 25 37.6**	**-1.0**
ZOMB	**Zomba**	**1.40**	**5**	*e*PN		01 36 12.4	
ZOMB				*e*SN		01 37 23.7	
ZOMB	**Zomba**	**1.40**	**5**	*e*PG	**Pg**	**01 25 20.1**	**-1.1**
ZOMB				*i* Sg	**Sn**	**01 25 37.6**	**-1.0**
ZOMB	**Zomba**	**1.40**	**5**	*e*PN		01 36 12.4	
ZOMB				*e*SN		01 37 23.7	
KRI	**Karoi**	**5.36**	**269**	*i* P	**Pn**	**01 26 15.1**	**+0.4**
KRI	**Karoi**	**5.36**	**269**	*i* P	**Pn**	**01 26 15.1**	**+0.4**
LSZ	**Lusaka**	**6.92**	**282**	*i* P	**Pn**	**01 26 40.2**	**+4.2**
LSZ	**Lusaka**	**6.92**	**282**	*i* P	**Pn**	**01 26 40.2**	**+4.2**
BLWY	**Bulawayo**	**7.10**	**241**	*i* P	**Pn**	**01 26 40.9**	**+2.3**
BLWY				*i* S	**Sn**	**01 27 56.5**	**-2.9**
BLWY	**Bulawayo**	**7.10**	**241**	*i* P	**Pn**	**01 26 40.9**	**+2.3**
BLWY				*i* S	**Sn**	**01 27 56.5**	**-2.9**
MUSN	**Musina, Limpop**	**7.45**	**222**	*i* P	**Pn**	**01 26 43.9**	**+0.6**
MUSN	**Musina, Limpop**	**7.45**	**222**	*i* P	**Pn**	**01 26 43.9**	**+0.6**
MOPA	**Mopani**	**7.60**	**208**	*i* P	**Pn**	**01 26 46.7**	**+1.5**
MOPA	**Mopani**	**7.60**	**208**	*i* P	**Pn**	**01 26 46.7**	**+1.5**
LBTB	**Lobatse**	**12.15**	**226**	*i* P	**Pn**	**01 27 49.6**	**+1.8**
LBTB	**Lobatse**	**12.15**	**226**	*i* P	**Pn**	**01 27 49.6**	**+1.8**
BOSA	**Boshof**	**14.93**	**216**	*i* P	**Pn**	**01 28 26.6**	**+1.0**
BOSA	**Boshof**	**14.93**	**216**	*i* P	**Pn**	**01 28 26.6**	**+1.0**

*THE **09** 01:34:44.9, 36.81N×28.46E, h3km±2km, ML2.1/2, Error ellipse: s-maj=3.9km s-min=0.7km az=86.0*
*ISK **09** 01:34:46.0, 36.75N×28.42E, h14km, ML2.5/8*
*AFAD **09** 01:34:46.7±0.0, 36.75N×28.41E, h7km±3km, ML1.9*
ISC 09 01:34:46.3±0.9, 36.77N±0.03×28.42E±0.02, h15km±6km, n23, σ9s79/39, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.14**	**274**	P	**Pg**	**01 34 49.6**	**-0.4**
TURN				*i* AML	AML	01 34 52.0	
	comp=E,1μm,0.3s						
TURN				S	**Sg**	**01 34 52.0**	**-0.5**
DALY	**Dalyan (Mula)**	**0.20**	**75**	Pg	**Pg**	**01 34 50.9**	**+0.1**
DALY				Sg	**Sg**	**01 34 54.7**	**+0.8**
SABU	**Mula-Dalaman**	**0.45**	**82**	P	**Pb**	**01 34 55.6**	**-0.2**
SABU				S	**Sb**	**01 35 01.9**	**-0.4**
SABU				*i* AML	AML	01 35 04.0	
	comp=N,163nm,0.3s						
SABU				*i* AML	AML	01 35 04.0	
	comp=E,110nm,0.2s						
MULA	**Mugla, Merkez-**	**0.49**	**351**	P	**Pg**	**01 34 56.3**	**+0.1**
MULA				S	**Sb**	**01 35 04.1**	**+0.2**
MULA				*i* AML	AML	01 35 06.0	
	comp=N,80nm,0.3s						
MULA				*i* AML	AML	01 35 07.0	
	comp=E,137nm,0.2s						
FETY	**Fethiye**	**0.55**	**104**	Pg	**Pg**	**01 34 57.1**	**0.0**
FETY				Sg	**Sb**	**01 35 05.3**	**-0.1**
FETY	**Fethiye**	**0.55**	**104**	P	**Pb**	**01 34 58.0**	**+0.4**
ARG	**Arkhangelos**	**0.60**	**203**	Pg	**Pg**	**01 34 57.9**	**-0.1**
ARG				Sg	**Sb**	**01 35 06.7**	**0.0**
ARG	**Arkhangelos**	**0.60**	**203**	P	**Pg**	**01 34 57.5**	**-0.5**
ARG				S	**Sb**	**01 35 08.1**	**+1.4**
	180nm,0.3s						
DAT	**Datca**	**0.68**	**267**	Pg	**Pb**	**01 34 59.8**	**-0.1**
DAT				Sg	**Sb**	**01 35 09.7**	**+0.6**
DAT	**Datca**	**0.68**	**267**	P	**Pg**	**01 34 59.5**	**0.0**
DAT				S	**Sb**	**01 35 10.5**	**+1.4**
DAT				*i* AML	AML	01 35 14.0	
	comp=N,99nm,0.2s						
DAT				*i* AML	AML	01 35 15.0	
	comp=E,65nm,0.4s						
DNZT	**Denizli-Tavas-**	**0.70**	**43**	P	**Pb**	**01 35 01.2**	**+0.8**
DNZT				*i* AML	AML	01 35 18.0	
	comp=N,20nm,0.5s						
DNZT				*i* AML	AML	01 35 19.0	
	comp=E,18nm,0.5s						
IZZE	**Mula-Seydike**	**0.73**	**117**	P	**Pb**	**01 35 00.7**	**0.0**
IZZE				S	**Sb**	**01 35 11.8**	**+1.3**
IZZE				*i* AML	AML	01 35 15.0	
	comp=E,118nm,0.3s						
IZZE				*i* AML	AML	01 35 16.0	
	comp=N,193nm,0.4s						
CAME	**Cameli-Denizli**	**0.73**	**76**	Pg	**Pg**	**01 35 00.2**	**-0.4**
MLSB	**Milas**	**0.74**	**316**	Pg	**Pb**	**01 35 00.9**	**0.0**
YAZI	**Mula-Dat§a-**	**0.78**	**264**	P	**Pb**	**01 35 02.0**	**+0.4**
YAZI				*i* AML	AML	01 35 14.0	
	comp=N,48nm,0.6s						
YAZI				S	**Sn**	**01 35 14.3**	**0.0**
YAZI				*i* AML	AML	01 35 15.0	
	comp=E,46nm,0.5s						
TAVA	**DENIZLI_Tavas**	**0.80**	**29**	P	**Pb**	**01 35 02.1**	**+0.1**
TAVA				S	**Sb**	**01 35 14.1**	**+1.4**
TAVA				*i* AML	AML	01 35 19.0	
	comp=E,34nm,0.3s						
TAVA				*i* AML	AML	01 35 21.0	
	comp=N,23nm,0.3s						
BDRM	**Kayabasi**	**0.84**	**291**	P	**Pb**	**01 35 03.2**	**+0.7**
BDRM				S	**Sb**	**01 35 15.6**	**+2.0**
BDRM				*i* AML	AML	01 35 18.0	
	comp=E,86nm,0.4s						
BODT	**Bodrum**	**0.94**	**289**	Pg	**Pg**	**01 35 04.1**	**-0.3**
BODT	**Bodrum**	**0.94**	**289**	P	**Pg**	**01 35 03.6**	**-0.8**
BODT				S	**Sb**	**01 35 17.5**	**+1.0**
APMY	**Acipayam-Deniz**	**1.00**	**45**	Pg	**Pb**	**01 35 05.7**	**+0.4**
ELL	**Elmalı**	**1.20**	**90**	Pn	**Pg**	**01 35 08.9**	**-0.5**
SMG	**Samos**	**1.57**	**307**	P	**Pn**	**01 35 12.3**	**-1.4**
SMG				S	**Sn**	**01 35 33.1**	**-0.8**
	55nm,0.4s						
KARP	**Karpathos**	**1.59**	**220**	P	**Pn**	**01 35 13.2**	**-0.7**
KARP				S	**Sn**	**01 35 35.3**	**+1.1**

*AEIC **09** 01:52:36.7±0.7, 55.6N±0.1×149.3W±0.1, h3km±8km, Error ellipse: s-maj=17.9km s-min=9.7km az=181.0*
NEIC 09 01:52:34.0±0.6, 55.7N±0.1×149.3W±0.1, h10km, 8km, ML3.5/12, **ML3.4**(AEIC), **Error ellipse: s-maj=17.4km s-min=9.5km az=182.0, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.67**	**306**		Pn	01 53 16.7	-0.4
OHAK	**Old Harbor**	**2.67**	**306**		Sn	01 53 47.7	-1.8
KDAK	**Kodiak Island**	**2.74**	**320**		Pn	01 53 18.0	0.0
KDAK	**Kodiak Island**	**2.74**	**320**		Sn	01 53 50.2	-1.0
KDAK	**Kodiak Island**	**2.74**	**320**	IAML		01 54 34.2	
	88nm,3.3s						
SII	**Sitkinak Islan**	**2.86**	**289**		Sn	01 53 53.8	-0.3
SYI	**Shuyak Island**	**3.35**	**331**		Pn	01 53 26.5	+0.2
SYI				IAML		01 54 16.6	
	comp=N,94nm,3.6s						
SYI	**Shuyak Island**	**3.35**	**331**	IAML		01 53 59.4	
	comp=E,83nm,2.1s						
SYI	**Shuyak Island**	**3.35**	**331**		Sn	01 54 06.1	0.0
CNPM	**China Poot**	**3.95**	**346**		Pn	01 53 35.0	+0.3
CNPM					Sn	01 54 20.8	-0.3
BRSE	**Bradley Lake S**	**4.10**	**350**		Pn	01 53 36.3	-0.4
BRSE					Sn	01 54 24.0	-0.7
SEW	**Seward**	**4.39**	**359**		Sn	01 54 30.0	-1.8
ILSW	**Iliamna Southw**	**4.74**	**336**		Pn	01 53 45.2	-0.3
ILSW	**Iliamna Southw**	**4.74**	**336**	IAML		01 55 23.9	
	comp=N,52nm,3.4s						
SLKM	**Skilak Lake**	**4.82**	**355**		Pn	01 53 46.7	+0.1
SLKM					Sn	01 54 41.4	-1.1
P18K	**Big Mountain,**	**4.87**	**321**		Pn	01 53 47.3	0.0
P18K	**Big Mountain,**	**4.87**	**321**	IAML		01 55 41.7	
	comp=E,44nm,3.2s						
P18K				IAML		01 55 46.8	
	comp=N,50nm,3.2s						
EYAK	**Cordova Ski Ar**	**5.19**	**20**		Pn	01 53 52.0	+0.4
GOAT	**Goat Mountain**	**5.44**	**25**		Pn	01 53 55.3	+0.2
KHIT	**Khitrov Hills**	**5.71**	**32**		Pn	01 53 59.0	+0.1
N19K	**Bonanza Creek**	**5.79**	**334**		Pn	01 53 59.9	-0.1
BMRM	**Bremner River**	**5.81**	**23**		Pn	01 54 00.3	+0.1
WAX	**Waxell Ridge**	**5.84**	**33**		Pn	01 54 00.3	-0.3
STLK	**Strandline Lak**	**5.94**	**348**		Pn	01 54 02.1	+0.1
KLU	**Klutina**	**6.05**	**16**		Pn	01 53 03.8	+0.3
N18K	**Kilae Creek**	**6.07**	**328**		Pn	01 54 03.7	0.0
TGL	**Tana Glacier**	**6.09**	**31**		Pn	01 54 04.0	-0.1
BAGL	**Bagley Icefiel**	**6.12**	**36**		Pn	01 54 04.5	+0.2
SML	**Sawmill**	**6.12**	**4**		Pn	01 54 05.0	+0.5
KIAG	**Kiagna River**	**6.36**	**32**		Pn	01 54 07.8	-0.2
TABL	**Table Mountain**	**6.41**	**39**		Pn	01 54 08.2	-0.3
GLB	**Gilahina Butte**	**6.41**	**24**		Pn	01 54 08.6	+0.2
PCA	**Pinnacle**	**6.51**	**44**		Pn	01 54 09.8	0.0
MCARA	**McCarthy VSAT**	**6.55**	**27**		Pn	01 54 10.2	-0.2
PNL	**Peninsula**	**6.62**	**49**		Pn	01 54 11.1	-0.2
BARN	**Barnard Glacie**	**6.69**	**34**		Pn	01 54 12.2	-0.1
CTGM	**Chitina Glacie**	**6.72**	**35**		Pn	01 54 12.6	-0.2
LOGN	**Logan Glacier**	**6.73**	**37**		Pn	01 54 12.7	-0.2
O29M	**Mount Kennedy**	**7.31**	**47**		Pn	01 54 20.4	-0.4
P29M	**Windy Craggy**	**7.33**	**53**		Pn	01 54 20.4	-0.6
S31K	**Pelican**	**7.51**	**67**		Pn	01 54 20.5	-2.9

ROM 09 02:05:41.1±0.0, 43.070N±0.003×13.043E±0.004, h10km, ML1.7/14, **Error ellipse: s-maj=0.3km s-min=0.2km az=59.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FEMA	**Monte Fema**	**0.11**	**177**	P	Pg	02 05 44.3	+0.3
FEMA				S	Sg	02 05 46.6	+0.5
CESI	**CESI - Serrava**	**0.12**	**237**	P	Pg	02 05 44.6	+0.4
CESI				S	Sg	02 05 47.0	+0.8
CESI				AML	AML		
	comp=E,250μm,0.6s						
CESI				AML	AML		
	comp=N,470μm,0.6s						
CSP1	**Cessapalombo**	**0.12**	**80**	P	Pg	02 05 44.5	+0.4
CSP1				S	Sg	02 05 46.9	+0.6
CSP1				AML	AML		
	comp=E,163μm,0.3s						
CSP1				AML	AML		
	comp=N,114μm,1.5s						
CSP1				AML	AML		
	comp=E,162μm,0.3s						
CSP1				AML	AML		
	comp=N,114μm,1.5s						
PF6	**Pievefavera**	**0.14**	**54**	P	Pg	02 05 44.6	+0.3
PF6				S	Sg	02 05 47.0	+0.4
PF6				AML	AML		
	comp=E,140μm,0.2s						
PF6				AML	AML		
	comp=N,196μm,0.1s						
PF6				AML	AML		
	comp=N,196μm,0.1s						
PF6				AML	AML		
	comp=E,141μm,0.2s						
MC2	**Monte Cornacci**	**0.19**	**145**	P	Pg	02 05 45.9	+0.6
MC2				S	Sg	02 05 49.4	+1.2
SNTG	**Esanatoglia**	**0.20**	**338**	P	Pg	02 05 45.9	+0.5
SNTG				S	Sg	02 05 49.4	+1.1
SNTG				AML	AML		
	comp=E,93μm,0.1s						
SNTG				AML	AML		
	comp=N,126μm,0.7s						
SNTG				AML	AML		
	comp=N,126μm,1.3s						
GUMA	**Gualdo di Mace**	**0.21**	**92**	P	Pb	02 05 46.5	-0.7
GUMA				S	Sg	02 05 50.7	+2.0
GUMA				AML	AML		
	comp=E,947μm,0.2s						
GUMA				AML	AML		
	comp=N,458μm,0.2s						
NRCA	**Norcia**	**0.24**	**167**	P	Pg	02 05 46.6	+0.5
NRCA				S	Sg	02 05 50.7	+1.2
NRCA				AML	AML		
	comp=E,356μm,0.1s						
NRCA				AML	AML		
	comp=N,434μm,0.1s						
NRCA				AML	AML		
	comp=E,376μm,0.1s						
NRCA				AML	AML		
	comp=N,436μm,0.2s						
T1221	**Campello sul C**	**0.25**	**215**	P	Pg	02 05 47.0	+0.6
EL6	**Elcito**	**0.26**	**9**	P	Pg	02 05 47.1	+0.6
EL6				AML	AML		
	comp=E,206μm,0.7s						
EL6				AML	AML		
	comp=E,205μm,0.7s						
EL6				AML	AML		
	comp=N,196μm,0.2s						
EL6				AML	AML		
	comp=E,205μm,1.3s						
MMO1	**Montemonaco**	**0.27**	**129**	P	Pg	02 05 47.1	+0.4
MMO1				S	Sb	02 05 51.7	-1.1
FOSV	**Fossato di Vic**	**0.30**	**318**	P	Pb	02 05 48.0	-0.7
FOSV				S	Sb	02 05 53.2	-0.6
FOSV				AML	AML		
	comp=E,88μm,0.4s						
FOSV				AML	AML		
	comp=N,95μm,0.4s						
T1214	**Arquata del Tr**	**0.33**	**159**	P	Pg	02 05 48.5	+0.6
T1214				S	Sb	02 05 53.9	-0.8

*ROM **09** 02:05:55.6±0.0, 43.068N±0.002×13.047E±0.003, h10km, ML2.2/74, Error ellipse: s-maj=0.2km s-min=0.1km az=74.0*
ISC 09 02:05:55.6±0.8, 43.07N±0.02×13.06E±0.03, h13km±5km, n22, σ6s48/38, 4C, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FEMA	**Monte Fema**	**0.10**	**183**	P	**Pg**	**02 05 58.8**	**-0.1**
FEMA				S	**Sg**	**02 06 00.9**	**-0.2**
FEMA				AML	AML		
	comp=E,3475μm,1.4s						
FEMA				AML	AML		
	comp=N,2605μm,0.7s						
FEMA				AML	AML		
	comp=N,2610μm,0.7s						
FEMA				AML	AML		
	comp=E,3475μm,0.6s						
CSP1	**Cessapalombo**	**0.11**	**77**	⇑P	**Pg**	**02 05 59.0**	**+0.1**
CSP1					AML	AML	
	comp=N,509μm,0.2s						
CSP1					AML	AML	
	comp=N,510μm,0.2s						
CSP1					AML	AML	
	comp=E,2430μm,0.3s						
SEF1	**Sefro**	**0.11**	**315**	P	**Pg**	**02 05 58.7**	**-0.1**
SEF1				S	**Sg**	**02 06 00.7**	**-0.4**
SEF1				AML	AML		
	comp=E,6015μm,1.4s						
SEF1				AML	AML		
	comp=N,4830μm,1.1s						
SEF1				AML	AML		
	comp=E,6010μm,1.4s						
CESI	**CESI - Serrava**	**0.13**	**241**	⇑P	**Pg**	**02 05 59.1**	**0.0**
CESI				S	**Sg**	**02 06 01.5**	**0.0**
CESI				AML	AML		
	comp=E,1690μm,0.5s						
CESI				AML	AML		
	comp=N,1675μm,0.1s						
PF6	**Pievefavera**	**0.13**	**50**	P	**Pg**	**02 05 59.1**	**+0.1**
PF6				S	**Sg**	**02 06 01.5**	**0.0**
PF6				AML	AML		
	comp=N,617μm,0.1s						
PF6				AML	AML		
	comp=E,1585μm,0.2s						
MDAR	**Monte D'Aria**	**0.14**	**26**	P	**Pg**	**02 05 59.5**	**+0.2**
MDAR				S	**Sg**	**02 06 02.1**	**+0.2**
MDAR				AML	AML		
	comp=E,2410μm,0.2s						
MDAR				AML	AML		
	comp=N,1990μm,0.4s						
GAG1	**Gagliole**	**0.17**	**2**	P	**Pg**	**02 06 00.1**	**+0.4**
GAG1				S	**Sb**	**02 06 03.3**	**-0.7**
MC2	**Monte Cornacci**	**0.18**	**147**	P	**Pg**	**02 06 00.3**	**+0.4**
MC2				S	**Sb**	**02 06 03.8**	**-0.6**
SSM1	**San Severino M**	**0.18**	**28**	P	**Pg**	**02 06 00.2**	**+0.4**
SSM1				S	**Sb**	**02 06 03.8**	**-0.5**
SNTG	**Esanatoglia**	**0.21**	**336**	P	**Pg**	**02 06 00.5**	**+0.2**
SNTG				S	**Sg**	**02 06 04.0**	**+0.5**
SNTG				AML	AML		
	comp=N,597μm,1.0s						
SNTG				AML	AML		
	comp=N,544μm,1.1s						
SNTG				AML	AML		
	comp=E,632μm,0.5s						
SNTG				AML	AML		
	comp=N,544μm,0.9s						
SNTG				AML	AML		
	comp=E,625μm,0.2s						
T1221	**Campello sul C**	**0.26**	**217**	⇑P	**Pg**	**02 06 01.5**	**+0.4**
T1221				S	**Sb**	**02 06 05.7**	**-0.8**
T1221				AML	AML		
	comp=E,514μm,0.5s						
T1221				AML	AML		
	comp=N,590μm,0.4s						
T1221				AML	AML		
	comp=E,494μm,0.5s						
T1221				AML	AML		
	comp=N,533μm,0.4s						
T1221				AML	AML		
	comp=N,590μm,0.4s						
T1221				AML	AML		
	comp=N,533μm,0.4s						
T1221				AML	AML		
	comp=N,533μm,1.6s						
T1221				AML	AML		
	comp=N,590μm,1.6s						
MMO1	**Montemonaco**	**0.26**	**130**	P	**Pg**	**02 06 01.5**	**+0.4**
MMO1				S	**Sb**	**02 06 06.0**	**-0.5**
EL6	**Elcito**	**0.27**	**7**	P	**Pg**	**02 06 01.6**	**+0.3**
EL6				S	**Sb**	**02 06 06.2**	**-0.6**
EL6				AML	AML		
	comp=E,2250μm,0.2s						
EL6				AML	AML		
	comp=E,2255μm,0.2s						
EL6				AML	AML		
	comp=N,1885μm,0.8s						
FOSV	**Fossato di Vic**	**0.32**	**317**	P	**Pg**	**02 06 02.3**	**+0.2**
FOSV				S	**Sb**	**02 06 07.6**	**-0.5**
FOSV				AML	AML		
	comp=N,418μm,0.4s						
FOSV				AML	AML		
	comp=E,300μm,0.1s						
T1214	**Arquata del Tr**	**0.33**	**160**	P	**Pb**	**02 06 02.9**	**-0.4**
T1214				S	**Sb**	**02 06 08.4**	**-0.1**
T1214				AML	AML		
	comp=E,292μm,0.2s						
T1214				AML	AML		
	comp=N,361μm,0.8s						
ATCC	**AVT- Casa Cast**	**0.33**	**291**	⇑P	**Pg**	**02 06 02.7**	**+0.4**
ATCC				S	**Sb**	**02 06 08.2**	**-0.3**
ATCC				AML	AML		
	comp=E,2835μm,0.3s						
ATCC				AML	AML		
	comp=N,2465μm,0.2s						
DUGI	**Dugi Otok**	**1.72**	**57**	*e*Pn	**Pg**	**02 06 28.4**	**-0.3**
VIRC	**Vir**	**1.90**	**49**	*i* Pn	**Pn**	**02 06 28.4**	**+0.8**
BRJN	**Brijuni**	**1.91**	**15**	*e*Pn	**Pg**	**02 06 31.9**	**-0.2**
NVLJ	**Novalja**	**1.99**	**41**	*i* Pn	**Pb**	**02 06 30.8**	**-0.8**
RABC	**Rab**	**2.10**	**36**	*e*Pn	**Pn**	**02 06 31.3**	**+1.0**
SMRN	**Sveta Marina**	**2.12**	**22**	*e*Pn	**Pn**	**02 06 31.6**	**+0.9**

*SJA **09** 02:07:20.1±1.6, 24.93S×71.01W, h15km, ML3.6, MW3.5*
*GUC **09** 02:07:27.2±0.5, 25.12S×70.32W, h53km±8km, ML3.5*
ISC 09 02:07:24.8±1.2, 24.99S±0.02×70.95W±0.08, h56km±18km, n40, σ1s27/72, 3C-5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**0.61**	**54**	⇑*i*P	**Pn**	**02 07 38.9**	**+0.9**
PB14				*e*S	**Sn**	**02 07 47.4**	**-0.3**
PB14				IAML		02 07 48.0	
	comp=E,2μm,0.1s						
AC01	**Pan de Azucar**	**1.19**	**165**	*e*P	**Pn**	**02 07 45.1**	**-0.2**
AC01				*e*S	**Sn**	**02 08 02.3**	**+1.8**
AC01	**Pan de Azucar**	**1.19**	**165**	⇓*i*P	**Pn**	**02 07 46.0**	**+0.8**
AC01				*e*S	**Sn**	**02 08 00.6**	**+0.1**
AC01				IAML		02 08 05.2	
	comp=E,3μm,0.1s						
GO02	**Mina Guanaco**	**1.24**	**98**	⇑*i*P	**Pn**	**02 07 44.8**	**-1.3**
GO02				*e*S	**Sn**	**02 07 58.0**	**-4.1**
GO02				IAML		02 08 01.6	
	comp=N,7μm,0.1s						
PB15	**IPOC Station P**	**2.23**	**38**	*e*P	**Pn**	**02 08 00.2**	**+0.7**
PB15				*e*S	**Sn**	**02 08 26.6**	**+0.6**
PB15	**IPOC Station P**	**2.23**	**38**	*e*P	**Pn**	**02 08 00.7**	**+1.1**
PB15				*e*S	**Sn**	**02 08 25.3**	**-0.7**
AC06	**Mina Casimiro**	**2.42**	**167**	*e*P	**Pn**	**02 08 02.6**	**+0.7**
AC06				*e*S	**Sn**	**02 08 29.4**	**-0.9**
AC06				IAML		02 08 31.5	
	comp=N,209nm,0.2s						
AC02	**Maricunga**	**2.46**	**139**	*e*P	**Pn**	**02 08 03.5**	**+0.6**
AC02				*e*S	**Sn**	**02 08 31.2**	**-0.8**
AC02				IAML		02 08 31.2	
	comp=Z,336nm,0.1s						
AC02	**Maricunga**	**2.46**	**139**	⇓*i*P	**Pn**	**02 08 03.6**	**+0.7**
AC02				*e*S	**Sn**	**02 08 30.6**	**-1.5**
AC02				IAML		02 08 31.7	
	comp=E,836nm,0.3s						
PB06	**IPOC Station P**	**2.60**	**29**	*e*P	**Pn**	**02 08 04.8**	**+0.2**
PB06				*e*S	**Sn**	**02 08 35.1**	**+0.1**
PB06				IAML		02 08 35.8	
	comp=Z,222nm,0.1s						
PB06	**IPOC Station P**	**2.60**	**29**	⇓*i*P	**Pn**	**02 08 05.4**	**+0.8**
PB06				*e*S	**Sn**	**02 08 33.5**	**-1.5**
PB06				IAML		02 08 36.1	
	comp=N,262nm,0.

LVC	**Limon Verde**	**3.02**	**39**	*e*P		**Pn**	**02 08 11.1**	**+0.7**
LVC				*e*S		**Sn**	**02 08 47.1**	**+1.5**
LVC	**Limon Verde**	**3.02**	**39⇑**	*e*P		**Pn**	**02 08 11.2**	**+0.8**
LVC				*i* S		**Sn**	**02 08 44.2**	**-1.3**
AC04	**Llanos de Chal**	**3.20**	**182**	*e*P		**Pn**	**02 08 12.2**	**-0.5**
AC04	**Llanos de Chal**	**3.20**	**182**	*i* P		**Pn**	**02 08 12.0**	**-0.6**
AC04				*e*S		**Sn**	**02 08 47.1**	**-2.5**
AF01	**San Pedro de A**	**3.25**	**52**	*e*P		**Pn**	**02 08 15.0**	**+1.5**
PB07	**IPOC Station P**	**3.39**	**17**	*e*P		**Pn**	**02 08 15.5**	**+0.1**
PB07				*e*S		**Sn**	**02 08 54.6**	**+0.1**
PB07				IAML			02 08 56.5	
	comp=Z,146nm,0.3s							
PB07	**IPOC Station P**	**3.39**	**17**	*e*P		**Pn**	**02 08 16.0**	**+0.6**
PB07				*e*S		**Sn**	**02 08 53.2**	**-1.4**
PB09	**IPOC Station P**	**3.54**	**27**	*e*P		**Pn**	**02 08 18.4**	**+1.0**
PB09				*e*S		**Sn**	**02 08 59.3**	**+1.0**
PB09				IAML			02 09 00.0	
	comp=Z,80nm,0.3s							
PB09	**IPOC Station P**	**3.54**	**27**	*e*P		**Pn**	**02 08 18.9**	**+1.4**
PB09				*e*S		**Sn**	**02 08 58.2**	**0.0**
PB02	**IPOC Station P**	**3.78**	**15**	*e*P		**Pn**	**02 08 21.1**	**+0.4**
PB02				*e*S		**Sn**	**02 09 03.2**	**-0.8**
PB02				IAML			02 09 06.2	
	comp=Z,153nm,0.3s							
PB02	**IPOC Station P**	**3.78**	**15**	*e*P		**Pn**	**02 08 21.1**	**+0.4**
PB02				*e*S		**Sn**	**02 09 01.9**	**-2.1**
PB01	**IPOC Station P**	**4.15**	**19**	*e*P		**Pn**	**02 08 26.4**	**+0.7**
PB01				*e*S		**Sn**	**02 09 13.1**	**0.0**
PB01				IAML			02 09 13.4	
	comp=Z,99nm,0.2s							
PB01	**IPOC Station P**	**4.15**	**19**	*e*P		**Pn**	**02 08 26.4**	**+0.7**
PB01				*e*S		**Sn**	**02 09 11.1**	**-2.0**
PATCX	**Punta Patache**	**4.21**	**10**	*e*P		**Pn**	**02 08 26.6**	**0.0**
PATCX				*e*S		**Sn**	**02 09 12.4**	**-2.2**
TA01	**Diego Aracena**	**4.46**	**9**	*e*P		**Pn**	**02 08 30.0**	**+0.1**
TA01				*e*S		**Sn**	**02 09 21.3**	**+0.8**
TA01	**Diego Aracena**	**4.46**	**9**	*e*P		**Pn**	**02 08 29.8**	**-0.1**
TA01				*i* S		**Sn**	**02 09 16.8**	**-3.8**
VCA	**Vinchina**	**4.46**	**147**	*e*P		**Pn**	**02 08 32.0**	**+2.0**
VCA	**Vinchina**	**4.46**	**147**	*e*P		**Pn**	**02 08 32.6**	**+2.6**
HMBC	**Humberstone**	**4.79**	**12**	*e*P		**Pn**	**02 08 34.9**	**+0.4**
AGUA	**GUANDACOL**	**4.98**	**155**	*e*P		**Pn**	**02 08 39.2**	**+2.1**
CO01	**Juntas del Tor**	**5.02**	**172**	*e*P		**Pn**	**02 08 39.0**	**+1.1**
CO01				*e*S		**Sn**	**02 09 35.8**	**+1.1**
CO01	**Juntas del Tor**	**5.02**	**172**	*e*P		**Pn**	**02 08 39.3**	**+1.5**
PB08	**IPOC Station P**	**5.10**	**19**	*e*P		**Pn**	**02 08 39.7**	**+0.7**
PB08				*e*S		**Sn**	**02 09 36.2**	**-0.7**
PB08				IAML			02 09 38.6	
	comp=Z,21nm,0.6s							
PB08	**IPOC Station P**	**5.10**	**19**	*e*P		**Pn**	**02 08 40.0**	**+0.9**
PB11	**IPOC Station P**	**5.34**	**13**	*e*P		**Pn**	**02 08 41.7**	**-0.4**
PB11				*e*S		**Sn**	**02 09 40.9**	**-1.5**
PB11				IAML			02 09 45.4	
	comp=Z,24nm,0.2s							

*IDC **09** 02:10:04.4±3.7,36˚19N×71˚31E,h75km±27km,mb3.5/12, mbtmp3.9/18,Error ellipse: s-maj=32.5km s-min=20.3km az=176.0*
*NNC **09** 02:10:09.4±3.1,36˚99N×70˚85E,h0km,mb4.3,mpv4.0, Error ellipse: s-maj=24.7km s-min=17.8km az=169.0*
ISC 09 02:10:08.5±0.9,36˚54N±0˚09×71˚07E±0˚06,h100km,n34, σ1ᵖ87/43,mb3.8/12,6C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSH	**Kashi**	**4.88**	**51**	Pn		**Pn**	**02 11 15.3**	**-4.4**
KSH				Sn		Sn	02 12 03.7	-11
KSH				pmax		pmax		
	comp=Z,21nm,0.6s							
KSH				smax		smax		
	comp=N,180nm,0.4s							
KSH				smax		smax		
	comp=E,140nm,0.4s							
UCH	**Uchtor**	**6.28**	**24**	P		**Pn**	**02 11 39.4**	**+0.5**
	SNR=13							
EKS2	**Erkin-Say**	**6.46**	**18**	P		**Pn**	**02 11 41.7**	**+0.6**
	SNR=22							
KK31	**Karatay Array**	**6.57**	**356**	⇓P		**Pn**	**02 11 42.8**	**+0.4**
	comp=E,7.9nm,0.3s,baz=175,slow=12,SNR=602							
KK31				⇓S		**Sn**	**02 12 53.5**	**-2.3**
	comp=E,8.5nm,0.3s,baz=188,slow=26,SNR=4.5							
AAK	**Ala-Archa**	**6.64**	**22**	P		**Pn**	**02 11 44.4**	**+0.8**
	SNR=26							
AAK	**Ala-Archa**	**6.64**	**22**	P		**Pn**	**02 11 44.3**	**+0.8**
	comp=E,12nm,0.3s,baz=168,slow=6.6,SNR=47							
AAK				S		**Sn**	**02 12 57.8**	**0.0**
	comp=E,7.8nm,0.3s,baz=107,slow=23,SNR=15							
KBK	**Karagaybulak**	**6.80**	**25**	P		**Pn**	**02 11 47.6**	**+1.8**
	SNR=6.1							
CHMS	**Chumysh**	**7.05**	**23**	P		**Pn**	**02 11 49.9**	**+0.9**
	SNR=7.3							
CHMS	**Chumysh**	**7.05**	**23**	⇑P		**Pn**	**02 11 49.6**	**+0.6**
	comp=E,2.7nm,0.2s							
CHMS				⇑S		**Sn**	**02 13 06.9**	**-0.6**
	comp=E,27nm,1.0s							
USP	**Ospenovka**	**7.22**	**20**	P		**Pn**	**02 11 51.8**	**+0.5**
	SNR=22							
TKM2	**Tokmak 2**	**7.26**	**27**	P		**Pn**	**02 11 52.6**	**+0.5**
	SNR=11							
TKM2	**Tokmak 2**	**7.26**	**27**	⇓P		**Pn**	**02 11 52.2**	**+0.2**
	comp=E,5.0nm,0.6s							
TKM2				⇑S		**Sn**	**02 13 13.1**	**0.0**
	comp=E,13nm,1.1s							
GEYT	**Alibeck**	**10.42**	**282**	P		**Pn**	**02 12 32.7**	**-2.2**
	comp=E,2.7nm,0.7s,baz=118,slow=15,SNR=9.0							
GEYT				S		**Sn**	**02 14 25.4**	**-4.2**
	comp=E,4.6nm,0.4s,baz=307,slow=22,SNR=9.7							
MKAR	**Makanchi Array**	**13.23**	**36**	P		**Pn**	**02 13 11.3**	**-0.9**
	comp=E,0.4nm,0.6s,baz=220,slow=13,SNR=5.5							
KURBB	**Kurchatov Arra**	**15.07**	**19**	P		**Pn**	**02 13 36.0**	**+0.1**
	comp=E,1.6nm,0.9s,baz=205,slow=11,SNR=11							
AB31	**Akbulak array**	**15.07**	**331**	P		**Pn**	**02 13 34.8**	**-1.2**
	comp=E,2.8nm,0.6s,baz=146,slow=13,SNR=72							
AB31				⇑S		**Sn**	**02 16 18.4**	**-3.8**
	comp=E,7.0nm,0.8s,baz=138,slow=25,SNR=15							
BVAR	**Borovoye Array**	**16.49**	**359**	P		**P**	**02 13 54.7**	**+0.2**
	comp=E,0.5nm,0.3s,baz=162,slow=9.8,SNR=8.1							
AKTO	**Aktyubinsk**	**16.77**	**330**	P		**P**	**02 13 58.6**	**+1.0**
	comp=E,3.9nm,0.7s,baz=141,slow=12,SNR=14							
AKTO	**Aktyubinsk**	**16.77**	**330**	⇑P		**P**	**02 13 58.2**	**+0.6**
	comp=E,5.8nm,0.9s							
AKTO				⇑S		**Sn**	**02 17 01.8**	**-1.3**
	comp=E,4.3nm,0.8s							
ZALV	**Zalesovo Beam**	**19.86**	**24**	P		**P**	**02 14 30.9**	**-0.5**
	comp=E,1.7nm,0.3s,baz=206,slow=9.6,SNR=16							
	comp=E,1.7nm,0.3s							
GNI	**Garni**	**20.93**	**288**	P		**P**	**02 14 48.1**	**+4.9**
	comp=E,1.3nm,0.3s,baz=117,slow=7.1,SNR=2.4							
ARU	**Arti**	**21.61**	**341**	P		**P**	**02 14 52.6**	**+2.5**
	comp=E,4.6nm,0.7s,baz=147,slow=6.0,SNR=11							
	comp=E,4.6nm,0.7s							
KBZ	**Khabaz**	**22.63**	**297**	P		**P**	**02 15 03.1**	**+2.2**
	comp=E,2.1nm,1.0s,baz=129,slow=9.1,SNR=3.6							
	comp=E,2.1nm,1.0s							
AKASG	**Malin Array Be**	**32.96**	**309**	P		**P**	**02 16 35.4**	**+2.0**
	comp=E,0.7nm,0.5s,baz=94,slow=7.2,SNR=7.8							
	comp=E,0.7nm,0.5s							
NRIK	**Noril'sk**	**34.08**	**10**	P		**P**	**02 16 43.9**	**+1.1**
	comp=E,1.3nm,0.4s,baz=145,slow=8.3,SNR=1.6							
	comp=E,1.3nm,0.4s							
XLT	**XiLinHaoTe**	**34.80**	**64**	*e*P		**P**	**02 16 49.7**	**+0.2**
XLT				pP		pP	02 17 14.7	+1.2
XLT				sP		sP	02 17 30.6	+5.0
XLT				PP		**PP**	**02 18 07.5**	**-2.7**
XLT				PcP		**PcP**	**02 19 20.5**	**-0.2**
XLT				pmax		pmax		
	comp=Z,8.0nm,1.0s							
XLT				pmax		pmax		
	comp=Z,180nm,4.7s							
FINES	**FINESS Array B**	**37.48**	**326**	P		**P**	**02 17 13.9**	**+1.9**
	comp=Z,0.9nm,0.6s,baz=116,slow=8.7,SNR=6.3							
	comp=Z,0.9nm,0.6s							
ARCES	**ARCESS Array B**	**41.13**	**338**	P		**P**	**02 17 43.8**	**+1.6**
	comp=Z,2.0nm,0.8s,baz=117,slow=9.3,SNR=13							
	comp=Z,2.0nm,0.8s							
HFS	**Hagfors**	**43.07**	**322**	P		**P**	**02 18 00.1**	**+2.0**
	comp=Z,1.1nm,0.4s,baz=97,slow=12,SNR=6.8							
	comp=Z,1.1nm,0.4s							
NB2	**NORSAR Subarra**	**44.38**	**323**	P		**P**	**02 18 09.5**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=97,slow=7.9							
NOA	**NORSAR Array B**	**44.38**	**323**	P		**P**	**02 18 09.4**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=103,slow=8.2,SNR=9.7							
	comp=Z,0.6nm,0.6s							

ILAR	**Eielson Array**	**74.73**	**16**	P		**P**	**02 21 36.6**	**-0.4**
	comp=Z,0.6nm,1.0s,baz=291,slow=5.4,SNR=4.0							
	comp=Z,0.6nm,1.0s							
YKA	**Yellowknife Ar**	**81.20**	**3**	P		**P**	**02 22 13.2**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=348,slow=5.4,SNR=13							
	comp=Z,0.9nm,0.8s							
WRA	**Warramunga Arr**	**81.97**	**122**	P		**P**	**02 22 14.8**	**-2.6**
	comp=Z,0.5nm,0.8s,baz=320,slow=6.1,SNR=2.2							
	comp=Z,0.5nm,0.8s							

*IDC **09** 02:11:22.3±1.4,9˚43S×112˚92E,h0km,mb3.9/11, mbtmp3.9/11,MS3.1/2,Error ellipse: s-maj=57.4km s-min=13.8km az=47.0*
*DJA **09** 02:11:28.1±0.7,10˚S×3˚×11˚3E±˚,h13km±5km,M4.3/18, mb4.4/3,mB5.7/2,MLv4.3/18,Mw(mB)5.3/2*
ISC 09 02:11:29.9±1.2,9.61S±0˚08×112.89E±0˚04,h57km±11km, n40,σ1ᵖ76/49,mb4.0/12,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**1.68**	**48**	P		**Pn**	**02 11 55.9**	**-1.2**
JAGI	**Jajag, Banyuwa**	**1.68**	**48**	P		**Pn**	**02 11 55.5**	**-1.6**
JAGI				S		**Sn**	**02 12 16.2**	**-1.3**
PWJI	**Pagerwojo**	**1.91**	**326**	P		**Pn**	**02 11 58.6**	**-1.5**
PWJI				S		**Sn**	**02 12 21.9**	**-1.1**
BLJI	**Banyuglugur**	**1.98**	**21**	P		**Pn**	**02 12 00.9**	**-0.2**
BLJI				S		**Sn**	**02 12 26.1**	**+1.4**
ABJI	**Asem Bagus**	**2.24**	**37**	P		**Pn**	**02 12 05.1**	**+0.5**
ABJI				S		**Sn**	**02 12 32.3**	**+1.2**
NGJI	**Ngawi**	**2.63**	**327**	P		**Pn**	**02 12 12.5**	**+2.4**
GRJI	**Gresik**	**2.70**	**351**	P		**Pn**	**02 12 12.3**	**+1.3**
GRJI				S		**Sn**	**02 12 45.0**	**+2.4**
SRBI	**Singaraja**	**2.75**	**57**	P		**Pn**	**02 12 11.1**	**-0.5**
SRBI				S		**Sn**	**02 12 44.9**	**+1.3**
UGM	**Wanagama**	**2.88**	**306**	P		**Pn**	**02 12 13.8**	**+0.3**
UGM	**Wanagama**	**2.88**	**306**	P		**Pn**	**02 12 13.4**	**-0.1**
UGM				S		**Sn**	**02 12 48.6**	**+1.6**
YOGI	**Yogyakarta**	**3.12**	**305**	P		**Pn**	**02 12 18.0**	**+1.3**
YOGI				S		**Sn**	**02 12 56.4**	**+3.6**
SMRI	**Semarang**	**3.51**	**316**	P		**Pn**	**02 12 22.3**	**+0.2**
SMRI				S		**Sn**	**02 13 00.0**	**-2.4**
BWJI	**Bawean**	**3.74**	**356**	P		**Pn**	**02 12 25.2**	**0.0**
BWJI				S		**Sn**	**02 13 07.9**	**0.0**
TWSI	**Taliwang, Sumb**	**4.03**	**78**	P		**Pn**	**02 12 29.8**	**+0.6**
TWSI				S		**Sn**	**02 13 13.5**	**-1.8**
KPJI	**Karang Pucung**	**4.52**	**300**	P		**Pn**	**02 12 37.1**	**+1.2**
CMJI	**Cimerak**	**4.75**	**292**	P		**Pn**	**02 12 39.1**	**+0.1**
CMJI				S		**Sn**	**02 13 31.4**	**-1.4**
PLAI	**Plampang**	**4.88**	**81**	P		**Pn**	**02 12 41.0**	**+0.1**
PLAI	**Plampang**	**4.88**	**81**	P		**Pn**	**02 12 41.1**	**+0.1**
PLAI				S		**Sn**	**02 13 36.2**	**0.0**
BBJI	**Bungbulang**	**5.60**	**292**	P		**Pn**	**02 12 52.4**	**+1.6**
XMIS	**Christmas Isla**	**7.18**	**262**	P		**Pn**	**02 13 11.0**	**-1.4**
	20nm,0.7s							
BASI	**Baing, Sumba**	**7.60**	**95**	P		**Pn**	**02 13 19.4**	**+1.3**
MNAI	**Manna**	**11.15**	**297**	P		**Pn**	**02 14 08.4**	**+1.7**
GIRL	**Giralia**	**13.03**	**174**	P		Pn	02 14 30.1	-2.2
PSA00	**Pilbara Seismi**	**13.65**	**151**	P		Pn	02 14 37.9	-2.9
WRA	**Warramunga Arr**	**23.12**	**119**	P		**P**	**02 16 30.9**	**-0.4**
	0.9nm,0.7s,baz=293,slow=11,SNR=3.3							
WRA				S		**S**	**02 20 46.0**	**+7.6**
	0.9nm,1.1s,baz=289,slow=26,SNR=1.9							
	0.9nm,0.7s							
ASAR	**Alice Springs**	**24.46**	**127**	P		**P**	**02 16 44.2**	**+0.5**
	1.2nm,0.7s,baz=302,slow=8.6,SNR=12							
	1.2nm,0.7s							
CMAR	**Chiang Mai Arr**	**31.10**	**334**	P		**P**	**02 17 42.2**	**-0.8**
	0.7nm,0.3s,baz=160,slow=8.6,SNR=5.2							
CMAR				LR		LR	02 31 37.2	
	comp=Z,36nm,18.2s,baz=165,slow=39							
	0.7nm,0.3s							
STKA	**Stephens Creek**	**34.61**	**134**	P		**P**	**02 18 12.7**	**-1.0**
	1.4nm,0.8s,baz=283,slow=14,SNR=2.5							
	1.4nm,0.8s							
H08S2	**Diego Garcia H**	**39.97**	**270**	T		T	03 02 15.4	
	baz=96							
H08S3	**Diego Garcia H**	**39.98**	**270**	T		T	03 02 05.5	
	baz=96							
H08S1	**Diego Garcia H**	**39.99**	**270**	T		T	03 01 52.5	
	baz=96							
JNU	**Nakatsue**	**45.82**	**21**	LR		LR	02 41 02.7	
	comp=Z,22nm,19.0s,baz=324,slow=39							
MJAR	**Matsushiro Arr**	**51.71**	**26**	P		**P**	**02 20 28.9**	**-2.6**
	2.5nm,0.8s,baz=197,slow=7.5,SNR=4.4							
	2.5nm,0.8s							
XLT	**XiLinHaoTe**	**53.33**	**3**	*e*P		P	02 20 48.2	+4.8
XLT				pP		pP	02 20 53.2	-4.6
XLT				sP		pwP	02 20 55.7	-5.5
XLT				PcP		**PcP**	**02 21 50.9**	**+0.7**
XLT				PP		**PP**	**02 22 45.7**	**+1.4**
XLT				pmax		pmax		
	comp=Z,7.0nm,0.9s							
XLT				pmax		pmax		
	comp=Z,160nm,5.1s							
SONM	**Songino Array**	**57.48**	**355**	P		**P**	**02 21 12.6**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=177,slow=6.3,SNR=7.9							
	comp=Z,0.8nm,0.4s							
MKAR	**Makanchi Array**	**62.44**	**337**	P		**P**	**02 21 46.2**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=150,slow=7.5,SNR=15							
	comp=Z,0.8nm,0.5s							
KURBB	**Kurchatov Arra**	**67.00**	**337**	P		**P**	**02 22 15.7**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=158,slow=5.1,SNR=4.3							
	comp=Z,0.3nm,0.5s							
ZALV	**Zalesovo Beam**	**67.63**	**342**	P		**P**	**02 22 19.1**	**-1.4**
	comp=Z,0.8nm,0.4s,baz=160,slow=4.6,SNR=4.4							
	comp=Z,0.8nm,0.4s							
AKTO	**Aktyubinsk**	**76.38**	**327**	P		**P**	**02 23 13.0**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=112,slow=5.0,SNR=4.0							
	comp=Z,1.1nm,0.5s							
SEY	**Seymchan**	**78.42**	**17**	P		**P**	**02 23 23.6**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=195,slow=20,SNR=4.9							
	comp=Z,1.1nm,0.6s							

*NEIC **09** 02:23:24.4±0.8,19˚4N±0˚1×155˚26W±0˚04,h32km±14km, Error ellipse: s-maj=18.8km s-min=5.4km az=183.0*
HVO 09 02:23:26.2±0.6,19˚38N±0˚04×155˚25W±0˚02,h22km±7km, ML2.6/33,ML2.9/50(NEIC),Error ellipse: s-maj=6.3km s-min=3.2km az=171.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KKO	**Keanakako`i**	**0.02**	**322**			Pb	02 23 30.0	-0.2
KKO						Sb	02 23 32.7	-0.2
KKO	**Keanakako`i**	**0.02**	**322**	IAML			02 23 32.9	
	comp=E,2µm,0.3s							
KKO				IAML			02 23 35.3	
	comp=N,2µm,0.5s							
RIM	**Rim**	**0.03**	**306**			Pb	02 23 30.0	-0.2
RIM	**Rim**	**0.03**	**306**	IAML			02 23 34.7	
	comp=N,3µm,0.3s							
RIM				IAML			02 23 34.7	
	comp=E,2µm,0.4s							
BYL	**Byron's Ledge**	**0.03**	**346**			Pb	02 23 29.9	-0.2
BYL						Sb	02 23 32.9	0.0
BYL	**Byron's Ledge**	**0.03**	**346**	IAML			02 23 33.1	
	comp=N,1µm,0.4s							
BYL				IAML			02 23 33.3	
	comp=E,2µm,0.6s							
PUH	**Pauahi**	**0.03**	**100**			Pb	02 23 30.0	-0.1
PUH						Sb	02 23 32.9	0.0
PUH	**Pauahi**	**0.03**	**100**	IAML			02 23 33.0	
	comp=E,2µm,0.4s							
PUH				IAML			02 23 34.3	
	comp=N,2µm,0.4s							
SDHHI	**Sand Hill**	**0.04**	**283**			Pb	02 23 30.0	-0.2
SDHHI						Sb	02 23 32.9	-0.1
SDHHI	**Sand Hill**	**0.04**	**283**	IAML			02 23 33.1	
	comp=E,3µm,0.3s							
SDHHI				IAML			02 23 33.1	
	comp=N,5µm,0.4s							
NPH	**North Pit**	**0.04**	**319**			Pb	02 23 29.9	-0.4
NPH						Sb	02 23 32.6	-0.3
NPH	**North Pit**	**0.04**	**319**	IAML			02 23 33.6	
	comp=N,1µm,0.7s							
NPH				IAML			02 23 35.7	
	comp=E,584nm,0.4s							
HATHI	**Halema'uma'u T**	**0.04**	**348**			Pb	02 23 29.9	-0.3
HATHI						Sb	02 23 32.7	-0.3
HATHI	**Halema'uma'u T**	**0.04**	**348**	IAML			02 23 33.1	
	comp=E,2µm,0.2s							
HATHI				IAML			02 23 35.5	
	comp=N,2µm,0.6s							
OBL	**Observatory Le**	**0.05**	**321**			Pb	02 23 29.9	-0.3
OBL						Sb	02 23 32.9	-0.1
OBL	**Observatory Le**	**0.05**	**321**	IAML			02 23 33.6	
	comp=E,4µm,0.5s							
OBL				IAML			02 23 34.5	
	comp=N,4µm,0.3s							
SBLHI	**Steaming Bluff**	**0.05**	**341**			Pb	02 23 29.8	-0.4
SBLHI						Sb	02 23 32.7	-0.3
SBLHI	**Steaming Bluff**	**0.05**	**341**	IAML			02 23 33.1	
	comp=N,2µm,0.5s							
SBLHI				IAML			02 23 33.1	
	comp=E,2µm,0.4s							
UWB	**Uwekahuna B**	**0.05**	**331**			Pb	02 23 29.9	-0.4
UWB						Sb	02 23 32.5	-0.5
UWB	**Uwekahuna B**	**0.05**	**331**	IAML			02 23 32.8	
	comp=E,665nm,0.6s							
UWB				IAML			02 23 33.0	
	comp=N,1µm,0.7s							
WRMHI	**West Rim**	**0.05**	**300**			Pb	02 23 30.0	-0.3
WRMHI						Sb	02 23 32.8	-0.3
WRMHI	**West Rim**	**0.05**	**300**	IAML			02 23 36.4	
	comp=E,6µm,0.5s							
WRMHI				IAML			02 23 36.9	
	comp=N,3µm,0.5s							
UWE	**Uwekahuna**	**0.06**	**316**			Pb	02 23 30.0	-0.3
UWE						Sb	02 23 32.9	-0.2
UWE	**Uwekahuna**	**0.06**	**316**	IAML			02 23 33.1	
	comp=N,4µm,0.2s							
UWE				IAML			02 23 33.7	
	comp=E,7µm,0.3s							
KNHH	**Kane Nui o Ham**	**0.08**	**90**			Pb	02 23 30.2	-0.1
RSD	**Rainshed**	**0.09**	**343**			Pb	02 23 30.2	-0.3
RSD						Sb	02 23 33.4	-0.1
RSD	**Rainshed**	**0.09**	**343**	IAML			02 23 33.6	
	comp=N,2µm,0.6s							
RSD				IAML			02 23 35.6	
	comp=E,1µm,0.2s							
HLP	**Hilina Pali**	**0.10**	**213**			Pb	02 23 30.4	-0.1
HLP						Sb	02 23 33.5	+0.1
HLP	**Hilina Pali**	**0.10**	**213**	IAML			02 23 33.6	
	comp=N,8µm,0.3s							
HLP				IAML			02 23 33.8	
	comp=E,5µm,0.1s							
STCH	**Steam Cracks**	**0.12**	**87**			Pb	02 23 30.5	-1.4
STCH						Sb	02 23 33.5	-2.4
STCH	**Steam Cracks**	**0.12**	**87**	IAML			02 23 33.7	
	comp=N,5µm,0.1s							
STCH				IAML			02 23 33.8	
	comp=E,9µm,0.1s							
NPOC	**North of Pu'u**	**0.13**	**84**			Pb	02 23 30.6	-1.3
NPOC						Sb	02 23 33.8	-2.0
NPOC	**North of Pu'u**	**0.13**	**84**	IAML			02 23 34.1	
	comp=N,2µm,0.2s							
NPOC				IAML			02 23 34.2	
	comp=E,2µm,0.1s							
JCUZ	**Jacuzzi**	**0.14**	**88**			Pb	02 23 30.6	-1.2
JCUZ						Sb	02 23 33.9	-1.9
JCUZ	**Jacuzzi**	**0.14**	**88**	IAML			02 23 34.1	
	comp=E,1µm,0.2s							
JCUZ				IAML			02 23 34.4	
	comp=N,754nm,0.2s							
MLH	**Mauna Loa**	**0.17**	**312**			Pb	02 23 31.2	-0.9
MLH						Sb	02 23 34.8	-1.4
MLH	**Mauna Loa**	**0.17**	**312**	IAML			02 23 35.3	
	comp=N,6µm,0.2s							
MLH				IAML			02 23 35.3	
	comp=E,3µm,0.2s							
HTC	**Hot Caves**	**0.20**	**224**			Pb	02 23 31.4	-0.5
JOKA	**Jonika Flow**	**0.24**	**77**			Pb	02 23 31.5	-0.7
JOKA						Sb	02 23 35.6	-0.9
HMH	**Humu'ula Sheep**	**0.31**	**315**			Pb	02 23 33.0	-0.4
HMH						Sb	02 23 38.0	-0.3
HMH	**Humu'ula Sheep**	**0.31**	**315**	IAML			02 23 38.3	
	comp=N,4µm,0.3s							
HMH				IAML			02 23 39.0	
	comp=E,974nm,0.2s							
MWH	**Moku'aweowe**	**0.34**	**288**			Pb	02 23 33.1	-0.9
MWH						Sb	02 23 38.5	-0.8
MWH	**Moku'aweowe**	**0.34**	**288**	IAML			02 23 38.9	
	comp=E,806nm,0.8s							
MWH				IAML			02 23 42.8	
	comp=N,785nm,0.4s							
MLOA	**Mauna Loa Obse**	**0.34**	**297**			Pb	02 23 33.3	-0.7
MLOA						Sb	02 23 38.4	-0.8
MLOA	**Mauna Loa Obse**	**0.34**	**297**	IAML			02 23 38.8	
	comp=E,4µm,0.3s							
MLOA				IAML			02 23 38.9	
	comp=N,4µm,0.2s							
PHO	**Puu Honuaula**	**0.36**	**73**			Pb	02 23 33.2	-0.6
PHO						Sb	02 23 38.5	-0.5
KHU	**Kah

	comp=E,125nm,0.4s								
VA05	**Santo Domingo**	**2.74**	**159**	*e*P		**Pn**		**02 50 52.6**	**-0.6**
VA05				IAML				02 51 24.4	
	comp=E,190nm,0.5s								
MT10	**Hacienda Santa**	**2.90**	**139**	⇑*i*P		**Pn**		**02 50 56.2**	**+0.7**
MT10				IAML				02 51 31.2	
	comp=E,280nm,0.3s								
MT14	**Cerro Cal¡n**	**2.99**	**141**	*e*P		**Pn**		**02 50 57.4**	**+0.7**
MT14				IAML				02 51 45.4	
	comp=E,212nm,0.5s								
MT01	**Popeta**	**3.06**	**155**	*e*P		**Pn**		**02 50 57.0**	**-0.5**
MT03	**Universidad Ad**	**3.08**	**141**	*e*P		**Pn**		**02 50 58.5**	**+0.5**
MT09	**Talagante**	**3.08**	**151**	*e*P		**Pn**		**02 50 58.3**	**+0.3**
MT15	**Las Vizcachas**	**3.16**	**143**	*e*P		**Pn**		**02 51 00.7**	**+1.7**
MT12	**Pirque**	**3.25**	**145**	*e*P		**Pn**		**02 51 00.6**	**+0.4**
AC04	**Llanos de Chal**	**3.26**	**28**	*e*P		**Pn**		**02 50 59.5**	**-0.8**
MT13	**San Alfonso**	**3.39**	**142**	*e*P		**Pn**		**02 51 03.4**	**+1.2**
H03N1	**Juan Fernandez**	**5.67**	**244**	T		T		02 57 20.8	
	baz=69								
H03N2	**Juan Fernandez**	**5.69**	**244**	T		T		02 57 19.5	
	baz=69								
H03N3	**Juan Fernandez**	**5.69**	**244**	T		T		02 57 21.2	
	baz=69								
LVC	**Limon Verde**	**9.14**	**23**	Pn		**Pn**		**02 52 21.6**	**+0.1**
	comp=E,0.2nm,0.3s,baz=30,slow=23,SNR=1.9								
LVC				Sn		**Sn**		**02 54 01.1**	**-3.2**
	comp=E,0.4nm,0.3s,baz=204,slow=20,SNR=1.6								
	comp=E,2.5nm,0.8s								
PLCA	**Paso Flores**	**9.79**	**170**	Pn		**Pn**		**02 52 30.3**	**+0.4**
	comp=E,0.3nm,0.3s,baz=332,slow=11,SNR=9.6								
	comp=E,1.0nm,0.4s								
LPAZ	**La Paz**	**15.35**	**17**	Pn		**P**		**02 53 48.6**	**-2.6**
	comp=E,0.2nm,0.3s,baz=18,slow=12,SNR=5.5								
	comp=E,1.4nm,0.6s								
SIV	**San Ignacio**	**18.47**	**38**	P		**Pn**		**02 54 25.6**	**+0.4**
	baz=211,slow=10,SNR=20								
	comp=E,4.4nm,0.8s								
TXAR	**Lajitas Array**	**66.89**	**331**	P		**P**		**03 01 03.9**	**+2.5**
	comp=E,0.5nm,0.7s,baz=157,slow=9.5,SNR=5.6								
	comp=E,0.5nm,0.7s								
KURBB	**Kurchatov Arra**	**151.12**	**39**	PKPbc		**PKiKP**		**03 10 03.7**	**+1.4**
	comp=E,0.5nm,0.6s,baz=302,slow=3.1,SNR=4.7								
ZALV	**Zalesovo Beam**	**152.06**	**29**	PKPbc		**PKiKP**		**03 10 05.5**	**+1.3**
	comp=E,2.2nm,0.6s,baz=307,slow=2.8,SNR=8.6								

*IDC **09** 02:54:00.1±0.9, 13.˚41N×145.˚00E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=36.1km s-min=19.5km az=92.0*

*NEIC **09** 02:54:08.8±1.6, 13.˚28N±0.˚09×145.˚1E±0.˚2, h65km±8km, mb4.3/23, Error ellipse: s-maj=24.2km s-min=12.4km az=102.0*

ISC 09 02:54:07.1±0.6, 13.˚28N±0.˚10×145.˚1E±0.˚1, h50km, n48, σ0s95/42, mb4.2/23, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATS	**Pohnpei**	**14.49**	**115**	Pn	**Pn**	**02 57 29.2**	**-0.2**
FAKI	**Fak Fak**	**20.54**	**219**	P	**P**	**02 58 41.3**	**-0.3**
H11S3	**WAKE ISLAND Hy**	**21.39**	**73**	T	T	03 21 29.1	
	baz=259,slow=75						
H11S1	**WAKE ISLAND Hy**	**21.41**	**73**	T	T	03 21 30.7	
	baz=259,slow=75,SNR=31						
H11S2	**WAKE ISLAND Hy**	**21.41**	**73**	T	T	03 21 29.8	
	baz=259,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**21.84**	**70**	T	T	03 22 02.9	
	baz=256,slow=75,SNR=37						
H11N2	**WAKE ISLAND Hy**	**21.85**	**70**	T	T	03 22 03.4	
	baz=256,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**21.86**	**70**	T	T	03 22 04.1	
	baz=256,slow=75,SNR=36						
WB0	**Warramunga Arr**	**34.49**	**198**	P	**P**	**03 00 50.7**	**+0.2**
WB0				IAmb	IAmb	03 01 04.2	
	comp=Z,5.7nm,1.1s						
WR0	**Warramunga Arr**	**34.63**	**198**	P	**P**	**03 00 52.0**	**+0.3**
WR0				IAmb	IAmb	03 00 55.6	
	comp=Z,5.9nm,1.2s						
WB2	**Warramunga Arr**	**34.67**	**198**	P	**P**	**03 00 52.4**	**+0.3**
WB2				IAmb	IAmb	03 00 52.7	
	comp=Z,9.9nm,1.4s						
WRA	**Warramunga Arr**	**34.67**	**198**	P	**P**	**03 00 51.7**	**-0.5**
WRA	**Warramunga Arr**	**34.67**	**198**	P	**P**	**03 00 52.4**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=24,slow=9.8,SNR=16						
	comp=Z,1.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**36.62**	**212**	P	**P**	**03 01 08.3**	**-0.5**
FITZ				IAmb	IAmb	03 01 25.3	
	comp=Z,3.9nm,1.5s						
AS31	**Alice Springs**	**38.32**	**197**	P	**P**	**03 01 24.7**	**+1.5**
ASAR	**Alice Springs**	**38.32**	**197**	P	**P**	**03 01 24.1**	**+0.9**
ASAR	**Alice Springs**	**38.32**	**197**	P	**P**	**03 01 23.2**	**0.0**
	comp=Z,0.9nm,0.7s,baz=21,slow=12,SNR=21						
	comp=Z,0.9nm,0.7s						
HHC	**Hu-ho-hao-te**	**40.15**	**319**	*e*P	**P**	**03 01 39.0**	**+0.5**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,83nm,4.5s						
MBWA	**Marble Bar**	**42.34**	**216**	P	**P**	**03 01 55.8**	**-0.6**
PSA00	**Pilbara Seismi**	**42.59**	**216**	P	**P**	**03 01 58.5**	**-0.1**
PZH	**PanZhiHua**	**42.64**	**295**	P	**P**	**03 02 00.9**	**+1.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,140nm,6.7s						
BBOO	**Buckleboo**	**46.64**	**190**	P	**P**	**03 02 30.7**	**+0.1**
BBOO				IAmb	IAmb	03 02 57.0	
	comp=Z,7.3nm,1.2s						
SONM	**Songino Array**	**47.12**	**325**	P	**P**	**03 02 33.2**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=140,slow=9.2,SNR=2.3						
	comp=Z,0.3nm,0.6s						
MORW	**Morawa**	**50.60**	**213**	P	**P**	**03 02 60.0**	**-1.2**
WMQ	**Urumqi**	**57.52**	**314**	*e*P	**P**	**03 03 53.4**	**+1.9**
MK31	**Makanchi Array**	**61.87**	**316**	P	**P**	**03 04 20.5**	**-0.9**
MKAR	**Makanchi Array**	**61.87**	**316**	P	**P**	**03 04 20.5**	**-0.9**
MKAR	**Makanchi Array**	**61.87**	**316**	P	**P**	**03 04 20.7**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=95,slow=7.9,SNR=12						
	comp=Z,0.6nm,0.5s						
KURK	**Kurchatov**	**64.97**	**320**	P	**P**	**03 04 40.6**	**-1.1**
KURK				IAmb	IAmb	03 05 00.6	
	comp=Z,3.1nm,1.3s						
KURBB	**Kurchatov Arra**	**65.01**	**320**	P	**P**	**03 04 40.7**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=104,slow=7.2,SNR=9.0						
BRLK	**Bradley Lake**	**65.62**	**30**	P	**P**	**03 04 46.4**	**+0.5**
C19K	**Lookout Ridge**	**65.68**	**19**	P	**P**	**03 04 45.2**	**-0.8**
D19K	**Kuna River**	**65.87**	**20**	P	**P**	**03 04 47.1**	**-0.2**
D19K				IAmb	IAmb	03 05 09.0	
	comp=Z,3.5nm,1.4s						
B20K	**Meade River**	**66.86**	**18**	P	**P**	**03 04 53.2**	**-0.2**
D22K	**Ayikyak River**	**67.84**	**20**	P	**P**	**03 04 59.7**	**-0.1**
IL31		**68.75**	**25**	P	**P**	**03 05 03.8**	**-1.7**
IL31				IAmb	IAmb	03 05 24.4	
	comp=Z,5.8nm,1.5s						
ILAR	**Eielson Array**	**68.75**	**25**	P	**P**	**03 05 04.8**	**-0.7**
ILAR	**Eielson Array**	**68.75**	**25**	P	**P**	**03 05 04.0**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=252,slow=5.6,SNR=12						
	comp=Z,0.3nm,0.4s						
J26L	**Joseph Creek**	**70.08**	**26**	P	**P**	**03 05 13.2**	**-0.7**
J26L				IAmb	IAmb	03 05 38.8	
	comp=Z,7.3nm,1.4s						
BMAR	**Burnt Mountain**	**70.30**	**23**	P	**P**	**03 05 14.2**	**-0.8**
BVAR	**Borovoye Array**	**70.31**	**322**	P	**P**	**03 05 14.4**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=106,slow=7.7,SNR=6.2						
	comp=Z,0.3nm,0.3s						
M29M	**Somme Creek**	**72.05**	**28**	P	**P**	**03 05 25.4**	**-0.5**
M29M				IAmb	IAmb	03 05 25.9	
	comp=Z,9.3nm,1.5s						
F28M	**Old Crow**	**72.11**	**23**	P	**P**	**03 05 26.5**	**+0.5**
F28M				IAmb	IAmb	03 05 43.0	
	comp=Z,3.8nm,1.4s						
G31M	**Satah River**	**74.20**	**24**	P	**P**	**03 05 38.9**	**+0.7**
G31M				IAmb	IAmb	03 05 40.9	
	comp=Z,2.6nm,1.1s						
Q32M	**Nakina River**	**74.93**	**32**	P	**P**	**03 05 42.4**	**-0.6**
ABKAR	**Akbulak array**	**76.92**	**318**	P	**P**	**03 05 53.5**	**-0.8**
UOSS	**Minazif**	**83.53**	**294**	P	**P**	**03 06 29.9**	**-0.5**
UOSS				IAmb	IAmb	03 06 45.8	
	comp=Z,7.7nm,1.2s						
NVAR	**Mina Array Bea**	**86.93**	**51**	P	**P**	**03 06 49.7**	**+2.3**
	comp=Z,0.3nm,0.5s,baz=273,slow=5.3,SNR=4.2						
	comp=Z,0.3nm,0.5s						

RSNC 09 02:56:51.1±0.3, 1˚S±3˚×7˚9W±˚, h0km, mb3.7, ML2.7, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FLF1	**Flavio Alfaro-**	**1.21**	**310**	P	Pg	02 57 13.0	-1.3
COHC	**Cochancay**	**1.36**	**194**	P	Pg	02 57 15.5	-1.7
PAC1	**Pacto, Paraso**	**1.40**	**5**	P	Pg	02 57 12.8	-5.2
OTAV	**Otavalo**	**1.45**	**19**	P	Pg	02 57 12.4	-6.5
BONI	**La Bonita**	**2.11**	**41**	P	Pn	02 57 24.2	-3.7
GCUF	**Volcan Galeras**	**2.83**	**34**	P	Pn	02 57 37.9	-0.1
CRUC	**La Cruz**	**3.33**	**36**	P	Pb	02 57 49.2	-2.2
MCRA	**Macar, Loja**	**3.37**	**198**	P	Pn	02 57 46.2	+1.1
BBAC	**Balboa, Cauca**	**3.56**	**28**	P	Pn	02 57 50.7	+2.9
FLOC	**Florencia**	**4.24**	**50**	P	Pn	02 57 54.1	-3.0
POPC	**Popayan, Colom**	**4.29**	**32**	P	Pn	02 58 02.3	+4.4
PTLC	**Puerto Leguiza**	**4.32**	**72**	P	Pn	02 57 52.5	-5.7
GARC	**Garzon, Huila**	**4.76**	**46**	P	Pn	02 58 02.3	-2.1
JAMC	**Jamundi, Valle**	**4.87**	**27**	P	Pn	02 58 08.3	+2.4
MACC	**Macarena, Meta**	**6.03**	**57**	P	Pn	02 58 19.7	-2.0
	33nm,0.7s						
PLMC	**San Jos del P**	**6.56**	**24**	P	Pn	02 58 31.2	+2.2
	4.9nm,1.6s						
CBOC	**Ciudad Bolivar**	**7.54**	**23**	P	Pn	02 58 43.0	+0.5

ROM 09 02:58:59.3±0.0, 43.˚063N±0.˚002×13.˚050E±0.˚004, h10km, ML1.0/6, 2C-1D, Error ellipse: s-maj=0.2km s-min=0.2km az=262.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSP1	**Cessapalombo**	**0.12**	**76**	⇑P	Pg	02 59 02.8	+0.5
CSP1				S	Sg	02 59 05.1	+0.8
CESI	**CESI - Serrava**	**0.12**	**241**	P	Pg	02 59 02.8	+0.6
CESI				S	Sg	02 59 05.1	+0.8
CESI				AML	AML		
	comp=E,44µm,0.5s						
CESI				AML	AML		
	comp=N,51µm,0.3s						
CESI				AML	AML		
	comp=E,44µm,1.5s						
PF6	**Pievefavera**	**0.14**	**51**	P	Pg	02 59 02.9	+0.4
PF6				S	Sg	02 59 05.2	+0.5
SNTG	**Esanatoglia**	**0.21**	**337**	P	Pg	02 59 04.4	+0.7
SNTG				S	Sg	02 59 07.8	+1.1
NRCA	**Norcia**	**0.23**	**168**	⇑P	Pg	02 59 04.8	+0.7
NRCA				S	Sg	02 59 08.9	+1.5
NRCA				AML	AML		
	comp=E,67µm,1.4s						
NRCA				AML	AML		
	comp=N,110µm,0.1s						
NRCA				AML	AML		
	comp=E,67µm,0.6s						
MMO1	**Montemonaco**	**0.26**	**129**	P	Pg	02 59 05.3	+0.6
MMO1				S	Sb	02 59 09.8	-1.0
EL6	**Elcito**	**0.27**	**8**	P	Pg	02 59 05.4	+0.6
EL6				S	Sb	02 59 10.0	-1.1
CING	**Cingoli**	**0.33**	**19**	⇓P	Pg	02 59 06.5	+0.6
CING				S	Sb	02 59 12.1	-0.7
CING				AML	AML		
	comp=N,65µm,0.1s						
CING				AML	AML		
	comp=E,35µm,0.3s						

*ROM **09** 02:59:27.8±0.0, 43.˚066N±0.˚002×13.˚034E±0.˚004, h8km, ML2.5/126, Error ellipse: s-maj=0.2km s-min=0.1km az=63.0*

ISC 09 02:59:28.1±0.8, 43.˚06N±0.˚01×13.˚02E±0.˚02, h9km±5km, n84, σ0s98/132, 7C-3D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEF1	**Sefro**	**0.10**	**326**	P	**Pg**	**02 59 30.7**	**+0.1**
SEF1				S	**Sg**	**02 59 32.5**	**0.0**
SEF1				AML	AML		
	comp=N,13000µm,0.4s						
SEF1				AML	AML		
	comp=E,13500µm,1.5s						
SEF1				AML	AML		
	comp=N,13000µm,1.6s						
SEF1				AML	AML		
	comp=E,13500µm,0.5s						
SEF1				AML	AML		
	comp=N,12536µm,0.3s						
SEF1				AML	AML		
	comp=E,12226µm,0.2s						
FEMA	**Monte Fema**	**0.10**	**169**	P	**Pg**	**02 59 31.0**	**+0.2**
FEMA				S	**Sg**	**02 59 33.2**	**+0.6**
FEMA				AML	AML		
	comp=N,9765µm,0.9s						
FEMA				AML	AML		
	comp=E,13900µm,0.4s						
FEMA				AML	AML		
	comp=N,9765µm,0.9s						
FEMA				AML	AML		
	comp=N,9765µm,1.1s						
FEMA				AML	AML		
	comp=E,13900µm,0.3s						
FEMA				AML	AML		
	comp=E,13896µm,0.3s						
FEMA				AML	AML		
	comp=N,9444µm,0.3s						
CESI	**CESI - Serrava**	**0.10**	**237**	⇑P	**Pg**	**02 59 31.1**	**+0.4**
CESI				S	**Sg**	**02 59 33.3**	**+0.7**
CESI				AML	AML		
	comp=E,4500µm,1.2s						
CESI				AML	AML		
	comp=N,5560µm,0.2s						
CESI				AML	AML		
	comp=E,4500µm,0.8s						
CESI				AML	AML		
	comp=N,5557µm,0.2s						
CESI				AML	AML		
	comp=E,4320µm,0.2s						
PIO1	**Pioraco**	**0.12**	**346**	P	**Pg**	**02 59 30.9**	**0.0**
PIO1				S	**Sg**	**02 59 33.1**	**+0.2**
CSP1	**Cessapalombo**	**0.14**	**78**	⇑P	**Pg**	**02 59 31.2**	**0.0**
CSP1				S	**Sg**	**02 59 33.7**	**+0.3**
CSP1				AML	AML		
	comp=N,964µm,0.9s						
CSP1				AML	AML		
	comp=E,4105µm,0.3s						
CSP1				AML	AML		
	comp=N,963µm,0.9s						
CSP1				AML	AML		
	comp=E,4105µm,1.7s						
CSP1				AML	AML		
	comp=N,929µm,0.2s						
CSP1				AML	AML		
	comp=E,4108µm,0.3s						
FIU1	**Fiuminata**	**0.14**	**332**	P	**Pg**	**02 59 31.4**	**+0.1**
FIU1				S	**Sg**	**02 59 34.1**	**+0.6**
PF6	**Pievefavera**	**0.15**	**55**	P	**Pg**	**02 59 31.3**	**-0.1**
PF6				S	**Sg**	**02 59 33.7**	**0.0**
PF6				AML	AML		
	comp=N,1955µm,0.1s						
PF6				AML	AML		
	comp=E,4040µm,0.2s						
PF6				AML	AML		
	comp=N,1955µm,1.9s						
PF6				AML	AML		
	comp=E,4045µm,0.2s						
PF6				AML	AML		
	comp=N,1955µm,0.1s						
PF6				AML	AML		
	comp=E,4044µm,0.2s						
MDAR	**Monte D'Aria**	**0.16**	**34**	P	**Pg**	**02 59 31.5**	**0.0**
MDAR				S	**Sg**	**02 59 34.1**	**+0.2**
MDAR				AML	AML		
	comp=N,5720µm,0.7s						
MDAR				AML	AML		
	comp=E,5965µm,0.3s						
MDAR				AML	AML		
	comp=E,4365µm,0.2s						
MDAR				AML	AML		
	comp=N,4986µm,0.2s						
GAG1	**Gagliole**	**0.18**	**10**	P	**Pg**	**02 59 32.2**	**+0.3**
GAG1				S	**Sg**	**02 59 35.3**	**+0.8**
MC2	**Monte Cornacci**	**0.19**	**141**	P	**Pg**	**02 59 32.5**	**+0.3**
MC2				S	**Sg**	**02 59 36.0**	**+1.0**
SSM1	**San Severino M**	**0.20**	**34**	P	**Pg**	**02 59 32.4**	**+0.1**
SSM1				S	**Sg**	**02 59 35.8**	**+0.7**
SNTG	**Esanatoglia**	**0.20**	**342**	⇓P	**Pg**	**02 59 32.4**	**+0.1**
SNTG				S	**Sg**	**02 59 35.9**	**+0.7**
SNTG				AML	AML		
	comp=N,1315µm,0.2s						
SNTG				AML	AML		
	comp=N,1540µm,0.6s						
SNTG				AML	AML		
	comp=E,1530µm,0.2s						
SNTG				AML	AML		
	comp=E,1550µm,0.2s						
SNTG				AML	AML		
	comp=N,1315µm,0.2s						
SNTG				AML	AML		
	comp=E,1314µm,0.1s						
SNTG				AML	AML		
	comp=E,1291µm,0.1s						
SNTG				AML	AML		
	comp=N,1495µm,0.2s						
GUMA	**Gualdo di Mace**	**0.23**	**90**	⇑P	**Pg**	**02 59 33.2**	**+0.5**
GUMA				S	**Sg**	**02 59 37.3**	**+1.4**
GUMA				AML	AML		
	comp=E,11350µm,0.3s						
GUMA				AML	AML		
	comp=N,13600µm,0.2s						
GUMA				AML	AML		
	comp=N,8105µm,0.4s						
GUMA				AML	AML		
	comp=E,20100µm,0.2s						
GUMA				AML	AML		
	comp=E,11350µm,0.3s						
GUMA				AML	AML		
	comp=E,11357µm,0.3s						
GUMA				AML	AML		
	comp=N,13624µm,0.2s						
GUMA				AML	AML		
	comp=E,20073µm,0.2s						
GUMA				AML	AML		
	comp=N,8106µm,0.4s						
NRCA	**Norcia**	**0.24**	**164**	P	**Pg**	**02 59 33.3**	**+0.3**
NRCA				S	**Sg**	**02 59 37.3**	**+1.1**
NRCA				AML	AML		
	comp=N,8355µm,0.4s						
NRCA				AML	AML		
	comp=E,7280µm,1.3s						
NRCA				AML	AML		
	comp=N,8985µm,0.4s						
NRCA				AML	AML		
	comp=E,6850µm,1.3s						
NRCA				AML	AML		
	comp=E,6622µm,0.1s						
NRCA				AML	AML		
	comp=E,7133µm,0.1s						
NRCA				AML	AML		
	comp=N,8152µm,0.1s						
NRCA				AML	AML		
	comp=N,8710µm,0.1s						
EL6	**Elcito**	**0.27**	**12**	P	**Pg**	**02 59 33.7**	**+0.1**
EL6				S	**Sg**	**02 59 38.3**	**+1.0**
EL6				AML	AML		
	comp=N,3120µm,0.2s						
EL6				AML	AML		
	comp=E,4975µm,1.4s						
EL6				AML	AML		
	comp=E,4975µm,0.6s						
EL6				AML	AML		
	comp=N,3115µm,0.2s						
EL6				AML	AML		
	comp=N,3119µm,0.2s						
EL6				AML	AML		
	comp=E,4596µm,0.2s						
MMO1	**Montemonaco**	**0.28**	**126**	P	**Pg**	**02 59 33.8**	**+0.2**
MMO1				S	**Sg**	**02 59 38.4**	**+1.0**
FOSV	**Fossato di Vic**	**0.30**	**320**	P	**Pg**	**02 59 34.3**	**+0.2**
FOSV				S	**Sg**	**02 59 39.5**	**+1.3**
FOSV				AML	AML		
	comp=E,670µm,0.3s						
FOSV				AML	AML		
	comp=N,2167µm,0.4s						
MF5	**Montefalcone A**	**0.33**	**103**	⇑P	**Pg**	**02 59 35.2**	**+0.6**
MF5				S	**Sb**	**02 59 40.5**	**-1.0**
MF5				AML	AML		
	comp=E,2035µm,0.5s						
MF5				AML	AML		
	comp=N,2400µm,0.2s						
MF5				AML	AML		
	comp=E,2036µm,0.5s						
MF5				AML	AML		
	comp=N,2403µm,0.2s						
MNTP	**Montappone**	**0.34**	**77**	P	**Pg**	**02 59 35.4**	**+0.7**
CING	**Cingoli**	**0.34**	**22**	⇑P	**Pg**	**02 59 34.9**	**+0.1**
CING				S	**Sg**	**02 59 40.2**	**+0.9**
CING				AML	AML		
	comp=E,7090µm,0.2s						
CING				AML	AML		
	comp=N,3235µm,0.1s						
CING				AML	AML		
	comp=E,7089µm,0.2s						
CING				AML	AML		
	comp=N,3236µm,0.1s						
MMUR	**Monte Murano**	**0.38**	**357**	P	**Pg**	**02 59 35.7**	**+0.1**
MMUR				S	**Sg**	**02 59 41.9**	**+1.3**
MMUR				AML	AML		
	comp=N,1750µm,1.6s						
MMUR				AML	AML		
	comp=E,2295µm,0.9s						
MMUR				AML	AML		
	comp=E,2273µm,0.1s						
MMUR				AML	AML		
	comp=N,1549µm,0.1s						
MTRA	**Matera**	**0.41**	**138**	P	**Pg**	**02 59 36.2**	**+0.1**
MTRA				S	**Sg**	**02 59 42.7**	**+1.2**
MTRA				AML	AML		
	comp=E,1215µm,0.8s						
MTRA				AML	AML		
	comp=N,1065µm,0.6s						
MTRA				AML	AML		
	comp=N,1084µm,0.2s						
MTRA				AML	AML		
	comp=E,1205µm,0.8s						
MTRA				AML	AML		
	comp=E,1215µm,1.2s						
MTRA				AML	AML		
	comp=E,1205µm,1.2s						
MTRA				AML	AML		
	comp=N,1082µm,0.2s						
MTRA				AML	AML		
	comp=E,1086µm,0.1s						
MTRA				AML	AML		
	comp=N,990µm,0.3s						
MTRA				AML	AML		
	comp=E,1020µm,0.1s						
SSFR	**Montelago di S**	**0.41**	**335**	⇓P	**Pg**	**02 59 36.3**	**+0.1**
SSFR				S	**Sb**	**02 59 43.3**	**-0.7**
SSFR				AML	AML		
	comp=E,1980µm,0.3s						
SSFR				AML	AML		
	comp=N,1510µm,0.1s						
SSFR				AML	AML		
	comp=N,1225µm,0.2s						
SSFR				AML	AML		
	comp=E,1650µm,0.8s						
SSFR				AML	AML		
	comp=N,1510µm,0.1s						
SSFR				AML	AML		
	comp=N,1221µm,0.2s						
SSFR				AML	AML		
	comp=E,1409µm,0.1s						
SSFR				AML	AML		
	comp=E,1527µm,0.2s						
MURB	**Monte Urbino**	**0.42**	**299**	P	**Pg**	**02 59 36.6**	**+0.3**
MURB				S	**Sb**	**02 59 43.7**	**-0.4**
MURB				AML	AML		
	comp=E,2515µm,1.5s						
MURB				AML	AML		
	comp=E,2785µm,1.5s						
MURB				AML	AML		
	comp=N,2785µm,0.2s						
MURB				AML	AML		
	comp=N,2745µm,0.2s						
MURB				AML	AML		
	comp=E,2204µm,0.2s						
MURB				AML	AML		
	comp=E,2531µm,0.2s						
MURB				AML	AML		
	comp=N,2785µm,0.2s						
MURB				AML	AML		
	comp=N,2745µm,0.2s						
MOMA	**Monte Martano**	**0.42**	**232**	P	**Pg**	**02 59 36.6**	**+0.3**
MOMA				S	**Sb**	**02 59 43.7**	**-0.5**
MOMA				AML	AML		
	comp=N,934µm,1.5s						

MOMA				AML	AML		
	comp=E,722µm,0.9s						
MOMA				AML	AML		
	comp=N,934µm,1.5s						
MOMA				AML	AML		
	comp=E,794µm,0.2s						
MOMA				AML	AML		
	comp=N,737µm,0.3s						
MOMA				AML	AML		
	comp=N,934µm,0.5s						
MOMA				AML	AML		
	comp=E,722µm,1.1s						
MOMA				AML	AML		
	comp=E,721µm,0.2s						
MOMA				AML	AML		
	comp=E,795µm,0.2s						
MOMA				AML	AML		
	comp=N,751µm,0.2s						
MOMA				AML	AML		
	comp=N,737µm,0.3s						
ATSC	**Scheggia e Pas**	**0.44**	**326**	P	**Pg**	**02 59 36.6**	**0.0**
ATSC				S	**Sg**	**02 59 43.7**	**+1.3**
ARVD	**Arcevia**	**0.44**	**352**	⇓P	**Pg**	**02 59 36.7**	**0.0**
ARVD				S	**Sb**	**02 59 43.8**	**-0.9**
ARVD				AML	AML		
	comp=E,591µm,0.4s						
ARVD				AML	AML		
	comp=N,479µm,0.1s						
ARVD				AML	AML		
	comp=E,546µm,0.3s						
ARVD				AML	AML		
	comp=N,479µm,0.1s						
LNSS	**Leonessa**	**0.46**	**178**	P	**Pg**	**02 59 37.1**	**+0.1**
LNSS				S	**Sb**	**02 59 44.5**	**-0.8**
LNSS				AML	AML		
	comp=E,1495µm,0.2s						
LNSS				AML	AML		
	comp=N,1385µm,0.2s						
LNSS				AML	AML		
	comp=N,1384µm,0.2s						
LNSS				AML	AML		
	comp=E,1495µm,0.2s						
SMA1	**SAN MARTINO**	**0.49**	**152**	P	**Pg**	**02 59 37.6**	**0.0**
SMA1				S	**Sb**	**02 59 45.4**	**-0.8**
SMA1				AML	AML		
	comp=E,638µm,0.3s						
SMA1				AML	AML		
	comp=N,704µm,1.6s						
SMA1				AML	AML		
	comp=N,704µm,0.4s						
SMA1				AML	AML		
	comp=E,638µm,0.3s						
SMA1				AML	AML		
	comp=N,610µm,0.3s						
OFFI	**Offida**	**0.50**	**105**	⇑P	**Pb**	**02 59 38.8**	**-0.2**
OFFI				S	**Sb**	**02 59 47.9**	**+1.4**
OFFI				AML	AML		
	comp=E,979µm,0.5s						
OFFI				AML	AML		
	comp=N,1270µm,0.6s						
OFFI				AML	AML		
	comp=N,1013µm,0.4s						
FRON	**Frontone**	**0.50**	**335**	P	**Pg**	**02 59 37.8**	**-0.1**
FRON				S	**Sb**	**02 59 45.9**	**-0.7**
FRON				AML	AML		
	comp=E,383µm,0.1s						
FRON				AML	AML		
	comp=N,527µm,0.3s						
FRON				AML	AML		
	comp=E,383µm,0.1s						
FRON				AML	AML		
	comp=N,520µm,0.3s						
ARRO	**Arrone**	**0.52**	**202**	P	**Pg**	**02 59 38.4**	**+0.3**
ARRO				S	**Sb**	**02 59 46.3**	**-0.6**
ARRO				AML	AML		
	comp=E,845µm,0.8s						
ARRO				AML	AML		
	comp=N,560µm,0.2s						
ARRO				AML	AML		
	comp=E,829µm,0.2s						
ARRO				AML	AML		
	comp=N,561µm,0.2s						
PP3	**Marolino**	**0.53**	**53**	P	**Pb**	**02 59 39.3**	**-0.3**
PP3				S	**Sb**	**02 59 47.4**	**+0.1**
PP3				AML	AML		
	comp=E,844µm,0.3s						
PP3				AML	AML		
	comp=N,1156µm,0.3s						
PP3				AML	AML		
	comp=N,1163µm,0.3s						
PP3				AML	AML		
	comp=N,1156µm,0.3s						
PP3				AML	AML		
	comp=E,879µm,1.3s						
PP3				AML	AML		
	comp=E,844µm,0.3s						
PP3				AML	AML		
	comp=N,1162µm,0.3s						
PP3				AML	AML		
	comp=N,1155µm,0.3s						
PP3				AML	AML		
	comp=E,826µm,0.3s						
ATVO	**AVT- Monte Val**	**0.55**	**305**	P	**Pg**	**02 59 38.8**	**0.0**
ATVO				S	**Sb**	**02 59 47.6**	**-0.4**
CESX	**Cesi**	**0.56**	**216**	⇑P	**Pg**	**02 59 38.9**	**0.0**
CESX				S	**Sb**	**02 59 47.8**	**-0.3**
CESX				AML	AML		
	comp=E,798µm,0.5s						
CESX				AML	AML		
	comp=N,749µm,0.3s						
CESX				AML	AML		
	comp=E,686µm,0.3s						
CESX				AML	AML		
	comp=N,749µm,0.3s						
COR1	**Corinaldo**	**0.57**	**358**	P	**Pb**	**02 59 39.8**	**-0.4**
COR1				AML	AML		
	comp=N,607µm,1.0s						
COR1				AML	AML		
	comp=E,274µm,0.7s						
COR1				AML	AML		
	comp=E,274µm,1.3s						
COR1				AML	AML		
	comp=N,562µm,0.5s						
COR1				AML	AML		
	comp=E,215µm,0.4s						
RM33	**Pellescritta (**	**0.57**	**166**	P	**Pg**	**02 59 39.0**	**-0.2**
RM33				S	**Sb**	**02 59 48.2**	**-0.3**
RM33				AML	AML		
	comp=E,363µm,0.3s						
RM33				AML	AML		
	comp=N,253µm,0.2s						
RM33				AML	AML		
	comp=N,253µm,0.2s						
RM33				AML	AML		
	comp=N,288µm,0.5s						
RM33				AML	AML		
	comp=E,363µm,0.3s						
RM33				AML	AML		
	comp=E,393µm,0.3s						
ATVA	**AVT- Monte Val**	**0.58**	**292**	P	**Pg**	**02 59 39.5**	**+0.1**
ATVA				S	**Sb**	**02 59 48.8**	**0.0**
ATPI	**Pietralunga -**	**0.60**	**311**	P	**Pg**	**02 59 39.6**	**0.0**
ATPI				S	**Sb**	**02 59 49.0**	**-0.3**
ATPI				AML	AML		
	comp=E,208µm,0.5s						
ATPI				AML	AML		
	comp=N,230µm,0.8s						
ATPI				AML	AML		
	comp=N,205µm,0.4s						
CAMP	**Campotosto**	**0.60**	**152**	P	**Pg**	**02 59 39.3**	**-0.3**
CAMP				S	**Sb**	**02 59 48.7**	**-0.6**
MPAG	**Monte Paganucc**	**0.60**	**341**	P	**Pg**	**02 59 40.1**	**+0.5**
MPAG				S	**Sb**	**02 59 49.5**	**+0.2**
MPAG				AML	AML		
	comp=N,192µm,0.9s						
MPAG				AML	AML		
	comp=E,280µm,0.2s						
MPAG				AML	AML		
	comp=E,281µm,0.2s						
MPAG				AML	AML		
	comp=N,173µm,0.2s						
TERO	**Teramo**	**0.61**	**136**	P	**Pg**	**02 59 39.6**	**-0.3**
TERO				S	**Sg**	**02 59 48.9**	**+0.9**
TERO				AML	AML		
	comp=N,302µm,1.5s						
TERO				AML	AML		
	comp=N,480µm,1.1s						
TERO				AML	AML		
	comp=N,303µm,1.5s						
TERO				AML	AML		
	comp=E,424µm,1.2s						
TERO				AML	AML		
	comp=E,240µm,1.2s						
TERO				AML	AML		
	comp=N,480µm,0.9s						
TERO				AML	AML		
	comp=N,303µm,0.5s						
TERO				AML	AML		
	comp=N,231µm,0.2s						
TERO				AML	AML		
	comp=N,450µm,0.2s						
TERO				AML	AML		
	comp=E,381µm,0.1s						
TERO				AML	AML		
	comp=E,210µm,0.2s						
ATMI	**Monte Miggiano**	**0.62**	**296**	P	**Pg**	**02 59 40.6**	**+0.6**
ATMI				AML	AML		
	comp=E,424µm,0.3s						
ATMI				AML	AML		
	comp=N,382µm,0.3s						
ATMI				AML	AML		
	comp=N,382µm,0.3s						
ATMI				AML	AML		
	comp=E,424µm,0.3s						
NARO	**Abbazia di Nar**	**0.64**	**330**	P	**Pg**	**02 59 40.1**	**-0.3**
NARO				S	**Sb**	**02 59 50.4**	**+0.1**
NARO				AML	AML		
	comp=E,252µm,0.7s						
NARO				AML	AML		
	comp=N,182µm,0.4s						
NARO				AML	AML		
	comp=N,182µm,1.6s						
NARO				AML	AML		
	comp=E,252µm,1.3s						
NARO				AML	AML		
	comp=N,146µm,0.2s						
NARO				AML	AML		
	comp=E,230µm,0.3s						
AOI	**Ancona**	**0.64**	**41**	P	**Pg**	**02 59 40.6**	**0.0**
AOI				S	**Sb**	**02 59 50.8**	**+0.2**
FSSB	**Fossombrone**	**0.65**	**344**	P	**Pg**	**02 59 40.6**	**-0.1**
FSSB				S	**Sb**	**02 59 51.6**	**+0.7**
FSSB				AML	AML		
	comp=N,746µm,0.4s						
FSSB				AML	AML		
	comp=E,638µm,1.3s						
FSSB				AML	AML		
	comp=N,746µm,1.6s						
FSSB				AML	AML		
	comp=N,717µm,0.4s						
FSSB				AML	AML		
	comp=E,535µm,0.4s						
MGAB	**Montegabbione**	**0.69**	**258**	P	**Pg**	**02 59 41.3**	**0.0**
MGAB				AML	AML		
	comp=E,364µm,1.5s						
MGAB				AML	AML		
	comp=E,328µm,1.5s						
MGAB				AML	AML		
	comp=N,344µm,1.0s						
MGAB				AML	AML		
	comp=N,348µm,1.1s						
MGAB				AML	AML		
	comp=E,364µm,0.5s						
MGAB				AML	AML		
	comp=E,328µm,0.5s						
MGAB				AML	AML		
	comp=N,297µm,0.2s						
MGAB				AML	AML		
	comp=E,324µm,0.4s						
MGAB				AML	AML		
	comp=N,334µm,0.2s						
MGAB				AML	AML		
	comp=E,291µm,0.4s						
ATMC	**Monte Cedrone**	**0.72**	**303**	P	**Pg**	**02 59 42.0**	**0.0**
BADI	**Badiali**	**0.72**	**308**	P	**Pg**	**02 59 42.1**	**+0.1**
BADI				S	**Sb**	**02 59 53.1**	**+0.2**
BADI				AML	AML		
	comp=E,216µm,0.6s						
BADI				AML	AML		
	comp=N,204µm,0.7s						
BADI				AML	AML		
	comp=E,216µm,1.4s						
BADI				AML	AML		
	comp=N,185µm,0.3s						
BADI				AML	AML		
	comp=E,204µm,0.2s						
GIGS	**Gran Sasso**	**0.73**	**147**	P	**Pg**	**02 59 41.5**	**-0.7**
GIGS				AML	AML		
	comp=E,99µm,0.6s						
GIGS				AML	AML		
	comp=N,88µm,0.3s						
GIGS				AML	AML		
	comp=E,99µm,1.4s						
GIGS				AML	AML		
	comp=N,80µm,0.2s						
GIGS				AML	AML		
	comp=E,94µm,0.1s						
FIAM	**Fiamignano**	**0.80**	**175**	P	**Pg**	**02 59 43.0**	**-0.4**
FIAM				S	**Sb**	**02 59 54.9**	**-0.1**
FIAM				AML	AML		
	comp=E,139µm,0.3s						
FIAM				AML	AML		
	comp=N,168µm,0.7s						
FIAM				AML	AML		
	comp=E,139µm,0.3s						
CAFI	**Castiglion Fio**	**0.82**	**289**	P	**Pg**	**02 59 43.7**	**-0.1**
CAFI				S	**Sb**	**02 59 55.6**	**0.0**
CAFI				AML	AML		
	comp=N,180µm,0.5s						
CAFI				AML	AML		
	comp=E,167µm,0.4s						
CAFI				AML	AML		
	comp=N,180µm,0.5s						
CAFI				AML	AML		
	comp=N,186µm,0.5s						
CAFI				AML	AML		
	comp=E,172µm,0.4s						
CAFI				AML	AML		
	comp=N,185µm,0.5s						
CAFI				AML	AML		
	comp=N,180µm,0.5s						
CAFI				AML	AML		
	comp=E,167µm,0.4s						
CAFI				AML	AML		
	comp=E,172µm,0.4s						
SACS	**San Casciano d**	**0.84**	**256**	P	**Pg**	**02 59 44.3**	**0.0**
SACS				AML	AML		
	comp=N,126µm,0.3s						
SACS				AML	AML		
	comp=E,138µm,0.8s						
SACS				AML	AML		
	comp=N,125µm,0.3s						
SACS				AML	AML		
	comp=E,111µm,0.5s						
SACS				AML	AML		
	comp=N,117µm,0.3s						
SACS				AML	AML		
	comp=E,161µm,0.8s						
FAGN	**Fagnano**	**0.90**	**152**	P	**Pg**	**02 59 44.9**	**-0.5**
CPGN	**Carpegna, Ital**	**0.90**	**325**	P	**Pb**	**02 59 45.9**	**0.0**
SRES	**S.Oreste - Sor**	**0.91**	**205**	P	**Pg**	**02 59 45.1**	**-0.5**
SRES				S	**Sb**	**02 59 58.7**	**+0.6**
CRE	**Caprese Michel**	**0.96**	**306**	P	**Pg**	**02 59 46.5**	**-0.1**
LATE	**Laterza**	**1.00**	**244**	P	**Pb**	**02 59 47.9**	**+0.3**
SF11	**Podere del Sol**	**1.01**	**259**	P	**Pn**	**02 59 48.6**	**+0.2**
SF04	**Casetta**	**1.03**	**258**	P	**Pn**	**02 59 48.7**	**0.0**
MCIV	**Monte Civitell**	**1.03**	**254**	P	**Pg**	**02 59 48.0**	**+0.1**
INTR	**Introdacqua**	**1.24**	**148**	P	**Pn**	**02 59 50.3**	**-1.3**
INTR				AML	AML		
	comp=E,74µm,0.9s						
INTR				AML	AML		
	comp=N,176µm,0.8s						
INTR				AML	AML		
	comp=N,176µm,0.8s						
INTR				AML	AML		
	comp=E,70µm,0.8s						
DUGI	**Dugi Otok**	**1.75**	**57**	*e*Pn	**Pn**	**02 59 59.0**	**+0.5**
VIRC	**Vir**	**1.92**	**49**	*e*Pn	**Pn**	**03 00 00.9**	**+0.1**
VIRC				Sn	**Sn**	**03 00 25.5**	**+0.4**
ZIRJ	**Zirje**	**2.00**	**72**	*e*Pn	**Pn**	**03 00 02.1**	**+0.1**
NVLJ	**Novalja**	**2.01**	**41**	*e*Pn	**Pn**	**03 00 02.3**	**+0.2**
MORI	**Morici**	**2.11**	**67**	*e*Pn	**Pn**	**03 00 04.2**	**+0.7**
RABC	**Rab**	**2.11**	**36**	*e*Pn	**Pn**	**03 00 03.8**	**+0.2**
SMRN	**Sveta Marina**	**2.13**	**22**	*e*Pn	**Pn**	**03 00 04.0**	**+0.2**
UDBI	**Udbina**	**2.47**	**53**	*e*Pn	**Pn**	**03 00 09.9**	**+1.4**
HVAR	**Hvar**	**2.51**	**86**	*e*Pn	**Pn**	**03 00 09.1**	**+0.1**
KIJV	**Kijevo**	**2.63**	**68**	*e*Pn	**Pn**	**03 00 12.2**	**+1.5**
LSTV	**Lastovo**	**2.86**	**95**	*e*Pn	**Pn**	**03 00 14.1**	**+0.4**
RICI	**Ricice**	**3.03**	**80**	*e*Pn	**Pn**	**03 00 17.4**	**+1.2**
RICI				Sn	**Sn**	**03 00 53.5**	**+0.9**
STON	**Ston**	**3.44**	**92**	*e*Pn	**Pn**	**03 00 23.6**	**+1.8**
OBKA	**Obir**	**3.61**	**17**	*i* Pn	**Pn**	**03 00 26.9**	**+2.6**
	comp=E,0.4nm,0.2s						
ABTA	**Abfaltersbach**	**3.70**	**355**	*i* Pn	**Pn**	**03 00 27.1**	**+1.7**
	comp=E,0.5nm,0.3s						
KBA	**Koelnbreinsper**	**4.02**	**3**	*e*Pn	**Pn**	**03 00 28.2**	**-1.7**
	comp=E,1.7nm,0.7s						
FETA	**Feichten**	**4.28**	**338**	*e*Pn	**Pb**	**03 00 39.9**	**-3.6**
	comp=E,0.7nm,0.5s						
SQTA	**Sankt Quirin**	**4.35**	**343**	*i* Pn	**Pn**	**03 00 38.8**	**+4.3**
	comp=E,0.5nm,0.2s						
LESA	**Schwarzleotal**	**4.37**	**357**	*e*Pn	**Pb**	**03 00 41.2**	**-3.8**
	comp=E,0.4nm,0.3s						
MOTA	**Moosalm**	**4.49**	**343**	*e*Pn	**Pn**	**03 00 38.3**	**+1.9**
	comp=E,0.3nm,0.3s						
ARSA	**Arzberg**	**4.54**	**22**	*i* Pn	**Pb**	**03 00 43.7**	**-4.3**
	comp=E,1.5nm,0.5s						
DAVA	**Damuels**	**4.77**	**333**	*e*Pn	Pn	03 00 45.3	+5.1
	comp=E,0.9nm,0.3s						

*RSNC **09** 03:09:30.9±0.3, 12°N±3°×8°1W±°, h0km, mb4.2, ML3.1*
*CATAC **09** 03:09:30.3±2.7, 12°.15N×81°.43W, h18km±26km, ML4.1*

ISC 09 03:09:29.3±1.1, 12°.15N±0°.04×81°.42W±0°.05, h10km, n33, σ1°20/36, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**1.22**	**2**	P	**Pn**	**03 09 51.7**	**-0.7**
PRVC				S	**Sb**	**03 10 08.0**	**-0.3**
PRVC	**Isla de Provid**	**1.22**	**2**	*i* P	**Pn**	**03 09 52.3**	**-0.1**
PRVC				*i* S	**Sg**	**03 10 08.9**	**+0.3**
PRVC				IAML		03 10 18.2	
	comp=Z,130nm,1.0s						
BATAN	**Batan**	**2.80**	**224**	*i* P	**Pn**	**03 10 13.4**	**-0.8**
BATAN				IAML		03 11 55.0	
	comp=Z,300nm,1.0s						
RIFO	**Rio Frio, Sara**	**3.06**	**234**	*i* P	**Pn**	**03 10 17.1**	**-0.7**
RIFO				IAML		03 10 17.7	
	comp=Z,380nm,1.0s						
VTCV	**VTCV, Calle Va**	**3.13**	**227**	*i* P	**Pn**	**03 10 18.7**	**-0.2**
VTCV				IAML		03 10 57.5	
	comp=Z,200nm,1.0s						
COVE	**Coope Vega, Sa**	**3.25**	**244**	*i* P	**Pn**	**03 10 20.5**	**+0.1**
COVE				IAML		03 11 02.8	
	comp=Z,170nm,1.0s						
BCIP	**Isla Barro Col**	**3.34**	**152**	P	**Pn**	**03 10 19.2**	**-2.5**
BCIP				S	**Sn**	**03 11 01.2**	**-0.3**
BCIP	**Isla Barro Col**	**3.34**	**152**	*i* P	**Pn**	**03 10 21.3**	**-0.4**
BCIP				IAML		03 11 56.5	
	comp=Z,250nm,1.0s						
OCM	**Ochomogo**	**3.36**	**228**	*i* P	**Pn**	**03 10 22.0**	**0.0**
OCM				IAML		03 10 24.9	
	comp=Z,120nm,1.0s						
HDC3	**Heredia 3**	**3.40**	**231**	*i* P	**Pn**	**03 10 22.6**	**+0.1**
HDC3				IAML		03 10 23.1	
	comp=Z,420nm,1.0s						
HDC	**Heredia**	**3.40**	**231**	*i* P	**Pn**	**03 10 22.4**	**-0.2**
HDC				IAML		03 10 23.1	
	comp=Z,410nm,1.0s						
CPMI	**Catarata Coope**	**3.45**	**238**	*i* P	**Pn**	**03 10 23.2**	**-0.1**
CPMI				IAML		03 10 24.2	
	comp=Z,180nm,1.0s						
CDM	**Cerro de Muert**	**3.46**	**222**	*i* P	**Pn**	**03 10 23.0**	**-0.7**
CDM				IAML		03 11 05.1	
	comp=Z,91nm,1.0s						
LCR2	**La Lucha 2**	**3.49**	**227**	*i* P	**Pn**	**03 10 23.2**	**-0.7**
POTG	**Potrero Grande**	**3.50**	**209**	*i* P	**Pn**	**03 10 23.8**	**-0.1**
POTG				IAML		03 11 07.1	
	comp=Z,510nm,1.0s						
TCS1	**Tacares**	**3.52**	**234**	*i* P	**Pn**	**03 10 24.1**	**-0.1**
TCS1				IAML		03 11 36.2	
	comp=Z,3µm,1.0s						
PEZE	**Perez Zeledon,**	**3.54**	**219**	*i* P	**Pn**	**03 10 24.4**	**0.0**
PEZE				IAML		03 10 24.9	
	comp=Z,150nm,1.0s						
BRU2	**Volcan**	**3.56**	**201**	*i* P	**Pn**	**03 10 25.2**	**+0.4**
BRU2				IAML		03 11 10.6	
	comp=Z,94nm,1.0s						
SOCE	**Pocosol**	**3.60**	**241**	*i* P	**Pn**	**03 10 24.5**	**-0.7**
SOCE				IAML		03 11 24.7	
	comp=Z,85nm,1.0s						
SIUN	**Universidad Ur**	**3.63**	**296**	*i* P	**Pn**	**03 10 25.7**	**+0.2**
SIUN				IAML		03 11 19.8	
	comp=Z,130nm,1.0s						
UPA	**Univ. de Panam**	**3.65**	**149**	P	**Pn**	**03 10 28.2**	**+2.3**
ACON	**Acoyapa**	**3.68**	**268**	P	**Pb**	**03 10 31.3**	**-3.2**
ACON				S	**Sn**	**03 11 12.8**	**+3.0**
JTS	**Las Juntas de**	**3.93**	**242**	P	**Pn**	**03 10 27.6**	**-2.2**
JACO	**JACO, Garabito**	**4.03**	**233**	*i* P	**Pn**	**03 10 31.1**	**0.0**
JACO				IAML		03 10 33.1	
	comp=Z,84nm,1.0s						
PLAN	**Los Planes de**	**4.11**	**213**	*i* P	**Pn**	**03 10 33.3**	**+1.1**
PLAN				IAML		03 11 21.8	
	comp=Z,320nm,1.0s						
BOAB	**BOACO BROADBAN**	**4.17**	**275**	*i* P	**Pn**	**03 10 32.5**	**-0.5**
BOAB				IAML		03 11 26.9	
	comp=Z,160nm,1.0s						
ORTG	**Ortega, Santa**	**4.35**	**246**	*i* P	**Pn**	**03 10 34.9**	**-0.6**
ORTG				IAML		03 11 14.3	
	comp=Z,47nm,1.0s						
NADN	**Granada**	**4.54**	**265**	*i* P	**Pn**	**03 10 37.9**	**-0.2**
SAJU	**San Juanillo,**	**4.70**	**244**	*i* P	**Pn**	**03 10 40.2**	**-0.1**
SAJU				IAML		03 12 39.8	
	comp=Z,44nm,1.0s						
RCPN	**Sur Rio San Ju**	**4.76**	**287**	*i* P	**Pn**	**03 10 39.2**	**-2.1**
TELN	**Telica**	**5.31**	**275**	*i* P	**Pb**	**03 11 02.9**	**+0.6**
TGUH	**Tegucigalpa,Un**	**6.01**	**289**	P	**Pb**	**03 11 15.8**	**+1.5**
	comp=Z,20nm,0.4s						
SJCC	**San Jacinto, C**	**6.52**	**109**	P	Pn	03 11 12.4	+7.0

*IDC **09** 03:11:07.6±1.6, 14°.56N×55°.57E, h0km, mb3.6/8, mbtmp3.6/9, ML3.4/1, MS3.3/16, Error ellipse: s-maj=38.8km s-min=29.2km az=69.0*
*OMAN **09** 03:11:16.0±0.1, 15°.01N×55°.91E, h43km±8km, mb4.3/7, ml3.6/6, ms3.0/4, Error ellipse: s-maj=3.1km s-min=1.7km az=12.0*

ISC 09 03:11:10.4±1.2, 14°.8N±0°.1×55°.77E±0°.09, h10km, n38, σ1°37/36, mb3.7/9, MS3.2/15, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMTO	**DMTO**	**3.02**	**345**	P	**Pn**	**03 11 58.7**	**+0.4**
	SNR=17						
DMTO				S	**Sn**	**03 12 32.3**	**-2.1**
SHAO	**Shalim**	**3.22**	**357**	P	**Pn**	**03 12 02.0**	**+1.0**
	SNR=36						
SHAO				S	**Sn**	**03 12 36.3**	**-3.2**
ABTO	**Aybut**	**3.49**	**317**	P	**Pn**	**03 12 04.1**	**-0.7**
	SNR=6.9						
ABTO				S	**Sn**	**03 12 43.8**	**-2.4**
WHFO	**Wadi Hawf**	**3.66**	**329**	P	**Pn**	**03 12 08.2**	**+1.1**
	SNR=7.0						
WHFO				S	**Sn**	**03 12 50.5**	**+0.1**
DOK	**Doka**	**4.12**	**338**	P	**Pn**	**03 12 14.4**	**+1.0**
DOK				S	**Sn**	**03 13 02.1**	**+0.4**
DQM	**DQM**	**5.38**	**18**	P	**Pn**	**03 12 31.1**	**+0.4**
BSY	**Bisya**	**8.03**	**9**	P	**Pn**	**03 13 06.2**	**-1.0**
ARQ	**Araqi**	**8.53**	**5**	P	**Pn**	**03 13 15.3**	**+1.2**
ARQ				P	**Pn**	**03 13 15.3**	**+1.2**
WSAR	**Wadi Sarin**	**8.83**	**17**	Pn	**Pn**	**03 13 19.0**	**+0.9**
	0.4nm,0.3s,baz=212,slow=9.1,SNR=2.4						
WSAR				LR	LR	03 16 44.7	
	comp=Z,211nm,18.3s,baz=200,slow=37 3.0nm,0.5s						
SOHO	**SOHO**	**9.32**	**4**	P	**Pn**	**03 13 24.8**	**-0.1**
SOHO				P	**Pn**	**03 13 24.8**	**-0.1**
GHWR	**Ruwais**	**9.53**	**344**	P	**Pn**	**03 13 29.8**	**+2.2**
ASHO	**Ashiyiah**	**9.85**	**2**	P	**Pn**	**03 13 34.6**	**+2.5**
SLWR	**Sila**	**10.00**	**338**	P	**Pn**	**03 13 35.9**	**+1.7**
NAZ	**Nazwa, Dubai**	**10.15**	**359**	P	**Pn**	**03 13 36.7**	**+0.5**
MDH	**Madha**	**10.47**	**3**	P	**Pn**	**03 13 40.5**	**-0.1**
MDH				P	**Pn**	**03 13 40.5**	**-0.1**
JRN	**Qarnain Island**	**10.47**	**345**	P	**Pn**	**03 13 42.5**	**+1.9**
TRNA	**Turayna**	**10.79**	**337**	P	**Pn**	**03 13 45.8**	**+0.9**
BANOM	**Banah**	**11.09**	**2**	P	**Pn**	**03 13 48.0**	**-1.1**

SAKB	**Bahrain**	**12.16**	**337**	P	**Pn**	**03 14 04.8**	**+1.0**
ATD	**Arta Tunnel**	**13.00**	**257**	LR	LR	03 18 04.5	
	comp=Z,4.8nm,20.6s,baz=144,slow=33						
GEYT	**Alibeck**	**23.14**	**5**	P	**P**	**03 16 18.0**	**+1.1**
	1.5nm,0.6s,baz=209,slow=7.7,SNR=2.7						
GEYT				LR	LR	03 25 07.7	
	comp=Z,44nm,20.7s,baz=216,slow=36						
	1.5nm,0.6s						
EIL	**Elat**	**24.25**	**311**	LR	LR	03 26 06.8	
	comp=Z,53nm,19.2s,baz=325,slow=37						
PALK	**Pallekele**	**25.56**	**104**	LR	LR	03 25 34.8	
	comp=Z,66nm,18.4s,baz=331,slow=34						
GNI	**Garni**	**27.05**	**341**	LR	LR	03 28 58.6	
	comp=Z,50nm,20.3s,baz=162,slow=39						
AAK	**Ala-Archa**	**32.09**	**26**	LR	LR	03 32 35.2	
	comp=Z,42nm,18.2s,baz=256,slow=40						
AKTO	**Aktyubinsk**	**35.60**	**2**	LR	LR	03 32 55.2	
	comp=Z,30nm,21.1s,baz=266,slow=36						
MKAR	**Makanchi Array**	**38.83**	**29**	P	**P**	**03 18 37.1**	**+1.5**
	0.3nm,0.6s,baz=219,slow=5.4,SNR=3.6						
MKAR				LR	LR	03 35 56.2	
	comp=Z,50nm,19.9s,baz=225,slow=38						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**39.87**	**14**	P	**P**	**03 18 45.5**	**+1.3**
	0.4nm,0.5s,baz=179,slow=6.9,SNR=2.5						
BVAR				LR	LR	03 36 29.2	
	comp=Z,50nm,18.4s,baz=157,slow=38						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**40.21**	**22**	P	**P**	**03 18 48.5**	**+1.6**
	0.4nm,0.9s,baz=221,slow=7.7,SNR=3.0						
CMAR	**Chiang Mai Arr**	**41.46**	**79**	LR	LR	03 36 44.7	
	comp=Z,19nm,18.3s,baz=30,slow=37						
KIRV	**Kirov**	**43.98**	**355**	LR	LR	03 40 53.2	
	comp=Z,36nm,18.4s,baz=208,slow=40						
ZALV	**Zalesovo Beam**	**45.21**	**24**	P	**P**	**03 19 28.0**	**+0.5**
	0.3nm,0.3s,baz=201,slow=7.7,SNR=1.6						
ZALV				LR	LR	03 40 24.3	
	comp=Z,30nm,18.4s,baz=260,slow=39						
	0.3nm,0.3s						
TSUM	**Tsumeb**	**50.54**	**229**	LR	LR	03 41 33.9	
	comp=Z,62nm,21.7s,baz=160,slow=36						
FINES	**FINESS Array B**	**51.23**	**342**	P	**P**	**03 20 13.8**	**-0.1**
	0.9nm,0.8s,baz=142,slow=9.6,SNR=1.5						
FINES				LR	LR	03 43 59.6	
	comp=Z,42nm,18.4s,baz=232,slow=38						
	0.9nm,0.8s						
NOA	**NORSAR Array B**	**56.15**	**336**	LR	LR	03 47 26.3	
	comp=Z,16nm,19.5s,baz=255,slow=39						
ESDC	**Sonseca Array**	**57.48**	**308**	P	**P**	**03 20 58.5**	**-1.4**
	0.9nm,0.9s,baz=73,slow=7.1,SNR=4.7						
	0.9nm,0.9s						
WRA	**Warramunga Arr**	**84.58**	**112**	P	**P**	**03 23 43.8**	**-0.8**
	0.2nm,0.4s,baz=295,slow=7.6,SNR=2.9						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**85.34**	**116**	P	**P**	**03 23 47.7**	**-0.6**
	0.4nm,0.8s,baz=292,slow=5.3,SNR=1.7						
ASAR				LR	LR	03 58 48.3	
	comp=Z,62nm,18.4s,baz=200,slow=34						
	0.4nm,0.8s						

CATAC ***09*** *03:21:06.4±0.5, 13˚.99N×89˚.63W, h5km±4km, ML2.0*
SNET 09 03:20:49.4±1.1, 13˚.82N×90˚.97W, h35km±999km, ML2.9, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUNB	**GUNB**	**0.98**	**38**	IAML		03 21 28.4	
	comp=Z,210nm,1.0s						
GUNB				*i* P	Sn	03 21 24.3	+4.6
NUBE	**Las Nubes**	**1.16**	**86**	*e*P	Pn	03 21 09.7	+0.5
NUBE	**Las Nubes**	**1.16**	**86**	*i* P	Pn	03 21 09.9	+0.7
NUBE				IAML		03 21 27.2	
	comp=Z,110nm,1.0s						
LOAL	**Lomas de Alarc**	**1.17**	**81**	*i* P	Pn	03 21 10.0	+0.7
LOAL				IAML		03 21 28.2	
	comp=Z,1μm,1.0s						
RTR	**El Retiro**	**1.29**	**86**	*e*S	Sn	03 21 29.0	+1.9
CEVE	**Cerro Verde**	**1.31**	**90**	*e*P	Pn	03 21 11.7	+0.3
CEVE				*e*S	Sn	03 21 29.2	+1.4
CEVE				IAML		03 21 30.4	
	comp=Z,320nm,0.4s						
CEVE	**Cerro Verde**	**1.31**	**90**	*i* P	Pn	03 21 10.7	-0.7
CEVE				IAML		03 21 30.2	
	comp=Z,300nm,1.0s						
SNJE	**San Jose**	**1.32**	**88**	*e*P	Pn	03 21 11.9	+0.3
UNIC	**Universidad Ca**	**1.39**	**83**	*i* P	Pn	03 21 08.8	-3.5
UNIC				IAML		03 21 40.0	
	comp=Z,120nm,1.0s						
JAYA	**Jayaque - finc**	**1.48**	**96**	*e*P	Pn	03 21 13.9	+0.2
JAYA				*e*S	Sn	03 21 32.0	0.0
JAYA				IAML		03 21 34.5	
	comp=Z,97nm,0.2s						
JAYA	**Jayaque - finc**	**1.48**	**96**	*i* P	Pn	03 21 13.8	0.0
JAYA				IAML		03 21 32.5	
	comp=Z,300nm,1.0s						
HUEH	**Huehuetenango**	**1.58**	**341**	*e*S	Sn	03 21 36.1	+1.7
PMON	**Piamonte**	**1.61**	**94**	*i* P	Pn	03 21 14.9	-0.5
PMON				IAML		03 21 16.6	
	comp=Z,110nm,1.0s						
LALI	**Alcalda de L**	**1.64**	**101**	*i* P	Pn	03 21 18.2	+2.5
LALI				IAML		03 21 27.3	
	comp=Z,180nm,1.0s						
SJTE	**Alcalda de S**	**1.92**	**96**	*e*P	Pn	03 21 20.5	+0.9
COEG	**Centro de Oper**	**2.04**	**95**	*i* P	Pn	03 21 21.9	+0.6
COEG				IAML		03 21 28.5	
	comp=Z,280nm,1.0s						
R1628	**Naciones Unida**	**4.93**	**110**	*i* P	Pn	03 22 05.7	+4.7
R1628				IAML		03 22 07.3	
	comp=Z,3μm,1.0s						

IDC ***09*** *03:29:42.2±5.8, 13˚.62N×92˚.11W, h0km, mb3.7/5, mbtmp3.7/7, ML3.4/2, MS3.7/1, Error ellipse: s-maj=103.2km s-min=52.3km az=178.0*
NEIC ***09*** *03:29:42.2±1.8, 13˚.34N±0˚.07×92˚.65W±0˚.03, h10km±2km, mb4.5/19, Md4.2/44(MEX), Error ellipse: s-maj=12.3km s-min=3.1km az=195.0*
MEX ***09*** *03:29:45.5±0.6, 13˚.40N×92˚.66W, h10km±38km, MD4.2*
GCG ***09*** *03:29:48.5±0.3, 13˚.88N×92˚.59W, h87km±18km, MD3.7*
ISC 09 03:29:41.2±1.9, 13˚.38N±0˚.07×92˚.67W±0˚.04, h4km±12km, n56, σ1ş96/75, mb4.4/14, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SULM	**Suchitepequez,**	**1.42**	**49**	*e*P	**Pg**	**03 30 08.9**	**+0.5**
RTAL	**Retalhuleu**	**1.48**	**40**		**Pg**	**03 30 09.1**	**-0.5**
RTAL	**Retalhuleu**	**1.48**	**40**	*e*P	**Pb**	**03 30 08.4**	**-0.9**
RTAL				*e*S	**Sb**	**03 30 26.0**	**-2.5**
THIG		**1.57**	**15**		**Pn**	**03 30 09.8**	**0.0**
THIG				*i* S	**Sn**	**03 30 30.1**	**-1.0**
THIG		**1.57**	**15**	*e*P	**Pn**	**03 30 09.7**	**-0.2**
THIG				*i* S	**Sn**	**03 30 28.5**	**-2.1**
STG3	**Santiaguito 3,**	**1.70**	**39**	*e*P	**Pb**	**03 30 12.2**	**-1.0**
PATR	**El Naranjo**	**1.78**	**14**	*e*P	**Pn**	**03 30 12.3**	**-0.6**
PATR				*i* S	**Sn**	**03 30 34.1**	**-2.1**
CHUJ	**Union Juarez**	**1.79**	**18**	*i* P	**Pn**	**03 30 12.4**	**-0.7**
CHUJ				*i* S	**Sn**	**03 30 34.0**	**-2.5**
SMSP	**San Marcos**	**1.81**	**29**	*e*P	Pn	03 30 07.9	-5.5
SMSP				*i* S	**Sn**	**03 30 33.2**	**-3.7**
PAVE	**Pavencul**	**1.87**	**15**	*i* P	**Pn**	**03 30 13.8**	**-0.3**
PAVE				*i* S	**Sn**	**03 30 36.7**	**-1.6**
FUG	**Fuego 3**	**2.07**	**59**	*e*P	**Pb**	**03 30 18.5**	**-1.0**
FUG				*e*S	**Sn**	**03 30 42.0**	**-1.4**
HUEH	**Huehuetenango**	**2.24**	**30**		**Pb**	**03 30 20.6**	**-1.7**
HUEH	**Huehuetenango**	**2.24**	**30**	*i* P	**Pn**	**03 30 18.9**	**-0.3**
HUEH				*i* S	**Sn**	**03 30 45.4**	**-2.1**
PCIG		**2.37**	**347**		**Pn**	**03 30 21.3**	**+0.4**
PCIG					**Sn**	**03 30 49.1**	**-1.3**
PCIG		**2.37**	**347**	*e*P	**Pn**	**03 30 21.3**	**+0.4**
PCIG				*i* S	**Sn**	**03 30 49.1**	**-1.3**
CCIG	**Comitan**	**2.93**	**10**		**Pn**	**03 30 30.8**	**+2.0**
CCIG	**Comitan**	**2.93**	**10**	*i* P	**Pb**	**03 30 32.1**	**-2.1**
CCIG				*i* S	**Sn**	**03 31 04.9**	**+0.3**
MTO3	**Montecristo**	**3.37**	**72**		**Pn**	**03 30 34.3**	**-0.6**
TGIG		**3.41**	**353**		**Pn**	**03 30 36.8**	**+1.6**
TGIG					**Sn**	**03 31 15.7**	**-0.4**
TGIG		**3.41**	**353**	*e*P	**Pn**	**03 30 36.7**	**+1.6**
TGIG				*i* S	**Sn**	**03 31 15.7**	**-0.4**
HUIG	**Huatulco**	**4.08**	**306**		**Pn**	**03 30 45.2**	**+0.7**
HUIG	**Huatulco**	**4.08**	**306**	*i* P	**Pn**	**03 30 45.2**	**+0.7**
HUIG				*i* S	**Sn**	**03 31 26.7**	**-6.1**
UXUV	**UXUV**	**4.16**	**340**	*e*P	**Pn**	**03 30 48.4**	**+2.8**
UXUV				*i* S	**Sn**	**03 31 34.5**	**-0.3**
CMIG	**Matias Romero**	**4.26**	**330**		**Pn**	**03 30 48.4**	**+1.5**
CMIG					**Sn**	**03 31 37.1**	**0.0**
CMIG	**Matias Romero**	**4.26**	**330**	Pn	**Pn**	**03 30 48.0**	**+1.0**
	1.0nm,0.3s,baz=167,slow=12,SNR=13						
CMIG				Sn	**Sn**	**03 31 29.9**	**-7.3**
	1.5nm,0.3s,baz=111,slow=9.5,SNR=5.5						
	1.9nm,0.3s						
CMIG	**Matias Romero**	**4.26**	**330**	*e*P	**Pn**	**03 30 48.4**	**+1.5**
CMIG				*i* S	**Sn**	**03 31 37.1**	**0.0**
PETF	**Flores**	**4.44**	**37**		**Pn**	**03 30 50.3**	**+0.9**
PEIG	**Puerto Escondi**	**5.05**	**302**		**Pn**	**03 30 58.9**	**+1.0**
PEIG	**Puerto Escondi**	**5.05**	**302**	*i* P	**Pn**	**03 30 58.9**	**+1.0**
PEIG				*i* S	**Sn**	**03 31 49.8**	**-6.9**
NEUV	**Arroyo Zacate**	**5.26**	**325**	*e*P	**Pn**	**03 31 02.5**	**+1.9**
NEUV				*i* S	**Sn**	**03 31 59.1**	**-2.6**
MATN	**Matagalpa**	**6.59**	**93**		**Pn**	**03 31 19.0**	**0.0**
TEIG	**Tepich**	**8.00**	**31**	LR	LR	03 35 01.4	
	comp=Z,541nm,20.5s,slow=42						
TXAR	**Lajitas Array**	**18.87**	**329**	P	**Pn**	**03 34 06.1**	**+3.0**
	baz=148,slow=12,SNR=5.7						
	1.0nm,0.9s						
TULM	**Tulcn-Chalpat**	**19.38**	**129**	P	**P**	**03 34 08.4**	**-0.4**
PLPT	**Palo Pinto**	**20.02**	**346**	P	**P**	**03 34 15.9**	**+0.7**
MNHN	**Monahans**	**20.14**	**334**	P	**P**	**03 34 16.6**	**+0.1**
ABTX	**Abilene, Hawle**	**20.19**	**343**	P	**P**	**03 34 16.5**	**-0.5**
APMT	**Aspermont**	**20.98**	**342**	P	**P**	**03 34 26.7**	**+1.1**
APMT				IAmb	IAmb	03 34 28.9	
	comp=Z,13nm,0.9s						
X48A	**Hartselle**	**21.59**	**13**	P	**P**	**03 34 31.9**	**-0.1**
X48A				IAmb	IAmb	03 34 33.6	
	comp=Z,14nm,1.2s						
SWET	**Sewanee**	**22.58**	**14**	P	**P**	**03 34 42.5**	**-0.2**
SWET				IAmb	IAmb	03 34 43.3	
	comp=Z,10nm,0.8s						
SMWD	**Samnorwood**	**22.69**	**344**	P	**P**	**03 34 43.7**	**-0.2**
SMWD				IAmb	IAmb	03 34 49.0	
	comp=Z,42nm,1.4s						
V48A	**Smith Brothers**	**22.88**	**12**	P	**P**	**03 34 45.1**	**-0.7**
V48A				IAmb	IAmb	03 34 46.2	
	comp=Z,13nm,1.0s						
AMTX	**Amarillo**	**22.91**	**341**	P	**P**	**03 34 46.6**	**+0.3**
AMTX				IAmb	IAmb	03 34 51.0	
	comp=Z,10.0nm,1.0s						
PBMO	**Poplar Bluff**	**23.39**	**5**	P	**P**	**03 34 51.1**	**+0.1**
TKL	**Tuckaleechee C**	**23.59**	**18**	P	**P**	**03 34 52.1**	**-1.0**
TKL				IAmb	IAmb	03 34 54.2	
	comp=Z,21nm,1.3s						
TKL	**Tuckaleechee C**	**23.59**	**18**	P	**P**	**03 34 51.1**	**-2.0**
	comp=Z,8.0nm,0.9s,baz=218,slow=7.9,SNR=4.5						
	comp=Z,8.0nm,0.9s						
U49A	**Red Boiling Sp**	**23.85**	**14**	P	**P**	**03 34 55.0**	**-0.6**
U49A				IAmb	IAmb	03 34 56.1	
	comp=Z,15nm,1.0s						
SIUC	**Southern Illin**	**24.43**	**7**	P	**P**	**03 35 01.1**	**+0.1**
RTBA	**Rita Blanca**	**24.67**	**340**	P	**P**	**03 35 03.8**	**+0.4**
RTBA				IAmb	IAmb	03 35 08.7	
	comp=Z,13nm,1.1s						
WCI	**Wyandotte Cave**	**25.39**	**12**	P	**P**	**03 35 09.7**	**+0.1**
WCI				IAmb	IAmb	03 35 11.0	
	comp=Z,14nm,0.8s						
T25A	**Trinidad**	**25.88**	**338**	P	**P**	**03 35 12.7**	**-1.8**
T25A				IAmb	IAmb	03 35 22.2	
	comp=Z,9.9nm,1.1s						
PDAR	**Pinedale Array**	**32.72**	**337**	P	**P**	**03 36 17.2**	**+2.0**
	comp=Z,0.5nm,0.9s,baz=125,slow=9.5,SNR=3.6						
	comp=Z,0.5nm,0.9s						
REDW	**Red Top Meadow**	**33.73**	**336**	P	**P**	**03 36 24.8**	**+0.8**
NVAR	**Mina Array Bea**	**33.75**	**322**	P	**P**	**03 36 27.8**	**+3.5**
	comp=Z,0.7nm,0.8s,baz=135,slow=9.0,SNR=4.7						
	comp=Z,0.7nm,0.8s						
YKA	**Yellowknife Ar**	**51.48**	**347**	P	**P**	**03 38 48.2**	**+0.7**
	comp=Z,1.6nm,0.9s,baz=144,slow=7.8,SNR=22						
	comp=Z,1.6nm,0.9s						
ILAR	**Eielson Array**	**63.15**	**337**	P	**P**	**03 40 11.0**	**+1.0**
	comp=Z,0.7nm,1.0s,baz=123,slow=5.5,SNR=4.9						
	comp=Z,0.7nm,1.0s						

IDC 09 03:40:43.6±2.0, 5˚.85S×142˚.21E, h0km, mb3.5/2, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=105.7km s-min=32.7km az=108.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.96**	**208**	Pn	Pn	03 44 27.8	-1.9
	0.1nm,0.3s,baz=31,slow=13,SNR=6.7						
WRA				Sn	Sn	03 47 12.4	-15
	0.1nm,0.3s,baz=27,slow=22,SNR=2.0						
WRA				Lg	Lg	03 49 02.0	
	baz=33,slow=27,SNR=1.7						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**19.43**	**203**	P	Pn	03 45 12.5	-0.4
	0.2nm,0.3s,baz=29,slow=10,SNR=11						
	1.0nm,0.6s						
BVAR	**Borovoye Array**	**83.87**	**325**	P	P	03 53 15.7	+0.4
	0.3nm,0.5s,baz=93,slow=5.8,SNR=1.4						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**87.25**	**24**	P	P	03 53 31.4	-0.4
	0.3nm,0.9s,baz=252,slow=5.3,SNR=1.6						
	0.3nm,0.9s						

IDC 09 03:48:11.0±2.7, 4˚.12S×153˚.19E, h0km, mb3.7/4, mbtmp3.8/5, ML4.0/1, Error ellipse: s-maj=87.0km s-min=34.1km az=101.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**17.25**	**202**	P	Pn	03 52 12.6	-1.0
	0.3nm,0.3s,baz=23,slow=7.7,SNR=1.7						
	4.2nm,0.7s						
WRA	**Warramunga Arr**	**24.18**	**228**	P	P	03 53 29.9	+0.5
	2.0nm,0.6s,baz=53,slow=9.9,SNR=22						
WRA				PcP	PcP	03 57 10.3	-0.1
	0.2nm,0.7s,baz=50,slow=2.4,SNR=1.4						
	2.0nm,0.6s						
ASAR	**Alice Springs**	**26.91**	**222**	P	P	03 53 54.3	+0.2
	0.3nm,0.7s,baz=57,slow=8.7,SNR=1.3						
	0.3nm,0.7s						
STKA	**Stephens Creek**	**29.68**	**200**	P	P	03 54 18.5	-0.2
	0.5nm,0.3s,baz=29,slow=17,SNR=3.1						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**80.07**	**319**	P	P	04 00 22.3	-0.4
	0.5nm,0.9s,baz=102,slow=6.1,SNR=2.6						
	0.5nm,0.9s						

ISN ***09*** *03:50:28.7±0.9, 36˚.04N×45˚.87E, h10km±667km, ML3.2*
TEH ***09*** *03:50:31.0, 36˚.08N×45˚.80E, h6km±48km, ML3.1*
ISC 09 03:50:32.2±1.1, 36˚.08N±0˚.04×45˚.76E±0˚.07, h10km, n12, σ1ş09/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDS1	**Sardasht. Az.**	**0.23**	**287**	Pg	**Pg**	**03 50 36.3**	**-0.7**
SDS1				Sg	**Sg**	**03 50 42.0**	**+1.8**
MAHB	**Mahabad**	**0.69**	**357**	Pg	**Pg**	**03 50 43.9**	**-1.5**
IAZR	**Azarshahr**	**1.60**	**6**	Pg	**Pn**	**03 51 01.2**	**+0.4**
IHSH	**Hashtrud**	**1.72**	**44**	Pg	**Pn**	**03 51 02.4**	**-0.1**
IGHG	**Ghaleghazi**	**1.87**	**159**	Pn	**Pn**	**03 51 05.2**	**+0.7**
KCHF	**Cheshme Sefid,**	**2.09**	**149**	Pn	**Pn**	**03 51 08.4**	**+1.0**
ISRB	**Sarab**	**2.32**	**41**	Pn	**Pn**	**03 51 12.0**	**+1.4**
ILBA	**Ilam Banvizeh**	**2.48**	**171**	Pn	**Pn**	**03 51 13.7**	**+1.0**
IBDR	**Badra**	**2.97**	**177**	*e*Pn	**Pn**	**03 51 18.0**	**-1.3**
IBDR				*e*Sn	**Sn**	**03 51 54.5**	**-0.5**
BHD	**Baghdad**	**3.02**	**202**	*e*Pn	**Pn**	**03 51 20.0**	**-0.1**
BHD				*e*Sn	**Sn**	**03 51 57.0**	**+0.6**
IKFM	**Kafar-mosalman**	**3.08**	**145**	Pn	**Pn**	**03 51 22.2**	**+1.4**
RAFI	**Al-Rafai**	**4.36**	**176**	*e*Pn	**Pn**	**03 51 38.0**	**-0.4**
RAFI				*e*Sn	**Sn**	**03 52 28.5**	**-0.8**

IDC ***09*** *04:01:57.9±0.9, 6˚.74N×72˚.95W, h157km±14km, mb2.7/2, mbtmp3.5/4, Error ellipse: s-maj=49.3km s-min=7.9km az=132.0*
RSNC ***09*** *04:02:00.9±0.0, 7˚N±1˚×73˚W±˚, h145km±2km, mB5.3, mb3.9, ML3.1, Mw(mB)4.8*
ISC 09 04:01:57.9±0.9, 6˚.84N±0˚.03×73˚.11W±0˚.04, h159km±6km, n38, σ1ş63/71, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**197**	P	**Pn**	**04 02 19.7**	**0.0**
BARC				S	**Sn**	**04 02 35.1**	**-1.2**
PAMC	**Pamplona, Colo**	**0.64**	**39**	P	**Pn**	**04 02 22.6**	**+1.0**
PAMC				S	**Sn**	**04 02 39.8**	**+0.1**
PAMC				S	**Sn**	**04 02 39.8**	**+0.1**
RUSC	**La Rusia**	**0.94**	**179**	P	**Pn**	**04 02 23.7**	**+0.1**
RUSC				S	**Sn**	**04 02 42.6**	**-0.7**
PTBC	**PUERTO BERRIO,**	**1.37**	**258**	P	**Pn**	**04 02 26.0**	**-0.9**
PTBC				S	**Sn**	**04 02 47.8**	**-1.3**
OCAC	**Ocana**	**1.41**	**351**	P	**Pn**	**04 02 27.8**	**+0.3**
OCAC				S	**Sn**	**04 02 49.7**	**-0.5**
SPBC	**San Pablo de B**	**1.52**	**219**	P	**Pn**	**04 02 28.4**	**-0.1**
SPBC				S	**Sn**	**04 02 50.7**	**-1.2**
NORC	**Norcasia**	**2.16**	**234**	P	**Pn**	**04 02 35.5**	**0.0**
NORC				S	**Sn**	**04 03 04.3**	**-0.2**
ROSC	**El Rosal**	**2.32**	**211**	P	**Pn**	**04 02 39.7**	**+1.9**
	123nm,0.3s,baz=84,slow=18,SNR=155						
ROSC				S	**Sn**	**04 03 08.3**	**-0.1**
	186nm,0.3s,baz=74,slow=20,SNR=7.6						
ROSC	**El Rosal**	**2.32**	**211**	P	**Pn**	**04 02 39.5**	**+1.7**
ROSC				S	**Sn**	**04 03 06.2**	**-2.2**
HELC	**Santa Helena**	**2.49**	**255**	P	**Pn**	**04 02 40.8**	**+1.1**
HELC				S	**Sn**	**04 03 12.5**	**+0.5**
GUY2C	**Guyana, Caldas**	**2.76**	**235**	P	**Pn**	**04 02 44.2**	**+1.1**
GUY2C				S	**Sn**	**04 03 18.9**	**+0.9**
VILC	**Villavicencio,**	**2.77**	**192**	P	**Pn**	**04 02 43.1**	**+0.2**
VILC				S	**Sn**	**04 03 17.3**	**-0.5**
PTGC	**Puerto Gaitan,**	**2.79**	**160**	P	**Pn**	**04 02 42.9**	**-0.2**
PTGC				S	**Sn**	**04 03 16.0**	**-2.1**
LL6C	**La Loma 6 Bece**	**2.89**	**357**	P	**Pn**	**04 02 44.0**	**-0.3**
LL6C				S	**Sn**	**04 03 20.1**	**-0.1**
CBOC	**Ciudad Bolivar**	**3.04**	**252**	P	**Pn**	**04 02 47.7**	**+1.3**
CBOC				S	**Sn**	**04 03 23.7**	**-0.2**
DBBC	**Dabeiba**	**3.09**	**274**	P	**Pn**	**04 02 47.1**	**+0.3**
DBBC				S	**Sn**	**04 03 22.6**	**-2.1**
SDV	**Santo Domingo**	**3.19**	**50**	P	**Pn**	**04 02 49.2**	**+1.0**
	20nm,0.3s,baz=231,slow=1.5,SNR=7.0						
SDV				S	**Sn**	**04 03 25.8**	**-1.4**
	75nm,0.4s,baz=252,slow=20,SNR=33						
ARGC	**Ariguani, Magd**	**3.21**	**340**	P	**Pn**	**04 02 50.0**	**+1.7**
ARGC				S	**Sn**	**04 03 28.6**	**+1.2**
ORTC	**Ortega, Tolima**	**3.60**	**216**	P	**Pn**	**04 02 53.8**	**+0.4**
ORTC				S	**Sn**	**04 03 37.2**	**+0.7**
APAC	**Apartado, Choc**	**3.60**	**287**	P	**Pn**	**04 02 53.3**	**0.0**
APAC				S	**Sn**	**04 03 34.7**	**-1.7**
SJCC	**San Jacinto, C**	**3.67**	**326**	P	**Pn**	**04 02 53.4**	**-0.8**
SJCC				S	**Sn**	**04 03 35.0**	**-3.0**
PLMC	**San Jos del P**	**3.70**	**239**	P	**Pn**	**04 02 55.1**	**+0.5**
PLMC				S	**Sn**	**04 03 39.2**	**+0.6**
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	P	**Pn**	**04 03 00.1**	**-0.6**
CRJC				S	**Sn**	**04 03 47.3**	**-2.3**
YOTC	**Yotoco, Valle**	**4.29**	**229**	P	**Pn**	**04 03 02.1**	**-0.3**
YOTC				S	**Sn**	**04 03 52.1**	**-0.5**
CAPC	**Capurgana**	**4.57**	**293**	P	**Pn**	**04 03 05.4**	**-0.5**
CAPC				S	**Sn**	**04 03 54.0**	**-4.9**
PIZC	**Pizarro, Choco**	**4.62**	**247**	P	**Pn**	**04 03 08.2**	**+1.7**
MACC	**Macarena, Meta**	**4.72**	**189**	P	**Pn**	**04 03 06.8**	**-1.1**
MACC				S	**Sn**	**04 03 58.8**	**-3.7**
JAMC	**Jamundi, Valle**	**5.05**	**225**	P	**Pn**	**04 03 13.0**	**+0.5**
	9.7nm,0.4s,1μm						
JAMC				S	**Sn**	**04 04 11.0**	**+0.3**
	9.7nm,0.4s,1μm						
MALC	**Bahia Malaga**	**5.06**	**237**	P	**Pn**	**04 03 14.1**	**+1.8**
MALC				S	**Sn**	**04 04 11.6**	**+1.2**
UPD2	**Meteti**	**5.15**	**290**	P	**Pn**	**04 03 12.5**	**-1.1**
	49nm,2.5s						
UPD2				S	**Sn**	**04 04 09.9**	**-2.8**
	49nm,2.5s						
GARC	**Garzon, Huila**	**5.19**	**207**	P	**Pn**	**04 03 14.1**	**-0.2**
GARC				S	**Sn**	**04 04 06.7**	**-7.3**
POPC	**Popayan, Colom**	**5.55**	**220**	P	**Pn**	**04 03 19.7**	**+0.6**
	9.8nm,0.7s						
POPC				S	**Sn**	**04 04 21.2**	**-1.4**
	9.8nm,0.7s						
FLOC	**Florencia**	**5.80**	**206**	P	**Pn**	**04 03 22.0**	**-0.2**
	18nm,1.0s						
FLOC				S	**Sn**	**04 04 27.9**	**-0.3**
	18nm,1.0s						
BBAC	**Balboa, Cauca**	**6.32**	**221**	P	**Pn**	**04 03 30.5**	**+1.3**
GR1C	**Gorgona, Isla**	**6.32**	**233**	P	**Pn**	**04 03 28.8**	**-0.2**
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	**04 08 49.4**	**+1.5**
	0.2nm,0.4s,baz=126,slow=8.8,SNR=2.7						
	0.2nm,0.4s						
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**04 12 10.2**	**+0.9**
	0.1nm,0.6s,baz=130,slow=6.5,SNR=4.3						
	0.1nm,0.6s						
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc	**PKiKP**	**04 21 31.3**	**-0.9**
	0.2nm,0.

NACB	**Ninganchiao**	**0.99**	**279**	*eP*	**Pn**	**04 21 07.2**	**-1.0**
	baz=280							
IRIF	**Iriomote-Funau**	**1.02**	**72**	P	**Pn**	**04 21 08.0**	**-0.5**
IRIF				*eS*	**Sn**	**04 21 21.9**	**+0.3**
HATJ	**Hateruma jima**	**1.04**	**88**	P	**Pn**	**04 21 08.9**	**+0.1**
HATJ				*eS*	**Sn**	**04 21 24.7**	**+2.6**
SHUL	**Shoufeng**	**1.04**	**257**	*eS*	**Sn**	**04 21 22.0**	**-0.2**
	baz=258							
ETM	**Tongmen**	**1.08**	**267**	*eP*	**Pn**	**04 21 08.2**	**-1.1**
	baz=268							
ETM				*eS*	**Sn**	**04 21 21.6**	**-1.5**
	baz=268							
ETLH	**Xiulin Townshi**	**1.10**	**280**	*eP*	**Pn**	**04 21 08.8**	**-0.9**
	baz=281							
LXIB	**Xiulin Townshi**	**1.15**	**270**	*eP*	**Pn**	**04 21 09.7**	**-0.8**
	baz=271							
ESL	**Shilin**	**1.15**	**260**	*eS*	**Sn**	**04 21 24.0**	**-0.9**
	baz=260							
TWE	**Neicheng**	**1.15**	**308**	P	**Pn**	**04 21 10.2**	**-0.2**
	baz=309							
TWE				*eS*	**Sn**	**04 21 27.1**	**+2.2**
	baz=309							
LATG	**Datong**	**1.16**	**296**	*eP*	**Pn**	**04 21 10.3**	**-0.4**
	baz=298							
TWB1	**Santiao Chiao**	**1.16**	**328**	*eP*	**Pn**	**04 21 10.2**	**-0.4**
	baz=329							
TWB1				*eS*	**Sn**	**04 21 24.5**	**-0.7**
	baz=329							
ENTT	**Nioudou**	**1.18**	**302**	*eP*	**Pn**	**04 21 10.8**	**0.0**
	baz=303							
WARBT	**Fenglin Townsh**	**1.21**	**256**	*eP*	**Pn**	**04 21 09.9**	**-1.4**
	baz=256							
TIPB	**Shuangxi**	**1.22**	**321**	*eP*	**Pn**	**04 21 11.0**	**-0.4**
	baz=322							
TIPB				*eS*	**Sn**	**04 21 26.6**	**-0.2**
	baz=322							
FUSB	**Fushanzhiwuyua**	**1.23**	**307**	*eP*	**Pn**	**04 21 11.7**	**+0.1**
	baz=308							
JKRS	**Kuro-shima**	**1.24**	**80**	P	**Pn**	**04 21 12.3**	**+0.7**
JKRS				*eS*	**Sn**	**04 21 28.8**	**+1.7**
NNSB	**Datong**	**1.24**	**289**	*eP*	**Pn**	**04 21 11.5**	**-0.2**
	baz=290							
HGSD	**Ruisui**	**1.26**	**246**	*eP*	**Pn**	**04 21 10.9**	**-1.0**
	baz=246							
WHF	**Hehuan Shan**	**1.29**	**276**	*eP*	**Pn**	**04 21 12.0**	**-0.7**
	baz=276							
SXI1	**Grass Mountain**	**1.29**	**326**	P	**Pn**	**04 21 12.0**	**-0.4**
	baz=327							
SXI1				*eS*	**Sn**	**04 21 27.1**	**-1.5**
	baz=327							
NWLT	**Wulai**	**1.30**	**306**	*eP*	**Pn**	**04 21 12.7**	**+0.2**
	baz=307							
NWLT				*eS*	**Sn**	**04 21 28.6**	**-0.1**
	baz=307							
FUSS	**Fushou**	**1.32**	**280**	*eP*	**Pn**	**04 21 12.7**	**-0.2**
	baz=281							
EHY	**Hungye**	**1.34**	**248**	*eP*	**Pn**	**04 21 12.0**	**-0.9**
	baz=248							
EHY				*eS*	**Sn**	**04 21 28.4**	**-1.1**
	baz=248							
YHNB	**Yeheng**	**1.35**	**299**	*eP*	**Pn**	**04 21 13.0**	**-0.1**
	baz=300							
NSK	**Sanguang**	**1.36**	**299**	P	**Pn**	**04 21 13.1**	**-0.3**
	baz=300							
CHGB	**Renai**	**1.37**	**272**	*eP*	**Pn**	**04 21 13.2**	**-0.4**
	baz=273							
CHGB				*eS*	**Sn**	**04 21 30.4**	**-0.2**
	baz=273							
OWD	**Renai**	**1.37**	**268**	*eP*	**Pn**	**04 21 13.1**	**-0.4**
	baz=268							
TWT	**Tachien**	**1.39**	**280**	*eP*	**Pn**	**04 21 14.0**	**+0.2**
	baz=280							
JIJ	**Ishigaki jima**	**1.39**	**75**	P	**Pn**	**04 21 13.3**	**-0.3**
JIJ				*eS*	**Sn**	**04 21 30.0**	**-0.7**
TDCB	**Techi**	**1.40**	**280**	*eP*	**Pn**	**04 21 14.0**	**+0.1**
	baz=280							
YULB	**Yu-li**	**1.40**	**244**	*eP*	**Pn**	**04 21 13.1**	**-0.8**
	baz=244							
YULB				*eS*	**Sn**	**04 21 30.3**	**-0.9**
	baz=244							
WUSB	**Renai**	**1.42**	**269**	*eP*	**Pn**	**04 21 13.9**	**-0.3**
	baz=270							
TWF1	**Yuli**	**1.42**	**242**	*eP*	**Pn**	**04 21 13.7**	**-0.5**
	baz=242							
VWDT	**VWDT**	**1.42**	**260**	*eP*	**Pn**	**04 21 14.1**	**0.0**
	baz=260							
VWDT				*eS*	**Sn**	**04 21 31.6**	**0.0**
	baz=260							
NFF	**Wufeng Townshi**	**1.54**	**294**	*eP*	**Pn**	**04 21 16.8**	**+0.9**
	baz=294							
SSLB	**Suanglung**	**1.59**	**262**	*eP*	**Pn**	**04 21 16.3**	**-0.1**
	baz=262							
WHP	**Taichung City**	**1.60**	**280**	*eP*	**Pn**	**04 21 18.7**	**+2.1**
	baz=280							
JISG	**Ishigakijimahi**	**1.60**	**69**	P	**Pn**	**04 21 16.0**	**-0.5**
JISG				*eS*	**Sn**	**04 21 34.6**	**-1.4**
LIOB	**Emei**	**1.63**	**293**	*eP*	**Pn**	**04 21 18.2**	**+1.2**
	baz=293							
NSTT	**Nanjuang**	**1.64**	**292**	*eP*	**Pn**	**04 21 17.9**	**+0.8**
	baz=293							
NSTT				*eS*	**Sn**	**04 21 39.4**	**+2.4**
	baz=293							
TWQ1	**Liyutan**	**1.76**	**281**	*eP*	**Pn**	**04 21 19.9**	**+1.1**
	baz=281							
ALS	**Alishan**	**1.78**	**254**	*eP*	**Pn**	**04 21 19.9**	**+0.6**
	baz=254							
ALS				*eS*	**Sn**	**04 21 40.7**	**-0.2**
	baz=254							
WJS	**Zhushan**	**1.79**	**264**	*eP*	**Pn**	**04 21 21.3**	**+2.2**
	baz=264							
WNT	**Mingjian**	**1.82**	**266**	*eP*	**Pn**	**04 21 21.4**	**+1.8**
	baz=266							
JTJ	**Tarama**	**1.95**	**71**	P	**Pn**	**04 21 21.6**	**+0.2**
JTJ				*eS*	**Sn**	**04 21 45.6**	**+0.9**

*IDC **09** 04:29:30.0±2.9, 31°.09N×79°.54E, h0km, mb3.4/5, mbtmp3.3/6, ML2.9/1, MS2.7/1, Error ellipse: s-maj=104.3km s-min=23.2km az=66.0*

ISC 09 04:29:35.2±2.6, 31°.2N±0°.2×79°.7E±0°.5, h35km, n7, σ1$12/6, mb3.3/5, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
AAK	**Ala-Archa**	**12.13**	**342**	LR		LR	LR	04 38 08.2	
	comp=Z,30nm,18.9s,baz=256,slow=42								
MKAR	**Makanchi Array**	**15.71**	**7**	Pn		**Pn**	**Pn**	**04 33 13.3**	**-0.4**
	baz=182,slow=13,SNR=2.3								
	0.1nm,0.4s								
CMAR	**Chiang Mai Arr**	**21.58**	**121**	P		**P**	**P**	**04 34 21.1**	**-0.8**
	1.0nm,0.3s,baz=312,slow=11,SNR=5.6								
	1.0nm,0.3s								
BVAR	**Borovoye Array**	**22.83**	**345**	P		**P**	**P**	**04 34 34.6**	**-0.4**
	0.2nm,0.4s,baz=146,slow=10,SNR=3.6								
	0.2nm,0.4s								
ZALV	**Zalesovo Beam**	**23.04**	**8**	P		**P**	**P**	**04 34 37.9**	**+0.8**
	0.3nm,0.3s,baz=189,slow=8.3,SNR=2.5								
	0.3nm,0.3s								
WRA	**Warramunga Arr**	**73.08**	**127**	P		**P**	**P**	**04 41 03.4**	**+1.4**
	0.3nm,0.5s,baz=320,slow=6.3,SNR=5.3								
	0.3nm,0.5s								
ASAR	**Alice Springs**	**75.33**	**130**	P		**P**	**P**	**04 41 14.7**	**-0.4**
	0.1nm,0.4s,baz=321,slow=7.2,SNR=1.7								
	0.1nm,0.4s								

*BER **09** 04:35:13.4±3.2, 71°.67N×2°.61W, h10km, mb(Pn)4.1, ML3.2(NAO), Confirmed Earthquake*
*NAO **09** 04:35:14.8±4.9, 71°.70N×1°.39W, ML3.2*

ISC 09 04:35:10.8±1.1, 71°.7N±0°.1×2°.66W±0°.09, h10km, n30, σ2$06/32, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
DBG	**Daneborg**	**5.76**	**305**	*eP*		**Pn**	**Pn**	**04 36 36.9**	**+0.7**
DBG				*eS*		**Sn**	**Sn**	**04 37 36.7**	**-5.5**
LOF	**Lofoten**	**6.62**	**115**	Pn		**Pn**	**Pn**	**04 36 48.5**	**+0.6**
LOF				Sn		**Sn**	**Sn**	**04 37 57.3**	**-6.0**
LOF	**Lofoten**	**6.62**	**115**	*eP*		**Pn**	**Pn**	**04 36 48.0**	**0.0**
LOF				IAML				04 37 53.0	
	comp=Z,3.6nm,0.9s								
LOF				*eS*		Sn	Sn	04 37 54.9	-8.4
BJO1	**Bjornoya**	**6.88**	**56**	Pn		**Pn**	**Pn**	**04 36 51.8**	**+0.2**
BJO1	**Bjornoya**	**6.88**	**56**	*eP*		**Pn**	**Pn**	**04 36 51.6**	**0.0**
HSPB	**Hornsund (broa**	**7.21**	**34**	Pn		**Pn**	**Pn**	**04 36 57.4**	**+1.4**
HSPB	**Hornsund (broa**	**7.21**	**34**	*eP*		**Pn**	**Pn**	**04 36 57.3**	**+1.2**
STEI	**Steigen**	**7.24**	**113**	*eP*		**Pn**	**Pn**	**04 36 56.9**	**+0.5**
STEI				*eS*		Sn	Sn	04 38 10.8	-7.7
STEI				IAML				04 38 13.8	
	comp=Z,4.0nm,0.5s								
TRO	**Tromso**	**7.44**	**96**	Pn		**Pn**	**Pn**	**04 36 58.2**	**-1.0**
TRO	**Tromso**	**7.44**	**96**	*eP*		**Pn**	**Pn**	**04 36 58.1**	**-1.1**
TRO				IAML				04 38 23.0	
	comp=Z,1.7nm,0.8s								
FAUS	**Fauske**	**7.61**	**116**	*eP*		**Pn**	**Pn**	**04 37 01.6**	**0.0**
FAUS				*eS*		Sn	Sn	04 38 19.2	-8.5
FAUS				IAML				04 38 26.9	
	comp=Z,2.1nm,0.8s								
KONS	**Konsvik**	**7.66**	**125**	*eP*		**Pn**	**Pn**	**04 37 02.1**	**-0.2**
KONS				*eS*		Sn	Sn	04 38 20.4	-8.6
KONS				IAML				04 38 26.0	
	comp=Z,2.9nm,1.1s								
STOK	**Stokkvaagen**	**7.77**	**126**	*eP*		**Pn**	**Pn**	**04 37 03.8**	**+0.1**
STOK				*eS*		Sn	Sn	04 38 22.6	-8.9
STOK				IAML				04 38 29.6	
	comp=Z,3.5nm,0.7s								
JETT	**Jettan, Norway**	**7.94**	**95**	Pn		**Pn**	**Pn**	**04 37 05.7**	**-0.4**
JETT	**Jettan, Norway**	**7.94**	**95**	Pn		**Pn**	**Pn**	**04 37 05.7**	**-0.4**
SPA0	**Spitsbergen Ar**	**8.12**	**28**	Pn		**Pn**	**Pn**	**04 37 11.1**	**+2.6**
	baz=204,slow=16								
SPA0	**Spitsbergen Ar**	**8.12**	**28**	Pn		**Pn**	**Pn**	**04 37 11.1**	**+2.6**
	baz=204,slow=16								
KIF	**Kilpisjarvi**	**8.32**	**98**	Pn		**Pn**	**Pn**	**04 37 11.3**	**0.0**
KIF	**Kilpisjarvi**	**8.32**	**98**	Pn		**Pn**	**Pn**	**04 37 11.3**	**0.0**
SALU	**Saltoluokta**	**8.55**	**110**	*eP*		**Pn**	**Pn**	**04 37 14.1**	**-0.4**
SALU				*eS*		Sn	Sn	04 38 41.9	-9.0
HOPEN	**Hopen**	**8.90**	**45**	Pn		**Pn**	**Pn**	**04 37 21.3**	**+2.1**
KTK1	**Kautokeino**	**9.09**	**95**	*eP*		**Pn**	**Pn**	**04 37 20.3**	**-1.5**
ARA0	**ARCESS Array S**	**9.56**	**89**	Pn		**Pn**	**Pn**	**04 37 28.0**	**-0.2**
	baz=294,slow=12								
ARA0	**ARCESS Array S**	**9.56**	**89**	Pn		**Pn**	**Pn**	**04 37 28.0**	**-0.2**
	baz=294,slow=12								
AKN	**Aaknes**	**10.26**	**154**	Pn		**Pn**	**Pn**	**04 37 41.1**	**+3.2**
AKN	**Aaknes**	**10.26**	**154**	Pn		**Pn**	**Pn**	**04 37 41.1**	**+3.2**
HFS	**Hagfors**	**13.32**	**142**	Pn		**Pn**	**Pn**	**04 38 21.8**	**+2.2**
	baz=338,slow=11								
HFS	**Hagfors**	**13.32**	**142**	Pn		**Pn**	**Pn**	**04 38 21.8**	**+2.2**
	baz=338,slow=11								
FIA0	**FINESS Array S**	**15.16**	**118**	P		**Pn**	**Pn**	**04 38 45.0**	**+0.3**
	baz=328,slow=14								
FIA0	**FINESS Array S**	**15.16**	**118**	P		**Pn**	**Pn**	**04 38 45.0**	**+0.3**
	baz=328,slow=14								

IDC 09 04:37:47.1±3.5, 6°.19S×141°.99E, h0km, mb3.7/1, mbtmp3.8/3, ML3.8/2, Error ellipse: s-maj=107.6km s-min=26.9km az=101.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**15.56**	**208**	Pn		Pn	Pn	04 41 26.9	-1.0
	0.3nm,0.3s,baz=29,slow=13,SNR=19								
WRA				Sn		Sn	Sn	04 44 14.3	-6.9
	0.2nm,0.3s,baz=28,slow=26,SNR=2.1								
WRA				Lg		Lg	Lg	04 46 01.2	
	baz=31,slow=30								
	0.6nm,0.5s								
ASAR	**Alice Springs**	**19.03**	**203**	P		Pn	Pn	04 42 11.6	0.0
	0.5nm,0.3s,baz=35,slow=10.0,SNR=72								
ASAR				S		Sn	Sn	04 45 38.5	-7.1
	0.5nm,0.8s,baz=14,slow=29,SNR=2.2								
ASAR				Lg		Lg	Lg	04 47 51.7	
	baz=20,slow=30,SNR=1.4								
	5.3nm,0.7s								
MKAR	**Makanchi Array**	**74.53**	**322**	P		P	P	04 49 27.7	-0.1
	0.3nm,0.5s,baz=109,slow=7.2,SNR=4.3								
	0.3nm,0.5s								

*TRN **09** 04:39:26.3, 10°.97N×62°.47W, h76km, MD3.8, North of Paria peninsula.*
*FUNV **09** 04:39:26.6, 10°.80N×62°.30W, h26km, MW3.7*
*IDC **09** 04:39:28.2±3.1, 11°.00N×62°.52W, h112km±44km, mb3.5/6, mbtmp3.9/8, Error ellipse: s-maj=81.6km s-min=29.3km az=176.0*

ISC 09 04:39:25.3±0.8, 10°.88N±0°.04×62°.44W±0°.04, h92km±7km, n35, σ1$84/59, mb3.8/6, 1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
TCE	**Chacachacare**	**0.70**	**105**	*eP*		**Pn**	**Pn**	**04 39 42.6**	**+0.7**
TCE				*eS*		**Sn**	**Sn**	**04 39 53.8**	**-0.6**
CRUV	**Carupano**	**0.81**	**255**	*iP*		**Pn**	**Pn**	**04 39 44.4**	**+1.4**
CRUV				*eS*		**Sn**	**Sn**	**04 39 55.8**	**-0.5**
TRN	**Trinidad (W)**	**1.04**	**103**	*eP*		**Pn**	**Pn**	**04 39 45.1**	**-0.4**
TRN				*eS*		**Sn**	**Sn**	**04 39 57.8**	**-3.0**
TPP	**Pointe-a-Pierr**	**1.12**	**120**	*eP*		**Pn**	**Pn**	**04 39 47.8**	**+1.3**
TPP				*eS*		**Sn**	**Sn**	**04 40 03.6**	**+1.3**
GRFF	**Grenada Fort F**	**1.35**	**31**	*eP*		**Pn**	**Pn**	**04 39 48.5**	**-0.7**
GRFF				*eS*		**Sn**	**Sn**	**04 40 05.5**	**-1.8**
TBH	**Brigand Hill**	**1.40**	**106**	*eP*		**Pn**	**Pn**	**04 39 50.6**	**+0.7**
TBH				*eS*		**Sn**	**Sn**	**04 40 09.9**	**+1.4**
GRGR	**Grenville**	**1.46**	**32**	*eP*		**Pn**	**Pn**	**04 39 50.1**	**-0.5**
GRGR				*eS*		**Sn**	**Sn**	**04 40 08.4**	**-1.4**
GRHS	**Sauteurs**	**1.55**	**30**	*eP*		**Pn**	**Pn**	**04 39 51.4**	**-0.3**
GRHS				*eS*		**Sn**	**Sn**	**04 40 09.9**	**-1.8**
CUMV	**Cumana_UDO**	**1.78**	**255**	*eP*		**Pn**	**Pn**	**04 39 57.5**	**+2.8**
GCMP	**Grenada, Carri**	**1.88**	**32**	*eP*		**Pn**	**Pn**	**04 39 55.8**	**-0.2**
GCMP				*eS*		**Sn**	**Sn**	**04 40 18.1**	**-1.2**
PCRV	**Puerto La Cruz**	**2.27**	**252**	*eP*		**Pn**	**Pn**	**04 40 03.5**	**+2.3**
PCRV				*eS*		**Sn**	**Sn**	**04 40 28.8**	**+0.1**
PCRV	**Puerto La Cruz**	**2.27**	**252**	P		**Pn**	**Pn**	**04 40 03.7**	**+2.6**
	44nm,0.3s,baz=63,slow=5.4,SNR=154								
PCRV				S			**Sn**	**04 40 31.7**	**+3.0**
	89nm,0.6s,baz=151,slow=19,SNR=19								
SVOC	**Richmond Hill,**	**2.55**	**28**	*eP*		**Pn**	**Pn**	**04 40 05.0**	**+0.1**
SVOC				*eS*		**Sn**	**Sn**	**04 40 34.0**	**-1.2**
SVT	**Saint Vincent**	**2.56**	**27**	*eP*		**Pn**	**Pn**	**04 40 04.4**	**-0.5**
SVT				*eS*		**Sn**	**Sn**	**04 40 33.1**	**-2.2**
SVB	**Belmont**	**2.64**	**26**	*eP*		**Pn**	**Pn**	**04 40 08.8**	**+2.7**
SVB				*eS*		**Sn**	**Sn**	**04 40 36.4**	**-1.0**
SLBI	**Saint Lucia, B**	**3.43**	**24**	*eP*		**Pn**	**Pn**	**04 40 16.4**	**-0.3**
SLBI				*eS*		**Sn**	**Sn**	**04 40 53.6**	**-2.8**
BBGH	**Gun Hill**	**3.60**	**51**	*eP*		**Pn**	**Pn**	**04 40 19.9**	**+0.9**
BBGH				*eS*		**Sn**	**Sn**	**04 40 59.4**	**-1.1**
BIM	**Bigot**	**3.85**	**20**	*eP*		**Pn**	**Pn**	**04 40 22.3**	**-0.1**
MPOM	**Morne Pois Mar**	**3.86**	**23**	*eP*		**Pn**	**Pn**	**04 40 22.0**	**-0.5**
MPOM				*eS*		**Sn**	**Sn**	**04 41 03.8**	**-3.0**
TACV	**Tcata**	**4.57**	**261**	*eP*		**Pn**	**Pn**	**04 40 34.7**	**+2.5**
TACV				*eS*		**Sn**	**Sn**	**04 41 25.1**	**+0.9**
LUEV	**Luepa**	**5.10**	**169**	*eP*		**Pn**	**Pn**	**04 40 38.1**	**-1.4**
LUEV				*eS*		**Sn**	**Sn**	**04 41 31.9**	**-5.3**
BENV	**Beln**	**5.16**	**260**	*eP*		**Pn**	**Pn**	**04 40 42.5**	**+2.4**
BENV				*eS*		**Sn**	**Sn**	**04 41 37.9**	**-0.6**
CACV	**CAICARA DEL OR**	**5.22**	**231**	*eP*		Pn	Pn	04 40 36.4	-4.5
CACV				*eS*		Sn	Sn	04 41 28.7	-11
BAUV	**El Baul**	**5.85**	**251**	*eP*		**Pn**	**Pn**	**04 40 50.6**	**+1.2**
BAUV				*eS*		**Sn**	**Sn**	**04 41 53.7**	**-1.5**
BAUV	**El Baul**	**5.85**	**251**	*eP*		**Pn**	**Pn**	**04 40 50.8**	**+1.4**
BAUV				*eS*		**Sn**	**Sn**	**04 41 53.7**	**-1.5**
TEPV	**Terepaima**	**6.71**	**263**	*eP*		**Pn**	**Pn**	**04 41 02.7**	**+1.4**
TEPV				*eS*		**Sn**	**Sn**	**04 42 15.0**	**-1.2**
SDV	**Santo Domingo**	**8.31**	**257**	P		**Pn**	**Pn**	**04 41 25.8**	**+2.5**
	3.6nm,0.3s,baz=90,slow=16,SNR=1.4								
SDV				S			**Sn**	**04 42 52.3**	**-3.4**
	7.4nm,0.3s,baz=31,slow=12,SNR=2.5								
SOCV	**Socops**	**8.69**	**253**	*eP*		**Pn**	**Pn**	**04 41 29.0**	**+0.7**
SOCV				*eS*		**Sn**	**Sn**	**04 43 00.2**	**-4.5**
MDP	**Montagnes des**	**11.27**	**120**	P		Pn	Pn	04 41 57.9	-5.5
	4.9nm,0.5s,baz=312,slow=14,SNR=20								
MDP				S			Sn	04 43 53.8	-14
	20nm,0.5s,baz=354,slow=19,SNR=19								
TXAR	**Lajitas Array**	**42.57**	**302**	P			**P**	**04 47 13.0**	**+0.5**
	0.4nm,0.7s,baz=122,slow=10,SNR=6.1								
TXAR				PcP			**PcP**	**04 49 02.9**	**-0.5**
	0.2nm,0.5s,baz=132,slow=4.9,SNR=4.3								
	0.4nm,0.7s								
PDAR	**Pinedale Array**	**51.75**	**317**	P			**P**	**04 48 22.7**	**-1.1**
	0.6nm,0.6s,baz=112,slow=10.0,SNR=7.8								
	0.6nm,0.6s								
NOA	**NORSAR Array B**	**72.64**	**29**	P			**P**	**04 50 43.4**	**+0.6**
	0.8nm,0.8s,baz=262,slow=5.9,SNR=4.2								
	0.8nm,0.8s								
HFS	**Hagfors**	**73.73**	**30**	P			**P**	**04 50 49.6**	**+0.5**
	2.9nm,0.9s,baz=267,slow=7.4,SNR=4.0								
	2.9nm,0.9s								
ARCES	**ARCESS Array B**	**79.17**	**21**	P			**P**	**04 51 20.1**	**+0.4**
	1.9nm,0.8s,baz=260,slow=5.4,SNR=1.8								
	1.9nm,0.8s								
FINES	**FINESS Array B**	**79.82**	**29**	P			**P**	**04 51 23.6**	**+0.2**
	0.7nm,0.4s,baz=264,slow=3.8,SNR=9.7								
	0.7nm,0.4s								

NEIC 09 04:53:24.9±0.8, 31°.52N±0°.02×103°.41W±0°.02, h5km±3km, mb_Lg2.5/14, ML2.5/6, Error ellipse: s-maj=3.5km s-min=1.7km az=146.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PECS	**Pecos**	**0.42**	**249**				**Pg**	**04 53 33.2**	**+0.2**
PECS						Sg	Sg	04 53 39.6	+1.2
MNHN	**Monahans**	**0.58**	**108**				**Pg**	**04 53 36.2**	**+0.1**
MNHN						Sg	Sg	04 53 44.4	+0.7
ODSA	**Odessa**	**0.94**	**51**			Pg	Pg	04 53 42.8	-0.2
ODSA						Sg	Sg	04 53 55.5	+0.2
ALPN	**Alpine**	**1.16**	**190**				Pg	04 53 46.4	-0.7
ALPN							Sb	04 54 02.9	-0.1
VHRN	**Van Horn**	**1.54**	**242**				Pn	04 53 53.4	+0.3
SAND	**Sanderson**	**1.92**	**144**				Pn	04 53 58.4	+0.2
SGCY	**Sterling City**	**1.99**	**78**				Pb	04 54 00.6	-0.9
OZNA	**Ozona**	**2.05**	**106**				Pb	04 54 01.3	-1.2
TX31	**Lajitas Ar. Si**	**2.19**	**186**				Pn	04 54 03.1	+1.0
TXAR	**Lajitas Array**	**2.19**	**186**				Pn	04 54 02.9	+0.8
POST	**Post**	**2.23**	**46**				Pn	04 54 03.5	+0.9
MSTX	**Muleshoe**	**2.50**	**12**				Pn	04 54 07.6	+1.3
JCT	**Junction City**	**3.27**	**108**	Pn		Pn	Pn	04 54 17.5	+0.7
APMT	**Aspermont**	**3.31**	**56**	Pn		Pn	Pn	04 54 18.0	+0.6
BRDY	**Brady**	**3.78**	**92**	Pn		Pn	Pn	04 54 25.0	+1.2
HNDO	**Hondo**	**4.08**	**118**				Pn	04 54 30.0	+2.0
ANMO	**Albuquerque**	**4.26**	**324**	IAmb_Lg				04 55 49.4	
	comp=Z,5.0nm,0.8s								
PLPT	**Palo Pinto**	**4.51**	**72**	Pn		Pn	Pn	04 54 34.5	+0.7
435B	**Jarrell**	**5.05**	**97**	IAmb_Lg				04 56 16.2	
	comp=Z,14nm,0.8s								

IDC 09 05:10:00.3±9.7, 27°.56S×23°.17E, h0km, Error ellipse: s-maj=54.2km s-min=43.5km az=121.0, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
I47ZA	**BOSHOF INFRASO**	**2.11**	**121**	I		I	I	05 22 50.0	
	0.1nm,1.0s,baz=300,slow=338,SNR=1.2								
BOSA	**Boshof**	**2.12**	**120**	Pg		Pg	Pb	05 10 39.0	-0.8
	0.1nm,0.3s,baz=301,slow=17,SNR=1.5								
BOSA				Lg		Lg	Lg	05 11 07.8	
	0.4nm,0.3s,baz=205,slow=22,SNR=9.0								
LBTB	**Lobatse**	**3.34**	**41**	Sn		Sn	Sn	05 11 26.6	-7.8
	0.2nm,0.3s,baz=153,slow=14,SNR=2.1								
LBTB				Lg		Lg	Lg	05 11 38.9	
	0.4nm,0.3s,baz=167,slow=23,SNR=2.3								
I35NA	**TSUMEB INFRASO**	**9.78**	**327**	I		I	I	06 09 35.0	
	baz=152,slow=311,SNR=7.7								

IDC 09 05:15:35.6±6.1, 6°.13S×142°.12E, h0km, mb3.7/2, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=229.7km s-min=33.1km az=96.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**15.68**	**208**	Pn		Pn	Pn	05 19 16.1	-1.8
	0.1nm,0.3s,baz=33,slow=13,SNR=6.7								
WRA				Sn		Sn	Sn	05 22 04.5	-8.0
	0.1nm,0.3s,baz=29,slow=22,SNR=2.8								
	1.0nm,1.0s								
ASAR	**Alice Springs**	**19.14**	**204**	P		Pn	Pn	05 20 01.4	0.0
	0.4nm,0.3s,baz=32,slow=11,SNR=33								
	2.6nm,0.7s								
MKAR	**Makanchi Array**	**74.56**	**322**	P		P	P	05 27 16.5	+0.1
	0.2nm,0.5s,baz=108,slow=4.7,SNR=3.2								
	0.2nm,0.5s								
BVAR	**Borovoye Array**	**84.04**	**325**	P		P	P	05 28 07.9	-0.1
	0.5nm,0.6s,baz=123,slow=5.3,SNR=2.9								
	0.5nm,0.

AYVA				*i*	AML	AML	05 21 00.0	
	comp=E,864nm,0.3s							
DKL	**Dikili**	**1.12**	**64**	Pn		**Pb**	**05 20 41.5**	**-0.2**
DKL				Sn		**Sg**	**05 20 56.1**	**-0.5**
DGB	**zmir**	**1.14**	**118**	P		**Pb**	**05 20 41.9**	**-0.1**
DGB				S		**Sg**	**05 20 59.2**	**+2.1**
DGB				*i*	AML	AML	05 21 00.0	
	comp=E,413nm,0.2s							
DGB				*i*	AML	AML	05 21 01.0	
	comp=E,474nm,0.2s							
BLCB	**Balcova**	**1.14**	**100**	Pn		**Pb**	**05 20 41.8**	**-0.3**
BLCB	**Balcova**	**1.14**	**100**	P		**Pb**	**05 20 41.5**	**-0.6**
BLCB				S		**Sb**	**05 20 56.7**	**-0.2**
GMLD	**Gumuldur**	**1.15**	**116**	Pn		**Pn**	**05 20 41.6**	**-0.7**
KYMI	**Kymi, Euboea I**	**1.18**	**273**	P		**Pn**	**05 20 42.5**	**-0.3**
KYMI				S		**Sn**	**05 20 58.9**	**+0.1**
KYMI	**Kymi, Euboea I**	**1.18**	**273**	P		**Pn**	**05 20 42.7**	**-0.1**
KYMI				S		**Sb**	**05 20 56.9**	**-1.1**
KYMI					AML	AML	05 21 03.6	
	comp=E,1175µm,0.4s							
KYMI					AML	AML	05 21 08.7	
	comp=N,1241µm,0.6s							
ZEDA	**zmir-Bergama**	**1.21**	**71**	P		**Pn**	**05 20 42.7**	**-0.4**
ZEDA				S		**Sg**	**05 20 59.0**	**-0.4**
ZEDA				*i*	AML	AML	05 21 02.0	
	comp=N,676nm,0.5s							
ZEDA				*i*	AML	AML	05 21 02.0	
	comp=N,734nm,0.5s							
SMG	**Samos**	**1.31**	**132**	P		**Pn**	**05 20 43.7**	**-0.8**
SMG				S		**Sb**	**05 21 01.3**	**-0.4**
	comp=N,2µm,0.3s							
SMG	**Samos**	**1.31**	**132**	P		**Pn**	**05 20 44.0**	**-0.6**
LIA	**Limnos Island**	**1.35**	**346**	P		**Pn**	**05 20 44.2**	**-0.8**
LIA				S		**Sn**	**05 21 02.4**	**-0.5**
	comp=N,2µm,0.4s							
LIA	**Limnos Island**	**1.35**	**346**	P		**Pn**	**05 20 44.9**	**-0.2**
LIA				S		**Sn**	**05 21 01.7**	**-1.1**
LIA					AML	AML	05 21 05.7	
	comp=N,4143µm,0.2s							
LIA					AML	AML	05 21 07.0	
	comp=E,5011µm,0.4s							
EZN	**Ezine**	**1.35**	**24**	Pn		**Pn**	**05 20 44.5**	**-0.6**
EZN	**Ezine**	**1.35**	**24**	P		**Pn**	**05 20 44.1**	**-1.0**
EZN				S		**Sb**	**05 21 02.5**	**-0.5**
	comp=E,828nm,0.4s							
DION	**Dionisos Attik**	**1.41**	**249**	P		**Pn**	**05 20 45.6**	**-0.4**
DION				S		**Sn**	**05 21 04.7**	**+0.2**
	comp=E,2µm,0.4s							
DION	**Dionisos Attik**	**1.41**	**249**	P		**Pn**	**05 20 46.3**	**+0.3**
DION				S		**Sn**	**05 21 04.7**	**+0.2**
DION					AML	AML	05 21 09.1	
	comp=E,2265µm,0.3s							
DION					AML	AML	05 21 12.2	
	comp=N,1767µm,0.5s							
BUHA	**Balikesir, Bur**	**1.46**	**51**	P		**Pn**	**05 20 46.1**	**-0.5**
BUHA				S		**Sg**	**05 21 08.8**	**+1.3**
ALNA	**Alonissos**	**1.47**	**293**	P		**Pn**	**05 20 46.5**	**-0.2**
PTL	**Penteli**	**1.47**	**249**	P		**Pn**	**05 20 46.4**	**-0.4**
PTL				S		**Sn**	**05 21 06.0**	**0.0**
PTL	**Penteli**	**1.47**	**249**	P		**Pn**	**05 20 47.1**	**+0.3**
APE	**Apeiranthos**	**1.52**	**182**	⇑P		**Pn**	**05 20 46.4**	**-1.1**
APE				⇓S		**Sn**	**05 21 07.7**	**+0.5**
APE	**Apeiranthos**	**1.52**	**182**	Pn		**Pn**	**05 20 47.1**	**-0.3**
APE	**Apeiranthos**	**1.52**	**182**	P		**Pn**	**05 20 46.2**	**-1.2**
APE				S		**Sn**	**05 21 06.5**	**-0.7**
APE	**Apeiranthos**	**1.52**	**182**	P		**Pn**	**05 20 46.4**	**-1.1**
GCAM	**G?zelcaml?**	**1.56**	**124**	P		**Pn**	**05 20 47.8**	**-0.2**
GCAM				S		**Sg**	**05 21 11.7**	**+1.1**
ATHU	**Athens Univers**	**1.56**	**247**	P		**Pn**	**05 20 46.8**	**-1.3**
ATH	**Athens Observa**	**1.61**	**248**	P		**Pn**	**05 20 48.1**	**-0.5**
GADA	**Gvkgeada**	**1.61**	**8**	Pn		**Pn**	**05 20 47.9**	**-0.8**
COMU	**Canakkale**	**1.65**	**24**	Pn		**Pn**	**05 20 49.1**	**-0.1**
DDIM	**Aydin, Didim**	**1.71**	**131**	P		**Pb**	**05 20 51.7**	**-0.1**
DDIM				S		**Sg**	**05 21 16.9**	**+1.3**
AKS	**Akhisar**	**1.75**	**80**	Pn		**Pn**	**05 20 50.1**	**-0.5**
AKHS	**Akhisar**	**1.75**	**80**	P		**Pg**	**05 20 53.8**	**-0.2**
AKHS				S		**Sg**	**05 21 17.8**	**+1.1**
AKHS				*i*	AML	AML	05 21 22.0	
	comp=N,422nm,0.5s							
CANM	**Can-anakkale**	**1.81**	**38**	Pn		**Pn**	**05 20 50.9**	**-0.5**
STEP	**BALIKESIR_Sava**	**1.82**	**64**	P		**Pn**	**05 20 52.0**	**+0.3**
STEP				S		**Sg**	**05 21 20.5**	**+1.5**
VILL	**Villia**	**1.85**	**257**	P		**Pn**	**05 20 51.7**	**-0.3**
VIL2	**Platees**	**1.88**	**259**	P		**Pn**	**05 20 51.8**	**-0.5**
SMTH	**Samothraki Isl**	**1.88**	**358**	P		**Pn**	**05 20 51.5**	**-0.9**
SMTH				S		**Sn**	**05 21 15.5**	**-0.6**
SMTH	**Samothraki Isl**	**1.88**	**358**	P		**Pn**	**05 20 51.6**	**-0.9**
IZMR	**zmir-demi**	**1.90**	**103**	P		**Pg**	**05 20 56.4**	**-0.4**
IZMR				S		**Sg**	**05 21 21.0**	**-0.5**
IZMR				*i*	AML	AML	05 21 25.0	
	comp=N,179nm,0.7s							
GELI	**Tayfur-Gelibol**	**1.93**	**20**	Pn		**Pn**	**05 20 52.7**	**-0.3**
LPK	**Lapseki**	**1.99**	**26**	Pn		**Pn**	**05 20 54.1**	**+0.2**
NEO	**Neokhori**	**1.99**	**292**	P		**Pn**	**05 20 53.4**	**-0.5**
NEO	**Neokhori**	**1.99**	**292**	P		**Pn**	**05 20 53.5**	**-0.5**
PAIG	**Paliouri**	**2.01**	**312**	Pn		**Pn**	**05 20 53.7**	**-0.4**
BODT	**Bodrum**	**2.04**	**138**	Pn		**Pn**	**05 20 54.5**	**0.0**
BODT	**Bodrum**	**2.04**	**138**	P		**Pn**	**05 20 54.1**	**-0.4**
BODT				S		**Sn**	**05 21 19.3**	**-0.6**
XOR	**Xorichti**	**2.04**	**293**	P		**Pn**	**05 20 53.8**	**-0.7**
ENZZ	**Sultanice-Enez**	**2.06**	**11**	Pn		**Pn**	**05 20 54.6**	**-0.2**
THAS	**Thassos island**	**2.13**	**341**	P		**Pn**	**05 20 55.2**	**-0.6**
THAS				S		**Sn**	**05 21 21.8**	**-0.3**
THAS	**Thassos island**	**2.13**	**341**	P		**Pn**	**05 20 55.0**	**-0.7**
MLSB	**Milas**	**2.15**	**126**	Pn		**Pn**	**05 20 55.8**	**-0.3**
OUR	**Ouranopolis**	**2.15**	**325**	Pn		**Pn**	**05 20 55.9**	**-0.2**
OUR	**Ouranopolis**	**2.15**	**325**	P		**Pn**	**05 20 55.8**	**-0.3**
OUR	**Ouranopolis**	**2.15**	**325**	P		**Pn**	**05 20 55.7**	**-0.4**
LTK	**Loutraki**	**2.15**	**256**	P		**Pn**	**05 20 56.0**	**-0.1**
LOUT	**Loutraki**	**2.16**	**255**	P		**Pn**	**05 20 56.1**	**-0.1**
LOUT				S		**Sn**	**05 21 23.3**	**+0.4**
ENEZ	**Enez**	**2.19**	**11**	Pn		**Pn**	**05 20 56.9**	**+0.3**
ERIK	**Erikli-Kesan**	**2.19**	**18**	Pn		**Pn**	**05 20 56.2**	**-0.5**
KRBG	**Karabiga-Canak**	**2.23**	**35**	Pn		**Pn**	**05 20 57.2**	**+0.1**
AXAR	**Agios Charalam**	**2.31**	**275**	P		**Pn**	**05 20 58.2**	**-0.2**
ALN	**Alexandroupoli**	**2.33**	**8**	Pn		**Pn**	**05 20 58.2**	**-0.3**
ALN	**Alexandroupoli**	**2.33**	**8**	P		**Pn**	**05 20 58.1**	**-0.4**
ALN				S		**Sn**	**05 21 26.4**	**-0.7**
ALN	**Alexandroupoli**	**2.33**	**8**	P		**Pn**	**05 20 57.9**	**-0.7**
KULA	**Kula-Manisa**	**2.40**	**91**	Pn		**Pn**	**05 20 59.5**	**0.0**
RKY	**Sarkoy-Tekirda**	**2.42**	**30**	Pn		**Pn**	**05 20 59.7**	**-0.2**
EDC	**Edincik**	**2.48**	**44**	Pn		**Pn**	**05 21 00.6**	**0.0**
MRMT	**Marmara Adasi**	**2.53**	**37**	Pn		**Pn**	**05 21 01.6**	**+0.2**
SIMA	**Simav-Kutahya**	**2.68**	**78**	Pn		**Pn**	**05 21 03.6**	**+0.1**
KCTX	**Karacabey (Bur**	**2.71**	**51**	Pn		**Pn**	**05 21 03.9**	**+0.1**
KLV	**Kalavryta, Ach**	**2.77**	**260**	P		**Pn**	**05 21 04.4**	**-0.3**
HORT	**Hortiatis**	**2.79**	**317**	Pn		**Pn**	**05 21 05.4**	**+0.5**
KDZ	**Kurdzhali**	**3.04**	**356**	Pn		**Pn**	**05 21 08.6**	**+0.2**
MDNY	**Mudanya-Bursa**	**3.10**	**54**	Pn		**Pn**	**05 21 09.4**	**+0.3**
ARMT	**Armutlu**	**3.20**	**51**	Pn		**Pn**	**05 21 10.9**	**+0.4**
ELND	**Elena**	**4.34**	**3**	⇓P		**Pn**	**05 21 26.3**	**+0.1**
LOZB	**Loznitsa**	**4.83**	**9**	⇑P		**Pn**	**05 21 33.6**	**+0.6**
BLKB	**Belogradchik**	**5.49**	**337**	⇓P		**Pn**	**05 21 43.1**	**+1.1**
HUMR	**Humele**	**5.95**	**356**	⇑P		**Pn**	**05 21 48.8**	**+0.5**
HERR	**Herculane**	**6.72**	**340**	⇑P		**Pn**	**05 21 58.8**	**-0.1**
ARR	**Arges**	**6.81**	**354**	⇓P		**Pn**	**05 22 01.4**	**+1.2**
MDVR	**Moldovita**	**6.84**	**336**	⇑P		**Pn**	**05 22 01.1**	**+0.5**
MLR	**Muntele Rosu**	**6.90**	**2**	⇑P		**Pn**	**05 22 02.7**	**+1.2**
GZR	**Gura Zlata**	**7.12**	**344**	⇑P		**Pn**	**05 22 04.7**	**+0.3**
SPBR	**Spulber**	**7.21**	**6**	⇑P		**Pn**	**05 22 06.0**	**+0.5**
PLOR	**Plostina**	**7.30**	**6**	⇑P		**Pn**	**05 22 08.0**	**+1.1**
VRI	**Vrincioaia**	**7.32**	**6**	⇑P		**Pn**	**05 22 08.6**	**+1.5**
BZS	**Buzias**	**7.62**	**338**	⇑P		**Pn**	**05 22 11.7**	**+0.5**
DRGR		**8.47**	**346**	⇑P		**Pn**	**05 22 23.9**	**+0.9**
BURAR	**Bucovina Array**	**9.03**	**358**	⇑P		**Pn**	**05 22 31.4**	**+0.8**

*NEIC **09** 05:35:46.4±1.4,56.01N±0.09×149.90W±0.07,h23km±9km, ML3.6/28,ML3.4(AEIC), Error ellipse: s-maj=13.5km s-min=3.6km az=158.0*

*AEIC **09** 05:35:49.9±1.0,56.1N±0.1×149.9W±0.1,h4km±8km, Error ellipse: s-maj=15.6km s-min=8.1km az=184.0*

ISC 09 05:35:45.2±1.8,56.1N±0.1×149.94W±0.06,h10km,n128, σ1§04/131,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OHAK	**Old Harbor**	**2.16**	**303**			**Pn**	**05 36 22.0**	**+0.9**
OHAK						**Sn**	**05 36 46.5**	**-1.5**
OHAK	**Old Harbor**	**2.16**	**303**	P		**Pn**	**05 36 22.0**	**+0.9**
	baz=122							
KDAK	**Kodiak Island**	**2.22**	**320**			**Pn**	**05 36 22.8**	**+0.8**
KDAK						**Sn**	**05 36 48.2**	**-1.2**
SII	**Sitkinak Islan**	**2.41**	**283**			**Pn**	**05 36 25.3**	**+0.7**
SII						**Sn**	**05 36 53.2**	**-0.9**
SII	**Sitkinak Islan**	**2.41**	**283**		IAML		05 36 53.6	
	comp=E,426nm,1.5s							
SII					IAML		05 37 28.8	
	comp=N,267nm,2.8s							
SII	**Sitkinak Islan**	**2.41**	**283**	P		**Pn**	**05 36 25.3**	**+0.7**
	baz=101							
SII					S	**Sn**	**05 36 53.2**	**-0.9**
	baz=101							
SYI	**Shuyak Island**	**2.84**	**333**			**Pn**	**05 36 31.1**	**+0.6**
SYI						**Sn**	**05 37 04.5**	**-0.2**
Q20K	**Shuyak Island**	**2.84**	**333**	P		**Pn**	**05 36 31.1**	**+0.6**
	baz=152							
Q20K					S	**Sn**	**05 37 04.5**	**-0.2**
	baz=152							
Q19K	**Cape Douglas,**	**3.46**	**326**	Pn		**Pn**	**05 36 41.5**	**+2.3**
CNPM	**China Poot**	**3.50**	**349**			**Pn**	**05 36 40.0**	**+0.4**
CNPM						**Sn**	**05 37 20.4**	**-0.6**
CNPM	**China Poot**	**3.50**	**349**		IAML		05 37 50.5	
	comp=N,107nm,3.0s							
CNPM					IAML		05 38 58.6	
	comp=E,107nm,2.7s							
KAKN	**Katmai Knife C**	**3.55**	**310**			**Pn**	**05 36 42.1**	**+1.8**
BRSE	**Bradley Lake S**	**3.67**	**354**			**Pn**	**05 36 42.3**	**+0.4**
BRSE						**Sn**	**05 37 23.7**	**-1.6**
BRSE	**Bradley Lake S**	**3.67**	**354**	P		**Pn**	**05 36 42.3**	**+0.4**
	baz=173							
BRSE					S	**Sn**	**05 37 23.7**	**-1.6**
	baz=173							
BRLK	**Bradley Lake**	**3.70**	**353**			**Pn**	**05 36 42.7**	**+0.3**
BRLK	**Bradley Lake**	**3.70**	**353**		IAML		05 38 11.7	
	comp=E,93nm,2.9s							
KAHC	**Katmai Hardscr**	**3.74**	**315**			**Pn**	**05 36 44.9**	**+1.8**
KAHC	**Katmai Hardscr**	**3.74**	**315**	P		**Pn**	**05 36 44.8**	**+1.8**
	baz=132							
CNTC	**Contact Creek**	**3.89**	**306**			**Pn**	**05 36 46.5**	**+1.5**
Q17K	**Contact Creek**	**3.89**	**306**	P		**Pn**	**05 36 46.6**	**+1.5**
	baz=122							
SEW	**Seward**	**4.01**	**3**			**Pn**	**05 36 46.6**	**0.0**
SEW	**Seward**	**4.01**	**3**	P		**Pn**	**05 36 46.6**	**0.0**
	baz=184							
ILSW	**Iliamna Southw**	**4.24**	**338**	Pn		**Pn**	**05 36 50.6**	**+0.7**
ILSW					IAML		05 37 41.8	
	comp=N,66nm,3.3s							
ILSW					IAML		05 37 44.8	
	comp=E,64nm,3.1s							
P18K	**Big Mountain,**	**4.34**	**321**			**Pn**	**05 36 52.1**	**+0.8**
P18K	**Big Mountain,**	**4.34**	**321**		IAML		05 37 45.8	
	comp=E,60nm,2.6s							
P18K					IAML		05 39 38.1	
	comp=N,51nm,3.9s							
P18K	**Big Mountain,**	**4.34**	**321**	P		**Pn**	**05 36 52.1**	**+0.8**
	baz=138							
O22K	**Cooper Landing**	**4.39**	**1**			**Pn**	**05 36 52.3**	**+0.6**
O22K	**Cooper Landing**	**4.39**	**1**	P		**Pn**	**05 36 52.3**	**+0.6**
	baz=181							
SLKM	**Skilak Lake**	**4.41**	**358**			**Pn**	**05 36 52.3**	**+0.1**
P17K	**Kvichak River**	**4.67**	**314**			**Pn**	**05 36 57.3**	**+1.7**
P17K	**Kvichak River**	**4.67**	**314**	P		**Pn**	**05 36 57.3**	**+1.7**
	baz=130							
O18K	**Koktuh Hills**	**4.69**	**325**			**Pn**	**05 36 56.8**	**+0.9**
O18K	**Koktuh Hills**	**4.69**	**325**		IAML		05 38 31.5	
	comp=E,47nm,3.4s							
O18K	**Koktuh Hills**	**4.69**	**325**	P		**Pn**	**05 36 56.8**	**+0.9**
	baz=142							
O19K	**Port Alsworth**	**4.71**	**332**			**Pn**	**05 36 56.8**	**+0.6**
O19K	**Port Alsworth**	**4.71**	**332**	P		**Pn**	**05 36 56.8**	**+0.6**
	baz=149							
EYAK	**Cordova Ski Ar**	**4.97**	**25**			**Pn**	**05 37 00.3**	**+0.5**
EYAK	**Cordova Ski Ar**	**4.97**	**25**	P		**Pn**	**05 37 00.3**	**+0.5**
	baz=208							
RC01	**Rabbit Creek A**	**5.00**	**1**			**Pn**	**05 37 00.7**	**+0.5**
RC01	**Rabbit Creek A**	**5.00**	**1**		IAML		05 37 52.5	
	comp=N,48nm,3.9s							
RC01					IAML		05 38 01.9	
	comp=E,52nm,2.2s							
RC01	**Rabbit Creek A**	**5.00**	**1**	P		**Pn**	**05 37 00.7**	**+0.5**
	baz=181							
P16K	**Nushagak River**	**5.23**	**307**			**Pn**	**05 37 04.7**	**+1.3**
P16K	**Nushagak River**	**5.23**	**307**	P		**Pn**	**05 37 04.7**	**+1.3**
	baz=121							
N20K	**Mount Spurr**	**5.24**	**348**	P		**Pn**	**05 37 04.3**	**+0.7**
	baz=166							
SPCR	**Spurr Chakacha**	**5.24**	**348**			**Pn**	**05 37 04.3**	**+0.7**
GOAT	**Goat Mountain**	**5.26**	**29**			**Pn**	**05 37 04.5**	**+0.7**
N19K	**Bonanza Creek**	**5.29**	**335**			**Pn**	**05 37 04.7**	**+0.5**
N19K	**Bonanza Creek**	**5.29**	**335**		IAML		05 37 50.1	
	comp=N,31nm,4.4s							
N19K					IAML		05 39 54.7	
	comp=E,34nm,4.4s							
N19K	**Bonanza Creek**	**5.29**	**335**	P		**Pn**	**05 37 04.7**	**+0.5**
	baz=151							
BGLC	**Bering Glacier**	**5.35**	**38**			**Pn**	**05 37 05.2**	**+0.3**
BGLC	**Bering Glacier**	**5.35**	**38**	P		**Pn**	**05 37 05.2**	**+0.3**
	baz=223							
KNK	**Knik Glacier**	**5.38**	**8**			**Pn**	**05 37 05.8**	**+0.5**
KNK	**Knik Glacier**	**5.38**	**8**	P		**Pn**	**05 37 05.8**	**+0.5**
	baz=188							
BERG	**Berg Lake**	**5.41**	**35**	Pn		**Pn**	**05 37 04.7**	**-1.1**
DIV	**Divide**	**5.49**	**22**			**Pn**	**05 37 07.3**	**+0.4**
STLK	**Strandline Lak**	**5.50**	**350**			**Pn**	**05 37 07.7**	**+0.6**
N18K	**Kilae Creek**	**5.55**	**328**	Pn		**Pn**	**05 37 08.3**	**+0.6**
O16K	**Kokwok River B**	**5.58**	**312**	Pn		**Pn**	**05 37 09.4**	**+1.3**
KHIT	**Khitrov Hills**	**5.60**	**36**			**Pn**	**05 37 08.7**	**+0.2**
BMRM	**Bremner River**	**5.62**	**28**			**Pn**	**05 37 09.5**	**+0.8**
BMRM	**Bremner River**	**5.62**	**28**	P		**Pn**	**05 37 09.5**	**+0.8**
	baz=211							
GHO	**Glory Hole Cre**	**5.71**	**5**	Pn		**Pn**	**05 37 11.0**	**+1.1**
SML	**Sawmill**	**5.78**	**8**	Pn		**Pn**	**05 37 11.7**	**+0.8**
KLU	**Klutina**	**5.79**	**19**			**Pn**	**05 37 11.9**	**+0.8**
KLU	**Klutina**	**5.79**	**19**	P		**Pn**	**05 37 11.9**	**+0.8**
	baz=202							
N17K	**Nushagak Hills**	**5.85**	**322**	Pn		**Pn**	**05 37 12.8**	**+1.0**
CRQM	**Cirque**	**5.87**	**35**			**Pn**	**05 37 12.7**	**+0.4**
CRQE	**Cirque**	**5.88**	**35**	P		**Pn**	**05 37 12.7**	**+0.3**
	baz=220							
SKT	**Skwentna**	**5.95**	**353**	Pn		**Pn**	**05 37 12.9**	**-0.3**
TGL	**Tana Glacier**	**5.97**	**36**			**Pn**	**05 37 14.5**	**+0.9**
ISLE	**Juniper Island**	**6.02**	**38**			**Pn**	**05 37 14.9**	**+0.5**
BAGL	**Bagley Icefiel**	**6.03**	**40**			**Pn**	**05 37 14.8**	**+0.4**
VRDI	**Verde Repeater**	**6.15**	**31**	Pn		**Pn**	**05 37 15.9**	**-0.2**
N25K	**Chitina, Valde**	**6.17**	**24**			**Pn**	**05 37 18.0**	**+1.7**
N25K	**Chitina, Valde**	**6.17**	**24**	P		**Pn**	**05 37 18.0**	**+1.7**
	baz=208							
M18K	**Stony River**	**6.20**	**333**			**Pn**	**05 37 17.3**	**+0.6**
M18K	**Stony River**	**6.20**	**333**	P		**Pn**	**05 37 17.3**	**+0.6**
	baz=148							
GLB	**Gilahina Butte**	**6.22**	**28**			**Pn**	**05 37 17.9**	**+0.9**
KIAG	**Kiagna River**	**6.25**	**36**			**Pn**	**05 37 18.3**	**+0.8**
SAMH	**Samovar Hills**	**6.31**	**46**			**Pn**	**05 37 19.5**	**+1.3**
GRNC	**Granite Creek**	**6.32**	**39**	Pn		**Pn**	**05 37 18.7**	**+0.1**
M24K	**Tolsona, Glenn**	**6.32**	**16**	Pn		**Pn**	**05 37 20.2**	**+1.9**
TABL	**Table Mountain**	**6.35**	**43**			**Pn**	**05 37 20.5**	**+1.5**
MCARA	**McCarthy VSAT**	**6.39**	**31**			**Pn**	**05 37 19.9**	**+0.6**
MCARA	**McCarthy VSAT**	**6.39**	**31**	P		**Pn**	**05 37 19.9**	**+0.6**
	baz=217							
PTPK	**Patty Peak**	**6.41**	**34**			**Pn**	**05 37 20.6**	**+0.9**
PCA	**Pinnacle**	**6.50**	**48**			**Pn**	**05 37 21.8**	**+0.9**
PINM	**Pinnacle**	**6.50**	**48**	P		**Pn**	**05 37 21.8**	**+0.9**
	baz=236							
BARN	**Barnard Glacie**	**6.58**	**38**			**Pn**	**05 37 23.0**	**+0.9**
CTGM	**Chitina Glacie**	**6.63**	**39**	Pn		**Pn**	**05 37 23.2**	**+0.5**
LOGN	**Logan Glacier**	**6.65**	**41**			**Pn**	**05 37 23.7**	**+0.6**
PNL	**Peninsula**	**6.66**	**53**			**Pn**	**05 37 23.4**	**+0.5**
PNL	**Peninsula**	**6.66**	**53**	P		**Pn**	**05 37 23.4**	**+0.5**
	baz=241							
BCPM	**Bancas Point**	**6.69**	**51**			**Pn**	**05 37 24.6**	**+1.2**
N15K	**Kwethluk River**	**6.74**	**311**	Pn		**Pn**	**05 37 25.5**	**+1.4**
M16K	**Timber Creek**	**6.82**	**320**			**Pn**	**05 37 26.3**	**+1.2**
M16K	**Timber Creek**	**6.82**	**320**	P		**Pn**	**05 37 26.3**	**+1.2**
	baz=133							
O14K	**Tigyukauivet M**	**6.84**	**302**			**Pn**	**05 37 26.4**	**+0.9**
O14K	**Tigyukauivet M**	**6.84**	**302**	P		**Pn**	**05 37 26.4**	**+0.9**
	baz=113							
M15K	**Kasigluk River**	**7.28**	**314**			**Pn**	**05 37 32.9**	**+1.5**
M15K	**Kasigluk River**	**7.28**	**314**	P		**Pn**	**05 37 32.9**	**+1.5**
	baz=125							
N14K	**Kuskokwak Cree**	**7.32**	**306**			**Pn**	**05 37 33.5**	**+1.6**
N14K	**Kuskokwak Cree**	**7.32**	**306**	P		**Pn**	**05 37 33.5**	**+1.6**
	baz=117							
O29M	**Mount Kennedy**	**7.33**	**50**			**Pn**	**05 37 33.1**	**+0.9**
O29M	**Mount Kennedy**	**7.33**	**50**	P		**Pn**	**05 37 33.1**	**+0.9**
	baz=239							
P29M	**Windy Craggy**	**7.40**	**56**			**Pn**	**05 37 33.7**	**+0.5**
P29M	**Windy Craggy**	**7.40**	**56**	P		**Pn**	**05 37 33.7**	**+0.5**
	baz=246							
L16K	**Owhat River**	**7.47**	**323**	Pn		**Pn**	**05 37 34.6**	**+0.5**
M27K	**Edge Creek, AK**	**7.50**	**30**	Pn		**Pn**	**05 37 35.0**	**+0.3**
S31K	**Pelican**	**7.71**	**70**			**Pn**	**05 37 36.2**	**-1.1**
S31K	**Pelican**	**7.71**	**70**	P		**Pn**	**05 37 36.2**	**-1.1**
	baz=261							
BPAW	**Bear Paw Mtn.**	**8.03**	**357**	Pn		**Pn**	**05 37 42.9**	**+1.1**
BCAR	**Beaver Creek A**	**8.11**	**27**	Pn		**Pn**	**05 37 43.4**	**+0.6**
L15K	**Ungalak Mounta**	**8.17**	**318**			**Pn**	**05 37 45.2**	**+1.5**
L15K	**Ungalak Mounta**	**8.17**	**318**	P		**Pn**	**05 37 45.2**	**+1.5**
	baz=128							
L14K	**Kuka Creek**	**8.45**	**314**	Pn		**Pn**	**05 37 48.9**	**+1.5**
N30M	**Aishikik Lake**	**8.55**	**46**			**Pn**	**05 37 50.1**	**+1.1**
N30M	**Aishikik Lake**	**8.55**	**46**	P		**Pn**	**05 37 50.1**	**+1.1**
	baz=236							
M29M	**Somme Creek**	**8.64**	**38**			**Pn**	**05 37 51.9**	**+1.6**
M29M	**Somme Creek**	**8.64**	**38**	P		**Pn**	**05 37 51.9**	**+1.6**
	baz=227							
JIS	**Juneau Island**	**8.72**	**69**	Pn		**Pn**	**05 37 51.7**	**+0.5**
J16K	**Anvik River**	**8.98**	**328**	Pn		**Pn**	**05 37 55.1**	**+0.4**
J26L	**Joseph Creek**	**8.99**	**18**			**Pn**	**05 37 56.5**	**+1.5**
J26L	**Joseph Creek**	**8.99**	**18**	P		**Pn**	**05 37 56.5**	**+1.5**
	baz=203							
L29M	**L29M**	**9.21**	**36**	Pn		**Pn**	**05 37 58.9**	**+0.9**
U33K	**Whale Pass**	**9.40**	**83**			**Pn**	**05 37 59.0**	**-1.5**
U33K	**Whale Pass**	**9.40**	**83**	P		**Pn**	**05 37 59.0**	**-1.5**
	baz=276							
J14K	**Nanvaranak Lak**	**9.60**	**319**	Pn		**Pn**	**05 38 05.3**	**+2.1**

JMA 09 05:42:08.5±0.2,37.5N±0.7×14.4E±,h53km,MV3.7/25, FAR E OFF FUKUSHIMA PREF,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.97**	**297**	P		Pn	05 42 40.4	+0.9
JIKH					eS	Sn	05 43 04.0	+1.1
JIO	**Ouri**	**2.12**	**299**	P		Pn	05 42 42.6	+1.1
JIO					eS	Sn	05 43 07.7	+1.2
JKMT	**Kesennumamotoy**	**2.22**	**308**	P		Pn	05 42 43.6	+0.7
JKMT				S		Sn	05 43 09.9	+0.8
JFK	**Kawauchi**	**2.26**	**269**	P		Pn	05 42 44.2	+0.8
JFK				S		Sn	05 43 10.8	+0.7
JMST	**Minamisoumatoc**	**2.26**	**278**	P		Pn	05 42 44.0	+0.7
JMK	**Ichinoseki**	**2.47**	**308**	P		Pn	05 42 47.6	+1.4
JMK					eS	Sn	05 43 16.1	+1.0
**JO

YBH Sn Sn 06 02 25.1 +0.2
comp=N,54nm,0.3s,baz=98,slow=20,SNR=14
YBH LR LR 06 02 54.8
comp=N,1µm,18.7s,baz=226,slow=48
GBMM Baldy Mountain 1.99 126 Pn Pn 06 01 59.3 -1.7
GRTM Round Top Moun 2.02 133 Pn Pn 06 01 59.4 -2.0
GHCM House Creek 2.02 148 Pn Pn 06 01 59.0 -2.4
GDXM Geysers 2.05 138 Pn Pn 06 01 59.9 -1.9
GSGM Seigler Mounta 2.05 135 Pn Pn 06 02 00.1 -1.6
GGPM Geyser Peak 2.06 139 Pn Pn 06 01 59.9 -2.0
LGBM Gray Butte 2.06 60 Pn Pn 06 02 01.8 -0.3
M03C McCloud 2.08 62 Pn Pn 06 02 01.8 -0.4
GBGM Boggs Mountain 2.10 136 Pn Pn 06 02 01.0 -1.5
O03E Paynes Creek 2.11 90 Pn Pn 06 02 01.2 -1.4
GCRM Castle Rock Sp 2.12 137 Pn Pn 06 02 00.9 -1.7
LDBM Digger Butte 2.12 86 Pn Pn 06 02 01.4 -1.4
LMPM Military Pass 2.15 57 Pn Pn 06 02 03.5 +0.2
MNRC McLaughlin Min 2.19 131 Pn Pn 06 02 01.3 -2.4
LHEM Herd Peak 2.19 53 Pn Pn 06 02 03.4 -0.5
B040 Montague 2.20 47 Pn Pn 06 02 03.1 -0.8
NMTM Middletown 2.24 132 Pn Pn 06 02 02.6 -1.7
NHSM Mount Saint He 2.25 137 Pn Pn 06 02 02.7 -1.9
LBFM Black Fox Moun 2.27 63 Pn Pn 06 02 04.6 -0.3
LMEM Manzanita Entr 2.29 84 Pn Pn 06 02 04.2 -1.0
OSUM Sutter Buttes 2.34 116 Pn Pn 06 02 04.0 -1.7
OGOM Van Goodin Ran 2.37 106 Pn Pn 06 02 04.7 -1.4
LRDM Redding Peak 2.37 86 Pn Pn 06 02 05.7 -0.5
SUTB Sutter Butte 2.41 116 Pn Pn 06 02 04.6 -2.0
HATC Hat Creek Radi 2.41 77 Pn Pn 06 02 06.7 -0.1
LGMM Garner Mountai 2.42 58 Pn Pn 06 02 06.7 -0.3
K02D Willamette Mer 2.45 16 Pn Pn 06 02 06.1 -1.3
OBHM Bloomer Hill 2.48 105 Pn Pn 06 02 06.6 -1.1
OSTM Stimpson Lane 2.48 112 Pn Pn 06 02 05.9 -1.7
ORV Oroville 2.48 107 Pn Pn 06 02 06.6 -1.0
LTIM Timbered Crate 2.48 69 Pn Pn 06 02 07.2 -0.6
M04C Macdoel 2.52 54 Pn Pn 06 02 07.8 -0.5
OWYM Wyandotte 2.52 109 Pn Pn 06 02 06.4 -1.8
LMHM Little Mount H 2.53 60 Pn Pn 06 02 07.9 -0.6
L04D Klamath Falls 2.54 41 Pn Pn 06 02 07.9 -0.7
KEBM Edson Butte 2.54 4 Pn Pn 06 02 07.8 -0.7
KEBM IAML 06 02 53.5
comp=E,541nm,1.3s
MCCM Marconi Confer 2.55 149 Pn Pn 06 02 06.0 -2.5
MCCM IAML 06 03 13.5
comp=E,471nm,1.7s
CVS Carmenet Viney 2.57 140 Pn Pn 06 02 06.4 -2.5
HUMO Hull Mountain 2.57 27 Pn Pn 06 02 07.4 -1.5
OHCM Honcut 2.57 112 Pn Pn 06 02 07.2 -1.7
LASM Arnica Sink 2.59 60 Pn Pn 06 02 08.6 -0.8
NBRB Beebe Ranch Br 2.59 142 Pn Pn 06 02 07.2 -2.0
NAPC Atlas Peak 2.60 136 Pn Pn 06 02 07.4 -2.0
KPK Kanaka Peak 2.61 106 Pn Pn 06 02 08.8 -0.7
NPRM Point Reyes 2.63 152 Pn Pn 06 02 07.9 -1.7
NOLM Olema 2.67 148 Pn Pn 06 02 07.6 -2.6
J01E Myrtle Point 2.86 9 Pn Pn 06 02 12.0 -0.9
J01E IAML 06 02 47.2
comp=N,479nm,0.5s
J01E IAML 06 02 47.8
comp=E,415nm,0.6s
FARB Farallon Islan 2.90 155 Pn Pn 06 02 11.7 -1.7
DBO Dodson Butte 2.95 19 Pn Pn 06 02 13.7 -0.6
DBO IAML 06 02 55.1
comp=N,307nm,0.7s
CVPM Vollmer Peak 3.05 143 Pn Pn 06 02 13.5 -2.0
AFDM Forest Hills D 3.10 115 Pn Pn 06 02 14.7 -1.5
K04D Chiloquin, OR 3.11 42 Pn Pn 06 02 15.5 -1.0
SAC San Andreas 3.22 148 Pn Pn 06 02 15.3 -2.4
BMRR Black Mountain 3.28 93 Pn Pn 06 02 18.1 -0.7
JCHM Cahill Ridge 3.29 148 Pn Pn 06 02 16.3 -2.5
JFP Foothills Park 3.50 147 Pn Pn 06 02 19.3 -2.4
MPK Martis Peak 3.64 105 Pn Pn 06 02 23.0 -0.9
K05A Summer Lake 3.65 48 Pn Pn 06 02 23.1 -0.7
K05A IAML 06 03 45.7
comp=E,217nm,1.9s
K05A IAML 06 03 48.1
comp=N,244nm,1.9s
EMB Emerald Bay 3.70 110 Pn Pn 06 02 24.8 +0.1
EMB IAML 06 03 47.6
comp=E,284nm,2.3s
MHC Mount Hamilton 3.76 142 Pn Pn 06 02 23.5 -1.8
I04A Tendick Farm, 3.81 24 Pn Pn 06 02 26.1 +0.1
I04A IAML 06 03 10.5
comp=N,242nm,0.6s
I04A IAML 06 03 11.4
comp=E,180nm,0.5s
CCOB Coe Ranch Numb 3.81 143 Pn Pn 06 02 25.0 -1.0
J05D Fort Rock, OR 3.86 39 Pn Pn 06 02 26.1 -0.6
J05D IAML 06 03 35.0
comp=E,178nm,1.6s
J05D IAML 06 04 13.1
comp=N,177nm,2.0s
CMB Columbia Colle 3.98 124 Pn Pn 06 02 27.5 -0.8
PAHR Pah Rah Range 4.03 97 Pn Pn 06 02 28.2 -0.8
PNR Pine Nut 4.03 106 Pn Pn 06 02 28.5 +0.4
CDC Canada Road 4.09 143 Pn Pn 06 02 28.3 -1.5
HMOM Monterey 4.27 150 Pn Pn 06 02 29.8 -2.4
YERR Yerington 4.32 106 Pn Pn 06 02 33.1 -0.1
YERR IAML 06 04 04.6
comp=E,205nm,1.3s
YERR IAML 06 04 07.0
comp=N,174nm,1.6s
WAKR Walker 4.37 113 Pn Pn 06 02 33.5 -0.3
WAKR IAML 06 04 14.1
comp=E,136nm,1.3s
PINE Pine Mountain 4.38 37 Pn Pn 06 02 33.6 -0.4
PINE IAML 06 03 11.1
comp=N,123nm,1.2s
PINE IAML 06 04 18.2
comp=E,119nm,2.0s
H04D Lebanon 4.40 17 Pn Pn 06 02 34.6 +0.6
H04D IAML 06 03 40.0
comp=N,191nm,1.3s
H04D IAML 06 03 41.0
comp=E,156nm,1.9s
BPRM Ponciano Ridge 4.51 150 Pn Pn 06 02 33.1 -2.5
BJCM Johnson Can. 4.53 146 Pn Pn 06 02 33.0 -2.8
HAST Hastings Reser 4.60 148 Pn Pn 06 02 34.2 -2.5
BBGB Big Mountain B 4.66 142 Pn Pn 06 02 35.6 -2.1
BBGB IAML 06 04 20.1
comp=E,143nm,1.0s
BBGB IAML 06 05 00.1
comp=N,185nm,1.8s
I05D Terrebonne, OR 4.66 30 Pn Pn 06 02 36.7 -0.9
I05D IAML 06 04 35.6
comp=N,111nm,2.3s
I05D IAML 06 04 52.5
comp=E,117nm,2.2s
BBNM San Benito 4.70 143 Pn Pn 06 02 36.7 -1.5
MHDM Hidden Dam 4.86 130 Pn Pn 06 02 41.3 +0.9
WVOR Wild Horse Val 4.93 63 Pn Pn 06 02 39.3 -2.1
WVOR IAML 06 04 25.6
comp=E,70nm,1.9s
WVOR IAML 06 04 28.0
comp=E,84nm,1.8s
G03D McMinnville, O 4.97 11 Pn Pn 06 02 41.1 -0.7
G03D IAML 06 03 44.5
comp=E,102nm,1.6s
G03D IAML 06 04 39.3
comp=N,130nm,1.6s
RYN Ryan 4.97 108 Pn Pn 06 02 42.4 +0.4
RYN IAML 06 04 32.0
comp=N,97nm,2.1s
PMPB Monarch Peak 5.07 143 Pn Pn 06 02 41.8 -1.4
PMPB IAML 06 03 54.6
comp=E,98nm,2.3s
PMPB IAML 06 04 58.8
comp=N,113nm,2.3s
LHV Little Huntoon 5.14 112 Pn Pn 06 02 44.2 +0.1
KVN Kaiserville 5.15 102 Pn Pn 06 02 43.8 -0.7
KVN IAML 06 04 31.7
comp=N,71nm,2.1s
KVN IAML 06 04 37.5
comp=E,62nm,1.5s
NVAR Mina Array Bea 5.21 109 Pn Pn 06 02 45.4 0.0
NVAR Mina Array Bea 5.21 109 Pn Pn 06 02 45.9 +0.5
comp=E,1.3nm,0.3s,baz=294,slow=14,SNR=36
NVAR LR LR 06 04 38.8
comp=E,385nm,20.3s,baz=206,slow=37
comp=E,3.0nm,0.5s
MLAC Mammoth, Mammo 5.21 119 P Pn 06 02 47.1 +1.6
baz=303,SNR=6.8
I07A Izee 5.30 43 Pn 06 02 46.5 -0.1
NV11 Mina Array Sit 5.32 109 Pn 06 02 46.8 0.0
NV11 IAML 06 04 33.6
comp=N,104nm,1.6s
NV11 IAML 06 05 04.4
comp=E,64nm,3.1s
G05A Wamic 5.45 25 Pn Pn 06 02 47.5 -1.0
J08A Circle Bar Ran 5.46 54 Pn 06 02 47.7 -0.9
BMN Battle Mountai 5.61 87 Pn 06 02 51.4 +0.6
G06A Carlson Farm, 5.69 29 Pn 06 02 51.8 +0.1
DSP Deep Springs 5.94 118 Pn 06 02 57.4 +2.3
TPH Tonopah 6.13 109 Pn 06 02 58.7 +0.7
SMMC Simmler 6.18 143 P Pn 06 02 57.4 -1.1
baz=326
LCH Last Change Ra 6.23 118 Pn Pn 06 03 01.4 +2.1
VES Vestal, Richgr 6.23 134 P Pn 06 02 59.2 +0.1
baz=318,SNR=50
CWC Cottonwood Cre 6.41 125 P Pn 06 03 03.5 +1.7
baz=309
F07A Phinny Hill Vi 6.51 30 Pn Pn 06 03 04.2 +1.2
GRAC Grapevine Rang 6.54 118 P Pn 06 03 04.5 +1.0
baz=303
GATR Grnd/Air Tx Cnt 6.61 150 Pn 06 03 02.7 -1.8
PKM Mcpherson Peak 6.62 144 P Pn 06 03 03.1 -1.6
baz=327
ISA Isabella, Lake 6.70 132 Pn Pn 06 03 06.3 +0.6
ISA Isabella, Lake 6.70 132 P Pn 06 03 05.9 +0.3
baz=316,SNR=31
LON Longmire 6.72 16 Pn Pn 06 03 08.1 +2.2
ARVC Arvin 6.90 137 P Pn 06 03 08.3 -0.2
baz=320,SNR=26
MXC Moxie City 6.97 25 Pn 06 03 09.7 +0.4
BMO Blue Mountains 7.00 47 Pn Pn 06 03 10.5 +0.6
MPMC Manual Prospec 7.02 125 P Pn 06 03 11.8 +1.6
baz=310
HAWA Hanford 7.08 30 Pn Pn 06 03 11.7 +0.9
ELK Elko 7.11 84 Pn Pn 06 03 12.0 +0.4
comp=E,3.0nm,0.7s,baz=286,slow=12,SNR=12
ELK Lg Lg 06 05 05.1
comp=E,0.1nm,0.3s,baz=342,slow=20,SNR=2.0
ELK LR LR 06 05 31.5
comp=E,102nm,18.9s,baz=264,slow=35
FURC Furnace Creek, 7.17 120 P Pn 06 03 14.2 +2.2
baz=305
MFID Camas Ranch 7.21 62 Pn Pn 06 03 11.7 -1.0
R11B Troy Canyon, C 7.24 103 Pn Pn 06 03 14.2 +1.1
R11B Troy Canyon, C 7.24 103 P Pn 06 03 14.5 +1.4
baz=288
LRMC Laurel Mtn Rad 7.28 130 P Pn 06 03 14.9 +1.1
baz=314
CCAC Calif City Air 7.32 133 Pn 06 03 15.0 +0.8
OSI Osito Audit: C 7.36 139 P Pn 06 03 15.1 +0.4
baz=323
GWY Greenwater Val 7.46 121 Pn 06 03 17.1 +0.8
EDW2 Edwards Air Fo 7.54 134 P Pn 06 03 17.0 -0.2
baz=318,SNR=15
DECC Green Verdugo 7.84 139 P Pn 06 03 22.2 +0.9
baz=323
SHOC Shoshone, Teco 7.89 122 P Pn 06 03 24.5 +2.6
baz=306
GSC Goldstone, Bar 7.93 127 Pn Pn 06 03 23.1 +0.5
GSC Goldstone, Bar 7.93 127 P Pn 06 03 23.3 +0.7
baz=312,SNR=10
SPR3 Spring Creek 3 8.00 96 Pn 06 03 23.6 -0.3
RRX Edison Barstow 8.11 130 P Pn 06 03 26.4 +1.4
baz=314
BFSC Mount Baldy Ra 8.20 136 P Pn 06 03 26.4 +0.1
baz=320
HLID Hailey 8.22 64 Pn Pn 06 03 27.8 +1.2
HLID Hailey 8.22 64 P Pn 06 03 27.6 +0.9
baz=250,SNR=41
FMP Fort Macarthur 8.29 141 P Pn 06 03 27.3 -0.2
baz=325
TUQ Turquoise Moun 8.40 123 P Pn 06 03 29.7 +0.6
baz=308
HEC Hector,Ludlow 8.53 127 P Pn 06 03 31.4 +0.6
baz=312
BBRC Big Bear Solar 8.59 132 P Pn 06 03 32.4 +0.6
baz=317,SNR=6.1
MURC Murrieta 8.94 136 P Pn 06 03 36.0 -0.3
baz=321
GMRC Granite Mounta 8.98 125 P Pn 06 03 38.8 +1.7
baz=311
DUG Dugway, Tooele 8.98 87 Pn Pn 06 03 38.0 +0.9
DUG Dugway, Tooele 8.98 87 P Pn 06 03 38.6 +1.5
baz=274,SNR=24
HVU Hansel Valley 9.02 77 Pn 06 03 38.3 +0.7
SPUT South Promonto 9.24 80 Pn 06 03 40.8 +0.2
BELC Belle Mtn. Jos 9.31 130 P Pn 06 03 41.8 +0.3
baz=315,SNR=7.8
PFO Pinyon Flats O 9.33 133 Pn Pn 06 03 41.4 -0.4
PFO Pinyon Flats O 9.33 133 P Pn 06 03 42.0 +0.2
baz=318,SNR=7.9
PFO Pinyon Flats O 9.33 133 Pn Pn 06 03 42.3 +0.5
comp=E,0.6nm,0.3s,baz=324,slow=12,SNR=17
PFO LR LR 06 07 41.9
comp=E,235nm,19.1s,baz=284,slow=40
comp=E,9.6nm,0.8s
TPFO Pinon Flats 9.33 133 P Pn 06 03 41.8 -0.1
baz=318,SNR=8.3
PMD Palm Desert 9.35 133 Pn Pn 06 03 41.1 -0.8
NEW Newport 9.55 31 P Pn 06 03 41.3 -3.4
baz=216
NEW Newport 9.55 31 Pn Pn 06 03 46.1 +1.4
comp=E,0.4nm,0.3s,baz=223,slow=14,SNR=6.0
NEW LR LR 06 07 25.5
comp=E,372nm,21.4s,baz=220,slow=38
comp=E,1.9nm,0.5s
NLU North Lily Min 9.57 88 Pn Pn 06 03 45.6 +0.4
IRM Iron Mountain 9.71 126 P Pn 06 03 47.8 +0.8
baz=312
BC3 Big Chuckawall 9.87 130 P Pn 06 03 49.2 0.0
baz=315
MONP2 Monument Peak 9.89 136 P Pn 06 03 49.3 -0.3
baz=321,SNR=5.8
MPU Maple Canyon 9.90 88 Pn 06 03 50.0 +0.2
HWUT Hardware Ranch 9.91 78 Pn 06 03 50.5 +0.7
TCUT Toone Canyon 10.02 81 Pn 06 03 52.3 +0.9
SWSC Sam W. Stewart 10.19 134 P Pn 06 03 54.0 +0.5
baz=319
PDMCI Parker Dam,Lak 10.25 123 P Pn 06 03 56.5 +2.2
baz=309
BSUT Blindstream Ca 10.53 84 Pn 06 03 59.3 +0.9
TPAW Teton Pass 10.62 68 Pn 06 04 00.1 +0.5
OVMT Ovando 10.73 47 Pn 06 04 02.2 +1.2
MOOW Moose Ponds 10.83 67 Pn 06 04 03.4 +0.9
BOZ Bozeman (W) 10.83 57 Pn 06 04 02.6 +0.3
BOZ Bozeman (W) 10.83 57 P Pn 06 04 02.7 +0.3
baz=245
H17A Grant Village 11.11 64 P Pn 06 04 07.6 +1.3
baz=253
RDMU Red Mountain 11.43 84 Pn 06 04 11.6 +0.9
BW06 Boulder Array 11.50 73 P Pn 06 04 13.2 +1.5
baz=263
PDAR Pinedale Array 11.51 73 Pn Pn 06 04 16.0 +4.3
comp=E,0.3nm,0.3s,baz=265,slow=11,SNR=23
PDAR LR LR 06 08 47.0
comp=E,319nm,19.0s,baz=262,slow=39
comp=E,2.9nm,0.8s
O20A White River Ci 12.48 86 P Pn 06 04 27.9 +2.9
baz=276
PIX Pinacate 12.54 131 Pn 06 04 24.6 -1.1
214A Organ Pipe Nat 12.64 128 P Pn 06 04 29.1 +2.0
baz=315
MVCO Mesa Verde 12.92 99 P Pn 06 04 33.9 +2.9
baz=289
EGMT Eagleton 13.10 49 Pn Pn 06 04 32.5 -0.8
EGMT Eagleton 13.10 49 P Pn 06 04 33.3 0.0
baz=239,SNR=5.4
TUC Tucson 13.68 122 P Pn 06 04 43.6 +2.2
baz=310
K22A Casper 13.72 74 Pn 06 04 40.9 -1.0
K22A Casper 13.72 74 P Pn 06 04 42.8 +0.9
baz=266
N23A Red Feather La 14.16 82 Pn 06 04 46.1 -1.8
N23A Red Feather La 14.16 82 P Pn 06 04 48.5 +0.6
baz=274
ISCO Idaho Springs 14.52 86 P Pn 06 04 54.9 +1.9
baz=278
LAO LASA Array 14.73 58 Pn Pn 06 04 53.9 -1.7
LAO LASA Array 14.73 58 P Pn 06 04 54.6 -0.9
baz=251
EDM Edmonton 14.98 27 Pn Pn 06 04 58.3 -0.5
EDM IAmb IAmb 06 05 05.8
comp=Z,20nm,1.2s
Q24A Divide 15.02 89 Pn 06 04 59.4 -0.3
Q24A Divide 15.02 89 P Pn 06 05 00.9 +1.2
baz=281
SDCO Great Sand Dun 15.04 94 Pn 06 05 01.4 +1.5
SDCO IAmb IAmb 06 05 03.8
comp=Z,17nm,1.1s
SDCO Great Sand Dun 15.04 94 P Pn 06 05 01.8 +1.9
baz=286,SNR=24
ANMO Albuquerque 15.31 105 Pn Pn 06 05 05.3 +1.9
comp=Z,0.1nm,0.3s,baz=50,slow=18,SNR=2.2
ANMO LR LR 06 11 05.7
comp=Z,217nm,21.4s,baz=25,slow=38
RSSD Black Hills 15.66 69 P Pn 06 05 05.9 -2.1
baz=263
T25A Trinidad 16.04 95 P Pn 06 05 14.4 +1.4
T25A Trinidad 16.04 95 P Pn 06 05 14.5 +1.6
baz=288
DGMT Dagmar 16.64 54 P Pn 06 05 18.8 -1.5
baz=248
KSCO Kaye Shedlock' 16.94 87 P Pn 06 05 24.3 +0.1
KSCO IAmb IAmb 06 05 28.0
comp=Z,18nm,0.7s
KSCO Kaye Shedlock' 16.94 87 P Pn 06 05 24.8 +0.6
baz=281
HILA High Level 18.86 12 P P 06 05 47.2 +0.3
CBKS Cedar Bluff 19.18 87 P 06 05 51.1 +0.5
CBKS Cedar Bluff 19.18 87 P P 06 05 51.2 +0.5
baz=282,SNR=6.3
SUSD Miller 19.32 69 P P 06 05 49.6 -2.5
SUSD IAmb IAmb 06 05 51.7
comp=Z,38nm,0.8s
SUSD Miller 19.32 69 P P 06 05 49.8 -2.3
baz=266,SNR=11
R32A Long Quarter, 20.06 87 P P 06 05 59.8 -0.3
R32A IAmb IAmb 06 06 02.4
comp=Z,31nm,0.9s
LPIG La Paz 20.14 139 LR LR 06 13 50.5
comp=Z,175nm,20.4s,baz=328,slow=37
TXAR Lajitas Array 20.31 116 P Pn 06 06 05.1 -0.1
comp=Z,2.4nm,0.9s,baz=297,slow=9.2,SNR=21
TXAR LR LR 06 14 25.4
comp=Z,68nm,18.7s,baz=298,slow=38
comp=Z,2.4nm,0.9s
FFC Flin Flon 20.84 39 P P 06 06 08.1 -0.4
FFC IAmb IAmb 06 06 09.3
comp=Z,14nm,1.1s
KSU1 Kansas State U 21.51 84 P P 06 06 16.8 +1.0
baz=282,SNR=7.2
AGMN Agassiz Nation 21.93 59 P P 06 06 19.8 -0.5
AGMN IAmb IAmb 06 06 21.8
comp=Z,21nm,0.7s
AGMN Agassiz Nation 21.93 59 P P 06 06 18.8 -1.4
baz=259,SNR=16
ULM Lac du Bonnet 22.36 54 P P 06 06 22.5 -2.3
ULM Lac du Bonnet 22.36 54 P P 06 06 22.7 -2.1
comp=Z,3.8nm,0.6s,baz=257,slow=10,SNR=12
ULM LR LR 06 15 34.9
comp=Z,340nm,19.4s,baz=261,slow=38
comp=Z,3.8nm,0.6s
YKA Yellowknife Ar 22.99 12 P P 06 06 31.8 +0.5
comp=Z,1.0nm,0.7s,baz=201,slow=11,SNR=15
YKA LR LR 06 16 25.7
comp=Z,255nm,18.0s,baz=232,slow=39
comp=Z,1.0nm,0.7s
F36A Milaca 23.24 66 P P 06 06 31.3 -2.7
B35A Bob, Littlefor 23.34 60 P P 06 06 34.1 -1.0
B35A IAmb IAmb 06 06 35.9
comp=Z,9.7nm,0.8s
KDAK Kodiak Island 25.05 324 LR LR 06 14 19.4
comp=Z,166nm,18.9s,baz=188,slow=31
FCC Fort Churchill 26.67 36 P P 06 07 05.9 +0.5
FCC IAmb IAmb 06 07 20.6
comp=Z,9.9nm,1.4s
ILAR Eielson Array 27.68 339 P P 06 07 15.7 +1.2
comp=Z,0.7nm,0.7s,baz=154,slow=9.0,SNR=7.5
comp=Z,0.7nm,0.7s
INK Inuvik 28.45 353 LR LR 06 17 52.7
comp=Z,119nm,18.1s,baz=177,slow=35
TKL Tuckaleechee C 32.27 85 LR LR 06 21 37.7
comp=Z,89nm,18.1s,baz=294,slow=38
SADO Sadowa 33.42 67 LR LR 06 21 00.2
comp=Z,183nm,19.3s,baz=255,slow=35
C19K Lookout Ridge 34.27 339 P P 06 08 13.2 +0.7
C19K IAmb IAmb 06 08 40.8
comp=Z,7.3nm,1.4s
CMIG Matias Romero 34.56 123 LR LR 06 23 49.4
comp=Z,87nm,20.6s,baz=252,slow=39
TRQ Mont Tremblant 36.38 64 P P 06 08 30.5 -0.5
TEIG Tepich 36.85 112 LR LR 06 25 20.1
comp=Z,496nm,18.8s,slow=39
RES Resolute Bay 37.05 13 LR LR 06 24 40.7
comp=Z,224nm,18.7s,baz=258,slow=38
FRB Frobisher Bay 39.87 35 LR LR 06 27 34.8
comp=Z,94nm,18.6s,baz=300,slow=39
SCHQ Schefferville 40.36 49 LR LR 06 25 26.8
comp=Z,220nm,19.6s,baz=264,slow=36
JTS Las Juntas de 46.05 119 LR LR 06 30 36.3
comp=Z,161nm,19.2s,baz=88,slow=38
SOCE Pocosol 46.21 119 P P 06 09 51.3 -0.6
SOCE IAmb IAmb 06 10 10.9
comp=Z,18nm,1.1s
SFJD Kangerlussuaq 47.47 31 LR LR 06 30 09.6
comp=Z,69nm,18.6s,baz=264,slow=36
SDV Santo Domingo 57.06 108 LR LR 06 38 22.3
comp=Z,73nm,18.5s,baz=348,slow=39
BORG Borgarnes 59.51 29 LR LR 06 37 51.5
comp=Z,77nm,18.7s,baz=279,slow=37
JMIC Jan Mayen 60.06 20 LR LR 06 35 54.8
comp=Z,52nm,20.1s,baz=62,slow=34
H11N3 WAKE ISLAND Hy 61.33 272 T T 07 18 17.9
baz=53,slow=75,SNR=255
H11N2 WAKE ISLAND Hy 61.33 272 T T 07 18 19.3
baz=53,slow=75,SNR=260
H11N1 WAKE ISLAND Hy 61.34 272 T T 07 18 20.3
baz=53,slow=75,SNR=313
YAK Yakutsk 61.92 329 LR LR 06 37 59.6
comp=Z,24nm,18.1s,baz=108,slow=35
H11S1 WAKE ISLAND Hy 62.19 271 T T 07 19 19.5
baz=54,slow=74
H11S2 WAKE ISLAND Hy 62.20 271 T T 07 19 23.9
baz=54
H11S3 WAKE ISLAND Hy 62.21 271 T T 07 19 24.7
baz=54,slow=74
ARCES ARCESS Array B 68.25 11 LR LR 06 43 50.1
comp=Z,40nm,18.2s,baz=1.0,slow=37
NOA NORSAR Array B 72.75 21 LR LR 06 45 12.0
comp=Z,37nm,20.0s,baz=345,slow=36
MDP Montagnes des 72.95 98 LR LR 06 51 28.7
comp=Z,30nm,18.8s,baz=108,slow=41
HFS Hagfors 74.17 20 LR LR 06 43 55.2
comp=Z,60nm,20.6s,baz=317,slow=34
FINES FINESS Array B 75.80 14 LR LR 06 47 36.8
comp=Z,54nm,18.1s,baz=16,slow=37
XLT XiLinHaoTe 79.94 320 *eP* P 06 13 36.9 +1.2
XLT sP PcP 06 13 43.6 +0.4
XLT PcP **pP 06 13 44.1 +0.6**
XLT PP **PP 06 16 33.4 -3.5**
XLT pmax pmax
comp=Z,6.0nm,0.6s
XLT pmax pmax
comp=Z,150nm,4.8s
SONM Songino Array 81.26 328 P P 06 13 47.0 +4.2
comp=Z,0.4nm,0.6s,baz=43,slow=4.0,SNR=2.9
SONM LR LR 06 47 47.8
comp=Z,49nm,18.4s,baz=12,slow=34
ZALV Zalesovo Beam 82.74 343 P P 06 13 52.0 +1.7
comp=Z,0.3nm,0.3s,baz=28,slow=6.5,SNR=1.7
ZALV LR LR 06 53 23.7
comp=Z,24nm,18.2s,baz=44,slow=38
comp=Z,0.3nm,0.3s
ARU Arti 83.57 358 LR LR 06 53 18.7
comp=Z,26nm,19.5s,baz=338,slow=37
ESDC Sonseca Array 83.70 42 P P 06 13 56.2 +0.7
comp=Z,1.0nm,0.9s,baz=335,slow=5.7,SNR=3.3
comp=Z,1.0nm,0.9s
GERES GERESS Array B 83.85 26 LR LR 06 53 11.6
comp=Z,51nm,18.3s,baz=290,slow=37
DAVOX Davos/Dischmat 84.23 30 LR LR 06 54 17.1
comp=Z,54nm,18.1s,baz=263,slow=38
VRAC Vranov 84.39 24 LR LR 06 54 13.1
comp=Z,40nm,18.1s,baz=342,slow=38
HHC Hu-ho-hao-te 84.44 321 *eP* P 06 13 58.9 -0.5
HHC pP PcP 06 14 03.4 +0.4
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,120nm,6.0s
BVAR Borovoye Array 86.12 351 P P 06 14 08.7 +1.3
comp=Z,0.3nm,0.5s,baz=20,slow=4.6,SNR=2.1
BVAR LR LR 06 54 57.4
comp=Z,18nm,20.7s,baz=12,slow=37

comp=Z,0.3nm,0.5s
AKASG **Malin Array Be** 86.48 16 LR LR 06 51 45.4
comp=Z,26nm,18.9s,baz=330,slow=35
KURBB **Kurchatov Arra** 87.18 346 P **P** **06 14 13.8 +1.2**
comp=Z,0.9nm,0.4s,baz=15,slow=4.9,SNR=4.8
comp=Z,0.9nm,0.4s
AKTO Aktyubinsk 89.58 358 LR LR 06 56 29.3
comp=Z,33nm,20.0s,baz=262,slow=37
MKAR Makanchi Array 90.01 342 P **P** **06 14 27.5 +1.4**
comp=Z,0.6nm,1.0s,baz=350,slow=4.4,SNR=2.4
MKAR LR LR 06 56 35.0
comp=Z,33nm,18.9s,baz=8.0,slow=37
comp=Z,0.6nm,1.0s
MLR Muntele Rosu 90.56 20 LR LR 06 57 30.4
comp=Z,77nm,18.4s,baz=323,slow=37
AAK Ala-Archa 95.63 346 LR LR 07 03 09.2
comp=Z,40nm,19.0s,baz=24,slow=39
PZH PanZhiHua 100.78 319 P **Pdif** **06 15 15.8 +0.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,150nm,6.0s

IDC 09 06:13:13.1±2.4, 0°06N×129°03E, h0km, mb3.1/3, mbtmp3.1/3, Error ellipse: s-maj=155.6km s-min=29.1km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.55**	**166**	P	P	06 17 52.5	-0.9
	0.1nm,0.3s,baz=346,slow=11,SNR=5.7						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**24.05**	**169**	P	P	06 18 30.8	+0.6
	0.4nm,0.4s,baz=351,slow=10,SNR=7.6						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**61.86**	**325**	P	P	06 23 34.2	-0.1
	0.1nm,0.5s,baz=127,slow=6.2,SNR=1.7						
	0.1nm,0.5s						

*NEIC **09** 06:16:44.3±2.6, 36°41N±0°02×98°73W±0°03, h5km±1km, Error ellipse: s-maj=4.0km s-min=3.1km az=307.0*
*ANF **09** 06:16:45.6±0.3, 36°44N×98°76W, h8km±2km, ML4.0/14, Error ellipse: s-maj=2.2km s-min=1.7km az=116.0*
*TUL **09** 06:16:45.5±2.8, 36°45N±0°02×98°77W±0°04, h7km±6km, ML3.6, mb_Lg3.2/98(NEIC), ML3.5/14(NEIC), Error ellipse: s-maj=4.4km s-min=2.6km az=114.0*

ISC 09 06:16:45.7±0.8, 36°44N±0°03×98°75W±0°02, h10km±5km, n125, σ0°71/117, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK038	**West end E0370**	**0.04**	**11**	Pg	**Pg**	**06 16 47.5**	**-0.2**
OK038				IAML		06 16 49.1	
	22μm,0.2s						
OK038				Sg	**Sg**	**06 16 49.5**	**+0.4**
U32A	**Winter Ranch,**	**0.21**	**253**	Pg	**Pg**	**06 16 49.9**	**-0.2**
U32A				Sg	**Sg**	**06 16 53.1**	**0.0**
U32A				IAML		06 16 53.7	
	comp=E,9μm,0.3s						
U32A	**Winter Ranch,**	**0.21**	**253**	P	**Pg**	**06 16 49.7**	**-0.4**
	baz=69,SNR=237						
U32A				S	**Sg**	**06 16 53.2**	**0.0**
	baz=69						
OK035	**E0210 Rd and N**	**0.27**	**7**	Pg	**Pg**	**06 16 51.1**	**0.0**
OK035				Sg	**Sg**	**06 16 55.1**	**+0.3**
OK032	**Salt Plains WL**	**0.56**	**50**	Pg	**Pg**	**06 16 56.5**	**-0.2**
OK032				Sg	**Sg**	**06 17 04.5**	**+0.3**
OK032				IAML		06 17 04.7	
	comp=E,4μm,0.2s						
OK032				IAML		06 17 07.2	
	comp=E,4μm,0.2s						
CROK	**Carrier**	**0.62**	**84**	Pg	**Pg**	**06 16 57.8**	**0.0**
CROK				Sg	**Sg**	**06 17 06.4**	**+0.5**
CROK				IAML		06 17 08.8	
	comp=E,4μm,0.2s						
ELIS	**Ellis County**	**0.66**	**235**	Pg	**Pg**	**06 16 57.9**	**-0.5**
ELIS				Sg	**Sg**	**06 17 07.2**	**+0.1**
ELIS				IAML		06 17 07.8	
	comp=E,2μm,0.3s						
ELIS				IAML		06 17 14.0	
	comp=N,2μm,0.3s						
CSTR	**Hydro, Custer**	**0.80**	**176**	Pg	**Pg**	**06 17 00.6**	**-0.5**
KAN14	**Manchester OK**	**0.81**	**51**	Pg	**Pg**	**06 17 00.9**	**-0.5**
KAN14				Sg	**Sg**	**06 17 12.1**	**0.0**
GC02	**Grant County #**	**0.82**	**60**	Pg	**Pg**	**06 17 01.1**	**-0.5**
GC02				Sg	**Sg**	**06 17 12.5**	**+0.2**
KAN10	**Anthony SW Sta**	**0.86**	**38**	Pg	**Pg**	**06 17 01.6**	**-0.7**
KAN10				Sg	**Sg**	**06 17 13.2**	**-0.3**
KAN05	**Bluff City Nor**	**0.97**	**46**	Pg	**Pg**	**06 17 03.8**	**-0.6**
KAN05				Sg	**Sg**	**06 17 16.9**	**-0.1**
KAN17	**Caldwell West**	**0.99**	**53**	Pg	**Pg**	**06 17 04.2**	**-0.6**
KAN17				Sg	**Sg**	**06 17 17.5**	**-0.3**
KAN08	**Anthony NE Sta**	**1.00**	**38**	Pg	**Pg**	**06 17 04.3**	**-0.7**
KAN12	**Harper NE Stat**	**1.04**	**35**	Pg	**Pg**	**06 17 05.1**	**-0.7**
KAN01	**Argonia South**	**1.07**	**48**	Pg	**Pg**	**06 17 05.4**	**-0.8**
KAN06	**Argonia West S**	**1.08**	**41**	Pg	**Pg**	**06 17 05.6**	**-0.8**
KAN09	**Caldwell North**	**1.14**	**52**	Pg	**Pg**	**06 17 06.8**	**-0.9**
KAN13	**South Haven SW**	**1.17**	**61**	Pg	**Pg**	**06 17 07.4**	**-0.8**
KS21	**Milan North St**	**1.21**	**46**	Pg	**Pb**	**06 17 08.2**	**-0.6**
OK029	**Liberty Lake**	**1.23**	**121**	Pg	**Pb**	**06 17 08.4**	**-0.7**
BLOK	**Blackwell**	**1.28**	**75**		**Pn**	**06 17 09.2**	**-0.4**
ADOK	**Arcadia Dam**	**1.37**	**125**		**Pn**	**06 17 10.7**	**-0.2**
OK048	**Pawnee Station**	**1.46**	**90**		**Pn**	**06 17 12.1**	**0.0**
OKCSW	**OKLAHOMA CITY**	**1.48**	**134**		**Pn**	**06 17 12.4**	**-0.1**
OK033	**Mehan**	**1.52**	**105**		**Pn**	**06 17 13.1**	**+0.1**
FNO	**Franklin**	**1.61**	**137**		**Pn**	**06 17 14.7**	**+0.5**
OK052	**Battle Ridge R**	**1.64**	**105**		**Pn**	**06 17 14.7**	**+0.1**
QUOK	**Quay**	**1.67**	**99**		**Pn**	**06 17 15.3**	**+0.3**
WMOK	**Wichita Mounta**	**1.70**	**181**	Pn	**Pn**	**06 17 15.1**	**-0.4**
WMOK	**Wichita Mounta**	**1.70**	**181**	P	**Pn**	**06 17 15.2**	**-0.2**
	baz=0.4,SNR=254						
WMOK				S	**Sb**	**06 17 38.8**	**+0.2**
	baz=0.4						
SMWD	**Samnorwood**	**1.80**	**223**	Pn	**Pn**	**06 17 16.5**	**-0.4**
T35B	**Sooner Cattle**	**1.86**	**75**	P	**Pn**	**06 17 18.1**	**+0.5**
	baz=256,SNR=79						
T35B				S	**Sb**	**06 17 43.6**	**+0.4**
	baz=256						
R32A	**Long Quarter,**	**1.98**	**1**	Pn	**Pn**	**06 17 19.3**	**+0.1**
R32A	**Long Quarter,**	**1.98**	**1**	P	**Pn**	**06 17 20.0**	**+0.7**
	baz=181,SNR=93						
R32A				S	**Sb**	**06 17 46.8**	**+0.2**
	baz=181						
TUL3	**Leonard**	**2.45**	**102**	Pn	**Pn**	**06 17 26.2**	**+0.4**
TUL3	**Leonard**	**2.45**	**102**	P	**Pn**	**06 17 26.2**	**+0.4**
	baz=284,SNR=38						
TUL3				S	**Sn**	**06 17 57.1**	**+1.3**
	baz=284						
CBKS	**Cedar Bluff**	**2.49**	**342**	Pn	**Pn**	**06 17 26.6**	**+0.2**
CBKS				IAmb_Lg		06 18 05.2	
	comp=Z,95nm,0.8s						
CBKS	**Cedar Bluff**	**2.49**	**342**	S	**Sn**	**06 17 57.6**	**+0.7**
	baz=162						
WTFS	**Witchita Falls**	**2.68**	**175**	Pn	**Pn**	**06 17 29.0**	**0.0**
LOOK	**Love County**	**2.76**	**152**	Pn	**Pn**	**06 17 30.2**	**+0.2**
LOOK				IAmb_Lg		06 18 15.6	
	comp=Z,76nm,0.7s						
AMTX	**Amarillo**	**2.85**	**238**	Pn	**Pn**	**06 17 31.2**	**-0.1**
AMTX	**Amarillo**	**2.85**	**238**	Sb	**Sb**	**06 18 14.0**	**+2.4**
	baz=56						
RLO	**Rose Lookout**	**3.02**	**94**	Pn	**Pn**	**06 17 33.8**	**+0.1**
KSU1	**Kansas State U**	**3.15**	**32**	Pn	**Pn**	**06 17 36.0**	**+0.6**
KSU1	**Kansas State U**	**3.15**	**32**	P	**Pn**	**06 17 36.2**	**+0.8**
	baz=213,SNR=11						
KSU1				Sb	**Sb**	**06 18 22.7**	**+2.4**
	baz=213						
RTBA	**Rita Blanca**	**3.21**	**271**	Pn	**Pn**	**06 17 36.4**	**0.0**
DKNS	**Dickens**	**3.29**	**213**	Pn	**Pn**	**06 17 38.3**	**+0.9**
APMT	**Aspermont**	**3.31**	**200**	Pn	**Pn**	**06 17 38.1**	**+0.6**
X37A	**Clayton**	**3.32**	**123**	Pn	**Pn**	**06 17 37.9**	**+0.2**
X37A				IAmb_Lg		06 18 39.9	
	comp=Z,109nm,0.8s						
X37A	**Clayton**	**3.32**	**123**	P	**Pn**	**06 17 37.7**	**0.0**
	baz=305,SNR=19						
Z35A	**Perchaven, San**	**3.34**	**158**	Pn	**Pn**	**06 17 37.4**	**-0.5**
Z35A	**Perchaven, San**	**3.34**	**158**	P	**Pn**	**06 17 38.1**	**+0.2**
	baz=339						
FW03	**Perrin-Whitt E**	**3.44**	**170**	Pn	**Pn**	**06 17 40.4**	**+1.1**
U38A	**Gravette**	**3.52**	**89**	Pn	**Pn**	**06 17 41.1**	**+0.7**
U38A				IAmb_Lg		06 18 40.5	
	comp=Z,58nm,0.7s						
FW06	**Azle**	**3.60**	**164**	Pn	**Pn**	**06 17 42.1**	**+0.5**
PLPT	**Palo Pinto**	**3.64**	**174**	Pn	**Pn**	**06 17 42.2**	**+0.1**
SN07	**Snyder 07**	**3.78**	**208**	Pn	**Pn**	**06 17 44.5**	**+0.4**
SN07				IAmb_Lg		06 18 47.4	
	comp=Z,42nm,0.7s						
ABTX	**Abilene, Hawle**	**3.88**	**191**	Pn	**Pn**	**06 17 45.3**	**-0.2**
ABTX	**Abilene, Hawle**	**3.88**	**191**	P	**Pn**	**06 17 45.7**	**+0.2**
	baz=10						
HHAR	**Hobbs**	**3.89**	**91**	Pn	**Pn**	**06 17 45.3**	**-0.2**
HHAR				IAmb_Lg		06 18 51.6	
	comp=Z,45nm,0.7s						
SN05	**Snyder 5**	**3.97**	**207**	Pn	**Pn**	**06 17 46.1**	**-0.6**
SN05				IAmb_Lg		06 18 53.2	
	comp=Z,43nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.00**	**311**	Pn	**Pn**	**06 17 46.5**	**-0.7**
KSCO				IAmb_Lg		06 18 59.7	
	comp=Z,69nm,0.9s						
POST	**Post**	**4.06**	**215**	Pn	**Pn**	**06 17 48.5**	**+0.6**
POST				IAmb_Lg		06 18 59.3	
	comp=Z,61nm,1.1s						
MSTX	**Muleshoe**	**4.11**	**234**	Pn	**Pn**	**06 17 48.2**	**-0.6**
MSTX				IAmb_Lg		06 18 57.6	
	comp=Z,37nm,0.8s						
FW14	**Alvarado**	**4.23**	**162**	IAmb_Lg		06 19 03.9	
	comp=Z,36nm,0.8s						
FW16	**Waxahatchie**	**4.24**	**158**	IAmb_Lg		06 19 09.5	
	comp=Z,71nm,0.8s						
TREL	**Terrell**	**4.30**	**149**	IAmb_Lg		06 19 11.3	
	comp=Z,67nm,0.7s						
N33A	**J Bar K, Exete**	**4.41**	**13**	Pn	**Pn**	**06 17 51.9**	**-0.8**
N33A				IAmb_Lg		06 19 14.8	
	comp=Z,65nm,0.9s						
Z38A	**Mt. Pleasant**	**4.43**	**135**	Pn	**Pn**	**06 17 52.7**	**-0.3**
Z38A				IAmb_Lg		06 19 08.4	
	comp=Z,34nm,0.8s						
S39A	**Bolivar**	**4.52**	**72**	Pn	**Pn**	**06 17 54.6**	**+0.4**
S39A				IAmb_Lg		06 19 09.7	
	comp=Z,69nm,0.8s						
S39A	**Bolivar**	**4.52**	**72**	P	**Pn**	**06 17 54.3**	**+0.1**
	baz=256,SNR=13						
WHTX	**Lake Whitney,**	**4.57**	**166**	Pn	**Pn**	**06 17 53.0**	**-1.9**
T25A	**Trinidad**	**4.60**	**280**	Pn	**Pn**	**06 17 53.7**	**-1.8**
T25A				IAmb_Lg		06 19 14.4	
	comp=Z,45nm,0.8s						
MIAR	**Mount Ida**	**4.63**	**113**	Pn	**Pn**	**06 17 55.9**	**+0.3**
MIAR	**Mount Ida**	**4.63**	**113**	P	**Pn**	**06 17 55.9**	**+0.3**
	baz=296,SNR=23						
U40A	**Yellville**	**4.76**	**89**	P	**Pn**	**06 17 57.6**	**+0.1**
	baz=273,SNR=12						
U40A				P	**Pn**	**06 17 57.6**	**+0.1**
	baz=273,SNR=12						
SGCY	**Sterling City**	**4.93**	**204**	Pn	**Pn**	**06 17 59.7**	**-0.1**
BGNE	**Belgrade**	**4.98**	**5**	Pn	**Pn**	**06 18 00.5**	**-0.1**
BGNE				IAmb_Lg		06 19 35.8	
	comp=Z,62nm,0.7s						
N35A	**Tabor**	**5.04**	**28**	Pn	**Pn**	**06 18 00.8**	**-0.5**
237A	**Washetta, Mont**	**5.06**	**150**	IAmb_Lg		06 19 39.6	
	comp=Z,48nm,0.9s						
BRDY	**Brady**	**5.15**	**182**	Pn	**Pn**	**06 18 01.6**	**-1.3**
OGNE	**Ogallala**	**5.18**	**331**	Pn	**Pn**	**06 18 03.5**	**+0.2**
P38A	**Dawn**	**5.20**	**51**	IAmb_Lg		06 19 33.6	
	comp=Z,38nm,0.8s						
P38A	**Dawn**	**5.20**	**51**	P	**Pn**	**06 18 03.5**	**0.0**
	baz=234,SNR=11						
X40A	**Basin Creek Fa**	**5.21**	**110**	Pn	**Pn**	**06 18 03.9**	**+0.2**
MGMO	**Mountain Grove**	**5.25**	**80**	Pn	**Pn**	**06 18 04.0**	**-0.2**
MGMO				IAmb_Lg		06 19 39.8	
	comp=Z,39nm,0.8s						
WLAR	**White Oak Lake**	**5.38**	**119**	IAmb_Lg		06 19 39.9	
	comp=Z,27nm,0.7s						
FCAR	**Ozark Folk Cen**	**5.39**	**94**	Pn	**Pn**	**06 18 05.7**	**-0.5**
FCAR				IAmb_Lg		06 19 36.6	
	comp=Z,36nm,0.8s						
UALR	**University of**	**5.48**	**106**	Pn	**Pn**	**06 18 06.6**	**-0.7**
UALR				IAmb_Lg		06 19 51.3	
	comp=Z,56nm,1.1s						
R40A	**Maddies Statio**	**5.48**	**68**	IAmb_Lg		06 19 40.7	
	comp=Z,45nm,0.8s						
SDCO	**Great Sand Dun**	**5.55**	**286**	Pn	**Pn**	**06 18 09.1**	**+0.5**
435B	**Jarrell**	**5.73**	**170**	IAmb_Lg		06 19 58.8	
	comp=Z,37nm,0.7s						
NATX	**Nacogdoches**	**5.77**	**143**	IAmb_Lg		06 20 02.2	
	comp=Z,31nm,0.8s						
L34A	**Svendsen Farm,**	**5.82**	**18**	Pn	**Pn**	**06 18 10.5**	**-1.5**
Z41A	**Richland Creek**	**5.83**	**121**	IAmb_Lg		06 19 54.9	
	comp=Z,28nm,0.9s						
OZNA	**Ozona**	**5.85**	**200**	Pn	**Pn**	**06 18 11.3**	**-1.3**
OZNA				IAmb_Lg		06 20 04.1	
	comp=Z,26nm,0.8s						
BRIGG	**Briggsdale**	**6.01**	**315**	IAmb_Lg		06 19 59.1	
	comp=Z,37nm,0.7s						
JCT	**Junction City**	**6.01**	**189**	IAmb_Lg		06 20 09.5	
	comp=Z,40nm,0.9s						
MNHN	**Monahans**	**6.08**	**214**	Pn	**Pn**	**06 18 14.4**	**-1.3**
LCAR	**Lake Charles**	**6.15**	**91**	Pn	**Pn**	**06 18 16.4**	**-0.2**
LCAR				IAmb_Lg		06 19 58.9	
	comp=Z,29nm,0.8s						
K30B	**Basset**	**6.26**	**354**	Pn	**Pn**	**06 18 18.6**	**+0.5**
K30B				IAmb_Lg		06 20 15.7	
	comp=Z,58nm,0.8s						
K30B	**Basset**	**6.26**	**354**	P	**Pn**	**06 18 18.0**	**-0.1**
	baz=174,SNR=9.6						
PECS	**Pecos**	**6.61**	**222**	Pn	**Pn**	**06 18 22.2**	**-0.7**
PBMO	**Poplar Bluff**	**6.70**	**85**	IAmb_Lg		06 20 24.7	
	comp=Z,46nm,0.8s						
FVM	**French Village**	**6.82**	**74**	IAmb_Lg		06 20 22.9	
	comp=Z,41nm,0.8s						
SLM	**Saint Louis**	**7.11**	**70**	IAmb_Lg		06 20 29.7	
	comp=Z,49nm,0.8s						
PHWY	**Pilot Hill**	**7.13**	**315**	IAmb_Lg		06 20 34.3	
	comp=Z,20nm,0.7s						
N23A	**Red Feather La**	**7.17**	**310**	IAmb_Lg		06 20 50.7	
	comp=Z,34nm,0.9s						
DRIO	**Del Rio**	**7.17**	**193**	Pn	**Pn**	**06 18 29.1**	**-1.6**
ALPN	**Alpine**	**7.30**	**215**	Pn	**Pn**	**06 18 31.7**	**-0.9**
EF01	**Eagle Ford 01**	**7.30**	**177**	IAmb_Lg		06 20 40.2	
	comp=Z,28nm,0.8s						
CGM3	**Cape Girardeau**	**7.34**	**81**	IAmb_Lg		06 20 43.9	
	comp=Z,24nm,0.8s						
ECSD	**EROS Data Cent**	**7.46**	**12**	Pn	**Pn**	**06 18 32.5**	**-2.1**
S44A	**Carbondale**	**7.69**	**78**	Pn	**Pn**	**06 18 37.5**	**-0.2**
OXF	**Oxford**	**7.86**	**101**	IAmb_Lg		06 21 04.1	
	comp=Z,23nm,0.9s						
SUSD	**Miller**	**7.99**	**359**	Pn	**Pn**	**06 18 42.1**	**+0.2**
833A	**Chaparral WMA,**	**8.11**	**184**	IAmb_Lg		06 21 14.4	
	comp=Z,17nm,1.1s						
TX31	**Lajitas Ar. Si**	**8.20**	**212**	P	**Pn**	**06 18 44.8**	**-0.2**
	baz=29,SNR=8.7						
TXAR	**Lajitas Array**	**8.20**	**212**	Pn	**Pn**	**06 18 44.1**	**-0.8**
121A	**Cookes Peak, D**	**8.41**	**245**	IAmb_Lg		06 21 32.7	
	comp=Z,18nm,1.1s						
K22A	**Casper**	**8.63**	**318**	IAmb_Lg		06 21 39.0	
	comp=Z,26nm,0.9s						
RSSD	**Black Hills**	**8.67**	**334**	IAmb_Lg		06 21 24.8	
	comp=Z,24nm,0.8s						
L42A	**Oliver, Polo**	**8.97**	**49**	IAmb_Lg		06 21 34.6	
	comp=Z,32nm,0.9s						
JFWS	**Jewell Farm**	**9.20**	**43**	IAmb_Lg		06 21 53.6	
	comp=Z,24nm,0.7s						

GUC 09 06:21:56.4±0.6, 21°17S×71°79W, h31km±9km, ML2.6, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PATCX	**Punta Patache**	**1.57**	**77**	*e*P	Pn	06 22 22.4	+0.1
PATCX				*e*S	Sn	06 22 41.6	-0.1
PATCX				IAML		06 22 43.1	
	comp=E,84nm,0.3s						
PB02	**IPOC Station P**	**1.78**	**95**	*e*P	Pn	06 22 24.5	-0.6
PB02				*e*S	Sn	06 22 46.6	-0.1
PB02				IAML		06 22 48.5	
	comp=E,87nm,0.3s						
PB07	**IPOC Station P**	**1.86**	**108**	*e*P	Pn	06 22 26.3	-0.1
PB07				*e*S	Sn	06 22 48.5	-0.4
PB07				IAML		06 22 49.6	
	comp=N,59nm,0.1s						
PB07	**IPOC Station P**	**1.86**	**108**	*e*P	Pn	06 22 26.3	-0.1
PB07				*e*S	Sn	06 22 49.3	+0.4
PB07				IAML		06 22 49.6	
	comp=N,59nm,0.1s						
PB04	**IPOC Station P**	**1.92**	**127**	*e*P	Pn	06 22 26.9	-0.3
PB04				*e*S	Sn	06 22 49.3	-1.0
HMBC	**Humberstone**	**1.99**	**64**	*e*P	Pn	06 22 28.0	-0.1
HMBC				*e*S	Sn	06 22 51.8	-0.3
PB01	**IPOC Station P**	**2.16**	**87**	*e*P	Pn	06 22 30.4	0.0
PB01				*e*S	Sn	06 22 56.0	-0.2
PB01				IAML		06 22 58.8	
	comp=E,65nm,0.2s						
PB11	**IPOC Station P**	**2.45**	**55**	*e*P	Pn	06 22 34.4	0.0
PB11				*e*S	Sn	06 23 03.3	-0.1
PB11				IAML		06 23 03.7	
	comp=N,52nm,0.3s						
PB09	**IPOC Station P**	**2.46**	**105**	*e*P	Pn	06 22 35.3	+0.8
PB06	**IPOC Station P**	**2.56**	**127**	*e*P	Pn	06 22 36.4	+0.3
PB06				*e*S	Sn	06 23 06.2	-0.1
PB06				IAML		06 23 07.0	
	comp=E,32nm,0.2s						
GO01	**Chusmiza**	**2.86**	**59**	*e*P	Pn	06 22 41.0	+0.6
PB12	**IPOC Station P**	**2.90**	**29**	*e*P	Pn	06 22 40.6	0.0
LVC	**Limon Verde**	**3.04**	**119**	*e*P	Pn	06 22 43.3	+0.6

*BER **09** 06:26:07.6±2.1, 82°91N×6°65W, h10km, mb(Pn)3.5, ML1.3(DNK), Confirmed Earthquake*
*DNK **09** 06:26:10.3±5.0, 82°69N×5°75W, h31km±56km, ML1.3*

ISC 09 06:26:04.1±2.0, 82°8N±0°2×5°87W±0°06, h14km, n13, σ3°31/22, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NOR	**Nord**	**1.92**	**235**	*e*P	**Pb**	**06 26 39.0**	**+0.2**
NOR				*i* S	**Sn**	**06 27 00.8**	**+0.6**
NOR				IAML		06 27 02.7	
	comp=Z,4.3nm,0.4s						
NOR	**Nord**	**1.92**	**235**	*e*P	**Pb**	**06 26 39.0**	**+0.2**
NOR				*i* S	**Sn**	**06 27 00.8**	**+0.6**
NOR				IAML		06 27 02.7	
	comp=Z,4.3nm,0.4s						
KBS	**Kingsbay**	**4.81**	**135**	*e*P	**Pn**	**06 27 18.6**	**+2.7**
KBS				*e*S	**Sn**	**06 28 08.6**	**-2.7**
KBS				IAML		06 28 14.3	
	comp=Z,3.3nm,0.2s						
KBS	**Kingsbay**	**4.81**	**135**	*e*	**Pn**	**06 27 18.1**	**+2.2**
	baz=358,slow=8.6						
KBS				*i* P	Pb	06 27 18.7	-9.2
KBS				*e*S	**Sn**	**06 28 07.9**	**-3.4**
BRBB	**Barentsburg B**	**5.76**	**135**	*e*P	**Pn**	**06 27 32.4**	**+3.4**
BRBB				*e*S	**Sn**	**06 28 33.0**	**-1.8**
BRBA	**Barentsburg A**	**5.79**	**135**	*e*P	**Pn**	**06 27 33.5**	**+4.1**
BRBA				IAML		06 28 47.5	
	comp=Z,6.7nm,0.7s						
SPA0	**Spitsbergen Ar**	**5.89**	**130**	*e*P	**Pn**	**06 27 33.5**	**+2.8**
SPA0				*e*S	**Sn**	**06 28 36.8**	**-1.0**
SPA0				IAML		06 28 38.5	
	comp=Z,4.3nm,0.8s						
HSPB	**Hornsund (broa**	**6.88**	**136**	*e*P	**Pn**	**06 27 48.3**	**+4.0**
HSPB				IAML		06 28 56.2	
	comp=Z,3.2nm,0.8s						
HOPEN	**Hopen**	**8.25**	**123**	*e*P	**Pn**	**06 28 06.0**	**+3.0**
HOPEN				*e*S	**Sn**	**06 29 32.1**	**-3.7**
HOPEN				IAML		06 29 37.1	
	comp=Z,3.6nm,0.8s						
DBG	**Daneborg**	**8.98**	**206**	*i* P	**Pn**	**06 28 14.2**	**+1.2**
DBG				*e*		06 29 49.7	
DBG				IAML		06 29 52.2	
	comp=Z,0.3nm,0.3s						
DBG	**Daneborg**	**8.98**	**206**	*i* P	**Pn**	**06 28 14.2**	**+1.2**
DBG				*e*		06 29 49.7	
DBG				IAML		06 29 52.2	
	comp=Z,0.3nm,0.3s						
NEEM	**North Greenlan**	**9.10**	**259**	*e*P	**Pn**	**06 28 16.8**	**+1.9**
NEEM				*e*S	**Sn**	**06 29 50.5**	**-6.6**
NEEM				IAML		06 29 54.4	
	comp=Z,1.1nm,0.4s						
NEEM	**North Greenlan**	**9.10**	**259**	*e*P	**Pn**	**06 28 16.8**	**+1.9**
NEEM				*e*S	**Sn**	**06 29 50.5**	**-6.6**
NEEM				IAML		06 29 54.4	
	comp=Z,1.1nm,0.4s						

*NEIC **09** 06:31:55.5±1.1, 37°52N±0°07×72°27E±0°07, h189km±9km, mb4.0/5, Error ellipse: s-maj=10.8km s-min=6.1km az=148.0*
*IDC **09** 06:31:59.7±6.3, 37°77N×72°36E, h210km±39km, mb3.1/4, mbtmp3.7/8, Error ellipse: s-maj=57.6km s-min=39.4km az=4.0*

ISC 09 06:31:54.5±0.6, 37°52N±0°05×72°35E±0°07, h176km, n45, σ2°01/53, mb4.0/9, 4C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**2.01**	**348**		**Pn**	**06 32 33.9**	**+2.3**
GAR	**Garm**	**2.18**	**313**	Pn	**Pn**	**06 32 34.9**	**+1.5**
CHGR	**Chuyangaron**	**2.76**	**295**		**Pn**	**06 32 40.8**	**+0.7**
BTK	**Batken**	**2.80**	**335**	Pn	**Pn**	**06 32 43.1**	**+2.6**
SIMJ	**Simiganj**	**2.87**	**294**		**Pn**	**06 32 42.1**	**+0.6**
KSH	**Kashi**	**3.47**	**54**	Pn	**Pn**	**06 32 46.7**	**-2.1**
KSH				Sn	Sn	06 33 23.8	-7.5
KSH				pmax	pmax		
	comp=Z,43nm,0.4s						
KSH				smax	smax		
	comp=N,81nm,0.6s						
KSH				smax	smax		
	comp=E,85nm,0.7s						
ARSB	**Arslanbob**	**3.83**	**7**	Pn	**Pn**	**06 32 54.7**	**+1.3**
NIL	**Nilore**	**3.93**	**169**	Pn	**Pn**	**06 32 56.7**	**+2.1**
KBL	**Kabul**	**4.00**	**223**	Pn	**Pn**	**06 32 56.6**	**+0.9**
NRN	**Naryn**	**4.82**	**35**	Pn	**Pn**	**06 33 06.9**	**+0.6**
AAK	**Ala-Archa**	**5.37**	**17**	Pn	**Pn**	**06 33 15.4**	**+2.1**
AAK	**Ala-Archa**	**5.37**	**17**	P	**Pn**	**06 33 15.5**	**+2.3**
	comp=E,5.0nm,0.4s,baz=179,slow=5.2,SNR=18						
AAK				S	**Sn**	**06 34 16.5**	**+1.3**
	comp=E,14nm,0.5s,baz=156,sl

comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,5.5s
HHC Hu-ho-hao-te 30.40 71 *e*P **P 06 37 51.8 +1.6**
HHC pmax pmax
comp=Z,13nm,0.5s
HHC pmax pmax
comp=Z,67nm,5.1s
AKBB Malin Array Si 33.17 307 P P **06 38 13.6 -0.5**
AKBB IAmb IAmb 06 38 22.6
comp=Z,6.5nm,1.5s
KIEV Kiev 33.18 307 P P **06 38 13.4 -0.7**
KIEV IAmb IAmb 06 38 22.6
comp=Z,5.8nm,1.5s
XLT XiLinHaoTe 33.45 65 *e*P P **06 38 14.4 -2.3**
XLT pP pP 06 38 49.8 -5.0
XLT sP sP 06 39 14.6 -1.0
XLT PP PnPn **06 39 32.2 -2.5**
XLT pmax pmax
comp=Z,9.0nm,1.0s
XLT pmax pmax
comp=Z,120nm,4.4s
FINES FINESS Array B 37.26 325 P P **06 38 48.3 -0.5**
ARCES ARCESS Array B 40.63 337 P P **06 39 17.1 +0.4**
comp=Z,3.3nm,1.0s,baz=108,slow=8.6,SNR=1.9
comp=Z,3.3nm,1.0s
HFS Hagfors 42.94 321 P P **06 39 35.6 +0.1**
comp=Z,1.1nm,0.7s,baz=86,slow=7.4,SNR=1.6
comp=Z,1.1nm,0.7s
TIXI Tiksi 44.42 22 P P **06 39 45.7 -1.5**
ILAR Eielson Array 73.50 16 P P **06 43 07.4 0.0**
comp=Z,0.4nm,0.9s,baz=316,slow=6.3,SNR=3.1
comp=Z,0.4nm,0.9s
YKA Yellowknife Ar 80.17 3 P P **06 43 44.4 -0.3**
comp=Z,0.1nm,0.5s,baz=347,slow=5.7,SNR=4.5
comp=Z,0.1nm,0.5s

IDC 09 06:34:10.7±13.0,**7°.95S**×**128°.57E, h235**km±155km, **mb2.7/1, mbtmp3.2/3, Error ellipse: s-maj=115.9km s-min=63.8km az=69.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.17**	**155**	P	P	n	06 37 09.2	0.0
	0.3nm,0.7s,baz=342,slow=12,SNR=8.1						
WRA				S	S		06 39 35.3	+0.1
	0.3nm,0.3s,baz=326,slow=23,SNR=7.6						
ASAR	**Alice Springs**	**16.45**	**162**	P	P		06 37 47.9	+0.4
	0.6nm,0.8s,baz=348,slow=9.3,SNR=7.2						
MKAR	**Makanchi Array**	**68.25**	**328**	P	P		06 44 46.2	0.0
	0.1nm,0.4s,baz=124,slow=7.3,SNR=2.0						
	0.1nm,0.4s						

*IDC **09** 06:33:49.6±46.0, 15°.14S×171°.58W, h0km, mb4.3/3, mbtmp4.3/3, Error ellipse: s-maj=892.5km s-min=179.4km az=79.0*
*NEIC **09** 06:34:44.6±0.8, 16°.6S±0°.2×175°.44W±0°.06, h228km±16km, mb4.1/13, Error ellipse: s-maj=25.3km s-min=6.2km az=191.0*
ISC 09 06:34:45.2±0.9,**16°.6S**±0°.2×**175°.3W**±0°.1, **h250**km, **n19,** σ0**s58/19, mb4.0/10, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.30**	**53**	Pn	**Pn**		**06 35 52.8**	**+0.1**
NIUE	**Niue**	**5.70**	**117**	Pn	**Pn**		**06 36 09.7**	**0.0**
ARMA	**Armidale**	**33.18**	**239**	P	**P**		**06 40 59.0**	**+0.2**
STKA	**Stephens Creek**	**41.88**	**241**	P	**P**		**06 42 11.5**	**+0.2**
STKA	**Stephens Creek**	**41.88**	**241**	P	**P**		**06 42 12.1**	**+0.8**
	1.6nm,0.4s,baz=96,slow=12,SNR=5.6							
	1.6nm,0.4s							
BBOO	**Buckleboo**	**46.65**	**240**	P	**P**		**06 42 48.6**	**-0.4**
BBOO				IAmb	IAmb		06 42 55.1	
	comp=Z,7.3nm,1.2s							
WB0	**Warramunga Arr**	**47.77**	**258**	P	**P**		**06 42 57.2**	**-0.6**
WB0				IAmb	IAmb		06 43 01.6	
	comp=Z,14nm,1.5s							
WRA	**Warramunga Arr**	**47.81**	**258**	P	**P**		**06 42 57.0**	**-1.1**
WRA	**Warramunga Arr**	**47.81**	**258**	P	**P**		**06 42 58.3**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=92,slow=7.0,SNR=18							
	comp=Z,1.0nm,0.4s							
AS31	**Alice Springs**	**48.02**	**253**	P	**P**		**06 42 59.5**	**-0.3**
ASAR	**Alice Springs**	**48.02**	**253**	P	**P**		**06 42 59.2**	**-0.5**
ASAR	**Alice Springs**	**48.02**	**253**	P	**P**		**06 43 00.1**	**+0.4**
	comp=Z,3.4nm,0.3s,baz=89,slow=8.1,SNR=78							
	comp=Z,3.4nm,0.3s							
FORT	**Forrest**	**53.27**	**244**	P	**P**		**06 43 38.4**	**-0.2**
FORT				IAmb	IAmb		06 43 43.0	
	comp=Z,13nm,1.1s							
KNRA	**Kununurra**	**53.59**	**263**	P	**P**		**06 43 40.4**	**-0.8**
KNRA				IAmb	IAmb		06 43 42.2	
	comp=Z,21nm,1.2s							
FITZ	**Fitzroy Crossi**	**56.19**	**259**	P	**P**		**06 43 60.0**	**+0.3**
FITZ				IAmb	IAmb		06 44 26.2	
	comp=Z,2.8nm,1.4s							
PSA00	**Pilbara Seismi**	**61.13**	**254**	P	**P**		**06 44 33.5**	**-0.2**
PSA00				IAmb	IAmb		06 44 58.0	
	comp=Z,8.4nm,1.1s							
MBWA	**Marble Bar**	**61.29**	**255**	P	**P**		**06 44 34.1**	**-0.6**
NWAO	**Narrogin (SRO)**	**62.46**	**241**	P	**P**		**06 44 43.4**	**+1.1**
QSPA	**South Pole Qui**	**73.50**	**180**	P	**P**		**06 45 50.0**	**-0.4**
QSPA				IAmb	IAmb		06 45 54.1	
	comp=Z,2.8nm,1.4s							

*UPA **09** 06:35:41.7±0.8, 8°.56N×83°.40W, h12km±9km, MW3.1*
*CATAC **09** 06:35:44.1±0.4, 8°.51N×83°.28W, h5km±2km, ML2.6*
ISC 09 06:35:42.7±1.1,**8°.51N**±0°.05×**83°.24W**±0°.05, **h18**km±5km, **n24,** σ0**s80/32, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIRO	**Carate, Puerto**	**0.14**	**225**	*i* P	**Pg**	**06 35 47.0**	**+0.1**
PIRO				*i* S	**Sg**	**06 35 49.7**	**0.0**
PIRO				IAML		06 35 52.0	
	comp=Z,3μm,1.0s						
CDITO	**Canoas**	**0.36**	**79**	*e*P	**Pn**	**06 35 52.8**	**-0.3**
CDITO	**Canoas**	**0.36**	**79**	*i* P	**Pn**	**06 35 52.8**	**-0.3**
CDITO				*i* S	**Sn**	**06 35 58.2**	**-1.5**
CDITO				IAML		06 36 06.9	
	comp=Z,250nm,1.0s						
PTPM	**Petroterminale**	**0.46**	**130**	*e*P	**Pb**	**06 35 51.8**	**-0.5**
PLAN	**Los Planes de**	**0.47**	**291**	*i* P	**Pb**	**06 35 52.6**	**+0.1**
PLAN				*i* S	**Sg**	**06 35 58.7**	**0.0**
PLAN				IAML		06 36 01.6	
	comp=Z,410nm,1.0s						
POTG	**Potrero Grande**	**0.56**	**12**	*i* P	**Pn**	**06 35 55.3**	**-0.5**
POTG				*i* S	**Sn**	**06 36 03.6**	**-1.0**
POTG				IAML		06 36 08.6	
	comp=Z,450nm,1.0s						
BRU2	**Volcan**	**0.61**	**62**	*e*P	**Pn**	**06 35 56.7**	**+0.2**
BRU2				*e*S	**Sn**	**06 36 07.8**	**+1.8**
BRU2	**Volcan**	**0.61**	**62**	*i* P	**Pn**	**06 35 56.8**	**+0.2**
BRU2				*i* S	**Sn**	**06 36 06.1**	**+0.1**
BRU2				IAML		06 36 13.9	
	comp=Z,160nm,1.0s						
BC3P	**Paso Ancho**	**0.69**	**63**	*e*P	**Pn**	**06 35 57.8**	**+0.1**
OCHAL	**Ojochal**	**0.72**	**325**	*i* P	**Pg**	**06 35 57.1**	**+0.3**
OCHAL				IAML		06 36 10.1	
	comp=Z,1.8nm,1.0s						
BCO2	**Palmira**	**0.73**	**73**	*e*P	**Pn**	**06 35 58.8**	**+0.6**
BCO2				*e*S	**Sn**	**06 36 11.4**	**+2.4**
LOCO3	**Loma Colorada,**	**0.81**	**97**	*e*P	**Pn**	**06 35 58.8**	**-0.4**
LNBQ3	**Los Naranjos,**	**0.83**	**70**	*e*P	**Pn**	**06 35 59.8**	**+0.1**
PEZE	**Perez Zeledon,**	**0.98**	**333**	*i* P	**Pg**	**06 36 02.6**	**+0.9**
PEZE				IAML		06 36 17.7	
	comp=Z,130nm,1.0s						
CDM	**Cerro de Muert**	**1.17**	**333**	*i* P	**Pg**	**06 36 05.1**	**-0.3**
CDM				IAML		06 36 23.8	
	comp=Z,73nm,1.0s						
CNI2	**El Empalme, Bo**	**1.19**	**39**	*e*P	**Pn**	**06 36 03.0**	**-1.3**
RIMA	**Rio Macho**	**1.40**	**334**	*i* P	**Pb**	**06 36 08.5**	**+0.1**
RIMA				IAML		06 36 27.4	
	comp=Z,36nm,1.0s						
LCR2	**La Lucha 2**	**1.45**	**328**	*i* P	**Pb**	**06 36 09.8**	**+0.6**
VTCV	**VTCV, Calle Va**	**1.55**	**342**	*i* P	**Pb**	**06 36 11.6**	**+0.7**
VTCV				IAML		06 36 37.3	
	comp=Z,110nm,1.0s						
OCM	**Ochomogo**	**1.56**	**333**	*i* P	**Pb**	**06 36 11.6**	**+0.5**
OCM				*i* S	**Sg**	**06 36 32.7**	**-0.4**
OCM				IAML		06 36 34.5	
	comp=Z,51nm,1.0s						
BATAN	**Batan**	**1.59**	**355**	*i* P	**Pg**	**06 36 12.5**	**-0.8**
BATAN				IAML		06 37 13.7	
	comp=Z,310nm,1.0s						
HDC3	**Heredia 3**	**1.72**	**330**	*i* P	**Pb**	**06 36 14.0**	**+0.1**
HDC3				IAML		06 37 44.8	
	comp=Z,150nm,1.0s						
HDC	**Heredia**	**1.72**	**330**	*i* P	**Pb**	**06 36 13.9**	**0.0**
HDC				IAML		06 37 44.9	
	comp=Z,150nm,1.0s						
JACO	**JACO, Garabito**	**1.82**	**309**	*i* P	**Pb**	**06 36 15.1**	**-0.3**
JACO				IAML		06 36 56.4	
	comp=Z,34nm,1.0s						

*RSNC **09** 06:39:22.0±0.3, 3°.5±2°.×7°.5W±°, h169km±13km, mb4.3, mB4.9, ML4.1, Mw(mB)4.2*
*IDC **09** 06:39:29.0±2.3, 3°.02S×75°.38W, h118km±25km, mb3.4/4, mbtmp3.9/9, MS2.7/3, Error ellipse: s-maj=23.5km s-min=18.8km az=85.0*
ISC 09 06:39:23.6±0.8,**2°.71S**±0°.07×**75°.45W**±0°.07, **h100**km, **n44,** σ1**s67/34, mb3.5/4, Peru-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BONI	**La Bonita**	**3.77**	**326**	P	**Pn**	**06 40 16.5**	**-3.5**
COHC	**Cochancay**	**3.81**	**274**	P	**Pn**	**06 40 20.5**	**+0.2**
COHC				S	**Sn**	**06 41 05.9**	**+1.7**
TULM	**Tulcn-Chalpat**	**4.13**	**325**	P	Pn	06 40 32.8	+7.7
TULM				S	Sn	06 41 26.7	+14
OTAV	**Otavalo**	**4.19**	**314**	P	Pn	06 40 32.9	+7.0
FLOC	**Florencia**	**4.27**	**357**	P	**Pn**	**06 40 24.6**	**-1.9**
CMBC	**Cumbal**	**4.34**	**327**	P	**Pn**	**06 40 26.9**	**-0.9**
GCUF	**Volcan Galeras**	**4.34**	**334**	P	**Pn**	**06 40 27.0**	**-1.0**
PAC1	**Pacto, Paraso**	**4.46**	**311**	P	Pn	06 40 34.5	+5.2
CRUC	**La Cruz**	**4.51**	**340**	P	Pn	06 40 41.4	+11
MCRA	**Macar, Loja**	**4.79**	**250**	P	**Pn**	**06 40 31.5**	**-2.1**
MCRA				S	**Sn**	**06 41 25.2**	**-2.9**
GARC	**Garzon, Huila**	**4.86**	**359**	P	**Pn**	**06 40 33.3**	**-1.5**
BBAC	**Balboa, Cauca**	**5.03**	**339**	P	**Pn**	**06 40 35.8**	**-1.3**
	139nm,0.7s,2μm						
MACC	**Macarena, Meta**	**5.08**	**18**	P	**Pn**	**06 40 35.5**	**-2.0**
	96nm,2.7s,2μm						
ATAH	**Atahualpa**	**5.29**	**214**	P	**Pn**	**06 40 41.7**	**+1.0**
	34nm,0.4s,baz=24,slow=12,SNR=102						
ATAH				S	**Sn**	**06 41 43.0**	**+2.4**
	49nm,0.9s,baz=214,slow=16,SNR=7.4						
ATAH				LR	LR		06 43 05.1	
	comp=Z,39nm,21.0s,baz=19,slow=43						
BETC	**Betania**	**5.36**	**0**	P	Pn		06 40 45.3	+4.0
POPC	**Popayan, Colom**	**5.36**	**347**	P	**Pn**	**06 40 40.9**	**-0.6**
	57nm,0.6s,514nm							
CZSB	**Cruzeiro do Su**	**5.69**	**151**	P	**Pn**	**06 40 44.4**	**-1.3**
	325nm,0.7s,3μm							
TBTG	**Tabatinga, AM**	**5.72**	**105**	P	**Pn**	**06 40 44.8**	**-1.4**
	182nm,1.0s,4μm							
JAMC	**Jamundi, Valle**	**6.01**	**348**	P	**Pn**	**06 40 49.3**	**-1.1**
	35nm,0.7s							
ORTC	**Ortega, Tolima**	**6.58**	**2**	P	**Pn**	**06 40 57.3**	**-0.6**
	23nm,0.8s,853nm							
YOTC	**Yotoco, Valle**	**6.71**	**352**	P	Pn		06 41 06.3	+6.6
	16nm,0.7s							
MALC	**Bahia Malaga**	**6.94**	**344**	P	**Pn**	**06 41 02.7**	**-0.1**
VILC	**Villavicencio,**	**7.00**	**15**	P	**Pn**	**06 41 02.5**	**-1.2**
ANIL	**Santa Ana**	**7.15**	**0**	P	Pn		06 41 16.7	+11
ROSC	**El Rosal**	**7.58**	**9**	P	Pn		06 41 22.2	+10
	7.7nm,0.4s,baz=359,slow=12,SNR=2.9							
ROSC				LR	LR		06 45 13.5	
	comp=Z,136nm,19.2s,baz=56,slow=44							
PTGC	**Puerto Gaitan,**	**7.62**	**26**	P	**Pn**	**06 41 10.5**	**-1.5**
	25nm,0.5s							
GUY2C	**Guyana, Caldas**	**7.88**	**1**	P	Pn		06 41 27.1	+11
NORC	**Norcasia**	**8.24**	**4**	P	**Pn**	**06 41 20.9**	**+0.4**
	5.1nm,0.8s							
SPBC	**San Pablo de B**	**8.42**	**9**	P	**Pn**	**06 41 22.9**	**-0.1**
	7.4nm,1.4s							
CBOC	**Ciudad Bolivar**	**8.54**	**356**	P	**Pn**	**06 41 27.1**	**+2.5**
	11nm,1.0s							
HELC	**Santa Helena**	**8.84**	**359**	P	Pn		06 41 33.6	+4.6
	5.7nm,1.0s							
RUSC	**La Rusia**	**8.86**	**15**	P	**Pn**	**06 41 28.1**	**-1.3**
	14nm,0.5s							
PTBC	**PUERTO BERRIO,**	**9.24**	**6**	P	**Pn**	**06 41 34.6**	**+0.5**
NNA	**Nana**	**9.32**	**188**	P	**Pn**	**06 41 35.0**	**-0.3**
	5.9nm,0.3s,baz=345,slow=11,SNR=3.3							
NNA				S	**Sn**	**06 43 16.9**	**-1.5**
	5.5nm,0.4s,baz=232,slow=12,SNR=2.1							
NNA				LR	LR		06 46 01.4	
	comp=Z,38nm,21.5s,baz=9.0,slow=44							
NNA	**Nana**	**9.32**	**188**	P	**Pn**	**06 41 33.9**	**-1.3**
	15nm,0.9s							
BARC	**Barichara**	**9.51**	**14**	P	**Pn**	**06 41 35.6**	**-2.4**
LPAZ	**La Paz**	**15.29**	**152**	P	**Pn**	**06 42 54.2**	**-0.6**
	1.3nm,0.5s,baz=324,slow=9.6,SNR=8.6							
SIV	**San Ignacio**	**19.35**	**134**	P	**Pn**	**06 43 44.1**	**+0.6**
	0.5nm,0.3s,baz=309,slow=14,SNR=3.7							
NVAR	**Mina Array Bea**	**56.90**	**320**	P	P		06 49 04.7	+6.0
	0.6nm,0.6s,baz=120,slow=8.4,SNR=7.0							
	0.6nm,0.6s							
DBIC	**Dimbokro**	**71.08**	**82**	P	**P**	**06 50 34.9**	**+3.2**
	5.4nm,1.1s,baz=265,slow=5.7,SNR=2.1							
	5.4nm,1.1s							
YKA	**Yellowknife Ar**	**71.46**	**342**	P	P		06 50 37.4	+4.4
	0.3nm,0.6s,baz=139,slow=6.0,SNR=7.7							
	0.3nm,0.6s							
ILAR	**Eielson Array**	**84.61**	**336**	P	P		06 51 50.5	+4.7
	0.2nm,0.7s,baz=87,slow=6.4,SNR=4.5							
	0.2nm,0.7s							
ASAR	**Alice Springs**	**141.22**	**226**	PKhKP	PKPpre		06 58 41.9	
	0.4nm,0.6s,baz=127,slow=3.8,SNR=1.8							
WRA	**Warramunga Arr**	**143.10**	**231**	PKP	**PKiKP**	**06 58 49.5**	**-0.7**
	0.6nm,0.5s,baz=126,slow=3.0,SNR=2.5							

*NEIC **09** 06:52:05.3±2.5, 21°.3S±0°.1×173°.9W±0°.1, h10km±1km, mb4.5/13, Error ellipse: s-maj=21.3km s-min=19.2km az=120.0*
*IDC **09** 06:52:06.0±0.7, 21°.47S×174°.66W, h0km, mb4.1/13, mbtmp4.1/13, MS4.0/6, Error ellipse: s-maj=30.1km s-min=20.1km az=142.0*
ISC 09 06:52:05.3±0.5,**21°.5S**±0°.1×**173°.90W**±0°.08, **h10**km, **n41,** σ2**s12/37, mb4.3/19, MS3.9/5, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.44**	**58**		**Pn**	**06 53 10.6**	**-2.1**
AFI	**Afiamalu**	**7.80**	**15**	Pn	**Pn**	**06 53 55.7**	**-3.4**
MSVF	**Nonsavu**	**8.45**	**295**		**Pn**	**06 54 10.0**	**+2.0**
RAR	**Rarotonga**	**13.17**	**91**		**Pn**	**06 55 10.2**	**-2.4**
RAR	**Rarotonga**	**13.17**	**91**	Pn	**Pn**	**06 55 11.0**	**-1.6**
	7.6nm,0.3s,baz=236,slow=5.6,SNR=13						
RAR				Sn	Sn		06 57 27.0	-12
	2.4nm,0.3s,baz=4.8,slow=16,SNR=2.3						
RAR				LR	LR		07 01 20.1	
	comp=Z,265nm,18.0s,baz=244,slow=40						
TUWZ	**Tuamarina**	**22.38**	**205**	P	**P**	**06 57 04.0**	**+0.2**
NNZ	**Nelson**	**22.42**	**206**	P	**P**	**06 57 04.3**	**+0.1**
NNZ				IAmb	IAmb		06 57 32.6	
	comp=Z,28nm,1.1s						
PPT	**Papeete**	**23.25**	**85**	LR	LR		07 05 24.1	
	comp=Z,149nm,18.1s,baz=244,slow=33						
INZ	**Inchbonnie**	**24.47**	**207**	P	**P**	**06 57 24.1**	**-0.4**
RPZ	**Rata Peaks**	**25.45**	**206**	LR	LR		07 07 23.3	
	comp=Z,295nm,18.2s,baz=20,slow=36						
STKA	**Stephens Creek**	**40.84**	**246**	P	**P**	**06 59 47.4**	**-0.1**
STKA	**Stephens Creek**	**40.84**	**246**	P	**P**	**06 59 44.0**	**-3.4**
	comp=Z,3.3nm,1.0s,baz=70,slow=9.0,SNR=4.2							
	comp=Z,3.3nm,1.0s							
MANU	**Manus Island**	**42.36**	**292**	P	**P**	**06 59 58.5**	**-1.5**
AS31	**Alice Springs**	**48.02**	**257**	P	**P**	**07 00 41.1**	**-4.0**
AS31				IAmb	IAmb		07 00 42.8	
	comp=Z,2.1nm,1.1s						
ASAR	**Alice Springs**	**48.02**	**257**	P	**P**	**07 00 41.0**	**-4.1**
ASAR	**Alice Springs**	**48.02**	**257**	P	**P**	**07 00 41.7**	**-3.4**
	comp=Z,4.8nm,0.9s,baz=90,slow=8.3,SNR=18							
ASAR				LR	LR		07 20 02.3	
	comp=Z,110nm,18.1s,baz=132,slow=35							
	comp=Z,4.8nm,0.9s							
WR0	**Warramunga Arr**	**48.07**	**262**	P	**P**	**07 00 44.7**	**-0.7**
WR0				IAmb	IAmb		07 01 03.1	
	comp=Z,5.0nm,1.1s						
WRA	**Warramunga Arr**	**48.26**	**262**	P	**P**	**07 00 44.0**	**-2.9**
WRA	**Warramunga Arr**	**48.26**	**262**	P	**P**	**07 00 42.9**	**-4.0**
	comp=Z,3.7nm,1.0s,baz=98,slow=7.5,SNR=21							
	comp=Z,3.7nm,1.0s							
FORT	**Forrest**	**52.43**	**247**	P	**P**	**07 01 18.1**	**-0.3**
QSPA	**South Pole Qui**	**68.59**	**180**	P	**P**	**07 03 09.9**	**+1.6**
QSPA				IAmb	IAmb		07 03 13.9	
	comp=Z,3.5nm,0.8s						
QSPA	**South Pole Qui**	**68.59**	**180**	P	**P**	**07 03 11.1**	**+2.8**
	comp=Z,3.3nm,0.8s,baz=32,slow=1.5,SNR=11							
QSPA				LR	LR		07 31 31.4	
	comp=Z,139nm,18.6s,baz=242,slow=34							
	comp=Z,3.3nm,0.8s							
MJAR	**Matsushiro Arr**	**73.32**	**321**	P	**P**	**07 03 36.3**	**-1.0**
	comp=Z,2.8nm,0.7s,baz=118,slow=6.5,SNR=4.8							
	comp=Z,2.8nm,0.7s							
PETK	**Petropavlovsk-**	**78.27**	**343**	P	**P**	**07 04 07.2**	**+2.1**
	comp=Z,1.5nm,0.5s,baz=120,slow=8.7,SNR=2.4							
	comp=Z,1.5nm,0.5s							
NVAR	**Mina Array Bea**	**79.17**	**41**	P	**P**	**07 04 14.0**	**+3.2**
	comp=Z,0.8nm,0.8s,baz=223,slow=7.4,SNR=4.7							
	comp=Z,0.8nm,0.8s							
KSRS	**Korea Array**	**80.19**	**317**	P	**P**	**07 04 17.1**	**+1.1**
	comp=Z,2.3nm,0.9s,baz=142,slow=6.3,SNR=4.7							
	comp=Z,2.3nm,0.9s							
TXAR	**Lajitas Array**	**84.41**	**56**	P	P		07 04 44.8	+6.3
	comp=Z,0.4nm,0.9s,baz=236,slow=9.6,SNR=2.8							
	comp=Z,0.4nm,0.9s							
PDAR	**Pinedale Array**	**87.10**	**42**	P	P		07 04 57.7	+6.0
	comp=Z,0.4nm,0.8s,baz=180,slow=1.8,SNR=4.1							
	comp=Z,0.4nm,0.8s							
IL31		**88.48**	**11**	P	**P**		**07 04 57.1**	**-0.2**
IL31				IAmb	IAmb		07 05 07.3	
	comp=Z,0.8nm,0.8s							
ILAR	**Eielson Array**	**88.48**	**11**	P	**P**		**07 04 58.2**	**+0.7**
ILAR	**Eielson Array**	**88.48**	**11**	P	**P**		**07 04 59.6**	**+2.1**
	comp=Z,0.8nm,1.0s,baz=230,slow=6.1,SNR=4.8							
ILAR				LR	LR		07 36 48.8	
	comp=Z,212nm,21.2s,baz=298,slow=30							
	comp=Z,0.8nm,1.0s							
POKR	**Poker Plat Res**	**88.70**	**11**	P	**P**	**07 04 58.5**	**0.0**
POKR				IAmb	IAmb		07 05 14.6	
	comp=Z,3.8nm,0.7s							
E18K	**Tukpahlearik C**	**89.19**	**5**	P	**P**	**07 05 01.2**	**+0.4**
E18K				IAmb	IAmb		07 05 03.2	
	comp=Z,6.1nm,1.1s							
C19K	**Lookout Ridge**	**90.93**	**5**	P	**P**	**07 05 09.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**94.06**	**288**	P	**P**	**07 05 25.3**	**+0.8**
	comp=Z,1.1nm,0.4s,baz=117,slow=3.5,SNR=9.7							
	comp=Z,1.1nm,0.4s							
YKA	**Yellowknife Ar**	**95.84**	**24**	P	**P**	**07 05 33.7**	**+2.1**
	comp=Z,0.1nm,0.7s,baz=240,slow=4.9,SNR=2.4							
	comp=Z,0.1nm,0.7s							
BVAR	**Borovoye Array**	**122.30**	**320**	PKP	**PKiKP**		**07 11 00.5**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=88,slow=6.5,SNR=5.0							
ARCES	**ARCESS Array B**	**130.53**	**351**	PKP	**PKiKP**		**07 11 18.4**	**+1.8**
	comp=Z,6.0nm,1.1s,baz=32,slow=3.5,SNR=1.8							
AKASG	**Malin Array Be**	**145.66**	**334**	PKPbc	**PKPab**		**07 11 44.3**	**-0.2**
	comp=Z,5.2nm,1.1s,baz=34,slow=3.1,SNR=11							
BRTR	**Keskin Array B**	**150.31**	**314**	PKPbc	**PKiKP**		**07 11 58.1**	**0.0**
	comp=Z,0.9nm,0.7s,baz=129,slow=4.1,SNR=3.1							
GERES	**GERESS Array B**	**152.03**	**349**	PKPbc	**PKiKP**		**07 12 02.0**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=57,slow=3.6,SNR=4.1							

*ASRS **09** 06:52:11.5±0.5, 50°.N±3°.×9°.2E±°, h10km, ML3.9/14, Error ellipse: s-maj=6.0km s-min=2.9km az=152.7, confirmed*
*NNC **09** 06:52:13.2±4.0, 49°.59N×91°.69E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=41.0km s-min=31.9km az=135.0*
ISC 09 06:52:19.7±1.4,**50°.00N**±0°.06×**91°.49E**±0°.05, **h10**km, **n21,** σ1**s29/38, 5C-3D, Mongolia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUR	**Chagan-Uzun**	**2.02**	**274**	Pg	**Pn**	**06 52 53.6**	**-0.4**
CUR				Sg	**Sg**	**06 53 24.0**	**-0.8**
ULGR	**Ulagan, Altay**	**2.34**	**287**	Pg	**Pg**	**06 53 03.7**	**-0.9**
ULGR				Sg	**Sg**	**06 53 37.4**	**+2.4**
AKAR	**Aktash**	**2.51**	**279**	Pg	**Pn**	**06 53 01.4**	**+0.8**
AKAR				Sg	**Sg**	**06 53 39.2**	**-1.0**
KZLR	**Kyzyl**	**2.54**	**47**	Pg	**Pn**	**06 52 59.4**	**-1.6**
KZLR				Sg	**Sn**	**06 53 33.0**	**+0.9**
CHBI	**Chibit, Altay**	**2.58**	**279**	Pg	**Pn**	**06 53 02.7**	**+1.1**
CHBI				Sg	**Sg**	**06 53 40.5**	**-2.0**
DGZ	**Jazzator, Alta**	**2.64**	**265**	Pg	**Pn**	**06 53 02.5**	**0.0**
DGZ				Sg	**Sb**	**06 53 40.5**	**+0.8**
DJO	**Djoy, Khakassi**	**2.79**	**357**	Pg	**Pb**	**06 53 08.5**	**-1.1**
DJO				Sg	**Sg**	**06 53 48.7**	**-0.6**
ARDR	**Aradan**	**2.86**	**25**	Pg	**Pn**	**06 53 06.8**	**+1.4**
ARDR				Sg	**Sb**	**06 53 47.3**	**+1.5**
CERR	**Cheremushki**	**2.86**	**359**	Pg	**Pb**	**06 53 09.9**	**-0.9**
CERR				Sg	**Sg**	**06 53 51.2**	**-0.3**
YALR	**Yailyu, Altay**	**3.03**	**307**	Pg	**Pb**	**06 53 14.0**	**+0.3**
YALR				Sg	**Sg**	**06 53 56.8**	**-0.1**
ARTR	**Artybash**	**3.21**	**306**	Pg	**Pb**	**06 53 17.4**	**+0.5**
ARTR				Sg	**Sg**	**06 54 02.2**	**-0.7**
VEH	**Verkhnyaya Baz**	**3.34**	**348**	Pg	**Pb**	**06 53 19.3**	**+0.3**
VEH				Sg	**Sg**	**06 54 07.4**	**+0.5**
TASR	**Tashtagol**	**3.57**	**322**	Pg	**P

HAZ	Te Kaha	18.58	197	P		Pn	07 10 46.7	-0.9
PUZ	Puketiti	18.75	195	P		Pn	07 10 49.4	-0.4
MKAZ	Moumakai	18.83	203	P		Pn	07 10 50.3	-0.3
KOUNC	Koumac, New Ca	18.88	265	P		Pn	07 10 52.0	+0.7
KOUNC				IAmb		IAmb	07 10 55.9	
	comp=Z,76nm,1.1s							
CNGZ	Carnagh Statio	19.16	195	P		Pn	07 10 54.7	+0.3
MWZ	Matawai	19.19	197	P		Pn	07 10 53.6	-1.3
TKGZ	Te Karaka	19.20	196	P		Pn	07 10 54.1	-0.9
URZ	Urewera	19.23	198	P		P	07 10 51.2	-0.8
	comp=Z,7.4nm,0.3s,baz=17,slow=2.0,SNR=14							
URZ				S		S	07 14 10.9	-7.8
	comp=Z,21nm,1.1s,baz=222,slow=18,SNR=2.8							
URZ	Urewera	19.23	198	P		P	07 10 51.3	-0.6
TOZ	Tahuroa Road	19.26	202	P		P	07 10 52.8	+0.5
TOZ				IAmb		IAmb	07 10 56.8	
	comp=Z,27nm,1.3s							
RIGZ	Rimuhau	19.48	196	P		P	07 10 55.6	+1.0
HIZ	Hauiti	20.19	202	P		P	07 11 03.3	+1.1
HIZ				IAmb		IAmb	07 11 08.7	
	comp=Z,65nm,1.1s							
HIZ	Hauiti	20.19	202	P		P	07 11 04.6	+2.4
HIZ	Hauiti	20.19	202	P		P	07 11 04.5	+2.3
OTVZ	Oturere	20.50	200	P		P	07 10 57.5	-8.2
SNVZ	South Ngauruho	20.53	200	P		P	07 11 05.6	-0.4
BFZ	Birch Farm	21.73	197	P		P	07 11 17.6	-0.7
BFZ	Birch Farm	21.73	197	P		P	07 11 19.9	+1.6
TKNZ	Takaka Hill	23.09	202	P		P	07 11 32.4	+1.5
MRNZ	Matariki Terra	23.49	202	P		P	07 11 34.9	+0.4
KHZ	Kahutara	24.13	200	P		P	07 11 43.5	+3.2
RPZ	Rata Peaks	26.12	202	P		P	07 11 57.9	-0.4
RPZ				IAmb		IAmb	07 12 18.9	
	comp=Z,43nm,1.2s							
RPZ	Rata Peaks	26.12	202	P		P	07 12 00.9	+2.6
JCZ	Jackson Bay	27.29	205	P		P	07 12 11.8	+3.0
ODZ	Otahua Downs	27.43	201	P		P	07 12 13.8	+3.9
WKZ	Wanaka	27.83	204	P		P	07 12 14.7	+1.2
WHZ	Wether Hill Ro	29.13	204	P		P	07 12 24.8	-0.2
WHZ				IAmb		IAmb	07 12 33.9	
	comp=Z,16nm,0.9s							
EIDS	Eidsvold	31.14	254	P		P	07 12 42.4	-0.6
EIDS				IAmb		IAmb	07 12 43.7	
	comp=Z,19nm,1.0s							
EIDS	Eidsvold	31.14	254	P		P	07 12 42.8	-0.2
CAN	Canberra	34.64	236	P		P	07 13 13.2	-0.1
CAN				IAmb		IAmb	07 13 15.7	
	comp=Z,19nm,1.5s							
TV1H	Townsville Har	35.38	265	P		P	07 13 19.2	-0.5
CTAO	Charters Tower	35.78	263	P		P	07 13 22.4	-0.8
CTAO				IAmb		IAmb	07 13 24.5	
	comp=Z,22nm,0.7s							
CTAO	Charters Tower	35.78	263	P		P	07 13 22.7	-0.4
CTAO	Charters Tower	35.78	263	P		P	07 13 22.7	-0.4
CMSA	Cobar Meteorol	36.52	244	P		P	07 13 29.0	-0.2
PMG	Port Moresby	37.45	281	P		P	07 13 36.9	-0.4
MTSU	Mount Surprise	37.87	266	P		P	07 13 41.0	+0.2
TOO	Toolangi	37.99	234	P		P	07 13 41.0	-0.5
TOO				IAmb		IAmb	07 14 08.0	
	comp=Z,7.8nm,1.1s							
TOO	Toolangi	37.99	234	P		P	07 13 41.4	-0.2
COEN	Coen	39.81	272	P		P	07 13 55.9	-0.9
COEN				IAmb		IAmb	07 13 57.4	
	comp=Z,24nm,0.8s							
STKA	Stephens Creek	40.02	244	P		P	07 13 57.8	-0.6
	comp=Z,2.1nm,0.7s,baz=90,slow=9.9,SNR=5.7							
STKA				PcP		PcP	07 16 00.6	+1.3
	comp=Z,2.7nm,0.6s,baz=94,slow=3.8,SNR=8.2							
	comp=Z,2.1nm,0.7s							
QIS	Mount Isa	41.92	261	P		P	07 14 13.6	-0.5
	comp=Z,7.1nm,2.7s							
LCRK	Leigh Creek	42.79	247	P		P	07 14 20.6	-0.3
BBOO	Buckleboo	44.77	243	P		P	07 14 34.9	-1.8
BBOO	Buckleboo	44.77	243	P		P	07 14 35.7	-1.0
OOD	Oodnadatta	44.96	250	P		P	07 14 38.3	+0.1
MULG	Mulgathing	46.38	247	P		P	07 14 48.5	-0.8
WR0	Warramunga Arr	46.71	261	P		P	07 14 50.3	-1.7
AS01	Alice Springs	46.78	256	P		P	07 14 52.5	0.0
AS31	Alice Springs	46.82	256	P		P	07 14 52.1	-0.8
AS31				IAmb		IAmb	07 14 53.9	
	comp=Z,6.5nm,0.5s							
ASAR	Alice Springs	46.82	256	P		P	07 14 51.8	-1.1
	comp=Z,21nm,0.7s,baz=94,slow=8.3,SNR=211							
ASAR				PcP		PcP	07 16 22.9	+0.3
	comp=Z,1.3nm,0.5s,baz=106,slow=4.1,SNR=7.3							
	comp=Z,21nm,0.7s							
WRA	Warramunga Arr	46.90	261	P		P	07 14 52.0	-1.6
WRA	Warramunga Arr	46.90	261	P		P	07 14 51.9	-1.6
	comp=Z,2.2nm,0.3s,baz=96,slow=7.6,SNR=141							
WRA				PcP		PcP	07 16 23.1	+0.2
	comp=Z,0.7nm,0.6s,baz=95,slow=3.0,SNR=3.0							
	comp=Z,2.2nm,0.3s							
FORT	Forrest	51.55	246	P		P	07 15 28.4	-0.1
WRKA	Warakurna	51.76	253	P		P	07 15 29.5	-0.8
KNRA	Kununurra	52.94	265	P		P	07 15 38.3	-0.6
KNRA				IAmb		IAmb	07 15 40.0	
	comp=Z,24nm,0.8s							
DRV	Dumont d'Urvil	54.55	200	P		P	07 15 51.5	+1.7
FITZ	Fitzroy Crossi	55.33	261	P		P	07 15 55.4	-0.8
TNTI	Ternate	59.54	283	P		P	07 16 22.8	-2.8
	comp=Z,57nm,0.4s							
MBWA	Marble Bar	60.16	257	P		P	07 16 28.3	-1.4
MBWA				IAmb		IAmb	07 16 29.3	
	comp=Z,21nm,1.4s							
MBWA	Marble Bar	60.16	257	P		P	07 16 28.5	-1.2
CCD	Concordia, Ant	63.48	195	P		P	07 16 53.7	+2.2
GIRL	Giralia	64.85	254	P		P	07 17 01.1	+0.3
QSPA	South Pole Qui	70.03	180	P		P	07 17 34.0	+1.3
QSPA	South Pole Qui	70.03	180	P		P	07 17 35.0	+2.3
	comp=Z,2.6nm,0.7s,baz=57,slow=0.5,SNR=11							
	comp=Z,2.6nm,0.7s							
QSPA	South Pole Qui	70.03	180	P		P	07 17 35.2	+2.5
MJAR	Matsushiro Arr	71.20	322	P		P	07 17 38.9	-1.1
	comp=Z,2.2nm,0.5s,baz=158,slow=5.7,SNR=5.5							
	comp=Z,2.2nm,0.5s							
UGM	Wanagama	72.23	268	P		P	07 17 44.9	-1.7
PEA0B	Petropavlovsk-	76.43	344	P		P	07 18 09.0	-0.9
PEA0B				IAmb		IAmb	07 18 12.3	
	comp=Z,35nm,1.4s							
PETK	Petropavlovsk-	76.43	344	P		P	07 18 08.6	-1.3
PETK	Petropavlovsk-	76.43	344	P		P	07 18 09.7	-0.2
	comp=Z,2.5nm,0.6s,baz=111,slow=7.9,SNR=2.2							
	comp=Z,2.5nm,0.6s							
NVAR	Mina Array Bea	79.15	42	P		P	07 18 26.5	+1.0
	comp=Z,1.0nm,0.7s,baz=225,slow=8.2,SNR=10							
	comp=Z,1.0nm,0.7s							
NJ2	Nanjing	81.34	309	*e*P		P	07 18 37.4	+0.3
NJ2				pmax		pmax		
	comp=Z,12nm,0.5s							
MDJ	Mudanjiang	81.45	324	P		P	07 18 39.6	+2.2
MDJ				pmax		pmax		
	comp=Z,11nm,1.0s							
MDJ				pmax		pmax		
	comp=Z,350nm,5.0s							
L16K	Owhat River	82.48	8	P		P	07 18 41.8	-0.6
L16K				IAmb		IAmb	07 18 54.5	
	comp=Z,18nm,1.4s							
MAW	Mawson	82.75	199	P		P	07 18 45.1	+1.3
	comp=Z,2.1nm,0.6s,baz=104,slow=4.2,SNR=1.3							
	comp=Z,2.1nm,0.6s							
SUA	Susitna One	83.63	12	P		P	07 18 47.7	-0.7
SUA				IAmb		IAmb	07 19 01.0	
	comp=Z,25nm,1.4s							
TTA	Tatalina	84.12	9	P		P	07 18 50.8	0.0
TTA				IAmb		IAmb	07 19 01.7	
	comp=Z,9.4nm,1.4s							
H03S2	Juan Fernandez	84.39	124	T		T	08 51 38.7	
	baz=248,slow=75,SNR=9.0							
H03S1	Juan Fernandez	84.40	124	T		T	08 51 39.7	
	baz=248,slow=75,SNR=4.9							
H03S3	Juan Fernandez	84.40	124	T		T	08 51 42.0	
	baz=248,slow=75,SNR=4.2							
I17K	Unalakleet	84.45	7	P		P	07 18 50.9	-1.4
H03N2	Juan Fernandez	84.52	123	T		T	08 51 44.1	
	baz=255,slow=72							
H03N3	Juan Fernandez	84.52	123	T		T	08 51 46.1	
	baz=255,slow=72							
H03N1	Juan Fernandez	84.53	123	T		T	08 51 45.8	
	baz=255,slow=72							
ELIB	Princess Elisa	87.35	186	*d*P		P	07 19 05.5	-1.4
	comp=Z,3.3nm,0.8s							
ILAR	Eielson Array	87.38	12	P		P	07 19 06.1	-0.6
	comp=Z,0.5nm,0.5s,baz=219,slow=5.4,SNR=15							
	comp=Z,0.5nm,0.5s							
HHC	Hu-ho-hao-te	90.66	314	*e*P		P	07 19 22.7	0.0
HHC				pmax		pmax		
	comp=Z,6.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,100nm,5.0s							
CMAR	Chiang Mai Arr	92.09	289	P		P	07 19 30.9	+1.2
	comp=Z,0.9nm,0.3s,baz=103,slow=2.8,SNR=5.9							
	comp=Z,0.9nm,0.3s							
PZH	PanZhiHua	92.49	297	P		P	07 19 31.1	-0.5
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,160nm,5.5s							
YKA	Yellowknife Ar	95.16	24	P		P	07 19 42.8	0.0
	comp=Z,0.5nm,0.8s,baz=239,slow=4.5,SNR=9.0							
	comp=Z,0.5nm,0.8s							
MKAR	Makanchi Array	112.52	313	PKiKP		PKiKP	07 24 54.2	-0.8
	comp=Z,0.3nm,0.4s,baz=180,slow=0.3,SNR=10							
KURBB	Kurchatov Arra	115.23	317	PKP		PKPdf	07 24 59.3	-0.8
	comp=Z,0.3nm,0.4s,baz=102,slow=2.1,SNR=2.9							
BVAR	Borovoye Array	120.17	320	PKP		PKPdf	07 25 09.2	-0.2
	comp=Z,1.4nm,0.5s,baz=108,slow=1.0,SNR=11							
SPITS	Spitsbergen Ar	121.53	357	PKP		PKPdf	07 25 11.6	+0.1
	comp=Z,12nm,1.0s,baz=38,slow=7.3,SNR=2.1							
ARU	Arti	126.09	326	PKP		PKPdf	07 25 20.7	-0.1
	comp=Z,1.7nm,0.5s,baz=131,slow=9.3,SNR=1.8							
ARCES	ARCESS Array B	128.85	351	PKP		PKPdf	07 25 25.6	-0.1
	comp=Z,1.9nm,0.7s,baz=8.1,slow=1.7,SNR=6.4							
FINES	FINESS Array B	135.93	345	PKP		PKPdf	07 25 39.7	+0.6
	comp=Z,1.4nm,0.8s,baz=352,slow=3.9,SNR=4.0							
HFS	Hagfors	139.40	353	PKhKP		PKPpre	07 25 36.8	
	comp=Z,1.2nm,0.7s,baz=57,slow=5.3,SNR=1.9							
AKASG	Malin Array Be	143.66	333	PKhKP		PKPpre	07 25 50.4	
	comp=Z,1.1nm,0.5s,baz=40,slow=4.1,SNR=9.6							
EKA	Eskdalemuir Ar	144.29	7	PKP		PKPab	07 25 52.7	-0.3
	comp=Z,0.4nm,0.4s,baz=321,slow=2.5,SNR=6.8							
BURAR	Burynia Array	147.71	333	⇑P		PKiKP	07 26 05.7	+0.1
CLL	Collm	148.06	350	*i* PKPbc		PKPbc	07 26 04.8	+0.4
	comp=Z,8.0nm,1.0s							
CLL				*i* PKPab		PKPab	07 26 07.6	-0.1
CFR	Carcaliu	148.16	327	⇑P		PKPbc	07 26 04.9	0.0
BRTR	Keskin Array B	148.16	314	PKPbc		PKPbc	07 26 04.8	-0.5
	comp=Z,1.9nm,0.7s,baz=157,slow=3.5,SNR=5.9							
TPGR	Topolog	148.24	327	⇓P		PKPbc	07 26 05.5	+0.4
VRI	Vrincioaia	148.36	330	⇑P		PKPbc	07 26 05.7	+0.3
ASF	Jabal al Asfar	148.54	299	PKPbc		PKiKP	07 26 07.5	-0.3
	comp=Z,4.1nm,0.7s,baz=152,slow=3.8,SNR=3.6							
HARR	Harsova	148.60	327	⇓P		PKiKP	07 26 07.2	-0.1
DOPR	Dopca	148.91	331	⇑P		PKiKP	07 26 07.9	-0.1
MLR	Muntele Rosu	149.01	330	⇓P		PKiKP	07 26 08.3	-0.1
MLR	Muntele Rosu	149.01	330	PKPbc		PKiKP	07 26 08.3	-0.1
	comp=Z,2.3nm,0.5s,baz=153,slow=14,SNR=3.4							
VYHS	Vyhne	149.31	341	*e*PKP		PKiKP	07 26 08.7	-0.1
MARR	Marisel-Cluj	149.33	334	⇓P		PKPbc	07 26 08.4	+0.5
DRGR		149.40	335	⇓P		PKPbc	07 26 08.3	+0.2
VOIR		149.46	331	⇑P		PKPbc	07 26 08.8	+0.5
MMAI	Mount Meron Ar	149.52	301	PKPbc		PKiKP	07 26 10.0	+0.2
	comp=Z,1.3nm,0.3s,baz=71,slow=6.7,SNR=2.7							
ARR	Arges	149.71	331	⇓P		PKiKP	07 26 09.8	0.0
MODS	Modra-Piesok	149.88	343	*e*PKP		PKiKP	07 26 10.6	+0.7
SIRR	Siria	150.25	336	⇑P		PKiKP	07 26 10.6	-0.1
GERES	GERESS Array B	150.30	348	PKPbc		PKiKP	07 26 10.7	-0.2
	comp=Z,2.8nm,0.7s,baz=35,slow=4.9,SNR=11							
SURR	Surduc	150.48	334	⇓P		PKiKP	07 26 11.0	-0.3
GZR	Gura Zlata	150.50	333	⇓P		PKPbc	07 26 11.0	+0.2
CONA	Conrad Observa	150.66	344	*i* PKiKP		PKiKP	07 26 11.5	-0.2
	comp=Z,6.0nm,1.1s							
EIL	Elat	150.74	295	PKPbc		PKPbc	07 26 11.6	-0.1
	comp=Z,4.6nm,0.9s,baz=36,slow=14,SNR=3.7							
RONA	Rosalia, Austr	150.76	343	*i* PKiKP		PKiKP	07 26 11.9	0.0
	comp=Z,6.1nm,0.5s							
BZS	Buzias	150.80	335	⇑P		PKPbc	07 26 11.5	+0.1
HERR	Herciane	151.06	333	⇓P		PKPbc	07 26 12.1	+0.2
MOA	Molln	151.12	346	*i* PKiKP		PKPbc	07 26 11.5	-0.5
	comp=Z,4.0nm,0.5s							
BIOA	Bad Ischl, Aus	151.41	347	*i* PKiKP		PKiKP	07 26 13.1	0.0
	comp=Z,2.5nm,0.4s							
MDVR	Moldovita	151.44	334	⇑P		PKPbc	07 26 12.8	-0.1
LESA	Schwarzleotal	151.86	348	*i* PKiKP		PKiKP	07 26 14.4	+0.3
	comp=Z,2.9nm,0.5s							
SOKA	Soboth	152.03	344	*i* PKiKP		PKPbc	07 26 14.3	+0.1
	comp=Z,2.7nm,1.0s							
KBA	Koelnbreinsper	152.05	347	*i* PKiKP		PKiKP	07 26 14.8	+0.1
	comp=Z,3.5nm,0.6s							
RETA	Reutte	152.13	351	*i* PKP		PKPab	07 26 20.9	-3.8
	comp=Z,2.2nm,0.5s							
WATA	Walderalm	152.15	350	*e*PKiKP		PKPbc	07 26 14.0	-0.6
	comp=Z,5.2nm,0.5s							
WTTA	Wattenberg	152.20	349	*i* PKiKP		PKiKP	07 26 15.2	+0.2
	comp=Z,11nm,0.5s							
MOTA	Moosalm	152.21	350	*e*PKiKP		PKPbc	07 26 14.7	0.0
	comp=Z,5.9nm,0.8s							
SQTA	Sankt Quirin	152.32	350	*e*PKiKP		PKiKP	07 26 15.5	+0.4
	comp=Z,5.0nm,0.6s							
MYKA	Terra Mystica	152.41	346	*e*PKiKP		PKPbc	07 26 14.7	-0.3
	comp=Z,3.6nm,0.6s							
DAVA	Damuels	152.45	352	*i* PKiKP		PKiKP	07 26 16.0	+0.6
	comp=Z,2.4nm,0.5s							
ABTA	Abfaltersbach	152.54	348	*i* PKiKP		PKPbc	07 26 15.1	-0.3
	comp=Z,6.3nm,0.5s							
FETA	Feichten	152.59	351	*i* PKiKP		PKiKP	07 26 16.0	+0.3
	comp=Z,5.2nm,1.0s							
DAVOX	Davos/Dischmat	152.95	352	PKPbc		PKiKP	07 26 16.9	+0.4
	comp=Z,5.6nm,0.5s,baz=302,slow=6.6,SNR=13							

*IDC **09** 07:16:51.8±1.4, 46°.27N×53°.30E, h0km, mb3.2/1, mbtmp3.3/7, ML3.0/6, Error ellipse: s-maj=30.9km s-min=8.3km az=149.0*

ISC 09 07:16:55.3±1.2, 46°.2N±0°.1×53°.30E±0°.07, h35km, n9, σ1s50/15, 3C-1D, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKTO	Aktyubinsk	5.30	35	Pn	Pn	07 18 11.2	-0.8
	0.3nm,0.3s,baz=209,slow=10,SNR=7.4						
AKTO				Sn	Sn	07 19 12.1	+0.3
	0.4nm,0.3s,baz=22,slow=22,SNR=2.5						
	0.9nm,0.4s						
AKTO	Aktyubinsk	5.30	35	⇑Pn	Pn	07 18 13.8	+1.8
	1.7nm,1.1s						
AKTO				⇑Sn	Sn	07 19 11.9	+0.1
	0.9nm,0.5s						
AB31	Akbulak array	5.45	53	⇓Pn	Pn	07 18 13.3	-0.6
	0.2nm,0.3s,baz=236,slow=12,SNR=23						
AB31				Sn	Sn	07 19 18.1	+2.8
	0.5nm,0.3s,baz=63,slow=47,SNR=4.3						
AB31				⇑Lg	Lg	07 19 40.5	
	1.4nm,0.5s,baz=236,slow=29						
BELG	Belogornoye	7.25	331	Pn	Pn	07 18 37.6	-0.9
	0.6nm,0.3s,baz=149,slow=5.9,SNR=2.1						
BELG				Sn	Sn	07 19 58.4	-1.2
	0.9nm,0.3s,baz=162,slow=20,SNR=9.7						
	4.2nm,0.5s						
KBZ	Khabaz	7.77	255	Pn	Pn	07 18 46.5	+0.7
	0.5nm,0.3s,baz=53,slow=6.7,SNR=39						
KBZ				Sn	Sn	07 20 12.2	-0.2
	0.8nm,0.3s,baz=118,slow=24,SNR=8.1						
	1.4nm,0.3s						
KVAR	Kislovodsk Arr	7.82	257	Pn	Pn	07 18 47.5	+0.9
	baz=72,slow=9.2						
KVAR				Sn	Sn	07 20 13.4	-0.6
	baz=11,slow=19						
	1.4nm,0.4s						
BVAR	Borovoye Array	13.02	52	Pn	Pn	07 19 54.4	-3.2
	baz=243,slow=13,SNR=3.1						
	0.5nm,0.5s						
MKAR	Makanchi Array	19.93	78	P	P	07 21 23.2	-0.7
	0.1nm,0.3s,baz=277,slow=12,SNR=1.9						
	0.1nm,0.5s						
FINES	FINESS Array B	21.94	324	P	P	07 21 46.0	+0.6
	0.4nm,0.3s,baz=131,slow=12,SNR=6.1						
	0.4nm,0.3s						

IDC 09 07:17:25.6±3.1, 29°.32N×141°.08E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=139.3km s-min=25.3km az=74.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	48.32	308	P	P	07 26 08.8	-0.1
	0.2nm,0.4s,baz=86,slow=8.5,SNR=4.5						
	0.2nm,0.4s						
WRA	Warramunga Arr	49.40	188	P	P	07 26 16.9	-0.4
	0.2nm,0.3s,baz=2.9,slow=7.4,SNR=5.7						
	0.2nm,0.3s						
ASAR	Alice Springs	53.13	188	P	P	07 26 45.4	+0.1
	0.2nm,0.7s,baz=22,slow=12,SNR=5.5						
	0.2nm,0.7s						
BVAR	Borovoye Array	55.76	316	P	P	07 27 04.2	+0.1
	0.6nm,0.5s,baz=79,slow=7.5,SNR=3.1						
	0.6nm,0.5s						
FINES	FINESS Array B	75.53	333	P	P	07 29 11.5	-0.1
	1.8nm,1.0s,baz=46,slow=6.0,SNR=3.5						
	1.8nm,1.0s						

*IDC **09** 07:31:00.4±1.2, 22°.45S×170°.42E, h0km, mb4.3/6, mbtmp4.3/7, ML4.2/1, MS3.7/12, Error ellipse: s-maj=31.9km s-min=27.6km az=179.0*
*NOU **09** 07:31:31.3, 22°.03S×168°.14E, h0km, MLv2.4/4, New Caledonia*

ISC 09 07:31:05.2±1.1, 22°.4S±0°.2×170°.4E±0°.1, h33km, n24, σ0s90/14, mb4.3/6, MS3.7/10, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARNC	Mare, Loyalty	2.40	292	P	Pn	07 31 41.9	-0.3
ONTNC	Ouen Toro	3.67	271	P	Pn	07 32 00.0	+0.3
DZM	Mont Dzumac	3.70	274	P	Pn	07 31 59.9	-0.2
DZM	Mont Dzumac	3.70	274	Pn	Pn	07 31 59.8	-0.4
	20nm,0.3s,baz=136,slow=15,SNR=32						
DZM				Sn	Sn	07 32 43.0	+0.3
	22nm,0.3s,baz=310,slow=23,SNR=6.8						
DZM				LR	LR	07 33 29.7	
	comp=Z,323nm,18.8s,baz=182,slow=40						
	65nm,0.4s						
NOUC	Port Laguerre	3.82	274	P	Pn	07 32 01.6	-0.2
URZ	Urewera	16.82	162	LR	LR	07 39 39.8	
	comp=Z,193nm,20.2s,baz=122,slow=31						
RPZ	Rata Peaks	21.27	179	LR	LR	07 41 50.5	
	comp=Z,189nm,18.1s,baz=13,slow=31						
CTA	Charters Tower	22.64	271	LR	LR	07 43 34.1	
	comp=Z,102nm,20.0s,baz=78,slow=33						
STKA	Stephens Creek	27.26	244	P	P	07 36 47.0	+0.4
	3.0nm,0.7s,baz=95,slow=9.1,SNR=7.6						
	3.0nm,0.7s						
ASAR	Alice Springs	33.57	261	P	P	07 37 42.0	-0.5
	4.6nm,0.8s,baz=89,slow=9.3,SNR=18						
	4.6nm,0.8s						
WRA	Warramunga Arr	33.68	267	P	P	07 37 41.9	-1.6
	1.3nm,0.6s,baz=105,slow=8.4,SNR=4.3						
	1.3nm,0.6s						
NWAO	Narrogin (SRO)	47.83	245	LR	LR	07 58 16.6	
	comp=Z,130nm,20.6s,baz=232,slow=34						
LEM	Lembang	62.30	274	LR	LR	08 08 31.6	
	comp=Z,45nm,18.6s,baz=140,slow=36						
MJAR	Matsushiro Arr	66.04	332	P	P	07 41 48.1	-0.7
	2.2nm,0.4s,baz=134,slow=7.1,SNR=1.9						
	2.2nm,0.4s						
QSPA	South Pole Qui	67.67	180	P	P	07 41 58.6	-0.3
	2.3nm,1.0s,baz=99,slow=11,SNR=6.9						
	2.3nm,1.0s						
MAW	Mawson	75.94	202	LR	LR	08 11 43.2	
	comp=Z,222nm,18.6s,baz=279,slow=32						
PETK	Petropavlovsk-	75.99	352	LR	LR	08 09 45.8	
	comp=Z,50nm,21.2s,baz=142,slow=31						
CMAR	Chiang Mai Arr	80.80	294	P	P	07 43 18.2	+2.1
	1.1nm,0.3s,baz=140,slow=4.9,SNR=4.9						
	1.1nm,0.3s						
MA2	Magadan	83.25	350	LR	LR	08 15 57.2	
	comp=Z,49nm,18.7s,baz=136,slow=32						
PFO	Pinyon Flats O	89.11	53	LR	LR	08 19 33.3	
	comp=Z,31nm,18.6s,baz=259,slow=33						
NVAR	Mina Array Bea	90.07	48	LR	LR	08 15 59.9	
	comp=Z,23nm,19.9s,baz=307,slow=30						
PDAR	Pinedale Array	97.95	47	LR	LR	08 23 47.9	
	comp=Z,18nm,18.0s,baz=103,slow=32						
EKA	Eskdalemuir Ar	146.76	353	PKPbc	PKPbc	07 50 43.2	-0.3
	3.3nm,0.7s,baz=358,slow=2.3,SNR=7.4						
GERES	GERESS Array B	147.78	331	PKPbc	PKPbc	07 50 47.1	+0.4
	1.8nm,0.8s,baz=38,slow=5.0,SNR=4.7						

IDC 09 07:31:27.0±3.5, 1°.31S×135°.26E, h0km, mb4.0/2, mbtmp4.1/3, ML4.1/1, Error ellipse: s-maj=165.5km s-min=26.6km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	18.54	183	P	P	07 35 44.9	-0.5
	0.6nm,0.3s,baz=1.2,slow=11,S

AUL Sn 07 33 03.9 +0.1
AUCH Augustine Cone 0.44 200 Pn 07 32 52.1 +0.2
RED Redoubt Volcan 0.68 16 Pn 07 32 54.0 +0.3
RED Sn 07 33 07.3 0.0
RDSO Redoubt South 0.71 17 Pn 07 32 54.4 +0.4
RSO Redoubt South 0.72 16 Pn 07 32 54.4 +0.3
O19K Port Alsworth 0.72 306 Pn 07 32 54.0 +0.1
O19K IAML 07 33 08.3
comp=E,78µm,0.5s
O19K IAML 07 33 08.7
comp=N,88µm,0.6s
O19K Port Alsworth 0.72 306 Sn 07 33 07.6 -0.1
O19K Port Alsworth 0.72 306 P Pn 07 32 54.2 +0.4
baz=126,SNR=1000
O19K S Sn 07 33 07.4 -0.3
baz=126
RDWB Redoubt West 0.73 12 Pn 07 32 54.5 +0.3
HOM Homer 0.78 98 Pn 07 32 54.5 +0.1
HOM Homer 0.78 98 Sn 07 33 09.3 +0.7
HOM Homer 0.78 98 P Pn 07 32 54.8 +0.4
baz=278,SNR=897
HOM S Sn 07 33 09.2 +0.7
baz=278
NCT North Crescent 0.80 8 Pn 07 32 55.1 +0.4
RDJH Redoubt Jeurge 0.84 12 Pn 07 32 55.5 +0.4
RDJH Sn 07 33 09.9 0.0
DFR Drift River 0.85 16 Pn 07 32 55.6 +0.4
Q19K Cape Douglas, 0.88 197 Pn 07 32 54.8 -0.7
Q19K IAML 07 33 15.9
comp=N,70µm,1.0s
Q19K IAML 07 33 25.5
comp=E,64µm,0.9s
Q19K Cape Douglas, 0.88 197 Sn 07 33 09.9 -0.5
Q19K Cape Douglas, 0.88 197 P Pn 07 32 55.4 -0.1
baz=17,SNR=529
Q19K S Sn 07 33 10.1 -0.3
baz=17
RDT Redoubt 0.89 25 Pn 07 32 55.9 +0.3
CNPM China Poot 1.01 103 Pn 07 32 56.4 -0.3
CNPM IAML 07 33 12.7
comp=N,60µm,0.5s
CNPM IAML 07 33 14.5
comp=E,43µm,0.5s
CNPM China Poot 1.01 103 Sn 07 33 12.1 -0.5
O18K Koktuh Hills 1.04 275 Pn 07 32 56.8 -0.2
O18K IAML 07 33 14.1
comp=N,23µm,0.8s
O18K Koktuh Hills 1.04 275 Sn 07 33 13.2 0.0
O18K Koktuh Hills 1.04 275 P Pn 07 32 57.2 +0.2
baz=95,SNR=169
O18K S Sn 07 33 12.8 -0.4
baz=95
P18K Big Mountain, 1.12 251 Pn 07 32 57.5 -0.4
P18K Big Mountain, 1.12 251 Sn 07 33 13.9 -0.9
P18K Big Mountain, 1.12 251 P Pn 07 32 57.6 -0.3
baz=70,SNR=208
P18K S Sn 07 33 13.6 -1.2
baz=70
BRLK Bradley Lake 1.15 89 Pn 07 32 57.7 -0.5
BRLK IAML 07 33 15.3
comp=N,20µm,0.6s
BRLK IAML 07 33 16.9
comp=E,25µm,0.6s
BRSE Bradley Lake S 1.22 90 Pn 07 32 58.7 -0.3
BRSE Bradley Lake S 1.22 90 P Pn 07 32 58.8 -0.3
baz=272,SNR=791
BRSE S Sn 07 33 15.9 -0.8
baz=272
Q20K Shuyak Island 1.23 161 P Pn 07 32 59.3 +0.2
baz=342,SNR=943
Q20K S Sn 07 33 16.5 -0.4
baz=342
SYI Shuyak Island 1.23 161 Pn 07 32 59.2 +0.1
SYI IAML 07 33 17.7
comp=E,60µm,1.3s
SYI IAML 07 33 18.6
comp=N,67µm,0.9s
SYI Shuyak Island 1.23 161 Sn 07 33 16.5 -0.3
N19K Bonanza Creek 1.23 328 Pn 07 32 59.6 +0.4
N19K IAML 07 33 18.4
comp=N,16µm,1.0s
N19K Bonanza Creek 1.23 328 P Pn 07 32 59.8 +0.5
baz=147,SNR=1000
N19K S Sn 07 33 16.8 -0.3
baz=147
KAPH Katmai Pasha 1.33 208 Pn 07 33 00.6 +0.3
CAPN Captain Cook N 1.41 44 Pn 07 33 02.4 +1.3
CAPN IAML 07 33 29.1
comp=E,59µm,0.7s
CAPN Captain Cook N 1.41 44 P Pn 07 33 03.2 +2.1
baz=225,SNR=98
KAHC Katmai Hardscr 1.48 221 Pn 07 33 02.2 +0.1
N20K Mount Spurr 1.51 18 P Pn 07 33 03.0 +0.7
baz=198,SNR=870
N20K S Sn 07 33 22.5 -0.2
baz=198
SPCR Spurr Chakacha 1.51 18 Pn 07 33 02.9 +0.5
SPCN Chakachatna No 1.53 18 Pn 07 33 03.5 +0.8
SPBG Spurr Blockage 1.54 14 Pn 07 33 03.7 +0.9
SPCP Crater Peak Br 1.58 18 Pn 07 33 04.2 +0.8
SPNN North Nagishla 1.61 8 Pn 07 33 04.5 +0.8
SPCG Spurr Capps Gl 1.62 20 Pn 07 33 04.5 +0.7
N18K Kilae Creek 1.64 305 Pn 07 33 04.2 +0.3
N18K Kilae Creek 1.64 305 P Pn 07 33 04.2 +0.3
baz=123,SNR=854
N18K S Sn 07 33 25.4 -0.1
baz=123
SLKM Skilak Lake 1.64 62 Pn 07 33 03.8 -0.2
P17K Kvichak River 1.77 252 Pn 07 33 05.9 +0.4
P17K Kvichak River 1.77 252 P Pn 07 33 06.1 +0.6
baz=70,SNR=602
P17K S Sn 07 33 28.8 +0.4
baz=70
KAKN Katmai Knife C 1.78 214 Pn 07 33 05.8 +0.1
KAKN Sn 07 33 28.0 -0.7
KVTA Katmai Vly 10 1.78 219 Pn 07 33 06.0 +0.3
SVW2 Sparrevohn 1.79 319 Pn 07 33 05.6 -0.1
SVW2 Sparrevohn 1.79 319 P Pn 07 33 05.7 -0.1
STLK Strandline Lak 1.85 20 Pn 07 33 07.3 +0.7
KCE Katmai Mt Cerb 1.86 215 Pn 07 33 07.3 +0.6
O22K Cooper Landing 1.86 66 Pn 07 33 06.9 +0.3
O22K Cooper Landing 1.86 66 P Pn 07 33 06.9 +0.3
baz=248,SNR=995
O22K S Sn 07 33 29.9 -0.4
baz=248
KELA Mount Kelaz 1.89 226 Pn 07 33 07.2 +0.2
SEW Seward 1.89 78 Pn 07 33 06.5 -0.5
SEW Seward 1.89 78 P Pn 07 33 06.5 -0.5
baz=261,SNR=474
SEW S Sn 07 33 29.8 -1.3
baz=261
ACHA Angle Creek He 1.93 217 Pn 07 33 07.8 +0.2
ANCK Angle Creek 1.99 218 Pn 07 33 08.7 +0.3
O17K Koliganek Bris 1.99 272 Pn 07 33 08.6 +0.3
O17K Koliganek Bris 1.99 272 P Pn 07 33 08.6 +0.3
baz=89,SNR=153
O17K S Sn 07 33 32.7 -0.6
baz=89
FIS Fire Island 2.00 45 Pn 07 33 09.4 +1.0
FIS IAML 07 33 38.8
comp=N,32µm,0.8s
KDAK Kodiak Island 2.02 171 Pn Pn 07 33 07.3 -1.3
KDAK IAML 07 33 34.7
comp=N,24µm,0.6s
KDAK IAML 07 33 41.1
comp=N,18µm,0.7s
KDAK Kodiak Island 2.02 171 *d i* P Pn **07 33 07.6 -1.1**
KDAK pmax pmax
comp=Z,5µm,1.0s
KDAK Kodiak Island 2.02 171 P Pn 07 33 07.8 -0.9
baz=352
KDAK S Sn 07 33 32.4 -1.5
baz=352
KDAK Kodiak Island 2.02 171 P **Pn 07 33 07.7 -0.9**
comp=Z,11µm,0.4s,baz=37,slow=8.0,SNR=5764
KDAK S Sn 07 33 32.5 -1.4
comp=Z,7µm,0.6s,baz=339,slow=24,SNR=38
CNTC Contact Creek 2.07 224 Pn 07 33 09.6 +0.2
Q17K Contact Creek 2.07 224 P Pn 07 33 09.7 +0.3
baz=42,SNR=595
Q17K S Sn 07 33 34.2 -1.1
baz=42
SUA Susitna One 2.07 34 Pn 07 33 10.1 +0.6
SUA Susitna One 2.07 34 P Pn 07 33 10.4 +1.0
baz=215,SNR=902
SUA S Sn 07 33 35.7 +0.4
baz=215
Q16K King Salmon 2.11 240 Pn 07 33 10.3 +0.5
Q16K King Salmon 2.11 240 P Pn 07 33 10.4 +0.7
baz=58,SNR=172
Q16K S Sn 07 33 36.0 0.0
baz=58
M20K Styx River 2.12 0 Pn 07 33 11.0 +1.0
M20K Styx River 2.12 0 P Pn 07 33 11.0 +1.0
baz=180
M20K S Sn 07 33 35.1 -1.2
baz=180
RC01 Rabbit Creek A 2.15 51 Pn **Pn 07 33 10.8 +0.5**
RC01 IAML 07 33 38.9
comp=E,26µm,0.5s
RC01 Rabbit Creek A 2.15 51 P Pn 07 33 10.6 +0.3
baz=233,SNR=711
RC01 S Sn 07 33 36.1 -0.8
baz=233
N17K Nushagak Hills 2.15 292 Pn 07 33 10.6 +0.2
N17K Nushagak Hills 2.15 292 P Pn 07 33 10.8 +0.5
baz=109,SNR=275
M18K Stony River 2.17 324 Pn 07 33 10.9 +0.4
M18K Stony River 2.17 324 P Pn 07 33 10.9 +0.4
baz=142,SNR=1000
M18K S Sn 07 33 36.7 -0.6
baz=142
M19K Big River Lodg 2.22 345 Pn 07 33 11.9 +0.6
M19K Big River Lodg 2.22 345 P Pn 07 33 12.0 +0.7
baz=164
SKT Skwentna 2.35 19 Pn 07 33 13.3 +0.4
SKT IAML 07 33 45.8
comp=N,5µm,0.6s
SKT IAML 07 33 46.5
comp=E,5µm,0.7s
SKT Skwentna 2.35 19 P Pn 07 33 13.5 +0.5
baz=200,SNR=643
M22K Willow 2.48 36 Pn 07 33 15.0 +0.4
M22K Willow 2.48 36 P Pn 07 33 15.4 +0.8
baz=218,SNR=355
O16K Kokwok River B 2.51 268 Pn 07 33 15.5 +0.5
O16K Kokwok River B 2.51 268 P Pn 07 33 15.6 +0.7
baz=84,SNR=331
L19K White Mountain 2.55 342 Pn 07 33 15.6 0.0
L19K White Mountain 2.55 342 P Pn 07 33 16.1 +0.5
baz=160,SNR=1000
OHAK Old Harbor 2.56 182 Pn **Pn 07 33 14.1 -1.6**
OHAK IAML 07 33 46.4
comp=E,5µm,0.5s
OHAK Old Harbor 2.56 182 P Pn 07 33 14.2 -1.4
OHAK Old Harbor 2.56 182 P Pn 07 33 14.4 -1.3
baz=1.8,SNR=268
P16K Nushagak River 2.58 255 Pn 07 33 16.9 +1.0
P16K Nushagak River 2.58 255 P Pn 07 33 17.0 +1.1
baz=72,SNR=390
PLK5 Peulik 5 2.63 229 Pn 07 33 17.4 +0.9
PLK3 Peulik 3 2.65 219 Pn 07 33 17.6 +0.8
M17K Holitna River 2.67 310 Pn 07 33 17.6 +0.6
M17K Holitna River 2.67 310 IAML 07 33 49.7
comp=N,5µm,1.1s
M17K IAML 07 33 50.2
comp=E,4µm,0.8s
M17K Holitna River 2.67 310 P Pn 07 33 17.6 +0.6
baz=126,SNR=360
PLK1 Peulik 1 2.67 224 Pn 07 33 17.8 +0.7
PMR Palmer 2.69 46 Pn **Pn 07 33 17.7 +0.3**
PMR IAML 07 33 55.0
comp=E,10µm,0.9s
PMR IAML 07 33 56.8
comp=N,9µm,1.2s
PMR Palmer 2.69 46 P Pn 07 33 17.8 +0.5
PMR Palmer 2.69 46 P Pn 07 33 17.7 +0.3
PMR Palmer 2.69 46 P Pn 07 33 17.2 -0.1
baz=229,SNR=332
L20K Farewell, AK 2.74 353 Pn 07 33 18.9 +0.9
L20K Farewell, AK 2.74 353 P Pn 07 33 18.9 +0.9
baz=172,SNR=1000
PLBL Peulik Blue Cr 2.82 224 Pn 07 33 19.9 +0.8
KNK Knik Glacier 2.84 53 Pn 07 33 19.6 +0.2
KNK Knik Glacier 2.84 53 P Pn 07 33 19.0 -0.3
baz=236,SNR=400
GHO Glory Hole Cre 2.89 44 Pn 07 33 20.5 +0.5
GHO IAML 07 33 54.6
comp=N,16µm,0.5s
N16K Nishlik Lake 2.90 286 Pn 07 33 21.0 +1.0
N16K Nishlik Lake 2.90 286 P Pn 07 33 21.1 +1.0
baz=102
P23K Montague Islan 2.91 83 Pn 07 33 20.2 0.0
P23K Montague Islan 2.91 83 P Pn 07 33 20.5 +0.3
baz=268,SNR=314
CUT Chulitna 2.99 27 Pn 07 33 22.0 +0.7
CUT IAML 07 34 06.2
comp=E,12µm,0.7s
CUT IAML 07 34 24.5
comp=N,13µm,0.9s
CUT Chulitna 2.99 27 P Pn 07 33 21.8 +0.5
baz=209,SNR=416
L18K Granite Mounta 3.00 326 Pn 07 33 21.1 -0.2
L18K Granite Mounta 3.00 326 P Pn 07 33 21.7 +0.3
baz=144,SNR=691
SML Sawmill 3.12 47 Pn 07 33 23.1 0.0
SML IAML 07 34 09.6
comp=E,12µm,1.4s
SML Sawmill 3.12 47 P Pn 07 33 23.1 0.0
SML Sawmill 3.12 47 P Pn 07 33 22.8 -0.3
baz=231,SNR=158
M16K Timber Creek 3.14 296 P Pn 07 33 24.2 +1.0
baz=111,SNR=149
PPLA Purkeypile 3.17 8 Pn 07 33 25.2 +1.4
PPLA Purkeypile 3.17 8 P Pn 07 33 25.3 +1.4
baz=189
R16K Pilot Point 3.20 228 Pn 07 33 25.0 +1.0
R16K Pilot Point 3.20 228 IAML 07 34 06.0
comp=E,6µm,1.1s
R16K Pilot Point 3.20 228 P Pn 07 33 25.0 +1.0
baz=45,SNR=12
SII Sitkinak Islan 3.27 190 Pn 07 33 23.6 -1.5
SII Sitkinak Islan 3.27 190 IAML 07 34 10.8
comp=N,7µm,0.7s
SII IAML 07 34 12.9
comp=E,9µm,0.6s
SII Sitkinak Islan 3.27 190 P Pn 07 33 23.8 -1.3
baz=9.4
M23K Glacier View 3.35 50 Pn 07 33 25.7 -0.4
M23K Glacier View 3.35 50 P Pn 07 33 25.6 -0.4
baz=255,SNR=160
HIN Hinchinbrook I 3.39 77 Pn 07 33 25.8 -0.8
HIN IAML 07 34 07.8
comp=E,10µm,0.9s
L17K Donlin 3.45 316 Pn 07 33 27.5 +0.2
L17K Donlin 3.45 316 P Pn 07 33 27.7 +0.3
baz=131,SNR=391
TTA Tatalina 3.45 338 Pn **Pn 07 33 27.5 0.0**
TTA Tatalina 3.45 338 P Pn 07 33 27.6 0.0
TTA Tatalina 3.45 338 P Pn 07 33 27.5 0.0
TTA Tatalina 3.45 338 P Pn 07 33 27.8 +0.3
baz=155,SNR=1000
O15K Ungalikthiuk R 3.45 263 Pn 07 33 28.8 +1.3
O15K Ungalikthiuk R 3.45 263 P Pn 07 33 28.9 +1.4
baz=78,SNR=571
MID Middleton Isla 3.48 93 Pn 07 33 27.6 -0.2
MID Middleton Isla 3.48 93 IAML 07 34 09.2
comp=N,5µm,0.4s
MID IAML 07 34 15.3
comp=E,5µm,0.7s
MID Middleton Isla 3.48 93 P Pn 07 33 27.6 -0.2
N15K Kwethluk River 3.51 279 P Pn 07 33 29.7 +1.5
baz=34,SNR=201
SCM Sheep Creek Mo 3.52 52 Pn 07 33 28.3 -0.2
SCM Sheep Creek Mo 3.52 52 P Pn 07 33 28.3 -0.2
SCM Sheep Creek Mo 3.52 52 P Pn 07 33 28.2 -0.3
baz=236,SNR=66
K20K Telida 3.62 353 Pn 07 33 30.4 +0.6
K20K Telida 3.62 353 P Pn 07 33 30.5 +0.8
baz=172,SNR=1000
L16K Owhat River 3.66 305 Pn 07 33 30.3 +0.1
L16K Owhat River 3.66 305 P Pn 07 33 30.7 +0.5
baz=120,SNR=126
CAST Castle Rocks 3.69 8 Pn 07 33 31.3 +0.6
CAST Castle Rocks 3.69 8 P Pn 07 33 31.6 +0.9
baz=188,SNR=1000
EYAK Cordova Ski Ar 3.78 75 Pn 07 33 30.8 -1.0
EYAK Cordova Ski Ar 3.78 75 P Pn 07 33 31.4 -0.4
EYAK Cordova Ski Ar 3.78 75 P Pn 07 33 31.1 -0.7
baz=261,SNR=96
WAT6 Susitna Watana 3.85 41 Pn 07 33 32.7 -0.2
baz=225
K17K Iditarod 3.86 322 P Pn 07 33 33.5 +0.6
baz=138,SNR=886
M15K Kasigluk River 3.87 287 Pn 07 33 33.7 +0.8
M15K Kasigluk River 3.87 287 P Pn 07 33 33.9 +1.0
baz=101,SNR=58
ANNW Aniakchak Nort 3.88 226 Pn 07 33 33.9 +0.7
DIV Divide 3.90 66 Pn 07 33 32.7 -0.8
TRF Thorofare Moun 3.94 19 Pn 07 33 34.1 0.0
TRF Thorofare Moun 3.94 19 IAML 07 34 22.6
comp=N,5µm,0.6s
TRF IAML 07 34 45.4
comp=E,3µm,0.7s
TRF Thorofare Moun 3.94 19 P Pn 07 33 34.0 0.0
baz=201,SNR=448
TRF ScP ScP **07 44 14.0 +0.7**
baz=201
KTH Kantishna Hill 3.94 15 Pn 07 33 34.2 +0.2
KTH Kantishna Hill 3.94 15 IAML 07 34 45.2
comp=N,2µm,0.9s
KTH IAML 07 34 55.8
comp=E,3µm,0.9s
KLU Klutina 3.96 61 Pn 07 33 33.3 -1.0
KLU IAML 07 34 19.1
comp=E,5µm,0.8s
KLU Klutina 3.96 61 P Pn 07 33 33.8 -0.5
baz=247,SNR=672
ANPB Aniakchak Plen 4.02 224 Pn 07 33 35.0 -0.1
J18K Innoko River 4.08 337 P Pn 07 33 36.2 +0.5
baz=154,SNR=1000
J18K ScP ScP **07 44 14.6 +1.4**
baz=154
M24K Tolsona, Glenn 4.13 53 Pn **Pn 07 33 36.5 -0.1**
M24K Tolsona, Glenn 4.13 53 P Pn 07 33 36.7 +0.1
baz=238,SNR=178
CHUM Lake Minchumin 4.14 5 Pn 07 33 37.5 +0.9
CHUM Lake Minchumin 4.14 5 P Pn 07 33 37.6 +1.0
baz=186,SNR=1000
CHUM ScP ScP **07 44 13.7 +0.6**
baz=186
O14K Tigyukauivet M 4.16 266 Pn 07 33 38.3 +1.4
O14K Tigyukauivet M 4.16 266 P Pn 07 33 38.4 +1.4
baz=80,SNR=119
RND Reindeer 4.18 28 Pn 07 33 37.4 +0.1
RND IAML 07 34 26.9
comp=N,2µm,0.8s
RND IAML 07 34 45.5
comp=E,3µm,1.1s
RND Reindeer 4.18 28 P Pn 07 33 37.4 +0.1
GOAT Goat Mountain 4.29 75 Pn 07 33 37.8 -0.9
RAGM Ragged Mountai 4.29 78 Pn 07 33 38.2 -0.6
RAGM Ragged Mountai 4.29 78 IAML 07 34 29.4
comp=E,6µm,0.9s
N14K Kuskokwak Cree 4.30 276 Pn 07 33 40.3 +1.5
N14K Kuskokwak Cree 4.30 276 P Pn 07 33 40.5 +1.6
baz=89,SNR=134
J19K Poorman 4.39 346 Pn 07 33 40.3 +0.2
J19K Poorman 4.39 346 P Pn 07 33 40.3 +0.2
baz=163,SNR=376
J19K ScP ScP **07 44 14.6 +1.3**
baz=163
KAIM Kayak Island 4.41 84 Pn **Pn 07 33 40.1 -0.2**
KAIM Kayak Island 4.41 84 P Pn 07 33 40.0 -0.2
baz=272,SNR=44
BMRM Bremner River 4.41 71 Pn 07 33 40.6 +0.2
BMRM Bremner River 4.41 71 P Pn 07 33 39.3 -1.1
baz=258,SNR=520
J20K Nowinta River 4.44 354 P Pn 07 33 41.5 +0.8
baz=173
J20K ScP ScP **07 44 14.9 +1.5**
baz=173
MCK McKinley 4.45 25 Pn 07 33 41.4 +0.6
MCK McKinley 4.45 25 P Pn 07 33 41.4 +0.6
MCK McKinley 4.45 25 P Pn 07 33 40.9 0.0
baz=208,SNR=550
MCK ScP ScP **07 44 13.7 +0.3**
baz=208
BPAW Bear Paw Mtn. 4.46 12 Pn 07 33 41.2 +0.2
BPAW IAML 07 34 31.7
comp=N,1µm,0.7s
BPAW IAML 07 34 47.7
comp=E,925nm,1.4s
BPAW Bear Paw Mtn. 4.46 12 P Pn 07 33 40.5 -0.5
baz=194,SNR=627
BPAW ScP ScP **07 44 13.7 +0.3**
baz=194
CHGN Chignik 4.46 221 Pn 07 33 40.6 -0.4
CHGN IAML 07 34 31.2
comp=E,2µm,0.7s
CHGN IAML 07 34 32.8
comp=N,2µm,0.7s
CHGN Chignik 4.46 221 P Pn 07 33 40.9 -0.1
baz=37,SNR=78
M14K Bethel 4.49 286 Pn 07 33 42.5 +1.1
M14K IAML 07 35 01.6
comp=E,890nm,1.4s
M14K Bethel 4.49 286 P Pn 07 33 42.8 +1.4
baz=99,SNR=76
HMT Hamilton 4.50 79 Pn 07 33 41.5 0.0
L15K Ungalak Mounta 4.51 299 Pn 07 33 42.4 +0.7
L15K Ungalak Mounta 4.51 299 P Pn 07 33 42.5 +0.8
baz=112,SNR=36
N25K Chitina, Valde 4.59 63 Pn 07 33 42.5 -0.3
N25K IAML 07 34 36.3
comp=N,3µm,0.8s
N25K Chitina, Valde 4.59 63 P Pn 07 33 42.4 -0.5
baz=250,SNR=676
NICHA Nichawak Mount 4.64 80 Pn 07 33 42.9 -0.5
HARP HAARP 4.69 52 Pn 07 33 44.0 -0.1
HARP HAARP 4.69 52 P Pn 07 33 44.0 -0.1
baz=239,SNR=77
SUCK Suckling Hills 4.73 82 Pn 07 33 44.2 -0.4
SUCK IAML 07 34 39.5
comp=N,4µm,0.7s
SUCK IAML 07 34 40.6
comp=E,2µm,0.9s
BWN Browne 4.75 20 Pn 07 33 45.1 +0.4
BWN IAML 07 35 14.9
comp=E,3µm,1.1s
BWN IAML 07 35 19.4
comp=N,3µm,1.0s
BERG Berg Lake 4.78 78 Pn 07 33 45.2 0.0
BERG IAML 07 34 48.8
comp=N,4µm,0.5s
K15K Wolf Creek Mou 4.79 305 P Pn 07 33 46.5 +1.1
baz=118,SNR=61
WACK Wrangell Chich 4.85 59 Pn 07 33 46.0 -0.4
VNSS Veniaminof 8 4.88 226 Pn 07 33 47.6 +0.7
PAX Paxson 4.89 46 Pn 07 33 47.0 +0.1
PAX Paxson 4.89 46 P Pn 07 33 47.0 +0.1
PAX Paxson 4.89 46 P Pn 07 33 47.0 +0.1
baz=232,SNR=330
GLB Gilahina Butte 4.90 66 Pn 07 33 46.8 -0.1
GLB IAML 07 34 43.5
comp=E,3µm,0.7s
L14K Kuka Creek 4.96 293 Pn 07 33 48.8 +1.1
L14K IAML 07 34 44.8
comp=N,698nm,1.2s
L14K IAML 07 35 08.2
comp=E,778nm,1.2s
L14K Kuka Creek 4.96 293 P Pn 07 33 49.1 +1.5
baz=104,SNR=86
GRIN Grindle Hills 4.96 80 Pn 07 33 47.2 -0.5
BGLC Bering Glacier 4.98 82 Pn 07 33 48.3 +0.3
BGLC Bering Glacier 4.98 82 P Pn 07 33 48.2 +0.3
baz=270,SNR=12
KHIT Khitrov Hills 5.00 78 Pn 07 33 47.2 -1.2
J16K Anvik River 5.01 318 P Pn 07 33 48.6 +0.3
baz=131,SNR=510
VRDI Verde Repeater 5.01 69 Pn 07 33 48.9 +0.3
VRDI IAML 07 34 45.7
comp=N,3µm,0.6s
VRDI IAML 07 34 45.7
comp=E,2µm,0.5s
I20K Naaghedeneel 5.08 354 P Pn 07 33 50.1 +0.9
baz=172,SNR=278
I20K ScP ScP **07 44 15.1 +1.4**
baz=172
CRQM Cirque 5.08 75 Pn 07 33 48.5 -1.0
CRQE Cirque 5.11 75 P Pn 07 33 48.6 -1.2
baz=263
M13K Dall Lake 5.14 282 Pn 07 33 51.8 +1.7
M13K Dall Lake 5.14 282 IAML 07 36 28.7
comp=E,676nm,2.0s
M13K Dall Lake 5.14 282 P Pn 07 33 52.1 +2.0

baz=93,SNR=31
SNH Sunshine Point 5.20 81 Pn 07 33 51.2 +0.2
SNH IAML 07 34 51.5
comp=N,2µm,1.0s
WAX Waxell Ridge 5.20 78 Pn 07 33 50.8 -0.2
NEA2 Nenana 5.20 20 Pn 07 33 49.8 -1.1
NEA2 IAML 07 34 49.3
comp=N,752nm,0.9s
NEA2 IAML 07 35 33.3
comp=E,555nm,0.8s
NEA2 Nenana 5.20 20 P Pn 07 33 50.1 -0.8
baz=203,SNR=1000
NEA2 ScP ScP 07 44 13.7 -0.1
baz=203
TGL Tana Glacier 5.24 75 Pn 07 33 50.5 -1.1
TGL Tana Glacier 5.24 75 IAML 07 34 48.5
comp=N,2µm,0.6s
TGL IAML 07 34 52.8
comp=E,3µm,0.6s
MCARA McCarthy VSAT 5.25 68 P Pn 07 33 50.8 -0.8
baz=256
WRH Wood River Hil 5.28 25 Pn 07 33 52.1 +0.1
WRH IAML 07 35 23.0
comp=N,888nm,1.1s
WRH IAML 07 35 37.9
comp=E,952nm,1.4s
GCSA Galena City Sc 5.28 342 Pn 07 33 52.4 +0.4
GCSA Galena City Sc 5.28 342 P Pn 07 33 52.5 +0.4
baz=159,SNR=454
K24K Donnelly Dome 5.35 38 Pn 07 33 54.2 +1.3
K24K Donnelly Dome 5.35 38 P Pn 07 33 54.3 +1.3
baz=224,SNR=449
K24K ScP ScP 07 44 15.6 +1.7
baz=224
BARK Barkley Ridge 5.38 79 Pn 07 33 53.9 +0.4
CYK Cape Yakataga 5.38 82 Pn 07 33 53.5 +0.2
MLY Manley 5.39 11 Pn 07 33 53.5 -0.2
MLY Manley 5.39 11 P Pn 07 33 53.2 -0.4
baz=193,SNR=775
MLY ScP ScP 07 44 14.3 +0.3
baz=193
I21K Tanana 5.45 5 Pn 07 33 54.3 0.0
I21K Tanana 5.45 5 P Pn 07 33 54.4 0.0
baz=186
I21K ScP ScP 07 44 14.9 +1.0
baz=186
I17K Unalakleet 5.46 322 Pn 07 33 54.2 -0.1
I17K Unalakleet 5.46 322 P Pn 07 33 54.8 +0.4
baz=136,SNR=136
I17K ScP ScP 07 44 14.9 +1.0
baz=136
ISLE Juniper Island 5.46 77 Pn 07 33 54.1 -0.6
PTPK Patty Peak 5.47 70 Pn 07 33 54.4 -0.4
KIAG Kiagna River 5.49 73 Pn 07 33 54.3 -0.6
HDA Harding Lake 5.49 29 Pn 07 33 54.3 -0.5
HDA Harding Lake 5.49 29 P Pn 07 33 54.5 -0.4
baz=215,SNR=584
HDA ScP ScP 07 44 14.0 +0.1
baz=215
HDA ScP ScP 07 44 14.0 +0.1
baz=215
CCB Clear Creek Bu 5.49 25 Pn 07 33 53.7 -1.2
MENT Mentasta 5.54 51 Pn 07 33 55.3 -0.2
MENT Mentasta 5.54 51 P Pn 07 33 56.1 +0.6
BAGL Bagley Icefiel 5.58 78 P Pn 07 33 56.6 +0.6
M26K Nabesna, AK 5.59 58 P Pn 07 33 55.8 -0.4
baz=246,SNR=937
M26K ScP ScP 07 44 15.7 +1.5
baz=246
RIDG Independent Ri 5.60 41 Pn 07 33 56.6 +0.2
RIDG Independent Ri 5.60 41 P Pn 07 33 56.6 +0.2
baz=228
MESA MESA 5.64 81 Pn 07 33 57.1 -0.1
MESA MESA 5.64 81 P Pn 07 33 57.3 +0.2
baz=270,SNR=194
I23K Minto, Yukon-K 5.67 16 Pn 07 33 57.1 -0.2
I23K Minto, Yukon-K 5.67 16 P Pn 07 33 57.2 -0.2
baz=200,SNR=888
COLA College 5.68 23 Pn 07 33 57.1 -0.3
COLA College 5.68 23 *d i* P **Pn 07 33 56.8 -0.6**
COLA pmax pmax
comp=Z,832nm,0.8s
COLA College 5.68 23 P Pn 07 33 57.2 -0.2
baz=208
MDM Murphy Dome 5.69 22 Pn 07 33 57.1 -0.5
L26K Log Cabin Wild 5.73 51 Pn 07 33 57.4 -0.7
L26K Log Cabin Wild 5.73 51 P Pn 07 33 58.0 -0.1
baz=239,SNR=102
L26K ScP ScP 07 44 15.7 +1.5
baz=239
GRNC Granite Creek 5.76 75 Pn 07 33 58.2 -0.5
H20K Anotleneega Mo 5.80 353 Pn 07 33 59.7 +0.8
H20K Anotleneega Mo 5.80 353 P Pn 07 33 59.8 +0.8
baz=171,SNR=843
H20K ScP ScP 07 44 15.7 +1.5
baz=171
IL31 5.80 28 Pn 07 33 58.3 -0.7
ILAR Eielson Array 5.80 28 Pn 07 33 58.9 -0.2
ILAR Eielson Array 5.80 28 P Pn 07 33 58.9 -0.2
ILAR Eielson Array 5.80 28 P Pn 07 33 58.2 -0.9
comp=Z,905nm,0.5s,baz=217,slow=13,SNR=4873
ILAR S Sn 07 35 00.1 -4.2
comp=Z,437nm,0.8s,baz=218,slow=22,SNR=6.3
ILAR ScP ScP 07 44 13.6 -0.7
comp=Z,1.9nm,0.5s,baz=293,slow=2.3,SNR=10
J14K Nanvaranak Lak 5.83 305 Pn 07 34 00.1 +0.6
J14K Nanvaranak Lak 5.83 305 P Pn 07 34 00.5 +1.0
baz=116
H21K Melozitna Rive 5.91 1 P Pn 07 34 00.8 +0.3
baz=182
H21K ScP ScP 07 44 15.4 +1.1
baz=182
H18K Honhosa River 5.91 338 Pn 07 34 00.9 +0.4
H18K Honhosa River 5.91 338 P Pn 07 34 01.0 +0.4
baz=154,SNR=485
H18K ScP ScP 07 44 15.3 +1.0
baz=154
SDPT Sand Point 5.93 225 Pn **Pn 07 34 00.3 -0.6**
SDPT Sand Point 5.93 225 P Pn 07 33 59.9 -0.9
SDPT Sand Point 5.93 225 P Pn 07 34 00.1 -0.7
baz=39,SNR=8.1
H19K Roundabout Mou 5.97 347 Pn 07 34 01.4 +0.2
H19K Roundabout Mou 5.97 347 P Pn 07 34 01.5 +0.2
baz=164
H19K ScP ScP 07 44 15.6 +1.3
baz=164
POKR Poker Plat Res 5.98 24 P Pn 07 34 01.2 -0.3
baz=209,SNR=636
POKR ScP ScP 07 44 14.0 -0.3
baz=209
CTG Chitna Glacier 5.98 73 P Pn 07 34 01.0 -0.7
baz=263,SNR=421
SCRK Sand Creek 6.05 42 P Pn 07 34 01.7 -0.8
baz=230,SNR=177
SCRK ScP ScP 07 44 14.9 +0.4
baz=230
M27K Edge Creek, AK 6.06 60 P Pn 07 34 02.8 +0.1
baz=249,SNR=330
H17K Granite Mounta 6.06 332 P Pn 07 34 02.9 +0.3
baz=146,SNR=750
H17K ScP ScP 07 44 15.3 +0.9
baz=146
CNBA Chernabura Isl 6.07 218 Pn 07 34 01.6 -1.0
J25K Salcha River, 6.07 34 P Pn 07 34 02.6 -0.2
baz=220,SNR=657
J25K ScP ScP 07 44 14.4 -0.1
baz=220
H22K Ishtalitna Cre 6.20 7 Pn 07 34 04.2 -0.3
H22K Ishtalitna Cre 6.20 7 P Pn 07 34 04.2 -0.3
baz=188,SNR=518
H22K ScP ScP 07 44 15.1 +0.6
baz=188
SAMH Samovar Hills 6.23 81 Pn 07 34 05.8 +0.8
PS1A Pavlof South-1 6.35 230 Pn 07 34 06.9 +0.4
L27K Beaver Creek, 6.36 54 P Pn 07 34 06.4 -0.3
baz=244,SNR=108
L27K ScP ScP 07 44 16.0 +1.3
baz=244
YUK2 White River 6.36 66 Pn 07 34 06.6 -0.1
PVV Pavlof Volcano 6.40 230 Pn 07 34 07.7 +0.4
PN7A Pavlof North-7 6.44 231 Pn 07 34 08.5 +0.7
PS4A Pavlof South-4 6.45 230 Pn 07 34 08.1 +0.2
H16K Elim 6.47 323 Pn 07 34 08.3 +0.3
H16K Elim 6.47 323 P Pn 07 34 08.3 +0.3
baz=135,SNR=94
H16K ScP ScP 07 44 15.3 +0.6
baz=135
HAG Hague Volcano 6.49 230 Pn 07 34 08.4 0.0
HAG Hague Volcano 6.49 230 P Pn 07 34 08.4 0.0
PCA Pinnacle 6.49 82 Pn 07 34 08.8 +0.3
PINM Pinnacle 6.50 82 P Pn 07 34 08.7 +0.1
baz=272,SNR=244
BVCY Beaver Creek 6.52 61 Pn 07 34 09.2 +0.4
BVCY Beaver Creek 6.52 61 P Pn 07 34 09.7 +0.8
baz=251,SNR=77
J26L Joseph Creek 6.53 39 Pn 07 34 08.5 -0.5
J26L Joseph Creek 6.53 39 P Pn 07 34 08.6 -0.5
baz=228,SNR=540
J26L ScP ScP 07 44 15.4 +0.5
baz=228
YUK3 Moose Creek 6.54 67 Pn 07 34 09.1 -0.1
YUK3 Moose Creek 6.54 67 P Pn 07 34 09.2 -0.1
baz=258,SNR=423
H24K Noodor Dome 6.55 19 Pn 07 34 08.7 -0.5
H24K Noodor Dome 6.55 19 P Pn 07 34 08.9 -0.2
baz=204,SNR=460
M11K Mekoryuk 6.56 281 Pn 07 34 10.6 +1.4
M11K Mekoryuk 6.56 281 P Pn 07 34 10.9 +1.6
baz=90,SNR=16
G18K Tagagawik 6.64 340 P Pn 07 34 10.6 +0.2
baz=155,SNR=149
G18K ScP ScP 07 44 15.8 +0.9
baz=155
G19K Purcell Mounta 6.64 346 Pn 07 34 10.4 0.0
G19K Purcell Mounta 6.64 346 P Pn 07 34 10.3 0.0
baz=162
G19K ScP ScP 07 44 15.5 +0.6
baz=162
G17K Kiwalik Mounta 6.70 332 Pn 07 34 10.9 -0.3
G17K Kiwalik Mounta 6.70 332 P Pn 07 34 11.1 -0.1
baz=146,SNR=79
G17K ScP ScP 07 44 16.0 +1.1
baz=146
PRP Porcupine Dome 6.75 28 P Pn 07 34 11.5 -0.5
baz=215,SNR=1000
PRP ScP ScP 07 44 15.5 +0.4
baz=215
K27K Chicken 6.75 46 Pn 07 34 12.3 +0.4
K27K Chicken 6.75 46 P Pn 07 34 11.8 -0.1
baz=236
K27K ScP ScP 07 44 16.7 +1.8
baz=236
YUK8 Steele Glacier 6.78 71 Pn 07 34 13.6 +1.0
YUK8 Steele Glacier 6.78 71 P Pn 07 34 13.6 +1.0
baz=263,SNR=821
YKU2 Yakutat 6.84 86 P Pn 07 34 13.7 +0.6
PNL Peninsula 6.96 85 Pn 07 34 14.6 -0.2
PNL Peninsula 6.96 85 P Pn 07 34 14.7 -0.1
baz=277,SNR=706
G16K Koyuk River 7.05 327 Pn 07 34 16.0 0.0
G16K Koyuk River 7.05 327 P Pn 07 34 16.0 0.0
baz=139
G16K ScP ScP 07 44 16.6 +1.5
baz=139
G23K Bananza Creek 7.11 10 Pn 07 34 16.4 -0.4
G23K Bananza Creek 7.11 10 P Pn 07 34 17.1 +0.4
baz=193,SNR=808
G23K ScP ScP 07 44 15.4 +0.1
baz=193
I26K Coal Creek Min 7.22 36 Pn 07 34 17.3 -0.9
I26K Coal Creek Min 7.22 36 P Pn 07 34 18.3 +0.1
baz=224
I26K ScP ScP 07 44 16.0 +0.7
baz=224
G15K Niukluk 7.27 321 Pn 07 34 19.5 +0.6
G15K Niukluk 7.27 321 P Pn 07 34 19.6 +0.6
baz=131,SNR=15
H25L Birch Creek 7.32 24 Pn 07 34 19.2 -0.3
H25L Birch Creek 7.32 24 P Pn 07 34 19.3 -0.3
baz=210
H25L ScP ScP 07 44 15.4 0.0
baz=210
O29M Mount Kennedy 7.32 80 Pn 07 34 20.1 +0.3
O29M Mount Kennedy 7.32 80 P Pn 07 34 19.8 0.0
baz=272
YUK4 Talbot Arm 7.32 71 P Pn 07 34 21.0 +1.1
baz=263,SNR=269
F19K Shaleruckik Mo 7.38 346 P Pn 07 34 20.9 +0.5
baz=162,SNR=962
F19K ScP ScP 07 44 16.5 +1.1
baz=162,SNR=10
F20K Avaraart Lake 7.39 352 Pn 07 34 21.6 +1.0
F20K Avaraart Lake 7.39 352 P Pn 07 34 21.6 +1.0
baz=170,SNR=628
F20K ScP ScP 07 44 15.7 +0.3
baz=170
G24K Hadweenzic Riv 7.41 18 Pn 07 34 20.0 -0.8
G24K Hadweenzic Riv 7.41 18 P Pn 07 34 20.1 -0.8
baz=203
FALS False Pass 7.42 233 P Pn 07 34 21.7 +0.7
FALS False Pass 7.42 233 P Pn 07 34 21.3 +0.2
baz=44
YUK6 Outpost Mounta 7.43 75 Pn 07 34 21.6 +0.2
YUK6 Outpost Mounta 7.43 75 P Pn 07 34 21.7 +0.3
baz=267,SNR=239
F18K Selawik 7.45 340 Pn 07 34 21.4 +0.1
F18K Selawik 7.45 340 P Pn 07 34 21.6 +0.3
baz=154,SNR=88
F18K ScP ScP 07 44 16.9 +1.4
baz=154
ANM Nome 7.46 315 P Pn 07 34 22.5 +0.9
baz=124,SNR=64
F21K Alatna River 7.48 359 P Pn 07 34 22.2 +0.3
baz=179,SNR=1000
F21K ScP ScP 07 44 16.6 +1.0
baz=179,SNR=6.5
EGAK Eagle 7.51 43 P Pn 07 34 21.5 -0.7
baz=233,SNR=103
EGAK ScP ScP 07 44 15.6 0.0
baz=233
YUK7 Dusty Glacier 7.53 78 Pn 07 34 22.8 +0.1
ISNN Isanotski Nort 7.59 234 Pn 07 34 24.3 +0.9
COLD Coldfoot 7.60 9 Pn 07 34 22.9 -0.4
COLD Coldfoot 7.60 9 P Pn 07 34 22.6 -0.7
baz=191,SNR=370
COLD ScP ScP 07 44 16.1 +0.5
baz=191,SNR=5.5
M29M Somme Creek 7.60 63 Pn 07 34 23.6 0.0
M29M Somme Creek 7.60 63 P Pn 07 34 23.4 -0.1
baz=256,SNR=574
M29M ScP ScP 07 44 17.5 +1.7
baz=256
F17K Baldwin Pennin 7.63 335 Pn 07 34 23.9 +0.1
F17K Baldwin Pennin 7.63 335 P Pn 07 34 23.6 -0.1
baz=148,SNR=168
F17K ScP ScP 07 44 16.9 +1.3
baz=148
ISLZ Isanotski Laza 7.63 233 Pn 07 34 24.2 +0.2
G25K Bearman Lake 7.70 21 Pn 07 34 24.1 -0.6
G25K Bearman Lake 7.70 21 P Pn 07 34 23.8 -0.9
baz=208,SNR=227
G25K ScP ScP 07 44 17.0 +1.3
baz=208
SSLS Shishaldin Sou 7.76 234 Pn 07 34 26.2 +0.4
DAWY Dawson 7.79 51 P Pn 07 34 25.4 -0.6
baz=242,SNR=74
DAWY ScP ScP 07 44 16.3 +0.3
baz=242
P29M Windy Craggy 7.80 84 Pn 07 34 26.1 -0.1
P29M Windy Craggy 7.80 84 P Pn 07 34 25.9 -0.3
baz=278,SNR=1000
HYT Haines Junctio 7.85 76 P Pn 07 34 26.6 -0.3
baz=269,SNR=223
I27K Kandik River 7.89 37 Pn 07 34 26.5 -0.9
I27K Kandik River 7.89 37 P Pn 07 34 26.4 -0.9
baz=227,SNR=139
I27K ScP ScP 07 44 16.9 +0.9
baz=227
E19K Redstone River 7.92 349 Pn 07 34 28.8 +1.0
E19K Redstone River 7.92 349 P Pn 07 34 28.8 +1.0
baz=165
E19K ScP ScP 07 44 15.8 -0.2
baz=165
L29M L29M 7.94 59 Pn 07 34 28.4 +0.4
L29M L29M 7.94 59 P Pn 07 34 27.8 -0.3
baz=252,SNR=132
L29M ScP ScP 07 44 17.3 +1.2
baz=252
F15K North Star Dit 7.94 323 Pn 07 34 28.4 +0.3
F15K North Star Dit 7.94 323 P Pn 07 34 28.8 +0.8
baz=133,SNR=80
F15K ScP ScP 07 44 16.9 +0.9
baz=133
N30M Aishikik Lake 8.08 71 Pn 07 34 29.6 -0.4
N30M Aishikik Lake 8.08 71 P Pn 07 34 29.4 -0.6
baz=265,SNR=638
N30M ScP ScP 07 44 17.3 +1.0
baz=265
F24K Squaw Lake 8.12 14 P Pn 07 34 29.7 -0.7
baz=199,SNR=368
F24K ScP ScP 07 44 17.2 +1.0
baz=199
P30M Million Dollar 8.14 81 Pn 07 34 30.6 -0.2
P30M Million Dollar 8.14 81 P Pn 07 34 30.3 -0.5
baz=274
WESE West Dahl East 8.17 234 Pn 07 34 31.9 +0.6
F14K Arctic Creek 8.33 319 Pn 07 34 34.1 +0.9
F14K Arctic Creek 8.33 319 P Pn 07 34 34.1 +0.9
baz=127,SNR=20
F14K ScP ScP 07 44 17.1 +0.7
baz=127
I28M Miner Creek 8.33 41 P Pn 07 34 32.7 -0.7
baz=233,SNR=266
I28M ScP ScP 07 44 16.4 -0.2
baz=233
G26K Porcupine Rive 8.33 26 Pn 07 34 32.4 -0.9
G26K Porcupine Rive 8.33 26 P Pn 07 34 31.8 -1.5
baz=214,SNR=180
G26K ScP ScP 07 44 17.3 +0.9
baz=214
H27K Steamboat Moun 8.35 34 Pn 07 34 32.4 -1.3
H27K Steamboat Moun 8.35 34 P Pn 07 34 32.8 -0.8
baz=224,SNR=325
H27K ScP ScP 07 44 16.4 -0.1
baz=224
E18K Tukpahlearik C 8.36 340 Pn 07 34 34.2 +0.6
E18K Tukpahlearik C 8.36 340 P Pn 07 34 34.3 +0.6
baz=153,SNR=442
E18K ScP ScP 07 44 16.7 +0.3
baz=153
M30M Minto, Yukon 8.39 63 Pn 07 34 33.7 -0.5
M30M Minto, Yukon 8.39 63 P Pn 07 34 34.5 +0.3
baz=258,SNR=105
M30M ScP ScP 07 44 16.7 +0.1
baz=258
E22K Anaktuvuk Pass 8.42 3 Pn 07 34 35.3 +0.9
E22K Anaktuvuk Pass 8.42 3 P Pn 07 34 35.4 +0.9
baz=185
E22K ScP ScP 07 44 17.5 +1.0
baz=185
K29M Barlow Dome 8.44 54 Pn 07 34 34.9 -0.1
K29M Barlow Dome 8.44 54 P Pn 07 34 35.3 +0.3
baz=248,SNR=53
K29M ScP ScP 07 44 17.6 +0.9
baz=248
E23K Chandalar 8.46 9 Pn 07 34 35.6 +0.4
E23K Chandalar 8.46 9 P Pn 07 34 35.2 +0.1
baz=192,SNR=347
E23K ScP ScP 07 44 16.5 -0.1
baz=192
PLBC Pleasant Camp 8.52 85 Pn 07 34 35.6 -0.3
PLBC Pleasant Camp 8.52 85 P Pn 07 34 35.9 -0.1
baz=279,SNR=649
F25K Christian Rive 8.52 20 Pn 07 34 34.6 -1.3
F25K Christian Rive 8.52 20 P Pn 07 34 34.7 -1.3
baz=206
F25K ScP ScP 07 44 18.0 +1.3
baz=206
O30N Mendenhall 8.54 76 Pn 07 34 35.4 -0.9
O30N Mendenhall 8.54 76 P Pn 07 34 35.8 -0.4
baz=271,SNR=267
E24K Your Creek 8.58 12 P Pn 07 34 36.5 -0.3
baz=196,SNR=300
E24K ScP ScP 07 44 17.4 +0.7
baz=196
E20K Nigu River 8.62 352 Pn 07 34 38.9 +1.6
E20K Nigu River 8.62 352 P Pn 07 34 38.6 +1.3
baz=170
E20K ScP ScP 07 44 17.5 +0.7
baz=170
E21K Killik River 8.71 358 Pn 07 34 38.7 +0.2
E21K Killik River 8.71 358 P Pn 07 34 38.7 +0.2
baz=177
F26K Sheenjek River 8.89 23 Pn 07 34 39.2 -1.7
F26K Sheenjek River 8.89 23 P Pn 07 34 39.3 -1.6
baz=211,SNR=231
F26K ScP ScP 07 44 17.5 +0.5
baz=211
TNA Tin City 8.92 317 Pn 07 34 42.4 +1.2
TNA Tin City 8.92 317 P Pn 07 34 42.3 +1.0
baz=124,SNR=26
TNA ScP ScP 07 44 17.0 0.0
baz=124
AHB Akutan Harbor 8.94 236 Pn 07 34 41.8 +0.2
S31K Pelican 8.95 94 P Pn 07 34 40.5 -1.3
baz=289,SNR=34
E25K Arctic Village 9.01 18 Pn 07 34 41.2 -1.4
E25K Arctic Village 9.01 18 P Pn 07 34 41.1 -1.4
baz=205,SNR=241
E25K ScP ScP 07 44 17.0 -0.2
baz=205
D19K Kuna River 9.02 348 Pn 07 34 43.8 +1.1
D19K Kuna River 9.02 348 P Pn 07 34 44.1 +1.5
baz=164,SNR=202
D19K ScP ScP 07 44 18.0 +0.9
baz=164
ZRO Akutan Zero 9.02 236 Pn 07 34 43.0 +0.3
TOLK Toolik Lake Re 9.04 8 Pn 07 34 43.0 +0.1
TOLK Toolik Lake Re 9.04 8 P Pn 07 34 43.4 +0.5
baz=192,SNR=320
TOLK ScP ScP 07 44 18.2 +1.0
baz=192
SKAG Skagway 9.04 84 Pn 07 34 42.7 -0.2
SKAG Skagway 9.04 84 P Pn 07 34 42.7 -0.2
baz=280,SNR=332
SKAG ScP ScP 07 44 18.0 +0.8
baz=280
MAYO Mayo, Yukon 9.04 58 Pn 07 34 43.8 +0.7
MAYO Mayo, Yukon 9.04 58 P Pn 07 34 43.1 0.0
baz=253,SNR=54
R31K City Hall, Gus 9.07 91 Pn 07 34 43.1 -0.2
R31K City Hall, Gus 9.07 91 P Pn 07 34 44.2 +0.9
baz=286,SNR=6.3
D17K Noatak River 9.08 335 Pn 07 34 43.5 +0.2
D17K Noatak River 9.08 335 P Pn 07 34 44.5 +1.2
baz=146,SNR=96
D17K ScP ScP 07 44 18.5 +1.4
baz=146,SNR=5.5
D20K Etivluk River 9.10 352 Pn 07 34 44.2 +0.5
D20K Etivluk River 9.10 352 P Pn 07 34 44.3 +0.5
baz=169
D20K ScP ScP 07 44 18.2 +1.0
baz=169
WHY Whitehorse 9.14 77 Pn 07 34 43.9 -0.5
WHY Whitehorse 9.14 77 P Pn 07 34 44.2 -0.2
baz=272,SNR=731
D22K Ayikyak River 9.15 1 P Pn 07 34 44.5 +0.1
baz=181,SNR=146
D22K ScP ScP 07 44 18.2 +1.0
baz=181
J30M Hart River 9.21 51 Pn 07 34 46.2 +0.8
J30M Hart River 9.21 51 P Pn 07 34 46.2 +0.8
baz=246,SNR=80
J30M ScP ScP 07 44 17.1 -0.4
baz=246
P08K Saint George I 9.22 257 P Pn 07 34 46.5 +1.1
baz=63
D23K Nanushuk River 9.29 6 Pn 07 34 46.8 +0.5
D23K Nanushuk River 9.29 6 P Pn 07 34 46.8 +0.5
baz=188,SNR=215
D23K ScP ScP 07 44 18.6 +1.2
baz=188
H29M Whitestone 9.31 40 P Pn 07 34 46.5 -0.1
baz=233,SNR=67
H29M ScP ScP 07 44 18.2 +0.7
baz=233,SNR=7.5
SPIA Saint Paul Isl 9.32 261 P Pn 07 34 47.5 +0.8
baz=67
UNV Unalaska Valle 9.42 237 Pn 07 34 47.2 -0.8
UNV Unalaska Valle 9.42 237 P Pn 07 34 47.0 -1.1
baz=46,SNR=7.8
M31M Drury Creek, Y 9.43 67 Pn 07 34 48.6 +0.4
M31M Drury Creek, Y 9.43 67 P Pn 07 34 48.4 +0.1
baz=263,SNR=335
M31M ScP ScP 07 44 18.1 +0.4
baz=263
C21K Knifeblade Rid 9.45 356 Pn 07 34 48.5 0.0
C21K Knifeblade Rid 9.45 356 P Pn 07 34 49.1 +0.7
baz=175

C21K ScP **ScP** 07 44 18.5 +0.9
baz=175
MNAT Makushin Natee 9.46 237 **Pn** 07 34 48.0 -0.8
BESE Bessie Mountai 9.47 89 **Pn** 07 34 47.8 -1.1
I30M Mount Dempster 9.47 48 P **Pn** 07 34 49.0 +0.1
baz=242,SNR=68
I30M ScP **ScP** 07 44 18.2 +0.4
baz=242,SNR=5.6
C18K Utukok River 9.56 342 **Pn** 07 34 51.1 +1.1
C18K Utukok River 9.56 342 P **Pn** 07 34 51.5 +1.5
baz=155,SNR=354
C18K ScP **ScP** 07 44 17.7 -0.1
baz=155
D24K Happy Valley 9.60 9 **Pn** 07 34 50.8 +0.3
D24K Happy Valley 9.60 9 P **Pn** 07 34 50.6 +0.2
baz=193
D24K ScP **ScP** 07 44 18.4 +0.6
baz=193
GAMB Gambell 9.64 302 P **Pn** 07 34 52.7 +1.6
baz=106
R32K Eaglecrest 9.72 91 **Pn** 07 34 51.5 -0.8
R32K Eaglecrest 9.72 91 P **Pn** 07 34 52.3 +0.1
baz=287,SNR=88
SIT Sitka 9.74 98 **Pn** 07 34 50.8 -1.6
SIT Sitka 9.74 98 P **Pn** 07 34 50.8 -1.6
SIT Sitka 9.74 98 P **Pn** 07 34 51.2 -1.2
baz=294,SNR=34
C17K DeLong Mountai 9.75 338 **Pn** 07 34 53.3 +0.7
C17K DeLong Mountai 9.75 338 P **Pn** 07 34 53.2 +0.6
baz=149,SNR=43
C17K ScP **ScP** 07 44 18.5 +0.5
baz=149
C19K Lookout Ridge 9.76 346 **Pn** 07 34 53.7 +1.0
C19K Lookout Ridge 9.76 346 P **Pn** 07 34 53.9 +1.2
baz=160,SNR=157
C19K ScP **ScP** 07 44 19.1 +1.1
baz=160
JIS Juneau Island 9.79 91 **Pn** 07 34 53.1 0.0
F28M Old Crow 9.81 31 P **Pn** 07 34 52.0 -1.3
baz=223,SNR=239
F28M ScP **ScP** 07 44 18.8 +0.7
baz=223,SNR=7.8
P32M Atlin 9.83 83 **Pn** 07 34 53.3 -0.4
P32M Atlin 9.83 83 P **Pn** 07 34 54.1 +0.4
baz=279,SNR=180
P32M ScP **ScP** 07 44 19.4 +1.1
baz=279
G29M Pine Creek 9.85 37 **Pn** 07 34 53.6 -0.2
G29M Pine Creek 9.85 37 P **Pn** 07 34 53.4 -0.5
baz=230
B21K Ikpikpuk River 9.91 357 **Pn** 07 34 54.1 -0.5
B21K Ikpikpuk River 9.91 357 P **Pn** 07 34 55.0 +0.3
baz=176,SNR=130
B21K ScP **ScP** 07 44 19.3 +1.2
baz=176
FARO Faro, Yukon 9.92 67 P **Pn** 07 34 55.3 +0.4
baz=264,SNR=307
FARO ScP **ScP** 07 44 18.6 +0.3
baz=264
EPYK Eagle Plains 9.94 41 P **Pn** 07 34 55.5 +0.3
baz=236,SNR=145
EPYK ScP **ScP** 07 44 18.7 +0.5
baz=236,SNR=6.7
S32K Killisnoo 9.96 95 P **Pn** 07 34 55.1 -0.2
baz=291,SNR=41
N32M Quiet Lake 10.00 73 **Pn** 07 34 56.2 +0.2
N32M Quiet Lake 10.00 73 P **Pn** 07 34 56.3 +0.2
baz=271
N32M ScP **ScP** 07 44 19.9 +1.5
baz=271
D25K Kavik River 10.01 14 **Pn** 07 34 55.2 -0.9
D25K Kavik River 10.01 14 P **Pn** 07 34 55.5 -0.6
baz=200,SNR=276
D25K ScP **ScP** 07 44 17.3 -1.0
baz=200
C16K Lisburne Hills 10.04 333 P **Pn** 07 34 56.7 +0.3
baz=142
C16K ScP **ScP** 07 44 17.5 -0.8
baz=142
C23K Itkillik River 10.16 5 P **Pn** 07 34 56.9 -1.2
baz=187,SNR=100
C23K ScP **ScP** 07 44 20.4 +2.0
baz=187
C24K Franklin Bluff 10.16 9 P **Pn** 07 34 57.6 -0.5
baz=193,SNR=300
C24K ScP **ScP** 07 44 19.9 +1.5
baz=193
P33M Teslin, Yukon 10.19 79 P **Pn** 07 34 58.5 -0.1
baz=276,SNR=316
B18K Kokolik River 10.30 343 P **Pn** 07 35 01.2 +1.2
baz=155,SNR=211
B18K ScP **ScP** 07 44 19.2 +0.6
baz=155
B20K Meade River 10.41 352 P **Pn** 07 35 00.8 -0.7
baz=169,SNR=164
B20K ScP **ScP** 07 44 19.1 +0.4
baz=169
G30M tAoh Zraii Nji 10.45 39 P **Pn** 07 35 01.5 -0.6
baz=234,SNR=118
G30M ScP **ScP** 07 44 19.4 +0.5
baz=234
H31M Peel River 10.49 47 P **Pn** 07 35 01.6 -1.0
baz=244
H31M ScP **ScP** 07 44 18.6 -0.4
baz=244
B22K Teshekpuk Lake 10.61 360 P **Pn** 07 35 02.6 -1.5
baz=179,SNR=300
B22K ScP **ScP** 07 44 19.2 +0.3
baz=179
Q32M Nakina River 10.68 85 P **Pn** 07 35 04.7 -0.7
baz=283,SNR=184
Q32M ScP **ScP** 07 44 19.3 -0.2
baz=283
C26K Camden Bay 10.76 15 P **Pn** 07 35 05.1 -1.0
baz=203
C26K ScP **ScP** 07 44 20.7 +1.5
baz=203
D27M Malcolm River 10.83 24 P **Pn** 07 35 05.8 -1.4
baz=214
E29M Blow River 10.88 31 **Pn** 07 35 07.1 -0.8
E29M Blow River 10.88 31 P **Pn** 07 35 06.5 -1.4
baz=225,SNR=188
E29M ScP **ScP** 07 44 19.1 -0.3
baz=225
F30M Barrier River 10.96 37 P **Pn** 07 35 08.4 -0.6
baz=232,SNR=62
T33K Petersburg 11.03 97 P **Pn** 07 35 10.3 +0.5
baz=294,SNR=17
G31M Satah River 11.06 42 P **Pn** 07 35 09.2 -1.1
baz=238,SNR=95
G31M ScP **ScP** 07 44 19.9 +0.3
baz=238,SNR=7.1
R33M Jennings River 11.24 82 P **Pn** 07 35 12.2 -0.7
baz=281,SNR=212
R33M ScP **ScP** 07 44 21.5 +1.3
baz=281
U33K Whale Pass 11.25 100 P **Pn** 07 35 11.3 -1.5
baz=297,SNR=66
D28M Stokes Point 11.38 27 P **Pn** 07 35 14.2 -0.2
baz=220,SNR=130
D28M ScP **ScP** 07 44 20.0 0.0
baz=220
WRAK Wrangell Islan 11.50 98 P **Pn** 07 35 15.7 -0.5
baz=296,SNR=30
F31M Tsiigehtchic 11.51 40 **Pn** 07 35 14.5 -1.8
F31M Tsiigehtchic 11.51 40 P **Pn** 07 35 14.1 -2.2
baz=237,SNR=66
F31M ScP **ScP** 07 44 20.5 +0.3
baz=237
S34M Telegraph Cree 11.55 90 P **Pn** 07 35 16.7 -0.1
baz=288,SNR=272
CRAG Craig 11.56 103 P **Pn** 07 35 15.6 -1.4
baz=300,SNR=17
A21K Barrow 11.68 354 P **Pn** 07 35 16.2 -2.3
baz=171,SNR=31
A21K ScP **ScP** 07 44 21.5 +1.1
baz=171
DLBC Dease Lake 11.95 86 P **Pn** 07 35 22.6 +0.4
baz=286,SNR=123
DLBC ScP **ScP** 07 44 22.4 +1.2
baz=286
DLBC Dease Lake 11.95 86 P **Pn** 07 35 22.8 +0.5
comp=Z,167nm,0.4s,baz=240,slow=10,SNR=15.3
DLBC S **Sn** 07 37 31.2 -2.3
comp=Z,67nm,0.6s,baz=173,slow=19,SNR=2.7
DLBC LR LR 07 40 11.1
comp=Z,157nm,19.2s,baz=296,slow=38
DLBC ScP **ScP** 07 44 22.1 +1.0
comp=Z,8.6nm,0.9s,baz=319,slow=4.9,SNR=3.9
INK Inuvik 12.07 37 P **Pn** 07 35 22.0 -1.6
INK pmax pmax
comp=Z,105nm,0.9s
INK Inuvik 12.07 37 P **Pn** 07 35 21.9 -1.7
baz=234,SNR=76
INK ScP **ScP** 07 44 21.2 +0.2
baz=234
INK Inuvik 12.07 37 P **Pn** 07 35 21.8 -1.7
comp=Z,62nm,0.7s,baz=222,slow=12,SNR=148
INK S Sn 07 37 27.2 -8.8
comp=Z,23nm,0.7s,baz=18,slow=20,SNR=1.7
INK ScP **ScP** 07 44 20.9 -0.1
comp=Z,8.6nm,0.7s,baz=304,slow=0.1,SNR=10
WTLY Watson Lake, Y 12.20 78 P **Pn** 07 35 26.9 +1.5
baz=279,SNR=41
TGTN Hyland Airport 12.31 71 P **Pn** 07 35 27.9 +1.0
baz=273,SNR=63
TGTN ScP **ScP** 07 44 23.6 +2.0
baz=273
T35M Bob Quinn 12.32 93 P **Pn** 07 35 27.9 +0.8
baz=293,SNR=173
T35M ScP **ScP** 07 44 22.7 +1.0
baz=293
V35K Ketchikan 12.37 102 **Pn** 07 35 27.7 0.0
V35K Ketchikan 12.37 102 P **Pn** 07 35 28.7 +1.1
baz=300,SNR=83
U35K Hyder 12.88 97 P **Pn** 07 35 36.5 +2.1
baz=297,SNR=78
DIB Dawson Inlet, 13.15 111 Pn **Pn** 07 35 37.0 -0.9
RUBB Prince Rupert 13.57 104 Pn **Pn** 07 35 44.4 +1.1
ATKA Atka Island 13.96 246 **Pn** 07 35 48.7 +0.4
WRGLY Wrigley 14.52 64 **Pn** 07 35 55.9 +0.5
WRGLY Wrigley 14.52 64 P **Pn** 07 35 57.1 +1.7
baz=270,SNR=41
KOTAN Kotaneelee Air 14.53 76 P **Pn** 07 35 56.9 +1.2
baz=281,SNR=148
FLDN Fort Liard 14.79 75 **Pn** 07 35 59.6 +0.6
FLDN Fort Liard 14.79 75 P **Pn** 07 36 01.0 +2.0
baz=281,SNR=73
ADK Adak 15.33 249 P **P** 07 36 07.4 -0.7
ADK pmax pmax
comp=Z,70nm,0.5s
C36M Paulatuk 15.57 40 Pn **Pn** 07 36 06.0 -2.6
C36M Paulatuk 15.57 40 P **Pn** 07 36 06.1 -2.6
baz=246,SNR=140
C36M ScP **ScP** 07 44 26.0 -0.8
baz=246
BBB Bella Bella 15.87 108 Pn **P** 07 36 14.1 +0.1
BBB Bella Bella 15.87 108 P **P** 07 36 14.4 +0.4
comp=Z,15nm,0.6s,baz=311,slow=9.7,SNR=20
BBB S **Sn** 07 39 03.5 -4.4
comp=Z,9.3nm,0.3s,baz=359,slow=21,SNR=13
A36M Sachs Harbour 16.49 31 **Pn** 07 36 19.4 -0.6
A36M Sachs Harbour 16.49 31 P **Pn** 07 36 18.5 -1.5
baz=236,SNR=171
A36M ScP **ScP** 07 44 27.9 -0.7
baz=236
AMKA Amchitka 17.58 254 P **Pn** 07 36 33.4 0.0
YKA Yellowknife Ar 18.62 65 *c* eP **P** 07 36 45.2 +1.1
YKA pmax pmax
comp=Z,14nm,0.4s
YKA Yellowknife Ar 18.62 65 P **P** 07 36 45.3 +1.1
comp=Z,12nm,0.5s,baz=278,slow=10,SNR=371
YKA PcP **PcP** 07 41 08.3 +0.4
comp=Z,1.0nm,0.3s,baz=284,slow=1.5,SNR=7.9
YKA LR LR 07 44 20.9
comp=Z,125nm,18.0s,baz=18,slow=38
YKA ScP **ScP** 07 44 33.5 +0.2
comp=Z,3.5nm,0.5s,baz=183,slow=3.9,SNR=35
YKA PKiKP **PKiKP** 07 48 56.2 -1.8
comp=Z,0.2nm,0.3s,baz=288,slow=0.6,SNR=10
YKA P3KPbc 08 11 14.7
comp=Z,0.7nm,0.8s,baz=96,slow=5.2,SNR=11
BILL Bilibino 19.30 312 P **P** 07 36 51.5 -0.1
BILL Bilibino 19.30 312 *i* P **P** 07 36 52.1 +0.5
BILL pmax pmax
comp=Z,61nm,1.2s
SHEM Shemya Is, Ala 19.35 263 P **P** 07 36 52.0 -0.2
comp=Z,214nm,0.8s,baz=328,slow=13,SNR=5.9
D05A Enumclaw 22.17 111 P **P** 07 37 24.5 +2.0
EDM Edmonton 22.64 89 P **P** 07 37 28.8 +1.5
EDM Edmonton 22.64 89 P **P** 07 37 28.8 +1.5
LTY Liberty 22.75 109 P **P** 07 37 30.4 +2.0
MXC Moxie City 23.42 110 P **P** 07 37 35.0 +0.3
COR Corvallis 23.51 117 P **P** 07 37 38.6 +3.1
COR pmax pmax
comp=Z,78nm,1.8s
D08A Wollman Farm, 23.73 107 P **P** 07 37 38.0 +0.5
NEW Newport 23.78 103 P **P** 07 37 39.8 +1.8
NEW Newport 23.78 103 P **P** 07 37 39.8 +1.8
NEW Newport 23.78 103 P **P** 07 37 39.9 +1.9
baz=312,SNR=6.6
NEW Newport 23.78 103 LR LR 07 46 56.1
comp=Z,154nm,18.2s,baz=296,slow=36
H04D Lebanon 23.82 116 P **P** 07 37 41.2 +3.0
HAWA Hanford 23.91 109 P **P** 07 37 41.9 +2.7
H04A Detroit Lake 23.94 115 P **P** 07 37 41.6 +2.1
F07A Phinny Hill Vi 24.09 110 P **P** 07 37 43.5 +2.8
I05D Terrebonne, OR 24.60 115 P **P** 07 37 46.4 +1.0
DBO Dodson Butte 24.69 119 P **P** 07 37 47.6 +1.3
K02D Willamette Mer 24.84 120 P **P** 07 37 48.3 +0.6
G08A Pilot Rock 24.99 110 P **P** 07 37 50.6 +1.5
PINE Pine Mountain 25.20 115 P **P** 07 37 52.9 +1.8
HUMO Hull Mountain 25.23 119 P **P** 07 37 53.2 +2.1
RES Resolute Bay 25.54 32 P **P** 07 37 53.5 -0.1
RES Resolute Bay 25.54 32 P **P** 07 37 53.5 -0.1
RES pmax pmax
comp=Z,19nm,0.7s
SEY Seymchan 25.64 301 *c e* P **P** 07 37 53.6 -1.0
SEY pmax pmax
comp=Z,23nm,0.8s
SEY Seymchan 25.64 301 LR LR 07 47 27.0
comp=Z,132nm,20.5s,baz=17,slow=35
I07A Izee 25.64 113 P **P** 07 37 57.2 +2.2
L04D Klamath Falls 25.83 119 P **P** 07 37 59.3 +2.6
L04D IAmb IAmb 07 38 01.3
comp=Z,85nm,1.5s
YBH Yreka Blue Hor 26.04 120 P **P** 07 38 01.0 +2.5
YBH Yreka Blue Hor 26.04 120 P **P** 07 38 01.0 +2.5
YBH pmax pmax
comp=Z,24nm,0.9s
YBH Yreka Blue Hor 26.04 120 LR LR 07 45 08.5
comp=Z,123nm,19.1s,baz=316,slow=29
K05A Summer Lake 26.05 116 P **P** 07 38 02.3 +3.5
BMO Blue Mountains 26.11 109 P **P** 07 38 00.9 +1.8
BMO Blue Mountains 26.11 109 P **P** 07 38 00.9 +1.8
BMO pmax pmax
comp=Z,14nm,0.9s
PLID Pearl Lake 26.56 107 P **P** 07 38 04.6 +1.2
OVMT Ovando 26.64 100 P **P** 07 38 05.1 +1.1
PET Petropavlovsk 26.98 277 P **P** 07 38 08.7 +2.0
comp=Z,207nm,0.6s
PET Petropavlovsk 26.98 277 *e* P **P** 07 38 07.0 +0.3
PET pmax pmax
comp=Z,70nm,1.4s
WVOR Wild Horse Val 27.32 114 P **P** 07 38 12.4 +2.4
WVOR pmax pmax
comp=Z,11nm,1.4s
PEA0B Petropavlovsk- 27.41 278 P **P** 07 38 11.1 +0.4
PEA0B IAmb IAmb 07 38 11.8
comp=Z,65nm,0.8s
PEA0B Petropavlovsk- 27.41 278 *c i* P **P** 07 38 10.8 +0.2
PETK Petropavlovsk- 27.41 278 P **P** 07 38 10.4 -0.2
PETK Petropavlovsk- 27.41 278 P **P** 07 38 10.4 -0.2
PETK Petropavlovsk- 27.41 278 P **P** 07 38 10.1 -0.6
comp=Z,62nm,0.7s,baz=69,slow=14,SNR=135
PETK LR LR 07 50 10.5
comp=Z,92nm,19.0s,baz=90,slow=39
comp=Z,62nm,0.7s
FFC Flin Flon 27.55 78 P **P** 07 38 13.1 +1.2
MA2 Magadan 27.60 294 P **P** 07 38 12.2 0.0
MA2 IAmb IAmb 07 38 14.8
comp=Z,31nm,0.9s
MA2 Magadan 27.60 294 P **P** 07 38 12.9 +0.7
MA2 Magadan 27.60 294 *c i* P **P** 07 38 12.2 0.0
MA2 pmax pmax
comp=Z,22nm,0.6s
MA2 Magadan 27.60 294 LR LR 07 50 31.8
comp=Z,83nm,19.2s,baz=74,slow=39
EGMT Eagleton 27.61 96 P **P** 07 38 13.7 +1.1
baz=311
MFID Camas Ranch 27.89 109 P **P** 07 38 17.0 +1.9
BOZ Bozeman (W) 28.34 101 P **P** 07 38 20.1 +1.0
baz=315
ORV Oroville 28.35 121 P **P** 07 38 20.2 +1.1
ORV Oroville 28.35 121 P **P** 07 38 20.2 +1.1
ORV pmax pmax
comp=Z,4.0nm,0.7s
HLID Hailey 28.45 107 P **P** 07 38 21.1 +0.9
baz=318
YHL Hebgen Lake 29.09 102 P **P** 07 38 28.2 +2.2
FCC Fort Churchill 29.34 66 P **P** 07 38 28.4 +0.7
FCC IAmb IAmb 07 38 59.5
comp=Z,30nm,1.1s
FCC Fort Churchill 29.34 66 P **P** 07 38 28.4 +0.7
FCC pmax pmax
comp=Z,30nm,1.1s
SKR Severo-Kuril's 29.63 275 *e* P **P** 07 38 30.1 -0.1
SKR pmax pmax
comp=Z,183nm,0.6s
H17A Grant Village 29.72 102 P **P** 07 38 34.8 +3.3
baz=316
WAKR Walker 30.12 120 P **P** 07 38 37.2 +2.2
TPAW Teton Pass 30.20 104 P **P** 07 38 37.8 +2.1
TPAW IAmb IAmb 07 39 04.7
comp=Z,17nm,0.8s
ELK Elko 30.22 112 P **P** 07 38 39.1 +3.2
ELK Elko 30.22 112 LR LR 07 49 24.8
comp=Z,126nm,19.7s,baz=283,slow=33
LAO LASA Array 30.29 94 P **P** 07 38 39.1 +2.8
baz=313
NVAR Mina Array Bea 30.68 118 P **P** 07 38 42.8 +2.8
comp=Z,11nm,0.8s,baz=312,slow=9.0,SNR=83
NVAR PcP **PcP** 07 41 36.1 +0.9
comp=Z,4.9nm,0.8s,baz=304,slow=2.0,SNR=8.5
NVAR ScP **ScP** 07 45 08.4 +0.9
comp=Z,4.3nm,0.8s,baz=281,slow=2.8,SNR=16
NVAR PKiKP **PKiKP** 07 49 05.2 -0.3
comp=Z,0.5nm,0.5s,baz=54,slow=1.6,SNR=5.4
MLAC Mammoth, Mammo 31.11 120 P **P** 07 38 46.8 +3.0
baz=327,SNR=5.5
BW06 Boulder Array 31.42 103 P **P** 07 38 48.3 +1.8
baz=318,SNR=5.0
PDAR Pinedale Array 31.42 103 P **P** 07 38 47.8 +1.4
PDAR Pinedale Array 31.42 103 P **P** 07 38 48.8 +2.3
comp=Z,2.2nm,0.7s,baz=314,slow=5.4,SNR=26
PDAR PcP **PcP** 07 41 36.8 -0.4
comp=Z,1.8nm,0.5s,baz=233,slow=0.3,SNR=4.4
PDAR ScP **ScP** 07 45 09.7 -0.3
comp=Z,2.0nm,0.8s,baz=1.8,slow=0.8,SNR=7.7
PDAR P3KPbc 08 10 21.4
comp=Z,0.3nm,0.7s,baz=126,slow=4.7,SNR=4.4
comp=Z,2.2nm,0.7s
TIXI Tiksi 31.62 324 P **P** 07 38 48.0 +0.4
TIXI IAmb IAmb 07 38 48.6
comp=Z,11nm,0.5s
TIXI Tiksi 31.62 324 ||| *e* P **P** 07 38 47.6 0.0
TIXI pmax pmax
comp=Z,15nm,1.3s
TIXI Tiksi 31.62 324 P **P** 07 38 47.8 +0.2
TIXI PcP **PcP** 07 41 35.5 -1.3
TIXI ScP **ScP** 07 45 07.3 -2.4
DUG Dugway, Tooele 31.80 110 P **P** 07 38 51.8 +2.1
DUG pmax pmax
comp=Z,14nm,0.8s
DUG Dugway, Tooele 31.80 110 P **P** 07 38 51.6 +1.9
baz=322,SNR=8.4
TIN Tinemaha, Big 31.86 120 P **P** 07 38 53.1 +3.0
baz=327
R11B Troy Canyon, C 31.98 115 P **P** 07 38 53.2 +1.9
R11B Troy Canyon, C 31.98 115 P **P** 07 38 53.6 +2.3
baz=324,SNR=16
GRAC Grapevine Rang 32.28 119 P **P** 07 38 56.9 +3.1
baz=326,SNR=13
NLU North Lily Min 32.34 109 P **P** 07 38 56.6 +2.1
CWC Cottonwood Cre 32.44 120 P **P** 07 38 58.1 +2.8
baz=327
VES Vestal, Richgr 32.51 122 P **P** 07 38 57.2 +1.5
baz=328,SNR=5.8
SMMC Simmler 32.57 124 P **P** 07 38 57.7 +1.4
baz=329,SNR=7.6
MDND Maddock 32.86 87 P **P** 07 38 59.3 +0.5
baz=311
ISA Isabella, Lake 32.92 121 P **P** 07 39 01.9 +2.5
baz=328,SNR=10
FURC Furnace Creek, 32.95 119 P **P** 07 39 02.5 +3.0
baz=327,SNR=9.7
K22A Casper 33.01 100 P **P** 07 39 02.2 +1.9
baz=318
PKM Mcpherson Peak 33.01 124 P **P** 07 39 03.2 +2.8
baz=329,SNR=21
MPMC Manual Prospec 33.01 120 P **P** 07 39 03.0 +2.6
baz=327,SNR=16
ULM Lac du Bonnet 33.19 81 ||| *e* P **P** 07 39 03.1 +1.6
ULM Lac du Bonnet 33.19 81 P **P** 07 39 03.7 +2.2
comp=Z,5.5nm,0.6s,baz=310,slow=8.2,SNR=9.7
ULM ScP **ScP** 07 45 15.6 0.0
comp=Z,2.6nm,0.5s,baz=290,slow=4.1,SNR=5.0
ULM LR LR 07 52 50.3
comp=Z,178nm,19.3s,baz=298,slow=36
comp=Z,5.5nm,0.6s
RSSD Black Hills 33.19 96 P **P** 07 39 04.1 +2.3
RSSD pmax pmax
comp=Z,44nm,1.7s
RSSD Black Hills 33.19 96 P **P** 07 39 04.2 +2.3
baz=316
RSSD Black Hills 33.19 96 P **P** 07 39 03.9 +2.1
baz=316
ARVC Arvin 33.22 122 P **P** 07 39 03.5 +1.5
baz=329
LRMC Laurel Mtn Rad 33.42 121 P **P** 07 39 05.8 +2.0
baz=328,SNR=5.7
SHOC Shoshone, Teco 33.68 119 P **P** 07 39 08.8 +2.8
baz=327,SNR=5.8
EDW2 Edwards Air Fo 33.79 122 P **P** 07 39 08.2 +1.3
baz=328
GSC Goldstone, Bar 33.95 120 P **P** 07 39 11.5 +3.1
baz=328,SNR=11
O20A White River Ci 34.05 105 P **P** 07 39 11.9 +2.5
baz=320,SNR=7.4
DECC Green Verdugo 34.18 123 P **P** 07 39 11.2 +0.9
baz=329
RRX Edison Barstow 34.23 120 P **P** 07 39 11.4 +0.8
baz=328
TUQ Turquoise Moun 34.23 119 P **P** 07 39 11.9 +1.1
baz=327
AGMN Agassiz Nation 34.45 83 P **P** 07 39 13.2 +0.7
baz=311
AGMN Agassiz Nation 34.45 83 P **P** 07 39 14.4 +1.9
baz=311
BFSC Mount Baldy Ra 34.48 122 P **P** 07 39 15.2 +2.2
baz=329,SNR=8.1
HEC Hector,Ludlow 34.55 120 P **P** 07 39 13.4 -0.2
baz=328
N23A Red Feather La 34.61 102 P **P** 07 39 15.1 +0.9
baz=319
BBRC Big Bear Solar 34.78 121 P **P** 07 39 14.8 -0.9
baz=328
CIS Catalina Islan 34.87 124 P **P** 07 39 16.6 +0.3
baz=330
GMRC Granite Mounta 34.89 119 P **P** 07 39 18.5 +2.0
baz=328,SNR=11
NEEM North Greenlan 35.07 22 *i* P **P** 07 39 17.6 -0.2
NEEM IAmb IAmb 07 39 20.4
comp=Z,21nm,0.5s
SCI2 San Clemente I 35.18 124 P **P** 07 39 19.9 +1.0
baz=330
MURC Murrieta 35.22 122 P **P** 07 39 20.9 +1.6
baz=329
BELC Belle Mtn. Jos 35.40 120 P **P** 07 39 22.4 +1.4
baz=328,SNR=11
B35A Bob, Littlefor 35.48 82 P **P** 07 39 21.8 +0.5
baz=311,SNR=5.1
PFO Pinyon Flats O 35.53 121 P **P** 07 39 24.2 +2.2
PFO IAmb IAmb 07 39 50.7
comp=Z,41nm,1.6s
PFO Pinyon Flats O 35.53 121 ||| *e* P **P** 07 39 23.7 +1.7
PFO pmax pmax
comp=Z,11nm,0.9s
PFO Pinyon Flats O 35.53 121 P **P** 07 39 24.1 +2.0
baz=329,SNR=5.8
PFO Pinyon Flats O 35.53 121 LR LR 07 51 35.1
comp=Z,66nm,20.4s,baz=311,slow=32
PFO Pinyon Flats O 35.53 121 P **P** 07 39 24.3 +2.3
PFO pP **pP** 07 39 48.2 +1.9
PFO ScP **ScP** 07 45 23.6 -0.7
PMD Palm Desert 35.54 121 P **P** 07 39 23.8 +1.9
PMD IAmb IAmb 07 39 50.5
comp=Z,32nm,1.4s
TPFO Pinon Flats 35.54 121 P **P** 07 39 24.1 +2.0

baz=329,SNR=5.8
YAK Yakutsk 35.54 308 P **P** 07 39 21.8 +0.1
YAK IAmb IAmb 07 39 22.9
comp=Z,59nm,0.8s
YAK Yakutsk 35.54 308 *e*P **P** 07 39 20.5 -1.1
YAK *e**PP **pP** 07 39 43.5 -2.4
YAK *e* 07 40 41.9
YAK *e* 07 41 46.8
YAK *e*S **S** 07 44 49.1 +0.2
YAK *e**SS **sS** 07 45 30.8 -0.1
YAK *e* 07 49 21.9
YAK pmax pmax
comp=Z,41nm,0.8s
YAK pmax pmax
comp=N,13nm,1.8s
YAK pmax pmax
comp=E,14nm,1.7s
YAK pmax pmax
comp=Z,387nm,8.9s
YAK pmax pmax
comp=N,318nm,12.6s
YAK pmax pmax
comp=E,112nm,4.6s
YAK smax smax
comp=N,228nm,4.9s
YAK smax smax
comp=E,122nm,6.2s
YAK Yakutsk 35.54 308 LR LR 07 53 43.0
comp=E,99nm,21.1s,baz=70,slow=36
ISCO Idaho Springs 35.60 102 P **P** 07 39 23.5 +0.6
baz=320
IRM Iron Mountain 35.65 119 P **P** 07 39 25.1 +2.2
baz=328,SNR=14
109C Camp Elliot, M 35.87 122 P **P** 07 39 27.0 +2.2
baz=330
BC3 Big Chuckawall 35.93 120 P **P** 07 39 27.1 +1.6
baz=328
PDMCI Parker Dam,Lak 35.97 117 P **P** 07 39 27.9 +2.2
baz=327
MONP2 Monument Peak 36.16 121 P **P** 07 39 29.9 +2.4
baz=329,SNR=9.6
TYV Tymovskoe 36.21 285 *e*P **P** 07 39 27.9 +0.4
TYV pmax pmax
comp=Z,45nm,0.7s
TYV pmax pmax
comp=Z,100nm,3.4s
MVCO Mesa Verde 36.22 108 P **P** 07 39 29.3 +1.3
MVCO Mesa Verde 36.22 108 P **P** 07 39 29.3 +1.3
baz=323
WUAZ Wupatki 36.23 113 P **P** 07 39 30.5 +2.5
baz=325,SNR=11
SWSC Sam W. Stewart 36.39 121 P **P** 07 39 30.5 +1.4
baz=329
Q24A Divide 36.48 103 P **P** 07 39 32.3 +2.1
baz=321
IKP In-Ko-Pah, Jac 36.50 121 P **P** 07 39 32.1 +1.8
baz=329,SNR=7.3
GLA Glamis 36.72 119 P **P** 07 39 34.0 +1.9
baz=328
EYMN Ely 36.87 80 P **P** 07 39 34.3 +1.2
baz=312,SNR=6.1
EYMN Ely 36.87 80 P **P** 07 39 34.0 +0.9
baz=312,SNR=6.1
NOR Nord 36.94 10 P **P** 07 39 32.8 -0.6
NOR pmax pmax
comp=Z,7.0nm,1.4s
NOR Nord 36.94 10 *i*P **P** 07 39 32.5 -0.8
NOR IAmb IAmb 07 39 42.5
comp=Z,2.3nm,0.9s
SDCO Great Sand Dun 37.25 105 P **P** 07 39 38.6 +1.7
baz=322,SNR=8.2
SDCO Great Sand Dun 37.25 105 P **P** 07 39 38.7 +1.9
baz=322,SNR=8.2
F36A Milaca 37.27 85 P **P** 07 39 37.7 +1.1
baz=314
FRB Frobisher Bay 37.47 47 P **P** 07 39 38.5 +0.6
FRB pmax pmax
comp=Z,53nm,0.7s
FRB Frobisher Bay 37.47 47 LR LR 07 57 40.9
comp=Z,73nm,19.0s,baz=221,slow=40
E38A The Farm, Brul 37.75 82 P **P** 07 39 42.0 +1.4
baz=313,SNR=10
SPMN Marine on St. 38.08 85 P **P** 07 39 45.2 +1.8
baz=315
SPMN Marine on St. 38.08 85 P **P** 07 39 45.1 +1.8
baz=315
T25A Trinidad 38.27 104 P **P** 07 39 47.1 +1.8
baz=322
214A Organ Pipe Nat 38.55 118 P **P** 07 39 49.4 +1.9
baz=328
I37B Waseca 38.64 87 P **P** 07 39 48.4 +0.4
baz=316,SNR=8.3
YSS Yuzh-Sakhalins 38.75 280 P **P** 07 39 50.5 +1.6
YSS Yuzh-Sakhalins 38.75 280⇓ *e*P **P** 07 39 49.6 +0.7
YSS pmax pmax
comp=Z,60nm,0.8s
YSS Yuzh-Sakhalins 38.75 280 P **P** 07 39 49.6 +0.7
D41A Chassel 38.93 79 P **P** 07 39 51.8 +1.4
baz=313,SNR=6.6
ANMO Albuquerque 39.02 108 P **P** 07 39 53.4 +1.8
baz=324
TUC Tucson 39.16 115 P **P** 07 39 54.9 +2.3
TUC pmax pmax
comp=Z,12nm,1.6s
TUC Tucson 39.16 115 P **P** 07 39 55.4 +2.8
baz=327
GRNR Gornyy 39.28 289 *e*P **P** 07 39 52.9 -0.5
CBKS Cedar Bluff 39.29 98 P **P** 07 39 55.3 +1.7
baz=320
G40A Rib Lake 39.36 83 P **P** 07 39 55.6 +1.6
baz=315,SNR=7.2
Y22F Passcal Instru 39.51 110 P **P** 07 39 58.8 +3.3
baz=325
Y22D IRIS PASSCAL I 39.51 110 P **P** 07 39 58.7 +3.1
baz=325
Y22A Socorro 39.60 110 P **P** 07 39 58.6 +2.3
baz=325,SNR=6.4
N35A Tabor 39.80 92 P **P** 07 40 00.6 +2.8
baz=318
121A Cookes Peak, D 40.37 112 P **P** 07 40 05.3 +2.6
baz=326,SNR=5.6
121A Cookes Peak, D 40.37 112 P **P** 07 40 04.0 +1.3
baz=326,SNR=5.6
KSU1 Kansas State U 40.64 95 P **P** 07 40 06.9 +2.3
baz=320
KSU1 Kansas State U 40.64 95 P **P** 07 40 06.4 +1.7
baz=320
SUMG Summit 40.64 25 P **P** 07 40 04.8 0.0
SUMG pmax pmax
comp=Z,38nm,1.6s
SUMG Summit 40.64 25 *i*P **P** 07 40 03.4 -1.4
SUMG IAmb IAmb 07 40 30.7
comp=Z,12nm,0.7s
ASAJ Asahikawa 40.83 277 P **P** 07 40 05.9 -0.2
JFWS Jewell Farm 41.02 85 P **P** 07 40 08.7 +0.9
JFWS IAmb IAmb 07 40 34.2
comp=Z,51nm,0.8s
JFWS Jewell Farm 41.02 85 P **P** 07 40 08.7 +0.9
JFWS pmax pmax
comp=Z,51nm,0.8s
JFWS Jewell Farm 41.02 85 P **P** 07 40 09.7 +1.9
baz=317
JFWS Jewell Farm 41.02 85 P **P** 07 40 08.9 +1.2
baz=317
L40A Anamosa 41.15 87 P **P** 07 40 10.0 +1.2
baz=317
KBS Kingsbay 41.26 4 *e*P **P** 07 40 11.6 +2.4
KBS Kingsbay 41.26 4 P **P** 07 40 11.6 +2.4
KBS PcP **PcP** 07 42 06.6 +0.8
KBS ScP **ScP** 07 45 44.3 -1.0
AMTX Amarillo 41.40 103 P **P** 07 40 13.7 +2.6
baz=323
SFJD Kangerlussuaq 41.41 35 LR LR 07 57 49.0
comp=Z,45nm,19.9s,baz=310,slow=36
SFJD Kangerlussuaq 41.41 35 P **P** 07 40 11.1 +0.5
SFJD pP **pP** 07 40 35.7 +0.4
E46A Sault Ste Mari 41.52 77 P **P** 07 40 12.3 +0.5
baz=315,SNR=7.1
ZEA Zeya 41.57 298 *e*P **P** 07 40 11.4 -0.7
ZEA pmax pmax
comp=Z,30nm,1.1s
MSTX Muleshoe 41.60 105 P **P** 07 40 15.1 +2.4
baz=324
MSTX Muleshoe 41.60 105 P **P** 07 40 15.3 +2.6
baz=324
P38A Dawn 41.80 91 P **P** 07 40 15.8 +1.7
baz=319

ERM Erimo 42.07 274 *ce*P **P** 07 40 17.4 +1.1
ERM pmax pmax
comp=Z,343nm,1.7s
ERM Erimo 42.07 274 P **P** 07 40 16.8 +0.5
SPA0 Spitsbergen Ar 42.15 3 *e*P **P** 07 40 15.9 -0.7
SPA0 IAmb IAmb 07 40 17.9
comp=Z,27nm,0.8s
SPITS Spitsbergen Ar 42.15 3 P **P** 07 40 15.5 -1.0
comp=Z,3.7nm,0.3s,baz=20,slow=5.3,SNR=51
SPITS PcP **PcP** 07 42 08.1 -0.6
comp=Z,4.3nm,0.6s,baz=29,slow=3.3,SNR=1.6
SPITS LR LR 07 56 18.7
comp=Z,37nm,21.4s,baz=310,slow=34
comp=Z,3.7nm,0.3s
MNTX Cornudas Mount 42.20 110 P **P** 07 40 20.5 +3.0
baz=326,SNR=6.4
MNTX Cornudas Mount 42.20 110 P **P** 07 40 20.0 +2.5
baz=326,SNR=6.4
N41A Harden Midland 42.34 88 P **P** 07 40 21.0 +2.5
baz=318,SNR=5.4
T35B Sooner Cattle 42.37 97 P **P** 07 40 20.0 +1.2
baz=321
GLMI Grayling 42.46 79 P **P** 07 40 21.0 +1.6
baz=316
KLR Kul'dur 42.55 290 *ce*P **P** 07 40 19.7 -0.4
KLR pmax pmax
comp=Z,84nm,1.7s
KLR Kul'dur 42.55 290 LR LR 07 58 01.7
comp=Z,72nm,21.2s,baz=38,slow=36
DBG Daneborg 42.59 17 *i*P **P** 07 40 19.4 -0.8
DBG IAmb IAmb 07 40 22.7
comp=Z,9.8nm,0.5s
P40A Paris 42.62 90 P **P** 07 40 21.9 +1.1
baz=319
ICESG Greenland Ices 42.89 29 *i*P **P** 07 40 22.4 -0.7
ICESG IAmb IAmb 07 40 28.3
comp=Z,12nm,0.7s
WMOK Wichita Mounta 42.95 101 P **P** 07 40 24.8 +1.3
WMOK pmax pmax
comp=Z,37nm,1.1s
WMOK Wichita Mounta 42.95 101 P **P** 07 40 25.8 +2.3
baz=323,SNR=6.2
WMOK Wichita Mounta 42.95 101 P **P** 07 40 25.5 +1.9
baz=323,SNR=6.2
HDIL Hopedale 43.24 87 P **P** 07 40 26.7 +0.9
HDIL IAmb IAmb 07 40 52.8
comp=Z,72nm,0.9s
HDIL Hopedale 43.24 87 P **P** 07 40 26.8 +1.0
baz=319
HDIL Hopedale 43.24 87 P **P** 07 40 26.5 +0.7
baz=319
S39A Bolivar 43.38 93 P **P** 07 40 27.0 0.0
baz=320
APMT Aspermont 43.42 103 P **P** 07 40 27.9 +0.6
APMT IAmb IAmb 07 40 55.4
comp=Z,25nm,1.0s
R40A Maddies Statio 43.45 92 P **P** 07 40 28.0 +0.5
R40A IAmb IAmb 07 40 54.3
comp=Z,69nm,1.4s
R40A Maddies Statio 43.45 92 P **P** 07 40 28.3 +0.8
baz=320
TUL3 Leonard 43.52 97 P **P** 07 40 27.5 -0.5
baz=322
SCHQ Schefferville 43.76 57 P **P** 07 40 30.5 +0.7
comp=Z,9.7nm,0.4s,baz=312,slow=7.3,SNR=63
SCHQ ScP **ScP** 07 45 56.7 +1.0
comp=Z,2.9nm,0.6s,baz=256,slow=4.0,SNR=5.0
SCHQ LR LR 07 58 22.1
comp=Z,126nm,19.8s,baz=261,slow=35
comp=Z,9.7nm,0.4s
U38A Gravette 43.81 95 P **P** 07 40 31.0 +0.6
baz=321,SNR=7.7
HEH HeiHe 43.87 294 *e*P **P** 07 40 29.2 -1.5
HEH pmax pmax
comp=Z,97nm,0.8s
HEH pmax pmax
comp=Z,280nm,5.5s
HOPEN Hopen 43.97 1 *e*P **P** 07 40 33.5 +2.4
HOPEN IAmb IAmb 07 40 35.1
comp=Z,61nm,1.5s
NRIK Noril'sk 44.06 334 *c*⇓ P **P** 07 40 31.8 -0.2
NRIK pmax pmax
comp=Z,44nm,0.9s
NRIK Noril'sk 44.06 334 P **P** 07 40 32.2 +0.2
comp=Z,45nm,0.5s,baz=52,slow=6.6,SNR=89
comp=Z,45nm,0.5s
CCM Cathedral Cave 44.15 91 P **P** 07 40 34.1 +1.0
baz=320
HHAR Hobbs 44.16 95 P **P** 07 40 33.9 +0.7
HHAR IAmb IAmb 07 40 59.3
comp=Z,22nm,0.7s
ABTX Abilene, Hawle 44.22 103 P **P** 07 40 34.6 +0.8
baz=324
BOD Bodaibo 44.34 310 *e*P **P** 07 40 33.7 -0.6
BOD pmax pmax
comp=Z,80nm,0.8s
SFIN Lafayette 44.48 85 P **P** 07 40 36.6 +0.9
baz=319
SFIN Lafayette 44.48 85 P **P** 07 40 37.3 +1.6
baz=319
U40A Yellville 44.65 94 P **P** 07 40 37.6 +0.5
baz=321
U40A P **P** 07 40 37.6 +0.5
baz=321
L48A N Adams 44.66 82 P **P** 07 40 37.9 +0.9
baz=318,SNR=6.2
L48A P **P** 07 40 37.9 +0.9
baz=318,SNR=6.2
X37A Clayton 44.77 98 P **P** 07 40 40.3 +2.2
baz=323
N47A Urbana 44.81 84 P **P** 07 40 39.8 +1.5
N47A Urbana 44.81 84 P **P** 07 40 39.1 +0.7
baz=318,SNR=5.3
N47A P **P** 07 40 39.1 +0.7
baz=318,SNR=5.3
OZNA Ozona 44.88 106 P **P** 07 40 40.4 +1.4
OZNA IAmb IAmb 07 40 56.3
comp=Z,12nm,0.5s
TX31 Lajitas Ar. Si 44.98 110 P **P** 07 40 41.8 +1.9
baz=327,SNR=7.8
TXAR Lajitas Array 44.98 110 P **P** 07 40 42.0 +2.1
comp=Z,3.5nm,0.9s,baz=324,slow=6.1,SNR=20
TXAR ScP **ScP** 07 46 02.2 +1.0
comp=Z,4.3nm,0.7s,baz=277,slow=2.4,SNR=20
TXAR PKiKP **PKiKP** 07 49 16.6 -0.8
comp=Z,0.3nm,0.4s,baz=185,slow=1.0,SNR=11
TXAR LR LR 07 58 08.3
comp=Z,54nm,18.3s,baz=314,slow=34
comp=Z,3.5nm,0.9s
SADO Sadowa 45.20 75 LR LR 08 00 00.5
comp=Z,199nm,19.1s,baz=208,slow=36
N49A Columbus Grove 45.54 82 P **P** 07 40 45.3 +1.2
baz=319,SNR=8.6
N49A P **P** 07 40 45.3 +1.2
baz=319,SNR=8.6
PBMO Poplar Bluff 45.55 91 P **P** 07 40 44.8 +0.6
PBMO IAmb IAmb 07 41 11.2
comp=Z,45nm,0.8s
PBMO Poplar Bluff 45.55 91 P **P** 07 40 45.3 +1.1
baz=321
MIAR Mount Ida 45.70 96 P **P** 07 40 47.0 +1.6
MIAR pmax pmax
comp=Z,37nm,0.9s
MIAR Mount Ida 45.70 96 P **P** 07 40 47.3 +1.8
baz=322
JCT Junction City 45.89 105 P **P** 07 40 48.4 +1.4
JCT Junction City 45.89 105 P **P** 07 40 48.4 +1.4
JCT pmax pmax
comp=Z,66nm,0.6s
JCT Junction City 45.89 105 P **P** 07 40 49.4 +2.3
baz=326,SNR=21
JCT Junction City 45.89 105 P **P** 07 40 49.2 +2.2
baz=326,SNR=21
P48A Milroy 46.02 85 P **P** 07 40 48.4 +0.5
baz=320,SNR=6.0
P48A P **P** 07 40 48.4 +0.5
baz=320,SNR=6.0
USA0B Ussuriysk Arra 46.02 285 *de*P **P** 07 40 47.1 -0.7
USRK Ussuriysk Ar. 46.02 285 P **P** 07 40 46.5 -1.4
comp=Z,19nm,0.6s,baz=46,slow=9.7,SNR=36
USRK PcP **PcP** 07 42 22.2 -0.3
comp=Z,2.1nm,0.4s,baz=42,slow=2.6,SNR=5.2
comp=Z,19nm,0.6s
P49A Miami Univ. Ec 46.32 84 P **P** 07 40 50.1 -0.1
baz=320
DRIO Del Rio 46.37 107 P **P** 07 40 51.6 +0.9
DRIO IAmb IAmb 07 41 07.7
comp=Z,14nm,0.6s
JMM Marumori 46.39 273 P **P** 07 40 51.7 +1.0
LPIG La Paz 46.43 121 LR LR 07 58 08.6
comp=Z,60nm,18.4s,baz=328,slow=33
WCI Wyandotte Cave 46.52 86 P **P** 07 40 49.2 -2.6
WCI pmax pmax
comp=Z,62nm,1.1s
WCI Wyandotte Cave 46.52 86 P **P** 07 40 51.6 -0.2
baz=320
435B Jarrell 46.73 103 P **P** 07 40 55.4 +1.9
baz=325
ERPA Erie 46.74 78 P **P** 07 40 54.0 +0.6
baz=318
VLA Vladivostok 46.87 284⇓ *e*P **P** 07 40 54.7 +0.3
VLA pmax pmax
comp=Z,40nm,1.1s
MDJ Mudanjiang 46.88 287 P **P** 07 40 54.1 -0.5
MDJ PP **PP** 07 42 49.5 +3.9
MDJ S **S** 07 47 40.4 +3.6
MDJ pmax pmax
comp=Z,38nm,0.8s
MDJ pmax pmax
comp=Z,220nm,4.3s
MDJ Mudanjiang 46.88 287 P **P** 07 40 54.5 0.0
MDJ Mudanjiang 46.88 287 P **P** 07 40 54.0 -0.5
M53A WI Miller and 46.91 79 P **P** 07 40 56.1 +1.3
baz=319
BNX BinXian 47.10 290 ⇓P **P** 07 40 56.5 +0.3
BNX pmax pmax
comp=Z,110nm,1.0s
BNX pmax pmax
comp=Z,250nm,5.4s
P51A Williamsport 47.19 83 P **P** 07 40 58.4 +1.4
baz=320,SNR=8.2
P51A P **P** 07 40 58.4 +1.4
baz=320,SNR=8.2
WVNY West Valley, N 47.21 77 P **P** 07 40 57.4 +0.2
baz=318,SNR=7.2
N53A Lisbon 47.30 80 P **P** 07 40 58.7 +0.8
baz=319,SNR=10.0
N53A P **P** 07 40 58.7 +0.8
baz=319,SNR=10.0
O52A Adamsville 47.32 81 P **P** 07 40 58.9 +0.9
baz=319,SNR=10
O52A P **P** 07 40 58.9 +0.9
baz=319,SNR=10
WVT Waverly 47.37 90 P **P** 07 41 00.1 +1.7
WVT pmax pmax
comp=Z,37nm,1.0s
WVT Waverly 47.37 90 P **P** 07 40 58.6 +0.2
baz=321
WVT Waverly 47.37 90 P **P** 07 40 59.9 +1.5
WVT pP **pP** 07 41 24.5 +0.9
WVT PcP **PcP** 07 42 27.4 0.0
WVT ScP **ScP** 07 46 11.1 +0.1
Q51A Peebles 47.40 83 P **P** 07 40 59.6 +1.0
Q51A Peebles 47.40 83 P **P** 07 40 58.9 +0.2
baz=320,SNR=6.6
Q51A P **P** 07 40 58.9 +0.2
baz=320,SNR=6.6
R50A Paris 47.47 85 P **P** 07 41 00.5 +1.3
baz=320,SNR=11
R50A P **P** 07 41 00.5 +1.3
baz=320,SNR=11
LONY Lake Ozonia 47.52 72 P **P** 07 40 59.3 -0.2
baz=318
O53A New Philadelph 47.53 81 P **P** 07 40 59.9 +0.3
baz=319
P52A Corning 47.54 82 P **P** 07 40 60.0 +0.3
baz=320
MSHR Mys Shultsa 47.63 284 *de*P **P** 07 41 00.6 +0.3
MSHR pmax pmax
comp=Z,232nm,1.7s
PSTR Posyet 47.75 285 *d*⇓ P **P** 07 41 01.3 0.0
M55A Ridgway 47.83 78 P **P** 07 41 03.4 +1.4
M55A Ridgway 47.83 78 P **P** 07 41 02.9 +0.9
baz=319,SNR=6.7
M55A P **P** 07 41 02.9 +0.9
baz=319,SNR=6.7
OXF Oxford 47.83 92 P **P** 07 41 03.8 +1.8
baz=322
OXF Oxford 47.83 92 P **P** 07 41 03.5 +1.5
baz=322
833A Chaparral WMA, 47.87 107 P **P** 07 41 04.3 +1.9
baz=327
L56A Greenwood 47.92 76 P **P** 07 41 04.0 +1.3
L56A Greenwood 47.92 76 P **P** 07 41 03.2 +0.6
baz=319,SNR=5.9
L56A P **P** 07 41 03.2 +0.6
baz=319,SNR=5.9
Q52A Bidwell 47.99 83 P **P** 07 41 03.4 +0.2
baz=320,SNR=9.8
Q52A P **P** 07 41 03.4 +0.2
baz=320,SNR=9.8
O54A Avella 48.00 80 P **P** 07 41 03.6 +0.3
O54A Avella 48.00 80 P **P** 07 41 03.9 +0.7
baz=320,SNR=11
O54A P **P** 07 41 03.9 +0.7
baz=320,SNR=11
P53A Whipple 48.02 81 P **P** 07 41 04.3 +0.9
P53A IAmb IAmb 07 41 30.4
comp=Z,80nm,0.8s
P53A Whipple 48.02 81 P **P** 07 41 03.3 -0.2
baz=320,SNR=6.7
P53A P **P** 07 41 03.3 -0.2
baz=320,SNR=6.7
HIA Hailar 48.05 298 P **P** 07 41 03.9 +0.4
HIA Hailar 48.05 298 P **P** 07 41 03.6 +0.1
HIA pmax pmax
comp=Z,70nm,0.8s
HIA Hailar 48.05 298 P **P** 07 41 03.3 -0.2
U49A Red Boiling Sp 48.10 88 P **P** 07 41 04.7 +0.6
baz=321,SNR=6.8
V48A Smith Brothers 48.18 89 P **P** 07 41 05.7 +1.0
baz=322,SNR=9.6
T50A Nancy 48.19 86 P **P** 07 41 05.9 +1.2
baz=321
T50A P **P** 07 41 05.9 +1.2
baz=321
HKT Hockley 48.28 102⇑ *e*P **P** 07 41 08.7 +3.3
HKT pmax pmax
comp=Z,15nm,1.5s
S51A Beattyville 48.34 85 P **P** 07 41 06.5 +0.7
baz=321,SNR=12
S51A P **P** 07 41 06.5 +0.7
baz=321,SNR=12
R53A Hurricane 48.63 83 P **P** 07 41 09.4 +1.3
baz=320,SNR=7.7
R53A P **P** 07 41 09.4 +1.3
baz=320,SNR=7.7
BINY Binghamton 48.64 75 P **P** 07 41 09.1 +0.9
BINY IAmb IAmb 07 41 36.1
comp=Z,99nm,1.1s
BINY Binghamton 48.64 75 P **P** 07 41 09.6 +1.4
baz=319
BINY Binghamton 48.64 75 P **P** 07 41 09.0 +0.8
baz=319
MCWV Mont Chateau 48.66 80 P **P** 07 41 09.4 +1.1
baz=320
MJA0 Matsu Arr-Jizo 48.70 274 P **P** 07 41 08.7 0.0
MAJO Matsushiro 48.72 274 P **P** 07 41 09.6 +0.8
MAJO Matsushiro 48.72 274 *d*⇓ P **P** 07 41 09.0 +0.2
MAJO pmax pmax
comp=Z,91nm,0.9s
MAJO Matsushiro 48.72 274 P **P** 07 41 08.9 +0.1
MJAR Matsushiro Arr 48.72 274 P **P** 07 41 08.7 -0.1
comp=Z,35nm,0.9s,baz=9.4,slow=7.5,SNR=45
comp=Z,35nm,0.9s
SSPA Standing Stone 48.89 78 P **P** 07 41 10.4 +0.4
baz=320
X48A Hartselle 49.08 90 P **P** 07 41 12.1 +0.5
baz=322,SNR=9.3
TZTN Tazewell 49.21 86 P **P** 07 41 13.9 +1.3
baz=321
N58A Sunbury 49.32 77 P **P** 07 41 14.6 +1.3
baz=320,SNR=5.5
N58A P **P** 07 41 14.6 +1.3
baz=320,SNR=5.5
146A Union 49.50 93 P **P** 07 41 16.3 +1.5
baz=323,SNR=8.8
PKME Peaks-Kenny Pk 49.54 67 P **P** 07 41 16.3 +1.3
baz=319
Z47A Carrollton 49.55 92 P **P** 07 41 16.0 +0.8
baz=323,SNR=11
P57A Homestead Farm 49.71 79 P **P** 07 41 16.8 +0.5
TKL Tuckaleechee C 49.78 87 P **P** 07 41 18.1 +1.2
baz=322,SNR=9.4

TKL Tuckaleechee C 49.78 87 LR LR 08 01 24.2
comp=Z,97nm,18.0s,baz=338,slow=35
HAMF Hammerfest 49.85 1 *e*P **P** **07 41 16.7 -0.3**
HAMF IAmb IAmb 07 41 22.5
comp=Z,387nm,2.3s
Y49A Blount Mountai 49.87 90 P **P** **07 41 18.5 +0.9**
baz=323,SNR=7.5
JGF Kuroka 49.88 274 P **P** **07 41 18.3 +0.6**
U54A Nelsons Funny 50.09 84 P **P** **07 41 20.7 +1.4**
U54A Nelsons Funny 50.09 84 P **P** **07 41 19.3 -0.1**
baz=321,SNR=5.4
U54A **P** **P** **07 41 19.3 -0.1**
baz=321,SNR=5.4
LRAL Lakeview Retre 50.22 91 P **P** **07 41 20.9 +0.7**
baz=323
INU Inuyama 50.25 274 P **P** **07 41 20.8 +0.4**
INU Inuyama 50.25 274 P **P** **07 41 19.8 -0.6**
V53A Saluda 50.26 86 P **P** **07 41 22.1 +1.5**
V53A Saluda 50.26 86 P **P** **07 41 20.2 -0.3**
baz=322,SNR=14
V53A **P** **P** **07 41 20.2 -0.3**
baz=322,SNR=14
BLA Blacksburg 50.26 83 P **P** **07 41 20.7 +0.1**
baz=321
VADS Vadso 50.38 359 *e*P **P** **07 41 21.5 +0.5**
VADS IAmb IAmb 07 41 33.7
comp=Z,103nm,1.5s
BORG Borgarnes 50.62 24 LR LR 08 04 39.1
comp=Z,31nm,19.0s,baz=294,slow=38
CASEE Lake Jocassee 50.73 86 P **P** **07 41 25.4 +1.3**
baz=322,SNR=10
V55A Taylorsville 50.92 84 P **P** **07 41 26.5 +1.0**
baz=322,SNR=8.4
V55A **P** **P** **07 41 26.5 +1.0**
baz=322,SNR=8.4
U56A King 50.95 83 P **P** **07 41 25.0 -0.7**
baz=322,SNR=11
U56A **P** **P** **07 41 25.0 -0.7**
baz=322,SNR=11
ARA0 ARCESS Array S 50.98 1 *e*P **P** **07 41 26.6 +1.1**
ARA0 IAmb IAmb 07 41 26.6
comp=Z,99nm,1.9s
ARCES ARCESS Array B 50.98 1 P **P** **07 41 24.8 -0.7**
comp=Z,1.0nm,0.4s,baz=334,slow=5.5,SNR=21
ARCES PKiKP **PKiKP** **07 49 20.8 -1.6**
comp=Z,3.0nm,0.9s,baz=330,slow=3.4,SNR=5.1
comp=Z,1.0nm,0.4s
KMSC Kings Mountain 51.42 85 P **P** **07 41 30.0 +0.8**
baz=322
PAULI Pauline 51.43 86 P **P** **07 41 30.4 +1.2**
baz=322
250A Grady 51.44 92 P **P** **07 41 29.6 +0.3**
baz=324,SNR=8.4
KTK1 Kautokeino 51.48 2 *e*P **P** **07 41 29.6 +0.4**
KTK1 IAmb IAmb 07 41 34.3
comp=Z,204nm,2.6s
152A Waverly Hall 51.67 90 P **P** **07 41 31.9 +0.8**
baz=323,SNR=8.9
HODGE Hodges 51.67 86 P **P** **07 41 32.1 +1.1**
HODGE Hodges 51.67 86 P **P** **07 41 31.6 +0.5**
baz=323,SNR=7.9
LOF Lofoten 52.03 6 *e*P **P** **07 41 32.5 -0.7**
LOF IAmb IAmb 07 41 35.5
comp=Z,73nm,1.5s
JSC Jenkinsville 52.13 86 P **P** **07 41 35.3 +0.8**
baz=323,SNR=9.2
IRK Irkutsk 52.23 311 *e*P **P** **07 41 33.6 -1.4**
IRK pmax pmax
comp=Z,64nm,2.2s
BIRD Birdtown, Kers 52.25 85 P **P** **07 41 37.1 +1.8**
baz=322,SNR=10
STEI Steigen 52.32 6 *e*P **P** **07 41 35.6 +0.2**
STEI IAmb IAmb 07 41 38.2
comp=Z,22nm,1.4s
SUJ Sinuiju 52.76 287 P **P** **07 41 38.6 -0.4**
SUJ S S 07 48 46.7 -12
SUJ AmB
comp=Z,535nm,3.2s
FAUS Fauske 52.87 6 *e*P **P** **07 41 41.5 +2.1**
FAUS IAmb IAmb 07 41 45.3
comp=Z,38nm,1.6s
APA Apatity 52.87 357⇓ *i*P **P** **07 41 42.4 +2.9**
APA *i* *PP **pP** **07 42 09.0 +3.5**
APA pmax pmax
comp=Z,8.0nm,0.9s
PYAG Pyongyang 52.97 286 P **P** **07 41 40.7 +0.2**
PYAG AmB
comp=Z,416nm,0.8s
SGF Sodankyl 53.09 0 P **P** **07 41 40.0 -1.1**
SGF pmax pmax
comp=Z,14nm,1.3s
KSRS Korea Array 53.15 283 P **P** **07 41 42.5 +0.6**
comp=Z,85nm,0.5s,baz=39,slow=7.0,SNR=216
KSRS LR LR 08 04 56.0
comp=Z,13nm,19.1s,baz=50,slow=37
KSAR Wonju Array Be 53.18 283 P **P** **07 41 42.9 +0.8**
KSAR Wonju Array Be 53.18 283 P **P** **07 41 42.9 +0.8**
XLT XiLinHaoTe 53.76 296 *e*P **P** **07 41 46.8 +0.3**
XLT sP sP 07 42 19.5 -5.1
XLT S **S** **07 49 13.9 +1.6**
XLT sS sS 07 49 56.0 -0.7
XLT pmax pmax
comp=Z,120nm,0.6s
XLT pmax pmax
comp=Z,240nm,5.5s
INCN Inchon 53.76 284 P **P** **07 41 47.0 +0.5**
INCN Inchon 53.76 284 P **P** **07 41 46.8 +0.4**
HJU Haeju 53.77 285 P **P** **07 41 46.8 +0.3**
HJU AmB
comp=Z,380nm,0.7s
MOY Mondy 53.93 312 *e*P **P** **07 41 48.8 +1.2**
MOY pmax pmax
comp=Z,52nm,1.6s
ZAK Zakamensk 54.08 310 *e*P **P** **07 41 48.8 +0.1**
ZAK pmax pmax
comp=Z,20nm,0.9s
TJN Taejon 54.27 282 P **P** **07 41 50.8 +0.6**
TJN Taejon 54.27 282 P **P** **07 41 51.0 +0.9**
TJN Taejon 54.27 282 *ce*P **P** **07 41 50.5 +0.4**
ULN Ulaanbaatar 54.56 305 *c* *i*P **P** **07 41 52.7 +0.4**
ULN pmax pmax
comp=Z,116nm,1.0s
ULN Ulaanbaatar 54.56 305 P **P** **07 41 53.0 +0.6**
MSF Maaselka 54.62 359 P **P** **07 41 52.6 +0.4**
MSF pmax pmax
comp=Z,13nm,1.2s
SONM Songino Array 54.86 306 P **P** **07 41 55.3 +0.9**
SONM Songino Array 54.86 306 P **P** **07 41 55.3 +0.9**
SONM pmax pmax
comp=Z,138nm,0.6s
SONM Songino Array 54.86 306 P **P** **07 41 55.5 +1.1**
comp=Z,131nm,0.6s,baz=44,slow=6.6,SNR=733
SONM ScP **ScP** **07 46 41.6 -1.7**
comp=Z,1.5nm,0.8s,baz=62,slow=3.4,SNR=4.7
DL2 Dalian 55.08 289 P **P** **07 41 55.3 -0.6**
DL2 pmax pmax
comp=Z,81nm,0.9s
OUL Oulu 55.45 0 P **P** **07 41 57.7 -0.5**
OUL pmax pmax
comp=Z,15nm,1.6s
BJI Beijing 56.76 293 P **P** **07 42 07.8 0.0**
BJI pmax pmax
comp=Z,71nm,0.6s
BJT Baijiatuau 56.78 293 P **P** **07 42 08.4 +0.4**
BJT Baijiatuau 56.78 293 P **P** **07 42 07.9 -0.1**
BJT pmax pmax
comp=Z,151nm,0.8s
BJT Baijiatuau 56.78 293 P **P** **07 42 08.1 +0.1**
AKN Aaknes 57.42 11 *e*P **P** **07 42 11.9 -0.3**
ZAA0 Zalesovo Array 57.51 324 P **P** **07 42 13.1 +0.1**
ZALV Zalesovo Beam 57.51 324 P **P** **07 42 13.2 +0.3**
ZALV Zalesovo Beam 57.51 324 *i*P **P** **07 42 12.8 -0.1**
ZALV Zalesovo Beam 57.51 324 P **P** **07 42 13.4 +0.5**
comp=Z,186nm,0.5s,baz=32,slow=6.9,SNR=710
ZALV LR LR 08 10 58.6
comp=Z,24nm,18.8s,baz=12,slow=40
HHC Hu-ho-hao-te 58.22 297⇑ *i*P **P** **07 42 18.4 +0.2**
HHC pP pP 07 42 43.2 -1.4
HHC pmax pmax
comp=Z,160nm,0.6s
HHC pmax pmax
comp=Z,120nm,3.8s
NB2 NORSAR Subarra 58.91 9 P **P** **07 42 21.2 -1.5**
comp=Z,1.7nm,0.7s,baz=352,slow=6.9
NB2 NORSAR Subarra 58.91 9 P **P** **07 42 21.2 -1.5**
baz=352,slow=6.9

NOA NORSAR Array B 58.91 9 P **P** **07 42 21.2 -1.5**
comp=Z,1.0nm,0.8s,baz=350,slow=7.1,SNR=4.4
NOA ScP **ScP** **07 46 58.3 -2.5**
comp=Z,0.9nm,0.8s,baz=331,slow=5.4,SNR=3.6
NOA LR LR 08 07 25.6
comp=Z,15nm,21.1s,baz=295,slow=36
comp=Z,1.0nm,0.8s
BTO Baotou 59.10 298 *e*P **P** **07 42 23.0 -1.4**
BTO pP **pP** **07 42 47.0 -3.9**
BTO sP **sP** **07 42 58.1 -4.8**
BTO pmax pmax
comp=Z,150nm,0.9s
BTO pmax pmax
comp=Z,320nm,5.0s
FINES FINESS Array B 59.11 0 *i*P **P** **07 42 24.7 +0.8**
FINES pmax pmax
comp=Z,4.0nm,0.5s
FINES FINESS Array B 59.11 0 P **P** **07 42 22.7 -1.2**
comp=Z,2.3nm,0.4s,baz=4.8,slow=9.4,SNR=16
FINES ScP **ScP** **07 46 59.6 -2.1**
comp=Z,3.1nm,0.8s,baz=28,slow=8.9,SNR=4.9
FINES PKP2bc 08 12 06.6
comp=Z,1.5nm,1.1s,baz=225,slow=1.0,SNR=3.3
comp=Z,2.3nm,0.4s
VALR Valaam 59.16 358 *d* *i*P **P** **07 42 23.5 -0.7**
VALR pmax pmax
comp=Z,12nm,0.9s
NORES NORESS Array B 59.24 9 P **P** **07 42 28.1 +3.3**
KLMR Klimovskoe 59.30 353 *e*P **P** **07 42 22.8 -2.5**
KLMR pmax pmax
comp=Z,16nm,1.1s
HNS HongShan 59.56 293⇑ P **P** **07 42 27.5 +0.1**
HNS pmax pmax
comp=Z,190nm,0.8s
ODD1 Odda 59.61 12 *e*P **P** **07 42 27.5 0.0**
HFS Hagfors 59.99 8 P **P** **07 42 28.5 -1.5**
comp=Z,1.2nm,0.3s,baz=40,slow=7.7,SNR=9.6
comp=Z,1.2nm,0.3s
KONO Kongsberg 60.15 10 *e*P **P** **07 42 31.1 0.0**
DGZ Jazzator, Alta 60.35 319 *c* *i*P **P** **07 42 33.5 +0.6**
DGZ pmax pmax
comp=Z,19nm,0.8s
TIY Taiyuan 60.36 295 P **P** **07 42 33.4 +0.4**
TIY pmax pmax
comp=Z,110nm,0.6s
KIRV Kirov 60.66 347⇑ *e*P **P** **07 42 33.9 -0.6**
SVE Sverdlovsk 60.70 339 *e*P **P** **07 42 34.1 -0.8**
SVE pmax pmax
comp=Z,20nm,0.9s
ARU Arti 61.44 341 *c* *i*P **P** **07 42 39.3 -0.6**
ARU *PP **pP** **07 43 05.0 -1.6**
ARU **07 43 19.1**
ARU **07 44 54.3**
ARU S **S** **07 50 54.2 +2.2**
ARU SS **SS** **07 54 52.9 -0.5**
ARU pmax pmax
comp=Z,16nm,0.6s
ARU Arti 61.44 341 P **P** **07 42 39.5 -0.4**
ARU pP **pP** **07 43 05.6 -1.0**
JOW Kunigami 61.52 275 P **P** **07 42 41.9 +1.0**
TJOU Tjoern 61.92 9 *e*P **P** **07 42 42.1 -0.9**
NJ2 Nanjing 61.92 286 *i* *i*P **P** **07 42 43.6 +0.1**
NJ2 sP **PcP** **07 43 22.2 -1.0**
NJ2 PcP **sP** **07 43 25.9 +3.9**
NJ2 pmax pmax
comp=Z,110nm,0.9s
NJ2 pmax pmax
comp=Z,290nm,4.1s
SEM Semipalatinsk 61.97 324 *e*P **P** **07 42 43.3 -0.5**
SEM pmax pmax
comp=Z,8.0nm,0.6s
SEM Semipalatinsk 61.97 324 *e*P **P** **07 42 43.3 -0.5**
comp=Z,7.6nm,0.6s,baz=324
VSU Vasula 62.10 0 *de*P **P** **07 42 45.0 +0.7**
VSU pmax pmax
comp=Z,12nm,0.8s
KURK Kurchatov 62.17 326 P **P** **07 42 45.1 +0.3**
KURK IAmb IAmb 07 42 45.5
comp=Z,46nm,0.7s
KURK Kurchatov 62.17 326 *c* *i*P **P** **07 42 44.6 -0.2**
KURK pmax pmax
comp=Z,42nm,0.6s
KURK Kurchatov 62.17 326 P **P** **07 42 44.7 -0.2**
BRVK Borovoye 62.23 332 P **P** **07 42 44.9 -0.3**
BRVK Borovoye 62.23 332 P **P** **07 42 44.9 -0.3**
BRVK pmax pmax
comp=Z,51nm,0.6s
BRVK Borovoye 62.23 332 P **P** **07 42 45.1 -0.1**
BVAR Borovoye Array 62.23 332 P **P** **07 42 45.0 -0.2**
comp=Z,87nm,0.5s,baz=31,slow=6.5,SNR=460
BVAR ScP **ScP** **07 47 13.5 -2.2**
comp=Z,2.4nm,0.8s,baz=38,slow=5.6,SNR=3.7
BVAR S **S** **07 51 01.4 -0.7**
comp=Z,1.3nm,0.8s,baz=20,slow=13,SNR=4.9
BVAR PKP2bc 08 11 59.2
comp=Z,0.7nm,0.6s,baz=188,slow=1.0,SNR=4.2
BVAR LR LR 08 17 23.9
comp=Z,30nm,18.5s,baz=17,slow=43
KURBB Kurchatov Arra 62.28 326 P **P** **07 42 45.0 -0.6**
comp=Z,43nm,0.6s,baz=30,slow=6.6,SNR=151
comp=Z,43nm,0.6s
ONAU Onsala 62.58 9 *i*P **P** **07 42 46.5 -1.0**
EKA Eskdalemuir Ar 62.77 19 P **P** **07 42 48.2 -0.6**
EKA Eskdalemuir Ar 62.77 19 P **P** **07 42 48.3 -0.5**
comp=Z,2.1nm,0.4s,baz=328,slow=5.5,SNR=29
comp=Z,2.1nm,0.4s
ESK Eskdalemuir 62.78 19 P **P** **07 42 48.1 -0.7**
ESK pmax pmax
comp=Z,29nm,2.4s
LYN LuoYang 62.93 292⇑ P **P** **07 42 50.0 -0.1**
LYN pP pP 07 43 15.7 -1.2
LYN sP sP 07 43 24.3 -4.6
LYN pmax pmax
comp=Z,470nm,0.6s
LYN pmax pmax
comp=Z,170nm,5.2s
ZSN Zaisan 63.15 320 *e*P **P** **07 42 51.4 -0.1**
ZSN pmax pmax
comp=Z,12nm,0.6s
ZSN Zaisan 63.15 320 *e*P **P** **07 42 51.4 -0.1**
comp=Z,12nm,0.6s,baz=320
DEL Delary 63.64 8 *i*P **P** **07 42 53.3 -1.2**
BLEU Blekinge 63.94 7 *e*P **P** **07 42 54.8 -1.6**
BRZS Berezniki 64.46 329 *c* *i*P **P** **07 42 59.4 -0.5**
BRZS pmax pmax
comp=Z,8.0nm,0.7s
BRZS Berezniki 64.46 329⇑ *i*P **P** **07 42 59.5 -0.5**
comp=Z,8.3nm,0.7s,baz=329
GTA Gaotai 64.49 305 P **P** **07 43 00.2 -0.3**
GTA pP pP 07 43 22.2 -5.2
GTA pmax pmax
comp=Z,110nm,1.3s
MK31 Makanchi Array 64.56 321 *c* *i*P **P** **07 43 00.1 -0.6**
MKAR Makanchi Array 64.56 321 P **P** **07 43 00.2 -0.5**
MKAR Makanchi Array 64.56 321 *ce*P **P** **07 42 59.7 -1.0**
MKAR pmax pmax
comp=Z,20nm,0.5s
MKAR Makanchi Array 64.56 321 P **P** **07 43 00.0 -0.7**
comp=Z,20nm,0.5s,baz=38,slow=6.7,SNR=277
MKAR LR LR 08 11 02.1
comp=Z,36nm,20.6s,baz=46,slow=36
MKAR PKPPKP **P'P'df** **08 11 48.0 -1.3**
comp=Z,1.0nm,1.0s,baz=180,slow=2.4,SNR=4.3
comp=Z,20nm,0.5s
MAKZ Makanchi 64.65 321⇑ P **P** **07 43 01.2 -0.1**
MAKZ Makanchi 64.65 321 P **P** **07 43 00.8 -0.4**
XAN Xi'an 64.99 295⇑ P **P** **07 43 02.6 -1.2**
XAN pmax pmax
comp=Z,180nm,1.0s
XAN Xi'an 64.99 295 P **P** **07 43 03.3 -0.5**
OBN Obninsk 65.20 354⇑ *e*P **P** **07 43 04.6 0.0**
OBN *e* 07 45 29.4
OBN pmax pmax
comp=Z,6.0nm,0.5s
WHN Wuhan 65.34 288⇑ P **P** **07 43 05.6 -0.4**
WHN pmax pmax
comp=Z,270nm,0.6s
WMQ Urumqi 65.37 316 *e*P **P** **07 43 07.4 +1.3**
WMQ pmax pmax
comp=Z,58nm,0.9s
LZH Lanzhou 65.57 300 *e*P **P** **07 43 07.3 -0.3**
LZH pP pP 07 43 35.7 +1.1
LZH sP sP 07 43 46.6 +0.2
LZH pmax pmax
comp=Z,460nm,1.1s

BELG Belogornoye 66.94 346 *c* *i*P **P** **07 43 14.3 -1.5**
BELG pmax pmax
comp=Z,5.0nm,0.8s
TDK Taldyqorghan 67.37 323 *e*P **P** **07 43 18.5 -0.2**
TDK pmax pmax
comp=Z,16nm,0.6s
TDK Taldyqorghan 67.37 323 *e*P **P** **07 43 18.5 -0.2**
comp=Z,16nm,0.6s,baz=323
SSLB Suanglung 67.72 279 P **P** **07 43 20.9 -0.4**
SSLB IAmb IAmb 07 43 21.5
comp=Z,43nm,0.6s
SSLB Suanglung 67.72 279 P **P** **07 43 21.5 +0.3**
ENH Enshi 67.88 292 P **P** **07 43 21.9 -0.2**
ENH Enshi 67.88 292 P **P** **07 43 21.4 -0.7**
ARXS Arharly 68.26 323 *i*P **P** **07 43 23.8 -0.6**
BTLS Baital 68.62 326 *c* *i*P **P** **07 43 26.2 -0.3**
BTLS Baital 68.62 326⇑ *i*P **P** **07 43 26.2 -0.3**
baz=326
MEM Membach 68.68 14 P **P** **07 43 26.6 -0.2**
MEM pmax pmax
comp=Z,16nm,1.0s
MEM Membach 68.68 14 *d*P **P** **07 43 27.0 +0.2**
comp=Z,7.7nm,0.8s
SHLS Shalkode 68.71 321 *e*P **P** **07 43 26.7 -0.5**
SHLS pmax pmax
comp=Z,17nm,0.6s
SHLS Shalkode 68.71 321 *e*P **P** **07 43 26.8 -0.5**
comp=Z,17nm,0.6s,baz=321
BTNL Ternell 68.72 14 *d*P **P** **07 43 27.4 +0.3**
comp=Z,6.8nm,0.9s
BTNL *dx* x 07 43 54.6
BCLA Clavier 68.78 15 *d*P **P** **07 43 31.0 +3.6**
BMRD Maredsous 68.83 15 *d*P **P** **07 43 27.5 -0.2**
comp=Z,7.1nm,0.9s
CHKK Chushkaly 68.84 323 *e*P **P** **07 43 27.6 -0.3**
CHKK Chushkaly 68.84 323 *e*P **P** **07 43 27.6 -0.3**
baz=323
UZB Uzynbulak 68.86 322 *e*P **P** **07 43 28.0 -0.2**
UZB Uzynbulak 68.86 322 *e*P **P** **07 43 28.0 -0.2**
baz=322
BAIF Baives 68.99 15 *e*P **P** **07 43 28.5 -0.2**
BAIF pmax pmax
comp=Z,4.0nm,0.5s
DOU Dourbes 69.01 15 *d*P **P** **07 43 29.3 +0.5**
ZHN Zhinishke 69.02 322 *e*P **P** **07 43 28.9 -0.2**
ZHN Zhinishke 69.02 322 *e*P **P** **07 43 29.0 -0.2**
baz=322
GIVF Givet 69.03 15 *e*P **P** **07 43 29.4 +0.4**
GIVF pmax pmax
comp=Z,6.0nm,0.6s
SATY Saty 69.13 322 *e*P **P** **07 43 29.8 0.0**
SATY Saty 69.13 322 *e*P **P** **07 43 29.9 0.0**
baz=322
GOMU GeErMu 69.29 307 P **P** **07 43 31.9 +0.7**
GOMU pP pP 07 43 58.0 -0.5
GOMU sP sP 07 44 10.6 +0.3
GOMU pmax pmax
comp=Z,50nm,0.8s
AAA Alma-Ata 69.45 323 *e*P **P** **07 43 31.6 -0.2**
AAA pmax pmax
comp=Z,14nm,0.6s
AAA Alma-Ata 69.45 323 *e*P **P** **07 43 31.6 -0.2**
comp=Z,14nm,0.6s,baz=323
MDOK Medeo 69.45 323 *e*P **P** **07 43 31.6 -0.3**
MDOK Medeo 69.45 323 *e*P **P** **07 43 31.6 -0.3**
baz=323
TNSS Tian-Shan 69.60 323 *e*P **P** **07 43 32.5 -0.6**
TNSS Tian-Shan 69.60 323 *e*P **P** **07 43 32.6 -0.6**
baz=323
PRZ Przheval'sk 69.65 322 P **P** **07 43 34.6 +1.4**
PRZ pmax pmax
comp=Z,28nm,0.9s
GRR Gorron 69.86 19 *e*P **P** **07 43 32.7 -1.4**
GRR pmax pmax
comp=Z,63nm,1.9s
AKASG Malin Array Be 69.86 358 P **P** **07 43 32.6 -1.5**
comp=Z,1.7nm,0.3s,baz=2.9,slow=5.9,SNR=22
comp=Z,1.7nm,0.3s
AKBB Malin Array Si 69.86 358 *de*P **P** **07 43 32.7 -1.4**
KIEV Kiev 69.87 358⇓ P **P** **07 43 31.8 -2.2**
KIEV Kiev 69.87 358 P **P** **07 43 32.9 -1.2**
KIEV pmax pmax
comp=Z,43nm,0.9s
KIEV Kiev 69.87 358 P **P** **07 43 32.7 -1.4**
DPC Dobruska-Polom 69.90 7 *e*P **P** **07 43 34.2 -0.2**
DPC Dobruska-Polom 69.90 7 *e*P **P** **07 43 34.2 -0.2**
SGDS Sogindy 69.91 325 *e*P **P** **07 43 34.5 -0.1**
SGDS Sogindy 69.91 325 *e*P **P** **07 43 34.5 -0.1**
baz=325
CD2 Chengdu 69.97 297 P **P** **07 43 34.6 -0.5**
CD2 sP sP 07 44 12.4 -1.8
CD2 pmax pmax
comp=Z,200nm,0.6s
TKM2 Tokmak 2 70.11 324 P **P** **07 43 36.7 +0.7**
SNR=15
USP Ospenovka 70.11 325 P **P** **07 43 36.0 +0.2**
SNR=19
CHMS Chumysh 70.29 325 P **P** **07 43 37.3 +0.5**
SNR=15
BOOM Boomskoye usch 70.40 324 P **P** **07 43 38.2 +0.5**
BOOM IAmb IAmb 07 43 39.2
comp=Z,14nm,0.7s
BOOM Boomskoye usch 70.40 324 P **P** **07 43 38.2 +0.5**
BOOM pmax pmax
comp=Z,14nm,0.7s
TARG Taragay, Kyrgy 70.52 322 P **P** **07 43 40.0 +1.2**
TARG pmax pmax
comp=Z,14nm,0.8s
ULHL Ulahol 70.53 323 P **P** **07 43 39.2 +0.6**
SNR=12
KBK Karagaybulak 70.54 324 P **P** **07 43 39.1 +0.5**
SNR=14
MORC Moravsky Berou 70.55 6 *ep*P pP 07 44 06.4 +0.9
WUS Wushi 70.56 321 P **P** **07 43 39.4 +0.8**
AAK Ala-Archa 70.69 325 P **P** **07 43 39.9 +0.4**
SNR=21
AAK Ala-Archa 70.69 325 P **P** **07 43 40.1 +0.6**
AAK IAmb IAmb 07 43 40.6
comp=Z,17nm,0.8s
AAK Ala-Archa 70.69 325 *ce*P **P** **07 43 39.7 +0.2**
AAK pmax pmax
comp=Z,18nm,0.7s
AAK Ala-Archa 70.69 325 LR LR 08 17 52.5
comp=Z,40nm,18.9s,baz=12,slow=38
AAK Ala-Archa 70.69 325 P **P** **07 43 39.9 +0.4**
EKS2 Erkin-Say 70.88 325 P **P** **07 43 41.2 +0.6**
SNR=28
KHC Kasperske Hory 70.92 9⇑ *e*P **P** **07 43 41.3 +0.7**
KHC pmax pmax
comp=Z,10.0nm,1.3s
KHC Kasperske Hory 70.92 9 *e*P **P** **07 43 43.6 +3.0**
VRAC Vranov 70.96 7 *ep*P pP 07 44 07.2 -0.8
STHS Stebnicka Huta 71.07 4 *e*P **P** **07 43 41.1 -0.4**
STHS Stebnicka Huta 71.07 4 *e*P **P** **07 43 41.1 -0.4**
ECH Echery 71.18 14 P **P** **07 43 42.1 0.0**
ECH pmax pmax
comp=Z,7.0nm,0.9s
ECH Echery 71.18 14 P **P** **07 43 41.9 -0.3**
KRUC Moravsky 71.19 7 *ep*P pP 07 44 08.4 -1.0
GERES GERESS Array B 71.21 9 P **P** **07 43 42.2 -0.2**
comp=Z,0.8nm,0.5s,baz=11,slow=8.2,SNR=3.4
comp=Z,0.8nm,0.5s
LANS Liptovska Anna 71.27 5 *e*P **P** **07 43 44.3 +1.6**
LANS Liptovska Anna 71.27 5 *e*P **P** **07 43 44.2 +1.6**
HAU Haudompre 71.28 14 *e*P **P** **07 43 42.4 -0.4**
HAU pmax pmax
comp=Z,4.0nm,0.5s
NRN Naryn 71.35 323 P **P** **07 43 44.2 +0.6**
NRN IAmb IAmb 07 43 45.2
comp=Z,12nm,0.7s
NRN Naryn 71.35 323 P **P** **07 43 44.2 +0.6**
NRN pmax pmax
comp=Z,12nm,0.7s
DZA Taraz 71.36 327 *e*P **P** **07 43 42.9 -0.4**
DZA Taraz 71.36 327 *e*P **P** **07 43 43.0 -0.4**
baz=327
KK31 Karatay Array 71.38 328 P **P** **07 43 43.6 +0.1**
KK31 IAmb IAmb 07 43 44.4
comp=Z,16nm,0.7s
KK31 Karatay Array 71.38 328 P **P** **07 43 43.6 +0.1**
KK31 pmax pmax
comp=Z,16nm,0.7s
ARLS Aral 71.46 324 P **P** **07 43 45.1 +1.0**
ARLS pmax pmax
comp=Z,28nm,0.8s

JAVC	Velka Javorina	71.47	6	*e*pP		pP		07 44 11.0	-0.2
KOLS	Kolonicke sedl	71.59	3	*e*P		P		07 43 46.8	+2.2
KOLS	Kolonicke sedl	71.59	3	*e*P		P		07 43 46.8	+2.2
BRLS	Boroldav	71.63	328	*e*P		P		07 43 46.0	+1.0
BRLS	Boroldav	71.63	328	*e*P		P		07 43 46.0	+1.0
	baz=328								
LOR	Lormes	71.67	16	P		P		07 43 44.8	-0.3
LOR				pmax	pmax				
	comp=Z,13nm,0.8s								
MFF	Saint Martin d	71.71	19	*e*P		P		07 43 44.9	-0.4
MFF				pmax	pmax				
	comp=Z,62nm,1.7s								
SSF	Saint Saulge	71.83	17	*e*P		P		07 43 45.7	-0.3
SSF				pmax	pmax				
	comp=Z,8.0nm,0.7s								
VYHS	Vyhne	71.89	6	*e*P		P		07 43 52.1	+5.7
VYHS	Vyhne	71.89	6	*e*P		P		07 43 52.1	+5.7
MODS	Modra-Piesok	71.93	7	*e*P		P		07 43 50.6	+4.0
MODS	Modra-Piesok	71.93	7	*e*P		P		07 43 50.6	+4.0
AVF	Avril sur Loir	72.07	17	*e*P		P		07 43 46.1	-1.4
AVF				pmax	pmax				
	comp=Z,9.0nm,0.7s								
BGF	Bois d'Agland	72.22	17	*e*P		P		07 43 47.8	-0.6
BGF				pmax	pmax				
	comp=Z,11nm,0.8s								
SMF	Signal de Mont	72.28	16	*e*P		P		07 43 48.1	-0.7
SMF				pmax	pmax				
	comp=Z,11nm,0.9s								
TCF	Toulx Ste Croi	72.39	18	*e*P		P		07 43 48.7	-0.7
TCF				pmax	pmax				
	comp=Z,23nm,1.6s								
IUG	luzhnay	72.40	328	*c i*P		P		07 43 49.6	-0.1
IUG				pmax	pmax				
	comp=Z,14nm,0.6s								
IUG	luzhnay	72.40	328	⇑*i*P		P		07 43 49.6	-0.1
	comp=Z,14nm,0.6s,baz=328								
GYA	Guiyang	72.42	292	⇓P		P		07 43 50.4	+0.4
GYA				pmax	pmax				
	comp=Z,100nm,0.6s								
CABF	La Chapelle	72.62	15	*e*P		P		07 43 51.6	+0.7
CABF				pmax	pmax				
	comp=Z,6.0nm,0.8s								
DAVOX	Davos/Dischmat	72.90	12	LR		LR		08 16 13.0	
	comp=Z,24nm,21.9s,baz=266,slow=36								
KBA	Koelnbreinsper	72.94	10	P		P		07 43 53.3	+0.5
KBA				pmax	pmax				
	comp=Z,21nm,1.1s								
BURAR	Bucovina Array	72.96	1	⇓P		P		07 43 52.6	-0.3
BURAR	Bucovina Array	72.96	1	⇓P		P		07 43 52.6	-0.3
KSH	Kashi	73.11	322	P		P		07 43 57.6	+3.7
KSH				pmax	pmax				
	comp=Z,25nm,0.8s								
OHH	Osh	73.14	325	P		P		07 43 54.0	0.0
OHH				pmax	pmax				
	comp=Z,25nm,1.0s								
CAF	Calviac	73.69	18	*e*P		P		07 43 55.9	-1.2
CAF				pmax	pmax				
	comp=Z,7.0nm,1.0s								
LPL	La Plagne	73.78	15	*e*P		P		07 43 59.2	+1.3
LPL				pmax	pmax				
	comp=Z,13nm,1.4s								
MARR	Marisel-Cluj	73.87	3	⇓P		P		07 43 59.7	+1.5
BTK	Batken	74.13	326	P		P		07 44 00.4	+0.6
BTK	Batken	74.13	326	P		P		07 44 00.4	+0.6
BTK				pmax	pmax				
	comp=Z,12nm,0.9s								
VIVF	Saint-Julien-l	74.15	16	*e*P		P		07 43 59.6	-0.2
VIVF				pmax	pmax				
	comp=Z,8.0nm,0.8s								
MBDF	Montbardon	74.56	15	*e*P		P		07 44 02.8	+0.5
MBDF				pmax	pmax				
	comp=Z,6.0nm,0.8s								
PZH	PanZhiHua	74.65	296	P		P		07 44 02.1	-1.0
PZH				pmax	pmax				
	comp=Z,120nm,0.7s								
PZH				pmax	pmax				
	comp=Z,150nm,3.9s								
VRI	Vrincioaia	74.72	0	⇑P		P		07 44 02.5	-0.5
VRI	Vrincioaia	74.72	0	⇑P		P		07 44 02.5	-0.5
PLOR	Plostina	74.73	0	⇓P		P		07 44 04.1	+1.0
PLOR	Plostina	74.73	0	⇓P		P		07 44 04.1	+1.0
SURR	Surduc	74.76	3	⇓P		P		07 44 02.5	-0.7
PBRG	Braganca	75.07	25	*e*P		P		07 44 05.9	+0.7
GZR	Gura Zlata	75.14	3	⇑P		P		07 44 04.5	-1.0
GZR	Gura Zlata	75.14	3	⇑P		P		07 44 04.5	-1.0
ARR	Arges	75.20	2	⇓P		P		07 44 05.7	-0.2
ETSF	Etsaut	75.23	20	*e*P		P		07 44 06.9	+0.8
ETSF				pmax	pmax				
	comp=Z,7.0nm,0.8s								
MTLF	Montolieu	75.27	18	*e*P		P		07 44 06.0	-0.2
MTLF				pmax	pmax				
	comp=Z,13nm,1.0s								
KMI	Kunming	75.38	295	⇑P		P		07 44 06.2	-1.2
KMI				pmax	pmax				
	comp=Z,22nm,0.8s								
CFR	Carcaliu	75.40	359	⇑P		P		07 44 07.9	+1.0
CFR	Carcaliu	75.40	359	⇑P		P		07 44 07.9	+1.0
ANN	Anapa	75.42	352	*e*P		P		07 44 00.9	-6.1
ANN				pmax	pmax				
	comp=Z,86nm,1.4s								
TPGR	Topolog	75.72	359	⇓P		P		07 44 07.5	-1.3
KIV	Kislovodsk	75.81	348	*e*P		P		07 44 08.5	-0.9
KIV				pmax	pmax				
	comp=Z,13nm,0.9s								
PVIS	Viseu	75.85	27	*e*P		P		07 44 09.5	-0.2
CHGR	Chuyangaron	75.90	327	P		P		07 44 09.6	-0.4
CHGR				IAmb	IAmb			07 44 11.1	
	comp=Z,67nm,0.8s								
CHGR	Chuyangaron	75.90	327	P		P		07 44 09.6	-0.4
CHGR				pmax	pmax				
	comp=Z,67nm,0.8s								
KBZ	Khabaz	76.02	348	P		P		07 44 10.0	-0.4
KBZ	comp=Z,6.3nm,0.8s,baz=320,slow=6.3,SNR=13			LR		LR		08 19 53.3	
	comp=Z,29nm,18.2s,baz=35,slow=37								
	comp=Z,6.3nm,0.8s								
PCAS	Casmilo, Conde	76.34	27	*e*P		P		07 44 11.7	-0.7
LSA	Lhasa	76.45	306	P		P		07 44 14.8	+1.1
LSA				pmax	pmax				
	comp=Z,73nm,0.7s								
PCBR	Castelo Branco	76.78	26	*e*P		P		07 44 14.7	-0.1
PPT2	Papeete2	77.14	176	*e*LR		LR		08 08 15.5	
	comp=Z,81nm,26.2s								
PMAFR	Mafra	77.20	28	*e*P		P		07 44 17.4	+0.1
PMTG	Montargil	77.34	27	*e*P		P		07 44 18.4	+0.4
ESDC	Sonseca Array	77.70	24	P		P		07 44 20.1	+0.1
	comp=Z,4.2nm,0.8s,baz=346,slow=5.6,SNR=20								
ESDC				LR		LR		08 24 55.1	
	comp=Z,37nm,18.3s,baz=296,slow=40								
	comp=Z,4.2nm,0.8s								
SLVN	Son La	78.09	292	P		P		07 44 21.8	-0.7
PNCL	Nicolau / Gran	78.19	28	*e*P		P		07 44 22.4	-0.3
HNR	Honiara	78.42	227	P		P		07 44 24.4	+0.2
HNR				pmax	pmax				
	comp=Z,144nm,0.9s								
SDV	Santo Domingo	78.61	92	LR		LR		08 21 58.8	
	comp=Z,57nm,18.5s,baz=344,slow=38								
DGTI	Dogotuki	78.94	206	P		P		07 44 27.7	+0.8
GEYT	Alibeck	79.28	335	P		P		07 44 28.1	-0.7
	comp=Z,3.1nm,0.5s,baz=289,slow=4.5,SNR=9.3								
	comp=Z,3.1nm,0.5s								
GNI	Garni	79.34	346	LR		LR		08 23 14.0	
	comp=Z,28nm,18.3s,baz=354,slow=38								
NIL	Nilore	79.35	322	P		P		07 44 29.1	-0.1
NIL				pmax	pmax				
	comp=Z,39nm,0.7s								
KBL	Kabul	79.78	326	P		P		07 44 30.7	-1.0
KBL				pmax	pmax				
	comp=Z,11nm,0.7s								
BAUV	El Baul	79.88	90	P		P		07 44 32.0	-0.2
BAUV				IAmb	IAmb			07 45 01.9	
	comp=Z,69nm,0.9s								
BRTR	Keskin Array B	80.70	355	*ce*P		P		07 44 37.0	+0.5
BRTR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
BRTR	Keskin Array B	80.70	355	P		P		07 44 35.2	-1.3
	comp=Z,1.8nm,0.7s,baz=348,slow=1.9,SNR=5.3								
BRTR				LR		LR		08 26 37.3	
	comp=Z,27nm,18.6s,baz=58,slow=40								
	comp=Z,1.8nm,0.7s								
MSVF	Nonsavu	80.71	208	P		P		07 44 37.5	+1.0
MSVF				IAmb	IAmb			07 44 39.8	
	comp=Z,54nm,0.9s								
MSVF	Nonsavu	80.71	208	P		P		07 44 38.1	+1.6
MSVF	Nonsavu	80.71	208	P		P		07 44 37.5	+1.0
MSVF				pmax	pmax				
	comp=Z,53nm,1.0s								
MND	Mandalay	81.06	299	P		P		07 44 37.6	-0.9
NONG	Nongkai	81.27	291	P		P		07 44 39.4	-0.2
OTAV	Otavalo	82.13	103	P		P		07 44 45.3	+0.6
OTAV	Otavalo	82.13	103	P		P		07 44 45.3	+0.6
OTAV				pmax	pmax				
	comp=Z,15nm,1.4s								
UBPT	Khong Chiam	82.55	287	P		P		07 44 47.0	+0.7
CHTO	Chiang Mai	82.58	295	P		P		07 44 46.4	-0.1
CHTO	Chiang Mai	82.58	295	P		P		07 44 44.9	-1.6
CHTO				pmax	pmax				
	comp=Z,30nm,0.9s								
CMAR	Chiang Mai Arr	82.89	294	P		P		07 44 47.1	-0.9
	comp=Z,21nm,0.6s,baz=12,slow=5.7,SNR=56								
	comp=Z,21nm,0.6s								
PMG	Port Moresby	83.57	239	P		P		07 44 53.1	+1.6
PMG	Port Moresby	83.57	239	⇑*e*P		P		07 44 50.6	-0.9
PMG				pmax	pmax				
	comp=Z,36nm,1.3s								
PMG	Port Moresby	83.57	239	P		P		07 44 51.0	-0.4
	comp=Z,12nm,0.6s,baz=13,slow=5.3,SNR=3.9								
	comp=Z,12nm,0.6s								
KEST	Kesra	83.75	14	P		P		07 44 52.2	-0.2
	comp=Z,4.1nm,0.8s,baz=293,slow=4.5,SNR=4.1								
	comp=Z,4.1nm,0.8s								
NAYO	Nakonayok	85.37	290	P		P		07 45 00.2	-0.5
SRDT	SRDT	86.38	292	P		P		07 45 05.7	+0.1
COEN	Coen	89.36	240	P		P		07 45 18.7	-1.0
SRIT	Nakonsritamara	91.16	289	P		P		07 45 28.8	+0.6
CTA	Charters Tower	93.50	235	P		P		07 45 38.0	-0.8
CTA				pmax	pmax				
	comp=Z,52nm,0.9s								
CTA	Charters Tower	93.50	235	P		P		07 45 38.5	-0.2
	comp=Z,27nm,0.6s,baz=22,slow=6.6,SNR=32								
CTAO	Charters Tower	93.50	235	P		P		07 45 38.7	-0.1
CTAO	Charters Tower	93.50	235	P		P		07 45 38.6	-0.2
CTAO	Charters Tower	93.50	235	P		P		07 45 38.7	-0.1
CTAO				pmax	pmax				
	comp=Z,33nm,0.7s								
RAYN	Ar Rayn	95.61	343	P		P		07 45 47.8	-0.8
RAYN				IAmb	IAmb			07 45 49.9	
	comp=Z,3.3nm,0.8s								
RAYN	Ar Rayn	95.61	343	P		P		07 45 47.8	-0.8
RAYN				pmax	pmax				
	comp=Z,3.0nm,0.8s								
ETMB	Extrema	96.86	98	*e*P		P		07 45 52.2	-2.1
WRA	Warramunga Arr	98.59	245	*i* P		P		07 46 00.3	-1.6
WRA				pmax	pmax				
	comp=Z,2.0nm,0.7s								
WRA	Warramunga Arr	98.59	245	P		P		07 45 59.9	-2.1
	comp=Z,1.8nm,0.8s,baz=32,slow=5.1,SNR=13								
WRA				PKiKP		PKiKP		07 50 32.1	-0.9
	comp=Z,0.7nm,0.4s,baz=357,slow=1.5,SNR=24								
	comp=Z,1.8nm,0.8s								
ASAR	Alice Springs	102.02	244	P		Pdif		07 46 16.1	-1.0
	comp=Z,0.6nm,0.5s,baz=31,slow=4.8,SNR=11								
ASAR				PP		PP		07 50 30.9	+0.7
	comp=Z,0.7nm,0.8s,baz=35,slow=7.3,SNR=4.2								
ASAR				PKiKP		PKiKP		07 50 38.1	-1.0
	comp=Z,1.0nm,0.6s,baz=71,slow=2.0,SNR=9.5								
STKA	Stephens Creek	105.85	233	PKiKP		PKiKP		07 50 44.9	-0.9
	comp=Z,0.7nm,0.3s,baz=60,slow=2.7,SNR=5.3								
PLCA	Paso Flores	120.74	119	PKP		PKPdf		07 51 13.5	-0.4
	comp=Z,1.9nm,0.7s,baz=307,slow=2.0,SNR=5.3								
PLCA				SKP				07 54 39.1	
	comp=Z,1.2nm,0.9s,baz=250,slow=3.5,SNR=3.7								
PLTB	Pedras Altas	121.56	100	*e*P		PKPdf		07 51 14.8	-0.9
VNDA	Vanda	139.82	194	PKhKP		PKPpre		07 51 37.0	
	comp=Z,1.0nm,0.6s,baz=23,slow=3.6,SNR=1.4								
VNDA				PKP		PKPdf		07 51 48.5	-0.3
	comp=Z,1.1nm,0.6s,baz=97,slow=3.7,SNR=3.0								
VNDA				SKP				07 55 14.2	
	comp=Z,2.7nm,0.8s,baz=329,slow=2.8,SNR=3.8								
BOSA	Boshof	148.83	3	PKP		PKPdf		07 52 05.4	-0.6
	comp=Z,28nm,0.5s,baz=0.3,slow=2.5,SNR=28								
BOSA				PKPbc		PKPbc		07 52 09.4	-0.6
	comp=Z,28nm,0.5s,baz=0.3,slow=3.6,SNR=32								
QSPA	South Pole Qui	149.57	180	PKP		PKPdf		07 52 03.1	-2.8
	comp=Z,4.0nm,0.8s,baz=356,slow=1.6,SNR=7.4								
QSPA				PKPbc		PKPbc		07 52 10.7	+0.1
	comp=Z,28nm,0.6s,baz=92,slow=0.4,SNR=166								
MAW	Mawson	162.46	228	PKPab		PKPab		07 53 11.0	-0.3
	comp=Z,28nm,0.9s,baz=105,slow=4.7,SNR=12								
SNAA	Sanae	163.20	147	PKPab		PKPab		07 53 14.5	-0.1
	comp=Z,4.1nm,0.8s,baz=233,slow=10,SNR=1.4								
TROLL	Troll, Antarti	164.40	152	⇑PKPab		PKPab		07 53 19.6	-0.3
	comp=Z,512nm,0.6s								

*NEIC **09** 07:48:24.4±3.3, 55.46N±0.04×135.5W±0.1, h8km±8km, Error ellipse: s-maj=10.5km s-min=4.9km az=64.0*
*PGC **09** 07:48:27.6±5.7, 55.52N×135.12W, h10km, ML2.5/5, 170km south of Sitka, Ak Off Coast Of Southeastern Alaska*
*AEIC **09** 07:48:30.3±2.4, 55.48N±0.04×135.04W±0.06, h21km±8km, ML2.0, ML2.5(OTT), ML2.3/16(NEIC), Error ellipse: s-maj=6.2km s-min=4.5km az=205.0*

ISC 09 07:48:27.0±1.3, **55.49N**±0.03×**135.06W**±0.06, **h9km, n27,** σ1§**20**/32, **Off coast of southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	Craig	1.10	90	Pn	Pb	07 48 47.9	-0.3
U33K	Whale Pass	1.26	59		Pg	07 48 51.0	-0.2
U33K					Sg	07 49 06.8	-0.7
U33K	Whale Pass	1.26	59	Pn	Pb	07 48 50.4	-0.5
U33K				IAML		07 49 07.2	
	comp=E,31nm,1.8s						
U33K				IAML		07 49 07.5	
	comp=N,39nm,0.7s						
U33K	Whale Pass	1.26	59	P	Pg	07 48 51.0	-0.2
U33K	Whale Pass	1.26	59	S	Sg	07 49 06.8	-0.7
SIT	Sitka	1.58	355	Pn	Pg	07 48 56.4	-0.8
SIT				IAML		07 49 29.2	
	comp=N,29nm,2.0s						
SIT				IAML		07 49 36.8	
	comp=E,34nm,2.4s						
LIB	Langara Island	1.69	136	Sg	Sg	07 49 21.7	+0.3
LIB	Langara Island	1.69	136	Sg	Sg	07 49 21.7	+0.3
WRAK	Wrangell Islan	1.79	58	Pn	Pg	07 48 60.0	-1.2
WRAK				Sg	Sg	07 49 23.4	-0.9
WRAK	Wrangell Islan	1.79	58	Pn	Pg	07 48 60.0	-1.2
V35K	Ketchikan	1.97	93	Pn	Pn	07 49 01.3	+0.8
V35K	Ketchikan	1.97	93	Pn	Pn	07 49 00.4	-0.1
V35K				IAML		07 49 28.9	
	comp=E,13nm,3.0s						
V35K				IAML		07 49 35.0	
	comp=N,14nm,1.1s						
V35K	Ketchikan	1.97	93	Pn	Pn	07 49 01.3	+0.8
S32K	Killisnoo	2.00	8	Sn	Sn	07 49 24.9	-1.1
S32K	Killisnoo	2.00	8	Sn	Sn	07 49 24.9	-1.1
DIB	Dawson Inlet,	2.75	146	Pn	Pn	07 49 11.6	+0.5
DIB				Sn	Sn	07 49 43.6	-0.8
DIB	Dawson Inlet,	2.75	146	Pn	Pn	07 49 11.1	-0.1
DIB				IAML		07 50 25.9	
	comp=E,15nm,4.9s						
DIB				IAML		07 50 43.2	
	comp=N,16nm,4.1s						
DIB	Dawson Inlet,	2.75	146	Pn	Pn	07 49 11.6	+0.5
DIB				Sn	Sn	07 49 43.6	-0.8
JIS	Juneau Island	2.82	7	Pn	Pn	07 49 13.5	+1.4
JIS				IAML		07 49 35.7	
	comp=E,14nm,4.1s						
JIS				IAML		07 50 19.6	
	comp=N,18nm,4.6s						
RUBB	Prince Rupert	3.01	111	Pg	Pg	07 49 23.3	-1.4
RUBB				Sg	Sg	07 50 02.6	-1.0
RUBB	Prince Rupert	3.01	111	Pg	Pg	07 49 23.3	-1.4
T35M	Bob Quinn	3.07	59	Sn	Sn	07 49 54.8	+2.3
T35M	Bob Quinn	3.07	59	Sn	Sn	07 49 54.8	+2.3
GRNB	Grenville Isla	3.39	117	Sn	Sn	07 49 60.0	-0.4
GRNB	Grenville Isla	3.39	117	Pn	Pn	07 49 19.7	-0.3
GRNB	Grenville Isla	3.39	117	Sn	Sn	07 49 60.0	-0.4
BAIB	Barry Inlet	3.51	145	Sg	Sb	07 50 15.6	+3.5

*NOU **09** 07:52:29.4, 40.06S×173.71E, h105km, MLv3.6/7, Cook Strait, New Zealand*
*WEL **09** 07:52:31.4±0.6, 40°S±2°×17°4E±°, h72km±7km, M2.9/21, ML3.1/31, MLv2.9/21, Error ellipse: s-maj=0.0km s-min=0.0km az=98.7*

ISC 09 07:52:29.8±1.4, **40.19S**±0.03×**174.19E**±0.04, **h97km**±10km,

n66, σ1§**03**/81, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	D'Urville Isla	0.64	198	P	Pn	07 52 46.6	+0.2
DUWZ				S	Sn	07 52 59.0	+0.2
LREZ	Lake Rotokare	0.75	13	P	Pn	07 52 47.8	+0.4
LREZ				S	Sn	07 53 01.4	+0.9
WAZ	Wanganui	0.75	55	P	Pn	07 52 47.7	+0.3
WAZ				S	Sn	07 52 59.9	-0.7
NMEZ	Namu Road	0.82	343	P	Pn	07 52 48.1	+0.1
NMEZ				S	Sn	07 53 01.7	+0.1
PREZ	Palmer Road	0.85	358	P	Pn	07 52 47.8	-0.7
PREZ				S	Sn	07 53 01.9	-0.5
KIW	Kapiti Island	0.86	141	P	Pn	07 52 48.9	+0.4
KIW				S	Sn	07 53 01.4	-1.2
KHEZ	Kahui Hut	0.91	351	P	Pn	07 52 49.2	+0.1
KHEZ	Kahui Hut	0.91	351	P	Pn	07 52 49.2	+0.1
KHEZ				S	Sn	07 53 03.1	-0.5
NEZ	North Egmont	0.93	356	P	Pn	07 52 49.2	-0.1
NEZ				S	Sn	07 53 01.9	-1.9
NBEZ	Newall Road No	0.96	345	P	Pn	07 52 49.9	+0.4
NBEZ				S	Sn	07 53 05.1	+0.8
DREZ	Durham Road	1.00	1	P	Pn	07 52 50.3	+0.3
PKE	Pukeiti	1.01	351	P	Pn	07 52 50.2	+0.1
PKE				P	Pn	07 52 50.2	+0.1
PKE				S	Sn	07 53 06.0	+0.6
TCW	Tory Channel	1.02	176	P	Pn	07 52 50.4	+0.3
TCW				S	Sn	07 53 04.6	-0.9
MHEZ	Mangahewa	1.12	5	P	Pn	07 52 51.8	+0.4
CAW	Cannon Point	1.13	144	P	Pn	07 52 51.7	+0.3
CAW				S	Sn	07 53 06.2	-1.6
VRZ	Vera Road	1.16	23	P	Pn	07 52 52.0	+0.3
VRZ				S	Sn	07 53 08.9	+0.7
MRZ	Mangatainoka R	1.16	114	P	Pn	07 52 52.8	+1.0
SNZO	South Karori	1.18	161	P	Pn	07 52 55.3	+3.3
NNZ	Nelson	1.19	211	P	Pn	07 52 52.5	+0.4
NNZ				S	Sn	07 53 09.7	+0.7
HOWZ	Holdsworth Sta	1.23	125	P	Pn	07 52 55.2	+2.6
TUWZ	Tuamarina	1.25	189	P	Pn	07 52 53.0	+0.3
TKNZ	Takaka Hill	1.26	228	P	Pn	07 52 52.9	0.0
MTVZ	Mangateitei	1.28	51	P	Pn	07 52 53.4	+0.2
TSZ	Takapari Road	1.36	85	P	Pn	07 52 55.5	+1.3
TRVZ	Turoa	1.38	50	P	Pn	07 52 54.9	+0.4
MTW	Mount Morrison	1.39	134	P	Pn	07 52 55.5	+1.1
WNVZ	Wahianoa	1.39	52	P	Pn	07 52 54.9	+0.3
MAVZ	Matarangi	1.41	49	P	Pn	07 52 55.3	+0.3
FWVZ	Far West T-bar	1.41	49	P	Pn	07 52 55.1	+0.2
MOVZ	Moawhango	1.44	57	P	Pn	07 52 55.0	-0.1
COVZ	Chateau Observ	1.44	47	P	Pn	07 52 55.5	+0.3
TUVZ	Tukino	1.46	51	P	Pn	07 52 56.2	+0.7
SNVZ	South Ngauruho	1.50	49	P	Pn	07 52 56.3	+0.2
WTVZ	West Tongariro	1.53	46	P	Pn	07 52 56.5	+0.2
OTVZ	Oturere	1.54	48	P	Pn	07 52 56.9	+0.4
BSWZ	Blackbirch Sta	1.54	189	P	Pn	07 52 57.3	+1.0
PNHZ	Pukenui	1.57	80	P	Pn	07 52 56.9	+0.1
PLWZ	Palliser	1.59	150	P	Pn	07 52 56.8	-0.2
MRNZ	Matariki Terra	1.62	222	P	Pn	07 52 57.9	+0.6
BFZ	Birch Farm	1.64	108	P	Pn	07 53 02.9	+5.3
BFZ	Birch Farm	1.64	108	P	Pn	07 52 57.0	-0.7
BFZ				S	Sn	07 53 15.5	-3.4
HIZ	Hauiti	1.76	17	P	Pn	07 52 59.1	0.0
HIZ	Hauiti	1.76	17	P	Pn	07 52 58.9	-0.2
KRHZ	Kereru	1.77	73	S	Sn	07 53 19.5	-2.1
THZ	Tophouse	1.84	211	P	Pn	07 53 01.0	+0.7
KWHZ	Kaweka Forest	1.89	67	P	Pn	07 53 02.8	+2.0
BKZ	Black Stump Fm	2.05	61	P	Pn	07 53 06.1	+3.2
BKZ	Black Stump Fm	2.05	61	P	Pn	07 53 04.2	+1.3
TLZ	Tolley Road	2.14	30	P	Pn	07 53 04.1	+0.1
KHZ	Kahutara	2.27	192	P	Pn	07 53 06.2	+0.5
DSZ	Denniston Nort	2.38	229	P	Pn	07 53 07.5	+0.3
TOZ	Tahuroa Road	2.66	23	P	Pn	07 53 10.9	0.0
GVZ	Greta Valley S	2.90	197	P	Pn	07 53 13.8	-0.4
LTZ	Lake Taylor	2.96	209	P	Pn	07 53 15.5	+0.5
AWAZ	Awhitu Peninsu	3.15	7	P	Pn	07 53 17.6	+0.2
MKAZ	Moumakai	3.18	14	P	Pn	07 53 18.0	+0.2
INZ	Inchbonnie	3.26	218	P	Pn	07 53 19.7	+0.8
ETAZ	East Tamaki Re	3.29	10	P	Pn	07 53 19.5	+0.3
MBAZ	Motutapu North	3.46	9	P	Pn	07 53 22.1	+0.4
WIAZ	Waiheke Island	3.48	13	P	Pn	07 53 22.2	+0.4
KUZ	Kuaotunu	3.65	20	P	Pn	07 53 24.3	+0.2
MXZ	Matakaoa Point	4.15	52	P	Pn	07 53 33.8	+2.9
FOZ	Fox Glacier	4.67	223	P	Pn	07 53 38.2	+0.3
TMZ	Timaru	4.81	208	P	Pn	07 53 39.7	0.0
ODZ	Otahua Downs	5.51	207	P	Pn	07 53 48.7	-0.6
JCZ	Jackson Bay	5.58	224	P	Pn	07 53 50.7	+0.3

IDC 09 07:58:47.2±5.3, **5.94S**×**140.58E, h0km, mb3.6**/1, **mbtmp3.5**/3, **ML3.4**/2, **Error ellipse: s-maj=191.1km s-min=36.4km az=92.0, Irian Jaya**

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC |

NUR					*e*SG	**Sb**	**08 05 51.5**	**+0.6**	
NUR					MSG		08 05 51.9		
	comp=Z,5.8nm,0.1s								
MTSE	**Matsula**	**2.15**	**258**		*e*P	**Pb**	**08 05 25.2**	**-0.8**	
MTSE					*e*S	**Sb**	**08 05 52.4**	**-0.7**	
MTSE	**Matsula**	**2.15**	**258**		*e*PB	**Pb**	**08 05 25.4**	**-0.5**	
MTSE					*e*SG	**Sg**	**08 05 53.8**	**-1.4**	
EE01	**Perakula, Nova**	**2.18**	**272**		*e*PB	**Pb**	**08 05 26.0**	**-0.3**	
EE01					*e*SB	**Sb**	**08 05 53.3**	**-0.5**	
RUF	**Ruokolahti**	**2.28**	**13**		*e*P	**Pn**	**08 05 26.5**	**+1.6**	
RUF					MSG		08 05 55.3		
	comp=Z,6.3nm,0.2s								
RUF					*e*SG	**Sb**	**08 05 57.7**	**+0.9**	
FIA0	**FINESS Array S**	**2.40**	**339**		*e*P	**Pn**	**08 05 27.9**	**+1.2**	
FIA0					MSG		08 05 58.9		
	comp=Z,6.3nm,0.2s								
FIA0					*e*SG	**Sb**	**08 06 01.5**	**+1.2**	
FIA1	**FINESS Array S**	**2.40**	**339**		*e*P	**Pn**	**08 05 28.1**	**+1.4**	
FIA1					*e*PB	**Pb**	**08 05 29.4**	**-0.8**	
FIA1					*e*SG	**Sb**	**08 06 01.5**	**+1.1**	
FIA1					MSG		08 06 02.6		
	comp=Z,4.3nm,0.1s								
FINES	**FINESS Array B**	**2.40**	**339**		Pn	**Pn**	**08 05 27.9**	**+1.2**	
	comp=Z,0.2nm,0.3s,baz=161,slow=16,SNR=11								
FINES					Sn	**Sn**	**08 05 58.4**	**+1.6**	
	comp=Z,1.5nm,0.3s,baz=156,slow=24,SNR=16								
KAF	**Kangasniemi**	**3.00**	**346**		*e*PB	**Pb**	**08 05 39.4**	**-1.1**	
KAF					MSG		08 06 16.3		
	comp=Z,4.1nm,0.2s								
KEF	**Keuruu**	**3.31**	**335**		*e*P	**Pn**	**08 05 42.2**	**+3.1**	
SLIT	**Slitere, Latvi**	**3.33**	**244**		*e*SG	**Sb**	**08 06 28.5**	**+1.5**	
RAF	**Rauma**	**3.55**	**303**		*e*P	**Pn**	**08 05 45.0**	**+2.6**	
RAF	**Rauma**	**3.55**	**303**		*e*P	**Pn**	**08 05 44.6**	**+2.3**	
RAF	**Rauma**	**3.55**	**303**		*e*P	**Pn**	**08 05 44.9**	**+2.6**	
KPF	**Kankaanpaa**	**3.88**	**315**		*e*P	**Pn**	**08 05 49.5**	**+2.6**	
JOF	**Joensuu**	**4.08**	**23**		*e*P	**Pn**	**08 05 51.7**	**+2.1**	
JOF	**Joensuu**	**4.08**	**23**		*e*P	**Pn**	**08 05 51.5**	**+1.9**	
AAL	**Aland**	**4.10**	**287**		*e*P	**Pn**	**08 05 52.9**	**+2.9**	
VAF	**Ylistaro**	**4.59**	**329**		*e*P	**Pn**	**08 05 59.0**	**+2.4**	
I43RU	**DUBNA INFRASON**	**5.57**	**113**		I	I	08 40 36.5		
	baz=301,slow=316,SNR=2.8								
VIKU	**Vikbolandet**	**5.84**	**268**		*e*P	**Pn**	**08 06 15.9**	**+2.1**	
NOA	**NORSAR Array B**	**8.50**	**290**		Pn	**Pn**	**08 06 50.6**	**+0.2**	
	baz=95,slow=11,SNR=1.8								
NOA					Sn	Sn	08 08 15.4	-12	
	baz=77,slow=16,SNR=1.2								
	comp=Z,0.1nm,0.4s								
ARCES	**ARCESS Array B**	**10.41**	**355**		Pn	**Pn**	**08 07 15.5**	**-0.9**	
	baz=169,slow=14,SNR=1.2								
ARCES					Sn	**Sn**	**08 09 07.2**	**-6.5**	
	baz=173,slow=23,SNR=1.5								
	comp=Z,1.4nm,0.9s								

NNC 09 08:13:25.5±5.8, 37°.95N×70°.28E, h0km, mb3.7, mpv3.3, 3C-2D, Error ellipse: s-maj=54.2km s-min=39.2km az=115.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.15**	**2**	P	Pn	08 14 43.7	-0.3
	1.2nm,0.2s,baz=269,slow=21,SNR=32						
KK31				⇓S	Sn	08 15 45.4	+1.3
	10nm,0.3s,baz=192,slow=25,SNR=27						
AB31	**Akbulak array**	**13.54**	**330**	⇑P	Pn	08 16 40.2	+1.3
	0.3nm,0.3s,baz=133,slow=16,SNR=31						
AB31				⇓S	Sn	08 19 08.1	-1.9
	0.8nm,0.4s,baz=134,slow=24,SNR=7.2						
AKTO	**Aktyubinsk**	**15.24**	**329**	⇑P	Pn	08 17 01.2	-0.8
	2.2nm,1.1s						
AKTO				⇑S	Sn	08 19 55.3	+3.9
	2.4nm,1.1s						

*NEIC **09** 08:48:28.9±2.6, 44°.21N±0°.02×124°.68W±0°.03, h10km±2km, ML2.8/42, ML2.8/6(SEA), Error ellipse: s-maj=4.1km s-min=3.0km az=214.0*

SEA 09 08:48:29.6±3.0, 44°.18N±0°.02×124°.71W±0°.02, h8km±2km, Error ellipse: s-maj=3.0km s-min=2.8km az=19.0, Near coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I02E	**Swisshome, OR**	**0.63**	**96**		Pg	08 48 41.9	+0.2
I02E					Sb	08 48 51.2	-0.5
TAKO	**Tahkenitch**	**0.63**	**133**		Sb	08 48 51.7	-0.1
NEWO	**Newport DOGAMI**	**0.66**	**46**		Pg	08 48 42.3	0.0
NEWO					Sb	08 48 51.8	-0.8
RNO	**Roman Nose**	**0.75**	**110**		Pg	08 48 44.1	+0.1
MPOR	**Mary's Peak**	**0.90**	**68**		Pg	08 48 45.7	-1.2
MPOR					Sg	08 48 57.6	-0.9
COR	**Corvallis**	**1.09**	**67**		Pg	08 48 49.1	-1.5
COR					Sg	08 49 03.6	-1.1
COR	**Corvallis**	**1.09**	**67**	IAML		08 49 04.0	
	259nm,0.7s						
COR				IAML		08 49 07.0	
	302nm,0.5s						
I03D	**Drain, OR**	**1.09**	**115**		Pg	08 48 49.1	-1.6
J01E	**Myrtle Point**	**1.16**	**151**	Pn	Pg	08 48 50.6	-1.3
BUCK	**Buck Mountain**	**1.24**	**88**		Pn	08 48 51.6	-1.8
BUCK	**Buck Mountain**	**1.24**	**88**	IAML		08 49 24.0	
	comp=E,145nm,0.8s						
HEBO	**Mount Hebo**	**1.24**	**33**	Pn	Pn	08 48 50.8	-2.6
HEBO				IAML		08 48 57.7	
	comp=E,246nm,1.9s						
HEBO				IAML		08 49 34.3	
	comp=N,168nm,2.2s						
H04D	**Lebanon**	**1.46**	**75**		Pn	08 48 54.3	-2.0
H04D				IAML		08 49 13.8	
	comp=N,236nm,0.5s						
H04D				IAML		08 49 21.0	
	comp=E,180nm,0.4s						
G03D	**McMinnville, O**	**1.46**	**44**	Pn	Pn	08 48 54.1	-2.2
DBO	**Dodson Butte**	**1.50**	**134**		Pn	08 48 55.3	-1.6
I04A	**Tendick Farm,**	**1.70**	**102**		Pn	08 48 57.9	-1.8
I04A				IAML		08 49 21.4	
	comp=N,173nm,0.2s						
H04A	**Detroit Lake**	**1.88**	**73**	Pn	Pn	08 49 00.9	-1.2
H04A				IAML		08 49 24.7	
	comp=N,103nm,0.2s						
H04A				IAML		08 49 26.0	
	comp=E,87nm,0.5s						
RADR	**Rader Ridge**	**2.34**	**16**	Pn	Pn	08 49 06.0	-2.4
F04A	**Amboy**	**2.39**	**42**		Pn	08 49 07.6	-1.5
F04A				IAML		08 49 41.2	
	comp=E,44nm,0.6s						
F04A				IAML		08 50 15.1	
	comp=N,37nm,4.4s						
E03A	**Lebam**	**2.51**	**18**	Pn	Pn	08 49 08.6	-2.0
L04D	**Klamath Falls**	**2.63**	**137**	Pn	Pn	08 49 12.3	-0.2
L04D				IAML		08 50 00.2	
	comp=E,42nm,4.2s						
L04D				IAML		08 50 38.1	
	comp=N,42nm,4.2s						
WISH	**Wishkah**	**3.02**	**12**	Pn	Pn	08 49 14.9	-2.7
G06A	**Carlson Farm,**	**3.09**	**69**	Pn	Pn	08 49 17.2	-1.6
G06A				IAML		08 50 48.4	
	comp=E,26nm,4.3s						
G06A				IAML		08 50 58.0	
	comp=N,22nm,4.3s						
LON	**Longmire**	**3.29**	**37**	Pn	Pn	08 49 20.2	-1.3
LON				IAML		08 50 48.2	
	comp=E,20nm,4.0s						
LON				IAML		08 51 25.6	
	comp=N,23nm,4.0s						
GNW	**Green Mountain**	**3.64**	**21**	Pn	Pn	08 49 23.3	-2.9
LTY	**Liberty**	**4.18**	**41**	Pn	Pn	08 49 31.5	-2.3
LTY				IAML		08 51 59.4	
	comp=E,19nm,4.3s						
G08A	**Pilot Rock**	**4.25**	**73**	Pn	Pn	08 49 33.1	-1.7
G08A				IAML		08 50 34.9	
	comp=N,10nm,4.6s						
G08A				IAML		08 51 06.0	
	comp=E,14nm,3.9s						

*ISK **09** 08:49:59.9, 38°.45N×39°.18E, h10km, ML2.3/8*
*AFAD **09** 08:50:00.6±0.0, 38°.44N×39°.19E, h7km±3km, ML2.6*

ISC 09 08:50:00.4±1.4, 38°.46N±0°.03×39°.19E±0°.02, h9km±12km, n18, σ0°.42/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.46**	**21**	Pg	**Pg**	**08 50 09.3**	**-0.1**
PTK				Sg	**Sb**	**08 50 17.1**	**-0.6**
KOVA	**Elazig, Kovanc**	**0.55**	**64**	P	**Pg**	**08 50 11.1**	**0.0**
KOVA				S	**Sb**	**08 50 20.0**	**-0.2**
MAYA	**Malatya/Merkez**	**0.61**	**257**	P	**Pg**	**08 50 12.5**	**+0.2**
MAYA				S	**Sb**	**08 50 21.7**	**-0.3**
MAYA				*i* AML	AML	08 50 22.0	
	comp=N,309nm,0.3s						
NARI	**Adyaman-Kaht**	**0.67**	**210**	P	**Pb**	**08 50 14.1**	**-0.2**
NARI				S	**Sb**	**08 50 23.5**	**-0.1**
DYBB	**Diyarbakir**	**0.91**	**124**	Pg	**Pg**	**08 50 17.8**	**0.0**
DYBB				Sg	**Sb**	**08 50 30.6**	**+0.1**
DIYA	**Diyarbakir**	**0.91**	**126**	P	**Pb**	**08 50 18.3**	**-0.1**
DIYA				S	**Sb**	**08 50 31.2**	**+0.6**
HANM	**anlurfa/Hi**	**0.91**	**195**	P	**Pb**	**08 50 18.6**	**+0.2**
HANM				S	**Sn**	**08 50 32.8**	**+0.2**
ARPR	**Arapgir-MALATY**	**0.92**	**314**	Pg	**Pg**	**08 50 18.1**	**+0.1**
ARPR				Sg	**Sb**	**08 50 31.5**	**+0.7**
HANI	**Diyarbakir_Han**	**0.95**	**93**	P	**Pg**	**08 50 18.4**	**-0.3**
HANI				S	**Sb**	**08 50 32.4**	**+0.6**
KEMA	**Kemaliye**	**0.97**	**326**	P	**Pg**	**08 50 18.5**	**-0.6**
KEMA				S	**Sb**	**08 50 33.1**	**+0.7**
AZEY	**Adyaman-Merk**	**0.98**	**229**	P	**Pn**	**08 50 21.0**	**+0.6**
AZEY				S	**Sn**	**08 50 33.6**	**-0.9**
AKCD	**Akcadag**	**1.01**	**261**	P	**Pg**	**08 50 19.4**	**-0.4**
AKCD				S	**Sn**	**08 50 35.0**	**-0.1**
AKCD				*i* AML	AML	08 50 37.0	
	comp=E,153nm,0.5s						
ILIC	**ilic-Erzincan**	**1.10**	**334**	Pn	**Pg**	**08 50 21.7**	**+0.2**
ILIC				Sn	**Sn**	**08 50 37.2**	**-0.2**
BNGB	**Bingl**	**1.28**	**65**	Pn	**Pn**	**08 50 24.6**	**+0.1**
DARE	**Darende-Malaty**	**1.34**	**275**	Pn	**Pn**	**08 50 24.9**	**-0.4**
MAZI	**Mazidag**	**1.41**	**135**	Pn	**Pn**	**08 50 26.3**	**0.0**
SVAN	**Silvan-Diyarba**	**1.61**	**101**	Pn	**Pn**	**08 50 29.2**	**+0.2**
SVSK	**Karacayir**	**2.24**	**311**	Pn	**Pn**	**08 50 38.1**	**+0.6**

*NNC **09** 08:50:21.6±1.0, 50°.84N×73°.71E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=11.7km s-min=8.2km az=46.0, Suspected Mining explosion.*
*IDC **09** 08:50:26.5±1.4, 50°.86N×73°.84E, h0km, mbtmp2.7/4, ML2.1/4, Error ellipse: s-maj=27.0km s-min=9.3km az=28.0*

ISC 09 08:50:21.6±1.0, 50°.78N±0°.06×73°.33E±0°.08, h0km, n11, σ1s55/11, 8C-3D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTUK	**Ortayu**	**2.62**	**195**	⇑Pg	**Pg**	**08 51 10.9**	**-0.9**
	7.1nm,0.7s						
OTUK				⇑Lg	Lg	08 51 49.4	
	43nm,0.8s						
BVA0	**Borovoye Array**	**2.89**	**322**	⇑Pg	**Pg**	**08 51 16.8**	**-0.2**
	4.4nm,0.8s,baz=120,slow=15,SNR=6.7						
BVA0				⇓Lg	Lg	08 51 56.5	
	15nm,0.8s,baz=130,slow=28,SNR=11						
BVAR	**Borovoye Array**	**2.89**	**322**	Pn	**Pb**	**08 51 15.0**	**+1.0**
	0.2nm,0.3s,baz=132,slow=15,SNR=10						
BVAR				Sn	**Sg**	**08 51 53.0**	**-1.5**
	0.2nm,0.3s,baz=120,slow=22,SNR=4.3						
	1.8nm,0.3s						
BRVK	**Borovoye**	**2.96**	**322**	⇑Pg	**Pg**	**08 51 17.9**	**-0.3**
	5.6nm,0.8s						
BRVK				⇑Lg	Lg	08 51 58.4	
	62nm,1.3s						
KURBB	**Kurchatov Arra**	**3.31**	**91**	Pn	**Pn**	**08 51 15.3**	**+0.7**
	0.2nm,0.3s,baz=279,slow=14,SNR=14						
KURBB				Lg	Lg	08 51 59.5	
	0.7nm,0.3s,baz=279,slow=29,SNR=13						
	4.1nm,0.8s						
KURK	**Kurchatov**	**3.36**	**89**	⇓Pg	**Pn**	**08 51 17.3**	**+2.0**
	6.5nm,0.8s						
KURK				⇑Lg	Lg	08 52 01.0	
	38nm,0.7s						
MAKZ	**Makanchi**	**6.96**	**122**	⇑Lg	Lg	08 53 54.8	
	14nm,0.9s						
MK31	**Makanchi Array**	**7.14**	**121**	⇓Pn	**Pn**	**08 52 08.2**	**+1.0**
	0.5nm,0.6s,baz=290,slow=11,SNR=3.4						
MK31				⇑Lg	Lg	08 54 02.7	
	13nm,0.8s,baz=323,slow=24,SNR=8.4						
MKAR	**Makanchi Array**	**7.14**	**121**	Pn	**Pn**	**08 52 08.3**	**+1.1**
	0.1nm,0.3s,baz=304,slow=12,SNR=2.4						
MKAR				Lg	Lg	08 54 01.4	
	0.3nm,0.3s,baz=308,slow=29,SNR=7.1						
	0.1nm,0.4s						
I46RU	**ZALESOVO INFRA**	**7.72**	**61**	I	I	09 30 10.0	
	0.1nm,1.1s,baz=250,slow=330,SNR=4.3						
ZALV	**Zalesovo Beam**	**7.72**	**61**	Pn	**Pn**	**08 52 16.1**	**+1.1**
	0.2nm,0.3s,baz=256,slow=15,SNR=2.7						
ZALV				Sn	**Sn**	**08 53 40.4**	**-2.7**
	0.2nm,0.3s,baz=246,slow=22,SNR=2.6						
ZALV				Lg	Lg	08 54 21.7	
	0.2nm,0.3s,baz=244,slow=25,SNR=2.1						
	0.4nm,0.3s						

*NEIC **09** 08:50:26.7±0.8, 59°.76N±0°.04×153°.16W±0°.07, h107km±4km, Error ellipse: s-maj=5.4km s-min=4.8km az=145.0*
*AEIC **09** 08:50:27.9±1.1, 59°.76N±0°.03×153°.15W±0°.06, h101km±4km, ML3.0, ML3.0/112(NEIC), Error ellipse: s-maj=5.4km s-min=4.3km az=141.0*
*IDC **09** 08:50:30.4±8.7, 60°.22N×153°.26W, h120km±68km, mb3.5/3, mbtmp3.6/5, Error ellipse: s-maj=69.1km s-min=37.5km az=24.0*

ISC 09 08:50:26.2±0.9, 59°.76N±0°.04×153°.14W±0°.04, h111km±6km, n176, σ0s72/172, mb4.0/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P19K	**Oil Pt**	**0.12**	**205**		**Pn**	**08 50 41.4**	**-0.1**
P19K				IAML		08 50 53.3	
	comp=E,602nm,0.4s						
P19K				IAML		08 50 53.5	
	comp=N,511nm,0.5s						
P19K	**Oil Pt**	**0.12**	**205**		**Sn**	**08 50 52.6**	**-0.4**
ILSW	**Iliamna Southw**	**0.23**	**359**		**Pn**	**08 50 41.9**	**0.0**
ILSW				IAML		08 50 53.4	
	comp=N,1μm,0.7s						
ILSW				IAML		08 50 53.9	
	comp=E,993nm,0.3s						
ILSW	**Iliamna Southw**	**0.23**	**359**		**Sn**	**08 50 53.0**	**-0.7**
AU22	**Augustine Moun**	**0.41**	**196**		**Pn**	**08 50 42.5**	**0.0**
AU22					**Sn**	**08 50 54.4**	**-0.3**
AUL	**Augustine Lava**	**0.41**	**202**		**Pn**	**08 50 42.7**	**+0.1**
AUL					**Sn**	**08 50 54.7**	**-0.1**
O20K	**Slope Mountain**	**0.41**	**38**		**Pn**	**08 50 42.8**	**+0.1**
O20K					**Sn**	**08 50 55.2**	**+0.1**
AUCH	**Augustine Cone**	**0.43**	**202**		**Pn**	**08 50 42.8**	**+0.1**
RED	**Redoubt Volcan**	**0.69**	**15**		**Pn**	**08 50 44.7**	**+0.1**
RED					**Sn**	**08 50 57.8**	**-0.6**
RDSO	**Redoubt South**	**0.72**	**16**		**Pn**	**08 50 45.1**	**+0.2**
RDSO					**Sn**	**08 50 58.6**	**-0.5**
RSO	**Redoubt South**	**0.73**	**15**		**Pn**	**08 50 45.1**	**0.0**
O19K	**Port Alsworth**	**0.74**	**307**		**Pn**	**08 50 44.3**	**-0.5**
O19K	**Port Alsworth**	**0.74**	**307**		**Sn**	**08 50 58.4**	**-0.6**
RDWB	**Redoubt West**	**0.75**	**11**		**Pn**	**08 50 45.2**	**+0.1**
RDWB					**Sn**	**08 50 59.0**	**-0.5**
HOM	**Homer**	**0.76**	**97**		**Pn**	**08 50 45.6**	**+0.5**
HOM	**Homer**	**0.76**	**97**		**Sn**	**08 50 59.7**	**+0.4**
NCT	**North Crescent**	**0.81**	**7**		**Pn**	**08 50 45.8**	**+0.1**
RDJH	**Redoubt Jeurge**	**0.85**	**11**		**Pn**	**08 50 46.3**	**+0.2**
RDJH					**Sn**	**08 51 00.9**	**-0.3**
DFR	**Drift River**	**0.87**	**15**		**Pn**	**08 50 46.1**	**0.0**
DFR					**Sn**	**08 51 01.1**	**-0.2**
Q19K	**Cape Douglas,**	**0.87**	**198**		**Pn**	**08 50 46.1**	**-0.1**
Q19K				IAML		08 51 06.0	
	comp=N,721nm,0.8s						
Q19K				IAML		08 51 12.9	
	comp=E,608nm,0.9s						
RDT	**Redoubt**	**0.90**	**24**		**Pn**	**08 50 46.6**	**+0.2**
RDT					**Sn**	**08 51 01.2**	**-0.6**
CNPM	**China Poot**	**0.99**	**103**		**Pn**	**08 50 47.2**	**-0.1**
CNPM				IAML		08 51 04.6	
	comp=N,493nm,0.4s						
CNPM				IAML		08 51 05.0	
	comp=E,571nm,0.3s						
O18K	**Koktuh Hills**	**1.05**	**276**		**Pn**	**08 50 47.6**	**-0.3**
O18K				IAML		08 51 04.6	
	comp=E,227nm,0.8s						
O18K	**Koktuh Hills**	**1.05**	**276**		**Sn**	**08 51 03.7**	**-0.7**
P18K	**Big Mountain,**	**1.13**	**252**		**Pn**	**08 50 48.5**	**-0.2**
BRLK	**Bradley Lake**	**1.14**	**89**	Pn	**Pn**	**08 50 48.3**	**-0.6**
BRLK				IAML		08 51 06.2	
	comp=N,522nm,0.2s						
BRLK				IAML		08 51 07.5	
	comp=E,419nm,0.5s						
BRSE	**Bradley Lake S**	**1.21**	**90**		**Pn**	**08 50 49.5**	**-0.1**
SYI	**Shuyak Island**	**1.21**	**161**		**Pn**	**08 50 49.8**	**+0.2**
SYI				IAML		08 51 09.6	
	comp=N,507nm,1.0s						
N19K	**Bonanza Creek**	**1.25**	**328**		**Pn**	**08 50 50.5**	**+0.2**
N19K	**Bonanza Creek**	**1.25**	**328**	IAML		08 51 08.4	
	comp=E,87nm,0.9s						
N19K				IAML		08 51 08.9	
	comp=N,117nm,0.8s						
KAPH	**Katmai Pasha**	**1.32**	**209**		**Pn**	**08 50 51.4**	**+0.4**
CAPN	**Captain Cook N**	**1.42**	**43**		**Pn**	**08 50 52.8**	**+0.9**
KAHC	**Katmai Hardscr**	**1.47**	**222**		**Pn**	**08 50 53.0**	**+0.2**
SPCR	**Spurr Chakacha**	**1.52**	**17**		**Pn**	**08 50 53.7**	**+0.4**
SPCN	**Chakachatna No**	**1.54**	**17**		**Pn**	**08 50 54.2**	**+0.7**
SPBG	**Spurr Blockage**	**1.55**	**14**		**Pn**	**08 50 54.5**	**+0.8**
SPCP	**Crater Peak Br**	**1.59**	**17**		**Pn**	**08 50 54.9**	**+0.7**
SPNN	**North Nagishla**	**1.63**	**7**		**Pn**	**08 50 55.3**	**+0.6**
SPCG	**Spurr Capps Gl**	**1.64**	**19**		**Pn**	**08 50 55.3**	**+0.6**
SLKM	**Skilak Lake**	**1.64**	**61**		**Pn**	**08 50 55.4**	**+0.7**
N18K	**Kilae Creek**	**1.66**	**305**		**Pn**	**08 50 54.9**	**0.0**
N18K	**Kilae Creek**	**1.66**	**305**	IAML		08 51 16.9	
	comp=E,65nm,1.3s						
KAKN	**Katmai Knife C**	**1.77**	**215**		**Pn**	**08 50 56.7**	**+0.3**
KVTA	**Katmai Vly 10**	**1.77**	**220**		**Pn**	**08 50 56.8**	**+0.5**
P17K	**Kvichak River**	**1.78**	**253**		**Pn**	**08 50 56.8**	**+0.5**
SVW2	**Sparrevohn**	**1.81**	**319**		**Pn**	**08 50 56.6**	**-0.1**
SVW2	**Sparrevohn**	**1.81**	**319**	P	**Pn**	**08 50 56.7**	**-0.1**
KCE	**Katmai Mt Cerb**	**1.85**	**216**		**Pn**	**08 50 58.7**	**+1.4**
O22K	**Cooper Landing**	**1.85**	**66**		**Pn**	**08 50 57.9**	**+0.6**
STLK	**Strandline Lak**	**1.86**	**20**		**Pn**	**08 50 58.4**	**+0.9**
KELA	**Mount Kelaz**	**1.89**	**227**		**Pn**	**08 50 58.1**	**+0.3**
SEW	**Seward**	**1.89**	**78**		**Pn**	**08 50 57.9**	**+0.2**
ACHA	**Angle Creek He**	**1.92**	**217**		**Pn**	**08 50 58.6**	**+0.4**
ANCK	**Angle Creek**	**1.98**	**219**		**Pn**	**08 50 59.5**	**+0.5**
KDAK	**Kodiak Island**	**2.00**	**172**	Pn	**Pn**	**08 50 58.5**	**-0.6**
KDAK				IAML		08 51 24.9	
	comp=E,212nm,0.4s						
O17K	**Koliganek Bris**	**2.00**	**272**		**Pn**	**08 50 59.5**	**+0.3**
CNTC	**Contact Creek**	**2.06**	**225**		**Pn**	**08 51 00.5**	**+0.4**
SUA	**Susitna One**	**2.08**	**34**	Pn	**Pn**	**08 51 01.1**	**+0.9**
SUA				IAML		08 51 28.4	
	comp=E,195nm,0.9s						
SUA				IAML		08 51 29.3	
	comp=N,252nm,0.7s						
Q16K	**King Salmon**	**2.11**	**241**		**Pn**	**08 51 01.1**	**+0.6**
M20K	**Styx River**	**2.13**	**0**		**Pn**	**08 51 01.6**	**+0.7**
RC01	**Rabbit Creek A**	**2.15**	**50**	Pn	**Pn**	**08 51 01.5**	**+0.5**
N17K	**Nushagak Hills**	**2.17**	**293**		**Pn**	**08 51 01.5**	**+0.3**
M18K	**Stony River**	**2.19**	**324**		**Pn**	**08 51 01.6**	**+0.2**
M19K	**Big River Lodg**	**2.24**	**345**		**Pn**	**08 51 02.6**	**+0.5**
SKT	**Skwentna**	**2.36**	**19**		**Pn**	**08 51 04.4**	**+0.6**
SKT				IAML		08 51 36.5	
	comp=N,44nm,0.7s						
SKT				IAML		08 51 36.8	
	comp=E,50nm,0.5s						
M22K	**Willow**	**2.49**	**35**		**Pn**	**08 51 05.8**	**+0.4**
O16K	**Kokwok River B**	**2.52**	**268**		**Pn**	**08 51 06.4**	**+0.7**
OHAK	**Old Harbor**	**2.54**	**182**		**Pn**	**08 51 05.0**	**-1.1**
OHAK	**Old Harbor**	**2.54**	**182**	IAML		08 51 37.0	
	comp=E,67nm,0.7s						
OHAK				IAML		08 51 45.0	
	comp=N,66nm,1.4s						
OHAK	**Old Harbor**	**2.54**	**182**	P	**Pn**	**08 51 05.2**	**-0.9**
L19K	**White Mountain**	**2.57**	**342**		**Pn**	**08 51 06.7**	**+0.2**
L19K				IAML		08 51 37.9	
	comp=E,24nm,1.1s						
P16K	**Nushagak River**	**2.59**	**256**		**Pn**	**08 51 07.7**	**+1.1**
PLK3	**Peulik 3**	**2.64**	**220**		**Pn**	**08 51 08.6**	**+1.2**
PLK1	**Peulik 1**	**2.67**	**224**		**Pn**	**08 51 08.8**	**+1.1**
M17K	**Holitna River**	**2.69**	**310**		**Pn**	**08 51 08.3**	**+0.3**
M17K	**Holitna River**	**2.69**	**310**	IAML		08 52 09.2	
	comp=E,35nm,1.4s						
M17K				IAML		08 52 09.6	
	comp=N,40nm,1.4s						
PMR	**Palmer**	**2.70**	**45**	Pn	**Pn**	**08 51 08.5**	**+0.5**
PMR				IAML		08 51 40.5	
	comp=N,145nm,0.2s						
PMR				IAML		08 51 41.2	
	comp=E,88nm,0.2s						
PMR	**Palmer**	**2.70**	**45**	P	**Pn**	**08 51 08.1**	**+0.1**
L20K	**Farewell, AK**	**2.75**	**353**		**Pn**	**08 51 09.6**	**+0.7**
KNK	**Knik Glacier**	**2.84**	**52**		**Pn**	**08 51 10.2**	**+0.2**
GHO	**Glory Hole Cre**	**2.89**	**44**		**Pn**	**08 51 10.7**	**0.0**
P23K	**Montague Islan**	**2.90**	**83**		**Pn**	**08 51 11.4**	**+0.6**
N16K	**Nishlik Lake**	**2.91**	**287**		**Pn**	**08 51 11.7**	**+0.8**
CUT	**Chuliitna**	**3.00**	**26**		**Pn**	**08 51 13.4**	**+1.3**
L18K	**Granite Mounta**	**3.02**	**327**	Pn	**Pn**	**08 51 12.4**	**+0.1**
L18K	**Granite Mounta**	**3.02**	**327**	IAML		08 51 48.8	
	comp=N,14nm,1.3s						
SML	**Sawmill**	**3.13**	**47**		**Pn**	**08 51 13.6**	**-0.2**
SML	**Sawmill**	**3.13**	**47**	IAML		08 51 51.2	
	comp=E,58nm,0.2s						
SML				IAML		08 51 51.9	
	comp=N,90nm,0.5s						

HARP	**HAARP**	**4.69**	**52**			**Pn**	**08 51 35.2**	**+0.5**
WASW	**Wrangell South**	**4.89**	**60**			**Pn**	**08 51 38.9**	**+1.3**
GLB	**Gilahina Butte**	**4.90**	**66**			**Pn**	**08 51 38.1**	**+0.6**
GLB					IAML		08 52 34.0	
	comp=E,20nm,0.6s							
PAX	**Paxson**	**4.90**	**46**			**Pn**	**08 51 37.9**	**+0.4**
VRDI	**Verde Repeater**	**5.01**	**69**	Pn		**Pn**	**08 51 39.8**	**+0.6**
VRDI					IAML		08 52 49.0	
	comp=E,12nm,1.3s							
J16K	**Anvik River**	**5.03**	**318**			**Pn**	**08 51 39.6**	**+0.4**
J16K	**Anvik River**	**5.03**	**318**		IAML		08 52 55.7	
	comp=E,3.6nm,1.0s							
J16K					IAML		08 54 43.2	
	comp=N,4.7nm,1.3s							
NEA2	**Nenana**	**5.21**	**20**			**Pn**	**08 51 41.9**	**+0.2**
NEA2					IAML		08 52 39.6	
	comp=N,3.6nm,0.5s							
NEA2					IAML		08 52 58.2	
	comp=E,4.1nm,1.2s							
WRH	**Wood River Hil**	**5.29**	**24**			**Pn**	**08 51 42.5**	**-0.2**
WRH					IAML		08 52 45.5	
	comp=E,9.4nm,1.3s							
WRH					IAML		08 52 47.9	
	comp=N,6.7nm,1.5s							
GCSA	**Galena City Sc**	**5.30**	**342**			**Pn**	**08 51 43.2**	**+0.4**
K24K	**Donnelly Dome**	**5.35**	**38**			**Pn**	**08 51 45.5**	**+1.9**
MLY	**Manley**	**5.41**	**11**			**Pn**	**08 51 44.7**	**+0.3**
KIAG	**Kiagna River**	**5.48**	**73**			**Pn**	**08 51 46.4**	**+0.9**
HDA	**Harding Lake**	**5.50**	**29**			**Pn**	**08 51 45.4**	**-0.2**
CCB	**Clear Creek Bu**	**5.50**	**25**			**Pn**	**08 51 45.1**	**-0.4**
M26K	**Nabesna, AK**	**5.59**	**57**			**Pn**	**08 51 48.4**	**+1.5**
I23K	**Minto, Yukon-K**	**5.69**	**16**			**Pn**	**08 51 48.2**	**+0.1**
COLA	**College**	**5.69**	**23**			**Pn**	**08 51 48.1**	**0.0**
COLA	**College**	**5.69**	**23**	P		**Pn**	**08 51 48.2**	**0.0**
MDM	**Murphy Dome**	**5.70**	**22**			**Pn**	**08 51 48.1**	**-0.1**
GRNC	**Granite Creek**	**5.75**	**75**			**Pn**	**08 51 50.1**	**+0.8**
IL31		**5.81**	**27**			**Pn**	**08 51 49.4**	**-0.4**
ILAR	**Eielson Array**	**5.81**	**27**	Pn		**Pn**	**08 51 49.2**	**-0.6**
ILAR	**Eielson Array**	**5.81**	**27**	P		**Pn**	**08 51 49.6**	**-0.2**
	comp=N,4.7nm,0.5s,baz=217,slow=13,SNR=100							
ILAR					S	**Sn**	**08 52 50.6**	**-4.5**
	comp=N,2.2nm,0.5s,baz=215,slow=22,SNR=10.0							
BARN	**Barnard Glacie**	**5.83**	**72**			**Pn**	**08 51 51.5**	**+1.2**
H21K	**Melozitna Rive**	**5.92**	**1**			**Pn**	**08 51 52.0**	**+0.7**
H18K	**Honhosa River**	**5.93**	**338**			**Pn**	**08 51 51.5**	**+0.1**
CTGM	**Chitina Glacie**	**5.98**	**73**	Pn		**Pn**	**08 51 53.4**	**+1.1**
POKR	**Poker Plat Res**	**5.99**	**24**	Pn		**Pn**	**08 51 52.1**	**-0.2**
SCRK	**Sand Creek**	**6.05**	**42**			**Pn**	**08 51 53.2**	**+0.1**
J25K	**Salcha River,**	**6.08**	**33**	Pn		**Pn**	**08 51 53.1**	**-0.3**
H17K	**Granite Mounta**	**6.08**	**332**			**Pn**	**08 51 53.6**	**+0.3**
H24K	**Noodor Dome**	**6.56**	**19**			**Pn**	**08 52 00.1**	**+0.2**
K27K	**Chicken**	**6.75**	**46**	Pn		**Pn**	**08 52 02.7**	**+0.2**
PRP	**Porcupine Dome**	**6.76**	**28**			**Pn**	**08 52 03.1**	**+0.4**
PNL	**Peninsula**	**6.95**	**85**			**Pn**	**08 52 05.9**	**+0.6**
PNL	**Peninsula**	**6.95**	**85**	P		**Pn**	**08 52 06.0**	**+0.7**
G23K	**Bananza Creek**	**7.12**	**10**			**Pn**	**08 52 07.9**	**+0.4**
I26K	**Coal Creek Min**	**7.22**	**35**			**Pn**	**08 52 09.1**	**+0.2**
H25L	**Birch Creek**	**7.33**	**24**			**Pn**	**08 52 10.0**	**-0.3**
EGAK	**Eagle**	**7.51**	**43**	Pn		**Pn**	**08 52 12.1**	**-0.7**
M29M	**Somme Creek**	**7.60**	**63**	Pn		**Pn**	**08 52 15.2**	**+1.1**
FYU	**Fort Yukon**	**7.71**	**24**	Pn		**Pn**	**08 52 15.4**	**0.0**
BMAR	**Burnt Mountain**	**8.58**	**23**	Pn		**Pn**	**08 52 26.2**	**-1.1**
TOLK	**Toolik Lake Re**	**9.05**	**8**	Pn		**Pn**	**08 52 35.4**	**+1.8**
WHY	**Whitehorse**	**9.13**	**76**	Pn		**Pn**	**08 52 36.4**	**+1.5**
YKA	**Yellowknife Ar**	**18.61**	**65**	P		**Pn**	**08 54 36.7**	**+0.6**
	comp=N,0.1nm,0.5s,baz=275,slow=9.9,SNR=6.1							
ZALV	**Zalesovo Beam**	**57.53**	**324**	P		**P**	**09 00 04.2**	**+0.9**
	comp=N,1.7nm,0.4s,baz=34,slow=7.3,SNR=8.3							
	comp=N,1.7nm,0.4s							
BVAR	**Borovoye Array**	**62.25**	**332**	P		**P**	**09 00 36.2**	**+0.6**
	comp=N,0.9nm,0.5s,baz=12,slow=7.4,SNR=5.2							
	comp=N,0.9nm,0.5s							
MKAR	**Makanchi Array**	**64.58**	**321**	P		**P**	**09 00 50.7**	**-0.4**
	comp=N,0.1nm,0.5s,baz=46,slow=6.2,SNR=2.2							
	comp=N,0.1nm,0.5s							

*IDC **09** 09:10:37.0±1.8,2˚.07S×128˚.04E,h0km,mb3.8/3, mbtmp3.7/4,ML3.6/1,Error ellipse: s-maj=150.5km s-min=22.7km az=68.0*

*DJA **09** 09:10:40.4±1.0,2˚.5±2˚×12˚.8E±˚,h14km±7km,M3.5/7, MLv3.5/7*

ISC 09 09:10:41.1±0.9,2˚.08S±0˚.06×128˚.25E±0˚.05,h33km,n9, σ1§85/14,mb3.9/3,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LBMI	**Labuha**	**1.62**	**333**	P		**Pn**	**09 11 06.8**	**-0.6**
LBMI				S		**Sn**	**09 11 26.9**	**-0.2**
NLAI	**Namlea**	**1.62**	**225**	P		**Pn**	**09 11 09.4**	**+2.0**
NLAI				S		**Sb**	**09 11 31.6**	**+1.0**
SANI	**Sanana**	**2.26**	**271**	P		**Pn**	**09 11 16.4**	**+0.2**
SWI	**Sorong**	**3.25**	**68**	P		**Pn**	**09 11 31.3**	**+1.5**
SWI				S		**Sn**	**09 12 08.0**	**+0.7**
FAKI	**Fak Fak**	**4.08**	**102**	P		**Pn**	**09 11 41.8**	**+0.5**
WRA	**Warramunga Arr**	**18.72**	**162**	P		**P**	**09 14 57.7**	**+0.5**
	0.2nm,0.3s,baz=340,slow=11,SNR=16							
WRA				S		**Sn**	**09 18 22.9**	**-3.5**
	0.7nm,1.1s,baz=339,slow=21,SNR=1.6							
	0.4nm,0.3s							
ASAR	**Alice Springs**	**22.15**	**166**	P		**P**	**09 15 35.4**	**+1.1**
	1.9nm,0.3s,baz=344,slow=11,SNR=51							
ASAR				S		**S**	**09 19 32.7**	**-3.9**
	0.7nm,0.8s,baz=353,slow=22,SNR=5.3							
	1.9nm,0.3s							
MKAR	**Makanchi Array**	**63.18**	**326**	P		**P**	**09 21 06.4**	**+0.4**
	0.8nm,0.9s,baz=127,slow=7.4,SNR=6.4							
	0.8nm,0.9s							
KURBB	**Kurchatov Arra**	**67.43**	**328**	P		**P**	**09 21 33.6**	**+0.1**
	0.4nm,0.6s,baz=122,slow=6.0,SNR=4.3							
	0.4nm,0.6s							

*BGR **09** 09:15:44.6,42˚.06N×142˚.59E,h33km,mb4.7*

*MOS **09** 09:15:49.9±0.9,41˚.21N×141˚.22E,h103km,mb4.7/48, Error ellipse: s-maj=5.8km s-min=4.4km az=104.9*

*IDC **09** 09:15:50.2±0.5,41˚.19N×141˚.15E,h93km±4km,mb4.4/34, mbtmp4.6/39,MS3.4/21,Error ellipse: s-maj=9.7km s-min=7.9km az=108.0*

*NIED **09** 09:15:50.8,41˚.18N×141˚.27E,h93km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=5.52; Mθθ=-5.35; Mφφ=-0.17; Mrθ=0.80; Mθφ=0.43; Mφr=-3.42; Fault plane solution: M₀6.33000×10¹⁵ NP1: φs119.00000°,δ56.00000°,λ119.00000°. NP2: φs254.00000°,δ44.00000°,λ54.00000°.*

*JMA **09** 09:15:50.8±0.1,41˚.2N±0˚.3×141˚.3E±0˚.6,h93km,MD4.4/40, MW4.5/40,SHIMOKITA PENINSULA REG*

JMA Felt III J1 at SHIMOKITA PENINSULA REG .

*NEIC **09** 09:15:51.1±2.0,41˚.13N±0˚.06×141˚.29E±0˚.09,h94km±5km, mb4.8/396,Error ellipse: s-maj=11.7km s-min=6.6km az=131.0*

ISC 09 09:15:50.4±0.4,41˚.18N±0˚.03×141˚.25E±0˚.03,h96km±2km, h96km:pP-P,n1015,σ1§15/976,mb4.7/294,19C-30D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAHD	**Aomorihigashid**	**0.11**	**39**	*i* P		**Pn**	**09 16 04.0**	**0.0**
JAHD				S		**Sn**	**09 16 14.0**	**+0.1**
JAHD	**Aomorihigashid**	**0.11**	**39**	A		A	09 16 04.0	
	comp=E,95nm,0.9s,comp=N,65nm,0.9s							
JARK	**Aomorirokkasho**	**0.19**	**152**	*i* P		**Pn**	**09 16 04.0**	**-0.1**
JARK				S		**Sn**	**09 16 14.2**	**-0.1**
JARK	**Aomorirokkasho**	**0.19**	**152**	A		A	09 16 04.0	
	comp=E,53nm,1.3s,comp=N,23nm,1.0s							
JOT	**Ohata**	**0.25**	**324**	*i* P		**Pn**	**09 16 04.4**	**0.0**
JOT				*e*S		**Sn**	**09 16 14.7**	**0.0**
JOT	**Ohata**	**0.25**	**324**	A		A	09 16 04.4	
	comp=E,16nm,2.7s,comp=N,20nm,1.3s							
JTM	**Tenmabayashi**	**0.41**	**199**			**Pn**	**09 16 05.2**	**0.0**
JTM						Sn	**Sn**	**09 16 16.1**	**-0.1**
JTM	**Tenmabayashi**	**0.41**	**199**	P		**Pn**	**09 16 05.2**	**0.0**
JTM	**Tenmabayashi**	**0.41**	**199**	*i* P		**Pn**	**09 16 05.2**	**0.0**
JTM				S		**Sn**	**09 16 16.1**	**-0.1**
JTM	**Tenmabayashi**	**0.41**	**199**	A		A	09 16 05.2	
	comp=E,36nm,1.2s,comp=N,44nm,1.4s							
JSI2	**Shiura 2**	**0.64**	**259**	A		A	09 16 07.3	
	comp=E,22nm,0.8s,comp=N,47nm,0.9s							
JSR	**Shiriuchi**	**0.71**	**300**	*i* P		**Pn**	**09 16 07.9**	**+0.3**
JSR				S		**Sn**	**09 16 20.2**	**-0.3**
JSR	**Shiriuchi**	**0.71**	**300**	A		A	09 16 07.9	
	comp=E,11nm,0.8s,comp=N,12nm,1.9s							
JKB	**Kayabe**	**0.73**	**347**	*i* P		**Pn**	**09 16 08.2**	**+0.5**
JKB				S		**Sn**	**09 16 21.0**	**+0.4**
JKB	**Kayabe**	**0.73**	**347**	A		A	09 16 08.2	
	comp=E,29nm,3.1s,comp=N,31nm,1.2s							
JANG	**Nango**	**0.83**	**166**	*i* P		**Pn**	**09 16 08.8**	**0.0**
JANG				S		**Sn**	**09 16 22.3**	**-0.2**
JANG	**Nango**	**0.83**	**166**	A		A	09 16 08.8	
	comp=E,27nm,0.9s,comp=N,31nm,1.0s							
JHHS	**Hirosakihyakuz**	**0.85**	**232**	A		A	09 16 09.4	
	comp=E,103nm,0.9s,comp=N,88nm,0.9s							
JOMM	**Oshimamatsumae**	**0.99**	**291**	*i* P		**Pn**	**09 16 10.7**	**+0.2**
JOMM				*e*S		**Sn**	**09 16 25.5**	**-0.1**
JOMM	**Oshimamatsumae**	**0.99**	**291**	A		A	09 16 10.7	
	comp=E,4.0nm,3.2s,comp=N,6.0nm,2.9s							
JKEN	**Kujiedanarisaw**	**1.03**	**160**	A		A	09 16 11.2	
	comp=E,31nm,0.9s,comp=N,33nm,1.5s							
JAH	**Hinai**	**1.09**	**205**	⇓*i* P		**Pn**	**09 16 12.2**	**+0.7**
JAH				⇓S		**Sn**	**09 16 28.9**	**+1.4**
JAH	**Hinai**	**1.09**	**205**	A		A	09 16 12.2	
	comp=E,13nm,2.2s,comp=N,44nm,2.2s							
JIW	**Iwasaki**	**1.11**	**238**	*i* P		**Pn**	**09 16 12.1**	**+0.4**
JIW				*e*S		**Sn**	**09 16 28.6**	**+0.7**
JIW	**Iwasaki**	**1.11**	**238**	A		A	09 16 12.1	
	comp=E,13nm,0.8s,comp=N,20nm,1.1s							
JYM2	**Yakumo 2**	**1.15**	**325**	*i* P		**Pn**	**09 16 12.9**	**+0.7**
JYM2				*e*S		**Sn**	**09 16 29.4**	**+0.9**
JYM2	**Yakumo 2**	**1.15**	**325**	A		A	09 16 12.9	
	comp=E,13nm,1.4s,comp=N,28nm,1.5s							
JKZ	**Kuzumaki**	**1.19**	**177**	A		A	09 16 13.2	
	comp=E,34nm,1.0s,comp=N,23nm,1.7s							
JNTW	**Noshirotokiwa**	**1.22**	**223**	A		A	09 16 13.7	
	comp=E,51nm,2.2s,comp=N,88nm,1.9s							
JNB	**Noboribetsu**	**1.30**	**353**	⇓*i* P		**Pn**	**09 16 14.7**	**+0.7**
JNB				⇓S		**Sn**	**09 16 32.7**	**+0.9**
JNB	**Noboribetsu**	**1.30**	**353**	A		A	09 16 14.7	
	comp=E,11nm,1.2s,comp=N,17nm,1.2s							
JTH	**Tanohata**	**1.32**	**159**	A		A	09 16 14.7	
	comp=E,9.0nm,0.9s,comp=N,19nm,1.8s							
JSZI	**Iwateshizukuis**	**1.45**	**189**	A		A	09 16 16.5	
	comp=E,19nm,3.4s,comp=N,21nm,1.4s							
JIAM	**Iburiatsuma**	**1.53**	**19**	⇓*i* P		**Pn**	**09 16 18.3**	**+1.5**
JIAM				⇓S		**Sn**	**09 16 39.1**	**+2.3**
JIAM	**Iburiatsuma**	**1.53**	**19**	A		A	09 16 18.3	
	comp=E,35nm,1.6s,comp=N,26nm,1.0s							
JSHD	**Hidakashinhida**	**1.53**	**36**	A		A	09 16 17.3	
	comp=E,25nm,1.0s,comp=N,37nm,0.8s							
JNBK	**Urakawa-nobuka**	**1.58**	**45**	P		**Pn**	**09 16 18.1**	**+0.7**
JNBK				*e*S		**Sn**	**09 16 39.8**	**+1.9**
JNBK	**Urakawa-nobuka**	**1.58**	**45**	A		A	09 16 18.1	
	comp=E,11nm,0.7s,comp=N,11nm,2.3s							
JOSM	**Okushiri--Mats**	**1.60**	**305**	P		**Pn**	**09 16 17.7**	**-0.1**
JOSM				S		**Sn**	**09 16 38.7**	**+0.2**
JHST	**Hiyamasetana**	**1.61**	**321**	⇓*i* P		**Pn**	**09 16 18.8**	**+1.0**
JHST				⇓S		**Sn**	**09 16 40.0**	**+1.4**
JHST	**Hiyamasetana**	**1.61**	**321**	A		A	09 16 18.8	
	comp=E,16nm,2.6s,comp=N,15nm,1.9s							
MIYJ	**Miyakonagasawa**	**1.66**	**164**	A		A	09 16 19.0	
	comp=E,11nm,2.0s,comp=N,9.0nm,1.4s							
ERM	**Erimo**	**1.66**	**59**	Pn		**Pn**	**09 16 19.4**	**+1.0**
ERM				Sn		**Sn**	**09 16 41.4**	**+1.6**
ERM	**Erimo**	**1.66**	**59**	P		**Pn**	**09 16 19.3**	**+0.8**
ERM	**Erimo**	**1.66**	**59**	*d* P		**Pn**	**09 16 19.5**	**+1.0**
ERM				pmax		pmax		
	comp=Z,1μm,0.8s							
JEM	**Erimo**	**1.66**	**59**	P		**Pn**	**09 16 19.3**	**+0.8**
JEM	**Erimo**	**1.66**	**59**	A		A	09 16 18.9	
	comp=E,7.0nm,4.0s,comp=N,6.0nm,2.8s							
JEW	**Eniwo**	**1.67**	**5**	⇓*i* P		**Pn**	**09 16 19.8**	**+1.2**
JEW				⇓S		**Sn**	**09 16 41.2**	**+1.3**
JOM	**Ohasama**	**1.70**	**179**	⇓*i* P		**Pn**	**09 16 19.7**	**+0.7**
JOM				⇓*e*S		**Sn**	**09 16 41.9**	**+1.1**
JOM	**Ohasama**	**1.70**	**179**	A		A	09 16 19.7	
	comp=E,11nm,2.7s,comp=N,12nm,0.6s							
JSH	**Shimam**	**1.72**	**329**	A		A	09 16 20.0	
	comp=E,5.0nm,5.1s,comp=N,3.0nm,1.7s							
JBT2	**Biratori 2**	**1.80**	**27**	A		A	09 16 20.9	
	comp=E,5.0nm,2.8s,comp=N,5.0nm,0.9s							
JYW	**Yuwa**	**1.82**	**206**	A		A	09 16 21.2	
	comp=E,18nm,2.4s,comp=N,20nm,3.8s							
JRG	**Rokugo**	**1.84**	**195**	A		A	09 16 21.5	
	comp=E,9.0nm,0.4s,comp=N,12nm,3.4s							
JTHR	**Tokachihiroo**	**1.90**	**53**	A		A	09 16 22.0	
	comp=E,7.0nm,2.5s,comp=N,7.0nm,0.9s							
JOG3	**Oga3**	**2.07**	**233**	A		A	09 16 19.3	
	comp=E,11nm,1.1s,comp=N,11nm,4.1s							
JCH	**Churi**	**2.11**	**47**	A		A	09 16 25.2	
	comp=E,8.0nm,0.8s,comp=N,7.0nm,2.0s							
JAB	**Ashibetsu**	**2.44**	**17**	A		A	09 16 29.4	
	comp=E,6.0nm,3.5s,comp=N,5.0nm,2.4s							
JAR	**Ashorobuto**	**2.83**	**41**	A		A	09 16 34.7	
	comp=E,6.0nm,0.7s,comp=N,7.0nm,0.6s							
JYA	**Atsumi**	**2.84**	**205**	A		A	09 16 35.0	
	comp=E,10.0nm,0.5s,comp=N,7.0nm,0.9s							
ASAJ	**Asahikawa**	**3.10**	**18**	P		**Pn**	**09 16 37.9**	**+0.4**
	comp=N,114nm,0.7s,baz=221,slow=14,SNR=110							
ASAJ				S		**Sn**	**09 17 14.3**	**+0.7**
	comp=N,223nm,0.7s,baz=24,slow=20,SNR=5.0							
JKA	**Kamikawa-asahi**	**3.10**	**18**	Pn		**Pn**	**09 16 37.9**	**+0.5**
JMM	**Marumori**	**3.33**	**186**	Pn		**Pn**	**09 16 40.2**	**-0.2**
JMM	**Marumori**	**3.33**	**186**	P		**Pn**	**09 16 39.4**	**-1.1**
JSD	**Sado**	**3.89**	**217**	Pn		**Pn**	**09 16 49.5**	**+1.4**
NMR	**Nemuro--Hokkai**	**3.98**	**55**	*e*P		**Pn**	**09 16 47.9**	**-1.3**
NMR				*e*S		**Sn**	**09 17 30.6**	**-4.2**
RUSJ	**Misakicho**	**4.16**	**44**	*e*P		**Pn**	**09 16 52.0**	**+0.4**
RUSJ				*i* S		**Sn**	**09 17 41.2**	**+2.2**
YUK	**Yuzh-Kuril'sk**	**4.45**	**49**	*e*P		**Pn**	**09 16 54.2**	**-1.3**
YUK				*e*S		**Sn**	**09 17 43.6**	**-2.4**
YUK				pmax		pmax		
	comp=Z,991nm,0.4s							
YUK				smax		smax		
	comp=N,3μm,0.5s							
YUK				smax		smax		
	comp=E,4μm,0.5s							
TEY	**Ternei**	**5.14**	**320**	⇓*e*P		**Pn**	**09 17 05.9**	**+1.0**
TEY				pmax		pmax		
	comp=N,180nm,0.5s							
TEY				pmax		pmax		
	comp=Z,190nm,0.5s							
TEY				pmax		pmax		
	comp=E,120nm,0.5s							
TEY				pmax		pmax		
	comp=N,400nm,0.9s							
TEY				pmax		pmax		
	comp=E,400nm,0.9s							
TEY				pmax		pmax		
	comp=Z,400nm,0.9s							
MJB9	**Matsu-Tunnel**	**5.20**	**208**	Pn		**Pn**	**09 17 08.0**	**+2.2**
MAJO	**Matsushiro**	**5.20**	**208**	Pn		**Pn**	**09 17 07.1**	**+1.3**
MAJO	**Matsushiro**	**5.20**	**208**	P		**Pn**	**09 17 07.4**	**+1.6**
MAJO	**Matsushiro**	**5.20**	**208**	*d* P		**Pn**	**09 17 07.2**	**+1.3**
MAJO				pmax		pmax		
	comp=Z,131nm,0.5s							
MJAR	**Matsushiro Arr**	**5.20**	**208**	P		**Pn**	**09 17 06.6**	**+0.7**
	comp=E,56nm,0.6s,baz=16,slow=14,SNR=115							
YSS	**Yuzh-Sakhalins**	**5.88**	**10**	Pn		**Pn**	**09 17 15.9**	**+1.0**
YSS	**Yuzh-Sakhalins**	**5.88**	**10**	*e*P		**Pn**	**09 17 15.7**	**+0.8**
YSS				*e*S		**Sn**	**09 18 21.2**	**+0.4**
YSS				pmax		pmax		
	comp=Z,80nm,1.0s							
YSS				smax		smax		
	comp=N,80nm,0.8s							
YSS				smax		smax		
	comp=E,40nm,0.9s							
KUR	**Kuril'sk**	**6.31**	**48**	*e*P		**Pn**	**09 17 20.6**	**-0.2**
KUR				*e*S		**Sn**	**09 18 30.6**	**-0.8**
KUR				pmax		pmax		
	comp=E,77nm,0.4s							
KUR				pmax		pmax		
	comp=Z,190nm,0.4s							
KUR				smax		smax		
	comp=N,504nm,0.5s							
KUR				smax		smax		
	comp=E,202nm,0.4s							
JGF	**Kuroka**	**6.35**	**210**	Pn		**Pn**	**09 17 23.1**	**+1.6**
JGF	**Kuroka**	**6.35**	**210**	P		**Pn**	**09 17 23.4**	**+1.9**
INU	**Inuyama**	**6.70**	**211**	Pn		**Pn**	**09 17 27.3**	**+1.1**
INU	**Inuyama**	**6.70**	**211**	P		**Pn**	**09 17 27.3**	**+1.1**
JSG	**Sagara**	**6.93**	**201**	Pn		**Pn**	**09 17 29.4**	**+0.1**
VLA	**Vladivostok**	**7.22**	**289**	⇓*e*P		**Pn**	**09 17 36.4**	**+3.2**
USA0B	**Ussuriysk Arra**	**7.46**	**297**	Pn		**Pn**	**09 17 38.7**	**+2.3**
USA0B	**Ussuriysk Arra**	**7.46**	**297**	*d* P		**Pn**	**09 17 38.6**	**+2.2**
USRK	**Ussuriysk Ar.**	**7.46**	**297**			**Pn**	**09 17 38.4**	**+2.0**
USRK	**Ussuriysk Ar.**	**7.46**	**297**	P		**Pn**	**09 17 38.4**	**+2.0**
USRK	**Ussuriysk Ar.**	**7.46**	**297**	P		**Pn**	**09 17 38.6**	**+2.1**
USRK				LR		LR	09 20 30.9	
	comp=E,101nm,20.1s,baz=166,slow=38							
MSHR	**Mys Shultsa**	**7.66**	**284**	*de*P		**Pn**	**09 17 40.6**	**+1.4**
MSHR				pmax		pmax		
	comp=Z,66nm,1.3s							
PSTR	**Posyet**	**7.92**	**284**	*ce*P		**Pn**	**09 17 44.7**	**+1.9**
JHJ	**Hachijo jima 2**	**8.13**	**189**	P		Pn	09 17 42.4	-3.3
	comp=Z,112nm,0.2s,baz=90,slow=20,SNR=15							
JHJ				S		Sn	09 19 07.9	-7.9
	comp=Z,100nm,0.3s,baz=125,slow=21,SNR=1.6							
JHJ				LR		LR	09 20 50.4	
	comp=Z,136nm,19.4s,baz=123,slow=37							
JHJ2	**Mitsune**	**8.13**	**189**	Pn		**Pn**	**09 17 42.5**	**-3.2**
JHJ2	**Mitsune**	**8.13**	**189**	P		**Pn**	**09 17 44.1**	**-1.6**
MDJ	**Mudanjiang**	**9.22**	**296**	P		**Pn**	**09 18 02.4**	**+2.0**
MDJ				pmax		pmax		
	comp=Z,38nm,0.8s							
MDJ				pmax		pmax		
	comp=Z,160nm,3.8s							
MDJ	**Mudanjiang**	**9.22**	**296**	Pn		**Pn**	**09 18 02.7**	**+2.3**
JMN	**Monobe**	**9.46**	**221**	Pn		**Pn**	**09 18 04.7**	**+0.9**
GRNR	**Gornyy**	**10.16**	**342**	⇑*i* P		**Pn**	**09 18 13.7**	**+0.5**
GRNR				pmax		pmax		
	comp=N,30nm,0.7s							
GRNR				pmax		pmax		
	comp=Z,20nm,0.7s							
GRNR				MLR		MLR		
	comp=Z,130nm,13.0s							
KLR	**Kul'dur**	**10.47**	**323**	*ce*P		**Pn**	**09 18 18.3**	**+0.9**
KLR				pmax		pmax		
	comp=Z,21nm,1.3s							
KLR	**Kul'dur**	**10.47**	**323**	P		**Pn**	**09 18 18.7**	**+1.4**
	comp=Z,10nm,0.7s,baz=130,slow=14,SNR=31							
KLR				LR		LR	09 22 19.2	
	comp=Z,112nm,19.6s,baz=180,slow=37							
KSRS	**Korea Array**	**10.97**	**255**	P		**Pn**	**09 18 25.9**	**+1.6**
	comp=Z,3.8nm,0.6s,baz=72,slow=14,SNR=9.1							
KSRS				S		**Sn**	**09 20 26.6**	**+1.7**
	comp=Z,1.7nm,0.9s,baz=68,slow=24,SNR=1.9							
KS19	**Wonju Array Si**	**10.99**	**255**			**Pn**	**09 18 26.0**	**+1.4**
KSAR	**Wonju Array Be**	**11.00**	**255**	Pn		**Pn**	**09 18 24.5**	**-0.2**
KSAR	**Wonju Array Be**	**11.00**	**255**	P		**Pn**	**09 18 24.5**	**-0.2**
BNX	**BinXian**	**11.04**	**299**	⇑P		**Pn**	**09 18 26.3**	**+1.1**
BNX				pmax		pmax		
	comp=Z,12nm,0.5s							
BNX				pmax		pmax		
	comp=Z,250nm,3.8s							
JNU	**Nakatsue**	**11.53**	**229**	Pn		**Pn**	**09 18 32.9**	**+1.0**
JNU	**Nakatsue**	**11.53**	**229**	P		Pn	09 18 37.1	+5.2
	comp=Z,31nm,1.0s							
JNU	**Nakatsue**	**11.53**	**229**	P		**Pn**	**09 18 32.5**	**+0.6**
	comp=E,25nm,1.1s,baz=93,slow=4.5,SNR=7.4							
JCJ	**Chichijima**	**14.07**	**177**	P		Pn	09 18 56.4	-9.0
	comp=E,24nm,0.3s,baz=319,slow=19,SNR=1.7							
JCJ				S		Sn	09 21 21.4	-19
	comp=E,44nm,0.5s,baz=102,slow=23,SNR=1.7							
ZEA	**Zeya**	**15.69**	**328**	*e*P		**Pn**	**09 19 24.9**	**-0.9**
ZEA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
PETK	**Petropavlovsk-**	**16.31**	**37**	P		**Pn**	**09 19 33.8**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=217,slow=12,SNR=1.9							
JOW	**Kunigami**	**17.87**	**221**	P		P	**09 19 50.8**	**-1.3**
JOW				IAmb		IAmb	09 20 19.2	
	comp=Z,104nm,1.3s							
XLT	**XiLinHaoTe**	**18.72**	**287**	*e*P		**P**	**09 20 02.4**	**+0

H11N1 **WAKE ISLAND Hy** 30.57 127 T T 09 53 49.2
baz=322,slow=74
H11N3 **WAKE ISLAND Hy** 30.58 127 T T 09 53 40.9
baz=322,slow=74
TIXI **Tiksi** 31.17 352⇑ *e*P **P** **09 21 58.5 -1.2**
TIXI pmax pmax
comp=Z,7.0nm,1.7s
TIXI **Tiksi** 31.17 352 LR LR 09 37 17.1
comp=Z,48nm,19.0s,baz=188,slow=41
H11S1 **WAKE ISLAND Hy** 31.38 128 T T 09 54 49.0
baz=322,slow=76,SNR=85
H11S3 **WAKE ISLAND Hy** 31.39 128 T T 09 55 10.0
baz=322,slow=76,SNR=46
H11S2 **WAKE ISLAND Hy** 31.40 128 T T 09 54 51.5
baz=322,slow=76,SNR=68
P08K **Saint George I** 34.99 47 P **P** **09 22 33.1 -0.1**
baz=265
NIKH **Nikolski High** 35.27 53 P **P** **09 22 34.7 -0.9**
baz=271
GAMB **Gambell** 35.30 34 P **P** **09 22 35.9 +0.2**
baz=253
PZH **PanZhiHua** 35.60 258 P **P** **09 22 40.1 +1.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,6.3s
UNV **Unalaska Valle** 36.66 52 P **P** **09 22 47.5 0.0**
baz=272
DAV **Davao City (W)** 36.72 207 LR LR 09 39 58.6
comp=Z,23nm,18.4s,baz=350,slow=40
TNA **Tin City** 37.37 32 P **P** **09 22 53.4 +0.1**
baz=254
DGZ **Jazzator, Alta** 37.98 302 *c i*P **P** **09 22 59.7 +0.8**
DGZ pmax pmax
comp=Z,18nm,0.7s
F14K **Arctic Creek** 37.99 33 P **P** **09 22 59.0 +0.5**
baz=256
ANM **Nome** 38.19 34 P **P** **09 23 01.6 +1.4**
ANM IAmb IAmb 09 23 03.0
comp=Z,8.1nm,1.0s
ANM **Nome** 38.19 34 P **P** **09 23 01.6 +1.4**
ANM pmax pmax
comp=Z,8.0nm,1.0s
ANM **Nome** 38.19 34 P **P** **09 23 00.4 +0.2**
baz=258
FALS **False Pass** 38.43 50 P **P** **09 23 02.5 +0.2**
baz=273
M13K **Dall Lake** 38.55 41 P **P** **09 23 04.2 +0.9**
baz=266
J14K **Nanvaranak Lak** 38.69 37 P **P** **09 23 06.5 +2.1**
J14K **Nanvaranak Lak** 38.69 37 P **P** **09 23 05.2 +0.8**
baz=262
F15K **North Star Dit** 38.72 32 P **P** **09 23 05.3 +0.6**
baz=258
G15K **Niukluk** 38.83 34 P **P** **09 23 06.6 +1.0**
baz=259
L14K **Kuka Creek** 38.95 40 P **P** **09 23 07.5 +1.0**
baz=265
WMQ **Urumqi** 39.00 292 *e*P **P** **09 23 08.7 +1.3**
WMQ pP pP 09 23 29.4 -0.2
WMQ pmax pmax
comp=Z,18nm,0.6s
ZAA0 **Zalesovo Array** 39.12 309 P **P** **09 23 08.2 +0.1**
ZAA0 **PcP** **09 25 15.7 -0.2**
ZALV **Zalesovo Beam** 39.12 309 *i* P **P** **09 23 08.1 -0.1**
ZALV pmax pmax
comp=Z,35nm,0.5s
ZALV **Zalesovo Beam** 39.12 309 P **P** **09 23 08.2 +0.1**
comp=Z,35nm,0.5s,baz=93,slow=8.9,SNR=152
ZALV PcP **PcP** **09 25 15.8 0.0**
comp=Z,6.5nm,0.6s,baz=103,slow=2.8,SNR=11
ZALV ScP **ScP** **09 28 53.6 -1.8**
comp=Z,0.9nm,0.5s,baz=73,slow=2.0,SNR=4.6
comp=Z,35nm,0.5s
M14K **Bethel** 39.25 40 P **P** **09 23 11.3 +2.2**
M14K **Bethel** 39.25 40 P **P** **09 23 09.8 +0.7**
baz=266
N14K **Kuskokwak Cree** 39.35 42 P **P** **09 23 11.1 +1.1**
baz=268
NRIK **Noril'sk** 39.48 333 P **P** **09 23 10.9 0.0**
NRIK **Noril'sk** 39.48 333⇑ *e*P **P** **09 23 10.9 0.0**
NRIK **Noril'sk** 39.48 333 P **P** **09 23 10.0 -1.0**
NRIK LR LR 09 40 21.3
comp=Z,3.8nm,0.5s,baz=108,slow=3.4,SNR=14
comp=Z,67nm,18.1s,baz=112,slow=37
comp=Z,3.8nm,0.5s
H16K **Elim** 39.53 34 P **P** **09 23 12.6 +1.2**
baz=262
L15K **Ungalak Mounta** 39.54 39 P **P** **09 23 11.9 +0.3**
baz=266
K15K **Wolf Creek Mou** 39.57 38 P **P** **09 23 12.5 +0.7**
baz=265
G16K **Koyuk River** 39.60 33 P **P** **09 23 13.2 +1.3**
baz=260
D17K **Noatak River** 39.76 30 P **P** **09 23 13.9 +0.7**
baz=257
M15K **Kasigluk River** 39.87 41 P **P** **09 23 15.1 +0.7**
baz=268
C17K **DeLong Mountai** 39.91 28 P **P** **09 23 15.1 +0.6**
baz=256
J16K **Anvik River** 40.08 37 P **P** **09 23 17.2 +1.1**
baz=265
I17K **Unalakleet** 40.10 36 P **P** **09 23 17.6 +1.5**
I17K IAmb IAmb 09 23 18.5
comp=Z,11nm,0.6s
I17K **Unalakleet** 40.10 36 P **P** **09 23 17.8 +1.6**
baz=264
N15K **Kwethluk River** 40.16 41 P **P** **09 23 18.2 +1.6**
N15K IAmb IAmb 09 23 45.6
comp=Z,30nm,1.2s
N15K **Kwethluk River** 40.16 41 P **P** **09 23 17.2 +0.6**
baz=269
F17K **Baldwin Pennin** 40.22 32 P **P** **09 23 17.6 +0.6**
baz=260
O15K **Ungalikthiuk R** 40.28 43 P **P** **09 23 18.2 +0.4**
baz=270
G17K **Kiwalik Mounta** 40.32 33 P **P** **09 23 18.7 +0.7**
baz=262
CRAI **Chiangrai** 40.41 251 P **P** **09 23 20.1 +0.9**
CRAI IAmb IAmb 09 23 22.1
comp=Z,10.0nm,0.6s
L16K **Owhat River** 40.50 39 P **P** **09 23 20.7 +1.2**
L16K IAmb IAmb 09 23 21.6
comp=Z,13nm,0.8s
L16K **Owhat River** 40.50 39 P **P** **09 23 19.8 +0.3**
baz=268
H17K **Granite Mounta** 40.56 34 P **P** **09 23 21.5 +1.6**
H17K **Granite Mounta** 40.56 34 P **P** **09 23 21.1 +1.2**
baz=263
B18K **Kokolik River** 40.60 27 P **P** **09 23 21.1 +0.9**
baz=256
E18K **Tukpahlearik C** 40.64 30 P **P** **09 23 21.7 +1.1**
E18K **Tukpahlearik C** 40.64 30 P **P** **09 23 21.1 +0.6**
baz=260
CHNA **Chernabura Isl** 40.64 50 P **P** **09 23 20.6 -0.1**
baz=276
C18K **Utukok River** 40.66 28 P **P** **09 23 20.9 +0.1**
C18K IAmb IAmb 09 23 21.8
comp=Z,8.1nm,0.8s
C18K **Utukok River** 40.66 28 P **P** **09 23 21.1 +0.3**
baz=258,SNR=8.0
M16K **Timber Creek** 40.73 40 P **P** **09 23 22.4 +1.1**
baz=269
N16K **Nishlik Lake** 40.82 41 P **P** **09 23 23.6 +1.4**
baz=270
F18K **Selawik** 40.88 32 P **P** **09 23 23.4 +0.9**
baz=262
L17K **Donlin** 41.07 38 P **P** **09 23 24.8 +0.6**
baz=268
K17K **Iditarod** 41.09 38 P **P** **09 23 26.7 +2.4**
K17K **Iditarod** 41.09 38 P **P** **09 23 25.0 +0.7**
baz=267
O16K **Kokwok River B** 41.16 42 P **P** **09 23 26.0 +1.0**
O16K IAmb IAmb 09 23 27.3
comp=Z,12nm,0.9s
O16K **Kokwok River B** 41.16 42 P **P** **09 23 25.6 +0.7**
baz=271
CHGN **Chignik** 41.17 47 P **P** **09 23 25.5 +0.5**
baz=275
G18K **Tagagawik** 41.19 33 P **P** **09 23 26.1 +1.1**
G18K IAmb IAmb 09 23 30.3
comp=Z,9.6nm,0.8s
G18K **Tagagawik** 41.19 33 P **P** **09 23 25.8 +0.7**
baz=264
H18K **Honhosa River** 41.23 34 P **P** **09 23 26.9 +1.4**
H18K IAmb IAmb 09 23 32.5
comp=Z,11nm,1.1s
H18K **Honhosa River** 41.23 34 P **P** **09 23 26.6 +1.1**
baz=265
C19K **Lookout Ridge** 41.32 28 P **P** **09 23 26.4 +0.2**
C19K **Lookout Ridge** 41.32 28 P **P** **09 23 26.9 +0.7**
baz=259
M17K **Holitna River** 41.47 40 P **P** **09 23 28.4 +0.9**
M17K **Holitna River** 41.47 40 P **P** **09 23 28.7 +1.2**
baz=270
PHRA **Phrae** 41.64 250 P **P** **09 23 30.2 +0.9**
F19K **Shaleruckik Mo** 41.65 31 P **P** **09 23 29.5 +0.7**
F19K IAmb IAmb 09 23 33.6
comp=Z,13nm,1.0s
F19K **Shaleruckik Mo** 41.65 31 P **P** **09 23 29.6 +0.7**
baz=263
O17K **Koliganek Bris** 41.66 42 P **P** **09 23 30.3 +1.2**
baz=272
D19K **Kuna River** 41.74 29 P **P** **09 23 30.1 +0.5**
D19K IAmb IAmb 09 23 35.4
comp=Z,13nm,0.9s
D19K **Kuna River** 41.74 29 P **P** **09 23 30.3 +0.6**
baz=261,SNR=10
L18K **Granite Mounta** 41.83 38 P **P** **09 23 31.6 +1.3**
baz=270
GCSA **Galena City Sc** 41.83 35 P **P** **09 23 30.8 +0.5**
baz=266
J18K **Innoko River** 41.84 36 P **P** **09 23 32.0 +1.5**
J18K IAmb IAmb 09 23 32.7
comp=Z,7.8nm,0.8s
J18K **Innoko River** 41.84 36 P **P** **09 23 31.5 +1.1**
baz=268
G19K **Purcell Mounta** 41.85 32 P **P** **09 23 31.1 +0.7**
G19K **Purcell Mounta** 41.85 32 P **P** **09 23 31.0 +0.5**
baz=265
MK31 **Makanchi Array** 41.92 298 P **P** **09 23 31.3 0.0**
MK31 **Makanchi Array** 41.92 298 *c i*P **P** **09 23 31.2 -0.2**
MKAR **Makanchi Array** 41.92 298 *ce*P **P** **09 23 31.3 -0.1**
MKAR pmax pmax
comp=Z,21nm,0.5s
MKAR **Makanchi Array** 41.92 298 P **P** **09 23 31.4 -0.1**
comp=Z,20nm,0.5s,baz=85,slow=10.0,SNR=420
MKAR PcP **PcP** **09 25 24.6 -0.5**
comp=Z,2.3nm,0.9s,baz=70,slow=4.7,SNR=3.0
MKAR ScP **ScP** **09 29 05.6 -1.0**
comp=Z,0.4nm,0.6s,baz=74,slow=3.4,SNR=2.6
MKAR S **S** **09 29 41.0 -1.5**
comp=Z,1.2nm,1.1s,baz=87,slow=15,SNR=8.2
MKAR LR LR 09 43 34.2
comp=Z,38nm,18.8s,baz=92,slow=40
comp=Z,20nm,0.5s
E19K **Redstone River** 41.93 30 P **P** **09 23 32.0 +0.9**
E19K IAmb IAmb 09 23 32.9
comp=Z,10nm,0.8s
E19K **Redstone River** 41.93 30 P **P** **09 23 32.0 +0.9**
baz=263
Q16K **King Salmon** 41.94 44 P **P** **09 23 31.9 +0.6**
baz=274
P17K **Kvichak River** 42.02 43 P **P** **09 23 31.6 -0.4**
baz=273
H19K **Roundabout Mou** 42.06 33 P **P** **09 23 33.5 +1.4**
H19K IAmb IAmb 09 23 34.5
comp=Z,22nm,0.9s
H19K **Roundabout Mou** 42.06 33 P **P** **09 23 33.6 +1.4**
baz=266
MAKZ **Makanchi** 42.13 298 P **P** **09 23 33.2 +0.1**
MAKZ **Makanchi** 42.13 298 P **P** **09 23 33.2 +0.1**
MAKZ pmax pmax
comp=Z,20nm,0.6s
MAKZ **Makanchi** 42.13 298 ⇑P **P** **09 23 33.0 0.0**
TTA **Tatalina** 42.15 37 P **P** **09 23 34.0 +0.9**
TTA **Tatalina** 42.15 37 P **P** **09 23 34.0 +0.9**
TTA pmax pmax
comp=Z,9.0nm,1.4s
TTA **Tatalina** 42.15 37 P **P** **09 23 34.0 +0.9**
baz=269
N18K **Kilae Creek** 42.23 41 P **P** **09 23 34.9 +1.2**
baz=272
M18K **Stony River** 42.24 39 P **P** **09 23 34.6 +0.9**
baz=271
D20K **Etivluk River** 42.32 29 P **P** **09 23 35.2 +0.9**
baz=262
B20K **Meade River** 42.32 27 P **P** **09 23 34.6 +0.3**
B20K IAmb IAmb 09 23 37.9
comp=Z,17nm,0.7s
B20K **Meade River** 42.32 27 P **P** **09 23 34.8 +0.5**
baz=260,SNR=15
J19K **Poorman** 42.34 36 P **P** **09 23 36.1 +1.5**
J19K IAmb IAmb 09 23 36.9
comp=Z,22nm,0.9s
J19K **Poorman** 42.34 36 P **P** **09 23 35.4 +0.8**
baz=268,SNR=12
CHTO **Chiang Mai** 42.35 251 P **P** **09 23 35.5 +0.4**
CHTO IAmb IAmb 09 23 40.1
comp=Z,9.4nm,0.6s
CHTO **Chiang Mai** 42.35 251 P **P** **09 23 35.5 +0.4**
CHTO pmax pmax
comp=Z,9.0nm,0.6s
Q17K **Contact Creek** 42.38 44 P **P** **09 23 35.3 +0.4**
baz=275
E20K **Nigu River** 42.42 29 P **P** **09 23 36.0 +0.9**
baz=263
F20K **Avaraart Lake** 42.47 31 P **P** **09 23 36.8 +1.3**
F20K **Avaraart Lake** 42.47 31 P **P** **09 23 36.4 +0.9**
baz=265
CMAR **Chiang Mai Arr** 42.58 251 P **P** **09 23 38.3 +1.3**
comp=Z,1.0nm,0.3s,baz=39,slow=7.8,SNR=6.9
CMAR LR LR 09 42 53.8
comp=Z,9.8nm,18.8s,baz=55,slow=38
comp=Z,1.0nm,0.3s
O18K **Koktuh Hills** 42.61 42 P **P** **09 23 37.6 +0.7**
O18K IAmb IAmb 09 23 41.3
comp=Z,22nm,0.9s
O18K **Koktuh Hills** 42.61 42 P **P** **09 23 37.5 +0.7**
baz=273
P18K **Big Mountain,** 42.63 43 P **P** **09 23 38.4 +1.4**
P18K IAmb IAmb 09 23 39.6
comp=Z,19nm,1.1s
P18K **Big Mountain,** 42.63 43 P **P** **09 23 38.1 +1.1**
baz=274
L19K **White Mountain** 42.69 38 P **P** **09 23 38.7 +1.3**
L19K IAmb IAmb 09 24 02.4
comp=Z,12nm,1.2s
L19K **White Mountain** 42.69 38 P **P** **09 23 38.4 +1.0**
baz=271
H20K **Anotleneega Mo** 42.71 34 P **P** **09 23 38.5 +0.9**
baz=268,SNR=5.3
A21K **Barrow** 42.73 25 P **P** **09 23 38.0 +0.5**
baz=260
I20K **Naaghedeneel** 42.86 35 P **P** **09 23 39.6 +1.0**
baz=269
M19K **Big River Lodg** 42.92 39 P **P** **09 23 41.2 +2.0**
M19K IAmb IAmb 09 23 42.1
comp=Z,6.9nm,0.7s
M19K **Big River Lodg** 42.92 39 P **P** **09 23 40.6 +1.4**
baz=272
N19K **Bonanza Creek** 42.92 40 P **P** **09 23 40.6 +1.3**
baz=273
J20K **Nowinta River** 43.00 35 P **P** **09 23 41.6 +1.8**
J20K **Nowinta River** 43.00 35 P **P** **09 23 41.3 +1.5**
baz=270
C21K **Knifeblade Rid** 43.03 28 P **P** **09 23 41.2 +1.2**
baz=264
K20K **Telida** 43.03 37 P **P** **09 23 42.0 +1.9**
K20K IAmb IAmb 09 23 42.9
comp=Z,8.6nm,0.8s
K20K **Telida** 43.03 37 P **P** **09 23 41.6 +1.4**
baz=271
O19K **Port Alsworth** 43.04 41 P **P** **09 23 41.8 +1.7**
baz=274
L20K **Farewell, AK** 43.14 38 P **P** **09 23 42.2 +1.2**
baz=272
B21K **Ikpikpuk River** 43.14 27 P **P** **09 23 41.3 +0.4**
B21K IAmb IAmb 09 23 45.0
comp=Z,11nm,0.8s
B21K **Ikpikpuk River** 43.14 27 P **P** **09 23 41.7 +0.8**
baz=263,SNR=9.2
IMAR **Indian Mountai** 43.20 33 P **P** **09 23 42.5 +1.1**
F21K **Alatna River** 43.36 31 P **P** **09 23 44.2 +1.5**
F21K **Alatna River** 43.36 31 P **P** **09 23 43.3 +0.6**
baz=267
KURK **Kurchatov** 43.37 305 P **P** **09 23 43.0 0.0**
KURK **Kurchatov** 43.37 305 *c i*P **P** **09 23 42.5 -0.4**
KURK pmax pmax
comp=Z,39nm,0.7s
KURK **Kurchatov** 43.37 305 P **P** **09 23 42.7 -0.3**
KURBB **Kurchatov Arra** 43.45 305 P **P** **09 23 43.4 -0.2**
comp=Z,47nm,0.5s,baz=78,slow=8.8,SNR=343
KURBB PcP **PcP** **09 25 29.7 -0.3**
comp=Z,1.3nm,0.7s,baz=85,slow=3.4,SNR=4.6
KURBB S **S** **09 29 58.9 -5.7**
comp=Z,1.2nm,1.1s,baz=74,slow=15,SNR=4.3
comp=Z,47nm,0.5s
Q19K **Cape Douglas,** 43.48 43 P **P** **09 23 44.3 +0.4**
baz=276
M20K **Styx River** 43.51 39 P **P** **09 23 44.6 +0.5**
baz=273
H21K **Melozitna Rive** 43.58 33 P **P** **09 23 46.1 +1.6**
H21K **Melozitna Rive** 43.58 33 P **P** **09 23 45.1 +0.6**
baz=269
B22K **Teshekpuk Lake** 43.63 26 P **P** **09 23 45.6 +0.8**
B22K **Teshekpuk Lake** 43.63 26 P **P** **09 23 45.1 +0.4**
baz=264
D22K **Ayikyak River** 43.76 29 P **P** **09 23 46.9 +1.1**
D22K IAmb IAmb 09 23 47.6
comp=Z,7.1nm,0.8s
D22K **Ayikyak River** 43.76 29 P **P** **09 23 47.0 +1.1**
baz=266
CHUM **Lake Minchumin** 43.81 36 P **P** **09 23 47.8 +1.5**
baz=272
PPLA **Purkeypile** 43.90 37 P **P** **09 23 48.4 +1.1**
baz=273
I21K **Tanana** 43.92 34 P **P** **09 23 48.6 +1.4**
baz=270
CAST **Castle Rocks** 43.92 37 P **P** **09 23 49.3 +2.0**
CAST IAmb IAmb 09 23 50.2
comp=Z,11nm,0.8s
CAST **Castle Rocks** 43.92 37 P **P** **09 23 48.8 +1.5**
baz=272,SNR=5.5
TOLI2 **Tolitoli** 43.97 210 P **P** **09 23 46.8 -1.3**
N20K **Mount Spurr** 44.00 40 P **P** **09 23 49.0 +1.1**
baz=274
E22K **Anaktuvuk Pass** 44.04 30 P **P** **09 23 48.5 +0.3**
E22K IAmb IAmb 09 23 53.1
comp=Z,23nm,1.3s
E22K **Anaktuvuk Pass** 44.04 30 P **P** **09 23 49.2 +1.1**
baz=268,SNR=7.3
H22K **Ishtalitna Cre** 44.17 33 P **P** **09 23 50.7 +1.5**
baz=270
BPAW **Bear Paw Mtn.** 44.38 36 P **P** **09 23 51.6 +0.7**
BPAW IAmb IAmb 09 23 53.5
comp=Z,7.4nm,0.8s
BPAW **Bear Paw Mtn.** 44.38 36 P **P** **09 23 52.4 +1.4**
baz=272
KTH **Kantishna Hill** 44.44 36 P **P** **09 23 53.3 +1.9**
KTH IAmb IAmb 09 23 54.1
comp=Z,24nm,1.0s
MLY **Manley** 44.45 34 P **P** **09 23 53.6 +2.1**
MLY IAmb IAmb 09 23 54.2
comp=Z,13nm,0.8s
MLY **Manley** 44.45 34 P **P** **09 23 53.0 +1.5**
baz=272,SNR=7.9
D23K **Nanushuk River** 44.49 29 P **P** **09 23 53.2 +1.6**
baz=268
C23K **Itkillik River** 44.55 27 P **P** **09 23 52.8 +0.7**
C23K IAmb IAmb 09 23 56.4
comp=Z,11nm,0.9s
C23K **Itkillik River** 44.55 27 P **P** **09 23 53.3 +1.2**
baz=267
CAPN **Captain Cook N** 44.55 40 P **P** **09 23 51.8 -0.4**
baz=276
COLD **Coldfoot** 44.63 31 P **P** **09 23 53.7 +0.9**
baz=270
SUA **Susitna One** 44.68 39 P **P** **09 23 56.0 +2.6**
SUA IAmb IAmb 09 23 56.7
comp=Z,17nm,0.8s
SUA **Susitna One** 44.68 39 P **P** **09 23 54.5 +1.0**
baz=275
G23K **Bananza Creek** 44.71 32 P **P** **09 23 54.6 +1.1**
G23K IAmb IAmb 09 23 55.5
comp=Z,8.5nm,0.8s
G23K **Bananza Creek** 44.71 32 P **P** **09 23 54.1 +0.6**
baz=271
TRF **Thorofare Moun** 44.73 36 P **P** **09 23 55.6 +1.7**
TRF IAmb IAmb 09 24 19.1
comp=Z,19nm,1.4s
TRF **Thorofare Moun** 44.73 36 P **P** **09 23 54.0 +0.1**
baz=274
E23K **Chandalar** 44.86 30 P **P** **09 23 55.4 +0.6**
baz=270
BRSE **Bradley Lake S** 44.87 42 P **P** **09 23 54.7 -0.2**
baz=277
TOLK **Toolik Lake Re** 44.88 29 P **P** **09 23 55.5 +0.6**
TOLK **Toolik Lake Re** 44.88 29 P **P** **09 23 55.9 +1.0**
baz=269
SHLS **Shalkode** 44.91 294 *i* P **P** **09 23 52.5 -3.1**
SHLS pmax pmax
comp=Z,7.0nm,0.5s
M22K **Willow** 44.95 39 P **P** **09 23 54.6 -0.7**
baz=276
I23K **Minto, Yukon-K** 45.03 34 P **P** **09 23 57.5 +1.5**
I23K IAmb IAmb 09 23 59.3
comp=Z,22nm,1.4s
I23K **Minto, Yukon-K** 45.03 34 P **P** **09 23 57.7 +1.7**
baz=273
D24K **Happy Valley** 45.16 28 P **P** **09 23 57.9 +0.9**
baz=269
NEA2 **Nenana** 45.19 35 P **P** **09 23 58.9 +1.6**
NEA2 **Nenana** 45.19 35 P **P** **09 23 59.0 +1.7**
baz=274,SNR=14
C24K **Franklin Bluff** 45.21 28 P **P** **09 23 58.5 +1.2**
baz=269
UZB **Uzynbulak** 45.22 294 *i* P **P** **09 23 57.4 -0.6**
UZB pmax pmax
comp=Z,2.0nm,0.3s
E24K **Your Creek** 45.28 30 IAmb IAmb 09 24 00.6
comp=Z,17nm,1.4s
E24K **Your Creek** 45.28 30 P **P** **09 23 59.1 +1.0**
baz=271
MCK **McKinley** 45.31 36 P **P** **09 23 59.0 +0.7**
baz=275
RND **Reindeer** 45.38 36 P **P** **09 23 59.9 +1.0**
RND IAmb IAmb 09 24 02.3
comp=Z,27nm,1.5s
RND **Reindeer** 45.38 36 P **P** **09 23 59.9 +1.0**
RND pmax pmax
comp=Z,27nm,1.5s
GHO **Glory Hole Cre** 45.51 39 P **P** **09 24 01.1 +1.1**
MDM **Murphy Dome** 45.52 34 P **P** **09 24 01.6 +1.6**
F24K **Squaw Lake** 45.52 31 P **P** **09 24 01.1 +1.1**
baz=272
H24K **Noodor Dome** 45.61 33 IAmb IAmb 09 24 03.5
comp=Z,17nm,0.8s
H24K **Noodor Dome** 45.61 33 P **P** **09 24 02.5 +1.8**
baz=274
WRH **Wood River Hil** 45.62 35 P **P** **09 24 02.4 +1.7**
WRH IAmb IAmb 09 24 19.8
comp=Z,11nm,1.1s
COLA **College** 45.69 34 P **P** **09 24 03.0 +1.7**
COLA **College** 45.69 34 ⇓ *e*P **P** **09 24 02.9 +1.7**
COLA pmax pmax
comp=Z,21nm,0.9s
COLA **College** 45.69 34 P **P** **09 24 02.4 +1.2**
baz=274
COLA **College** 45.69 34 P **P** **09 24 02.8 +1.6**
G24K **Hadweenzic Riv** 45.72 32 P **P** **09 24 01.1 -0.4**
baz=273
CCB **Clear Creek Bu** 45.73 35 P **P** **09 24 02.8 +1.3**
WUS **Wushi** 45.77 292 P **P** **09 24 03.0 +0.6**
SML **Sawmill** 45.79 39 P **P** **09 24 03.0 +0.9**
SML IAmb IAmb 09 24 05.6
comp=Z,23nm,0.9s
SML **Sawmill** 45.79 39 P **P** **09 24 03.0 +0.9**
SML pmax pmax
comp=Z,23nm,0.9s
SML **Sawmill** 45.79 39 P **P** **09 24 02.5 +0.4**
baz=277
POKR **Poker Plat Res** 45.85 34 P **P** **09 24 04.3 +1.8**
POKR **Poker Plat Res** 45.85 34 P **P** **09 24 03.8 +1.3**
baz=275,SNR=12
D25K **Kavik River** 46.03 28 IAmb IAmb 09 24 08.3
comp=Z,6.1nm,0.6s
D25K **Kavik River** 46.03 28 P **P** **09 24 04.2 +0.3**
baz=272
M23K **Glacier View** 46.07 39 P **P** **09 24 03.9 -0.4**
baz=278
IL31 **46.11 34** P **P** **09 24 05.3 +0.8**
IL31 IAmb IAmb 09 24 06.2
comp=Z,14nm,0.7s
ILAR **Eielson Array** 46.11 34 P **P** **09 24 05.3 +0.8**
ILAR **Eielson Array** 46.11 34 P **P** **09 24 05.3 +0.8**
ILAR **Eielson Array** 46.11 34 P **P** **09 24 05.2 +0.6**
comp=Z,8.3nm,0.7s,baz=270,slow=6.0,SNR=108
ILAR PcP **PcP** **09 25 38.5 -0.6**
comp=Z,1.5nm,0.7s,baz=269,slow=3.3,SNR=4.2
comp=Z,8.3nm,0.7s

HDA **Harding Lake** **46.12** **35** P **P** **09 24 05.5 +0.9**
HDA IAmb IAmb 09 24 06.1
comp=Z,12nm,0.6s
HDA **Harding Lake** **46.12** **35** P **P** **09 24 05.5 +0.9**
baz=276,SNR=6.9
SCM **Sheep Creek Mo** **46.26** **39** P **P** **09 24 06.8 +1.0**
baz=278
G25K **Bearman Lake** **46.26** **32** P **P** **09 24 07.2 +1.5**
baz=274
E25K **Arctic Village** **46.38** **30** P **P** **09 24 07.8 +1.2**
E25K **Arctic Village** **46.38** **30** P **P** **09 24 08.1 +1.4**
baz=273
F25K **Christian Rive** **46.38** **30** P **P** **09 24 08.3 +1.6**
baz=274
H25L **Birch Creek** **46.42** **32** P **P** **09 24 08.6 +1.7**
baz=275,SNR=6.0
P23K **Montague Islan** **46.50** **41** P **P** **09 24 09.8 +2.1**
baz=280
C26K **Camden Bay** **46.52** **27** P **P** **09 24 08.9 +1.2**
baz=272
TARG **Taragay, Kyrgy** **46.56** **293** P **P** **09 24 09.2 +0.3**
TARG IAmb IAmb 09 24 11.8
comp=Z,11nm,0.6s
TARG **Taragay, Kyrgy** **46.56** **293** P **P** **09 24 09.2 +0.3**
TARG pmax pmax
comp=Z,11nm,0.6s
PRP **Porcupine Dome** **46.61** **33** P **P** **09 24 10.3 +1.8**
PRP **Porcupine Dome** **46.61** **33** P **P** **09 24 10.4 +1.8**
baz=276,SNR=19
FYU **Fort Yukon** **46.62** **32** P **P** **09 24 11.2 +2.7**
K24K **Donnelly Dome** **46.70** **36** P **P** **09 24 10.1 +0.9**
baz=277
M24K **Tolsona, Glenn** **46.76** **38** P **P** **09 24 10.7 +1.0**
baz=278
J25K **Salcha River,** **46.77** **35** P **P** **09 24 10.5 +0.6**
baz=277
BMAR **Burnt Mountain** **46.80** **31** P **P** **09 24 12.1 +2.1**
HIN **Hinchinbrook I** **46.88** **40** P **P** **09 24 11.2 +0.6**
F26K **Sheenjek River** **46.95** **30** P **P** **09 24 12.9 +1.9**
baz=275
PAX **Paxson** **46.95** **37** P **P** **09 24 12.0 +0.8**
baz=278
KLU **Klutina** **46.97** **39** P **P** **09 24 12.1 +0.7**
KLU IAmb IAmb 09 24 14.1
comp=Z,27nm,1.2s
KLU **Klutina** **46.97** **39** P **P** **09 24 12.8 +1.4**
baz=279
RIDG **Independent Ri** **47.12** **36** P **P** **09 24 12.7 +0.2**
baz=278
G26K **Porcupine Rive** **47.16** **31** P **P** **09 24 14.9 +2.3**
baz=276
HARP **HAARP** **47.18** **38** P **P** **09 24 14.9 +2.0**
baz=279
EYAK **Cordova Ski Ar** **47.22** **40** P **P** **09 24 13.5 +0.3**
baz=280
BRZS **Berezniki** **47.24** **305** *i* P **P** **09 24 13.0 -0.6**
BRZS pmax pmax
comp=Z,4.0nm,0.5s
SCRK **Sand Creek** **47.46** **35** P **P** **09 24 16.2 +1.0**
baz=279
J26L **Joseph Creek** **47.56** **35** P **P** **09 24 16.6 +0.6**
baz=278
BOOM **Boomskoye usch** **47.57** **294** P **P** **09 24 17.1 +0.6**
BOOM IAmb IAmb 09 24 18.1
comp=Z,14nm,0.7s
BOOM **Boomskoye usch** **47.57** **294** P **P** **09 24 17.1 +0.6**
BOOM pmax pmax
comp=Z,14nm,0.7s
N25K **Chitina, Valde** **47.58** **39** P **P** **09 24 16.6 +0.5**
baz=280
I26K **Coal Creek Min** **47.62** **33** P **P** **09 24 17.2 +0.9**
I26K **Coal Creek Min** **47.62** **33** P **P** **09 24 17.0 +0.7**
baz=278
TKM2 **Tokmak 2** **47.65** **295** P **P** **09 24 17.7 +0.6**
SNR=37
BMRM **Bremner River** **47.69** **39** P **P** **09 24 17.8 +0.9**
baz=281
BVAR **Borovoye Array** **47.76** **310** P **P** **09 24 17.5 0.0**
comp=Z,18nm,0.4s,baz=77,slow=9.8,SNR=105
BVAR PcP **PcP** **09 25 45.3 +0.2**
comp=Z,3.4nm,0.6s,baz=70,slow=3.8,SNR=5.6
BVAR S **S** **09 31 05.2 -1.3**
comp=Z,1.2nm,0.8s,baz=85,slow=18,SNR=4.3
comp=Z,18nm,0.4s
BRVK **Borovoye** **47.81** **310** P **P** **09 24 18.1 +0.2**
BRVK IAmb IAmb 09 24 18.8
comp=Z,9.0nm,0.8s
BRVK **Borovoye** **47.81** **310** *c i* P **P** **09 24 17.8 -0.1**
BRVK pmax pmax
comp=Z,7.0nm,0.6s
BRVK **Borovoye** **47.81** **310** P **P** **09 24 18.0 0.0**
L26K **Log Cabin Wild** **47.90** **36** IAmb IAmb 09 24 21.2
comp=Z,9.1nm,0.7s
L26K **Log Cabin Wild** **47.90** **36** P **P** **09 24 19.8 +1.3**
baz=280,SNR=5.9
NRN **Naryn** **47.93** **293** P **P** **09 24 18.7 -0.7**
NRN **Naryn** **47.93** **293** P **P** **09 24 18.7 -0.7**
NRN pmax pmax
comp=Z,8.0nm,1.4s
BTLS **Baital** **47.94** **298** *i* P **P** **09 24 18.1 -0.9**
BTLS pmax pmax
comp=Z,8.0nm,1.4s
D27M **Malcolm River** **47.95** **28** P **P** **09 24 19.8 +0.9**
baz=276
KAIM **Kayak Island** **47.99** **41** P **P** **09 24 20.9 +1.7**
baz=282
H27K **Steamboat Moun** **48.15** **32** P **P** **09 24 22.4 +2.0**
baz=279
M26K **Nabesna, AK** **48.17** **37** P **P** **09 24 22.6 +1.9**
baz=281
KBK **Karagaybulak** **48.19** **295** P **P** **09 24 21.6 +0.4**
SNR=25
I27K **Kandik River** **48.21** **33** P **P** **09 24 22.4 +1.5**
baz=279
USP **Ospenovka** **48.27** **296** P **P** **09 24 22.0 +0.3**
SNR=8.5
K27K **Chicken** **48.28** **35** IAmb IAmb 09 24 23.9
comp=Z,14nm,0.8s
K27K **Chicken** **48.28** **35** P **P** **09 24 22.6 +1.2**
baz=280
MCARA **McCarthy VSAT** **48.36** **39** P **P** **09 24 23.2 +1.2**
baz=282
CRQE **Cirque** **48.46** **39** P **P** **09 24 23.7 +0.8**
baz=282
AAK **Ala-Archa** **48.51** **295** P **P** **09 24 24.1 +0.5**
SNR=11
AAK **Ala-Archa** **48.51** **295** P **P** **09 24 23.5 -0.2**
AAK **Ala-Archa** **48.51** **295** *ce* P **P** **09 24 23.4 -0.2**
AAK pmax pmax
comp=Z,3.0nm,0.5s
AAK **Ala-Archa** **48.51** **295** LR LR 09 46 06.4
comp=Z,54nm,18.8s,baz=96,slow=38
AAK **Ala-Archa** **48.51** **295** P **P** **09 24 24.0 +0.3**
EGAK **Eagle** **48.54** **34** P **P** **09 24 23.4 0.0**
baz=280
L27K **Beaver Creek,** **48.57** **36** IAmb IAmb 09 24 26.5
comp=Z,14nm,0.8s
L27K **Beaver Creek,** **48.57** **36** P **P** **09 24 25.4 +1.7**
baz=281
F28M **Old Crow** **48.58** **30** P **P** **09 24 25.5 +1.8**
F28M IAmb IAmb 09 24 26.6
comp=Z,10nm,0.8s
F28M **Old Crow** **48.58** **30** P **P** **09 24 25.4 +1.8**
baz=279,SNR=10
M27K **Edge Creek, AK** **48.69** **37** P **P** **09 24 26.3 +1.6**
baz=282
KSH **Kashi** **48.70** **291** P **P** **09 24 29.1 +3.9**
D28M **Stokes Point** **48.73** **28** P **P** **09 24 26.2 +1.5**
baz=278
I28M **Miner Creek** **48.92** **33** IAmb IAmb 09 24 29.3
comp=Z,16nm,0.9s
I28M **Miner Creek** **48.92** **33** P **P** **09 24 27.9 +1.5**
baz=281
EKS2 **Erkin-Say** **48.99** **295** P **P** **09 24 27.5 +0.2**
SNR=7.8
BVCY **Beaver Creek** **49.14** **37** P **P** **09 24 29.4 +1.4**
baz=283
E29M **Blow River** **49.18** **29** IAmb IAmb 09 24 31.1
comp=Z,13nm,0.8s
E29M **Blow River** **49.18** **29** P **P** **09 24 30.2 +2.0**
baz=280,SNR=13
CTG **Chitna Glacier** **49.25** **39** P **P** **09 24 30.3 +1.3**
baz=283
G29M **Pine Creek** **49.41** **31** P **P** **09 24 31.9 +1.9**
G29M IAmb IAmb 09 24 33.3
comp=Z,13nm,0.9s
G29M **Pine Creek** **49.41** **31** P **P** **09 24 31.5 +1.5**
baz=281
H29M **Whitestone** **49.41** **32** IAmb IAmb 09 24 32.7
comp=Z,9.8nm,0.9s
H29M **Whitestone** **49.41** **32** P **P** **09 24 31.6 +1.6**
baz=281
DAWY **Dawson** **49.43** **35** P **P** **09 24 30.5 +0.3**
DAWY **Dawson** **49.43** **35** P **P** **09 24 31.9 +1.7**
baz=282
YUK3 **Moose Creek** **49.47** **38** P **P** **09 24 32.2 +1.4**
baz=283
YUK8 **Steele Glacier** **49.91** **38** P **P** **09 24 35.8 +1.6**
baz=284
EPYK **Eagle Plains** **50.03** **31** P **P** **09 24 36.6 +1.9**
EPYK **Eagle Plains** **50.03** **31** P **P** **09 24 36.7 +1.9**
baz=283,SNR=11
ARSB **Arslanbob** **50.06** **294** P **P** **09 24 36.2 +0.8**
ARSB IAmb IAmb 09 24 38.2
comp=Z,4.7nm,0.6s
ARSB **Arslanbob** **50.06** **294** P **P** **09 24 36.2 +0.8**
ARSB pmax pmax
comp=Z,5.0nm,0.6s
G30M **tAoh Zraii Nji** **50.09** **31** P **P** **09 24 36.6 +1.4**
G30M **tAoh Zraii Nji** **50.09** **31** P **P** **09 24 36.7 +1.5**
baz=283
F30M **Barrier River** **50.12** **30** P **P** **09 24 37.8 +2.5**
baz=282,SNR=11
L29M **L29M** **50.20** **36** P **P** **09 24 38.5 +2.4**
L29M **L29M** **50.20** **36** P **P** **09 24 39.0 +2.9**
baz=284,SNR=8.3
M29M **Somme Creek** **50.22** **37** P **P** **09 24 37.9 +1.6**
baz=284
K29M **Barlow Dome** **50.29** **35** P **P** **09 24 38.6 +1.8**
baz=284
YUK4 **Talbot Arm** **50.42** **38** P **P** **09 24 40.0 +2.0**
baz=285
I30M **Mount Dempster** **50.43** **33** P **P** **09 24 39.9 +2.1**
baz=284
J30M **Hart River** **50.61** **34** P **P** **09 24 40.7 +1.5**
J30M IAmb IAmb 09 24 41.5
comp=Z,4.1nm,0.7s
J30M **Hart River** **50.61** **34** P **P** **09 24 41.1 +1.8**
baz=284
YUK6 **Outpost Mounta** **50.66** **38** P **P** **09 24 41.4 +1.6**
baz=286
INK **Inuvik** **50.79** **29** P **P** **09 24 41.5 +1.2**
INK **Inuvik** **50.79** **29** P **P** **09 24 41.5 +1.2**
INK pmax pmax
comp=Z,24nm,1.3s
INK **Inuvik** **50.79** **29** P **P** **09 24 42.0 +1.7**
baz=284,SNR=10
G31M **Satah River** **50.85** **30** P **P** **09 24 42.0 +1.2**
G31M **Satah River** **50.85** **30** P **P** **09 24 42.1 +1.3**
baz=284,SNR=8.3
F31M **Tsiigehtchic** **50.92** **30** P **P** **09 24 42.7 +1.4**
F31M IAmb IAmb 09 24 43.4
comp=Z,9.6nm,0.9s
F31M **Tsiigehtchic** **50.92** **30** P **P** **09 24 42.6 +1.4**
baz=284,SNR=5.9
M30M **Mino, Yukon** **50.93** **36** P **P** **09 24 43.5 +1.9**
baz=286
KK31 **Karatay Array** **51.02** **297** P **P** **09 24 42.2 -0.3**
KK31 IAmb IAmb 09 24 42.9
comp=Z,7.7nm,0.8s
KK31 **Karatay Array** **51.02** **297** P **P** **09 24 42.2 -0.3**
KK31 pmax pmax
comp=Z,8.0nm,0.8s
KKAR **Karatay Array** **51.02** **297** P **P** **09 24 42.1 -0.4**
KKAR **Karatay Array** **51.02** **297** P **P** **09 24 42.1 -0.4**
MAYO **Mayo, Yukon** **51.05** **35** P **P** **09 24 44.0 +1.6**
MAYO **Mayo, Yukon** **51.05** **35** P **P** **09 24 44.1 +1.7**
baz=286
HYT **Haines Junctio** **51.10** **38** P **P** **09 24 45.2 +2.3**
HYT **Haines Junctio** **51.10** **38** P **P** **09 24 45.8 +2.9**
baz=286,SNR=11
H31M **Peel River** **51.10** **32** P **P** **09 24 45.2 +2.4**
baz=285
N30M **Aishikik Lake** **51.11** **38** P **P** **09 24 45.6 +2.7**
baz=286
P29M **Windy Craggy** **51.33** **40** P **P** **09 24 46.9 +2.3**
baz=287
P30M **Million Dollar** **51.56** **39** P **P** **09 24 48.6 +2.2**
baz=287
O30N **Mendenhall** **51.77** **38** P **P** **09 24 49.9 +2.0**
baz=288
SVE **Sverdlovsk** **52.00** **317** *e* P **P** **09 24 50.2 +0.6**
SVE pmax pmax
comp=Z,13nm,0.9s
PLBC **Pleasant Camp** **52.05** **40** P **P** **09 24 51.8 +1.9**
baz=288
M31M **Dry Creek, Y** **52.11** **36** P **P** **09 24 52.1 +1.8**
baz=288
WHY **Whitehorse** **52.37** **38** P **P** **09 24 53.8 +1.4**
baz=289
A36M **Sachs Harbour** **52.48** **23** P **P** **09 24 54.0 +1.2**
A36M IAmb IAmb 09 24 55.7
comp=Z,15nm,0.9s
A36M **Sachs Harbour** **52.48** **23** P **P** **09 24 54.1 +1.2**
baz=288,SNR=16
FARO **Faro, Yukon** **52.57** **36** P **P** **09 24 54.3 +0.5**
FARO **Faro, Yukon** **52.57** **36** P **P** **09 24 55.4 +1.6**
baz=289
GAR **Garm** **52.90** **293** P **P** **09 24 55.6 -1.0**
N32M **Quiet Lake** **53.04** **37** P **P** **09 24 57.5 +0.2**
baz=290
ARU **Arti** **53.22** **317** *d i* P **P** **09 24 58.6 +0.1**
ARU *PP **pP** **09 25 20.5 -1.3**
ARU S **S** **09 32 22.8 +0.9**
ARU SS **SS** **09 36 01.3 -0.8**
ARU pmax pmax
comp=Z,12nm,1.0s
ARU **Arti** **53.22** **317** LR LR 09 49 38.0
comp=Z,26nm,18.0s,baz=324,slow=38
P32M **Atlin** **53.28** **39** P **P** **09 25 00.8 +1.8**
baz=290
NIL **Nilore** **53.30** **285** P **P** **09 25 00.7 +1.2**
NIL **Nilore** **53.30** **285** P **P** **09 25 00.7 +1.2**
NIL pmax pmax
comp=Z,17nm,0.9s
P33M **Teslin, Yukon** **53.49** **38** P **P** **09 25 02.4 +1.8**
P33M IAmb IAmb 09 25 03.5
comp=Z,9.5nm,0.9s
P33M **Teslin, Yukon** **53.49** **38** P **P** **09 25 02.3 +1.8**
baz=290
C36M **Paulatuk** **53.75** **26** P **P** **09 25 02.9 +0.7**
C36M **Paulatuk** **53.75** **26** P **P** **09 25 03.2 +1.0**
baz=291,SNR=10
CHGR **Chuyangaron** **53.86** **293** P **P** **09 25 03.4 -0.2**
CHGR **Chuyangaron** **53.86** **293** P **P** **09 25 03.4 -0.2**
CHGR pmax pmax
comp=Z,23nm,0.7s
SIMJ **Simiganj** **53.96** **293** P **P** **09 25 04.0 -0.5**
SIMJ IAmb IAmb 09 25 05.2
comp=Z,14nm,1.1s
SIMJ **Simiganj** **53.96** **293** P **P** **09 25 03.9 -0.5**
SIMJ pP **pP** **09 25 27.8 0.0**
R33M **Jennings River** **54.66** **39** P **P** **09 25 11.0 +1.9**
baz=292
TGTN **Hyland Airport** **55.07** **36** P **P** **09 25 13.7 +1.8**
baz=293
ABKAR **Akbulak array** **55.23** **308** P **P** **09 25 13.0 -0.2**
JAGI **Jajag, Banyuwa** **55.33** **213** P **P** **09 25 14.6 +0.3**
WTLY **Watson Lake, Y** **55.39** **37** P **P** **09 25 16.0 +1.7**
WTLY IAmb IAmb 09 25 16.5
comp=Z,6.6nm,0.9s
WTLY **Watson Lake, Y** **55.39** **37** P **P** **09 25 15.8 +1.6**
baz=293
DLBC **Dease Lake** **55.48** **40** P **P** **09 25 16.5 +1.5**
baz=294
KBL **Kabul** **55.90** **288** P **P** **09 25 17.6 -0.9**
KBL IAmb IAmb 09 25 18.8
comp=Z,9.9nm,1.0s
KBL **Kabul** **55.90** **288** P **P** **09 25 17.6 -0.9**
KBL pmax pmax
comp=Z,10.0nm,1.0s
T35M **Bob Quinn** **55.97** **41** P **P** **09 25 21.1 +2.6**
baz=294
ALE **Alert** **55.99** **4** P **P** **09 25 18.7 +0.5**
HOPEN **Hopen** **56.00** **345** *e* P **P** **09 25 18.8 +0.4**
HOPEN IAmb IAmb 09 25 26.0
comp=Z,61nm,1.3s
EUNU **Eureka** **56.12** **9** P **P** **09 25 19.6 +0.4**
EUNU IAmb IAmb 09 25 20.4
comp=Z,6.6nm,0.9s
WRGLY **Wrigley** **56.41** **33** P **P** **09 25 23.1 +1.7**
WRGLY IAmb IAmb 09 25 23.6
comp=Z,8.5nm,1.0s
WRGLY **Wrigley** **56.41** **33** P **P** **09 25 23.1 +1.7**
baz=296
SPA0 **Spitsbergen Ar** **56.44** **348** *e* P **P** **09 25 23.4 +1.9**
SPA0 IAmb IAmb 09 25 30.2
comp=Z,30nm,1.1s
SPITS **Spitsbergen Ar** **56.44** **348** P **P** **09 25 22.4 +0.9**
comp=Z,2.4nm,0.6s,baz=54,slow=9.7,SNR=6.4
comp=Z,2.4nm,0.6s
KIRV **Kirov** **56.90** **321** *de* P **P** **09 25 24.9 0.0**
NOR **Nord** **56.91** **356** *e* P **P** **09 25 24.7 0.0**
NOR IAmb IAmb 09 25 25.4
comp=Z,5.1nm,0.9s
KNRA **Kununurra** **57.74** **194** P **P** **09 25 31.4 +0.2**
RES **Resolute Bay** **58.63** **15** P **P** **09 25 37.0 +0.2**
RES IAmb IAmb 09 25 37.8
comp=Z,8.3nm,0.7s
RES **Resolute Bay** **58.63** **15** P **P** **09 25 37.0 +0.2**
RES pmax pmax
comp=Z,8.0nm,0.7s
VADS **Vadso** **58.66** **338** *e* P **P** **09 25 37.3 +0.2**
BBB **Bella Bella** **59.23** **46** LR LR 09 52 41.7
comp=Z,36nm,18.0s,baz=262,slow=37
ARA0 **ARCESS Array S** **60.09** **339** *e* P **P** **09 25 46.7 -0.3**
ARCES **ARCESS Array B** **60.09** **339** P **P** **09 25 46.8 -0.2**
comp=Z,4.1nm,0.9s,baz=17,slow=1.3,SNR=11
ARCES LR LR 09 56 07.9
comp=Z,38nm,18.2s,baz=60,slow=40
comp=Z,4.1nm,0.9s
KLMR **Klimovskoe** **60.21** **326** *e* P **P** **09 25 44.7 -3.2**
KLMR pmax pmax
comp=Z,22nm,1.8s
YKA **Yellowknife Ar** **60.31** **31** P **P** **09 25 49.1 +0.6**
comp=Z,2.3nm,0.9s,baz=304,slow=6.7,SNR=30
YKA PcP **PcP** **09 26 33.5 +0.8**
comp=Z,2.2nm,0.8s,baz=304,slow=4.3,SNR=10
YKA LR LR 09 58 36.7
comp=Z,70nm,18.1s,baz=304,slow=42
comp=Z,2.3nm,0.9s
BELG **Belogornoye** **60.72** **315** *ce* P **P** **09 25 51.1 -0.4**
BELG pmax pmax
comp=Z,1.0nm,0.4s
WB0 **Warramunga Arr** **60.97** **187** P **P** **09 25 52.2 -1.3**
WB0 IAmb IAmb 09 25 55.1
comp=Z,6.8nm,0.8s
KTK1 **Kautokeino** **61.04** **339** *e* P **P** **09 25 53.7 +0.3**
KTK1 IAmb IAmb 09 25 57.2
comp=Z,20nm,1.1s
WR0 **Warramunga Arr** **61.14** **187** P **P** **09 25 53.8 -0.9**
WR0 IAmb IAmb 09 25 54.6
comp=Z,6.3nm,0.5s
WB2 **Warramunga Arr** **61.14** **187** P **P** **09 25 54.0 -0.7**
WB2 IAmb IAmb 09 25 55.0
comp=Z,5.9nm,0.8s
WRA **Warramunga Arr** **61.14** **187** P **P** **09 25 53.8 -0.9**
WRA **Warramunga Arr** **61.14** **187** *i* P **P** **09 25 53.7 -0.9**
WRA pmax pmax
comp=Z,5.0nm,0.4s
WRA **Warramunga Arr** **61.14** **187** P **P** **09 25 53.8 -0.9**
comp=Z,6.6nm,0.6s,baz=3.7,slow=7.0,SNR=56
WRA pP **pP** **09 26 17.1 -1.5**
comp=Z,3.2nm,0.6s,baz=2.0,slow=6.8,SNR=4.4
comp=Z,6.6nm,0.6s
NEEM **North Greenlan** **61.40** **3** *e* P **P** **09 25 56.3 +0.1**
NEEM IAmb IAmb 09 25 56.9
comp=Z,6.5nm,0.8s
GEYT **Alibeck** **61.78** **297** P **P** **09 25 58.1 -0.8**
GEYT IAmb IAmb 09 25 59.2
comp=Z,8.1nm,0.7s
GEYT **Alibeck** **61.78** **297** P **P** **09 25 58.5 -0.4**
comp=Z,6.4nm,0.5s,baz=352,slow=4.5,SNR=10
comp=Z,6.4nm,0.5s
GYA0 **ALIBECK ARRAY** **61.78** **297** P **P** **09 25 58.8 -0.2**
GYA0 pmax pmax
comp=Z,7.0nm,0.6s
GYA0B **ALIBECK ARRAY** **61.78** **297** P **P** **09 25 58.8 -0.1**
GYA0B IAmb IAmb 09 25 59.6
comp=Z,6.7nm,0.7s
JOF **Joensuu** **62.27** **331** *e* P **P** **09 26 01.6 -0.1**
BRLDA **Berland Lookou** **63.74** **40** P **P** **09 26 13.0 +1.2**
BRLDA IAmb IAmb 09 26 13.2
comp=Z,9.7nm,0.9s
STEI **Steigen** **63.92** **340** IAmb IAmb 09 26 12.3
comp=Z,37nm,1.4s
STEI *e* P **P** **09 26 12.5 -0.1**
FAUS **Fauske** **64.32** **340** *e* P **P** **09 26 15.5 +0.3**
VRH **Novokhopyorsk** **64.45** **317** *e* P P 09 26 11.5 -4.8
VRH pmax pmax
comp=Z,8.0nm,0.5s
OBN **Obninsk** **64.72** **322** *de* P **P** **09 26 17.8 -0.2**
OBN *e* 09 28 40.6
OBN pmax pmax
comp=Z,7.0nm,0.8s
AS31 **Alice Springs** **64.87** **187** P **P** **09 26 18.6 -0.7**
ASAR **Alice Springs** **64.87** **187** P **P** **09 26 19.1 -0.2**
ASAR **Alice Springs** **64.87** **187** P **P** **09 26 19.1 -0.2**
ASAR **Alice Springs** **64.87** **187** P **P** **09 26 18.9 -0.4**
comp=Z,2.9nm,0.7s,baz=3.0,slow=7.0,SNR=21
ASAR pP **pP** **09 26 42.4 -1.1**
comp=Z,3.2nm,0.8s,baz=12,slow=6.4,SNR=6.2
ASAR PKP2bc 09 55 08.3
comp=Z,0.7nm,1.0s,baz=199,slow=2.5,SNR=4.6
comp=Z,2.9nm,0.7s
KEF **Keuruu** **65.05** **332** *e* P **P** **09 26 19.6 -0.5**
LPSR **Galich'ya Gora** **65.07** **319** *e* P **P** **09 26 17.5 -2.8**
LPSR pmax pmax
comp=Z,9.0nm,0.6s
FIA1 **FINESS Array S** **65.10** **331** P **P** **09 26 20.4 0.0**
FINES **FINESS Array B** **65.11** **331** P **P** **09 26 20.0 -0.4**
FINES **FINESS Array B** **65.11** **331** P **P** **09 26 20.1 -0.3**
comp=Z,14nm,0.5s,baz=48,slow=8.0,SNR=110
FINES pP **pP** **09 26 43.8 -0.7**
comp=Z,3.8nm,0.8s,baz=46,slow=5.5,SNR=2.7
FINES LR LR 09 56 15.8
comp=Z,46nm,18.4s,baz=35,slow=37
comp=Z,14nm,0.5s
VAF **Ylistaro** **65.21** **334** *e* P **P** **09 26 21.9 +0.9**
MOR8 **Moi Rana** **65.44** **339** *e* P **P** **09 26 21.1 -1.4**
VSR **Storozhevoye** **65.76** **318** *e* P **P** **09 26 21.1 -3.7**
VSR pmax pmax
comp=Z,9.0nm,0.7s
EDM **Edmonton** **66.20** **39** P **P** **09 26 28.6 +1.0**
EDM IAmb IAmb 09 26 29.2
comp=Z,7.3nm,0.8s
EDM **Edmonton** **66.20** **39** P **P** **09 26 28.7 +1.0**
EDM pmax pmax
comp=Z,7.0nm,0.8s
MXC **Moxie City** **66.53** **48** P **P** **09 26 31.4 +1.5**
MEF **Metsahovi** **66.54** **331** *e* P **P** **09 26 28.8 -0.8**
SUMG **Summit** **66.55** **360** P **P** **09 26 30.6 +0.6**
SUMG IAmb IAmb 09 26 31.6
comp=Z,24nm,1.4s
SUMG **Summit** **66.55** **360** P **P** **09 26 30.6 +0.6**
SUMG pmax pmax
comp=Z,24nm,1.4s
SUMG **Summit** **66.55** **360** *i* P **P** **09 26 30.0 0.0**
SUMG IAmb IAmb 09 26 31.4
comp=Z,5.4nm,0.6s
E07A **Sunnyside** **66.79** **48** P **P** **09 26 32.7 +1.2**
E07A IAmb IAmb 09 26 33.3
comp=Z,5.5nm,0.7s
VSU **Vasula** **66.83** **329** *ce* P **P** **09 26 31.8 +0.3**
VSU pmax pmax
comp=Z,43nm,2.5s
RAF **Rauma** **66.92** **333** *e* P **P** **09 26 31.8 -0.2**
C09A **Chrisman Ranch** **66.93** **46** P **P** **09 26 33.8 +1.4**
C09A IAmb IAmb 09 26 34.2
comp=Z,7.4nm,0.8s
D08A **Wollman Farm,** **67.02** **47** IAmb IAmb 09 26 34.8
comp=Z,7.8nm,0.6s
HAWA **Hanford** **67.07** **48** P **P** **09 26 34.5 +1.3**
HAWA IAmb IAmb 09 26 35.5
comp=Z,7.4nm,0.7s
F07A **Phinny Hill Vi** **67.14** **48** P **P** **09 26 35.6 +2.0**
I05D **Terrebonne, OR** **67.24** **51** P **P** **09 26 36.0 +1.5**
I05D IAmb IAmb 09 26 36.5
comp=Z,5.5nm,0.7s
E08A **Dider Farm, El** **67.27** **48** P **P** **09 26 35.3 +0.7**
NEW **Newport** **67.28** **45** P **P** **09 26 35.3 +0.7**
NEW **Newport** **67.28** **45** P **P** **09 26 35.3 +0.7**
NEW pmax pmax
comp=Z,4.0nm,1.2s
NEW **Newport** **67.28** **45** P **P** **09 26 35.5 +0.9**
baz=307
MSVF **Nonsavu** **67.82** **142** P **P** **09 26 40.4 +2.1**
KIV **Kislovodsk** **68.13** **310** P **P** **09 26 40.8 +0.8**
KIV IAmb IAmb 09 26 42.0

KIV **Kislovodsk** 68.13 310 *e*P P 09 26 40.9 +0.8
KIV pmax pmax
comp=Z,14nm,0.9s
AAL **Aland** 68.14 333 *e*P P 09 26 38.7 -1.0
KBZ **Khabaz** 68.14 309⇑ *e*P P 09 26 40.1 +0.1
KBZ pmax pmax
comp=Z,2.0nm,0.5s
KBZ **Khabaz** 68.14 309 P P 09 26 40.2 +0.2
comp=Z,3.2nm,0.5s,baz=87,slow=1.7,SNR=15
comp=Z,3.2nm,0.5s
I07A **Izee** 68.45 50 P P 09 26 43.4 +1.2
I07A IAmb IAmb 09 27 02.8
comp=Z,13nm,1.4s
KCPM **Cahto Peak** 68.61 56 P P 09 26 44.6 +1.4
MNK **Minsk** 69.01 325 *i* P P 09 26 43.5 -1.7
MNK *i* *PP PcP 09 27 08.7 -0.1
MNK *i* 09 29 17.0
MNK *i* PPP PPP 09 30 58.4
MNK *i* S S 09 35 41.2 -1.0
MNK *i* *SS SKiKP 09 36 25.0 -1.3
MNK *i* SS SS 09 40 09.8 +1.2
MNK pmax pmax
comp=N,6.0nm,0.8s
MNK pmax pmax
comp=E,3.0nm,0.7s
MNK pmax pmax
comp=Z,15nm,0.8s
MNK MLR MLR
comp=E,51nm,20.0s
MNK MLR MLR
comp=N,138nm,20.0s
MNK MLR MLR
comp=Z,34nm,15.0s
ISAL **Salakas** 69.03 327 *e*P P 09 26 46.2 +0.8
BMO **Blue Mountains** 69.24 48 IAmb IAmb 09 26 49.0
comp=Z,8.3nm,0.9s
J08A **Circle Bar Ran** 69.49 50 P P 09 26 49.9 +1.3
PLID **Pearl Lake** 69.83 47 P P 09 26 51.5 +0.7
PABE **Paberze** 69.97 327 P P 09 26 51.2 +0.2
PABE **Paberze** 69.97 327 *e*P P 09 26 50.9 -0.1
ORV **Oroville** 69.98 55 P P 09 26 52.1 +0.6
ORV IAmb IAmb 09 26 53.0
comp=Z,9.1nm,0.7s
ORV **Oroville** 69.98 55 P P 09 26 52.1 +0.6
ORV pmax pmax
comp=Z,9.0nm,0.7s
ICESG **Greenland Ices** 70.05 0 *e*P P 09 26 52.2 +0.4
ICESG IAmb IAmb 09 26 53.4
comp=Z,8.6nm,0.8s
NC405 **NORSAR Array S** 70.12 337 P P 09 26 51.8 -0.2
NC405 IAmb IAmb 09 26 52.6
comp=Z,12nm,0.6s
DOMB **Dombas** 70.15 338 *e*P P 09 26 52.1 0.0
DOMB IAmb IAmb 09 26 53.1
comp=Z,11nm,1.0s
HFS **Hagfors** 70.27 335 P P 09 26 52.6 -0.3
comp=Z,5.2nm,0.4s,baz=40,slow=4.8,SNR=38
HFS LR LR 10 01 20.0
comp=Z,26nm,20.1s,baz=66,slow=39
comp=Z,5.2nm,0.4s
NC204 **NORSAR Array S** 70.27 337 P P 09 26 53.2 +0.2
NC204 IAmb IAmb 09 26 53.7
comp=Z,17nm,0.7s
NB201 **NORSAR Array S** 70.29 337 P P 09 26 53.1 +0.1
NB201 IAmb IAmb 09 26 55.8
comp=Z,28nm,1.4s
FFC **Flin Flon** 70.31 33 P P 09 26 53.7 +0.5
FFC IAmb IAmb 09 26 54.7
comp=Z,11nm,0.8s
FFC **Flin Flon** 70.31 33 P P 09 26 53.7 +0.5
FFC pmax pmax
comp=Z,11nm,0.8s
FFC **Flin Flon** 70.31 33 P P 09 26 53.7 +0.5
NB2 **NORSAR Subarra** 70.33 337 P P 09 26 52.6 -0.7
comp=Z,4.1nm,0.6s,baz=39,slow=6.5
NB2 **NORSAR Subarra** 70.33 337 P P 09 26 52.6 -0.7
baz=39,slow=6.5
NOA **NORSAR Array B** 70.33 337 P P 09 26 53.2 -0.1
comp=Z,5.6nm,0.6s,baz=38,slow=6.2,SNR=36
NOA pP PcP 09 27 16.6 +2.3
comp=Z,2.0nm,0.8s,baz=37,slow=6.1,SNR=3.3
NOA LR LR 10 02 46.1
comp=Z,15nm,18.5s,baz=45,slow=40
comp=Z,5.6nm,0.6s
NBO00 **NORSAR Array S** 70.46 337 IAmb IAmb 09 26 54.6
comp=Z,10nm,0.7s
NC602 **NORSAR Array S** 70.47 336 *e*P P 09 26 54.0 0.0
NORES **NORESS Array B** 70.47 336 P P 09 26 54.2 +0.1
UOSS **Minazif** 70.47 286 P P 09 26 54.2 -0.5
VIKU **Vikbolandet** 70.52 333 *e*P P 09 26 53.3 -1.1
AKN **Aaknes** 70.60 339 *e*P P 09 26 55.4 +0.5
AFDM **Forest Hills D** 70.68 55 P P 09 26 56.2 +0.5
AKASG **Malin Array Be** 70.96 321 P P 09 26 57.1 -0.1
AKASG **Malin Array Be** 70.96 321 P P 09 26 57.1 -0.1
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG **Malin Array Be** 70.96 321 P P 09 26 56.7 -0.5
comp=Z,5.8nm,0.5s,baz=44,slow=6.2,SNR=56
comp=Z,5.8nm,0.5s
AKBB **Malin Array Si** 70.96 321 P P 09 26 57.0 -0.2
AKBB IAmb IAmb 09 26 57.5
comp=Z,8.5nm,0.7s
AKBB **Malin Array Si** 70.96 321⇑ *e*P P 09 26 56.6 -0.6
MFID **Camas Ranch** 70.97 49 IAmb IAmb 09 26 59.2
comp=Z,5.9nm,0.7s
KIEV **Kiev** 70.97 321 P P 09 26 56.7 -0.6
KIEV IAmb IAmb 09 26 57.5
comp=Z,7.6nm,0.7s
KIEV **Kiev** 70.97 321 P P 09 26 56.7 -0.6
KIEV pmax pmax
comp=Z,8.0nm,0.7s
KIEV **Kiev** 70.97 321 P P 09 26 56.8 -0.6
KIEV pP pP 09 27 20.6 -1.2
AK05 **Malin Array Si** 71.03 321 P P 09 26 57.2 -0.4
AK05 IAmb IAmb 09 26 57.8
comp=Z,12nm,0.6s
PAHR **Pah Rah Range** 71.18 54 P P 09 27 00.2 +1.2
PAHR IAmb IAmb 09 27 01.1
comp=Z,10nm,0.8s
EMB **Emerald Bay** 71.19 54 P P 09 27 00.6 +1.4
EMB IAmb IAmb 09 27 01.3
comp=Z,18nm,0.8s
EGMT **Eagleton** 71.27 42 IAmb IAmb 09 27 01.0
comp=Z,14nm,0.8s
EGMT **Eagleton** 71.27 42 P P 09 27 00.3 +1.1
baz=311,SNR=10
PNTR **Pine Nut** 71.43 54 IAmb IAmb 09 27 03.0
comp=Z,12nm,0.9s
SKAR **Skarslia** 71.47 338 *e*P P 09 27 00.7 +0.5
HYA **Hoyanger** 71.66 339 *e*P P 09 27 01.5 +0.2
HLID **Hailey** 71.67 48 P P 09 27 03.2 +1.3
HLID **Hailey** 71.67 48 P P 09 27 03.4 +1.5
baz=310,SNR=8.0
YERR **Yerington** 71.72 54 P P 09 27 04.1 +1.8
YERR IAmb IAmb 09 27 04.5
comp=Z,15nm,0.8s
SFJD **Kangerlussuaq** 71.77 5 *e*P P 09 27 02.2 +0.3
SFJD **Kangerlussuaq** 71.77 5 P P 09 27 01.7 -0.1
comp=Z,6.1nm,0.8s,baz=43,slow=5.1,SNR=3.9
SFJD LR LR 10 00 17.9
comp=Z,53nm,18.1s,baz=195,slow=37
comp=Z,6.1nm,0.8s
GURO **Guroymak-BITLI** 71.80 305 P P 09 27 03.0 +0.3
GURO IAmb IAmb 09 27 04.2
comp=Z,6.1nm,0.7s
BOZ **Bozeman (W)** 71.88 45 P P 09 27 04.1 +1.0
BOZ IAmb IAmb 09 27 05.1
comp=Z,12nm,0.8s
BOZ **Bozeman (W)** 71.88 45 P P 09 27 04.1 +1.0
BOZ pmax pmax
comp=Z,12nm,0.8s
BOZ **Bozeman (W)** 71.88 45 P P 09 27 04.3 +1.2
baz=311,SNR=19
WAKR **Walker** 71.89 55 P P 09 27 04.9 +1.6
KONO **Kongsberg** 71.92 336 *e*P P 09 27 02.9 +0.1
STRU **Stroemstad** 71.93 335 *e*P P 09 27 03.1 +0.3
SUE **Sulen** 72.13 339 *e*P P 09 27 04.3 +0.3
KVN **Kaiserville** 72.37 53 P P 09 27 07.6 +1.4
KVN IAmb IAmb 09 27 08.4
comp=Z,14nm,0.7s
RYN **Ryan** 72.38 54 P P 09 27 06.9 +0.7
DY2G **Dye2** 72.52 3 *e*P P 09 27 07.1 +0.5
DY2G IAmb IAmb 09 27 07.7
comp=Z,14nm,0.8s
YHL **Hebgen Lake** 72.61 45 P P 09 27 08.3 +0.7
YHL IAmb IAmb 09 27 09.9
comp=Z,7.9nm,0.8s
LHV **Little Huntoon** 72.62 54 IAmb IAmb 09 27 10.4
comp=Z,14nm,0.8s
NVAR **Mina Array Bea** 72.64 54 P P 09 27 08.9 +1.1
NVAR **Mina Array Bea** 72.64 54 P P 09 27 09.2 +1.5
comp=Z,6.5nm,0.7s,baz=293,slow=5.9,SNR=77
comp=Z,6.5nm,0.7s
MDPB **Devils Postpil** 72.66 55 P P 09 27 09.0 +1.1
STKA **Stephens Creek** 72.69 180 P P 09 27 08.2 +0.5
comp=Z,2.8nm,0.8s,baz=335,slow=7.9,SNR=7.9
comp=Z,2.8nm,0.8s
NV11 **Mina Array Sit** 72.72 54 P P 09 27 09.6 +1.3
MLAC **Mammoth, Mammo** 72.81 55 P P 09 27 10.2 +1.3
baz=309
ELK **Elko** 73.00 51 P P 09 27 11.3 +1.4
SORM **Soroca** 73.12 320 P P 09 27 09.4 -0.8
LKWY **Lake** 73.22 45 P P 09 27 13.6 +2.4
LKWY IAmb IAmb 09 27 14.8
comp=Z,12nm,1.3s
H17A **Grant Village** 73.23 45 IAmb IAmb 09 27 15.1
comp=Z,16nm,1.0s
H17A **Grant Village** 73.23 45 P P 09 27 13.6 +2.3
baz=312,SNR=9.8
HORU **Horodok** 73.30 322 P P 09 27 10.7 -0.5
IMW **Indian Meadow** 73.37 46 P P 09 27 13.9 +1.8
IMW IAmb IAmb 09 27 14.9
comp=Z,9.6nm,0.8s
FLWY **Flagg Ranch** 73.38 46 P P 09 27 12.7 +0.7
FXWY **Fox Creek** 73.49 46 P P 09 27 14.7 +1.9
DSP **Deep Springs** 73.51 55 P P 09 27 14.1 +1.4
DSP IAmb IAmb 09 27 15.3
comp=Z,9.0nm,0.9s
TPH **Tonopah** 73.52 54 P P 09 27 13.9 +0.9
MOOW **Moose Ponds** 73.57 46 IAmb IAmb 09 27 16.0
comp=Z,16nm,1.4s
MZP **Montezuma Peak** 73.66 54 P P 09 27 14.6 +0.7
DGMT **Dagmar** 73.69 39 P P 09 27 13.3 -0.3
DGMT IAmb IAmb 09 27 15.1
comp=Z,14nm,1.0s
DGMT **Dagmar** 73.69 39 P P 09 27 14.1 +0.5
baz=314
LOHW **Long Hollow** 73.74 46 P P 09 27 14.6 +0.4
HVU **Hansel Valley** 73.74 49 P P 09 27 14.7 +0.5
SNOW **Snow King Moun** 73.76 46 P P 09 27 15.8 +1.5
REDW **Red Top Meadow** 73.77 46 P P 09 27 15.8 +1.4
PKM **Mcpherson Peak** 73.92 58 P P 09 27 17.0 +1.6
baz=309
LAO **LASA Array** 73.94 41 IAmb IAmb 09 27 17.1
comp=Z,12nm,1.0s
LAO **LASA Array** 73.94 41 P P 09 27 16.6 +1.5
baz=314,SNR=6.0
CWC **Cottonwood Cre** 74.03 56 P P 09 27 16.7 +0.8
baz=310
GRAC **Grapevine Rang** 74.12 55 P P 09 27 17.8 +1.5
GRAC IAmb IAmb 09 27 18.7
comp=Z,14nm,0.7s
GRAC **Grapevine Rang** 74.12 55 P P 09 27 17.9 +1.6
baz=310,SNR=7.5
BGU **Big Grassy Mou** 74.16 49 P P 09 27 17.1 +0.5
SPUT **South Promonto** 74.24 49 P P 09 27 18.3 +1.3
R11B **Troy Canyon, C** 74.33 53 IAmb IAmb 09 27 19.9
comp=Z,12nm,1.4s
R11B **Troy Canyon, C** 74.33 53 P P 09 27 19.0 +1.3
baz=310,SNR=12
ARVC **Arvin** 74.39 57 P P 09 27 18.9 +1.1
baz=310
HWUT **Hardware Ranch** 74.54 48 P P 09 27 20.3 +1.5
HWUT IAmb IAmb 09 27 21.3
comp=Z,12nm,1.1s
MPMC **Manual Prospec** 74.64 55 P P 09 27 20.7 +1.2
baz=310,SNR=9.9
S11A **Rachel** 74.69 53 P P 09 27 21.1 +1.3
S11A IAmb IAmb 09 27 22.1
comp=Z,16nm,0.7s
WCT **Wildcat Mounta** 74.70 54 P P 09 27 20.9 +1.1
DUG **Dugway, Tooele** 74.76 50 P P 09 27 21.5 +1.4
DUG IAmb IAmb 09 27 22.4
comp=Z,20nm,1.4s
DUG **Dugway, Tooele** 74.76 50 P P 09 27 21.5 +1.4
DUG pmax pmax
comp=Z,19nm,1.4s
DUG **Dugway, Tooele** 74.76 50 P P 09 27 21.6 +1.4
baz=311,SNR=9.3
FURC **Furnace Creek,** 74.77 55 P P 09 27 21.9 +2.0
baz=310,SNR=13
BW06 **Boulder Array** 74.87 46 P P 09 27 21.7 +0.9
baz=312,SNR=12
PD31 **Pinedale Array** 74.87 46 P P 09 27 21.6 +0.8
PD31 IAmb IAmb 09 27 22.0
comp=Z,6.5nm,0.7s
PDAR **Pinedale Array** 74.87 46 P P 09 27 21.2 +0.4
PDAR **Pinedale Array** 74.87 46 P P 09 27 21.5 +0.7
comp=Z,6.0nm,0.7s,baz=268,slow=1.6,SNR=79
comp=Z,6.0nm,0.7s
LRMC **Laurel Mtn Rad** 74.89 56 P P 09 27 21.5 +0.6
baz=310
TCUT **Toone Canyon** 74.95 48 P P 09 27 22.6 +1.3
TCUT IAmb IAmb 09 27 23.6
comp=Z,10nm,0.9s
BUR08 **Bucovina Ar. S** 74.98 321 P P 09 27 20.9 -0.3
BUR08 IAmb IAmb 09 27 22.2
comp=Z,7.0nm,0.6s
BURAR **Bucovina Array** 75.00 321 P P 09 27 19.7 -1.5
BURAR IAmb IAmb 09 27 22.5
comp=Z,6.6nm,0.7s
BURAR **Bucovina Array** 75.00 321 P P 09 27 19.7 -1.5
BURAR pmax pmax
comp=Z,7.0nm,0.6s
CTU **Camp Tracy** 75.04 49 P P 09 27 22.7 +1.0
GWY **Greenwater Val** 75.07 55 P P 09 27 23.2 +1.3
GWY IAmb IAmb 09 27 23.9
comp=Z,9.3nm,0.8s
EDW2 **Edwards Air Fo** 75.08 57 P P 09 27 22.9 +1.0
baz=310
QSM **Queen of Sheba** 75.09 55 P P 09 27 23.2 +1.3
QSM IAmb IAmb 09 27 24.1
comp=Z,16nm,1.0s
SNCC **San Nicolas Is** 75.14 59 P P 09 27 23.0 +0.8
baz=310
PRN **Pahroc Range** 75.27 53 P P 09 27 24.9 +1.9
BNN **Bunyan** 75.33 309 P P 09 27 24.0 +0.7
BNN IAmb IAmb 09 27 24.6
comp=Z,16nm,0.7s
NLU **North Lily Min.** 75.34 50 P P 09 27 24.0 +0.4
SHOC **Shoshone, Teco** 75.50 55 P P 09 27 25.2 +1.0
baz=310
STHS **Stebnicka Huta** 75.51 324 *e*P P 09 27 24.2 +0.1
GSC **Goldstone, Bar** 75.55 56 P P 09 27 25.2 +0.6
GSC **Goldstone, Bar** 75.55 56 P P 09 27 25.7 +1.1
baz=310
MPU **Maple Canyon** 75.56 49 IAmb IAmb 09 27 26.8
comp=Z,6.7nm,0.6s
BFSC **Mount Baldy Ra** 75.70 57 P P 09 27 26.6 +1.0
baz=310
BSUT **Blindstream Ca** 75.70 48 P P 09 27 26.4 +0.7
SHPR **Sheep Range** 75.79 54 P P 09 27 27.6 +1.6
NIE **Niedzica** 75.92 325 P P 09 27 27.2 +0.8
TUQ **Turquoise Moun** 76.01 55 P P 09 27 28.8 +1.5
baz=311
BR131 **Keskin Array S** 76.03 311 P P 09 27 27.4 +0.1
BRTR **Keskin Array B** 76.03 311 P P 09 27 27.3 0.0
BRTR **Keskin Array B** 76.03 311 P P 09 27 27.4 +0.1
comp=Z,2.0nm,0.5s,baz=112,slow=3.5,SNR=15
comp=Z,2.0nm,0.5s
ISR **Istrita** 76.12 319 P P 09 27 27.8 +0.1
ULM **Lac du Bonnet** 76.12 34 P P 09 27 27.3 -0.2
ULM IAmb IAmb 09 27 28.3
comp=Z,12nm,1.1s
ULM **Lac du Bonnet** 76.12 34 P P 09 27 27.4 -0.2
comp=Z,5.6nm,0.8s,baz=313,slow=8.0,SNR=11
comp=Z,5.6nm,0.8s
BBRC **Big Bear Solar** 76.15 57 P P 09 27 29.3 +1.0
baz=310
HEC **Hector,Ludlow** 76.15 56 P P 09 27 29.3 +1.2
baz=311
MLR **Muntele Rosu** 76.16 319 P P 09 27 28.4 +0.4
comp=Z,1.9nm,0.5s,baz=113,slow=13,SNR=3.2
MLR LR LR 10 04 33.7
comp=Z,46nm,18.1s,baz=82,slow=38
comp=Z,1.9nm,0.5s
CCUT **Cedar City** 76.18 52 P P 09 27 29.7 +1.3
MVU **Marysvale** 76.23 51 P P 09 27 30.4 +1.7
MVU IAmb IAmb 09 27 31.2
comp=Z,16nm,1.0s
MSU **Marysvale** 76.25 51 P P 09 27 30.0 +1.3
BSEG **Bad Segeberg** 76.32 333 *e*P P 09 27 29.1 +0.6
comp=Z,9.2nm,0.8s,baz=34,slow=5.5
MURC **Murrieta** 76.41 57 P P 09 27 30.1 +0.6
baz=310
P17A **Butcher Ranch,** 76.43 49 P P 09 27 30.8 +1.2
P17A IAmb IAmb 09 27 31.4
comp=Z,8.2nm,0.6s
LANS **Liptovska Anna** 76.48 325 *e*P P 09 27 30.8 +1.2
V12A **Nelson** 76.48 54 P P 09 27 31.0 +1.0
MTPU **Mount Pierson** 76.56 51 P P 09 27 31.6 +1.0
K22A **Casper** 76.58 45 IAmb IAmb 09 27 32.1
comp=Z,13nm,1.2s
K22A **Casper** 76.58 45 P P 09 27 31.0 +0.5
baz=314
GMRC **Granite Mounta** 76.60 55 P P 09 27 31.5 +0.8
baz=311
P18A **Preston Nutter** 76.61 49 IAmb IAmb 09 27 33.2
comp=Z,17nm,1.4s
LCMT **Little Creek M** 76.61 52 P P 09 27 32.1 +1.5
VOIR 76.64 320 P P 09 27 31.1 +0.5
E28A **Huff** 76.71 39 P P 09 27 31.1 +0.2
E28A IAmb IAmb 09 27 32.4
comp=Z,12nm,0.8s
SRU **San Rafael Swe** 76.80 49 P P 09 27 32.4 +0.6
SRU IAmb IAmb 09 27 33.6
comp=Z,12nm,1.0s
MORC **Moravsky Berou** 76.83 326 *e*P P 09 27 31.8 +0.2
RSSD **Black Hills** 76.84 42 P P 09 27 30.9 -1.0
RSSD **Black Hills** 76.84 42 P P 09 27 32.7 +0.8
RSSD pmax pmax
comp=Z,6.0nm,0.7s
RSSD **Black Hills** 76.84 42 P P 09 27 33.0 +1.1
baz=315
KNB **Kanab** 76.86 52 P P 09 27 33.6 +1.5
PFO **Pinyon Flats O** 76.87 57 P P 09 27 33.3 +1.1
PFO **Pinyon Flats O** 76.87 57 P P 09 27 33.3 +1.1
PFO pmax pmax
comp=Z,5.0nm,0.8s
PFO **Pinyon Flats O** 76.87 57 P P 09 27 33.1 +0.9
baz=311
TPFO **Pinon Flats** 76.87 57 P P 09 27 33.3 +1.1
baz=311
PKCU **Pink Cliffs** 76.88 52 IAmb IAmb 09 27 45.1
comp=Z,11nm,1.2s
DPC **Dobruska-Polom** 76.89 327 P P 09 27 32.6 +0.7
DPC **Dobruska-Polom** 76.89 327 *e*P P 09 27 32.8 +0.9
PMD **Palm Desert** 76.89 57 P P 09 27 32.6 +0.4
BELC **Belle Mtn. Jos** 76.90 56 P P 09 27 33.0 +0.6
baz=311
KRLC **Kraliky** 76.92 327 *e*P P 09 27 32.8 +0.8
VYHS **Vyhne** 77.25 325 *e*P P 09 27 34.5 +0.6
FLTG **Flechtingen** 77.29 331 *e*P P 09 27 33.7 -0.3
comp=Z,12nm,0.8s,baz=34,slow=5.5
IRM **Iron Mountain** 77.33 56 P P 09 27 36.1 +1.4
baz=311,SNR=5.0
MONP2 **Monument Peak** 77.36 57 P P 09 27 35.5 +0.5
baz=311
O20A **White River Ci** 77.39 47 P P 09 27 35.2 +0.1
O20A **White River Ci** 77.39 47 P P 09 27 36.1 +1.1
baz=314,SNR=6.0
BRG **Berggiesshuber** 77.43 329 *e*P P 09 27 35.1 +0.2
comp=Z,3.0nm,0.8s,baz=34,slow=5.5
CLL **Collm** 77.45 330 P P 09 27 34.2 -0.7
CLL IAmb IAmb 09 27 35.6
comp=Z,6.8nm,0.6s
CLL **Collm** 77.45 330 P P 09 27 34.6 -0.3
CLL **Collm** 77.45 330 *i* P P 09 27 34.8 -0.1
comp=Z,8.0nm,0.9s
CLL **Collm** 77.45 330 *e*P P 09 27 34.7 -0.3
comp=Z,6.3nm,0.7s,baz=34,slow=5.5
TKX **Tecate** 77.45 58 P P 09 27 35.7 +0.3
HMU **Henry Mountain** 77.47 50 P P 09 27 36.6 +1.0
HMU IAmb IAmb 09 27 37.6
comp=Z,15nm,0.8s
BC3 **Big Chuckawall** 77.47 56 P P 09 27 36.6 +1.1
baz=311,SNR=5.6
JAVC **Velka Javorina** 77.48 326 *e*P P 09 27 36.7 +1.5
U15A **North Rim** 77.57 52 IAmb IAmb 09 27 38.9
comp=Z,14nm,0.9s
VRAC **Vranov** 77.58 327 *e*P P 09 27 36.3 +0.6
VRAC **Vranov** 77.58 327 P P 09 27 35.4 -0.3
comp=Z,3.7nm,0.7s,baz=45,slow=6.8,SNR=4.5
VRAC LR LR 10 03 17.2
comp=Z,35nm,18.0s,baz=16,slow=37
comp=Z,3.7nm,0.7s
AGMN **Agassiz Nation** 77.61 35 IAmb IAmb 09 27 36.5
comp=Z,10.0nm,1.1s
AGMN **Agassiz Nation** 77.61 35 P P 09 27 36.2 +0.3
baz=320
IKP **In-Ko-Pah, Jac** 77.72 57 P P 09 27 37.9 +1.0
baz=311
SWSC **Sam W. Stewart** 77.72 57 P P 09 27 37.8 +1.0
baz=311
GOPC **GO Pecny, Ondr** 77.85 328 *e*P P 09 27 38.0 +0.8
KRUC **Moravsky** 77.86 326 *e*P P 09 27 37.5 +0.3
PDMCI **Parker Dam,Lak** 77.86 55 P P 09 27 39.0 +1.5
baz=312,SNR=5.9
D32A **Dogwood Acres,** 77.99 36 P P 09 27 38.0 0.0
D32A IAmb IAmb 09 27 38.6
comp=Z,24nm,1.0s
BLYC **Blythe** 77.99 56 IAmb IAmb 09 27 40.4
comp=Z,10.0nm,0.9s
CLZ **Clausthal** 78.00 331 *e*P P 09 27 38.4 +0.4
comp=Z,9.4nm,0.7s,baz=34,slow=5.5
PHWY **Pilot Hill** 78.09 45 P P 09 27 39.6 +0.5
N23A **Red Feather La** 78.12 46 P P 09 27 40.7 +1.5
baz=315
GLA **Glamis** 78.26 56 P P 09 27 41.4 +1.6
baz=312
PLN **Plauen** 78.43 330 *e*P P 09 27 40.7 +0.3
comp=Z,3.3nm,0.9s,baz=34,slow=5.5
ZVC **Zvikov** 78.47 328 *e*P P 09 27 41.3 +0.7
B35A **Bob, Littlefor** 78.48 34 P P 09 27 40.6 -0.1
B35A IAmb IAmb 09 27 41.5
comp=Z,15nm,0.7s
WUAZ **Wupatki** 78.73 53 IAmb IAmb 09 27 45.1
comp=Z,9.4nm,0.9s
WUAZ **Wupatki** 78.73 53 P P 09 27 44.3 +1.7
baz=313,SNR=7.9
MANZ **Manzenberg** 78.85 329 *e*P P 09 27 43.0 +0.3
comp=Z,1.0nm,0.7s,baz=34,slow=5.5
CKRC **Cesky Krumlov** 78.91 327 *e*P P 09 27 43.2 +0.1
KHC **Kasperske Hory** 78.95 328 P P 09 27 43.6 +0.2
KHC IAmb IAmb 09 27 44.7
comp=Z,7.1nm,0.7s
KHC **Kasperske Hory** 78.95 328 P P 09 27 43.6 +0.2
KHC **Kasperske Hory** 78.95 328 *e*P P 09 27 43.7 +0.4
RONA **Rosalia, Austr** 78.96 326 *i* P P 09 27 44.4 +1.0
comp=Z,6.1nm,0.6s
CONA **Conrad Observa** 78.96 326 *e*P P 09 27 44.5 +1.0
comp=Z,3.1nm,0.7s
UBBA **Unterbreizbach** 78.97 331 *e*P P 09 27 43.2 0.0
comp=Z,3.6nm,0.5s,baz=34,slow=5.5
ROTZ **Rotzenmuhle** 78.99 329 *e*P P 09 27 43.9 +0.4
comp=Z,1.1nm,0.8s,baz=34,slow=5.5
RAYN **Ar Rayn** 78.99 292 P P 09 27 43.5 -0.5
RAYN **Ar Rayn** 78.99 292 P P 09 27 43.7 -0.3
RAYN pmax pmax
comp=Z,5.0nm,0.7s
ISCO **Idaho Springs** 79.07 46 P P 09 27 45.5 +1.0
ISCO **Idaho Springs** 79.07 46 P P 09 27 46.1 +1.6
baz=315,SNR=5.1
SUSD **Miller** 79.11 39 P P 09 27 44.9 +0.7
baz=318
113A **Mohawk Valley,** 79.11 56 P P 09 27 45.5 +1.1
GERES **GERESS Array B** 79.13 328 P P 09 27 44.2 -0.1
comp=Z,2.0nm,0.6s,baz=39,slow=8.6,SNR=7.5
GERES pP pP 09 28 08.2 -1.2
comp=Z,1.1nm,0.6s,baz=46,slow=8.4,SNR=2.2
comp=Z,2.0nm,0.6s
SPAHL **Spahl** 79.14 331 *e*P P 09 27 44.9 +0.6
baz=34,slow=5.5
EKA **Eskdalemuir Ar** 79.19 340 P P 09 27 42.6 -1.8
comp=Z,4.0nm,0.6s,baz=19,slow=4.0,SNR=20
comp=Z,4.0nm,0.6s
MVCO **Mesa Verde** 79.26 50 P P 09 27 46.7 +1.2
baz=314,SNR=6.0
F33A **5 Mile Ranch,** 79.30 37 P P 09 27 45.5 +0.3
F33A IAmb IAmb 09 27 45.8
comp=Z,11nm,0.7s
GRF **Grafenberg Arr** 79.43 330 *e*P P 09 27 46.7 +0.8
comp=Z,12nm,0.6s,baz=34,slow=5.5
BUG **Bochum--Univer** 79.43 333 *e*P P 09 27 46.2 +0.4
comp=Z,11nm,0.9s,baz=34,slow=5.5
X16A **Lo Mia Camp, P** 79.44 53 P P 09 27 47.7 +1.3

X16A IAmb IAmb 09 27 49.1
comp=Z,7.2nm,0.8s
ARSA Arzberg 79.64 326 *e*P **P 09 27 47.9 +0.8**
comp=Z,0.2nm,0.3s
MOA Molln 79.69 327 *e*PcP **PcP 09 27 57.8 +3.0**
comp=Z,7.7nm,0.4s
EYMN Ely 79.73 33 IAmb IAmb 09 27 48.4
comp=Z,14nm,0.8s
EYMN Ely 79.73 33 P **P 09 27 47.9 +0.3**
baz=322,SNR=9.4
Q24A Divide 79.92 47 P **P 09 27 49.9 +0.8**
baz=315
BIOA Bad Ischl, Aus 80.07 327 *i* P **P 09 27 50.2 +0.7**
comp=Z,8.3nm,1.0s
K30B Basset 80.10 41 IAmb IAmb 09 27 51.2
comp=Z,17nm,0.8s
OGNE Ogallala 80.15 43 P **P 09 27 50.6 +0.6**
OGNE IAmb IAmb 09 27 53.0
comp=Z,8.3nm,0.7s
OGNE Ogallala 80.15 43 P **P 09 27 51.0 +0.9**
baz=317
214A Organ Pipe Nat 80.26 56 P **P 09 27 50.2 -0.5**
214A Organ Pipe Nat 80.26 56 P **P 09 27 52.1 +1.4**
baz=313
PERS Pernice 80.29 326 *i* P **P 09 27 50.8 +0.2**
SOKA Soboth 80.29 326 *i* P **P 09 27 51.0 +0.4**
comp=Z,9.7nm,1.0s
RJOB Jochberg 80.38 328 *e*P **P 09 27 52.1 +1.0**
comp=Z,6.7nm,0.7s,baz=34,slow=5.5
SDCO Great Sand Dun 80.59 48 P **P 09 27 53.9 +1.2**
baz=315,SNR=5.7
OBKA Obir 80.63 326 *i* P **P 09 27 52.4 -0.1**
comp=Z,4.2nm,0.6s
LESA Schwarzleotal 80.68 327 *i* P **P 09 27 53.3 +0.5**
comp=Z,7.1nm,0.9s
KBA Koelnbreinsper 80.68 327 *i* P **P 09 27 53.8 +0.9**
comp=Z,6.7nm,0.8s
KBA Koelnbreinsper 80.68 327 P **P 09 27 53.6 +0.7**
KBA Koelnbreinsper 80.68 327 *e*P **P 09 27 53.8 +0.9**
baz=34,slow=5.5
ECSD EROS Data Cent 80.75 38 P **P 09 27 53.3 +0.2**
ECSD IAmb IAmb 09 27 54.2
comp=Z,14nm,0.9s
E38A The Farm, Brul 80.77 34 P **P 09 27 52.6 -0.6**
E38A IAmb IAmb 09 27 53.8
comp=Z,31nm,1.2s
MYKA Terra Mystica 80.92 326 *i* P **P 09 27 53.8 -0.2**
comp=Z,5.3nm,0.5s
BCLA Clavier 80.96 333 *d*P **P 09 27 54.0 0.0**
PRED Cave del Predi 81.10 326 IAmb IAmb 09 27 55.0
comp=Z,5.8nm,0.6s
WATA Walderalm 81.19 328 *e*P **P 09 27 56.0 +0.4**
comp=Z,4.9nm,0.5s
RCHB Rochefort 81.21 333 *d*P **P 09 27 55.7 +0.4**
WTTA Wattenberg 81.23 328 *i* P **P 09 27 56.3 +0.5**
comp=Z,7.8nm,0.8s
WTTA Wattenberg 81.23 328 *e*P **P 09 27 56.0 +0.3**
baz=34,slow=5.5
BMRD Maredsous 81.24 333 *d*P **P 09 27 55.5 0.0**
comp=Z,9.5nm,0.8s
KSCO Kaye Shedlock' 81.25 45 P **P 09 27 56.9 +1.0**
baz=317
TUC Tucson 81.28 55 P **P 09 27 56.1 -0.1**
TUC Tucson 81.28 55 P **P 09 27 57.7 +1.5**
TUC pmax pmax
comp=Z,4.0nm,0.9s
ABTA Abfaltersbach 81.29 327 *i* P **P 09 27 55.9 -0.1**
comp=Z,5.2nm,0.9s
SPMN Marine on St. 81.32 35 P **P 09 27 56.3 +0.2**
baz=322
JAVS Javornik 81.33 326 *i* P **P 09 27 55.4 -0.9**
MOTA Moosalm 81.38 328 *i* P **P 09 27 56.7 +0.2**
comp=Z,16nm,0.9s
SCHQ Schefferville 81.39 16 P **P 09 27 56.4 +0.1**
comp=Z,5.4nm,0.8s,baz=2.3,slow=6.5,SNR=6.3
comp=Z,5.4nm,0.8s
RETA Reutte 81.39 329 *i* P **P 09 27 57.0 +0.5**
comp=Z,13nm,0.9s
SQTA Sankt Quirin 81.44 328 *i* P **P 09 27 57.0 +0.2**
comp=Z,6.6nm,0.8s
STAL STALIGIAL 81.60 327 P **P 09 27 56.7 -0.9**
STAL IAmb IAmb 09 27 57.1
comp=Z,11nm,0.6s
T25A Trinidad 81.62 47 P **P 09 27 59.0 +0.9**
baz=316,SNR=6.6
BFO Black Forest 81.64 330 P **P 09 27 57.8 0.0**
BFO IAmb IAmb 09 27 59.9
comp=Z,21nm,1.5s
BFO Black Forest 81.64 330 P **P 09 27 57.8 0.0**
BFO pmax pmax
comp=Z,21nm,1.5s
BFO Black Forest 81.64 330 *e*P **P 09 27 57.7 0.0**
comp=Z,5.4nm,0.8s,baz=34,slow=5.5
BGNE Belgrade 81.77 41 P **P 09 27 59.0 +0.5**
BGNE Belgrade 81.77 41 P **P 09 27 58.6 0.0**
baz=319
FETA Feichten 81.79 328 *i* P **P 09 27 58.9 +0.2**
comp=Z,8.0nm,0.9s
DAVA Damuels 81.91 329 *i* P **P 09 27 59.5 +0.2**
comp=Z,18nm,1.1s
DAVA Damuels 81.91 329 *e*P **P 09 27 59.4 +0.1**
baz=34,slow=5.5
I37A Lemond, Waseca 82.01 36 P **P 09 27 59.8 +0.1**
I37A IAmb IAmb 09 28 01.1
comp=Z,24nm,1.0s
ANMO Albuquerque 82.03 50 P **P 09 28 01.3 +1.1**
ANMO Albuquerque 82.03 50 P **P 09 28 01.4 +1.1**
baz=315
DUN6 Lazy B Ranch 82.14 53 IAmb IAmb 09 28 02.7
comp=Z,15nm,0.7s
ECH Echery 82.16 331 P **P 09 28 00.2 -0.3**
CTI Castel Tesino 82.21 327 IAmb IAmb 09 28 00.6
comp=Z,7.3nm,0.7s
DAVOX Davos/Dischmat 82.32 329 P **P 09 28 02.0 +0.5**
comp=Z,4.3nm,0.5s,baz=339,slow=6.1,SNR=8.1
DAVOX LR LR 10 07 47.3
comp=Z,39nm,18.2s,baz=188,slow=38
comp=Z,4.3nm,0.5s
TUE Stuetta 82.78 329 P **P 09 28 04.3 +0.4**
319A Douglas 82.84 54 P **P 09 28 04.7 +0.3**
319A IAmb IAmb 09 28 06.6
comp=Z,11nm,0.9s
121A Cookes Peak, D 82.94 53 IAmb IAmb 09 28 07.5
comp=Z,8.2nm,0.8s
121A Cookes Peak, D 82.94 53 P **P 09 28 06.6 +1.6**
baz=315,SNR=6.9
SENIN Lac Senin/Sane 83.66 330 P **P 09 28 08.3 -0.2**
SCIA State Center 83.75 38 P **P 09 28 08.2 -0.5**
SCIA IAmb IAmb 09 28 10.3
comp=Z,19nm,0.9s
SCIA State Center 83.75 38 P **P 09 28 09.4 +0.7**
baz=322
NRCA Norcia 84.18 324 IAmb IAmb 09 28 12.2
comp=Z,10nm,0.8s
JFWS Jewell Farm 84.28 35 P **P 09 28 11.3 -0.1**
baz=324
KSU1 Kansas State U 84.29 41 IAmb IAmb 09 28 12.2
comp=Z,8.7nm,0.7s
KSU1 Kansas State U 84.29 41 P **P 09 28 11.3 -0.2**
baz=320
INTR Introdacqua 84.48 323 P **P 09 28 11.8 -0.7**
INTR IAmb IAmb 09 28 13.7
comp=Z,7.5nm,0.9s
L40A Anamosa 84.53 36 P **P 09 28 12.3 -0.3**
L40A IAmb IAmb 09 28 14.0
comp=Z,16nm,0.9s
N38A Joes South For 84.61 38 P **P 09 28 13.0 -0.2**
VLDQ Val d'Or 84.72 25 P **P 09 28 12.7 -0.8**
AMTX Amarillo 84.78 47 P **P 09 28 14.8 +0.6**
baz=318
MSTX Muleshoe 84.84 49 P **P 09 28 14.9 +0.3**
baz=317
MNTX Cornudas Mount 84.97 52 P **P 09 28 16.1 +1.0**
baz=316,SNR=5.8
BNI Bardonecchia 85.00 330 IAmb IAmb 09 28 21.5
comp=Z,5.9nm,0.7s
BNI Bardonecchia 85.00 330 P **P 09 28 14.8 -0.4**
GLMI Grayling 85.03 31 P **P 09 28 16.2 +1.1**
baz=327
SMWD Samnorwood 85.41 46 IAmb IAmb 09 28 19.2
comp=Z,12nm,0.8s
SSB Saint Sauveur 85.61 331 P **P 09 28 17.5 -0.6**
SSB IAmb IAmb 09 28 19.0
comp=Z,7.5nm,0.7s
SSB Saint Sauveur 85.61 331 P **P 09 28 18.0 -0.1**
VHRN Van Horn 85.86 52 P **P 09 28 20.7 +1.0**
T35A Sooner Cattle 86.02 43 P **P 09 28 20.6 +0.4**

T35A IAmb IAmb 09 28 21.8
comp=Z,14nm,1.0s
DKNS Dickens 86.10 48 IAmb IAmb 09 28 23.4
comp=Z,10nm,0.7s
J47A Sunmer 86.28 32 P **P 09 28 22.1 +0.8**
WMOK Wichita Mounta 86.48 46 P **P 09 28 22.7 +0.2**
WMOK IAmb IAmb 09 28 23.8
comp=Z,4.2nm,0.7s
WMOK Wichita Mounta 86.48 46 P **P 09 28 22.8 +0.2**
WMOK Wichita Mounta 86.48 46 P **P 09 28 23.1 +0.5**
baz=319
HDIL Hopedale 86.60 36 P **P 09 28 23.4 +0.5**
baz=324
S39A Bolivar 87.01 40 IAmb IAmb 09 28 25.6
comp=Z,10nm,0.8s
R40A Maddies Statio 87.05 39 IAmb IAmb 09 28 26.1
comp=Z,10nm,0.7s
TUL3 Leonard 87.16 43 P **P 09 28 26.1 +0.3**
TUL3 IAmb IAmb 09 28 27.1
comp=Z,9.1nm,0.7s
TUL3 Leonard 87.16 43 P **P 09 28 26.1 +0.3**
baz=321
W35A Tecumseh 87.18 44 P **P 09 28 26.1 +0.2**
W35A IAmb IAmb 09 28 26.9
comp=Z,9.1nm,0.9s
U38A Gravette 87.46 42 IAmb IAmb 09 28 28.1
comp=Z,7.3nm,0.9s
L48A N Adams 87.52 32 P **P 09 28 27.9 +0.5**
AAM Ann Arbor 87.53 32 P **P 09 28 28.1 +0.7**
baz=328
ABTX Abilene, Hawle 87.59 48 P **P 09 28 28.0 0.0**
baz=319
TX31 Lajitas Ar. Si 87.69 52 P **P 09 28 29.5 +0.9**
TX31 IAmb IAmb 09 28 30.4
comp=Z,7.4nm,1.2s
TXAR Lajitas Array 87.70 52 P **P 09 28 29.3 +0.7**
TXAR Lajitas Array 87.70 52 P **P 09 28 29.2 +0.6**
comp=Z,1.9nm,0.5s,baz=295,slow=3.1,SNR=56
comp=Z,1.9nm,0.5s
SFIN Lafayette 87.71 35 P **P 09 28 29.0 +0.7**
SFIN IAmb IAmb 09 28 29.1
comp=Z,10nm,0.7s
SFIN Lafayette 87.71 35 P **P 09 28 28.6 +0.2**
baz=326
CCM Cathedral Cave 87.72 39 P **P 09 28 28.6 +0.2**
CCM Cathedral Cave 87.72 39 P **P 09 28 28.9 +0.4**
baz=323
HHAR Hobbs 87.81 42 IAmb IAmb 09 28 29.6
comp=Z,5.5nm,0.9s
MGMO Mountain Grove 87.95 40 IAmb IAmb 09 28 30.0
comp=Z,10nm,1.0s
HPIG 88.21 55 P **P 09 28 30.5 -0.7**
MNTQ Montreal, Queb 88.24 24 P **P 09 28 31.1 +0.3**
MNTQ IAmb IAmb 09 28 31.5
comp=Z,11nm,0.8s
P46A Rosedale 88.29 35 P **P 09 28 31.4 +0.3**
N49A Columbus Grove 88.48 33 P **P 09 28 32.5 +0.6**
OLIL Olney 88.62 36 P **P 09 28 33.5 +0.8**
O48B Farmland 88.64 34 P **P 09 28 32.6 -0.1**
O48B Farmland 88.64 34 P **P 09 28 32.8 +0.1**
baz=327
LONY Lake Ozonia 88.74 25 P **P 09 28 32.9 -0.3**
baz=334
BRDY Brady 88.96 48 IAmb IAmb 09 28 36.5
comp=Z,5.0nm,0.9s
FCAR Ozark Folk Cen 89.02 41 P **P 09 28 34.5 -0.1**
FCAR IAmb IAmb 09 28 35.4
comp=Z,7.9nm,1.0s
O49A Covington 89.03 33 P **P 09 28 35.0 +0.4**
ERPA Erie 89.09 29 P **P 09 28 35.9 +1.1**
ERPA Erie 89.09 29 P **P 09 28 34.3 -0.5**
baz=330
JCT Junction City 89.11 49 P **P 09 28 35.4 +0.2**
JCT IAmb IAmb 09 28 36.9
comp=Z,4.8nm,0.6s
JCT Junction City 89.11 49 P **P 09 28 36.0 +0.9**
baz=319
PBMO Poplar Bluff 89.13 39 P **P 09 28 36.1 +1.0**
P48A Milroy 89.19 34 P **P 09 28 35.5 +0.2**
P48A IAmb IAmb 09 28 35.9
comp=Z,6.1nm,0.7s
WHTX Lake Whitney, 89.28 47 P **P 09 28 36.1 +0.2**
baz=320
LCAR Lake Charles 89.35 40 P **P 09 28 36.4 +0.3**
MIAR Mount Ida 89.36 42 P **P 09 28 36.7 +0.5**
MIAR Mount Ida 89.36 42 P **P 09 28 36.1 -0.1**
MIAR Mount Ida 89.36 42 P **P 09 28 37.3 +1.1**
baz=322,SNR=7.8
WHAR Wooly Hollow 89.42 41 P **P 09 28 37.1 +0.6**
M53A WI Miller and 89.42 30 P **P 09 28 36.6 +0.2**
baz=330
P49A Miami Univ. Ec 89.42 34 P **P 09 28 36.9 +0.4**
baz=327
DRIO Del Rio 89.43 50 IAmb IAmb 09 28 37.5
comp=Z,4.1nm,0.6s
PARMO Parma 89.54 39 P **P 09 28 37.8 +0.8**
ACSO Alum Creek Sta 89.55 32 P **P 09 28 37.5 +0.5**
ACSO Alum Creek Sta 89.55 32 P **P 09 28 37.6 +0.6**
baz=328
Z38A Mt. Pleasant 89.63 44 P **P 09 28 38.1 +0.6**
WCI Wyandotte Cave 89.84 36 P **P 09 28 39.2 +0.8**
WCI IAmb IAmb 09 28 40.9
comp=Z,6.4nm,0.7s
WCI Wyandotte Cave 89.84 36 P **P 09 28 39.2 +0.8**
WCI pmax pmax
comp=Z,6.0nm,0.7s
WCI Wyandotte Cave 89.84 36 P **P 09 28 39.2 +0.8**
baz=326
LBNH Lisbon 89.89 23 P **P 09 28 39.4 +0.8**
baz=336
M55A Ridgway 90.10 29 P **P 09 28 40.7 +1.1**
O53A New Philadelph 90.24 31 P **P 09 28 40.9 +0.7**
baz=329
P52A Corning 90.40 32 P **P 09 28 41.3 +0.3**
baz=329
BINY Binghamton 90.44 27 P **P 09 28 41.6 +0.5**
baz=333
M57A Sunshine Farm, 90.81 28 P **P 09 28 43.5 +0.7**
WVT Waverly 90.88 38 P **P 09 28 43.9 +0.7**
WVT IAmb IAmb 09 28 44.7
comp=Z,4.1nm,0.8s
WVT Waverly 90.88 38 P **P 09 28 43.7 +0.4**
WVT Waverly 90.88 38 P **P 09 28 43.6 +0.4**
baz=325
SSPA Standing Stone 91.15 29 P **P 09 28 45.0 +0.5**
SSPA Standing Stone 91.15 29 P **P 09 28 45.7 +1.3**
baz=332
MCWV Mont Chateau 91.28 30 P **P 09 28 45.8 +0.7**
baz=330
N58A Sunbury 91.39 28 P **P 09 28 45.6 0.0**
OXF Oxford 91.45 40 P **P 09 28 46.0 +0.1**
baz=324
Q54A Coxs Mills 91.47 31 P **P 09 28 46.6 +0.6**
T50A Nancy 91.48 35 P **P 09 28 46.1 0.0**
T50A IAmb IAmb 09 28 46.9
comp=Z,6.7nm,0.8s
Y45A Yeager Farm, C 91.91 40 P **P 09 28 48.7 +0.6**
PAL Palisades 92.20 26 P **P 09 28 50.1 +0.8**
baz=334
R55A Marlinton 92.36 31 P **P 09 28 50.7 +0.5**
TZTN Tazewell 92.44 35 P **P 09 28 51.1 +0.6**
baz=328
X48A Hartselle 92.62 38 P **P 09 28 50.8 -0.6**
VBMS Vicksburg 92.75 42 P **P 09 28 52.9 +1.0**
baz=324
146A Union 93.14 41 P **P 09 28 54.6 +0.9**
BLA Blacksburg 93.17 32 P **P 09 28 54.9 +1.1**
baz=330
CBN Corbin Frederi 93.48 30 P **P 09 28 55.5 +0.3**
ESDC Sonseca Array 93.52 334 P **P 09 28 55.3 -0.2**
ESDC Sonseca Array 93.52 334 P **P 09 28 55.3 -0.2**
comp=Z,1.8nm,0.7s,baz=7.9,slow=5.1,SNR=9.8
comp=Z,1.8nm,0.7s
KMSC Kings Mountain 94.57 34 P **P 09 29 01.2 +0.9**
baz=329
250A Grady 95.03 39 P **P 09 29 03.5 +1.0**
GOGA Godfrey 95.12 36 P **P 09 29 03.3 +0.4**
baz=328
DWPF Disney Wildern 100.53 38 P **Pdif 09 29 25.6 -1.6**
baz=329
TORD Torodi Ar. Bea 114.29 316 PKP **PKiKP 09 34 18.0 -1.3**
comp=Z,0.3nm,0.5s,baz=4.6,slow=1.4,SNR=2.2
TORD PKKPbc **PKKPbc 09 44 57.6 0.0**
comp=Z,0.6nm,0.5s,baz=217,slow=3.4,SNR=4.1
DBIC Dimbokro 123.14 319 PKP **PKPdf 09 34 35.5 -0.7**
comp=Z,2.4nm,0.7s,baz=97,slow=2.9,SNR=3.3

QSPA South Pole Qui 130.91 180 PKP **PKPdf 09 34 49.2 -0.3**
comp=Z,1.2nm,0.6s,baz=304,slow=1.3,SNR=14
LPAZ La Paz 144.54 54 PKP **PKPab 09 35 15.1 -0.2**
comp=Z,1.4nm,0.5s,baz=315,slow=1.3,SNR=4.6
SNAA Sanae 144.65 199 PKP **PKPab 09 35 13.6 +0.1**
comp=Z,6.0nm,0.6s,baz=196,slow=7.4,SNR=15
SNAA pPKP **pPKPdf 09 35 39.3 -1.8**
comp=Z,12nm,0.8s,baz=152,slow=4.5,SNR=4.0
H03N2 Juan Fernandez 147.35 89 T T 12 20 20.2
baz=299,slow=76,SNR=20
H03N3 Juan Fernandez 147.37 89 T T 12 20 21.2
baz=299,slow=76,SNR=28
H03N1 Juan Fernandez 147.37 89 T T 12 20 20.6
baz=299,slow=76,SNR=25
BDFB Brasilia 153.32 20 PKPbc **PKPbc 09 35 37.5 -0.3**
comp=Z,3.1nm,0.8s,baz=230,slow=7.0,SNR=4.3
BDFB PKPab **PKPab 09 35 49.4 -0.6**
comp=Z,5.2nm,0.8s,baz=256,slow=6.6,SNR=6.7
PLCA Paso Flores 156.05 100 PKPab **PKPab 09 36 02.6 +1.5**
comp=Z,2.6nm,0.7s,baz=266,slow=6.1,SNR=6.9
CPUP Villa Florida 158.67 52 PKPab **PKPab 09 36 12.1 -0.5**
comp=Z,2.1nm,0.7s,baz=28,slow=2.6,SNR=5.1

*DJA **09** 09:17:11.1±0.7,3°S±4°×13°1E±°, h18km±6km, M3.8/7, mb4.2/1, MLv3.5/7*
*IDC **09** 09:17:21.6±2.1,4.98S×129.12E, h0km, mb3.8/2, mbtmp3.8/4, ML3.7/2, Error ellipse: s-maj=178.8km s-min=27.6km az=69.0*
ISC 09 09:17:11.8±1.2, 3.28S±0.07×130.86E±0.07, h35km, n8, σ1§66/8, Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.43**	**75**	P		**Pn**		**09 17 34.7**	**-0.6**
FAKI				S		**Sn**		**09 17 55.3**	**+2.4**
BNDI	**Bandanaira**	**1.56**	**218**	P		**Pn**		**09 17 38.0**	**+0.9**
SWI	**Sorong**	**2.44**	**9**	P		**Pn**		**09 17 49.0**	**-0.2**
SWI				S		**Sn**		**09 18 18.7**	**+1.0**
SANI	**Sanana**	**5.02**	**284**	P		**Pn**		**09 18 24.5**	**-0.2**
WRA	**Warramunga Arr**	**16.90**	**169**	Pn		**Pn**		**09 21 03.4**	**-2.4**
	0.2nm,0.3s,baz=343,slow=13,SNR=2.2								
WRA				Sn		Sn		09 23 58.2	-14
	0.1nm,0.3s,baz=343,slow=24,SNR=2.1								
	0.4nm,0.5s								
ASAR	**Alice Springs**	**20.48**	**172**	P		**P**		**09 21 47.2**	**+0.4**
	1.0nm,0.3s,baz=350,slow=11,SNR=84								
	3.9nm,0.5s								
MKAR	**Makanchi Array**	**65.64**	**326**	P		P		09 28 10.8	+18
	0.9nm,0.7s,baz=111,slow=8.2,SNR=4.6								
	0.9nm,0.7s								
KURBB	**Kurchatov Arra**	**69.83**	**328**	P		P		09 28 36.8	+18
	0.8nm,0.7s,baz=120,slow=5.5,SNR=4.4								
	0.8nm,0.7s								

IDC 09 09:27:05.6±12.0, 26.13S×28.52E, h0km, Error ellipse: s-maj=90.6km s-min=71.1km az=138.0, South Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**3.81**	**229**	P		Pg	Pb	09 28 15.4	+1.5
	0.3nm,0.3s,baz=47,slow=17,SNR=4.0								
BOSA				Lg		Lg		09 29 06.7	
	1.2nm,0.3s,baz=146,slow=12,SNR=11								
I47ZA	**BOSHOF INFRASO**	**3.83**	**229**	I		I		09 51 29.7	
	0.1nm,0.8s,baz=49,slow=319,SNR=0.8								
I35NA	**TSUMEB INFRASO**	**12.23**	**302**	I		I		10 45 00.0	
	baz=126,slow=325,SNR=2.5								

JMA 09 09:30:02.4±0.2, 24.2N±0.4×123.8E±0.4, h18km±1km, MV1.3/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.14**	**315**	*i* P		Pg		09 30 06.4	-0.1
IRIF				*e*S		Sg		09 30 09.7	+0.4
JKRS	**Kuro-shima**	**0.15**	**89**	P		Pg		09 30 06.6	-0.1
JKRS				*e*S		Sg		09 30 09.7	+0.2
HATJ	**Hateruma jima**	**0.18**	**190**	*i* P		Pb		09 30 06.8	+0.1
HATJ				*i* S		Sg		09 30 10.5	+0.4
JIJ	**Ishigaki jima**	**0.31**	**65**	P		Pg		09 30 08.7	-0.3
JIJ				*e*S		Sg		09 30 13.2	-0.4
JISG	**Ishigakijimahi**	**0.56**	**51**	P		Pg		09 30 13.5	0.0
JISG				*e*S		Sb		09 30 21.4	+0.3
JTJ	**Tarama**	**0.89**	**63**	*e*S		Sn		09 30 31.9	-0.4

TAP 09 09:30:54.1, 24.52N×121.82E, h22km±1km, ML1.3, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.08**	**209**	P		Pb		09 30 58.5	+0.3
	baz=208								
EWUT				*e*S		Sb		09 31 01.5	+0.6
	baz=208								
ENA	**Nanau**	**0.11**	**220**	*e*P		Pb		09 30 59.0	-0.5
	baz=216								
ENA				*e*S		Sb		09 31 02.3	-0.9
	baz=216								
ENTT	**Nioudou**	**0.26**	**298**	*e*S		Sb		09 31 05.7	+0.9
	baz=298								
LATG	**Datong**	**0.27**	**274**	*e*S		Sb		09 31 06.0	+0.9
	baz=274								
NDT	**Datong Townshi**	**0.29**	**287**	*e*P		Pb		09 31 01.4	+0.6
	baz=287								
NDT				*e*S		Sb		09 31 06.7	+1.3
	baz=287								
NACB	**Ninganchiao**	**0.40**	**211**	*e*S		Sb		09 31 09.3	+1.2
	baz=211								
NNSB	**Datong**	**0.41**	**258**	P		Pb		09 31 03.6	+0.9
	baz=257								
NNSB				*e*S		Sb		09 31 09.9	+1.3
	baz=257								
YHNB	**Yeheng**	**0.43**	**291**	*e*P		Pb		09 31 03.4	+0.2
	baz=290								
YHNB				*e*S		Sb		09 31 10.3	+1.0
	baz=290								
ETLH	**Xiulin Townshi**	**0.44**	**225**	*e*P		Pb		09 31 03.2	+0.1
	baz=225								
ETLH				*e*S		Sn		09 31 11.1	-1.4
	baz=225								
TIPB	**Shuangxi**	**0.46**	**1**	*e*S		Sb		09 31 09.0	-0.9
LXIB	**Xiulin Townshi**	**0.62**	**217**	*e*S		Sn		09 31 18.0	+1.0
	baz=217								

*NNC **09** 09:32:04.5±2.4, 52.02N×75.66E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=85.8km s-min=8.7km az=28.0, Suspected Mining explosion.*
*IDC **09** 09:32:09.0±1.0, 51.75N×75.65E, h0km, mbtmp2.7/3, ML1.9/3, Error ellipse: s-maj=21.5km s-min=8.0km az=30.0*
ISC 09 09:32:05.6±1.0, 51.74N±0.09×75.21E±0.06, h0km, n9, σ1§45/12, 7C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.37**	**117**	Pg		**Pn**		**09 32 46.9**	**+1.2**
	0.2nm,0.3s,baz=303,slow=18,SNR=22								
KURBB				Lg		Lg		09 33 16.4	
	0.4nm,0.3s,baz=305,slow=31,SNR=10								
KURK	**Kurchatov**	**2.38**	**114**	⇑Pg		**Pn**		**09 32 46.4**	**+0.6**
	3.0nm,0.6s								
KURK				⇑Lg		Lg		09 33 14.6	
	12nm,0.7s								
BVA0	**Borovoye Array**	**3.22**	**295**	⇑Pg		**Pb**		**09 33 03.9**	**+0.2**
	4.1nm,1.4s,baz=114,slow=14,SNR=4.5								
BVA0				Lg		Lg		09 33 53.5	
	12nm,1.1s,baz=107,slow=24,SNR=11								
BVAR	**Borovoye Array**	**3.22**	**295**	Pn		**Pb**		**09 33 04.4**	**+0.7**
	0.1nm,0.3s,baz=112,slow=15,SNR=5.9								
BVAR				Sn		**Sb**		**09 33 43.6**	**+0.1**
	0.1nm,0.3s,baz=109,slow=21,SNR=4.5								
BVAR				Lg		Lg		09 33 52.7	
	0.1nm,0.3s,baz=112,slow=28,SNR=3.8								
	1.3nm,0.5s								
BRVK	**Borovoye**	**3.29**	**296**	⇑Pg		**Pg**		**09 33 07.6**	**-1.2**
	4.7nm,1.5s								
BRVK				⇑Lg		Lg		09 33 55.4	
	11nm,1.0s								
I46RU	**ZALESOVO INFRA**	**6.23**	**65**	I		I		10 05 45.0	
	baz=251,slow=331,SNR=4.8								

ZALV	**Zalesovo Beam**	**6.23**	**65**	Pn		**Pn**	**09 33 40.7**	**+1.9**
	0.2nm,0.3s,baz=246,slow=11,SNR=3.7							
ZALV				Sn		**Sn**	**09 34 48.4**	**-2.2**
	0.2nm,0.3s,baz=255,slow=26,SNR=1.6							
ZALV				Lg		Lg	09 35 18.7	
	0.3nm,0.3s,baz=250,slow=33,SNR=2.9							
	0.7nm,0.5s							
MK31	**Makanchi Array**	**6.78**	**134**	⇑Pn		**Pn**	**09 33 47.9**	**+1.5**
	1.5nm,1.1s,baz=319,slow=12,SNR=4.7							
MK31				⇓Sn		**Sn**	**09 35 03.1**	**-1.1**
	0.4nm,0.5s							
MK31				⇑Lg		Lg	09 35 42.6	
	1.5nm,0.6s,baz=327,slow=26,SNR=7.7							
MKAR	**Makanchi Array**	**6.78**	**134**	Pn		**Pn**	**09 33 47.4**	**+1.1**
	baz=324,slow=12,SNR=5.0							
MKAR				Sn		**Sn**	**09 35 02.7**	**-1.5**
	0.2nm,0.3s,baz=324,slow=27,SNR=6.3							
MKAR				Lg		Lg	09 35 35.0	
	0.2nm,0.3s,baz=320,slow=30,SNR=9.7							
	0.5nm,0.8s							

*NOU **09** 10:06:26.1,30˚.56S×174˚.92W,h80km,mb4.8/10,*
Kermadec Islands Region
*WEL **09** 10:06:57.2±0.7,32˚.5±6˚×17˚.8W±1˚.5,h33km,M4.9/21,*
mB5.3/13,ML5.4/24,MLv5.4/21,Mw(mB)4.7/13,Error
ellipse: s-maj=0.0km s-min=0.0km az=108.2
*NEIC **09** 10:06:57.8±0.7,31˚.72S±0˚.03×178˚.2W±0˚.2,h10km±2km,*
mb4.5/14,Error ellipse: s-maj=26.0km s-min=5.0km
az=97.0
*IDC **09** 10:07:03.7±2.9,31˚.48S×178˚.38W,h54km±25km,mb4.0/6,*
mbtmp4.3/7,ML4.9/1,MS3.4/6,Error ellipse: s-maj=24.4km
s-min=17.9km az=131.0

ISC 09 10:07:00.4±0.6,31˚.78S±0˚.06×178˚.1W±0˚.1,h35km,n103,
σ2s29/113,mb4.3/13,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.52**	**4**	P	**Pn**	**10 07 37.6**	**-1.2**
GLKZ				S	**Sn**	**10 08 04.3**	**-3.9**
RAO	**Raoul Island**	**2.53**	**4**				
RAO				Sn	**Sn**	**10 08 08.1**	**-0.4**
RAO	**Raoul Island**	**2.53**	**4**	P	**Pn**	**10 07 38.1**	**-0.8**
	356nm,0.3s,baz=264,slow=16,SNR=11						
RAO				S	**Sn**	**10 08 05.8**	**-2.7**
	730nm,0.3s,baz=252,slow=23,SNR=2.1						
RAO				LR	LR	10 08 36.6	
	comp=Z,442nm,20.9s,baz=117,slow=41						
	802nm,0.2s						
MXZ	**Matakaoa Point**	**6.47**	**206**	Pn	**Pn**	**10 08 31.7**	**-1.4**
MXZ	**Matakaoa Point**	**6.47**	**206**	P	**Pn**	**10 08 31.6**	**-1.5**
MXZ	**Matakaoa Point**	**6.47**	**206**	P	**Pn**	**10 08 31.7**	**-1.5**
MXZ				S	**Sn**	**10 09 44.3**	**-1.5**
WMGZ	**Waiomatatini S**	**6.66**	**204**	P	**Pn**	**10 08 34.9**	**-0.8**
WMGZ				S	**Sn**	**10 09 51.7**	**+1.3**
HAZ	**Te Kaha**	**6.85**	**208**	P	**Pn**	**10 08 37.0**	**-1.2**
HAZ				S	**Sn**	**10 09 55.2**	**+0.3**
PKGZ	**Pakihiroa**	**6.85**	**206**	P	**Pn**	**10 08 36.4**	**-2.0**
PKGZ				S	**Sn**	**10 09 53.7**	**-1.3**
PUZ	**Puketiti**	**6.94**	**204**	P	**Pn**	**10 08 37.7**	**-1.9**
PUZ				S	**Sn**	**10 09 54.3**	**-3.1**
RUGZ	**Raukumara Rang**	**7.07**	**208**	P	**Pn**	**10 08 40.0**	**-1.5**
RUGZ				S	**Sn**	**10 10 00.1**	**-0.5**
KUZ	**Kuaotunu**	**7.11**	**224**	P	Pn	10 08 46.8	+5.0
WHRZ	**Whale Island**	**7.28**	**212**	P	**Pn**	**10 08 46.5**	**+2.3**
WHRZ				S	**Sn**	**10 10 06.6**	**+1.0**
CNGZ	**Carnagh Statio**	**7.33**	**203**	P	**Pn**	**10 08 42.9**	**-1.9**
CNGZ				S	**Sn**	**10 09 59.7**	**-7.2**
TKGZ	**Te Karaka**	**7.42**	**205**	P	**Pn**	**10 08 43.2**	**-2.8**
TKGZ				S	**Sn**	**10 10 07.5**	**-1.5**
MWZ	**Matawai**	**7.45**	**207**	P	**Pn**	**10 08 43.6**	**-2.9**
URZ	**Urewera**	**7.55**	**210**	P	**Pn**	**10 08 48.3**	**+0.4**
URZ	**Urewera**	**7.55**	**210**	P	**Pn**	**10 08 45.3**	**-2.6**
	24nm,0.3s,baz=344,slow=4.9,SNR=26						
URZ				S	**Sn**	**10 10 09.3**	**-3.0**
	68nm,0.4s,baz=202,slow=20,SNR=14						
URZ	**Urewera**	**7.55**	**210**	P	**Pn**	**10 08 45.6**	**-2.3**
URZ				S	**Sn**	**10 10 11.2**	**-1.1**
RIGZ	**Rimuhau**	**7.68**	**205**	P	**Pn**	**10 08 47.7**	**-2.1**
RIGZ				S	**Sn**	**10 10 14.5**	**-1.1**
OUZ	**Omahuta**	**7.72**	**241**	P	Pn	10 08 56.8	+6.5
PRGZ	**Paritu Road**	**7.84**	**204**	P	**Pn**	**10 08 50.1**	**-1.8**
MUGZ	**Murupara**	**7.88**	**211**	P	**Pn**	**10 08 50.1**	**-2.4**
MUGZ				S	**Sn**	**10 10 18.2**	**-2.2**
RRRZ	**Republican Roa**	**7.88**	**212**	P	**Pn**	**10 08 53.1**	**+0.6**
RTZ	**Ruatahuna**	**7.91**	**209**		**Pn**	**10 08 53.1**	**+0.2**
RTZ	**Ruatahuna**	**7.91**	**209**	P	**Pn**	**10 08 53.6**	**+0.7**
SNGZ	**Shannon Statio**	**7.91**	**207**	P	**Pn**	**10 08 50.5**	**-2.3**
SNGZ				S	**Sn**	**10 10 19.1**	**-2.0**
MHGZ	**Mahia Peninsul**	**8.04**	**203**	P	**Pn**	**10 08 51.2**	**-3.3**
MHGZ				S	**Sn**	**10 10 17.4**	**-6.8**
PRRZ	**Plateau Road**	**8.07**	**212**	P	**Pn**	**10 08 55.6**	**+0.5**
RAHZ	**Arahi**	**8.12**	**208**	P	**Pn**	**10 08 53.6**	**-2.2**
RAHZ				S	**Sn**	**10 10 24.9**	**-1.5**
ALRZ	**Allen Road**	**8.14**	**212**	P	**Pn**	**10 08 54.9**	**-1.2**
ALRZ				S	**Sn**	**10 10 25.5**	**-1.3**
MTHZ	**Maungataniwha**	**8.17**	**209**	P	**Pn**	**10 08 54.8**	**-1.6**
MTHZ				S	**Sn**	**10 10 25.5**	**-1.9**
NMHZ	**Naumai**	**8.39**	**208**	P	**Pn**	**10 08 58.0**	**-1.5**
NMHZ				S	**Sn**	**10 10 32.1**	**-0.9**
ARHZ	**Aropaoanui**	**8.46**	**207**	P	**Pn**	**10 08 59.5**	**-0.9**
BKZ	**Black Stump Fm**	**8.58**	**209**	P	**Pn**	**10 09 02.4**	**+0.4**
BKZ	**Black Stump Fm**	**8.58**	**209**	P	**Pn**	**10 08 59.4**	**-2.6**
RITZ	**Rihia Road**	**8.70**	**213**	P	**Pn**	**10 09 03.7**	**0.0**
MCHZ	**McNeill Hill**	**8.73**	**207**	P	**Pn**	**10 09 02.8**	**-1.3**
KWHZ	**Kaweka Forest**	**8.82**	**209**	P	**Pn**	**10 09 01.8**	**-3.7**
HIZ	**Hauiti**	**8.84**	**219**	P	**Pn**	**10 09 07.5**	**+1.9**
HIZ	**Hauiti**	**8.84**	**219**	P	**Pn**	**10 09 08.1**	**+2.5**
OTVZ	**Oturere**	**8.94**	**213**	P	**Pn**	**10 09 06.8**	**-0.3**
KAHZ	**Kahuranaki**	**8.97**	**206**	P	**Pn**	**10 09 03.9**	**-3.5**
SNVZ	**South Ngauruho**	**8.97**	**213**	P	**Pn**	**10 09 07.3**	**-0.2**
TWVZ	**Taurewa**	**8.97**	**214**	P	**Pn**	**10 09 07.5**	**0.0**
BHHZ	**Black Hill Sta**	**9.03**	**210**	P	**Pn**	**10 09 06.6**	**-1.7**
KRHZ	**Kereru**	**9.03**	**208**	P	**Pn**	**10 09 04.5**	**-3.8**
MOVZ	**Moawhango**	**9.10**	**212**	P	**Pn**	**10 09 07.3**	**-1.9**
PXZ	**Pawanui**	**9.18**	**205**	P	**Pn**	**10 09 06.2**	**-4.1**
PNHZ	**Pukenui**	**9.33**	**208**	P	**Pn**	**10 09 07.9**	**-4.5**
WPHZ	**Waipukurau**	**9.37**	**207**	P	**Pn**	**10 09 10.5**	**-2.3**
PRHZ	**Porangahau**	**9.47**	**205**	P	**Pn**	**10 09 10.3**	**-4.0**
DVHZ	**Dannevirke**	**9.67**	**207**	P	**Pn**	**10 09 13.3**	**-3.7**
BFZ	**Birch Farm**	**9.98**	**206**	P	**Pn**	**10 09 20.4**	**-0.8**
BFZ	**Birch Farm**	**9.98**	**206**	P	Pn	10 09 15.6	-5.6
TMWZ	**Te Maipa**	**10.48**	**206**	P	Pn	10 09 22.5	-5.6
OGWZ	**Otaki Gorge**	**10.51**	**209**	P	Pn	10 09 23.1	-5.4
MSVF	**Nonsavu**	**14.41**	**345**	Pn	**Pn**	**10 10 20.6**	**-1.3**
RPZ	**Rata Peaks**	**14.65**	**213**	P	**Pn**	**10 10 21.2**	**-3.9**
RPZ	**Rata Peaks**	**14.65**	**213**	P	Pn	10 10 17.7	-7.3
	11nm,0.9s,baz=30,slow=19,SNR=2.0						
RPZ				S	Sn	10 12 49.9	-16
	5.1nm,0.3s,baz=314,slow=24,SNR=16						
RPZ				LR	LR	10 16 03.2	
	comp=Z,187nm,18.2s,baz=46,slow=36						
ODZ	**Otahua Downs**	**15.88**	**210**	P	**Pn**	**10 10 34.6**	**-6.5**
JCZ	**Jackson Bay**	**16.02**	**216**	P	**Pn**	**10 10 37.4**	**-5.6**
DZM	**Mont Dzumac**	**16.81**	**301**	LR	LR	10 15 59.4	
	comp=Z,188nm,18.7s,baz=204,slow=32						
AFI	**Afiamalu**	**18.72**	**20**	P	**P**	**10 11 15.2**	**-0.8**
AFI				IAmb	IAmb	10 11 15.9	
	comp=Z,44nm,1.2s						
RAR	**Rarotonga**	**19.48**	**62**	LR	LR	10 20 28.7	
	comp=Z,30nm,18.4s,baz=216,slow=41						
CTA	**Charters Tower**	**33.95**	**281**	LR	LR	10 25 10.0	
	comp=Z,75nm,19.2s,baz=84,slow=32						
CTAO	**Charters Tower**	**33.95**	**281**	P	**P**	**10 13 41.8**	**+1.3**
STKA	**Stephens Creek**	**34.09**	**259**	P	**P**	**10 13 43.3**	**+1.7**
STKA	**Stephens Creek**	**34.09**	**259**	P	**P**	**10 13 43.2**	**+1.5**
	comp=Z,1.1nm,0.4s,baz=99,slow=13,SNR=6.3						
STKA				LR	LR	10 25 03.1	
	comp=Z,87nm,19.7s,baz=22,slow=32						
	comp=Z,1.1nm,0.4s						
BBOO	**Buckleboo**	**38.52**	**256**	P	**P**	**10 14 19.1**	**-0.4**
BBOO				IAmb	IAmb	10 14 19.4	
	comp=Z,7.2nm,1.1s						
COEN	**Coen**	**39.57**	**288**	P	**P**	**10 14 29.2**	**+0.8**
COEN				IAmb	IAmb	10 14 33.8	
	comp=Z,18nm,1.2s						
AS31	**Alice Springs**	**42.95**	**268**	P	**P**	**10 14 55.7**	**-0.5**
ASAR	**Alice Springs**	**42.95**	**268**	P	**P**	**10 14 56.0**	**-0.2**
ASAR	**Alice Springs**	**42.95**	**268**	P	**P**	**10 14 55.5**	**-0.7**
	comp=Z,3.3nm,0.6s,baz=106,slow=7.2,SNR=51						
	comp=Z,3.3nm,0.6s						
WR0	**Warramunga Arr**	**43.89**	**274**	P	**P**	**10 15 03.2**	**-0.5**
WR0				IAmb	IAmb	10 15 05.0	
	comp=Z,4.1nm,0.7s						
WB2	**Warramunga Arr**	**44.06**	**274**	P	**P**	**10 15 04.5**	**-0.6**
WB2				IAmb	IAmb	10 15 05.4	
	comp=Z,7.5nm,0.7s						
WRA	**Warramunga Arr**	**44.07**	**274**	P	**P**	**10 15 04.7**	**-0.5**
WRA	**Warramunga Arr**	**44.07**	**274**	P	**P**	**10 15 04.5**	**-0.7**
	comp=Z,4.6nm,0.3s,baz=113,slow=7.9,SNR=92						
	comp=Z,4.6nm,0.3s						
WB0	**Warramunga Arr**	**44.10**	**274**	P	**P**	**10 15 05.0**	**-0.4**
WB0				IAmb	IAmb	10 15 05.7	
	comp=Z,9.2nm,0.7s						
FORT	**Forrest**	**45.61**	**256**	P	**P**	**10 15 16.5**	**-0.8**
FORT				IAmb	IAmb	10 15 18.1	
	comp=Z,16nm,1.2s						
KNRA	**Kununurra**	**50.72**	**276**	P	**P**	**10 15 57.5**	**+0.6**
FITZ	**Fitzroy Crossi**	**52.27**	**271**	P	**P**	**10 16 08.0**	**-0.5**
FITZ				IAmb	IAmb	10 16 12.1	
	comp=Z,2.0nm,1.1s						
QSPA	**South Pole Qui**	**58.33**	**180**	P	**P**	**10 16 54.4**	**+2.7**
QSPA	**South Pole Qui**	**58.33**	**180**	P	**P**	**10 16 55.1**	**+3.4**
	comp=Z,1.4nm,0.8s,baz=71,slow=0.9,SNR=8.5						
	comp=Z,1.4nm,0.8s						
H03S2	**Juan Fernandez**	**79.79**	**123**	T	T	11 48 00.5	
	baz=236,slow=74,SNR=13						
H03S1	**Juan Fernandez**	**79.80**	**123**	T	T	11 47 52.5	
	baz=236,slow=74,SNR=13						
H03S3	**Juan Fernandez**	**79.81**	**123**	T	T	11 47 48.5	
	baz=236,slow=74,SNR=15						
H03N3	**Juan Fernandez**	**79.99**	**123**	T	T	11 48 11.5	
	baz=240,slow=72,SNR=43						
H03N2	**Juan Fernandez**	**79.99**	**123**	T	T	11 48 03.7	
	baz=240,slow=72,SNR=25						
H03N1	**Juan Fernandez**	**80.00**	**123**	T	T	11 48 02.1	
	baz=240,slow=72,SNR=88						
PLCA	**Paso Flores**	**81.64**	**133**	P	**P**	**10 19 18.4**	**+3.3**
	comp=Z,2.1nm,0.9s,baz=238,slow=3.2,SNR=5.0						
	comp=Z,2.1nm,0.9s						
NVAR	**Mina Array Bea**	**89.32**	**43**	P	**P**	**10 19 55.1**	**+1.9**
	comp=Z,1.6nm,0.9s,baz=229,slow=6.8,SNR=7.8						
NVAR				pP	**pwP**	**10 20 11.0**	**+1.8**
	comp=Z,0.6nm,0.8s,baz=221,slow=9.5,SNR=1.7						
	comp=Z,1.6nm,0.9s						
MKAR	**Makanchi Array**	**118.58**	**310**	PKP	**PKPdf**	**10 25 43.6**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=86,slow=0.8,SNR=2.6						
KURBB	**Kurchatov Arra**	**121.96**	**313**	PKP	**PKPdf**	**10 25 49.8**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=101,slow=1.9,SNR=1.3						
BVAR	**Borovoye Array**	**127.32**	**315**	PKP	**PKiKP**	**10 26 01.2**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=127,slow=2.4,SNR=6.4						
SPITS	**Spitsbergen Ar**	**133.07**	**356**	PKP	**PKiKP**	**10 26 12.7**	**+0.4**
	comp=Z,3.3nm,0.7s,baz=72,slow=9.3,SNR=1.9						
ARCES	**ARCESS Array B**	**139.91**	**347**	PKhKP	PKPpre	10 26 18.2	
	comp=Z,2.6nm,0.9s,baz=45,slow=2.7,SNR=7.2						
FINES	**FINESS Array B**	**146.40**	**339**	PKPbc	**PKPbc**	**10 26 36.3**	**-0.5**
	comp=Z,3.3nm,0.6s,baz=43,slow=4.1,SNR=12						
NOA	**NORSAR Array B**	**150.10**	**351**	PKPbc	**PKiKP**	**10 26 46.8**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=14,slow=4.1,SNR=4.8						
NOA				pPKPbc	**pPKPab**	**10 27 02.3**	**0.0**
	comp=Z,0.8nm,0.6s,baz=17,slow=4.2,SNR=3.0						
HFS	**Hagfors**	**150.57**	**348**	PKPbc	**PKPbc**	**10 26 47.4**	**-0.4**
	comp=Z,2.6nm,0.6s,baz=116,slow=3.4,SNR=9.3						
HFS				pPKPbc	**pPKPab**	**10 27 03.3**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=106,slow=4.7,SNR=2.2						
AKASG	**Malin Array Be**	**152.32**	**321**	PKPbc	**PKPbc**	**10 26 50.5**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=38,slow=4.4,SNR=4.0						
BRTR	**Keskin Array B**	**153.14**	**296**	PKPbc	**PKiKP**	**10 26 54.6**	**0.0**
	comp=Z,0.7nm,0.7s,baz=142,slow=2.9,SNR=2.7						
TORD	**Torodi Ar. Bea**	**161.45**	**179**	PKPab	**PKPab**	**10 27 43.6**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=208,slow=3.5,SNR=3.4						
TORD				pPKPab	**sPKPab**	**10 27 59.9**	**+4.6**
	comp=Z,0.9nm,0.6s,baz=195,slow=3.0,SNR=4.0						

*CATAC **09** 10:11:55.8±0.3,9˚.36N×82˚.81W,h5km,ML3.3*
*UPA **09** 10:11:55.8±2.1,9˚.32N×82˚.75W,h6km±7km,MW3.9*
*UCR **09** 10:11:56.1±1.2,9˚.35N×82˚.81W,h6km±8km,MW3.5*

ISC 09 10:11:54.8±1.1,9˚.40N±0˚.02×82˚.76W±0˚.02,h18km±3km,
n57,σ0s78/79,2C-6D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNI2	**El Empalme, Bo**	**0.29**	**84**	⇑eP	**Pb**	**10 12 01.6**	**+0.3**
CNI2				eS	**Sg**	**10 12 06.8**	**+1.3**
POTG	**Potrero Grande**	**0.49**	**226**	eP	**Pb**	**10 12 04.2**	**-0.7**
POTG				eS	**Sg**	**10 12 10.5**	**-0.9**
POTG	**Potrero Grande**	**0.49**	**226**	*i* P	**Pb**	**10 12 04.2**	**-0.7**
POTG				*i* S	**Sg**	**10 12 10.8**	**-0.6**
POTG				IAML		10 12 12.4	
	comp=Z,3μm,1.0s						
DRK0	**Durika**	**0.49**	**255**	eP	**Pb**	**10 12 04.4**	**-0.7**
DRK0				eS	**Sg**	**10 12 10.9**	**-0.7**
EDP2	**Potrero Grande**	**0.56**	**227**	eP	**Pb**	**10 12 05.6**	**-0.3**
EDBA	**Buenos Aires**	**0.56**	**246**	eP	**Pg**	**10 12 06.2**	**+0.3**
BC3P	**Paso Ancho**	**0.59**	**166**	⇓*i*P	**Pb**	**10 12 06.3**	**-0.4**
BC3P				eS	**Sb**	**10 12 14.4**	**-0.4**
BRU2	**Volcan**	**0.60**	**173**	⇓*i*P	**Pb**	**10 12 06.5**	**-0.2**
BRU2				*i* S	**Sb**	**10 12 15.0**	**0.0**
BRU2	**Volcan**	**0.60**	**173**	eP	**Pb**	**10 12 06.5**	**-0.2**
BRU2	**Volcan**	**0.60**	**173**	*i* P	**Pb**	**10 12 06.6**	**-0.2**
BRU2				*i* S	**Sb**	**10 12 14.8**	**-0.1**
BRU2				IAML		10 12 15.9	
	comp=Z,1μm,1.0s						
MLIR3	**Monte Lirio, C**	**0.60**	**186**	⇓eP	**Pg**	**10 12 07.0**	**+0.2**
MLIR3				eS	**Sg**	**10 12 16.4**	**+1.5**
BURE	**Buenos Aires**	**0.61**	**249**	eP	**Pb**	**10 12 06.5**	**-0.4**
LNBQ3	**Los Naranjos,**	**0.68**	**152**	⇓eP	**Pb**	**10 12 07.6**	**-0.5**
LNBQ3				eS	**Sg**	**10 12 17.7**	**+0.4**
BCO2	**Palmira**	**0.71**	**161**	⇓*i*P	**Pb**	**10 12 08.4**	**-0.3**
BCO2				eS	**Sg**	**10 12 18.5**	**+0.1**
CHGR2	**Aguacate**	**0.76**	**127**	eP	**Pg**	**10 12 09.9**	**+0.2**
CHGR2				eS	**Sn**	**10 12 21.0**	**-0.6**
EDPN	**Palmar Norte**	**0.81**	**238**	eP	**Pg**	**10 12 11.0**	**+0.4**
CDITO	**Canoas**	**0.82**	**188**	⇓*i*P	**Pb**	**10 12 10.9**	**+0.3**
CDITO				eS	**Sn**	**10 12 23.6**	**+0.4**
CDITO	**Canoas**	**0.82**	**188**	eP	**Pb**	**10 12 10.9**	**+0.3**
CDITO	**Canoas**	**0.82**	**188**	*i* P	**Pb**	**10 12 10.9**	**+0.3**
CDITO				*i* S	**Sg**	**10 12 22.6**	**+0.7**
CDITO				IAML		10 12 29.7	
	comp=Z,810nm,1.0s						
PSOM3	**Paja de Sombre**	**0.83**	**148**	eP	**Pb**	**10 12 10.1**	**-0.6**
EDAD	**Golfito**	**0.84**	**208**	eP	**Pb**	**10 12 10.5**	**-0.3**
FITO	**Golfito**	**0.86**	**207**	eP	**Pg**	**10 12 11.7**	**+0.2**
PEZE	**Perez Zeledon,**	**0.90**	**269**	eP	**Pb**	**10 12 11.5**	**-0.5**
PEZE	**Perez Zeledon,**	**0.90**	**269**	*i* P	**Pb**	**10 12 11.5**	**-0.5**
PEZE				*i* S	**Sb**	**10 12 23.3**	**-0.4**
PEZE				IAML		10 12 23.8	
	comp=Z,1μm,1.0s						
OCHAL	**Ojochal**	**0.92**	**251**	*i* P	**Pg**	**10 12 12.9**	**+0.2**
OCHAL				IAML		10 12 15.2	
	comp=Z,11nm,1.0s						
OCHAL				*i* S	**Sn**	**10 12 26.4**	**+0.8**
BATAN	**Batan**	**0.92**	**319**	eP	**Pg**	**10 12 13.2**	**+0.4**
BATAN				eS	**Sn**	**10 12 27.4**	**+1.8**
BATAN	**Batan**	**0.92**	**319**	*i* P	**Pn**	**10 12 12.6**	**-0.2**
BATAN				IAML		10 12 31.7	
	comp=Z,850nm,1.0s						
CDM	**Cerro de Muert**	**1.00**	**279**	eP	**Pb**	**10 12 13.5**	**-0.3**
CDM	**Cerro de Muert**	**1.00**	**279**	*i* P	**Pb**	**10 12 13.5**	**-0.3**
CDM				IAML		10 12 28.4	
	comp=Z,840nm,1.0s						
DVD	**David**	**1.00**	**162**	⇑eP	**Pn**	**10 12 14.0**	**+0.1**
DVD				eP	**Pg**	**10 12 14.2**	**0.0**
DVD				eS	**Sn**	**10 12 27.6**	**0.0**
PTJ1	**Puerto Jimnez**	**1.01**	**212**	eP	**Pb**	**10 12 13.6**	**-0.1**
JIME	**Puerto Jimenez**	**1.02**	**213**	eP	**Pb**	**10 12 13.8**	**-0.1**
LOCO3	**Loma Colorada,**	**1.04**	**161**	eP	**Pn**	**10 12 14.3**	**0.0**
LOC03				eS	**Sn**	**10 12 28.1**	**-0.3**
PEDE3	**Pedregal, Chir**	**1.06**	**162**	eP	**Pn**	**10 12 14.8**	**+0.1**
PEDE3				eS	**Sg**	**10 12 29.3**	**0.0**
PIRO	**Carate, Puerto**	**1.14**	**210**	eP	**Pn**	**10 12 15.4**	**-0.4**
RIMA	**Rio Macho**	**1.15**	**289**	eP	**Pb**	**10 12 16.2**	**0.0**
RIMA	**Rio Macho**	**1.15**	**289**	*i* P	**Pn**	**10 12 16.0**	**-0.1**
RIMA				IAML		10 12 36.2	
	comp=Z,250nm,1.0s						
PLAN	**Los Planes de**	**1.16**	**232**	*i* P	**Pn**	**10 12 15.7**	**-0.4**
PLAN				IAML		10 12 35.1	
	comp=Z,760nm,1.0s						
REPA	**Paraso**	**1.17**	**292**	eP	**Pg**	**10 12 17.8**	**+0.2**
PTPM	**Petroterminale**	**1.19**	**186**	eP	**Pg**	**10 12 17.8**	**0.0**
PTPM				eS	**Sg**	**10 12 36.0**	**+2.6**
LCR2	**La Lucha 2**	**1.27**	**286**	eP	**Pb**	**10 12 18.4**	**+0.1**
LCR2	**La Lucha 2**	**1.27**	**286**	*i* P	**Pb**	**10 12 18.3**	**0.0**
LCR2				IAML		10 12 37.9	
	comp=Z,300nm,1.0s						
OCM	**Ochomogo**	**1.28**	**293**	*i* P	**Pb**	**10 12 18.3**	**-0.2**
OCM				IAML		10 12 39.0	
	comp=Z,300nm,1.0s						
ABE2	**San Pablo**	**1.31**	**284**	eP	**Pb**	**10 12 18.8**	**-0.2**
ACOS	**Acosta**	**1.44**	**286**	eP	**Pb**	**10 12 21.3**	**+0.2**
HDC3	**Heredia 3**	**1.46**	**294**	*i* P	**Pb**	**10 12 21.8**	**+0.3**
HDC3				IAML		10 12 46.2	
	comp=Z,330nm,1.0s						
RIFO	**Rio Frio, Sara**	**1.47**	**309**	*i* P	**Pb**	**10 12 21.6**	**+0.1**
RIFO				IAML		10 12 41.6	
	comp=Z,300nm,1.0s						
TCS1	**Tacares**	**1.65**	**293**	*i* P	**Pb**	**10 12 24.9**	**+0.3**
TCS1				IAML		10 12 54.0	
	comp=Z,3μm,1.0s						
JACO	**JACO, Garabito**	**1.89**	**278**	*i* P	**Pb**	**10 12 27.7**	**-1.0**
JACO				IAML		10 12 55.5	
	comp=Z,120nm,1.0s						
SOCE	**Pocosol**	**2.08**	**298**	*i* P	**Pb**	**10 12 31.1**	**-0.8**
SOCE				IAML		10 13 06.8	
	comp=Z,190nm,1.0s						
COVE	**Coope Vega, Sa**	**2.08**	**309**	*i* P	**Pb**	**10 12 30.9**	**-1.1**
COVE				IAML		10 13 10.3	
	comp=Z,190nm,1.0s						
JTS	**Las Juntas de**	**2.33**	**293**	eP	**Pb**	**10 12 35.0**	**-1.3**
JTS				eS	**Sb**	**10 13 06.2**	**+1.3**
JTS	**Las Juntas de**	**2.33**	**293**	eP	**Pb**	**10 12 34.9**	**-1.4**
ORTG	**Ortega, Santa**	**2.83**	**290**	*i* P	**Pb**	**10 12 42.0**	**-2.8**
ORTG				IAML		10 13 52.5	
	comp=Z,65nm,1.0s						
BCIP	**Isla Barro Col**	**2.90**	**94**	*i* P	**Pb**	**10 12 43.6**	**-2.3**
BCIP				IAML		10 13 39.2	
	comp=Z,160nm,1.0s						
SAJU	**San Juanillo,**	**2.98**	**283**	*i* P	**Pb**	**10 12 46.3**	**-1.1**
SAJU				IAML		10 13 38.3	
	comp=Z,40nm,1.0s						
HZTE	**Horizontes, Gu**	**3.08**	**295**	*i* P	**Pb**	**10 12 48.9**	**-0.2**
HZTE				IAML		10 15 09.4	
	comp=Z,120nm,1.0s						

OTT 09 10:19:51.2±0.3,79˚.01N×98˚.40W,h18km,ML3.5/3,
113km east from Isachsen, Nu Sverdrup Seismic Zone.,
Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RES	**Resolute Bay**	**4.42**	**168**	PN	Pn	10 20 56.9	-0.3
RES				SN	Sn	10 21 45.4	-2.6
RES				Trac		10 21 50.5	
	comp=Z,54nm,1.6s						
CB31	**Cambridge Bay**	**10.09**	**194**	PN	Pn	10 22 13.9	-1.0
CB31	**Cambridge Bay**	**10.09**	**194**	SN	Sn	10 24 00.0	-7.4
CB31				Trac		10 24 09.1	
	comp=Z,6.8nm,1.2s						
ILON	**Igloolik, Nuna**	**10.61**	**147**	PN	Pn	10 22 20.6	-1.4
ILON	**Igloolik, Nuna**	**10.61**	**147**	SN	Sn	10 24 10.4	-10
ILON				Trac		10 24 17.4	
	comp=Z,1.7nm,0.5s						
YKAW3	**Yellowknife Wh**	**17.23**	**206**	PN	Pn

MACN	**El Madrono**	**0.73**	**129**	*i* P		**Pn**	**10 23 28.5**	**-0.3**
MACN				*i* S		**Sn**	**10 23 50.4**	**+0.7**
MACN				IAML			10 23 59.1	
	comp=Z,360nm,1.0s							
MOMN	**Momotombo**	**0.87**	**126**	*i* P		**Pn**	**10 23 29.5**	**-0.2**
MOMN				*i* S		**Sn**	**10 23 51.6**	**+0.4**
MOMN				IAML			10 23 57.6	
	comp=Z,24nm,1.0s							
LIMN	**Finca el Limon**	**0.88**	**81**	*i* P		**Pn**	**10 23 29.7**	**-0.1**
LIMN				IAML			10 23 30.1	
	comp=Z,320nm,1.0s							
MOM2	**El Cardon**	**0.90**	**123**	*i* P		**Pn**	**10 23 30.1**	**+0.3**
MOM2				*i* S		**Sn**	**10 23 52.1**	**+0.7**
MOM2				IAML			10 23 59.3	
	comp=Z,350nm,1.0s							
COPN	**Copaltepe**	**0.99**	**139**	*i* P		**Pn**	**10 23 29.9**	**-0.5**
COPN				IAML			10 23 53.4	
	comp=Z,580nm,1.0s							
JUCU	**Jucuarįn**	**1.01**	**289**	*e*P		**Pn**	**10 23 29.7**	**-0.9**
JUCU				IAML			10 23 30.2	
	comp=Z,426nm,0.3s							
JUCU	**Jucuarįn**	**1.01**	**289**	*i* P		**Pn**	**10 23 29.9**	**-0.7**
JUCU				IAML			10 23 30.2	
	comp=Z,470nm,1.0s							
JUCU				*i* S		**Sn**	**10 23 53.2**	**+0.3**
BLLM	**Bellamira**	**1.08**	**298**	*e*P		**Pn**	**10 23 30.8**	**-0.3**
YUSH	**Yuscaran**	**1.10**	**22**	*i*P		**Pn**	**10 23 31.4**	**+0.1**
YUSH				*e*S		**Sn**	**10 23 54.1**	**-0.2**
YUSH	**Yuscaran**	**1.10**	**22**	*i* P		**Pn**	**10 23 31.4**	**+0.1**
LCY	**Lacayo**	**1.12**	**296**	*e*P		**Pn**	**10 23 31.3**	**-0.1**
RANC	**El Ranchito**	**1.12**	**297**	*e*P		**Pn**	**10 23 31.2**	**-0.2**
RANC	**El Ranchito**	**1.12**	**297**	*i* P		**Pn**	**10 23 31.0**	**-0.5**
RANC				IAML			10 23 31.8	
	comp=Z,380nm,1.0s							
RANC				*i* S		**Sn**	**10 23 55.5**	**+1.0**
TGUH	**Tegucigalpa,Un**	**1.12**	**359**	*i* P		**Pn**	**10 23 31.5**	**0.0**
TGUH				IAML			10 23 32.2	
	comp=Z,120nm,1.0s							
PACA	**Pacayal**	**1.16**	**298**	*e*P		**Pn**	**10 23 31.8**	**+0.1**
PACA	**Pacayal**	**1.16**	**298**	*i* P		**Pn**	**10 23 31.9**	**+0.1**
PACA				IAML			10 24 03.0	
	comp=Z,2µm,1.0s							
RCPN	**Sur Rio San Ju**	**1.28**	**62**	*i* P		**Pn**	**10 23 31.7**	**-1.1**
RCPN				IAML			10 23 31.9	
	comp=Z,0.6nm,1.0s							
MATN	**Matagalpa**	**1.30**	**90**	*i* P		**Pn**	**10 23 32.9**	**0.0**
MATN				IAML			10 23 33.0	
	comp=Z,210nm,1.0s							
CRUN	**El Crucero**	**1.33**	**135**	*i* P		Pn	10 23 38.6	+5.4
TECA	**Tecapa**	**1.33**	**295**	*e*P		**Pn**	**10 23 33.0**	**-0.3**
TECA				*e*S		**Sn**	**10 23 59.2**	**+1.5**
PQSS	**Presa 15 de Se**	**1.44**	**299**	*e*P		**Pn**	**10 23 33.8**	**-0.2**
PQSS	**Presa 15 de Se**	**1.44**	**299**	*i* P		**Pn**	**10 23 33.9**	**-0.1**
PQSS				IAML			10 23 34.0	
	comp=Z,240nm,1.0s							
COMHN	**El Horno**	**1.53**	**349**	*i* P		**Pn**	**10 23 34.9**	**-0.2**
SCLA	**Alcaldia de Sa**	**1.62**	**298**	*e*P		**Pn**	**10 23 35.6**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.62**	**298**	*i* P		**Pn**	**10 23 35.6**	**-0.1**
SCLA				IAML			10 24 13.9	
	comp=Z,59nm,1.0s							
BOAB	**BOACO BROADBAN**	**.63**	**107**	*i* P		**Pn**	**10 23 35.9**	**+0.2**
BOAB				IAML			10 23 36.3	
	comp=Z,170nm,1.0s							
COEG	**Centro de Oper**	**1.72**	**294**	*e*P		**Pn**	**10 23 36.4**	**-0.2**
COEG				IAML			10 23 37.3	
	comp=Z,190nm,0.4s							
COEG	**Centro de Oper**	**1.72**	**294**	*i* P		**Pn**	**10 23 36.5**	**-0.2**
COEG				IAML			10 23 36.7	
	comp=Z,150nm,1.0s							
COEG				*i* S		**Sn**	**10 24 03.6**	**-0.2**
SJTE	**Alcalda de S**	**1.83**	**292**	*e*P		**Pn**	**10 23 37.4**	**-0.5**
SJTE	**Alcalda de S**	**1.83**	**292**	*i* P		**Pn**	**10 23 37.5**	**-0.3**
SJTE				IAML			10 23 37.9	
	comp=Z,200nm,1.0s							
JAYA	**Jayaque - finc**	**2.25**	**289**	*i* P		**Pn**	**10 23 42.0**	**-0.3**
JAYA				IAML			10 24 15.7	
	comp=Z,670nm,1.0s							
SIUN	**Universidad Ur**	**2.55**	**72**	*i* P		**Pn**	**10 23 45.2**	**-0.3**
SIUN				IAML			10 23 45.4	
	comp=Z,12nm,1.0s							
SIUN				*i* S		Sn	10 24 01.1	-19
NUBE	**Las Nubes**	**2.63**	**292**	*i* P		**Pn**	**10 23 46.2**	**-0.5**
NUBE				IAML			10 24 28.5	
	comp=Z,100nm,1.0s							
HZTE	**Horizontes, Gu**	**2.74**	**143**	*i* P		**Pn**	**10 23 47.5**	**-0.3**
HZTE				IAML			10 24 36.7	
	comp=Z,160nm,1.0s							
SAJU	**San Juanillo,**	**3.23**	**152**	*i* P		**Pn**	**10 23 53.3**	**-0.3**
DUNO	**Dulce Nombre,**	**3.32**	**148**	*i* P		**Pn**	**10 23 54.9**	**+0.1**
GRZA	**Playa Garza**	**3.39**	**152**	*i* P		**Pn**	**10 23 55.6**	**-0.1**
INDI	**Punta indio, G**	**3.50**	**150**	*i* P		**Pn**	**10 23 56.9**	**-0.1**
CHTG	**Tecpan**	**4.05**	**297**	*i* P		Pn	10 23 56.9	-7.2

*IDC **09** 10:52:14.5±1.0,37°.06S×96°.21W,h0km,mb4.0/6, mbtmp4.1/6,MS3.7/7,Error ellipse: s-maj=32.7km s-min=24.4km az=80.0*

*NEIC **09** 10:52:16.3±1.7,37°.1S±0°.1×96°.0W±0°.2,h10km±1km, mb4.5/54,Error ellipse: s-maj=24.4km s-min=20.8km az=116.0*

ISC 09 10:52:15.8±0.7,37°.1S±0°.1×96°.0W±0°.1,h10km,n87, σ0≥95/69,mb4.5/28,MS3.5/7,Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**14.29**	**82**	T	T	11 10 35.8	
	baz=252,slon=74,SNR=96						
H03S1	**Juan Fernandez**	**14.30**	**82**	T	T	11 10 36.1	
	baz=252,slon=74,SNR=46						
H03S3	**Juan Fernandez**	**14.31**	**82**	T	T	11 10 34.6	
	baz=252,slon=74,SNR=58						
H03N2	**Juan Fernandez**	**14.41**	**80**	T	T	11 10 39.9	
	baz=248,slow=72,SNR=220						
H03N3	**Juan Fernandez**	**14.41**	**80**	T	T	11 10 41.2	
	baz=248,slow=72,SNR=220						
H03N1	**Juan Fernandez**	**14.43**	**80**	T	T	11 10 39.5	
	baz=248,slow=72,SNR=181						
RPN	**Rapa Nui**	**15.04**	**308**	LR	LR	10 59 49.7	
	comp=Z,397nm,19.0s,baz=118,slow=31						
GO05	**Huala**	**19.56**	**91**	P	**P**	**10 56 43.7**	**-0.1**
GO05				IAmb	IAmb	10 56 46.5	
	comp=Z,18nm,1.1s						
PLCA	**Paso Flores**	**20.11**	**108**	P	**P**	**10 56 49.3**	**-0.4**
PLCA	**Paso Flores**	**20.11**	**108**	P	Pn	10 56 52.4	+0.9
	comp=Z,4.3nm,1.1s,baz=262,slow=10,SNR=4.2						
PLCA				LR	LR	11 02 38.8	
	comp=Z,212nm,19.0s,baz=266,slow=31						
	comp=Z,4.3nm,1.1s						
VA05	**Santo Domingo**	**20.16**	**87**	P	**P**	**10 56 51.9**	**+1.6**
VA05				IAmb	IAmb	10 56 56.3	
	comp=Z,22nm,1.1s						
BO01	**Tunca**	**20.39**	**90**	P	**P**	**10 56 52.3**	**-0.4**
MT01	**Popeta**	**20.39**	**88**	P	**P**	**10 56 53.9**	**+1.1**
GO08	**Villa O'Higgin**	**20.52**	**131**	P	**P**	**10 56 55.4**	**+1.2**
GO08				IAmb	IAmb	10 57 26.6	
	comp=Z,32nm,1.4s						
BO02	**Sierra Bellavi**	**20.53**	**91**	P	**P**	**10 56 54.3**	**-0.1**
MT09	**Talagante**	**20.63**	**88**	P	**P**	**10 56 55.3**	**-0.2**
MT09				IAmb	IAmb	10 57 00.8	
	comp=Z,31nm,1.5s						
MT02	**Curacav**	**20.66**	**87**	P	**P**	**10 56 56.0**	**+0.2**
VA06	**Catapilco**	**20.75**	**85**	P	**P**	**10 56 56.0**	**-0.7**
VA06				IAmb	IAmb	10 57 01.8	
	comp=Z,13nm,0.9s						
PEL	**Peldehue**	**21.06**	**87**	P	**P**	**10 57 01.4**	**+1.4**
PEL				IAmb	IAmb	10 57 14.2	
	comp=Z,20nm,1.3s						
MT03	**Universidad Ad**	**21.09**	**88**	P	**P**	**10 57 01.9**	**+1.4**
MT03				IAmb	IAmb	10 57 02.7	
	comp=Z,23nm,1.1s						
MT16	**CCHEN**	**21.10**	**88**	P	**P**	**10 57 02.0**	**+1.4**
MT16				IAmb	IAmb	10 57 25.7	
	comp=Z,17nm,0.5s						
CO06	**Fray Jorge**	**21.19**	**80**	P	**P**	**10 57 00.5**	**-0.9**
CO06				IAmb	IAmb	10 57 06.3	
	comp=Z,28nm,1.2s						
MT13	**San Alfonso**	**21.20**	**89**	P	P	10 56 49.9	-12
MT13				IAmb	IAmb	10 57 05.0	
	comp=Z,12nm,0.9s						
LMEL	**Las Melosas**	**21.24**	**89**	P	P	10 56 48.5	-14
LMEL				IAmb	IAmb	10 57 05.3	
	comp=Z,32nm,1.1s						
VA03	**San Esteban**	**21.28**	**86**	P	**P**	**10 57 00.5**	**-2.0**
VA03				IAmb	IAmb	10 57 09.6	
	comp=Z,11nm,0.8s						
CO02	**Combarbal**	**21.48**	**81**	P	**P**	**10 57 03.0**	**-1.7**
CO02				IAmb	IAmb	10 57 28.3	
	comp=Z,35nm,1.4s						
AC02	**Maricunga**	**24.91**	**73**		**P**	**10 57 40.0**	**+0.4**
AC02				IAmb	IAmb	10 57 43.2	
	comp=Z,25nm,1.4s						
PB14	**IPOC Station P**	**25.16**	**68**	P	**P**	**10 57 41.6**	**0.0**
GO02	**Mina Guanaco**	**25.46**	**70**	P	**P**	**10 57 45.3**	**+0.9**
GO02				IAmb	IAmb	10 57 49.3	
	comp=Z,13nm,1.1s						
PB15	**IPOC Station P**	**26.68**	**66**	P	**P**	**10 57 56.5**	**+1.2**
TRQA	**Tornquist**	**26.89**	**102**	P	**P**	**10 57 54.8**	**-2.1**
TRQA				IAmb	IAmb	10 57 58.7	
	comp=Z,7.1nm,1.1s						
LVC	**Limon Verde**	**27.46**	**66**		**P**	**10 58 03.0**	**+0.5**
LVC				IAmb	IAmb	10 58 06.4	
	comp=Z,6.5nm,1.0s						
LVC	**Limon Verde**	**27.46**	**66**	LR	LR	11 05 57.5	
	comp=Z,154nm,21.2s,baz=238,slow=30						
LVC	**Limon Verde**	**27.46**	**66**	*e*P	**P**	**10 58 03.3**	**+0.8**
PB08	**IPOC Station P**	**28.85**	**62**	P	**P**	**10 58 13.1**	**-1.8**
PB08				IAmb	IAmb	10 58 17.5	
	comp=Z,16nm,1.4s						
NNA	**Nana**	**30.36**	**39**	LR	LR	11 08 13.3	
	comp=Z,131nm,18.2s,baz=218,slow=32						
LPAZ	**La Paz**	**32.20**	**57**		**P**	**10 58 45.7**	**+0.8**
LPAZ	**La Paz**	**32.20**	**57**	P	**P**	**10 58 45.8**	**+1.0**
	comp=Z,7.5nm,1.1s,baz=214,slow=7.0,SNR=16						
LPAZ				LR	LR	11 09 12.2	
	comp=Z,55nm,19.1s,baz=208,slow=32						
	comp=Z,7.5nm,1.1s						
LPAZ	**La Paz**	**32.20**	**57**	*e*P	**P**	**10 58 45.4**	**+0.5**
ATAH	**Atahualpa**	**33.87**	**33**	LR	LR	11 09 37.4	
	comp=Z,122nm,19.2s,baz=222,slow=31						
CPUP	**Villa Florida**	**34.39**	**83**	LR	LR	11 11 19.4	
	comp=Z,79nm,18.7s,baz=244,slow=33						
MCRA	**Macar, Loja**	**35.75**	**28**	P	**P**	**10 59 14.1**	**-0.9**
COHC	**Cochancay**	**37.76**	**28**	P	**P**	**10 59 32.5**	**+0.4**
ETMB	**Extrema**	**38.23**	**52**	P	**P**	**10 59 35.7**	**-0.3**
ETMB	**Extrema**	**38.23**	**52**	*e*P	**P**	**10 59 35.2**	**-0.8**
AQDB	**Aquidauana**	**38.69**	**76**	P	**P**	**10 59 40.2**	**+0.3**
PTLB	**Pontes e Lacer**	**39.12**	**66**		**P**	**10 59 43.8**	**+0.2**
PTLB	**Pontes e Lacer**	**39.12**	**66**	*e*P	**P**	**10 59 43.7**	**+0.2**
VILB	**Vilhena**	**40.01**	**62**	P	**P**	**10 59 50.8**	**-0.2**
VILB				IAmb	IAmb	11 00 02.5	
	comp=Z,7.0nm,0.7s						
SAML	**Samuel**	**40.83**	**55**	P	**P**	**10 59 57.6**	**-0.1**
PDRB	**Porto dos Gac**	**43.40**	**65**	*e*P	**P**	**11 00 19.0**	**+0.2**
ARAG	**Araguaiana, MT**	**44.46**	**73**	*e*P	**P**	**11 00 27.7**	**+0.4**
MACA	**Manacapuru-AM**	**46.82**	**52**	P	**P**	**11 00 45.8**	**-0.1**
MACA	**Manacapuru-AM**	**46.82**	**52**	*e*P	**P**	**11 00 45.6**	**-0.3**
SNDB	**Serra Nova Dou**	**47.17**	**70**	*e*P	**P**	**11 00 48.0**	**-0.7**
SMTB	**Santa Maria do**	**51.95**	**70**	*e*P	**P**	**11 01 25.1**	**-0.1**
QSPA	**South Pole Qui**	**53.12**	**180**	P	**P**	**11 01 34.2**	**+0.9**
QSPA	**South Pole Qui**	**53.12**	**180**	P	**P**	**11 01 33.8**	**+0.4**
	comp=Z,3.3nm,1.1s,baz=151,slow=1.7,SNR=7.3						
	comp=Z,2.3nm,1.1s						
TEIG	**Tepich**	**57.49**	**9**	P	**P**	**11 02 05.3**	**+0.2**
HNDO	**Hondo**	**66.36**	**357**	P	**P**	**11 03 04.3**	**-0.3**
TXAR	**Lajitas Array**	**66.48**	**353**	P	**P**	**11 03 06.3**	**+0.8**
TXAR	**Lajitas Array**	**66.48**	**353**	P	**P**	**11 03 05.8**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=173,slow=8.2,SNR=10						
	comp=Z,0.8nm,0.8s						
TX31	**Lajitas Ar. Si**	**66.48**	**353**	P	**P**	**11 03 06.5**	**+1.0**
TX31				IAmb	IAmb	11 03 15.4	
	comp=Z,7.5nm,1.4s						
SAND	**Sanderson**	**66.96**	**354**	P	**P**	**11 03 08.9**	**+0.4**
SAND				IAmb	IAmb	11 03 16.5	
	comp=Z,2.7nm,0.8s						
RAO	**Raoul Island**	**67.03**	**250**	LR	LR	11 27 03.3	
	comp=Z,3µm,21.0s,baz=312,slow=31						
ALPN	**Alpine**	**67.51**	**353**	P	**P**	**11 03 12.2**	**+0.1**
ALPN				IAmb	IAmb	11 03 20.4	
	comp=Z,4.2nm,0.8s						
MNHN	**Monahans**	**68.38**	**354**	P	**P**	**11 03 17.2**	**-0.3**
APMT	**Aspermont**	**70.17**	**356**	P	**P**	**11 03 27.7**	**-0.8**
MSTX	**Muleshoe**	**70.99**	**354**	P	**P**	**11 03 33.7**	**+0.1**
Y14A	**Wickenburg**	**72.44**	**345**	P	**P**	**11 03 43.4**	**+1.2**
Y14A				IAmb	IAmb	11 03 50.8	
	comp=Z,8.2nm,1.3s						
CCUT	**Cedar City**	**76.00**	**346**	P	**P**	**11 04 04.6**	**+1.4**
CCUT				IAmb	IAmb	11 04 12.4	
	comp=Z,5.0nm,1.2s						
PRN	**Pahroc Range**	**76.21**	**344**	P	**P**	**11 04 06.8**	**+2.5**
PRN				IAmb	IAmb	11 04 26.0	
	comp=Z,9.3nm,1.5s						
MSVF	**Nonsavu**	**76.37**	**258**	P	**P**	**11 04 04.8**	**-0.9**
GMN	**Gold Mountain**	**76.61**	**343**	P	**P**	**11 04 06.3**	**-0.4**
LHV	**Little Huntoon**	**77.81**	**342**	P	**P**	**11 04 15.6**	**+2.6**
LHV				IAmb	IAmb	11 04 29.4	
	comp=Z,8.4nm,1.3s						
NV11	**Mina Array Sit**	**77.90**	**342**	P	**P**	**11 04 14.8**	**+1.0**
NV11				IAmb	IAmb	11 04 22.6	
	comp=Z,4.6nm,1.1s						
NVAR	**Mina Array Bea**	**77.93**	**342**	P	**P**	**11 04 14.8**	**+0.8**
NVAR	**Mina Array Bea**	**77.93**	**342**	P	**P**	**11 04 14.1**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=166,slow=6.9,SNR=10						
	comp=Z,1.6nm,0.9s						
PD31	**Pinedale Array**	**80.45**	**350**	P	**P**	**11 04 27.6**	**-0.1**
PDAR	**Pinedale Array**	**80.45**	**350**	P	**P**	**11 04 27.6**	**-0.1**
PDAR	**Pinedale Array**	**80.45**	**350**	P	**P**	**11 04 27.3**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=158,slow=6.0,SNR=13						
	comp=Z,1.1nm,0.7s						
HLID	**Hailey**	**82.02**	**347**	P	**P**	**11 04 36.5**	**+0.6**
HLID				IAmb	IAmb	11 04 44.4	
	comp=Z,2.9nm,0.9s						
LHI	**Lord Howe Isla**	**82.16**	**236**	P	**P**	**11 04 36.4**	**-0.6**
H01W1	**Cape Leeuwin H**	**103.07**	**205**	T	T	13 02 13.2	
	baz=154,slow=75,SNR=11						
H01W2	**Cape Leeuwin H**	**103.07**	**205**	T	T	13 02 12.1	
	baz=154,slow=75,SNR=13						
H01W3	**Cape Leeuwin H**	**103.09**	**205**	T	T	13 02 15.7	
	baz=154,slow=75,SNR=4.7						
CMAR	**Chiang Mai Arr**	**157.25**	**219**	PKPab	**PKPab**	**11 12 43.0**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=149,slow=4.2,SNR=1.8						

*NOU **09** 10:55:12.4,38°.32S×176°.18E,h163km,MLv3.8/11,North Island, New Zealand*

*WEL **09** 10:55:13.7±0.7,38°.3S±3°×17°.6E±°,h147km±7km,M3.1/66, ML2.3/8,MLv3.1/66,Error ellipse: s-maj=0.0km s-min=0.0km az=148.2*

ISC 09 10:55:10.8±1.5,38°.28S±0°.04×176°.18E±0°.04,h175km±9km, n150,σ0≥94/155,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSRZ	**Hossack Road**	**0.06**	**120**	P	**Pn**	**10 55 34.3**	**+0.3**
GRRZ	**Galatos Road**	**0.09**	**218**	P	**Pn**	**10 55 34.3**	**+0.4**
UTU	**Utuhina**	**0.10**	**7**	P	**Pn**	**10 55 34.4**	**+0.4**
HRRZ	**Handcock Road**	**0.14**	**143**	P	**Pn**	**10 55 34.3**	**+0.2**
HLRZ	**Highlands Stat**	**0.14**	**78**	P	**Pn**	**10 55 34.6**	**+0.6**
OMRZ	**Omania**	**0.23**	**41**	P	**Pn**	**10 55 34.3**	**0.0**
WPRZ	**Whakapapataran**	**0.24**	**183**	P	**Pn**	**10 55 34.5**	**+0.3**
TARZ	**Mount Tarawera**	**0.26**	**80**	P	**Pn**	**10 55 34.6**	**+0.2**
KARZ	**Kaharoa**	**0.27**	**11**	P	**Pn**	**10 55 34.3**	**0.0**
MKRZ	**Makatiti**	**0.27**	**58**	P	**Pn**	**10 55 35.1**	**+0.7**
RRRZ	**Republican Roa**	**0.27**	**102**	P	**Pn**	**10 55 34.3**	**0.0**
PRRZ	**Plateau Road**	**0.28**	**142**	P	**Pn**	**10 55 34.4**	**+0.2**
ALRZ	**Allen Road**	**0.31**	**155**	P	**Pn**	**10 55 34.6**	**+0.3**
LIRZ	**Lichensteins R**	**0.32**	**30**	P	**Pn**	**10 55 34.5**	**+0.1**
KUTZ	**Kaahu Road**	**0.35**	**233**	P	**Pn**	**10 55 34.8**	**+0.4**
ARAZ	**Aratiatia Land**	**0.35**	**188**	P	**Pn**	**10 55 35.0**	**+0.6**
POIZ	**Poihipi**	**0.37**	**198**	P	**Pn**	**10 55 35.3**	**+0.8**
WHTZ	**Whakaora**	**0.42**	**204**	P	**Pn**	**10 55 35.5**	**+0.7**
KMRZ	**Kaimai**	**0.47**	**337**	P	**Pn**	**10 55 35.1**	**+0.1**
EDRZ	**Edgecumbe**	**0.47**	**69**	P	**Pn**	**10 55 34.9**	**-0.1**
MARZ	**Manawahe**	**0.49**	**53**	P	**Pn**	**10 55 35.2**	**+0.2**
MUGZ	**Murupara**	**0.51**	**113**	P	**Pn**	**10 55 35.1**	**+0.1**
TLZ	**Tolley Road**	**0.51**	**264**	P	**Pn**	**10 55 35.5**	**+0.5**
WATZ	**Wairara**	**0.55**	**219**	P	**Pn**	**10 55 35.8**	**+0.5**
TGRZ	**Tauranga**	**0.56**	**7**	P	**Pn**	**10 55 35.2**	**-0.1**
MRHZ	**Matea Rd**	**0.58**	**161**	P	**Pn**	**10 55 35.9**	**+0.4**
HATZ	**Hinemaiaia**	**0.61**	**186**	P	**Pn**	**10 55 35.9**	**+0.4**
RATZ	**Rangitukua**	**0.67**	**208**	P	**Pn**	**10 55 36.3**	**+0.5**
RTZ	**Ruatahuna**	**0.71**	**118**	P	**Pn**	**10 55 36.6**	**+0.4**
URZ	**Urewera**	**0.73**	**89**	P	**Pn**	**10 55 35.9**	**-0.3**
URZ	**Urewera**	**0.73**	**89**	P	**Pn**	**10 55 36.1**	**-0.1**
RITZ	**Rihia Road**	**0.74**	**200**	P	**Pn**	**10 55 37.2**	**+1.0**
TOZ	**Tahuroa Road**	**0.77**	**316**	P	**Pn**	**10 55 36.7**	**+0.3**
MTHZ	**Maungataniwha**	**0.77**	**138**	P	**Pn**	**10 55 37.2**	**+0.7**
TMVZ	**Te Maari**	**0.91**	**204**	P	**Pn**	**10 55 38.2**	**+0.7**
BKZ	**Black Stump Fm**	**0.92**	**165**	P	**Pn**	**10 55 38.0**	**+0.6**
BKZ	**Black Stump Fm**	**0.92**	**165**	P	**Pn**	**10 55 38.1**	**+0.7**
ETVZ	**East Tongariro**	**0.93**	**203**	P	**Pn**	**10 55 38.3**	**+0.8**
NMHZ	**Naumai**	**0.95**	**149**	P	**Pn**	**10 55 39.3**	**+1.6**
WTVZ	**West Tongariro**	**0.95**	**209**	P	**Pn**	**10 55 38.4**	**+0.6**
RAHZ	**Arahi**	**0.95**	**132**	P	**Pn**	**10 55 38.8**	**+1.2**
NNVZ	**North Ngauruho**	**0.96**	**207**	P	**Pn**	**10 55 38.6**	**+0.8**
OTVZ	**Oturere**	**0.97**	**204**	P	**Pn**	**10 55 38.9**	**+1.0**
TWVZ	**Taurewa**	**0.98**	**216**	P	**Pn**	**10 55 38.6**	**+0.7**
SNVZ	**South Ngauruho**	**1.00**	**205**	P	**Pn**	**10 55 38.8**	**+0.7**
NGZ	**Ngauruhoe**	**1.00**	**207**	P	**Pn**	**10 55 39.2**	**+1.1**
SNGZ	**Shannon Statio**	**1.04**	**119**	P	**Pn**	**10 55 39.5**	**+1.2**
COVZ	**Chateau Observ**	**1.04**	**208**	P	**Pn**	**10 55 39.2**	**+0.7**
MWZ	**Matawai**	**1.06**	**93**	P	**Pn**	**10 55 39.0**	**+0.5**
HIZ	**Hauiti**	**1.06**	**257**	P	**Pn**	**10 55 39.1**	**+0.7**
HIZ	**Hauiti**	**1.06**	**257**	P	**Pn**	**10 55 39.2**	**+0.7**
TUVZ	**Tukino**	**1.07**	**202**	P	**Pn**	**10 55 39.6**	**+0.9**
FWVZ	**Far West T-bar**	**1.09**	**206**	P	**Pn**	**10 55 39.4**	**+0.5**
MAVZ	**Matarangi**	**1.10**	**206**	P	**Pn**	**10 55 39.6**	**+0.6**
WHVZ	**Whangaehu Hut**	**1.10**	**205**	P	**Pn**	**10 55 39.7**	**+0.7**
TRVZ	**Turoa**	**1.13**	**206**	P	**Pn**	**10 55 39.9**	**+0.7**
WNVZ	**Wahianoa**	**1.14**	**203**	P	**Pn**	**10 55 40.0**	**+0.8**
WHHZ	**Waihua**	**1.15**	**134**	P	**Pn**	**10 55 40.5**	**+1.4**
KWHZ	**Kaweka Forest**	**1.16**	**171**	P	**Pn**	**10 55 40.3**	**+1.0**
ARHZ	**Aropaoanui**	**1.17**	**147**	P	**Pn**	**10 55 40.8**	**+1.5**
MOVZ	**Moawhango**	**1.17**	**196**	P	**Pn**	**10 55 39.9**	**+0.5**
PKVZ	**Pokaka**	**1.20**	**213**	P	**Pn**	**10 55 40.5**	**+0.9**
BHHZ	**Black Hill Sta**	**1.21**	**184**	P	**Pn**	**10 55 40.4**	**+0.7**
RUGZ	**Raukumara Rang**	**1.22**	**76**	P	**Pn**	**10 55 39.5**	**-0.4**
MCHZ	**McNeill Hill**	**1.23**	**161**	P	**Pn**	**10 55 41.5**	**+1.7**
MCHZ					S	**Sn**	**10 56 02.9**	**+0.5**
MTVZ	**Mangateitei**	**1.23**	**206**	P	**Pn**	**10 55 40.9**	**+1.0**
RIGZ	**Rimuhau**	**1.31**	**109**	P	**Pn**	**10 55 41.8**	**+1.2**
RIGZ					S	**Sn**	**10 56 03.4**	**-0.2**
TKGZ	**Te Karaka**	**1.32**	**97**	P	**Pn**	**10 55 41.7**	**+1.1**
TKGZ					S	**Sn**	**10 56 03.4**	**-0.3**
KRHZ	**Kereru**	**1.37**	**174**	P	**Pn**	**10 55 42.1**	**+1.1**
KRHZ					S	**Sn**	**10 56 03.7**	**-1.0**
HAZ	**Te Kaha**	**1.37**	**68**	P	**Pn**	**10 55 40.9**	**-0.2**
HAZ					S	**Sn**	**10 56 01.4**	**-3.1**
VRZ	**Vera Road**	**1.39**	**232**	P	**Pn**	**10 55 42.5**	**+1.2**
VRZ					S	**Sn**	**10 56 06.1**	**+1.1**
TWGZ	**Tauwhareparae**	**1.42**	**86**	P	**Pn**	**10 55 42.8**	**+1.1**
TWGZ					S	**Sn**	**10 56 04.3**	**-1.2**
MKAZ	**Moumakai**	**1.43**	**325**	P	**Pn**	**10 55 42.1**	**+0.5**
MKAZ					S	**Sn**	**10 56 04.7**	**-0.7**
PRGZ	**Paritu Road**	**1.48**	**116**	P	**Pn**	**10 55 43.4**	**+1.3**
CKHZ	**Cape Kidnapper**	**1.54**	**153**	P	**Pn**	**10 55 44.3**	**+1.6**
CKHZ					S	**Sn**	**10 56 07.1**	**-0.4**
PKGZ	**Pakihiroa**	**1.55**	**76**	P	**Pn**	**10 55 43.4**	**+0.6**
PKGZ					S	**Sn**	**10 56 06.8**	**-0.8**
KUZ	**Kuaotunu**	**1.58**	**347**	P	**Pn**	**10 55 43.4**	**+0.3**
KUZ	**Kuaotunu**	**1.58**	**347**	P	**Pn**	**10 55 43.4**	**+0.3**
KAHZ	**Kahuranaki**	**1.60**	**160**	P	**Pn**	**10 55 44.9**	**+1.6**
CNGZ	**Carnagh Statio**	**1.61**	**98**	P	**

NEIC ***09*** *11:06:08.2±1.9, 4°.28S±0°.06×153°.39E±0°.05, h30km±1km, mb5.8/248, Ms_20 5.4/348, Mwb5.6/49, Mww5.8/25, Error ellipse: s-maj=10.0km s-min=8.3km az=4.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.96; $M_{\theta\theta}$1.91; $M_{\phi\phi}$-2.88; $M_{r\theta}$-2.31; $M_{\theta\phi}$0.10; $M_{\phi r}$-0.99; Fault plane solution: M_o3.57000×10^{17} NP1: ϕ_s219.61000°, δ75.67000°, λ137.23000°. NP2: ϕ_s322.51000°, δ48.86000°, λ19.19000°. Principal axes: T 3.8751, Plg40.0000°, Azm172.0000°; N -0.7077, Plg45.0000°, Azm25.0000°; P -3.1674, Plg17.0000°, Azm277.0000°;*

MOS ***09*** *11:06:08.0±0.9, 4°.27S×153°.33E, h48km, mb5.9/57, MS5.2/27 Error ellipse: s-maj=6.4km s-min=4.7km az=110.0*

NEIC ***09*** *11:06:08.7, 4°.24S×153°.16E, h40km, Moment Tensor Solution. Duration: 4ᵴ1 Moment tensor: Scale 10^{17}Nm; M_{rr}2.09; $M_{\theta\theta}$3.97; $M_{\phi\phi}$-6.06; $M_{r\theta}$-3.12; $M_{\theta\phi}$1.24; $M_{\phi r}$-0.92; Fault plane solution: M_o6.37000×10^{17} NP1: ϕ_s212.07000°, δ68.44000°, λ149.62000°. NP2: ϕ_s314.23000°, δ61.94000°, λ24.61000°. Principal axes: T 6.4828, Plg36.0000°, Azm171.0000°; N -0.2300, Plg53.0000°, Azm360.0000°; P -6.2529, Plg4.0000°, Azm264.0000°;*

NEIC ***09*** *11:06:09.7, 4°.34S×153°.35E, h38km*

DJA ***09*** *11:06:10.8±0.4, 4°.S±3°×15°.3E±°, h61km±4km, M5.8/52, mB6.3/48, mb6.0/52, MLv6.4/3, Mw(mB)6.0/48, MwMwp5.4/29, Mwp5.6/29*

IPGP ***09*** *11:06:10.0, 4°.35S×153°.34E, h36km, Mw5.8, Fault plane solution: NP1:ϕ_s217.00000°, δ66.00000°, λ124.00000°. NP2:ϕ_s338.00000°, δ40.00000°, λ38.00000°.*

GCMT ***09*** *11:06:12.2±0.1, 4°.41S×153°.25E, h49km, MW5.8/160, Moment Tensor Solution. s156,c304; s160,c471; Duration: 1ᵴ9 Moment tensor: Scale 10^{17}Nm; M_{rr}1.52±.04; $M_{\theta\theta}$4.21±.04; $M_{\phi\phi}$-5.73±.04; $M_{r\theta}$-2.84±.05; $M_{\theta\phi}$0.60±.04; $M_{\phi r}$-1.47±.05; Best double couple: M_o6.08300×10^{17} NP1:ϕ_s217.00000°, δ75.00000°, λ148.00000°. NP2:ϕ_s316.00000°, δ59.00000°, λ17.00000°. Principal axes: T 6.1490, Plg33.0000°, Azm173.0000°; N -0.1320, Plg55.0000°, Azm16.0000°; P -6.0170, Plg11.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 09 11:06:09.3±0.3, **4°.38S**±0°.03×**153°.32E**±0°.03, **h49**km±2km, **h49**km:**pP-P, n1571**,**σ1ᵴ47**/1557, **mb5.7**/249, **MS5.4**/275, **68C-49D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op	ISC		h m s	ISC
RABL	**Rabaul**	**1.17**	**279**		**Pn**	**Pn**	**11 06 29.7**	**+0.4**
RABL				Sn	**Sn**	**Sn**	**11 06 45.6**	**+1.4**
RABL	**Rabaul**	**1.17**	**279**	P	**Pn**	**Pn**	**11 06 29.7**	**+0.4**
I40PG	**Keravat**	**1.31**	**273**	Pn	**Pn**	**Pn**	**11 06 31.4**	**+0.2**
	baz=76,slow=35							
I40PG				Sn	**Sn**	**Sn**	**11 06 47.5**	**0.0**
	baz=70,slow=71							
I40PG				I	I	I	11 10 30.0	
	baz=101,slow=309,SNR=1.2							
MANU	**Manus Island**	**6.38**	**291**	Pn	**Pn**	**Pn**	**11 07 43.4**	**+2.6**
MANU	**Manus Island**	**6.38**	**291**	P	**Pn**	**Pn**	**11 07 43.3**	**+2.5**
PMG	**Port Moresby**	**7.90**	**230**	Pn	**Pn**	**Pn**	**11 08 04.7**	**+3.1**
PMG	**Port Moresby**	**7.90**	**230**	P	**Pn**	**Pn**	**11 08 04.7**	**+3.1**
PMG	**Port Moresby**	**7.90**	**230**	P	**Pn**	**Pn**	**11 08 04.3**	**+2.7**
PMG	**Port Moresby**	**7.90**	**230**	*de*P	**Pn**	**Pn**	**11 08 04.4**	**+2.8**
PMG				pmax	pmax			
	comp=Z,373nm,1.3s							
PMG				MLR	MLR			
	comp=Z,13μm,12.0s							
PMG	**Port Moresby**	**7.90**	**230**	Pn	**Pn**	**Pn**	**11 08 02.6**	**+1.1**
	comp=Z,22nm,0.3s,baz=32,slow=8.6,SNR=41							
PMG				Sn	**Sn**	**Sn**	**11 09 30.1**	**+0.4**
	comp=Z,26nm,0.3s,baz=71,slow=16,SNR=3.2							
PMG				LR	LR	LR	11 11 40.6	
	comp=Z,13μm,18.1s,baz=36,slow=42							
	comp=Z,72nm,0.5s							
HNR	**Honiara**	**8.27**	**128**	Pn	**Pn**	**Pn**	**11 08 08.5**	**+1.8**
HNR	**Honiara**	**8.27**	**128**	P	**Pn**	**Pn**	**11 08 09.4**	**+2.7**
HNR	**Honiara**	**8.27**	**128**	P	**Pn**	**Pn**	**11 08 08.5**	**+1.8**
HNR	**Honiara**	**8.27**	**128**	Pn	**Pn**	**Pn**	**11 08 08.7**	**+2.0**
	comp=Z,4μm,0.3s,baz=273,slow=1.6,SNR=82							
HNR				Sn	**Sn**	**Sn**	**11 09 38.8**	**0.0**
	baz=27,slow=16							
HNR				LR	LR	LR	11 11 28.9	
	comp=Z,827μm,21.2s,baz=298,slow=39							
PATS	**Pohnpei**	**12.21**	**24**	P	**Pn**	**Pn**	**11 08 58.4**	**-2.1**
	baz=12,SNR=26							
PATS	**Pohnpei**	**12.21**	**24**	Pn	**Pn**	**Pn**	**11 08 58.9**	**-1.6**
GENI	**Genyem**	**13.25**	**277**	P	Pn	**Pn**	11 09 18.2	+3.4
GENI	**Genyem**	**13.25**	**277**	P	Pn	**Pn**	11 09 18.1	+3.3
	comp=Z,1μm,1.2s,comp=Z,32μmcomp=Z,20μm							
COEN	**Coen**	**13.81**	**226**	P		**Pn**	**11 09 25.7**	**+3.2**
	baz=14,SNR=45							
COEN	**Coen**	**13.81**	**226**	Pn	**P**	**Pn**	**11 09 25.9**	**-3.7**
COEN	**Coen**	**13.81**	**226**	P	**Pn**	**Pn**	**11 09 25.5**	**+3.0**
TV1H	**Townsville Har**	**16.10**	**203**	P	**P**	**P**	**11 09 55.2**	**+0.1**
AUAYR	**Ayr State High**	**16.17**	**200**	P	**P**	**P**	**11 09 55.2**	**-0.6**
MTSU	**Mount Surprise**	**16.26**	**212**	P	**P**	**P**	**11 09 57.2**	**+0.3**
	baz=16,SNR=97							
MTSU	**Mount Surprise**	**16.26**	**212**	P	**P**	**P**	**11 09 57.3**	**+0.4**
CTA	**Charters Tower**	**17.06**	**203**	P	**P**	**P**	**11 10 07.0**	**+1.3**
CTA	**Charters Tower**	**17.06**	**203**	P	**Pn**	**Pn**	**11 10 04.7**	**+0.1**
	comp=Z,419nm,1.0s,baz=23,slow=13,SNR=68							
CTA				S	**S**	**S**	**11 13 19.6**	**-1.5**
	comp=Z,24nm,0.9s,baz=359,slow=14,SNR=1.4							
CTA				LR	LR	LR	11 16 11.0	
	comp=Z,7μm,21.8s,baz=24,slow=35							
CTA				ScP	**ScP**	**ScP**	**11 18 19.4**	**+0.5**
	comp=Z,16nm,1.0s,baz=138,slow=4.7,SNR=2.5							
CTAO	**Charters Tower**	**17.06**	**203**			**P**	**11 10 07.1**	**+1.4**
CTAO				IAmb	IAmb	IAmb	11 10 10.4	
	comp=Z,959nm,1.2s							
CTAO	**Charters Tower**	**17.06**	**203**	P	**P**	**P**	**11 10 07.2**	**+1.4**
CTAO	**Charters Tower**	**17.06**	**203**	P	**P**	**P**	**11 10 07.1**	**+1.4**
CTAO				pmax	pmax			
	comp=Z,959nm,1.2s							
RK1H	**Rockhampton Ha**	**19.09**	**188**	P	**Pn**	**Pn**	**11 10 30.2**	**+1.0**
KOUNC	**Koumac, New Ca**	**19.29**	**147**	P	**Pn**	**Pn**	**11 10 31.3**	**-0.3**
KOUNC	**Koumac, New Ca**	**19.29**	**147**	P	**Pn**	**Pn**	**11 10 33.2**	**+1.6**
GD1S	**Gladstone Soft**	**19.46**	**186**	P	**Pn**	**Pn**	**11 10 34.6**	**+1.0**
TARA	**Tarawa**	**20.40**	**74**	P	Pn	Pn	11 10 45.7	+0.9
QIS	**Mount Isa**	**20.90**	**219**	P	**P**	**P**	**11 10 49.1**	**+1.4**
	baz=21,SNR=126							
QIS	**Mount Isa**	**20.90**	**219**	P	**P**	**P**	**11 10 48.8**	**+1.1**
EIDS	**Eidsvold**	**20.98**	**186**	P	Pn	Pn	11 10 50.6	-1.0
	baz=21,SNR=96							
EIDS	**Eidsvold**	**20.98**	**186**	P	Pn	Pn	11 10 50.6	-1.0
EIDS	**Eidsvold**	**20.98**	**186**	P	Pn	Pn	11 10 50.4	-1.2
FAKI	**Fak Fak**	**21.08**	**273**	P	**P**	**P**	**11 10 50.3**	**+0.6**
FAKI				IAMs_20	IAMs_20	IAMs_20	11 19 01.2	
	comp=Z,16μm,20.0s							
FAKI	**Fak Fak**	**21.08**	**273**	P	**P**	**P**	**11 10 51.0**	**+1.3**
FAKI	**Fak Fak**	**21.08**	**273**	P	**P**	**P**	**11 10 50.8**	**+1.1**
	comp=Z,1μm,2.2s,comp=Z,24μmcomp=Z,11μm							
LIFNC	**LIFOU**	**21.18**	**141**	P	**P**	**P**	**11 10 52.7**	**+2.0**
LIFNC	**LIFOU**	**21.18**	**141**	P	**P**	**P**	**11 10 54.2**	**+3.5**
NOUC	**Port Laguerre**	**21.65**	**146**	P	**P**	**P**	**11 10 57.7**	**+2.0**
DZM	**Mont Dzumac**	**21.70**	**145**	P	**P**	**P**	**11 10 57.4**	**+1.0**
DZM				IAmb	IAmb	IAmb	11 11 15.6	
	comp=Z,856nm,1.3s							
DZM	**Mont Dzumac**	**21.70**	**145**	P	**P**	**P**	**11 10 57.9**	**+1.5**
DZM	**Mont Dzumac**	**21.70**	**145**	P	**P**	**P**	**11 10 55.6**	**-0.8**
	comp=Z,56nm,0.5s,baz=261,slow=5.6,SNR=43							
	comp=Z,56nm,0.5s							
ONTNC	**Ouen Toro**	**21.89**	**146**	P	**P**	**P**	**11 11 01.2**	**+2.9**
SAUI	**Saumlaki**	**22.18**	**260**	P	**P**	**P**	**11 11 02.3**	**+0.8**
SAUI				IAmb	IAmb	IAmb	11 11 17.5	
	comp=Z,480nm,0.8s							
SAUI	**Saumlaki**	**22.18**	**260**	P	**P**	**P**	**11 11 02.6**	**+1.1**
KDU	**Kakadu**	**22.19**	**247**	P	**P**	**P**	**11 11 01.3**	**-0.3**
	baz=22,SNR=271							
KDU	**Kakadu**	**22.19**	**247**	P	**P**	**P**	**11 11 01.4**	**-0.2**
MARNC	**Mare, Loyalty**	**22.20**	**141**	P	**P**	**P**	**11 11 04.0**	**+2.4**
OUENC	**Ouen Island, N**	**22.20**	**145**	P	**P**	**P**	**11 11 02.3**	**+0.7**
OUENC	**Ouen Island, N**	**22.20**	**145**	P	**P**	**P**	**11 11 03.9**	**+2.3**
SWI	**Sorong**	**22.31**	**278**	P	**P**	**P**	**11 11 03.2**	**+0.3**
SWI				pmax	pmax			
	comp=Z,1μm,1.0s							
SWI	**Sorong**	**22.31**	**278**	P	**P**	**P**	**11 11 05.7**	**+2.8**
	comp=Z,1μm,1.0s,comp=Z,11μmcomp=Z,6μm							
RMQ	**Roma**	**22.41**	**191**	P	**P**	**P**	**11 11 05.8**	**+2.0**
	baz=23,SNR=22							
RMQ	**Roma**	**22.41**	**191**	P	**P**	**P**	**11 11 05.7**	**+1.8**
PINNC	**Pines Island,**	**22.70**	**144**	P	**P**	**P**	**11 11 07.8**	**+0.8**
PINNC				IAmb	IAmb	IAmb	11 11 25.6	
	comp=Z,273nm,1.1s							
PINNC	**Pines Island,**	**22.70**	**144**	P	**P**	**P**	**11 11 10.1**	**+3.1**
MTN	**Manton Dam**	**23.48**	**248**	P	**P**	**P**	**11 11 14.7**	**-0.1**
	baz=24,SNR=34							
MTN	**Manton Dam**	**23.48**	**248**	P	**P**	**P**	**11 11 15.3**	**+0.5**
MTN				IAMs_20	IAMs_20	IAMs_20	11 20 56.0	
	comp=Z,12μm,20.0s							
MTN	**Manton Dam**	**23.48**	**248**	P	**P**	**P**	**11 11 14.9**	**+0.1**
DRS	**Darwin Rock St**	**23.56**	**249**	P	**P**	**P**	**11 11 16.1**	**+0.5**
GC1S	**Gold Coast 1 S**	**23.65**	**180**	P	**P**	**P**	**11 11 17.8**	**+1.5**
QLP	**Quilpie**	**23.73**	**201**	P	**P**	**P**	**11 11 18.4**	**+1.3**
	baz=24,SNR=230							
QLP	**Quilpie**	**23.73**	**201**	P	**P**	**P**	**11 11 18.3**	**+1.3**
WB0	**Warramunga Arr**	**23.96**	**229**	P	**P**	**P**	**11 11 20.3**	**+1.0**
WR0	**Warramunga Arr**	**23.97**	**228**	P	**P**	**P**	**11 11 20.3**	**+0.9**
WRAB	**Tennant Creek**	**24.10**	**229**	P	**P**	**P**	**11 11 21.4**	**+0.9**
WRAB	**Tennant Creek**	**24.10**	**229**	*ci*P		**P**	**11 11 21.2**	**+0.7**
WRAB				pmax	pmax			
	comp=Z,535nm,1.0s							
WRAB				MLR	MLR			
	comp=Z,5μm,17.0s							
WB2	**Warramunga Arr**	**24.10**	**228**	P	**P**	**P**	**11 11 21.5**	**+0.9**
	baz=24							
WB2	**Warramunga Arr**	**24.10**	**228**	P	**P**	**P**	**11 11 21.6**	**+1.0**
WRA	**Warramunga Arr**	**24.11**	**229**	P	**P**	**P**	**11 11 21.4**	**+0.7**
WRA				IAmb	IAmb	IAmb	11 11 23.0	
	comp=Z,504nm,1.9s							
WRA	**Warramunga Arr**	**24.11**	**229**	P	**P**	**P**	**11 11 21.4**	**+0.7**
WRA				pmax	pmax			
	comp=Z,504nm,1.9s							
WRA	**Warramunga Arr**	**24.11**	**229**	P	**P**	**P**	**11 11 20.4**	**-0.2**
	comp=Z,363nm,0.8s,baz=53,slow=10.0,SNR=272							
WRA				PcP	**PcP**	**PcP**	**11 15 00.6**	**-0.6**
	comp=Z,75nm,0.8s,baz=51,slow=2.5,SNR=7.5							
WRA				S	**S**	**S**	**11 15 31.4**	**-3.9**
	comp=Z,5.8nm,0.8s,baz=81,slow=6.3,SNR=1.0							
WRA				ScP	**ScP**	**ScP**	**11 18 36.5**	**+0.7**
	comp=Z,90nm,1.1s,baz=49,slow=2.7,SNR=9.3							
WRA				LR	LR	LR	11 21 20.3	
	comp=Z,6μm,19.3s,baz=64,slow=38							
AULRC	**Lightning Ridg**	**25.42**	**191**	P	**P**	**P**	**11 11 34.0**	**+1.6**
ARMA	**Armidale**	**25.95**	**183**	P	**P**	**P**	**11 11 39.2**	**+1.8**
	baz=26,SNR=269							
ARMA	**Armidale**	**25.95**	**183**	P	**P**	**P**	**11 11 39.5**	**+2.1**
ARMA	**Armidale**	**25.95**	**183**	P	**P**	**P**	**11 11 39.3**	**+2.0**
FUNA	**Funafuti**	**26.03**	**100**	P	**P**	**P**	**11 11 39.2**	**+1.1**
FUNA				IAmb	IAmb	IAmb	11 12 02.1	
	comp=Z,394nm,1.0s							
FUNA	**Funafuti**	**26.03**	**100**	P	**P**	**P**	**11 11 39.5**	**+1.3**
LBMI	**Labuha**	**26.06**	**277**	P	**P**	**P**	**11 11 40.0**	**+1.6**
	comp=Z,1μm,1.2s,comp=Z,14μm							
INKA	**Innaminka**	**26.14**	**206**	P	**P**	**P**	**11 11 39.8**	**+0.8**
NLAI	**Namlea**	**26.19**	**272**	P	**P**	**P**	**11 11 41.7**	**+2.1**
	comp=Z,146nm,1.2s							
H11S3	**WAKE ISLAND Hy**	**26.27**	**30**	T	T	T	11 39 32.6	
	baz=205,slow=74,SNR=124							
H11S2	**WAKE ISLAND Hy**	**26.28**	**30**	T	T	T	11 39 21.5	
	baz=205,slow=74,SNR=152							
H11S1	**WAKE ISLAND Hy**	**26.29**	**30**	T	T	T	11 39 22.3	
	baz=205,slow=74,SNR=124							
TNTI	**Ternate**	**26.43**	**281**	P	**P**	**P**	**11 11 42.2**	**+0.4**
TNTI				IAmb	IAmb	IAmb	11 11 48.0	
	comp=Z,292nm,1.2s							
TNTI	**Ternate**	**26.43**	**281**	P	**P**	**P**	**11 11 43.6**	**+1.8**
TNTI	**Ternate**	**26.43**	**281**	P	**P**	**P**	**11 11 42.6**	**+0.8**
	comp=Z,170nm,0.8s,comp=Z,5μm							
KNRA	**Kununurra**	**26.62**	**243**	P	**P**	**P**	**11 11 44.0**	**+0.5**
	baz=27,SNR=265							
KNRA	**Kununurra**	**26.62**	**243**	P	**P**	**P**	**11 11 44.8**	**+1.3**
KNRA	**Kununurra**	**26.62**	**243**	P	**P**	**P**	**11 11 44.4**	**+0.9**
AUPHS	**Peel High Scho**	**26.68**	**185**	P	**P**	**P**	**11 11 45.6**	**+1.8**
YSA	**Yasawairara**	**26.76**	**119**	P	**P**	**P**	**11 11 48.3**	**+3.6**
AS01	**Alice Springs**	**26.78**	**222**	P	**P**	**P**	**11 11 45.6**	**+0.8**
AS31	**Alice Springs**	**26.81**	**223**	P	**P**	**P**	**11 11 45.5**	**+0.4**
ASAR	**Alice Springs**	**26.81**	**223**	P	**P**	**P**	**11 11 45.5**	**+0.3**
ASAR	**Alice Springs**	**26.81**	**223**	P	**P**	**P**	**11 11 45.5**	**+0.3**
ASAR	**Alice Springs**	**26.81**	**223**	P	**P**	**P**	**11 11 45.2**	**0.0**
	comp=Z,38nm,0.5s,baz=56,slow=9.0,SNR=300							
ASAR				PcP	**PcP**	**PcP**	**11 15 07.0**	**-0.2**
	comp=Z,44nm,0.8s,baz=74,slow=2.3,SNR=6.9							
ASAR				S	**S**	**S**	**11 16 16.6**	**-1.6**
	comp=Z,38nm,1.0s,baz=56,slow=14,SNR=5.1							
ASAR				ScP	**ScP**	**ScP**	**11 18 44.5**	**+1.0**
	comp=Z,34nm,0.7s,baz=49,slow=3.0,SNR=19							
ASAR				LR	LR	LR	11 23 57.4	
	comp=Z,6μm,18.2s,baz=55,slow=40							
	comp=Z,38nm,0.5s							
ASPA	**Alice Springs**	**26.81**	**223**	P		**P**	**11 11 45.2**	**0.0**
	baz=27							
SANI	**Sanana**	**27.39**	**274**	P	**P**	**P**	**11 11 51.6**	**+1.2**
SANI	**Sanana**	**27.39**	**274**	P	**P**	**P**	**11 11 51.6**	**+1.2**
	comp=Z,470nm,1.0s,comp=Z,4μmcomp=Z,4μm							
H11N1	**WAKE ISLAND Hy**	**27.41**	**29**	T	T	T	11 40 47.4	
	baz=195,SNR=24							
H11N3	**WAKE ISLAND Hy**	**27.42**	**29**	T	T	T	11 40 49.2	
	baz=195,slow=74,SNR=17							
H11N2	**WAKE ISLAND Hy**	**27.43**	**29**	T	T	T	11 40 48.3	
	baz=195,slow=74,SNR=25							
LHI	**Lord Howe Isla**	**27.53**	**169**	P	**P**	**P**	**11 11 52.9**	**+1.5**
LHI				IAmb	IAmb	IAmb	11 12 08.4	
	comp=Z,152nm,0.9s							
MSVF	**Nonsavu**	**27.61**	**121**	P	**P**	**P**	**11 11 52.8**	**+0.5**
MSVF				IAmb	IAmb	IAmb	11 12 17.0	
	comp=Z,432nm,1.4s							
MSVF	**Nonsavu**	**27.61**	**121**	IAMs_20	IAMs_20	IAMs_20	11 22 16.9	
	comp=Z,8μm,19.0s							
MSVF	**Nonsavu**	**27.61**	**121**	P	**P**	**P**	**11 11 54.3**	**+1.9**
MSVF	**Nonsavu**	**27.61**	**121**	*ce*P	**P**	**P**	**11 11 53.2**	**+0.8**
MSVF				pmax	pmax			
	comp=Z,130nm,1.1s							
MSVF				MLR	MLR			
	comp=Z,8μm,17.0s							
CMSA	**Cobar Meteorol**	**27.95**	**194**	P	**P**	**P**	**11 11 56.0**	**+0.8**
	baz=28,SNR=203							
CMSA	**Cobar Meteorol**	**27.95**	**194**	P	**P**	**P**	**11 11 56.2**	**+1.0**
AUDCS	**Dubbo College**	**28.05**	**188**	P	**P**	**P**	**11 11 58.1**	**+2.0**
NTLH	**Newcastle Hard**	**28.41**	**183**	P	**P**	**P**	**11 12 01.4**	**+2.1**
DGTI	**Dogotuki**	**28.51**	**116**	P	**P**	**P**	**11 12 01.1**	**+0.7**
OOD	**Oodnadatta**	**28.71**	**214**	P	**P**	**P**	**11 12 02.5**	**+0.5**
MGCD	**Mangrove Creek**	**28.76**	**184**	P	**P**	**P**	**11 12 04.4**	**+2.1**
	baz=29,SNR=28							
MGCD	**Mangrove Creek**	**28.76**	**184**	P	**P**	**P**	**11 12 04.5**	**+2.1**
TAVE	**Taveuni**	**28.98**	**117**	P	**P**	**P**	**11 12 07.9**	**+3.4**
SOEI	**Soe**	**29.31**	**258**	P	**P**	**P**	**11 12 09.1**	**+1.4**
SOEI				IAmb	IAmb	IAmb	11 12 39.2	
	comp=Z,146nm,0.8s							
SOEI				IAMs_20	IAMs_20	IAMs_20	11 25 38.6	
	comp=Z,8μm,22.0s							
SOEI	**Soe**	**29.31**	**258**	P	**P**	**P**	**11 12 08.6**	**+0.9**
SOEI	**Soe**	**29.31**	**258**	P	**P**	**P**	**11 12 08.8**	**+1.1**
	comp=Z,187nm,1.0s,comp=Z,3μmcomp=Z,3μm							
SYDH	**Sydney Hard Ro**	**29.33**	**184**	P	**P**	**P**	**11 12 09.3**	**+1.9**
STKA	**Stephens Creek**	**29.48**	**201**	P	**P**	**P**	**11 12 09.5**	**+0.6**
	baz=30,SNR=451							
STKA	**Stephens Creek**	**29.48**	**201**	P	**P**	**P**	**11 12 09.5**	**+0.6**
STKA				IAmb	IAmb	IAmb	11 12 10.7	
	comp=Z,130nm,0.9s							
STKA	**Stephens Creek**	**29.48**	**201**	P	**P**	**P**	**11 12 09.3**	**+0.5**
STKA	**Stephens Creek**	**29.48**	**201**	*ci*P	**P**	**P**	**11 12 09.4**	**+0.6**
STKA	**Stephens Creek**	**29.48**	**201**	P	**P**	**P**	**11 12 08.8**	**0.0**
	comp=Z,517nm,0.9s,baz=7.4,slow=8.9,SNR=763							
STKA				ScP	**ScP**	**ScP**	**11 18 52.4**	**+0.9**
	comp=Z,43nm,1.0s,baz=77,slow=5.2,SNR=6.2							
STKA				LR	LR	LR	11 24 01.9	
	comp=Z,6μm,21.6s,baz=15,slow=36							
LCRK	**Leigh Creek**	**29.59**	**207**	P	**P**	**P**	**11 12 10.1**	**+0.3**
KMSI	**Cibinong**	**29.73**	**279**	P	**P**	**P**	**11 12 13.2**	**+2.0**
	comp=Z,1μm,1.0s,comp=Z,9μmcomp=Z,2μm							
DAV	**Davao City (W)**	**29.93**	**292**	LR	LR	LR	11 21 28.5	
	comp=Z,2μm,21.9s,baz=106,slow=31							
DAV	**Davao City (W)**	**29.93**	**292**	P	**P**	**P**	**11 12 12.8**	**-0.2**
WOLH	**Wollongong Har**	**29.96**	**184**	P	**P**	**P**	**11 12 14.6**	**+1.6**
YNG	**Young**	**30.12**	**188**	P	**P**	**P**	**11 12 15.8**	**+1.4**
	baz=30,SNR=72							
YNG	**Young**	**30.12**	**188**	P	**P**	**P**	**11 12 16.1**	**+1.7**
FITZ	**Fitzroy Crossi**	**30.32**	**241**	P	**P**	**P**	**11 12 16.4**	**0.0**
	baz=30,SNR=206							
FITZ	**Fitzroy Crossi**	**30.32**	**241**	P	**P**	**P**	**11 12 16.4**	**0.0**
FITZ				IAmb	IAmb	IAmb	11 12 22.8	
	comp=Z,154nm,0.9s							
FITZ	**Fitzroy Crossi**	**30.32**	**241**	P	**P**	**P**	**11 12 16.1**	**-0.2**
LUWI	**Luwuk**	**30.69**	**275**	P	**P**	**P**	**11 12 20.4**	**+0.7**
LUWI	**Luwuk**	**30.69**	**275**	P	**P**	**P**	**11 12 20.8**	**+1.0**
LUWI	**Luwuk**	**30.69**	**275**	P	**P**	**P**	**11 12 20.7**	**+1.0**
	comp=Z,358nm,1.1s,comp=Z,4μm							
AUUHS	**Ulladulla High**	**30.94**	**185**	P	**P**	**P**	**11 12 23.6**	**+2.0**
CNB	**Canberra Magne**	**31.00**	**186**	P	**P**	**P**	**11 12 24.3**	**+2.0**
	baz=31,SNR=155							
CNB	**Canberra Magne**	**31.00**	**186**	P	**P**	**P**	**11 12 24.2**	**+2.0**
CAN	**Canberra**	**31.05**	**187**	P	**P**	**P**	**11 12 24.5**	**+1.9**
CAN				IAMs_20	IAMs_20	IAMs_20	11 25 38.3	
	comp=Z,8μm,18.0s							
CAN	**Canberra**	**31.05**	**187**	P	**P**	**P**	**11 12 24.3**	**+1.6**
CAN	**Canberra**	**31.05**	**187**	P	**P**	**P**	**11 12 24.5**	**+1.9**
CAN				pmax	pmax			
	comp=Z,865nm,1.1s							
CAN				MLR	MLR			
	comp=Z,8μm,18.0s							
CAN	**Canberra**	**31.05**	**187**	P	**P**	**P**	**11 12 24.6**	**+1.9**
CAN				pP	**pP**	**pP**	**11 12 34.3**	**+0.2**
CAN				ScP	**ScP**	**ScP**	**11 18 58.3**	**+1.7**
MULG	**Mulgathing**	**31.54**	**213**	P	**P**	**P**	**11 12 26.9**	**-0.1**
WRKA	**Warakurna**	**31.62**	**227**	P	**P**	**P**	**11 12 27.6**	**-0.3**
	baz=32,SNR=80							
WRKA	**Warakurna**	**31.62**	**227**	P	**P**	**P**	**11 12 27.7**	**-0.2**
EDFI	**Ende, Flores**	**31.71**	**260**	P	**P**	**P**	**11 12 27.1**	**-1.8**
	comp=Z,122nm,0.8s,comp=Z,1μmcomp=Z,3μm							
HTT	**Hallett**	**31.87**	**203**	P	**P**	**P**	**11 12 31.0**	**+1.0**
	baz=32,SNR=520							
HTT	**Hallett**	**31.87**	**203**	P	**P**	**P**	**11 12 30.6**	**+0.7**
HTT	**Hallett**	**31.87**	**203**	P	**P**	**P**	**11 12 30.8**	**+0.9**
PTPS	**Port Pirie**	**32.02**	**205**	P	**P**	**P**	**11 12 32.5**	**+1.3**
WHYH	**Whyalla**	**32.08**	**205**	P	**P**	**P**	**11 12 32.3**	**+0.6**
AUSMG	**Snowy Mountain**	**32.18**	**187**	P	**P**	**P**	**11 12 34.2**	**+1.6**
AUMAG	**Moama Anglican**	**32.54**	**193**	P	**P**	**P**	**11 12 37.4**	**+1.7**
BBOO	**Buckleboo**	**32.56**	**208**	P	**P**	**P**	**11 12 36.3**	**+0.3**
	baz=33,SNR=118							
BBOO	**Buckleboo**	**32.56**	**208**	P	**P**	**P**	**11 12 36.5**	**+0.5**
BBOO	**Buckleboo**	**32.56**	**208**	P	**P**	**P**	**11 12 36.0**	**0.0**
MILA	**Mila**	**32.74**	**186**	P	**P**	**P**	**11 12 39.6**	**+2.1**
	baz=33,SNR=59							
MILA	**Mila**	**32.74**	**186**	P	**P**	**P**	**11 12 39.2**	**+1.6**
TOLI2	**Tolitoli**	**32.97**	**279**	P	**P**	**P**	**11 12 39.2**	**-0.6**
TOLI2				IAmb	IAmb	IAmb	11 12 44.4	
	comp=Z,101nm,1.0s							
TOLI2						**PcP**	**11 15 22.8**	**-0.4**
TOLI2	**Tolitoli**	**32.97**	**279**	P	**P**	**P**	**11 12 39.1**	**

HIZ	**Hauiti**	**39.22**	**153**	P	**P**	**11**	**13**	**35.2**	**+2.3**
JOW	**Kunigami**	**39.37**	**323**	P	**P**	**11**	**13**	**35.3**	**+1.1**
JOW	**Kunigami**	**39.37**	**323**	P	**P**	**11**	**13**	**36.5**	**+2.3**
JOW	**Kunigami**	**39.37**	**323**	P	**P**	**11**	**13**	**32.8**	**-1.5**
	comp=Z,127nm,0.8s,baz=147,slow=7.5,SNR=9.5								
JOW				LR	LR	11	26	57.0	
	comp=Z,2µm,22.0s,baz=116,slow=32								
	comp=Z,127nm,0.8s								
JHJ	**Hachijo jima 2**	**39.44**	**342**	LR	LR	11	27	11.3	
	comp=Z,2µm,21.6s,baz=178,slow=32								
BLJI	**Banyuglugur**	**39.63**	**263**	P	**P**	**11**	**13**	**35.9**	**-0.8**
	comp=Z,149nm,0.8s								
MEEK	**Meekatharra**	**39.87**	**233**	P	**P**	**11**	**13**	**38.6**	**+0.1**
	baz=40,SNR=151								
MEEK	**Meekatharra**	**39.87**	**233**	P	**P**	**11**	**13**	**39.0**	**+0.5**
KMBL	**Kambalda**	**39.91**	**224**	P	**P**	**11**	**13**	**38.9**	**+0.1**
	baz=40,SNR=27								
KMBL	**Kambalda**	**39.91**	**224**	P	**P**	**11**	**13**	**38.9**	**+0.1**
WTVZ	**West Tongariro**	**40.05**	**153**	P	**P**	**11**	**13**	**42.6**	**+2.7**
URZ	**Urewera**	**40.09**	**150**	P	**P**	**11**	**13**	**41.6**	**+1.5**
URZ	**Urewera**	**40.09**	**150**	LR	LR	11	30	10.1	
	comp=Z,3µm,18.1s,baz=56,slow=36								
SNVZ	**South Ngauruho**	**40.13**	**153**	P	**P**	**11**	**13**	**43.1**	**+2.5**
RUGZ	**Raukumara Rang**	**40.14**	**150**	P	**P**	**11**	**13**	**42.3**	**+1.6**
FWVZ	**Far West T-bar**	**40.14**	**153**	P	**P**	**11**	**13**	**42.3**	**+1.5**
MAVZ	**Matarangi**	**40.16**	**153**	P	**P**	**11**	**13**	**42.2**	**+1.2**
MXZ	**Matakaoa Point**	**40.16**	**149**	IAMs_20	IAMs_20	11	29	17.1	
	comp=Z,5µm,20.0s								
TRVZ	**Turoa**	**40.18**	**153**	P	**P**	**11**	**13**	**43.0**	**+1.9**
PKGZ	**Pakihiroa**	**40.29**	**149**	P	**P**	**11**	**13**	**42.4**	**+0.6**
RTZ	**Ruatahuna**	**40.30**	**151**	P	**P**	**11**	**13**	**42.3**	**+0.3**
RTZ				IAmb	IAmb	11	13	44.5	
	comp=Z,176nm,0.9s								
MWZ	**Matawai**	**40.35**	**150**	P	**P**	**11**	**13**	**43.0**	**+0.6**
MOVZ	**Moawhango**	**40.36**	**153**	P	**P**	**11**	**13**	**44.0**	**+1.6**
BKZ	**Black Stump Fm**	**40.51**	**152**	P	**P**	**11**	**13**	**43.5**	**-0.1**
BKZ	**Black Stump Fm**	**40.51**	**152**	P	**P**	**11**	**13**	**44.1**	**+0.5**
TKNZ	**Takaka Hill**	**40.53**	**157**	P	**P**	**11**	**13**	**45.0**	**+1.3**
SNGZ	**Shannon Statio**	**40.61**	**151**	P	**P**	**11**	**13**	**45.7**	**+1.2**
DSZ	**Denniston Nort**	**40.71**	**159**	P	**P**	**11**	**13**	**46.2**	**+0.9**
DSZ				IAmb	IAmb	11	13	51.2	
	comp=Z,133nm,1.0s								
DSZ				IAMs_20	IAMs_20	11	32	03.7	
	comp=Z,5µm,18.0s								
GRJI	**Gresik**	**40.71**	**265**	P	P	11	13	51.3	+5.7
KRHZ	**Kereru**	**40.83**	**152**	P	**P**	**11**	**13**	**46.6**	**+0.3**
NNZ	**Nelson**	**40.85**	**157**	P	**P**	**11**	**13**	**47.2**	**+0.9**
NNZ				IAmb	IAmb	11	13	48.1	
	comp=Z,160nm,1.1s								
NNZ				IAMs_20	IAMs_20	11	28	22.4	
	comp=Z,5µm,22.0s								
YOJ	**Yonaguni jima**	**41.13**	**316**	P	**P**	**11**	**13**	**50.1**	**+1.2**
YOJ	**Yonaguni jima**	**41.13**	**316**	P	**P**	**11**	**13**	**50.8**	**+1.9**
YOJ	**Yonaguni jima**	**41.13**	**316**	P	**P**	**11**	**13**	**50.1**	**+1.2**
YOJ				pmax	pmax				
	comp=Z,742nm,1.0s								
THZ	**Tophouse**	**41.13**	**158**	P	**P**	**11**	**13**	**49.1**	**+0.3**
THZ				IAmb	IAmb	11	13	50.7	
	comp=Z,280nm,1.0s								
THZ				IAMs_20	IAMs_20	11	29	42.9	
	comp=Z,4µm,19.0s								
TCW	**Tory Channel**	**41.21**	**156**	P	**P**	**11**	**13**	**48.9**	**-0.4**
TUWZ	**Tuamarina**	**41.26**	**156**	P	**P**	**11**	**13**	**49.6**	**-0.1**
PWJI	**Pagerwojo**	**41.42**	**263**	P	**P**	**11**	**13**	**50.2**	**-1.2**
	comp=Z,418nm,1.0s,comp=Z,3µm								
INZ	**Inchbonnie**	**41.44**	**160**	P	**P**	**11**	**13**	**51.8**	**+0.6**
INZ				IAmb	IAmb	11	14	13.1	
	comp=Z,533nm,1.8s								
INZ				IAMs_20	IAMs_20	11	28	53.1	
	comp=Z,6µm,20.0s								
SNZO	**South Karori**	**41.47**	**155**	P	**P**	**11**	**13**	**53.3**	**+1.9**
SNZO	**South Karori**	**41.47**	**155**	P	**P**	**11**	**13**	**51.8**	**+0.4**
SNZO				pP	**pP**	**11**	**14**	**01.6**	**-1.5**
BFZ	**Birch Farm**	**41.61**	**154**	IAMs_20	IAMs_20	11	31	33.5	
	comp=Z,5µm,18.0s								
BHW	**Baring Head**	**41.62**	**155**	P	**P**	**11**	**13**	**53.8**	**+1.1**
FOZ	**Fox Glacier**	**41.63**	**162**	P	**P**	**11**	**13**	**53.8**	**+1.1**
FOZ				IAmb	IAmb	11	13	54.5	
	comp=Z,226nm,0.9s								
YULB	**Yu-li**	**41.69**	**313**	P	**P**	**11**	**13**	**53.5**	**0.0**
YULB				IAmb	IAmb	11	14	01.4	
	comp=Z,138nm,0.7s								
YULB	**Yu-li**	**41.69**	**313**	P	**P**	**11**	**13**	**55.3**	**+1.8**
NGJI	**Ngawi**	**41.73**	**264**	P	**P**	**11**	**13**	**56.9**	**+2.9**
LTZ	**Lake Taylor**	**41.78**	**159**	P	**P**	**11**	**13**	**54.6**	**+0.6**
LTZ				IAmb	IAmb	11	13	56.6	
	comp=Z,243nm,1.0s								
LTZ				IAMs_20	IAMs_20	11	30	43.1	
	comp=Z,7µm,20.0s								
JCZ	**Jackson Bay**	**41.82**	**163**	P	**P**	**11**	**13**	**56.4**	**+2.0**
GIRL	**Giralia**	**41.92**	**241**	P	**P**	**11**	**13**	**55.7**	**+0.3**
	baz=42,SNR=13								
GIRL	**Giralia**	**41.92**	**241**	P	**P**	**11**	**13**	**56.4**	**+1.0**
KHZ	**Kahutara**	**41.94**	**157**	P	**P**	**11**	**13**	**54.1**	**-1.1**
KHZ				IAmb	IAmb	11	13	56.7	
	comp=Z,319nm,1.2s								
KHZ				IAMs_20	IAMs_20	11	31	41.2	
	comp=Z,5µm,19.0s								
KHZ	**Kahutara**	**41.94**	**157**	P	**P**	**11**	**13**	**57.3**	**+2.1**
NACB	**Ninganchiao**	**41.95**	**314**	P	**P**	**11**	**13**	**56.1**	**+0.5**
NACB				IAmb	IAmb	11	14	03.1	
	comp=Z,251nm,0.9s								
NACB	**Ninganchiao**	**41.95**	**314**	P	**P**	**11**	**13**	**57.1**	**+1.5**
STKI	**Sintang**	**42.04**	**275**	P	**P**	**11**	**13**	**57.3**	**+0.8**
	comp=Z,196nm,1.4s								
TPUB	**Ta-pu**	**42.12**	**312**	P	**P**	**11**	**13**	**57.0**	**-0.1**
TPUB				IAmb	IAmb	11	14	03.7	
	comp=Z,156nm,0.8s								
TPUB				IAMs_20	IAMs_20	11	27	07.9	
	comp=Z,5µm,22.0s								
TPUB	**Ta-pu**	**42.12**	**312**	P	**P**	**11**	**13**	**58.2**	**+1.1**
JMN	**Monobe**	**42.13**	**336**	P	**P**	**11**	**13**	**58.0**	**+1.1**
JMN				IAmb	IAmb	11	14	25.3	
	comp=Z,377nm,1.7s								
JMN	**Monobe**	**42.13**	**336**	P	**P**	**11**	**13**	**59.3**	**+2.4**
OXZ	**Oxford**	**42.18**	**160**	P	**P**	**11**	**13**	**57.3**	**+0.1**
OXZ				IAmb	IAmb	11	13	58.1	
	comp=Z,280nm,1.1s								
OXZ				IAMs_20	IAMs_20	11	29	15.6	
	comp=Z,6µm,22.0s								
SSLB	**Suanglung**	**42.18**	**313**	IAMs_20	IAMs_20	11	27	09.3	
	comp=Z,5µm,22.0s								
SSLB	**Suanglung**	**42.18**	**313**	P	**P**	**11**	**13**	**58.5**	**+1.0**
RPZ	**Rata Peaks**	**42.19**	**161**	P	**P**	**11**	**13**	**57.6**	**+0.3**
RPZ	**Rata Peaks**	**42.19**	**161**	LR	LR	11	29	42.0	
	comp=Z,9µm,21.2s,baz=326,slow=34								
GVZ	**Greta Valley S**	**42.22**	**158**	P	**P**	**11**	**13**	**57.9**	**+0.3**
INU	**Inuyama**	**42.38**	**340**	P	**P**	**11**	**13**	**59.0**	**0.0**
INU	**Inuyama**	**42.38**	**340**	P	**P**	**11**	**14**	**01.7**	**+2.8**
INU	**Inuyama**	**42.38**	**340**	P	**P**	**11**	**14**	**01.0**	**+2.0**
INU				pP	**pP**	**11**	**14**	**10.8**	**-0.6**
YHNB	**Yeheng**	**42.41**	**314**	P	**P**	**11**	**14**	**00.3**	**+0.8**
YHNB				IAMs_20	IAMs_20	11	27	20.5	
	comp=Z,4µm,22.0s								
YHNB	**Yeheng**	**42.41**	**314**	P	**P**	**11**	**14**	**01.1**	**+1.6**
JGF	**Kuroka**	**42.50**	**341**	P	**P**	**11**	**14**	**00.2**	**+0.3**
JGF	**Kuroka**	**42.50**	**341**	P	**P**	**11**	**14**	**03.1**	**+3.2**
LBZ	**Lake Benmore**	**42.52**	**162**	P	**P**	**11**	**14**	**00.3**	**+0.4**
LBZ				IAmb	IAmb	11	14	02.2	
	comp=Z,236nm,1.0s								
TATO	**Taipei**	**42.53**	**315**	P	**P**	**11**	**14**	**00.8**	**+0.6**
TATO				IAmb	IAmb	11	14	08.8	
	comp=Z,371nm,1.0s								
TATO	**Taipei**	**42.53**	**315**	IAMs_20	IAMs_20	11	28	06.3	
	comp=Z,5µm,22.0s								
TATO	**Taipei**	**42.53**	**315**	P	**P**	**11**	**14**	**02.6**	**+2.3**
TATO	**Taipei**	**42.53**	**315**	P	**P**	**11**	**14**	**01.3**	**+1.0**
WKZ	**Wanaka**	**42.58**	**163**	P	**P**	**11**	**14**	**01.4**	**+1.0**
WKZ				IAmb	IAmb	11	14	02.1	
	comp=Z,182nm,1.0s								
DCZ	**Deep Cove**	**42.67**	**166**	P	**P**	**11**	**14**	**02.0**	**+0.9**
DCZ				IAmb	IAmb	11	14	02.9	
	comp=Z,209nm,1.0s								
DCZ				IAMs_20	IAMs_20	11	31	10.5	
	comp=Z,4µm,19.0s								
UGM	**Wanagama**	**42.68**	**263**	P	**P**	**11**	**14**	**01.1**	**-0.7**
UGM				IAmb	IAmb	11	14	46.3	
	comp=Z,188nm,1.0s								
UGM	**Wanagama**	**42.68**	**263**	P	**P**	**11**	**14**	**02.7**	**+0.9**
UGM	**Wanagama**	**42.68**	**263**	P	**P**	**11**	**14**	**01.3**	**-0.5**
	comp=Z,184nm,0.9s,comp=Z,2µm								
MQZ	**McQueen's Vall**	**42.73**	**159**	P	**P**	**11**	**14**	**01.8**	**+0.2**
MQZ				IAMs_20	IAMs_20	11	29	42.1	
	comp=Z,5µm,20.0s								
SMRI	**Semarang**	**42.74**	**264**	P	**P**	**11**	**14**	**02.5**	**+0.3**
SMRI				IAmb	IAmb	11	14	09.7	
	comp=Z,163nm,1.0s								
MLZ	**Mavora Lakes**	**42.83**	**165**	P	**P**	**11**	**14**	**03.2**	**+0.7**
MLZ				IAMs_20	IAMs_20	11	28	39.6	
	comp=Z,6µm,22.0s								
YOGI	**Yogyakarta**	**42.91**	**263**	P	**P**	**11**	**14**	**03.4**	**-0.2**
	comp=Z,222nm,0.8s,comp=Z,2µm								
JNU	**Nakatsue**	**42.94**	**332**	P	**P**	**11**	**14**	**03.8**	**+0.3**
JNU				IAmb	IAmb	11	14	10.2	
	comp=Z,213nm,1.1s								
JNU	**Nakatsue**	**42.94**	**332**	P	**P**	**11**	**14**	**05.4**	**+1.9**
JNU	**Nakatsue**	**42.94**	**332**	P	**P**	**11**	**14**	**02.2**	**-1.3**
	comp=Z,55nm,0.9s,baz=132,slow=4.0,SNR=13								
JNU				LR	LR	11	31	24.4	
	comp=Z,652nm,18.6s,baz=142,slow=35								
	comp=Z,55nm,0.9s								
KLBR	**Kellerberrin**	**42.97**	**227**	P	**P**	**11**	**14**	**03.2**	**-0.6**
	baz=43,SNR=55								
KLBR	**Kellerberrin**	**42.97**	**227**	P	**P**	**11**	**14**	**03.5**	**-0.3**
MORW	**Morawa**	**43.01**	**231**	P	**P**	**11**	**14**	**04.1**	**-0.2**
	baz=43,SNR=31								
MORW	**Morawa**	**43.01**	**231**	P	**P**	**11**	**14**	**04.2**	**0.0**
MORW				IAmb	IAmb	11	14	05.3	
	comp=Z,311nm,1.1s								
MORW	**Morawa**	**43.01**	**231**	P	**P**	**11**	**14**	**04.4**	**+0.2**
MJAR	**Matsushiro Arr**	**43.09**	**342**	P	**P**	**11**	**14**	**03.0**	**-1.7**
	comp=Z,6.5nm,0.7s,baz=164,slow=8.3,SNR=24								
MJAR				PcP	**PcP**	**11**	**15**	**53.8**	**-0.2**
	comp=Z,11nm,0.7s,baz=149,slow=3.7,SNR=5.6								
MJAR				ScP	**ScP**	**11**	**19**	**42.0**	**+0.7**
	comp=Z,5.8nm,0.9s,baz=160,slow=5.8,SNR=4.6								
MJAR				LR	LR	11	29	56.4	
	comp=Z,2µm,21.9s,baz=168,slow=33								
	comp=Z,6.5nm,0.7s								
MAJO	**Matsushiro**	**43.09**	**342**	P	**P**	**11**	**14**	**06.6**	**+1.9**
MAJO	**Matsushiro**	**43.09**	**342**	P	**P**	**11**	**14**	**07.2**	**+2.5**
MAJO	**Matsushiro**	**43.09**	**342**	⇑*eP*	**P**	**11**	**14**	**04.2**	**-0.5**
MAJO				pmax	pmax				
	comp=Z,80nm,1.2s								
MJB9	**Matsu-Tunnel**	**43.10**	**342**	P	**P**	**11**	**14**	**04.9**	**+0.2**
PYZ	**Puysegur Point**	**43.22**	**166**	P	**P**	**11**	**14**	**06.2**	**+0.7**
PYZ				IAMs_20	IAMs_20	11	30	37.9	
	comp=Z,6µm,22.0s								
PYZ	**Puysegur Point**	**43.22**	**166**	P	**P**	**11**	**14**	**07.1**	**+1.5**
BLDU	**Ballidu**	**43.24**	**229**	P	**P**	**11**	**14**	**05.7**	**-0.3**
	baz=43,SNR=65								
BLDU	**Ballidu**	**43.24**	**229**	P	**P**	**11**	**14**	**05.6**	**-0.5**
ODZ	**Otahua Downs**	**43.25**	**162**	P	**P**	**11**	**14**	**05.8**	**0.0**
ODZ				IAmb	IAmb	11	14	07.4	
	comp=Z,281nm,1.4s								
WHZ	**Wether Hill Ro**	**43.27**	**165**	P	**P**	**11**	**14**	**06.5**	**+0.5**
WHZ				IAmb	IAmb	11	14	07.1	
	comp=Z,159nm,0.8s								
WHZ				IAMs_20	IAMs_20	11	31	57.4	
	comp=Z,4µm,19.0s								
JMM	**Marumori**	**43.62**	**346**	P	**P**	**11**	**14**	**09.2**	**+0.3**
NWAO	**Narrogin (SRO)**	**44.05**	**225**	P	**P**	**11**	**14**	**12.3**	**-0.3**
	baz=44,SNR=15								
NWAO				P	**P**	**11**	**14**	**12.3**	**-0.3**
	baz=44,SNR=15								
NWAO	**Narrogin (SRO)**	**44.05**	**225**	P	**P**	**11**	**14**	**12.6**	**+0.1**
NWAO				IAmb	IAmb	11	14	13.6	
	comp=Z,409nm,1.8s								
NWAO	**Narrogin (SRO)**	**44.05**	**225**	IAMs_20	IAMs_20	11	32	48.8	
	comp=Z,4µm,21.0s								
NWAO	**Narrogin (SRO)**	**44.05**	**225**	P	**P**	**11**	**14**	**12.2**	**-0.3**
NWAO	**Narrogin (SRO)**	**44.05**	**225**	P	**P**	**11**	**14**	**12.6**	**+0.1**
NWAO				pmax	pmax				
	comp=Z,409nm,1.8s								
NWAO				MLR	MLR				
	comp=Z,4µm,21.0s								
NWAO	**Narrogin (SRO)**	**44.05**	**225**	LR	LR	11	33	10.5	
	comp=Z,4µm,21.0s,baz=51,slow=37								
NWAO	**Narrogin (SRO)**	**44.05**	**225**	P	**P**	**11**	**14**	**12.1**	**-0.5**
NWAO				S	**S**	**11**	**20**	**40.0**	**-1.6**
NWAO	**Narrogin (SRO)**	**44.05**	**225**	P	**P**	**11**	**14**	**12.3**	**-0.3**
NWAO				ScP	**ScP**	**11**	**19**	**46.4**	**+1.0**
MUN	**Mundaring**	**44.30**	**227**	P	**P**	**11**	**14**	**14.5**	**-0.1**
	baz=44,SNR=25								
MUN	**Mundaring**	**44.30**	**227**	P	**P**	**11**	**14**	**14.4**	**-0.1**
KNMB	**Chin-men Tao**	**44.47**	**312**	P	**P**	**11**	**14**	**17.3**	**+1.4**
KNMB				IAmb	IAmb	11	14	22.9	
	comp=Z,169nm,0.9s								
QZH	**Quanzhou**	**44.59**	**313**	⇓*iP*	**P**	**11**	**14**	**17.5**	**+0.6**
QZH				pP	**pwP**	**11**	**14**	**30.2**	**+0.2**
QZH				S	**S**	**11**	**20**	**49.5**	**-0.1**
QZH				sS	**sS**	**11**	**21**	**12.8**	**+2.5**
QZH				SS	**SS**	**11**	**24**	**10.6**	**-0.6**
QZH				pmax	pmax				
	comp=Z,290nm,1.0s								
QZH				LR	LR				
	comp=Z,2µm,18.9s								
QZH				LR	LR				
	comp=Z,2µm,16.2s								
MTKN	**Mount Kenneth**	**44.59**	**228**	P	**P**	**11**	**14**	**19.3**	**+2.5**
CMJI	**Cimerak**	**44.73**	**263**	P	**P**	**11**	**14**	**17.4**	**-0.8**
AUALB	**St Joseph's Co**	**44.73**	**223**	P	**P**	**11**	**14**	**18.9**	**+1.0**
JTU	**Tsushima**	**44.79**	**332**	P	**P**	**11**	**14**	**22.0**	**+3.7**
RKGY	**Rocky Gully**	**45.14**	**224**	P	**P**	**11**	**14**	**22.0**	**+0.8**
	baz=45,SNR=48								
RKGY	**Rocky Gully**	**45.14**	**224**	P	**P**	**11**	**14**	**22.3**	**+1.1**
BBJI	**Bungbulang**	**45.52**	**264**	P	**P**	**11**	**14**	**23.6**	**-0.9**
LEM	**Lembang**	**45.54**	**265**	P	**P**	**11**	**14**	**24.7**	**-0.1**
LEM				pmax	pmax				
	comp=Z,222nm,1.0s								
LEM	**Lembang**	**45.54**	**265**	LR	LR	11	36	35.3	
	comp=Z,2µm,19.1s,baz=96,slow=40								
JTM	**Tenmabayashi**	**46.33**	**347**	P	**P**	**11**	**14**	**30.9**	**+0.5**
JTM	**Tenmabayashi**	**46.33**	**347**	P	**P**	**11**	**14**	**33.5**	**+3.1**
HKPS	**Hong Kong Po S**	**46.58**	**306**	P	**P**	**11**	**14**	**34.1**	**+1.4**
HKPS				IAmb	IAmb	11	14	41.1	
	comp=Z,103nm,0.8s								
HKPS	**Hong Kong Po S**	**46.58**	**306**	IAMs_20	IAMs_20	11	30	32.2	
	comp=Z,6µm,21.0s								
HKPS	**Hong Kong Po S**	**46.58**	**306**	P	**P**	**11**	**14**	**35.9**	**+3.2**
SSE	**Sheshan**	**46.74**	**321**	P	**P**	**11**	**14**	**35.6**	**+1.8**
SSE				S	**S**	**11**	**21**	**24.0**	**+3.7**
SSE				pmax	pmax				
	comp=Z,74nm,1.3s								
SSE				pmax	pmax				
	comp=Z,320nm,5.9s								
SSE				LR	LR				
	comp=Z,680nm,22.8s								
SSE				LR	LR				
	comp=Z,1µm,22.2s								
TJN	**Taejon**	**47.26**	**331**	P	**P**	**11**	**14**	**39.4**	**+1.7**
TJN	**Taejon**	**47.26**	**331**	P	**P**	**11**	**14**	**40.0**	**+2.3**
TJN	**Taejon**	**47.26**	**331**	*eP*	**P**	**11**	**14**	**39.2**	**+1.5**
CTZ	**Chatham Island**	**47.33**	**150**	P	**P**	**11**	**14**	**37.9**	**-0.3**
CTZ	**Chatham Island**	**47.33**	**150**	P	**P**	**11**	**14**	**40.8**	**+2.6**
XMI	**Christmas Isla**	**47.58**	**260**	P	**P**	**11**	**14**	**41.4**	**+0.8**
XMIS	**Christmas Isla**	**47.62**	**260**	P	**P**	**11**	**14**	**41.8**	**+0.9**
XMIS				IAmb	IAmb	11	14	47.3	
	comp=Z,142nm,0.8s								
XMIS	**Christmas Isla**	**47.62**	**260**	P	**P**	**11**	**14**	**42.2**	**+1.3**
KSRS	**Korea Array**	**47.87**	**333**	P	**P**	**11**	**14**	**39.3**	**-3.1**
	comp=Z,17nm,1.1s,baz=118,slow=16,SNR=12								
KSRS				ScP	**ScP**	**11**	**20**	**01.1**	**+0.1**
	comp=Z,11nm,0.9s,baz=144,slow=5.0,SNR=12								
KSRS				LR	LR	11	33	03.4	
	comp=Z,1µm,21.0s,baz=140,slow=34								
	comp=Z,17nm,1.1s								
KSAR	**Wonju Array Be**	**47.87**	**333**	P	**P**	**11**	**14**	**43.7**	**+1.2**
KSAR	**Wonju Array Be**	**47.87**	**333**	P	**P**	**11**	**14**	**43.7**	**+1.2**
KS19	**Wonju Array Si**	**47.93**	**333**	P	**P**	**11**	**14**	**43.7**	**+0.7**
KS19				IAmb	IAmb	11	15	06.0	
	comp=Z,123nm,1.2s								
RAR	**Rarotonga**	**48.48**	**114**	P	**P**	**11**	**14**	**48.0**	**+0.6**
RAR				IAmb	IAmb	11	15	12.4	
	comp=Z,245nm,1.6s								
RAR	**Rarotonga**	**48.48**	**114**	P	**P**	**11**	**14**	**48.6**	**+1.2**
RAR	**Rarotonga**	**48.48**	**114**	P	**P**	**11**	**14**	**48.0**	**+0.6**
RAR				pmax	pmax				
	comp=Z,245nm,1.6s								
RAR	**Rarotonga**	**48.48**	**114**	LR	LR	11	32	29.0	
	comp=Z,2µm,21.4s,baz=280,slow=33								
RAR	**Rarotonga**	**48.48**	**114**	P	**P**	**11**	**14**	**48.0**	**+0.6**
INCN	**Inchon**	**48.49**	**332**	P	**P**	**11**	**14**	**49.6**	**+2.3**
INCN	**Inchon**	**48.49**	**332**	P	**P**	**11**	**14**	**49.7**	**+2.3**
INCN	**Inchon**	**48.49**	**332**	P	**P**	**11**	**14**	**49.6**	**+2.3**
INCN				pmax	pmax				
	comp=Z,415nm,0.9s								
INCN	**Inchon**	**48.49**	**332**	P	**P**	**11**	**14**	**45.1**	**-2.2**
INCN	**Inchon**	**48.49**	**332**	P	**P**	**11**	**14**	**49.5**	**+2.2**
QIZ	**Qiongzhong**	**48.71**	**300**	P	**P**	**11**	**14**	**50.7**	**+1.5**
QIZ				S	**S**	**11**	**21**	**51.2**	**+2.5**
QIZ				pmax	pmax				
	comp=Z,47nm,1.1s								
QIZ				LR	LR				
	comp=Z,2µm,21.6s								
QIZ				LR	LR				
	comp=Z,3µm,21.1s								
QIZ				LR	LR				
	comp=Z,5µm,23.7s								
QIZ	**Qiongzhong**	**48.71**	**300**	IAMs_20	IAMs_20	11	31	42.4	
	comp=Z,5µm,22.0s								
QIZ	**Qiongzhong**	**48.71**	**300**	P	**P**	**11**	**14**	**50.8**	**+1.5**
QIZ	**Qiongzhong**	**48.71**	**300**	P	**P**	**11**	**14**	**50.7**	**+1.5**
QIZ				ScP	**ScP**	**11**	**20**	**05.4**	**+0.4**
NJ2	**Nanjing**	**48.85**	**320**	⇓P	**P**	**11**	**14**	**51.3**	**+1.2**
NJ2				pP	**pP**	**11**	**15**	**01.1**	**-1.7**
NJ2				sP	**sP**	**11**	**15**	**10.9**	**+2.7**
NJ2				PcP	**PcP**	**11**	**16**	**18.2**	**+4.0**
NJ2				ScP	**ScP**	**11**	**20**	**06.0**	**+0.7**
NJ2				S	**S**	**11**	**21**	**48.5**	**-1.8**
NJ2				SS	**SS**	**11**	**25**	**20.3**	**-1.3**
NJ2				pmax	pmax				
	comp=Z,30nm,1.0s								
NJ2				pmax	pmax				
	comp=Z,490nm,3.5s								
NJ2				LR	LR				
	comp=Z,2µm,18.5s								
NJ2				LR	LR				
	comp=Z,1µm,15.6s								
NJ2				LR	LR				
	comp=Z,4µm,24.0s								
JKA	**Kamikawa-asahi**	**49.23**	**350**	P	**P**	**11**	**14**	**53.6**	**+0.9**
ASAJ	**Asahikawa**	**49.23**	**350**	P	**P**	**11**	**14**	**53.7**	**+0.9**
ASAJ				pmax	pmax				
	comp=Z,436nm,1.9s								
ASAJ	**Asahikawa**	**49.23**	**350**	P	**P**	**11**	**14**	**51.5**	**-1.3**
	comp=Z,17nm,0.7s,baz=148,slow=12,SNR=5.8								
ASAJ				LR	LR	11	32	59.2	
	comp=Z,2µm,21.1s,baz=158,slow=33								
	comp=Z,17nm,0.7s								
XMAS	**Kiritimati**	**49.61**	**84**	P	**P**	**11**	**14**	**57.6**	**+1.4**
XMAS	**Kiritimati**	**49.61**	**84**	P	**P**	**11**	**14**	**58.6**	**+2.4**
MCQ	**Macquarie Isla**	**50.17**	**176**	P	**P**	**11**	**15**	**01.6**	**+1.8**
	baz=50,SNR=18								
MCQ	**Macquarie Isla**	**50.17**	**176**	P	**P**	**11**	**15**	**01.3**	**+1.5**
MCQ	**Macquarie Isla**	**50.17**	**176**	P	**P**	**11**	**15**	**01.8**	**+2.0**
MCQ	**Macquarie Isla**	**50.17**	**176**	P	**P**	**11**	**15**	**01.3**	**+1.5**
MCQ				pmax	pmax				
	comp=Z,844nm,1.0s								
CNSH	**ChangSha**	**50.60**	**312**	⇓P	**P**	**11**	**15**	**04.9**	**+1.4**
CNSH				S	**S**	**11**	**22**	**15.8**	**+1.0**
CNSH				pmax	pmax				
	comp=Z,14nm,0.6s								
CNSH				LR	LR				
	comp=Z,1µm,24.0s								
CNSH				LR	LR				
	comp=Z,1µm,25.0s			

SNY SS **SS** **11 26 31.5 -1.6**
SNY pmax pmax
comp=Z,9.0nm,0.6s
SNY LR LR
comp=Z,650nm,15.2s
SNY LR LR
comp=Z,1μm,16.8s
SNY LR LR
comp=Z,1μm,18.2s
SKLT Songkhla 53.83 282 P **P** **11 15 29.8 +2.0**
KIP Kipapa 54.12 60 P **P** **11 15 32.2 +2.5**
KIP Kipapa 54.12 60 P **P** **11 15 32.1 +2.4**
KIP Kipapa 54.12 60 ⇑*e*P **P** **11 15 29.7 0.0**
KIP pmax pmax
comp=Z,64nm,1.3s
KIP Kipapa 54.12 60 P **P** **11 15 30.8 +1.0**
CN2 Changchun 54.13 335 ⇑P **P** **11 15 30.3 +0.9**
CN2 *e*S **S** **11 23 05.4 +2.7**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,300nm,5.0s
CN2 LR LR
comp=Z,400nm,12.0s
CN2 LR LR
comp=Z,300nm,12.0s
CN2 LR LR
comp=Z,500nm,13.0s
UGL Uglegorsk 54.13 351 *e*P P 11 15 37.5 +8.2
UGL *e*S S 11 23 17.1 +15
UGL pmax pmax
comp=Z,1μm,6.0s
UGL pmax pmax
comp=Z,160nm,1.2s
OPA Opana 54.23 59 P **P** **11 15 29.9 -0.6**
OPA pmax pmax
comp=Z,456nm,1.2s
ENH Enshi 54.26 312 P **P** **11 15 31.2 +0.5**
ENH IAmb IAmb 11 15 36.9
comp=Z,134nm,1.0s
ENH Enshi 54.26 312 P **P** **11 15 31.6 +1.0**
ENH Enshi 54.26 312 P **P** **11 15 31.1 +0.4**
ENH ScP **ScP** **11 20 28.9 +0.1**
NONG Nongkai 54.26 296 P **P** **11 15 31.8 +1.0**
GYA Guiyang 54.56 307 ⇓P **P** **11 15 34.2 +1.2**
GYA sP sP 11 15 53.0 +1.1
GYA S **S** **11 23 09.9 +0.6**
GYA pmax pmax
comp=Z,49nm,1.1s
GYA pmax pmax
comp=Z,260nm,5.0s
GYA LR LR
comp=Z,2μm,18.5s
GYA LR LR
comp=Z,2μm,19.6s
GYA LR LR
comp=Z,3μm,19.7s
LYN LuoYang 54.57 319 ⇑P **P** **11 15 33.5 +0.7**
LYN PP **PP** **11 17 38.7 +3.0**
LYN S **S** **11 23 06.5 -2.4**
LYN pmax pmax
comp=Z,61nm,1.1s
LYN pmax pmax
comp=Z,970nm,4.8s
LYN LR LR
comp=Z,3μm,20.6s
LYN LR LR
comp=Z,2μm,22.7s
LYN LR LR
comp=Z,6μm,25.0s
SLVN Son La 54.74 300 P **P** **11 15 35.9 +1.6**
SLVN IAMs_20 IAMs_20 11 35 19.5
comp=Z,3μm,21.0s
NAYO Nakonayok 54.80 291 P **P** **11 15 36.9 +2.1**
HNS HongShan 54.93 323 ⇓P **P** **11 15 36.0 +0.7**
HNS sP sP 11 15 55.1 +1.5
HNS S **S** **11 23 07.7 -5.9**
HNS pmax pmax
comp=Z,150nm,1.2s
HNS pmax pmax
comp=Z,750nm,4.7s
HNS LR LR
comp=Z,580nm,22.3s
HNS LR LR
comp=Z,2μm,22.3s
HNS LR LR
comp=Z,3μm,22.1s
BNX BinXian 54.98 338 ⇓P **P** **11 15 35.4 -0.1**
BNX PP **PP** **11 17 43.8 +4.7**
BNX S **S** **11 23 17.7 +3.8**
BNX pmax pmax
comp=Z,46nm,1.1s
BNX pmax pmax
comp=Z,700nm,4.3s
BNX LR LR
comp=Z,560nm,16.3s
BNX LR LR
comp=Z,820nm,19.5s
BNX LR LR
comp=Z,2μm,24.9s
SRIT Nakonsritamara 55.09 284 P **P** **11 15 37.6 +0.7**
SURA Surathani 55.18 284 P **P** **11 15 38.5 +1.0**
KHLH Kahului Airpor 55.30 61 P **P** **11 15 40.4 +2.1**
KHLU Kahalu`u 55.31 63 P **P** **11 15 40.9 +2.4**
HUH Hualalai 55.40 63 P **P** **11 15 40.3 +0.9**
KHU Kahuku 55.44 63 P **P** **11 15 41.2 +1.5**
KHU Kahuku 55.44 63 P **P** **11 15 41.2 +1.5**
KHU pmax pmax
comp=Z,814nm,1.4s
POHA Pohakuloa 55.69 63 P **P** **11 15 42.9 +1.5**
POHA Pohakuloa 55.69 63 P **P** **11 15 43.4 +2.0**
TYV Tymovskoe 55.78 352 *e*P **P** **11 15 42.7 +1.5**
TYV *e*S **S** **11 23 28.9 +4.4**
TYV pmax pmax
comp=Z,24nm,1.4s
TYV pmax pmax
comp=Z,100nm,3.7s
TYV smax smax
comp=N,300nm,6.0s
TYV smax smax
comp=E,300nm,6.0s
BJT Baijiatuau 55.83 326 P **P** **11 15 43.9 +2.2**
BJI Beijing 55.84 326 P **P** **11 15 42.8 +1.0**
BJI ScP **ScP** **11 20 35.8 +0.4**
BJI S **S** **11 23 24.1 -1.5**
BJI pmax pmax
comp=E,20nm,1.0s
BJI pmax pmax
comp=E,320nm,6.4s
BJI LR LR
comp=E,720nm,23.8s
BJI LR LR
comp=E,810nm,22.6s
BJI LR LR
comp=E,1μm,24.3s
GSI Gunungsitoli 55.99 275 P **P** **11 15 41.9 -1.4**
GSI IAmb IAmb 11 15 47.9
comp=Z,200nm,1.1s
GSI Gunungsitoli 55.99 275 P **P** **11 15 44.0 +0.6**
COCO West Island 56.34 258 P **P** **11 15 46.5 +0.6**
COCO West Island 56.34 258 P **P** **11 15 46.5 +0.6**
COCO pmax pmax
comp=Z,635nm,1.5s
TIY Taiyuan 56.52 322 *e*P P 11 15 51.8 +5.0
TIY PP **PP** **11 17 58.1 +4.9**
TIY S **S** **11 23 38.2 +3.2**
TIY pmax pmax
comp=Z,42nm,0.5s
TIY pmax pmax
comp=Z,370nm,6.4s
TIY LR LR
comp=Z,680nm,18.5s
TIY LR LR
comp=Z,1μm,19.2s
TIY LR LR
comp=Z,2μm,21.3s
KLR Kul'dur 56.59 343*c i*P **P** **11 15 47.1 +0.1**
KLR pmax pmax
comp=Z,76nm,0.9s
KLR Kul'dur 56.59 343 P **P** **11 15 45.8 -1.2**
comp=Z,22nm,0.9s,baz=185,slow=3.5,SNR=50
KLR ScP **ScP** **11 20 36.5 -2.1**
comp=Z,2.8nm,0.7s,baz=153,slow=3.6,SNR=2.1
KLR LR LR 11 38 26.3
comp=Z,785nm,21.2s,baz=163,slow=34
comp=Z,22nm,0.9s
XAN Xi'an 56.68 316 ⇑P **P** **11 15 48.7 +0.7**
XAN pP pwP 11 16 00.8 -3.1
XAN ScP **ScP** **11 20 39.1 -0.3**
XAN S **S** **11 23 33.1 -4.1**
XAN pmax pmax
comp=Z,96nm,0.9s
XAN pmax pmax
comp=Z,1μm,7.3s
XAN LR LR
comp=Z,2μm,20.3s
XAN LR LR
comp=Z,3μm,20.9s
XAN LR LR
comp=Z,4μm,20.6s
XAN Xi'an 56.68 316 P **P** **11 15 48.1 +0.1**
XAN ScP **ScP** **11 20 39.2 -0.3**
GRNR Gornyy 56.82 347 ⇑*i*P P 11 16 00.2 +12
GRNR pmax pmax
comp=N,10.0nm,1.0s
GRNR pmax pmax
comp=Z,30nm,1.1s
SRDT SRDT 56.87 290 P **P** **11 15 51.7 +2.1**
PHRA Phrae 57.02 295 P **P** **11 15 52.0 +1.3**
KMI Kunming 57.19 304 ⇓P **P** **11 15 53.3 +1.3**
KMI pP pP 11 16 03.8 -1.8
KMI sP sP 11 16 13.0 +1.8
KMI ScP **ScP** **11 20 42.8 +0.7**
KMI S **S** **11 23 46.4 +1.9**
KMI sS sS 11 24 03.6 -4.0
KMI SS **SS** **11 27 36.9 +2.6**
KMI pmax pmax
comp=Z,58nm,1.3s
KMI pmax pmax
comp=Z,190nm,3.7s
KMI LR LR
comp=Z,1μm,22.4s
KMI LR LR
comp=Z,2μm,20.5s
KMI LR LR
comp=Z,4μm,30.4s
KMI Kunming 57.19 304 P **P** **11 15 54.0 +2.0**
PPT Papeete 57.36 108 P **P** **11 15 52.9 -0.2**
comp=Z,78nm,0.9s,baz=275,slow=8.8,SNR=9.4
PPT LR LR 11 36 29.1
comp=Z,1μm,21.9s,baz=268,slow=32
comp=Z,78nm,0.9s
PET Petropavlovsk 57.37 4 P **P** **11 15 52.6 +0.2**
PET IAmb IAmb 11 16 10.8
comp=Z,130nm,1.5s
PET Petropavlovsk 57.37 4 P **P** **11 15 55.1 +2.7**
PET Petropavlovsk 57.37 4 *e*P **P** **11 15 52.7 +0.2**
PET *e*S **S** **11 23 45.3 -0.1**
PET *e*SS **SS** **11 27 36.7 +1.0**
PET pmax pmax
comp=Z,43nm,1.2s
PET pmax pmax
comp=Z,1μm,4.7s
PET pmax pmax
comp=Z,800nm,9.4s
PET MLR MLR
comp=Z,1μm,15.0s
PET MLR MLR
comp=Z,1μm,18.0s
PET Petropavlovsk 57.37 4 P **P** **11 15 52.5 +0.2**
PET pP **pP** **11 16 02.8 -2.1**
PPTF Pamatai, Papee 57.37 108 P **P** **11 15 54.2 +1.0**
PPTF IAmb IAmb 11 15 59.2
comp=Z,126nm,0.9s
PPTF Pamatai, Papee 57.37 108 P **P** **11 15 55.5 +2.3**
PPTF Pamatai, Papee 57.37 108 P **P** **11 15 54.3 +1.0**
PEA0B Petropavlovsk- 57.39 3 P **P** **11 15 53.1 +0.5**
PEA0B IAmb IAmb 11 16 25.6
comp=Z,168nm,1.2s
PEA0B Petropavlovsk- 57.39 3⇑*e*P **P** **11 15 52.1 -0.5**
PETK Petropavlovsk- 57.39 3 P **P** **11 15 52.9 +0.3**
PETK Petropavlovsk- 57.39 3 P **P** **11 15 52.9 +0.3**
PETK Petropavlovsk- 57.39 3 P **P** **11 15 50.6 -2.0**
comp=Z,23nm,1.1s,baz=153,slow=5.3,SNR=21
PETK LR LR 11 36 44.2
comp=Z,1μm,21.7s,baz=197,slow=32
comp=Z,23nm,1.1s
CRAI Chiangrai 57.45 297 P **P** **11 15 54.7 +1.1**
CRAI IAmb IAmb 11 15 59.6
comp=Z,59nm,0.9s
CM31 Chiang Mai Arr 58.17 295 P **P** **11 16 00.8 +2.0**
CM31 IAmb IAmb 11 16 06.2
comp=Z,46nm,0.8s
CMAR Chiang Mai Arr 58.17 295 P **P** **11 15 59.4 +0.7**
CMAR Chiang Mai Arr 58.17 295 *i* P **P** **11 16 00.1 +1.4**
CMAR pmax pmax
comp=Z,64nm,1.1s
CMAR Chiang Mai Arr 58.17 295 P **P** **11 15 58.4 -0.4**
comp=Z,31nm,1.0s,baz=115,slow=5.2,SNR=71
CMAR LR LR 11 39 44.5
comp=Z,2μm,21.1s,baz=90,slow=35
CMAR PKP2bc 11 45 45.1
comp=Z,1.3nm,0.9s,baz=271,slow=4.2,SNR=4.1
CMAR P4KPbc 11 53 04.7
comp=Z,0.5nm,0.3s,baz=219,slow=14,SNR=1.9
comp=Z,31nm,1.0s
CHTO Chiang Mai 58.28 295 P **P** **11 16 00.2 +0.7**
CHTO Chiang Mai 58.28 295 P **P** **11 16 00.9 +1.4**
CHTO Chiang Mai 58.28 295 P **P** **11 16 00.2 +0.7**
CHTO pmax pmax
comp=Z,45nm,1.1s
CHTO Chiang Mai 58.28 295 P **P** **11 16 00.1 +0.6**
CHTO S **S** **11 23 54.9 -3.7**
CHTO Chiang Mai 58.28 295 P **P** **11 16 00.1 +0.7**
CHTO PcP **PcP** **11 16 50.6 +0.3**
PZH PanZhiHua 58.56 305 P **P** **11 16 02.3 +0.8**
PZH pP **sP** **11 16 18.2 -2.5**
PZH PcP **PcP** **11 16 55.5 +4.1**
PZH PP **PP** **11 18 17.9 +6.3**
PZH ScP **ScP** **11 20 48.2 +0.2**
PZH PcS **PcS** **11 20 52.5 -0.9**
PZH S **S** **11 24 01.2 -1.1**
PZH ScS **ScS** **11 25 45.7 -2.0**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,340nm,6.1s
PZH LR LR
comp=Z,1μm,19.6s
PZH LR LR
comp=Z,2μm,18.4s
PZH LR LR
comp=Z,3μm,23.9s
XLT XiLinHaoTe 58.57 329 *e*P **P** **11 16 01.6 +0.4**
XLT S **S** **11 23 59.4 -2.3**
XLT ScS **ScS** **11 25 44.6 -2.4**
XLT SS **SS** **11 28 00.2 +4.9**
XLT pmax pmax
comp=Z,140nm,0.8s
XLT pmax pmax
comp=Z,450nm,4.4s
XLT LR LR
comp=Z,2μm,25.5s
XLT LR LR
comp=Z,3μm,26.4s
HEH HeiHe 58.83 341 *e*P **P** **11 16 02.2 -0.5**
HEH ScP **ScP** **11 20 49.0 +0.6**
HEH S **S** **11 24 00.2 -4.4**
HEH pmax pmax
comp=Z,32nm,0.7s
HEH pmax pmax
comp=Z,670nm,5.3s
HEH LR LR
comp=Z,950nm,18.6s
HEH LR LR
comp=Z,490nm,20.4s
HEH LR LR
comp=Z,1μm,17.8s
CD2 Chengdu 58.86 310 P **P** **11 16 03.6 +0.2**
CD2 pP pP 11 16 15.6 -1.4
CD2 sP sP 11 16 19.2 -3.3
CD2 PP **PP** **11 18 15.6 +1.5**
CD2 S **S** **11 24 06.1 +0.2**
CD2 sS sS 11 24 28.4 -0.6
CD2 SS **SS** **11 28 03.6 +3.4**
CD2 pmax pmax
comp=Z,230nm,1.0s
CD2 pmax pmax
comp=Z,740nm,5.2s
CD2 LR LR
comp=Z,4μm,27.3s
CD2 LR LR
comp=Z,3μm,22.4s
CD2 LR LR
comp=Z,3μm,24.4s
HHC Hu-ho-hao-te 59.01 324⇓*i*P P 11 16 08.6 +4.3
HHC pP pP 11 16 16.1 -1.3
HHC sP sP 11 16 23.9 +1.1
HHC S **S** **11 24 06.1 -1.5**
HHC sS sS 11 24 25.8 -4.2
HHC SS **SS** **11 28 09.5 +7.2**
HHC pmax pmax
comp=Z,28nm,1.2s
HHC pmax pmax
comp=Z,450nm,5.6s
HHC LR LR
comp=Z,1μm,22.5s
HHC LR LR
comp=Z,830nm,22.6s
HHC LR LR
comp=Z,3μm,22.1s
SHEM Shemya Is, Ala 59.55 14 LR LR 11 38 27.8
comp=Z,4μm,20.5s,baz=185,slow=33
BTO Baotou 59.78 323 *e*P **P** **11 16 11.9 +2.3**
BTO PP **PP** **11 18 26.2 +4.1**
BTO S **S** **11 24 21.7 +4.2**
BTO SS **SS** **11 28 19.5 +5.1**
BTO pmax pmax
comp=Z,49nm,0.9s
BTO pmax pmax
comp=Z,2μm,9.6s
BTO LR LR
comp=Z,2μm,23.7s
BTO LR LR
comp=Z,2μm,22.6s
BTO LR LR
comp=Z,5μm,24.1s
TNCH TengChong 60.69 302 P **P** **11 16 14.7 -1.6**
TNCH S **S** **11 24 28.8 -1.1**
TNCH pmax pmax
comp=Z,99nm,0.7s
TNCH pmax pmax
comp=Z,410nm,5.7s
TNCH LR LR
comp=Z,490nm,19.0s
TNCH LR LR
comp=Z,620nm,26.6s
TNCH LR LR
comp=Z,2μm,28.8s
HIA Hailar 60.87 335 P **P** **11 16 19.6 +2.8**
LZH Lanzhou 61.30 315 *e*P **P** **11 16 21.2 +1.1**
LZH sP sP 11 16 40.8 +2.4
LZH ScP **ScP** **11 21 00.4 +0.4**
LZH S **S** **11 24 37.9 +0.7**
LZH SS **SS** **11 28 42.2 +3.8**
LZH pmax pmax
comp=Z,200nm,1.2s
LZH LR LR
comp=Z,810nm,16.0s
LZH LR LR
comp=Z,2μm,18.4s
LZH LR LR
comp=Z,3μm,19.0s
MND Mandalay 61.78 298 P **P** **11 16 24.7 +1.3**
ZEA Zeya 61.90 343 *e*P **P** **11 16 23.9 +0.3**
ZEA *e**PP **pP** **11 16 35.8 -0.5**
ZEA *e* 11 17 06.0
ZEA *e*S **S** **11 24 46.6 +2.8**
ZEA pmax pmax
comp=E,10.0nm,0.5s
ZEA pmax pmax
comp=N,30nm,1.3s
ZEA pmax pmax
comp=Z,40nm,1.1s
ZEA smax smax
comp=N,200nm,10.3s
DGPR DIGLIPUR 62.44 287 *e*P **P** **11 16 26.6 -1.4**
DGPR IVmB_BB 11 17 06.1
comp=Z,666nm,2.8s
DRV Dumont d'Urvil 62.86 186 P **P** **11 16 31.0 +1.2**
MA2 Magadan 63.79 359 P **P** **11 16 36.0 -0.1**
MA2 IAmb IAmb 11 17 04.5
comp=Z,184nm,1.3s
MA2 Magadan 63.79 359 P **P** **11 16 36.3 +0.2**
MA2 Magadan 63.79 359*ce*P **P** **11 16 35.7 -0.3**
MA2 pmax pmax
comp=Z,57nm,1.0s
MA2 MLR MLR
comp=Z,2μm,20.0s
MA2 Magadan 63.79 359 LR LR 11 44 14.8
comp=Z,1μm,19.2s,baz=182,slow=36
MA2 Magadan 63.79 359 P **P** **11 16 35.8 -0.3**
MA2 sP **pwP** **11 16 48.9 -3.4**
NIKH Nikolski High 65.42 24 P **P** **11 16 46.6 -0.2**
baz=222
CIT Chita 65.55 334 *e*P P 11 16 59.8 +12
CIT *e* 11 17 11.6
CIT *e* 11 17 15.0
GTA Gaotai 65.70 317 P **P** **11 16 50.5 +1.4**
GTA pP pP 11 17 01.9 -0.4
GTA PcP **PcP** **11 17 22.2 +2.0**
GTA PP **PP** **11 19 19.1 +4.8**
GTA ScP 11 21 19.5
GTA S **S** **11 25 32.2 +0.3**
GTA ScS **SKSac** **11 26 39.7 -1.3**
GTA SS **SS** **11 29 46.7 -0.4**
GTA pmax pmax
comp=Z,29nm,1.0s
GTA LR LR
comp=Z,480nm,20.4s
GTA LR LR
comp=Z,910nm,18.5s
GTA LR LR
comp=Z,1μm,20.0s
ULN Ulaanbaatar 65.92 328 P **P** **11 16 50.8 +0.5**
ULN Ulaanbaatar 65.92 328 IAMs_20 IAMs_20 11 46 10.8
comp=Z,μm,19.0s
ULN Ulaanbaatar 65.92 328*c i*P **P** **11 16 50.7 +0.3**
ULN pmax pmax
comp=Z,47nm,0.9s
ULN MLR MLR
comp=Z,2μm,19.0s
ULN Ulaanbaatar 65.92 328 P **P** **11 16 51.1 +0.7**
ULN S **S** **11 25 35.0 +0.8**
ULN Ulaanbaatar 65.92 328 P **P** **11 16 51.0 +0.7**
SONM Songino Array 66.25 327 P **P** **11 16 52.8 +0.3**
SONM Songino Array 66.25 327 P **P** **11 16 52.8 +0.3**
SONM pmax pmax
comp=Z,47nm,0.9s
SONM Songino Array 66.25 327 P **P** **11 16 51.2 -1.3**
comp=Z,8.7nm,0.5s,baz=147,slow=5.9,SNR=66
SONM PKP2bc 11 45 26.1
comp=Z,1.1nm,0.8s,baz=343,slow=0.7,SNR=4.0
SONM LR LR 11 47 01.9
comp=Z,2μm,18.3s,baz=133,slow=37
comp=Z,8.7nm,0.5s
SHL Shillong 66.55 300 *e*P **P** **11 16 55.0 +0.2**
UNV Unalaska Valle 67.02 25 P **P** **11 16 57.0 -0.1**
baz=224
SEY Seymchan 67.13 360⇓*e*P **P** **11 16 57.7 +0.1**
SEY pmax pmax
comp=Z,92nm,1.7s
SEY Seymchan 67.13 360 LR LR 11 44 50.8
comp=Z,349nm,19.8s,baz=168,slow=35
GOMU GeErMu 67.87 312 P **P** **11 17 04.7 +1.4**
GOMU SS SS 11 30 23.4 +2.1
GOMU pmax pmax
comp=Z,9.0nm,1.1s
GOMU LR LR
comp=Z,740nm,16.3s
GOMU LR LR
comp=Z,1μm,17.3s
GOMU LR LR
comp=Z,2μm,17.5s
SPIA Saint Paul Isl 68.08 20 P **P** **11 17 02.9 -0.8**
baz=220
LSA Lhasa 68.43 304 IAMs_20 IAMs_20 11 44 17.7
comp=Z,2μm,21.0s
LSA Lhasa 68.43 304 P **P** **11 17 07.5 +0.5**
LSA Lhasa 68.43 304 P **P** **11 17 08.4 +1.3**
CASY Casey 68.57 197 P **P** **11 17 07.2 +0.6**
CASY Casey 68.57 197 IAMs_20 IAMs_20 11 47 47.9
comp=Z,2μm,18.0s
CASY Casey 68.57 197 ⇑P **P** **11 17 07.2 +0.6**
YAK Yakutsk 68.67 348 P **P** **11 17 07.6 +0.4**

YAK IAmb IAmb 11 17 38.6
comp=Z,250nm,1.6s
YAK Yakutsk 68.67 348 *e*P **P** **11 17 07.2 0.0**
YAK *e**PP **pP** **11 17 18.8 -1.5**
YAK *e* 11 17 31.8
YAK *e* 11 19 39.0
YAK *e*PPP PPP 11 21 18.8
YAK *e*S **S** **11 26 08.2 +1.8**
YAK *e**SS **sS** **11 26 25.9 -2.3**
YAK *e* 11 26 58.9
YAK *e*SS **SS** **11 30 34.8 +3.0**
YAK pmax pmax
comp=Z,62nm,1.8s
YAK pmax pmax
comp=N,25nm,2.0s
YAK pmax pmax
comp=E,13nm,1.5s
YAK pmax pmax
comp=Z,505nm,5.7s
YAK pmax pmax
comp=N,468nm,6.5s
YAK pmax pmax
comp=E,230nm,6.8s
YAK smax smax
comp=N,457nm,9.1s
YAK smax smax
comp=E,191nm,5.3s
YAK MLR MLR
comp=N,660nm,25.0s
YAK MLR MLR
comp=E,419nm,26.0s
YAK Yakutsk 68.67 348 P **P** **11 17 06.4 -0.8**
comp=E,20nm,0.7s,baz=153,slow=9.0,SNR=14
YAK LR LR 11 48 52.8
comp=E,412nm,18.3s,baz=152,slow=37
comp=E,20nm,0.7s
FALS False Pass 69.02 25 P **P** **11 17 08.6 -1.0**
baz=227
ZAK Zakamensk 69.41 328 *e*P **P** **11 17 12.0 -0.3**
ZAK pmax pmax
comp=Z,57nm,1.1s
BOD Bodaibo 69.59 339 *e*P **P** **11 17 12.5 -0.5**
BOD pmax pmax
comp=Z,85nm,1.6s
IRK Irkutsk 70.00 330 *e*P **P** **11 17 14.8 -0.9**
IRK pmax pmax
comp=Z,82nm,2.1s
SDPT Sand Point 70.62 26 P **P** **11 17 18.5 -0.8**
baz=230
CNBA Chernabura Isl 70.67 27 P **P** **11 17 22.4 +2.7**
CNBA IAMs_20 IAMs_20 11 45 25.0
comp=Z,2µm,20.0s
CHNA Chernabura Isl 70.67 27 P **P** **11 17 19.9 +0.2**
baz=231
MOY Mondy 71.33 329 *e*P **P** **11 17 24.1 +0.1**
MOY pmax pmax
comp=Z,75nm,1.6s
BOK Bokaro 71.34 297 *e*P **P** **11 17 25.9 +1.5**
BOK IVmB_BB 11 17 36.9
comp=Z,596nm,5.1s
CHGN Chignik 72.12 26 P **P** **11 17 29.6 +1.2**
CHGN IAmb IAmb 11 17 54.0
comp=Z,145nm,1.3s
CHGN Chignik 72.12 26 P **P** **11 17 28.6 +0.2**
baz=231
VIS Vishakhapatnam 72.41 290 *e*P **P** **11 17 32.0 +1.0**
BILL Bilibino 72.83 5 P **P** **11 17 32.8 +0.3**
BILL IAmb IAmb 11 18 01.4
comp=Z,109nm,1.1s
BILL Bilibino 72.83 5 IAMs_20 IAMs_20 11 48 47.1
comp=Z,2µm,20.0s
BILL Bilibino 72.83 5 *i*P **P** **11 17 32.6 +0.1**
BILL pmax pmax
comp=Z,62nm,1.1s
GAMB Gambell 72.84 15 P **P** **11 17 33.0 +0.4**
baz=217
O14K Tigyukauivet M 72.87 23 P **P** **11 17 33.3 +0.5**
O14K IAmb IAmb 11 18 05.5
comp=Z,154nm,1.4s
O14K Tigyukauivet M 72.87 23 P **P** **11 17 32.5 -0.3**
baz=228
M13K Dall Lake 72.90 21 P **P** **11 17 34.3 +1.3**
M13K IAmb IAmb 11 18 01.3
comp=Z,239nm,1.4s
M13K Dall Lake 72.90 21 P **P** **11 17 32.9 0.0**
baz=226
N14K Kuskokwak Cree 73.16 22 P **P** **11 17 34.6 0.0**
baz=227
VNDA Vanda 73.23 178 P **P** **11 17 35.9 +1.2**
VNDA Vanda 73.23 178 P **P** **11 17 35.9 +1.2**
VNDA pmax pmax
comp=Z,233nm,0.9s
VNDA Vanda 73.23 178 P **P** **11 17 34.0 -0.7**
comp=Z,187nm,0.8s,baz=334,slow=6.6,SNR=228
VNDA LR LR 11 44 25.9
comp=Z,630nm,20.3s,baz=4.0,slow=31
R16K Pilot Point 73.27 25 P **P** **11 17 34.9 -0.3**
baz=232
O15K Ungalikthiuk R 73.38 23 P **P** **11 17 35.8 0.0**
baz=229
PALK Pallekele 73.39 279 P **P** **11 17 37.5 +0.6**
PALK IAmb IAmb 11 17 43.5
comp=Z,73nm,0.8s
PALK Pallekele 73.39 279 *d*/P **P** **11 17 37.7 +0.8**
PALK pmax pmax
comp=Z,113nm,1.0s
PALK Pallekele 73.39 279 LR LR 11 51 34.3
comp=Z,522nm,20.7s,baz=209,slow=37
PALK Pallekele 73.39 279 P **P** **11 17 37.8 +0.9**
PALK S **S** **11 27 01.9 -1.1**
M14K Bethel 73.63 21 P **P** **11 17 37.1 -0.1**
M14K IAmb IAmb 11 18 05.1
comp=Z,105nm,1.1s
M14K Bethel 73.63 21 P **P** **11 17 37.9 +0.6**
baz=227
SBA Scott Base 73.77 177 P **P** **11 17 39.5 +1.6**
SBA Scott Base 73.77 177 P **P** **11 17 39.5 +1.6**
SBA pmax pmax
comp=Z,213nm,1.0s
L14K Kuka Creek 73.78 20 P **P** **11 17 38.8 +0.7**
L14K IAmb IAmb 11 18 06.2
comp=Z,145nm,1.2s
L14K Kuka Creek 73.78 20 P **P** **11 17 38.2 +0.1**
baz=226
N15K Kwethluk River 73.92 22 P **P** **11 17 40.2 +1.1**
N15K IAmb IAmb 11 18 08.5
comp=Z,114nm,1.2s
N15K Kwethluk River 73.92 22 P **P** **11 17 39.2 +0.2**
baz=229
P16K Nushagak River 74.01 24 P **P** **11 17 39.8 +0.3**
baz=231
M15K Kasigluk River 74.05 22 P **P** **11 17 40.0 +0.2**
baz=228
O16K Kokwok River B 74.32 23 P **P** **11 17 42.1 +0.8**
O16K Kokwok River B 74.32 23 P **P** **11 17 40.8 -0.6**
baz=231
Q16K King Salmon 74.34 25 P **P** **11 17 41.1 -0.3**
baz=232
Q17K Contact Creek 74.41 25 P **P** **11 17 42.4 +0.3**
baz=233
L15K Ungalak Mounta 74.43 21 P **P** **11 17 42.5 +0.6**
baz=227
J14K Nanvaranak Lak 74.47 19 P **P** **11 17 43.0 +0.9**
J14K IAmb IAmb 11 18 10.7
comp=Z,124nm,1.1s
J14K Nanvaranak Lak 74.47 19 P **P** **11 17 43.3 +1.2**
baz=225
N16K Nishlik Lake 74.62 22 P **P** **11 17 44.2 +1.0**
baz=230
P17K Kvichak River 74.74 24 P **P** **11 17 44.2 +0.4**
baz=233
O17K Koliganek Bris 74.83 24 P **P** **11 17 45.6 +1.3**
baz=232
K15K Wolf Creek Mou 74.83 20 P **P** **11 17 45.0 +0.7**
K15K IAmb IAmb 11 18 12.5
comp=Z,172nm,1.1s
K15K Wolf Creek Mou 74.83 20 P **P** **11 17 45.9 +1.6**
baz=227
M16K Timber Creek 74.91 22 P **P** **11 17 45.5 +0.8**
M16K IAmb IAmb 11 18 12.9
comp=Z,128nm,1.0s
M16K Timber Creek 74.91 22 P **P** **11 17 45.9 +1.1**
baz=230,SNR=7.0
OHAK Old Harbor 74.94 27 P **P** **11 17 45.3 +0.3**
OHAK Old Harbor 74.94 27 P **P** **11 17 44.6 -0.4**
baz=236
L16K Owhat River 75.17 21 P **P** **11 17 46.6 +0.4**
L16K Owhat River 75.17 21 P **P** **11 17 45.9 -0.3**
baz=229
ANM Nome 75.22 17 P **P** **11 17 46.8 +0.3**
ANM IAmb IAmb 11 18 10.1
comp=Z,85nm,1.2s
ANM IAMs_20 IAMs_20 11 46 50.0
comp=Z,2µm,21.0s
ANM Nome 75.22 17 P **P** **11 17 46.8 +0.3**
ANM pmax pmax
comp=Z,85nm,1.2s
ANM Nome 75.22 17 P **P** **11 17 47.4 +0.9**
baz=223
TNA Tin City 75.25 16 P **P** **11 17 45.9 -0.7**
baz=220
N17K Nushagak Hills 75.26 23 P **P** **11 17 46.8 -0.1**
N17K IAmb IAmb 11 18 15.3
comp=Z,114nm,1.4s
N17K Nushagak Hills 75.26 23 P **P** **11 17 46.5 -0.4**
baz=232
ALBI Allahabad 75.29 297 *e*P **P** **11 17 48.3 +0.6**
P18K Big Mountain, 75.36 24 P **P** **11 17 47.0 -0.4**
baz=234
KDAK Kodiak Island 75.57 27 P **P** **11 17 48.2 -0.4**
baz=236
KDAK Kodiak Island 75.57 27 LR LR 11 45 39.8
comp=Z,1µm,21.6s,baz=253,slow=32
F14K Arctic Creek 75.62 16 P **P** **11 17 48.0 -0.7**
baz=222
O18K Koktuh Hills 75.64 24 P **P** **11 17 48.9 -0.2**
baz=234
M17K Holitna River 75.72 22 P **P** **11 17 49.3 -0.1**
baz=231
Q19K Cape Douglas, 75.75 25 P **P** **11 17 50.3 +0.6**
baz=235
WMQ Urumqi 75.79 317 *e*P **P** **11 17 51.8 +1.5**
WMQ pP pP 11 18 00.0 -3.9
WMQ PP **PP** **11 20 44.0 +3.1**
WMQ S **S** **11 27 28.2 -0.6**
WMQ sS sS 11 27 51.0 -1.0
WMQ pmax pmax
comp=Z,59nm,1.1s
WMQ pmax pmax
comp=Z,320nm,4.9s
WMQ LR LR
comp=Z,920nm,19.7s
WMQ LR LR
comp=Z,1µm,23.9s
WMQ LR LR
comp=Z,2µm,22.3s
J16K Anvik River 75.82 20 P **P** **11 17 51.0 +1.1**
baz=228
N18K Kilae Creek 75.86 23 P **P** **11 17 51.2 +1.0**
baz=233
L17K Donlin 75.86 21 P **P** **11 17 51.0 +0.8**
baz=230
G15K Niukluk 75.93 17 P **P** **11 17 51.4 +0.9**
baz=224
Q20K Shuyak Island 76.11 26 P **P** **11 17 52.4 +0.7**
baz=236
I17K Unalakleet 76.20 19 IAmb IAmb 11 18 21.0
comp=Z,132nm,1.3s
I17K Unalakleet 76.20 19 P **P** **11 17 52.3 +0.3**
baz=228
O19K Port Alsworth 76.20 24 IAMs_20 IAMs_20 11 46 41.0
comp=Z,2µm,19.0s
O19K Port Alsworth 76.20 24 P **P** **11 17 51.8 -0.3**
baz=234
H16K Elim 76.22 18 P **P** **11 17 53.0 +0.9**
baz=226
K17K Iditarod 76.24 21 P **P** **11 17 53.4 +1.1**
baz=230
F15K North Star Dit 76.27 17 P **P** **11 17 53.9 +1.4**
baz=223
P19K Oil Pt 76.34 25 P **P** **11 17 53.1 +0.1**
baz=236
SALM Salem 76.37 283 *e*P **P** **11 17 56.0 +1.9**
M18K Stony River 76.38 23 P **P** **11 17 54.1 +1.0**
baz=233
N19K Bonanza Creek 76.50 23 P **P** **11 17 53.2 -0.8**
baz=234
L18K Granite Mounta 76.51 22 P **P** **11 17 54.3 +0.5**
baz=232
G16K Koyuk River 76.72 17 IAMs_20 IAMs_20 11 48 49.8
comp=Z,1µm,19.0s
G16K Koyuk River 76.72 17 P **P** **11 17 55.0 0.0**
baz=226
O20K Slope Mountain 76.83 25 P **P** **11 17 56.4 +0.6**
baz=236
HYB Hyderabad 76.85 289 *e*P **P** **11 17 57.0 +0.2**
HYB *e*pP **PcP** **11 18 06.8 -1.0**
HYB IVmB_BB 11 18 07.7
comp=Z,555nm,2.0s
HYB *e*PcP **pP** **11 18 08.3 -1.9**
HYB *e* 11 27 39.3
HYB Hyderabad 76.85 289 *e*P **P** **11 17 59.5 +2.7**
HOM Homer 77.01 25 P **P** **11 17 57.4 +0.7**
baz=237
CNPM China Poot 77.11 26 P **P** **11 17 56.7 -0.7**
H17K Granite Mounta 77.16 19 IAMs_20 IAMs_20 11 48 18.1
comp=Z,2µm,21.0s
H17K Granite Mounta 77.16 19 P **P** **11 17 57.7 +0.2**
baz=228
L19K White Mountain 77.17 22 P **P** **11 17 56.7 -1.0**
baz=234,SNR=16
M19K Big River Lodg 77.18 23 P **P** **11 17 57.3 -0.4**
baz=234
TTA Tatalina 77.19 21 P **P** **11 17 58.4 +0.6**
TTA Tatalina 77.19 21 P **P** **11 17 58.4 +0.6**
TTA pmax pmax
comp=Z,67nm,1.1s
TTA Tatalina 77.19 21 P **P** **11 17 58.2 +0.3**
baz=232
TRD Trivandrum 77.21 280 *e*P **P** **11 18 00.1 +1.3**
J18K Innoko River 77.27 21 P **P** **11 17 58.5 +0.3**
baz=232,SNR=14
G17K Kiwalik Mounta 77.31 18 P **P** **11 17 58.9 +0.5**
baz=227
BRLK Bradley Lake 77.39 25 P **P** **11 17 59.3 +0.4**
BRLK IAmb IAmb 11 18 26.1
comp=Z,68nm,0.9s
BRSE Bradley Lake S 77.44 25 P **P** **11 17 58.2 -1.0**
baz=238
LGTI Lohaghat 77.52 301 *e*P **P** **11 18 01.2 +0.9**
TIXI Tiksi 77.55 352 P **P** **11 17 59.1 -0.4**
TIXI IAmb IAmb 11 18 22.0
comp=Z,124nm,1.9s
TIXI Tiksi 77.55 352 ǁ *e*P **P** **11 17 58.8 -0.7**
TIXI pmax pmax
comp=Z,25nm,1.1s
TIXI Tiksi 77.55 352 P **P** **11 17 57.4 -2.1**
comp=Z,6.7nm,0.5s,baz=127,slow=5.9,SNR=8.7
TIXI LR LR 11 49 23.7
comp=Z,741nm,21.9s,baz=176,slow=34
comp=Z,6.7nm,0.5s
PTH Pithoragarh 77.57 301 *e*P **P** **11 18 00.9 +0.1**
N20K Mount Spurr 77.63 24 P **P** **11 17 59.5 -0.8**
baz=236
M20K Styx River 77.65 23 P **P** **11 18 00.7 +0.3**
M20K IAmb IAmb 11 18 28.5
comp=Z,108nm,1.1s
M20K Styx River 77.65 23 P **P** **11 18 01.0 +0.5**
baz=235
L20K Farewell, AK 77.71 22 P **P** **11 18 00.5 -0.2**
baz=234,SNR=10.0
F17K Baldwin Pennin 77.77 17 IAMs_20 IAMs_20 11 46 49.7
comp=Z,2µm,21.0s
F17K Baldwin Pennin 77.77 17 P **P** **11 18 01.7 +0.9**
baz=227
H18K Honhosa River 77.79 19 P **P** **11 17 59.9 -1.1**
baz=230
CAPN Captain Cook N 77.82 24 P **P** **11 18 02.5 +1.2**
baz=237
J19K Poorman 77.98 21 P **P** **11 18 02.0 -0.1**
baz=232
GCSA Galena City Sc 78.02 20 P **P** **11 18 03.0 +0.7**
baz=231,SNR=14
DGZ Jazzator, Alta 78.07 323 *ce*P **P** **11 18 02.8 -0.3**
DGZ pmax pmax
comp=Z,61nm,1.1s
D17K Noatak River 78.14 16 P **P** **11 18 03.5 +0.7**
baz=225,SNR=25
K20K Telida 78.15 21 P **P** **11 18 04.1 +1.0**
baz=234,SNR=13
SEW Seward 78.19 25 P **P** **11 18 03.1 -0.1**
baz=239
G18K Tagagawik 78.19 18 P **P** **11 18 04.0 +0.8**
baz=229
O22K Cooper Landing 78.27 25 P **P** **11 18 04.4 +0.7**
baz=239
SKT Skwentna 78.33 23 IAMs_20 IAMs_20 11 55 50.3
comp=Z,2µm,20.0s
SKT Skwentna 78.33 23 P **P** **11 18 03.7 -0.4**
baz=237
F18K Selawik 78.35 17 P **P** **11 18 04.6 +0.6**
baz=228,SNR=9.8
SUA Susitna One 78.36 24 P **P** **11 18 03.8 -0.6**
baz=237
RC01 Rabbit Creek A 78.58 25 IAmb IAmb 11 18 32.8
comp=Z,194nm,1.3s
RC01 Rabbit Creek A 78.58 25 P **P** **11 18 05.3 -0.2**
baz=238
PPLA Purkeypile 78.59 22 P **P** **11 18 05.3 -0.3**
baz=236
J20K Nowinta River 78.61 21 P **P** **11 18 04.9 -0.6**
baz=234
E18K Tukpahlearik C 78.63 16 IAMs_20 IAMs_20 11 49 45.1
comp=Z,2µm,20.0s
E18K Tukpahlearik C 78.63 16 P **P** **11 18 06.0 +0.4**
baz=227,SNR=24
H19K Roundabout Mou 78.65 19 P **P** **11 18 05.4 -0.4**
baz=231
C17K DeLong Mountai 78.67 15 P **P** **11 18 05.3 -0.6**
baz=224,SNR=30
M22K Willow 78.77 24 IAMs_20 IAMs_20 11 47 07.0
comp=Z,2µm,21.0s
M22K Willow 78.77 24 P **P** **11 18 06.3 -0.1**
baz=238
AKL Akola 78.80 292 *i*P **P** **11 18 08.1 +0.6**
AKL IVmB_BB 11 18 12.5
comp=Z,822nm,0.7s
G19K Purcell Mounta 78.84 18 IAMs_20 IAMs_20 11 46 24.6
comp=Z,2µm,22.0s
G19K Purcell Mounta 78.84 18 P **P** **11 18 07.0 +0.2**
baz=231
I20K Naaghedeneel 78.86 20 IAMs_20 IAMs_20 11 47 21.3
comp=Z,1µm,22.0s
I20K Naaghedeneel 78.86 20 P **P** **11 18 06.6 -0.3**
baz=233,SNR=7.3
ZSN Zaisan 78.88 320 *e*P **P** **11 18 06.8 -0.6**
ZSN *e*S **S** **11 28 01.6 -0.5**
ZSN Zaisan 78.88 320 *e*P **P** **11 18 06.9 -0.6**
baz=320
ZSN *e*S **S** **11 28 01.7 -0.5**
baz=320
CAST Castle Rocks 78.92 22 IAmb IAmb 11 18 34.7
comp=Z,94nm,1.1s
CAST Castle Rocks 78.92 22 P **P** **11 18 06.9 -0.5**
baz=236,SNR=22
P23K Montague Islan 79.02 26 P **P** **11 18 07.2 -0.7**
baz=241
CUT Chulitna 79.06 23 IAMs_20 IAMs_20 11 46 46.7
comp=Z,2µm,20.0s
CUT Chulitna 79.06 23 P **P** **11 18 06.8 -1.2**
baz=238
F19K Shaleruckik Mo 79.07 18 IAMs_20 IAMs_20 11 49 08.9
comp=Z,1µm,21.0s
F19K Shaleruckik Mo 79.07 18 P **P** **11 18 08.0 0.0**
baz=230
PMR Palmer 79.09 24 IAmb IAmb 11 18 44.4
comp=Z,84nm,1.0s
PMR Palmer 79.09 24 P **P** **11 18 07.3 -1.0**
baz=239
CHUM Lake Minchumin 79.10 21 P **P** **11 18 08.3 +0.1**
baz=236,SNR=33
H20K Anotleneega Mo 79.15 19 P **P** **11 18 08.7 +0.2**
baz=233
Q23K Middleton Isla 79.22 27 P **P** **11 18 08.1 -0.9**
baz=242
KNK Knik Glacier 79.28 25 P **P** **11 18 09.1 -0.3**
baz=240
C18K Utukok River 79.31 15 IAMs_20 IAMs_20 11 50 40.1
comp=Z,2µm,20.0s
C18K Utukok River 79.31 15 P **P** **11 18 09.6 +0.1**
baz=226,SNR=18
KTH Kantishna Hill 79.43 22 P **P** **11 18 09.3 -0.8**
SML Sawmill 79.53 24 IAmb IAmb 11 18 38.4
comp=Z,192nm,1.0s
SML Sawmill 79.53 24 P **P** **11 18 11.0 +0.3**
baz=240
TRF Thorofare Moun 79.61 22 P **P** **11 18 10.2 -1.1**
TRF Thorofare Moun 79.61 22 P **P** **11 18 10.6 -0.7**
baz=238
E19K Redstone River 79.63 17 P **P** **11 18 11.5 +0.4**
E19K IAmb IAmb 11 18 51.5
comp=Z,136nm,1.1s
E19K IAMs_20 IAMs_20 11 48 54.5
comp=Z,2µm,21.0s
E19K Redstone River 79.63 17 P **P** **11 18 11.0 -0.1**
baz=236
B18K Kokolik River 79.66 15 P **P** **11 18 11.7 +0.6**
baz=226
BPAW Bear Paw Mtn. 79.71 22 P **P** **11 18 11.1 -0.5**
baz=237
M23K Glacier View 79.77 24 P **P** **11 18 12.3 +0.3**
baz=240
F20K Avaraart Lake 79.83 18 P **P** **11 18 12.4 +0.3**
baz=232
H21K Melozitna Rive 79.94 20 IAmb IAmb 11 18 41.4
comp=Z,76nm,1.1s
H21K IAMs_20 IAMs_20 11 48 37.1
comp=Z,2µm,21.0s
H21K Melozitna Rive 79.94 20 P **P** **11 18 13.0 +0.2**
baz=235,SNR=15
I21K Tanana 79.95 20 P **P** **11 18 13.2 +0.4**
baz=236,SNR=28
SCM Sheep Creek Mo 79.95 24 P **P** **11 18 13.3 +0.2**
baz=241
EYAK Cordova Ski Ar 80.01 26 P **P** **11 18 13.8 +0.6**
baz=242
D19K Kuna River 80.05 16 P **P** **11 18 13.8 +0.4**
baz=229
C19K Lookout Ridge 80.05 15 P **P** **11 18 14.0 +0.6**
baz=228,SNR=28
RND Reindeer 80.14 23 IAmb IAmb 11 18 41.0
comp=Z,70nm,1.0s
RND Reindeer 80.14 23 P **P** **11 18 11.5 -2.5**
WAT6 Susitna Watana 80.16 24 P **P** **11 18 14.0 -0.2**
baz=240
MCK McKinley 80.28 22 P **P** **11 18 12.8 -1.9**
MCK McKinley 80.28 22 P **P** **11 18 13.6 -1.1**
baz=239,SNR=27
MLY Manley 80.31 21 IAmb IAmb 11 18 42.7
comp=Z,68nm,0.9s
MLY Manley 80.31 21 P **P** **11 18 14.6 -0.2**
baz=237,SNR=38
KAIM Kayak Island 80.32 27 P **P** **11 18 15.8 +0.8**
baz=244
MK31 Makanchi Array 80.35 319 P **P** **11 18 15.4 -0.1**
MK31 Makanchi Array 80.35 319 *c*/P **P** **11 18 15.1 -0.4**
MK31 pmax pmax
comp=Z,71nm,1.0s
MKAR Makanchi Array 80.35 319 P **P** **11 18 15.4 0.0**
MKAR Makanchi Array 80.35 319 *i*P **P** **11 18 15.3 -0.2**
MKAR pmax pmax
comp=Z,35nm,1.0s
MKAR Makanchi Array 80.35 319 P **P** **11 18 13.6 -1.9**
comp=Z,8.1nm,0.9s,baz=113,slow=4.9,SNR=35
MKAR PP **PP** **11 21 19.4 +0.4**
comp=Z,13nm,1.1s,baz=101,slow=11,SNR=2.5
MKAR S **S** **11 28 17.1 -0.6**
comp=Z,0.2nm,0.6s,baz=39,slow=12,SNR=1.7
MKAR PKKPbc **PKKPbc** **11 36 58.6 -1.0**
comp=Z,0.7nm,0.7s,baz=282,slow=2.2,SNR=5.3
MKAR PKP2bc 11 45 02.9
comp=Z,0.2nm,0.7s,baz=299,slow=3.0,SNR=2.8
MKAR LR LR 11 53 17.7
comp=Z,1µm,21.3s,baz=118,slow=35
comp=Z,8.1nm,0.9s
KLU Klutina 80.38 25 IAmb IAmb 11 18 44.0
comp=Z,137nm,1.2s
KLU Klutina 80.38 25 P **P** **11 18 16.6 +1.3**
baz=242
KAAM Kaadhehdhoo 80.39 271 P **P** **11 18 17.4 +1.1**
KAAM Kaadhehdhoo 80.39 271 P **P** **11 18 16.7 +0.3**
DGAR Diego Garcia 80.41 263 P **P** **11 18 17.9 +1.5**
E20K Nigu River 80.45 17 P **P** **11 18 16.2 +0.7**
baz=231
SMLA Simla 80.47 302 *e*P **P** **11 18 16.7 +0.4**
H22K Ishtalitna Cre 80.56 20 P **P** **11 18 16.6 +0.4**
baz=236
M24K Tolsona, Glenn 80.56 25 P **P** **11 18 16.4 +0.1**
M24K IAmb IAmb 11 18 44.8
comp=Z,158nm,1.1s
M24K Tolsona, Glenn 80.56 25 P **P** **11 18 15.7 -0.6**

baz=242
D20K **Etivluk River** 80.61 16 P P 11 18 16.5 +0.1
baz=231
F21K **Alatna River** 80.64 18 IAMs_20 IAMs_20 11 48 21.1
comp=Z,2µm,21.0s
F21K **Alatna River** 80.64 18 P P 11 18 15.6 -1.0
baz=234
NEA2 **Nenana** 80.68 22 P P 11 18 16.2 -0.6
baz=238,SNR=9.8
BMRM **Bremner River** 80.70 26 P P 11 18 16.2 -0.9
baz=243
I23K **Minto, Yukon-K** 80.86 21 P P 11 18 17.4 -0.3
baz=238,SNR=9.3
WRH **Wood River Hil** 80.98 22 IAmb IAmb 11 18 45.4
comp=Z,76nm,1.1s
N25K **Chitina, Valde** 80.99 25 IAMs_20 IAMs_20 11 47 33.7
comp=Z,2µm,19.0s
N25K **Chitina, Valde** 80.99 25 P P 11 18 17.2 -1.5
baz=243
MNCY **Minicoy** 81.05 279 eP P 11 18 21.2 +1.4
MNCY IVmB_BB 11 18 33.1
comp=Z,2µm,1.6s
ZAA0 **Zalesovo Array** 81.09 326 P P 11 18 18.4 -0.8
ZALV **Zalesovo Beam** 81.09 326 P P 11 18 17.9 -1.4
ZALV **Zalesovo Beam** 81.09 326 *i* P P 11 18 18.2 -1.0
ZALV pmax pmax
comp=Z,14nm,0.8s
ZALV **Zalesovo Beam** 81.09 326 P P 11 18 17.2 -2.0
comp=Z,14nm,0.8s,baz=109,slow=5.4,SNR=26
ZALV S S 11 28 24.2 -0.9
comp=Z,1.9nm,0.9s,baz=114,slow=6.6,SNR=4.6
ZALV LR LR 11 55 02.9
comp=Z,787nm,19.9s,baz=112,slow=36
comp=Z,14nm,0.8s
HARP **HAARP** 81.12 24 P P 11 18 18.9 -0.3
baz=242
CCB **Clear Creek Bu** 81.17 22 P P 11 18 18.0 -1.4
CCB IAmb IAmb 11 18 46.2
comp=Z,77nm,1.1s
MDM **Murphy Dome** 81.17 22 P P 11 18 18.8 -0.7
E21K **Killik River** 81.21 17 IAMs_20 IAMs_20 11 51 21.6
comp=Z,1µm,20.0s
CRQM **Cirque** 81.25 26 IAmb IAmb 11 18 55.8
comp=Z,159nm,1.4s
GLB **Gilahina Butte** 81.26 26 IAmb IAmb 11 18 42.5
comp=Z,113nm,1.1s
PAX **Paxson** 81.26 24 P P 11 18 19.1 -0.9
baz=242
COLA **College** 81.27 22 IAMs_20 IAMs_20 11 55 33.8
comp=Z,2µm,19.0s
COLA **College** 81.27 22 *de*P P 11 18 18.7 -1.2
COLA pmax pmax
comp=Z,75nm,1.0s
COLA MLR MLR
comp=Z,1µm,19.0s
COLA **College** 81.27 22 P P 11 18 18.9 -1.0
baz=240
CRQE **Cirque** 81.27 26 P P 11 18 18.9 -1.3
baz=245
SHLS **Shalkode** 81.31 315 eP P 11 18 18.8 -2.0
SHLS pmax pmax
comp=Z,41nm,0.9s
SHLS **Shalkode** 81.31 315 eP P 11 18 18.8 -2.0
comp=Z,41nm,0.9s,baz=315
VRDI **Verde Repeater** 81.32 26 P P 11 18 20.7 +0.2
VRDI IAmb IAmb 11 18 53.1
comp=Z,152nm,1.4s
VRDI IAMs_20 IAMs_20 11 48 36.3
comp=Z,2µm,21.0s
PDGK **Podgornoye** 81.33 315 P P 11 18 20.5 -0.4
HDA **Harding Lake** 81.38 22 P P 11 18 20.0 -0.5
HDA IAMs_20 IAMs_20 11 55 56.7
comp=Z,2µm,20.0s
HDA **Harding Lake** 81.38 22 P P 11 18 20.0 -0.5
baz=240
TGL **Tana Glacier** 81.39 26 P P 11 18 20.5 -0.3
TGL IAmb IAmb 11 18 48.9
comp=Z,100nm,1.2s
DHRM **DHARAMSHALA** 81.41 303 eP P 11 18 21.8 +0.1
DHRM IVmB_BB 11 18 29.5
comp=Z,2µm,0.7s
C21K **Knifeblade Rid** 81.41 17 P P 11 18 20.2 -0.4
baz=232
POO **Poona** 81.44 289 eP P 11 18 25.4 +3.5
G23K **Bananza Creek** 81.47 20 IAMs_20 IAMs_20 11 49 26.2
comp=Z,2µm,22.0s
G23K **Bananza Creek** 81.47 20 P P 11 18 20.2 -0.8
baz=237,SNR=16
K24K **Donnelly Dome** 81.53 23 P P 11 18 20.0 -1.4
baz=242
POKR **Poker Plat Res** 81.55 22 P P 11 18 20.4 -1.0
baz=240,SNR=8.0
MCARA **McCarthy VSAT** 81.57 26 P P 11 18 22.4 +0.8
MCARA IAmb IAmb 11 19 05.8
comp=Z,136nm,1.1s
MCARA **McCarthy VSAT** 81.57 26 P P 11 18 21.3 -0.3
baz=245
IL31 81.58 22 P P 11 18 20.3 -1.2
ILAR **Eielson Array** 81.58 22 P P 11 18 20.3 -1.3
ILAR **Eielson Array** 81.58 22 P P 11 18 20.3 -1.3
ILAR **Eielson Array** 81.58 22 P P 11 18 19.4 -2.2
comp=Z,39nm,1.1s,baz=244,slow=4.3,SNR=89
ILAR PKKPbc PKKPbc 11 36 53.8 -3.8
comp=Z,1.8nm,0.7s,baz=0.3,slow=1.8,SNR=15
ILAR PKPPKP P'P'df 11 44 58.6 +0.6
comp=Z,1.4nm,1.0s,baz=353,slow=2.1,SNR=5.3
ILAR LR LR 11 53 55.3
comp=Z,644nm,18.1s,baz=234,slow=35
comp=Z,39nm,1.1s
UZB **Uzynbulak** 81.62 315 eP P 11 18 22.0 -0.4
UZB **Uzynbulak** 81.62 315 eP P 11 18 22.1 -0.4
baz=315
E22K **Anaktuvuk Pass** 81.69 18 P P 11 18 22.1 0.0
E22K IAMs_20 IAMs_20 11 49 16.8
comp=Z,2µm,22.0s
E22K **Anaktuvuk Pass** 81.69 18 P P 11 18 22.2 0.0
baz=236,SNR=24
COLD **Coldfoot** 81.69 19 P P 11 18 22.8 +0.7
baz=237,SNR=17
B21K **Ikpikpuk River** 81.74 16 P P 11 18 22.8 +0.5
baz=233
H24K **Noodor Dome** 81.75 21 P P 11 18 22.6 0.0
H24K **Noodor Dome** 81.75 21 P P 11 18 22.9 +0.4
baz=240,SNR=10
AJM **Ajmer** 81.85 297 eP P 11 18 24.1 +0.2
AJM IVmB_BB 11 18 27.1
comp=Z,858nm,1.2s
D22K **Ayikyak River** 81.85 17 P P 11 18 23.4 +0.4
D22K IAmb IAmb 11 19 07.4
comp=Z,92nm,1.0s
D22K IAMs_20 IAMs_20 11 50 28.5
comp=Z,2µm,22.0s
D22K **Ayikyak River** 81.85 17 P P 11 18 23.4 +0.4
baz=235
GRNC **Granite Creek** 81.86 27 P P 11 18 22.6 -0.9
GRNC IAmb IAmb 11 18 58.5
comp=Z,87nm,1.3s
GRNC IAMs_20 IAMs_20 11 48 02.0
comp=Z,2µm,21.0s
RIDG **Independent Ri** 81.87 23 P P 11 18 22.3 -0.9
RIDG IAmb IAmb 11 18 44.8
comp=Z,173nm,1.4s
RIDG IAMs_20 IAMs_20 11 57 12.1
comp=Z,2µm,19.0s
RIDG **Independent Ri** 81.87 23 P P 11 18 23.1 -0.1
baz=243
THN **Thein Dam** 81.92 303 eP P 11 18 23.9 -0.2
MENT **Mentasta** 81.96 24 P P 11 18 23.8 +0.1
TABL **Table Mountain** 82.02 27 P P 11 18 23.7 -0.6
TABL IAmb IAmb 11 18 30.8
comp=Z,88nm,1.0s
M26K **Nabesna, AK** 82.02 25 P P 11 18 24.8 +0.8
M26K IAMs_20 IAMs_20 11 47 58.3
comp=Z,2µm,18.0s
M26K **Nabesna, AK** 82.02 25 P P 11 18 24.2 +0.2
baz=244
SATY **Saty** 82.03 314 eP P 11 18 24.2 -0.4
SATY eS S 11 28 34.8 -0.8
SATY **Saty** 82.03 314 eP P 11 18 24.2 -0.4
baz=314
SATY eS S 11 28 34.9 -0.7
baz=314
BARN **Barnard Glacie** 82.04 26 P P 11 18 24.4 +0.1
BARN IAmb IAmb 11 18 47.0
comp=Z,78nm,1.0s
BARN IAMs_20 IAMs_20 11 48 09.3
comp=Z,2µm,21.0s

ZHN **Zhinishke** 82.04 315 eP P 11 18 23.7 -0.9
ZHN **Zhinishke** 82.04 315 eP P 11 18 23.7 -0.9
baz=314
J25K **Salcha River,** 82.07 22 IAMs_20 IAMs_20 11 48 51.5
comp=Z,2µm,21.0s
J25K **Salcha River,** 82.07 22 P P 11 18 23.9 -0.3
baz=242
CTG **Chitna Glacier** 82.14 27 P P 11 18 25.1 +0.3
baz=246
CTGM **Chitina Glacie** 82.14 27 P P 11 18 24.7 -0.1
CTGM IAmb IAmb 11 18 32.3
comp=Z,139nm,1.3s
CTGM IAMs_20 IAMs_20 11 47 46.1
comp=Z,2µm,22.0s
L26K **Log Cabin Wild** 82.15 24 P P 11 18 24.9 +0.3
L26K **Log Cabin Wild** 82.15 24 P P 11 18 24.8 +0.1
baz=244,SNR=11
PAF **Port-aux-Franc** 82.20 221 P P 11 18 25.9 +0.7
PAF **Port-aux-Franc** 82.20 221 P P 11 18 25.9 +0.7
PAF pmax pmax
comp=Z,572nm,1.3s
LOGN **Logan Glacier** 82.23 27 P P 11 18 25.8 +0.4
A21K **Barrow** 82.28 14 P P 11 18 24.9 -0.1
baz=230,SNR=10
PINM **Pinnacle** 82.29 28 P P 11 18 25.1 -0.4
baz=247
SCRK **Sand Creek** 82.32 23 P P 11 18 25.2 -0.4
SCRK **Sand Creek** 82.32 23 P P 11 18 25.6 0.0
baz=243,SNR=12
G24K **Hadweenzic Riv** 82.33 20 IAMs_20 IAMs_20 11 54 52.9
comp=Z,1µm,21.0s
G24K **Hadweenzic Riv** 82.33 20 P P 11 18 25.3 -0.2
baz=240,SNR=9.7
E23K **Chandalar** 82.33 19 P P 11 18 25.8 +0.2
baz=238
PRP **Porcupine Dome** 82.44 22 P P 11 18 26.4 +0.2
PRP IAMs_20 IAMs_20 11 52 56.9
comp=Z,1µm,19.0s
PRP **Porcupine Dome** 82.44 22 P P 11 18 26.1 -0.1
baz=242
M27K **Edge Creek, AK** 82.48 25 IAMs_20 IAMs_20 11 49 52.3
comp=Z,2µm,19.0s
M27K **Edge Creek, AK** 82.48 25 P P 11 18 26.8 +0.3
baz=246
TDK **Taldyqorghan** 82.49 316 eP P 11 18 26.8 0.0
TDK pmax pmax
comp=Z,54nm,1.0s
TDK **Taldyqorghan** 82.49 316 eP P 11 18 26.8 0.0
comp=Z,54nm,1.0s,baz=316
TDK LR LR 11 49 54.3
comp=Z,1µm,22.3s,baz=316
D23K **Nanushuk River** 82.50 18 P P 11 18 27.1 +0.8
baz=236,SNR=50
B22K **Teshekpuk Lake** 82.50 16 P P 11 18 26.1 -0.2
baz=234,SNR=15
PNL **Peninsula** 82.53 28 P P 11 18 26.2 -0.5
baz=248
F24K **Squaw Lake** 82.61 19 IAMs_20 IAMs_20 11 49 47.5
comp=Z,2µm,21.0s
F24K **Squaw Lake** 82.61 19 P P 11 18 28.0 +1.1
baz=239
TOLK **Toolik Lake Re** 82.66 18 IAMs_20 IAMs_20 11 50 43.5
comp=Z,1µm,21.0s
TOLK **Toolik Lake Re** 82.66 18 P P 11 18 27.3 +0.1
baz=238,SNR=15
SEM **Semipalatinsk** 82.68 322 eP P 11 18 27.6 -0.3
SEM **Semipalatinsk** 82.68 322 eP P 11 18 27.7 -0.3
baz=322
SEM LR LR 11 50 09.1
baz=322
H25L **Birch Creek** 82.69 21 P P 11 18 28.2 +0.9
baz=241
E24K **Your Creek** 82.70 19 IAMs_20 IAMs_20 11 53 00.9
comp=Z,2µm,21.0s
E24K **Your Creek** 82.70 19 P P 11 18 27.8 +0.3
baz=239
ARXS **Arharly** 82.71 315 *i* P P 11 18 29.8 +1.7
J26L **Joqh Creek** 82.72 23 P P 11 18 27.8 +0.1
baz=244,SNR=13
L27K **Beaver Creek,** 82.79 25 IAMs_20 IAMs_20 11 49 43.6
comp=Z,2µm,21.0s
L27K **Beaver Creek,** 82.79 25 P P 11 18 28.7 +0.7
baz=245
G25K **Bearman Lake** 82.84 20 P P 11 18 28.6 +0.5
baz=241,SNR=14
YUK3 **Moose Creek** 82.85 26 P P 11 18 29.3 +0.8
baz=238,SNR=8.1
BVCY **Beaver Creek** 82.93 25 P P 11 18 28.1 -0.7
baz=246
YUK8 **Steele Glacier** 82.97 27 P P 11 18 29.4 +0.1
baz=248
C23K **Itkillik River** 83.00 17 P P 11 18 29.0 +0.1
baz=236
MDOK **Medeo** 83.03 314 eP P 11 18 29.5 -0.3
MDOK eS S 11 28 45.0 -0.8
MDOK **Medeo** 83.03 314 eP P 11 18 29.5 -0.3
baz=314
MDOK eS S 11 28 45.0 -0.8
baz=314
MDOK LR LR 11 51 46.1
baz=314
FYU **Fort Yukon** 83.05 21 IAmb IAmb 11 18 57.8
comp=Z,110nm,1.2s
KSH **Kashi** 83.06 311 P P 11 18 32.5 +2.5
KSH sP sP 11 18 52.9 +3.8
KSH S S 11 28 45.1 -1.1
KSH pmax pmax
comp=Z,130nm,1.2s
KSH pmax pmax
comp=Z,590nm,4.6s
KSH LR LR
comp=Z,650nm,16.7s
KSH LR LR
comp=Z,2µm,19.1s
KSH LR LR
comp=Z,2µm,19.4s
TNSS **Tian-Shan** 83.07 314 eP P 11 18 29.8 -0.5
TNSS **Tian-Shan** 83.07 314 eP P 11 18 29.9 -0.5
baz=314
K27K **Chicken** 83.10 24 IAMs_20 IAMs_20 11 50 00.6
comp=Z,2µm,22.0s
K27K **Chicken** 83.10 24 P P 11 18 29.6 0.0
baz=245
AAA **Alma-Ata** 83.13 314 *i* P P 11 18 31.2 +0.9
AAA **Alma-Ata** 83.13 314 eP P 11 18 30.2 -0.1
comp=Z,46nm,0.9s,baz=314
AAA LR LR 11 52 21.1
comp=Z,1µm,16.2s,baz=314
O29M **Mount Kennedy** 83.14 28 IAMs_20 IAMs_20 11 50 02.7
comp=Z,2µm,20.0s
O29M **Mount Kennedy** 83.14 28 P P 11 18 30.2 +0.2
baz=249
D24K **Happy Valley** 83.16 18 IAMs_20 IAMs_20 11 54 02.1
comp=Z,2µm,20.0s
D24K **Happy Valley** 83.16 18 P P 11 18 29.6 -0.2
baz=238,SNR=19
CHKK **Chushkaly** 83.22 315 eP P 11 18 30.2 -0.4
CHKK **Chushkaly** 83.22 315 eP P 11 18 30.2 -0.4
baz=315
I26K **Coal Creek Min** 83.23 22 IAMs_20 IAMs_20 11 49 37.7
comp=Z,2µm,21.0s
I26K **Coal Creek Min** 83.23 22 P P 11 18 29.3 -0.8
baz=244
P29M **Windy Craggy** 83.30 29 P P 11 18 30.5 -0.2
baz=250
F25K **Christian Rive** 83.39 20 P P 11 18 31.6 +0.5
baz=241
ULHL **Ulahol** 83.41 313 P P 11 18 32.7 +0.8
SNR=27
S31K **Pelican** 83.47 30 P P 11 18 30.8 -0.7
baz=251
YUK6 **Outpost Mounta** 83.47 27 P P 11 18 31.9 +0.1
baz=249
YUK4 **Talbot Arm** 83.49 27 P P 11 18 32.4 +0.5
baz=249,SNR=8.4
C24K **Franklin Bluff** 83.50 17 P P 11 18 31.5 +0.1
baz=238
SIT **Sitka** 83.65 31 P P 11 18 32.3 -0.1
baz=252
E25K **Arctic Village** 83.67 19 IAMs_20 IAMs_20 11 51 51.3
comp=Z,1µm,21.0s
E25K **Arctic Village** 83.67 19 P P 11 18 33.0 +0.6
baz=241,SNR=12
KUU **Kurty** 83.69 315 eP P 11 18 32.0 -1.0
KUU eS S 11 28 48.2 -3.9
KUU pmax pmax
comp=Z,53nm,1.0s

KUU **Kurty** 83.69 315 eP P 11 18 32.0 -1.0
comp=Z,53nm,1.0s,baz=315
KUU eS S 11 28 48.3 -3.9
baz=315
KUU LR LR 11 52 17.5
comp=Z,2µm,23.6s,baz=315
G26K **Porcupine Rive** 83.73 21 P P 11 18 33.2 +0.6
baz=243,SNR=50
KURK **Kurchatov** 83.76 322 P P 11 18 32.7 -0.5
KURK IAmb IAmb 11 18 38.5
comp=Z,126nm,1.2s
KURK **Kurchatov** 83.76 322 *c i* P P 11 18 32.2 -1.0
KURK pmax pmax
comp=Z,124nm,1.2s
KURK **Kurchatov** 83.76 322 P P 11 18 32.1 -1.0
KURK S SKSac 11 28 46.2 -5.8
EGAK **Eagle** 83.77 23 P P 11 18 33.2 +0.2
EGAK IAmb IAmb 11 19 01.5
comp=Z,98nm,1.0s
EGAK IAMs_20 IAMs_20 11 56 06.1
comp=Z,2µm,19.0s
EGAK **Eagle** 83.77 23 P P 11 18 33.3 +0.3
baz=246,SNR=14
KURBB **Kurchatov Arra** 83.79 322 P P 11 18 32.1 -1.3
comp=Z,21nm,1.1s,baz=104,slow=4.0,SNR=36
KURBB PKKPbc PKKPbc 11 36 49.5 -2.3
comp=Z,0.4nm,0.5s,baz=285,slow=2.7,SNR=6.6
KURBB LR LR 11 55 35.4
comp=Z,452nm,21.3s,baz=134,slow=36
comp=Z,21nm,1.1s
HYT **Haines Junctio** 83.83 27 P P 11 18 33.6 +0.1
HYT IAmb IAmb 11 18 56.6
comp=Z,126nm,1.1s
HYT **Haines Junctio** 83.83 27 P P 11 18 34.6 +1.1
baz=250,SNR=13
P30M **Million Dollar** 83.83 28 P P 11 18 34.3 +0.8
baz=250
PLBC **Pleasant Camp** 83.90 29 P P 11 18 32.7 -1.0
baz=251
I27K **Kandik River** 83.94 22 P P 11 18 34.6 +0.7
baz=245
F26K **Sheenjek River** 83.95 20 P P 11 18 34.4 +0.5
baz=243
M29M **Somme Creek** 83.98 26 P P 11 18 34.2 0.0
M29M IAMs_20 IAMs_20 11 54 52.6
comp=Z,2µm,20.0s
M29M **Somme Creek** 83.98 26 P P 11 18 34.0 -0.3
baz=249
D25K **Kavik River** 84.00 18 P P 11 18 33.7 -0.4
baz=240
TKM2 **Tokmak 2** 84.02 314 P P 11 18 35.5 +0.5
SNR=41
TKM2 **Tokmak 2** 84.02 314 *i* P P 11 18 34.8 -0.2
TKM2 pmax pmax
comp=Z,142nm,1.0s
H02S1 **DAWSON INLET T** 84.11 36 T T 12 51 41.4
SNR=252
S32K **Killisnoo** 84.16 31 P P 11 18 34.9 -0.2
baz=252
NIL **Nilore** 84.17 304 P P 11 18 36.2 +0.5
NIL pmax pmax
comp=Z,302nm,1.1s
NIL **Nilore** 84.17 304 P P 11 18 36.0 +0.3
DAWY **Dawson** 84.19 24 IAmb IAmb 11 18 58.5
comp=Z,85nm,1.3s
DAWY **Dawson** 84.19 24 P P 11 18 35.3 +0.1
baz=248,SNR=16
H27K **Steamboat Moun** 84.23 22 P P 11 18 35.1 -0.3
baz=245
N30M **Aishikik Lake** 84.23 27 IAMs_20 IAMs_20 11 52 04.8
comp=Z,1µm,21.0s
N30M **Aishikik Lake** 84.23 27 P P 11 18 35.0 -0.5
baz=250
CRAG **Craig** 84.35 33 P P 11 18 35.8 -0.3
baz=254
L29M **L29M** 84.36 25 IAMs_20 IAMs_20 11 50 57.8
comp=Z,2µm,20.0s
L29M **L29M** 84.36 25 P P 11 18 36.1 +0.1
baz=249,SNR=15
SKAG **Skagway** 84.40 29 P P 11 18 35.5 -0.7
baz=252
KBK **Karagaybulak** 84.43 313 P P 11 18 37.6 +0.5
SNR=20
O30N **Mendenhall** 84.46 28 IAMs_20 IAMs_20 11 51 52.4
comp=Z,2µm,20.0s
O30N **Mendenhall** 84.46 28 P P 11 18 35.6 -1.0
baz=251
I28M **Miner Creek** 84.52 23 IAMs_20 IAMs_20 11 47 01.1
comp=Z,2µm,21.0s
I28M **Miner Creek** 84.52 23 P P 11 18 35.3 -1.5
baz=247
U33K **Whale Pass** 84.53 33 IAMs_20 IAMs_20 11 47 46.7
comp=Z,2µm,22.0s
U33K **Whale Pass** 84.53 33 P P 11 18 36.7 -0.2
baz=254
CHMS **Chumysh** 84.64 314 P P 11 18 38.0 +0.1
SNR=24
UCH **Uchtor** 84.67 313 P P 11 18 39.7 +1.1
SNR=54
C26K **Camden Bay** 84.74 18 P P 11 18 38.6 +0.9
baz=242,SNR=61
M30M **Minto, Yukon** 84.75 26 IAMs_20 IAMs_20 11 54 39.0
comp=Z,2µm,20.0s
M30M **Minto, Yukon** 84.75 26 P P 11 18 38.1 +0.1
baz=250
AAK **Ala-Archa** 84.76 313 P P 11 18 39.2 +0.5
SNR=41
AAK **Ala-Archa** 84.76 313 P P 11 18 39.2 +0.5
AAK **Ala-Archa** 84.76 313 *c i* P P 11 18 39.2 +0.5
AAK pmax pmax
comp=Z,257nm,1.7s
AAK MLR MLR
comp=Z,1µm,25.0s
AAK **Ala-Archa** 84.76 313 P P 11 18 36.7 -2.0
comp=Z,21nm,0.9s,baz=121,slow=4.9,SNR=38
AAK S SKSac 11 28 55.5 -3.7
comp=Z,0.6nm,0.4s,baz=191,slow=16,SNR=1.2
AAK LR LR 11 56 26.6
comp=Z,866nm,22.0s,baz=96,slow=36
comp=Z,21nm,0.9s
AAK **Ala-Archa** 84.76 313 P P 11 18 39.5 +0.8
AAK S SKSac 11 28 57.1 -2.2
SGDS **Sogindy** 84.81 314 eP P 11 18 38.4 -0.4
SGDS pmax pmax
comp=Z,42nm,1.0s
SGDS **Sogindy** 84.81 314 eP P 11 18 38.5 -0.4
comp=Z,42nm,1.0s,baz=314
USP **Ospenovka** 84.87 314 P P 11 18 39.5 +0.4
SNR=44
K29M **Barlow Dome** 84.88 25 P P 11 18 39.4 +0.6
K29M IAmb IAmb 11 18 44.5
comp=Z,65nm,1.0s
K29M IAMs_20 IAMs_20 11 55 20.8
comp=Z,1µm,19.0s
K29M **Barlow Dome** 84.88 25 P P 11 18 39.0 +0.3
baz=249
WHY **Whitehorse** 84.99 28 P P 11 18 38.9 -0.4
WHY **Whitehorse** 84.99 28 P P 11 18 39.0 -0.4
baz=252
WRAK **Wrangell Islan** 85.03 32 P P 11 18 38.9 -0.6
WRAK IAmb IAmb 11 19 07.3
comp=Z,74nm,1.2s
WRAK **Wrangell Islan** 85.03 32 IAMs_20 IAMs_20 11 48 24.9
comp=Z,2µm,22.0s
WRAK **Wrangell Islan** 85.03 32 P P 11 18 39.3 -0.2
baz=254
V35K **Ketchikan** 85.15 34 P P 11 18 40.4 +0.3
V35K IAMs_20 IAMs_20 11 51 37.9
comp=Z,1µm,21.0s
V35K **Ketchikan** 85.15 34 P P 11 18 39.3 -0.8
baz=255
P32M **Atlin** 85.22 29 IAMs_20 IAMs_20 11 49 19.7
comp=Z,2µm,22.0s
P32M **Atlin** 85.22 29 P P 11 18 40.2 -0.3
baz=253
EKS2 **Erkin-Say** 85.28 313 P P 11 18 42.0 +0.7
SNR=37
F28M **Old Crow** 85.39 21 IAMs_20 IAMs_20 11 56 42.8
comp=Z,1µm,20.0s
F28M **Old Crow** 85.39 21 P P 11 18 41.4 +0.3
baz=247,SNR=32
H29M **Whitestone** 85.41 22 P P 11 18 41.1 -0.1
baz=248
MAYO **Mayo, Yukon** 85.48 25 P P 11 18 43.1 +1.5
baz=251,SNR=10.0
BTLS **Baital** 85.52 316 eP P 11 18 42.0 -0.2
BTLS eS SKSac 11 29 00.1 -3.5

BTLS pmax pmax
comp=Z,49nm,0.9s
BTLS Baital 85.52 316 *e*P **P 11 18 42.1 -0.2**
comp=Z,49nm,0.9s,baz=316
BTLS *e*S **SKSac 11 29 00.2 -3.5**
baz=316
QSPA South Pole Qui 85.58 180 P **P 11 18 41.4 -0.8**
comp=Z,217nm,1.0s,baz=320,slow=0.6,SNR=623
QSPA S **SKSac 11 28 58.9 -4.5**
comp=Z,3.6nm,1.0s,baz=20,slow=8.5,SNR=10
QSPA PKKPbc **PKKPbc 11 36 46.0 -2.6**
comp=Z,2.2nm,1.0s,baz=216,slow=2.4,SNR=2.7
QSPA LR LR 11 55 52.4
comp=Z,488nm,18.4s,baz=14,slow=35
comp=Z,217nm,1.0s
J30M Hart River 85.62 24 IAMs_20 IAMs_20 11 53 55.0
comp=Z,2µm,21.0s
J30M Hart River 85.62 24 P **P 11 18 42.8 +0.4**
baz=250,SNR=31
D27M Malcolm River 85.68 19 IAMs_20 IAMs_20 12 00 42.7
comp=Z,1µm,20.0s
D27M Malcolm River 85.68 19 P **P 11 18 43.0 +0.4**
baz=246
M31M Drury Creek, Y 85.69 27 IAMs_20 IAMs_20 11 53 18.8
comp=Z,2µm,21.0s
M31M Drury Creek, Y 85.69 27 P **P 11 18 42.8 +0.1**
baz=252,SNR=6.7
GRNB Grenville Isla 85.72 35 P **P 11 18 43.0 -0.1**
GRNB IAmb IAmb 11 19 11.8
comp=Z,70nm,1.3s
NRIK Noril'sk 85.74 341 IAmb IAmb 11 19 22.5
comp=Z,153nm,1.5s
NRIK Noril'sk 85.74 341*c i*P **P 11 18 41.5 -1.3**
NRIK pmax pmax
comp=Z,35nm,0.9s
NRIK Noril'sk 85.74 341 P **P 11 18 41.4 -1.3**
comp=Z,14nm,0.6s,baz=123,slow=3.7,SNR=25
NRIK S **SKSac 11 29 00.9 -3.0**
comp=Z,1.3nm,0.3s,baz=212,slow=22,SNR=8.1
NRIK LR LR 11 55 17.8
comp=Z,1µm,21.9s,baz=118,slow=34
comp=Z,14nm,0.6s
Q32M Nakina River 85.76 30 P **P 11 18 43.3 0.0**
Q32M Nakina River 85.76 30 P **P 11 18 42.8 -0.5**
baz=254
G29M Pine Creek 85.79 22 IAMs_20 IAMs_20 11 52 05.7
comp=Z,2µm,21.0s
G29M Pine Creek 85.79 22 P **P 11 18 43.1 0.0**
baz=249
I30M Mount Dempster 85.82 23 P **P 11 18 42.8 -0.6**
I30M Mount Dempster 85.82 23 P **P 11 18 43.1 -0.3**
baz=250
P33M Teslin, Yukon 85.83 29 P **P 11 18 42.9 -0.6**
baz=254
N32M Quiet Lake 85.97 28 IAMs_20 IAMs_20 11 51 48.8
comp=Z,2µm,20.0s
N32M Quiet Lake 85.97 28 P **P 11 18 44.1 -0.1**
baz=254
S34M Telegraph Cree 86.06 31 P **P 11 18 45.6 +1.1**
baz=255,SNR=11
EPYK Eagle Plains 86.08 22 P **P 11 18 44.6 0.0**
baz=250,SNR=30
MAW Mawson 86.16 203 P **P 11 18 45.2 +0.4**
baz=86,SNR=60
MAW Mawson 86.16 203 P **P 11 18 44.2 -0.6**
comp=Z,230nm,0.9s,baz=90,slow=6.1,SNR=102
MAW LR LR 11 53 57.7
comp=Z,1µm,21.3s,baz=82,slow=33
comp=Z,230nm,0.9s
FARO Faro, Yukon 86.16 27 P **P 11 18 45.1 +0.1**
baz=253,SNR=9.4
U35K Hyder 86.16 33 IAMs_20 IAMs_20 11 53 21.8
comp=Z,2µm,21.0s
U35K Hyder 86.16 33 P **P 11 18 45.9 +0.8**
baz=256
T35M Bob Quinn 86.30 32 IAMs_20 IAMs_20 11 48 53.2
comp=Z,2µm,22.0s
T35M Bob Quinn 86.30 32 P **P 11 18 45.2 -0.6**
baz=256
E29M Blow River 86.38 20 IAMs_20 IAMs_20 11 55 59.8
comp=Z,1µm,19.0s
E29M Blow River 86.38 20 P **P 11 18 45.9 -0.1**
baz=249
D28M Stokes Point 86.44 19 P **P 11 18 46.2 0.0**
baz=248,SNR=9.1
BBB Bella Bella 86.45 37 LR LR 11 50 57.9
comp=Z,774nm,20.7s,baz=260,slow=31
G30M tAoh Zraii Nji 86.48 22 IAMs_20 IAMs_20 11 55 33.6
comp=Z,2µm,21.0s
G30M tAoh Zraii Nji 86.48 22 P **P 11 18 46.1 -0.4**
baz=250
R33M Jennings River 86.52 30 P **P 11 18 46.5 -0.5**
baz=256
DLBC Dease Lake 86.76 31 IAmb IAmb 11 19 10.6
comp=Z,111nm,1.3s
DLBC Dease Lake 86.76 31 P **P 11 18 47.9 -0.2**
baz=256,SNR=9.0
DLBC Dease Lake 86.76 31 LR LR 11 51 38.7
comp=Z,3µm,20.4s,baz=272,slow=32
H31M Peel River 86.81 23 P **P 11 18 47.9 -0.3**
baz=252,SNR=21
F30M Barrier River 86.85 21 P **P 11 18 48.2 -0.1**
baz=251
BTK Batken 87.06 310 P **P 11 18 50.0 -0.1**
DZA Taraz 87.10 313 *e*P **P 11 18 49.8 -0.2**
DZA pmax pmax
comp=Z,30nm,0.9s
DZA Taraz 87.10 313 *e*P **P 11 18 49.9 -0.2**
comp=Z,30nm,0.9s,baz=313
G31M Satah River 87.19 22 IAMs_20 IAMs_20 11 54 01.3
comp=Z,1µm,21.0s
G31M Satah River 87.19 22 P **P 11 18 49.3 -0.6**
baz=252
BRZS Berezniki 87.32 320 *e*P **P 11 18 49.8 -1.1**
BRZS Berezniki 87.32 320 *e*P **P 11 18 49.9 -1.1**
baz=320
F31M Tsiigehtchic 87.54 22 IAMs_20 IAMs_20 11 54 25.7
comp=Z,1µm,20.0s
F31M Tsiigehtchic 87.54 22 P **P 11 18 50.1 -1.4**
baz=253
KK31 Karatay Array 87.72 313 P **P 11 18 52.6 -0.5**
KK31 IAmb IAmb 11 18 58.3
comp=Z,80nm,1.2s
KK31 Karatay Array 87.72 313 P **P 11 18 52.6 -0.5**
KK31 pmax pmax
comp=Z,80nm,1.2s
KKAR Karatay Array 87.72 313 P **P 11 18 52.7 -0.4**
KKAR Karatay Array 87.72 313 P **P 11 18 52.7 -0.4**
KBL Kabul 87.75 305 IAMs_20 IAMs_20 11 56 38.3
comp=Z,2µm,22.0s
KBL Kabul 87.75 305 P **P 11 18 52.8 -0.9**
KBL pmax pmax
comp=Z,39nm,0.9s
KBL Kabul 87.75 305 P **P 11 18 53.0 -0.7**
SNR=27
KBL S **SKSac 11 29 15.2 -3.1**
WTLY Watson Lake, Y 87.75 29 P **P 11 18 53.5 +0.6**
baz=257,SNR=18
INK Inuvik 87.88 21 P **P 11 18 52.4 -0.8**
INK pmax pmax
comp=Z,73nm,1.2s
INK Inuvik 87.88 21 P **P 11 18 52.8 -0.4**
baz=253
INK Inuvik 87.88 21 LR LR 11 54 19.1
comp=Z,1µm,21.9s,baz=190,slow=33
IUG luzhnay 87.94 312 *e*P **P 11 18 53.8 -0.5**
IUG pmax pmax
comp=Z,26nm,0.9s
IUG luzhnay 87.94 312 *e*P **P 11 18 53.8 -0.5**
comp=Z,26nm,0.9s,baz=312
CHGR Chuyangaron 88.16 309 IAMs_20 IAMs_20 11 58 50.7
comp=Z,2µm,22.0s
CHGR Chuyangaron 88.16 309 P **P 11 18 55.5 +0.2**
CHGR pmax pmax
comp=Z,607nm,1.0s
BRLS Borolday 88.20 313 *e*P **P 11 18 55.0 -0.4**
BRLS Borolday 88.20 313 *e*P **P 11 18 55.0 -0.4**
baz=313
SIMJ Simiganj 88.27 309 P **P 11 18 55.9 0.0**
CHM Chimkent 88.28 312 *e*P **P 11 18 55.3 -0.4**
CHM pmax pmax
comp=Z,32nm,1.1s
CHM Chimkent 88.28 312 *e*P **P 11 18 55.3 -0.4**
comp=Z,32nm,1.1s,baz=312
TGTN Hyland Airport 88.31 28 P **P 11 18 56.1 +0.6**
baz=258,SNR=11
HUMO Hull Mountain 88.32 47 IAMs_20 IAMs_20 11 57 47.5
comp=Z,2µm,19.0s

YBH Yreka Blue Hor 88.39 48 P **P 11 18 57.2 +0.8**
YBH IAmb IAmb 11 19 34.9
comp=Z,56nm,1.6s
YBH IAMs_20 IAMs_20 11 56 58.4
comp=Z,2µm,19.0s
YBH Yreka Blue Hor 88.39 48 P **P 11 18 57.2 +0.8**
YBH pmax pmax
comp=Z,56nm,1.7s
YBH MLR MLR
comp=Z,2µm,19.0s
YBH Yreka Blue Hor 88.39 48 LR LR 11 50 33.0
comp=Z,1µm,21.6s,baz=265,slow=30
ORV Oroville 89.04 50 IAMs_20 IAMs_20 11 51 06.9
comp=Z,1µm,20.0s
GNW Green Mountain 89.06 42 P **P 11 18 59.4 +0.2**
GNW IAmb IAmb 11 19 27.1
comp=Z,124nm,1.9s
BVAQ Borovoye Array 89.22 323 *i*P **P 11 18 58.6 -1.3**
BVAR Borovoye Array 89.22 323 P **P 11 18 58.0 -1.9**
BVAR Borovoye Array 89.22 323 P **P 11 18 58.0 -1.9**
comp=Z,53nm,0.9s,baz=106,slow=5.3,SNR=91
BVAR PP **PP 11 22 35.2 +4.4**
comp=Z,16nm,1.1s,baz=99,slow=7.8,SNR=3.9
BVAR S **SKSac 11 29 21.1 -4.7**
comp=Z,1.0nm,0.6s,baz=83,slow=3.6,SNR=3.5
BVAR LR LR 11 58 15.4
comp=Z,847nm,21.9s,baz=99,slow=35
comp=Z,53nm,0.9s
BRVK Borovoye 89.29 323 P **P 11 18 59.0 -1.2**
BRVK Borovoye 89.29 323*c i*P **P 11 18 58.8 -1.4**
BRVK pmax pmax
comp=Z,89nm,0.8s
BRVK Borovoye 89.29 323 P **P 11 18 58.5 -1.7**
BRVK S **SKSac 11 29 21.2 -5.0**
J05D Fort Rock, OR 89.66 47 P **P 11 19 02.2 -0.1**
J05D IAmb IAmb 11 19 29.8
comp=Z,56nm,1.0s
I05D Terrebonne, OR 89.70 46 P **P 11 19 02.0 -0.4**
I05D IAmb IAmb 11 19 29.9
comp=Z,49nm,1.2s
CMB Columbia Colle 89.75 52 P **P 11 19 03.3 +0.5**
CMB Columbia Colle 89.75 52 P **P 11 19 03.3 +0.5**
CMB pmax pmax
comp=Z,21nm,1.6s
SMMC Simmler 89.80 55 P **P 11 19 02.7 -0.3**
baz=264
K05A Summer Lake 89.84 47 P **P 11 19 02.1 -1.2**
K05A IAmb IAmb 11 19 26.1
comp=Z,111nm,1.5s
PKM Mcpherson Peak 89.91 55 P **P 11 19 03.8 0.0**
baz=265
SBC Santa Barbara 89.95 56 P **P 11 19 04.5 +0.9**
baz=265
KOTAN Kotaneelee Air 90.09 30 P **P 11 19 03.7 -0.1**
baz=261
FLDN Fort Liard 90.39 30 P **P 11 19 06.1 +1.0**
baz=262
VES Vestal, Richgr 90.58 54 P **P 11 19 07.0 +0.3**
baz=265
WRGLY Wrigley 90.82 27 P **P 11 19 06.8 -0.3**
baz=262
I07A Izee 90.98 46 IAmb IAmb 11 19 35.2
comp=Z,32nm,1.0s
ISA Isabella, Lake 91.06 54 P **P 11 19 08.7 -0.3**
baz=265
PASC Pasadena Art C 91.18 56 IAMs_20 IAMs_20 11 52 14.1
comp=Z,2µm,21.0s
RYN Ryan 91.26 52 P **P 11 19 09.1 -0.8**
EDW2 Edwards Air Fo 91.40 55 P **P 11 19 09.9 -0.6**
baz=266
NVAR Mina Array Bea 91.42 52 P **P 11 19 09.8 -0.9**
NVAR Mina Array Bea 91.42 52 P **P 11 19 08.7 -2.1**
comp=Z,2.7nm,0.8s,baz=252,slow=6.7,SNR=22
NVAR PKKPbc **PKKPbc 11 36 32.0 -1.0**
comp=Z,1.0nm,0.7s,baz=50,slow=4.4,SNR=8.4
NVAR PKPPKP **P'P'df 11 44 38.3 -3.8**
comp=Z,0.8nm,0.8s,baz=77,slow=3.4,SNR=5.2
NVAR LR LR 11 55 33.8
comp=Z,1µm,19.0s,baz=264,slow=32
comp=Z,2.7nm,0.8s
CWC Cottonwood Cre 91.44 54 P **P 11 19 10.1 -0.7**
baz=266
C36M Paulatuk 91.46 21 P **P 11 19 08.8 -1.1**
C36M Paulatuk 91.46 21 P **P 11 19 08.9 -1.0**
baz=262
G08A Pilot Rock 91.47 45 P **P 11 19 10.1 -0.6**
WVOR Wild Horse Val 91.48 48 P **P 11 19 09.7 -1.1**
WVOR IAMs_20 IAMs_20 11 55 08.1
comp=Z,2µm,20.0s
WVOR Wild Horse Val 91.48 48 P **P 11 19 09.7 -1.1**
WVOR pmax pmax
comp=Z,30nm,1.1s
A36M Sachs Harbour 91.48 18 IAMs_20 IAMs_20 11 58 41.7
comp=Z,2µm,21.0s
A36M Sachs Harbour 91.48 18 P **P 11 19 09.0 -1.0**
baz=260
NV11 Mina Array Sit 91.53 52 P **P 11 19 10.1 -1.1**
BFSC Mount Baldy Ra 91.62 56 P **P 11 19 11.5 -0.2**
baz=266
J08A Lone Bar Ran 91.67 47 P **P 11 19 11.2 -0.4**
LRMC Laurel Mtn Rad 91.69 55 P **P 11 19 12.1 +0.1**
baz=266
MPMC Manual Prospec 91.89 54 P **P 11 19 13.6 +0.6**
baz=266
MURC Murrieta 91.96 57 P **P 11 19 14.4 +1.3**
baz=266
109C Camp Elliot, M 91.99 57 P **P 11 19 15.1 +1.8**
baz=266
GRAC Grapevine Rang 92.06 53 P **P 11 19 13.5 0.0**
baz=266
RRX Edison Barstow 92.21 55 P **P 11 19 15.8 +1.6**
baz=266
BBRC Big Bear Solar 92.24 56 P **P 11 19 14.6 -0.1**
baz=266
GSC Goldstone, Bar 92.40 55 P **P 11 19 15.6 +0.4**
baz=266
FURC Furnace Creek, 92.42 54 P **P 11 19 15.7 +0.6**
baz=266
MONP2 Monument Peak 92.56 57 P **P 11 19 18.0 +1.8**
baz=266
PFO Pinyon Flats O 92.58 57 **P 11 19 16.6 +0.5**
PFO Pinyon Flats O 92.58 57 P **P 11 19 16.6 +0.5**
PFO pmax pmax
comp=Z,28nm,1.1s
PFO Pinyon Flats O 92.58 57 P **P 11 19 16.7 +0.5**
baz=266
PFO Pinyon Flats O 92.58 57 LR LR 11 53 06.1
comp=Z,2µm,21.7s,baz=266,slow=30
TPFO Pinon Flats 92.58 57 P **P 11 19 16.2 0.0**
baz=266
BMO Blue Mountains 92.61 45 P **P 11 19 15.1 -0.9**
BMO IAmb IAmb 11 19 50.1
comp=Z,114nm,1.8s
BMO Blue Mountains 92.61 45 P **P 11 19 15.1 -0.9**
BMO pmax pmax
comp=Z,115nm,1.8s
PMD Palm Desert 92.65 57 P **P 11 19 16.1 -0.2**
HEC Hector,Ludlow 92.75 55 P **P 11 19 17.5 +0.7**
baz=267
IKP In-Ko-Pah, Jac 92.81 58 P **P 11 19 17.5 +0.3**
baz=267
SHOC Shoshone, Teco 92.86 54 P **P 11 19 16.9 -0.3**
baz=267
NEW Newport 92.94 42 IAMs_20 IAMs_20 11 55 27.4
comp=Z,2µm,19.0s
NEW Newport 92.94 42 P **P 11 19 14.0 -3.3**
NEW pmax pmax
comp=Z,22nm,1.2s
NEW Newport 92.94 42 P **P 11 19 17.3 -0.1**
baz=267
NEW Newport 92.94 42 LR LR 11 55 28.6
comp=Z,1µm,19.8s,baz=262,slow=32
BELC Belle Mtn. Jos 92.98 56 P **P 11 19 18.3 +0.3**
baz=267
SWSC Sam W. Stewart 93.09 57 P **P 11 19 19.1 +0.7**
baz=267
TUQ Turquoise Moun 93.12 55 P **P 11 19 20.0 +1.4**
baz=267
GMRC Granite Mounta 93.31 56 P **P 11 19 19.2 -0.2**
baz=267
BC3 Big Chuckawall 93.42 57 P **P 11 19 20.3 +0.3**
baz=267
R11B Troy Canyon, C 93.54 52 P **P 11 19 21.7 +1.1**
baz=267
PLID Pearl Lake 93.55 45 IAMs_20 IAMs_20 11 55 12.8
comp=Z,2µm,20.0s
MFID Camas Ranch 93.60 47 IAMs_20 IAMs_20 11 58 14.2

comp=Z,1µm,19.0s
IRM Iron Mountain 93.70 56 P **P 11 19 22.7 +1.5**
baz=267
NGCH Negor - Chabah 93.83 295 P **P 11 19 21.9 0.0**
NGCH S **SKSac 11 29 53.6 +0.5**
ELK Elko 93.92 50 IAMs_20 IAMs_20 11 56 16.9
comp=Z,2µm,20.0s
ELK Elko 93.92 50 P **P 11 19 21.2 -1.1**
ELK Elko 93.92 50 LR LR 11 55 17.5
comp=Z,2µm,20.6s,baz=262,slow=32
V12A Nelson 94.01 55 P **P 11 19 22.9 +0.3**
NEE2 Needles Airpor 94.16 56 P **P 11 19 23.1 -0.1**
baz=268
Q12A Willow Creek R 94.17 51 P **P 11 19 22.8 -0.6**
Q12A IAmb IAmb 11 19 50.0
comp=Z,33nm,1.1s
PDMCI Parker Dam,Lak 94.54 56 P **P 11 19 25.9 +1.0**
baz=268
RPN Rapa Nui 94.54 118 LR LR 11 54 48.4
comp=Z,856nm,21.5s,baz=281,slow=31
HLID Hailey 94.63 47 P **P 11 19 24.6 -0.8**
HLID IAMs_20 IAMs_20 12 06 46.5
comp=Z,1µm,18.0s
HLID Hailey 94.63 47 P **P 11 19 26.9 +1.5**
baz=268
YKA Yellowknife Ar 94.81 28 P **P 11 19 24.1 -1.4**
YKA Yellowknife Ar 94.81 28 *i*P **P 11 19 25.0 -0.5**
YKA pmax pmax
comp=Z,5.0nm,0.9s
YKA Yellowknife Ar 94.81 28 P **P 11 19 23.7 -1.9**
comp=Z,5.0nm,0.9s,baz=270,slow=4.6,SNR=53
YKA PKKPbc **PKKPdf 11 36 21.2 -3.0**
comp=Z,4.9nm,0.8s,baz=87,slow=2.7,SNR=12
YKA PKPPKP P'P'df 11 44 24.1 -10
comp=Z,0.2nm,0.7s,baz=24,slow=2.3,SNR=3.6
YKA LR LR 11 58 19.2
comp=Z,2µm,20.1s,baz=279,slow=33
comp=Z,5.0nm,0.9s
SVE Sverdlovsk 95.11 327 *e*P **P 11 19 25.6 -1.4**
SVE *e*S **SKSac 11 29 55.2 -3.4**
SVE pmax pmax
comp=Z,38nm,1.4s
SVE MLR MLR
comp=Z,1µm,19.0s
JLN Jalan Bani Buh 95.25 292 P **P 11 19 28.0 -0.5**
LCMT Little Creek M 95.35 53 P **P 11 19 28.2 -0.6**
AB31 Akbulak array 95.50 319 *i*P **P 11 19 26.4 -2.6**
ABKAR Akbulak array 95.50 319 P **P 11 19 26.7 -2.3**
214A Organ Pipe Nat 95.57 58 P **P 11 19 30.6 +0.8**
baz=268
WBK Wadi Bani Khal 95.68 292 P **P 11 19 29.8 -0.6**
SNR=7.3
DUG Dugway, Tooele 95.75 50 IAMs_20 IAMs_20 11 56 12.5
comp=Z,1µm,21.0s
DUG Dugway, Tooele 95.75 50 P **P 11 19 31.3 +0.7**
DUG Dugway, Tooele 95.75 50 P **P 11 19 31.4 +0.9**
baz=269
HVU Hansel Valley 95.80 49 P **P 11 19 29.5 -1.3**
HVU Hansel Valley 95.80 49 P **P 11 19 29.5 -1.3**
HVU pmax pmax
comp=Z,9.0nm,0.9s
WSAR Wadi Sarin 96.02 293 LR LR 12 04 07.4
comp=Z,323nm,21.0s,baz=106,slow=36
U15A North Rim 96.11 54 P **P 11 19 33.0 +0.6**
MSU Marysvale 96.22 52 P **P 11 19 32.6 -0.3**
MSU Marysvale 96.22 52 P **P 11 19 32.6 -0.3**
ARU Arti 96.26 326*c i*P **P 11 19 29.9 -2.4**
ARU 11 23 23.5
ARU S **SKSac 11 30 01.7 -3.0**
ARU SP **SP 11 32 09.9 +2.6**
ARU pmax pmax
comp=Z,20nm,1.0s
ARU MLR MLR
comp=Z,978nm,20.0s
ARU Arti 96.26 326 P **P 11 19 29.8 -2.4**
comp=Z,4.0nm,0.3s,baz=122,slow=1.2,SNR=10
ARU LR LR 12 03 34.7
comp=Z,963nm,20.6s,baz=86,slow=36
comp=Z,4.0nm,0.3s
JMDO Jabal Madar 96.47 292 P **P 11 19 32.8 -1.3**
BIDO Bidbid 96.49 293 P **P 11 19 35.0 +0.9**
SNR=6.8
SMDO Samad 96.54 293 P **P 11 19 33.6 -0.9**
MHTO MHTO 96.54 291 P **P 11 19 33.2 -1.1**
BOZ Bozeman (W) 96.64 45 IAMs_20 IAMs_20 12 01 02.5
comp=Z,2µm,19.0s
BOZ Bozeman (W) 96.64 45 P **P 11 19 34.6 +0.1**
baz=271
AKTO Aktyubinsk 96.74 320 P **P 11 19 32.0 -2.6**
AKTO Aktyubinsk 96.74 320 P **P 11 19 32.0 -2.6**
comp=Z,24nm,0.9s,baz=92,slow=3.7,SNR=16
AKTO PP **PP 11 23 31.6 +1.8**
comp=Z,9.7nm,1.2s,baz=76,slow=8.3,SNR=4.0
AKTO S **SKSac 11 30 04.2 -3.4**
comp=Z,0.9nm,0.6s,baz=141,slow=4.2,SNR=1.2
AKTO LR LR 12 02 21.8
comp=Z,879nm,21.9s,baz=71,slow=35
comp=Z,24nm,0.9s
GEYT Alibeck 96.78 308 P **P 11 19 34.6 -0.5**
GEYT IAmb IAmb 11 19 40.9
comp=Z,54nm,1.1s
GEYT Alibeck 96.78 308 P **P 11 19 34.6 -0.5**
GEYT pmax pmax
comp=Z,54nm,1.1s
GEYT Alibeck 96.78 308 P **P 11 19 33.0 -2.1**
comp=Z,16nm,1.1s,baz=140,slow=1.2,SNR=18
GEYT S **SKSac 11 30 07.3 -1.0**
comp=Z,0.9nm,0.3s,baz=78,slow=13,SNR=1.4
GEYT LR LR 12 05 39.2
comp=Z,586nm,20.7s,baz=99,slow=37
comp=Z,16nm,1.1s
WUAZ Wupatki 96.84 55 IAMs_20 IAMs_20 11 55 35.7
comp=Z,2µm,21.0s
WUAZ Wupatki 96.84 55 P **P 11 19 36.6 +1.0**
baz=270
DQM DQM 96.91 289 P **P 11 19 32.5 -3.5**
YHL Hebgen Lake 96.96 46 P **P 11 19 35.8 -0.3**
TPAW Teton Pass 97.15 47 IAMs_20 IAMs_20 11 55 27.0
comp=Z,1µm,21.0s
HOQ Hoqain 97.24 293 P **P 11 19 37.0 -0.5**
MOOW Moose Ponds 97.29 47 IAMs_20 IAMs_20 11 58 06.6
comp=Z,954nm,18.0s
TUC Tucson 97.30 58 P Pdif 11 19 38.9 +1.2
baz=269
BSY Bisya 97.32 292 P **P 11 19 36.8 -1.1**
FLWY Flagg Ranch 97.32 46 IAMs_20 IAMs_20 11 56 54.7
comp=Z,2µm,22.0s
ELIB Princess Elisa 97.33 194 *d*P **P 11 19 36.7 -0.3**
comp=Z,90nm,1.0s
HMU Henry Mountain 97.35 52 P **P 11 19 37.9 -0.2**
HMU IAmb IAmb 11 20 00.8
comp=Z,30nm,1.2s
LOHW Long Hollow 97.40 47 IAMs_20 IAMs_20 11 58 20.8
comp=Z,1µm,20.0s
H17A Grant Village 97.40 46 P Pdif 11 19 39.4 +1.2
baz=271
LPIG La Paz 97.58 66 LR LR 11 58 50.1
comp=Z,1µm,18.8s,baz=266,slow=32
BELA Belgrano 2 97.74 178 P **P 11 19 38.1 -0.5**
BELA IAmb IAmb 11 19 45.9
comp=Z,29nm,0.9s
EGMT Eagleton 97.87 42 P Pdif 11 19 41.2 +1.2
baz=272
ARQ Araqi 97.96 293 P **P 11 19 39.8 -0.9**
SNR=5.3
SOHO SOHO 97.96 294 P **P 11 19 39.4 -1.3**
BW06 Boulder Array 98.18 48 P **P 11 19 41.4 -0.2**
baz=272
PDAR Pinedale Array 98.18 48 P **P 11 19 39.1 -2.5**
comp=Z,1.6nm,0.9s,baz=264,slow=1.5,SNR=8.8
PDAR PP **PP 11 23 42.7 +1.2**
comp=Z,0.1nm,0.5s,baz=262,slow=1.4,SNR=3.3
PDAR PKKPbc **PKKPbc 11 36 12.8 -2.3**
comp=Z,1.6nm,0.7s,baz=120,slow=4.0,SNR=10
PDAR PKPPKP **P'P'df 11 44 28.1 -1.0**
comp=Z,0.2nm,0.3s,baz=115,slow=2.1,SNR=4.1
PDAR LR LR 12 01 34.5
comp=Z,1µm,18.1s,baz=272,slow=34
comp=Z,1.6nm,0.9s
UOSS Minazif 98.28 294 P **P 11 19 40.7 -1.5**
UOSS IAmb IAmb 11 19 45.0
comp=Z,41nm,1.4s
UOSS Minazif 98.28 294 P **P 11 19 40.7 -1.5**
RLMT Red Lodge 98.32 45 P Pdif 11 19 42.9 +0.7
baz=272
MASF Masafi 98.33 295 P **P 11 19 41.3 -1.1**

HATD **Hatta, Dubai** 98.34 294 P **P** 11 19 41.3 -1.2
ASHO **Ashiyiah** 98.41 294 P **P** 11 19 41.8 -1.0
SHAO **Shalim** 98.65 287 P **P** 11 19 43.1 -0.9
MVCO **Mesa Verde** 99.14 53 IAMs_20 IAMs_20 11 56 54.7
comp=Z,1μm,21.0s
MVCO **Mesa Verde** 99.14 53 P **Pdif** 11 19 46.6 +0.5
baz=272
UMZA **Um Al Zommool** 99.20 292 P **Pdif** 11 19 45.1 -1.2
O20A **White River Ci** 99.26 50 P **Pdif** 11 19 47.1 +0.6
baz=272
121A **Cookes Peak, D** 99.83 58 P **Pdif** 11 19 49.4 +0.2
baz=271
RES **Resolute Bay** 99.87 15 LR LR 12 05 10.3
comp=Z,443nm,19.7s,baz=291,slow=36
RBK **Rabkut** 99.99 287 P **Pdif** 11 19 49.1 -0.9
DOK **Doka** 100.09 288 P **Pdif** 11 19 48.7 -1.6
SNR=5.1
LAO **LASA Array** 100.34 43 P **Pdif** 11 19 51.6 +0.6
baz=275
WHFO **Wadi Hawf** 100.41 287 P **Pdif** 11 19 50.4 -1.5
K22A **Casper** 100.42 48 P **Pdif** 11 19 52.5 +0.9
baz=274
Y22D **IRIS PASSCAL I** 100.52 56 IAMs_20 IAMs_20 11 59 37.3
comp=Z,2μm,20.0s
Y22D **IRIS PASSCAL I** 100.52 56 P **Pdif** 11 19 51.9 -0.3
baz=272
Y22F **Passcal Instru** 100.52 56 P **Pdif** 11 19 51.9 -0.3
baz=272
NVL **N'lazarevskaya** 100.78 192 *e*P **Pdif** 11 19 50.0 -2.3
NVL pmax pmax
comp=Z,54nm,1.8s
ABTO **Aybut** 100.85 287 P **Pdif** 11 19 53.0 -0.8
ANMO **Albuquerque** 100.87 55 IAMs_20 IAMs_20 11 57 49.5
comp=Z,1μm,21.0s
ANMO **Albuquerque** 100.87 55 IAMs_20 IAMs_20 11 57 49.5
comp=Z,1μm,21.0s
ANMO **Albuquerque** 100.87 55 P **Pdif** 11 19 54.2 +0.5
baz=272
N23A **Red Feather La** 100.97 49 P **Pdif** 11 19 54.6 +0.5
baz=274
ISCO **Idaho Springs** 101.29 50 P **Pdif** 11 19 55.8 +0.1
baz=274
JRN **Qarnain Island** 101.32 294 P **Pdif** 11 19 54.2 -1.5
TROLL **Troll, Antarti** 101.44 189 ⇑Pdiff **Pdif** 11 19 55.3 -0.1
comp=Z,2μm,0.9s
SDCO **Great Sand Dun** 101.50 53 P **Pdif** 11 19 57.0 +0.4
baz=273
DGMT **Dagmar** 101.54 42 P **Pdif** 11 19 57.1 +1.0
baz=276
Q24A **Divide** 101.70 51 P **Pdif** 11 19 58.2 +0.7
baz=274
MNTX **Cornudas Mount** 101.90 59 P **Pdif** 11 19 59.9 +1.7
baz=272
RSSD **Black Hills** 102.11 46 P **Pdif** 11 19 59.9 +0.9
baz=276
T25A **Trinidad** 102.41 53 P **Pdif** 11 20 02.7 +2.1
baz=274
SNAA **Sanae** 102.51 188 ⇑Pdiff **Pdif** 11 19 59.5 -0.6
comp=Z,315nm,1.0s
SNAA **Sanae** 102.51 188 Pdiff **Pdif** 11 19 58.5 -1.5
comp=Z,12nm,0.9s,baz=182,slow=4.3,SNR=4.8
SHMA **Al-Shehemyia** 103.01 295 P **Pdif** 11 20 01.7 -1.5
BELG **Belogornoye** 103.02 323 Pdiff **Pdif** 11 20 00.5 -2.1
comp=Z,44nm,0.9s,baz=152,slow=6.4,SNR=5.2
TXAR **Lajitas Array** 103.47 61 Pdiff **Pdif** 11 20 05.0 -0.3
baz=338,slow=1.9,SNR=1.0
TXAR PKiKP **PKiKP** 11 24 23.5 -0.5
comp=Z,1.8nm,0.9s,baz=323,slow=3.9,SNR=3.3
TXAR PKKPbc **PKKPbc** 11 35 56.0 -3.2
comp=Z,4.6nm,0.8s,baz=79,slow=6.5,SNR=9.6
TXAR PKPPKP **P'P'df** 11 44 17.9 -2.0
comp=Z,1.1nm,1.0s,baz=107,slow=4.2,SNR=5.7
TULEG **Thule** 104.30 9 IAMs_20 IAMs_20 12 06 31.2
comp=Z,1μm,20.0s
MAK **Makhachkala** 104.54 313 *e*P **Pdif** 11 20 09.0 -0.6
MAK *e* 11 24 26.3
MAK *e*PPP PPP 11 26 39.5
MAK *e* 11 30 43.1
MAK *e* 11 31 24.9
MAK *e*PS **PS** 11 33 47.7 +4.7
MAK pmax pmax
comp=Z,12nm,0.3s
MAK MLR MLR
comp=Z,1μm,20.0s
AMTX **Amarillo** 104.79 55 IAMs_20 IAMs_20 12 03 45.3
comp=Z,1μm,19.0s
APA **Apatity** 105.12 340 ⇓*i*P **Pdif** 11 20 07.7 -3.9
APA pmax pmax
comp=Z,6.0nm,0.9s
KLMR **Klimovskoe** 105.26 332 *e*P **Pdif** 11 20 08.3 -4.0
KLMR *e* 11 24 30.3
KLMR pmax pmax
comp=Z,27nm,1.7s
KLMR MLR MLR
comp=Z,1μm,20.0s
KEV **Kevo** 106.06 343 IAMs_20 IAMs_20 12 12 24.9
comp=Z,948nm,20.0s
ULM **Lac du Bonnet** 106.59 39 PKKP 11 36 03.0
comp=Z,6.6nm,0.9s,baz=117,slow=3.8,SNR=8.3
ARCES **ARCESS Array B** 106.62 343 Pdiff **Pdif** 11 20 18.2 -0.1
comp=Z,5.0nm,1.0s,baz=35,slow=4.4,SNR=4.7
ARCES PKKPbc **PKKPbc** 11 35 47.5 -3.4
comp=Z,2.6nm,0.8s,baz=224,slow=3.3,SNR=5.9
VRH **Novokhopyorsk** 106.85 322 *e*P **Pdif** 11 20 19.5 -0.1
VRH pmax pmax
comp=Z,10.0nm,0.4s
OK038 **West end E0370** 107.00 53 IAMs_20 IAMs_20 12 01 25.6
comp=Z,2μm,22.0s
AGMN **Agassiz Nation** 107.04 41 P **PKiKP** 11 24 30.6 +0.6
baz=283
WMOK **Wichita Mounta** 107.18 55 P **PKiKP** 11 24 31.0 +0.3
baz=277
OK032 **Salt Plains WL** 107.38 53 IAMs_20 IAMs_20 12 02 29.6
comp=Z,1μm,21.0s
UNM **Universidad Na** 107.94 71 IAMs_20 IAMs_20 12 13 26.5
comp=Z,822nm,19.0s
RAYN **Ar Rayn** 108.07 293 P **Pdif** 11 20 25.3 -0.5
LPSR **Galich'ya Gora** 108.14 324 *e*P **Pdif** 11 20 25.5 +0.2
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VORR **Voronezh** 108.24 323 *e*P **Pdif** 11 20 25.1 -0.7
VORR pmax pmax
comp=Z,70nm,0.4s
VORD **Divnogorie** 108.39 323 *e*P **Pdif** 11 20 26.0 -0.5
VORD pmax pmax
comp=Z,6.0nm,0.6s
VSR **Storozhevoye** 108.40 323 *e*P **Pdif** 11 20 26.3 -0.2
VSR pmax pmax
comp=Z,10.0nm,1.4s
OBN **Obninsk** 108.66 327 ⇑*i*P **Pdif** 11 20 26.4 -1.2
OBN *i* SS SS 11 40 18.2 +6.2
OBN pmax pmax
comp=Z,13nm,1.1s
OBN MLR MLR
comp=Z,1μm,21.0s
EYMN **Ely** 109.96 40 P **PKiKP** 11 24 36.2 +0.8
baz=286
FINES **FINESS Array B** 110.89 336 Pdiff **Pdif** 11 20 35.1 -2.2
comp=Z,1.5nm,0.8s,baz=132,slow=2.1,SNR=2.7
FINES PKiKP **PKiKP** 11 24 36.0 -0.7
comp=Z,2.4nm,0.7s,baz=91,slow=1.7,SNR=8.0
FINES PKKPbc **PKKPbc** 11 35 33.9 -3.1
comp=Z,1.4nm,0.8s,baz=197,slow=2.9,SNR=4.6
MIAR **Mount Ida** 111.45 55 IAMs_20 IAMs_20 12 07 35.6
comp=Z,1μm,19.0s
JFWS **Jewell Farm** 112.18 45 P **PKiKP** 11 24 39.4 -0.4
baz=285
ILULI **Ilulissat** 113.26 9 IAMs_20 IAMs_20 12 12 11.1
comp=Z,1μm,20.0s
MNK **Minsk** 113.51 329 *i* P **Pdif** 11 20 47.0 -2.2
MNK *i* 11 25 31.7
MNK *i* PPP PPP 11 27 55.4
MNK *i* 11 31 47.8
MNK *i* PS **PS** 11 35 08.5 -2.1
MNK *i* SS SS 11 41 15.9 -0.7
MNK *i* SSS SSS 11 45 29.2
MNK pmax pmax
comp=N,37nm,0.7s
MNK pmax pmax
comp=E,4.0nm,0.6s
MNK pmax pmax
comp=Z,9.0nm,0.6s
MNK MLR MLR
comp=N,403nm,22.0s
MNK MLR MLR
comp=E,412nm,21.0s
MNK MLR MLR
comp=Z,1μm,21.0s
SCO **Scoresbysund** 113.92 358 IAMs_20 IAMs_20 12 07 18.5
comp=Z,1μm,22.0s
AKASG **Malin Array Be** 114.46 325 Pdiff **Pdif** 11 20 50.7 -2.8
comp=Z,0.2nm,0.3s,baz=60,slow=2.2,SNR=2.0
AKASG PKiKP **PKiKP** 11 24 42.0 -1.8
comp=Z,4.1nm,0.6s,baz=49,slow=2.3,SNR=13
AKASG PP **PP** 11 25 39.8 -0.7
comp=Z,3.7nm,0.9s,baz=57,slow=6.2,SNR=6.5
AKASG SKP 11 28 13.6
comp=Z,2.5nm,0.6s,baz=51,slow=2.3,SNR=8.0
KIEV **Kiev** 114.47 325 ⇓P **PKiKP** 11 24 42.7 -1.2
KIEV **Kiev** 114.47 325 IAMs_20 IAMs_20 12 12 51.9
comp=Z,1μm,22.0s
KIEV **Kiev** 114.47 325 ⇓PKiKP **PKiKP** 11 24 42.7 -1.2
OXF **Oxford** 114.84 54 IAMs_20 IAMs_20 12 10 34.1
comp=Z,901nm,20.0s
SFJD **Kangerlussuaq** 115.34 10 IAMs_20 IAMs_20 12 13 25.8
comp=Z,1μm,20.0s
BRTR **Keskin Array B** 115.41 312 PKP **PKiKP** 11 24 44.8 -1.5
comp=Z,2.6nm,0.6s,baz=126,slow=2.6,SNR=8.7
BRTR PP **PP** 11 25 47.6 -0.2
comp=Z,1.8nm,0.9s,baz=102,slow=15,SNR=2.0
MMAI **Mount Meron Ar** 115.68 305 PKP **PKPdf** 11 24 45.4 -1.5
comp=Z,9.1nm,0.9s,baz=251,slow=2.6,SNR=4.1
ANTO **Ankara** 115.99 312 ⇓P **PKPdf** 11 24 47.3 0.0
ANTO **Ankara** 115.99 312 ⇓PKiKP **PKPdf** 11 24 47.3 0.0
SORM **Soroca** 116.05 322 ⇑P **PKiKP** 11 24 45.6 -1.4
SORM **Soroca** 116.05 322 ⇑PKiKP **PKiKP** 11 24 45.6 -1.4
SUW **Suwalki** 116.14 330 IAMs_20 IAMs_20 12 15 52.8
comp=Z,1μm,21.0s
MILM **Milestii Mici** 116.26 321 *e*PKP **PKiKP** 11 24 50.0 +2.5
MILM **Milestii Mici** 116.26 321 *e*PP PP 11 26 02.0 +8.7
MILM *e*L L 12 07 54.0
MILM LRM MLR 12 14 30.0
comp=Z,700nm,22.0s
WCI **Wyandotte Cave** 116.36 49 P **PKiKP** 11 24 48.7 +0.7
baz=286
HFS **Hagfors** 116.48 339 PKP **PKPdf** 11 24 46.3 -1.2
comp=Z,1.3nm,0.4s,baz=8.1,slow=2.1,SNR=8.4
NB2 **NORSAR Subarra1** 116.70 340 PKPdf **PKPdf** 11 24 46.3 -1.6
comp=Z,2.5nm,0.7s,baz=44,slow=1.8
NOA **NORSAR Array B** 116.70 340 PKP **PKPdf** 11 24 46.4 -1.6
comp=Z,2.1nm,0.6s,baz=46,slow=2.0,SNR=12
NOA PKKPbc **PKKPbc** 11 35 14.5 -2.8
comp=Z,1.3nm,0.9s,baz=43,slow=3.2,SNR=3.8
TLCR 116.94 319 ⇓P **PKPdf** 11 24 48.9 +0.1
TLCR 116.94 319 ⇓PKiKP **PKPdf** 11 24 48.9 +0.1
LRAL **Lakeview Retre** 117.12 55 P **PKPdf** 11 24 48.8 -0.8
baz=283
P49A **Miami Univ. Ec** 117.15 48 P **PKPdf** 11 24 48.8 -0.6
baz=288
TPGR **Topolog** 117.33 319 ⇓P **PKPdf** 11 24 48.3 -1.4
CFR **Carcaliu** 117.39 319 ⇓P **PKPdf** 11 24 48.8 -0.9
CFR **Carcaliu** 117.39 319 ⇓PKiKP **PKPdf** 11 24 48.8 -0.9
MFTR **Murfatlar** 117.59 318 ⇑P **PKPdf** 11 24 48.8 -1.3
TLBR **Topalu** 117.70 319 ⇓P **PKPdf** 11 24 50.1 -0.2
HARR **Harsova** 117.72 319 ⇑P **PKPdf** 11 24 50.0 -0.3
HARR **Harsova** 117.72 319 ⇑PKiKP **PKPdf** 11 24 50.0 -0.3
LVV **L'vov** 117.83 325 *e*PKiKP **PKPdf** 11 24 49.2 -1.2
LVV MLR MLR
comp=E,1μm,22.0s
LVV MLR MLR
comp=N,700nm,21.0s
LVV MLR MLR
comp=Z,400nm,22.0s
VRI **Vrincioaia** 118.01 321 ⇑P **PKPdf** 11 24 50.3 -0.6
VRI **Vrincioaia** 118.01 321 ⇑PKiKP **PKPdf** 11 24 50.3 -0.6
TEIG **Tepich** 118.13 70 IAMs_20 IAMs_20 12 10 26.2
comp=Z,756nm,20.0s
BURAR **Bucovina Array** 118.18 323 ⇑P **PKPdf** 11 24 51.0 -0.3
BURAR **Bucovina Array** 118.18 323 ⇑PKiKP **PKPdf** 11 24 51.0 -0.3
ACSO **Alum Creek Sta** 118.18 46 P **PKPdf** 11 24 51.3 -0.1
baz=290
KONO **Kongsberg** 118.27 340 IAMs_20 IAMs_20 12 17 52.7
comp=Z,717nm,20.0s
KWP **Kalwaria Pacla** 118.67 326 IAMs_20 IAMs_20 12 16 24.0
comp=Z,1μm,21.0s
KWP **Kalwaria Pacla** 118.67 326 PKiKP **PKiKP** 11 24 52.4 +0.3
MLR **Muntele Rosu** 118.67 320 ⇓P **PKPdf** 11 24 51.7 -0.7
MLR **Muntele Rosu** 118.67 320 IAMs_20 IAMs_20 12 17 02.8
comp=Z,913nm,22.0s
MLR **Muntele Rosu** 118.67 320 ⇓PKiKP **PKPdf** 11 24 51.7 -0.7
NEF **NEVSHA** 118.71 318 *e*P **PKPdf** 11 24 52.2 -0.1
DOPR **Dopca** 118.81 321 ⇑P **PKiKP** 11 24 52.8 +0.3
P52A **Corning** 119.00 47 P **PKiKP** 11 24 53.6 +0.5
baz=290
VOIR 119.26 321 ⇓P **PKiKP** 11 24 54.2 +0.7
VOIR 119.26 321 PKiKP **PKiKP** 11 24 54.3 +0.8
KOLS **Kolonicke sedl** 119.27 325 *e*PKiKP **PKiKP** 11 24 54.1 +0.8
KOLS **Kolonicke sedl** 119.27 325 *e*PKP **PKiKP** 11 24 54.1 +0.8
M53A **WI Miller and** 119.39 44 P **PKiKP** 11 24 54.3 +0.6
baz=292
O53A **New Philadelph** 119.45 46 P **PKiKP** 11 24 54.5 +0.6
baz=291
ARR **Arges** 119.55 321 ⇓P **PKiKP** 11 24 54.4 +0.3
SZH **Strazhitsa** 119.58 318 *e*P **PKPdf** 11 24 53.5 -0.5
STHS **Stebnicka Huta** 119.59 326 *e*PKiKP **PKPdf** 11 24 53.2 -0.7
STHS **Stebnicka Huta** 119.59 326 *e*PKP **PKPdf** 11 24 53.2 -0.7
HUMR **Humele** 119.70 320 ⇓P **PKPdf** 11 24 53.0 -1.2
CRVS **Cervenica-Dubn** 119.74 326 *e*P **Pdif** 11 21 21.2 +4.1
CRVS *e* 11 24 54.4
CRVS **Cervenica-Dubn** 119.74 326 *e*PKP **PKPdf** 11 24 54.4 +0.3
CRVS **Cervenica-Dubn** 119.74 326 *e*PDIFF **Pdif** 11 21 21.2 +4.1
ELND **Elena** 119.79 318 ⇓P **PKPdf** 11 24 54.5 +0.1
PLCA **Paso Flores** 119.80 143 PKP **PKPdf** 11 24 53.8 -0.9
comp=Z,2.0nm,0.7s,baz=229,slow=1.5,SNR=9.5
PLCA PKKPbc **PKKPbc** 11 35 04.4 -1.3
comp=Z,4.3nm,0.9s,baz=49,slow=2.9,SNR=5.7
PLCA SKKP 11 39 07.2
comp=Z,9.0nm,1.2s,baz=55,slow=2.7,SNR=4.1
MARR **Marisel-Cluj** 119.88 323 ⇑P **PKPdf** 11 24 53.8 -0.8
GOGA **Godfrey** 119.89 54 IAMs_20 IAMs_20 12 15 13.0
comp=Z,1μm,20.0s
DRGR 120.07 323 ⇑P **PKPdf** 11 24 53.7 -1.2
DRGR 120.07 323 ⇑PKiKP **PKPdf** 11 24 53.7 -1.2
NIE **Niedzica** 120.11 326 PKiKP **PKiKP** 11 24 55.3 +0.3
BOSA **Boshof** 120.29 233 PKP **PKPdf** 11 24 55.7 -0.2
comp=Z,30nm,0.7s,baz=132,slow=1.6,SNR=34
DIM **Dimitrovgrad** 120.35 317 *e*P **PKPdf** 11 24 55.0 -0.5
PLVB **Pleven** 120.43 319 ⇑P **PKPdf** 11 24 55.4 -0.2
RGN **Rugen** 120.44 334 IAMs_20 IAMs_20 12 20 15.9
comp=Z,1μm,22.0s
ALN **Alexandroupoli** 120.48 316 PKiKP **PKPdf** 11 24 54.4 -1.4
GZR **Gura Zlata** 120.70 321 ⇓P **PKPdf** 11 24 55.7 -0.5
GZR **Gura Zlata** 120.70 321 ⇓PKiKP **PKPdf** 11 24 55.7 -0.5
LANS **Liptovska Anna** 120.72 327 *e*PKiKP **PKiKP** 11 24 56.9 +0.7
LANS **Liptovska Anna** 120.72 327 *e*PKP **PKiKP** 11 24 56.9 +0.7
RDO **Rodhopi** 120.74 316 P **PKPdf** 11 24 51.1 -5.1
SURR **Surduc** 120.93 322 ⇓P **PKPdf** 11 24 55.9 -0.6
MPEP **Malo Peshtene** 121.02 319 *e*P **PKPdf** 11 24 56.2 -0.6
OKC **Ostrava-Krasne** 121.05 328 AMS AMS 12 14 30.0
comp=Z,800nm,21.9s
RZN **Rozhen** 121.06 317 *e*P **PKPdf** 11 24 56.2 -0.9
KMSC **Kinge Mountain** 121.08 51 P **PKiKP** 11 24 58.2 +1.0
baz=288
BLA **Blacksburg** 121.10 49 P **PKiKP** 11 24 57.8 +0.5
baz=290
PSZ **Piszkesteto** 121.15 325 PKiKP **PKPdf** 11 24 56.8 -0.2
HERR **Herculane** 121.17 321 ⇑P **PKPdf** 11 24 56.0 -0.9
BZS **Buzias** 121.31 322 PKiKP **PKPdf** 11 24 56.6 -0.6
MORC **Moravsky Berou** 121.40 328 ⇑P **PKPdf** 11 24 57.2 -0.1
MORC **Moravsky Berou** 121.40 328 *e*PKP **PKPdf** 11 24 56.9 -0.5
MORC **Moravsky Berou** 121.40 328 ⇑PKiKP **PKPdf** 11 24 57.2 -0.1
VYHS **Vyhne** 121.43 326 *e*PKiKP **PKPdf** 11 24 56.7 -0.7
VYHS **Vyhne** 121.43 326 *e*PKP **PKPdf** 11 24 56.7 -0.7
LBTB **Lobatse** 121.44 237 PKP **PKPdf** 11 24 57.5 -0.8
comp=Z,28nm,0.7s,baz=141,slow=3.2,SNR=22
MAUC **Mauska** 121.49 327 *e*PKPDF **PKPdf** 11 24 57.6 +0.1
KARP **Karpathos** 121.58 309 P **PKiKP** 11 25 05.1 +6.8
BLKB **Belogradchik** 121.59 320 ⇓P **PKPdf** 11 24 57.7 -0.2
RUE **Ruedersdorf** 121.60 332 *e*PKPdf **PKPdf** 11 24 57.2 -0.4
baz=48,slow=1.9
RUE *e*SP SP 11 36 26.1 +9.3
baz=46,slow=8.9
KRLC **Kraliky** 121.62 329 PKiKP **PKPdf** 11 24 57.6 -0.2
OSTC **Ostas** 121.63 329 *e*PKiKP **PKPdf** 11 24 57.4 -0.3
OSTC MLR MLR
comp=Z,2μm,26.2s
OSTC **Ostas** 121.63 329 *e*PKPDF **PKPdf** 11 24 57.4 -0.3
OSTC AMS AMS 12 16 20.0
comp=Z,2μm,26.2s
SSPA **Standing Stone** 121.64 44 P **PKiKP** 11 24 58.4 +0.2
baz=294
MDVR **Moldovita** 121.66 321 ⇑P **PKPdf** 11 24 57.1 -0.9
VTS **Vitosha** 121.68 318 *e*P **PKPdf** 11 24 57.6 -0.6
DPC **Dobruska-Polom** 121.70 329 *e*PKiKP **PKPdf** 11 24 57.8 -0.1
DPC MLR MLR
comp=Z,1μm,23.7s
DPC **Dobruska-Polom** 121.70 329 *e*PKPDF **PKPdf** 11 24 57.8 -0.1
DPC AMS AMS 12 16 20.0
comp=Z,1μm,23.7s
UPC **Upice** 121.76 329 PKiKP **PKPdf** 11 24 58.1 +0.1
MMB **Musomishta** 121.80 317 *e*P **PKPdf** 11 24 57.2 -1.2
NVR **Nevrokopi** 121.81 317 P **PKPdf** 11 24 53.8 -4.6
JAVC **Velka Javorina** 121.86 327 *e*PKP **PKPdf** 11 24 58.3 0.0
SUR **Sutherland** 121.98 227 PKP **PKPdf** 11 24 59.2 0.0
comp=Z,16nm,0.8s,baz=182,slow=4.3,SNR=8.1
SRS **Serrai** 122.09 317 PKiKP **PKPdf** 11 24 57.2 -1.7
KKB **Krupnik** 122.09 318 *e*P **PKPdf** 11 24 57.9 -1.0
BSEG **Bad Segeberg** 122.15 335 *e*SP SP 11 36 35.6 +14
baz=46,slow=8.9
VRAC **Vranov** 122.18 328 ⇑P **PKPdf** 11 24 58.7 -0.1
VRAC **Vranov** 122.18 328 *e*PKP **PKPdf** 11 24 58.4 -0.4
VRAC **Vranov** 122.18 328 ⇑PKiKP **PKPdf** 11 24 58.7 -0.1
LSZ **Lusaka** 122.27 249 PKP **PKPdf** 11 24 58.7 -1.4
comp=Z,51nm,0.9s,baz=109,slow=1.4,SNR=30
APE **Apeiranthos** 122.29 312 P PKiKP 11 25 07.8 +8.2
MODS **Modra-Piesok** 122.35 327 *e*PKiKP **PKPdf** 11 24 59.1 -0.1
MODS **Modra-Piesok** 122.35 327 *e*PKP **PKPdf** 11 24 59.0 -0.1
SOH **Sokhos** 122.38 316 PKiKP **PKPdf** 11 24 57.8 -1.7
KRUC **Moravsky** 122.43 328 *e*PKP **PKPdf** 11 24 58.6 -0.7
KRUC **Moravsky** 122.43 328 PKiKP **PKPdf** 11 24 59.4 +0.1
PVCC **Panska Ves** 122.47 330 *e*PKiKP **PKPdf** 11 24 59.6 +0.3
PVCC MLR MLR
comp=Z,1μm,19.3s
PVCC **Panska Ves** 122.47 330 *e*PKPDF **PKPdf** 11 24 59.6 +0.3
PVCC AMS AMS 12 17 40.0
comp=Z,1μm,19.3s
PAIG **Paliouri** 122.53 315 PKiKP **PKPdf** 11 24 57.7 -2.0
KNT **Kendrikon** 122.54 317 PKiKP **PKPdf** 11 24 58.6 -1.2
BRG **Berggiesshubel** 122.56 331 ⇓Pif 11 21 40.0
BRG **Berggiesshubel** 122.56 331 *i* PKP **PKPdf** 11 24 59.4 -0.1
BRG Amp 11 25 00.6
comp=Z,9.9nm,0.7s
BRG **Berggiesshubel** 122.56 331 P **PKiKP** 11 25 03.0 +3.4
BRG Amp 11 25 06.2
comp=Z,11nm,0.9s
BRG **Berggiesshubel** 122.56 331 SS SS 11 43 22.0 +8.1
BRG **Berggiesshubel** 122.56 331 *i* PKiKP **PKPdf** 11 24 59.3 -0.1
BRG SP SP 11 36 26.0 +0.5
BRG pmax pmax
comp=Z,10.0nm,0.7s
BRG pmax pmax
comp=Z,3μm,0.9s
BRG **Berggiesshubel** 122.56 331 *e*PKPdf **PKPdf** 11 24 59.0 -0.5
baz=48,slow=1.9
BRG *e*SP SP 11 36 37.1 +12
baz=46,slow=8.9
FRGS **Fruska Gora** 122.64 322 ⇑P **PKPdf** 11 24 58.6 -1.3
FRGS **Fruska Gora** 122.64 322 ⇑*i*P **PKPdf** 11 24 57.2 -2.6
RICC **Richard** 122.70 330 AMS AMS 12 18 10.0
comp=Z,1μm,20.1s
CLL **Collm** 122.73 332 IAMs_20 IAMs_20 12 19 48.9
comp=Z,1μm,22.0s
CLL **Collm** 122.73 332 *i* PKiKP **PKPdf** 11 24 58.9 -0.9
CLL pmax pmax
comp=Z,16nm,0.6s
CLL MLR MLR
comp=Z,1μm,23.8s
CLL **Collm** 122.73 332 *e*PKPdf **PKPdf** 11 24 59.1 -0.7
baz=48,slow=1.9
CLL *e*SP SP 11 36 37.6 +11
baz=46,slow=8.9
GOPC **GO Pecny, Ondr** 122.75 329 *e*PKiKP **PKPdf** 11 24 59.5 -0.4
GOPC MLR MLR
comp=Z,1μm,22.8s
GOPC **GO Pecny, Ondr** 122.75 329 *e*PKPDF **PKPdf** 11 24 59.5 -0.4
GOPC AMS AMS 12 17 30.0
comp=Z,1μm,22.8s
PRU **Pruhonice** 122.82 330 *e*PKiKP **PKPdf** 11 24 59.4 -0.6
PRU MLR MLR
comp=Z,2μm,21.6s
PRU **Pruhonice** 122.82 330 *e*PKPDF **PKPdf** 11 24 59.4 -0.6
PRU AMS AMS 12 17 40.0
comp=Z,2μm,21.6s
FLTG **Flechtingen** 122.86 333 *e*PKPdf **PKPdf** 11 24 59.4 -0.6
baz=48,slow=1.9
FLTG *e*SP SP 11 36 37.7 +10
baz=46,slow=8.9
GRG **Griva** 122.97 317 PKiKP **PKPdf** 11 24 59.5 -1.1
HSKC **Hora Svate Kat** 122.98 331 *e*PKPDF **PKPdf** 11 25 00.2 -0.1
HSKC AMS AMS 12 20 00.0
comp=Z,1μm,18.4s
TEKS **Tekeris** 123.12 322 ⇑*i*P **PKPdf** 11 24 59.4 -1.4
NRDL **Niedersach Rie** 123.25 334 *e*PKPdf **PKPdf** 11 25 00.6 0.0
baz=48,slow=1.9
NRDL *e*SP SP 11 36 43.9 +13
baz=46,slow=8.9
ASSE **Asse, Remlinge** 123.25 333 *e*PKPdf **PKPdf** 11 25 00.6 -0.1
baz=48,slow=1.9
ASSE *e*SP SP 11 36 43.4 +12
baz=46,slow=8.9
RONA **Rosalia, Austr** 123.28 327 *i* PKP **PKPdf** 11 25 00.8 -0.2
comp=Z,19nm,1.4s,SNR=7.6
ZVC **Zvikov** 123.34 329 *e*PKPDF **PKPdf** 11 25 00.8 -0.2
ZVC AMS AMS 12 17 50.0
comp=Z,1μm,23.6s
NEUB **Neuenburg** 123.38 332 *e*PKPdf **PKPdf** 11 25 00.5 -0.6
baz=48,slow=1.9
CONA **Conrad Observa** 123.38 327 *i* PKP **PKPdf** 11 25 01.0 -0.3
comp=Z,7.6nm,0.7s,SNR=7.2
RETH **Rethem/Aller,** 123.40 335 *e*PKPdf **PKPdf** 11 25 01.0 0.0
baz=48,slow=1.9
SJES **Sjenica** 123.49 320 ⇑*i*P **PKPdf** 11 25 01.1 -0.6
BBLS **Lazi&#263i** 123.55 321 ⇑*i*P **PKPdf** 11 25 01.3 -0.4
TANN **Tannenbergstha** 123.58 331 *e*PKPdf **PKPdf** 11 25 01.1 -0.5
baz=48,slow=1.9
TANN *e*SP SP 11 36 45.2 +11
baz=46,slow=8.9
CLZ **Clausthal** 123.59 333 *e*PKPdf **PKPdf** 11 25 01.3 -0.2
baz=48,slow=1.9
CLZ *e*SP SP 11 36 44.5 +10
baz=46,slow=8.9
CKRC **Cesky Krumlov** 123.67 329 *e*PKiKP **PKPdf** 11 25 01.1 -0.6
CKRC MLR MLR
comp=Z,1μm,21.6s
CKRC **Cesky Krumlov** 123.67 329 *e*PKPDF **PKPdf** 11 25 01.1 -0.6
CKRC AMS AMS 12 17 40.0
comp=Z,1μm,21.6s
PLN **Plauen** 123.68 331 *e*PKPdf **PKPdf** 11 25 01.4 -0.3
baz=48,slow=1.9
PLN *e*SP SP 11 36 43.8 +8.5
baz=46,slow=8.9
RUDO **Rudo** 123.69 321 ⇑*i*P **PKPdf** 11 25 00.4 -1.5
NKC **Novy Kostel** 123.70 331 *e*PKiKP **PKPdf** 11 25 01.5 -0.2
NKC **Novy Kostel** 123.70 331 *e*PKPDF **PKPdf** 11 25 01.5 -0.2
HAPS **Han Pijesak,Bl** 123.72 322 ⇑*i*P **PKPdf** 11 25 01.4 -0.7
FNA **Florina** 123.74 317 P **PKPdf** 11 24 58.6 -3.5
MOX **Moxa** 123.83 332 *e*PKPdf **PKPdf** 11 25 01.2 -0.8
baz=48,slow=1.9
MOX *e*SP SP 11 36 47.8 +11
baz=46,slow=8.9
MOX *e*L L 12 21 38.9
comp=Z,1μm,21.1s
KHC **Kasperske Hory** 123.85 329 *e*PKiKP **PKPdf** 11 25 01.6 -0.5
KHC *e* 11 36 29.7
KHC MLR MLR
comp=Z,1μm,23.9s
KHC **Kasperske Hory** 123.85 329 *e*PKPDF **PKPdf** 11 25 01.6 -0.5
KHC *ex* x 11 36 29.7
KHC AMS AMS 12 18 10.0
comp=Z,1μm,23.9s
MT05 **Renca** 123.91 135 IAMs_20 IAMs_20 12 06 01.5
comp=Z,995nm,20.0s
GEC2 **GERESS Array S** 123.97 329 PKiKP **PKPdf** 11 25 02.0 -0.4
GEC2 **GERESS Array S** 123.97 329 *e*PKPdf **PKPdf** 11 25 01.7 -0.7
baz=48,slow=1.9
GEC2 *e*SP SP 11 36 52.2 +14
baz=46,slow=8.9
GERES **GERESS Array B** 123.97 329 PKP **PKPdf** 11 25 00.2 -2.2
comp=Z,7.2nm,0.6s,baz=49,slow=3.6,SNR=28
GERES SKP 11 28 34.7
comp=Z,3.0nm,0.7s,baz=46,slow=3.9,SNR=4.9
ARSA **Arzberg** 123.97 327 *i* PKP **PKPdf** 11 25 01.7 -0.7
comp=Z,6.1nm,1.3s
GTTG **Gottingen** 123.98 333 *e*PKPdf **PKPdf** 11 25 01.9 -0.2
baz=48,slow=1.9

OHR	Ohrid	123.98	318	*i* P	PKPdf	11 25 02.6	0.0	
KOGS	Kog	124.03	325	*i* PKPdf	PKPdf	11 25 01.6	-0.8	
MANZ	Manzenberg	124.03	331	*e*PKPdf	PKPdf	11 25 01.8	-0.5	
	baz=48,slow=1.9							
MANZ				*e*SP	SP	11 36 50.1	+12	
	baz=46,slow=8.9							
IMMV	Iera Moni Meta	124.05	310	P	PKPdf	11 24 59.8	-3.0	
KPRO	Kipourio	124.12	316	P	PKPdf	11 24 51.3	-12	
ROTZ	Rotzenmuhle	124.13	331	*e*PKPdf	PKPdf	11 25 01.7	-0.8	
	baz=48,slow=1.9							
ROTZ				*e*SP	SP	11 36 53.5	+14	
	baz=46,slow=8.9							
PAL	Palisades	124.20	42	P	PKPdf	11 25 02.5	-0.3	
	baz=298							
WET	Wettzell	124.20	330	PKIKP	PKPdf	11 25 02.9	+0.2	
WET	Wettzell	124.20	330	*e*PKPdf	PKPdf	11 25 02.3	-0.4	
	baz=48,slow=1.9							
WET				*e*SP	SP	11 36 53.0	+13	
	baz=46,slow=8.9							
KBN	Korca	124.21	317	PKIKP	PKPdf	11 25 02.9	-0.2	
MOA	Molln	124.29	328	*i* PKP	PKPdf	11 25 02.1	-0.8	
	comp=Z,7.7nm,1.0s							
GUR	Goura	124.30	314	P	PKPdf	11 24 56.3	-7.1	
IBBN	Ibbenburen	124.39	335	*e*PKPdf	PKPdf	11 25 02.6	-0.3	
	baz=48,slow=1.9							
KLV	Kalavryta, Ach	124.39	314	P	PKPdf	11 24 56.8	-6.7	
BLY	Banja Luka	124.44	323	⇑*i* P	PKPdf	11 25 02.5	-0.8	
A051A	Mrakovica	124.46	324	⇑*i* P	PKPdf	11 25 02.3	-1.1	
UBBA	Unterbreizbach	124.47	333	*e*PKPdf	PKPdf	11 25 02.8	-0.2	
	baz=48,slow=1.9							
UBBA				*e*SP	SP	11 36 52.8	+11	
	baz=46,slow=8.9							
TIR	Tirane	124.49	318	IAMs_20	IAMs_20	12 24 51.3		
	comp=Z,809nm,21.0s							
TIR	Tirane	124.49	318	PKIKP	PKPdf	11 25 03.5	0.0	
PERS	Pernice	124.56	326	*i* PKPdf	PKPdf	11 25 02.5	-1.0	
SOKA	Soboth	124.58	326	*i* PKP	PKPdf	11 25 02.9	-0.7	
	comp=Z,20nm,1.2s,SNR=13							
BRY	Bratogost	124.58	321	⇑*i* P	PKPdf	11 25 02.1	-1.7	
GRA1	Grafenberg Arr	124.66	331	IAMs_20	IAMs_20	12 25 13.8		
	comp=Z,733nm,21.0s							
GRF	Grafenberg Arr	124.66	331	*e*PKPdf	PKPdf	11 25 03.1	-0.5	
	baz=48,slow=1.9							
GRF				*e*L	L	12 25 23.9		
	comp=Z,688nm,20.8s							
GRFO	Grafenberg	124.66	331	IAMs_20	IAMs_20	12 25 13.8		
	comp=Z,749nm,21.0s							
BIOA	Bad Ischl, Aus	124.72	328	*i* PKP	PKPdf	11 25 03.1	-0.7	
	comp=Z,4.8nm,0.6s							
CRES	Cresnjev	124.84	325	⇑*i* P	PKPdf	11 25 00.9	-3.1	
HCY	Herceg Novi	124.84	320	⇑*i* P	PKPdf	11 25 03.4	-0.7	
KASTN	Kahler Asten	124.91	334	*e*PKPdf	PKPdf	11 25 03.7	-0.4	
	baz=48,slow=1.9							
KASTN				*e*SP	SP	11 36 56.1	+10	
	baz=46,slow=8.9							
OBKA	Obir	124.95	326	*i* PKP	PKPdf	11 25 03.6	-0.7	
	comp=Z,13nm,1.3s							
OBKA	Obir	124.95	326	⇑*i* P	PKPdf	11 25 02.8	-1.5	
A050A	Klekovaca	124.97	323	⇑*i* P	PKPdf	11 25 03.1	-1.3	
STON	Ston	125.12	321	⇑*i* P	PKPdf	11 25 02.7	-1.9	
LKD2	Lefkada island	125.13	315	P	PKPdf	11 25 02.3	-2.5	
NYDR	Nydri-Lefkada	125.14	315	P	PKPdf	11 25 01.1	-3.7	
RJOB	Jochberg	125.14	328	*e*PKPdf	PKPdf	11 25 03.5	-1.1	
	baz=48,slow=1.9							
RJOB				*e*SP	SP	11 36 59.2	+11	
	baz=46,slow=8.9							
BOJS	Bojanci	125.14	325	*i* PKPdf	PKPdf	11 25 04.2	-0.4	
BOJS	Bojanci	125.14	325	⇑*i* P	PKPdf	11 25 03.8	-0.8	
BUG	Bochum--Univer	125.23	335	*e*PKPdf	PKPdf	11 25 04.0	-0.5	
	baz=48,slow=1.9							
BUG				*e*SP	SP	11 37 00.3	+12	
	baz=46,slow=8.9							
LJU	Ljubljana	125.24	326	*i* PKPdf	PKPdf	11 25 04.3	-0.5	
KBA	Koelnbreinsper	125.26	327	*i* PKP	PKPdf	11 25 03.9	-1.1	
	comp=Z,13nm,1.2s							
KBA	Koelnbreinsper	125.26	327	PKIKP	PKPdf	11 25 04.0	-1.0	
MYKA	Terra Mystica	125.37	327	*i* PKP	PKPdf	11 25 04.1	-1.0	
	comp=Z,7.1nm,0.9s							
LESA	Schwarzleotal	125.40	328	*i* PKP	PKPdf	11 25 04.3	-0.9	
	comp=Z,13nm,0.7s							
CEY	Cerknica	125.47	326	⇑*i* P	PKPdf	11 25 04.4	-0.9	
TNS	Taunus Mts	125.59	333	*e*PKPdf	PKPdf	11 25 05.0	-0.4	
	baz=48,slow=1.9							
TNS				*e*SP	SP	11 37 05.3	+13	
	baz=46,slow=8.9							
FUR	Furstenfeldbru	125.64	330	*e*SP	SP	11 37 05.1	+12	
	baz=46,slow=8.9							
EKA	Eskdalemuir Ar	125.78	344	PKP	PKPdf	11 25 03.5	-2.0	
	comp=Z,4.6nm,0.7s,baz=32,slow=4.0,SNR=9.7							
SKDS	Skadanscina	125.82	326	⇑*i* P	PKPdf	11 25 04.6	-1.3	
ABTA	Abfaltersbach	125.91	328	*i* PKP	PKPdf	11 25 05.0	-1.2	
	comp=Z,14nm,0.8s,SNR=8.6							
AHRW	Bad Neuenahr-A	125.97	334	*e*PKPdf	PKPdf	11 25 05.7	-0.3	
	baz=48,slow=1.9							
AHRW				*e*SP	SP	11 37 06.1	+11	
	baz=46,slow=8.9							
WATA	Walderalm	126.03	329	*i* PKP	PKPdf	11 25 05.5	-1.0	
	comp=Z,10nm,0.8s,SNR=7.9							
WTTA	Wattenberg	126.04	329	*i* PKP	PKPdf	11 25 05.7	-0.8	
	comp=Z,20nm,0.8s,SNR=11							
WTTA	Wattenberg	126.04	329	PKIKP	PKPdf	11 25 05.0	-1.5	
STU	Stuttgart	126.26	331	PKIKP	PKPdf	11 25 06.7	+0.1	
STU	Stuttgart	126.26	331	*e*PKPdf	PKPdf	11 25 06.2	-0.4	
	baz=48,slow=1.9							
MOTA	Moosalm	126.27	329	*i* PKP	PKPdf	11 25 06.4	-0.5	
	comp=Z,19nm,0.7s,SNR=12							
SQTA	Sankt Quirin	126.29	329	*i* PKP	PKPdf	11 25 06.2	-0.7	
	comp=Z,15nm,0.8s,SNR=9.2							
BTNL	Ternell	126.35	335	*d*PKP	PKPdf	11 25 06.1	-0.7	
RETA	Reutte	126.35	329	*i* PKP	PKPdf	11 25 05.6	-1.4	
	comp=Z,8.4nm,1.1s							
MEM	Membach	126.38	335	PKIKP	PKPdf	11 25 06.4	-0.4	
MEM	Membach	126.38	335	*d*PKP	PKPdf	11 25 06.3	-0.5	
UBR	Ueberruh	126.55	330	*e*PKPdf	PKPdf	11 25 06.6	-0.8	
	baz=48,slow=1.9							
BHOU	Houvegnez	126.57	334	*d*PKP	PKPdf	11 25 07.3	+0.1	
FETA	Feichten	126.67	329	*i* PKP	PKPdf	11 25 07.3	-0.4	
	comp=Z,15nm,0.8s,SNR=12							
MATE	Matera	126.92	319	⇓P	PKPdf	11 25 07.2	-0.9	
DAVA	Damuels	126.93	330	*i* PKP	PKPdf	11 25 07.7	-0.4	
	comp=Z,13nm,0.7s							
BGES	Gesves	126.94	335	*d*PKP	PKPdf	11 25 07.5	-0.4	
BFO	Black Forest	126.98	331	*e*PKPdf	PKPdf	11 25 07.2	-0.9	
	baz=48,slow=1.9							
WLF	Walferdange	127.02	334	PKIKP	PKPdf	11 25 06.0	-2.1	
WLF	Walferdange	127.02	334	*d*PKP	PKPdf	11 25 08.0	0.0	
WLF	Walferdange	127.02	334	*e*PKPdf	PKPdf	11 25 07.7	-0.4	
	baz=48,slow=1.9							
WLF				*e*SP	SP	11 37 15.8	+11	
	baz=46,slow=8.9							
BCIP	Isla Barro Col	127.04	82	IAMs_20	IAMs_20	12 08 04.8		
	comp=Z,874nm,22.0s							
RCHB	Rochefort	127.05	335	*d*PKP	PKPdf	11 25 07.4	-0.7	
ATAH	Atahualpa	127.13	102	PKP	PKPdf	11 25 08.9	-0.9	
	comp=Z,6.7nm,0.8s,baz=280,slow=2.6,SNR=4.8							
BMRD	Maredsous	127.14	335	*d*PKP	PKPdf	11 25 07.8	-0.5	
FUORN	Ofenpass-Fuorn	127.18	329	IAMs_20	IAMs_20	12 24 46.8		
	comp=Z,667nm,21.0s							
DOU	Dourbes	127.37	335	*d*PKP	PKPdf	11 25 08.5	-0.2	
ECH	Echery	127.61	332	IAMs_20	IAMs_20	12 27 32.9		
	comp=Z,880nm,19.0s							
ECH	Echery	127.61	332	PKIKP	PKiKP	11 25 11.5	+1.7	
TIP	Timpagrande	127.63	318	⇓P	PKPdf	11 25 09.2	-0.4	
TIP	Timpagrande	127.63	318	IAMs_20	IAMs_20	12 27 53.3		
	comp=Z,774nm,21.0s							
CUC	Castrocucco	127.84	319	IAMs_20	IAMs_20	12 25 53.7		
	comp=Z,734nm,22.0s							
WIN	Windhoek	129.53	236	PKIKP	PKiKP	11 25 14.9	+0.2	
LOR	Lormes	129.82	333	PKIKP	PKPdf	11 25 11.2	-2.3	
BNI	Bardonecchia	130.08	329	IAMs_20	IAMs_20	12 27 19.5		
	comp=Z,998nm,20.0s							
BNI	Bardonecchia	130.08	329	PKIKP	PKPdf	11 25 14.4	+0.2	
ISO	Isola	130.49	328	PKIKP	PKPdf	11 25 15.4	+0.5	
PGF	Pioggiola	130.52	325	PKIKP	PKPdf	11 25 15.5	+0.4	
TSUM	Tsumeb	130.54	240	PKP	PKPdf	11 25 15.0	-0.8	
	comp=Z,36nm,0.9s,baz=124,slow=2.6,SNR=30							
TSUM				SKPbc	SKPbc	11 28 34.8	-0.8	
	comp=Z,32nm,0.9s,baz=117,slow=5.4,SNR=23							
ORIF	Oris-en-Rattie	130.58	330	PKIKP	PKPdf	11 25 15.7	+0.6	
LVC	Limon Verde	130.78	125	SKPbc	SKPbc	11 28 36.0	-0.7	
	comp=Z,9.3nm,0.7s,baz=256,slow=1.8,SNR=3.9							
VSL	Villasalto	132.21	322	IAMs_20	IAMs_20	12 28 59.9		
	comp=Z,588nm,20.0s							
ROSC	El Rosal	132.52	87	PKP	PKPdf	11 25 17.7	-2.3	
	comp=Z,10nm,0.4s,baz=319,slow=5.4,SNR=2.3							
LPAZ	La Paz	134.15	118	IAMs_20	IAMs_20	12 15 53.5		
	comp=Z,595nm,20.0s							
LPAZ	La Paz	134.15	118	PKP	PKPdf	11 25 19.5	-3.8	
	comp=Z,1.6nm,0.6s,baz=174,slow=8.0,SNR=7.3							
LPAZ				SKPbc	SKPbc	11 28 48.1	-0.7	
	comp=Z,8.1nm,0.8s,baz=249,slow=3.6,SNR=5.3							
LPAZ	La Paz	134.15	118	*e*P	PKPdf	11 25 20.6	-2.7	
KEST	Kesra	134.45	318	PKP	PKPdf	11 25 18.8	-3.9	
	comp=Z,2.7nm,0.5s,baz=342,slow=11,SNR=2.7							
KEST				SKPbc	SKPbc	11 28 48.0	-0.6	
	comp=Z,26nm,0.9s,baz=47,slow=1.4,SNR=11							
MAHO	Mahon	134.94	326	IAMs_20	IAMs_20	12 28 11.7		
	comp=Z,550nm,20.0s							
SDV	Santo Domingo	136.13	82	IAMs_20	IAMs_20	12 13 48.8		
	comp=Z,737nm,22.0s							
SDV	Santo Domingo	136.13	82	*e*P	PKPdf	11 25 25.3	-1.3	
CPUP	Villa Florida	137.42	137	IAMs_20	IAMs_20	12 23 19.0		
	comp=Z,693nm,18.0s							
CPUP	Villa Florida	137.42	137	PKhKP	PKPpre	11 25 17.4		
	comp=Z,1.3nm,0.7s,baz=204,slow=4.5,SNR=4.7							
CPUP				PKP	PKPdf	11 25 25.2	-3.1	
	comp=Z,3.4nm,0.7s,baz=218,slow=3.2,SNR=8.3							
PBRG	Braganca	138.69	337	*e*PKPdf	PKPdf	11 25 28.9	-1.4	
PBRG				*e*SKPdf	SKPbc	11 29 03.0	+1.8	
ESDC	Sonseca Array	139.30	333	PKhKP	PKPpre	11 25 21.7		
	comp=Z,0.4nm,0.6s,baz=311,slow=8.4,SNR=3.5							
ESDC				SKPbc	SKPbc	11 29 02.6	-0.4	
	comp=Z,4.3nm,0.8s,baz=12,slow=3.0,SNR=7.4							
MVO	Moncorvo	139.35	337	*e*PKPdf	PKiKP	11 25 34.0	+0.1	
MVO				*e*SKPbc	SKPbc	11 29 04.0	+0.9	
CART	Cartagena	139.46	328	IAMs_20	IAMs_20	12 34 59.0		
	comp=Z,515nm,19.0s							
PVRL	Vila Real	139.52	338	*e*SKPbc	SKPbc	11 29 05.3	+1.8	
PAB	San Pablo	139.58	333	IAMs_20	IAMs_20	12 29 38.4		
	comp=Z,846nm,22.0s							
MTE	Manteigas	140.21	337	*e*PKPdf	PKiKP	11 25 35.4	-0.3	
MTE				*e*SKPbc	SKPbc	11 29 07.8	+2.4	
MTE	Manteigas	140.21	337	IAMs_20	IAMs_20	12 29 18.5		
	comp=Z,930nm,21.0s							
SIV	San Ignacio	140.41	122	PKhKP	PKPpre	11 25 24.9		
	comp=Z,3.3nm,0.7s,baz=244,slow=2.1,SNR=7.7							
SIV				SKPbc	SKPbc	11 29 06.1	-0.4	
	comp=Z,16nm,0.7s,baz=260,slow=2.8,SNR=13							
FRBT	Francisco Belt	140.44	141	*e*P	PKPdf	11 25 35.1	+1.1	
PCBR	Castelo Branco	140.66	336	*e*PKPdf	PKPdf	11 25 33.1	-0.8	
PCBR				*e*SKPbc	SKPbc	11 29 07.4	+0.9	
PCAS	Casmilo, Conde	140.88	338	*e*PKiKP	PKiKP	11 25 36.5	-0.4	
PMRV	Marv??o	140.98	336	*e*PKPdf	PKPdf	11 25 35.9	+1.4	
PMRV				*e*SKPbc	SKPbc	11 29 07.9	+0.5	
PESTR	Estremoz	141.54	336	*e*SKPbc	SKPbc	11 29 10.5	+1.6	
PMTG	Montargil	141.62	337	*e*SKPbc	SKPbc	11 29 10.9	+1.9	
PBAR	Barrancos	141.89	335	*e*PKPdf	PKPdf	11 25 36.3	+0.1	
PBAR	Barrancos	141.89	335	*e*PKiKP	PKiKP	11 25 40.8	+1.7	
PBAR				*e*SKPbc	SKPbc	11 29 09.2	-0.5	
PTGB	Pitanga	141.97	141	*e*P	PKPdf	11 25 36.4	-0.4	
EVO	Evora	142.00	336	*e*PKPdf	PKPdf	11 25 36.0	-0.3	
PACT	Alcochete	142.12	337	*e*PKPdf	PKPdf	11 25 35.5	-1.0	
PACT	Alcochete	142.12	337	*e*PKiKP	PKiKP	11 25 40.9	+1.4	
PBEJ	Beja	142.37	335	*e*PKPdf	PKPdf	11 25 36.9	-0.1	
VILB	Vilhena	142.51	118	IAMs_20	IAMs_20	12 19 01.0		
	comp=Z,825nm,21.0s							
PNCL	Nicolau / Gran	142.56	336	*e*PKPdf	PKPdf	11 25 37.3	0.0	
PNCL	Nicolau / Gran	142.56	336	*e*PKiKP	PKiKP	11 25 41.5	+1.1	
MESJ	Messejana	142.67	336	*e*PKPdf	PKPdf	11 25 37.2	-0.4	
MESJ	Messejana	142.67	336	*e*PKiKP	PKiKP	11 25 42.0	+1.3	
MESJ				*e*SKPbc	SKPbc	11 29 11.3	-0.4	
MESJ	Messejana	142.67	336	PKPdf	PKPdf	11 25 36.9	-0.7	
MESJ	Messejana	142.67	336	*e*PKiKP	PKPdf	11 25 39.3	+1.8	
MESJ	Messejana	142.67	336	*e*PKPdf	PKPdf	11 25 39.3	+1.8	
MESJ				IAMs_20	IAMs_20	12 30 58.5		
	comp=Z,857nm,21.6s							
PCVE	Castro Verde	142.77	335	*e*PKPdf	PKPdf	11 25 37.6	-0.1	
PVAQ	Vaqueiros	142.83	335	*e*PKPdf	PKPdf	11 25 39.6	+1.8	
TAM	Tamanrasset	143.89	303	PKPdf	PKPbc	11 25 38.7	+0.5	
TAM	Tamanrasset	143.89	303	PKiKP	PKPbc	11 25 38.7	+0.6	
BIM	Bigot	144.66	71	PKPdf	PKPab	11 25 39.7	-0.7	
MACA	Manacapuru-AM	145.20	102	PKPbc	PKPbc	11 25 40.2	-2.2	
SPB	Sao Paulo	145.61	145	PKPdf	PKPdf	11 25 41.6	-1.4	
AVE	Averroes	146.08	330	PKPdf	PKPdf	11 25 44.3	+0.7	
BOAV	Boa Vista	146.16	92	PKPdf	PKPdf	11 25 43.8	-0.5	
TORD	Torodi Ar. Bea	150.67	289	PKP	PKPdf	11 25 47.7	-3.9	
	comp=Z,11nm,1.0s,baz=28,slow=1.5,SNR=29							
TORD				PKPbc	PKPbc	11 25 56.5	-0.6	
	comp=Z,239nm,0.8s,baz=77,slow=2.6,SNR=278							
BDFB	Brasilia	150.99	134	PKPbc	PKPbc	11 25 56.9	-1.0	
BDFB	Brasilia	150.99	134	PKP	PKPdf	11 25 50.4	-1.8	
	comp=Z,9.4nm,0.9s,baz=231,slow=1.7,SNR=7.5							
BDFB				PKPbc	PKPbc	11 25 56.9	-1.0	
	comp=Z,31nm,0.8s,baz=228,slow=4.4,SNR=20							
SHEL	Horse Pasture	151.06	225	PKPbc	PKiKP	11 25 58.9	+0.3	
SHEL	Horse Pasture	151.06	225	PKIKP	PKiKP	11 25 58.9	+0.3	
JANB	Januaria	153.96	138	*e*P	PKPdf	11 25 56.8	+0.3	
TMAB	Tom-Au,PA,Br	157.57	107	*e*P	PKPdf	11 26 01.4	+0.1	
KIC	Kosan Boka	158.07	276	*e*P	PKPdf	11 26 00.8	-1.2	
	comp=Z,31nm,1.0s							
DBIC	Dimbokro	158.16	277	PKPdf	PKPdf	11 26 01.2	-0.8	
DBIC				PKPab	PKPab	11 26 33.7	-2.3	
DBIC	Dimbokro	158.16	277	PKIKP	PKPdf	11 26 01.3	-0.8	
DBIC						11 26 33.7		
DBIC	Dimbokro	158.16	277	PKP	PKPdf	11 26 00.1	-1.9	
	comp=Z,10nm,1.0s,baz=73,slow=1.8,SNR=3.2							
DBIC				PKPab	PKPab	11 26 35.5	-0.4	
	comp=Z,33nm,0.9s,baz=73,slow=6.1,SNR=7.6							
TIC	Toumodi	158.33	277	*e*P	PKPdf	11 26 04.0	+1.7	
	comp=Z,28nm,1.2s							
LIC	Lamto	158.37	276	*e*P	PKPdf	11 26 01.0	-1.3	
	comp=Z,50nm,1.2s							
RCBR	Riachuelo	166.30	138	PKPdf	PKPdf	11 26 09.4	-0.9	
RCBR	Riachuelo	166.30	138	PKIKP	PKPdf	11 26 09.4	-0.9	

SSNC 09 11:19:10.2±1.3, 19°05N×80°65W, h5^{km}±109^{km}, MD3.7, ML3.1, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FSCY	Frank Sound, G	0.57	298	*e*P		Pg		11 19 13.9	-7.2
FSCY				*e*S		Sg		11 19 23.3	-5.3
MGV	Manicaragua	3.11	12	*e*P		Pn		11 19 59.1	-0.8
MGV				*e*S		Sn		11 20 33.4	-4.1
MGV				IAML				11 20 36.2	
	comp=E,40nm,0.3s								
MGV				IAML				11 20 36.7	
	comp=N,41nm,0.1s								
PILO	Pilon	3.18	74	*e*P		Pn		11 19 58.6	-2.3
PILO				*e*S		Sn		11 20 30.6	-8.7
LMGC	Las Mercedes	3.58	73	*e*P		Pn		11 20 04.4	-2.0
LMGC				*e*S		Sn		11 20 41.4	-7.7
CHIV	Chivirico	4.10	76	*e*P		Pn		11 20 11.6	-2.0
YAR	Yar	4.25	71	*e*P		Pn		11 20 14.5	-1.1
SOR	Soroa	4.33	330	*e*P		Pn		11 20 17.9	+1.3
MARVS	Santiago de Cu	4.58	77	*e*P		Pn		11 20 16.3	-3.9
HLGC	Holguin	4.69	66	*e*P		Pn		11 20 19.9	-1.8
RCC	Rio Carpintero	4.77	78	*e*P		Pn		11 20 19.1	-3.6
PINC	Pinares de May	4.79	72	*e*P		Pn		11 20 21.8	-1.3
SABCS	La Quijada	5.19	75	*e*S		Sn		11 21 24.9	-4.1
GTBY	Guantanamo Bay	5.30	80	*e*P		Pn		11 20 29.0	-1.0
GTBY				*e*S		Sn		11 21 22.1	-9.4

*IDC **09** 11:30:29.6±1.1, 0.°88S×121.°55E, h0^{km}, mb3.5/7, mbtmp3.5/7, Error ellipse: s-maj=172.7km s-min=20.7km az=62.0*
*DJA **09** 11:30:31.2±0.3, 1.°5S×12.°2E±.°, h10^{km}, M4.3/10, mb4.8/1, MLv4.1/10*

ISC 09 11:30:35.7±0.9, 0.°82S±0.°07×121.°69E±0.°06, h45^{km}, n14, σ1°41/17, mb3.7/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	1.11	101	P		Pn		11 30 53.4	-1.3
LUWI				S		Sn		11 31 11.3	+2.5
GTOI	Gorontalo	1.96	42	P		Pn		11 31 05.4	-1.1
KMSI	Cibinong	2.68	59	P		Pn		11 31 15.5	-0.8
TTSI	Tana Toraja	2.89	220	P		Pn		11 31 18.0	-1.2
TTSI				S		Sn		11 31 54.8	+2.0
SANI	Sanana	4.47	106	P		Pn		11 31 39.0	-1.9
BKSI	Bulukumba	4.74	199	P		Pn		11 31 43.7	-0.9
LBMI	Labuha	5.82	88	P		Pn		11 31 58.3	-1.1
LBMI				S		Sn		11 33 06.6	+1.7
WRA	Warramunga Arr	22.68	148	P		P		11 35 32.6	-0.9
	0.3nm,0.7s,baz=321,slow=11,SNR=2.7 0.3nm,0.7s								
ASAR	Alice Springs	25.61	153	P		P		11 36 01.5	+0.4
	0.3nm,0.9s,baz=343,slow=16,SNR=4.7 0.3nm,0.9s								
SONM	Songino Array	50.26	347	P		P		11 39 27.5	-0.1
	0.3nm,0.3s,baz=169,slow=8.0,SNR=2.3 0.3nm,0.3s								
MKAR	Makanchi Array	58.63	329	P		P		11 40 28.6	+0.3
	0.2nm,0.5s,baz=124,slow=7.5,SNR=4.9 0.2nm,0.5s								
ZALV	Zalesovo Beam	62.53	336	P		P		11 40 56.3	+1.7
	0.7nm,0.6s,baz=119,slow=8.4,SNR=3.8 0.7nm,0.6s								
KURBB	Kurchatov Arra	63.02	331	P		P		11 40 57.8	-0.3
	0.4nm,0.2s,baz=137,slow=5.9,SNR=2.0 0.4nm,0.2s								
BVAR	Borovoye Array	68.51	330	P		P		11 41 33.2	-0.2
	0.7nm,0.8s,baz=131,slow=5.9,SNR=3.1 0.7nm,0.8s								

*IDC **09** 11:33:45.0±2.2, 36.°61S×177.°24E, h219^{km}±12^{km}, mb3.6/3, mbtmp4.2/3, Error ellipse: s-maj=45.1km s-min=19.5km az=47.0*
*NOU **09** 11:33:45.2, 37.°02S×177.°07E, h280^{km}, MLv4.1/13, Off E. Coast of N. Island, N.Z.*
*WEL **09** 11:33:51.3±0.7, 37°S±4.°×177°7E±.°, h220^{km}±5^{km}, M3.6/60, MLv3.6/60, Error ellipse: s-maj=0.0km s-min=0.0km az=53.6*

ISC 09 11:33:48.6±0.9, 37.°16S±0.°08×176.°85E±0.°07, h253^{km}±6^{km}, n177, σ1°32/193, mb3.6/3, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WHRZ	Whale Island	0.70	172	P		P		11 34 23.2	+0.8
TGRZ	Tauranga	0.73	219	P		P		11 34 23.3	+0.8
MARZ	Manawahe	0.83	189	P		P		11 34 24.3	+1.3
LIRZ	Lichensteins R	0.92	203	P		P		11 34 24.4	+1.0
HAZ	Te Kaha	0.95	129	P		P		11 34 23.0	-0.5
HAZ				S		S		11 34 48.0	-3.1
KARZ	Kaharoa	0.98	209	P		P		11 34 24.8	+1.1
KUZ	Kuaotunu	0.99	294	P		P		11 34 22.8	-1.0
KUZ	Kuaotunu	0.99	294	P		P		11 34 22.9	-0.9
OMRZ	Omania	1.01	202	P		P		11 34 25.1	+1.2
RUGZ	Raukumara Rang	1.04	141	P		P		11 34 23.3	-0.9
RUGZ				S		S		11 34 49.2	-3.1
TARZ	Mount Tarawera	1.10	194	P		P		11 34 26.0	+1.5
URZ	Urewera	1.11	169	P		P		11 34 24.2	-0.2
URZ	Urewera	1.11	169	P		P		11 34 22.5	-1.9
	71nm,0.2s,baz=331,slow=4.3,SNR=190								
URZ				S		S		11 34 50.4	-2.4
	163nm,0.2s,baz=323,slow=6.7,SNR=14								
URZ	Urewera	1.11	169	P		Pn		11 34 24.3	-0.1
URZ				S		S		11 34 50.6	-2.2
HLRZ	Highlands Stat	1.16	200	P		Pn		11 34 26.0	+1.3
RRRZ	Republican Roa	1.20

POWZ	Post Office Ro	3.33	194	P	Pn	11 34 44.8	+0.1
PRWZ	Pori Road	3.46	191	P	Pn	11 34 46.6	+0.5
BFZ	Birch Farm	3.54	187	P	Pn	11 34 47.2	+0.1
BFZ	Birch Farm	3.54	187	P	Pn	11 34 47.2	+0.1
MRZ	Mangatainoka R	3.63	195	P	Pn	11 34 47.7	-0.4
TIWZ	Tintock	3.69	191	P	Pn	11 34 48.9	+0.1
CPWZ	Castlepoint	3.77	187	P	Pn	11 34 50.6	+0.8
HOWZ	Holdsworth Sta	3.87	195	P	Pn	11 34 50.2	-0.7
OGWZ	Otaki Gorge	3.88	199	P	Pn	11 34 50.6	-0.3
KIW	Kapiti Island	3.99	202	P	Pn	11 34 51.8	-0.5
TMWZ	Te Maipa	4.01	190	P	Pn	11 34 52.5	0.0
MTW	Mount Morrison	4.12	194	P	Pn	11 34 52.9	-0.9
CAW	Cannon Point	4.17	199	P	Pn	11 34 53.7	-0.7
DUWZ	D'Urville Isla	4.29	211	P	Pn	11 34 55.2	-0.6
TRWZ	Traveller	4.32	192	P	Pn	11 34 56.1	-0.1
PAWZ	Paruwai Farm	4.35	194	P	Pn	11 34 55.7	-0.9
WEL	Wellington	4.42	201	P	Pn	11 34 56.7	-0.6
SNZO	South Karori	4.46	201	P	Pn	11 34 57.0	-0.8
BHW	Baring Head	4.51	199	P	Pn	11 34 57.5	-0.9
TCW	Tory Channel	4.51	205	P	Pn	11 34 57.9	-0.5
PLWZ	Palliser	4.57	195	P	Pn	11 34 58.2	-1.0
TUWZ	Tuamarina	4.82	207	P	Pn	11 35 01.2	-0.9
NNZ	Nelson	4.86	213	P	Pn	11 35 01.6	-1.0
TKNZ	Takaka Hill	4.91	217	P	Pn	11 35 01.8	-1.5
CMWZ	Cape Campbell	5.01	203	P	Pn	11 35 05.1	+0.6
BSWZ	Blackbirch Sta	5.09	206	P	Pn	11 35 04.7	-0.7
MRNZ	Matariki Terra	5.29	216	P	Pn	11 35 06.2	-1.6
THZ	Tophouse	5.51	212	P	Pn	11 35 09.4	-1.2
KHZ	Kahutara	5.83	205	P	Pn	11 35 14.0	-0.5
KHZ	Kahutara	5.83	205	P	Pn	11 35 14.1	-0.5
DSZ	Denniston Nort	6.01	219	P	Pn	11 35 14.8	-2.0
GVZ	Greta Valley S	6.49	206	P	Pn	11 35 21.9	-0.9
LTZ	Lake Taylor	6.62	211	P	Pn	11 35 23.0	-1.4
AMCZ	Amberley	6.81	207	P	Pn	11 35 25.8	-0.9
INZ	Inchbonnie	6.93	215	P	Pn	11 35 26.6	-1.6
OXZ	Oxford	7.17	209	P	Pn	11 35 29.2	-2.0
MQZ	McQueen's Vall	7.28	205	P	Pn	11 35 30.7	-1.9
AKCZ	Akaroa Harbour	7.34	203	P	Pn	11 35 32.6	-0.8
RACZ	Rakaia	7.47	207	P	Pn	11 35 33.7	-1.4
MHCZ	Mount Hutt	7.53	211	P	Pn	11 35 34.6	-1.2
WVZ	Waitaha Valley	7.53	217	P	Pn	11 35 34.4	-1.4
WACZ	Wakanui South	7.77	208	P	Pn	11 35 37.6	-1.2
RPZ	Rata Peaks	7.89	212	P	Pn	11 35 39.3	-1.1
RPZ	Rata Peaks	7.89	212	P	Pn	11 35 39.3	-1.1
	16nm,0.3s,baz=93,slow=19,SNR=61						
RPZ				S	S	11 37 05.3	-5.2
	23nm,0.5s,baz=56,slow=13,SNR=13						
RPZ	Rata Peaks	7.89	212	P	Pn	11 35 39.1	-1.3
GCSZ	Gaunt Creek Bo	7.91	217	P	Pn	11 35 39.1	-1.5
ARCZ	Arundel	8.03	211	P	Pn	11 35 40.7	-1.4
FOZ	Fox Glacier	8.32	218	P	Pn	11 35 43.9	-1.9
TMZ	Timaru	8.46	210	P	Pn	11 35 46.3	-1.3
LBZ	Lake Benmore	8.81	213	P	Pn	11 35 50.6	-1.3
ODZ	Otahua Downs	9.16	209	P	Pn	11 35 56.3	0.0
ODZ	Otahua Downs	9.16	209	P	Pn	11 35 55.9	-0.4
JCZ	Jackson Bay	9.23	219	P	Pn	11 35 55.9	-1.4
JCZ	Jackson Bay	9.23	219	P	Pn	11 35 55.3	-2.0
WKZ	Wanaka	9.67	215	P	Pn	11 36 00.5	-2.4
EAZ	Earnscleugh	9.86	213	P	Pn	11 36 03.6	-1.6
HHSZ	Highcliff Hill	9.89	206	P	Pn	11 36 06.7	+1.1
MSZ	Milford Sound	10.09	219	P	Pn	11 36 07.2	-0.8
TUZ	Tuapeka	10.31	209	P	Pn	11 36 11.6	+0.8
MLZ	Mavora Lakes	10.50	216	P	Pn	11 36 12.2	-1.1
WHZ	Wether Hill Ro	10.97	215	P	Pn	11 36 18.1	-1.1
ASAR	Alice Springs	39.08	278	P	P	11 40 53.1	+1.5
	1.4nm,0.6s,baz=120,slow=8.1,SNR=40						
ASAR				PcP	PcP	11 42 55.3	-0.7
	0.3nm,0.7s,baz=125,slow=3.3,SNR=1.8 1.4nm,0.6s						
WRA	Warramunga Arr	40.71	283	P	P	11 41 06.2	+1.2
	0.7nm,0.3s,baz=121,slow=8.1,SNR=19 0.7nm,0.3s						
QSPA	South Pole Qui	52.96	180	P	P	11 42 42.9	+3.9
	5.9nm,0.7s,baz=64,slow=3.4,SNR=52 5.9nm,0.7s						
ARCES	ARCESS Array B	144.06	343	PKP	PKPdf	11 52 51.7	-1.2
	2.9nm,0.9s,baz=20,slow=3.9,SNR=8.0						
FINES	FINESS Array B	149.60	332	PKPbc	PKiKP	11 53 06.6	-1.5
	0.4nm,0.4s,baz=28,slow=3.3,SNR=5.3						

*IDC **09** 11:46:49.5±0.7, 6°.54S×143°.73E, h0km, mb4.1/9, mbtmp4.2/12, ML4.6/2, MS3.9/1, Error ellipse: s-maj=31.4km s-min=15.6km az=91.0*
*NEIC **09** 11:46:52.2±2.1, 6°.54S±0°.09×143°.53E±0°.09, h10km±1km, mb4.8/57, Error ellipse: s-maj=15.8km s-min=13.4km az=35.0*

ISC 09 11:46:50.9±0.4, 6°.69S±0°.06×143°.62E±0°.07, h10km, n99, σ1§28/96, mb4.7/41, 1C, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	4.43	128	P	Pn	11 47 56.3	-2.0
PMG	Port Moresby	4.43	128	P	Pn	11 47 56.2	-2.0
PMG	Port Moresby	4.43	128	Pn	Pn	11 47 56.3	-2.0
	9.6nm,0.3s,baz=30,slow=4.6,SNR=12						
COEN	Coen	7.24	183	Pn	Pn	11 48 43.3	+6.5
COEN	Coen	7.24	183	P	Pn	11 48 43.7	+6.8
FAKI	Fak Fak	11.93	288	Pn	Pn	11 49 38.4	-2.8
SAUI	Saumlaki	12.28	263	Pn	Pn	11 49 44.3	-1.8
KDU	Kakadu	12.49	241	P	Pn	11 49 47.9	-1.0
MTN	Manton Dam	13.74	243	Pn	Pn	11 50 05.1	-0.8
DRS	Darwin Rock St	13.78	245	P	Pn	11 50 05.9	-0.5
QIS	Mount Isa	14.33	195	P	P	11 50 18.7	-2.5
WB0	Warramunga Arr	15.79	214		Pn	11 50 34.4	+0.8
WR0	Warramunga Arr	15.87	213		Pn	11 50 35.7	+1.2
WRAB	Tennant Creek	15.95	213	Pn	Pn	11 50 36.8	+1.2
WB2	Warramunga Arr	15.96	213		Pn	11 50 36.9	+1.2
WRA	Warramunga Arr	15.96	213	Pn	Pn	11 50 36.2	+0.5
WRA	Warramunga Arr	15.96	213	Pn	Pn	11 50 35.8	+0.1
	1.8nm,0.3s,baz=20,slow=13,SNR=43						
WRA				Sn	Sn	11 53 31.9	-1.0
	0.3nm,0.3s,baz=25,slow=25,SNR=1.9						
WRA				Lg	Lg	11 55 21.7	
	0.4nm,0.3s,baz=26,slow=35,SNR=4.9 10nm,0.8s						
HNR	Honiara	16.40	101	Pn	P	11 50 41.9	-2.3
HNR				IAmb	IAmb	11 51 09.0	
	comp=Z,70nm,0.9s						
KNRA	Kununurra	17.08	237	Pn	Pn	11 50 49.2	-0.8
KNRA	Kununurra	17.08	237	P	Pn	11 50 49.2	-0.8
AS31	Alice Springs	19.29	208	P	Pn	11 51 17.6	+0.5
ASAR	Alice Springs	19.29	208		Pn	11 51 21.0	+3.8
ASAR	Alice Springs	19.29	208	P	Pn	11 51 19.2	+2.0
	comp=Z,2.3nm,0.3s,baz=36,slow=9.1,SNR=262						
ASAR				Lg	Lg	11 57 08.0	
	baz=329,slow=35,SNR=1.8 comp=Z,28nm,0.7s						
SOEI	Soe	19.39	260	P	P	11 51 16.2	-1.2
SOEI				IAmb	IAmb	11 51 45.1	
	comp=Z,46nm,0.8s						
EIDS	Eidsvold	19.90	160	P	Pn	11 51 24.5	+0.1
FITZ	Fitzroy Crossi	20.88	235	P	P	11 51 34.6	+1.2
LUWI	Luwuk	21.53	284	P	P	11 51 37.3	-3.2
LUWI				IAmb	IAmb	11 51 50.1	
	comp=Z,38nm,1.3s						
STKA	Stephens Creek	25.13	184	P	P	11 52 17.0	+0.8
STKA	Stephens Creek	25.13	184	P	P	11 52 16.7	+0.5
	comp=Z,1.9nm,0.8s,baz=351,slow=16,SNR=3.1 comp=Z,1.9nm,0.8s						
LIFNC	LIFOU	26.83	124	P	P	11 52 33.1	+1.4
FORT	Forrest	28.06	209	P	P	11 52 44.7	+2.0
FORT				IAmb	IAmb	11 52 45.3	
	comp=Z,9.9nm,0.6s						
NJ2	Nanjing	45.18	330	eP	P	11 55 08.8	+0.7
NJ2				pP	sP	11 55 12.4	-0.6
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KSRS	Korea Array	46.29	343	P	P	11 55 15.8	-1.0
	comp=Z,1.8nm,0.8s,baz=170,slow=9.2,SNR=5.1 comp=Z,1.8nm,0.8s						
USRK	Ussuriysk Ar.	51.73	349	P	P	11 55 57.6	-0.8
	comp=Z,2.8nm,0.9s,baz=168,slow=7.4,SNR=3.7 comp=Z,2.8nm,0.9s						
PZH	PanZhiHua	52.31	311	P	P	11 56 05.5	+2.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,70nm,4.3s						
MDJ	Mudanjiang	52.61	347	P	P	11 56 09.8	+4.9
MDJ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,250nm,4.5s						
BNX	BinXian	54.17	346	⇑P	P	11 56 16.1	-0.3
BNX				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BNX				pmax	pmax		
	comp=Z,230nm,4.3s						
HHC	Hu-ho-hao-te	55.72	331	eP	P	11 56 29.6	+1.7
HHC				pP	sP	11 56 34.6	+1.9
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,270nm,4.6s						
RAR	Rarotonga	56.52	111	LR	LR	12 19 29.2	
	comp=Z,100nm,18.1s,baz=296,slow=35						
PEA0B	Petropavlovsk-	60.75	10	P	P	11 57 02.7	0.0
PETK	Petropavlovsk-	60.75	10	P	P	11 57 03.1	+0.3
PETK	Petropavlovsk-	60.75	10	P	P	11 57 02.1	-0.6
	comp=Z,8.4nm,0.9s,baz=158,slow=8.5,SNR=5.9 comp=Z,8.4nm,0.9s						
SONM	Songino Array	63.42	333	P	P	11 57 20.8	-0.1
	comp=Z,0.3nm,0.6s,baz=165,slow=6.0,SNR=2.3 comp=Z,0.3nm,0.6s						
MA2	Magadan	66.29	4	P	P	11 57 39.4	+0.1
MA2				IAmb	IAmb	11 57 39.9	
	comp=Z,6.9nm,0.9s						
WMQ	Urumqi	71.15	321	eP	P	11 58 11.9	+1.9
SBA	Scott Base	72.15	175	P	P	11 58 16.2	+0.9
MK31	Makanchi Array	75.91	322	P	P	11 58 38.1	+0.2
MKAR	Makanchi Array	75.91	322	P	P	11 58 38.0	+0.1
MKAR	Makanchi Array	75.91	322	P	P	11 58 37.6	-0.3
	comp=Z,1.0nm,0.6s,baz=104,slow=7.0,SNR=10.0 comp=Z,1.0nm,0.6s						
ZALV	Zalesovo Beam	77.83	329	P	P	11 58 52.0	+3.5
	comp=Z,0.8nm,0.6s,baz=122,slow=1.9,SNR=4.2						
KURBB	Kurchatov Arra	79.78	324	P	P	11 58 59.4	0.0
	comp=Z,0.6nm,0.8s,baz=116,slow=4.6,SNR=2.7						
K15K	Wolf Creek Mou	80.50	23	P	P	11 59 03.6	+0.7
M16K	Timber Creek	80.83	25	P	P	11 59 05.3	+0.6
L16K	Owhat River	80.99	24	P	P	11 59 07.0	+1.5
L16K				IAmb	IAmb	11 59 20.9	
	comp=Z,8.5nm,1.2s						
N17K	Nushagak Hills	81.31	25	P	P	11 59 06.9	-0.4
N17K				IAmb	IAmb	11 59 26.0	
	comp=Z,17nm,1.3s						
J16K	Anvik River	81.41	22	P	P	11 59 09.8	+2.0
F15K	North Star Dit	81.42	19	P	P	11 59 09.2	+1.4
F15K				IAmb	IAmb	11 59 38.3	
	comp=Z,16nm,1.5s						
KKAR	Karatay Array	82.38	315	P	P	11 59 12.1	-1.2
F17K	Baldwin Pennin	82.97	19	P	P	11 59 14.9	-1.0
F17K				IAmb	IAmb	11 59 24.4	
	comp=Z,9.8nm,1.2s						
QSPA	South Pole Qui	83.29	180	P	P	11 59 20.0	+2.2
QSPA				IAmb	IAmb	11 59 29.4	
	comp=Z,4.2nm,1.0s						
QSPA	South Pole Qui	83.29	180	P	P	11 59 19.7	+1.9
	comp=Z,1.8nm,0.6s,baz=308,slow=2.9,SNR=20 comp=Z,1.8nm,0.6s						
G18K	Tagagawik	83.55	20	P	P	11 59 19.8	+0.9
G18K				IAmb	IAmb	11 59 20.6	
	comp=Z,9.5nm,1.4s						
G19K	Purcell Mounta	84.22	21	P	P	11 59 21.5	-0.9
G19K				IAmb	IAmb	11 59 23.8	
	comp=Z,7.5nm,1.4s						
C18K	Utukok River	84.26	18	P	P	11 59 23.6	+1.0
C18K				IAmb	IAmb	11 59 44.9	
	comp=Z,5.8nm,1.4s						
J20K	Nowinta River	84.34	23	P	P	11 59 23.4	+0.4
SKT	Skwentna	84.41	25	P	P	11 59 24.1	+0.7
SKT				IAmb	IAmb	11 59 48.0	
	comp=Z,5.5nm,1.0s						
E19K	Redstone River	84.86	19	P	P	11 59 26.7	+1.1
E19K				IAmb	IAmb	11 59 28.0	
	comp=Z,2.9nm,0.8s						
NRIK	Noril'sk	84.91	343	P	P	11 59 25.8	0.0
	comp=Z,0.9nm,0.4s,baz=139,slow=6.3,SNR=1.7 comp=Z,0.9nm,0.4s						
D19K	Kuna River	85.12	18	P	P	11 59 26.9	0.0
D19K				IAmb	IAmb	11 59 29.6	
	comp=Z,10nm,1.4s						
F20K	Avaraart Lake	85.15	20	P	P	11 59 27.9	+0.9
F20K				IAmb	IAmb	11 59 40.2	
	comp=Z,4.8nm,1.2s						
IMAR	Indian Mountai	85.33	21	P	P	11 59 28.4	+0.4
KTH	Kantishna Hill	85.34	24	P	P	11 59 27.3	-0.8
KTH				IAmb	IAmb	11 59 44.9	
	comp=Z,14nm,1.4s						
BRVK	Borovoye	85.43	325	P	P	11 59 29.6	+0.9
TRF	Thorofare Moun	85.55	24	P	P	11 59 30.2	+0.9
SML	Sawmill	85.73	26	P	P	11 59 30.7	+0.6
RND	Reindeer	86.12	25	P	P	11 59 31.9	-0.1
MCK	McKinley	86.22	24	P	P	11 59 32.0	-0.4
EYAK	Cordova Ski Ar	86.43	28	P	P	11 59 34.9	+1.4
B21K	Ikpikpuk River	86.78	18	P	P	11 59 33.9	-1.1
M24K	Tolsona, Glenn	86.78	26	P	P	11 59 36.6	+1.3
KAIM	Kayak Island	86.85	29	P	P	11 59 36.1	+0.5
E22K	Anaktuvuk Pass	86.99	20	P	P	11 59 37.4	+1.2
E22K				IAmb	IAmb	11 59 45.0	
	comp=Z,3.8nm,1.0s						
G23K	Bananza Creek	87.00	21	P	P	11 59 37.1	+0.9
D22K	Ayikyak River	87.04	19	P	P	11 59 37.2	+0.9
D22K				IAmb	IAmb	11 59 53.8	
	comp=Z,3.7nm,0.9s						
IL31		87.44	24	P	P	11 59 38.1	-0.2
IL31				IAmb	IAmb	11 59 38.3	
	comp=Z,7.0nm,1.2s						
ILAR	Eielson Array	87.44	24	P	P	11 59 37.9	-0.5
ILAR	Eielson Array	87.44	24	P	P	11 59 37.1	-1.2
	comp=Z,1.9nm,0.9s,baz=253,slow=5.2,SNR=10 comp=Z,1.9nm,0.9s						
J25K	Salcha River,	88.00	24	P	P	11 59 42.2	+1.1
J25K				IAmb	IAmb	11 59 45.5	
	comp=Z,8.5nm,1.2s						
C23K	Itkillik River	88.12	18	P	P	11 59 42.9	+1.5
C23K				IAmb	IAmb	11 59 44.2	
	comp=Z,4.7nm,0.8s						
PCA	Pinnacle	88.90	29	P	P	11 59 44.7	-0.7
L27K	Beaver Creek,	89.00	26	P	P	11 59 45.7	-0.1
L27K				IAmb	IAmb	12 00 13.5	
	comp=Z,6.5nm,1.4s						
BCAR	Beaver Creek A	89.02	26	P	P	11 59 45.0	-0.9
E25K	Arctic Village	89.13	21	P	P	11 59 47.7	+1.3
E25K				IAmb	IAmb	11 59 58.0	
	comp=Z,7.3nm,1.4s						
K27K	Chicken	89.17	25	P	P	11 59 48.3	+1.7
K27K				IAmb	IAmb	11 59 49.7	
	comp=Z,4.3nm,1.1s						
BMAR	Burnt Mountain	89.25	22	P	P	11 59 48.2	+1.2
M29M	Somme Creek	90.33	27	P	P	11 59 53.4	+1.2
M29M				IAmb	IAmb	11 59 58.7	
	comp=Z,11nm,1.4s						
L29M	L29M	90.63	26	P	P	11 59 54.1	+0.7
L29M				IAmb	IAmb	12 00 03.4	
	comp=Z,8.4nm,1.2s						
SIV	San Ignacio	146.76	133	PKPbc	PKiKP	12 06 35.1	-2.0
	comp=Z,0.5nm,0.2s,baz=220,slow=7.9,SNR=1.3						
DBIC	Dimbokro	148.69	272	PKPbc	PKPbc	12 06 38.8	-0.8
	comp=Z,1.4nm,0.5s,baz=131,slow=15,SNR=1.5						

*IDC **09** 12:04:59.1±6.3, 6°.78N×73°.50W, h174km±31km, mb3.0/1, mbtmp3.6/2, Error ellipse: s-maj=203.9km s-min=33.2km az=94.0*
*RSNC **09** 12:04:59.1±0.0, 7°.1N×7°.3W±°, h143km±2km, mb3.4, ML3.1, MwMwp5.0, Mwp5.2*

ISC 09 12:04:56.4±0.9, 6°.85N±0°.03×73°.11W±0°.05, h155km±6km, n32, σ1§43/60, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	Barichara	0.26	197	P	Pn	12 05 17.8	0.0
BARC				S	Sn	12 05 32.9	-1.1
PAMC	Pamplona, Colo	0.64	39	P	Pn	12 05 20.6	+0.9
PAMC				S	Sn	12 05 37.8	+0.5
RUSC	La Rusia	0.95	179	P	Pn	12 05 21.6	-0.2
RUSC				S	Sn	12 05 40.8	-0.4
PTBC	PUERTO BERRIO,	1.38	257	P	Pn	12 05 24.1	-1.0
PTBC				S	Sn	12 05 45.5	-1.6
OCAC	Ocana	1.40	351	P	Pn	12 05 26.1	+0.6
OCAC				S	Sn	12 05 48.1	+0.2
OCAC				S	Sn	12 05 48.1	+0.2
SPBC	San Pablo de B	1.53	219	P	Pn	12 05 26.5	-0.3
SPBC				S	Sn	12 05 49.1	-0.9
NORC	Norcasia	2.17	234	P	Pn	12 05 33.6	-0.3
NORC				S	Sn	12 06 02.1	-0.6
ROSC	El Rosal	2.33	211	P	Pn	12 05 37.2	+1.0
	86nm,0.3s,baz=78,slow=18,SNR=105						
ROSC				S	Sn	12 06 07.2	+0.4
	258nm,0.3s,baz=91,slow=17,SNR=8.1						
ROSC	El Rosal	2.33	211	P	Pn	12 05 37.6	+1.4
ROSC				S	Sn	12 06 06.9	+0.1
HELC	Santa Helena	2.49	255	P	Pn	12 05 38.7	+0.6
HELC				S	Sn	12 06 09.2	-1.0
GUY2C	Guyana, Caldas	2.77	234	P	Pn	12 05 42.4	+0.9
GUY2C				S	Sn	12 06 16.1	-0.2
VILC	Villavicencio,	2.78	192	P	Pn	12 05 41.3	-0.1
VILC				S	Sn	12 06 15.5	-0.7
PTGC	Puerto Gaitan,	2.80	160	P	Pn	12 05 41.0	-0.6
PTGC				S	Sn	12 06 14.3	-2.2
LL6C	La Loma 6 Bece	2.88	357	P	Pn	12 05 43.0	+0.5
LL6C				S	Sn	12 06 17.7	-0.4
CBOC	Ciudad Bolivar	3.05	252	P	Pn	12 05 45.5	+0.7
CBOC				S	Sn	12 06 21.1	-1.1
DBBC	Dabeiba	3.09	273	P	Pn	12 05 45.2	0.0
DBBC				S	Sn	12 06 20.8	-2.1
ARGC	Ariguani, Magd	3.20	339	P	Pn	12 05 47.5	+1.0
ARGC				S	Sn	12 06 27.9	+2.5
APAC	Apartado, Choc	3.60	287	P	Pn	12 05 51.5	-0.2
APAC				S	Sn	12 06 33.8	-0.8
ORTC	Ortega, Tolima	3.61	216	P	Pn	12 05 51.9	0.0
ORTC				S	Sn	12 06 35.6	+0.6
SJCC	San Jacinto, C	3.66	326	P	Pn	12 05 51.4	-1.1
SJCC				S	Sn	12 06 33.9	-2.2
PLMC	San Jos del P	3.70	239	P	Pn	12 05 53.4	+0.3
PLMC				S	Sn	12 06 36.9	-0.1
CRJC	Cerrejon, Guaj	4.15	3	P	Pn	12 05 58.3	-0.6
CRJC				S	Sn	12 06 45.6	-2.0
YOTC	Yotoco, Valle	4.30	229	P	Pn	12 06 01.2	+0.3
SMRC	Santa Marta, M	4.43	346	P	Pn	12 06 03.1	+0.6
SMRC				S	Sn	12 06 50.7	-3.3
CAPC	Capurgana	4.57	293	P	Pn	12 06 03.2	-1.1
CAPC				S	Sn	12 06 53.2	-4.0
MACC	Macarena, Meta	4.73	189	P	Pn	12 06 05.2	-1.2
MACC				S	Sn	12 06 56.4	-4.6
JAMC	Jamundi, Valle	5.06	225	P	Pn	12 06 11.2	+0.2
	5.3nm,1.2s						
JAMC				S	Sn	12 07 10.3	+1.1
	5.3nm,1.2s						
MALC	Bahia Malaga	5.06	236	P	Pn	12 06 12.9	+2.1
MALC				S	Sn	12 07 10.2	+1.3
FLOC	Florencia	5.81	206	P	Pn	12 06 20.3	-0.5
YKA	Yellowknife Ar	63.25	340	P	P	12 15 08.3	+0.1
	0.3nm,0.5s,baz=132,slow=6.1,SNR=8.7 0.3nm,0.5s						
ASAR	Alice Springs	149.14	234	PKPbc	PKPdf	12 24 26.4	+3.3
	0.4nm,0.7s,baz=130,slow=4.2,SNR=7.4						
WRA	Warramunga Arr	150.36	241	PKPbc	PKPbc	12 24 29.5	-1.0
	0.2nm,0.5s,baz=106,slow=3.1,SNR=5.5						

*SKHL **09** 12:13:07.5±0.3, 45°.60N×142°.90E, h325km±3km, mb4.1/9, msh4.6/7*
*IDC **09** 12:13:07.3±0.7, 45°.63N×142°.50E, h321km±10km, mb3.0/8, mbtmp3.7/12, Error ellipse: s-maj=19.1km s-min=15.5km az=160.0*
*JMA **09** 12:13:07.1±0.2, 46°.1N±2°×14°.3E±°, h322km, MV2.8/25, NE OFF HOKKAIDO*

ISC 09 12:13:06.6±0.7, 45°.59N±0°.06×142°.62E±0°.08, h317km, n33, σ1§02/38, mb3.1/9, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWK2	Keihoku	0.58	242	eP	Pn	12 13 48.6	+1.3
JWK2				eS	S	12 14 20.3	+0.5
JSE	Soyaes	0.63	182	eP	Pn	12 13 48.5	+1.0
YSS	Yuzh-Sakhalins	1.37	4	i P	Pn	12 13 51.4	+0.8
YSS				AMB	AMB	12 13 51.6	
	80nm,0.4s						
YSS				eS	S	12 14 25.5	-0.2
YSS				A	A	12 14 26.1	
	50nm,0.6s						
YSS				A	A	12 14 26.1	
	20nm,0.6s						
ASAJ	Asahikawa	1.47	181	eP	Pn	12 13 52.9	+1.5
ASAJ	Asahikawa	1.47	181	P	Pn	12 13 53.0	+1.7
	19nm,0.7s,baz=298,slow=30,SNR=20						
ASAJ				S	S	12 14 28.9	+1.9
	8.9nm,0.8s,baz=270,slow=20,SNR=1.6						
JMP	Maruseppu	1.67	161	eP	Pn	12 13 54.2	+1.6
JKK2	Kamakawa 2	1.72	177	eP	Pn	12 13 54.6	+1.6
JTKR	Abashiri--Tsuko	1.86	150	eP	Pn	12 13 55.6	+1.7
JAR	Ashorobuto	2.44	160	eP	Pn	12 14 00.2	+1.8
JEW	Eniwo	2.87	197	eP	Pn	12 14 04.2	+1.8
JAK	Akkeshi	2.99	149	eS	S	12 14 48.2	-0.8
JCH	Churui	3.02	170	eP	Pn	12 14 03.7	-0.1
AKK	Akkeshi	3.03	147	eP	Pn	12 14 04.2	+0.4
AKK				AMB	AMB	12 14 05.5	
	120nm,1.1s						
AKK				eS	S	12 14 49.0	-0.6
AKK				A	A	12 14 49.8	
	110nm,0.3s						
AKK				A	A	12 14 49.8	
	160nm,0.3s						
NMR	Nemuro--Hokkai	3.14	134	eP	Pn	12 14 05.2	+0.3
NMR				AMB	AMB	12 14 07.4	
	50nm,0.6s						
NMR				eS	S

WRA **Warramunga Arr 44.05 275** P P 12 45 22.0 0.0
0.3nm,0.4s,baz=114,slow=7.9,SNR=8.4
0.3nm,0.4s
FINES **FINESS Array B 147.40 338** PKPbc PKPbc 12 56 56.2 -0.8
1.1nm,0.8s,baz=47,slow=3.3,SNR=4.0

CATAC 09 12:40:08.4±2.7, 12°19N×81°53W, h16km±26km, ML3.9, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRVC	**Isla de Provid**	**1.19**	**8**	*i* P	Pn	12 40 29.9	-0.5
PRVC				*i* S	Sg	12 40 46.6	-0.3
PRVC				IAML		12 40 47.3	
	comp=Z,190nm,1.0s						
VTCV	**VTCV, Calle Va**	**3.08**	**225**	*i* P	Pn	12 40 56.1	-0.5
VTCV				IAML		12 41 35.7	
	comp=Z,180nm,1.0s						
COVE	**Coope Vega, Sa**	**3.17**	**243**	*i* P	Pn	12 40 57.9	+0.2
COVE				IAML		12 42 59.9	
	comp=Z,190nm,1.0s						
OCM	**Ochomogo**	**3.30**	**226**	*i* P	Pn	12 40 58.8	-0.9
OCM				IAML		12 41 04.9	
	comp=Z,140nm,1.0s						
RIMA	**Rio Macho**	**3.33**	**224**	*i* P	Pn	12 40 59.1	-0.9
RIMA				IAML		12 41 40.1	
	comp=Z,85nm,1.0s						
HDC3	**Heredia 3**	**3.34**	**230**	*i* P	Pn	12 41 00.3	+0.2
HDC3				IAML		12 41 01.0	
	comp=Z,390nm,1.0s						
HDC	**Heredia**	**3.34**	**230**	*i* P	Pn	12 41 00.2	0.0
HDC				IAML		12 41 01.0	
	comp=Z,380nm,1.0s						
CPMI	**Catarata Coope**	**3.38**	**236**	*i* P	Pn	12 41 01.2	+0.4
CPMI				IAML		12 41 02.2	
	comp=Z,210nm,1.0s						
CDM	**Cerro de Muert**	**3.42**	**220**	*i* P	Pn	12 41 00.4	-1.1
CDM				IAML		12 41 43.0	
	comp=Z,78nm,1.0s						
BCIP	**Isla Barro Col**	**3.44**	**151**	*i* P	Pn	12 41 01.2	-0.2
BCIP				IAML		12 42 52.5	
	comp=Z,150nm,1.0s						
LCR2	**La Lucha 2**	**3.44**	**225**	*i* P	Pn	12 41 01.1	-0.5
SRBA	**San Rafael, Bu**	**3.45**	**212**	*i* P	Pn	12 41 02.3	+0.7
SRBA				IAML		12 41 04.2	
	comp=Z,140nm,1.0s						
POTG	**Potrero Grande**	**3.49**	**207**	*i* P	Pn	12 41 02.2	+0.1
POTG				IAML		12 41 45.0	
	comp=Z,430nm,1.0s						
PEZE	**Perez Zeledon,**	**3.50**	**217**	*i* P	Pn	12 41 02.4	+0.1
PEZE				IAML		12 42 06.3	
	comp=Z,200nm,1.0s						
SIUN	**Universidad Ur**	**3.50**	**296**	*i* P	Pn	12 41 00.4	-1.9
SIUN				IAML		12 41 57.7	
	comp=Z,120nm,1.0s						
SOCE	**Pocosol**	**3.52**	**240**	*i* P	Pn	12 41 03.2	+0.6
SOCE				IAML		12 41 47.3	
	comp=Z,100nm,1.0s						
ACON	**Acoyapa**	**3.57**	**267**	*i* P	Pn	12 41 03.3	+0.1
ACON				IAML		12 41 59.7	
	comp=Z,150nm,1.0s						
JACO	**JACO, Garabito**	**3.97**	**231**	*i* P	Pn	12 41 09.1	+0.4
JACO				IAML		12 41 11.4	
	comp=Z,98nm,1.0s						
CCOL	**Caracol de Cor**	**4.02**	**201**	*i* P	Pn	12 41 08.2	-1.2
CCOL				IAML		12 43 34.8	
	comp=Z,320nm,1.0s						
BOAB	**BOACO BROADBAN**	**4.05**	**274**	*i* P	Pn	12 41 10.3	+0.5
BOAB				IAML		12 42 20.3	
	comp=Z,130nm,1.0s						
LAFE	**Finca La Fe, P**	**4.08**	**235**	*i* P	Pn	12 41 10.3	+0.1
LAFE				IAML		12 43 25.5	
	comp=Z,1.5nm,1.0s						
MATN	**Matagalpa**	**4.35**	**280**	*i* P	Pn	12 41 14.1	+0.1
MATN				IAML		12 42 24.8	
	comp=Z,70nm,1.0s						
SAJU	**San Juanillo,**	**4.61**	**243**	*i* P	Pn	12 41 17.7	+0.2
SAJU				IAML		12 42 09.9	
	comp=Z,35nm,1.0s						
RCPN	**Sur Rio San Ju**	**4.64**	**287**	*i* P	Pn	12 41 17.1	-0.9
RCPN				IAML		12 41 27.2	
	comp=Z,0.4nm,1.0s						

NEIC ***09*** *13:01:05.2±2.0, 55°46N×0°09×149°2W×0°1, h8km±7km, ML4.2/34,ML4.0(AEIC), Error ellipse: s-maj=13.7km s-min=9.0km az=173.0*
IDC ***09*** *13:01:06.5±0.8, 55°58N×149°19W, h0km, mb3.9/14, mbtmp3.9/19, ML3.6/5, MS3.3/3, Error ellipse: s-maj=20.7km s-min=15.2km az=32.0*
AEIC ***09*** *13:01:11.2±1.9, 55°60N×0°09×149°2W×0°1, h12km±7km, Error ellipse: s-maj=13.6km s-min=9.4km az=173.0*

ISC 09 13:01:08.1±0.7, 55.73N×0.07×149.19W×0.05, h10km, n299, σ1§13/300, mb4.0/16, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.72**	**305**		**Pn**	**13 01 50.7**	**-1.0**
OHAK	**Old Harbor**	**2.72**	**305**		**Sn**	**13 02 21.6**	**-3.2**
OHAK	**Old Harbor**	**2.72**	**305**	P	**Pn**	**13 01 50.9**	**-0.9**
OHAK	**Old Harbor**	**2.72**	**305**	P	**Pn**	**13 01 50.8**	**-1.0**
	baz=126						
OHAK				S	**Sn**	**13 02 21.6**	**-3.2**
	baz=126						
KDAK	**Kodiak Island**	**2.78**	**319**		**Pn**	**13 01 51.4**	**-1.2**
KDAK	**Kodiak Island**	**2.78**	**319**		**Sn**	**13 02 23.6**	**-2.6**
KDAK	**Kodiak Island**	**2.78**	**319**	S	**Sn**	**13 02 23.6**	**-2.6**
	baz=140						
KDAK	**Kodiak Island**	**2.78**	**319**	Pn	**Pn**	**13 01 52.0**	**-0.6**
	15nm,0.3s,baz=158,slow=5.2,SNR=158						
KDAK				Sn	**Sn**	**13 02 23.8**	**-2.4**
	71nm,0.3s,baz=221,slow=19,SNR=36						
KDAK				LR	LR	13 03 09.5	
	comp=Z,368nm,18.6s,baz=175,slow=42						
	34nm,0.3s						
SII	**Sitkinak Islan**	**2.92**	**289**		**Pn**	**13 01 53.2**	**-1.3**
SII	**Sitkinak Islan**	**2.92**	**289**	IAML		13 02 33.6	
	comp=E,562nm,0.5s						
SII	**Sitkinak Islan**	**2.92**	**289**	P	**Pn**	**13 01 53.2**	**-1.3**
	baz=109						
SYI	**Shuyak Island**	**3.37**	**330**	Pn	**Pn**	**13 02 01.4**	**+0.6**
SYI	**Shuyak Island**	**3.37**	**330**		**Sn**	**13 02 39.4**	**-1.4**
Q20K	**Shuyak Island**	**3.38**	**330**	P	**Pn**	**13 02 00.7**	**-0.1**
	baz=150						
Q20K				S	**Sn**	**13 02 39.4**	**-1.4**
	baz=150						
CNPM	**China Poot**	**3.96**	**345**		**Pn**	**13 02 08.8**	**-0.1**
CNPM				IAML		13 02 56.2	
	comp=E,194nm,0.7s						
CNPM				IAML		13 02 58.5	
	comp=N,182nm,0.3s						
CNPM	**China Poot**	**3.96**	**345**		**Sn**	**13 02 53.3**	**-2.1**
MID	**Middleton Isla**	**4.01**	**21**	Pn	**Pn**	**13 02 09.1**	**-0.4**
MID				IAML		13 03 57.9	
	comp=E,358nm,1.4s						
MID				IAML		13 04 43.9	
	comp=N,278nm,1.3s						
MID	**Middleton Isla**	**4.01**	**21**	P	**Pn**	**13 02 09.3**	**-0.2**
Q23K	**Middleton Isla**	**4.01**	**21**		**Pn**	**13 02 08.9**	**-0.6**
Q23K	**Middleton Isla**	**4.01**	**21**	IAML		13 03 09.8	
	comp=N,270nm,1.3s						
Q23K				IAML		13 04 04.3	
	comp=E,316nm,1.5s						
Q23K	**Middleton Isla**	**4.01**	**21**	P	**Pn**	**13 02 08.9**	**-0.6**
	baz=202						
Q19K	**Cape Douglas,**	**4.01**	**325**		**Pn**	**13 02 10.9**	**+1.3**
Q19K	**Cape Douglas,**	**4.01**	**325**	P	**Pn**	**13 02 09.8**	**+0.2**
	baz=143						
KAPH	**Katmai Pasha**	**4.02**	**318**		**Pn**	**13 02 10.4**	**+0.8**
KAPH					**Sn**	**13 02 55.1**	**-1.7**
BRSE	**Bradley Lake S**	**4.11**	**349**		**Pn**	**13 02 10.3**	**-0.6**
BRSE					**Sn**	**13 02 56.6**	**-2.4**
BRSE	**Bradley Lake S**	**4.11**	**349**	P	**Pn**	**13 02 10.3**	**-0.6**
	baz=168						
BRSE				S	**Sn**	**13 02 56.6**	**-2.4**
	baz=168						
KAKN	**Katmai Knife C**	**4.11**	**311**		**Pn**	**13 02 11.1**	**0.0**
KCE	**Katmai Mt Cerb**	**4.13**	**310**		**Pn**	**13 02 12.8**	**+1.5**
BRLK	**Bradley Lake**	**4.15**	**348**		**Pn**	**13 02 10.5**	**-0.9**
BRLK					**Sn**	**13 02 57.2**	**-2.8**
BRLK	**Bradley Lake**	**4.15**	**348**	IAML		13 03 03.7	
	comp=E,240nm,0.5s						
HOM	**Homer**	**4.16**	**343**	Pn	**Pn**	**13 02 10.9**	**-0.5**
HOM				IAML		13 03 03.9	
	comp=E,423nm,1.2s						
HOM				IAML		13 03 32.3	
	comp=N,479nm,1.5s						
HOM	**Homer**	**4.16**	**343**	P	**Pn**	**13 02 11.6**	**+0.1**
	baz=161						
ACHA	**Angle Creek He**	**4.18**	**309**		**Pn**	**13 02 11.8**	**-0.1**
ANCK	**Angle Creek**	**4.25**	**308**		**Pn**	**13 02 13.3**	**+0.4**
ANCK					**Sn**	**13 03 01.0**	**-1.4**
KVTA	**Katmai Vly 10**	**4.26**	**311**		**Pn**	**13 02 13.8**	**+0.8**
KAHC	**Katmai Hardscr**	**4.31**	**315**		**Pn**	**13 02 14.8**	**+1.1**
PLK3	**Peulik 3**	**4.37**	**300**		**Pn**	**13 02 14.5**	**+0.1**
P23K	**Montague Islan**	**4.39**	**12**		**Pn**	**13 02 14.3**	**-0.3**
P23K					**Sn**	**13 03 03.0**	**-2.8**
P23K	**Montague Islan**	**4.39**	**12**	P	**Pn**	**13 02 14.3**	**-0.3**
	baz=192						
P23K				S	**Sn**	**13 03 03.0**	**-2.8**
	baz=192						
SEW	**Seward**	**4.39**	**358**		**Pn**	**13 02 13.8**	**-0.9**
SEW	**Seward**	**4.39**	**358**	P	**Pn**	**13 02 13.9**	**-0.9**
	baz=178						
CNTC	**Contact Creek**	**4.46**	**308**		**Pn**	**13 02 15.9**	**+0.2**
Q17K	**Contact Creek**	**4.46**	**308**	P	**Pn**	**13 02 15.9**	**+0.2**
	baz=124						
KELA	**Mount Kelaz**	**4.49**	**310**		**Pn**	**13 02 16.7**	**+0.5**
P19K	**Oil Pt**	**4.49**	**333**		**Pn**	**13 02 16.0**	**-0.2**
P19K	**Oil Pt**	**4.49**	**333**	P	**Pn**	**13 02 16.3**	**+0.1**
	baz=151						
PLK1	**Peulik 1**	**4.58**	**300**		**Pn**	**13 02 17.7**	**+0.4**
O20K	**Slope Mountain**	**4.73**	**339**		**Pn**	**13 02 19.6**	**+0.1**
O20K	**Slope Mountain**	**4.73**	**339**	P	**Pn**	**13 02 19.6**	**+0.1**
	baz=157						
ILSW	**Iliamna Southw**	**4.76**	**335**		**Pn**	**13 02 19.9**	**0.0**
ILSW				IAML		13 03 15.6	
	comp=N,160nm,0.3s						
ILSW				IAML		13 03 23.4	
	comp=E,138nm,0.7s						
SLKM	**Skilak Lake**	**4.82**	**354**		**Pn**	**13 02 20.2**	**-0.5**
HIN	**Hinchinbrook I**	**4.89**	**16**		**Pn**	**13 02 21.5**	**-0.2**
P18K	**Big Mountain,**	**4.91**	**321**	Pn	**Pn**	**13 02 21.8**	**-0.1**
P18K				IAML		13 03 18.0	
	comp=N,86nm,0.8s						
P18K				IAML		13 03 18.8	
	comp=E,92nm,1.4s						
P18K	**Big Mountain,**	**4.91**	**321**	P	**Pn**	**13 02 21.7**	**-0.1**
	baz=138						
KAIM	**Kayak Island**	**4.92**	**29**	Pn	**Pn**	**13 02 21.7**	**-0.4**
KAIM				IAML		13 03 26.3	
	comp=N,282nm,1.0s						
KAIM				IAML		13 03 31.3	
	comp=E,237nm,1.5s						
KAIM	**Kayak Island**	**4.92**	**29**	P	**Pn**	**13 02 22.0**	**0.0**
	baz=212						
R16K	**Pilot Point**	**4.98**	**295**		**Pn**	**13 02 22.8**	**0.0**
R16K	**Pilot Point**	**4.98**	**295**	P	**Pn**	**13 02 22.8**	**0.0**
	baz=111						
Q16K	**King Salmon**	**5.02**	**309**		**Pn**	**13 02 23.5**	**+0.1**
Q16K	**King Salmon**	**5.02**	**309**	P	**Pn**	**13 02 23.5**	**+0.1**
	baz=125						
RED	**Redoubt Volcan**	**5.07**	**339**		**Pn**	**13 02 23.7**	**-0.5**
RSO	**Redoubt South**	**5.11**	**340**		**Pn**	**13 02 24.6**	**-0.2**
RDT	**Redoubt**	**5.15**	**342**		**Pn**	**13 02 24.4**	**-0.9**
CAPN	**Captain Cook N**	**5.16**	**349**	Pn	**Pn**	**13 02 24.7**	**-0.6**
EYAK	**Cordova Ski Ar**	**5.17**	**19**		**Pn**	**13 02 25.1**	**-0.2**
EYAK	**Cordova Ski Ar**	**5.17**	**19**	P	**Pn**	**13 02 25.5**	**+0.2**
EYAK	**Cordova Ski Ar**	**5.17**	**19**	P	**Pn**	**13 02 25.1**	**-0.2**
	baz=201						
ANNW	**Aniakchak Nort**	**5.17**	**288**		**Pn**	**13 02 25.1**	**-0.5**
ANPB	**Aniakchak Plen**	**5.18**	**286**		**Pn**	**13 02 25.1**	**-0.6**
CHGN	**Chignik**	**5.21**	**280**		**Pn**	**13 02 24.8**	**-1.1**
CHGN				IAML		13 03 31.1	
	comp=N,78nm,0.7s						
CHGN				IAML		13 03 32.4	
	comp=E,71nm,0.4s						
SUCK	**Suckling Hills**	**5.22**	**31**		**Pn**	**13 02 26.4**	**+0.2**
P17K	**Kvichak River**	**5.23**	**315**		**Pn**	**13 02 26.6**	**+0.3**
P17K	**Kvichak River**	**5.23**	**315**	P	**Pn**	**13 02 26.6**	**+0.3**
	baz=130						
O18K	**Koktuh Hills**	**5.24**	**325**	Pn	**Pn**	**13 02 26.8**	**+0.4**
O18K	**Koktuh Hills**	**5.24**	**325**	P	**Pn**	**13 02 26.5**	**+0.1**
	baz=141						
O19K	**Port Alsworth**	**5.25**	**331**		**Pn**	**13 02 25.7**	**-0.7**
O19K	**Port Alsworth**	**5.25**	**331**	P	**Pn**	**13 02 25.7**	**-0.7**
	baz=148						
RAGM	**Ragged Mountai**	**5.25**	**25**		**Pn**	**13 02 26.6**	**0.0**
HMT	**Hamilton**	**5.31**	**28**		**Pn**	**13 02 27.5**	**+0.1**
RC01	**Rabbit Creek A**	**5.38**	**357**		**Pn**	**13 02 28.2**	**-0.2**
RC01	**Rabbit Creek A**	**5.38**	**357**	P	**Pn**	**13 02 28.1**	**-0.2**
	baz=177						
GOAT	**Goat Mountain**	**5.41**	**24**		**Pn**	**13 02 28.9**	**+0.1**
BERG	**Berg Lake**	**5.51**	**30**	Pn	**Pn**	**13 02 30.0**	**-0.1**
VNHG	**Veniaminof 1**	**5.62**	**279**		**Pn**	**13 02 31.1**	**-0.7**
KHIT	**Khitrov Hills**	**5.68**	**31**		**Pn**	**13 02 32.2**	**-0.3**
DIV	**Divide**	**5.71**	**17**		**Pn**	**13 02 32.6**	**-0.2**
N20K	**Mount Spurr**	**5.71**	**345**	P	**Pn**	**13 02 32.5**	**-0.5**
	baz=163						
SPCR	**Spurr Chakacha**	**5.71**	**345**		**Pn**	**13 02 32.5**	**-0.5**
KNK	**Knik Glacier**	**5.71**	**4**		**Pn**	**13 02 33.5**	**+0.6**
KNK	**Knik Glacier**	**5.71**	**4**	P	**Pn**	**13 02 32.8**	**-0.1**
	baz=184						
SPCN	**Chakachatna No**	**5.73**	**345**		**Pn**	**13 02 32.9**	**-0.3**
SPCP	**Crater Peak Br**	**5.77**	**346**		**Pn**	**13 02 33.5**	**-0.3**
SPCG	**Spurr Capps Gl**	**5.77**	**346**		**Pn**	**13 02 33.1**	**-0.7**
BMRM	**Bremner River**	**5.78**	**23**		**Pn**	**13 02 33.5**	**-0.4**
BMRM	**Bremner River**	**5.78**	**23**	P	**Pn**	**13 02 33.5**	**-0.4**
	baz=206						
P16K	**Nushagak River**	**5.80**	**308**		**Pn**	**13 02 34.2**	**+0.2**
P16K	**Nushagak River**	**5.80**	**308**	P	**Pn**	**13 02 34.2**	**+0.2**
	baz=123						
WAX	**Waxell Ridge**	**5.80**	**33**		**Pn**	**13 02 33.9**	**-0.3**
SUA	**Susitna One**	**5.81**	**353**		**Pn**	**13 02 33.9**	**-0.4**
SUA	**Susitna One**	**5.81**	**353**	P	**Pn**	**13 02 33.8**	**-0.5**
	baz=172						
N19K	**Bonanza Creek**	**5.81**	**333**		**Pn**	**13 02 33.5**	**-0.8**
N19K	**Bonanza Creek**	**5.81**	**333**	P	**Pn**	**13 02 33.5**	**-0.8**
	baz=150						
O17K	**Koliganek Bris**	**5.86**	**317**		**Pn**	**13 02 34.4**	**-0.5**
O17K	**Koliganek Bris**	**5.86**	**317**	P	**Pn**	**13 02 34.4**	**-0.5**
	baz=132						
BARK	**Barkley Ridge**	**5.88**	**34**		**Pn**	**13 02 35.0**	**-0.3**
PMR	**Palmer**	**5.88**	**0**		**Pn**	**13 02 35.5**	**+0.3**
PMR	**Palmer**	**5.88**	**0**	P	**Pn**	**13 02 35.4**	**+0.2**
PMR	**Palmer**	**5.88**	**0**	P	**Pn**	**13 02 35.1**	**-0.1**
	baz=180						
SPNN	**North Nagishla**	**5.95**	**343**		**Pn**	**13 02 35.6**	**-0.6**
STLK	**Strandline Lak**	**5.95**	**348**		**Pn**	**13 02 35.5**	**-0.7**
CRQM	**Cirque**	**5.97**	**30**		**Pn**	**13 02 36.2**	**-0.3**
CRQE	**Cirque**	**5.98**	**30**	P	**Pn**	**13 02 36.2**	**-0.4**
	baz=214						
CNBA	**Chernabura Isl**	**6.01**	**266**	Pn	**Pn**	**13 02 33.8**	**-3.2**
KLU	**Klutina**	**6.03**	**15**		**Pn**	**13 02 37.9**	**+0.6**
KLU	**Klutina**	**6.03**	**15**	P	**Pn**	**13 02 37.5**	**+0.3**
	baz=197						
TGL	**Tana Glacier**	**6.05**	**31**		**Pn**	**13 02 37.2**	**-0.4**
M22K	**Willow**	**6.06**	**356**		**Pn**	**13 02 39.0**	**+1.3**
GHO	**Glory Hole Cre**	**6.06**	**1**		**Pn**	**13 02 38.4**	**+0.7**
ISLE	**Juniper Island**	**6.08**	**34**		**Pn**	**13 02 38.0**	**-0.1**
N18K	**Kilae Creek**	**6.10**	**327**		**Pn**	**13 02 37.9**	**-0.3**
N18K	**Kilae Creek**	**6.10**	**327**	P	**Pn**	**13 02 37.8**	**-0.3**
	baz=143						
SML	**Sawmill**	**6.11**	**4**		**Pn**	**13 02 39.2**	**+0.8**
SML	**Sawmill**	**6.11**	**4**	P	**Pn**	**13 02 38.6**	**+0.2**
	baz=184						
M23K	**Glacier View**	**6.13**	**7**		**Pn**	**13 02 38.7**	**0.0**
M23K	**Glacier View**	**6.13**	**7**	P	**Pn**	**13 02 38.7**	**0.0**
	baz=187						
O16K	**Kokwok River B**	**6.15**	**313**		**Pn**	**13 02 38.8**	**-0.1**
O16K	**Kokwok River B**	**6.15**	**313**	P	**Pn**	**13 02 38.8**	**-0.1**
	baz=127						
SCM	**Sheep Creek Mo**	**6.20**	**8**		**Pn**	**13 02 40.9**	**+1.2**
SCM	**Sheep Creek Mo**	**6.20**	**8**	P	**Pn**	**13 02 40.1**	**+0.4**
	baz=189						
VRDI	**Verde Repeater**	**6.28**	**26**		**Pn**	**13 02 40.6**	**-0.2**
SAMH	**Samovar Hills**	**6.29**	**42**		**Pn**	**13 02 41.5**	**+0.6**
KIAG	**Kiagna River**	**6.33**	**32**		**Pn**	**13 02 41.5**	**0.0**
N25K	**Chitina, Valde**	**6.36**	**20**		**Pn**	**13 02 42.2**	**+0.3**
N25K	**Chitina, Valde**	**6.36**	**20**	P	**Pn**	**13 02 42.2**	**+0.3**
	baz=203						
TABL	**Table Mountain**	**6.36**	**39**		**Pn**	**13 02 42.3**	**+0.3**
GRNC	**Granite Creek**	**6.37**	**35**		**Pn**	**13 02 41.8**	**-0.3**
GLB	**Gilahina Butte**	**6.38**	**24**		**Pn**	**13 02 42.2**	**+0.1**
SKT	**Skwentna**	**6.39**	**350**		**Pn**	**13 02 43.3**	**+1.1**
N17K	**Nushagak Hills**	**6.41**	**322**		**Pn**	**13 02 41.9**	**-0.6**
SDPT	**Sand Point**	**6.42**	**271**	Pn	**Pn**	**13 02 40.4**	**-2.2**
SDPT	**Sand Point**	**6.42**	**271**	P	**Pn**	**13 02 40.7**	**-1.8**
SDPT	**Sand Point**	**6.42**	**271**	P	**Pn**	**13 02 40.8**	**-1.8**
	baz=84						
M20K	**Styx River**	**6.50**	**343**		**Pn**	**13 02 43.4**	**-0.4**
PTPK	**Patty Peak**	**6.51**	**30**		**Pn**	**13 02 44.5**	**+0.5**
MCARA	**McCarthy VSAT**	**6.52**	**27**		**Pn**	**13 02 44.1**	**+0.2**
MCARA	**McCarthy VSAT**	**6.52**	**27**	P	**Pn**	**13 02 44.2**	**+0.2**
	baz=211						
PNL	**Peninsula**	**6.57**	**49**		**Pn**	**13 02 45.0**	**+0.4**
PNL	**Peninsula**	**6.57**	**49**	P	**Pn**	**13 02 45.0**	**+0.4**
	baz=235						
M24K	**Tolsona, Glenn**	**6.58**	**12**		**Pn**	**13 02 45.8**	**+0.9**
M24K	**Tolsona, Glenn**	**6.58**	**12**	P	**Pn**	**13 02 45.4**	**+0.5**
	baz=194						
BCPM	**Bancas Point**	**6.63**	**46**		**Pn**	**13 02 45.8**	**+0.3**
BARN	**Barnard Glacie**	**6.65**	**33**		**Pn**	**13 02 46.0**	**+0.1**
CTG	**Chitna Glacier**	**6.68**	**35**	P	**Pn**	**13 02 46.1**	**-0.1**
	baz=220						
CTGM	**Chitina Glacie**	**6.68**	**35**		**Pn**	**13 02 46.1**	**-0.2**
LOGN	**Logan Glacier**	**6.69**	**37**		**Pn**	**13 02 46.2**	**-0.2**
CUT	**Chulitna**	**6.72**	**356**	Pn	**Pn**	**13 02 47.4**	**+0.7**
M18K	**Stony River**	**6.74**	**332**		**Pn**	**13 02 46.3**	**-0.6**
M18K	**Stony River**	**6.74**	**332**	P	**Pn**	**13 02 46.3**	**-0.6**
	baz=147						
N16K	**Nishlik Lake**	**6.95**	**317**		**Pn**	**13 02 50.1**	**+0.2**
N16K	**Nishlik Lake**	**6.95**	**317**	P	**Pn**	**13 02 50.1**	**+0.2**
	baz=130						
HARP	**HAARP**	**7.00**	**16**		**Pn**	**13 02 51.3**	**+0.6**
HARP	**HAARP**	**7.00**	**16**	P	**Pn**	**13 02 51.3**	**+0.6**
	baz=198						
L19K	**White Mountain**	**7.10**	**338**		**Pn**	**13 02 52.0**	**0.0**
PS1A	**Pavlof South-1**	**7.13**	**273**		**Pn**	**13 02 50.5**	**-1.7**
M17K	**Holitna River**	**7.13**	**326**	Pn	**Pn**	**13 02 52.5**	**+0.1**
PVV	**Pavlof Volcano**	**7.16**	**272**		**Pn**	**13 02 50.7**	**-2.0**
L20K	**Farewell, AK**	**7.19**	**342**		**Pn**	**13 02 51.7**	**-1.4**
L20K	**Farewell, AK**	**7.19**	**342**	P	**Pn**	**13 02 51.7**	**-1.4**
	baz=159						
PS4A	**Pavlof South-4**	**7.20**	**272**		**Pn**	**13 02 51.3**	**-2.0**
HAG	**Hague Volcano**	**7.23**	**272**		**Pn**	**13 02 51.9**	**-1.8**
O29M	**Mount Kennedy**	**7.26**	**47**		**Pn**	**13 02 54.6**	**+0.3**
O29M	**Mount Kennedy**	**7.26**	**47**	P	**Pn**	**13 02 54.6**	**+0.3**
	baz=234						
PN7A	**Pavlof North-7**	**7.27**	**273**		**Pn**	**13 02 52.6**	**-1.7**
P29M	**Windy Craggy**	**7.28**	**53**		**Pn**	**13 02 54.2**	**-0.2**
P29M	**Windy Craggy**	**7.28**	**53**	P	**Pn**	**13 02 54.2**	**-0.2**
	baz=241						
N15K	**Kwethluk River**	**7.31**	**312**		**Pn**	**13 02 55.4**	**+0.6**
M16K	**Timber Creek**	**7.38**	**320**		**Pn**	**13 02 56.0**	**+0.2**
O14K	**Tigyukauivet M**	**7.40**	**303**		**Pn**	**13 02 55.8**	**-0.2**
O14K	**Tigyukauivet M**	**7.40**	**303**	P	**Pn**	**13 02 55.8**	**-0.2**
	baz=115						
M26K	**Nabesna, AK**	**7.41**	**23**		**Pn**	**13 02 57.3**	**+1.1**
S31K	**Pelican**	**7.45**	**67**		**Pn**	**13 02 54.5**	**-2.2**
S31K	**Pelican**	**7.45**	**67**	P	**Pn**	**13 02 54.5**	**-2.2**
	baz=256						
M27K	**Edge Creek, AK**	**7.64**	**27**		**Pn**	**13 02 59.7**	**+0.3**
M27K	**Edge Creek, AK**	**7.64**	**27**	P	**Pn**	**13 02 59.7**	**+0.3**
	baz=212						
RND	**Reindeer**	**7.71**	**1**		**Pn**	**13 03 01.4**	**+1.1**
MENT	**Mentasta**	**7.75**	**19**		**Pn**	**13 03 02.8**	**+1.9**
TRF	**Thorofare Moun**	**7.77**	**356**		**Pn**	**13 03 02.4**	**+1.2**
TRF	**Thorofare Moun**	**7.77**	**356**	P	**Pn**	**13 03 01.4**	**+0.2**
	baz=175						
PLBC	**Pleasant Camp**	**7.83**	**56**		**Pn**	**13 03 02.1**	**+0.1**
PLBC	**Pleasant Camp**	**7.83**	**56**	P	**Pn**	**13 03 02.1**	**+0.1**
	baz=245						
M15K	**Kasigluk River**	**7.85**	**314**		**Pn**	**13 03 02.3**	**+0.2**
M15K	**Kasigluk River**	**7.85**	**314**	P	**Pn**	**13 03 02.3**	**+0.2**
	baz=126						
CAST	**Castle Rocks**	**7.85**	**350**		**Pn**	**13 03 03.9**	**+1.6**
CAST	**Castle Rocks**	**7.85**	**350**	P	**Pn**	**13 03 02.8**	**+0.6**
	baz=168						
KTH	**Kantishna Hill**	**7.90**	**354**		**Pn**	**13 03 03.9**	**+1.0**
L26K	**Log Cabin Wild**	**7.90**	**20**		**Pn**	**13 03 04.4**	**+1.5**
HYT	**Haines Junctio**	**8.00**	**46**		**Pn**	**13 03 05.5**	**+1.1**
TTA	**Tatalina**	**8.02**	**337**	Pn	**Pn**	**13 03 03.2**	**-1.4**
MCK	**McKinley**	**8.03**	**1**		**Pn**	**13 03 05.2**	**+0.5**
MCK	**McKinley**	**8.03**	**1**	P	**Pn**	**13 03 05.2**	**+0.5**
	baz=181						
L16K	**Owhat River**	**8.03**	**322**		**Pn**	**13 03 05.1**	**+0.5**
S32K	**Kill

E29M	**Blow River**	**13.72**	**18**	Pn		**Pn**	**13 04 25.5**	**+3.1**
INK	**Inuvik**	**14.53**	**24**			**Pn**	**13 04 34.0**	**+0.5**
INK	**Inuvik**	**14.53**	**24**	Pn		**Pn**	**13 04 34.6**	**+1.1**
	comp=E,0.2nm,0.3s,baz=203,slow=15,SNR=18							
INK				LR		LR	13 10 34.9	
	comp=E,176nm,18.2s,baz=358,slow=39							
	comp=E,9.7nm,0.9s							
C36M	**Paulatuk**	**17.70**	**30**	P		**Pn**	**13 05 14.2**	**0.0**
YKA	**Yellowknife Ar**	**18.81**	**55**	P		**Pn**	**13 05 28.8**	**+0.8**
	comp=E,0.1nm,0.3s,baz=264,slow=12,SNR=8.0							
	comp=E,0.8nm,0.8s							
A36M	**Sachs Harbour**	**19.17**	**23**	P		**Pn**	**13 05 33.0**	**+0.8**
NVAR	**Mina Array Bea**	**26.91**	**117**	P		**P**	**13 06 49.6**	**+0.2**
	comp=E,0.8nm,0.7s,baz=301,slow=8.9,SNR=6.4							
	comp=E,0.8nm,0.7s							
PDAR	**Pinedale Array**	**28.51**	**100**	P		**P**	**13 07 02.4**	**-1.3**
	comp=E,0.3nm,0.6s,baz=339,slow=3.8,SNR=3.6							
	comp=E,0.3nm,0.6s							
PETK	**Petropavlovsk-**	**30.39**	**288**	P		**P**	**13 07 19.6**	**-0.3**
	comp=E,3.1nm,0.9s,baz=74,slow=11,SNR=5.8							
	comp=E,3.1nm,0.9s							
TXAR	**Lajitas Array**	**41.58**	**110**	P		**P**	**13 08 54.7**	**-1.3**
	comp=E,0.3nm,0.9s,baz=229,slow=9.8,SNR=2.5							
	comp=E,0.3nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**48.65**	**240**	T		T	14 02 15.7	
	baz=31,slow=76,SNR=58							
H11N3	**WAKE ISLAND Hy**	**48.66**	**240**	T		T	14 02 13.2	
	baz=31,slow=76,SNR=71							
H11N1	**WAKE ISLAND Hy**	**48.67**	**240**	T		T	14 02 14.3	
	baz=31,slow=76,SNR=33							
H11S1	**WAKE ISLAND Hy**	**49.79**	**240**	T		T	14 03 39.9	
	baz=31,slow=76,SNR=40							
H11S2	**WAKE ISLAND Hy**	**49.80**	**240**	T		T	14 03 40.9	
	baz=31,slow=76,SNR=32							
H11S3	**WAKE ISLAND Hy**	**49.81**	**240**	T		T	14 03 41.3	
	baz=31,slow=76,SNR=36							
ARCES	**ARCESS Array B**	**54.98**	**2**	P		**P**	**13 10 40.2**	**+1.4**
	comp=E,3.6nm,0.8s,baz=349,slow=6.5,SNR=6.8							
	comp=E,3.6nm,0.8s							
SONM	**Songino Array**	**59.04**	**310**	P		**P**	**13 11 09.1**	**+1.1**
	comp=E,0.6nm,0.5s,baz=15,slow=5.7,SNR=2.9							
	comp=E,0.6nm,0.5s							
ZALV	**Zalesovo Beam**	**62.05**	**327**	P		**P**	**13 11 29.0**	**+0.8**
	comp=E,0.7nm,0.5s,baz=27,slow=7.0,SNR=4.4							
	comp=E,0.7nm,0.5s							
NOA	**NORSAR Array B**	**62.55**	**11**	P		**P**	**13 11 33.2**	**+1.7**
	comp=E,0.7nm,0.8s,baz=346,slow=6.4,SNR=3.7							
	comp=E,0.7nm,0.8s							
FINES	**FINESS Array B**	**63.11**	**3**	P		**P**	**13 11 36.2**	**+1.1**
	comp=E,2.2nm,0.7s,baz=3.6,slow=10,SNR=10							
	comp=E,2.2nm,0.7s							
BVAR	**Borovoye Array**	**66.81**	**335**	P		**P**	**13 11 60.0**	**+0.6**
	comp=E,0.9nm,0.6s,baz=19,slow=6.4,SNR=5.0							
	comp=E,0.9nm,0.6s							
KURBB	**Kurchatov Arra**	**66.84**	**329**	P		**P**	**13 11 59.9**	**+0.3**
	comp=E,0.5nm,0.5s,baz=29,slow=6.4,SNR=5.0							
MKAR	**Makanchi Array**	**69.08**	**325**	P		**P**	**13 12 14.4**	**+0.6**
	comp=E,0.9nm,0.6s,baz=29,slow=5.3,SNR=11							
	comp=E,0.9nm,0.6s							
WMQ	**Urumqi**	**69.80**	**320**	*e*P		**P**	**13 12 19.5**	**+1.1**
AKASG	**Malin Array Be**	**73.93**	**1**	P		**P**	**13 12 43.8**	**+0.9**
	comp=E,0.4nm,0.4s,baz=4.0,slow=6.7,SNR=3.2							
	comp=E,0.4nm,0.4s							
GERES	**GERESS Array B**	**74.82**	**12**	P		**P**	**13 12 50.8**	**+2.5**
	comp=E,0.4nm,0.4s,baz=29,slow=8.3,SNR=2.0							
	comp=E,0.4nm,0.4s							
PZH	**PanZhiHua**	**78.44**	**300**	P		**P**	**13 13 06.7**	**-2.4**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,120nm,7.1s							
CMAR	**Chiang Mai Arr**	**86.59**	**298**	P		**P**	**13 13 51.9**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=9.6,slow=4.8,SNR=4.9							
	comp=Z,0.6nm,0.4s							
QSPA	**South Pole Qui**	**145.52**	**180**	PKPbc		**PKPdf**	**13 20 44.2**	**-0.6**
	comp=Z,2.3nm,0.9s,baz=16,slow=1.5,SNR=6.4							

*NNC **09** 13:07:18.8±6.9, 45.˙34N×77.˚60E, h0km, mb2.7, mpv2.4, Error ellipse: s-maj=54.0km s-min=24.5km az=145.0*

SOME 09 13:07:18.1, 45.80N×81.˚15E, h25km, 4C-4D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAKZ	**Makanchi**	**1.16**	**29**	⇓P	Pn	13 07 38.4	-0.4
	0.8nm,0.7s						
MAKZ				⇓S	Sn	13 07 53.1	-0.8
	1.4nm,0.3s						
MK31	**Makanchi Array**	**1.27**	**38**	⇓P	Pn	13 07 40.5	+0.2
	0.7nm,0.2s,baz=212,slow=16,SNR=27						
MK31				⇑S	Sn	13 07 55.9	-0.6
	1.4nm,0.3s,baz=215,slow=29,SNR=30						
KAPS	**Kapalarasan**	**1.36**	**248**	*e*P	Pb	13 07 42.7	-0.2
	0.8nm,0.1s						
KAPS				*e*S	Sb	13 08 00.5	+0.6
	2.7nm,0.1s						
KAPS	**Kapalarasan**	**1.36**	**248**	P	Pb	13 07 42.8	-0.1
	1.0nm,0.3s						
KAPS				S	Sb	13 08 00.7	+0.7
	2.6nm,0.2s						
DJR	**Jarkent**	**1.76**	**214**	*e*P	Pb	13 07 49.8	+0.1
	0.9nm,0.2s						
DJR				*e*S	Sb	13 08 12.7	+1.4
	3.1nm,0.2s						
DJR	**Jarkent**	**1.76**	**214**	P	Pb	13 07 49.8	+0.1
	0.9nm,0.2s						
DJR				S	Sb	13 08 12.7	+1.4
	2.2nm,0.5s						
PDGK	**Podgornoye**	**2.74**	**206**	Pg	Pb	13 08 06.8	+0.3
	0.2nm,0.4s						
PDGK				Lg	Lg	13 08 41.6	
	0.5nm,0.5s						
PDGK	**Podgornoye**	**2.74**	**206**	⇑Pg	Pb	13 08 03.6	-2.8
	1.8nm,1.1s						
PDGK				⇑Lg	Lg	13 08 40.0	
	0.7nm,0.3s						
KNDC	**Almaty**	**3.95**	**231**	⇑Pg	Pn	13 07 58.4	-19
	7.5nm,0.3s						
KNDC				⇓Lg	Lg	13 08 26.3	
	22nm,0.6s						

*IDC **09** 13:22:06.8±2.6, 56˙.25N×148˙.41W, h0km, mb3.6/4, mbtmp3.5/6, ML3.3/2, Error ellipse: s-maj=51.0km s-min=32.9km az=132.0*

*NEIC **09** 13:22:08.4±1.6, 56˙.34N±0˙.08×148˙.4W±0˙.1, h21km±8km, ML3.8/56, ML3.5(AEIC), Error ellipse: s-maj=11.6km s-min=7.9km az=156.0*

*AEIC **09** 13:22:12.0±1.6, 56˙.38N±0˙.09×148˙.3W±0˙.1, h10km±7km, Error ellipse: s-maj=13.2km s-min=8.7km az=168.0*

ISC 09 13:22:08.6±1.1, 56˙.48N±0˙.08×148˙.41W±0˙.06, h10km, n241, σ0996/235, mb3.9/4, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.62**	**302**	Pn	**Pn**	**13 22 50.4**	**-0.6**
KDAK	**Kodiak Island**	**2.62**	**302**		**Sn**	**13 23 21.2**	**-1.7**
KDAK	**Kodiak Island**	**2.62**	**302**	S	**Sn**	**13 23 21.2**	**-1.7**
	baz=120						
OHAK	**Old Harbor**	**2.78**	**288**	Pn	**Pn**	**13 22 52.2**	**-0.9**
OHAK	**Old Harbor**	**2.78**	**288**		**Sn**	**13 23 23.2**	**-3.5**
OHAK	**Old Harbor**	**2.78**	**288**	P	**Pn**	**13 22 51.9**	**-1.2**
OHAK	**Old Harbor**	**2.78**	**288**	P	**Pn**	**13 22 52.0**	**-1.2**
	baz=106						
OHAK				S	**Sn**	**13 23 23.2**	**-3.5**
	baz=106						
SYI	**Shuyak Island**	**3.03**	**317**	Pn	**Pn**	**13 22 56.8**	**+0.2**
SYI	**Shuyak Island**	**3.03**	**317**		**Sn**	**13 23 32.4**	**-0.4**
Q20K	**Shuyak Island**	**3.03**	**317**	P	**Pn**	**13 22 56.9**	**+0.4**
	baz=134						
Q20K				S	**Sn**	**13 23 32.4**	**-0.5**
	baz=134						
MID	**Middleton Isla**	**3.16**	**20**		**Pn**	**13 22 57.6**	**-0.7**
MID	**Middleton Isla**	**3.16**	**20**	IAML		13 24 01.1	
	comp=N,186nm,1.4s						
MID				IAML		13 24 59.3	
	comp=E,379nm,1.5s						
SII	**Sitkinak Islan**	**3.20**	**274**	IAML		13 23 39.0	
	comp=N,260nm,1.5s						
SII				IAML		13 23 44.0	
	comp=E,182nm,1.2s						
SII	**Sitkinak Islan**	**3.20**	**274**		**Pn**	**13 22 58.7**	**-0.3**
SII					**Sn**	**13 23 33.2**	**-3.9**
SII	**Sitkinak Islan**	**3.20**	**274**	S	**Sn**	**13 23 33.2**	**-3.9**
	baz=92						
CNPM	**China Poot**	**3.41**	**335**		**Pn**	**13 23 01.7**	**-0.1**
CNPM					**Sn**	**13 23 41.2**	**-1.0**
BRSE	**Bradley Lake S**	**3.50**	**340**		**Pn**	**13 23 02.9**	**-0.2**
BRSE					**Sn**	**13 23 42.8**	**-1.7**
BRSE	**Bradley Lake S**	**3.50**	**340**	P	**Pn**	**13 23 02.9**	**-0.2**
	baz=159						
BRSE				S	**Sn**	**13 23 42.8**	**-1.7**
	baz=159						
BRLK	**Bradley Lake**	**3.55**	**339**	Pn	**Pn**	**13 23 03.9**	**+0.2**
BRLK				IAML		13 23 46.1	
	comp=N,82nm,0.7s						
BRLK				IAML		13 23 49.2	
	comp=E,89nm,1.4s						
P23K	**Montague Islan**	**3.57**	**8**		**Pn**	**13 23 03.7**	**-0.3**
P23K					**Sn**	**13 23 43.4**	**-2.8**
P23K	**Montague Islan**	**3.57**	**8**	P	**Pn**	**13 23 03.7**	**-0.3**
	baz=188						
P23K				S	**Sn**	**13 23 43.4**	**-2.8**
	baz=188						
HOM	**Homer**	**3.62**	**333**	Pn	**Pn**	**13 23 05.2**	**+0.5**
HOM	**Homer**	**3.62**	**333**	P	**Pn**	**13 23 05.0**	**+0.3**
	baz=151						
SEW	**Seward**	**3.68**	**352**		**Pn**	**13 23 04.8**	**-0.7**
SEW					**Sn**	**13 23 45.6**	**-3.2**
SEW	**Seward**	**3.68**	**352**	P	**Pn**	**13 23 04.8**	**-0.7**
	baz=171						
SEW				S	**Sn**	**13 23 46.4**	**-2.4**
	baz=171						
Q19K	**Cape Douglas,**	**3.73**	**313**		**Pn**	**13 23 07.1**	**+0.8**
Q19K	**Cape Douglas,**	**3.73**	**313**	IAML		13 24 15.8	
	comp=N,184nm,1.0s						
Q19K	**Cape Douglas,**	**3.73**	**313**	P	**Pn**	**13 23 07.1**	**+0.8**
	baz=130						
KAKN	**Katmai Knife C**	**4.04**	**300**		**Pn**	**13 23 11.1**	**+0.6**
KAIM	**Kayak Island**	**4.05**	**30**	Pn	**Pn**	**13 23 10.1**	**-0.5**
KAIM				IAML		13 24 03.9	
	comp=N,215nm,0.9s						
KAIM				IAML		13 24 33.8	
	comp=E,140nm,1.4s						
KAIM	**Kayak Island**	**4.05**	**30**	P	**Pn**	**13 23 10.4**	**-0.2**
	baz=212						
HIN	**Hinchinbrook I**	**4.05**	**14**		**Pn**	**13 23 10.6**	**-0.1**
HIN					**Sn**	**13 23 56.2**	**-2.0**
HIN	**Hinchinbrook I**	**4.05**	**14**	IAML		13 24 02.2	
	comp=N,165nm,1.5s						
O22K	**Cooper Landing**	**4.07**	**351**		**Pn**	**13 23 10.6**	**-0.3**
O22K	**Cooper Landing**	**4.07**	**351**		**Sn**	**13 23 56.6**	**-2.0**
O22K	**Cooper Landing**	**4.07**	**351**	P	**Pn**	**13 23 10.8**	**-0.1**
	baz=170						
O22K				S	**Sn**	**13 23 56.6**	**-2.0**
	baz=170						
P19K	**Oil Pt**	**4.08**	**323**	Pn	**Pn**	**13 23 11.4**	**+0.3**
P19K				IAML		13 24 02.0	
	comp=N,165nm,0.6s						
P19K	**Oil Pt**	**4.08**	**323**	P	**Pn**	**13 23 11.7**	**+0.6**
	baz=140						
ACHA	**Angle Creek He**	**4.13**	**298**		**Pn**	**13 23 12.8**	**+1.0**
SLKM	**Skilak Lake**	**4.15**	**348**		**Pn**	**13 23 12.0**	**0.0**
KAHC	**Katmai Hardscr**	**4.17**	**304**		**Pn**	**13 23 12.7**	**+0.4**
ANCK	**Angle Creek**	**4.21**	**297**		**Pn**	**13 23 13.7**	**+0.8**
O20K	**Slope Mountain**	**4.24**	**330**		**Pn**	**13 23 13.4**	**+0.1**
O20K	**Slope Mountain**	**4.24**	**330**	P	**Pn**	**13 23 13.4**	**+0.1**
	baz=147						
EYAK	**Cordova Ski Ar**	**4.31**	**18**		**Pn**	**13 23 14.1**	**-0.1**
EYAK	**Cordova Ski Ar**	**4.31**	**18**	P	**Pn**	**13 23 14.3**	**+0.1**
EYAK	**Cordova Ski Ar**	**4.31**	**18**	P	**Pn**	**13 23 14.1**	**-0.1**
	baz=199						
ILSW	**Iliamna Southw**	**4.31**	**327**		**Pn**	**13 23 14.2**	**-0.1**
ILSW	**Iliamna Southw**	**4.31**	**327**	IAML		13 24 10.9	
	comp=N,72nm,0.4s						
ILSW				IAML		13 24 11.5	
	comp=E,68nm,0.6s						
SUCK	**Suckling Hills**	**4.36**	**32**		**Pn**	**13 23 14.5**	**-0.3**
SUCK	**Suckling Hills**	**4.36**	**32**	IAML		13 24 12.4	
	comp=N,165nm,1.3s						
SUCK				IAML		13 24 32.4	
	comp=E,121nm,1.1s						
KELA	**Mount Kelaz**	**4.42**	**299**		**Pn**	**13 23 16.8**	**+1.0**
CNTC	**Contact Creek**	**4.42**	**297**		**Pn**	**13 23 16.6**	**+0.8**
Q17K	**Contact Creek**	**4.43**	**297**	P	**Pn**	**13 23 16.6**	**+0.8**
	baz=112						
CAPN	**Captain Cook N**	**4.54**	**343**	Pn	**Pn**	**13 23 17.0**	**-0.2**
GOAT	**Goat Mountain**	**4.54**	**24**		**Pn**	**13 23 17.3**	**-0.1**
RED	**Redoubt Volcan**	**4.57**	**332**		**Pn**	**13 23 17.4**	**-0.4**
RDSO	**Redoubt South**	**4.59**	**332**		**Pn**	**13 23 17.8**	**-0.3**
RSO	**Redoubt South**	**4.60**	**332**		**Pn**	**13 23 18.2**	**-0.1**
BERG	**Berg Lake**	**4.64**	**30**	Pn	**Pn**	**13 23 18.0**	**-0.7**
RDWB	**Redoubt West**	**4.64**	**332**		**Pn**	**13 23 18.5**	**-0.3**
P18K	**Big Mountain,**	**4.66**	**312**	Pn	**Pn**	**13 23 19.1**	**0.0**
P18K	**Big Mountain,**	**4.66**	**312**	P	**Pn**	**13 23 18.9**	**-0.1**
	baz=127						
RC01	**Rabbit Creek A**	**4.68**	**352**		**Pn**	**13 23 19.2**	**0.0**
RC01	**Rabbit Creek A**	**4.68**	**352**	IAML		13 24 14.2	
	comp=N,58nm,0.7s						
RC01				IAML		13 24 15.3	
	comp=E,73nm,0.4s						
RC01	**Rabbit Creek A**	**4.68**	**352**	P	**Pn**	**13 23 19.2**	**0.0**
	baz=171						
DFR	**Drift River**	**4.69**	**333**		**Pn**	**13 23 19.1**	**-0.4**
RDJH	**Redoubt Jeurge**	**4.72**	**333**		**Pn**	**13 23 19.5**	**-0.5**
NCT	**North Crescent**	**4.73**	**332**		**Pn**	**13 23 19.8**	**-0.2**
O19K	**Port Ailsworth**	**4.86**	**323**	Pn	**Pn**	**13 23 21.9**	**+0.2**
O19K	**Port Ailsworth**	**4.86**	**323**	P	**Pn**	**13 23 21.8**	**+0.2**
	baz=138						
BMRM	**Bremner River**	**4.92**	**22**		**Pn**	**13 23 22.0**	**-0.6**
BMRM	**Bremner River**	**4.92**	**22**	P	**Pn**	**13 23 22.0**	**-0.6**
	baz=204						
WAX	**Waxell Ridge**	**4.94**	**34**		**Pn**	**13 23 21.3**	**-1.5**
WAX				IAML		13 24 25.9	
	comp=E,100nm,1.4s						
O18K	**Koktuh Hills**	**4.94**	**316**	Pn	**Pn**	**13 23 22.6**	**-0.3**
O18K				IAML		13 24 22.8	
	comp=N,35nm,1.5s						
O18K	**Koktuh Hills**	**4.94**	**316**	P	**Pn**	**13 23 22.9**	**0.0**
	baz=131						
KNK	**Knik Glacier**	**4.95**	**360**	Pn	**Pn**	**13 23 23.3**	**+0.3**
KNK				IAML		13 24 22.4	
	comp=N,37nm,0.8s						
KNK				IAML		13 24 26.9	
	comp=E,45nm,1.4s						
Q16K	**King Salmon**	**4.96**	**300**		**Pn**	**13 23 23.7**	**+0.7**
Q16K	**King Salmon**	**4.96**	**300**	P	**Pn**	**13 23 23.7**	**+0.7**
	baz=114						
P17K	**Kvichak River**	**5.08**	**306**		**Pn**	**13 23 25.1**	**+0.4**
P17K	**Kvichak River**	**5.08**	**306**	P	**Pn**	**13 23 25.1**	**+0.4**
	baz=120						
CRQM	**Cirque**	**5.10**	**31**	Pn	**Pn**	**13 23 24.6**	**-0.5**
CRQM				IAML		13 24 24.1	
	comp=E,46nm,1.4s						
CRQM				IAML		13 24 26.9	
	comp=N,35nm,1.1s						
CRQE	**Cirque**	**5.11**	**31**	P	**Pn**	**13 23 24.4**	**-0.8**
	baz=214						
N20K	**Mount Spurr**	**5.13**	**339**	P	**Pn**	**13 23 24.9**	**-0.5**
	baz=156						
SPCR	**Spurr Chakacha**	**5.13**	**339**		**Pn**	**13 23 24.9**	**-0.5**
PMR	**Palmer**	**5.14**	**356**		**Pn**	**13 23 26.1**	**+0.6**
PMR				IAML		13 24 26.2	
	comp=E,28nm,0.7s						
PMR				IAML		13 24 27.9	
	comp=N,34nm,1.5s						
PMR	**Palmer**	**5.14**	**356**	P	**Pn**	**13 23 26.0**	**+0.4**
PMR	**Palmer**	**5.14**	**356**	P	**Pn**	**13 23 25.5**	**-0.1**
	baz=175						
SUA	**Susitna One**	**5.14**	**347**	Pn	**Pn**	**13 23 25.7**	**0.0**
SUA	**Susitna One**	**5.14**	**347**	P	**Pn**	**13 23 25.4**	**-0.3**
	baz=165						
SPCN	**Chakachatna No**	**5.15**	**339**		**Pn**	**13 23 25.5**	**-0.2**
SPCG	**Spurr Capps Gl**	**5.18**	**340**		**Pn**	**13 23 26.1**	**-0.1**
TGL	**Tana Glacier**	**5.18**	**32**	Pn	**Pn**	**13 23 25.9**	**-0.4**
TGL				IAML		13 24 30.6	
	comp=N,47nm,1.5s						
KLU	**Klutina**	**5.19**	**13**		**Pn**	**13 23 26.0**	**-0.4**
KLU	**Klutina**	**5.19**	**13**	IAML		13 24 26.8	
	comp=E,65nm,1.0s						
KLU				IAML		13 24 30.0	
	comp=N,60nm,0.8s						
KLU	**Klutina**	**5.19**	**13**	P	**Pn**	**13 23 26.0**	**-0.4**
	baz=195						
SPBG	**Spurr Blockage**	**5.22**	**338**		**Pn**	**13 23 26.2**	**-0.5**
GHO	**Glory Hole Cre**	**5.32**	**357**		**Pn**	**13 23 29.3**	**+1.2**
ANNE	**Aniakchak Nort**	**5.34**	**279**		**Pn**	**13 23 29.2**	**+0.9**
STLK	**Strandline Lak**	**5.34**	**342**		**Pn**	**13 23 28.5**	**+0.2**
M23K	**Glacier View**	**5.34**	**3**		**Pn**	**13 23 29.7**	**+1.3**
SML	**Sawmill**	**5.34**	**0**	Pn	**Pn**	**13 23 28.9**	**+0.5**
SML	**Sawmill**	**5.34**	**0**	P	**Pn**	**13 23 28.6**	**+0.2**
	baz=180						
N19K	**Bonanza Creek**	**5.38**	**326**		**Pn**	**13 23 28.9**	**-0.1**
N19K	**Bonanza Creek**	**5.38**	**326**	P	**Pn**	**13 23 28.9**	**-0.1**
	baz=142						
SPNN	**North Nagishla**	**5.38**	**337**		**Pn**	**13 23 29.5**	**+0.5**
SCM	**Sheep Creek Mo**	**5.40**	**5**	Pn	**Pn**	**13 23 30.3**	**+1.1**
VRDI	**Verde Repeater**	**5.41**	**26**	Pn	**Pn**	**13 23 29.1**	**-0.4**
ANPB	**Aniakchak Plen**	**5.46**	**278**		**Pn**	**13 23 30.8**	**+0.9**
KIAG	**Kiagna River**	**5.46**	**33**		**Pn**	**13 23 29.6**	**-0.5**
GRNC	**Granite Creek**	**5.50**	**36**		**Pn**	**13 23 30.1**	**-0.6**
N25K	**Chitina, Valde**	**5.51**	**19**		**Pn**	**13 23 30.5**	**-0.1**
N25K	**Chitina, Valde**	**5.51**	**19**	P	**Pn**	**13 23 30.5**	**-0.1**
	baz=202						
TABL	**Table Mountain**	**5.51**	**41**		**Pn**	**13 23 30.4**	**-0.4**
GLB	**Gilahina Butte**	**5.52**	**24**		**Pn**	**13 23 30.5**	**-0.2**
CHGN	**Chignik**	**5.56**	**272**	Pn	**Pn**	**13 23 30.1**	**-1.2**
PCA	**Pinnacle**	**5.62**	**46**		**Pn**	**13 23 32.2**	**-0.1**
PINM	**Pinnacle**	**5.63**	**46**	P	**Pn**	**13 23 32.2**	**-0.1**
	baz=232						
PTPK	**Patty Peak**	**5.64**	**31**		**Pn**	**13 23 32.4**	**-0.2**
MCARA	**McCarthy VSAT**	**5.65**	**27**	Pn	**Pn**	**13 23 32.8**	**+0.2**
MCARA	**McCarthy VSAT**	**5.65**	**27**	P	**Pn**	**13 23 32.7**	**+0.1**
	baz=211						
O17K	**Koliganek Bris**	**5.66**	**309**		**Pn**	**13 23 33.0**	**+0.3**
O17K	**Koliganek Bris**	**5.66**	**309**	P	**Pn**	**13 23 33.0**	**+0.3**
	baz=123						
P16K	**Nushagak River**	**5.73**	**300**		**Pn**	**13 23 34.5**	**+0.9**
P16K	**Nushagak River**	**5.73**	**300**	P	**Pn**	**13 23 34.5**	**+0.9**
	baz=114						
SKT	**Skwentna**	**5.75**	**345**		**Pn**	**13 23 34.1**	**+0.2**
SKT	**Skwentna**	**5.75**	**345**	P	**Pn**	**13 23 34.1**	**+0.2**
	baz=162						
N18K	**Kilae Creek**	**5.75**	**320**		**Pn**	**13 23 33.8**	**-0.1**
N18K	**Kilae Creek**	**5.75**	**320**	P	**Pn**	**13 23 33.8**	**-0.1**
	baz=134						
PNL	**Peninsula**	**5.75**	**52**		**Pn**	**13 23 33.7**	**-0.3**
PNL	**Peninsula**	**5.75**	**52**	P	**Pn**	**13 23 33.7**	**-0.3**
	baz=239						
M24K	**Tolsona, Glenn**	**5.76**	**11**		**Pn**	**13 23 36.1**	**+2.0**
BARN	**Barnard Glacie**	**5.78**	**35**		**Pn**	**13 23 34.2**	**-0.3**
CTG	**Chitna Glacier**	**5.81**	**36**	P	**Pn**	**13 23 34.5**	**-0.4**
	baz=221						
CTGM	**Chitina Glacie**	**5.81**	**36**	Pn	**Pn**	**13 23 34.6**	**-0.3**
LOGN	**Logan Glacier**	**5.82**	**38**	Pn	**Pn**	**13 23 34.8**	**-0.3**
M20K	**Styx River**	**5.94**	**338**		**Pn**	**13 23 36.4**	**-0.2**
M20K	**Styx River**	**5.94**	**338**	P	**Pn**	**13 23 36.4**	**-0.2**
	baz=154						
O16K	**Kokwok River B**	**6.02**	**305**		**Pn**	**13 23 38.0**	**+0.5**
O16K	**Kokwok River B**	**6.02**	**305**	P	**Pn**	**13 23 38.0**	**+0.5**
	baz=118						
CUT	**Chulitna**	**6.02**	**352**	Pn	**Pn**	**13 23 37.5**	**-0.1**
N17K	**Nushagak Hills**	**6.13**	**315**		**Pn**	**13 23 39.1**	**0.0**
N17K	**Nushagak Hills**	**6.13**	**315**	P	**Pn**	**13 23 39.1**	**0.0**
	baz=128						
M19K	**Big River Lodg**	**6.25**	**333**		**Pn**	**13 23 40.2**	**-0.5**
M19K	**Big River Lodg**	**6.25**	**333**	P	**Pn**	**13 23 40.2**	**-0.5**
	baz=148						
M18K	**Stony River**	**6.32**	**326**		**Pn**	**13 23 41.4**	**-0.3**
M18K	**Stony River**	**6.32**	**326**	P	**Pn**	**13 23 41.4**	**-0.3**
	baz=140						
O29M	**Mount Kennedy**	**6.43**	**49**		**Pn**	**13 23 43.6**	**+0.1**
O29M	**Mount Kennedy**	**6.43**	**49**	P	**Pn**	**13 23 43.6**	**+0.1**
	baz=237						
P29M	**Windy Craggy**	**6.48**	**56**		**Pn**	**13 23 43.4**	**-0.7**
P29M	**Windy Craggy**	**6.48**	**56**	P	**Pn**	**13 23 43.4**	**-0.7**
	baz=244						
L19K	**White Mountain**	**6.60**	**333**		**Pn**	**13 23 45.1**	**-0.5**
L19K	**White Mountain**	**6.60**	**333**	P	**Pn**	**13 23 45.1**	**-0.5**
	baz=148						
O15K	**Ungalikthiuk R**	**6.67**	**299**		**Pn**	**13 23 45.8**	**-0.7**
O15K	**Ungalikthiuk R**	**6.67**	**299**	P	**Pn**	**13 23 45.8**	**-0.7**
	baz=110						
N16K	**Nishlik Lake**	**6.75**	**311**		**Pn**	**13 23 47.9**	**+0.3**
N16K	**Nishlik Lake**	**6.75**	**311**	P	**Pn**	**13 23 47.9**	**+0.3**
	baz=123						
S31K	**Pelican**	**6.78**	**72**	Pn	Pn	13 23 45.4	-2.6
S31K	**Pelican**	**6.78**	**72**	P	Pn	13 23 45.9	-2.1
	baz=261						
M17K	**Holitna River**	**6.79**	**320**		**Pn**	**13 23 48.3**	**+0.1**
M17K	**Holitna River**	**6.79**	**320**	P	**Pn**	**13 23 48.5**	**+0.3**
	baz=133						
MENT	**Mentasta**	**6.90**	**18**	Pn	**Pn**	**13 23 51.7**	**+2.0**
RND	**Reindeer**	**6.95**	**358**		**Pn**	**13 23 51.9**	**+1.4

G31M	**Satah River**	12.40	27	Pn		**Pn**	13 25 05.2 +0.4
YKA	**Yellowknife Ar**	18.03	57	P		**Pn**	13 26 19.5 +0.6
	comp=N,0.1nm,0.3s,baz=265,slow=10.0,SNR=11						
	comp=N,1.1nm,0.9s						
H11N2	**WAKE ISLAND Hy**	49.40	241	T		T	14 24 18.2
	baz=31,slow=76,SNR=39						
H11N3	**WAKE ISLAND Hy**	49.41	241	T		T	14 24 13.0
	baz=31,slow=76,SNR=29						
H11N1	**WAKE ISLAND Hy**	49.42	241	T		T	14 24 11.7
	baz=31,slow=76,SNR=31						
H11S1	**WAKE ISLAND Hy**	50.54	240	T		T	14 25 38.2
	baz=30,slow=76,SNR=30						
H11S2	**WAKE ISLAND Hy**	50.56	240	T		T	14 25 39.1
	baz=30,slow=76,SNR=31						
H11S3	**WAKE ISLAND Hy**	50.56	240	T		T	14 25 41.1
	baz=30,slow=76,SNR=31						
SONM	**Songino Array**	58.88	311	P		**P**	13 32 09.1 +1.7
	comp=N,0.6nm,0.7s,baz=55,slow=5.5,SNR=2.9						
	comp=N,0.6nm,0.7s						
ZALV	**Zalesovo Beam**	61.66	327	P		**P**	13 32 27.3 +1.2
	comp=N,0.6nm,0.5s,baz=33,slow=8.6,SNR=2.3						
	comp=N,0.6nm,0.5s						
BVAR	**Borovoye Array**	66.31	336	P		**P**	13 32 57.9 +1.2
	comp=N,0.5nm,0.6s,baz=36,slow=7.6,SNR=4.6						
	comp=N,0.5nm,0.6s						
MKAR	**Makanchi Array**	68.71	325	P		**P**	13 33 12.1 +0.1
	comp=N,0.2nm,0.5s,baz=41,slow=5.3,SNR=4.4						
	comp=N,0.2nm,0.5s						

*PDG **09** 13:29:29.7±0.5, 43.53°N×17.16°E, h4km±1km, MD3.9/1, ML2.9/11, Error ellipse: s-maj=1.0km s-min=1.9km az=0.0*
*BEO **09** 13:29:30.8±0.5, 43.56°N×17.16°E, h1km±2km, ML2.4/11*
*RHSSO **09** 13:29:30.9±0.2, 43.54°N×17.20°E, h4km±1km, ML2.5/13*
*VIE **09** 13:29:32.3±0.6, 43.62°N×17.52°E, h8km, mb2.6/9, ml2.4/9, Error ellipse: s-maj=7.0km s-min=4.6km az=27.0*

ISC 09 13:29:30.6±1.0, **43.55N**±0.02×**17.25E**±0.02, **h3**km±9km, **n76**, σ1s**43**/130, **6C-11D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RICI	**Ricice**	**0.10**	**237**	*e*Pg	**Pg**	**13 29 32.7**	**+0.1**
RICI				Sg	**Sg**	**13 29 34.9**	**+1.0**
MAKA	**Makarska**	**0.31**	**213**	*e*Pg	**Pg**	**13 29 36.5**	**-0.1**
MAKA				Sg	**Sg**	**13 29 41.8**	**+1.2**
NEVS	**Nevesinje**	**0.67**	**112**	*e*Pg	**Pg**	**13 29 43.3**	**-0.2**
NEVS				*e*Sg	**Sb**	**13 29 54.0**	**-0.8**
HVAR	**Hvar**	**0.69**	**238**	*e*Pg	**Pg**	**13 29 42.8**	**-1.1**
STON	**Ston**	**0.75**	**154**	*e*Pg	**Pg**	**13 29 44.0**	**-1.1**
STON				*e*Sg	**Sb**	**13 29 56.5**	**-0.5**
STON	**Ston**	**0.75**	**154**	*e*Pg	**Pg**	**13 29 44.2**	**-0.9**
STON	**Ston**	**0.75**	**154**	⇓*i*Pg	**Pg**	**13 29 43.9**	**-1.1**
STON				*e*Sg	**Sg**	**13 29 55.7**	**+0.9**
KIJV	**Kijevo**	**0.76**	**307**	*e*Pg	**Pg**	**13 29 43.9**	**-1.3**
LSTV	**Lastovo**	**0.82**	**199**	*e*Pg	**Pg**	**13 29 45.1**	**-1.2**
MGRS	**Mrkonjic Grad**	**0.88**	**352**	⇑*i*Pg	**Pg**	**13 29 47.1**	**-0.3**
MGRS				*e*Sg	**Sg**	**13 29 58.8**	**0.0**
KLNJ	**Klinje**	**1.05**	**111**	*e*Pg	**Pg**	**13 29 50.4**	**-0.3**
KLINJ				*e*Sg	**Sb**	**13 30 05.4**	**-0.2**
A050A	**Klekovaca**	**1.07**	**331**	⇓*i*Pg	**Pg**	**13 29 49.2**	**-1.9**
A050A				*e*Sg	**Sb**	**13 30 05.1**	**-1.1**
DBRK	**Dubrovnik**	**1.10**	**143**	*e*Pn	**Pb**	**13 29 50.5**	**-1.7**
BRY	**Bratogost**	**1.14**	**124**	⇑*i*Pg	**Pb**	**13 29 51.3**	**-1.8**
BRY				*e*Sg	**Sb**	**13 30 08.4**	**-0.1**
BRY	**Bratogost**	**1.14**	**124**	⇑*i*Pg	**Pb**	**13 29 51.3**	**-1.8**
BRY				*i* Sg	**Sn**	**13 30 09.9**	**-0.1**
TREB	**Trebinje**	**1.16**	**136**	*e*Pg	**Pb**	**13 29 51.2**	**-2.1**
TREB				*e*Sg	**Sn**	**13 30 09.6**	**-0.5**
TREB	**Trebinje**	**1.16**	**136**	*e*Pg	**Pb**	**13 29 51.6**	**-1.7**
TREB				*e*Sg	**Sg**	**13 30 08.8**	**+1.0**
MORI	**Morici**	**1.16**	**286**	*e*Pn	**Pb**	**13 29 51.4**	**-2.0**
ZIRJ	**Zirje**	**1.17**	**276**	*e*Pg	**Pb**	**13 29 51.2**	**-2.3**
BLY	**Banja Luka**	**1.20**	**358**	*e*Pg	**Pb**	**13 29 52.3**	**-1.7**
BLY				*e*Sg	**Sn**	**13 30 10.5**	**-0.7**
BLY	**Banja Luka**	**1.20**	**358**	⇑*i*Pg	**Pb**	**13 29 52.3**	**-1.7**
BLY				*e*Sg	**Sg**	**13 30 09.3**	**+0.1**
UPM	**Unac-Piva**	**1.26**	**105**	*e*Pg	**Pn**	**13 29 53.7**	**-1.6**
UPM				*e*Sg	**Sn**	**13 30 12.1**	**-0.7**
UPM	**Unac-Piva**	**1.26**	**105**	⇓*i*Pg	**Pn**	**13 29 54.1**	**-1.2**
UPM				*i* Sg	**Sn**	**13 30 15.0**	**+2.2**
HAPS	**Han Pijesak,Bl**	**1.34**	**66**	*e*Pg	**Pb**	**13 29 56.4**	**-0.1**
HAPS				*e*Sg	**Sg**	**13 30 16.1**	**+2.3**
HAPS	**Han Pijesak,Bl**	**1.34**	**66**	*e*Pg	**Pn**	**13 29 55.1**	**-1.3**
HAPS				*e*Sg	**Sg**	**13 30 14.6**	**+0.8**
HCY	**Herceg Novi**	**1.43**	**140**	*e*Pg	**Pn**	**13 29 56.5**	**-1.0**
HCY				*e*Sg	**Sg**	**13 30 17.2**	**+0.6**
HCY	**Herceg Novi**	**1.43**	**140**	⇓*i*Pg	**Pn**	**13 29 56.2**	**-1.3**
HCY				*i* Sg	**Sg**	**13 30 19.3**	**+2.7**
UDBI	**Udbina**	**1.45**	**313**	*e*Pn	**Pg**	**13 29 58.3**	**-0.1**
UDBI				Sn	**Sg**	**13 30 19.9**	**+2.7**
NKME	**Niksic**	**1.47**	**121**	⇓*i*Pg	**Pn**	**13 29 57.8**	**-0.3**
NKME				*i* Sg	**Sg**	**13 30 21.7**	**+3.8**
A05A	**Mrakovica**	**1.48**	**351**	*e*Pg	**Pg**	**13 29 57.6**	**-0.7**
A051A				*e*Sg	**Sg**	**13 30 18.7**	**+0.4**
RUDO	**Rudo**	**1.54**	**87**	*e*Pn	**Pb**	**13 29 59.3**	**-0.6**
RUDO				*e*Sn	**Sg**	**13 30 20.4**	**+0.2**
PLE	**Pljevlja**	**1.57**	**97**	⇓*i*Pn	**Pn**	**13 29 59.5**	**-0.1**
PLE				*i* Sn	**Sg**	**13 30 25.2**	**+4.0**
CEME	**Cevo**	**1.58**	**129**	⇓*i*Pn	**Pn**	**13 29 59.5**	**-0.1**
CEME				*i* Sn	**Sg**	**13 30 23.8**	**+2.4**
BBLS	**Lazi&#263i**	**1.60**	**78**	*e*Pg	**Pn**	**13 29 59.4**	**-0.4**
BBLS				*e*Sg	**Sg**	**13 30 22.8**	**+0.9**
BBLS	**Lazi&#263i**	**1.60**	**78**	⇑*i*Pn	**Pn**	**13 29 59.8**	**0.0**
BBLS				*e*Sn	**Sg**	**13 30 22.0**	**+0.1**
DUGI	**Dugi Otok**	**1.65**	**286**	*i* Pn	**Pn**	**13 30 00.2**	**-0.3**
BUM	**Brajici-Budva**	**1.74**	**135**	⇓*i*Pn	**Pb**	**13 30 02.6**	**-0.6**
BUM				*i* Sn	**Sg**	**13 30 28.5**	**+2.1**
VIRC	**Vir**	**1.75**	**296**	*e*Pn	**Pb**	**13 30 02.1**	**-1.3**
PLIT	**Plitvice**	**1.77**	**319**	*e*Pn	**Pg**	**13 30 03.9**	**-0.6**
KOME	**Kolasin**	**1.80**	**112**	⇑*i*Pn	**Pb**	**13 30 04.1**	**-0.2**
KOME				*i* Sn	**Sg**	**13 30 30.4**	**+2.0**
TEKS	**Tekeris**	**1.92**	**58**	*e*Pn	**Pb**	**13 30 05.4**	**-1.0**
TEKS				*e*Sn	**Sb**	**13 30 29.6**	**-1.2**
TEKS	**Tekeris**	**1.92**	**58**	*e*Pn	**Pn**	**13 30 04.8**	**+0.5**
TEKS				*e*Sn	**Sb**	**13 30 30.2**	**-0.6**
DRME	**Dracevica, Mon**	**1.97**	**133**	*e*Pn	**Pn**	**13 30 05.4**	**+0.5**
DRME				*e*Sn	**Sb**	**13 30 30.6**	**-1.5**
DRME	**Dracevica, Mon**	**1.97**	**133**	⇓*i*Pn	**Pb**	**13 30 06.7**	**-0.4**
DRME				*i* Sn	**Sg**	**13 30 34.4**	**+0.5**
SJES	**Sjenica**	**2.01**	**97**	*e*Pn	**Pb**	**13 30 07.6**	**-0.2**
SJES				*e*Sn	**Sb**	**13 30 33.0**	**-0.3**
SJES	**Sjenica**	**2.01**	**97**	*e*Pn	**Pn**	**13 30 06.1**	**+0.6**
SJES				*e*Sn	**Sn**	**13 30 31.3**	**+0.1**
IVA	**Berane**	**2.05**	**108**	⇓*i*Pn	**Pb**	**13 30 07.4**	**-1.1**
IVA				*i* Sn	**Sg**	**13 30 36.8**	**+0.4**
DIVS	**Divibare**	**2.06**	**74**	*e*Pn	**Pb**	**13 30 08.1**	**-0.6**
DIVS				*e*Sn	**Sb**	**13 30 34.1**	**-0.7**
IVAS	**Ivanjica**	**2.11**	**88**	*e*Pn	**Pn**	**13 30 07.4**	**+0.5**
IVAS				*e*Sn	**Sb**	**13 30 35.5**	**-0.7**
RABC	**Rab**	**2.14**	**305**	*e*Pn	**Pb**	**13 30 09.2**	**-0.9**
ULC	**Ulcinj**	**2.16**	**136**	⇓*i*Pn	**Pb**	**13 30 09.3**	**-1.1**
ULC				*i* Sn	**Sb**	**13 30 38.3**	**+0.7**
PVY	**Plav**	**2.20**	**115**	*e*Pn	**Pn**	**13 30 09.2**	**+1.0**
PVY				*i* Sn	**Sg**	**13 30 40.2**	**-1.2**
BOJS	**Bojanci**	**2.42**	**325**	*e*Pn	**Pn**	**13 30 11.1**	**0.0**
BOJS				*e*Sn	**Sn**	**13 30 41.2**	**0.0**
OZLJ	**Ozalj**	**2.43**	**329**	*e*Pn	**Pb**	**13 30 14.2**	**-0.7**
FRGS	**Fruska Gora**	**2.44**	**48**	*e*Pn	**Pb**	**13 30 13.2**	**-2.0**
FRGS				*e*Sn	**Sn**	**13 30 42.5**	**+0.7**
FRGS	**Fruska Gora**	**2.44**	**48**	*e*Pn	**Pn**	**13 30 12.6**	**+1.2**
FRGS				*e*Sn	**Sb**	**13 30 42.8**	**-2.9**
GRUS	**Gruza**	**2.54**	**81**	*e*Pn	**Pn**	**13 30 13.7**	**+1.0**
GRUS				*e*Sn	**Sb**	**13 30 46.3**	**-2.1**
CRES	**Cresnjev**	**2.61**	**331**	*e*Pn	**Pn**	**13 30 13.7**	**0.0**
CRES				*e*Sn	**Sn**	**13 30 46.1**	**+0.1**
KALN	**Kalnik**	**2.64**	**348**	*e*Pn	**Pn**	**13 30 13.9**	**-0.3**
SMRN	**Sveta Marina**	**2.67**	**305**	*e*Pn	**Pn**	**13 30 15.0**	**+0.5**
SELS	**Selova**	**2.84**	**95**	*e*Pn	**Pn**	**13 30 18.4**	**+1.5**
BRJN	**Brijuni**	**2.86**	**300**	*e*Pn	**Pn**	**13 30 18.1**	**+1.1**
CEY	**Cerknica**	**2.97**	**318**	*e*Pn	**Pn**	**13 30 19.1**	**+0.3**
CEY				*e*Sn	**Sn**	**13 30 53.9**	**-1.1**
SKDS	**Skadanscina**	**3.06**	**312**	*e*Pn	**Pn**	**13 30 20.0**	**+0.1**
SKDS				*e*Sn	**Sn**	**13 30 55.6**	**-1.3**
SOKA	**Soboth** 1.3nm,0.2s	**3.50**	**334**	*i* Pn	**Pn**	**13 30 27.1**	**+1.1**
OBKA	**Obir** 0.8nm,0.2s	**3.52**	**328**	*i* Pn	**Pn**	**13 30 27.9**	**+1.5**
OBKA	**Obir**	**3.52**	**328**	*e*Pn	**Pn**	**13 30 25.5**	**-0.9**
OBKA				*e*Sn	**Sn**	**13 31 07.6**	**-1.0**
ARSA	**Arzberg** 3.6nm,0.3s	**3.90**	**342**	*i* Pn	**Pn**	**13 30 32.2**	**+0.7**
RONA	**Rosalia, Austr** 1.1nm,0.2s	**4.20**	**351**	*i* Pn	**Pn**	**13 30 36.4**	**+0.7**
CONA	**Conrad Observa** 1.9nm,0.3s	**4.49**	**348**	*i* Pn	**Pn**	**13 30 40.2**	**+0.7**
CONA				*i* Sn	**Sn**	**13 31 33.0**	**+0.7**
ABTA	**Abfaltersbach** 0.4nm,0.1s	**4.63**	**315**	*i* Pn	**Pn**	**13 30 43.8**	**+2.2**
ABTA				*i* Sn	**Sn**	**13 31 39.8**	**+3.9**
MOA	**Molln** 2.8nm,0.3s	**4.78**	**335**	*i* Pn	**Pn**	**13 30 45.5**	**+1.9**
MODS	**Modra-Piesok**	**4.83**	**0**	*e*PN	**Pn**	**13 30 46.2**	**+2.0**
LESA	**Schwarzleotal** 3.7nm,0.3s	**5.03**	**322**	*i* Pn	**Pn**	**13 30 49.3**	**+2.2**
LESA				*i* Sn	**Sn**	**13 31 49.2**	**+3.4**
VYHS	**Vyhne**	**5.07**	**12**	*e*PN	**Pn**	**13 30 48.8**	**+1.3**
VYHS				*e*SN	**Sn**	**13 31 48.1**	**+1.6**
WTTA	**Wattenberg** 1.9nm,0.2s	**5.42**	**315**	*i* Pn	**Pn**	**13 30 55.3**	**+2.8**
WTTA				*i* Sn	**Sn**	**13 31 59.9**	**+4.4**

*SNET **09** 13:34:00.2±1.1, 12.34°N×87.52W, h64km±12km, ML3.6*
*CATAC **09** 13:34:00.3±0.5, 12.28°N×87.50W, h35km±5km, ML3.1*

ISC 09 13:33:58.6±1.6, **12.33N**±0.09×**87.55W**±0.04, **h12**km±10km, **n28**, σ0s**78**/43, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.61**	**53**	*e*P	**Pn**	**13 34 13.9**	**+0.7**
CRIN				*e*S	**Sn**	**13 34 24.2**	**+1.2**
CRIN	**San Cristobal**	**0.61**	**53**	*i* P	**Pn**	**13 34 13.8**	**+0.6**
CRIN				*i* S	**Sn**	**13 34 24.7**	**+1.7**
CRIN	comp=Z,4μm,1.0s			IAML		13 34 27.2	
CSGN	**Cosiguina Volc**	**0.64**	**359**	*i* P	**Pn**	**13 34 13.8**	**+0.1**
CSGN	comp=Z,5μm,1.0s			IAML		13 34 25.8	
PKGN	**Cerro Pekin**	**0.65**	**59**	*i* P	**Pn**	**13 34 14.0**	**+0.3**
PKGN				*i* S	**Sn**	**13 34 24.2**	**+0.3**
PKGN	comp=Z,4μm,1.0s			IAML		13 34 25.1	
QUEN	**Al S del Volca**	**0.73**	**69**	*i* P	**Pb**	**13 34 13.6**	**+0.3**
QUEN	comp=Z,2μm,1.0s			IAML		13 34 25.8	
TEL3	**Telica 3**	**0.73**	**70**	*i* P	**Pn**	**13 34 14.4**	**-0.3**
TEL3	comp=Z,950nm,1.0s			IAML		13 34 28.3	
TELN	**Telica**	**0.75**	**68**	*i* P	**Pb**	**13 34 14.6**	**+0.9**
TELN				*i* S	**Sn**	**13 34 25.2**	**-1.3**
TELN	comp=Z,110nm,1.0s			IAML		13 34 28.4	
HERN	**Volcan Telica**	**0.75**	**68**	*i* P	**Pb**	**13 34 14.5**	**+0.8**
HERN				*i* S	**Sn**	**13 34 25.5**	**-1.0**
HERN	comp=Z,1μm,1.0s			IAML		13 34 30.0	
PLRN	**Geotermica Pol**	**0.80**	**71**	*i* P	**Pg**	**13 34 14.3**	**+0.1**
PLRN				*i* S	**Sb**	**13 34 25.7**	**+0.4**
PLRN	comp=Z,2μm,1.0s			IAML		13 34 26.2	
CNGA	**Al SSO del Vol**	**0.84**	**79**	*i* P	**Pb**	**13 34 16.2**	**+1.0**
CNGA	comp=Z,610nm,1.0s			IAML		13 34 31.5	
CNGN	**Cerro Negro**	**0.84**	**78**	*e*P	**Pg**	**13 34 15.3**	**+0.3**
CNGN	**Cerro Negro**	**0.84**	**78**	*i* P	**Pb**	**13 34 15.6**	**+0.3**
CNGN	comp=Z,460nm,1.0s			IAML		13 34 34.1	
MACN	**El Madrono**	**0.86**	**81**	*i* P	**Pb**	**13 34 16.4**	**+0.8**
MACN				*i* S	**Sb**	**13 34 27.5**	**+0.4**
MACN	comp=Z,260nm,1.0s			IAML		13 34 31.3	
LEVN	**Ruinas Leon Vi**	**0.91**	**85**	*i* P	**Pg**	**13 34 16.7**	**+0.5**
LEVN				*i* S	**Sb**	**13 34 28.9**	**+0.4**
LEVN	comp=Z,510nm,1.0s			IAML		13 34 34.7	
COPN	**Copaltepe**	**0.94**	**99**	*i* P	**Pg**	**13 34 16.8**	**-0.1**
COPN	comp=Z,250nm,1.0s			IAML		13 34 30.2	
CNCH	**Conchagua**	**0.98**	**343**	*e*P	**Pn**	**13 34 18.4**	**0.0**
CNCH				*e*S	**Sn**	**13 34 32.9**	**+0.6**
MOMN	**Momotombo**	**0.99**	**85**	*i* P	**Pg**	**13 34 17.7**	**0.0**
MOMN	comp=Z,22nm,1.0s			IAML		13 34 18.0	
MOMN				*i* S	**Sg**	**13 34 30.5**	**-0.1**
MOM2	**El Cardon**	**1.04**	**84**	*i* P	**Pg**	**13 34 18.1**	**-0.6**
MOM2				*i* S	**Sb**	**13 34 32.4**	**+0.2**
MOM2	comp=Z,190nm,1.0s			IAML		13 34 36.1	
JUCU	**Jucuarįn**	**1.15**	**323**	*i* P	**Pn**	**13 34 21.4**	**+0.8**
JUCU	comp=Z,300nm,1.0s			IAML		13 34 51.7	
LIMN	**Finca el Limon**	**1.36**	**57**	*i* P	**Pn**	**13 34 22.8**	**-0.8**
LIMN	comp=Z,89nm,1.0s			IAML		13 34 23.1	
LIMN				*i* S	**Sb**	**13 34 40.4**	**-1.2**
PACA	**Pacayal**	**1.36**	**326**	*e*P	**Pn**	**13 34 24.2**	**+0.5**
PACA				*e*S	**Sg**	**13 34 41.9**	**-0.8**
PACA	comp=Z,808nm,0.2s			IAML		13 34 44.4	
PACA	**Pacayal**	**1.36**	**326**	*i* P	**Pn**	**13 34 24.3**	**+0.7**
PACA				*i* S	**Sg**	**13 34 41.8**	**-0.8**
PACA	comp=Z,850nm,1.0s			IAML		13 34 47.1	
MAS3	**Al N del Volca**	**1.37**	**103**	*i* P	Pg	13 34 37.8	+13
YUSH	**Yuscaran**	**1.75**	**23**	*e*P	**Pn**	**13 34 29.3**	**+0.3**
YUSH				*e*S	**Sn**	**13 34 50.4**	**-0.9**
SCLA	**Alcaldia de Sa**	**1.79**	**320**	*e*S	**Sb**	**13 34 53.0**	**-0.7**
BOAB	**BOACO BROADBAN**	**1.84**	**86**	*i* P	**Pn**	**13 34 29.1**	**-1.0**
BOAB	comp=Z,29nm,1.0s			IAML		13 35 03.3	
RCPN	**Sur Rio San Ju**	**1.85**	**50**	*i* P	**Pn**	**13 34 29.3**	**-1.0**
RCPN	comp=Z,1.3nm,1.0s			IAML		13 34 29.5	
RCPN				*i* S	**Sn**	**13 34 52.4**	**-1.3**
JAYA	**Jayaque - finc**	**2.28**	**306**	*e*S	**Sn**	**13 35 03.4**	**-0.9**

*IDC **09** 13:45:56.1±1.2, 24.01°N×121.76°E, h0km, mb3.4/7, mbtmp3.4/8, ML3.1/1, Error ellipse: s-maj=42.8km s-min=24.1km az=63.0*
*TAP **09** 13:45:58.5, 24.01°N×121.64°E, h7km, ML3.7, C*
*JMA **09** 13:45:58.5±0.1, 24.0°N±0.1×121.6°E±0.4, h2km±1km, MV3.1/13, TAIWAN REGION*
*ASIES **09** 13:45:58.5, 24.01°N×121.64°E, h7km, ML3.7, Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10²¹Nm; Mrr1.96; Mθθ-0.51; Mφφ-0.57; Mrθ0.34; Mrφ-0.75; Mθφ0.37; Fault plane solution: M₀1.73803×10²¹ NP1:φs43.45000°, δ53.53000°, λ89.52000°. NP2:φs224.26000°, δ36.47000°, λ90.66000°. Principal axes: T Plg81.4590°, Azm311.1160°; N Plg0.3920°, Azm43.7290°; P Plg8.5320°, Azm133.7880°;*

ISC 09 13:45:58.3±0.7, **24.01N**±0.01×**121.65E**±0.01, **h9**km±4km, **n161**, σ1s**06**/309, **mb3.4**/8, **20D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien** baz=221	**0.05**	**238**	*i* P	**Pg**	**13 46 00.6**	**+0.4**
HWA				S	**Sg**	**13 46 02.1**	**+0.5**
TWD	**Chiawan** baz=337	**0.09**	**325**	⇓*i*P	**Pg**	**13 46 00.8**	**+0.1**
TWD				*i* S	**Sg**	**13 46 02.5**	**+0.1**
ETM	**Tongmen** baz=254	**0.15**	**255**	P	**Pg**	**13 46 01.6**	**0.0**
ETM				S	**Sg**	**13 46 03.8**	**-0.1**
ETL	**Fush Village** baz=353	**0.16**	**350**	P	**Pg**	**13 46 02.0**	**+0.3**
ETL				S	**Sg**	**13 46 04.5**	**+0.4**
NACB	**Ninganchiao** baz=345	**0.18**	**342**	⇓P	**Pg**	**13 46 02.2**	**+0.1**
NACB				S	**Sg**	**13 46 05.0**	**+0.3**
LXIB	**Xiulin Townshi** baz=270	**0.22**	**274**	⇓P	**Pg**	**13 46 02.9**	**0.0**
LXIB				S	**Sg**	**13 46 06.0**	**0.0**
SHUL	**Shoufeng** baz=202	**0.23**	**201**	P	**Pg**	**13 46 04.4**	**+1.4**
SHUL				S	**Sg**	**13 46 08.4**	**+2.2**
ETLH	**Xiulin Townshi** baz=326	**0.26**	**322**	P	**Pg**	**13 46 03.8**	**+0.2**
ETLH				S	**Sg**	**13 46 07.8**	**+0.8**
ESL	**Shilin** baz=234	**0.28**	**227**	*i* P	**Pg**	**13 46 03.9**	**+0.1**
ESL				*i* S	**Sg**	**13 46 07.6**	**0.0**
EHP	**Heping Village** baz=14	**0.31**	**15**	P	**Pg**	**13 46 05.1**	**+0.5**
EHP				S	**Sg**	**13 46 09.3**	**+0.5**
EAHA	**Aohua** baz=12	**0.33**	**14**	P	**Pg**	**13 46 05.1**	**+0.2**
EAHA				S	**Sg**	**13 46 10.4**	**+1.1**
WARBT	**Fenglin Townsh** baz=229	**0.38**	**221**	P	**Pg**	**13 46 05.7**	**0.0**
WARBT				*e*S	**Sb**	**13 46 12.1**	**-1.1**
WHF	**Hehuan Shan** baz=293	**0.38**	**292**	*i* P	**Pg**	**13 46 06.2**	**+0.2**
WHF				*i* S	**Sg**	**13 46 11.3**	**+0.2**
EGFH	**Guangfu** baz=223	**0.39**	**212**	P	**Pg**	**13 46 06.1**	**+0.1**
EGFH				S	**Sb**	**13 46 12.8**	**-0.8**
ENA	**Nanau** baz=8.0	**0.43**	**11**	⇓*i*P	**Pg**	**13 46 07.1**	**+0.4**
ENA				*i* S	**Sg**	**13 46 13.3**	**+0.9**
OWD	**Renai** baz=274	**0.44**	**264**	P	**Pg**	**13 46 07.2**	**+0.2**
OWD				S	**Sg**	**13 46 13.2**	**+0.4**
CHGB	**Renai** baz=278	**0.44**	**277**	⇓P	**Pg**	**13 46 07.4**	**+0.4**
CHGB				S	**Sg**	**13 46 13.6**	**+0.7**
FUSS	**Fushou** baz=305	**0.45**	**303**	P	**Pg**	**13 46 07.6**	**+0.5**
FUSS				S	**Sg**	**13 46 14.0**	**+1.0**
EWUT	**Wuta** baz=10.0	**0.45**	**15**	P	**Pg**	**13 46 07.5**	**+0.4**
EWUT				S	**Sg**	**13 46 14.4**	**+1.2**
NNSB	**Datong** baz=331	**0.49**	**330**	⇓P	**Pg**	**13 46 08.3**	**+0.4**
NNSB				S	**Sg**	**13 46 15.2**	**+0.8**
NNSH	**Datong** baz=330	**0.49**	**330**	P	**Pg**	**13 46 08.4**	**+0.5**
NNSH				*e*S	**Sg**	**13 46 15.0**	**+0.6**
WUSB	**Renai** baz=269	**0.49**	**269**	P	**Pg**	**13 46 08.4**	**+0.5**
WUSB				S	**Sb**	**13 46 15.3**	**-1.2**
TWT	**Tachien** baz=300	**0.50**	**300**	⇓*i*P	**Pb**	**13 46 09.0**	**-0.4**
TWT				*i* S	**Sb**	**13 46 16.4**	**-0.5**
NNS	**Nan Shan** baz=331	**0.50**	**329**	⇓*i*P	**Pg**	**13 46 08.5**	**+0.3**
NNS				*i* S	**Sg**	**13 46 15.7**	**+0.9**
TDCB	**Techi** baz=301	**0.52**	**299**	P	**Pg**	**13 46 08.9**	**+0.6**
TDCB				S	**Sg**	**13 46 15.8**	**+0.6**
VWDT	**VWDT** baz=244	**0.53**	**242**	⇓P	**Pg**	**13 46 09.0**	**+0.3**
VWDT				S	**Sb**	**13 46 16.8**	**-0.8**
LATG	**Datong** baz=348	**0.54**	**348**	⇓P	**Pg**	**13 46 09.1**	**+0.3**
LATG				S	**Sb**	**13 46 17.7**	**-0.2**
HGSD	**Ruisui** baz=221	**0.55**	**202**	P	**Pb**	**13 46 10.3**	**+0.2**
HGSD				*e*S	**Sb**	**13 46 19.6**	**+1.5**
EHY	**Hungye** baz=220	**0.58**	**212**	*i* P	**Pg**	**13 46 09.8**	**+0.2**
EHY				*e*S	**Sb**	**13 46 19.1**	**0.0**
EHYH	**Wanrong** baz=219	**0.58**	**209**	P	**Pg**	**13 46 09.9**	**+0.4**
EHYH				S	**Sb**	**13 46 19.8**	**+0.8**
ESAO	**Su ao** baz=14	**0.59**	**17**	P	**Pg**	**13 46 10.2**	**+0.3**
ESAO				S	**Sb**	**13 46 18.8**	**-0.6**
NDT	**Datong Townshi** baz=348	**0.61**	**348**	⇓P	**Pg**	**13 46 10.6**	**+0.5**
NDT				S	**Sb**	**13 46 19.2**	**-0.7**
EOS4	**EOS4** baz=75	**0.62**	**79**	*e*P	**Pn**	**13 46 13.3**	**+0.4**
EOS4				*e*S	**Sn**	**13 46 23.8**	**+1.1**
TWC	**Suao** baz=8.0	**0.63**	**16**	*i* P	**Pg**	**13 46 11.0**	**+0.5**
TWC				S	**Sb**	**13 46 20.5**	**+0.2**
NDS	**Dongshan** baz=3.0	**0.63**	**5**	P	**Pg**	**13 46 11.1**	**+0.6**
NDS				S	**Sb**	**13 46 20.3**	**-0.1**
ENTT	**Nioudou** baz=353	**0.64**	**353**	⇓*i*P	**Pg**	**13 46 11.2**	**+0.6**
ENTT				*i* S	**Sg**	**13 46 19.9**	**+0.9**
WPL	**Puli Township** baz=272	**0.64**	**271**	P	**Pb**	**13 46 11.4**	**-0.2**
WPL				S	**Sg**	**13 46 19.6**	**+0.6**
DPDB	**Guoxing** baz=274	**0.67**	**273**	P	**Pb**	**13 46 11.9**	**-0.2**
DPDB				*e*S	**Sg**	**13 46 20.3**	**+0.4**
EOS2	**EOS2** baz=62	**0.67**	**52**	*e*P	**Pn**	**13 46 14.8**	**+0.9**
EOS2				*e*S	**Sn**	**13 46 27.6**	**+3.2**
SSLB	**Suanglung** baz=264	**0.68**	**251**	⇓P	**Pg**	**13 46 11.7**	**+0.3**
SSLB				S	**Sg**	**13 46 20.4**	**+0.1**
WCS	**Beigang Elemen** baz=276	**0.68**	**275**	P	**Pb**	**13 46 12.1**	**-0.2**
WCS				*e*S	**Sg**	**13 46 20.6**	**+0.2**
YULB	**Yu-li** baz=221	**0.69**	**208**	P	**Pg**	**

EYUL				*e*S	**Sb**	**13 46 24.2 +1.1**
	baz=222							
TWF1	**Yuli**	**0.73**	**207**	*i* P	**Pg**	**13 46 12.2 -0.1**
	baz=221							
TWF1				*e*S	**Sb**	**13 46 22.9 -0.3**
	baz=221							
TYC	**Yuchr**	**0.74**	**262**	⇓*i*P	**Pg**	**13 46 12.8 +0.3**
	baz=264							
TYC				S	**Sg**	**13 46 22.3 +0.2**
	baz=264							
FUSB	**Fushanzhiwuyua**	**0.75**	**355**	P	**Pb**	**13 46 13.5 -0.1**
	baz=355							
FUSB				S	**Sb**	**13 46 23.8 -0.3**
	baz=355							
ILA	**Ilan**	**0.76**	**6**	*e*P	**Pg**	**13 46 13.4 +0.4**
	baz=4.0							
ILA				*e*S	**Sb**	**13 46 24.0 -0.2**
	baz=4.0							
NWLT	**Wulai**	**0.78**	**350**	P	**Pb**	**13 46 13.9 -0.2**
	baz=349							
NWLT				S	**Sb**	**13 46 24.4 -0.5**
	baz=349							
NFF	**Wufeng Townshi**	**0.79**	**322**	P	**Pb**	**13 46 14.3 0.0**
	baz=323							
NFF				*e*S	**Sb**	**13 46 26.3 +1.1**
	baz=323							
WHYT	**Xinyi Township**	**0.80**	**247**	P	**Pb**	**13 46 14.2 -0.1**
	baz=256							
WHYT				S	**Sb**	**13 46 24.9 -0.2**
	baz=256							
CHKH	**Chenggong**	**0.84**	**196**	P	**Pb**	**13 46 15.4 +0.3**
	baz=188							
CHKH				S	**Sn**	**13 46 28.3 -0.5**
	baz=188							
NSTT	**Nanjuang**	**0.86**	**316**	⇓*i*P	**Pb**	**13 46 15.9 +0.4**
	baz=318							
NSTT				S	**Sb**	**13 46 26.8 -0.3**
	baz=318							
LIOB	**Emei**	**0.86**	**318**	*i* P	**Pb**	**13 46 16.1 +0.6**
	baz=319							
LIOB				*e*S	**Sb**	**13 46 28.1 +0.9**
	baz=319							
WJS	**Zhushan**	**0.87**	**258**	P	**Pb**	**13 46 16.3 +0.7**
	baz=259							
WJS				S	**Sn**	**13 46 29.2 -0.3**
	baz=259							
FULB	**Fuli**	**0.87**	**202**	*i* P	**Pb**	**13 46 16.2 +0.7**
	baz=221							
FULB				S	**Sb**	**13 46 28.5 +1.3**
	baz=221							
TWQ1	**Liyutan**	**0.87**	**293**	*i* P	**Pb**	**13 46 16.4 +0.7**
	baz=303							
TWQ1				S	**Sn**	**13 46 29.1 -0.5**
	baz=303							
WWF	**Wufeng**	**0.87**	**273**	P	**Pn**	**13 46 17.3 +0.5**
	baz=274							
WWF				*e*S	**Sn**	**13 46 29.6 -0.1**
	baz=274							
WNT	**Mingjian**	**0.90**	**262**	*i* P	**Pn**	**13 46 17.1 0.0**
	baz=269							
WNT				*i* S	**Sn**	**13 46 29.9 -0.3**
	baz=269							
WNT1	**Nantou City**	**0.90**	**264**	*e*P	**Pn**	**13 46 17.5 +0.4**
	baz=265							
WNT1				S	**Sn**	**13 46 29.7 -0.5**
	baz=265							
TCU	**Taichung**	**0.91**	**279**	*i* P	**Pn**	**13 46 17.4 +0.3**
	baz=281							
TCU				S	**Sn**	**13 46 30.0 -0.3**
	baz=281							
NSY	**Sanyi**	**0.91**	**297**	*i* P	**Pn**	**13 46 17.6 +0.3**
	baz=311							
NSY				*e*S	**Sn**	**13 46 30.2 -0.4**
	baz=311							
ALS	**Alishan**	**0.92**	**238**	*i* P	**Pb**	**13 46 16.6 0.0**
	baz=240							
ALS				S	**Sn**	**13 46 30.8 -0.4**
	baz=240							
CHKT	**Chengkung**	**0.94**	**196**	*i* P	**Pb**	**13 46 17.0 +0.2**
	baz=180							
CHKT				*i* S	**Sn**	**13 46 31.6 +0.4**
	baz=180							
EHD	**Haiduan**	**0.95**	**206**	P	**Pg**	**13 46 16.1 -0.4**
	baz=220							
EHD				S	**Sn**	**13 46 31.7 +0.3**
	baz=220							
NMLH	**Miaoli**	**0.95**	**304**	P	**Pn**	**13 46 18.6 +0.8**
	baz=306							
NMLH				*e*S	**Sn**	**13 46 31.4 -0.1**
	baz=306							
HSN1	**Hsinchu**	**0.96**	**323**	*e*P	**Pn**	**13 46 18.6 +0.6**
	baz=324							
HSN1				*e*S	**Sn**	**13 46 31.4 -0.4**
	baz=324							
TIPB	**Shuangxi**	**0.98**	**9**	*i* P	**Pb**	**13 46 17.6 +0.2**
	baz=358							
TIPB				S	**Sb**	**13 46 30.9 +0.5**
	baz=358							
TATO	**Taipei**	**0.98**	**351**	P	**Pb**	**13 46 18.1 +0.6**
	baz=351							
TATO				*e*S	**Sb**	**13 46 31.1 +0.6**
	baz=351							
CHN5	**Tsauling**	**0.98**	**246**	*i* P	**Pn**	**13 46 18.3 0.0**
	baz=237							
CHN5				*i* S	**Sn**	**13 46 33.0 +0.6**
	baz=237							
NJN	**Zhunan**	**0.98**	**314**	*e*P	**Pn**	**13 46 18.7 +0.4**
	baz=322							
NJN				*e*S	**Sb**	**13 46 31.2 +0.7**
	baz=322							
WYL	**Yuanlin Townsh**	**0.98**	**268**	*e*P	**Pn**	**13 46 20.1 +1.8**
	baz=256							
WYL				*e*S	**Sn**	**13 46 35.2 +2.9**
	baz=256							
WDJ	**Dajia District**	**0.99**	**290**	P	**Pn**	**13 46 19.6 +1.3**
	baz=302							
WDJ				*e*S	**Sn**	**13 46 32.9 +0.5**
	baz=302							
ECS	**Chishang**	**0.99**	**204**	P	**Pn**	**13 46 18.5 +0.1**
	baz=220							
ECS				*e*S	**Sn**	**13 46 32.6 +0.1**
	baz=220							
SBCB	**Hsinchu**	**0.99**	**322**	P	**Pn**	**13 46 18.8 +0.4**
	baz=323							
SBCB				*e*S	**Sn**	**13 46 32.6 0.0**
	baz=323							
WCHH	**Zhanghua**	**1.00**	**274**	P	**Pn**	**13 46 19.1 +0.6**
	baz=276							
WCHH				S	**Sn**	**13 46 35.3 +2.5**
	baz=276							
HSN	**Hsinchu**	**1.01**	**322**	*e*P	**Pn**	**13 46 19.8 +1.1**
	baz=325							
HSN				*e*S	**Sn**	**13 46 33.4 +0.5**
	baz=325							
TAP	**Taipei**	**1.04**	**353**	*e*P	**Pg**	**13 46 17.5 -0.8**
	baz=342							
TAP				S	**Sb**	**13 46 32.6 +0.4**
	baz=342							
TWB1	**Santiao Chiao**	**1.04**	**17**	*i* P	**Pb**	**13 46 19.0 +0.5**
	baz=4.0							
TWB1				*e*S	**Sg**	**13 46 32.4 +0.4**
	baz=4.0							
WGK	**Gukeng**	**1.05**	**253**	*i* P	**Pn**	**13 46 19.7 +0.5**
	baz=255							
WGK				S	**Sn**	**13 46 36.2 +2.3**
	baz=255							
NCUH	**Zhongli**	**1.05**	**336**	P	**Pn**	**13 46 20.1 +0.8**
	baz=346							
NCUH				*e*S	**Sn**	**13 46 35.1 +1.1**
	baz=346							
WFSB	**Wu-fen Shan**	**1.07**	**6**	P	**Pn**	**13 46 20.0 +0.6**
	baz=346							
WFSB				*e*S	**Sn**	**13 46 34.4 0.0**
	baz=346							
WDLH	**Douliu**	**1.07**	**253**	P	**Pn**	**13 46 20.2 +0.8**
	baz=255							
WDLH				S	**Sn**	**13 46 37.1 +2.8**
	baz=255							
SXI1	**Grass Mountain**	**1.10**	**11**	P	**Pn**	**13 46 20.4 +0.4**
	baz=349							
SXI1				*e*S	**Sn**	**13 46 37.0 +1.6**
	baz=349							
TWS1	**Kuangyinshan**	**1.11**	**349**	*i* P	**Pn**	**13 46 20.8 +0.7**
	baz=349							
TWS1				*e*S	**Sn**	**13 46 37.0 +1.5**
	baz=349							
WCKO	**Fanlu**	**1.11**	**240**	P	**Pn**	**13 46 20.8 +0.7**
	baz=243							
WCKO				S	**Sn**	**13 46 38.2 +2.7**
	baz=243							
YM01	**YM01**	**1.14**	**356**	P	**Pn**	**13 46 21.3 +0.9**
	baz=355							
YM01				*e*S	**Sn**	**13 46 36.7 +0.5**
	baz=355							
TNOU	**National Taiwa**	**1.15**	**5**	*e*P	**Pn**	**13 46 21.5 +1.0**
	baz=346							
TNOU				*e*S	**Sn**	**13 46 37.2 +0.9**
	baz=346							
STYH	**Taoyuan**	**1.16**	**224**	P	**Pg**	**13 46 20.6 +0.1**
	baz=227							
STYH				S	**Sn**	**13 46 37.6 +1.1**
	baz=227							
NTST	**Danshui**	**1.17**	**351**	P	**Pn**	**13 46 22.3 +1.4**
	baz=351							
NTST				S	**Sn**	**13 46 37.9 +1.0**
	baz=351							
TPUB	**Ta-pu**	**1.17**	**233**	P	**Pn**	**13 46 21.6 +0.7**
	baz=236							
TPUB				S	**Sn**	**13 46 38.0 +1.0**
	baz=236							
WRL	**Guolierlin Hig**	**1.17**	**265**	P	**Pn**	**13 46 21.8 +1.0**
	baz=254							
WRL				S	**Sn**	**13 46 39.2 +2.3**
	baz=254							
STYT	**Tauyuan**	**1.17**	**225**	*i* P	**Pn**	**13 46 21.2 +0.3**
	baz=227							
STYT				S	**Sn**	**13 46 37.5 +0.4**
	baz=227							
YM08	**YM08**	**1.18**	**357**	P	**Pn**	**13 46 21.6 +0.6**
	baz=355							
ANP	**Anpu**	**1.18**	**354**	*i* P	**Pn**	**13 46 22.0 +0.9**
	baz=345							
ANP				*e*S	**Sb**	**13 46 37.1 +0.7**
	baz=345							
RLNB	**Erlin**	**1.19**	**265**	P	**Pn**	**13 46 22.4 +1.4**
	baz=266							
RLNB				S	**Sn**	**13 46 38.9 +1.5**
	baz=266							
LONT	**Longtian**	**1.19**	**204**	P	**Pg**	**13 46 19.3 -1.9**
	baz=207							
LONT				*e*S	**Sb**	**13 46 37.4 +0.7**
	baz=207							
WTK	**Tuku**	**1.20**	**255**	P	**Pn**	**13 46 22.1 +0.8**
	baz=257							
WTK				S	**Sn**	**13 46 39.4 +1.8**
	baz=257							
WTP	**Ta-pu**	**1.22**	**232**	*i* P	**Pn**	**13 46 22.3 +0.7**
	baz=235							
WTP				S	**Sn**	**13 46 40.2 +2.1**
	baz=235							
CHY	**Chiayi**	**1.23**	**246**	S	**Sn**	**13 46 41.0 +2.5**
	baz=263							
JYNG	**Yonagunijimaku**	**1.26**	**69**	P	**Pb**	**13 46 22.8 +0.5**
JYNG				S	**Sn**	**13 46 40.2 +1.1**
WTCT	**Ta-ch'eng**	**1.26**	**264**	*e*P	**Pg**	**13 46 22.6 +0.1**
	baz=265							
WTCT				*e*S	**Sn**	**13 46 40.5 +1.3**
	baz=265							
TWY	**Chenhua**	**1.27**	**358**	*e*P	**Pg**	**13 46 23.3 +0.6**
	baz=348							
TWY				*e*S	**Sn**	**13 46 40.1 +0.9**
	baz=348							
TWG	**Pinlang**	**1.29**	**204**	*i* P	**Pn**	**13 46 20.6 -2.0**
	baz=207							
TWG				*e*S	**Sb**	**13 46 39.6 +0.1**
	baz=207							
TWGBT	**Beinan**	**1.29**	**204**	P	**Pn**	**13 46 20.7 -1.9**
	baz=207							
TWGBT				*e*S	**Sb**	**13 46 39.3 -0.2**
	baz=207							
TWK	**Hsinying**	**1.30**	**236**	*i* P	**Pg**	**13 46 23.5 +0.2**
	baz=240							
TWK				*i* S	**Sn**	**13 46 43.3 +3.2**
	baz=240							
CHN1	**Nanshi**	**1.32**	**232**	*i* P	**Pg**	**13 46 24.2 +0.6**
	baz=236							
CHN1				*i* S	**Sn**	**13 46 44.0 +3.5**
	baz=236							
SNST	**Tainan City**	**1.32**	**234**	P	**Pg**	**13 46 24.6 +1.0**
	baz=238							
SNST				S	**Sn**	**13 46 42.8 +2.3**
	baz=238							
YOJ	**Yonaguni jima**	**1.32**	**70**	P	**Pg**	**13 46 24.0 +0.4**
YOJ				*e*S	**Sn**	**13 46 41.7 +1.1**
LDUT	**Ludao**	**1.34**	**187**	P	**Pn**	**13 46 22.1 -1.0**
	baz=177							
LDUT				*e*S	**Sb**	**13 46 39.6 -1.1**
	baz=177							
SGST	**Jiashian**	**1.34**	**227**	*i* P	**Pn**	**13 46 23.5 +0.2**
	baz=232							
SGST				*i* S	**Sn**	**13 46 43.8 +2.6**
	baz=232							
WSF	**Szhu**	**1.36**	**255**	*e*P	**Pg**	**13 46 24.9 +0.5**
	baz=256							
WSF				S	**Sg**	**13 46 43.3 +1.2**
	baz=256							
SLGT	**Liugui**	**1.37**	**223**	P	**Pg**	**13 46 24.5 -0.1**
	baz=228							
SLGT				S	**Sg**	**13 46 44.8 +2.5**
	baz=228							
WSL	**Shuilin Townsh**	**1.39**	**250**	P	**Pg**	**13 46 25.4 +0.4**
	baz=252							
WSL				S	**Sg**	**13 46 45.9 +2.8**
	baz=252							
ICHU	**Yijhu**	**1.41**	**243**	P	**Pg**	**13 46 26.1 +0.7**
	baz=247							
ICHU				S	**Sg**	**13 46 47.2 +3.4**
	baz=247							
CHN8	**Yiju**	**1.48**	**244**	*i* P	**Pg**	**13 46 26.9 +0.2**
	baz=247							
CHN8				S	**Sg**	**13 46 47.3 +1.5**
	baz=247							
CHN3	**Shinhua**	**1.50**	**232**	P	**Pg**	**13 46 27.7 +0.6**
	baz=236							
CHN3				*e*S	**Sg**	**13 46 49.3 +2.7**
	baz=236							
SCST	**Cishan**	**1.54**	**224**	P	**Pg**	**13 46 28.3 +0.4**
	baz=229							
SCST				S	**Sg**	**13 46 50.6 +2.7**
	baz=229							
ECL	**Taimali**	**1.54**	**205**	P	**Pn**	**13 46 25.6 -0.4**
	baz=195							
ECL				*e*S	**Sn**	**13 46 46.0 -0.1**
	baz=195							
SHHT	**Tainan City**	**1.55**	**231**	P	**Pg**	**13 46 28.9 +0.9**
	baz=235							
SHHT				*e*S	**Sg**	**13 46 50.8 +2.7**
	baz=235							
TSMG	**Majia**	**1.59**	**216**	P	**Pb**	**13 46 28.0 +0.1**
	baz=239							
TSMG				S	**Sg**	**13 46 51.3 +1.8**
	baz=239							
TWM1	**Shoushan**	**1.63**	**224**	*i* P	**Pg**	**13 46 29.9 +0.3**
	baz=230							
TWM1				*e*S	**Sg**	**13 46 52.4 +1.6**
	baz=230							
TSCK	**Chigu Township**	**1.67**	**240**	P	**Pb**	**13 46 29.4 +0.1**
	baz=244							
TSCK				S	**Sg**	**13 46 52.8 +0.7**
	baz=244							
MASBT	**Mashibuluo**	**1.67**	**214**	P	**Pn**	**13 46 28.1 +0.3**
	baz=221							
MASBT				S	**Sg**	**13 46 54.4 +2.2**
	baz=221							
EAST	**Anshuo**	**1.78**	**205**	*i* P	**Pn**	**13 46 28.0 -1.2**
	baz=191							
EAST				*e*S	**Sn**	**13 46 52.7 +0.8**
	baz=191							
TAWH	**Dawu Township**	**1.80**	**203**	P	**Pb**	**13 46 31.1 -0.3**
	baz=206							
TAWH				*e*S	**Sn**	**13 46 53.1 +0.7**
	baz=206							
WSSB	**Gushan**	**1.86**	**224**	*e*P	**Pb**	**13 46 32.1 -0.4**
	baz=229							
WSSB				*e*S	**Sg**	**13 46 58.7 +0.4**
	baz=229							
SCZT	**Fangliau**	**1.88**	**211**	*i* P	**Pn**	**13 46 32.0 +1.4**
	baz=219							
SCZT				*i* S	**Sg**	**13 46 58.4 -0.5**
	baz=219							
IRIF	**Iriomote-Funau**	**1.93**	**80**	*e*S	**Sn**	**13 46 56.9 +1.3**
SLIU	**Shizi**	**1.95**	**204**	P	**Pn**	**13 46 32.9 +1.3**
	baz=190							
SLIU				*e*S	**Sb**	**13 46 58.1 -0.2**
	baz=190							
PHUB	**P'eng-hu**	**1.97**	**256**	P	**Pn**	**13 46 32.8 +1.0**
	baz=260							
PHUB				S	**Sb**	**13 46 59.2 +0.3**
	baz=260							
PNG	**Penghu**	**1.97**	**258**	*i* P	**Pb**	**13 46 33.5 -0.8**
	baz=261							
PNG				*i* S	**Sb**	**13 46 58.5 -0.5**
	baz=261							
WDGT	**Dungji**	**1.97**	**248**	*i* P	**Pn**	**13 46 33.2 +1.4**
	baz=253							
WDGT				*i* S	**Sb**	**13 46 59.7 +0.6**
	baz=253							
LYUB	**Lan-yu**	**2.00**	**182**	P	**Pn**	**13 46 32.4 +0.2**
	baz=174							
LYUB				*e*S	**Sn**	**13 46 54.7 -2.5**
	baz=174							
HEN	**Hengchun**	**2.16**	**203**	*e*P	**Pn**	**13 46 35.9 +1.4**
	baz=184							
HEN				*e*S	**Sb**	**13 47 04.0 -0.5**
	baz=184							
JKRS	**Kuro-shima**	**2.17**	**83**	P	**Pn**	**13 46 36.4 +1.9**
JKRS				*e*S	**Sb**	**13 47 04.5 -0.1**
VCHM	**Qimei**	**2.19**	**249**	P	**Pn**	**13 46 36.4 +1.5**
	baz=238							
VCHM				S	**Sb**	**13 47 05.2 -0.1**
	baz=238							
TWKBT	**Hengchun**	**2.20**	**201**	*e*P	**Pn**	**13 46 36.5 +1.6**
	baz=202							
TWKBT				*e*S	**Sn**	**13 47 03.8 +1.5**
	baz=202							
VWUC	**VWUC**	**2.23**	**297**	P	**Pn**	**13 46 35.6 +0.1**
	baz=299							
VWUC				*e*S	**Sn**	**13 47 03.6 +0.4**
	baz=299							
JIJ	**Ishigaki jima**	**2.30**	**81**	P	**Pn**	**13 46 37.2 +0.8**
JIJ				S	**Sn**	**13 47 05.3 +0.4**
JISG	**Ishigakijimahi**	**2.49**	**76**	P	**Pn**	**13 46 39.7 +0.7**
JISG				S	**Sn**	**13 47 10.9 +1.4**
PTMZ	**Houxiangcun**	**2.53**	**295**	P	**Pn**	**13 46 39.5 0.0**
	baz=297							
PTMZ				*e*S	**Sn**	**13 47 11.5 +1.1**
	baz=297							
MATB	**Ma-tsu**	**2.64**	**324**	P	**Pn**	**13 46 42.3 +1.2**
	baz=325							
MATB				*e*S	**Sn**	**13 47 14.3 +1.1**
	baz=325							
KNM	**Kinmen**	**2.97**	**279**	*e*P	**Pn**	**13 46 47.7 +2.1**
	baz=280							
KNM				*e*S	**Sb**	**13 47 26.1 -1.7**
	baz=280							
LYJJ	**Jianjiangzhen**	**3.06**	**326**	*e*P	**Pn**	**13 46 48.7 +1.9**
	baz=325							
MHZQ	**Yeshan**	**3.16**	**312**	*e*P	**Pn**	**13 46 48.9 +0.6**
	baz=312							
MHZQ				*e*S	**Sn**	**13 47 27.7 +1.6**
	baz=312							
XPSS	**Dashiqiu**	**3.20**	**336**	*e*P	**Pn**	**13 46 48.0 -0.8**
	baz=336							
XPSS				*e*S	**Sn**	**13 47 29.6 +2.6**
	baz=336							
KSRS	**Korea Array**	**14.44**	**20**	Pn	**Pn**	**13 49 20.4 -2.5**
	0.1nm,0.3s,baz=199,slow=11,SNR=1.8							
	0.5nm,0.5s							
SONM	**Songino Array**	**26.70**	**337**	P	**P**	**13 51 39.1 +1.2**
	0.9nm,1.1s,baz=159,slow=8.7,SNR=2.0							
	0.9nm,1.1s							
MKAR	**Makanchi Array**	**38.76**	**316**	P	**P**	**13 53 23.5 +0.4**
	0.5nm,0.8s,baz=92,slow=13,SNR=4.4							
	0.5nm,0.8s							
ZALV	**Zalesovo Beam**	**40.63**	**327**	P	**P**	**13 53 37.7 -0.7**
	0.3nm,0.4s,baz=153,slow=13,SNR=1.8							
	0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**42.52**	**320**	P	**P**	**13 53 52.1 -1.9**
	0.2nm,0.6s,baz=118,slow=6.7,SNR=2.2							
WRA	**Warramunga Arr**	**45.40**	**163**	P	**P**	**13 54 16.4 -0.9**
	0.3nm,0.6s,baz=344,slow=8.6,SNR=6.5							
	0.3nm,0.6s							
BVAR	**Borovoye Array**	**48.08**	**321**	P	**P**	**13 54 37.0 -1.1**
	0.3nm,0.5s,baz=126,slow=6.2,SNR=2.3							
	0.3nm,0.5s							
ILAR	**Eielson Array**	**69.17**	**27**	P	**P**	**13 57 03.3 -1.6**
	0.1nm,0.5s,baz=279,slow=6.0,SNR=1.5							
	0.1nm,0.5s							
YKA	**Yellowknife Ar**	**82.97**	**23**	P	**P**	**13 58 23.0 -0.5**
	0.2nm,0.7s,baz=310,slow=5.4,SNR=5.0							
	0.2nm,0.7s							

JMA 09 14:08:46.7±0.3, 24°.2N±0°.4×123°.8E±0°.7, h17km±2km, MV0.9/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.11**	**328**	P	Pg	14 08 50.3	0.0
IRIF				*e*S	Sb	14 08 53.0	0.0
HATJ	**Hateruma jima**	**0.18**	**177**	P	Pg	14 08 51.1	-0.2
JKRS	**Kuro-shima**	**0.20**	**90**	P	Pg	14 08 51.5	+0.1
JIJ	**Ishigaki jima**	**0.34**	**69**	*e*P	Pg	14 08 53.6	-0.3
JIJ				*e*S	Sg	14 08 58.6	-0.2
JISG	**Ishigakijimahi**	**0.58**	**53**	*e*P	Pg	14 08 58.3	0.0

TAP 09 14:08:46.4, 24°.4ON×121°.75E, h7km±1km, ML1.3, 1C-1D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.03**	**341**	⇓*i*P	Pg	14 08 48.4	+0.7
	baz=354						
ENA				*i* S	Sg	14 08 49.4	+0.7
	baz=354						
EWUT	**Wuta**	**0.05**	**27**	⇑*i*P	Pg	14 08 48.4	+0.4
	baz=26						
EWUT				*i* S	Sg	14 08 49.1	0.0
	baz=26						
EAHA	**Aohua**	**0.07**	**190**	*e*P	Pg	14 08 48.8	+0.6
	baz=189						
EAHA				*e*S	Sg	14 08 50.3	+0.9
	baz=189						
LATG	**Datong**	**0.25**	**304**	P	Pg	14 08 52.8	+1.5
	baz=303						
LATG				S	Sg	14 08 55.9	+1.2
	baz=303						
ETL	**Fush Village**	**0.27**	**206**	S	Sb	14 08 57.7	-0.6
	baz=206						
NACB	**Ninganchiao**	**0.27**	**213**	S	Sg	14 08 56.6	+1.5
	baz=212						
ENTT	**Nioudou**	**0.29**	**325**	*i* P	Pb	14 08 53.7	-0.4
	baz=325						
ENTT				*i* S	Sb	14 08 58.1	-1.1
	baz=325						
NDT	**Datong Townshi**	**0.30**	**313**	P	Pg	14 08 53.0	+0.7
	baz=313						
NDT				S	Sb	14 08 58.7	-0.6
	baz=313						
ETLH	**Xiulin Townshi**	**0.31**	**232**	*e*P	Pg	14 08 52.9	+0.4
	baz=232						
ETLH				*e*S	Sb	14 08 59.2	-0.5
	baz=232						
NNSB	**Datong**	**0.34**	**275**	*e*S	Sg	14 08 59.0	+1.4
	baz=275						
NNS	**Nan Shan**	**0.35**	**277**	S	Sb	14 08 59.7	-1.1
	baz=276						
FUSB	**Fushanzhiwuyua**	**0.39**	**337**	*e*P	Pg	14 08 54.7	+0.7
	baz=337						
FUSB				*e*S	Sb	14 09 01.7	-0.3
	baz=337						
YHNB	**Yeheng**	**0.44**	**308**	*e*S	Sb	14 09 02.4	-1.0
	baz=308						
NWLT	**Wulai**	**0.44**	**329**	*e*P	Pg	14 08 54.9	0.0
	baz=328						
NWLT				*e*S	Sb	14 09 03.2	-0.2
	baz=328						
NSK	**Sanguang**	**0.45**	**308**	P	Pb	14 08 57.3	+0.5
	baz=308						
NSK				*i* S	Sb	14 09 04.4	+0.6
	baz=308						
LXIB	**Xiulin Townshi**	**0.49**	**220**	*e*S	Sb	14 09 04.5	-0.3
	baz=219						
FUSS	**Fushou**	**0.49**	**252**	*e*P	Pb	14 08 58.0	+0.5
	baz=252						
FUSS				*e*S	Sb	14 09 05.0	0.0
	baz=252						

*SJA **09** 14:09:16.3±0.6, 24°.20S×67°.23W, h212km±5km, ML3.8, MW3.8*
*IDC **09** 14:09:18.2±1.2, 24°.08S×67°.09W, h175km±11km, mb3.2/6,*

mbtmp3.7/12,MS2.9/1,Error ellipse: s-maj=17.8km s-min=15.3km az=30.0
*NEIC **09** 14:09:18.2±1.9,24°.19S±0°.06×67°.3W±0°.2,h191km±13km, mb4.4/2,Error ellipse: s-maj=22.7km s-min=8.5km az=99.0*
*VAO **09** 14:09:18.3±1.2,24°.13S×67°.58W,h229km±17km,mb4.1*
*GUC **09** 14:09:18.8±0.8,24°.14S×67°.48W,h213km±10km,ML4.3*

ISC 09 14:09:18.1±0.7,24°.15S±0°.04×67°.23W±0°.04,h184km±7km, n91,σ1§27/110,mb3.3/6,8C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AF01	**San Pedro de A**	**1.48**	**324**		**Pn**	**14 09 51.8**	**+1.2**
AF01	**San Pedro de A**	**1.48**	**324**	*eP*	**Pn**	**14 09 52.1**	**+1.5**
SLA	**San Lorenzo**	**1.68**	**110**	*eP*	**Pn**	**14 09 53.1**	**+0.8**
SLA				*eS*	**Sn**	**14 10 19.2**	**+0.4**
LVC	**Limon Verde**	**2.17**	**315**	*eP*	**Pn**	**14 09 58.7**	**+0.9**
LVC				IAML		14 10 32.1	
	comp=Z,153nm,0.8s						
LVC	**Limon Verde**	**2.17**	**315**	P	**Pn**	**14 09 58.7**	**+0.9**
	comp=Z,146nm,0.4s,baz=126,slow=6.8,SNR=637						
LVC				S	**Sn**	**14 10 27.9**	**-0.7**
	comp=Z,80nm,0.5s,baz=49,slow=4.6,SNR=3.8						
LVC	**Limon Verde**	**2.17**	**315**	*eP*	**Pn**	**14 09 58.4**	**+0.7**
LVC				*eS*	**Sn**	**14 10 28.4**	**-0.2**
LVC				IAML		14 10 30.1	
	comp=Z,1μm,0.4s						
LVC	**Limon Verde**	**2.17**	**315**	*eP*	**Pn**	**14 09 58.5**	**+0.7**
PB15	**IPOC Station P**	**2.26**	**294**		**Pn**	**14 09 59.4**	**+0.9**
PB15	**IPOC Station P**	**2.26**	**294**	*eP*	**Pn**	**14 09 59.3**	**+0.7**
PB15				*eS*	**Sn**	**14 10 30.9**	**+1.0**
PB15	**IPOC Station P**	**2.26**	**294**	*eP*	**Pn**	**14 09 59.4**	**+0.9**
PB15				*eS*	**Sn**	**14 10 29.8**	**-0.1**
FSA	**Cafayete**	**2.26**	**150**	*eP*	**Pn**	**14 09 59.0**	**+0.5**
FSA				*eS*	**Sn**	**14 10 28.2**	**-1.8**
GO02	**Mina Guanaco**	**2.37**	**244**	Pn	**Pn**	**14 10 00.4**	**+0.5**
GO02	**Mina Guanaco**	**2.37**	**244**	*eP*	**Pn**	**14 10 00.5**	**+0.7**
GO02				*eS*	**Sn**	**14 10 32.8**	**+0.4**
GO02	**Mina Guanaco**	**2.37**	**244**	⇑*iP*	**Pn**	**14 10 00.5**	**+0.7**
GO02				*eS*	**Sn**	**14 10 32.0**	**-0.3**
GO02				IAML		14 10 33.6	
	comp=N,908nm,0.2s						
YJA	**Yavi**	**2.52**	**39**	*eP*	**Pn**	**14 10 03.3**	**+1.5**
PB06	**IPOC Station P**	**2.59**	**303**		**Pn**	**14 10 02.9**	**+0.7**
PB06	**IPOC Station P**	**2.59**	**303**	*eP*	**Pn**	**14 10 02.9**	**+0.7**
PB06				*eS*	**Sn**	**14 10 36.2**	**-0.3**
PB06				IAML		14 10 38.7	
	comp=Z,344nm,0.1s						
PB06	**IPOC Station P**	**2.59**	**303**	⇑*iP*	**Pn**	**14 10 03.0**	**+0.8**
PB06				*eS*	**Sn**	**14 10 35.5**	**-1.1**
PB06				IAML		14 10 38.6	
	comp=N,796nm,0.1s						
PB14	**IPOC Station P**	**2.93**	**260**	*eP*	**Pn**	**14 10 06.8**	**+0.4**
PB14				IAML		14 10 51.6	
	comp=Z,140nm,0.4s						
PB14	**IPOC Station P**	**2.93**	**260**	⇑*iP*	**Pn**	**14 10 06.5**	**0.0**
PB09	**IPOC Station P**	**2.99**	**321**		**Pn**	**14 10 08.1**	**+1.0**
PB09	**IPOC Station P**	**2.99**	**321**	*eP*	**Pn**	**14 10 08.1**	**+1.0**
PB09				*eS*	**Sn**	**14 10 45.6**	**+0.4**
PB09				IAML		14 10 46.0	
	comp=Z,269nm,0.9s						
PB09	**IPOC Station P**	**2.99**	**321**	⇑*iP*	**Pn**	**14 10 08.0**	**+1.0**
PB09				*eS*	**Sn**	**14 10 44.6**	**-0.5**
PB09				IAML		14 10 46.4	
	comp=N,326nm,0.7s						
AC02	**Maricunga**	**3.17**	**212**	Pn	**Pn**	**14 10 10.0**	**+0.4**
AC02	**Maricunga**	**3.17**	**212**	*eP*	**Pn**	**14 10 09.6**	**+0.1**
AC02	**Maricunga**	**3.17**	**212**	*eP*	**Pn**	**14 10 10.3**	**+0.7**
PB04	**IPOC Station P**	**3.23**	**303**	*eP*	**Pn**	**14 10 10.4**	**+0.4**
PB04				*eS*	**Sn**	**14 10 51.0**	**+0.5**
PB04				IAML		14 10 53.1	
	comp=Z,248nm,0.1s						
PB04	**IPOC Station P**	**3.23**	**303**	*eP*	**Pn**	**14 10 09.9**	**-0.1**
PB04				*eS*	**Sn**	**14 10 48.4**	**-2.1**
PB04				IAML		14 10 55.2	
	comp=N,276nm,0.4s						
PB07	**IPOC Station P**	**3.44**	**314**	*eP*	**Pn**	**14 10 12.8**	**+0.3**
PB07				IAML		14 11 02.7	
	comp=Z,186nm,0.6s						
PB07	**IPOC Station P**	**3.44**	**314**	⇑*iP*	**Pn**	**14 10 12.7**	**+0.1**
PB07				*eS*	**Sn**	**14 10 52.3**	**-2.7**
AC01	**Pan de Azucar**	**3.64**	**236**	Pn	**Pn**	**14 10 14.1**	**-0.8**
AC01	**Pan de Azucar**	**3.64**	**236**	*eP*	**Pn**	**14 10 14.2**	**-0.8**
AC01				*eS*	**Sn**	**14 10 56.6**	**-2.7**
AC01				IAML		14 10 59.0	
	comp=Z,69nm,0.1s						
AC01	**Pan de Azucar**	**3.64**	**236**	*eP*	**Pn**	**14 10 14.0**	**-0.8**
PB01	**IPOC Station P**	**3.73**	**326**	*eP*	**Pn**	**14 10 16.1**	**0.0**
PB01				IAML		14 11 03.8	
	comp=Z,110nm,0.3s						
PB01	**IPOC Station P**	**3.73**	**326**	⇑*iP*	**Pn**	**14 10 15.7**	**-0.4**
PB02	**IPOC Station P**	**3.74**	**318**	*eP*	**Pn**	**14 10 16.2**	**0.0**
PB02				IAML		14 11 06.8	
	comp=Z,298nm,0.3s						
PB02	**IPOC Station P**	**3.74**	**318**	⇑*iP*	**Pn**	**14 10 16.0**	**-0.3**
PB02				*eS*	**Sn**	**14 10 58.9**	**-2.8**
AC06	**Mina Casimiro**	**4.26**	**221**	*eP*	**Pn**	**14 10 21.4**	**-1.2**
PATCX	**Punta Patache**	**4.28**	**320**		**Pn**	**14 10 22.6**	**-0.4**
PATCX	**Punta Patache**	**4.28**	**320**	*eP*	**Pn**	**14 10 22.4**	**-0.6**
GO03	**Copiap**	**4.37**	**218**		**Pn**	**14 10 22.8**	**-1.2**
GO03	**Copiap**	**4.37**	**218**	*eP*	**Pn**	**14 10 23.4**	**-0.6**
GO03				*eS*	**Sn**	**14 11 12.7**	**-3.2**
GO03	**Copiap**	**4.37**	**218**	*eP*	**Pn**	**14 10 22.9**	**-1.2**
PB08	**IPOC Station P**	**4.37**	**336**	*eP*	**Pn**	**14 10 25.0**	**+0.5**
PB08				IAML		14 11 21.5	
	comp=Z,47nm,0.6s						
PB08	**IPOC Station P**	**4.37**	**336**	⇑*iP*	**Pn**	**14 10 24.6**	**+0.1**
TA01	**Diego Aracena**	**4.49**	**322**	Pn	**Pn**	**14 10 24.7**	**-1.0**
TA01	**Diego Aracena**	**4.49**	**322**	*eP*	**Pn**	**14 10 25.1**	**-0.5**
TA01				IAML		14 11 20.4	
	comp=Z,68nm,0.5s						
TA01	**Diego Aracena**	**4.49**	**322**	*eP*	**Pn**	**14 10 24.9**	**-0.7**
HMBC	**Humberstone**	**4.57**	**327**	*eP*	**Pn**	**14 10 25.4**	**-1.5**
GO01	**Chusmiza**	**4.82**	**337**		**Pn**	**14 10 30.6**	**+0.2**
GO01	**Chusmiza**	**4.82**	**337**	*eP*	**Pn**	**14 10 30.5**	**+0.2**
GO01	**Chusmiza**	**4.82**	**337**	*eP*	**Pn**	**14 10 30.3**	**-0.1**
PB11	**IPOC Station P**	**4.91**	**332**	Pn	**Pn**	**14 10 30.1**	**-1.2**
PB11	**IPOC Station P**	**4.91**	**332**	*eP*	**Pn**	**14 10 30.3**	**-1.0**
PB11				*eS*	**Sn**	**14 11 25.9**	**-2.8**
PB11				IAML		14 11 28.8	
	comp=Z,35nm,0.6s						
PB11	**IPOC Station P**	**4.91**	**332**	*eP*	**Pn**	**14 10 29.9**	**-1.4**
ACLC	**CERRO LA CRUZ**	**5.26**	**177**	*eP*	**Pn**	**14 10 36.2**	**+0.5**
AC04	**Llanos de Chal**	**5.31**	**220**	*eP*	**Pn**	**14 10 34.5**	**-1.7**
AC04				IAML		14 11 42.2	
	comp=Z,31nm,0.5s						
AC04	**Llanos de Chal**	**5.31**	**220**	*eP*	**Pn**	**14 10 34.0**	**-2.2**
AGUA	**GUANDACOL**	**5.43**	**192**	*eP*	**Pn**	**14 10 38.9**	**+1.0**
CO03	**El Pedregal**	**7.33**	**204**		**Pn**	**14 10 59.7**	**-3.1**
LPAZ	**La Paz**	**7.87**	**354**	Pn	**Pn**	**14 11 10.4**	**+0.1**
LPAZ	**La Paz**	**7.87**	**354**	P	**Pn**	**14 11 10.3**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=143,slow=8.2,SNR=8.4						
LPAZ				S	**Sn**	**14 12 34.2**	**-4.9**
	comp=Z,1.1nm,0.6s,baz=233,slow=15,SNR=1.9						
CPUP	**Villa Florida**	**9.22**	**106**	P	**Pn**	**14 11 25.4**	**-2.1**
	comp=Z,1.4nm,0.4s,baz=285,slow=10,SNR=3.9						
SIV	**San Ignacio**	**9.97**	**37**	P	**Pn**	**14 11 36.6**	**-0.7**
	comp=Z,1.4nm,0.4s,baz=250,slow=11,SNR=4.3						
SIV				LR	LR	14 16 04.0	
	comp=Z,67nm,19.7s,baz=98,slow=41						
TRCB	**Terra Rica**	**13.47**	**87**	P	**P**	**14 12 24.7**	**-0.5**
CPSB	**Cacapava Do Su**	**13.75**	**120**	*eP*	**P**	**14 12 27.7**	**-0.5**
PTGB	**Pitanga**	**13.83**	**95**	*eP*	**P**	**14 12 29.8**	**+0.5**
ITAB	**Concordia**	**13.96**	**106**	P	**P**	**14 12 30.0**	**-0.5**
PLTB	**Pedras Altas**	**14.22**	**125**	P	**P**	**14 12 31.5**	**-1.9**
TRQA	**Tornquist**	**14.57**	**163**	P	**P**	**14 12 36.0**	**-1.2**
LDASE	**Londrina, Braz**	**14.78**	**90**	*eP*	**P**	**14 12 39.8**	**+0.1**
ITRB	**Iturama**	**16.27**	**77**	*eP*	**Pn**	**14 12 57.3**	**+0.8**
ARAG	**Araguaiana, MT**	**16.75**	**63**	*eP*	**Pn**	**14 13 01.9**	**-0.4**
PLCA	**Paso Flores**	**16.77**	**189**	P	**Pn**	**14 13 04.1**	**+1.7**
	comp=Z,0.5nm,0.4s,baz=315,slow=2.4,SNR=3.2						
VAO	**Valinhos**	**18.61**	**91**	*eP*	**Pn**	**14 13 21.2**	**-3.2**
SNDB	**Serra Nova Dou**	**19.37**	**54**	*eP*	**P**	**14 13 29.4**	**-0.7**
BDFB	**Brasilia**	**19.94**	**68**	P	**P**	**14 13 35.8**	**-0.5**
BDFB				IAmb	IAmb	14 13 36.8	
	comp=Z,13nm,0.9s						
BDFB	**Brasilia**	**19.94**	**68**	P	**P**	**14 13 35.7**	**-0.5**
	comp=Z,6.4nm,0.5s,baz=238,slow=10,SNR=12						
JANB	**Januaria**	**23.38**	**71**	*eP*	**P**	**14 14 09.4**	**-1.1**
SDBA	**SAO DESIDERIO**	**24.16**	**65**	*eP*	**P**	**14 14 16.7**	**-1.0**
TXAR	**Lajitas Array**	**63.68**	**325**	P	**P**	**14 19 31.4**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=146,slow=8.3,SNR=2.2						
	comp=Z,0.2nm,0.6s						
QSPA	**South Pole Qui**	**66.05**	**180**	P	**P**	**14 19 46.6**	**+1.7**
QSPA				IAmb	IAmb	14 20 25.5	
	comp=Z,8.5nm,1.4s						
QSPA	**South Pole Qui**	**66.05**	**180**	P	**P**	**14 19 46.6**	**+1.7**
	comp=Z,0.9nm,0.5s,baz=232,slow=1.1,SNR=20						
	comp=Z,0.9nm,0.5s						
TORD	**Torodi Ar. Bea**	**76.82**	**69**	P	**P**	**14 20 50.0**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=276,slow=6.9,SNR=6.7						
	comp=Z,0.8nm,0.6s						
PDAR	**Pinedale Array**	**77.17**	**329**	P	**P**	**14 20 51.9**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=134,slow=3.9,SNR=2.2						
	comp=Z,0.2nm,0.5s						
NVAR	**Mina Array Bea**	**78.52**	**321**	P	**P**	**14 21 01.4**	**+2.2**
	comp=Z,0.3nm,0.6s,baz=163,slow=6.2,SNR=4.1						
	comp=Z,0.3nm,0.6s						
YKA	**Yellowknife Ar**	**94.19**	**340**	P	**P**	**14 22 16.9**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=131,slow=4.5,SNR=5.0						
	comp=Z,0.2nm,0.6s						
ASAR	**Alice Springs**	**128.23**	**205**	PKP	**PKiKP**	**14 28 04.3**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=134,slow=1.7,SNR=8.8						
WRA	**Warramunga Arr**	**131.39**	**207**	PKP	**PKiKP**	**14 28 10.2**	**-0.1**
	comp=Z,3nm,0.5s,baz=153,slow=1.6,SNR=8.6						
ZALV	**Zalesovo Beam**	**143.63**	**28**	PKP	PKPbc	14 28 29.1	+0.5
	comp=Z,0.6nm,0.5s,baz=310,slow=6.5,SNR=3.6						
MKAR	**Makanchi Array**	**146.78**	**39**	PKPbc	**PKPbc**	**14 28 38.0**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=296,slow=3.3,SNR=14						

*IDC **09** 14:35:13.8±1.5,6°.73S×142°.98E,h0km,mb3.6/2, mbtmp3.7/5,ML3.5/2,MS3.1/3,Error ellipse: s-maj=39.3km s-min=27.8km az=56.0,New Guinea*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.91**	**123**	Pn	Pn	14 36 29.3	+0.3
	11nm,0.7s,baz=306,slow=17,SNR=3.7						
PMG				Sn	Sn	14 37 25.7	-0.8
	2.4nm,0.3s,baz=248,slow=20,SNR=12						
CTA	**Charters Tower**	**13.65**	**167**	LR	LR	14 43 53.3	
	comp=Z,37nm,19.5s,baz=280,slow=38						
WRA	**Warramunga Arr**	**15.58**	**212**	Pn	Pn	14 38 53.2	-1.8
	0.2nm,0.3s,baz=29,slow=13,SNR=8.0						
WRA				Sn	Sn	14 41 33.9	-15
	baz=36,slow=23,SNR=1.4						
WRA				Lg	Lg	14 43 24.7	
	baz=22,slow=25,SNR=2.8						
	2.0nm,1.1s						
ASAR	**Alice Springs**	**18.96**	**206**	P	Pn	14 39 37.6	+0.2
	0.1nm,0.3s,baz=32,slow=11,SNR=22						
ASAR				Lg	Lg	14 45 11.2	
	baz=27,slow=12,SNR=2.2						
	2.5nm,0.8s						
BATI	**Baumata**	**19.42**	**258**	LR	LR	14 49 12.4	
	comp=Z,116nm,18.6s,baz=354,slow=43						
DAV	**Davao City (W)**	**22.12**	**308**	LR	LR	14 49 59.0	
	comp=Z,38nm,18.9s,baz=325,slow=40						
MKAR	**Makanchi Array**	**75.56**	**322**	P	P	14 47 00.8	+0.5
	0.2nm,0.9s,baz=102,slow=6.1,SNR=1.5						
	0.2nm,0.9s						
BVAR	**Borovoye Array**	**85.03**	**325**	P	P	14 47 50.8	-0.4
	0.6nm,0.6s,baz=100,slow=4.4,SNR=3.6						
	0.6nm,0.6s						

*IDC **09** 14:50:53.8±1.9,31°.29N×80°.03E,h0km,mb3.6/7, mbtmp3.5/9,ML2.5/3,MS3.0/1,Error ellipse: s-maj=63.8km s-min=18.2km az=66.0*

ISC 09 14:50:59.3±1.7,31°.4N±0°.2×80°.2E±0°.3,h35km,n11, σ1§22/10,mb3.5/7,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**12.09**	**340**	Pn	**Pn**	**14 53 48.4**	**-0.8**
	baz=208,slow=19,SNR=1.0						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**15.46**	**6**	Pn	**Pn**	**14 54 34.2**	**-0.5**
	baz=186,slow=12,SNR=3.3						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**19.24**	**357**	P	**P**	**14 55 19.4**	**-1.0**
	baz=183,slow=11,SNR=1.6						
CMAR	**Chiang Mai Arr**	**21.32**	**123**	P	**P**	**14 55 42.3**	**-1.0**
	1.6nm,0.4s,baz=315,slow=9.8,SNR=4.5						
	1.6nm,0.4s						
BVAR	**Borovoye Array**	**22.74**	**345**	P	**P**	**14 56 00.1**	**+1.9**
	0.9nm,0.6s,baz=155,slow=12,SNR=5.8						
	0.9nm,0.5s						
ZALV	**Zalesovo Beam**	**22.78**	**7**	P	**P**	**14 55 57.6**	**-1.0**
	1.5nm,0.9s,baz=182,slow=11,SNR=6.5						
	1.5nm,0.9s						
SONM	**Songino Array**	**25.86**	**43**	P	**P**	**14 56 29.5**	**+1.8**
	0.3nm,0.5s,baz=236,slow=6.8,SNR=2.4						
	0.3nm,0.5s						
NOA	**NORSAR Array B**	**52.95**	**325**	LR	LR	15 22 23.8	
	comp=Z,14nm,16.3s,baz=15,slow=36						
WRA	**Warramunga Arr**	**72.85**	**127**	P	**P**	**15 02 25.0**	**+0.2**
	1.0nm,0.8s,baz=321,slow=6.0,SNR=9.8						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**75.13**	**130**	P	**P**	**15 02 38.2**	**+0.1**
	0.3nm,0.5s,baz=320,slow=5.5,SNR=5.2						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	**85.68**	**7**	P	**P**	**15 03 34.1**	**0.0**
	0.2nm,0.6s,baz=343,slow=4.8,SNR=5.2						
	0.2nm,0.6s						

JMA 09 14:56:49.7±0.3,37°.3N±0°.9×14°.4E±°,h46km,MV3.6/25, FAR E OFF NORTH HONSHU,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**2.57**	**293**	*i* P	Pn	14 57 30.1	+1.3
JIO	**Ouri**	**2.71**	**295**	*i* P	Pn	14 57 32.1	+1.4
JKMT	**Kesennumamotoy**	**2.79**	**303**	P	Pn	14 57 33.1	+1.3
JKMT				*eS*	Sn	14 58 05.3	+1.1
OFUJ	**Ofunato**	**2.81**	**309**	P	Pn	14 57 33.5	+1.4
OFUJ				*eS*	Sn	14 58 05.8	+1.0
JMK	**Ichinoseki**	**3.03**	**303**	P	Pn	14 57 36.8	+1.7
JOTO	**OTAMA OYAMA**	**3.30**	**275**	P	Pn	14 57 41.0	+2.1
JOTO				S	Sn	14 58 19.3	+2.5
JRY	**Ryogami san**	**4.66**	**255**	P	Pn	14 57 57.8	+0.2
JRY				S	Sn	14 58 48.9	-1.5
JCH	**Churui**	**5.35**	**351**	*eP*	Pn	14 58 06.8	0.0
JCH				*eS*	Sn	14 59 03.9	-3.1
NEM2	**Nemuro 2**	**6.11**	**9**	*eP*	Pn	14 58 14.9	-2.3
NEM2				*eS*	Sn	14 59 20.7	-5.1
JOSM	**Okushiri--Mats**	**6.11**	**322**	*eP*	Pn	14 58 19.1	+1.7
JTKR	**Abashiri--Toko**	**6.65**	**356**	*eP*	Pn	14 58 24.4	-0.2
JTKR				*eS*	Sn	14 59 36.1	-2.9
JHR	**Hokuryu**	**6.74**	**343**	*eP*	Pn	14 58 28.4	+2.4

*IDC **09** 15:00:01.0±3.7,18°.34S×169°.36E,h245km±32km,mb3.7/5, mbtmp4.2/6,Error ellipse: s-maj=30.7km s-min=23.7km az=30.0*

ISC 09 15:00:00.4±1.2,18°.3S±0°.2×169°.4E±0°.2,h240km,n7, σ0§63/7,mb3.9/4,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.65**	**216**	P	**Pn**	**15 01 12.0**	**+0.4**
	5.0nm,0.6s,baz=62,slow=18,SNR=1.3						
DZM				S	S	15 02 00.3	-7.9
	9.4nm,0.4s,baz=114,slow=20,SNR=2.3						
URZ	**Urewera**	**20.99**	**163**	P	**P**	**15 04 25.0**	**-0.4**
	12nm,1.1s,baz=72,slow=20,SNR=1.9						
	12nm,1.1s						
STKA	**Stephens Creek**	**28.46**	**236**	P	**P**	**15 05 33.5**	**+0.1**
	1.8nm,0.8s,baz=70,slow=11,SNR=8.1						
	1.8nm,0.6s						
ASAR	**Alice Springs**	**33.50**	**255**	P	**P**	**15 06 17.2**	**-0.4**
	3.0nm,0.5s,baz=82,slow=8.7,SNR=29						
	3.0nm,0.5s						
QSPA	**South Pole Qui**	**71.73**	**180**	P	**P**	**15 10 56.5**	**+0.2**
	2.0nm,0.6s,baz=122,slow=0.3,SNR=16						
	2.0nm,0.6s						
ILAR	**Eielson Array**	**89.31**	**17**	P	**P**	**15 12 29.6**	**+0.6**
	1.4nm,1.3s,baz=236,slow=5.4,SNR=6.8						
	1.4nm,1.3s						
ARCES	**ARCESS Array B**	**124.21**	**345**	PKP	**PKPdf**	**15 18 28.9**	**-0.9**
	6.9nm,1.1s,baz=22,slow=1.3,SNR=3.7						

IDC 09 15:08:52.2±2.4,6°.41S×129°.11E,h0km,mb3.3/1, mbtmp3.2/3,ML2.9/2,Error ellipse: s-maj=139.0km s-min=33.7km az=68.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.38**	**160**	Pn	Pn	15 12 17.0	-0.2
	0.1nm,0.3s,baz=338,slow=13,SNR=1.5						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**17.77**	**165**	P	Pn	15 13 01.2	0.0
	baz=346,slow=11,SNR=4.5						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**67.25**	**327**	P	P	15 19 48.7	+0.1
	0.1nm,0.4s,baz=126,slow=8.0,SNR=1.7						
	0.1nm,0.4s						

*IDC **09** 15:10:00.2±0.9,6°.13S×142°.72E,h0km,mb4.0/7, mbtmp4.0/9,ML2.0/1,MS3.1/1,Error ellipse: s-maj=40.9km s-min=19.8km az=80.0*

ISC 09 15:10:01.6±0.7,6°.25S±0°.09×142°.6E±0°.1,h10km,n11, σ1§29/12,mb4.1/7,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.47**	**125**	Pn	**Pn**	**15 11 24.0**	**+0.9**
	3.2nm,0.3s,baz=350,slow=5.3,SNR=13						
PMG				Sn	**Sn**	**15 12 24.6**	**-1.5**
	3.6nm,0.3s,baz=230,slow=24,SNR=3.0						
	7.4nm,0.3s						
CTA	**Charters Tower**	**14.20**	**166**	LR	LR	15 18 44.9	
	comp=Z,67nm,19.2s,baz=278,slow=37						
WRA	**Warramunga Arr**	**15.82**	**210**	Pn	**Pn**	**15 13 43.1**	**-1.5**
	0.4nm,0.3s,baz=29,slow=14,SNR=12						
WRA				Sn	**Sn**	**15 16 38.7**	**-1.5**
	0.3nm,0.3s,baz=42,slow=23,SNR=4.7						
WRA				Lg	Lg	15 18 22.2	
	0.1nm,0.3s,baz=34,slow=23,SNR=2.9						
ASAR	**Alice Springs**	**19.25**	**205**	P	**P**	**15 14 28.2**	**+1.9**
	3.8nm,0.6s,baz=33,slow=9.3,SNR=25						
ASAR				S	Sn	15 17 53.1	-10
	1.0nm,0.7s,baz=18,slow=28,SNR=5.0						
ASAR				Lg	Lg	15 20 11.3	
	baz=17,slow=29,SNR=1.8						
STKA	**Stephens Creek**	**25.52**	**182**	P	**P**	**15 15 31.6**	**+1.2**
	1.4nm,0.7s,baz=342,slow=9.3,SNR=5.4						
	1.4nm,0.7s						
USRK	**Ussuriysk Ar.**	**51.13**	**350**	P	**P**	**15 19 04.0**	**-0.6**
	2.1nm,0.8s,baz=163,slow=7.0,SNR=4.3						
	2.1nm,0.8s						
SONM	**Songino Array**	**62.59**	**333**	P	**P**	**15 20 25.5**	**-0.6**
	0.2nm,0.4s,baz=130,slow=5.8,SNR=1.9						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**74.97**	**322**	P	**P**	**15 21 43.2**	**+0.1**
	0.7nm,0.8s,baz=105,slow=6.5,SNR=4.9						
	0.7nm,0.8s						
QSPA	**South Pole Qui**	**83.72**	**180**	P	**P**	**15 22 31.0**	**+0.3**
	1.6nm,1.1s,baz=45,slow=20,SNR=2.0						
	1.6nm,1.1s						
BVAR	**Borovoye Array**	**84.44**	**325**	P	**P**	**15 22 35.3**	**+0.9**
	1.6nm,0.6s,baz=119,slow=6.8,SNR=10						
	1.6nm,0.6s						
ILAR	**Eielson Array**	**87.44**	**24**	P	**P**	**15 22 48.3**	**-0.7**
	1.4nm,0.7s,baz=258,slow=5.0,SNR=17						
	1.4nm,0.7s						

JMA 09 15:19:16.2±0.2,24°.2N±0°.4×123°.8E±0°.4,h17km±1km, MV0.7/8,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.14**	**317**	P	Pg	15 19 20.2	0.0
IRIF				*eS*	Sg	15 19 23.0	0.0
JKRS	**Kuro-shima**	**0.16**	**88**	P	Pg	15 19 20.5	0.0
JKRS				*eS*	Sb	15 19 23.6	-0.1
HATJ	**Hateruma jima**	**0.17**	**189**	*i* P	Pg	15 19 20.5	-0.1
HATJ				*eS*	Sg	15 19 23.9	+0.1
JIJ	**Ishigaki jima**	**0.31**	**65**	P	Pg	15 19 22.5	-0.3
JIJ				*eS*	Sg	15 19 27.0	-0.4
JISG	**Ishigakijimahi**	**0.56**	**51**	P	Pg	15 19 27.3	-0.1
JISG				*eS*	Sb	15 19 35.5	+0.2
YOJ	**Yonaguni jima**	**0.79**	**287**	*eS*	Sb	15 19 40.5	-1.2

TAP 09 15:20:13.7,24°.29N×121°.77E,h12km,ML1.4,1D,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.03**	**304**	*eP*	Pg

baz=237
WARBT **Fenglin Townsh 0.67 212** *e*P Pg 15 20 26.6 -0.1
baz=219
WARBT *e*S Sg 15 20 35.7 +0.2
baz=219

IDC 09 15:31:18.0±1.5, 6°12S×142°54E, h0km, mb3.7/2, mbtmp3.7/5, ML3.8/2, Error ellipse: s-maj=44.8km s-min=31.8km az=98.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.63**	**126**	Pn	Pn	15 32 42.4	-0.6
	6.5nm,0.9s,baz=259,slow=8.1,SNR=2.2						
PMG				Sn	Sn	15 33 46.0	-2.3
	2.4nm,0.3s,baz=161,slow=10,SNR=6.6						
WRA	**Warramunga Arr**	**15.89**	**209**	Pn	Pn	15 35 01.1	-2.0
	0.3nm,0.3s,baz=26,slow=13,SNR=15						
WRA				Sn	Sn	15 37 53.8	-6.2
	0.1nm,0.3s,baz=42,slow=23,SNR=1.3						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**19.33**	**205**	P	Pn	15 35 45.8	-0.2
	0.4nm,0.3s,baz=31,slow=10,SNR=64						
	1.9nm,0.6s						
BVAR	**Borovoye Array**	**84.27**	**325**	P	P	15 43 51.7	+0.1
	0.4nm,0.7s,baz=111,slow=6.3,SNR=1.4						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**87.36**	**24**	P	P	15 44 06.8	+0.1
	0.4nm,0.7s,baz=251,slow=5.6,SNR=2.2						
	0.4nm,0.7s						

*IDC **09** 15:36:02.7±1.0, 6°25S×142°74E, h0km, mb3.9/5, mbtmp3.8/8, ML3.7/2, Error ellipse: s-maj=34.9km s-min=22.0km az=77.0*
ISC 09 15:36:04.4±0.9, 6°46S±0°10×142°54E±0°10, h10km, n8, σ2s11/11, mb4.1/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.43**	**123**	Pn	**Pn**	**15 37 25.7**	**+0.2**
	8.8nm,0.7s,baz=243,slow=17,SNR=2.1						
PMG				Sn	**Sn**	**15 38 27.3**	**-0.8**
	0.7nm,0.3s,baz=290,slow=19,SNR=1.5						
WRA	**Warramunga Arr**	**15.60**	**210**	Pn	**Pn**	**15 39 45.7**	**+1.2**
	0.2nm,0.3s,baz=28,slow=13,SNR=5.9						
WRA				Sn	**Sn**	**15 42 33.2**	**-4.3**
	0.1nm,0.3s,baz=31,slow=21,SNR=5.0						
WRA				Lg	Lg	15 44 22.2	
	0.1nm,0.3s,baz=28,slow=27,SNR=3.2						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**19.02**	**205**	P	**Pn**	**15 40 30.2**	**+2.8**
	0.4nm,0.3s,baz=31,slow=10,SNR=30						
ASAR				S	**Sn**	**15 43 59.7**	**-0.9**
	0.8nm,0.9s,baz=21,slow=26,SNR=2.9						
ASAR				Lg	Lg	15 46 10.8	
	baz=27,slow=28,SNR=4.1						
	1.7nm,0.5s						
STKA	**Stephens Creek**	**25.31**	**182**	P	**P**	**15 41 32.4**	**+1.1**
	1.0nm,0.6s,baz=360,slow=19,SNR=1.9						
	1.0nm,0.6s						
MKAR	**Makanchi Array**	**75.07**	**322**	P	**P**	**15 47 46.8**	**+0.2**
	0.5nm,0.8s,baz=116,slow=5.5,SNR=5.1						
	0.5nm,0.8s						
QSPA	**South Pole Qui**	**83.52**	**180**	P	**P**	**15 48 33.5**	**+1.0**
	1.4nm,1.0s,baz=270,slow=15,SNR=2.0						
	1.4nm,1.0s						
BVAR	**Borovoye Array**	**84.55**	**325**	P	**P**	**15 48 37.7**	**-0.1**
	1.0nm,0.6s,baz=102,slow=6.6,SNR=6.3						
	1.0nm,0.6s						
ILAR	**Eielson Array**	**87.66**	**24**	P	**P**	**15 48 51.0**	**-1.9**
	0.9nm,0.8s,baz=265,slow=4.6,SNR=7.7						
	0.9nm,0.8s						

IDC 09 15:47:38.2±5.9, 6°17S×142°84E, h0km, mb3.3/1, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=198.7km s-min=37.1km az=96.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.99**	**210**	Pn	Pn	15 51 23.3	-1.3
	0.1nm,0.3s,baz=30,slow=13,SNR=5.4						
WRA				Sn	Sn	15 54 09.9	-13
	baz=39,slow=24,SNR=1.5						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**19.40**	**205**	P	Pn	15 52 06.6	-0.5
	0.1nm,0.3s,baz=36,slow=9.6,SNR=31						
	2.5nm,0.8s						
MKAR	**Makanchi Array**	**75.03**	**322**	P	P	15 59 21.8	0.0
	0.2nm,0.7s,baz=117,slow=5.0,SNR=1.9						
	0.2nm,0.7s						

*IDC **09** 15:53:21.2±3.8, 15°60N×97°51W, h0km, mb3.7/6, mbtmp3.7/8, ML3.3/2, MS3.6/21, Error ellipse: s-maj=62.3km s-min=28.6km az=4.0*
*NEIC **09** 15:53:22.2±2.9, 15°70N±0°04×97°75W±0°06, h10km±1km, mb4.4/60, Md4.5/56(MEX), Error ellipse: s-maj=9.7km s-min=6.8km az=104.0*
*MEX **09** 15:53:24.0±0.9, 15°61N×97°73W, h17km±76km, MD4.4*
ISC 09 15:53:21.4±0.7, 15°71N±0°04×97°70W±0°02, h10km, n161, σ2s22/178, mb4.4/23, MS3.6/19, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEIG	**Puerto Escondi**	**0.60**	**62**		**Pn**	**15 53 34.6**	**-1.5**
PEIG					**Sn**	**15 53 43.7**	**-2.2**
PEIG	**Puerto Escondi**	**0.60**	**62**	*i* P	**Pn**	**15 53 34.6**	**-1.5**
PEIG				*e*S	**Sn**	**15 53 43.7**	**-2.2**
PNIG	**Pinotepa**	**0.79**	**329**		**Pn**	**15 53 37.5**	**-1.2**
PNIG					**Sb**	**15 53 47.5**	**-0.5**
PNIG	**Pinotepa**	**0.79**	**329**	*i* P	**Pn**	**15 53 37.5**	**-1.2**
PNIG				*e*S	**Sb**	**15 53 47.5**	**-0.5**
YOIG	**Yosondua**	**1.15**	**7**		**Pn**	**15 53 43.8**	**0.0**
YOIG					**Sn**	**15 54 04.0**	**+4.2**
YOIG	**Yosondua**	**1.15**	**7**	*e*P	**Pn**	**15 53 43.8**	**0.0**
YOIG				*e*S	**Sn**	**15 53 59.5**	**-0.3**
TXIG	**Tlaxiaco**	**1.53**	**358**		**Pg**	**15 53 49.5**	**-1.4**
TXIG					**Sb**	**15 54 08.4**	**-1.3**
TXIG	**Tlaxiaco**	**1.53**	**358**	*e*P	**Pg**	**15 53 49.5**	**-1.4**
TXIG				*e*S	**Sb**	**15 54 08.4**	**-1.3**
HUIG	**Huatulco**	**1.53**	**88**		**Pn**	**15 53 47.4**	**-1.5**
HUIG					**Sn**	**15 54 06.0**	**-3.0**
HUIG	**Huatulco**	**1.53**	**88**	*e*P	**Pn**	**15 53 47.4**	**-1.5**
HUIG				*e*S	**Sn**	**15 54 06.0**	**-3.0**
OXIG	**Oaxaca**	**1.64**	**34**		**Pg**	**15 53 51.1**	**-1.8**
OXIG					**Sg**	**15 54 16.1**	**+1.8**
VHO	**Vista Hermosa**	**1.64**	**34**	*e*P	**Pg**	**15 53 51.1**	**-1.8**
VHO				*e*S	**Sg**	**15 54 12.3**	**-2.0**
OXBJ	**Oaxaca**	**1.64**	**35**	*e*P	**Pb**	**15 53 50.8**	**-1.1**
OXBJ				*e*S	**Sb**	**15 54 11.7**	**-1.1**
CRIG	**Cruz Grande**	**1.71**	**307**		**Pn**	**15 53 50.2**	**-1.1**
CRIG					**Sn**	**15 54 09.4**	**-3.9**
CRIG	**Cruz Grande**	**1.71**	**307**	*e*P	**Pn**	**15 53 50.2**	**-1.1**
CRIG				*e*S	**Sn**	**15 54 09.4**	**-3.9**
MGIG	**Malinaltepec**	**1.76**	**329**	*e*P	**Pn**	**15 53 51.8**	**-0.4**
MGIG				*e*S	**Sn**	**15 54 13.4**	**-1.3**
TLIG	**Tlapa**	**2.02**	**336**		**Pb**	**15 53 56.3**	**-2.0**
TLIG				Sn	**Sn**	**15 54 20.6**	**-0.5**
TLIG	**Tlapa**	**2.02**	**336**	*e*P	**Pb**	**15 53 56.6**	**-1.7**
TLIG				*i* S	**Sn**	**15 54 20.3**	**-0.8**
HLIG	**Huajuapan de L**	**2.11**	**357**		**Pb**	**15 53 57.8**	**-2.1**
HLIG					**Sn**	**15 54 23.6**	**+0.2**
HLIG	**Huajuapan de L**	**2.11**	**357**	*e*P	**Pb**	**15 53 57.8**	**-2.1**
HLIG				*e*S	**Sn**	**15 54 23.6**	**+0.2**
FTIG	**Fresnillo de T**	**2.22**	**349**		**Pb**	**15 54 00.0**	**-1.8**
FTIG					**Sg**	**15 54 30.5**	**-2.4**
FTIG	**Fresnillo de T**	**2.22**	**349**	*e*P	**Pb**	**15 54 00.0**	**-1.8**
FTIG				*e*S	**Sg**	**15 54 30.5**	**-2.4**
DAIG	**Los Arroyos**	**2.28**	**305**		**Pn**	**15 53 59.5**	**+0.3**
DAIG					**Sg**	**15 54 34.3**	**-0.4**
DAIG	**Los Arroyos**	**2.28**	**305**	*e*P	**Pn**	**15 53 59.5**	**+0.3**
DAIG				*e*S	**Sn**	**15 54 24.3**	**-3.0**
TOIG	**Toxpalan**	**2.44**	**14**		**Pb**	**15 54 02.9**	**-2.8**
TOIG					**Sb**	**15 54 33.2**	**-2.7**
TOIG	**Toxpalan**	**2.44**	**14**	*e*P	**Pb**	**15 54 02.9**	**-2.8**
TOIG				*e*S	**Sb**	**15 54 33.2**	**-2.7**
NEUV	**Arroyo Zacate**	**2.69**	**42**	*e*P	**Pn**	**15 54 04.8**	**-0.1**
NEUV				*e*S	**Sb**	**15 54 41.1**	**-1.8**
TPIG	**Tehuac#an**	**2.71**	**7**		**Pb**	**15 54 07.2**	**-3.0**
TPIG					**Sg**	**15 54 49.3**	**+0.7**
TPIG	**Tehuac#an**	**2.71**	**7**	*e*P	**Pb**	**15 54 07.2**	**-3.0**
TPIG				*e*S	**Sb**	**15 54 41.2**	**-2.4**
CAIG	**El Cayaco**	**2.80**	**299**		**Pn**	**15 54 05.9**	**-0.4**
CAIG	**El Cayaco**	**2.80**	**299**	*e*P	**Pn**	**15 54 05.9**	**-0.4**
CAIG				*e*S	**Sn**	**15 54 36.3**	**-3.9**
MEIG	**Mezcala**	**2.87**	**320**		**Pn**	**15 54 08.4**	**+1.1**
MEIG					**Sn**	**15 54 41.2**	**-0.7**
MEIG	**Mezcala**	**2.87**	**320**	*e*P	**Pn**	**15 54 08.4**	**+1.1**
MEIG				*e*S	**Sn**	**15 54 41.2**	**-0.7**
CMIG	**Matias Romero**	**3.03**	**63**		**Pn**	**15 54 08.8**	**-0.7**
CMIG					**Sn**	**15 54 45.9**	**0.0**
CMIG	**Matias Romero**	**3.03**	**63**	Pn	**Pn**	**15 54 09.1**	**-0.4**
	4.7nm,0.3s,baz=241,slow=9.8,SNR=48						
CMIG				Sn	**Sn**	**15 54 46.4**	**+0.5**
	27nm,0.3s,baz=240,slow=20,SNR=8.5						
	30nm,0.5s						
CMIG	**Matias Romero**	**3.03**	**63**	*e*P	**Pn**	**15 54 08.8**	**-0.7**
CMIG				*e*S	**Sn**	**15 54 45.9**	**0.0**
NILT	**Santiago Nilte**	**3.08**	**74**	*e*P	**Pb**	**15 54 12.6**	**-3.8**
NILT				*e*S	**Sn**	**15 54 47.5**	**+0.3**
PLIG	**Platanillo**	**3.17**	**327**		**Pn**	**15 54 13.6**	**+2.0**
PLIG					**Sg**	**15 55 02.4**	**-1.1**
PLIG	**Platanillo**	**3.17**	**327**	*e*P	**Pn**	**15 54 13.6**	**+2.0**
PLIG				*e*S	**Sn**	**15 54 51.1**	**+1.6**
YAIG	**Yautepec**	**3.39**	**338**		**Pb**	**15 54 19.8**	**-2.0**
YAIG					**Sg**	**15 55 07.5**	**-3.0**
YAIG	**Yautepec**	**3.39**	**338**	*e*P	**Pb**	**15 54 17.5**	**-4.3**
YAIG				*e*S	**Sn**	**15 54 55.6**	**+0.6**
PPM	**Popocatepetl**	**3.45**	**345**	*e*P	**Pb**	**15 54 23.1**	**+0.1**
PPIG	**Popocatepetl**	**3.45**	**345**		**Pb**	**15 54 23.1**	**+0.1**
PPIG					**Sg**	**15 55 08.7**	**-3.7**
ARIG	**Puente Sto Nin**	**3.59**	**316**		**Pn**	**15 54 17.5**	**+0.2**
ARIG					**Sg**	**15 55 13.6**	**-3.4**
ARIG	**Puente Sto Nin**	**3.59**	**316**	*e*P	**Pn**	**15 54 17.5**	**+0.2**
ARIG				*e*S	**Sn**	**15 55 00.2**	**+0.4**
CARR	**Arriaga**	**3.68**	**81**	*e*S	**Sn**	**15 54 59.7**	**-2.2**
MPVM	**San Francisco**	**3.69**	**340**	*e*S	**Sn**	**15 55 02.8**	**+0.3**
JAUV	**Jalcomulco**	**3.73**	**13**	*e*P	**Pn**	**15 54 18.6**	**-0.6**
JAUV				*e*S	**Sb**	**15 55 07.9**	**-4.9**
PMUV	**Sontecomapan**	**3.74**	**41**	*e*S	**Sb**	**15 55 07.4**	**-5.7**
TLVM	**San Miguel Top**	**3.74**	**338**	*e*S	**Sb**	**15 55 08.2**	**-5.3**
UXUV	**UXUV**	**3.76**	**64**	*e*P	**Pn**	**15 54 19.5**	**-0.1**
UXUV				*e*S	**Sb**	**15 55 08.3**	**-5.4**
XCVM	**Xochimilco**	**3.77**	**339**	*e*S	**Sn**	**15 55 01.7**	**-2.8**
THVM	**De Xico**	**3.78**	**341**	*e*S	**Sb**	**15 55 12.4**	**-2.0**
AOVM	**Tlapan**	**3.86**	**337**	*e*P	**Pb**	**15 54 26.3**	**-3.6**
AOVM				*e*S	**Sn**	**15 55 08.5**	**+1.5**
UNM	**Universidad Na**	**3.86**	**339**	*e*S	**Sb**	**15 55 14.0**	**-2.8**
TUIG	**Tuzandepetl**	**3.90**	**53**	*e*S	**Sn**	**15 55 09.1**	**+1.9**
BJVM	**Benito Juarez**	**3.90**	**339**	*e*S	**Sn**	**15 55 05.0**	**-2.7**
INVM	**La Marquesa**	**3.90**	**336**	*e*S	**Sn**	**15 55 08.6**	**+0.6**
CJVM	**Cuajimalpa**	**3.93**	**338**	*e*S	**Sn**	**15 55 07.8**	**-0.7**
PBVM	**Pinon**	**3.93**	**341**	*e*S	**Sn**	**15 55 09.0**	**+0.8**
PTVM	**Pico Tres Padr**	**4.09**	**341**	*e*S	**Sb**	**15 55 25.0**	**+1.8**
LVIG	**Laguna Verde**	**4.17**	**17**	*e*P	**Pn**	**15 54 25.4**	**+0.3**
PCIG		**4.32**	**90**		**Pn**	**15 54 25.6**	**-1.6**
PCIG		**4.32**	**90**	*e*P	**Pn**	**15 54 25.6**	**-1.6**
TGIG		**4.52**	**76**		**Sb**	**15 55 33.5**	**-2.1**
TGIG		**4.52**	**76**	*e*S	**Sn**	**15 55 25.4**	**+2.5**
ACIG	**Acambay**	**4.72**	**334**	*e*P	**Pb**	**15 54 41.9**	**-2.6**
ACIG				*e*S	**Sb**	**15 55 34.5**	**-7.0**
CCIG	**Comitan**	**5.38**	**83**	Pn	**Pn**	**15 54 43.6**	**+1.6**
CTUV	**Llano Grande**	**5.76**	**354**	*e*S	**Sn**	**15 56 00.6**	**+7.3**
PETF	**Flores**	**7.62**	**80**	Pn	**Pn**	**15 55 12.7**	**+0.1**
TEIG	**Tepich**	**10.03**	**62**	Pn	**Pn**	**15 55 45.9**	**+0.3**
TEIG	**Tepich**	**10.03**	**62**	LR	LR	15 59 14.4	
	comp=Z,1μm,19.1s,slow=36						
H06E1	**SOCORRO T-PHAS**	**13.00**	**285**	T	T	16 09 45.8	
	SNR=9.4						
ORTG	**Ortega, Santa**	**13.06**	**113**		P	15 56 32.1	-5.6
DUNO	**Dulce Nombre,**	**13.15**	**114**	Pn	**Pn**	**15 56 29.7**	**+1.3**
ARE1	**Arenal 1**	**13.68**	**111**	Pn	**Pn**	**15 56 36.4**	**+0.8**
LPIG	**La Paz**	**14.49**	**307**	LR	LR	16 01 23.0	
	comp=Z,186nm,20.7s,baz=56,slow=33						
TXAR	**Lajitas Array**	**14.63**	**339**	P	**P**	**15 56 51.9**	**-3.1**
TXAR	**Lajitas Array**	**14.63**	**339**	Pn	**P**	**15 56 53.5**	**-1.6**
	baz=154,slow=12,SNR=8.0						
TXAR				Lg	Lg	16 01 09.8	
	baz=153,slow=33,SNR=1.7						
	1.0nm,0.9s						
RIMA	**Rio Macho**	**14.73**	**112**	Pn	**Pn**	**15 56 51.9**	**+1.6**
SAND	**Sanderson**	**14.74**	**345**	P	**P**	**15 56 53.2**	**-3.1**
JCT	**Junction City**	**14.82**	**353**		**Pn**	**15 56 49.1**	**-2.1**
OZNA	**Ozona**	**15.46**	**349**		**Pn**	**15 56 57.2**	**-2.6**
BRDY	**Brady**	**15.55**	**356**	P	**P**	**15 57 04.2**	**-1.0**
MNHN	**Monahans**	**16.23**	**344**	P	**P**	**15 57 10.6**	**-2.2**
SGCY	**Sterling City**	**16.43**	**350**	Pn	**Pn**	**15 57 11.6**	**-0.6**
SGCY				lAmb	lAmb	15 57 19.8	
	comp=Z,33nm,0.8s						
FW07	**Weatherford**	**16.91**	**360**	Pn	**Pn**	**15 57 17.5**	**-0.8**
FW07				lAmb	lAmb	15 57 43.9	
	comp=Z,22nm,0.6s						
ODSA	**Odessa**	**16.92**	**346**	P	**Pn**	**15 57 17.9**	**-0.6**
ABTX	**Abilene, Hawle**	**16.93**	**354**		**Pn**	**15 57 17.2**	**-1.3**
ABTX				lAmb	lAmb	15 57 24.6	
	comp=Z,30nm,1.1s						
PLPT	**Palo Pinto**	**17.03**	**358**	Pn	**Pn**	**15 57 19.3**	**-0.5**
PLPT				lAmb	lAmb	15 57 25.9	
	comp=Z,25nm,0.9s						
POST	**Post**	**17.62**	**349**	P	**P**	**15 57 27.7**	**-0.4**
POST				lAmb	lAmb	15 57 33.0	
	comp=Z,31nm,0.9s						
143A	**Socs Landing,**	**17.85**	**18**		**P**	**15 57 30.2**	**-0.5**
143A				lAmb	lAmb	15 57 33.8	
	comp=Z,21nm,0.7s						
DKNS	**Dickens**	**18.11**	**351**	P	**P**	**15 57 32.7**	**-1.0**
MSTX	**Muleshoe**	**18.74**	**347**	P	**P**	**15 57 39.3**	**-1.3**
MSTX				lAmb	lAmb	15 57 49.8	
	comp=Z,22nm,1.2s						
121A	**Cookes Peak, D**	**19.09**	**333**	P	**Pn**	**15 57 45.7**	**+0.5**
AMTX	**Amarillo**	**19.42**	**350**	P	**Pn**	**15 57 49.4**	**+0.2**
AMTX				lAmb	lAmb	15 57 53.6	
	comp=Z,17nm,0.9s						
SMWD	**Samnorwood**	**19.44**	**354**	P	**Pn**	**15 57 49.0**	**-0.5**
SMWD				lAmb	lAmb	15 58 04.9	
	comp=Z,21nm,1.0s						
DUN6	**Lazy B Ranch**	**19.70**	**330**	P	**Pn**	**15 57 56.5**	**+3.9**
TUC	**Tucson**	**20.36**	**327**	P	Pn	15 58 00.1	-0.2
ANMO	**Albuquerque**	**20.70**	**339**	P	Pn	15 58 03.9	-0.6
ANMO	**Albuquerque**	**20.70**	**339**	P	Pn	15 58 05.5	+1.1
	comp=Z,7.4nm,1.0s,baz=212,slow=9.5,SNR=13						
ANMO				LR	LR	16 06 27.2	
	comp=Z,287nm,19.4s,baz=250,slow=38						
	comp=Z,7.4nm,1.0s						
RTBA	**Rita Blanca**	**21.12**	**349**	P	**P**	**15 58 08.6**	**+2.1**
RTBA				lAmb	lAmb	15 58 20.4	
	comp=Z,39nm,1.4s						
T35A	**Sooner Cattle**	**21.14**	**3**	P	**P**	**15 58 04.2**	**-2.5**
T35A				lAmb	lAmb	15 58 12.0	
	comp=Z,22nm,1.1s						
PIX	**Pinacate**	**21.34**	**320**	P	**P**	**15 58 12.2**	**+3.4**
MGMO	**Mountain Grove**	**21.89**	**12**	P	**P**	**15 58 17.9**	**+3.2**
SWET	**Sewanee**	**22.10**	**26**	P	**P**	**15 58 15.3**	**-1.7**
SWET				lAmb	lAmb	15 58 26.0	
	comp=Z,12nm,0.9s						
W18A	**Petrified Fore**	**22.13**	**333**	P	**P**	**15 58 18.9**	**+1.4**
W18A				lAmb	lAmb	15 58 29.7	
	comp=Z,27nm,1.4s						
T25A	**Trinidad**	**22.16**	**346**	P	**P**	**15 58 20.8**	**+3.0**
WVT	**Waverly**	**22.16**	**22**	P	**P**	**15 58 16.6**	**-1.0**
WVT				lAmb	lAmb	15 58 25.7	
	comp=Z,15nm,1.2s						
S39A	**Bolivar**	**22.23**	**9**	P	**P**	**15 58 18.8**	**+0.4**
S39A				lAmb	lAmb	15 58 22.9	
	comp=Z,16nm,1.4s						
X16A	**Lo Mia Camp, P**	**22.36**	**329**	P	**P**	**15 58 21.7**	**+1.8**
SDCO	**Great Sand Dun**	**23.00**	**344**	P	**P**	**15 58 27.7**	**+0.9**
SDCO				lAmb	lAmb	15 58 36.8	
	comp=Z,18nm,1.4s						
WUAZ	**Wupatki**	**23.21**	**331**	P	**P**	**15 58 32.1**	**+3.3**
WUAZ				lAmb	lAmb	15 58 41.6	
	comp=Z,27nm,1.2s						
TKL	**Tuckaleechee C**	**23.44**	**30**	LR	LR	16 09 18.8	
	comp=Z,35nm,20.1s,baz=181,slow=41						
MVCO	**Mesa Verde**	**23.45**	**338**	P	**P**	**15 58 33.5**	**+2.1**
JSC	**Jenkinsville**	**23.68**	**36**	P	**P**	**15 58 35.4**	**+2.0**
Q24A	**Divide**	**24.07**	**346**	P	**P**	**15 58 39.2**	**+1.8**
Q24A				lAmb	lAmb	15 58 48.1	
	comp=Z,10nm,1.4s						
OTAV	**Otavalo**	**24.45**	**127**	P	**P**	**15 58 46.6**	**+5.4**
PFO	**Pinyon Flats O**	**24.59**	**320**	LR	LR	16 07 52.8	
	comp=Z,110nm,20.9s,baz=42,slow=35						
SMCO	**Snowmass**	**24.75**	**343**	P	**P**	**15 58 45.2**	**+1.5**
HMU	**Henry Mountain**	**24.95**	**335**	P	**P**	**15 58 48.5**	**+3.1**
ISCO	**Idaho Springs**	**24.97**	**345**	P	**P**	**15 58 47.7**	**+2.1**
KNB	**Kanab**	**25.11**	**331**	P	**P**	**15 58 48.3**	**+1.6**
KNB				lAmb	lAmb	15 59 00.1	
	comp=Z,15nm,1.2s						
V12A	**Nelson**	**25.14**	**326**	P	**P**	**15 58 48.3**	**+1.4**
N38A	**Joes South For**	**25.29**	**8**	P	**P**	**15 58 48.1**	**0.0**
ROSC	**El Rosal**	**25.38**	**113**	P	**P**	**15 58 50.3**	**+0.7**
MSU	**Marysvale**	**26.04**	**333**	P	**P**	**15 58 55.2**	**0.0**
SSFO	**Shawnee State**	**26.21**	**26**	P	**P**	**15 58 56.6**	**+0.2**
SFIN	**Lafayette**	**26.25**	**19**	P	**P**	**15 58 54.5**	**-2.3**
SFIN				lAmb	lAmb	15 59 17.3	
	comp=Z,20nm,1.4s						
P49A	**Miami Univ. Ec**	**26.31**	**23**	P	**P**	**15 58 57.9**	**+0.5**
SDV	**Santo Domingo**	**27.28**	**101**	LR	LR	16 09 11.2	
	comp=Z,50nm,19.2s,baz=332,slow=35						
SPR3	**Spring Creek 3**	**27.41**	**331**	P	**P**	**15 59 05.9**	**-1.7**
GMN	**Gold Mountain**	**27.61**	**325**	P	**P**	**15 59 09.7**	**+0.3**
PDAR	**Pinedale Array**	**28.82**	**342**	P	**P**	**15 59 23.3**	**+3.2**
	comp=Z,0.4nm,0.7s,baz=150,slow=9.7,SNR=1.8						
PDAR				LR	LR	16 11 25.4	
	comp=Z,134nm,19.2s,baz=166,slow=37						
	comp=Z,0.4nm,0.7s						
NVAR	**Mina Array Bea**	**29.00**	**325**	P	**P**	**15 59 24.9**	**+3.1**
	comp=Z,0.9nm,0.8s,baz=132,slow=8.2,SNR=8.6						
NVAR				LR	LR	16 11 13.0	
	comp=Z,139nm,19.5s,baz=156,slow=37						
	comp=Z,0.9nm,0.8s						
ELK	**Elko**	**29.22**	**332**	P	**P**	**15 59 26.9**	**+3.2**
	comp=Z,0.7nm,0.5s,baz=211,slow=5.5,SNR=3.9						
ELK				LR	LR	16 13 02.0	
	comp=Z,155nm,20.0s,baz=164,slow=40						
	comp=Z,0.7nm,0.5s						
ATAH	**Atahualpa**	**29.68**	**139**	LR	LR	16 08 51.1	
	comp=Z,103nm,20.2s,baz=347,slow=32						
SADO	**Sadowa**	**32.94**	**25**	LR	LR	16 16 02.5	
	comp=Z,60nm,18.3s,baz=218,slow=41						
PLID	**Pearl Lake**	**33.10**	**336**	lAmb	lAmb	16 00 08.2	
	comp=Z,7.0nm,1.1s						
YBH	**Yreka Blue Hor**	**33.72**	**325**	LR	LR	16 14 12.3	
	comp=Z,108nm,19.0s,baz=144,slow=37						
NNA	**Nana**	**34.41**	**142**	LR	LR	16 11 03.5	
	comp=Z,85nm,19.6s,baz=329,slow=31						
ULM	**Lac du Bonnet**	**34.48**	**2**	P	**P**	**16 00 11.9**	**+2.5**
	comp=Z,1.9nm,0.8s,baz=166,slow=7.3,SNR=4.1						
	comp=Z,1.9nm,0.8s						
NEW	**Newport**	**36.18**	**338**	LR	LR	16 16 19.0	
	comp=Z,125nm,19.1s,baz=173,slow=38						
EDM	**Edmonton**	**39.40**	**345**	P	**P**	**16 00 53.0**	**+1.6**
EDM				lAmb	lAmb	16 00 54.9	
	comp=Z,9.5nm,1.1s						
ETMB	**Extrema**	**40.20**	**127**	P	P	16 01 04.6	+6.3
ETMB				lAmb	lAmb	16 01 06.3	
	comp=Z,8.2nm,1.2s						
LPAZ	**La Paz**	**43.16**	**136**	LR	LR	16 16 44.8	
	comp=Z,69nm,19.0s,baz=264,slow=33						
BBB	**Bella Bella**	**43.66**	**333**	LR	LR	16 19 55.7	
	comp=Z,96nm,18.7s,baz=144,slow=36						
SCHQ	**Schefferville**	**45.75**	**24**	LR	LR	16 21 58.6	
	comp=Z,78nm,21.8s,baz=260,slow=38						
VILB	**Vilhena**	**46.77**	**125**	P	P	16 01 57.7	+6.3
YKA	**Yellowknife Ar**	**48.22**	**350**	P	**P**	**16 02 03.6**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=155,slow=7.6,SNR=5.7						
YKA				LR	LR	16 25 46.7	
	comp=Z,84nm,18.1s,baz=320,slow=40						
	comp=Z,0.4nm,0.8s						
DLBC	**Dease Lake**	**48.93**	**338**	LR	LR	16 22 31.2	
	comp=Z,180nm,20.1s,baz=104,slow=36						
PTLB	**Pontes e Lacer**	**49.09**	**127**	P	P	16 02 13.6	+4.2
PTLB				lAmb	lAmb	16 02 53.2	
	comp=Z,4.9nm,1.5s						
AC02	**Maricunga**	**50.59**	**146**	P	P	16 02 28.9	+7.7
AC02				lAmb	lAmb	16 02 41.1	
	comp=Z,6.0nm,1.2s						
FRB	**Frobisher Bay**	**52.04**	**16**	LR	LR	16 26 11.9	
	comp=Z,31nm,18.7s,baz=237,slow=38						
H03N2	**Juan Fernandez**	**52.06**	**160**	T	T	16 58 36.9	
	baz=338,slow=77,SNR=5.9						
H03N1	**Juan Fernandez**	**

WB2	**Warramunga Arr**	**17.95**	**163**	P	**Pn**	**16 00 06.8**	**-1.6**
WB2				IAmb	IAmb	16 00 17.4	
	comp=Z,16nm,0.8s						
WR0	**Warramunga Arr**	**18.02**	**162**	P	**Pn**	**16 00 08.2**	**-1.1**
COEN	**Coen**	**18.04**	**129**	P	**Pn**	**16 00 07.6**	**-2.0**
COEN	**Coen**	**18.04**	**129**	P	**P**	**16 00 12.3**	**+2.5**
UGM	**Wanagama**	**18.94**	**253**		**P**	**16 00 17.7**	**-2.1**
MBWA	**Marble Bar**	**20.36**	**205**	P	**P**	**16 00 33.5**	**-1.6**
MBWA				IAmb	IAmb	16 00 35.9	
	comp=Z,28nm,1.1s						
MBWA	**Marble Bar**	**20.36**	**205**	P	**P**	**16 00 35.7**	**+0.6**
QIS	**Mount Isa**	**20.61**	**150**	P	**P**	**16 00 38.8**	**+0.9**
PSA00	**Pilbara Seismi**	**20.68**	**204**	P	**P**	**16 00 37.2**	**-1.3**
PSA00				IAmb	IAmb	16 00 39.4	
	comp=Z,27nm,0.8s						
PSA00	**Pilbara Seismi**	**20.68**	**204**	P	**P**	**16 00 37.9**	**-0.7**
PSA00				IAmb	IAmb	16 00 39.4	
	comp=Z,16nm,1.0s						
PSA00	**Pilbara Seismi**	**20.68**	**204**	P	**P**	**16 00 39.0**	**+0.4**
AS31	**Alice Springs**	**21.39**	**167**	P	**P**	**16 00 46.7**	**+0.4**
ASAR	**Alice Springs**	**21.39**	**167**	P	**P**	**16 00 46.8**	**+0.5**
	comp=Z,35nm,0.6s,baz=349,slow=12,SNR=391						
ASAR				S	**S**	**16 04 38.4**	**-3.7**
	comp=Z,3.4nm,0.9s,baz=346,slow=20,SNR=7.5						
	comp=Z,35nm,0.6s						
AS01	**Alice Springs**	**21.40**	**167**	P	**P**	**16 00 47.2**	**+0.8**
LEM	**Lembang**	**21.52**	**258**	LR	LR	16 10 31.1	
	comp=Z,102nm,20.6s,baz=70,slow=41						
WRKA	**Warakurna**	**22.19**	**181**	P	**P**	**16 00 55.0**	**+0.1**
CTAO	**Charters Tower**	**24.23**	**137**	P	**P**	**16 01 12.1**	**-3.2**
CTAO	**Charters Tower**	**24.23**	**137**	P	**P**	**16 01 17.8**	**+2.5**
GIRL	**Giralia**	**24.34**	**214**	P	**P**	**16 01 16.3**	**0.0**
MEEK	**Meekatharra**	**25.72**	**201**	P	**P**	**16 01 29.8**	**+1.0**
OOD	**Oodnadatta**	**25.78**	**166**	P	**P**	**16 01 30.8**	**+1.6**
INKA	**Innaminka**	**27.36**	**157**	P	**P**	**16 01 45.3**	**+1.8**
MULG	**Mulgathing**	**27.86**	**170**	P	**P**	**16 01 49.4**	**+1.5**
FORT	**Forrest**	**27.92**	**181**	P	**P**	**16 01 48.1**	**-0.3**
FORT				IAmb	IAmb	16 02 25.2	
	comp=Z,12nm,0.9s						
FORT	**Forrest**	**27.92**	**181**	P	**P**	**16 01 50.5**	**+2.1**
MORW	**Morawa**	**28.89**	**204**	P	**P**	**16 01 56.6**	**-0.5**
MORW	**Morawa**	**28.89**	**204**	P	**P**	**16 01 57.4**	**+0.3**
LCRK	**Leigh Creek**	**28.97**	**163**	P	**P**	**16 01 59.8**	**+2.0**
JOW	**Kunigami**	**29.39**	**359**	LR	LR	16 11 53.0	
	comp=Z,86nm,20.7s,baz=199,slow=33						
BLDU	**Ballidu**	**30.02**	**201**	P	**P**	**16 02 07.6**	**+0.5**
KLBR	**Kellerberrin**	**30.56**	**199**	P	**P**	**16 02 12.2**	**+0.3**
BBOO	**Buckleboo**	**30.69**	**168**	P	**P**	**16 02 12.1**	**-1.0**
BBOO				IAmb	IAmb	16 02 13.0	
	comp=Z,12nm,1.4s						
BBOO	**Buckleboo**	**30.69**	**168**	P	**P**	**16 02 13.9**	**+0.8**
STKA	**Stephens Creek**	**31.39**	**159**	P	**P**	**16 02 19.5**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=340,slow=11,SNR=3.4						
	comp=Z,0.8nm,0.4s						
MUN	**Mundaring**	**31.43**	**201**	P	**P**	**16 02 19.6**	**0.0**
NWAO	**Narrogin (SRO)**	**31.96**	**199**	P	**P**	**16 02 24.6**	**+0.4**
HTT	**Hallett**	**31.98**	**164**	P	**P**	**16 02 27.3**	**+2.9**
CMSA	**Cobar Meteorol**	**32.78**	**153**	P	**P**	**16 02 33.1**	**+1.7**
JNU	**Nakatsue**	**35.70**	**3**	LR	LR	16 17 17.8	
	comp=Z,47nm,19.8s,baz=188,slow=36						
ARPS	**Mount Arapiles**	**35.94**	**162**	P	**P**	**16 02 59.9**	**+1.1**
CAN	**Canberra**	**37.45**	**152**	P	**P**	**16 03 11.4**	**-0.2**
CAN	**Canberra**	**37.45**	**152**	P	**P**	**16 03 13.6**	**+1.9**
PZH	**PanZhiHua**	**39.10**	**320**	P	**P**	**16 03 27.0**	**+1.2**
PZH				PKP	**PKiKP**	**16 12 43.7**	**-4.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,90nm,5.3s						
HHC	**Hu-ho-hao-te**	**46.14**	**342**	*e*P	**P**	**16 04 25.5**	**+2.8**
HHC				pP	sP	16 04 38.5	+1.8
HHC				pmax	pmax		
	comp=Z,11nm,0.6s						
HHC				pmax	pmax		
	comp=Z,140nm,4.7s						
XLT	**XiLinHaoTe**	**47.80**	**348**	*e*P	**P**	**16 04 35.7**	**+0.1**
XLT				pP	sP	16 04 49.3	-0.4
XLT				sP	pP	16 04 54.5	+8.8
XLT				PP	**PcP**	**16 06 01.1**	**-3.1**
XLT				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,180nm,4.9s						
GTA	**Gaotai**	**49.69**	**330**	*e*P	**P**	**16 04 50.8**	**+0.5**
GTA				pmax	pmax		
	comp=Z,1.0nm,1.5s						
SONM	**Songino Array**	**54.04**	**341**	P	**P**	**16 05 22.9**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=159,slow=6.5,SNR=3.8						
	comp=Z,0.3nm,0.4s						
WMQ	**Urumqi**	**59.20**	**326**	*e*P	**P**	**16 06 01.0**	**+1.7**
WMQ				LR	LR		
	comp=Z,130nm,24.1s						
MK31	**Makanchi Array**	**64.04**	**326**	P	**P**	**16 06 31.8**	**0.0**
MKAR	**Makanchi Array**	**64.04**	**326**	P	**P**	**16 06 31.1**	**-0.7**
MKAR	**Makanchi Array**	**64.04**	**326**	P	**P**	**16 06 32.0**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=121,slow=7.2,SNR=13						
	comp=Z,1.5nm,0.8s						
ZALV	**Zalesovo Beam**	**67.26**	**334**	P	**P**	**16 06 50.3**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=134,slow=4.2,SNR=1.7						
	comp=Z,0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**68.28**	**328**	P	**P**	**16 06 59.2**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=127,slow=5.6,SNR=1.7						
KURK	**Kurchatov**	**68.28**	**328**	P	**P**	**16 06 58.0**	**-0.9**
KURK				IAmb	IAmb	16 07 11.3	
	comp=Z,3.1nm,0.8s						
BVAR	**Borovoye Array**	**73.85**	**328**	P	**P**	**16 07 31.7**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=124,slow=10,SNR=5.4						
	comp=Z,0.8nm,0.6s						
VNDA	**Vanda**	**76.81**	**173**	P	**P**	**16 07 49.9**	**+0.7**
VNDA				IAmb	IAmb	16 08 16.6	
	comp=Z,7.1nm,1.2s						
MAW	**Mawson**	**78.49**	**201**	P	**P**	**16 07 59.0**	**+0.3**
MAW				IAmb	IAmb	16 08 35.9	
	comp=Z,6.5nm,1.5s						
QSPA	**South Pole Qui**	**87.23**	**180**	P	**P**	**16 08 43.5**	**-0.7**
QSPA				IAmb	IAmb	16 09 06.6	
	comp=Z,3.2nm,1.1s						
QSPA	**South Pole Qui**	**87.23**	**180**	P	**P**	**16 08 44.5**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=112,slow=3.4,SNR=4.2						
	comp=Z,1.8nm,0.8s						
ILAR	**Eielson Array**	**90.00**	**25**	P	**P**	**16 08 57.0**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=253,slow=5.2,SNR=2.1						
	comp=Z,0.3nm,0.8s						
CPUP	**Villa Florida**	**150.51**	**169**	PKPbc	**PKPbc**	**16 15 50.5**	**+0.1**
	comp=Z,5.2nm,1.2s,baz=228,slow=4.3,SNR=5.1						
LPAZ	**La Paz**	**154.75**	**139**	PKPbc	**PKiKP**	**16 16 03.6**	**+2.7**
	comp=Z,1.4nm,0.6s,baz=182,slow=8.3,SNR=5.7						

IDC 09 16:00:53.3±2.0, 2°34N×128°53E, *h*0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=155.5km s-min=23.7km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.87**	**166**	P	P	16 05 58.9	+0.3
	1.7nm,0.5s,baz=346,slow=11,SNR=10						
	1.7nm,0.5s						
ASAR	**Alice Springs**	**26.37**	**169**	P	P	16 06 30.5	-1.0
	0.4nm,0.6s,baz=1.1,slow=9.3,SNR=1.7						
	0.4nm,0.6s						
STKA	**Stephens Creek**	**36.22**	**161**	P	P	16 07 58.2	+0.1
	1.4nm,0.4s,baz=335,slow=11,SNR=4.8						
	1.4nm,0.4s						
MKAR	**Makanchi Array**	**59.72**	**325**	P	P	16 10 60.0	+0.1
	0.5nm,0.6s,baz=119,slow=7.4,SNR=8.3						
	0.5nm,0.6s						

*NNC **09** 16:13:04.0±0.5, 46°.31N×79°.05E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=5.0km s-min=2.5km az=133.0*
*SOME **09** 16:13:06.8, 46°.18N×78°.90E, h5km*
ISC 09 16:13:04.0±1.2, 46°.26N±0°.02×78°.91E±0°.03, h1km±11km, n59, σ1°13/90, 8C-10D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPS	**Kapalarasan**	**1.02**	**162**	*e*P	**Pn**	**16 13 24.8**	**-0.8**
	126nm,0.1s						
KAPS				*e*S	**Sb**	**16 13 38.0**	**-0.5**
	284nm,0.2s						
KAPS	**Kapalarasan**	**1.02**	**162**	P	**Pn**	**16 13 24.8**	**-0.8**
	128nm,0.1s						
KAPS				S	**Sb**	**16 13 38.0**	**-0.5**
	284nm,0.2s						
TDK	**Taldyqorghan**	**1.31**	**196**	*e*P	**Pn**	**16 13 30.6**	**+1.2**
	164nm,0.2s						
TDK				*e*S	**Sn**	**16 13 48.0**	**+0.4**
	1μm,0.3s						
TDK	**Taldyqorghan**	**1.31**	**196**	P	**Pn**	**16 13 30.6**	**+1.2**
	164nm,0.2s						
TDK				S	**Sn**	**16 13 48.0**	**+0.4**
	1μm,0.3s						
KNOS	**Konyrlen**	**1.91**	**174**	P	**Pg**	**16 13 40.7**	**+0.1**
	25nm,0.4s						
KNOS				S	**Sg**	**16 14 05.3**	**0.0**
	167nm,0.4s						
DJR	**Jarkent**	**2.02**	**162**	*e*P	**Pg**	**16 13 42.6**	**-0.1**
	79nm,0.3s						
DJR				*e*S	**Sg**	**16 14 08.5**	**-0.5**
	158nm,0.3s						
DJR	**Jarkent**	**2.02**	**162**	Pg	**Pg**	**16 13 42.6**	**-0.1**
	79nm,0.3s						
DJR				Lg	Lg	16 14 08.5	
	158nm,0.5s						
BLB	**Baldybastay**	**2.18**	**188**	Pg	**Pg**	**16 13 46.0**	**+0.2**
	63nm,0.5s						
BLB				Lg	Lg	16 14 14.3	
	52nm,0.3s						
ARXS	**Arharly**	**2.19**	**201**	*e*P	**Pg**	**16 13 45.6**	**-0.2**
	23nm,0.2s						
ARXS				*e*S	**Sg**	**16 14 13.7**	**-0.4**
	197nm,0.5s						
ARXS	**Arharly**	**2.19**	**201**	Pg	**Pg**	**16 13 45.6**	**-0.2**
	23nm,0.2s						
ARXS				Lg	Lg	16 14 13.7	
	197nm,0.5s						
MAKZ	**Makanchi**	**2.19**	**74**	⇓Pn	**Pn**	**16 13 40.7**	**-0.8**
	31nm,0.6s						
MAKZ				⇑Sn	**Sn**	**16 14 06.8**	**-2.5**
	45nm,0.3s						
MK31	**Makanchi Array**	**2.39**	**76**	⇑Pn	**Pn**	**16 13 44.2**	**-0.2**
	17nm,0.3s,baz=248,slow=15,SNR=1165						
MK31				⇓Sn	**Sn**	**16 14 12.2**	**-2.2**
	20nm,0.3s,baz=256,slow=28,SNR=10.0						
CHKK	**Chushkaly**	**2.76**	**210**	*e*P	**Pg**	**16 13 57.1**	**+0.2**
	14nm,0.2s						
CHKK				*e*S	**Sg**	**16 14 33.4**	**+0.7**
	121nm,0.3s						
CHKK	**Chushkaly**	**2.76**	**210**	Pg	**Pg**	**16 13 57.1**	**+0.2**
	14nm,0.4s						
CHKK				Lg	Lg	16 14 33.4	
	121nm,0.5s						
KPKS	**Kokpek**	**2.80**	**183**	*e*P	**Pg**	**16 13 56.9**	**-0.7**
	28nm,0.4s						
KPKS				*e*S	**Sg**	**16 14 32.8**	**-1.0**
	134nm,0.6s						
KPKS	**Kokpek**	**2.80**	**183**	Pg	**Pg**	**16 13 56.9**	**-0.7**
	28nm,0.4s						
KPKS				Lg	Lg	16 14 32.8	
	134nm,0.6s						
KURS	**Kuram**	**2.82**	**191**	*e*P	**Pg**	**16 13 58.2**	**+0.2**
	13nm,0.4s						
KURS				*e*S	**Sg**	**16 14 35.0**	**+0.4**
	40nm,0.4s						
KURS	**Kuram**	**2.82**	**191**	Pg	**Pg**	**16 13 58.2**	**+0.2**
	13nm,0.4s						
KURS				Lg	Lg	16 14 35.0	
	40nm,0.4s						
PDGK	**Podgornoye**	**2.96**	**172**	Pg	**Pg**	**16 13 59.7**	**-1.0**
	11nm,0.3s						
PDGK				Lg	Lg	16 14 37.8	
	15nm,0.4s						
PDGK	**Podgornoye**	**2.96**	**172**	⇓Pg	**Pg**	**16 14 00.2**	**-0.5**
	9.8nm,0.5s						
PDGK				⇑Lg	Lg	16 14 41.5	
	65nm,0.6s						
KUU	**Kurty**	**2.99**	**218**	*e*P	**Pg**	**16 13 60.0**	**-1.2**
	8.1nm,0.4s						
KUU				*e*S	**Sg**	**16 14 37.9**	**-2.0**
	60nm,0.3s						
KUU	**Kurty**	**2.99**	**218**	Pg	**Pg**	**16 13 60.0**	**-1.2**
	8.1nm,0.4s						
KUU				Lg	Lg	16 14 37.9	
	60nm,0.3s						
KTBS	**Karatobe**	**3.00**	**213**	*e*P	**Pg**	**16 14 01.4**	**0.0**
	6.8nm,0.2s						
KTBS				*e*S	**Sg**	**16 14 40.5**	**+0.2**
	99nm,0.4s						
KTBS	**Karatobe**	**3.00**	**213**	Pg	**Pg**	**16 14 01.4**	**0.0**
	10nm,0.4s						
KTBS				Lg	Lg	16 14 40.5	
	99nm,0.4s						
ZHN	**Zhinishke**	**3.11**	**186**	*e*P	**Pg**	**16 14 02.6**	**-0.9**
	10nm,0.3s						
ZHN				*e*S	**Sg**	**16 14 42.5**	**-1.4**
	83nm,0.3s						
ZHN	**Zhinishke**	**3.11**	**186**	Pg	**Pg**	**16 14 02.6**	**-0.9**
	10nm,0.3s						
ZHN				Lg	Lg	16 14 42.5	
	83nm,0.3s						
UZB	**Uzynbulak**	**3.11**	**178**	*e*P	**Pg**	**16 14 02.1**	**-1.6**
	18nm,0.3s						
UZB				*e*S	**Sg**	**16 14 41.5**	**-2.5**
	43nm,0.2s						
UZB	**Uzynbulak**	**3.11**	**178**	Pg	**Pg**	**16 14 02.1**	**-1.6**
	18nm,0.3s						
UZB				Lg	Lg	16 14 41.5	
	43nm,0.2s						
SHLS	**Shalkode**	**3.13**	**173**	*e*P	**Pg**	**16 14 03.9**	**0.0**
	17nm,0.2s						
SHLS				*e*S	**Sg**	**16 14 44.6**	**+0.2**
	34nm,0.1s						
SHLS	**Shalkode**	**3.13**	**173**	Pg	**Pg**	**16 14 03.9**	**0.0**
	17nm,0.2s						
SHLS				Lg	Lg	16 14 44.6	
	34nm,0.4s						
SATY	**Saty**	**3.22**	**187**	*e*P	**Pg**	**16 14 05.2**	**-0.5**
	4.6nm,0.2s						
SATY				*e*S	**Sg**	**16 14 47.1**	**-0.3**
	92nm,0.1s						
SATY	**Saty**	**3.22**	**187**	Pg	**Pg**	**16 14 05.2**	**-0.5**
	4.6nm,0.2s						
SATY				Lg	Lg	16 14 47.2	
	92nm,0.3s						
KOTS	**Kotyrbulak**	**3.29**	**204**	*e*P	**Pg**	**16 14 06.0**	**-0.9**
	6.9nm,0.2s						
KOTS				*e*S	**Sg**	**16 14 49.1**	**-0.4**
	53nm,0.2s						
KOTS	**Kotyrbulak**	**3.29**	**204**	Pg	**Pg**	**16 14 06.0**	**-0.9**
	6.9nm,0.4s						
KOTS				Lg	Lg	16 14 49.1	
	52nm,0.6s						
MDOK	**Medeo**	**3.37**	**204**	*e*P	**Pg**	**16 14 07.0**	**-1.5**
	4.3nm,0.4s						
MDOK				*e*S	**Sg**	**16 14 50.2**	**-1.9**
	36nm,0.4s						
MDOK	**Medeo**	**3.37**	**204**	Pg	**Pg**	**16 14 07.0**	**-1.5**
	4.3nm,0.4s						
MDOK				Pg	**Pb**	**16 14 08.2**	**+3.6**
	4.9nm,0.5s						
MDOK				Lg	Lg	16 14 50.2	
	36nm,0.4s						
MDOK				⇓Lg	Lg	16 14 54.1	
	36nm,0.6s						
KRBS	**Karabastau**	**3.44**	**223**	*e*P	**Pg**	**16 14 08.5**	**-1.4**
	7.0nm,0.2s						
KRBS				*e*S	**Sg**	**16 14 53.0**	**-1.4**
	35nm,0.2s						
KRBS	**Karabastau**	**3.44**	**223**	Pg	**Pg**	**16 14 08.5**	**-1.4**
	7.8nm,0.4s						
KRBS				Lg	Lg	16 14 53.1	
	35nm,0.4s						
TNSS	**Tian-Shan**	**3.51**	**204**	*e*P	**Pg**	**16 14 10.3**	**-1.0**
	5.2nm,0.1s						
TNSS				*e*S	**Sg**	**16 14 56.2**	**-0.6**
	18nm,0.4s						
TNSS	**Tian-Shan**	**3.51**	**204**	Pg	**Pg**	**16 14 10.3**	**-1.0**
	5.2nm,0.6s						
TNSS				Lg	Lg	16 14 56.2	
	18nm,0.4s						
MTBS	**Maitube**	**3.59**	**210**	*e*P	**Pg**	**16 14 12.3**	**-0.5**
	9.2nm,0.4s						
MTBS				*e*S	**Sg**	**16 14 59.1**	**-0.3**
	44nm,0.3s						
MTBS	**Maitube**	**3.59**	**210**	Pg	**Pg**	**16 14 12.3**	**-0.5**
	9.2nm,0.4s						
MTBS				Lg	Lg	16 14 59.1	
	44nm,0.3s						
IZV	**Izvestkoviy**	**3.62**	**208**	*e*P	**Pg**	**16 14 13.3**	**+0.1**
	1.8nm,0.2s						
IZV				*e*S	**Sg**	**16 15 01.0**	**+0.9**
	21nm,0.5s						
IZV	**Izvestkoviy**	**3.62**	**208**	Pg	**Pg**	**16 14 13.3**	**+0.1**
	1.8nm,0.2s						
IZV				Lg	Lg	16 15 01.0	
	21nm,0.5s						
BTLS	**Baital**	**3.62**	**252**	*e*P	**Pg**	**16 14 12.2**	**-1.2**
	11nm,0.2s						
BTLS				*e*S	**Sg**	**16 14 59.4**	**-0.9**
	6.9nm,0.1s						
BTLS	**Baital**	**3.62**	**252**	Pg	**Pg**	**16 14 12.2**	**-1.2**
	11nm,0.5s						
BTLS				Lg	Lg	16 14 59.4	
	8.6nm,0.4s						
DGS	**Degeres**	**3.75**	**218**	*e*P	**Pg**	**16 14 14.5**	**-1.4**
	17nm,0.2s						
DGS				*e*S	**Sg**	**16 15 03.3**	**-1.3**
	70nm,0.3s						
DGS	**Degeres**	**3.75**	**218**	Pg	**Pg**	**16 14 14.5**	**-1.4**
	17nm,0.5s						
DGS				Lg	Lg	16 15 03.3	
	70nm,0.5s						
KST	**Kastek**	**3.84**	**214**	*e*P	**Pg**	**16 14 16.3**	**-1.3**
	4.8nm,0.2s						
KST				*e*S	**Sg**	**16 15 06.3**	**-1.1**
	27nm,0.3s						
KST	**Kastek**	**3.84**	**214**	Pg	**Pg**	**16 14 16.3**	**-1.3**
	4.8nm,0.4s						
KST				Lg	Lg	16 15 06.3	
	27nm,0.4s						
TKM2	**Tokmak 2**	**4.09**	**217**	⇑Pn	**Pn**	**16 14 09.0**	**+1.1**
	1.3nm,0.5s						
TKM2				⇓Pg	**Pg**	**16 14 21.5**	**-0.8**
	3.1nm,0.4s						
TKM2				⇑Lg	Lg	16 15 17.2	
	26nm,0.6s						
SGDS	**Sogindy**	**4.14**	**229**	Pg	**Pg**	**16 14 21.3**	**-2.0**
	5.3nm,0.2s						
SGDS				Lg	Lg	16 15 14.6	
	15nm,0.5s						
SEM	**Semipalatinsk**	**4.25**	**12**	*e*P	**Pg**	**16 14 26.1**	**+0.7**
	6.3nm,0.1s						
SEM				*e*S	**Sg**	**16 15 22.7**	**+2.3**
	18nm,0.1s						
ZSN	**Zaisan**	**4.26**	**72**	*e*P	**Pb**	**16 14 20.6**	**+1.0**
	11nm,0.4s						
ZSN				*e*S	**Sb**	**16 15 13.3**	**+1.8**
	14nm,0.3s						
KURBB	**Kurchatov Arra**	**4.37**	**357**	⇑Pg	**Pb**	**16 14 22.8**	**+1.2**
	5.3nm,0.4s						
CHMS	**Chumysh**	**4.41**	**224**	⇓Pg	**Pg**	**16 14 28.8**	**+0.4**
	3.2nm,0.4s						
CHMS				⇓Lg	Lg	16 15 26.5	
	17nm,0.6s						
KURK	**Kurchatov**	**4.46**	**358**	⇑Pn	**Pn**	**16 14 11.2**	**-1.5**
	0.9nm,0.4s						
KURK				⇓Pg	**Pb**	**16 14 23.1**	**0.0**
	8.4nm,0.6s						
OTUK	**Ortayu**	**4.90**	**296**	⇑Lg	Lg	16 15 40.2	
	9.6nm,0.4s						
KK31	**Karatay Array**	**6.77**	**245**	⇓Pn	**Pn**	**16 14 44.6**	**+0.1**
	0.4nm,0.2s,baz=63,slow=12,SNR=12						
KK31				⇓Lg	Lg	16 16 40.8	
	2.5nm,0.4s,baz=61,slow=27,SNR=7.2						

*BJI **09** 16:23:22.2±0.0, 20°.69S×178°.15W, h551km, mb5.4/75, mB5.4/42*
*NEIC **09** 16:23:23.1±2.5, 21°.00S±0°.08×178°.6W±0°.1, h540km±3km, mb5.6/585, Mwb5.7/40, Mww5.7/12, Error ellipse: s-maj=14.2km s-min=10.9km az=104.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=4.41; Mθθ=4.03; Mϕϕ=0.38; Mrθ=-2.38; Mrϕ=-0.61; Mθϕ=-0.64; Fault plane solution: M₀=4.94000×10¹⁷ NP1:φ₁=88.22000°, δ=59.81000°, λ=-100.67000°. NP2:φ₂=288.76000°, δ=31.85000°, λ=-72.35000°. Principal axes: T 4.7002, Plg14.0000°, Azm186.0000°; N 0.4462, Plg9.0000°, Azm94.0000°; P -5.1464, Plg73.0000°, Azm332.0000°;*
*NEIC **09** 16:23:23.2, 21°.03S×178°.59W, h550km*
*MOS **09** 16:23:23.0±0.9, 20°.93S×178°.71W, h547km, mb5.5/38, Error ellipse: s-maj=8.2km s-min=6.9km az=102.1*
*NEIC **09** 16:23:23.2, 21°.03S×178°.59W, h540km*
*NEIC **09** 16:23:23.2, 21°.03S×178°.27W, h550km, Moment Tensor Solution. Duration: 3ˢ4 Moment tensor: Scale 10¹⁷Nm; Mrr=2.55; Mθθ=3.84; Mϕϕ=-1.28; Mrθ=-1.62; Mθϕ=0.54; Mrϕ=0.99; Fault plane solution: M₀=3.86000×10¹⁷ NP1: φs=108.06000°, δ=62.96000°, λ=-59.94000°. NP2: φs=236.21000°, δ=39.57000°, λ=-134.46000°. Principal axes: T 4.2381, Plg13.0000°, Azm177.0000°; N -0.7559, Plg26.0000°, Azm273.0000°; P -3.4823, Plg60.0000°, Azm63.0000°;*
*NOU **09** 16:23:23.4, 21°.04S×178°.52W, h551km, ML5.4/128, Fiji Islands Region*
*IDC **09** 16:23:24.3±0.3, 20°.93S×178°.64W, h554km±3km, mb4.9/29, mbtmp5.8/30, Error ellipse: s-maj=8.7km s-min=7.9km az=80.0*
*BGR **09** 16:23:24.9, 21°.35S×179°.01W, h568km±1km*
*GCMT **09** 16:23:27.1±0.2, 20°.89S±0°.01×178°.70W±0°.02, h568km±1km, MW5.7/144, Moment Tensor Solution. s144, c259; Duration: 1ˢ7 Moment tensor: Scale 10¹⁷ Nm; Mrr=3.26±.05; Mθθ=3.57±.08; Mϕϕ=-0.31±.09; Mrθ=-2.02±.08; Mrϕ=0.02±.08; Mθϕ=-0.70±.08; Best double couple: M₀=4.03400×10¹⁷ NP1:φs=79.00000°, δ=61.00000°, λ=-101.00000°. NP2:φs=281.00000°, δ=31.00000°, λ=-71.00000°. Principal axes: T 4.1320, Plg16.0000°, Azm177.0000°; N -0.1970, Plg9.0000°, Azm85.0000°; P -3.9350, Plg72.0000°, Azm325.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
ISC 09 16:23:23.9±0.2, 21°.07S±0°.03×178°.61W±0°.03, h558km±2km, h559km:pP-P, n1999, σ1°25/1990, mb5.6/421, 136C-139D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAVE	**Taveuni**	**4.51**	**344**	P	**P**	**16 24 49.9**	**-0.5**
MSVF	**Nonsavu**	**4.58**	**316**	P	**P**	**16 24 50.7**	**-0.3**
MSVF	**Nonsavu**	**4.58**	**316**	P	**P**	**16 24 51.1**	**+0.1**
MSVF	**Nonsavu**	**4.58**	**316**	P	**P**	**16 24 50.2**	**-0.8**
DGTI	**Dogotuki**	**5.00**	**342**	P	**P**	**16 24 53.6**	**-0.7**
YSA	**Yasawairara**	**5.65**	**320**	P	**P**	**16 24 59.7**	**-0.2**
RIZ	**Raoul Island**	**8.16**	**176**	P	**P**	**16 25 23.1**	**-0.2**
RIZ				S	**S**	**16 25 58.3**	**-3.0**
RAO	**Raoul Island**	**8.17**	**176**	P	**P**	**16 25 23.0**	**-0.4**
RAO	**Raoul Island**	**8.17**	**176**	P	**P**	**16 25 22.6**	**-0.8**
RAO				pmax	pmax		
	comp=Z,2μm,0.5s						
RAO	**Raoul Island**	**8.17**	**176**	P	**P**	**16 25 22.3**	**-1.1**
	comp=Z,1μm,0.2s,baz=65,slow=6.0,SNR=15						
RAO				S

OUZ Omahuta 15.67 204 P P 16 26 41.5 +1.7
OUZ ScP ScP 16 33 47.0 +3.0
GRZ Great Barrier 15.98 198 P P 16 26 43.3 +0.5
GRZ ScP ScP 16 33 47.0 +2.4
KOUNC Koumac, New Ca 16.00 269 P P 16 26 43.5 +0.2
KOUNC Koumac, New Ca 16.00 269 P P 16 26 43.4 +0.2
KUZ Kuaotunu 16.38 196 P P 16 26 47.7 +1.2
KUZ Kuaotunu 16.38 196 P P 16 26 47.2 +0.7
KUZ ScP ScP 16 33 47.3 +2.0
KUZ Kuaotunu 16.38 196 P ScP 16 33 47.6 +2.3
MXZ Matakaoa Point 16.65 189 P P 16 26 47.1 -1.8
MXZ Matakaoa Point 16.65 189 P P 16 26 48.2 -0.7
MXZ Matakaoa Point 16.65 189 P P 16 26 47.2 -1.7
WSRZ White Island S 16.79 192 P P 16 26 52.9 +2.6
WIZ White Island 16.80 192 P P 16 26 52.1 +1.9
MKAZ Moumakai 16.87 197 P ScP 16 33 48.8 +2.5
WMGZ Waiomatatini S 16.89 188 P P 16 26 50.4 -0.7
WMGZ ScP ScP 16 33 48.7 +2.4
WMGZ Waiomatatini S 16.89 188 P ScP 16 33 48.4 +2.1
HAZ Te Kaha 16.92 190 P P 16 26 49.8 -1.5
HAZ S S 16 29 36.0 -4.4
HAZ ScP ScP 16 33 48.0 +1.6
HAZ Te Kaha 16.92 190 P ScP 16 33 48.3 +2.0
PKGZ Pakihiroa 17.00 189 P P 16 26 50.4 -1.8
PKGZ ScP ScP 16 33 48.7 +2.0
PKGZ ScS ScS 16 37 29.6 +2.7
PKGZ Pakihiroa 17.00 189 P ScP 16 33 48.8 +2.2
RUGZ Raukumara Rang 17.14 190 P P 16 26 51.5 -2.0
RUGZ ScP ScP 16 33 49.4 +2.4
PUZ Puketiti 17.16 188 P P 16 26 52.7 -0.9
PUZ S S 16 29 43.1 -1.3
PUZ ScP ScP 16 33 49.7 +2.8
PUZ Puketiti 17.16 188 P ScP 16 33 50.0 +3.0
WHRZ Whale Island 17.16 192 P P 16 26 54.6 +1.1
TGRZ Tauranga 17.18 194 P P 16 26 55.7 +2.0
TWGZ Tauwhareparae 17.30 189 P P 16 26 54.3 -0.6
TWGZ ScP ScP 16 33 50.1 +2.8
TWGZ ScS ScS 16 37 31.3 +3.6
MARZ Manawahe 17.34 193 P P 16 26 56.3 +1.1
TOZ Tahuroa Road 17.37 196 P P 16 26 56.6 +1.2
TOZ Tahuroa Road 17.37 196 P ScP 16 33 49.4 +2.1
KMRZ Kaimai 17.37 195 P P 16 26 57.6 +2.1
LIRZ Lichensteins R 17.42 193 P P 16 26 57.4 +1.4
EDRZ Edgecumbe 17.44 192 P P 16 26 56.5 +0.2
KARZ Kaharoa 17.46 194 P P 16 26 57.8 +1.5
OMRZ Omania 17.52 193 P P 16 26 57.8 +0.9
MWZ Matawai 17.52 190 P P 16 26 54.8 -2.1
MWZ ScP ScP 16 33 49.4 +1.7
MWZ ScS ScS 16 37 28.9 +0.5
MWZ Matawai 17.52 190 P ScP 16 33 49.4 +1.7
URZ Urewera 17.52 191 P P 16 26 54.3 -2.6
URZ Urewera 17.52 191 P P 16 26 54.0 -2.8
comp=Z,1µm,0.7s,baz=72,slow=3.1,SNR=143
URZ S S 16 29 44.5 -5.7
comp=Z,70nm,0.6s,baz=293,slow=17,SNR=3.4
URZ ScP ScP 16 33 48.2 +0.5
comp=Z,86nm,0.8s,baz=236,slow=1.4,SNR=4.7
URZ ScS ScS 16 37 26.0 -2.2
comp=Z,56nm,1.0s,baz=25,slow=24,SNR=11
URZ Urewera 17.52 191 P P 16 26 54.2 -2.6
URZ S S 16 29 44.7 -5.6
URZ ScP ScP 16 33 48.7 +1.1
URZ Urewera 17.52 191 P ScP 16 33 46.6 -1.0
MKRZ Makatiti 17.53 193 P P 16 26 59.0 +1.9
NGRZ Ngongotaha 17.56 194 P P 16 26 59.5 +2.2
CNGZ Carnagh Statio 17.57 188 P P 16 26 56.9 -0.4
CNGZ S S 16 29 51.4 +0.4
CNGZ ScP ScP 16 33 52.5 +4.8
CNGZ Carnagh Statio 17.57 188 P ScP 16 33 51.6 +3.8
TKGZ Te Karaka 17.57 189 P P 16 26 56.0 -1.4
TKGZ S S 16 29 47.9 -3.3
TARZ Mount Tarawera 17.62 193 P P 16 26 58.0 +0.1
UTU Utuhina 17.63 194 P P 16 26 59.1 +1.3
HLRZ Highlands Stat 17.66 193 P P 16 26 58.9 +0.7
RAGZ Rawiri 17.70 190 P P 16 26 58.3 -0.3
RRRZ Republican Roa 17.71 193 P P 16 26 58.6 -0.1
HSRZ Hossack Road 17.74 193 P P 16 26 59.6 +0.7
MURZ Murupara 17.80 192 P P 16 26 58.5 -0.8
GRRZ Galatos Road 17.81 194 P P 16 27 00.8 +1.2
HRRZ Handcock Road 17.81 193 P P 16 26 59.6 +0.1
RIGZ Rimuhau 17.85 189 P P 16 26 58.6 -1.3
RIGZ S S 16 29 53.0 -2.8
RIGZ ScS ScS 16 37 32.0 +2.6
RIGZ Rimuhau 17.85 189 P ScP 16 33 51.5 +3.1
RTZ Ruatahuna 17.89 191 P P 16 26 58.7 -1.6
RTZ Ruatahuna 17.89 191 P P 16 26 59.0 -1.3
RTZ ScS ScS 16 37 22.3 -7.3
PRRZ Plateau Road 17.89 193 P P 16 26 59.8 -0.5
TLZ Tolley Road 17.92 195 P P 16 27 02.0 +1.4
WPRZ Whakapapatarin 17.96 193 P P 16 27 01.3 +0.4
ALRZ Allen Road 17.96 193 P P 16 27 00.5 -0.4
SNGZ Shannon Statio 17.99 190 P P 16 26 58.8 -2.4
SNGZ S S 16 29 55.5 -2.5
SNGZ ScP ScP 16 33 51.1 +2.4
SNGZ ScS ScS 16 37 29.1 +1.2
SNGZ Shannon Statio 17.99 190 P ScP 16 33 50.8 +2.1
KUTZ Kaahu Road 18.01 194 P P 16 27 01.9 +0.6
PRGZ Paritu Road 18.04 189 P P 16 27 01.6 -0.1
ARAZ Aratiatia Land 18.07 193 P P 16 27 02.9 +0.9
POIZ Poihipi 18.10 194 P P 16 27 04.1 +1.9
MTHZ Maungataniwha 18.15 191 P P 16 27 01.2 -1.4
MTHZ S S 16 29 58.5 -2.1
MTHZ ScS ScS 16 37 29.9 -0.4
WHTZ Whakaora 18.15 194 P P 16 27 04.3 +1.6
RAHZ Arahi 18.16 191 P P 16 27 00.4 -2.3
RAHZ S S 16 29 58.5 -2.3
RAHZ ScS ScS 16 37 31.0 +0.6
MRHZ Matea Rd 18.21 192 P P 16 27 02.8 -0.5
WATZ Wairara 18.24 194 P P 16 27 03.6 +0.2
MHGZ Mahia Peninsul 18.27 189 P P 16 27 03.5 -0.2
HIZ Hauiti 18.27 197 P P 16 27 05.7 +2.0
HIZ Hauiti 18.27 197 P P 16 27 05.1 +1.4
WHHZ Waihua 18.30 190 P P 16 27 03.6 -0.4
WHHZ S S 16 30 00.3 -2.6
HATZ Hinemaiaia 18.33 193 P P 16 27 03.6 -0.7
RATZ Rangitukua 18.38 194 P P 16 27 04.6 -0.2
NMHZ Naumai 18.39 191 P P 16 27 03.3 -1.6
NMHZ S S 16 30 04.3 -0.3
RITZ Rihia Road 18.47 194 P P 16 27 04.7 -0.9
KATZ Kakaramea 18.50 194 P P 16 27 05.9 -0.1
BKZ Black Stump Fm 18.52 192 P P 16 27 04.2 -1.8
BKZ Black Stump Fm 18.52 192 P P 16 27 04.3 -1.7
BKZ Black Stump Fm 18.52 192 P P 16 27 04.0 -2.0
BKZ ScS ScS 16 37 31.0 -0.6
ARHZ Aropaoanui 18.52 191 P P 16 27 05.1 -0.9
ARHZ S S 16 30 05.0 -1.4
ETVZ East Tongariro 18.65 194 P P 16 27 07.2 -0.1
NGZ Ngauruhoe 18.71 194 P P 16 27 08.0 0.0
MCHZ McNeill Hill 18.75 191 P P 16 27 06.1 -2.0
MCHZ ScP ScP 16 33 53.2 +2.9
CKHZ Cape Kidnapper 18.89 190 P P 16 27 09.2 +0.1
KAHZ Kahuranaki 19.06 191 P P 16 27 10.1 -0.9
KHEZ Kahui Hut 19.23 198 P P 16 27 14.3 +1.7
PXZ Pawanui 19.29 191 P P 16 27 12.0 -0.9
PNHZ Pukenui 19.30 192 P ScP 16 33 53.8 +2.2
WPHZ Waipukurau 19.40 191 P ScP 16 33 54.5 +2.7
DVHZ Dannevirke 19.68 192 P ScP 16 33 54.6 +2.2
BFZ Birch Farm 20.03 191 P P 16 27 18.7 -1.0
BFZ Birch Farm 20.03 191 P P 16 27 18.7 -1.0
BFZ Birch Farm 20.03 191 P ScP 16 33 55.9 +2.6
MRZ Mangatainoka R 20.14 193 P P 16 27 18.9 -1.8
MRZ Mangatainoka R 20.14 193 P ScP 16 33 55.3 +1.8
OGWZ Otaki Gorge 20.38 194 P ScP 16 33 56.0 +1.8
HOWZ Holdsworth Sta 20.38 193 P ScP 16 33 56.5 +2.3
CAW Cannon Point 20.68 194 P ScP 16 33 56.9 +2.0
SNZO South Karori 20.95 194 P P 16 27 27.2 -0.8
SNZO South Karori 20.95 194 P P 16 27 27.4 -0.6
TCW Tory Channel 20.96 195 P P 16 27 27.0 -1.1
BHW Baring Head 21.01 194 P P 16 27 26.8 -1.7
PLWZ Palliser 21.08 193 P P 16 27 27.8 -1.5
TKNZ Takaka Hill 21.14 198 P P 16 27 28.7 -1.1
MRNZ Matariki Terra 21.54 198 P P 16 27 32.8 -0.5
KHZ Kahutara 22.28 195 P P 16 27 39.2 -0.7
CTZ Chatham Island 22.66 176 P P 16 27 44.3 +1.1
CTZ Chatham Island 22.66 176 P P 16 27 44.1 +0.8
HNR Honiara 23.66 296 P P 16 27 51.3 -1.3
HNR Honiara 23.66 296 P P 16 27 54.0 +1.4
HNR Honiara 23.66 296 P P 16 27 51.3 -1.3
TARA Tarawa 23.78 339 P P 16 27 52.2 -1.5
RPZ Rata Peaks 24.16 199 P P 16 27 55.9 -0.8

FOZ Fox Glacier 24.39 201 P P 16 27 58.1 -0.5
JCZ Jackson Bay 25.21 202 P P 16 28 06.0 -0.1
ODZ Otahua Downs 25.50 198 P P 16 28 07.9 -0.5
WKZ Wanaka 25.80 200 P P 16 28 09.4 -1.7
SYZ Scrubby Hill 27.30 199 P P 16 28 24.3 +0.1
PAE Paea 27.58 88 eP P 16 28 27.9 +0.8
comp=Z,13nm,0.9s
PAE epP pP 16 29 51.4 -4.2
comp=Z,98nm,1.5s
PPT2 Papeete2 27.60 88 eP P 16 28 26.9 -0.5
comp=Z,70nm,15.8s
PPT2 epP pP 16 29 52.0 -3.9
comp=Z,57nm,15.8s
PPT2 eS S 16 32 28.9 -1.6
comp=Z,310nm,25.5s
PPT2 esS sS 16 35 09.3 -10
comp=Z,2µm,25.5s
PPT Papeete 27.61 88 P P 16 28 27.3 -0.1
comp=Z,66nm,0.9s,baz=43,slow=2.7,SNR=6.4
PPT ScP ScP 16 34 17.9 +3.3
comp=Z,71nm,1.1s,baz=353,slow=5.4,SNR=5.7
comp=Z,66nm,0.9s
PYZ Puysegur Point 27.77 202 P P 16 28 28.2 -0.2
TVO Taravao 27.86 88 eP P 16 28 29.5 -0.2
comp=Z,17nm,0.8s
TVO epP pP 16 29 54.7 -3.6
comp=Z,63nm,1.1s
EIDS Eidsvold 28.14 255 P P 16 28 32.5 +0.6
baz=28,SNR=43
EIDS Eidsvold 28.14 255 P P 16 28 32.9 +1.0
ARMA Armidale 28.30 245 P P 16 28 34.8 +1.5
baz=28,SNR=49
ARMA Armidale 28.30 245 P P 16 28 33.8 +0.4
ARMA Armidale 28.30 245 P P 16 28 34.9 +1.5
RK1H Rockhampton Ha 28.66 260 P P 16 28 36.8 +0.3
NTLH Newcastle Hard 28.86 240 P P 16 28 39.7 +1.7
MGCD Mangrove Creek 29.42 239 P P 16 28 44.4 +1.5
baz=30,SNR=70
MGCD Mangrove Creek 29.42 239 P P 16 28 44.9 +2.0
PMOR Pomariorio Ree 29.80 83 eP P 16 28 45.6 -0.7
comp=Z,232nm,1.2s
SYDH Sydney Hard Ro 29.88 238 P P 16 28 48.4 +1.6
WOLH Wollongong Har 29.97 237 P P 16 28 48.5 +0.9
VAH Vaihoa 29.98 84 eP P 16 28 48.0 +0.1
comp=Z,100nm,1.1s
RMQ Roma 30.29 253 P P 16 28 52.6 +2.1
baz=30,SNR=4.8
XMAS Kiritimati 30.94 45 P P 16 28 56.2 0.0
CNB Canberra Magne 31.43 236 P P 16 29 01.7 +1.5
baz=32,SNR=431
CNB Canberra Magne 31.43 236 P P 16 29 01.8 +1.5
CAN Canberra 31.71 236 lAmb lAmb 16 29 04.8
comp=Z,141nm,0.9s
CAN Canberra 31.71 236 P P 16 29 03.9 +1.2
CAN Canberra 31.71 236 P P 16 29 03.9 +1.2
CAN pmax pmax
comp=Z,184nm,1.0s
CAN Canberra 31.71 236 P P 16 29 03.6 +1.0
CAN PcP sP 16 31 38.7 +1.0
CAN ScP ScP 16 34 31.8 +3.9
YNG Young 31.89 239 P P 16 29 05.2 +1.1
baz=32,SNR=28
YNG Young 31.89 239 P P 16 29 05.4 +1.2
MILA Mila 32.17 233 P P 16 29 07.5 +1.1
baz=32,SNR=13
MILA Mila 32.17 233 P P 16 29 07.7 +1.2
TV1H Townsville Har 32.48 267 P P 16 29 09.5 +0.2
CTA Charters Tower 32.87 265 P P 16 29 12.9 +0.3
comp=Z,307nm,0.5s,baz=86,slow=11,SNR=111
CTA PcP PcP 16 31 41.6 +1.0
comp=Z,47nm,0.9s,baz=15,slow=1.2,SNR=3.9
CTA S S 16 33 49.4 -2.0
comp=Z,5.4nm,0.7s,baz=297,slow=22,SNR=5.6
comp=Z,307nm,0.5s
CTAO Charters Tower 32.87 265 P P 16 29 12.9 +0.3
CTAO Charters Tower 32.87 265 P P 16 29 12.9 +0.3
CTAO Charters Tower 32.87 265 P P 16 29 12.9 +0.3
CTAO pmax pmax
comp=Z,350nm,0.6s
CTAO Charters Tower 32.87 265 P P 16 29 12.9 +0.3
CTAO PcP PcP 16 31 41.5 +1.0
CTAO ScP ScP 16 34 35.9 +3.8
CMSA Cobar Meteorol 33.52 244 P P 16 29 18.6 +0.8
baz=34,SNR=120
CMSA Cobar Meteorol 33.52 244 P P 16 29 18.7 +0.8
QLP Quilpie 34.34 253 P P 16 29 25.2 +0.4
baz=34,SNR=42
QLP Quilpie 34.34 253 P P 16 29 25.7 +0.8
GLAD Gladstone 34.52 227 P P 16 29 26.7 +0.6
PMG Port Moresby 34.92 284 P P 16 29 29.5 -0.3
PMG Port Moresby 34.92 284 P P 16 29 29.8 0.0
PMG Port Moresby 34.92 284 d iP P 16 29 29.8 0.0
PMG pmax pmax
comp=Z,614nm,1.1s
PMG Port Moresby 34.92 284 S S 16 34 20.9 -1.4
comp=Z,6.2nm,0.6s,baz=180,slow=24,SNR=1.3
PMG Port Moresby 34.92 284 P P 16 29 29.6 -0.2
PMG PcP PcP 16 31 47.3 +0.7
MTSU Mount Surprise 34.99 268 P P 16 29 30.6 +0.2
baz=35,SNR=197
MTSU Mount Surprise 34.99 268 P P 16 29 30.6 +0.2
TOO Toolangi 35.10 234 P P 16 29 31.9 +0.9
baz=35,SNR=204
TOO Toolangi 35.10 234 P P 16 29 32.0 +0.9
TOO Toolangi 35.10 234 P P 16 29 32.1 +1.1
TOO pmax pmax
comp=Z,285nm,0.8s
MOO Moorlands 35.69 225 P P 16 29 36.7 +0.9
baz=36,SNR=10
MOO Moorlands 35.69 225 P P 16 29 36.8 +0.9
PATS Pohnpei 35.81 318 P P 16 29 37.9 +0.7
baz=36,SNR=6.3
PATS Pohnpei 35.81 318 P P 16 29 37.1 -0.1
PATS PcP 16 31 51.9 +2.6
PATS Pohnpei 35.81 318 P P 16 29 37.3 +0.1
TAU Tasmania Unive 35.81 225 P P 16 29 37.6 +0.7
TAU Tasmania Unive 35.81 225 P P 16 29 37.7 +0.9
TAU Tasmania Unive 35.81 225 P P 16 29 37.6 +0.7
TAU pmax pmax
comp=Z,40nm,0.7s
TAU Tasmania Unive 35.81 225 P P 16 29 37.3 +0.4
TAU PcP PcP 16 31 49.9 +1.1
TAU ScP ScP 16 34 45.8 +3.4
GEXS Deakin Univers 36.19 234 P P 16 29 40.5 +0.5
BRAT Ballarat 36.27 235 P P 16 29 41.8 +1.1
STKA Stephens Creek 37.02 245 P P 16 29 47.8 +0.9
baz=37,SNR=102
STKA Stephens Creek 37.02 245 P P 16 29 47.9 +0.9
STKA PcP PcP 16 31 54.5 +1.7
STKA Stephens Creek 37.02 245 P P 16 29 47.9 +0.9
STKA Stephens Creek 37.02 245 d iP P 16 29 47.6 +0.6
STKA Stephens Creek 37.02 245 P P 16 29 47.9 +0.9
comp=Z,96nm,0.7s,baz=90,slow=9.6,SNR=198
STKA PcP PcP 16 31 53.2 +0.4
comp=Z,39nm,0.9s,baz=4.5,slow=3.5,SNR=4.5
STKA S S 16 34 49.9 -3.5
comp=Z,23nm,0.9s,baz=132,slow=2.8,SNR=7.0
STKA ScS ScS 16 38 54.8 -2.0
comp=Z,1.2nm,0.7s,baz=14,slow=19,SNR=1.0
STKA PKiKP PKiKP 16 39 07.0 -1.6
comp=Z,2.8nm,0.6s,baz=140,slow=4.3,SNR=5.2
STKA P3KPbc 17 00 00.2
comp=Z,7.8nm,0.9s,baz=301,slow=6.2,SNR=14
comp=Z,96nm,0.7s
COEN Coen 37.05 275 P P 16 29 47.8 +0.4
baz=37,SNR=111
COEN Coen 37.05 275 P P 16 29 47.9 +0.5
MCQ Macquarie Isla 37.45 201 P P 16 29 52.2 +2.2
baz=38,SNR=16
MCQ Macquarie Isla 37.45 201 P P 16 29 50.8 +0.8
INKA Innaminka 37.47 252 P P 16 29 52.1 +1.4
ARPS Mount Arapiles 37.69 237 P P 16 29 52.9 +0.5
baz=38,SNR=52
ARPS Mount Arapiles 37.69 237 P P 16 29 53.0 +0.6
MANU Manus Island 38.16 295 P P 16 29 57.2 +0.7
QIS Mount Isa 38.98 263 P P 16 30 02.6 -0.4
baz=39,SNR=49
QIS Mount Isa 38.98 263 P P 16 30 02.8 -0.2
TAOE Nuku Hiva Isla 38.98 78 eP P 16 30 03.8 +0.5
comp=Z,544nm,1.1s
TAOE Nuku Hiva Isla 38.98 78 P P 16 30 04.0 +0.7
HTT Hallett 39.45 243 P P 16 30 07.0 +0.3
baz=40,SNR=95
HTT Hallett 39.45 243 P P 16 30 07.1 +0.4
HTT Hallett 39.45 243 P P 16 30 04.4 -2.3

LCRK Leigh Creek 39.78 247 P P 16 30 09.5 +0.1
PTPS Port Pirie 40.19 243 P P 16 30 13.4 +0.8
WHYH Whyalla 40.53 243 P P 16 30 15.9 +0.7
BBOO Buckleboo 41.78 244 P P 16 30 25.0 -0.2
baz=42,SNR=493
BBOO Buckleboo 41.78 244 P P 16 30 25.3 +0.1
BBOO lAmb lAmb 16 30 26.1
comp=Z,174nm,0.7s
BBOO Buckleboo 41.78 244 P P 16 30 25.0 -0.2
OOD Oodnadatta 41.95 252 P P 16 30 27.4 +0.8
WAKE Wake Island 42.62 339 P P 16 30 30.8 -1.0
WAKE Wake Island 42.62 339 P P 16 30 31.3 -0.5
H11N3 WAKE ISLAND Hy 42.94 340 P P 16 30 32.9 -1.2
baz=184,slow=10,SNR=5.1
H11N1 WAKE ISLAND Hy 42.95 340 P P 16 30 33.9 -0.3
baz=184,slow=10,SNR=5.5
H11N2 WAKE ISLAND Hy 42.96 340 P P 16 30 34.1 -0.2
baz=184,slow=10,SNR=4.7
MULG Mulgathing 43.37 248 P P 16 30 37.5 -0.2
AS01 Alice Springs 43.79 257 P P 16 30 41.2 +0.2
ASAR Alice Springs 43.83 257 P P 16 30 41.3 -0.1
ASAR PcP PcP 16 32 16.2 +0.8
ASAR ScP ScP 16 35 18.2 +3.9
ASAR Alice Springs 43.83 257 P P 16 30 41.5 +0.2
comp=Z,323nm,0.9s,baz=92,slow=8.2,SNR=1922
ASAR PcP PcP 16 32 15.9 +0.5
comp=Z,61nm,0.8s,baz=100,slow=4.1,SNR=16
ASAR ScP ScP 16 35 16.1 +1.8
comp=Z,9.1nm,0.7s,baz=94,slow=4.7,SNR=3.3
ASAR S S 16 36 30.2 -2.1
comp=Z,30nm,1.0s,baz=95,slow=15,SNR=21
ASAR PKiKP PKiKP 16 39 13.9 -0.9
comp=Z,2.3nm,0.6s,baz=94,slow=1.8,SNR=6.6
ASAR ScS ScS 16 39 40.0 +1.4
comp=Z,3.9nm,0.9s,baz=75,slow=7.1,SNR=5.4
ASAR P3KPbc 16 59 31.9
comp=Z,0.8nm,0.7s,baz=278,slow=3.9,SNR=13
ASAR P3KP 17 01 22.3
comp=Z,0.6nm,1.0s,baz=317,slow=2.0,SNR=1.9
comp=Z,323nm,0.9s
WRAB Tennant Creek 43.95 263 P P 16 30 41.4 -0.9
WRAB lAmb lAmb 16 30 43.0
comp=Z,320nm,0.9s
WRAB Tennant Creek 43.95 263 P P 16 30 41.4 -0.9
WRAB pmax pmax
comp=Z,319nm,1.0s
WRA Warramunga Arr 43.95 263 P P 16 30 42.1 -0.3
WRA Warramunga Arr 43.95 263 P P 16 30 41.8 -0.5
comp=Z,210nm,0.9s,baz=93,slow=5.2,SNR=847
WRA PcP PcP 16 32 16.6 +0.7
comp=Z,36nm,0.9s,baz=98,slow=3.8,SNR=9.3
WRA ScP ScP 16 35 16.2 +1.4
comp=Z,7.2nm,0.9s,baz=90,slow=3.9,SNR=2.8
WRA S S 16 36 27.6 -6.5
comp=Z,7.0nm,0.7s,baz=101,slow=13,SNR=5.0
WRA PKiKP PKiKP 16 39 13.8 -1.3
comp=Z,5.7nm,0.9s,baz=80,slow=1.4,SNR=5.2
WRA ScS ScS 16 39 39.8 +0.3
comp=Z,6.1nm,1.1s,baz=132,slow=7.4,SNR=4.5
comp=Z,210nm,0.9s
GENI Genyem 44.12 289 P P 16 30 44.0 +0.3
comp=Z,1µm,0.9s,comp=Z,12µm
KHLU Kahalu`u 46.13 30 P P 16 30 56.1 -2.9
KHLU lAmb lAmb 16 30 59.8
comp=Z,244nm,0.8s
HUH Hualalai 46.24 30 P P 16 30 59.0 -1.0
HUH lAmb lAmb 16 31 00.9
comp=Z,122nm,0.7s
PUH Pauahi 46.27 31 P P 16 30 57.2 -2.9
PUH lAmb lAmb 16 31 00.9
comp=Z,162nm,1.0s
MLH Mauna Loa 46.29 31 lAmb lAmb 16 31 01.8
comp=Z,434nm,1.3s
POHA Pohakuloa 46.44 31 P P 16 31 01.5 0.0
POHA lAmb lAmb 16 31 11.2
comp=Z,144nm,0.8s
POHA Pohakuloa 46.44 31 P P 16 31 01.2 -0.3
KEKH Kekaha 46.60 24 lAmb lAmb 16 31 03.3
comp=Z,205nm,0.8s
MHA Mahukona 46.64 30 P P 16 31 02.1 -0.6
MHA Mahukona 46.64 30 P P 16 31 02.1 -0.6
HON Honolulu 46.70 27 P P 16 31 03.4 +0.2
HON lAmb lAmb 16 31 04.2
comp=Z,257nm,0.8s
HON Honolulu 46.70 27 P P 16 31 03.4 +0.2
HON pmax pmax
comp=Z,257nm,0.8s
KIP Kipapa 46.79 27 ceP P 16 31 03.7 -0.1
KIP pmax pmax
comp=Z,197nm,1.0s
KIP Kipapa 46.79 27 P P 16 31 04.3 +0.5
KDU Kakadu 47.39 272 P P 16 31 08.5 0.0
FORT Forrest 48.54 247 P P 16 31 16.7 -0.2
baz=49,SNR=99
FORT Forrest 48.54 247 ScP ScP 16 35 34.8 +1.0
FORT Forrest 48.54 247 P P 16 31 16.7 -0.2
MTN Manton Dam 48.60 271 P P 16 31 17.0 -0.5
baz=49,SNR=38
MTN Manton Dam 48.60 271 P P 16 31 17.2 -0.3
WRKA Warakurna 48.76 255 P P 16 31 18.3 -0.4
baz=49,SNR=657
WRKA Warakurna 48.76 255 P P 16 31 18.3 -0.4
DRS Darwin Rock St 48.93 272 P P 16 31 19.8 -0.2
SAUI Saumlaki 50.00 277 P P 16 31 29.5 +1.6
SAUI Saumlaki 50.00 277 P P 16 31 28.5 +0.7
comp=Z,1µm,1.1s,comp=Z,13µm
KNRA Kununurra 50.05 267 P P 16 31 27.1 -1.1
baz=50,SNR=205
KNRA Kununurra 50.05 267 P P 16 31 28.0 -0.2
FAKI Fak Fak 51.07 284 P P 16 31 35.1 -0.6
FAKI lAmb lAmb 16 31 36.6
comp=Z,491nm,1.2s
FAKI Fak Fak 51.07 284 P P 16 31 35.8 +0.1
FAKI Fak Fak 51.07 284 P P 16 31 35.2 -0.5
comp=Z,348nm,1.4s,comp=Z,4µm
FITZ Fitzroy Crossi 52.38 263 P P 16 31 45.2 +0.1
baz=52,SNR=88
FITZ Fitzroy Crossi 52.38 263 P P 16 31 45.2 +0.1
FITZ PcP PcP 16 32 45.4 -1.2
BNDI Bandanaira 52.57 281 P P 16 31 46.6 +0.2
BNDI Bandanaira 52.57 281 P P 16 31 46.4 0.0
comp=Z,1µm,1.5s
DRV Dumont d'Urvil 52.62 199 P P 16 31 47.2 +1.3
DRV ScP ScP 16 35 52.9 +2.1
SWI Sorong 52.84 286 P P 16 31 48.1 -0.3
comp=Z,2µm,0.9s,comp=Z,17µmcomp=Z,2µm
KMBL Kambalda 53.80 246 P P 16 31 54.9 -0.1
baz=54,SNR=16
KMBL Kambalda 53.80 246 P P 16 31 55.1 +0.1
NLAI Namlea 55.64 281 P P 16 32 08.0 0.0
comp=Z,321nm,1.3s
SOEI Soe 55.95 272 P P 16 32 10.2 -0.2
SOEI Soe 55.95 272 P P 16 32 11.8 +1.5
SOEI Soe 55.95 272 P P 16 32 11.5 +1.2
comp=Z,1µm,0.9s,comp=Z,10µm
LBMI Labuha 56.33 284 P P 16 32 13.1 +0.3
comp=Z,662nm,1.0s,comp=Z,6µm
PSA00 Pilbara Seismi 56.98 257 lAmb lAmb 16 32 18.1
comp=Z,334nm,0.9s
PSA00 PcP PcP 16 33 05.5 +0.9
PSA00 Pilbara Seismi 56.98 257 lAmb lAmb 16 32 18.2
comp=Z,158nm,1.0s
PSA00 PcP PcP 16 33 05.3 +0.8
PSA00 Pilbara Seismi 56.98 257 P P 16 32 17.6 +0.4
TNTI Ternate 57.05 285 P P 16 32 17.8 +0.1
TNTI Ternate 57.05 285 P P 16 32 17.7 -0.1
comp=Z,575nm,1.0s,comp=Z,6µm
SANI Sanana 57.13 282 P P 16 32 18.1 -0.2
SANI Sanana 57.13 282 P P 16 32 17.5 -0.8
comp=Z,386nm,1.0s,comp=Z,4µm
MBWA Marble Bar 57.17 258 P P 16 32 18.2 -0.3
MBWA lAmb lAmb 16 32 19.4
comp=Z,265nm,0.8s
MBWA Marble Bar 57.17 258 P P 16 32 18.5 0.0
MBWA Marble Bar 57.17 258 P P 16 32 18.4 -0.1
MBWA S S 16 39 30.2 -1.9
MBWA Marble Bar 57.17 258 P P 16 32 18.1 -0.3
MBWA PcP PcP 16 33 05.6 +0.3
MBWA ScP ScP 16 36 14.9 +3.2
MEEK Meekatharra 57.19 251 P P 16 32 18.0 -0.6
baz=57,SNR=76
MEEK Meekatharra 57.19 251 P P 16 32 18.2 -0.4
SBA Scott Base 57.27 184 P P 16 32 21.7 +3.6
SBA lAmb lAmb 16 32 22.9
comp=Z,367nm,1.1s

SBA Scott Base 57.27 184 P P 16 32 21.7 +3.6
SBA pmax pmax
comp=Z,367nm,1.1s
SBA Scott Base 57.27 184 P P 16 32 21.8 +3.7
SBA ScP **ScP** **16 36 14.0 +3.0**
VNDA Vanda 57.29 185 P P 16 32 21.1 +2.7
VNDA ScP **ScP** **16 36 14.8 +3.7**
VNDA Vanda 57.29 185 P P 16 32 21.0 +2.7
comp=Z,64nm,0.7s,baz=1.5,slow=7.9,SNR=178
VNDA ScP **ScP** **16 36 12.6 +1.5**
comp=Z,52nm,0.9s,baz=341,slow=5.0,SNR=11
comp=Z,64nm,0.7s
VNDA Vanda 57.29 185 P P 16 32 21.1 +2.7
VNDA PcP **PcP** **16 33 06.0 +1.4**
VNDA ScP **ScP** **16 36 14.0 +2.9**
KLBR Kellerberrin 57.29 245 P P 16 32 19.4 +0.2
baz=57,SNR=44
KLBR Kellerberrin 57.29 245 P P 16 32 19.4 +0.2
NWAO Narrogin (SRO) 57.60 244 P P 16 32 21.6 +0.4
baz=58,SNR=24
NWAO P **P** **16 32 21.6 +0.4**
baz=58,SNR=24
NWAO Narrogin (SRO) 57.60 244 P P 16 32 21.2 0.0
NWAO Narrogin (SRO) 57.60 244 P P 16 32 21.8 +0.6
NWAO Narrogin (SRO) 57.60 244 P P 16 32 21.2 0.0
NWAO pmax pmax
comp=Z,137nm,1.2s
NWAO Narrogin (SRO) 57.60 244 P P 16 32 21.6 +0.4
NWAO S **S** **16 39 34.9 -2.4**
NWAO Narrogin (SRO) 57.60 244 P P 16 32 21.5 +0.3
RKGY Rocky Gully 57.67 242 P P 16 32 22.6 +1.0
baz=58,SNR=8.2
RKGY Rocky Gully 57.67 242 P P 16 32 22.9 +1.3
MMRI Maumere 58.20 273 IAmb IAmb 16 32 26.5
comp=Z,469nm,1.0s
MMRI Maumere 58.20 273 P P 16 32 25.7 +0.1
BLDU Ballidu 58.30 246 P P 16 32 25.9 -0.1
baz=58,SNR=47
BLDU Ballidu 58.30 246 P P 16 32 25.8 -0.2
MUN Mundaring 58.56 245 P P 16 32 28.2 +0.5
baz=59,SNR=22
MUN Mundaring 58.56 245 P P 16 32 28.4 +0.7
MUN Mundaring 58.56 245 P P 16 32 28.4 +0.7
EDFI Ende, Flores 58.68 272 P P 16 32 28.3 -0.6
comp=Z,443nm,1.2s,comp=Z,4µm
MORW Morawa 59.08 248 P P 16 32 31.2 0.0
baz=59,SNR=44
MORW Morawa 59.08 248 P P 16 32 31.3 0.0
MORW Morawa 59.08 248 P P 16 32 31.3 0.0
BASI Baing, Sumba 59.24 270 P P 16 32 33.2 +0.6
comp=Z,695nm,1.1s,comp=Z,8µm
SGSI Sangihe 59.98 287 P P 16 32 38.3 +0.8
comp=Z,611nm,1.1s,comp=Z,7µmcomp=Z,2µm
KMSI Cibinong 60.03 283 P P 16 32 37.5 -0.3
comp=Z,640nm,0.9s,comp=Z,5µm
LUWI Luwuk 60.48 281 P P 16 32 41.0 +0.3
LUWI Luwuk 60.48 281 P P 16 32 41.3 +0.5
LUWI Luwuk 60.48 281 P P 16 32 41.1 +0.3
comp=Z,664nm,1.2s,comp=Z,7µm
JCJ Chichijima 61.10 320 IAmb IAmb 16 32 45.2
comp=Z,379nm,1.0s
JCJ Chichijima 61.10 320 P P 16 32 40.1 -4.5
comp=Z,280nm,0.9s,baz=189,slow=3.2,SNR=6.7
BKSI Bulukumba 61.31 276 P P 16 32 45.5 -0.7
comp=Z,149nm,0.8s,comp=Z,4µm
DAV Davao City (W) 61.50 291 P P 16 32 48.0 +0.6
KAPI Kappang 61.77 276 P P 16 32 48.6 -0.6
KAPI IAmb IAmb 16 32 50.6
comp=Z,350nm,1.8s
KAPI Kappang 61.77 276 P P 16 32 48.6 -0.6
KAPI pmax pmax
comp=Z,350nm,1.8s
KAPI Kappang 61.77 276 P P 16 32 49.5 +0.3
KAPI S **S** **16 40 29.5 -0.3**
KAPI Kappang 61.77 276 P P 16 32 49.2 0.0
CCD Concordia, Ant 61.77 194 P P 16 32 50.2 +1.6
GIRL Giralia 61.85 255 P P 16 32 50.9 +1.3
baz=62,SNR=41
GIRL Giralia 61.85 255 P P 16 32 50.9 +1.3
GIRL Giralia 61.85 255 P P 16 32 50.8 +1.2
PLAI Plampang 62.30 271 P P 16 32 52.8 +0.1
PLAI Plampang 62.30 271 P P 16 32 52.1 -0.6
comp=Z,635nm,1.0s,comp=Z,6µm
TTSI Tana Toraja 62.42 278 P P 16 32 53.2 -0.3
comp=Z,78nm,1.0s,comp=Z,1µm
TOLI2 Tolitoli 63.16 283 P P 16 32 57.4 -0.9
TOLI2 IAmb IAmb 16 32 59.1
comp=Z,204nm,0.9s
TOLI2 Tolitoli 63.16 283 P P 16 32 58.2 0.0
TWSI Taliwang, Sumb 63.17 271 P P 16 32 57.7 -0.6
comp=Z,536nm,1.2s,comp=Z,5µm
CASY Casey 63.20 205 P P 16 32 58.7 +1.2
CASY IAmb IAmb 16 32 59.7
comp=Z,236nm,1.1s
CASY Casey 63.20 205 P P 16 32 58.8 +1.2
DNP Denpasar 64.75 270 P P 16 33 08.6 +0.3
comp=Z,614nm,0.9s
SRBI Singaraja 64.94 271 P P 16 33 09.0 -0.5
comp=Z,343nm,1.1s,comp=Z,4µm
JAGI Jajag, Banyuwa 65.81 270 P P 16 33 13.4 -1.5
JAGI Jajag, Banyuwa 65.81 270 P P 16 33 14.8 -0.1
JAGI Jajag, Banyuwa 65.81 270 P P 16 33 13.6 -1.3
comp=Z,359nm,1.0s,comp=Z,3µm
ABJI Asem Bagus 65.95 271 P P 16 33 15.8 0.0
comp=Z,312nm,1.2s,comp=Z,4µm
BLJI Banyuglugur 66.57 271 P P 16 33 19.4 -0.2
comp=Z,330nm,1.2s,comp=Z,4µm
JHJ Hachijo jima 2 66.94 323 P P 16 33 21.1 -0.4
comp=Z,655nm,1.0s,baz=203,slow=12,SNR=5.8
comp=Z,655nm,1.0s
MTKI Muara Teweh, K 67.77 278 P P 16 33 27.7 +0.7
comp=Z,215nm,0.9s
GRJI Gresik 67.89 271 P P 16 33 28.6 +0.9
comp=Z,616nm,1.1s,comp=Z,6µm
PWJI Pagerwojo 68.15 270 P P 16 33 28.8 -0.5
comp=Z,248nm,1.0s,comp=Z,2µm
NGJI Ngawi 68.68 270 P P 16 33 34.3 +1.7
comp=Z,149nm,1.0s,comp=Z,3µm
QSPA South Pole Qui 69.00 180 P P 16 33 35.1 +1.4
QSPA South Pole Qui 69.00 180 P P 16 33 35.7 +2.1
comp=Z,268nm,0.7s,baz=355,slow=0.5,SNR=1393
QSPA S **S** **16 41 57.4 +3.0**
comp=Z,13nm,1.0s,baz=105,slow=22,SNR=24
QSPA PKP2bc 17 01 27.1
comp=Z,9.3nm,0.8s,baz=238,slow=1.5,SNR=16
comp=Z,268nm,0.7s
QSPA South Pole Qui 69.00 180 P P 16 33 35.4 +1.7
QSPA pP **pP** **16 35 29.9 +2.8**
UGM Wanagama 69.38 269 IAmb IAmb 16 33 37.8
comp=Z,301nm,1.1s
UGM Wanagama 69.38 269 P P 16 33 36.9 +0.1
UGM Wanagama 69.38 269 P P 16 33 36.5 -0.3
comp=Z,354nm,1.0s,comp=Z,4µm
YOGI Yogyakarta 69.62 269 P P 16 33 38.2 0.0
comp=Z,258nm,1.0s,comp=Z,2µm
SMRI Semarang 69.74 270 IAmb IAmb 16 33 40.1
comp=Z,153nm,0.8s
SMRI Semarang 69.74 270 P P 16 33 39.4 +0.4
comp=Z,238nm,1.3s,comp=Z,3µm
JMM Marumori 69.95 327 IAmb IAmb 16 33 40.9
comp=Z,180nm,1.0s
JOW Kunigami 70.10 311 IAmb IAmb 16 33 42.6
comp=Z,249nm,1.0s
JOW Kunigami 70.10 311 P P 16 33 41.5 +0.8
JOW Kunigami 70.10 311 P P 16 33 41.2 +0.5
comp=Z,162nm,0.9s,baz=155,slow=5.9,SNR=15
comp=Z,162nm,0.9s
JGF Kuroka 70.12 323 P P 16 33 40.7 0.0
INU Inuyama 70.13 323 P P 16 33 40.6 -0.1
MJAR Matsushiro Arr 70.33 324 P P 16 33 41.5 -0.4
comp=Z,74nm,0.8s,baz=157,slow=5.5,SNR=101
comp=Z,74nm,0.8s
MAJO Matsushiro 70.33 324 P P 16 33 41.4 -0.6
MAJO Matsushiro 70.33 324 P P 16 33 42.7 +0.8
MAJO Matsushiro 70.33 324 *d* iP **P 16 33 41.6 -0.3**
MAJO pmax pmax
comp=Z,105nm,1.0s
MAJO Matsushiro 70.33 324 P P 16 33 41.6 -0.3
JMN Monobe 70.84 319 IAmb IAmb 16 33 47.1
comp=Z,234nm,1.1s
JMN Monobe 70.84 319 P P 16 33 46.6 +1.6
KPJI Karang Pucung 71.06 269 P P 16 33 46.3 -0.4
comp=Z,217nm,1.1s,comp=Z,3µm
STKI Sintang 71.31 278 P P 16 33 49.1 +0.9
comp=Z,309nm,1.3s
CMJI Cimerak 71.36 269 P P 16 33 47.3 -1.1
comp=Z,242nm,1.0s,comp=Z,2µm
JCJI Jatiwangi 71.96 270 P P 16 33 52.1 +0.2
comp=Z,520nm,1.1s,comp=Z,6µm
ERM Erimo 72.04 331 *c*eP **P 16 33 53.3 +1.6**
ERM pmax pmax
comp=Z,106nm,1.1s
JTM Tenmabayashi 72.06 329 IAmb IAmb 16 33 53.5
comp=Z,248nm,1.1s
BBJI Bungbulang 72.21 269 P P 16 33 53.1 -0.4
JNU Nakatsue 72.30 317 IAmb IAmb 16 33 54.9
comp=Z,306nm,1.1s
JNU Nakatsue 72.30 317 P P 16 33 52.9 -0.6
comp=Z,162nm,1.0s,baz=106,slow=3.5,SNR=25
comp=Z,162nm,1.0s
ADK Adak 72.66 1 P P 16 33 54.6 -0.5
ADK IAmb IAmb 16 33 55.5
comp=Z,199nm,0.8s
ADK Adak 72.66 1 P P 16 33 55.1 0.0
ADK Adak 72.66 1 P P 16 33 54.6 -0.5
ADK pmax pmax
comp=Z,199nm,0.8s
XMIS Christmas Isla 73.08 265 P P 16 33 59.1 +0.7
TWGBT Beinan 73.20 303 P P 16 33 58.4 -0.5
TWG Pinlang 73.21 303 IAmb IAmb 16 33 58.2
comp=Z,158nm,0.8s
CBJI Citeko 73.31 269 P P 16 33 58.6 -1.1
comp=Z,259nm,1.1s,comp=Z,4µm
YULB Yu-li 73.33 304 P P 16 33 59.2 -0.4
DBJI Dramaga 73.36 269 P P 16 33 59.9 -0.1
comp=Z,340nm,1.0s,comp=Z,10µm
SKJI Sukabumi 73.39 269 P P 16 33 59.6 -0.6
comp=Z,355nm,1.0s,comp=Z,3µm
NACB Ninganchiao 73.52 305 P P 16 34 00.5 -0.2
SHEM Shemya Is, Ala 73.76 355 P P 16 34 00.8 -0.5
comp=Z,144nm,0.8s,baz=51,slow=2.1,SNR=4.6
comp=Z,144nm,0.8s
TPUB Ta-pu 73.81 303 P P 16 34 01.5 -0.8
SSLB Suanglung 73.81 304 IAmb IAmb 16 34 02.4
comp=Z,225nm,0.9s
SSLB Suanglung 73.81 304 P P 16 34 01.8 -0.6
JKA Kamikawa-asahi 73.96 332 IAmb IAmb 16 34 05.6
comp=Z,330nm,1.2s
ASAJ Asahikawa 73.96 332 P P 16 34 03.7 +1.0
comp=Z,117nm,1.0s,baz=220,slow=8.2,SNR=29
comp=Z,117nm,1.0s
YHNB Yeheng 73.96 305 IAmb IAmb 16 34 04.1
comp=Z,244nm,1.0s
YHNB Yeheng 73.96 305 P P 16 34 03.7 +0.5
TATO Taipei 74.04 305 P P 16 34 02.7 -0.8
TATO Taipei 74.04 305 P P 16 34 03.5 -0.1
SBJI Serang 74.08 269 P P 16 34 04.4 +0.3
comp=Z,324nm,1.3s,comp=Z,5µm
NIKH Nikolski High 74.22 6 P P 16 34 03.3 -0.6
baz=189
SKR Severo-Kuril's 74.84 344 *e*P **P 16 34 09.7 +2.3**
SKR *e*S **S** **16 43 03.3 +3.9**
SKR pmax pmax
comp=Z,502nm,1.1s
UNV Unalaska Valle 75.34 7 P P 16 34 09.9 -0.2
UNV Unalaska Valle 75.34 7 P P 16 34 09.3 -0.8
baz=192,SNR=7.4
PPBI Pangkal Pinang 75.46 273 P P 16 34 12.5 +0.7
comp=Z,186nm,1.3s,comp=Z,9µm
KASI Kota Agung 75.81 269 P P 16 34 12.7 -1.1
comp=Z,274nm,1.1s,comp=Z,2µm
YSS Yuzh-Sakhalins 76.15 334 P P 16 34 15.3 +0.5
YSS IAmb IAmb 16 34 17.2
comp=Z,275nm,1.4s
YSS Yuzh-Sakhalins 76.15 334 *k*eP **P 16 34 15.6 +0.8**
YSS *e**PP **pwP** **16 36 14.4 +0.5**
YSS *e**SP **PP** **16 37 13.0 -3.4**
YSS *e*S **S** **16 43 13.3 -0.4**
YSS *e*SS **SS** **16 48 24.1 +0.5**
YSS pmax pmax
comp=Z,120nm,1.3s
YSS pmax pmax
comp=Z,1µm,4.3s
YSS smax smax
comp=E,600nm,6.2s
KNMB Chin-men Tao 76.16 303 IAmb IAmb 16 34 17.1
comp=Z,184nm,1.0s
QZH Quanzhou 76.25 304 ⇓ *i*P **P 16 34 16.6 +0.7**
QZH pmax pmax
comp=Z,210nm,1.3s
PET Petropavlovsk 76.38 346 P P 16 34 15.0 -0.9
PET Petropavlovsk 76.38 346 *e*P **P 16 34 13.5 -2.4**
PET *e**SP **sP** **16 37 13.1 +3.2**
PET *e*S **S** **16 43 13.7 -2.2**
PET pmax pmax
comp=Z,101nm,1.7s
PET pmax pmax
comp=Z,700nm,6.0s
PET pmax pmax
comp=Z,300nm,10.5s
PET MLR MLR
comp=Z,100nm,18.0s
LWLI Liwa 76.40 270 P P 16 34 16.4 -0.7
comp=Z,277nm,0.7s,comp=Z,4µm
TJN Taejon 76.60 318 IAmb IAmb 16 34 20.2
comp=Z,314nm,1.2s
TJN Taejon 76.60 318 ⇑ *e*P **P 16 34 18.0 +0.4**
PEA0B Petropavlovsk- 76.68 346 IAmb IAmb 16 34 18.9
comp=Z,545nm,1.5s
PEA0B Petropavlovsk- 76.68 346 *d* iP **P 16 34 17.3 -0.3**
PETK Petropavlovsk- 76.68 346 P P 16 34 16.7 -0.9
comp=Z,72nm,0.9s,baz=102,slow=5.3,SNR=42
PETK PKiKP **PKiKP** **16 39 54.3 -0.4**
comp=Z,2.8nm,0.5s,baz=125,slow=9.3,SNR=3.7
comp=Z,72nm,0.9s
KSRS Korea Array 76.94 319 P P 16 34 20.2 +0.8
comp=Z,46nm,1.0s,baz=141,slow=6.4,SNR=31
KSRS pP **pwP** **16 36 20.6 +1.2**
comp=Z,6.8nm,0.9s,baz=144,slow=6.2,SNR=6.8
comp=Z,46nm,1.0s
LHSI Lahat 77.31 271 P P 16 34 22.0 0.0
comp=Z,88nm,1.2s
CNBA Chernabura Isl 77.32 11 P P 16 34 19.5 -1.5
CNBA IAmb IAmb 16 34 21.8
comp=Z,213nm,1.1s
CHNA Chernabura Isl 77.33 11 P P 16 34 20.6 -0.5
baz=198
TEY Ternei 77.41 329 *e*P **P 16 34 21.6 -0.1**
DSRI Dabo 77.52 274 P P 16 34 23.9 +0.8
comp=Z,194nm,1.1s,comp=Z,2µm
MNAI Manna 77.66 270 IAmb IAmb 16 34 25.8
comp=Z,414nm,1.1s
MNAI Manna 77.66 270 P P 16 34 24.4 +0.5
MNAI Manna 77.66 270 P P 16 34 23.8 -0.1
comp=Z,342nm,0.8s,comp=Z,6µm
SDPT Sand Point 77.67 10 P P 16 34 22.3 -0.6
P08K Saint George I 77.75 5 P P 16 34 26.3 +3.0
baz=189
INCN Inchon 77.75 318 P P 16 34 24.7 +0.9
INCN IAmb IAmb 16 34 26.0
comp=Z,247nm,1.4s
INCN Inchon 77.75 318 P P 16 34 24.7 +0.9
INCN pmax pmax
comp=Z,247nm,1.4s
INCN Inchon 77.75 318 P P 16 34 25.2 +1.3
JMBI JAMBI 77.98 273 P P 16 34 27.7 +2.1
comp=Z,448nm,1.1s,comp=Z,5µm
SNCC San Nicolas Is 78.06 47 P P 16 34 26.0 +0.4
baz=235
TPRI Tanjung Pinang 78.08 276 P P 16 34 26.9 +0.8
comp=Z,127nm,0.8s,comp=Z,2µm
UGL Uglegorsk 78.13 335 *e*P **P 16 34 25.1 -0.4**
UGL pmax pmax
comp=Z,950nm,3.0s
UGL pmax pmax
comp=Z,170nm,1.0s
SPIA Saint Paul Isl 78.26 5 P P 16 34 28.7 +2.7
baz=188
SMAI San Martin Ant 78.28 159 IAmb IAmb 16 34 29.3
comp=Z,166nm,0.8s
SCZ2 Santa Cruz Isl 78.41 47 P P 16 34 29.0 +1.5
baz=235,SNR=12
VLA Vladivostok 78.42 325 *i* P **P 16 34 28.0 +0.8**
VLA pmax pmax
comp=Z,118nm,1.1s
MSHR Mys Shultsa 78.45 325 *d* iP **P 16 34 28.4 +1.0**
MSHR pmax pmax
comp=Z,200nm,1.0s
HKPS Hong Kong Po S 78.47 299 IAmb IAmb 16 34 30.7
comp=Z,339nm,1.1s
SCI2 San Clemente I 78.58 48 P P 16 34 29.5 +1.2
baz=236,SNR=8.9
SBC Santa Barbara 78.61 46 P P 16 34 30.0 +1.5
baz=234
PSTR Posyet 78.69 324 *d* iP **P 16 34 29.6 +1.0**
MCCM Marconi Confer 78.77 42 IAmb IAmb 16 34 31.7
comp=Z,247nm,1.4s
PKM Mcpherson Peak 78.80 46 P P 16 34 31.1 +1.3
baz=234,SNR=19
CIS Catalina Islan 78.91 48 P P 16 34 31.1 +1.0
baz=236,SNR=9.1
SMMC Simmler 78.93 45 P P 16 34 31.9 +1.7
baz=234
CHGN Chignik 78.94 11 IAmb IAmb 16 34 30.2
comp=Z,253nm,0.9s
CHGN Chignik 78.94 11 P P 16 34 29.0 -0.7
baz=199,SNR=11
BBGB Big Mountain B 78.99 44 IAmb IAmb 16 34 33.9
comp=Z,289nm,1.3s
BELA Belgrano 2 79.07 173 P P 16 34 30.8 +0.6
USA0B Ussuriysk Arra 79.12 326 IAmb IAmb 16 34 33.3
comp=Z,262nm,1.2s
USA0B Ussuriysk Arra 79.12 326 *d* iP **P 16 34 30.5 -0.4**
USRK Ussuriysk Ar. 79.12 326 P P 16 34 31.9 +1.0
comp=Z,129nm,1.1s,baz=130,slow=3.1,SNR=124
USRK pP **pwP** **16 36 32.4 +0.2**
comp=Z,12nm,0.9s,baz=142,slow=4.5,SNR=7.5
comp=Z,129nm,1.1s
FMP Fort Macarthur 79.17 48 P P 16 34 32.6 +1.1
baz=236
HOPS Hopland Field 79.18 41 IAmb IAmb 16 34 34.1
comp=Z,221nm,0.9s
KCPM Cahto Peak 79.30 40 IAmb IAmb 16 34 35.0
comp=Z,251nm,1.0s
TYV Tymovskoe 79.33 336 *e*P **P 16 34 32.6 +0.8**
TYV *e*S **S** **16 43 47.7 +0.9**
TYV pmax pmax
comp=Z,500nm,2.0s
TYV pmax pmax
comp=Z,118nm,1.4s
TYV smax smax
comp=N,8.0nm,2.6s
TYV smax smax
comp=E,7.0nm,2.6s
TYV smax smax
comp=N,300nm,4.1s
TYV smax smax
comp=E,300nm,4.1s
OSI Osito Audit: C 79.38 47 P P 16 34 33.8 +1.2
baz=235
KMPM Mount Pierce 79.44 39 IAmb IAmb 16 34 35.9
comp=Z,391nm,1.0s
DECC Green Verdugo 79.44 47 P P 16 34 33.8 +0.9
baz=235
109C Camp Elliot, M 79.53 49 P P 16 34 34.2 +0.8
baz=236
ARVC Arvin 79.60 46 P P 16 34 34.8 +1.1
baz=235,SNR=6.2
JCC Jacoby Creek, 79.75 39 IAmb IAmb 16 34 37.3
comp=Z,259nm,1.3s
NJ2 Nanjing 79.80 310 ⇓ *i*P **P 16 34 35.6 +0.8**
NJ2 pP **pwP** **16 36 39.1 +2.4**
NJ2 pmax pmax
comp=Z,130nm,1.2s
NJ2 pmax pmax
comp=Z,450nm,4.7s
VES Vestal, Richgr 79.84 45 P P 16 34 35.9 +1.0
baz=235,SNR=26
KRJI Kerinci 79.85 272 P P 16 34 35.4 -0.2
comp=Z,291nm,1.2s
MURC Murrieta 79.86 48 P P 16 34 36.5 +1.3
baz=236,SNR=13
BFSC Mount Baldy Ra 79.90 47 P P 16 34 36.4 +1.0
baz=236,SNR=21
VOG Valley Oaks Go 79.92 45 P P 16 34 36.5 +1.2
baz=234
KHMM Horse Mountain 79.96 39 IAmb IAmb 16 34 38.7
comp=Z,173nm,0.9s
KRPM Rodgers 79.97 39 IAmb IAmb 16 34 38.9
comp=Z,277nm,1.1s
MONP2 Monument Peak 80.02 49 P P 16 34 37.6 +1.4
baz=237,SNR=80
EDW2 Edwards Air Fo 80.03 47 P P 16 34 37.3 +1.3
baz=236,SNR=67
SII Sitkinak Islan 80.03 13 P P 16 34 35.8 +0.4
baz=203
IKP In-Ko-Pah, Jac 80.11 49 P P 16 34 37.9 +1.4
baz=237,SNR=45
ISA Isabella, Lake 80.14 46 IAmb IAmb 16 34 39.3
comp=Z,213nm,1.3s
ISA Isabella, Lake 80.14 46 P P 16 34 38.0 +1.4
baz=235,SNR=64
YUH Yuha Desert 80.24 50 IAmb IAmb 16 34 39.8
comp=Z,276nm,1.6s
KRMB Red Mountain 80.26 38 IAmb IAmb 16 34 40.3
comp=Z,195nm,1.1s
SLBS Sierra La Lagu 80.29 60 P P 16 34 39.1 +1.4
R16K Pilot Point 80.29 11 P P 16 34 37.9 +1.2
baz=200
PFO Pinyon Flats O 80.38 48 P P 16 34 39.0 +1.1
PFO Pinyon Flats O 80.38 48 *d* iP **P 16 34 38.5 +0.5**
PFO pmax pmax
comp=Z,91nm,1.0s
PFO Pinyon Flats O 80.38 48 P P 16 34 39.1 +1.1
baz=237,SNR=19
TPFO Pinon Flats 80.38 48 P P 16 34 39.2 +1.3
baz=237,SNR=25
BBRC Big Bear Solar 80.42 48 P P 16 34 39.3 +1.0
baz=236
KSXB Camp Six Broad 80.48 38 IAmb IAmb 16 34 41.3
comp=Z,204nm,1.0s
SWSC Sam W. Stewart 80.48 49 P P 16 34 39.7 +1.3
baz=237
KBO Bosley Butte 80.52 38 IAmb IAmb 16 34 41.7
comp=Z,212nm,1.2s
QIZ Qiongzhong 80.57 295 P P 16 34 40.1 +1.0
QIZ S **S** **16 44 04.3 +3.4**
QIZ pmax pmax
comp=Z,66nm,1.5s
LRMC Laurel Mtn Rad 80.57 46 P P 16 34 40.1 +1.2
baz=236,SNR=49
MDJ Mudanjiang 80.66 325 P P 16 34 39.6 +0.6
MDJ pP pP 16 36 35.4 -1.4
MDJ sP sP 16 37 30.3 -2.9
MDJ S **SKSac** **16 44 06.0 +1.9**
MDJ SS **SS** **16 49 37.2 +6.6**
MDJ pmax pmax
comp=Z,180nm,1.2s
MDJ pmax pmax
comp=Z,250nm,4.3s
MDJ Mudanjiang 80.66 325 IAmb IAmb 16 34 41.4
comp=Z,191nm,1.1s
RRX Edison Barstow 80.70 47 P P 16 34 40.6 +1.1
baz=236
MAW Mawson 80.83 200 P P 16 34 40.5 +0.9
MAW Mawson 80.83 200 P P 16 34 41.0 +1.4
comp=Z,42nm,0.8s,baz=132,slow=6.0,SNR=32
MAW pP **pP** **16 36 38.8 +1.2**
comp=Z,18nm,1.1s,baz=143,slow=4.4,SNR=3.5
comp=Z,42nm,0.8s
L02F Cave Junction 80.84 38 IAmb IAmb 16 34 43.1
comp=Z,207nm,1.3s
OHAK Old Harbor 80.84 14 IAmb IAmb 16 34 41.0
comp=Z,280nm,1.5s
OHAK Old Harbor 80.84 14 P P 16 34 39.5 0.0
OHAK Old Harbor 80.84 14 P P 16 34 39.6 0.0
baz=204
CWC Cottonwood Cre 80.85 45 P P 16 34 41.6 +1.2
baz=235
MDPB Devils Postpil 80.88 44 IAmb IAmb 16 34 43.1
comp=Z,162nm,1.0s
KEBM Edson Butte 80.88 37 IAmb IAmb 16 34 43.2
comp=Z,210nm,1.2s
BELC Belle Mtn. Jos 80.92 48 P P 16 34 42.2 +1.4
baz=237,SNR=94
PPSI Pulau Pagai 80.97 271 P P 16 34 42.5 +1.2
comp=Z,282nm,1.3s,comp=Z,3µm
EMB Emerald Bay 81.01 42 IAmb IAmb 16 34 43.7
comp=Z,224nm,1.4s
MPMC Manual Prospec 81.03 46 P P 16 34 42.6 +1.2
baz=236,SNR=100
MLAC Mammoth, Mammo 81.03 44 P P 16 34 42.8 +1.4
baz=235,SNR=17
GSC Goldstone, Bar 81.07 47 P P 16 34 42.5 +1.1
baz=236,SNR=40
YBH Yreka Blue Hor 81.09 39 IAmb IAmb 16 34 44.4
comp=Z,202nm,0.9s
TIN Tinemaha, Big 81.10 45 P P 16 34 42.9 +1.3
baz=235,SNR=30

BKNI **Bangkinang** 81.11 274 lAmb lAmb 16 34 44.4
comp=Z,416nm,1.3s
BKNI **Bangkinang** 81.11 274 P **P** 16 34 42.7 +0.7
comp=Z,258nm,1.3s,comp=Z,4µm
BC3 **Big Chuckawall** 81.11 49 P **P** 16 34 43.2 +1.4
baz=237,SNR=66
HEC **Hector,Ludlow** 81.13 47 P **P** 16 34 42.8 +1.0
baz=237,SNR=42
K02D **Willamette Mer** 81.15 38 lAmb lAmb 16 34 44.5
comp=Z,149nm,1.0s
WAKR **Walker** 81.15 43 lAmb lAmb 16 34 44.7
comp=Z,261nm,1.1s
PDSI **Padang** 81.20 272 P **P** 16 34 41.0 -1.6
comp=Z,115nm,1.1s,comp=Z,1µm
GLA **Glamis** 81.23 50 lAmb lAmb 16 34 45.4
comp=Z,224nm,0.9s
GLA **Glamis** 81.23 50 P **P** 16 34 44.0 +1.7
baz=238
Q17K **Contact Creek** 81.27 12 P **P** 16 34 41.6 -0.3
baz=201,SNR=46
J01E **Myrtle Point** 81.29 37 lAmb lAmb 16 34 45.0
comp=Z,238nm,1.0s
O14K **Tigyukauivet M** 81.30 9 P **P** 16 34 41.7 -0.2
baz=196
O15K **Ungalikthiuk R** 81.44 10 P **P** 16 34 43.7 +1.0
baz=198
DSP **Deep Springs** 81.45 45 lAmb lAmb 16 34 45.9
comp=Z,169nm,1.1s
HUMO **Hull Mountain** 81.50 38 lAmb lAmb 16 34 46.6
comp=Z,307nm,1.1s
KDAK **Kodiak Island** 81.51 14*d* iP **P** 16 34 43.2 +0.2
KDAK pmax pmax
comp=Z,170nm,1.4s
KDAK **Kodiak Island** 81.51 14 P **P** 16 34 43.2 +0.2
baz=204
KDAK **Kodiak Island** 81.51 14 P **P** 16 34 42.8 -0.2
comp=Z,70nm,0.9s,baz=243,slow=5.3,SNR=16
comp=Z,70nm,0.9s
Q16K **King Salmon** 81.51 11 P **P** 16 34 43.0 0.0
baz=201,SNR=5.9
YERR **Yerington** 81.56 43 lAmb lAmb 16 34 46.3
comp=Z,261nm,1.2s
GMRC **Granite Mounta** 81.57 48 P **P** 16 34 45.4 +1.2
baz=237,SNR=55
IRM **Iron Mountain** 81.60 49 P **P** 16 34 45.8 +1.7
baz=238,SNR=91
LHV **Little Huntoon** 81.60 44 lAmb lAmb 16 34 46.8
comp=Z,177nm,1.0s
P16K **Nushagak River** 81.60 11 P **P** 16 34 43.4 0.0
baz=199,SNR=32
GRAC **Grapevine Rang** 81.64 45 lAmb lAmb 16 34 47.0
comp=Z,382nm,1.4s
GRAC **Grapevine Rang** 81.64 45 P **P** 16 34 45.8 +1.6
baz=236,SNR=45
DBO **Dodson Butte** 81.65 38 lAmb lAmb 16 34 47.1
comp=Z,160nm,1.1s
FURC **Furnace Creek,** 81.67 46 P **P** 16 34 45.6 +1.3
baz=236,SNR=25
TUQ **Turquoise Moun** 81.75 47 P **P** 16 34 46.2 +1.3
baz=237,SNR=45
GRNR **Gornyy** 81.75 333 ⇓*i*P **P** 16 34 45.5 +1.0
GRNR pmax pmax
comp=N,20nm,1.2s
GRNR pmax pmax
comp=E,20nm,1.2s
GRNR pmax pmax
comp=Z,80nm,1.1s
DL2 **Dalian** 81.75 317 P **P** 16 34 45.3 +0.6
DL2 sP **sP** 16 37 41.5 +1.9
DL2 pmax pmax
comp=Z,120nm,1.4s
DL2 pmax pmax
comp=Z,950nm,5.3s
SHOC **Shoshone, Teco** 81.76 47 P **P** 16 34 46.0 +1.2
baz=236,SNR=16
M11K **Mekoryuk** 81.79 6 P **P** 16 34 45.8 +1.5
baz=192,SNR=6.1
RYN **Ryan** 81.81 43 lAmb lAmb 16 34 47.7
comp=Z,357nm,1.7s
BLYC **Blythe** 81.82 49 lAmb lAmb 16 34 48.0
comp=Z,129nm,0.9s
NVAR **Mina Array Bea** 81.83 44 P **P** 16 34 46.3 +0.8
comp=Z,88nm,0.8s,baz=224,slow=8.5,SNR=538
NVAR pP **pP** 16 36 44.5 +0.5
comp=Z,7.5nm,0.8s,baz=224,slow=8.9,SNR=5.3
NVAR PKiKP **PKiKP** 16 40 03.9 +0.4
comp=Z,1.2nm,0.7s,baz=225,slow=3.8,SNR=4.8
NVAR PKKPbc **PKKPbc** 16 53 13.3 +0.3
comp=Z,4.1nm,0.7s,baz=81,slow=3.1,SNR=28
NVAR PKPPKP **P'P'df** 17 01 09.4 -6.2
comp=Z,1.3nm,0.9s,baz=134,slow=2.3,SNR=5.2
comp=Z,88nm,0.8s
113A **Mohawk Valley,** 81.84 50 lAmb lAmb 16 34 48.2
comp=Z,141nm,1.0s
N14K **Kuskokwak Cree** 81.88 9 P **P** 16 34 45.6 +0.7
baz=196
PAHR **Pah Rah Range** 81.89 42 lAmb lAmb 16 34 48.0
comp=Z,214nm,1.1s
NV11 **Mina Array Sit** 81.93 44 lAmb lAmb 16 34 48.2
comp=Z,234nm,1.2s
I03D **Drain, OR** 81.96 37 lAmb lAmb 16 34 48.4
comp=Z,314nm,1.5s
P17K **Kvichak River** 82.03 11 P **P** 16 34 45.4 -0.2
baz=201,SNR=62
O16K **Kokwok River B** 82.12 10 lAmb lAmb 16 34 46.4
comp=Z,178nm,0.8s
O16K **Kokwok River B** 82.12 10 P **P** 16 34 45.4 -0.7
baz=199
214A **Organ Pipe Nat** 82.12 52 P **P** 16 34 48.6 +1.8
baz=239,SNR=48
M13K **Dall Lake** 82.14 8 lAmb lAmb 16 34 48.5
comp=Z,194nm,1.1s
M13K **Dall Lake** 82.14 8 P **P** 16 34 47.6 +1.4
baz=194
K04D **Chiloquin, OR** 82.20 39 lAmb lAmb 16 34 49.7
comp=Z,272nm,1.0s
CNSH **ChangSha** 82.25 304 ⇓P **P** 16 34 48.4 +0.9
CNSH pmax pmax
comp=Z,57nm,0.9s
SNY **Shenyang** 82.28 320 ⇓P **P** 16 34 47.6 +0.3
SNY S **S** 16 44 22.7 +5.6
SNY pmax pmax
comp=Z,55nm,0.9s
NEE2 **Needles Airpor** 82.29 48 P **P** 16 34 49.2 +1.6
baz=238,SNR=18
Q20K **Shuyak Island** 82.30 13 P **P** 16 34 47.9 +0.9
baz=204
KVN **Kaiserville** 82.32 43 lAmb lAmb 16 34 50.0
comp=Z,213nm,1.1s
WHN **Wuhan** 82.32 307 ⇓*i*P **P** 16 34 48.7 +0.9
WHN pmax pmax
comp=Z,670nm,1.5s
Q19K **Cape Douglas,** 82.33 13 lAmb lAmb 16 34 48.2
comp=Z,317nm,1.1s
Q19K **Cape Douglas,** 82.33 13 P **P** 16 34 47.2 -0.1
baz=203,SNR=9.3
SISI **Saibi** 82.33 272 P **P** 16 34 49.1 +0.8
comp=Z,73nm,2.1s,comp=Z,2µm
N15K **Kwethluk River** 82.35 9 P **P** 16 34 47.8 +0.5
baz=197
PDMCI **Parker Dam,Lak** 82.38 49 P **P** 16 34 49.7 +1.6
baz=238
CN2 **Changchun** 82.40 323 ⇓P **P** 16 34 48.4 +0.5
CN2 *e*S **SKSac** 16 44 15.9 +0.2
CN2 pmax pmax
comp=Z,110nm,1.0s
CN2 pmax pmax
comp=Z,1µm,3.0s
P18K **Big Mountain,** 82.44 12 lAmb lAmb 16 34 48.5
comp=Z,182nm,0.8s
P18K **Big Mountain,** 82.44 12 P **P** 16 34 47.3 -0.5
baz=202,SNR=32
O17K **Koliganek Bris** 82.46 11 P **P** 16 34 47.5 -0.3
baz=200,SNR=23
I04A **Tendick Farm,** 82.55 37 lAmb lAmb 16 34 50.9
comp=Z,160nm,0.9s
BNX **BinXian** 82.56 325 ⇓P **P** 16 34 48.7 0.0
BNX pmax pmax
comp=Z,130nm,1.0s
BNX pmax pmax
comp=Z,160nm,4.3s
M14K **Bethel** 82.64 8 lAmb lAmb 16 34 50.5
comp=Z,258nm,0.9s
M14K **Bethel** 82.64 8 P **P** 16 34 49.5 +0.8
baz=196,SNR=28
KLR **Kul'dur** 82.73 330*d* iP **P** 16 34 50.2 +0.8
KLR pmax pmax
comp=Z,55nm,1.1s

KLR **Kul'dur** 82.73 330 P **P** 16 34 50.0 +0.6
comp=Z,37nm,1.0s,baz=106,slow=4.3,SNR=66
KLR PKiKP **PKiKP** 16 40 04.0 -0.2
comp=Z,1.8nm,0.8s,baz=79,slow=2.9,SNR=4.1
KLR PKKPbc **PKKPbc** 16 53 07.5 -3.7
comp=Z,3.3nm,0.9s,baz=329,slow=4.3,SNR=8.6
comp=Z,37nm,1.0s
M15K **Kasigluk River** 82.77 9 P **P** 16 34 50.1 +0.8
baz=197
Q09A **Carvers** 82.79 44 lAmb lAmb 16 34 52.5
comp=Z,268nm,0.8s
H04D **Lebanon** 82.82 37 lAmb lAmb 16 34 52.8
comp=Z,306nm,1.0s
N16K **Nishlik Lake** 82.84 10 P **P** 16 34 50.6 +0.8
baz=198
O18K **Koktuh Hills** 82.88 12 P **P** 16 34 49.9 -0.1
baz=202,SNR=76
GULI **GuiLin** 82.93 300 ⇓*i*P **P** 16 34 52.2 +1.2
G03D **McMinnville, O** 82.96 36 lAmb lAmb 16 34 53.4
comp=Z,317nm,1.2s
S11A **Rachel** 83.07 45 lAmb lAmb 16 34 53.8
comp=Z,146nm,0.9s
P19K **Oil Pt** 83.08 13 lAmb lAmb 16 34 51.9
comp=Z,228nm,0.8s
P19K **Oil Pt** 83.08 13 P **P** 16 34 51.0 0.0
baz=204,SNR=6.8
L14K **Kuka Creek** 83.12 8 lAmb lAmb 16 34 52.9
comp=Z,197nm,0.9s
L14K **Kuka Creek** 83.12 8 P **P** 16 34 51.8 +0.8
baz=195
N17K **Nushagak Hills** 83.15 10 P **P** 16 34 51.4 +0.1
baz=200
H04A **Detroit Lake** 83.23 37 lAmb lAmb 16 34 54.2
comp=Z,292nm,1.2s
TIA **Tai'an** 83.24 313 P **P** 16 34 52.9 +0.6
TIA pmax pmax
comp=Z,63nm,1.3s
F03A **Seaside** 83.26 35 lAmb lAmb 16 34 54.8
comp=Z,164nm,1.0s
M16K **Timber Creek** 83.33 9 P **P** 16 34 53.3 +1.1
baz=198
O19K **Port Alsworth** 83.36 12 P **P** 16 34 52.1 -0.2
baz=203,SNR=97
MG03 **Isla Dawson** 83.36 145 P **P** 16 34 54.1 +1.4
CNPM **China Poot** 83.39 14 lAmb lAmb 16 34 53.7
comp=Z,220nm,0.8s
HOM **Homer** 83.42 13 P **P** 16 34 51.8 -0.8
baz=205,SNR=6.2
I05D **Terrebonne, OR** 83.49 37 lAmb lAmb 16 34 56.0
comp=Z,225nm,0.9s
N18K **Kilae Creek** 83.52 11 lAmb lAmb 16 34 54.0
comp=Z,372nm,2.0s
N18K **Kilae Creek** 83.52 11 P **P** 16 34 53.1 0.0
baz=201
PBSI **Pulo Batu** 83.54 272 P **P** 16 34 56.8 +2.5
comp=Z,121nm,1.4s,comp=Z,2µm
R11B **Troy Canyon, C** 83.56 45 P **P** 16 34 54.8 +0.7
baz=237,SNR=48
O20K **Slope Mountain** 83.60 13 P **P** 16 34 53.4 -0.2
baz=204,SNR=7.2
L15K **Ungalak Mounta** 83.60 8 P **P** 16 34 53.7 +0.2
baz=196
BMN **Battle Mountai** 83.66 42 lAmb lAmb 16 34 56.8
comp=Z,166nm,1.0s
BRLK **Bradley Lake** 83.68 14 lAmb lAmb 16 34 55.0
comp=Z,256nm,0.9s
BRSE **Bradley Lake S** 83.69 14 P **P** 16 34 54.1 +0.1
baz=206,SNR=20
TUC **Tucson** 83.78 52 P **P** 16 34 56.9 +1.7
TUC lAmb lAmb 16 34 58.5
comp=Z,153nm,1.0s
TUC **Tucson** 83.78 52 P **P** 16 34 56.9 +1.7
TUC pmax pmax
comp=Z,153nm,1.0s
TUC **Tucson** 83.78 52 P **P** 16 34 57.2 +2.0
baz=240
F04A **Amboy** 83.88 36 lAmb lAmb 16 34 57.5
comp=Z,308nm,1.3s
N19K **Bonanza Creek** 83.90 12 lAmb lAmb 16 34 55.6
comp=Z,130nm,0.9s
N19K **Bonanza Creek** 83.90 12 P **P** 16 34 54.3 -0.8
baz=202,SNR=29
WISH **Wishkah** 83.91 34 lAmb lAmb 16 34 58.4
comp=Z,231nm,1.1s
L16K **Owhat River** 83.91 9 lAmb lAmb 16 34 57.0
comp=Z,207nm,1.3s
L16K **Owhat River** 83.91 9 P **P** 16 34 55.2 +0.2
baz=198,SNR=26
HOOD **Mount Hood Mea** 83.92 36 lAmb lAmb 16 34 57.9
comp=Z,207nm,1.1s
M17K **Holitna River** 83.94 10 lAmb lAmb 16 34 57.5
comp=Z,258nm,1.1s
M17K **Holitna River** 83.94 10 P **P** 16 34 56.0 +0.9
baz=200
WVOR **Wild Horse Val** 83.94 40 lAmb lAmb 16 34 58.3
comp=Z,189nm,1.1s
WVOR **Wild Horse Val** 83.94 40 P **P** 16 34 56.9 +1.1
SVW2 **Sparrevohn** 83.97 11 lAmb lAmb 16 37 50.6
comp=Z,199nm,1.6s
SKLT **Songkhla** 84.01 280 P **P** 16 34 58.3 +1.7
NLWA **Neilton Lookou** 84.03 34 lAmb lAmb 16 34 58.7
comp=Z,189nm,1.0s
G05A **Wamic** 84.06 37 lAmb lAmb 16 35 12.8
comp=Z,138nm,1.1s
HOLB **Holberg** 84.10 30 lAmb lAmb 16 34 58.3
comp=Z,135nm,0.9s
MA2 **Magadan** 84.18 345 P **P** 16 34 55.1 -1.3
MA2 lAmb lAmb 16 34 57.2
comp=Z,438nm,1.9s
MA2 **Magadan** 84.18 345*d* iP **P** 16 34 55.6 -0.8
MA2 pmax pmax
comp=Z,70nm,1.1s
K15K **Wolf Creek Mou** 84.19 8 P **P** 16 34 57.1 +0.7
baz=196
M18K **Stony River** 84.29 11 P **P** 16 34 57.0 +0.2
baz=201
SEW **Seward** 84.31 14 P **P** 16 34 57.1 +0.1
baz=207,SNR=9.5
X16A **Lo Mia Camp, P** 84.35 50 lAmb lAmb 16 35 01.0
comp=Z,129nm,1.1s
J14K **Nanvaranak Lak** 84.39 7 P **P** 16 34 57.7 +0.5
baz=194
I07A **Izee** 84.39 38 lAmb lAmb 16 35 00.6
comp=Z,179nm,1.0s
G06A **Carlson Farm,** 84.44 37 lAmb lAmb 16 35 00.4
comp=Z,166nm,1.1s
Q23K **Middleton Isla** 84.47 16 P **P** 16 34 57.8 +0.1
baz=210
L17K **Donlin** 84.49 9 P **P** 16 34 58.9 +1.1
baz=199
CAPN **Captain Cook N** 84.53 13 P **P** 16 34 59.2 +1.2
baz=206
J08A **Circle Bar Ran** 84.57 39 lAmb lAmb 16 35 01.4
comp=Z,252nm,1.3s
O22K **Cooper Landing** 84.58 14 P **P** 16 34 58.2 -0.1
baz=207,SNR=14
B04A **Port Angeles** 84.65 34 lAmb lAmb 16 35 01.7
comp=Z,254nm,1.3s
GNW **Green Mountain** 84.69 34 lAmb lAmb 16 35 01.6
comp=Z,120nm,0.9s
GSI **Gunungsitoli** 84.69 273 P **P** 16 35 01.4 +1.4
GSI **Gunungsitoli** 84.69 273 P **P** 16 35 01.1 +1.1
comp=Z,474nm,1.1s,comp=Z,6µm
P23K **Montague Islan** 84.70 15 P **P** 16 34 59.7 +0.8
baz=209
N20K **Mount Spurr** 84.70 12 P **P** 16 34 58.0 -1.1
baz=205,SNR=26
KNB **Kanab** 84.71 47 lAmb lAmb 16 35 02.5
comp=Z,534nm,2.0s
LON **Longmire** 84.72 35 lAmb lAmb 16 35 01.5
comp=Z,195nm,1.6s
GAMB **Gambell** 84.74 3 P **P** 16 34 58.9 -0.1
baz=186
U15A **North Rim** 84.77 48 lAmb lAmb 16 35 03.0
comp=Z,165nm,0.8s
CLRS **Cowichan Lake** 84.82 33 lAmb lAmb 16 35 02.1
comp=Z,151nm,1.0s
L18K **Granite Mounta** 84.83 10 lAmb lAmb 16 35 01.4
comp=Z,121nm,0.9s
L18K **Granite Mounta** 84.83 10 P **P** 16 35 00.2 +0.8
baz=200,SNR=33
M19K **Big River Lodg** 84.93 11 lAmb lAmb 16 35 00.8
comp=Z,86nm,0.8s
M19K **Big River Lodg** 84.93 11 P **P** 16 34 59.2 -0.8
baz=202
WUAZ **Wupatki** 84.95 49 P **P** 16 35 02.1 +1.1
baz=240,SNR=44
CBB **Campbell River** 85.00 31 lAmb lAmb 16 35 03.1

comp=Z,249nm,1.3s
K17K **Iditarod** 85.05 9 lAmb lAmb 16 35 02.4
comp=Z,165nm,1.4s
K17K **Iditarod** 85.05 9 P **P** 16 35 00.8 +0.2
baz=199
PGC **Sidney** 85.05 33 lAmb lAmb 16 35 03.1
comp=Z,143nm,0.9s
AY03 **Cochrane** 85.06 139 lAmb lAmb 16 35 04.4
comp=Z,16nm,0.7s
ELK **Elko** 85.09 43 P **P** 16 35 02.2 +0.6
L19K **White Mountain** 85.11 11 lAmb lAmb 16 35 02.4
comp=Z,210nm,1.1s
L19K **White Mountain** 85.11 11 P **P** 16 35 01.1 +0.2
baz=202
RC01 **Rabbit Creek A** 85.12 14 lAmb lAmb 16 35 02.0
comp=Z,206nm,1.0s
RC01 **Rabbit Creek A** 85.12 14 P **P** 16 35 01.0 0.0
baz=207,SNR=22
M20K **Styx River** 85.15 12 P **P** 16 35 00.2 -0.9
baz=204
BBB **Bella Bella** 85.18 28 lAmb lAmb 16 35 03.5
comp=Z,150nm,1.2s
F07A **Phinny Hill Vi** 85.23 37 lAmb lAmb 16 35 04.3
comp=Z,135nm,1.2s
SUA **Susitna One** 85.24 13 lAmb lAmb 16 35 02.4
comp=Z,175nm,0.8s
SUA **Susitna One** 85.24 13 P **P** 16 35 01.4 -0.3
baz=206,SNR=39
J16K **Anvik River** 85.26 8 lAmb lAmb 16 35 03.4
comp=Z,164nm,1.4s
J16K **Anvik River** 85.26 8 P **P** 16 35 02.2 +0.7
baz=197
PKCU **Pink Cliffs** 85.28 47 lAmb lAmb 16 35 06.0
comp=Z,181nm,0.9s
KCSI **Kotacane, Aceh** 85.30 276 P **P** 16 35 02.7 -0.3
comp=Z,84nm,1.2s,comp=Z,1µm
KAIM **Kayak Island** 85.40 16 P **P** 16 35 02.5 +0.2
baz=212
G08A **Pilot Rock** 85.42 38 lAmb lAmb 16 35 05.3
comp=Z,198nm,1.0s
MXC **Moxie City** 85.44 36 lAmb lAmb 16 35 05.3
comp=Z,120nm,0.9s
CRAG **Craig** 85.47 24 lAmb lAmb 16 35 05.2
comp=Z,103nm,1.0s
CRAG **Craig** 85.47 24 P **P** 16 35 03.8 +1.1
baz=222
HEH **HeiHe** 85.50 329 *e*P **P** 16 35 03.0 0.0
HEH S **S** 16 44 49.5 +1.4
HEH pmax pmax
comp=Z,140nm,1.4s
HEH pmax pmax
comp=Z,180nm,5.2s
HNS **HongShan** 85.51 313 ⇓P **P** 16 35 04.4 +1.0
HNS sP **sP** 16 38 01.9 +3.0
HNS S **S** 16 44 56.2 +7.4
HNS pmax pmax
comp=Z,110nm,1.3s
SKT **Skwentna** 85.55 12 P **P** 16 35 01.8 -1.3
baz=205,SNR=11
L20K **Farewell, AK** 85.56 11 P **P** 16 35 02.9 -0.2
baz=203
EYAK **Cordova Ski Ar** 85.59 16 P **P** 16 35 03.1 -0.1
baz=210,SNR=7.2
TTA **Tatalina** 85.61 10 lAmb lAmb 16 35 04.9
comp=Z,157nm,1.2s
TTA **Tatalina** 85.61 10 P **P** 16 35 04.3 +1.0
TTA **Tatalina** 85.61 10 P **P** 16 35 03.5 +0.2
baz=201,SNR=41
M22K **Willow** 85.64 13 P **P** 16 35 03.1 -0.3
baz=206,SNR=24
LTY **Liberty** 85.65 35 lAmb lAmb 16 35 06.0
comp=Z,130nm,1.1s
E07A **Sunnyside** 85.67 36 lAmb lAmb 16 35 06.5
comp=Z,223nm,1.0s
MTPU **Mount Pierson** 85.67 47 lAmb lAmb 16 35 07.7
comp=Z,88nm,1.0s
LYN **LuoYang** 85.67 309 ⇓P **P** 16 35 05.6 +1.4
LYN pP pwP 16 37 10.2 +2.2
LYN SS SS 16 50 52.4 +8.1
LYN pmax pmax
comp=Z,220nm,1.1s
LYN pmax pmax
comp=Z,2µm,4.7s
KNK **Knik Glacier** 85.70 14 lAmb lAmb 16 35 04.8
comp=Z,174nm,0.9s
KNK **Knik Glacier** 85.70 14 P **P** 16 35 03.7 0.0
baz=208,SNR=21
PMR **Palmer** 85.71 14 lAmb lAmb 16 35 04.7
comp=Z,295nm,1.3s
PMR **Palmer** 85.71 14 P **P** 16 35 03.8 +0.1
PMR **Palmer** 85.71 14 P **P** 16 35 03.6 -0.1
baz=207,SNR=26
I17K **Unalakleet** 85.83 8 P **P** 16 35 04.8 +0.6
baz=197,SNR=11
BGLC **Bering Glacier** 85.87 17 P **P** 16 35 05.3 +0.8
baz=213
SIT **Sitka** 85.87 22 P **P** 16 35 05.2 +0.6
baz=220
MOIG **Morelia** 85.87 67 lAmb lAmb 16 35 07.9
comp=Z,147nm,0.8s
MVU **Marysvale** 85.89 46 lAmb lAmb 16 35 09.4
comp=Z,193nm,0.9s
BJT **Baijiatuau** 85.89 316 lAmb lAmb 16 35 07.3
comp=Z,270nm,1.8s
BJI **Beijing** 85.90 316 P **P** 16 35 05.7 +0.6
BJI PP **PP** 16 38 31.7 -3.9
BJI S **S** 16 44 56.2 +3.9
BJI pmax pmax
comp=Z,35nm,1.5s
BJI pmax pmax
comp=Z,400nm,4.3s
W18A **Petrified Fore** 85.92 50 lAmb lAmb 16 35 08.1
comp=Z,128nm,1.3s
W18A **Petrified Fore** 85.92 50 P **P** 16 35 06.9 +1.2
baz=241,SNR=34
V35K **Ketchikan** 85.95 25 lAmb lAmb 16 35 07.4
comp=Z,167nm,1.0s
V35K **Ketchikan** 85.95 25 P **P** 16 35 05.2 +0.2
baz=223,SNR=13
U33K **Whale Pass** 85.95 24 P **P** 16 35 06.2 +1.3
baz=222,SNR=11
ZAIG **Zacatecas** 85.97 64 lAmb lAmb 16 35 09.3
comp=Z,91nm,1.0s
ANM **Nome** 85.97 6 P **P** 16 35 05.3 +0.4
baz=192,SNR=9.2
J18K **Innoko River** 86.00 10 lAmb lAmb 16 35 06.5
comp=Z,129nm,1.1s
J18K **Innoko River** 86.00 10 P **P** 16 35 05.2 +0.1
baz=200
ELIB **Princess Elisa** 86.01 187 *d*P **P** 16 35 05.5 +0.1
comp=Z,83nm,0.8s
ELIB *d*pP **pwP** 16 37 08.3 +0.5
E08A **Dider Farm, El** 86.07 37 lAmb lAmb 16 35 08.2
comp=Z,179nm,1.0s
SML **Sawmill** 86.08 14 lAmb lAmb 16 35 19.5
comp=Z,85nm,1.0s
SML **Sawmill** 86.08 14 P **P** 16 35 05.5 -0.1
baz=208,SNR=7.8
121A **Cookes Peak, D** 86.11 53 lAmb lAmb 16 35 09.8
comp=Z,154nm,1.2s
121A **Cookes Peak, D** 86.11 53 P **P** 16 35 08.2 +1.6
baz=242,SNR=45
121A **Cookes Peak, D** 86.11 53 P **P** 16 35 08.3 +1.7
baz=242
COYC **Coyhaique** 86.11 138 P **P** 16 35 09.1 +2.8
COYC lAmb lAmb 16 35 09.9
comp=Z,84nm,0.8s
BMO **Blue Mountains** 86.12 39 lAmb lAmb 16 35 08.3
comp=Z,94nm,0.9s
CUT **Chulitna** 86.19 13 P **P** 16 35 05.6 -0.4
baz=206,SNR=26
MFID **Camas Ranch** 86.19 41 lAmb lAmb 16 35 09.0
comp=Z,135nm,1.1s
M23K **Glacier View** 86.20 14 P **P** 16 35 05.9 -0.2
baz=209,SNR=16
BMRM **Bremner River** 86.24 16 P **P** 16 35 06.3 0.0
baz=212,SNR=20
SNSI **Sinabang, Aceh** 86.25 274 P **P** 16 35 09.6 +2.1
comp=Z,245nm,1.3s,comp=Z,4µm
PPLA **Purkeypile** 86.25 12 P **P** 16 35 05.0 -1.5
baz=204,SNR=10
S31K **Pelican** 86.26 21 lAmb lAmb 16 35 08.6
comp=Z,203nm,1.1s
S31K **Pelican** 86.26 21 P **P** 16 35 07.4 +1.0
baz=219,SNR=5.9
SCM **Sheep Creek Mo** 86.33 14 P **P** 16 35 06.8 0.0
baz=209,SNR=28
K20K **Telida** 86.33 11 lAmb lAmb 16 35 07.9

	comp=Z,245nm,1.3s							
K20K	**Telida**	**86.33**	**11**	P	**P**	**16 35 06.8**	**+0.1**	
	baz=203							
DUG	**Dugway, Tooele**	**86.36**	**44**	P	**P**	**16 35 07.6**	**0.0**	
DUG	**Dugway, Tooele**	**86.36**	**44**	P	**P**	**16 35 08.3**	**+0.7**	
	baz=238,SNR=22							
KLU	**Klutina**	**86.36**	**15**	IAmb	IAmb	16 35 08.2		
	comp=Z,118nm,1.0s							
KLU	**Klutina**	**86.36**	**15**	P	**P**	**16 35 06.9**	**-0.1**	
	baz=210,SNR=14							
H16K	**Elim**	**86.37**	**7**	P	**P**	**16 35 06.8**	**0.0**	
	baz=195							
GYA	**Guiyang**	**86.43**	**300**	⇓P	**P**	**16 35 09.2**	**+1.0**	
GYA				pP	pP	16 37 06.6	-1.6	
GYA				SKS	**SKSac**	**16 44 44.2**	**+2.2**	
GYA				S	**S**	**16 44 58.6**	**+0.3**	
GYA				pmax	pmax			
	comp=Z,79nm,1.3s							
GYA				pmax	pmax			
	comp=Z,730nm,4.1s							
CRQM	**Cirque**	**86.44**	**17**	IAmb	IAmb	16 35 09.0		
	comp=Z,220nm,1.1s							
S32K	**Killisnoo**	**86.45**	**22**	P	**P**	**16 35 08.0**	**+0.7**	
	baz=220,SNR=5.3							
CRQE	**Cirque**	**86.45**	**17**	P	**P**	**16 35 07.9**	**+0.5**	
	baz=213,SNR=13							
WRAK	**Wrangell Islan**	**86.47**	**24**	IAmb	IAmb	16 35 09.7		
	comp=Z,158nm,0.9s							
WRAK	**Wrangell Islan**	**86.47**	**24**	P	**P**	**16 35 08.1**	**+0.6**	
	baz=222,SNR=8.7							
G15K	**Niukluk**	**86.52**	**6**	P	**P**	**16 35 07.7**	**+0.2**	
	baz=194							
T33K	**Petersburg**	**86.54**	**23**	P	**P**	**16 35 09.3**	**+1.6**	
	baz=222							
HMU	**Henry Mountain**	**86.60**	**47**	IAmb	IAmb	16 35 11.0		
	comp=Z,186nm,1.6s							
PNL	**Peninsula**	**86.60**	**19**	P	**P**	**16 35 08.7**	**+0.6**	
J19K	**Poorman**	**86.67**	**10**	IAmb	IAmb	16 35 09.9		
	comp=Z,180nm,1.6s							
J19K	**Poorman**	**86.67**	**10**	P	**P**	**16 35 08.7**	**+0.4**	
	baz=201,SNR=21							
LHMI	**Lhok Sumawe**	**86.69**	**277**	P	**P**	**16 35 12.6**	**+3.1**	
PINM	**Pinnacle**	**86.70**	**18**	P	**P**	**16 35 08.8**	**+0.3**	
	baz=215							
EPT	**El Paso**	**86.73**	**54**	IAmb	IAmb	16 35 12.3		
	comp=Z,276nm,1.3s							
TNA	**Tin City**	**86.75**	**4**	P	**P**	**16 35 08.8**	**+0.3**	
	baz=190,SNR=11							
CAST	**Castle Rocks**	**86.75**	**12**	IAmb	IAmb	16 35 08.5		
	comp=Z,189nm,0.9s							
CAST	**Castle Rocks**	**86.75**	**12**	P	**P**	**16 35 07.4**	**-1.3**	
	baz=205,SNR=64							
BCPM	**Bancas Point**	**86.76**	**18**	IAmb	IAmb	16 35 10.5		
	comp=Z,167nm,1.0s							
F14K	**Arctic Creek**	**86.78**	**5**	P	**P**	**16 35 09.0**	**+0.2**	
	baz=191							
N25K	**Chitina, Valde**	**86.79**	**16**	P	**P**	**16 35 09.3**	**+0.4**	
	baz=211,SNR=23							
GRNC	**Granite Creek**	**86.80**	**17**	IAmb	IAmb	16 35 10.8		
	comp=Z,185nm,1.0s							
Q16A	**Castle Valley**	**86.80**	**46**	IAmb	IAmb	16 35 12.8		
	comp=Z,166nm,1.5s							
SEY	**Seymchan**	**86.80**	**347**	*de*P	**P**	**16 35 08.9**	**0.0**	
SEY				pmax	pmax			
	comp=Z,228nm,1.4s							
M24K	**Tolsona, Glenn**	**86.83**	**15**	P	**P**	**16 35 09.8**	**+0.6**	
	baz=210,SNR=13							
MLSI	**Meulaboh, Aceh**	**86.84**	**276**	P	**P**	**16 35 11.2**	**+0.9**	
	comp=Z,131nm,1.3s							
WAT6	**Susitna Watana**	**86.89**	**14**	P	**P**	**16 35 09.2**	**-0.3**	
	baz=209							
WAT1	**Susitna Watana**	**86.93**	**13**	P	**P**	**16 35 09.2**	**-0.4**	
	baz=208							
H17K	**Granite Mounta**	**86.94**	**8**	P	**P**	**16 35 09.1**	**-0.4**	
	baz=197							
U35K	**Hyder**	**87.00**	**25**	P	**P**	**16 35 10.9**	**+1.0**	
	baz=224							
MCARA	**McCarthy VSAT**	**87.00**	**16**	IAmb	IAmb	16 35 12.1		
	comp=Z,216nm,1.1s							
MCARA	**McCarthy VSAT**	**87.00**	**16**	P	**P**	**16 35 10.4**	**+0.5**	
	baz=213,SNR=19							
J20K	**Nowinta River**	**87.08**	**10**	IAmb	IAmb	16 35 11.4		
	comp=Z,131nm,1.1s							
J20K	**Nowinta River**	**87.08**	**10**	P	**P**	**16 35 10.0**	**-0.1**	
	baz=203							
P29M	**Windy Craggy**	**87.08**	**19**	IAmb	IAmb	16 35 12.6		
	comp=Z,154nm,1.0s							
P29M	**Windy Craggy**	**87.08**	**19**	P	**P**	**16 35 11.1**	**+0.7**	
	baz=218							
R32K	**Eaglecrest**	**87.08**	**22**	P	**P**	**16 35 11.3**	**+0.9**	
	baz=220							
LOGN	**Logan Glacier**	**87.08**	**17**	IAmb	IAmb	16 35 12.0		
	comp=Z,198nm,1.0s							
G16K	**Koyuk River**	**87.09**	**7**	P	**P**	**16 35 10.2**	**0.0**	
	baz=195							
KTH	**Kantishna Hill**	**87.10**	**12**	IAmb	IAmb	16 35 10.4		
	comp=Z,164nm,0.9s							
CTG	**Chitna Glacier**	**87.11**	**17**	P	**P**	**16 35 10.9**	**+0.3**	
	baz=214,SNR=24							
JIS	**Juneau Island**	**87.13**	**22**	IAmb	IAmb	16 35 12.6		
	comp=Z,120nm,1.2s							
TRF	**Thorofare Moun**	**87.13**	**12**	P	**P**	**16 35 10.0**	**-0.7**	
	baz=206,SNR=85							
CHUM	**Lake Minchumin**	**87.13**	**11**	P	**P**	**16 35 09.6**	**-0.8**	
	baz=204,SNR=33							
HLID	**Hailey**	**87.13**	**41**	IAmb	IAmb	16 35 13.8		
	comp=Z,130nm,1.0s							
HLID	**Hailey**	**87.13**	**41**	P	**P**	**16 35 12.6**	**+1.4**	
	baz=237,SNR=171							
TROLL	**Troll, Antarti**	**87.16**	**180**	⇑P	**P**	**16 35 11.3**	**+0.5**	
	comp=Z,3μm,0.7s							
TROLL				⇑pP	**pP**	**16 37 12.4**	**+0.7**	
	comp=Z,2μm,0.8s							
TROLL				⇑SKSac	**SKSac**	**16 44 45.4**	**+0.4**	
	comp=Z,425nm,0.9s							
F15K	**North Star Dit**	**87.16**	**6**	P	**P**	**16 35 10.4**	**-0.1**	
	baz=193							
GCSA	**Galena City Sc**	**87.18**	**9**	P	**P**	**16 35 10.8**	**+0.2**	
	baz=200,SNR=21							
SPUT	**South Promonto**	**87.18**	**44**	IAmb	IAmb	16 35 13.8		
	comp=Z,150nm,1.6s							
HVU	**Hansel Valley**	**87.21**	**43**	IAmb	IAmb	16 35 14.0		
	comp=Z,276nm,1.8s							
TIY	**Taiyuan**	**87.23**	**312**	*e*P	**P**	**16 35 12.7**	**+1.1**	
TIY				pP	**pwP**	**16 37 18.1**	**+2.0**	
TIY				S	**S**	**16 45 04.3**	**-0.9**	
TIY				SS	**SS**	**16 51 05.6**	**-1.3**	
TIY				pmax	pmax			
	comp=Z,110nm,1.2s							
TIY				pmax	pmax			
	comp=Z,620nm,5.3s							
C09A	**Chrisman Ranch**	**87.27**	**36**	IAmb	IAmb	16 35 13.6		
	comp=Z,190nm,0.9s							
TLIG	**Tlapa**	**87.32**	**70**	IAmb	IAmb	16 35 15.6		
	comp=Z,163nm,1.4s							
HARP	**HAARP**	**87.33**	**15**	P	**P**	**16 35 11.6**	**+0.2**	
	baz=211,SNR=12							
SRU	**San Rafael Swe**	**87.33**	**46**	IAmb	IAmb	16 35 14.4		
	comp=Z,113nm,0.9s							
H18K	**Honhosa River**	**87.35**	**8**	IAmb	IAmb	16 35 12.2		
	comp=Z,127nm,1.5s							
H18K	**Honhosa River**	**87.35**	**8**	P	**P**	**16 35 10.9**	**-0.6**	
	baz=199							
O29M	**Mount Kennedy**	**87.36**	**19**	IAmb	IAmb	16 35 13.8		
	comp=Z,132nm,1.1s							
O29M	**Mount Kennedy**	**87.36**	**19**	P	**P**	**16 35 12.5**	**+0.7**	
	baz=217							
P17A	**Butcher Ranch,**	**87.37**	**46**	IAmb	IAmb	16 35 15.0		
	comp=Z,125nm,1.2s							
Y22A	**Socorro**	**87.37**	**52**	P	**P**	**16 35 14.2**	**+1.7**	
	baz=242							
PLBC	**Pleasant Camp**	**87.38**	**20**	P	**P**	**16 35 12.9**	**+1.2**	
	baz=219,SNR=7.9							
RND	**Reindeer**	**87.38**	**13**	P	**P**	**16 35 11.2**	**-0.5**	
G17K	**Kiwalik Mounta**	**87.39**	**7**	P	**P**	**16 35 11.5**	**0.0**	
	baz=197,SNR=34							
DHY	**Denali Highway**	**87.41**	**14**	IAmb	IAmb	16 35 12.9		
	comp=Z,316nm,1.7s							
DHY	**Denali Highway**	**87.41**	**14**	P	**P**	**16 35 11.7**	**-0.2**	
	baz=209							
VHRN	**Van Horn**	**87.45**	**56**	IAmb	IAmb	16 35 15.8		
	comp=Z,178nm,1.0s							
SNAA	**Sanae**	**87.45**	**179**	P	**P**	**16 35 12.4**	**+0.3**	
SNAA	**Sanae**	**87.45**	**179**	⇑*e*P	**P**	**16 35 12.4**	**+0.3**	
SNAA				pmax	pmax			
	comp=Z,18nm,1.0s							
SNAA	**Sanae**	**87.45**	**179**	⇑P	**P**	**16 35 12.1**	**0.0**	
	comp=Z,260nm,0.6s							
SNAA				⇑pP	**pwP**	**16 37 16.2**	**+1.2**	
	comp=Z,497nm,1.0s							
SNAA				⇑SKSac	**SKSac**	**16 44 44.0**	**-2.6**	
	comp=Z,227nm,1.0s							
SNAA	**Sanae**	**87.45**	**179**	P	**P**	**16 35 12.3**	**+0.3**	
	comp=Z,12nm,0.6s,baz=206,slow=11,SNR=11							
SNAA				pP	**pwP**	**16 37 15.5**	**+0.4**	
	comp=Z,36nm,1.1s,baz=209,slow=14,SNR=7.1							
SNAA				S	**SKSac**	**16 44 46.2**	**-0.4**	
	comp=Z,13nm,1.0s,baz=356,slow=22,SNR=6.6							
	comp=Z,12nm,0.6s							
Y22D	**IRIS PASSCAL I**	**87.47**	**52**	P	**P**	**16 35 14.5**	**+1.5**	
	baz=242							
Y22F	**Passcal Instru**	**87.47**	**52**	P	**P**	**16 35 14.6**	**+1.7**	
	baz=242							
MNTX	**Cornudas Mount**	**87.55**	**55**	P	**P**	**16 35 14.7**	**+1.5**	
	baz=243							
MNTX	**Cornudas Mount**	**87.55**	**55**	P	**P**	**16 35 14.5**	**+1.3**	
	baz=243							
BPAW	**Bear Paw Mtn.**	**87.58**	**12**	IAmb	IAmb	16 35 12.3		
	comp=Z,279nm,2.0s							
BPAW	**Bear Paw Mtn.**	**87.58**	**12**	P	**P**	**16 35 11.1**	**-1.4**	
	baz=206							
I20K	**Naaghedeneel**	**87.60**	**10**	P	**P**	**16 35 12.8**	**+0.2**	
	baz=202							
VNA3	**Neumayer Olymp**	**87.61**	**176**	⇑P	**P**	**16 35 13.3**	**+0.5**	
VNA3				⇑pP	**pwP**	**16 37 17.2**	**+1.1**	
	comp=Z,74nm,0.9s							
VNA3				⇑S	**S**	**16 45 02.0**	**-5.6**	
	comp=Z,20nm,0.8s							
MCK	**McKinley**	**87.66**	**13**	P	**P**	**16 35 11.8**	**-1.1**	
MCK	**McKinley**	**87.66**	**13**	P	**P**	**16 35 12.3**	**-0.7**	
	baz=208,SNR=71							
T35M	**Bob Quinn**	**87.67**	**24**	P	**P**	**16 35 14.7**	**+1.5**	
	baz=224,SNR=9.6							
P30M	**Million Dollar**	**87.71**	**19**	P	**P**	**16 35 13.5**	**+0.2**	
	baz=218							
SKAG	**Skagway**	**87.72**	**21**	P	**P**	**16 35 14.7**	**+1.5**	
	baz=220,SNR=9.1							
PAX	**Paxson**	**87.75**	**14**	P	**P**	**16 35 13.1**	**-0.4**	
	baz=211,SNR=23							
P18A	**Preston Nutter**	**87.78**	**46**	IAmb	IAmb	16 35 16.8		
	comp=Z,134nm,1.4s							
MVCO	**Mesa Verde**	**87.80**	**49**	P	**P**	**16 35 15.2**	**+0.7**	
	baz=241,SNR=7.6							
YUK8	**Steele Glacier**	**87.81**	**18**	P	**P**	**16 35 14.6**	**+0.6**	
	baz=216,SNR=45							
TX31	**Lajitas Ar. Si**	**87.85**	**58**	IAmb	IAmb	16 35 17.8		
	comp=Z,171nm,1.1s							
TX31	**Lajitas Ar. Si**	**87.85**	**58**	P	**P**	**16 35 16.3**	**+1.6**	
	baz=244							
TXAR	**Lajitas Array**	**87.85**	**58**	P	**P**	**16 35 16.4**	**+1.6**	
	comp=Z,88nm,0.9s,baz=219,slow=5.2,SNR=513							
TXAR				pP	**pwP**	**16 37 16.9**	**-1.5**	
	comp=Z,16nm,1.1s,baz=217,slow=6.0,SNR=7.0							
TXAR				PKiKP	**PKiKP**	**16 40 13.5**	**+0.1**	
	comp=Z,0.8nm,0.8s,baz=212,slow=3.2,SNR=2.9							
TXAR				PKKPbc	**PKKPbc**	**16 52 58.3**	**+0.1**	
	comp=Z,6.1nm,0.8s,baz=90,slow=3.1,SNR=31							
TXAR				PKP2bc		17 00 34.8		
	comp=Z,0.2nm,0.3s,baz=77,slow=28,SNR=4.4							
TXAR				PKPPKP	**P'P'df**	**17 01 02.6**	**-2.8**	
	comp=Z,1.0nm,0.8s,baz=48,slow=1.9,SNR=4.3							
	comp=Z,88nm,0.9s							
ZEA	**Zeya**	**87.85**	**331**	*e*P	**P**	**16 35 14.7**	**+0.7**	
ZEA				*e*S	**S**	**16 45 14.1**	**+4.0**	
ZEA				*e*		16 46 18.5		
ZEA				pmax	pmax			
	comp=N,20nm,1.0s							
ZEA				pmax	pmax			
	comp=Z,50nm,1.2s							
ZEA				smax	smax			
	comp=Z,200nm,5.1s							
ZEA				smax	smax			
	comp=N,200nm,4.2s							
ZEA				smax	smax			
	comp=E,200nm,9.5s							
M26K	**Nabesna, AK**	**87.86**	**16**	P	**P**	**16 35 14.3**	**+0.3**	
	baz=213							
BSUT	**Blindstream Ca**	**87.89**	**45**	IAmb	IAmb	16 35 17.5		
	comp=Z,180nm,1.3s							
YUK6	**Outpost Mounta**	**87.94**	**18**	P	**P**	**16 35 15.2**	**+0.6**	
	baz=217,SNR=14							
H19K	**Roundabout Mou**	**87.98**	**9**	IAmb	IAmb	16 35 15.7		
	comp=Z,144nm,0.9s							
H19K	**Roundabout Mou**	**87.98**	**9**	P	**P**	**16 35 14.1**	**-0.2**	
	baz=201							
XLT	**XiLinHaoTe**	**87.99**	**319**	⇓*i*P	**P**	**16 35 15.2**	**+0.2**	
XLT				pP	pwP	16 37 21.5	+2.3	
XLT				S	**S**	**16 45 14.8**	**+2.8**	
XLT				SS	**SS**	**16 51 23.3**	**+5.7**	
XLT				pmax	pmax			
	comp=Z,40nm,1.3s							
XLT				pmax	pmax			
	comp=Z,140nm,4.7s							
YUK3	**Moose Creek**	**88.02**	**17**	P	**P**	**16 35 15.4**	**+0.5**	
	baz=215,SNR=104							
S34M	**Telegraph Cree**	**88.02**	**23**	P	**P**	**16 35 16.2**	**+1.5**	
	baz=223,SNR=46							
G18K	**Tagagawik**	**88.02**	**8**	P	**P**	**16 35 14.4**	**-0.1**	
	baz=198							
XAN	**Xi'an**	**88.02**	**308**	⇓P	**P**	**16 35 16.4**	**+1.0**	
XAN				pP	pwP	16 37 21.8	+1.6	
XAN				pmax	pmax			
	comp=Z,220nm,1.2s							
VNA2	**Neumayer--Watz**	**88.04**	**177**	⇑P	**P**	**16 35 15.5**	**+0.7**	
	comp=Z,65nm,0.7s,baz=179,slow=3.9							
VNA2				⇑pP	**pwP**	**16 37 19.3**	**+1.1**	
	comp=Z,53nm,0.8s,baz=188,slow=2.3							
VNA2				⇑SKSac	**SKSac**	**16 44 50.1**	**+0.1**	
	comp=Z,10nm,0.8s,baz=337,slow=10							
HYT	**Haines Junctio**	**88.10**	**19**	P	**P**	**16 35 16.0**	**+0.8**	
	baz=218,SNR=25							
NVL	**N'lazarevskaya**	**88.11**	**183**	*e*P	**P**	**16 35 13.4**	**-1.7**	
NVL				pmax	pmax			
	comp=Z,79nm,1.0s							
M27K	**Edge Creek, AK**	**88.12**	**16**	P	**P**	**16 35 16.0**	**+0.8**	
	baz=214							
MENT	**Mentasta**	**88.14**	**15**	IAmb	IAmb	16 35 16.7		
	comp=Z,123nm,1.0s							
MENT	**Mentasta**	**88.14**	**15**	P	**P**	**16 35 16.1**	**+0.9**	
NEW	**Newport**	**88.17**	**36**	IAmb	IAmb	16 35 17.4		
	comp=Z,73nm,1.0s							
NEW	**Newport**	**88.17**	**36**	P	**P**	**16 35 15.8**	**+0.1**	
NEW	**Newport**	**88.17**	**36**	P	**P**	**16 35 16.3**	**+0.5**	
	baz=235,SNR=27							
YUK4	**Talbot Arm**	**88.18**	**18**	P	**P**	**16 35 16.6**	**+0.9**	
	baz=217,SNR=23							
H20K	**Anotleneega Mo**	**88.18**	**10**	P	**P**	**16 35 15.8**	**+0.5**	
	baz=202							
ANMO	**Albuquerque**	**88.21**	**51**	P	**P**	**16 35 16.9**	**+0.5**	
ANMO				IAmb	IAmb	16 35 18.7		
	comp=Z,106nm,1.1s							
ANMO	**Albuquerque**	**88.21**	**51**	P	**P**	**16 35 16.9**	**+0.5**	
ANMO				pmax	pmax			
	comp=Z,106nm,1.1s							
ANMO	**Albuquerque**	**88.21**	**51**	P	**P**	**16 35 17.5**	**+1.1**	
	baz=243							
ANMO	**Albuquerque**	**88.21**	**51**	P	**P**	**16 35 17.2**	**+0.8**	
	baz=243							
F17K	**Baldwin Pennin**	**88.23**	**7**	IAmb	IAmb	16 35 16.7		
	comp=Z,102nm,0.9s							
F17K	**Baldwin Pennin**	**88.23**	**7**	P	**P**	**16 35 15.6**	**+0.2**	
	baz=196							
VNA1	**Neumayer--Stat**	**88.27**	**177**	⇑P	**P**	**16 35 13.5**	**-2.4**	
	comp=Z,108nm,0.9s							
VNA1				⇑pP	**pwP**	**16 37 20.7**	**+1.4**	
	comp=Z,83nm,1.0s							
L26K	**Log Cabin Wild**	**88.30**	**15**	IAmb	IAmb	16 35 17.5		
	comp=Z,103nm,1.1s							
L26K	**Log Cabin Wild**	**88.30**	**15**	P	**P**	**16 35 16.4**	**+0.4**	
	baz=213,SNR=32							
ALPN	**Alpine**	**88.32**	**57**	IAmb	IAmb	16 35 19.5		
	comp=Z,128nm,0.9s							
P32M	**Atlin**	**88.35**	**21**	IAmb	IAmb	16 35 18.4		
	comp=Z,93nm,1.0s							
P32M	**Atlin**	**88.35**	**21**	P	**P**	**16 35 17.3**	**+1.0**	
	baz=221,SNR=18							
Q32M	**Nakina River**	**88.38**	**22**	IAmb	IAmb	16 35 18.9		
	comp=Z,97nm,0.8s							
Q32M	**Nakina River**	**88.38**	**22**	P	**P**	**16 35 17.7**	**+1.1**	
	baz=222							
I21K	**Tanana**	**88.38**	**11**	P	**P**	**16 35 16.1**	**-0.1**	
	baz=205,SNR=93							
NEA2	**Nenana**	**88.39**	**12**	IAmb	IAmb	16 35 17.1		
	comp=Z,67nm,0.8s							
NEA2	**Nenana**	**88.39**	**12**	P	**P**	**16 35 15.2**	**-1.1**	
	baz=207,SNR=13							
K24K	**Donnelly Dome**	**88.40**	**14**	P	**P**	**16 35 16.7**	**+0.3**	
	baz=210,SNR=68							
BVCY	**Beaver Creek**	**88.43**	**17**	P	**P**	**16 35 17.2**	**+0.6**	
	baz=215,SNR=62							
G19K	**Purcell Mounta**	**88.46**	**9**	IAmb	IAmb	16 35 17.9		
	comp=Z,131nm,0.9s							
G19K	**Purcell Mounta**	**88.46**	**9**	P	**P**	**16 35 16.8**	**+0.2**	
	baz=200							
MLY	**Manley**	**88.47**	**11**	IAmb	IAmb	16 35 16.9		
	comp=Z,94nm,0.7s							
MLY	**Manley**	**88.47**	**11**	P	**P**	**16 35 15.6**	**-1.1**	
	baz=206,SNR=63							
O30N	**Mendenhall**	**88.49**	**19**	IAmb	IAmb	16 35 18.8		
	comp=Z,119nm,0.8s							
O30N	**Mendenhall**	**88.49**	**19**	P	**P**	**16 35 17.8**	**+0.9**	
	baz=219,SNR=28							
LR05	**Currie**	**88.53**	**133**	IAmb	IAmb	16 37 27.3		
	comp=Z,84nm,1.3s							
RIDG	**Independent Ri**	**88.56**	**14**	P	**P**	**16 35 17.2**	**0.0**	
	baz=211							
F18K	**Selawik**	**88.56**	**7**	P	**P**	**16 35 16.7**	**-0.3**	
	baz=198,SNR=35							
PECS	**Pecos**	**88.57**	**56**	IAmb	IAmb	16 35 20.3		
	comp=Z,91nm,1.2s							
HDA	**Harding Lake**	**88.67**	**13**	P	**P**	**16 35 17.0**	**-0.6**	
	baz=209,SNR=86							
H21K	**Melozitna Rive**	**88.67**	**10**	IAmb	IAmb	16 35 18.9		
	comp=Z,86nm,0.8s							
H21K	**Melozitna Rive**	**88.67**	**10**	P	**P**	**16 35 17.8**	**+0.2**	
	baz=204							
RDMU	**Red Mountain**	**88.69**	**45**	IAmb	IAmb	16 35 20.6		
	comp=Z,90nm,0.9s							
L27K	**Beaver Creek,**	**88.72**	**16**	IAmb	IAmb	16 35 19.4		
	comp=Z,74nm,0.9s							
L27K	**Beaver Creek,**	**88.72**	**16**	P	**P**	**16 35 18.3**	**+0.4**	
	baz=214							
N30M	**Aishikik Lake**	**88.72**	**19**	IAmb	IAmb	16 35 19.6		
	comp=Z,56nm,0.8s							
N30M	**Aishikik Lake**	**88.72**	**19**	P	**P**	**16 35 18.6**	**+0.6**	
	baz=218							
WHY	**Whitehorse**	**88.78**	**20**	IAmb	IAmb	16 35 20.3		
	comp=Z,102nm,0.9s							
WHY	**Whitehorse**	**88.78**	**20**	P	**P**	**16 35 19.2**	**+0.8**	
	baz=220							
AHID	**Auburn Hatcher**	**88.78**	**43**	IAmb	IAmb	16 35 21.9		
	comp=Z,102nm,0.9s							
DLBC	**Dease Lake**	**88.80**	**23**	IAmb	IAmb	16 35 20.7		
	comp=Z,99nm,1.0s							
DLBC	**Dease Lake**	**88.80**	**23**	P	**P**	**16 35 19.6**	**+1.1**	
	baz=224,SNR=25							
I23K	**Minto, Yukon-K**	**88.83**	**12**	IAmb	IAmb	16 35 18.8		
	comp=Z,190nm,1.4s							
I23K	**Minto, Yukon-K**	**88.83**	**12**	P	**P**	**16 35 17.0**	**-1.3**	
	baz=207							
COLA	**College**	**88.89**	**13**	P	**P**	**16 35 17.7**	**-0.8**	
COLA	**College**	**88.89**	**13**	P	**P**	**16 35 18.3**	**-0.3**	
COLA	**College**	**88.89**	**13**	*d*/P	**P**	**16 35 17.6**	**-1.0**	
COLA				pmax	pmax			
	comp=Z,275nm,0.9s							
COLA	**College**	**88.89**	**13**	P	**P**	**16 35 18.0**	**-0.5**	
	baz=208							
SCRK	**Sand Creek**	**88.96**	**15**	IAmb	IAmb	16 35 20.4		
	comp=Z,78nm,0.9s							
SCRK	**Sand Creek**	**88.96**	**15**	P	**P**	**16 35 19.3**	**+0.2**	
	baz=212,SNR=39							
IL31		**89.00**	**13**	IAmb	IAmb	16 35 19.6		
	comp=Z,150nm,1.1s							
ILAR	**Eielson Array**	**89.00**	**13**	P	**P**	**16 35 16.4**	**-2.7**	
ILAR	**Eielson Array**	**89.00**	**13**	P	**P**	**16 35 18.4**	**-0.7**	
	comp=Z,75nm,0.9s,baz=218,slow=5.3,SNR=451							
ILAR				pP	**pP**	**16 37 19.8**	**-0.6**	
	comp=Z,19nm,1.1s,baz=232,slow=5.4,SNR=5.3							
ILAR				PKiKP	**PKiKP**	**16 40 13.6**	**-0.5**	
	comp=Z,2.3nm,0.8s,baz=260,slow=3.4,SNR=12							
ILAR				ScS	**S**	**16 45 17.7**	**-2.4**	
	comp=Z,3.9nm,1.0s,baz=232,slow=9.2,SNR=10							
ILAR				PKKPbc	**PKKPdf**	**16 52 53.6**	**+1.6**	
	comp=Z,1.0nm,0.6s,baz=353,slow=2.5,SNR=11							
ILAR				PKPPKP	**P'P'df**	**17 00 57.3**	**-3.0**	
	comp=Z,1.2nm,1.0s,baz=357,slow=2.6,SNR=4.8							
	comp=Z,75nm,0.9s							
F19K	**Shalerucikik Mo**	**89.02**	**8**	IAmb	IAmb	16 35 20.2		
	comp=Z,106nm,0.8s							
F19K	**Shalerucikik Mo**	**89.02**	**8**	P	**P**	**16 35 19.0**	**-0.2**	
	baz=199							
KMI	**Kunming**	**89.10**	**297**	⇓P	**P**	**16 35 22.6**	**+1.8**	
KMI				pmax	pmax			
	comp=Z,100nm,1.1s							
KMI				pmax	pmax			
	comp=Z,470nm,3.3s							
M29M	**Somme Creek**	**89.11**	**17**	P	**P**	**16 35 20.5**	**+0.6**	
	baz=217							
P33M	**Teslin, Yukon**	**89.12**	**21**	P	**P**	**16 35 20.5**	**+0.6**	
	baz=222,SNR=22							
H22K	**Ishtalitna Cre**	**89.13**	**11**	P	**P**	**16 35 19.8**	**0.0**	
	baz=205							
R33M	**Jennings River**	**89.15**	**22**	IAmb	IAmb	16 35 22.5		
	comp=Z,156nm,1.2s							
R33M	**Jennings River**	**89.15**	**22**	P	**P**	**16 35 21.1**	**+1.0**	
	baz=224							
J25K	**Salcha River,**	**89.19**	**14**	IAmb	IAmb	16 35 21.1		
	comp=Z,93nm,0.8s							
J25K	**Salcha River,**	**89.19**	**14**	P	**P**	**16

baz=222
L29M L29M 89.73 17 P P 16 35 23.3 +0.6
baz=217
CMAR Chiang Mai Arr 89.77 290 P P 16 35 25.6 +1.9
comp=Z,80nm,1.0s,baz=120,slow=3.0,SNR=23
CMAR pP pP 16 37 25.2 +0.6
comp=Z,6.6nm,1.0s,baz=105,slow=2.9,SNR=2.9
CMAR PP PP 16 39 06.2 -0.4
comp=Z,7.7nm,1.0s,baz=128,slow=6.5,SNR=4.1
CMAR PKiKP PKiKP 16 40 16.7 0.0
comp=Z,1.8nm,0.8s,baz=174,slow=0.6,SNR=2.3
CMAR PKKPbc PKKPbc 16 52 54.5 +1.5
comp=Z,3.9nm,0.8s,baz=286,slow=4.6,SNR=18
CMAR PKPPKP P'P'df 17 00 59.2 -3.3
comp=Z,0.9nm,0.6s,baz=274,slow=5.4,SNR=4.5
comp=Z,80nm,1.0s
BW06 Boulder Array 89.77 43 P P 16 35 23.9 +0.3
baz=241,SNR=143
PD31 Pinedale Array 89.77 43 IAmb IAmb 16 35 25.2
comp=Z,91nm,0.8s
PDAR Pinedale Array 89.77 43 P P 16 35 24.3 +0.8
PDAR Pinedale Array 89.77 43 P P 16 35 24.0 +0.4
comp=Z,75nm,0.7s,baz=214,slow=3.0,SNR=363
PDAR pP pP 16 37 25.9 +1.1
comp=Z,3.1nm,0.8s,baz=198,slow=2.7,SNR=2.2
PDAR PKiKP PKiKP 16 40 16.6 +0.2
comp=Z,0.6nm,0.7s,baz=180,slow=1.8,SNR=1.5
PDAR PKKPbc PKKPbc 16 52 53.2 -1.0
comp=Z,4.1nm,0.8s,baz=80,slow=3.9,SNR=20
PDAR PKPPKP P'P'df 17 00 59.7 -1.2
comp=Z,0.9nm,0.8s,baz=85,slow=3.4,SNR=6.5
comp=Z,75nm,0.7s
SMCO Snowmass 89.79 48 IAmb IAmb 16 35 26.0
comp=Z,52nm,0.9s
YFT Old Faithful 89.80 42 IAmb IAmb 16 35 27.3
comp=Z,98nm,0.9s
BOZ Bozeman (W) 89.89 40 IAmb IAmb 16 35 26.4
comp=Z,98nm,1.0s
BOZ Bozeman (W) 89.89 40 P P 16 35 25.1 +1.1
baz=239,SNR=101
CHTO Chiang Mai 89.90 290 P P 16 35 25.5 +1.1
CHTO Chiang Mai 89.90 290 P P 16 35 25.9 +1.5
CHTO Chiang Mai 89.90 290 P P 16 35 25.5 +1.1
CHTO pmax pmax
comp=Z,205nm,1.4s
CHTO Chiang Mai 89.90 290 P P 16 35 26.2 +1.8
H17A Grant Village 89.93 42 IAmb IAmb 16 35 27.8
comp=Z,93nm,0.9s
H17A Grant Village 89.93 42 P P 16 35 26.6 +2.3
baz=240,SNR=52
PRP Porcupine Dome 89.94 13 IAmb IAmb 16 35 25.1
comp=Z,150nm,1.3s
PRP Porcupine Dome 89.94 13 P P 16 35 22.8 -0.8
baz=211,SNR=36
C17K DeLong Mountai 90.00 6 P P 16 35 23.8 +0.1
baz=194
F21K Alatna River 90.00 10 IAmb IAmb 16 35 24.8
comp=Z,60nm,1.0s
F21K Alatna River 90.00 10 P P 16 35 23.4 -0.3
baz=203
YNM Yellowstone No 90.02 41 IAmb IAmb 16 35 28.8
comp=Z,114nm,1.1s
YNR Norris Junctio 90.03 41 IAmb IAmb 16 35 28.9
comp=Z,78nm,1.2s
G22K Bettles 90.04 10 P P 16 35 24.3 +0.4
baz=205
G23K Bananza Creek 90.11 11 IAmb IAmb 16 35 25.7
comp=Z,94nm,1.2s
G23K Bananza Creek 90.11 11 P P 16 35 24.4 +0.1
baz=206
M31M Drury Creek, Y 90.11 19 P P 16 35 24.4 0.0
baz=220,SNR=14
LKWY Lake 90.13 42 IAmb IAmb 16 35 28.8
comp=Z,96nm,1.1s
SDCO Great Sand Dun 90.16 49 P P 16 35 26.1 +0.5
baz=243,SNR=76
SDCO Great Sand Dun 90.16 49 P P 16 35 26.1 +0.5
baz=243
DAWY Dawson 90.17 16 P P 16 35 25.1 +0.5
baz=216,SNR=79
BTO Baotou 90.26 314 *e*P P 16 35 27.4 +1.7
BTO pP pP 16 37 27.0 +0.3
BTO sP sP 16 38 20.2 -2.0
BTO PP PP 16 39 14.5 +4.3
BTO S S 16 45 30.5 -2.3
BTO SS SS 16 51 55.8 +5.6
BTO pmax pmax
comp=Z,130nm,1.3s
BTO pmax pmax
comp=Z,980nm,9.8s
I26K Coal Creek Min 90.28 14 P P 16 35 25.5 +0.5
baz=213
EGAK Eagle 90.31 15 P P 16 35 25.4 +0.3
baz=214,SNR=64
C18K Utukok River 90.36 6 IAmb IAmb 16 35 26.4
comp=Z,94nm,1.1s
C18K Utukok River 90.36 6 P P 16 35 25.4 0.0
baz=196
WTLY Watson Lake, Y 90.44 22 IAmb IAmb 16 35 27.9
comp=Z,67nm,1.0s
WTLY Watson Lake, Y 90.44 22 P P 16 35 26.8 +0.9
baz=225,SNR=19
FARO Faro, Yukon 90.46 19 P P 16 35 26.1 +0.1
baz=222,SNR=9.6
PZH PanZhiHua 90.47 298 P P 16 35 27.9 +0.9
PZH pmax pmax
comp=Z,60nm,1.0s
PZH pmax pmax
comp=Z,380nm,4.0s
K29M Barlow Dome 90.49 17 P P 16 35 26.9 +0.7
baz=218
OZNA Ozona 90.51 57 IAmb IAmb 16 35 29.8
comp=Z,51nm,0.8s
MSTX Muleshoe 90.51 54 IAmb IAmb 16 35 28.8
comp=Z,91nm,0.8s
MSTX Muleshoe 90.51 54 P P 16 35 27.6 +0.6
baz=245
MSTX Muleshoe 90.51 54 P P 16 35 27.4 +0.4
baz=245
H25L Birch Creek 90.52 13 P P 16 35 26.2 +0.1
baz=210
COLD Coldfoot 90.54 11 P P 16 35 26.7 +0.4
baz=206,SNR=83
D19K Kuna River 90.56 7 P P 16 35 26.3 0.0
baz=199
G24K Hadweenzic Riv 90.57 12 P P 16 35 25.2 -1.2
baz=209
E20K Nigu River 90.58 8 P P 16 35 26.7 +0.3
baz=201
CD2 Chengdu 90.61 303 P P 16 35 28.4 +0.9
CD2 S S 16 45 38.6 +2.3
CD2 pmax pmax
comp=Z,30nm,1.2s
CD2 pmax pmax
comp=Z,240nm,6.5s
T25A Trinidad 90.67 50 IAmb IAmb 16 35 29.6
comp=Z,57nm,0.9s
T25A Trinidad 90.67 50 P P 16 35 28.4 +0.5
baz=244,SNR=29
MAYO Mayo, Yukon 90.74 18 P P 16 35 28.3 +1.1
baz=219,SNR=7.2
833A Chaparral WMA, 90.84 60 IAmb IAmb 16 35 30.7
comp=Z,94nm,0.9s
833A Chaparral WMA, 90.84 60 P P 16 35 29.4 +0.9
baz=246,SNR=14
833A Chaparral WMA, 90.84 60 P P 16 35 29.5 +1.0
baz=246
I27K Kandik River 90.88 14 P P 16 35 28.0 +0.1
baz=214,SNR=25
G25K Bearman Lake 90.90 12 P P 16 35 28.3 +0.4
baz=210
SGCY Sterling City 90.92 56 IAmb IAmb 16 35 31.8
comp=Z,58nm,1.0s
D20K Etivluk River 90.95 8 P P 16 35 28.2 +0.1
baz=200
Q24A Divide 90.95 48 P P 16 35 30.0 +0.8
baz=243,SNR=26
C19K Lookout Ridge 90.97 7 P P 16 35 28.6 +0.3
baz=198
B18K Kokolik River 90.99 6 P P 16 35 28.6 +0.4
baz=196
ISCO Idaho Springs 91.01 47 P P 16 35 30.0 +0.6
ISCO Idaho Springs 91.01 47 P P 16 35 30.3 +0.9
baz=243,SNR=23
ISCO Idaho Springs 91.01 47 P P 16 35 29.8 +0.4
baz=243
E21K Killik River 91.06 9 IAmb IAmb 16 35 29.6
comp=Z,56nm,1.0s
E21K Killik River 91.06 9 P P 16 35 28.5 -0.1
baz=203
E22K Anaktuvuk Pass 91.10 10 P P 16 35 29.0 +0.1
baz=205,SNR=93
POST Post 91.10 55 IAmb IAmb 16 35 31.1
comp=Z,86nm,0.9s
RLMT Red Lodge 91.10 41 P P 16 35 30.8 +1.2
baz=241,SNR=27
I28M Miner Creek 91.15 15 IAmb IAmb 16 35 30.2
comp=Z,72nm,0.8s
I28M Miner Creek 91.15 15 P P 16 35 29.2 -0.1
baz=216
F24K Squaw Lake 91.22 11 IAmb IAmb 16 35 31.0
comp=Z,87nm,1.2s
F24K Squaw Lake 91.22 11 P P 16 35 30.0 +0.6
baz=208
N23A Red Feather La 91.27 46 IAmb IAmb 16 35 33.4
comp=Z,92nm,1.1s
N23A Red Feather La 91.27 46 P P 16 35 31.4 +0.9
baz=243,SNR=8.6
JCT Junction City 91.37 58 IAmb IAmb 16 35 32.4
comp=Z,43nm,0.8s
JCT Junction City 91.37 58 P P 16 35 31.4 +0.4
JCT Junction City 91.37 58 P P 16 35 31.3 +0.3
baz=246,SNR=14
JCT Junction City 91.37 58 P P 16 35 31.5 +0.4
baz=246
J30M Hart River 91.39 17 P P 16 35 30.6 +0.2
baz=219
E23K Chandalar 91.39 11 P P 16 35 30.1 -0.1
baz=207
H27K Steamboat Moun 91.42 14 P P 16 35 30.8 +0.4
baz=214
SN05 Snyder 5 91.50 55 IAmb IAmb 16 35 32.8
comp=Z,69nm,0.9s
G26K Porcupine Rive 91.53 13 P P 16 35 31.3 +0.5
baz=212
SN07 Snyder 07 91.58 55 IAmb IAmb 16 35 33.0
comp=Z,50nm,1.0s
RTBA Rita Blanca 91.58 51 IAmb IAmb 16 35 33.1
comp=Z,60nm,1.0s
E24K Your Creek 91.60 11 P P 16 35 31.4 +0.2
baz=208
C21K Knifeblade Rid 91.61 8 P P 16 35 31.3 +0.2
baz=202
TGTN Hyland Airport 91.61 22 P P 16 35 32.1 +0.7
baz=226,SNR=30
D22K Ayikyak River 91.65 9 IAmb IAmb 16 35 32.9
comp=Z,84nm,0.8s
D22K Ayikyak River 91.65 9 P P 16 35 31.9 +0.6
baz=204
K22A Casper 91.69 45 IAmb IAmb 16 35 34.1
comp=Z,87nm,1.0s
K22A Casper 91.69 45 P P 16 35 32.7 +0.4
baz=243,SNR=22
K22A Casper 91.69 45 P P 16 35 32.7 +0.4
baz=243
F25K Christian Rive 91.71 12 P P 16 35 32.1 +0.5
baz=210
AMTX Amarillo 91.72 53 IAmb IAmb 16 35 34.0
comp=Z,39nm,0.9s
AMTX Amarillo 91.72 53 P P 16 35 32.8 +0.3
baz=245
AMTX Amarillo 91.72 53 P P 16 35 33.2 +0.6
baz=245
I30M Mount Dempster 91.88 16 IAmb IAmb 16 35 33.8
comp=Z,89nm,0.9s
I30M Mount Dempster 91.88 16 P P 16 35 32.8 +0.2
baz=219
TOLK Toolik Lake Re 91.92 10 IAmb IAmb 16 35 34.0
comp=Z,106nm,1.4s
TOLK Toolik Lake Re 91.92 10 P P 16 35 32.6 0.0
baz=207,SNR=26
MT01 Popeta 91.93 127 IAmb IAmb 16 35 35.7
comp=Z,46nm,0.9s
D23K Nanushuk River 92.03 10 P P 16 35 33.4 +0.3
baz=206
B21K Ikpikpuk River 92.06 8 IAmb IAmb 16 35 34.5
comp=Z,85nm,1.2s
B21K Ikpikpuk River 92.06 8 P P 16 35 33.2 +0.1
baz=202
F26K Sheenjek River 92.09 12 P P 16 35 34.1 +0.7
baz=212
B20K Meade River 92.10 7 P P 16 35 33.6 +0.3
baz=200
H29M Whitestone 92.16 15 P P 16 35 33.9 +0.2
baz=217
E25K Arctic Village 92.18 12 P P 16 35 34.3 +0.5
baz=211,SNR=20
KOTAN Kotaneelee Air 92.20 24 P P 16 35 34.2 +0.2
baz=230,SNR=14
EGMT Eagleton 92.23 39 IAmb IAmb 16 35 36.4
comp=Z,60nm,1.2s
EGMT Eagleton 92.23 39 P P 16 35 35.1 +0.6
baz=240,SNR=14
APMT Aspermont 92.26 55 IAmb IAmb 16 35 36.5
comp=Z,66nm,1.0s
BRDY Brady 92.33 57 IAmb IAmb 16 35 36.8
comp=Z,50nm,1.2s
735A Kenedy 92.33 60 P P 16 35 36.9 +1.5
baz=247
ABTX Abilene, Hawle 92.35 56 P P 16 35 35.9 +0.5
baz=246,SNR=14
ABTX Abilene, Hawle 92.35 56 P P 16 35 35.9 +0.5
baz=246
YAK Yakutsk 92.43 338 P P 16 35 34.5 -0.5
YAK Yakutsk 92.43 338 *d* iP P 16 35 33.9 -1.1
YAK *e**PP pwP 16 37 40.1 +0.3
YAK *e* 16 39 21.6
YAK *e*PPP PPP 16 41 29.5
YAK *e*S SKSac 16 45 12.7 -1.8
YAK *e* 16 45 49.5
YAK *e*SS SS 16 52 17.6 -2.2
YAK pmax pmax
comp=Z,90nm,0.9s
YAK pmax pmax
comp=N,13nm,1.3s
YAK pmax pmax
comp=E,19nm,1.5s
YAK pmax pmax
comp=Z,167nm,3.1s
YAK pmax pmax
comp=N,206nm,9.1s
YAK pmax pmax
comp=E,201nm,6.2s
YAK smax smax
comp=N,231nm,5.1s
YAK smax smax
comp=E,215nm,6.9s
YAK Yakutsk 92.43 338 S SKSac 16 45 11.0 -3.5
comp=E,3.8nm,0.5s,baz=182,slow=23,SNR=6.2
YAK PKKPbc PKKPbc 16 52 49.3 +1.3
comp=E,2.3nm,0.3s,baz=97,slow=2.2,SNR=5.5
FLDN Fort Liard 92.49 24 IAmb IAmb 16 35 38.0
comp=Z,31nm,0.8s
FLDN Fort Liard 92.49 24 P P 16 35 36.5 +1.2
baz=230
D24K Happy Valley 92.50 10 IAmb IAmb 16 35 36.8
comp=Z,45nm,0.9s
D24K Happy Valley 92.50 10 P P 16 35 35.6 +0.4
baz=208,SNR=22
TNCH TengChong 92.59 296 ⇓ *i*P P 16 35 37.8 +0.9
TNCH pP pP 16 37 37.5 -0.6
TNCH sP sP 16 38 30.5 -3.0
TNCH S S 16 45 54.4 +0.3
TNCH SS SS 16 52 28.2 +4.2
TNCH pmax pmax
comp=Z,50nm,1.4s
TNCH pmax pmax
comp=Z,370nm,6.2s
LZH Lanzhou 92.66 308 ⇓ *i*P P 16 35 38.0 +1.1
LZH pP pP 16 37 38.5 +0.3
LZH SS SS 16 52 31.6 +7.0
LZH pmax pmax
comp=Z,64nm,1.2s
LZH pmax pmax
comp=Z,390nm,4.1s
EPYK Eagle Plains 92.69 16 P P 16 35 36.2 0.0
baz=218,SNR=32
KSCO Kaye Shedlock' 92.75 49 P P 16 35 38.1 +0.8
baz=245
KSCO Kaye Shedlock' 92.75 49 P P 16 35 37.7 +0.4
baz=245
G29M Pine Creek 92.80 15 IAmb IAmb 16 35 37.7
comp=Z,58nm,0.9s
G29M Pine Creek 92.80 15 P P 16 35 36.5 -0.1
baz=217,SNR=23
C23K Itkillik River 92.83 9 P P 16 35 37.0 +0.3
baz=206
B22K Teshekpuk Lake 92.89 8 IAmb IAmb 16 35 38.2
comp=Z,90nm,1.1s
B22K Teshekpuk Lake 92.89 8 P P 16 35 36.9 0.0
baz=203
F28M Old Crow 92.93 14 P P 16 35 37.4 +0.1
baz=216,SNR=28
C24K Franklin Bluff 93.03 10 P P 16 35 38.0 +0.4
baz=208
D25K Kavik River 93.07 11 P P 16 35 37.2 -0.7
baz=210,SNR=21
435B Jarrell 93.25 58 IAmb IAmb 16 35 41.4
comp=Z,35nm,0.8s
435B Jarrell 93.25 58 P P 16 35 39.8 +0.3
baz=247
G30M tAoh Zraii Nji 93.29 15 P P 16 35 38.6 -0.4
baz=219
A21K Barrow 93.41 7 P P 16 35 39.0 -0.3
baz=200
PLPT Palo Pinto 93.45 56 IAmb IAmb 16 35 42.2
comp=Z,71nm,0.9s
CIT Chita 93.63 325 *e*P P 16 35 36.2 -4.6
CIT pmax pmax
comp=Z,114nm,1.8s
WTFS Witchita Falls 93.71 55 IAmb IAmb 16 35 43.0
comp=Z,35nm,1.0s
LAO LASA Array 93.71 41 P P 16 35 42.6 +1.3
baz=243
LAO LASA Array 93.71 41 P P 16 35 43.1 +1.8
baz=243
G31M Satah River 93.74 16 P P 16 35 40.6 -0.2
baz=221,SNR=69
WHTX Lake Whitney, 93.81 57 P P 16 35 42.4 +0.3
baz=248
WHTX Lake Witney, 93.81 57 P P 16 35 42.6 +0.5
baz=248
WMOK Wichita Mounta 93.84 54 P P 16 35 41.9 -0.3
baz=247,SNR=7.2
WMOK Wichita Mounta 93.84 54 P P 16 35 42.0 -0.2
baz=247
C26K Camden Bay 93.85 11 P P 16 35 42.2 +0.9
baz=211
ELIS Ellis County 93.88 53 IAmb IAmb 16 35 44.2
comp=Z,31nm,0.9s
F30M Barrier River 93.89 15 P P 16 35 41.6 0.0
baz=219
RSSD Black Hills 93.96 44 P P 16 35 42.0 -0.8
RSSD IAmb IAmb 16 35 44.1
comp=Z,36nm,0.8s
RSSD Black Hills 93.96 44 P P 16 35 42.0 -0.8
RSSD pmax pmax
comp=Z,36nm,0.9s
RSSD Black Hills 93.96 44 P P 16 35 42.7 0.0
baz=244
RSSD Black Hills 93.96 44 P P 16 35 42.8 0.0
baz=244
OGNE Ogallala 93.97 48 IAmb IAmb 16 35 44.3
comp=Z,90nm,1.5s
OGNE Ogallala 93.97 48 P P 16 35 43.1 +0.4
baz=245,SNR=5.9
OGNE Ogallala 93.97 48 P P 16 35 43.5 +0.8
baz=245
E29M Blow River 94.00 14 P P 16 35 41.5 -0.5
baz=218,SNR=23
D27M Malcolm River 94.03 13 IAmb IAmb 16 35 43.9
comp=Z,50nm,1.1s
D27M Malcolm River 94.03 13 P P 16 35 41.5 -0.8
baz=215
F31M Tsiigehtchic 94.27 16 P P 16 35 43.3 0.0
baz=221,SNR=30
U32A Winter Ranch, 94.31 53 IAmb IAmb 16 35 45.9
comp=Z,32nm,0.8s
U32A Winter Ranch, 94.31 53 P P 16 35 45.2 +0.9
baz=247
HKT Hockley 94.34 60 *d* iP P 16 35 45.3 +0.9
HKT pmax pmax
comp=Z,24nm,1.1s
WRGLY Wrigley 94.42 22 P P 16 35 44.1 +0.1
baz=230
Z35A Perchaven, San 94.48 56 P P 16 35 45.7 +0.7
baz=248
D28M Stokes Point 94.57 13 P P 16 35 44.7 +0.1
baz=217
CBKS Cedar Bluff 94.73 50 P P 16 35 46.5 +0.4
baz=247,SNR=6.4
CBKS Cedar Bluff 94.73 50 P P 16 35 47.4 +1.3
baz=247
INK Inuvik 94.97 15 IAmb IAmb 16 35 47.1
comp=Z,55nm,1.1s
INK Inuvik 94.97 15 P P 16 35 45.8 -0.6
INK Inuvik 94.97 15 P P 16 35 46.0 -0.5
baz=222,SNR=31
OK032 Salt Plains WL 95.06 53 IAmb IAmb 16 35 49.0
comp=Z,31nm,0.9s
FNO Franklin 95.09 54 IAmb IAmb 16 35 49.6
comp=Z,72nm,1.2s
R32A Long Quarter, 95.31 51 P P 16 35 48.8 0.0
R32A Long Quarter, 95.31 51 P P 16 35 49.2 +0.4
baz=247
ULN Ulaanbaatar 95.42 319 P P 16 35 49.6 +0.4
ULN Ulaanbaatar 95.42 319 *d* iP P 16 35 48.7 -0.5
ULN pmax pmax
comp=Z,31nm,1.7s
ULN Ulaanbaatar 95.42 319 P P 16 35 49.3 +0.1
KAN01 Argonia South 95.53 52 IAmb IAmb 16 37 57.6
comp=Z,48nm,1.4s
DGMT Dagmar 95.73 40 P P 16 35 51.3 +0.9
baz=245,SNR=14
DGMT Dagmar 95.73 40 P P 16 35 51.3 +0.9
baz=245
SONM Songino Array 95.81 319 P P 16 35 48.5 -2.5
SONM Songino Array 95.81 319 P P 16 35 50.1 -0.8
comp=Z,4.0nm,1.1s,baz=117,slow=3.8,SNR=20
SONM pP pP 16 37 54.0 +1.6
comp=Z,3.7nm,0.9s,baz=116,slow=3.4,SNR=5.2
SONM PP PP 16 39 46.9 -5.8
comp=Z,3.9nm,1.0s,baz=121,slow=7.8,SNR=5.4
SONM PKiKP PKiKP 16 40 26.3 -0.1
comp=Z,1.8nm,0.8s,baz=151,slow=2.3,SNR=1.7
SONM PKKPbc PKKPbc 16 52 38.2 -0.6
comp=Z,2.7nm,0.8s,baz=257,slow=3.5,SNR=9.3
SONM PKKPab PKKPab 16 53 14.3
comp=Z,1.4nm,0.8s,baz=274,slow=4.2,SNR=4.9
comp=Z,4.0nm,1.1s
NATX Nacogdoches 95.94 58 P P 16 35 52.2 +0.5
baz=249
BOD Bodaibo 96.30 330 *e*P P 16 35 51.7 -1.0
BOD pmax pmax
comp=Z,21nm,1.8s
T35B Sooner Cattle 96.37 53 P P 16 35 53.9 +0.4
baz=248
TUL3 Leonard 96.55 54 Pdif P 16 35 54.9 +0.5
baz=249
BGNE Belgrade 96.84 48 Pdif P 16 35 56.7 +1.1
baz=248
BGNE Belgrade 96.84 48 P P 16 35 56.8 +1.3
baz=248
GTA Gaotai 96.89 309 P P 16 35 56.4 +0.4
GTA pP pwP 16 38 03.1 +1.0
GTA pmax pmax
comp=Z,22nm,1.5s
ATAH Atahualpa 96.91 100 P P 16 35 58.7 +1.7
comp=Z,2.5nm,0.4s,baz=292,slow=2.7,SNR=4.9
comp=Z,2.5nm,0.4s
KSU1 Kansas State U 97.09 51 Pdif Pdif 16 35 57.8 +1.1
baz=249
KSU1 Kansas State U 97.09 51 P Pdif 16 35 58.5 +1.8
baz=249
E28A Huff 97.12 43 P P 16 35 56.7 0.0
baz=247
YKA Yellowknife Ar 97.27 25 P P 16 35 57.0 +0.1
comp=Z,9.3nm,0.8s,baz=245,slow=4.6,SNR=118
YKA pP pP 16 37 58.4 -0.5
comp=Z,1.7nm,0.9s,baz=245,slow=4.8,SNR=4.8
YKA PP PP 16 40 03.7 +0.4
comp=Z,1.7nm,0.9s,baz=243,slow=7.5,SNR=4.7
YKA PKiKP PKiKP 16 40 28.1 -0.3
comp=Z,2.0nm,0.8s,baz=244,slow=1.5,SNR=8.6
YKA ScS S 16 46 31.1 -1.0
comp=Z,0.3nm,0.8s,baz=245,slow=2.9,SNR=3.8
YKA PKKPbc PKKPbc 16 52 33.4 -1.8
comp=Z,0.8nm,0.5s,baz=46,slow=2.2,SNR=5.3
YKA PKPPKP P'P'df 17 00 41.7 -3.5
comp=Z,0.3nm,0.7s,baz=59,slow=2.4,SNR=4.0
comp=Z,9.3nm,0.8s
SUSD Miller 97.43 45 Pdif Pdif 16 35 57.7 -0.4
baz=248

MIAR Mount Ida 97.76 56 Pdif P 16 36 00.0 +0.2
baz=250
C36M Paulatuk 98.16 17 Pdif P 16 36 01.8 +1.0
baz=230
MDND Maddock 98.30 42 Pdif Pdif 16 36 01.8 0.0
baz=248
ZAK Zakamensk 98.71 321 eP Pdif 16 36 02.8 -0.9
ZAK pmax pmax
comp=Z,7.0nm,1.2s
U40A Yellville 98.93 55 P P 16 36 05.3 +0.2
baz=250
U40A P P 16 36 05.3 +0.2
baz=250
S39A Bolivar 99.02 53 P Pdif 16 36 04.8 -0.6
baz=250
TIXI Tiksi 99.15 345 ePKiKP Pdif 16 36 04.1 -1.0
TIXI pmax pmax
comp=Z,8.0nm,1.3s
TIXI Tiksi 99.15 345 PKiKP PKiKP 16 40 30.7 -0.8
comp=Z,1.8nm,0.3s,baz=89,slow=4.0,SNR=2.4
GOMU GeErMu 99.50 305 P Pdif 16 36 08.6 +0.6
GOMU pmax pmax
comp=Z,8.0nm,1.9s
A36M Sachs Harbour 99.58 15 Pdif Pdif 16 36 08.2 +1.3
baz=229
F33A 5 Mile Ranch, 99.69 45 P Pdif 16 36 08.2 +0.1
baz=250
R40A Maddies Statio 100.01 53 P Pdif 16 36 10.3 +0.6
baz=251
CCM Cathedral Cave 100.70 53 Pdif Pdif 16 36 12.7 -0.1
baz=252
AGMN Agassiz Nation 100.80 42 Pdif Pdif 16 36 13.3 +0.3
baz=250
AGMN Agassiz Nation 100.80 42 P Pdif 16 36 12.5 -0.4
baz=250
I37B Waseca 101.03 47 P Pdif 16 36 14.4 +0.3
baz=251
ULM Lac du Bonnet 101.44 41 P Pdif 16 36 14.0 -1.7
comp=Z,1.9nm,0.6s,baz=320,slow=7.8,SNR=3.5
ULM PKiKP PP 16 40 34.7 0.0
comp=Z,4.1nm,0.7s,baz=236,slow=1.6,SNR=4.4
ULM PKKPbc PKKPbc 16 52 22.2 -0.9
comp=Z,1.5nm,0.4s,baz=16,slow=3.2,SNR=4.3
SPMN Marine on St. 101.81 46 Pdif Pdif 16 36 18.5 +1.0
baz=252
SPMN Marine on St. 101.81 46 P Pdif 16 36 18.6 +1.1
baz=252
B35A Bob, Littlefor 102.17 43 P Pdif 16 36 19.3 +0.2
baz=252
LPAZ La Paz 102.37 113 P Pdif 16 36 23.5 +2.0
comp=Z,4.4nm,0.8s,baz=225,slow=3.1,SNR=16
LPAZ PKiKP PKiKP 16 40 38.8 -1.0
comp=Z,0.4nm,0.3s,baz=240,slow=10,SNR=2.3
LPAZ S SKSac 16 46 04.1 -4.1
comp=Z,0.3nm,0.4s,baz=186,slow=14,SNR=1.1
LPAZ PKKPbc PKKPbc 16 52 19.8 -0.5
comp=Z,2.8nm,0.7s,baz=62,slow=3.8,SNR=8.5
LRAL Lakeview Retre 102.48 59 Pdif Pdif 16 36 21.5 +0.7
baz=253
WVT Waverly 102.72 56 Pdif Pdif 16 36 22.4 +0.6
baz=253
JFWS Jewell Farm 102.88 49 Pdif Pdif 16 36 23.3 +1.0
baz=253
EYMN Ely 103.48 44 Pdif Pdif 16 36 26.0 +1.1
baz=254
L44A Lake County Fo 104.34 50 Pdif Pdif 16 36 29.5 +0.6
baz=254
CPUP Villa Florida 106.11 127 PKiKP PKiKP 16 40 45.2 -0.4
comp=Z,0.7nm,0.5s,baz=260,slow=3.5,SNR=4.5
CPUP PKKPbc PKKPbc 16 52 07.5 -1.3
comp=Z,1.9nm,0.8s,baz=171,slow=2.9,SNR=3.3
CPUP PKKP PKKPdf 16 52 19.9 +1.7
comp=Z,1.1nm,0.7s,baz=16,slow=4.6,SNR=3.8
ACSO Alum Creek Sta 107.47 53 PKiKP PKiKP 16 40 47.3 -0.4
baz=257
KMSC Kings Mountain 107.57 59 PKiKP PKiKP 16 40 48.0 0.0
baz=256
HYB Hyderabad 107.72 282 ePKiKP PKiKP 16 40 48.6 -0.2
HYB ePKKPbc PKKPbc 16 52 01.9 -1.6
HYB ePKKPdf PKKPdf 16 52 15.1 -0.9
HYB ePKKPab PKKPab 16 52 19.3 -0.3
P52A Corning 107.97 54 PKiKP PKiKP 16 40 48.3 -0.4
baz=257
SIV San Ignacio 108.51 116 PKiKP PKiKP 16 40 49.7 -0.7
comp=Z,1.9nm,0.5s,baz=153,slow=0.7,SNR=9.5
SIV S SKSac 16 46 33.9 -0.2
comp=Z,1.0nm,0.9s,baz=328,slow=19,SNR=5.7
SIV PKKPbc PKKPbc 16 52 00.3 -0.9
comp=Z,5.3nm,0.8s,baz=86,slow=4.8,SNR=18
SIV PKKP PKKPab 16 52 17.0 -0.7
comp=Z,3.6nm,1.0s,baz=69,slow=6.6,SNR=7.1
BLA Blacksburg 108.75 57 PKiKP PKiKP 16 40 50.4 +0.1
baz=257
O53A New Philadelph 108.79 53 PKiKP PKiKP 16 40 50.1 -0.1
baz=258
Q54A Coxs Mills 108.81 55 P PKiKP 16 40 49.9 -0.4
baz=258
Q54A P PKiKP 16 40 49.9 -0.4
baz=258
N53A Lisbon 109.19 53 P PKiKP 16 40 50.8 -0.1
baz=258
N53A P PKiKP 16 40 50.8 -0.1
baz=258
M53A WI Miller and 109.43 52 PKiKP PKiKP 16 40 50.8 -0.5
baz=259
ZSN Zaisan 109.54 314 ePKiKP PKiKP 16 40 50.8 -0.5
baz=314
ZSN ePP PP 16 41 32.1 -1.5
baz=314
MCWV Mont Chateau 109.70 54 PKiKP PKiKP 16 40 51.9 0.0
baz=258
ERPA Erie 110.06 52 PKiKP PKiKP 16 40 52.4 -0.1
baz=259
ZALV Zalesovo Beam 110.58 321 Pdiff Pdif 16 36 56.0 -0.2
comp=Z,0.5nm,0.6s,baz=111,slow=8.1,SNR=3.9
ZALV PKiKP PKiKP 16 40 51.9 -1.1
comp=Z,22nm,0.6s,baz=149,slow=1.0,SNR=97
ZALV PKKPbc PKKPbc 16 51 53.8 -1.6
comp=Z,1.8nm,0.8s,baz=226,slow=3.9,SNR=4.6
NRIK Noril'sk 110.88 338 dPKiKP PKiKP 16 40 52.6 -0.6
NRIK Noril'sk 110.88 338 PKiKP PKiKP 16 40 52.5 -0.7
comp=Z,13nm,0.8s,baz=103,slow=2.6,SNR=31
NRIK PP PP 16 41 38.6 -3.8
comp=Z,9.3nm,1.1s,baz=102,slow=5.9,SNR=10
MK31 Makanchi Array 111.17 313 dPKiKP PKiKP 16 40 53.4 -1.1
MKAR Makanchi Array 111.17 313 Pdiff Pdif 16 36 58.9 -0.3
comp=Z,1.6nm,0.8s,baz=89,slow=5.4,SNR=14
MKAR PKiKP PKiKP 16 40 53.7 -0.8
comp=Z,21nm,0.8s,baz=70,slow=2.6,SNR=95
MKAR PP PP 16 41 42.0 -3.2
comp=Z,5.6nm,1.0s,baz=90,slow=6.7,SNR=4.3
MKAR S SKSac 16 46 42.0 -1.6
comp=Z,0.9nm,0.8s,baz=127,slow=3.8,SNR=2.1
MKAR PKKPbc PKKPbc 16 51 51.5 -1.8
comp=Z,6.3nm,0.7s,baz=281,slow=3.0,SNR=4.6
SSPA Standing Stone 111.36 53 PKiKP PKiKP 16 40 54.9 -0.1
baz=260
MAKZ Makanchi 111.39 313 ↓PKiKP PKiKP 16 40 53.9 -1.0
SHLS Shalkode 112.63 309 iPKiKP PKiKP 16 40 56.2 -1.3
SHLS Shalkode 112.63 309 ePKiKP PKiKP 16 40 56.3 -1.3
baz=309
UZB Uzunbulak 112.95 309 iPKiKP PKiKP 16 40 57.4 -0.8
UZB e 16 41 56.8
UZB Uzunbulak 112.95 309 ePKiKP PKiKP 16 40 57.4 -0.8
baz=309
UZB ePP PP 16 41 56.9 -1.1
baz=309
BINY Binghamton 113.01 52 PKiKP PKiKP 16 40 58.2 0.0
baz=262
ZHN Zhinishke 113.38 309 iPKiKP PKiKP 16 40 58.1 -0.8
ZHN Zhinishke 113.38 309 ePKiKP PKiKP 16 40 58.2 -0.8
baz=309
SATY Saty 113.39 309 iPKiKP PKiKP 16 40 58.4 -0.6
SATY e 16 42 00.0
SATY Saty 113.39 309 ePKiKP PKiKP 16 40 58.4 -0.6
baz=309
SATY ePP PP 16 42 00.1 -0.9
baz=309
TDK Taldyqorghan 113.62 311 iPKiKP PKiKP 16 40 58.3 -0.9
TDK Taldyqorghan 113.62 311 ePKiKP PKiKP 16 40 58.3 -0.9
baz=311
ARXS Arharly 113.94 310 iPKiKP PKiKP 16 40 58.5 -1.5
KURK Kurchatov 114.02 317 iPKiKP PKPdf 16 40 59.2 -0.5
KURK Kurchatov 114.02 317 P PKPdf 16 40 59.0 -0.8
KURBB Kurchatov Arra 114.07 317 PKiKP PKPdf 16 40 59.2 -0.7
comp=Z,29nm,0.8s,baz=93,slow=1.8,SNR=49
LONY Lake Ozonia 114.33 49 PKiKP PKPdf 16 41 00.3 -0.2
baz=264
MDOK Medeo 114.39 309 iPKiKP PKPdf 16 40 59.9 -1.0
MDOK e 16 42 06.7
MDOK Medeo 114.39 309 ePKiKP PKPdf 16 40 60.0 -1.0
baz=309
MDOK ePP PP 16 42 06.8 -1.2
baz=309
PAL Palisades 114.40 53 PKiKP PKiKP 16 41 00.9 +0.1
baz=263
TNSS Tian-Shan 114.44 309 iPKiKP PKPdf 16 41 00.3 -1.1
TNSS Tian-Shan 114.44 309 ePKiKP PKPdf 16 41 00.3 -1.0
baz=309
AAA Alma-Ata 114.49 309 iPKiKP PKPdf 16 41 00.5 -0.5
AAA Alma-Ata 114.49 309 ePKiKP PKPdf 16 41 00.5 -0.5
baz=309
KSH Kashi 114.74 305 PKP PKPdf 16 41 01.3 -0.4
KSH PP PP 16 42 11.1 +0.6
ULHL Ulahol 114.87 308 P PKPdf 16 41 01.9 -0.1
SNR=24
TKM2 Tokmak 2 115.42 308 P PKPdf 16 41 02.0 -1.0
SNR=39
L61B Northampton 115.48 52 PKiKP PKPdf 16 41 02.4 -0.5
baz=264
KBK Karagaybulak 115.87 308 P PKPdf 16 41 03.4 -0.4
SNR=18
CHMS Chumysh 116.04 309 P PKPdf 16 41 03.4 -0.6
SNR=18
NIL Nilore 116.08 298 PKPdf 16 41 03.8 -0.5
NIL Nilore 116.08 298 PKiKP PKPdf 16 41 03.8 -0.5
UCH Uchtor 116.15 308 P PKPdf 16 41 04.5 -0.2
SNR=35
SGDS Sogindy 116.17 309 iPKiKP PKPdf 16 41 03.4 -0.8
SGDS e 16 42 19.0
SGDS Sogindy 116.17 309 ePKiKP PKPdf 16 41 03.4 -0.8
baz=309
SGDS ePP PP 16 42 19.0 -1.2
baz=309
LBNH Lisbon 116.19 50 PKiKP PKPdf 16 41 04.1 -0.1
baz=265
AAK Ala-Archa 116.20 308 P PKPdf 16 41 04.0 -0.5
SNR=16
AAK Ala-Archa 116.20 308 PKPdf 16 41 04.0 -0.5
AAK Ala-Archa 116.20 308 dPKiKP PKPdf 16 41 03.8 -0.7
AAK pmax pmax
comp=Z,13nm,0.7s
AAK Ala-Archa 116.20 308 iPKPdf PKPdf 16 41 03.6 -0.9
SNR=19
AAK Ala-Archa 116.20 308 PKP PKPdf 16 41 03.4 -1.0
comp=Z,13nm,0.8s,baz=160,slow=3.1,SNR=45
AAK PP PP 16 42 19.4 -1.1
comp=Z,3.3nm,0.8s,baz=104,slow=13,SNR=4.1
AAK PKKPbc PKKPbc 16 51 35.2 -1.3
comp=Z,4.6nm,0.7s,baz=189,slow=5.0,SNR=12
AAK Ala-Archa 116.20 308 P PKPdf 16 41 04.2 -0.3
USP Ospenovka 116.25 309 P PKPdf 16 41 03.8 -0.6
SNR=30
HRV Adam Dziewonsk 116.31 52 PKiKP PKiKP 16 41 04.5 +0.1
baz=265
BTLS Baital 116.71 311 iPKiKP PKPdf 16 41 04.4 -0.7
BTLS e 16 42 22.6
BTLS Baital 116.71 311 ePKiKP PKPdf 16 41 04.4 -0.7
baz=311
BTLS ePP PP 16 42 22.7 -1.1
baz=311
EKS2 Erkin-Say 116.73 308 P PKPdf 16 41 05.2 -0.2
SNR=27
LDAQ Lac Daran 116.88 46 PKPdf 16 41 04.7 -0.8
LMQ La Malbaie 117.48 46 PKPdf 16 41 06.0 -0.5
BRZS Berezniki 117.80 316 iPKiKP PKPdf 16 41 05.1 -2.0
PKME Peaks-Kenny Pk 118.12 49 PKiKP PKiKP 16 41 07.8 0.0
baz=268
NEEM North Greenlan 118.25 11 iP PKPdf 16 41 06.9 -0.7
NEEM lAmb lAmb 16 41 08.4
comp=Z,63nm,0.7s
KULLO Kullorsuaq 118.33 15 iP PKPdf 16 41 05.8 -1.6
VOI Vohitsoka 118.44 229 PKiKP 16 41 10.3 +0.8
VOI Vohitsoka 118.44 229 PKP PKiKP 16 41 10.1 +0.7
DZA Taraz 118.54 308 iPKiKP PKPdf 16 41 08.2 -0.6
DZA Taraz 118.54 308 ePKiKP PKPdf 16 41 08.2 -0.6
baz=308
NOR Nord 118.96 3 iP PKPdf 16 41 07.0 -1.5
BVAR Borovoye Array 119.14 320 PKiKP PKPdf 16 41 09.0 -0.6
BVAR Borovoye Array 119.14 320 PKP PKPdf 16 41 09.0 -0.6
comp=Z,97nm,0.8s,baz=81,slow=1.3,SNR=218
BVAR PKKPbc PKKPbc 16 51 24.6 -1.7
comp=Z,2.0nm,0.7s,baz=279,slow=2.9,SNR=5.9
BRVK Borovoye 119.21 320 PKPdf 16 41 09.4 -0.2
BRVK Borovoye 119.21 320 dPKiKP PKPdf 16 41 08.9 -0.8
BRVK pmax pmax
comp=Z,96nm,1.0s
BRVK Borovoye 119.21 320 P PKPdf 16 41 09.1 -0.6
BDFB Brasilia 119.33 123 PKP PKPdf 16 41 10.7 -0.5
comp=Z,10nm,0.7s,baz=300,slow=1.0,SNR=13
BDFB PKKPbc PKKPbc 16 51 23.9 -1.5
comp=Z,6.6nm,0.8s,baz=43,slow=3.7,SNR=6.8
UPNV Upernavik 119.38 17 iP PKPdf 16 41 08.3 -1.1
IUG luzhnay 119.47 307 iPKiKP PKPdf 16 41 10.4 -0.3
IUG e 16 42 41.8
IUG luzhnay 119.47 307 ePKiKP PKPdf 16 41 10.4 -0.3
baz=307
IUG ePP PP 16 42 41.9 -0.9
baz=307
SCHQ Schefferville 119.48 38 PKP PKPdf 16 41 09.3 -0.9
comp=Z,18nm,0.9s,baz=313,slow=2.4,SNR=12
SCHQ PKKPbc PKKPbc 16 51 23.4 -1.8
comp=Z,2.5nm,0.7s,baz=113,slow=1.0,SNR=4.2
BRLS Borolday 119.64 308 iPKiKP PKPdf 16 41 10.5 -0.4
BRLS e 16 42 43.5
BRLS Borolday 119.64 308 ePKiKP PKPdf 16 41 10.5 -0.4
baz=308
BRLS ePP PP 16 42 43.5 -0.3
baz=308
KBL Kabul 119.66 299 PKiKP 16 41 11.7 +0.2
KBL Kabul 119.66 299 PKiKP PKiKP 16 41 11.7 +0.2
KBL Kabul 119.66 299 P PKiKP 16 41 11.7 +0.2
SNR=33
CHM Chimkent 119.79 307 iPKiKP PKPdf 16 41 10.7 -0.5
CHM e 16 42 43.8
CHM Chimkent 119.79 307 ePKiKP PKPdf 16 41 10.7 -0.5
baz=308
CHM ePP PP 16 42 43.9 -0.9
baz=308
ABPO Ambohimpanom 119.98 232 PKiKP 16 41 13.4 +0.8
ABPO Ambohimpanom 119.98 232 PKiKP PKiKP 16 41 13.4 +0.8
SIMJ Simiganj 120.05 303 PKPdf 16 41 11.8 -0.2
OPO Ambohidratompo 120.29 232 PKP PKiKP 16 41 13.5 +0.3
comp=Z,28nm,0.7s,baz=159,slow=1.5,SNR=39
BATG Bathurst New B 120.38 47 PKPdf 16 41 11.6 -0.5
FDF Fort de France 120.47 85 PKiKP 16 41 13.4 0.0
FDF Fort de France 120.47 85 PKiKP PKiKP 16 41 13.4 0.0
NUUG Nuugaatsiaq 120.75 18 iP PKPdf 16 41 10.9 -1.2
UMMG Uummannaq 121.46 18 iP PKPdf 16 41 12.0 -1.4
KBS Kingsbay 121.89 358 PKiKP 16 41 14.7 +0.3
KBS Kingsbay 121.89 358 dPKiKP PKPdf 16 41 14.1 -0.1
KBS pmax pmax
comp=Z,64nm,0.8s
KBS Kingsbay 121.89 358 ePKPdf PKiKP 16 41 14.7 +0.3
KBS Kingsbay 121.89 358 iP PKPdf 16 41 14.0 -0.1
SPA0 Spitsbergen Ar 122.40 356 ePKPdf PKPdf 16 41 15.2 0.0
SPITS Spitsbergen Ar 122.40 356 PKP PKPdf 16 41 14.7 -0.5
comp=Z,116nm,0.7s,baz=69,slow=4.6,SNR=83
SPITS PKKPbc PKKPab 16 51 12.6 -0.5
comp=Z,9.2nm,0.9s,baz=148,slow=6.6,SNR=5.1
SPB2 Spitsbergen Ar 122.40 356 PKiKP 16 41 15.3 -0.1
ILULI Ilulissat 122.47 20 iP PKPdf 16 41 14.4 -1.1
JANB Januaria 122.54 125 eP PKPdf 16 41 16.6 -0.8
SJMB Sao Joao De Ma 122.55 130 eP PKPdf 16 41 16.8 -0.3
RIB01 Linhares ES 122.70 132 eP PKPdf 16 41 16.7 -0.8
HOPEN Hopen 123.25 354 ePKPdf PKPdf 16 41 16.9 +0.1
SMTB Santa Maria do 123.44 117 eP PKiKP 16 41 19.2 -0.1
HSPB Hornsund (broa 123.58 356 PKP PKPdf 16 41 17.0 -0.5
MCPB Macapa, AP 123.64 105 eP PKPdf 16 41 18.8 -0.6
SDBA SAO DESIDERIO 123.65 122 eP PKPdf 16 41 19.4 -0.1
SFJD Kangerlussuaq 123.69 22 PKPdf 16 41 17.2 -0.6
SFJD Kangerlussuaq 123.69 22 PKiKP PKPdf 16 41 17.2 -0.6
SFJD Kangerlussuaq 123.69 22 iP PKPdf 16 41 16.6 -1.3
SUR Sutherland 123.69 200 PKiKP 16 41 19.6 0.0
SUR Sutherland 123.69 200 PKP PKiKP 16 41 19.9 +0.3
comp=Z,94nm,0.8s,baz=143,slow=1.8,SNR=70
SUR PKKPbc PKKPbc 16 51 08.8 -1.4
comp=Z,12nm,1.0s,baz=4.6,slow=4.0,SNR=5.8
SUMG Summit 123.84 13 iP PKPdf 16 41 18.0 -0.6
SVE Sverdlovsk 124.13 325 ePKiKP PKPdf 16 41 18.7 -0.3
SVE pmax pmax
comp=Z,146nm,0.9s
NUUK Nuuk 124.53 25 iP PKPdf 16 41 18.9 -0.6
GUA01 Guaratinga, BA 124.93 130 eP PKPdf 16 41 21.2 -0.6
MDP Montagnes des 125.31 99 PKP PKPdf 16 41 22.1 -0.5
comp=Z,20nm,0.9s,baz=245,slow=2.2,SNR=5.4
ARU Arti 125.34 325 PKiKP PKPdf 16 41 21.6 -0.2
ARU Arti 125.34 325 iPKiKP PKPdf 16 41 20.8 -0.5
ARU 16 43 18.6
ARU PPP PPP 16 46 07.1
ARU 16 47 39.7
ARU Arti 125.34 325 PKP PKPdf 16 41 21.5 +0.1
comp=Z,129nm,0.7s,baz=84,slow=0.8,SNR=73
ARU PKKPbc PKKPbc 16 51 03.5 +0.5
comp=Z,7.2nm,0.6s,baz=288,slow=3.2,SNR=10
DY2G Dye2 125.45 21 iP PKPdf 16 41 20.3 -1.3
BOSA Boshof 125.49 206 PKP PKiKP 16 41 23.8 +0.6
comp=Z,44nm,0.9s,baz=142,slow=2.1,SNR=42
BOSA PKKPbc PKKPbc 16 51 01.7 -1.2
comp=Z,2.3nm,0.6s,baz=321,slow=4.5,SNR=7.1
BJO1 Bjornoya 125.71 354 ePKPdf PKPdf 16 41 21.7 +0.2
ICESG Greenland Ices 125.91 17 iP PKPdf 16 41 21.3 -1.3
TMAB Tom-Au,PA,Br 126.27 110 eP PKiKP 16 41 24.7 -0.2
JLN Jalan Bani Buh 126.33 283 P PKPdf 16 41 24.2 -0.1
SNR=13
WBK Wadi Bani Khal 126.82 283 P PKPdf 16 41 25.4 +0.1
AKTO Aktyubinsk 127.11 318 PKP PKPdf 16 41 24.5 -0.4
comp=Z,63nm,0.8s,baz=77,slow=1.9,SNR=117
AKTO pPKP pPKPdf 16 43 35.7 +1.2
comp=Z,12nm,0.9s,baz=20,slow=2.0,SNR=5.6
WSAR Wadi Sarin 127.23 284 PKP PKPdf 16 41 25.9 -0.1
comp=Z,28nm,1.1s,baz=163,slow=1.3,SNR=17
WSAR PKKPbc PKKPbc 16 50 55.9
comp=Z,3.3nm,1.0s,baz=226,slow=0.3,SNR=3.5
IVI Ivigtut 127.31 28 iP PKPdf 16 41 23.6 -1.3
MHTO MHTO 127.44 281 P PKPdf 16 41 26.0 -0.4
SNR=13
JMDO Jabal Madar 127.56 283 P PKPdf 16 41 26.5 -0.2
SNR=12
DQM DQM 127.63 279 P PKPdf 16 41 26.9 +0.1
SMDO Samad 127.73 283 P PKPdf 16 41 26.8 -0.3
SNR=18
BIDO Bidbid 127.73 284 P PKPdf 16 41 27.0 +0.1
VADS Vadso 128.17 348 ePKPdf PKPdf 16 41 26.4 0.0
JASK Jask - Hormozg 128.30 287 P PKiKP 16 41 28.5 -0.1
ISOG Isortoq, Green 128.41 20 iP PKPdf 16 41 26.4 -0.5
BSY Bisya 128.45 283 P PKPdf 16 41 27.6 -0.7
SNR=11
HOQ Hoqain 128.48 284 P PKPdf 16 41 27.7 -0.7
SNR=6.9
LBTB Lobatse 128.50 208 PKP PKPdf 16 41 28.1 -0.4
comp=Z,16nm,0.7s,baz=164,slow=3.7,SNR=24
LBTB SKPbc SKPbc 16 43 59.0
comp=Z,9.1nm,0.9s,baz=125,slow=8.1,SNR=4.5
NRS Narsarsuaq 128.50 27 PKPdf 16 41 26.7 -0.5
NRS Narsarsuaq 128.50 27 PKiKP PKPdf 16 41 26.7 -0.5
NRS Narsarsuaq 128.50 27 iP PKPdf 16 41 25.8 -1.4
GEYT Alibeck 128.60 302 PKhKP PKPpre 16 41 17.1
comp=Z,4.2nm,0.8s,baz=245,slow=6.0,SNR=6.0
GEYT PKP PKPdf 16 41 28.2 0.0
comp=Z,52nm,0.8s,baz=158,slow=0.8,SNR=56
GEYT pPKP pPKPdf 16 43 38.7 +0.8
comp=Z,29nm,1.2s,baz=64,slow=3.4,SNR=8.8
GEYT SKPbc SKPbc 16 43 58.7
comp=Z,14nm,1.0s,baz=112,slow=3.5,SNR=5.1
SCO Scoresbysund 128.67 10 PKiKP PKiKP 16 41 27.9 -0.1
SCO Scoresbysund 128.67 10 PKiKP PKiKP 16 41 27.9 -0.1
SCO Scoresbysund 128.67 10 iP PKPdf 16 41 26.8 -0.5
HAMF Hammerfest 128.69 351 ePKPdf PKPdf 16 41 27.0 -0.4
LVZ Lovozero 128.78 345 PKPdf 16 41 27.1 -0.6
LVZ Lovozero 128.78 345 cPKiKP PKPdf 16 41 27.6 -0.1
LVZ pmax pmax
comp=Z,198nm,2.5s
ANGG Ammassalik, Gr 128.79 20 iP PKPdf 16 41 26.4 -1.2
KEV Kevo 128.92 349 PKPdf 16 41 27.8 0.0
KEV Kevo 128.92 349 PKiKP PKPdf 16 41 27.8 0.0
ARQ Araqi 129.16 283 P PKPdf 16 41 29.0 -0.7
SNR=10
KIRV Kirov 129.17 330 dPKiKP PKPdf 16 41 28.2 -0.3
KIRV Kirov 129.17 330 pPKPdf 16 43 38.5 +0.4
comp=Z,8.1nm,0.6s,baz=219,slow=2.3,SNR=2.4
KIRV SKPbc SKPbc 16 43 59.8 +1.7
comp=Z,34nm,0.9s,baz=124,slow=2.5,SNR=5.9
SOHO SOHO 129.27 284 iPKPdf PKPdf 16 41 29.1 -0.7
SNR=37
SOHO SOHO 129.27 284 P PKPdf 16 41 29.3 -0.5
ARA0 ARCESS Array S 129.38 349 ePKPdf PKPdf 16 41 28.3 -0.4
ARCES ARCESS Array B 129.38 349 PKhKP PKPpre 16 41 16.9
comp=Z,8.4nm,1.0s,baz=0.0,slow=0.4,SNR=5.6
ARCES PKP PKPdf 16 41 28.3 -0.4
comp=Z,62nm,0.7s,baz=26,slow=0.9,SNR=95
ARCES SKPbc SKPbc 16 44 00.6 +2.0
comp=Z,23nm,1.0s,baz=1.9,slow=3.6,SNR=5.2
DMTO DMTO 129.56 276 P PKPdf 16 41 30.1 -0.4
MDH Madha 129.63 286 PKPdf PKPdf 16 41 30.0 -0.5
MDH Madha 129.63 286 P PKPdf 16 41 29.9 -0.5
UOSS Minazif 129.67 285 PKPdf 16 41 29.9 -0.7
UOSS Minazif 129.67 285 iPKPdf PKPdf 16 41 29.9 -0.7
SNR=5.2
UOSS Minazif 129.67 285 P PKPdf 16 41 29.7 -0.9
HATD Hatta, Dubai 129.72 285 iPKiKP PKPdf 16 41 30.4 -0.3
SNR=22
HATD Hatta, Dubai 129.72 285 P PKPdf 16 41 30.4 -0.3
SNR=7.8
JMIC Jan Mayen 129.74 4 ePKPdf PKiKP 16 41 30.6 +0.5
MSFE Esma-Masafi 129.76 286 iPKiKP PKPdf 16 41 30.6 -0.2
SNR=17
MASF Masafi 129.77 286 P PKPdf 16 41 30.5 -0.3
SNR=7.1
ASHO Ashiyiah 129.77 285 iPKiKP PKPdf 16 41 30.4 -0.4
SNR=19
ASHO Ashiyiah 129.77 285 P PKPdf 16 41 30.4 -0.4
SNR=8.5
ALNE Al Ain 129.96 284 iPKPdf PKPdf 16 41 30.5 -0.7
SNR=7.6
ALNE Al Ain 129.96 284 P PKPdf 16 41 31.0 -0.2
SNR=18
NBLA Lagarto - SE 130.03 126 eP PKPdf 16 41 30.7 -0.9
JETT Jettan, Norway 130.16 351 ePKPdf PKPdf 16 41 29.7 -0.5
NAZ Nazwa, Dubai 130.17 285 iPKiKP PKPdf 16 41 31.3 -0.2
SNR=17
NAZ Nazwa, Dubai 130.17 285 P PKPdf 16 41 31.3 -0.2
SNR=13
FAQ Al Faqa, Dubai 130.20 285 PKiKP PKPdf 16 41 31.5 -0.1
RBK Rabkut 130.20 275 P PKPdf 16 41 31.8 0.0
SNR=10
KTK1 Kautokeino 130.22 350 ePKPdf PKPdf 16 41 29.6 -0.7
TRO Tromso 130.29 352 ePKPdf PKPdf 16 41 30.1 -0.3
UMZA Um Al Zommool 130.31 282 P PKPdf 16 41 31.3 -0.6
DOK Doka 130.51 277 P PKPdf 16 41 32.0 -0.3
SNR=11
WHFO Wadi Hawf 130.69 276 P PKPdf 16 41 32.2 -0.6
SNR=8.7
AJN Ajban 130.72 285 P PKPdf 16 41 32.5 0.0
SNR=5.2
ABTO Aybut 131.01 275 P PKPdf 16 41 33.4 0.0
SNR=7.6
MZWR Madinat Zayed 131.62 284 P PKPdf 16 41 34.4 +0.1
KLMR Klimovskoe 132.17 336 ePKiKP PKPdf 16 41 32.5 -1.7
KLMR e 16 44 04.7
KLMR pmax pmax
comp=Z,133nm,1.1s
LOF Lofoten 132.34 354 ePKPdf PKiKP 16 41 35.0 -0.5
STEI Steigen 132.35 353 ePKPdf PKPdf 16 41 34.1 -0.2
GHWR Ruwais 132.56 284 P PKPdf 16 41 35.7 -0.3
JRN Qarnain Island 132.70 285 P PKPdf 16 41 36.0 -0.3
SNR=5.8
BELG Belogornoye 132.71 323 dPKiKP PKPdf 16 41 34.8 -0.6
BELG Belogornoye 132.71 323 PKhKP PKPpre 16 41 23.0
comp=Z,10nm,0.8s,baz=107,slow=2.3,SNR=7.4
BELG PKP PKPdf 16 41 35.5 +0.1
comp=Z,390nm,0.9s,baz=269,slow=1.2,SNR=6.1
BELG pPKP pPKPdf 16 43 45.3 +0.2
comp=Z,30nm,0.9s,baz=96,slow=19,SNR=2.3
BELG SKPbc SKPbc 16 44 11.7 +0.7
comp=Z,102nm,1.0s,baz=90,slow=1.6,SNR=9.1
FAUS Fauske 132.87 353 ePKPdf PKPdf 16 41 35.4 +0.1
NBLV Livramento - P 132.96 123 eP PKPdf 16 41 37.1 -0.1
JOF Joensuu 133.49 342 eP PKPdf 16 41 35.1 -1.5
SLWR Sila 133.65 284 P PKPdf 16 41 37.8 -0.3
BORG Borgarnes 133.82 13 iPKiKP PKPdf 16 41 37.0 -0.2
KONS Konsvik 133.96 353 ePKPdf PKPdf 16 41 37.3 -0.1
MOR8 Moi Rana 134.13 353 ePKPdf PKPdf 16 41 37.0 -0.7
STOK Stokkvaagen 134.13 353 ePKPdf PKPdf 16 41 37.4 -0.3
SHMA Al-Shehemyia 134.48 286 P PKPdf 16 41 39.7 +0.1
SNR=5.9
SMRA Abu-Samra 134.51 284 P PKPdf 16 41 39.9 +0.3

SNR=5.7
RCBR Riachuelo 134.68 122 PKhKP PKPpre 16 41 28.8
comp=Z,4.7nm,0.9s,baz=110,slow=13,SNR=3.5
RCBR PKP **PKPdf 16 41 39.8 -0.6**
comp=Z,10.0nm,0.7s,baz=133,slow=3.9,SNR=7.2
RCBR SKPbc **SKPbc 16 44 19.3 +0.6**
comp=Z,11nm,0.7s,baz=214,slow=3.2,SNR=13
VALR Valaam 134.82 340 *de*PKIKP **PKPdf 16 41 39.1 0.0**
LSZ Lusaka 135.31 218 PKP **PKPdf 16 41 40.2 -1.4**
comp=Z,37nm,0.7s,baz=175,slow=2.4,SNR=20
LSZ SKPbc **SKPbc 16 44 23.0 +2.3**
comp=Z,14nm,0.9s,baz=159,slow=2.3,SNR=7.6
VAF Ylistaro 135.62 346 *e*P **PKPdf 16 41 39.4 -1.2**
KEF Keuruu 135.86 344 *e*P **PKPdf 16 41 37.6 -3.4**
MAK Makhachkala 135.89 311 *e*P **Pdif 16 38 46.6 -2.5**
MAK *i* 16 41 43.1
MAK *e* 16 43 50.5
MAK *e* 16 44 27.1
MAK *e*PPP PPP 16 47 33.1
MAK *e* 16 48 02.9
MAK pmax pmax
comp=Z,120nm,0.9s
NSS Namsos 136.00 353 *e*PKPdf **PKPdf 16 41 40.6 -0.6**
MOS Moscow 136.12 331 *i* PKIKP **PKPdf 16 41 40.3 -1.4**
MOS *e* 16 43 39.7
MOS *e* 16 48 05.4
MOS pmax pmax
comp=Z,100nm,0.8s
MOS pmax pmax
comp=Z,123nm,0.9s
FINES FINESS Array B 136.16 343 PKhKP PKPpre 16 41 28.1
comp=Z,2.2nm,0.6s,baz=59,slow=4.3,SNR=14
FINES PKP **PKPdf 16 41 39.6 -1.9**
comp=Z,53nm,0.8s,baz=27,slow=1.7,SNR=27
FINES SKPbc **SKPbc 16 44 23.1 +1.6**
comp=Z,57nm,0.8s,baz=63,slow=4.7,SNR=22
FINES SKKPbc **SKKPbc 16 53 20.3 -2.9**
comp=Z,1.5nm,0.7s,baz=128,slow=3.1,SNR=5.0
PUL Pulkovo 136.21 339⇑ *e*PKIKP **PKPdf 16 41 41.6 -0.1**
VRH Novokhopyorsk 136.53 324 *e*PKIKP **PKPdf 16 41 40.5 -2.1**
VRH pmax pmax
comp=Z,120nm,0.6s
OBN Obninsk 136.98 331⇑P **PKPdf 16 41 42.8 -0.5**
OBN Obninsk 136.98 331 **PKPdf 16 41 43.5 +0.3**
OBN Obninsk 136.98 331⇓ *e*PKIKP **PKPdf 16 41 42.9 -0.4**
OBN *e*SS SS 17 02 29.9 +34
OBN pmax pmax
comp=Z,75nm,0.8s
GROC Groznyy 137.03 311 *i* PKHKP PKPpre 16 41 33.0
GROC pmax pmax
comp=Z,40nm,0.6s
LPSR Galich'ya Gora 137.30 327 *e*PKIKP **PKPdf 16 41 42.8 -1.2**
LPSR pmax pmax
comp=Z,120nm,1.0s
RAF Rauma 137.61 345 *e*P **PKPdf 16 41 40.3 -4.0**
MEF Metsahovi 137.64 343 *e*P **PKPdf 16 41 40.8 -3.6**
VORR Voronezh 137.65 325 *e*PKIKP **PKPdf 16 41 45.0 +0.3**
VORR pmax pmax
comp=Z,93nm,0.9s
VSR Storozhevoye 137.91 325 *e*PKIKP **PKPdf 16 41 43.7 -1.5**
VSR pmax pmax
comp=Z,100nm,1.0s
VORD Divnogorie 137.98 325 *e*PKIKP **PKPdf 16 41 43.0 -2.3**
VORD pmax pmax
comp=Z,70nm,0.7s
GNI Garni 138.60 307 *de*PKIKP **PKPdf 16 41 47.0 0.0**
GNI Garni 138.60 307 PKPdf **PKPdf 16 41 46.7 -0.3**
GNI Garni 138.60 307 PKhKP PKPpre 16 41 37.3
comp=Z,5.5nm,0.7s,baz=280,slow=20,SNR=3.5
GNI PKP **PKPdf 16 41 46.7 -0.3**
comp=Z,41nm,0.9s,baz=304,slow=6.2,SNR=17
GNI Garni 138.60 307 P **PKPdf 16 41 47.6 +0.6**
DOMB Dombas 138.72 355 *e* PKPpre 16 41 37.7
AKN Aaknes 138.74 356 *e* PKPpre 16 41 38.1
AAL Aland 138.76 346 *e*P PKPpre 16 41 38.1
KBZ Khabaz 138.87 313 *de*PKIKP **PKPdf 16 41 46.6 -0.5**
KBZ Khabaz 138.87 313 PKhKP PKPpre 16 41 39.2
comp=Z,4.0nm,0.9s,baz=87,slow=9.3,SNR=4.8
KBZ PKP **PKPdf 16 41 46.8 -0.3**
comp=Z,14nm,0.8s,baz=49,slow=7.7,SNR=6.5
KIV Kislovodsk 138.94 313 *e*PKIKP **PKPdf 16 41 44.6 -2.8**
KIV *e* 16 41 47.0
KIV *e* 16 44 44.9
KIV pmax pmax
comp=Z,37nm,1.1s
KIV Kislovodsk 138.94 313 PKPdf **PKPdf 16 41 47.1 -0.3**
RAYN Ar Rayn 139.22 282⇑ PKHKP PKPpre 16 41 40.2
RAYN Ar Rayn 139.22 282 *i* PKiKP **PKPdf 16 41 48.7 +0.2**
SNR=8.4
RAYN Ar Rayn 139.22 282 P **PKPdf 16 41 48.6 +0.2**
FOO Floro 139.43 357 *e* PKPpre 16 41 40.9
NB2 NORSAR Subarra1 139.48 353 PKP PKPpre 16 41 39.4
comp=Z,11nm,0.8s,baz=16,slow=3.2
NB2 pPKP **SKiKP 16 44 32.6 -1.1**
comp=Z,38nm,0.9s,baz=11,slow=2.8
NB2 SKKP 16 53 11.0
comp=Z,43nm,1.7s,baz=191,slow=4.6
NB2 NORSAR Subarra1 139.48 353 PKPab PKPpre 16 41 39.4
baz=16,slow=3.2
NOA NORSAR Array B 139.48 353 PKhKP PKPpre 16 41 39.5
comp=Z,23nm,0.8s,baz=14,slow=2.3,SNR=63
NOA SKPbc **SKiKP 16 44 32.5 -1.3**
comp=Z,15nm,0.8s,baz=15,slow=4.4,SNR=11
NOA SKKPbc **SKKPbc 16 53 11.4 +0.8**
comp=Z,5.9nm,1.1s,baz=192,slow=4.3,SNR=4.1
UPP Uppsala 139.56 347 *e*P PKPpre 16 41 40.8
ERBR Yeremizino-Bor 139.72 317 *i* PKHKP PKPpre 16 41 43.1
ERBR pmax pmax
comp=Z,158nm,0.9s
NC602 NORSAR Array S 139.73 352 *e* PKPpre 16 41 40.2
HYA Hoyanger 139.80 356 *e* PKPpre 16 41 41.4
SUE Sulen 139.98 357 *e* PKPpre 16 41 42.7
HFS Hagfors 140.01 350 PKhKP PKPpre 16 41 40.9
comp=Z,34nm,0.6s,baz=64,slow=3.8,SNR=146
HFS SKPbc **SKPbc 16 44 32.8 +0.4**
comp=Z,24nm,0.8s,baz=190,slow=0.9,SNR=11
HFS SKKPbc **SKKPab 16 53 08.2 -0.1**
comp=Z,3.0nm,0.8s,baz=117,slow=5.6,SNR=4.2
SKAR Skarslia 140.13 355 *e* PKPpre 16 41 42.6
ASK Askoy 140.53 357 *e* PKPpre 16 41 43.9
OSL Oslo 140.61 353 *e* PKPpre 16 41 43.3
BER Bergen 140.63 357 *e* PKPpre 16 41 43.4
ISAL Salakas 140.89 338 *e*P PKPpre 16 41 46.1
VIKU Vikbolandet 141.00 347 *e*P PKPpre 16 41 45.2
KONO Kongsberg 141.02 353⇑ PKHKP PKPpre 16 41 45.0
KONO Kongsberg 141.02 353 *e* PKPpre 16 41 44.7
ODD1 Odda 141.02 356 *e* PKPpre 16 41 44.6
MNK Minsk 141.06 336 *i* PKHKP PKPpre 16 41 46.3
MNK *i* 16 41 49.8
MNK *i* 16 43 55.1
MNK *i* 16 44 55.9
MNK *i* PPP PPP 16 48 08.4
MNK *i* SS SS 17 02 42.0 -0.9
MNK *i* SSS SSS 17 08 09.2
MNK pmax pmax
comp=Z,150nm,0.9s
VSVD Vaisvydziai 141.30 340 *e*P PKPpre 16 41 46.8
STRU Stroemstad 141.43 352 *i* P PKPpre 16 41 46.1
STRU Stroemstad 141.43 352 *e*P PKPpre 16 41 46.2
BLS5 Blasjo 141.52 356 *e* PKPpre 16 41 46.1
PABE Paberze 141.68 339 *e*P PKPpre 16 41 47.2
KMY Karmoy 141.80 357 *e*PKPdf PKPpre 16 41 48.2
PBUR Paburge 141.89 341 *e*P PKPpre 16 41 47.4
ANN Anapa 142.06 317 *i* PHKKP PKPpre 16 41 48.4
ANN pmax pmax
comp=Z,120nm,1.2s
TJOU Tjoern 142.34 351 *i* P PKPpre 16 41 48.6
HOMB Homborsund 142.49 354 *e*PKPdf PKPpre 16 41 49.8
HOMB Homborsund 142.49 354 *i* P PKPpre 16 41 50.1
HOMB IAmb IAmb 16 41 51.4
comp=Z,250nm,0.9s
LEWI Lewis, Hebride 142.49 7 *e*P PKPpre 16 41 48.3
SNART Snartemo 142.54 355 *e*PKPdf PKPpre 16 41 50.2
SNART Snartemo 142.54 355 *i* P PKPpre 16 41 50.2
SHEL Horse Pasture 142.54 169 **PKPdf 16 41 54.1 -0.6**
SHEL Horse Pasture 142.54 169 PKIKP **PKPdf 16 41 54.1 -0.6**
BORU Boraas 142.54 350 *i* P PKPpre 16 41 49.2
LODK Lodwar 142.59 247 **PKPdf 16 41 53.3 -1.5**
LODK Lodwar 142.59 247 P **PKPdf 16 41 53.4 -1.5**
SNR=51
LINV Loch Inver, As 142.66 6 *e*P **PKPdf 16 41 48.9 -4.5**
ONAU Onsala 142.91 351 *i* P **PKPdf 16 41 50.5 -3.5**
FABU Falkenberg 143.16 350 *i* P PKPab 16 41 51.5 -0.8
SUW Suwalki 143.16 339 PKP PKPab 16 41 52.3 -0.1
SUW Suwalki 143.16 339 *e*P PKPab 16 41 52.5 +0.1
BLEU Blekinge 143.22 347 *i* P PKPab 16 41 51.4 -1.1
AKASG Malin Array Be 143.23 330 PKhKP PKPpre 16 41 52.0
comp=Z,283nm,0.8s,baz=42,slow=4.4,SNR=896
AKASG SKPbc **SKiKP 16 44 41.9 +0.1**
comp=Z,18nm,1.0s,baz=37,slow=2.2,SNR=7.5
AKASG SKKPbc **SKKPab 16 52 52.0 -2.0**
comp=Z,2.6nm,0.8s,baz=237,slow=3.4,SNR=9.1
AKBB Malin Array Si 143.23 330 *i* PKHKP PKPpre 16 41 51.9
KIEV Kiev 143.24 330 ⇓P PKPab 16 41 52.2 -0.6
KIEV Kiev 143.24 330 PKPab 16 41 52.4 -0.4
KIEV Kiev 143.24 330 PKIKP PKPab 16 41 52.4 -0.4
KIEV Kiev 143.24 330 *i* PKPab PKPab 16 41 52.1 -0.6
SNR=330
MCD Coleburn Disti 143.38 4 *e*P PKPab 16 41 52.5 -0.6
KPL Plockton 143.41 6 *e*P PKPab 16 41 52.5 -0.7
DEL Delary 143.46 348 *i* P PKPab 16 41 52.9 -0.5
DEL Delary 143.46 348 *e*P PKPab 16 41 53.3 -0.1
KLNR Kaliningrad 143.61 342 *d* iPKIKP PKPab 16 41 53.9 -0.2
BJUU Bjuv 143.99 349 *i* P PKPbc 16 41 54.7 -0.6
SIM Simferopol' 144.05 319 *e*PKIKP **PKPab 16 41 56.1 0.0**
SIM pmax pmax
comp=Z,1µm,0.8s
DRUM Mains of Drumt 144.09 4 *e*P PKPbc 16 41 54.5 -1.1
MBAR Mbarara 144.12 237 *d* iPKIKP **PKPdf 16 41 58.4 +0.7**
MBAR Mbarara 144.12 237 P **PKPdf 16 41 58.5 +0.9**
MUD Monsted U'grnd 144.20 353 *i* P PKPbc 16 41 54.9 -1.0
MUD *i* 16 41 55.6
LUNU Lund 144.33 348 *i* P PKPbc 16 41 55.6 -0.7
COP Copenhagen 144.46 349 *i* P **PKPdf 16 41 56.0 -0.6**
COP *i* 16 41 56.4
INVG Invergeldie, C 144.46 5 *e*P **PKPdf 16 41 55.5 -1.2**
LAWE Loch Awe, Argy 144.50 7 *e*P **PKPdf 16 41 55.8 -0.9**
BSD Bornholm Skovb 144.51 347 *i* P **PKPdf 16 41 55.9 -0.9**
BSD *i* 16 41 56.5
BSD Bornholm Skovb 144.51 347 *e*P PKPbc 16 41 57.0 0.0
DIKM Dikmen 144.87 313⇑P PKPbc 16 41 58.6 +0.1
PGBU Glenifferbraes 145.03 6 *e*P **PKPdf 16 41 57.2 -0.4**
SSRD Sdr. Stenderup 145.09 352 *i* P **PKPdf 16 41 57.8 +0.1**
SSRD *i* 16 41 58.7
RGN Rugen 145.37 348 *e*P **PKPbc 16 41 59.7 +0.2**
SORM Soroca 145.39 328⇑P **PKPdf 16 41 58.0 -0.5**
SORM Soroca 145.39 328⇑ PKIKP **PKPdf 16 41 58.0 -0.5**
HORU Horodok 145.56 331 PKIKP **PKPdf 16 41 58.6 -0.2**
CLGH Cloghs, Cushen 145.57 8 *e*P **PKPdf 16 41 58.9 +0.3**
EKA Eskdalemuir Ar 145.62 5 PKPbc **PKPbc 16 41 59.7 -0.6**
comp=Z,147nm,0.8s,baz=335,slow=2.4,SNR=228
EKA pPKPbc pPKPab 16 44 07.3 +0.3
comp=Z,7.9nm,1.0s,baz=0.0,slow=2.8,SNR=3.1
EKA SKKPbc SKKPbc 16 52 43.6 -2.0
comp=Z,8.9nm,0.8s,baz=166,slow=4.8,SNR=12
PURM Purcari 145.62 324⇓P **PKPdf 16 41 58.9 0.0**
GKP Gorka Klasztor 145.63 343 PKP **PKPdf 16 41 59.1 +0.4**
GKP Gorka Klasztor 145.63 343 *e*P **PKPbc 16 42 00.1 -0.2**
ESK Eskdalemuir 145.63 5 *e*P **PKPdf 16 41 59.4 +0.7**
ESK Eskdalemuir 145.63 5 *e*P **PKPdf 16 41 59.2 +0.4**
ESK Eskdalemuir 145.63 5 PKIKP **PKPdf 16 41 59.4 +0.7**
NEWG New Galloway 145.75 6 *e*P **PKPdf 16 41 58.4 -0.5**
BEL Belsk 145.78 338 PKP **PKPdf 16 41 59.8 +0.7**
KIS Kishinev 145.89 326⇑P **PKPbc 16 42 01.2 0.0**
KIS Kishinev 145.89 326⇑ PKIKP **PKPbc 16 42 01.2 0.0**
MILM Milestii Mici 145.94 326 ⇓ *i*PKP **PKPdf 16 41 58.0 -1.5**
comp=Z,880nm,1.1s
MILM Milestii Mici 145.94 326⇑P **PKPdf 16 41 59.4 -0.1**
MILM Milestii Mici 145.94 326⇑ PKIKP **PKPdf 16 41 59.4 -0.1**
LVV L'vov 146.16 333 *i* PKIKP **PKPdf 16 41 58.7 -1.1**
LVV *e* 16 45 27.9
LVV *e* 16 48 09.6
LVV *e*PPP PPP 16 48 53.3
DRBR Darabani 146.19 329⇓P **PKPbc 16 42 01.8 -0.3**
EDMD Edmundbyers 146.20 3 *e*P **PKPdf 16 41 59.7 0.0**
H10S3 ASCENSION HYDR 146.25 151 PKPbc **PKPab 16 42 04.1 -1.0**
baz=112,slow=75,SNR=3.2
H10S2 ASCENSION HYDR 146.25 151 PKPbc **PKPbc 16 42 03.6 +0.6**
baz=108,slow=75,SNR=5.5
KESW Keswick, Cumbr 146.37 5 *e*P **PKPdf 16 41 59.9 -0.1**
IAS Iasi 146.42 327⇓P **PKPbc 16 42 03.0 +0.3**
IAS Iasi 146.42 327⇓ PKP2 **PKPbc 16 42 03.0 +0.3**
SLPK Sellapark 146.49 5 *e*P **PKPab 16 42 05.2 0.0**
FKH Fakeheh 146.49 301 *e*P **PKPdf 16 42 01.3 +0.3**
BSEG Bad Segeberg 146.49 350 *e*PKPbc **PKPbc 16 42 03.0 +0.3**
baz=17,slow=2.4
ASF Jabal al Asfar 146.53 297 PKP **PKPdf 16 42 01.4 +0.3**
comp=Z,132nm,0.8s,baz=150,slow=1.9,SNR=86
ASF PKPbc **PKPbc 16 42 04.4 +0.7**
comp=Z,132nm,0.8s,baz=152,slow=1.0,SNR=111
ASF pPKPbc pPKPab 16 44 09.8 -0.7
comp=Z,10nm,0.9s,baz=153,slow=9.3,SNR=2.2
LEOM Leova 146.53 326⇓P **PKPbc 16 42 03.4 +0.4**
LEOM Leova 146.53 326⇓ PKP2 **PKPbc 16 42 03.4 +0.4**
IOMK Kirk Michael 146.56 6 *e*P **PKPdf 16 41 59.9 -0.4**
HLG Helgoland 146.57 353 *e*PKPbc **PKPbc 16 42 03.6 +0.7**
baz=17,slow=2.4
BEIL Beino 146.60 301 *e*P **PKPdf 16 42 01.3 +0.2**
VASR Vaslui 146.66 326⇑P **PKPbc 16 42 03.5 +0.1**
WIM Isle of Man 146.66 6 *e*P **PKPdf 16 42 00.9 +0.4**
GDLE Glaisdale, N Y 146.66 2 *e*P **PKPdf 16 42 01.0 +0.5**
IGLA Glengowla, Co 146.67 12 *e*P **PKPdf 16 42 00.1 -0.4**
H07S1 FLORES T-PHASE 146.69 49 *e*PKP **PKPab 16 42 07.3 +0.6**
BR131 Keskin Array S 146.79 311 *d* iPKIKP **PKPdf 16 42 00.4 -1.0**
BRTR Keskin Array B 146.79 311 PKP **PKPdf 16 42 01.4 +0.1**
comp=Z,77nm,0.7s,baz=117,slow=1.4,SNR=126
BRTR PKPbc **PKPbc 16 42 04.1 -0.1**
comp=Z,76nm,0.7s,baz=129,slow=0.7,SNR=101
BRTR pPKPbc pPKPab 16 44 10.9 -0.4
comp=Z,4.3nm,0.8s,baz=126,slow=4.8,SNR=1.6
BRTR SKKPbc SKKPbc 16 52 39.8 -0.2
comp=Z,2.5nm,1.1s,baz=221,slow=6.6,SNR=5.2
KSV Kosov 146.83 331 PKIKP **PKPdf 16 42 00.0 -1.0**
HWQ Hawqa 146.85 301 *e*P **PKPdf 16 42 00.8 -0.8**
PRAR RASCA 146.96 328⇓P **PKPdf 16 42 01.6 +0.3**
BIR Birlad 146.99 326⇓P **PKPbc 16 42 05.1 +0.8**
BIR Birlad 146.99 326⇓ PKP2 **PKPbc 16 42 05.1 +0.8**
VLDR Vladesti 147.02 325⇑P **PKPbc 16 42 04.5 +0.2**
TLCR 147.03 323⇑P **PKPdf 16 42 01.1 -0.3**
TLCR 147.03 323⇑ PKIKP **PKPdf 16 42 01.1 -0.3**
HPK Haverah Park 147.09 3 *e*P **PKPdf 16 42 01.3 +0.1**
VARL Varlezi 147.11 325⇑P **PKPbc 16 42 04.9 +0.3**
RCY Rochaya 147.13 299 *e*P **PKPdf 16 42 02.6 +0.4**
SCTR Scanteiesti 147.18 325⇑P **PKPbc 16 42 02.9 +1.3**
GIUM Giurgiulesti 147.18 324⇑P **PKPbc 16 42 05.4 +0.6**
BHL Bhannes 147.18 300 *e*P **PKPdf 16 42 01.5 -0.7**
TATR Tatarca 147.19 324⇑P **PKPbc 16 42 05.0 +0.2**
RUE Ruedersdorf 147.21 346 *e*P **PKPbc 16 42 05.1 +0.5**
RUE Ruedersdorf 147.21 346 *e*PKPbc **PKPbc 16 42 05.1 +0.5**
baz=17,slow=2.4
GHRR 147.24 326⇑P **PKPdf 16 42 02.8 +1.1**
BURAR Bucovina Array 147.27 330⇑P **PKPdf 16 42 02.6 +0.7**
BURAR Bucovina Array 147.27 330⇑ PKIKP **PKPdf 16 42 02.6 +0.7**
DQRL Deir Qamar 147.30 300 *e*P **PKPdf 16 42 01.5 -0.8**
H10N3 ASCENSION HYDR 147.30 150 PKPbc **PKiKP 16 42 07.3 0.0**
baz=197,slow=4.2,SNR=7.5
H10N1 ASCENSION HYDR 147.31 150 PKPbc **PKiKP 16 42 07.2 -0.3**
baz=197,slow=4.2,SNR=9.1
BIZ Bicaz 147.32 328⇓P **PKPab 16 42 16.1 +7.2**
H10N2 ASCENSION HYDR 147.32 150 PKPbc **PKiKP 16 42 07.4 -0.1**
baz=197,slow=4.2,SNR=7.6
ANTO Ankara 147.32 312⇓P **PKPdf 16 42 01.9 -0.2**
ANTO Ankara 147.32 312⇓ PKIKP **PKPdf 16 42 01.9 -0.2**
ANTO Ankara 147.32 312 P **PKPdf 16 42 02.2 0.0**
NEGRR Negrea 147.33 324⇑P **PKPbc 16 42 04.6 -0.6**
TESR Tescani 147.33 327⇑P **PKPdf 16 42 02.0 +0.1**
SCHL Schela 147.38 324⇑P **PKPbc 16 42 03.7 -1.6**
IZVR Izvoarele 147.38 325⇑P **PKPbc 16 42 05.9 +0.6**
SCHLR Schela 147.39 324⇑P **PKPdf 16 42 03.3 +1.4**
TUDR 147.40 325⇑P **PKPbc 16 42 05.9 +0.5**
CFR Carcaliu 147.41 324⇓P **PKPdf 16 42 01.7 -0.3**
CFR Carcaliu 147.41 324⇓ PKIKP **PKPdf 16 42 01.7 -0.3**
WPS Cemaes, Angles 147.41 7 *e*P **PKPdf 16 42 01.4 -0.3**
TPGR Topolog 147.45 323⇑P **PKPdf 16 42 02.3 +0.2**
OJC Ojcow 147.48 338 PKP **PKPdf 16 42 01.8 -0.1**
PANC Panciu 147.50 326⇑P **PKPbc 16 42 06.1 +0.5**
WLF1 Llynfaes 147.53 6 *e*P **PKPdf 16 42 01.4 -0.5**
KOLS Kolonicke sedl 147.58 334 *e*PKIKP **PKPdf 16 42 03.1 +0.9**
KOLS Kolonicke sedl 147.58 334 *e*PKP **PKPdf 16 42 03.1 +0.9**
MMAI Mount Meron Ar 147.59 299 PKPbc **PKPbc 16 42 07.0 +0.7**
comp=Z,277nm,0.8s,baz=56,slow=2.1,SNR=183
MMAI pPKPbc **pPKPdf 16 44 13.1 +0.2**
comp=Z,16nm,0.9s,baz=83,slow=4.5,SNR=3.6
STHS Stebnicka Huta 147.60 336 *e*PKIKP **PKPdf 16 42 02.0 -0.2**
STHS Stebnicka Huta 147.60 336 *e*PKP **PKPdf 16 42 02.0 -0.2**
STHS *e* 16 42 05.8
ODBI Odobesti 147.62 326⇑P **PKiKP 16 42 06.8 -0.7**
LBWR Ladybower, Pea 147.64 3 *e*P **PKPdf 16 42 02.3 +0.2**
TIRR Tirgusor 147.70 322⇑P **PKPdf 16 42 02.4 -0.1**
TIRR Tirgusor 147.70 322⇑ PKIKP **PKPdf 16 42 02.4 -0.1**
VRI Vrincioaia 147.72 326⇑P **PKPdf 16 42 02.3 -0.2**
VRI Vrincioaia 147.72 326⇑ PKIKP **PKPdf 16 42 02.3 -0.2**
PLOR Plostina 147.78 326⇑P **PKPbc 16 42 06.0 -0.4**
PLOR Plostina 147.78 326⇑ PKIKP **PKPbc 16 42 06.0 -0.4**
RETH Rethem/Aller, 147.80 351 *e*PKPbc **PKPbc 16 42 06.4 +0.3**
baz=17,slow=2.4
RETH *e*pPKPbc **pPKPab 16 44 17.7 +2.9**
baz=18,slow=2.5
EFOR EFORIE 147.80 322⇓P **PKPdf 16 42 03.6 +0.9**
HARR Harsova 147.83 323⇓P **PKPdf 16 42 02.6 -0.1**
HARR Harsova 147.83 323⇓ PKHKP PKPpre 16 42 02.6
TLBR Topalu 147.85 323⇑P **PKPbc 16 42 07.2 +0.6**
MFTR Murfatlar 147.86 322⇑P **PKPdf 16 42 03.3 +0.5**
FLTG Flechtingen 147.88 349 *e*PKPdf **PKPdf 16 42 02.9 +0.4**
baz=22,slow=1.6
FLTG *e*PKPbc **PKPbc 16 42 06.4 +0.1**
baz=17,slow=2.4
FLTG *e*pPKPbc **pPKPab 16 44 17.2 +2.0**
baz=18,slow=2.5
GRER 147.91 325⇓P **PKiKP 16 42 08.0 -0.1**
NRDL Niedersach Rie 147.92 350 *e*PKPdf **PKPdf 16 42 03.1 +0.6**
baz=22,slow=1.6
NRDL *e*PKPbc **PKPbc 16 42 06.8 +0.4**
baz=17,slow=2.4
CRVS Cervenica-Dubn 147.93 335 *e*PKHKP PKPpre 16 42 03.2
CRVS Cervenica-Dubn 147.93 335 *e*PKP **PKPdf 16 42 03.2 +0.4**
CRVS *e* 16 42 07.3
CRVS *e* 16 52 34.5
TRSU Trosnyk 147.94 332 PKHKP PKPpre 16 42 03.0
NIE Niedzica 147.96 336 PKP **PKPdf 16 42 03.4 +0.6**
TURR Turia 147.97 327⇑P **PKPdf 16 42 03.5 +0.5**
MANR Mangalia 147.98 321⇓P **PKiKP 16 42 07.6 -0.7**
CVDA Cernavoda 147.99 323⇑P **PKiKP 16 42 07.7 -0.5**
COVR Voineasa-Covas 148.01 326⇓P **PKiKP 16 42 03.6 +0.5**
BMR Baia Mare 148.02 331⇑P **PKiKP 16 42 07.6 -0.6**
BMR Baia Mare 148.02 331⇑ PKP2 **PKiKP 16 42 07.6 -0.6**
LLW Llanuwchllyn 148.04 6 *e*P **PKPdf 16 42 02.4 -0.4**
FOEL Foel Wylfa 148.04 5 *e*P **PKPdf 16 42 03.0 +0.2**
OZUR 148.06 327⇑P **PKPdf 16 42 03.4 +0.3**
ARCR ARCALIA 148.06 330⇑P **PKPdf 16 41 60.0 -3.1**
KSP Ksiaz 148.06 342 PKP **PKPdf 16 42 03.2 +0.3**
BOSR Bodos 148.13 327⇓P **PKiKP 16 42 08.4 -0.1**
RAC Raciborz 148.14 339 *e*PKPDF **PKPdf 16 42 03.7 +0.7**
RAC Raciborz 148.14 339⇑ *e*PKP **PKPbc 16 42 07.6 +0.5**
RAC *e*PKPpB 16 42 12.5
RAC Raciborz 148.14 339 *e*PKP2 **PKPbc 16 42 07.6 +0.5**
ASSE Asse, Remlinge 148.17 349 *e*PKPbc **PKPbc 16 42 07.3 +0.2**
baz=17,slow=2.4
ASSE *e*PKPab **PKPab 16 42 12.0 -0.1**
baz=15,slow=4.2
AMRR Amara 148.21 324⇑P **PKiKP 16 42 08.5 -0.2**
AMRR Amara 148.21 324⇑ PKP2 **PKiKP 16 42 08.5 -0.2**
PGOR Pogoanele 148.21 324⇑P **PKiKP 16 42 08.6 -0.1**
NEHR Nehoiu 148.24 326⇑P **PKPbc 16 42 07.4 -0.2**
ICOR Ion Corvin 148.26 322⇓P **PKPdf 16 42 04.3 +0.9**
ISR Istrita 148.31 325⇑P **PKiKP 16 42 08.6 -0.4**
ISR Istrita 148.31 325⇑ PKP2 **PKiKP 16 42 08.6 -0.4**
CWF Charnwood Fore 148.32 3 *e*P **PKPdf 16 42 03.1 -0.2**
OSTC Ostas 148.34 342 *e*PKP2 **PKPbc 16 42 08.2 +0.6**
OSTC Ostas 148.34 342⇑ *e*PKP **PKPbc 16 42 08.2 +0.6**
DOPR Dopca 148.34 327⇑P **PKPdf 16 42 05.1 +1.5**
PSN Preselentsi 148.35 321 P **PKiKP 16 42 08.9 -0.1**
CHVC Chvalec 148.36 342 *e*PKHKP PKPpre 16 42 04.1
CHVC Chvalec 148.36 342 *e*PKPDF **PKPdf 16 42 04.1 +0.7**
CHVC ⇑ *e*PKP **PKiKP 16 42 08.5 -0.4**
OKC Ostrava-Krasne 148.37 339 *e*PKHKP PKPpre 16 42 06.2
OKC Ostrava-Krasne 148.37 339 *e*PKPDF **PKPbc 16 42 06.2 -1.5**
MLR Muntele Rosu 148.38 326⇑P **PKPdf 16 42 03.7 -0.1**
MLR ⇑P **PKPbc 16 42 07.0 -1.0**
MLR Muntele Rosu 148.38 326⇑ PKHKP PKPpre 16 42 07.0
WACR West Acre 148.40 1 *e*P **PKPdf 16 42 03.5 +0.2**
IBBN Ibbenburen 148.43 353 *e*PKPbc **PKPbc 16 42 07.9 +0.2**
baz=17,slow=2.4
CLL Collm 148.48 346 *i* PKHKP PKPpre 16 42 03.5
CLL *i* 16 42 13.3
CLL pmax pmax
comp=Z,66nm,1.2s
CLL pmax pmax
comp=Z,165nm,0.9s
CLL Collm 148.48 346 *e*PKPbc **PKPbc 16 42 08.1 +0.2**
baz=17,slow=2.4
CLL *e*PKPab **PKPab 16 42 13.5 0.0**
baz=15,slow=4.2
CLL *e*pPKPbc **pPKPab 16 44 19.6 +2.0**
baz=18,slow=2.5
LANS Liptovska Anna 148.49 337 *e*PKHKP PKPpre 16 42 04.7
LANS *e* 16 42 14.9
LANS Liptovska Anna 148.49 337 *e*PKP **PKPdf 16 42 04.7 +1.0**
LANS *e* 16 42 09.6
LANS *e* 16 42 14.9
DPC Dobruska-Polom 148.49 342 *e*PKP2 **PKiKP 16 42 08.8 -0.4**
DPC Dobruska-Polom 148.49 342⇑ *e*PKP **PKiKP 16 42 08.8 -0.4**
CLZ Clausthal 148.50 349 *e*PKPdf **PKPdf 16 42 04.2 +0.5**
baz=22,slow=1.6
CLZ *e*PKPbc **PKPbc 16 42 08.4 +0.4**
baz=17,slow=2.4
EIL Elat 148.57 293 PKP **PKPdf 16 42 04.0 -0.4**
comp=Z,16nm,0.9s,baz=355,slow=1.8,SNR=9.7
EIL PKPbc **PKiKP 16 42 09.4 -0.5**
comp=Z,140nm,0.9s,baz=7.1,slow=1.9,SNR=54
EIL pPKPbc **pPKPbc 16 44 15.8 -1.0**
comp=Z,34nm,1.1s,baz=63,slow=6.8,SNR=3.4
EIL PKKP **PKKPdf 16 51 02.5 +4.3**
comp=Z,4.1nm,0.8s,baz=330,slow=7.9,SNR=3.8
LEHL Lehliu 148.58 324⇓P **PKiKP 16 42 08.9 -0.6**
KRLC Kraliky 148.60 341 *e*PKHKP PKPpre 16 42 04.4
KRLC Kraliky 148.60 341 *e*PKPDF **PKPdf 16 42 04.4 +0.5**
KRLC ⇑ *e*PKP **PKiKP 16 42 08.9 -0.5**
MORC Moravsky Berou 148.62 340⇑P **PKPdf 16 42 04.6 +0.7**
MORC Moravsky Berou 148.62 340 *e*PKP **PKPdf 16 42 03.8 -0.1**
MORC *e* 16 42 09.0
MORC Moravsky Berou 148.62 340⇑ PKHKP PKPpre 16 42 04.6
KECS Kecovo 148.65 335 *e*PKP2 **PKiKP 16 42 09.7 +0.2**
KECS Kecovo 148.65 335 *e*PKP **PKiKP 16 42 09.7 +0.2**
KECS *e* 16 42 15.2
MESR Meseseni 148.66 331⇑P **PKPdf 16 42 05.3 +1.3**
BRG Berggiesshubel 148.66 345⇓ *i*PKPf 16 42 03.9
BRG Amp 16 42 05.5
comp=Z,82nm,1.4s
BRG ⇑PKP **PKiKP 16 42 09.1 -0.4**
BRG Amp 16 42 10.1
comp=Z,248nm,1.1s
BRG PKPab **PKPab 16 42 14.6 +0.3**
BRG Amp 16 42 15.3
comp=Z,76nm,0.8s
BRG ⇓pPKPf 16 44 11.6
BRG Amp 16 42 12.4
comp=Z,12nm,1.0s
BRG pPKPab pPKPab 16 44 23.1 +4.8
BRG Amp 16 44 24.6
comp=Z,39nm,1.2s
BRG PP **PP 16 45 40.2 -3.5**
BRG Amp 16 45 42.4
comp=Z,10nm,1.1s
BRG Berggiesshubel 148.66 345 PKP2 **PKiKP 16 42 09.0 -0.4**
BRG pmax pmax
comp=Z,248nm,1.1s
BRG Berggiesshubel 148.66 345 *e*PKPbc **PKPbc 16 42 08.8 +0.4**
baz=17,slow=2.4
BRG *e*PKPab **PKPab 16 42 14.4 +0.2**
baz=15,slow=4.2
CBBR Cluj-Babes-Bol 148.67 330⇑P **PKPdf 16 42 05.9 +1.9**
CJR Cluj-Napoca 148.68 330⇓P **PKPbc 16 42 08.6 0.0**
CJR Cluj-Napoca 148.68 330⇓ PKHKP PKPpre 16 42 08.6
MDB Medias 148.72 328⇓P **PKiKP 16 42 09.4 -0.3**
MDB Medias 148.72 328⇓ PKP2 **PKiKP 16 42 09.4 -0.3**
PLAR PLOIESTI 148.72 325⇓P **PKiKP 16 42 09

MAUC Maruska 148.88 339 ⇑ *e*PKP **PKiKP** 16 42 10.2 +0.2
VOIR 148.88 327 ⇑P **PKPdf** 16 42 05.2 +0.7
VOIR 148.88 327 ⇑PKHKP PKPpre 16 42 05.2
RICC Richard 148.93 344 ⇑ *e*PKP **PKPbc** 16 42 09.4 +0.4
MARR Marisel-Cluj 148.93 330 ⇑P **PKPdf** 16 42 04.6 0.0
LTVH Ltavrtes, Hu 148.94 333 ⇑P **PiKiP** 16 42 09.9 -0.2
MCH1 Michaelchurch 148.95 5 *e*P **PKPdf** 16 42 03.9 -0.4
MTUR Matau 149.02 327 ⇑P **PKPdf** 16 42 03.1 -1.7
MTUR Matau 149.02 327 ⇑PKIKP **PKPdf** 16 42 03.1 -1.7
PICO Pico 149.03 49 *e*PKP **PKPbc** 16 42 09.9 +0.1
HSKC Hora Svate Kat 149.03 345 *e*PKPDF **PKPdf** 16 42 04.7 +0.2
HSKC ⇑ *e*PKP **PKPbc** 16 42 09.2 -0.2
DRGR 149.03 331 ⇓P **PKPdf** 16 42 04.5 -0.2
DRGR 149.03 331 ⇓PKIKP **PKPdf** 16 42 04.5 -0.2
PRD Provadia 149.06 321 P **PiKiP** 16 42 10.7 +0.2
ROSA Rosais 149.06 49 *e*PKP **PKPbc** 16 42 09.9 +0.1
NEF NEVSHA 149.08 322 P **PiKiP** 16 42 10.7 +0.1
MONM Monmouth 149.12 5 *e*P **PKPdf** 16 42 04.5 -0.1
ARR Arges 149.14 327 ⇑P **PKPdf** 16 42 05.7 +0.8
PMAN Manadas 149.21 49 *e*PKP **PiKiP** 16 42 11.7 +0.7
BORR Bors 149.22 332 ⇓P **PiKiP** 16 42 10.9 +0.2
STRD Stroud 149.23 4 *e*P **PKPdf** 16 42 04.3 -0.4
ISK Istanbul-Kandi 149.24 317 P **PKPdf** 16 42 04.0 -1.1
VYHS Vyhne 149.27 337 *e*PKHKP PKPpre 16 42 05.1
VYHS Vyhne 149.27 337 *e*PKP **PKPdf** 16 42 05.1 +0.2
VYHS *e* 16 42 10.5
PRA Prague 149.27 343 *e*PKHKP PKPpre 16 42 10.4
PRA Prague 149.27 343 ⇑ *e*PKP **PiKiP** 16 42 10.4 -0.3
GOPC GO Pecny, Ondr 149.32 343 *e*PKHKP PKPpre 16 42 10.4
GOPC GO Pecny, Ondr 149.32 343 ⇑ *e*PKP **PKPbc** 16 42 10.4 +0.3
GOPC *e*pPKP **pPKPab** 16 44 21.5 +0.6
PRU Pruhonice 149.32 343 *e*PKHKP PKPpre 16 42 10.3
PRU Pruhonice 149.32 343 ⇑ *e*PKP **PKPbc** 16 42 10.3 +0.3
VRAC Vranov 149.33 340 ⇑P **PKPdf** 16 42 04.8 -0.2
VRAC Vranov 149.33 340 *e*PKP **PKPdf** 16 42 04.9 -0.2
VRAC *e* 16 42 10.4
VRAC Vranov 149.33 340 ⇑PKIKP **PKPdf** 16 42 04.8 -0.2
RAZG Razgrad 149.33 323 ⇑P **PKPbc** 16 42 10.3 0.0
PSZ Piszkesteto 149.34 335 ⇑P **PKPdf** 16 42 05.3 +0.1
PSZ Piszkesteto 149.34 335 ⇑PKHKP PKPpre 16 42 05.3
BUG Bochum--Univer 149.34 353 *e*PKPbc **PKPbc** 16 42 10.2 +0.2
baz=17,slow=2.4
JAVC Velka Javorina 149.37 339 *e*PKP **PKPdf** 16 42 06.2 +1.0
JAVC *e* 16 42 11.8
LOZB Loznitsa 149.41 322 ⇑P **PKiKP** 16 42 10.9 -0.4
MOX Moxa 149.41 347 *e*PKPbc **PKPbc** 16 42 10.4 +0.2
baz=17,slow=2.4
KASTN Kahler Asten 149.43 351 *e*PKPdf **PKPdf** 16 42 05.5 +0.4
baz=22,slow=1.6
KASTN *e*PKPbc **PKPbc** 16 42 10.5 +0.2
baz=17,slow=2.4
KASTN *e*pPKPbc **pPKPab** 16 44 21.8 +0.4
baz=18,slow=2.5
TANN Tannenbergstha 149.44 346 *e*PKPbc **PKPbc** 16 42 10.6 +0.3
baz=17,slow=2.4
TANN *e*PKPab **PKPab** 16 42 17.9 +0.3
baz=15,slow=4.2
PLN Plauen 149.44 346 *e*PKPbc **PKPbc** 16 42 10.6 +0.3
baz=17,slow=2.4
SWN1 Swindon 149.52 4 *e*P **PKPdf** 16 42 05.0 -0.2
LOT Lotru 149.52 328 ⇑P **PKPdf** 16 42 04.8 -0.8
HUMR Humele 149.54 326 ⇑P **PKPbc** 16 42 10.0 -0.7
UBBA Unterbreizbach 149.55 349 *e*PKPbc **PKPbc** 16 42 10.6 +0.2
baz=17,slow=2.4
KRUC Moravsky 149.61 340 *e*PKP **PKPdf** 16 42 04.9 -0.5
KRUC *e* 16 42 11.1
NKC Novy Kostel 149.61 346 *e*PKHKP PKPpre 16 42 11.2
NKC Novy Kostel 149.61 346 ⇑ *e*PKP **PiKiP** 16 42 10.8 -0.3
DEV Deva 149.62 330 ⇓P **PiKiP** 16 42 11.4 -0.1
DEV Deva 149.62 330 ⇓PKHKP PKPpre 16 42 11.4
TREC Trest 149.68 342 *e*PKHKP PKPpre 16 42 06.0
TREC Trest 149.68 342 *e*PKPDF **PKPdf** 16 42 06.0 +0.4
TREC ⇑ *e*PKP **PKPbc** 16 42 11.0 +0.1
BSZH Besenyszg 149.69 334 ⇑P **PiKiP** 16 42 12.1 +0.5
SMOL Smolenice 149.75 339 *e*PKHKP PKPpre 16 42 12.3
SMOL *e* 16 42 20.1
PAGU Agualva, Azore 149.78 48 *e*PKP **PKPbc** 16 42 11.1 -0.4
ISP Isparta 149.80 310 **PKPbc** 16 42 11.1 -0.6
ISP Isparta 149.80 310 PKHKP PKPpre 16 42 11.1
SZH Strazhitsa 149.82 323 P **PiKiP** 16 42 12.0 -0.1
SIRR Siria 149.91 331 ⇑P **PKPdf** 16 42 06.3 +0.3
ZIMR 149.91 324 ⇑P **PiKiP** 16 42 12.0 -0.2
ZIMR 149.91 324 ⇑PKHKP PKPpre 16 42 12.0
MODS Modra-Piesok 149.92 339 *e*PKHKP PKPpre 16 42 06.7
MODS *e* 16 42 20.8
MODS Modra-Piesok 149.92 339 *e*PKP **PKPdf** 16 42 06.7 +0.7
MODS *e* 16 42 12.8
MODS *e* 16 42 20.8
MANZ Manzenberg 149.92 346 *e*PKPbc **PKPbc** 16 42 11.8 +0.3
baz=17,slow=2.4
MANZ *e*pPKPbc **pPKPab** 16 44 23.0 -0.4
baz=18,slow=2.5
ELSH Elham, Standar 149.98 0 *e*P **PKPbc** 16 42 10.0 -1.5
JMB Yambol 149.98 321 P **PiKiP** 16 42 12.7 +0.3
SRO Srobarova 150.03 337 *e*PKHKP PKPpre 16 42 12.5
SRO *e* 16 42 20.6
SRO Srobarova 150.03 337 *e*PKP **PiKiP** 16 42 12.5 +0.2
SRO *e* 16 42 20.6
GZR Gura Zlata 150.04 329 ⇑P **PKPdf** 16 42 06.1 -0.2
GZR Gura Zlata 150.04 329 ⇑PKIKP **PKPdf** 16 42 06.1 -0.2
SURR Surduc 150.08 330 ⇑P **PKPdf** 16 42 06.2 0.0
ELND Elena 150.09 322 ⇑P **PKPdf** 16 42 06.5 +0.1
ROTZ Rotzenmuhle 150.10 346 *e*PKPbc **PKPbc** 16 42 12.1 +0.2
baz=17,slow=2.4
ROTZ *e*PKPab **PKPab** 16 42 20.5 +0.2
baz=15,slow=4.2
ZST Bratislava 150.13 339 *e*PKHKP PKPpre 16 42 07.5
ZST Bratislava 150.13 339 *e*PKP **PKPdf** 16 42 07.5 +1.2
ZST *e* 16 42 12.8
BEBN Eben Emael 150.15 355 *d*PKiKP **PKPbc** 16 42 12.1 +0.2
BEBN *d*PKP **PKPab** 16 42 19.9 -0.5
SBD Saint Breward 150.18 8 *e*P **PKPdf** 16 42 06.2 0.0
EDRB Edirne 150.24 320 P **PKPdf** 16 42 05.5 -1.1
AHRW Bad Neuenahr-A 150.25 353 *e*PKPdf **PKPdf** 16 42 07.0 +0.6
baz=22,slow=1.6
AHRW *e*PKPbc **PKPbc** 16 42 12.3 +0.1
baz=17,slow=2.4
AMBH Ambrzfalva 150.25 332 ⇑P **PKiKP** 16 42 13.7 +0.9
MEM Membach 150.30 354 *d*PKPdf **PKPdf** 16 42 06.8 +0.3
MEM *d*PKiKP **PKPbc** 16 42 12.3 0.0
MEM *d*PKP **PKPab** 16 42 20.4 -0.7
BTNL Ternell 150.31 354 *d*PKPdf **PKPdf** 16 42 06.4 -0.1
BTNL *d*PKiKP **PKPbc** 16 42 12.4 +0.1
SRE Strehaia 150.36 328 ⇓P **PKPbc** 16 42 12.7 +0.1
SRE Strehaia 150.36 328 ⇓PKIKP **PKPbc** 16 42 12.7 +0.1
KHC Kasperske Hory 150.36 344 *e*PKIKP **PKPdf** 16 42 06.8 +0.1
KHC *e* 16 42 22.3
KHC Kasperske Hory 150.36 344 *e*PKPDF **PKPdf** 16 42 06.8 +0.1
KHC ⇑ *e*PKP **PiKiP** 16 42 13.0 -0.1
KHC *e*PKPAB **PKPab** 16 42 22.3 +0.9
KHC *e*pPKP **pPKPab** 16 44 23.6 -1.6
PVL Pavlikeni 150.36 323 P **PiKiP** 16 42 13.5 +0.3
BSTI Sart Tilman 150.37 355 *d*PKPdf **PKPdf** 16 42 07.2 +0.7
BSTI *d*PKiKP **PKPbc** 16 42 12.7 -0.2
BSTI *d*PKP **PKPab** 16 42 21.2 -0.1
TNS Taunus Mts 150.38 351 PKIKP **PKPdf** 16 42 07.4 +0.7
TNS Taunus Mts 150.38 351 *e*PKPdf **PKPdf** 16 42 07.1 +0.4
baz=22,slow=1.6
TNS *e*PKPbc **PKPbc** 16 42 12.8 +0.2
baz=17,slow=2.4
TNS *e*PKPab **PKPab** 16 42 21.2 -0.3
baz=15,slow=4.2
TNS *e*pPKPbc **pPKPab** 16 44 24.1 -1.1
baz=18,slow=2.5
GRF Grafenberg Arr 150.39 347 *e*PKPbc **PiKiP** 16 42 13.1 0.0
baz=17,slow=2.4
GRFO Grafenberg 150.39 347 PKPbc **PiKiP** 16 42 13.4 +0.3
GRFO Grafenberg 150.39 347 PKIKP **PiKiP** 16 42 13.4 +0.3
BZS Buzias 150.42 331 ⇑P **PKPdf** 16 42 06.9 +0.1
BZS Buzias 150.42 331 ⇑PKIKP **PKPdf** 16 42 06.9 +0.1
CKRC Cesky Krumlov 150.44 343 *e*PKIKP **PKPdf** 16 42 07.2 +0.4
CKRC Cesky Krumlov 150.44 343 *e*PKPDF **PKPdf** 16 42 07.2 +0.4
CKRC *e*pPKP **pPKPab** 16 44 24.4 -1.1
TIM Timisoara 150.51 331 ⇑P **PiKiP** 16 42 13.7 +0.3
TIM Timisoara 150.51 331 ⇑PKIKP **PiKiP** 16 42 13.7 +0.3
WET Wettzell 150.53 345 *e*PKPdf **PKPdf** 16 42 07.2 +0.3
baz=22,slow=1.6
WET *e*PKPbc **PKPbc** 16 42 13.0 0.0
baz=17,slow=2.4
WET *e*PKPab **PKPab** 16 42 22.5 +0.4
baz=15,slow=4.2
BCLA Clavier 150.55 355 *d*PKPdf **PKPdf** 16 42 07.0 +0.2
BCLA *d*PKiKP **PKPbc** 16 42 12.7 -0.2
BCLA *d*PKP **PKPab** 16 42 21.6 -0.5
BHOU Houvegnez 150.55 354 *d*PKPdf **PKPdf** 16 42 07.7 +0.8
BHOU *d*PKiKP **PiKiP** 16 42 13.3 -0.1
BHOU *d*PKP **PKPab** 16 42 22.0 -0.2
GEC2 GERESS Array S 150.59 343 *e*PKPbc **PKPbc** 16 42 13.2 +0.1
baz=17,slow=2.4
GEC2 *e*pPKPbc **pPKPab** 16 44 24.6 -1.6
baz=18,slow=2.5
GERES GERESS Array B 150.59 343 PKP **PKPdf** 16 42 07.2 +0.1
comp=Z,7.4nm,0.8s,baz=37,slow=3.3,SNR=36
GERES PKPbc **PiKiP** 16 42 13.6 0.0
comp=Z,114nm,0.8s,baz=27,slow=4.5,SNR=129
GERES pPKPbc **pPKPbc** 16 44 22.4 +0.3
comp=Z,11nm,0.8s,baz=36,slow=5.0,SNR=6.9
HERR Herculane 150.59 329 ⇓P **PKPbc** 16 42 13.2 0.0
BGES Gesves 150.60 355 *d*PKPdf **PKPdf** 16 42 07.2 +0.3
BGES *d*PKiKP **PKPbc** 16 42 12.8 -0.2
BGES *d*PKP **PKPab** 16 42 21.8 -0.5
DJES Djerdap 150.69 328 ⇑P **PKPbc** 16 42 13.1 -0.4
BMRD Maredsous 150.71 356 *d*PKPdf **PKPdf** 16 42 07.4 +0.4
BMRD *d*PKiKP **PKPbc** 16 42 13.4 +0.2
BMRD *d*PKP **PKPab** 16 42 22.5 -0.2
BAIL Bailesti 150.74 326 ⇑P **PiKiP** 16 42 14.4 +0.5
PUNG Punghina 150.77 327 ⇓P **PKPbc** 16 42 13.5 -0.1
CONA Conrad Observa 150.77 340 *i* PKP **PKPdf** 16 42 07.1 -0.3
comp=Z,27nm,1.3s,SNR=16
CONA *i* PKP **PiKiP** 16 42 14.1 0.0
comp=Z,187nm,0.8s
CONA *i* PKP **PKPab** 16 42 23.9 +0.7
comp=Z,92nm,1.0s
CONA *i* pPKP **pPKPab** 16 44 25.4 -1.5
comp=Z,19nm,0.9s
KULA Kula-Manisa 150.79 313 P **PKPdf** 16 42 06.7 -1.0
DIM Dimitrovgrad 150.81 321 P **PiKiP** 16 42 14.6 +0.4
BANR Banloc 150.82 331 ⇑P **PiKiP** 16 42 14.8 +0.8
RCHB Rochefort 150.82 355 *d*PKPdf **PKPdf** 16 42 07.7 +0.4
RCHB *d*PKiKP **PiKiP** 16 42 13.7 -0.2
RONA Rosalia, Austr 150.83 339 *i* PKP **PKPdf** 16 42 07.1 -0.4
comp=Z,24nm,1.3s,SNR=21
RONA *i* PKP **PiKiP** 16 42 14.1 0.0
comp=Z,224nm,0.7s
RONA *i* PKP **PKPab** 16 42 24.2 +0.8
comp=Z,99nm,1.0s
RONA *e*pPKP **pPKPab** 16 44 25.2 -1.8
comp=Z,31nm,0.9s
GIVF Givet 150.90 355 *e*PKIKP **PKPdf** 16 42 08.1 +0.7
GIVF pmax pmax
comp=Z,339nm,0.9s
VALD Valchedram 150.92 326 P **PiKiP** 16 42 14.8 +0.5
DOU Dourbes 150.93 356 *d*PKPdf **PKPdf** 16 42 08.0 +0.6
DOU *d*PKiKP **PiKiP** 16 42 14.0 -0.1
BAIF Baives 150.99 356 *e*PKIKP **PKPdf** 16 42 07.2 -0.3
BAIF pmax pmax
comp=Z,221nm,1.0s
MPEP Malo Peshtene 150.99 325 P **PiKiP** 16 42 14.8 +0.3
MDVR Moldovita 151.00 329 ⇑P **PiKiP** 16 42 07.7 -0.1
WLF Walferdange 151.22 354 *d*PKPdf **PKPdf** 16 42 08.9 +1.0
WLF *d*PKiKP **PiKiP** 16 42 15.1 +0.3
WLF *d*PKP **PKPab** 16 42 23.0 -1.9
WLF Walferdange 151.22 354 *e*PKPdf **PKPdf** 16 42 09.0 +1.1
baz=22,slow=1.6
WLF *e*PKPbc **PiKiP** 16 42 15.3 +0.5
baz=17,slow=2.4
WLF *e*pPKPbc **pPKPab** 16 44 26.2 -2.4
baz=18,slow=2.5
ALN Alexandroupoli 151.23 319 P **PKPdf** 16 42 06.6 -1.6
ALN Alexandroupoli 151.23 319 PKIKP **PKPdf** 16 42 06.6 -1.6
PLD Plovdiv 151.23 322 P **PKPdf** 16 42 14.8 +0.1
ENEZ Enez 151.25 319 P **PKPdf** 16 42 06.7 -1.5
PGB Panagyurishte 151.32 323 P **PiKiP** 16 42 15.3 +0.1
MOA Molln 151.34 342 *i* PKP **PKPdf** 16 42 07.9 -0.3
comp=Z,17nm,1.2s,SNR=7.9
MOA *i* PKP **PKPbc** 16 42 14.8 0.0
comp=Z,69nm,0.7s
MOA *i* PKP **PKPab** 16 42 25.8 +0.3
comp=Z,90nm,1.4s
MOA *e*pPKP **pPKPab** 16 44 27.3 -1.8
comp=Z,15nm,1.2s
BLKB Belogradchik 151.37 327 ⇑P **PKPdf** 16 42 08.3 0.0
RDO Rodhopi 151.39 320 P **PKPdf** 16 42 07.2 -1.2
ARSA Arzberg 151.48 340 *i* PKP **PKPdf** 16 42 07.9 -0.5
comp=Z,17nm,1.5s,SNR=7.8
ARSA *e*PKP **PKPbc** 16 42 14.8 -0.3
comp=Z,68nm,1.2s,SNR=7.3
RZN Rozhen 151.52 321 P **PiKiP** 16 42 15.8 -0.1
FRGS Fruska Gora 151.59 332 ⇑P **PKPdf** 16 42 08.4 -0.3
FRGS Fruska Gora 151.59 332 ⇓ *i*P **PKPdf** 16 42 07.7 -0.9
BIOA Bad Ischl, Aus 151.66 342 *i* PKP **PKPdf** 16 42 07.9 -0.8
comp=Z,30nm,1.3s
BIOA *e*PKP **PKPbc** 16 42 15.2 -0.3
comp=Z,128nm,1.2s,SNR=9.6
BIOA *i* PKP **PKPab** 16 42 27.0 +0.1
comp=Z,160nm,1.3s
EZN Ezine 151.66 317 P **PKPdf** 16 42 07.5 -1.3
EZN Ezine 151.66 317 PKIKP **PKPdf** 16 42 07.5 -1.3
VTS Vitosha 151.76 325 P **PiKiP** 16 42 16.6 +0.3
SMTH Samothraki Isl 151.79 319 P **PKPdf** 16 42 07.2 -1.9
JSA Saint Aubin 151.80 5 *e*P **PKPdf** 16 42 08.8 +0.1
FUR Furstenfeldbru 151.82 346 *e*PKPbc **PiKiP** 16 42 16.2 +0.1
baz=17,slow=2.4
FUR *e*PKPab **PKPab** 16 42 27.8 +0.2
baz=15,slow=4.2
RJOB Jochberg 151.85 344 *e*PKPbc **PKPbc** 16 42 15.9 -0.1
baz=17,slow=2.4
BOVS Bovan 151.85 328 ⇑P **PKPbc** 16 42 15.8 -0.2
KAVA Kavala 152.09 321 P **PKPdf** 16 42 07.8 -1.7
KALN Kalnik 152.13 337 *i* P **PKPdf** 16 42 08.7 -0.7
SOKA Soboth 152.14 340 *i* PKP **PKPdf** 16 42 08.7 -0.8
comp=Z,30nm,1.2s,SNR=16
SOKA *e*PKP **PKPbc** 16 42 16.2 -0.5
comp=Z,96nm,0.9s,SNR=12
SOKA *i* PKP **PKPab** 16 42 28.9 -0.2
comp=Z,66nm,1.2s
SOKA *i* pPKP **pPKPbc** 16 44 29.0 +3.3
comp=Z,16nm,1.6s
LESA Schwarzleotal 152.17 343 *i* PKP **PKPdf** 16 42 08.8 -0.7
comp=Z,46nm,1.2s
LESA *i* PKP **PKPbc** 16 42 16.4 -0.3
comp=Z,94nm,0.8s
LESA *i* PKP **PKPab** 16 42 29.5 +0.4
comp=Z,136nm,1.1s
LESA *e*pPKP **pPKPab** 16 44 29.2 -3.4
comp=Z,16nm,1.2s
TEKS Tekeris 152.19 332 *e*P **PKPdf** 16 42 09.2 -0.3
MMB Musomishta 152.19 322 P **PKPbc** 16 42 16.9 0.0
BFO Black Forest 152.24 350 PKPbc **PiKiP** 16 42 17.0 0.0
BFO Black Forest 152.24 350 PKIKP **PiKiP** 16 42 17.0 0.0
BFO Black Forest 152.24 350 *e*PKPbc **PKPbc** 16 42 16.7 -0.1
baz=17,slow=2.4
BFO *e*PKPab **PKPab** 16 42 29.1 -0.2
baz=15,slow=4.2
LOBO Lobor 152.25 338 *i* P **PKPdf** 16 42 09.2 -0.4
NVR Nevrokopi 152.25 322 P **PKPdf** 16 42 09.3 -0.4
KBA Kronbreinsper 152.30 342 *i* PKP **PKPdf** 16 42 08.8 -1.0
comp=Z,29nm,1.2s,SNR=11
KBA *i* PKP **PKPbc** 16 42 16.4 -0.8
comp=Z,89nm,0.8s,SNR=13
KBA *i* PKP **PKPab** 16 42 29.3 -0.5
comp=Z,30nm,0.8s
SIGR SIGRI 152.31 316 P **PKPdf** 16 42 08.3 -1.5
CDF Champ du Feu 152.31 352 *e*PKIKP **PKPdf** 16 42 08.9 -0.8
CDF pmax pmax
comp=Z,100nm,0.8s
FLN La Foliniere 152.33 3 *e*PKIKP **PKPdf** 16 42 08.8 -0.8
FLN pmax pmax
comp=Z,160nm,0.9s
KKB Krupnik 152.34 323 P **PiKiP** 16 42 17.4 0.0
LIA Limnos Island 152.35 318 P **PKPdf** 16 42 08.2 -1.6
OBKA Obir 152.45 340 *i* PKP **PKPdf** 16 42 09.2 -0.8
comp=Z,22nm,2.1s
OBKA *i* PKP **PKPbc** 16 42 16.7 -0.7
comp=Z,33nm,0.8s,SNR=9.4
OBKA *i* PKP **PKPab** 16 42 29.8 -0.6
comp=Z,22nm,1.0s
OBKA Obir 152.45 340 ⇓ *i*P **PKPdf** 16 42 08.8 -1.1
KOKK Kokkinochori, 152.51 321 P **PKPdf** 16 42 08.4 -1.7
LDF La Druitiere 152.51 2 *e*PKIKP **PKPdf** 16 42 08.9 -0.9
LDF pmax pmax
comp=Z,95nm,0.9s
WATA Walderalm 152.53 345 *e*PKP **PKPdf** 16 42 09.4 -0.7
comp=Z,28nm,1.0s,SNR=12
WATA *i* PKP **PKPbc** 16 42 17.3 -0.4
comp=Z,140nm,1.1s
WATA *i* PKP **PKPab** 16 42 30.8 0.0
comp=Z,92nm,0.9s
UBR Ueberruh 152.53 347 *e*PKPdf **PKPdf** 16 42 10.0 0.0
baz=22,slow=1.6
UBR *e*PKPbc **PKPbc** 16 42 17.5 0.0
baz=17,slow=2.4
SRS Serrai 152.56 322 P **PKPbc** 16 42 16.4 -1.3
RETA Reutte 152.58 346 *i* PKP **PKPdf** 16 42 09.6 -0.5
comp=Z,16nm,0.9s,SNR=6.7
RETA *i* PKP **PKPbc** 16 42 17.5 -0.1
comp=Z,45nm,0.7s
RETA *i* PKP **PKPab** 16 42 30.8 0.0
comp=Z,88nm,0.9s
WTTA Wattenberg 152.58 345 *i* PKP **PKPdf** 16 42 09.7 -0.5
comp=Z,41nm,1.0s,SNR=15
WTTA *i* PKP **PKPbc** 16 42 17.6 -0.1
comp=Z,218nm,1.0s
WTTA *e*PKP **PKPab** 16 42 31.1 0.0
comp=Z,105nm,0.8s
WTTA *i* pPKP **pPKPab** 16 44 32.2 -2.4
comp=Z,33nm,1.0s
MYKA Terra Mystica 152.62 341 *e*PKP **PKPdf** 16 42 09.1 -1.1
comp=Z,30nm,1.8s,SNR=8.8
MYKA *i* PKP **PKPbc** 16 42 16.9 -0.9
comp=Z,64nm,0.6s,SNR=13
MYKA *i* PKP **PKPab** 16 42 30.7 -0.4
comp=Z,35nm,0.8s
MOTA Moosalm 152.63 346 *i* PKP **PKPdf** 16 42 09.6 -0.6
comp=Z,43nm,1.0s,SNR=22
MOTA *i* PKP **PKPbc** 16 42 17.6 -0.3
comp=Z,185nm,1.0s
MOTA *i* PKP **PKPab** 16 42 31.2 -0.1
comp=Z,122nm,0.9s
MOTA *i* pPKP **pPKPab** 16 44 32.1 -2.6
comp=Z,17nm,1.0s
SQTA Sankt Quirin 152.72 345 *i* PKP **PKPdf** 16 42 09.9 -0.4
comp=Z,39nm,0.9s,SNR=17
SQTA *i* PKP **PKPbc** 16 42 17.9 -0.1
comp=Z,111nm,0.8s
SQTA *i* PKP **PKPab** 16 42 31.4 -0.2
comp=Z,92nm,1.0s
BBLS Lazi&#263i 152.77 331 ⇓ *i*P **PKPdf** 16 42 10.1 -0.4
HAPS Han Pijesak,Bl 152.81 332 ⇓ *i*P **PKPdf** 16 42 10.2 -0.4
ABTA Abfaltersbach 152.83 343 *i* PKP **PKPdf** 16 42 09.6 -0.9
comp=Z,76nm,1.0s,SNR=30
ABTA *i* PKP **PKPbc** 16 42 17.5 -0.7
comp=Z,226nm,1.0s
ABTA *i* PKP **PKPab** 16 42 31.9 -0.1
comp=Z,48nm,0.8s
HAU Haudompre 152.83 353 *e*PKIKP **PKPdf** 16 42 09.8 -0.6
HAU pmax pmax
comp=Z,70nm,0.8s
KNT Kendrikon 152.93 323 P **PKPbc** 16 42 16.8 -1.7
HINF Hinteralfeld 152.96 352 *e*PKIKP **PKPdf** 16 42 09.9 -0.7
HINF pmax pmax
comp=Z,47nm,0.8s
DAVA Damuels 152.96 347 *i* PKP **PKPdf** 16 42 10.5 -0.3
comp=Z,24nm,0.9s,SNR=9.1
DAVA *i* PKP **PKPbc** 16 42 18.5 -0.1
comp=Z,129nm,1.2s
DAVA *e*PKP **PKPab** 16 42 32.4 -0.2
comp=Z,64nm,0.8s
QUIF Quistinic 152.97 7 *e*PKIKP **PKPdf** 16 42 11.6 +1.1
QUIF pmax pmax
comp=Z,69nm,1.0s
SJES Sjenica 152.97 329 ⇓ *i*P **PKPdf** 16 42 09.9 -0.9
RUDO Rudo 152.98 330 *e*P **PKPdf** 16 42 10.2 -0.5
FETA Feichten 153.02 346 *i* PKP **PKPdf** 16 42 10.6 -0.2
comp=Z,70nm,0.9s,SNR=26
FETA *i* PKP **PKPbc** 16 42 18.6 -0.1
comp=Z,126nm,1.0s
FETA *e*PKP **PKPab** 16 42 33.0 +0.1
comp=Z,27nm,0.9s
SKO Skopje 153.17 325 *i* P **PKPdf** 16 42 10.5 -0.5
PLE Pljevlja 153.19 330 ⇓ *i*PKP **PKPdf** 16 42 10.6 -0.6
IVA Berane 153.30 329 ⇓ *i*PKP **PKPdf** 16 42 10.4 -0.9
PVY Plav 153.48 328 ⇓ *i*PKP **PKPdf** 16 42 10.4 -1.2
KOME Kolasin 153.50 329 ⇓ *i*PKP **PKPdf** 16 42 11.1 -0.5
LOR Lormes 153.79 356 *e*PKIKP **PKPdf** 16 42 11.1 -0.6
LOR pmax pmax
comp=Z,42nm,1.1s
NKME Niksic 153.83 330 ⇓ *i*PKP **PKPdf** 16 42 10.9 -1.1
XOR Xorichti 153.90 319 P **PKPdf** 16 42 10.7 -1.4
SSF Saint Saulge 154.02 357 *e*PKIKP **PKPdf** 16 42 12.4 +0.4
SSF pmax pmax
comp=Z,75nm,1.0s
CEME Cevo 154.02 329 ⇓ *i*PKP **PKPdf** 16 42 11.2 -1.1
FNA Florina 154.03 324 P **PKPdf** 16 42 10.6 -1.7
FNA Florina 154.03 324 PKIKP **PKPdf** 16 42 10.6 -1.7
OHR Ohrid 154.12 325 *i* P **PKPdf** 16 42 12.0 -0.5
BRJN Brijuni 154.13 340 *i* P **PKPdf** 16 42 11.6 -0.6
DRME Dracevica, Mon 154.16 329 ⇓ *i*P **PKPdf** 16 42 11.0 -1.4
DRME Dracevica, Mon 154.16 329 ⇓ *i*PKP **PKPdf** 16 42 11.6 -0.8
BUM Brajici-Budva 154.22 329 ⇓ *i*PKP **PKPdf** 16 42 11.8 -0.7
VIRC Vir 154.22 337 *i* P **PKPdf** 16 42 11.4 -1.0
CABF La Chapelle 154.24 353 *e*PKIKP **PKPdf** 16 42 13.3 +0.8
CABF pmax pmax
comp=Z,68nm,0.8s
PTL Penteli 154.25 316 P **PKPdf** 16 42 11.7 -1.0
AVF Avril sur Loir 154.30 357 *e*PKIKP **PKPdf** 16 42 11.6 -0.8
AVF pmax pmax
comp=Z,26nm,1.4s
ULC Ulcinj 154.30 328 ⇓ *i*PKP **PKPdf** 16 42 11.9 -0.7
ZIRJ Zirje 154.54 335 *i* P **PKPdf** 16 42 11.1 -1.7
MAKR Makrakomi, Fth 154.76 320 P **PKPdf** 16 42 12.0 -1.3
LPL La Plagne 155.23 351 *e*PKIKP **PKPdf** 16 42 14.8 +0.8
LPL pmax pmax
comp=Z,43nm,1.4s
LPG La Plagne 155.24 351 *e*PKIKP **PKPdf** 16 42 14.0 -0.1
LPG pmax pmax
comp=Z,39nm,1.2s
RJF Les Rejaudoux 155.83 360 *e*PKIKP **PKPdf** 16 42 14.0 -0.5
RJF pmax pmax
comp=Z,51nm,1.1s
ORIF Oris-en-Rattie 155.93 352 *e*PKIKP **PKPdf** 16 42 14.3 -0.5
ORIF pmax pmax
comp=Z,48nm,1.4s
CAF Calviac 156.20 359 *e*PKIKP **PKPdf** 16 42 14.7 -0.4
CAF pmax pmax
comp=Z,66nm,1.4s
TIP Timpagrande 157.64 327 ⇑P **PKPdf** 16 42 15.1 -2.0
PGF Pioggiola 157.65 345 *e*PKIKP **PKPdf** 16 42 16.8 -0.3
PGF pmax pmax
comp=Z,48nm,1.2s
EPF Esparros 158.09 2 *e*PKIKP **PKPdf** 16 42 17.2 -0.3
EPF pmax pmax
comp=Z,52nm,1.3s
ETSF Etsaut 158.18 4 *e*PKIKP **PKPdf** 16 42 17.5 -0.1
ETSF pmax pmax
comp=Z,20nm,0.9s
PBRG Braganca 158.22 17 *e*PKPdf **PKPdf** 16 42 17.3 -0.4
PBRG Braganca 158.22 17 *e*PKPab **PKPab** 16 42 55.3 0.0
PVRL Vila Real 158.43 19 *e*PKPab **PKPab** 16 42 57.4 +1.2
MVO Moncorvo 158.74 18 *e*PKPdf **PKPdf** 16 42 19.3 +0.9
MVO Moncorvo 158.74 18 *e*PKPab **PKPab** 16 42 58.2 +0.6
PVIS Viseu 158.89 20 *e*PKPdf **PKPdf** 16 42 19.1 +0.6
PVIS Viseu 158.89 20 *e*PKPab **PKPab** 16 42 58.6 +0.3
PCAS Casmilo, Conde 159.28 22 *e*PKPdf **PKPdf** 16 42 19.5 +0.6
PCAS Casmilo, Conde 159.28 22 *e*PKPab **PKPab** 16 43 00.2 +0.3
MTE Manteigas 159.28 20 *e*PKPdf **PKPdf** 16 42 18.4 -0.6
MTE Manteigas 159.28 20 *e*PKPab **PKPab** 16 43 00.3 +0.3
PCBR Castelo Branco 159.81 20 *e*PKPdf **PKPdf** 16 42 20.4 +0.9
PCBR Castelo Branco 159.81 20 *e*PKPab **PKPab** 16 43 02.4 +0.2
PMAFR Mafra 159.95 25 *e*PKPdf **PKPdf** 16 42 18.7 -1.0
PMAFR Mafra 159.95 25 *e*PKPab **PKPab** 16 43 03.0 +0.1
LIS Lisbon 160.21 25 *e*PKPdf **PKPdf** 16 42 21.3 +1.3
LIS Lisbon 160.21 25 PKIKP **PKPdf** 16 42 21.2 +1.3
LIS Lisbon 160.21 25 *e*PKPdf **PKPdf** 16 42 21.1 +1.1
PMRV Marv??o 160.22 20 *e*PKPdf **PKPdf** 16 42 20.6 +0.6
PMRV Marv??o 160.22 20 *e*PKPab **PKPab** 16 43 03.9 -0.2
PMTG Montargil 160.25 23 *e*PKPdf **PKPdf** 16 42 20.3 +0.3
PMTG Montargil 160.25 23 *e*PKPab **PKPab** 16 43 03.7 -0.5
PESTR Estremoz 160.66 22 *e*PKPdf **PKPdf** 16 42 20.8 +0.3
PESTR Estremoz 160.66 22 *e*PKPab **PKPab** 16 43 05.6 -0.4
EVO Evora 160.81 23 *e*PKPdf **PKPdf** 16 42 21.5 +0.9
EVO Evora 160.81 23 *e*PKPab **PKPab** 16 43 06.9 +0.3
ESDC Sonseca Array 160.90 13 PKP **PKPdf** 16 42 21.6 +0.9
comp=Z,9.6nm,1.

PNCL	**Nicolau / Gran**	**160.98**	**25**	*e*PKPab	**PKPab**	**16 43 07.4**	**0.0**
PBEJ	**Beja**	**161.31**	**23**	*e*PKPdf	**PKPdf**	**16 42 22.1**	**+0.9**
PBEJ	**Beja**	**161.31**	**23**	*e*PKPab	**PKPab**	**16 43 09.0**	**+0.1**
MESJ	**Messejana**	**161.34**	**24**	*e*PKPdf	**PKPdf**	**16 42 22.1**	**+0.9**
MESJ	**Messejana**	**161.34**	**24**	*e*PKPab	**PKPab**	**16 43 09.0**	**0.0**
MESJ	**Messejana**	**161.34**	**24**	*e*PKPdf	**PKPdf**	**16 42 22.1**	**+0.9**
PTEO	**Sao Teotonio**	**161.39**	**26**	*e*PKPdf	**PKPdf**	**16 42 22.5**	**+1.2**
PBAR	**Barrancos**	**161.47**	**21**	*e*PKPdf	**PKPdf**	**16 42 22.5**	**+1.2**
PBAR	**Barrancos**	**161.47**	**21**	*e*PKPab	**PKPab**	**16 43 09.8**	**+0.3**
PCVE	**Castro Verde**	**161.59**	**24**	*e*PKPdf	**PKPdf**	**16 42 22.7**	**+1.2**
PCVE	**Castro Verde**	**161.59**	**24**	*e*PKPab	**PKPab**	**16 43 09.9**	**-0.2**
MORF	**Marmelete**	**161.62**	**26**	*e*PKPdf	**PKPdf**	**16 42 22.6**	**+1.0**
MORF	**Marmelete**	**161.62**	**26**	*e*PKPab	**PKPab**	**16 43 10.2**	**-0.1**
MORF	**Marmelete**	**161.62**	**26**	*e*PKPdf	**PKPdf**	**16 42 22.8**	**+1.2**
PFVI	**Vila Bisbo**	**161.70**	**27**	*e*PKPdf	**PKPdf**	**16 42 22.8**	**+1.2**
PFVI	**Vila Bisbo**	**161.70**	**27**	*e*PKPab	**PKPab**	**16 43 11.4**	**+0.8**
PVAQ	**Vaqueiros**	**161.91**	**24**	*e*PKPdf	**PKPdf**	**16 42 23.1**	**+1.3**
PVAQ	**Vaqueiros**	**161.91**	**24**	*e*PKPab	**PKPab**	**16 43 10.7**	**-0.8**
PBDV	**Barranco-do-Ve**	**161.97**	**25**	*e*PKPdf	**PKPdf**	**16 42 20.7**	**-1.2**
PBDV	**Barranco-do-Ve**	**161.97**	**25**	*e*PKPab	**PKPab**	**16 43 13.0**	**+1.2**
KEST	**Kesra**	**163.81**	**336**	PKP	**PKPdf**	**16 42 23.9**	**+0.1**
	comp=Z,17nm,1.0s,baz=284,slow=1.4,SNR=13						
KEST				PKPab	**PKPab**	**16 43 19.9**	**-0.1**
	comp=Z,34nm,0.9s,baz=310,slow=3.8,SNR=12						
LIC	**Lamto**	**163.98**	**156**	*e*PKP1	**PKPdf**	**16 42 23.6**	**-0.9**
	comp=Z,266nm,1.0s						
LIC	**Lamto**	**163.98**	**156**	⇑ *i*P	**PKPab**	**16 43 22.9**	**+1.8**
	comp=Z,81nm,0.8s						
KIC	**Kosan Boka**	**164.22**	**157**	⇓ *e*PKP1	**PKPdf**	**16 42 24.3**	**-0.4**
	comp=Z,203nm,0.9s						
KIC	**Kosan Boka**	**164.22**	**157**	⇑ *i*PKP2	**PKPab**	**16 43 23.8**	**+1.6**
	comp=Z,71nm,0.9s						
TIC	**Toumodi**	**164.37**	**156**	⇓ *e*PKP1	**PKPdf**	**16 42 23.9**	**-0.9**
	comp=Z,207nm,1.0s						
TIC	**Toumodi**	**164.37**	**156**	⇑ *i*PKP2	**PKPab**	**16 43 24.5**	**+1.6**
	comp=Z,80nm,0.8s						
DBIC	**Dimbokro**	**164.46**	**156**		**PKPdf**	**16 42 25.0**	**+0.1**
DBIC				PKPab	**PKPab**	**16 43 25.2**	**+2.0**
DBIC	**Dimbokro**	**164.46**	**156**	PKIKP	**PKPdf**	**16 42 25.0**	**+0.1**
DBIC						16 43 25.2	
DBIC	**Dimbokro**	**164.46**	**156**	PKP	**PKPdf**	**16 42 24.6**	**-0.2**
	comp=Z,67nm,0.9s,baz=170,slow=1.5,SNR=44						
DBIC				PKPab	**PKPab**	**16 43 25.1**	**+1.9**
	comp=Z,20nm,0.8s,baz=153,slow=7.8,SNR=7.0						
DBIC				pPKPab	**pPKPab**	**16 45 25.6**	**+0.1**
	comp=Z,12nm,1.0s,baz=291,slow=2.1,SNR=2.9						
MDT	**Midelt**	**167.15**	**23**	PKP	**PKPdf**	**16 42 27.6**	**+1.1**
	comp=Z,38nm,1.0s,baz=21,slow=0.9,SNR=35						
MDT				PKPab	**PKPab**	**16 43 35.3**	**+0.4**
	comp=Z,13nm,0.8s,baz=335,slow=6.0,SNR=12						
MDT				PP	**PP**	**16 47 24.8**	**+1.2**
	comp=Z,7.4nm,1.2s,baz=10.0,slow=5.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**172.11**	**182**	PKP	**PKPdf**	**16 42 29.1**	**-0.7**
	comp=Z,43nm,0.9s,baz=4.7,slow=2.5,SNR=171						
TORD				PKPab	**PKPab**	**16 43 57.6**	**+0.6**
	comp=Z,12nm,0.8s,baz=154,slow=2.0,SNR=8.4						
TORD				pPKP	**pPKPdf**	**16 44 42.5**	**+1.2**
	comp=Z,5.9nm,1.0s,baz=343,slow=4.0,SNR=3.0						
TORD				pPKPab	**pPKPab**	**16 46 00.5**	**+0.8**
	comp=Z,10nm,0.9s,baz=139,slow=1.1,SNR=9.1						
TORD				PP	**PP**	**16 47 51.0**	**+3.4**
	comp=Z,4.1nm,1.0s,baz=325,slow=2.0,SNR=3.9						

*JMA **09** 16:31:40.5±0.6,36°N±2″×12°29E±″, h8km,MV3.2/11,S KOREAN PENINSULA REG*
*KMA **09** 16:31:40.0±0.3,36.14N×129.37E,h6km±4km, Error ellipse: s-maj=1.5km s-min=1.0km az=77.0*
*KEA **09** 16:31:43.2,36.35N×128.99E,h7km,ML3.0/2*

ISC 09 16:31:38.2±1.0,36°10N±0.04×129°25E±0.06,h14km±10km, n13,σ0§67/23,South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSPHA	**Pohang**	**0.14**	**44**	P	**Pg**	**16 31 41.6**	**-0.2**
YOCB	**Yeongcheon**	**0.27**	**244**	P	**Pn**	**16 31 47.3**	**-0.6**
KSADO	**Andong**	**0.40**	**322**	S	**Sb**	**16 31 54.6**	**+1.4**
KSUSN	**Ulsan**	**0.41**	**195**	P	**Pn**	**16 31 49.1**	**-0.6**
KSUSN				P	**Pn**	**16 31 49.1**	**-0.6**
KSDAG	**Daegu**	**0.44**	**222**	P	**Pn**	**16 31 50.1**	**0.0**
	SNR=218						
KSDAG				P	**Pn**	**16 31 50.1**	**0.0**
	SNR=218						
KSDAG				S	**Sn**	**16 31 57.3**	**-0.6**
KSDAG				S	**Sn**	**16 31 57.3**	**-0.6**
YODB	**Yeongdeok**	**0.46**	**16**	P	**Pg**	**16 31 47.7**	**+0.4**
	SNR=473						
YODB				P	**Pg**	**16 31 47.7**	**+0.4**
	SNR=473						
JTU	**Tsushima**	**1.57**	**176**	*e*P	**Pg**	**16 32 08.8**	**+0.4**
JTU				*e*S	**Sg**	**16 32 29.0**	**+0.1**
JTSM	**Tsushimamitsus**	**1.76**	**176**	*e*P	**Pg**	**16 32 12.0**	**+0.1**
JTSM				*e*S	**Sg**	**16 32 34.7**	**0.0**
JHGM	**Hagimishima**	**2.02**	**130**	*e*P	**Pg**	**16 32 16.2**	**-0.9**
JII	**Iki**	**2.33**	**170**	*e*P	**Pb**	**16 32 20.9**	**+0.9**
JII				*e*S	**Sb**	**16 32 49.8**	**+1.2**
JTY	**Toyota**	**2.35**	**140**	*e*P	**Pb**	**16 32 20.4**	**0.0**
JTY				*e*S	**Sb**	**16 32 49.8**	**+0.4**
HJU	**Haeju**	**3.43**	**306**	Pg	**Pg**	**16 32 43.5**	**-0.3**
HJU				Sg	**Sg**	**16 33 27.5**	**-0.8**
HJU				AML	AML		
	comp=N,135nm,0.6s						
HJU				AML	AML		
	comp=E,61nm,0.5s						
HJU				AML	AML		
	comp=Z,33nm,0.2s						
PYAG	**Pyongyang**	**4.05**	**318**	Sg	**Sg**	**16 33 47.7**	**-0.6**

IDC 09 16:35:20.1±8.5,18°20S×172°16W,h0km,mb3.5/3, mbtmp3.5/3,Error ellipse: s-maj=367.8km s-min=40.4km az=141.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**50.42**	**259**	P	P	16 44 19.9	+0.1
	0.7nm,0.9s,baz=97,slow=7.4,SNR=7.7 0.7nm,0.9s						
ASAR	**Alice Springs**	**50.43**	**254**	P	P	16 44 19.6	-0.3
	0.2nm,0.7s,baz=89,slow=8.2,SNR=6.0 0.2nm,0.7s						
ILAR	**Eielson Array**	**84.95**	**11**	P	P	16 47 56.6	-0.1
	0.5nm,0.7s,baz=216,slow=4.5,SNR=4.4 0.5nm,0.7s						

IDC 09 16:39:09.4±1.5,29°79N×105°24E,h0km,mb3.7/4, mbtmp3.7/4,MS3.6/3,Error ellipse: s-maj=361.0km s-min=23.9km az=55.0,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**24.61**	**320**	P	P	16 44 31.6	+0.3
	0.8nm,0.5s,baz=116,slow=9.3,SNR=5.0						
MKAR				LR	LR	16 55 22.7	
	comp=Z,102nm,21.6s,baz=126,slow=40 0.8nm,0.5s						
KLR	**Kul'dur**	**27.97**	**39**	LR	LR	16 57 34.4	
	comp=Z,222nm,21.9s,baz=316,slow=40						
ZALV	**Zalesovo Beam**	**28.33**	**334**	LR	LR	16 57 09.8	
	comp=Z,92nm,21.3s,baz=196,slow=38						
WRA	**Warramunga Arr**	**56.84**	**147**	P	P	16 48 55.9	0.0
	1.2nm,0.8s,baz=335,slow=7.6,SNR=1.9 1.2nm,0.8s						
FINES	**FINESS Array B**	**59.20**	**327**	P	P	16 49 11.6	-0.3
	1.0nm,0.6s,baz=103,slow=7.6,SNR=3.5 1.0nm,0.6s						
ASAR	**Alice Springs**	**59.87**	**149**	P	P	16 49 17.0	-0.1
	0.5nm,0.8s,baz=333,slow=6.3,SNR=9.8 0.5nm,0.8s						

PGC 09 16:48:07.8±0.0,52°22N×114°03W,h1km,ML3.6/7,61km Ese of Rocky Mt. House, Alberta Alberta, Canada, Alberta

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDM	**Edmonton**	**1.09**	**22**	P	Pg	16 48 27.1	-1.6
EDM				S	Sg	16 48 41.7	-1.1
BRLDA	**Berland Lookou**	**2.77**	**314**	Pg	Pb	16 48 58.3	+0.2
BRLDA	**Berland Lookou**	**2.77**	**314**	Sg	Sb	16 49 32.8	+0.2
SWHSA	**Sweathouse Loo**	**3.14**	**330**	Pn	Pn	16 48 58.3	-0.1
SWHSA	**Sweathouse Loo**	**3.14**	**330**	Sg	Sb	16 49 45.0	+1.7
STPRA	**Salt Prairie L**	**3.61**	**344**	Pn	Pn	16 49 04.0	-0.9
STPRA				Sn	Sn	16 49 45.0	-3.2
STPRA				Sg	Sb	16 49 59.2	+2.4
BDMTA	**Bald Mountain**	**3.91**	**314**	Pg	Pb	16 49 18.3	+0.8
BDMTA				Sn	Sn	16 49 52.0	-3.6
BDMTA	**Bald Mountain**	**3.91**	**314**	Sg	Sb	16 50 08.7	+3.4
YBMT	**Yellow Bay**	**4.36**	**180**	Pg	Pb	16 49 25.0	-0.2
YBMT	**Yellow Bay**	**4.36**	**180**	Sg	Sb	16 50 20.8	+2.6
BSMT	**Bassoo Peak**	**4.40**	**187**	Pn	Pn	16 49 15.4	-0.4
BSMT				Pg	Pb	16 49 25.9	0.0
BSMT	**Bassoo Peak**	**4.40**	**187**	Sg	Sb	16 50 23.7	+4.2
JTMT	**Jette**	**4.48**	**182**	Pn	Pn	16 49 16.1	-0.8
JTMT				Pg	Pb	16 49 26.8	-0.5
JTMT	**Jette**	**4.48**	**182**	Sg	Sb	16 50 24.4	+2.7
PNT	**Penticton**	**4.58**	**233**	Pg	Pb	16 49 30.1	+1.1
WTMTA	**White Mountain**	**4.65**	**321**	Sn	Sn	16 50 10.9	-2.9
B08A	**Colville Reser**	**5.14**	**223**	Sg	Sg	16 50 48.4	-4.6
LLLB	**Lillooet**	**5.17**	**255**	Pg	Pg	16 49 43.1	-3.7
LLLB	**Lillooet**	**5.17**	**255**	Sg	Sg	16 50 47.7	-6.1
C09A	**Chrisman Ranch**	**5.20**	**213**	Sg	Sg	16 50 49.0	-5.7
OVMT	**Ovando**	**5.20**	**172**	Pn	Pn	16 49 26.6	-0.2
OVMT	**Ovando**	**5.20**	**172**	Sg	Sb	16 50 47.9	+5.4
WSLR	**Whistler**	**5.97**	**253**	Sg	Sg	16 51 13.7	-5.8

*IDC **09** 17:03:07.5±0.9,6°15S×143°19E,h0km,mb3.9/7, mbtmp3.9/10,ML3.5/1,MS3.3/1,Error ellipse: s-maj=33.7km s-min=19.3km az=71.0*

ISC 09 17:03:12.7±0.8,6°42S±0°08×142°94E±0°09,h35km,n10, σ1§80/13,mb3.9/7,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.12**	**126**	Pn	**Pn**	**17 04 26.1**	**-0.8**
	4.7nm,0.5s,baz=6.2,slow=3.7,SNR=6.9						
PMG				Sn	**Sn**	**17 05 25.2**	**+0.3**
	0.6nm,0.3s,baz=313,slow=22,SNR=1.7						
WRA	**Warramunga Arr**	**15.83**	**211**	Pn	**P**	**17 06 54.6**	**-1.9**
	0.2nm,0.3s,baz=30,slow=13,SNR=14						
WRA				Sn	**Sn**	**17 09 46.0**	**-1.5**
	0.2nm,0.3s,baz=39,slow=26,SNR=3.3						
WRA				Lg	Lg	17 11 36.7	
	0.1nm,0.3s,baz=40,slow=29,SNR=7.3 1.5nm,0.7s						
ASAR	**Alice Springs**	**19.23**	**206**	P	**Pn**	**17 07 37.7**	**+2.5**
	13nm,0.8s,baz=32,slow=9.9,SNR=96						
ASAR				Sn	**S**	**17 11 07.9**	**-2.2**
	0.1nm,0.3s,baz=16,slow=27,SNR=4.3						
ASAR				Lg	Lg	17 13 21.4	
	baz=22,slow=29,SNR=2.2						
ASAR				LR	LR	17 14 48.7	
	comp=Z,78nm,18.5s,baz=7.0,slow=36						
STKA	**Stephens Creek**	**25.36**	**183**	P	**P**	**17 08 38.9**	**+2.3**
	1.2nm,0.7s,baz=318,slow=12,SNR=3.3 1.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**49.94**	**301**	P	**P**	**17 12 05.4**	**+1.9**
	0.8nm,0.3s,baz=119,slow=2.8,SNR=4.6 0.8nm,0.3s						
SONM	**Songino Array**	**62.88**	**333**	P	**P**	**17 13 33.8**	**-1.5**
	0.1nm,0.3s,baz=102,slow=6.6,SNR=1.5 0.1nm,0.3s						
MKAR	**Makanchi Array**	**75.29**	**322**	P	**P**	**17 14 51.7**	**-0.5**
	0.6nm,0.8s,baz=104,slow=7.9,SNR=5.0 0.6nm,0.8s						
QSPA	**South Pole Qui**	**83.55**	**180**	P	**P**	**17 15 38.3**	**+1.3**
	1.3nm,0.8s,baz=284,slow=0.5,SNR=2.8 1.3nm,0.8s						
BVAR	**Borovoye Array**	**84.75**	**325**	P	**P**	**17 15 43.3**	**+0.1**
	2.8nm,0.8s,baz=132,slow=8.0,SNR=11 2.8nm,0.8s						
ILAR	**Eielson Array**	**87.47**	**24**	P	**P**	**17 15 55.3**	**-1.1**
	0.6nm,0.8s,baz=222,slow=6.4,SNR=4.8 0.6nm,0.8s						

*IDC **09** 17:12:06.5±1.2,33°26N×142°54E,h0km,mb3.5/7, mbtmp3.6/10,ML3.5/3,Error ellipse: s-maj=27.6km s-min=21.3km az=93.0*
*JMA **09** 17:12:09.6±0.4,33°N±1°×14°2E±″, h9km,MV3.9/21,FAR E OFF IZU ISLANDS*

ISC 09 17:12:08.6±3.7,33°35N±0°06×142°40E±0°07,h13km±23km, n25,σ1§85/35,mb3.6/8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.76**	**318**	P	**Pb**	**17 12 39.6**	**-0.8**
BSO1				*e*S	**Sb**	**17 13 01.9**	**-0.4**
BSO2	**Boso 2**	**1.96**	**316**	*e*S	**Sb**	**17 13 07.3**	**-0.9**
BSO3	**Boso 3**	**2.14**	**313**	P	**Pn**	**17 12 45.2**	**+1.4**
BSO3				*e*S	**Sb**	**17 13 11.7**	**-1.8**
JHJ2	**Mitsune**	**2.18**	**265**	P	**Pn**	**17 12 45.3**	**+0.7**
JHJ2				*e*S	**Sb**	**17 13 11.3**	**-3.6**
JHCJ	**Hachijojimakas**	**2.20**	**264**	S	**Sn**	**17 13 09.9**	**-2.1**
JHJ	**Hachijo jima 2**	**2.21**	**265**	Pn	**Pn**	**17 12 45.3**	**+0.3**
	29nm,0.3s,baz=318,slow=20,SNR=6.9						
JHJ				Sn	**Sn**	**17 13 09.8**	**-2.4**
	82nm,0.3s,baz=55,slow=23,SNR=12 61nm,0.3s						
BSO4	**Boso 4**	**2.37**	**314**	P	**Pn**	**17 12 49.0**	**+1.9**
BSO4				*e*S	**Sb**	**17 13 18.1**	**-2.2**
JMKN	**Mikurajimanish**	**2.41**	**284**	*e*S	**Sn**	**17 13 17.1**	**-0.1**
JYN	**Shimob**	**3.84**	**305**	P	**Pn**	**17 13 09.4**	**+1.8**
JYN				*e*S	**Sn**	**17 13 53.0**	**+0.3**
JAG	**Ashikaga**	**3.91**	**323**	P	**Pn**	**17 12 45.1**	**+1.6**
JRY	**Ryogami san**	**3.93**	**314**	P	**Pn**	**17 13 10.7**	**+2.0**
JRY				*e*S	**Sn**	**17 13 55.8**	**+1.1**
JOTO	**OTAMA OYAMA**	**4.53**	**339**	P	**Pn**	**17 13 18.1**	**+1.1**
JOTO				S	**Sn**	**17 14 06.8**	**-2.8**
MJAR	**Matsushiro Arr**	**4.69**	**314**	Pn	**Pn**	**17 13 20.9**	**+1.7**
	0.2nm,0.3s,baz=156,slow=12,SNR=8.8						
MJAR				Sn	**Sn**	**17 14 13.6**	**0.0**
	0.6nm,0.3s,baz=160,slow=28,SNR=8.0 1.0nm,0.3s						
MAT	**Matsushiro**	**4.70**	**314**	*e*P	**Pn**	**17 13 21.8**	**+2.5**
MAT				*e*S	**Sn**	**17 14 13.8**	**+0.2**
JMK	**Ichinoseki**	**5.68**	**351**	P	**Pn**	**17 13 32.5**	**-0.1**
JMK				*e*S	**Sn**	**17 14 32.2**	**-5.5**
JCJ	**Chichijima**	**6.23**	**182**	Pn	Pn	17 13 33.0	-7.3
	4.0nm,0.3s,baz=280,slow=18,SNR=1.3						
JCJ				Sn	Sn	17 14 40.3	-11
	3.6nm,0.3s,baz=308,slow=22,SNR=1.5						
ASAJ	**Asahikawa**	**10.76**	**1**	Pn	**Pn**	**17 14 41.4**	**-1.0**
	1.1nm,0.3s,baz=227,slow=12,SNR=13 3.9nm,0.5s						
SEY	**Seymchan**	**30.27**	**9**	P	**P**	**17 18 19.9**	**+0.7**
	0.8nm,0.5s,baz=181,slow=7.4,SNR=6.6 0.8nm,0.5s						
SONM	**Songino Array**	**30.63**	**309**	P	**P**	**17 18 24.6**	**+2.0**
	0.3nm,0.6s,baz=91,slow=6.8,SNR=3.0 0.3nm,0.6s						
MKAR	**Makanchi Array**	**46.83**	**305**	P	**P**	**17 20 38.9**	**+0.6**
	0.8nm,0.9s,baz=98,slow=8.9,SNR=3.3 0.8nm,0.9s						
KURBB	**Kurchatov Arra**	**48.96**	**311**	P	**P**	**17 20 55.1**	**+0.5**
	0.6nm,0.5s,baz=84,slow=7.2,SNR=5.0						
ILAR	**Eielson Array**	**52.21**	**31**	P	**P**	**17 21 19.0**	**+0.1**
	0.3nm,0.6s,baz=268,slow=6.3,SNR=4.5 0.3nm,0.6s						
WRA	**Warramunga Arr**	**53.55**	**189**	P	**P**	**17 21 28.0**	**-1.2**
	0.3nm,0.6s,baz=2.6,slow=7.1,SNR=2.1 0.3nm,0.6s						
BVAR	**Borovoye Array**	**53.69**	**315**	P	**P**	**17 21 30.8**	**+0.8**
	0.4nm,0.5s,baz=79,slow=7.0,SNR=2.5 0.4nm,0.5s						
ASAR	**Alice Springs**	**57.27**	**189**	P	**P**	**17 21 55.9**	**-0.1**
	0.3nm,0.8s,baz=2.9,slow=7.2,SNR=1.9 0.3nm,0.8s						

*IDC **09** 17:13:56.2±0.7,0°62S×26°61E,h0km,mb4.0/18, mbtmp4.0/20,ML4.7/2,Error ellipse: s-maj=24.0km s-min=15.6km az=91.0*
*NEIC **09** 17:13:57.3±1.2,0°66S±0°08×26°60E±0°05,h10km±1km, mb4.5/23,Error ellipse: s-maj=15.7km s-min=5.1km az=211.0*

ISC 09 17:13:57.3±0.5,0°63S±0°07×26°71E±0°07,h10km,n54, σ1§21/57,mb4.3/25,Zaire

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBAR	**Mbarara**	**4.02**	**90**		**Pn**	**17 15 01.9**	**+2.6**
MBAR				Sn	**Sn**	**17 15 44.8**	**-1.7**
MBAR	**Mbarara**	**4.02**	**90**	Pn	**Pn**	**17 15 02.4**	**+3.2**
	33nm,0.3s,baz=196,slow=3.1,SNR=47						
MBAR				Sn	**Sn**	**17 15 44.4**	**-2.1**
	73nm,0.3s,baz=303,slow=21,SNR=6.1						
MBAR				Lg	Lg	17 16 03.0	
	289nm,0.3s,baz=143,slow=23,SNR=17 78nm,0.3s						
MBAR	**Mbarara**	**4.02**	**90**	*e*P	Pn	17 15 04.3	+5.1
MBAR				*e*S	**Sn**	**17 15 46.1**	**-0.4**
GETA	**Geita**	**6.89**	**109**	*i* P	**Pn**	**17 15 41.5**	**+2.8**
GETA				*i* S	Sn	17 16 41.4	-16
LODK	**Lodwar**	**9.54**	**65**		**Pn**	**17 16 15.4**	**+0.5**
LODK	**Lodwar**	**9.54**	**65**	*e*P	**Pn**	**17 16 17.6**	**+2.7**
LODK				*e*S	**Sn**	**17 17 58.7**	**-3.5**
KIBK	**Kibwezi**	**11.46**	**99**	Pn	**Pn**	**17 16 41.4**	**+0.2**
LSZ	**Lusaka**	**14.63**	**174**	Pn	**Pn**	**17 17 23.7**	**-0.9**
LSZ	**Lusaka**	**14.63**	**174**	Pn	**Pn**	**17 17 24.2**	**-0.5**
	0.7nm,0.3s,baz=1.2,slow=12,SNR=5.0						
LSZ				Sn	Sn	17 19 56.7	-10
	0.6nm,0.3s,baz=334,slow=18,SNR=3.0						
LSZ				Lg	Lg	17 21 28.9	
	0.4nm,0.3s,baz=297,slow=20,SNR=1.2 2.1nm,0.4s						
TSUM	**Tsumeb**	**20.51**	**205**	P	**P**	**17 18 35.5**	**-0.5**
	1.4nm,0.4s,baz=15,slow=16,SNR=1.7						
TSUM				S	S	17 22 12.8	-13
	1.6nm,0.3s,baz=0.0,slow=11,SNR=1.6 1.4nm,0.4s						
LBTB	**Lobatse**	**24.27**	**182**	P	**P**	**17 19 13.8**	**-1.1**
LBTB	**Lobatse**	**24.27**	**182**	P	**P**	**17 19 15.7**	**+0.7**
	2.5nm,0.7s,baz=358,slow=11,SNR=2.4 2.5nm,0.7s						
BOSA	**Boshof**	**27.86**	**183**	P	**P**	**17 19 45.6**	**-1.8**
BOSA				IAmb	IAmb	17 20 04.2	
	comp=Z,11nm,1.4s						
BOSA	**Boshof**	**27.86**	**183**	P	**P**	**17 19 48.3**	**+0.8**
	comp=Z,2.7nm,0.7s,baz=0.6,slow=8.2,SNR=5.5 comp=Z,2.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**28.33**	**300**	P	**P**	**17 19 51.0**	**-0.7**
	comp=Z,2.9nm,0.4s,baz=101,slow=7.6,SNR=30 comp=Z,2.9nm,0.4s						
SUR	**Sutherland**	**32.07**	**189**	P	**P**	**17 20 24.7**	**-0.1**
RAFF	**Raffo Rosso**	**39.36**	**344**	P	**P**	**17 21 25.6**	**-1.4**
RAFF				IAmb	IAmb	17 21 31.3	
	comp=Z,12nm,1.0s						
KEST	**Kesra**	**39.63**	**338**	P	**P**	**17 21 30.5**	**+1.0**
	comp=Z,2.1nm,0.7s,baz=161,slow=8.8,SNR=3.7 comp=Z,2.1nm,0.7s						
AGG	**Agios Georgios**	**39.66**	**355**	P	**P**	**17 21 29.6**	**-0.1**
TIP	**Timpagrande**	**40.66**	**348**	P	**P**	**17 21 38.3**	**+0.5**
TIP				IAmb	IAmb	17 22 21.7	
	comp=Z,10nm,1.3s						
BRTR	**Keskin Array B**	**40.66**	**8**	P	**P**	**17 21 37.9**	**-0.1**
BRTR	**Keskin Array B**	**40.66**	**8**	P	**P**	**17 21 39.2**	**+1.3**
	comp=Z,2.8nm,0.6s,baz=181,slow=10,SNR=18 comp=Z,2.8nm,0.6s						
BR131	**Keskin Array S**	**40.66**	**8**	P	**P**	**17 21 37.3**	**-0.7**
BR131				IAmb	IAmb	17 21 42.9	
	comp=Z,3.4nm,0.7s						
MLR	**Muntele Rosu**	**45.93**	**359**	P	**P**	**17 22 22.5**	**+2.0**
	comp=Z,2.9nm,0.8s,baz=173,slow=11,SNR=4.3 comp=Z,2.9nm,0.8s						
BURAR	**Bucovina Array**	**48.07**	**359**	P	**P**	**17 22 37.5**	**+0.4**
BURAR				IAmb	IAmb	17 22 43.4	
	comp=Z,3.5nm,1.4s						
DAVOX	**Davos/Dischmat**	**49.47**	**345**	P	**P**	**17 22 48.6**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=141,slow=6.5,SNR=3.7 comp=Z,1.9nm,0.6s						
GEC2	**GERESS Array S**	**50.55**	**349**	P	**P**	**17 22 55.6**	**-0.5**
GERES	**GERESS Array B**	**50.55**	**349**	P	**P**	**17 22 55.4**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=177,slow=8.0,SNR=6.0 comp=Z,1.1nm,0.6s						
KHC	**Kasperske Hory**	**50.85**	**349**	P	**P**	**17 22 57.7**	**-0.6**
KHC				IAmb	IAmb	17 23 01.8	
	comp=Z,4.7nm,0.7s						
SUW	**Suwalki**	**54.53**	**357**	P	**P**	**17 23 25.4**	**0.0**
CHGR	**Chuyangaron**	**55.19**	**40**	P	**P**	**17 23 32.0**	**+1.5**
CHGR				IAmb	IAmb	17 23 34.1	
	comp=Z,7.6nm,0.7s						
ABKAR	**Akbulak array**	**57.33**	**25**	P	**P**	**17 23 45.9**	**+0.3**
KK31	**Karatay Array**	**58.59**	**36**	P	**P**	**17 23 53.8**	**-0.7**
KK31				IAmb	IAmb	17 23 58.5	
	comp=Z,1.9nm,0.8s						
KKAR	**Karatay Array**	**58.59**	**36**	P	**P**	**17 23 54.0**	**-0.5**
KKAR				IAmb	IAmb	17 23 58.5	
	comp=Z,1.8nm,0.8s						
KKAR	**Karatay Array**	**58.59**	**36**	P	**P**	**17 23 53.8**	**-0.7**
EKA	**Eskdalemuir Ar**	**60.89**	**341**	P	**P**	**17 24 10.5**	**+0.4**
	comp=Z,2.0nm,0.3s,baz=137,slow=7.7,SNR=1.8 comp=Z,2.0nm,0.3s						
HFS	**Hagfors**	**61.44**	**353**	P	**P**	**17 24 12.7**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=224,slow=4.0,SNR=1.7 comp=Z,0.9nm,0.6s						
FINES	**FINESS Array B**	**61.91**	**360**	P	**P**	**17 24 16.3**	**-0.6**
FINES	**

CNPM	China Poot	3.99	345	IAML		17 22 09.4	
	comp=N,20nm,1.0s						
CNPM				IAML		17 22 29.4	
	comp=E,17nm,1.0s						
Q19K	Cape Douglas,	4.02	326	Pn	Pn	17 21 19.2	+0.8
Q19K				IAML		17 22 17.1	
	comp=N,115nm,1.2s						
KAKN	Katmai Knife C	4.11	312		Pn	17 21 20.7	+1.1
BRSE	Bradley Lake S	4.14	350		Pn	17 21 20.1	+0.2
BRSE	Bradley Lake S	4.14	350	P	Pn	17 21 20.2	+0.2
	baz=169						
BRLK	Bradley Lake	4.18	349		Pn	17 21 20.6	+0.1
BRLK	Bradley Lake	4.18	349		Sn	17 22 09.4	+0.1
P23K	Montague Islan	4.43	12		Pn	17 21 24.5	+0.6
P23K					Sn	17 22 13.5	-2.1
P23K	Montague Islan	4.43	12	P	Pn	17 21 24.5	+0.6
	baz=193						
P23K				S	Sn	17 22 13.5	-2.1
	baz=193						
CNTC	Contact Creek	4.45	308		Pn	17 21 25.3	+1.0
Q17K	Contact Creek	4.45	308	P	Pn	17 21 25.3	+1.0
	baz=124						
P19K	Oil Pt	4.51	333		Pn	17 21 26.0	+1.0
P19K				IAML		17 23 58.9	
	comp=N,31nm,0.8s						
P19K				IAML		17 24 08.5	
	comp=E,47nm,1.1s						
P19K	Oil Pt	4.51	333	P	Pn	17 21 25.7	+0.7
	baz=151						
ILSW	Iliamna Southw	4.78	336		Pn	17 21 29.2	+0.4
ILSW	Iliamna Southw	4.78	336	IAML		17 22 59.4	
	comp=E,20nm,1.0s						
ILSW				IAML		17 24 11.1	
	comp=N,7.6nm,0.8s						
O22K	Cooper Landing	4.81	357		Pn	17 21 30.0	+0.9
O22K	Cooper Landing	4.81	357	P	Pn	17 21 30.0	+0.9
	baz=177						
SLKM	Skilak Lake	4.86	354		Pn	17 21 30.2	+0.4
SLKM					Sn	17 22 25.1	-1.0
P18K	Big Mountain,	4.91	322		Pn	17 21 30.8	+0.3
P18K	Big Mountain,	4.91	322	P	Pn	17 21 30.8	+0.3
	baz=137						
HIN	Hinchinbrook I	4.94	16		Pn	17 21 31.6	+0.6
KAIM	Kayak Island	4.97	29		Pn	17 21 31.8	+0.4
KAIM	Kayak Island	4.97	29	IAML		17 23 52.6	
	comp=N,61nm,1.1s						
KAIM	Kayak Island	4.97	29	P	Pn	17 21 31.8	+0.4
	baz=213						
RSO	Redoubt South	5.13	340	Pn	Pn	17 21 34.1	+0.4
RDWB	Redoubt West	5.17	340		Pn	17 21 34.0	-0.2
EYAK	Cordova Ski Ar	5.21	19		Pn	17 21 35.2	+0.6
EYAK	Cordova Ski Ar	5.21	19	P	Pn	17 21 35.2	+0.6
	baz=202						
O18K	Koktuh Hills	5.25	325	Pn	Pn	17 21 35.0	-0.2
O18K				IAML		17 22 38.4	
	comp=N,11nm,1.2s						
O18K				IAML		17 23 01.3	
	comp=E,5.8nm,0.7s						
NICHA	Nichawak Mount	5.36	30		Pn	17 21 37.4	+0.8
RC01	Rabbit Creek A	5.42	358	Pn	Pn	17 21 37.5	0.0
N20K	Mount Spurr	5.74	346	P	Pn	17 21 41.9	0.0
	baz=163						
SPCR	Spurr Chakacha	5.74	346		Pn	17 21 41.9	0.0
KNK	Knik Glacier	5.75	4		Pn	17 21 42.7	+0.6
KNK	Knik Glacier	5.75	4	P	Pn	17 21 42.7	+0.6
	baz=184						
N19K	Bonanza Creek	5.83	334		Pn	17 21 43.4	+0.2
N19K	Bonanza Creek	5.83	334	P	Pn	17 21 43.4	+0.2
	baz=150						
SUA	Susitna One	5.84	353	Pn	Pn	17 21 43.4	0.0
WAX	Waxell Ridge	5.86	33		Pn	17 21 43.7	+0.1
O17K	Koliganek Bris	5.86	318		Pn	17 21 43.7	+0.1
O17K	Koliganek Bris	5.86	318	P	Pn	17 21 43.7	+0.1
	baz=132						
MESA	MESA	5.95	38	Pn	Pn	17 21 44.8	-0.1
STLK	Strandline Lak	5.98	348		Pn	17 21 45.7	+0.4
CRQM	Cirque	6.02	30	Pn	Pn	17 21 45.6	-0.3
KLU	Klutina	6.08	15		Pn	17 21 47.3	+0.8
KLU	Klutina	6.08	15	P	Pn	17 21 47.3	+0.8
	baz=198						
GHO	Glory Hole Cre	6.10	2	Pn	Pn	17 21 47.9	+1.0
N18K	Kilae Creek	6.11	328	Pn	Pn	17 21 47.5	+0.6
TGL	Tana Glacier	6.11	31		Pn	17 21 47.6	+0.5
ISLE	Juniper Island	6.14	34	Pn	Pn	17 21 47.8	+0.3
O16K	Kokwok River B	6.15	313		Pn	17 21 48.1	+0.7
O16K	Kokwok River B	6.15	313	P	Pn	17 21 48.1	+0.7
	baz=126						
SML	Sawmill	6.15	4		Pn	17 21 48.5	+0.9
SML	Sawmill	6.15	4	P	Pn	17 21 48.5	+0.9
	baz=185						
SCM	Sheep Creek Mo	6.24	8	Pn	Pn	17 21 50.9	+2.0
VRDI	Verde Repeater	6.33	26	Pn	Pn	17 21 50.6	+0.4
SVW2	Sparrevohn	6.36	331	Pn	Pn	17 21 50.5	+0.2
KIAG	Kiagna River	6.38	32		Pn	17 21 51.3	+0.4
N25K	Chitina, Valde	6.41	20		Pn	17 21 52.1	+0.9
N25K	Chitina, Valde	6.41	20	P	Pn	17 21 52.1	+0.9
	baz=204						
N17K	Nushagak Hills	6.41	322	Pn	Pn	17 21 51.2	+0.1
SKT	Skwentna	6.42	350	Pn	Pn	17 21 51.5	+0.3
TABL	Table Mountain	6.42	39	Pn	Pn	17 21 51.3	-0.1
GRNC	Granite Creek	6.42	35	Pn	Pn	17 21 51.4	0.0
GLB	Gilahina Butte	6.43	24		Pn	17 21 52.1	+0.6
PCA	Pinnacle	6.52	44		Pn	17 21 53.0	+0.4
PINM	Pinnacle	6.52	44	P	Pn	17 21 53.0	+0.3
	baz=231						
M20K	Styx River	6.53	344	Pn	Pn	17 21 52.6	-0.2
PTPK	Patty Peak	6.56	30		Pn	17 21 54.0	+0.7
MCARA	McCarthy VSAT	6.57	27	Pn	Pn	17 21 55.2	+1.8
PNL	Peninsula	6.62	49		Pn	17 21 54.5	+0.5
PNL	Peninsula	6.62	49	P	Pn	17 21 54.5	+0.5
	baz=236						
M24K	Tolsona, Glenn	6.63	13	Pn	Pn	17 21 54.6	+0.4
BARN	Barnard Glacie	6.70	33		Pn	17 21 55.6	+0.3
CTGM	Chitina Glacie	6.74	35	Pn	Pn	17 21 56.0	+0.4
LOGN	Logan Glacier	6.74	37	Pn	Pn	17 21 55.9	+0.1
M18K	Stony River	6.75	332		Pn	17 21 56.0	+0.3
M18K	Stony River	6.75	332	P	Pn	17 21 56.0	+0.3
	baz=147						
M19K	Big River Lodg	6.78	339	Pn	Pn	17 21 56.9	+0.8
WACK	Wrangell Chich	6.81	20		Pn	17 21 58.3	+1.5
L19K	White Mountain	7.12	338	Pn	Pn	17 22 00.8	0.0
M17K	Holitna River	7.14	327	Pn	Pn	17 22 01.5	+0.4
WAT7	Susitna Watana	7.17	2		Pn	17 22 02.7	+1.2
N15K	Kwethluk River	7.30	312	Pn	Pn	17 22 04.7	+1.4
O29M	Mount Kennedy	7.32	46		Pn	17 22 04.2	+0.5
O29M	Mount Kennedy	7.32	46	P	Pn	17 22 04.2	+0.5
	baz=235						
P29M	Windy Craggy	7.33	53		Pn	17 22 04.1	+0.4
P29M	Windy Craggy	7.33	53	P	Pn	17 22 04.4	+0.7
	baz=242						
M16K	Timber Creek	7.38	320	Pn	Pn	17 22 05.3	+0.9
O14K	Tigyukauivet M	7.39	304	Pn	Pn	17 22 05.3	+0.9
M26K	Nabesna, AK	7.46	23	Pn	Pn	17 22 07.1	+1.6
DHY	Denali Highway	7.47	7	Pn	Pn	17 22 06.0	+0.2
S31K	Pelican	7.50	67		Pn	17 22 04.9	-1.1
S31K	Pelican	7.50	67	P	Pn	17 22 05.3	-0.7
	baz=257						
L18K	Granite Mounta	7.59	333	Pn	Pn	17 22 06.9	-0.3
M27K	Edge Creek, AK	7.69	27	Pn	Pn	17 22 09.6	+0.8
RND	Reindeer	7.74	1	Pn	Pn	17 22 09.6	+0.1
TRF	Thorofare Moun	7.80	357	Pn	Pn	17 22 09.6	-0.8
CAST	Castle Rocks	7.88	351	Pn	Pn	17 22 12.6	+1.3
KTH	Kantishna Hill	7.93	355	Pn	Pn	17 22 12.4	+0.4
TTA	Tatalina	8.04	337	Pn	Pn	17 22 12.8	-0.7
L16K	Owhat River	8.04	323	Pn	Pn	17 22 14.0	+0.6
HYT	Haines Junctio	8.05	45	Pn	Pn	17 22 13.6	-0.1
K20K	Telida	8.07	344	Pn	Pn	17 22 13.9	+0.1
L27K	Beaver Creek,	8.30	24	Pn	Pn	17 22 17.5	+0.4
BCAR	Beaver Creek A	8.32	24	Pn	Pn	17 22 17.6	+0.3
RIDG	Independent Ri	8.38	14	Pn	Pn	17 22 18.5	+0.4
M14K	Bethel	8.40	312	Pn	Pn	17 22 17.5	-0.8
K17K	Iditarod	8.43	330	Pn	Pn	17 22 18.0	-0.7
N30M	Aishikik Lake	8.59	43	Pn	Pn	17 22 21.7	+0.7
O30N	Mendenhall	8.61	48	Pn	Pn	17 22 23.1	+1.8
J18K	Innoko River	8.66	337	Pn	Pn	17 22 23.7	+1.7
M29M	Somme Creek	8.75	35	Pn	Pn	17 22 24.7	+1.4
J20K	Nowinta River	8.86	346	Pn	Pn	17 22 27.1	+2.5
J19K	Poorman	8.92	342	Pn	Pn	17 22 26.5	+1.0
L14K	Kuka Creek	9.01	314	Pn	Pn	17 22 28.3	+1.6
K27K	Chicken	9.11	20	Pn	Pn	17 22 29.8	+1.8
K15K	Wolf Creek Mou	9.15	321	Pn	Pn	17 22 29.1	+0.5
J25K	Salcha River,	9.16	11	Pn	Pn	17 22 29.6	+0.8
IL31		9.19	6	Pn	Pn	17 22 30.1	+1.0
ILAR	Eielson Array	9.19	6	Pn	Pn	17 22 30.1	+1.0
J26L	Joseph Creek	9.28	15	Pn	Pn	17 22 32.0	+1.5
MDM	Murphy Dome	9.31	3	Pn	Pn	17 22 31.9	+1.1
L29M	L29M	9.34	33	Pn	Pn	17 22 31.8	+0.4
I23K	Minto, Yukon-K	9.49	360	Pn	Pn	17 22 33.5	+0.2
J16K	Anvik River	9.54	328	Pn	Pn	17 22 35.3	+1.4
I21K	Tanana	9.62	353	Pn	Pn	17 22 35.8	+0.8
P33M	Teslin, Yukon	9.83	56	Pn	Pn	17 22 39.1	+1.1
M31M	Drury Creek, Y	10.06	44	Pn	Pn	17 22 42.5	+1.3
K29M	Barlow Dome	10.08	31	Pn	Pn	17 22 42.6	+1.2
H21K	Melozitna Rive	10.15	352		Pn	17 22 42.9	+0.6
H24K	Noodor Dome	10.20	3	Pn	Pn	17 22 44.6	+1.5
R33M	Jennings River	10.50	62	Pn	Pn	17 22 45.2	-2.1
IMAR	Indian Mountai	10.55	350	Pn	Pn	17 22 46.6	-1.2
J30M	Hart River	10.97	31	Pn	Pn	17 22 54.2	+0.5
RUBB	Prince Rupert	11.00	89	Pn	Pn	17 22 54.4	+0.5
G23K	Bananza Creek	11.06	358	Pn	Pn	17 22 55.1	+0.2
I30M	Mount Dempster	11.45	28	Pn	Pn	17 23 02.4	+2.1
F21K	Alatna River	11.74	352	Pn	Pn	17 23 03.5	-0.6
F20K	Avaraart Lake	11.80	348	Pn	Pn	17 23 04.6	-0.2
E19K	Redstone River	12.39	346	Pn	Pn	17 23 14.0	+1.2
G31M	Satah River	13.32	26	Pn	Pn	17 23 25.8	+0.3
D22K	Ayikyak River	13.33	355	Pn	Pn	17 23 25.3	-0.4
D25K	Kavik River	13.74	4	Pn	Pn	17 23 33.6	+2.2
E29M	Blow River	13.77	18	Pn	Pn	17 23 35.5	+3.8
C23K	Itkillik River	14.21	358	Pn	Pn	17 23 39.9	+2.2
B22K	Teshekpuk Lake	14.82	354	Pn	Pn	17 23 47.1	+1.1

CATAC ***09*** *17:23:30.6±0.2, 11°.63N×87°.14W, h25km, ML4.5*
SNET ***09*** *17:23:32.4±0.9, 11°.71N×87°.21W, h30km±63km, ML4.1*
IDC ***09*** *17:23:32.9±2.0, 11°.99N×86°.72W, h54km±23km, mb3.8/9, mbtmp4.1/11, ML4.3/2, MS3.5/11, Error ellipse: s-maj=37.7km s-min=13.0km az=51.0*
NEIC ***09*** *17:23:32.5±1.5, 11°.74N±0°.04×87°.05W±0°.06, h52km±8km, mb4.6/130, Error ellipse: s-maj=9.4km s-min=5.4km az=67.0*

ISC 09 17:23:31.8±0.9, **11°.67N**±0°.03×**87°.12W**±0°.04, **h55**km±9km, **n288**, σ0**98**/328, **mb4.5**/69, **MS3.4**/10, **1C**, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSHP	**Masachapa**	**0.59**	**75**	*i* P	**Pn**	**17 23 44.8**	**+0.3**
MSHP				*i* S	**Sn**	**17 23 54.7**	**+1.1**
MSHP				IAML		17 23 56.6	
	comp=Z,6μm,1.0s						
COPN	**Copaltepe**	**0.72**	**45**	*i* P	**Pn**	**17 23 46.1**	**0.0**
COPN				IAML		17 24 01.1	
	comp=Z,9μm,1.0s						
BC86	**Nagarote**	**0.80**	**42**	*i* P	**Pn**	**17 23 47.2**	**+0.1**
BC86				*i* S	**Sn**	**17 23 58.6**	**+0.3**
BC86				IAML		17 24 05.8	
	comp=Z,17μm,1.0s						
CRUN	**El Crucero**	**0.86**	**69**	*i* P	**Pn**	**17 23 48.4**	**+0.5**
CRUN				IAML		17 24 04.2	
	comp=Z,39nm,1.0s						
LEVN	**Ruinas Leon Vi**	**0.87**	**34**	*i* P	**Pn**	**17 23 48.0**	**-0.1**
LEVN				*i* S	**Sn**	**17 24 00.6**	**+0.6**
LEVN				IAML		17 24 04.8	
	comp=Z,22μm,1.0s						
ADRN	**Diriamba**	**0.88**	**78**	*i* P	**Pn**	**17 23 48.1**	**-0.1**
ADRN				IAML		17 23 57.9	
	comp=Z,26μm,1.0s						
PACN	**Al O del Volca**	**0.88**	**21**	*i* P	**Pn**	**17 23 48.5**	**+0.3**
PACN				IAML		17 24 05.7	
	comp=Z,18μm,1.0s						
MACN	**El Madrono**	**0.90**	**29**	*i* P	**Pn**	**17 23 48.3**	**-0.2**
MACN				*i* S	**Sn**	**17 24 00.9**	**+0.3**
MACN				IAML		17 24 06.8	
	comp=Z,17μm,1.0s						
BC84	**Volcan Momotom**	**0.91**	**38**	*i* P	**Pn**	**17 23 48.6**	**0.0**
BC84				*i* S	**Sn**	**17 24 01.2**	**+0.3**
BC84				IAML		17 24 04.0	
	comp=Z,16μm,1.0s						
CNGA	**Al SSO del Vol**	**0.91**	**26**	*i* P	**Pn**	**17 23 48.4**	**-0.2**
CNGA				*i* S	**Sn**	**17 24 01.3**	**+0.3**
CNGA				IAML		17 24 06.2	
	comp=Z,28μm,1.0s						
ROCN	**Rota Cerro Neg**	**0.92**	**23**	*i* P	**Pn**	**17 23 48.7**	**0.0**
ROCN				*i* S	**Sn**	**17 24 00.3**	**-0.7**
ROCN				IAML		17 24 04.3	
	comp=Z,17μm,1.0s						
CNGN	**Cerro Negro**	**0.92**	**26**		**Pn**	**17 23 47.4**	**-1.2**
CNGN				Sn	**Sn**	**17 23 58.0**	**-3.1**
CNGN	**Cerro Negro**	**0.92**	**26**	*i* P	**Pn**	**17 23 47.5**	**-1.2**
CNGN				*i* S	**Sn**	**17 24 00.4**	**-0.7**
CNGN				IAML		17 24 04.5	
	comp=Z,22μm,1.0s						
RE6B4	**Centro civico**	**0.92**	**61**	*i* P	**Pn**	**17 23 48.6**	**-0.1**
RE6B4				IAML		17 23 58.5	
	comp=Z,13μm,1.0s						
MOMN	**Momotombo**	**0.92**	**38**	*i* P	**Pn**	**17 23 48.6**	**-0.2**
MOMN				*i* S	**Sn**	**17 24 01.4**	**+0.2**
MOMN				IAML		17 24 05.3	
	comp=Z,780nm,1.0s						
TEL3	**Telica 3**	**0.93**	**16**	*i* P	**Pn**	**17 23 48.9**	**0.0**
TEL3				IAML		17 24 09.6	
	comp=Z,23μm,1.0s						
APQ2	**Apoyeque**	**0.93**	**56**	*i* P	**Pn**	**17 23 48.8**	**0.0**
APQ2				IAML		17 24 05.6	
	comp=Z,11μm,1.0s						
APYN	**Apoyeque**	**0.93**	**53**	*i* P	**Pn**	**17 23 48.9**	**0.0**
APYN				*i* S	**Sn**	**17 24 01.7**	**+0.3**
APYN				IAML		17 24 03.0	
	comp=Z,11μm,1.0s						
RB28C	**Hialeah**	**0.93**	**61**	*i* P	**Pn**	**17 23 48.9**	**0.0**
RB28C				IAML		17 23 59.3	
	comp=Z,12μm,1.0s						
UNAN	**Cigeo UNAN**	**0.93**	**62**	*i* P	**Pn**	**17 23 48.8**	**-0.1**
UNAN				*i* S	**Sn**	**17 24 01.5**	**+0.1**
UNAN				IAML		17 24 10.7	
	comp=Z,39μm,1.0s						
USIM	**UNAN**	**0.93**	**62**	*i* P	**Pn**	**17 23 49.3**	**+0.4**
USIM				*i* S	**Sn**	**17 24 02.1**	**+0.7**
USIM				IAML		17 24 07.8	
	comp=Z,18μm,1.0s						
ENAN	**Enatrel Managu**	**0.94**	**62**	*i* P	**Pn**	**17 23 49.8**	**+0.8**
ENAN				*i* S	**Sn**	**17 24 02.5**	**+0.9**
ENAN				IAML		17 24 11.4	
	comp=Z,16μm,1.0s						
QUEN	**Al S del Volca**	**0.95**	**16**	*i* P	**Pn**	**17 23 49.3**	**+0.2**
QUEN				IAML		17 24 07.3	
	comp=Z,18μm,1.0s						
TISN	**Laguna Tiscapa**	**0.95**	**60**	*i* P	**Pn**	**17 23 49.0**	**-0.1**
TISN				IAML		17 24 06.1	
	comp=Z,980nm,1.0s						
R8CCA	**La Lomita**	**0.95**	**63**	*i* P	**Pn**	**17 23 49.0**	**-0.1**
R8CCA				IAML		17 23 50.4	
	comp=Z,13μm,1.0s						
MAFN	**Magfor**	**0.95**	**64**	*i* P	**Pn**	**17 23 45.3**	**-3.8**
MAFN				IAML		17 24 06.6	
	comp=Z,18μm,1.0s						
TELN	**Telica**	**0.97**	**17**	*i* P	**Pn**	**17 23 49.3**	**-0.1**
TELN				IAML		17 24 04.9	
	comp=Z,2μm,1.0s						
R1628	**Naciones Unida**	**0.97**	**64**	*i* P	**Pn**	**17 23 49.4**	**+0.1**
R1628				IAML		17 23 51.9	
	comp=Z,11μm,1.0s						
R0529	**La Mascota**	**0.97**	**62**	*i* P	**Pn**	**17 23 49.3**	**0.0**
R0529				IAML		17 24 06.2	
	comp=Z,11μm,1.0s						
HERN	**Volcan Telica**	**0.97**	**17**	*i* P	**Pn**	**17 23 49.2**	**-0.3**
HERN				IAML		17 24 06.2	
	comp=Z,16μm,1.0s						
MGA1	**Managua**	**0.97**	**61**	*i* P	**Pn**	**17 23 47.9**	**-1.4**
MGA1				*i* S	**Sn**	**17 24 03.1**	**+0.8**
MGA1				IAML		17 24 10.6	
	comp=Z,11μm,1.0s						
R4DEC	**Barrio San Lui**	**0.97**	**61**	*i* P	**Pn**	**17 23 48.8**	**-0.6**
R4DEC				IAML		17 24 05.4	
	comp=Z,8μm,1.0s						
RB213	**Mirador 2 Volc**	**0.98**	**71**	*i* P	**Pn**	**17 23 49.0**	**-0.5**
RB213				IAML		17 24 03.3	
	comp=Z,10μm,1.0s						
MOM2	**El Cardon**	**0.98**	**39**	*i* P	**Pn**	**17 23 49.5**	**0.0**
MOM2				*i* S	**Sn**	**17 24 03.2**	**+0.8**
MOM2				IAML		17 24 05.4	
	comp=Z,11μm,1.0s						
R1E40	**Villa Flor Nor**	**0.98**	**63**	*i* P	**Pn**	**17 23 49.3**	**-0.2**
R1E40				IAML		17 24 04.8	
	comp=Z,10μm,1.0s						
MAS3	**Al N del Volca**	**0.98**	**69**	*i* P	**Pn**	**17 23 49.2**	**-0.3**
MAS3				*i* S	**Sn**	**17 24 02.8**	**+0.2**
MAS3				IAML		17 24 03.7	
	comp=Z,10μm,1.0s						
ILCN	**San Idelfonso**	**0.99**	**24**	*i* P	**Pn**	**17 23 49.1**	**-0.5**
ILCN				*i* S	**Sn**	**17 24 02.2**	**-0.4**
ILCN				IAML		17 24 03.3	
	comp=Z,10μm,1.0s						
MASN	**Masaya**	**0.99**	**72**	*i* P	**Pn**	**17 23 49.7**	**0.0**
MASN				*i* S	**Sn**	**17 24 02.5**	**-0.4**
MASN				IAML		17 24 12.5	
	comp=Z,2μm,1.0s						
R45A8	**Distro VI**	**0.99**	**62**	*i* P	**Pn**	**17 23 49.6**	**-0.1**
R45A8				IAML		17 24 04.7	
	comp=Z,10μm,1.0s						
R1F03	**Distro VII**	**1.00**	**64**	*i* P	**Pn**	**17 23 49.7**	**0.0**
R1F03				IAML		17 24 06.7	
	comp=Z,9μm,1.0s						
PKGN	**Cerro Pekin**	**1.00**	**8**	*i* P	**Pn**	**17 23 49.8**	**+0.1**
PKGN				*i* S	**Sn**	**17 24 03.3**	**+0.4**
PKGN				IAML		17 24 04.2	
	comp=Z,55nm,1.0s						
NANN	**Nandasmo**	**1.01**	**75**	*i* P	**Pn**	**17 23 50.8**	**+0.9**
NANN				IAML		17 24 14.5	
	comp=Z,150μm,1.0s						
CRIN	**San Cristobal**	**1.02**	**4**		**Pn**	**17 23 50.1**	**0.0**
CRIN				Sn	**Sn**	**17 24 00.4**	**-3.2**
CRIN	**San Cristobal**	**1.02**	**4**	*i* P	**Pn**	**17 23 50.1**	**0.0**
CRIN				IAML		17 24 05.9	
	comp=Z,41μm,1.0s						
WILN	**Americas 2**	**1.03**	**62**	*i* P	**Pn**	**17 23 50.0**	**-0.1**
WILN				IAML		17 24 16.5	
	comp=Z,5μm,1.0s						
NADN	**Granada**	**1.06**	**86**	*i* P	**Pn**	**17 23 50.4**	**-0.2**
NADN				*i* S	**Sn**	**17 24 04.9**	**+0.4**
NADN				IAML		17 24 13.0	
	comp=Z,19μm,1.0s						
HUGN	**San Franciso L**	**1.10**	**56**	*i* P	**Pn**	**17 23 51.2**	**+0.1**
HUGN				*i* S	**Sn**	**17 24 06.7**	**+1.4**
HUGN				IAML		17 24 21.1	
	comp=Z,9μm,1.0s						
ARIN	**Rivas**	**1.27**	**100**	*i* P	**Pn**	**17 23 52.9**	**-0.5**
ARIN				*i* S	**Sn**	**17 24 09.4**	**-0.1**
ARIN				IAML		17 24 12.1	
	comp=Z,6μm,1.0s						
BRAN	**Las Pilas**	**1.28**	**36**	*i* P	Pn	17 23 48.2	-5.3
BRAN				IAML		17 23 49.4	
	comp=Z,12μm,1.0s						
BRAN				*i* S	**Sn**	**17 24 01.1**	**-8.6**
AESN	**El Sauce Leon**	**1.33**	**25**	*i* P	**Pn**	**17 23 56.5**	**+2.3**
AESN				IAML		17 24 13.3	
	comp=Z,6μm,1.0s						
CSGN	**Cosiguina Volc**	**1.37**	**342**	*i* P	**Pn**	**17 23 54.4**	**-0.3**
CSGN				IAML		17 24 13.3	
	comp=Z,38μm,1.0s						
POTN	**Potosi Cosigui**	**1.37**	**344**	*i* P	**Pn**	**17 23 54.6**	**-0.1**
POTN				IAML		17 23 55.5	
	comp=Z,2μm,1.0s						
POTN				*i* S	**Sn**	**17 24 11.2**	**-0.7**
JAPN	**Al SSO del Vol**	**1.42**	**96**	*i* P	**Pn**	**17 23 55.6**	**+0.3**
JAPN				IAML		17 23 56.0	
	comp=Z,10μm,1.0s						
MORN	**Al O del Volca**	**1.44**	**95**	*i* P	**Pn**	**17 23 55.5**	**-0.2**
MORN				IAML		17 23 56.0	
	comp=Z,18μm,1.0s						
CONN	**Concepcion**	**1.46**	**94**	*i* P	**Pn**	**17 23 55.6**	**-0.4**
CONN				IAML		17 24 22.3	
	comp=Z,50μm,1.0s						
OMEN	**Al SSO del Vol**	**1.47**	**96**	*i* P	**Pn**	**17 23 55.9**	**-0.1**
OMEN				IAML		17 23 56.7	
	comp=Z,9μm,1.0s						
LIMN	**Finca el Limon**	**1.56**	**28**	*i* P	**Pn**	**17 23 57.5**	**+0.1**
LIMN				IAML		17 24 20.2	
	comp=Z,3μm,1.0s						
BOAB	**BOACO BROADBAN**	**1.61**	**61**		**Pn**	**17 23 57.6**	**-0.4**
BOAB	**BOACO BROADBAN**	**1.61**	**61**	*i* P	**Pn**	**17 23 57.6**	**-0.4**
BOAB				IAML		17 24 17.2	
	comp=Z,2μm,1.0s						
AMPH	**Amapala**	**1.69**	**342**	*i* P	**Pn**	**17 23 59.1**	**+0.1**
AMPH				*e*S	**Sn**	**17 24 19.2**	**-0.3**
MATN	**Matagalpa**	**1.71**	**43**		**Pn**	**17 23 59.5**	**+0.2**
MATN				Sn	**Sn**	**17 24 20.8**	**+0.6**
MATN	**Matagalpa**	**1.71**	**43**	*i* P	**Pn**	**17 23 59.5**	**+0.2**
MATN				IAML		17 24 13.9	
	comp=Z,2μm,1.0s						
MATN				*i* S	**Sn**	**17 24 20.9**	**+0.7**
CNCH	**Conchagua**	**1.74**	**336**	*i*P	**Pn**	**17 23 60.0**	**+0.1**
CNCH	**Conchagua**	**1.74**	**336**	*i* P	**Pn**	**17 23 59.9**	**+0.1**
CNCH				IAML		17 24 25.3	
	comp=Z,11μm,1.0s						
HZTE	**Horizontes, Gu**	**1.77**	**122**		**Pn**	**17 24 00.7**	**+0.6**
HZTE				Sn	**Sn**	**17 24 21.1**	**-0.5**
HZTE	**Horizontes, Gu**	**1.77**	**122**	*i* P	**Pn**	**17 24 00.7**	**+0.6**
HZTE				IAML		17 24 11.2	
	comp=Z,2μm,1.0s						
LCND	**

SCLA IAML 17 24 12.0
comp=Z,740nm,1.0s
COEG Centro de Oper 2.59 319 *e*P **Pn** **17 24 11.1 -0.3**
COEG *e*S **Sn** **17 24 42.3 +0.5**
COEG IAML 17 24 45.5
comp=Z,667nm,0.6s
COEG Centro de Oper 2.59 319 *i* P **Pn** **17 24 11.2 -0.3**
COEG *i* S **Sn** **17 24 40.7 -1.1**
COEG IAML 17 24 51.8
comp=Z,650nm,1.0s
ARE1 Arenal 1 2.64 117 Pn 17 24 12.5 +0.4
SJTE Alcalda de S 2.67 316 *e*P **Pn** **17 24 12.5 0.0**
SJTE Alcalda de S 2.67 316 *i* P **Pn** **17 24 12.3 -0.2**
SJTE *i* S **Sn** **17 24 42.1 -1.6**
SJTE IAML 17 24 50.7
comp=Z,990nm,1.0s
PAVA Las Pavas 2.70 319 *e*P **Pn** **17 24 12.8 -0.1**
PAVA Las Pavas 2.70 319 *i* P **Pn** **17 24 13.4 +0.5**
PAVA IAML 17 24 53.2
comp=Z,2μm,1.0s
LFRS El Faro 2.71 316 *i* P **Pn** **17 24 13.4 +0.2**
SOCE Pocosol 2.77 117 Pn 17 24 14.2 +0.4
SOCE Pocosol 2.77 117 *i* P **Pn** **17 24 15.4 +1.6**
SOCE IAML 17 24 57.6
comp=Z,580nm,1.0s
LOMA Loma Larga 2.81 315 *e*P **Pn** **17 24 14.2 -0.2**
LOMA Loma Larga 2.81 315 *i* P **Pn** **17 24 14.2 -0.2**
LOMA *i* S **Sn** **17 24 47.4 +0.3**
LOMA IAML 17 24 55.6
comp=Z,1μm,1.0s
COVE Coope Vega, Sa 2.83 109 Pn 17 24 14.5 -0.1
LAFE Finca La Fe, P 2.85 130 *i* P **Pn** **17 24 14.3 -0.6**
LAFE *i* S **Sn** **17 24 46.1 -2.0**
LAFE IAML 17 24 48.5
comp=Z,13nm,1.0s
SNET Serv Nac Est T 2.88 314 Pn **Pn** **17 24 14.7 -0.6**
BOQS Boqueron 2.94 314 *e*P **Pn** **17 24 16.8 +0.4**
PMON Piamonte 2.95 314 *i* P **Pn** **17 24 16.6 +0.2**
PMON IAML 17 25 00.1
comp=Z,1μm,1.0s
JAYA Jayaque - finc 3.01 311 *e*P **Pn** **17 24 16.7 -0.6**
JAYA Jayaque - finc 3.01 311 *i* P **Pn** **17 24 16.7 -0.6**
JAYA *i* S **Sn** **17 24 52.3 +0.1**
JAYA IAML 17 24 57.3
comp=Z,2μm,1.0s
CPMI Catarata Coope 3.02 117 *i* P **Pn** **17 24 18.0 +0.6**
CPMI *i* S **Sn** **17 24 54.3 +1.8**
CPMI IAML 17 25 03.1
comp=Z,620nm,1.0s
SIUN Universidad Ur 3.06 48 *i* P Pn 17 24 24.7 +7.0
SIUN IAML 17 25 11.4
comp=Z,190nm,1.0s
JACO JACO, Garabito 3.13 129 Pn 17 24 19.3 +0.5
JACO JACO, Garabito 3.13 129 *i* P **Pn** **17 24 19.3 +0.5**
JACO *i* S **Sn** **17 24 54.4 -0.6**
JACO IAML 17 25 04.5
comp=Z,370nm,1.0s
CEVE Cerro Verde 3.25 311 *e*P **Pn** **17 24 20.3 -0.3**
CEVE IAML 17 25 02.5
comp=Z,588nm,0.3s
CEVE Cerro Verde 3.25 311 *i* P **Pn** **17 24 21.9 +1.3**
CEVE IAML 17 25 09.9
comp=Z,790nm,1.0s
HDC Heredia 3.38 119 Pn 17 24 21.9 -0.5
NUBE Las Nubes 3.42 311 *e*P **Pn** **17 24 23.1 +0.3**
OCM Ochomogo 3.57 119 *i* P **Pn** **17 24 26.7 +1.8**
OCM IAML 17 24 28.8
comp=Z,480nm,1.0s
OCM *i* S **Sn** **17 25 05.9 -0.1**
ESQI Esquipulas 3.60 323 Pn 17 24 25.8 +0.6
RIMA Rio Macho 3.71 120 Pn 17 24 27.7 +0.7
PEZE Perez Zeledon, 4.08 124 Pn 17 24 32.5 +0.7
SRBA San Rafael, Bu 4.42 123 Pn 17 24 37.5 +1.0
SRBA Sn **Sn** **17 25 26.0 -0.8**
DRK0 Durika 4.50 122 Pn 17 24 38.8 +1.2
DRK0 **Sn** **17 25 28.4 -0.4**
CDITO Canoas 5.19 126 Pn 17 24 48.3 +1.3
BRU2 Volcan 5.21 123 Pn **Pn** **17 24 49.2 +1.8**
RTAL Retalhuleu 5.29 303 Pn 17 24 50.0 +1.7
HUEH Huehuetenango 5.60 311 Pn **Pn** **17 24 54.5 +1.7**
PETF Flores 5.86 333 Pn **Pn** **17 24 56.2 +0.1**
BCIP Isla Barro Col 7.58 109 Pn **Pn** **17 25 19.4 -0.4**
TEIG Tepich 8.58 353 Pn **Pn** **17 25 33.5 +0.1**
TEIG Tepich 8.58 353 LR LR 17 28 18.6
comp=Z,1μm,20.0s,slow=34
CMIG Matias Romero 9.25 306 P **Pn** **17 25 44.1 +1.4**
comp=Z,6.8nm,0.3s,baz=119,slow=7.4,SNR=46
CMIG S **Sn** **17 27 25.6 +0.2**
comp=Z,1.6nm,0.5s,baz=287,slow=20,SNR=0.6
comp=Z,25nm,0.5s
SLOR San Lorenzo - 15.01 145 Pn **P** **17 27 03.6 -1.9**
COHC Cochancay 16.07 150 P **P** **17 27 16.9 0.0**
HBVL Hebbronville 18.77 326 P **17 27 46.1 -0.5**
HBVL IAmb IAmb 17 27 51.1
comp=Z,55nm,0.8s
HKT Hockley 19.91 337 P **P** **17 27 59.1 +0.2**
HKT IAmb IAmb 17 28 02.0
comp=Z,26nm,0.9s
833A Chaparral WMA, 20.16 327 P Pn 17 28 02.9 -1.1
ATAH Atahualpa 20.60 155 LR LR 17 35 03.2
comp=Z,204nm,21.3s,baz=328,slow=33
152A Waverly Hall 21.01 6 P **P** **17 28 09.5 -1.4**
152A IAmb IAmb 17 28 15.7
comp=Z,12nm,0.7s
HNDO Hondo 21.07 329 P **P** **17 28 11.9 +0.3**
HNDO IAmb IAmb 17 28 13.3
comp=Z,19nm,1.1s
NATX Nacogdoches 21.17 342 P **P** **17 28 13.6 +1.0**
NATX IAmb IAmb 17 28 15.1
comp=Z,30nm,0.8s
LRAL Lakeview Retre 21.26 0 P **P** **17 28 13.6 +0.1**
435B Jarrell 21.35 335 P **P** **17 28 14.7 +0.2**
435B IAmb IAmb 17 28 21.3
comp=Z,15nm,0.8s
DRIO Del Rio 21.68 327 P **P** **17 28 18.2 +0.1**
DRIO IAmb IAmb 17 28 22.3
comp=Z,22nm,0.8s
GOGA Godfrey 21.89 8 P **P** **17 28 22.3 +2.1**
GOGA IAmb IAmb 17 28 23.7
comp=Z,10nm,0.7s
Y49A Blount Mountai 22.09 2 P **P** **17 28 23.3 +0.8**
Y49A IAmb IAmb 17 28 24.5
comp=Z,12nm,0.8s
JCT Junction City 22.11 330 P **P** **17 28 22.5 -0.2**
Y52A Lilburn 22.27 7 P **P** **17 28 23.7 -0.6**
Y52A IAmb IAmb 17 28 50.1
comp=Z,16nm,1.1s
WHTX Lake Whitney, 22.36 336 P **P** **17 28 25.3 0.0**
WHTX IAmb IAmb 17 28 28.7
comp=Z,43nm,1.1s
BRDY Brady 22.40 332 P **P** **17 28 25.5 -0.3**
BRDY IAmb IAmb 17 28 28.9
comp=Z,18nm,0.8s
FW16 Waxahatchie 22.58 338 P **P** **17 28 27.7 0.0**
FW13 Cleburne 22.66 337 P **P** **17 28 27.5 -1.1**
Z38A Mt. Pleasant 22.66 343 P **P** **17 28 27.5 -1.1**
X48A Hartselle 22.68 0 P **P** **17 28 28.9 +0.2**
FPAL Fort Paine 22.80 3 P **P** **17 28 29.8 -0.3**
OXF Oxford 22.83 355 P **P** **17 28 29.4 -0.8**
OXF IAmb IAmb 17 28 31.1
comp=Z,18nm,0.8s
HODGE Hodges 22.89 10 P **P** **17 28 29.9 -1.0**
HODGE IAmb IAmb 17 28 35.3
comp=Z,43nm,1.3s
SAND Sanderson 22.93 325 P **P** **17 28 31.2 -0.2**
OZNA Ozona 23.14 328 P **P** **17 28 33.5 +0.1**
OZNA IAmb IAmb 17 28 37.5
comp=Z,17nm,1.3s
TX31 Lajitas Ar. Si 23.38 321 P **P** **17 28 36.5 +0.6**
TX31 IAmb IAmb 17 28 43.4
comp=Z,15nm,0.7s
TXAR Lajitas Array 23.38 321 P **P** **17 28 36.5 +0.6**
TXAR Lajitas Array 23.38 321 P **P** **17 28 37.4 +1.4**
comp=Z,13nm,0.8s,baz=142,slow=8.9,SNR=78
comp=Z,13nm,0.8s
PLPT Palo Pinto 23.42 336 P **P** **17 28 36.6 +0.4**
SWET Sewanee 23.46 2 P **P** **17 28 36.9 +0.3**
SWET IAmb IAmb 17 28 38.1
comp=Z,7.8nm,0.5s
W50A Signal Mountai 23.48 4 P **P** **17 28 37.0 +0.3**
W50A IAmb IAmb 17 28 38.9
comp=Z,18nm,0.5s
MIAR Mount Ida 23.52 347 P **P** **17 28 37.0 0.0**
MIAR IAmb IAmb 17 28 38.3
comp=Z,12nm,0.7s
BG3 Lake Jocassee 23.52 9 P **P** **17 28 38.3 +1.2**
CPCT Cooper Cave 23.79 5 P **P** **17 28 40.0 +0.5**
ABTX Abilene, Hawle 23.82 333 P **P** **17 28 40.1 +0.2**
ABTX IAmb IAmb 17 28 43.2
comp=Z,12nm,0.8s
SGCY Sterling City 23.93 329 P **P** **17 28 40.5 -0.5**
SGCY IAmb IAmb 17 28 43.2
comp=Z,16nm,1.0s
WHAR Wooly Hollow 23.98 350 P **P** **17 28 41.4 +0.2**
X37A Clayton 24.02 343 P **P** **17 28 42.0 +0.3**
LOOK Love County 24.04 339 P **P** **17 28 41.7 -0.2**
TKL Tuckaleechee C 24.07 7 P **P** **17 28 41.6 -0.5**
TKL IAmb IAmb 17 28 45.5
comp=Z,18nm,1.1s
TKL Tuckaleechee C 24.07 7 LR LR 17 37 22.7
comp=Z,81nm,19.4s,baz=144,slow=35
ALPN Alpine 24.11 323 P **P** **17 28 42.9 +0.2**
W57A Gilead 24.25 14 P **P** **17 28 43.2 -0.5**
W57A IAmb IAmb 17 29 11.5
comp=Z,18nm,1.2s
WTFS Witchita Falls 24.32 337 P **P** **17 28 44.6 +0.3**
WTFS IAmb IAmb 17 28 46.6
comp=Z,27nm,0.8s
CLTN Cedars of Leba 24.32 2 P **P** **17 28 43.7 -0.6**
CLTN IAmb IAmb 17 28 47.0
comp=Z,16nm,0.6s
MNHN Monahans 24.33 326 P **P** **17 28 45.1 +0.5**
MNHN IAmb IAmb 17 28 47.8
comp=Z,20nm,0.8s
WVT Waverly 24.36 359 P **P** **17 28 44.1 -0.5**
LCAR Lake Charles 24.56 352 P **P** **17 28 46.1 -0.4**
LCAR IAmb IAmb 17 28 47.2
comp=Z,5.1nm,0.4s
SN05 Snyder 5 24.60 331 P **P** **17 28 47.9 +0.8**
SN05 IAmb IAmb 17 28 53.4
comp=Z,19nm,1.1s
APMT Aspermont 24.63 333 P **P** **17 28 47.7 +0.5**
APMT IAmb IAmb 17 28 50.1
comp=Z,13nm,0.8s
ODSA Odessa 24.82 327 P **P** **17 28 49.3 +0.2**
ODSA IAmb IAmb 17 28 52.4
comp=Z,22nm,1.1s
TZTN Tazewell 24.97 7 P **P** **17 28 50.0 -0.2**
TZTN IAmb IAmb 17 29 17.9
comp=Z,17nm,1.1s
PECS Pecos 24.98 324 P **P** **17 28 51.7 +1.2**
PECS IAmb IAmb 17 28 53.9
comp=Z,15nm,1.3s
W35A Tecumseh 25.00 341 P **17 28 50.1 -0.5**
W35A IAmb IAmb 17 28 53.3
comp=Z,13nm,0.7s
POST Post 25.05 330 P **P** **17 28 51.7 +0.6**
POST IAmb IAmb 17 28 53.9
comp=Z,14nm,0.7s
PBMO Poplar Bluff 25.18 354 P **P** **17 28 52.0 -0.1**
PBMO IAmb IAmb 17 28 53.6
comp=Z,9.6nm,0.5s
T47A Sharon Grove 25.21 0 P **P** **17 28 51.5 -0.9**
T47A IAmb IAmb 17 28 55.6
comp=Z,21nm,1.4s
VHRN Van Horn 25.21 322 P **P** **17 28 53.4 +0.7**
FNO Franklin 25.27 340 P **P** **17 28 53.0 +0.1**
DKNS Dickens 25.27 332 P **P** **17 28 53.5 +0.3**
WMOK Wichita Mounta 25.30 337 P **P** **17 28 53.1 -0.1**
TUL3 Leonard 25.38 343 P **P** **17 28 53.3 -0.6**
TUL3 IAmb IAmb 17 28 57.2
comp=Z,21nm,0.8s
U38A Gravette 25.52 346 P **P** **17 28 54.5 -0.7**
U38A IAmb IAmb 17 28 56.2
comp=Z,15nm,1.1s
DEOK Depew 25.52 342 P **17 28 54.4 -0.8**
OK052 Battle Ridge R 25.75 342 P **P** **17 28 56.4 -1.0**
OK029 Liberty Lake 25.78 340 P **P** **17 28 56.9 -0.7**
MGMO Mountain Grove 25.79 351 P **P** **17 28 56.1 -1.6**
MGMO IAmb IAmb 17 28 58.3
comp=Z,5.9nm,0.4s
OK033 Mehan 25.84 342 P **P** **17 28 57.1 -1.1**
OK033 IAmb IAmb 17 28 59.0
comp=Z,26nm,1.0s
QUOK Quay 25.89 342 P **P** **17 28 57.4 -1.2**
S44A Carbondale 25.98 356 P **P** **17 28 58.0 -1.4**
S44A IAmb IAmb 17 29 05.9
comp=Z,17nm,1.4s
CSTR Hydro, Custer 26.07 338 P **17 29 00.5 +0.2**
OK048 Pawnee Station 26.18 342 P **P** **17 29 02.6 +1.4**
SMWD Samnorwood 26.20 335 P **P** **17 29 02.5 +1.0**
SMWD IAmb IAmb 17 29 05.9
comp=Z,17nm,0.6s
MSTX Muleshoe 26.40 330 P **P** **17 29 03.4 0.0**
MSTX IAmb IAmb 17 29 07.0
comp=Z,25nm,1.0s
S39A Bolivar 26.50 349 P **P** **17 29 03.2 -0.9**
S39A IAmb IAmb 17 29 44.4
comp=Z,14nm,0.6s
CCM Cathedral Cave 26.53 353 P **P** **17 29 03.3 -1.1**
AMTX Amarillo 26.63 333 P **P** **17 29 05.3 -0.1**
AMTX IAmb IAmb 17 29 09.8
comp=Z,21nm,0.8s
ELIS Ellis County 26.71 337 P **P** **17 29 05.9 -0.2**
U32A Winter Ranch, 26.84 338 P **P** **17 29 05.6 -1.6**
OK032 Salt Plains WL 26.95 340 P **P** **17 29 07.4 -0.7**
KAN17 Caldwell West 27.02 341 P **P** **17 29 07.4 -1.4**
KAN01 Argonia South 27.12 341 P **P** **17 29 09.1 -0.6**
KAN06 Argonia West S 27.23 341 P **P** **17 29 09.5 -1.3**
KAN06 IAmb IAmb 17 29 14.7
comp=Z,15nm,0.6s
KAN08 Anthony NE Sta 27.25 341 P **P** **17 29 09.0 -1.9**
KAN12 Harper NE Stat 27.32 341 P **P** **17 29 09.5 -2.0**
RTBA Rita Blanca 28.40 333 P **P** **17 29 21.6 +0.3**
RTBA IAmb IAmb 17 29 26.8
comp=Z,10.0nm,0.7s
P38A Dawn 28.41 350 P **P** **17 29 20.5 -0.7**
ETMB Extrema 29.79 135 P **P** **17 29 34.2 +0.6**
ETMB IAmb IAmb 17 29 48.2
comp=Z,6.0nm,0.8s
TUC Tucson 29.93 317 P **P** **17 29 38.3 +3.4**
BGNE Belgrade 31.16 344 P **P** **17 29 45.1 -0.5**
SAML Samuel 31.40 130 P **P** **17 29 47.8 -0.1**
X16A Lo Mia Camp, P 31.68 320 P **P** **17 29 51.5 +1.1**
X16A IAmb IAmb 17 29 59.1
comp=Z,3.2nm,0.6s
K30B Basset 32.75 343 P **P** **17 29 58.9 -0.6**
ECSD EROS Data Cent 32.98 347 P **P** **17 30 00.2 -1.3**
ECSD IAmb IAmb 17 30 01.8
comp=Z,13nm,1.1s
LPAZ La Paz 33.53 146 LR LR 17 43 55.6
comp=Z,106nm,19.9s,baz=3.0,slow=36
G40A Rib Lake 33.58 356 P **P** **17 30 05.3 -1.3**
G40A IAmb IAmb 17 30 06.5
comp=Z,11nm,1.1s
HMU Henry Mountain 33.62 325 P **P** **17 30 06.9 -0.6**
HMU IAmb IAmb 17 30 15.9
comp=Z,4.8nm,0.6s
SADO Sadowa 33.68 10 LR LR 17 43 06.8
comp=Z,48nm,19.3s,baz=294,slow=35
SPMN Marine on St. 33.79 353 P **P** **17 30 07.2 -1.3**
O20A White River Ci 33.94 330 P **P** **17 30 10.1 0.0**
O20A IAmb IAmb 17 30 36.0
comp=Z,12nm,1.4s
SUSD Miller 34.21 345 P **P** **17 30 11.5 -0.6**
F36A Milaca 34.51 352 P **P** **17 30 13.1 -1.6**
F36A IAmb IAmb 17 30 14.6
comp=Z,7.5nm,0.8s
MTPU Mount Pierson 34.52 324 P **P** **17 30 17.0 +1.6**
MTPU IAmb IAmb 17 30 25.2
comp=Z,4.0nm,0.7s
F33A 5 Mile Ranch, 34.94 349 P **P** **17 30 16.8 -1.6**
BSUT Blindstream Ca 35.51 328 P **P** **17 30 23.9 0.0**
PSUT Pine Spring 35.82 323 P **P** **17 30 26.5 +0.1**
SPR3 Spring Creek 3 36.41 323 P **P** **17 30 31.8 +0.2**
PD31 Pinedale Array 36.61 332 P **P** **17 30 32.9 -0.2**
PDAR Pinedale Array 36.61 332 P **P** **17 30 34.0 +0.9**
comp=Z,1.0nm,0.4s,baz=128,slow=11,SNR=20
comp=Z,1.0nm,0.4s
HWUT Hardware Ranch 36.70 329 P **P** **17 30 34.0 +0.1**
HWUT IAmb IAmb 17 30 41.1
comp=Z,6.9nm,0.8s
SPUT South Promonto 36.95 328 P **P** **17 30 35.9 +0.1**
HVU Hansel Valley 37.45 328 P **P** **17 30 40.7 +0.6**
REDW Red Top Meadow 37.67 331 P **P** **17 30 42.0 0.0**
LOHW Long Hollow 37.75 332 P **P** **17 30 42.9 +0.2**
MOOW Moose Ponds 37.92 332 P **P** **17 30 44.5 +0.3**
NVAR Mina Array Bea 38.50 319 P **P** **17 30 51.5 +2.4**
comp=Z,0.9nm,0.7s,baz=131,slow=6.8,SNR=7.0
comp=Z,0.9nm,0.7s
ULM Lac du Bonnet 39.13 351 P **P** **17 30 52.0 -1.9**
ULM IAmb IAmb 17 30 53.6
comp=Z,13nm,1.2s
ULM Lac du Bonnet 39.13 351 P **P** **17 30 52.3 -1.6**
comp=Z,7.9nm,0.8s,baz=169,slow=9.3,SNR=11
ULM LR LR 17 48 05.4
comp=Z,34nm,19.3s,baz=37,slow=38
comp=Z,7.9nm,0.8s
DGMT Dagmar 39.36 342 P **P** **17 30 55.8 -0.1**
BOZ Bozeman (W) 39.74 333 P **P** **17 30 59.7 +0.4**
LRM Limekiln Ridge 40.29 332 P **P** **17 31 05.0 +1.1**
PLID Pearl Lake 41.45 329 P **P** **17 31 13.7 +0.1**
NEW Newport 44.24 331 LR LR 17 52 29.5
comp=Z,29nm,20.6s,baz=138,slow=39
FFC Flin Flon 44.52 348 P **P** **17 31 37.6 -0.3**
SCHQ Schefferville 45.93 16 P **P** **17 31 47.3 -1.7**
comp=Z,1.2nm,0.5s,baz=227,slow=6.6,SNR=6.9
SCHQ LR LR 17 51 10.3
comp=Z,96nm,18.7s,baz=240,slow=36
comp=Z,1.2nm,0.5s
FCC Fort Churchill 47.29 355 P **P** **17 31 58.1 -1.4**
FCC IAmb IAmb 17 31 59.4
comp=Z,2.9nm,0.7s
CPUP Villa Florida 47.60 143 P **P** **17 32 03.6 +1.2**
comp=Z,0.8nm,0.5s,baz=343,slow=11,SNR=3.3
comp=Z,0.8nm,0.5s
FRB Frobisher Bay 53.63 10 LR LR 17 56 04.6
comp=Z,36nm,21.3s,baz=172,slow=37
PLCA Paso Flores 54.35 165 P **P** **17 32 54.7 +1.7**
PLCA IAmb IAmb 17 33 31.4
comp=Z,9.2nm,1.4s
PLCA Paso Flores 54.35 165 P **P** **17 32 55.1 +2.1**
comp=Z,1.2nm,0.8s,baz=268,slow=3.1,SNR=1.8
comp=Z,1.2nm,0.8s
YKAB2 New Yellowknif 54.39 345 P **P** **17 32 52.8 0.0**
YKA Yellowknife Ar 54.44 345 P **P** **17 32 52.8 -0.5**
YKA Yellowknife Ar 54.44 345 P **P** **17 32 52.3 -1.0**
comp=Z,1.9nm,0.8s,baz=137,slow=7.5,SNR=37
comp=Z,1.9nm,0.8s
SFJD Kangerlussuaq 60.37 16 LR LR 17 59 31.6
comp=Z,48nm,18.9s,baz=196,slow=36
G31M Satah River 63.43 341 P **P** **17 33 55.2 -0.2**
BCAR Beaver Creek A 64.09 336 P **P** **17 34 00.8 +0.8**
L27K Beaver Creek, 64.11 336 P **P** **17 34 00.6 +0.5**
L27K IAmb IAmb 17 34 08.4
comp=Z,5.0nm,1.2s
H29M Whitestone 64.38 339 P **P** **17 34 01.6 -0.2**
H29M IAmb IAmb 17 34 34.2
comp=Z,8.2nm,1.4s
KLU Klutina 65.18 333 P **P** **17 34 06.7 -0.4**
E29M Blow River 65.41 342 P **P** **17 34 08.9 +0.5**
E29M IAmb IAmb 17 34 44.8
comp=Z,5.3nm,1.4s
F28M Old Crow 65.62 340 P **P** **17 34 10.4 +0.6**
F28M IAmb IAmb 17 34 11.9
comp=Z,3.6nm,0.8s
E28M Babbage River 66.03 341 P **P** **17 34 12.4 -0.1**
ILAR Eielson Array 66.86 336 P **P** **17 34 17.6 -0.2**
ILAR Eielson Array 66.86 336 P **P** **17 34 17.8 0.0**
comp=Z,0.7nm,0.6s,baz=145,slow=4.6,SNR=12
comp=Z,0.7nm,0.6s
RND Reindeer 67.15 335 P **P** **17 34 20.6 +0.8**
RND IAmb IAmb 17 34 48.7
comp=Z,12nm,1.4s
TOLK Toolik Lake Re 69.33 340 P **P** **17 34 33.7 +0.4**
GSTR Great Sitkin T 80.25 321 P **P** **17 35 36.9 +0.2**
GERES GERESS Array B 88.31 40 LR LR 18 10 34.3
comp=Z,27nm,20.7s,baz=254,slow=32
ASAR Alice Springs 139.28 247 PKP **PKiKP** **17 42 55.7 -0.2**
comp=Z,0.6nm,0.8s,baz=94,slow=2.1,SNR=6.3

IDC 09 17:24:47.0±5.1,5°84S×142°16E,h0km,mb3.7/2,
mbtmp3.6/4,ML2.9/2,Error ellipse: s-maj=189.9km
s-min=32.5km az=95.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.95**	**208**	Pn	Pn	17 28 31.3	-1.6
	baz=28,slow=13,SNR=2.1						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**19.42**	**203**	P	Pn	17 29 15.9	-0.3
	0.1nm,0.3s,baz=34,slow=9.9,SNR=16						
	2.2nm,1.0s						
MKAR	**Makanchi Array**	**74.36**	**322**	P	P	17 36 26.8	+0.1
	0.3nm,0.7s,baz=120,slow=6.4,SNR=5.1						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**83.83**	**325**	P	P	17 37 18.2	-0.2
	0.9nm,0.8s,baz=99,slow=6.3,SNR=3.5						
	0.9nm,0.8s						

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*IDC **09** 17:39:00.2±1.2,6°18S×142°83E,h0km,mb3.8/4,*
mbtmp3.9/7,ML3.6/1,Error ellipse: s-maj=37.2km
s-min=22.6km az=97.0
ISC 09 17:39:05.2±0.9,6°40S±0°09×142°82E±0°10,h35km,n7,
σ1s87/10,mb3.9/4,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.23**	**125**	Pn	**Pn**	**17 40 21.2**	**+0.2**
	8.7nm,0.8s,baz=126,slow=21,SNR=2.5						
PMG				Sn	**Sn**	**17 41 19.7**	**-0.4**
	0.7nm,0.3s,baz=137,slow=23,SNR=1.6						
WRA	**Warramunga Arr**	**15.78**	**211**	Pn	**Pn**	**17 42 45.0**	**+0.1**
	0.2nm,0.3s,baz=27,slow=13,SNR=9.7						
WRA				Sn	**Sn**	**17 45 35.2**	**-3.6**
	0.2nm,0.3s,baz=43,slow=25,SNR=2.2						
WRA				Lg	Lg	17 47 27.1	
	baz=28,slow=30,SNR=2.7						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**19.19**	**206**	P	**Pn**	**17 43 29.7**	**+2.5**
	9.3nm,0.7s,baz=32,slow=9.9,SNR=62						
ASAR				S	**S**	**17 47 03.2**	**+1.4**
	0.8nm,0.4s,baz=27,slow=13,SNR=9.5						
ASAR				Lg	Lg	17 49 17.6	
	baz=15,slow=32						
MKAR	**Makanchi Array**	**75.20**	**322**	P	**P**	**17 50 44.3**	**+0.1**
	0.2nm,0.4s,baz=107,slow=7.7,SNR=1.2						
	0.2nm,0.4s						
QSPA	**South Pole Qui**	**83.57**	**180**	P	**P**	**17 51 30.1**	**+0.5**
	1.5nm,1.1s,baz=315,slow=1.4,SNR=1.6						
	1.5nm,1.1s						
BVAR	**Borovoye Array**	**84.67**	**325**	P	**P**	**17 51 35.8**	**+0.5**
	1.0nm,0.6s,baz=104,slow=6.9,SNR=8.6						
	1.0nm,0.6s						
ILAR	**Eielson Array**	**87.50**	**24**	P	**P**	**17 51 47.5**	**-1.5**
	0.5nm,0.9s,baz=270,slow=4.5,SNR=2.4						
	0.5nm,0.9s						

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*IDC **09** 17:45:27.5±1.9,68°82N×17°57W,h0km,mb3.3/3,*
mbtmp3.5/5,ML2.3/1,MS2.7/2,Error ellipse: s-maj=48.4km
s-min=28.5km az=33.0
ISC 09 17:45:28.9±1.5,68°9N±0°2×17°6W±0°1,h10km,n8,σ0s79/6,
mb3.4/3,Iceland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCO	**Scoresbysund**	**2.21**	**319**	*i* P	**Pn**	**17 46 05.0**	**-0.5**
JMIC	**Jan Mayen**	**3.77**	**52**	LR	LR	17 47 25.4	
	comp=Z,115nm,19.0s,baz=278,slow=31						
SPITS	**Spitsbergen Ar**	**13.10**	**31**	Pn	**Pn**	**17 48 34.5**	**-0.2**
	1.6nm,0.4s,baz=235,slow=10.0,SNR=28						
NOA	**NORSAR Array B**	**14.37**	**109**	LR	LR	17 53 49.9	
	comp=Z,25nm,19.1s,baz=75,slow=35						
FINES	**FINESS Array B**	**19.38**	**91**	P	**P**	**17 49 53.8**	**-0.7**
	baz=325,slow=12,SNR=1.1						
	1.0nm,0.7s						
GERES	**GERESS Array B**	**25.28**	**127**	P	**P**	**17 50 54.8**	**-0.3**
	0.9nm,0.7s,baz=339,slow=10,SNR=6.6						
	0.9nm,0.7s						
YKA	**Yellowknife Ar**	**36.39**	**309**	P	**P**	**17 52 33.2**	**+0.4**
	0.1nm,0.3s,baz=47,slow=7.7,SNR=2.0						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**50.62**	**61**	P	**P**	**17 54 28.4**	**+0.9**
	0.4nm,0.8s,baz=350,slow=7.3,SNR=3.0						
	0.4nm,0.8s						

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*TEH **09** 17:49:17.8,27°52N×53°50E,h16km±41km,ML3.3*
*OMAN **09** 17:49:21.1±2.0,27°72N×53°87E,h10km,mb4.0/3,*
ml3.1/10,Error ellipse: s-maj=22.4km s-min=7.5km az=2.0
*DSN **09** 17:49:24.1±1.2,27°06N×53°45E,h10km,ML2.8/4,Error*

ellipse: s-maj=12.4km s-min=8.0km az=91.0

ISC 09 17:49:18.0±0.9,**27°63N**±0°04×**53°51E**±0°04,**h16**km,**n36,** σ**2s03**/43,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.42**	**227**	Pg	**Pg**	**17 49 25.0**	**-1.4**
LAR1	**LAR**	**0.77**	**87**	Pg	**Pn**	**17 49 33.6**	**-0.7**
JHRM	**Jahrom**	**0.88**	**4**	Pg	**Pn**	**17 49 36.2**	**+0.4**
QIR1	**Qir**	**0.94**	**334**	Pg	**Pn**	**17 49 37.2**	**+0.6**
DSBU	**Dashti - Bushe**	**2.12**	**291**	Pn	**Pb**	**17 49 55.2**	**-0.8**
GENO	**Geno**	**2.38**	**95**	Pn	**Pb**	**17 49 58.2**	**-2.3**
JRN	**Qarnain Island**	**2.74**	**193**	P	**Pb**	**17 50 06.4**	**-0.2**
JRN				S	**Sg**	**17 50 46.1**	**+0.1**
SHME	**Shamm**	**2.83**	**123**	P	**Pb**	**17 50 06.6**	**-1.5**
SHME	**Shamm**	**2.83**	**123**	P	**Pb**	**17 50 07.0**	**-1.1**
SHMA	**Al-Shehemyia**	**2.88**	**233**	P	**Pg**	**17 50 13.2**	**0.0**
SHMA				S	**Sg**	**17 50 49.6**	**-0.8**
SAKB	**Bahrain**	**3.12**	**239**	P	**Pg**	**17 50 17.8**	**0.0**
SAKB				S	**Sg**	**17 50 58.7**	**+0.4**
MASF	**Masafi**	**3.27**	**133**	P	**Pb**	**17 50 12.0**	**-3.7**
MASF				S	**Sn**	**17 50 49.8**	**+2.5**
MDH	**Madha**	**3.41**	**132**	P	**Pn**	**17 50 12.9**	**+2.4**
MDH				S	**Sn**	**17 50 53.8**	**+3.1**
TRNA	**Turayna** SNR=7.7	**3.54**	**216**	P	**Pb**	**17 50 16.9**	**-3.4**
UOSS	**Minazif**	**3.60**	**137**	P	**Pn**	**17 50 14.3**	**+1.1**
UOSS	**Minazif**	**3.60**	**137**	P	**Pn**	**17 50 15.1**	**+1.9**
HATD	**Hatta, Dubai**	**3.65**	**139**	P	**Pn**	**17 50 15.8**	**+1.9**
HATD	**Hatta, Dubai**	**3.65**	**139**	P	**Pn**	**17 50 16.4**	**+2.6**
ASHO	**Ashiyiah**	**3.72**	**141**	P	**Pn**	**17 50 16.3**	**+1.4**
ASHO				S	**Sn**	**17 50 57.6**	**-0.8**
ASHO	**Ashiyiah** SNR=20	**3.72**	**141**	P	**Pn**	**17 50 16.8**	**+1.9**
SMRA	**Abu-Samra**	**3.75**	**221**	P	**Pb**	**17 50 20.6**	**-3.2**
MZWR	**Madinat Zayed**	**3.86**	**175**	P	**Pn**	**17 50 18.3**	**+1.6**
IMEH	**Mehriz**	**3.87**	**14**	Pn	**Pn**	**17 50 20.7**	**+3.6**
JASK	**Jask - Hormozg**	**4.27**	**113**	Pn	**Pn**	**17 50 22.8**	**+0.3**
JASK	**Jask - Hormozg**	**4.27**	**113**	P	**Pn**	**17 50 22.7**	**+0.3**
JASK				S	**Sn**	**17 51 12.5**	**+0.5**
IRAM	**Rameshen**	**4.28**	**347**	Pn	**Pn**	**17 50 26.5**	**+3.8**
IBAF	**Bafgh**	**4.34**	**24**	Pn	**Pn**	**17 50 26.8**	**+3.4**
SOHO	**SOHO**	**4.42**	**141**	P	**Pn**	**17 50 26.0**	**+1.6**
ARQ	**Araqi**	**5.07**	**147**	P	**Pn**	**17 50 35.5**	**+2.1**
UMZA	**Um Al Zommool**	**5.11**	**163**	P	**Pn**	**17 50 35.2**	**+1.3**
BIDO	**Bidbid**	**5.84**	**133**	P	**Pn**	**17 50 44.7**	**+0.7**
BSY	**Bisya**	**5.90**	**145**	P	**Pn**	**17 50 46.7**	**+1.9**
SMDO	**Samad**	**6.13**	**137**	P	**Pn**	**17 50 49.6**	**+1.6**
JMDO	**Jabal Madar**	**6.69**	**140**	P	**Pn**	**17 50 59.5**	**+3.9**
WBK	**Wadi Bani Khal** SNR=8.4	**7.03**	**134**	P	**Pn**	**17 51 01.1**	**+0.8**
MHTO	**MHTO**	**7.76**	**147**	P	**Pn**	**17 51 11.5**	**+1.1**

*IDC **09** 17:58:36.5±2.2,5°35S×152°84E,h0km,mb3.8/7, mbtmp3.8/8,ML1.4/1,Error ellipse: s-maj=85.1km s-min=21.4km az=121.0*

ISC 09 17:58:42.1±1.9,**5°3S**±0°3×**152°7E**±0°4,**h35**km,**n9,** σ**0s53**/10,**mb3.7/7,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 0.5nm,0.3s,baz=250,slow=14,SNR=2.6	**6.82**	**233**	Pn	**Pn**	**18 00 20.4**	**+0.7**
PMG				Sn	**Sn**	**18 01 35.4**	**-0.8**
	1.7nm,0.3s,baz=44,slow=18,SNR=1.9 7.5nm,0.8s						
WRA	**Warramunga Arr** 0.8nm,0.8s,baz=51,slow=10,SNR=4.7 0.8nm,0.8s	**23.02**	**229**	P	**P**	**18 03 44.0**	**-0.2**
ASAR	**Alice Springs** 0.7nm,0.7s,baz=52,slow=9.4,SNR=9.6 0.7nm,0.7s	**25.69**	**223**	P	**P**	**18 04 09.2**	**+0.1**
PETK	**Petropavlovsk-** 2.3nm,0.8s,baz=198,slow=4.4,SNR=7.3 2.3nm,0.8s	**58.38**	**4**	P	**P**	**18 08 33.9**	**0.0**
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=108,slow=6.3,SNR=8.5 0.3nm,0.5s	**80.66**	**319**	P	**P**	**18 10 52.2**	**+0.6**
ZALV	**Zalesovo Beam** 0.6nm,0.5s,baz=104,slow=6.1,SNR=2.3 0.6nm,0.5s	**81.54**	**326**	P	**P**	**18 10 55.6**	**-0.4**
ILAR	**Eielson Array** 0.7nm,0.9s,baz=265,slow=5.2,SNR=4.3 0.7nm,0.9s	**82.69**	**22**	P	**P**	**18 11 01.5**	**-0.4**
BVAR	**Borovoye Array** 0.8nm,0.6s,baz=99,slow=7.7,SNR=6.1 0.8nm,0.6s	**89.61**	**323**	P	**P**	**18 11 36.3**	**+0.1**
TORD	**Torodi Ar. Bea** 0.2nm,0.4s,baz=86,slow=3.1,SNR=1.9	**150.37**	**287**	PKPbc	**PKPbc**	**18 18 31.1**	**+0.2**

*BJI **09** 18:02:26.6±0.0,30°09S×177°48W,h12km,mb5.3/47, mB5.7/18,Ms5.0/7,Ms7 4.7/11*

*NOU **09** 18:02:28.8,30°95S×177°11W,h50km,mb5.4/83, Kermadec Islands, New Zealand*

*NEIC **09** 18:02:28.6±1.7,30°65S±0°05×178°1W±0°1,h10km±1km, mb5.4/245,Error ellipse: s-maj=16.3km s-min=7.2km az=104.0*

*MOS **09** 18:02:31.4±0.9,30°58S×178°14W,h39km,mb5.6/38, Error ellipse: s-maj=8.7km s-min=7.4km az=85.2*

*IDC **09** 18:02:33.7±1.2,30°47S×178°11W,h46km±10km,mb4.9/24, mbtmp5.1/25,ML3.4/1,MS4.3/45,Error ellipse: s-maj=10.5km s-min=9.5km az=90.0*

*GCMT **09** 18:02:34.6±0.2,30°60S±0°01×177°89W±0°01,h52km, MW5.2/104,Moment Tensor Solution. s100,c155; s104,c165; Duration: 1§0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.85±.02; $M_{\theta\theta}$-0.12±.01; $M_{\phi\phi}$-0.72±.01; $M_{r\theta}$0.03±.01; $M_{\theta\phi}$-0.29±.01; $M_{\phi r}$0.13±.01; Best double couple: $M_0$0.85700×10^{17} NP1:ϕ_s21.00000°,δ49.00000°, λ88.00000°. NP2:ϕ_s204.00000°,δ41.00000°,λ92.00000°. Principal axes: T 0.8610, Plg85.0000°, Azm273.0000°; N -0.0080, Plg1.0000°, Azm22.0000°; P -0.8540, Plg4.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 18:02:29.3±0.5,**30°72S**±0°04×**178°05W**±0°05,**h19**km±1km, **h19**km:**pP-P,n1081,**σ**1§55**/1026,**mb5.4**/236,**MS4.5**/47, **76C-13D,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.46**	**4**	P	**Pn**	**18 02 54.2**	**-0.4**
GLKZ				S	**Sn**	**18 03 08.0**	**-5.1**
RAO	**Raoul Island**	**1.47**	**4**		**Pn**	**18 02 54.0**	**-0.7**
RAO				Sn	**Sn**	**18 03 11.6**	**-1.8**
RAO	**Raoul Island**	**1.47**	**4**	P	**Pn**	**18 02 54.1**	**-0.7**
RAO						18 03 11.6	
RAO	**Raoul Island** 5µm,0.2s,baz=230,slow=23,SNR=24	**1.47**	**4**	P	**Pn**	**18 02 54.5**	**-0.2**
RAO				S	**Sn**	**18 03 09.4**	**-4.0**
	25µm,0.2s,baz=181,slow=22,SNR=13						
RAO				LR	LR	18 03 19.1	
	comp=Z,4µm,18.7s,baz=182,slow=37						
RIZ	**Raoul Island**	**1.47**	**4**	P	**Pn**	**18 02 54.5**	**-0.3**
RIZ				S	**Sn**	**18 03 09.5**	**-4.1**
MXZ	**Matakaoa Point**	**7.46**	**203**	Pn	**Pn**	**18 04 15.8**	**-1.3**
MXZ				Sn	**Sn**	**18 05 39.9**	**-1.4**
MXZ	**Matakaoa Point** 89nm,1.3s	**7.46**	**203**	P	**Pn**	**18 04 16.9**	**-0.3**
MXZ	**Matakaoa Point**	**7.46**	**203**	P	**Pn**	**18 04 17.0**	**-0.2**
MXZ				S	**Sn**	**18 05 41.8**	**+0.5**
WMGZ	**Waiomatatini S**	**7.66**	**202**	P	**Pn**	**18 04 20.2**	**+0.3**
WMGZ				S	**Sn**	**18 05 45.8**	**-0.4**
KUZ	**Kuaotunu** 62nm,1.0s	**7.94**	**219**	P	**Pn**	**18 04 27.2**	**+3.5**
OUZ	**Omahuta** 203nm,0.8s	**8.33**	**235**	P	Pn	18 04 34.6	+5.5
URZ	**Urewera** 91nm,0.6s	**8.52**	**207**	P	**Pn**	**18 04 30.9**	**-0.7**
URZ	**Urewera** 8.6nm,0.3s,baz=344,slow=3.5,SNR=28	**8.52**	**207**	P	**Pn**	**18 04 30.9**	**-0.7**
URZ				S	**Sn**	**18 06 06.2**	**-0.9**
	128nm,0.6s,baz=133,slow=1.7,SNR=3.6						
URZ				LR	LR	18 07 53.1	
	comp=Z,2µm,20.8s,baz=132,slow=37						
RIGZ	**Rimuhau**	**8.68**	**202**	P	**Pn**	**18 04 33.0**	**-0.9**
RIGZ				S	**Sn**	**18 06 10.1**	**-1.2**
TOZ	**Tahuroa Road**	**8.80**	**216**	Pn	**Pn**	**18 04 35.6**	**+0.1**
PRGZ	**Paritu Road**	**8.84**	**201**	P	**Pn**	**18 04 34.7**	**-1.4**
PRGZ				S	**Sn**	**18 06 13.5**	**-1.6**
RTZ	**Ruatahuna**	**8.88**	**206**	Pn	**Pn**	**18 04 35.7**	**-0.9**
RTZ				Sn	**Sn**	**18 06 16.2**	**0.0**
RTZ	**Ruatahuna**	**8.88**	**206**	P	**Pn**	**18 04 36.0**	**-0.6**
RTZ				S	**Sn**	**18 06 12.4**	**-3.8**
SNGZ	**Shannon Statio**	**8.89**	**204**	P	**Pn**	**18 04 36.4**	**-0.4**
SNGZ				S	**Sn**	**18 06 17.0**	**+0.5**
MHGZ	**Mahia Peninsul**	**9.04**	**200**	P	**Pn**	**18 04 36.9**	**-2.0**
MHGZ				S	**Sn**	**18 06 11.8**	**-8.3**
RAHZ	**Arahi**	**9.10**	**205**	P	**Pn**	**18 04 39.1**	**-0.6**
RAHZ				S	**Sn**	**18 06 22.7**	**+1.1**
MTHZ	**Maungataniwha**	**9.14**	**206**	P	**Pn**	**18 04 39.9**	**-0.3**
MTHZ				S	**Sn**	**18 06 21.6**	**-0.9**
NMHZ	**Naumai**	**9.36**	**205**	P	**Pn**	**18 04 42.8**	**-0.5**
NMHZ				S	**Sn**	**18 06 29.6**	**+1.5**
ARHZ	**Aropaoanui**	**9.44**	**204**	P	**Pn**	**18 04 42.8**	**-1.5**
ARHZ				S	**Sn**	**18 06 26.2**	**-3.7**
BKZ	**Black Stump Fm**	**9.54**	**207**	Pn	**Pn**	**18 04 43.7**	**-2.1**
BKZ	**Black Stump Fm** 26nm,0.9s	**9.54**	**207**	P	**Pn**	**18 04 45.4**	**-0.3**
BKZ	**Black Stump Fm**	**9.54**	**207**	P	**Pn**	**18 04 44.6**	**-1.1**
BKZ				S	**Sn**	**18 06 34.2**	**+1.8**
MCHZ	**McNeill Hill**	**9.71**	**205**	P	**Pn**	**18 04 46.9**	**-1.0**
MCHZ				S	**Sn**	**18 06 35.4**	**-1.1**
HIZ	**Hauiti**	**9.73**	**215**		Pn	18 04 38.8	-9.4
HIZ	**Hauiti** 89nm,2.0s	**9.73**	**215**	P	**Pn**	**18 04 49.4**	**+1.2**
HIZ	**Hauiti**	**9.73**	**215**	P	Pn	18 04 53.6	+5.4
KWHZ	**Kaweka Forest**	**9.79**	**206**	P	**Pn**	**18 04 47.7**	**-1.5**
KWHZ				S	**Sn**	**18 06 37.1**	**-1.5**
NTVZ	**North Tongarir**	**9.82**	**210**	P	**Pn**	**18 04 50.6**	**+1.0**
NTVZ				S	**Sn**	**18 06 40.6**	**+1.2**
TMVZ	**Te Maari**	**9.82**	**210**	P	**Pn**	**18 04 51.6**	**+2.0**
TMVZ				S	**Sn**	**18 06 40.0**	**+0.6**
WTVZ	**West Tongariro**	**9.87**	**210**	P	**Pn**	**18 04 52.5**	**+2.2**
NNVZ	**North Ngauruho**	**9.87**	**210**	P	**Pn**	**18 04 52.8**	**+2.5**
OTVZ	**Oturere**	**9.88**	**210**	P	**Pn**	**18 04 50.6**	**+0.2**
OTVZ				S	**Sn**	**18 06 42.3**	**+1.5**
TWVZ	**Taurewa**	**9.90**	**211**	P	**Pn**	**18 04 52.8**	**+2.2**
SNVZ	**South Ngauruho**	**9.91**	**210**	P	**Pn**	**18 04 50.7**	**-0.2**
KAHZ	**Kahuranaki**	**9.96**	**203**	P	**Pn**	**18 04 49.1**	**-2.3**
KAHZ				S	**Sn**	**18 06 40.0**	**-2.7**
BHHZ	**Black Hill Sta**	**9.99**	**207**	P	**Pn**	**18 04 50.4**	**-1.5**
BHHZ				S	**Sn**	**18 06 42.3**	**-1.2**
FWVZ	**Far West T-bar**	**10.00**	**210**	P	**Pn**	**18 04 52.2**	**0.0**
MAVZ	**Matarangi**	**10.01**	**210**	P	Pn	18 04 57.9	+5.6
TRVZ	**Turoa**	**10.04**	**210**	P	**Pn**	**18 04 54.0**	**+1.3**
WNVZ	**Wahinoa**	**10.04**	**210**	P	**Pn**	**18 04 52.1**	**-0.6**
MOVZ	**Moawhango**	**10.04**	**209**	P	**Pn**	**18 04 53.1**	**+0.5**
MOVZ				S	**Sn**	**18 06 42.3**	**-2.5**
PNHZ	**Pukenui**	**10.30**	**206**	P	**Pn**	**18 04 53.3**	**-2.9**
WPHZ	**Waipukurau**	**10.35**	**204**	P	**Pn**	**18 04 54.9**	**-1.9**
TSZ	**Takapari Road**	**10.52**	**206**	P	**Pn**	**18 04 57.9**	**-1.2**
DVHZ	**Dannevirke**	**10.65**	**205**	P	**Pn**	**18 04 58.4**	**-2.5**
ANWZ	**Angora Road**	**10.69**	**203**	P	**Pn**	**18 04 59.1**	**-2.3**
BFZ	**Birch Farm**	**10.97**	**203**	Pn	**Pn**	**18 05 00.5**	**-4.7**
BFZ	**Birch Farm** 84nm,1.0s	**10.97**	**203**	P	**Pn**	**18 05 03.9**	**-1.3**
BFZ	**Birch Farm**	**10.97**	**203**	P	**Pn**	**18 05 01.8**	**-3.4**
TIWZ	**Tintock**	**11.18**	**204**	P	**Pn**	**18 05 04.9**	**-3.2**
MRZ	**Mangatainoka R**	**11.19**	**206**	P	**Pn**	**18 05 03.8**	**-4.4**
HOWZ	**Holdsworth Sta**	**11.42**	**205**	P	**Pn**	**18 05 07.2**	**-4.2**
TMWZ	**Te Maipa**	**11.47**	**204**	P	**Pn**	**18 05 08.7**	**-4.1**
OGWZ	**Otaki Gorge**	**11.48**	**207**	P	**Pn**	**18 05 07.7**	**-4.4**
KIW	**Kapiti Island**	**11.62**	**208**	P	**Pn**	**18 05 09.5**	**-4.6**
MTW	**Mount Morrison**	**11.65**	**205**	P	**Pn**	**18 05 10.3**	**-4.3**
CAW	**Cannon Point**	**11.77**	**206**	P	Pn	18 05 11.3	-4.8
PAWZ	**Paruwai Farm**	**11.87**	**205**	P	**Pn**	**18 05 14.2**	**-3.5**
SNZO	**South Karori**	**12.08**	**207**	Pn	Pn	18 05 15.2	-5.2
SNZO	**South Karori** 135nm,2.7s	**12.08**	**207**	P	**Pn**	**18 05 19.9**	**-0.5**
BHW	**Baring Head**	**12.10**	**206**	Pn	Pn	18 05 15.2	-5.5
TCW	**Tory Channel**	**12.17**	**209**	P	**Pn**	**18 05 17.6**	**-4.0**
TUWZ	**Tuamarina**	**12.49**	**209**		**Pn**	**18 05 21.5**	**-4.5**
TUWZ	**Tuamarina**	**12.49**	**209**	P	**Pn**	**18 05 21.3**	**-4.7**
NNZ	**Nelson**	**12.56**	**211**	P	**Pn**	**18 05 23.5**	**-3.4**
CMWZ	**Cape Campbell**	**12.65**	**207**	Pn	**Pn**	**18 05 24.5**	**-3.7**
MRNZ	**Matariki Terra**	**12.99**	**212**	Pn	Pn	18 05 26.9	-5.9
MRNZ	**Matariki Terra**	**12.99**	**212**	P	**Pn**	**18 05 28.4**	**-4.4**
CTZ	**Chatham Island**	**13.04**	**175**	Pn	Pn	18 05 25.5	-8.0
THZ	**Tophouse**	**13.21**	**211**		Pn	18 05 29.9	-6.0
THZ	**Tophouse**	**13.21**	**211**	P	**Pn**	**18 05 33.1**	**-2.8**
MSVF	**Nonsavu**	**13.41**	**344**	Pn	Pn	18 05 33.3	-5.4
MSVF	**Nonsavu** 158nm,1.3s	**13.41**	**344**	P	**Pn**	**18 05 42.9**	**+4.2**
MSVF	**Nonsavu**	**13.41**	**344**	P	**Pn**	**18 05 41.3**	**+2.6**
KHZ	**Kahutara**	**13.48**	**208**	Pn	Pn	18 05 33.3	-6.2
KHZ	**Kahutara**	**13.48**	**208**	P	**Pn**	**18 05 39.4**	**-0.1**
KHZ	**Kahutara**	**13.48**	**208**	P	Pn	18 05 34.4	-5.1
NIUE	**Niue** 166nm,0.8s	**13.73**	**34**	P	Pn	18 05 37.8	-5.2
LTZ	**Lake Taylor**	**14.31**	**210**	Pn	Pn	18 05 43.3	-7.6
DGTI	**Dogtuki** 100nm,0.8s	**14.50**	**351**	P	**P**	**18 05 57.6**	**-2.5**
INZ	**Inchbonnie**	**14.63**	**212**		Pn	18 05 50.2	-5.1
OXZ	**Oxford**	**14.85**	**209**		Pn	18 05 53.3	-5.0
PINNC	**Pines Island,**	**15.27**	**298**	Pn	**Pn**	**18 06 03.8**	**0.0**
PINNC				lAmb	lAmb	18 06 05.1	
	comp=Z,117nm,1.1s						
RPZ	**Rata Peaks**	**15.59**	**211**	Pn	**Pn**	**18 06 03.2**	**-4.8**
RPZ	**Rata Peaks** comp=Z,46nm,0.8s	**15.59**	**211**	P	**Pn**	**18 06 07.6**	**-0.4**
RPZ	**Rata Peaks**	**15.59**	**211**	P	**Pn**	**18 06 06.7**	**-1.3**
	comp=Z,9.1nm,0.4s,baz=5.2,slow=5.1,SNR=8.6						
RPZ				S	Sn	18 08 49.0	-11
	comp=Z,12nm,0.4s,baz=310,slow=22,SNR=9.1						
RPZ				LR	LR	18 12 49.8	
	comp=Z,853nm,19.2s,baz=46,slow=39						
OUENC	**Ouen Island, N**	**15.84**	**298**	P	**P**	**18 06 14.3**	**-0.7**
DZM	**Mont Dzumac**	**16.34**	**298**	P	**Pn**	**18 06 18.4**	**+0.6**
DZM	**Mont Dzumac** comp=Z,134nm,1.5s	**16.34**	**298**	P	**P**	**18 06 24.7**	**+4.1**
DZM	**Mont Dzumac** comp=Z,939nm,28.2s	**16.34**	**298**	*e*P	**Pn**	**18 06 16.5**	**-1.3**
DZM				*e*LR	LR	18 10 06.2	
	comp=Z,8µm,25.3s						
DZM	**Mont Dzumac**	**16.34**	**298**	P	**P**	**18 06 24.1**	**+3.5**
	comp=Z,83nm,1.1s,baz=100,slow=17,SNR=8.1						
DZM				LR	LR	18 11 33.2	
	comp=Z,4µm,18.2s,baz=126,slow=33						
NOUC	**Port Laguerre** comp=Z,161nm,1.7s	**16.43**	**298**	P	**P**	**18 06 25.5**	**+4.0**
LBZ	**Lake Benmore**	**16.50**	**211**	Pn	**Pn**	**18 06 16.9**	**-2.8**
ODZ	**Otahua Downs** comp=Z,32nm,2.0s	**16.83**	**209**	P	**Pn**	**18 06 24.3**	**+0.5**
JCZ	**Jackson Bay** comp=Z,68nm,1.8s	**16.92**	**214**	P	**Pn**	**18 06 25.4**	**+0.4**
AFI	**Afiamalu**	**17.70**	**20**	P	**Pn**	**18 06 34.6**	**-0.3**
AFI				pmax	pmax		
	comp=Z,84nm,1.2s						
WHZ	**Wether Hill Ro**	**18.67**	**212**	P	**P**	**18 06 44.2**	**-2.0**
DCZ	**Deep Cove**	**18.73**	**214**	P	**P**	**18 06 43.6**	**-3.1**
KOUNC	**Koumac, New Ca**	**18.85**	**298**	P	**P**	**18 06 47.6**	**-0.7**
KOUNC	**Koumac, New Ca** comp=Z,92nm,0.8s	**18.85**	**298**	P	**Pn**	**18 06 53.5**	**+4.6**
RAR	**Rarotonga**	**18.94**	**64**	P	**Pn**	**18 06 50.6**	**+0.7**
RAR	**Rarotonga**	**18.94**	**64**	P	**Pn**	**18 06 50.6**	**+0.7**
RAR				pmax	pmax		
	comp=Z,86nm,1.2s						
RAR	**Rarotonga**	**18.94**	**64**	P	**Pn**	**18 06 50.5**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=339,slow=11,SNR=1.9						
RAR				S	Sn	18 10 03.6	-18
	comp=Z,12nm,0.5s,baz=265,slow=17,SNR=1.8						
RAR				LR	LR	18 12 23.7	
	comp=Z,740nm,20.4s,baz=246,slow=31 comp=Z,18nm,0.9s						
ARMA	**Armidale** baz=26,SNR=15	**26.08**	**263**	P	**P**	**18 08 03.8**	**+1.9**
ARMA	**Armidale** comp=Z,162nm,0.8s	**26.08**	**263**	P	**P**	**18 08 03.3**	**+1.4**
ARMA	**Armidale** comp=Z,47nm,0.9s	**26.08**	**263**	P	**P**	**18 08 06.2**	**+4.3**
MGCD	**Mangrove Creek** baz=26,SNR=22	**26.24**	**256**	P	**P**	**18 08 05.5**	**+2.3**
MGCD	**Mangrove Creek** comp=Z,162nm,0.8s	**26.24**	**256**	P	**P**	**18 08 07.3**	**+4.1**
SYDH	**Sydney Hard Ro** comp=Z,109nm,0.7s	**26.52**	**255**	P	**P**	**18 08 10.2**	**+4.4**
CNB	**Canberra Magne** baz=28,SNR=11	**27.64**	**252**	P	**P**	**18 08 17.5**	**+1.6**
CNB	**Canberra Magne** comp=Z,58nm,1.1s	**27.64**	**252**	P	**P**	**18 08 19.7**	**+3.8**
EIDS	**Eidsvold** baz=28,SNR=15	**27.71**	**273**	P	**P**	**18 08 18.6**	**+2.1**
EIDS	**Eidsvold**	**27.71**	**273**	P	**P**	**18 08 18.2**	**+1.6**
EIDS				lAmb	lAmb	18 08 22.3	
	comp=Z,59nm,0.9s						
EIDS	**Eidsvold** comp=Z,77nm,1.0s	**27.71**	**273**	P	**P**	**18 08 20.2**	**+3.6**
MILA	**Mila** baz=28,SNR=21	**27.86**	**248**	P	**P**	**18 08 19.5**	**+1.6**
MILA	**Mila** comp=Z,63nm,0.8s	**27.86**	**248**	P	**P**	**18 08 21.7**	**+3.9**
CAN	**Canberra**	**27.93**	**252**	P	**P**	**18 08 19.6**	**+1.1**
CAN				lAmb	lAmb	18 08 23.2	
	comp=Z,58nm,1.0s						
CAN	**Canberra** comp=Z,94nm,1.1s	**27.93**	**252**	P	**P**	**18 08 22.2**	**+3.7**
CAN	**Canberra**	**27.93**	**252**	P	**P**	**18 08 19.6**	**+1.1**
CAN				pmax	pmax		
	comp=Z,58nm,1.0s						
YNG	**Young** baz=28,SNR=22	**28.45**	**254**	P	**P**	**18 08 26.8**	**+3.7**
YNG	**Young** comp=Z,94nm,1.1s	**28.45**	**254**	P	**P**	**18 08 26.9**	**+3.8**
RK1H	**Rockhampton Ha** comp=Z,125nm,0.9s	**28.89**	**277**	P	**P**	**18 08 30.1**	**+3.1**
PPT2	**Papeete2** comp=Z,146nm,30.0s	**28.98**	**70**	*e*P	**P**	18 08 22.4	-5.6
PPT2				*e*S	**S**	**18 13 24.1**	**+5.8**
	comp=Z,252nm,27.2s						
PPT2				*e*LQ	LQ	18 14 30.1	
	comp=Z,648nm,22.2s						
PPT2				*e*LR	LR	18 15 52.5	
	comp=Z,2µm,26.0s						
PPT2				*e*LR	LR	18 15 53.0	
	comp=Z,2µm,27.5s						
PPT	**Papeete**	**29.00**	**70**	P	**P**	**18 08 29.6**	**+1.6**
	comp=Z,34nm,0.8s,baz=257,slow=4.0,SNR=3.2						
PPT				LR	LR	18 17 13.5	
	comp=Z,385nm,19.3s,baz=242,slow=30 comp=Z,34nm,0.8s						
GLAD	**Gladstone** comp=Z,30nm,0.8s	**29.20**	**240**	P	**P**	**18 08 32.2**	**+2.6**
HNR	**Honiara**	**29.48**	**311**		**P**	**18 08 32.8**	**+0.5**
HNR	**Honiara**	**29.48**	**311**	P	**P**	**18 08 32.9**	**+0.6**
	comp=Z,401nm,0.6s,baz=188,slow=14,SNR=3.8						
HNR				LR	LR	18 18 23.4	
	comp=Z,11µm,21.4s,baz=156,slow=32						
MOO	**Moorlands** baz=30,SNR=6.0	**30.07**	**237**	P	**P**	**18 08 39.5**	**+2.2**
MOO	**Moorlands** comp=Z,39nm,1.5s	**30.07**	**237**	P	**P**	**18 08 39.9**	**+2.6**
TAU	**Tasmania Unive**	**30.07**	**236**	P	**P**	**18 08 38.4**	**+1.1**
TAU	**Tasmania Unive** comp=Z,36nm,1.2s	**30.07**	**236**	P	**P**	**18 08 39.4**	**+2.1**
TAU	**Tasmania Unive**	**30.07**	**236**	P	**P**	**18 08 38.4**	**+1.1**
TAU				pmax	pmax		
	comp=Z,41nm,1.2s						
TOO	**Toolangi** baz=31,SNR=45	**30.80**	**247**	P	**P**	**18 08 46.9**	**+3.0**
TOO	**Toolangi**	**30.80**	**247**	P	**P**	**18 08 45.3**	**+1.4**
TOO				lAmb	lAmb	18 08 48.1	
	comp=Z,71nm,1.4s						
TOO	**Toolangi** comp=Z,32nm,0.8s	**30.80**	**247**	P	**P**	**18 08 46.9**	**+3.0**
TOO	**Toolangi**	**30.80**	**247**	P	**P**	**18 08 45.3**	**+1.4**
TOO				pmax	pmax		
	comp=Z,71nm,1.4s						
CMSA	**Cobar Meteorol** baz=31,SNR=108	**30.97**	**259**	P	**P**	**18 08 48.6**	**+3.2**
CMSA	**Cobar Meteorol** comp=Z,145nm,1.1s	**30.97**	**259**	P	**P**	**18 08 48.5**	**+3.2**
BRAT	**Ballarat** comp=Z,22nm,0.7s	**32.04**	**247**	P	**P**	**18 08 58.1**	**+3.4**
TARA	**Tarawa** comp=Z,85nm,1.0s	**33.03**	**343**	P	**P**	**18 09 02.8**	**-0.8**
QLP	**Quilpie** baz=33,SNR=26	**33.26**	**268**	P	**P**	**18 09 07.5**	**+2.0**
QLP	**Quilpie** comp=Z,105nm,0.8s	**33.26**	**268**	P	**P**	**18 09 07.7**	**+2.2**
TV1H	**Townsville Har** comp=Z,87nm,1.1s	**33.72**	**281**	P	**P**	**18 09 11.9**	**+2.3**
ARPS	**Mount Arapiles** baz=34,SNR=10	**33.72**	**249**	P	**P**	**18 09 12.0**	**+2.5**
ARPS	**Mount Arapiles** comp=Z,51nm,1.1s	**33.72**	**249**	P	**P**	**18 09 11.9**	**+2.5**
CTA	**Charters Tower**	**33.81**	**280**	P	**P**	**18 09 12.0**	**+1.6**
CTA	**Charters Tower**	**33.81**	**280**	P	**P**	**18 09 12.0**	**+1.6**
	comp=Z,101nm,0.8s,baz=107,slow=10.0,SNR=68						
CTA				LR	LR	18 20 57.6	
	comp=Z,2µm,20.7s,baz=117,slow=33 comp=Z,101nm,0.8s						
CTAO	**Charters Tower**	**33.81**	**280**	P	**P**	**18 09 12.3**	**+1.9**
CTAO	**Charters Tower** comp=Z,150nm,1.0s	**33.81**	**280**	P	**P**	**18 09 13.2**	**+2.8**
CTAO	**Charters T

comp=Z,18nm,0.5s
MANU Manus Island 43.40 304 P **P** **18 10 30.8 -0.2**
WR0 Warramunga Arr 43.89 273 P **P** **18 10 34.6 -0.3**
WR0 lAmb lAmb 18 10 37.5
comp=Z,85nm,0.9s
WB1 Warramunga Ar. 44.06 272 P **P** **18 10 36.4 +0.1**
WB2 Warramunga Arr 44.06 273 P **P** **18 10 36.1 -0.2**
WRAB Tennant Creek 44.06 273 P **P** **18 10 35.8 -0.5**
WRAB Tennant Creek 44.06 273 P **P** **18 10 35.8 -0.5**
WRAB pmax pmax
comp=Z,307nm,1.6s
WRA Warramunga Arr 44.07 273 P **P** **18 10 36.2 -0.2**
WRA Warramunga Arr 44.07 273 P **P** **18 10 36.5 +0.2**
comp=Z,39nm,0.3s,baz=112,slow=8.0,SNR=529
WRA ScP **ScP** **18 16 10.0 -2.5**
comp=Z,3.8nm,0.9s,baz=114,slow=4.1,SNR=7.5
WRA S **S** **18 17 04.0 -4.1**
comp=Z,4.9nm,0.8s,baz=110,slow=14,SNR=7.2
comp=Z,39nm,0.3s
WB0 Warramunga Arr 44.09 273 P **P** **18 10 36.5 0.0**
FORT Forrest 45.93 255 P **P** **18 10 51.0 0.0**
baz=46,SNR=14
FORT Forrest 45.93 255 P **P** **18 10 50.4 -0.6**
FORT **PcP** **18 12 27.9 +0.1**
FORT Forrest 45.93 255 P **P** **18 10 51.3 +0.3**
comp=Z,98nm,0.6s
WRKA Warakurna 47.40 263 P **P** **18 11 02.6 -0.1**
baz=47,SNR=51
WRKA Warakurna 47.40 263 P **P** **18 11 02.5 -0.1**
comp=Z,43nm,1.1s
VNDA Vanda 47.77 186 P **P** **18 11 06.9 +2.2**
VNDA lAmb lAmb 18 12 48.6
comp=Z,85nm,1.8s
VNDA Vanda 47.77 186 P **P** **18 11 07.2 +2.4**
comp=Z,5.2nm,0.8s,baz=0.1,slow=7.4,SNR=8.5
VNDA LR LR 18 28 10.5
comp=Z,232nm,20.2s,baz=20,slow=32
comp=Z,5.2nm,0.8s
KDU Kakadu 48.93 280 P **P** **18 11 14.6 +0.1**
baz=49,SNR=9.8
KDU Kakadu 48.93 280 P **P** **18 11 14.7 +0.2**
comp=Z,35nm,0.9s
MTN Manton Dam 49.99 279 P **P** **18 11 22.7 +0.1**
baz=50,SNR=16
MTN Manton Dam 49.99 279 P **P** **18 11 22.1 -0.5**
MTN lAmb lAmb 18 11 23.8
comp=Z,33nm,0.9s
MTN Manton Dam 49.99 279 P **P** **18 11 23.3 +0.7**
comp=Z,29nm,0.7s
DRS Darwin Rock St 50.39 280 P **P** **18 11 26.7 +1.0**
comp=Z,62nm,0.9s
KNRA Kununurra 50.69 275 P **P** **18 11 28.2 +0.3**
baz=51,SNR=29
KNRA Kununurra 50.69 275 P **P** **18 11 27.5 -0.4**
KNRA lAmb lAmb 18 11 31.1
comp=Z,53nm,1.1s
KNRA Kununurra 50.69 275 P **P** **18 11 29.2 +1.3**
comp=Z,48nm,1.0s
KMBL Kambalda 50.89 253 P **P** **18 11 29.6 +0.3**
baz=51,SNR=7.3
KMBL Kambalda 50.89 253 P **P** **18 11 28.7 -0.6**
comp=Z,43nm,0.7s
WAKE Wake Island 51.85 342 P **P** **18 11 36.4 +0.1**
FITZ Fitzroy Crossi 52.32 270 P **P** **18 11 40.1 0.0**
baz=52,SNR=27
FITZ Fitzroy Crossi 52.32 270 P **P** **18 11 39.8 -0.3**
FITZ lAmb lAmb 18 11 42.9
comp=Z,61nm,1.8s
FITZ Fitzroy Crossi 52.32 270 P **P** **18 11 40.7 +0.6**
comp=Z,2.0nm,1.4s
KHU Kahuku 54.16 26 P **P** **18 11 53.4 -0.3**
KHU Kahuku 54.16 26 P **P** **18 11 53.4 -0.3**
KHU pmax pmax
comp=Z,270nm,1.3s
KLBR Kellerberrin 54.21 251 P **P** **18 11 53.3 -0.6**
baz=54,SNR=9.9
KLBR Kellerberrin 54.21 251 P **P** **18 11 53.4 -0.5**
comp=Z,79nm,1.2s
NWAO Narrogin (SRO) 54.25 250 P **P** **18 11 53.4 -0.7**
NWAO lAmb lAmb 18 11 53.7
comp=Z,77nm,1.5s
NWAO Narrogin (SRO) 54.25 250 P **P** **18 11 54.5 +0.4**
comp=Z,40nm,1.8s
NWAO Narrogin (SRO) 54.25 250 P **P** **18 11 53.4 -0.7**
NWAO pmax pmax
comp=Z,77nm,1.5s
NWAO Narrogin (SRO) 54.25 250 LR LR 18 33 45.2
comp=Z,425nm,20.2s,baz=208,slow=34
FAKI Fak Fak 54.41 290 P **P** **18 11 54.1 -1.4**
FAKI lAmb lAmb 18 11 56.2
comp=Z,32nm,1.0s
FAKI Fak Fak 54.41 290 P **P** **18 11 54.9 -0.6**
HMH Humu'ula Sheep 54.53 26 P **P** **18 11 56.5 0.0**
CASY Casey 54.84 208 P **P** **18 11 57.9 +0.1**
MEEK Meekatharra 55.07 257 P **P** **18 11 59.6 -0.7**
baz=55,SNR=7.2
MEEK Meekatharra 55.07 257 P **P** **18 11 59.9 -0.3**
comp=Z,26nm,0.6s
KEKH Kekaha 55.28 21 P **P** **18 12 00.5 -1.0**
KIP Kipapa 55.30 23‖ *eP* **P** **18 12 02.2 +0.5**
KIP pmax pmax
comp=Z,155nm,1.2s
MUN Mundaring 55.35 250 P **P** **18 12 01.4 -0.7**
baz=55,SNR=5.7
MUN Mundaring 55.35 250 P **P** **18 12 02.3 +0.2**
comp=Z,40nm,1.4s
BLDU Ballidu 55.36 252 P **P** **18 12 01.6 -0.6**
comp=Z,42nm,1.7s
PSA00 Pilbara Seismi 55.89 264 P **P** **18 12 04.8 -1.3**
PSA00 PcP **PcP** **18 13 02.3 -2.5**
PSA00 Pilbara Seismi 55.89 264 P **P** **18 12 05.5 -0.6**
MBWA Marble Bar 56.15 264 P **P** **18 12 05.8 -2.2**
MBWA lAmb lAmb 18 12 11.6
comp=Z,17nm,0.7s
MBWA PcP **PcP** **18 13 03.9 -1.9**
MBWA Marble Bar 56.15 264 P **P** **18 12 07.8 -0.2**
comp=Z,16nm,0.8s
MORW Morawa 56.40 254 P **P** **18 12 09.1 -0.6**
baz=56,SNR=20
MORW Morawa 56.40 254 P **P** **18 12 08.6 -1.1**
MORW lAmb lAmb 18 12 10.1
comp=Z,30nm,1.1s
MORW Morawa 56.40 254 P **P** **18 12 09.5 -0.2**
comp=Z,30nm,1.1s
SWI Sorong 56.42 292 P **P** **18 12 10.2 +0.2**
SWI pmax pmax
comp=Z,49nm,0.9s
SWI Sorong 56.42 292 P **P** **18 12 10.2 +0.2**
comp=Z,50nm,0.9s,comp=Z,624nm
SOEI Soe 57.36 278 P **P** **18 12 17.0 +0.2**
SOEI lAmb lAmb 18 12 23.1
comp=Z,36nm,1.0s
BATI Baumata 57.65 278 LR LR 18 37 17.4
comp=Z,2μm,19.3s,baz=134,slow=36
RPN Rapa Nui 59.39 105 LR LR 18 31 45.7
comp=Z,429nm,20.3s,baz=278,slow=29
QSPA South Pole Qui 59.39 180 P **P** **18 12 32.7 +2.4**
QSPA South Pole Qui 59.39 180 P **P** **18 12 33.4 +3.1**
comp=Z,59nm,1.0s,baz=30,slow=1.4,SNR=86
QSPA LR LR 18 37 28.4
comp=Z,246nm,18.1s,baz=38,slow=35
comp=Z,59nm,1.0s
SANI Sanana 60.02 287 P **P** **18 12 34.7 -0.4**
comp=Z,39nm,1.2s
SANI Sanana 60.02 287 P **P** **18 12 36.0 +0.9**
comp=Z,39nm,1.2s
EDFI Ende, Flores 60.06 278 P **P** **18 12 37.8 +2.2**
comp=Z,19nm,0.7s
GIRL Giralia 60.25 260 P **P** **18 12 36.7 0.0**
baz=60,SNR=5.0
GIRL Giralia 60.25 260 P **P** **18 12 36.8 +0.1**
GIRL Giralia 60.25 260 P **P** **18 12 37.7 +1.0**
comp=Z,112nm,1.1s
PLAI Plampang 63.37 276 P **P** **18 12 58.2 +0.4**
comp=Z,56nm,0.8s
PLAI Plampang 63.37 276 P **P** **18 12 58.2 +0.4**
comp=Z,55nm,0.8s
TWSI Taliwang, Sumb 64.18 275 P **P** **18 13 03.3 +0.2**
comp=Z,43nm,1.0s
DAV Davao City (W) 65.72 295 LR LR 18 41 21.6
comp=Z,82nm,20.6s,baz=138,slow=36
SRBI Singaraja 65.94 275 P **P** **18 13 15.0 +0.5**
comp=Z,33nm,0.8s
TOLI2 Tolitoli 66.09 287 P **P** **18 13 15.1 -0.4**
MPSI Mapaga 66.39 285 P **P** 18 13 23.7 +6.3
JAGI Jajag, Banyuwa 66.66 274 P **P** **18 13 17.6 -1.6**
JAGI Jajag, Banyuwa 66.66 274 P **P** **18 13 18.8 -0.4**
comp=Z,52nm,1.0s
JAGI Jajag, Banyuwa 66.66 274 P **P** **18 13 18.4 -0.8**
comp=Z,51nm,0.9s
PWJI Pagerwojo 68.90 273 P **P** **18 13 33.0 -0.3**
comp=Z,62nm,1.1s
JCJ Chichijima 68.91 322 LR LR 18 37 36.4
comp=Z,260nm,21.6s,baz=216,slow=31
BELA Belgrano 2 69.47 172 P **P** **18 13 37.0 +1.1**
BELA lAmb lAmb 18 13 40.3
comp=Z,42nm,1.1s
UGM Wanagama 70.05 273 P **P** **18 13 39.3 -1.1**
UGM Wanagama 70.05 273 P **P** **18 13 40.4 -0.1**
comp=Z,59nm,1.3s
UGM Wanagama 70.05 273 P **P** **18 13 41.7 +1.2**
comp=Z,60nm,1.1s
KPJI Karang Pucung 71.71 272 P **P** **18 13 49.8 -0.7**
comp=Z,55nm,1.6s
CMJI Cimerak 71.90 272 P **P** **18 13 51.2 -0.4**
comp=Z,79nm,0.9s,comp=Z,701nm
PMSA Palmer Station 71.99 156 LR LR 18 38 52.6
comp=Z,215nm,19.2s,baz=277,slow=30
MAW Mawson 72.00 201 P **P** **18 13 52.4 +1.1**
MAW Mawson 72.00 201 P **P** **18 13 52.7 +1.4**
comp=Z,14nm,0.9s,baz=117,slow=6.0,SNR=10
comp=Z,14nm,0.9s
KKM Kota Kinabalu 72.62 288 P **P** **18 13 54.2 -1.8**
KKM lAmb lAmb 18 13 56.3
comp=Z,40nm,1.0s
BBJI Bungbulang 72.75 272 P **P** **18 13 55.6 -1.2**
comp=Z,48nm,0.7s
XMIS Christmas Isla 73.00 268 P **P** **18 13 56.7 -1.5**
XMIS lAmb lAmb 18 13 58.5
comp=Z,46nm,1.0s
LEM Lembang 73.09 272 P **P** **18 13 58.6 -0.3**
LEM pmax pmax
comp=Z,76nm,0.9s
LEM Lembang 73.09 272 LR LR 18 47 44.6
comp=Z,360nm,19.3s,baz=140,slow=37
STKI Sintang 73.31 280 P **P** **18 14 00.4 +0.4**
comp=Z,47nm,0.7s
TGY Tagaytay City 73.63 298 LR LR 18 44 39.0
comp=Z,69nm,20.6s,baz=104,slow=34
DBJI Dramaga 73.97 272 P **P** **18 14 04.0 0.0**
comp=Z,111nm,0.6s
JHJ Hachijo jima 2 74.98 324 LR LR 18 46 19.7
comp=Z,92nm,18.1s,baz=84,slow=35
MG03 Isla Dawson 75.21 144 P **P** **18 14 11.9 +1.4**
GO10 Punta Arenas 75.28 143 P **P** **18 14 12.9 +1.9**
MG05 Puerto Natales 75.28 142 P **P** **18 14 12.7 +1.8**
GO09 Cerro Castillo 75.58 141 P **P** **18 14 13.9 +1.2**
KASI Kota Agung 76.42 272 P **P** **18 14 16.5 -1.6**
comp=Z,55nm,0.9s,comp=Z,614nm
ELIB Princess Elisa 76.53 187 *d*P **P** **18 14 19.3 +1.5**
comp=Z,27nm,0.9s
GO08 Villa O'Higgin 76.92 139 P **P** **18 14 22.2 +1.9**
GO08 lAmb lAmb 18 15 01.5
comp=Z,70nm,1.7s
LWLI Liwa 77.05 272 P **P** **18 14 21.0 -0.8**
comp=Z,120nm,0.7s,comp=Z,1μm
TROLL Troll, Antarti 77.55 180 ⇑P **P** **18 14 25.4 +1.8**
comp=Z,2μm,0.6s
SNAA Sanae 77.84 178 P **P** **18 14 26.5 +1.4**
SNAA Sanae 77.84 178‖ *eP* **P** **18 14 26.3 +1.1**
SNAA pmax pmax
comp=Z,30nm,1.0s
SNAA Sanae 77.84 178 ⇑P **P** **18 14 26.6 +1.4**
comp=Z,282nm,0.4s
SNAA Sanae 77.84 178 P **P** **18 14 26.5 +1.4**
comp=Z,20nm,0.8s,baz=200,slow=11,SNR=12
SNAA LR LR 18 48 14.6
comp=Z,211nm,18.1s,baz=192,slow=35
comp=Z,20nm,0.8s
VNA3 Neumayer Olymp 77.99 176 ⇑P **P** **18 14 27.1 +1.2**
comp=Z,104nm,0.6s
INU Inuyama 78.14 324 P **P** **18 14 25.9 -1.2**
INU lAmb lAmb 18 14 29.0
comp=Z,31nm,0.9s
JGF Kuroka 78.16 324 P **P** **18 14 25.8 -1.5**
JGF Kuroka 78.16 324 P **P** **18 14 26.2 -1.1**
comp=Z,19nm,0.8s
MNAI Manna 78.33 272 P **P** **18 14 27.2 -1.5**
VNA2 Neumayer--Watz 78.42 177 ⇑P **P** **18 14 31.9 +3.5**
comp=Z,42nm,0.6s,baz=173,slow=6.2
MJAR Matsushiro Arr 78.48 325 P **P** **18 14 27.9 -1.1**
comp=Z,13nm,1.0s,baz=156,slow=5.6,SNR=14
MJAR LR LR 18 41 18.8
comp=Z,128nm,21.5s,baz=138,slow=30
comp=Z,13nm,1.0s
MAJO Matsushiro 78.48 325 P **P** **18 14 28.3 -0.8**
MAJO Matsushiro 78.48 325 P **P** **18 14 28.6 -0.4**
MAJO Matsushiro 78.48 325‖ *eP* **P** **18 14 29.6 +0.6**
MAJO pmax pmax
comp=Z,25nm,1.0s
MJB9 Matsu-Tunnel 78.49 325 P **P** **18 14 28.4 -0.7**
NVL N'lazarevskaya 78.56 183 *eP* **P** **18 14 27.7 -1.3**
NVL pmax pmax
comp=Z,95nm,1.7s
COYC Coyhaique 78.73 136 P **P** **18 14 31.9 +1.5**
AY01 Puyuhuapi 79.01 135 P **P** **18 14 33.6 +1.6**
TWG Pinlang 79.01 305 P **P** **18 14 31.9 -0.3**
TWG lAmb lAmb 18 14 42.7
comp=Z,34nm,0.9s
YULB Yu-li 79.22 305 P **P** **18 14 34.0 +0.6**
YULB lAmb lAmb 18 15 02.3
comp=Z,107nm,1.8s
YULB Yu-li 79.22 305 P **P** **18 14 34.9 +1.5**
comp=Z,31nm,1.8s
TPUB Ta-pu 79.63 305 P **P** **18 14 34.3 -1.4**
TPUB Ta-pu 79.63 305 P **P** **18 14 35.9 +0.3**
comp=Z,86nm,0.7s
SSLB Suanglung 79.71 305 P **P** **18 14 34.4 -1.7**
SSLB lAmb lAmb 18 14 39.0
comp=Z,37nm,0.7s
SSLB Suanglung 79.71 305 P **P** **18 14 35.6 -0.5**
comp=Z,58nm,0.9s
JNU Nakatsue 79.77 318 P **P** **18 14 34.4 -1.7**
JNU Nakatsue 79.77 318 P **P** **18 14 35.6 -0.6**
comp=Z,46nm,1.9s
JNU Nakatsue 79.77 318 LR LR 18 47 49.0
comp=Z,72nm,18.2s,baz=129,slow=34
LL02 Futaleuf 80.16 135 P **P** **18 14 39.0 +0.7**
LL02 lAmb lAmb 18 14 44.5
comp=Z,25nm,0.8s
LL01 San Ignacio de 80.25 134 P **P** **18 14 39.8 +1.1**
H03S2 Juan Fernandez 80.32 124 T T 19 43 42.4
baz=241,slow=74
H03S1 Juan Fernandez 80.33 124 T T 19 43 50.8
baz=241,slow=74
H03S3 Juan Fernandez 80.34 124 T T 19 43 48.9
baz=241,slow=74
H03N3 Juan Fernandez 80.52 123 T T 19 44 03.3
baz=241,slow=72,SNR=251
H03N2 Juan Fernandez 80.52 123 T T 19 44 04.3
baz=241,slow=72,SNR=167
H03N1 Juan Fernandez 80.53 123 T T 19 43 55.8
baz=241,slow=72,SNR=262
KRJI Kerinci 80.76 273 P **P** **18 14 41.2 -0.9**
comp=Z,195nm,0.8s
PPSI Pulau Pagai 81.67 272 P **P** **18 14 48.3 +1.5**
comp=Z,86nm,1.2s
LR05 Currie 81.67 132 P **P** **18 14 47.4 +1.0**
LR05 lAmb lAmb 18 14 49.8
comp=Z,79nm,1.5s
PDSI Padang 82.22 274 P **P** **18 14 48.0 -1.7**
comp=Z,29nm,0.6s
PLCA Paso Flores 82.32 133 P **P** **18 14 51.4 +1.5**
PLCA lAmb lAmb 18 14 53.4
comp=Z,47nm,1.3s
PLCA Paso Flores 82.32 133 P **P** **18 14 52.1 +2.1**
comp=Z,16nm,0.9s,baz=225,slow=4.9,SNR=18
PLCA LR LR 18 43 02.6
comp=Z,346nm,20.4s,baz=252,slow=29
comp=Z,16nm,0.9s
GO06 Curarrehue 82.37 132 P **P** **18 14 51.4 +1.1**
GO06 lAmb lAmb 18 14 56.4
comp=Z,19nm,0.9s
ASAJ Asahikawa 82.70 333 LR LR 18 46 35.9
comp=Z,228nm,19.6s,baz=146,slow=32
SHEM Shemya Is, Ala 83.38 355 LR LR 18 47 06.8
comp=Z,372nm,18.8s,baz=145,slow=32
NIKH Nikolski High 83.72 6 P **P** **18 14 58.7 +2.2**
baz=188
TJN Taejon 84.11 319‖ *eP* **P** **18 14 58.3 -0.6**
ML02 Panimavida 84.53 128 P **P** **18 15 01.7 +0.4**
ML02 lAmb lAmb 18 15 08.6
comp=Z,25nm,0.8s
KSRS Korea Array 84.56 320 P **P** **18 15 01.1 0.0**
comp=Z,5.5nm,0.9s,baz=141,slow=5.5,SNR=14
KSRS LR LR 18 48 47.9
comp=Z,85nm,21.4s,baz=135,slow=33
comp=Z,5.5nm,0.9s
KSAR Wonju Array Be 84.58 320 P **P** **18 15 00.4 -0.8**
KSAR Wonju Array Be 84.58 320 P **P** **18 15 00.4 -0.8**
GO05 Huala 84.60 128 P **P** **18 15 02.8 +1.0**
GO05 lAmb lAmb 18 15 04.4
comp=Z,47nm,1.3s
LPIG La Paz 84.74 58 LR LR 18 48 06.4
comp=Z,200nm,18.2s,baz=224,slow=32
SLBS Sierra La Lagu 84.75 59 P **P** **18 15 02.5 -0.1**
SLBS lAmb lAmb 18 15 05.3
comp=Z,43nm,1.4s
UNV Unalaska Valle 84.81 7 P **P** **18 15 04.1 +2.2**
baz=190
YSS Yuzh-Sakhalins 85.02 334 P **P** **18 15 03.5 +0.4**
YSS Yuzh-Sakhalins 85.02 334 *eP* **P** **18 15 03.8 +0.6**
YSS *eS* **S** **18 25 30.9 -0.2**
YSS pmax pmax
comp=Z,400nm,3.0s
YSS pmax pmax
comp=Z,50nm,1.3s
CIS Catalina Islan 85.08 46 P **P** **18 15 04.8 +0.8**
baz=228
QIZ Qiongzhong 85.09 295 P **P** **18 15 04.3 0.0**
QIZ S **S** **18 25 34.7 +1.5**
QIZ LR LR
comp=Z,470nm,32.4s
PKM Mcpherson Peak 85.22 45 P **P** **18 15 06.2 +1.4**
baz=227,SNR=5.1
KULM Kulim 85.23 279 P **P** **18 15 04.0 -1.2**
KULM lAmb lAmb 18 15 06.7
comp=Z,28nm,1.0s
SMMC Simmler 85.40 44 P **P** **18 15 07.3 +1.8**
baz=227
CBX Cerro Bola 85.48 48 P **P** **18 15 06.5 +0.4**
CBX lAmb lAmb 18 15 07.9
comp=Z,33nm,1.2s
BCW Bitter Crk WRg 85.50 45 P **P** **18 15 07.0 +1.0**
BO02 Sierra Bellavi 85.50 128 P **P** **18 15 06.8 +0.4**
BO02 lAmb lAmb 18 15 11.4
comp=Z,28nm,0.8s
BO01 Tunca 85.52 127 P **P** **18 15 06.8 +0.5**
BO01 lAmb lAmb 18 15 08.8
comp=Z,29nm,1.4s
PMPB Monarch Peak 85.54 43 P **P** **18 15 06.9 +0.7**
PMPB lAmb lAmb 18 15 29.2
comp=Z,37nm,1.2s
SAO San Andreas Ge 85.54 42 P **P** **18 15 06.7 +0.6**
SAO San Andreas Ge 85.54 42 P **P** **18 15 06.7 +0.6**
SAO pmax pmax
comp=Z,15nm,1.0s
109C Camp Elliot, M 85.57 48 P **P** **18 15 07.4 +1.0**
baz=229
BBGB Big Mountain B 85.65 43 P **P** **18 15 07.4 +0.6**
BBGB lAmb lAmb 18 15 09.8
comp=Z,38nm,1.1s
TKX Tecate 85.68 48 lAmb lAmb 18 15 10.9
comp=Z,26nm,0.8s
DECC Green Verdugo 85.70 46 P **P** **18 15 08.1 +1.1**
baz=228
OSI Osito Audit: C 85.70 45 P **P** **18 15 07.9 +0.9**
baz=228
MT01 Popeta 85.71 127 P **P** **18 15 07.9 +0.6**
BAR Barrett 85.71 48 lAmb lAmb 18 15 09.6
comp=Z,37nm,1.6s
ESJX Sierra Juarez 85.74 49 lAmb lAmb 18 18 19.8
comp=Z,18nm,0.5s
GSI Gunungsitoli 85.82 274 P **P** **18 15 08.3 +0.2**
comp=Z,128nm,0.8s
VA01 Torpederas 85.90 126 P **P** **18 15 09.2 +0.9**
MT09 Talagante 85.94 127 P **P** **18 15 09.4 +0.8**
MT09 lAmb lAmb 18 15 13.3
comp=Z,32nm,0.8s
ARVC Arvin 85.98 45 P **P** **18 15 09.1 +0.8**
baz=228
MURC Murrieta 85.98 47 P **P** **18 15 09.2 +0.8**
baz=229
MONP2 Monument Peak 86.01 48 P **P** **18 15 10.0 +1.2**
baz=229,SNR=9.7
IKP In-Ko-Pah, Jac 86.05 48 P **P** **18 15 10.0 +1.1**
baz=230,SNR=5.4
BO04 La Punta 86.08 127 P **P** **18 15 10.1 +0.9**
BO04 lAmb lAmb 18 15 28.0
comp=Z,30nm,1.4s
BFSC Mount Baldy Ra 86.11 46 P **P** **18 15 10.1 +0.9**
baz=229,SNR=7.6
PEA0B Petropavlovsk- 86.11 346 P **P** **18 15 08.9 +0.4**
PEA0B Petropavlovsk- 86.11 346 P **P** **18 15 08.9 +0.4**
PEA0B pmax pmax
comp=Z,67nm,1.1s
PETK Petropavlovsk- 86.11 346 P **P** **18 15 07.4 -1.1**
PETK Petropavlovsk- 86.11 346 P **P** **18 15 08.2 -0.3**
comp=Z,39nm,0.8s,baz=138,slow=5.9,SNR=26
PETK LR LR 18 46 26.0
comp=Z,204nm,22.0s,baz=131,slow=31
comp=Z,39nm,0.8s
FALS False Pass 86.15 8 P **P** **18 15 10.7 +2.1**
baz=193
YUH Yuha Desert 86.17 48 lAmb lAmb 18 15 12.0
comp=Z,30nm,1.3s
HOPS Hopland Field 86.18 40 P **P** **18 15 09.4 +0.2**
HOPS lAmb lAmb 18 15 12.2
comp=Z,49nm,1.2s
GDXM Geysers 86.20 40 P **P** **18 15 10.1 +0.7**
GDXM lAmb lAmb 18 15 12.2
comp=Z,22nm,1.1s
VES Vestal, Richgr 86.30 44 P **P** **18 15 11.4 +1.5**
baz=228
EDW2 Edwards Air Fo 86.33 46 P **P** **18 15 11.3 +1.2**
baz=228,SNR=13
VA06 Catapilco 86.41 126 P **P** **18 15 11.0 +0.3**
NJ2 Nanjing 86.42 311 *eP* **P** **18 15 12.4 +1.9**
NJ2 sP **pwP** **18 15 18.2 -1.2**
NJ2 pmax pmax
comp=Z,13nm,0.7s
LMEL Las Melosas 86.43 127 lAmb lAmb 18 15 16.2
comp=Z,34nm,1.4s
MT13 San Alfonso 86.44 127 lAmb lAmb 18 15 15.8
comp=Z,22nm,0.9s
SWSC Sam W. Stewart 86.44 48 P **P** **18 15 11.9 +1.3**
baz=230
PFO Pinyon Flats O 86.45 47 P **P** **18 15 11.6 +0.7**
PFO lAmb lAmb 18 15 13.4
comp=Z,24nm,1.2s
PFO Pinyon Flats O 86.45 47⇑ *eP* **P** **18 15 11.9 +1.1**
PFO pmax pmax
comp=Z,23nm,1.1s
PFO Pinyon Flats O 86.45 47 P **P** **18 15 12.6 +1.8**
baz=229,SNR=6.4
PFO Pinyon Flats O 86.45 47 P **P** **18 15 11.7 +0.8**
comp=Z,10nm,0.9s,baz=240,slow=3.7,SNR=10.0
comp=Z,10nm,0.9s
TPFO Pinon Flats 86.45 47 P **P** **18 15 12.3 +1.5**
baz=229,SNR=7.3
PEL Peldehue 86.50 127 P **P** **18 15 13.0 +1.7**
PEL pmax pmax
comp=Z,64nm,1.2s
PMD Palm Desert 86.53 47 lAmb lAmb 18 15 13.7
comp=Z,27nm,1.3s
ISA Isabella, Lake 86.55 45 P **P** **18 15 12.3 +1.1**
ISA lAmb lAmb 18 15 13.8
comp=Z,41nm,1.1s
ISA Isabella, Lake 86.55 45 P **P** **18 15 12.3 +1.1**
ISA pmax pmax
comp=Z,41nm,1.2s
ISA Isabella, Lake 86.55 45 P **P** **18 15 12.6 +1.4**
baz=228,SNR=18
MSHR Mys Shultsa 86.60 325⇑ *eP* **P** **18 15 10.9 -0.2**
MSHR pmax pmax
comp=Z,39nm,1.3s
KMPM Mount Pierce 86.62 38 P **P** **18 15 12.2 +0.7**
PSTR Posyet 86.82 325‖ *eP* **P** **18 15 12.1 -0.1**
LRMC Laurel Mtn Rad 86.91 45 P **P** **18 15 14.6 +1.5**
baz=228,SNR=12
BELC Belle Mtn. Jos 86.99 47 P **P** **18 15 14.7 +1.2**
baz=230,SNR=13
CMB Columbia Colle 87.02 42 P **P** **18 15 13.4 0.0**
CMB Columbia Colle 87.02 42 P **P** **18 15 13.4 0.0**
CMB pmax pmax
comp=Z,13nm,0.9s
SDPT Sand Point 87.04 10 P **P** **18 15 14.9 +1.9**
baz=195
BC3 Big Chuckawall 87.12 48 P **P** **18 15 15.8 +1.8**

baz=230,SNR=17
GLA Glamis 87.14 49 lAmb lAmb 18 15 17.2
comp=Z,37nm,1.2s
CWC Cottonwood Cre 87.31 44 P **P** **18 15 16.0 +1.0**
baz=228
AFDM Forest Hills D 87.32 41 P **P** **18 15 14.5 -0.3**
HEC Hector,Ludlow 87.32 46 P **P** **18 15 16.3 +1.3**
baz=229,SNR=11
GSC Goldstone, Bar 87.33 46 lAmb lAmb 18 15 17.6
comp=Z,40nm,1.2s
GSC Goldstone, Bar 87.33 46 P **P** **18 15 16.1 +1.0**
baz=229,SNR=12
CO02 Combarbal 87.38 125 P **P** **18 15 16.4 +0.8**
USA0B Ussuriysk Arra 87.40 327 P **P** **18 15 13.5 -1.6**
USA0B lAmb lAmb 18 15 19.2
comp=Z,27nm,1.1s
USA0B Ussuriysk Arra 87.40 327⇓ *e*P **P** **18 15 14.1 -0.9**
USRK Ussuriysk Ar. 87.40 327 P **P** **18 15 14.1 -1.0**
USRK Ussuriysk Ar. 87.40 327 P **P** **18 15 15.1 +0.1**
comp=Z,16nm,1.0s,baz=116,slow=4.4,SNR=15
USRK LR LR 18 48 27.5
comp=Z,165nm,21.8s,baz=115,slow=32
comp=Z,16nm,1.0s
MPMC Manual Prospec 87.41 45 P **P** **18 15 16.8 +1.2**
baz=229,SNR=18
IRM Iron Mountain 87.64 48 P **P** **18 15 17.9 +1.4**
baz=230,SNR=29
MLAC Mammoth, Mammo 87.65 43 P **P** **18 15 17.5 +0.7**
baz=228,SNR=5.4
GMRC Granite Mounta 87.71 47 P **P** **18 15 18.4 +1.5**
baz=230,SNR=9.2
214A Organ Pipe Nat 87.77 51 lAmb lAmb 18 15 21.2
comp=Z,26nm,1.4s
214A Organ Pipe Nat 87.77 51 P **P** **18 15 18.8 +1.6**
baz=232,SNR=7.3
BLYC Blythe 87.78 48 P **P** **18 15 17.9 +0.8**
BLYC lAmb lAmb 18 15 21.7
comp=Z,16nm,1.0s
WAKR Walker 87.89 42 P **P** **18 15 18.4 +0.6**
TUQ Turquoise Moun 87.97 46 P **P** **18 15 19.6 +1.5**
baz=230,SNR=8.3
DSP Deep Springs 87.99 44 P **P** **18 15 18.6 +0.6**
DSP lAmb lAmb 18 15 22.0
comp=Z,19nm,1.3s
GWY Greenwater Val 88.00 45 lAmb lAmb 18 15 19.8
comp=Z,15nm,1.1s
SHOC Shoshone, Teco 88.05 46 P **P** **18 15 20.3 +1.9**
baz=229
FURC Furnace Creek, 88.06 45 P **P** **18 15 19.9 +1.6**
baz=229
LCH Last Change Ra 88.09 44 lAmb lAmb 18 15 20.9
comp=Z,26nm,1.6s
GRAC Grapevine Rang 88.11 44 P **P** **18 15 20.0 +1.4**
baz=229
PNTR Pine Nut 88.19 42 lAmb lAmb 18 15 23.3
comp=Z,26nm,1.0s
LHV Little Huntoon 88.26 43 P **P** **18 15 20.3 +1.0**
LHV lAmb lAmb 18 15 27.3
comp=Z,19nm,1.0s
CHGN Chignik 88.27 11 P **P** **18 15 19.8 +1.0**
baz=197
CHIR Chirikof Islan 88.30 12 P **P** **18 15 20.9 +1.8**
baz=199
YBH Yreka Blue Hor 88.31 38 P **P** **18 15 20.4 +0.8**
comp=Z,8.9nm,0.9s,baz=186,slow=2.4,SNR=12
comp=Z,8.9nm,0.9s
YERR Yerington 88.33 42 lAmb lAmb 18 15 23.3
comp=Z,19nm,1.1s
TYV Tymovskoe 88.33 336 *e*P **P** **18 15 19.7 +0.4**
TYV *e*S **S** **18 26 04.7 +1.6**
TYV pmax pmax
comp=Z,200nm,4.1s
TYV pmax pmax
comp=Z,13nm,1.0s
TYV smax smax
comp=N,100nm,5.3s
TYV smax smax
comp=E,200nm,5.3s
NEE2 Needles Airpor 88.36 47 P **P** **18 15 21.5 +1.7**
baz=230
GMN Gold Mountain 88.37 44 lAmb lAmb 18 15 23.2
comp=Z,21nm,1.3s
PDMCI Parker Dam,Lak 88.37 48 P **P** **18 15 20.9 +1.0**
baz=231,SNR=13
NVAR Mina Array Bea 88.50 43 P **P** **18 15 20.9 +0.2**
NVAR Mina Array Bea 88.50 43 P **P** **18 15 21.4 +0.7**
comp=Z,11nm,0.9s,baz=220,slow=8.5,SNR=56
NVAR PKKPbc **PKKPbc** **18 33 04.5 +0.9**
comp=Z,0.3nm,0.5s,baz=94,slow=1.8,SNR=3.9
NVAR PKPPKP **P'P'df** **18 41 11.4 +4.2**
comp=Z,0.7nm,0.7s,baz=115,slow=2.4,SNR=5.7
comp=Z,11nm,0.9s
WHN Wuhan 88.51 307 P **P** **18 15 21.2 +0.6**
NV11 Mina Array Sit 88.59 43 lAmb lAmb 18 15 23.0
comp=Z,18nm,1.1s
CO01 Juntas del Tor 88.72 124 lAmb lAmb 18 18 45.5
comp=Z,11nm,0.8s
HUMO Hull Mountain 88.80 37 P **P** **18 15 22.2 +0.5**
HUMO lAmb lAmb 18 15 25.3
comp=Z,40nm,1.6s
V12A Nelson 88.83 47 lAmb lAmb 18 15 25.0
comp=Z,16nm,1.1s
L04D Klamath Falls 88.86 38 lAmb lAmb 18 15 25.8
comp=Z,23nm,1.0s
MDJ Mudanjiang 88.87 326 P **P** **18 15 24.1 +2.1**
MDJ sP sP 18 15 28.6 -0.6
MDJ PP **PP** **18 18 54.6 +2.7**
MDJ sS sS 18 26 23.6 +6.4
MDJ pmax pmax
comp=Z,11nm,1.2s
MDJ pmax pmax
comp=Z,190nm,4.1s
MDJ LR LR
comp=Z,210nm,19.2s
MDJ Mudanjiang 88.87 326 lAmb lAmb 18 15 25.0
comp=Z,25nm,1.5s
Y14A Wickenburg 88.87 49 lAmb lAmb 18 15 25.1
comp=Z,31nm,1.1s
TPH Tonopah 88.90 44 P **P** **18 15 23.0 +0.4**
TPH Tonopah 88.90 44 P **P** **18 15 23.0 +0.4**
TPH pmax pmax
comp=Z,155nm,1.3s
KVN Kaiserville 89.03 42 lAmb lAmb 18 15 27.1
comp=Z,13nm,0.9s
W13A Hualapai Mount 89.04 48 lAmb lAmb 18 15 26.2
comp=Z,24nm,1.2s
TRQA Tornquist 89.24 135 P **P** **18 15 24.1 0.0**
TRQA Tornquist 89.24 135 P **P** **18 15 24.2 0.0**
TRQA pmax pmax
comp=Z,9.0nm,0.9s
SII Sitkinak Islan 89.27 13 P **P** **18 15 25.5 +1.9**
baz=200
TUC Tucson 89.34 51 P **P** **18 15 26.1 +1.5**
TUC lAmb lAmb 18 15 28.0
comp=Z,42nm,1.2s
TUC Tucson 89.34 51 P **P** **18 15 26.1 +1.5**
TUC pmax pmax
comp=Z,42nm,1.3s
TUC Tucson 89.34 51 P **P** **18 15 26.8 +2.1**
baz=233
S11A Rachel 89.50 45 lAmb lAmb 18 15 49.1
comp=Z,18nm,1.1s
319A Douglas 89.80 53 P **P** **18 15 27.4 +0.6**
319A lAmb lAmb 18 15 29.9
comp=Z,27nm,1.1s
I04A Tendick Farm, 89.92 37 lAmb lAmb 18 15 28.7
comp=Z,34nm,1.2s
K05A Summer Lake 89.97 38 lAmb lAmb 18 15 29.8
comp=Z,35nm,1.2s
R11B Troy Canyon, C 90.06 44 P **P** **18 15 29.2 +1.2**
baz=230
OHAK Old Harbor 90.06 13 P **P** **18 15 29.3 +2.1**
baz=201
TIA Tai'an 90.16 313 P **P** **18 15 28.3 0.0**
TIA pmax pmax
comp=Z,11nm,1.0s
J05D Fort Rock, OR 90.17 38 lAmb lAmb 18 15 30.0
comp=Z,24nm,1.2s
X16A Lo Mia Camp, P 90.19 49 lAmb lAmb 18 15 31.8
comp=Z,33nm,1.1s
CN2 Changchun 90.37 323 *e*P **P** **18 15 28.7 -0.3**
CN2 pmax pmax
comp=Z,20nm,0.8s
BMN Battle Mountai 90.45 42 P **P** **18 15 30.1 +0.4**
BMN lAmb lAmb 18 15 33.3
comp=Z,22nm,1.3s
BMN Battle Mountai 90.45 42 P **P** **18 15 30.1 +0.4**
BMN pmax pmax
comp=Z,22nm,1.3s
GRNR Gornyy 90.55 333⇑ *i*P **P** **18 15 29.9 +0.2**
GRNR pmax pmax
comp=N,6.0nm,1.2s
GRNR pmax pmax
comp=Z,20nm,1.1s
Q17K Contact Creek 90.57 12 P **P** **18 15 31.6 +1.9**
baz=199
DUN6 Lazy B Ranch 90.63 52 P **P** **18 15 31.8 +1.1**
KDAK Kodiak Island 90.73 13 P **P** **18 15 33.1 +2.7**
baz=202
KDAK Kodiak Island 90.73 13 LR LR 18 51 08.9
comp=Z,95nm,18.4s,baz=207,slow=32
BNX BinXian 90.75 325⇓ P **P** **18 15 30.0 -0.7**
BNX pmax pmax
comp=Z,17nm,0.9s
BNX pmax pmax
comp=Z,190nm,4.3s
O15K Ungalikthiuk R 90.83 9 P **P** **18 15 33.4 +2.6**
baz=196
U15A North Rim 90.88 47 P **P** **18 15 32.5 +0.5**
U15A lAmb lAmb 18 15 37.4
comp=Z,14nm,0.7s
WUAZ Wupatki 90.90 49 lAmb lAmb 18 15 37.0
comp=Z,20nm,1.0s
WUAZ Wupatki 90.90 49 P **P** **18 15 33.2 +1.2**
baz=232
KNB Kanab 90.91 47 lAmb lAmb 18 15 34.8
comp=Z,29nm,1.3s
Q12A Willow Creek R 90.95 44 lAmb lAmb 18 15 36.4
comp=Z,18nm,1.0s
WVOR Wild Horse Val 90.99 40 P **P** **18 15 32.0 -0.1**
WVOR lAmb lAmb 18 15 34.2
comp=Z,18nm,1.2s
WVOR Wild Horse Val 90.99 40 P **P** **18 15 32.0 -0.1**
WVOR pmax pmax
comp=Z,18nm,1.3s
SLVN Son La 91.01 294 P **P** **18 15 32.9 +0.2**
SLVN lAmb lAmb 18 15 35.5
comp=Z,26nm,1.8s
SZCU Shurtz Canyon 91.10 46 P **P** **18 15 33.0 0.0**
SRDT SRDT 91.21 286 P **P** **18 15 35.0 +1.4**
comp=Z,15nm,1.6s
PSUT Pine Spring 91.22 45 lAmb lAmb 18 15 37.7
comp=Z,13nm,1.1s
X18A Snowflake 91.23 50 P **P** **18 15 34.1 +0.5**
X18A lAmb lAmb 18 15 36.5
comp=Z,23nm,1.2s
KLR Kul'dur 91.29 330⇑ *e*P **P** **18 15 32.8 -0.4**
KLR pmax pmax
comp=Z,17nm,1.4s
KLR Kul'dur 91.29 330 LR LR 18 50 27.6
comp=Z,168nm,21.6s,baz=146,slow=32
N14K Kuskokwak Cree 91.31 8 P **P** **18 15 35.0 +2.0**
baz=194
P17K Kvichak River 91.36 11 P **P** **18 15 35.4 +2.2**
baz=199
PKCU Pink Cliffs 91.49 47 lAmb lAmb 18 15 38.2
comp=Z,29nm,1.2s
121A Cookes Peak, D 91.51 53 P **P** **18 15 35.0 +0.1**
121A Cookes Peak, D 91.51 53 P **P** **18 15 36.8 +1.9**
baz=234
Q20K Shuyak Island 91.53 13 P **P** **18 15 37.4 +3.3**
baz=202
Q19K Cape Douglas, 91.59 12 P **P** **18 15 36.8 +2.3**
baz=201
I07A Izee 91.63 38 lAmb lAmb 18 15 37.1
comp=Z,22nm,1.1s
GYA Guiyang 91.67 300⇑ P **P** **18 15 36.7 +1.0**
GYA pmax pmax
comp=Z,19nm,1.6s
J08A Circle Bar Ran 91.70 39 lAmb lAmb 18 15 37.3
comp=Z,26nm,1.3s
W18A Petrified Fore 91.73 50 P **P** **18 15 36.9 +1.0**
baz=233
P18K Big Mountain, 91.75 11 P **P** **18 15 37.4 +2.3**
baz=200
N15K Kwethluk River 91.75 9 P **P** **18 15 36.1 +1.0**
baz=196
ELK Elko 91.80 43 P **P** **18 15 35.9 -0.2**
ELK Elko 91.80 43 P **P** **18 15 36.8 +0.6**
comp=Z,5.5nm,0.9s,baz=247,slow=4.7,SNR=15
comp=Z,5.5nm,0.9s
O17K Koliganek Bris 91.81 10 P **P** **18 15 37.9 +2.6**
baz=198
GO02 Mina Guanaco 91.84 121 P **P** **18 15 37.7 +0.8**
MTPU Mount Pierson 91.94 46 lAmb lAmb 18 15 40.3
comp=Z,24nm,1.3s
M14K Bethel 92.09 8 P **P** **18 15 39.0 +2.5**
baz=194
LYN LuoYang 92.17 309⇓ P **P** **18 15 40.5 +2.9**
LYN pmax pmax
comp=Z,45nm,0.8s
LYN pmax pmax
comp=Z,190nm,5.5s
LYN LR LR
comp=Z,190nm,5.0s
LYN LR LR
comp=Z,420nm,5.0s
LYN LR LR
comp=Z,260nm,5.1s
M15K Kasigluk River 92.19 8 P **P** **18 15 37.8 +0.8**
baz=195
O18K Koktuh Hills 92.19 11 P **P** **18 15 36.0 -1.1**
O18K Koktuh Hills 92.19 11 P **P** **18 15 37.0 -0.2**
baz=200
N16K Nishlik Lake 92.23 9 P **P** **18 15 38.2 +0.9**
baz=197
HNS HongShan 92.42 313⇑ P **P** **18 15 38.8 +0.1**
HNS pmax pmax
comp=Z,18nm,1.2s
L14K Kuka Creek 92.58 7 P **P** **18 15 39.6 +0.8**
baz=193
TX31 Lajitas Ar. Si 92.59 57 lAmb lAmb 18 15 42.2
comp=Z,19nm,1.4s
TXAR Lajitas Array 92.59 57 P **P** **18 15 40.6 +0.8**
comp=Z,2.3nm,0.9s,baz=209,slow=6.7,SNR=16
TXAR PKKPbc **PKKPdf** **18 32 50.0 -1.0**
comp=Z,0.4nm,0.8s,baz=68,slow=5.0,SNR=2.3
TXAR LR LR 18 52 35.4
comp=Z,70nm,18.2s,baz=256,slow=32
comp=Z,2.3nm,0.9s
O19K Port Alsworth 92.66 12 P **P** **18 15 40.1 +0.9**
baz=200
MNTX Cornudas Mount 92.70 55 P **P** **18 15 40.9 +0.7**
baz=235
M16K Timber Creek 92.73 9 P **P** **18 15 40.7 +1.1**
baz=196
G08A Pilot Rock 92.73 37 lAmb lAmb 18 15 42.0
comp=Z,25nm,1.2s
HMU Henry Mountain 92.78 47 lAmb lAmb 18 15 42.6
comp=Z,14nm,1.4s
N18K Kilae Creek 92.86 11 P **P** **18 15 41.0 +0.8**
baz=199
O20K Slope Mountain 92.86 12 P **P** **18 15 42.0 +1.7**
baz=202
CMIG Matias Romero 92.89 72 LR LR 18 49 13.5
comp=Z,64nm,20.6s,baz=216,slow=30
DUG Dugway, Tooele 92.89 44 P **P** **18 15 41.3 +0.3**
DUG Dugway, Tooele 92.89 44 P **P** **18 15 41.3 +0.3**
DUG pmax pmax
comp=Z,4.0nm,1.1s
DUG Dugway, Tooele 92.89 44 P **P** **18 15 41.4 +0.3**
baz=232
BRSE Bradley Lake S 92.91 13 P **P** **18 15 41.9 +1.5**
baz=203
L15K Ungalak Mounta 93.04 8 P **P** **18 15 40.9 -0.1**
baz=194
BJT Baijiatuau 93.11 315 lAmb lAmb 18 15 44.4
comp=Z,13nm,1.0s
BJI Beijing 93.12 315 P **P** **18 15 41.4 -0.5**
BJI pmax pmax
comp=Z,6.0nm,1.0s
E07A Sunnyside 93.13 36 lAmb lAmb 18 15 45.5
comp=Z,14nm,1.0s
HAWA Hanford 93.18 36 lAmb lAmb 18 15 43.9
comp=Z,10nm,0.9s
NLU North Lily Min 93.19 45 P **P** **18 15 42.0 -0.5**
NLU lAmb lAmb 18 15 44.6
comp=Z,21nm,1.9s
MFID Camas Ranch 93.19 40 lAmb lAmb 18 15 44.0
comp=Z,12nm,1.0s
ALPN Alpine 93.19 56 lAmb lAmb 18 15 44.4
comp=Z,20nm,1.5s
BGU Big Grassy Mou 93.21 43 lAmb lAmb 18 15 44.4
comp=Z,18nm,1.6s
N19K Bonanza Creek 93.22 11 P **P** **18 15 43.0 +1.1**
baz=200
M17K Holitna River 93.31 10 P **P** **18 15 43.9 +1.6**
baz=198
L16K Owhat River 93.33 9 P **P** **18 15 42.3 0.0**
L16K Owhat River 93.33 9 P **P** **18 15 43.8 +1.5**
baz=196
NNA Nana 93.37 106 LR LR 18 48 15.9
comp=Z,242nm,21.8s,baz=210,slow=29
CMAR Chiang Mai Arr 93.47 289 P **P** **18 15 44.9 +0.9**
comp=Z,5.0nm,1.1s,baz=135,slow=3.5,SNR=18
CMAR PP **PP** **18 19 26.7 -2.0**
comp=Z,2.0nm,0.9s,baz=131,slow=5.7,SNR=6.7
CMAR LR LR 19 00 38.3
comp=Z,56nm,19.6s,baz=135,slow=37
comp=Z,5.0nm,1.1s
SEW Seward 93.50 14 P **P** **18 15 44.6 +1.5**
baz=204
MA2 Magadan 93.59 345 LR LR 18 53 32.3
comp=Z,238nm,21.0s,baz=126,slow=33
SRU San Rafael Swe 93.62 46 lAmb lAmb 18 15 46.4
comp=Z,16nm,1.3s
K15K Wolf Creek Mou 93.64 8 lAmb lAmb 18 15 45.3
comp=Z,20nm,0.9s
K15K Wolf Creek Mou 93.64 8 P **P** **18 15 44.4 +0.7**
baz=194
M18K Stony River 93.64 10 P **P** **18 15 45.1 +1.3**
baz=199
MVCO Mesa Verde 93.77 49 P **P** **18 15 45.2 -0.1**
baz=234
CAPN Captain Cook N 93.78 13 P **P** **18 15 45.7 +1.3**
baz=203
SPUT South Promonto 93.80 43 P **P** **18 15 45.1 -0.1**
SPUT lAmb lAmb 18 15 47.2
comp=Z,18nm,1.2s
ANMO Albuquerque 93.81 51 P **P** **18 15 45.4 -0.1**
ANMO Albuquerque 93.81 51 P **P** **18 15 45.4 -0.1**
ANMO pmax pmax
comp=Z,7.0nm,1.1s
ANMO Albuquerque 93.81 51 P **P** **18 15 46.3 +0.8**
baz=235
ANMO Albuquerque 93.81 51 LR LR 18 50 38.1
comp=Z,84nm,21.8s,baz=336,slow=31
LVC Limon Verde 93.82 119 LR LR 18 49 16.8
comp=Z,357nm,21.5s,baz=232,slow=30
J14K Nanvaranak Lak 93.87 7 P **P** **18 15 46.3 +1.6**
baz=192
L17K Donlin 93.89 9 P **P** **18 15 46.4 +1.5**
baz=197
HVU Hansel Valley 93.90 43 lAmb lAmb 18 15 49.6
comp=Z,13nm,0.9s
D08A Wollman Farm, 93.94 36 P **P** **18 15 45.4 -0.1**
HEH HeiHe 93.96 328 *e*P **P** **18 15 44.0 -1.5**
HEH pmax pmax
comp=Z,6.0nm,1.0s
HEH pmax pmax
comp=Z,290nm,5.0s
N20K Mount Spurr 93.98 12 P **P** **18 15 46.8 +1.4**
baz=202
CRAG Craig 94.05 24 P **P** **18 15 46.8 +1.1**
baz=218
TIY Taiyuan 94.05 312 *e*P **P** **18 15 49.2 +2.8**
TIY pmax pmax
comp=Z,11nm,0.7s
HLID Hailey 94.07 41 P **P** **18 15 47.0 +0.6**
baz=231
PLID Pearl Lake 94.17 39 lAmb lAmb 18 15 50.4
comp=Z,14nm,1.1s
L18K Granite Mounta 94.20 10 P **P** **18 15 47.6 +1.3**
baz=198
XAN Xi'an 94.27 307 P **P** **18 15 49.8 +2.4**
XAN pmax pmax
comp=Z,8.0nm,1.1s
TCUT Toone Canyon 94.30 44 P **P** **18 15 46.9 -0.7**
TCUT lAmb lAmb 18 15 51.2
comp=Z,30nm,1.3s
RC01 Rabbit Creek A 94.35 13 P **P** **18 15 48.4 +1.4**
baz=204
L19K White Mountain 94.45 11 P **P** **18 15 48.1 +0.6**
baz=200
K17K Iditarod 94.45 9 P **P** **18 15 48.0 +0.5**
baz=197
M20K Styx River 94.45 12 P **P** **18 15 48.2 +0.6**
baz=201
KAIM Kayak Island 94.47 16 P **P** **18 15 48.7 +1.1**
baz=209
SUA Susitna One 94.50 13 P **P** **18 15 48.4 +0.5**
baz=203
U33K Whale Pass 94.56 23 P **P** **18 15 48.5 +0.4**
baz=218
SIT Sitka 94.59 22 P **P** **18 15 49.0 +0.9**
baz=216
ATAH Atahualpa 94.62 101 LR LR 18 48 56.9
comp=Z,137nm,20.4s,baz=249,slow=29
J16K Anvik River 94.71 8 lAmb lAmb 18 15 53.4
comp=Z,16nm,0.9s
J16K Anvik River 94.71 8 P **P** **18 15 49.1 +0.5**
baz=195
SKT Skwentna 94.83 12 P **P** **18 15 48.5 -0.7**
baz=203
M22K Willow 94.88 13 P **P** **18 15 49.8 +0.4**
baz=204
L20K Farewell, AK 94.88 11 P **P** **18 15 49.5 0.0**
baz=201
KNK Knik Glacier 94.90 14 P **P** **18 15 50.6 +1.0**
baz=205
PMR Palmer 94.93 13 P **P** **18 15 51.7 +2.1**
baz=205
TTA Tatalina 94.98 10 lAmb lAmb 18 15 51.2
comp=Z,20nm,1.4s
TTA Tatalina 94.98 10 P **P** **18 15 51.3 +1.3**
baz=199
WRAK Wrangell Islan 95.07 24 P **P** **18 15 52.0 +1.6**
baz=218
I17K Unalakleet 95.28 8 P **P** **18 15 52.4 +1.2**
baz=195
SML Sawmill 95.28 14 P **P** **18 15 52.9 +1.5**
baz=205
MESA MESA 95.30 17 P **P** **18 15 54.0 +2.3**
baz=211
BMRM Bremner River 95.35 16 P **P** **18 15 53.4 +1.7**
baz=208
M23K Glacier View 95.40 14 P **P** **18 15 52.9 +1.1**
baz=206
PZH PanZhiHua 95.42 297 P **P** **18 15 53.7 +0.7**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,110nm,5.0s
AHID Auburn Hatcher 95.48 43 P **P** **18 15 52.8 -0.1**
AHID lAmb lAmb 18 15 54.8
comp=Z,15nm,1.2s
ANM Nome 95.49 5 P **P** **18 15 53.0 +0.8**
baz=191
KLU Klutina 95.51 15 P **P** **18 15 53.4 +0.9**
baz=207
SCM Sheep Creek Mo 95.52 14 P **P** **18 15 53.4 +0.9**
baz=206
CRQE Cirque 95.52 16 P **P** **18 15 53.6 +1.1**
baz=210
PNL Peninsula 95.54 19 P **P** **18 15 53.4 +0.8**
baz=213
XLT XiLinHaoTe 95.55 318 *e*P **P** **18 15 53.0 -0.1**
XLT pmax pmax
comp=Z,7.0nm,0.9s
XLT pmax pmax
comp=Z,130nm,5.2s
K20K Telida 95.68 11 P **P** **18 15 53.6 +0.5**
baz=201
MSTX Muleshoe 95.78 54 lAmb lAmb 18 15 55.1
comp=Z,10nm,1.1s
MSTX Muleshoe 95.78 54 P **P** **18 15 54.2 -0.2**
baz=237
H16K Elim 95.85 7 P **P** **18 15 54.7 +0.9**
baz=194
N25K Chitina, Valde 95.91 15 P **P** **18 15 54.9 +0.6**
baz=209
P29M Windy Craggy 95.98 19 P **P** **18 15 56.2 +1.7**
baz=214
M24K Tolsona, Glenn 96.01 14 P **P** **18 15 55.8 +1.2**
baz=207
G15K Niukluk 96.02 6 P **P** **18 15 55.3 +0.7**
baz=192
JCT Junction City 96.03 58 P **P** **18 15 55.3 -0.3**
baz=238
SDCO Great Sand Dun 96.03 50 P **P** **18 15 55.8 +0.1**
baz=236
J19K Poorman 96.04 10 P **P** **18 15 55.3 +0.6**

baz=199
CAST Castle Rocks 96.06 11 P P 18 15 55.2 +0.4
baz=202
MCARA McCarthy VSAT 96.08 16 P P 18 15 55.3 +0.3
baz=210
WAT6 Susitna Watana 96.11 14 P P 18 15 55.8 +0.5
baz=206
CD2 Chengdu 96.22 302 P P 18 15 56.6 +0.2
PLBC Pleasant Camp 96.23 20 P P 18 15 56.0 +0.3
baz=215
T35M Bob Quinn 96.23 24 P P 18 15 56.2 +0.4
baz=220
SEY Seymchan 96.28 347 ⇊ *e*P P 18 15 55.0 -0.8
SEY pmax pmax
comp=Z,7.0nm,0.9s
SEY Seymchan 96.28 347 LR LR 18 54 03.2
comp=Z,191nm,21.3s,baz=182,slow=32
MOOW Moose Ponds 96.28 42 P P 18 15 56.1 -0.5
TNA Tin City 96.29 4 P P 18 15 56.1 +0.3
baz=189
F14K Arctic Creek 96.31 5 P P 18 15 56.2 +0.3
baz=190
BW06 Boulder Array 96.39 44 P P 18 15 57.3 +0.1
baz=234
PDAR Pinedale Array 96.39 44 P P 18 15 56.9 -0.3
comp=Z,2.0nm,0.9s,baz=205,slow=3.1,SNR=11
PDAR PP PP 18 19 46.2 -5.2
comp=Z,0.8nm,1.0s,baz=256,slow=6.0,SNR=3.7
PDAR PKKP PKKPbc 18 32 42.1 -1.0
comp=Z,1.2nm,0.6s,baz=94,slow=5.0,SNR=10
comp=Z,2.0nm,0.9s
TRF Thorofare Moun 96.41 12 P P 18 15 57.2 +0.6
baz=204
T25A Trinidad 96.41 50 P P 18 15 57.3 -0.1
baz=236
HHC Hu-ho-hao-te 96.43 314 *e*P P 18 15 58.9 +1.7
HHC sP pwP 18 16 05.8 -0.9
HHC *e*S S 18 27 21.4 +4.8
HHC pmax pmax
comp=Z,13nm,0.5s
HHC pmax pmax
comp=Z,76nm,6.3s
HHC LR LR
comp=Z,140nm,17.3s
HHC LR LR
comp=Z,140nm,19.6s
HHC LR LR
comp=Z,180nm,19.6s
J20K Nowinta River 96.44 10 P P 18 15 58.3 +1.8
baz=201
ZEA Zeya 96.50 331 *e*P P 18 15 58.7 +1.7
ZEA pmax pmax
comp=Z,10.0nm,1.0s
GCSA Galena City Sc 96.58 9 P P 18 15 58.9 +1.8
baz=198
RND Reindeer 96.64 13 P P 18 15 57.2 -0.3
S34M Telegraph Cree 96.65 23 P P 18 15 59.0 +1.4
baz=213
YHL Hebgen Lake 96.69 41 IAmb IAmb 18 16 01.8
comp=Z,15nm,1.4s
H17A Grant Village 96.77 42 P P 18 15 59.8 +0.9
baz=233
YUK8 Steele Glacier 96.81 18 P P 18 16 00.2 +1.6
baz=213
G17K Kiwalik Mounta 96.85 7 P P 18 15 58.2 -0.1
baz=195
BPAW Bear Paw Mtn. 96.88 12 P P 18 16 00.0 +1.5
baz=203
BOZ Bozeman (W) 96.89 40 IAmb IAmb 18 16 01.1
comp=Z,27nm,1.9s
BOZ Bozeman (W) 96.89 40 P P 18 16 00.5 +1.2
baz=233
YUK6 Outpost Mounta 96.90 18 P P 18 15 59.9 +0.9
baz=214
MCK McKinley 96.92 13 P P 18 16 00.4 +1.7
baz=205
PAX Paxson 96.92 14 P P 18 16 00.5 +1.6
baz=208
I20K Naaghedeneel 96.97 10 P P 18 16 00.2 +1.4
baz=200
HYT Haines Junctio 97.03 19 P Pdif 18 16 01.3 +1.7
baz=214
YUK3 Moose Creek 97.05 17 P Pdif 18 16 02.1 +2.4
baz=212
ISCO Idaho Springs 97.11 48 P Pdif 18 16 01.9 +1.3
baz=236
M27K Edge Creek, AK 97.20 16 P Pdif 18 16 01.9 +1.6
baz=211
O30N Mendenhall 97.38 19 P Pdif 18 16 03.4 +2.4
baz=216
H19K Roundabout Mou 97.39 9 P Pdif 18 16 01.8 +1.0
baz=199
DLBC Dease Lake 97.43 23 LR LR 18 51 56.5
comp=Z,198nm,21.2s,baz=282,slow=30
L26K Log Cabin Wild 97.44 15 P Pdif 18 16 02.2 +1.0
baz=210
G18K Tagagawik 97.46 8 P Pdif 18 16 01.2 +0.1
baz=197
BVCY Beaver Creek 97.50 16 P Pdif 18 16 02.8 +1.3
baz=212
N23A Red Feather La 97.52 47 P Pdif 18 16 03.2 +0.8
baz=236
H20K Anotleneega Mo 97.57 10 P Pdif 18 16 02.4 +0.7
baz=200
K24K Donnelly Dome 97.60 14 P Pdif 18 16 02.0 +0.1
baz=208
WHY Whitehorse 97.64 20 P Pdif 18 16 02.7 +0.5
baz=216
NEA2 Nenana 97.67 12 P Pdif 18 16 03.8 +1.6
baz=205
F17K Baldwin Pennin 97.70 7 P Pdif 18 16 04.4 +2.2
baz=195
I21K Tanana 97.72 11 P Pdif 18 16 03.5 +1.2
baz=202
RIDG Independent Ri 97.74 14 P P 18 16 02.3 -0.2
baz=208
MLY Manley 97.78 11 P Pdif 18 16 03.8 +1.1
baz=204
JTS Las Juntas de 97.81 83 LR LR 18 50 01.7
comp=Z,121nm,20.9s,baz=328,slow=29
G19K Purcell Mounta 97.89 8 P P 18 16 02.8 -0.3
G19K Purcell Mounta 97.89 8 P Pdif 18 16 03.8 +0.8
baz=198
HDA Harding Lake 97.91 13 P Pdif 18 16 03.3 +0.1
baz=207
F18K Selawik 98.03 7 P P 18 16 03.6 +0.1
baz=196
H21K Melozitna Rive 98.03 10 P Pdif 18 16 04.9 +1.2
baz=202
LPAZ La Paz 98.05 114 P Pdif 18 16 06.7 +0.9
comp=Z,2.1nm,0.9s,baz=90,slow=2.6,SNR=4.9
LPAZ LR LR 18 52 03.1
comp=Z,117nm,21.4s,baz=210,slow=30
comp=Z,2.1nm,0.9s
M29M Somme Creek 98.12 17 P Pdif 18 16 04.9 +0.5
baz=214
I23K Minto, Yukon-K 98.13 12 P Pdif 18 16 05.2 +1.1
baz=205
SCRK Sand Creek 98.13 14 P Pdif 18 16 05.3 +0.9
baz=209
K22A Casper 98.15 45 P P 18 16 04.2 -0.8
K22A IAmb IAmb 18 16 08.0
comp=Z,14nm,1.1s
K22A Casper 98.15 45 P Pdif 18 16 06.0 +1.0
baz=236
COLA College 98.15 13 ⇈ *e*P P 18 16 04.1 -0.1
COLA pmax pmax
comp=Z,6.0nm,1.0s
COLA College 98.15 13 P P 18 16 04.0 -0.2
baz=206
ILAR Eielson Array 98.25 13 P P 18 16 03.7 -0.9
comp=Z,1.0nm,0.8s,baz=213,slow=5.3,SNR=6.2
ILAR PKiKP PKiKP 18 20 36.4 -0.7
comp=Z,0.8nm,0.8s,baz=246,slow=3.0,SNR=2.2
ILAR PKKP PKKPbc 18 32 35.5 -3.0
comp=Z,0.8nm,0.8s,baz=341,slow=2.6,SNR=7.6
ILAR LR LR 18 54 57.9
comp=Z,56nm,18.8s,baz=194,slow=32
comp=Z,1.0nm,0.8s
J25K Salcha River, 98.40 14 P P 18 16 05.5 0.0
baz=208
POKR Poker Plat Res 98.45 13 P P 18 16 05.1 -0.5
baz=206
F19K Shaleruckik Mo 98.47 8 P P 18 16 05.6 0.0
baz=198
H22K Ishtalitna Cre 98.47 11 P P 18 16 05.4 -0.3
baz=203
WHTX Lake Whitney, 98.53 58 P P 18 16 06.0 -0.8
baz=239
N32M Quiet Lake 98.57 20 P P 18 16 05.8 -0.4
baz=218
K27K Chicken 98.60 15 P Pdif 18 16 06.4 +0.1
baz=211
M30M Minto, Yukon 98.67 18 P Pdif 18 16 07.4 +0.8
baz=215
J26L Joseph Creek 98.68 14 IAmb IAmb 18 16 07.8
comp=Z,7.8nm,0.9s
J26L Joseph Creek 98.68 14 P Pdif 18 16 07.5 +0.7
baz=210
E18K Tukpahlearik C 98.72 7 P Pdif 18 16 07.3 +0.5
baz=195
G21K Allakaket 98.73 10 P P 18 16 06.7 0.0
baz=201
D17K Noatak River 98.76 6 P Pdif 18 16 07.4 +0.6
baz=193
L29M L29M 98.76 17 P Pdif 18 16 07.3 +0.3
baz=214
LZH Lanzhou 98.88 307 *e*P Pdif 18 16 09.9 +1.5
LZH pP pwP 18 16 16.6 -1.3
LZH pmax pmax
comp=Z,14nm,0.9s
F20K Avaraart Lake 98.92 9 P Pdif 18 16 08.2 +0.6
baz=199
H24K Noodor Dome 99.02 12 P Pdif 18 16 09.5 +1.3
baz=206
M31M Drury Creek, Y 99.03 19 P Pdif 18 16 08.8 +0.5
baz=217
WTLY Watson Lake, Y 99.12 23 P Pdif 18 16 09.4 +0.7
baz=221
E19K Redstone River 99.13 8 P Pdif 18 16 08.1 -0.5
E19K IAmb IAmb 18 16 11.6
comp=Z,18nm,1.6s
E19K Redstone River 99.13 8 P Pdif 18 16 08.6 +0.1
baz=198
PRP Porcupine Dome 99.17 13 P Pdif 18 16 09.7 +0.7
baz=208
DAWY Dawson 99.25 16 P Pdif 18 16 10.8 +1.5
baz=213
FARO Faro, Yukon 99.34 20 P Pdif 18 16 11.0 +1.4
baz=218
EGMT Eagleton 99.38 39 P Pdif 18 16 11.2 +1.0
baz=234
F21K Alatna River 99.39 9 P Pdif 18 16 10.9 +1.2
baz=201
G22K Bettles 99.40 10 P Pdif 18 16 10.9 +1.1
baz=203
G23K Bananza Creek 99.44 11 P Pdif 18 16 10.8 +0.8
baz=204
EGAK Eagle 99.45 15 P Pdif 18 16 10.9 +0.9
baz=212
I26K Coal Creek Min 99.47 14 P Pdif 18 16 10.7 +0.6
baz=210
C17K DeLong Mountai 99.51 6 P Pdif 18 16 11.8 +1.5
baz=193
K29M Barlow Dome 99.53 17 P Pdif 18 16 11.5 +0.9
baz=215
CPUP Villa Florida 99.82 128 P Pdif 18 16 14.1 +1.3
comp=Z,1.0nm,0.4s,baz=0.0,slow=3.0,SNR=2.0
CPUP PKKPbc PKKPbc 18 32 30.3 -1.9
comp=Z,1.4nm,0.6s,baz=7.5,slow=4.8,SNR=2.9
C18K Utukok River 99.85 6 P Pdif 18 16 12.8 +0.9
baz=195
TEIG Tepich 99.87 72 LR LR 18 55 17.5
comp=Z,207nm,19.2s,slow=32
COLD Coldfoot 99.89 11 P Pdif 18 16 13.4 +1.4
baz=204
E20K Nigu River 100.01 8 P Pdif 18 16 14.0 +1.4
baz=199
I28M Miner Creek 100.29 15 P Pdif 18 16 15.5 +1.6
baz=213
TGTN Hyland Airport 100.35 22 P Pdif 18 16 15.6 +1.4
baz=222
D20K Etivluk River 100.40 8 P Pdif 18 16 15.9 +1.7
baz=199
CBKS Cedar Bluff 100.42 51 P Pdif 18 16 16.0 +0.9
baz=239
C19K Lookout Ridge 100.45 7 P Pdif 18 16 16.0 +1.6
baz=196
E21K Killik River 100.47 9 P Pdif 18 16 15.6 +1.0
baz=201
RSSD Black Hills 100.47 45 P Pdif 18 16 15.8 +0.4
baz=237
E22K Anaktuvuk Pass 100.48 10 P Pdif 18 16 15.6 +1.0
baz=203
B18K Kokolik River 100.50 6 P Pdif 18 16 15.9 +1.3
baz=194
F24K Squaw Lake 100.53 11 P Pdif 18 16 15.8 +0.9
baz=206
LAO LASA Array 100.59 42 P Pdif 18 16 17.1 +1.5
baz=236
H27K Steamboat Moun 100.61 14 P Pdif 18 16 16.4 +1.2
baz=212
E23K Chandalar 100.74 10 P Pdif 18 16 17.0 +1.2
baz=205
G26K Porcupine Rive 100.78 13 P Pdif 18 16 17.6 +1.8
baz=210
E24K Your Creek 100.94 11 P Pdif 18 16 18.1 +1.4
baz=206
I30M Mount Dempster 100.94 17 P Pdif 18 16 18.1 +1.3
baz=216
F25K Christian Rive 100.99 12 P Pdif 18 16 18.6 +1.6
baz=208
C21K Knifeblade Rid 101.04 8 P Pdif 18 16 18.7 +1.6
baz=200
D22K Ayikyak River 101.05 9 P Pdif 18 16 19.1 +2.0
baz=202
TOLK Toolik Lake Re 101.28 10 P Pdif 18 16 20.0 +1.8
baz=205
H29M Whitestone 101.29 15 P Pdif 18 16 19.5 +1.2
baz=214
F26K Sheenjek River 101.36 13 P Pdif 18 16 19.6 +1.1
baz=209
D23K Nanushuk River 101.41 10 P Pdif 18 16 19.7 +1.0
baz=204
E25K Arctic Village 101.47 12 P Pdif 18 16 20.1 +1.0
baz=208
B21K Ikpikpuk River 101.50 8 P Pdif 18 16 20.3 +1.3
baz=200
YAK Yakutsk 101.53 338 ⇈ *e*P Pdif 18 16 18.6 -0.7
YAK pmax pmax
comp=Z,5.0nm,1.0s
B20K Meade River 101.57 7 P Pdif 18 16 20.6 +1.3
baz=198
EPYK Eagle Plains 101.80 16 P Pdif 18 16 22.1 +1.6
baz=216
D24K Happy Valley 101.86 10 P Pdif 18 16 21.6 +0.9
baz=206
G29M Pine Creek 101.95 15 P Pdif 18 16 21.8 +0.6
baz=215
F28M Old Crow 102.13 14 P Pdif 18 16 22.7 +0.8
baz=213
C23K Itkillik River 102.22 9 P Pdif 18 16 23.1 +0.8
baz=204
B22K Teshekpuk Lake 102.32 8 P Pdif 18 16 23.2 +0.5
baz=202
C24K Franklin Bluff 102.40 10 P Pdif 18 16 23.7 +0.7
baz=206
D25K Kavik River 102.40 11 P Pdif 18 16 24.3 +1.1
baz=208
MIAR Mount Ida 102.61 57 P Pdif 18 16 25.2 +0.4
baz=241
KSU1 Kansas State U 102.68 52 P Pdif 18 16 25.3 +0.3
baz=241
DGMT Dagmar 102.71 41 P Pdif 18 16 25.6 +0.6
baz=238
G31M Satah River 102.83 16 P Pdif 18 16 25.8 +0.8
baz=218
A21K Barrow 102.88 7 P Pdif 18 16 25.9 +0.8
baz=199
ULN Ulaanbaatar 102.99 318 ⇊ *e*P Pdif 18 16 26.5 +0.1
ULN pmax pmax
comp=Z,1.0nm,0.9s
F30M Barrier River 103.02 15 P Pdif 18 16 27.3 +1.4
baz=216
E28M Babbage River 103.04 14 P Pdif 18 16 26.6 +0.6
baz=214
C26K Camden Bay 103.17 11 P Pdif 18 16 27.0 +0.5
baz=209
E29M Blow River 103.20 14 P Pdif 18 16 26.9 +0.3
baz=215
D27M Malcolm River 103.30 13 P Pdif 18 16 27.8 +0.7
baz=212
SONM Songino Array 103.35 318 Pdiff Pdif 18 16 28.6 +0.6
comp=Z,0.5nm,0.6s,baz=116,slow=3.4,SNR=3.0
SONM PKKPbc PKKPbc 18 32 23.3 0.0
comp=Z,0.6nm,0.8s,baz=281,slow=1.5,SNR=4.5
SUSD Miller 103.76 46 P Pdif 18 16 30.5 +0.8
baz=241
INK Inuvik 104.10 16 P Pdif 18 16 32.1 +1.5
baz=219
YKA Yellowknife Ar 105.75 26 PKiKP PKiKP 18 20 50.0 -0.8
comp=Z,0.3nm,0.5s,baz=260,slow=1.7,SNR=6.8
YKA PKKPbc PKKPbc 18 32 14.4 -1.8
comp=Z,1.8nm,0.7s,baz=40,slow=3.1,SNR=22
ULM Lac du Bonnet 108.33 42 PKiKP PKiKP 18 20 54.5 -1.4
comp=Z,1.3nm,0.6s,baz=2.3,slow=4.3,SNR=3.3
EYMN Ely 109.97 46 P PKiKP 18 20 59.3 +0.2
baz=246
TZTN Tazewell 110.84 59 P PKiKP 18 21 00.6 -0.5
baz=247
KMSC Kings Mountain 111.95 61 P PKiKP 18 21 02.2 -1.0
baz=247
AAM Ann Arbor 112.94 53 P PKiKP 18 21 04.5 -0.4
baz=249
P52A Corning 113.04 57 P PKiKP 18 21 05.2 0.0
baz=249
WMQ Urumqi 113.39 308 *e*PKP PKiKP 18 21 07.1 +1.3
BLA Blacksburg 113.41 60 P PKiKP 18 21 06.5 +0.4
baz=248
MCWV Mont Chateau 114.70 57 P PKPdf 18 21 07.7 -0.7
baz=250
M53A WI Miller and 114.72 55 P PKiKP 18 21 08.7 +0.3
baz=250
DGZ Jazzator, Alta 115.51 314 ⇊ *i*PKiKP PKPdf 18 21 09.0 -0.8
SSPA Standing Stone 116.44 57 P PKiKP 18 21 11.8 +0.1
baz=251
BOSA Boshof 116.95 203 PKP PKiKP 18 21 13.8 +0.5
comp=Z,3.7nm,0.6s,baz=166,slow=1.8,SNR=7.8
BOSA PKKPbc PKKPbc 18 31 39.0 +0.4
comp=Z,2.5nm,0.8s,baz=49,slow=4.1,SNR=3.9
RES Resolute Bay 117.56 17 PKPdf PKPdf 18 21 11.4 -1.4
RES Resolute Bay 117.56 17 PKiKP PKPdf 18 21 11.4 -1.4
MK31 Makanchi Array 117.95 310 *c* PKiKP PKPdf 18 21 12.8 -1.6
MKAR Makanchi Array 117.95 310 PKP PKPdf 18 21 12.9 -1.6
comp=Z,6.6nm,0.8s,baz=232,slow=1.4,SNR=26
MKAR PKKPbc PKKPbc 18 31 35.4 +0.3
comp=Z,0.6nm,0.6s,baz=278,slow=4.6,SNR=6.7
ZALV Zalesovo Beam 118.24 318 PKP PKPdf 18 21 13.2 -1.5
comp=Z,5.0nm,0.7s,baz=128,slow=2.8,SNR=19
PRZ Przheval'sk 119.43 304 PKPdf PKPdf 18 21 17.0 -0.7
PRZ Przheval'sk 119.43 304 PKiKP PKPdf 18 21 17.0 -0.7
NRIK Noril'sk 119.91 336 PKPdf PKPdf 18 21 16.0 -1.5
NRIK Noril'sk 119.91 336 *c* PKiKP PKPdf 18 21 16.3 -1.2
NRIK Noril'sk 119.91 336 PKP PKPdf 18 21 16.4 -1.0
comp=Z,9.2nm,0.9s,baz=73,slow=2.9,SNR=9.6
KSH Kashi 120.37 300 PKP PKPdf 18 21 19.5 0.0
L61B Northampton 120.71 56 P PKPdf 18 21 19.6 -0.2
baz=255
ULHL Ulahol 120.91 304 P PKPdf 18 21 20.0 -0.6
SNR=13
KURK Kurchatov 121.24 314 PKPdf PKPdf 18 21 18.8 -1.8
KURK Kurchatov 121.24 314 *c* PKiKP PKPdf 18 21 19.0 -1.6
KURK pmax pmax
comp=Z,24nm,0.7s
KURBB Kurchatov Arra 121.28 314 PKP PKPdf 18 21 19.5 -1.2
comp=Z,21nm,0.7s,baz=105,slow=1.9,SNR=8.8
HRV Adam Dziewonsk 121.53 56 P PKiKP 18 21 21.8 +0.2
baz=256
TKM2 Tokmak 2 121.54 304 P PKPdf 18 21 20.6 -1.1
SNR=15
LBNH Lisbon 121.69 54 P PKPdf 18 21 21.6 -0.1
baz=256
KBK Karagaybulak 121.94 304 P PKPdf 18 21 21.8 -0.7
SNR=9.8
UCH Uchtor 122.14 303 P PKPdf 18 21 22.9 -0.3
SNR=16
CHMS Chumysh 122.16 304 P PKPdf 18 21 21.9 -0.8
SNR=11
AAK Ala-Archa 122.26 304 P PKPdf 18 21 22.2 -0.8
SNR=13
AAK Ala-Archa 122.26 304 PKPdf PKPdf 18 21 21.9 -1.2
AAK Ala-Archa 122.26 304 *c* PKiKP PKPdf 18 21 22.1 -1.0
USP Ospenovka 122.40 304 P PKPdf 18 21 22.0 -1.1
SNR=14
EKS2 Erkin-Say 122.78 304 P PKPdf 18 21 23.0 -1.0
SNR=14
PKME Peaks-Kenny Pk 123.74 54 P PKPdf 18 21 25.2 -0.3
baz=259
KBL Kabul 124.31 293 PKPdf PKPdf 18 21 26.7 -0.6
KBL Kabul 124.31 293 PKiKP PKPdf 18 21 26.7 -0.6
GAR Garm 124.47 299 PKPdf 18 21 26.7 -0.7
WIN Windhoek 125.06 197 PKPdf 18 21 29.2 0.0
WIN Windhoek 125.06 197 PKiKP PKPdf 18 21 29.2 0.0
SIMJ Simiganj 125.39 298 PKPdf PKPdf 18 21 27.6 -1.5
SCHQ Schefferville 126.50 42 PKP PKPdf 18 21 29.5 -1.1
comp=Z,7.5nm,0.8s,baz=15,slow=3.3,SNR=4.9
BVAR Borovoye Array 126.61 316 PKP PKPdf 18 21 30.1 -0.7
comp=Z,2.9nm,0.8s,baz=96,slow=3.0,SNR=44
BRVK Borovoye 126.67 316 PKPdf PKPdf 18 21 29.6 -1.4
BRVK Borovoye 126.67 316 *c* PKiKP PKPdf 18 21 29.8 -1.1
BRVK pmax pmax
comp=Z,47nm,1.7s
LSZ Lusaka 127.77 213 PKPdf PKPdf 18 21 32.6 -1.8
LSZ Lusaka 127.77 213 PKiKP PKPdf 18 21 32.6 -1.8
TSUM Tsumeb 128.14 199 PKPdf PKPdf 18 21 35.0 -0.1
ILULI Ilulissat 131.27 22 PKPdf 18 21 38.5 -0.7
ILULI Ilulissat 131.27 22 PKiKP PKPdf 18 21 38.5 -0.7
KBS Kingsbay 131.50 357 ⇈ *i*PKiKP PKiKP 18 21 40.4 0.0
KBS pmax pmax
comp=Z,29nm,1.7s
KBS Kingsbay 131.50 357 *e*PKPdf PKiKP 18 21 40.1 -0.3
SPA0 Spitsbergen Ar 132.02 356 *e*PKPdf PKPdf 18 21 40.0 -0.5
SPITS Spitsbergen Ar 132.02 356 PKP PKPdf 18 21 39.8 -0.7
comp=Z,17nm,0.8s,baz=95,slow=5.1,SNR=13
SVE Sverdlovsk 132.12 321 *e*PKiKP PKPdf 18 21 40.5 -0.7
SVE pmax pmax
comp=Z,14nm,0.9s
ARU Arti 133.31 320 PKPdf PKPdf 18 21 42.2 -1.3
ARU Arti 133.31 320 *i* PKiKP PKPdf 18 21 42.8 -0.6
ARU 18 24 08.4
GEYT Alibeck 133.66 295 PKP PKPdf 18 21 44.5 -0.3
comp=Z,8.7nm,0.9s,baz=90,slow=2.9,SNR=6.4
GEYT SKPbc SKPbc 18 25 10.1 -2.3
comp=Z,11nm,1.0s,baz=178,slow=3.9,SNR=11
BJO1 Bjornoya 135.31 354 *e*PKPdf PKiKP 18 21 47.7 -0.5
KIRV Kirov 137.56 325 *d* iPKiKP PKiKP 18 21 52.4 -0.8
LVZ Lovozero 138.14 342 ⇈ *i*PKiKP PKPdf 18 21 52.7 +0.5
LVZ pmax pmax
comp=Z,52nm,1.7s
ARCES ARCESS Array B 138.89 348 PKPpre 18 21 42.9
ARCES ARCESS Array B 138.89 348 PKHKP PKPpre 18 21 42.9
ARCES ARCESS Array B 138.89 348 PKhKP PKPpre 18 21 45.4
comp=Z,5.1nm,0.6s,baz=68,slow=2.7,SNR=21
ARCES SKP 18 25 23.9
comp=Z,2.2nm,0.8s,baz=49,slow=4.1,SNR=1.7
KTK1 Kautokeino 139.75 348 *e*PKPdf PKPdf 18 21 52.6 -2.5
TRO Tromso 139.86 351 *e*PKPdf PKPdf 18 21 54.6 -0.6
BELG Belogornoye 140.39 317 *ce*PKiKP PKPdf 18 21 55.7 -0.9
RAYN Ar Rayn 140.77 270 PKPpre 18 21 49.7
RAYN Ar Rayn 140.77 270 PKHKP PKPpre 18 21 49.7
KLMR Klimovskoe 141.02 332 *e*PKiKP PKPdf 18 21 55.4 -2.1
KLMR pmax pmax
comp=Z,41nm,1.3s
LOF Lofoten 141.94 353 *e*PKPdf PKPdf 18 21 57.3 -1.7
STEI Steigen 141.94 352 *e*PKPdf PKPdf 18 21 54.6 -4.4
FAUS Fauske 142.45 352 *e*PKPdf PKPdf 18 21 58.5 -1.4
JOF Joensuu 142.70 338 *e*P PKiKP 18 22 02.3 -1.3
GROC Groznyy 143.22 302 *e*PKiKP PKPab 18 21 58.3 +0.6
GROC pmax pmax
comp=Z,34nm,1.0s
KONS Konsvik 143.56 352 *e*PKPdf PKPdf 18 22 00.8 -1.0
MOR8 Moi Rana 143.71 351 *e*PKPdf PKPbc 18 21 59.9 +0.2
STOK Stokkvaagen 143.73 352 *e*PKPdf PKPbc 18 22 00.9 +1.1
GNI Garni 144.18 297 PKPdf PKPab 18 22 01.7 -0.1
GNI Garni 144.18 297 ⇈ *e*PKiKP PKPdf 18 22 03.3 -0.8
VRH Novokhopyorsk 144.25 316 *e*PKiKP PKPab 18 22 01.2 -0.2
VRH pmax pmax
comp=Z,40nm,0.9s
MOS Moscow 144.57 325 *i* PKHKP PKPpre 18 22 00.4
MOS pmax pmax
comp=Z,65nm,1.1s
GOF Gofitskoye 144.95 306 *ce*PKiKP PKPab 18 22 03.6 -0.7
VAF Ylistaro 145.04 344 *e*P PKPbc 18 22 03.0 -0.9
KEF Keuruu 145.20 341 *e*P PKPbc 18 22 03.1 -1.4
KBZ Khabaz 145.25 304 *ce*PKiKP PKPbc 18 22 04.4 -0.9
KBZ Khabaz 145.25 304 PKPbc PKPbc 18 22 04.5 -0.7
comp=Z,37nm,0.8s,baz=324,slow=2.6,SNR=16
PUL Pulkovo 145.27 335 *de*PKiKP PKPbc 18 22 03.9 -0.9
LPSR Galich'ya Gora 145.33 320 *e*PKP2 PKPbc 18 22 02.4 -2.8
LPSR pmax pmax
comp=Z,70nm,0.9s

KIV	**Kislovodsk**	**145.37**	**304**	⇑P		**PKPbc**	**18 22 04.8**	**-1.0**
KIV	**Kislovodsk**	**145.37**	**304**			**PKPbc**	**18 22 04.1**	**-1.7**
KIV	**Kislovodsk**	**145.37**	**304**	*e*PKHKP	PKPpre		18 22 00.6	
KIV				*e*			18 22 04.8	
KIV				*e*			18 25 19.9	
KIV				*e*SS	SS		18 44 08.0	-9.3
KIV				pmax	pmax			
	comp=Z,50nm,1.1s							
KIV				MLR	MLR			
	comp=Z,98nm,25.0s							
OBN	**Obninsk**	**145.41**	**325**	⇑P		**PKPbc**	**18 22 04.5**	**-0.9**
OBN	**Obninsk**	**145.41**	**325**			**PKPbc**	**18 22 04.2**	**-1.2**
OBN	**Obninsk**	**145.41**	**325***c*	*i*PKP2		**PKPbc**	**18 22 04.0**	**-1.4**
OBN				*e*			18 25 23.5	
OBN				pmax	pmax			
	comp=Z,161nm,1.2s							
FINES	**FINES Array B**	**145.43**	**340**	PKPbc		**PKPbc**	**18 22 04.0**	**-1.2**
	comp=Z,84nm,0.5s,baz=49,slow=4.2,SNR=426							
VORR	**Voronezh**	**145.54**	**318**	*e*PKP2		**PKPdf**	**18 22 04.7**	**-1.1**
VORR				pmax	pmax			
	comp=Z,69nm,1.2s							
NSS	**Namsos**	**145.59**	**352**	*e*PKPbc		**PKPdf**	**18 22 04.5**	**-1.0**
VSR	**Storozhevoye**	**145.74**	**317**	*e*PKHKP	PKPpre		18 22 02.8	
VSR				pmax	pmax			
	comp=Z,80nm,0.9s							
VORD	**Divnogorie**	**145.76**	**317**	*e*PKHKP	PKPpre		18 22 02.6	
VORD				pmax	pmax			
	comp=Z,50nm,0.8s							
GURO	**Guroymak-BITLI**	**146.32**	**294**	PKPdf		**PKPdf**	**18 22 07.6**	**-0.2**
BCA	**Borcka**	**146.46**	**300**	⇑P		**PKiKP**	**18 22 11.7**	**-0.4**
ERBR	**Yeremizino-Bor**	**146.58**	**308**	*i*PKP2		**PKPbc**	**18 22 09.2**	**-0.1**
ERBR				*e*			18 25 34.1	
ERBR				pmax	pmax			
	comp=Z,207nm,1.0s							
MEF	**Metsahovi**	**146.91**	**340**	*e*P		**PKPbc**	**18 22 09.0**	**-0.7**
RAF	**Rauma**	**146.98**	**342**	*e*P		**PKPdf**	**18 22 08.1**	**+0.2**
TBLU	**Trondheim**	**147.02**	**353**	*e*PKPdf		**PKPdf**	**18 22 08.7**	**+0.7**
VSU	**Vasula**	**147.50**	**336***c*	*e*PKP2		**PKPbc**	**18 22 10.4**	**-1.0**
SOC	**Sochi**	**147.56**	**304**	*i*PKIKP		**PKPdf**	**18 22 08.3**	**-1.2**
SOC				*e*SS	SS		18 44 36.6	-5.2
SOC				*e*SSS	SSS		18 50 11.3	
MOL	**Molde**	**147.93**	**355**	*e*PKPdf		**PKPdf**	**18 22 10.6**	**+1.2**
AAL	**Aland**	**148.16**	**343**	*e*P		**PKPbc**	**18 22 11.9**	**-1.2**
DOMB	**Dombas**	**148.32**	**354**	*e*PKPbc		**PKPbc**	**18 22 12.6**	**-1.1**
AKN	**Aaknes**	**148.36**	**355**	*e*PKPbc		**PKPbc**	**18 22 13.1**	**-0.6**
NC303	**NORSAR Array S**	**148.86**	**351**			**PKPbc**	**18 22 14.1**	**-0.9**
ANN	**Anapa**	**148.90**	**307**	*i*PKP2		**PKPbc**	**18 22 14.8**	**-0.8**
ANN				pmax	pmax			
	comp=Z,45nm,0.8s							
UPP	**Uppsala**	**149.01**	**345**	*e*P		**PKPbc**	**18 22 14.1**	**-1.2**
NB2	**NORSAR Subarra**	**149.06**	**351**	PKP		**PKPbc**	**18 22 14.5**	**-1.1**
	comp=Z,121nm,1.1s,baz=16,slow=2.8							
NB2	**NORSAR Subarra**	**149.06**	**351**	PKPab		**PKPbc**	**18 22 14.5**	**-1.1**
	baz=16,slow=2.8							
NOA	**NORSAR Array B**	**149.06**	**351**	PKPbc		**PKPbc**	**18 22 14.7**	**-0.9**
	comp=Z,37nm,0.8s,baz=16,slow=4.3,SNR=58							
NBO00	**NORSAR Array S**	**149.12**	**352**			**PKPdf**	**18 22 11.1**	**-0.4**
NBO00				PKPbc		**PKPbc**	**18 22 15.0**	**-0.7**
NC602	**NORSAR Array S**	**149.31**	**351**			**PKPdf**	**18 22 11.2**	**-0.6**
NC602				PKPbc		**pPKPdf**	**18 22 14.8**	**-2.5**
NC602	**NORSAR Array S**	**149.31**	**351**	*ep*PKPdf		pPKPdf	18 22 15.0	-2.3
HYA	**Hoyanger**	**149.42**	**356**	*ep*PKPdf		pPKPdf	18 22 15.8	-1.6
HFS	**Hagfors**	**149.55**	**348**	PKPbc		**PKPbc**	**18 22 15.6**	**-1.1**
	comp=Z,37nm,0.8s,baz=90,slow=1.5,SNR=44							
SUE	**Sulen**	**149.60**	**357**	*ep*PKPdf		pPKPdf	18 22 16.4	-1.3
SLIT	**Slitere, Latvi**	**149.64**	**338**	*e*P		**PKPbc**	**18 22 17.1**	**+0.1**
SKAR	**Skarslia**	**149.74**	**354**	*ep*PKPdf		pPKPdf	18 22 16.8	-1.3
ISAL	**Salakas**	**149.84**	**332**	*e*P		**PKiKP**	**18 22 19.0**	**+0.5**
MNK	**Minsk**	**149.84**	**329**	*i*PKP2		**PKPbc**	**18 22 17.2**	**-0.4**
MNK				*i*			18 25 49.6	
MNK				*i*PPP	PPP		18 29 10.5	
MNK				*i*			18 29 19.0	
MNK				*i*SS	SS		18 45 06.6	+0.7
MNK				*i*SSS	SSS		18 50 45.9	
MNK				pmax	pmax			
	comp=Z,86nm,0.9s							
MNK				pmax	pmax			
	comp=N,19nm,1.0s							
MNK				pmax	pmax			
	comp=E,13nm,1.2s							
MNK				MLR	MLR			
	comp=N,392nm,21.0s							
MNK				MLR	MLR			
	comp=E,135nm,22.0s							
MNK				MLR	MLR			
	comp=Z,174nm,20.0s							
ASK	**Askoy**	**150.15**	**357**	*ep*PKPdf		pPKPdf	18 22 17.4	-1.2
OSL	**Oslo**	**150.19**	**351**	*ep*PKPdf		pPKPdf	18 22 17.8	-0.9
BER	**Bergen**	**150.25**	**357**	*e*PKPdf		**PKPdf**	**18 22 13.2**	**0.0**
BER				*ep*PKPdf		**pPKPdf**	**18 22 17.6**	**-1.1**
VSVD	**Vaisvydziai**	**150.37**	**335**	*e*P		**PKPbc**	**18 22 18.9**	**+0.1**
VIKU	**Vikbolandet**	**150.44**	**344**	*e*P		**PKPbc**	**18 22 18.1**	**-0.8**
KONO	**Kongsberg**	**150.61**	**352**	PKPdf		**PKPdf**	**18 22 13.6**	**-0.3**
KONO						**pPKPdf**	**18 22 18.4**	**-1.0**
KONO	**Kongsberg**	**150.61**	**352**	PKIKP		**PKPdf**	**18 22 13.6**	**-0.3**
KONO	**Kongsberg**	**150.61**	**352**	*ep*PKPdf		pPKPdf	18 22 18.2	-1.1
ODD1	**Odda**	**150.64**	**355**	*e*PKPbc		**PKPbc**	**18 22 19.2**	**-0.2**
PABE	**Paberze**	**150.72**	**334**	*e*P		**PKPbc**	**18 22 19.4**	**-0.2**
STRU	**Stroemstad**	**151.00**	**350**	*e*P		**PKPbc**	**18 22 19.4**	**-0.8**
STRU	**Stroemstad**	**151.00**	**350**	*e*P		**PKPbc**	**18 22 19.7**	**-0.5**
PBUR	**Paburge**	**151.05**	**337**	*e*P		**PKPbc**	**18 22 20.1**	**-0.3**
SIM	**Simferopol'**	**151.11**	**309**	*e*PKIKP		**PKPbc**	**18 22 21.0**	**0.0**
SIM				pmax	pmax			
	comp=Z,120nm,0.9s							
BLS5	**Blasjo**	**151.13**	**355**	*e*PKPbc		**PKPbc**	**18 22 20.5**	**-0.1**
KMY	**Karmoy**	**151.42**	**356**	*e*PKPbc		**PKPbc**	**18 22 21.1**	**0.0**
AKASG	**Malin Array Be**	**151.53**	**322**			**PKPdf**	**18 22 14.6**	**-0.9**
AKASG				PKPbc		**pPKPdf**	**18 22 20.1**	**-0.9**
AKASG	**Malin Array Be**	**151.53**	**322**	PKP		**PKPdf**	**18 22 15.2**	**-0.3**
	comp=Z,3.4nm,0.9s,baz=42,slow=1.0,SNR=8.9							
AKASG				PKPbc		**sPKPdf**	**18 22 21.0**	**-1.9**
	comp=Z,64nm,0.7s,baz=48,slow=3.2,SNR=38							
KIEV	**Kiev**	**151.54**	**322**	⇑P		**PKPbc**	**18 22 20.9**	**-0.9**
KIEV	**Kiev**	**151.54**	**322**	⇑PKIKP		**PKPbc**	**18 22 20.9**	**-0.9**
MMAI	**Mount Meron Ar**	**151.57**	**283**	PKPbc		**PKiKP**	**18 22 23.1**	**+0.1**
	comp=Z,11nm,0.3s,baz=84,slow=7.7,SNR=62							
TJOU	**Tjoern**	**151.89**	**349**	*i*P		**PKPbc**	**18 22 21.3**	**-1.0**
BORU	**Boraas**	**152.07**	**348**	*e*P		**PKPbc**	**18 22 21.5**	**-1.2**
HOMB	**Homborsund**	**152.09**	**353**	*ep*PKPdf		**PKPbc**	**18 22 22.0**	**-0.7**
HOMB	**Homborsund**	**152.09**	**353**	*i*P		**PKPbc**	**18 22 22.4**	**-0.3**
SUW	**Suwalki**	**152.14**	**333**			**PKPdf**	**18 22 15.8**	**-0.6**
SUW				PKPbc		**sPKPdf**	**18 22 22.4**	**-1.4**
SUW	**Suwalki**	**152.14**	**333**	PKIKP		**PKPdf**	**18 22 15.8**	**-0.6**
SUW							18 22 22.4	
SUW	**Suwalki**	**152.14**	**333**	*e*P		**PKPbc**	**18 22 23.1**	**+0.1**
SNART	**Snartemo**	**152.15**	**354**	*e*PKPbc		**PKPbc**	**18 22 22.1**	**-0.7**
SNART	**Snartemo**	**152.15**	**354**	*i*P		**PKPbc**	**18 22 22.7**	**-0.2**
ONAU	**Onsala**	**152.44**	**348**	*e*P		**PKPbc**	**18 22 22.6**	**-1.0**
BLEU	**Blekinge**	**152.63**	**343**	*i*P		**PKPbc**	**18 22 22.3**	**-1.7**
BRTR	**Keskin Array B**	**152.72**	**298**	PKP		**PKPdf**	**18 22 17.1**	**-0.7**
	comp=Z,1.7nm,0.9s,baz=91,slow=2.6,SNR=5.0							
BRTR				PKPbc		**sPKPdf**	**18 22 23.9**	**-1.4**
	comp=Z,15nm,0.8s,baz=134,slow=4.2,SNR=32							
DEL	**Delary**	**152.93**	**345**	*e*P		**PKPbc**	**18 22 24.1**	**-0.6**
DEL	**Delary**	**152.93**	**345**	*e*P		**PKPbc**	**18 22 24.3**	**-0.4**
ANTO	**Ankara**	**153.33**	**298**	⇑P		**PKPdf**	**18 22 21.0**	**+2.3**
ANTO	**Ankara**	**153.33**	**298**	⇑PKIKP		**PKPdf**	**18 22 21.0**	**+2.3**
SORM	**Soroca**	**153.40**	**318**	⇑P		**PKPdf**	**18 22 20.8**	**+2.5**
SORM	**Soroca**	**153.40**	**318**	⇑PKIKP		**PKPdf**	**18 22 20.8**	**+2.5**
BJUU	**Bjuv**	**153.48**	**346**	*i*P		**PKPbc**	**18 22 24.7**	**-1.1**
MILM	**Milestii Mici**	**153.73**	**316**	⇑*i*PKP		**PKPbc**	**18 22 25.5**	**-1.2**
	comp=Z,90nm,1.6s							
MILM	**Milestii Mici**	**153.73**	**316**	⇑P		**PKPbc**	**18 22 24.0**	**-2.7**
MILM	**Milestii Mici**	**153.73**	**316**	⇑PKIKP		**PKPbc**	**18 22 24.0**	**-2.7**
MUD	**Monsted U'grnd**	**153.78**	**351**	*i*P		**PKPbc**	**18 22 25.0**	**-1.5**
LUNU	**Lund**	**153.80**	**345**	*i*P		**PKPbc**	**18 22 25.4**	**-1.2**
BSD	**Bornholm Skovb**	**153.92**	**343**	*e*P		**PKPbc**	**18 22 26.1**	**-0.8**
DRBR	**Darabani**	**154.34**	**320**	⇑P		**PKPbc**	**18 22 26.9**	**-1.2**
TLCR		**154.51**	**312**	⇑P		**PKPbc**	**18 22 26.6**	**-1.8**
TLCR		**154.51**	**312**	⇑PKIKP		**PKPbc**	**18 22 26.6**	**-1.8**
VLDR	**Vladesti**	**154.68**	**314**	⇑P		**PKiKP**	**18 22 29.1**	**+0.2**
LVV	**L'vov**	**154.71**	**325**	*e*PKIKP		**PKPdf**	**18 22 18.7**	**-1.5**
LIC	**Lamto**	**154.77**	**164**⇑	*e*P		**PKPdf**	**18 22 21.8**	**+0.4**
	comp=Z,43nm,1.1s							
TPGR	**Topolog**	**154.91**	**312**	⇑P		**PKiKP**	**18 22 29.8**	**+0.4**
CFR	**Carcaliu**	**154.95**	**313**	⇑P		**PKPdf**	**18 22 20.9**	**+0.3**
CFR	**Carcaliu**	**154.95**	**313**	⇑PKIKP		**PKPdf**	**18 22 20.9**	**+0.3**
KIC	**Kosan Boka**	**154.97**	**164**⇑	*e*P		**PKPdf**	**18 22 23.6**	**+1.9**
	comp=Z,10nm,0.7s							
EKA	**Eskdalemuir Ar**	**155.13**	**7**	PKP		**PKPdf**	**18 22 19.9**	**-0.7**
	comp=Z,2.0nm,0.9s,baz=336,slow=1.8,SNR=4.1							
EKA				PKPbc		**sPKPdf**	**18 22 29.1**	**+1.2**
	comp=Z,2.3nm,0.8s,baz=298,slow=2.0,SNR=4.1							
EKA				PKPab		**PKPab**	**18 22 44.5**	**-0.8**
	comp=Z,10nm,0.9s,baz=350,slow=2.6,SNR=11							
TIC	**Toumodi**	**155.17**	**163**⇑	*e*P		**PKPdf**	**18 22 22.4**	**+0.4**
	comp=Z,7.6nm,0.6s							
MANR	**Mangalia**	**155.22**	**309**	⇑P		PKPdf	18 22 29.2	+8.2
DBIC	**Dimbokro**	**155.24**	**164**	PKP		**PKPdf**	**18 22 22.4**	**+0.3**
	comp=Z,4.5nm,0.6s,baz=141,slow=2.3,SNR=9.0							
DBIC				PKPab		**PKPab**	**18 22 46.9**	**+0.1**
	comp=Z,8.0nm,0.7s,baz=236,slow=4.1,SNR=3.6							
HARR	**Harsova**	**155.29**	**312**	⇑P		**PKPdf**	**18 22 25.4**	**+4.3**
HARR	**Harsova**	**155.29**	**312**	⇑PKIKP		**PKPdf**	**18 22 25.4**	**+4.3**
BIZ	**Bicaz**	**155.32**	**318**	⇑P		**PKPdf**	**18 22 21.4**	**+0.2**
BURAR	**Bucovina Array**	**155.45**	**320**	⇑P		PKPdf	18 22 31.3	+10
BURAR	**Bucovina Array**	**155.45**	**320**	PKPdf		**PKPdf**	**18 22 19.9**	**-1.5**
BURAR						**sPKPdf**	**18 22 27.5**	**-1.4**
BURAR	**Bucovina Array**	**155.45**	**320**	⇑PKIKP		PKPdf	18 22 31.3	+10
KWP	**Kalwaria Pacla**	**155.48**	**326**	PKPdf		**PKPdf**	**18 22 20.3**	**-1.0**
KWP						**sPKPdf**	**18 22 30.2**	**+1.5**
KWP	**Kalwaria Pacla**	**155.48**	**326**	PKIKP		**PKPdf**	**18 22 20.3**	**-1.0**
PLOR	**Plostina**	**155.56**	**315**	⇑P		PKPdf	18 22 29.9	+8.3
PLOR	**Plostina**	**155.56**	**315**	⇑PKIKP		PKPdf	18 22 29.9	+8.3
TURR	**Turia**	**155.84**	**316**	⇑P		PKPdf	18 22 32.1	+10
OZUR		**155.95**	**316**	⇑P		PKPdf	18 22 32.0	+10
BSEG	**Bad Segeberg**	**156.02**	**348**	*e*PKPdf		**PKPdf**	**18 22 21.6**	**-0.2**
	baz=16,slow=1.0							
BSEG				*e*PKPab		**PKPab**	**18 22 48.6**	**-0.5**
	baz=8.5,slow=4.0							
KOLS	**Kolonicke sedl**	**156.16**	**325**	*e*PKP		PKPab	18 22 36.7	-13
KOLS				*e*			18 22 50.6	
STHS	**Stebnicka Huta**	**156.32**	**328**	*e*PKP2		**PKPab**	**18 22 50.3**	**-0.3**
STHS	**Stebnicka Huta**	**156.32**	**328**	*e*PKP		**PKPab**	**18 22 50.3**	**-0.3**
CRVS	**Cervenica-Dubn**	**156.57**	**326**	*e*PKIKP		**PKPdf**	**18 22 22.9**	**+0.1**
CRVS				*e*			18 22 36.1	
CRVS	**Cervenica-Dubn**	**156.57**	**326**	*e*PKP		**PKPdf**	**18 22 22.9**	**+0.1**
CRVS				*e*			18 22 36.1	
CRVS				*e*			18 22 51.0	
RUE	**Ruedersdorf**	**156.59**	**342**	*e*PKPdf		**PKPdf**	**18 22 22.7**	**+0.1**
	baz=16,slow=1.0							
RUE				*e*PKPab		**PKPab**	**18 22 53.4**	**+1.9**
	baz=8.5,slow=4.0							
VOIR		**156.74**	**316**	⇑P		**PKPdf**	**18 22 27.1**	**+3.9**
VOIR		**156.74**	**316**	⇑PKIKP		**PKPdf**	**18 22 27.1**	**+3.9**
ARR	**Arges**	**157.02**	**316**	⇑P		**PKPdf**	**18 22 23.8**	**+0.3**
DRGR		**157.31**	**321**	⇑P		**PKPdf**	**18 22 25.8**	**+2.0**
DRGR		**157.31**	**321**	⇑PKIKP		**PKPdf**	**18 22 25.8**	**+2.0**
FLTG	**Flechtingen**	**157.35**	**345**	*e*PKPdf		**PKPdf**	**18 22 22.4**	**-1.1**
	baz=16,slow=1.0							
ELND	**Elena**	**157.39**	**309**	⇑P		**PKPdf**	**18 22 23.6**	**-0.4**
UPC	**Upice**	**157.61**	**336**	*e*PKP2		**PKPab**	**18 22 56.3**	**+0.2**
UPC	**Upice**	**157.61**	**336**	*e*PKPAB		**PKPab**	**18 22 56.3**	**+0.2**
MORC	**Moravsky Berou**	**157.63**	**333**	⇑P		**PKPdf**	**18 22 19.0**	**-5.1**
MORC	**Moravsky Berou**	**157.63**	**333**	*e*PKP		**PKPdf**	**18 22 23.1**	**-1.0**
MORC	**Moravsky Berou**	**157.63**	**333**	⇑PKIKP		**PKPdf**	**18 22 19.0**	**-5.1**
CLL	**Collm**	**157.85**	**341**	*i*PKIKP		**PKPdf**	**18 22 23.2**	**-1.1**
CLL				*i*			18 22 56.0	
CLL				pmax	pmax			
	comp=Z,9.0nm,1.5s							
CLL				pmax	pmax			
	comp=Z,19nm,1.1s							
CLL	**Collm**	**157.85**	**341**	*i*PKPdf		**PKPdf**	**18 22 23.2**	**-1.1**
	comp=Z,9.0nm,1.5s							
CLL				*e*PKPdif		**sPKPdf**	**18 22 35.0**	**+3.3**
	comp=Z,10.0nm,0.9s							
CLL				*i*PKPab		**PKPab**	**18 22 56.0**	**-1.1**
	comp=Z,19nm,1.1s							
CLL				*i*x	x		18 22 59.6	
	comp=Z,26nm,0.9s							
CLL				*e*PP	PP		**18 26 35.0**	**-1.2**
	comp=Z,100nm,18.4s							
CLL				*e*PPP	PPP		18 30 12.0	
CLL				*e*PPS	PPS		18 39 56.0	
CLL				*e*(SS)			18 47 12.0	
CLL				*e*(SSS)			18 53 24.0	
BRG	**Berggiesshubel**	**157.97**	**339**⇓	*i*PKPf		**PKPdf**	**18 22 24.0**	**-0.4**
BRG				Amp			18 22 25.9	
	comp=Z,21nm,1.5s							
BRG				⇑PKP		**sPKPdf**	**18 22 36.4**	**+4.5**
BRG				Amp			18 22 40.3	
	comp=Z,7.2nm,0.9s							
BRG				PKPab		**PKPab**	**18 22 56.9**	**-0.7**
BRG				Amp			18 23 01.4	
	comp=Z,19nm,0.9s							
BRG	**Berggiesshubel**	**157.97**	**339**	*i*PKIKP		**PKPdf**	**18 22 24.0**	**-0.4**
BRG				pmax	pmax			
	comp=Z,21nm,1.5s							
BRG	**Berggiesshubel**	**157.97**	**339**	*e*PKPdf		**PKPdf**	**18 22 23.7**	**-0.8**
	baz=16,slow=1.0							
CLZ	**Clausthal**	**158.00**	**346**	*e*PKPdf		**PKPdf**	**18 22 23.3**	**-1.2**
	baz=16,slow=1.0							
CLZ				*e*PKPab		**PKPab**	**18 22 56.6**	**-1.1**
	baz=8.5,slow=4.0							
PSZ	**Piszkesteto**	**158.01**	**326**			**PKPdf**	**18 22 23.4**	**-1.3**
PSZ				PKPab		**PKPab**	**18 22 57.1**	**-0.9**
PSZ	**Piszkesteto**	**158.01**	**326**	PKIKP		**PKPdf**	**18 22 23.4**	**-1.3**
PSZ							18 22 57.1	
PVCC	**Panska Ves**	**158.08**	**338**	*e*PKP2		**PKPab**	**18 22 59.7**	**+1.6**
PVCC	**Panska Ves**	**158.08**	**338**	*e*PKPAB		**PKPab**	**18 22 59.7**	**+1.6**
VYHS	**Vyhne**	**158.08**	**329**	*e*PKIKP		**PKPdf**	**18 22 27.2**	**+2.5**
VYHS				*e*			18 22 57.9	
VYHS	**Vyhne**	**158.08**	**329**	*e*PKP		**PKPdf**	**18 22 27.2**	**+2.5**
VYHS				*e*			18 22 57.9	
GZR	**Gura Zlata**	**158.10**	**318**	⇑P		**PKPdf**	**18 22 22.5**	**-2.4**
GZR	**Gura Zlata**	**158.10**	**318**	⇑PKIKP		**PKPdf**	**18 22 22.5**	**-2.4**
RICC	**Richard**	**158.21**	**339**	*e*PKPAB		**PKPab**	**18 22 59.2**	**+0.5**
SURR	**Surduc**	**158.26**	**319**	⇑P		**PKPdf**	**18 22 25.4**	**+0.5**
NEUB	**Neuenburg**	**158.27**	**343**	*e*PKPab		**PKPab**	**18 22 57.8**	**-1.0**
	baz=8.5,slow=4.0							
JAVC	**Velka Javorina**	**158.30**	**331**	*e*PKP		**PKPdf**	**18 22 25.0**	**0.0**
RDO	**Rodhopi**	**158.32**	**305**	PKPdf		**PKPdf**	**18 22 23.1**	**-2.1**
RDO						**PKPab**	**18 23 00.2**	**+0.7**
HSKC	**Hora Svate Kat**	**158.36**	**340**	*e*PKPAB		**PKPab**	**18 23 02.4**	**+3.1**
VRAC	**Vranov**	**158.38**	**333**	*e*PKP		**PKPdf**	**18 22 23.8**	**-1.2**
VRAC	**Vranov**	**158.38**	**333**	PKP		**PKPdf**	**18 22 24.8**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=279,slow=1.8,SNR=5.2							
VRAC				PKPab		**PKPab**	**18 22 58.6**	**-0.9**
	comp=Z,5.4nm,0.9s,baz=4.3,slow=6.3,SNR=4.6							
HERR	**Herculane**	**158.60**	**317**	⇑P		**PKPdf**	**18 22 28.1**	**+2.8**
BZS	**Buzias**	**158.63**	**320**	⇑P		**PKPdf**	**18 22 23.9**	**-1.5**
BZS	**Buzias**	**158.63**	**320**	⇑PKIKP		**PKPdf**	**18 22 23.9**	**-1.5**
KRUC	**Moravsky**	**158.66**	**333**	*e*PKP		**PKPdf**	**18 22 23.8**	**-1.5**
PLN	**Plauen**	**158.83**	**342**	*e*PKPdf		**PKPdf**	**18 22 25.6**	**+0.1**
	baz=16,slow=1.0							
PLN				*e*PKPab		**PKPab**	**18 23 00.6**	**-0.8**
	baz=8.5,slow=4.0							
MODS	**Modra-Piesok**	**158.84**	**331**	*e*PKIKP		**PKPdf**	**18 22 25.9**	**+0.3**
MODS				*e*			18 23 01.6	
MODS	**Modra-Piesok**	**158.84**	**331**	*e*PKP		**PKPdf**	**18 22 25.9**	**+0.3**
MODS				*e*			18 23 01.6	
BUG	**Bochum--Univer**	**158.93**	**351**	*e*PKPdf		**PKPdf**	**18 22 24.7**	**-0.8**
	baz=16,slow=1.0							
MDVR	**Moldovita**	**159.07**	**318**	⇑P		**PKPdf**	**18 22 24.4**	**-1.6**
MANZ	**Manzenberg**	**159.29**	**341**	*e*PKPdf		**PKPdf**	**18 22 24.8**	**-1.3**
	baz=16,slow=1.0							
ROTZ	**Rotzenmuhle**	**159.46**	**341**	*e*PKPab		**PKPab**	**18 23 03.7**	**-0.5**
	baz=8.5,slow=4.0							
KHC	**Kasperske Hory**	**159.61**	**338**	*e*PKIKP		**PKPdf**	**18 22 26.7**	**+0.2**
KHC				*e*			18 23 04.6	
KHC	**Kasperske Hory**	**159.61**	**338**	*e*PKPDF		**PKPdf**	**18 22 26.7**	**+0.2**
KHC				*e*PKPAB		**PKPab**	**18 23 04.6**	**-0.2**
CKRC	**Cesky Krumlov**	**159.63**	**336**	*e*PKIKP		**PKPdf**	**18 22 25.8**	**-0.7**
CKRC	**Cesky Krumlov**	**159.63**	**336**	*e*PKPDF		**PKPdf**	**18 22 25.8**	**-0.7**
CKRC				*e*PKPAB		**PKPab**	**18 23 05.4**	**+0.5**
CONA	**Conrad Observa**	**159.78**	**332**	*i*PKP		**PKPdf**	**18 22 25.8**	**-1.0**
	comp=Z,5.0nm,1.2s							
CONA				*e*PKP		**PKPab**	**18 23 05.6**	**-0.1**
	comp=Z,7.5nm,0.7s							
RONA	**Rosalia, Austr**	**159.78**	**331**	*i*PKP		**PKPdf**	**18 22 25.9**	**-0.9**
	comp=Z,13nm,1.8s							
RONA				*i*PKP		**PKPab**	**18 23 05.8**	**+0.1**
	comp=Z,11nm,0.9s							
GRF	**Grafenberg Arr**	**159.80**	**342**	*e*PKPab		**PKPab**	**18 23 05.0**	**-0.6**
	baz=8.5,slow=4.0							
GRFO	**Grafenberg**	**159.80**	**342**	PKPdf		**PKPdf**	**18 22 26.1**	**-0.6**
GRFO				PKPab		**PKPab**	**18 23 04.8**	**-0.8**
GRFO	**Grafenberg**	**159.80**	**342**	PKIKP		**PKPdf**	**18 22 26.1**	**-0.6**
GRFO							18 23 04.8	
GERES	**GERESS Array B**	**159.81**	**337**	PKP		**PKPdf**	**18 22 25.9**	**-0.9**
	comp=Z,1.6nm,0.9s,baz=46,slow=3.9,SNR=5.9							
GERES				PKPab		**PKPab**	**18 23 05.2**	**-0.6**
	comp=Z,4.1nm,0.7s,baz=26,slow=7.6,SNR=9.4							
WET	**Wettzell**	**159.82**	**339**	*e*PKPdf		**PKPdf**	**18 22 25.5**	**-1.2**
	baz=16,slow=1.0							
IDI	**Anoyia**	**160.25**	**289**	PKPab		**PKPab**	**18 23 08.4**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=98,slow=9.4,SNR=6.8							
ARSA	**Arzberg**	**160.46**	**331**	*i*PKP		**PKPdf**	**18 22 26.4**	**-1.1**
	comp=Z,4.6nm,1.0s							
ARSA				*e*PKP		**PKPab**	**18 23 08.4**	**-0.2**
	comp=Z,6.3nm,1.2s							
MOA	**Molln**	**160.46**	**335**	*i*PKP		**PKPdf**	**18 22 26.7**	**-0.7**
	comp=Z,6.7nm,1.6s							
MOA				*e*PKP		**PKPab**	**18 23 08.2**	**-0.4**
	comp=Z,11nm,1.3s							
BIOA	**Bad Ischl, Aus**	**160.82**	**335**	*i*PKP		**PKPdf**	**18 22 26.9**	**-1.0**
	comp=Z,7.3nm,1.1s							
BIOA				*e*PKP		**PKPab**	**18 23 10.1**	**0.0**
	comp=Z,18nm,1.3s							
SOKA	**Soboth**	**161.12**	**331**	*e*PKP		**PKPdf**	**18 22 26.7**	**-1.6**
	comp=Z,11nm,1.2s							
SOKA				*e*PKP		**PKPab**	**18 23 10.7**	**-0.8**
	comp=Z,9.6nm,1.1s							
FUR	**Furstenfeldbru**	**161.17**	**340**	*e*PKPab		**PKPab**	**18 23 11.4**	**-0.3**
	baz=8.5,slow=4.0							
AGG	**Agios Georgios**	**161.37**	**302**	PKPdf		**PKPdf**	**18 22 27.6**	**-1.1**
AGG	**Agios Georgios**	**161.37**	**302**	PK

comp=Z,8μm,1.0s
HUGN *i* S **Sn** **18 06 27.7 +0.7**
GRNN Granada 1.16 77 *i* P **Pn** **18 06 12.0 -1.5**
GRNN IAML 18 06 34.6
comp=Z,8μm,1.0s
SBEN San Benito 1.21 58 *i* P **Pn** **18 06 13.0 -1.2**
SBEN *i* S **Sn** **18 06 30.1 +0.4**
SBEN IAML 18 06 33.8
comp=Z,6μm,1.0s
BRAN Las Pilas 1.28 35 *i* P Pn 18 06 09.2 -6.0
BRAN *i* S Sn 18 06 22.1 -9.4
BRAN IAML 18 06 22.7
comp=Z,14μm,1.0s
JAPN Al SSO del Vol 1.41 95 *i* P **Pn** **18 06 16.4 -0.5**
JAPN IAML 18 06 16.9
comp=Z,10μm,1.0s
MORN Al O del Volca 1.43 94 *i* P **Pn** **18 06 16.1 -1.2**
MORN IAML 18 06 16.9
comp=Z,14μm,1.0s
CONN Concepcion 1.46 94 *i* P **Pn** **18 06 16.4 -1.1**
CONN IAML 18 06 17.1
comp=Z,32μm,1.0s
CONN *i* S **Sn** **18 06 34.1 -1.5**
OMEN Al SSO del Vol 1.46 96 *i* P **Pn** **18 06 16.7 -0.9**
OMEN IAML 18 06 20.8
comp=Z,8μm,1.0s
BOAB BOACO BROADBAN.61 61 **Pn** **18 06 18.5 -1.1**
BOAB BOACO BROADBAN.61 61 *i* P **Pn** **18 06 18.6 -1.1**
BOAB IAML 18 06 50.3
comp=Z,960nm,1.0s
AMPH Amapala 1.70 342 *i* P **Pn** **18 06 20.1 -0.8**
AMPH *eS* **Sn** **18 06 41.4 -0.1**
MATN Matagalpa 1.71 42 **Pn** **18 06 20.4 -0.7**
MATN Sn **Sn** **18 06 39.0 -2.9**
MATN Matagalpa 1.71 42 *i* P **Pn** **18 06 20.2 -0.9**
MATN IAML 18 06 34.8
comp=Z,750nm,1.0s
CNCH Conchagua 1.75 336 *eP* **Pn** **18 06 20.8 -0.9**
CNCH *eS* **Sn** **18 06 42.7 -0.3**
HZTE Horizontes, Gu 1.76 122 Pn **Pn** **18 06 21.6 0.0**
LCND La Caada 1.81 335 *eP* **Pn** **18 06 21.4 -0.9**
ACON Acoyapa 1.92 81 **Pn** **18 06 22.3 -1.5**
ACON Acoyapa 1.92 81 *i* P **Pn** **18 06 22.5 -1.3**
ACON IAML 18 06 41.1
comp=Z,850nm,1.0s
JUCU Jucuarn 1.94 325 *eP* **Pn** **18 06 22.6 -1.6**
ORTG Ortega, Santa 2.07 128 **Pn** **18 06 22.4 -0.6**
ORTG Ortega, Santa 2.07 128 *i* P **Pn** **18 06 25.1 -0.9**
ORTG IAML 18 06 37.8
comp=Z,510nm,1.0s
BLLM Bellamira 2.08 328 *eP* **Pn** **18 06 25.5 -0.6**
SAJU San Juanillo, 2.10 139 *i* P **Pn** **18 06 24.8 -1.5**
SAJU *i* S **Sn** **18 06 48.9 -2.3**
SAJU IAML 18 06 50.5
comp=Z,750nm,1.0s
LCY Lacayo 2.10 327 *eP* **Pn** **18 06 26.0 -0.4**
RCPN Sur Rio San Ju 2.10 28 *i* P **Pn** **18 06 25.6 -0.8**
RCPN IAML 18 06 57.0
comp=Z,6.9nm,1.0s
PACA Pacayal 2.15 327 *eP* **Pn** **18 06 26.6 -0.5**
DUNO Dulce Nombre, 2.23 135 **Pn** **18 06 26.9 -1.2**
DUNO Dulce Nombre, 2.23 135 *i* P **Pn** **18 06 27.4 -0.7**
DUNO *i* S **Sn** **18 06 51.7 -2.9**
DUNO IAML 18 06 55.5
comp=Z,2μm,1.0s
INDI Punta indio, G 2.38 138 *i* P **Pn** **18 06 28.5 -1.7**
INDI *i* S **Sn** **18 06 55.6 -2.6**
INDI IAML 18 06 57.0
comp=Z,490nm,1.0s
TGUH Tegucigalpa,Un 2.38 356 Pn **Pn** **18 06 30.0 -0.4**
TGUH Tegucigalpa,Un 2.38 356 *i* P **Pn** **18 06 30.4 +0.1**
TGUH IAML 18 06 49.6
comp=Z,2μm,1.0s
TECO Alcaldia de Te 2.48 319 *i* P **Pn** **18 06 30.1 -1.4**
TECO IAML 18 06 30.6
comp=Z,550nm,1.0s
JTS Las Juntas de 2.52 123 **Pn** **18 06 31.4 -0.7**
JTS Las Juntas de 2.52 123 Pn **Pn** **18 06 31.6 -0.4**
comp=Z,21nm,0.3s,baz=105,slow=22,SNR=32
JTS Sn **Sn** **18 07 00.8 -0.8**
comp=Z,32nm,0.3s,baz=285,slow=18,SNR=5.2
JTS LR LR 18 07 51.4
comp=Z,172nm,21.6s,baz=296,slow=48
comp=Z,58nm,0.4s
UESV Universidad de 2.56 320 *i* P **Pn** **18 06 31.8 -0.8**
UESV IAML 18 06 32.1
comp=Z,740nm,1.0s
UESV *i* S **Sn** **18 07 00.9 -1.6**
SCLA Alcaldia de Sa 2.57 322 *eP* **Pn** **18 06 32.5 -0.3**
SCLA Alcaldia de Sa 2.57 322 *i* P **Pn** **18 06 32.7 -0.1**
SCLA IAML 18 06 32.9
comp=Z,550nm,1.0s
SCLA *i* S **Sn** **18 07 01.4 -1.5**
COEG Centro de Oper 2.60 319 *eP* **Pn** **18 06 32.3 -1.0**
COEG *eS* **Sn** **18 07 04.2 +0.5**
COEG Centro de Oper 2.60 319 *i* P **Pn** **18 06 32.5 -0.8**
COEG IAML 18 07 08.1
comp=Z,440nm,1.0s
ARE1 Arenal 1 2.63 117 **Pn** **18 06 33.6 0.0**
SJTE Alcalda de S 2.68 316 *i* S **Sn** **18 07 02.7 -3.0**
PAVA Las Pavas 2.71 319 *eP* **Pn** **18 06 34.2 -0.5**
LFRS El Faro 2.73 316 *eP* **Pn** **18 06 34.3 -0.7**
SOCE Pocosol 2.75 117 **Pn** **18 06 34.8 -0.5**
SOCE Pocosol 2.75 117 *i* P **Pn** **18 06 35.3 0.0**
SOCE IAML 18 07 20.6
comp=Z,330nm,1.0s
COVE Coope Vega, Sa 2.81 109 **Pn** **18 06 34.4 -1.7**
LOMA Loma Larga 2.82 315 *i* P **Pn** **18 06 35.1 -1.1**
LOMA IAML 18 07 11.5
comp=Z,610nm,1.0s
LAFE Finca La Fe, P 2.84 130 *i* P **Pn** **18 06 35.7 -0.7**
LAFE *i* S **Sn** **18 07 07.3 -2.1**
LAFE IAML 18 07 09.4
comp=Z,11nm,1.0s
SNET Serv Nac Est T 2.89 314 Pn **Pn** **18 06 36.2 -1.0**
PMON Piamonte 2.96 314 *eP* **Pn** **18 06 37.7 -0.5**
PMON *eS* **Sn** **18 07 14.0 +1.4**
PMON Piamonte 2.96 314 *i* P **Pn** **18 06 37.4 -0.8**
PMON IAML 18 07 15.5
comp=Z,770nm,1.0s
JAYA Jayaque - finc 3.02 311 *eP* **Pn** **18 06 37.9 -1.1**
JAYA *eS* **Sn** **18 07 14.7 +0.5**
JAYA IAML 18 07 16.3
comp=Z,486nm,0.2s
JAYA Jayaque - finc 3.02 311 *i* P **Pn** **18 06 38.4 -0.7**
JAYA IAML 18 07 16.0
comp=Z,1μm,1.0s
SIUN Universidad Ur 3.06 48 *i* P Pn 18 06 46.8 +7.4
SIUN IAML 18 07 32.5
comp=Z,100nm,1.0s
JACO JACO, Garabito 3.12 129 **Pn** **18 06 39.0 -1.2**
JACO JACO, Garabito 3.12 129 *i* P **Pn** **18 06 40.4 +0.1**
JACO IAML 18 06 57.2
comp=Z,240nm,1.0s
CEVE Cerro Verde 3.27 312 *eP* **Pn** **18 06 42.4 -0.1**
CEVE Cerro Verde 3.27 312 *i* P **Pn** **18 06 42.1 -0.4**
CEVE IAML 18 07 27.5
comp=Z,550nm,1.0s
SNJE San Jose 3.28 312 *eP* **Pn** **18 06 42.2 -0.4**
HDC Heredia 3.37 119 Pn **Pn** **18 06 42.8 -1.1**
NUBE Las Nubes 3.43 311 *eP* **Pn** **18 06 44.2 -0.4**
NUBE Las Nubes 3.43 311 *i* P **Pn** **18 06 43.9 -0.7**
NUBE *i* S **Sn** **18 07 21.3 -2.8**
NUBE IAML 18 07 25.0
comp=Z,340nm,1.0s
OCM Ochomogo 3.56 119 *i* P **Pn** **18 06 45.7 -0.7**
OCM IAML 18 06 49.7
comp=Z,340nm,1.0s
LCR2 La Lucha 2 3.60 122 Pn **Pn** **18 06 47.6 +0.6**
LCR2 La Lucha 2 3.60 122 *i* P **Pn** **18 06 48.0 +1.0**
LCR2 *i* S **Sn** **18 07 30.4 +2.0**
ESQI Esquipulas 3.61 323 **Pn** **18 06 47.0 0.0**
RIMA Rio Macho 3.70 120 **Pn** **18 06 48.5 +0.1**
VTCV VTCV, Calle Va 3.72 116 *i* P **Pn** **18 06 49.2 +0.6**
VTCV IAML 18 07 10.2
comp=Z,260nm,1.0s
CDM Cerro de Muert 3.90 122 *i* P **Pn** **18 06 52.6 +1.3**
CDM *i* S **Sn** **18 07 36.6 +0.5**
CDM IAML 18 07 39.5
comp=Z,210nm,1.0s
PEZE Perez Zeledon, 4.06 124 **Pn** **18 06 53.3 0.0**
SRBA San Rafael, Bu 4.41 123 **Pn** **18 06 58.5 +0.5**
SRBA San Rafael, Bu 4.41 123 *i* P **Pn** **18 06 58.7 +0.7**

SRBA IAML 18 07 01.1
comp=Z,230nm,1.0s
SRBA *i* S **Sn** **18 07 46.9 -1.2**
DRK0 Durika 4.49 122 **Pn** **18 06 59.1 -0.1**
PIRO Carate, Puerto 4.93 131 *i* P **Pn** **18 07 06.3 +1.3**
PIRO *i* S **Sn** **18 07 56.0 -4.8**
PIRO IAML 18 08 04.9
comp=Z,600nm,1.0s
CDITO Canoas 5.18 126 **Pn** **18 07 08.0 -0.5**
BRU2 Volcan 5.20 123 Pn **Pn** **18 07 08.1 -0.8**
PETF Flores 5.87 333 Pn **Pn** **18 07 17.9 0.0**
CCIG Comitan 6.70 314 Pn **Pn** **18 07 29.0 -0.5**
CMIG Matias Romero 9.27 307 Pn **Pn** **18 08 05.4 +0.9**
comp=Z,4.2nm,0.3s,baz=125,slow=8.0,SNR=27
CMIG Sn **Sn** **18 09 46.6 -0.8**
baz=24,slow=20
comp=Z,13nm,0.4s
TLIG Tlapa 12.54 299 **Pn** **18 08 51.1 +1.7**
833A Chaparral WMA, 20.17 327 P **P** **18 10 23.9 +0.5**
ATAH Atahualpa 20.59 155 LR LR 18 17 10.0
comp=Z,75nm,20.8s,baz=357,slow=32
DRIO Del Rio 21.70 327 P **P** **18 10 41.2 +1.4**
Y49A Blount Mountai 22.10 2 P **P** **18 10 44.5 +0.4**
Y49A IAmb IAmb 18 10 48.5
comp=Z,9.9nm,0.8s
BRDY Brady 22.41 332 P **P** **18 10 48.5 +0.9**
TXAR Lajitas Array 23.39 321 P **P** **18 10 57.7 +0.1**
TXAR Lajitas Array 23.39 321 P **P** **18 10 58.5 +0.9**
comp=Z,4.0nm,0.8s,baz=141,slow=10,SNR=33
comp=Z,4.0nm,0.8s
TX31 Lajitas Ar. Si 23.39 321 P **P** **18 10 57.7 +0.1**
TX31 IAmb IAmb 18 11 04.2
comp=Z,6.3nm,0.7s
VHRN Van Horn 25.23 322 P **P** **18 11 15.0 +0.6**
VHRN IAmb IAmb 18 11 18.8
comp=Z,6.9nm,1.1s
WMOK Wichita Mounta 25.31 337 P **P** **18 11 15.1 +0.1**
WMOK IAmb IAmb 18 11 17.4
comp=Z,10nm,0.9s
OK048 Pawnee Station 26.20 342 P **P** **18 11 23.8 +0.8**
ETMB Extrema 29.78 135 P **P** **18 11 55.7 +0.5**
SAML Samuel 31.39 130 P **P** **18 12 08.2 -1.2**
SAML IAmb IAmb 18 12 09.7
comp=Z,3.1nm,0.7s
PDAR Pinedale Array 36.62 332 P **P** **18 12 54.9 +0.1**
comp=Z,0.2nm,0.5s,baz=132,slow=12,SNR=4.1
comp=Z,0.2nm,0.5s
HWUT Hardware Ranch 36.72 329 P **P** **18 12 56.1 +0.5**
HWUT IAmb IAmb 18 13 02.4
comp=Z,3.5nm,0.8s
NVAR Mina Array Bea 38.51 319 P **P** **18 13 13.9 +3.1**
comp=Z,0.2nm,0.4s,baz=130,slow=8.4,SNR=2.0
comp=Z,0.2nm,0.4s
YKA Yellowknife Ar 54.45 345 P **P** **18 15 12.7 -2.3**
comp=Z,0.1nm,0.4s,baz=136,slow=7.3,SNR=4.8
comp=Z,0.1nm,0.4s
TIXI Tiksi 93.47 349 LR LR 19 03 30.6
comp=Z,204nm,20.0s,baz=179,slow=37
NRIK Noril'sk 99.11 2 P **Pdif** **18 19 29.0 +0.7**
comp=Z,1.0nm,0.2s,baz=14,slow=4.2,SNR=4.4
ASAR Alice Springs 139.28 247 PKhKP PKPpre 18 25 16.6
comp=Z,0.4nm,1.0s,baz=77,slow=2.6,SNR=1.8
WRA Warramunga Arr 139.37 253 PKhKP PKPpre 18 25 16.8
comp=Z,0.2nm,0.6s,baz=90,slow=2.3,SNR=1.3

*NEIC **09** 18:27:24.8±1.1,47.60N±0.06×92.66W±0.08,h0km±2km, mb_Lg2.8/25,ML2.7/6,Error ellipse: s-maj=11.1km s-min=8.6km az=17.0*
*IDC **09** 18:27:27.2±3.5,47.68N×92.79W,h0km,mbtmp2.7/2, ML1.6/2,Error ellipse: s-maj=65.0km s-min=24.6km az=52.0*
ISC 09 18:27:23.6±0.9,**47.60N**±0.05×**92.65W**±0.04,**h0km,n32,**
σ0**s77**/31,**Minnesota**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EYMN	**Ely**	**0.85**	**66**		**Pg**	**18 27 40.0**	**0.0**
EYMN				IAML		18 27 54.2	
	285nm,1.1s						
B35A	**Bob, Littlefor**	**1.05**	**317**		**Pb**	**18 27 44.6**	**0.0**
B35A				IAML		18 28 05.1	
	comp=E,148nm,0.3s						
E38A	**The Farm, Brul**	**1.25**	**143**		**Pg**	**18 27 47.1**	**-0.4**
E38A				IAML		18 28 09.8	
	comp=N,151nm,0.4s						
E38A				IAML		18 28 26.2	
	comp=E,160nm,1.4s						
F36A	**Milaca**	**1.84**	**199**		**Pn**	**18 27 56.2**	**-0.2**
F36A				IAmb_Lg		18 28 27.4	
	comp=Z,74nm,1.1s						
AGMN	**Agassiz Nation**	**2.27**	**289**		**Pn**	**18 28 02.6**	**+0.3**
AGMN				IAmb_Lg		18 28 35.7	
	comp=Z,40nm,0.8s						
SPMN	**Marine on St.**	**2.38**	**183**		**Pn**	**18 28 04.2**	**+0.3**
SPMN				IAmb_Lg		18 28 41.2	
	comp=Z,33nm,0.9s						
D41A	**Chassel**	**2.83**	**100**		**Pn**	**18 28 10.9**	**+0.8**
D41A				IAmb_Lg		18 28 58.0	
	comp=Z,24nm,0.9s						
COWI	**Conover**	**2.84**	**121**		**Pn**	**18 28 11.1**	**+0.8**
G40A	**Rib Lake**	**2.89**	**143**		**Pn**	**18 28 11.9**	**+1.1**
D32A	**Dogwood Acres,**	**3.00**	**263**	Pn	**Pn**	**18 28 12.7**	**+0.3**
D32A				IAmb_Lg		18 29 06.0	
	comp=Z,29nm,0.8s						
F33A	**5 Mile Ranch,**	**3.06**	**236**		**Pn**	**18 28 13.7**	**+0.4**
ULM	**Lac du Bonnet**	**3.40**	**322**	Pn	**Pn**	**18 28 18.2**	**+0.4**
ULM				IAmb_Lg		18 29 14.3	
	comp=Z,20nm,0.9s						
ULM	**Lac du Bonnet**	**3.40**	**322**	Pn	**Pn**	**18 28 18.2**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=140,slow=10.0,SNR=1.5						
ULM				Pg	**Pb**	**18 28 25.8**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=145,slow=16,SNR=11						
ULM				Sn	**Sn**	**18 28 57.4**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=144,slow=18,SNR=2.0						
ULM				Lg	Lg	18 29 08.3	
	comp=Z,5.4nm,0.3s,baz=226,slow=21,SNR=19						
	comp=Z,0.8nm,0.5s						
I10CA	**LAC DU BONNET**	**3.42**	**321**	I	I	18 52 20.0	
	comp=Z,0.1nm,1.0s,baz=138,slow=329,SNR=15						
F42A	**Maple Grove Fa**	**3.62**	**119**	Pn	**Pn**	**18 28 21.7**	**+0.8**
I37A	**Lemond, Waseca**	**3.63**	**189**		**Pn**	**18 28 21.6**	**+0.6**
I37A				IAmb_Lg		18 29 18.6	
	comp=Z,18nm,0.7s						
I40A	**Norwalk**	**3.98**	**158**		**Pn**	**18 28 26.1**	**+0.2**
E43A	**Lone Tree Farm**	**4.06**	**106**	Pn	**Pn**	**18 28 27.4**	**+0.4**
I42A	**Draeger Farm,**	**4.54**	**143**	Pn	**Pn**	**18 28 33.5**	**-0.1**
H43A	**Windswept, Lux**	**4.62**	**131**	Pn	**Pn**	**18 28 34.2**	**-0.6**
H43A				IAmb_Lg		18 29 55.1	
	comp=Z,16nm,0.8s						
MDND	**Maddock**	**4.70**	**276**	Pn	**Pn**	**18 28 36.0**	**+0.3**
MDND				IAmb_Lg		18 29 55.5	
	comp=Z,18nm,0.7s						
ECSD	**EROS Data Cent**	**4.76**	**217**		**Pn**	**18 28 38.7**	**+2.0**
K38A	**Parkersburg**	**4.96**	**181**	Pn	**Pn**	**18 28 40.5**	**+1.2**
JFWS	**Jewell Farm**	**4.99**	**159**		**Pn**	**18 28 40.4**	**+0.7**
JFWS				IAmb_Lg		18 30 02.8	
	comp=Z,16nm,0.8s						
L40A	**Anamosa**	**5.63**	**169**	Pn	**Pn**	**18 28 48.4**	**-0.2**
E46A	**Sault Ste Mari**	**5.84**	**99**	Pn	**Pn**	**18 28 51.9**	**+0.4**
L42A	**Oliver, Polo**	**5.99**	**158**	Pn	**Pn**	**18 28 53.3**	**-0.2**
L42A				IAmb_Lg		18 30 47.6	
	comp=Z,15nm,1.1s						
GLMI	**Grayling**	**6.23**	**114**	Pn	**Pn**	**18 28 55.9**	**-0.9**
N38A	**Joes South For**	**6.82**	**184**	Pn	**Pn**	**18 29 05.6**	**+0.7**
N38A				IAmb_Lg		18 31 15.9	
	comp=Z,17nm,0.9s						
N41A	**Harden Midland**	**7.01**	**169**	IAmb_Lg		18 31 05.1	
	comp=Z,17nm,0.9s						
PDAR	**Pinedale Array**	**12.86**	**254**	Lg	Lg	18 34 03.0	
	baz=62,slow=25,SNR=2.8						
YKA	**Yellowknife Ar**	**19.35**	**328**	Pn	**P**	**18 31 49.6**	**-0.7**
	baz=130,slow=12,SNR=3.8						
	comp=Z,0.1nm,0.4s						

JMA 09 18:33:26.5±0.1,**24.2N**±0.3×**123.8E**±0.3,**h17**km±1km,
MV1.5/10,**NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.12**	**321**	*i* P	Pg	18 33 30.2	0.0
IRIF				*e*S	Sb	18 33 33.0	0.0
JKRS	**Kuro-shima**	**0.18**	**91**	*i* P	Pg	18 33 31.0	0.0
JKRS				*e*S	Sg	18 33 34.0	0.0
HATJ	**Hateruma jima**	**0.18**	**182**	*i* P	Pg	18 33 30.9	-0.2
HATJ				*e*S	Sg	18 33 34.4	+0.2
JIJ	**Ishigaki jima**	**0.33**	**68**	P	Pg	18 33 33.2	-0.2
JIJ				*e*S	Sg	18 33 37.7	-0.4
JISG	**Ishigakijimahi**	**0.57**	**53**	P	Pg	18 33 37.7	-0.2
JISG				*e*S	Sg	18 33 45.4	-0.1
YOJ	**Yonaguni jima**	**0.76**	**287**	*e*S	Sb	18 33 50.0	-1.4
JYNG	**Yonagunijimaku**	**0.82**	**285**	*e*S	Sb	18 33 52.0	-1.1
JTJ	**Tarama**	**0.90**	**64**	*e*S	Sg	18 33 56.5	+0.5

TAP 09 18:33:26.1,24.28N×121.79E,h12km,ML1.2,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EAHA	**Aohua**	**0.06**	**320**	P	Pg	18 33 28.6	+0.2
	baz=319						
EAHA				*e*S	Sg	18 33 30.6	+0.3
	baz=319						
ENA	**Nanau**	**0.15**	**345**	P	Pg	18 33 29.8	+0.1
	baz=347						
ENA				*e*S	Sg	18 33 32.3	+0.1
	baz=347						
EWUT	**Wuta**	**0.17**	**358**	P	Pg	18 33 30.0	+0.2
	baz=358						
EWUT				*e*S	Sg	18 33 32.8	+0.3
	baz=358						
ETL	**Fush Village**	**0.19**	**231**	*e*P	Pg	18 33 30.4	+0.1
	baz=225						
ETL				*e*S	Sg	18 33 33.8	+0.7
	baz=225						
NACB	**Ninganchiao**	**0.20**	**239**	*e*P	Pg	18 33 29.9	-0.6
	baz=233						
NACB				*e*S	Sg	18 33 34.3	+0.8
	baz=233						
TWC	**Suao**	**0.33**	**10**	*e*P	Pb	18 33 33.4	-0.5
	baz=7.0						
TWC				*e*S	Sg	18 33 37.2	-0.1
	baz=7.0						
LATG	**Datong**	**0.35**	**317**	*e*P	Pg	18 33 33.5	+0.4
	baz=317						
LATG				*e*S	Sg	18 33 38.7	+0.9
	baz=317						
NNSB	**Datong**	**0.40**	**292**	*e*P	Pb	18 33 34.6	-0.6
	baz=292						
NNSB				*e*S	Sg	18 33 40.0	+0.8
	baz=292						
NDT	**Datong Townshi**	**0.41**	**322**	*e*P	Pg	18 33 34.7	+0.5
	baz=322						
NDT				*e*S	Sb	18 33 40.7	-0.8
	baz=322						
ENTT	**Nioudou**	**0.41**	**331**	*e*P	Pb	18 33 34.8	-0.5
	baz=331						
ENTT				*e*S	Sb	18 33 40.6	-0.9
	baz=331						

*IDC **09** 18:58:38.0±0.8,18.63S×174.67W,h0km,mb4.1/9, mbtmp4.1/9,Error ellipse: s-maj=40.4km s-min=18.1km az=148.0*
*NEIC **09** 18:58:49.0±2.5,18.61S±0.05×174.47W±0.08,h81km±8km, mb5.2/33,Error ellipse: s-maj=13.5km s-min=3.0km az=55.0*
*NOU **09** 18:59:17.0,20.63S×176.12W,h114km,mb4.6/10,Fiji Islands Region*
ISC 09 18:58:49.8±0.5,**18.62S**±0.07×**174.40W**±0.07,**h100**km,
n100,σ1**s97**/91,**mb5.0**/25,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.26**	**97**		**Pn**	**18 59 52.6**	**+0.1**
NIUE				Sn	**Sn**	**19 00 36.2**	**-5.0**
AFI	**Afiamalu**	**5.32**	**29**		**Pn**	**19 00 06.5**	**-0.4**
AFI				Sn	**Sn**	**19 01 00.1**	**-6.8**
DGTI	**Dogotuki**	**6.05**	**291**	P	sPn	19 00 41.4	+0.6
PINNC	**Pines Island,**	**17.45**	**254**	P	**Pn**	**19 02 48.0**	**+1.1**
DZM	**Mont Dzumac**	**18.29**	**256**	P	**Pn**	**19 02 57.4**	**+0.3**
MXZ	**Matakaoa Point**	**19.93**	**197**	P	**Pn**	**19 03 14.6**	**-1.5**
MXZ	**Matakaoa Point**	**19.93**	**197**	P	**P**	**19 03 13.1**	**-0.5**
MXZ	**Matakaoa Point**	**19.93**	**197**	P	**Pn**	**19 03 15.2**	**-0.9**
KUZ	**Kuaotunu**	**20.04**	**204**	P	Pn	19 03 15.3	-2.2
WMGZ	**Waiomatatini S**	**20.14**	**197**	P	Pn	19 03 17.7	-0.9
HAZ	**Te Kaha**	**20.26**	**198**	P	**P**	**19 03 16.1**	**-1.1**
PKGZ	**Pakihiroa**	**20.30**	**197**	P	**P**	**19 03 17.2**	**-0.4**
PUZ	**Puketiti**	**20.42**	**197**	P	**P**	**19 03 18.2**	**-0.7**
RUGZ	**Raukumara Rang**	**20.48**	**198**	P	**P**	**19 03 19.9**	**+0.1**
CNGZ	**Carnagh Statio**	**20.82**	**197**	P	**P**	**19 03 23.5**	**+0.3**
MWZ	**Matawai**	**20.87**	**198**	P	**P**	**19 03 22.9**	**-0.9**
URZ	**Urewera**	**20.93**	**199**	P	**P**	**19 03 23.6**	**-0.7**
URZ	**Urewera**	**20.93**	**199**	P	**P**	**19 03 22.5**	**-1.8**
KMRZ	**Kaimai**	**20.94**	**202**	P	Pn	19 03 25.9	-2.1
TOZ	**Tahuroa Road**	**20.99**	**203**	P	**P**	**19 03 25.7**	**+0.7**
TOZ	**Tahuroa Road**	**20.99**	**203**	P	Pn	19 03 25.8	-2.8
RICZ	**Rimuhau**	**21.15**	**197**	P	**P**	**19 03 26.8**	**+0.1**
HRRZ	**Handcock Road**	**21.31**	**200**	P	**P**	**19 03 29.3**	**+0.8**
SNGZ	**Shannon Statio**	**21.34**	**198**	P	**P**	**19 03 28.1**	**-0.7**
RAHZ	**Arahi**	**21.54**	**198**	P	**P**	**19 03 29.5**	**-1.4**
NMHZ	**Naumai**	**21.79**	**199**	P	**P**	**19 03 33.0**	**-0.7**
HIZ	**Hauiti**	**21.92**	**203**	P	**P**	**19 03 34.8**	**-0.2**
HIZ	**Hauiti**	**21.92**	**203**	P	**P**	**19 03 36.2**	**+1.2**
BKZ	**Black Stump Fm**	**21.95**	**199**	P	**P**	**19 03 34.5**	**-0.8**
BKZ	**Black Stump Fm**	**21.95**	**199**	P	**P**	**19 03 33.4**	**-1.9**
KWHZ	**Kaweka Forest**	**22.21**	**199**	P	**P**	**19 03 36.5**	**-1.5**
OTVZ	**Oturere**	**22.21**	**201**	P	**P**	**19 03 35.9**	**-2.3**
BFZ	**Birch Farm**	**23.41**	**198**	P	**P**	**19 03 51.2**	**+1.3**
TUWZ	**Tuamarina**	**24.83**	**201**	P	**P**	**19 04 01.1**	**-1.5**
THZ	**Tophouse**	**25.49**	**202**	P	**P**	**19 04 08.0**	**-0.7**
THZ				IAmb	IAmb	19 04 26.5	
	comp=Z,166nm,2.0s						
KHZ	**Kahutara**	**25.84**	**201**	P	**P**	**19 04 15.7**	**+3.9**
LTZ	**Lake Taylor**	**26.61**	**202**	P	**P**	**19 04 19.0**	**+0.2**
LTZ				IAmb	IAmb	19 04 23.4	
	comp=Z,25nm,0.5s						
INZ	**Inchbonnie**	**26.86**	**204**	P	**P**	**19 04 20.6**	**-0.4**
INZ				IAmb	IAmb	19 04 24.9	
	comp=Z,40nm,0.6s						
OXZ	**Oxford**	**27.16**	**202**	P	**P**	**19 04 24.3**	**+0.6**
OXZ				IAmb	IAmb	19 04 27.0	
	comp=Z,26nm,0.7s						
RPZ	**Rata Peaks**	**27.86**	**203**	P	**P**	**19 04 33.9**	**+4.0**
MLZ	**Mavora Lakes**	**30.38**	**205**	P	**P**	**19 04 52.4**	**+0.1**
MLZ				IAmb	IAmb	19 05 07.0	
	comp=Z,62nm,1.6s						
ARMA	**Armidale**	**32.94**	**243**	P	**P**	**19 05 14.9**	**-0.1**
ARMA				IAmb	IAmb	19 05 37.5	
	comp=Z,48nm,1.4s						
CTA	**Charters Tower**	**37.09**	**261**	P	**P**	**19 05 49.3**	**-1.4**
	comp=Z,8.5nm,0.8s,baz=106,slow=8.7,SNR=8.0						
	comp=Z,8.5nm,0.8s						
CTAO	**Charters Tower**	**37.09**	**261**	P	**P**	**19 05 49.4**	**-1.4**
CTAO				IAmb	IAmb	19 05 55.1	
	comp=Z,49nm,1.4s						
TOO	**Toolangi**	**39.74**	**233**	P	**P**	**19 06 14.8**	**+2.1**
COEN	**Coen**	**40.91**	**270**	P	**P**	**19 06 23.6**	**+0.9**
STKA	**Stephens Creek**	**41.66**	**243**	P	**P**	**19 06 27.4**	**-1.2**
STKA	**Stephens Creek**	**41.66**	**243**	P	**P**	**19 06 26.6**	**-2.0**
	comp=Z,0.9nm,0.6s,baz=122,slow=16,SNR=4.4						
	comp=Z,0.9nm,0.6s						
BBOO	**Buckleboo**	**46.42**	**242**	P	**P**	**19 07 04.0**	**-2.6**
WR0	**Warramunga Arr**	**48.06**	**260**	P	**P**	**19 07 17.3**	**-2.2**
WR0				IAmb	IAmb	19 08 02.2	
	comp=Z,19nm,0.6s						
WRAB	**Tennant Creek**	**48.24**	**260**	P	**P**	**19 07 18.6**	**-2.2**
WRAB				IAmb	IAmb	19 08 13.1	
	comp=Z,32nm,1.8s						
WRA	**Warramunga Arr**	**48.25**	**260**	P	**P**	**19 07 17.9**	**-3.1**
WRA	**Warramunga Arr**	**48.25**	**260**	P	**P**	**19 07 18.7**	**-2.2**
	comp=Z,1.3nm,0.3s,baz=92,slow=5.9,SNR=112						
	comp=Z,1.3nm,0.3s						
AS31	**Alice Springs**	**48.27**	**255**	P	**P**	**19 07 19.6**	**-1.5**
ASAR	**Alice Springs**	**48.27**	**255**	P	**P**	**19 07 18.1**	**-3.0**
ASAR	**Alice Springs**	**48.27**	**255**	P	**P**	**19 07 19.1**	**-2.0**
	comp=Z,1.9nm,0.5s,baz=90,slow=7.6,SNR

BELC	**Belle Mtn. Jos**	**76.34**	**47**	P	**P**	**19 10 31.5**	**+3.3**
	baz=236						
MPMC	**Manual Prospec**	**76.49**	**44**	P	**P**	**19 10 31.9**	**+2.7**
	baz=235						
NVAR	**Mina Array Bea**	**77.35**	**42**	P	**P**	**19 10 35.9**	**+2.0**
NVAR	**Mina Array Bea**	**77.35**	**42**	P	**P**	**19 10 36.7**	**+2.7**
	comp=Z,0.9nm,0.7s,baz=225,slow=9.1,SNR=9.1						
	comp=Z,0.9nm,0.7s						
GMN	**Gold Mountain**	**77.36**	**43**	P	**P**	**19 10 35.1**	**+1.1**
P18K	**Big Mountain,**	**79.30**	**10**	P	**P**	**19 10 44.1**	**+0.2**
K15K	**Wolf Creek Mou**	**81.28**	**6**	P	**P**	**19 10 57.3**	**+2.8**
K15K				IAmb	IAmb	19 13 33.5	
	comp=Z,80nm,1.9s						
L18K	**Granite Mounta**	**81.78**	**8**	P	**P**	**19 10 59.3**	**+2.2**
L18K				IAmb	IAmb	19 11 40.5	
	comp=Z,85nm,2.0s						
SUA	**Susitna One**	**82.02**	**11**	P	**P**	**19 10 59.8**	**+1.3**
SUA				IAmb	IAmb	19 13 59.3	
	comp=Z,100nm,2.0s						
TTA	**Tatalina**	**82.56**	**8**	P	**P**	**19 11 02.9**	**+1.7**
TTA				IAmb	IAmb	19 13 09.9	
	comp=Z,48nm,2.0s						
GHO	**Glory Hole Cre**	**82.65**	**12**	P	**P**	**19 11 02.9**	**+1.1**
J18K	**Innoko River**	**82.97**	**8**	P	**P**	**19 11 05.4**	**+2.1**
J18K				IAmb	IAmb	19 11 59.5	
	comp=Z,40nm,1.9s						
TXAR	**Lajitas Array**	**83.19**	**56**	P	**P**	**19 11 08.8**	**+3.4**
	comp=Z,0.6nm,0.8s,baz=198,slow=7.5,SNR=5.4						
	comp=Z,0.6nm,0.8s						
K20K	**Telida**	**83.24**	**9**	P	**P**	**19 11 06.3**	**+1.6**
K20K				IAmb	IAmb	19 11 35.1	
	comp=Z,77nm,2.0s						
N25K	**Chitina, Valde**	**83.42**	**14**	P	**P**	**19 11 07.4**	**+1.7**
N25K				IAmb	IAmb	19 11 44.4	
	comp=Z,86nm,1.9s						
TRF	**Thorofare Moun**	**83.94**	**11**	P	**P**	**19 11 09.5**	**+1.0**
J20K	**Nowinta River**	**84.01**	**9**	P	**P**	**19 11 10.2**	**+1.7**
J20K				IAmb	IAmb	19 13 59.1	
	comp=Z,41nm,1.9s						
H03S2	**Juan Fernandez**	**84.23**	**124**	T	T	20 43 47.4	
	baz=249,slow=75						
H03S1	**Juan Fernandez**	**84.24**	**124**	T	T	20 44 02.8	
	baz=249,slow=75						
H03S3	**Juan Fernandez**	**84.25**	**124**	T	T	20 43 47.1	
	baz=249,slow=71,SNR=22						
H03N2	**Juan Fernandez**	**84.35**	**123**	T	T	20 43 47.3	
	baz=249,slow=71,SNR=23						
H03N3	**Juan Fernandez**	**84.35**	**123**	T	T	20 43 48.0	
	baz=249,slow=71,SNR=23						
H03N1	**Juan Fernandez**	**84.36**	**123**	T	T	20 43 51.7	
	baz=249,slow=71,SNR=23						
MCK	**McKinley**	**84.45**	**11**	P	**P**	**19 11 12.3**	**+1.5**
	baz=204						
M26K	**Nabesna, AK**	**84.48**	**14**	P	**P**	**19 11 13.3**	**+2.2**
	baz=210						
PDAR	**Pinedale Array**	**85.29**	**42**	P	**P**	**19 11 17.8**	**+1.9**
	comp=Z,0.7nm,0.7s,baz=217,slow=2.1,SNR=8.1						
	comp=Z,0.7nm,0.7s						
MLY	**Manley**	**85.33**	**10**	P	**P**	**19 11 16.1**	**+0.8**
	baz=202						
HDA	**Harding Lake**	**85.43**	**12**	P	**P**	**19 11 17.3**	**+1.6**
	baz=206						
SCRK	**Sand Creek**	**85.64**	**13**	P	**P**	**19 11 18.3**	**+1.3**
	baz=209						
ILAR	**Eielson Array**	**85.77**	**11**	P	**P**	**19 11 18.5**	**+1.1**
	comp=Z,1.2nm,0.5s,baz=228,slow=6.0,SNR=32						
	comp=Z,1.2nm,0.5s						
J25K	**Salcha River,**	**85.92**	**12**	P	**P**	**19 11 20.1**	**+1.9**
	baz=208						
POKR	**Poker Plat Res**	**85.98**	**11**	P	**P**	**19 11 20.2**	**+1.7**
	baz=206						
H22K	**Ishtalitna Cre**	**86.03**	**9**	P	**P**	**19 11 20.8**	**+2.1**
	baz=202						
F19K	**Shaleruckik Mo**	**86.10**	**7**	P	**P**	**19 11 21.0**	**+2.1**
	baz=196						
J26L	**Joseph Creek**	**86.19**	**13**	P	**P**	**19 11 22.4**	**+2.8**
	baz=209						
L29M	**L29M**	**86.27**	**16**	P	**P**	**19 11 22.9**	**+2.9**
	baz=214						
ARCES	**ARCESS Array B**	**127.64**	**351**	PKP	**PKiKP**	**19 17 43.1**	**-0.2**
	comp=Z,2.3nm,0.9s,baz=48,slow=1.8,SNR=6.2						

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*IDC **09** 19:03:53.1±0.4, 1.°99S×152.°47E, h0km, mb4.8/23, mbtmp4.7/24, ML4.6/1, MS4.4/43, Error ellipse: s-maj=19.4km s-min=11.7km az=85.0*

*MOS **09** 19:03:53.5±0.9, 1.°92S×152.°45E, h11km, mb5.2/49, Error ellipse: s-maj=8.9km s-min=5.7km az=106.4*

*BJI **09** 19:03:54.1±0.0, 1.°73S×152.°61E, h11km, mb4.9/70, mB5.2/39, Ms4.8/47, Ms7 4.5/48*

*NEIC **09** 19:03:55.4±2.4, 1.°84S±0.°05×152.°53E±0.°06, h14km±2km, mb5.2/238, Error ellipse: s-maj=9.3km s-min=6.7km az=100.0*

*GCMT **09** 19:04:00.4±0.1, 1.°95S±0.°01×152.°47E±0.°01, h29km, MW5.3/135, Moment Tensor Solution. s90,c141; s135,c227; Duration: 1s1 Moment tensor: Scale 10^27 Nm; Mrr0.72±.02; Mθθ-0.82±.01; Mϕϕ0.09±.01; Mrθ-0.13±.02; Mrϕ0.49±.01; Mθϕ-0.53±.03; Best double couple: Mo1.06400×10^27 NP1:ϕs143.00000°, δ57.00000°, λ132.00000°. NP2:ϕs264.00000°, δ51.00000°, λ44.00000°. Principal axes: T 1.0940, Plg55.0000°, Azm110.0000°; N -0.0590, Plg34.0000°, Azm297.0000°; P -1.0350, Plg4.0000°, Azm205.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **09** 19:04:02.1±1.6, 2.°S±5.°×15.°2E±.°, h16km±10km, M5.1/36, mb5.1/36, mB5.5/17, MLv5.2/2, Mw(mB)5.0/17, MwMwp5.0/7, Mwp5.3/7*

ISC 09 19:03:55.8±0.5, **1.°92S**±0.°03×**152.°55E**±0.°04, **h18**km±2km, **h19**km:**pP-P, n810,** σ1§**58**/745, **mb5.2**/203, **MS4.5**/63, **20C-8D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.29**	**190**	Pn	**Pn**	**19 04 32.5**	**-0.3**
RABL				Sn	**Sn**	**19 05 01.2**	**+0.7**
RABL	**Rabaul**	**2.29**	**190**	P	**Pn**	**19 04 32.4**	**-0.3**
I40PG	**Keravat**	**2.42**	**193**	Pn	**Pn**	**19 04 33.8**	**-0.8**
	baz=5.9,slow=32						
MANU	**Manus Island**	**5.18**	**269**		**Pn**	**19 05 11.8**	**-0.8**
MANU				Sn	**Sn**	**19 06 07.2**	**-4.8**
MANU	**Manus Island**	**5.18**	**269**	P	**Pn**	**19 05 12.8**	**+0.2**
PMG	**Port Moresby**	**9.17**	**216**	P	**Pn**	**19 06 10.3**	**+3.0**
PMG	**Port Moresby**	**9.17**	**216**	P	**Pn**	**19 06 10.0**	**+2.7**
PMG	**Port Moresby**	**9.17**	**216**	*d* iP	**Pn**	**19 06 09.4**	**+2.1**
PMG	**Port Moresby**	**9.17**	**216**	Pn	**Pn**	**19 06 08.3**	**+1.0**
	4.7nm,0.3s,baz=42,slow=13,SNR=23						
PMG				Sn	**Sn**	**19 07 48.6**	**-1.5**
	1.0nm,0.3s,baz=357,slow=18,SNR=0.8						
PMG				LR	LR	19 09 45.6	
	comp=Z,5μm,21.4s,baz=112,slow=39						
PATS	**Pohnpei**	**10.43**	**33**	P	**Pn**	**19 06 24.6**	**0.0**
	baz=11,SNR=27						
PATS				S	**Sn**	**19 08 16.4**	**-4.6**
	baz=11						
PATS	**Pohnpei**	**10.43**	**33**	Pn	**Pn**	**19 06 23.5**	**-1.0**
PATS				Sn	**Sn**	**19 08 14.9**	**-6.1**
PATS	**Pohnpei**	**10.43**	**33**	P	**Pn**	**19 06 25.6**	**+1.0**
HNR	**Honiara**	**10.48**	**136**		**Pn**	**19 06 26.8**	**+1.6**
HNR	**Honiara**	**10.48**	**136**	P	**Pn**	**19 06 28.2**	**+3.0**
HNR	**Honiara**	**10.48**	**136**	P	**Pn**	**19 06 26.8**	**+1.6**
HNR	**Honiara**	**10.48**	**136**	Pn	**Pn**	**19 06 27.8**	**+2.6**
	1μm,0.3s,baz=307,slow=3.4,SNR=54						
HNR				Sn	**Sn**	**19 08 19.7**	**-2.5**
	3μm,0.3s,baz=342,slow=18,SNR=16						
COEN	**Coen**	**15.13**	**217**	P	**Pn**	**19 07 28.6**	**-0.3**
	baz=15,SNR=15						
COEN	**Coen**	**15.13**	**217**		**Pn**	**19 07 28.9**	**0.0**
COEN	**Coen**	**15.13**	**217**	P	**Pn**	**19 07 30.5**	**+1.6**
MTSU	**Mount Surprise**	**18.03**	**206**	P	**Pn**	**19 08 06.0**	**+0.4**
	baz=18,SNR=14						
MTSU	**Mount Surprise**	**18.03**	**206**	P	**P**	**19 08 07.4**	**+1.4**
TV1H	**Townsville Har**	**18.13**	**198**	P	**P**	**19 08 08.3**	**+1.2**
CTA	**Charters Tower**	**19.08**	**198**	P	**P**	**19 08 17.9**	**+0.3**
	1.3nm,0.3s,baz=21,slow=13,SNR=21						
CTA				S	Sn	19 11 42.8	-9.0
	7.2nm,1.0s,baz=36,slow=19,SNR=1.4						
CTA				LR	LR	19 15 34.3	
	comp=Z,2μm,18.8s,baz=17,slow=37						
	36nm,0.8s						
CTAO	**Charters Tower**	**19.08**	**198**		**P**	**19 08 17.9**	**+0.3**
CTAO	**Charters Tower**	**19.08**	**198**	P	**P**	**19 08 18.9**	**+1.3**
CTAO	**Charters Tower**	**19.08**	**198**	P	**P**	**19 08 17.9**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,69nm,1.0s						
FAKI	**Fak Fak**	**20.31**	**267**	P	**P**	**19 08 30.7**	**-0.4**
FAKI				IAmb	IAmb	19 08 40.1	
	comp=Z,114nm,1.3s						
FAKI	**Fak Fak**	**20.31**	**267**	P	Pn	19 08 32.4	-0.8
FAKI	**Fak Fak**	**20.31**	**267**	P	**P**	**19 08 31.8**	**+0.7**
	comp=Z,102nm,1.4s,comp=Z,2μm						
TARA	**Tarawa**	**20.62**	**81**	P	**P**	**19 08 30.9**	**-3.6**
TARA	**Tarawa**	**20.62**	**81**	P	Pn	19 08 37.5	+0.7
SWI	**Sorong**	**21.31**	**273**	P	**P**	**19 08 44.5**	**+2.6**
SWI				pmax	pmax		
	comp=Z,118nm,1.4s						
SWI	**Sorong**	**21.31**	**273**	P	**P**	**19 08 48.1**	**+6.2**
	comp=Z,118nm,1.1s,comp=Z,1μmcomp=Z,2μm						
RK1H	**Rockhampton Ha**	**21.43**	**185**	P	**P**	**19 08 44.6**	**+1.5**
SAUI	**Saumlaki**	**22.00**	**253**	P	**P**	**19 08 46.9**	**-2.5**
SAUI	**Saumlaki**	**22.00**	**253**	P	**P**	**19 08 51.0**	**+1.6**
SAUI	**Saumlaki**	**22.00**	**253**	P	**P**	**19 08 53.2**	**+3.8**
	comp=Z,340nm,1.1s,comp=Z,5μm						
QIS	**Mount Isa**	**22.43**	**213**	P	**P**	**19 08 52.7**	**-1.2**
	baz=22,SNR=19						
QIS	**Mount Isa**	**22.43**	**213**	P	**P**	**19 08 52.9**	**-1.0**
KDU	**Kakadu**	**22.58**	**241**	P	**P**	**19 08 53.8**	**-1.8**
	baz=22,SNR=132						
KDU	**Kakadu**	**22.58**	**241**	P	**P**	**19 08 54.9**	**-0.6**
EIDS	**Eidsvold**	**23.36**	**183**	P	**P**	**19 09 04.2**	**+0.8**
	baz=23,SNR=4.7						
EIDS	**Eidsvold**	**23.36**	**183**	P	**P**	**19 09 01.5**	**-1.9**
EIDS				IAmb	IAmb	19 09 22.0	
	comp=Z,74nm,1.4s						
EIDS	**Eidsvold**	**23.36**	**183**	P	**P**	**19 09 04.9**	**+1.5**
MTN	**Manton Dam**	**23.82**	**242**	P	**P**	**19 09 06.9**	**-1.2**
	baz=24,SNR=10						
MTN	**Manton Dam**	**23.82**	**242**	P	**P**	**19 09 06.4**	**-1.7**
MTN	**Manton Dam**	**23.82**	**242**	P	**P**	**19 09 07.2**	**-0.9**
DRS	**Darwin Rock St**	**23.86**	**243**	P	**P**	**19 09 08.5**	**+0.1**
DZM	**Mont Dzumac**	**24.16**	**147**	P	**P**	**19 09 10.5**	**-0.8**
DZM				IAmb	IAmb	19 09 32.9	
	comp=Z,134nm,1.6s						
DZM	**Mont Dzumac**	**24.16**	**147**	P	**P**	**19 09 11.8**	**+0.5**
	comp=Z,26nm,0.9s,baz=330,slow=14,SNR=4.4						
	comp=Z,26nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**24.60**	**34**	T	T	19 35 50.4	
	baz=219,slow=75,SNR=56						
H11S2	**WAKE ISLAND Hy**	**24.60**	**34**	T	T	19 35 54.5	
	baz=219,slow=75,SNR=38						
H11S1	**WAKE ISLAND Hy**	**24.62**	**34**	T	T	19 35 56.8	
	baz=219,slow=75,SNR=37						
LBMI	**Labuha**	**25.08**	**273**	P	**P**	**19 09 25.4**	**+5.7**
	comp=Z,80nm,1.8s,comp=Z,2μm						
WB0	**Warramunga Arr**	**25.10**	**224**	P	**P**	**19 09 17.9**	**-1.9**
WB0				IAmb	IAmb	19 09 42.3	
	comp=Z,52nm,1.0s						
WR0	**Warramunga Arr**	**25.13**	**223**	P	**P**	**19 09 18.6**	**-1.4**
WR0				IAmb	IAmb	19 09 19.9	
	comp=Z,36nm,0.7s						
WRAB	**Tennant Creek**	**25.24**	**224**	P	**P**	**19 09 19.6**	**-1.4**
WRAB				IAmb	IAmb	19 09 20.9	
	comp=Z,48nm,0.7s						
WRAB	**Tennant Creek**	**25.24**	**224**	P	**P**	**19 09 19.7**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,48nm,0.7s						
WB2	**Warramunga Arr**	**25.25**	**224**	P	**P**	**19 09 19.4**	**-1.7**
WB2				IAmb	IAmb	19 09 20.9	
	comp=Z,48nm,0.6s						
WRA	**Warramunga Arr**	**25.25**	**224**	P	**P**	**19 09 18.5**	**-2.7**
WRA	**Warramunga Arr**	**25.25**	**224**	P	**P**	**19 09 19.6**	**-1.6**
	comp=Z,44nm,0.7s,baz=46,slow=9.4,SNR=200						
WRA				PcP	**PcP**	**19 12 54.3**	**-0.2**
	comp=Z,4.8nm,1.0s,baz=54,slow=1.9,SNR=4.6						
	comp=Z,44nm,0.7s						
WB1	**Warramunga Ar.**	**25.26**	**224**	P	**P**	**19 09 20.0**	**-1.3**
TNTI	**Ternate**	**25.32**	**276**	P	**P**	**19 09 17.9**	**-4.0**
NLAI	**Namlea**	**25.46**	**267**	P	**P**	**19 09 28.9**	**+5.8**
	comp=Z,56nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**25.70**	**33**	T	T	19 36 57.9	
	baz=218,slow=76						
H11N3	**WAKE ISLAND Hy**	**25.71**	**33**	T	T	19 37 05.3	
	baz=218,slow=76						
H11N2	**WAKE ISLAND Hy**	**25.71**	**33**	T	T	19 36 57.9	
	baz=218,slow=76						
QLP	**Quilpie**	**25.79**	**197**	P	**P**	**19 09 26.6**	**+0.7**
	baz=26,SNR=7.4						
QLP	**Quilpie**	**25.79**	**197**	P	**P**	**19 09 28.2**	**+2.3**
SANI	**Sanana**	**26.55**	**269**	P	**P**	**19 09 34.4**	**+1.4**
SANI	**Sanana**	**26.55**	**269**	P	**P**	**19 09 38.6**	**+5.6**
	comp=Z,37nm,0.9s,comp=Z,941nm						
KNRA	**Kununurra**	**27.14**	**238**	P	**P**	**19 09 37.1**	**-1.2**
	baz=27,SNR=43						
KNRA	**Kununurra**	**27.14**	**238**	P	**P**	**19 09 36.9**	**-1.4**
KNRA	**Kununurra**	**27.14**	**238**	P	**P**	**19 09 39.9**	**+1.6**
FUNA	**Funafuti**	**27.32**	**105**	P	**P**	**19 09 38.1**	**-1.7**
AULRC	**Lightning Ridg**	**27.70**	**189**	P	**P**	**19 09 43.8**	**+0.7**
INKA	**Innaminka**	**28.05**	**203**	P	**P**	**19 09 46.9**	**+0.6**
AS01	**Alice Springs**	**28.14**	**218**	P	**P**	**19 09 45.5**	**-1.7**
AS31	**Alice Springs**	**28.17**	**218**	P	**P**	**19 09 45.3**	**-2.1**
ASAR	**Alice Springs**	**28.17**	**218**	P	**P**	**19 09 45.6**	**-1.9**
ASAR					**PcP**	**19 13 00.7**	**-0.6**
ASAR	**Alice Springs**	**28.17**	**218**	P	**P**	**19 09 45.5**	**-1.9**
	comp=Z,5.9nm,0.7s,baz=50,slow=8.3,SNR=66						
ASAR				PcP	**PcP**	**19 13 01.2**	**-0.1**
	comp=Z,5.3nm,1.0s,baz=46,slow=3.3,SNR=6.1						
ASAR				LR	LR	19 21 59.5	
	comp=Z,1μm,19.1s,baz=45,slow=39						
	comp=Z,5.9nm,0.7s						
ARMA	**Armidale**	**28.36**	**182**	P	**P**	**19 09 49.9**	**+0.8**
	baz=28,SNR=6.3						
ARMA	**Armidale**	**28.36**	**182**	P	**P**	**19 09 49.2**	**+0.1**
ARMA				IAmb	IAmb	19 09 51.8	
	comp=Z,55nm,1.3s						
ARMA	**Armidale**	**28.36**	**182**	P	**P**	**19 09 52.4**	**+3.3**
DAV	**Davao City (W)**	**28.36**	**289**	LR	LR	19 20 13.3	
	comp=Z,369nm,19.8s,baz=93,slow=35						
AUPHS	**Peel High Scho**	**29.07**	**183**	P	**P**	**19 09 58.3**	**+3.0**
SOEI	**Soe**	**29.17**	**253**	P	**P**	**19 09 55.5**	**-1.1**
MSVF	**Nonsavu**	**29.56**	**124**	P	**P**	**19 10 00.1**	**+0.2**
MSVF				IAmb	IAmb	19 10 03.9	
	comp=Z,63nm,1.2s						
MSVF	**Nonsavu**	**29.56**	**124**	P	**P**	**19 10 02.4**	**+2.5**
MSVF	**Nonsavu**	**29.56**	**124**	ǁ*eP*	**P**	**19 10 00.4**	**+0.5**
MSVF				pmax	pmax		
	comp=Z,24nm,1.1s						
GTOI	**Gorontalo**	**29.65**	**275**	P	P	19 10 08.1	+7.4
	comp=Z,15nm,1.1s						
LUWI	**Luwuk**	**29.78**	**271**	P	**P**	**19 09 60.0**	**-1.9**
LUWI	**Luwuk**	**29.78**	**271**	P	P	19 10 08.5	+6.6
	comp=Z,49nm,2.0s,comp=Z,839nm						
BATI	**Baumata**	**29.86**	**253**	LR	LR	19 24 26.0	
	comp=Z,2μm,19.8s,baz=116,slow=41						
LHI	**Lord Howe Isla**	**30.08**	**169**	P	**P**	**19 10 03.6**	**-0.7**
CMSA	**Cobar Meteorol**	**30.16**	**192**	P	**P**	**19 10 04.3**	**-0.7**
	baz=30,SNR=13						
CMSA	**Cobar Meteorol**	**30.16**	**192**	P	**P**	**19 10 06.2**	**+1.2**
DGTI	**Dogotuki**	**30.34**	**120**	P	**P**	**19 10 08.4**	**+1.6**
OOD	**Oodnadatta**	**30.37**	**211**	P	**P**	**19 10 06.3**	**-0.6**
JCJ	**Chichijima**	**30.53**	**342**	P	**P**	**19 10 06.0**	**-2.3**
JCJ	**Chichijima**	**30.53**	**342**	LR	LR	19 20 39.6	
	comp=Z,658nm,21.7s,baz=190,slow=33						
TAVE	**Taveuni**	**30.82**	**120**	P	**P**	**19 10 14.0**	**+3.0**
FITZ	**Fitzroy Crossi**	**30.91**	**237**	P	**P**	**19 10 10.1**	**-1.7**
	baz=31,SNR=23						
FITZ	**Fitzroy Crossi**	**30.91**	**237**	P	**P**	**19 10 10.1**	**-1.7**
FITZ	**Fitzroy Crossi**	**30.91**	**237**	P	**P**	**19 10 11.7**	**-0.1**
EDFI	**Ende, Flores**	**31.45**	**256**	P	**P**	**19 10 20.0**	**+3.3**
	comp=Z,20nm,1.0s,comp=Z,477nm						
LCRK	**Leigh Creek**	**31.46**	**204**	P	**P**	**19 10 15.5**	**-1.0**
STKA	**Stephens Creek**	**31.54**	**198**	P	**P**	**19 10 16.2**	**-0.9**
	baz=32,SNR=17						
STKA	**Stephens Creek**	**31.54**	**198**	P	**P**	**19 10 15.6**	**-1.6**
STKA	**Stephens Creek**	**31.54**	**198**	P	**P**	**19 10 17.3**	**+0.1**
STKA	**Stephens Creek**	**31.54**	**198**	*ce*P	**P**	**19 10 16.3**	**-0.9**
STKA	**Stephens Creek**	**31.54**	**198**	P	**P**	**19 10 16.0**	**-1.2**
	comp=Z,13nm,0.8s,baz=22,slow=11,SNR=32						
STKA				LR	LR	19 23 46.4	
	comp=Z,1μm,18.1s,baz=18,slow=38						
	comp=Z,13nm,0.8s						
TOLI2	**Tolitoli**	**31.91**	**275**	P	**P**	**19 10 19.5**	**-1.2**
YNG	**Young**	**32.45**	**186**	P	**P**	**19 10 25.9**	**+0.8**
	baz=32,SNR=5.5						
YNG	**Young**	**32.45**	**186**	P	**P**	**19 10 26.9**	**+1.8**
WRKA	**Warakurna**	**32.80**	**223**	P	**P**	**19 10 26.0**	**-2.4**
	baz=33,SNR=58						
WRKA	**Warakurna**	**32.80**	**223**	P	**P**	**19 10 26.5**	**-1.9**
BASI	**Baing, Sumba**	**32.82**	**254**	P	**P**	**19 10 31.5**	**+2.9**
	comp=Z,172nm,1.2s						
KAPI	**Kappang**	**32.88**	**264**	P	**P**	**19 10 27.4**	**-1.8**
KAPI				IAmb	IAmb	19 10 57.6	
	comp=Z,25nm,1.1s						
KAPI	**Kappang**	**32.88**	**264**	P	**P**	**19 10 29.7**	**+0.5**
KAPI	**Kappang**	**32.88**	**264**	P	**P**	**19 10 27.4**	**-1.8**
KAPI				pmax	pmax		
	comp=Z,25nm,1.1s						
MULG	**Mulgathing**	**33.22**	**210**	P	**P**	**19 10 30.5**	**-1.4**
CNB	**Canberra Magne**	**33.36**	**185**	P	**P**	**19 10 34.6**	**+1.4**
	baz=34,SNR=5.2						
CNB	**Canberra Magne**	**33.36**	**185**	P	**P**	**19 10 34.6**	**+1.4**
CAN	**Canberra**	**33.40**	**185**	P	**P**	**19 10 33.7**	**+0.3**
CAN				IAmb	IAmb	19 10 35.9	
	comp=Z,58nm,1.4s						
CAN	**Canberra**	**33.40**	**185**	P	**P**	**19 10 35.1**	**+1.6**
CAN	**Canberra**	**33.40**	**185**	P	**P**	**19 10 33.7**	**+0.3**
CAN				pmax	pmax		
	comp=Z,58nm,1.4s						
HTT	**Hallett**	**33.85**	**201**	P	**P**	**19 10 36.8**	**-0.7**
	baz=34,SNR=30						
HTT	**Hallett**	**33.85**	**201**	P	**P**	**19 10 37.3**	**-0.2**
HTT	**Hallett**	**33.85**	**201**	P	**P**	**19 10 35.4**	**-2.1**
WHYH	**Whyalla**	**33.99**	**203**	P	**P**	**19 10 37.6**	**-1.0**
BBOO	**Buckleboo**	**34.41**	**205**	P	**P**	**19 10 40.6**	**-1.7**
	baz=34,SNR=46						
BBOO	**Buckleboo**	**34.41**	**205**	P	**P**	**19 10 40.7**	**-1.6**
BBOO				IAmb	IAmb	19 10 41.9	
	comp=Z,32nm,0.8s						
BBOO	**Buckleboo**	**34.41**	**205**	P	**P**	**19 10 42.0**	**-0.3**
TGY	**Tagaytay City**	**35.14**	**298**	LR	LR	19 23 00.8	
	comp=Z,528nm,20.2s,baz=107,slow=33						
PLAI	**Plampang**	**35.27**	**257**	P	**P**	**19 10 49.3**	**-0.7**
ARPS	**Mount Arapiles**	**36.06**	**195**	P	**P**	**19 10 57.5**	**+1.1**
	baz=36,SNR=25						
ARPS	**Mount Arapiles**	**36.06**	**195**	P	**P**	**19 10 56.4**	**0.0**
TOO	**Toolangi**	**36.07**	**190**	P	**P**	**19 10 57.2**	**+0.7**
	baz=36,SNR=5.6						
TOO	**Toolangi**	**36.07**	**190**	P	**P**	**19 10 57.7**	**+1.2**
TOO	**Toolangi**	**36.07**	**190**	P	**P**	**19 10 59.2**	**+2.7**
TOO	**Toolangi**	**36.07**	**190**	P	**P**	**19 10 57.7**	**+1.2**
TOO				pmax	pmax		
	comp=Z,31nm,1.3s						
TWSI	**Taliwang, Sumb**	**36.13**	**258**	P	**P**	**19 11 00.9**	**+3.5**
	comp=Z,15nm,0.8s						
BRAT	**Ballarat**	**36.33**	**192**	P	**P**	**19 11 00.9**	**+2.2**
JHJ2	**Mitsune**	**36.86**	**342**	P	**P**	**19 11 02.0**	**-1.2**
JHJ	**Hachijo jima 2**	**36.88**	**342**	LR	LR	19 25 57.3	
	comp=Z,457nm,18.3s,baz=20,slow=36						
FORT	**Forest**	**36.90**	**216**	P	**P**	**19 11 01.5**	**-2.1**
	baz=37,SNR=16						
FORT	**Forest**	**36.90**	**216**	P	**P**	**19 11 00.6**	**-3.0**
FORT	**Forest**	**36.90**	**216**	P	**P**	**19 11 04.8**	**+1.1**
JOW	**Kunigami**	**36.95**	**322**	P	**P**	**19 11 04.3**	**+0.1**
JOW				IAmb	IAmb	19 11 07.1	
	comp=Z,54nm,1.0s						
JOW	**Kunigami**	**36.95**	**322**	LR	LR	19 25 33.0	
	comp=Z,396nm,19.2s,baz=118,slow=35						
KKM	**Kota Kinabalu**	**37.14**	**283**	P	**P**	**19 11 05.0**	**-1.0**
KKM				IAmb	IAmb	19 12 06.5	
	comp=Z,46nm,1.2s						
AFI	**Afiamalu**	**37.21**	**111**	P	**P**	**19 11 06.5**	**-0.2**
AFI	**Afiamalu**	**37.21**	**111**	P	**P**	**19 11 06.5**	**-0.2**
AFI				pmax	pmax		
	comp=Z,151nm,1.7s						
MBWA	**Marble Bar**	**37.26**	**237**	P	**P**	**19 11 04.8**	**-2.0**
MBWA				IAmb	IAmb	19 11 17.8	
	comp=Z,104nm,1.9s						
PSA00	**Pilbara Seismi**	**37.35**	**236**	P	**P**	**19 11 05.9**	**-1.8**
PSA00	**Pilbara Seismi**	**37.35**	**236**	P	**P**	**19 11 05.8**	**-1.9**
PSA00				IAmb	IAmb	19 11 14.4	
	comp=Z,53nm,1.9s						
PSA00	**Pilbara Seismi**	**37.35**	**236**	P	**P**	**19 11 08.3**	**+0.7**
JAGI	**Jajag, Banyuwa**	**38.77**	**259**	P	**P**	**19 11 17.7**	**-2.0**
RAO	**Raoul Island**	**39.09**	**137**	LR	LR	19 26 02.7	
	comp=Z,546nm,18.7s,baz=279,slow=34						
YULB	**Yu-li**	**39.48**	**311**	P	**P**	**19 11 24.1**	**-1.4**
YULB				IAmb	IAmb	19 11 41.7	
	comp=Z,159nm,1.8s						
NACB	**Ninganchiao**	**39.72**	**313**	P	**P**	**19 11 26.4**	**-1.0**
TPUB	**Ta-pu**	**39.93**	**311**	P	**P**	**19 11 28.0**	**-

NWAO **Narrogin (SRO)** **45.26 223** LR LR 19 32 06.2
comp=Z,583nm,18.2s,baz=48,slow=38
KSRS **Korea Array** **45.34 332** P **P** **19 12 13.8 +0.8**
comp=Z,5.3nm,0.9s,baz=148,slow=9.3,SNR=19
KSRS PcP **PcP** **19 13 53.1 +0.6**
comp=Z,1.2nm,0.7s,baz=136,slow=4.8,SNR=2.1
KSRS LR LR 19 31 04.4
comp=Z,235nm,18.1s,baz=155,slow=36
comp=Z,5.3nm,0.9s
MLZ **Mavora Lakes** **45.38 165** P **P** **19 12 13.0 -0.3**
NJ2 **Nanjing** **46.49 319** *e*P **P** **19 12 24.3 +2.1**
NJ2 sP **pwP** **19 12 31.4 -2.1**
NJ2 S **S** **19 19 04.8 -5.0**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 LR LR
comp=Z,670nm,12.8s
NJ2 LR LR
comp=Z,380nm,11.4s
NJ2 LR LR
comp=Z,500nm,18.6s
ASAJ **Asahikawa** **46.69 350** LR LR 19 28 06.4
comp=Z,185nm,21.1s,baz=168,slow=31
QIZ **Qiongzhong** **46.85 298** P **P** **19 12 25.4 +0.2**
QIZ S **S** **19 19 17.1 +1.8**
QIZ pmax pmax
comp=Z,45nm,1.7s
QIZ LR LR
comp=Z,370nm,17.2s
QIZ LR LR
comp=Z,540nm,18.1s
QIZ LR LR
comp=Z,660nm,22.6s
KASI **Kota Agung** **48.08 264** P P 19 12 46.6 +12
VLA **Vladivostok** **48.55 340**⇑ *e*P **P** **19 12 38.8 +0.9**
VLA pmax pmax
comp=Z,13nm,1.0s
YSS **Yuzh-Sakhalins** **49.43 351** *e*P P 19 12 38.2 -6.4
YSS *e*S S 19 19 42.0 -8.9
YSS *e*PS PKiKP 19 19 58.3 -56
YSS *e*SS SS 19 23 12.0 -11
YSS pmax pmax
comp=Z,10.0nm,1.3s
USA0B **Ussuriysk Arra** **49.47 341**⇑ *e*P **P** **19 12 45.9 +0.9**
USRK **Ussuriysk Ar.** **49.47 341** P **P** **19 12 45.0 0.0**
USRK PcP **PcP** **19 14 07.4 +0.4**
USRK **Ussuriysk Ar.** **49.47 341** P **P** **19 12 45.0 0.0**
USRK 19 14 07.4
USRK **Ussuriysk Ar.** **49.47 341** P **P** **19 12 45.7 +0.7**
comp=Z,4.9nm,0.6s,baz=153,slow=5.5,SNR=14
USRK PcP **PcP** **19 14 07.5 +0.5**
comp=Z,3.5nm,0.7s,baz=134,slow=4.2,SNR=2.6
USRK LR LR 19 33 47.4
comp=Z,210nm,18.1s,baz=153,slow=36
comp=Z,4.9nm,0.6s
MDJ **Mudanjiang** **50.66 339** P **P** **19 12 54.7 +0.6**
MDJ sP sP 19 12 59.0 -0.9
MDJ PcP **PcP** **19 14 11.8 +0.4**
MDJ ScP **ScP** **19 18 07.8 +0.9**
MDJ PcS **PcS** **19 18 09.1 +0.5**
MDJ S **S** **19 20 10.7 +2.5**
MDJ sS sS 19 20 17.6 +2.3
MDJ pmax pmax
comp=Z,7.0nm,0.9s
MDJ pmax pmax
comp=Z,210nm,4.1s
MDJ LR LR
comp=Z,450nm,20.3s
MDJ LR LR
comp=Z,410nm,19.6s
MDJ LR LR
comp=Z,470nm,22.0s
CN2 **Changchun** **51.59 335** *e*P **P** **19 13 04.5 +3.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
ENH **Enshi** **52.05 311** P **P** **19 13 03.9 -1.0**
ENH **Enshi** **52.05 311** P **P** **19 13 06.1 +1.3**
BNX **BinXian** **52.42 338** ⇓P **P** **19 13 07.8 +0.5**
BNX pmax pmax
comp=Z,26nm,1.0s
BNX pmax pmax
comp=Z,140nm,3.8s
GYA **Guiyang** **52.49 306** ⇓P **P** **19 13 10.1 +1.8**
GYA pmax pmax
comp=Z,11nm,1.5s
HNS **HongShan** **52.53 322** ⇑P **P** **19 13 08.9 +0.7**
HNS S **S** **19 20 38.1 +3.9**
HNS pmax pmax
comp=Z,11nm,0.8s
HNS LR LR
comp=Z,170nm,17.2s
HNS LR LR
comp=Z,290nm,20.6s
HNS LR LR
comp=Z,410nm,19.6s
NONG **Nongkai** **52.53 294** P **P** **19 13 09.9 +1.4**
SLVN **Son La** **52.87 299** P **P** **19 13 09.8 -1.4**
SLVN IAmb IAmb 19 13 27.1
comp=Z,33nm,1.5s
BJI **Beijing** **53.38 325** P **P** **19 13 15.3 +0.8**
BJI S **S** **19 20 44.6 -1.2**
BJI pmax pmax
comp=Z,4.0nm,1.4s
BJI LR LR
comp=Z,190nm,19.5s
BJI LR LR
comp=Z,97nm,17.6s
BJI LR LR
comp=Z,210nm,16.8s
SISI **Saibi** **53.44 270** P P 19 13 29.3 +14
KLR **Kul'dur** **54.03 343** *ce*P **P** **19 13 19.7 +0.7**
KLR pmax pmax
comp=Z,24nm,1.7s
KLR **Kul'dur** **54.03 343** LR LR 19 34 27.4
comp=Z,178nm,21.7s,baz=152,slow=34
XAN **Xi'an** **54.40 315** ⇑P **P** **19 13 22.2 +0.1**
XAN pmax pmax
comp=Z,17nm,0.8s
XAN LR LR
comp=Z,630nm,18.1s
XAN LR LR
comp=Z,600nm,18.4s
XAN LR LR
comp=Z,960nm,20.3s
PETK **Petropavlovsk-** **55.00 4** P **P** **19 13 27.1 +1.1**
comp=Z,14nm,0.6s,baz=173,slow=6.9,SNR=40
comp=Z,14nm,0.6s
KCSI **Kotacane, Aceh** **55.02 276** P P 19 13 44.8 +18
KMI **Kunming** **55.21 303** ⇑P **P** **19 13 29.1 +0.8**
KMI sP sP 19 13 35.0 +0.8
KMI pmax pmax
comp=Z,13nm,0.8s
KMI pmax pmax
comp=Z,190nm,6.1s
KMI LR LR
comp=Z,400nm,14.5s
KMI LR LR
comp=Z,330nm,22.1s
KMI LR LR
comp=Z,440nm,25.0s
PHRA **Phrae** **55.31 294** P **P** **19 13 29.2 +0.4**
CRAI **Chiangrai** **55.66 296** IAmb IAmb 19 13 48.2
comp=Z,52nm,1.3s
XLT **XiLinHaoTe** **56.08 329**⇑ *i*P **P** **19 13 34.9 +0.8**
XLT pP pwP 19 13 42.8 -2.7
XLT PcP **PcP** **19 14 32.9 +0.8**
XLT S **S** **19 21 19.5 -2.7**
XLT sS sS 19 21 31.4 +1.9
XLT SS **SS** **19 25 06.9 -1.9**
XLT pmax pmax
comp=Z,13nm,0.7s
XLT pmax pmax
comp=Z,160nm,4.4s
XLT LR LR
comp=Z,45nm,22.5s
XLT LR LR
comp=Z,410nm,18.7s
XLT LR LR
comp=Z,390nm,18.7s
HEH **HeiHe** **56.27 341** *e*P **P** **19 13 35.3 +0.1**
HEH pmax pmax
comp=Z,18nm,0.7s
HEH pmax pmax
comp=Z,140nm,5.4s
HEH LR LR
comp=Z,230nm,14.7s
HEH LR LR
comp=Z,230nm,15.3s
HEH LR LR
comp=Z,500nm,15.0s
CM31 **Chiang Mai Arr** **56.47 294** P **P** **19 13 37.4 +0.1**
CM31 IAmb IAmb 19 13 54.0
comp=Z,26nm,0.9s
CMAR **Chiang Mai Arr** **56.47 294** P **P** **19 13 37.7 +0.5**
CMAR **Chiang Mai Arr** **56.47 294** P **P** **19 13 37.7 +0.5**
CMAR **Chiang Mai Arr** **56.47 294** P **P** **19 13 38.7 +1.5**
comp=Z,4.1nm,0.8s,baz=106,slow=5.3,SNR=34
CMAR PKPPKP **P'P'df** **19 43 33.0 -1.6**
comp=Z,0.9nm,0.9s,baz=282,slow=4.5,SNR=6.2
CMAR PKP2bc 19 43 45.7
comp=Z,1.4nm,1.1s,baz=290,slow=2.6,SNR=4.1
comp=Z,4.1nm,0.8s
PZH **PanZhiHua** **56.55 304** P **PKiKP** **19 21 00.1 -3.0**
PZH pmax pmax
comp=Z,10.0nm,1.3s
PZH pmax pmax
comp=Z,110nm,5.1s
PZH **PanZhiHua** **56.55 304** P **P** **19 13 38.6 +0.8**
PZH sP **pwP** **19 13 45.9 -3.2**
PZH PcP **PcP** **19 14 36.6 +2.2**
PZH S **S** **19 21 25.8 -3.3**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,180nm,6.1s
PZH LR LR
comp=Z,250nm,20.2s
PZH LR LR
comp=Z,270nm,20.0s
PZH LR LR
comp=Z,370nm,20.6s
CHTO **Chiang Mai** **56.56 294** P **P** **19 13 38.7 +0.8**
CHTO IAmb IAmb 19 13 54.3
comp=Z,56nm,1.5s
CHTO **Chiang Mai** **56.56 294** P **P** **19 13 38.5 +0.6**
CHTO **Chiang Mai** **56.56 294** P **P** **19 13 38.7 +0.8**
CHTO pmax pmax
comp=Z,56nm,1.5s
HHC **Hu-ho-hao-te** **56.59 323** *e*P **P** **19 13 39.5 +1.7**
HHC pP sP 19 13 43.9 +0.2
HHC sP pwP 19 13 46.6 -2.7
HHC *e*S **S** **19 21 36.6 +7.5**
HHC sS sS 19 21 43.2 +6.8
HHC SS **SS** **19 25 18.6 +1.7**
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,170nm,4.2s
HHC LR LR
comp=Z,300nm,18.5s
HHC LR LR
comp=Z,400nm,17.5s
HHC LR LR
comp=Z,630nm,19.3s
CD2 **Chengdu** **56.71 309** P **P** **19 13 39.2 +0.4**
CD2 S **S** **19 21 32.9 +2.0**
CD2 sS sS 19 21 40.5 +2.9
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,210nm,6.7s
CD2 LR LR
comp=Z,580nm,17.5s
CD2 LR LR
comp=Z,440nm,19.0s
CD2 LR LR
comp=Z,390nm,19.7s
BTO **Baotou** **57.37 322** *e*P **P** **19 13 46.5 +3.1**
BTO pP **pwP** **19 13 51.1 -3.7**
BTO sP **sP** **19 13 53.6 +4.4**
BTO PP **PP** **19 15 56.4 +5.5**
BTO pmax pmax
comp=Z,26nm,1.4s
BTO pmax pmax
comp=Z,260nm,5.1s
BTO LR LR
comp=Z,690nm,19.7s
BTO LR LR
comp=Z,480nm,22.2s
BTO LR LR
comp=Z,880nm,21.0s
TNCH **TengChong** **58.77 301** P **P** **19 13 54.6 +1.1**
TNCH pP sP 19 13 57.4 -2.0
TNCH S **S** **19 21 58.1 -0.3**
TNCH pmax pmax
comp=Z,16nm,0.7s
TNCH pmax pmax
comp=Z,72nm,3.9s
TNCH LR LR
comp=Z,110nm,12.4s
TNCH LR LR
comp=Z,240nm,13.6s
TNCH LR LR
comp=Z,230nm,12.2s
LZH **Lanzhou** **59.02 315** ⇑P **P** **19 13 58.5 +3.4**
LZH pP pwP 19 14 04.3 -2.3
LZH S **S** **19 21 56.2 -5.1**
LZH pmax pmax
comp=Z,13nm,1.1s
LZH LR LR
comp=Z,470nm,13.1s
LZH LR LR
comp=Z,300nm,13.9s
LZH LR LR
comp=Z,600nm,16.5s
ZEA **Zeya** **59.34 343** *e*P **P** **19 13 57.3 +0.6**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=N,200nm,16.0s
MA2 **Magadan** **61.33 359** LR LR 19 41 40.3
comp=N,154nm,18.5s,baz=137,slow=37
GTA **Gaotai** **63.40 316** P **P** **19 14 26.2 +1.5**
GTA sP pwP 19 14 31.9 -4.3
GTA S **S** **19 22 55.1 -1.7**
GTA pmax pmax
comp=N,13nm,0.9s
GTA LR LR
comp=N,210nm,19.3s
GTA LR LR
comp=N,220nm,21.8s
GTA LR LR
comp=N,310nm,21.4s
ULN **Ulaanbaatar** **63.44 328** P **P** **19 14 24.6 -0.2**
ULN IAmb IAmb 19 14 46.7
comp=Z,28nm,1.4s
ULN **Ulaanbaatar** **63.44 328**⇑ *e*P **P** **19 14 26.1 +1.3**
ULN pmax pmax
comp=Z,14nm,1.7s
SONM **Songino Array** **63.78 327** P **P** **19 14 26.7 -0.3**
SONM IAmb IAmb 19 14 49.5
comp=Z,24nm,1.6s
SONM **Songino Array** **63.78 327** P **P** **19 14 26.7 -0.3**
SONM pmax pmax
comp=Z,25nm,1.6s
SONM **Songino Array** **63.78 327** P **P** **19 14 28.1 +1.2**
comp=Z,3.1nm,0.6s,baz=145,slow=5.4,SNR=24
SONM PKP2bc 19 43 26.0
comp=Z,3.9nm,1.2s,baz=301,slow=1.1,SNR=8.5
comp=Z,3.1nm,0.6s
SEY **Seymchan** **64.68 360**⇑ *e*P **P** **19 14 33.8 +1.4**
SEY pmax pmax
comp=Z,13nm,1.7s
SEY **Seymchan** **64.68 360** LR LR 19 37 49.6
comp=Z,224nm,21.9s,baz=188,slow=32
GOMU **GeErMu** **65.67 311** P **P** **19 14 41.7 +1.8**
GOMU S **S** **19 23 27.9 +2.4**
GOMU pmax pmax
comp=Z,6.0nm,0.9s
GOMU LR LR
comp=Z,160nm,17.1s
GOMU LR LR
comp=Z,170nm,17.7s
GOMU LR LR
comp=Z,250nm,18.2s
YAK **Yakutsk** **66.12 348** P **P** **19 14 41.1 -0.7**
YAK **Yakutsk** **66.12 348** *e*P **P** **19 14 42.1 +0.4**
YAK *e**PP **sP** **19 14 48.5 +0.9**
YAK *e* 19 15 09.9
YAK *e* 19 17 07.3
YAK *e*S **S** **19 23 29.8 +0.6**
YAK *e**SS sS 19 23 49.4 +13
YAK *e* 19 24 40.0
YAK *e*SS **SS** **19 27 49.6 +4.5**
YAK pmax pmax
comp=Z,28nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,2.0s
YAK pmax pmax
comp=Z,95nm,3.8s
YAK pmax pmax
comp=N,128nm,4.1s
YAK pmax pmax
comp=E,121nm,7.1s
YAK smax smax
comp=E,307nm,7.2s
YAK smax smax
comp=N,135nm,5.9s
YAK MLR MLR
comp=Z,186nm,17.0s
YAK MLR MLR
comp=N,84nm,19.0s
YAK MLR MLR
comp=E,17nm,15.0s
YAK **Yakutsk** **66.12 348** LR LR 19 41 48.2
comp=E,159nm,22.0s,slow=34
LSA **Lhasa** **66.43 304** P **P** **19 14 46.1 +1.1**
LSA IAmb IAmb 19 15 02.1
comp=Z,26nm,1.1s
LSA **Lhasa** **66.43 304** P **P** **19 14 46.1 +1.1**
LSA pmax pmax
comp=Z,26nm,1.1s
ZAK **Zakamensk** **66.93 328** *e*P **P** **19 14 47.0 -0.3**
ZAK pmax pmax
comp=Z,10.0nm,1.3s
BOD **Bodaibo** **67.03 339** *e*P **P** **19 14 48.2 +0.5**
BOD pmax pmax
comp=Z,16nm,1.7s
BILL **Bilibino** **70.47 5** P **P** **19 15 09.0 +0.1**
BILL IAmb IAmb 19 15 11.5
comp=Z,13nm,0.9s
BILL **Bilibino** **70.47 5** *e*P **P** **19 15 09.8 +0.9**
BILL pmax pmax
comp=Z,15nm,1.0s
M13K **Dall Lake** **70.90 21** P **P** **19 15 11.4 -0.2**
baz=227
O14K **Tigyukauivet M** **70.92 23** P **P** **19 15 12.0 +0.2**
baz=230
O15K **Ungalikthiuk R** **71.44 24** P **P** **19 15 15.2 +0.3**
baz=231
M14K **Bethel** **71.63 22** P **P** **19 15 17.4 +1.4**
baz=229
L14K **Kuka Creek** **71.77 21** P **P** **19 15 18.6 +1.7**
baz=228
N15K **Kwethluk River** **71.96 23** P **P** **19 15 19.9 +1.9**
baz=231
M15K **Kasigluk River** **72.07 22** P **P** **19 15 19.7 +1.0**
baz=230
P16K **Nushagak River** **72.09 24** P **P** **19 15 19.4 +0.5**
baz=233
PALK **Pallekele** **72.26 278** LR LR 19 47 49.6
comp=Z,49nm,19.8s,baz=193,slow=36
SII **Sitkinak Islan** **72.35 28** P **P** **19 15 20.3 -0.2**
baz=237
O16K **Kokwok River B** **72.39 24** P **P** **19 15 20.7 0.0**
baz=233
L15K **Ungalak Mounta** **72.42 21** P **P** **19 15 21.2 +0.4**
baz=229
J14K **Nanvaranak Lak** **72.42 20** P **P** **19 15 22.1 +1.4**
baz=227
Q17K **Contact Creek** **72.53 26** P **P** **19 15 22.9 +1.3**
baz=235
N16K **Nishlik Lake** **72.67 23** P **P** **19 15 24.0 +1.7**
baz=232
K15K **Wolf Creek Mou** **72.81 21** IAmb IAmb 19 15 27.0
comp=Z,26nm,1.1s
K15K **Wolf Creek Mou** **72.81 21** P **P** **19 15 24.8 +1.7**
baz=229
O17K **Koliganek Bris** **72.91 24** P **P** **19 15 25.9 +2.2**
baz=234
M16K **Timber Creek** **72.93 22** P **P** **19 15 25.5 +1.6**
baz=232
TNA **Tin City** **73.11 16** P **P** **19 15 27.0 +2.2**
baz=222
OHAK **Old Harbor** **73.12 27** P **P** **19 15 26.3 +1.3**
baz=238
ANM **Nome** **73.12 18** P **P** **19 15 24.9 0.0**
ANM IAmb IAmb 19 15 28.2
comp=Z,16nm,1.0s
ANM **Nome** **73.12 18** P **P** **19 15 24.9 0.0**
ANM pmax pmax
comp=Z,16nm,1.0s
ANM **Nome** **73.12 18** P **P** **19 15 26.6 +1.7**
baz=224,SNR=5.2
L16K **Owhat River** **73.17 22** P **P** **19 15 26.7 +1.5**
baz=231
N17K **Nushagak Hills** **73.32 23** P **P** **19 15 28.3 +2.2**
baz=233
WMQ **Urumqi** **73.48 317**⇓ *i*P **P** **19 15 29.7 +2.1**
WMQ sP PcP 19 15 42.8 -0.8
WMQ pmax pmax
comp=Z,17nm,1.3s
WMQ LR LR
comp=Z,300nm,24.1s
F14K **Arctic Creek** **73.50 17** P **P** **19 15 29.0 +1.9**
baz=223
KDAK **Kodiak Island** **73.74 27** P **P** **19 15 28.5 -0.2**
baz=238
KDAK **Kodiak Island** **73.74 27** LR LR 19 45 52.0
comp=Z,234nm,18.3s,baz=277,slow=34
M17K **Holitna River** **73.75 23** P **P** **19 15 30.7 +2.0**
baz=233
J16K **Anvik River** **73.78 20** P **P** **19 15 31.1 +2.2**
baz=229
G15K **Niukluk** **73.83 18** P **P** **19 15 31.0 +1.9**
baz=226
L17K **Donlin** **73.87 22** P **P** **19 15 31.6 +2.2**
baz=232
Q19K **Cape Douglas,** **73.88 26** P **P** **19 15 30.8 +1.3**
baz=237
N18K **Kilae Creek** **73.93 24** P **P** **19 15 31.3 +1.6**
baz=235
H16K **Elim** **74.14 19** P **P** **19 15 32.4 +1.5**
baz=228
I17K **Unalakleet** **74.15 20** P **P** **19 15 32.5 +1.6**
baz=229
F15K **North Star Dit** **74.15 17** P **P** **19 15 32.7 +1.7**
baz=225
K17K **Iditarod** **74.23 21** P **P** **19 15 33.5 +2.0**
baz=232
M18K **Stony River** **74.42 23** P **P** **19 15 33.8 +1.2**
baz=234
P19K **Oil Pt** **74.45 25** P **P** **19 15 33.8 +0.9**
baz=237
L18K **Granite Mounta** **74.53 22** P **P** **19 15 34.7 +1.5**
baz=233
N19K **Bonanza Creek** **74.57 24** P **P** **19 15 34.9 +1.3**
baz=236
G16K **Koyuk River** **74.62 18** P **P** **19 15 35.5 +1.8**
baz=227
TIXI **Tiksi** **75.03 352** P **P** **19 15 34.9 -1.0**
TIXI **Tiksi** **75.03 352**⇓ *e*P **P** **19 15 35.8 -0.1**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
H17K **Granite Mounta** **75.09 19** IAmb IAmb 19 15 39.9
comp=Z,17nm,0.9s
H17K **Granite Mounta** **75.09 19** P **P** **19 15 38.2 +1.8**
baz=230
TTA **Tatalina** **75.20 22** P **P** **19 15 38.0 +0.8**
TTA IAmb IAmb 19 15 39.0
comp=Z,60nm,2.0s
TTA **Tatalina** **75.20 22** P **P** **19 15 38.0 +0.8**
TTA pmax pmax
comp=Z,60nm,2.0s
TTA **Tatalina** **75.20 22** P **P** **19 15 38.7 +1.5**
baz=234
L19K **White Mountain** **75.20 23** IAmb IAmb 19 15 40.7
comp=Z,16nm,0.8s
L19K **White Mountain** **75.20 23** P **P** **19 15 38.6 +1.4**
baz=235
M19K **Big River Lodg** **75.22 23** P **P** **19 15 38.5 +1.2**
baz=236
G17K **Kiwalik Mounta** **75.22 18** P **P** **19 15 39.1 +1.9**
baz=229
CNPM **China Poot** **75.25 26** P **P** **19 15 38.4 +1.0**
J18K **Innoko River** **75.26 21** P **P** **19 15 39.2 +1.7**
baz=233

HYB **Hyderabad** 75.34 288 *e*P P 19 15 38.5 -0.3
DGZ **Jazzator, Alta** 75.66 323 *c*eP P 19 15 40.6 +0.4
DGZ pmax pmax
comp=Z,11nm,1.1s
F17K **Baldwin Pennin** 75.67 17 P P 19 15 41.5 +1.8
baz=228
VNDA **Vanda** 75.70 178 P P 19 15 39.5 -0.2
comp=Z,6.7nm,0.9s,baz=329,slow=12,SNR=6.9
comp=Z,6.7nm,0.9s
M20K **Styx River** 75.71 23 IAmb IAmb 19 15 43.6
comp=Z,26nm,0.9s
M20K **Styx River** 75.71 23 P P 19 15 41.9 +1.8
baz=237
N20K **Mount Spurr** 75.71 24 P P 19 15 41.6 +1.4
baz=238
H18K **Honhosa River** 75.73 19 P P 19 15 41.2 +1.0
baz=231
L20K **Farewell, AK** 75.75 23 P P 19 15 41.6 +1.3
baz=236
C16K **Lisburne Hills** 75.81 15 P P 19 15 41.0 +0.6
baz=224
J19K **Poorman** 75.97 21 P P 19 15 43.1 +1.6
baz=234
D17K **Noatak River** 76.00 16 P P 19 15 43.4 +1.9
baz=226
G18K **Tagagawik** 76.11 19 P P 19 15 43.8 +1.5
baz=231,SNR=6.1
K20K **Telida** 76.17 22 IAmb IAmb 19 15 46.3
comp=Z,16nm,0.9s
K20K **Telida** 76.17 22 P P 19 15 44.6 +2.0
baz=236
F18K **Selawik** 76.25 18 P P 19 15 44.5 +1.5
baz=230
SKT **Skwentna** 76.40 24 P P 19 15 44.7 +0.8
baz=238
SUA **Susitna One** 76.45 24 P P 19 15 45.0 +0.6
baz=239
E18K **Tukpahlearik C** 76.51 17 P P 19 15 45.8 +1.3
baz=229,SNR=5.2
C17K **DeLong Mountai** 76.52 15 P P 19 15 46.4 +1.9
baz=226,SNR=6.9
ZSN **Zaisan** 76.52 320 *e*P P 19 15 45.3 +0.3
ZSN pmax pmax
comp=Z,12nm,1.2s
ZSN **Zaisan** 76.52 320 *e*P P 19 15 45.4 +0.3
comp=Z,12nm,1.2s,baz=320
H19K **Roundabout Mou** 76.60 19 IAmb IAmb 19 15 48.4
comp=Z,16nm,0.9s
H19K **Roundabout Mou** 76.60 19 P P 19 15 46.4 +1.4
baz=233
J20K **Nowinta River** 76.61 21 IAmb IAmb 19 15 48.8
comp=Z,22nm,1.0s
J20K **Nowinta River** 76.61 21 P P 19 15 46.5 +1.5
baz=236
RC01 **Rabbit Creek A** 76.68 25 P P 19 15 46.4 +0.8
baz=240
G19K **Purcell Mounta** 76.77 19 P P 19 15 47.8 +1.8
baz=232,SNR=7.1
I20K **Naaghedeneel** 76.84 21 P P 19 15 48.2 +1.8
baz=235
M22K **Willow** 76.86 24 P P 19 15 47.7 +1.2
baz=240
CAST **Castle Rocks** 76.95 22 P P 19 15 48.0 +0.9
CAST **Castle Rocks** 76.95 22 P P 19 15 48.5 +1.4
baz=238
F19K **Shaleruckik Mo** 76.98 18 IAmb IAmb 19 15 50.0
comp=Z,13nm,0.8s
F19K **Shaleruckik Mo** 76.98 18 P P 19 15 48.2 +1.1
baz=232
H20K **Anotleneega Mo** 77.11 20 P P 19 15 49.6 +1.7
baz=234
CHUM **Lake Minchumin** 77.11 22 P P 19 15 49.3 +1.4
baz=237
CUT **Chulitna** 77.13 24 P P 19 15 48.6 +0.6
baz=240
C18K **Utukok River** 77.17 16 IAmb IAmb 19 16 08.6
comp=Z,33nm,1.7s
C18K **Utukok River** 77.17 16 P P 19 15 49.6 +1.4
baz=228
PMR **Palmer** 77.19 25 P P 19 15 49.3 +1.0
baz=241
KTH **Kantishna Hill** 77.46 22 P P 19 15 49.4 -0.6
KTH IAmb IAmb 19 15 52.0
comp=Z,19nm,1.0s
B18K **Kokolik River** 77.49 15 P P 19 15 52.0 +2.1
baz=227
E19K **Redstone River** 77.53 18 IAmb IAmb 19 15 53.7
comp=Z,30nm,0.8s
E19K **Redstone River** 77.53 18 P P 19 15 51.7 +1.5
baz=232
SML **Sawmill** 77.62 25 P P 19 15 51.4 +0.5
SML **Sawmill** 77.62 25 P P 19 15 51.4 +0.5
SML pmax pmax
comp=Z,119nm,1.6s
SML **Sawmill** 77.62 25 P P 19 15 51.9 +1.0
baz=241
TRF **Thorofare Moun** 77.65 23 P P 19 15 51.0 -0.2
TRF IAmb IAmb 19 18 02.8
comp=Z,80nm,2.0s
TRF **Thorofare Moun** 77.65 23 P P 19 15 52.3 +1.1
baz=239
F20K **Avaraart Lake** 77.75 18 IAmb IAmb 19 15 55.0
comp=Z,45nm,1.7s
F20K **Avaraart Lake** 77.75 18 P P 19 15 53.5 +2.1
baz=233
IMAR **Indian Mountai** 77.77 20 P P 19 15 51.8 +0.2
C19K **Lookout Ridge** 77.91 16 P P 19 15 54.0 +1.7
baz=229
H21K **Melozitna Rive** 77.91 20 P P 19 15 53.5 +1.2
H21K **Melozitna Rive** 77.91 20 P P 19 15 53.6 +1.2
baz=236
D19K **Kuna River** 77.92 17 IAmb IAmb 19 15 55.5
comp=Z,17nm,0.9s
D19K **Kuna River** 77.92 17 P P 19 15 53.9 +1.5
baz=231
I21K **Tanana** 77.94 21 IAmb IAmb 19 15 56.0
comp=Z,22nm,1.1s
I21K **Tanana** 77.94 21 P P 19 15 54.4 +1.9
baz=237,SNR=5.9
MK31 **Makanchi Array** 78.01 319 P P 19 15 53.5 +0.1
MK31 **Makanchi Array** 78.01 319 *c i*P P 19 15 53.6 +0.2
MKAR **Makanchi Array** 78.01 319 P P 19 15 52.9 -0.5
MKAR **Makanchi Array** 78.01 319 P P 19 15 52.9 -0.5
MKAR **Makanchi Array** 78.01 319 P P 19 15 53.9 +0.5
comp=Z,2.2nm,0.6s,baz=101,slow=6.1,SNR=28
MKAR PKKPbc **PKKPbc** 19 34 54.7 -0.9
comp=Z,0.3nm,0.7s,baz=280,slow=1.9,SNR=2.8
comp=Z,2.2nm,0.6s
WAT1 **Susitna Watana** 78.03 24 P P 19 15 53.8 +0.7
baz=241
SCM **Sheep Creek Mo** 78.06 25 P P 19 15 55.0 +1.6
baz=242
G21K **Allakaket** 78.16 19 P P 19 15 54.8 +1.1
baz=236
RND **Reindeer** 78.19 23 P P 19 15 53.9 -0.2
RND IAmb IAmb 19 15 56.0
comp=Z,27nm,1.0s
RND **Reindeer** 78.19 23 P P 19 15 53.9 -0.2
RND pmax pmax
comp=Z,27nm,1.0s
MAKZ **Makanchi** 78.22 319 P P 19 15 54.6 0.0
MAKZ IAmb IAmb 19 16 12.6
comp=Z,50nm,1.7s
MAKZ **Makanchi** 78.22 319 P P 19 15 54.6 0.0
MAKZ pmax pmax
comp=Z,50nm,1.7s
WAT6 **Susitna Watana** 78.24 24 P P 19 15 55.3 +0.8
baz=242
MLY **Manley** 78.30 21 IAmb IAmb 19 15 57.4
comp=Z,27nm,1.0s
MLY **Manley** 78.30 21 P P 19 15 56.0 +1.4
baz=239,SNR=9.8
MCK **McKinley** 78.32 23 P P 19 15 55.0 +0.3
MCK **McKinley** 78.32 23 P P 19 15 56.0 +1.2
baz=240,SNR=7.6
E20K **Nigu River** 78.34 17 P P 19 15 56.1 +1.3
baz=233
D20K **Etivluk River** 78.49 17 P P 19 15 57.1 +1.6
baz=232
KLU **Klutina** 78.50 25 P P 19 15 57.7 +1.9
baz=244
H22K **Ishtalitna Cre** 78.53 20 P P 19 15 57.6 +1.7
baz=238
F21K **Alatna River** 78.56 19 P P 19 15 57.7 +1.7
baz=236
DHY **Denali Highway** 78.62 24 IAmb IAmb 19 15 59.8
comp=Z,69nm,1.8s
DHY **Denali Highway** 78.62 24 P P 19 15 58.0 +1.5
baz=242
ZALV **Zalesovo Beam** 78.64 326 *i* P P 19 15 56.1 -0.5
ZALV pmax pmax
comp=Z,6.0nm,0.8s
ZALV **Zalesovo Beam** 78.64 326 P P 19 15 56.0 -0.7
comp=Z,6.1nm,0.8s,baz=107,slow=6.2,SNR=22
ZALV PKPPKP **P'P'df** 19 42 58.2 +3.0
comp=Z,0.4nm,0.5s,baz=278,slow=4.3,SNR=3.9
ZALV LR LR 19 48 31.5
comp=Z,142nm,21.8s,baz=106,slow=34
comp=Z,6.1nm,0.8s
M24K **Tolsona, Glenn** 78.67 25 P P 19 15 58.8 +2.1
baz=243
NEA2 **Nenana** 78.69 22 P P 19 15 56.1 -0.6
NEA2 IAmb IAmb 19 15 58.6
comp=Z,23nm,0.9s
NEA2 **Nenana** 78.69 22 P P 19 15 57.5 +0.8
baz=240,SNR=5.9
I23K **Minto, Yukon-K** 78.87 21 IAmb IAmb 19 16 01.5
comp=Z,61nm,1.9s
I23K **Minto, Yukon-K** 78.87 21 P P 19 15 59.0 +1.3
baz=240
WRH **Wood River Hil** 79.00 22 IAmb IAmb 19 16 01.0
comp=Z,45nm,1.4s
SHLS **Shalkode** 79.05 315 *e*P P 19 15 57.6 -1.7
SHLS pmax pmax
comp=Z,12nm,1.3s
SHLS **Shalkode** 79.05 315 *e*P P 19 15 57.6 -1.7
comp=Z,12nm,1.3s,baz=315
E21K **Killik River** 79.11 18 P P 19 15 59.5 +0.5
E21K IAmb IAmb 19 16 25.8
comp=Z,36nm,1.5s
E21K **Killik River** 79.11 18 P P 19 16 00.6 +1.6
baz=235
N25K **Chitina, Valde** 79.12 26 P P 19 16 00.3 +1.1
B20K **Meade River** 79.14 16 IAmb IAmb 19 16 02.9
comp=Z,72nm,1.9s
B20K **Meade River** 79.14 16 P P 19 16 00.3 +1.3
baz=232
MDM **Murphy Dome** 79.19 22 P P 19 15 59.4 -0.1
MDM IAmb IAmb 19 16 35.0
comp=Z,41nm,1.6s
CCB **Clear Creek Bu** 79.20 22 IAmb IAmb 19 16 01.0
comp=Z,18nm,0.9s
HARP **HAARP** 79.22 25 P P 19 16 01.1 +1.4
baz=244
C21K **Knifeblade Rid** 79.29 17 P P 19 16 00.9 +1.0
baz=234
COLA **College** 79.29 22 P P 19 15 59.5 -0.5
COLA IAmb IAmb 19 16 01.6
comp=Z,24nm,0.8s
COLA **College** 79.29 22 *e*P P 19 16 00.1 +0.2
COLA pmax pmax
comp=Z,18nm,0.9s
COLA **College** 79.29 22 P P 19 15 60.0 0.0
baz=241
PAX **Paxson** 79.34 24 P P 19 16 01.6 +1.1
baz=244
UZB **Uzynbulak** 79.36 314 *e*P P 19 16 00.8 -0.2
UZB pmax pmax
comp=Z,14nm,1.2s
UZB **Uzynbulak** 79.36 314 *e*P P 19 16 00.9 -0.2
comp=Z,14nm,1.2s,baz=314
HDA **Harding Lake** 79.41 23 P P 19 16 01.0 +0.3
baz=242
G23K **Bananza Creek** 79.43 20 P P 19 16 02.4 +1.6
baz=239
POKR **Poker Plat Res** 79.56 22 P P 19 16 00.2 -1.2
POKR **Poker Plat Res** 79.56 22 P P 19 16 01.3 -0.2
baz=242
K24K **Donnelly Dome** 79.59 23 P P 19 16 02.8 +1.1
baz=244
E22K **Anaktuvuk Pass** 79.60 18 IAmb IAmb 19 16 04.9
comp=Z,15nm,0.8s
E22K **Anaktuvuk Pass** 79.60 18 P P 19 16 03.4 +1.7
baz=237
IL31 79.60 22 IAmb IAmb 19 16 03.0
comp=Z,14nm,0.8s
ILAR **Eielson Array** 79.60 22 P P 19 16 01.5 -0.2
comp=Z,9.5nm,0.6s,baz=244,slow=5.9,SNR=136
comp=Z,9.5nm,0.6s
B21K **Ikpikpuk River** 79.61 16 P P 19 16 03.2 +1.6
baz=244
COLD **Coldfoot** 79.64 19 P P 19 16 03.7 +1.8
baz=239,SNR=7.4
PRZ **Przheval'sk** 79.66 314 P P 19 16 02.0 -0.8
PRZ **Przheval'sk** 79.66 314 P P 19 16 02.0 -0.8
PRZ pmax pmax
comp=Z,79nm,1.6s
MCARA **McCarthy VSAT** 79.72 26 P P 19 16 04.4 +2.0
baz=246
H24K **Noodor Dome** 79.75 21 IAmb IAmb 19 16 13.1
comp=Z,57nm,1.9s
H24K **Noodor Dome** 79.75 21 P P 19 16 04.2 +1.6
baz=241
D22K **Ayikyak River** 79.75 18 P P 19 16 04.5 +2.0
D22K IAmb IAmb 19 16 06.2
comp=Z,28nm,1.1s
D22K **Ayikyak River** 79.75 18 P P 19 16 04.3 +1.9
baz=236,SNR=17
SATY **Saty** 79.78 314 *e*P P 19 16 03.1 -0.2
SATY pmax pmax
comp=Z,16nm,1.7s
SATY **Saty** 79.78 314 *e*P P 19 16 03.2 -0.2
comp=Z,16nm,1.7s,baz=314
ZHN **Zhinishke** 79.78 314 *e*P P 19 16 03.4 +0.1
ZHN **Zhinishke** 79.78 314 *e*P P 19 16 03.5 +0.1
baz=314
RIDG **Independent Ri** 79.93 24 IAmb IAmb 19 16 07.1
comp=Z,79nm,1.7s
RIDG **Independent Ri** 79.93 24 P P 19 16 05.1 +1.5
baz=244
J25K **Salcha River,** 80.11 23 IAmb IAmb 19 16 06.8
comp=Z,32nm,0.8s
J25K **Salcha River,** 80.11 23 P P 19 16 05.5 +0.9
baz=244,SNR=20
TDK **Taldyqorghan** 80.20 316 *e*P P 19 16 05.3 -0.1
TDK **Taldyqorghan** 80.20 316 *e*P P 19 16 05.3 -0.1
baz=316
L26K **Log Cabin Wild** 80.24 25 P P 19 16 07.0 +1.8
baz=246,SNR=5.6
E23K **Chandalar** 80.26 19 P P 19 16 07.2 +1.9
baz=239
CTG **Chitna Glacier** 80.30 27 P P 19 16 07.0 +1.2
baz=248
G24K **Hadweenzic Riv** 80.31 20 P P 19 16 07.0 +1.5
baz=241
B22K **Teshekpuk Lake** 80.36 16 P P 19 16 06.9 +1.3
baz=235
SCRK **Sand Creek** 80.38 24 P P 19 16 05.7 -0.4
SCRK **Sand Creek** 80.38 24 P P 19 16 07.5 +1.4
baz=245,SNR=6.3
D23K **Nanushuk River** 80.40 18 P P 19 16 07.8 +1.9
baz=238
PRP **Porcupine Dome** 80.46 22 P P 19 16 07.4 +0.9
baz=243
F24K **Squaw Lake** 80.56 20 IAmb IAmb 19 16 10.5
comp=Z,26nm,0.8s
F24K **Squaw Lake** 80.56 20 P P 19 16 09.0 +2.1
baz=241
TOLK **Toolik Lake Re** 80.58 18 IAmb IAmb 19 16 33.9
comp=Z,33nm,1.4s
TOLK **Toolik Lake Re** 80.58 18 P P 19 16 08.6 +1.7
baz=239,SNR=7.9
M27K **Edge Creek, AK** 80.60 25 IAmb IAmb 19 16 10.7
comp=Z,29nm,0.8s
M27K **Edge Creek, AK** 80.60 25 P P 19 16 09.3 +2.0
baz=247
E24K **Your Creek** 80.64 19 P P 19 16 09.1 +1.8
baz=240
H25L **Bin Creek** 80.69 21 P P 19 16 08.9 +1.4
baz=243
PNL **Peninsula** 80.74 28 P P 19 16 09.5 +1.5
baz=250
J26L **Joseph Creek** 80.77 23 P P 19 16 09.7 +1.5
baz=245,SNR=8.0
MDOK **Medeo** 80.77 314 *e*P P 19 16 08.6 -0.1
MDOK **Medeo** 80.77 314 *e*P P 19 16 08.6 -0.1
baz=314
G25K **Bearman Lake** 80.82 21 P P 19 16 10.8 +2.6
baz=243
TNSS **Tian-Shan** 80.82 314 *e*P P 19 16 08.8 -0.5
TNSS **Tian-Shan** 80.82 314 *e*P P 19 16 08.8 -0.5
baz=314
AAA **Alma-Ata** 80.88 314 *e*P P 19 16 08.8 -0.3
baz=314
C23K **Itkillik River** 80.89 17 IAmb IAmb 19 16 11.9
comp=Z,24nm,0.9s
C23K **Itkillik River** 80.89 17 P P 19 16 10.6 +2.1
baz=238
KSH **Kashi** 80.89 310 P P 19 16 12.1 +2.7
KSH sP pwP 19 16 19.3 -1.8
KSH pmax pmax
comp=Z,6.0nm,1.0s
L27K **Beaver Creek,** 80.89 25 IAmb IAmb 19 16 11.9
comp=Z,19nm,1.1s
L27K **Beaver Creek,** 80.89 25 P P 19 16 10.7 +1.9
baz=247
YUK3 **Moose Creek** 81.00 26 P P 19 16 12.2 +2.6
baz=249
BVCY **Beaver Creek** 81.06 26 P P 19 16 12.0 +2.4
baz=248
D24K **Happy Valley** 81.07 18 IAmb IAmb 19 16 29.7
comp=Z,53nm,1.4s
D24K **Happy Valley** 81.07 18 P P 19 16 11.0 +1.5
baz=240
YUK8 **Steele Glacier** 81.13 27 P P 19 16 12.0 +1.7
baz=249
K27K **Chicken** 81.17 24 IAmb IAmb 19 16 14.5
comp=Z,49nm,1.7s
K27K **Chicken** 81.17 24 P P 19 16 11.9 +1.8
baz=247
I26K **Coal Creek Min** 81.26 23 IAmb IAmb 19 16 12.9
comp=Z,20nm,1.0s
I26K **Coal Creek Min** 81.26 23 P P 19 16 11.6 +1.0
baz=246,SNR=7.8
O29M **Mount Kennedy** 81.34 28 P P 19 16 12.6 +1.3
baz=251
F25K **Christian Rive** 81.36 20 P P 19 16 13.3 +2.1
baz=243
KURK **Kurchatov** 81.36 322 P P 19 16 10.9 -0.6
KURK **Kurchatov** 81.36 322 P P 19 16 10.9 -0.6
KURK pmax pmax
comp=Z,12nm,1.0s
C24K **Franklin Bluff** 81.40 18 P P 19 16 12.9 +1.7
baz=240
KURBB **Kurchatov Arra** 81.40 322 P P 19 16 11.4 -0.2
comp=Z,4.5nm,0.8s,baz=103,slow=5.2,SNR=14
KURBB PKKPbc **PKKPbc** 19 34 47.4 -0.7
comp=Z,1.2nm,0.7s,baz=285,slow=2.4,SNR=15
KURBB PKPPKP **P'P'df** 19 42 51.1 +0.6
comp=Z,0.4nm,0.9s,baz=299,slow=1.9,SNR=3.5
KURBB LR LR 19 51 39.4
comp=Z,182nm,20.8s,baz=154,slow=35
comp=Z,4.5nm,0.8s
P29M **Windy Craggy** 81.52 29 P P 19 16 14.2 +2.0
baz=251
E25K **Arctic Village** 81.62 20 P P 19 16 14.9 +2.4
baz=243
BMAR **Burnt Mountain** 81.65 20 P P 19 16 13.0 +0.3
YUK6 **Outpost Mounta** 81.66 27 P P 19 16 14.8 +1.7
baz=251
YUK4 **Talbot Arm** 81.66 27 P P 19 16 15.1 +2.0
baz=250
G26K **Porcupine Rive** 81.72 21 P P 19 16 15.4 +2.4
baz=245
S31K **Pelican** 81.76 31 P P 19 16 15.0 +1.7
baz=253
TKM2 **Tokmak 2** 81.77 314 P P 19 16 14.8 +0.7
SNR=7.7
EGAK **Eagle** 81.83 23 IAmb IAmb 19 16 16.7
comp=Z,20nm,0.7s
EGAK **Eagle** 81.83 23 P P 19 16 15.7 +2.1
baz=248,SNR=7.0
F26K **Sheenjek River** 81.92 20 P P 19 16 16.4 +2.3
baz=244
D25K **Kavik River** 81.92 18 P P 19 16 15.5 +1.5
baz=242,SNR=12
I27K **Kandik River** 81.97 23 P P 19 16 16.0 +1.6
baz=247
HYT **Haines Junctio** 82.01 28 IAmb IAmb 19 16 18.9
comp=Z,30nm,0.9s
HYT **Haines Junctio** 82.01 28 P P 19 16 16.6 +1.7
baz=252,SNR=6.6
P30M **Million Dollar** 82.05 28 P P 19 16 17.0 +2.0
baz=252
M29M **Somme Creek** 82.11 26 IAmb IAmb 19 18 48.2
comp=Z,38nm,1.7s
M29M **Somme Creek** 82.11 26 P P 19 16 16.8 +1.5
baz=250
PLBC **Pleasant Camp** 82.13 29 P P 19 16 16.4 +1.1
baz=253
NIL **Nilore** 82.16 304 P P 19 16 16.4 +0.3
NIL **Nilore** 82.16 304 P P 19 16 16.4 +0.3
NIL pmax pmax
comp=Z,125nm,1.0s
KBK **Karagaybulak** 82.20 313 P P 19 16 16.2 -0.1
SNR=5.0
H27K **Steamboat Moun** 82.25 22 P P 19 16 17.6 +1.7
baz=247
DAWY **Dawson** 82.28 24 IAmb IAmb 19 16 18.4
comp=Z,59nm,1.9s
DAWY **Dawson** 82.28 24 P P 19 16 18.2 +2.1
baz=249,SNR=5.6
CHMS **Chumysh** 82.40 314 P P 19 16 17.6 +0.5
SNR=5.8
N30M **Aishikik Lake** 82.41 27 P P 19 16 18.6 +1.8
baz=252
UCH **Uchtor** 82.44 313 P P 19 16 19.4 +1.5
SNR=7.0
L29M **L29M** 82.48 25 IAmb IAmb 19 16 20.6
comp=Z,18nm,0.9s
L29M **L29M** 82.48 25 P P 19 16 18.8 +1.6
baz=251,SNR=6.0
AAK **Ala-Archa** 82.52 313 P P 19 16 18.6 +0.6
SNR=8.7
AAK **Ala-Archa** 82.52 313 P P 19 16 18.2 +0.2
AAK IAmb IAmb 19 18 29.6
comp=Z,20nm,1.1s
AAK **Ala-Archa** 82.52 313 P P 19 16 18.2 +0.2
AAK pmax pmax
comp=Z,20nm,1.1s
AAK **Ala-Archa** 82.52 313 P P 19 16 18.5 +0.5
comp=Z,5.0nm,0.8s,baz=140,slow=6.3,SNR=24
comp=Z,5.0nm,0.8s
I28M **Miner Creek** 82.56 23 P P 19 16 18.7 +1.1
baz=249
SGDS **Sogindy** 82.56 314 *e*P P 19 16 17.5 -0.5
SGDS **Sogindy** 82.56 314 *e*P P 19 16 17.6 -0.5
baz=314
USP **Ospenovka** 82.62 314 P P 19 16 19.0 +0.7
SNR=9.8
SKAG **Skagway** 82.64 29 P P 19 16 20.2 +2.2
baz=254
C26K **Camden Bay** 82.65 18 P P 19 16 20.0 +2.3
baz=243
O30N **Mendenhall** 82.66 28 P P 19 16 20.1 +2.0
baz=253
M30M **Minto, Yukon** 82.89 26 IAmb IAmb 19 17 51.3
comp=Z,33nm,1.7s
M30M **Minto, Yukon** 82.89 26 P P 19 16 21.3 +2.0
baz=252
U33K **Whale Pass** 82.90 33 P P 19 16 21.7 +2.4
baz=256
K29M **Barlow Dome** 82.98 25 IAmb IAmb 19 16 23.7
comp=Z,43nm,1.4s
K29M **Barlow Dome** 82.98 25 P P 19 16 21.9 +2.1
baz=251
NRIK **Noril'sk** 83.18 341 IAmb IAmb 19 16 23.4
comp=Z,26nm,1.1s
NRIK **Noril'sk** 83.18 341 *c*eP P 19 16 20.8 +0.2
NRIK pmax pmax
comp=Z,19nm,1.0s
NRIK **Noril'sk** 83.18 341 P P 19 16 20.4 -0.2
comp=Z,14nm,0.8s,baz=112,slow=6.2,SNR=20
NRIK LR LR 19 53 09.1
comp=Z,187nm,20.4s,baz=142,slow=36
comp=Z,14nm,0.8s
WHY **Whitehorse** 83.19 28 P P 19 16 22.7 +1.7
baz=254
BTLS **Baital** 83.24 316 *e*P P 19 16 21.3 -0.1
BTLS pmax pmax
comp=Z,21nm,1.9s
BTLS **Baital** 83.24 316 *e*P P 19 16 21.4 -0.1
comp=Z,21nm,1.9s,baz=316
F28M **Old Crow** 83.38 21 IAmb IAmb 19 16 24.9
comp=Z,54nm,1.9s
F28M **Old Crow** 83.38 21 P P 19 16 23.1 +1.4
baz=248,SNR=5.8
WRAK **Wrangell Islan** 83.39 33 P P 19 16 23.9 +2.0
baz=256
ARSB **Arslanbob** 83.43 312 P P 19 16 22.1 -0.6

ARSB	**Arslanbob**	**83.43**	**312**	P	**P**	**19 16 22.1**	**-0.6**
ARSB	comp=Z,8.0nm,1.1s			pmax	pmax		
P32M	**Atlin**	**83.47**	**29**	P	**P**	**19 16 24.4**	**+2.1**
	baz=255						
D27M	**Malcolm River**	**83.62**	**19**	P	**P**	**19 16 25.0**	**+2.0**
	baz=247,SNR=9.6						
J30M	**Hart River**	**83.71**	**24**	IAmb	IAmb	19 16 26.9	
	comp=Z,14nm,0.9s						
J30M	**Hart River**	**83.71**	**24**	P	**P**	**19 16 25.6**	**+2.1**
	baz=252,SNR=11						
G29M	**Pine Creek**	**83.80**	**22**	P	**P**	**19 16 26.0**	**+2.1**
	baz=250						
M31M	**Drury Creek, Y**	**83.85**	**27**	P	**P**	**19 16 25.7**	**+1.5**
	baz=254						
E28M	**Babbage River**	**83.86**	**20**	IAmb	IAmb	19 16 27.5	
	comp=Z,35nm,1.6s						
E28M	**Babbage River**	**83.86**	**20**	P	**P**	**19 16 26.1**	**+1.9**
	baz=249						
I30M	**Mount Dempster**	**83.89**	**24**	IAmb	IAmb	19 16 27.2	
	comp=Z,14nm,1.1s						
I30M	**Mount Dempster**	**83.89**	**24**	P	**P**	**19 16 25.8**	**+1.4**
	baz=252						
P33M	**Teslin, Yukon**	**84.06**	**29**	P	**P**	**19 16 27.2**	**+1.8**
	baz=256						
EPYK	**Eagle Plains**	**84.12**	**22**	P	**P**	**19 16 26.5**	**+1.0**
EPYK				IAmb	IAmb	19 16 28.4	
	comp=Z,26nm,1.1s						
EPYK	**Eagle Plains**	**84.12**	**22**	P	**P**	**19 16 27.2**	**+1.7**
	baz=252,SNR=6.4						
N32M	**Quiet Lake**	**84.17**	**28**	IAmb	IAmb	19 16 29.1	
	comp=Z,17nm,0.9s						
N32M	**Quiet Lake**	**84.17**	**28**	P	**P**	**19 16 27.4**	**+1.5**
	baz=255						
FARO	**Faro, Yukon**	**84.33**	**27**	P	**P**	**19 16 28.1**	**+1.4**
	baz=255						
E29M	**Blow River**	**84.35**	**20**	IAmb	IAmb	19 16 29.4	
	comp=Z,39nm,2.0s						
E29M	**Blow River**	**84.35**	**20**	P	**P**	**19 16 28.0**	**+1.4**
	baz=250						
S34M	**Telegraph Cree**	**84.37**	**31**	P	**P**	**19 16 28.8**	**+1.9**
	baz=257						
D28M	**Stokes Point**	**84.39**	**19**	P	**P**	**19 16 28.4**	**+1.7**
	baz=249						
G30M	**tAoh Zraii Nji**	**84.50**	**22**	IAmb	IAmb	19 16 30.0	
	comp=Z,27nm,1.4s						
G30M	**tAoh Zraii Nji**	**84.50**	**22**	P	**P**	**19 16 28.7**	**+1.3**
	baz=252						
U35K	**Hyder**	**84.55**	**34**	P	**P**	**19 16 29.3**	**+1.5**
	baz=258						
T35M	**Bob Quinn**	**84.64**	**32**	P	**P**	**19 16 30.0**	**+1.7**
	baz=258						
R33M	**Jennings River**	**84.78**	**30**	P	**P**	**19 16 31.2**	**+2.0**
	baz=257						
F30M	**Barrier River**	**84.85**	**21**	P	**P**	**19 16 31.4**	**+2.2**
	baz=252,SNR=9.7						
DZA	**Taraz**	**84.86**	**313**	*e*P	**P**	**19 16 29.6**	**-0.2**
DZA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
DZA	**Taraz**	**84.86**	**313**	*e*P	**P**	**19 16 29.6**	**-0.2**
	comp=Z,7.9nm,0.8s,baz=313						
BTK	**Batken**	**84.90**	**310**	P	**P**	**19 16 29.7**	**-0.4**
BTK	**Batken**	**84.90**	**310**	P	**P**	**19 16 29.7**	**-0.4**
BTK				pmax	pmax		
	comp=Z,29nm,0.8s						
BRZS	**Berezniki**	**84.95**	**320**	*e*P	**P**	**19 16 29.4**	**-0.6**
BRZS				pmax	pmax		
	comp=Z,21nm,2.2s						
BRZS	**Berezniki**	**84.95**	**320**	*e*P	**P**	**19 16 29.5**	**-0.6**
	comp=Z,21nm,2.2s,baz=320						
BBB	**Bella Bella**	**84.97**	**37**	LR	LR	19 48 39.6	
	comp=Z,489nm,19.6s,baz=248,slow=32						
DLBC	**Dease Lake**	**85.06**	**31**	P	**P**	**19 16 32.6**	**+2.2**
	baz=258						
DLBC	**Dease Lake**	**85.06**	**31**	LR	LR	19 49 54.9	
	comp=Z,433nm,18.6s,baz=280,slow=32						
G31M	**Satah River**	**85.21**	**22**	P	**P**	**19 16 32.3**	**+1.4**
	baz=254,SNR=6.7						
KK31	**Karatay Array**	**85.49**	**313**	IAmb	IAmb	19 16 50.9	
	comp=Z,18nm,1.1s						
KKAR	**Karatay Array**	**85.49**	**313**	P	**P**	**19 16 32.2**	**-0.7**
KKAR				IAmb	IAmb	19 16 50.9	
	comp=Z,18nm,1.1s						
KKAR	**Karatay Array**	**85.49**	**313**	P	**P**	**19 16 32.6**	**-0.3**
KKAR	**Karatay Array**	**85.49**	**313**	P	**P**	**19 16 32.2**	**-0.7**
KKAR						19 16 32.6	
KKAR				pmax	pmax		
	comp=Z,18nm,1.1s						
F31M	**Tsiigehtchic**	**85.56**	**22**	P	**P**	**19 16 34.4**	**+1.7**
	baz=254						
INK	**Inuvik**	**85.87**	**21**	IAmb	IAmb	19 16 60.0	
	comp=Z,38nm,1.6s						
INK	**Inuvik**	**85.87**	**21**	P	**P**	**19 16 36.1**	**+2.0**
	baz=254,SNR=7.3						
BRLS	**Borolday**	**85.97**	**313**	*e*P	**P**	**19 16 35.9**	**+0.6**
BRLS				pmax	pmax		
	comp=Z,13nm,2.1s						
BRLS	**Borolday**	**85.97**	**313**	*e*P	**P**	**19 16 36.0**	**+0.6**
	comp=Z,14nm,2.1s,baz=313						
WTLY	**Watson Lake, Y**	**86.00**	**29**	IAmb	IAmb	19 16 39.1	
	comp=Z,29nm,1.1s						
WTLY	**Watson Lake, Y**	**86.00**	**29**	P	**P**	**19 16 37.6**	**+2.5**
	baz=259,SNR=7.6						
CHGR	**Chuyangaron**	**86.03**	**309**	P	**P**	**19 16 35.5**	**-0.3**
CHGR	**Chuyangaron**	**86.03**	**309**	P	**P**	**19 16 35.5**	**-0.3**
CHGR				pmax	pmax		
	comp=Z,60nm,0.6s						
SIMJ	**Simiganj**	**86.14**	**309**	P	**P**	**19 16 35.3**	**-1.1**
TGTN	**Hyland Airport**	**86.52**	**28**	P	**P**	**19 16 39.6**	**+1.9**
	baz=260,SNR=8.1						
BVAR	**Borovoye Array**	**86.80**	**323**	P	**P**	**19 16 38.6**	**-0.6**
	comp=Z,12nm,0.8s,baz=98,slow=5.6,SNR=52						
	comp=Z,12nm,0.8s						
BRVK	**Borovoye**	**86.87**	**323**	P	**P**	**19 16 37.8**	**-1.6**
BRVK	**Borovoye**	**86.87**	**323**	*ce*P	**P**	**19 16 38.6**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
YBH	**Yreka Blue Hor**	**87.33**	**48**	LR	LR	19 48 32.0	
	comp=Z,297nm,20.6s,baz=270,slow=31						
QSPA	**South Pole Qui**	**88.02**	**180**	P	**P**	**19 16 44.1**	**-0.8**
QSPA	**South Pole Qui**	**88.02**	**180**	P	**P**	**19 16 44.4**	**-0.5**
	comp=Z,14nm,1.0s,baz=8.0,slow=3.7,SNR=52						
QSPA				PKKPbc	**PKKPdf**	**19 34 29.0**	**+1.5**
	comp=Z,1.3nm,1.1s,baz=174,slow=8.1,SNR=1.9						
	comp=Z,14nm,1.0s						
MAW	**Mawson**	**88.12**	**203**	LR	LR	19 52 28.6	
	comp=Z,189nm,20.9s,baz=98,slow=33						
KOTAN	**Kotaneelee Air**	**88.35**	**30**	P	**P**	**19 16 48.2**	**+1.8**
	baz=263						
J05D	**Fort Rock, OR**	**88.54**	**47**	P	**P**	**19 16 47.4**	**-0.5**
PINE	**Pine Mountain**	**88.79**	**46**	IAmb	IAmb	19 16 52.0	
	comp=Z,40nm,1.7s						
WRGLY	**Wrigley**	**88.98**	**27**	P	**P**	**19 16 51.3**	**+2.1**
	baz=264						
PKM	**Mcpherson Peak**	**89.14**	**55**	P	**P**	**19 16 52.4**	**+1.4**
	baz=267						
A36M	**Sachs Harbour**	**89.39**	**18**	P	**P**	**19 16 51.0**	**-0.1**
A36M				IAmb	IAmb	19 16 53.1	
	comp=Z,8.7nm,0.8s						
A36M	**Sachs Harbour**	**89.39**	**18**	P	**P**	**19 16 51.6**	**+0.5**
	baz=262						
C36M	**Paulatuk**	**89.44**	**21**	P	**P**	**19 16 51.7**	**+0.5**
	baz=263						
PNTR	**Pine Nut**	**89.52**	**51**	P	**P**	**19 16 51.6**	**-1.1**
PNTR				IAmb	IAmb	19 16 55.5	
	comp=Z,11nm,0.9s						
WAKR	**Walker**	**89.62**	**52**	P	**P**	**19 16 53.0**	**-0.1**
PNT	**Penticton**	**90.02**	**41**	P	**P**	**19 16 51.6**	**-2.9**
PNT				pmax	pmax		
	comp=Z,11nm,0.9s						
LHV	**Little Huntoon**	**90.34**	**52**	P	**P**	**19 16 55.9**	**-0.3**
WVOR	**Wild Horse Val**	**90.40**	**48**	P	**P**	**19 16 56.0**	**-0.6**
WVOR				IAmb	IAmb	19 16 59.4	
	comp=Z,16nm,1.1s						
WVOR	**Wild Horse Val**	**90.40**	**48**	P	**P**	**19 16 56.0**	**-0.6**
WVOR				pmax	pmax		
	comp=Z,16nm,1.1s						
NVAR	**Mina Array Bea**	**90.51**	**52**	P	**P**	**19 16 56.4**	**-0.9**
NVAR	**Mina Array Bea**	**90.51**	**52**	P	**P**	**19 16 58.4**	**+1.0**
	comp=Z,3.2nm,0.8s,baz=254,slow=5.9,SNR=20						
NVAR				LR	LR	19 54 33.2	
	comp=Z,313nm,18.1s,baz=268,slow=34						
	comp=Z,3.2nm,0.8s						
J08A	**Circle Bar Ran**	**90.56**	**47**	IAmb	IAmb	19 17 00.5	
	comp=Z,15nm,1.2s						
CWC	**Cottonwood Cre**	**90.62**	**54**	P	**P**	**19 16 59.6**	**+1.8**
	baz=268						
EDW2	**Edwards Air Fo**	**90.64**	**55**	P	**P**	**19 16 59.3**	**+1.5**
	baz=268						
DSP	**Deep Springs**	**90.74**	**53**	P	**P**	**19 16 57.8**	**-0.2**
DSP				IAmb	IAmb	19 17 37.9	
	comp=Z,17nm,1.7s						
BFSC	**Mount Baldy Ra**	**90.89**	**56**	P	**P**	**19 17 00.1**	**+1.0**
	baz=268						
LRMC	**Laurel Mtn Rad**	**90.91**	**55**	P	**P**	**19 17 00.6**	**+1.4**
	baz=268						
MPMC	**Manual Prospec**	**91.08**	**54**	P	**P**	**19 17 01.6**	**+1.6**
	baz=268						
GRAC	**Grapevine Rang**	**91.21**	**53**	P	**P**	**19 17 02.2**	**+1.8**
	baz=269						
MURC	**Murrieta**	**91.26**	**57**	P	**P**	**19 17 02.6**	**+1.9**
	baz=269						
GMN	**Gold Mountain**	**91.30**	**53**	P	**P**	**19 17 00.8**	**-0.2**
BMN	**Battle Mountai**	**91.40**	**50**	IAmb	IAmb	19 17 04.1	
	comp=Z,25nm,1.7s						
BMO	**Blue Mountains**	**91.44**	**45**	P	**P**	**19 17 01.2**	**-0.1**
BMO				IAmb	IAmb	19 17 03.8	
	comp=Z,15nm,1.2s						
BMO	**Blue Mountains**	**91.44**	**45**	P	**P**	**19 17 01.2**	**-0.1**
BMO				pmax	pmax		
	comp=Z,15nm,1.2s						
FURC	**Furnace Creek,**	**91.60**	**54**	P	**P**	**19 17 03.5**	**+1.5**
	baz=269						
NEW	**Newport**	**91.64**	**42**	P	**P**	**19 17 03.6**	**+1.5**
	baz=269						
NEW	**Newport**	**91.64**	**42**	LR	LR	19 56 37.8	
	comp=Z,168nm,18.1s,baz=234,slow=34						
WCT	**Wildcat Mounta**	**91.80**	**53**	P	**P**	**19 17 03.4**	**+0.2**
WCT				IAmb	IAmb	19 17 06.3	
	comp=Z,36nm,2.0s						
PFO	**Pinyon Flats O**	**91.88**	**57**	*e*P	**P**	**19 17 03.5**	**-0.1**
PFO				pmax	pmax		
	comp=Z,12nm,1.0s						
PFO	**Pinyon Flats O**	**91.88**	**57**	P	**P**	**19 17 04.9**	**+1.2**
	baz=269						
PFO	**Pinyon Flats O**	**91.88**	**57**	LR	LR	19 50 01.8	
	comp=Z,340nm,21.3s,baz=242,slow=30						
TPFO	**Pinon Flats**	**91.88**	**57**	P	**P**	**19 17 05.6**	**+2.0**
	baz=269						
MONP2	**Monument Peak**	**91.89**	**57**	P	**P**	**19 17 05.7**	**+1.8**
	baz=269						
HEC	**Hector,Ludlow**	**92.00**	**55**	P	**P**	**19 17 06.0**	**+1.9**
	baz=269						
SHOC	**Shoshone, Teco**	**92.06**	**54**	P	**P**	**19 17 06.0**	**+1.7**
	baz=269						
IKP	**In-Ko-Pah, Jac**	**92.15**	**58**	P	**P**	**19 17 05.9**	**+1.0**
	baz=269						
BELC	**Belle Mtn. Jos**	**92.27**	**56**	P	**P**	**19 17 06.7**	**+1.3**
	baz=269						
ESJX	**Sierra Juarez**	**92.28**	**58**	IAmb	IAmb	19 17 09.6	
	comp=Z,8.5nm,1.1s						
YUH	**Yuha Desert**	**92.31**	**58**	IAmb	IAmb	19 17 08.4	
	comp=Z,15nm,1.3s						
TUQ	**Turquoise Moun**	**92.34**	**55**	P	**P**	**19 17 07.2**	**+1.4**
	baz=269						
PLID	**Pearl Lake**	**92.37**	**45**	P	**P**	**19 17 06.2**	**+0.4**
SWSC	**Sam W. Stewart**	**92.42**	**57**	P	**P**	**19 17 07.9**	**+1.9**
	baz=269						
MFID	**Camas Ranch**	**92.49**	**47**	IAmb	IAmb	19 17 09.6	
	comp=Z,20nm,1.4s						
GMRC	**Granite Mounta**	**92.55**	**55**	P	**P**	**19 17 07.4**	**+0.6**
	baz=270						
R11B	**Troy Canyon, C**	**92.64**	**52**	P	**P**	**19 17 07.7**	**+0.5**
	baz=270						
BC3	**Big Chuckawall**	**92.71**	**57**	P	**P**	**19 17 09.1**	**+1.6**
	baz=270						
ELK	**Elko**	**92.92**	**49**	P	**P**	**19 17 08.8**	**+0.3**
ELK				IAmb	IAmb	19 17 11.1	
	comp=Z,15nm,1.6s						
ELK	**Elko**	**92.92**	**49**	P	**P**	**19 17 08.8**	**+0.3**
ELK				pmax	pmax		
	comp=Z,15nm,1.7s						
ELK	**Elko**	**92.92**	**49**	LR	LR	19 53 07.5	
	comp=Z,296nm,19.8s,baz=272,slow=32						
IRM	**Iron Mountain**	**92.97**	**56**	P	**P**	**19 17 10.6**	**+2.0**
	baz=270						
YKA	**Yellowknife Ar**	**93.01**	**28**	P	**P**	**19 17 08.3**	**+0.3**
YKA	**Yellowknife Ar**	**93.01**	**28**	*i* P	**P**	**19 17 08.8**	**+0.8**
YKA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YKA	**Yellowknife Ar**	**93.01**	**28**	P	**P**	**19 17 08.9**	**+0.9**
	comp=Z,4.7nm,0.9s,baz=272,slow=4.9,SNR=46						
YKA				PKKPbc	**PKKPdf**	**19 34 17.3**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=94,slow=3.1,SNR=7.1						
YKA				LR	LR	19 55 14.0	
	comp=Z,256nm,20.4s,baz=307,slow=33						
	comp=Z,4.7nm,0.9s						
ABKAR	**Akbulak array**	**93.15**	**319**	P	**P**	**19 17 07.0**	**-2.0**
ABKAR				IAmb	IAmb	19 19 47.9	
	comp=Z,29nm,1.9s						
V12A	**Nelson**	**93.22**	**54**	IAmb	IAmb	19 17 12.4	
	comp=Z,18nm,1.5s						
GLA	**Glamis**	**93.23**	**57**	P	**P**	**19 17 11.0**	**+1.1**
	baz=270						
HLID	**Hailey**	**93.52**	**47**	P	**P**	**19 17 11.2**	**+0.2**
HLID				IAmb	IAmb	19 17 13.8	
	comp=Z,14nm,1.5s						
HLID	**Hailey**	**93.52**	**47**	P	**P**	**19 17 12.9**	**+1.8**
	baz=271						
PDMCI	**Parker Dam,Lak**	**93.81**	**56**	P	**P**	**19 17 14.3**	**+1.9**
	baz=270						
EDM	**Edmonton**	**93.99**	**37**	IAmb	IAmb	19 17 15.6	
	comp=Z,17nm,0.9s						
WSAR	**Wadi Sarin**	**94.36**	**293**	LR	LR	19 59 58.9	
	comp=Z,34nm,21.9s,baz=111,slow=36						
LCMT	**Little Creek M**	**94.51**	**53**	P	**P**	**19 17 16.1**	**+0.4**
LCMT				IAmb	IAmb	19 17 53.0	
	comp=Z,24nm,2.0s						
GEYT	**Alibeck**	**94.67**	**308**	P	**P**	**19 17 16.4**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=88,slow=7.4,SNR=4.7						
	comp=Z,2.5nm,0.8s						
DUG	**Dugway, Tooele**	**94.78**	**50**	P	**P**	**19 17 18.7**	**+1.8**
	baz=272						
KNB	**Kanab**	**94.84**	**53**	IAmb	IAmb	19 17 28.4	
	comp=Z,24nm,1.5s						
214A	**Organ Pipe Nat**	**94.94**	**58**	P	**P**	**19 17 18.6**	**+0.9**
214A				IAmb	IAmb	19 17 21.3	
	comp=Z,28nm,1.6s						
214A	**Organ Pipe Nat**	**94.94**	**58**	P	**P**	**19 17 19.5**	**+1.8**
	baz=271						
U15A	**North Rim**	**95.28**	**54**	IAmb	IAmb	19 21 05.7	
	comp=Z,6.4nm,0.7s						
BOZ	**Bozeman (W)**	**95.44**	**45**	P	**P**	**19 17 21.7**	**+1.8**
	baz=273						
WUAZ	**Wupatki**	**96.06**	**55**	IAmb	IAmb	19 21 14.1	
	comp=Z,11nm,1.1s						
WUAZ	**Wupatki**	**96.06**	**55**	P	**P**	**19 17 24.7**	**+1.8**
	baz=272						
H17A	**Grant Village**	**96.25**	**46**	P	**P**	**19 17 25.4**	**+1.7**
	baz=274						
RPN	**Rapa Nui**	**96.35**	**117**	LR	LR	19 53 24.7	
	comp=Z,190nm,20.5s,baz=260,slow=31						
EGMT	**Eagleton**	**96.57**	**42**	P	**P**	**19 17 24.0**	**-0.8**
EGMT	**Eagleton**	**96.57**	**42**	P	**P**	**19 17 26.4**	**+1.5**
	baz=274						
TUC	**Tucson**	**96.66**	**58**	P	**P**	**19 17 26.8**	**+1.3**
	baz=272						
PDAR	**Pinedale Array**	**97.10**	**47**	P	Pdif	19 17 27.8	+0.1
	comp=Z,1.3nm,0.7s,baz=219,slow=1.9,SNR=4.1						
PDAR				LR	LR	19 56 56.3	
	comp=Z,290nm,18.9s,baz=274,slow=33						
	comp=Z,1.3nm,0.7s						
LPIG	**La Paz**	**97.30**	**66**	LR	LR	19 52 42.8	
	comp=Z,612nm,21.2s,baz=242,slow=30						
W18A	**Petrified Fore**	**97.41**	**55**	P	Pdif	19 17 30.4	+1.3
	baz=273						
RES	**Resolute Bay**	**97.70**	**14**	P	**P**	**19 17 28.8**	**-0.4**
RES	**Resolute Bay**	**97.70**	**14**	P	**P**	**19 17 28.8**	**-0.4**
RES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KIRV	**Kirov**	**98.47**	**329**	LR	LR	20 02 39.5	
	comp=Z,138nm,21.1s,baz=61,slow=36						
LAO	**LASA Array**	**99.09**	**43**	P	**Pdif**	**19 17 37.5**	**+1.3**
	baz=277						
ANMO	**Albuquerque**	**100.11**	**55**	P	**Pdif**	**19 17 42.8**	**+1.7**
	baz=275						
DGMT	**Dagmar**	**100.21**	**41**	P	**Pdif**	**19 17 41.6**	**+0.5**
	baz=279						
OBN	**Obninsk**	**106.19**	**327**	*e*P	**Pdif**	**19 18 09.6**	**+2.2**
OBN				*e*		19 22 32.3	
OBN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
OBN				MLR	MLR		
	comp=Z,225nm,21.0s						
FINES	**FINESS Array B**	**108.34**	**336**	Pdiff	**Pdif**	**19 18 15.0**	**-1.8**
	comp=Z,0.8nm,0.8s,baz=64,slow=4.4,SNR=5.2						
MNK	**Minsk**	**111.02**	**329**	*i* P	**Pdif**	**19 18 26.1**	**-2.8**
MNK				*i*		19 23 03.8	
MNK				*i* PPP	PPP	19 25 24.0	
MNK				*i*		19 29 37.8	
MNK				*i* SS	SS	19 38 32.5	-4.2
MNK				*i* SSS	SSS	19 42 45.1	
MNK				pmax	pmax		
	comp=E,8.0nm,0.9s						
MNK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MNK				pmax	pmax		
	comp=N,3.0nm,0.9s						
MNK				MLR	MLR		
	comp=Z,149nm,20.0s						
MNK				MLR	MLR		
	comp=N,196nm,18.0s						
MNK				MLR	MLR		
	comp=E,125nm,19.0s						
CCM	**Cathedral Cave**	**111.64**	**50**	P	**PKiKP**	**19 22 30.4**	**+0.6**
	baz=285						
AKASG	**Malin Array Be**	**112.02**	**325**	PKiKP	**PKiKP**	**19 22 29.6**	**-0.6**
	comp=E,1.6nm,0.7s,baz=55,slow=2.1,SNR=6.2						
HFS	**Hagfors**	**113.92**	**339**	PKiKP	**PKiKP**	**19 22 33.0**	**-0.5**
	comp=E,0.6nm,0.4s,baz=94,slow=4.3,SNR=1.9						
NB2	**NORSAR Subarra**	**114.14**	**341**	PKPdf	PKPdf	19 22 33.0	-1.0
	comp=Z,2.5nm,1.2s,baz=44,slow=1.9						
NOA	**NORSAR Array B**	**114.14**	**341**	PKP	PKPdf	19 22 33.7	-0.3
	comp=Z,0.8nm,0.7s,baz=46,slow=2.0,SNR=6.0						
LRAL	**Lakeview Retre**	**116.33**	**54**	P	**PKPdf**	**19 22 39.0**	**+0.1**
	baz=286						
CRVS	**Cervenica-Dubn**	**117.29**	**326**	*e*PKiKP	**PKiKP**	**19 22 40.9**	**+0.5**
CRVS	**Cervenica-Dubn**	**117.29**	**326**	*e*PKP	**PKiKP**	**19 22 40.9**	**+0.5**
TZTN	**Tazewell**	**117.94**	**49**	P	**PKiKP**	**19 22 42.5**	**+0.4**
	baz=290						
VYHS	**Vyhne**	**118.97**	**327**	*e*PKiKP	**PKiKP**	**19 22 44.6**	**+0.9**
VYHS	**Vyhne**	**118.97**	**327**	*e*PKP	**PKiKP**	**19 22 44.6**	**+0.9**
GOGA	**Godfrey**	**119.04**	**53**	P	**PKiKP**	**19 22 44.4**	**+0.2**
	baz=289						
MODS	**Modra-Piesok**	**119.89**	**327**	*e*PKiKP	**PKiKP**	**19 22 46.9**	**+1.4**
MODS	**Modra-Piesok**	**119.89**	**327**	*e*PKP	**PKiKP**	**19 22 46.9**	**+1.4**
BLA	**Blacksburg**	**120.04**	**47**	P	**PKPdf**	**19 22 46.3**	**+0.2**
	baz=293						
BRG	**Berggiesshubel**	**120.06**	**331**	*e*P	**PKiKP**	**19 22 46.0**	**+0.3**
BRG				Amp		19 22 47.8	
	comp=Z,4.4nm,0.9s						
BRG	**Berggiesshubel**	**120.06**	**331**	*e*PKiKP	**PKiKP**	**19 22 46.0**	**+0.3**
BRG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KMSC	**Kinge Mountain**	**120.12**	**50**	P	**PKPdf**	**19 22 46.1**	**-0.1**
	baz=291						
CLL	**Collm**	**120.22**	**332**	PKPdf	**PKPdf**	**19 22 44.9**	**-1.0**
CLL	**Collm**	**120.22**	**332**	PKiKP	**PKPdf**	**19 22 44.9**	**-1.0**
CLL	**Collm**	**120.22**	**332**	*i* PKPdf	**PKiKP**	**19 22 46.4**	**+0.4**
	comp=Z,6.0nm,0.8s						
CLL				AMS	AMS	20 17 00.0	
	comp=Z,300nm,20.1s						
SSPA	**Standing Stone**	**120.40**	**43**	P	**PKiKP**	**19 22 46.8**	**+0.2**
	baz=297						
LONY	**Lake Ozonia**	**120.59**	**37**	P	**PKPdf**	**19 22 46.8**	**0.0**
	baz=302						
RONA	**Rosalia, Austr**	**120.82**	**327**	*i* PKiKP	**PKiKP**	**19 22 47.8**	**+0.5**
	comp=Z,3.7nm,1.0s						
ZVC	**Zvikov**	**120.85**	**330**	*e*PKPDF	**PKiKP**	**19 22 47.5**	**+0.2**
CONA	**Conrad Observa**	**120.91**	**327**	*i* PKiKP	**PKPdf**	**19 22 47.4**	**0.0**
	comp=Z,3.0nm,0.7s						
BOSA	**Boshof**	**121.11**	**235**	PKP	**PKPdf**	**19 22 48.2**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=95,slow=3.5,SNR=5.0						
CKRC	**Cesky Krumlov**	**121.18**	**329**	*e*PKiKP	**PKiKP**	**19 22 48.5**	**+0.5**
CKRC	**Cesky Krumlov**	**121.18**	**329**	*e*PKPDF	**PKiKP**	**19 22 48.5**	**+0.5**
KHC	**Kasperske Hory**	**121.36**	**330**	*i* PKiKP	**PKiKP**	**19 22 49.4**	**+1.0**
KHC				pmax	pmax		
	comp=Z,23nm,2.5s						
KHC	**Kasperske Hory**	**121.36**	**330**	*e*PKPDF	**PKiKP**	**19 22 48.9**	**+0.5**
GEC2	**GERESS Array S**	**121.48**	**329**		**PKPdf**	**19 22 47.7**	**-0.8**
GERES	**GERESS Array B**	**121.48**	**329**	PKP	**PKiKP**	**19 22 48.7**	**0.0**
	comp=Z,2.7nm,0.6s,baz=56,slow=3.4,SNR=12						
ARSA	**Arzberg**	**121.50**	**327**	*i* PKiKP	**PKPdf**	**19 22 48.7**	**+0.1**
	comp=Z,1.3nm,0.7s						
AGG	**Agios Georgios**	**121.58**	**316**	PKPdf	**PKPdf**	**19 22 47.5**	**-1.4**
AGG	**Agios Georgios**	**121.58**	**316**	PKiKP	**PKPdf**	**19 22 47.5**	**-1.4**
MBAR	**Mbarara**	**121.77**	**268**	*i* PKiKP	**PKiKP**	**19 22 50.8**	**+0.5**
MOA	**Molln**	**121.81**	**328**	*i* PKiKP	**PKiKP**	**19 22 48.9**	**-0.2**
	comp=Z,1.3nm,0.6s						
SOKA	**Soboth**	**122.12**	**327**	*i* PKiKP	**PKPdf**	**19 22 49.6**	**-0.2**
	comp=Z,5.2nm,1.2s						
GRF	**Grafenberg Arr**	**122.15**	**331**	*e*PKPdf	**PKiKP**	**19 22 50.1**	**+0.3**
	baz=48,slow=0.9						
PLCA	**Paso Flores**	**122.20**	**142**	PKP	**PKiKP**	**19 22 50.9**	**+0.5**
	comp=Z,5.5nm,0.7s,baz=247,slow=2.5,SNR=14						
BIOA	**Bad Ischl, Aus**	**122.24**	**328**	*i* PKiKP	**PKPdf**	**19 22 49.6**	**-0.4**
	comp=Z,0.9nm,0.5s						
LBNH	**Lisbon**	**122.39**	**37**	P	**PKPdf**	**19 22 50.3**	**0.0**
	baz=304						
OBKA	**Obir**	**122.49**	**327**	*i* PKiKP	**PKPdf**	**19 22 50.4**	**-0.1**
	comp=Z,0.8nm,0.5s

MLv3.2/11
*MDD **09** 19:05:44.3±0.7,37.°08N×9.°95W,h11km,mb_Lg3.2/9,*
Error ellipse: s-maj=5.4km s-min=3.8km az=54.0
*INMG **09** 19:05:45.8±1.6,37.°06N×9.°90W,h15km±4km,ML2.8, Error ellipse: s-maj=4.7km s-min=3.7km az=90.0*
*CNRM **09** 19:05:45.2,36.°64N×9.°70W,h7km, ML2.7*
*IGIL **09** 19:05:46.4,37.°06N×9.°90W,h14km,ML2.8*
ISC 09 19:05:41.3±1.6, 36°99N±0'03×9°98W±0'05, h16km±9km, n64, σ1s78/114, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PFVI	**Vila Bisbo**	**0.93**	**81**	*e*P		**Pn**	**19 06 00.6**	**+0.9**
PFVI				*e*S		**Sn**	**19 06 12.5**	**-0.2**
PFVI				A		A	19 06 16.5	
	141nm,0.2s							
PFVI	**Vila Bisbo**	**0.93**	**81**	Sg		**Sb**	**19 06 12.4**	**+1.2**
PFVI				Pg		**Pb**	**19 06 00.5**	**+1.4**
PFVI	**Vila Bisbo**	**0.93**	**81**	P		**Pn**	**19 06 00.8**	**+1.1**
PFVI	**Vila Bisbo**	**0.93**	**81**	S		**Sn**	**19 06 13.4**	**+0.7**
MORF	**Marmelete**	**1.10**	**73**	*e*P		**Pn**	**19 06 04.2**	**+2.1**
MORF				*e*S		**Sn**	**19 06 18.1**	**+1.1**
MORF				A		A	19 06 20.9	
	192nm,0.5s							
MORF	**Marmelete**	**1.10**	**73**	*e*P		**Pn**	**19 06 04.2**	**+2.1**
MORF				*e*S		**Sn**	**19 06 17.6**	**+0.5**
MORF				IAML			19 06 19.9	
	comp=N,291nm,0.2s							
PTEO	**Sao Teotonio**	**1.14**	**60**	*e*P		**Pn**	**19 06 05.0**	**+2.4**
PTEO				*e*S		**Sn**	**19 06 19.1**	**+1.2**
PTEO				A		A	19 06 21.4	
	comp=N,202nm,0.4s							
PNCL	**Nicolau / Gran**	**1.61**	**45**	*e*Pn		**Pb**	**19 06 10.9**	**+0.3**
PNCL				*e*Sg		**Sg**	**19 06 32.1**	**-1.0**
PNCL				A		A	19 06 34.7	
	comp=N,91nm,0.2s							
PNCL	**Nicolau / Gran**	**1.61**	**45**	Sn		**Sg**	**19 06 32.2**	**-0.9**
PNCL				Pn		**Pb**	**19 06 10.7**	**+0.1**
MESJ	**Messejana**	**1.64**	**58**	*e*Pn		**Pb**	**19 06 11.1**	**0.0**
MESJ				*e*Sg		**Sg**	**19 06 33.3**	**-0.8**
MESJ				A		A	19 06 37.1	
	comp=N,116nm,0.4s							
MESJ	**Messejana**	**1.64**	**58**	*e*Pg		**Pg**	**19 06 13.2**	**+0.4**
MESJ				*e*Sg		**Sg**	**19 06 32.7**	**-1.4**
MESJ				IAML			19 06 35.3	
	comp=N,64nm,0.0s							
PBDV	**Barranco-do-Ve**	**1.65**	**80**	*e*Pn		**Pn**	**19 06 11.5**	**+1.8**
PBDV				*e*Sg		**Sg**	**19 06 35.1**	**+0.5**
PBDV				A		A	19 06 36.6	
	comp=N,100nm,0.6s							
PBDV	**Barranco-do-Ve**	**1.65**	**80**	Pn		**Pn**	**19 06 11.5**	**+1.8**
PBDV				Sn		**Sg**	**19 06 34.6**	**0.0**
PCVE	**Castro Verde**	**1.67**	**67**	*e*Pn		**Pn**	**19 06 11.4**	**+1.5**
PCVE				*e*Sg		**Sg**	**19 06 35.0**	**-0.2**
PCVE				A		A	19 06 37.2	
	comp=N,118nm,0.6s							
PCVE	**Castro Verde**	**1.67**	**67**	Pn		**Pb**	**19 06 12.4**	**+0.7**
PCVE				Sn		**Sg**	**19 06 34.6**	**-0.6**
PVAQ	**Vaqueiros**	**1.85**	**76**	*e*Pn		**Pn**	**19 06 14.2**	**+1.9**
PVAQ				*e*Sg		**Sg**	**19 06 40.6**	**-0.3**
PVAQ				A		A	19 06 44.6	
	comp=N,137nm,0.2s							
PVAQ	**Vaqueiros**	**1.85**	**76**	Pn		**Pn**	**19 06 14.1**	**+1.7**
PVAQ				Sn		**Sg**	**19 06 39.8**	**-1.2**
PVAQ	**Vaqueiros**	**1.85**	**76**	P		**Pb**	**19 06 15.4**	**+0.7**
PVAQ	**Vaqueiros**	**1.85**	**76**	S		**Sg**	**19 06 39.7**	**-1.2**
PBEJ	**Beja**	**1.97**	**58**	*e*Pn		**Pb**	**19 06 18.2**	**+1.4**
PBEJ				*e*Sg		**Sg**	**19 06 43.6**	**-1.2**
PBEJ				A		A	19 06 45.3	
	comp=N,66nm,0.3s							
PACT	**Alcochete**	**2.00**	**27**	*e*Pn		**Pb**	**19 06 16.7**	**-0.5**
PACT				*e*Sg		**Sg**	**19 06 46.0**	**+0.5**
PACT				A		A	19 06 49.7	
	comp=N,44nm,0.3s							
PMAFR	**Mafra**	**2.04**	**15**	*e*Pn		**Pn**	**19 06 16.4**	**+1.4**
PMAFR				*e*Sn		**Sn**	**19 06 40.3**	**+0.2**
PMAFR				A		A	19 06 49.9	
	comp=N,30nm,0.5s							
EGRO	**El Granado**	**2.06**	**74**	Pn		**Pn**	**19 06 17.4**	**+2.1**
EGRO				Sn		**Sn**	**19 06 41.4**	**+0.8**
EGRO	**El Granado**	**2.06**	**74**	Pn		**Pn**	**19 06 16.8**	**+1.6**
EGRO				Pg		**Pg**	**19 06 20.5**	**-0.4**
EGRO				Sn		**Sn**	**19 06 41.5**	**+0.9**
EGRO				Sg		**Sg**	**19 06 46.4**	**-1.2**
EGRO				*i* Vmb_Lg			19 06 50.2	
EVO	**Evora**	**2.19**	**45**	*e*Pn		**Pn**	**19 06 18.0**	**+1.0**
EVO				*e*Sg		**Sg**	**19 06 50.3**	**-1.5**
EVO				A		A	19 06 54.3	
	comp=N,52nm,0.1s							
EVO	**Evora**	**2.19**	**45**	Pn		**Pn**	**19 06 18.3**	**+1.3**
EVO				Sn		**Sb**	**19 06 48.4**	**+0.9**
PMTG	**Montargil**	**2.50**	**33**	*e*Pn		**Pn**	**19 06 22.2**	**+1.0**
PMTG				*e*Sn		**Sn**	**19 06 50.6**	**-0.7**
PMTG				*e*Sg		**Sg**	**19 06 58.6**	**-2.9**
PMTG				A		A	19 07 03.0	
	comp=N,20nm,0.2s							
PBAR	**Barrancos**	**2.62**	**62**	*e*Pn		**Pn**	**19 06 24.4**	**+1.5**
PBAR				*e*Sg		**Sg**	**19 07 04.8**	**-0.6**
PBAR				A		A	19 07 07.3	
	comp=N,37nm,0.4s							
PBAR	**Barrancos**	**2.62**	**62**	Pn		**Pn**	**19 06 25.1**	**+2.2**
PESTR	**Estremoz**	**2.66**	**44**	*e*Pn		**Pn**	**19 06 24.8**	**+1.3**
PESTR				*e*Sg		**Sg**	**19 07 05.3**	**-1.5**
PESTR				A		A	19 07 08.8	
	comp=N,17nm,0.2s							
PESTR	**Estremoz**	**2.66**	**44**	P		**Pg**	**19 06 31.4**	**-0.9**
PESTR	**Estremoz**	**2.66**	**44**	S		**Sg**	**19 07 04.5**	**-2.4**
EBAD	**Badajoz**	**2.94**	**52**	Pg		**Pg**	**19 06 38.2**	**+0.6**
EBAD	**Badajoz**	**2.94**	**52**	Pn		**Pn**	**19 06 29.3**	**+2.0**
EBAD				Pg		**Pb**	**19 06 34.9**	**+1.7**
EBAD				Sn		**Sn**	**19 07 02.6**	**+0.4**
EBAD				Sg		**Sg**	**19 07 12.3**	**-3.3**
EBAD				*i* Vmb_Lg			19 07 16.2	
PMRV	**Marv??o**	**3.17**	**39**	*e*Pn		**Pn**	**19 06 31.8**	**+1.2**
PMRV				*e*Sn		**Sn**	**19 07 07.0**	**-1.1**
PMRV				A		A	19 07 28.3	
	comp=N,12nm,0.8s							
PCAS	**Casmilo, Conde**	**3.27**	**20**	*e*Pn		**Pn**	**19 06 33.6**	**+1.7**
PCAS				*e*Sn		**Sn**	**19 07 09.3**	**-1.2**
PCAS				A		A	19 07 29.9	
	comp=N,6.1nm,0.7s							
ESPR	**Espera**	**3.30**	**91**	Pn		**Pn**	**19 06 34.4**	**+2.1**
ESPR				Sn		**Sn**	**19 07 11.9**	**+0.6**
ESPR				Sg		**Sg**	**19 07 25.8**	**-1.6**
ESPR				*i* Vmb_Lg			19 07 39.0	
PCBR	**Castelo Branco**	**3.46**	**34**	*e*Pn		**Pn**	**19 06 36.5**	**+2.0**
PCBR				*e*Sn		**Sn**	**19 07 13.9**	**-1.2**
PCBR				A		A	19 07 37.6	
	comp=N,7.1nm,0.6s							
ECAB	**El Cabril**	**3.78**	**72**	Pn		**Pn**	**19 06 40.6**	**+1.6**
ECAB				Sn		**Sn**	**19 07 21.5**	**-1.6**
ECAB				Sg		**Sg**	**19 07 40.5**	**-2.2**
ECAB				*i* Vmb_Lg			19 07 46.0	
SMIR	**Smir Dam**	**3.93**	**108**	P		**Pn**	**19 06 41.2**	**+0.3**
SMIR	**Smir Dam**	**3.93**	**108**	S		**Sn**	**19 07 25.5**	**-1.2**
EMIJ	**Mijas**	**4.20**	**94**	Pn		**Pn**	**19 06 45.2**	**+0.5**
EMIJ				Sn		**Sn**	**19 07 34.2**	**+0.8**
AVE	**Averroes**	**4.24**	**150**	Sn		**Sn**	**19 07 31.7**	**-2.6**
EADA	**Adamuz**	**4.45**	**73**	Pn		**Pn**	**19 06 49.2**	**+1.1**
EADA				Sn		**Sn**	**19 07 37.6**	**-1.9**
EADA				Sg		**Sg**	**19 07 59.8**	**-4.2**
EADA				*i* Vmb_Lg			19 08 08.6	
MVO	**Moncorvo**	**4.76**	**28**	*e*Pn		**Pn**	**19 06 53.5**	**+1.1**
MVO				*e*Sn		**Sn**	**19 07 43.5**	**-3.8**
SRHM	**Skhour des Reh**	**4.82**	**159**	P		**Pn**	**19 06 56.5**	**+3.3**
SRHM	**Skhour des Reh**	**4.82**	**159**	S		**Sn**	**19 07 50.2**	**+1.5**
ELGU	**Los Guajares,**	**5.09**	**89**	Pn		**Pn**	**19 06 58.5**	**+1.5**
ELGU				Sn		**Sn**	**19 07 55.7**	**+0.3**
ELGU				*i* Vmb_Lg			19 08 04.7	
ELOB	**Lobios**	**5.09**	**16**	Sn		**Sn**	**19 07 51.0**	**-4.5**
ELOB				*i* Vmb_Lg			19 07 57.9	
PAB	**San Pablo**	**5.11**	**58**	Pn		**Pn**	**19 06 58.8**	**+1.5**
PAB				Sn		**Sn**	**19 07 53.1**	**-2.8**
PAB				Sg		**Sg**	**19 08 24.0**	**-1.4**
PAB				*i* Vmb_Lg			19 08 30.9	
PSIM	**Granatula de C**	**5.25**	**68**	Pn		**Pn**	**19 07 00.3**	**+1.2**
PSIM				Sn		**Sn**	**19 07 55.7**	**-3.6**
PSIM				Sg		**Sg**	**19 08 28.7**	**-1.0**
IFR	**Ifrane**	**5.26**	**130**	Pn		**Pn**	**19 07 00.7**	**+1.2**
IFR				Sn		**Sn**	**19 07 55.8**	**-4.1**
EQES	**Quesada**	**5.56**	**79**	Pn		**Pn**	**19 07 05.2**	**+1.8**
EQES				Sn		**Sn**	**19 08 05.9**	**-1.1**
EQES				*i* Vmb_Lg			19 08 07.1	
EQES				Sg		**Sg**	**19 08 38.9**	**-0.8**
MD31	**MD31**	**5.94**	**132**	P		**Pn**	**19 07 10.0**	**+1.4**
MD31	**MD31**	**5.94**	**132**	S		**Sn**	**19 08 15.0**	**-1.4**
TISM	**Timmit**	**6.01**	**150**	P		**Pn**	**19 07 09.4**	**-0.2**
TISM	**Timmit**	**6.01**	**150**	S		**Sn**	**19 08 15.1**	**-2.9**
MDT	**Midelt**	**6.07**	**132**	P		**Pn**	**19 07 11.8**	**+1.4**
MDT	**Midelt**	**6.07**	**132**	S		**Sn**	**19 08 15.0**	**-4.5**
TIO	**Tiouine**	**6.45**	**159**	Pn		**Pn**	**19 07 18.1**	**+2.4**
TIO				Sn		**Sn**	**19 08 25.5**	**-3.6**
TIO	**Tiouine**	**6.45**	**159**	P		**Pn**	**19 07 16.3**	**+0.6**
TIO	**Tiouine**	**6.45**	**159**	S		**Sn**	**19 08 25.3**	**-3.8**
TTIG	**Tnine Tigouga,**	**6.55**	**168**	P		Pn	19 07 15.4	-1.7
OUZM	**OUZ**	**6.62**	**155**	P		**Pn**	**19 07 17.9**	**-0.2**

*IDC **09** 19:12:57.1±3.2,21.°30N×144.°59E,h108km±28km, mb3.5/10,mbtmp3.9/11, Error ellipse: s-maj=30.8km s-min=14.0km az=88.0*
*NEIC **09** 19:13:00.3±1.4,21.°3N±0.°1×144.°4E±0.°2,h129km±8km, mb4.3/27, Error ellipse: s-maj=27.8km s-min=15.6km az=98.0*
ISC 09 19:12:58.0±0.6, 21°28N±0'07×144°5E±0'1, h114km, n40, σ0s79/41, mb4.1/26, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**6.16**	**341**	Pn		**Pn**	**19 14 26.1**	**-0.4**
JCJ	**Chichijima**	**6.16**	**341**	P		**Pn**	**19 14 26.8**	**+0.2**
	68nm,0.8s,baz=131,slow=19,SNR=1.8							
JCJ				S		**Sn**	**19 15 34.9**	**-0.7**
	41nm,0.3s,baz=196,slow=20,SNR=5.7							
TOLI2	**Tolitoli**	**30.59**	**232**	P		**P**	**19 19 02.3**	**+1.0**
TOLI2				IAmb		IAmb	19 19 17.9	
	comp=Z,7.4nm,1.0s							
LUWI	**Luwuk**	**30.69**	**226**	P		**P**	**19 19 01.5**	**-0.7**
COEN	**Coen**	**35.04**	**182**	P		**P**	**19 19 40.8**	**+0.8**
MTN	**Manton Dam**	**36.35**	**202**	P		**P**	**19 19 50.8**	**-0.4**
KNRA	**Kununurra**	**39.83**	**204**	P		**P**	**19 20 20.5**	**+0.1**
WB0	**Warramunga Arr**	**41.97**	**194**	P		**P**	**19 20 38.1**	**+0.2**
WB0				IAmb		IAmb	19 20 58.7	
	comp=Z,13nm,1.4s							
WB2	**Warramunga Arr**	**42.15**	**194**	P		**P**	**19 20 39.7**	**+0.4**
WB2				IAmb		IAmb	19 21 07.9	
	comp=Z,16nm,1.5s							
WRA	**Warramunga Arr**	**42.15**	**194**	P		**P**	**19 20 39.5**	**+0.1**
	comp=Z,1.8nm,0.4s,baz=16,slow=8.8,SNR=47							
	comp=Z,1.8nm,0.4s							
FITZ	**Fitzroy Crossi**	**43.26**	**207**	P		**P**	**19 20 48.6**	**+0.2**
AS31	**Alice Springs**	**45.84**	**194**	P		**P**	**19 21 08.5**	**-0.3**
ASAR	**Alice Springs**	**45.84**	**194**	P		**P**	**19 21 08.4**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=15,slow=8.5,SNR=29							
	comp=Z,1.2nm,0.6s							
STKA	**Stephens Creek**	**52.92**	**183**	P		**P**	**19 22 01.7**	**-0.8**
STKA	**Stephens Creek**	**52.92**	**183**	P		**P**	**19 22 02.6**	**0.0**
	comp=Z,0.5nm,0.3s,baz=350,slow=12,SNR=3.6							
	comp=Z,0.5nm,0.3s							
FORT	**Forrest**	**54.10**	**197**	P		**P**	**19 22 10.3**	**-0.8**
BBOO	**Buckleboo**	**54.38**	**189**	P		**P**	**19 22 12.2**	**-1.0**
BBOO				IAmb		IAmb	19 22 27.5	
	comp=Z,9.4nm,1.4s							
MKAR	**Makanchi Array**	**55.86**	**313**	P		**P**	**19 22 24.3**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=95,slow=7.6,SNR=1.6							
	comp=Z,0.3nm,0.5s							
H18K	**Honhosa River**	**57.27**	**25**	P		**P**	**19 22 33.5**	**+0.1**
H18K				IAmb		IAmb	19 23 03.8	
	comp=Z,4.8nm,1.3s							
G18K	**Tagagawik**	**57.44**	**24**	P		**P**	**19 22 35.0**	**+0.5**
G18K				IAmb		IAmb	19 22 38.5	
	comp=Z,5.0nm,1.4s							
G19K	**Purcell Mounta**	**58.12**	**24**	P		**P**	**19 22 40.4**	**+1.1**
G19K				IAmb		IAmb	19 23 12.7	
	comp=Z,4.3nm,1.2s							
D19K	**Kuna River**	**58.63**	**21**	P		**P**	**19 22 43.8**	**+0.9**
D19K				IAmb		IAmb	19 23 24.0	
	comp=Z,3.1nm,1.4s							
KURBB	**Kurchatov Arra**	**58.65**	**317**	P		**P**	**19 22 43.3**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=95,slow=7.5,SNR=3.7							
D22K	**Ayikyak River**	**60.63**	**22**	P		**P**	**19 22 58.0**	**+1.4**
D22K				IAmb		IAmb	19 23 23.6	
	comp=Z,5.3nm,1.4s							
C23K	**Itkillik River**	**61.61**	**21**	P		**P**	**19 23 04.1**	**+1.0**
C23K				IAmb		IAmb	19 23 35.2	
	comp=Z,7.6nm,1.5s							
ILAR	**Eielson Array**	**61.87**	**27**	P		**P**	**19 23 04.0**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=255,slow=5.4,SNR=2.3							
	comp=Z,0.3nm,0.7s							
D25K	**Kavik River**	**62.93**	**22**	P		**P**	**19 23 13.1**	**+1.1**
J26L	**Joseph Creek**	**63.24**	**27**	P		**P**	**19 23 14.5**	**+0.3**
J26L				IAmb		IAmb	19 23 37.7	
	comp=Z,2.3nm,1.3s							
BVAR	**Borovoye Array**	**63.77**	**320**	P		**P**	**19 23 18.1**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=86,slow=7.1,SNR=8.0							
	comp=Z,0.7nm,0.4s							
D27M	**Malcolm River**	**64.81**	**22**	P		**P**	**19 23 26.1**	**+1.8**
D27M				IAmb		IAmb	19 24 01.2	
	comp=Z,1.8nm,1.1s							
E28M	**Babbage River**	**65.27**	**23**	P		**P**	**19 23 28.8**	**+1.6**
L29M	**L29M**	**65.56**	**29**	P		**P**	**19 23 30.5**	**+1.2**
L29M				IAmb		IAmb	19 24 07.6	
	comp=Z,9.7nm,1.4s							
G31M	**Satah River**	**67.21**	**25**	P		**P**	**19 23 39.7**	**+0.1**
G31M				IAmb		IAmb	19 24 04.2	
	comp=Z,3.2nm,1.4s							
Q32M	**Nakina River**	**68.58**	**34**	P		**P**	**19 23 48.6**	**0.0**
ABKAR	**Akbulak array**	**70.68**	**316**	P		**P**	**19 24 01.0**	**-0.4**
GEYT	**Alibeck**	**74.47**	**305**	P		**P**	**19 24 25.1**	**+1.0**
	comp=Z,1.5nm,0.7s,baz=87,slow=12,SNR=2.5							
	comp=Z,1.5nm,0.7s							
YKA	**Yellowknife Ar**	**76.26**	**28**	P		**P**	**19 24 33.9**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=295,slow=5.4,SNR=4.1							
	comp=Z,0.3nm,0.5s							
HAWA	**Hanford**	**78.88**	**45**	P		**P**	**19 24 48.6**	**-0.2**
HAWA				IAmb		IAmb	19 25 10.0	
	comp=Z,12nm,1.5s							
NVAR	**Mina Array Bea**	**82.46**	**52**	P		**P**	**19 25 07.6**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=286,slow=6.5,SNR=3.0							
	comp=Z,0.4nm,0.6s							
FINES	**FINESS Array B**	**84.07**	**335**	P		**P**	**19 25 14.4**	**-1.3**
	comp=Z,1.4nm,0.9s,baz=58,slow=5.4,SNR=6.6							
	comp=Z,1.4nm,0.9s							

*OMAN **09** 19:14:32.7±0.9,26.°89N×55.°73E,h4km±4km,ml2.3/11, Error ellipse: s-maj=10.4km s-min=5.3km az=76.0*
*DSN **09** 19:14:33.1±1.4,26.°91N×55.°86E,h10km,ML2.3/7, Error ellipse: s-maj=28.9km s-min=6.8km az=57.0*
*TEH **09** 19:14:35.0,26.°87N×55.°95E,h20km±111km,ML2.8*
ISC 09 19:14:33.8±1.3, 26°88N±0'03×55°91E±0'06, h8km±11km, n26, σ0s72/36, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GENO	**Geno**	**0.57**	**24**	Pg		**Pb**	**19 14 46.1**	**-0.1**
GENO				Sg		**Sb**	**19 14 54.9**	**+0.4**
IBND	**Bandar-abas**	**0.80**	**44**	Pg		**Pn**	**19 14 50.3**	**-1.1**
SHME	**Shamm**	**0.85**	**166**	P		**Pb**	**19 14 50.6**	**-0.1**
SHME	**Shamm**	**0.85**	**166**	P		**Pb**	**19 14 50.6**	**-0.1**
SHME				S		**Sn**	**19 15 03.7**	**-1.0**
BANOM	**Banah**	**1.01**	**160**	P		**Pg**	**19 14 53.0**	**-0.2**
BANOM				S		**Sn**	**19 15 08.0**	**-0.7**
BANOM	**Banah**	**1.01**	**160**	P		**Pg**	**19 14 53.1**	**-0.1**
BANOM				S		**Sn**	**19 15 08.7**	**0.0**
MASF	**Masafi**	**1.52**	**171**	P		**Pb**	**19 15 01.9**	**-0.2**
MASF				S		**Sg**	**19 15 22.9**	**+0.4**
MSFE	**Esma-Masafi**	**1.53**	**171**	P		**Pb**	**19 15 01.4**	**-1.0**
LAR1	**LAR**	**1.58**	**300**	Pg		**Pg**	**19 15 04.5**	**+0.5**
MDH	**Madha**	**1.61**	**167**	P		**Pn**	**19 15 02.2**	**-0.2**
MDH				S		**Sg**	**19 15 25.7**	**+0.2**
MDH	**Madha**	**1.61**	**167**	P		**Pb**	**19 15 02.7**	**-1.0**
	SNR=7.3							
MDH				S		**Sg**	**19 15 25.8**	**+0.2**
UOSS	**Minazif**	**1.94**	**172**	P		**Pn**	**19 15 07.6**	**+0.6**
UOSS	**Minazif**	**1.94**	**172**	P		**Pb**	**19 15 08.5**	**-0.9**
UOSS				S		**Sb**	**19 15 34.7**	**+1.0**
JASK	**Jask - Hormozg**	**2.02**	**119**	Pn		**Pn**	**19 15 09.0**	**+0.8**
JASK	**Jask - Hormozg**	**2.02**	**119**	P		**Pn**	**19 15 08.9**	**+0.8**
HATD	**Hatta, Dubai**	**2.05**	**174**	P		**Pn**	**19 15 08.1**	**-0.4**
HATD	**Hatta, Dubai**	**2.05**	**174**	P		**Pb**	**19 15 09.7**	**-1.5**
ASHO	**Ashiyiah**	**2.19**	**176**	P		**Pn**	**19 15 10.6**	**+0.1**
ASHO	**Ashiyiah**	**2.19**	**176**	P		**Pn**	**19 15 11.2**	**+0.8**
	SNR=8.6							
SOHO	**SOHO**	**2.79**	**168**	P		**Pn**	**19 15 18.5**	**-0.2**
ARQ	**Araqi**	**3.57**	**171**	P		**Pn**	**19 15 30.0**	**+0.5**
	SNR=12							
ARQ				S		**Sn**	**19 16 13.7**	**+1.8**
UMZA	**Um Al Zommool**	**4.20**	**189**	P		**Pn**	**19 15 37.6**	**-0.5**
UMZA				S		**Sn**	**19 16 26.9**	**-0.5**
SMDO	**Samad**	**4.27**	**152**	P		**Pn**	**19 15 39.8**	**+0.6**
BSY	**Bisya**	**4.28**	**164**	P		**Pn**	**19 15 39.9**	**+0.6**
WBK	**Wadi Bani Khal**	**5.08**	**146**	P		**Pn**	**19 15 50.1**	**-0.1**
	SNR=6.5							
MHTO	**MHTO**	**6.16**	**162**	P		**Pn**	**19 16 05.0**	**0.0**

*IDC **09** 19:14:49.6±0.8,29.°50N×68.°10E,h0km,mb3.9/18, mbtmp3.9/20,ML4.2/2,MS3.8/7, Error ellipse: s-maj=19.7km s-min=16.2km az=32.0*
*NEIC **09** 19:14:51.3±2.3,29.°39N±0.°07×68.°11E±0.°05,h22km±7km, mb4.3/25, Error ellipse: s-maj=10.2km s-min=5.0km az=198.0*
ISC 09 19:14:52.7±0.5, 29°49N±0'06×67°98E±0'05, h24km, n101, σ2s57/126, mb4.1/26, MS3.8/7, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBL	**Kabul**	**5.12**	**10**	Pn		**Pn**	**19 16 10.0**	**+2.0**
KBL				Sn		**Sn**	**19 17 04.6**	**-1.8**
KBL	**Kabul**	**5.12**	**10**	P		**Pn**	**19 16 10.0**	**+2.0**
KBL				S		**Sn**	**19 17 10.4**	**+4.0**
NIL	**Nilore**	**6.12**	**46**	Pn		**Pn**	**19 16 21.9**	**+0.3**
HRA	**Herat**	**6.90**	**316**			**Pn**	**19 16 36.1**	**+3.6**
NGCH	**Negor - Chabah**	**7.34**	**238**	P		**Pn**	**19 16 40.9**	**+2.5**
	SNR=33							
NGCH				S		**Sn**	**19 18 00.6**	**-0.4**
SIMJ	**Simiganj**	**9.18**	**5**	Pn		**Pn**	**19 17 03.5**	**-0.2**
CHGR	**Chuyangaron**	**9.20**	**6**	Pn		**Pn**	**19 17 03.5**	**-0.4**
JASK	**Jask - Hormozg**	**9.67**	**250**	P		**Pn**	**19 17 12.3**	**+2.0**
	SNR=9.5							
GAR	**Garm**	**9.68**	**11**	Pn		**Pn**	**19 17 10.9**	**+0.3**
WSAR	**Wadi Sarin**	**10.44**	**236**	Pn		**Pn**	**19 17 21.3**	**+0.4**
	2.0nm,0.3s,baz=67,slow=7.7,SNR=24							
WSAR				Sn		**Sn**	**19 19 09.5**	**-7.8**
	0.8nm,0.3s,baz=26,slow=13,SNR=3.5							
WSAR				LR		LR	19 22 43.9	
	comp=Z,517nm,20.0s,baz=106,slow=45 10nm,0.5s							
DRK	**Karamyk**	**10.45**	**17**	Pn		**Pn**	**19 17 20.5**	**-0.8**
WBK	**Wadi Bani Khal**	**10.61**	**232**	P		**Pn**	**19 17 23.7**	**+0.4**
WBK				S		**Sn**	**19 19 14.8**	**-6.5**
JLN	**Jalan Bani Buh**	**10.63**	**229**	P		**Pn**	**19 17 23.0**	**-0.5**
JLN				S		**Sn**	**19 19 17.5**	**-4.3**
BIDO	**Bidbid**	**10.64**	**238**	P		**Pn**	**19 17 25.1**	**+1.5**
BIDO				S		**Sn**	**19 19 17.9**	**-4.2**
BTK	**Batken**	**10.80**	**12**	Pn		**Pn**	**19 17 26.8**	**+1.0**
BTK						**Sn**	**19 19 26.3**	**+0.4**
BANOM	**Banah**	**10.95**	**254**	Pn		**Pn**	**19 17 30.8**	**+2.9**
BANOM	**Banah**	**10.95**	**254**	P		**Pn**	**19 17 28.4**	**+0.5**
BANOM				S		**Sn**	**19 19 23.9**	**-5.7**
SMDO	**Samad**	**10.97**	**237**	P		**Pn**	**19 17 29.4**	**+1.1**
	SNR=8.2							
SMDO				S		**Sn**	**19 19 26.2**	**-4.2**
SHME	**Shamm**	**11.03**	**255**	Pn		**Pn**	**19 17 30.5**	**+1.5**
SHME	**Shamm**	**11.03**	**255**	P		**Pn**	**19 17 30.6**	**+1.5**
	SNR=6.4							
MDH	**Madha**	**11.19**	**251**	Pn		**Pn**	**19 17 30.9**	**-0.2**
MDH	**Madha**	**11.19**	**251**	P		**Pn**	**19 17 31.8**	**+0.6**
MDH				P		**Pn**	**19 17 31.8**	**+0.6**
MDH				S		**Sn**	**19 19 27.5**	**-8.0**
MDH				S		**Sn**	**19 19 27.5**	**-8.0**
HOQ	**Hoqain**	**11.22**	**241**	P		**Pn**	**19 17 33.1**	**+1.5**
	SNR=15							
HOQ				P		**Pn**	**19 17 33.1**	**+1.5**
	SNR=15							
HOQ				S		**Sn**	**19 19 31.6**	**-4.7**
HOQ				S		**Sn**	**19 19

RAYN	**Ar Rayn**	**20.96**	**259**	P	**P**		**19 19 33.6**	**-0.5**
WMQ	**Urumqi**	**21.25**	**42**	*e*P	**P**		**19 19 38.8**	**+1.7**
WMQ				sP	sP		19 19 49.4	+2.5
WMQ				pmax	pmax			
	comp=Z,18nm,1.5s							
WMQ				pmax	pmax			
	comp=Z,130nm,3.9s							
WMQ				LR	LR			
	comp=N,580nm,14.7s							
WMQ				LR	LR			
	comp=E,520nm,17.9s							
WMQ				LR	LR			
	comp=Z,180nm,14.7s							
GNI	**Garni**	**21.78**	**305**	P	**P**		**19 19 42.9**	**-0.1**
KURBB	**Kurchatov Arra**	**22.55**	**18**	P	**P**		**19 19 49.9**	**-1.0**
	comp=Z,3.1nm,0.9s,baz=209,slow=11,SNR=7.5							
KURBB				LR	LR		19 30 03.0	
	comp=Z,242nm,20.6s,baz=168,slow=41							
	comp=Z,3.1nm,0.9s							
KURK	**Kurchatov**	**22.66**	**18**	P	**P**		**19 19 51.5**	**-0.5**
KURK				IAmb	IAmb		19 20 09.4	
	comp=Z,11nm,0.9s							
GOMU	**GeErMu**	**23.47**	**66**	P	**P**		**19 20 02.1**	**+1.2**
GOMU				S	**S**		**19 24 19.8**	**+6.4**
GOMU				pmax	pmax			
	comp=Z,3.0nm,1.0s							
GOMU				LR	LR			
	comp=N,310nm,12.3s							
GOMU				LR	LR			
	comp=E,220nm,12.3s							
GOMU				LR	LR			
	comp=Z,330nm,12.2s							
BVAR	**Borovoye Array**	**23.58**	**4**	P	**P**		**19 20 01.4**	**0.0**
	comp=Z,1.2nm,0.5s,baz=181,slow=12,SNR=6.8							
BVAR				LR	LR		19 30 18.2	
	comp=Z,227nm,19.2s,baz=203,slow=39							
	comp=Z,1.2nm,0.5s							
BRVK	**Borovoye**	**23.61**	**3**	P	**P**		**19 20 01.0**	**-0.6**
BRVK				IAmb	IAmb		19 20 28.4	
	comp=Z,9.0nm,0.8s							
KBZ	**Khabaz**	**24.52**	**312**	P	**P**		**19 20 12.2**	**+2.0**
	comp=Z,2.8nm,0.9s,baz=112,slow=11,SNR=3.6							
	comp=Z,2.8nm,0.9s							
ZAA0	**Zalesovo Array**	**27.34**	**22**	P	**P**		**19 20 34.2**	**-1.3**
ZALV	**Zalesovo Beam**	**27.34**	**22**	P	**P**		**19 20 33.7**	**-1.9**
ZALV	**Zalesovo Beam**	**27.34**	**22**	P	**P**		**19 20 35.5**	**0.0**
	comp=Z,0.3nm,0.3s,baz=218,slow=8.7,SNR=3.0							
	comp=Z,0.3nm,0.3s							
GTA	**Gaotai**	**27.93**	**61**	*e*P	**P**		**19 20 42.7**	**+1.5**
GTA				pP	pP		19 20 47.9	-0.5
GTA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
ATD	**Arta Tunnel**	**29.45**	**238**	LR	LR		19 35 11.2	
	comp=Z,7.6nm,18.1s,baz=56,slow=41							
CMAR	**Chiang Mai Arr**	**30.26**	**104**	P	**P**		**19 21 02.5**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=289,slow=8.5,SNR=1.8							
	comp=Z,0.3nm,0.4s							
SONM	**Songino Array**	**34.69**	**47**	P	**P**		**19 21 38.6**	**-2.0**
SONM				IAmb	IAmb		19 21 56.4	
	comp=Z,3.1nm,0.9s							
SONM	**Songino Array**	**34.69**	**47**	P	**P**		**19 21 42.1**	**+1.4**
	comp=Z,0.8nm,0.4s,baz=260,slow=8.6,SNR=6.5							
	comp=Z,0.8nm,0.4s							
ULN	**Ulaanbaatar**	**35.13**	**48**	P	**P**		**19 21 41.9**	**-2.5**
ULN				IAmb	IAmb		19 21 59.2	
	comp=Z,3.3nm,0.9s							
AKASG	**Malin Array Be**	**35.87**	**317**	P	**P**		**19 21 51.9**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=105,slow=6.9,SNR=3.0							
	comp=Z,0.2nm,0.4s							
AKBB	**Malin Array Si**	**35.87**	**317**	P	**P**		**19 21 51.1**	**+0.5**
AKBB				IAmb	IAmb		19 22 16.2	
	comp=Z,7.4nm,1.2s							
KIEV	**Kiev**	**35.88**	**317**	P	**P**		**19 21 50.7**	**+0.1**
MLR	**Muntele Rosu**	**36.52**	**308**	P	**P**		**19 21 56.5**	**+0.2**
HHC	**Hu-ho-hao-te**	**37.04**	**60**	*e*P	**P**		**19 21 58.1**	**-2.7**
HHC				pmax	pmax			
	comp=Z,8.0nm,0.6s							
HHC				pmax	pmax			
	comp=Z,120nm,4.7s							
BURAR	**Bucovina Array**	**37.47**	**311**	P	**P**		**19 22 03.3**	**-1.0**
BUR08	**Bucovina Ar. S**	**37.48**	**311**	P	**P**		**19 22 04.1**	**-0.4**
PSZ	**Piszkesteto**	**41.05**	**310**	P	**P**		**19 22 33.4**	**-0.8**
PSZ				IAmb	IAmb		19 22 54.2	
	comp=Z,9.9nm,1.2s							
PSZ	**Piszkesteto**	**41.05**	**310**	PKIKP	**P**		**19 22 33.4**	**-0.8**
PSZ	**Piszkesteto**	**41.05**	**310**	pmax	pmax			
	comp=Z,10.0nm,1.2s							
NRIK	**Noril'sk**	**41.46**	**10**	P	**P**		**19 22 36.3**	**-0.8**
NRIK				IAmb	IAmb		19 22 53.3	
	comp=Z,6.2nm,0.9s							
NRIK	**Noril'sk**	**41.46**	**10**	P	**P**		**19 22 37.8**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=183,slow=4.7,SNR=1.5							
	comp=Z,0.8nm,0.3s							
FINES	**FINESS Array B**	**42.16**	**331**	P	**P**		**19 22 44.2**	**+1.2**
	comp=Z,2.3nm,1.0s,baz=116,slow=9.4,SNR=5.5							
	comp=Z,2.3nm,1.0s							
TIP	**Timpagrande**	**42.90**	**297**	P	**P**		**19 22 49.6**	**+0.2**
SGRT	**San Giovanni R**	**43.58**	**301**		**P**		**19 22 53.5**	**-1.4**
ARCES	**ARCESS Array B**	**46.79**	**341**	P	**P**		**19 23 20.7**	**+0.8**
	comp=Z,6.1nm,1.2s,baz=125,slow=7.3,SNR=10							
ARCES				LR	LR		19 45 50.1	
	comp=Z,116nm,21.0s,baz=96,slow=40							
	comp=Z,6.1nm,1.2s							
KEST	**Kesra**	**49.16**	**293**	P	**P**		**19 23 40.3**	**+1.5**
	comp=Z,1.7nm,0.6s,baz=81,slow=5.9,SNR=4.1							
	comp=Z,1.7nm,0.6s							
KSRS	**Korea Array**	**49.90**	**64**	P	**P**		**19 23 43.8**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=276,slow=7.7,SNR=4.6							
	comp=Z,1.1nm,0.5s							
ESDC	**Sonseca Array**	**58.67**	**301**	P	**P**		**19 24 48.9**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=53,slow=7.2,SNR=5.5							
	comp=Z,0.7nm,0.6s							
WRA	**Warramunga Arr**	**80.63**	**119**	P	**P**		**19 27 03.9**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=316,slow=4.7,SNR=23							
	comp=Z,0.9nm,0.5s							
ILAR	**Eielson Array**	**82.19**	**14**	P	**P**		**19 27 11.3**	**0.0**
	comp=Z,0.2nm,0.5s,baz=318,slow=4.9,SNR=1.8							
	comp=Z,0.2nm,0.5s							
ASAR	**Alice Springs**	**82.49**	**122**	P	**P**		**19 27 13.5**	**0.0**
	comp=Z,1.8nm,0.4s,baz=306,slow=5.4,SNR=107							
	comp=Z,1.8nm,0.4s							
YKA	**Yellowknife Ar**	**88.31**	**1**	P	**P**		**19 27 43.1**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=348,slow=4.4,SNR=5.9							
	comp=Z,0.3nm,0.6s							
TXAR	**Lajitas Array**	**120.96**	**351**	PKP	**PKiKP**		**19 33 44.9**	**+1.1**
	comp=Z,0.1nm,0.4s,baz=17,slow=0.9,SNR=1.7							

IDC 09 19:22:33.8±49.0, 30.13°S × 177.47°W, h0 km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=893.9km s-min=188.6km az=98.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.99**	**256**	P	P	19 29 27.9	0.0
	1.5nm,0.7s,baz=100,slow=12,SNR=5.2						
	1.5nm,0.7s						
ASAR	**Alice Springs**	**43.59**	**266**	P	P	19 30 39.7	-0.2
	0.2nm,0.4s,baz=103,slow=7.7,SNR=7.3						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**44.55**	**272**	P	P	19 30 47.5	-0.2
	0.6nm,0.3s,baz=111,slow=8.1,SNR=6.6						
	0.6nm,0.3s						

*IDC **09** 19:26:10.1±2.0, 8.05°S × 123.30°E, h0 km, mb3.2/1, mbtmp3.3/3, ML3.5/2, Error ellipse: s-maj=274.6km s-min=30.5km az=57.0*

ISC 09 19:26:10.9±1.2, 8.15°S ± 0.2 × 123.21°E ± 0.10, h10 km, n10, σ2 s 88/8, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**5.42**	**262**	P	**Pg**	**19 27 55.0**	**+0.1**
DRS	**Darwin Rock St**	**8.69**	**120**	P	Pn	19 28 22.2	+5.4
MTN	**Manton Dam**	**9.09**	**122**	P	**Pn**	**19 28 25.8**	**+3.5**
KDU	**Kakadu**	**10.18**	**117**	P	**Pn**	**19 28 39.3**	**+2.1**
WRA	**Warramunga Arr**	**15.95**	**139**	Pn	**P**	**19 29 56.6**	**-2.6**
	0.3nm,0.3s,baz=315,slow=14,SNR=13						
WRA				Sn	Sn	19 32 37.2	-15
	0.1nm,0.3s,baz=316,slow=23,SNR=2.8						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**18.55**	**148**	P	**Pn**	**19 30 28.3**	**+0.1**
	0.1nm,0.3s,baz=331,slow=12,SNR=7.8						
ASAR				S	Sn	19 33 42.5	-13
	0.2nm,0.7s,baz=317,slow=20,SNR=2.5						
	0.4nm,0.6s						
MEEK	**Meekatharra**	**18.93**	**193**	P	Pn	19 30 40.2	+7.4
QIS	**Mount Isa**	**20.10**	**130**	P	**P**	**19 30 43.2**	**-1.8**
COEN	**Coen**	**20.43**	**108**	P	**P**	**19 30 44.8**	**-3.8**
MKAR	**Makanchi Array**	**65.66**	**330**	P	**P**	**19 36 56.1**	**+0.6**
	0.1nm,0.5s,baz=129,slow=7.5,SNR=4.9						
	0.1nm,0.5s						

*JMA **09** 19:32:08.3±0.1, 43.1°N ± 0.5 × 145.8°E ± 0.7, h52 km, MV3.8/39, OFF NEMURO PENINSULA*
JMA Felt I J1 at OFF NEMURO PENINSULA .
*SKHL **09** 19:32:09.0±0.3, 43.10°N × 145.80°E, h40 km ± 4 km, mb4.7/3*

ISC 09 19:32:08.9±1.9, 43.11°N ± 0.08 × 145.79°E ± 0.07, h46 km ± 10 km, n13, σ0 s 47/24, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.26**	**352**	*e*P	**Pn**	**19 32 17.2**	**-0.1**
NEM2				*e*S	Sn	19 32 23.5	+0.3
NMR	**Nemuro--Hokkai**	**0.27**	**350**	*e*P	**Pn**	**19 32 17.1**	**-0.3**
NMR				*e*S	Sn	19 32 23.4	+0.1
JKHN	**Kushirohamanak**	**0.46**	**267**	*e*P	**Pn**	**19 32 19.6**	**+0.2**
JKHN				*e*S	Sn	19 32 27.5	+0.5
AKK	**Akkeshi**	**0.70**	**263**	*e*P	**Pn**	**19 32 22.1**	**-0.4**
AKK				*e*S	Sn	19 32 32.0	-0.4
JAK	**Akkeshi**	**0.81**	**263**	*e*P	**Pn**	**19 32 23.5**	**-0.4**
JAK				*e*S	Sn	19 32 35.0	+0.1
JNSB	**Nemuroshibetsu**	**0.88**	**320**	*e*P	**Pn**	**19 32 24.4**	**-0.5**
JNSB				*e*S	Sn	**19 32 36.8**	**+0.1**
JNK	**Nakash**	**0.92**	**302**	*e*P	**Pn**	**19 32 24.7**	**-0.7**
YUK	**Yuzh-Kuril'sk**	**0.93**	**3**	*e*P	**Pn**	**19 32 25.5**	**-0.1**
YUK				AMB	AMB	19 32 26.1	
	250nm,0.3s						
YUK				*i* S	**Sn**	**19 32 37.1**	**-0.7**
YUK				A	A	19 32 38.8	
	2μm,0.5s						
YUK				A	A	19 32 38.8	
	2μm,0.5s						
JRA	**Rausu**	**0.96**	**330**	*e*P	**Pn**	**19 32 25.7**	**-0.3**
JRA				*e*S	**Sn**	**19 32 38.5**	**-0.1**
JOB	**Onbets**	**1.45**	**263**	*e*P	**Pn**	**19 32 32.4**	**-0.3**
JAR	**Ashorobuto**	**1.49**	**278**	*e*P	**Pn**	**19 32 33.1**	**-0.1**
JAR				*e*S	**Sn**	**19 32 51.9**	**+0.4**
JTKR	**Abashiri--Toko**	**1.62**	**303**	*e*P	**Pn**	**19 32 35.4**	**+0.4**
JTKR				*e*S	**Sn**	**19 32 55.9**	**+1.3**
KUR	**Kuril'sk**	**2.60**	**34**	*e*P	**Pn**	**19 32 48.8**	**+0.4**
KUR				AMB	AMB	19 32 49.4	
	30nm,0.6s						
KUR				*i* S	**Sn**	**19 33 18.4**	**-0.2**
KUR				A	A	19 33 20.6	
	250nm,0.5s						
KUR				A	A	19 33 20.6	
	160nm,0.5s						

*IDC **09** 19:33:35.9±0.8, 4.08°S × 152.64°E, h128 km ± 6 km, mb3.9/14, mbtmp4.3/15, Error ellipse: s-maj=18.8km s-min=10.7km az=103.0*
*NEIC **09** 19:33:36.7±1.7, 4.08°S ± 0.08 × 152.68°E ± 0.05, h130 km ± 6 km, mb4.5/53, Error ellipse: s-maj=13.1km s-min=1.2km az=150.0*

ISC 09 19:33:37.8±0.4, 4.16°S ± 0.06 × 152.58°E ± 0.07, h150 km, n106, σ1 s 56/110, mb4.4/39, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.41**	**266**		**Pn**	**19 33 55.9**	**-2.9**
RABL	**Rabaul**	**0.41**	**266**	P	**Pn**	**19 33 56.1**	**-2.7**
MANU	**Manus Island**	**5.61**	**292**	Pn	**Pn**	**19 34 56.9**	**-2.6**
PMG	**Port Moresby**	**7.49**	**226**	Pn	**Pn**	**19 35 24.4**	**-0.1**
PMG	**Port Moresby**	**7.49**	**226**	P	**Pn**	**19 35 25.6**	**+1.2**
	10nm,0.8s,baz=24,slow=10.0,SNR=3.0						
PMG				S	**Sn**	**19 36 47.1**	**-1.1**
	32nm,0.6s,baz=40,slow=17,SNR=8.6						
COEN	**Coen**	**13.45**	**223**	Pn	**P**	**19 36 45.6**	**-1.3**
RK1H	**Rockhampton Ha**	**19.22**	**186**	P	**Pn**	**19 37 53.1**	**+0.1**
FAKI	**Fak Fak**	**20.33**	**273**	P	**P**	**19 38 03.3**	**+0.8**
FAKI				IAmb	IAmb	19 38 26.3	
	comp=Z,35nm,1.4s						
QIS	**Mount Isa**	**20.62**	**217**	P	Pn	19 38 07.0	-2.6
EIDS	**Eidsvold**	**21.14**	**184**	P	**P**	**19 38 07.0**	**-4.0**
EIDS				IAmb	IAmb	19 38 14.5	
	comp=Z,20nm,1.1s						
KDU	**Kakadu**	**21.60**	**246**	P	**P**	**19 38 16.7**	**+0.6**
DZM	**Mont Dzumac**	**22.31**	**144**	P	**P**	**19 38 17.8**	**-5.5**
DZM				IAmb	IAmb	19 38 41.7	
	comp=Z,34nm,1.3s						
DZM	**Mont Dzumac**	**22.31**	**144**	P	**P**	**19 38 23.9**	**+0.6**
DZM	**Mont Dzumac**	**22.31**	**144**	P	**P**	**19 38 23.4**	**+0.1**
	comp=Z,7.7nm,0.6s,baz=326,slow=12,SNR=7.0						
	comp=Z,7.7nm,0.6s						
MTN	**Manton Dam**	**22.88**	**247**	P	**P**	**19 38 28.0**	**-0.6**
MTN				IAmb	IAmb	19 39 02.0	
	comp=Z,37nm,1.4s						
MTN	**Manton Dam**	**22.88**	**247**	P	**P**	**19 38 28.7**	**+0.1**
WB0	**Warramunga Arr**	**23.56**	**227**	P	**P**	**19 38 35.9**	**+1.1**
WB0				IAmb	IAmb	19 38 37.1	
	comp=Z,16nm,0.7s						
WR0	**Warramunga Arr**	**23.57**	**227**	P	**P**	**19 38 36.0**	**+1.0**
WR0				IAmb	IAmb	19 38 37.2	
	comp=Z,14nm,0.8s						
WRAB	**Tennant Creek**	**23.70**	**227**	P	**P**	**19 38 37.5**	**+1.5**
WRAB				IAmb	IAmb	19 38 38.4	
	comp=Z,19nm,0.7s						
WB2	**Warramunga Arr**	**23.70**	**227**	P	**P**	**19 38 37.5**	**+1.4**
WB2				IAmb	IAmb	19 38 38.5	
	comp=Z,16nm,0.7s						
WRA	**Warramunga Arr**	**23.71**	**227**	P	**P**	**19 38 35.6**	**-0.6**
WRA	**Warramunga Arr**	**23.71**	**227**	P	**P**	**19 38 37.6**	**+1.4**
	comp=Z,14nm,0.7s,baz=51,slow=10,SNR=114						
WRA				pP	**pP**	**19 39 03.5**	**-2.4**
	comp=Z,6.3nm,0.6s,baz=53,slow=9.8,SNR=5.9						
WRA				PcP	**PcP**	**19 42 16.9**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=46,slow=2.3,SNR=1.4						
WRA				ScP	**ScP**	**19 45 43.9**	**+3.1**
	comp=Z,0.8nm,0.7s,baz=48,slow=2.7,SNR=4.8						
	comp=Z,14nm,0.7s						
WB1	**Warramunga Ar.**	**23.71**	**227**	P	**P**	**19 38 38.1**	**+1.8**
KNRA	**Kununurra**	**26.07**	**242**	P	**P**	**19 38 57.4**	**-0.2**
KNRA				IAmb	IAmb	19 39 19.4	
	comp=Z,21nm,1.4s						
KNRA	**Kununurra**	**26.07**	**242**	P	**P**	**19 38 57.0**	**-0.6**
ARMA	**Armidale**	**26.14**	**182**	P	**P**	**19 38 56.8**	**-1.4**
ARMA				IAmb	IAmb	19 39 24.5	
	comp=Z,34nm,1.4s						
AS31	**Alice Springs**	**26.48**	**221**	P	**P**	**19 39 02.2**	**+0.9**
ASAR	**Alice Springs**	**26.48**	**221**	P	**P**	**19 39 01.4**	**+0.1**
ASAR	**Alice Springs**	**26.48**	**221**	P	**P**	**19 39 02.1**	**+0.8**
	comp=Z,1.6nm,0.6s,baz=55,slow=9.0,SNR=34						
ASAR				pP	**pP**	**19 39 29.8**	**-3.0**
	comp=Z,2.6nm,0.9s,baz=51,slow=9.1,SNR=12						
	comp=Z,1.6nm,0.6s						
CMSA	**Cobar Meteorol**	**28.00**	**193**	P	**P**	**19 39 15.7**	**+1.1**
MSVF	**Nonsavu**	**28.36**	**120**		**P**	**19 39 14.2**	**-3.9**
OOD	**Oodnadatta**	**28.49**	**213**	P	**P**	**19 39 20.8**	**+1.7**
MGCD	**Mangrove Creek**	**28.93**	**183**	P	**P**	**19 39 25.2**	**+2.3**
STKA	**Stephens Creek**	**29.44**	**199**	P	**P**	**19 39 27.7**	**+0.3**
STKA	**Stephens Creek**	**29.44**	**199**	P	**P**	**19 39 30.1**	**+2.7**
STKA	**Stephens Creek**	**29.44**	**199**	P	**P**	**19 39 27.8**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=26,slow=14,SNR=9.0						
	comp=Z,2.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**29.78**	**240**	P	**P**	**19 39 30.9**	**+0.3**
CAN	**Canberra**	**31.18**	**186**	P	**P**	**19 39 44.5**	**+1.7**
CAN				IAmb	IAmb	19 39 59.5	
	comp=Z,12nm,1.1s						
CAN	**Canberra**	**31.18**	**186**	P	**P**	**19 39 45.2**	**+2.4**
WRKA	**Warakurna**	**31.24**	**226**	P	**P**	**19 39 44.0**	**+0.6**
MULG	**Mulgathing**	**31.32**	**212**	P	**P**	**19 39 44.8**	**+0.7**
TOO	**Toolangi**	**33.88**	**190**	P	**P**	**19 40 08.1**	**+1.8**
TOO				IAmb	IAmb	19 40 08.9	
	comp=Z,4.6nm,0.9s						
ARPS	**Mount Arapiles**	**33.92**	**196**	P	**P**	**19 40 08.7**	**+2.1**
PLAI	**Plampang**	**34.88**	**261**	P	**P**	**19 40 13.0**	**-2.1**
FORT	**Forrest**	**35.15**	**218**	P	**P**	**19 40 17.7**	**+0.4**
FORT				IAmb	IAmb	19 40 18.6	
	comp=Z,16nm,0.8s						
FORT	**Forrest**	**35.15**	**218**	P	**P**	**19 40 18.5**	**+1.3**
MBWA	**Marble Bar**	**36.10**	**239**	P	**P**	**19 40 26.1**	**+0.6**
MBWA				IAmb	IAmb	19 40 35.2	
	comp=Z,15nm,1.2s						
JOW	**Kunigami**	**38.75**	**324**	P	P	19 40 52.3	+4.6
TAU	**Tasmania Unive**	**38.87**	**186**	P	**P**	**19 40 51.0**	**+2.5**
TAU	**Tasmania Unive**	**38.87**	**186**	P	P	19 40 51.9	+3.4
MEEK	**Meekatharra**	**39.42**	**232**	P	**P**	**19 40 54.8**	**+1.4**
NIUE	**Niue**	**39.48**	**115**		**PcP**	**19 42 59.9**	**+1.0**
TKNZ	**Takaka Hill**	**41.03**	**156**	P	**P**	**19 41 08.8**	**+2.4**
MRNZ	**Matariki Terra**	**41.26**	**157**	P	**P**	**19 41 09.9**	**+1.7**
NNZ	**Nelson**	**41.35**	**156**	P	**P**	**19 41 10.0**	**+1.0**
GIRL	**Giralia**	**41.39**	**240**	P	**P**	**19 41 11.2**	**+1.6**
TCW	**Tory Channel**	**41.71**	**155**	P	**P**	**19 41 13.5**	**+1.6**
TUWZ	**Tuamarina**	**41.76**	**156**	P	**P**	**19 41 12.2**	**0.0**
KHZ	**Kahutara**	**42.43**	**157**	P	**P**	**19 41 19.0**	**+1.4**
KHZ				IAmb	IAmb	19 42 00.7	
	comp=Z,31nm,1.2s						
RPZ	**Rata Peaks**	**42.65**	**160**	P	**P**	**19 41 21.0**	**+1.5**
RPZ	**Rata Peaks**	**42.65**	**160**	P	**P**	**19 41 20.9**	**+1.5**
	comp=Z,12nm,0.7s,baz=340,slow=5.2,SNR=7.2						
	comp=Z,12nm,0.7s						
GVZ	**Greta Valley S**	**42.70**	**158**	P	**P**	**19 41 20.6**	**+0.6**
BLDU	**Ballidu**	**42.84**	**228**	P	**P**	**19 41 21.4**	**+0.2**
LBZ	**Lake Benmore**	**42.96**	**161**	P	**P**	**19 41 21.5**	**-0.5**
MQZ	**McQueen's Vall**	**43.20**	**159**	P	**P**	**19 41 23.3**	**-0.5**
KLR	**Kul'dur**	**56.17**	**344**	P	**P**	**19 43 02.7**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=142,slow=9.7,SNR=5.4						
	comp=Z,1.4nm,0.7s						
PEA0B	**Petropavlovsk-**	**57.22**	**4**	P	**P**	**19 43 10.2**	**+1.0**
PETK	**Petropavlovsk-**	**57.22**	**4**	P	**P**	**19 43 09.4**	**+0.2**
	comp=Z,2.6nm,0.6s,baz=162,slow=5.8,SNR=17						
	comp=Z,2.6nm,0.6s						
SONM	**Songino Array**	**65.67**	**328**	P	**P**	**19 44 08.1**	**+1.9**
SONM	**Songino Array**	**65.67**	**328**	P	**P**	**19 44 07.3**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=139,slow=6.4,SNR=1.3						
SONM				pP	**PcP**	**19 44 37.2**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=150,slow=5.3,SNR=2.4						
	comp=Z,0.3nm,0.5s						
VNDA	**Vanda**	**73.47**	**178**	P	**P**	**19 44 55.4**	**+2.0**
VNDA				IAmb	IAmb	19 44 57.7	
	comp=Z,22nm,1.4s						
K15K	**Wolf Creek Mou**	**74.88**	**20**	P	**P**	**19 45 02.3**	**+0.6**
K15K				IAmb	IAmb	19 45 03.7	
	comp=Z,9.1nm,0.9s						
M16K	**Timber Creek**	**74.98**	**22**	P	**P**	**19 45 02.8**	**+0.4**
L18K	**Granite Mounta**	**76.58**	**22**	P	**P**	**19 45 11.8**	**+0.5**
L18K				IAmb	IAmb	19 45 42.9	
	comp=Z,12nm,1.4s						
CNPM	**China Poot**	**77.24**	**26**	P	**P**	**19 45 15.1**	**0.0**
F17K	**Baldwin Pennin**	**77.78**	**17**	P	**P**	**19 45 18.4**	**+0.4**
F17K				IAmb	IAmb	19 45 20.0	
	comp=Z,8.8nm,1.0s						
G18K	**Tagagawik**	**78.21**	**18**	P	**P**	**19 45 20.6**	**+0.2**
SUA	**Susitna One**	**78.47**	**24**	P	**P**	**19 45 21.7**	**-0.3**
SUA				IAmb	IAmb	19 46 00.2	
	comp=Z,6.7nm,1.1s						
J20K	**Nowinta River**	**78.67**	**21**	P	**P**	**19 45 24.2**	**+1.2**
J20K				IAmb	IAmb	19 45 25.2	
	comp=Z,3.6nm,0.9s						
C18K	**Utukok River**	**79.30**	**16**	P	**P**	**19 45 26.6**	**+0.2**
SML	**Sawmill**	**79.63**	**24**	P	**P**	**19 45 28.3**	**0.0**
MKAR	**Makanchi Array**	**79.70**	**319**	P	**P**	**19 45 29.8**	**+0.9**
MKAR	**Makanchi Array**	**79.70**	**319**	P	**P**	**19 45 29.9**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=100,slow=6.9,SNR=6.1						
MKAR				pP	**pP**	**19 46 01.9**	**-3.7**
	comp=Z,0.8nm,1.0s,baz=97,slow=5.8,SNR=3.9						
IMAR	**Indian Mountai**	**79.86**	**20**	P	**P**	**19 45 29.6**	**+0.2**
B20K	**Meade River**	**81.28**	**16**	P	**P**	**19 45 37.3**	**+0.5**
ILAR	**Eielson Array**	**81.65**	**22**	P	**P**	**19 45 37.6**	**-1.3**
ILAR	**Eielson Array**	**81.65**	**22**	P	**P**	**19 45 37.8**	**-1.1**
	comp=Z,2.0nm,0.7s,baz=241,slow=5.9,SNR=17						
	comp=Z,2.0nm,0.7s						
B21K	**Ikpikpuk River**	**81.74**	**16**	P	**P**	**19 45 39.7**	**+0.5**
J25K	**Salcha River,**	**82.15**	**23**	P	**P**	**19 45 41.3**	**-0.4**
J25K				IAmb	IAmb	19 45 42.2	
	comp=Z,4.6nm,0.7s						
B22K	**Teshekpuk Lake**	**82.49**	**16**	P	**P**	**19 45 43.3**	**+0.2**
KURK	**Kurchatov**	**83.13**	**322**	P	**P**	**19 45 48.3**	**+1.5**
K27K	**Chicken**	**83.19**	**24**	P	**P**	**19 45 47.9**	**+1.0**
BMAR	**Burnt Mountain**	**83.72**	**20**	P	**P**	**19 45 50.3**	**+0.7**
L29M	**L29M**	**84.48**	**25**	P	**P**	**19 45 54.3**	**+0.8**
L29M				IAmb	IAmb	19 46 22.9	
	comp=Z,7.6nm,1.2s						
D27M	**Malcolm River**	**85.72**	**19**	P	**P**	**19 46 00.7**	**+1.1**
D27M				IAmb	IAmb	19 46 01.6	
	comp=Z,4.8nm,0.8s						
QSPA	**South Pole Qui**	**85.80**	**180**	P	**P**	**19 46 00.9**	**+0.8**
QSPA	**South Pole Qui**	**85.80**	**180

*IDC **09** 19:36:59.7±1.3, 15°.31S×173°.53W, h0km, mb4.0/9, mbtmp4.0/9, MS4.1/44, Error ellipse: s-maj=68.3km s-min=19.5km az=148.0*
*NEIC **09** 19:37:01.1±1.8, 15°.5S±0°.1×173°.3W±0°.1, h10km±1km, mb4.8/30, Error ellipse: s-maj=19.7km s-min=18.4km az=234.0*
*GCMT **09** 19:37:07.1±0.3, 14°.78S±0°.03×173°.23W±0°.02, h26km±1km, MW4.9/70, Moment Tension Solution. s15,c16; s70,c86; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr0.25±.20; Mθθ 1.50±.16; Mϕϕ -1.75±.13; Mrθ 0.37±.32; Mθϕ 2.23±.11; Mϕr 0.90±.24; Best double couple: M◎2.93200×10^16 NP1:ϕs 17.00000°, δ87.00000°, λ160.00000°. NP2: ϕs 109.00000°, δ70.00000°, λ4.00000°. Principal axes: T 2.8520, Plg16.0000°, Azm331.0000°; N 0.1640, Plg70.0000°, Azm188.0000°; P -3.0120, Plg11.0000°, Azm65.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 19:37:00.6±0.5, 15°.48S±0°.08×173°.44W±0°.07, h10km, n109, σ1§12/63, mb4.5/24, MS4.1/43, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.24**	**46**		Pn	19 37 28.4	-10
AFI					**Pg**	**19 37 45.9**	**+2.3**
NIUE	**Niue**	**4.90**	**137**		Pn	19 38 08.2	-6.2
NIUE				Sn	**Sn**	**19 39 10.0**	**-1.1**
FUNA	**Funafuti**	**9.99**	**313**	Pn	**Pn**	**19 39 21.8**	**-2.5**
RAR	**Rarotonga**	**14.16**	**116**		**Pn**	**19 40 19.4**	**-2.0**
RAR	**Rarotonga**	**14.16**	**116**	LR	LR	19 44 18.9	
	comp=Z,578nm,19.5s,baz=300,slow=31						
DZM	**Mont Dzumac**	**20.13**	**248**	LR	LR	19 48 12.2	
	comp=Z,797nm,19.5s,baz=110,slow=33						
PPT	**Papeete**	**22.96**	**99**	LR	LR	19 48 28.5	
	comp=Z,332nm,21.7s,baz=256,slow=30						
MLZ	**Mavora Lakes**	**33.60**	**204**	P	**P**	**19 43 42.4**	**+1.3**
WHZ	**Wether Hill Ro**	**34.10**	**203**	P	**P**	**19 43 46.1**	**+0.7**
ARMA	**Armidale**	**35.27**	**239**	P	**P**	**19 43 56.6**	**+0.7**
CTA	**Charters Tower**	**38.59**	**257**	LR	LR	19 58 18.3	
	comp=Z,142nm,18.5s,baz=82,slow=33						
PMG	**Port Moresby**	**38.91**	**274**	LR	LR	19 58 05.3	
	comp=Z,199nm,21.1s,baz=106,slow=33						
H11S2	**WAKE ISLAND Hy**	**39.02**	**329**	T	T	20 25 29.7	
	baz=149,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**39.03**	**329**	T	T	20 25 29.4	
	baz=149,slow=76,SNR=22						
H11S1	**WAKE ISLAND Hy**	**39.03**	**329**	T	T	20 25 29.9	
	baz=149,slow=76,SNR=24						
H11N3	**WAKE ISLAND Hy**	**39.97**	**330**	T	T	20 26 34.8	
	baz=149,slow=76,SNR=19						
H11N1	**WAKE ISLAND Hy**	**39.97**	**330**	T	T	20 26 38.6	
	baz=149,slow=76,SNR=20						
H11N2	**WAKE ISLAND Hy**	**39.98**	**330**	T	T	20 26 37.5	
	baz=149,slow=76,SNR=21						
TOO	**Toolangi**	**42.39**	**231**	P	**P**	**19 44 56.8**	**+1.4**
TOO				IAmb	IAmb	19 45 00.6	
	comp=Z,14nm,1.2s						
STKA	**Stephens Creek**	**43.96**	**240**	P	**P**	**19 45 08.7**	**+0.5**
STKA	**Stephens Creek**	**43.96**	**240**	P	**P**	**19 45 09.4**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=90,slow=11,SNR=4.6						
STKA				LR	LR	20 01 21.8	
	comp=Z,114nm,20.6s,baz=32,slow=33						
	comp=Z,0.7nm,0.5s						
BBOO	**Buckleboo**	**48.74**	**240**	P	**P**	**19 45 46.0**	**+0.2**
BBOO				IAmb	IAmb	19 46 07.9	
	comp=Z,24nm,1.8s						
WR0	**Warramunga Arr**	**49.60**	**257**	P	**P**	**19 45 51.7**	**-0.8**
WR0				IAmb	IAmb	19 46 06.8	
	comp=Z,37nm,1.9s						
WB0	**Warramunga Arr**	**49.75**	**257**	P	**P**	**19 45 52.8**	**-0.9**
WB2	**Warramunga Arr**	**49.78**	**257**	P	**P**	**19 45 53.8**	**-0.1**
WB2				IAmb	IAmb	19 46 34.2	
	comp=Z,18nm,1.4s						
WRA	**Warramunga Arr**	**49.79**	**257**	P	**P**	**19 45 53.8**	**-0.2**
WRA				PcP	**PcP**	**19 47 18.9**	**+4.1**
WRA	**Warramunga Arr**	**49.79**	**257**	P	**P**	**19 45 54.0**	**0.0**
	comp=Z,1.9nm,0.4s,baz=93,slow=8.3,SNR=36						
	comp=Z,1.9nm,0.4s						
AS31	**Alice Springs**	**50.05**	**252**	P	**P**	**19 45 55.9**	**-0.1**
AS31				IAmb	IAmb	19 45 59.4	
	comp=Z,3.5nm,0.6s						
ASAR	**Alice Springs**	**50.05**	**252**	P	**P**	**19 45 55.9**	**-0.1**
ASAR	**Alice Springs**	**50.05**	**252**	P	**P**	**19 45 56.1**	**+0.2**
	comp=Z,12nm,0.8s,baz=91,slow=7.3,SNR=168						
ASAR				LR	LR	20 05 14.1	
	comp=Z,443nm,21.1s,baz=94,slow=34						
	comp=Z,12nm,0.8s						
FORT	**Forrest**	**55.35**	**243**	P	**P**	**19 46 34.4**	**-0.6**
FORT				IAmb	IAmb	19 46 38.7	
	comp=Z,19nm,1.1s						
JCJ	**Chichijima**	**60.39**	**314**	LR	LR	20 08 01.9	
	comp=Z,137nm,21.1s,baz=173,slow=31						
BATI	**Baumata**	**61.38**	**267**	LR	LR	20 12 15.4	
	comp=Z,154nm,20.6s,baz=132,slow=34						
VNDA	**Vanda**	**63.29**	**186**	LR	LR	20 14 14.4	
	comp=Z,71nm,18.6s,baz=293,slow=35						
DAV	**Davao City (W)**	**64.42**	**286**	LR	LR	20 13 50.1	
	comp=Z,81nm,19.0s,baz=342,slow=34						
TOLI2	**Tolitoli**	**67.03**	**278**	P	**P**	**19 47 55.1**	**+0.6**
TOLI2				IAmb	IAmb	19 49 55.8	
	comp=Z,15nm,1.2s						
SHEM	**Shemya Is, Ala**	**68.78**	**352**	LR	LR	20 13 45.4	
	comp=Z,168nm,18.6s,baz=147,slow=32						
MJAR	**Matsushiro Arr**	**68.98**	**320**	LR	LR	20 12 27.9	
	comp=Z,183nm,22.0s,baz=119,slow=31						
JOW	**Kunigami**	**70.50**	**306**	LR	LR	20 13 24.4	
	comp=Z,131nm,19.8s,baz=142,slow=31						
TGY	**Tagaytay City**	**71.23**	**291**	LR	LR	20 15 23.8	
	comp=Z,181nm,21.0s,baz=110,slow=32						
ASAJ	**Asahikawa**	**71.59**	**328**	LR	LR	20 18 29.5	
	comp=Z,44nm,18.2s,baz=176,slow=35						
JNU	**Nakatsue**	**71.83**	**313**	LR	LR	20 14 27.6	
	comp=Z,81nm,19.7s,baz=78,slow=31						
PEA0B	**Petropavlovsk-**	**72.70**	**342**	P	**P**	**19 48 27.3**	**-1.3**
PETK	**Petropavlovsk-**	**72.70**	**342**	P	**P**	**19 48 26.6**	**-2.0**
PFO	**Pinyon Flats O**	**73.00**	**47**	LR	LR	20 12 18.8	
	comp=Z,239nm,20.8s,baz=250,slow=29						
LPIG	**La Paz**	**73.11**	**58**	LR	LR	20 12 01.1	
	comp=Z,128nm,20.1s,baz=212,slow=29						
YBH	**Yreka Blue Hor**	**73.69**	**37**	LR	LR	20 13 15.5	
	comp=Z,94nm,18.8s,baz=243,slow=30						
NVAR	**Mina Array Bea**	**74.41**	**42**	P	**P**	**19 48 40.6**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=240,slow=8.2,SNR=3.8						
NVAR				LR	LR	20 14 23.8	
	comp=Z,133nm,20.2s,baz=242,slow=30						
	comp=Z,1.0nm,0.7s						
KVN	**Kaiserville**	**74.90**	**42**	P	**P**	**19 48 42.7**	**+0.7**
TPH	**Tonopah**	**74.92**	**43**	P	**P**	**19 48 41.0**	**-1.2**
KDAK	**Kodiak Island**	**75.01**	**11**	LR	LR	20 13 39.5	
	comp=Z,145nm,21.1s,baz=246,slow=29						
SHPR	**Sheep Range**	**75.44**	**45**	P	**P**	**19 48 44.4**	**-0.8**
J05D	**Fort Rock, OR**	**75.51**	**37**	P	**P**	**19 48 45.8**	**+0.4**
J05D				IAmb	IAmb	19 48 57.0	
	comp=Z,31nm,1.8s						
KSRS	**Korea Array**	**76.19**	**316**	P	**P**	**19 48 49.0**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=125,slow=6.1,SNR=4.5						
KSRS				LR	LR	20 16 10.5	
	comp=Z,67nm,21.9s,baz=185,slow=31						
	comp=Z,0.3nm,0.3s						
KSAR	**Wonju Array Be**	**76.21**	**316**	P	**P**	**19 48 49.5**	**+0.2**
X16A	**Lo Mia Camp, P**	**77.00**	**49**	P	**P**	**19 48 53.8**	**-0.3**
319A	**Douglas**	**77.17**	**52**	P	**P**	**19 48 54.3**	**-0.8**
319A				IAmb	IAmb	19 49 05.5	
	comp=Z,7.0nm,0.9s						
CCUT	**Cedar City**	**77.22**	**45**	P	**P**	**19 48 55.1**	**-0.2**
CCUT				IAmb	IAmb	19 49 04.5	
	comp=Z,5.5nm,1.4s						
U15A	**North Rim**	**77.38**	**46**	P	**P**	**19 48 56.2**	**-0.2**
U15A				IAmb	IAmb	19 49 10.7	
	comp=Z,7.9nm,1.4s						
PSUT	**Pine Spring**	**77.39**	**44**	P	**P**	**19 48 56.0**	**-0.3**
PSUT				IAmb	IAmb	19 49 05.5	
	comp=Z,5.5nm,1.3s						
USRK	**Ussuriysk Ar.**	**77.43**	**323**	LR	LR	20 16 15.9	
	comp=Z,146nm,21.8s,baz=129,slow=30						
WUAZ	**Wupatki**	**77.58**	**48**	P	**P**	**19 48 55.6**	**-1.7**
WUAZ				IAmb	IAmb	19 48 59.9	
	comp=Z,24nm,1.9s						
LEM	**Lembang**	**77.59**	**266**	LR	LR	20 21 29.9	
	comp=Z,63nm,21.9s,baz=262,slow=34						
ELK	**Elko**	**77.67**	**41**	P	**P**	**19 48 56.5**	**-1.3**
ELK	**Elko**	**77.67**	**41**	LR	LR	20 14 14.4	
	comp=Z,83nm,21.6s,baz=296,slow=29						
DUN6	**Lazy B Ranch**	**77.85**	**51**	P	**P**	**19 48 57.4**	**-1.5**
HVU	**Hansel Valley**	**79.79**	**41**	P	**P**	**19 49 09.9**	**+0.6**
HVU				IAmb	IAmb	19 49 13.0	
	comp=Z,7.7nm,1.4s						
MA2	**Magadan**	**80.23**	**342**	LR	LR	20 20 02.7	
	comp=Z,61nm,19.7s,baz=104,slow=32						
KLR	**Kul'dur**	**80.57**	**327**	LR	LR	20 19 15.3	
	comp=Z,86nm,21.6s,baz=144,slow=32						
TX31	**Lajitas Ar. Si**	**80.69**	**56**	P	**P**	**19 49 14.3**	**-0.1**
TX31				IAmb	IAmb	19 49 18.3	
	comp=Z,23nm,1.9s						
TXAR	**Lajitas Array**	**80.69**	**56**	P	**P**	**19 49 14.3**	**-0.1**
TXAR	**Lajitas Array**	**80.69**	**56**	P	**P**	**19 49 14.7**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=211,slow=6.8,SNR=4.9						
TXAR				LR	LR	20 15 15.8	
	comp=Z,79nm,20.6s,baz=255,slow=28						
	comp=Z,0.3nm,0.6s						
NEW	**Newport**	**80.80**	**34**	LR	LR	20 20 53.5	
	comp=Z,79nm,19.6s,baz=338,slow=33						
ANMO	**Albuquerque**	**80.88**	**50**	LR	LR	20 18 02.2	
	comp=Z,133nm,19.9s,baz=12,slow=30						
PDAR	**Pinedale Array**	**82.35**	**42**	P	**P**	**19 49 23.8**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=224,slow=5.0,SNR=6.7						
	comp=Z,0.5nm,0.6s						
ILAR	**Eielson Array**	**82.53**	**11**	P	**P**	**19 49 23.0**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=206,slow=6.9,SNR=6.4						
	comp=Z,0.5nm,0.7s						
SEY	**Seymchan**	**82.59**	**345**	LR	LR	20 20 51.3	
	comp=Z,99nm,20.9s,baz=288,slow=32						
CMIG	**Matias Romero**	**83.94**	**70**	LR	LR	20 17 06.9	
	comp=Z,72nm,21.3s,baz=241,slow=29						
H03S2	**Juan Fernandez**	**85.19**	**124**	T	T	21 24 05.3	
	baz=251						
H03S1	**Juan Fernandez**	**85.20**	**124**	T	T	21 24 07.0	
	baz=251						
H03S3	**Juan Fernandez**	**85.20**	**124**	T	T	21 24 06.1	
	baz=251						
MAW	**Mawson**	**87.70**	**199**	LR	LR	20 26 24.4	
	comp=Z,197nm,19.8s,baz=132,slow=34						
YAK	**Yakutsk**	**89.18**	**337**	LR	LR	20 22 50.8	
	comp=Z,51nm,21.1s,baz=101,slow=31						
YKA	**Yellowknife Ar**	**90.19**	**23**	P	**P**	**19 50 00.3**	**-0.6**
	comp=Z,0.5nm,0.9s,baz=239,slow=4.8,SNR=4.8						
YKA				LR	LR	20 25 45.7	
	comp=Z,52nm,18.3s,baz=265,slow=32						
	comp=Z,0.5nm,0.9s						
TEIG	**Tepich**	**90.85**	**69**	LR	LR	20 24 16.6	
	comp=Z,508nm,20.6s,slow=31						
JTS	**Las Juntas de**	**91.26**	**80**	LR	LR	20 21 54.7	
	comp=Z,156nm,21.3s,baz=84,slow=30						
CMAR	**Chiang Mai Arr**	**92.61**	**288**	LR	LR	20 26 38.1	
	comp=Z,43nm,21.3s,baz=290,slow=32						
ATAH	**Atahualpa**	**92.94**	**98**	LR	LR	20 22 55.9	
	comp=Z,191nm,19.4s,baz=300,slow=30						
ULM	**Lac du Bonnet**	**94.02**	**39**	LR	LR	20 27 32.5	
	comp=Z,129nm,18.6s,baz=274,slow=32						
SONM	**Songino Array**	**94.88**	**318**	LR	LR	20 27 31.6	
	comp=Z,85nm,21.9s,baz=58,slow=32						
TIXI	**Tiksi**	**95.07**	**344**	LR	LR	20 30 03.2	
	comp=Z,74nm,20.9s,baz=193,slow=34						
TKL	**Tuckaleechee C**	**98.59**	**55**	LR	LR	20 29 59.3	
	comp=Z,82nm,18.8s,baz=292,slow=32						
ARCES	**ARCESS Array B**	**124.69**	**352**	PKP	**PKPdf**	**19 55 58.7**	**-1.3**
	comp=Z,4.5nm,1.0s,baz=48,slow=1.3,SNR=5.6						
BRTR	**Keskin Array B**	**146.20**	**321**	PKPbc	**PKPdf**	**19 56 41.8**	**+1.0**
	comp=Z,2.1nm,0.6s,baz=55,slow=2.6,SNR=13						
GERES	**GERESS Array B**	**146.22**	**352**	PKPbc	**PKPbc**	**19 56 42.3**	**+0.8**
	comp=Z,1.9nm,0.9s,baz=15,slow=5.4,SNR=3.0						
CONA	**Conrad Observa**	**146.75**	**349**	*e*PKP	**PKPdf**	**19 56 40.1**	**-1.2**
	comp=Z,10nm,1.5s						
RONA	**Rosalia, Austr**	**146.88**	**348**	*i* PKP	**PKPdf**	**19 56 41.2**	**-0.3**
	comp=Z,8.9nm,1.3s						
MOA	**Molln**	**147.10**	**350**	*e*PKP	**PKPdf**	**19 56 41.9**	**0.0**
	comp=Z,7.4nm,1.9s						
BIOA	**Bad Ischl, Aus**	**147.35**	**351**	*e*PKP	**PKPdf**	**19 56 43.6**	**+1.3**
	comp=Z,3.6nm,1.0s						
LESA	**Schwarzleotal**	**147.75**	**352**	*e*PKP	**PKPbc**	**19 56 47.1**	**+1.3**
	comp=Z,5.6nm,1.3s						
RETA	**Reutte**	**147.90**	**355**	*e*PKP	**PKPbc**	**19 56 46.9**	**+0.7**
	comp=Z,9.7nm,1.3s						
WATA	**Walderalm**	**147.97**	**354**	*e*PKP	**PKiKP**	**19 56 48.0**	**-0.4**
	comp=Z,4.9nm,1.1s						
MOTA	**Moosalm**	**148.01**	**354**	*i* PKP	**PKPbc**	**19 56 47.9**	**+1.3**
	comp=Z,16nm,1.7s						
WTTA	**Wattenberg**	**148.03**	**353**	*i* PKP	**PKPbc**	**19 56 48.1**	**+1.3**
	comp=Z,13nm,1.5s						
SOKA	**Soboth**	**148.11**	**349**	*e*PKP	**PKPbc**	**19 56 47.5**	**+0.7**
	comp=Z,8.6nm,1.2s						
SQTA	**Sanbaquirin**	**148.12**	**354**	*e*PKP	**PKPdf**	**19 56 43.7**	**0.0**
	comp=Z,10nm,1.7s						
DAVA	**Damuels**	**148.17**	**356**	*e*PKP	**PKPbc**	**19 56 47.9**	**+0.8**
	comp=Z,7.0nm,1.0s						
OBKA	**Obir**	**148.36**	**349**	*e*PKP	**PKPdf**	**19 56 43.8**	**-0.3**
	comp=Z,5.0nm,1.5s						
ABTA	**Abfaltersbach**	**148.44**	**352**	*i* PKP	**PKPdf**	**19 56 44.9**	**+0.7**
	comp=Z,5.3nm,1.1s						

*TIR **09** 19:38:48.5, 41°.10N×20°.38E, h2km±1km, Md2.8, Ml2.2*
*SKO **09** 19:38:49.9, 41°.00N×20°.25E, h1km, ML2.3*
*PDG **09** 19:38:49.4±0.1, 41°.02N×20°.23E, h7km, ML2.5/10, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
*ATH **09** 19:38:50.5, 41°.09N×20°.41E, h11km±3km, ML2.0/6, Manual Solution by M.Charalampakis This location: 2020/05/20 14:53:11 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*BEO **09** 19:38:50.5±0.5, 41°.07N×20°.34E, h7km±2km, ML2.2/6*

ISC 09 19:38:50.2±1.0, 41°.07N±0°.02×20°.35E±0°.02, h9km±9km, n40, σ1§02/73, 8C-2D, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHR	**Ohrid**	**0.34**	**84**	*e*Pg	**Pg**	**19 38 57.4**	**+0.3**
OHR				*e*Sg	**Sb**	**19 39 03.4**	**-0.7**
OHR	**Ohrid**	**0.34**	**84**	*i* Pg	**Pg**	**19 38 57.6**	**+0.5**
OHR				*i* Sg	**Sb**	**19 39 03.7**	**-0.4**
OHR				*e*Lg	Lg	19 39 03.8	
	comp=N,170nm,0.4s						
OHR				*e*Lg	Lg	19 39 04.3	
	comp=E,188nm,0.4s						
TIR	**Tirane**	**0.46**	**307**	P	**Pg**	**19 38 58.5**	**-0.6**
TIR	baz=303			S	**Sb**	**19 39 06.0**	**-1.2**
	baz=303						
TIR				AMP			
	comp=E,0.9nm,0.3s,baz=303						
TIR	**Tirane**	**0.46**	**307**	*e*Pg	**Pg**	**19 38 58.4**	**-0.6**
TIR				*e*Sg	**Sb**	**19 39 06.1**	**-1.1**
KBN	**Korca**	**0.56**	**143**	P	**Pg**	**19 39 00.4**	**-0.6**
	baz=147						
KBN				S	**Sb**	**19 39 09.3**	**-1.0**
	baz=147						
KBN				AMP			
	comp=N,0.8nm,0.4s,baz=147						
FNA	**Florina**	**0.83**	**110**	P	**Pg**	**19 39 05.5**	**-0.7**
	baz=112						
FNA				S	**Sg**	**19 39 17.6**	**+0.5**
	baz=112						
FNA				AMP			
	comp=E,0.3nm,0.3s,baz=112						
FNA	**Florina**	**0.83**	**110**	*e*Pg	**Pg**	**19 39 05.4**	**-0.8**
FNA				*e*Sg	**Sb**	**19 39 17.7**	**-0.4**
FNA	**Florina**	**0.83**	**110**	*i* Pg	**Pg**	**19 39 05.8**	**-0.5**
FNA				*i* Sg	**Sb**	**19 39 17.9**	**-0.3**
FNA	**Florina**	**0.83**	**110**	P	**Pg**	**19 39 05.3**	**-0.9**
FNA				S	**Sg**	**19 39 16.8**	**-0.3**
NEST	**Nestorio**	**0.85**	**141**	P	**Pg**	**19 39 05.8**	**-0.7**
NEST				S	**Sg**	**19 39 18.0**	**+0.4**
LSK	**Leskovik**	**0.94**	**168**	P	**Pg**	**19 39 06.4**	**-1.9**
	baz=170						
PUK	**Puka**	**1.03**	**341**	P	**Pg**	**19 39 08.5**	**-1.4**
	baz=339						
PUK				S	**Sn**	**19 39 25.4**	**0.0**
	baz=339						
PUK				AMP			
	comp=N,0.3nm,0.2s,baz=339						
ULC	**Ulcinj**	**1.21**	**317**	*i* Pg	**Pg**	**19 39 11.5**	**-2.0**
ULC				*i* Sg	**Sn**	**19 39 30.4**	**+0.5**
ULC	**Ulcinj**	**1.21**	**317**	*i* Pg	**Pg**	**19 39 11.9**	**-1.7**
SKO	**Skopje**	**1.22**	**42**	*e*Pg	**Pg**	**19 39 10.8**	**-2.8**
SKO				*e*Sg	**Sb**	**19 39 29.6**	**+0.4**
SKO	**Skopje**	**1.22**	**42**	*i* Pg	**Pn**	**19 39 15.6**	**+2.2**
SKO				*i* Sg	**Sn**	**19 39 30.1**	**+0.2**
SRN	**Sarande**	**1.22**	**193**	P	**Pn**	**19 39 13.7**	**+0.3**
	baz=194						
SRN				S	**Sn**	**19 39 32.1**	**+2.1**
	baz=194						
BCI	**Bajram Curri**	**1.31**	**351**	P	**Pg**	**19 39 16.4**	**+1.1**
	baz=350						
KPRO	**Kipourio**	**1.36**	**145**	P	**Pn**	**19 39 15.5**	**+0.1**
KPRO				S	**Sb**	**19 39 33.1**	**-0.2**
DRME	**Dracevica, Mon**	**1.41**	**322**	*i* Pg	**Pn**	**19 39 15.3**	**-0.8**
DRME				*i* Sg	**Sg**	**19 39 37.3**	**+1.7**
IGT	**Igoumenitsa**	**1.54**	**180**	P	**Pg**	**19 39 19.3**	**-0.5**
	baz=182						
IGT				S	**Sg**	**19 39 42.1**	**+2.5**
	baz=182						
IGT				AMP			
	comp=N,0.1nm,0.4s,baz=182						
IGT	**Igoumenitsa**	**1.54**	**180**	P	**Pb**	**19 39 18.5**	**-0.4**
IGT				S	**Sn**	**19 39 38.2**	**+0.3**
PVY	**Plav**	**1.55**	**349**	*i* Pn	**Pn**	**19 39 18.4**	**+0.4**
PVY				*i* Sn	**Sg**	**19 39 42.5**	**+2.5**
GRG	**Griva**	**1.56**	**94**	*i* Pg	**Pn**	**19 39 18.2**	**+0.1**
GRG				*i* Sg	**Sg**	**19 39 41.0**	**+0.7**
GRG	**Griva**	**1.56**	**94**	P	**Pn**	**19 39 17.6**	**-0.5**
GRG				S	**Sn**	**19 39 37.2**	**-1.2**
BUM	**Brajici-Budva**	**1.64**	**319**	*i* Pn	**Pn**	**19 39 19.4**	**+0.2**
BUM				*i* Sn	**Sg**	**19 39 43.4**	**+0.5**
SCTE	**Santa Cesarea**	**1.75**	**236**	P	**Pn**	**19 39 21.3**	**+0.7**
SCTE				S	**Sn**	**19 39 43.5**	**+0.6**
CEME	**Cevo**	**1.82**	**325**	*i* Pn	**Pn**	**19 39 22.2**	**+0.5**
CEME				*i* Sn	**Sg**	**19 39 47.9**	**-0.8**
IVA	**Berane**	**1.83**	**350**	*i* Pn	**Pn**	**19 39 22.8**	**+0.9**
IVA				*i* Sn	**Sg**	**19 39 49.2**	**+0.2**
KOME	**Kolasin**	**1.88**	**341**	*i* Pn	**Pn**	**19 39 23.6**	**+1.0**
KOME				*i* Sn	**Sg**	**19 39 50.2**	**-0.5**
KNT	**Kendrikon**	**1.93**	**87**	P	**Pn**	**19 39 22.7**	**-0.5**
PRVS	**Prvonek**	**1.93**	**42**	*e*Pn	**Pn**	**19 39 23.5**	**+0.3**
PRVS				*e*Sn	**Sn**	**19 39 48.3**	**+0.7**
HCY	**Herceg Novi**	**1.95**	**315**	*i* Pn	**Pn**	**19 39 23.8**	**+0.4**
HCY				*i* Sn	**Sb**	**19 39 50.7**	**-0.4**
NKME	**Niksic**	**1.99**	**329**	*i* Pn	**Pn**	**19 39 24.3**	**+0.3**
NKME				*i* Sn	**Sb**	**19 39 52.2**	**+0.8**
SJES	**Sjenica**	**2.20**	**353**	*e*Pn	**Pn**	**19 39 28.3**	**+1.3**
SJES				*e*Sn	**Sn**	**19 39 55.0**	**+0.6**
BRY	**Bratogost**	**2.27**	**324**	*i* Pn	**Pn**	**19 39 28.3**	**+0.3**
BRY				*i* Sn	**Sb**	**19 39 58.7**	**-0.9**
LKD2	**Lefkada island**	**2.29**	**174**	P	**Pn**	**19 39 29.4**	**+1.2**
	baz=174						
LKD2	**Lefkada island**	**2.29**	**174**	P	**Pn**	**19 39 28.7**	**+0.5**
IVAS	**Ivanjica**	**2.50**	**357**	*e*Pn	**Pn**	**19 39 31.7**	**+0.6**
IVAS				*e*Sn	**Sn**	**19 40 02.4**	**+0.6**
AGG	**Agios Georgios**	**2.55**	**143**	P	**Pn**	**19 39 31.7**	**-0.1**

*IDC **09** 19:41:22.1±1.6, 31°.98N×142°.48E, h0km, mb3.7/7, mbtmp3.8/11, ML3.4/4, Error ellipse: s-maj=53.6km s-min=17.7km az=73.0*
*JMA **09** 19:41:23.4±0.5, 32°.N±2°.×14°.2E±°, h41km, MV4.1/18, FAR E OFF IZU ISLANDS*
*NEIC **09** 19:41:26.2±1.2, 32°.04N±0°.07×142°.39E±0°.08, h33km±7km, mb4.4/10, Error ellipse: s-maj=10.4km s-min=9.9km az=175.0*

ISC 09 19:41:26.5±0.8, 31°.97N±0°.06×142°.42E±0°.09, h44km, n38, σ2§14/43, mb4.1/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.47**	**298**	Pn	**Pn**	**19 42 03.2**	**-1.0**
JHJ2	**Mitsune**	**2.47**	**298**	*e*P	**Pn**	**19 42 03.3**	**-1.0**
JHJ	**Hachijo jima 2**	**2.50**	**298**	Pn	**Pn**	**19 42 03.3**	**-1.3**
	15nm,0.3s,baz=76,slow=19,SNR=8.6						
JHJ				Sn	**Sn**	**19 42 29.1**	**-4.8**
	32nm,0.3s,baz=98,slow=20,SNR=1.6						
	62nm,0.3s						
BSO1	**Boso 1**	**2.93**	**336**	*e*P	**Pn**	**19 42 09.6**	**-0.5**
BSO3	**Boso 3**	**3.24**	**331**	*e*P	**Pn**	**19 42 14.0**	**-0.6**
JHU	**Hanno**	**4.67**	**327**	*e*P	**Pn**	**19 42 33.9**	**-0.6**
JHU				*e*S	**Sn**	**19 43 27.2**	**-0.1**
CBIJ	**Chichi jima**	**4.86**	**182**	*e*P	**Pn**	**19 42 36.2**	**-1.0**
JCJ	**Chichijima**	**4.86**	**182**	Pn	**Pn**	**19 42 36.3**	**-0.8**
JCJ	**Chichijima**	**4.86**	**182**	Pn	Pn	19 42 32.0	-5.2
	26nm,0.3s,baz=353,slow=19,SNR=9.7						
JCJ				Sn	**Sn**	**19 43 25.3**	**-6.9**
	7.3nm,0.3s,baz=319,slow=20,SNR=2.5						
JHO	**Hitachi**	**4.87**	**342**	*e*P	**Pn**	**19 42 36.7**	**-0.6**
JAG	**Ashikaga**	**5.08**	**332**	P	**Pn**	**19 42 39.7**	**-0.4**
JAG				*e*S	**Sn**	**19 43 35.5**	**-1.8**
**JG

KSRS	**Korea Array**	**25.16**	**5**	P		**P**		**19 50 22.2**	**+1.8**
	1.1nm,0.8s,baz=178,slow=7.9,SNR=5.0								
	1.1nm,0.8s								
CMAR	**Chiang Mai Arr**	**26.28**	**287**	P		**P**		**19 50 31.3**	**+0.5**
	2.1nm,0.9s,baz=94,slow=7.5,SNR=17								
CMAR				LR		LR		20 02 14.3	
	comp=Z,53nm,18.2s,baz=105,slow=40								
	2.1nm,0.9s								
WRA	**Warramunga Arr**	**33.20**	**165**	P		**P**		**19 51 32.9**	**+0.8**
	0.5nm,0.7s,baz=344,slow=8.9,SNR=2.7								
WRA				PcP		**PcP**		**19 54 14.6**	**+0.1**
	0.5nm,0.6s,baz=337,slow=2.9,SNR=2.5								
	0.5nm,0.7s								
ASAR	**Alice Springs**	**36.67**	**167**	P		**P**		**19 52 01.7**	**-0.4**
	0.5nm,0.7s,baz=347,slow=6.8,SNR=8.0								
ASAR				PcP		**PcP**		**19 54 24.3**	**-0.3**
	0.5nm,0.6s,baz=348,slow=2.8,SNR=3.1								
	0.5nm,0.7s								
SONM	**Songino Array**	**38.87**	**339**	P		**P**		**19 52 20.2**	**-0.3**
	1.8nm,1.0s,baz=143,slow=7.5,SNR=5.4								
	1.8nm,1.0s								
H11S3	**WAKE ISLAND Hy**	**40.16**	**76**	T		T		20 35 19.8	
	baz=269								
H11S1	**WAKE ISLAND Hy**	**40.17**	**76**	T		T		20 35 20.9	
	baz=269								
H11S2	**WAKE ISLAND Hy**	**40.17**	**76**	T		T		20 35 20.4	
	baz=269								
H11N1	**WAKE ISLAND Hy**	**40.42**	**74**	T		T		20 35 37.0	
	baz=266,slow=75,SNR=16								
H11N2	**WAKE ISLAND Hy**	**40.43**	**74**	T		T		20 35 39.2	
	baz=266,slow=75,SNR=13								
H11N3	**WAKE ISLAND Hy**	**40.44**	**74**	T		T		20 35 41.4	
	baz=266,slow=75,SNR=10								
FORT	**Forrest**	**42.89**	**177**	P		**P**		**19 52 54.9**	**+1.3**
FORT				IAmb		IAmb		19 53 33.0	
	comp=Z,11nm,0.9s								
BBOO	**Buckleboo**	**45.97**	**168**	P		**P**		**19 53 18.0**	**-0.3**
BBOO				IAmb		IAmb		19 53 25.1	
	comp=Z,7.8nm,1.1s								
STKA	**Stephens Creek**	**46.55**	**161**	P		**P**		**19 53 22.5**	**-0.4**
STKA				PcP		**PcP**		**19 54 56.3**	**-0.5**
STKA	**Stephens Creek**	**46.55**	**161**	P		**P**		**19 53 23.0**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=332,slow=11,SNR=7.9								
	comp=Z,1.7nm,0.7s								
MK31	**Makanchi Array**	**49.96**	**322**	P		**P**		**19 53 48.5**	**-0.6**
MKAR	**Makanchi Array**	**49.96**	**322**	P		**P**		**19 53 49.4**	**+0.3**
MKAR				PcP		**PcP**		**19 55 07.8**	**-1.2**
MKAR	**Makanchi Array**	**49.96**	**322**	P		**P**		**19 53 49.7**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=119,slow=7.9,SNR=16								
	comp=Z,2.1nm,0.8s								
NRN	**Naryn**	**51.90**	**313**	P		**P**		**19 54 04.6**	**+0.5**
NIL	**Nilore**	**51.96**	**303**	P		**P**		**19 54 04.3**	**-0.1**
ZALV	**Zalesovo Beam**	**52.49**	**331**	P		**P**		**19 54 08.0**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=126,slow=7.3,SNR=4.2								
	comp=Z,0.9nm,0.7s								
MARNC	**Mare, Loyalty**	**53.60**	**128**	P		**P**		**19 54 16.6**	**+0.1**
KURK	**Kurchatov**	**53.97**	**325**	P		**P**		**19 54 19.2**	**+0.4**
KURK				IAmb		IAmb		19 54 20.3	
	comp=Z,5.3nm,0.8s								
KURBB	**Kurchatov Arra**	**53.98**	**325**	P		**P**		**19 54 19.4**	**+0.5**
	comp=Z,3.3nm,0.8s,baz=121,slow=7.1,SNR=18								
GAR	**Garm**	**55.41**	**309**	P		**P**		**19 54 30.4**	**+0.7**
CHGR	**Chuyangaron**	**56.22**	**308**	P		**P**		**19 54 35.2**	**-0.2**
KK31	**Karatay Array**	**56.29**	**314**	P		**P**		**19 54 36.0**	**+0.2**
KK31				IAmb		IAmb		19 54 36.8	
	comp=Z,1.9nm,0.9s								
KKAR	**Karatay Array**	**56.29**	**314**	P		**P**		**19 54 35.4**	**-0.4**
KKAR	**Karatay Array**	**56.29**	**314**	P		**P**		**19 54 35.5**	**-0.2**
KKAR				IAmb		IAmb		19 54 36.8	
	comp=Z,1.9nm,0.9s								
SIMJ	**Simiganj**	**56.33**	**308**	P		**P**		**19 54 36.0**	**-0.2**
SIMJ				IAmb		IAmb		19 54 38.9	
	comp=Z,2.6nm,1.1s								
BVAR	**Borovoye Array**	**59.57**	**325**	P		**P**		**19 54 58.7**	**+0.1**
	comp=Z,3.1nm,0.9s,baz=116,slow=9.8,SNR=15								
	comp=Z,3.1nm,0.9s								
BRVK	**Borovoye**	**59.64**	**325**	P		**P**		**19 54 58.9**	**-0.1**
BRVK				IAmb		IAmb		19 55 00.3	
	comp=Z,3.9nm,0.8s								
NRIK	**Noril'sk**	**61.88**	**346**	P		**P**		**19 55 14.1**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=143,slow=10,SNR=1.8								
	comp=Z,0.6nm,0.3s								
GEYT	**Alibeck**	**64.72**	**306**	P		**P**		**19 55 33.5**	**+0.1**
ABKAR	**Akbulak array**	**64.84**	**319**	P		**P**		**19 55 33.3**	**-0.7**
ABKAR	**Akbulak array**	**64.84**	**319**	P		**P**		**19 55 33.5**	**-0.4**
ABKAR				IAmb		IAmb		19 55 43.9	
	comp=Z,0.9nm,0.8s								
NIKH	**Nikolski High**	**65.68**	**37**	P		**P**		**19 55 38.5**	**-0.8**
D19K	**Kuna River**	**73.67**	**22**	P		**P**		**19 56 28.3**	**0.0**
D19K				IAmb		IAmb		19 57 10.6	
	comp=Z,4.6nm,1.3s								
D25K	**Kavik River**	**77.95**	**21**	P		**P**		**19 56 53.2**	**+0.4**
D25K				IAmb		IAmb		19 57 11.3	
	comp=Z,2.4nm,1.1s								
BMAR	**Burnt Mountain**	**78.74**	**23**	P		**P**		**19 56 56.6**	**-0.5**
E28M	**Babbage River**	**80.48**	**22**	P		**P**		**19 57 06.6**	**+0.1**
F28M	**Old Crow**	**80.51**	**23**	P		**P**		**19 57 06.5**	**-0.3**
F28M				IAmb		IAmb		19 57 48.9	
	comp=Z,8.1nm,1.4s								
I28M	**Miner Creek**	**80.83**	**25**	P		**P**		**19 57 09.6**	**+1.0**
I28M				IAmb		IAmb		19 57 21.0	
	comp=Z,3.6nm,1.2s								
FINES	**FINESS Array B**	**83.75**	**332**	P		**P**		**19 57 24.0**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=95,slow=4.9,SNR=2.4								
	comp=Z,1.7nm,0.9s								
AKASG	**Malin Array Be**	**84.51**	**321**	P		**P**		**19 57 27.2**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=75,slow=3.6,SNR=4.5								
	comp=Z,0.2nm,0.3s								

*JMA **09** 20:07:53.9±0.9, 45°N±3°×14°9E±°, h30km, MV3.9/11, SE OFF ETOROFU*
*SKHL **09** 20:07:53.7±0.3, 44°.40N×149°.10E, h27km±3km, mb4.4/4*
ISC 09 20:07:53.6±4.2, 44°.42N±0°.09×149°.1E±0°.2, h42km, n12, σ0°99/19, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
KUR	**Kuril'sk**	**1.20**	**313**	*i* P	**Pn**	**20 08 13.5**		**-0.4**
KUR				AMB	AMB	20 08 14.1		
	210nm,0.6s							
KUR				*i* S	**Sn**	**20 08 28.6**		**-0.3**
KUR				A	A	20 08 29.7		
	400nm,0.3s							
KUR				A	A	20 08 29.7		
	320nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**2.37**	**262**	*e*P	**Pn**	**20 08 30.7**		**+0.8**
YUK				AMB	AMB	20 08 32.3		
	60nm,0.2s							
YUK				*e*S	**Sn**	**20 08 58.2**		**+0.5**
YUK				A	A	20 09 01.1		
	150nm,0.3s							
YUK				A	A	20 09 01.1		
	140nm,0.3s							
NEM2	**Nemuro 2**	**2.66**	**248**	*e*P	**Pn**	**20 08 33.9**		**0.0**
NEM2				*e*S	**Sn**	**20 09 03.7**		**-1.1**
NMR	**Nemuro--Hokkai**	**2.66**	**248**	*e*P	**Pn**	**20 08 34.1**		**+0.1**
NMR				AMB	AMB	20 08 35.6		
	20nm,0.2s							
NMR				*e*S	**Sn**	**20 09 03.5**		**-1.5**
NMR				A	A	20 09 05.1		
	30nm,0.2s							
NMR				A	A	20 09 05.1		
	100nm,0.2s							
JRA	**Rausu**	**2.91**	**262**	*e*P	**Pn**	**20 08 39.0**		**+1.6**
JNK	**Nakash**	**3.28**	**257**	*e*P	**Pn**	**20 08 43.5**		**+1.1**
JNK				*e*S	**Sn**	**20 09 19.2**		**-0.9**
AKK	**Akkeshi**	**3.40**	**247**	*e*P	**Pn**	**20 08 44.5**		**+0.4**
AKK				*e*S	**Sn**	**20 09 22.7**		**-0.4**
JAK	**Akkeshi**	**3.50**	**247**	*e*P	**Pn**	**20 08 45.6**		**+0.1**
JAR	**Ashorobuto**	**4.02**	**256**	*e*P	**Pn**	**20 08 54.4**		**+1.7**
JOB	**Onbets**	**4.12**	**250**	*e*P	**Pn**	**20 08 55.2**		**+1.2**
JCH	**Churui**	**4.55**	**249**	*e*P	**Pn**	**20 09 00.4**		**+0.5**
JCH				*e*S	**Sn**	**20 09 50.3**		**-1.3**
JNBK	**Urakawa-nobuka**	**5.11**	**247**	*e*P	**Pn**	**20 09 07.7**		**+0.2**

TRN 09 20:08:00.9, 14°.83N×60°.53W, h60km, MD3.5, East of Martinique., Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
ILAM	**Ilet Lapin Mar**	**0.33**	**260**	*e*P	Pn	20 08 12.7		+1.4
ILAM				*e*S	Sn	20 08 20.6		+1.8
MVM	**Montagne Vaucl**	**0.45**	**232**	*e*P	Pn	20 08 13.5		+1.2
LPMF	**Morne Lapointe**	**0.49**	**238**	*e*P	Pn	20 08 13.6		+0.8
MPOM	**Morne Pois Mar**	**0.50**	**219**	*e*P	Pn	20 08 14.0		+1.1
MPOM				*e*S	Sn	20 08 23.0		+1.5
ZAM	**Aeronautique**	**0.55**	**242**	*e*P	Pn	20 08 14.2		+0.8
TRMF	**Trois Ilets**	**0.58**	**240**	*e*P	Pn	20 08 14.7		+1.0
BAMF	**Morne Balai**	**0.59**	**268**	*e*P	Pn	20 08 15.5		+1.5
FDF	**Fort de France**	**0.60**	**261**	*e*P	Pn	20 08 15.3		+1.2
BIM	**Bigot**	**0.61**	**239**	*e*P	Pn	20 08 15.5		+1.4
BIM				*e*S	Sn	20 08 25.9		+2.2
GBMF	**Grand Be**	**0.61**	**267**	*e*P	Pn	20 08 15.5		+1.3
SVN	**Savane Anatole**	**0.61**	**271**	*e*P	Pn	20 08 15.5		+1.3
SVN				*e*S	Sn	20 08 25.7		+1.9
PML	**Morne Lenard**	**0.63**	**265**	*e*P	Pn	20 08 15.7		+1.4
PCM	**Pelee Case Pet**	**0.66**	**269**	*e*P	Pn	20 08 16.1		+1.4
SLW	**Petit Monier**	**0.90**	**206**	*e*P	Pn	20 08 20.0		+2.3
SLW				*e*S	Sn	20 08 32.1		+2.1
SLBI	**Saint Lucia, B**	**0.91**	**208**	*e*P	Pn	20 08 18.9		+1.1
SLBI				*e*S	Sn	20 08 31.2		+0.9
SLCP	**Castries, St.**	**0.93**	**208**	*e*P	Pn	20 08 19.9		+1.8
SLCP				*e*S	Sn	20 08 32.0		+1.3
SLB	**Belfond**	**1.11**	**206**	*e*S	Sn	20 08 37.5		+2.5
MAGL	**Barre de l'ile**	**1.32**	**327**	*e*P	Pn	20 08 24.4		+1.1
TDBA	**Terre de Bas,**	**1.47**	**314**	*e*P	Pn	20 08 26.7		+1.5
SVB	**Belmont**	**1.70**	**204**	*e*P	Pn	20 08 30.0		+1.6
SVB				*e*S	Sn	20 08 50.9		+1.7
SVOC	**Richmond Hill,**	**1.80**	**202**	*e*P	Pn	20 08 30.5		+0.9
SVOC				*e*S	Sn	20 08 51.8		+0.3
ABD	**La Joyeuse, An**	**1.87**	**331**	*e*P	Pn	20 08 32.1		+1.5
ABD				*e*S	Sn	20 08 54.8		+1.6
GCMP	**Grenada, Carri**	**2.49**	**201**	*e*P	Pn	20 08 40.3		+1.2
GCMP				*e*S	Sn	20 09 09.9		+1.6
MBFL	**Flemmings, Mon**	**2.50**	**320**	*e*S	Sn	20 09 09.8		+1.3
ANBD	**Bethesda, Anti**	**2.50**	**332**	*e*P	Pn	20 08 40.5		+1.3
ANBD				*e*S	Sn	20 09 09.1		+0.6

*IDC **09** 20:14:51.4±7.0, 0°.27N×123°.65E, h180km±68km, mb3.0/6, mbtmp3.5/6, Error ellipse: s-maj=144.2km s-min=16.3km az=64.0*
ISC 09 20:14:48.2±0.9, 0°.0N±0°.5×12°3E±°, h150km, n6, σ0s67/9, mb3.4/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
WRA	**Warramunga Arr**	**22.69**	**152**	P	**P**	**20 19 36.8**		**-0.4**
	0.6nm,0.5s,baz=337,slow=9.3,SNR=13							
WRA				PcP	**PcP**	**20 23 24.1**		**-0.5**
	0.8nm,1.1s,baz=338,slow=2.2,SNR=2.3							
	0.6nm,0.5s							
ASAR	**Alice Springs**	**25.77**	**157**	P	**P**	**20 20 06.5**		**+1.2**
	0.1nm,0.5s,baz=335,slow=7.5,SNR=5.9							
ASAR				PcP	**PcP**	**20 23 31.2**		**-0.1**
	0.4nm,0.5s,baz=350,slow=2.4,SNR=8.0							
	0.1nm,0.5s							
STKA	**Stephens Creek**	**36.23**	**153**	P	**P**	**20 21 36.7**		**-0.1**
	1.0nm,0.6s,baz=347,slow=14,SNR=5.8							
	1.0nm,0.6s							
SONM	**Songino Array**	**49.80**	**345**	P	**P**	**20 23 26.2**		**+0.4**
	0.5nm,0.6s,baz=157,slow=9.5,SNR=3.2							
	0.5nm,0.6s							
MKAR	**Makanchi Array**	**58.65**	**328**	P	**P**	**20 24 30.1**		**+0.4**
	0.3nm,0.5s,baz=120,slow=8.4,SNR=10							
MKAR				PcP	**PcP**	**20 25 17.6**		**-0.5**
	0.3nm,0.4s,baz=140,slow=4.7,SNR=5.2							
	0.3nm,0.5s							
BVAR	**Borovoye Array**	**68.52**	**329**	P	**P**	**20 25 33.8**		**-0.5**
	0.3nm,0.6s,baz=120,slow=5.2,SNR=2.1							
	0.3nm,0.6s							

*IDC **09** 20:21:55.4±1.3, 40°.56N×109°.60W, h0km, mb2.4/1, mbtmp2.6/4, ML3.1/3, Error ellipse: s-maj=13.7km s-min=9.0km az=119.0*
*NEIC **09** 20:21:59.4±1.7, 40°.68N±0°.05×109°.52W±0°.06, h0km±1km, ML3.1/130, Error ellipse: s-maj=8.0km s-min=7.0km az=153.0*
ISC 09 20:21:59.4±1.0, 40°.66N±0°.04×109°.50W±0°.03, h0km, n72, σ1s72/71, Utah

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
RDMU	**Red Mountain**	**0.10**	**213**		**Pg**	**20 22 01.6**		**+0.2**
RDMU				IAML		20 22 05.4		
	comp=E,6μm,0.8s							
RDMU				IAML		20 22 05.4		
	comp=N,8μm,0.7s							
BSUT	**Blindstream Ca**	**0.97**	**263**		**Pg**	**20 22 18.9**		**+0.9**
O20A	**White River Ci**	**1.09**	**118**	Pg	**Pg**	**20 22 19.9**		**-0.3**
O20A				IAML		20 22 46.3		
	comp=N,400nm,0.7s							
O20A				IAML		20 22 48.0		
	comp=E,504nm,0.5s							
P18A	**Preston Nutter**	**1.18**	**209**		**Pg**	**20 22 22.1**		**+0.1**
P18A				IAML		20 23 00.1		
	comp=N,220nm,0.8s							
TCUT	**Toone Canyon**	**1.52**	**288**		**Pn**	**20 22 28.5**		**+0.5**
TCUT				IAML		20 23 04.3		
	comp=E,518nm,0.7s							
P17A	**Butcher Ranch,**	**1.52**	**219**		**Pn**	**20 22 27.8**		**-0.2**
P17A				IAML		20 22 37.0		
	comp=N,154nm,0.2s							
P17A				IAML		20 22 58.3		
	comp=E,132nm,0.6s							
CTU	**Camp Tracy**	**1.72**	**272**		**Pn**	**20 22 32.1**		**+1.4**
SRU	**San Rafael Swe**	**1.74**	**207**		**Pn**	**20 22 31.7**		**+0.7**
SRU				IAML		20 23 05.6		
	comp=N,304nm,0.6s							
SRU				IAML		20 23 08.1		
	comp=E,240nm,0.3s							
MPU	**Maple Canyon**	**1.76**	**249**		**Pn**	**20 22 32.2**		**+0.9**
MPU				IAML		20 22 43.0		
	comp=E,144nm,0.4s							
MPU				IAML		20 23 08.8		
	comp=N,124nm,0.6s							
HWUT	**Hardware Ranch**	**1.83**	**302**		**Pn**	**20 22 33.4**		**+1.2**
HWUT				IAML		20 23 08.1		
	comp=N,176nm,0.6s							
HWUT				IAML		20 23 16.4		
	comp=N,153nm,0.8s							
RWWY	**Rawlins**	**2.01**	**58**		**Pn**	**20 22 35.8**		**+1.1**
RWWY				IAML		20 23 15.7		
	comp=N,182nm,0.6s							
NLU	**North Lily Min**	**2.10**	**251**		**Pn**	**20 22 37.0**		**+1.0**
PD31	**Pinedale Array**	**2.11**	**359**		**Pn**	**20 22 36.8**		**+0.7**
PDAR	**Pinedale Array**	**2.11**	**359**	Pn	**Pn**	**20 22 36.5**		**+0.4**
PDAR	**Pinedale Array**	**2.11**	**359**	Pn	**Pn**	**20 22 36.6**		**+0.5**
	comp=N,3.9nm,0.3s,baz=167,slow=13,SNR=24							
PDAR				Lg	Lg	20 23 04.5		
	comp=N,8.6nm,0.3s,baz=173,slow=24,SNR=5.9							
	comp=N,9.3nm,0.4s							
Q16A	**Castle Valley**	**2.17**	**217**		**Pn**	**20 22 39.2**		**+2.3**
Q16A				IAML		20 23 16.4		
	comp=N,151nm,0.7s							
Q16A				IAML		20 23 17.8		
	comp=E,167nm,0.3s							
SPUT	**South Promonto**	**2.33**	**287**		**Pn**	**20 22 40.3**		**+1.2**
SPUT				IAML		20 23 24.6		
	comp=N,104nm,0.5s							
SPUT				IAML		20 23 24.8		
	comp=E,64nm,0.6s							
AHID	**Auburn Hatcher**	**2.42**	**331**		**Pn**	**20 22 42.2**		**+1.8**
SMCO	**Snowmass**	**2.44**	**127**		**Pn**	**20 22 43.0**		**+2.2**
DUG	**Dugway, Tooele**	**2.58**	**261**		**Pn**	**20 22 43.8**		**+1.4**
BGU	**Big Grassy Mou**	**2.70**	**277**		**Pn**	**20 22 46.0**		**+1.8**
N23A	**Red Feather La**	**2.71**	**84**		**Pn**	**20 22 47.1**		**+2.7**
HVU	**Hansel Valley**	**2.72**	**295**		**Pn**	**20 22 45.7**		**+1.3**
HVU				IAML		20 23 44.1		
	comp=E,94nm,0.6s							
HVU				IAML		20 23 45.1		
	comp=N,111nm,0.7s							
REDW	**Red Top Meadow**	**2.88**	**340**		**Pn**	**20 22 49.1**		**+2.3**
HMU	**Henry Mountain**	**2.88**	**200**		**Pn**	**20 22 48.6**		**+1.8**
SNOW	**Snow King Moun**	**2.95**	**342**		**Pn**	**20 22 48.7**		**+0.9**
SNOW				IAML		20 23 47.8		
	comp=N,123nm,0.7s							
SNOW				IAML		20 23 58.8		
	comp=N,92nm,1.0s							
MSU	**Marysvale**	**2.98**	**225**		**Pn**	**20 22 49.8**		**+1.7**
K22A	**Casper**	**2.99**	**47**		**Pn**	**20 22 49.1**		**+1.0**
MVU	**Marysvale**	**3.01**	**225**		**Pn**	**20 22 50.7**		**+2.2**
TPAW	**Teton Pass**	**3.03**	**340**		**Pn**	**20 22 48.0**		**-0.8**
TPAW				IAML		20 23 40.9		
	comp=N,76nm,0.7s							
TPAW				IAML		20 23 49.6		
	comp=N,102nm,0.6s							
LOHW	**Long Hollow**	**3.06**	**345**		**Pn**	**20 22 47.6**		**-1.7**
LOHW				IAML		20 23 49.9		
	comp=N,88nm,0.7s							
LOHW				IAML		20 24 02.5		
	comp=N,80nm,0.8s							
TCRU	**Three Creeks R**	**3.06**	**229**		**Pn**	**20 22 49.4**		**+0.1**
TCRU				IAML		20 23 55.2		
	comp=E,45nm,0.9s							
TCRU				IAML		20 23 60.0		
	comp=N,42nm,1.1s							
ISCO	**Idaho Springs**	**3.09**	**105**		**Pn**	**20 22 51.3**		**+1.6**
PHWY	**Pilot Hill**	**3.12**	**77**		**Pn**	**20 22 51.6**		**+1.5**
PHWY				IAML		20 23 09.7		
	comp=N,34nm,0.5s							
PHWY				IAML		20 23 51.7		
	comp=N,46nm,0.5s							
FXWY	**Fox Creek**	**3.19**	**340**		**Pn**	**20 22 51.6**		**+0.6**
MOOW	**Moose Ponds**	**3.22**	**344**		**Pn**	**20 22 52.3**		**+0.9**
MTPU	**Mount Pierson**	**3.34**	**219**		**Pn**	**20 22 53.7**		**+0.5**
MTPU				IAML		20 24 00.7		
	comp=E,34nm,0.8s							
IMW	**Indian Meadow**	**3.41**	**342**		**Pn**	**20 22 56.0**		**+1.9**
MVCO	**Mesa Verde**	**3.53**	**167**	Pn	**Pn**	**20 22 57.1**		**+1.4**
FLWY	**Flagg Ranch**	**3.54**	**346**		**Pn**	**20 22 57.0**		**+1.3**
FLWY				IAML		20 24 09.5		
	comp=E,41nm,1.0s							
FLWY				IAML		20 24 12.1		
	comp=E,39nm,1.0s							
Q24A	**Divide**	**3.75**	**115**		**Pn**	**20 23 01.4**		**+2.6**
Q24A				IAML		20 24 09.0		
	comp=E,22nm,1.0s							
Q24A				IAML		20 24 09.0		
	comp=N,23nm,0.8s							
H17A	**Grant Village**	**3.82**	**348**		**Pn**	**20 23 02.9**		**+3.2**
H17A				IAML		20 23 23.8		
	comp=N,22nm,0.7s							
H17A				IAML		20 24 22.9		
	comp=E,18nm,1.1s							
PKCU	**Pink Cliffs**	**3.89**	**215**		**Pn**	**20 23 02.1**		**+1.5**
PKCU				IAML		20 24 10.7		
	comp=N,47nm,0.8s							
YFT	**Old Faithful**	**3.92**	**346**		**Pn**	**20 23 02.2**		**+1.3**
YFT				IAML		20 23 28.0		
	comp=E,20nm,0.8s							
YFT				IAML		20 23 28.5		
	comp=N,44nm,0.6s							
BRIGG	**Briggsdale**	**3.94**	**89**		**Pn**	**20 23 04.3**		**+3.1**
LKWY	**Lake**	**3.96**	**351**		**Pn**	**20 23 04.3**		**+2.7**
LKWY				IAML		20 23 27.4		
	comp=N,40nm,0.5s							
PSUT	**Pine Spring**	**3.98**	**239**		**Pn**	**20 23 04.2**		**+2.3**
SPR3	**Spring Creek 3**	**4.08**	**248**	Pn	**Pn**	**20 23 03.9**		**+0.7**
YMP	**Mirror Lake Pl**	**4.11**	**353**	Pn	**Pn**	**20 23 04.9**		**+1.2**
YMP				IAML		20 23 33.1		
	comp=E,34nm,2.2s							
YMP				IAML		20 24 32.6		
	comp=N,36nm,0.6s							
YHH	**Holmes Hill**	**4.25**	**347**		**Pn**	**20 23 08.2**		**+2.6**
SDCO	**Great Sand Dun**	**4.25**	**132**		**Pn**	**20 23 07.5**		**+1.9**
CCUT	**Cedar City**	**4.32**	**225**		**Pn**	**20 23 07.4**		**+0.8**
ELK	**Elko**	**4.37**	**273**		**Pn**	**20 23 09.1**		**+2.0**
ELK	**Elko**	**4.37**	**273**	Pg	**Pn**	**20 23 11.1**		**+3.9**
	comp=N,0.1nm,0.3s,baz=88,slow=13,SNR=2.0							
ELK				Lg	Lg	20 24 10.7		
	comp=N,0.2nm,0.3s,baz=56,slow=11,SNR=1.5							
YHL	**Hebgen Lake**	**4.37**	**344**	Pn	**Pn**	**20 23 09.5**		**+2.2**
YHL				IAML		20 24 00.9		
	comp=N,21nm,4.9s							
YHL				IAML		20 24 04.7		
	comp=E,13nm,4.9s							
Q12A	**Willow Creek R**	**4.41**	**250**	Pn	**Pn**	**20 23 10.1**		**+2.4**
Q12A				IAML		20 24 30.4		
	comp=N,12nm,0.7s							
Q12A				IAML		20 24 54.3		
	comp=E,12nm,1.2s							
RLMT	**Red Lodge**	**4.46**	**2**		**Pn**	**20 23 09.6**		**+1.1**
RLMT				IAML		20 24 31.3		
	comp=E,15nm,1.6s							
RLMT				IAML		20 24 40.8		
	comp=E,22nm,3.9s							
KNB	**Kanab**	**4.47**	**217**		**Pn**	**20 23 10.5**		**+1.9**
KNB				IAML		20 24 38.7		
	comp=N,18nm,0.9s							
KNB				IAML		20 24 41.5		
	comp=E,16nm,0.9s							
HLID	**Hailey**	**4.67**	**310**		**Pn**	**20 23 13.7**		**+2.4**
HLID				IAML		20 24 32.7		
	comp=E,8.7nm,4.8s							
U15A	**North Rim**	**4.76**	**208**	Pn	**Pn**	**20 23 13.9**		**+1.3**
BOZ	**Bozeman (W)**	**5.18**	**343**		**Pn**	**20 23 20.2**		**+2.0**
BOZ				IAML		20 24 24.3		
	comp=E,13nm,4.8s							
BOZ				IAML		20 26 45.3		
	comp=E,9.9nm,4.7s							
R11B	**Troy Canyon, C**	**5.25**	**246**		**Pn**	**20 23 20.3**		**+1.1**
R11B				IAML		20 24 08.1		
	comp=E,5.9nm,4.8s			

comp=Z,7.2nm,0.5s
WRA Warramunga Arr 22.80 159 P **P** **20 49 57.1 -1.8**
WRA Warramunga Arr 22.80 159 P **P** **20 49 58.5 -0.4**
comp=Z,6.4nm,0.5s,baz=331,slow=11,SNR=89
comp=Z,6.4nm,0.5s
WB2 Warramunga Arr 22.81 159 P **P** **20 49 58.5 -0.5**
WB2 IAmb IAmb 20 50 00.6
comp=Z,7.5nm,0.7s
WR0 Warramunga Arr 22.89 158 P **P** **20 49 59.1 -0.7**
MBWA Marble Bar 23.19 195 P **P** **20 50 03.1 +0.5**
MBWA IAmb IAmb 20 50 28.0
comp=Z,22nm,1.5s
AS31 Alice Springs 26.13 163 P **P** **20 50 29.5 +0.2**
AS31 IAmb IAmb 20 50 35.0
comp=Z,2.2nm,0.3s
ASAR Alice Springs 26.13 163 P **P** **20 50 29.5 +0.2**
ASAR Alice Springs 26.13 163 P **P** **20 50 29.8 +0.5**
comp=Z,2.3nm,0.4s,baz=343,slow=11,SNR=62
comp=Z,2.3nm,0.4s
BBOO Buckleboo 35.38 165 P **P** **20 51 50.1 -0.4**
STKA Stephens Creek 36.33 157 P **P** **20 51 59.2 +0.6**
STKA Stephens Creek 36.33 157 P **P** **20 51 59.5 +0.9**
comp=Z,1.8nm,0.5s,baz=335,slow=9.7,SNR=7.2
comp=Z,1.8nm,0.5s
ARMA Armidale 40.09 144 P **P** **20 52 32.4 +2.0**
USRK Ussuriysk Ar. 42.97 7 P **P** **20 52 54.7 +1.1**
comp=Z,0.9nm,0.5s,baz=191,slow=8.2,SNR=2.4
comp=Z,0.9nm,0.5s
KOUNC Koumac, New Ca 43.55 122 P **P** **20 52 57.0 -1.5**
SONM Songino Array 49.22 343 P **P** **20 53 42.1 -0.5**
comp=Z,0.4nm,0.8s,baz=154,slow=8.0,SNR=2.4
comp=Z,0.4nm,0.8s
MK31 Makanchi Array 58.95 326 P **P** **20 54 53.3 0.0**
MK31 IAmb IAmb 20 54 54.4
comp=Z,1.2nm,1.0s
MKAR Makanchi Array 58.95 326 P **P** **20 54 53.1 -0.1**
MKAR PcP **PcP** **20 55 40.8 -0.7**
MKAR Makanchi Array 58.95 326 P **P** **20 54 53.3 0.0**
comp=Z,1.1nm,0.3s,baz=126,slow=8.9,SNR=30
comp=Z,1.1nm,0.3s
MAKZ Makanchi 59.13 326 P **P** **20 54 54.6 +0.1**
MAKZ IAmb IAmb 20 54 57.6
comp=Z,2.2nm,0.6s
ZAA0 Zalesovo Array 62.24 334 P **P** **20 55 16.4 +0.9**
ZAA0 IAmb IAmb 20 55 34.2
comp=Z,1.9nm,1.1s
ZALV Zalesovo Beam 62.24 334 P **P** **20 55 15.2 -0.3**
ZALV Zalesovo Beam 62.24 334 P **P** **20 55 15.0 -0.5**
comp=Z,0.4nm,0.3s,baz=130,slow=7.2,SNR=3.1
comp=Z,0.4nm,0.3s
KURBB Kurchatov Arra 63.20 328 P **P** **20 55 22.1 +0.2**
comp=Z,1.0nm,0.5s,baz=128,slow=6.7,SNR=11
KURK Kurchatov 63.21 329 P **P** **20 55 21.8 -0.1**
KURK IAmb IAmb 20 55 23.1
comp=Z,2.5nm,0.7s
BVAR Borovoye Array 68.77 328 P **P** **20 55 57.0 -0.5**
comp=Z,0.3nm,0.4s,baz=123,slow=5.3,SNR=4.7
comp=Z,0.3nm,0.4s
BRVK Borovoye 68.84 328 P **P** **20 55 58.3 +0.4**
TIXI Tiksi 70.17 1 P **P** **20 56 06.0 +0.2**
TIXI IAmb IAmb 20 56 09.4
comp=Z,4.4nm,1.4s
BILL Bilibino 72.03 15 P **P** **20 56 15.3 -1.8**
BILL IAmb IAmb 20 56 48.9
comp=Z,8.4nm,1.5s
ABKAR Akbulak array 73.36 321 P **P** **20 56 24.8 -0.6**
ABKAR Akbulak array 73.36 321 P **P** **20 56 25.1 -0.3**
ABKAR IAmb IAmb 20 57 00.6
comp=Z,2.4nm,1.4s
ARU Arti 76.40 328 P **P** **20 56 42.8 0.0**
ARU IAmb IAmb 20 56 43.2
comp=Z,2.2nm,0.7s
D19K Kuna River 83.62 21 P **P** **20 57 23.1 +1.7**
B20K Meade River 84.27 20 P **P** **20 57 26.4 +1.8**
B20K IAmb IAmb 20 57 58.1
comp=Z,7.4nm,1.4s

TEH ***09*** *20:45:34.2, 37.96N×55.88E, h20km±104km, ML3.0*
ISC 09 20:45:23.4±1.0, 38.63N±0.06×55.5E±0.1, h10km, n9, σ1§78/10, 2C-2D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRVT	**Maraveh tapeh**	**1.07**	**155**	Pg	**Pb**	**20 45 42.0**	**-2.1**
IMND	**Minoodasht**	**1.38**	**184**	Pg	**Pn**	**20 45 49.6**	**+0.9**
IGLO	**Ghaloghah**	**2.52**	**213**	Pn	**Pg**	**20 46 11.5**	**-0.1**
ISFR	**Sfrayin**	**2.52**	**128**	Pn	**Pb**	**20 46 08.1**	**-0.8**
IEMG	**Emamgholi**	**2.76**	**115**	Pn	**Pb**	**20 46 12.0**	**-0.9**
SBZV	**Sabzevar**	**2.79**	**143**	Pn	**Pn**	**20 46 09.5**	**+1.2**
AFRZ	**Afriz**	**5.92**	**150**	Pn	**Pn**	**20 46 52.7**	**+1.5**
AB31	**Akbulak array**	**11.08**	**15**	⇑P	**Pn**	**20 48 03.7**	**+1.9**
	0.2nm,0.3s,baz=202,slow=13,SNR=9.2						
AB31				⇓S	**Sn**	**20 50 03.1**	**-2.7**
	0.7nm,0.5s,baz=199,slow=23,SNR=4.0						
AKTO	**Aktyubinsk**	**11.93**	**8**	⇓P	Pn	20 48 18.0	+4.6
	1.7nm,0.8s						
AKTO				⇑S	**Sn**	**20 50 25.5**	**-1.1**
	2.7nm,1.4s						

IDC 09 20:53:01.9±2.8, 2.60S×131.92E, h0km, mb3.7/3, mbtmp3.6/4, ML3.1/1, Error ellipse: s-maj=204.6km s-min=27.6km az=71.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.39**	**172**	P	Pn	20 57 04.4	-1.9
	0.1nm,0.3s,baz=354,slow=13,SNR=6.9						
WRA				S	Sn	21 00 04.2	-16
	0.6nm,0.6s,baz=359,slow=23,SNR=2.5						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**21.03**	**175**	P	P	20 57 48.2	+0.8
	2.2nm,0.6s,baz=351,slow=11,SNR=37						
ASAR				S	S	21 01 31.7	-11
	0.3nm,0.7s,baz=348,slow=17,SNR=2.1						
	2.2nm,0.6s						
STKA	**Stephens Creek**	**30.51**	**164**	P	P	20 59 17.0	+0.1
	1.0nm,0.3s,baz=338,slow=9.4,SNR=7.7						
	1.0nm,0.3s						
MKAR	**Makanchi Array**	**65.68**	**325**	P	P	21 03 48.2	-0.1
	0.1nm,0.6s,baz=140,slow=6.7,SNR=1.3						
	0.1nm,0.6s						

VAO ***09*** *20:57:43.0±1.8, 32.57S×73.21W, h10km, mb4.4*
SJA ***09*** *20:57:50.7±0.8, 31.83S×72.36W, h8km±4km, ML4.5, MW4.1*
IDC ***09*** *20:57:54.7±1.1, 31.88S×71.53W, h0km, mb4.6/6, mbtmp4.3/10, ML4.0/4, MS3.7/9, Error ellipse: s-maj=45.2km s-min=18.7km az=103.0*
GUC ***09*** *20:57:56.4±0.7, 31.85S×71.98W, h30km±3km, ML4.5*
NEIC ***09*** *20:57:56.7±2.1, 31.85S±0.03×72.12W±0.08, h40km±5km, mb4.4/11, Error ellipse: s-maj=9.7km s-min=4.8km az=96.0*
ISC 09 20:57:53.2±1.0, 31.84S±0.02×72.10W±0.04, h5km±6km, n166, σ1§50/198, mb4.6/12, MS4.0/5, 9C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.98**	**137**	Pn	**Pg**	**20 58 13.2**	**+1.1**
VA06				Sn	**Sg**	**20 58 25.4**	**+0.5**
VA06	**Catapilco**	**0.98**	**137**	⇓P	**Pg**	**20 58 13.3**	**+1.2**
VA06				eS	**Sg**	**20 58 25.1**	**+0.3**
VA06				IAML		20 58 29.2	
	comp=N,27μm,0.5s						
CO02	**Combarbal**	**1.13**	**56**		**Pb**	**20 58 15.3**	**+0.1**
CO02				Sn	**Sb**	**20 58 29.3**	**-1.0**
CO02	**Combarbal**	**1.13**	**56**	*eP*	**Pb**	**20 58 15.5**	**+0.2**
CO02				*eS*	**Sb**	**20 58 30.2**	**-0.1**
CO02				IAML		20 58 32.2	
	comp=Z,11μm,0.5s						
CO02	**Combarbal**	**1.13**	**56**	⇓*iP*	**Pb**	**20 58 15.4**	**+0.2**
CO02				*eS*	**Sb**	**20 58 29.1**	**-1.2**
CO02				IAML		20 58 30.6	
	comp=E,25μm,0.3s						
CO06	**Fray Jorge**	**1.23**	**19**		**Pg**	**20 58 17.4**	**+0.7**
CO06				Sn	**Sb**	**20 58 32.5**	**-0.5**
CO06	**Fray Jorge**	**1.23**	**19**	⇑*iP*	**Pg**	**20 58 17.5**	**+0.7**
CO06				*eS*	**Sb**	**20 58 32.8**	**-0.3**
VA01	**Torpederas**	**1.24**	**162**		**Pn**	**20 58 17.7**	**+0.7**
VA01				Sn	**Sb**	**20 58 32.4**	**-0.8**
VA01	**Torpederas**	**1.24**	**162**	*eS*	**Sb**	**20 58 33.8**	**+0.6**
VA01	**Torpederas**	**1.24**	**162**	*iP*	**Pb**	**20 58 17.8**	**+0.8**
ROCH	**El Roble**	**1.45**	**141**	⇑*iP*	**Pn**	**20 58 20.9**	**+0.7**
ROCH				*eS*	**Sn**	**20 58 39.0**	**-0.8**
ROCH				IAML		20 58 43.1	
	comp=N,13μm,0.4s						
CO03	**El Pedregal**	**1.56**	**51**	Pn	**Pb**	**20 58 22.5**	**-0.1**
CO03				Sn	**Sn**	**20 58 41.2**	**-1.1**
CO03	**El Pedregal**	**1.56**	**51**	*eP*	**Pb**	**20 58 22.6**	**-0.1**
CO03				*eS*	**Sn**	**20 58 42.1**	**-0.3**
CO03				IAML		20 58 43.4	
	comp=Z,5μm,0.8s						
CO03	**El Pedregal**	**1.56**	**51**	*i* P	**Pb**	**20 58 22.5**	**-0.1**
CO03				*eS*	**Sn**	**20 58 41.5**	**-0.8**
CO03				IAML		20 58 44.0	
	comp=E,17μm,1.0s						
VA03	**San Esteban**	**1.60**	**125**		**Pn**	**20 58 22.6**	**+0.5**
VA03				Sn	**Sn**	**20 58 40.9**	**-2.3**
VA03	**San Esteban**	**1.60**	**125**	*eP*	**Pn**	**20 58 23.0**	**+0.8**
VA03				*eS*	**Sn**	**20 58 38.4**	**-4.8**
VA03				IAML		20 58 52.2	
	comp=Z,4μm,0.6s						
VA03	**San Esteban**	**1.60**	**125**	*i* P	**Pn**	**20 58 22.8**	**+0.6**
VA03				*eS*	**Sn**	**20 58 42.1**	**-1.1**
VA03				IAML		20 58 48.2	
	comp=E,10μm,0.6s						
MT02	**Curacav**	**1.63**	**150**		**Pn**	**20 58 23.2**	**+0.7**
MT02				Sn	**Sn**	**20 58 41.6**	**-2.2**
MT02	**Curacav**	**1.63**	**150**	*eP*	**Pn**	**20 58 23.5**	**+1.0**
MT02				*eS*	**Sb**	**20 58 44.9**	**+0.4**
MT02				IAML		20 58 50.5	
	comp=Z,2μm,0.7s						
MT02	**Curacav**	**1.63**	**150**	⇑*iP*	**Pn**	**20 58 23.4**	**+1.0**
PEL	**Peldehue**	**1.76**	**138**	Pn	**Pn**	**20 58 25.1**	**+0.8**
PEL				Sn	**Sn**	**20 58 45.9**	**-1.2**
PEL	**Peldehue**	**1.76**	**138**	⇑*iP*	**Pn**	**20 58 25.3**	**+1.0**
PEL				*eS*	**Sn**	**20 58 46.7**	**-0.5**
PEL				IAML		20 58 56.8	
	comp=N,4μm,0.4s						
VA05	**Santo Domingo**	**1.85**	**168**		**Pn**	**20 58 26.4**	**+0.9**
VA05				Sn	**Sn**	**20 58 47.3**	**-2.0**
VA05	**Santo Domingo**	**1.85**	**168**	*iP*	**Pn**	**20 58 26.8**	**+1.3**
MT05	**Renca**	**1.92**	**144**	Pn	**Pn**	**20 58 27.6**	**+1.1**
MT05				Sn	**Sn**	**20 58 49.9**	**-1.2**
MT05	**Renca**	**1.92**	**144**	*eP*	**Pn**	**20 58 28.1**	**+1.5**
MT05				*eS*	**Sb**	**20 58 53.9**	**+0.8**
MT05				*eS*	**Sg**	**20 58 55.6**	**+0.6**
MT05				IAML		20 58 56.7	
	comp=Z,2μm,0.5s						
MT05	**Renca**	**1.92**	**144**	*i* P	**Pn**	**20 58 28.2**	**+1.6**
MT05				*eS*	**Sn**	**20 58 51.9**	**+0.8**
MT05				IAML		20 58 58.7	
	comp=E,5μm,0.4s						
MT10	**Hacienda Santa**	**1.94**	**138**	⇑*iP*	**Pn**	**20 58 28.1**	**+1.2**
MT10				*eS*	**Sn**	**20 58 52.3**	**+0.6**
MT10				IAML		20 58 56.9	
	comp=N,11μm,0.6s						
GO04	**Tololo Observa**	**2.00**	**34**		**Pn**	**20 58 28.4**	**+0.6**
GO04				Sn	**Sn**	**20 58 52.8**	**-0.6**
GO04	**Tololo Observa**	**2.00**	**34**	*eP*	**Pn**	**20 58 28.9**	**+1.0**
GO04				*eS*	**Sb**	**20 58 55.6**	**+0.1**
GO04				IAML		20 59 01.1	
	comp=Z,5μm,0.5s						
GO04	**Tololo Observa**	**2.00**	**34**	*i* P	**Pb**	**20 58 29.6**	**-0.6**
MT14	**Cerro Cal¡n**	**2.03**	**140**	*i* P	**Pn**	**20 58 29.4**	**+1.3**
MT14				*eS*	**Sn**	**20 58 55.3**	**+1.4**
MT14				IAML		20 58 59.8	
	comp=E,8μm,0.4s						
CO05	**La Serena**	**2.06**	**21**		**Pn**	**20 58 29.2**	**+0.9**
MT16	**CCHEN**	**2.06**	**140**		**Pn**	**20 58 29.8**	**+1.3**
MT16				Sn	**Sn**	**20 58 52.3**	**-2.3**
MT03	**Universidad Ad**	**2.12**	**141**		**Pn**	**20 58 30.4**	**+1.1**
MT03	**Universidad Ad**	**2.12**	**141**	*eP*	**Pn**	**20 58 31.1**	**+1.7**
MT03				*eS*	**Sg**	**20 59 01.4**	**0.0**
MT03				IAML		20 59 07.7	
	comp=Z,3μm,0.7s						
MT03	**Universidad Ad**	**2.12**	**141**	⇑*iP*	**Pn**	**20 58 30.6**	**+1.3**
MT03				*eS*	**Sn**	**20 58 57.1**	**+1.0**
MT03				IAML		20 59 08.2	
	comp=N,5μm,0.5s						
MT01	**Popeta**	**2.14**	**161**		**Pn**	**20 58 30.6**	**+1.1**
MT01	**Popeta**	**2.14**	**161**	*eP*	**Pn**	**20 58 30.1**	**+0.6**
MT01				IAML		20 59 06.2	
	comp=Z,2μm,0.8s						
MT09	**Talagante**	**2.14**	**154**		**Pn**	**20 58 30.9**	**+1.3**
MT09	**Talagante**	**2.14**	**154**	⇑*iP*	**Pn**	**20 58 31.5**	**+1.8**
MT09				IAML		20 59 12.0	
	comp=E,3μm,0.4s						
MT15	**Las Vizcachas**	**2.20**	**143**	*i* P	**Pn**	**20 58 32.1**	**+1.7**
MT04	**Ro Olivares**	**2.27**	**134**	*i* P	**Pn**	**20 58 33.3**	**+1.8**
MT12	**Pirque**	**2.29**	**146**	⇑*iP*	**Pn**	**20 58 33.2**	**+1.5**
MT12				IAML		20 59 17.2	
	comp=N,6μm,0.7s						
RTLS	**Leoncito**	**2.38**	**90**	*eP*	**Pb**	**20 58 36.4**	**-0.3**
RTLS				*eS*	**Sg**	**20 59 10.7**	**+0.9**
RTLS				IAML		20 59 12.8	
	comp=Z,4μm,1.6s						
MT13	**San Alfonso**	**2.43**	**142**	Pn	**Pn**	**20 58 35.2**	**+1.6**
MT13	**San Alfonso**	**2.43**	**142**	*i* P	**Pn**	**20 58 35.2**	**+1.6**
BO04	**La Punta**	**2.48**	**150**		**Pn**	**20 58 35.9**	**+1.7**
CO01	**Juntas del Tor**	**2.53**	**43**	Pn	**Pn**	**20 58 36.8**	**+1.7**
CO01	**Juntas del Tor**	**2.53**	**43**	*eP*	**Pn**	**20 58 37.0**	**+1.8**
CO01				*eS*	**Sn**	**20 58 05.9**	**-0.6**
CO01				IAML		20 59 11.9	
	comp=Z,2μm,0.6s						
CO01				*eS*	**Sb**	**20 59 12.2**	**+1.4**
CO01	**Juntas del Tor**	**2.53**	**43**	⇑*iP*	**Pn**	**20 58 36.9**	**+1.7**
LMEL	**Las Melosas**	**2.56**	**142**		**Pn**	**20 58 37.1**	**+1.7**
BO01	**Tunca**	**2.68**	**162**	Pn	**Pn**	**20 58 38.0**	**+1.1**
BO01	**Tunca**	**2.68**	**162**	*eP*	**Pn**	**20 58 37.8**	**+0.9**
BO01				*eP*	Pb	20 58 38.4	-3.2
BO01				*eS*	**Sb**	**20 59 12.9**	**-1.9**
DOCA	**Reserva Natura**	**2.73**	**72**	*eP*	**Pb**	**20 58 40.8**	**-1.8**
DOCA				*eS*	**Sn**	**20 59 12.4**	**+0.9**
DOCA				IAML		20 59 19.1	
	comp=Z,2μm,1.3s						
DOCA				*eS*	**Sg**	**20 59 19.9**	**-0.9**
AROD	**Rodeo**	**2.80**	**54**	*eP*	**Pb**	**20 58 42.4**	**-1.5**
AROD				*eS*	**Sg**	**20 59 21.7**	**-1.6**
ARCO	**CERRO ARCO**	**2.86**	**111**	*eP*	**Pb**	**20 58 44.6**	**-0.2**
ARCO				*eP*	**Pg**	**20 58 44.9**	**-3.1**
ARCO				*eS*	**Sb**	**20 59 18.9**	**-1.2**
ARCO				IAML		20 59 23.7	
	comp=Z,1μm,1.3s						
ASAL	**Salagasta**	**2.86**	**106**	*eP*	**Pb**	**20 58 44.2**	**-0.6**
ASAL				*eS*	**Sb**	**20 59 20.4**	**+0.2**
ASAL				IAML		20 59 24.9	
	comp=Z,621nm,2.5s						
ACCO	**Cerro Coronel**	**2.88**	**65**	*eP*	**Pb**	**20 58 43.5**	**-1.7**
ACCO				*eS*	**Sb**	**20 59 23.6**	**+2.7**
AAGR	**Agrelo**	**3.03**	**115**	*eP*	**Pb**	**20 58 46.4**	**-1.2**
AAGR				*eS*	**Sg**	**20 59 30.5**	**0.0**
AAGR				IAML		20 59 33.5	
	comp=Z,778nm,0.5s						
RTLL	**Cerro Villicun**	**3.13**	**82**	*eP*	**Pn**	**20 58 46.5**	**+3.3**
RTLL				*eS*	**Sb**	**20 59 26.4**	**-1.5**
BO02	**Sierra Bellavi**	**3.14**	**160**		**Pn**	**20 58 44.8**	**+1.5**
BO02	**Sierra Bellavi**	**3.14**	**160**	*eP*	**Pn**	**20 58 44.5**	**+1.1**
BO02				*eS*	**Sb**	**20 59 28.4**	**+0.3**
BO02				IAML		20 59 40.5	
	comp=Z,1μm,0.6s						
GO05	**Huala**	**3.16**	**178**	Pn	**Pn**	**20 58 44.1**	**+0.5**
GO05	**Huala**	**3.16**	**178**	*eP*	**Pn**	**20 58 43.8**	**+0.2**
GO05				*eP*	Pb	20 58 44.6	-5.3
GO05				*eS*	Sn	20 59 10.9	-11
GO05				*eS*	**Sg**	**20 59 34.4**	**-0.4**
AC04	**Llanos de Chal**	**3.73**	**14**	Pn	**Pn**	**20 58 51.8**	**+0.4**
AC04	**Llanos de Chal**	**3.73**	**14**	*eP*	**Pn**	**20 58 52.0**	**+0.6**
AC04				*eS*	**Sb**	**20 59 43.9**	**-1.2**
AC04				IAML		20 59 57.3	
	comp=Z,489nm,0.7s						
ML02	**Panimavida**	**3.95**	**172**		**Pn**	**20 58 55.8**	**+1.4**
AVFE	**Valle Fertil**	**4.14**	**75**	*eP*	**Pn**	**20 59 00.4**	**+3.2**
AVFE				*eS*	**Sb**	**20 59 53.9**	**-3.2**
GO03	**Copiap**	**4.53**	**21**		**Pn**	**20 59 03.4**	**+0.9**
VCA	**Vinchina**	**4.57**	**48**	*eP*	**Pn**	**20 59 07.0**	**+3.9**
VCA				*eS*	**Sn**	**21 00 01.9**	**+5.2**
AC06	**Mina Casimiro**	**4.72**	**19**		**Pn**	**20 59 05.2**	**+0.2**
BI05	**Punta Hualpn**	**4.98**	**190**	Pn	**Pn**	**20 59 07.5**	**-0.9**
ACLC	**CERRO LA CRUZ**	**5.04**	**63**	IAML		21 00 22.1	
	comp=Z,1μm,0.6s						
AC02	**Maricunga**	**5.62**	**28**	Pn	**Pn**	**20 59 18.6**	**+0.8**
AC01	**Pan de Azucar**	**5.82**	**13**		**Pn**	**20 59 18.5**	**-1.7**
VA04	**Juan Fernndez**	**5.95**	**251**	Pn	**Pn**	**20 59 20.5**	**-1.4**
H03N1	**Juan Fernandez**	**5.97**	**253**	T	T	21 05 58.4	
	baz=82,slow=72,SNR=536						
H03N3	**Juan Fernandez**	**5.98**	**253**	T	T	21 06 00.1	
	baz=82,slow=72,SNR=474						
H03N2	**Juan Fernandez**	**5.98**	**253**	T	T	21 05 56.6	
	baz=82,slow=72,SNR=463						
H03S3	**Juan Fernandez**	**6.07**	**249**	T	T	21 06 13.7	
	baz=79,slow=75,SNR=6.8						
H03S1	**Juan Fernandez**	**6.07**	**249**	T	T	21 06 10.7	
	baz=79,slow=75						
H03S2	**Juan Fernandez**	**6.08**	**249**	T	T	21 06 12.7	
	baz=79,slow=75,SNR=12						
GO02	**Mina Guanaco**	**7.01**	**19**		**Pn**	**20 59 36.1**	**-0.7**
PB14	**IPOC Station P**	**7.34**	**12**		**Pn**	**20 59 40.4**	**-0.9**
GO06	**Curarrehue**	**7.74**	**176**		**Pn**	**20 59 45.8**	**-0.8**
LR05	**Currie**	**8.37**	**180**	Pn	**Pn**	**20 59 55.3**	**+0.3**
PLCA	**Paso Flores**	**8.96**	**172**	Pn	**Pn**	**21 00 03.3**	**+0.1**
PLCA	**Paso Flores**	**8.96**	**172**	Pn	**Pn**	**21 00 05.2**	**+2.0**
	comp=Z,1.2nm,0.3s,baz=336,slow=12,SNR=20						
PLCA				LR	LR	21 03 45.4	
	comp=Z,299nm,18.8s,baz=351,slow=40						
	comp=Z,3.1nm,0.4s						
PB06	**IPOC Station P**	**9.37**	**14**	Pn	**Pn**	**21 00 09.4**	**+0.3**
LL05	**Los Muermos**	**9.61**	**186**	Pn	Pn	21 00 08.1	-4.0
LVC	**Limon Verde**	**9.62**	**18**	Pn	Pn	21 00 06.8	-5.8
LVC	**Limon Verde**	**9.62**	**18**	Pn	**Pn**	**21 00 13.5**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=192,slow=14,SNR=1.4						
LVC				LR	LR	21 03 49.9	
	comp=Z,232nm,20.7s,baz=188,slow=37						
	comp=Z,1.4nm,0.4s						
PB04	**IPOC Station P**	**9.63**	**11**	Pn	**Pn**	**21 00 11.4**	**-1.2**
PB07	**IPOC Station P**	**10.27**	**12**	Pn	**Pn**	**21 00 20.0**	**-1.3**
PB09	**IPOC Station P**	**10.32**	**15**	Pn	**Pn**	**21 00 20.7**	**-1.4**
TRQA	**Tornquist**	**10.36**	**130**	Pn	**Pn**	**21 00 19.9**	**-2.5**
PB02	**IPOC Station P**	**10.66**	**11**	Pn	**Pn**	**21 00 25.2**	**-1.5**
PB01	**IPOC Station P**	**11.01**	**13**	Pn	**Pn**	**21 00 29.0**	**-2.4**
LL07	**Hotel Espejo d**	**11.02**	**185**	Pn	**Pn**	**21 00 28.8**	**-2.6**
PATCX	**Punta Patache**	**11.12**	**9**	Pn	**Pn**	**21 00 31.1**	**-1.8**
PB08	**IPOC Station P**	**11.95**	**13**	Pn	**Pn**	**21 00 41.8**	**-2.8**
PB11	**IPOC Station P**	**12.23**	**11**	Pn	**Pn**	**21 00 45.6**	**-2.6**
PSAL	**Palomas, Salto**	**12.39**	**90**	*eP*	**Pn**	**21 00 51.5**	**+1.3**
GO01	**Chusmiza**	**12.40**	**13**	Pn	**Pn**	**21 00 48.1**	**-2.7**
PB12	**IPOC Station P**	**13.27**	**7**	Pn	**Pn**	**21 00 59.5**	**-2.8**
ITQB	**Itaqui**	**13.48**	**85**		**Pn**	**21 01 02.8**	**-2.3**
ITQB	**Itaqui**	**13.48**	**85**	*eP*	**Pn**	**21 01 06.9**	**+1.9**
PB16	**IPOC Station P**	**13.65**	**10**	Pn	**Pn**	**21 01 04.5**	**-3.4**
TBOT	**Tacuaremb**	**13.75**	**94**	*eP*	**Pn**	**21 01 10.6**	**+1.9**
CPUP	**Villa Florida**	**14.03**	**71**	LR	LR	21 06 51.2	
	comp=Z,232nm,20.0s,baz=250,slow=40						
PLTB	**Pedras Altas**	**15.72**	**95**	Pn	**Pn**	**21 01 33.7**	**-1.7**
PLTB	**Pedras Altas**	**15.72**	**95**	*eP*	**Pn**	**21 01 36.4**	**+1.0**
LPAZ	**La Paz**	**15.90**	**14**		**Pn**	**21 01 39.0**	**+0.7**
LPAZ	**La Paz**	**15.90**	**14**	Pn	**Pn**	**21 01 39.9**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=207,slow=4.5,SNR=6.7						
	comp=Z,1.9nm,0.7s						
LPAZ	**La Paz**	**15.90**	**14**	*eP*	**Pn**	**21 01 40.1**	**+1.8**
CPSB	**Caicapava Do Su**	**16.04**	**90**	*eP*	**P**	**21 01 42.5**	**-0.5**
ALGR	**Alto Alegre (B**	**16.74**	**84**	*eP*	**P**	**21 01 51.8**	**+0.9**
BBSD	**Serra de San D**	**17.93**	**38**	*eP*	**P**	**21 02 07.2**	**+3.3**
CNLB	**Canela**	**18.46**	**88**	*eP*	**P**	**21 02 10.1**	**+0.2**
AQDB	**Aquidauana**	**18.54**	**56**	*eP*	**Pn**	**21 02 13.8**	**+3.0**
SIV	**San Ignacio**	**18.70**	**35**	P	**P**	**21 02 12.0**	**-0.4**
	baz=214,slow=11,SNR=11						
SIV				LR	LR	21 10 48.4	
	comp=Z,134nm,19.1s,baz=225,slow=42						
	comp=Z,2.7nm,0.6s						
PTGB	**Pitanga**	**19.00**	**73**	*eP*	**Pn**	**21 02 16.8**	**+0.3**
TER01	**Tubaro-SC**	**20.12**	**87**	*eP*	**P**	**21 02 27.2**	**-0.8**
PTLB	**Pontes e Lacer**	**20.15**	**39**		**P**	**21 02 26.3**	**-2.0**
PTLB				IAmb	IAmb	21 02 41.6	
	comp=Z,10.0nm,1.3s						
PTLB	**Pontes e Lacer**	**20.15**	**39**	*eP*	**P**	**21 02 28.1**	**-0.2**
PCMB	**Pacaembu**	**21.18**	**66**	*eP*	**P**	**21 02 41.9**	**+2.3**
VILB	**Vilhena**	**21.75**	**33**	P	**P**	**21 02 44.2**	**-1.4**
VILB				IAmb	IAmb	21 02 46.8	
	comp=Z,15nm,0.9s						
VILB	**Vilhena**	**21.75**	**33**	*eP*	**P**	**21 02 45.4**	**-0.2**
MG03	**Isla Dawson**	**22.02**	**177**	P	**P**	**21 02 46.0**	**-2.2**
MG03				IAmb	IAmb	21 02 46.5	
	comp=Z,34nm,1.4s						
ETMB	**Extrema**	**22.59**	**15**	P	**P**	**21 02 54.3**	**-0.3**
ETMB				IAmb	IAmb	21 02 58.1	
	comp=Z,10nm,0.9s						
ITRB	**Iturama**	**22.95**	**63**	*eP*	**P**	**21 02 59.8**	**+1.4**
PET01	**Itanhaem-SP**	**23.12**	**77**	*eP*	**P**	**21 02 59.9**	**-0.3**
SPB	**Sao Paulo**	**23.29**	**75**	P	**P**	**21 03 01.2**	**-0.7**
SPB				IAmb	IAmb	21 03 03.3	
	comp=Z,18nm,0.9s						
SPB	**Sao Paulo**	**23.29**	**75**	*eP*	**P**	**21 03 02.0**	**+0.1**
BB19B	**Bebedouro**	**23.62**	**69**	*eP*	**P**	**21 03 04.2**	**-1.0**
VAO	**Valinhos**	**23.94**	**75**	*eP*	**P**	**21 03 07.8**	**-0

0.1nm,0.3s,baz=32,slow=12,SNR=4.7
0.7nm,1.0s
ASAR Alice Springs 18.26 206 P Pn 21 20 10.8 0.0
baz=32,slow=10,SNR=5.5
0.4nm,0.8s
MKAR Makanchi Array 75.70 322 P P 21 27 43.5 +0.3
0.2nm,0.7s,baz=116,slow=6.6,SNR=2.2
0.2nm,0.7s

IDC 09 21:24:04.6±2.2, 3°94S×128°37E, h0km, mb3.5/2, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=132.2km s-min=30.2km az=67.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.94**	**160**	Pn	Pn	21 28 02.6	-0.6
	0.2nm,0.3s,baz=339,slow=12,SNR=14						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**20.33**	**165**	P	P	21 28 42.8	+0.2
	1.5nm,0.3s,baz=345,slow=12,SNR=29						
	1.5nm,0.3s						
MKAR	**Makanchi Array**	**64.79**	**327**	P	P	21 34 45.1	0.0
	0.3nm,0.9s,baz=111,slow=7.9,SNR=1.2						
	0.3nm,0.9s						

*IDC **09** 21:27:21.0±0.7, 6°21S×143°25E, h0km, mb4.2/12, mbtmp4.2/14, ML1.7/1, MS3.4/4, Error ellipse: s-maj=30.2km s-min=16.0km az=72.0*

ISC 09 21:27:23.0±0.6, 6°21S±0°07×143°2E±0°1, h10km, n26, σ1°38/23, mb4.2/13, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**4.70**	**320**	P	**Pb**	**21 28 45.9**	**+0.4**
PMG	**Port Moresby**	**5.05**	**129**	Pn	**Pn**	**21 28 39.3**	**+0.5**
	1.9nm,0.3s,baz=291,slow=18,SNR=3.8						
PMG				Sn	**Sn**	**21 29 35.7**	**-1.5**
	3.2nm,0.3s,baz=110,slow=5.9,SNR=4.0						
	9.2nm,0.4s						
COEN	**Coen**	**7.70**	**180**	P	**Pg**	**21 29 52.4**	**+1.9**
CTA	**Charters Tower**	**14.11**	**168**	Lg	Lg	21 34 53.7	
	0.1nm,0.3s,baz=276,slow=18,SNR=1.2						
CTA				LR	LR	21 36 31.2	
	comp=Z,110nm,18.7s,baz=84,slow=39						
WRA	**Warramunga Arr**	**16.14**	**211**	Pn	**Pn**	**21 31 06.7**	**-3.4**
	0.5nm,0.3s,baz=30,slow=13,SNR=15						
WRA				Sn	Sn	21 33 54.9	-14
	1.0nm,0.3s,baz=42,slow=22,SNR=5.0						
WRA				Lg	Lg	21 35 52.5	
	baz=32,slow=28						
KNRA	**Kununurra**	**17.00**	**235**	P	**Pn**	**21 31 20.1**	**-1.0**
ASAR	**Alice Springs**	**19.53**	**206**	P	**P**	**21 31 52.0**	**+1.2**
	13nm,0.7s,baz=32,slow=10.0,SNR=123						
ASAR				S	Sn	21 35 16.2	-15
	1.9nm,0.8s,baz=15,slow=28,SNR=5.6						
ASAR				Lg	Lg	21 37 35.1	
	0.1nm,0.3s,baz=21,slow=32,SNR=1.7						
ASAR				LR	LR	21 40 00.8	
	comp=Z,135nm,20.7s,baz=26,slow=39						
BATI	**Baumata**	**19.74**	**257**	LR	LR	21 41 43.3	
	comp=Z,134nm,18.1s,baz=70,slow=44						
WRKA	**Waraburna**	**23.55**	**216**	P	**P**	**21 32 32.3**	**-1.4**
STKA	**Stephens Creek**	**25.58**	**183**	P	**P**	**21 32 52.0**	**-0.3**
	0.4nm,0.3s,baz=349,slow=17,SNR=1.5						
	0.4nm,0.3s						
NWAO	**Narrogin (SRO)**	**35.92**	**219**	LR	LR	21 50 13.4	
	comp=Z,78nm,20.9s,baz=222,slow=38						
KSRS	**Korea Array**	**45.72**	**343**	P	**P**	**21 35 44.5**	**+0.2**
	2.9nm,0.9s,baz=163,slow=8.8,SNR=6.5						
	2.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**50.05**	**300**	P	**P**	**21 36 18.6**	**+0.3**
	1.4nm,0.6s,baz=116,slow=6.7,SNR=13						
	1.4nm,0.6s						
USRK	**Ussuriysk Ar.**	**51.19**	**350**	P	**P**	**21 36 26.2**	**-0.2**
	2.4nm,0.9s,baz=172,slow=11,SNR=3.9						
	2.4nm,0.9s						
PETK	**Petropavlovsk-**	**60.36**	**10**	P	**P**	**21 37 32.1**	**-0.1**
	6.2nm,1.0s,baz=181,slow=8.7,SNR=1.8						
	6.2nm,1.0s						
SONM	**Songino Array**	**62.81**	**333**	P	**P**	**21 37 49.2**	**+0.2**
	0.7nm,0.8s,baz=160,slow=6.6,SNR=5.4						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**75.28**	**322**	P	**P**	**21 39 06.3**	**-0.1**
	3.4nm,0.7s,baz=105,slow=7.1,SNR=39						
	3.4nm,0.7s						
ZALV	**Zalesovo Beam**	**77.21**	**329**	P	P	21 39 14.9	-2.2
	0.7nm,0.5s,baz=101,slow=7.5,SNR=5.2						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**79.16**	**324**	P	**P**	**21 39 27.2**	**-0.8**
	2.3nm,0.9s,baz=118,slow=4.2,SNR=12						
QSPA	**South Pole Qui**	**83.76**	**180**	P	**P**	**21 39 51.5**	**-0.8**
	1.9nm,0.6s,baz=288,slow=16,SNR=13						
	1.9nm,0.6s						
NRIK	**Noril'sk**	**84.34**	**343**	P	**P**	**21 39 54.9**	**0.0**
	3.2nm,0.7s,baz=127,slow=4.6,SNR=6.1						
	3.2nm,0.7s						
BVAR	**Borovoye Array**	**84.73**	**325**	P	**P**	**21 39 56.5**	**-0.8**
	7.4nm,0.7s,baz=109,slow=6.6,SNR=39						
	7.4nm,0.7s						
ILAR	**Eielson Array**	**87.17**	**24**	P	**P**	**21 40 08.2**	**-0.9**
	0.9nm,0.7s,baz=258,slow=5.2,SNR=8.3						
	0.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**141.47**	**283**	PKhKP	PKPpre	21 46 49.1	
	0.4nm,0.6s,baz=102,slow=0.8,SNR=2.6						
TORD				PKP	**PKPdf**	**21 46 55.3**	**-0.2**
	0.9nm,0.8s,baz=66,slow=2.2,SNR=4.0						
SIV	**San Ignacio**	**147.38**	**133**	PKPbc	**PKPdf**	**21 47 07.9**	**+2.1**
	2.2nm,1.0s,baz=214,slow=7.3,SNR=5.4						
DBIC	**Dimbokro**	**148.26**	**273**	PKPbc	**PKPdf**	**21 47 10.0**	**+2.8**
	3.8nm,0.7s,baz=21,slow=1.2,SNR=4.9						

*IDC **09** 22:08:37.6±0.8, 23°57N×98°31E, h0km, mb3.9/13, mbtmp3.9/14, ML3.9/1, MS3.3/12, Error ellipse: s-maj=30.5km s-min=14.4km az=69.0*
*BJI **09** 22:08:38.5±0.0, 23°65N×98°40E, h26km, mb4.0/21, mB4.7/10, ML3.9/6, Ms4.2/9, Ms7 3.9/9*
*NEIC **09** 22:08:42.2±3.0, 23°59N±0°04×98°40E±0°05, h28km±5km, mb4.3/17, Error ellipse: s-maj=7.1km s-min=6.4km az=82.0*
*NDI **09** 22:08:56.3±4.5, 22°85N×96°51E, h33km±209km, mb4.2, MW4.2, mb4.3(NEIC)*

ISC 09 22:08:39.1±0.4, 23°47N±0°04×98°32E±0°04, h10km, n75, σ1°76/75, mb4.2/25, MS3.3/12, 2C, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNCH	**TengChong**	**1.56**	**7**	Pg	**Pn**	**22 09 03.7**	**-3.4**
TNCH				Sg	**Sn**	**22 09 23.2**	**-4.3**
TNCH				smax	smax		
	comp=N,11μm,1.3s						
TNCH				smax	smax		
	comp=E,8μm,1.0s						
MND	**Mandalay**	**2.50**	**235**		**Pn**	**22 09 21.0**	**+1.1**
MND				Sg	**Sg**	**22 10 01.7**	**+2.1**
CRAI	**Chiangrai**	**3.75**	**149**		**Pn**	**22 09 37.7**	**+0.6**
IMP	**Imphal**	**4.22**	**290**	*eP*	**Pn**	**22 09 45.5**	**+1.9**
IMP				*i* x	x	22 09 53.8	
PZH	**PanZhiHua**	**4.33**	**45**	Pn	**Pn**	**22 09 45.0**	**-0.2**
PZH				Sn	**Sn**	**22 10 33.2**	**-2.6**
PZH				Sg	**Sb**	**22 10 51.8**	**+4.0**
PZH				smax	smax		
	comp=N,150nm,1.3s						
PZH				smax	smax		
	comp=E,170nm,1.3s						
PZH				LR	LR		
	comp=N,940nm,8.0s						
PZH				LR	LR		
	comp=E,950nm,6.9s						
PZH				LR	LR		
	comp=Z,1μm,8.1s						
KMI	**Kunming**	**4.35**	**67**	⇑Pn	**Pn**	**22 09 46.2**	**+0.6**
KMI				Sn	**Sn**	**22 10 36.8**	**+0.3**
KMI				Sg	**Sb**	**22 10 51.8**	**+3.3**
KMI				smax	smax		
	comp=N,220nm,1.0s						
KMI				smax	smax		
	comp=E,270nm,1.2s						
KMI				LR	LR		
	comp=N,2μm,6.3s						
KMI				LR	LR		
	comp=E,1μm,7.8s						
KMI				LR	LR		
	comp=Z,1μm,10.7s						

KOHI	**KOHIMA**	**4.44**	**301**	*eP*	**Pn**	**22 09 49.1**	**+2.4**
KOHI				*i* x	x	22 09 59.2	
KOHI				*i* x	x	22 10 01.7	
CHTO	**Chiang Mai**	**4.67**	**173**		**Pg**	**22 10 09.6**	**+1.0**
SAIH	**SAIHA**	**5.01**	**260**	*eP*	Pn	22 09 44.7	-10
CM31	**Chiang Mai Arr**	**5.02**	**173**	Pg	**Pg**	**22 10 15.7**	**+0.3**
CMAR	**Chiang Mai Arr**	**5.02**	**173**		**Pg**	**22 10 14.7**	**-0.7**
CMAR	**Chiang Mai Arr**	**5.02**	**173**	Pn	**Pn**	**22 09 56.8**	**+2.2**
	1.0nm,0.3s,baz=349,slow=13,SNR=32						
CMAR				Pg	**Pg**	**22 10 15.1**	**-0.3**
	12nm,0.3s,baz=344,slow=17,SNR=38						
CMAR				Lg	Lg	22 11 21.4	
	44nm,0.3s,baz=358,slow=23,SNR=13						
CMAR				LR	LR	22 12 14.8	
	comp=Z,91nm,21.9s,baz=30,slow=42						
	7.6nm,0.7s						
PHRA	**Phrae**	**5.26**	**160**	Pn	**Pn**	**22 09 58.7**	**+0.9**
ITAN	**ITANAGAR**	**5.54**	**312**	*ex*	**Pg**	**22 10 28.6**	**+3.2**
SLVN	**Son La**	**5.58**	**111**		**Pg**	**22 10 26.2**	**+0.1**
ZIRO	**ZIRO**	**5.71**	**316**	*ex*	**Pn**	**22 10 03.7**	**-0.6**
CD2	**Chengdu**	**8.85**	**32**	P	**Pn**	**22 10 46.8**	**-0.3**
CD2				S	**Sn**	**22 12 26.8**	**-0.2**
CD2				LR	LR		
	comp=N,870nm,7.5s						
CD2				LR	LR		
	comp=E,960nm,8.8s						
CD2				LR	LR		
	comp=Z,880nm,8.6s						
LSA	**Lhasa**	**8.93**	**316**		**Pn**	**22 10 47.4**	**-1.3**
UBPT	**Khong Chiam**	**10.57**	**139**	Pn	**Pn**	**22 11 10.3**	**-0.5**
ENH	**Enshi**	**12.04**	**53**		**Pn**	**22 11 29.6**	**-1.3**
LZH	**Lanzhou**	**13.45**	**20**	*eP*	**Pn**	**22 11 53.8**	**+3.6**
LZH				pP	P	22 11 58.2	-1.5
LZH				pmax	pmax		
	comp=Z,9.0nm,1.1s						
LZH				LR	LR		
	comp=N,200nm,12.7s						
LZH				LR	LR		
	comp=E,450nm,14.1s						
LZH				LR	LR		
	comp=Z,440nm,15.3s						
GTA	**Gaotai**	**15.94**	**4**	*eP*	**P**	**22 12 30.2**	**+2.9**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GTA				LR	LR		
	comp=N,120nm,10.5s						
GTA				LR	LR		
	comp=E,610nm,11.6s						
GTA				LR	LR		
	comp=Z,180nm,9.8s						
LYN	**LuoYang**	**16.56**	**45**	⇑P	**Pn**	**22 12 31.0**	**-0.5**
LYN				sP	sP	22 12 39.1	+0.4
LYN				PP	**PnPn**	**22 12 46.5**	**+5.8**
LYN				pmax	pmax		
	comp=Z,18nm,0.5s						
LYN				pmax	pmax		
	comp=Z,190nm,4.1s						
LYN				LR	LR		
	comp=Z,360nm,12.4s						
LYN				LR	LR		
	comp=Z,500nm,12.0s						
LYN				LR	LR		
	comp=Z,580nm,12.7s						
LGTI	**Lohaghat**	**17.24**	**294**	*eP*	**Pn**	**22 12 39.3**	**-0.8**
AKL	**Akola**	**19.94**	**266**	*eP*	**P**	**22 13 08.3**	**-3.0**
SMLA	**Simla**	**20.27**	**297**	*eP*	**P**	**22 13 15.0**	**+0.1**
SMLA				IAmb	IAmb	22 13 17.3	
	comp=Z,7.2nm,0.8s						
HHC	**Hu-ho-hao-te**	**20.59**	**30**	*eP*	Pn	22 13 21.4	+0.7
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,100nm,4.6s						
HHC				LR	LR		
	comp=Z,120nm,9.8s						
HHC				LR	LR		
	comp=Z,200nm,9.8s						
HHC				LR	LR		
	comp=Z,180nm,10.4s						
DHRM	**DHARAMSHALA**	**21.32**	**299**	*ex*	**P**	**22 13 25.8**	**-0.7**
DHRM				IAmb	IAmb	22 13 37.7	
	comp=Z,9.9nm,0.6s						
AJM	**Ajmer**	**21.67**	**283**	*ex*	**P**	**22 13 33.4**	**+3.3**
THN	**Thein Dam**	**21.84**	**299**	*eP*	**P**	**22 13 33.8**	**+1.9**
WMQ	**Urumqi**	**22.11**	**339**	*eP*	**P**	**22 13 35.0**	**+0.3**
WMQ				sP	sP	22 13 46.1	+6.8
WMQ				pmax	pmax		
	comp=Z,9.0nm,2.3s						
PALK	**Pallekele**	**23.36**	**229**	LR	LR	22 24 07.9	
	comp=Z,48nm,19.5s,baz=193,slow=40						
KSH	**Kashi**	**24.78**	**315**	P	**P**	**22 14 04.1**	**+2.8**
KSH				sP	sP	22 14 15.2	+9.1
KSH				pmax	pmax		
	comp=Z,6.0nm,1.7s						
XLT	**XiLinHaoTe**	**25.07**	**31**	*eP*	**P**	**22 14 05.3**	**+1.5**
XLT				pP	sP	22 14 09.7	+1.1
XLT				sP	pP	22 14 12.6	+5.4
XLT				pmax	pmax		
	comp=Z,3.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,130nm,5.4s						
SONM	**Songino Array**	**25.15**	**13**	P	**P**	**22 14 02.8**	**-1.8**
	comp=Z,0.4nm,0.7s,baz=212,slow=5.1,SNR=2.6						
	comp=Z,0.4nm,0.7s						
MK31	**Makanchi Array**	**26.61**	**335**	P	**P**	**22 14 17.3**	**-0.4**
MK31				IAmb	IAmb	22 14 22.1	
	comp=Z,6.7nm,1.1s						
MKAR	**Makanchi Array**	**26.61**	**335**	P	**P**	**22 14 17.6**	**-0.1**
MKAR	**Makanchi Array**	**26.61**	**335**	P	**P**	**22 14 17.4**	**-0.2**
	comp=Z,3.9nm,0.8s,baz=145,slow=10,SNR=19						
MKAR				LR	LR	22 26 47.3	
	comp=Z,44nm,18.1s,baz=272,slow=41						
	comp=Z,3.9nm,0.8s						
MAKZ	**Makanchi**	**26.74**	**335**	P	**P**	**22 14 17.9**	**-1.0**
AAK	**Ala-Archa**	**27.49**	**320**	P	**P**	**22 14 24.8**	**-1.0**
DRK	**Karamyk**	**27.54**	**312**	P	**P**	**22 14 26.4**	**-0.1**
DRK				IAmb	IAmb	22 14 42.7	
	comp=Z,3.6nm,0.8s						
KBL	**Kabul**	**27.79**	**300**	P	**P**	**22 14 28.8**	**+0.1**
KBL				IAmb	IAmb	22 14 49.9	
	comp=Z,4.7nm,1.1s						
BTK	**Batken**	**28.48**	**312**	P	**P**	**22 14 34.5**	**-0.1**
BTK				IAmb	IAmb	22 14 50.4	
	comp=Z,5.1nm,0.9s						
KSRS	**Korea Array**	**28.93**	**54**	LR	LR	22 27 48.3	
	comp=Z,54nm,18.1s,baz=245,slow=40						
KURBB	**Kurchatov Arra**	**31.17**	**335**	P	**P**	**22 14 58.3**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=150,slow=8.2,SNR=6.2						
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**32.09**	**345**	P	**P**	**22 15 05.5**	**-0.7**
ZALV	**Zalesovo Beam**	**32.09**	**345**	P	**P**	**22 15 05.7**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=163,slow=15,SNR=3.8						
	comp=Z,0.8nm,0.5s						
LUWI	**Luwuk**	**34.04**	**132**	P	**P**	**22 15 23.2**	**-0.5**
USRK	**Ussuriysk Ar.**	**34.43**	**45**	P	**P**	**22 15 26.5**	**-0.3**
USRK	**Ussuriysk Ar.**	**34.43**	**45**	P	**P**	**22 15 27.8**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=248,slow=7.6,SNR=1.9						
	comp=Z,0.9nm,0.7s						
BVAR	**Borovoye Array**	**36.33**	**331**	P	**P**	**22 15 41.8**	**-1.3**
	comp=Z,3.3nm,0.9s,baz=140,slow=11,SNR=12						
BVAR				PcP	**PcP**	**22 18 08.6**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=130,slow=4.3,SNR=2.2						
BVAR				LR	LR	22 33 35.9	
	comp=Z,41nm,18.4s,baz=150,slow=41						
	comp=Z,3.3nm,0.9s						
BRVK	**Borovoye**	**36.40**	**331**	P	**P**	**22 15 43.0**	**-0.5**
BRVK				IAmb	IAmb	22 15 47.5	
	comp=Z,4.4nm,1.1s						
MJAR	**Matsushiro Arr**	**36.66**	**60**	LR	LR	22 31 14.3	
	comp=Z,50nm,18.1s,baz=230,slow=37						
KLR	**Kul'dur**	**36.73**	**37**	LR	LR	22 32 33.8	
	comp=Z,27nm,18.1s,baz=261,slow=39						
ABKAR	**Akbulak array**	**39.57**	**320**	P	**P**	**22 16 09.6**	**-0.9**
ABKAR	**Akbulak array**	**39.57**	**320**	P	**P**	**22 16 09.8**	**-0.6**
BATI	**Baumata**	**41.65**	**141**	LR	LR	22 35 00.1	
	comp=Z,116nm,22.0s,baz=81,slow=38						
ARU	**Arti**	**43.83**	**329**	P	**P**	**22 16 43.4**	**-1.8**
ARU				IAmb	IAmb	22 16 48.9	
	comp=Z,6.0nm,0.9s						
ARU	**Arti**	**43.83**	**329**	LR	LR	22 35 34.0	
	comp=Z,38nm,21.3s,baz=214,slow=37						
RAYN	**Ar Rayn**	**48.20**	**281**	P	**P**	**22 17 19.3**	**-1.0**
RAYN				IAmb	IAmb	22 17 23.6	
	comp=Z,4.5nm,0.8s						
MBWA	**Marble Bar**	**49.02**	**153**	P	**P**	**22 17 25.2**	**-1.1**
PEA0B	**Petropavlovsk-**	**53.27**	**40**	P	**P**	**22 17 57.6**	**-0.4**
PETK	**Petropavlovsk-**	**53.27**	**40**	P	**P**	**22 17 57.1**	**-0.9**
PETK	**Petropavlovsk-**	**53.27**	**40**	P	**P**	**22 17 56.3**	**-1.7**
	comp=Z,13nm,1.0s,baz=254,slow=10,SNR=3.8						
	comp=Z,13nm,1.0s						
WRA	**Warramunga Arr**	**55.64**	**138**	P	**P**	**22 18 15.5**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=331,slow=8.0,SNR=3.2						
	comp=Z,1.2nm,0.9s						
BR131	**Keskin Array S**	**56.30**	**303**	P	**P**	**22 18 20.8**	**+0.5**
BR131				IAmb	IAmb	22 19 05.1	
	comp=Z,2.3nm,1.1s						
PMG	**Port Moresby**	**57.85**	**119**	LR	LR	22 45 16.6	
	comp=Z,41nm,18.0s,baz=45,slow=38						
ASAR	**Alice Springs**	**58.22**	**141**	P	**P**	**22 18 32.5**	**-1.3**
ASAR	**Alice Springs**	**58.22**	**141**	P	**P**	**22 18 33.8**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=311,slow=6.0,SNR=5.0						
	comp=Z,0.7nm,0.9s						
AKASG	**Malin Array Be**	**59.07**	**316**	P	**P**	**22 18 37.3**	**-2.2**
	comp=Z,0.2nm,0.4s,baz=76,slow=6.9,SNR=2.3						
AKASG				LR	LR	22 46 24.6	
	comp=Z,36nm,19.1s,baz=192,slow=38						
	comp=Z,0.2nm,0.4s						
FINES	**FINESS Array B**	**61.19**	**329**	P	**P**	**22 18 52.0**	**-1.8**
	comp=Z,1.7nm,0.9s,baz=98,slow=5.8,SNR=2.4						
	comp=Z,1.7nm,0.9s						
KBS	**Kingsbay**	**66.44**	**348**	P	**P**	**22 19 27.7**	**-0.4**
HFS	**Hagfors**	**67.30**	**327**	P	**P**	**22 19 34.7**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=80,slow=8.9,SNR=2.3						
	comp=Z,2.1nm,0.8s						
NOA	**NORSAR Array B**	**68.38**	**328**	LR	LR	22 51 05.1	
	comp=Z,14nm,21.7s,baz=280,slow=37						
ILAR	**Eielson Array**	**78.88**	**23**	P	**P**	**22 20 42.9**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=306,slow=5.4,SNR=2.3						
	comp=Z,0.3nm,0.8s						

IDC 09 22:09:14.4±1.5, 1°10N×123°40E, h0km, mb3.6/4, mbtmp3.7/4, MS3.5/1, Error ellipse: s-maj=74.9km s-min=23.4km az=73.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.50**	**153**	P	P	22 14 25.6	-0.6
	1.2nm,0.3s,baz=334,slow=11,SNR=50						
	1.2nm,0.3s						
ASAR	**Alice Springs**	**26.65**	**158**	P	P	22 14 55.8	+0.6
	0.2nm,0.3s,baz=344,slow=11,SNR=8.6						
	0.2nm,0.3s						
CTA	**Charters Tower**	**30.75**	**134**	LR	LR	22 28 46.7	
	comp=Z,81nm,18.9s,baz=60,slow=38						
MKAR	**Makanchi Array**	**57.90**	**328**	P	P	22 19 07.3	-1.0
	0.1nm,0.4s,baz=120,slow=7.0,SNR=2.1						
	0.1nm,0.4s						
PETK	**Petropavlovsk-**	**59.12**	**23**	P	P	22 19 17.4	+0.6
	1.2nm,0.3s,baz=215,slow=7.0,SNR=4.1						
	1.2nm,0.3s						

IDC 09 22:18:13.4±14.0, 4°67S×125°86E, h380km±180km, mb2.4/2, mbtmp3.1/3, Error ellipse: s-maj=183.5km s-min=54.2km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.29**	**152**	P	P	22 21 50.5	-0.9
	0.4nm,0.9s,baz=328,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**20.42**	**158**	P	P	22 22 23.8	+0.5
	0.2nm,0.5s,baz=337,slow=9.0,SNR=5.0						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**64.06**	**328**	P	P	22 28 08.0	0.0
	0.2nm,0.6s,baz=139,slow=6.8,SNR=2.4						
	0.2nm,0.6s						

*IDC **09** 22:18:55.4±0.7, 6°22S×143°24E, h0km, mb4.2/17, mbtmp4.2/19, ML2.3/1, MS3.4/2, Error ellipse: s-maj=31.7km s-min=16.7km az=85.0*
*NEIC **09** 22:18:57.8±1.6, 6°22S±0°08×143°22E±0°09, h10km±1km, mb4.3/22, Error ellipse: s-maj=15.9km s-min=12.3km az=113.0*

ISC 09 22:18:59.9±0.5, 6°43S±0°06×143°11E±0°07, h35km, n57, σ1°82/58, mb4.3/23, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.98**	**127**	P	**Pn**	**22 20 13.3**	**+1.1**
PMG	**Port Moresby**	**4.98**	**127**	P	**Pn**	**22 20 13.2**	**+1.1**
PMG	**Port Moresby**	**4.98**	**127**	Pn	**Pn**	**22 20 11.8**	**-0.4**
	8.3nm,0.3s,baz=331,slow=6.8,SNR=8.5						
PMG				Sn	**Sn**	**22 21 06.7**	**-1.9**
	2.9nm,0.3s,baz=315,slow=5.3,SNR=3.9						
PMG				LR	LR	22 23 12.1	
	comp=Z,284nm,18.5s,baz=274,slow=51						
	20nm,0.4s						
COEN	**Coen**	**7.48**	**180**	Pn	**Pn**	**22 20 48.5**	**+2.0**
FAKI	**Fak Fak**	**11.37**	**287**	Pn	**Pn**	**22 21 39.0**	**-0.9**
KDU	**Kakadu**	**12.19**	**239**	P	**Pn**	**22 21 50.9**	**-0.2**
MTN	**Manton Dam**	**13.41**	**241**	Pn	**Pn**	**22 22 07.4**	**-0.5**
CTA	**Charters Tower**	**13.91**	**168**	Lg	Lg	22 26 25.8	
	0.1nm,0.3s,baz=38,slow=6.9,SNR=2.1						
QIS	**Mount Isa**	**14.45**	**193**	P	**Pn**	**22 22 25.9**	**+3.9**
WB0	**Warramunga Arr**	**15.73**	**212**	P	**Pn**	**22 22 40.4**	**+1.5**
WB0				IAmb	IAmb	22 22 54.5	
	comp=Z,12nm,0.8s						
WR0	**Warramunga Arr**	**15.81**	**211**	P	**Pn**	**22 22 41.3**	**+1.3**
WR0				IAmb	IAmb	22 22 53.2	
	comp=Z,20nm,0.9s						
WRAB	**Tennant Creek**	**15.89**	**212**	P	**Pn**	**22 22 42.9**	**+1.9**
WRAB				IAmb	IAmb	22 22 49.6	
	comp=Z,23nm,1.1s						
WB2	**Warramunga Arr**	**15.90**	**212**	P	**Pn**	**22 22 42.9**	**+1.8**
WB2				IAmb	IAmb	22 22 49.7	
	comp=Z,23nm,1.1s						
WRA	**Warramunga Arr**	**15.90**	**212**	P	**Pn**	**22 22 42.1**	**+0.9**
WRA	**Warramunga Arr**	**15.90**	**212**	Pn	**Pn**	**22 22 40.5**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=29,slow=13,SNR=29						
WRA				Sn	**Sn**	**22 25 30.4**	**-6.1**
	comp=Z,0.5nm,0.3s,baz=27,slow=20,SNR=4.2						
WRA				Lg	Lg	22 27 17.8	
	comp=Z,0.2nm,0.3s,baz=25,slow=28,SNR=1.6						
KNRA	**Kununurra**	**16.80**	**236**	P	**Pn**	**22 22 51.1**	**-1.5**
KNRA				IAmb	IAmb	22 23 00.7	
	comp=Z,31nm,0.7s						
KNRA	**Kununurra**	**16.80**	**236**	P	**Pn**	**22 22 52.4**	**-0.1**
AS31	**Alice Springs**	**19.29**	**206**	P	**Pn**	**22 23 26.9**	**+3.8**
ASAR	**Alice Springs**	**19.29**	**206**	P	**Pn**	**22 23 26.9**	**+3.9**
ASAR	**Alice Springs**	**19.29**	**206**	P	**Pn**	**22 23 26.1**

MA2	**Magadan**	**66.08**	**4**	P		**P**	**22 29 43.1**	**0.0**	
	comp=Z,3.7nm,0.4s,baz=187,slow=8.1,SNR=2.4								
	comp=Z,3.7nm,0.4s								
SEY	**Seymchan**	**69.53**	**5**	P		**P**	**22 30 05.0**	**+0.4**	
	comp=Z,2.0nm,0.6s,baz=193,slow=18,SNR=6.7								
	comp=Z,2.0nm,0.6s								
VNDA	**Vanda**	**71.74**	**176**	P		**P**	**22 30 15.1**	**-2.9**	
NIKH	**Nikolski High**	**71.75**	**28**	P		**P**	**22 30 17.4**	**-1.0**	
MK31	**Makanchi Array**	**75.40**	**322**	P		**P**	**22 30 41.1**	**+1.0**	
MKAR	**Makanchi Array**	**75.40**	**322**	P		**P**	**22 30 41.4**	**+1.2**	
MKAR	**Makanchi Array**	**75.40**	**322**	P		**P**	**22 30 41.7**	**+1.6**	
	comp=Z,1.2nm,0.8s,baz=101,slow=7.1,SNR=12								
	comp=Z,1.2nm,0.8s								
MAKZ	**Makanchi**	**75.60**	**322**	P		**P**	**22 30 42.2**	**+1.0**	
MAKZ				IAmb		IAmb	22 30 51.2		
	comp=Z,1.7nm,0.8s								
ZALV	**Zalesovo Beam**	**77.35**	**329**	P		**P**	**22 30 50.5**	**-0.4**	
	comp=Z,0.9nm,0.7s,baz=126,slow=7.3,SNR=3.9								
	comp=Z,0.9nm,0.7s								
TIXI	**Tiksi**	**78.49**	**355**	P		**P**	**22 30 56.1**	**-0.8**	
	comp=Z,2.7nm,0.3s,baz=236,slow=0.2,SNR=6.5								
	comp=Z,2.7nm,0.3s								
KURBB	**Kurchatov Arra**	**79.28**	**324**	P		**P**	**22 31 01.6**	**-0.1**	
	comp=Z,1.5nm,0.2s,baz=110,slow=5.0,SNR=3.3								
	comp=Z,1.5nm,0.2s								
L14K	**Kuka Creek**	**79.47**	**23**	P		**P**	**22 31 03.3**	**+0.9**	
M16K	**Timber Creek**	**80.81**	**25**	P		**P**	**22 31 10.6**	**+0.8**	
KDAK	**Kodiak Island**	**82.14**	**29**	P		**P**	**22 31 17.1**	**+0.3**	
H17K	**Granite Mounta**	**82.53**	**21**	P		**P**	**22 31 18.9**	**+0.1**	
H17K				IAmb		IAmb	22 31 30.7		
	comp=Z,4.7nm,1.1s								
F17K	**Baldwin Pennin**	**82.91**	**20**	P		**P**	**22 31 21.0**	**+0.4**	
F17K				IAmb		IAmb	22 31 33.0		
	comp=Z,3.1nm,1.1s								
G18K	**Tagagawik**	**83.49**	**21**	P		**P**	**22 31 23.6**	**-0.1**	
QSPA	**South Pole Qui**	**83.54**	**180**	P		**P**	**22 31 25.0**	**+0.8**	
QSPA				IAmb		IAmb	22 31 37.1		
	comp=Z,3.6nm,0.9s								
QSPA	**South Pole Qui**	**83.54**	**180**	P		**P**	**22 31 26.4**	**+2.2**	
	comp=Z,2.6nm,0.8s,baz=0.0,slow=0.0,SNR=7.5								
	comp=Z,2.6nm,0.8s								
NRIK	**Noril'sk**	**84.52**	**343**	P		**P**	**22 31 29.6**	**+0.7**	
	comp=Z,2.8nm,0.6s,baz=98,slow=4.2,SNR=7.3								
	comp=Z,2.8nm,0.6s								
BVAR	**Borovoye Array**	**84.86**	**325**	P		**P**	**22 31 32.6**	**+1.6**	
	comp=Z,2.7nm,0.7s,baz=113,slow=6.8,SNR=19								
	comp=Z,2.7nm,0.7s								
ILAR	**Eielson Array**	**87.42**	**24**	P		**P**	**22 31 43.0**	**-0.3**	
	comp=Z,0.8nm,0.8s,baz=251,slow=5.0,SNR=5.5								
	comp=Z,0.8nm,0.8s								
DBIC	**Dimbokro**	**148.18**	**272**	PKPbc		**PKiKP**	**22 38 45.6**	**+0.7**	
	comp=Z,2.4nm,0.9s,baz=56,slow=7.3,SNR=1.2								

*IDC **09** 22:48:54.8±0.9, 31°.32N×133°.78E, h0km, mb3.6/9, mbtmp3.6/10, ML3.8/1, Error ellipse: s-maj=35.6km s-min=18.9km az=62.0*
*JMA **09** 22:48:59.3±0.3, 31°.4N±0°.9×13°.3E±°, h50km, MV3.6/32, FAR E OFF MIYAZAKI PREF*
*NIED **09** 22:48:59.3, 31°.41N×133°.43E, h50km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-3.38; Mθθ1.50; Mφφ1.88; Mrθ1.75; Mθφ1.29; Mφr1.57; Fault plane solution: M0.96000×10¹⁴ NP1: φs225.00000°, δ63.00000°, λ-87.00000°. NP2:φs38.00000°, δ27.00000°, λ-96.00000°.*

ISC 09 22:48:58.0±0.8, 31°.31N±0°.07×133°.55E±0°.06, h23km, n22, σ2$01/31, mb3.6/9, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTO	**Tosashimizu**	**1.67**	**338**	P	**Pn**	**22 49 25.1**	**-0.8**
JTO				S	**Sn**	**22 49 43.3**	**-3.4**
JNKG	**Nichinankitago**	**1.89**	**281**	P	**Pn**	**22 49 28.2**	**-0.7**
JNKG				*e*S	**Sn**	**22 49 51.3**	**-0.8**
JHHC	**Hyugahichiya**	**1.99**	**305**	*i* P	**Pn**	**22 49 28.8**	**-1.4**
JHHC				*e*S	**Sn**	**22 49 51.0**	**-3.4**
JTZ	**Takazaki**	**2.19**	**286**	P	**Pn**	**22 49 32.0**	**-0.9**
JNA	**Nagahama**	**2.42**	**338**	*i* P	**Pn**	**22 49 36.1**	**-0.1**
JMN	**Monobe**	**2.43**	**6**	P	**Pn**	**22 49 36.2**	**-0.2**
JMN				S	**Sn**	**22 50 02.5**	**-2.9**
JAI	**Aioi**	**2.59**	**17**	P	**Pn**	**22 49 38.2**	**-0.3**
JAI				S	**Sn**	**22 50 06.0**	**-3.3**
JNU	**Nakatsue**	**2.90**	**309**	Pn	**Pn**	**22 49 42.8**	**-0.1**
	17nm,0.3s,baz=120,slow=6.4,SNR=97						
JNU				Sn	**Sn**	**22 50 17.8**	**+0.8**
	13nm,0.3s,baz=243,slow=22,SNR=8.5						
	38nm,0.3s						
JTNC	**Tanabenakahech**	**3.05**	**34**	*e*S	**Sn**	**22 50 16.1**	**-4.5**
JSJ	**Shimokoshiki**	**3.30**	**277**	P	**Pn**	**22 49 47.0**	**-1.3**
JSJ				*e*S	**Sn**	**22 50 23.5**	**-3.3**
JHT	**Toyohira**	**3.48**	**344**	P	**Pn**	**22 49 51.2**	**+0.4**
JNN	**Nakanoshima**	**3.49**	**246**	*e*S	**Sn**	**22 50 27.6**	**-4.0**
JHS	**Saijyo**	**3.70**	**354**	P	**Pn**	**22 49 54.2**	**+0.4**
JHS				*e*S	**Sn**	**22 50 35.5**	**-1.2**
SONM	**Songino Array**	**26.46**	**316**	P	**P**	**22 54 34.6**	**+1.2**
	0.6nm,0.6s,baz=136,slow=9.2,SNR=5.3						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**41.95**	**307**	P	**P**	**22 56 48.9**	**+1.8**
	0.6nm,0.8s,baz=92,slow=10.0,SNR=6.4						
MKAR				PcP	**PcP**	**22 58 42.6**	**+0.4**
	0.3nm,1.0s,baz=101,slow=4.6,SNR=1.9						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**44.67**	**312**	P	**P**	**22 57 11.1**	**+2.2**
	0.6nm,0.2s,baz=92,slow=9.3,SNR=1.4						
	0.6nm,0.2s						
BVAR	**Borovoye Array**	**49.80**	**315**	P	**P**	**22 57 49.8**	**+1.0**
	0.9nm,0.8s,baz=98,slow=7.4,SNR=5.8						
	0.9nm,0.8s						
WRA	**Warramunga Arr**	**50.96**	**179**	P	**P**	**22 57 57.9**	**0.0**
	0.5nm,0.7s,baz=353,slow=8.6,SNR=7.3						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**54.66**	**180**	P	**P**	**22 58 25.9**	**+0.6**
	0.4nm,0.6s,baz=11,slow=13,SNR=14						
	0.4nm,0.6s						
YKA	**Yellowknife Ar**	**71.93**	**27**	P	**P**	**23 00 19.8**	**+0.6**
	0.2nm,0.7s,baz=301,slow=7.2,SNR=3.1						
	0.2nm,0.7s						
BRTR	**Keskin Array B**	**77.56**	**309**	P	**P**	**23 00 53.4**	**+1.0**
	0.4nm,0.8s,baz=54,slow=11,SNR=2.0						
	0.4nm,0.8s						
NVAR	**Mina Array Bea**	**83.64**	**49**	P	**P**	**23 01 23.9**	**-1.2**
	0.3nm,0.6s,baz=294,slow=8.7,SNR=2.9						
	0.3nm,0.6s						

*TEH **09** 22:50:18.3, 27°.96N×57°.81E, h22km±30km, ML3.2*
*OMAN **09** 22:50:20.4±0.1, 27°.85N×57°.76E, h20km, mb3.6/4, ml2.8/12, Error ellipse: s-maj=1.9km s-min=1.2km az=23.0*
*DSN **09** 22:50:24.9±2.2, 27°.09N×58°.33E, h25km, ML2.6/6, Error ellipse: s-maj=29.6km s-min=11.3km az=0.0*

ISC 09 22:50:18.0±1.1, 27°.91N±0°.04×57°.84E±0°.06, h10km, n37, σ1$04/45, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.12**	**286**	Pg	**Pg**	**22 50 23.0**	**+2.1**
IBND	**Bandar-abas**	**1.24**	**248**	Pg	**Pb**	**22 50 41.2**	**-0.4**
KBAM	**BAM**	**1.33**	**24**	Pg	**Pn**	**22 50 41.4**	**-1.5**
GENO	**Geno**	**1.56**	**251**	Pg	**Pn**	**22 50 45.7**	**-0.3**
CHMN	**Cheshme madani**	**1.96**	**352**	Pn	**Pn**	**22 50 51.5**	**-0.1**
NGRK	**Negar Kerman**	**1.98**	**331**	Pn	**Pn**	**22 50 51.8**	**-0.2**
JASK	**Jask - Hormozg**	**2.04**	**179**	Pn	**Pn**	**22 50 53.2**	**+0.8**
JASK	**Jask - Hormozg**	**2.04**	**179**	P	**Pn**	**22 50 53.3**	**+0.8**
	SNR=9.2						
SHME	**Shamm**	**2.40**	**220**	P	**Pb**	**22 51 00.5**	**-0.8**
SHME				S	**Sn**	**22 51 27.4**	**+0.7**
SHME	**Shamm**	**2.40**	**220**	P	**Pn**	**22 50 57.7**	**+0.4**
SHME				S	**Sn**	**22 51 26.7**	**0.0**
BANOM	**Banah**	**2.41**	**215**	P	**Pn**	**22 50 58.3**	**+0.7**
BANOM				S	**Sn**	**22 51 27.4**	**+0.2**
KRM1	**Kerman Provinc**	**2.63**	**349**	Pn	**Pn**	**22 51 01.1**	**+0.3**
KHGB	**Koh Gabri**	**2.73**	**334**	Pn	**Pn**	**22 51 02.1**	**-0.1**
MASF	**Masafi**	**2.94**	**211**	P	**Pn**	**22 51 05.2**	**+0.2**
MDH	**Madha**	**2.95**	**208**	P	**Pn**	**22 51 03.2**	**-1.7**
MDH	**Madha**	**2.95**	**208**	P	**Pn**	**22 51 03.7**	**-1.3**
MDH				S	**Sn**	**22 51 38.4**	**-2.0**
MSFE	**Esma-Masafi**	**2.95**	**211**	P	**Pn**	**22 51 05.1**	**0.0**
ZHDN	**Zahedan**	**3.00**	**60**	Pn	**Pn**	**22 51 06.9**	**+1.1**
UOSS	**Minazif**	**3.30**	**207**	P	**Pn**	**22 51 09.9**	**+0.1**
ASHO	**Ashiyiah**	**3.59**	**207**	P	**Pn**	**22 51 14.0**	**+0.1**
ASHO	**Ashiyiah**	**3.59**	**207**	P	**Pn**	**22 51 14.1**	**+0.2**
	SNR=10						
FAQ	**Al Faqa, Dubai**	**3.74**	**213**	P	**Pn**	**22 51 16.6**	**+0.7**
FAQ	**Al Faqa, Dubai**	**3.74**	**213**	P	**Pn**	**22 51 16.1**	**+0.2**
SOHO	**SOHO**	**3.94**	**198**	P	**Pn**	**22 51 16.1**	**-2.5**
SOHO	**SOHO**	**3.94**	**198**	P	**Pn**	**22 51 17.4**	**-1.2**
SOHO				S	**Sn**	**22 52 02.1**	**-2.8**
AJN	**Ajban**	**4.21**	**218**	P	**Pn**	**22 51 22.7**	**+0.5**
AJN				S	**Sn**	**22 52 10.2**	**-1.3**
	SNR=6.4						
BIDO	**Bidbid**	**4.38**	**176**	P	**Pn**	**22 51 24.7**	**0.0**
ARQ	**Araqi**	**4.71**	**195**	P	**Pn**	**22 51 30.0**	**+0.8**
	SNR=18						
ARQ				S	**Sn**	**22 52 23.1**	**-0.8**
SMDO	**Samad**	**4.84**	**178**	P	**Pn**	**22 51 31.6**	**+0.5**
SMDO				S	**Sn**	**22 52 26.7**	**-0.6**
BSY	**Bisya**	**5.18**	**187**	P	**Pn**	**22 51 36.8**	**+1.1**
WBK	**Wadi Bani Khal**	**5.38**	**169**	P	**Pn**	**22 51 37.7**	**-0.8**
	SNR=7.3						
JMDO	**Jabal Madar**	**5.53**	**177**	P	**Pn**	**22 51 41.3**	**+0.9**
UMZA	**Um Al Zommool**	**5.72**	**206**	P	**Pn**	**22 51 42.8**	**-0.2**
JLN	**Jalan Bani Buh**	**5.91**	**166**	P	**Pn**	**22 51 46.4**	**+0.6**
SHMA	**Al-Shehemyia**	**6.47**	**253**	P	**Pn**	**22 51 52.5**	**-0.8**
	SNR=6.0						
TRNA	**Turayna**	**6.73**	**243**	P	**Pn**	**22 51 55.9**	**-1.1**
	SNR=6.7						
SMRA	**Abu-Samra**	**7.04**	**245**	P	**Pn**	**22 52 00.3**	**-0.9**

*IDC **09** 23:05:11.9±1.7, 43°.66N×105°.46W, h0km, mbtmp3.7/3, ML3.6/3, Error ellipse: s-maj=49.5km s-min=8.1km az=150.0*
*NEIC **09** 23:05:12.4±1.1, 43°.79N±0°.06×105°.37W±0°.08, h0km±1km, ML3.2/98, Error ellipse: s-maj=13.9km s-min=2.9km az=45.0*

ISC 09 23:05:13.0±1.0, 43°.80N±0°.05×105°.40W±0°.04, h0km, n37, σ1$17/30, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.03**	**72**		**Pg**	**23 05 32.2**	**-0.6**
K22A	**Casper**	**1.42**	**216**		**Pg**	**23 05 38.9**	**-1.3**
PHWY	**Pilot Hill**	**2.50**	**181**		**Pn**	**23 05 55.5**	**+0.3**
PHWY				IAML		23 06 31.9	
	96nm,0.3s						
PHWY				IAML		23 06 35.5	
	103nm,0.3s						
RWWY	**Rawlins**	**2.50**	**213**		**Pn**	**23 05 55.9**	**+0.7**
N23A	**Red Feather La**	**2.93**	**188**	Pn	**Pn**	**23 06 02.2**	**+1.0**
N23A				IAML		23 06 45.2	
	comp=E,68nm,0.4s						
N23A				IAML		23 06 47.0	
	comp=N,102nm,0.3s						
LAO	**LASA Array**	**2.94**	**349**	Pn	**Pn**	**23 06 01.6**	**+0.4**
RLMT	**Red Lodge**	**3.07**	**297**		**Pn**	**23 06 04.4**	**+1.4**
RLMT				IAML		23 06 56.8	
	comp=N,76nm,0.3s						
PD31	**Pinedale Array**	**3.21**	**253**		**Pn**	**23 06 06.2**	**+1.3**
PDAR	**Pinedale Array**	**3.21**	**253**	Pn	**Pn**	**23 06 00.6**	**+1.0**
PDAR	**Pinedale Array**	**3.21**	**253**	Pn	**Pn**	**23 06 05.8**	**+0.8**
	comp=N,5.3nm,0.3s,baz=77,slow=20,SNR=140						
PDAR				Pg	**Pb**	**23 06 11.8**	**+0.8**
	comp=N,26nm,0.3s,baz=69,slow=19,SNR=68						
PDAR				Lg	Lg	23 06 48.5	
	comp=N,8.5nm,0.3s,baz=79,slow=30,SNR=2.8						
	comp=N,4.8nm,0.3s						
BRIGG	**Briggsdale**	**3.32**	**166**	Pn	**Pn**	**23 06 07.5**	**+1.2**
YMP	**Mirror Lake PI**	**3.55**	**287**		**Pn**	**23 06 11.2**	**+1.6**
H17A	**Grant Village**	**3.78**	**281**		**Pn**	**23 06 13.7**	**+0.9**
H17A				IAML		23 07 14.2	
	comp=E,29nm,0.3s						
H17A				IAML		23 07 19.2	
	comp=N,31nm,0.8s						
LOHW	**Long Hollow**	**3.78**	**269**		**Pn**	**23 06 14.3**	**+1.5**
OGNE	**Ogallala**	**3.79**	**138**		**Pn**	**23 06 13.4**	**+0.7**
FLWY	**Flagg Ranch**	**3.84**	**276**		**Pn**	**23 06 14.7**	**+1.1**
FLWY				IAML		23 07 23.6	
	comp=N,34nm,1.9s						
MOOW	**Moose Ponds**	**3.88**	**271**		**Pn**	**23 06 15.6**	**+1.5**
YNR	**Norris Junctio**	**3.90**	**285**		**Pn**	**23 06 15.9**	**+1.4**
SNOW	**Snow King Moun**	**3.91**	**267**		**Pn**	**23 06 15.0**	**+0.5**
SNOW				IAML		23 07 20.8	
	comp=N,37nm,0.4s						
SNOW				IAML		23 07 23.9	
	comp=N,30nm,0.9s						
REDW	**Red Top Meadow**	**3.99**	**266**		**Pn**	**23 06 17.1**	**+1.5**
ISCO	**Idaho Springs**	**4.00**	**182**		**Pn**	**23 06 16.9**	**+1.0**
IMW	**Indian Meadow**	**4.01**	**273**		**Pn**	**23 06 16.8**	**+0.8**
IMW				IAML		23 07 29.9	
	comp=N,24nm,0.6s						
YHH	**Holmes Hill**	**4.04**	**286**		**Pg**	**23 06 28.7**	**-1.7**
TPAW	**Teton Pass**	**4.04**	**267**		**Pn**	**23 06 16.8**	**+0.4**
TPAW				IAML		23 07 33.7	
	comp=N,23nm,1.1s						
TPAW				IAML		23 07 38.0	
	comp=N,35nm,1.1s						
FXWY	**Fox Creek**	**4.09**	**270**		**Pn**	**23 06 19.0**	**+2.0**
O20A	**White River Ci**	**4.24**	**211**	IAML		23 07 31.9	
	comp=N,40nm,0.7s						
YHL	**Hebgen Lake**	**4.28**	**286**		**Pn**	**23 06 20.2**	**+0.5**
YHL				IAML		23 07 52.9	
	comp=N,21nm,1.0s						
YHL				IAML		23 08 00.6	
	comp=E,26nm,1.0s						
AHID	**Auburn Hatcher**	**4.29**	**258**	IAML		23 07 33.4	
	comp=E,27nm,0.7s						
AHID				IAML		23 07 37.3	
	comp=E,25nm,1.0s						
E28A	**Huff**	**4.33**	**49**		**Pn**	**23 06 20.8**	**+0.8**
RDMU	**Red Mountain**	**4.48**	**225**	IAML		23 07 39.5	
	comp=E,30nm,1.0s						
RDMU				IAML		23 07 40.3	
	comp=N,20nm,0.7s						
SMCO	**Snowmass**	**4.77**	**195**	IAML		23 07 52.9	
	comp=N,21nm,0.9s						
SMCO				IAML		23 07 54.1	
	comp=N,23nm,0.6s						
BOZ	**Bozeman (W)**	**4.79**	**294**	IAML		23 07 45.5	
	comp=N,15nm,0.9s						
BOZ				IAML		23 08 20.9	
	comp=N,16nm,4.3s						
HWUT	**Hardware Ranch**	**5.05**	**246**	IAML		23 07 59.3	
	comp=N,18nm,1.3s						
HWUT				IAML		23 07 60.0	
	comp=N,21nm,1.1s						
BSUT	**Blindstream Ca**	**5.15**	**233**	IAML		23 08 01.0	
	comp=E,13nm,2.1s						
BSUT				IAML		23 08 22.6	
	comp=N,15nm,4.7s						
ELK	**Elko**	**7.91**	**251**	Pn	**Pn**	**23 07 10.2**	**+0.6**
	comp=N,0.8nm,0.3s,baz=70,slow=7.7,SNR=9.1						
ELK				Lg	Lg	23 09 18.1	
	comp=N,0.1nm,0.3s,baz=359,slow=19,SNR=1.7						
	comp=N,1.1nm,0.3s						
I10CA	**LAC DU BONNET**	**9.05**	**42**	I	I	00 02 00.0	
	baz=223,slow=333,SNR=4.7						
ULM	**Lac du Bonnet**	**9.15**	**42**	Pn	**Pn**	**23 07 24.9**	**-1.3**
	comp=N,2.0nm,0.3s,baz=231,slow=12,SNR=21						
ULM				Lg	Lg	23 09 55.7	
	comp=N,0.3nm,0.3s,baz=187,slow=16,SNR=2.3						
	comp=N,3.5nm,0.3s						

*SOME **09** 23:06:16.7, 41°.12N×83°.15E, h5km*
*NNC **09** 23:06:17.7±2.6, 41°.29N×83°.31E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=20.6km s-min=16.9km az=7.0*

ISC 09 23:06:17.9±2.8, 41°.2N±0°.1×83°.13E±0°.08, h10km, n23, σ2$59/32, 3C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.37**	**307**	*e*P	**Pb**	**23 07 15.0**	**-2.9**
	8.9nm,0.4s						
SHLS				*e*S	**Sb**	**23 07 58.7**	**-0.2**
	48nm,0.6s						
SHLS	**Shalkode**	**3.37**	**307**	Pg	**Pb**	**23 07 15.0**	**-2.9**
	8.9nm,0.4s						
SHLS				Lg	Lg	23 07 58.7	
	48nm,0.6s						
PDGK	**Podgornoye**	**3.46**	**310**	⇑Pn	**Pn**	**23 07 13.1**	**+1.1**
	9.7nm,1.1s						
PDGK				⇑Lg	Lg	23 08 03.9	
	20nm,0.7s						
UZB	**Uzynbulak**	**3.63**	**304**	*e*P	**Pb**	**23 07 24.2**	**+1.9**
	1.3nm,0.1s						
UZB				*e*S	**Sg**	**23 08 14.3**	**-0.3**
	17nm,0.5s						
UZB	**Uzynbulak**	**3.63**	**304**	Pg	**Pb**	**23 07 24.2**	**+1.9**
	1.3nm,0.1s						
UZB				Lg	Lg	23 08 14.3	
	17nm,0.5s						
SATY	**Saty**	**3.99**	**300**	*e*P	**Pg**	**23 07 31.6**	**-2.7**
	2.8nm,0.3s						
SATY				*e*S	**Sg**	**23 08 26.8**	**+0.9**
	14nm,0.3s						
SATY	**Saty**	**3.99**	**300**	Pg	**Pg**	**23 07 31.5**	**-2.7**
	2.9nm,0.6s						
SATY				Lg	Lg	23 08 26.8	
	14nm,0.7s						
DJR	**Jarkent**	**4.00**	**323**	*e*P	**Pg**	**23 07 32.0**	**-2.6**
	1.5nm,0.2s						
DJR				*e*S	**Sg**	**23 08 27.4**	**+1.0**
	8.3nm,0.6s						
DJR	**Jarkent**	**4.00**	**323**	Pg	**Pg**	**23 07 32.0**	**-2.6**
	2.9nm,0.8s						
DJR				Lg	Lg	23 08 27.4	
	8.3nm,0.7s						
KNOS	**Konyrlen**	**4.31**	**319**	Pg	**Pb**	**23 07 36.8**	**+2.9**
	4.7nm,0.7s						
KNOS				Lg	Lg	23 08 36.5	
	5.3nm,0.6s						
KURS	**Kuram**	**4.34**	**304**	*e*P	**Pb**	**23 07 37.0**	**+2.6**
	3.1nm,0.6s						
KURS				*e*S	**Sg**	**23 08 36.3**	**-1.1**
	7.7nm,0.6s						
MDOK	**Medeo**	**4.94**	**296**	*e*P	**Pg**	**23 07 49.4**	**-3.1**
	1.5nm,0.6s						
MDOK				*e*S	**Sg**	**23 08 57.2**	**+0.8**
	4.5nm,0.5s						
MDOK	**Medeo**	**4.94**	**296**	Pg	**Pg**	**23 07 49.4**	**-3.1**
	1.5nm,0.6s						
MDOK				Lg	Lg	23 08 57.2	
	3.8nm,0.8s						
TNSS	**Tian-Shan**	**4.96**	**294**	*e*P	**Pg**	**23 07 50.0**	**-2.9**
	0.5nm,0.1s						
TNSS				*e*S	**Sg**	**23 08 58.5**	**+1.3**
	6.0nm,0.6s						
TNSS	**Tian-Shan**	**4.96**	**294**	Pg	**Pg**	**23 07 50.0**	**-2.9**
	0.6nm,0.2s						
TNSS				Lg	Lg	23 08 58.5	
	6.0nm,0.8s						
MTBS	**Maitube**	**5.35**	**294**	*e*P	**Pg**	**23 07 57.1**	**-3.2**
	2.1nm,0.3s						
MTBS				*e*S	**Sg**	**23 09 10.4**	**+0.8**
	3.0nm,0.6s						
MTBS	**Maitube**	**5.35**	**294**	Pg	**Pg**	**23 07 57.1**	**-3.2**
	2.1nm,0.3s						
MTBS				Lg	Lg	23 09 10.4	
	3.0nm,0.6s						
KTBS	**Karatobe**	**5.40**	**300**	*e*P	**Pg**	**23 07 58.7**	**-2.7**
	1.6nm,0.5s						
KTBS				*e*S	**Sg**	**23 09 12.8**	**+1.5**
	5.1nm,0.9s						
KTBS	**Karatobe**	**5.40**	**300**	Pg	**Pb**	**23 07 56.4**	**+3.9**
	1.9nm,0.8s						
KTBS				Lg	Lg	23 09 09.4	
	5.1nm,0.9s						
MK31	**Makanchi Array**	**5.65**	**354**	⇑Pg	**Pb**	**23 08 00.9**	**+4.3**
	1.2nm,0.7s,baz=164,slow=15,SNR=6.6						
MK31				⇓Lg	Lg	23 09 13.5	
	3.6nm,0.7s,baz=167,slow=26,SNR=4.0						
MAKZ	**Makanchi**	**5.70**	**352**	⇓Lg	Lg	23 09 11.7	
	6.5nm,1.2s						
KRBS	**Karabastau**	**6.06**	**297**	*e*P	**Pg**	**23 08 11.4**	**-2.6**
	0.4nm,0.1s						
KRBS				*e*S	**Sg**	**23 09 34.7**	**+2.2**
	2.5nm,0.4s						
ZSN	**Zaisan**	**6.40**	**11**	*e*P	Pb	23 08 14.5	+5.1
	0.7nm,0.2s						
ZSN				*e*S	**Sg**	**23 09 40.4**	**-2.9**
	4.1nm,0.6s						

*IDC **09** 23:24:32.6±5.9, 15°.50N×122°.04E, h33km±48km, mb3.6/11, mbtmp3.8/11, MS3.1/9, Error ellipse: s-maj=25.0km s-min=13.9km az=78.0*

ISC 09 23:24:31.6±0.8, 15°.53N±0°.09×122°.1E±0°.1, h26km, n26, σ0$95/15, mb3.8/12, MS3.1/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.79**	**218**	Pn	**Pn**	**23 25 01.1**	**+0.2**
	1µm,0.3s,baz=30,slow=2.9,SNR=76						
TGY				Sn	**Sn**	**23 25 23.2**	**+0.4**
	663nm,0.3s,baz=43,slow=20,SNR=12						
DAV	**Davao City (W)**	**9.08**	**157**	LR	LR	23 30 30.8	
	comp=Z,102nm,19.7s,baz=310,slow=40						
JOW	**Kunigami**	**12.64**	**26**	LR	LR	23 32 00.9	
	comp=Z,39nm,20.6s,baz=355,slow=35						
JNU	**Nakatsue**	**19.25**	**23**	LR	LR	23 37 08.2	
	comp=Z,33nm,18.0s,baz=205,slow=39						
CMAR	**Chiang Mai Arr**	**22.31**	**281**	P	**P**	**23 29 26.9**	**-0.4**
	0.8nm,0.4s,baz=90,slow=8.3,SNR=6.9						
CMAR				LR	LR	23 38 18.6	
	comp=Z,48nm,18.3s,baz=140,slow=37						
	0.8nm,0.4s						
KSRS	**Korea Array**	**22.45**	**12**	P	**P**	**23 29 29.2**	**+0.7**
	1.2nm,0.7s,baz=190,slow=8.9,SNR=6.1						
KSRS				LR	LR	23 38 52.3	
	comp=Z,58nm,19.3s,baz=200,slow=38						
	1.2nm,0.7s						
MJAR	**Matsushiro Arr**	**25.39**	**31**	P	**P**	**23 29 57.9**	**+1.1**
	1.7nm,0.7s,baz=207,slow=8.2,SNR=4.9						
	1.7nm,0.7s						
ASAJ	**Asahikawa**

baz=349
IGT AMP
comp=N,8.4nm,0.6s,baz=349
IGT Igoumenitsa 0.21 358 P **Pg 23 26 58.0 +0.2**
IGT S **Sg 23 27 01.1 +0.2**
comp=N,3μm,0.5s
IGT Igoumenitsa 0.21 358 P **Pg 23 26 56.9 -0.9**
IGT AML AML 23 27 07.0
comp=N,4213μm,0.6s
IGT AML AML 23 27 07.4
comp=E,7606μm,0.4s
JAN Janina 0.52 49 P **Pb 23 27 04.1 -0.3**
JAN S **Sb 23 27 11.8 -0.1**
comp=E,1μm,0.5s
JAN Janina 0.52 49 P **Pg 23 27 03.5 +0.1**
JAN S **Sg 23 27 10.6 +0.3**
JAN AML AML 23 27 14.9
comp=E,2236μm,0.6s
JAN AML AML 23 27 16.3
comp=N,1809μm,0.4s
TSLK Tsoukalades, L 0.55 154 P **Pg 23 27 04.0 0.0**
TSLK S **Sb 23 27 13.1 +0.2**
comp=N,505nm,0.4s
TSLK Tsoukalades, L 0.55 154 P **Pg 23 27 04.0 0.0**
TSLK S **Sb 23 27 13.0 +0.1**
KEK Kerkira 0.58 313 P **Pg 23 27 02.1 -2.4**
KEK S **Sg 23 27 10.2 -2.0**
comp=N,362nm,0.4s
KEK Kerkira 0.58 313 P **Pg 23 27 02.3 -2.3**
KEK AML AML 23 27 24.6
comp=E,921μm,0.4s
KEK AML AML 23 27 25.1
comp=N,715μm,0.7s
LKD2 Lefkada island 0.58 155 P **Pg 23 27 04.6 -0.1**
baz=157
LKD2 S **Sb 23 27 14.2 +0.3**
baz=157
LKD2 AMP
comp=N,1.2nm,0.3s,baz=157
LKD2 Lefkada island 0.58 155 P **Pg 23 27 04.5 -0.1**
LKD2 S **Sb 23 27 14.4 +0.5**
comp=N,478nm,0.5s
LKD2 Lefkada island 0.58 155 P **Pg 23 27 04.6 -0.1**
LKD2 S **Sb 23 27 13.9 0.0**
LKD2 AML AML 23 27 18.7
comp=E,1173μm,0.6s
LKD2 AML AML 23 27 26.9
comp=N,1002μm,0.8s
SRN Sarande 0.62 335 P **Pb 23 27 06.5 +0.3**
baz=333
SRN S **Sn 23 27 16.5 -1.4**
baz=333
SRN AMP
comp=E,0.4nm,0.5s,baz=333
DRAG Dragano-Lefkad 0.66 164 P **Pg 23 27 06.0 -0.1**
DRAG Dragano-Lefkad 0.66 164 P **Pg 23 27 06.0 -0.1**
NYDR Nydri-Lefkada 0.67 155 P **Pg 23 27 05.7 -0.5**
NYDR S **Sb 23 27 16.6 +0.5**
comp=E,412nm,0.5s
NYDR Nydri-Lefkada 0.67 155 P **Pg 23 27 05.8 -0.5**
NYDR S **Sb 23 27 16.2 +0.1**
EVGI Lefkada island 0.74 161 P **Pg 23 27 07.1 -0.5**
EVGI Lefkada island 0.74 161 P **Pg 23 27 07.3 -0.4**
LSK Leskovik 0.85 13 P **Pb 23 27 10.0 -0.2**
baz=11
LSK S **Sn 23 27 23.5 -0.3**
baz=11
LSK AMP
comp=N,2.3nm,0.8s,baz=11
LSK Leskovik 0.85 13 P **Pb 23 27 09.7 -0.5**
KPRO Kipourio 1.01 51 P **Pg 23 27 11.5 -1.3**
KPRO Kipourio 1.01 51 P **Pg 23 27 11.2 -1.5**
KPRO AML AML 23 27 40.5
comp=N,447μm,0.5s
KPRO AML AML 23 27 40.5
comp=E,461μm,0.9s
KEF5 Kardakata, Kep 1.05 175 P **Pb 23 27 13.4 0.0**
DMLN Damoulianata-K 1.08 179 P **Pg 23 27 12.9 -1.2**
KEF3 Kipouria, Keph 1.12 180 P **Pg 23 27 13.7 -1.1**
VLS Valsamata 1.16 170 P **Pg 23 27 15.1 -0.5**
VLS AML AML 23 27 39.6
comp=E,812μm,0.3s
VLS AML AML 23 27 40.5
comp=N,660μm,0.4s
PVO Paravola 1.16 127 P **Pg 23 27 14.2 -1.4**
PVO Paravola 1.16 127 P **Pg 23 27 14.1 -1.5**
EVR Evrytania 1.21 109 P **Pg 23 27 16.1 -0.4**
EVR AML AML 23 27 40.3
comp=N,213μm,0.4s
EVR AML AML 23 27 42.8
comp=E,288μm,0.5s
NEST Nestorio 1.22 26 P **Pg 23 27 16.3 -0.5**
NEST AML AML 23 27 43.0
comp=E,342μm,0.9s
NEST AML AML 23 27 44.5
comp=N,282μm,0.4s
PSDA Pessada-Kefalo 1.22 171 P **Pn 23 27 16.8 +0.5**
KBN Korca 1.34 15 P **Pg 23 27 20.8 +1.6**
baz=13
MAKR Makrakomi, Fth 1.42 102 P **Pn 23 27 18.4 -0.7**
MAKR AML AML 23 27 49.4
comp=N,1005μm,1.0s
MAKR AML AML 23 27 51.7
comp=E,752μm,0.4s
EFP Efpalio 1.51 126 P **Pn 23 27 21.1 +0.8**
EFP AML AML 23 27 53.3
comp=E,235μm,0.6s
EFP AML AML 23 27 53.8
comp=N,291μm,1.2s
TYRN Tyrnavos 1.51 74 P **Pn 23 27 19.4 -0.9**
RLS Riolos of Patr 1.54 145 P **Pn 23 27 21.2 +0.6**
RLS AML AML 23 27 51.9
comp=N,222μm,0.6s
RLS AML AML 23 27 53.2
comp=E,195μm,0.4s
AGG Agios Georgios 1.57 100 P **Pn 23 27 21.1 -0.1**
AGG AML AML 23 27 54.6
comp=N,447μm,0.7s
AGG AML AML 23 27 54.7
comp=E,330μm,0.5s
SCTE Santa Cesarea 1.63 298 P **Pg 23 27 25.4 +0.8**
baz=298
SCTE S **Sg 23 27 50.4 +4.6**
baz=298
SCTE AMP
comp=N,0.1nm,0.6s,baz=298
LTHK Lithakia 1.66 166 P **Pn 23 27 22.7 +0.4**
FNA Florina 1.66 28 P **Pg 23 27 25.4 +0.2**
baz=27
FNA S **Sg 23 27 49.9 +3.1**
baz=27
FNA AMP
comp=E,0.3nm,0.4s,baz=27
DRO Drossia 1.73 142 P **Pn 23 27 22.9 -0.5**
DRO AML AML 23 28 00.0
comp=N,254μm,0.5s
DRO AML AML 23 28 09.4
comp=E,366μm,0.4s
OHR Ohrid 1.82 11 *i* Pn **Pg 23 27 29.8 +1.5**
KLV Kalavryta, Ach 1.90 131 P **Pn 23 27 26.6 +0.8**
GUR Goura 2.09 131 P **Pn 23 27 29.0 +0.7**
GUR AML AML 23 28 11.2
comp=E,149μm,0.4s
GUR AML AML 23 28 13.1
comp=N,157μm,0.7s
PUK Puka 2.74 353 P **Pb 23 27 40.7 -1.7**
baz=353

*IDC **09** 23:55:58.4±8.6, 2°20S×143°50E, h0km, mb3.4/2, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=313.2km s-min=33.8km az=92.0,* **Ninigo Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**19.77**	**206**	P		P	00 00 29.7	-0.6
	0.1nm,0.3s,baz=30,slow=12,SNR=2.5							
	0.5nm,0.7s							
ASAR	**Alice Springs**	**23.27**	**203**	P		P	00 01 08.2	+0.3
	1.5nm,0.7s,baz=31,slow=10.0,SNR=14							
	1.5nm,0.7s							
MKAR	**Makanchi Array**	**72.36**	**321**	P		P	00 07 26.4	0.0
	0.2nm,0.8s,baz=103,slow=5.0,SNR=1.9							
	0.2nm,0.8s							

*IDC **10** 00:13:33.5±0.9, 6°42S×143°43E, h0km, mb4.0/7, mbtmp3.9/10, ML3.7/2, MS3.2/2, Error ellipse: s-maj=30.7km s-min=18.8km az=84.0*
ISC 10 00:13:38.6±0.8, **6°68S**±0°08×**143°16E**±0°10, **h35**km, **n12,** σ1s**80**/13, **mb4.0/7, New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**4.80**	**125**	Pn		**Pn**	**00 14 47.7**	**-0.7**
	15nm,0.5s,baz=327,slow=8.2,SNR=6.0							
PMG				Sn		**Sn**	**00 15 43.7**	**+0.8**
	2.2nm,0.3s,baz=244,slow=20,SNR=2.6							
WRA	**Warramunga Arr**	**15.72**	**212**	Pn		**P**	**00 17 19.0**	**-2.2**
	0.2nm,0.3s,baz=30,slow=13,SNR=9.9							
WRA				Sn		**Sn**	**00 20 09.3**	**-1.4**
	0.2nm,0.3s,baz=24,slow=22,SNR=5.0							
WRA				Lg		Lg	00 22 04.5	
	0.1nm,0.3s,baz=33,slow=30,SNR=2.4							
	1.6nm,0.7s							
ASAR	**Alice Springs**	**19.09**	**207**	P		**Pn**	**00 18 03.2**	**+3.8**
	0.4nm,0.3s,baz=31,slow=12,SNR=34							
ASAR				S		**S**	**00 21 31.8**	**-1.4**
	0.8nm,0.7s,baz=19,slow=27,SNR=5.9							
ASAR				Lg		Lg	00 23 50.8	
	baz=38,slow=35,SNR=2.4							
	2.9nm,0.6s							
STKA	**Stephens Creek**	**25.11**	**183**	LR		LR	00 28 33.3	
	comp=Z,48nm,20.0s,baz=327,slow=35							
SONM	**Songino Array**	**63.21**	**333**	P		**P**	**00 24 04.1**	**+0.7**
	0.4nm,0.7s,baz=150,slow=6.7,SNR=2.5							
	0.4nm,0.7s							
MKAR	**Makanchi Array**	**75.62**	**322**	P		**P**	**00 25 20.2**	**+0.1**
	1.2nm,0.8s,baz=105,slow=6.9,SNR=12							
	1.2nm,0.8s							
ZALV	**Zalesovo Beam**	**77.58**	**329**	P		**P**	**00 25 30.4**	**-0.5**
	0.3nm,0.3s,baz=108,slow=4.8,SNR=3.6							
	0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**79.51**	**324**	LR		LR	01 03 17.1	
	comp=Z,18nm,19.1s,baz=166,slow=38							
QSPA	**South Pole Qui**	**83.29**	**180**	P		**P**	**00 26 02.8**	**+1.1**
	1.2nm,0.7s,baz=359,slow=2.0,SNR=8.5							
	1.2nm,0.7s							
NRIK	**Noril'sk**	**84.77**	**343**	P		**P**	**00 26 09.3**	**+0.5**
	1.1nm,0.3s,baz=93,slow=3.1,SNR=5.5							
	1.1nm,0.3s							
BVAR	**Borovoye Array**	**85.09**	**325**	P		**P**	**00 26 11.1**	**+0.3**
	1.6nm,0.8s,baz=112,slow=7.2,SNR=10							
	1.6nm,0.8s							
ILAR	**Eielson Array**	**87.62**	**24**	P		**P**	**00 26 20.6**	**-2.4**
	0.5nm,0.9s,baz=261,slow=5.3,SNR=4.2							
	0.5nm,0.9s							

*NIED **10** 00:20:44.9, 41°.68N×142°.96E, h30km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=8.35; $M_{\theta\theta}$=7.59; $M_{\phi\phi}$=0.76; $M_{r\theta}$=1.11; $M_{r\phi}$=2.32; $M_{\theta\phi}$=3.16; Fault plane solution: M_o8.91000×10^{14} NP1: ϕ_s=271.00000°, δ49.00000°, λ-64.00000°. NP2:ϕ_s=55.00000°, δ48.00000°, λ-117.00000°.*
*JMA **10** 00:20:44.9±0.2, 42°N±1°×14°3E±°, h30km±2km, MD3.8/36, MV4.1/36, E OFF AOMORI PREF*
JMA Felt II J1 at E OFF AOMORI PREF .
*IDC **10** 00:20:48.1±2.0, 41°.66N×142°.86E, h64km±16km, mb3.4/15, mbtmp3.7/18, MS3.1/7, Error ellipse: s-maj=18.0km s-min=12.8km az=106.0*
ISC 10 00:20:44.5±1.3, **41°67N**±0°06×**142°94E**±0°06, **h31**km±8km, **n60**, σ0s**94**/38, **mb3.8**/16, **MS3.5**/3, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JEM	**Erimo**	**0.38**	**25**	*e*P		**Pb**	**00 20 53.0**	**-0.1**
JEM				*e*S		**Sb**	**00 20 58.7**	**-0.3**
JEM	**Erimo**	**0.38**	**25**	A		A	00 20 53.0	
	comp=E,8.0nm,0.5s,comp=N,11nm,1.8s							
JNBK	**Urakawa-nobuka**	**0.62**	**347**	*e*P		**Pb**	**00 20 57.0**	**0.0**
JNBK	**Urakawa-nobuka**	**0.62**	**347**	A		A	00 20 57.0	
	comp=E,12nm,0.5s,comp=N,13nm,0.4s							
JTHR	**Tokachihiroo**	**0.67**	**23**	*i* P		**Pb**	**00 20 57.5**	**-0.3**
JTHR				*e*S		**Sb**	**00 21 06.8**	**-0.1**
JTHR	**Tokachihiroo**	**0.67**	**23**	A		A	00 20 57.5	
	comp=E,9.0nm,0.9s,comp=N,16nm,0.7s							
JSHD	**Hidakashinhida**	**0.82**	**334**	P		**Pb**	**00 21 00.3**	**+0.1**
JSHD	**Hidakashinhida**	**0.82**	**334**	A		A	00 21 00.3	
	comp=E,5.0nm,3.5s,comp=N,8.0nm,3.7s							
JCH	**Churui**	**0.99**	**18**	*e*P		**Pn**	**00 21 02.4**	**+0.1**
JCH	**Churui**	**0.99**	**18**	A		A	00 21 02.4	
	comp=E,3.0nm,2.2s,comp=N,2.0nm,0.7s							
JBT2	**Biratori 2**	**1.18**	**339**	*e*P		**Pn**	**00 21 05.5**	**+0.5**
JBT2	**Biratori 2**	**1.18**	**339**	A		A	00 21 05.5	
	comp=E,2.0nm,1.5s,comp=N,2.0nm,0.7s							
JIAM	**Iburiatsuma**	**1.22**	**322**	*e*P		**Pb**	**00 21 07.5**	**+0.6**
JIAM	**Iburiatsuma**	**1.22**	**322**	A		A	00 21 07.5	
	comp=E,10.0nm,1.7s,comp=N,8.0nm,1.3s							
JAHD	**Aomorihigashid**	**1.27**	**252**	A		A	00 21 07.3	
	comp=E,7.0nm,0.7s,comp=N,4.0nm,0.4s							
JARK	**Aomorirokkasho**	**1.36**	**241**	P		**Pn**	**00 21 07.8**	**+0.3**
JARK				*e*S		**Sn**	**00 21 24.8**	**+0.4**
JARK	**Aomorirokkasho**	**1.36**	**241**	A		A	00 21 07.8	
	comp=E,4.0nm,0.4s,comp=N,4.0nm,0.4s							
JOB	**Onbets**	**1.40**	**28**	*e*P		**Pn**	**00 21 09.4**	**+1.5**
JOB	**Onbets**	**1.40**	**28**	A		A	00 21 09.4	
	comp=E,5.0nm,0.7s,comp=N,4.0nm,0.3s							
JKB	**Kayabe**	**1.44**	**279**	*e*P		**Pn**	**00 21 08.9**	**+0.4**
JKB				*e*S		**Sn**	**00 21 26.8**	**+0.4**
JOT	**Ohata**	**1.45**	**259**	*e*P		**Pn**	**00 21 09.3**	**+0.6**
JFR	**Furan**	**1.51**	**350**	*e*P		**Pn**	**00 21 09.9**	**+0.3**
JTM	**Tenmabayashi**	**1.67**	**239**	A		A	00 21 13.2	
	comp=E,2.0nm,1.0s,comp=N,2.0nm,1.5s							
JKEN	**Kujiedanarisaw**	**1.74**	**213**	A		A	00 21 14.2	
	comp=E,2.0nm,0.7s,comp=N,3.0nm,3.2s							
JSI2	**Shiura 2**	**2.00**	**253**	A		A	00 21 18.0	
	comp=E,2.0nm,0.9s,comp=N,2.0nm,0.9s							
JHR	**Hokuryu**	**2.25**	**337**	A		A	00 21 21.4	
	comp=E,2.0nm,0.9s,comp=N,2.0nm,2.0s							
ASAJ	**Asahikawa**	**2.45**	**354**	P		**Pn**	**00 21 24.8**	**+2.3**
	comp=N,92nm,0.4s,baz=202,slow=11,SNR=63							
ASAJ				S		**Sb**	**00 21 55.9**	**-1.8**
	comp=N,74nm,0.5s,baz=267,slow=32,SNR=7.9							
MJAR	**Matsushiro Arr**	**6.31**	**217**	P		**Pn**	**00 22 17.8**	**+2.3**
	comp=N,2.0nm,0.3s,baz=31,slow=12,SNR=9.2							
USRK	**Ussuriysk Ar.**	**8.42**	**291**	P		**Pn**	**00 22 47.0**	**+2.6**
	comp=N,1.9nm,0.8s,baz=91,slow=7.1,SNR=4.7							
USRK				LR		LR	00 26 02.2	
	comp=N,49nm,21.6s,baz=339,slow=38							
KLR	**Kul'dur**	**10.89**	**318**	LR		LR	00 28 03.2	
	comp=N,75nm,18.3s,baz=122,slow=40							
KSRS	**Korea Array**	**12.33**	**255**	P		Pn	00 23 44.1	+6.2
	comp=N,2.9nm,0.6s,baz=62,slow=14,SNR=11							
KSRS				LR		LR	00 27 32.7	
	comp=N,28nm,19.4s,baz=325,slow=33							
JNU	**Nakatsue**	**12.83**	**232**	LR		LR	00 28 31.0	
	comp=N,43nm,20.6s,baz=11,slow=36							
SONM	**Songino Array**	**26.49**	**296**	P		**P**	**00 26 19.0**	**-0.2**
	comp=N,0.6nm,0.3s,baz=86,slow=8.6,SNR=12							
	comp=N,0.6nm,0.3s							
H11N2	**WAKE ISLAND Hy**	**29.86**	**130**	T		T	00 58 03.2	
	baz=324,slow=76,SNR=163							
H11N1	**WAKE ISLAND Hy**	**29.87**	**130**	T		T	00 58 01.9	
	baz=324,slow=76,SNR=118							
H11N3	**WAKE ISLAND Hy**	**29.88**	**130**	T		T	00 58 05.1	
	baz=324,slow=76,SNR=116							
H11S1	**WAKE ISLAND Hy**	**30.72**	**132**	T		T	00 59 13.4	
	baz=325,slow=76,SNR=176							
H11S3	**WAKE ISLAND Hy**	**30.73**	**132**	T		T	00 59 10.8	
	baz=325,slow=76,SNR=170							
H11S2	**WAKE ISLAND Hy**	**30.74**	**132**	T		T	00 59 10.3	
	baz=325,slow=76,SNR=173							
ZALV	**Zalesovo Beam**	**39.81**	**308**	P		**P**	**00 28 14.7**	**+0.1**
	comp=N,1.2nm,0.5s,baz=83,slow=6.6,SNR=7.4							
	comp=N,1.2nm,0.5s							
MKAR	**Makanchi Array**	**42.81**	**298**	P		**P**	**00 28 39.2**	**-0.2**
	comp=N,1.8nm,0.5s,baz=83,slow=9.9,SNR=27							
MKAR				PcP		**PcP**	**00 30 30.7**	**+0.5**
	comp=N,0.1nm,0.4s,baz=90,slow=1.8,SNR=1.9							
	comp=N,1.8nm,0.5s							
KURBB	**Kurchatov Arra**	**44.22**	**305**	P		**P**	**00 28 50.2**	**-0.3**
	comp=N,1.9nm,0.7s,baz=76,slow=8.7,SNR=15							
ILAR	**Eielson Array**	**44.98**	**35**	P		**P**	**00 28 57.2**	**+0.7**
	comp=N,0.4nm,0.6s,baz=256,slow=5.5,SNR=12							
	comp=N,0.4nm,0.6s							
BVAR	**Borovoye Array**	**48.43**	**310**	P		**P**	**00 29 23.8**	**+0.1**
	comp=N,1.1nm,0.4s,baz=78,slow=10,SNR=8.7							
	comp=N,1.1nm,0.4s							
ARU	**Arti**	**53.73**	**317**	LR		LR	00 56 38.7	
	comp=N,30nm,18.4s,baz=30,slow=40							
YKA	**Yellowknife Ar**	**59.23**	**32**	P		**P**	**00 30 42.4**	**0.0**

	comp=N,0.1nm,0.6s,baz=299,slow=7.0,SNR=2.6							
	comp=N,0.1nm,0.6s							
WRA	**Warramunga Arr**	**61.82**	**189**	P		**P**	**00 30 60.0**	**-0.6**
	comp=N,0.6nm,0.5s,baz=6.5,slow=7.1,SNR=14							
	comp=N,0.6nm,0.5s							
FINES	**FINESS Array B**	**65.28**	**332**	P		**P**	**00 31 21.9**	**-1.0**
	comp=N,1.0nm,0.6s,baz=39,slow=8.3,SNR=7.9							
FINES				LR		LR	01 01 04.9	
	comp=N,33nm,18.1s,baz=166,slow=37							
	comp=N,1.0nm,0.6s							
ASAR	**Alice Springs**	**65.55**	**189**	P		**P**	**00 31 25.0**	**-0.1**
	comp=N,0.4nm,0.8s,baz=16,slow=7.7,SNR=3.6							
	comp=N,0.4nm,0.8s							
HFS	**Hagfors**	**70.35**	**336**	P		**P**	**00 31 54.0**	**-0.9**
	comp=N,0.4nm,0.3s,baz=40,slow=4.8,SNR=9.4							
	comp=N,0.4nm,0.3s							
NB2	**NORSAR Subarra**	**70.37**	**337**	P		**P**	**00 31 54.9**	**-0.2**
	comp=Z,1.8nm,1.0s,baz=35,slow=6.2							
NOA	**NORSAR Array B**	**70.37**	**337**	P		**P**	**00 31 54.1**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=32,slow=6.4,SNR=1.9							
	comp=Z,0.4nm,0.8s							
NVAR	**Mina Array Bea**	**71.31**	**55**	P		**P**	**00 32 01.6**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=282,slow=7.6,SNR=4.1							
	comp=Z,0.4nm,0.6s							
AKASG	**Malin Array Be**	**71.36**	**322**	P		**P**	**00 32 00.3**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=78,slow=1.1,SNR=1.5							
	comp=Z,0.2nm,0.4s							
BORG	**Borgarnes**	**73.20**	**353**	LR		LR	01 06 06.7	
	comp=Z,24nm,18.1s,baz=178,slow=37							
PDAR	**Pinedale Array**	**73.61**	**47**	P		**P**	**00 32 15.5**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=332,slow=5.1,SNR=2.1							
	comp=Z,0.3nm,0.5s							
EKA	**Eskdalemuir Ar**	**79.14**	**341**	P		**P**	**00 32 45.6**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=30,slow=7.3,SNR=2.1							
	comp=Z,0.5nm,0.5s							
H03N2	**Juan Fernandez**	**146.07**	**90**	T		T	03 23 23.5	
	baz=300,slow=76,SNR=6.2							
H03N3	**Juan Fernandez**	**146.09**	**90**	T		T	03 23 25.4	
	baz=300,slow=76,SNR=6.6							
H03N1	**Juan Fernandez**	**146.09**	**90**	T		T	03 23 27.5	
	baz=300,slow=76,SNR=8.9							

*NEIC **10** 00:32:57.2±1.0, 45°.09N±0°.04×107°.06W±0°.03, h0km±1km, ML2.8/54, Error ellipse: s-maj=7.7km s-min=2.7km az=205.0*
*IDC **10** 00:32:58.4±1.3, 45°.00N×106°.91W, h0km, mbtmp3.4/2, ML3.2/2, Error ellipse: s-maj=56.2km s-min=8.8km az=135.0*
ISC 10 00:32:56.1±0.9, **45°07N**±0°04×**106°89W**±0°04, **h0km**, **n32,** σ0s**98**/32, **Montana**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RLMT	**Red Lodge**	**1.69**	**273**			**Pb**	**00 33 28.3**	**+0.2**
RLMT					IAML		00 34 03.4	
	97nm,0.9s							
LAO	**LASA Array**	**1.69**	**16**			**Pg**	**00 33 28.7**	**+0.3**
LAO					IAML		00 34 07.5	
	119nm,0.8s							
RSSD	**Black Hills**	**2.25**	**114**	Pn		**Pn**	**00 33 38.5**	**-0.6**
RSSD					IAML		00 34 11.1	
	80nm,0.7s							
RSSD					IAML		00 34 14.9	
	60nm,0.6s							
YMP	**Mirror Lake Pl**	**2.34**	**263**			**Pn**	**00 33 36.6**	**+0.5**
K22A	**Casper**	**2.43**	**174**			**Pb**	**00 33 40.3**	**-0.4**
K22A					IAML		00 34 16.3	
	comp=N,58nm,0.8s							
K22A					IAML		00 34 23.3	
	comp=E,52nm,0.8s							
LKWY	**Lake**	**2.55**	**260**	Pn		**Pn**	**00 33 39.5**	**+0.6**
LKWY					IAML		00 34 26.5	
	comp=E,32nm,1.4s							
LKWY					IAML		00 34 33.2	
	comp=E,46nm,0.8s							
H17A	**Grant Village**	**2.71**	**257**			**Pb**	**00 33 45.8**	**+0.2**
H17A					IAML		00 34 27.0	
	comp=N,33nm,0.7s							
YNR	**Norris Junctio**	**2.72**	**264**			**Pn**	**00 33 41.9**	**+0.7**
YHH	**Holmes Hill**	**2.83**	**266**			**Pn**	**00 33 45.2**	**+2.4**
YFT	**Old Faithful**	**2.88**	**259**			**Pn**	**00 33 43.4**	**0.0**
FLWY	**Flagg Ranch**	**2.90**	**251**	Pg		**Pb**	**00 33 49.3**	**+0.6**
FLWY					IAML		00 34 46.0	
	comp=N,50nm,1.0s							
FLWY					IAML		00 34 50.5	
	comp=N,40nm,1.1s							
BW06	**Boulder Array**	**3.00**	**221**	Pg		**Pb**	**00 33 50.7**	**+0.2**
BW06					IAML		00 34 32.4	
	comp=N,21nm,0.7s							
BW06					IAML		00 34 32.6	
	comp=N,23nm,0.6s							
PD31	**Pinedale Array**	**3.00**	**221**			**Pb**	**00 33 50.8**	**+0.3**
PDAR	**Pinedale Array**	**3.00**	**221**			**Pb**	**00 33 51.1**	**+0.6**
PDAR	**Pinedale Array**	**3.00**	**221**	Pn		**Pb**	**00 33 50.0**	**-0.5**
	comp=N,2.5nm,0.3s,baz=50,slow=17,SNR=38							
PDAR				Lg		Lg	00 34 29.5	
	comp=N,4.7nm,0.3s,baz=43,slow=31,SNR=28							
	comp=N,2.4nm,0.3s							
LOHW	**Long Hollow**	**3.04**	**243**			**Pb**	**00 33 52.2**	**+1.1**
LOHW					IAML		00 34 43.3	
	comp=N,24nm,1.0s							
YHL	**Hebgen Lake**	**3.06**	**267**			**Pb**	**00 33 52.6**	**+1.1**
YHL					IAML		00 34 42.9	
	comp=N,39nm,0.8s							
YHL					IAML		00 34 48.4	
	comp=E,42nm,0.9s							
MOOW	**Moose Ponds**	**3.06**	**246**			**Pn**	**00 33 46.0**	**0.0**
IMW	**Indian Meadow**	**3.13**	**249**			**Pn**	**00 33 47.4**	**+0.5**
IMW					IAML		00 34 44.3	
	comp=E,31nm,0.6s							
IMW					IAML		00 34 45.4	
	comp=E,25nm,0.7s							
SNOW	**Snow King Moun**	**3.21**	**241**	Pn		**Pn**	**00 33 47.9**	**0.0**
SNOW					IAML		00 34 51.6	
	comp=E,25nm,2.3s							
SNOW					IAML		00 34 57.0	
	comp=E,26nm,0.9s							
QLMT	**Earthquake Lak**	**3.23**	**267**	Pg		**Pb**	**00 33 55.3**	**+0.9**
FXWY	**Fox Creek**	**3.29**	**246**			**Pn**	**00 33 49.3**	**+0.2**
TPAW	**Teton Pass**	**3.32**	**243**	Pg		**Pg**	**00 33 58.8**	**-0.8**
TPAW					IAML		00 34 58.2	
	comp=E,32nm,1.1s							
TPAW					IAML		00 35 02.9	
	comp=E,20nm,2.5s							
BOZ	**Bozeman (W)**	**3.39**	**281**			**Pn**	**00 33 48.9**	**-1.4**
EGMT	**Eagleton**	**3.56**	**327**	Pn		**Pn**	**00 33 51.2**	**-1.4**
EGMT					IAML		00 35 00.7	
	comp=E,31nm,1.2s							
AHID	**Auburn Hatcher**	**3.81**	**234**	Pn		**Pn**	**00 33 56.3**	**0.0**
AHID						**Pg**	**00 34 07.1**	**-2.0**
AHID					IAML		00 35 10.5	
	comp=E,17nm,1.3s							
AHID					IAML		00 35 11.3	
	comp=E,17nm,1.2s							
HRY	**Holter Researc**	**3.82**	**297**	Pn		**Pn**	**00 33 54.5**	**-1.8**
DGMT	**Dagmar**	**3.88**	**28**	Pn		**Pn**	**00 33 58.1**	**+1.2**
DGMT				Pg		**Pg**	**00 34 08.9**	**-1.4**
PHWY	**Pilot Hill**	**3.91**	**164**			**Pg**	**00 34 10.5**	**-0.4**
PHWY					IAML		00 35 08.7	
	comp=E,13nm,1.2s							
PHWY					IAML		00 36 13.0	
	comp=E,10nm,4.3s							
HWUT	**Hardware Ranch**	**4.86**	**226**		IAML		00 35 55.4	
	comp=E,10nm,1.4s							
I10CA	**LAC DU BONNET**	**8.95**	**51**	I		I	01 28 40.0	
	baz=235,slow=339,SNR=2.3							
ULM	**Lac du Bonnet**	**9.06**	**51**	Pn		**Pn**	**00 35 08.5**	**+0.5**
	comp=E,0.5nm,0.3s,baz=246,slow=11,SNR=5.7							
ULM				Lg

RAO Sn **Sn** **00 49 51.1 -2.1**
RAO **Raoul Island** **4.53 220** Pn **Pn** **00 49 00.2 -0.2**
121nm,0.3s,baz=51,slow=21,SNR=2.8
RAO Sn **Sn** **00 49 51.2 -2.0**
259nm,0.3s,baz=110,slow=22,SNR=6.1
274nm,0.3s
NIUE **Niue** **7.96 34** Pn **Pn** **00 49 46.9 -0.7**
MSVF **Nonsavu** **10.56 318** Pn **Pn** **00 50 22.1 -1.3**
URZ **Urewera** **14.26 208** Pn **Pn** **00 51 14.6 +0.8**
0.7nm,0.3s,baz=102,slow=22,SNR=1.9
URZ Sn Sn 00 53 42.2 -10
1.3nm,0.3s,baz=156,slow=19,SNR=8.7
2.8nm,0.4s
RAR **Rarotonga** **14.33 74** Pn **Pn** **00 51 16.6 +1.8**
RAR **Rarotonga** **14.33 74** Pn **Pn** **00 51 16.0 +1.2**
3.3nm,0.3s,baz=280,slow=2.2,SNR=2.3
RAR Sn **Sn** **00 53 47.8 -6.1**
1.6nm,0.3s,baz=95,slow=16,SNR=1.4
RAR LR LR 00 56 21.8
comp=Z,30nm,19.5s,baz=57,slow=34
RTZ **Ruatahuna** **14.62 207** P **P** **00 51 26.9 +1.7**
BKZ **Black Stump Fm** **15.28 207** Pn **Pn** **00 51 28.9 +1.2**
BKZ IAmb IAmb 00 51 35.6
comp=Z,10nm,1.0s
HIZ **Hauiti** **15.49 213** Pn **Pn** **00 51 29.6 -0.7**
HIZ IAmb IAmb 00 51 32.8
comp=Z,29nm,1.1s
BFZ **Birch Farm** **16.68 205** P **P** **00 51 50.4 +2.4**
BFZ IAmb IAmb 00 51 53.4
comp=Z,40nm,1.0s
MRZ **Mangatainoka R** **16.92 207** **P** **00 51 51.4 +0.7**
DZM **Mont Dzumac** **17.74 278** LR LR 00 57 24.2
comp=Z,141nm,20.1s,baz=274,slow=33
TUWZ **Tuamarina** **18.25 209** Pn **Pn** **00 52 03.0 -2.0**
BSWZ **Blackbirch Sta** **18.51 208** P **P** **00 52 09.2 +1.1**
THZ **Tophouse** **18.97 210** P **P** **00 52 13.5 +0.2**
KHZ **Kahutara** **19.23 208** P **P** **00 52 16.3 +0.3**
KHZ IAmb IAmb 00 52 22.4
comp=Z,24nm,0.8s
GVZ **Greta Valley S** **19.89 208** P **P** **00 52 24.6 +1.2**
GVZ IAmb IAmb 00 52 27.8
comp=Z,47nm,1.1s
INZ **Inchbonnie** **20.40 211** P **P** **00 52 29.8 +1.0**
INZ IAmb IAmb 00 52 40.8
comp=Z,8.2nm,0.9s
RPZ **Rata Peaks** **21.35 210** P **P** **00 52 40.3 +1.1**
RPZ IAmb IAmb 00 52 49.6
comp=Z,8.2nm,1.0s
RPZ **Rata Peaks** **21.35 210** P **P** **00 52 39.8 +0.7**
comp=Z,3.6nm,0.5s,baz=31,slow=19,SNR=2.0
comp=Z,3.6nm,0.5s
PPT **Papeete** **24.60 76** LR LR 01 01 53.3
comp=Z,42nm,19.4s,baz=273,slow=33
ARMA **Armidale** **30.09 253** P **P** **00 54 02.1 +0.4**
ARMA IAmb IAmb 00 54 05.3
comp=Z,4.5nm,0.9s
EIDS **Eidsvold** **30.93 263** P **P** **00 54 08.5 -0.5**
CTA **Charters Tower** **36.42 271** LR LR 01 07 28.6
comp=Z,70nm,19.3s,baz=86,slow=33
CTAO **Charters Tower** **36.42 271** P **P** **00 54 53.8 -3.1**
CTAO IAmb IAmb 00 55 01.0
comp=Z,6.9nm,1.1s
TAOE **Nuku Hiva Isla** **36.78 69** P **P** **00 54 58.9 -1.2**
STKA **Stephens Creek** **38.66 251** P **P** **00 55 14.6 -1.2**
STKA **Stephens Creek** **38.66 251** P **P** **00 55 13.8 -1.9**
comp=Z,1.1nm,0.5s,baz=89,slow=15,SNR=2.9
comp=Z,1.1nm,0.5s
BBOO **Buckleboo** **43.29 249** P **P** **00 55 53.0 -0.9**
BBOO IAmb IAmb 00 55 55.8
comp=Z,3.3nm,0.8s
ASAR **Alice Springs** **46.60 261** P **P** **00 56 18.9 -1.5**
ASAR **Alice Springs** **46.60 261** P **P** **00 56 19.0 -1.3**
comp=Z,1.1nm,0.4s,baz=96,slow=7.4,SNR=20
ASAR PcP **PcP** **00 57 56.3 +1.8**
comp=Z,0.4nm,0.7s,baz=111,slow=4.1,SNR=1.8
comp=Z,1.1nm,0.4s
WR0 **Warramunga Arr** **47.01 266** P **P** **00 56 21.9 -1.7**
WR0 IAmb IAmb 00 56 25.3
comp=Z,5.3nm,1.1s
WB2 **Warramunga Arr** **47.19 266** P **P** **00 56 23.7 -1.2**
WB2 IAmb IAmb 00 56 25.6
comp=Z,4.9nm,1.0s
WRA **Warramunga Arr** **47.20 266** P **P** **00 56 21.1 -3.9**
WRA **Warramunga Arr** **47.20 266** P **P** **00 56 23.3 -1.8**
comp=Z,2.8nm,0.8s,baz=103,slow=7.5,SNR=18
WRA PcP **PcP** **00 57 58.2 +1.6**
comp=Z,0.5nm,0.8s,baz=107,slow=2.6,SNR=2.2
comp=Z,2.8nm,0.8s
WB0 **Warramunga Arr** **47.20 266** P **P** **00 56 23.5 -1.6**
FORT **Forrest** **50.29 250** P **P** **00 56 47.4 -1.4**
KNRA **Kununurra** **53.60 269** P **P** **00 57 12.8 -0.7**
FITZ **Fitzroy Crossi** **55.59 265** P **P** **00 57 27.4 -0.5**
QSPA **South Pole Qui** **64.28 180** P P 00 58 32.8 +5.6
QSPA **South Pole Qui** **64.28 180** P P 00 58 33.1 +5.9
comp=Z,7.4nm,1.0s,baz=42,slow=2.1,SNR=12
comp=Z,7.4nm,1.0s
LEM **Lembang** **76.10 269** LR LR 01 33 40.4
comp=Z,32nm,18.0s,baz=135,slow=36
NVAR **Mina Array Bea** **82.82 41** P P 01 00 22.3 +5.7
comp=Z,1.6nm,0.8s,baz=232,slow=8.6,SNR=9.2
comp=Z,1.6nm,0.8s
TXAR **Lajitas Array** **87.34 56** P P 01 00 44.7 +5.3
comp=Z,0.8nm,0.8s,baz=206,slow=8.3,SNR=7.7
comp=Z,0.8nm,0.8s
DLBC **Dease Lake** **91.75 22** LR LR 01 44 34.7
comp=Z,53nm,18.4s,baz=268,slow=37
ILAR **Eielson Array** **92.82 12** P **P** **01 01 07.6 +3.5**
comp=Z,0.6nm,0.9s,baz=205,slow=8.4,SNR=2.8
comp=Z,0.6nm,0.9s
CMAR **Chiang Mai Arr** **94.81 288** P **P** **01 01 15.6 +1.3**
comp=Z,0.9nm,0.3s,baz=134,slow=3.9,SNR=2.5
comp=Z,0.9nm,0.3s
ZALV **Zalesovo Beam** **116.58 319** PKP **PKiKP** **01 06 37.3 +1.6**
comp=Z,0.6nm,0.6s,baz=77,slow=3.1,SNR=2.9
MKAR **Makanchi Array** **117.09 311** PKP **PKiKP** **01 06 38.5 +1.5**
comp=Z,0.2nm,0.5s,baz=100,slow=3.2,SNR=2.8
KURBB **Kurchatov Arra** **120.05 315** PKP **PKiKP** **01 06 44.3 +1.8**
comp=Z,0.7nm,0.7s,baz=94,slow=1.9,SNR=7.5
BVAR **Borovoye Array** **125.14 318** PKP **PKiKP** **01 06 54.9 +2.4**
comp=Z,1.3nm,0.7s,baz=90,slow=3.0,SNR=7.1
FINES **FINESS Array B** **141.73 344** PKhKP PKPpre 01 07 19.9
comp=Z,1.0nm,0.8s,baz=65,slow=6.6,SNR=2.0
HFS **Hagfors** **145.22 353** PKP **PKiKP** **01 07 31.3 -1.8**
comp=Z,3.2nm,0.8s,baz=108,slow=4.8,SNR=5.1
AKASG **Malin Array Be** **149.17 330** PKPbc **PKiKP** **01 07 42.4 +0.9**
comp=Z,2.7nm,0.7s,baz=39,slow=3.2,SNR=12
BRTR **Keskin Array B** **152.65 307** PKPbc **PKiKP** **01 07 51.3 +2.0**
comp=Z,1.2nm,0.8s,baz=50,slow=2.3,SNR=7.1
BRTR PKPab **pPKPab** **01 08 01.3 -0.3**
comp=Z,0.6nm,0.7s,baz=73,slow=5.0,SNR=6.5
MMAI **Mount Meron Ar** **152.98 292** PKPab **PKPab** **01 08 04.2 +3.0**
comp=Z,3.3nm,0.8s,baz=97,slow=5.8,SNR=5.3

*IDC **10** 00:56:45.4±0.7,6.˚24S×142.˚99E,h0km,mb4.2/11, mbtmp4.3/14, ML4.1/1,MS3.2/2,Error ellipse: s-maj=27.7km s-min=14.8km az=82.0*
*NEIC **10** 00:56:47.9±1.4,6.˚26S±0.˚10×142.˚9E±0.˚1,h10km±1km, mb4.7/49,Error ellipse: s-maj=18.8km s-min=14.4km az=46.0*
ISC 10 00:56:51.4±0.5,**6.˚44S**±0.˚07×**142.˚78E**±0.˚08,**h35**km,**n79,** σ1$**35**/80,**mb4.6**/38,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.24**	**124**	Pn	**Pn**	**Pn**	**00 58 05.8**	**-1.6**
	16nm,0.4s,baz=323,slow=8.5,SNR=7.6							
PMG				Sn	**Sn**	**Sn**	**00 59 07.1**	**+0.4**
	3.8nm,0.3s,baz=222,slow=20,SNR=7.7							
FAKI	**Fak Fak**	**11.06**	**288**	Pn	**Pn**		**00 59 25.8**	**-1.4**
MTN	**Manton Dam**	**13.12**	**240**	Pn	**Pn**		**00 59 55.0**	**-0.5**
WB0	**Warramunga Arr**	**15.55**	**211**		**Pn**		**01 00 29.4**	**+1.1**
WR0	**Warramunga Arr**	**15.64**	**210**		**Pn**		**01 00 29.0**	**-0.4**
WB2	**Warramunga Arr**	**15.72**	**211**	Pn	**Pn**		**01 00 30.9**	**+0.4**
WRA	**Warramunga Arr**	**15.73**	**211**	Pn	**Pn**		**01 00 30.2**	**-0.3**
WRA	**Warramunga Arr**	**15.73**	**211**	Pn	**Pn**		**01 00 30.8**	**+0.3**
	0.7nm,0.3s,baz=32,slow=13,SNR=22							
WRA				Sn	**Sn**		**01 03 19.3**	**-4.5**
	1.0nm,0.3s,baz=44,slow=22,SNR=5.7							
WRA				Lg	Lg		01 05 12.9	
	0.7nm,0.3s,baz=32,slow=28,SNR=7.1							
	1.9nm,0.4s							
KNRA	**Kununurra**	**16.53**	**235**		**Pn**		**01 00 40.6**	**-0.1**
SOEI	**Soe**	**18.62**	**259**	P	**Pn**		**01 01 07.6**	**+0.9**
SOEI				IAmb	IAmb		01 01 46.7	
	comp=Z,44nm,1.0s							
AS31	**Alice Springs**	**19.14**	**206**	Pn	**Pn**		**01 01 14.4**	**+1.6**
ASAR	**Alice Springs**	**19.14**	**206**	Pn	**Pn**		**01 01 14.3**	**+1.5**
ASAR	**Alice Springs**	**19.14**	**206**	P	**Pn**		**01 01 15.0**	**+2.2**
	comp=Z,30nm,0.7s,baz=32,slow=9.9,SNR=220							
ASAR				S	**Sn**		**01 04 43.7**	**-2.7**
	comp=Z,3.8nm,0.6s,baz=24,slow=27,SNR=7.9							
ASAR				Lg	Lg		01 07 01.5	
	comp=Z,0.2nm,0.3s,baz=20,slow=28,SNR=4.7							
FITZ	**Fitzroy Crossi**	**20.34**	**234**	P	**P**		**01 01 26.9**	**+2.0**
EIDS	**Eidsvold**	**20.43**	**158**		**P**		**01 01 28.2**	**+2.4**
EIDS				IAmb	IAmb		01 01 36.8	
	comp=Z,36nm,1.3s							
STKA	**Stephens Creek**	**25.33**	**182**	P	**P**		**01 02 15.4**	**+0.4**
STKA	**Stephens Creek**	**25.33**	**182**	P	**P**		**01 02 14.9**	**-0.2**
	comp=Z,4.0nm,0.7s,baz=0.7,slow=8.9,SNR=9.7							
	comp=Z,4.0nm,0.7s							
BBOO	**Buckleboo**	**26.98**	**193**	P	**P**		**01 02 31.0**	**+1.1**
KSRS	**Korea Array**	**45.82**	**343**	P	**P**		**01 05 08.3**	**-1.6**
	comp=Z,0.7nm,0.4s,baz=158,slow=7.7,SNR=4.8							
	comp=Z,0.7nm,0.4s							
CMAR	**Chiang Mai Arr**	**49.81**	**301**	P	**P**		**01 05 41.2**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=125,slow=5.6,SNR=5.1							
	comp=Z,0.9nm,0.3s							
ASAJ	**Asahikawa**	**50.32**	**360**	LR	LR		01 28 18.1	
	comp=Z,9.6nm,19.6s,baz=200,slow=38							
USRK	**Ussuriysk Ar.**	**51.34**	**350**	P	**P**		**01 05 50.6**	**-1.7**
	comp=Z,3.4nm,0.9s,baz=177,slow=6.7,SNR=4.1							
	comp=Z,3.4nm,0.9s							
PZH	**PanZhiHua**	**51.52**	**311**	P	**P**		**01 05 56.6**	**+2.4**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
PZH				pmax	pmax			
	comp=Z,190nm,5.4s							
HHC	**Hu-ho-hao-te**	**55.10**	**331**	*e*P	**P**		**01 06 22.9**	**+2.7**
HHC				pmax	pmax			
	comp=Z,15nm,0.7s							
HHC				pmax	pmax			
	comp=Z,140nm,6.3s							
SONM	**Songino Array**	**62.83**	**333**	P	**P**		**01 07 13.0**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=146,slow=8.2,SNR=3.8							
	comp=Z,0.2nm,0.3s							
WMQ	**Urumqi**	**70.44**	**321**	*e*P	**P**		**01 08 04.9**	**+2.5**
WMQ				pmax	pmax			
	comp=Z,11nm,0.7s							
MK31	**Makanchi Array**	**75.20**	**322**	P	**P**		**01 08 29.9**	**-0.6**
MKAR	**Makanchi Array**	**75.20**	**322**	P	**P**		**01 08 30.0**	**-0.5**
MKAR	**Makanchi Array**	**75.20**	**322**	P	**P**		**01 08 30.1**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=102,slow=8.5,SNR=14							
	comp=Z,1.6nm,0.8s							
KSH	**Kashi**	**76.58**	**313**	P	**P**		**01 08 40.1**	**+1.4**
KSH				pmax	pmax			
	comp=Z,4.0nm,1.1s							
ZALV	**Zalesovo Beam**	**77.19**	**329**	P	**P**		**01 08 40.2**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=99,slow=9.3,SNR=5.5							
	comp=Z,0.7nm,0.6s							
KURK	**Kurchatov**	**79.08**	**324**	P	**P**		**01 08 51.3**	**-0.9**
KURK				IAmb	IAmb		01 08 52.6	
	comp=Z,6.3nm,1.2s							
KURBB	**Kurchatov Arra**	**79.10**	**324**	P	**P**		**01 08 51.1**	**-1.1**
	comp=Z,1.7nm,0.9s,baz=114,slow=4.4,SNR=12							
L14K	**Kuka Creek**	**79.61**	**24**	P	**P**		**01 08 53.2**	**-1.6**
N18K	**Kilae Creek**	**82.09**	**26**	P	**P**		**01 09 07.2**	**-0.9**
K17K	**Iditarod**	**82.09**	**23**	P	**P**		**01 09 07.2**	**-0.8**
QSPA	**South Pole Qui**	**83.53**	**180**	P	**P**		**01 09 16.5**	**+0.8**
QSPA				IAmb	IAmb		01 09 17.6	
	comp=Z,6.3nm,1.1s							
QSPA	**South Pole Qui**	**83.53**	**180**	P	**P**		**01 09 16.4**	**+0.7**
	comp=Z,3.0nm,0.9s,baz=311,slow=1.1,SNR=9.8							
	comp=Z,3.0nm,0.9s							
J19K	**Poorman**	**83.78**	**23**	P	**P**		**01 09 16.2**	**-0.6**
M20K	**Styx River**	**83.82**	**25**	P	**P**		**01 09 16.3**	**-0.9**
K20K	**Telida**	**84.09**	**24**	P	**P**		**01 09 18.9**	**+0.5**
K20K				IAmb	IAmb		01 09 35.2	
	comp=Z,6.7nm,1.4s							
NRIK	**Noril'sk**	**84.43**	**343**	P	**P**		**01 09 18.8**	**-1.1**
	comp=Z,3.9nm,0.9s,baz=119,slow=4.8,SNR=6.7							
	comp=Z,3.9nm,0.9s							
J20K	**Nowinta River**	**84.44**	**23**	P	**P**		**01 09 20.1**	**0.0**
J20K				IAmb	IAmb		01 09 20.5	
	comp=Z,7.7nm,1.1s							
BVAR	**Borovoye Array**	**84.67**	**325**	P	**P**		**01 09 21.0**	**-0.6**
	comp=Z,7.7nm,0.8s,baz=111,slow=6.7,SNR=40							
	comp=Z,7.7nm,0.8s							
BRVK	**Borovoye**	**84.75**	**325**	P	**P**		**01 09 21.9**	**-0.1**
E19K	**Redstone River**	**84.90**	**20**	P	**P**		**01 09 21.8**	**-0.6**
E19K				IAmb	IAmb		01 09 22.2	
	comp=Z,5.2nm,1.1s							
D19K	**Kuna River**	**85.15**	**19**	P	**P**		**01 09 22.9**	**-0.7**
D19K				IAmb	IAmb		01 09 32.6	
	comp=Z,7.0nm,1.2s							
F20K	**Avaraart Lake**	**85.21**	**20**	P	**P**		**01 09 23.5**	**-0.4**
F20K				IAmb	IAmb		01 09 45.5	
	comp=Z,3.4nm,1.2s							
IMAR	**Indian Mountai**	**85.41**	**22**	P	**P**		**01 09 23.7**	**-1.2**
BPAW	**Bear Paw Mtn.**	**85.65**	**24**	P	**P**		**01 09 25.0**	**-1.3**
MLY	**Manley**	**86.13**	**23**	P	**P**		**01 09 27.3**	**-1.3**
MLY				IAmb	IAmb		01 09 28.8	
	comp=Z,3.3nm,1.0s							
B20K	**Meade River**	**86.22**	**17**	P	**P**		**01 09 28.4**	**-0.5**
RND	**Reindeer**	**86.25**	**25**	P	**P**		**01 09 27.2**	**-2.0**
RND				IAmb	IAmb		01 09 28.4	
	comp=Z,5.7nm,0.9s							
WRH	**Wood River Hil**	**86.96**	**24**	P	**P**		**01 09 30.8**	**-1.9**
WRH				IAmb	IAmb		01 09 38.8	
	comp=Z,8.9nm,1.4s							
E22K	**Anaktuvuk Pass**	**87.04**	**20**	P	**P**		**01 09 32.3**	**-0.7**
E22K				IAmb	IAmb		01 09 33.9	
	comp=Z,2.6nm,0.8s							
D22K	**Ayikyak River**	**87.08**	**19**	P	**P**		**01 09 33.2**	**0.0**
D22K				IAmb	IAmb		01 09 42.6	
	comp=Z,3.1nm,1.1s							
G23K	**Bananza Creek**	**87.08**	**22**	P	**P**		**01 09 32.5**	**-0.8**
G23K				IAmb	IAmb		01 09 33.4	
	comp=Z,4.6nm,1.1s							
MDM	**Murphy Dome**	**87.09**	**23**	P	**P**		**01 09 34.3**	**+1.0**
CCB	**Clear Creek Bu**	**87.14**	**24**	P	**P**		**01 09 31.2**	**-2.2**
CCB				IAmb	IAmb		01 09 31.9	
	comp=Z,5.9nm,1.0s							
B22K	**Teshekpuk Lake**	**87.50**	**18**	P	**P**		**01 09 34.4**	**-0.7**
H24K	**Noodor Dome**	**87.55**	**23**	P	**P**		**01 09 34.6**	**-1.0**
H24K				IAmb	IAmb		01 09 43.4	
	comp=Z,6.0nm,1.4s							
IL31		**87.55**	**24**	P	**P**		**01 09 33.6**	**-1.8**
IL31				IAmb	IAmb		01 09 34.4	
	comp=Z,2.9nm,0.8s							
ILAR	**Eielson Array**	**87.55**	**24**	P	**P**		**01 09 33.2**	**-2.3**
ILAR	**Eielson Array**	**87.55**	**24**	P	**P**		**01 09 32.9**	**-2.6**
	comp=Z,2.7nm,0.9s,baz=260,slow=4.9,SNR=20							
	comp=Z,2.7nm,0.9s							
J25K	**Salcha River,**	**88.11**	**24**	P	**P**		**01 09 36.8**	**-1.4**
C23K	**Itkillik River**	**88.15**	**19**	P	**P**		**01 09 37.7**	**-0.5**
F24K	**Squaw Lake**	**88.16**	**21**	P	**P**		**01 09 38.3**	**-0.1**
F24K				IAmb	IAmb		01 09 39.2	
	comp=Z,3.6nm,0.9s							
J26L	**Joseph Creek**	**88.82**	**25**	P	**P**		**01 09 41.2**	**-0.5**
BCAR	**Beaver Creek A**	**89.16**	**26**	P	**P**		**01 09 43.1**	**-0.1**
E25K	**Arctic Village**	**89.20**	**21**	P	**P**		**01 09 43.2**	**0.0**
K27K	**Chicken**	**89.30**	**25**	P	**P**		**01 09 43.7**	**-0.1**
K27K				IAmb	IAmb		01 09 45.1	
	comp=Z,8.2nm,1.2s							
BMAR	**Burnt Mountain**	**89.33**	**22**	P	**P**		**01 09 44.0**	**+0.1**
D25K	**Kavik River**	**89.33**	**20**	P	**P**		**01 09 43.4**	**-0.5**
D25K				IAmb	IAmb		01 10 24.8	
	comp=Z,8.5nm,1.5s							
ABKAR	**Akbulak array**	**90.17**	**319**	P	**P**		**01 09 47.0**	**-1.1**
M29M	**Somme Creek**	**90.49**	**27**	P	**P**		**01 09 49.0**	**-0.5**
M29M				IAmb	IAmb		01 09 49.1	
	comp=Z,8.7nm,1.3s							
I28M	**Miner Creek**	**90.56**	**24**	P	**P**		**01 09 49.2**	**-0.5**
I28M				IAmb	IAmb		01 09 52.6	
	comp=Z,3.1nm,1.1s							
L29M	**L29M**	**90.78**	**27**	P	**P**		**01 09 50.0**	**-0.8**
L29M				IAmb	IAmb		01 09 51.7	
	comp=Z,5.4nm,1.0s							
K29M	**Barlow Dome**	**91.21**	**26**	P	**P**		**01 09 52.1**	**-0.7**
K29M				IAmb	IAmb		01 09 56.0	
	comp=Z,2.8nm,1.0s							
YBH	**Yreka Blue Hor**	**97.61**	**49**	LR	LR		01 48 12.3	
	comp=Z,23nm,18.5s,baz=280,slow=32							

*IDC **10** 01:38:14.9±1.1,6.˚15S×142.˚89E,h0km,mb3.7/4, mbtmp3.7/7,ML3.7/2,Error ellipse: s-maj=31.3km s-min=22.2km az=89.0*
ISC 10 01:38:19.4±1.0,**6.˚40S**±0.˚09×**142.˚69E**±0.˚10,**h35**km,**n7,** σ1$**84**/10,**mb3.6**/4,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.34**	**124**	Pn	**Pn**	**Pn**	**01 39 36.4**	**-0.3**
	5.6nm,0.3s,baz=249,slow=16,SNR=2.2							
PMG				Sn	**Sn**	**Sn**	**01 40 37.3**	**+0.3**
	2.2nm,0.3s,baz=213,slow=23,SNR=2.0							
WRA	**Warramunga Arr**	**15.71**	**210**	Pn	**P**	**P**	**01 41 59.9**	**-2.0**
	0.2nm,0.3s,baz=36,slow=14,SNR=10							
WRA				Sn	**Sn**	**Sn**	**01 44 49.2**	**-2.2**
	0.1nm,0.3s,baz=30,slow=23,SNR=3.2							
WRA				Lg	Lg		01 46 44.9	
	0.1nm,0.3s,baz=31,slow=28,SNR=2.2							
	0.3nm,0.4s							
ASAR	**Alice Springs**	**19.13**	**205**	P	**Pn**	**Pn**	**01 42 43.7**	**+2.9**
	0.5nm,0.3s,baz=35,slow=8.6,SNR=31							
ASAR				S	**S**	**S**	**01 46 16.1**	**+1.2**
	0.4nm,0.7s,baz=21,slow=28,SNR=4.1							
ASAR				Lg	Lg		01 48 31.2	
	baz=24,slow=30,SNR=1.2							
	4.3nm,0.9s							
MKAR	**Makanchi Array**	**75.12**	**322**	P	**P**		**01 49 57.5**	**-0.6**
	0.2nm,0.7s,baz=124,slow=7.3,SNR=2.1							
	0.2nm,0.7s							
KURBB	**Kurchatov Arra**	**79.02**	**324**	P	**P**		**01 50 21.0**	**+1.2**
	0.3nm,0.8s,baz=123,slow=4.4,SNR=1.8							
	0.3nm,0.8s							
BVAR	**Borovoye Array**	**84.59**	**325**	P	**P**		**01 50 50.6**	**+1.4**
	0.9nm,0.8s,baz=101,slow=4.6,SNR=4.2							
	0.9nm,0.8s							
ILAR	**Eielson Array**	**87.56**	**24**	P	**P**		**01 51 02.6**	**-0.9**
	0.5nm,0.8s,baz=245,slow=6.2,SNR=4.6							
	0.5nm,0.8s							

*SJA **10** 01:48:11.9±0.7,32.˚15S×72.˚16W,h7km±3km,ML4.0, MW3.6*
*NEIC **10** 01:48:18.0±2.1,32.˚16S±0.˚02×71.˚78W±0.˚08,h29km±7km, mb4.1/2,Mwr3.8/38,Error ellipse: s-maj=9.3km s-min=2.7km az=93.0,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}4.05; $M_{\theta\theta}$1.08; $M_{\phi\phi}$-5.13; $M_{r\theta}$-1.34; $M_{\theta\phi}$0.39; $M_{\phi r}$-2.85; Fault plane solution: M_o5.66000×10^{14} NP1:ϕ_s335.91000°,δ32.90000°, λ56.34000°. NP2:ϕ_s194.33000°,δ63.12000°,λ109.73000°. Principal axes: T 5.3232, Plg66.0000°, Azm140.0000°; N 0.6193, Plg18.0000°, Azm5.0000°; P -5.9426, Plg16.0000°, Azm270.0000°;*
*NEIC **10** 01:48:17.6,32.˚15S×71.˚79W,h25km*
*GUC **10** 01:48:18.3±0.6,32.˚15S×71.˚72W,h36km±2km,ML4.0*
*IDC **10** 01:48:21.1±3.0,32.˚20S×71.˚31W,h45km±24km,mb3.9/3, mbtmp3.8/8,ML3.7/5,MS3.1/5,Error ellipse: s-maj=55.4km s-min=21.1km az=105.0*
ISC 10 01:48:12.8±1.3,**32.˚16S**±0.˚02×**72.˚07W**±0.˚04,**h6**km±8km, **n97,** σ1$**73**/123,**mb4.1**/5,**MS3.1**/3,**5C-3D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.77**	**122**	Pn	**Pb**		**01 48 29.3**	**+0.7**
VA06					**Sg**		**01 48 36.5**	**-1.1**
VA01	**Torpederas**	**0.93**	**158**	Pn	**Pn**		**01 48 33.6**	**+1.2**
VA01				Sn	**Sn**		**01 48 45.7**	**-0.3**
VA01	**Torpederas**	**0.93**	**158**	*e*P	**Pb**		**01 48 30.9**	**-0.5**
VA01				*e*S	**Pn**		**01 48 34.1**	**+1.6**
VA01	**Torpederas**	**0.93**	**158**	*e*P	**Pn**		**01 48 33.9**	**+1.5**
VA01				*i* S	**Sn**		**01 48 46.2**	**+0.1**
ROC1	**El Roble**	**1.21**	**133**	*e*P	**Pn**		**01 48 36.6**	**+0.1**
ROC1				*e*S	**Sg**		**01 48 50.8**	**-0.9**
ROCH	**El Roble**	**1.21**	**132**	||*i*P	**Pb**		**01 48 36.7**	**+0.5**
ROCH				*i* S	**Sg**		**01 48 50.4**	**-1.3**
ROCH				IAML			01 48 53.8	
	comp=N,6μm,0.5s							
CO02	**Combarbal**	**1.32**	**44**		**Pb**		**01 48 37.9**	**-0.1**
CO02				Sn	**Sb**		**01 48 52.7**	**-2.5**
CO02	**Combarbal**	**1.32**	**44**	*e*P	**Pb**		**01 48 38.0**	**-0.1**
CO02				*e*S	**Sb**		**01 48 53.2**	**-2.0**
CO02				IAML			01 48 53.3	
	comp=Z,6μm,0.4s							
MT02	**Curacav**	**1.35**	**145**	Pn	**Pg**		**01 48 39.0**	**+0.3**
MT02				Sn	**Sb**		**01 48 54.1**	**-1.9**
MT02	**Curacav**	**1.35**	**145**	*e*P	**Pn**		**01 48 34.1**	**-4.1**
MT02				*e*P	**Pn**		**01 48 38.9**	**+0.7**
MT02				*e*S	**Sb**		**01 48 55.5**	**-0.6**
MT02				*e*S	**Sn**		**01 48 55.8**	**-0.6**
MT02				IAML			01 49 01.0	
	comp=Z,2μm,0.6s							
VA03	**San Esteban**	**1.42**	**116**	Pn	**Pn**		**01 48 38.8**	**-0.5**
VA03				Sn	**Sn**		**01 48 53.1**	**-5.2**
VA03	**San Esteban**	**1.42**	**116**	*e*P	**Pn**		**01 48 39.0**	**-0.3**
VA03				*e*S	**Sn**		**01 48 57.1**	**-1.1**
VA03				IAML			01 48 59.2	
	comp=Z,2μm,0.3s							
VA03	**San Esteban**	**1.42**	**116**	||*i*P	**Pn**		**01 48 38.9**	**-0.3**
VA03				*i* S	**Sn**		**01 48 54.1**	**-4.1**
VA03				IAML			01 48 58.8	
	comp=E,7μm,0.2s							
PEL	**Peldehue**	**1.52**	**130**	Pn	**Pb**		**01 48 41.3**	**-0.3**
PEL	**Peldehue**	**1.52**	**130**	*e*P	**Pb**		**01 48 41.5**	**-0.1**
PEL				*e*S	**Sn**		**01 49 00.6**	**-0.3**
PEL				IAML			01 49 02.7	
	comp=Z,1μm,0.5s							
PEL	**Peldehue**	**1.52**	**130**			*e*P	**Pn**	

BO01					*e*S	**Sn**	**01 49 23.1**	**+1.3**
BO01					IAML		01 49 34.2	
	comp=Z,402nm,0.8s							
RTLS	**Leoncito**	**2.38**	**82**	*e*P		**Pb**	**01 48 55.5**	**-0.9**
RTLS					*e*S	**Sb**	**01 49 25.6**	**-0.5**
RTLS					IAML		01 49 30.7	
	comp=Z,1µm,0.4s							
ARCO	**CERRO ARCO**	**2.74**	**105**	*e*P		**Pb**	**01 49 01.9**	**-0.3**
ARCO					*e*S	**Sn**	**01 49 30.6**	**-0.3**
ARCO					IAML		01 49 38.4	
	comp=Z,536nm,0.5s							
CO01	**Juntas del Tor**	**2.76**	**38**	*e*S		**Sb**	**01 49 34.9**	**-2.0**
CO01					IAML		01 49 36.4	
	comp=Z,818nm,0.2s							
ASAL	**Salagasta**	**2.77**	**100**	*e*P		**Pb**	**01 49 01.8**	**-1.0**
ASAL					*e*S	**Sg**	**01 49 45.6**	**+3.7**
DOCA	**Reserva Natura**	**2.82**	**65**	*e*P		**Pb**	**01 49 01.9**	**-1.9**
DOCA					*e*S	**Sb**	**01 49 38.3**	**-0.5**
DOCA					IAML		01 49 44.5	
	comp=Z,494nm,0.6s							
BO02	**Sierra Bellavi**	**2.84**	**158**	Pn		**Pb**	**01 49 01.2**	**-2.8**
BO02	**Sierra Bellavi**	**2.84**	**158**	*e*P		**Pn**	**01 49 01.0**	**+2.2**
BO02					*e*S	**Sn**	**01 49 31.6**	**-1.7**
BO02					*e*S	**Sb**	**01 49 37.1**	**-1.9**
BO02					IAML		01 49 48.7	
	comp=Z,548nm,0.5s							
GO05	**Huala**	**2.84**	**178**	Pn		**Pb**	**01 49 01.0**	**-3.1**
GO05	**Huala**	**2.84**	**178**	*e*P		**Pb**	**01 49 00.8**	**-3.3**
GO05					*e*S	**Sg**	**01 49 43.1**	**-1.2**
AAGR	**Agrelo**	**2.89**	**110**	*e*P		**Pb**	**01 49 03.6**	**-1.2**
AAGR					*e*S	**Sg**	**01 49 49.1**	**+3.5**
AAGR					IAML		01 49 49.2	
	comp=Z,530nm,1.0s							
AROD	**Rodeo**	**2.98**	**49**	*e*S		**Sb**	**01 49 43.9**	**+0.5**
ACCO	**Cerro Coronel**	**3.01**	**59**	*e*P		**Pb**	**01 49 04.7**	**-2.3**
ACDV	**Cuesta del Vie**	**3.21**	**53**	*e*P		**Pb**	**01 49 08.9**	**-1.5**
LCO	**Las Campanas**	**3.35**	**21**	Pn		**Pn**	**01 49 07.4**	**+1.4**
LCO	**Las Campanas**	**3.35**	**21**	IAML			01 50 02.1	
	comp=Z,360nm,0.7s							
AC04	**Llanos de Chal**	**4.04**	**13**	Pn		**Pn**	**01 49 15.9**	**+0.8**
AVFE	**Valle Fertil**	**4.22**	**70**	*e*P		**Pn**	**01 49 20.4**	**+2.7**
VCA	**Vinchina**	**4.77**	**45**	*e*S		**Sn**	**01 50 23.1**	**+1.9**
VCA					*e*S	**Sn**	**01 50 25.6**	**+4.4**
VCA					*e*S	**Sb**	**01 50 29.1**	**-5.7**
GO03	**Copiap**	**4.82**	**20**	Pn		**Pn**	**01 49 27.6**	**+1.6**
AC06	**Mina Casimiro**	**5.01**	**18**	Pn		**Pn**	**01 49 29.4**	**+0.8**
AC02	**Maricunga**	**5.89**	**27**	Pn		**Pn**	**01 49 42.2**	**+1.0**
H03N1	**Juan Fernandez**	**5.90**	**256**	T		T	01 56 23.9	
	baz=83,slow=73,SNR=3377							
H03N3	**Juan Fernandez**	**5.91**	**256**	T		T	01 56 28.3	
	baz=83,slow=73,SNR=1821							
H03N2	**Juan Fernandez**	**5.92**	**256**	T		T	01 56 24.3	
	baz=83,slow=73,SNR=2443							
H03S3	**Juan Fernandez**	**5.98**	**252**	T		T	01 56 35.0	
	baz=83,slow=76,SNR=6.1							
H03S1	**Juan Fernandez**	**5.98**	**252**	T		T	01 56 23.7	
	baz=83,slow=76,SNR=6.4							
H03S2	**Juan Fernandez**	**6.00**	**252**	T		T	01 56 26.7	
	baz=83,slow=76,SNR=7.1							
AC01	**Pan de Azucar**	**5.13**	**12**	Pn		**Pn**	**01 49 44.8**	**+0.9**
GO02	**Mina Guanaco**	**7.30**	**18**	Pn		**Pn**	**01 49 59.7**	**-0.6**
GO06	**Curarrehue**	**7.42**	**176**	Pn		**Pn**	**01 50 04.7**	**+2.9**
PB14	**IPOC Station P**	**7.65**	**11**	Pn		**Pn**	**01 50 07.5**	**+2.4**
PLCA	**Paso Flores**	**8.64**	**172**	P		**Pn**	**01 50 21.6**	**+3.1**
	comp=Z,0.7nm,0.3s,baz=355,slow=15,SNR=23							
PLCA					LR	LR	01 54 28.1	
	comp=Z,54nm,18.9s,baz=326,slow=43 comp=Z,1.7nm,0.4s							
LVC	**Limon Verde**	**9.92**	**17**	P		**Pn**	**01 50 39.5**	**+3.3**
	comp=Z,0.3nm,0.3s,baz=194,slow=12,SNR=2.4 comp=Z,4.3nm,0.9s							
TRQA	**Tornquist**	**10.14**	**128**	Pn		**Pn**	**01 50 39.4**	**+0.4**
CPUP	**Villa Florida**	**14.11**	**69**	P		**Pn**	**01 51 30.7**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=247,slow=15,SNR=1.6							
CPUP					LR	LR	01 57 25.0	
	comp=Z,53nm,18.6s,baz=231,slow=40 comp=Z,0.5nm,0.4s							
LPAZ	**La Paz**	**16.20**	**14**	Pn		**Pn**	**01 52 01.3**	**-0.4**
LPAZ	**La Paz**	**16.20**	**14**	P		**P**	**01 52 05.2**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=214,slow=4.3,SNR=4.3 comp=Z,0.9nm,0.7s							
SIV	**San Ignacio**	**18.95**	**34**	P		**Pn**	**01 52 35.7**	**+0.4**
	baz=216,slow=9.7,SNR=6.4 comp=Z,1.3nm,0.7s							
NNA	**Nana**	**20.55**	**347**	LR		LR	01 58 37.3	
	comp=Z,35nm,18.7s,baz=152,slow=30							
ETMB	**Extrema**	**22.89**	**15**	P		**P**		
ETMB					IAmb	IAmb	01 53 28.6	
	comp=Z,3.2nm,1.1s							
BDFB	**Brasilia**	**27.36**	**59**	P		**P**	**01 53 56.9**	**-2.2**
	comp=Z,1.0nm,0.3s,baz=225,slow=4.3,SNR=3.8							
BDFB					LR	LR	02 06 40.0	
	comp=Z,59nm,20.6s,baz=350,slow=41 comp=Z,1.0nm,0.3s							
BOAV	**Boa Vista**	**36.07**	**20**	P		**P**	**01 55 13.9**	**-1.4**
BOAV					IAmb	IAmb	01 55 15.2	
	comp=Z,10nm,1.4s							
MDP	**Montagnes des**	**41.41**	**30**	LR		LR	02 14 48.1	
	comp=Z,65nm,18.7s,baz=96,slow=39							
QSPA	**South Pole Qui**	**58.07**	**180**	P		**P**	**01 58 09.6**	**+3.0**
	comp=Z,1.7nm,0.9s,baz=135,slow=3.1,SNR=3.6 comp=Z,1.7nm,0.9s							
TORD	**Torodi Ar. Bea**	**83.61**	**70**	P		**P**	**02 00 42.1**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=245,slow=2.9,SNR=7.4 comp=Z,1.6nm,0.7s							
H11S2	**WAKE ISLAND Hyl**	**25.75**	**270**	T		T	04 26 20.0	
	baz=117,slow=74,SNR=29							
H11S1	**WAKE ISLAND Hyl**	**25.76**	**270**	T		T	04 26 18.6	
	baz=117,slow=74,SNR=30							
H11S3	**WAKE ISLAND Hyl**	**25.77**	**270**	T		T	04 26 14.6	
	baz=117,slow=74,SNR=21							
H11N3	**WAKE ISLAND Hyl**	**26.12**	**272**	T		T	04 26 43.9	
	baz=117,slow=76,SNR=13							
H11N1	**WAKE ISLAND Hyl**	**26.13**	**272**	T		T	04 26 44.8	
	baz=117,slow=76,SNR=6.2							
H11N2	**WAKE ISLAND Hyl**	**26.14**	**272**	T		T	04 26 45.0	
	baz=117,slow=76,SNR=25							
BVAR	**Borovoye Array**	**145.93**	**41**	PKPbc		**PKiKP**	**02 07 54.4**	**-1.9**
	comp=Z,0.8nm,0.4s,baz=298,slow=1.2,SNR=13							
KURBB	**Kurchatov Arra**	**151.53**	**41**	PKPbc		**PKiKP**	**02 08 08.6**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=302,slow=3.1,SNR=1.1							
ZALV	**Zalesovo Beam**	**152.67**	**30**	PKPbc		**PKiKP**	**02 08 10.3**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=289,slow=4.4,SNR=4.2							
ZALV				PKPab		**PKPab**	**02 08 19.7**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=340,slow=3.3,SNR=3.9							
MKAR	**Makanchi Array**	**155.54**	**46**	PKPab		**PKPab**	**02 08 33.7**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=319,slow=3.5,SNR=8.0							

IDC ***10*** *02:22:42.7±2.3, 67°.74N×33°.96E, h0km, mbtmp3.1/4, ML2.2/4, Error ellipse: s-maj=21.9km s-min=10.0km az=80.0*

HEL ***10*** *02:22:42.3±0.2, 67°.67N×33°.83E, h0km, ML1.9, Suspected explosion*

KOLA ***10*** *02:22:42.6, 67°.63N×33°.81E, h0km, ML2.1, Error ellipse: s-maj=6.1km s-min=2.3km az=150.0, Khibiny, mines Rasvumchorr, Central*

ISC 10 02:22:40.9±0.8, 67°.60N±0°.04×33°.83E±0°.03, h0km, n33, σ1s48/62, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.17**	**260**	P	**Pg**	**02 22 45.6**	**+1.5**
APA				S	**Sg**	**02 22 47.9**	**+1.7**
APA0	**Apatity Array**	**0.32**	**272**	P	**Pg**	**02 22 47.9**	**+0.8**
APA0				S	**Sg**	**02 22 52.0**	**+0.8**
LVZ	**Lovozero**	**0.43**	**46**	P	**Pg**	**02 22 50.1**	**+0.9**
LVZ				S	**Sg**	**02 22 56.0**	**+1.1**
LVZ	**Lovozero**	**0.43**	**46**	PG	**Pg**	**02 22 49.6**	**+0.4**
LVZ				SG	**Sg**	**02 22 53.4**	**-1.4**
VRF	**Varrio**	**1.62**	**277**	PG	**Pn**	**02 23 10.8**	**+0.1**
VRF				MSG		02 23 30.5	
	comp=Z,11nm,0.2s						
VRF				SG	**Sn**	**02 23 31.4**	**-0.8**
TERR	**Teriberka**	**1.68**	**16**	P	**Pn**	**02 23 11.7**	**+0.2**
TERR				S	**Sn**	**02 23 32.8**	**-0.9**
OLKF	**Oulanka, Finla**	**2.17**	**236**	PG	**Pb**	**02 23 21.6**	**+0.7**
	baz=51						
OLKF				MSG		02 23 47.6	
	comp=Z,6.4nm,0.2s						
OLKF				SG	**Sg**	**02 23 50.2**	**-0.1**
KU6	**Riekki**	**2.22**	**226**	PB	**Pb**	**02 23 21.4**	**-0.4**
KU6				MSG		02 23 49.4	
	comp=Z,4.5nm,0.2s						
KU6				SG	**Sg**	**02 23 51.7**	**-0.4**
PRVG	**Vayda Guba**	**2.24**	**345**	P	**Pb**	**02 23 21.7**	**-0.5**
PRVG				S	**Sn**	**02 23 48.4**	**+0.8**
RAJF	**Raja-Jooseppi**	**2.25**	**296**	PB	**Pn**	**02 23 20.7**	**+1.3**
RAJF				SB	**Sn**	**02 23 48.7**	**+0.8**
MSF	**Maaselka**	**2.55**	**231**	PB	**Pb**	**02 23 26.9**	**-0.5**
MSF				SG	**Sg**	**02 24 01.5**	**-1.1**
SGF	**Sodankyl**	**2.81**	**270**	PN	**Pn**	**02 23 28.5**	**+1.4**
SGF				SB	**Sb**	**02 24 06.7**	**-0.1**
KMNF	**Kaamanen**	**2.97**	**305**	PN	**Pn**	**02 23 30.3**	**+1.0**
KMNF				SN	**Sn**	**02 24 06.1**	**+0.6**
VADS	**Vadso**	**3.01**	**329**	P	**Pn**	**02 23 30.6**	**+0.9**
VADS				S	**Sn**	**02 24 05.8**	**-0.6**
RANF	**Ranua**	**3.21**	**244**	PN	**Pn**	**02 23 34.9**	**+2.4**
	baz=58						
RANF				SG	**Sb**	**02 24 20.4**	**+2.2**
RNF	**Rovaniemi**	**3.21**	**256**	PN	**Pn**	**02 23 33.6**	**+1.0**
	baz=72						
RNF				SN	**Sn**	**02 24 12.7**	**+1.2**
KEV	**Kevo**	**3.30**	**314**	*e*P	**Pn**	**02 23 34.7**	**+0.9**
KEV	**Kevo**	**3.30**	**314**	PN	**Pn**	**02 23 34.9**	**+1.2**
	baz=127						
KEV				SN	**Sn**	**02 24 13.3**	**-0.4**
ARA0	**ARCESS Array S**	**3.62**	**306**	*e*P	**Pn**	**02 23 38.1**	**-0.1**
ARCES	**ARCESS Array B**	**3.62**	**306**	P	**Pn**	**02 23 38.6**	**+0.4**
ARCES				S	**Sn**	**02 24 20.4**	**-1.2**
ARCES	**ARCESS Array B**	**3.62**	**306**	Pn	**Pn**	**02 23 38.9**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=119,slow=14,SNR=168						
ARCES				Pg	**Pb**	**02 23 47.2**	**+1.4**
	comp=Z,1.2nm,0.3s,baz=112,slow=14,SNR=20						
ARCES				Sn	**Sn**	**02 24 20.5**	**-1.1**
	comp=Z,1.5nm,0.3s,baz=119,slow=25,SNR=16						
ARCES				Lg	Lg	02 24 33.5	
	comp=Z,2.4nm,0.3s,baz=117,slow=25,SNR=9.2 comp=Z,2.6nm,0.2s						
RMF	**Romuvaara**	**3.75**	**207**	PN	**Pn**	**02 23 41.5**	**+1.5**
KLF	**Kolari**	**3.82**	**269**	PG	**Pb**	**02 23 49.1**	**0.0**
	baz=83						
KLF				SG	**Sg**	**02 24 41.1**	**-2.5**
HEF	**Hetta**	**3.91**	**287**	PN	**Pn**	**02 23 42.9**	**+0.8**
	baz=101						
HEF				SN	**Sn**	**02 24 28.2**	**-0.5**
TOF	**Tornio**	**4.05**	**252**	PG	**Pb**	**02 23 53.6**	**+0.5**
OUL	**Oulu**	**4.07**	**235**	PB	**Pb**	**02 23 51.4**	**-1.9**
	baz=43						
OUL				SB	**Sb**	**02 24 45.1**	**+2.0**
KTK1	**Kautokeino**	**4.18**	**295**	PN	**Pn**	**02 23 47.7**	**+1.9**
KTK1				SN	**Sn**	**02 24 34.1**	**-1.3**
KALU	**Kalix**	**4.51**	**252**	PB	**Pb**	**02 23 59.9**	**-0.8**
KALU				SG	**Sg**	**02 25 10.1**	**-2.4**
LANU	**Lannavaara**	**4.51**	**281**	PN	**Pn**	**02 23 50.5**	**+0.1**
LANU				SN	**Sn**	**02 24 42.1**	**-1.3**
FINES	**FINESS Array B**	**7.02**	**212**	Pn	**Pn**	**02 24 25.5**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=116,slow=32,SNR=1.5						
FINES				Sn	**Sn**	**02 25 45.5**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=28,slow=24,SNR=4.2						
FINES				Lg	Lg	02 26 18.7	
	comp=Z,0.9nm,0.3s,baz=28,slow=25,SNR=4.4 comp=Z,0.9nm,0.7s						
FAUS	**Fauske**	**7.12**	**277**	S	**Sn**	**02 25 43.5**	**-4.0**
HFS	**Hagfors**	**11.56**	**239**	Pn	**Pn**	**02 25 26.9**	**0.0**
	comp=Z,0.1nm,0.3s,baz=40,slow=9.4,SNR=1.3						
HFS				Sn	**Sn**	**02 27 32.2**	**-4.2**
	comp=Z,0.1nm,0.3s,baz=45,slow=20,SNR=5.2						
HFS				Lg	Lg	02 28 39.1	
	comp=Z,0.1nm,0.3s,baz=35,slow=23,SNR=2.7 comp=Z,0.5nm,0.6s						
NOA	**NORSAR Array B**	**11.75**	**247**	Pn	**Pn**	**02 25 28.1**	**-1.5**
	baz=40,slow=11,SNR=3.8						
NOA				Sn	**Sn**	**02 27 36.9**	**-4.4**
	baz=48,slow=25,SNR=1.4						
NOA				Lg	Lg	02 28 55.6	
	baz=59,slow=5.1,SNR=2.3 comp=Z,0.2nm,0.6s						

TAP ***10*** *03:05:04.9, 25°.29N×122°.40E, h184km±1km, ML3.4, D*
JMA ***10*** *03:05:05.3±0.2, 25°.7N±2°.1×122°.4E±0°.6, h177km±3km, MV2.8/14, NW OFF ISHIGAKIJIMA IS*

ISC 10 03:05:04.6±2.3, 25°.14N±0°.08×122°.45E±0°.04, h188km±13km, n56, σ0s85/107, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.44**	**253**	P	**Pn**	**03 05 30.2**	**+0.2**
	baz=234						
SXI1	**Grass Mountain**	**0.52**	**265**	P	**Pn**	**03 05 30.4**	**0.0**
	baz=248						
SXI1				*e*S	**Sn**	**03 05 53.4**	**+3.1**
	baz=248						
TIPB	**Shuangxi**	**0.59**	**254**	P	**Pn**	**03 05 30.8**	**+0.1**
	baz=249						
TIPB				*e*S	**Sn**	**03 05 53.8**	**+3.0**
	baz=249						
WFSB	**Wu-fen Shan**	**0.61**	**264**	*e*P	**Pn**	**03 05 30.9**	**+0.2**
	baz=248						
WFSB				*e*S	**Sn**	**03 05 49.4**	**-1.5**
	baz=248						
EOS2	**EOS2**	**0.74**	**196**	*i* P	**Pn**	**03 05 31.7**	**+0.4**
	baz=204						
EOS2				*e*S	**Sn**	**03 05 53.2**	**+1.3**
	baz=204						
TWC	**Suao**	**0.76**	**226**	*e*P	**Pn**	**03 05 31.4**	**-0.1**
	baz=216						
TWC				*e*S	**Sn**	**03 05 52.9**	**+0.6**
	baz=216						
YM01	**YM01**	**0.80**	**271**	*e*P	**Pn**	**03 05 31.6**	**-0.2**
	baz=269						
YM01				*e*S	**Sn**	**03 05 52.3**	**-0.4**
	baz=269						
JYNG	**Yonagunijimaku**	**0.82**	**147**	P	**Pn**	**03 05 31.8**	**-0.1**
NDS	**Dongshan**	**0.83**	**233**	P	**Pn**	**03 05 32.9**	**+0.9**
	baz=219						
NDS				*e*S	**Sn**	**03 05 53.7**	**+0.6**
	baz=219						
YOJ	**Yonaguni jima**	**0.84**	**143**	P	**Pn**	**03 05 31.9**	**-0.2**
EOS3	**EOS3**	**0.86**	**188**	P	**Pn**	**03 05 32.6**	**+0.6**
	baz=193						
EOS3				S	**Sn**	**03 05 53.8**	**+0.7**
	baz=193						
FUSB	**Fushanzhiwuyua**	**0.87**	**245**	P	**Pn**	**03 05 32.0**	**-0.3**
	baz=238						
FUSB				S	**Sn**	**03 05 53.6**	**0.0**
	baz=238						
EWUT	**Wuta**	**0.92**	**222**	*i* P	**Pn**	**03 05 32.9**	**+0.4**
	baz=212						
EWUT				S	**Sn**	**03 05 53.8**	**-0.3**
	baz=212						
NWLT	**Wulai**	**0.93**	**248**	P	**Pn**	**03 05 32.7**	**0.0**
	baz=238						
NWLT				S	**Sn**	**03 05 53.4**	**-0.8**
	baz=238						
ENTT	**Nioudou**	**0.94**	**239**	*i* P	**Pn**	**03 05 33.2**	**+0.5**
	baz=229						
ENTT				*e*S	**Sn**	**03 05 54.7**	**+0.3**
	baz=229						
ENA	**Nanau**	**0.96**	**223**	P	**Pn**	**03 05 33.0**	**+0.3**
	baz=210						
ENA				*e*S	**Sn**	**03 05 54.3**	**-0.3**
	baz=210						
NDT	**Datong Townshi**	**1.00**	**238**	P	**Pn**	**03 05 33.6**	**+0.5**
	baz=237						
NDT				S	**Sn**	**03 05 54.7**	**-0.4**
	baz=237						
EOS4	**EOS4**	**1.02**	**187**	*e*P	**Pn**	**03 05 33.5**	**+0.7**
	baz=183						
EOS4				*e*S	**Sn**	**03 05 53.9**	**-0.8**
	baz=183						
LATG	**Datong**	**1.03**	**235**	P	**Pn**	**03 05 33.9**	**+0.4**
	baz=226						
LATG				S	**Sn**	**03 05 55.5**	**-0.2**
	baz=226						
YHNB	**Yeheng**	**1.08**	**245**	P	**Pn**	**03 05 33.5**	**-0.3**
	baz=236						
YHNB				S	**Sn**	**03 05 54.8**	**-1.5**
	baz=236						
NSK	**Sanguang**	**1.09**	**245**	P	**Pn**	**03 05 33.5**	**-0.3**
	baz=237						
NSK				S	**Sn**	**03 05 54.8**	**-1.7**
	baz=237						
NNSB	**Datong**	**1.20**	**234**	P	**Pn**	**03 05 34.9**	**+0.2**
	baz=227						
NNSB				S	**Sn**	**03 05 57.4**	**-0.6**
	baz=227						
NNSH	**Datong**	**1.20**	**234**	*e*P	**Pn**	**03 05 35.1**	**+0.3**
	baz=227						
NNSH				*e*S	**Sn**	**03 05 57.6**	**-0.5**
	baz=227						
NNS	**Nan Shan**	**1.20**	**235**	P	**Pn**	**03 05 34.8**	**0.0**
	baz=227						
NNS				S	**Sn**	**03 05 57.5**	**-0.6**
	baz=227						
ETL	**Fush Village**	**1.23**	**218**	P	**Pn**	**03 05 34.9**	**0.0**
	baz=212						
ETL				*e*S	**Sn**	**03 05 57.5**	**-0.8**
	baz=212						
NACB	**Ninganchiao**	**1.24**	**219**	P	**Pn**	**03 05 34.6**	**-0.3**
	baz=213						
NACB				*e*S	**Sn**	**03 05 57.2**	**-1.1**
	baz=213						
ETLH	**Xiulin Townshi**	**1.28**	**224**	P	**Pn**	**03 05 35.5**	**+0.1**
	baz=218						
ETLH				S	**Sn**	**03 05 58.2**	**-0.9**
	baz=218						
TWD	**Chiawan**	**1.31**	**217**	*e*P	**Pn**	**03 05 35.2**	**-0.3**
	baz=218						
TWD				*e*S	**Sn**	**03 05 58.1**	**-1.3**
	baz=218						
NFF	**Wufeng Townshi**	**1.31**	**248**	P	**Pn**	**03 05 35.3**	**-0.3**
	baz=235						
NFF				S	**Sn**	**03 05 57.9**	**-1.6**
	baz=235						
LIOB	**Emei**	**1.39**	**250**	P	**Pn**	**03 05 36.2**	**0.0**
	baz=243						

IDC 10 01:59:36.1±2.3, 5°.62S×130°.97E, h0km, mb3.7/1, mbtmp3.4/3, ML3.4/2, MS3.4/1, Error ellipse: s-maj=113.6km s-min=31.7km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.61**	**167**	Pn	Pn	02 03 05.6	+1.3
	0.2nm,0.3s,baz=348,slow=10,SNR=15						
WRA				Sn	Sn	02 05 32.5	-15
	0.3nm,0.3s,baz=338,slow=21,SNR=8.5 0.4nm,0.5s						
ASAR	**Alice Springs**	**18.16**	**171**	P	Pn	02 03 49.0	-0.9
	0.1nm,0.3s,baz=348,slow=11,SNR=5.6 0.2nm,0.4s						
PALK	**Pallekele**	**51.77**	**284**	LR	LR	02 33 47.2	
	comp=Z,35nm,18.4s,baz=287,slow=40						
MKAR	**Makanchi Array**	**67.61**	**326**	P	P	02 10 34.9	+0.1
	0.4nm,0.5s,baz=126,slow=4.8,SNR=5.5 0.4nm,0.5s						

AFAD ***10*** *02:17:23.5±0.0, 39°.77N×41°.25E, h10km, ML3.1*
ISK ***10*** *02:17:23.1, 39°.78N×41°.19E, h10km, ML2.0/9*

ISC 10 02:17:23.2±0.8, 39°.77N±0°.02×41°.22E±0°.03, h10km±5km, n21, σ0s56/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EKONA	**Konakl - Erz**	**0.01**	**21**	P	**Pg**	**02 17 25.3**	**-0.1**
EKONA				*i* AML	AML	02 17 26.0	
	comp=N,1µm,0.4s						
EKONA				*i* AML	AML	02 17 26.0	
	comp=E,9µm,0.3s						
EKONA				S	**Sg**	**02 17 26.4**	**-0.6**
ETEKE	**Tekederesi - E**	**0.07**	**292**	P	**Pg**	**02 17 26.3**	**+0.7**
ETEKE				S	**Sg**	**02 17 28.3**	**+0.9**
ETEKE				*i* AML	AML	02 17 29.0	
	comp=N,1µm,0.4s						
ETEKE				*i* AML	AML	02 17 29.0	
	comp=E,1µm,0.7s						
EJDE	**Erzurum, Palan**	**0.09**	**44**	P	**Pg**	**02 17 26.0**	**0.0**
EJDE				*i* AML	AML	02 17 28.0	
	comp=E,9µm,0.4s						
EJDE				*i* AML	AML	02 17 28.0	
	comp=N,1µm,0.3s						
EJDE				S	**Sg**	**02 17 28.0**	**0.0**
EDAM	**Erzurum-Paland**	**0.13**	**16**	Pg	**Pg**	**02 17 26.5**	**+0.1**
EDAM				Sg	**Sg**	**02 17 29.0**	**+0.3**
ERZM	**Erzurum**	**0.18**	**39**	P	**Pg**	**02 17 27.4**	**+0.3**
ERZM				S	**Sg**	**02 17 29.6**	**-0.2**
ECAT	**Cat-ERZURUM**	**0.25**	**230**	P	**Pb**	**02 17 29.5**	**-0.4**
ECAT				S	**Sb**	**02 17 33.6**	**-0.9**
KARO	**Karliova-Bingo**	**0.48**	**196**	Pg	**Pg**	**02 17 32.4**	**-0.1**
KARO				Sg	**Sb**	**02 17 40.5**	**-0.5**
KOPR	**Koprukoy-ERZUR**	**0.53**	**65**	Pg	**Pg**	**02 17 34.2**	**+0.6**
KOPR				Sg	**Sb**	**02 17 42.8**	**+0.2**
KRIK	**Erzurum-spir**	**0.61**	**338**	P	**Pb**	**02 17 35.7**	**-0.5**
KRIK				S	**Sg**	**02 17 43.4**	**+0.2**
VRTB	**Varto-Mus**	**0.63**	**163**	Pg	**Pg**	**02 17 35.8**	**+0.3**
VRTB				Sg	**Sb**	**02 17 45.7**	**+0.3**
BNGB	**Bingl**	**0.88**	**209**	Pg	**Pg**	**02 17 39.4**	**-0.8**
BAYT	**Aydıntepe-Bayb**	**1.04**	**307**	Pg	**Pg**	**02 17 43.2**	**0.0**
MUSM	**Mu-Merkez**	**1.07**	**168**	P	**Pg**	**02 17 43.8**	**+0.1**
MUSM				S	**Sn**	**02 17 59.2**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.17**	**47**	Pn	**Pn**	**02 17 46.4**	**+0.5**
DDEM	**Demirkent**	**1.19**	**20**	P	**Pb**	**02 17 45.7**	**-0.3**
DDEM				S	**Sn**	**02 18 02.1**	**-0.3**
MLAZ	**Malazgirt-MUS**	**1.20**	**121**	Pn	**Pn**	**02 17 46.4**	**+0.2**
DORK	**Agr/Tutak/Do**	**1.26**	**107**	P	**Pn**	**02 17 46.2**	**-0.9**
DORK				S	**Sb**	**02 18 03.2**	**-0.3**
DBAD	**Bademkaya**	**1.30**	**16**	P	**Pn**	**02 17 47.6**	**+0.1**
DBAD				S	**Sb**	**02 18 04.1**	**-0.5**
GURO	**Guroymak-BITLI**	**1.37**	**152**	Pn	**Pb**	**02 17 49.1**	**+0.1**
AGRB	**Hanur-Agry**	**1.38**	**97**	Pn	**Pb**	**02 17 49.5**	**+0.3**
TNCL	**Tunceli-Merkez**	**1.46**	**244**	P	**Pg**	**02 17 51.8**	**+0.7**
TNCL				S	**Sg**	**02 18 11.8**	**+1.8**

IDC ***10*** *02:26:36.7±0.9, 6°.27S×143°.06E, h0km, mb3.9/6, mbtmp4.

LIOB				S		**Sn**	**03 05 59.7**	**-1.0**			
	baz=243										
NSTT	**Nanjuang**	**1.41**	**249**	P		**Pn**	**03 05 36.4**	**0.0**			
	baz=243										
NSTT				S		**Sn**	**03 05 59.8**	**-1.1**			
	baz=243										
FUSS	**Fushou**	**1.41**	**231**	P		**Pn**	**03 05 37.2**	**+0.5**			
	baz=225										
FUSS				S		**Sn**	**03 06 01.1**	**-0.4**			
	baz=225										
TWT	**Tachien**	**1.46**	**233**	*e*P		**Pn**	**03 05 37.8**	**+0.8**			
	baz=227										
TWT				*e*S		**Sn**	**03 06 02.4**	**+0.3**			
	baz=227										
ETM	**Tongmen**	**1.46**	**217**	*e*P		**Pn**	**03 05 36.5**	**-0.3**			
	baz=212										
ETM				*e*S		**Sn**	**03 05 59.9**	**-1.9**			
	baz=212										
LXIB	**Xiulin Townshi**	**1.46**	**221**	P		**Pn**	**03 05 36.7**	**-0.3**			
	baz=209										
LXIB				*e*S		**Sn**	**03 06 01.4**	**-0.7**			
	baz=209										
WHF	**Hehuan Shan**	**1.46**	**228**	P		**Pn**	**03 05 37.9**	**+0.5**			
	baz=215										
WHF				S		**Sn**	**03 06 02.1**	**-0.6**			
	baz=215										
TDCB	**Techi**	**1.47**	**233**	*e*P		**Pn**	**03 05 37.7**	**+0.6**			
	baz=227										
TDCB				S		**Sn**	**03 06 01.8**	**-0.5**			
	baz=227										
SHUL	**Shoufeng**	**1.57**	**211**	*e*P		**Pn**	**03 05 37.0**	**-0.9**			
	baz=212										
SHUL				*e*S		**Sn**	**03 06 03.5**	**-0.1**			
	baz=212										
CHGB	**Renai**	**1.58**	**228**	*e*P		**Pn**	**03 05 39.1**	**+0.8**			
	baz=215										
CHGB				*e*S		**Sn**	**03 06 04.3**	**0.0**			
	baz=215										
WHP	**Taichung City**	**1.61**	**238**	*e*P		**Pn**	**03 05 38.7**	**+0.3**			
	baz=228										
WHP				*e*S		**Sn**	**03 06 04.0**	**-0.6**			
	baz=228										
HATJ	**Hateruma jima**	**1.64**	**131**	P		**Pn**	**03 05 39.0**	**+0.5**			
HATJ				S		**Sn**	**03 06 04.4**	**-0.4**			
WUSB	**Renai**	**1.67**	**227**	P		**Pn**	**03 05 40.0**	**+1.1**			
	baz=215										
WUSB				S		**Sn**	**03 06 05.7**	**+0.1**			
	baz=215										
JKRS	**Kuro-shima**	**1.68**	**122**	P		**Pn**	**03 05 39.1**	**+0.2**			
JKRS				S		**Sn**	**03 06 04.9**	**-0.5**			
WARBT	**Fenglin Townsh**	**1.71**	**215**	*e*P		**Pn**	**03 05 38.7**	**-0.6**			
	baz=214										
WARBT				*e*S		**Sn**	**03 06 04.6**	**-1.6**			
	baz=214										
JIJ	**Ishigaki jima**	**1.72**	**116**	P		**Pn**	**03 05 39.4**	**+0.1**			
JIJ				S		**Sn**	**03 06 04.4**	**-1.8**			
WCS	**Beigang Elemen**	**1.77**	**233**	*e*P		**Pn**	**03 05 40.0**	**+0.2**			
	baz=232										
WCS				*e*S		**Sn**	**03 06 06.4**	**-0.7**			
	baz=232										
JISG	**Ishigakijimahi**	**1.78**	**108**	S		**Sn**	**03 06 05.9**	**-1.3**			
VWDT	**VWDT**	**1.82**	**221**	*e*P		**Pn**	**03 05 41.5**	**+1.1**			
	baz=214										
VWDT				*e*S		**Sn**	**03 06 08.6**	**+0.5**			
	baz=214										
HGSD	**Ruisui**	**1.89**	**210**	*e*P		**Pn**	**03 05 42.3**	**+1.3**			
	baz=212										
HGSD				*e*S		**Sn**	**03 06 10.6**	**+1.3**			
	baz=212										
TYC	**Yuchr**	**1.90**	**230**	*e*P		**Pn**	**03 05 41.5**	**+0.3**			
	baz=231										
TYC				*e*S		**Sn**	**03 06 09.4**	**-0.1**			
	baz=231										
SSLB	**Suanglung**	**1.92**	**226**	P		**Pn**	**03 05 41.8**	**+0.4**			
	baz=221										
SSLB				*e*S		**Sn**	**03 06 09.7**	**-0.2**			
	baz=221										
EHY	**Hungye**	**1.92**	**213**	*e*P		**Pn**	**03 05 42.3**	**+0.9**			
	baz=209										
EHY				*e*S		**Sn**	**03 06 10.2**	**+0.2**			
	baz=209										
YULB	**Yu-li**	**2.03**	**211**	*e*P		**Pn**	**03 05 43.8**	**+1.3**			
	baz=211										
YULB				*e*S		**Sn**	**03 06 11.3**	**-0.8**			
	baz=211										
JTJ	**Tarama**	**2.10**	**103**	P		**Pn**	**03 05 43.7**	**+0.4**			
JTJ				S		**Sn**	**03 06 12.6**	**-0.7**			
JIRB	**Irabujima**	**2.49**	**97**	P		**Pn**	**03 05 48.5**	**+0.9**			
JMJ2	**Miyako jima3**	**2.64**	**98**	*e*P		**Pn**	**03 05 50.2**	**+0.8**			
JMJ2				S		**Sn**	**03 06 23.6**	**-0.6**			

*IDC **10** 03:21:23.6±0.7,35°.73N×75°.93E,h0^{km},mb4.1/20, mbtmp4.1/27,ML3.5/6,MS3.3/22,Error ellipse: s-maj=14.9km s-min=12.4km az=47.0*

*NEIC **10** 03:21:25.8±1.8,35°.71N±0°.07×76°.05E±0°.08,h10^{km}±1^{km}, mb4.4/25,Error ellipse: s-maj=12.6km s-min=9.9km az=131.0*

*MOS **10** 03:21:25.8±1.4,35°.73N×75°.92E,h16^{km},mb4.5/13,Error ellipse: s-maj=7.8km s-min=3.9km az=96.5*

*NNC **10** 03:21:26.2±4.2,35°.60N×75°.35E,h0^{km},mb3.9,mpv3.6, Error ellipse: s-maj=39.5km s-min=32.7km az=7.0*

ISC 10 03:21:25.6±0.3,35.72N±0.03×75.97E±0.05,h10^{km},n174, σ1§92/174,mb4.3/46,MS3.3/17,14C-10D,Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**3.04**	**228**		**Pn**	**03 22 16.0**	**+2.1**
NIL	**Nilore**	**3.04**	**228**	P	**Pn**	**03 22 16.0**	**+2.1**
JMU	**Jammu**	**3.12**	**197**	*e*P	**Pb**	**03 22 22.8**	**+1.6**
JMU				*e*S	**Sb**	**03 23 02.8**	**+3.4**
THN	**Thein Dam**	**3.29**	**184**	*e*P	**Pb**	**03 22 24.6**	**+0.6**
THN				*e*S	**Sb**	**03 23 02.6**	**-1.4**
DHRM	**DHARAMSHALA**	**3.47**	**175**	*e*P	**Pb**	**03 22 24.9**	**-2.4**
DHRM				*e*S	**Sb**	**03 23 08.7**	**-1.0**
DHRM				IAML		03 23 18.5	
	520nm,0.3s						
DHRM				IAML		03 23 18.9	
	comp=E,354nm,0.3s						
KSH	**Kashi**	**3.79**	**0**	Pn	**Pn**	**03 22 25.6**	**+1.4**
KSH				Sn	**Sn**	**03 23 08.7**	**-0.2**
KSH				pmax	pmax		
	comp=Z,310nm,1.0s						
KSH				smax	smax		
	comp=N,350nm,0.8s						
KSH				smax	smax		
	comp=E,230nm,1.0s						
BHK	**Bhakra**	**4.31**	**175**	*e*P	**Pn**	**03 22 35.8**	**+4.6**
BHK				*e*S	**Sb**	**03 23 28.3**	**-5.2**
SMLA	**Simla**	**4.69**	**167**	*e*P	**Pn**	**03 22 39.9**	**+3.5**
SMLA				*i* x	x	03 22 51.3	
SMLA				*e*S	**Sn**	**03 23 34.1**	**+3.3**
SMLA				IAML		03 23 52.0	
	comp=E,146nm,1.0s						
SMLA				IAML		03 23 52.3	
	comp=E,161nm,0.7s						
DRK	**Karamyk**	**5.00**	**320**		**Pn**	**03 22 42.7**	**+1.7**
GAR	**Garm**	**5.57**	**308**		**Pn**	**03 22 49.2**	**+0.6**
NRN	**Naryn**	**5.71**	**0**	Pn	**Pn**	**03 22 52.1**	**+1.4**
NRN	**Naryn**	**5.71**	**0**	P	**Pn**	**03 22 52.1**	**+1.4**
KBL	**Kabul**	**5.79**	**260**		**Pn**	**03 22 52.0**	**+0.2**
KBL	**Kabul**	**5.79**	**260**	P	**Pn**	**03 22 52.0**	**+0.2**
BTK	**Batken**	**5.94**	**318**		**Pn**	**03 22 55.7**	**+1.9**
BTK	**Batken**	**5.94**	**318**	P	**Pn**	**03 22 55.7**	**+1.9**
ARSB	**Arslanbob**	**6.07**	**338**	Pn	**Pn**	**03 22 57.5**	**+2.0**
ARSB	**Arslanbob**	**6.07**	**338**	P	**Pn**	**03 22 57.5**	**+2.0**
TARG	**Taragay, Kyrgy**	**6.17**	**13**		**Pn**	**03 22 57.0**	**-0.2**
TARG	**Taragay, Kyrgy**	**6.17**	**13**	P	**Pn**	**03 22 57.0**	**-0.2**
CHGR	**Chuyangaron**	**6.18**	**300**		**Pn**	**03 22 58.1**	**+1.2**
CHGR	**Chuyangaron**	**6.18**	**300**	P	**Pn**	**03 22 58.2**	**+1.2**
ARLS	**Aral**	**6.26**	**349**	P	**Pn**	**03 23 01.4**	**+3.1**
ARLS				pmax	pmax		
	comp=Z,42nm,1.2s						
SIMJ	**Simiganj**	**6.28**	**300**		**Pn**	**03 22 58.8**	**+0.4**
BOOM	**Boomskoye usch**	**6.76**	**360**		**Pn**	**03 23 06.4**	**+1.3**
BOOM	**Boomskoye usch**	**6.76**	**360**	P	**Pn**	**03 23 06.4**	**+1.3**
ARK	**Arkit**	**6.83**	**334**	P	**Pn**	**03 23 07.8**	**+1.9**
ARK				pmax	pmax		
	comp=Z,29nm,1.0s						
TRKS	**Terek-Say**	**6.92**	**328**	P	**Pn**	**03 23 07.8**	**+0.5**
TRKS				pmax	pmax		
	comp=Z,39nm,0.9s						
AAK	**Ala-Archa**	**7.00**	**351**	Pn	**Pn**	**03 23 09.2**	**+0.8**
AAK	**Ala-Archa**	**7.00**	**351**	⇑*e*P	**Pn**	**03 23 10.9**	**+2.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AAK	**Ala-Archa**	**7.00**	**351**	Pn	**Pn**	**03 23 10.4**	**+2.0**
	comp=Z,0.9nm,0.3s,baz=157,slow=6.3,SNR=12						
AAK				Sn	**Sn**	**03 24 34.7**	**+6.6**
	comp=Z,0.3nm,0.3s,baz=351,slow=22,SNR=1.5						
AAK				Lg	Lg	03 25 04.1	
	comp=Z,0.4nm,0.3s,baz=186,slow=19,SNR=1.9						
AAK				LR	LR	03 26 08.7	
	comp=Z,194nm,21.3s,baz=167,slow=41						
	comp=Z,3.6nm,0.6s						
PRZ	**Przheval'sk**	**7.01**	**15**	Pn	**Pn**	**03 23 10.0**	**+1.5**
PRZ	**Przheval'sk**	**7.01**	**15**	P	**Pn**	**03 23 10.0**	**+1.5**
ANVS	**Anan'yevo**	**7.18**	**10**	P	**Pn**	**03 23 15.4**	**+4.6**
ANVS				pmax	pmax		
	comp=Z,29nm,0.6s						
TKM2	**Tokmak 2**	**7.20**	**358**	P	Pn	03 23 16.7	+5.6
TKM2	**Tokmak 2**	**7.20**	**358**	⇓Pn	Pn	03 23 16.7	+5.6
TKM2							
	comp=Z,0.8nm,0.4s			⇑Pg	Pg	03 23 37.9	-5.5
TKM2							
	comp=Z,0.9nm,0.4s			⇓Lg	Lg	03 25 17.9	
	comp=Z,13nm,0.8s						
KST	**Kastek**	**7.31**	**360**	P	Pn	03 23 17.5	+4.9
CHMS	**Chumysh**	**7.33**	**353**	P	**Pn**	**03 23 16.5**	**+3.8**
CHMS	**Chumysh**	**7.33**	**353**	⇓Pn	**Pn**	**03 23 16.5**	**+3.8**
	comp=Z,1.5nm,0.5s						
CHMS				⇑Pg	Pb	03 23 38.5	+5.6
	comp=Z,8.2nm,0.6s						
CHMS				⇑Lg	Lg	03 25 22.1	
	comp=Z,11nm,0.9s						
MRKS	**Merke**	**7.33**	**344**	P	**Pn**	**03 23 14.8**	**+2.0**
TNSS	**Tian-Shan**	**7.35**	**6**	P	**Pn**	**03 23 16.4**	**+3.0**
MTBS	**Maitube**	**7.41**	**3**	P	Pn	03 23 19.4	+5.5
MDOK	**Medeo**	**7.48**	**6**	P	**Pn**	**03 23 18.2**	**+3.3**
MDOK	**Medeo**	**7.48**	**6**	⇓Pn	**Pn**	**03 23 18.2**	**+3.3**
	comp=Z,0.7nm,0.4s						
MDOK				Pg	**Pg**	**03 23 45.8**	**-3.0**
	comp=Z,2.7nm,0.5s						
MDOK				Lg	Lg	03 25 30.1	
	comp=Z,99nm,1.1s						
DGS	**Degeres**	**7.51**	**359**	P	**Pn**	**03 23 19.8**	**+4.5**
KOTS	**Kotyrbulak**	**7.56**	**6**	P	**Pn**	**03 23 19.9**	**+4.0**
IUG	**Iuzhnay**	**7.91**	**326**	P	**Pn**	**03 23 23.2**	**+2.5**
KURS	**Kuram**	**7.94**	**12**	P	**Pn**	**03 23 25.3**	**+4.1**
KRBS	**Karabastau**	**7.97**	**358**	P	**Pn**	**03 23 25.0**	**+3.5**
PDGK	**Podgornoye**	**8.07**	**19**	P	**Pn**	**03 23 25.5**	**+2.5**
PDGK	**Podgornoye**	**8.07**	**19**	⇓Pn	**Pn**	**03 23 25.5**	**+2.5**
	comp=Z,1.6nm,0.5s						
PDGK				⇑Lg	Lg	03 25 51.7	
	comp=Z,34nm,0.8s						
KK31	**Karatay Array**	**8.49**	**332**	Pn	**Pn**	**03 23 29.4**	**+0.7**
KK31	**Karatay Array**	**8.49**	**332**	P	**Pn**	**03 23 29.4**	**+0.7**
KK31	**Karatay Array**	**8.49**	**332**	⇑Pn	**Pn**	**03 23 30.3**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=158,slow=13,SNR=59						
KK31				⇑Sn	**Sn**	**03 25 04.4**	**-0.2**
	comp=Z,7.1nm,0.7s,baz=158,slow=27						
KKAR	**Karatay Array**	**8.49**	**332**		**Pn**	**03 23 29.4**	**+0.7**
KKAR	**Karatay Array**	**8.49**	**332**	Pn	**Pn**	**03 23 29.4**	**+0.7**
KKAR	**Karatay Array**	**8.49**	**332**	P	**Pn**	**03 23 29.4**	**+0.7**
BLB	**Baldybastay**	**8.59**	**12**	P	**Pn**	**03 23 33.1**	**+3.0**
BRLS	**Boroldaу**	**8.71**	**329**	Pg	**Pn**	**03 23 30.4**	**-1.2**
	comp=Z,6.6nm,0.7s						
BRLS				Lg	Lg	03 25 03.5	
	comp=Z,10.0nm,1.1s						
MAKZ	**Makanchi**	**11.96**	**20**	Pn	**Pn**	**03 24 15.9**	**-0.2**
MAKZ	**Makanchi**	**11.96**	**20**	P	**Pn**	**03 24 15.9**	**-0.2**
MK31	**Makanchi Array**	**12.04**	**21**	Pn	**Pn**	**03 24 17.1**	**-0.1**
MK31	**Makanchi Array**	**12.04**	**21**	*de*P	**Pn**	**03 24 17.9**	**+0.7**
MKAR	**Makanchi Array**	**12.04**	**21**	Pn	**Pn**	**03 24 17.6**	**+0.3**
MKAR	**Makanchi Array**	**12.04**	**21**	*e*P	**Pn**	**03 24 18.3**	**+1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**12.04**	**21**	Pn	**Pn**	**03 24 17.4**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=195,slow=12,SNR=31						
MKAR				Sn	**Sn**	**03 26 31.9**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=204,slow=29,SNR=3.0						
MKAR				Lg	Lg	03 27 45.9	
	baz=198,slow=23,SNR=1.4						
MKAR				LR	LR	03 29 24.1	
	comp=Z,110nm,18.3s,baz=217,slow=40						
	comp=Z,1.8nm,0.4s						
WMQ	**Urumqi**	**12.11**	**45**	*e*P	**Pn**	**03 24 19.5**	**+1.3**
WMQ				S	**Sn**	**03 26 35.1**	**+1.8**
WMQ				pmax	pmax		
	comp=Z,20nm,0.9s						
WMQ				smax	smax		
	comp=N,27nm,1.1s						
WMQ				smax	smax		
	comp=E,21nm,1.3s						
LSA	**Lhasa**	**14.12**	**111**	Pn	**Pn**	**03 24 43.0**	**-3.1**
LSA	**Lhasa**	**14.12**	**111**	P	**Pn**	**03 24 43.0**	**-3.1**
GEYT	**Alibeck**	**14.47**	**284**	Pn	**Pn**	**03 24 47.7**	**-2.8**
	comp=E,1.6nm,0.5s,baz=113,slow=11,SNR=1.3						
GEYT				Sn	**Sn**	**03 27 31.3**	**+0.3**
	baz=148,slow=22						
KURBB	**Kurchatov Arra**	**15.01**	**6**	Pn	**Pn**	**03 24 56.2**	**-1.5**
	baz=196,slow=11,SNR=12						
KURBB				Lg	Lg	03 29 19.4	
	baz=182,slow=30						
KURBB				LR	LR	03 31 05.7	
	comp=E,146nm,18.5s,baz=151,slow=39						
	comp=E,19nm,0.3s						
KURK	**Kurchatov**	**15.11**	**6**	Pn	**Pn**	**03 24 57.7**	**-1.3**
KURK				IAmb	IAmb	03 25 09.9	
	comp=Z,17nm,0.8s						
KURK	**Kurchatov**	**15.11**	**6**	⇑*e*P	**Pn**	**03 24 57.8**	**-1.3**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
DGZ	**Jazzator, Alta**	**16.29**	**27**	⇑*e*P	**Pn**	**03 25 14.5**	**0.0**
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BVAR	**Borovoye Array**	**17.75**	**349**	P	**Pn**	**03 25 32.2**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=158,slow=9.2,SNR=33						
BVAR				LR	LR	03 32 42.1	
	comp=Z,101nm,21.7s,baz=180,slow=38						
	comp=Z,6.8nm,0.7s						
BRVK	**Borovoye**	**17.79**	**349**		**Pn**	**03 25 33.3**	**+0.1**
BRVK	**Borovoye**	**17.79**	**349**	⇑*e*P	**Pn**	**03 25 32.8**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ABKAR	**Akbulak array**	**17.91**	**324**	Pn	**Pn**	**03 25 33.1**	**-1.6**
ABKAR	**Akbulak array**	**17.91**	**324**	Pn	**Pn**	**03 25 33.1**	**-1.6**
ZAA0	**Zalesovo Array**	**19.25**	**16**	P	**P**	**03 25 49.7**	**-0.3**
ZALV	**Zalesovo Beam**	**19.25**	**16**	P	**P**	**03 25 49.4**	**-0.6**
ZALV	**Zalesovo Beam**	**19.25**	**16**	*e*P	**Pn**	**03 25 50.8**	**-0.1**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**19.25**	**16**	P	**P**	**03 25 50.3**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=209,slow=11,SNR=14						
ZALV				LR	LR	03 33 53.8	
	comp=Z,69nm,19.4s,baz=214,slow=39						
	comp=Z,2.2nm,0.4s						
AKTO	**Aktyubinsk**	**19.63**	**324**	P	**P**	**03 25 54.5**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=120,slow=8.0,SNR=22						
AKTO				LR	LR	03 34 06.7	
	comp=Z,126nm,22.0s,baz=170,slow=39						
	comp=Z,6.9nm,0.6s						
SVE	**Sverdlovsk**	**23.52**	**339**	*e*P	**P**	**03 26 38.2**	**+2.6**
ARU	**Arti**	**23.84**	**336**	P	**P**	**03 26 37.1**	**-1.7**
ARU				IAmb	IAmb	03 26 47.0	
	comp=Z,6.2nm,0.7s						
ARU	**Arti**	**23.84**	**336**	*d i*P	**P**	**03 26 38.6**	**-0.2**
ARU				S	**S**	**03 30 53.7**	**-0.8**
ARU				pmax	pmax		
	comp=Z,27nm,3.8s						
ARU	**Arti**	**23.84**	**336**	LR	LR	03 36 24.9	
	comp=Z,64nm,21.3s,baz=183,slow=38						
PZH	**PanZhiHua**	**23.85**	**105**	P	**P**	**03 26 38.1**	**-1.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,6.1s						
ZAK	**Zakamensk**	**24.58**	**45**	*e*P	**P**	**03 26 47.1**	**+1.3**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GNI	**Garni**	**24.95**	**290**	⇓*e*P	**P**	**03 26 51.9**	**+2.6**
GNI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
SONM	**Songino Array**	**25.54**	**52**	P	**P**	**03 26 55.2**	**+0.7**
SONM				IAmb	IAmb	03 26 59.8	
	comp=Z,7.5nm,1.1s						
SONM	**Songino Array**	**25.54**	**52**	*e*P	**P**	**03 26 56.6**	**+2.0**
SONM				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SONM	**Songino Array**	**25.54**	**52**	P	**P**	**03 26 54.9**	**+0.3**
	comp=Z,6.3nm,0.9s,baz=251,slow=9.7,SNR=25						
	comp=Z,6.3nm,0.9s						
ULN	**Ulaanbaatar**	**25.98**	**53**	P	**P**	**03 26 57.8**	**-0.8**
ULN				IAmb	IAmb	03 27 03.1	
	comp=Z,7.1nm,0.9s						
ULN	**Ulaanbaatar**	**25.98**	**53**	⇑*e*P	**P**	**03 27 00.8**	**+2.3**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BELG	**Belogornoye**	**26.08**	**319**	LR	LR	03 37 32.7	
	comp=Z,22nm,21.7s,baz=174,slow=37						
KBZ	**Khabaz**	**26.53**	**298**	P	**P**	**03 27 03.0**	**-0.3**
	comp=Z,1.3nm,0.9s,baz=79,slow=4.8,SNR=2.0						
KBZ				LR	LR	03 39 40.8	
	comp=Z,35nm,19.3s,baz=120,slow=41						
	comp=Z,1.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**26.61**	**124**	*e*P	**P**	**03 27 08.6**	**+4.2**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**26.61**	**124**	P	**P**	**03 27 05.1**	**+0.8**
	comp=Z,1.9nm,0.4s,baz=310,slow=11,SNR=12						
CMAR				LR	LR	03 38 25.4	
	comp=Z,26nm,21.3s,baz=295,slow=38						
	comp=Z,1.9nm,0.4s						
KIV	**Kislovodsk**	**26.71**	**298**	*e*P	**P**	**03 27 04.3**	**-0.8**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,31nm,15.0s						
HHC	**Hu-ho-hao-te**	**28.28**	**69**	*e*P	**P**	**03 27 19.0**	**-0.2**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,120nm,5.5s						
PALK	**Pallekele**	**28.64**	**170**	LR	LR	03 38 36.1	
	comp=Z,81nm,18.6s,baz=109,slow=36						
KIRV	**Kirov**	**28.79**	**331**	LR	LR	03 39 34.2	
	comp=Z,127nm,19.1s,baz=152,slow=38						
RAYN	**Ar Rayn**	**29.02**	**254**	P	**P**	**03 27 25.9**	**0.0**
RAYN	**Ar Rayn**	**29.02**	**254**	P	**P**	**03 27 25.9**	**0.0**
RAYN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
OBN	**Obninsk**	**33.17**	**318**	*e*P	**P**	**03 28 04.6**	**+2.5**
OBN				*e*		03 29 15.4	
OBN				*e*PPP	PPP	03 29 23.9	
OBN				*e*		03 30 46.8	
OBN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
OBN				MLR	MLR		
	comp=Z,50nm,19.0s						
OBN	**Obninsk**	**33.17**	**318**	LR	LR	03 42 41.0	
	comp=Z,55nm,21.8s,baz=0.0,slow=38						
BR131	**Keskin Array S**	**33.49**	**290**	P	**P**	**03 28 04.2**	**-1.1**
BR131	**Keskin Array S**	**33.49**	**290**	*i* P	**P**	**03 28 05.3**	**0.0**
BRTR	**Keskin Array B**	**33.49**	**290**	P	**P**	**03 28 04.4**	**-0.9**
BRTR	**Keskin Array B**	**33.49**	**290**	*e*P	**P**	**03 28 05.5**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	**Keskin Array B**	**33.49**	**290**	P	**P**	**03 28 05.1**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=110,slow=10,SNR=10						
	comp=Z,1.5nm,0.7s						
NRIK	**Noril'sk**	**34.28**	**7**	⇑*e*P	**P**	**03 28 12.6**	**+1.0**
NRIK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NRIK	**Noril'sk**	**34.28**	**7**	P	**P**	**03 28 11.5**	**-0.1**
	comp=Z,3.1nm,0.8s,baz=200,slow=8.1,SNR=4.1						
	comp=Z,3.1nm,0.8s						
AKASG	**Malin Array Be**	**36.57**	**309**	*ce*P	**P**	**03 28 35.0**	**+3.6**
AKASG	**Malin Array Be**	**36.57**	**309**	P	**P**	**03 28 31.3**	**-0.2**
	comp=Z,0.1nm,0.2s,baz=82,slow=6.7,SNR=6.2						
AKASG				LR	LR	03 45 58.5	
	comp=Z,47nm,19.7s,baz=65,slow=40						
	comp=Z,0.1nm,0.2s						
MLR	**Muntele Rosu**	**38.66**	**300**	P	**P**	**03 28 50.5**	**+1.1**
MLR				IAmb	IAmb	03 28 54.9	
	comp=Z,4.3nm,0.7s						
MLR	**Muntele Rosu**	**38.66**	**300**	P	**P**	**03 28 50.5**	**+1.1**
MLR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MLR	**Muntele Rosu**	**38.66**	**300**	LR	LR	03 47 00.8	
	comp=Z,49nm,19.4s,baz=278,slow=40						
BURAR	**Bucovina Array**	**39.07**	**304**	P	**P**	**03 28 52.8**	**0.0**
BURAR	**Bucovina Array**	**39.07**	**304**	P	**P**	**03 28 52.8**	**0.0**
BURAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
HEH	**HeiHe**	**39.53**	**52**	*e*P	**P**	**03 28 53.4**	**-3.1**
HEH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LVZ	**Lovozero**	**39.71**	**337**	P	**P**	**03 28 57.5**	**-0.2**
LVZ	**Lovozero**	**39.71**	**337**	P	**P**	**03 28 57.6**	**-0.2**
LVZ				pmax	pmax		
	comp=Z,27nm,1.1s						
FIA1	**FINESS Array S**	**40.39**	**325**	P	**P**	**03 29 03.0**	**-0.5**
FINES	**FINESS Array B**	**40.39**	**325**	P	**P**	**03 29 03.0**	**-0.5**
FINES	**FINESS Array B**	**40.39**	**325**	P	**P**	**03 29 03.0**	**-0.5**
FINES	**FINESS Array B**	**40.39**	**325**	P	**P**	**03 29 02.7**	**-0.7**
	comp=Z,2.1nm,0.6s,baz=99,slow=8.6,SNR=20						
F

EKA	**Eskdalemuir Ar**	**55.62**	**317**	P		**P**		**03 31 00.5**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=77,slow=8.1,SNR=3.8								
	comp=Z,1.0nm,0.6s								
PEA0B	**Petropavlovsk-**	**57.70**	**45**	*e*P		**P**		**03 31 19.9**	**+3.7**
ESDC	**Sonseca Array**	**61.35**	**300**	P		**P**		**03 31 41.0**	**-0.7**
	comp=Z,1.5nm,0.9s,baz=51,slow=4.7,SNR=6.2								
	comp=Z,1.5nm,0.9s								
C18K	**Utukok River**	**67.71**	**19**	P		**P**		**03 32 23.1**	**+0.3**
C18K				IAmb		IAmb		03 32 26.4	
	comp=Z,1.8nm,0.8s								
C19K	**Lookout Ridge**	**67.83**	**19**	P		**P**		**03 32 24.0**	**+0.5**
C19K				IAmb		IAmb		03 32 26.8	
	comp=Z,3.1nm,0.7s								
D19K	**Kuna River**	**68.64**	**19**	P		**P**		**03 32 28.2**	**-0.4**
F17K	**Baldwin Pennin**	**69.20**	**21**	P		**P**		**03 32 32.4**	**+0.4**
F17K				IAmb		IAmb		03 32 41.2	
	comp=Z,2.8nm,0.9s								
TOA0	**Torodi Ar. Sit**	**69.74**	**272**	P		**P**		**03 32 34.3**	**-1.9**
TOA0				IAmb		IAmb		03 32 37.9	
	comp=Z,3.4nm,0.8s								
TORD	**Torodi Ar. Bea**	**69.74**	**272**	P		**P**		**03 32 34.6**	**-1.7**
	comp=Z,1.3nm,0.5s,baz=46,slow=6.1,SNR=9.2								
	comp=Z,1.3nm,0.5s								
BMAR	**Burnt Mountain**	**72.69**	**15**	P		**P**		**03 32 54.3**	**+1.0**
ILAR	**Eielson Array**	**74.37**	**18**	P		**P**		**03 33 03.2**	**+0.1**
ILAR	**Eielson Array**	**74.37**	**18**	*e*P		**P**		**03 33 03.9**	**+0.8**
ILAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
ILAR	**Eielson Array**	**74.37**	**18**	P		**P**		**03 33 01.6**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=316,slow=4.2,SNR=8.6								
ILAR				LR		LR		04 12 45.8	
	comp=Z,52nm,20.7s,baz=234,slow=41								
	comp=Z,0.5nm,0.7s								
FRB	**Frobisher Bay**	**76.94**	**345**	LR		LR		04 11 00.2	
	comp=Z,24nm,18.1s,baz=343,slow=39								
WRA	**Warramunga Arr**	**78.21**	**125**	P		**P**		**03 33 25.1**	**-0.4**
	comp=Z,1.8nm,1.1s,baz=312,slow=4.4,SNR=3.1								
	comp=Z,1.8nm,1.1s								
ASAR	**Alice Springs**	**80.56**	**128**	P		**P**		**03 33 37.7**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=313,slow=6.0,SNR=2.1								
	comp=Z,0.3nm,0.7s								
YKA	**Yellowknife Ar**	**81.76**	**5**	*e*P		**P**		**03 33 46.2**	**+2.0**
YKA				pmax		pmax			
	comp=Z,1.0nm,0.6s								
YKA	**Yellowknife Ar**	**81.76**	**5**	P		**P**		**03 33 43.2**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=347,slow=5.3,SNR=16								
	comp=Z,0.8nm,0.6s								
CTA	**Charters Tower**	**86.59**	**118**	P		**P**		**03 34 10.2**	**+0.8**
	comp=Z,6.9nm,0.9s,baz=297,slow=6.8,SNR=2.4								
	comp=Z,6.9nm,0.9s								

DJA ***10*** *03:23:30.7±0.3, 7°S±3′×12°7E±°, h401km±5km, M4.2/11, mb3.8/11, mB4.7/3, MLv4.4/10, Mw(mB)4.0/3*
IDC ***10*** *03:23:35.4±4.0, 7.41S×126.48E, h475km±55km, mb3.0/4, mbtmp3.8/6, Error ellipse: s-maj=129.2km s-min=19.5km az=67.0*

ISC 10 03:23:30.4±0.8**, 7.16S**±0.08×**126.6E**±0.1**, h412**km**, n13, σ1s39/16, mb3.4/4, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SOEI	**Soe**	**3.48**	**222**	P		**P**	**03 24 39.6**	**+1.0**
SOEI				S		**S**	**03 25 33.5**	**-0.5**
NLAI	**Namlea**	**3.93**	**7**	P		**P**	**03 24 43.1**	**+0.7**
SANI	**Sanana**	**5.12**	**353**	P		**P**	**03 24 52.6**	**-1.5**
	27nm,0.8s,0.1nm							
EDFI	**Ende, Flores**	**5.15**	**252**	P		**P**	**03 24 54.2**	**-0.2**
	11nm,1.8s,0.1nm							
LBMI	**Labuha**	**6.54**	**8**	P		**P**	**03 25 08.5**	**-1.2**
	161nm,0.7s,0.6nm							
BASI	**Baing, Sumba**	**6.71**	**243**	P		**P**	**03 25 12.0**	**+0.4**
	48nm,1.2s,3μm0.3nm							
PLAI	**Plampang**	**8.93**	**259**	P		**P**	**03 25 35.0**	**-1.0**
	14nm,0.9s							
WRA	**Warramunga Arr**	**14.74**	**150**	P		**P**	**03 26 41.0**	**+1.3**
	1.2nm,0.5s,baz=327,slow=12,SNR=39							
WRA				S		**S**	**03 29 15.0**	**-1.3**
	0.6nm,0.7s,baz=322,slow=21,SNR=2.1							
ASAR	**Alice Springs**	**17.83**	**158**	P		**P**	**03 27 14.3**	**+1.6**
	0.9nm,0.3s,baz=333,slow=8.3,SNR=34							
ASAR				S		**S**	**03 30 13.2**	**-3.4**
	0.6nm,0.9s,baz=334,slow=21,SNR=4.1							
SONM	**Songino Array**	**57.61**	**344**	P		**P**	**03 32 39.8**	**+0.5**
	0.2nm,0.4s,baz=153,slow=4.8,SNR=1.9							
	0.2nm,0.4s							
MKAR	**Makanchi Array**	**66.58**	**328**	P		**P**	**03 33 38.9**	**+0.8**
	0.5nm,0.6s,baz=114,slow=8.1,SNR=7.2							
	0.5nm,0.6s							
ZALV	**Zalesovo Beam**	**70.29**	**335**	P		**P**	**03 34 00.5**	**-0.1**
	1.3nm,0.6s,baz=149,slow=6.1,SNR=5.5							
	1.3nm,0.6s							
BVAR	**Borovoye Array**	**76.45**	**329**	P		**P**	**03 34 36.5**	**+0.5**
	0.4nm,0.5s,baz=123,slow=5.3,SNR=2.3							
	0.4nm,0.5s							

NNC ***10*** *03:44:44.5±11.0, 35.02N×74.69E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=91.5km s-min=79.1km az=17.0*
IDC ***10*** *03:44:51.0±0.9, 35.50N×75.83E, h0km, mb3.6/11, mbtmp3.6/16, ML3.4/5, MS2.7/2, Error ellipse: s-maj=21.0km s-min=15.5km az=65.0*

ISC 10 03:44:52.6±0.8**, 35.57N**±0.08×**75.8E**±0.1**, h10**km**, n21, σ1s96/22, mb3.6**/11**, 5C-3D, Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AAK	**Ala-Archa**	**7.13**	**352**	Pn		Pn	03 46 42.0	+4.9
	0.4nm,0.3s,baz=190,slow=11,SNR=5.6							
AAK				Sn		**Sn**	**03 48 04.2**	**+6.0**
	0.1nm,0.3s,baz=45,slow=20,SNR=1.6							
AAK				Lg		Lg	03 48 38.2	
	0.2nm,0.3s,baz=6.0,slow=19,SNR=1.2							
AAK				LR		LR	03 49 19.0	
	comp=Z,32nm,20.1s,baz=244,slow=37							
	1.6nm,0.5s							
TKM2	**Tokmak 2**	**7.34**	**359**	⇑Pg		**Pg**	**03 47 09.7**	**-3.4**
	1.0nm,0.5s							
TKM2				⇓Lg		Lg	03 48 53.7	
	2.8nm,0.7s							
CHMS	**Chumysh**	**7.46**	**354**	⇓Pg		Pg	03 47 09.5	-5.9
	1.4nm,0.5s							
CHMS				⇑Lg		Lg	03 48 54.8	
	4.4nm,0.6s							
PDGK	**Podgornoye**	**8.25**	**19**	⇓Pn		**Pn**	**03 46 54.7**	**+2.2**
	1.2nm,0.5s							
PDGK				⇑Lg		Lg	03 49 32.3	
	9.0nm,0.9s							
KK31	**Karatay Array**	**8.56**	**333**	⇑Pn		**Pn**	**03 46 54.6**	**-2.0**
	0.8nm,0.4s,baz=169,slow=14,SNR=15							
KK31				⇑Sn		**Sn**	**03 48 31.8**	**-1.5**
	1.7nm,0.7s,baz=158,slow=24,SNR=3.6							
MKAR	**Makanchi Array**	**12.22**	**22**	Pn		**Pn**	**03 47 47.3**	**+0.5**
	0.3nm,0.3s,baz=197,slow=12,SNR=12							
MKAR				Sn		**Sn**	**03 50 02.5**	**-0.5**
	0.1nm,0.3s,baz=184,slow=28,SNR=1.8							
	0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**15.17**	**7**	Pn		**Pn**	**03 48 25.7**	**-1.1**
	baz=194,slow=12							
BVAR	**Borovoye Array**	**17.86**	**349**	P		**P**	**03 49 01.5**	**-0.3**
	0.1nm,0.3s,baz=153,slow=17,SNR=6.8							
BVAR				LR		LR	03 56 34.4	
	comp=Z,40nm,19.1s,baz=239,slow=39							
	1.8nm,0.7s							
ZALV	**Zalesovo Beam**	**19.43**	**16**	P		**Pn**	**03 49 19.6**	**-0.5**
	0.3nm,0.3s,baz=201,slow=7.9,SNR=4.4							
	0.9nm,0.3s							
AKTO	**Aktyubinsk**	**19.67**	**325**	P		**Pn**	**03 49 23.3**	**+0.3**
	0.3nm,0.3s,baz=113,slow=10,SNR=6.4							
	2.2nm,0.5s							
SONM	**Songino Array**	**25.74**	**52**	P		**P**	**03 50 25.2**	**+1.8**
	1.3nm,0.9s,baz=254,slow=9.8,SNR=6.8							
	1.3nm,0.9s							
CMAR	**Chiang Mai Arr**	**26.65**	**124**	P		**P**	**03 50 30.5**	**-1.1**
	0.6nm,0.3s,baz=307,slow=8.9,SNR=1.0							
	0.6nm,0.3s							
BRTR	**Keskin Array B**	**33.41**	**290**	P		**P**	**03 51 32.3**	**+0.7**
	0.4nm,0.7s,baz=92,slow=10,SNR=2.4							
	0.4nm,0.7s							
FINES	**FINESS Array B**	**40.43**	**326**	P		**P**	**03 52 31.5**	**+0.6**
	0.7nm,0.6s,baz=120,slow=9.2,SNR=8.3							
	0.7nm,0.6s							
HFS	**Hagfors**	**46.19**	**322**	P		**P**	**03 53 17.6**	**+0.3**
	0.7nm,0.4s,baz=86,slow=12,SNR=5.0							
	0.7nm,0.4s							
NOA	**NORSAR Array B**	**47.45**	**323**	P		**P**	**03 53 27.0**	**-0.2**
	1.1nm,1.0s,baz=93,slow=7.7,SNR=2.4							
	1.1nm,1.0s							

TORD	**Torodi Ar. Bea**	**69.61**	**272**	P		**P**		**03 56 02.5**	**+0.1**
	1.2nm,1.0s,baz=40,slow=5.0,SNR=4.5								
	1.2nm,1.0s								
ILAR	**Eielson Array**	**74.55**	**18**	P		**P**		**03 56 33.3**	**+2.1**
	0.2nm,0.6s,baz=324,slow=5.1,SNR=2.5								
	0.2nm,0.6s								
WRA	**Warramunga Arr**	**78.23**	**125**	P		**P**		**03 56 52.2**	**-0.5**
	0.3nm,0.7s,baz=318,slow=5.8,SNR=1.3								
	0.3nm,0.7s								
ASAR	**Alice Springs**	**80.57**	**128**	P		**P**		**03 57 04.2**	**-1.3**
	0.7nm,1.1s,baz=317,slow=5.3,SNR=1.9								
	0.7nm,1.1s								
YKA	**Yellowknife Ar**	**81.91**	**5**	P		**P**		**03 57 12.0**	**0.0**
	0.3nm,0.7s,baz=340,slow=5.5,SNR=4.4								
	0.3nm,0.7s								

SJA ***10*** *04:12:25.9±0.8, 22.53S×70.59W, h25km±2km, ML3.6, MW3.9*
GUC ***10*** *04:12:29.3±0.6, 22.50S×70.53W, h38km±2km, ML3.6*

ISC 10 04:12:27.3±1.3**, 22.49S**±0.02×**70.62W**±0.05**, h21**km±4km**, n38, σ1s44/73, 2C-4D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB04	**IPOC Station P**	**0.47**	**70**	*e*P		**Pb**	**04 12 36.8**	**0.0**
PB04				IAML			04 12 46.9	
	comp=Z,10μm,0.4s							
PB04	**IPOC Station P**	**0.47**	**70**	⇓*i*P		**Pn**	**04 12 37.6**	**-1.3**
PB04				*e*S		**Sb**	**04 12 44.1**	**+0.8**
PB04				IAML			04 12 46.7	
	comp=N,10μm,0.2s							
PB06	**IPOC Station P**	**0.99**	**102**	*e*P		**Pb**	**04 12 44.8**	**-1.1**
PB06				*e*S		**Sb**	**04 12 58.2**	**-0.4**
PB06				IAML			04 12 58.4	
	comp=Z,2μm,0.2s							
PB06				*e*S		**Sn**	**04 12 59.0**	**-0.5**
PB06	**IPOC Station P**	**0.99**	**102**	⇓*i*P		**Pb**	**04 12 45.5**	**-0.3**
PB06				*e*S		**Sb**	**04 12 58.0**	**-0.6**
PB06				IAML			04 13 00.6	
	comp=N,5μm,0.1s							
PB07	**IPOC Station P**	**1.02**	**42**	*e*P		**Pb**	**04 12 46.2**	**-0.2**
PB07				*e*S		**Sn**	**04 13 00.4**	**+0.1**
PB07				IAML			04 13 02.3	
	comp=Z,1μm,0.2s							
PB07	**IPOC Station P**	**1.02**	**42**	⇓*i*P		**Pn**	**04 12 46.4**	**-0.1**
PB07				*e*S		**Sb**	**04 12 59.4**	**-0.1**
PB07				IAML			04 13 00.7	
	comp=N,2μm,0.1s							
PB15	**IPOC Station P**	**1.28**	**124**	*e*P		**Pn**	**04 12 49.9**	**-0.1**
PB15				*e*S		**Sb**	**04 13 06.5**	**-0.4**
PB15	**IPOC Station P**	**1.28**	**124**	⇓*i*P		**Pn**	**04 12 50.0**	**-0.1**
PB15				*e*S		**Sn**	**04 13 06.0**	**-0.7**
PB02	**IPOC Station P**	**1.35**	**30**	*e*P		**Pb**	**04 12 51.4**	**-0.5**
PB02				*e*S		**Sb**	**04 13 10.1**	**+1.3**
PB02				IAML			04 13 11.2	
	comp=Z,1μm,0.4s							
PB02	**IPOC Station P**	**1.35**	**30**	*e*P		**Pn**	**04 12 51.1**	**+0.2**
PB02				*e*S		**Sn**	**04 13 07.6**	**-0.6**
PB02				IAML			04 13 10.4	
	comp=E,2μm,0.5s							
PB09	**IPOC Station P**	**1.46**	**62**	*e*P		**Pb**	**04 12 52.8**	**-0.9**
PB09				*e*S		**Sb**	**04 13 12.6**	**+0.6**
PB09				IAML			04 13 15.1	
	comp=Z,2μm,0.5s							
PB09	**IPOC Station P**	**1.46**	**62**	*e*P		**Pb**	**04 12 53.4**	**-0.4**
PB09				*e*S		**Sn**	**04 13 10.7**	**-0.3**
PB09				IAML			04 13 14.4	
	comp=E,2μm,0.5s							
LVC	**Limon Verde**	**1.59**	**95**	*e*P		**Pn**	**04 12 54.7**	**+0.2**
LVC				*e*S		**Sb**	**04 13 15.9**	**0.0**
LVC				IAML			04 13 16.9	
	comp=Z,641nm,1.4s							
LVC	**Limon Verde**	**1.59**	**95**	*e*P		**Pn**	**04 12 54.6**	**+0.1**
LVC				*e*S		**Sn**	**04 13 14.4**	**-0.1**
LVC				IAML			04 13 16.9	
	comp=Z,3μm,0.2s							
PATCX	**Punta Patache**	**1.72**	**15**	*e*P		**Pn**	**04 12 56.2**	**+0.2**
PATCX				*e*S		**Sb**	**04 13 20.1**	**+0.7**
PB01	**IPOC Station P**	**1.79**	**36**	*e*P		**Pn**	**04 12 57.7**	**+0.7**
PB01				*e*S		**Sb**	**04 13 22.5**	**+1.1**
PB01				IAML			04 13 25.5	
	comp=Z,304nm,0.4s							
PB01	**IPOC Station P**	**1.79**	**36**	*e*P		**Pn**	**04 12 57.3**	**+0.3**
PB01				*e*S		**Sn**	**04 13 18.9**	**-0.1**
TA01	**Diego Aracena**	**1.96**	**12**	*e*P		**Pn**	**04 12 59.4**	**+0.1**
TA01				*e*S		**Sb**	**04 13 28.1**	**+1.8**
TA01				IAML			04 13 32.2	
	comp=Z,214nm,0.7s							
TA01	**Diego Aracena**	**1.96**	**12**	*e*P		**Pn**	**04 12 59.1**	**-0.1**
TA01				*e*S		**Sb**	**04 13 26.1**	**-0.2**
TA01				IAML			04 13 29.5	
	comp=N,409nm,0.4s							
PB14	**IPOC Station P**	**2.13**	**175**	⇑*i*P		**Pn**	**04 13 01.2**	**-0.7**
PB14				*e*S		**Sn**	**04 13 26.5**	**-1.4**
AF01	**San Pedro de A**	**2.30**	**102**	*e*P		**Pb**	**04 13 08.2**	**-0.1**
AF01				*e*S		**Sb**	**04 13 37.1**	**+0.7**
HMBC	**Humberstone**	**2.31**	**17**	*e*P		**Pn**	**04 13 04.8**	**+0.6**
HMBC				*e*S		**Sn**	**04 13 32.4**	**+0.4**
HMBC				IAML			04 13 43.8	
	comp=N,394nm,0.5s							
PB08	**IPOC Station P**	**2.71**	**31**	*e*P		**Pb**	**04 13 12.7**	**-2.6**
PB08				*e*S		**Sb**	**04 13 45.2**	**-3.1**
PB08				*e*S		**Sb**	**04 13 54.2**	**+5.9**
PB08				IAML			04 13 59.4	
	comp=Z,132nm,1.0s							
PB08	**IPOC Station P**	**2.71**	**31**	*e*P		**Pn**	**04 13 12.4**	**+2.5**
PB08				*e*S		**Sb**	**04 13 48.4**	**+0.1**
GO02	**Mina Guanaco**	**2.82**	**161**	*e*P		**Pn**	**04 13 11.5**	**+0.1**
GO02				*e*S		**Sn**	**04 13 47.2**	**+2.4**
GO02				IAML			04 14 02.4	
	comp=Z,367nm,0.6s							
GO02	**Mina Guanaco**	**2.82**	**161**	⇑*i*P		**Pn**	**04 13 11.9**	**+0.6**
GO02				*e*S		**Sn**	**04 13 45.1**	**+0.3**
PB11	**IPOC Station P**	**2.87**	**19**	*e*P		**Pn**	**04 13 12.6**	**+0.7**
PB11				*e*S		**Sb**	**04 13 49.4**	**-3.0**
PB11				IAML			04 14 01.1	
	comp=N,303nm,0.6s							
GO01	**Chusmiza**	**3.11**	**26**	*e*P		**Pn**	**04 13 17.3**	**+1.8**
GO01				*e*S		**Sn**	**04 13 54.2**	**+1.9**
GO01				IAML			04 14 09.5	
	comp=Z,133nm,0.5s							
GO01	**Chusmiza**	**3.11**	**26**	*e*P		**Pn**	**04 13 17.6**	**+2.1**
GO01				*e*S		**Sb**	**04 13 58.0**	**-1.9**
GO01				IAML			04 14 14.4	
	comp=N,202nm,0.3s							
AC01	**Pan de Azucar**	**3.64**	**180**	*e*P		**Pn**	**04 13 20.6**	**-1.7**
AC01				*e*S		**Sb**	**04 14 17.7**	**+3.1**
PB12	**IPOC Station P**	**3.87**	**4**	*e*P		**Pn**	**04 13 26.4**	**+0.8**
PB12				*e*S		**Sb**	**04 14 18.7**	**-2.6**
PB12				IAML			04 14 31.6	
	comp=Z,48nm,1.0s							
PB12	**IPOC Station P**	**3.87**	**4**	*e*P		**Pn**	**04 13 26.3**	**+0.6**
PB16	**IPOC Station P**	**4.27**	**14**	*e*P		**Pn**	**04 13 32.5**	**+1.0**
PB16				*e*S		**Sb**	**04 14 35.7**	**+2.5**
PB16				IAML			04 14 45.9	
	comp=Z,44nm,0.7s							
PB16	**IPOC Station P**	**4.27**	**14**	*e*P		**Pn**	**04 13 32.7**	**+1.2**
AC02	**Maricunga**	**4.53**	**163**	*e*P		**Pn**	**04 13 36.1**	**+1.1**
AC02	**Maricunga**	**4.53**	**163**	*e*P		**Pn**	**04 13 36.0**	**+0.9**
AC02				*e*S		**Sn**	**04 14 27.1**	**-0.3**
AC06	**Mina Casimiro**	**4.85**	**177**	*e*P		**Pn**	**04 13 37.7**	**-1.3**
GO03	**Copiap**	**5.09**	**176**	*e*P		**Pn**	**04 13 42.5**	**+0.1**
GO03				*e*S		**Sb**	**04 14 58.2**	**+1.8**

NEIC ***10*** *04:16:10.9±1.1, 19.77N±0.02×155.68W±0.04, h30km±8km, Error ellipse: s-maj=5.6km s-min=3.1km az=88.0*

HVO 10 04:16:12.9±2.1**, 19.777N**±0.008×**155.679W**±0.010**, h14**km±1km**, ML2.9**/22**, ML2.9**/54(NEIC)**, Error ellipse: s-maj=1.5km s-min=0.9km az=51.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
POHA	**Pohakuloa**	**0.14**	**98**	Pg		Pg	04 16 16.6	-0.1
POHA				Sg		Sg	04 16 19.4	0.0
HUH	**Hualalai**	**0.17**	**238**	Pg		Pg	04 16 17.6	+0.3
HUH				Sg		Sg	04 16 19.7	-0.5
HUH				IAML			04 16 22.3	
	comp=E,3μm,0.3s							
ALEP	**Alea Permanent**	**0.24**	**172**			Pg	04 16 18.4	+0.1
ALEP						Sg	04 16 20.7	-1.3
HPAH	**Hawaii Prepara**	**0.25**	**356**	Pg		Pg	04 16 18.2	-0.2
HPAH						Sg	04 16 22.1	0.0
HPAH						IAML	04 16 23.0	
	comp=E,1μm,0.2s							
HMH	**Humu'ula Sheep**	**0.25**	**133**	Pg		Pg	04 16 18.5	0.0
HMH						Sg	04 16 22.9	+0.5
HMH						IAML	04 16 23.2	
	comp=E,1μm,0.4s							
HMH						IAML	04 16 25.3	
	comp=N,2μm,0.2s							
MLOA	**Mauna Loa Obse**	**0.26**	**158**	Pg		Pg	04 16 18.6	-0.1
MLOA						Sg	04 16 23.1	+0.5
MLOA						IAML	04 16 27.3	
	comp=E,2μm,0.3s							
KHLU	**Kahalu`u**	**0.27**	**228**	Pg		Pg	04 16 18.5	-0.3
KHLU						Sg	04 16 22.8	+0.1
MWH	**Moku'aweowe**	**0.30**	**165**	Pg		Pg	04 16 18.9	-0.6
MWH						Sg	04 16 23.8	-0.1
MWH						IAML	04 16 24.7	
	comp=E,2μm,0.3s							
MWH						IAML	04 16 29.2	
	comp=N,2μm,0.3s							
CPH	**Captain Cook**	**0.36**	**218**			Pg	04 16 19.8	-0.6
MLH	**Mauna Loa**	**0.39**	**136**	Pg		Pg	04 16 20.3	-0.6
MLH						Sg	04 16 26.2	-0.2
MHA	**Mahukona**	**0.46**	**333**	Pg		Pg	04 16 21.6	-0.5
MHA	**Mahukona**	**0.46**	**333**			Sg	04 16 28.4	+0.1
RSD	**Rainshed**	**0.49**	**130**	Pg		Pg	04 16 21.7	-1.0
RSD						Sg	04 16 28.2	-1.1
RSD						IAML	04 16 38.3	
	comp=N,1μm,0.3s							
UWE	**Uwekahuna**	**0.51**	**134**	Pg		Pg	04 16 21.8	-1.2
UWE						Sg	04 16 28.9	-0.9
WRMHI	**West Rim**	**0.51**	**136**	Pg		Pg	04 16 21.6	-1.5
WRMHI						Sg	04 16 28.8	-1.2
OBL	**Observatory Le**	**0.52**	**134**	Pg		Pg	04 16 21.8	-1.4
OBL						Sg	04 16 28.8	-1.3
UWB	**Uwekahuna B**	**0.52**	**133**	Pg		Pg	04 16 21.7	-1.4
UWB						Sg	04 16 28.9	-1.1
SBLHI	**Steaming Bluff**	**0.52**	**132**	Pg		Pg	04 16 21.9	-1.4
SBLHI						IAML	04 16 37.7	
	comp=N,750nm,0.7s							
SBLHI						IAML	04 16 40.9	
	comp=E,752nm,0.6s							
NPH	**North Pit**	**0.52**	**134**	Pg		Pg	04 16 22.7	-0.6
NPH						Sg	04 16 28.4	-1.9
HATHI	**Halema'uma'u T**	**0.53**	**132**	Pg		Pg	04 16 21.9	-1.4
HATHI						Sg	04 16 28.6	-1.9
HATHI						IAML	04 16 37.1	
	comp=E,1μm,0.9s							
HATHI						IAML	04 16 39.4	
	comp=N,769nm,0.6s							
SDHHI	**Sand Hill**	**0.53**	**137**	Pg		Pg	04 16 22.2	-1.2
SDHHI						Sg	04 16 29.6	-0.9
SDHHI						IAML	04 16 34.1	
	comp=N,1μm,0.4s							
SDHHI						IAML	04 16 34.3	
	comp=E,1μm,0.4s							
KHU	**Kahuku**	**0.53**	**173**	Pg		Pg	04 16 22.1	-1.4
KHU						Sg	04 16 28.7	-2.0
BYL	**Byron's Ledge**	**0.54**	**133**	Pg		Pg	04 16 22.0	-1.6
BYL						Sg	04 16 29.1	-1.6
BYL						IAML	04 16 37.1	
	comp=N,665nm,1.1s							
RIM	**Rim**	**0.54**	**135**	Pg		Pg	04 16 22.4	-1.2
RIM						IAML	04 16 36.5	
	comp=N,1μm,1.3s							
RIM						IAML	04 16 37.2	
	comp=E,831nm,1.3s							
KKO	**Keanakako`i**	**0.54**	**134**	Pg		Pg	04 16 21.9	-1.7
KKO						Sg	04 16 29.7	-1.2
KKO						IAML	04 16 41.5	
	comp=E,823nm,1.2s							
KKO						IAML	04 16 41.7	
	comp=N,1μm,1.6s							
HLP	**Hilina Pali**	**0.59**	**144**	Pg		Pg	04 16 23.2	-1.4
HLP						Sg	04 16 30.5	-2.0
HLP						IAML	04 16 31.7	
	comp=E,898nm,1.7s							
HLP						IAML	04 16 41.5	
	comp=N,845nm,0.7s							
PUH	**Pauahi**	**0.59**	**133**	Pg		Pg	04 16 22.6	-2.0
PUH						Sg	04 16 30.7	-1.8
HTC	**Hot Caves**	**0.60**	**154**			Pg	04 16 23.2	-1.5
KNHH	**Kane Nui o Ham**	**0.62**	**129**			Pg	04 16 23.4	-1.8
STCH	**Steam Cracks**	**0.65**	**127**	Pg		Pg	04 16 23.6	-2.1
STCH						Sg	04 16 31.6	-2.7
STCH						IAML	04 16 33.9	
	comp=E,607nm,0.1s							
STCH						IAML	04 16 42.0	
	comp=N,430nm,0.4s							
NPOC	**North of Pu'u**	**0.66**	**125**	Pg		Pg	04 16 23.9	-2.0
NPOC						Sg	04 16 31.7	-2.9
NPOC						IAML	04 16 35.0	
	comp=

	comp=Z,9.4nm,0.9s							
BDFB	**Brasilia**	**33.37**	**241**	LR	LR	04 41 45.9		
	comp=Z,90nm,20.0s,baz=100,slow=34							
MDP	**Montagnes des**	**35.07**	**279**	LR	LR	04 41 50.3		
	comp=Z,81nm,18.4s,baz=120,slow=32							
MDT	**Midelt**	**35.26**	**20**	LR	LR	04 43 32.7		
	comp=Z,90nm,18.4s,baz=221,slow=35							
TSUM	**Tsumeb**	**39.57**	**120**	LR	LR	04 43 08.1		
	comp=Z,97nm,18.9s,baz=235,slow=31							
ESDC	**Sonseca Array**	**41.78**	**16**	LR	LR	04 47 37.4		
	comp=Z,55nm,19.0s,baz=206,slow=36							
KEST	**Kesra**	**43.94**	**33**	LR	LR	04 50 57.2		
	comp=Z,127nm,18.3s,baz=228,slow=38							
CPUP	**Villa Florida**	**45.91**	**232**	LR	LR	04 48 34.0		
	comp=Z,57nm,18.1s,baz=82,slow=34							
PCRV	**Puerto La Cruz**	**47.60**	**284**	LR	LR	04 49 26.5		
	comp=Z,33nm,18.7s,slow=34							
MBAR	**Mbarara**	**48.68**	**91**	LR	LR	04 50 08.4		
	comp=Z,125nm,18.1s,baz=226,slow=34							
TIP	**Timpagrande**	**50.52**	**35**	P	**P**	**04 31 51.0 +0.3**		
TIP				IAmb	IAmb	04 32 19.4		
	comp=Z,3.9nm,1.0s							
SENIN	**Lac Senin/Sane**	**51.49**	**22**	P	**P**	**04 31 58.7 +0.7**		
DAVA	**Damuels**	**53.25**	**23**	*i* P	**P**	**04 32 11.4 +0.4**		
	comp=Z,5.2nm,0.6s							
FETA	**Feichten**	**53.38**	**24**	*i* P	**P**	**04 32 11.7 -0.3**		
	comp=Z,1.0nm,0.6s							
SQTA	**Sankt Quirin**	**53.73**	**24**	*i* P	**P**	**04 32 14.5 0.0**		
	comp=Z,2.7nm,0.6s							
SABO	**M.te Sabotino**	**53.80**	**27**	P	**P**	**04 32 16.1 +1.2**		
SABO				IAmb	IAmb	04 32 17.7		
	comp=Z,15nm,1.3s							
PRED	**Cave del Predi**	**54.14**	**26**	P	**P**	**04 32 17.9 +0.5**		
PRED				IAmb	IAmb	04 32 19.2		
	comp=Z,2.5nm,0.7s							
PUK	**Puka**	**54.21**	**34**	P	**P**	**04 32 19.3 +1.3**		
PUK				IAmb	IAmb	04 32 33.9		
	comp=Z,7.7nm,1.5s							
FNA	**Florina**	**54.26**	**36**	P	**P**	**04 32 19.8 +1.4**		
LESA	**Schwarzleotal**	**54.51**	**25**	*i* P	**P**	**04 32 19.9 -0.2**		
	comp=Z,3.9nm,0.7s							
GEC2	**GERESS Array S**	**56.05**	**25**	P	**P**	**04 32 32.1 +0.9**		
GERES	**GERESS Array B**	**56.05**	**25**	P	**P**	**04 32 31.7 +0.5**		
GERES	**GERESS Array B**	**56.05**	**25**	P	**P**	**04 32 30.5 -0.7**		
	comp=Z,1.1nm,0.7s,baz=205,slow=5.9,SNR=6.6							
GERES				PP	**PP**	**04 34 32.1 -4.2**		
	comp=Z,1.2nm,0.8s,baz=210,slow=4.6,SNR=5.8							
	comp=Z,1.1nm,0.7s							
CONA	**Conrad Observa**	**56.29**	**27**	*i* P	**P**	**04 32 33.3 +0.4**		
	comp=Z,0.3nm,0.3s							
RONA	**Rosalia, Austr**	**56.31**	**27**	*i* P	**P**	**04 32 33.8 +0.8**		
	comp=Z,1.2nm,0.5s							
EIL	**Elat**	**58.50**	**54**	LR	LR	05 00 46.5		
	comp=Z,49nm,18.2s,baz=247,slow=39							
NNA	**Nana**	**59.57**	**256**	LR	LR	04 57 55.8		
	comp=Z,50nm,18.4s,baz=81,slow=35							
MLR	**Muntele Rosu**	**59.78**	**34**	LR	LR	05 00 36.2		
	comp=Z,58nm,18.9s,baz=270,slow=38							
ATAH	**Atahualpa**	**60.66**	**262**	LR	LR	04 58 21.8		
	comp=Z,57nm,18.7s,baz=77,slow=35							
BURAR	**Bucovina Array**	**60.68**	**32**	P	**P**	**04 33 05.3 +1.7**		
BRTR	**Keskin Array B**	**61.58**	**43**	P	**P**	**04 33 10.9 +1.0**		
BRTR	**Keskin Array B**	**61.58**	**43**	P	**P**	**04 33 10.2 +0.3**		
	comp=Z,1.0nm,0.7s,baz=247,slow=6.7,SNR=7.1							
	comp=Z,1.0nm,0.7s							
PLCA	**Paso Flores**	**62.30**	**223**	LR	LR	05 01 01.7		
	comp=Z,40nm,18.0s,baz=148,slow=37							
AKASG	**Malin Array Be**	**64.64**	**31**	P	**P**	**04 33 29.6 -0.1**		
	comp=Z,1.4nm,0.7s,baz=237,slow=6.7,SNR=6.8							
	comp=Z,1.4nm,0.7s							
HFS	**Hagfors**	**65.06**	**17**	P	**P**	**04 33 32.2 -0.1**		
	comp=Z,1.8nm,0.7s,baz=169,slow=8.3,SNR=4.5							
	comp=Z,1.8nm,0.7s							
NB2	**NORSAR Subarra**	**65.13**	**15**	P	**P**	**04 33 33.0 +0.1**		
	comp=Z,0.7nm,0.7s,baz=208,slow=6.9							
NOA	**NORSAR Array B**	**65.13**	**15**	P	**P**	**04 33 33.1 +0.1**		
	comp=Z,1.3nm,0.9s,baz=218,slow=7.9,SNR=4.3							
	comp=Z,1.3nm,0.9s							
OPO	**Ambohidratompo**	**66.39**	**110**	LR	LR	04 59 53.7		
	comp=Z,58nm,21.9s,baz=354,slow=34							
JTS	**Las Juntas de**	**67.45**	**281**	LR	LR	05 01 03.4		
	comp=Z,16nm,21.9s,baz=72,slow=34							
FINES	**FINESS Array B**	**70.06**	**21**	P	**P**	**04 34 04.5 +0.5**		
FINES	**FINESS Array B**	**70.06**	**21**	P	**P**	**04 34 04.0 0.0**		
	comp=Z,2.4nm,0.7s,baz=215,slow=6.2,SNR=15							
	comp=Z,2.4nm,0.7s							
FIA1	**FINESS Array S**	**70.06**	**21**	P	**P**	**04 34 04.5 +0.5**		
L48A	**N Adams**	**72.89**	**314**	P	**P**	**04 34 21.9 +0.4**		
CCM	**Cathedral Cave**	**77.08**	**309**	P	**P**	**04 34 44.8 -0.9**		
CCM				IAmb	IAmb	04 34 45.9		
	comp=Z,4.4nm,0.7s							
ECSD	**EROS Data Cent**	**82.02**	**314**	P	**P**	**04 35 11.9 -0.7**		
ECSD				IAmb	IAmb	04 35 13.5		
	comp=Z,2.9nm,1.1s							
ABKAR	**Akbulak array**	**82.32**	**40**	P	**P**	**04 35 13.9 -0.1**		
TXAR	**Lajitas Array**	**86.41**	**299**	P	**P**	**04 35 35.9 +0.5**		
	comp=Z,1.3nm,0.9s,baz=118,slow=6.8,SNR=8.9							
	comp=Z,1.3nm,0.9s							
ANMO	**Albuquerque**	**88.95**	**305**	LR	LR	05 10 17.2		
	comp=Z,26nm,21.8s,baz=154,slow=32							
ASAR	**Alice Springs**	**143.74**	**133**	PKP	PKPbc	04 42 25.5 -0.3		
	comp=Z,0.3nm,0.8s,baz=222,slow=2.8,SNR=1.6							
WRA	**Warramunga Arr**	**146.21**	**128**	PKPbc	**PKPdf**	**04 42 32.9 +0.2**		
	comp=Z,0.4nm,0.8s,baz=237,slow=2.4,SNR=1.5							

IDC ***10*** *04:31:02.0±2.8, 23.10N×121.15E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=242.2km s-min=21.3km az=62.0*
JMA ***10*** *04:31:04.8±0.1, 23.5N±0.9×12.1E±, h35km±1km, MV3.4/14, TAIWAN REGION*
TAP ***10*** *04:31:05.3, 23.45N×121.49E, h26km, ML3.8, C*
ASIES ***10*** *04:31:05.3, 23.45N×121.49E, h26km, ML3.8, Mw3.5, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}1.98; $M_{\theta\theta}$-0.31; $M_{\phi\phi}$-1.67; $M_{r\theta}$-0.72; $M_{\theta\phi}$-0.96; $M_{\phi r}$0.76; Fault plane solution: $M_0$2.33204×10^{21} NP1:ϕ_s4.89000°, δ54.45000°, λ60.74000°. NP2:ϕ_s228.83000°, δ44.79000°, λ124.37000°. Principal axes: T Plg65.9260°, Azm216.9540°; N Plg23.4360°, Azm22.9380°; P Plg5.2000°, Azm115.2000°;*
ISC 10 04:31:05.2±0.8, 23.44N±0.01×121.54E±0.02, h27km±4km, n167, σ1$06/316, mb3.5/5, 7C-23D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HGSD	**Ruisui**	**0.12**	**296**	⇑P	**Pb**	**04 31 10.3**	**+0.1**
	baz=305						
HGSD				*e*S	**Sb**	**04 31 14.1**	**+0.6**
	baz=305						
ECBN	**Changbin**	**0.15**	**213**	⇑P	**Pb**	**04 31 10.9**	**+0.5**
	baz=205						
ECBN				S	**Sb**	**04 31 14.9**	**+0.9**
	baz=205						
EHYH	**Wanrong**	**0.18**	**287**	⇓P	**Pb**	**04 31 10.7**	**-0.2**
	baz=289						
EHYH				S	**Sb**	**04 31 14.4**	**-0.3**
	baz=289						
EHY	**Hungye**	**0.21**	**288**	⇓*i*P	**Pb**	**04 31 10.7**	**-0.5**
	baz=290						
EHY				*i* S	**Sb**	**04 31 14.5**	**-0.8**
	baz=290						
EYUL	**Yuli**	**0.22**	**245**	⇓P	**Pb**	**04 31 11.3**	**0.0**
	baz=250						
EYUL				*e*S	**Sb**	**04 31 15.8**	**+0.3**
	baz=250						
YULB	**Yu-li**	**0.23**	**258**	⇓P	**Pb**	**04 31 11.1**	**-0.3**
	baz=263						
YULB				S	**Sb**	**04 31 14.9**	**-0.7**
	baz=263						
TWF1	**Yuli**	**0.24**	**249**	⇓*i*P	**Pb**	**04 31 11.3**	**-0.2**
	baz=253						
TWF1				*i* S	**Sb**	**04 31 15.4**	**-0.4**
	baz=253						
EGFH	**Guangfu**	**0.25**	**336**	⇓P	**Pb**	**04 31 11.7**	**+0.1**
	baz=335						
EGFH				S	**Sb**	**04 31 16.6**	**+0.5**
	baz=335						
CHKH	**Chenggong**	**0.28**	**208**	P	**Pb**	**04 31 12.3**	**+0.3**
	baz=199						
CHKH				S	**Sb**	**04 31 17.1**	**+0.4**
	baz=199						
WARBT	**Fenglin Townsh**	**0.31**	**333**	⇓P	**Pb**	**04 31 12.1**	**-0.5**
	baz=331						
WARBT				*e*S	**Sb**	**04 31 16.8**	**-0.7**
	baz=331						
FULB	**Fuli**	**0.33**	**223**	*i* P	**Pn**	**04 31 13.5**	**-0.8**
	baz=233						
FULB				S	**Sn**	**04 31 19.9**	**-0.3**
	baz=233						
SHUL	**Shoufeng**	**0.35**	**4**	⇑P	**Pb**	**04 31 13.6**	**+0.6**
SHUL				S	**Sn**	**04 31 19.7**	**-0.9**
CHKT	**Chengkung**	**0.38**	**205**	⇓*i*P	**Pb**	**04 31 13.8**	**+0.3**
	baz=189						
CHKT				*i* S	**Sn**	**04 31 20.2**	**-1.0**
	baz=189						
ESL	**Shilin**	**0.39**	**345**	⇓*i*P	**Pb**	**04 31 13.2**	**-0.5**
	baz=340						
ESL				*i* S	**Sb**	**04 31 18.6**	**-0.8**
	baz=340						
ECS	**Chishang**	**0.45**	**221**	P	**Pb**	**04 31 14.7**	**0.0**
	baz=232						
ECS				S	**Sn**	**04 31 22.8**	**-0.4**
	baz=232						
VWDT	**VWDT**	**0.48**	**311**	⇓P	**Pb**	**04 31 14.9**	**-0.3**
	baz=313						
VWDT				S	**Sb**	**04 31 21.6**	**-0.4**
	baz=313						
EDH	**Donghe**	**0.51**	**205**	P	**Pb**	**04 31 15.8**	**+0.1**
	baz=192						
EDH				S	**Sn**	**04 31 24.0**	**-0.7**
	baz=192						
ETM	**Tongmen**	**0.53**	**355**	P	**Pb**	**04 31 15.4**	**-0.6**
	baz=349						
ETM				*e*S	**Sb**	**04 31 23.8**	**+0.6**
	baz=349						
HWA	**Hwalien**	**0.54**	**7**	*i* P	**Pb**	**04 31 16.6**	**+0.4**
	baz=27						
HWA				*e*S	**Sn**	**04 31 25.4**	**+0.1**
	baz=27						
ELDTW	**Lidau**	**0.54**	**243**	⇑*i*P	**Pb**	**04 31 15.1**	**-1.1**
	baz=248						
ELDTW				*i* S	**Sb**	**04 31 21.6**	**-2.1**
	baz=248						
LXIB	**Xiulin Townshi**	**0.59**	**349**	⇓P	**Pb**	**04 31 16.3**	**-0.8**
	baz=351						
LXIB				S	**Sb**	**04 31 23.8**	**-1.4**
	baz=351						
OWD	**Renai**	**0.61**	**327**	⇓P	**Pb**	**04 31 16.8**	**-0.6**
	baz=336						
OWD				*i* S	**Sb**	**04 31 24.2**	**-1.5**
	baz=336						
SSLB	**Suanglung**	**0.64**	**303**	⇓P	**Pb**	**04 31 16.9**	**-0.9**
	baz=299						
SSLB				S	**Sb**	**04 31 24.9**	**-1.5**
	baz=299						
TWD	**Chiawan**	**0.64**	**5**	*i* P	**Pb**	**04 31 17.5**	**-0.3**
	baz=352						
TWD				*i* S	**Sb**	**04 31 26.9**	**+0.5**
	baz=352						
LONT	**Longtian**	**0.65**	**215**	P	**Pb**	**04 31 16.9**	**-1.1**
	baz=214						
LONT				S	**Sb**	**04 31 25.5**	**-1.2**
	baz=214						
WUSB	**Renai**	**0.67**	**325**	⇓P	**Pb**	**04 31 17.9**	**-0.6**
	baz=333						
WUSB				S	**Sb**	**04 31 26.0**	**-1.5**
	baz=333						
ALS	**Alishan**	**0.68**	**276**	⇓*i*P	**Pb**	**04 31 18.3**	**-0.4**
	baz=276						
ALS				*i* S	**Sb**	**04 31 27.2**	**-0.6**
	baz=276						
WHYT	**Xinyi Township**	**0.68**	**292**	P	**Pb**	**04 31 18.1**	**-0.4**
	baz=295						
WHYT				S	**Sn**	**04 31 27.2**	**-1.6**
	baz=295						
CHGB	**Renai**	**0.70**	**332**	⇓P	**Pb**	**04 31 18.5**	**-0.5**
	baz=341						
CHGB				S	**Sb**	**04 31 27.2**	**-1.2**
	baz=341						
ETL	**Fush Village**	**0.72**	**6**	P	**Pb**	**04 31 18.7**	**-0.5**
	baz=355						
ETL				S	**Sb**	**04 31 29.0**	**+0.3**
	baz=355						
NACB	**Ninganchiao**	**0.73**	**4**	⇓P	**Pb**	**04 31 18.4**	**-1.0**
	baz=353						
NACB				S	**Sb**	**04 31 28.1**	**-0.9**
	baz=353						
SMLT	**Sun Moon Lake**	**0.73**	**307**	⇓*i*P	**Pb**	**04 31 18.8**	**-0.6**
	baz=308						
SMLT				*i* S	**Sn**	**04 31 29.9**	**-0.4**
	baz=308						
WHF	**Hehuan Shan**	**0.74**	**340**	*i* P	**Pb**	**04 31 19.0**	**-0.9**
	baz=341						
WHF				*i* S	**Sb**	**04 31 28.6**	**-1.3**
	baz=341						
TWGBT	**Beinan**	**0.75**	**214**	⇑P	**Pb**	**04 31 18.1**	**-1.6**
	baz=214						
TWGBT				S	**Sb**	**04 31 27.7**	**-1.8**
	baz=214						
STYH	**Taoyuan**	**0.75**	**249**	P	**Pb**	**04 31 19.2**	**-0.5**
	baz=247						
STYH				S	**Sn**	**04 31 29.4**	**-1.1**
	baz=247						
TWG	**Pinlang**	**0.75**	**215**	⇑*i*P	**Pb**	**04 31 18.1**	**-1.6**
	baz=214						
TWG				*i* S	**Sb**	**04 31 27.7**	**-1.8**
	baz=214						
ETLH	**Xiulin Townshi**	**0.77**	**356**	⇓P	**Pb**	**04 31 18.9**	**-1.1**
	baz=356						
ETLH				S	**Sb**	**04 31 28.8**	**-1.3**
	baz=356						
LDUT	**Ludao**	**0.77**	**185**	P	**Pb**	**04 31 18.7**	**-1.2**
	baz=170						
LDUT				S	**Sb**	**04 31 29.4**	**-0.6**
	baz=170						
STYT	**Tauyuan**	**0.77**	**249**	*i* P	**Pb**	**04 31 19.4**	**-0.6**
	baz=247						
STYT				*i* S	**Sb**	**04 31 29.4**	**-0.7**
	baz=247						
TTN	**Taitung**	**0.77**	**208**	P	**Pb**	**04 31 19.6**	**-0.4**
	baz=208						
TTN				S	**Sn**	**04 31 32.4**	**+1.3**
	baz=208						
TYC	**Yuchr**	**0.78**	**307**	⇓*i*P	**Pb**	**04 31 19.5**	**-0.6**
	baz=312						
TYC				S	**Sn**	**04 31 30.3**	**-0.9**
	baz=312						
WPL	**Puli Township**	**0.78**	**317**	P	**Pn**	**04 31 19.9**	**-0.6**
	baz=322						
WPL				*e*S	**Sb**	**04 31 29.5**	**-0.9**
	baz=322						
DPDB	**Guoxing**	**0.81**	**317**	P	**Pn**	**04 31 20.4**	**-0.6**
	baz=321						
DPDB				*e*S	**Sb**	**04 31 30.2**	**-1.3**
	baz=321						
WJS	**Zhushan**	**0.83**	**297**	P	**Pn**	**04 31 21.3**	**0.0**
	baz=298						
WJS				S	**Sn**	**04 31 33.3**	**+0.6**
	baz=298						
WCS	**Beigang Elemen**	**0.84**	**317**	*i* P	**Pn**	**04 31 20.8**	**-0.5**
	baz=321						
WCS				S	**Sn**	**04 31 33.0**	**+0.1**
	baz=321						
TPUB	**Ta-pu**	**0.85**	**261**	P	**Pn**	**04 31 21.2**	**-0.2**
	baz=262						
TPUB				S	**Sn**	**04 31 32.8**	**-0.2**
	baz=262						
FUSS	**Fushou**	**0.85**	**342**	P	**Pb**	**04 31 20.9**	**-0.6**
	baz=341						
FUSS				S	**Sb**	**04 31 31.2**	**-1.4**
	baz=341						
WCKO	**Fanlu**	**0.86**	**270**	P	**Pn**	**04 31 22.0**	**+0.4**
	baz=271						
WCKO				S	**Sn**	**04 31 33.7**	**+0.5**
	baz=271						
WTP	**Ta-pu**	**0.87**	**257**	*i* P	**Pn**	**04 31 21.6**	**-0.2**
	baz=258						
WTP				*i* S	**Sn**	**04 31 32.7**	**-0.9**
	baz=258						
CHN4	**Tsaushan**	**0.87**	**264**	*i* P	**Pn**	**04 31 21.9**	**+0.2**
	baz=262						
CHN4				*i* S	**Sn**	**04 31 33.8**	**+0.2**
	baz=262						
TWT	**Tachien**	**0.88**	**338**	⇓*i*P	**Pb**	**04 31 21.5**	**-0.4**
	baz=337						
TWT				*i* S	**Sb**	**04 31 31.9**	**-1.4**
	baz=337						
TDCB	**Techi**	**0.88**	**337**	⇓P	**Pb**	**04 31 21.5**	**-0.4**
	baz=337						
TDCB				S	**Sb**	**04 31 32.0**	**-1.4**
	baz=337						
WNT	**Mingjian**	**0.90**	**299**	*i* P	**Pn**	**04 31 22.5**	**+0.4**
	baz=300						
WNT				*i* S	**Sn**	**04 31 34.4**	**+0.2**
	baz=300						
EAHA	**Aohua**	**0.90**	**12**	P	**Pn**	**04 31 22.0**	**-0.2**
	baz=354						
EAHA				S	**Sb**	**04 31 33.4**	**-0.5**
	baz=354						
WGK	**Gukeng**	**0.93**	**285**	*i* P	**Pn**	**04 31 22.8**	**+0.3**
	baz=286						
WGK				*i* S	**Sn**	**04 31 35.5**	**+0.6**
	baz=286						
SLGT	**Liugui**	**0.93**	**242**	P	**Pn**	**04 31 22.4**	**-0.2**
	baz=241						
SLGT				S	**Sn**	**04 31 35.4**	**+0.2**
	baz=241						
SGST	**Jiashian**	**0.95**	**248**	*i* P	**Pn**	**04 31 22.0**	**-0.8**
	baz=249						
SGST				*i* S	**Sn**	**04 31 35.3**	**-0.2**
	baz=249						
WDLH	**Douliu**	**0.95**	**285**	P	**Pb**	**04 31 23.2**	**+0.2**
	baz=286						
WDLH				S	**Sn**	**04 31 36.7**	**+1.1**
	baz=286						
CHN1	**Nanshi**	**0.96**	**255**	⇓*i*P	**Pb**	**04 31 23.4**	**+0.1**
	baz=256						
CHN1				*i* S	**Sn**	**04 31 36.7**	**+0.8**
	baz=256						
CHN2	**Minshiung**	**0.98**	**276**	*i* P	**Pb**	**04 31 24.0**	**+0.4**
	baz=276						
CHN2				*i* S	**Sn**	**04 31 37.4**	**+1.2**
	baz=276						
TWK	**Hsinying**	**0.98**	**260**	*i* P	**Pb**	**04 31 23.4**	**-0.1**
	baz=261						
TWK				*i* S	**Sn**	**04 31 36.7**	**+0.4**
	baz=261						
SNST	**Tainan City**	**0.98**	**257**	P	**Pb**	**04 31 23.7**	**+0.1**
	baz=259						
SNST				S	**Sn**	**04 31 37.1**	**+0.8**
	baz=259						
EOS4	**EOS4**	**0.98**	**46**	*e*P	**Pn**	**04 31 23.3**	**+0.3**
	baz=64						
EOS4				*e*S	**Sb**	**04 31 37.0**	**+1.2**
	baz=64						
NNSB	**Datong**	**0.99**	**352**	P	**Pn**	**04 31 22.8**	**-0.8**
	baz=350						
NNSB				S	**Sb**	**04 31 34.7**	**-1.9**
	baz=350						
NNSH	**Datong**	**0.99**	**352**	P	**Pn**	**04 31 22.9**	**-0.6**
	baz=350						
NNSH				*i* S	**Sb**	**04 31 35.1**	**-1.6**
	baz=350						
WHP	**Taichung City**	**0.99**	**327**	P	**Pb**	**04 31 23.5**	**-0.3**
	baz=330						
WHP				*e*S	**Sn**	**04 31 37.1**	**+0.3**
	baz=330						
ECL	**Taimali**	**1.00**	**213**	P	**Pn**	**04 31 21.6**	**-1.9**
	baz=214						
ECL				*e*S	**Sb**	**04 31 34.5**	**-2.0**
	baz=214						
ENA	**Nanau**	**1.00**	**11**	*i* P	**Pn**	**04 31 22.8**	**-0.7**
	baz=355						
ENA				*i* S	**Sb**	**04 31 35.7**	**-1.0**
	baz=355						
NNS	**Nan Shan**	**1.01**	**351**	*i* P	**Pn**	**04 31 23.1**	**-0.6**
	baz=350						
NNS				*i* S	**Sb**	**04 31 35.3**	**-1.8**
	baz=350						
CHY	**Chiayi**	**1.02**	**273**	*e*P	**Pb**	**04 31 24.0**	**-0.3**
	baz=274						
CHY				S	**Sn**	**04 31 38.5**	**+1.2**
	baz=274						
EWUT	**Wuta**	**1.02**	**12**	P	**Pn**	**04 31 23.3**	**-0.6**
	baz=356						
EWUT				S	**Sb**	**04 31 36.2**	**-1.2**
	baz=356						
WTK	**Tuku**	**1.08**	**283**	P	**Pb**	**04 31 25.3**	**0.0**
	baz=284						
WTK				S	**Sn**	**04 31 40.1**	**+1.4**
	baz=284						
LATG	**Datong**	**1.09**	**359**	P	**Pn**	**04 31 24.3**	**-0.6**
	baz=356						
LATG				*e*S	**Sb**	**04 31 39.4**	**0.0**
	baz=356						
TSMG	**Majia**	**1.10**	**229**	P	**Pn**	**04 31 24.0**	**-0.9**
	baz=229						
TSMG				S	**Sb**	**04 31 41.0**	**+1.4**
	baz=229						
WCHH	**Zhanghua**	**1.10**	**306**	P	**Pb**	**04 31 25.9**	**+0.3**
	baz=305						
WCHH				S	**Sb**	**04 31 40.5**	**+1.0**
	baz=305						
EOS3	**EOS3**	**1.10**	**40**	*e*P	**Pn**	**04 31 25.6**	**+0.8**
	baz=54						
EOS3				*e*S	**Sn**	**04 31 39.9**	**+0.8**
	baz=54						
SCST	**Cishan**	**1.11**	**240**	P	**Pb**	**04 31 26.0**	**+0.3**
	baz=242						
SCST				S	**Sb**	**04 31 42.7**	**+2.9**
	baz=242						
CHN3	**Shinhua**	**1.14**	**252**	*e*P	**Pb**	**04 31 26.6**	**+0.3**
	baz=263						
CHN3				*i* S	**Sb**	**04 31 44.0**	**+3.4**
	baz=263						
TWQ1	**Liyutan**	**1.14**	**322**	⇑*i*P	**Pb**	**04 31 26.9**	**+0.5**
	baz=321						
TWQ1				S	**Sb**	**04 31 41.0**	**+0.2**
	baz=321						
NDT	**Datong Townshi**	**1.16**	**359**	P	**Pn**	**04 31 25.6**	**-0.1**
	baz=355						
NDT				*e*S	**Sn**	**04 31 40.5**	**-0.2**
	baz=355						
ICHU	**Yijhu**	**1.16**	**266**	P	**Pb**	**04 31 26.5**	**-0.1**
	baz=268						
ICHU				S	**Sb**	**04 31 42.7**	**+1.5**
	baz=268						
WRL	**Guolierlin Hig**	**1.16**	**294**	P	**Pb**	**04 31 26.3**	**-0.2**
	baz=294						
WRL				S	**Sb**	**04 31 42.0**	**+0.7**
	baz=294						
EOS2	**EOS2**	**1.16**	**33**	*e*P	**Pb**	**04 31 26.7**	**+0.2**
	baz=44						
EOS2				*e*S	**Sb**	**04 31 42.0**	**+0.8**
	baz=44						
ESAO	**Su ao**	**1.17**	**14**	P	**Pb**	**04 31 27.6**	**+0.9**
	baz=357						
ESAO				S	**Sn**	**04 31 40.9**	**+0.1**
	baz=357						
RLNB	**Erlin**	**1.17**	**293**	*e*P	**Pb**	**04 31 26.4**	**-0.3**
	baz=293						
RLNB				S	**Sb**	**04 31 42.9**	**+1.4**
	baz=293						
SHHT	**Tainan City**	**1.17**	**249**	P	**Pb**	**04 31 28.1**	**+1.3**
	baz=263						
SHHT				S	**Sb**	**04 31 46.0**	**+4.5**
	baz=263						
MASBT	**Mashibuluo**	**1.17**	**226**	P	**Pn**	**04 31 25.1**	**-0.8**
	baz=227						
MASBT				S	**Sb**	**04 31 42.4**	**+0.8**
	baz=227						
SSHA	**Shanhua**	**1.19**	**256**	P	**Pb**	**04 31 28.1**	**+1.0**
	baz=271						
SSHA				S	**Sb**	**04 31 45.5**	**+3.4**
	baz=271						
ENTT	**Nioudou**	**1.20**	**1**	*i* P	**Pn**	**04 31 25.9**	**-0.3**
	baz=358						
ENTT				*e*S	**Sn**	**04 31 41.7**	**+0.1**
	baz=358						
TWM1	**Shoushan**	**1.20**	**239**	*i* P	**Pb**	**04 31 27.3**	**+0.1**
	baz=241						
TWM1				S	**Sb**	**04 31 45.8**	**+3.5**
	baz=241						
TWC	**Suao**	**1.20**	**14**	*i* P	**Pb**	**04 31 27.2**	**-0.1**
	baz=356						
TWC				S	**Sn**	**04 31 41.6**	**0.0**
	baz=356						
NDS	**Dongshan**	**1.20**	**8**	P	**Pb**	**04

WDJ	**Dajia District**	**1.22**	**318**	P		**Pb**	**04 31 28.1**	**+0.5**
	baz=317							
WDJ				S		**Sb**	**04 31 45.0**	**+2.0**
	baz=317							
CHN8	**Yiju**	**1.22**	**266**	*i* P		**Pb**	**04 31 27.2**	**-0.5**
	baz=267							
CHN8				*i* S		**Sb**	**04 31 43.7**	**+0.6**
	baz=267							
WTCT	**Ta-ch'eng**	**1.23**	**290**	*e*P		**Pb**	**04 31 28.2**	**+0.5**
	baz=291							
WTCT				*i* S		**Sb**	**04 31 43.7**	**+0.5**
	baz=291							
TAW	**Tawu**	**1.23**	**209**	*e*P		**Pn**	**04 31 25.0**	**-1.6**
	baz=211							
TAW				*e*S		**Sn**	**04 31 41.3**	**-1.1**
	baz=211							
EAST	**Anshuo**	**1.23**	**211**	*i* P		**Pn**	**04 31 25.2**	**-1.5**
	baz=205							
EAST				*e*S		**Sn**	**04 31 41.4**	**-1.1**
	baz=205							
YHNB	**Yeheng**	**1.23**	**353**	P		**Pn**	**04 31 26.8**	**0.0**
	baz=2.0							
YHNB				S		**Sn**	**04 31 42.2**	**-0.4**
	baz=2.0							
NSK	**Sanguang**	**1.24**	**352**	*i* P		**Pn**	**04 31 27.2**	**+0.3**
	baz=349							
NSK				*i* S		**Sn**	**04 31 42.5**	**-0.3**
	baz=349							
NFF	**Wufeng Townshi**	**1.25**	**342**	P		**Pb**	**04 31 27.7**	**-0.4**
	baz=346							
NFF				S		**Sb**	**04 31 43.7**	**-0.2**
	baz=346							
TAWH	**Dawu Township**	**1.25**	**209**	P		**Pn**	**04 31 25.0**	**-1.9**
	baz=212							
TAWH				*e*S		**Sn**	**04 31 42.5**	**-0.4**
	baz=212							
TWE	**Neicheng**	**1.28**	**5**	P		**Pn**	**04 31 27.6**	**+0.3**
	baz=1.0							
TWE				S		**Sb**	**04 31 44.6**	**-0.1**
	baz=1.0							
NSTT	**Nanjuang**	**1.28**	**338**	*i* P		**Pb**	**04 31 28.6**	**-0.1**
	baz=336							
NSTT				S		**Sb**	**04 31 44.0**	**-0.8**
	baz=336							
NMLH	**Miaoli**	**1.29**	**328**	P		**Pb**	**04 31 29.2**	**+0.4**
	baz=325							
NMLH				S		**Sb**	**04 31 46.6**	**+1.6**
	baz=325							
LIOB	**Emei**	**1.29**	**338**	*i* P		**Pb**	**04 31 28.9**	**0.0**
	baz=336							
LIOB				*i* S		**Sb**	**04 31 44.5**	**-0.6**
	baz=336							
SNJT	**Kaohsiung City**	**1.30**	**239**	P		**Pb**	**04 31 30.0**	**+1.0**
	baz=241							
SNJT				S		**Sb**	**04 31 49.9**	**+4.6**
	baz=241							
FUSB	**Fushanzhiwuyua**	**1.31**	**2**	P		**Pn**	**04 31 27.8**	**-0.2**
	baz=358							
FUSB				*e*S		**Sb**	**04 31 45.2**	**-0.6**
	baz=358							
NWLT	**Wulai**	**1.33**	**359**	P		**Pb**	**04 31 28.9**	**-0.7**
	baz=354							
NWLT				S		**Sn**	**04 31 44.6**	**-0.4**
	baz=354							
SCZT	**Fangliau**	**1.36**	**219**	*i* P		**Pn**	**04 31 28.7**	**+0.3**
	baz=220							
SCZT				S		**Sb**	**04 31 47.1**	**+0.1**
	baz=220							
TSCK	**Chigu Township**	**1.37**	**258**	P		**Pb**	**04 31 29.4**	**-0.7**
	baz=260							
TSCK				S		**Sb**	**04 31 47.4**	**+0.3**
	baz=260							
LAY	**Lan-yu**	**1.40**	**180**	*i* P		**Pn**	**04 31 27.3**	**-1.6**
	baz=165							
LAY				*e*S		**Sn**	**04 31 46.4**	**-0.1**
	baz=165							
SLIU	**Shizi**	**1.40**	**209**	P		**Pn**	**04 31 27.9**	**-1.1**
	baz=202							
SLIU				*e*S		**Sn**	**04 31 47.0**	**+0.5**
	baz=202							
WSSB	**Gushan**	**1.42**	**236**	P		**Pb**	**04 31 31.4**	**+0.3**
	baz=239							
WSSB				S		**Sb**	**04 31 51.0**	**+2.2**
	baz=239							
LYUB	**Lan-yu**	**1.43**	**178**	P		**Pn**	**04 31 27.2**	**-2.3**
	baz=164							
LYUB				S		**Sn**	**04 31 44.5**	**-2.9**
	baz=164							
SBCB	**Hsinchu**	**1.44**	**340**	*e*P		**Pb**	**04 31 32.4**	**+1.1**
	baz=336							
SBCB				*e*S		**Sb**	**04 31 50.8**	**+1.6**
	baz=336							
EGS		**1.44**	**14**	*e*P		**Pb**	**04 31 31.9**	**+0.4**
	baz=356							
EGS				*e*S		**Sn**	**04 31 48.3**	**+0.6**
	baz=356							
HSN	**Hsinchu**	**1.45**	**339**	*e*P		**Pb**	**04 31 32.1**	**+0.5**
	baz=323							
HSN				*e*S		**Sb**	**04 31 50.3**	**+0.6**
	baz=323							
TIPB	**Shuangxi**	**1.55**	**10**	*i* P		**Pb**	**04 31 32.8**	**-0.4**
	baz=354							
TIPB				*i* S		**Sb**	**04 31 51.8**	**-0.6**
	baz=354							
NCUH	**Zhongli**	**1.56**	**348**	P		**Pb**	**04 31 32.3**	**-1.1**
	baz=343							
NCUH				S		**Sb**	**04 31 53.4**	**+0.8**
	baz=343							
HEN	**Hengchun**	**1.61**	**208**	*e*P		**Pb**	**04 31 33.6**	**-0.7**
	baz=197							
HEN				S		**Sb**	**04 31 53.9**	**-0.2**
	baz=197							
TWB1	**Santiao Chiao**	**1.61**	**15**	*i* P		**Pb**	**04 31 33.8**	**-0.5**
	baz=357							
TWB1				*e*S		**Sn**	**04 31 53.3**	**+1.3**
	baz=357							
JYNG	**Yonaguni jima**	**1.63**	**52**	P		**Pn**	**04 31 33.5**	**+1.3**
JYNG				S		**Sn**	**04 31 53.6**	**+1.2**
TWK1	**Hengchun**	**1.64**	**205**	P		**Pn**	**04 31 32.4**	**+0.1**
	baz=200							
TWK1				*e*S		**Sn**	**04 31 53.0**	**+0.6**
	baz=200							
TWKBT	**Hengchun**	**1.64**	**204**	P		**Pn**	**04 31 32.8**	**+0.6**
	baz=200							
TWKBT				*e*S		**Sn**	**04 31 52.1**	**-0.3**
	baz=200							
WFSB	**Wu-fen Shan**	**1.64**	**8**	P		**Pn**	**04 31 33.3**	**+1.0**
	baz=2.0							
WFSB				*e*S		**Sb**	**04 31 53.9**	**-1.1**
	baz=2.0							
TWS1	**Kuangyinshan**	**1.66**	**356**	P		**Pb**	**04 31 35.5**	**+0.5**
	baz=2.0							
TWS1				*i* S		**Sb**	**04 31 56.0**	**+0.4**
	baz=2.0							
SXI1	**Grass Mountain**	**1.68**	**11**	P		**Pb**	**04 31 34.8**	**-0.7**
	baz=355							
SXI1				S		**Sb**	**04 31 56.7**	**+0.5**
	baz=355							
YOJ	**Yonaguni jima**	**1.69**	**53**	P		**Pn**	**04 31 33.9**	**+0.9**
	baz=59							
YOJ				S		**Sn**	**04 31 55.3**	**+1.5**
	baz=59							
YOJ	**Yonaguni jima**	**1.69**	**53**	P		**Pn**	**04 31 34.4**	**+1.4**
YOJ				S		**Sn**	**04 31 55.2**	**+1.5**
YM01	**YM01**	**1.70**	**1**	P		**Pb**	**04 31 34.7**	**-1.1**
	baz=354							
YM01				S		**Sb**	**04 31 55.9**	**-0.9**
	baz=354							
NTST	**Danshui**	**1.72**	**357**	*e*P		**Pb**	**04 31 35.5**	**-0.6**
	baz=4.0							
NTST				S		**Sb**	**04 31 57.0**	**-0.3**
	baz=4.0							
WDGT	**Dungji**	**1.74**	**264**	*i* P		**Pn**	**04 31 33.7**	**+0.1**
	baz=266							
WDGT				S		**Sn**	**04 31 54.3**	**-0.6**
	baz=266							
YM08	**YM08**	**1.74**	**2**	P		**Pb**	**04 31 35.1**	**-1.4**
	baz=355							
YM08				*e*S		**Sb**	**04 31 57.2**	**-0.8**
	baz=355							
PHUB	**P'eng-hu**	**1.81**	**273**	P		**Pn**	**04 31 34.6**	**0.0**
	baz=274							
PHUB				S		**Sn**	**04 31 55.7**	**-1.0**
	baz=274							
PNG	**Penghu**	**1.82**	**274**	*i* P		**Pn**	**04 31 35.1**	**+0.3**
	baz=276							
PNG				*i* S		**Sn**	**04 31 56.3**	**-0.8**
	baz=276							

TWY	**Chenhua**	**1.83**	**2**	*e*P		**Pb**	**04 31 36.5**	**-1.5**
	baz=355							
TWY				*e*S		**Sb**	**04 31 59.1**	**-1.4**
	baz=355							
VCHM	**Qimei**	**1.95**	**264**	P		**Pn**	**04 31 36.8**	**+0.2**
	baz=266							
VCHM				S		**Sn**	**04 31 59.1**	**-1.2**
	baz=266							
HATJ	**Hateruma jima**	**2.17**	**73**	P		**Pn**	**04 31 40.2**	**+0.7**
HATJ				S		**Sn**	**04 32 05.9**	**+0.4**
JKRS	**Kuro-shima**	**2.40**	**70**	P		**Pn**	**04 31 44.2**	**+1.4**
JKRS				S		**Sn**	**04 32 12.2**	**+1.0**
VWUC	**VWUC**	**2.45**	**309**	P		**Pn**	**04 31 43.9**	**+0.4**
	baz=307							
VWUC				S		**Sn**	**04 32 11.1**	**-1.5**
	baz=307							
JIJ	**Ishigaki jima**	**2.56**	**68**	P		**Pn**	**04 31 45.5**	**+0.6**
JIJ				S		**Sn**	**04 32 14.9**	**-0.2**
PTMZ	**Houxiangcun**	**2.72**	**306**	P		**Pn**	**04 31 47.5**	**+0.3**
	baz=304							
PTMZ				S		**Sn**	**04 32 18.1**	**-1.2**
	baz=304							
JISG	**Ishigakijimahi**	**2.78**	**65**	P		**Pn**	**04 31 48.5**	**+0.5**
JISG				S		**Sn**	**04 32 20.2**	**-0.5**
KNM	**Kinmen**	**3.00**	**290**	P		**Pn**	**04 31 52.8**	**+1.7**
	baz=289							
KNM				S		**Sn**	**04 32 27.5**	**+1.4**
	baz=289							
KNMB	**Chin-men Tao**	**3.06**	**290**	P		**Pn**	**04 31 51.0**	**-0.8**
	baz=291							
KNMB				S		**Sn**	**04 32 25.3**	**-2.2**
	baz=291							
MATB	**Ma-tsu**	**3.06**	**332**	P		**Pn**	**04 31 52.0**	**+0.1**
	baz=327							
MATB				S		**Sn**	**04 32 26.4**	**-1.3**
	baz=327							
JTJ	**Tarama**	**3.13**	**67**	S		**Sn**	**04 32 30.3**	**+1.0**
LYJJ	**Jianjiangzhen**	**3.49**	**333**	P		**Pn**	**04 31 58.3**	**+0.5**
	baz=327							
LYJJ				S		**Sn**	**04 32 38.0**	**-0.3**
	baz=327							
MHZQ	**Yeshan**	**3.50**	**320**	P		**Pn**	**04 31 58.5**	**+0.6**
	baz=317							
MHZQ				S		**Sn**	**04 32 37.4**	**-1.0**
	baz=317							
AXDP	**Jialang**	**3.57**	**295**	P		**Pn**	**04 31 58.6**	**-0.2**
	baz=295							
AXDP				S		**Sn**	**04 32 38.1**	**-2.0**
	baz=295							
XPSS	**Dashiqiu**	**3.68**	**341**	P		**Pn**	**04 32 00.9**	**+0.5**
	baz=334							
XPSS				S		**Sn**	**04 32 42.2**	**-0.8**
	baz=334							
DSXP	**Dongshan**	**3.78**	**275**	*e*P		**Pn**	**04 32 02.2**	**+0.4**
	baz=277							
DSXP				*e*S		**Sn**	**04 32 44.0**	**-1.4**
	baz=277							
SXFK	**Yanhouchang**	**4.60**	**311**	P		**Pn**	**04 32 13.0**	**-0.1**
	baz=309							
SXFK				S		**Sn**	**04 33 04.0**	**-1.7**
	baz=309							
MKAR	**Makanchi Array**	**39.10**	**316**	P		**P**	**04 38 30.8**	**+0.6**
	0.3nm,0.6s,baz=107,slow=10,SNR=4.6							
	0.3nm,0.6s							
ZALV	**Zalesovo Beam**	**41.04**	**327**	P		**P**	**04 38 48.6**	**+2.5**
	0.5nm,0.6s,baz=110,slow=7.8,SNR=2.2							
	0.5nm,0.6s							
H11N1	**WAKE ISLAND Hy 42.21**		**86**	T		T	05 24 00.1	
	baz=283,slow=75,SNR=12							
H11N2	**WAKE ISLAND Hy 42.21**		**86**	T		T	05 24 02.1	
	baz=283,slow=75,SNR=10							
H11N3	**WAKE ISLAND Hy 42.23**		**86**	T		T	05 24 03.1	
	baz=283,slow=75,SNR=15							
H11S3	**WAKE ISLAND Hy 42.32**		**88**	T		T	05 24 07.5	
	baz=285,slow=75,SNR=18							
H11S1	**WAKE ISLAND Hy 42.33**		**88**	T		T	05 24 14.6	
	baz=285,slow=75,SNR=12							
H11S2	**WAKE ISLAND Hy 42.34**		**88**	T		T	05 24 14.5	
	baz=285,slow=75,SNR=15							
KURBB	**Kurchatov Arra**	**42.88**	**320**	P		**P**	**04 39 01.4**	**+0.2**
	0.2nm,0.4s,baz=110,slow=8.0,SNR=2.2							
	0.2nm,0.4s							
WRA	**Warramunga Arr**	**44.89**	**163**	P		**P**	**04 39 16.4**	**-1.3**
	0.4nm,0.5s,baz=344,slow=8.6,SNR=7.3							
	0.4nm,0.5s							
ASAR	**Alice Springs**	**48.34**	**165**	P		**P**	**04 39 44.0**	**-0.7**
	0.2nm,0.5s,baz=354,slow=11,SNR=4.4							
	0.2nm,0.5s							

***IDC* 10 04:47:31.2±4.2, 6°14S×142°88E, *h*0km, mb3.5/1, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=132.9km s-min=31.0km az=101.0, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.04**	**210**	Pn	Pn	04 51 16.2	-2.2
	0.1nm,0.3s,baz=30,slow=12,SNR=9.3						
WRA				Sn	Sn	04 54 04.8	-12
	0.1nm,0.3s,baz=52,slow=20,SNR=2.1						
WRA				Lg	Lg	04 55 59.4	
	baz=36,slow=27,SNR=1.4						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**19.45**	**205**	P	Pn	04 52 00.9	+0.2
	0.1nm,0.3s,baz=33,slow=11,SNR=11						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**75.03**	**322**	P	P	04 59 14.7	-0.1
	0.4nm,0.8s,baz=121,slow=6.9,SNR=3.9						
	0.4nm,0.8s						

VIE ***10*** *04:53:43.6±0.9, 51°38N×16°13E, h0km, mb2.1/2, ml2.5/2, Error ellipse: s-maj=9.4km s-min=4.7km az=69.0, Suspected Mining induced.*

PRU ***10*** *04:53:44.4, 51°43N×16°09E, h0km*

ISC 10 04:53:39.9±0.8, 51°60N±0°03×16°19E±0°03, h0km, n31, σ0°95/63, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.76**	**175**	*e*Pg	**Pg**	**04 53 55.0**	**+0.5**
KSP				*e*Sg	**Sg**	**04 54 04.0**	**-0.4**
CHVC	**Chvalec**	**1.02**	**185**	*e*PG	**Pg**	**04 53 59.8**	**+0.4**
CHVC				*e*SG	**Sg**	**04 54 11.9**	**-0.7**
OSTC	**Ostas**	**1.05**	**179**	*e*PG	**Pg**	**04 54 00.5**	**+0.5**
OSTC				*e*SG	**Sg**	**04 54 13.0**	**-0.5**
UPC	**Upice**	**1.10**	**186**	*e*PG	**Pg**	**04 54 01.0**	**0.0**
UPC				*e*SG	**Sg**	**04 54 14.4**	**-0.9**
DPC	**Dobruska-Polom**	**1.26**	**176**	*e*PG	**Pg**	**04 54 03.6**	**-0.4**
DPC				*e*SG	**Sg**	**04 54 18.4**	**-1.8**
PVCC	**Panska Ves**	**1.48**	**224**	*e*PG	**Pb**	**04 54 08.6**	**+0.3**
PVCC				*e*SG	**Sg**	**04 54 27.0**	**-0.5**
	comp=Z,51nm,0.2s						
KRLC	**Kraliky**	**1.57**	**166**	*e*PG	**Pn**	**04 54 09.3**	**+0.2**
KRLC				*e*SG	**Sn**	**04 54 29.5**	**-0.7**
	comp=Z,17nm,0.4s						
BRG	**Berggiesshubel**	**1.59**	**243**	Pg	**Pg**	**04 54 10.7**	**+0.4**
BRG				Sg	**Sg**	**04 54 30.8**	**-0.1**
BRG				Amp		04 54 32.2	
	comp=Z,23nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.91**	**208**	*e*PN	**Pn**	**04 54 13.7**	**0.0**
GOPC				*e*PG	**Pb**	**04 54 15.5**	**-0.1**
PRU	**Pruhonice**	**1.92**	**213**	*e*PG	**Pb**	**04 54 15.6**	**-0.2**
PRU				*e*SG	**Sb**	**04 54 40.3**	**-0.1**
	comp=Z,14nm,0.4s						
HSKC	**Hora Svate Kat**	**2.00**	**241**	*e*PG	**Pb**	**04 54 17.4**	**+0.2**
HSKC				*e*SG	**Sb**	**04 54 42.4**	**-0.2**
CLL	**Collm**	**2.01**	**263**	*i* Pg	**Pg**	**04 54 18.6**	**+0.1**
CLL				*i* x	x	04 54 21.0	
CLL				*i* Sg	**Sg**	**04 54 44.3**	**-0.2**
	comp=Z,11nm,0.6s						
MORC	**Moravsky Berou**	**2.02**	**154**	*e*PN	**Pn**	**04 54 15.4**	**+0.1**
MORC				*e*SG	**Sb**	**04 54 43.5**	**+0.3**
VRAC	**Vranov**	**2.31**	**173**	*e*PN	**Pn**	**04 54 19.7**	**+0.5**
VRAC				*e*SG	**Sb**	**04 54 51.1**	**-0.5**
TREC	**Trest**	**2.35**	**191**	*e*PG	**Pb**	**04 54 23.7**	**+0.5**
MAUC	**Maruska**	**2.47**	**154**	*e*PG	**Pg**	**04 54 26.4**	**-0.9**
KRUC	**Moravsky**	**2.55**	**177**	*e*PN	**Pn**	**04 54 22.9**	**+0.4**
KRUC				*e*SG	**Sb**	**04 54 59.1**	**+0.8**
OJC	**Ojcow**	**2.67**	**120**	*e*Pg	**Pg**	**04 54 31.7**	**+0.6**
OJC				*e*Sg	**Sg**	**04 55 07.2**	**+1.4**
NKC	**Novy Kostel**	**2.73**	**241**	*e*PN	**Pn**	**04 54 26.1**	**+1.1**
NKC				*e*SG	**Sg**	**04 55 07.3**	**-0.4**
	comp=Z,14nm,0.4s						
JAVC	**Velka Javorina**	**2.91**	**160**	*e*PN	**Pn**	**04 54 28.1**	**+0.6**
JAVC				*e*SG	**Sb**	**04 55 10.6**	**+1.9**

KHC	**Kasperske Hory**	**2.98**	**215**	*e*PN		**Pn**	**04 54 28.5**	**0.0**
KHC				*e*PG		**Pb**	**04 54 34.8**	**+0.9**
KHC				*e*SG		**Sb**	**04 55 12.8**	**+1.9**
CKRC	**Cesky Krumlov**	**3.04**	**204**	*e*PN		**Pn**	**04 54 30.0**	**+0.8**
CKRC				*e*PG		**Pb**	**04 54 35.2**	**+0.4**
CKRC				*e*SG		**Sb**	**04 55 13.5**	**+1.1**
LANS	**Liptovska Anna**	**3.23**	**138**	*e*PN		**Pn**	**04 54 33.2**	**+1.3**
LANS				*e*PG		**Pg**	**04 54 41.1**	**-0.7**
LANS				*e*SG		**Sg**	**04 55 22.4**	**-1.3**
MODS	**Modra-Piesok**	**3.31**	**167**	*e*PG		**Pg**	**04 54 44.5**	**+1.2**
MODS				*e*SG		**Sg**	**04 55 24.7**	**-1.4**
VYHS	**Vyhne**	**3.55**	**150**	*e*PN		**Pn**	**04 54 36.3**	**0.0**
VYHS				*e*PG		**Pg**	**04 54 49.0**	**+1.1**
VYHS				*e*SG		**Sg**	**04 55 32.3**	**-1.6**
BSD	**Bornholm Skovb**	**3.60**	**348**	*e*S		**Sn**	**04 55 17.5**	**-2.5**
CONA	**Conrad Observa**	**3.68**	**183**	*i* Pn		**Pn**	**04 54 38.8**	**+0.6**
	comp=Z,0.6nm,0.2s							
CONA				*e*Sg		**Sg**	**04 55 37.5**	**-0.7**
	comp=Z,2.0nm,0.2s							
MOA	**Molln**	**3.96**	**199**	*i* Pn		**Pn**	**04 54 42.4**	**+0.6**
	comp=Z,0.6nm,0.2s							
MOA				*e*Sg		**Sg**	**04 55 45.4**	**-1.6**
	comp=Z,2.3nm,0.3s							
LUNU	**Lund**	**4.35**	**339**	*e*P		**Pn**	**04 54 48.1**	**+0.9**
LUNU				*e*S		**Sn**	**04 55 37.3**	**-1.4**
BJUU	**Bjuv**	**4.86**	**339**	*i* P		**Pn**	**04 54 54.6**	**+0.5**
BJUU				*e*S		**Sn**	**04 55 49.2**	**-1.7**
DEL	**Delary**	**5.06**	**345**	*i* P		**Pn**	**04 54 58.2**	**+1.2**
DEL				*e*S		**Sn**	**04 55 54.7**	**-1.4**

IDC ***10*** *04:55:09.3±0.8, 6°16S×143°07E, h0km, mb4.1/10, mbtmp4.2/12, ML1.7/1, MS3.3/1, Error ellipse: s-maj=31.6km s-min=16.9km az=75.0*

ISC 10 04:55:14.5±0.7, 6°3S±0°1×143°0E±0°1, h35km, n13, σ1°21/14, mb4.1/10, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.20**	**127**	Pn	**Pn**	**04 56 29.6**	**-0.2**
	2.0nm,0.3s,baz=319,slow=15,SNR=5.1						
PMG				Sn	**Sn**	**04 57 28.5**	**-0.1**
	1.5nm,0.3s,baz=261,slow=19,SNR=1.4						
	16nm,0.7s						
WRA	**Warramunga Arr**	**15.96**	**211**	Pn	**Pn**	**04 58 53.5**	**-3.0**
	0.6nm,0.3s,baz=34,slow=13,SNR=18						
WRA				Sn	Sn	05 01 43.3	-9.1
	0.7nm,0.3s,baz=28,slow=23,SNR=4.1						
WRA				Lg	Lg	05 03 37.1	
	0.4nm,0.3s,baz=142,slow=18,SNR=6.1						
ASAR	**Alice Springs**	**19.36**	**206**	P	**P**	**04 59 39.4**	**+2.1**
	19nm,0.7s,baz=32,slow=10.0,SNR=177						
ASAR				S	S	05 03 07.7	-6.9
	1.5nm,0.6s,baz=19,slow=28,SNR=5.5						
ASAR				Lg	Lg	05 05 25.7	
	0.1nm,0.3s,baz=335,slow=35,SNR=1.7						
STKA	**Stephens Creek**	**25.50**	**183**	P	**P**	**05 00 40.3**	**+0.6**
	2.4nm,0.7s,baz=350,slow=10,SNR=5.2						
STKA				LR	LR	05 12 19.7	
	comp=Z,62nm,18.4s,baz=356,slow=40						
	2.4nm,0.7s						
KSRS	**Korea Array**	**45.71**	**343**	P	**P**	**05 03 31.9**	**-0.3**
	0.7nm,0.4s,baz=161,slow=9.3,SNR=2.6						
	0.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**49.88**	**300**	P	**P**	**05 04 04.8**	**-0.1**
	0.7nm,0.3s,baz=122,slow=7.0,SNR=4.4						
	0.7nm,0.3s						
SONM	**Songino Array**	**62.76**	**333**	P	**P**	**05 05 36.6**	**+0.2**
	0.2nm,0.4s,baz=121,slow=6.9,SNR=1.8						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**75.18**	**322**	P	**P**	**05 06 53.9**	**+0.4**
	1.0nm,0.6s,baz=103,slow=7.5,SNR=12						
	1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**77.14**	**329**	P	**P**	**05 07 03.9**	**-0.5**
	0.7nm,0.6s,baz=134,slow=4.2,SNR=3.7						
	0.7nm,0.6s						
QSPA	**South Pole Qui**	**83.69**	**180**	P	**P**	**05 07 40.5**	**+0.9**
	2.1nm,0.8s,baz=310,slow=1.8,SNR=8.4						
	2.1nm,0.8s						
NRIK	**Noril'sk**	**84.33**	**343**	P	**P**	**05 07 42.7**	**+0.1**
	0.8nm,0.3s,baz=133,slow=6.8,SNR=2.1						
	0.8nm,0.3s						
BVAR	**Borovoye Array**	**84.64**	**325**	P	**P**	**05 07 45.2**	**+0.7**
	6.7nm,0.7s,baz=109,slow=7.1,SNR=29						
	6.7nm,0.7s						
ILAR	**Eielson Array**	**87.33**	**24**	P	**P**	**05 07 56.5**	**-1.0**
	1.6nm,0.7s,baz=256,slow=4.8,SNR=20						
	1.6nm,0.7s						

VAO ***10*** *05:00:16.5±0.7, 27°76S×71°49W, h10km, mb4.3*

IDC ***10*** *05:00:36.5±0.7, 27°29S×70°08W, h92km±4km, mb3.8/7, mbtmp4.0/11, MS3.0/1, Error ellipse: s-maj=17.5km s-min=16.5km az=114.0*

NEIC ***10*** *05:00:36.2±2.0, 27°18S±0°06×70°3W±0°1, h99km±6km, mb4.2/9, Error ellipse: s-maj=14.8km s-min=7.6km az=103.0*

GUC ***10*** *05:00:36.5±0.6, 27°19S×70°22W, h100km±2km, ML4.4*

ISC 10 05:00:36.2±0.5, 27°21S±0°03×70°20W±0°05, h92km±3km, n92, σ1°15/108, mb4.1/9, 1C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC06	**Mina Casimiro**	**0.20**	**223**		**Pn**	**05 00 50.6**	**+1.1**
AC06	**Mina Casimiro**	**0.20**	**223**	*e*P	**Pn**	**05 00 50.3**	**+0.9**
AC06				*e*S	**Sn**	**05 01 00.1**	**+0.8**
GO03	**Copiap**	**0.38**	**185**		**Pn**	**05 00 51.3**	**+0.8**
GO03	**Copiap**	**0.38**	**185**	*e*P	**Pn**	**05 00 51.4**	**+1.0**
GO03				*e*S	**Sn**	**05 01 02.0**	**+1.1**
GO03				IAML		05 01 02.5	
	comp=N,44μm,0.2s						
AC02	**Maricunga**	**1.03**	**69**		**Pn**	**05 00 58.1**	**+1.3**
AC02	**Maricunga**	**1.03**	**69**	*e*P	**Pn**	**05 00 58.2**	**+1.3**
AC02				*e*S	**Sn**	**05 01 13.5**	**+1.2**
AC01	**Pan de Azucar**	**1.12**	**341**		**Pn**	**05 00 58.1**	**+0.7**
AC01	**Pan de Azucar**	**1.12**	**341**	*e*P	**Pn**	**05 00 58.0**	**+0.5**
AC01				*e*S	**Sn**	**05 01 13.7**	**+0.4**
AC01				IAML		05 01 14.9	
	comp=E,6μm,0.1s						
AC04	**Llanos de Chal**	**1.26**	**218**		**Pn**	**05 00 59.9**	**+0.9**
AC04	**Llanos de Chal**	**1.26**	**218**	⇑*i*P	**Pn**	**05 00 60.0**	**+0.9**
AC04				*e*S	**Sn**	**05 01 17.3**	**+1.1

VA05	Santo Domingo	6.54	190			Pn	05 02 11.9	+2.1
MT09	Talagante	6.58	186			Pn	05 02 09.6	-0.8
MT01	Popeta	6.69	188			Pn	05 02 10.0	-1.9
BO04	La Punta	6.76	183			Pn	05 02 12.4	-0.5
BO01	Tunca	7.20	186		Pn	Pn	05 02 18.6	-0.2
LPAZ	La Paz	11.04	10	P		Pn	05 03 11.9	+0.1
	comp=E,0.5nm,0.4s,baz=187,slow=9.0,SNR=1.7							
LPAZ	La Paz	11.04	10	eP		Pn	05 03 05.9	-5.9
CPUP	Villa Florida	11.54	89	P		Pn	05 03 14.9	-2.9
	comp=E,0.8nm,0.5s,baz=240,slow=13,SNR=2.5							
CPUP				LR		LR	05 08 26.3	
	comp=E,74nm,19.4s,baz=224,slow=41							
ITQB	Itaqui	12.20	105	eP		Pn	05 03 23.9	-2.8
TRQA	Tornquist	12.84	149	Pn		Pn	05 03 33.6	-1.6
SIV	San Ignacio	14.02	39	P		Pn	05 03 50.2	-0.6
	comp=E,1.4nm,0.4s,baz=233,slow=4.4,SNR=8.7							
CRSM	Crissiumal (Br	14.36	95	eP		Pn	05 03 55.0	-0.2
AMBA	Amambai (Brazi	14.43	76	eP		Pn	05 03 56.7	+0.7
AQDB	Aquidauana	14.86	66	eP		P	05 04 04.0	-1.1
CPSB	Cacapava Do Su	15.03	106	eP		Pn	05 04 01.0	-2.8
PLTB	Pedras Altas	15.15	111	eP		Pn	05 04 01.3	-3.9
ALGR	Alto Alegre (B	15.25	100	eP		Pn	05 04 07.4	+0.7
FRBT	Francisco Belt	15.38	89	eP		P	05 04 10.2	-0.7
PTLB	Pontes e Lacer	15.58	44	eP		P	05 04 12.6	-0.5
ITAB	Concordia	16.08	94			Pn	05 04 17.2	+0.3
ITAB				IAmb		IAmb	05 04 19.5	
	comp=Z,19nm,0.9s							
ITAB	Concordia	16.08	94	eP		P	05 04 18.0	-0.5
TRCB	Terra Rica	16.52	78			Pn	05 04 21.9	-0.6
TRCB	Terra Rica	16.52	78	eP		P	05 04 24.9	+1.3
VILB	Vilhena	17.00	35	P		Pn	05 04 28.1	-0.3
VILB				IAmb		IAmb	05 04 33.2	
	comp=Z,7.9nm,0.9s							
LDASE	Londrina, Braz	17.67	82	eP		Pn	05 04 36.5	0.0
PCMB	Pacaembu	18.12	76	eP		P	05 04 41.2	+0.1
FRTB	Fartura	19.05	83	eP		P	05 04 51.3	-0.1
SAML	Samuel	19.34	21	P		P	05 04 53.1	-1.3
ITRB	Iturama	19.66	72	eP		Pn	05 04 59.1	-1.1
PDRB	Porto dos Gac	20.03	42	eP		P	05 05 01.9	-0.1
PET01	Itanhaem-SP	20.85	87	eP		P	05 05 10.4	-0.3
GO08	Villa O'Higgin	21.30	184	P		P	05 05 15.8	+0.5
GO08				IAmb		IAmb	05 05 48.6	
	comp=Z,38nm,1.5s							
VAO	Valinhos	21.44	84	eP		P	05 05 16.8	-0.4
SNDB	Serra Nova Dou	23.34	53	eP		P	05 05 36.9	+0.3
PMNB	Patos De Minas	23.50	73	eP		P	05 05 37.5	-0.7
BDFB	Brasilia	23.60	65	P		P	05 05 37.7	-1.5
BDFB				IAmb		IAmb	05 06 11.7	
	comp=Z,9.1nm,0.9s							
BDFB	Brasilia	23.60	65	P		P	05 05 37.2	-1.9
	comp=Z,5.9nm,0.8s,baz=243,slow=10,SNR=11							
BDFB				pP		pP	05 05 59.5	-0.2
	comp=Z,2.2nm,0.5s,baz=238,slow=8.3,SNR=4.4							
BDFB				sP		sP	05 06 10.8	-0.4
	comp=Z,7.1nm,1.0s,baz=233,slow=10,SNR=4.6							
	comp=Z,5.9nm,0.8s							
NPGB	Novo Progresso	24.51	38	eP		P	05 05 46.9	-0.4
MCRA	Macar, Loja	24.55	336	P		P	05 05 47.8	+0.2
JANB	Januaria	26.94	69	eP		P	05 06 08.5	-0.8
NBPB	Pedra_Branca-C	36.24	59	eP		P	05 07 31.6	+0.9
QSPA	South Pole Qui	63.00	180	P		P	05 10 54.2	+1.0
QSPA				IAmb		IAmb	05 11 28.9	
	comp=Z,3.3nm,0.8s							
TXAR	Lajitas Array	64.72	328	P		P	05 11 06.5	+1.6
	comp=Z,0.9nm,0.6s,baz=153,slow=8.8,SNR=13							
TXAR				sP		sP	05 11 39.4	+0.8
	comp=Z,0.5nm,0.6s,baz=151,slow=8.6,SNR=3.6							
	comp=Z,0.9nm,0.6s							
DBIC	Dimbokro	71.55	72	P		P	05 11 47.9	+0.1
DBIC	Dimbokro	71.55	72	P		P	05 11 47.6	-0.2
	comp=Z,3.6nm,0.6s,baz=263,slow=8.1,SNR=4.7							
	comp=Z,3.6nm,0.6s							
PDAR	Pinedale Array	78.50	332	P		P	05 12 28.4	+1.0
	comp=Z,0.5nm,0.5s,baz=138,slow=7.3,SNR=7.2							
	comp=Z,0.5nm,0.5s							
NVAR	Mina Array Bea	79.31	323	P		P	05 12 32.3	+0.3
	comp=Z,0.3nm,0.7s,baz=152,slow=4.9,SNR=7.5							
	comp=Z,0.3nm,0.7s							
TORD	Torodi Ar. Bea	80.40	70	P		P	05 12 38.4	+0.3
	comp=Z,2.6nm,0.7s,baz=262,slow=4.7,SNR=14							
TORD				pP		pP	05 13 02.6	-0.1
	comp=Z,2.9nm,0.7s,baz=262,slow=5.1,SNR=7.8							
TORD				sP		sP	05 13 12.3	-0.4
	comp=Z,1.9nm,0.6s,baz=264,slow=5.5,SNR=4.2							
	comp=Z,2.6nm,0.7s							
ULM	Lac du Bonnet	80.41	344	P		P	05 12 37.3	-0.1
	comp=Z,1.4nm,0.5s,baz=137,slow=7.4,SNR=3.6							
	comp=Z,1.4nm,0.5s							
ASAR	Alice Springs	124.32	207	PKP		PKPdf	05 19 24.7	-0.4
	comp=Z,0.4nm,0.6s,baz=125,slow=1.8,SNR=5.3							
ASAR				pPKP		pPKPdf	05 19 50.0	-0.8
	comp=Z,0.3nm,0.5s,baz=132,slow=1.9,SNR=2.3							
WRA	Warramunga Arr	127.44	209	PKP		PKPdf	05 19 30.9	-0.2
	comp=Z,0.4nm,0.5s,baz=174,slow=2.0,SNR=6.9							
WRA				pPKP		pPKPdf	05 19 56.5	-0.3
	comp=Z,0.4nm,0.6s,baz=155,slow=1.7,SNR=1.7							
ZALV	Zalesovo Beam	147.57	28	PKPbc		PKPbc	05 20 09.0	-0.5
	comp=Z,0.5nm,0.4s,baz=300,slow=2.8,SNR=4.9							
ZALV				pPKPbc		pPKPdf	05 20 33.9	+1.2
	comp=Z,1.6nm,0.6s,baz=289,slow=2.6,SNR=5.2							
MKAR	Makanchi Array	150.83	41	PKPbc		PKiKP	05 20 18.7	+0.2
	comp=Z,0.6nm,0.6s,baz=290,slow=2.6,SNR=6.9							
MKAR				pPKPbc		pPKPbc	05 20 43.1	-0.6
	comp=Z,1.5nm,0.7s,baz=322,slow=2.5,SNR=9.1							

*SJA **10** 05:10:38.9±0.8,21°.14S×69°.04W,h118km±4km,ML3.5, MW3.5*

*GUC **10** 05:10:40.8±0.5,21°.15S×68°.95W,h105km±2km,ML3.5*

ISC 10 05:10:40.3±1.4,**21°.14S**±0°.03×**69°.06W**±0°.06,**h114**km±9km, **n31**,σ0°**61**/58,**9C**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.41**	**284**	eP	Pn	05 10 56.5	-0.7
PB01				eS	Sn	05 11 09.6	-0.3
PB01				IAML		05 11 10.7	
	comp=Z,2μm,0.1s						
PB01	**IPOC Station P**	**0.41**	**284**	eP	Pn	05 10 56.5	-0.7
PB01				eS	Sn	05 11 09.2	-0.7
PB01				IAML		05 11 09.6	
	comp=E,3μm,0.1s						
PB09	**IPOC Station P**	**0.67**	**194**	eP	Pn	05 10 58.7	-0.4
PB09				eS	Sn	05 11 13.7	+0.5
PB09				IAML		05 11 16.4	
	comp=Z,637nm,0.2s						
PB09	**IPOC Station P**	**0.67**	**194**	eP	Pn	05 10 58.7	-0.4
PB09				eS	Sn	05 11 12.8	-0.3
PB09				IAML		05 11 14.1	
	comp=N,845nm,0.1s						
PB02	**IPOC Station P**	**0.80**	**257**	eP	Pn	05 10 59.9	-0.1
PB02				eS	Sn	05 11 15.6	+0.8
PB02				IAML		05 11 16.7	
	comp=Z,3μm,0.5s						
PB02	**IPOC Station P**	**0.80**	**257**	eP	Pn	05 11 00.1	+0.1
PB02				eS	Sn	05 11 15.4	+0.5
PB02				IAML		05 11 16.2	
	comp=E,3μm,0.4s						
PB07	**IPOC Station P**	**0.96**	**233**	eP	Pn	05 11 01.3	-0.4
PB07				eS	Sn	05 11 18.4	+0.7
PB07				IAML		05 11 20.4	
	comp=Z,668nm,0.1s						
PB07	**IPOC Station P**	**0.96**	**233**	eP	Pn	05 11 01.4	-0.2
PB07				eS	Sn	05 11 17.8	+0.1
PB07				IAML		05 11 19.3	
	comp=E,896nm,0.1s						
PB08	**IPOC Station P**	**1.00**	**355**	eP	Pn	05 10 56.8	-5.5
PB08				eP	Pn	05 11 02.1	-0.2
PB08				eS	Sn	05 11 19.1	+0.4
PB08				IAML		05 11 20.6	
	comp=Z,652nm,0.3s						
PB08	**IPOC Station P**	**1.00**	**355**	eP	Pn	05 11 02.0	-0.2
PB08				eS	Sn	05 11 18.4	-0.4
PB08				IAML		05 11 19.7	
	comp=E,865nm,0.3s						
PATCX	**Punta Patache**	**1.07**	**287**	eP	Pn	05 11 03.0	+0.4
PATCX				eS	Sn	05 11 20.5	+1.0
PATCX				IAML		05 11 21.8	
	comp=N,1μm,0.3s						
HMBC	**Humberstone**	**1.16**	**318**	eP	Pn	05 11 03.4	-0.2
HMBC				eS	Sn	05 11 21.4	+0.2
TA01	**Diego Aracena**	**1.19**	**299**	eP	Pn	05 11 03.2	-0.6
TA01				eS	Sn	05 11 22.6	+0.9
TA01				IAML		05 11 23.6	
	comp=Z,510nm,0.2s						
TA01	**Diego Aracena**	**1.19**	**299**	eP	Pn	05 11 03.8	0.0
TA01				eS	Sn	05 11 22.6	+0.9
TA01				IAML		05 11 23.2	
	comp=E,2μm,0.2s						
LVC	**Limon Verde**	**1.47**	**174**	eP	Pn	05 10 56.8	-11
LVC				eP	Pn	05 11 07.3	-0.1
LVC				eS	Sn	05 11 28.6	+0.8
LVC				eS	Sn	05 11 28.8	+0.8
GO01	**Chusmiza**	**1.47**	**355**	eP	Pn	05 11 06.9	-0.7
GO01				eS	Sn	05 11 28.8	+0.6
GO01				IAML		05 11 29.8	
	comp=Z,358nm,0.9s						
GO01	**Chusmiza**	**1.47**	**355**	eP	Pn	05 11 07.4	-0.2
GO01				eS	Sn	05 11 28.6	+0.5
GO01				IAML		05 11 30.2	
	comp=N,1μm,0.1s						
PB11	**IPOC Station P**	**1.48**	**338**	eP	Pn	05 11 07.0	-0.3
PB11				eS	Sn	05 11 28.4	+0.6
PB11				IAML		05 11 29.2	
	comp=Z,465nm,0.3s						
PB11	**IPOC Station P**	**1.48**	**338**	eP	Pn	05 11 07.1	-0.3
PB11				eS	Sn	05 11 27.8	0.0
PB04	**IPOC Station P**	**1.56**	**220**	eP	Pn	05 11 08.0	-0.2
PB04				eS	Sn	05 11 30.0	+0.6
PB04				IAML		05 11 37.3	
	comp=Z,243nm,0.1s						
PB04	**IPOC Station P**	**1.56**	**220**	eP	Pn	05 11 08.0	-0.2
PB04				eS	Sn	05 11 29.5	+0.1
PB06	**IPOC Station P**	**1.63**	**197**	eP	Pn	05 11 08.9	-0.2
PB06				eS	Sn	05 11 31.4	+0.4
PB06				IAML		05 11 31.5	
	comp=Z,342nm,0.3s						
PB06	**IPOC Station P**	**1.63**	**197**	eP	Pn	05 11 09.0	-0.1
PB06				eS	Sn	05 11 30.8	-0.1
PB06				IAML		05 11 32.0	
	comp=E,422nm,0.2s						
PB15	**IPOC Station P**	**2.09**	**190**	eP	Pn	05 11 15.2	+0.4
PB15				eS	Sn	05 11 41.8	+0.5
PB15				IAML		05 11 42.6	
	comp=Z,546nm,0.2s						
PB15	**IPOC Station P**	**2.09**	**190**	eP	Pn	05 11 15.3	+0.4
PB12	**IPOC Station P**	**2.78**	**334**	eP	Pn	05 11 22.5	-1.2
PB12				eS	Sn	05 11 56.8	-0.3
PB12	**IPOC Station P**	**2.78**	**334**	eP	Pn	05 11 22.5	-1.2
PB16	**IPOC Station P**	**2.82**	**351**	eP	Pn	05 11 25.2	+0.5
PB16				eS	Sn	05 11 47.8	-11
PB16	**IPOC Station P**	**2.82**	**351**	eP	Pn	05 11 25.6	+0.9
YJA	Yavi	3.46	108	eP	Pn	05 11 33.1	+0.2
GO02	**Mina Guanaco**	**4.03**	**187**	eP	Pn	05 11 40.0	-0.5
GO02				eS	Sn	05 12 25.0	-2.0
GO02				IAML		05 12 56.1	
	comp=Z,29nm,0.4s						

*IDC **10** 05:10:49.4±2.1,56°.13N×148°.57W,h0km,mb3.8/6, mbtmp3.8/10,ML3.3/4,MS2.5/1,Error ellipse: s-maj=40.9km s-min=31.0km az=149.0*

*NEIC **10** 05:10:56.1±1.3,56°.55N±0°.07×148°.95W±0°.10,h22km±7km, mb3.9/5,ML4.0/76,ML3.7(AEIC),Error ellipse: s-maj=10.8km s-min=7.4km az=165.0*

*AEIC **10** 05:10:59.1±1.6,56°.51N±0°.08×148°.87W±0°.10,h12km±5km, Error ellipse: s-maj=11.8km s-min=7.8km az=169.0*

ISC 10 05:10:54.2±0.7,**56°.59N**±0°.07×**148°.87W**±0°.04,**h10**km, **n308**,σ1°**39**/309,**mb3.9**/7,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.35**	**302**		Pn	05 11 32.9	+0.2
KDAK	**Kodiak Island**	**2.35**	**302**		Sn	05 11 59.8	-1.8
KDAK	**Kodiak Island**	**2.35**	**302**	Pn	Pn	05 11 33.4	+0.7
KDAK	6.7nm,0.3s,baz=115,slow=5.7,SNR=328			Sn	Sn	05 12 00.1	-1.4
	25nm,0.3s,baz=311,slow=19,SNR=10						
	15nm,0.4s						
OHAK	**Old Harbor**	**2.50**	**287**		Pn	05 11 35.0	+0.2
OHAK	**Old Harbor**	**2.50**	**287**		Sn	05 12 02.8	-2.6
OHAK	**Old Harbor**	**2.50**	**287**	P	Pn	05 11 34.7	-0.1
OHAK	**Old Harbor**	**2.50**	**287**	P	Pn	05 11 34.8	-0.1
	baz=104						
OHAK				S	Sn	05 12 02.8	-2.6
	baz=104						
SYI	**Shuyak Island**	**2.77**	**318**		Pn	05 11 39.5	+0.9
SYI				IAML		05 12 13.8	
	comp=N,310nm,0.3s						
SYI				IAML		05 12 13.8	
	comp=E,296nm,0.4s						
SYI	**Shuyak Island**	**2.77**	**318**		Sn	05 12 12.2	+0.2
Q20K	**Shuyak Island**	**2.77**	**318**	P	Pn	05 11 39.6	+1.1
	baz=137						
Q20K				S	Sn	05 12 12.2	+0.1
	baz=137						
SII	**Sitkinak Islan**	**2.94**	**272**		Pn	05 11 39.5	-1.4
SII	**Sitkinak Islan**	**2.94**	**272**	P	Pn	05 11 40.4	-0.5
SII	**Sitkinak Islan**	**2.94**	**272**	P	Pn	05 11 40.1	-0.8
	baz=88						
Q23K	**Middleton Isla**	**3.15**	**24**	Pn	Pn	05 11 43.9	+0.2
Q23K				IAML		05 12 23.9	
	comp=E,633nm,3.6s						
Q23K				IAML		05 12 45.3	
	comp=N,396nm,3.4s						
Q23K	**Middleton Isla**	**3.15**	**24**	P	Pn	05 11 44.1	+0.4
	baz=207						
MID	**Middleton Isla**	**3.15**	**24**	Pn	Pn	05 11 43.9	+0.2
MID				IAML		05 12 20.6	
	comp=N,342nm,0.5s						
MID				IAML		05 12 23.9	
	comp=E,603nm,3.6s						
MID	**Middleton Isla**	**3.15**	**24**	P	Pn	05 11 44.4	+0.7
CNPM	**China Poot**	**3.20**	**338**		Pn	05 11 45.4	+0.9
CNPM	**China Poot**	**3.20**	**338**		Sn	05 12 22.6	0.0
BRSE	**Bradley Lake S**	**3.31**	**343**		Pn	05 11 46.4	+0.4
BRSE					Sn	05 12 25.0	-0.5
BRSE	**Bradley Lake S**	**3.31**	**343**	P	Pn	05 11 46.4	+0.4
	baz=163						
BRSE				S	Sn	05 12 25.0	-0.5
	baz=163						
BRLK	**Bradley Lake**	**3.36**	**342**		Pn	05 11 47.1	+0.4
HOM	**Homer**	**3.41**	**336**	Pn	Pn	05 11 48.2	+0.9
HOM				IAML		05 12 33.3	
	comp=E,340nm,1.2s						
HOM				IAML		05 12 36.8	
	comp=N,286nm,1.2s						
HOM	**Homer**	**3.41**	**336**	P	Pn	05 11 48.8	+1.4
	baz=154						
Q19K	**Cape Douglas,**	**3.47**	**315**		Pn	05 11 49.7	+1.5
Q19K				IAML		05 12 37.0	
	comp=N,467nm,0.7s						
Q19K	**Cape Douglas,**	**3.47**	**315**	P	Pn	05 11 49.8	+1.5
	baz=132						
P23K	**Montague Islan**	**3.51**	**12**		Pn	05 11 49.2	+0.6
P23K					Sn	05 12 28.8	-1.3
P23K	**Montague Islan**	**3.51**	**12**	P	Pn	05 11 49.2	+0.6
	baz=194						
P23K				S	Sn	05 12 28.8	-1.3
	baz=194						
SEW	**Seward**	**3.54**	**355**		Pn	05 11 49.5	+0.4
SEW	**Seward**	**3.54**	**355**	P	Pn	05 11 49.5	+0.4
	baz=176						
AUL	**Augustine Lava**	**3.71**	**321**		Pn	05 11 52.6	+1.2
KAKN	**Katmai Knife C**	**3.76**	**300**		Pn	05 11 53.8	+1.6
P19K	**Oil Pt**	**3.84**	**325**		Pn	05 11 55.1	+1.7
P19K				IAML		05 12 41.1	
	comp=E,296nm,0.3s						
P19K				IAML		05 12 42.3	
	comp=N,377nm,0.3s						
P19K	**Oil Pt**	**3.84**	**325**	P	Pn	05 11 54.8	+1.5
	baz=142						
CHIR	**Chirikof Islan**	**3.85**	**261**	Pn	Pn	05 11 52.5	-0.8
CHIR				IAML		05 12 35.0	
	comp=E,161nm,2.7s						
CHIR				IAML		05 14 06.9	
	comp=N,145nm,3.5s						
ACHA	**Angle Creek He**	**3.85**	**298**		Pn	05 11 55.2	+1.7
KAHC	**Katmai Hardscr**	**3.89**	**305**		Pn	05 11 55.6	+1.5
KAHC	**Katmai Hardscr**	**3.89**	**305**	P	Pn	05 11 55.6	+1.5
	baz=120						
ANCK	**Angle Creek**	**3.93**	**297**		Pn	05 11 56.3	+1.8
O22K	**Cooper Landing**	**3.93**	**354**		Pn	05 11 54.9	+0.4
O22K				IAML		05 12 47.0	
	comp=E,229nm,0.8s						
O22K				IAML		05 12 54.6	
	comp=N,300nm,0.7s						
O22K	**Cooper Landing**	**3.93**	**354**	P	Pn	05 11 55.4	+0.9
	baz=174						

SLKM	**Skilak Lake**	**3.99**	**350**			Pn	05 11 55.9	+0.5
HIN	**Hinchinbrook I**	**4.02**	**17**	Pn		Pn	05 11 56.6	+0.9
HIN				IAML			05 12 42.2	
	comp=E,353nm,0.4s							
O20K	**Slope Mountain**	**4.02**	**332**			Pn	05 11 56.7	+0.9
O20K	**Slope Mountain**	**4.02**	**332**	P		Pn	05 11 56.7	+0.9
	baz=150							
KAIM	**Kayak Island**	**4.09**	**33**	Pn		Pn	05 11 58.0	+1.3
KAIM	**Kayak Island**	**4.09**	**33**	P		Pn	05 11 57.6	+0.9
	baz=217							
CNTC	**Contact Creek**	**4.14**	**297**			Pn	05 11 58.7	+1.2
Q17K	**Contact Creek**	**4.15**	**297**	P		Pn	05 11 58.7	+1.1
	baz=112							
EYAK	**Cordova Ski Ar**	**4.29**	**21**			Pn	05 12 00.4	+0.9
EYAK	**Cordova Ski Ar**	**4.29**	**21**	P		Pn	05 12 00.7	+1.2
EYAK	**Cordova Ski Ar**	**4.29**	**21**	P		Pn	05 12 00.4	+0.9
	baz=204							
RED	**Redoubt Volcan**	**4.35**	**334**			Pn	05 12 00.5	+0.2
CAPN	**Captain Cook N**	**4.36**	**345**	Pn		Pn	05 12 01.4	+1.1
CAPN				IAML			05 13 05.7	
	comp=N,233nm,2.5s							
CAPN	**Captain Cook N**	**4.36**	**345**	P		Pn	05 12 02.2	+1.9
	baz=164							
RDSO	**Redoubt South**	**4.37**	**334**			Pn	05 12 01.0	+0.3
RSO	**Redoubt South**	**4.38**	**334**			Pn	05 12 01.5	+0.6
P18K	**Big Mountain,**	**4.40**	**312**			Pn	05 12 01.5	+0.6
P18K	**Big Mountain,**	**4.40**	**312**	P		Pn	05 12 01.5	+0.6
	baz=128							
RAGM	**Ragged Mountai**	**4.40**	**28**			Pn	05 12 02.5	+1.5
RDT	**Redoubt**	**4.40**	**337**			Pn	05 12 01.2	+0.1
SUCK	**Suckling Hills**	**4.41**	**35**			Pn	05 12 02.4	+1.4
SUCK	**Suckling Hills**	**4.41**	**35**	IAML			05 13 10.3	
	comp=E,260nm,2.4s							
RDWB	**Redoubt West**	**4.43**	**334**			Pn	05 12 01.6	+0.2
HMT	**Hamilton**	**4.47**	**31**			Pn	05 12 03.3	+1.4
NICHA	**Nichawak Mount**	**4.47**	**33**			Pn	05 12 03.5	+1.5
RDJH	**Redoubt Jeurge**	**4.51**	**335**			Pn	05 12 02.8	+0.3
NCT	**North Crescent**	**4.51**	**334**			Pn	05 12 02.8	+0.2
RC01	**Rabbit Creek A**	**4.54**	**355**			Pn	05 12 03.4	+0.6
RC01	**Rabbit Creek A**	**4.54**	**355**	P		Pn	05 12 03.4	+0.6
	baz=175							
GOAT	**Goat Mountain**	**4.55**	**27**			Pn	05 12 04.3	+1.2
O19K	**Port Alsworth**	**4.61**	**324**			Pn	05 12 04.4	+0.5
O19K	**Port Alsworth**	**4.61**	**324**	P		Pn	05 12 04.3	+0.5
	baz=140							
BERG	**Berg Lake**	**4.68**	**33**			Pn	05 12 05.9	+1.1
O18K	**Koktuh Hills**	**4.68**	**317**			Pn	05 12 05.3	+0.5
O18K				IAML			05 13 00.1	
	comp=N,74nm,0.7s							
O18K	**Koktuh Hills**	**4.68**	**317**	P		Pn	05 12 05.6	+0.7
	baz=132							
GRIN	**Grindle Hills**	**4.71**	**36**			Pn	05 12 06.6	+1.3
SNH	**Sunshine Point**	**4.80**	**39**			Pn	05 12 07.9	+1.5
P17K	**Kvichak River**	**4.81**	**306**			Pn	05 12 08.2	+1.7
P17K	**Kvichak River**	**4.81**	**306**	P		Pn	05 12 08.2	+1.7
	baz=120							
DIV	**Divide**	**4.83**	**18**			Pn	05 12 07.8	+0.9
KNK	**Knik Glacier**	**4.84**	**2**			Pn	05 12 08.1	+1.1
KNK				IAML			05 13 06.9	
	comp=E,49nm,0.4s							
KNK				IAML			05 13 07.2	
	comp=N,51nm,0.6s							
KNK	**Knik Glacier**	**4.84**	**2**	P		Pn	05 12 08.2	+1.1
	baz=183							
KHIT	**Khitrov Hills**	**4.86**	**35**			Pn	05 12 08.1	+0.8
BMRM	**Bremner River**	**4.92**	**25**			Pn	05 12 09.3	+1.1
BMRM	**Bremner River**	**4.92**	**25**	P		Pn	05 12 09.3	+1.1
	baz=209							
N20K	**Mount Spurr**	**4.94**	**341**	P		Pn	05 12 08.6	+0.2
	baz=159							
SPCR	**Spurr Chakacha**	**4.94**	**341**			Pn	05 12 08.6	+0.2
SPCN	**Chakachatna No**	**4.96**	**341**			Pn	05 12 09.3	+0.7
SUA	**Susitna One**	**4.98**	**350**			Pn	05 12 09.2	+0.2
SUA				IAML			05 14 15.1	
	comp=E,52nm,3.9s							
SUA				IAML			05 14 48.1	
	comp=N,51nm,3.8s							
SUA	**Susitna One**	**4.98**	**350**	P		Pn	05 12 09.2	+0.2
	baz=169							
SPCP	**Crater Peak Br**	**4.99**	**341**			Pn	05 12 09.2	+0.1
SPCG	**Spurr Capps Gl**	**4.99**	**342**			Pn	05 12 10.0	+0.8
WAX	**Waxell Ridge**	**4.99**	**37**			Pn	05 12 10.5	+1.4
PMR	**Palmer**	**5.02**	**359**			Pn	05 12 10.6	+1.2
PMR	**Palmer**	**5.02**	**359**	P		Pn	05 12 10.9	+1.5
PMR	**Palmer**	**5.02**	**359**	P		Pn	05 12 10.2	+0.8
	baz=179							
SPBG	**Spurr Blockage**	**5.02**	**340**			Pn	05 12 10.4	+0.8
BARK	**Barkley Ridge**	**5.08**	**39**			Pn	05 12 11.5	+1.2
MESA	**MESA**	**5.12**	**42**			Pn	05 12 12.0	+1.0
MESA	**MESA**	**5.12**	**42**	IAML			05 13 16.5	
	comp=E,141nm,0.8s							
MESA	**MESA**	**5.12**	**42**	P		Pn	05 12 12.0	+1.0
	baz=228							
CRQM	**Cirque**	**5.14**	**33**			Pn	05 12 12.4	+1.1
CRQM				IAML			05 13 11.6	
	comp=E,112nm,0.6s							
CRQM				IAML			05 13 13.0	
	comp=N,121nm,0.6s							
N19K	**Bonanza Creek**	**5.15**	**328**			Pn	05 12 11.6	+0.4
N19K	**Bonanza Creek**	**5.15**	**328**	P		Pn	05 12 11.9	+0.6
	baz=144							
KLU	**Klutina**	**5.15**	**16**			Pn	05 12 12.9	+1.6
KLU				IAML			05 13 10.2	
	comp=N

TABL	Table Mountain	5.60	43			Pn	05 12 19.1 +1.6
MCARA	McCarthy VSAT	5.68	30		Pn	Pn	05 12 20.0 +1.5
MCARA	McCarthy VSAT baz=215	5.68	30		P	Pn	05 12 20.1 +1.7
PTPK	Patty Peak	5.68	33			Pn	05 12 20.2 +1.5
M24K	Tolsona, Glenn	5.70	13			Pn	05 12 20.5 +1.6
M24K	Tolsona, Glenn baz=196	5.70	13		P	Pn	05 12 20.7 +1.8
SVW2	Sparrevohn	5.70	325		Pn	Pn	05 12 18.9 0.0
SVW2	Sparrevohn	5.70	325		P	Pn	05 12 19.0 +0.2
PCA	Pinnacle	5.74	49			Pn	05 12 20.7 +1.3
M20K	Styx River	5.74	339			Pn	05 12 20.0 +0.6
M20K	Styx River baz=156	5.74	339		P	Pn	05 12 20.0 +0.6
PINM	Pinnacle baz=236	5.74	49		P	Pn	05 12 20.7 +1.3
O16K	Kokwok River B	5.74	305			Pn	05 12 20.6 +1.3
O16K	Kokwok River B baz=118	5.74	305		P	Pn	05 12 20.6 +1.3
WASW	Wrangell South	5.87	22			Pn	05 12 22.9 +1.5
N17K	Nushagak Hills baz=129	5.87	316		P	Pn	05 12 22.0 +0.8
CTG	Chitna Glacier baz=225	5.88	39		P	Pn	05 12 22.8 +1.5
CTGM	Chitina Glacie	5.88	39		Pn	Pn	05 12 22.9 +1.5
WACK	Wrangell Chich	5.89	21			Pn	05 12 23.2 +1.6
PNL	Peninsula	5.89	54			Pn	05 12 22.7 +1.2
PNL	Peninsula	5.89	54		P	Pn	05 12 23.0 +1.6
PNL	Peninsula baz=242	5.89	54		P	Pn	05 12 22.7 +1.2
LOGN	Logan Glacier	5.90	41			Pn	05 12 22.9 +1.2
BCPM	Bancas Point	5.93	51			Pn	05 12 23.3 +1.4
M19K	Big River Lodg	6.03	334			Pn	05 12 23.7 +0.3
M19K	Big River Lodg baz=150	6.03	334		P	Pn	05 12 23.7 +0.3
WAT6	Susitna Watana	6.04	5			Pn	05 12 24.9 +1.3
WAT6	Susitna Watana baz=186	6.04	5		P	Pn	05 12 24.9 +1.3
M18K	Stony River	6.08	327			Pn	05 12 24.3 +0.3
M18K	Stony River baz=141	6.08	327		P	Pn	05 12 24.3 +0.3
HARP	HAARP	6.13	16			Pn	05 12 26.7 +2.1
HARP	HAARP baz=200	6.13	16		P	Pn	05 12 26.7 +2.1
WAT1	Susitna Watana	6.26	1			Pn	05 12 28.3 +1.8
WAT1	Susitna Watana baz=182	6.26	1		P	Pn	05 12 28.3 +1.8
WAT7	Susitna Watana	6.26	0			Pn	05 12 28.3 +1.7
L19K	White Mountain baz=149	6.38	334		P	Pn	05 12 28.4 +0.2
O15K	Ungalikthiuk R	6.39	298			Pn	05 12 30.2 +2.0
O15K	Ungalikthiuk R baz=110	6.39	298		P	Pn	05 12 30.2 +2.0
L20K	Farewell, AK	6.43	339			Pn	05 12 29.1 +0.3
L20K	Farewell, AK baz=155	6.43	339		P	Pn	05 12 29.1 +0.3
N16K	Nishlik Lake	6.48	311			Pn	05 12 30.7 +1.2
N16K	Nishlik Lake baz=123	6.48	311		P	Pn	05 12 30.7 +1.2
M17K	Holitna River	6.54	321		Pn	Pn	05 12 30.9 +0.5
M17K	Holitna River baz=134	6.54	321		P	Pn	05 12 31.0 +0.7
M26K	Nabesna, AK	6.55	25			Pn	05 12 32.7 +2.2
M26K	Nabesna, AK baz=210	6.55	25		P	Pn	05 12 31.5 +1.0
DHY	Denali Highway	6.55	6			Pn	05 12 32.1 +1.6
DHY	Denali Highway baz=188	6.55	6		P	Pn	05 12 32.4 +1.9
O29M	Mount Kennedy	6.56	51			Pn	05 12 32.1 +1.4
O29M	Mount Kennedy baz=240	6.56	51		P	Pn	05 12 32.1 +1.4
PAX	Paxson	6.63	14			Pn	05 12 33.2 +1.6
PAX	Paxson baz=197	6.63	14		P	Pn	05 12 33.2 +1.6
SDPT	Sand Point	6.63	264		P	Pn	05 12 32.2 +0.7
P29M	Windy Craggy	6.64	58			Pn	05 12 33.1 +1.4
P29M	Windy Craggy baz=247	6.64	58		P	Pn	05 12 32.7 +1.0
YUK2	White River	6.64	35			Pn	05 12 34.0 +2.2
YUK8	Steele Glacier	6.66	41			Pn	05 12 34.5 +2.4
YUK8	Steele Glacier baz=229	6.66	41		P	Pn	05 12 34.5 +2.4
YUK3	Moose Creek	6.76	36			Pn	05 12 35.6 +2.1
YUK3	Moose Creek baz=224	6.76	36		P	Pn	05 12 35.6 +2.1
RND	Reindeer	6.84	0			Pn	05 12 36.4 +2.0
YUK7	Dusty Glacier	6.86	50			Pn	05 12 36.2 +1.3
M16K	Timber Creek	6.87	314		Pn	Pn	05 12 35.7 +1.0
M16K	Timber Creek baz=126	6.87	314		P	Pn	05 12 35.8 +1.0
N15K	Kwethluk River	6.90	306		Pn	Pn	05 12 37.4 +2.2
N15K	Kwethluk River baz=117	6.90	306		P	Pn	05 12 37.6 +2.3
L18K	Granite Mounta	6.91	328		Pn	Pn	05 12 35.7 +0.4
L18K	Granite Mounta baz=142	6.91	328		P	Pn	05 12 35.7 +0.4
TRF	Thorofare Moun	6.92	355			Pn	05 12 37.6 +2.0
TRF	Thorofare Moun baz=174	6.92	355		P	Pn	05 12 36.7 +1.0
YUK6	Outpost Mounta	6.99	47			Pn	05 12 38.9 +2.2
YUK6	Outpost Mounta baz=236	6.99	47		P	Pn	05 12 38.9 +2.2
S31K	Pelican	6.99	73			Pn	05 12 35.1 -1.4
S31K	Pelican baz=264	6.99	73		P	Pn	05 12 35.1 -1.4
L26K	Log Cabin Wild	7.03	21			Pn	05 12 39.8 +2.8
CAST	Castle Rocks	7.04	348			Pn	05 12 37.9 +0.8
CAST	Castle Rocks baz=166	7.04	348		P	Pn	05 12 38.2 +1.1
KTH	Kantishna Hill	7.06	353			Pn	05 12 38.9 +1.4
O14K	Tigyukauivet M	7.12	297			Pn	05 12 40.6 +2.4
O14K	Tigyukauivet M baz=107	7.12	297		P	Pn	05 12 40.6 +2.4
BVCY	Beaver Creek	7.12	32			Pn	05 12 40.2 +1.9
BVCY	Beaver Creek baz=219	7.12	32		P	Pn	05 12 40.2 +1.9
MCK	McKinley	7.17	360			Pn	05 12 40.1 +1.2
MCK	McKinley baz=180	7.17	360		P	Pn	05 12 40.1 +1.2
P30M	Million Dollar	7.20	56			Pn	05 12 40.7 +1.3
P30M	Million Dollar baz=246	7.20	56		P	Pn	05 12 40.7 +1.3
K20K	Telida	7.27	341		Pn	Pn	05 12 40.5 +0.2
K20K	Telida baz=157	7.27	341		P	Pn	05 12 40.4 0.0
TTA	Tatalina	7.31	333		Pn	Pn	05 12 40.7 -0.2
TTA	Tatalina	7.31	333		P	Pn	05 12 41.2 +0.3
TTA	Tatalina baz=148	7.31	333		P	Pn	05 12 40.9 0.0
L17K	Donlin	7.35	323			Pn	05 12 41.8 +0.4
L17K	Donlin baz=136	7.35	323		P	Pn	05 12 41.8 +0.4
BCAR	Beaver Creek A	7.41	26		Pn	Pn	05 12 43.1 +0.9
SIT	Sitka	7.45	81		P	Pn	05 12 41.1 -1.7
L16K	Owhat River	7.48	318		Pn	Pn	05 12 43.6 +0.4
BPAW	Bear Paw Mtn.	7.61	353			Pn	05 12 45.5 +0.5
BPAW	Bear Paw Mtn. baz=172	7.61	353		P	Pn	05 12 46.3 +1.4
SKAG	Skagway	7.74	63		P	Pn	05 12 46.9 +0.1
K17K	Iditarod	7.78	326			Pn	05 12 47.6 +0.3
BESE	Bessie Mountai	7.79	69			Pn	05 12 48.3 +0.8
SCRK	Sand Creek	7.80	16			Pn	05 12 49.1 +1.5
SCRK	Sand Creek baz=200	7.80	16		P	Pn	05 12 49.5 +1.9
HDA	Harding Lake	7.90	6			Pn	05 12 50.8 +1.9
WRH	Wood River Hil	7.92	2			Pn	05 12 52.5 +3.3
J18K	Innoko River	7.93	334			Pn	05 12 49.8 +0.5
JIS	Juneau Island	8.00	72			Pn	05 12 50.7 +0.4
JIS	Juneau Island baz=180	8.00	72		P	Pn	05 12 50.9 +0.6
NEA2	Nenana	8.03	359			Pn	05 12 51.9 +1.2
NEA2	Nenana baz=180	8.03	359		P	Pn	05 12 51.9 +1.2
J20K	Nowinta River	8.04	343		Pn	Pn	05 12 51.9 +1.0
CCB	Clear Creek Bu	8.10	3			Pn	05 12 53.6 +1.9
J19K	Poorman	8.14	339		Pn	Pn	05 12 52.3 0.0
J25K	Salcha River,	8.23	11			Pn	05 12 54.9 +1.3
IL31		8.27	6			Pn	05 12 54.9 +0.9
ILAR	Eielson Array comp=E,0.9nm,0.3s,baz=185,slow=13,SNR=36	8.27	6		Pn	Pn	05 12 55.0 +1.0
ILAR	comp=E,0.4nm,0.3s,baz=181,slow=22,SNR=4.7 comp=E,2.1nm,0.3s				Sn	Sn	05 14 25.9 -1.4
COLA	College	8.33	3		P	Pn	05 12 56.6 +1.8
J26L	Joseph Creek	8.36	16			Pn	05 12 56.4 +1.1
MDM	Murphy Dome	8.40	2			Pn	05 12 57.1 +1.3
L29M	L29M	8.47	35		Pn	Pn	05 12 59.3 +2.5
MLY	Manley	8.52	355			Pn	05 12 58.7 +1.3
MLY	Manley baz=173	8.52	355		P	Pn	05 12 58.9 +1.4
M30M	Minto, Yukon	8.57	41			Pn	05 13 00.6 +2.4
M30M	Minto, Yukon baz=231	8.57	41		P	Pn	05 13 00.6 +2.4
P32M	Atlin	8.57	63			Pn	05 12 59.5 +1.2
P32M	Atlin baz=256	8.57	63		P	Pn	05 12 59.5 +1.2
I23K	Minto, Yukon-K	8.59	359			Pn	05 12 59.7 +1.3
I23K	Minto, Yukon-K baz=178	8.59	359		P	Pn	05 12 59.9 +1.5
K15K	Wolf Creek Mou	8.61	317		Pn	Pn	05 12 59.5 +0.8
DAWY	Dawson	8.84	28			Pn	05 13 03.7 +1.8
EGAK	Eagle	9.04	21			Pn	05 13 06.8 +2.3
K29M	Barlow Dome	9.20	33		Pn	Pn	05 13 08.7 +1.9
M31M	Drury Creek, Y	9.27	47			Pn	05 13 10.0 +2.2
H24K	Noodor Dome	9.29	3			Pn	05 13 09.9 +1.8
J14K	Nanvaranak Lak	9.64	316		Pn	Pn	05 13 13.8 +1.0
FARO	Faro, Yukon	9.71	48		Pn	Pn	05 13 16.1 +2.3
H18K	Honhosa River	9.74	336		Pn	Pn	05 13 14.4 +0.2
I28M	Miner Creek	9.88	22		Pn	Pn	05 13 18.6 +2.5
J30M	Hart River	10.09	32			Pn	05 13 22.2 +2.1
G23K	Banana Creek	10.17	357			Pn	05 13 21.6 +1.5
DLBC	Dease Lake comp=E,0.5nm,0.3s,baz=283,slow=6.5,SNR=14	10.30	72		Pn	Pn	05 13 22.9 +1.0
DLBC	comp=E,0.4nm,0.3s,baz=198,slow=25,SNR=7.0				Sn	Sn	05 15 11.8 -5.6
G18K	Tagagawik	10.44	337		Pn	Pn	05 13 24.3 +0.6
I30M	Mount Dempster	10.56	30		Pn	Pn	05 13 28.4 +3.0
F20K	Avaraart Lake	10.97	346		Pn	Pn	05 13 32.2 +1.2
BMAR	Burnt Mountain	11.06	9		Pn	Pn	05 13 33.2 +1.0
E24K	Your Creek	11.53	1			Pn	05 13 39.3 +0.7
E19K	Redstone River	11.57	344		Pn	Pn	05 13 40.8 +1.6
D22K	Ayikyak River	12.46	354		Pn	Pn	05 13 53.7 +2.4
D19K	Kuna River	12.66	344		Pn	Pn	05 13 55.2 +1.2
D27M	Malolim River	13.18	12		Pn	Pn	05 14 03.0 +1.8
C23K	Ikiilik River	13.32	357			Pn	05 14 05.3 +2.4
INK	Inuvik	13.67	25			Pn	05 14 10.4 +2.7
INK	Inuvik comp=E,0.1nm,0.3s,baz=215,slow=12,SNR=8.5	13.67	25		Pn	Pn	05 14 09.9 +2.2
INK	comp=E,19nm,19.5s,baz=168,slow=40 comp=E,3.6nm,1.0s				LR	LR	05 20 09.6
C36M	Paulatuk	16.86	31			Pn	05 14 52.3 +2.5
YKA	Yellowknife Ar	18.18	57			Pn	05 15 08.2 +1.9
YKA	Yellowknife Ar baz=266,slow=13,SNR=3.6 comp=E,1.1nm,1.0s	18.18	57		P	Pn	05 15 04.5 -1.8
A36M	Sachs Harbour	18.31	23		P	Pn	05 15 09.1 +1.3
A36M	comp=Z,3.9nm,0.8s				IAmb	IAmb	05 15 14.1
D05A	Enumclaw	18.96	108		P	P	05 15 16.7 +1.4
D05A	comp=Z,19nm,1.4s				IAmb	IAmb	05 15 19.6
MZP	Montezuma Peak	28.18	119		P	P	05 16 49.4 +2.6
MZP	comp=Z,1.8nm,0.9s				IAmb	IAmb	05 17 31.3
PDAR	Pinedale Array	28.50	102		P	P	05 16 49.2 -0.5
FCC	Fort Churchill	28.69	62		P	P	05 16 51.6 +0.7
H11N2	WAKE ISLAND Hy baz=30,slow=76,SNR=4.8	49.23	240		T	T	06 12 38.0
H11N3	WAKE ISLAND Hy baz=30,slow=76,SNR=6.5	49.24	240		T	T	06 12 44.5
H11N1	WAKE ISLAND Hy baz=30,slow=76,SNR=4.4	49.25	240		T	T	06 12 43.2
H11S1	WAKE ISLAND Hy baz=30,slow=74	50.38	240		T	T	06 14 12.4
H11S2	WAKE ISLAND Hy baz=30	50.39	240		T	T	06 14 18.6
H11S3	WAKE ISLAND Hy baz=30,slow=74	50.39	240		T	T	06 14 15.3
ARCES	ARCESS Array B comp=Z,2.4nm,0.8s,baz=354,slow=7.4,SNR=3.5 comp=Z,2.4nm,0.8s	54.11	2		P	P	05 20 17.8 -0.7
SONM	Songino Array comp=Z,0.6nm,0.7s,baz=33,slow=8.6,SNR=3.0 comp=Z,0.6nm,0.7s	58.61	310		P	P	05 20 51.0 -0.1
BVAR	Borovoye Array comp=Z,0.5nm,0.6s,baz=39,slow=7.8,SNR=2.6 comp=Z,0.5nm,0.6s	66.10	335		P	P	05 21 40.6 -0.3
AKASG	Malin Array Be comp=Z,1.2nm,0.6s,baz=360,slow=6.3,SNR=4.9 comp=Z,1.2nm,0.6s	73.06	1		P	P	05 22 23.7 -0.1
GERES	GERESS Array B comp=Z,0.3nm,0.5s,baz=359,slow=8.9,SNR=2.5 comp=Z,0.3nm,0.5s	73.94	12		P	P	05 22 28.7 -0.5
BRTR	Keskin Array B comp=Z,0.5nm,0.8s,baz=14,slow=6.4,SNR=2.7 comp=Z,0.5nm,0.8s	84.03	358		P	P	05 23 23.8 -0.9

IDC ***10*** *05:30:58.7±6.5, 30°.47S×178°.15W, h55km±43km, mb4.0/3, mbtmp4.3/3, MS3.3/1, Error ellipse: s-maj=77.1km s-min=21.6km az=138.0*

ISC 10 05:30:56.2±1.7, 30°.7S±0°.1×178°.0W±0°.3, h46km, n15, σ1§41/12, mb4.1/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	1.42	2	P	Pn	05 31 18.8	-0.7
	374nm,0.2s,baz=270,slow=20,SNR=3.1						
RAO				S	Sn	05 31 35.3	-1.6
	2µm,0.3s,baz=141,slow=23,SNR=15						
URZ	Urewera	8.58	207	P	Pn	05 32 54.4	-3.4
	3.1nm,0.6s,baz=315,slow=7.1,SNR=1.0						
URZ				S	Sn	05 34 30.5	-2.7
	6.0nm,0.4s,baz=298,slow=22,SNR=22						
DZM	Mont Dzumac	16.36	298	LR	LR	05 39 36.0	
	comp=Z,93nm,19.1s,baz=164,slow=32						
STKA	Stephens Creek	34.43	257	P	P	05 37 41.0	+1.6
	6.8nm,0.6s,baz=92,slow=8.9,SNR=21						
	6.8nm,0.6s						
ASAR	Alice Springs	43.11	267	P	P	05 38 52.0	-0.2
	1.1nm,0.7s,baz=106,slow=7.6,SNR=10.0						
	1.1nm,0.7s						
WRA	Warramunga Arr	44.12	272	P	P	05 39 00.2	-0.1
	1.8nm,0.4s,baz=111,slow=8.0,SNR=23						
	1.8nm,0.4s						
H03S2	Juan Fernandez	80.30	124	T	T	07 12 11.3	
	baz=238,slow=74						
H03S1	Juan Fernandez	80.32	124	T	T	07 12 16.3	
	baz=238,slow=74						
H03S3	Juan Fernandez	80.32	123	T	T	07 12 14.4	
	baz=238,slow=74						
FINES	FINESS Array B	145.40	340	PKPbc	PKPbc	05 50 28.0	-0.3
	2.5nm,0.4s,baz=58,slow=3.8,SNR=54						
NB2	NORSAR Subarra	149.02	351	PKP	PKPbc	05 50 38.8	+0.3
	comp=Z,0.4nm,0.5s,baz=14,slow=2.8						
NOA	NORSAR Array B	149.02	351	PKPbc	PKPbc	05 50 38.4	-0.1
	comp=Z,0.4nm,0.5s,baz=15,slow=4.1,SNR=3.7						
HFS	Hagfors	149.51	348	PKPbc	PKPbc	05 50 39.5	-0.2
	comp=Z,1.0nm,0.7s,baz=311,slow=3.1,SNR=1.9						
AKASG	Malin Array Be	151.52	322	PKPbc	PKPbc	05 50 45.3	+0.5
	comp=Z,0.5nm,0.5s,baz=57,slow=2.1,SNR=2.4						
BRTR	Keskin Array B	152.74	298	PKPbc	PKiKP	05 50 50.4	+2.1
	comp=Z,0.4nm,0.6s,baz=152,slow=6.5,SNR=2.0						

IDC 10 05:51:01.8±1.4, 3°.59N×126°.72E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=138.5km s-min=21.1km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.55	163	P	P	05 56 21.8	-1.7
	1.3nm,0.8s,baz=342,slow=10,SNR=9.6						
	1.3nm,0.8s						
ASAR	Alice Springs	27.98	166	P	P	05 56 55.8	+1.4
	0.2nm,0.5s,baz=348,slow=8.5,SNR=1.4						
	0.2nm,0.5s						
STKA	Stephens Creek	38.00	159	P	P	05 58 22.4	+0.7
	0.7nm,0.4s,baz=338,slow=13,SNR=4.3						
	0.7nm,0.4s						
SONM	Songino Array	47.43	341	P	P	05 59 38.1	-0.2
	0.4nm,0.6s,baz=154,slow=9.2,SNR=2.7						
	0.6s						
MKAR	Makanchi Array	57.67	325	P	P	06 00 54.0	-0.1
	0.6nm,0.6s,baz=117,slow=7.2,SNR=5.6						
	0.6nm,0.6s						

DNK ***10*** *05:53:37.8±2.4, 51°.73N×16°.11E, h0km, ML2.5, Suspected explosion*

IPEC ***10*** *05:53:38.5±0.2, 51°.62N×15°.99E, h1km, ML3.3/4, Error ellipse: s-maj=2.9km s-min=1.2km az=57.0*

BGR ***10*** *05:53:39.0±0.4, 51°.63N×16°.05E, h1km, ML3.4/16, Error ellipse: s-maj=4.4km s-min=2.2km az=15.0*

IDC ***10*** *05:53:38.4±0.7, 51°.63N×15°.80E, h0km, mb3.3/1, mbtmp3.3/9, ML3.1/8, Error ellipse: s-maj=12.3km s-min=6.5km az=94.0*

LDG ***10*** *05:53:40.0±0.2, 51°.52N×15°.73E, h10km, Ml3.6/4, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*

UPP ***10*** *05:53:41.9±3.1, 51°.79N×15°.09E, h0km, ML2.4*

VIE ***10*** *05:53:41.5±0.5, 51°.39N×15°.89E, h0km, mb2.9/15, ml3.1/15, ms3.8/2, Error ellipse: s-maj=4.7km s-min=2.9km az=48.0, Suspected Mining induced.*

PRU ***10*** *05:53:41.1, 51°.54N×15°.98E, h0km*

ISC 10 05:53:36.5±0.6, 51°.69N±0°.03×15°.96E±0°.02, h0km, n108, σ1§72/205, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.87	166	ePg	Pb	05 53 54.1	-0.4
KSP				eSg	Sg	05 54 04.5	-0.1
KSP	Ksiaz	0.87	166	ePg	Pb	05 53 54.1	-0.4
KSP				eSg	Sg	05 54 04.6	0.0
CHVC	Chvalec	1.10	177	ePG	Pb	05 53 58.5	0.0
CHVC				eSG	Sg	05 54 12.4	+0.4
OSTC	Ostas	1.15	172	ePG	Pb	05 53 59.4	+0.2
OSTC				eSG	Sg	05 54 13.4	+0.1
UPC	Upice	1.19	178	ePG	Pb	05 53 59.7	-0.1
UPC				eSG	Sg	05 54 14.2	-0.3
	comp=Z,383nm,0.4s						
DPC	Dobruska-Polom	1.36	170	ePG	Pn	05 54 02.9	+0.1
DPC				eSG	Sg	05 54 19.6	-0.6
	comp=Z,172nm,0.5s						
DPC	Dobruska-Polom	1.36	170	ePn	Pn	05 54 02.8	+0.1
DPC				eSg	Sg	05 54 20.0	-0.2
PVCC	Panska Ves	1.46	218	ePG	Pb	05 54 05.6	+1.1
PVCC				eSG	Sn	05 54 24.5	+0.6
	comp=Z,531nm,0.4s						
BRG	Berggiesshubel	1.51	238	Pn	Pb	05 54 05.6	+0.2
BRG				Pg	Pg	05 54 07.0	+1.6
BRG				Sg	Sn	05 54 26.5	+1.4
BRG				Amp		05 54 28.6	
	comp=Z,300nm,0.6s						
BRG	Berggiesshubel	1.51	238	ePn	Pg	05 54 06.0	+0.6
BRG				eSg	Sn	05 54 27.0	+1.9
RUE	Ruedersdorf	1.56	301	eP	Pg	05 54 07.7	+1.3
KRLC	Kraliky	1.70	162	ePG	Pn	05 54 07.9	+0.5
KRLC				eSG	Sn	05 54 30.3	+0.4
	comp=Z,256nm,0.4s						
GKP	Gorka Klasztor	1.76	26	eP	Pg	05 54 17.6	+7.3
FBE	Freiberg	1.81	246	ePn	Pb	05 54 10.6	+0.2
FBE				eSg	Sg	05 54 36.6	+2.0
CLL	Collm	1.89	259	*i* Pn	Pb	05 54 11.3	-0.6
	comp=Z,37nm,0.5s						
CLL				*i* Pg	Pg	05 54 14.4	+1.7
CLL				*i* x	x	05 54 18.3	
CLL				eSg	Sg	05 54 39.0	+1.9
	comp=Z,119nm,0.4s						
CLL	Collm	1.89	259	ePn	Pb	05 54 11.2	-0.6
CLL				eSg	Sg	05 54 40.3	+3.1
PRA	Prague	1.89	211	ePN	Pb	05 54 11.3	-0.5
PRA				ePG	Pg	05 54 13.2	+0.5
PRA				eSG	Sg	05 54 37.2	+0.1
	comp=Z,206nm,0.7s						
HSKC	Hora Svate Kat	1.93	237	ePN	Pb	05 54 12.4	-0.1
HSKC				ePG	Pg	05 54 13.6	+0.2
HSKC				eSG	Sg	05 54 38.4	0.0
	comp=Z,200nm,0.6s						
PRU	Pruhonice	1.93	208	ePN	Pb	05 54 11.7	-0.8
PRU				ePG	Pg	05 54 13.4	0.0
PRU				eSG	Sb	05 54 37.7	+0.6
	comp=Z,164nm,0.4s						
GOPC	GO Pecny, Ondr	1.93	203	ePG	Pg	05 54 13.5	+0.1
RAC	Raciborz	2.14	138	ePG	Pg	05 54 18.3	+0.8
RAC				eSG	Sg	05 54 45.6	+0.3
MORC	Moravsky Berou baz=332	2.16	152	ePn	Pn	05 54 14.2	+0.4
MORC				eSg	Sb	05 54 44.0	+0.1
	comp=Z,127nm,0.4s,baz=332						
MORC	Moravsky Berou	2.16	152	ePn	Pn	05 54 14.2	+0.4
OKC	Ostrava-Krasne	2.32	142	ePG	Pb	05 54 19.6	+0.5
OKC				eSG	Sb	05 54 49.0	+0.7
	comp=Z,137nm,0.5s						
OKC	Ostrava-Krasne	2.32	142	ePn	Pn	05 54 15.9	0.0
OKC				eSg	Sg	05 54 49.9	-1.0
VRAC	Vranov baz=351	2.42	170	ePn	Pn	05 54 18.4	+1.1
VRAC				eSg	Sb	05 54 51.8	+0.6
	comp=Z,112nm,0.6s,baz=351						
VRAC	Vranov	2.42	170	Pn	Pn	05 54 18.1	+0.8
	comp=Z,4.5nm,0.3s,baz=347,slow=16,SNR=47						
VRAC				Lg	Lg	05 54 51.9	
	comp=Z,14nm,0.3s,baz=255,slow=20,SNR=6.2 comp=Z,12nm,0.3s						
TANN	Tannenbergstha	2.55	241	ePn	Pn	05 54 20.8	+1.6
TANN				eSg	Sg	05 54 59.4	+1.0
MAUC	Maruska	2.62	152	ePG	Pb	05 54 25.4	+1.2
WERD	Werda	2.62	243	ePn	Pn	05 54 21.6	+1.5
KRUC	Moravsky baz=354	2.65	174	ePn	Pn	05 54 21.1	+0.7
KRUC				eSg	Sb	05 54 59.0	+1.2
	comp=Z,113nm,0.7s,baz=354						
NKC	Novy Kostel	2.66	238	ePN	Pn	05 54 22.4	+1.8
NKC				ePG	Pg	05 54 28.6	+1.2
NKC				eSG	Sg	05 55 03.2	+1.4
OJC	Ojcow	2.84	120	ePn	Pn	05 54 22.2	-0.8
OJC				ePg	Pg	05 54 30.5	-0.4
OJC				eSg	Sg	05 55 07.1	-0.6
OJC	Ojcow	2.84	120	ePn	Pn	05 54 22.1	-0.9
MOX	Moxa	2.93	251	ePn	Pn	05 54 25.7	+1.4
MOX				eSg	Sg	05 55 12.5	+2.0
MANZ	Manzenberg	2.98	237	ePn	Pn	05 54 26.4	+1.4
MANZ				eSg	Sg	05 55 13.8	+1.6
KHC	Kasperske Hory	2.98	212	ePN	Pn	05 54 26.1	+1.0
KHC				ePG	Pg	05 54 32.3	+1.3
KHC				eSN	Sn	05 55 01.4	-0.1
KHC				eSG	Sg	05 55 11.1	-1.1
	comp=Z,181nm,1.5s						
JAVC	Velka Javorina baz=339	3.04	158	ePn	Pn	05 54 27.0	+1.1
JAVC				eSg	Sb	05 55 11.6	+2.5
	comp=Z,124nm,1.1s,baz=339						
CKRC	Cesky Krumlov	3.06	201	ePN	Pn	05 54 27.9	+1.7
CKRC				ePG	Pg	05 54 33.9	-1.3
CK

comp=Z,7.9nm,0.3s
MOA eSg **Sg** **05 55 43.7 -1.2**
comp=Z,57nm,0.5s
RONA Rosalia, Austr 4.00 177 *i* Pn **Pn** **05 54 39.8 +0.7**
comp=Z,1.1nm,0.1s
RONA eSg **Sg** **05 55 42.7 -2.2**
comp=Z,31nm,0.4s
STHS Stebnicka Huta 4.07 122 *e*PN **Pn** **05 54 40.6 +0.7**
STHS ePG **Pg** **05 54 54.8 +0.4**
STHS eSG **Sg** **05 55 50.1 +3.1**
LUNU Lund 4.22 340 *i* P **Pn** **05 54 43.4 +1.3**
LUNU eS **Sn** **05 55 31.7 -0.3**
BIOA Bad Ischl, Aus 4.28 202 *i* Pn **Pn** **05 54 44.1 +1.2**
comp=Z,3.6nm,0.2s
BIOA Sg **Sg** **05 55 52.4 -1.5**
comp=Z,71nm,0.5s
ARSA Arzberg 4.45 184 *i* Pn **Pn** **05 54 45.4 +0.1**
comp=Z,1.8nm,0.3s
ARSA eSg **Sg** **05 55 58.7 -0.8**
comp=Z,38nm,0.5s
CRVS Cervenica-Dubn 4.50 126 *e*PN **Pn** **05 54 47.3 +1.4**
CRVS ePG **Pg** **05 55 04.6 +2.0**
CRVS eSG **Sg** **05 56 03.3 +2.4**
BLEU Blekinge 4.62 359 *i* P **Pn** **05 54 50.1 +2.6**
BLEU *i* S **Sn** **05 55 39.6 -2.3**
BJUU Bjuv 4.72 340 P **Pn** **05 54 49.9 +1.0**
BJUU *i* P **Pn** **05 54 49.9 +1.0**
BJUU eS **Sn** **05 55 42.0 -2.3**
BJUU S **Sn** **05 55 42.4 -1.9**
BJUU Bjuv 4.72 340 P **Pn** **05 54 49.9 +1.0**
BJUU S **Sn** **05 55 42.4 -1.9**
LESA Schwarzleotal 4.78 208 *i* Pn **Pn** **05 54 50.9 +1.2**
comp=Z,2.7nm,0.3s
LESA eSg **Sg** **05 56 09.1 -0.8**
comp=Z,12nm,0.3s
KOLS Kolonicke sedl 4.90 122 *e*PN **Pn** **05 54 52.4 +1.1**
KOLS ePG **Pg** **05 55 13.2 +2.9**
KBA Koelnbreinsper 4.92 201 *i* Pn **Pn** **05 54 53.5 +1.6**
comp=Z,5.1nm,0.4s
KBA eSg **Sg** **05 56 12.6 -1.9**
comp=Z,22nm,0.5s
DEL Delary 4.95 346 *i* P **Pn** **05 54 53.3 +1.4**
DEL P **Pn** **05 54 53.5 +1.6**
DEL eS **Sn** **05 55 48.2 -1.5**
DEL S **Sn** **05 55 48.5 -1.3**
DEL Delary 4.95 346 *e*P **Pn** **05 54 53.4 +1.4**
DEL Delary 4.95 346 P **Pn** **05 54 53.5 +1.6**
DEL S **Sn** **05 55 48.5 -1.3**
SOKA Soboth 5.05 187 *i* Pn **Pn** **05 54 54.9 +1.3**
comp=Z,0.6nm,0.2s
SOKA eSg **Sg** **05 56 18.9 +0.1**
comp=Z,4.7nm,0.4s
WATA Walderalm 5.21 215 *i* Pn **Pn** **05 54 57.2 +1.4**
comp=Z,1.2nm,0.2s
WATA *i* Sn **Sn** **05 55 56.1 -0.5**
comp=Z,1.7nm,0.2s
WATA eSg **Sg** **05 56 24.0 +0.2**
comp=Z,6.0nm,0.2s
WTTA Wattenberg 5.25 214 *i* Pn **Pn** **05 54 58.0 +1.7**
comp=Z,0.6nm,0.1s
WTTA eSg **Sg** **05 56 24.7 -0.4**
comp=Z,22nm,0.5s
OBKA Obir 5.27 191 *i* Pn **Pn** **05 54 58.3 +1.7**
comp=Z,0.3nm,0.2s
OBKA eSg **Sg** **05 56 26.9 +1.2**
comp=Z,13nm,0.6s
SSRD Sdr. Stenderup 5.35 318 *e*P **Pn** **05 54 57.6 +0.1**
SSRD *i* S **Sn** **05 55 58.6 -1.2**
MOTA Moosalm 5.38 218 *i* Pn **Pn** **05 54 59.3 +1.2**
comp=Z,1.3nm,0.2s
MOTA *i* Sn **Sn** **05 55 59.8 -0.9**
comp=Z,1.5nm,0.2s
MOTA eSg **Sg** **05 56 29.5 +0.4**
comp=Z,12nm,0.5s
RETA Reutte 5.40 221 *i* Pn **Pn** **05 54 59.3 +1.0**
comp=Z,1.0nm,0.2s
RETA eSg **Sg** **05 56 27.4 -2.4**
comp=Z,32nm,0.7s
ABTA Abfaltersbach 5.44 206 *e*Pn **Pn** **05 55 00.6 +1.7**
comp=Z,0.6nm,0.1s
ABTA eSg **Sg** **05 56 29.4 -1.7**
comp=Z,15nm,0.6s
SQTA Sankt Quirin 5.44 217 *i* Pn **Pn** **05 55 01.0 +2.1**
comp=Z,1.4nm,0.2s
SQTA eSg **Sg** **05 56 33.8 +2.6**
comp=Z,26nm,0.6s
FABU Falkenberg 5.65 342 *i* P **Pn** **05 54 57.5 -4.1**
FABU P **Pn** **05 55 03.1 +1.5**
FABU *i* S **Sn** **05 56 05.3 -1.8**
FABU Falkenberg 5.65 342 P **Pn** **05 55 03.1 +1.5**
GNOU Gnosjoe 5.76 348 P **Pn** **05 55 05.1 +2.0**
GNOU Gnosjoe 5.76 348 P **Pn** **05 55 05.1 +2.0**
FETA Feichten 5.79 218 *i* Pn **Pn** **05 55 05.6 +1.9**
comp=Z,0.3nm,0.2s
FETA eSg **Sg** **05 56 41.0 -1.4**
comp=Z,3.9nm,0.6s
DAVA Damuels 5.92 224 *i* Pn **Pn** **05 55 06.4 +0.7**
comp=Z,1.3nm,0.2s
ONAU Onsala 6.18 339 *i* P **Pn** **05 55 10.6 +1.7**
ONAU eS **Sn** **05 56 19.1 -1.2**
BORU Boraas 6.24 344 *e*P **Pn** **05 55 09.8 +0.1**
BORU eS **Sn** **05 56 21.7 +0.1**
DAVOX Davos/Dischmat 6.32 221 Pn **Pn** **05 55 12.9 +1.8**
comp=Z,0.4nm,0.3s,baz=42,slow=15,SNR=3.4
DAVOX Sn **Sn** **05 56 24.7 +0.6**
comp=Z,0.4nm,0.3s,baz=180,slow=20,SNR=1.8
DAVOX Lg Lg 05 56 53.1
comp=Z,0.6nm,0.3s,baz=171,slow=22,SNR=4.0
comp=Z,1.9nm,0.6s
CDF Champ du Feu 6.48 243 *e*P **Pn** **05 55 13.8 +0.6**
VIKU Vikbolandet 6.84 3 *e*P **Pn** **05 55 20.7 +2.8**
HINF Hinteralfeld 7.06 240 *e*Pn **Pn** **05 55 20.9 -0.2**
HINF Hinteralfeld 7.06 240 *e*Pg **Pg** **05 55 50.6 -1.1**
HINF eSn **Sn** **05 56 36.3 -5.7**
HINF eSg **Sg** **05 57 18.8 -4.3**
comp=Z,19nm,0.7s
HAU Haudompre 7.23 243 *e*Pn **Pn** **05 55 23.8 +0.5**
HAU Haudompre 7.23 243 *e*Pg **Pg** **05 55 50.8 -4.1**
HAU eSg **Sg** **05 57 25.0 -3.4**
comp=Z,28nm,0.7s
NACGM Naroch 7.24 59 *e*P **Pn** **05 55 23.9 +0.5**
comp=Z,10.0nm,1.2s,baz=246
BAIF Baives 7.62 262 *e*P **Pn** **05 55 31.1 +2.5**
HOMB Homborsund 7.86 330 *e*S **Sn** **05 56 56.9 -4.6**
CABF La Chapelle 8.23 236 *e*Pn **Pn** **05 55 38.0 +0.9**
CABF La Chapelle 8.23 236 *e*Pg **Pg** **05 56 11.7 -2.3**
CABF eSg **Sg** **05 57 56.2 -4.3**
comp=Z,14nm,0.7s
SNART Snartemo 8.34 326 *e*S **Sn** **05 57 09.0 -4.3**
AKASG Malin Array Be 8.39 92 Pn **Pn** **05 55 39.0 -0.2**
comp=Z,1.1nm,0.3s,baz=282,slow=12,SNR=6.0
AKASG Lg Lg 05 58 03.9
comp=Z,0.8nm,0.3s,baz=282,slow=26,SNR=2.1
comp=Z,0.4nm,0.4s
HFS Hagfors 8.56 352 Pn **Pn** **05 55 42.4 +0.9**
comp=Z,0.1nm,0.3s,baz=174,slow=18,SNR=6.9
HFS Sn **Sn** **05 57 14.2 -4.5**
comp=Z,0.1nm,0.3s,baz=191,slow=22,SNR=1.2
comp=Z,0.9nm,0.5s
LOR Lormes 9.03 245 *e*Pn **Pn** **05 55 48.4 +0.3**
baz=57
LOR eSg Sn 05 58 18.7 +48
comp=Z,6.1nm,0.6s
SSF Saint Saulge 9.35 245 *e*Pn **Pn** **05 55 51.4 -1.0**
SSF Saint Saulge 9.35 245 *e*Pg Pn 05 56 30.5 +38
NOA NORSAR Array B 9.73 346 Pn **Pn** **05 55 57.6 0.0**
baz=164,slow=12,SNR=6.7
NOA Sn **Sn** **05 57 41.3 -6.3**
baz=319,slow=25,SNR=1.6
comp=Z,0.2nm,0.5s
FINES FINESS Array B 11.24 26 Pn **Pn** **05 56 17.9 -0.3**
comp=Z,0.2nm,0.3s,baz=220,slow=12,SNR=14
FINES Sn **Sn** **05 58 18.9 -5.5**
comp=Z,0.5nm,0.3s,baz=212,slow=20,SNR=6.5
comp=Z,0.6nm,0.3s
EKA Eskdalemuir Ar 11.94 295 Pn **Pn** **05 56 27.9 0.0**
baz=104,slow=13
comp=Z,0.8nm,0.5s
ARCES ARCESS Array B 18.46 11 P **Pn** **05 57 52.0 -1.5**
comp=Z,1.5nm,0.8s,baz=192,slow=13,SNR=1.4
YKA Yellowknife Ar 59.65 336 P **P** **06 03 43.8 +2.0**
comp=Z,0.2nm,0.6s,baz=27,slow=6.7,SNR=4.1
comp=Z,0.2nm,0.6s

NEIC ***10*** *06:25:30.0±1.7,3.30N±0.09×124.4E±0.1,h333km±9km, mb4.2/24, Error ellipse: s-maj=16.2km s-min=11.9km az=53.0*
DJA ***10*** *06:25:31.5±0.7,3.9N±9.1×12.4E±°,h318km±5km, M4.4/8, mb4.5/8, mB5.3/5, MLv4.1/6, Mw(mB)4.8/5*
IDC ***10*** *06:25:32.2±1.6,3.23N×124.38E, h362km±16km, mb3.6/16, mbtmp4.3/16, Error ellipse: s-maj=32.2km s-min=8.3km az=65.0*
ISC 10 06:25:31.0±0.4,3.25N±0.06×124.40E±0.07,h350km,n73,σ1°43/76,mb4.1/29,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.20**	**69**	P		**Pn**	**06 26 14.7**	**-3.0**
GTOI	**Gorontalo**	**2.94**	**208**	P		**Pn**	**06 26 26.9**	**-3.1**
MRSI	**Marisa**	**3.69**	**222**	P		**Pn**	**06 26 36.1**	**-0.9**
TNTI	**Ternate**	**3.85**	**130**	Pn		**Pn**	**06 26 36.3**	**-2.2**
TNTI	**Ternate**	**3.85**	**130**	P		**Pn**	**06 26 34.8**	**-3.8**
TOLI2	**Tolitoli**	**4.20**	**240**			**Pn**	**06 26 40.1**	**-2.0**
TOLI2	**Tolitoli**	**4.20**	**240**	P		**Pn**	**06 26 40.7**	**-1.4**
LUWI	**Luwuk**	**4.56**	**201**	Pn		**Pn**	**06 26 44.2**	**-1.8**
LBMI	**Labuha**	**4.95**	**141**	P		**Pn**	**06 26 48.6**	**-1.6**
SANI	**Sanana**	**5.50**	**163**	P		**Pn**	**06 26 52.8**	**-3.4**
SANI	**Sanana**	**5.50**	**163**	P		**Pn**	**06 26 53.0**	**-3.2**
	45nm,0.7s,2μm1.1nm							
BNDI	**Bandanaira**	**9.48**	**145**	P		**P**	**06 27 47.4**	**+2.7**
BNDI	**Bandanaira**	**9.48**	**145**	P		**Pn**	**06 27 43.1**	**+0.3**
	285nm,0.6s							
FAKI	**Fak Fak**	**9.95**	**128**	Pn		**Pn**	**06 27 47.4**	**-1.1**
FAKI	**Fak Fak**	**9.95**	**128**	P		**Pn**	**06 27 51.8**	**+1.8**
SOEI	**Soe**	**12.92**	**181**	P		**Pn**	**06 28 26.4**	**+2.5**
STKI	**Sintang**	**13.30**	**256**	P		**Pn**	**06 28 28.4**	**+0.1**
	92nm,0.8s,39μm							
PLAI	**Plampang**	**13.70**	**209**	P		P	06 28 19.2	-12
TWSI	**Taliwang, Sumb**	**14.07**	**212**	P		**Pn**	**06 28 36.0**	**-1.3**
	26nm,0.8s							
JAGI	**Jajag, Banyuwa**	**15.49**	**221**	P		**Pn**	**06 28 53.1**	**-0.6**
	40nm,0.9s,893nm							
PWJI	**Pagerwojo**	**16.83**	**228**	P		**P**	**06 29 05.9**	**+0.2**
	21nm,0.8s							
DRS	**Darwin Rock St**	**16.86**	**158**	P		**P**	**06 29 06.4**	**+0.5**
MTN	**Manton Dam**	**17.33**	**157**	P		**P**	**06 29 11.1**	**+0.1**
MTN	**Manton Dam**	**17.33**	**157**	P		**P**	**06 29 11.3**	**+0.3**
KPJI	**Karang Pucung**	**18.68**	**236**	P		**P**	**06 29 25.7**	**+0.4**
KNRA	**Kununurra**	**19.29**	**167**	P		**P**	**06 29 31.0**	**-0.8**
KNRA				IAmb		IAmb	06 29 34.2	
	comp=Z,8.4nm,0.8s							
KNRA	**Kununurra**	**19.29**	**167**	P		**P**	**06 29 28.9**	**-2.9**
FITZ	**Fitzroy Crossi**	**21.25**	**177**	P		**P**	**06 29 49.6**	**-0.9**
MBWA	**Marble Bar**	**24.68**	**190**	P		**P**	**06 30 20.5**	**-1.1**
WB0	**Warramunga Arr**	**24.89**	**157**	P		**P**	**06 30 22.8**	**-0.7**
WRA	**Warramunga Arr**	**25.03**	**157**	P		**P**	**06 30 23.6**	**-1.1**
WRA	**Warramunga Arr**	**25.03**	**157**	P		**P**	**06 30 24.4**	**-0.4**
	comp=Z,11nm,0.4s,baz=336,slow=9.7,SNR=212							
WRA				ScP		**ScP**	**06 36 53.8**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=344,slow=3.0,SNR=1.0							
	comp=Z,11nm,0.4s							
PSA00	**Pilbara Seismi**	**25.07**	**190**	P		**P**	**06 30 24.6**	**-0.5**
PSA00				IAmb		IAmb	06 30 32.8	
	comp=Z,23nm,1.3s							
AS31	**Alice Springs**	**28.31**	**161**	P		**P**	**06 30 53.8**	**0.0**
ASAR	**Alice Springs**	**28.31**	**161**	P		**P**	**06 30 53.7**	**-0.2**
ASAR	**Alice Springs**	**28.31**	**161**	P		**P**	**06 30 53.9**	**0.0**
	comp=Z,1.8nm,0.4s,baz=340,slow=7.5,SNR=54							
ASAR				S		**S**	**06 35 12.7**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=338,slow=13,SNR=5.8							
ASAR				ScP		**ScP**	**06 37 03.5**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=334,slow=2.9,SNR=4.1							
	comp=Z,1.8nm,0.4s							
CMAR	**Chiang Mai Arr**	**29.15**	**303**	P		**P**	**06 31 01.7**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=125,slow=7.8,SNR=6.1							
	comp=Z,0.6nm,0.3s							
CTA	**Charters Tower**	**31.59**	**138**	P		**P**	**06 31 23.6**	**+0.9**
	comp=Z,9.8nm,0.9s,baz=328,slow=9.5,SNR=3.7							
	comp=Z,9.8nm,0.9s							
PZH	**PanZhiHua**	**31.72**	**319**	P		**P**	**06 31 25.5**	**+1.7**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,130nm,6.3s							
MJAR	**Matsushiro Arr**	**35.49**	**19**	P		**P**	**06 31 55.2**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=188,slow=9.1,SNR=4.3							
	comp=Z,1.2nm,0.5s							
BBOO	**Buckleboo**	**37.52**	**164**	P		**P**	**06 32 13.7**	**+0.9**
EIDS	**Eidsvold**	**38.45**	**139**	P		**P**	**06 32 20.4**	**-0.2**
EIDS				IAmb		IAmb	06 32 51.8	
	comp=Z,26nm,1.3s							
STKA	**Stephens Creek**	**38.57**	**156**	P		**P**	**06 32 21.6**	**+0.1**
STKA	**Stephens Creek**	**38.57**	**156**	P		**P**	**06 32 22.0**	**+0.5**
	comp=Z,4.8nm,0.4s,baz=332,slow=7.2,SNR=19							
	comp=Z,4.8nm,0.4s							
HHC	**Hu-ho-hao-te**	**39.18**	**345**	*e*P		P	06 32 31.4	+4.9
HHC				pmax		pmax		
	comp=Z,10.0nm,0.8s							
HHC				pmax		pmax		
	comp=Z,170nm,6.0s							
ARMA	**Armidale**	**42.39**	**144**	P		**P**	**06 32 54.3**	**+1.6**
ARMA				IAmb		IAmb	06 33 15.9	
	comp=Z,29nm,1.4s							
CAN	**Canberra**	**44.77**	**151**	P		**P**	**06 33 13.6**	**+2.3**
CAN				IAmb		IAmb	06 33 14.0	
	comp=Z,20nm,1.3s							
TOO	**Toolangi**	**45.09**	**156**	P		**P**	**06 33 15.7**	**+2.0**
TOO				IAmb		IAmb	06 33 16.8	
	comp=Z,11nm,1.4s							
SONM	**Songino Array**	**47.05**	**343**	P		**P**	**06 33 29.2**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=165,slow=7.3,SNR=4.3							
	comp=Z,0.8nm,0.6s							
MK31	**Makanchi Array**	**56.65**	**327**	P		**P**	**06 34 38.7**	**-0.2**
MKAR	**Makanchi Array**	**56.65**	**327**	P		**P**	**06 34 39.2**	**+0.3**
MKAR	**Makanchi Array**	**56.65**	**327**	P		**P**	**06 34 39.1**	**+0.2**
	comp=Z,2.5nm,0.4s,baz=120,slow=7.8,SNR=60							
MKAR				PcP		**PcP**	**06 35 29.7**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=110,slow=3.9,SNR=5.3							
MKAR				ScP		**ScP**	**06 38 54.0**	**-1.9**
	comp=Z,1.4nm,0.7s,baz=149,slow=5.9,SNR=12							
	comp=Z,2.5nm,0.4s							
ZALV	**Zalesovo Beam**	**59.98**	**334**	P		**P**	**06 35 01.1**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=138,slow=4.9,SNR=3.1							
	comp=Z,0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**60.91**	**328**	P		**P**	**06 35 07.4**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=128,slow=6.2,SNR=35							
	comp=Z,1.9nm,0.5s							
KURK	**Kurchatov**	**60.92**	**329**	P		**P**	**06 35 07.8**	**-0.1**
KURK				IAmb		IAmb	06 35 09.1	
	comp=Z,5.5nm,0.6s							
KK31	**Karatay Array**	**62.01**	**318**	P		**P**	**06 35 15.7**	**+0.4**
KK31				IAmb		IAmb	06 35 16.5	
	comp=Z,2.2nm,0.6s							
KKAR	**Karatay Array**	**62.01**	**318**	P		**P**	**06 35 15.9**	**+0.6**
KKAR				IAmb		IAmb	06 35 16.5	
	comp=Z,2.2nm,0.6s							
LBZ	**Lake Benmore**	**62.61**	**145**	P		**P**	**06 35 20.2**	**+1.0**
TUWZ	**Tuamarina**	**63.25**	**140**	P		**P**	**06 35 24.3**	**+0.9**
RTZ	**Ruatahuna**	**63.88**	**136**	P		**P**	**06 35 28.3**	**+0.7**
BVAR	**Borovoye Array**	**66.47**	**328**	P		**P**	**06 35 43.7**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=152,slow=7.2,SNR=5.2							
	comp=Z,1.7nm,0.8s							
NRIK	**Noril'sk**	**70.36**	**347**	P		**P**	**06 36 08.4**	**+1.1**
NRIK				IAmb		IAmb	06 36 09.6	
	comp=Z,3.3nm,0.7s							
NRIK	**Noril'sk**	**70.36**	**347**	P		**P**	**06 36 08.3**	**+1.1**
	comp=Z,3.2nm,0.6s,baz=139,slow=5.2,SNR=6.5							
	comp=Z,3.2nm,0.6s							
ABKAR	**Akbulak array**	**71.06**	**321**	P		**P**	**06 36 12.3**	**+0.4**
ABKAR				IAmb		IAmb	06 36 13.0	
	comp=Z,3.3nm,0.8s							
TTA	**Tatalina**	**82.38**	**27**	P		**P**	**06 37 16.1**	**+1.6**
TTA				IAmb		IAmb	06 37 44.5	
	comp=Z,6.4nm,1.4s							
ARCES	**ARCESS Array B**	**90.09**	**340**	P		**P**	**06 37 52.2**	**+0.6**
	comp=Z,5.3nm,1.1s,baz=79,slow=6.5,SNR=2.1							
	comp=Z,5.3nm,1.1s							
SPITS	**Spitsbergen Ar**	**90.50**	**349**	P		**P**	**06 37 52.8**	**-0.5**
	comp=Z,30nm,1.3s,baz=57,slow=5.3,SNR=1.8							
AKASG	**Malin Array Be**	**90.80**	**321**	P		**P**	**06 37 54.5**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=69,slow=4.0,SNR=2.9							
	comp=Z,0.4nm,0.5s							
FIA1	**FINESS Array S**	**91.15**	**332**	P		**P**	**06 37 55.6**	**-1.0**
FINES	**FINESS Array B**	**91.15**	**332**	P		**P**	**06 37 55.1**	**-1.5**
FINES	**FINESS Array B**	**91.15**	**332**	P		**P**	**06 37 55.4**	**-1.2**
	comp=Z,1.7nm,0.6s,baz=66,slow=6.5,SNR=12							
	comp=Z,1.7nm,0.6s							
HFS	**Hagfors**	**97.35**	**332**	P		**P**	**06 38 23.1**	**-1.8**
	comp=Z,0.6nm,0.6s,baz=112,slow=6.4,SNR=1.4							
	comp=Z,0.6nm,0.6s							
TORD Torodi Ar. Bea 120.85 287 PKP **PKiKP** **06 43 42.7 -0.6**
comp=Z,0.8nm,0.9s,baz=74,slow=2.1,SNR=2.9

IDC 10 06:26:52.1±1.8,6.04S×143.01E,h0km,mb3.8/3, mbtmp3.8/5,ML4.0/2,MS3.4/1,Error ellipse: s-maj=69.6km s-min=26.5km az=109.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.19**	**211**	Pn		Pn	06 30 42.3	+1.2
	0.6nm,0.3s,baz=31,slow=11,SNR=5.5							
WRA				Lg		Lg	06 35 25.1	
	baz=28,slow=26,SNR=2.6							
	1.4nm,0.8s							
ASAR	**Alice Springs**	**19.60**	**206**	P		P	06 31 21.6	-0.5
	0.4nm,0.3s,baz=33,slow=11,SNR=14							
	2.3nm,0.6s							
TGY	**Tagaytay City**	**29.66**	**313**	LR		LR	06 45 35.0	
	comp=Z,80nm,21.8s,baz=126,slow=38							
MKAR	**Makanchi Array**	**75.03**	**322**	P		P	06 38 36.3	+0.7
	0.4nm,0.6s,baz=101,slow=7.4,SNR=2.7							
	0.4nm,0.6s							
BVAR	**Borovoye Array**	**84.48**	**325**	P		P	06 39 27.2	+0.5
	1.1nm,0.6s,baz=117,slow=8.3,SNR=3.8							
	1.1nm,0.6s							
ILAR	**Eielson Array**	**87.09**	**24**	P		P	06 39 38.6	-0.9
	0.3nm,0.6s,baz=280,slow=4.8,SNR=4.7							
	0.3nm,0.6s							

ISN ***10*** *06:27:39.8±1.1,33.69N×45.75E,h12km±5km, ML3.4*
TEH ***10*** *06:27:40.8,33.74N×45.77E,h9km±21km, ML3.2*
ISC 10 06:27:41.1±0.9,33.70N±0.04×45.72E±0.04,h13km,n15,σ1°19/19,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.41**	**101**	Pg		**Pg**	**06 27 48.6**	**-0.8**
IBDR	**Badra**	**0.62**	**163**	*e*Pg		**Pg**	**06 27 52.0**	**-1.1**
IBDR				*e*Sg		**Sg**	**06 28 00.0**	**-1.2**
KGS1	**Ghasr-e-Shirin**	**0.81**	**352**	Pg		**Pb**	**06 27 56.0**	**-1.0**
IGHG	**Ghaleghazi**	**0.94**	**48**	Pg		**Pg**	**06 27 58.4**	**-0.9**
IDHR	**Dehrash**	**1.14**	**29**	Pg		**Pb**	**06 28 01.3**	**-1.4**
BHD	**Baghdad**	**1.20**	**249**	*e*Pg		**Pg**	**06 28 03.5**	**-0.7**
BHD				*e*Sg		**Sg**	**06 28 20.0**	**+0.2**
BHD				AML		AML	06 28 28.6	
	comp=E,746nm,0.5s							
KCHF	**Cheshme Sefid,**	**1.24**	**62**	Pg		**Pn**	**06 28 03.9**	**-0.4**
KCHF				Sg		**Sg**	**06 28 21.0**	**0.0**
ILIN	**Lien**	**1.59**	**40**	Pg		**Pb**	**06 28 10.3**	**-0.2**
IKFM	**Kafar-mosalman**	**1.78**	**95**	Pg		**Pb**	**06 28 13.3**	**-0.3**
IBZA	**Bozab**	**1.93**	**66**	Pn		**Pb**	**06 28 15.4**	**-0.9**
RAFI	**Al-Rafai**	**2.00**	**170**	*e*Pn		**Pn**	**06 28 14.5**	**0.0**
RAFI				*e*Sn		**Sn**	**06 28 41.5**	**+2.1**
IDOB	**Doab**	**2.05**	**87**	Pn		**Pn**	**06 28 16.6**	**+1.2**
MAHB	**Mahabad**	**3.06**	**360**	Pn		**Pn**	**06 28 31.0**	**+1.7**
KRSH	**Karshahi**	**5.34**	**85**	Pn		**Pn**	**06 29 02.0**	**+1.2**
IRAM	**Ramesheh**	**5.92**	**107**	Pn		**Pn**	**06 29 10.6**	**+1.9**

IDC ***10*** *06:34:53.1±1.2,6.33S×143.38E, h0km, mb3.8/4, mbtmp3.8/6, ML1.7/1, MS3.1/1, Error ellipse: s-maj=36.1km s-min=24.7km az=68.0*
ISC 10 06:34:54.3±1.0,6.16S±0.1×143.12E±0.1,h10km,n7,σ1°71/9, mb3.8/4,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.85**	**125**	Pn		**Pn**	**06 36 07.5**	**+0.1**
	2.3nm,0.3s,baz=331,slow=12,SNR=4.4							
PMG				Sn		**Sn**	**06 37 03.5**	**-0.1**
	1.5nm,0.3s,baz=348,slow=20,SNR=2.3							
	2.3nm,0.4s							
WRA	**Warramunga Arr**	**15.79**	**212**	Pn		**Pn**	**06 38 36.7**	**-0.4**
	0.3nm,0.3s,baz=22,slow=13,SNR=11							
WRA				Sn		Sn	06 41 26.9	-5.4
	0.1nm,0.3s,baz=28,slow=24,SNR=3.1							
WRA				Lg		Lg	06 43 18.4	
	0.1nm,0.3s,baz=26,slow=25,SNR=2.4							
ASAR	**Alice Springs**	**19.16**	**207**	P		**Pn**	**06 39 22.4**	**+3.3**
	3.4nm,0.7s,baz=35,slow=9.8,SNR=20							
ASAR				S		**Sn**	**06 42 51.9**	**-2.1**
	1.1nm,1.0s,baz=22,slow=27,SNR=3.8							
ASAR				Lg		Lg	06 45 11.8	
	baz=32,slow=32,SNR=2.2							
ASAR				LR		LR	06 46 00.3	
	comp=Z,50nm,19.4s,baz=96,slow=34							
MKAR	**Makanchi Array**	**75.56**	**322**	P		**P**	**06 46 39.4**	**+0.1**
	0.6nm,0.7s,baz=104,slow=6.6,SNR=7.5							
	0.6nm,0.7s							
KURBB	**Kurchatov Arra**	**79.44**	**324**	P		**P**	**06 46 60.0**	**-1.0**
	0.5nm,1.0s,baz=122,slow=4.8,SNR=2.9							
	0.5nm,1.0s							
BVAR	**Borovoye Array**	**85.02**	**325**	P		**P**	**06 47 30.3**	**+0.2**
	1.4nm,0.8s,baz=120,slow=5.7,SNR=5.1							
	1.4nm,0.8s							
ILAR	**Eielson Array**	**87.54**	**24**	P		**P**	**06 47 41.4**	**-0.9**
	0.5nm,1.0s,baz=266,slow=6.2,SNR=2.7							
	0.5nm,1.0s							

TEH ***10*** *07:10:18.1,38.60N×49.72E,h15km±45km, ML2.9*
AZER ***10*** *07:10:23.0,38.46N×49.35E,h46km,ml2.5*
ISC 10 07:10:23.1±2.2,38.45N±0.05×49.53E±0.06,h32km±16km, n22,σ0°84/29,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GAS1	**Astara - Iran**	**0.54**	**264**	Sg		**Sn**	**07 10 42.5**	**0.0**
ASTR	**Astara**	**0.59**	**281**	P		**Pn**	**07 10 34.9**	**-0.3**
ASTR				S		**Sn**	**07 10 43.5**	**-0.2**
LKRN	**Lenkeran, Azer**	**0.64**	**294**	P		**Pn**	**07 10 35.8**	**-0.1**
LKRN				S		**Sb**	**07 10 44.7**	**0.0**
CSN1	**Caspian**	**0.95**	**201**	Pg		**Pn**	**07 10 40.3**	**+0.1**
LRK	**Lerik**	**0.95**	**282**	P		**Pn**	**07 10 40.0**	**-0.4**
LRK				S		**Sn**	**07 10 52.3**	**-0.6**
YRD	**Yardimli**	**1.11**	**295**	P		**Pn

GUZR	**Guzeripl'**	**0.67**	**298**	*i* Pg	**Pb**	**07 20 58.6**	**-0.9**
GUZR				*i* Sg	**Sb**	**07 21 07.8**	**-1.1**
VSLR	**Vesyoloye**	**0.69**	**251**	*i* Pg	**Pb**	**07 20 58.1**	**-1.7**
VSLR				*i* Sg	**Sb**	**07 21 08.0**	**-1.5**
MRNR	**Maryino**	**1.08**	**284**	*e*Pg	**Pb**	**07 21 06.4**	**-0.1**
MRNR				*e*Sg	**Sn**	**07 21 20.9**	**-1.3**
NVNR	**Nevinnomyssk**	**1.19**	**38**	*e*Pg	**Pg**	**07 21 08.9**	**+0.5**
NVNR				*e*Sg	**Sg**	**07 21 27.3**	**+3.5**
SHA1	**Shidzhatmaz**	**1.25**	**87**	*i* Pg	**Pb**	**07 21 09.2**	**-0.4**
SHA1				*i* Sg	**Sg**	**07 21 25.6**	**-0.3**
GOYR	**Goytkh**	**1.25**	**297**	*e*Pg	**Pg**	**07 21 10.0**	**+0.4**
GOYR				*e*Sg	**Sg**	**07 21 27.2**	**+1.3**
KIV	**Kislovodsk**	**1.30**	**77**	*i* Pg	**Pg**	**07 21 10.3**	**-0.2**
KIV				*i* Sg	**Sg**	**07 21 28.0**	**+0.7**
KIV0	**Kislovodsk Arr**	**1.30**	**77**	*i* Pg	**Pg**	**07 21 10.4**	**-0.2**
KIV0				*i* Sg	**Sg**	**07 21 37.3**	**0.0**
ALER	**Alexandrovskoy**	**1.79**	**52**	*e*Pg	**Pb**	**07 21 17.8**	**-0.7**
ALER				*e*Sg	**Sg**	**07 21 41.8**	**-1.2**
TKB	**Tkibuli**	**2.02**	**131**	P	**Pb**	**07 21 23.1**	**+0.6**
TKB				S	**Sb**	**07 21 49.7**	**+2.0**
BATM	**Batumi**	**2.15**	**165**	P	**Pn**	**07 21 23.2**	**+1.4**
BATM				S	**Sn**	**07 21 51.6**	**+3.0**
ABS	**Abastumani**	**2.38**	**144**	P	**Pn**	**07 21 27.7**	**+2.8**
ABS				S	**Sb**	**07 21 59.3**	**+1.2**
MTEO	**Meteo**	**2.82**	**110**	P	**Pg**	**07 21 39.2**	**-0.3**
MTEO				S	**Sg**	**07 22 16.8**	**+0.7**

IDC 10 07:27:25.0±6.1, 6°18′S×142°53′E, h0km, mb3.5/2, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=222.2km s-min=29.1km az=100.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.83**	**209**	Pn	Pn	07 31 07.7	-1.7
	0.3nm,0.3s,baz=33,slow=13,SNR=16						
WRA				Sn	Sn	07 33 51.4	-14
	0.1nm,0.3s,baz=27,slow=21,SNR=1.5						
WRA				Lg	Lg	07 35 44.4	
	0.1nm,0.3s,baz=25,slow=30,SNR=2.1						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**19.27**	**205**	P	Pn	07 31 52.2	0.0
	0.2nm,0.3s,baz=31,slow=13,SNR=31						
ASAR				S	Sn	07 35 18.6	-10
	0.2nm,0.6s,baz=21,slow=27,SNR=1.6						
ASAR				Lg	Lg	07 37 37.0	
	baz=276,slow=33,SNR=1.8						
	4.5nm,0.9s						
MKAR	**Makanchi Array**	**74.84**	**322**	P	P	07 39 07.5	0.0
	0.1nm,0.3s,baz=106,slow=4.7,SNR=1.8						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**84.32**	**325**	P	P	07 39 58.8	-0.1
	0.4nm,0.6s,baz=104,slow=3.6,SNR=2.7						
	0.4nm,0.6s						

*NNC **10** 07:42:58.9±0.9, 50°.01N×78°.74E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=17.8km s-min=4.5km az=79.0, Suspected Mining explosion.*

*IDC **10** 07:43:00.4±0.8, 50°.06N×78°.77E, h0km, mbtmp3.1/3, ML2.6/3, Error ellipse: s-maj=9.3km s-min=6.0km az=54.0*

ISC 10 07:43:00.3±0.9, 50°.04N±0°.05×78°.69E±0°.07, h0km, n10, σ1s 07/14, 5C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**0.59**	**350**	Pg	**Pg**	**07 43 11.3**	**-0.4**
	5.9nm,0.3s,baz=166,slow=18,SNR=327						
KURBB				Lg	Lg	07 43 19.8	
	6.0nm,0.3s,baz=167,slow=30,SNR=30						
KURK	**Kurchatov**	**0.68**	**356**	⇑P	**Pg**	**07 43 12.4**	**-0.9**
	22nm,0.4s						
KURK				⇑S	**Sg**	**07 43 22.9**	**+0.8**
	45nm,0.7s						
MAKZ	**Makanchi**	**3.91**	**145**	⇑Pg	**Pb**	**07 44 08.4**	**-1.6**
	1.0nm,0.3s						
MAKZ				⇓Lg	Lg	07 44 58.7	
	4.7nm,0.7s						
MK31	**Makanchi Array**	**4.04**	**142**	⇑Pn	**Pn**	**07 44 03.4**	**0.0**
	0.3nm,0.2s,baz=279,slow=5.9,SNR=42						
MK31				⇓Pg	**Pb**	**07 44 12.2**	**-0.1**
	1.4nm,0.3s,baz=322,slow=14,SNR=20						
MK31				⇑Lg	Lg	07 45 05.8	
	14nm,0.5s,baz=328,slow=27,SNR=17						
MKAR	**Makanchi Array**	**4.04**	**142**	Pn	**Pn**	**07 44 03.3**	**-0.1**
	0.9nm,0.3s,baz=321,slow=10,SNR=53						
MKAR				Pg	**Pb**	**07 44 11.1**	**-1.2**
	1.9nm,0.3s,baz=323,slow=14,SNR=15						
MKAR				Sn	**Sn**	**07 44 53.7**	**+2.3**
	2.5nm,0.3s,baz=337,slow=20,SNR=7.1						
MKAR				Lg	Lg	07 45 04.2	
	7.0nm,0.3s,baz=322,slow=27,SNR=9.3						
	0.8nm,0.3s						
OTUK	**Ortayu**	**4.54**	**249**	⇓Pn	**Pn**	**07 44 10.1**	**-0.1**
	0.7nm,0.3s						
OTUK				⇓Lg	Lg	07 45 22.0	
	8.0nm,0.8s						
I46RU	**ZALESOVO INFRA**	**5.44**	**42**	I	I	08 12 55.2	
	0.1nm,0.9s,baz=224,slow=322,SNR=3.9						
ZALV	**Zalesovo Beam**	**5.44**	**42**	Pn	**Pn**	**07 44 23.6**	**+1.0**
	1.7nm,0.3s,baz=232,slow=14,SNR=20						
ZALV				Sn	**Sn**	**07 45 25.6**	**-0.3**
	0.3nm,0.3s,baz=229,slow=24,SNR=2.3						
ZALV				Lg	Lg	07 45 53.1	
	0.6nm,0.3s,baz=222,slow=23,SNR=2.2						
	3.0nm,0.3s						
BVAR	**Borovoye Array**	**5.98**	**303**	Pn	**Pn**	**07 44 30.5**	**+0.5**
	baz=109,slow=16,SNR=3.5						
BVAR				Sn	**Sn**	**07 45 39.3**	**+0.1**
	0.2nm,0.3s,baz=111,slow=23,SNR=8.9						
BVAR				Lg	Lg	07 46 10.9	
	0.1nm,0.3s,baz=116,slow=24,SNR=3.9						
	0.4nm,0.3s						
AAK	**Ala-Archa**	**7.95**	**203**	Lg	Lg	07 47 10.2	
	0.2nm,0.3s,baz=114,slow=20,SNR=2.2						

*IDC **10** 07:56:06.9±0.9, 3°.33N×93°.76E, h0km, mb4.0/12, mbtmp4.0/13, ML4.6/1, MS3.2/2, Error ellipse: s-maj=39.1km s-min=15.8km az=54.0*

*NEIC **10** 07:56:10.8±0.8, 3°.47N±0°.10×93°.5E±0°.1, h10km±1km, mb4.3/18, Error ellipse: s-maj=21.7km s-min=14.8km az=239.0*

ISC 10 07:56:10.8±0.7, 3°.44N±0°.10×93°.5E±0°.1, h19km, n51, σ1s 45/40, mb4.2/20, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**3.83**	**62**	Pn	**Pn**	**07 57 10.7**	**+1.9**
GSI	**Gunungsitoli**	**4.55**	**118**	Pn	**Pn**	**07 57 21.0**	**+2.3**
KULM	**Kulim**	**7.32**	**75**		**Pn**	**07 57 58.6**	**+1.9**
IPM	**Ipoh**	**7.54**	**82**		**Pn**	**07 58 01.4**	**+1.7**
MNAI	**Manna**	**12.19**	**129**	Pn	**Pn**	**07 59 04.8**	**+1.3**
PALK	**Pallekele**	**13.34**	**287**	LR	LR	08 03 37.0	
	comp=Z,52nm,20.7s,baz=222,slow=33						
CMAR	**Chiang Mai Arr**	**15.83**	**19**	Pn	**Pn**	**07 59 50.3**	**-2.5**
	0.9nm,0.3s,baz=208,slow=12,SNR=1.9						
	1.4nm,0.3s						
H08S2	**Diego Garcia H**	**23.72**	**242**	T	T	08 26 23.1	
	baz=63,slow=75,SNR=191						
H08S3	**Diego Garcia H**	**23.72**	**242**	T	T	08 26 06.0	
	baz=63,slow=75,SNR=498						
H08S1	**Diego Garcia H**	**23.73**	**242**	T	T	08 26 05.0	
	baz=63,slow=75,SNR=102						
LSA	**Lhasa**	**26.22**	**355**		**P**	**08 01 47.0**	**+1.9**
BATI	**Baumata**	**32.92**	**115**	LR	LR	08 18 03.8	
	comp=Z,69nm,18.1s,baz=340,slow=40						
PSA00	**Pilbara Seismi**	**35.79**	**135**	P	**P**	**08 03 10.4**	**+1.3**
DRK	**Karamyk**	**40.95**	**334**	P	**P**	**08 03 53.6**	**+0.9**
GAR	**Garm**	**41.22**	**332**	P	**P**	**08 03 54.7**	**0.0**
GAR				IAmb	IAmb	08 04 31.6	
	comp=Z,5.7nm,1.1s						
BTK	**Batken**	**41.85**	**334**	P	**P**	**08 04 01.4**	**+1.6**
BTK				IAmb	IAmb	08 04 02.5	
	comp=Z,7.9nm,1.2s						
H01W3	**Cape Leeuwin H**	**42.75**	**155**	T	T	08 49 15.9	
	baz=330,slow=76,SNR=27						
H01W2	**Cape Leeuwin H**	**42.77**	**155**	T	T	08 49 19.4	
	baz=330,slow=76,SNR=32						
H01W1	**Cape Leeuwin H**	**42.77**	**155**	T	T	08 49 26.3	
	baz=330,slow=76,SNR=34						
MK31	**Makanchi Array**	**44.28**	**349**	P	**P**	**08 04 19.8**	**+0.5**
MK31				IAmb	IAmb	08 04 20.8	
	comp=Z,2.5nm,0.8s						
MKAR	**Makanchi Array**	**44.28**	**349**	P	**P**	**08 04 19.1**	**-0.2**
MKAR	**Makanchi Array**	**44.28**	**349**	P	**P**	**08 04 19.6**	**+0.4**
	comp=Z,2.9nm,0.7s,baz=166,slow=8.3,SNR=41						
	comp=Z,2.9nm,0.7s						
MAKZ	**Makanchi**	**44.35**	**349**	P	**P**	**08 04 20.8**	**+0.9**
MAKZ				IAmb	IAmb	08 04 21.3	
	comp=Z,3.1nm,0.8s						
KK31	**Karatay Array**	**44.49**	**336**	P	**P**	**08 04 20.9**	**0.0**
KK31				IAmb	IAmb	08 04 21.9	
	comp=Z,4.0nm,1.2s						
KKAR	**Karatay Array**	**44.49**	**336**	P	**P**	**08 04 21.4**	**+0.4**
SONM	**Songino Array**	**45.59**	**12**	P	**P**	**08 04 29.5**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=186,slow=10,SNR=8.2						
SONM				PcP	**PcP**	**08 06 07.5**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=191,slow=5.4,SNR=2.0						
	comp=Z,1.6nm,0.7s						
WB0	**Warramunga Arr**	**46.28**	**122**	P	**P**	**08 04 34.2**	**-1.4**
WRA	**Warramunga Arr**	**46.31**	**122**	P	**P**	**08 04 35.0**	**-0.8**
WRA	**Warramunga Arr**	**46.31**	**122**	P	**P**	**08 04 32.4**	**-3.4**
	comp=Z,0.8nm,0.6s,baz=299,slow=8.7,SNR=9.2						
WRA				PcP	**PcP**	**08 06 10.8**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=318,slow=3.0,SNR=1.6						
	comp=Z,0.8nm,0.6s						
GEYT	**Alibeck**	**47.18**	**321**	P	**P**	**08 04 43.3**	**+0.9**
	comp=Z,2.9nm,0.6s,baz=171,slow=10,SNR=4.6						
	comp=Z,2.9nm,0.6s						
AS31	**Alice Springs**	**47.65**	**127**	P	**P**	**08 04 47.7**	**+1.4**
ASAR	**Alice Springs**	**47.65**	**127**	P	**P**	**08 04 47.3**	**+1.0**
ASAR	**Alice Springs**	**47.65**	**127**	P	**P**	**08 04 42.9**	**-3.4**
	comp=Z,0.4nm,0.6s,baz=292,slow=7.7,SNR=7.5						
ASAR				PcP	**PcP**	**08 06 13.4**	**-2.4**
	comp=Z,0.4nm,0.9s,baz=303,slow=3.1,SNR=2.1						
	comp=Z,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**48.69**	**347**	P	**P**	**08 04 54.5**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=172,slow=7.0,SNR=9.4						
	comp=Z,1.4nm,0.6s						
KURK	**Kurchatov**	**48.76**	**347**	P	**P**	**08 04 54.7**	**+0.4**
KURK				IAmb	IAmb	08 04 56.0	
	comp=Z,2.8nm,0.9s						
ZAA0	**Zalesovo Array**	**50.85**	**353**	P	**P**	**08 05 10.8**	**+0.6**
ZAA0				IAmb	IAmb	08 05 11.3	
	comp=Z,5.0nm,1.1s						
ZALV	**Zalesovo Beam**	**50.85**	**353**	P	**P**	**08 05 10.8**	**+0.6**
ZALV	**Zalesovo Beam**	**50.85**	**353**	P	**P**	**08 05 10.6**	**+0.4**
	comp=Z,2.9nm,0.6s,baz=190,slow=7.6,SNR=13						
	comp=Z,2.9nm,0.6s						
MJAR	**Matsushiro Arr**	**52.62**	**45**	P	**P**	**08 05 22.2**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=231,slow=6.0,SNR=1.5						
	comp=Z,0.5nm,0.6s						
BVAR	**Borovoye Array**	**52.99**	**343**	P	**P**	**08 05 25.9**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=148,slow=8.7,SNR=7.7						
	comp=Z,1.8nm,0.7s						
ABKAR	**Akbulak array**	**53.86**	**333**	P	**P**	**08 05 33.0**	**+0.4**
STKA	**Stephens Creek**	**57.56**	**131**	P	**P**	**08 05 57.9**	**-1.6**
	comp=Z,0.4nm,0.2s,baz=318,slow=14,SNR=1.3						
	comp=Z,0.4nm,0.2s						
H04N2	**CROZET ISLANDS**	**61.65**	**212**	T	T	09 13 35.0	
	baz=49,slow=75,SNR=40						
H04N1	**CROZET ISLANDS**	**61.66**	**212**	T	T	09 13 30.0	
	baz=49,slow=75,SNR=41						
H04N3	**CROZET ISLANDS**	**61.67**	**212**	T	T	09 13 33.1	
	baz=49,slow=75,SNR=33						
H04S1	**CROZET ISLANDS**	**62.04**	**211**	T	T	09 14 01.8	
	baz=48,slow=76,SNR=5.2						
H04S3	**CROZET ISLANDS**	**62.05**	**211**	T	T	09 13 57.5	
	baz=48,slow=76,SNR=8.7						
H04S2	**CROZET ISLANDS**	**62.06**	**211**	T	T	09 13 59.7	
	baz=48,slow=76,SNR=5.6						
BRTR	**Keskin Array B**	**64.91**	**313**	P	**P**	**08 06 48.8**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=54,slow=7.3,SNR=3.5						
	comp=Z,0.4nm,0.5s						
BURAR	**Bucovina Array**	**72.94**	**319**	P	**P**	**08 07 39.0**	**-0.2**
BURAR				IAmb	IAmb	08 07 51.3	
	comp=Z,3.0nm,1.4s						
GERES	**GERESS Array B**	**80.73**	**319**	P	**P**	**08 08 23.9**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=99,slow=8.2,SNR=5.3						
	comp=Z,1.5nm,0.8s						

IDC 10 08:06:40.3±7.6, 5°.16S×141°.76E, h0km, mb3.4/1, mbtmp3.2/3, ML2.9/2, Error ellipse: s-maj=274.9km s-min=36.9km az=93.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.38**	**206**	Pn	Pn	08 10 30.1	-1.7
	baz=30,slow=13,SNR=1.6						
	0.4nm,1.0s						
ASAR	**Alice Springs**	**19.90**	**202**	P	P	08 11 14.4	+0.8
	0.1nm,0.3s,baz=31,slow=10,SNR=6.7						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**73.58**	**322**	P	P	08 18 15.5	0.0
	0.2nm,0.4s,baz=127,slow=7.6,SNR=1.4						
	0.2nm,0.4s						

*IDC **10** 08:07:54.1±2.3, 2°.95N×128°.73E, h219km±21km, mb3.4/14, mbtmp4.0/14, Error ellipse: s-maj=29.7km s-min=10.3km az=71.0*

ISC 10 08:07:52.1±0.7, 2°.9N±0°.1×128°.8E±0°.2, h200km, n14, σ1s 38/17, mb3.8/14, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.39**	**167**	P	**P**	**08 12 43.4**	**+0.3**
	1.2nm,0.4s,baz=343,slow=10.0,SNR=19						
	1.2nm,0.4s						
ASAR	**Alice Springs**	**26.91**	**170**	P	**P**	**08 13 15.6**	**+0.6**
	1.2nm,0.4s,baz=354,slow=7.9,SNR=31						
ASAR				PcP	**PcP**	**08 16 31.7**	**-0.1**
	1.0nm,0.6s,baz=352,slow=2.2,SNR=12						
ASAR				ScP	**ScP**	**08 19 50.2**	**-3.0**
	0.2nm,0.3s,baz=321,slow=2.4,SNR=1.5						
	1.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**33.01**	**300**	P	**P**	**08 14 09.1**	**+0.4**
	1.3nm,0.4s,baz=113,slow=7.1,SNR=12						
	1.3nm,0.4s						
KSRS	**Korea Array**	**34.36**	**359**	P	**P**	**08 14 20.6**	**+0.6**
	0.8nm,0.5s,baz=176,slow=8.6,SNR=2.7						
	0.8nm,0.5s						
MJAR	**Matsushiro Arr**	**34.56**	**13**	P	**P**	**08 14 21.4**	**-0.4**
	0.7nm,0.4s,baz=192,slow=10,SNR=4.3						
	0.7nm,0.4s						
STKA	**Stephens Creek**	**36.71**	**162**	P	**P**	**08 14 40.1**	**+0.1**
	1.4nm,0.5s,baz=324,slow=9.4,SNR=6.3						
	1.4nm,0.5s						
SONM	**Songino Array**	**48.71**	**340**	P	**P**	**08 16 16.5**	**+0.1**
	0.7nm,0.6s,baz=132,slow=6.2,SNR=3.7						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**59.36**	**325**	P	**P**	**08 17 32.6**	**-0.7**
	0.8nm,0.5s,baz=117,slow=8.0,SNR=6.8						
MKAR				ScP	**ScP**	**08 21 57.5**	**-3.2**
	0.3nm,0.7s,baz=83,slow=5.0,SNR=3.7						
	0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**62.21**	**332**	P	**P**	**08 17 51.2**	**-1.1**
	0.5nm,0.5s,baz=132,slow=8.5,SNR=2.7						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**63.50**	**327**	P	**P**	**08 18 00.4**	**-0.5**
	1.4nm,0.7s,baz=127,slow=6.2,SNR=12						
	1.4nm,0.7s						
BVAR	**Borovoye Array**	**69.08**	**327**	P	**P**	**08 18 35.6**	**-0.8**
	1.3nm,0.6s,baz=126,slow=9.1,SNR=3.7						
	1.3nm,0.6s						
GEYT	**Alibeck**	**72.96**	**309**	P	**P**	**08 19 01.3**	**+1.3**
	1.4nm,0.3s,baz=102,slow=10,SNR=2.2						
	1.4nm,0.3s						
ILAR	**Eielson Array**	**84.95**	**25**	P	**P**	**08 20 05.9**	**+1.4**
	0.2nm,0.6s,baz=256,slow=5.9,SNR=1.1						
	0.2nm,0.6s						
QSPA	**South Pole Qui**	**92.84**	**180**	P	**P**	**08 20 42.1**	**+0.2**
	1.1nm,0.6s,baz=289,slow=1.4,SNR=9.2						
	1.1nm,0.6s						

*KRSC **10** 08:15:52.8±2.2, 48°.74N×156°.36E, h9km±31km, Ml4.5*

*IDC **10** 08:15:57.2±2.4, 48°.92N×154°.81E, h75km±20km, mb3.3/15, mbtmp3.7/21, MS3.0/8, Error ellipse: s-maj=23.2km s-min=12.1km az=139.0*

ISC 10 08:15:54.0±0.8, 48.72N±0°.09×155°.11E±0°.09, h50km, n53, σ1s 68/56, mb3.6/15, MS3.2/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.08**	**18**	*e*P	**Pn**	**08 16 25.7**	**-0.6**
SKR				*e*S	**Sn**	**08 16 49.8**	**-1.2**
PAU	**Pauzhetka**	**2.96**	**21**	*e*P	**Pn**	**08 16 39.8**	**+1.3**
PAU				*e*S	**Sn**	**08 17 14.6**	**+1.9**
KDTR	**Khodutka, Kamc**	**3.64**	**30**	*e*P	**Pn**	**08 16 47.6**	**-0.1**
KDTR				*e*S	**Sn**	**08 17 27.2**	**-2.0**
ASAK	**Asacha**	**4.08**	**25**	*e*P	**Pn**	**08 16 54.9**	**+1.0**
ASAK				*e*S	**Sn**	**08 17 41.7**	**+1.4**
MTVR	**Mutnovka**	**4.25**	**26**	*e*P	**Pn**	**08 16 57.0**	**+0.8**
MTVR				*e*S	**Sn**	**08 17 42.9**	**-1.7**
GRL	**Gorelyy**	**4.28**	**25**	*e*P	**Pn**	**08 16 57.8**	**+1.2**
GRL				*e*S	**Sn**	**08 17 45.6**	**+0.3**
RUS	**Russkaya**	**4.31**	**29**	*e*P	**Pn**	**08 16 56.4**	**-0.5**
RUS				*e*S	**Sn**	**08 17 42.9**	**-2.9**
APC	**Apacha**	**4.41**	**16**	*e*P	**Pn**	**08 17 00.2**	**+1.9**
KRMR	**Karymshinskiy**	**4.54**	**24**	*e*P	**Pn**	**08 17 02.5**	**+2.4**
KRMR				*e*S	**Sn**	**08 17 53.1**	**+1.6**
PETK	**Petropavlovsk-**	**4.69**	**19**	P	**Pn**	**08 17 02.5**	**+0.3**
	8.3nm,0.4s,baz=180,slow=12,SNR=21						
PETK				S	**Sn**	**08 17 56.2**	**+0.9**
	4.0nm,0.5s,baz=120,slow=18,SNR=0.9						
PETK				LR	LR	08 19 19.5	
	comp=Z,91nm,21.1s,baz=130,slow=44						
PET	**Petropavlovsk**	**4.86**	**26**	*e*P	**Pn**	**08 17 05.2**	**+0.8**
PET				*e*S	**Sn**	**08 17 59.6**	**+0.3**
DALK	**Dalny**	**4.90**	**27**	*e*P	**Pn**	**08 17 05.4**	**+0.5**
DALK				*e*S	**Sn**	**08 17 59.5**	**-0.7**
KOK	**Koryaka**	**5.09**	**25**	*e*P	**Pn**	**08 17 09.8**	**+2.0**
KOK				*e*S	**Sn**	**08 18 06.7**	**+1.4**
AVH	**Avacha**	**5.10**	**25**	*e*P	**Pn**	**08 17 10.3**	**+2.5**
AVH				*e*S	**Sn**	**08 18 06.6**	**+1.2**
SMAR	**Somma**	**5.12**	**26**	*e*P	**Pn**	**08 17 09.4**	**+1.2**
KRER	**Koryakskii**	**5.14**	**25**	*e*P	**Pn**	**08 17 10.9**	**+2.5**
KRX	**Arik**	**5.16**	**24**	*e*P	**Pn**	**08 17 10.4**	**+1.8**
KRX				*e*S	**Sn**	**08 18 08.0**	**+1.1**
GNL	**Ganaly**	**5.29**	**19**	*e*P	**Pn**	**08 17 12.7**	**+2.2**
SPN	**Mys Shipunski**	**5.38**	**33**	*e*P	**Pn**	**08 17 11.3**	**-0.2**
SPN				*e*S	**Sn**	**08 18 08.8**	**-3.3**
TUMR	**Tumrok**	**7.27**	**23**	*e*P	**Pn**	**08 17 42.0**	**+4.4**
ASAJ	**Asahikawa**	**9.79**	**247**	P	**Pn**	**08 18 13.8**	**+1.9**
	5.5nm,0.6s,baz=100,slow=17,SNR=12						
ASAJ				LR	LR	08 21 26.6	
	comp=Z,46nm,20.7s,baz=320,slow=34						
MA2	**Magadan**	**11.17**	**349**	P	**Pn**	**08 18 31.3**	**+0.5**
	6.6nm,1.0s,baz=155,slow=10,SNR=2.1						
MA2				LR	LR	08 22 09.6	
	comp=Z,107nm,20.7s,baz=126,slow=34						
SEY	**Seymchan**	**14.33**	**355**	P	**Pn**	**08 19 15.1**	**+1.3**
	0.6nm,0.3s,baz=180,slow=20,SNR=4.0						
KLR	**Kul'dur**	**15.34**	**281**	P	**Pn**	**08 19 28.2**	**+1.2**
	0.8nm,0.7s,baz=40,slow=10,SNR=2.3						
KLR				LR	LR	08 25 22.7	
	comp=Z,58nm,21.8s,baz=61,slow=37						
USRK	**Ussuriysk Ar.**	**16.54**	**263**	P	**P**	**08 19 43.4**	**-0.8**
	1.6nm,0.7s,baz=66,slow=12,SNR=1.9						
YAK	**Yakutsk**	**19.48**	**323**	LR	LR	08 28 21.5	
	comp=Z,35nm,18.2s,baz=80,slow=39						
KSRS	**Korea Array**	**22.70**	**250**	P	**P**	**08 20 52.1**	**+0.9**
	1.5nm,0.7s,baz=46,slow=10,SNR=5.1						
	1.5nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**30.44**	**158**	T	T	08 54 25.4	
	baz=345,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**30.45**	**158**	T	T	08 54 25.5	
	baz=345,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**30.45**	**158**	T	T	08 54 23.3	
	baz=345,slow=76,SNR=8.7						
H11S1	**WAKE ISLAND Hy**	**31.56**	**159**	T	T	08 55 48.7	
	baz=346,slow=76,SNR=152						
H11S3	**WAKE ISLAND Hy**	**31.57**	**159**	T	T	08 55 53.2	
	baz=346,slow=76,SNR=163						
H11S2	**WAKE ISLAND Hy**	**31.58**	**159**	T	T	08 55 47.0	
	baz=346,slow=76,SNR=146						
ILAR	**Eielson Array**	**34.17**	**40**	P	**P**	**08 22 34.0**	**0.0**
	0.5nm,1.0s,baz=271,slow=8.9,SNR=4.3						
	0.5nm,1.0s						
ZALV	**Zalesovo Beam**	**42.58**	**305**	LR	LR	08 42 10.7	
	comp=Z,29nm,18.0s,baz=90,slow=37						
MKAR	**Makanchi Array**	**47.25**	**297**	P	**P**	**08 24 18.7**	**-3.1**
	0.2nm,0.5s,baz=61,slow=7.9,SNR=2.9						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**47.51**	**303**	P	**P**	**08 24 22.2**	**-1.5**
	0.2nm,0.5s,baz=64,slow=8.5,SNR=2.6						
KURBB				PcP	**PcP**	**08 25 52.9**	**-0.2**
	0.1nm,0.4s,baz=58,slow=5.1,SNR=1.4						
	0.2nm,0.5s						
YKA	**Yellowknife Ar**	**48.54**	**38**	P	**P**	**08 24 32.3**	**+0.7**
	0.4nm,0.8s,baz=297,slow=7.9,SNR=4.9						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**50.66**	**309**	P	**P**	**08 24 45.3**	**-2.6**
	0.2nm,0.3s,baz=29,slow=9.9,SNR=1.5						
	0.2nm,0.3s						
SPITS	**Spitsbergen Ar**	**50.91**	**350**	P	**P

CCAS				S		Sb	08 56 51.8	+0.1
	101nm,0.2s							
EJON	**La Jonquera**	**0.93**	**310**	Pg		**Pb**	08 56 46.4	+0.6
EJON	**La Jonquera**	**0.93**	**310**	Pg		**Pb**	08 56 46.3	+0.6
EJON				Sg		**Sg**	08 56 57.9	+0.5
SJAF	**Saint Jean de**	**0.95**	**312**	P		**Pb**	08 56 47.0	+0.8
SJAF				S		**Sb**	08 57 00.2	+1.2
	100nm,0.1s							
SJAF	**Saint Jean de**	**0.95**	**312**	Pg		**Pb**	08 56 47.0	+0.8
SJAF				Sg		**Sb**	08 56 60.0	+1.0
CBEU	**Beuda**	**0.96**	**295**	P		**Pb**	08 56 47.2	+0.9
CBEU				S		**Sb**	08 56 59.6	+0.5
	153nm,0.2s							
CFON	**Fontmartina**	**1.06**	**265**	P		**Pb**	08 56 48.6	+0.5
CFON				S		**Sb**	08 57 03.4	+1.3
	63nm,0.2s							
FILF	**Fillols**	**1.19**	**307**	P		**Pn**	08 56 52.0	+1.6
FILF				S		**Sn**	08 57 08.7	+2.0
	61nm,0.2s							
FILF	**Fillols**	**1.19**	**307**	Pg		**Pn**	08 56 52.0	+1.6
FILF				Sg		**Sn**	08 57 09.4	+2.7
CBRU	**Bruguera**	**1.31**	**290**	P		**Pg**	08 56 52.7	0.0
CBRU				S		**Sb**	08 57 10.2	+0.7
	36nm,0.1s							
CORI	**Orista**	**1.35**	**276**	P		**Pg**	08 56 52.9	-0.4
CORI				S		**Sg**	08 57 10.7	-0.1
	26nm,0.2s							
CLAF	**Gruissan**	**1.40**	**337**	Pg		**Pb**	08 56 54.3	+0.6
CLAF				Sg		**Sn**	08 57 15.7	+4.0
VALC	**Valcebollere**	**1.44**	**292**	Pn		**Pn**	08 56 54.8	+0.8
VALC				Sg		**Sn**	08 57 15.0	+1.9
CLLI	**Llivia**	**1.52**	**295**	P		**Pn**	08 56 56.0	+0.9
CLLI				S		**Sg**	08 57 15.4	-1.1
	26nm,0.1s							
CARF	**Carcanieres**	**1.55**	**304**	Pn		**Pn**	08 56 56.3	+0.9
CARF				Sn		**Sg**	08 57 18.4	+1.1
CGAR	**Garraf**	**1.56**	**249**	P		**Pn**	08 56 56.3	+0.9
FNEB	**Nbias**	**1.66**	**310**	Pn		**Pn**	08 56 57.8	+0.9
FNEB				Sn		**Sg**	08 57 21.6	+0.7
EMIR	**Miracle**	**1.73**	**273**	Pn		**Pn**	08 56 58.5	+0.6
EMIR				Pg		**Pb**	08 57 00.1	+0.6
EMIR				Sn		**Sn**	08 57 20.2	0.0
EMIR				Sg		**Sg**	08 57 23.5	+0.2
EMIR				*i* Vmb_Lg			08 57 29.3	
ARBS	**La Rabassa**	**1.81**	**290**	P		**Pn**	08 57 00.3	+1.2
ARBS				S		**Sn**	08 57 22.2	0.0
	37nm,0.3s							
PAND	**Andorre**	**1.83**	**292**	Pn		**Pn**	08 57 00.3	+0.9
PAND				Sn		**Sb**	08 57 25.0	+0.5
DUNF	**Dun**	**1.91**	**308**	Pn		**Pn**	08 57 01.2	+1.0
DUNF				Sn		**Sb**	08 57 27.3	+0.9
MTLF	**Montolieu**	**1.91**	**322**	*e*Pn		**Pn**	08 57 00.8	+0.5
MTLF	**Montolieu**	**1.91**	**322**	*e*Pg		**Pg**	08 57 04.9	+0.8
MTLF				*e*Sn		**Sn**	08 57 21.6	-2.9
MTLF				*e*Sg		**Sg**	08 57 28.8	-0.1
	9.9nm,0.3s							
MTLF	**Montolieu**	**1.91**	**322**	Sn		**Sb**	08 57 27.3	+0.8
MTLF	**Montolieu**	**1.91**	**322**	Pn		**Pn**	08 57 02.0	+1.7
CORG	**Organya**	**1.92**	**282**	P		**Pn**	08 57 01.6	+1.2
CEST	**Esterri de Car**	**2.06**	**292**	P		**Pn**	08 57 04.0	+1.5
CSOR	**Sort**	**2.08**	**285**	P		**Pn**	08 57 04.1	+1.4
EPOB	**Poblet**	**2.14**	**257**	P		**Pn**	08 57 04.4	+0.9
EPOB	**Poblet**	**2.14**	**257**	Pn		**Pn**	08 57 04.2	+0.8
EPOB				Sn		**Sn**	08 57 28.9	-1.2
EPOB				Sg		**Sg**	08 57 37.0	+0.9
EPOB				*i* Vmb_Lg			08 57 40.9	
LEPF	**PUYLOUBIER**	**2.16**	**39**	Pn		**Pn**	08 57 05.7	+2.0
SALF	**Salau**	**2.17**	**296**	Pn		**Pn**	08 57 05.3	+1.4
SALF				Sn		**Sn**	08 57 32.7	+1.8
LASF	**Ste Croix**	**2.22**	**0**	*e*Pn		**Pn**	08 57 04.7	+0.2
LASF	**Ste Croix**	**2.22**	**0**	*e*Pg		**Pb**	08 57 09.2	+1.4
LASF				*e*Sn		**Sn**	08 57 29.3	-2.8
	9.2nm,0.3s							
LASF				*e*Sg		**Sg**	08 57 38.2	-0.6
	5.3nm,0.2s							
ETOS	**Mallorca**	**2.23**	**201**	P		**Pn**	08 57 06.2	+1.6
ETOS	**Mallorca**	**2.23**	**201**	Pn		**Pn**	08 57 04.9	+0.3
ETOS				Sn		**Sn**	08 57 28.0	-4.3
ETOS				*i* Vmb_Lg			08 57 30.8	
ARTF	**Artigues**	**2.25**	**39**	Pn		**Pn**	08 57 06.6	+1.6
CAVN	**Les Avellanes**	**2.31**	**272**	Pn		**Pn**	08 57 06.8	+1.0
MLS	**Moulis**	**2.32**	**299**	Pn		**Pn**	08 57 06.9	+1.0
MLS				Sn		**Sn**	08 57 36.5	+2.0
CTRE	**Tremp**	**2.33**	**283**	P		**Pn**	08 57 07.5	+1.3
FLAF	**Flassans-sur-I**	**2.34**	**49**	Pn		**Pn**	08 57 08.2	+2.0
RUSF	**Rustrel**	**2.41**	**29**	Pn		**Pn**	08 57 08.9	+1.8
LMR	**La Mourre**	**2.46**	**52**	*e*Pn		**Pn**	08 57 08.6	+0.8
LMR				*e*Sn		**Sn**	08 57 37.0	-1.0
	3.9nm,0.3s							
SMRF	**Simiane la Rot**	**2.47**	**30**	*e*P		**Pn**	08 57 10.7	+2.7
BLAF	**les Blancs**	**2.65**	**37**	Pn		**Pn**	08 57 11.8	+1.4
TRIGF	**Trigance**	**2.67**	**44**	Pn		**Pn**	08 57 12.7	+1.9
ECHI	**Chisagues Biel**	**2.83**	**288**	Pn		**Pn**	08 57 13.2	+0.2
ECHI				Sn		**Sn**	08 57 46.9	-0.4
ECHI				Sg		**Sg**	08 57 57.5	-0.8
ECHI				*i* Vmb_Lg			08 58 03.1	
ECHI	**Chisagues Biel**	**2.83**	**288**	Pn		**Pn**	08 57 14.0	+1.0
EPF	**Esparros**	**2.85**	**296**	*e*Pn		**Pn**	08 57 12.4	-0.8
EPF	**Esparros**	**2.85**	**296**	*e*Pg		**Pg**	08 57 21.4	-0.7
EPF				*e*Sg		**Sg**	08 57 57.9	-1.1
	7.5nm,0.3s							
OGDI	**Digne**	**2.88**	**38**	Pn		**Pn**	08 57 15.2	+1.5
OGDI				Sn		**Sn**	08 57 49.8	+1.3
SALSA	**La sagne**	**2.91**	**45**	Pn		**Pn**	08 57 16.0	+1.9
SALSA				Sn		**Sn**	08 57 51.7	+2.5
CALF	**Calern**	**2.95**	**49**	Pn		**Pn**	08 57 16.7	+2.0
CALF				Sn		**Sn**	08 57 52.5	+2.2
VIEF	**Viey**	**3.01**	**291**	Pn		**Pn**	08 57 17.5	+2.0
VIEF				Sn		**Sn**	08 57 54.1	+2.3
VIVF	**Saint-Julien-l**	**3.06**	**11**	*e*Pn		**Pn**	08 57 15.2	-0.9
VIVF				*e*Sn		**Sn**	08 57 49.7	-3.2
	3.2nm,0.3s							
SBF	**Sospel**	**3.31**	**52**	*e*Pn		**Pn**	08 57 20.5	+0.9
SBF				*e*Sn		**Sn**	08 57 57.2	-2.0
	3.2nm,0.3s							
CAF	**Calviac**	**3.33**	**338**	*e*Pn		**Pn**	08 57 19.0	-0.8
CAF	**Calviac**	**3.33**	**338**	*e*Pg		**Pg**	08 57 30.0	-1.3
CAF				*e*Sn		**Sn**	08 57 55.9	-3.7
CAF				*e*Sg		**Sg**	08 58 12.8	-1.7
	4.9nm,0.2s							
ETSF	**Etsaut**	**3.43**	**289**	*e*Pg		**Pg**	08 57 32.4	-0.7
ETSF				*e*Sg		**Sg**	08 58 15.9	-1.6
	9.7nm,0.3s							
LFF	**La Frestale**	**3.83**	**325**	*e*Pg		**Pg**	08 57 39.1	-1.6
LFF				*e*Sn		**Sn**	08 58 07.8	-3.8
LFF				*e*Sg		**Sg**	08 58 28.1	-2.2
	8.2nm,0.3s							
RJF	**Les Rejaudoux**	**3.84**	**335**	*e*Pn		**Pn**	08 57 27.9	+1.1
RJF				*e*Sg		**Sg**	08 58 30.1	-0.7
	3.0nm,0.2s							
PGF	**Pioggiola**	**3.89**	**78**	*e*Pn		**Pn**	08 57 28.2	+0.6
PGF				*e*Sn		**Sn**	08 58 09.9	-3.5
	3.6nm,0.3s							
SJPF	**Ste Jean**	**3.96**	**290**	*e*Pn		**Pn**	08 57 27.2	-1.2
SJPF	**Ste Jean**	**3.96**	**290**	*e*Pg		**Pg**	08 57 41.9	-1.3
SJPF				*e*Sn		**Sn**	08 58 10.9	-4.0
SJPF				*e*Sg		**Sg**	08 58 32.5	-2.0
	3.4nm,0.3s							
MFF	**Saint Martin d**	**5.54**	**330**	*e*Pn		**Pn**	08 57 48.9	-1.3
MFF				*e*Sn		**Sn**	08 58 48.6	-5.4
	1.0nm,0.3s							

*SJA **10** 09:19:40.0±1.4, 30°.38S×72°.33W, h15km, ML3.9, MW4.0*
*GUC **10** 09:19:43.3±0.6, 30°.42S×72°.25W, h26km±6km, ML3.6*
*IDC **10** 09:19:45.3±1.1, 30°.63S×70°.24W, h0km, mb3.7/3, mbtmp3.5/7, ML3.5/4, Error ellipse: s-maj=43.6km s-min=24.6km az=95.0*

ISC 10 09:19:41.8±1.1, 30°.41S±0°.03×72°.26W±0°.05, h9km±6km, n52, σ2.8°01/86, mb4.0/3, 1C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CO06	**Fray Jorge**	**0.60**	**116**	⇓*i*P		**Pg**		**09 19 54.2**	**+0.7**
CO06				*e*S		**Sb**		**09 20 02.7**	**-0.5**
CO06				IAML				09 20 05.1	
	comp=E,5μm,0.2s								
CO05	**La Serena**	**1.01**	**61**	⇓*i*P		**Pg**		**09 20 01.3**	**0.0**
CO05				*e*S		**Sg**		**09 20 14.5**	**0.0**
CO05				IAML				09 20 16.3	
	comp=N,4μm,0.3s								
GO04	**Tololo Observa**	**1.29**	**80**	*e*P		**Pn**		**09 20 05.5**	**-0.8**
GO04				*e*S		**Sn**		**09 20 24.5**	**+0.7**
GO04				IAML				09 20 26.7	
	comp=Z,3μm,0.6s								
GO04	**Tololo Observa**	**1.29**	**80**	⇓*i*P		**Pn**		**09 20 05.4**	**-0.8**
GO04				*e*S		**Sb**		**09 20 22.9**	**-0.3**
CO02	**Combarbal**	**1.34**	**126**	*e*P		**Pn**		**09 20 06.7**	**-0.3**
CO02				*e*S		**Sg**		**09 20 26.6**	**+1.5**
CO02				IAML				09 20 28.5	
	comp=Z,1μm,0.5s								
CO02	**Combarbal**	**1.34**	**126**	⇓*i*P		**Pn**		**09 20 06.6**	**-0.3**
CO02				*e*S		**Sb**		**09 20 23.9**	**-0.8**
CO02				IAML				09 20 26.7	
	comp=N,4μm,0.3s								
CO03	**El Pedregal**	**1.42**	**108**	*e*P		**Pn**		**09 20 07.4**	**-0.6**
CO03				*e*S		**Sg**		**09 20 28.7**	**+1.0**
CO03				IAML				09 20 29.0	
	comp=Z,934nm,0.6s								
CO03	**El Pedregal**	**1.42**	**108**	⇓*i*P		**Pn**		**09 20 07.3**	**-0.8**
CO03				*e*S		**Sn**		**09 20 25.8**	**-1.1**
CO03				IAML				09 20 29.5	
	comp=N,2μm,0.4s								
CO01	**Juntas del Tor**	**1.93**	**78**	*e*P		**Pn**		**09 20 16.1**	**+1.1**
CO01				*e*S		**Sb**		**09 20 41.7**	**+0.2**
CO01				IAML				09 20 43.7	
	comp=Z,451nm,0.8s								
CO01	**Juntas del Tor**	**1.93**	**78**	*e*P		**Pn**		**09 20 15.8**	**+0.7**
CO01				IAML				09 20 46.1	
	comp=N,513nm,0.4s								
LCO	**Las Campanas**	**1.94**	**45**	*e*P		Pn		09 20 06.7	-8.7
LCO				*e*P		**Pb**		**09 20 16.0**	**-1.6**
LCO				*e*P		**Pg**		**09 20 16.1**	**-3.0**
LCO				*e*S		**Sn**		**09 20 40.7**	**+0.6**
LCO				IAML				09 20 46.9	
	comp=Z,2μm,0.4s								
LCO	**Las Campanas**	**1.94**	**45**	*e*P		**Pn**		**09 20 15.9**	**+0.6**
VA06	**Catapilco**	**2.30**	**159**	*e*P		**Pn**		**09 20 20.9**	**+0.9**
VA06				IAML				09 20 50.9	
	comp=N,852nm,0.3s								
AROD	**Rodeo**	**2.42**	**85**	*e*P		**Pb**		**09 20 25.0**	**-0.9**
AROD				*e*S		**Sn**		**09 20 51.7**	**-0.3**
AC04	**Llanos de Chal**	**2.43**	**26**	*e*P		**Pn**		**09 20 21.8**	**+0.1**
AC04				*e*S		**Sb**		**09 20 57.2**	**+1.4**
AC04				*e*S		**Sg**		**09 21 00.7**	**+0.9**
AC04	**Llanos de Chal**	**2.43**	**26**	⇓*e*P		**Pn**		**09 20 21.8**	**+0.1**
AC04				IAML				09 21 11.0	
ACDV	**Cuesta del Vie**	**2.73**	**86**	*e*P		**Pb**		**09 20 29.4**	**-1.5**
ACDV				*e*P		**Pn**		**09 20 29.8**	**+3.7**
ACDV				*e*S		**Sn**		**09 21 00.7**	**+1.5**
ACDV				*e*S		**Sb**		**09 21 01.7**	**-2.9**
ACDV				IAML				09 21 11.4	
	comp=Z,395nm,0.5s								
ACCO	**Cerro Coronel**	**2.77**	**95**	*e*P		**Pb**		**09 20 30.4**	**-1.3**
ACCO				*e*S		**Sg**		**09 21 09.0**	**-1.7**
VA03	**San Esteban**	**2.77**	**149**	*e*P		**Pn**		**09 20 27.8**	**+1.2**
VA03				*e*S		**Sn**		**09 20 57.7**	**-2.4**
VA03				IAML				09 21 13.4	
	comp=Z,322nm,0.5s								
VA03	**San Esteban**	**2.77**	**149**	*e*P		**Pn**		**09 20 28.0**	**+1.5**
ROCH	**El Roble**	**2.77**	**158**	*e*P		**Pb**		**09 20 28.2**	**-3.5**
ROCH				*e*P		**Pn**		**09 20 27.8**	**+1.1**
ROCH				IAML				09 21 01.8	
	comp=N,258nm,0.3s								
DOCA	**Reserva Natura**	**2.79**	**102**	*e*P		**Pb**		**09 20 29.8**	**-2.4**
DOCA				*e*S		**Sb**		**09 21 05.7**	**-0.9**
DOCA				IAML				09 21 11.0	
	comp=Z,307nm,0.8s								
RTLS	**Leoncito**	**2.90**	**119**	*e*P		**Pb**		**09 20 32.4**	**-1.5**
RTLS				IAML				09 21 21.1	
	comp=Z,771nm,0.7s								
MT02	**Curacav**	**3.00**	**162**	*e*P		**Pn**		**09 20 30.5**	**+0.9**
MT02				*e*S		**Sn**		**09 21 00.7**	**-5.0**
MT02	**Curacav**	**3.00**	**162**	*e*P		**Pn**		**09 20 30.9**	**+1.3**
MT02				IAML				09 21 18.6	
	comp=E,112nm,0.4s								
MT10	**Hacienda Santa**	**3.21**	**153**	*e*P		**Pn**		**09 20 34.0**	**+1.4**
GO03	**Copiap**	**3.32**	**33**	*e*P		**Pn**		**09 20 34.8**	**+0.7**
GO03				*e*S		**Sn**		**09 21 11.7**	**-2.0**
GO03				IAML				09 21 32.7	
	comp=Z,170nm,0.4s								
GO03	**Copiap**	**3.32**	**33**	*e*P		**Pn**		**09 20 34.9**	**+0.8**
GO03				IAML				09 21 18.4	
	comp=E,81nm,0.4s								
FCH	**Farellones**	**3.36**	**151**	*e*P		**Pn**		**09 20 36.7**	**+1.9**
FCH				IAML				09 21 19.6	
	comp=E,110nm,0.2s								
AGUA	**GUANDACOL**	**3.40**	**75**	*e*P		**Pb**		**09 20 39.4**	**-3.0**
AGUA				*e*S		**Sb**		**09 21 26.7**	**+2.9**
AGUA				IAML				09 21 34.0	
	comp=Z,272nm,1.0s								
MT03	**Universidad Ad**	**3.42**	**155**	*e*P		**Pn**		**09 20 36.9**	**+1.5**
MT03				*e*S		**Sn**		**09 21 17.1**	**+0.9**
MT03				IAML				09 21 38.4	
	comp=Z,157nm,1.2s								
MT09	**Talagante**	**3.53**	**162**	*e*P		**Pn**		**09 20 38.5**	**+1.5**
MT01	**Popeta**	**3.55**	**166**	*e*P		**Pn**		**09 20 33.7**	**-3.5**
MT01				*e*P		**Pn**		**09 20 38.2**	**+1.0**
MT01				*e*S		**Sn**		**09 21 18.2**	**-1.1**
MT01	**Popeta**	**3.55**	**166**	*e*P		**Pn**		**09 20 38.3**	**+1.0**
MT01				IAML				09 21 19.7	
	comp=E,60nm,0.2s								
VCA	**Vinchina**	**3.91**	**66**	*e*P		**Pn**		**09 20 46.5**	**+4.3**
VCA				*e*S		**Sg**		**09 21 46.5**	**-0.8**
VCA				IAML				09 21 52.2	
	comp=Z,283nm,0.7s								
BO01	**Tunca**	**4.10**	**166**	*e*P		**Pn**		**09 20 46.0**	**+1.3**
BO01				*e*S		**Sn**		**09 21 33.7**	**+1.0**
AVFE	**Valle Fertil**	**4.15**	**95**	*e*P		**Pn**		**09 20 48.5**	**+2.9**
AVFE				*e*S		**Sn**		**09 21 38.7**	**+4.4**
AVFE				IAML				09 21 57.7	
	comp=Z,90nm,0.8s								
AC01	**Pan de Azucar**	**4.49**	**19**	*e*P		**Pn**		**09 20 49.5**	**-0.6**
AC01				*e*S		**Sn**		**09 21 41.4**	**-1.1**
AC02	**Maricunga**	**4.50**	**38**	*e*P		**Pn**		**09 20 52.1**	**+1.4**
AC02				*e*P		**Pn**		**09 20 52.3**	**+1.6**
AC02				*e*S		**Sb**		**09 22 00.2**	**+4.3**
AC02				IAML				09 22 10.7	
	comp=Z,104nm,0.8s								
BO02	**Sierra Bellavi**	**4.55**	**164**	*e*P		**Pn**		**09 20 52.6**	**+1.7**
BO02				IAML				09 22 17.9	
	comp=Z,81nm,0.7s								
GO05	**Huala**	**4.60**	**177**	*e*S		**Sn**		**09 21 42.2**	**-3.0**
ACLC	**CERRO LA CRUZ**	**4.71**	**79**	*e*P		**Pn**		**09 20 56.1**	**+2.7**
ACLC				*e*S		**Sb**		**09 21 58.2**	**-3.5**
ACLC				IAML				09 22 17.1	
	comp=Z,135nm,0.7s								
LVC	**Limon Verde**	**8.32**	**22**	Pn		**Pn**		**09 21 43.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=198,slow=22,SNR=1.5								
LVC				Sn		**Sn**		**09 23 12.5**	**-5.0**
	comp=Z,0.3nm,0.3s,baz=281,slow=17,SNR=1.2								
LVC				Lg		Lg		09 23 51.7	
	comp=Z,0.9nm,0.3s,baz=136,slow=11,SNR=4.8								
	comp=Z,2.4nm,0.8s								
PLCA	**Paso Flores**	**10.40**	**173**	Pn		**Pn**		**09 22 12.6**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=341,slow=13,SNR=6.3								
	comp=Z,0.8nm,0.7s								
CPUP	**Villa Florida**	**13.76**	**76**	Pn		Pn		09 22 40.6	-17
	comp=Z,0.1nm,0.3s,baz=191,slow=14,SNR=1.8								
	comp=Z,0.4nm,0.5s								
LPAZ	**La Paz**	**14.55**	**16**	Pn		**Pn**		**09 23 11.3**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=170,slow=9.9,SNR=1.8								
	comp=Z,0.9nm,0.7s								
SIV	**San Ignacio**	**17.64**	**38**	Pn		**P**		**09 23 49.1**	**+0.2**
	baz=229,slow=12,SNR=11								
QSPA	**South Pole Qui**	**59.82**	**180**	P		**P**		**09 29 50.3**	**+2.9**
	comp=Z,1.6nm,1.1s,baz=169,slow=14,SNR=0.8								
	comp=Z,1.6nm,1.1s								
TXAR	**Lajitas Array**	**66.52**	**330**	P		P		09 30 44.6	+12
	comp=Z,0.4nm,0.9s,baz=151,slow=8.0,SNR=2.4								
	comp=Z,0.4nm,0.9s								
TORD	**Torodi Ar. Bea**	**83.18**	**71**	P		**P**		**09 32 05.5**	**-3.4**
	comp=Z,1.1nm,0.9s,baz=235,slow=5.1,SNR=4.1								
	comp=Z,1.1nm,0.9s								
KURBB	**Kurchatov Arra**	**150.29**	**39**	PKPbc		**PKiKP**		**09 39 35.0**	**+1.0**
	comp=Z,0.1nm,0.4s,baz=287,slow=3.0,SNR=4.2								
ZALV	**Zalesovo Beam**	**151.23**	**29**	PKPbc		**PKiKP**		**09 39 37.7**	**+1.9**
	comp=Z,1.2nm,0.4s,baz=281,slow=3.1,SNR=8.3								
ZALV				PKPab		**sPKPab**		**09 39 45.8**	**+0.9**
	comp=Z,1.6nm,0.5s,baz=304,slow=2.9,SNR=6.8								

*IDC **10** 09:25:39.6±1.9, 58°.75N×155°.07W, h133km±30km, mb3.2/2, mbtmp3.5/5, Error ellipse: s-maj=35.7km s-min=28.6km az=121.0*
*NEIC **10** 09:25:40.4±1.2, 58°.70N±0°.04×155°.09W±0°.07, h142km±5km, Error ellipse: s-maj=5.9km s-min=5.5km az=219.0*
*AEIC **10** 09:25:41.4±1.1, 58°.69N±0°.04×155°.11W±0°.07, h138km±5km, ML3.0, ML3.0/108(NEIC), Error ellipse: s-maj=5.8km s-min=5.3km az=136.0*

ISC 10 09:25:39.8±0.9, 58.71N±0°.04×155°.07W±0°.04, h144km±6km, n255, σ0.90/279, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KAHC	**Katmai Hardscr**	**0.07**	**151**				**Pn**	**09 25 59.3**	**-0.1**
KAHC							**Sn**	**09 26 13.5**	**-0.6**
KAHC	**Katmai Hardscr**	**0.07**	**151**	P			**Pn**	**09 25 59.3**	**-0.1**
	baz=309								
KAHC				S			**Sn**	**09 26 13.5**	**-0.6**
	baz=309								
KVTA	**Katmai Vly 10**	**0.35**	**200**				**Pn**	**09 26 00.1**	**+0.3**
KAKN	**Katmai Knife C**	**0.41**	**179**				**Pn**	**09 26 00.5**	**+0.3**
KAKN							**Sn**	**09 26 15.3**	**-0.3**
KCE	**Katmai Mt Cerb**	**0.47**	**187**				**Pn**	**09 26 01.0**	**+0.6**
ANCK	**Angle Creek**	**0.56**	**204**				**Pn**	**09 26 01.2**	**+0.3**
ANCK							**Sn**	**09 26 16.6**	**-0.2**
CNTC	**Contact Creek**	**0.62**	**224**				**Pn**	**09 26 01.1**	**-0.2**
CNTC							**Sn**	**09 26 16.7**	**-0.8**
Q17K	**Contact Creek**	**0.62**	**224**	P			**Pn**	**09 26 01.1**	**-0.2**
	baz=43								
Q17K				S			**Sn**	**09 26 16.8**	**-0.8**
	baz=43								
P18K	**Big Mountain,**	**0.69**	**353**	Pn			**Pn**	**09 26 01.4**	**-0.3**
P18K							**Sn**	**09 26 17.4**	**-0.9**
P18K				IAML				09 26 17.9	
	comp=N,118nm,0.8s								
P18K	**Big Mountain,**	**0.69**	**353**	P			**Pn**	**09 26 01.4**	**-0.3**
	baz=175								
P18K				S			**Sn**	**09 26 17.2**	**-1.2**
	baz=175								
Q19K	**Cape Douglas,**	**0.78**	**73**	Pn			**Pn**	**09 26 02.5**	**+0.3**
Q19K				IAML				09 26 21.9	
	comp=N,163nm,0.9s								
Q19K				IAML				09 26 22.1	
	comp=E,121nm,0.9s								
Q19K	**Cape Douglas,**	**0.78**	**73**	P			**Pn**	**09 26 02.6**	**+0.3**
	baz=253								
Q16K	**King Salmon**	**0.83**	**269**				**Pn**	**09 26 02.7**	**+0.1**
Q16K							**Sn**	**09 26 19.5**	**-0.3**
Q16K	**King Salmon**	**0.83**	**269**	P			**Pn**	**09 26 02.7**	**+0.1**
	baz=88								
Q16K				S			**Sn**	**09 26 19.6**	**-0.3**
	baz=88								
P17K	**Kvichak River**	**0.86**	**305**				**Pn**	**09 26 03.0**	**+0.1**
P17K							**Sn**	**09 26 19.6**	**-0.8**
P17K	**Kvichak River**	**0.86**	**305**	P			**Pn**	**09 26 03.0**	**+0.1**
	baz=126								
P17K				S			**Sn**	**09 26 19.6**	**-0.8**
	baz=126								
AUCH	**Augustine Cone**	**1.07**	**51**				**Pn**	**09 26 05.3**	**+0.7**
AUL	**Augustine Lava**	**1.08**	**51**				**Pn**	**09 26 05.6**	**+0.8**
AU22	**Augustine Moun**	**1.11**	**52**				**Pn**	**09 26 05.7**	**+0.8**
O18K	**Koktuh Hills**	**1.15**	**357**	Pn			**Pn**	**09 26 05.7**	**+0.2**
O18K				Sn			**Sn**	**09 26 24.4**	**-0.7**
O18K				IAML				09 26 24.6	
	comp=E,111nm,1.8s								
O18K				IAML				09 26 24.9	
	comp=N,108nm,0.8s								
O18K	**Koktuh Hills**	**1.15**	**357**	P			**Pn**	**09 26 05.6**	**+0.2**
	baz=178								
O18K				S			**Sn**	**09 26 24.1**	**-1.0**
	baz=178								
PLK1	**Peulik 1**	**1.22**	**222**				**Pn**	**09 26 06.5**	**+0.5**
P19K	**Oil Pt**	**1.34**	**44**				**Pn**	**09 26 08.1**	**+0.8**
P19K				IAML				09 26 29.5	
	comp=E,189nm,0.8s								
P19K				IAML				09 26 29.8	
	comp=N,171nm,0.6s								
P19K	**Oil Pt**	**1.34**	**44**	P			**Pn**

baz=247
O15K Ungalikthiuk R 2.51 283 Pn 09 26 20.6 -0.1
O15K Ungalikthiuk R 2.51 283 P Pn 09 26 20.6 -0.1
baz=99
N16K Nishlik Lake 2.58 315 Pn 09 26 22.0 +0.3
N16K Nishlik Lake 2.58 315 P Pn 09 26 22.0 +0.3
baz=132
M18K Stony River 2.82 353 Pn 09 26 25.1 +0.6
M18K Stony River 2.82 353 P Pn 09 26 25.1 +0.6
baz=172
N20K Mount Spurr 2.89 29 P Pn 09 26 26.0 +0.6
baz=211
SPCR Spurr Chakacha 2.89 29 Pn 09 26 26.1 +0.6
CHIR Chirikof Islan 2.91 186 Pn Pn 09 26 25.2 -0.5
CHIR IAML 09 27 26.6
comp=N,109nm,1.6s
CHIR Chirikof Islan 2.91 186 P Pn 09 26 25.0 -0.7
baz=5.3
SPNN North Nagishla 2.92 23 Pn 09 26 26.9 +0.9
M17K Holitna River 2.95 337 Pn 09 26 27.1 +0.9
M17K IAML 09 27 12.5
comp=E,23nm,1.9s
M17K IAML 09 27 40.2
comp=N,25nm,1.9s
M17K Holitna River 2.95 337 P Pn 09 26 27.0 +0.7
baz=156
N15K Kwethluk River 2.96 302 Pn 09 26 27.5 +1.2
N15K IAML 09 27 16.5
comp=N,20nm,1.8s
N15K IAML 09 27 42.7
comp=E,23nm,1.6s
N15K Kwethluk River 2.96 302 P Pn 09 26 26.9 +0.7
baz=118
SPCP Crater Peak Br 2.96 28 Pn 09 26 27.5 +1.0
SPCG Spurr Capps Gl 3.01 29 Pn 09 26 28.1 +0.9
M16K Timber Creek 3.04 321 Pn 09 26 28.1 +0.7
M16K IAML 09 28 31.8
comp=E,19nm,2.0s
M16K Timber Creek 3.04 321 P Pn 09 26 28.0 +0.7
baz=139
SLKM Skilak Lake 3.06 52 Pn 09 26 28.7 +1.1
SEW Seward 3.20 62 Pn 09 26 30.4 +1.0
SEW Seward 3.20 62 P Pn 09 26 30.3 +1.0
baz=246
M19K Big River Lodg 3.23 6 Pn 09 26 30.8 +1.1
M19K Big River Lodg 3.23 6 P Pn 09 26 30.6 +0.8
baz=187
STLK Strandline Lak 3.24 29 Pn 09 26 31.0 +1.1
O22K Cooper Landing 3.25 55 Pn Pn 09 26 30.8 +0.8
O22K Cooper Landing 3.25 55 P Pn 09 26 31.0 +1.0
baz=239
O14K Tigyukauivet M 3.25 282 Pn 09 26 30.4 +0.4
O14K IAML 09 27 17.9
comp=N,23nm,1.9s
O14K IAML 09 27 42.6
comp=E,32nm,1.8s
O14K Tigyukauivet M 3.25 282 P Pn 09 26 30.2 +0.1
baz=97
M20K Styx River 3.33 16 Pn 09 26 32.2 +1.0
M20K Styx River 3.33 16 P Pn 09 26 32.0 +0.9
baz=198
M15K Kasigluk River 3.48 307 Pn 09 26 33.7 +0.8
M15K Kasigluk River 3.48 307 P Pn 09 26 33.7 +0.8
baz=123
L19K White Mountain 3.49 2 Pn 09 26 34.4 +1.2
L19K White Mountain 3.49 2 P Pn 09 26 34.0 +0.9
baz=182
SUA Susitna One 3.51 36 Pn Pn 09 26 34.4 +0.8
SUA IAML 09 27 15.4
comp=E,61nm,0.8s
SUA IAML 09 27 18.7
comp=N,39nm,1.6s
SUA Susitna One 3.51 36 P Pn 09 26 34.0 +0.5
baz=220
RC01 Rabbit Creek A 3.60 46 Pn Pn 09 26 35.0 +0.5
RC01 IAML 09 27 17.3
comp=E,63nm,0.4s
RC01 Rabbit Creek A 3.60 46 P Pn 09 26 34.8 +0.3
baz=231
N14K Kuskokwak Cree 3.60 293 Pn 09 26 34.9 +0.3
N14K Kuskokwak Cree 3.60 293 P Pn 09 26 34.9 +0.3
baz=107
L18K Granite Mounta 3.62 348 Pn 09 26 35.3 +0.5
L18K Granite Mounta 3.62 348 P Pn 09 26 35.3 +0.5
baz=167
SKT Skwentna 3.73 27 Pn Pn 09 26 37.4 +1.1
SKT IAML 09 27 24.0
comp=E,18nm,1.4s
SKT IAML 09 27 26.1
comp=N,13nm,1.4s
SKT Skwentna 3.73 27 P Pn 09 26 37.2 +1.0
baz=210
L16K Owhat River 3.73 326 Pn Pn 09 26 37.1 +0.9
L16K Owhat River 3.73 326 P Pn 09 26 36.8 +0.6
baz=142
L17K Donlin 3.79 336 Pn 09 26 37.6 +0.5
L17K Donlin 3.79 336 P Pn 09 26 37.6 +0.5
baz=154
L20K Farewell, AK 3.83 8 Pn 09 26 38.4 +0.8
L20K Farewell, AK 3.83 8 P Pn 09 26 38.4 +0.8
baz=190
M22K Willow 3.93 37 Pn Pn 09 26 39.3 +0.4
M22K Willow 3.93 37 P Pn 09 26 39.0 +0.2
baz=221
M14K Bethel 4.05 303 Pn Pn 09 26 41.7 +1.3
M14K IAML 09 28 23.1
comp=E,39nm,1.9s
M14K IAML 09 29 02.1
comp=N,31nm,1.9s
P23K Montague Islan 4.13 68 Pn 09 26 41.8 +0.3
P23K Montague Islan 4.13 68 P Pn 09 26 41.8 +0.3
baz=255
PMR Palmer 4.15 43 Pn Pn 09 26 40.9 -0.8
PMR IAML 09 27 29.1
comp=E,19nm,0.2s
PMR IAML 09 27 29.7
comp=N,22nm,0.4s
PMR Palmer 4.15 43 P Pn 09 26 42.3 +0.6
PMR Palmer 4.15 43 P Pn 09 26 41.1 -0.6
baz=228
TTA Tatalina 4.26 354 Pn Pn 09 26 44.0 +0.8
TTA Tatalina 4.26 354 P Pn 09 26 44.1 +0.8
TTA Tatalina 4.26 354 P Pn 09 26 43.9 +0.6
baz=174
KNK Knik Glacier 4.28 48 Pn Pn 09 26 43.4 -0.2
KNK Knik Glacier 4.28 48 P Pn 09 26 43.1 -0.5
baz=234
K17K Iditarod 4.33 340 Pn 09 26 45.1 +1.0
K17K IAML 09 27 20.9
comp=E,16nm,2.0s
K17K IAML 09 27 50.3
comp=N,11nm,1.6s
K17K Iditarod 4.33 340 P Pn 09 26 45.1 +1.0
baz=157
GHO Glory Hole Cre 4.34 42 Pn Pn 09 26 43.8 -0.6
GHO IAML 09 27 33.3
comp=N,24nm,0.5s
GHO IAML 09 27 35.6
comp=E,26nm,0.6s
CUT Chulitna 4.40 31 Pn Pn 09 26 45.4 +0.3
CUT Chulitna 4.40 31 P Pn 09 26 45.1 0.0
baz=215
PPLA Purkeypile 4.43 17 P Pn 09 26 48.0 +2.3
baz=200
Q23K Middleton Isla 4.56 77 Pn 09 26 48.2 +1.1
Q23K Middleton Isla 4.56 77 P Pn 09 26 48.1 +1.0
baz=264
MID Middleton Isla 4.56 77 Pn Pn 09 26 48.2 +1.0
SML Sawmill 4.58 44 Pn Pn 09 26 46.9 -0.6
SML IAML 09 27 38.0
comp=N,28nm,0.9s
SML IAML 09 27 45.8
comp=E,19nm,1.6s
HIN Hinchinbrook I 4.68 65 Pn Pn 09 26 49.6 +0.8
K20K Telida 4.69 6 Pn 09 26 49.6 +0.7
K20K IAML 09 28 48.0
comp=E,5.2nm,1.7s
K20K IAML 09 30 09.5
comp=N,5.4nm,1.9s
K20K Telida 4.69 6 P Pn 09 26 49.5 +0.5
baz=187
M23K Glacier View 4.79 47 Pn 09 26 49.7 -0.5
M23K Glacier View 4.79 47 P Pn 09 26 49.7 -0.5
baz=233
J18K Innoko River 4.84 351 Pn 09 26 52.2 +1.3
J18K Innoko River 4.84 351 P Pn 09 26 52.0 +1.1
baz=170
CAST Castle Rocks 4.95 16 Pn Pn 09 26 54.0 +1.7
CAST IAML 09 28 57.1
comp=E,6.8nm,1.9s
CAST IAML 09 30 15.2
comp=N,5.0nm,2.0s
CAST Castle Rocks 4.95 16 P Pn 09 26 53.1 +0.8
SCM Sheep Creek Mo 4.97 48 Pn Pn 09 26 52.4 -0.3
SCM Sheep Creek Mo 4.97 48 P Pn 09 26 52.1 -0.5
baz=234
EYAK Cordova Ski Ar 5.08 65 Pn 09 26 54.4 +0.4
EYAK Cordova Ski Ar 5.08 65 P Pn 09 26 55.0 +1.0
EYAK Cordova Ski Ar 5.08 65 P Pn 09 26 54.0 0.0
baz=253
WAT7 Susitna Watana 5.14 34 Pn 09 26 54.5 -0.5
WAT1 Susitna Watana 5.22 35 Pn 09 26 55.4 -0.7
WAT1 Susitna Watana 5.22 35 P Pn 09 26 55.4 -0.7
baz=221
KTH Kantishna Hill 5.26 21 Pn 09 26 56.9 +0.4
KTH IAML 09 28 02.8
comp=N,8.9nm,1.9s
KTH IAML 09 30 29.8
comp=E,8.4nm,1.7s
DIV Divide 5.27 59 Pn 09 26 57.4 +0.7
TRF Thorofare Moun 5.29 24 Pn Pn 09 26 57.5 +0.4
TRF IAML 09 28 00.0
comp=N,9.2nm,1.6s
TRF IAML 09 29 02.7
comp=E,11nm,1.9s
TRF Thorofare Moun 5.29 24 P Pn 09 26 57.1 0.0
baz=208
WAT6 Susitna Watana 5.30 40 Pn 09 26 56.2 -0.9
WAT6 Susitna Watana 5.30 40 P Pn 09 26 56.2 -0.9
baz=226
J19K Poorman 5.31 357 Pn 09 26 58.1 +1.0
J19K IAML 09 29 52.1
comp=N,5.2nm,1.9s
J19K IAML 09 30 28.7
comp=E,5.6nm,1.9s
J19K Poorman 5.31 357 P Pn 09 26 57.9 +0.8
baz=177
J16K Anvik River 5.32 332 Pn 09 26 58.2 +1.0
J16K IAML 09 28 32.6
comp=E,5.4nm,1.8s
J16K IAML 09 30 22.3
comp=N,4.2nm,1.7s
J16K Anvik River 5.32 332 P Pn 09 26 57.8 +0.6
baz=148
KLU Klutina 5.36 55 Pn Pn 09 26 58.1 +0.3
KLU Klutina 5.36 55 P Pn 09 26 57.9 0.0
baz=243
J20K Nowinta River 5.51 4 Pn 09 27 00.6 +0.9
J20K Nowinta River 5.51 4 P Pn 09 27 00.2 +0.5
baz=185
M24K Tolsona, Glenn 5.57 48 Pn 09 27 01.0 +0.4
M24K Tolsona, Glenn 5.57 48 P Pn 09 27 00.7 +0.1
baz=236
GOAT Goat Mountain 5.57 66 Pn 09 27 01.2 +0.5
RND Reindeer 5.60 30 Pn Pn 09 27 00.5 -0.5
HMT Hamilton 5.74 69 Pn Pn 09 27 04.4 +1.5
BMRM Bremner River 5.74 62 P Pn 09 27 03.1 +0.2
baz=251
BPAW Bear Paw Mtn. 5.75 18 Pn 09 27 03.0 -0.1
BPAW Bear Paw Mtn. 5.75 18 P Pn 09 27 02.6 -0.4
baz=202
DHY Denali Highway 5.77 37 Pn Pn 09 27 02.8 -0.5
DHY Denali Highway 5.77 37 P Pn 09 27 02.4 -1.0
baz=224
MCK McKinley 5.85 28 Pn 09 27 04.5 +0.3
MCK McKinley 5.85 28 P Pn 09 27 04.1 -0.2
baz=213
N25K Chitina, Valde 5.98 56 Pn Pn 09 27 07.2 +1.0
N25K Chitina, Valde 5.98 56 P Pn 09 27 06.4 +0.3
baz=246
BERG Berg Lake 6.02 69 Pn Pn 09 27 07.6 +1.0
HARP HAARP 6.13 49 Pn 09 27 08.0 -0.1
HARP HAARP 6.13 49 P Pn 09 27 08.0 -0.1
baz=237
GRIN Grindle Hills 6.19 70 Pn 09 27 09.9 +1.0
KHIT Khitrov Hills 6.25 69 Pn 09 27 10.5 +0.7
WACK Wrangell Chich 6.26 54 Pn 09 27 10.8 +0.7
GLB Gilahina Butte 6.27 59 Pn Pn 09 27 10.7 +0.8
WASW Wrangell South 6.30 55 Pn 09 27 11.3 +0.8
PAX Paxson 6.35 44 P Pn 09 27 11.8 +0.8
baz=232
VRDI Verde Repeater 6.36 62 Pn 09 27 11.8 +0.5
CRQM Cirque 6.37 66 Pn 09 27 12.6 +1.1
CRQE Cirque 6.39 66 P Pn 09 27 12.4 +0.7
baz=256
SNH Sunshine Point 6.41 71 Pn 09 27 13.4 +1.5
WAX Waxell Ridge 6.45 69 Pn Pn 09 27 13.4 +1.0
NEA2 Nenana 6.56 23 Pn Pn 09 27 12.8 -1.0
NEA2 Nenana 6.56 23 P Pn 09 27 12.5 -1.3
baz=209
MCARA McCarthy VSAT 6.60 61 Pn 09 27 15.4 +1.0
MCARA McCarthy VSAT 6.60 61 P Pn 09 27 15.2 +0.9
baz=251
H18K Honhosa River 6.65 348 Pn 09 27 15.9 +0.9
H18K Honhosa River 6.65 348 P Pn 09 27 15.5 +0.5
baz=165
H17K Granite Mounta 6.66 342 Pn 09 27 16.3 +1.3
H17K Granite Mounta 6.66 342 P Pn 09 27 16.0 +0.9
baz=158
I21K Tanana 6.66 11 Pn 09 27 15.4 +0.3
I21K Tanana 6.66 11 P Pn 09 27 15.3 +0.2
baz=194
MLY Manley 6.67 16 Pn Pn 09 27 14.6 -0.6
MLY Manley 6.67 16 P Pn 09 27 14.3 -0.9
baz=200
WRH Wood River Hil 6.67 27 Pn 09 27 14.4 -0.9
ISLE Juniper Island 6.73 68 Pn Pn 09 27 17.2 +1.0
K24K Donnelly Dome 6.79 37 Pn 09 27 17.4 +0.4
K24K Donnelly Dome 6.79 37 P Pn 09 27 17.4 +0.4
baz=225
PTPK Patty Peak 6.80 63 Pn 09 27 18.0 +0.8
H20K Anotleneega Mo 6.81 1 Pn 09 27 17.6 +0.5
H20K Anotleneega Mo 6.81 1 P Pn 09 27 17.6 +0.5
baz=181
CCB Clear Creek Bu 6.89 27 Pn Pn 09 27 16.9 -1.2
HDA Harding Lake 6.91 31 P Pn 09 27 17.1 -1.3
baz=218
I23K Minto, Yukon-K 7.00 20 Pn 09 27 18.8 -0.8
I23K Minto, Yukon-K 7.00 20 P Pn 09 27 18.5 -1.2
baz=205
M26K Nabesna, AK 7.01 53 Pn 09 27 21.0 +1.1
H21K Melozitna Rive 7.06 8 Pn 09 27 21.3 +0.9
H21K Melozitna Rive 7.06 8 P Pn 09 27 20.7 +0.3
baz=190
MDM Murphy Dome 7.06 24 Pn 09 27 19.7 -0.7
COLA College 7.07 26 Pn 09 27 19.6 -0.9
COLA College 7.07 26 P Pn 09 27 19.8 -0.7
BARN Barnard Glacie 7.15 65 Pn Pn 09 27 23.8 +2.0
L26K Log Cabin Wild 7.17 48 Pn Pn 09 27 23.2 +1.2
L26K Log Cabin Wild 7.17 48 P Pn 09 27 23.0 +1.1
baz=238
IL31 7.21 29 Pn 09 27 21.6 -0.9
ILAR Eielson Array 7.21 29 Pn Pn 09 27 21.4 -1.1
ILAR Eielson Array 7.21 29 P Pn 09 27 21.2 -1.3
comp=N,7.5nm,0.5s,baz=216,slow=13,SNR=122
ILAR S Sn 09 28 35.9 -7.1
comp=N,0.5nm,0.3s,baz=220,slow=32,SNR=5.2
CTG Chitna Glacier 7.28 66 P Pn 09 27 25.3 +1.8
baz=258
CTGM Chitina Glacie 7.28 66 Pn 09 27 25.4 +1.8
IMAR Indian Mountai 7.33 4 Pn Pn 09 27 24.7 +0.6
POKR Poker Plat Res 7.37 26 Pn 09 27 24.0 -0.6
POKR Poker Plat Res 7.37 26 P Pn 09 27 23.9 -0.7
baz=213
G18K Tagagawik 7.40 349 Pn 09 27 25.5 +0.4
G18K Tagagawik 7.40 349 P Pn 09 27 25.3 +0.2
baz=166
H22K Ishtalitna Cre 7.42 12 Pn 09 27 25.7 +0.5
H22K Ishtalitna Cre 7.42 12 P Pn 09 27 25.7 +0.5
baz=195
SCRK Sand Creek 7.50 41 Pn Pn 09 27 25.8 -0.6
J25K Salcha River, 7.50 34 Pn Pn 09 27 25.7 -0.8
L27K Beaver Creek, 7.79 50 Pn Pn 09 27 31.1 +0.8
BCAR Beaver Creek A 7.81 50 Pn Pn 09 27 31.3 +0.8
PNL Peninsula 8.11 76 P Pn 09 27 36.1 +1.6
PRP Porcupine Dome 8.16 29 Pn Pn 09 27 34.6 -0.7
M29M Somme Creek 8.98 58 Pn Pn 09 27 47.5 +1.2
DAWY Dawson 9.23 48 Pn Pn 09 27 50.4 +1.0
J30M Hart River 10.65 49 Pn Pn 09 28 10.7 +2.3
DLBC Dease Lake 13.05 80 P P 09 28 44.4 -0.2
comp=N,1.7nm,0.5s,baz=290,slow=8.4,SNR=16
DLBC S Sn 09 30 55.1 -8.6
comp=N,0.6nm,0.5s,baz=5.2,slow=24,SNR=1.5
INK Inuvik 13.51 36 P Pn 09 28 45.2 -0.1
comp=N,0.4nm,0.3s,baz=217,slow=15,SNR=5.3
YKA Yellowknife Ar 19.98 62 P P 09 30 01.5 +1.0
comp=N,0.3nm,0.5s,baz=278,slow=9.8,SNR=8.4
SONM Songino Array 54.68 305 P P 09 34 55.0 +1.4
comp=N,0.8nm,0.5s,baz=34,slow=6.8,SNR=3.8
comp=N,0.8nm,0.5s
MKAR Makanchi Array 64.77 320 P P 09 36 02.0 -0.4
comp=N,0.2nm,0.7s,baz=20,slow=4.6,SNR=1.7
comp=N,0.2nm,0.7s

IDC 10 09:36:20.3±1.5, 5°95S×142°73E, h0km, mb3.6/2, mbtmp3.4/5, ML3.2/2, Error ellipse: s-maj=38.6km s-min=29.9km az=72.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.57	128	Pn	Pn	09 37 45.9	+1.3
	6.8nm,0.7s,baz=280,slow=4.7,SNR=2.1						
PMG				Sn	Sn	09 38 49.2	-0.2
	0.5nm,0.3s,baz=291,slow=18,SNR=1.1						
WRA	Warramunga Arr	16.13	210	Pn	Pn	09 40 06.6	-2.0
	0.1nm,0.3s,baz=29,slow=13,SNR=1.5						
WRA				Sn	Sn	09 42 53.5	-15
	0.1nm,0.3s,baz=26,slow=22,SNR=1.7						
WRA				Lg	Lg	09 44 47.7	
	baz=31,slow=31,SNR=2.3						
	0.8nm,1.1s						
ASAR	Alice Springs	19.56	205	P	P	09 40 50.3	+0.3
	0.1nm,0.3s,baz=35,slow=10,SNR=6.3						
	0.6nm,0.8s						
BVAR	Borovoye Array	84.25	325	P	P	09 48 54.8	+0.9
	0.5nm,0.7s,baz=98,slow=6.0,SNR=2.9						
	0.5nm,0.7s						
ILAR	Eielson Array	87.12	24	P	P	09 49 06.9	-1.0
	0.2nm,0.8s,baz=260,slow=5.1,SNR=1.6						
	0.2nm,0.8s						

IDC 10 10:09:40.2±8.4, 5°67S×146°15E, h80km±61km, mb3.5/2, mbtmp4.0/5, ML4.1/2, MS3.4/2, Error ellipse: s-maj=88.1km s-min=52.3km az=52.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.84	165	P	Pn	10 10 36.9	-0.2
	11nm,0.3s,baz=2.8,slow=9.5,SNR=11						
PMG				S	Sn	10 11 21.7	+0.6
	30nm,0.5s,baz=58,slow=6.3,SNR=12						
CTA	Charters Tower	14.33	180	P	Pn	10 13 01.1	+1.7
	0.5nm,0.3s,baz=3.4,slow=11,SNR=2.0						
	6.0nm,1.0s						
WRA	Warramunga Arr	18.25	218	P	P	10 13 47.3	-0.2
	0.8nm,0.3s,baz=42,slow=11,SNR=36						
	4.9nm,0.6s						
ASAR	Alice Springs	21.43	212	P	P	10 14 21.6	-0.3
	1.9nm,0.6s,baz=48,slow=8.3,SNR=38						
	1.9nm,0.6s						
DZM	Mont Dzumac	25.51	132	LR	LR	10 22 32.0	
	comp=Z,94nm,19.9s,baz=60,slow=30						
STKA	Stephens Creek	26.42	189	P	P	10 15 09.7	+0.2
	0.6nm,0.4s,baz=8.8,slow=13,SNR=4.1						
	0.6nm,0.4s						
SEY	Seymchan	68.57	3	LR	LR	10 46 51.7	
	comp=Z,26nm,21.6s,baz=357,slow=32						

*NOU **10** 10:12:59.2, 33°48S×177°30W, h113km, mb4.5/8, South of Kermadec Islands*
*NEIC **10** 10:13:15.8±0.8, 34°6S±0°1×178°3W±0°1, h10km±2km, mb4.3/13, Error ellipse: s-maj=22.3km s-min=15.0km az=38.0*
*IDC **10** 10:13:20.0±2.1, 34°38S×179°42W, h0km, mb4.1/2, mbtmp4.2/3, ML4.3/1, Error ellipse: s-maj=61.6km s-min=37.5km az=141.0*
*WEL **10** 10:13:30.2±1.2, 35°S±8°×18°0W±1°4, h33km, M4.3/18, ML4.5/25, MLv4.3/18, Error ellipse: s-maj=0.0km s-min=0.0km az=105.5*

ISC 10 10:13:26.8±1.1, 34°71S±0°06×179°5W±0°1, h35km, n81, σ1s44/85, mb4.1/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.38	212	Pn	Pn	10 14 17.0	-0.1
MXZ	Matakaoa Point	3.38	212	P	Pn	10 14 17.9	+0.9
MXZ	Matakaoa Point	3.38	212	P	Pn	10 14 18.2	+1.1
MXZ				S	Sn	10 14 54.5	-1.4
WMXZ	Waiomatatini S	3.55	208	P	Pn	10 14 21.4	+2.0
PKGZ	Pakihiroa	3.75	211	P	Pn	10 14 23.2	+1.0
HAZ	Te Kaha	3.78	216	P	Pn	10 14 23.3	+0.8
PUZ	Puketiti	3.83	208	P	Pn	10 14 24.1	+0.8
RUGZ	Raukumara Rang	3.99	215	P	Pn	10 14 26.7	+1.1
TWGZ	Tauwhareparae	4.04	210	P	Pn	10 14 27.1	+0.9
CNGZ	Carnagh Statio	4.21	206	P	Pn	10 14 29.8	+1.2
TKGZ	Te Karaka	4.31	209	P	Pn	10 14 30.5	+0.6
TKGZ				S	Sn	10 15 19.1	+0.2
MWZ	Matawai	4.36	213	P	Pn	10 14 30.7	+0.1
MWZ				S	Sn	10 15 20.7	+0.5
KUZ	Kuaotunu	4.42	241	P	Pn	10 14 32.3	+0.9
KUZ	Kuaotunu	4.42	241	P	Pn	10 14 32.2	+0.8
GRZ	Great Barrier	4.43	248	P	Pn	10 14 31.2	-0.3
URZ	Urewera	4.50	217	P	Pn	10 14 33.2	+0.8
URZ	Urewera	4.50	217	Pn	Pn	10 14 33.6	+1.1
	13nm,0.3s,baz=32,slow=1.4,SNR=68						
URZ				Sn	Sn	10 15 26.9	+3.3
	9.8nm,0.3s,baz=358,slow=23,SNR=6.1						
	24nm,0.3s						
URZ	Urewera	4.50	217	P	Pn	10 14 32.9	+0.5
URZ				S	Sn	10 15 21.9	-1.6
MARZ	Manawahe	4.53	223	P	Pn	10 14 34.3	+1.4
RAGZ	Rawiri	4.54	213	P	Pn	10 14 34.9	+1.8
RIGZ	Rimuhau	4.58	208	P	Pn	10 14 33.6	0.0
RIGZ				S	Sn	10 15 26.2	+0.7
EDRZ	Edgecumbe	4.58	221	P	Pn	10 14 33.9	+0.3
TGRZ	Tauranga	4.59	228	P	Pn	10 14 35.2	+1.4
PRGZ	Paritu Road	4.72	206	P	Pn	10 14 35.7	+0.2
OMRZ	Omania	4.78	224	P	Pn	10 14 39.0	+2.6
KARZ	Kaharoa	4.80	225	P	Pn	10 14 37.9	+1.4
TARZ	Mount Tarawera	4.80	222	P	Pn	10 14 39.0	+2.3
SNGZ	Shannon Statio	4.81	211	P	Pn	10 14 37.3	+0.5
SNGZ				S	Sn	10 15 31.5	+0.1
MUGZ	Murupara	4.84	218	P	Pn	10 14 38.3	+1.2
RTZ	Ruatahuna	4.84	215		Pn	10 14 38.1	+0.9
RTZ	Ruatahuna	4.84	215	P	Pn	10 14 37.3	+0.1
RRRZ	Republican Roa	4.87	221	P	Pn	10 14 39.3	+1.7
HLRZ	Highlands Stat	4.89	223	P	Pn	10 14 40.1	+2.2
MKAZ	Moumakai	4.99	240	P	Pn	10 14 40.7	+1.6
RAHZ	Arahi	5.04	212	P	Pn	10 14 41.3	+1.4
PRRZ	Plateau Road	5.05	220	P	Pn	10 14 41.2	+1.2
TOZ	Tahuroa Road	5.08	232		Pn	10 14 42.3	+1.9
TOZ	Tahuroa Road	5.08	232	P	Pn	10 14 42.3	+1.9
MTHZ	Maungataniwha	5.10	215	P	Pn	10 14 41.6	+0.9
ALRZ	Allen Road	5.12	220	P	Pn	10 14 42.6	+1.5
WCZ	Waipu Caves	5.22	255	P	Pn	10 14 42.8	+0.4
NMHZ	Naumai	5.31	213	P	Pn	10 14 44.6	+0.9
AWAZ	Awhitu Peninsu	5.34	242	P	Pn	10 14 46.2	+2.2
ARHZ	Aropaoanui	5.36	211	P	Pn	10 14 45.2	+0.9
TLZ	Tolley Road	5.42	227	P	Pn	10 14 46.6	+1.5
BKZ	Black Stump Fm	5.51	215		Pn	10 14 46.7	+0.3
BKZ	Black Stump Fm	5.51	215	P	Pn	10 14 46.9	+0.5
BKZ	Black Stump Fm	5.51	215	P	Pn	10 14 46.8	+0.5
GLKZ	Green Lake	5.58	14	P	Pn	10 14 45.3	-2.1
GLKZ				S	Sn	10 15 50.2	-0.1
MCHZ	McNeill Hill	5.64	212	P	Pn	10 14 49.6	+1.4
RITZ	Rihia Road	5.68	220	P	Pn	10 14 49.5	+0.8
OUZ	Omahuta	5.73	263	P	Pn	10 14 49.2	-0.2
OUZ	Omahuta	5.73	263	P	Pn	10 14 49.3	-0.1
KWHZ	Kaweka Forest	5.75	214	P	Pn	10 14 49.2	-0.5
KAHZ	Kahuranaki	5.86	209	P	Pn	10 14 49.6	-1.7
TMVZ	Te Maari	5.87	220	P	Pn	10 14 51.7	+0.3
NTVZ	North Tongarir	5.87	220	P	Pn	10 14 51.6	+0.2
ETVZ	East Tongariro	5.88	220	P	Pn	10 14 51.7	+0.2
HIZ	Hauiti	5.95	229		Pn	10 14 54.6	+2.2
HIZ	Hauiti	5.95	229	P	Pn	10 14 55.1	+2.7
BFZ	Birch Farm	6.87	209	Pn	Pn	10 15 03.1	-1.9
BFZ	Birch Farm	6.87	209	P	Pn	10 15 03.9	-1.1
KHZ	Kahutara	9.45	213	P	Pn	10 15 39.2	-1.2

CTAO	**Charters Tower**	**33.57 287**	P	**P**	**10 20 02.7**	**-0.9**
COEN	**Coen**	**39.52 292**	P	**P**	**10 20 53.1**	**-1.2**
COEN			IAmb	IAmb	10 21 23.6	
	comp=Z,12nm,1.1s					
PMG	**Port Moresby**	**39.58 302**	P	P	10 20 52.7	-2.1
PMG			IAmb	IAmb	10 21 08.6	
	comp=Z,10nm,0.9s					
AS31	**Alice Springs**	**41.86 272**	P	**P**	**10 21 12.9**	**-0.8**
ASAR	**Alice Springs**	**41.86 272**	P	**P**	**10 21 12.3**	**-1.4**
ASAR	**Alice Springs**	**41.86 272**	P	**P**	**10 21 11.9**	**-1.8**
	comp=Z,2.3nm,0.5s,baz=115,slow=7.7,SNR=43					
	comp=Z,2.3nm,0.5s					
WR0	**Warramunga Arr**	**43.06 278**	P	**P**	**10 21 22.5**	**-1.0**
WR0			IAmb	IAmb	10 21 37.9	
	comp=Z,3.1nm,1.1s					
WB2	**Warramunga Arr**	**43.23 278**	P	**P**	**10 21 23.6**	**-1.2**
WB2			IAmb	IAmb	10 21 30.1	
	comp=Z,7.5nm,1.1s					
WRAB	**Tennant Creek**	**43.23 278**	P	**P**	**10 21 25.7**	**+0.8**
WRA	**Warramunga Arr**	**43.24 278**	P	**P**	**10 21 22.6**	**-2.3**
WRA	**Warramunga Arr**	**43.24 278**	P	**P**	**10 21 22.9**	**-2.0**
	comp=Z,1.3nm,0.5s,baz=120,slow=7.4,SNR=25					
	comp=Z,1.3nm,0.5s					
WB0	**Warramunga Arr**	**43.28 278**	P	**P**	**10 21 23.9**	**-1.3**
WB0			IAmb	IAmb	10 21 51.1	
	comp=Z,3.0nm,1.0s					
VNDA	**Vanda**	**43.70 186**	P	P	10 21 21.2	-6.6
FORT	**Forrest**	**43.92 260**	P	**P**	**10 21 29.1**	**-1.1**
KNRA	**Kununurra**	**49.98 279**	P	**P**	**10 22 16.4**	**-1.3**
KNRA			IAmb	IAmb	10 22 36.8	
	comp=Z,5.7nm,0.8s					
QSPA	**South Pole Qui**	**55.41 180**	P	P	10 22 51.7	-5.7
QSPA			IAmb	IAmb	10 23 15.5	
	comp=Z,1.5nm,0.9s					
FINES	**FINESS Array B**	**148.68 337**	PKPbc	**PKPdf**	**10 33 07.2**	**+1.6**
	comp=Z,0.7nm,0.4s,baz=44,slow=4.2,SNR=14					
HFS	**Hagfors**	**153.16 345**	PKPbc	**PKPdf**	**10 33 17.9**	**+5.3**
	comp=Z,1.3nm,0.7s,baz=54,slow=2.5,SNR=5.2					

*TEH **10** 10:28:35.4, 38°.21N×55°.99E, h20km±196km, ML3.3*
ISC 10 10:28:31.9±1.3, 38°.62N±0°.07×55°.6E±0°.1, h35km, n11, σ1°37/12, 2C-2D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**1.03**	**160**	Pg	**Pn**	**10 28 47.2**	**-2.6**
IMND	**Minoodasht**	**1.38**	**188**	Pg	**Pn**	**10 28 55.1**	**+0.5**
IGLO	**Ghaloghah**	**2.56**	**215**	Pn	Pn	10 29 15.9	+4.8
IEMG	**Emamgholi**	**2.67**	**116**	Pn	**Pn**	**10 29 13.0**	**+0.4**
SBZV	**Sabzevar**	**2.73**	**144**	Pn	**Pn**	**10 29 12.6**	**-0.8**
IKRD	**Kardeh**	**3.58**	**120**	Pn	**Pn**	**10 29 26.3**	**+1.1**
IMYA	**Miami**	**4.21**	**121**	Pn	**Pn**	**10 29 34.1**	**+0.3**
TNSJ	**Nastanj**	**4.72**	**170**	Pn	**Pn**	**10 29 40.9**	**+0.2**
TKDS	**Koohdasht(Taba**	**5.14**	**166**	Pn	**Pn**	**10 29 47.5**	**+1.0**
AB31	**Akbulak array**	**11.07**	**15**	⇑Pn	**Pn**	**10 31 08.4**	**+0.9**
	0.1nm,0.3s,baz=202,slow=13,SNR=14						
AB31				⇑Sn	**Sn**	**10 33 08.1**	**-1.9**
	1.5nm,0.7s,baz=199,slow=24,SNR=4.4						
AKTO	**Aktyubinsk**	**11.93**	**7**	⇓Pn	**Pn**	**10 31 20.2**	**+0.9**
	0.2nm,0.4s						
AKTO				⇓Sn	**Sn**	**10 33 30.0**	**-1.1**
	0.7nm,0.6s						

IDC 10 10:40:14.8±2.1, 7°.09S×127°.78E, h0km, mb3.6/1, mbtmp3.3/3, ML3.4/2, Error ellipse: s-maj=134.9km s-min=32.5km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.28**	**154**	Pn	Pn	10 43 37.8	-0.7
	0.2nm,0.3s,baz=332,slow=12,SNR=13						
WRA				Sn	Sn	10 46 02.7	-15
	0.3nm,0.3s,baz=333,slow=22,SNR=6.8						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**17.50**	**161**	P	Pn	10 44 21.1	+0.5
	0.1nm,0.3s,baz=346,slow=12,SNR=4.6						
ASAR				S	Sn	10 47 29.2	-7.0
	0.4nm,0.9s,baz=345,slow=25,SNR=2.0						
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**67.11**	**328**	P	P	10 51 10.3	0.0
	0.2nm,0.4s,baz=118,slow=8.2,SNR=4.4						
	0.2nm,0.4s						

*IDC **10** 10:58:23.6±0.7, 6°.14S×143°.13E, h0km, mb4.3/13, mbtmp4.4/15, ML2.0/1, MS3.2/6, Error ellipse: s-maj=24.4km s-min=11.3km az=95.0*
*NEIC **10** 10:58:25.8±1.6, 6°.33S±0°.09×142°.82E±0°.03, h10km±1km, mb4.6/48, Error ellipse: s-maj=15.4km s-min=5.4km az=6.0*
*DJA **10** 10:58:38.7±1.3, 6°.5±9°×14°.3E±°, h143km±11km, M5.1/9, mB4.6/1, mb4.4/9, MLv5.5/2, Mw(mB)3.8/1*
ISC 10 10:58:25.4±0.5, 6°.29S±0°.05×142°.94E±0°.06, h10km, n86, σ1°85/73, mb4.6/38, MS3.1/4, 1D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPI	**Merauke**	**3.33**	**229**	P	**Pg**	**10 59 31.0**	**+1.7**
MMPI				S	**Sg**	**11 00 14.3**	**+1.8**
GENI	**Genyem**	**4.59**	**323**	P	**Pn**	**10 59 34.6**	**-0.4**
PMG	**Port Moresby**	**5.20**	**127**	Pn	**Pn**	**10 59 45.1**	**+1.7**
PMG	**Port Moresby**	**5.20**	**127**	Pn	**Pn**	**10 59 43.6**	**+0.3**
	3.7nm,0.3s,baz=37,slow=1.7,SNR=12						
PMG				Sn	**Sn**	**11 00 42.7**	**-0.8**
	2.7nm,0.3s,baz=295,slow=11,SNR=3.8						
	18nm,0.5s						
COEN	**Coen**	**7.62**	**178**	Pn	**Pn**	**11 00 16.2**	**-0.5**
COEN	**Coen**	**7.62**	**178**	P	Pb	11 00 28.0	-10
FAKI	**Fak Fak**	**11.17**	**287**	P	Pn	11 01 41.5	+36
KDU	**Kakadu**	**12.12**	**238**	P	**Pn**	**11 01 16.9**	**-1.4**
MTN	**Manton Dam**	**13.33**	**240**	Pn	**Pn**	**11 01 33.0**	**-1.9**
MTN	**Manton Dam**	**13.33**	**240**	P	**Pn**	**11 01 33.0**	**-1.9**
CTA	**Charters Tower**	**14.09**	**167**	Lg	Lg	11 05 54.4	
	0.2nm,0.3s,baz=227,slow=19,SNR=1.7						
CTA				LR	LR	11 06 34.2	
	comp=Z,92nm,19.1s,baz=298,slow=35						
WB0	**Warramunga Arr**	**15.76**	**211**		**Pn**	**11 02 06.6**	**-1.1**
WR0	**Warramunga Arr**	**15.85**	**210**		**Pn**	**11 02 07.6**	**-1.2**
WB2	**Warramunga Arr**	**15.93**	**211**		**Pn**	**11 02 09.3**	**-0.5**
WRA	**Warramunga Arr**	**15.94**	**211**		**Pn**	**11 02 07.7**	**-2.2**
WRA	**Warramunga Arr**	**15.94**	**211**	Pn	**Pn**	**11 02 09.1**	**-0.8**
	0.4nm,0.3s,baz=32,slow=13,SNR=19						
WRA				Sn	**S**	**11 05 14.3**	**-6.6**
	0.4nm,0.3s,baz=30,slow=24,SNR=5.3						
WRA				Lg	Lg	11 06 55.7	
	0.5nm,0.3s,baz=40,slow=28,SNR=5.6						
KNRA	**Kununurra**	**16.74**	**235**	Pn	**Pn**	**11 02 18.3**	**-1.9**
KNRA	**Kununurra**	**16.74**	**235**	P	**Pn**	**11 02 18.1**	**-2.1**
SOEI	**Soe**	**18.80**	**258**		**P**	**11 02 43.0**	**-2.5**
SOEI				IAmb	IAmb	11 02 48.9	
	comp=Z,36nm,1.0s						
SOEI	**Soe**	**18.80**	**258**	P	**Pn**	**11 02 47.5**	**+1.6**
	comp=Z,34nm,0.7s						
AS31	**Alice Springs**	**19.34**	**206**	P	**P**	**11 02 49.9**	**-1.2**
ASAR	**Alice Springs**	**19.34**	**206**	P	**P**	**11 02 51.0**	**-0.2**
ASAR	**Alice Springs**	**19.34**	**206**	P	**Pn**	**11 02 53.2**	**+1.0**
	comp=Z,37nm,0.8s,baz=33,slow=9.8,SNR=231						
ASAR				S	**S**	**11 06 35.5**	**+5.4**
	comp=Z,3.3nm,0.9s,baz=24,slow=25,SNR=4.3						
ASAR				Lg	Lg	11 08 43.2	
	comp=Z,0.1nm,0.3s,baz=31,slow=32,SNR=4.1						
ASAR				LR	LR	11 10 24.6	
	comp=Z,118nm,19.8s,baz=26,slow=37						
EIDS	**Eidsvold**	**20.51**	**159**	P	**P**	**11 03 04.4**	**+0.5**
EIDS				IAmb	IAmb	11 03 08.1	
	comp=Z,23nm,1.1s						
FITZ	**Fitzroy Crossi**	**20.55**	**234**	P	**P**	**11 03 03.5**	**-0.9**
FITZ	**Fitzroy Crossi**	**20.55**	**234**	P	Pn	11 03 05.7	-0.9
GTOI	**Gorontalo**	**21.05**	**288**	P	**P**	**11 03 13.6**	**+3.8**
	comp=Z,37nm,0.8s,comp=Z,316nm						
INKA	**Innaminka**	**21.44**	**185**	P	**P**	**11 03 19.3**	**+5.5**
OOD	**Oodnadatta**	**22.47**	**197**	P	**P**	**11 03 27.5**	**+2.6**
KAPI	**Kappang**	**23.11**	**272**	P	**P**	**11 03 29.6**	**-2.2**
KAPI				IAmb	IAmb	11 03 40.1	
	comp=Z,14nm,0.9s						
TOLI2	**Tolitoli**	**23.31**	**288**	P	**P**	**11 03 32.7**	**-1.1**
TOLI2				IAmb	IAmb	11 03 35.6	
	comp=Z,24nm,1.0s						
WRKA	**Warakurna**	**23.33**	**215**	P	**P**	**11 03 34.8**	**+0.8**
STKA	**Stephens Creek**	**25.49**	**183**	P	**P**	**11 03 52.7**	**-1.2**
STKA	**Stephens Creek**	**25.49**	**183**	P	**P**	**11 03 54.4**	**+0.5**
	comp=Z,3.1nm,0.7s,baz=5.8,slow=10,SNR=8.2						
STKA				LR	LR	11 15 52.5	
	comp=Z,60nm,20.0s,baz=31,slow=41						
	comp=Z,3.1nm,0.7s						
BBOO	**Buckleboo**	**27.15**	**193**	P	**P**	**11 04 07.4**	**-1.6**
FORT	**Forrest**	**28.08**	**208**	P	**P**	**11 04 15.1**	**-2.2**
LHI	**Lord Howe Isla**	**29.29**	**151**	P	**P**	**11 04 27.9**	**-0.2**
MJAR	**Matsushiro Arr**	**42.84**	**354**	P	**P**	**11 06 21.9**	**-1.9**
	comp=Z,1.1nm,0.7s,baz=204,slow=26,SNR=2.2						
	comp=Z,1.1nm,0.7s						
KSRS	**Korea Array**	**45.72**	**343**	P	**P**	**11 06 46.5**	**-0.3**
	comp=Z,2.9nm,0.9s,baz=161,slow=8.9,SNR=8.2						
	comp=Z,2.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**49.87**	**300**	P	**P**	**11 07 19.8**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=125,slow=6.2,SNR=11						
	comp=Z,1.8nm,0.8s						
ASAJ	**Asahikawa**	**50.17**	**360**	LR	LR	11 32 53.9	
	comp=Z,9.4nm,18.9s,baz=168,slow=41						
USRK	**Ussuriysk Ar.**	**51.22**	**350**	P	**P**	**11 07 29.9**	**+0.8**
USRK	**Ussuriysk Ar.**	**51.22**	**350**	P	**P**	**11 07 28.3**	**-0.8**
	comp=Z,3.4nm,0.9s,baz=163,slow=7.8,SNR=4.6						
	comp=Z,3.4nm,0.9s						
PZH	**PanZhiHua**	**51.54**	**311**	P	**P**	**11 07 35.5**	**+3.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,160nm,5.2s						
BNX	**BinXian**	**53.63**	**347**	⇓P	**P**	**11 07 46.3**	**-0.6**
BNX				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BNX				pmax	pmax		
	comp=Z,220nm,6.5s						
HHC	**Hu-ho-hao-te**	**55.05**	**331**	*e*P	**P**	**11 08 00.9**	**+3.4**
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC				pmax	pmax		
	comp=Z,230nm,5.5s						
KLR	**Kul'dur**	**56.15**	**351**	LR	LR	11 28 45.3	
	comp=Z,20nm,21.6s,baz=212,slow=32						
PEA0B	**Petropavlovsk-**	**60.48**	**10**	P	**P**	**11 08 36.0**	**+0.6**
SONM	**Songino Array**	**62.76**	**333**	P	**P**	**11 08 51.7**	**+0.6**
SONM	**Songino Array**	**62.76**	**333**	P	**P**	**11 08 50.8**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=162,slow=5.0,SNR=4.5						
	comp=Z,0.7nm,0.8s						
CASY	**Casey**	**63.95**	**194**	P	**P**	**11 08 58.9**	**+0.4**
CASY				IAmb	IAmb	11 09 07.1	
	comp=Z,8.0nm,0.9s						
VNDA	**Vanda**	**71.89**	**176**	P	**P**	**11 09 47.7**	**-0.6**
VNDA				IAmb	IAmb	11 10 02.9	
	comp=Z,4.7nm,1.1s						
MK31	**Makanchi Array**	**75.18**	**322**	P	**P**	**11 10 08.5**	**+0.3**
MKAR	**Makanchi Array**	**75.18**	**322**	P	**P**	**11 10 08.4**	**+0.1**
MKAR	**Makanchi Array**	**75.18**	**322**	P	**P**	**11 10 08.1**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=107,slow=7.2,SNR=18						
	comp=Z,2.9nm,0.8s						
MAKZ	**Makanchi**	**75.38**	**322**	P	**P**	**11 10 08.9**	**-0.5**
MAKZ				IAmb	IAmb	11 10 10.5	
	comp=Z,5.6nm,1.1s						
ZALV	**Zalesovo Beam**	**77.14**	**329**	P	**P**	**11 10 18.2**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=115,slow=6.7,SNR=8.6						
	comp=Z,1.9nm,0.7s						
KURK	**Kurchatov**	**79.06**	**324**	P	**P**	**11 10 29.9**	**+0.1**
KURK				IAmb	IAmb	11 10 30.7	
	comp=Z,4.8nm,1.0s						
KURBB	**Kurchatov Arra**	**79.07**	**324**	P	**P**	**11 10 29.4**	**-0.5**
	comp=Z,2.4nm,0.9s,baz=112,slow=4.6,SNR=14						
	comp=Z,2.4nm,0.9s						
ARSB	**Arslanbob**	**79.34**	**314**	P	**P**	**11 10 28.5**	**-3.3**
E18K	**Tukpahlearik C**	**83.59**	**19**	IAmb	IAmb	11 10 55.1	
	comp=Z,3.6nm,0.8s						
QSPA	**South Pole Qui**	**83.68**	**180**	P	**P**	**11 10 55.0**	**+0.7**
QSPA	**South Pole Qui**	**83.68**	**180**	P	**P**	**11 10 54.4**	**+0.1**
	comp=Z,3.7nm,0.8s,baz=343,slow=1.2,SNR=16						
	comp=Z,3.7nm,0.8s						
H19K	**Roundabout Mou**	**84.02**	**21**	IAmb	IAmb	11 10 57.4	
	comp=Z,6.3nm,0.9s						
G19K	**Purcell Mounta**	**84.09**	**21**	IAmb	IAmb	11 11 06.3	
	comp=Z,4.3nm,1.0s						
NRIK	**Noril'sk**	**84.34**	**343**	P	**P**	**11 10 57.1**	**-0.2**
NRIK				IAmb	IAmb	11 10 58.0	
	comp=Z,6.1nm,0.9s						
NRIK	**Noril'sk**	**84.34**	**343**	P	**P**	**11 10 56.3**	**-1.1**
	comp=Z,4.0nm,0.7s,baz=121,slow=3.7,SNR=7.2						
	comp=Z,4.0nm,0.7s						
BVAR	**Borovoye Array**	**84.64**	**325**	P	**P**	**11 10 59.4**	**+0.1**
	comp=Z,16nm,0.8s,baz=110,slow=6.5,SNR=66						
	comp=Z,16nm,0.8s						
E19K	**Redstone River**	**84.71**	**20**	P	**P**	**11 11 00.1**	**+0.8**
E19K				IAmb	IAmb	11 11 00.7	
	comp=Z,5.1nm,0.8s						
BRVK	**Borovoye**	**84.72**	**325**	P	**P**	**11 10 59.0**	**-0.6**
CAST	**Castle Rocks**	**84.72**	**24**	P	**P**	**11 10 59.8**	**+0.3**
CAST				IAmb	IAmb	11 11 22.0	
	comp=Z,4.0nm,1.2s						
C19K	**Lookout Ridge**	**84.83**	**18**	IAmb	IAmb	11 11 10.2	
	comp=Z,6.3nm,0.9s						
D19K	**Kuna River**	**84.96**	**18**	P	**P**	**11 11 00.9**	**+0.3**
D19K				IAmb	IAmb	11 11 01.8	
	comp=Z,5.5nm,1.0s						
F20K	**Avaraart Lake**	**85.02**	**20**	IAmb	IAmb	11 11 10.0	
	comp=Z,2.7nm,1.0s						
IMAR	**Indian Mountai**	**85.22**	**22**	P	**P**	**11 11 02.0**	**+0.1**
B21K	**Ikpikpuk River**	**86.61**	**18**	IAmb	IAmb	11 11 09.9	
	comp=Z,4.2nm,0.7s						
E22K	**Anaktuvuk Pass**	**86.85**	**20**	IAmb	IAmb	11 11 24.0	
	comp=Z,3.9nm,0.9s						
G23K	**Banana Creek**	**86.89**	**22**	IAmb	IAmb	11 11 19.5	
	comp=Z,3.5nm,0.9s						
CCB	**Clear Creek Bu**	**86.94**	**24**	IAmb	IAmb	11 11 10.1	
	comp=Z,5.6nm,0.9s						
IL31		**87.36**	**24**	P	**P**	**11 11 11.6**	**-0.8**
IL31				IAmb	IAmb	11 11 11.8	
	comp=Z,4.3nm,0.8s						
ILAR	**Eielson Array**	**87.36**	**24**	P	**P**	**11 11 11.1**	**-1.3**
	comp=Z,3.4nm,0.8s,baz=256,slow=4.9,SNR=39						
	comp=Z,3.4nm,0.8s						
E25K	**Arctic Village**	**89.01**	**21**	IAmb	IAmb	11 11 22.1	
	comp=Z,3.4nm,1.0s						
ABKAR	**Akbulak array**	**90.16**	**319**	P	**P**	**11 11 24.3**	**-1.7**
ABKAR				IAmb	IAmb	11 11 25.6	
	comp=Z,2.4nm,0.9s						
YBH	**Yreka Blue Hor**	**97.39**	**49**	LR	LR	11 48 38.0	
	comp=Z,25nm,19.0s,baz=334,slow=31						
TORD	**Torodi Ar. Bea**	**141.23**	**283**	PKP	**PKPdf**	**11 17 58.3**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=83,slow=3.6,SNR=2.8						
DBIC	**Dimbokro**	**148.00**	**273**	PKPbc	**PKPbc**	**11 18 12.8**	**+0.5**
	comp=Z,3.6nm,0.7s,baz=147,slow=2.8,SNR=4.8						

*NIED **10** 11:15:01.8, 34°.02N×132°.25E, h56km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr0.51; Mθθ-2.44; Mφφ1.93; Mrθ-1.23; Mrφ-3.90; Mθφ3.42; Fault plane solution: M05.62000×10^14 NP1:φs17.00000°, δ75.00000°, λ30.00000°. NP2:φs279.00000°, δ61.00000°, λ163.00000°.*
*JMA **10** 11:15:01.8±0.1, 34°.0N±0°.2×132°.3E±0°.2, h56km, MV3.8/40, AKINADA SETONAIKAI*
JMA Felt II J1 at AKINADA SETONAIKAI .
*IDC **10** 11:15:02.4±1.8, 34°.01N×132°.06E, h61km±17km, mb3.4/7, mbtmp3.6/9, Error ellipse: s-maj=19.3km s-min=11.3km az=90.0*
ISC 10 11:15:01.7±0.8, 34°.01N±0°.04×132°.23E±0°.04, h57km±6km, n24, σ0°71/34, mb3.7/7, 12D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHM	**Kurahashi**	**0.28**	**62**	*i* P	**Pn**	**11 15 11.1**	**-0.3**
JHM				S	**Sn**	**11 15 18.0**	**-0.3**
JKD	**Kudamatsu**	**0.30**	**279**	⇓*i* P	**Pn**	**11 15 11.7**	**+0.2**
JKD				⇓S	**Sn**	**11 15 18.8**	**+0.3**
JNA	**Nagahama**	**0.49**	**155**	⇓*i* P	**Pn**	**11 15 13.4**	**0.0**
JNA				⇓S	**Sn**	**11 15 21.9**	**0.0**
JHT	**Toyohira**	**0.67**	**14**	*i* P	**Pn**	**11 15 15.4**	**-0.2**
JHT				S	**Sn**	**11 15 25.3**	**-0.3**
JET	**Tanbara**	**0.72**	**108**	⇓*i* P	**Pn**	**11 15 16.2**	**+0.1**
JET				⇓S	**Sn**	**11 15 26.2**	**-0.3**
UWA2	**Uwa jima 2**	**0.86**	**157**	⇓*i* P	**Pn**	**11 15 18.1**	**+0.2**
UWA2				⇓S	**Sn**	**11 15 29.9**	**+0.2**
JKU	**Kubokawa**	**0.98**	**135**	⇓*i* P	**Pn**	**11 15 19.4**	**-0.1**
JKU				⇓S	**Sn**	**11 15 32.3**	**-0.2**
JGT2	**ShimaneMisato**	**1.08**	**12**	S	**Sn**	**11 15 34.4**	**-0.4**
JHGM	**Hagimishima**	**1.19**	**311**	⇓*i* P	**Pn**	**11 15 22.7**	**+0.6**
JHS	**Saijyo**	**1.23**	**36**	*i* P	**Pn**	**11 15 22.7**	**-0.1**
JTO	**Tosashimizu**	**1.24**	**157**	⇓*i* P	**Pn**	**11 15 23.1**	**+0.2**
JMN	**Monobe**	**1.40**	**101**	*i* P	**Pn**	**11 15 24.5**	**-0.5**
JNU	**Nakatsue**	**1.43**	**232**	P	**Pn**	**11 15 25.8**	**+0.3**
	192nm,0.5s,baz=42,slow=4.8,SNR=375						
JNU				S	**Sn**	**11 15 41.5**	**-1.8**
	177nm,0.3s,baz=44,slow=2.8,SNR=14						
JJS	**Sakaide**	**1.46**	**75**	*i* P	**Pn**	**11 15 25.1**	**-0.7**
JJS				S	**Sn**	**11 15 42.6**	**-1.3**
KSRS	**Korea Array**	**4.91**	**316**	P	**Pn**	**11 16 13.2**	**+0.3**
	2.4nm,0.4s,baz=142,slow=14,SNR=19						
KSRS				S	**Sn**	**11 17 07.4**	**-1.0**
	5.0nm,0.5s,baz=136,slow=24,SNR=8.0						
MJAR	**Matsushiro Arr**	**5.51**	**61**	P	**Pn**	**11 16 22.9**	**+1.7**
	3.5nm,0.4s,baz=245,slow=13,SNR=36						
KLR	**Kul'dur**	**15.21**	**359**	P	**P**	**11 18 38.1**	**+1.2**
	1.3nm,0.8s,baz=183,slow=9.2,SNR=6.6						
SONM	**Songino Array**	**23.77**	**313**	P	**P**	**11 20 09.1**	**0.0**
	0.6nm,0.6s,baz=134,slow=9.9,SNR=5.2						
	0.6nm,0.6s						
BVAR	**Borovoye Array**	**47.12**	**313**	P	**P**	**11 23 27.4**	**-0.6**
	0.7nm,0.6s,baz=104,slow=9.9,SNR=4.9						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**53.69**	**178**	P	**P**	**11 24 17.5**	**-0.3**
	0.5nm,0.6s,baz=354,slow=8.1,SNR=5.3						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**57.38**	**178**	P	**P**	**11 24 45.1**	**+0.8**
	0.4nm,0.7s,baz=10,slow=13,SNR=4.4						
	0.4nm,0.7s						
FINES	**FINESS Array B**	**67.84**	**330**	P	**P**	**11 25 53.0**	**-0.6**
	1.2nm,0.7s,baz=85,slow=6.3,SNR=5.6						
	1.2nm,0.7s						
AKASG	**Malin Array Be**	**71.89**	**319**	P	**P**	**11 26 18.1**	**-0.6**
	0.5nm,0.5s,baz=52,slow=6.0,SNR=2.2						
	0.5nm,0.5s						
NVAR	**Mina Array Bea**	**82.69**	**48**	P	**P**	**11 27 20.6**	**+0.9**
	0.3nm,0.7s,baz=247,slow=4.7,SNR=2.7						
	0.3nm,0.7s						

*SNET **10** 11:21:15.8±0.9, 14°.14N×91°.12W, h22km±19km, ML3.4*
*GCG **10** 11:21:18.8±1.3, 14°.29N×91°.25W, h43km±13km, MD3.7*
ISC 10 11:21:14.4±2.0, 13°.9N±0°.1×91°.31W±0°.07, h61km±18km, n19, σ1°96/28, 2C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.45**	**326**	*e*P	**Pn**	**11 21 27.6**	**+1.8**
SULM				eS	**Sn**	**11 21 33.6**	**-0.6**
FUG	**Fuego 3**	**0.69**	**41**	⇑*e*P	**Pn**	**11 21 29.3**	**+0.6**
FUG				eS	**Sn**	**11 21 37.8**	**-1.3**
RTAL	**Retalhuleu**	**0.70**	**328**	*e*P	**Pn**	**11 21 28.9**	**+0.2**
RTAL				eS	**Sn**	**11 21 37.8**	**-1.3**
STG3	**Santiaguito 3,**	**0.82**	**342**	*e*P	**Pn**	**11 21 30.9**	**+0.6**
STG3				eS	**Sn**	**11 21 39.0**	**-2.9**
PCG	**Pacaya**	**0.82**	**56**	*e*P	**Pn**	**11 21 30.9**	**+0.5**
PCG				eS	**Sn**	**11 21 41.8**	**-0.4**
NBG	**Las Nubes**	**1.14**	**55**	⇑*e*P	**Pn**	**11 21 36.1**	**+1.6**
NBG				eS	**Sn**	**11 21 50.8**	**+1.3**
HUEH	**Huehuetenango**	**1.39**	**352**	*e*P	**Pn**	**11 21 38.5**	**+0.7**
HUEH				eS	**Sn**	**11 21 55.7**	**+0.2**
SLOZ	**Alcaldia de Sa**	**1.48**	**86**	*e*P	**Pn**	**11 21 39.1**	**+0.2**
SLOZ				eS	**Sn**	**11 21 56.7**	**-0.7**
NUBE	**Las Nubes**	**1.48**	**91**	*e*P	**Pn**	**11 21 39.0**	**0.0**
NUBE				IAML		11 21 59.0	
	comp=Z,236nm,0.4s						
LOAL	**Lomas de Alarc**	**1.49**	**87**	*e*P	**Pn**	**11 21 38.2**	**-0.7**
LOAL				eS	**Sn**	**11 21 56.5**	**-0.9**
RTR	**El Retiro**	**1.62**	**91**	*e*P	**Pn**	**11 21 41.5**	**+0.7**
CEVE	**Cerro Verde**	**1.64**	**93**	*e*P	**Pn**	**11 21 41.6**	**+0.4**
CEVE				IAML		11 22 11.2	
	comp=Z,1μm,0.3s						
SBLS	**San Blas**	**1.64**	**93**	*e*P	**Pn**	**11 21 41.8**	**+0.6**
SNJE	**San Jose**	**1.66**	**92**	*e*P	**Pn**	**11 21 41.6**	**+0.2**
JAYA	**Jayaque - finc**	**1.83**	**98**	*e*P	**Pn**	**11 21 43.6**	**-0.1**
JAYA				IAML		11 22 07.1	
	comp=Z,446nm,0.2s						
MTO3	**Montecristo**	**1.95**	**76**	*e*P	**Pn**	**11 21 44.6**	**-0.7**
PMON	**Piamonte**	**1.95**	**96**	*e*P	**Pn**	**11 21 45.9**	**+0.6**
LCND	**La Caada**	**3.38**	**100**	*e*P	**Pn**	**11 22 05.5**	**+0.8**
CNCH	**Conchagua**	**3.44**	**100**	*e*P	**Pn**	**11 22 06.7**	**+1.1**

*SKHL **10** 11:32:17.3±0.2, 47°.30N×148°.20E, h385km±16km, m

NVAR	**Mina Array Bea**	**65.23**	**60**	P		**P**	**11 42 24.1**	**+0.3**	
	0.5nm,0.7s,baz=294,slow=6.1,SNR=6.5								
	0.5nm,0.7s								
NOA	**NORSAR Array B**	**66.61**	**339**	P		**P**	**11 42 29.8**	**-2.1**	
	0.6nm,0.6s,baz=33,slow=6.8,SNR=2.4								
	0.6nm,0.6s								
HFS	**Hagfors**	**66.75**	**337**	P		**P**	**11 42 30.0**	**-2.7**	
	0.6nm,0.5s,baz=39,slow=8.0,SNR=1.4								
	0.6nm,0.5s								
PDAR	**Pinedale Array**	**67.20**	**51**	P		**P**	**11 42 36.5**	**+0.3**	
	0.5nm,0.6s,baz=3.6,slow=2.3,SNR=5.8								
	0.5nm,0.6s								
ASAR	**Alice Springs**	**71.70**	**194**	P		**P**	**11 43 05.2**	**+2.0**	
	0.2nm,0.7s,baz=1.7,slow=5.7,SNR=1.6								
	0.2nm,0.7s								
TXAR	**Lajitas Array**	**80.21**	**57**	P		**P**	**11 43 51.9**	**+0.8**	
	0.5nm,0.7s,baz=289,slow=3.9,SNR=6.5								
	0.5nm,0.7s								

IDC 10 11:43:53.2±2.2, 6°32N×126°69E, h0km, mb3.5/4, mbtmp3.5/4, MS3.2/1, Error ellipse: s-maj=197.5km s-min=22.6km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.16**	**164**	P		P	11 49 38.6	+0.1
	0.1nm,0.3s,baz=345,slow=11,SNR=6.0							
	0.1nm,0.3s							
ASAR	**Alice Springs**	**30.62**	**167**	P		P	11 50 09.2	-0.1
	0.1nm,0.3s,baz=335,slow=7.2,SNR=6.4							
ASAR				LR		LR	12 02 48.6	
	comp=Z,39nm,18.2s,baz=150,slow=37							
	0.1nm,0.3s							
MKAR	**Makanchi Array**	**55.43**	**324**	P		P	11 53 30.0	+0.4
	0.5nm,0.4s,baz=117,slow=7.5,SNR=11							
	0.5nm,0.4s							
BVAR	**Borovoye Array**	**65.15**	**326**	P		P	11 54 35.3	-0.7
	0.4nm,0.6s,baz=98,slow=7.6,SNR=2.8							
	0.4nm,0.6s							

*AZER **10** 11:47:22.9, 38°.45N×46°.81E, h10km, ml2.9*
*NSSP **10** 11:47:24.4, 38°.47N×46°.77E, h10km, Ms3.2*
*TEH **10** 11:47:24.5, 38°.46N×46°.80E, h9km±89km, ML3.1*
ISC 10 11:47:24.4±1.1, 38°38N±0°.03×46°75E±0°.02, h5km±10km, n32, σ0°77/55, 1C, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IHRS	**Heris**	**0.24**	**105**	Pg		**Pg**	**11 47 29.5**	**+0.3**
ITBZ	**Tabriz**	**0.49**	**253**	Pg		**Pg**	**11 47 34.8**	**+0.8**
ITBZ				Sg		**Sb**	**11 47 42.9**	**-0.3**
ORD	**Ordubad**	**0.80**	**313**	P		**Pg**	**11 47 40.0**	**+0.1**
ORD				P		**Pg**	**11 47 40.0**	**+0.1**
ORD				S		**Sb**	**11 47 51.0**	**-1.1**
IMRD	**Marand**	**0.88**	**293**	Pg		**Pg**	**11 47 41.7**	**+0.3**
ISHB	**Shabestar**	**0.89**	**264**	Pg		**Pb**	**11 47 42.1**	**-0.4**
ISHB				Sg		**Sn**	**11 47 56.2**	**-1.0**
ISRB	**Sarab**	**0.91**	**127**	Pg		**Pg**	**11 47 41.8**	**-0.1**
IAZR	**Azarshahr**	**0.93**	**221**	Pg		**Pn**	**11 47 43.9**	**-0.4**
IAZR				Sg		**Sn**	**11 47 59.3**	**+1.3**
GRMI	**Germi**	**1.00**	**64**	Pg		**Pg**	**11 47 42.5**	**-1.1**
IHSH	**Hashtrud**	**1.15**	**159**	Pg		**Pg**	**11 47 46.5**	**0.0**
QRD	**Qoradiz**	**1.17**	**22**	P		**Pg**	**11 47 46.5**	**-0.3**
QRD				S		**Sb**	**11 48 02.3**	**-0.3**
NAX	**Nakhchivan**	**1.26**	**309**	P		**Pn**	**11 47 48.6**	**-0.1**
NAX				S		**Sn**	**11 48 05.8**	**-0.3**
LRK	**Lerik**	**1.28**	**78**	P		**Pn**	**11 47 47.8**	**-1.3**
LRK				S		**Sg**	**11 48 05.5**	**-0.1**
YRD	**Yardimli**	**1.29**	**65**	P		**Pn**	**11 47 47.9**	**-1.3**
YRD				S		**Sg**	**11 48 05.4**	**-0.4**
SBZ	**Shahbuz**	**1.38**	**318**	Pn		**Pn**	**11 47 49.8**	**-0.6**
SBZ				Sn		**Sn**	**11 48 09.4**	**+0.4**
BLQ	**Beylaqan**	**1.48**	**25**	Pn		**Pb**	**11 47 52.1**	**-0.3**
BLQ				Sn		**Sg**	**11 48 12.4**	**+0.3**
GLBA	**Clilabad**	**1.55**	**56**	Pn		**Pn**	**11 47 52.5**	**-0.2**
GLBA				Sn		**Sg**	**11 48 15.6**	**+1.4**
ASTR	**Astara**	**1.62**	**83**	Pn		**Pb**	**11 47 54.5**	**-0.2**
ASTR				Sn		**Sg**	**11 48 16.8**	**+0.4**
LKRN	**Lenkeran, Azer**	**1.63**	**78**	Pn		**Pb**	**11 47 54.4**	**-0.5**
LKRN				Sn		**Sg**	**11 48 17.6**	**+0.8**
GAS1	**Astara - Iran**	**1.65**	**89**	Pg		**Pb**	**11 47 54.9**	**-0.3**
AGDM	**Agdam**	**1.75**	**9**	Pn		**Pn**	**11 47 55.8**	**+0.4**
AGDM				Sn		**Sb**	**11 48 19.6**	**+0.3**
MAHB	**Mahabad**	**1.81**	**207**	Pn		**Pg**	**11 47 59.5**	**+0.4**
MAKU	**Maku**	**1.88**	**302**	Pn		**Pb**	**11 47 58.7**	**-0.6**
ZRD	**Zardab**	**2.03**	**21**	Sn		**Sb**	**11 48 27.3**	**0.0**
GANJ	**Ganja**	**2.29**	**352**	Pn		**Pn**	**11 48 03.5**	**+0.7**
GANJ				Sn		**Sb**	**11 48 33.8**	**-1.0**
NRKZ	**NAREK**	**2.29**	**316**	*e*P		**Pb**	**11 48 06.7**	**+0.4**
NRKZ				*e*S		**Sg**	**11 48 37.6**	**-0.4**
GNI	**Garni**	**2.35**	**319**	⇑*i*P		**Pb**	**11 48 07.6**	**+0.2**
GDB	**GEDABAY**	**2.46**	**342**	Pn		**Pn**	**11 48 06.8**	**+1.5**
GDB				Sn		**Sb**	**11 48 38.9**	**-1.0**
KAPZ	**Kaputan**	**2.51**	**321**	*e*P		**Pg**	**11 48 11.2**	**-1.2**
KAPZ				*e*S		**Sg**	**11 48 45.1**	**+0.2**
PQL	**Pirkuli**	**2.80**	**30**	Pn		**Pn**	**11 48 10.2**	**+0.2**
PQL				Sn		**Sn**	**11 48 45.4**	**+1.2**
QZX	**Qazax, Azerbai**	**2.88**	**339**	Pn		**Pn**	**11 48 10.6**	**-0.3**
QZX				Sn		**Sn**	**11 48 46.3**	**+0.4**
XNQ	**Khinaliq**	**2.99**	**21**	Pn		**Pn**	**11 48 13.3**	**+0.6**
XNQ				Sn		**Sn**	**11 48 49.7**	**+0.7**
SIZA	**Siyzn**	**3.16**	**31**	Pn		**Pn**	**11 48 15.7**	**+0.7**
SIZA				Sn		**Sn**	**11 48 55.5**	**+2.4**

TAP 10 11:50:09.0, 23°.18N×121°.04E, h11km, ML1.0, 1C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.02**	**304**	P		Pg	11 50 10.8	-0.3
	baz=311							
ELDTW				*i* S		Sg	11 50 12.3	-0.3
	baz=311							
ECS	**Chishang**	**0.18**	**116**	*e*P		Pb	11 50 15.0	+0.6
	baz=115							
ECS				*e*S		Sg	11 50 18.7	+2.9
	baz=115							
FULB	**Fuli**	**0.24**	**84**	⇑P		Pg	11 50 14.2	+0.3
	baz=84							
FULB				*e*S		Sg	11 50 17.9	+0.6
	baz=84							
STYH	**Taoyuan**	**0.24**	**269**	*e*P		Pb	11 50 15.1	-0.3
	baz=270							
STYH				*e*S		Sg	11 50 19.2	+1.8
	baz=270							
STYT	**Tauyuan**	**0.26**	**267**	P		Pg	11 50 14.0	-0.4
	baz=266							
STYT				*i* S		Sg	11 50 17.9	-0.1
	baz=266							
LONT	**Longtian**	**0.28**	**162**	*i* P		Pg	11 50 14.6	-0.1
	baz=162							
LONT				S		Sg	11 50 18.8	+0.2
	baz=162							
TWF1	**Yuli**	**0.30**	**54**	*i* P		Pg	11 50 15.0	0.0
	baz=54							
TWF1				*e*S		Sg	11 50 18.5	-0.6
	baz=54							
CHKT	**Chengkung**	**0.31**	**104**	*i* P		Pg	11 50 15.4	+0.1
	baz=104							
CHKT				*e*S		Sg	11 50 18.4	-1.1
	baz=104							
YULB	**Yu-li**	**0.32**	**48**	P		Pg	11 50 15.2	-0.4
	baz=47							
YULB				*e*S		Sg	11 50 19.1	-0.8
	baz=47							
TWG	**Pinlang**	**0.35**	**175**	*i* P		Pg	11 50 16.1	0.0
	baz=173							
TWG				*e*S		Sg	11 50 21.5	+0.7
	baz=173							
EHY	**Hungye**	**0.42**	**38**	P		Pg	11 50 17.6	+0.3
	baz=39							
HGSD	**Ruisui**	**0.47**	**48**	*e*S		Sb	11 50 26.0	-0.4
	baz=48							
VWDT	**VWDT**	**0.58**	**9**	*e*S		Sb	11 50 29.1	-0.4
	baz=9.0							
EGFH	**Guangfu**	**0.61**	**36**	S		Sg	11 50 28.9	0.0
	baz=36							
WARBT	**Fenglin Townsh**	**0.63**	**31**	*e*P		Pb	11 50 22.2	+0.2
	baz=30							
WARBT				*i* S		Sg	11 50 29.8	+0.3
	baz=30							

TAP 10 11:50:13.4, 23°.75N×121°.40E, h16km, ML0.6, 2C, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WARBT	**Fenglin Townsh**	**0.03**	**207**	⇑P		Pg	11 50 16.9	+0.5
	baz=208							
WARBT				*i* S		Sg	11 50 19.0	+0.7
	baz=208							
ESL	**Shilin**	**0.07**	**23**	⇑P		Pg	11 50 17.2	+0.6
	baz=28							
ESL				*i* S		Sg	11 50 19.7	+1.0
	baz=28							
EGFH	**Guangfu**	**0.08**	**164**	*i* P		Pg	11 50 17.0	+0.3
	baz=164							
EGFH				*i* S		Sg	11 50 19.7	+0.9
	baz=164							
EGFH	**Guangfu**	**0.08**	**164**	*e*P		Sg	11 50 20.2	+1.4
	baz=36							
SHUL	**Shoufeng**	**0.15**	**75**	*e*P		Pb	11 50 18.4	+0.5
	baz=74							
SHUL				S		Sb	11 50 21.3	+0.4
	baz=74							
VWDT	**VWDT**	**0.24**	**271**	*e*P		Pb	11 50 19.9	+0.6
	baz=271							
VWDT				*i* S		Sb	11 50 23.9	+0.5
	baz=271							
VWDT	**VWDT**	**0.24**	**271**	P		Pb	11 50 19.9	+0.5
	baz=9.0							
EHY	**Hungye**	**0.25**	**197**	*e*P		Pg	11 50 19.2	+0.2
	baz=195							
EHY				*e*S		Sb	11 50 23.4	-0.4
	baz=195							
EHY	**Hungye**	**0.25**	**197**	*e*S		Sb	11 50 23.1	-0.6
	baz=39							
HGSD	**Ruisui**	**0.26**	**176**	*i* P		Pb	11 50 19.7	0.0
	baz=175							
HGSD				*e*S		Sn	11 50 27.2	-1.0
	baz=175							
HGSD	**Ruisui**	**0.26**	**176**	*e*P		Pg	11 50 19.2	+0.1
	baz=48							
LXIB	**Xiulin Townshi**	**0.27**	**2**	*e*P		Pg	11 50 19.2	-0.3
	baz=1.0							
LXIB				*e*S		Sg	11 50 23.9	+0.3
	baz=1.0							
YULB	**Yu-li**	**0.37**	**195**	*e*P		Pb	11 50 22.1	+0.5
	baz=195							
YULB				*i* S		Sb	11 50 27.7	+0.6
	baz=195							

*IDC **10** 12:06:05.0±1.3, 4°.42S×153°.02E, h0km, mb3.7/5, mbtmp3.7/5, MS3.0/1, Error ellipse: s-maj=51.7km s-min=29.1km az=106.0*
ISC 10 12:06:13.0±1.3, 4°.4S±0°.2×152°.9E±0°.4, h55km, n7, σ1°37/6, mb3.8/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**16.85**	**202**	LR		LR	12 16 06.6	
	comp=Z,49nm,18.4s,baz=92,slow=36							
WRA	**Warramunga Arr**	**23.76**	**228**	P		**P**	**12 11 21.9**	**+1.3**
	2.4nm,0.6s,baz=53,slow=10.0,SNR=17							
	2.4nm,0.6s							
SONM	**Songino Array**	**66.07**	**328**	P		**P**	**12 16 54.1**	**-0.2**
	0.3nm,0.5s,baz=123,slow=5.3,SNR=2.3							
	0.3nm,0.5s							
MKAR	**Makanchi Array**	**80.11**	**319**	P		**P**	**12 18 16.9**	**-0.4**
	0.2nm,0.5s,baz=101,slow=6.0,SNR=2.4							
	0.2nm,0.5s							
ILAR	**Eielson Array**	**81.79**	**22**	P		**P**	**12 18 26.9**	**+1.2**
	1.2nm,1.1s,baz=231,slow=6.9,SNR=4.2							
	1.2nm,1.1s							
QSPA	**South Pole Qui**	**85.53**	**180**	P		**P**	**12 18 44.4**	**-0.7**
	0.3nm,0.4s,baz=103,slow=2.1,SNR=8.8							
	0.3nm,0.4s							
TORD	**Torodi Ar. Bea**	**150.28**	**289**	PKPbc		**PKPbc**	**12 25 57.9**	**-1.3**
	1.3nm,0.7s,baz=90,slow=2.0,SNR=7.6							

IDC 10 12:06:43.6±2.0, 5°.90S×142°.64E, h0km, mb3.7/3, mbtmp3.6/5, ML3.4/2, MS4.0/1, Error ellipse: s-maj=89.5km s-min=31.1km az=106.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.12**	**209**	Pn		Pn	12 10 29.6	-2.2
	0.1nm,0.3s,baz=28,slow=13,SNR=5.6							
WRA				Sn		Sn	12 13 14.8	-17
	baz=23,slow=22,SNR=2.0							
WRA				LR		LR	12 17 09.4	
	comp=Z,589nm,20.5s,baz=208,slow=39							
	0.4nm,0.5s							
ASAR	**Alice Springs**	**19.56**	**205**	P		Pn	12 11 14.0	-0.4
	0.2nm,0.3s,baz=32,slow=11,SNR=7.3							
	0.9nm,0.6s							
ZALV	**Zalesovo Beam**	**76.66**	**329**	P		P	12 18 35.9	-0.4
	0.3nm,0.4s,baz=117,slow=5.2,SNR=2.1							
	0.3nm,0.4s							
BVAR	**Borovoye Array**	**84.16**	**325**	P		P	12 19 17.6	+0.9
	0.6nm,0.5s,baz=116,slow=6.8,SNR=4.0							
	0.6nm,0.5s							
ILAR	**Eielson Array**	**87.13**	**24**	P		P	12 19 30.8	-0.5
	0.2nm,0.7s,baz=264,slow=4.9,SNR=4.1							
	0.2nm,0.7s							

*AFAD **10** 12:19:20.2±0.0, 37°.49N×27°.24E, h7km±3km, ML2.5*
*ISK **10** 12:19:20.3, 37°.55N×27°.21E, h5km, ML2.3/13*
*THE **10** 12:19:21.1, 37°.54N×27°.23E, h0km±1km, ML2.5/3, Error ellipse: s-maj=1.9km s-min=1.0km az=100.0*
ISC 10 12:19:21.2±1.0, 37°53N±0°.02×27°23E±0°.03, h11km±9km, n25, σ1°03/42, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DIDI	**Didim-Aydin**	**0.16**	**177**	Pg		**Pg**	**12 19 24.5**	**-0.2**
SMG	**Samos**	**0.36**	**299**	P		**Pb**	**12 19 28.2**	**-1.4**
SMG				S		**Sb**	**12 19 33.7**	**-1.6**
	1µm,0.2s							
YKAV	**Yalikavak-Bodr**	**0.41**	**174**	Pg		**Pb**	**12 19 29.8**	**-0.7**
BODT	**Bodrum**	**0.47**	**172**	Pg		**Pb**	**12 19 30.5**	**-1.1**
BODT				Sg		**Sb**	**12 19 38.8**	**+0.2**
BODT	**Bodrum**	**0.47**	**172**	P		**Pg**	**12 19 29.8**	**-0.7**
BODT				S		**Sb**	**12 19 38.3**	**-0.3**
MLSB	**Milas**	**0.50**	**119**	Pg		**Pb**	**12 19 31.1**	**-0.9**
DAT	**Datca**	**0.85**	**161**	Pg		**Pb**	**12 19 38.2**	**+0.1**
DAT				Sg		**Sn**	**12 19 51.2**	**-0.6**
BLCB	**Balcova**	**0.86**	**350**	Pg		**Pb**	**12 19 37.6**	**-0.7**
BLCB				Sg		**Sb**	**12 19 50.7**	**+0.9**
BLCB	**Balcova**	**0.86**	**350**	P		**Pb**	**12 19 37.5**	**-0.7**
BLCB				S		**Sn**	**12 19 50.9**	**-1.1**
ZEYE	**Izmir, Urla-Ze**	**0.91**	**321**	P		**Pb**	**12 19 38.2**	**-0.8**
ZEYE				S		**Sb**	**12 19 51.6**	**+0.5**
ZEYE				*i* AML		AML	12 19 53.0	
	comp=N,368nm,0.6s							
ZEYE				*i* AML		AML	12 19 53.0	
	comp=E,262nm,0.3s							
URLA	**Izmir**	**0.96**	**329**	P		**Pn**	**12 19 40.3**	**-0.4**
URLA				S		**Sn**	**12 19 54.5**	**0.0**
URLA				*i* AML		AML	12 19 57.0	
	comp=E,327nm,0.7s							
URLA				*i* AML		AML	12 19 58.0	
	comp=N,369nm,0.5s							
CHOS	**Chios island**	**1.26**	**313**	P		**Pn**	**12 19 44.9**	**0.0**
CHOS				S		**Sn**	**12 20 02.9**	**+1.0**
	228nm,0.5s							
KARB	**zmir-Karabur**	**1.30**	**330**	P		**Pb**	**12 19 45.7**	**0.0**
KARB				S		**Sn**	**12 20 04.0**	**+1.3**
KARB				*i* AML		AML	12 20 06.0	
	comp=N,51nm,0.4s							
KARB				*i* AML		AML	12 20 06.0	
	comp=E,65nm,0.4s							
DALY	**Dalyan (Mula)**	**1.34**	**122**	Pn		**Pg**	**12 19 47.6**	**+0.6**
DALY				Sn		**Sn**	**12 20 07.3**	**+3.5**
APE	**Apeiranthos**	**1.43**	**252**	Pn		**Pg**	**12 19 48.3**	**-0.4**
APE				Sn		**Sg**	**12 20 08.8**	**+1.5**
APE	**Apeiranthos**	**1.43**	**252**	P		**Pb**	**12 19 47.4**	**-0.6**
APE				S		**Sg**	**12 20 08.4**	**+1.1**
	82nm,0.4s							
ZEDA	**zmir-Bergama**	**1.44**	**355**	P		**Pg**	**12 19 48.6**	**-0.2**
ZEDA				S		**Sg**	**12 20 09.0**	**+1.6**
ZEDA				*i* AML		AML	12 20 14.0	
	comp=N,59nm,0.6s							
ZEDA				*i* AML		AML	12 20 49.0	
	comp=E,54nm,2.0s							

IZMD	**zmir-Dikili-**	**1.47**	**351**	P		**Pg**	**12 19 50.1**	**+0.7**	
IZMD				S		**Sg**	**12 20 09.8**	**+1.4**	
KULA	**Kula-Manisa**	**1.50**	**49**	Pn		**Pg**	**12 19 49.6**	**-0.3**	
KULA	**Kula-Manisa**	**1.50**	**49**	P		**Pn**	**12 19 47.8**	**-0.3**	
KULA				S		**Sg**	**12 20 09.1**	**-0.2**	
ARG	**Arkhangelos**	**1.50**	**151**	Pn		**Pg**	**12 19 49.5**	**-0.5**	
APMY	**Acipayam-Deniz**	**1.65**	**92**	Pn		**Pg**	**12 19 51.9**	**-0.9**	
FETY	**Fethiye**	**1.73**	**121**	Pn		**Pg**	**12 19 53.1**	**-1.3**	
CAME	**Cameli-Denizli**	**1.76**	**109**	Pn		**Pb**	**12 19 53.4**	**-0.1**	
STEP	**BALIKESIR_Sava**	**1.88**	**12**	P		**Pg**	**12 19 56.1**	**-1.1**	
STEP				S		**Sg**	**12 20 21.7**	**+0.1**	
STEP				*i* AML		AML	12 20 34.0		
	comp=N,37nm,0.7s								
STEP				*i* AML		AML	12 20 38.0		
	comp=E,34nm,1.0s								

*IDC **10** 12:26:28.2±0.5, 18°.24N×146°.67E, h0km, mb4.7/29, mbtmp4.6/31, ML4.0/2, MS4.0/63, Error ellipse: s-maj=17.3km s-min=12.8km az=77.0*
*BJI **10** 12:26:29.8±0.0, 17°.97N×147°.28E, h60km, mb4.7/47, mB5.1/25, Ms4.4/17, Ms7 4.1/20*
*GCMT **10** 12:26:35.8±0.3, 18°.29N±0°.02×146°.91E±0°.02, h34km, MW5.0/83, Moment Tensor Solution. s38,c47; s83,c114; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.07±.17; Mθθ-0.17±.10; Mφφ-2.91±.10; Mrθ0.43±.12; Mrφ0.95±.08; Mθφ1.28±.11; Best double couple: Mo3.41800×10^16 NP1:φs356.00000°, δ56.00000°, λ105.00000°. NP2: φs150.00000°, δ37.00000°, λ69.00000°. Principal axes: T 3.4390, Plg74.0000°, Azm308.0000°; N -0.0460, Plg13.0000°, Azm167.0000°; P -3.3970, Plg10.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **10** 12:26:37.9±1.4, 18°.30N±0°.07×146°.6E±0°.1, h66km±6km, mb4.9/77 Error ellipse: s-maj=18.4km s-min=10.0km az=91.0*
*DJA **10** 12:26:37.3±0.7, 18°N±5°×14°.7E±°, h65km±6km, M5.1/24, mB5.5/7, mb5.3/24, Mw(mB)5.0/7*
ISC 10 12:26:37.7±0.8, 18°.23N±0°.05×146°.72E±0°.07, h73km±6km, n261, σ1°23/230, mb4.8/101, 1C-1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**9.77**	**335**	Pn		**Pn**	**12 28 53.0**	**-2.4**
PATS	**Pohnpei**	**15.99**	**134**	Pn		**Pn**	**12 30 16.1**	**-2.3**
JHJ	**Hachijo jima 2**	**16.09**	**339**	LR		LR	12 34 40.2	
	comp=Z,180nm,19.6s,baz=110,slow=31							
H11S3	**WAKE ISLAND Hy**	**18.95**	**86**	T		T	12 50 11.3	
	baz=272,slow=75,SNR=19							
H11S1	**WAKE ISLAND Hy**	**18.97**	**86**	T		T	12 50 13.4	
	baz=272,slow=75,SNR=13							
H11S2	**WAKE ISLAND Hy**	**18.97**	**86**	T		T	12 50 11.6	
	baz=272,slow=75,SNR=15							
JOW	**Kunigami**	**19.05**	**300**	P		**P**	**12 30 51.9**	**-2.3**
	0.8nm,0.3s,baz=113,slow=15,SNR=1.2							
JOW				LR		LR	12 37 25.8	
	comp=Z,480nm,19.1s,baz=135,slow=35							
	12nm,0.8s							
INU	**Inuyama**	**19.11**	**335**	P		**P**	**12 30 54.3**	**-0.4**
INU				IAmb		IAmb	12 31 01.7	
	comp=Z,48nm,1.0s							
INU	**Inuyama**	**19.11**	**335**	P		**Pn**	**12 30 57.1**	**+0.8**
H11N1	**WAKE ISLAND Hy**	**19.13**	**82**	T		T	12 50 35.4	
	baz=265,slow=74,SNR=7.2							
H11N2	**WAKE ISLAND Hy**	**19.14**	**82**	T		T	12 50 32.5	
	baz=265							
H11N3	**WAKE ISLAND Hy**	**19.15**	**82**	T		T	12 50 34.6	
	baz=265,slow=74,SNR=7.4							
JGF	**Kuroka**	**19.19**	**336**	P		**P**	**12 30 55.2**	**-0.5**
JGF	**Kuroka**	**19.19**	**336**	P		**P**	**12 30 55.5**	**-0.2**
MJAR	**Matsushiro Arr**	**19.73**	**339**	P		**P**	**12 31 00.9**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=229,slow=25,SNR=24							
	comp=Z,10nm,0.8s							
MAJO	**Matsushiro**	**19.73**	**339**	P		**P**	**12 31 01.2**	**-0.3**
MAJO				IAmb		IAmb	12 31 07.2	
	comp=Z,39nm,0.8s							
MJB9	**Matsu-Tunnel**	**19.73**	**339**			**P**	**12 31 02.2**	**+0.6**
MJB9				IAmb		IAmb	12 31 08.2	
	comp=Z,39nm,0.8s							
MANU	**Manus Island**	**20.15**	**178**	P		**P**	**12 31 07.4**	**+1.1**
MANU				IAmb		IAmb	12 31 08.1	
	comp=Z,67nm,1.1s							
JMM	**Marumori**	**20.24**	**346**	P		**P**	**12 31 07.4**	**+0.3**
JMM				IAmb		IAmb	12 31 25.3	
	comp=Z,36nm,0.7s							
JNU	**Nakatsue**	**20.55**	**319**	P		**P**	**12 31 08.6**	**-1.9**
JNU	**Nakatsue**	**20.55**	**319**	P		Pn	12 31 14.7	+1.4
JNU	**Nakatsue**	**20.55**	**319**	P		**P**	**12 31 09.1**	**-1.3**
	comp=Z,14nm,1.1s,baz=139,slow=4.0,SNR=3.8							
JNU				LR		LR	12 38 11.2	
	comp=Z,339nm,20.9s,baz=138,slow=34							
	comp=Z,14nm,1.1s							
JTM	**Tennabayashi**	**23.00**	**349**	P		**P**	**12 31 36.2**	**-0.3**
DAV	**Davao City (W)**	**23.39**	**244**	LR		LR	12 38 59.8	
	comp=Z,421nm,21.5s,baz=97,slow=32							
SWI	**Sorong**	**24.32**	**220**	P		**P**	**12 31 48.7**	**0.0**
	comp=Z,115nm,1.1s,comp=Z,922nm							
SSLB	**Suanglung**	**24.66**	**287**	P		**P**	**12 31 56.9**	**+5.0**
TGY	**Tagaytay City**	**25.09**	**264**	LR		LR	12 39 55.4	
	comp=Z,438nm,21.6s,baz=108,slow=32							
KSRS	**Korea Array**	**25.27**	**323**	P		**P**	**12 31 56.0**	**-1.3**
	comp=Z,6.3nm,0.8s,baz=140,slow=8.4,SNR=22							
	comp=Z,6.3nm,0.8s							
KSAR	**Wonju Array Be**	**25.29**	**323**	P		**P**	**12 31 56.0**	**-1.4**
KS19	**Wonju Array Si**	**25.34**	**323**	P		**P**	**12 31 56.2**	**-1.6**
KS19				IAmb		IAmb	12 32 08.1	
	comp=Z,87nm,1.8s							
FAKI	**Fak Fak**	**25.39**	**216**	P		**P**	**12 31 58.3**	**-0.2**
FAKI				IAmb		IAmb	12 31 59.5	
	comp=Z,22nm,0.8s							
FAKI	**Fak Fak**	**25.39**	**216**	P		**P**	**12 31 58.6**	**+0.1**
	comp=Z,29nm,1.1s							
ASAJ	**Asahikawa**	**

BNX pmax pmax
comp=Z,31nm,0.8s
BNX pmax pmax
comp=Z,180nm,6.8s
MPSI Mapaga 31.79 239 P **P** **12 32 57.4 +1.9**
comp=Z,16nm,0.9s
WHN Wuhan 31.82 299 P **P** **12 32 59.5 +3.9**
COEN Coen 32.17 186 P **P** **12 32 59.8 +1.0**
COEN IAmb IAmb 12 33 25.8
comp=Z,14nm,1.0s
KLR Kul'dur 33.21 342 LR LR 12 49 33.8
comp=Z,69nm,18.4s,baz=154,slow=42
TTSI Tana Toraja 33.90 234 P **P** **12 33 15.0 +1.0**
comp=Z,44nm,0.8s
HNS HongShan 33.92 311 ⇑P **P** **12 33 14.6 +0.7**
HNS pmax pmax
comp=Z,21nm,0.8s
MTN Manton Dam 34.49 208 P **P** **12 33 18.0 -1.0**
MTN IAmb IAmb 12 33 18.8
comp=Z,37nm,1.6s
QIZ Qiongzhong 34.92 277 P **P** **12 33 22.7 0.0**
QIZ S **S** **12 38 48.2 -1.0**
QIZ LR LR
comp=Z,260nm,10.0s
QIZ LR LR
comp=Z,270nm,10.8s
QIZ LR LR
comp=Z,330nm,17.7s
KAPI Kappang 35.23 232 P **P** **12 33 24.8 -0.6**
KAPI Kappang 35.23 232 P **P** **12 33 26.7 +1.3**
HEH HeiHe 35.49 339 *e*P **P** **12 33 26.8 -0.5**
HEH PcP **PcP** **12 35 54.5 -0.7**
HEH pmax pmax
comp=Z,56nm,1.1s
HEH pmax pmax
comp=Z,200nm,5.4s
PETK Petropavlovsk- 35.85 11 P **P** **12 33 30.9 +0.6**
comp=Z,5.3nm,0.9s,baz=139,slow=7.1,SNR=2.1
PETK LR LR 12 47 27.8
comp=Z,92nm,19.4s,baz=188,slow=35
comp=Z,5.3nm,0.9s
BATI Baumata 36.28 221 LR LR 12 47 50.2
comp=Z,147nm,21.5s,baz=78,slow=35
XLT XiLinHaoTe 36.30 322 *e*P **P** **12 33 34.6 +0.2**
XLT pmax pmax
comp=Z,16nm,1.1s
XLT pmax pmax
comp=Z,62nm,3.7s
XLT LR LR
comp=Z,380nm,16.3s
XLT LR LR
comp=Z,460nm,19.6s
EDFI Ende, Flores 36.46 225 P **P** **12 33 35.2 -0.8**
comp=Z,10nm,0.7s
HHC Hu-ho-hao-te 37.62 314 *e*P **P** **12 33 46.6 +0.9**
HHC S **S** **12 39 36.3 +6.0**
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,81nm,5.1s
HHC LR LR
comp=Z,250nm,14.5s
HHC LR LR
comp=Z,230nm,16.1s
HHC LR LR
comp=Z,350nm,15.3s
HIA Hailar 37.84 331 P **P** **12 33 46.1 -1.2**
HIA Hailar 37.84 331 P **P** **12 33 46.7 -0.6**
KNRA Kununurra 38.05 209 P **P** **12 33 48.8 -0.5**
KNRA IAmb IAmb 12 33 49.8
comp=Z,16nm,0.7s
CTA Charters Tower 38.08 181 LR LR 12 48 48.9
comp=Z,174nm,21.1s,baz=299,slow=35
CTAO Charters Tower 38.08 181 P **P** **12 33 50.7 +1.2**
QIS Mount Isa 39.17 191 P P 12 33 50.5 -8.2
PLAI Plampang 39.23 229 P **P** **12 33 58.6 -0.7**
PLAI Plampang 39.23 229 P **P** **12 33 58.7 -0.6**
comp=Z,56nm,0.8s,comp=Z,652nm
WB0 Warramunga Arr 39.65 198 P **P** **12 34 01.8 -0.9**
WB0 IAmb IAmb 12 34 03.3
comp=Z,20nm,1.1s
WR0 Warramunga Arr 39.79 198 P **P** **12 34 03.6 -0.2**
WR0 IAmb IAmb 12 34 05.0
comp=Z,9.4nm,0.8s
TWSI Taliwang, Sumb 39.82 230 P **P** **12 34 03.3 -0.9**
comp=Z,87nm,0.8s,comp=Z,769nm
WB2 Warramunga Arr 39.83 198 P **P** **12 34 03.5 -0.7**
WB2 IAmb IAmb 12 34 05.8
comp=Z,22nm,0.8s
WRA Warramunga Arr 39.83 198 P **P** **12 34 03.8 -0.4**
WRA Warramunga Arr 39.83 198 P **P** **12 34 03.5 -0.7**
comp=Z,18nm,1.0s,baz=12,slow=8.6,SNR=42
comp=Z,18nm,1.0s
CD2 Chengdu 40.83 296 P **P** **12 34 11.1 -1.4**
CD2 S **S** **12 40 16.6 -1.9**
CD2 LR LR
comp=Z,160nm,14.7s
CD2 LR LR
comp=Z,330nm,12.6s
CD2 LR LR
comp=Z,290nm,13.5s
MA2 Magadan 41.40 3 LR LR 12 48 23.8
comp=Z,138nm,21.2s,baz=176,slow=32
JAGI Jajag, Banyuwa 41.68 233 P **P** **12 34 19.8 +0.3**
LZH Lanzhou 41.71 304 *e*P **P** **12 34 15.6 -4.2**
LZH sP pwP 12 34 41.4 +0.1
LZH pmax pmax
comp=Z,14nm,1.0s
GMJI Gumukmas 42.10 234 P **P** **12 34 23.0 +0.1**
PZH PanZhiHua 42.23 290 P **P** **12 34 23.2 -0.9**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,130nm,4.7s
PWJI Pagerwojo 43.22 236 P **P** **12 34 31.9 -0.1**
comp=Z,47nm,0.7s
AS31 Alice Springs 43.48 197 P **P** **12 34 34.1 +0.1**
ASAR Alice Springs 43.48 197 P **P** **12 34 33.7 -0.3**
ASAR Alice Springs 43.48 197 P **P** **12 34 33.2 -0.7**
comp=Z,3.8nm,0.5s,baz=18,slow=6.6,SNR=49
ASAR PcP **PcP** **12 36 19.6 -1.4**
comp=Z,4.0nm,1.2s,baz=21,slow=5.5,SNR=3.0
ASAR LR LR 12 53 20.5
comp=Z,157nm,19.8s,baz=13,slow=37
comp=Z,3.8nm,0.5s
ULN Ulaanbaatar 43.74 322 P **P** **12 34 35.3 -0.7**
ULN Ulaanbaatar 43.74 322 P **P** **12 34 35.7 -0.4**
SONM Songino Array 44.12 321 P **P** **12 34 38.8 -0.3**
SONM Songino Array 44.12 321 P **P** **12 34 38.3 -0.7**
comp=Z,3.1nm,0.4s,baz=137,slow=8.6,SNR=36
SONM PcP **PP** **12 36 22.3 -0.7**
comp=Z,0.7nm,0.6s,baz=146,slow=3.8,SNR=3.6
SONM LR LR 12 54 18.4
comp=Z,361nm,18.2s,baz=138,slow=38
comp=Z,3.1nm,0.4s
UGM Wanagama 44.17 237 P **P** **12 34 39.5 -0.3**
DZM Mont Dzumac 44.46 153 LR LR 12 51 43.1
comp=Z,421nm,19.4s,baz=356,slow=34
SEY Seymchan 44.84 4 LR LR 12 53 14.1
comp=Z,77nm,18.8s,baz=346,slow=36
CMAR Chiang Mai Arr 45.24 278 P **P** **12 34 48.5 +0.3**
CMAR Chiang Mai Arr 45.24 278 P **P** **12 34 48.4 +0.1**
comp=Z,3.2nm,0.7s,baz=71,slow=6.2,SNR=12
CMAR PcP **PcP** **12 36 27.4 +0.2**
comp=Z,1.7nm,0.7s,baz=122,slow=1.7,SNR=5.7
CMAR LR LR 12 52 20.9
comp=Z,98nm,20.9s,baz=80,slow=34
comp=Z,3.2nm,0.7s
YAK Yakutsk 45.37 349 P **P** **12 34 48.7 +0.2**
YAK Yakutsk 45.37 349 LR LR 12 53 16.0
comp=Z,96nm,21.7s,baz=123,slow=36
YAK Yakutsk 45.37 349 P **P** **12 34 49.3 +0.8**
GTA Gaotai 45.60 308 *e*P **P** **12 34 53.6 +2.6**
GTA PcP **PcP** **12 36 28.7 +0.4**
GTA S **S** **12 41 34.4 +6.1**
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA LR LR
comp=Z,120nm,15.6s
GTA LR LR
comp=Z,230nm,19.3s
GTA LR LR
comp=Z,320nm,15.6s
MBWA Marble Bar 47.24 215 P **P** **12 35 03.2 -0.5**
MND Mandalay 47.50 283 P **P** **12 35 09.7 +3.8**
XMIS Christmas Isla 49.57 238 P **P** **12 35 20.4 -1.4**

STKA Stephens Creek 50.06 186 P **P** **12 35 25.5 +0.2**
STKA Stephens Creek 50.06 186 P **P** **12 35 25.4 +0.2**
comp=Z,12nm,0.7s,baz=348,slow=8.5,SNR=21
STKA LR LR 12 56 39.6
comp=Z,182nm,21.8s,baz=17,slow=36
comp=Z,12nm,0.7s
BILL Bilibino 51.32 9 P **P** **12 35 34.6 +0.3**
GIRL Giralia 51.56 219 P **P** **12 35 36.3 -0.3**
BBOO Buckleboo 51.76 191 P **P** **12 35 38.7 +0.7**
CAN Canberra 53.30 178 P **P** **12 35 50.6 +1.3**
TIXI Tiksi 54.45 353 P **P** **12 35 56.6 -0.6**
TIXI Tiksi 54.45 353 LR LR 12 59 11.3
comp=Z,66nm,20.6s,baz=194,slow=36
TIXI Tiksi 54.45 353 P **P** **12 35 56.7 -0.5**
WMQ Urumqi 55.35 311 *e*P **P** **12 36 04.2 -0.1**
WMQ pmax pmax
comp=Z,25nm,1.1s
WMQ LR LR
comp=Z,150nm,21.9s
TOO Toolangi 55.51 181 P **P** **12 36 06.0 +0.6**
TOO IAmb IAmb 12 36 07.2
comp=Z,14nm,1.1s
ZSN Zaisan 57.82 315 *e*P **P** **12 36 22.0 +0.3**
comp=Z,6.4nm,0.9s,baz=315
NWAO Narrogin (SRO) 58.16 209 LR LR 13 03 05.5
comp=Z,102nm,20.1s,baz=186,slow=38
ZAA0 Zalesovo Array 58.98 323 P **P** **12 36 28.7 -0.9**
ZAA0 IAmb IAmb 12 36 29.8
comp=Z,11nm,0.7s
ZALV Zalesovo Beam 58.98 323 P **P** **12 36 28.5 -1.1**
ZALV Zalesovo Beam 58.98 323 P **P** **12 36 29.1 -0.5**
comp=Z,11nm,0.6s,baz=108,slow=7.6,SNR=57
ZALV LR LR 13 02 27.7
comp=Z,170nm,19.9s,baz=86,slow=37
comp=Z,11nm,0.6s
KDAK Kodiak Island 59.22 33 LR LR 12 58 28.2
comp=Z,106nm,22.0s,baz=266,slow=32
E18K Tukpahlearik C 59.38 21 P **P** **12 36 32.7 +0.5**
MK31 Makanchi Array 59.49 314 P **P** **12 36 33.1 -0.2**
MK31 IAmb IAmb 12 36 34.4
comp=Z,6.2nm,0.8s
MKAR Makanchi Array 59.49 314 P **P** **12 36 33.5 +0.1**
MKAR Makanchi Array 59.49 314 P **P** **12 36 32.9 -0.5**
comp=Z,7.8nm,0.7s,baz=90,slow=9.2,SNR=77
MKAR LR LR 13 02 20.4
comp=Z,158nm,21.5s,baz=67,slow=36
comp=Z,7.8nm,0.7s
MAKZ Makanchi 59.70 314 P **P** **12 36 34.1 -0.7**
MAKZ IAmb IAmb 12 36 36.0
comp=Z,12nm,0.8s
MAKZ Makanchi 59.70 314 P **P** **12 36 34.5 -0.3**
CAST Castle Rocks 61.07 27 P **P** **12 36 44.4 +0.6**
CAST IAmb IAmb 12 36 45.6
comp=Z,6.9nm,0.8s
IMAR Indian Mountai 61.25 24 P **P** **12 36 45.4 +0.5**
SHLS Shalkode 61.27 310 *e*P **P** **12 36 43.9 -1.7**
baz=310
UZB Uzynbulak 61.59 310 *e*P **P** **12 36 48.2 +0.3**
comp=Z,3.2nm,0.5s,baz=310
KTH Kantishna Hill 61.61 27 P **P** **12 36 47.5 -0.1**
KTH IAmb IAmb 12 36 48.8
comp=Z,12nm,1.0s
BPAW Bear Paw Mtn. 61.74 26 P **P** **12 36 49.1 +0.7**
BPAW IAmb IAmb 12 36 51.2
comp=Z,8.6nm,0.8s
TRF Thorofare Moun 61.85 27 P **P** **12 36 49.5 +0.2**
SATY Saty 62.04 310 *e*P **P** **12 36 50.9 0.0**
baz=310
TDK Taldyqorghan 62.08 312 *e*P **P** **12 36 51.5 +0.5**
comp=Z,7.2nm,0.7s,baz=312
MLY Manley 62.13 25 P **P** **12 36 51.6 +0.7**
MLY IAmb IAmb 12 36 52.7
comp=Z,7.4nm,0.8s
KURK Kurchatov 62.27 318 P **P** **12 36 51.8 -0.3**
KURK Kurchatov 62.27 318 P **P** **12 36 51.6 -0.4**
KURBB Kurchatov Arra 62.32 318 P **P** **12 36 52.5 +0.1**
comp=Z,16nm,0.6s,baz=92,slow=7.5,SNR=80
KURBB LR LR 13 05 27.1
comp=Z,302nm,18.2s,baz=164,slow=38
comp=Z,16nm,0.6s
NRIK Noril'sk 62.38 340 P **P** **12 36 52.5 +0.1**
NRIK Noril'sk 62.38 340 P **P** **12 36 52.6 +0.1**
comp=Z,23nm,0.9s,baz=114,slow=8.0,SNR=29
NRIK LR LR 13 04 21.5
comp=Z,224nm,21.3s,baz=113,slow=36
comp=Z,23nm,0.9s
NEA2 Nenana 62.69 26 P **P** **12 36 54.8 +0.2**
NEA2 IAmb IAmb 12 37 42.0
comp=Z,14nm,1.5s
I23K Minto, Yukon-K 62.72 25 P **P** **12 36 55.9 +1.1**
I23K IAmb IAmb 12 37 10.1
comp=Z,8.5nm,0.9s
E22K Anaktuvuk Pass 62.72 22 P **P** **12 36 55.7 +0.9**
E22K IAmb IAmb 12 36 57.0
comp=Z,7.3nm,0.9s
SCM Sheep Creek Mo 62.78 29 P **P** **12 36 54.8 -0.5**
URZ Urewera 63.02 153 LR LR 13 00 39.0
comp=Z,194nm,21.8s,baz=120,slow=32
MDOK Medeo 63.03 310 *e*P **P** **12 36 57.7 +0.2**
baz=310
CHKK Chushkaly 63.08 310 *e*P **P** **12 36 57.7 +0.1**
baz=310
TNSS Tian-Shan 63.11 310 *e*P **P** **12 36 58.1 -0.2**
baz=310
MDM Murphy Dome 63.13 26 P **P** **12 36 58.3 +0.7**
MDM IAmb IAmb 12 36 59.3
comp=Z,5.1nm,0.8s
AAA Alma-Ata 63.13 310 *e*P **P** **12 36 58.3 +0.3**
comp=Z,6.5nm,0.4s,baz=310
COLA College 63.26 26 P **P** **12 36 59.2 +0.8**
IL31 63.64 26 P **P** **12 36 59.8 -1.1**
ILAR Eielson Array 63.64 26 P **P** **12 37 00.1 -0.9**
ILAR Eielson Array 63.64 26 P **P** **12 36 59.9 -1.0**
comp=Z,2.9nm,0.8s,baz=262,slow=4.5,SNR=26
ILAR LR LR 13 02 48.5
comp=Z,81nm,20.1s,baz=264,slow=34
comp=Z,2.9nm,0.8s
TOLK Toolik Lake Re 63.67 21 P **P** **12 37 01.6 +0.4**
TOLK IAmb IAmb 12 37 45.7
comp=Z,26nm,1.6s
BOOM Boomskoye usch 63.86 309 P **P** **12 37 03.0 0.0**
BOOM IAmb IAmb 12 37 04.6
comp=Z,7.4nm,0.6s
KSH Kashi 63.93 306 P **P** **12 37 06.4 +2.9**
KSH pmax pmax
comp=Z,6.0nm,0.8s
SCRK Sand Creek 64.71 27 P **P** **12 37 08.1 0.0**
SCRK IAmb IAmb 12 37 42.9
comp=Z,22nm,1.7s
SGDS Sogindy 64.79 310 *e*P **P** **12 37 09.4 +0.4**
baz=310
AAK Ala-Archa 64.92 309 P **P** **12 37 09.5 -0.4**
AAK Ala-Archa 64.92 309 P **P** **12 37 09.9 0.0**
comp=Z,2.0nm,0.7s,baz=166,slow=2.0,SNR=5.0
comp=Z,2.0nm,0.7s
AAK Ala-Archa 64.92 309 P **P** **12 37 09.7 -0.2**
PALK Pallekele 65.02 270 LR LR 13 03 15.7
comp=Z,95nm,19.7s,baz=168,slow=34
BTLS Baital 65.17 312 *e*P **P** **12 37 11.5 +0.2**
baz=312
RAR Rarotonga 65.44 124 LR LR 12 58 21.8
comp=Z,121nm,21.9s,baz=305,slow=29
BRZS Berezniki 66.04 317 *e*P **P** **12 37 16.5 -0.3**
comp=Z,4.7nm,0.7s,baz=317
ARSB Arslanbob 66.11 308 P **P** **12 37 17.2 -0.4**
DAWY Dawson 66.72 27 P **P** **12 37 21.3 +0.4**
DZA Taraz 67.23 310 *e*P **P** **12 37 24.8 +0.2**
baz=310
BVAR Borovoye Array 67.45 321 P **P** **12 37 25.4 -0.3**
comp=Z,25nm,0.6s,baz=93,slow=7.7,SNR=113
BVAR LR LR 13 07 54.4
comp=Z,154nm,21.4s,baz=85,slow=37
comp=Z,25nm,0.6s
BRVK Borovoye 67.52 321 P **P** **12 37 25.7 -0.4**
BRVK Borovoye 67.52 321 P **P** **12 37 26.1 0.0**
K29M Barlow Dome 67.52 28 P **P** **12 37 27.0 +0.9**
K29M IAmb IAmb 12 37 28.4
comp=Z,11nm,1.0s
KK31 Karatay Array 67.81 310 P **P** **12 37 28.0 -0.2**
KK31 IAmb IAmb 12 37 29.4
comp=Z,9.8nm,0.7s
KKAR Karatay Array 67.81 310 P **P** **12 37 28.0 -0.2**
KKAR Karatay Array 67.81 310 P **P** **12 37 27.8 -0.4**
KKAR IAmb IAmb 12 37 29.4
comp=Z,9.8nm,0.7s
IUG Iuzhnay 68.25 309 *e*P **P** **12 37 31.3 +0.3**
comp=Z,3.1nm,0.3s,baz=309
CHM Chimkent 68.55 309 *e*P **P** **12 37 33.1 +0.3**
comp=Z,5.4nm,0.7s,baz=309
G31M Satah River 69.07 24 P **P** **12 37 35.6 +0.1**
G31M IAmb IAmb 12 37 36.6
comp=Z,9.0nm,0.9s
CHGR Chuyangaron 69.29 305 P **P** **12 37 37.5 0.0**
SIMJ Simiganj 69.41 305 P **P** **12 37 38.3 0.0**
SIMJ Simiganj 69.41 305 P **P** **12 37 39.5 +1.2**
INK Inuvik 69.42 23 P **P** **12 37 37.7 0.0**
INK Inuvik 69.42 23 LR LR 13 06 31.6
comp=Z,74nm,21.4s,baz=180,slow=35
PPT Papeete 72.04 116 LR LR 13 03 06.9
comp=Z,177nm,19.7s,baz=282,slow=30
A36M Sachs Harbour 72.20 19 P **P** **12 37 55.2 +0.7**
C36M Paulatuk 72.82 22 P **P** **12 37 58.3 +0.1**
C36M IAmb IAmb 12 37 59.4
comp=Z,11nm,0.9s
BBB Bella Bella 72.88 40 LR LR 13 04 12.4
comp=Z,189nm,21.3s,baz=251,slow=31
WRGLY Wrigley 73.83 28 P **P** **12 38 04.4 +0.2**
WRGLY IAmb IAmb 12 38 15.0
comp=Z,11nm,0.9s
ARU Arti 74.01 325 P **P** **12 38 05.0 -0.4**
ARU IAmb IAmb 12 38 05.8
comp=Z,22nm,1.0s
ARU Arti 74.01 325 P **P** **12 38 04.7 -0.7**
comp=Z,6.5nm,0.3s,baz=130,slow=2.3,SNR=16
ARU LR LR 13 11 30.7
comp=Z,126nm,21.3s,baz=95,slow=36
comp=Z,6.5nm,0.3s
ABKAR Akbulak array 74.34 317 P **P** **12 38 06.6 -0.9**
ABKAR Akbulak array 74.34 317 P **P** **12 38 06.4 -1.1**
ABKAR IAmb IAmb 12 38 08.0
comp=Z,6.7nm,0.8s
AKTO Aktyubinsk 75.36 319 P **P** **12 38 12.3 -1.0**
comp=Z,2.6nm,0.6s,baz=80,slow=6.5,SNR=12
AKTO LR LR 13 13 28.4
comp=Z,195nm,18.2s,baz=74,slow=37
comp=Z,2.6nm,0.6s
YKA Yellowknife Ar 77.95 28 P **P** **12 38 28.0 +0.3**
comp=Z,3.7nm,0.8s,baz=288,slow=5.7,SNR=60
comp=Z,3.7nm,0.8s
KIRV Kirov 78.37 328 LR LR 13 14 38.2
comp=Z,103nm,20.9s,baz=78,slow=37
YBH Yreka Blue Hor 78.51 50 LR LR 13 05 28.8
comp=Z,133nm,21.6s,baz=292,slow=30
J05D Fort Rock, OR 79.18 48 P **P** **12 38 36.3 +1.2**
RES Resolute Bay 79.65 14 P **P** **12 38 38.1 +1.3**
RES IAmb IAmb 12 38 38.8
comp=Z,12nm,0.9s
SPA0 Spitsbergen Ar 79.79 351 *e*P **P** **12 38 38.7 +1.1**
SPB2 Spitsbergen Ar 79.79 351 P **P** **12 38 38.3 +0.7**
SPITS Spitsbergen Ar 79.79 351 P **P** **12 38 38.8 +1.2**
comp=Z,3.3nm,0.6s,baz=114,slow=5.6,SNR=15
SPITS LR LR 13 14 39.6
comp=Z,67nm,21.7s,baz=4.5,slow=36
comp=Z,3.3nm,0.6s
KBS Kingsbay 79.89 352 *e*P **P** **12 38 38.6 +0.6**
KBS IAmb IAmb 12 38 40.9
comp=Z,5.6nm,0.8s
KBS Kingsbay 79.89 352 *e*P **P** **12 38 39.0 +0.9**
NEW Newport 80.61 42 LR LR 13 07 40.8
comp=Z,186nm,20.6s,baz=290,slow=31
BELG Belogornoye 81.17 322 LR LR 13 16 33.3
comp=Z,123nm,19.9s,baz=144,slow=37
WSAR Wadi Sarin 81.31 292 LR LR 13 16 45.7
comp=Z,37nm,20.3s,baz=70,slow=37
VADS Vadso 81.80 342 IAmb IAmb 12 38 49.3
comp=Z,30nm,0.6s
VADS *e*P **P** **12 38 49.4 +1.0**
NVAR Mina Array Bea 82.66 52 P **P** **12 38 55.4 +1.5**
comp=Z,2.4nm,0.7s,baz=265,slow=6.1,SNR=30
NVAR LR LR 13 09 03.5
comp=Z,105nm,20.5s,baz=308,slow=31
comp=Z,2.4nm,0.7s
HAMF Hammerfest 83.09 344 *e*P **P** **12 38 56.0 +0.9**
HAMF IAmb IAmb 12 38 59.7
comp=Z,26nm,0.4s
ARA0 ARCESS Array S 83.23 342 IAmb IAmb 12 38 57.2
comp=Z,100nm,1.6s
ARCES ARCESS Array B 83.23 342 P **P** **12 38 56.7 +0.8**
ARCES ARCESS Array B 83.23 342 P **P** **12 38 55.8 -0.1**
comp=Z,18nm,0.7s,baz=67,slow=6.2,SNR=58
ARCES LR LR 13 19 23.0
comp=Z,110nm,21.8s,baz=78,slow=38
comp=Z,18nm,0.7s
NEEM North Greenlan 83.95 4 *i* P **P** **12 39 00.4 +0.6**
NEEM IAmb IAmb 12 39 01.2
comp=Z,19nm,1.0s
ELK Elko 84.19 49 LR LR 13 10 19.1
comp=Z,156nm,20.3s,baz=290,slow=31
KTK1 Kautokeino 84.20 342 *e*P **P** **12 39 01.2 +0.4**
KTK1 IAmb IAmb 12 39 01.3
comp=Z,15nm,1.0s
JETT Jettan, Norway 84.65 343 *e*P **P** **12 39 03.8 +0.7**
JETT IAmb IAmb 12 39 03.9
comp=Z,39nm,0.8s
DAG Danmarks Havn 84.79 357 *i* P **P** **12 39 03.4 -0.3**
DAG IAmb IAmb 12 39 05.0
comp=Z,6.7nm,0.8s
JOF Joensuu 84.85 335 *e*P **P** **12 39 03.6 -0.5**
TRO Tromso 84.99 344 IAmb IAmb 12 39 05.2
comp=Z,30nm,0.8s
TRO *e*P **P** **12 39 05.3 +0.6**
PFO Pinyon Flats O 85.58 56 LR LR 13 16 26.7
comp=Z,64nm,19.2s,baz=240,slow=35
KULLO Kullorsuaq 86.15 6 *e*P **P** **12 39 11.3 +0.9**
KULLO IAmb IAmb 12 39 12.1
comp=Z,14nm,0.9s
OBN Obninsk 86.20 327 LR LR 13 19 22.2
comp=Z,158nm,20.9s,baz=9.5,slow=37
STEI Steigen 87.14 344 *e*P **P** **12 39 15.4 +0.1**
KBZ Khabaz 87.16 315 P **P** **12 39 16.9 +1.0**
comp=Z,2.4nm,0.8s,baz=119,slow=4.1,SNR=7.6
comp=Z,2.4nm,0.8s
GNI Garni 87.22 311 LR LR 13 20 27.0
comp=Z,43nm,21.5s,baz=98,slow=37
DBG Daneborg 87.30 356 *e*P **P** **12 39 16.6 +0.5**
DBG IAmb IAmb 12 39 16.7
comp=Z,9.9nm,0.9s
PDAR Pinedale Array 87.46 46 P **P** **12 39 18.8 +1.0**
comp=Z,0.5nm,0.7s,baz=296,slow=1.4,SNR=7.1
PDAR LR LR 13 14 09.7
comp=Z,60nm,20.4s,baz=308,slow=33
comp=Z,0.5nm,0.7s
FAUS Fauske 87.51 343 IAmb IAmb 12 39 17.4
comp=Z,27nm,1.0s
FAUS *e*P **P** **12 39 17.4 +0.2**
FIA1 FINESS Array S 87.71 336 P **P** **12 39 16.6 -1.6**
FINES FINESS Array B 87.72 336 P **P** **12 39 16.8 -1.5**
FINES FINESS Array B 87.72 336 P **P** **12 39 16.9 -1.3**
comp=Z,7.0nm,0.6s,baz=62,slow=4.8,SNR=52
FINES LR LR 13 21 42.7
comp=Z,93nm,18.8s,baz=52,slow=38
comp=Z,7.0nm,0.6s
KEF Keuruu 87.76 336 *e*P **P** **12 39 17.1 -1.3**
VAF Ylistaro 88.04 338 *e*P **P** **12 39 19.1 -0.7**
MOR8 Moi Rana 88.61 343 *e*P **P** **12 39 21.2 -1.3**
MOR8 IAmb IAmb 12 39 21.5
comp=Z,13nm,0.9s
STOK Stokkvaagen 88.89 343 *e*P **P** **12 39 21.9 -1.8**
MEF Metsahovi 89.10 335 *e*P **P** **12 39 23.5 -1.3**
RAF Rauma 89.64 336 *e*P **P** **12 39 26.2 -1.1**
NSS Namsos 90.52 342 *e*P **P** **12 39 30.9 -0.5**
AAL Aland 90.85 336 *e*P **P** **12 39 31.3 -1.6**
UPP Uppsala 91.95 337 *e*P **P** **12 39 36.8 -1.3**
AKASG Malin Array Be 92.24 326 LR LR 13 24 49.4
comp=Z,91nm,19.5s,baz=42,slow=38
ULM Lac du Bonnet 92.43 35 P **P** **12 39 39.3 -1.2**
comp=Z,3.3nm,0.8s,baz=317,slow=6.5,SNR=5.9
ULM LR LR 13 20 35.2
comp=Z,92nm,18.2s,baz=286,slow=35
comp=Z,3.3nm,0.8s
HFS Hagfors 93.18 339 P **P** **12 39 42.6 -1.2**
comp=Z,2.0nm,0.5s,baz=88,slow=3.7,SNR=20
HFS LR LR 13 24 50.4
comp=Z,87nm,19.5s,baz=54,slow=38
comp=Z,2.0nm,0.5s
DOMB Dombas 93.26 341 *e*P **P** **12 39 44.4 +0.2**
NB2 NORSAR Subarra 93.35 340 P **P** **12 39 43.6 -1.0**
comp=Z,1.0nm,0.7s,baz=46,slow=4.6
NB2 PP **PP** **12 43 28.9 +0.3**
comp=Z,0.4nm,0.6s,baz=31,slow=7.4
NB2 NORSAR Subarra 93.35 340 P **P** **12 39 43.6 -1.0**
baz=46,slow=4.6
NOA NORSAR Array B 93.35 340 P **P** **12 39 43.4 -1.3**

comp=Z,1.3nm,0.7s,baz=45,slow=4.9,SNR=7.5
NOA PP **PP** **12 43 28.4 -0.2**
comp=Z,0.6nm,0.8s,baz=40,slow=7.9,SNR=3.8
NOA LR LR 13 25 54.7
comp=Z,74nm,20.3s,baz=35,slow=38
comp=Z,1.3nm,0.7s
FRB **Frobisher Bay 93.82 15** LR LR 13 17 10.4
comp=Z,54nm,22.0s,baz=331,slow=32
LPIG **La Paz 93.94 63** LR LR 13 13 23.9
comp=Z,120nm,21.5s,baz=268,slow=30
SFJD **Kangerlussuaq 94.05 7** LR LR 13 24 29.4
comp=Z,18nm,19.4s,baz=350,slow=37
BRTR **Keskin Array B 95.13 315** P **P** **12 39 51.6 -1.8**
comp=Z,0.9nm,0.8s,baz=98,slow=3.7,SNR=4.9
BRTR LR LR 13 25 56.8
comp=Z,87nm,21.4s,baz=58,slow=38
comp=Z,0.9nm,0.8s
VNDA **Vanda 95.96 177** LR LR 13 23 38.0
comp=Z,103nm,18.0s,baz=288,slow=36
MLR **Muntele Rosu 96.96 322** LR LR 13 26 11.8
comp=Z,168nm,19.8s,baz=66,slow=37
EIL **Elat 98.84 305** LR LR 13 30 23.9
comp=Z,38nm,18.0s,baz=67,slow=39
VRAC **Vranov 99.55 330** LR LR 13 27 16.0
comp=Z,91nm,20.9s,baz=36,slow=37
GERES **GERESS Array B 101.24 330** PP **PP** **12 44 27.8 -1.8**
comp=Z,0.4nm,0.5s,baz=94,slow=13,SNR=4.0
ESDC **Sonseca Array 116.23 335** PP **PP** **12 46 16.4 -1.9**
comp=Z,1.6nm,0.9s,baz=30,slow=6.5,SNR=6.2
TORD **Torodi Ar. Bea 133.50 310** PKhKP PKPpre 12 45 39.7
comp=Z,0.5nm,0.8s,baz=330,slow=5.0,SNR=2.0
TORD PKP **PKPdf** **12 45 45.5 -1.2**
comp=Z,0.5nm,0.6s,baz=25,slow=3.8,SNR=4.3
PLCA **Paso Flores 140.97 133** PKP **PKPdf** **12 45 58.5 -1.4**
comp=Z,2.9nm,0.8s,baz=332,slow=3.5,SNR=4.0
DBIC **Dimbokro 142.60 309** PKhKP PKPpre 12 45 59.7
comp=Z,3.5nm,0.7s,baz=5.6,slow=1.7,SNR=3.7
LVC **Limon Verde 146.38 104** PKPbc **PKPab** **12 46 13.9 +1.4**
comp=Z,16nm,0.7s,baz=259,slow=4.0,SNR=11
LPAZ **La Paz 146.69 92** PKPbc **PKPbc** **12 46 13.4 +0.5**
comp=Z,4.4nm,0.7s,baz=206,slow=6.0,SNR=11

*IDC **10** 12:32:15.7±0.5, 18°25.N×146°63.E, h0km, mb4.5/27, mbtmp4.5/28, ML3.6/1, Error ellipse: s-maj=18.8km s-min=13.5km az=80.0*
*NEIC **10** 12:32:25.5±1.0, 18°25.N±0°08×146°6E±0°2, h68km±3km, mb4.7/71, Error ellipse: s-maj=22.1km s-min=11.5km az=101.0*
ISC 10 12:32:24.1±0.4, **18°14N**±0°07×**146°70E**±0°09, **h66**km, **n126,** σ1**1**s**18**/125, **mb4.7**/69, **2D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PATS	**Pohnpei**	**15.95**	**133**	Pn	**Pn**	**12 36 00.7**	**-3.9**
H11S3	**WAKE ISLAND Hy 18.98**		**86**	T	T	12 55 53.3	
	baz=272,slow=74,SNR=13						
H11S1	**WAKE ISLAND Hy 19.00**		**86**	T	T	12 55 57.6	
	baz=272,slow=74,SNR=5.7						
H11S2	**WAKE ISLAND Hy 19.00**		**86**	T	T	12 55 55.4	
	baz=272,slow=74,SNR=10.0						
H11N1	**WAKE ISLAND Hy 19.17**		**82**	T	T	12 56 09.4	
	baz=268						
H11N2	**WAKE ISLAND Hy 19.18**		**82**	T	T	12 56 13.7	
	baz=268						
INU	**Inuyama**	**19.18**	**335**		**P**	**12 36 40.8**	**-1.6**
H11N3	**WAKE ISLAND Hy 19.19**		**82**	T	T	12 56 15.3	
	baz=268						
JGF	**Kuroka**	**19.26**	**336**	P	**P**	**12 36 42.8**	**-0.6**
MJAR	**Matsushiro Arr**	**19.80**	**339**	P	**P**	**12 36 48.1**	**-1.1**
	0.2nm,0.3s,baz=169,slow=9.5,SNR=19						
	5.7nm,0.7s						
MAJO	**Matsushiro**	**19.80**	**339**		**P**	**12 36 48.4**	**-0.9**
MAJO				IAmb	IAmb	12 36 55.0	
	comp=Z,22nm,0.8s						
MJB9	**Matsu-Tunnel**	**19.81**	**339**		**P**	**12 36 48.4**	**-0.9**
MJB9				IAmb	IAmb	12 36 56.0	
	comp=Z,21nm,0.8s						
JNU	**Nakatsue**	**20.60**	**319**	P	**P**	**12 36 54.5**	**-3.4**
	comp=Z,6.9nm,1.1s,baz=131,slow=9.3,SNR=2.3						
	comp=Z,6.9nm,1.1s						
FAKI	**Fak Fak**	**25.31**	**216**		**P**	**12 37 44.5**	**-0.3**
FAKI				IAmb	IAmb	12 37 51.2	
	comp=Z,17nm,0.9s						
KSRS	**Korea Array**	**25.33**	**323**	P	**P**	**12 37 43.4**	**-1.3**
	comp=Z,2.5nm,0.6s,baz=148,slow=8.3,SNR=13						
	comp=Z,2.5nm,0.6s						
KS19	**Wonju Array Si**	**25.39**	**323**	P	**P**	**12 37 44.2**	**-1.1**
KS19				IAmb	IAmb	12 37 48.0	
	comp=Z,39nm,1.5s						
JKA	**Kamikawa-asahi**	**26.12**	**353**	P	**P**	**12 37 52.6**	**+0.7**
PMG	**Port Moresby**	**27.38**	**179**	P	**P**	**12 38 05.0**	**+1.6**
PMG				IAmb	IAmb	12 38 18.1	
	comp=Z,19nm,0.8s						
NJ2	**Nanjing**	**28.66**	**304**	*e*P	**P**	**12 38 14.1**	**-0.7**
NJ2				pP	**pwP**	**12 38 31.2**	**-3.0**
NJ2				sP	**sP**	**12 38 39.1**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,160nm,5.0s						
USRK	**Ussuriysk Ar.**	**28.77**	**338**	P	**P**	**12 38 15.6**	**0.0**
USRK	**Ussuriysk Ar.**	**28.77**	**338**	P	**P**	**12 38 16.0**	**+0.4**
	comp=Z,5.9nm,0.8s,baz=152,slow=8.6,SNR=8.6						
	comp=Z,5.9nm,0.8s						
MDJ	**Mudanjiang**	**30.04**	**335**	P	**P**	**12 38 25.6**	**-1.2**
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,220nm,5.2s						
BNX	**BinXian**	**31.85**	**334**	⇓P	**P**	**12 38 42.2**	**-0.5**
BNX				pmax	pmax		
	comp=Z,16nm,0.8s						
BNX				pmax	pmax		
	comp=Z,220nm,4.9s						
HNS	**HongShan**	**33.96**	**311**	⇓P	**P**	**12 39 02.2**	**+0.9**
HNS				S	**S**	**12 44 27.7**	**+6.2**
HNS				pmax	pmax		
	comp=Z,11nm,0.8s						
HNS				LR	LR		
	comp=N,230nm,15.5s						
HNS				LR	LR		
	comp=Z,270nm,15.7s						
MTN	**Manton Dam**	**34.41**	**208**	P	**P**	**12 39 05.0**	**-0.3**
HEH	**HeiHe**	**35.56**	**339**	*e*P	**P**	**12 39 14.3**	**-0.6**
HEH				PcP	**PcP**	**12 41 43.0**	**+0.3**
HEH				pmax	pmax		
	comp=Z,31nm,1.1s						
HEH				pmax	pmax		
	comp=Z,230nm,4.8s						
PETK	**Petropavlovsk-**	**35.94**	**11**	P	**P**	**12 39 18.7**	**+0.5**
	comp=Z,7.9nm,1.1s,baz=179,slow=12,SNR=2.2						
	comp=Z,7.9nm,1.1s						
XLT	**XiLinHaoTe**	**36.35**	**322**	*e*P	**P**	**12 39 22.3**	**+0.4**
XLT				pP	pwP	12 39 39.5	-2.3
XLT				pmax	pmax		
	comp=Z,14nm,1.2s						
XLT				pmax	pmax		
	comp=Z,140nm,5.7s						
HHC	**Hu-ho-hao-te**	**37.67**	**314**	*e*P	**P**	**12 39 33.9**	**+0.8**
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,240nm,5.2s						
HHC				LR	LR		
	comp=N,170nm,13.8s						
HHC				LR	LR		
	comp=E,160nm,12.8s						
HHC				LR	LR		
	comp=Z,220nm,12.7s						
HIA	**Hailar**	**37.90**	**331**	P	**P**	**12 39 34.0**	**-0.9**
KNRA	**Kununurra**	**37.97**	**209**	P	**P**	**12 39 36.5**	**+0.9**
KNRA				IAmb	IAmb	12 39 37.1	
	comp=Z,11nm,0.8s						
WB0	**Warramunga Arr**	**39.56**	**198**	P	**P**	**12 39 49.8**	**+0.8**
WB0				IAmb	IAmb	12 39 50.6	
	comp=Z,13nm,1.1s						
WR0	**Warramunga Arr**	**39.70**	**198**	P	**P**	**12 39 51.0**	**+0.8**
WR0				IAmb	IAmb	12 39 52.2	
	comp=Z,7.2nm,0.9s						
WRAB	**Tennant Creek**	**39.73**	**198**	P	**P**	**12 39 51.5**	**+1.0**
WRAB				IAmb	IAmb	12 39 52.1	
	comp=Z,14nm,0.9s						
WB2	**Warramunga Arr**	**39.74**	**198**	P	**P**	**12 39 51.1**	**+0.6**
WB2				IAmb	IAmb	12 39 53.1	
	comp=Z,13nm,0.8s						
WRA	**Warramunga Arr**	**39.74**	**198**	P	**P**	**12 39 51.1**	**+0.6**
WRA	**Warramunga Arr**	**39.74**	**198**	P	**P**	**12 39 50.8**	**+0.3**
	comp=Z,10nm,0.9s,baz=19,slow=9.1,SNR=17						
	comp=Z,10nm,0.9s						
FITZ	**Fitzroy Crossi**	**41.54**	**211**	P	**P**	**12 40 06.3**	**+0.9**
JAGI	**Jajag, Banyuwa**	**41.61**	**233**	P	**P**	**12 40 05.1**	**-1.0**
PZH	**PanZhiHua**	**42.24**	**290**	P	**P**	**12 40 11.1**	**-0.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,5.5s						
AS31	**Alice Springs**	**43.39**	**197**	P	**P**	**12 40 21.7**	**+1.4**
ASAR	**Alice Springs**	**43.39**	**197**	P	**P**	**12 40 21.4**	**+1.0**
ASAR	**Alice Springs**	**43.39**	**197**	P	**P**	**12 40 21.1**	**+0.8**
	comp=Z,2.1nm,0.6s,baz=18,slow=7.5,SNR=20						
	comp=Z,2.1nm,0.6s						
ULN	**Ulaanbaatar**	**43.79**	**322**	P	**P**	**12 40 22.9**	**-0.6**
SONM	**Songino Array**	**44.17**	**321**	P	**P**	**12 40 26.1**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=138,slow=8.7,SNR=18						
SONM				PcP	**PP**	**12 42 09.1**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=140,slow=4.7,SNR=2.7						
	comp=Z,2.8nm,0.7s						
TNCH	**TengChong**	**45.13**	**287**	*e*P	**P**	**12 40 33.5**	**-1.1**
TNCH				pmax	pmax		
	comp=Z,95nm,4.8s						
CMAR	**Chiang Mai Arr**	**45.23**	**278**	P	**P**	**12 40 35.8**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=72,slow=6.0,SNR=9.7						
	comp=Z,2.1nm,0.8s						
YAK	**Yakutsk**	**45.44**	**349**	P	**P**	**12 40 36.4**	**+0.1**
XMIS	**Christmas Isla**	**49.50**	**238**	P	**P**	**12 41 07.3**	**-1.1**
STKA	**Stephens Creek**	**49.97**	**186**	P	**P**	**12 41 12.7**	**+1.1**
STKA	**Stephens Creek**	**49.97**	**186**	P	**P**	**12 41 12.6**	**+0.9**
	comp=Z,7.6nm,0.7s,baz=354,slow=8.8,SNR=13						
	comp=Z,7.6nm,0.7s						
BILL	**Bilibino**	**51.41**	**9**	P	**P**	**12 41 22.4**	**+0.4**
BILL				IAmb	IAmb	12 41 27.2	
	comp=Z,8.4nm,1.2s						
BBOO	**Buckleboo**	**51.67**	**191**	P	**P**	**12 41 25.8**	**+1.4**
TIXI	**Tiksi**	**54.53**	**353**	P	**P**	**12 41 45.6**	**+0.7**
WMQ	**Urumqi**	**55.39**	**311**	*e*P	**P**	**12 41 52.2**	**+0.5**
WMQ				sP	sP	12 42 19.9	+5.2
WMQ				pmax	pmax		
	comp=Z,20nm,0.7s						
WMQ				LR	LR		
	comp=Z,150nm,17.3s						
N15K	**Kwethluk River**	**56.45**	**29**	P	**P**	**12 41 59.5**	**+0.7**
M16K	**Timber Creek**	**57.30**	**28**	P	**P**	**12 42 05.2**	**+0.3**
J16K	**Anvik River**	**57.55**	**25**	P	**P**	**12 42 07.4**	**+0.7**
H17K	**Granite Mounta**	**58.56**	**24**	P	**P**	**12 42 14.0**	**+0.3**
H17K				IAmb	IAmb	12 42 15.4	
	comp=Z,4.1nm,0.9s						
ZAA0	**Zalesovo Array**	**59.03**	**323**	P	**P**	**12 42 16.1**	**-1.0**
ZALV	**Zalesovo Beam**	**59.03**	**323**	P	**P**	**12 42 16.1**	**-1.0**
ZALV	**Zalesovo Beam**	**59.03**	**323**	P	**P**	**12 42 16.5**	**-0.6**
	comp=Z,6.9nm,0.6s,baz=106,slow=7.5,SNR=44						
	comp=Z,6.9nm,0.6s						
H18K	**Honhosa River**	**59.25**	**24**	P	**P**	**12 42 18.8**	**+0.3**
G18K	**Tagagawik**	**59.46**	**23**	P	**P**	**12 42 20.2**	**+0.3**
G18K				IAmb	IAmb	12 42 39.0	
	comp=Z,7.7nm,1.1s						
MK31	**Makanchi Array**	**59.53**	**314**	P	**P**	**12 42 20.5**	**-0.2**
MK31				IAmb	IAmb	12 42 21.8	
	comp=Z,3.2nm,0.7s						
MKAR	**Makanchi Array**	**59.53**	**314**	P	**P**	**12 42 20.3**	**-0.4**
MKAR	**Makanchi Array**	**59.53**	**314**	P	**P**	**12 42 19.6**	**-1.1**
	comp=Z,4.4nm,0.7s,baz=90,slow=9.2,SNR=42						
	comp=Z,4.4nm,0.7s						
MAKZ	**Makanchi**	**59.74**	**314**	P	**P**	**12 42 22.3**	**+0.1**
MAKZ				IAmb	IAmb	12 42 23.4	
	comp=Z,7.2nm,0.8s						
C18K	**Utukok River**	**59.88**	**20**	P	**P**	**12 42 22.8**	**0.0**
C19K	**Lookout Ridge**	**60.61**	**19**	P	**P**	**12 42 28.9**	**+1.1**
C19K				IAmb	IAmb	12 42 29.6	
	comp=Z,5.2nm,0.8s						
B20K	**Meade River**	**61.78**	**19**	P	**P**	**12 42 35.9**	**+0.3**
B20K				IAmb	IAmb	12 42 37.2	
	comp=Z,6.4nm,0.8s						
BPAW	**Bear Paw Mtn.**	**61.83**	**26**	P	**P**	**12 42 36.7**	**+0.6**
BPAW				IAmb	IAmb	12 42 37.4	
	comp=Z,6.0nm,0.8s						
MLY	**Manley**	**62.21**	**25**	P	**P**	**12 42 39.0**	**+0.3**
MLY				IAmb	IAmb	12 42 40.1	
	comp=Z,4.9nm,0.9s						
KURK	**Kurchatov**	**62.32**	**318**	P	**P**	**12 42 39.2**	**-0.3**
KURBB	**Kurchatov Arra**	**62.37**	**318**	P	**P**	**12 42 38.5**	**-1.4**
	comp=Z,8.5nm,0.6s,baz=94,slow=7.2,SNR=54						
	comp=Z,8.5nm,0.6s						
SML	**Sawmill**	**62.39**	**29**	P	**P**	**12 42 39.3**	**-0.7**
NRIK	**Noril'sk**	**62.46**	**340**	P	**P**	**12 42 39.9**	**-0.2**
NRIK	**Noril'sk**	**62.46**	**340**	P	**P**	**12 42 39.6**	**-0.5**
	comp=Z,15nm,1.0s,baz=113,slow=7.7,SNR=16						
	comp=Z,15nm,1.0s						
D22K	**Ayikyak River**	**62.77**	**21**	P	**P**	**12 42 43.5**	**+1.3**
D22K				IAmb	IAmb	12 42 58.3	
	comp=Z,5.2nm,0.9s						
I23K	**Minto, Yukon-K**	**62.81**	**25**	P	**P**	**12 42 43.6**	**+1.1**
I23K				IAmb	IAmb	12 43 10.0	
	comp=Z,11nm,1.4s						
E22K	**Anaktuvuk Pass**	**62.81**	**22**	P	**P**	**12 42 43.6**	**+1.1**
E22K				IAmb	IAmb	12 42 58.5	
	comp=Z,6.0nm,1.0s						
MDM	**Murphy Dome**	**63.22**	**26**	P	**P**	**12 42 46.3**	**+1.0**
MDM				IAmb	IAmb	12 43 08.5	
	comp=Z,3.9nm,0.9s						
ILAR	**Eielson Array**	**63.73**	**26**	P	**P**	**12 42 47.6**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=258,slow=4.2,SNR=16						
	comp=Z,1.5nm,0.8s						
C23K	**Itkillik River**	**63.80**	**20**	P	**P**	**12 42 49.7**	**+0.7**
C23K				IAmb	IAmb	12 42 50.7	
	comp=Z,7.8nm,0.9s						
BOOM	**Boomskoye usch**	**63.89**	**309**	P	**P**	**12 42 50.3**	**0.0**
BOOM				IAmb	IAmb	12 42 52.0	
	comp=Z,4.0nm,0.6s						
KSH	**Kashi**	**63.96**	**306**	P	**P**	**12 42 53.7**	**+2.9**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HYT	**Haines Junctio**	**67.41**	**31**	P	**P**	**12 43 13.3**	**+0.7**
HYT				IAmb	IAmb	12 43 42.3	
	comp=Z,21nm,1.5s						
H29M	**Whitestone**	**67.47**	**25**	P	**P**	**12 43 12.8**	**0.0**
BVAR	**Borovoye Array**	**67.50**	**321**	P	**P**	**12 43 12.7**	**-0.5**
	comp=Z,14nm,0.6s,baz=95,slow=7.7,SNR=54						
	comp=Z,14nm,0.6s						
BRVK	**Borovoye**	**67.57**	**321**	P	**P**	**12 43 13.2**	**-0.4**
BRVK				IAmb	IAmb	12 43 14.4	
	comp=Z,9.9nm,0.8s						
KK31	**Karatay Array**	**67.85**	**310**	P	**P**	**12 43 15.0**	**-0.6**
KK31				IAmb	IAmb	12 43 16.8	
	comp=Z,6.0nm,0.8s						
KKAR	**Karatay Array**	**67.85**	**310**	P	**P**	**12 43 15.0**	**-0.6**
KKAR	**Karatay Array**	**67.85**	**310**	P	**P**	**12 43 15.9**	**+0.3**
KKAR				IAmb	IAmb	12 43 16.8	
	comp=Z,5.9nm,0.8s						
I30M	**Mount Dempster**	**68.20**	**26**	P	**P**	**12 43 17.6**	**0.0**
CHGR	**Chuyangaron**	**69.32**	**305**	P	**P**	**12 43 25.4**	**+0.4**
CHGR				IAmb	IAmb	12 43 27.3	
	comp=Z,12nm,0.8s						
SIMJ	**Simiganj**	**69.43**	**305**	P	**P**	**12 43 25.3**	**-0.4**
SIMJ				IAmb	IAmb	12 43 28.1	
	comp=Z,5.8nm,1.0s						
INK	**Inuvik**	**69.51**	**23**	P	**P**	**12 43 25.0**	**-0.4**
A36M	**Sachs Harbour**	**72.29**	**19**	P	**P**	**12 43 42.3**	**+0.1**
ARU	**Arti**	**74.07**	**325**	P	**P**	**12 43 52.6**	**-0.4**
ARU				IAmb	IAmb	12 43 53.2	
	comp=Z,12nm,1.0s						
ARU	**Arti**	**74.07**	**325**	P	**P**	**12 43 52.6**	**-0.4**
	comp=Z,3.4nm,0.3s,baz=198,slow=3.2,SNR=4.2						
	comp=Z,3.4nm,0.3s						
ABKAR	**Akbulak array**	**74.39**	**317**	P	**P**	**12 43 54.0**	**-1.0**
ABKAR	**Akbulak array**	**74.39**	**317**	P	**P**	**12 43 53.8**	**-1.2**
YKA	**Yellowknife Ar**	**78.03**	**28**	P	**P**	**12 44 15.7**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=288,slow=5.7,SNR=29						
	comp=Z,2.2nm,0.8s						
J05D	**Fort Rock, OR**	**79.26**	**48**	P	**P**	**12 44 23.8**	**+1.0**
PINE	**Pine Mountain**	**79.34**	**47**	P	**P**	**12 44 24.4**	**+1.2**
PINE				IAmb	IAmb	12 44 26.1	
	comp=Z,7.3nm,0.9s						
RES	**Resolute Bay**	**79.74**	**14**	P	**P**	**12 44 25.6**	**+1.1**
RES				IAmb	IAmb	12 44 26.1	
	comp=Z,7.8nm,0.9s						
SPITS	**Spitsbergen Ar**	**79.87**	**351**	P	**P**	**12 44 26.2**	**+1.0**
	comp=Z,8.5nm,0.9s,baz=112,slow=6.7,SNR=6.5						
	comp=Z,8.5nm,0.9s						
NVAR	**Mina Array Bea**	**82.73**	**52**	P	**P**	**12 44 43.0**	**+1.6**
	comp=Z,1.8nm,0.7s,baz=264,slow=6.0,SNR=19						
	comp=Z,1.8nm,0.7s						
KEV	**Kevo**	**82.75**	**342**	P	**P**	**12 44 40.5**	**0.0**
ARCES	**ARCESS Array B**	**83.31**	**342**	P	**P**	**12 44 43.6**	**+0.1**
ARCES	**ARCESS Array B**	**83.31**	**342**	P	**P**	**12 44 43.6**	**+0.1**
	comp=Z,13nm,0.7s,baz=66,slow=5.9,SNR=24						
	comp=Z,13nm,0.7s						
FFC	**Flin Flon**	**87.05**	**33**	P	**P**	**12 45 01.7**	**-0.7**
KBZ	**Khabaz**	**87.20**	**315**	P	**P**	**12 45 04.2**	**+0.9**
	comp=Z,1.8nm,0.9s,baz=94,slow=7.2,SNR=5.0						
	comp=Z,1.8nm,0.9s						
PDAR	**Pinedale Array**	**87.54**	**46**	P	**P**	**12 45 04.6**	**-0.8**
	comp=Z,0.6nm,0.2s,baz=272,slow=5.2,SNR=3.2						
	comp=Z,0.6nm,0.2s						
FINES	**FINESS Array B**	**87.78**	**336**	P	**P**	**12 45 04.7**	**-1.1**
	comp=Z,3.9nm,0.6s,baz=61,slow=4.8,SNR=26						
	comp=Z,3.9nm,0.6s						
U15A	**North Rim**	**87.91**	**52**	P	**P**	**12 45 07.5**	**+0.2**
U15A				IAmb	IAmb	12 45 27.4	
	comp=Z,5.5nm,1.3s						
WUAZ	**Wupatki**	**88.93**	**53**	P	**P**	**12 45 12.3**	**+0.3**
WUAZ				IAmb	IAmb	12 45 29.0	
	comp=Z,5.0nm,0.8s						
ULM	**Lac du Bonnet**	**92.52**	**35**	P	**P**	**12 45 28.1**	**-0.1**
	comp=Z,2.1nm,0.9s,baz=213,slow=6.9,SNR=2.9						
	comp=Z,2.1nm,0.9s						
HFS	**Hagfors**	**93.25**	**338**	P	**P**	**12 45 29.7**	**-1.6**
	comp=Z,1.1nm,0.5s,baz=92,slow=4.5,SNR=9.2						
	comp=Z,1.1nm,0.5s						
NOA	**NORSAR Array B**	**93.42**	**340**	P	**P**	**12 45 30.6**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=43,slow=4.7,SNR=3.7						
	comp=Z,0.6nm,0.7s						
BRTR	**Keskin Array B**	**95.18**	**315**	P	**P**	**12 45 39.0**	**-1.8**
	comp=Z,0.4nm,0.5s,baz=64,slow=5.0,SNR=3.1						
	comp=Z,0.4nm,0.5s						
BRG	**Berggiesshubel**	**99.76**	**332**	*e*P	**Pdif**	**12 46 01.2**	**+0.2**
BRG				Amp		12 46 03.4	
	comp=Z,6.0nm,1.2s						
ESDC	**Sonseca Array**	**116.29**	**335**	PP	**PP**	**12 52 05.1**	**-0.8**
	comp=Z,1.2nm,1.0s,baz=23,slow=7.0,SNR=4.5						
PLCA	**Paso Flores**	**140.93**	**133**	PKhKP	PKPpre	12 51 41.7	
	comp=Z,1.6nm,1.0s,baz=341,slow=7.1,SNR=3.1						
PLCA				PKP	**PKPdf**	**12 51 47.5**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=276,slow=3.2,SNR=6.4						
LVC	**Limon Verde**	**146.38**	**104**	PKPbc	**PKPab**	**12 52 01.2**	**+1.4**
	comp=Z,8.8nm,0.7s,baz=276,slow=6.2,SNR=7.8						
LPAZ	**La Paz**	**146.71**	**92**	PKPbc	**PKPdf**	**12 52 00.1**	**+1.7**
	comp=Z,3.6nm,0.9s,baz=246,slow=3.1,SNR=7.1						

*ISN **10** 12:40:12.8±0.5, 34°36N×45°54E, h20km±3km, ML2.4*
*TEH **10** 12:40:12.1, 34°34N×45°62E, h8km±60km, ML2.6*
ISC 10 12:40:12.2±1.6, **34°35N**±0°05×**45°65E**±0°04, **h3**km±15km, **n10,** σ0**71**/14, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.16**	**343**	Pg	**Pg**	**12 40 15.9**	**+0.5**
IDHR	**Dehrash**	**0.70**	**60**	Pg	**Pb**	**12 40 26.5**	**-0.7**
IDHR				Sg	**Sb**	**12 40 37.3**	**-0.1**
IGHG	**Ghaleghazi**	**0.77**	**91**	Pg	**Pg**	**12 40 27.3**	**+0.4**
ILBA	**Ilam Banvizeh**	**0.86**	**147**	Pg	**Pg**	**12 40 28.9**	**+0.2**
KCHF	**Cheshme Sefid,**	**1.16**	**93**	Pg	**Pn**	**12 40 35.6**	**+0.2**
IBDR	**Badra**	**1.26**	**169**	*e*Pg	**Pn**	**12 40 36.0**	**-0.6**
IBDR				*e*Sg	**Sb**	**12 40 53.5**	**+0.4**
IBDR				AML	AML	12 40 57.3	
	comp=E,73nm,0.3s						
IBDR				AML	AML	12 40 59.1	
	comp=N,64nm,0.6s						
BHD	**Baghdad**	**1.51**	**225**	*e*Pn	**Pb**	**12 40 40.0**	**-0.7**
BHD				*e*Sn	**Sb**	**12 40 59.5**	**-0.7**
IBZA	**Bozab**	**1.84**	**86**	Pn	**Pg**	**12 40 47.2**	**-0.2**
IKFM	**Kafar-mosalman**	**2.01**	**114**	Pn	**Pb**	**12 40 48.7**	**-0.6**
RAFI	**Al-Rafai**	**2.65**	**171**	*e*Pn	**Pn**	**12 40 57.0**	**+1.3**
RAFI				*e*Sn	**Sn**	**12 41 29.0**	**+0.7**

JMA 10 12:48:52.9±0.1, **24°2N**±0°3×**123°8E**±0°3, **h18**km±1km, **MV0.5**/6, **NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.13**	**316**	P	Pg	12 48 56.9	0.0
IRIF				S	Sg	12 48 59.6	0.0
JKRS	**Kuro-shima**	**0.16**	**91**	P	Pg	12 48 57.4	0.0
JKRS				S	Sg	12 49 00.4	+0.1
HATJ	**Hateruma jima**	**0.18**	**187**	P	Pb	12 48 57.5	0.0
HATJ				S	Sg	12 49 00.6	-0.2
JIJ	**Ishigaki jima**	**0.31**	**67**	P	Pg	12 48 59.4	-0.2
JIJ				S	Sg	12 49 04.0	-0.2
JISG	**Ishigakijimahi**	**0.56**	**52**	P	Pg	12 49 04.1	0.0
JISG				S	Sb	12 49 12.0	+0.2

TAP 10 12:49:01.4, 24°88N×121°83E, h123km, **ML2.1, 1C, B, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NTC	**Toucheng**	**0.02**	**183**	P	Pn	12 49 18.3	+0.2
	baz=154						
NTC				*i* S	Sn	12 49 31.6	+0.9
	baz=154						
TIPB	**Shuangxi**	**0.09**	**357**	*e*P	Pn	12 49 17.6	-0.6
	baz=20						
TIPB				S	Sn	12 49 30.4	-0.6
	baz=20						
EGS		**0.10**	**110**	*e*P	Pn	12 49 19.7	+1.5
	baz=109

	baz=274									
NNSB	**Datong**	**0.61**	**222**	*i*	P		Pn	12 49 20.9	+0.5	
	baz=217									
NNSB					S		Sn	12 49 34.3	-0.6	
	baz=217									
NFF	**Wufeng Townshi**	**0.69**	**249**	*e*	P		Pn	12 49 21.0	0.0	
	baz=246									
NFF					*e*S		Sn	12 49 35.0	-0.9	
	baz=246									
ETLH	**Xiulin Townshi**	**0.74**	**206**	*e*	P		Pn	12 49 20.9	-0.6	
	baz=209									
ETLH					*e*S		Sn	12 49 36.2	-0.5	
	baz=209									
LIOB	**Emei**	**0.78**	**253**	*i*	P		Pn	12 49 22.6	+0.9	
	baz=248									
LIOB					*i* S		Sn	12 49 37.4	+0.4	
	baz=248									
NSTT	**Nanjuang**	**0.79**	**252**	*e*	P		Pn	12 49 22.1	+0.3	
	baz=248									
NSTT					S		Sn	12 49 37.4	+0.2	
	baz=248									
FUSS	**Fushou**	**0.82**	**221**	*e*	P		Pn	12 49 23.5	+1.1	
	baz=215									
FUSS					*i* S		Sn	12 49 39.0	+0.8	
	baz=215									
WHF	**Hehuan Shan**	**0.89**	**215**	*e*	P		Pn	12 49 24.3	+1.1	
	baz=209									
WHF					S		Sn	12 49 39.8	+0.2	
	baz=209									
LXIB	**Xiulin Townshi**	**0.93**	**204**	*e*	P		Pn	12 49 24.9	+1.7	
	baz=209									
LXIB					*e*S		Sn	12 49 39.3	-0.4	
	baz=209									
WHP	**Taichung City**	**1.00**	**234**	*e*	P		Pn	12 49 25.6	+1.8	
	baz=234									
WHP					*e*S		Sn	12 49 41.1	+0.3	
	baz=234									
CHGB	**Renai**	**1.01**	**216**	*e*	P		Pn	12 49 25.5	+1.5	
	baz=215									
CHGB					*e*S		Sn	12 49 40.5	-0.6	
	baz=215									
WARBT	**Fenglin Townsh**	**1.22**	**199**	*e*	P		Pn	12 49 26.1	+0.1	
	baz=188									
WARBT					*e*S		Sn	12 49 43.4	-1.2	
	baz=188									
VWDT	**VWDT**	**1.28**	**209**	*e*	P		Pn	12 49 28.4	+1.8	
	baz=212									
VWDT					*e*S		Sn	12 49 47.2	+1.5	
	baz=212									

KRNET ***10*** *12:54:12.9±0.1, 40.˙79N×74.˙14E, h21km, mb4.2*
IDC ***10*** *12:54:12.3±1.3, 40.˙77N×74.˙08E, h0km, mb3.6/7, mbtmp3.7/13, ML3.1/4, Error ellipse: s-maj=20.0km s-min=14.9km az=134.0*
SOME ***10*** *12:54:13.6, 40.˙87N×74.˙12E, h10km*
MOS ***10*** *12:54:14.6±1.0, 40.˙83N×74.˙05E, h18km, mb4.2/8, Error ellipse: s-maj=7.1km s-min=4.3km az=71.1*
NNC ***10*** *12:54:14.5±0.8, 40.˙91N×74.˙06E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=7.3km s-min=3.4km az=171.0*
KNET ***10*** *12:54:15.9±0.7, 40.˙93N×74.˙15E, h16km±8km, ml3.7, Error ellipse: s-maj=11.3km s-min=5.1km az=75.0*

ISC 10 12:54:13.5±1.3**, 40.79N**±0.02×**74.06E**±0.02**, h0**km±9km**, n163,** σ1**5**7/239**, mb3.8**/16**, 60C-37D,**
Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.88**	**209**	*i*	PG	**12 54 30.0**	**-1.8**
SFK				*i*	S	**12 54 42.8**	**-1.5**
SFK	**Sufi-Kurgan**	**0.88**	**209**	⇑*i*	P	**12 54 30.0**	**-1.8**
	baz=12						
SFK				⇑*i*	S	**12 54 42.8**	**-1.5**
	baz=12						
ARSB	**Arslanbob**	**0.98**	**304**	*i*	PG	**12 54 32.1**	**-1.3**
ARSB				*i*	S	**12 54 46.2**	**-0.7**
ARSB	**Arslanbob**	**0.98**	**304**	⇑*i*	P	**12 54 32.1**	**-1.3**
	baz=2.0						
ARSB				⇑*i*	S	**12 54 46.2**	**-0.7**
	baz=2.0						
OHH	**Osh**	**1.01**	**255**	⇓*i*	PG	**12 54 32.8**	**-1.0**
OHH				*i*	S	**12 54 47.1**	**-0.6**
OHH	**Osh**	**1.01**	**255**	⇓*i*	P	**12 54 32.8**	**-1.0**
	baz=56						
OHH				⇓*i*	S	**12 54 47.1**	**-0.6**
	baz=56						
ARLS	**Aral**	**1.09**	**10**	⇓*i*	PG	**12 54 32.8**	**-2.5**
ARLS				*i*	S	**12 54 47.1**	**-3.1**
ARLS	**Aral**	**1.09**	**10**	⇓*i*	P	**12 54 32.8**	**-2.5**
	baz=8.0						
ARLS				⇓*i*	S	**12 54 47.1**	**-3.1**
	baz=8.0						
UCH	**Uchtor**	**1.48**	**13**		P	**12 54 40.3**	**-1.5**
	171nm,0.2s,SNR=231						
UCH				⇑*i*	S	**12 54 59.9**	**-2.1**
	390nm,0.2s						
UCH	**Uchtor**	**1.48**	**13**	⇓*i*	PG	**12 54 40.0**	**-1.8**
UCH				*i*	S	**12 54 59.4**	**-2.6**
UCH	**Uchtor**	**1.48**	**13**	⇓*i*	P	**12 54 40.0**	**-1.8**
	baz=11						
UCH				⇓*i*	S	**12 54 59.4**	**-2.6**
	baz=11						
NRN	**Naryn**	**1.60**	**66**	*i*	PN	**12 54 40.8**	**-2.5**
NRN				*i*	S	**12 55 01.3**	**-3.5**
NRN	**Naryn**	**1.60**	**66**	⇑*i*	P	**12 54 40.8**	**-2.5**
	baz=65						
NRN				⇑*i*	S	**12 55 01.3**	**-3.5**
	baz=65						
AAK	**Ala-Archa**	**1.88**	**10**		P	**12 54 47.4**	**+0.5**
	242nm,0.4s,SNR=367						
AAK				⇑S		**12 55 11.8**	**+0.4**
	251nm,0.2s						
AAK	**Ala-Archa**	**1.88**	**10**	*ce*	PN	**12 54 47.4**	**+0.5**
AAK					pmax	pmax	
	comp=Z,300nm,0.7s						
AAK	**Ala-Archa**	**1.88**	**10**		Pn	**12 54 47.5**	**+0.5**
	comp=Z,50nm,0.3s,baz=186,slow=10,SNR=292						
AAK					Lg	Lg	12 55 12.0
	comp=Z,100nm,0.3s,baz=23,slow=22,SNR=17						
AAK					LR	LR	12 55 15.5
	comp=Z,38nm,19.3s,baz=100,slow=33						
AAK	**Ala-Archa**	**1.88**	**10**	⇑*i*	P	**12 54 46.7**	**-0.3**
	baz=8.0						
AAK				⇑*i*	S	**12 55 11.4**	**-0.1**
	baz=8.0						
ARK	**Arkit**	**1.88**	**303**	⇓*i*	PN	**12 54 47.6**	**+0.6**
ARK				*i*	S	**12 55 13.1**	**+0.3**
ARK	**Arkit**	**1.88**	**303**	⇓*i*	P	**12 54 47.6**	**+0.6**
	baz=2.0						
ARK				⇓*i*	S	**12 55 13.1**	**+0.3**
	baz=2.0						
EKS2	**Erkin-Say**	**1.89**	**354**		P	**12 54 47.6**	**+0.5**
	comp=Z,89nm,0.2s,SNR=104						
EKS2				⇓S		**12 55 13.0**	**0.0**
	comp=Z,174nm,0.2s						
EKS2	**Erkin-Say**	**1.89**	**354**	*i*	PN	**12 54 47.1**	**0.0**
EKS2				*i*	S	**12 55 11.8**	**+0.2**
EKS2	**Erkin-Say**	**1.89**	**354**	⇑*i*	P	**12 54 47.1**	**0.0**
	baz=52						
EKS2				⇑*i*	S	**12 55 11.8**	**+0.2**
	baz=52						
KSH	**Kashi**	**1.94**	**130**		Pg	**12 54 50.6**	**+0.9**
KSH					Sg	**12 55 17.5**	**+1.8**
KSH					pmax	pmax	
	comp=Z,1μm,0.7s						
KSH					smax	smax	
	comp=N,1μm,0.5s						
KSH					smax	smax	
	comp=E,560nm,0.6s						
KBK	**Karagaybulak**	**1.98**	**19**	⇑	P	**12 54 49.9**	**+1.4**
	comp=E,246nm,0.3s,SNR=283						
KBK				⇓S		**12 55 15.4**	**-0.4**
	comp=E,837nm,0.3s						
KBK	**Karagaybulak**	**1.98**	**19**	*i*	PN	**12 54 48.0**	**-0.4**
KBK				*i*	S	**12 55 13.8**	**-0.3**
KBK	**Karagaybulak**	**1.98**	**19**	⇑*i*	P	**12 54 48.0**	**-0.4**
	baz=18						
KBK				⇑*i*	S	**12 55 13.8**	**-0.3**
	baz=18						
MRKS	**Merke**	**2.06**	**343**	*e*	P	**12 54 50.7**	**+1.3**
	comp=E,164nm,0.4s						
MRKS				*e*S		**12 55 17.8**	**0.0**
	comp=E,537nm,0.3s						
MRKS	**Merke**	**2.06**	**343**		Pg	**12 54 50.7**	**+1.3**
	comp=E,164nm,0.4s						
MRKS					Lg	Lg	12 55 17.8
	comp=E,537nm,0.3s						
MNAS	**Manas**	**2.06**	**326**	⇓*i*	PN	**12 54 50.0**	**+0.5**
MNAS				*i*	S	**12 55 16.9**	**-1.2**
MNAS	**Manas**	**2.06**	**326**	⇓*i*	P	**12 54 50.0**	**+0.5**
	baz=25						
MNAS				⇓*i*	S	**12 55 16.9**	**-1.2**
	baz=25						
FRU1	**Bishkek**	**2.06**	**12**	*i*	PN	**12 54 49.4**	**-0.1**
FRU1				*i*	S	**12 55 16.2**	**+0.2**
FRU1	**Bishkek**	**2.06**	**12**	⇑*i*	P	**12 54 49.4**	**-0.1**
	baz=10.0						
FRU1				⇑*i*	S	**12 55 16.2**	**+0.2**
	baz=10.0						
DRK	**Karamyk**	**2.17**	**234**	⇑*i*	P	**12 54 51.8**	**+0.7**
	baz=35						
DRK				⇑*i*	S	**12 55 20.4**	**-1.0**
	baz=35						
ULHL	**Ulahol**	**2.19**	**48**	⇑	P	**12 54 52.1**	**+0.8**
	comp=E,78nm,0.2s,SNR=277						
ULHL				⇑S		**12 55 20.8**	**-1.0**
	comp=E,272nm,0.3s						
ULHL	**Ulahol**	**2.19**	**48**	*i*	PN	**12 54 50.7**	**-0.6**
ULHL				*i*	S	**12 55 18.1**	**-1.2**
ULHL	**Ulahol**	**2.19**	**48**	⇑*i*	P	**12 54 50.7**	**-0.6**
	baz=47						
ULHL				⇑*i*	S	**12 55 18.1**	**-1.2**
	baz=47						
BOOM	**Boomskoye usch**	**2.21**	**39**	*i*	PN	**12 54 51.0**	**-0.5**
BOOM				*i*	S	**12 55 18.9**	**-0.7**
BOOM	**Boomskoye usch**	**2.21**	**39**	⇓*i*	P	**12 54 51.0**	**-0.5**
	baz=38						
BOOM				⇓*i*	S	**12 55 18.9**	**-0.7**
	baz=38						
CHMS	**Chumysh**	**2.27**	**13**	⇑	P	**12 54 54.1**	**+1.9**
	comp=E,151nm,0.3s,SNR=217						
TRKS	**Terek-Say**	**2.33**	**290**	*i*	PN	**12 54 53.6**	**+0.4**
TRKS				*i*	S	**12 55 23.2**	**+0.6**
TRKS	**Terek-Say**	**2.33**	**290**	⇑*i*	P	**12 54 53.6**	**+0.4**
	baz=88						
TRKS				⇑*i*	S	**12 55 23.2**	**+0.6**
	baz=88						
TKM2	**Tokmak 2**	**2.42**	**28**	⇑	P	**12 54 56.4**	**+1.9**
	comp=E,69nm,0.3s,SNR=141						
TKM2				⇓S		**12 55 27.4**	**-1.1**
	comp=E,198nm,0.3s						
TKM2	**Tokmak 2**	**2.42**	**28**	*i*	PN	**12 54 56.1**	**+1.6**
TKM2					pmax	pmax	
	comp=Z,80nm,0.5s						
TKM2	**Tokmak 2**	**2.42**	**28**	⇑	Pn	**12 54 56.1**	**+1.6**
	comp=Z,80nm,0.5s						
TKM2				⇑	Lg	Lg	12 55 29.1
	comp=Z,306nm,0.7s						
TKM2	**Tokmak 2**	**2.42**	**28**	⇓*i*	P	**12 54 54.1**	**-0.4**
	baz=27						
TKM2				⇓*i*	S	**12 55 24.2**	**-0.7**
	baz=27						
BTK	**Batken**	**2.58**	**255**	*i*	PN	**12 54 57.4**	**+0.8**
BTK				*i*	S	**12 55 29.9**	**+1.2**
BTK	**Batken**	**2.58**	**255**	⇑*i*	P	**12 54 57.4**	**+0.8**
	baz=55						
BTK				⇑*i*	S	**12 55 29.9**	**+1.2**
	baz=55						
KST	**Kastek**	**2.66**	**32**	*e*	P	**12 55 01.3**	**-0.8**
	comp=Z,194nm,0.6s						
KST				*e*S		**12 55 35.8**	**+0.4**
	comp=Z,338nm,0.5s						
KST	**Kastek**	**2.66**	**32**		Pg	**12 55 01.3**	**-0.8**
	comp=Z,194nm,0.6s						
KST					Lg	Lg	12 55 35.8
	comp=Z,398nm,0.8s						
SGDS	**Sogindy**	**2.70**	**9**		Pg	**12 55 01.8**	**-0.8**
	comp=Z,49nm,0.4s						
SGDS					Lg	Lg	12 55 36.2
	comp=Z,304nm,0.8s						
KDJ	**Kajisay**	**2.70**	**59**	*i*	PN	**12 54 57.7**	**-0.6**
KDJ				*i*	S	**12 55 30.3**	**-1.5**
KDJ	**Kajisay**	**2.70**	**59**	⇑*i*	P	**12 54 57.7**	**-0.6**
	baz=59						
KDJ				⇑*i*	S	**12 55 30.3**	**-1.5**
	baz=59						
DGS	**Degeres**	**2.76**	**27**	*e*	P	**12 55 03.8**	**0.0**
	comp=Z,187nm,0.8s						
DGS				*e*S		**12 55 40.4**	**+2.1**
	comp=Z,761nm,0.7s						
DGS	**Degeres**	**2.76**	**27**		Pg	**12 55 03.8**	**0.0**
	comp=Z,187nm,0.8s						
DGS					Lg	Lg	12 55 40.4
	comp=Z,788nm,0.7s						
MTBS	**Maitube**	**2.93**	**36**	*e*	P	**12 55 06.7**	**+0.1**
	comp=Z,101nm,0.6s						
MTBS				*e*S		**12 55 45.0**	**+1.9**
	comp=Z,298nm,0.3s						
MTBS	**Maitube**	**2.93**	**36**		Pg	**12 55 06.7**	**+0.1**
	comp=Z,101nm,0.6s						
MTBS					Lg	Lg	12 55 45.0
	comp=Z,298nm,0.3s						
DZA	**Taraz**	**2.93**	**317**	*e*	P	**12 55 07.1**	**+0.5**
	comp=Z,108nm,0.1s						
DZA				*e*S		**12 55 45.6**	**+2.6**
	comp=Z,756nm,0.5s						
DZA	**Taraz**	**2.93**	**317**		Pg	**12 55 07.1**	**+0.5**
	comp=Z,108nm,0.1s						
DZA					Lg	Lg	12 55 45.6
	comp=Z,756nm,0.6s						
IZV	**Izvestkoviy**	**2.94**	**39**	*e*	P	**12 55 06.8**	**-0.2**
	comp=Z,85nm,0.4s						
IZV				*e*S		**12 55 45.5**	**+2.0**
	comp=Z,368nm,0.8s						
IZV	**Izvestkoviy**	**2.94**	**39**		Pg	**12 55 06.8**	**-0.2**
	comp=Z,85nm,0.4s						
IZV					Lg	Lg	12 55 45.5
	comp=Z,368nm,0.8s						
KASK	**Kaskelen**	**3.10**	**37**	⇑	Pg	**12 55 09.4**	**0.0**
KASK				⇑	Lg	Lg	12 55 51.7
TNSS	**Tian-Shan**	**3.11**	**43**	*e*	P	**12 55 09.6**	**-0.3**
	comp=Z,108nm,0.5s						
TNSS				*e*S		**12 55 49.9**	**+1.3**
	comp=Z,189nm,0.6s						
TNSS	**Tian-Shan**	**3.11**	**43**		Pg	**12 55 09.6**	**-0.3**
	comp=Z,108nm,0.5s						
TNSS					Lg	Lg	12 55 49.9
	comp=Z,189nm,0.6s						
KRBS	**Karabastau**	**3.14**	**22**	*e*	P	**12 55 10.0**	**-0.2**
	comp=Z,20nm,0.4s						
KRBS				*e*S		**12 55 50.7**	**+1.6**
	comp=Z,306nm,0.4s						
KRBS	**Karabastau**	**3.14**	**22**		Pg	**12 55 10.0**	**-0.2**
	comp=Z,138nm,0.5s						
KRBS					Lg	Lg	12 55 50.7
	comp=Z,306nm,0.4s						
AAA	**Alma-Ata**	**3.22**	**40**	*e*	P	**12 55 12.4**	**+0.8**
	comp=Z,107nm,0.5s						
AAA				*e*S		**12 55 54.4**	**+3.0**
	comp=Z,840nm,0.6s						
AAA	**Alma-Ata**	**3.22**	**40**		Pg	**12 55 12.4**	**+0.8**
	comp=Z,107nm,0.5s						
AAA					Lg	Lg	12 55 54.4
	comp=Z,792nm,0.7s						
KNDC	**Almaty**	**3.25**	**41**		PN	**12 55 12.7**	**+0.7**
KNDC						12 55 55.4	
KNDC	**Almaty**	**3.25**	**41**	⇓	Pg	**12 55 12.8**	**+0.7**
	comp=Z,335nm,0.8s						
KNDC				⇓	Lg	Lg	12 55 55.4
	comp=Z,952nm,0.7s						
MDOK	**Medeo**	**3.25**	**42**		PN	**12 55 07.4**	**+1.5**
MDOK						12 55 52.4	
MDOK	**Medeo**	**3.25**	**42**	*e*	P	**12 55 11.9**	**-0.2**
	comp=Z,116nm,0.7s						
MDOK				*e*S		**12 55 54.1**	**+1.7**
	comp=Z,144nm,0.8s						
MDOK	**Medeo**	**3.25**	**42**	⇓	Pn	**12 55 07.4**	**+1.5**
	comp=Z,110nm,0.7s						
MDOK					Pg	**12 55 12.0**	**-0.2**
	comp=Z,116nm,0.7s						
MDOK				⇑	Lg	Lg	12 55 52.5
	comp=Z,175nm,0.7s						
MDOK					Lg	Lg	12 55 54.1
	comp=Z,144nm,0.8s						
IUG	**Iuzhnay**	**3.32**	**295**	*e*	P	**12 55 14.2**	**+0.9**
	comp=Z,66nm,0.2s						
IUG				*e*S		**12 55 58.1**	**+3.8**
	comp=Z,967nm,0.7s						
IUG	**Iuzhnay**	**3.32**	**295**		Pg	**12 55 14.3**	**+1.0**
	comp=Z,95nm,0.5s						
IUG					Lg	Lg	12 55 58.1
	comp=Z,967nm,0.7s						
KOTS	**Kotyrbulak**	**3.34**	**42**	*e*	P	**12 55 13.9**	**+0.3**
	comp=Z,82nm,0.7s						
KOTS				*e*S		**12 55 57.5**	**+2.7**
	comp=Z,400nm,0.5s						
KOTS	**Kotyrbulak**	**3.34**	**42**		Pg	**12 55 13.9**	**+0.3**
	comp=Z,119nm,0.6s						
KOTS					Lg	Lg	12 55 57.5
	comp=Z,654nm,1.0s						
ANVS	**Anan'yevo**	**3.35**	**52**	⇑*e*	P	**12 55 07.2**	**-0.1**
	baz=52						
ANVS				⇑*e*S		**12 55 46.4**	**-1.5**
	baz=52						
GAR	**Garm**	**3.39**	**239**	⇓*i*	PN	**12 55 08.6**	**+0.8**
GAR				*i*	S	**12 55 49.4**	**+0.7**
GAR	**Garm**	**3.39**	**239**	⇓*i*	P	**12 55 08.6**	**+0.8**
	baz=40						
GAR				⇓*i*	S	**12 55 49.4**	**+0.7**
	baz=40						
KTBS	**Karatobe**	**3.51**	**33**	*e*	P	**12 55 16.5**	**0.0**
	comp=Z,50nm,0.5s						
KTBS				*e*S		**12 56 01.3**	**+1.6**
	comp=Z,318nm,0.5s						
KTBS	**Karatobe**	**3.51**	**33**		Pg	**12 55 16.5**	**0.0**
	comp=Z,62nm,0.8s						
KTBS					Lg	Lg	12 56 01.3
	comp=Z,188nm,0.5s						
KK31	**Karatay Array**	**3.52**	**312**	*e*	PN	**12 55 10.0**	**+0.6**
KK31						12 55 16.6	
KK31						12 56 03.9	
KK31	**Karatay Array**	**3.52**	**312**		Pn	**12 55 10.0**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=125,slow=12,SNR=247						
KK31				⇓	Pg	**12 55 16.7**	**+0.1**
	comp=Z,20nm,0.5s,baz=129,slow=13,SNR=68						
KK31				⇑	Lg	Lg	12 56 04.0
	comp=Z,52nm,0.4s,baz=130,slow=27,SNR=9.6						
KKAR	**Karatay Array**	**3.52**	**312**	*i*	PN	**12 55 10.2**	**+0.8**
KKAR				*i*	S	**12 55 52.1**	**+0.4**
KKAR	**Karatay Array**	**3.52**	**312**	⇑*i*	P	**12 55 10.2**	**+0.8**
	baz=12						
KKAR				⇑*i*	S	**12 55 52.1**	**+0.4**
	baz=12						
PRZ	**Przheval'sk**	**3.67**	**61**	*i*	PN	**12 55 11.2**	**-0.4**
PRZ				*i*	S	**12 55 53.8**	**-1.8**
PRZ	**Przheval'sk**	**3.67**	**61**	⇑*i*	P	**12 55 11.2**	**-0.4**
	baz=61						
PRZ				⇑*i*	S	**12 55 53.8**	**-1.8**
	baz=61						
CHKK	**Chushkaly**	**3.75**	**34**	*e*	P	**12 55 21.1**	**+0.5**
	comp=Z,9.6nm,0.2s						
CHKK				*e*S		**12 56 09.4**	**+2.7**
	comp=Z,142nm,0.3s						
CHKK	**Chushkaly**	**3.75**	**34**		Pg	**12 55 21.1**	**+0.5**
	comp=Z,36nm,0.5s						
CHKK					Lg	Lg	12 56 09.4
	comp=Z,151nm,0.4s						
BRLS	**Borolday**	**3.87**	**307**	*e*	P	**12 55 23.5**	**+0.9**
	comp=Z,25nm,0.6s						
BRLS				*e*S		**12 56 14.2**	**+4.2**
	comp=Z,82nm,0.5s						
BRLS	**Borolday**	**3.87**	**307**		Pg	**12 55 23.5**	**+0.9**
	comp=Z,46nm,1.1s						
BRLS					Lg	Lg	12 56 14.2
	comp=Z,108nm,0.7s						
SATY	**Saty**	**3.96**	**54**	*e*	P	**12 55 24.8**	**+0.7**
	comp=Z,90nm,0.8s						
SATY				*e*S		**12 56 16.2**	**+3.6**
	comp=Z,241nm,0.7s						
SATY	**Saty**	**3.96**	**54**		Pg	**12 55 24.8**	**+0.7**
	comp=Z,90nm,0.8s						
SATY					Lg	Lg	12 56 16.2
	comp=Z,241nm,0.7s						
ZHN	**Zhinishke**	**4.03**	**52**	*e*	P	**12 55 26.6**	**+1.1**
	comp=Z,56nm,0.5s						
ZHN				*e*S		**12 56 18.9**	**+4.1**
	comp=Z,128nm,0.2s						
ZHN	**Zhinishke**	**4.03**	**52**		Pg	**12 55 26.6**	**+1.1**
	comp=Z,56nm,0.5s						
ZHN					Lg	Lg	12 56 18.9
	comp=Z,128nm,0.2s						
KURS	**Kuram**	**4.08**	**47**	*e*	P	**12 55 26.5**	**+0.4**
	comp=Z,87nm,0.6s						
KURS				*e*S		**12 56 18.7**	**+2.8**
	comp=Z,101nm,1.4s						
KURS	**Kuram**	**4.08**	**47**		Pg	**12 55 26.5**	**+0.4**
	comp=Z,87nm,0.6s						
KURS					Lg	Lg	12 56 18.7
	comp=Z,101nm,1.4s						
BTLS	**Baital**	**4.25**	**360**	*e*	P	**12 55 30.2**	**+1.1**
	comp=Z,4.2nm,0.2s						
BTLS				*e*S		**12 56 24.6**	**+3.7**
	comp=Z,65nm,0.6s						
BTLS	**Baital**	**4.25**	**360**		Pg	**12 55 30.2**	**+1.1**
	comp=Z,11nm,0.5s						
BTLS					Lg	Lg	12 56 24.6
	comp=Z,12nm,0.8s						
CHGR	**Chuyangaron**	**4.34**	**242**	*i*	PN	**12 55 21.8**	**+1.0**
CHGR				*i*	S	**12 56 11.9**	**-0.2**
CHGR	**Chuyangaron**	**4.34**	**242**	⇑*i*	P	**12 55 21.8**	**+1.0**
	baz=43						
CHGR				⇑*i*	S	**12 56 11.9**	**-0.2**
	baz=43						
UZB	**Uzynbulak**	**4.38**	**56**	*e*	P	**12 55 32.4**	**+1.0**
	comp=Z,52nm,0.8s						
UZB				*e*S		**12 56 28.9**	**+3.9**
	comp=Z,103nm,0.7s						
UZB	**Uzynbulak**	**4.38**	**56**		Pg	**12 55 32.4**	**+1.0**
	comp=Z,52nm,0.8s						
UZB					Lg	Lg	12 56 28.9
	comp=Z,103nm,0.7s						
ARXS	**Arharly**	**4.41**	**38**	*e*	P	**12 55 32.8**	**+0.9**
	comp=Z,3.5nm,0.2s						
ARXS				*e*S		**12 56 29.7**	**+4.1**
	comp=Z,111nm,0.6s						
ARXS	**Arharly**	**4.41**	**38**		Pg	**12 55 32.8**	**+0.9**
	comp=Z,4.3nm,0.2s						
ARXS					Lg	Lg	12 56 29.7
	comp=Z,111nm,0.8s						
BLB	**Baldybastay**	**4.65**	**43**		Pg	**12 55 36.7**	**+0.8**
	comp=Z,41nm,0.5s						
BLB					Lg	Lg	12 56 36.8
	comp=Z,60nm,0.8s						
SHLS	**Shalkode**	**4.67**	**58**	*e*	P	**12 55 42.8**	**-0.2**
	comp=Z,46nm,0.5s						
SHLS				*e*S		**12 56 46.4**	**+2.9**
	comp=Z,907nm,0.2s						
SHLS	**Shalkode**	**4.67**	**58**		Pg	**12 55 41.8**	**-1.1**
	comp=Z,46nm,0.5s						
SHLS					Lg	Lg	12 56 45.4
	comp=Z,172nm,0.6s						
PDGK	**Podgornoye**	**4.77**	**56**		PN	**12 55 26.7**	**0.0**
PDGK						12 55 38.0	
PDGK						12 56 40.3	
PDGK	**Podgornoye**	**4.77**	**56**		Pg	**12 55 38.6**	**+0.6**
	comp=Z,15nm,0.6s						
PDGK					Lg	Lg	12 56 40.1
	comp=Z,77nm,0.8s						
PDGK	**Podgornoye**	**4.77**	**56**	⇑	Pn	**12 55 26.8**	**0.0**
	comp=Z,18nm,0.7s						
PDGK				⇑	Pg	**12 55 38.1**	**+0.1**
	comp=Z,46nm,0.7s						
PDGK				⇑	Lg	Lg	12 56 44.2
	comp=Z,170nm,0.8s						
DJR	**Jarkent**	**5.52**	**48**	*e*	P	Pb	12 55 55.7 +5.0
	comp=Z,14nm,0.5s						
DJR				*e*S		**12 57 08.6**	**-2.1**
	comp=Z,78nm,0.5s						
DJR	**Jarkent**	**5.52**	**48**		Pg	**12 55 53.4**	**+2.7**
	comp=Z,27nm,0.7s						
DJR					Lg	Lg	12 57 05.2
	comp=Z,47nm,0.9s						
KAPS	**Kapalarasan**	**5.94**	**39**	*e*	P	**12 56 01.6**	**+3.7**
	comp=Z,11nm,0.8s						
KAPS				*e*S		**12 57 18.6**	**-5.5**
	comp

MK31	**Makanchi Arra**	**8.45**	**42**	*ce*	P		**Pn**	**12 56 19.5**	**+2.4**
MKAR	**Makanchi Array**	**8.45**	**42**	*i*	P		**Pn**	**12 56 18.7**	**+1.6**
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**	**8.45**	**42**		Pn		**Pn**	**12 56 17.1**	**0.0**
	comp=Z,0.1nm,0.3s,baz=229,slow=14,SNR=14								
MKAR					Lg	Lg		12 58 33.6	
	comp=Z,0.3nm,0.3s,baz=245,slow=20,SNR=3.3								
	comp=Z,1.3nm,0.7s								
BRZS	**Berezniki**	**9.25**	**354**		Pg		Pn	12 57 01.0	+33
	comp=Z,1.3nm,0.2s								
BRZS					Lg	Lg		12 59 01.1	
	comp=Z,29nm,0.9s								
KURBB	**Kurchatov Arra**	**10.32**	**16**		P		**Pn**	**12 56 40.0**	**-2.6**
KURBB	**Kurchatov Arra**	**10.32**	**16**		Pn		**Pn**	**12 56 41.8**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=201,slow=12,SNR=5.2								
KURBB					Lg	Lg		12 59 34.2	
	comp=Z,0.1nm,0.3s,baz=200,slow=29,SNR=8.0								
KURBB	**Kurchatov Arra**	**10.32**	**16**	⇓	Pn		**Pn**	**12 56 40.0**	**-2.6**
	comp=Z,1.5nm,0.5s								
KURBB				⇓	Lg	Lg		12 59 38.4	
	comp=Z,131nm,1.1s								
KURK	**Kurchatov**	**10.43**	**16**	*ce*	P		**Pn**	**12 56 43.6**	**-0.5**
KURK					pmax	pmax			
	comp=Z,9.0nm,2.5s								
KURK	**Kurchatov**	**10.43**	**16**	⇑	Pn		**Pn**	**12 56 41.0**	**-3.1**
	comp=Z,0.2nm,0.5s								
KURK				⇑	Lg	Lg		12 59 42.3	
	comp=Z,80nm,0.9s								
BVA0	**Borovoye Array**	**12.50**	**350**		P		**Pn**	**12 57 10.2**	**-2.2**
BVA0	**Borovoye Array**	**12.50**	**350**	⇑	Pn		**Pn**	**12 57 10.2**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=158,slow=12,SNR=9.2								
BVA0				⇓	Lg	Lg		13 00 44.4	
	comp=Z,21nm,1.1s,baz=168,slow=26,SNR=3.6								
BVAR	**Borovoye Array**	**12.50**	**350**		Pn		**Pn**	**12 57 10.8**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=159,slow=14,SNR=16								
BVAR					Lg	Lg		13 00 33.2	
	comp=Z,0.1nm,0.3s,baz=162,slow=24,SNR=3.7								
	comp=Z,3.0nm,0.7s								
BRVK	**Borovoye**	**12.54**	**349**	*ce*	P		**Pn**	**12 57 12.4**	**-0.7**
BRVK					pmax	pmax			
	comp=Z,2.0nm,1.0s								
BRVK	**Borovoye**	**12.54**	**349**	⇓	Pn		**Pn**	**12 57 10.6**	**-2.5**
	comp=Z,0.6nm,0.4s								
BRVK				⇑	Lg	Lg		13 00 43.9	
	comp=Z,28nm,1.1s								
DGZ	**Jazzator, Alta**	**12.95**	**42**	*i*	P		**Pn**	**12 57 19.7**	**+0.9**
DGZ					pmax	pmax			
	comp=Z,11nm,2.4s								
AB31	**Akbulak array**	**13.08**	**315**	*e*	P		**Pn**	**12 57 18.3**	**-2.0**
AB31	**Akbulak array**	**13.08**	**315**		Pn		**Pn**	**12 57 18.4**	**-2.0**
	comp=Z,1.9nm,0.6s,baz=119,slow=14,SNR=27								
AB31				⇓	Lg	Lg		13 01 05.2	
	comp=Z,7.2nm,1.0s								
AKTO	**Aktyubinsk**	**14.78**	**316**		Pn		**Pn**	**12 57 41.8**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=121,slow=14,SNR=4.8								
	comp=Z,1.1nm,0.5s								
AKTO	**Aktyubinsk**	**14.78**	**316**	⇑	Pn		**Pn**	**12 57 40.7**	**-2.8**
	comp=Z,0.9nm,0.6s								
AKTO				⇑	Lg	Lg		13 01 55.9	
	comp=Z,5.1nm,1.2s								
ZALV	**Zalesovo Beam**	**15.02**	**25**	*i*	P		**Pn**	**12 57 46.7**	**-0.2**
ZALV					pmax	pmax			
	comp=Z,2.0nm,0.5s								
ZALV	**Zalesovo Beam**	**15.02**	**25**		Pn		**Pn**	**12 57 44.9**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=218,slow=15,SNR=14								
	comp=Z,1.9nm,0.5s								
ARU	**Arti**	**18.64**	**332**	*d*	P		**Pn**	**12 58 32.7**	**0.0**
ARU					S		**S**	**13 02 03.0**	**-2.5**
ARU					pmax	pmax			
	comp=Z,12nm,2.4s								
ARU	**Arti**	**18.64**	**332**		P		**P**	**12 58 31.4**	**-1.1**
	comp=Z,0.9nm,0.2s,baz=138,slow=15,SNR=4.0								
ARU					Lg	Lg		13 03 56.7	
	baz=156,slow=20,SNR=1.4								
GTA	**Gaotai**	**19.73**	**86**	*e*	P		**Pn**	**12 58 49.8**	**+3.7**
GTA					pmax	pmax			
	comp=Z,3.0nm,1.2s								
MOY	**Mondy**	**21.45**	**50**	*e*	P		**P**	**12 59 03.9**	**+0.6**
ZAK	**Zakamensk**	**22.46**	**55**	*e*	P		**P**	**12 59 13.8**	**-0.3**
ZAK					pmax	pmax			
	comp=Z,4.0nm,1.1s								
KBZ	**Khabaz**	**23.18**	**288**	*i*	P		**P**	**12 59 22.6**	**+1.0**
KBZ					pmax	pmax			
	comp=Z,9.0nm,2.8s								
KIV	**Kislovodsk**	**23.32**	**288**	*e*	P		**P**	**12 59 24.0**	**+0.8**
KIV					pmax	pmax			
	comp=Z,4.0nm,1.0s								
SONM	**Songino Array**	**24.06**	**62**		P		**P**	**12 59 30.2**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=271,slow=8.9,SNR=6.4								
	comp=Z,1.0nm,0.7s								
NRIK	**Noril'sk**	**29.49**	**10**	*i*	P		**P**	**13 00 19.5**	**+0.6**
NRIK					pmax	pmax			
	comp=Z,2.0nm,1.0s								
FINES	**FINESS Array B**	**35.42**	**322**		P		**P**	**13 01 08.4**	**-2.5**
	comp=Z,0.5nm,0.6s,baz=150,slow=6.4,SNR=2.0								
	comp=Z,0.5nm,0.6s								
ZEA	**Zeya**	**37.46**	**51**	*i*	P		**P**	**13 01 29.6**	**+1.2**
ARCES	**ARCESS Array B**	**38.20**	**335**		P		**P**	**13 01 33.0**	**-1.4**
	comp=Z,4.3nm,1.1s,baz=106,slow=9.7,SNR=1.9								
	comp=Z,4.3nm,1.1s								
YAK	**Yakutsk**	**39.10**	**38**	*i*	P		**P**	**13 01 42.9**	**+0.9**
YAK					pmax	pmax			
	comp=Z,4.0nm,0.8s								
KLR	**Kul'dur**	**40.76**	**58**	*i*	P		**P**	**13 01 58.9**	**+2.9**
KLR					pmax	pmax			
	comp=Z,1.0nm,1.1s								
TIXI	**Tiksi**	**40.90**	**23**	*i*	P		**P**	**13 01 56.7**	**-0.2**
TIXI					pmax	pmax			
	comp=Z,1.0nm,1.0s								
HFS	**Hagfors**	**41.30**	**319**		P		**P**	**13 01 59.7**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=104,slow=11,SNR=1.3								
	comp=Z,0.5nm,0.5s								
YSS	**Yuzh-Sakhalins**	**48.46**	**58**	*e*	P		**P**	**13 02 58.5**	**+1.0**
YSS					pmax	pmax			
	comp=Z,10.0nm,1.1s								
BILL	**Bilibino**	**53.70**	**28**	*i*	P		**P**	**13 03 39.4**	**+2.7**
BILL					pmax	pmax			
	comp=Z,2.0nm,1.2s								
TORD	**Torodi Ar. Bea**	**68.22**	**269**		P		**P**	**13 05 14.5**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=54,slow=5.6,SNR=2.4								
	comp=Z,0.3nm,0.5s								
ILAR	**Eielson Array**	**69.99**	**17**		P		**P**	**13 05 25.0**	**-1.4**
ILAR	**Eielson Array**	**69.99**	**17**		P		**P**	**13 05 25.0**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=316,slow=5.0,SNR=4.3								
	comp=Z,0.3nm,0.7s								
YKA	**Yellowknife Ar**	**76.83**	**4**	*i*	P		**P**	**13 06 05.8**	**-0.9**
YKA	**Yellowknife Ar**	**76.83**	**4**		P		**P**	**13 06 05.5**	**-1.1**
	comp=Z,0.2nm,0.7s,baz=348,slow=5.8,SNR=5.7								
	comp=Z,0.2nm,0.7s								

IDC ***10*** *12:54:25.1±1.9, 6.71S×128.86E, h0km, mb3.8/1, mbtmp3.8/3, ML3.8/2, Error ellipse: s-maj=115.0km s-min=30.6km az=67.0*

ISC 10 12:54:27.1±1.5, 7.10S±0.1×128.18E±0.1, h10km, n11, σ3.952/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.64**	**112**	P			**Pg**	**12 55 18.7**	**+0.9**
DRS	**Darwin Rock St**	**5.78**	**159**	P			Pb	12 56 04.2	-4.0
MTN	**Manton Dam**	**6.25**	**159**	P			Pn	12 56 09.5	+10
KDU	**Kakadu**	**6.71**	**148**	P			Pn	12 56 13.1	+7.3
WRA	**Warramunga Arr**	**13.95**	**158**	Pn			**Pn**	**12 57 46.8**	**+1.8**
	0.5nm,0.3s,baz=337,slow=12,SNR=22								
WRA				Sn			Sn	13 00 09.5	-11
	0.3nm,0.3s,baz=334,slow=21,SNR=2.5								
	0.5nm,0.3s								
COEN	**Coen**	**15.71**	**117**	P			**Pn**	**12 58 07.6**	**-1.1**
ASAR	**Alice Springs**	**17.29**	**164**	P			**P**	**12 58 31.9**	**+1.6**
	0.5nm,0.3s,baz=343,slow=8.9,SNR=58								
ASAR				S			**Sn**	**13 01 34.9**	**-6.5**
	0.3nm,0.5s,baz=345,slow=25,SNR=2.2								
	2.2nm,0.6s								
AS01	**Alice Springs**	**17.30**	**164**	P			**P**	**12 58 31.8**	**+1.4**
WRKA	**Warakurna**	**17.96**	**182**	P			**P**	**12 58 42.1**	**+4.4**
OOD	**Oodnadatta**	**21.69**	**163**	P			**P**	**12 59 18.2**	**-0.1**
MKAR	**Makanchi Array**	**67.58**	**327**	P			**P**	**13 05 22.2**	**-1.7**
	0.3nm,0.3s,baz=116,slow=8.1,SNR=9.7								
	0.3nm,0.3s								

TAP ***10*** *13:19:53.9, 23.42N×121.99E, h40km, ML3.2, D*
JMA ***10*** *13:19:53.4±0.1, 23.5N±0.7×122.0E±0.7, h52km, MV2.9/18, TAIWAN REGION*

ISC 10 13:19:52.7±1.1, 23.41N±0.02×122.01E±0.02, h25km±11km, n120, σ0.873/209, 8C-11D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ECBN	**Changbin**	**0.53**	**260**	⇑	*i*	P	**Pn**	**13 20 04.3**	**-0.3**
	baz=253								
ECBN					*i*	S	**Sn**	**13 20 11.8**	**-0.9**
	baz=253								
HGSD	**Ruisui**	**0.55**	**279**	⇓	*i*	P	**Pb**	**13 20 04.1**	**+0.4**
	baz=278								
HGSD					*i*	S	**Sb**	**13 20 11.7**	**+0.5**
	baz=278								
SHUL	**Shoufeng**	**0.56**	**312**	⇑	*i*	P	**Pn**	**13 20 04.7**	**-0.4**
	baz=313								
SHUL					*e*	S	**Sn**	**13 20 12.9**	**-0.7**
	baz=313								
EGFH	**Guangfu**	**0.60**	**296**	⇑	*i*	P	**Pb**	**13 20 05.0**	**+0.5**
	baz=303								
EGFH					*i*	S	**Sn**	**13 20 13.3**	**-1.3**
	baz=303								
CHKH	**Chenggong**	**0.61**	**249**		P		**Pb**	**13 20 04.9**	**+0.2**
	baz=242								
CHKH					*e*	S	**Sb**	**13 20 13.2**	**+0.3**
	baz=242								
EHYH	**Wanrong**	**0.62**	**278**		P		**Pn**	**13 20 05.7**	**-0.2**
	baz=277								
EHYH					*e*	S	**Sn**	**13 20 15.0**	**-0.1**
	baz=277								
EYUL	**Yuli**	**0.64**	**265**		P		**Pb**	**13 20 05.7**	**+0.4**
	baz=255								
EYUL					S		**Sn**	**13 20 15.5**	**-0.2**
	baz=255								
EHY	**Hungye**	**0.64**	**279**	⇑	*i*	P	**Pb**	**13 20 05.9**	**+0.6**
	baz=278								
EHY					*i*	S	**Sn**	**13 20 15.1**	**-0.6**
	baz=278								
WARBT	**Fenglin Townsh**	**0.65**	**298**	⇑	*i*	P	**Pb**	**13 20 05.9**	**+0.4**
	baz=303								
WARBT					*i*	S	**Sb**	**13 20 14.4**	**+0.2**
	baz=303								
YULB	**Yu-li**	**0.66**	**269**		P		**Pn**	**13 20 06.3**	**-0.2**
YULB	**Yu-li**	**0.66**	**269**		*e*	P	**Pb**	**13 20 06.2**	**+0.6**
	baz=265								
YULB					*e*	S	**Sn**	**13 20 16.0**	**-0.1**
	baz=265								
TWF1	**Yuli**	**0.66**	**265**	⇓	*i*	P	**Pb**	**13 20 06.0**	**+0.4**
	baz=256								
TWF1					*i*	S	**Sn**	**13 20 15.2**	**-0.9**
	baz=256								
ESL	**Shilin**	**0.67**	**307**	⇓	*i*	P	**Pb**	**13 20 05.6**	**-0.2**
	baz=308								
ESL					*i*	S	**Sb**	**13 20 14.3**	**-0.3**
	baz=308								
CHKT	**Chengkung**	**0.67**	**243**	⇑	*i*	P	**Pb**	**13 20 05.8**	**0.0**
	baz=234								
CHKT					*e*	S	**Sb**	**13 20 14.1**	**-0.6**
	baz=234								
HWA	**Hwalien**	**0.68**	**327**		*e*	P	**Pb**	**13 20 06.4**	**+0.5**
	baz=334								
HWA					*i*	S	**Sn**	**13 20 16.3**	**-0.2**
	baz=334								
FULB	**Fuli**	**0.69**	**253**		*i*	P	**Pb**	**13 20 06.3**	**+0.1**
	baz=243								
FULB					*i*	S	**Sb**	**13 20 15.3**	**0.0**
	baz=243								
ETM	**Tongmen**	**0.73**	**319**		*e*	P	**Pb**	**13 20 06.7**	**-0.2**
	baz=320								
ETM					S		**Sb**	**13 20 15.4**	**-1.1**
	baz=320								
EOS4	**EOS4**	**0.76**	**21**		*e*	P	**Pb**	**13 20 07.7**	**+0.6**
	baz=14								
EOS4					*i*	S	**Sb**	**13 20 17.8**	**+0.9**
	baz=14								
TWD	**Chiawan**	**0.77**	**330**	⇑	*i*	P	**Pb**	**13 20 07.4**	**-0.1**
	baz=332								
TWD					S		**Sb**	**13 20 16.9**	**-0.6**
	baz=332								
ECS	**Chishang**	**0.80**	**247**		*e*	P	**Pn**	**13 20 08.6**	**+0.3**
	baz=240								
ECS					*e*	S	**Sn**	**13 20 19.7**	**+0.2**
	baz=240								
LXIB	**Xiulin Townshi**	**0.82**	**318**	⇓	*i*	P	**Pb**	**13 20 08.2**	**-0.3**
	baz=318								
LXIB					S		**Sb**	**13 20 19.1**	**-0.1**
	baz=318								
ETL	**Fush Village**	**0.83**	**334**		*e*	P	**Pb**	**13 20 08.1**	**-0.4**
	baz=335								
ETL					S		**Sb**	**13 20 18.7**	**-0.5**
	baz=335								
NACB	**Ninganchiao**	**0.85**	**333**		P		**Pb**	**13 20 08.3**	**-0.6**
NACB	**Ninganchiao**	**0.85**	**333**	⇓	*i*	P	**Pb**	**13 20 08.3**	**-0.6**
	baz=334								
NACB					*i*	S	**Sb**	**13 20 19.2**	**-0.7**
	baz=334								
VWDT	**VWDT**	**0.87**	**293**	⇓	*i*	P	**Pn**	**13 20 09.5**	**+0.1**
	baz=293								
VWDT					*i*	S	**Sn**	**13 20 20.4**	**-0.9**
	baz=293								
LDUT	**Ludao**	**0.89**	**215**		*e*	P	**Pb**	**13 20 09.0**	**-0.4**
	baz=213								
LDUT					S		**Sb**	**13 20 20.4**	**-0.4**
	baz=213								
EOS3	**EOS3**	**0.92**	**18**	⇓	P		**Pb**	**13 20 10.4**	**+0.5**
	baz=14								
EOS3					S		**Sb**	**13 20 22.4**	**+0.8**
	baz=14								
ETLH	**Xiulin Townshi**	**0.93**	**329**		P		**Pb**	**13 20 09.8**	**-0.5**
	baz=329								
ETLH					*e*	S	**Sb**	**13 20 21.3**	**-1.0**
	baz=329								
OWD	**Renai**	**0.94**	**305**		*i*	P	**Pb**	**13 20 10.2**	**-0.2**
	baz=305								
OWD					*e*	S	**Sb**	**13 20 21.9**	**-0.7**
	baz=305								
ELDTW	**Lidau**	**0.94**	**257**		P		**Pb**	**13 20 10.0**	**-0.4**
	baz=247								
ELDTW					S		**Sb**	**13 20 21.2**	**-1.4**
	baz=247								
EAHA	**Aohua**	**0.95**	**345**		P		**Pb**	**13 20 10.1**	**-0.4**
	baz=345								
EAHA					*i*	S	**Sb**	**13 20 22.2**	**-0.5**
	baz=345								
LONT	**Longtian**	**0.95**	**239**		*i*	P	**Pb**	**13 20 10.5**	**-0.1**
	baz=232								
LONT					*e*	S	**Sb**	**13 20 22.4**	**-0.5**
	baz=232								
WHF	**Hehuan Shan**	**1.00**	**317**		*i*	P	**Pb**	**13 20 11.1**	**-0.6**
	baz=317								
WHF					S		**Sb**	**13 20 23.6**	**-1.1**
	baz=317								
CHGB	**Renai**	**1.01**	**310**	⇓	*i*	P	**Pb**	**13 20 11.4**	**-0.2**
	baz=310								
CHGB					*i*	S	**Sb**	**13 20 24.2**	**-0.3**
	baz=310								
WUSB	**Renai**	**1.01**	**305**	⇓	*i*	P	**Pb**	**13 20 11.4**	**-0.2**
	baz=305								
WUSB					S		**Sb**	**13 20 23.4**	**-1.0**
	baz=305								
EOS2	**EOS2**	**1.02**	**11**		*e*	P	**Pn**	**13 20 12.1**	**+0.7**
	baz=7.0								
TWGBT	**Beinan**	**1.04**	**236**		*i*	P	**Pn**	**13 20 11.7**	**-0.1**
	baz=230								
TWGBT					*i*	S	**Sb**	**13 20 24.5**	**-0.8**
	baz=230								
SSLB	**Suanglung**	**1.04**	**291**		P		**Pb**	**13 20 11.1**	**-1.0**
SSLB	**Suanglung**	**1.04**	**291**		*e*	P	**Pb**	**13 20 11.7**	**-0.4**
	baz=291								
SSLB					*e*	S	**Sb**	**13 20 23.4**	**-2.0**
	baz=291								
ENA	**Nanau**	**1.04**	**346**		P		**Pn**	**13 20 12.0**	**+0.2**
	baz=347								
ENA					*e*	S	**Sb**	**13 20 24.8**	**-0.6**
	baz=347								
TWG	**Pinlang**	**1.05**	**236**	⇓	*i*	P	**Pn**	**13 20 11.6**	**-0.2**
	baz=230								
TWG					*e*	S	**Sb**	**13 20 23.7**	**-1.8**
	baz=230								
EWUT	**Wuta**	**1.05**	**348**		P		**Pn**	**13 20 12.1**	**+0.1**
	baz=349								
EWUT					*i*	S	**Sb**	**13 20 25.0**	**-0.6**
	baz=349								
FUSS	**Fushou**	**1.09**	**320**		*i*	P	**Pn**	**13 20 12.7**	**0.0**
	baz=330								
FUSS					S		**Sb**	**13 20 25.9**	**-1.1**
	baz=330								
WHYT	**Xinyi Township**	**1.10**	**285**		*e*	P	**Pb**	**13 20 13.3**	**+0.2**
	baz=281								
WHYT					*e*	S	**Sn**	**13 20 28.1**	**+0.9**
	baz=281								
ALS	**Alishan**	**1.11**	**275**		*i*	P	**Pb**	**13 20 13.8**	**+0.3**
	baz=275								
ALS					S		**Sn**	**13 20 28.0**	**+0.2**
	baz=275								
SMLT	**Sun Moon Lake**	**1.12**	**295**	⇓	*i*	P	**Pn**	**13 20 13.3**	**+0.3**
	baz=295								
SMLT					*e*	S	**Sn**	**13 20 28.0**	**+0.2**
	baz=295								
TWT	**Tachien**	**1.14**	**318**		*e*	P	**Pb**	**13 20 13.8**	**0.0**
	baz=317								
TWT					*i*	S	**Sb**	**13 20 27.5**	**-0.7**
	baz=317								
TDCB	**Techi**	**1.15**	**317**		*e*	P	**Pb**	**13 20 13.9**	**-0.1**
	baz=318								
STYH	**Taoyuan**	**1.16**	**258**		*e*	P	**Pb**	**13 20 14.4**	**+0.2**
	baz=254								
STYH					S		**Sb**	**13 20 28.2**	**-0.5**
	baz=254								
NNSB	**Datong**	**1.17**	**330**		*i*	P	**Pn**	**13 20 13.7**	**+0.1**
	baz=331								
NNSB					S		**Sb**	**13 20 27.8**	**-1.3**
	baz=331								
TYC	**Yuchr**	**1.17**	**295**		*e*	P	**Pb**	**13 20 14.1**	**-0.2**
	baz=303								
TYC					*i*	S	**Sn**	**13 20 29.4**	**+0.7**
	baz=303								
ESAO	**Su ao**	**1.17**	**352**		*e*	S	**Sb**	**13 20 28.1**	**-1.0**
	baz=353								
NNS	**Nan Shan**	**1.18**	**330**	⇑	*i*	P	**Pn**	**13 20 13.9**	**+0.1**
	baz=331								
NNS					S		**Sb**	**13 20 28.1**	**-1.4**
	baz=331								
WCS	**Beigang Elemen**	**1.20**	**303**		P		**Pb**	**13 20 14.5**	**-0.2**
	baz=309								
WCS					S		**Sb**	**13 20 29.1**	**-0.7**
	baz=309								
TWC	**Suao**	**1.20**	**353**		*e*	P	**Pn**	**13 20 14.7**	**+0.7**
	baz=354								
TWC					*e*	S	**Sn**	**13 20 28.6**	**-0.9**
	baz=354								
LATG	**Datong**	**1.21**	**338**		P		**Pn**	**13 20 14.1**	**-0.1**
	baz=339								
LATG					*e*	S	**Sn**	**13 20 29.6**	**-0.2**
	baz=339								
CHN5	**Tsauling**	**1.24**	**279**		*e*	P	**Pb**	**13 20 16.1**	**+0.5**
	baz=285								
CHN5					*e*	S	**Sb**	**13 20 32.1**	**+1.0**
	baz=285								
NDS	**Dongshan**	**1.25**	**347**		P		**Pn**	**13 20 15.1**	**+0.4**
	baz=342								
NDS					S		**Sb**	**13 20 31.1**	**-0.2**
	baz=342								
WJS	**Zhushan**	**1.25**	**289**		*e*	P	**Pb**	**13 20 16.4**	**+0.8**
	baz=289								
WJS					*i*	S	**Sb**	**13 20 32.4**	**+1.1**
	baz=289								
ECL	**Taimali**	**1.27**	**231**		*e*	P	**Pn**	**13 20 14.3**	**-0.6**
	baz=229								
ECL					*e*	S	**Sn**	**13 20 29.7**	**-1.4**
	baz=229								
NDT	**Datong Townshi**	**1.27**	**339**		*e*	P	**Pn**	**13 20 15.7**	**+0.7**
	baz=339								
NDT					S		**Sn**	**13 20 30.4**	**-0.9**
	baz=339								
TPUB	**Ta-pu**	**1.28**	**265**		P		**Pb**	**13 20 16.6**	**+0.5**
TPUB	**Ta-pu**	**1.28**	**265**		*e*	P	**Pb**	**13 20 16.7**	**+0.6**
	baz=265								
TPUB					*e*	S	**Sb**	**13 20 32.8**	**+0.7**
	baz=265								
ENTT	**Nioudou**	**1.29**	**342**		*e*	P	**Pn**	**13 20 15.6**	**+0.4**
	baz=342								
ENTT					S		**Sn**	**13 20 31.5**	**-0.2**
	baz=342								
WCKO	**Fanlu**	**1.29**	**272**		*e*	P	**Pb**	**13 20 17.2**	**+0.8**
	baz=271								
WCKO					*i*	S	**Sb**	**13 20 33.7**	**+1.1**
	baz=271								
WTP	**Ta-pu**	**1.30**	**263**		*e*	P	**Pb**	**13 20 16.9**	**+0.5**
	baz=262								
WTP					*e*	S	**Sb**	**13 20 33.6**	**+0.9**
	baz=262								
WHP	**Taichung City**	**1.30**	**312**		*e*	P	**Pb**	**13 20 16.9**	**+0.2**
	baz=312								
WHP					S		**Sb**	**13 20 33.1**	**+0.1**
	baz=312								
WNT	**Mingjian**	**1.31**	**291**		*e*	P	**Pb**	**13 20 17.6**	**+1.0**
	baz=291								
WNT					*e*	S	**Sb**	**13 20 34.1**	**+1.2**
	baz=291								
CHN4	**Tsaushan**	**1.31**	**268**		P		**Pb**	**13 20 16.8**	**+0.2**
	baz=267								
CHN4					S		**Sb**	**13 20 34.9**	**+1.9**
	baz=267								
SLGT	**Liugui**	**1.32**	**252**		*e*	P	**Pb**	**13 20 16.9**	**-0.1**
	baz=249								
SLGT					*e*	S	**Sb**	**13 20 33.9**	**+0.4**
	baz=249								
JYNG	**Yonaguni jima**	**1.34**	**39**		P		**Pn**	**13 20 16.5**	**+0.6**
JYNG					S		**Sn**	**13 20 33.1**	**+0.2**
TWE	**Neicheng**	**1.34**	**346**		*e*	P	**Pn**	**13 20 16.7**	**+0.7**
	baz=339								
TWE					*e*	S	**Sn**	**13 20 33.2**	**+0.2**
	baz=339								
SGST	**Jiashian**	**1.36**	**256**		*e*	P	**Pn**	**13 20 16.6**	**+0.5**
	baz=255								
SGST					*e*	S	**Sb**	**13 20 34.2**	**-0.1**
	baz=255								
WGK	**Gukeng**	**1.36**	**282**		*e*	P	**Pb**	**13 20 18.7**	**+1.2**
	baz=282								
WGK					*e*	S	**Sb**	**13 20 34.7**	**+0.2**
	baz=282								
WDLH	**Douliu**	**1.38**	**282**		*e*	P	**Pb**	**13 20 19.0**	**+1.1**
	baz=281								
WDLH					*e*	S	**Sb**	**13 20 37.4**	**+2.3**
	baz=281								
CHN1	**Nanshi**	**1.38**	**261**		*e*	P	**Pb**	**13 20 18.6**	**+0.6

baz=323
EAST Anshuo 1.48 227 *e*P Pn 13 20 17.7 -0.2
baz=233
TAWH Dawu Township 1.49 225 *e*P Pn 13 20 17.8 0.0
baz=231
TAWH *e*S Sn 13 20 35.3 -1.2
baz=231
WCHH Zhanghua 1.49 297 *e*P Pb 13 20 20.7 +1.0
baz=297
MASBT Mashibuluo 1.50 238 *e*P Pn 13 20 18.9 +0.8
baz=234
WTK Tuku 1.52 281 *e*P Pb 13 20 20.7 +0.6
baz=281
NSY Sanyi 1.52 311 *e*P Pb 13 20 20.9 +0.6
baz=312
NSTT Nanjuang 1.53 323 *e*P Pb 13 20 20.0 -0.4
baz=323
NSTT *e*S Sb 13 20 38.7 -0.6
baz=323
LIOB Emei 1.53 324 *i* P Pb 13 20 20.7 +0.2
baz=324
LIOB *e*S Sb 13 20 39.9 +0.4
baz=324
TIPB Shuangxi 1.56 354 P Pb 13 20 20.4 -0.7
baz=6.0
TIPB *i* S Sb 13 20 39.5 -0.9
baz=6.0
WDJ Dajia District 1.57 307 *e*P Pb 13 20 21.2 +0.2
baz=307
WRL Guolierlin Hig 1.58 288 *e*P Pb 13 20 21.4 +0.2
baz=289
SHHT Tainan City 1.58 256 *e*P Pb 13 20 23.7 +2.5
baz=256
NMLH Miaoli 1.58 315 *e*P Pb 13 20 21.2 -0.2
baz=316
TWB1 Santiao Chiao 1.59 359 *e*P Pn 13 20 19.7 +0.4
ICHU Yijhu 1.59 269 *e*P Pb 13 20 21.7 +0.2
baz=268
SLIU Shizi 1.63 224 *e*P Pb 13 20 19.8 -0.1
baz=229
CHN8 Yiju 1.66 268 *e*P Pb 13 20 22.2 -0.3
baz=268
NWF Wu-fen Shan 1.67 353 *e*P Pb 13 20 22.5 -0.3
baz=6.0
SXI1 Grass Mountain 1.68 356 *i* P Pn 13 20 21.8 +1.2
baz=10.0
HATJ Hateruma jima 1.76 68 *e*S Sn 13 20 42.8 -0.5
IRIF Iriomote-Funau 1.82 59 P Pn 13 20 23.6 +1.1
IRIF S Sn 13 20 45.2 +0.4
JKRS Kuro-shima 2.00 65 P Pn 13 20 26.0 +1.0
JKRS S Sn 13 20 49.3 0.0
JIJ Ishigaki jima 2.17 64 P Pn 13 20 27.9 +0.6
JIJ *e*S Sn 13 20 52.1 -1.3
JISG Ishigakijimahi 2.41 60 P Pn 13 20 30.9 +0.3
JISG S Sn 13 20 57.7 -1.5
JTJ Tarama 2.75 63 P Pn 13 20 35.9 +0.7
JIRB Irabujima 3.21 63 P Pn 13 20 41.9 +0.2
JIRB *e*S Sn 13 21 18.9 -0.3
JMJ2 Miyako jima3 3.31 66 P Pn 13 20 43.7 +0.8
JMJ2 *e*S Sn 13 21 21.0 -0.4
JIKM Ikemajima 3.32 62 *e*S Sn 13 21 20.9 -0.8

*IDC **10** 13:21:44.4±5.1, 18°.46S×177°.72W, h537km±60km, mb3.3/13, mbtmp4.2/13, Error ellipse: s-maj=22.2km s-min=18.3km az=55.0*
*NEIC **10** 13:21:46.9±1.7, 18°.63S±0°.07×177°.6W±0°.2, h583km±12km, mb4.2/22, Error ellipse: s-maj=25.2km s-min=9.9km az=90.0*
ISC 10 13:21:48.5±0.6,**18°.54S**±0°.10×**177°.7W**±0°.1,**h600**km,**n55**, σ**2**§**06**/55,**mb3.9**/21,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.08**	**281**	P	**P**	**13 23 13.6**	**-1.1**
AFI	**Afiamalu**	**7.35**	**52**	P	**P**	**13 23 37.7**	**-4.2**
MKAZ	**Moumakai**	**19.52**	**197**	P	**P**	**13 25 39.6**	**+1.9**
HAZ	**Te Kaha**	**19.54**	**191**	P	**P**	**13 25 38.3**	**+0.4**
TWGZ	**Tauwhareparae**	**19.92**	**190**	P	**P**	**13 25 42.2**	**+0.8**
MWZ	**Matawai**	**20.15**	**191**	P	**P**	**13 25 42.6**	**-0.9**
URZ	**Urewera**	**20.16**	**192**	P	**P**	**13 25 41.3**	**-2.1**
	7.7nm,0.5s,baz=82,slow=0.2,SNR=9.8						
	7.7nm,0.5s						
URZ	**Urewera**	**20.16**	**192**	P	**P**	**13 25 42.8**	**-0.7**
RRRZ	**Republican Roa**	**20.35**	**193**	P	**P**	**13 25 43.7**	**-1.6**
RTZ	**Ruatahuna**	**20.52**	**192**	P	**P**	**13 25 41.9**	**-5.1**
RTZ				IAmb	IAmb	13 25 45.2	
	comp=Z,9.6nm,1.0s						
RTZ	**Ruatahuna**	**20.52**	**192**	P	**P**	**13 25 41.1**	**-5.8**
PRGZ	**Paritu Road**	**20.66**	**190**	P	**P**	**13 25 53.6**	**+5.5**
MTHZ	**Maungataniwha**	**20.78**	**192**	P	**P**	**13 25 43.1**	**-6.1**
OTVZ	**Oturere**	**21.33**	**194**	P	**P**	**13 25 53.4**	**-0.8**
TARA	**Tarawa**	**21.80**	**334**	P	**P**	**13 25 58.4**	**-0.1**
TSZ	**Takapari Road**	**22.12**	**193**	P	**P**	**13 26 02.7**	**+1.6**
MRNZ	**Matariki Terra**	**24.19**	**198**	P	**P**	**13 26 16.7**	**-2.7**
THZ	**Tophouse**	**24.49**	**197**	P	**P**	**13 26 21.4**	**-0.7**
THZ				IAmb	IAmb	13 26 27.4	
	comp=Z,4.1nm,1.1s						
KHZ	**Kahutara**	**24.93**	**195**	P	**P**	**13 26 24.1**	**-1.8**
KHZ				IAmb	IAmb	13 26 40.7	
	comp=Z,12nm,1.2s						
GVZ	**Greta Valley S**	**25.57**	**196**	P	**P**	**13 26 27.8**	**-3.8**
LTZ	**Lake Taylor**	**25.61**	**197**	P	**P**	**13 26 30.0**	**-1.9**
LTZ				IAmb	IAmb	13 26 32.9	
	comp=Z,8.6nm,1.2s						
INZ	**Inchbonnie**	**25.80**	**199**	P	**P**	**13 26 33.0**	**-0.6**
INZ				IAmb	IAmb	13 26 34.9	
	comp=Z,7.3nm,0.9s						
MQZ	**McQueen's Vall**	**26.36**	**196**	P	**P**	**13 26 36.6**	**-1.9**
MQZ				IAmb	IAmb	13 26 56.0	
	comp=Z,12nm,1.1s						
FOZ	**Fox Glacier**	**27.04**	**200**	P	**P**	**13 26 44.7**	**+0.3**
LBZ	**Lake Benmore**	**27.69**	**199**	P	**P**	**13 26 49.5**	**-0.6**
LBZ				IAmb	IAmb	13 26 51.4	
	comp=Z,9.2nm,1.1s						
WKZ	**Wanaka**	**28.45**	**200**	P	**P**	**13 26 55.6**	**-1.1**
WKZ				IAmb	IAmb	13 27 05.4	
	comp=Z,9.3nm,1.0s						
WHZ	**Wether Hill Ro**	**29.75**	**200**	P	**P**	**13 27 07.1**	**-0.7**
CTA	**Charters Tower**	**33.97**	**261**	P	**P**	**13 27 44.2**	**+0.1**
	comp=Z,12nm,1.2s,baz=85,slow=11,SNR=1.8						
	comp=Z,12nm,1.2s						
CTAO	**Charters Tower**	**33.97**	**261**	P	**P**	**13 27 43.6**	**-0.5**
CTAO				IAmb	IAmb	13 28 02.2	
	comp=Z,7.4nm,1.1s						
TOO	**Toolangi**	**37.27**	**232**	P	**P**	**13 28 10.8**	**-0.3**
STKA	**Stephens Creek**	**38.89**	**242**	P	**P**	**13 28 23.8**	**-0.4**
STKA	**Stephens Creek**	**38.89**	**242**	P	**P**	**13 28 25.1**	**+0.9**
	comp=Z,1.3nm,0.5s,baz=79,slow=13,SNR=4.9						
	comp=Z,1.3nm,0.5s						
BBOO	**Buckleboo**	**43.66**	**242**	P	**P**	**13 29 02.7**	**+1.0**
BBOO				IAmb	IAmb	13 29 16.1	
	comp=Z,4.1nm,1.1s						
WR0	**Warramunga Arr**	**44.95**	**260**	P	**P**	**13 29 10.4**	**-1.4**
WB0	**Warramunga Arr**	**45.12**	**260**	P	**P**	**13 29 12.6**	**-0.5**
WB0				IAmb	IAmb	13 29 14.1	
	comp=Z,2.9nm,0.7s						
WB2	**Warramunga Arr**	**45.13**	**260**	P	**P**	**13 29 13.0**	**-0.2**
WRA	**Warramunga Arr**	**45.15**	**260**	P	**P**	**13 29 12.8**	**-0.5**
WRA	**Warramunga Arr**	**45.15**	**260**	P	**P**	**13 29 13.8**	**+0.5**
	comp=Z,1.5nm,0.4s,baz=98,slow=7.5,SNR=36						
	comp=Z,1.5nm,0.4s						
ASAR	**Alice Springs**	**45.23**	**255**	P	**P**	**13 29 14.1**	**+0.1**
ASAR	**Alice Springs**	**45.23**	**255**	P	**P**	**13 29 14.5**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=92,slow=7.8,SNR=36						
	comp=Z,1.9nm,0.5s						
FORT	**Forrest**	**50.31**	**245**	P	**P**	**13 29 52.4**	**+0.8**
KNRA	**Kununurra**	**51.06**	**265**	P	**P**	**13 29 56.3**	**-0.8**
VNDA	**Vanda**	**59.87**	**185**	P	**P**	**13 30 57.1**	**+0.1**
MJAR	**Matsushiro Arr**	**68.79**	**323**	P	**P**	**13 31 54.5**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=152,slow=6.2,SNR=2.8						
	comp=Z,1.1nm,0.8s						
QSPA	**South Pole Qui**	**71.52**	**180**	P	**P**	**13 32 09.9**	**+0.2**
QSPA				IAmb	IAmb	13 32 12.5	
	comp=Z,4.5nm,0.8s						
QSPA	**South Pole Qui**	**71.52**	**180**	P	**P**	**13 32 11.8**	**+2.1**
	comp=Z,2.8nm,0.6s,baz=254,slow=1.1,SNR=20						
	comp=Z,2.8nm,0.6s						
PETK	**Petropavlovsk-**	**74.45**	**345**	P	**P**	**13 32 26.8**	**+0.4**
	comp=Z,3.9nm,0.8s,baz=104,slow=7.6,SNR=6.6						
	comp=Z,3.9nm,0.8s						
NVAR	**Mina Array Bea**	**79.44**	**43**	P	**P**	**13 32 55.8**	**+1.7**
	comp=Z,1.1nm,0.7s,baz=222,slow=8.6,SNR=13						
	comp=Z,1.1nm,0.7s						
SEY	**Seymchan**	**84.53**	**347**	P	**P**	**13 33 19.1**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=11,slow=18,SNR=2.8						
	comp=Z,1.4nm,0.5s						
TXAR	**Lajitas Array**	**85.80**	**57**	P	**P**	**13 33 28.6**	**+2.7**
	comp=Z,1.2nm,0.7s,baz=222,slow=6.3,SNR=14						
	comp=Z,1.2nm,0.7s						
ILAR	**Eielson Array**	**86.36**	**13**	P	**P**	**13 33 27.7**	**0.0**
	comp=Z,0.5nm,0.4s,baz=219,slow=4.8,SNR=15						
	comp=Z,0.5nm,0.4s						
PDAR	**Pinedale Array**	**87.37**	**43**	P	**P**	**13 33 34.6**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=204,slow=3.4,SNR=4.9						
	comp=Z,0.6nm,0.8s						
ARCES	**ARCESS Array B**	**127.05**	**350**	PKP	**PKiKP**	**13 39 45.5**	**+0.1**
	comp=Z,3.5nm,0.8s,baz=0.0,slow=1.8,SNR=4.9						
FINES	**FINESS Array B**	**133.97**	**344**	PKP	**PKiKP**	**13 39 59.5**	**0.0**
	comp=Z,1.9nm,1.0s,baz=5.7,slow=1.9,SNR=5.5						
GERES	**GERESS Array B**	**148.38**	**346**	PKPbc	**PKPbc**	**13 40 28.4**	**0.0**
	comp=Z,0.6nm,0.3s,baz=31,slow=5.9,SNR=5.3						

IDC 10 13:26:54.6±10.0,**4°.57S×152°.97E,h94km±69km,mb3.4/2, mbtmp3.8/3,ML1.9/1,MS3.1/2,Error ellipse: s-maj=172.9km s-min=62.0km az=125.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.50**	**230**	P	Pn	13 28 41.0	-0.3
	1.1nm,0.3s,baz=108,slow=19,SNR=1.8						
PMG				S	Sn	13 30 06.9	+2.0
	23nm,0.5s,baz=351,slow=19,SNR=2.1						
	5.7nm,0.5s						
WRA	**Warramunga Arr**	**23.72**	**228**	P	P	13 31 57.6	-0.6
	1.6nm,0.5s,baz=52,slow=11,SNR=25						
	1.6nm,0.5s						
ASAR	**Alice Springs**	**26.43**	**222**	P	P	13 32 22.8	0.0
	0.3nm,0.3s,baz=49,slow=8.7,SNR=3.2						
	0.3nm,0.3s						
KLR	**Kul'dur**	**56.67**	**344**	LR	LR	14 00 09.4	
	comp=Z,14nm,18.8s,baz=215,slow=35						
MA2	**Magadan**	**63.97**	**359**	LR	LR	14 05 32.9	
	comp=Z,17nm,18.6s,baz=196,slow=36						
TORD	**Torodi Ar. Bea**	**150.39**	**289**	PKPbc	PKPbc	13 46 36.5	+0.3
	0.1nm,0.3s,baz=92,slow=2.4,SNR=2.1						

*BJI **10** 13:27:29.3±0.0,4°.38S×153°.34E,h59km,mb4.8/38, mB5.1/16*
*NEIC **10** 13:27:31.1±2.0,4°.18S±0°.05×153°.19E±0°.06,h43km±7km, mb4.7/31, Error ellipse: s-maj=9.1km s-min=6.4km az=120.0*
*IDC **10** 13:27:34.5±2.6,4°.40S×153°.31E,h84km±24km,mb3.9/13, mbtmp4.3/14,MS3.9/2,Error ellipse: s-maj=18.3km s-min=16.0km az=109.0*
ISC 10 13:27:30.2±0.4,**4°.20S**±0°.06×**153°.22E**±0°.06,**h35**km,**n83**, σ1§**62**/84,**mb4.8**/39,**2D,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.06**	**270**	Pn	**Pn**	**13 27 48.6**	**+0.1**
RABL				Sn	**Sn**	**13 28 03.6**	**+1.6**
MANU	**Manus Island**	**6.23**	**290**	P	**Pn**	**13 29 03.6**	**+3.9**
PMG	**Port Moresby**	**7.94**	**229**	Pn	**Pn**	**13 29 24.7**	**+1.6**
PMG	**Port Moresby**	**7.94**	**229**	P	**Pn**	**13 29 27.2**	**+4.1**
PMG	**Port Moresby**	**7.94**	**229**	P	**Pn**	**13 29 27.3**	**+4.1**
PMG	**Port Moresby**	**7.94**	**229**	P	**Pn**	**13 29 25.6**	**+2.4**
	18nm,0.4s,baz=44,slow=12,SNR=12						
PMG				S	**Sn**	**13 30 53.6**	**+1.9**
	34nm,0.5s,baz=86,slow=16,SNR=2.4						
HNR	**Honiara**	**8.46**	**128**		**Pn**	**13 29 33.7**	**+3.4**
HNR	**Honiara**	**8.46**	**128**	P	**Pn**	**13 29 32.8**	**+2.5**
	682nm,0.4s,baz=324,slow=3.3,SNR=7.2						
HNR				S	**Sn**	**13 31 04.1**	**-0.5**
	501nm,0.5s,baz=180,slow=20,SNR=0.9						
HNR				LR	LR	13 32 28.2	
	comp=Z,2μm,20.1s,baz=260,slow=36						
PATS	**Pohnpei**	**12.08**	**25**	Pn	**Pn**	**13 30 19.6**	**-0.4**
COEN	**Coen**	**13.87**	**225**	Pn	**Pn**	**13 30 43.6**	**-0.7**
CTAO	**Charters Tower**	**17.19**	**203**	P	**Pn**	**13 31 27.9**	**+0.2**
CTAO				IAmb	IAmb	13 31 33.0	
	comp=Z,53nm,1.5s						
KOUNC	**Koumac, New Ca**	**19.50**	**147**	P	**P**	**13 31 52.1**	**-2.3**
KOUNC				IAmb	IAmb	13 32 12.0	
	comp=Z,73nm,1.4s						
FAKI	**Fak Fak**	**20.97**	**273**	P	**P**	**13 32 06.1**	**-4.4**
FAKI				IAmb	IAmb	13 32 15.7	
	comp=Z,30nm,1.1s						
QIS	**Mount Isa**	**20.98**	**218**	P	**P**	**13 32 11.2**	**+0.7**
KDU	**Kakadu**	**22.17**	**246**	P	**P**	**13 32 22.4**	**-1.0**
MTN	**Manton Dam**	**23.45**	**247**	P	**P**	**13 32 34.9**	**-1.8**
MTN				IAmb	IAmb	13 32 39.5	
	comp=Z,22nm,0.5s						
MTN	**Manton Dam**	**23.45**	**247**	P	**P**	**13 32 37.2**	**+0.5**
DRS	**Darwin Rock St**	**23.54**	**248**	P	**P**	**13 32 37.2**	**-0.3**
WB0	**Warramunga Arr**	**24.01**	**228**	P	**P**	**13 32 41.2**	**-0.7**
WB0				IAmb	IAmb	13 32 43.0	
	comp=Z,22nm,0.6s						
WR0	**Warramunga Arr**	**24.02**	**228**	P	**P**	**13 32 41.5**	**-0.5**
WR0				IAmb	IAmb	13 32 43.9	
	comp=Z,25nm,0.8s						
WRAB	**Tennant Creek**	**24.14**	**228**	P	**P**	**13 32 42.7**	**-0.4**
WB2	**Warramunga Arr**	**24.15**	**228**	P	**P**	**13 32 42.7**	**-0.5**
WB2				IAmb	IAmb	13 32 44.3	
	comp=Z,29nm,0.6s						
WRA	**Warramunga Arr**	**24.16**	**228**	P	**P**	**13 32 41.6**	**-1.7**
WRA	**Warramunga Arr**	**24.16**	**228**	P	**P**	**13 32 42.6**	**-0.6**
	comp=Z,17nm,0.5s,baz=54,slow=9.9,SNR=60						
	comp=Z,17nm,0.5s						
KNRA	**Kununurra**	**26.62**	**243**	P	**P**	**13 33 05.7**	**+0.1**
KNRA	**Kununurra**	**26.62**	**243**	P	**P**	**13 33 05.9**	**+0.3**
AS01	**Alice Springs**	**26.84**	**222**	P	**P**	**13 33 08.3**	**+0.7**
AS31	**Alice Springs**	**26.87**	**222**	P	**P**	**13 33 07.7**	**-0.2**
ASAR	**Alice Springs**	**26.88**	**222**	P	**P**	**13 33 07.8**	**-0.1**
ASAR	**Alice Springs**	**26.88**	**222**	P	**P**	**13 33 07.0**	**-1.0**
	comp=Z,3.4nm,0.4s,baz=56,slow=9.2,SNR=30						
	comp=Z,3.4nm,0.4s						
LHI	**Lord Howe Isla**	**27.73**	**169**	P	**P**	**13 33 19.8**	**+4.4**
STKA	**Stephens Creek**	**29.62**	**200**	P	**P**	**13 33 31.2**	**-1.1**
STKA	**Stephens Creek**	**29.62**	**200**	P	**P**	**13 33 30.8**	**-1.5**
	comp=Z,2.6nm,0.7s,baz=13,slow=9.7,SNR=6.2						
	comp=Z,2.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**30.32**	**241**	P	**P**	**13 33 37.2**	**-1.3**
FITZ	**Fitzroy Crossi**	**30.32**	**241**	P	**P**	**13 33 37.7**	**-0.9**
BBOO	**Buckleboo**	**32.68**	**207**	P	**P**	**13 33 57.7**	**-1.5**
BBOO				IAmb	IAmb	13 34 24.8	
	comp=Z,16nm,1.4s						
FORT	**Forrest**	**35.52**	**219**	P	**P**	**13 34 22.4**	**-1.4**
MBWA	**Marble Bar**	**36.63**	**240**	P	**P**	**13 34 32.4**	**-1.2**
MBWA				IAmb	IAmb	13 34 32.5	
	comp=Z,19nm,1.1s						
PSA00	**Pilbara Seismi**	**36.70**	**239**	P	**P**	**13 34 32.5**	**-1.6**
PSA00				IAmb	IAmb	13 34 33.7	
	comp=Z,20nm,1.2s						
GIRL	**Giralia**	**41.93**	**240**	P	**P**	**13 35 17.2**	**-0.5**
KSRS	**Korea Array**	**47.66**	**333**	P	**P**	**13 36 04.2**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=156,slow=7.3,SNR=4.5						
	comp=Z,1.4nm,0.7s						
NJ2	**Nanjing**	**48.65**	**320**	*e*P	**P**	**13 36 12.2**	**+1.3**
NJ2				pP	**sP**	**13 36 26.1**	**+1.5**
NJ2				sP	pP	13 36 32.3	+12
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,150nm,4.5s						
USRK	**Ussuriysk Ar.**	**51.82**	**341**	P	**P**	**13 36 36.4**	**+1.7**
	comp=Z,2.5nm,0.8s,baz=146,slow=5.3,SNR=3.6						
	comp=Z,2.5nm,0.8s						
TIA	**Tai'an**	**52.49**	**323**	P	**P**	**13 36 40.7**	**+0.9**
TIA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CN2	**Changchun**	**53.93**	**335**	P	**P**	**13 36 51.4**	**+1.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LYN	**LuoYang**	**54.37**	**318**	*e*P	**P**	**13 36 53.9**	**+0.2**
LYN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HNS	**HongShan**	**54.73**	**323**	↓P	**P**	**13 36 57.2**	**+1.0**
HNS				pmax	pmax		
	comp=Z,13nm,0.8s						
BNX	**BinXian**	**54.77**	**338**	↓P	**P**	**13 36 56.4**	**0.0**
BNX				pmax	pmax		
	comp=Z,12nm,0.8s						
BNX				pmax	pmax		
	comp=Z,190nm,4.3s						
XAN	**Xi'an**	**56.48**	**316**	P	**P**	**13 37 09.4**	**+0.4**
XAN				pmax	pmax		
	comp=Z,13nm,0.8s						
PETK	**Petropavlovsk-**	**57.22**	**3**	P	**P**	**13 37 15.0**	**+1.2**
	comp=Z,2.7nm,0.9s,baz=164,slow=7.7,SNR=1.2						
	comp=Z,2.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**58.01**	**295**	P	**P**	**13 37 21.4**	**+1.5**
	comp=Z,1.3nm,0.8s,baz=107,slow=5.3,SNR=8.4						
	comp=Z,1.3nm,0.8s						
XLT	**XiLinHaoTe**	**58.37**	**329**	*e*P	**P**	**13 37 22.6**	**+0.5**
XLT				pmax	pmax		
	comp=Z,15nm,0.7s						
XLT				pmax	pmax		
	comp=Z,160nm,5.1s						
PZH	**PanZhiHua**	**58.38**	**305**	P	**P**	**13 37 22.8**	**+0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,130nm,5.4s						
HHC	**Hu-ho-hao-te**	**58.81**	**324**	*e*P	**P**	**13 37 26.2**	**+0.9**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,94nm,5.6s						
TNCH	**TengChong**	**60.52**	**302**	P	**P**	**13 37 34.6**	**-2.8**
TNCH				sP	sP	13 37 55.3	+3.7
TNCH				pmax	pmax		
	comp=Z,110nm,4.9s						
LZH	**Lanzhou**	**61.10**	**315**	*e*P	**P**	**13 37 42.7**	**+1.5**
LZH				pP	sP	13 37 56.7	+1.1
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
SONM	**Songino Array**	**66.05**	**327**	P	**P**	**13 38 13.8**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=147,slow=5.9,SNR=13						
	comp=Z,1.9nm,0.5s						
VNDA	**Vanda**	**73.41**	**178**	P	**P**	**13 38 58.1**	**-0.2**
VNDA				IAmb	IAmb	13 39 19.6	
	comp=Z,8.2nm,1.4s						
KDAK	**Kodiak Island**	**75.45**	**27**	LR	LR	14 04 58.1	
	comp=Z,42nm,21.2s,baz=249,slow=30						
WMQ	**Urumqi**	**75.59**	**317**	*e*P	**P**	**13 39 09.0**	**-2.6**
WMQ				pmax	pmax		
	comp=Z,16nm,1.1s						
MK31	**Makanchi Array**	**80.15**	**319**	P	**P**	**13 39 37.0**	**+0.1**
MKAR	**Makanchi Array**	**80.15**	**319**	P	**P**	**13 39 36.8**	**-0.1**
MKAR	**Makanchi Array**	**80.15**	**319**	P	**P**	**13 39 37.0**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=96,slow=7.8,SNR=15						
	comp=Z,1.2nm,0.6s						
MAKZ	**Makanchi**	**80.36**	**319**	P	**P**	**13 39 38.1**	**+0.1**
ZALV	**Zalesovo Beam**	**80.89**	**326**	P	**P**	**13 39 39.5**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=114,slow=6.6,SNR=4.2						
	comp=Z,0.7nm,0.4s						
ILAR	**Eielson Array**	**81.45**	**22**	P	**P**	**13 39 41.8**	**-1.6**
	comp=Z,0.5nm,0.8s,baz=241,slow=5.0,SNR=3.1						
	comp=Z,0.5nm,0.8s						
BOOM	**Boomskoye usch**	**83.49**	**313**	P	**P**	**13 39 55.3**	**+0.5**
KURBB	**Kurchatov Arra**	**83.59**	**322**	P	**P**	**13 39 53.1**	**-1.8**
	comp=Z,0.6nm,0.6s,baz=120,slow=5.6,SNR=2.2						
AAK	**Ala-Archa**	**84.56**	**313**	P	**P**	**13 40 00.1**	**-0.1**
AAK				IAmb	IAmb	13 40 05.7	
	comp=Z,4.8nm,1.1s						
D27M	**Malcolm River**	**85.54**	**19**	P	**P**	**13 40 05.2**	**+0.8**
D27M				IAmb	IAmb	13 40 13.2	
	comp=Z,3.9nm,1.4s						
G29M	**Pine Creek**	**85.66**	**22**	P	**P**	**13 40 06.1**	**+1.1**
G29M				IAmb	IAmb	13 40 12.8	
	comp=Z,4.1nm,1.2s						
QSPA	**South Pole Qui**	**85.76**	**180**	P	**P**	**13 40 05.1**	**-0.6**
QSPA				IAmb	IAmb	13 40 15.0	
	comp=Z,7.0nm,1.3s						
QSPA	**South Pole Qui**	**85.76**	**180**	P	**P**	**13 40 02.9**	**-2.7**
	comp=Z,1.4nm,0.7s,baz=346,slow=0.5,SNR=8.4						
	comp=Z,1.4nm,0.7s						
H31M	**Peel River**	**86.69**	**23**	P	**P**	**13 40 09.7**	**-0.3**
H31M				IAmb	IAmb	13 40 14.6	
	comp=Z,9.9nm,1.5s						
GAR	**Garm**	**87.11**	**309**	P	**P**	**13 40 12.4**	**-0.5**
CHGR	**Chuyangaron**	**87.97**	**309**	P	**P**	**13 40 15.9**	**-1.0**
SIMJ	**Simiganj**	**88.08**	**309**	P	**P**	**13 40 16.3**	**-1.2**
SIMJ				IAmb	IAmb	13 40 18.2	
	comp=Z,6.5nm,0.9s						
BVAR	**Borovoye Array**	**89.02**	**323**	P	**P**	**13 40 20.5**	**-1.0**
	comp=Z,2.9nm,0.6s,baz=110,slow=6.1,SNR=13						
	comp=Z,2.9nm,0.6s						
BOSA	**Boshof**	**120.32**	**233**	PKP	**PKPdf**	**13 46 17.5**	**-1.1**
	comp=Z,2.5nm,1.0s,baz=130,slow=7.9,SNR=4.0						
DPC	**Dobruska-Polom**	**121.49**	**329**	AMS	AMS	14 54 10.0	
	comp=Z,900nm,17.1s						
KHC	**Kasperske Hory**	**123.65**	**329**	AMS	AMS	14 53 30.0	
	comp=Z,1μm,15.9s						
GERES	**GERESS Array B**	**123.76**	**329**	PKP	**PKPdf**	**13 46 22.4**	**-2.2**
	comp=Z,0.8nm,0.5s,baz=46,slow=3.9,SNR=3.8						
TORD	**Torodi Ar. Bea**	**150.51**	**289**	PKPbc	**PKPbc**	**13 47 18.5**	**-0.8**
	comp=Z,6.7nm,0.8s,baz=53,slow=3.7,SNR=24						

*IDC **10** 13:33:23.3±1.0,6°.30S×143°.32E,h0km,mb4.1/5, mbtmp4.1/8,ML4.0/2,MS3.1/1,Error ellipse: s-maj=39.4km s-min=20.0km az=71.0*
ISC 10 13:33:28.5±0.9,**6°.4S**±0°.1×**143°.2E**±0°.1,**h35**km,**n9**, σ0§**60**/10,**mb4.0/6,New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.90**	**128**	Pn	**Pn**	**13 34 39.7**	**-0.1**
	15nm,0.6s,baz=60,slow=20,SNR=2.9						
PMG				Sn	**Sn**	**13 35 35.3**	**-0.1**
	1.6nm,0.3s,baz=66,slow=20,SNR=2.1						
PMG				LR	LR	13 36 46.3	
	comp=Z,185nm,19.7s,baz=290,slow=41						
WRA	**Warramunga Arr**	**16.01**	**212**	Pn	**Pn**	**13 37 10.2**	**-1.0**
	0.6nm,0.3s,baz=33,slow=12,SNR=5.3						
WRA				Lg	Lg	13 41 48.5	
	0.1nm,0.3s,baz=32,slow=26,SNR=2.6						
	2.8nm,

ASAR	Alice Springs	35.81	128	P		P	13 47 04.5	+1.0
	1.4nm,0.5s,baz=300,slow=7.6,SNR=31							
	1.4nm,0.5s							
STKA	Stephens Creek	45.85	133	P		P	13 48 26.1	+1.6
	0.8nm,0.4s,baz=310,slow=12,SNR=6.8							
	0.8nm,0.4s							
SONM	Songino Array	50.74	3	P		P	13 49 02.9	+1.5
	0.5nm,0.6s,baz=184,slow=8.4,SNR=3.0							
	0.5nm,0.6s							
MKAR	Makanchi Array	53.05	342	P		P	13 49 18.6	+0.4
	1.0nm,0.5s,baz=152,slow=9.3,SNR=16							
	1.0nm,0.5s							
KURBB	Kurchatov Arra	57.61	341	P		P	13 49 49.7	-0.5
	0.4nm,0.3s,baz=151,slow=6.4,SNR=2.6							
	0.4nm,0.3s							
ZALV	Zalesovo Beam	58.91	347	P		P	13 49 58.9	-0.2
	1.2nm,0.3s,baz=141,slow=5.2,SNR=6.6							
	1.2nm,0.3s							
BVAR	Borovoye Array	62.42	338	P		P	13 50 22.4	-0.2
	0.5nm,0.4s,baz=164,slow=7.8,SNR=4.3							
	0.5nm,0.4s							
FINES	FINESS Array B	86.68	332	P		P	13 52 41.4	+0.9
	0.8nm,0.9s,baz=131,slow=5.3,SNR=5.7							
	0.8nm,0.9s							

WEL 10 13:43:36.2±0.9, 36°S±14″×17°9E±1°8, h196km±15km, M3.5/11, ML3.8/19, MLv3.5/11, Error ellipse: s-maj=0.0km s-min=0.0km az=125.9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	2.09	196	P	Pn	13 44 14.9	-0.3
MXZ				S	Sn	13 44 44.4	-1.5
WMGZ	Waiomatatini S	2.31	192	P	Pn	13 44 18.2	+0.5
WMGZ				S	Sn	13 44 51.6	+1.4
HAZ	Te Kaha	2.42	204	P	Pn	13 44 18.5	-0.4
HAZ				S	Sn	13 44 53.9	+1.6
PKGZ	Pakihiroa	2.45	198	P	Pn	13 44 19.4	+0.1
PKGZ				S	Sn	13 44 54.4	+1.2
PUZ	Puketiti	2.59	194	P	Pn	13 44 20.8	0.0
PUZ				S	Sn	13 44 55.3	-0.5
RUGZ	Raukumara Rang	2.64	204	P	Pn	13 44 21.1	-0.4
RUGZ				S	Sn	13 44 56.5	-0.6
TWGZ	Tauwhareparae	2.75	198	P	Pn	13 44 23.4	+0.7
TWGZ				S	Sn	13 45 00.8	+1.6
CNGZ	Carnagh Statio	3.00	193	P	Pn	13 44 26.1	+0.6
MWZ	Matawai	3.03	203	P	Pn	13 44 26.0	0.0
MWZ				S	Sn	13 45 04.0	-0.9
TKGZ	Te Karaka	3.03	198	P	Pn	13 44 25.9	0.0
TKGZ				S	Sn	13 45 06.7	+1.7
URZ	Urewera	3.11	209	P	Pn	13 44 26.4	-0.5
URZ				S	Sn	13 45 06.0	-0.6
RIGZ	Rimuhau	3.31	198	P	Pn	13 44 29.4	+0.2
RIGZ				S	Sn	13 45 11.5	+0.5
MUGZ	Murupara	3.44	211	P	Pn	13 44 30.3	-0.5
RTZ	Ruatahuna	3.47	208	P	Pn	13 44 30.4	-0.9
RTZ				S	Sn	13 45 14.1	-0.6
SNGZ	Shannon Statio	3.50	202	P	Pn	13 44 31.5	-0.1
SNGZ				S	Sn	13 45 15.3	+0.2
MTHZ	Maungataniwha	3.73	207	P	Pn	13 44 34.3	-0.2
MTHZ				S	Sn	13 45 18.0	-2.3
NMHZ	Naumai	3.96	206	P	Pn	13 44 37.1	-0.3
ARHZ	Aropaoanui	4.04	203	P	Pn	13 44 37.8	-0.5
ARHZ				S	Sn	13 45 29.4	+2.2
KWHZ	Kaweka Forest	4.39	208	P	Pn	13 44 41.7	-1.0
ETVZ	East Tongariro	4.45	216	P	Pn	13 44 43.5	-0.1
OTVZ	Oturere	4.50	216	P	Pn	13 44 43.6	-0.6
SNVZ	South Ngauruho	4.53	216	P	Pn	13 44 44.2	-0.3
KAHZ	Kahuranaki	4.57	201	P	Pn	13 44 44.0	-1.0
KAHZ				S	Sn	13 45 39.6	+0.4
PRHZ	Porangahau	5.07	201	P	Pn	13 44 49.7	-1.6
LREZ	Lake Rotokare	5.37	222	P	Pn	13 45 00.1	+4.9

*AUST **10** 13:51:02.6±2.8, 38°.35S×140°.99E, h10km, Error ellipse: s-maj=40.8km s-min=12.6km az=13.0*
*NOU **10** 13:51:05.1, 38°.17S×141°.20E, h0km, MLv3.6/7, Near SE Coast of Australia*

ISC 10 13:51:04.8±3.0, 38°2S±0°.2×141°.1E±0°.1, h10km, n12, σ0§95/14, Near southeast coast of Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUHPC	Hawkesdale P12	0.97	83	P	Pb	13 51 23.3	-0.3
	baz=1.1						
AUHPC				S	Sn	13 51 39.0	+0.8
	baz=1.1						
ARPS	Mount Arapiles	1.57	22	P	Pn	13 51 32.8	+0.1
	baz=1.7						
ARPS	Mount Arapiles	1.57	22	P	Pn	13 51 32.9	+0.1
AUMTC	Mt Clear Colle	2.28	75	P	Pn	13 51 42.4	-0.1
	baz=2.4						
AUMTC				S	Sn	13 52 10.4	-0.2
	baz=2.4						
BRAT	Ballarat	2.34	74	P	Pn	13 51 44.1	+0.8
TOO	Toolangi	3.53	81	P	Pn	13 51 59.2	-0.6
	baz=3.6						
TOO	Toolangi	3.53	81	P	Pn	13 51 59.4	-0.4
HTT	Hallett	5.11	339	P	Pn	13 52 19.8	-1.7
	baz=5.2						
HTT	Hallett	5.11	339	P	Pn	13 52 21.5	0.0
STKA	Stephens Creek	6.36	4	P	Pn	13 52 39.3	+0.8
BBOO	Buckleboo	6.80	321	P	Pn	13 52 46.5	+1.9
CMSA	Cobar Meteorol	7.67	31	P	Pn	13 52 55.6	-1.0

*IDC **10** 13:56:22.1±2.3, 7°.41S×126°.85E, h0km, mb3.4/1, mbtmp3.5/3, ML3.6/2, Error ellipse: s-maj=277.0km s-min=32.8km az=63.0*
*DJA **10** 13:56:46.3±2.0, 8°.5±13°×12°.8E±°, h17km±22km, M4.2/4, mb4.9/1, mB4.9/1, MLv3.9/4, Mw(mB)4.2/1*

ISC 10 13:56:37.0±1.4, 7°.3S±0°.2×128°.1E±0°.1, h150km, n13, σ1§03/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	Soe	4.51	236	P	Pn	13 57 43.7	-0.4
SOEI	Soe	4.51	236	P	Pn	13 57 43.4	-0.7
DRS	Darwin Rock St	5.84	152	P	Pn	13 58 02.0	+0.4
FAKI	Fak Fak	5.99	44	P	Pn	13 58 10.0	+6.4
MTN	Manton Dam	6.31	152	P	Pn	13 58 07.6	-0.2
EDFI	Ende, Flores	6.50	256	P	Pn	13 58 11.0	+0.5
KDU	Kakadu	6.91	142	P	Pn	13 58 15.9	0.0
WRA	Warramunga Arr	13.99	155	Pn	Pn	13 59 46.5	-2.4
	0.3nm,0.3s,baz=326,slow=14,SNR=16						
WRA				Sn	Sn	14 02 09.8	-14
	0.4nm,0.3s,baz=330,slow=22,SNR=11						
	0.5nm,0.3s						
ASAR	Alice Springs	17.24	162	P	Pn	14 00 28.7	-0.2
	0.1nm,0.3s,baz=339,slow=11,SNR=18						
	0.9nm,0.6s						
AS01	Alice Springs	17.26	162	P	Pn	14 00 29.8	+0.8
	2.1nm,0.7s						
WRKA	Warakurna	17.68	179	P	Pn	14 00 34.2	+0.1
MTSU	Mount Surprise	19.15	126	P	Pn	14 00 52.9	+1.4
	6.8nm,1.1s						
MKAR	Makanchi Array	67.42	328	P	P	14 07 16.2	-0.1
	0.2nm,0.5s,baz=121,slow=10,SNR=2.3						
	0.2nm,0.5s						

*IDC **10** 14:23:50.5±1.3, 6°.06S×142°.61E, h0km, mb3.7/3, mbtmp3.7/6, ML3.6/2, MS3.4/4, Error ellipse: s-maj=42.2km s-min=29.0km az=86.0*

ISC 10 14:23:51.9±1.0, 6°.2S±0°.1×142°.6E±0°.1, h10km, n8, σ1§67/7, mb3.8/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	5.58	126	Pn	Pn	14 25 16.6	+1.6
	9.8nm,0.8s,baz=263,slow=14,SNR=2.1						
PMG				Sn	Sn	14 26 18.0	-1.2
	3.4nm,0.3s,baz=254,slow=21,SNR=8.6						
PMG				LR	LR	14 28 11.8	
	comp=Z,64nm,18.5s,baz=238,slow=47						
CTA	Charters Tower	14.31	166	LR	LR	14 33 50.0	
	comp=Z,45nm,18.0s,baz=95,slow=42						
WRA	Warramunga Arr	15.87	210	Pn	Pn	14 27 34.5	-1.0
	0.2nm,0.3s,baz=30,slow=13,SNR=8.5						
WRA				Sn	Sn	14 30 21.5	-10
	0.1nm,0.3s,baz=20,slow=21,SNR=4.1						
WRA				Lg	Lg	14 32 11.1	
	baz=41,slow=39,SNR=1.8						
	0.4nm,0.4s						
ASAR	Alice Springs	19.31	205	P	Pn	14 28 18.3	0.0
	0.2nm,0.3s,baz=33,slow=9.2,SNR=28						
	2.5nm,0.8s						
MKAR	Makanchi Array	74.85	322	P	P	14 35 33.4	+0.6
	0.4nm,0.8s,baz=114,slow=6.5,SNR=4.0						
MKAR				LR	LR	15 08 05.3	
	comp=Z,115nm,20.3s,baz=280,slow=36						
	0.4nm,0.8s						
BVAR	Borovoye Array	84.32	325	P	P	14 36 25.2	+1.1
	0.8nm,0.8s,baz=107,slow=5.0,SNR=4.4						
	0.8nm,0.8s						
ILAR	Eielson Array	87.38	24	P	P	14 36 36.9	-2.1
	0.6nm,1.0s,baz=266,slow=3.6,SNR=2.9						
	0.6nm,1.0s						
GNI	Garni	99.92	310	LR	LR	15 28 50.7	
	comp=Z,78nm,21.9s,baz=208,slow=39						

*IDC **10** 14:27:51.4±0.5, 56°.26S×27°.70W, h0km, mb4.7/12, mbtmp4.7/13, ML4.3/1, MS5.1/40, Error ellipse: s-maj=20.8km s-min=14.9km az=65.0*
*NEIC **10** 14:27:52.6±2.2, 56°.36S±0°.09×27°.9W±0°.2, h10km±1km, mb5.2/59, Ms_20 5.3/346, Mww5.5/31, Error ellipse: s-maj=15.4km s-min=14.2km az=234.0*
*NEIC **10** 14:27:54.7, 56°.35S×27°.94W, h12km*
*NEIC **10** 14:27:54.7, 55°.95S×26°.85W, h12km, Moment Tensor Solution. Duration: 3§2 Moment tensor: Scale 10^{17}Nm; M_{rr}2.25; $M_{\theta\theta}$-1.10; $M_{\phi\phi}$-1.16; $M_{r\theta}$0.63; $M_{\theta\phi}$0.31; $M_{\phi r}$0.94; Fault plane solution: $M_0$2.05000×10^{17} NP1: ϕ_s345.57000°, δ55.11000°, λ109.70000°. NP2: ϕ_s133.52000°, δ39.44000°, λ64.20000°. Principal axes: T 2.6230, Plg72.0000°, Azm306.0000°; N -1.1466, Plg16.0000°, Azm154.0000°; P -1.4764, Plg8.0000°, Azm62.0000°;*
*MOS **10** 14:27:56.4±1.4, 56°.33S×28°.09W, h35km, mb5.3/22, MS5.1/8 Error ellipse: s-maj=20.9km s-min=11.0km az=112.1*
*GCMT **10** 14:27:58.6±0.1, 56°.38S±0°.01×27°.32W±0°.01, h12km, MW5.5/157, Moment Tensor Solution. s129,c223; s157,c275; Duration: 1§3 Moment tensor: Scale 10^{17} Nm; M_{rr}2.28±.02; $M_{\theta\theta}$-1.26±.02; $M_{\phi\phi}$-1.03±.02; $M_{r\theta}$-0.81±.05; $M_{\theta\phi}$0.24±.02; $M_{\phi r}$-0.08±.05; Best double couple: $M_0$1.99500×10^{17} NP1:ϕ_s288.00000°, δ56.00000°, λ82.00000°. NP2:ϕ_s122.00000°, δ35.00000°, λ102.00000°. Principal axes: T 2.4610, Plg77.0000°, Azm170.0000°; N -0.9430, Plg7.0000°, Azm292.0000°; P -1.5280, Plg11.0000°, Azm24.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 14:27:55.3±0.6, 56°.41S±0°.06×27°.97W±0°.06, h26km±3km, h26km:pP-P, n691, σ1§50/518, mb5.3/62, MS5.3/217, 3C-9D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	5.31	290		Pn	14 29 13.4	+0.6
HOPE	Hope Point	5.31	290	P	Pn	14 29 13.4	+0.6
ORCD	Orcadas	9.76	237	Pn	Pn	14 30 14.1	+0.3
VNA1	Neumayer--Stat	16.63	157	⇓P	Pn	14 31 44.6	-1.6
	comp=Z,68nm,1.0s						
VNA3	Neumayer Olymp	16.80	159	⇓P	Pn	14 31 49.4	+1.0
	comp=Z,38nm,1.0s						
VNA2	Neumayer--Watz	17.03	157	⇓P	P	14 31 53.0	+0.1
	comp=Z,32nm,0.8s,baz=308,slow=12						
SNAA	Sanae	18.59	155	P	P	14 32 09.1	-1.2
SNAA				IAmb	IAmb	14 32 19.6	
	comp=Z,374nm,1.9s						
SNAA	Sanae	18.59	155	*i* P	Pn	14 32 12.1	+1.5
SNAA				pmax	pmax		
	comp=Z,389nm,2.8s						
SNAA	Sanae	18.59	155	⇓*i* P	Pn	14 32 15.3	+4.8
SNAA	Sanae	18.59	155	⇓P	P	14 32 10.0	-0.3
	comp=Z,784nm,1.0s						
SNAA	Sanae	18.59	155	P	P	14 32 10.2	0.0
	comp=Z,0.9nm,0.3s,baz=305,slow=11,SNR=14						
SNAA				LR	LR	14 38 06.2	
	comp=Z,7µm,19.8s,baz=304,slow=33						
	comp=Z,36nm,0.9s						
PMSA	Palmer Station	19.33	230	P	P	14 32 16.9	-1.3
PMSA				IAmb	IAmb	14 32 19.8	
	comp=Z,436nm,1.9s						
PMSA	Palmer Station	19.33	230	LR	LR	14 38 57.8	
	comp=Z,9µm,18.1s,baz=92,slow=34						
TROLL	Troll, Antarti	20.12	153	⇓P	P	14 32 26.3	-0.6
BELA	Belgrano 2	21.69	184	P	P	14 32 42.5	-1.1
H09W1	TRISTAN DA CUN	21.99	35	T	T	14 55 25.9	
	SNR=34						
USHA	Ushuaia	22.68	257	LR	LR	14 39 49.4	
	comp=Z,6µm,19.6s,baz=86,slow=31						
MG02	Cerro Sombrero	23.91	261	P	P	14 33 02.6	-4.1
ELIB	Princess Elisa	26.08	146	*d*P	P	14 33 25.3	-1.2
	comp=Z,22nm,0.9s						
GO08	Villa O'Higgin	27.88	267	P	P	14 33 41.0	-1.7
GO08				IAMs_20	IAMs_20	14 43 51.3	
	comp=Z,10µm,22.0s						
AY03	Cochrane	28.59	270	IAMs_20	IAMs_20	14 44 40.9	
	comp=Z,8µm,20.0s						
TRQA	Tornquist	29.07	295	P	P	14 33 52.9	-0.5
TRQA				IAmb	IAmb	14 34 54.5	
	comp=Z,76nm,1.9s						
TRQA	Tornquist	29.07	295	P	P	14 33 52.9	-0.5
TRQA				pmax	pmax		
	comp=Z,76nm,2.0s						
TRQA				MLR	MLR		
	comp=Z,5µm,21.0s						
COYC	Coyhaique	29.31	273	P	P	14 33 54.7	-0.6
AY01	Puyuhuapi	30.34	274	IAMs_20	IAMs_20	14 46 12.0	
	comp=Z,7µm,20.0s						
PLTB	Pedras Altas	30.42	313	P	P	14 34 07.3	+2.0
PLTB				IAmb	IAmb	14 34 29.8	
	comp=Z,37nm,1.7s						
LL02	Futaleuf	30.69	277	P	P	14 34 04.1	-3.5
LL02				IAmb	IAmb	14 34 41.5	
	comp=Z,34nm,1.5s						
CPSB	Cacapava Do Su	31.55	315	*e*P	P	14 34 18.5	+3.1
PLCA	Paso Flores	31.64	281	IAMs_20	IAMs_20	14 45 36.4	
	comp=Z,6µm,22.0s						
PLCA	Paso Flores	31.64	281	P	P	14 34 16.6	+0.4
	comp=Z,2.8nm,0.8s,baz=140,slow=7.3,SNR=5.4						
PLCA				PcP	PcP	14 37 07.2	-0.4
	comp=Z,2.5nm,0.9s,baz=223,slow=4.4,SNR=3.7						
PLCA				LR	LR	14 45 59.9	
	comp=Z,5µm,21.8s,baz=142,slow=34						
	comp=Z,2.8nm,0.8s						
LL07	Hotel Espejo d	31.82	276	IAMs_20	IAMs_20	14 47 25.3	
	comp=Z,5µm,20.0s						
RODS	Rosario do Sul	32.31	312	*e*P	P	14 34 25.4	+3.4
LR05	Currie	32.78	281	IAMs_20	IAMs_20	14 46 27.7	
	comp=Z,6µm,20.0s						
ALGR	Alto Alegre (B	32.83	317	*e*P	P	14 34 30.0	+3.4
UNIS	Unistalda (Bra	33.39	314	*e*P	P	14 34 34.6	+3.2
UNIS				*e*pP	sP	14 34 40.3	-0.8
LR03	Panguipulli	33.39	281	IAMs_20	IAMs_20	14 47 35.8	
	comp=Z,5µm,20.0s						
ITQB	Itaqui	33.50	311		P	14 34 29.4	-2.9
ITQB				IAmb	IAmb	14 34 57.6	
	comp=Z,77nm,1.9s						
QSPA	South Pole Qui	33.84	180	P	P	14 34 35.7	+0.5
QSPA	South Pole Qui	33.84	180	IAMs_20	IAMs_20	14 47 30.4	
	comp=Z,6µm,20.0s						
QSPA	South Pole Qui	33.84	180	P	P	14 34 37.2	+2.0
	comp=Z,24nm,0.6s,baz=200,slow=3.0,SNR=36						
QSPA				PcP	PcP	14 37 14.0	+0.6
	comp=Z,3.9nm,0.7s,baz=213,slow=3.3,SNR=1.5						
QSPA				LR	LR	14 47 41.2	
	comp=Z,6µm,20.3s,baz=192,slow=35						
	comp=Z,24nm,0.6s						
ITAB	Concordia	33.91	319	P	P	14 34 38.5	+2.6
ITAB				IAmb	IAmb	14 34 52.6	
	comp=Z,69nm,1.6s						
ML02	Panimavida	35.72	287	IAMs_20	IAMs_20	14 50 24.3	
	comp=Z,6µm,18.0s						
SPB	Sao Paulo	35.75	328	P	P	14 34 50.5	-1.3
SPB				IAmb	IAmb	14 35 03.5	
	comp=Z,91nm,1.7s						
SPB	Sao Paulo	35.75	328	*e*P	P	14 34 54.3	+2.5
SPB				*e*pP	sP	14 35 00.9	-0.8
VAO	Valinhos	36.17	329	*e*P	P	14 34 59.1	+3.6
PTGB	Pitanga	36.19	321	*e*P	P	14 34 58.3	+2.6
GO05	Huala	36.56	287	IAMs_20	IAMs_20	14 50 41.6	
	comp=Z,5µm,19.0s						
BO01	Tunca	36.59	289	P	P	14 34 55.4	-3.6
FRTB	Fartura	36.63	325	*e*P	P	14 35 03.0	+3.5
CPUP	Villa Florida	36.73	313	P	P	14 34 56.1	-4.1
CPUP				IAMs_20	IAMs_20	14 48 50.4	
	comp=Z,4µm,19.0s						
CPUP	Villa Florida	36.73	313	P	P	14 35 00.8	+0.6
	comp=Z,3.6nm,0.7s,baz=158,slow=8.1,SNR=6.8						
CPUP				PcP	PcP	14 37 22.4	+0.2
	comp=Z,4.5nm,0.8s,baz=5.7,slow=0.5,SNR=5.8						
CPUP				LR	LR	14 49 02.2	
	comp=Z,4µm,20.3s,baz=156,slow=35						
	comp=Z,3.6nm,0.7s						
MT01	Popeta	37.08	289	P	P	14 35 03.0	-0.1
MT01				IAmb	IAmb	14 35 14.5	
	comp=Z,76nm,1.9s						
LDASE	Londrina, Braz	37.08	323	*e*P	P	14 35 06.5	+3.2
BSCB	Bom Sucesso	37.50	334	*e*P	P	14 35 09.9	+3.0
VA03	San Esteban	37.57	291	P	P	14 35 06.3	-1.2
BB19B	Bebedouro	38.45	328	*e*P	P	14 35 16.8	+1.9
PCMB	Pacaembu	38.79	324	*e*P	P	14 35 20.3	+2.6
PCMB				*e*pP	sP	14 35 27.1	-0.5
CO03	El Pedregal	39.17	293	IAMs_20	IAMs_20	14 50 29.5	
	comp=Z,5µm,20.0s						
CO01	Juntas del Tor	39.56	294	P	P	14 35 26.1	+1.8
CO01				IAMs_20	IAMs_20	14 50 26.8	
	comp=Z,5µm,22.0s						
CER	Ceres	39.58	75	*e*P	P	14 35 23.5	-0.8
CER				IAmb	IAmb	14 35 32.1	
	comp=Z,40nm,1.0s						
DIAM	Diamantina, MG	39.85	336	*e*P	P	14 35 29.2	+2.5
MAW	Mawson	40.12	144	P	P	14 35 28.6	+0.4
	comp=Z,7.2nm,1.0s,baz=279,slow=3.7,SNR=2.3						
MAW				LR	LR	14 49 26.6	
	comp=Z,3µm,21.6s,baz=255,slow=32						
	comp=Z,7.2nm,1.0s						
CO05	La Serena	40.19	293	IAMs_20	IAMs_20	14 51 07.3	
	comp=Z,4µm,20.0s						
LCO	Las Campanas	40.65	294	P	P	14 35 33.6	+0.2
LCO	Las Campanas	40.65	294	P	P	14 35 33.6	+0.2
LCO				pmax	pmax		
	comp=Z,21nm,1.3s						
SUR	Sutherland	41.15	75	P	P	14 35 37.7	+0.2
SUR				IAmb	IAmb	14 35 48.1	
	comp=Z,95nm,1.6s						
SUR	Sutherland	41.15	75	IAMs_20	IAMs_20	14 48 41.9	
	comp=Z,5µm,20.0s						
SUR	Sutherland	41.15	75	*e*P	P	14 35 37.1	-0.4
SUR				IAmb	IAmb	14 35 43.2	
	comp=Z,40nm,1.0s						
SUR	Sutherland	41.15	75	LR	LR	14 49 00.6	
	comp=Z,4µm,20.0s,baz=214,slow=31						
IPMB	Ipameri, GO	41.28	330	*e*P	P	14 35 40.1	+1.6
CVNA	Calvinia	41.29	73	*e*P	P	14 35 37.1	-1.4
CVNA				IAmb	IAmb	14 35 46.8	
	comp=Z,128nm,1.5s						
MERW	Merweville	41.31	76	*e*P	P	14 35 40.8	+2.2
MERW				IAmb	IAmb	14 35 43.1	
	comp=Z,307nm,2.3s						
AQDB	Aquidauana	41.38	319	P	P	14 35 37.2	-1.9
AQDB				IAMs_20	IAMs_20	14 50 44.4	
	comp=Z,4µm,22.0s						
AQDB	Aquidauana	41.38	319	*e*P	P	14 35 40.9	+1.8
AQDB				*e*pP	pP	14 35 47.5	+1.4
AC04	Llanos de Chal	41.49	294	P	P	14 35 36.2	-3.8
AC04				IAmb	IAmb	14 35 46.3	
	comp=Z,28nm,0.7s						
AC04				IAMs_20	IAMs_20	14 51 40.0	
	comp=Z,4µm,21.0s						
GO03	Copiap	41.57	296	P	P	14 35 41.1	+0.4
AC02	Maricunga	41.65	298	P	P	14 35 41.5	-0.4
AC02				IAmb	IAmb	14 35 53.3	
	comp=Z,52nm,1.4s						
FRAZ	Fraserburg	41.82	75	*e*P	P	14 35 41.8	-1.0
FRAZ				IAmb	IAmb	14 35 50.3	
	comp=Z,78nm,1.4s						
AC06	Mina Casimiro	41.83	296	P	P	14 35 42.3	-0.5
AC06				IAmb	IAmb	14 35 50.2	
	comp=Z,55nm,1.6s						
BRAK	Brakfontein	42.74	77	*e*P	P	14 35 49.2	-1.0
BRAK				IAmb	IAmb	14 35 51.4	
	comp=Z,286nm,2.4s						
JANB	Januaria	43.12	337	*e*P	P	14 35 53.1	-0.3
BFON	Badsfontein, M	43.16	78	*e*P	P	14 35 55.5	+1.8
BFON				IAmb	IAmb	14 35 59.1	
	comp=Z,21nm,1.0s						
GRAF	Camdeboo Natio	43.22	79	*e*P	P	14 35 53.0	-1.1
GRAF				IAmb	IAmb	14 35 58.9	
	comp=Z,597nm,2.6s						
GO02	Mina Guanaco	43.28	299	P	P	14 35 56.8	+1.8
GO02				IAmb	IAmb	14 36 07.4	
	comp=Z,96nm,1.6s						
BDFB	Brasilia	43.46	331	P	P	14 35 56.7	+0.4
BDFB				IAMs_20	IAMs_20	14 51 21.3	
	comp=Z,3µm,20.0s						
BDFB	Brasilia	43.46	331	P	P	14 35 56.9	+0.6
	comp=Z,5.4nm,0.9s,baz=101,slow=6.1,SNR=5.3						
BDFB				LR	LR	14 51 32.3	
	comp=Z,3µm,20.7s,baz=159,slow=33						
	comp=Z,5.4nm,0.9s						
GRHM	Grahamstown, E	43.50	81	IAMs_20	IAMs_20	14 48 39.0	
	comp=Z,3µm,21.0s						
ARAG	Araguaiana, MT	44.50	326	*e*P	P	14 36 06.3	+1.9
ARAG				*e*pP	sP	14 36 13.4	-0.9
UPI	Upington	44.54	72	*e*P	P	14 36 04.1	-0.7
UPI				IAmb	IAmb	14 36 11.8	
	comp=Z,91nm,1.3s						
PB15	IPOC Station P	44.87	300	P	P	14 36 04.7	-2.9
PB15				IAmb	IAmb	14 36 18.0	
	comp=Z,94nm,1.9s						
LVC	Limon Verde	45.11	301	P	P	14 36 10.2	+0.5
LVC				IAmb	IAmb	14 36 15.1	
	comp=Z,49nm,1.1s						
LVC	Limon Verde	45.11	301	P	P	14 36 10.2	+0.5
LVC				pmax	pmax		
	comp=Z,49nm,1.2s						
LVC	Limon Verde	45.11	301	*e*P	P	14 36 11.9	+2.2
PB06	IPOC Station P	45.34	300	P	P	14 36 07.4	-3.9
PB06				IAmb	IAmb	14 36 16.1	
	comp=Z,25nm,1.1s						
PB05	IPOC Station P	45.52	300	P	P	14 36 11.8	-0.8
PB05				IAmb	IAmb	14 36 17.2	
	comp=Z,45nm,1.1s						
SALV	Santo Antonio	45.59	321	*e*P	P	14 36 15.8	+2.7
SALV				*e

comp=Z,16nm,1.1s
PTLB IAMs_20 IAMs_20 14 54 16.3
comp=Z,4µm,21.0s
PTLB Pontes e Lacer 47.26 317 *e*P **P 14 36 27.8 +1.6**
PB08 IPOC Station P 47.34 303 P **P 14 36 24.6 -2.7**
PB08 IAmb IAmb 14 36 38.1
comp=Z,22nm,1.0s
SIV San Ignacio 47.51 315 LR LR 14 54 49.5
comp=Z,2µm,21.9s,baz=132,slow=34
SWZ Schweizer 47.65 75 *e*P **P 14 36 27.2 -2.2**
SWZ IAmb IAmb 14 36 34.1
comp=Z,30nm,1.0s
GO01 Chusmiza 47.77 303 P **P 14 36 30.1 -0.6**
SNDB Serra Nova Dou 47.87 329 *e*P **P 14 36 33.1 +2.1**
PB11 IPOC Station P 47.91 302 P **P 14 36 31.3 -0.1**
SNKL Senekal, Frees 48.11 78 *e*P **P 14 36 34.3 +1.3**
SNKL IAmb IAmb 14 36 38.3
comp=Z,64nm,1.0s
H10S2 ASCENSION HYDR 48.47 18 T T 15 28 35.2
baz=189,slow=74,SNR=1859
H10S3 ASCENSION HYDR 48.48 18 T T 15 28 35.5
baz=31,slow=74,SNR=4906
PRYS Parys 48.95 77 *e*P **P 14 36 37.0 -2.4**
LBTB Lobatse 49.53 74 P **P 14 36 42.0 -1.8**
LBTB Lobatse 49.53 74 P **P 14 36 42.0 -1.8**
LBTB pmax pmax
comp=Z,82nm,1.5s
LBTB Lobatse 49.53 74 *e*P **P 14 36 41.4 -2.4**
LBTB IAmb IAmb 14 36 50.8
comp=Z,76nm,1.4s
LBTB Lobatse 49.53 74 LR LR 14 54 05.1
comp=Z,1µm,20.1s,baz=206,slow=32
H10N1 ASCENSION HYDR 49.59 18 T T 15 29 59.4
baz=189,slow=75,SNR=1816
H10N3 ASCENSION HYDR 49.59 18 T T 15 29 59.3
baz=189,slow=75,SNR=6743
H10N2 ASCENSION HYDR 49.61 18 T T 15 29 57.5
baz=189,slow=75,SNR=2705
PDRB Porto dos Gac 49.93 322 *e*P **P 14 36 47.5 +0.7**
VILB Vilhena 49.95 317 IAMs_20 IAMs_20 14 55 50.5
comp=Z,5µm,22.0s
HRAO HartRAO 49.95 76 *e*P **P 14 36 44.9 -2.2**
LPAZ La Paz 50.23 306 P **P 14 36 45.8 -4.0**
LPAZ IAmb IAmb 14 37 00.8
comp=Z,96nm,1.9s
LPAZ La Paz 50.23 306 P **P 14 36 51.0 +1.3**
comp=Z,7.8nm,0.7s,baz=132,slow=7.1,SNR=16
LPAZ LR LR 14 59 00.6
comp=Z,794nm,20.6s,baz=156,slow=37
comp=Z,7.8nm,0.7s
LPAZ La Paz 50.23 306 *e*P **P 14 36 51.5 +1.7**
TSUM Tsumeb 50.24 61 P **P 14 36 47.7 -1.6**
TSUM IAmb IAmb 14 36 56.4
comp=Z,46nm,1.2s
TSUM Tsumeb 50.24 61 *e*P **P 14 36 48.5 -0.8**
TSUM IAmb IAmb 14 36 56.1
comp=Z,57nm,1.3s
TSUM Tsumeb 50.24 61 LR LR 14 54 10.1
comp=Z,1µm,20.5s,baz=220,slow=32
TSWA Tswaing Meteor 50.53 76 *e*P **P 14 36 48.8 -2.6**
TSWA IAmb IAmb 14 36 57.1
comp=Z,45nm,1.0s
RCBR Riachuelo 50.84 350 LR LR 14 53 41.3
comp=Z,1µm,21.5s,baz=181,slow=31
LEPH Lephalale, Lim 51.64 75 *e*P **P 14 36 57.5 -2.2**
LEPH IAmb IAmb 14 37 03.5
comp=Z,212nm,2.3s
PILG Pilgrimsrest, 52.35 78 *e*P **P 14 37 01.8 -3.3**
PILG IAmb IAmb 14 37 10.3
comp=Z,34nm,0.9s
HOED Hoedspruit, Li 52.89 78 *e*P **P 14 37 07.4 -1.5**
HOED IAmb IAmb 14 37 14.6
comp=Z,63nm,1.2s
CASY Casey 53.72 161 P **P 14 37 14.4 0.0**
NPGB Novo Progresso 53.76 326 *e*P **P 14 37 18.5 +3.1**
MOPA Mopani 53.86 78 *e*P **P 14 37 14.5 -1.5**
MOPA IAmb IAmb 14 37 22.4
comp=Z,548nm,2.0s
MUSN Musina, Limpop 54.02 76 *e*P **P 14 37 15.2 -2.0**
MUSN IAmb IAmb 14 37 23.1
comp=Z,43nm,1.0s
SAML Samuel 54.75 316 P **P 14 37 22.8 +0.3**
SAML Samuel 54.75 316 P **P 14 37 22.8 +0.3**
SAML pmax pmax
comp=Z,14nm,1.0s
SAML Samuel 54.75 316 *e*P **P 14 37 23.3 +0.7**
ETMB Extrema 55.18 312 P **P 14 37 24.3 -1.3**
ETMB Extrema 55.18 312 *e*P **P 14 37 27.2 +1.6**
TMAB Tom-Au,PA,Br 56.25 336 *e*P **P 14 37 35.4 +2.1**
NNA Nana 58.04 300 *i* P **P 14 37 46.5 +0.4**
NNA pmax pmax
comp=Z,29nm,1.1s
NNA Nana 58.04 300 LR LR 15 02 03.2
comp=Z,1µm,21.5s,baz=141,slow=35
KRI Karoi 58.36 72 *e*P **P 14 37 47.1 -1.3**
LSZ Lusaka 58.91 69 P **P 14 37 50.1 -2.1**
LSZ IAMs_20 IAMs_20 15 02 56.2
comp=Z,3µm,18.0s
LSZ Lusaka 58.91 69 P **P 14 37 50.1 -2.1**
LSZ pmax pmax
comp=Z,75nm,1.4s
LSZ MLR MLR
comp=Z,3µm,18.0s
LSZ Lusaka 58.91 69 LR LR 15 01 41.7
comp=Z,2µm,18.4s,baz=206,slow=35
MCPB Macapa, AP 59.16 332 *e*P **P 14 37 58.3 +4.5**
TEFE Tefe 60.29 317 *e*P **P 14 38 02.2 +0.6**
FOMA Nahampoana Res 61.31 92 IAMs_20 IAMs_20 15 02 28.8
comp=Z,2µm,18.0s
ATAH Atahualpa 63.00 301 LR LR 15 08 18.1
comp=Z,1µm,19.4s,baz=148,slow=38
RPN Rapa Nui 63.17 261 LR LR 15 01 45.5
comp=Z,1µm,19.1s,baz=112,slow=32
VOI Vohitsoka 63.64 90 P **P 14 38 23.6 -0.6**
VOI IAmb IAmb 14 38 31.7
comp=Z,32nm,1.2s
VOI IAMs_20 IAMs_20 14 59 18.5
comp=Z,2µm,22.0s
VOI Vohitsoka 63.64 90 P P 14 38 31.3 +7.2
BOAV Boa Vista 64.30 323 IAMs_20 IAMs_20 15 05 27.9
comp=Z,2µm,20.0s
MDP Montagnes des 64.55 333 LR LR 15 04 04.8
comp=Z,2µm,20.6s,baz=142,slow=34
LIC Lamto 65.21 25⇑ *i*P **P 14 38 35.8 +1.6**
comp=Z,13nm,0.5s
KIC Kosan Boka 65.41 26⇑ *i*P **P 14 38 37.6 +2.1**
comp=Z,35nm,0.8s
TIC Toumodi 65.61 25⇑ *i*P **P 14 38 38.4 +1.5**
comp=Z,13nm,0.2s
DBIC Dimbokro 65.68 25 P **P 14 38 37.0 -0.3**
comp=Z,9.6nm,0.7s,baz=154,slow=7.3,SNR=8.1
DBIC LR LR 15 00 23.8
comp=Z,2µm,21.1s,baz=182,slow=30
comp=Z,9.6nm,0.7s
MCRA Macar, Loja 66.16 301 P **P 14 38 38.7 -1.8**
OPO Ambohidratompo 66.53 88 LR LR 15 01 22.7
comp=Z,2µm,21.5s,baz=328,slow=30
COHC Cochancay 67.49 302 P **P 14 38 49.3 +0.4**
OTAV Otavalo 69.50 305 P **P 14 39 00.9 -1.1**
OTAV Otavalo 69.50 305 IAMs_20 IAMs_20 15 10 13.9
comp=Z,1µm,19.0s
OTAV Otavalo 69.50 305 P **P 14 39 00.9 -1.1**
OTAV pmax pmax
comp=Z,57nm,1.5s
OTAV MLR MLR
comp=Z,1µm,19.0s
OTAV Otavalo 69.50 305 *e*P **P 14 39 04.3 +2.3**
TULM Tulcn-Chalpat 69.62 305 IAMs_20 IAMs_20 15 09 54.2
comp=Z,2µm,21.0s
MBO M'Bour 71.13 11 IAMs_20 IAMs_20 15 02 53.4
comp=Z,2µm,20.0s
ROSC El Rosal 71.78 311 IAMs_20 IAMs_20 15 11 03.5
comp=Z,2µm,18.0s
ROSC El Rosal 71.78 311 LR LR 15 10 53.5
comp=Z,2µm,21.6s,baz=158,slow=36
MBAR Mbarara 72.70 64 P **P 14 39 18.8 -2.3**
MBAR IAmb IAmb 14 39 33.8
comp=Z,35nm,1.5s
MBAR Mbarara 72.70 64 *i* P **P 14 39 21.9 +0.8**
MBAR pmax pmax
comp=Z,11nm,1.3s
MBAR Mbarara 72.70 64 LR LR 15 09 09.7
comp=Z,618nm,19.4s,baz=202,slow=34
PCRV Puerto La Cruz 72.96 322 LR LR 15 11 07.9
comp=Z,1µm,20.7s,slow=36
BAUV El Baul 73.03 318 P **P 14 39 22.3 -0.5**

TOA0 Torodi Ar. Sit 73.58 30 P **P 14 39 26.0 0.0**
TOA0 IAmb IAmb 14 39 33.8
comp=Z,22nm,1.0s
TORD Torodi Ar. Bea 73.58 30 P **P 14 39 24.9 -1.1**
TORD IAmb IAmb 14 39 33.7
comp=Z,19nm,0.9s
TORD Torodi Ar. Bea 73.58 30 P **P 14 39 25.2 -0.7**
comp=Z,8.4nm,0.8s,baz=198,slow=4.5,SNR=35
TORD LR LR 15 04 34.3
comp=Z,739nm,21.7s,baz=185,slow=30
comp=Z,8.4nm,0.8s
SDV Santo Domingo 73.96 316 P **P 14 39 27.1 -1.4**
SDV Santo Domingo 73.96 316 LR LR 15 11 16.4
comp=Z,3µm,21.8s,baz=148,slow=35
SDV Santo Domingo 73.96 316 *e*P **P 14 39 29.5 +1.0**
KIBK Kibwezi 74.96 71 P **P 14 39 32.3 -1.9**
KIBK IAmb IAmb 14 39 44.2
comp=Z,58nm,1.9s
KIBK IAMs_20 IAMs_20 15 10 24.2
comp=Z,2µm,20.0s
LODK Lodwar 78.48 66 IAMs_20 IAMs_20 15 14 08.9
comp=Z,2µm,18.0s
SEUS St. Eustatius 79.28 326 IAMs_20 IAMs_20 15 13 32.6
comp=Z,1µm,19.0s
SMRT St. Maarten 79.83 326 IAMs_20 IAMs_20 15 17 37.2
comp=Z,1µm,18.0s
HDC Heredia 80.70 304 IAMs_20 IAMs_20 15 04 46.8
comp=Z,2µm,22.0s
MRZ Mangatainoka R 81.26 198 IAMs_20 IAMs_20 15 14 04.2
comp=Z,1µm,18.0s
JTS Las Juntas de 81.34 303 *i* P **P 14 40 10.0 +0.6**
JTS pmax pmax
comp=Z,11nm,1.1s
JTS Las Juntas de 81.34 303 LR LR 15 16 19.6
comp=Z,215nm,21.7s,baz=124,slow=36
URZ Urewera 83.32 200 LR LR 15 14 15.6
comp=Z,1µm,19.5s,baz=277,slow=33
SDDR Presa de Saban 83.46 319 IAMs_20 IAMs_20 15 15 22.7
comp=Z,1µm,22.0s
TAM Tamanrasset 83.83 31 P **P 14 40 22.0 -0.3**
TAM IAmb IAmb 14 40 35.2
comp=Z,21nm,1.2s
TAM Tamanrasset 83.83 31 P **P 14 40 22.0 -0.3**
TAM pmax pmax
comp=Z,21nm,1.2s
FURI Furi 84.84 66 IAMs_20 IAMs_20 15 18 43.4
comp=Z,1µm,18.0s
TOO Toolangi 86.22 175 P **P 14 40 34.4 +0.2**
NWAO Narrogin (SRO) 86.22 151 LR LR 15 14 55.0
comp=Z,930nm,21.4s,baz=203,slow=33
CAN Canberra 88.59 178 IAMs_20 IAMs_20 15 18 29.6
comp=Z,2µm,21.0s
ATD Arta Tunnel 89.20 68 IAMs_20 IAMs_20 15 19 44.1
comp=Z,1µm,18.0s
ATD Arta Tunnel 89.20 68 LR LR 15 19 54.1
comp=Z,62nm,18.4s,baz=200,slow=35
MDT Midelt 91.07 20 LR LR 15 18 37.4
comp=Z,1µm,18.4s,baz=172,slow=34
TEIG Tepich 91.56 305 LR LR 15 25 20.4
comp=Z,3µm,19.8s,slow=38
STKA Stephens Creek 91.61 171 *e*P **P 14 41 01.9 +2.1**
STKA pmax pmax
comp=Z,4.0nm,0.8s
STKA Stephens Creek 91.61 171 P **P 14 41 02.1 +2.3**
comp=Z,3.8nm,0.8s,baz=167,slow=11,SNR=5.4
STKA LR LR 15 21 06.3
comp=Z,2µm,18.7s,baz=182,slow=35
comp=Z,3.8nm,0.8s
PPT Papeete 91.63 234 LR LR 15 13 53.2
comp=Z,601nm,19.5s,baz=164,slow=30
CMIG Matias Romero 91.97 298 LR LR 15 17 37.0
comp=Z,504nm,21.7s,baz=166,slow=32
RAR Rarotonga 92.67 224 LR LR 15 16 06.2
comp=Z,691nm,20.0s,baz=166,slow=31
061Z Ochoppi 93.38 314 IAMs_20 IAMs_20 15 22 52.5
comp=Z,1µm,22.0s
TLIG Tlapa 94.19 296 IAMs_20 IAMs_20 15 19 10.6
comp=Z,1µm,20.0s
060A Indiantown 94.20 315 IAMs_20 IAMs_20 15 21 45.4
comp=Z,1µm,21.0s
DWPF Disney Wildern 95.58 315 IAMs_20 IAMs_20 15 24 10.0
comp=Z,1µm,21.0s
KEST Kesra 97.10 30 IAMs_20 IAMs_20 15 21 03.8
comp=Z,1µm,21.0s
KEST Kesra 97.10 30 LR LR 15 21 48.0
comp=Z,902nm,19.8s,baz=164,slow=33
656A Willston 97.14 314 IAMs_20 IAMs_20 15 24 57.2
comp=Z,2µm,21.0s
MOIG Morelia 97.30 295 IAMs_20 IAMs_20 15 20 11.6
comp=Z,1µm,21.0s
PSAD3 Pilbara Seismi 97.61 150 IAMs_20 IAMs_20 15 19 18.4
comp=Z,1µm,22.0s
PSAC2 Pilbara Seismi 97.72 150 IAMs_20 IAMs_20 15 19 23.3
comp=Z,988nm,20.0s
ESDC Sonsec Array 97.86 18 LR LR 15 20 35.6
comp=Z,1µm,21.4s,baz=199,slow=32
MBWA Marble Bar 98.06 150 IAMs_20 IAMs_20 15 19 19.2
comp=Z,1µm,20.0s
WDD Wied Dalam 98.72 34 IAMs_20 IAMs_20 15 24 34.7
comp=Z,810nm,18.0s
ASAR Alice Springs 98.77 163 **P** **14 41 31.6 -1.0**
ASAR Alice Springs 98.77 163 P Pdif 14 41 32.6 0.0
comp=Z,4.5nm,0.9s,baz=183,slow=3.7,SNR=12
ASAR LR LR 15 24 12.4
comp=Z,1µm,18.8s,baz=183,slow=34
comp=Z,4.5nm,0.9s
257A Skidaway Islan 98.87 317 IAMs_20 IAMs_20 15 24 00.9
comp=Z,1µm,22.0s
Y60A Bolivia 99.64 320 IAMs_20 IAMs_20 15 23 13.3
comp=Z,894nm,22.0s
352A Blakely 99.96 313 IAMs_20 IAMs_20 15 26 50.0
comp=Z,1µm,22.0s
ZAIG Zacatecas 100.58 295 IAMs_20 IAMs_20 15 21 28.8
comp=Z,1µm,22.0s
JSC Jenkinsville 101.01 317 IAMs_20 IAMs_20 15 20 05.6
comp=Z,880nm,22.0s
GOGA Godfrey 101.08 315 IAMs_20 IAMs_20 15 25 24.5
comp=Z,809nm,21.0s
W57A Gilead 101.31 319 IAMs_20 IAMs_20 15 26 02.6
comp=Z,856nm,20.0s
HODGE Hodges 101.34 317 IAMs_20 IAMs_20 15 24 58.4
comp=Z,838nm,22.0s
Y52A Lilburn 101.72 315 IAMs_20 IAMs_20 15 27 27.4
comp=Z,867nm,20.0s
KMSC Kings Mountain 101.80 318 IAMs_20 IAMs_20 15 23 42.5
comp=Z,871nm,22.0s
LRAL Lakeview Retre 102.17 313 IAMs_20 IAMs_20 15 28 12.5
comp=Z,966nm,20.0s
BG3 Lake Jocassee 102.27 317 IAMs_20 IAMs_20 15 28 12.1
comp=Z,749nm,20.0s
WRA Warramunga Arr 102.49 163 P **Pdif** **14 41 49.0 -0.2**
WRA Warramunga Arr 102.49 163 P **Pdif** **14 41 49.0 -0.2**
comp=Z,1.5nm,1.1s,baz=200,slow=4.7,SNR=3.6
WR7 Warramunga Arr 102.50 163 IAMs_20 IAMs_20 15 22 48.1
comp=Z,1µm,20.0s
WR8 Warramunga Arr 102.51 163 IAMs_20 IAMs_20 15 25 30.2
comp=Z,1µm,20.0s
WB3 Warramunga Arr 102.52 163 IAMs_20 IAMs_20 15 22 23.4
comp=Z,975nm,20.0s
GHAJ Ghor Haditha 102.58 52 IAMs_20 IAMs_20 15 22 49.5
comp=Z,1µm,21.0s
X51A Calhoun 102.64 315 IAMs_20 IAMs_20 15 26 40.0
comp=Z,886nm,22.0s
146A Union 102.68 311 IAMs_20 IAMs_20 15 29 12.9
comp=Z,1µm,22.0s
W52A Murphy 102.75 316 IAMs_20 IAMs_20 15 29 21.6
comp=Z,878nm,20.0s
Z47A Carrollton 102.75 312 IAMs_20 IAMs_20 15 28 07.9
comp=Z,757nm,20.0s
CBN Corbin Frederi 103.12 322 IAMs_20 IAMs_20 15 23 29.4
comp=Z,868nm,22.0s
TKL Tuckaleechee C 103.18 316 IAMs_20 IAMs_20 15 29 02.1
comp=Z,789nm,20.0s
U54A Nelsons Funny 103.21 318 IAMs_20 IAMs_20 15 26 22.7
comp=Z,837nm,22.0s
V52A Sevierville 103.28 316 IAMs_20 IAMs_20 15 28 41.6
comp=Z,907nm,19.0s
BALJ Balqa 103.28 51 IAMs_20 IAMs_20 15 24 56.2
comp=Z,1µm,21.0s
CPCT Cooper Cave 103.29 316 IAMs_20 IAMs_20 15 26 37.0
comp=Z,1µm,22.0s
SWET Sewanee 103.64 314 IAMs_20 IAMs_20 15 28 10.3
comp=Z,1µm,21.0s
CESX Cesi 104.42 30 IAMs_20 IAMs_20 15 25 18.3
comp=Z,1µm,21.0s
OXF Oxford 104.44 312 IAMs_20 IAMs_20 15 28 12.6
comp=Z,1µm,22.0s
VLO Vlora 104.52 36 IAMs_20 IAMs_20 15 27 24.1
comp=Z,728nm,19.0s
CAMP Campotosto 104.58 30 IAMs_20 IAMs_20 15 24 34.6
comp=Z,1µm,22.0s
T50A Nancy 104.79 316 IAMs_20 IAMs_20 15 29 49.6
comp=Z,991nm,22.0s
OSSC Osservatorio P 104.91 28 IAMs_20 IAMs_20 15 29 19.3
comp=Z,894nm,18.0s
KBN Korca 105.08 36 IAMs_20 IAMs_20 15 24 39.0
comp=Z,778nm,21.0s
KNRA Kununurra 105.58 157 IAMs_20 IAMs_20 15 26 56.6
comp=Z,1µm,20.0s
GLAT Glass 105.91 313 IAMs_20 IAMs_20 15 30 24.3
comp=Z,1µm,22.0s
PEBM Pemiscott Bayo 106.01 312 IAMs_20 IAMs_20 15 30 18.1
comp=Z,985nm,20.0s
PVMO Portageville 106.20 312 IAMs_20 IAMs_20 15 30 45.1
comp=Z,1µm,20.0s
LCAR Lake Charles 106.51 311 IAMs_20 IAMs_20 15 29 46.3
comp=Z,1µm,22.0s
USIN University of 106.71 315 IAMs_20 IAMs_20 15 23 37.7
comp=Z,678nm,19.0s
FCAR Ozark Folk Cen 106.76 310 IAMs_20 IAMs_20 15 30 12.1
comp=Z,1µm,22.0s
BLO Bloomington 107.31 316 IAMs_20 IAMs_20 15 30 00.4
comp=Z,1µm,21.0s
O49A Covington 107.37 318 IAMs_20 IAMs_20 15 26 53.8
comp=Z,1µm,22.0s
UGM Wanagama 107.38 137 IAMs_20 IAMs_20 15 24 09.1
comp=Z,791nm,19.0s
LOOK Love County 107.38 306 IAMs_20 IAMs_20 15 22 12.6
comp=Z,992nm,19.0s
PRED Cave del Predi 108.23 29 IAMs_20 IAMs_20 15 26 21.2
comp=Z,1µm,22.0s
RLO Rose Lookout 108.24 308 IAMs_20 IAMs_20 15 28 32.5
comp=Z,1µm,21.0s
GAZ Gaziantep 108.29 50 IAMs_20 IAMs_20 15 34 37.7
comp=Z,695nm,18.0s
N47A Urbana 108.48 317 IAMs_20 IAMs_20 15 27 03.2
comp=Z,1µm,22.0s
S39A Bolivar 108.80 310 IAMs_20 IAMs_20 15 30 58.0
comp=Z,997nm,22.0s
MTN Manton Dam 108.83 158 IAMs_20 IAMs_20 15 29 17.8
comp=Z,1µm,20.0s
DELO Deloro Mine 108.87 325 IAMs_20 IAMs_20 15 41 46.3
comp=Z,972nm,20.0s
PMBI Palembang 109.55 129 IAMs_20 IAMs_20 15 26 24.4
comp=Z,688nm,20.0s
HDIL Hopedale 109.58 315 IAMs_20 IAMs_20 15 30 00.6
comp=Z,749nm,21.0s
EPT El Paso 109.97 297 IAMs_20 IAMs_20 15 31 30.4
comp=Z,742nm,18.0s
N41A Harden Midland 110.33 314 IAMs_20 IAMs_20 15 32 21.5
comp=Z,1µm,20.0s
ARPR Arapgir-MALATY 110.38 49 IAMs_20 IAMs_20 15 34 16.1
comp=Z,869nm,21.0s
GRF Grafenberg Arr 110.63 26 *e*L L 15 28 07.4
comp=Z,730nm,21.8s
TREC Trest 111.36 29 AMS AMS 15 29 10.0
comp=Z,800nm,17.5s
KSU1 Kansas State U 111.39 309 IAMs_20 IAMs_20 15 31 36.5
comp=Z,1µm,22.0s
VYHS Vyhne 111.57 31 *e*P **Pdif** **14 42 34.2 +5.6**
VYHS Vyhne 111.57 31 *e*PDIFF **Pdif** **14 42 34.2 +5.6**
MOX Moxa 111.61 26 *e*L L 15 28 00.7
comp=Z,520nm,21.3s
GOPC GO Pecny, Ondr 111.74 28 AMS AMS 15 27 40.0
comp=Z,1µm,20.0s
PRU Pruhonice 111.74 28 AMS AMS 15 29 00.0
PRA Prague 111.79 28 AMS AMS 15 28 30.0
comp=Z,1µm,22.6s
Y22D IRIS PASSCAL I 112.03 298 IAMs_20 IAMs_20 15 34 50.1
comp=Z,822nm,19.0s
N33A J Bar K, Exete 113.10 309 IAMs_20 IAMs_20 15 35 15.9
comp=Z,980nm,20.0s
MYKOM Kota Tinggi 113.34 126 IAMs_20 IAMs_20 15 24 18.3
comp=Z,702nm,21.0s
SIM Simferopol' 113.61 43 *e*P **Pdif** **14 42 31.7 -6.1**
SIM *e* 14 47 24.0
SIM pmax pmax
comp=Z,90nm,6.7s
SIM pmax pmax
comp=Z,340nm,8.5s
IPM Ipoh 114.41 122 IAMs_20 IAMs_20 15 24 30.5
comp=Z,906nm,21.0s
KULM Kulim 114.94 121 IAMs_20 IAMs_20 15 24 32.6
comp=Z,934nm,20.0s
UABX UABC, Campus M 115.18 291 IAMs_20 IAMs_20 15 29 38.6
comp=Z,654nm,18.0s
MVCO Mesa Verde 115.31 299 IAMs_20 IAMs_20 15 33 49.5
comp=Z,1µm,19.0s
ONI Oni 115.45 51 IAMs_20 IAMs_20 15 35 28.4
comp=Z,695nm,20.0s
KBZ Khabaz 116.14 50 *i* PKIKP **PKPdf** **14 46 34.9 -0.1**
KBZ pmax pmax
comp=Z,1.0nm,1.0s
SMCO Snowmass 116.14 302 IAMs_20 IAMs_20 15 39 04.8
comp=Z,699nm,20.0s
KIV Kislovodsk 116.23 49 *i* PKIKP **PKiKP** **14 46 37.4 +2.0**
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR
comp=Z,281nm,22.0s
BELC Belle Mtn. Jos 116.54 292 P **PKiKP** **14 46 36.3 -0.1**
baz=142
EYMN Ely 116.67 318 P **PKiKP** **14 46 36.7 +0.7**
baz=146
HMU Henry Mountain 116.98 298 IAMs_20 IAMs_20 15 31 59.0
comp=Z,800nm,22.0s
O20A White River Ci 117.50 302 P **PKiKP** **14 46 38.3 +0.1**
baz=142
MAK Makhachkala 117.53 53 *i* P **Pdif** **14 42 59.8 +4.6**
MAK *i* 14 46 37.6
MAK *e* 14 53 32.1
SRU San Rafael Swe 117.79 299 IAMs_20 IAMs_20 15 36 38.4
comp=Z,705nm,18.0s
MSU Marysvale 118.13 298 PKPdf **PKiKP** **14 46 39.9 +0.4**
MSU Marysvale 118.13 298 PKIKP **PKiKP** **14 46 39.9 +0.4**
SCZ2 Santa Cruz Isl 118.43 289 P **PKiKP** **14 46 40.1 +0.2**
baz=141
GYA0B ALIBECK ARRAY 118.61 64 IAMs_20 IAMs_20 15 39 33.1
comp=Z,829nm,19.0s
AGMN Agassiz Nation 118.63 315 P **PKiKP** **14 46 40.9 +1.1**
baz=144
K22A Casper 118.67 304 P **PKiKP** **14 46 40.7 +0.4**
baz=142
MPMC Manual Prospec 118.91 292 P **PKiKP** **14 46 41.4 +0.4**
baz=141
PSUT Pine Spring 118.98 297 IAMs_20 IAMs_20 15 32 21.9
comp=Z,597nm,20.0s
ISA Isabella, Lake 119.11 291 P **PKiKP** **14 46 41.8 +0.6**
baz=140
NLU North Lily Min 119.20 299 IAMs_20 IAMs_20 15 39 31.7
comp=Z,782nm,20.0s
PKM Mcpherson Peak 119.21 290 P **PKiKP** **14 46 42.3 +0.6**
baz=140
PABE Paberze 119.26 31 IAMs_20 IAMs_20 15 33 57.9
comp=Z,974nm,20.0s
CWC Cottonwood Cre 119.50 292 P **PKiKP** **14 46 42.2 +0.1**
baz=140
MNK Minsk 119.56 34 *i* PKIKP **PKiKP** **14 46 43.1 +1.7**
MNK *i* 14 48 05.5
MNK *i* SS SS 15 04 25.8 -0.7
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK pmax pmax
comp=Z,6.0nm,0.8s
MNK pmax pmax
comp=N,14nm,0.9s
MNK MLR MLR
comp=Z,325nm,18.0s
MNK MLR MLR
comp=E,114nm,17.0s
MNK MLR MLR
comp=N,338nm,18.0s
SMMC Simmler 119.63 290 P **PKiKP** **14 46 43.0 +0.8**
baz=140
R11B Troy Canyon, C 119.70 295 P **PKiKP** **14 46 43.1 +0.7**
baz=140
DUG Dugway, Tooele 119.75 299 IAMs_20 IAMs_20 15 39 58.6
comp=Z,733nm,21.0s
DUG Dugway, Tooele 119.75 299 PKIKP **PKiKP** **14 46 43.0 +0.6**
DUG Dugway, Tooele 119.75 299 P **PKiKP** **14 46 43.1 +0.7**
baz=140
MDND Maddock 119.77 313 IAMs_20 IAMs_20 15 38 24.2
comp=Z,1µm,21.0s
BW06 Boulder Array 120.17 303 P **PKiKP** **14 46 43.9 +0.6**
baz=140
PDAR Pinedale Array 120.17 303 PKP **PKPdf** **14 46 41.6 -1.6**

comp=Z,1.0nm,0.7s,baz=114,slow=3.7,SNR=8.9
ULM Lac du Bonnet 120.21 317 *e*PKIKP **PKiKP 14 46 43.0 +0.2**
ULM pmax pmax
comp=Z,2.0nm,0.6s
ULM Lac du Bonnet 120.21 317 PKhKP PKPpre 14 46 40.2
comp=Z,1.5nm,0.6s,baz=168,slow=3.5,SNR=3.1
HWUT Hardware Ranch 120.23 300 IAMs_20 IAMs_20 15 37 59.3
comp=Z,754nm,18.0s
NVAR Mina Array Bea 121.14 293 PKP **PKPdf 14 46 44.2 -1.0**
comp=Z,0.5nm,0.7s,baz=195,slow=2.8,SNR=3.3
LOHW Long Hollow 121.31 303 IAMs_20 IAMs_20 15 36 30.9
comp=Z,846nm,21.0s
TPAW Teton Pass 121.38 302 IAMs_20 IAMs_20 15 39 01.0
comp=Z,628nm,21.0s
MOOW Moose Ponds 121.48 303 PKPdf **PKPdf 14 46 45.4 -0.3**
MOOW IAMs_20 IAMs_20 15 39 14.4
comp=Z,1μm,20.0s
IMW Indian Meadow 121.68 303 IAMs_20 IAMs_20 15 39 28.7
comp=Z,848nm,21.0s
WAKR Walker 121.77 293 IAMs_20 IAMs_20 15 41 07.5
comp=Z,670nm,21.0s
RLMT Red Lodge 121.84 305 P **PKiKP 14 46 46.5 0.0**
baz=140
DGMT Dagmar 122.17 310 P **PKiKP 14 46 47.7 +1.0**
baz=140
PNTR Pine Nut 122.30 293 IAMs_20 IAMs_20 15 39 25.4
comp=Z,574nm,18.0s
KKM Kota Kinabalu 122.36 136 IAMs_20 IAMs_20 15 31 40.2
comp=Z,582nm,21.0s
VSU Vasula 122.58 31 *i* PKIKP **PKiKP 14 46 47.1 0.0**
VSU pmax pmax
comp=Z,7.0nm,1.1s
MPK Martis Peak 122.67 293 IAMs_20 IAMs_20 15 36 01.4
comp=Z,618nm,20.0s
OBN Obninsk 122.90 38 *e*PKIKP **PKiKP 14 46 48.2 +0.3**
OBN *e* 14 48 25.9
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,296nm,19.0s
HLID Hailey 123.08 300 P **PKiKP 14 46 49.2 +0.3**
baz=138
NIL Nilore 123.28 78 IAMs_20 IAMs_20 15 34 31.0
comp=Z,619nm,22.0s
BOZ Bozeman (W) 123.29 303 P **PKiKP 14 46 49.7 +0.4**
baz=139
ORV Oroville 123.62 292 IAMs_20 IAMs_20 15 35 29.5
comp=Z,497nm,18.0s
EGMT Eagleton 124.25 307 P **PKiKP 14 46 51.9 +0.9**
baz=138
WVOR Wild Horse Val 124.31 296 PKIKP **PKiKP 14 46 51.7 +0.4**
SIMJ Simiganj 124.75 71 IAMs_20 IAMs_20 15 49 59.7
comp=Z,476nm,18.0s
CHGR Chuyangaron 124.83 71 IAMs_20 IAMs_20 15 38 57.8
comp=Z,944nm,20.0s
CHGR Chuyangaron 124.83 71 PKIKP **PKPdf 14 46 49.1 -3.0**
FINES FINESS Array B 124.91 28 *e*PKIKP **PKPdf 14 46 50.8 -0.5**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 124.91 28 PKP **PKPdf 14 46 50.4 -0.9**
comp=Z,1.7nm,0.6s,baz=132,slow=2.8,SNR=13
CMAR Chiang Mai Arr 125.34 112 *e*PKIKP **PKiKP 14 46 55.3 +1.3**
CMAR pmax pmax
comp=Z,3.0nm,0.9s
CMAR Chiang Mai Arr 125.34 112 PKP **PKPdf 14 46 53.5 0.0**
comp=Z,3.2nm,0.9s,baz=227,slow=3.3,SNR=10
BMO Blue Mountains 125.43 299 IAMs_20 IAMs_20 15 41 56.1
comp=Z,798nm,22.0s
CHTO Chiang Mai 125.64 111 IAMs_20 IAMs_20 15 30 00.4
comp=Z,828nm,22.0s
UBPT Khong Chiam 125.91 120 IAMs_20 IAMs_20 15 30 26.4
comp=Z,925nm,20.0s
BTK Batken 126.73 71 IAMs_20 IAMs_20 15 37 11.1
comp=Z,596nm,22.0s
BTK Batken 126.73 71 PKIKP **PKiKP 14 46 57.7 +1.5**
ABKAR Akbulak array 127.93 56 PKPdf **PKPdf 14 46 56.5 -1.1**
TRKS Terek-Say 127.96 70 PKIKP **PKiKP 14 46 58.5 -0.2**
C09A Chrisman Ranch 128.02 301 IAMs_20 IAMs_20 15 44 54.6
comp=Z,776nm,21.0s
KLMR Klimovskoe 128.37 35 *e*PKIKP **PKPdf 14 46 57.4 -0.6**
KLMR pmax pmax
comp=Z,27nm,1.3s
KLMR MLR MLR
comp=Z,659nm,18.0s
ARK Arkit 128.59 70 PKIKP **PKiKP 14 47 00.2 +0.3**
F04A Amboy 128.72 297 IAMs_20 IAMs_20 15 40 41.1
comp=Z,548nm,20.0s
LON Longmire 128.99 298 IAMs_20 IAMs_20 15 40 19.3
comp=Z,948nm,21.0s
KSH Kashi 129.08 75 PKP **PKPdf 14 46 59.7 -0.6**
KSH PP **PP 14 49 05.7 -3.4**
KSH LR LR
comp=Z,420nm,21.1s
KSH LR LR
comp=Z,410nm,19.1s
KSH LR LR
comp=Z,660nm,19.2s
EDM Edmonton 129.59 309 PKPdf **PKPdf 14 46 59.9 -0.7**
EDM Edmonton 129.59 309 PKIKP **PKPdf 14 46 59.9 -0.7**
ARLS Aral 129.87 72 PKIKP **PKiKP 14 47 04.2 +1.7**
KIRV Kirov 130.13 42 *i* PKIKP **PKiKP 14 47 02.8 +0.6**
AAK Ala-Archa 130.51 71 IAMs_20 IAMs_20 15 40 59.1
comp=Z,536nm,20.0s
AAK Ala-Archa 130.51 71 *i* PKIKP **PKiKP 14 47 04.0 +0.2**
TNCH TengChong 130.51 106 PKP **PKPdf 14 47 03.5 0.0**
TNCH sPKP 14 47 11.2
TNCH PP **PP 14 49 22.0 +3.7**
TNCH SS SS 15 06 45.2 +0.3
TNCH AMB AMB
comp=Z,380nm,6.2s
TNCH LR LR
comp=Z,240nm,19.7s
TNCH LR LR
comp=Z,200nm,21.2s
TNCH LR LR
comp=Z,360nm,20.6s
FRU1 Bishkek 130.70 71 IAMs_20 IAMs_20 15 41 30.2
comp=Z,556nm,20.0s
ARCES ARCESS Array B 131.44 22 *e*PKIKP **PKiKP 14 47 05.2 +0.6**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 131.44 22 PKP **PKPdf 14 47 03.9 +0.3**
comp=Z,5.1nm,0.9s,baz=222,slow=1.6,SNR=8.5
ARU Arti 132.26 49 IAMs_20 IAMs_20 15 44 06.0
comp=Z,666nm,20.0s
ARU Arti 132.26 49 *i* PKIKP **PKiKP 14 47 07.2 +0.6**
ARU 14 49 28.1
ARU SSS SSS 15 11 58.9
PRZ Przheval'sk 132.47 74 IAMs_20 IAMs_20 15 38 12.5
comp=Z,574nm,22.0s
KMI Kunming 132.81 110 ⇓PKP **PKiKP 14 47 14.3 +5.2**
KMI PP **PP 14 49 37.2 +4.0**
KMI SKP 14 50 36.6
KMI AMB AMB
comp=Z,270nm,6.8s
KMI LR LR
comp=N,280nm,18.2s
KMI LR LR
comp=E,360nm,21.6s
KMI LR LR
comp=Z,560nm,33.2s
DAG Danmarks Havn 133.05 3 PKIKP **PKPdf 14 47 04.8 -1.7**
PZH PanZhiHua 133.41 108 PKP **PKPdf 14 47 07.9 -1.0**
PZH PKS **PKSdf 14 50 40.9 -4.5**
PZH SS SS 15 07 21.9 +1.9
PZH AMB AMB
comp=Z,290nm,6.9s
PZH LR LR
comp=Z,230nm,19.6s
PZH LR LR
comp=Z,260nm,22.4s
PZH LR LR
comp=Z,280nm,22.7s
BRVK Borovoye 135.31 58 IAMs_20 IAMs_20 15 46 47.9
comp=Z,620nm,20.0s
BRVK Borovoye 135.31 58 *i* PKIKP **PKiKP 14 47 13.0 +0.1**
BRVK pmax pmax
comp=Z,19nm,2.8s
BVAR Borovoye Array 135.34 58 PKP **PKPdf 14 47 11.4 -0.1**
comp=Z,2.0nm,0.6s,baz=225,slow=2.8,SNR=13
YKA Yellowknife Ar 136.15 318 PKPdf **PKPdf 14 47 11.0 -1.6**
YKA Yellowknife Ar 136.15 318 *e*PKIKP **PKPdf 14 47 11.3 -1.3**
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 136.15 318 PKP **PKPdf 14 47 11.6 -1.0**
comp=Z,2.4nm,0.8s,baz=126,slow=2.2,SNR=17
YKA PP **PP 14 49 52.4 -1.4**
comp=Z,0.4nm,0.9s,baz=127,slow=6.2,SNR=3.7
MAKZ Makanchi 137.26 72 IAMs_20 IAMs_20 15 50 30.6
comp=Z,508nm,21.0s
MAKZ Makanchi 137.26 72 PKIKP **PKiKP 14 47 19.2 +2.1**
MK31 Makanchi Array 137.41 72 *i* PKIKP **PKPdf 14 47 15.7 +0.2**
MKAR Makanchi Array 137.41 72 PKPdf **PKPdf 14 47 13.8 -1.8**
MKAR Makanchi Array 137.41 72 PKhKP PKPpre 14 47 09.1
comp=Z,0.2nm,0.5s,baz=199,slow=3.1,SNR=2.3
MKAR PKP **PKPdf 14 47 15.1 -0.5**
comp=Z,1.2nm,1.0s,baz=253,slow=1.3,SNR=6.4
KURBB Kurchatov Arra 137.85 66 PKP **PKPdf 14 47 14.7 -1.4**
comp=Z,0.4nm,0.3s,baz=247,slow=3.6,SNR=1.1
KURK Kurchatov 137.95 65 IAMs_20 IAMs_20 15 49 11.9
comp=Z,672nm,21.0s
KURK Kurchatov 137.95 65 PKIKP **PKPdf 14 47 14.7 -1.6**
CD2 Chengdu 137.98 107 PKP **PKPdf 14 47 14.9 -2.2**
CD2 SKS **SKSdf 14 54 20.2 -5.7**
CD2 SKKS **SKKSac 14 56 58.4 +0.6**
CD2 AMB AMB
comp=Z,290nm,6.3s
CD2 LR LR
comp=Z,460nm,19.4s
CD2 LR LR
comp=Z,330nm,19.4s
CD2 LR LR
comp=Z,450nm,19.6s
RES Resolute Bay 138.03 339 PKIKP **PKiKP 14 47 19.5 +1.7**
WMQ Urumqi 138.40 79 *e*PKP **PKPdf 14 47 17.5 0.0**
WMQ LR LR
comp=Z,660nm,24.9s
WMQ LR LR
comp=Z,420nm,23.8s
QZH Quanzhou 140.33 128 *i* PKP **PKPdf 14 47 19.4 -2.1**
QZH PP **PP 14 50 24.6 +4.9**
QZH SS SS 15 08 46.3 +4.7
QZH LR LR
comp=Z,470nm,28.2s
S34M Telegraph Cree 140.40 305 P **PKPdf 14 47 21.2 +0.7**
baz=122
DGZ Jazzator, Alta 141.91 72 *i* PKIKP **PKPdf 14 47 23.0 -0.8**
DGZ pmax pmax
comp=Z,1.0nm,0.9s
LZH Lanzhou 141.97 102 PKP **PKPdf 14 47 17.4 -7.0**
LZH PP **PP 14 50 33.3 +3.0**
GTA Gaotai 142.14 94 *e*PKP **PKiKP 14 47 26.3 -1.2**
GTA pPKP pPKPdf 14 47 33.8 +1.4
GTA LR LR
comp=Z,230nm,20.0s
GTA LR LR
comp=Z,280nm,22.2s
GTA LR LR
comp=Z,310nm,22.5s
S31K Pelican 142.77 303 P **PKPdf 14 47 25.2 +0.4**
baz=119
N32M Quiet Lake 142.87 309 P **PKPdf 14 47 24.1 -0.9**
baz=117
ZAA0 Zalesovo Array 142.92 65 IAMs_20 IAMs_20 15 50 14.2
comp=Z,546nm,21.0s
ZALV Zalesovo Beam 142.92 65 *e*PKIKP **PKPdf 14 47 22.9 -2.3**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 142.92 65 PKhKP PKPpre 14 47 20.9
comp=Z,1.2nm,0.5s,baz=215,slow=3.5,SNR=5.5
C36M Paulatuk 142.96 324 P **PKPdf 14 47 23.9 -0.9**
baz=113
SKAG Skagway 143.07 306 P **PKPdf 14 47 24.2 -1.1**
baz=118
WHN Wuhan 143.12 119 PKP **PKiKP 14 47 30.3 +0.7**
WHN LR LR
comp=Z,2μm,37.2s
XAN Xi'an 143.14 109 PKP PKPbc 14 47 24.4 +1.0
XAN LR LR
comp=Z,470nm,21.6s
XAN LR LR
comp=Z,560nm,20.6s
XAN LR LR
comp=Z,650nm,20.6s
WHY Whitehorse 143.43 308 P **PKPdf 14 47 25.0 -1.1**
baz=117
FARO Faro, Yukon 143.47 311 P **PKPdf 14 47 25.4 -0.6**
baz=116
M31M Drury Creek, Y 143.90 310 P **PKPdf 14 47 26.7 -0.1**
baz=115,SNR=9.6
O30N Mendenhall 144.01 307 P **PKPdf 14 47 27.5 +0.5**
baz=116,SNR=8.4
P30M Million Dollar 144.11 306 P **PKPdf 14 47 27.9 +0.7**
baz=116
P29M Windy Craggy 144.24 305 P PKPbc 14 47 26.0 +0.2
baz=116
A36M Sachs Harbour 144.29 328 PKPdf PKPbc 14 47 25.4 -0.1
A36M Sachs Harbour 144.29 328 P **PKPdf 14 47 27.9 +0.8**
baz=109,SNR=60
HYT Haines Junctio 144.66 307 P **PKPdf 14 47 28.5 +0.3**
baz=115,SNR=10.0
N30M Aishikik Lake 144.74 308 P **PKPdf 14 47 29.0 +0.7**
baz=114
O29M Mount Kennedy 144.92 306 P **PKPdf 14 47 29.4 +0.7**
baz=115
PNL Peninsula 145.02 305 P **PKPdf 14 47 29.9 +1.2**
baz=115
M30M Minto, Yukon 145.07 310 P **PKPdf 14 47 29.5 +0.7**
baz=113,SNR=25
MAYO Mayo, Yukon 145.09 312 P **PKPdf 14 47 30.1 +1.4**
baz=112,SNR=12
YUK6 Outpost Mounta 145.09 307 P **PKPdf 14 47 29.6 +0.5**
baz=114
H31M Peel River 145.28 316 P **PKPab 14 47 30.2 +1.1**
baz=110
YUK4 Talbot Arm 145.38 307 P **PKPdf 14 47 29.5 -0.1**
baz=114
LYN LuoYang 145.39 112 *e*PKPbc **PKPdf 14 47 30.1 -0.1**
LYN PP **PP 14 50 52.6 +2.1**
LYN PKS **PKSdf 14 51 04.8 -0.8**
LYN AMB AMB
comp=Z,700nm,6.9s
LYN LR LR
comp=Z,320nm,24.0s
LYN LR LR
comp=Z,500nm,25.0s
LYN LR LR
comp=Z,680nm,23.4s
PINM Pinnacle 145.59 305 P **PKPbc 14 47 30.0 -0.1**
baz=114
F31M Tsiigehtchic 145.61 319 P **PKPab 14 47 30.2 +0.1**
baz=109,SNR=26
J30M Hart River 145.63 313 P **PKPbc 14 47 30.2 0.0**
baz=111
G31M Satah River 145.64 318 P **PKPdf 14 47 29.5 0.0**
baz=109,SNR=21
M29M Somme Creek 145.73 309 P **PKPdf 14 47 30.1 +0.1**
baz=112
INK Inuvik 145.80 320 PKPdf **PKPbc 14 47 30.1 -0.3**
INK Inuvik 145.80 320 PKP2 **PKPbc 14 47 30.3 -0.1**
INK Inuvik 145.80 320 P **PKPbc 14 47 30.1 -0.3**
baz=108,SNR=33
L29M L29M 145.84 311 P **PKPbc 14 47 30.5 -0.3**
baz=112
YUK8 Steele Glacier 145.85 307 P **PKPdf 14 47 30.5 +0.1**
baz=113
K29M Barlow Dome 145.85 312 P **PKPbc 14 47 30.7 -0.2**
baz=111
I30M Mount Dempster 145.88 315 P **PKPab 14 47 31.9 +0.4**
baz=110,SNR=27
YUK3 Moose Creek 146.35 308 P **PKPbc 14 47 32.9 +0.3**
baz=112,SNR=6.7
J29N Klondike Camp 146.35 313 P **PKPab 14 47 32.9 -0.3**
baz=110
G30M tAoh Zraii Nji 146.38 318 P **PKPbc 14 47 32.3 0.0**
baz=107
EPYK Eagle Plains 146.39 316 P **PKPab 14 47 32.7 -0.5**
baz=108,SNR=20
MESA MESA 146.40 304 P **PKPab 14 47 33.6 -0.1**
baz=113
F30M Barrier River 146.41 319 P **PKPab 14 47 32.7 -0.5**
baz=107
CTG Chitna Glacier 146.43 306 P **PKPab 14 47 33.3 -0.4**
baz=112
NJ2 Nanjing 146.52 123 *e*PKPbc **PKPab 14 47 34.4 -0.3**
NJ2 LR LR
comp=Z,250nm,15.2s
NJ2 LR LR
comp=Z,460nm,18.0s
NJ2 LR LR
comp=Z,550nm,18.9s
DAWY Dawson 146.71 312 PKPdf **PKPdf 14 47 31.8 +0.3**
DAWY Dawson 146.71 312 P **PKPbc 14 47 32.9 -0.4**
baz=109,SNR=28
BVCY Beaver Creek 146.76 309 P **PKPbc 14 47 33.0 -0.5**
baz=111
SSE Sheshan 146.78 127 PKPbc **PKiKP 14 47 36.9 -0.2**
SSE LR LR
comp=Z,200nm,18.7s
SSE LR LR
comp=Z,160nm,18.7s
SSE LR LR
comp=Z,310nm,23.3s
H29M Whitestone 146.98 316 P **PKPbc 14 47 34.6 +0.6**
baz=107
G29M Pine Creek 147.04 317 P **PKPbc 14 47 33.6 -0.5**
baz=106
CRQE Cirque 147.14 305 P **PKPbc 14 47 35.1 +0.3**
baz=112
M27K Edge Creek, AK 147.18 308 P **PKPbc 14 47 34.5 -0.4**
baz=110
MCARA McCarthy VSAT 147.34 306 P **PKPbc 14 47 34.5 -0.6**
baz=111
I28M Miner Creek 147.37 314 P **PKPbc 14 47 34.9 -0.2**
baz=107
BCAR Beaver Creek A 147.38 309 PKPdf **PKPbc 14 47 34.4 -0.9**
E29M Blow River 147.39 320 P **PKPbc 14 47 34.4 -0.6**
baz=104
L27K Beaver Creek, 147.40 309 P **PKPbc 14 47 35.9 +0.6**
baz=109
KAIM Kayak Island 147.44 303 P **PKPbc 14 47 35.7 +0.3**
baz=112
EGAK Eagle 147.66 313 P **PKPbc 14 47 35.5 -0.4**
baz=107,SNR=5.7
M26K Nabesna, AK 147.69 308 P **PKPbc 14 47 35.9 -0.2**
baz=109
TIY Taiyuan 147.78 109 *e*PKPbc **PKiKP 14 47 39.1 0.0**
TIY PKPab **pPKPdf 14 47 42.2 +0.1**
TIY SS SS 15 10 06.7 -1.2
TIY LR LR
comp=Z,410nm,19.9s
TIY LR LR
comp=Z,140nm,18.5s
TIY LR LR
comp=Z,280nm,20.6s
K27K Chicken 147.81 311 P **PKPbc 14 47 36.9 +0.6**
baz=108
D28M Stokes Point 147.90 321 P **PKPbc 14 47 36.8 +0.5**
baz=102
BMRM Bremner River 147.91 305 P **PKPbc 14 47 37.2 +0.5**
baz=111
F28M Old Crow 147.92 318 P **PKPbc 14 47 37.1 +0.5**
baz=104
E28M Babbage River 148.02 320 P **PKPbc 14 47 37.0 +0.3**
baz=102
L26K Log Cabin Wild 148.04 309 P **PKPbc 14 47 37.6 +0.6**
baz=108
I27K Kandik River 148.08 314 P **PKiKP 14 47 38.1 -0.7**
baz=106
N25K Chitina, Valde 148.13 306 P **PKiKP 14 47 39.0 0.0**
baz=110
H27K Steamboat Moun 148.21 315 P **PKPbc 14 47 37.7 +0.4**
baz=105
EYAK Cordova Ski Ar 148.29 304 P **PKPbc 14 47 38.0 +0.4**
baz=110
J26L Joseph Creek 148.57 312 P **PKPbc 14 47 38.9 +0.4**
baz=106
BTO Baotou 148.58 102 *e*PKPbc **PKPdf 14 47 36.4 +0.9**
BTO PP **PP 14 51 14.1 +4.6**
BTO LR LR
comp=Z,670nm,21.4s
BTO LR LR
comp=Z,560nm,21.3s
BTO LR LR
comp=Z,610nm,21.2s
SCRK Sand Creek 148.60 310 **PKPbc 14 47 38.4 -0.1**
SCRK Sand Creek 148.60 310 P **PKPbc 14 47 38.7 +0.1**
baz=106,SNR=23
I26K Coal Creek Min 148.62 313 P **PKPbc 14 47 38.6 +0.2**
baz=105
HARP HAARP 148.64 307 P **PKPbc 14 47 38.2 -0.3**
baz=108
D27M Malcolm River 148.66 321 P **PKiKP 14 47 39.4 -0.5**
baz=100
KLU Klutina 148.69 305 P **PKPbc 14 47 39.3 +0.5**
baz=109,SNR=15
HNS HongShan 148.74 112 ⇓PKPbc **PKPbc 14 47 37.7 -1.8**
P23K Montague Islan 148.87 302 P **PKPbc 14 47 38.8 -0.4**
baz=110
PAX Paxson 148.95 308 P **PKPbc 14 47 39.6 +0.2**
baz=107,SNR=8.7
M24K Tolsona, Glenn 149.00 306 P **PKPbc 14 47 39.6 +0.1**
baz=108,SNR=6.8
G26K Porcupine Rive 149.25 316 P **PKPbc 14 47 40.0 +0.1**
baz=102
K24K Donnelly Dome 149.32 310 P **PKPbc 14 47 39.7 -0.5**
baz=105
J25K Salcha River, 149.36 311 P **PKiKP 14 47 40.8 -0.6**
baz=104
SCM Sheep Creek Mo 149.44 306 P **PKPbc 14 47 41.0 +0.3**
baz=108
F26K Sheenjek River 149.53 317 P **PKPbc 14 47 40.9 +0.3**
baz=100
NRIK Noril'sk 149.56 39 **PKPbc 14 47 40.5 -0.1**
NRIK Noril'sk 149.56 39 *i* PKHKP PKPpre 14 47 38.3
NRIK pmax pmax
comp=Z,8.0nm,1.0s
NRIK Noril'sk 149.56 39 PKPbc **PKPbc 14 47 39.5 -1.1**
comp=Z,8.2nm,0.8s,baz=286,slow=6.0,SNR=9.8
HHC Hu-ho-hao-te 149.59 103 *e*PKPbc **PKPdf 14 47 37.3 +0.2**
HHC LR LR
comp=Z,280nm,19.9s
HHC LR LR
comp=Z,220nm,19.0s
HHC LR LR
comp=Z,460nm,18.3s
M23K Glacier View 149.60 305 P **PKPbc 14 47 40.3 -0.6**
baz=107,SNR=8.3
PRP Porcupine Dome 149.63 313 P **PKPbc 14 47 41.4 +0.3**
baz=103,SNR=14
DHY Denali Highway 149.81 308 P **PKPbc 14 47 41.7 +0.1**
baz=106
KNK Knik Glacier 149.82 304 P **PKPbc 14 47 41.5 0.0**
baz=108
WAT6 Susitna Watana 149.84 307 P **PKPbc 14 47 42.0 +0.4**
baz=106,SNR=11
SEW Seward 149.87 302 P **PKPbc 14 47 41.5 -0.1**
baz=109
SML Sawmill 149.88 305 P **PKiKP 14 47 42.1 -0.5**
baz=107,SNR=8.6
HDA Harding Lake 149.97 311 P **PKPbc 14 47 41.1 -0.6**
baz=104,SNR=11
ILAR Eielson Array 150.03 311 *e*PKIKP **PKPdf 14 47 36.0 -0.9**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 150.03 311 PKP **PKPdf 14 47 34.8 -2.1**
comp=Z,0.8nm,0.7s,baz=273,slow=1.2,SNR=8.2
ILAR PKPbc **PKPbc 14 47 41.5 -0.4**
comp=Z,38nm,1.0s,baz=134,slow=1.5,SNR=96
F25K Christian Rive 150.08 317 P **PKPbc 14 47 41.8 -0.2**
baz=99
G25K Bearman Lake 150.12 315 P **PKPbc 14 47 41.7 -0.3**
baz=100
O22K Cooper Landing 150.12 302 P **PKPbc 14 47 41.5 -0.6**
baz=108
C26K Camden Bay 150.13 322 P **PKPbc 14 47 41.9 0.0**
baz=96
E25K Arctic Village 150.14 318 P **PKPbc 14 47 41.8 -0.3**
baz=98
PMR Palmer 150.18 305 P **PKPbc 14 47 42.0 -0.2**
baz=107
MOY Mondy 150.24 77 *e*PKIKP **PKPdf 14 47 40.2 +2.4**
MOY pmax pmax
comp=Z,109nm,3.1s
WAT1 Susitna Watana 150.27 307 P **PKiKP 14 47 43.2 -0.2**
baz=105
RC01 Rabbit Creek A 150.31 303 P **PKiKP 14 47 43.3 -0.2**
baz=107
POKR Poker Plat Res 150.33 312 P **PKiKP 14 47 43.1 -0.3**
baz=102
BRSE Bradley Lake S 150.36 301 P **PKPbc 14 47 42.1 -0.7**
baz=109
COLA College 150.45 311 *i* PKIKP **PKPdf 14 47 39.0 +1.5**
COLA pmax pmax
comp=Z,22nm,0.9s
COLA College 150.45 311 P **PKiKP 14 47 43.5 -0.1**
baz=102
WRH Wood River Hil 150.47 311 **PKPbc 14 47 41.5 -1.4**
D25K Kavik River 150.58 321 P **PKPbc 14 47 43.3 +0.1**
baz=95
KDAK Kodiak Island 150.59 296 P **PKiKP 14 47 43.7 -0.4**

baz=111
G24K Hadweenzic Riv 150.64 315 P PKPbc 14 47 43.2 -0.1
baz=99
H24K Noodor Dome 150.66 313 PKPbc 14 47 42.9 -0.5
H24K Noodor Dome 150.66 313 P PKPbc 14 47 43.4 0.0
baz=100
MCK McKinley 150.66 309 P PKPbc 14 47 43.6 +0.2
baz=103
M22K Willow 150.68 305 P PKiKP 14 47 44.1 0.0
baz=106,SNR=13
OHAK Old Harbor 150.73 295 P PKiKP 14 47 44.6 +0.3
baz=112
HOM Homer 150.77 300 P PKPbc 14 47 43.8 0.0
baz=108
Q20K Shuyak Island 150.78 298 P PKPbc 14 47 43.2 -0.6
baz=110
ZAK Zakamensk 150.84 81 *e*PKiKP **PKPbc** 14 47 43.3 -1.1
ZAK pmax pmax
comp=Z,26nm,1.7s
CAPN Captain Cook N 150.88 302 P PKPbc 14 47 42.7 -1.2
baz=107
SUA Susitna One 150.89 304 P PKPbc 14 47 42.9 -1.2
baz=106,SNR=7.7
NEA2 Nenana 150.91 311 P PKPbc 14 47 43.4 -0.5
baz=102,SNR=21
CUT Chulitna 150.92 306 P PKPbc 14 47 43.6 -0.5
baz=105,SNR=8.6
F24K Squaw Lake 150.92 317 P PKiKP 14 47 44.4 -0.2
baz=97
SII Sitkinak Islan 150.94 293 P PKiKP 14 47 44.6 -0.3
baz=112
I23K Minto, Yukon-K 151.14 312 P PKiKP 14 47 45.5 +0.6
baz=100,SNR=5.1
SONM Songino Array 151.18 88 PKPbc PKPdf 14 47 44.7 -0.6
SONM Songino Array 151.18 88 PKP **PKPdf** 14 47 38.5 -0.9
comp=Z,2.4nm,0.8s,baz=174,slow=1.5,SNR=6.2
SONM PKPbc **PKPbc** 14 47 44.4 -0.9
comp=Z,4.8nm,0.9s,baz=227,slow=2.6,SNR=21
TRF Thorofare Moun 151.18 308 P PKPbc 14 47 44.8 -0.1
baz=103,SNR=12
E24K Your Creek 151.22 318 IAMs_20 IAMs_20 15 59 28.5
comp=Z,658nm,21.0s
E24K Your Creek 151.22 318 P PKiKP 14 47 45.0 -0.2
baz=96
O20K Slope Mountain 151.37 301 P PKPbc 14 47 44.7 -0.6
baz=107
SKT Skwentna 151.39 305 P PKPbc 14 47 44.1 -1.1
baz=104,SNR=15
CHIR Chirikof Islan 151.39 291 P PKPbc 14 47 44.9 -0.4
baz=113
C24K Franklin Bluff 151.42 321 P PKiKP 14 47 46.0 +0.6
baz=93
D24K Happy Valley 151.43 320 P PKiKP 14 47 45.5 0.0
baz=94
N20K Mount Spurr 151.49 303 P PKiKP 14 47 45.8 -0.1
baz=106
Q19K Cape Douglas, 151.51 298 P PKPbc 14 47 45.3 -0.3
baz=109
P19K Oil Pt 151.53 300 P PKPbc 14 47 44.5 -1.1
baz=108
ULN Ulaanbaatar 151.56 88 PKPdf **PKPdf** 14 47 41.2 +1.2
ULN Ulaanbaatar 151.56 88 IAMs_20 IAMs_20 16 03 47.6
comp=Z,674nm,21.0s
ULN Ulaanbaatar 151.56 88 PKIKP **PKPdf** 14 47 41.2 +1.2
BPAW Bear Paw Mtn. 151.62 309 P PKPbc 14 47 44.8 -0.8
baz=101,SNR=30
E23K Chandalar 151.64 318 P PKPbc 14 47 45.0 -0.6
baz=95
G23K Bananza Creek 151.65 315 P PKiKP 14 47 45.9 -0.2
baz=97
TOLK Toolik Lake Re 151.67 319 P PKPbc 14 47 45.3 -0.4
baz=94
MLY Manley 151.69 311 P PKiKP 14 47 46.5 +0.3
baz=100,SNR=12
COLD Coldfoot 151.78 316 P PKiKP 14 47 46.5 +0.2
baz=96
PPLA Purkeypile 151.90 306 P PKPbc 14 47 46.5 0.0
baz=102,SNR=10
CAST Castle Rocks 151.97 308 P PKPbc 14 47 46.5 0.0
baz=102,SNR=14
H22K Ishtalitna Cre 152.08 313 P PKPbc 14 47 45.3 -1.4
baz=98
D23K Nanushuk River 152.09 320 P PKPbc 14 47 45.9 -0.7
baz=92
C23K Itkillik River 152.09 321 P PKPbc 14 47 45.9 -0.6
baz=91
M20K Styx River 152.10 304 P PKPbc 14 47 46.9 0.0
baz=104
CHUM Lake Minchumin 152.16 309 P PKPbc 14 47 46.7 -0.1
baz=100,SNR=15
O19K Port Alsworth 152.22 300 P PKPbc 14 47 46.7 -0.3
baz=106
Q17K Contact Creek 152.40 296 P PKPbc 14 47 47.0 -0.7
baz=109
P18K Big Mountain, 152.43 298 P PKPbc 14 47 47.4 -0.3
baz=107
N19K Bonanza Creek 152.46 302 P PKPbc 14 47 47.6 -0.2
baz=105
E22K Anaktuvuk Pass 152.47 318 IAMs_20 IAMs_20 15 49 37.8
comp=Z,665nm,22.0s
E22K Anaktuvuk Pass 152.47 318 P PKiKP 14 47 47.6 -0.2
baz=93
O18K Koktuh Hills 152.55 299 P PKiKP 14 47 48.3 +0.2
baz=106
L20K Farewell, AK 152.57 305 P PKiKP 14 47 47.9 -0.2
baz=102
H21K Melozitna Rive 152.64 312 P PKPbc 14 47 47.3 -0.6
baz=97
M19K Big River Lodg 152.68 304 P PKiKP 14 47 48.3 0.0
baz=103
D22K Ayikyak River 152.81 319 P PKPbc 14 47 48.0 -0.2
baz=91
K20K Telida 152.83 307 P PKPbc 14 47 47.8 -0.6
baz=100
Q16K King Salmon 152.92 296 P PKPbc 14 47 48.6 -0.1
baz=108
L19K White Mountain 152.96 304 P PKPbc 14 47 48.0 -0.7
baz=102
P17K Kvichak River 152.96 298 P PKPbc 14 47 48.4 -0.3
baz=107
J20K Nowinta River 153.00 309 P PKPbc 14 47 48.3 -0.5
baz=99
G21K Allakaket 153.01 314 P PKPbc 14 47 47.9 -0.8
baz=94
CHGN Chignik 153.02 291 P PKPbc 14 47 47.5 -1.4
baz=111
R16K Pilot Point 153.03 294 P PKPbc 14 47 47.1 -1.8
baz=109
B22K Teshekpuk Lake 153.04 323 P PKPbc 14 47 47.7 -0.9
baz=87
F21K Alatna River 153.05 316 P PKPbc 14 47 47.3 -1.5
baz=93
IMAR Indian Mountai 153.06 313 PKPbc 14 47 47.8 -1.0
CHNA Chernabura Isl 153.08 287 P PKPbc 14 47 47.4 -1.7
baz=113
N18K Kilae Creek 153.09 301 P PKPbc 14 47 47.4 -1.7
baz=104
I20K Naaghedeneel 153.23 310 P PKiKP 14 47 49.2 -0.1
baz=97
M18K Stony River 153.25 303 P PKPbc 14 47 48.8 -0.6
baz=103
E21K Killik River 153.28 318 P PKPbc 14 47 49.1 -0.1
baz=90
O17K Koliganek Bris 153.44 299 P PKPbc 14 47 49.3 -0.5
baz=105
H20K Anotleneega Mo 153.48 312 P PKiKP 14 47 50.2 +0.3
baz=95
B21K Ikpikpuk River 153.49 321 P PKiKP 14 47 50.7 +1.0
baz=87
C21K Kniveblade Rid 153.56 320 P PKiKP 14 47 50.1 +0.2
baz=88
J19K Poorman 153.62 308 P PKiKP 14 47 50.6 +0.4
baz=98
TTA Tatalina 153.62 306 P PKiKP 14 47 50.6 +0.2
baz=100
N17K Nushagak Hills 153.68 300 P PKPbc 14 47 50.0 -0.3
baz=104
P16K Nushagak River 153.68 297 P PKPbc 14 47 49.9 -0.5
baz=106
SDPT Sand Point 153.75 288 P PKiKP 14 47 50.8 +0.1
baz=112
L18K Granite Mounta 153.81 304 P PKiKP 14 47 51.2 +0.6
baz=100
O16K Kokwok River B 153.89 298 P PKiKP 14 47 51.1 +0.3
baz=105
F20K Avaraart Lake 153.92 315 P PKiKP 14 47 51.2 +0.5
baz=92
M17K Holitna River 153.99 302 P PKiKP 14 47 52.0 +1.0
baz=102
A21K Barrow 154.00 325 P PKiKP 14 47 51.5 +0.7
baz=82
J18K Innoko River 154.02 307 P PKiKP 14 47 52.2 +1.2
baz=98
E20K Nigu River 154.10 318 P PKiKP 14 47 52.0 +0.8
baz=88
H19K Roundabout Mou 154.13 312 P PKiKP 14 47 52.0 +0.9
baz=94
D20K Etivluk River 154.24 319 P PKiKP 14 47 52.2 +0.8
baz=87
GCSA Galena City Sc 154.25 310 P PKiKP 14 47 51.8 +0.4
baz=95
B20K Meade River 154.34 322 P PKiKP 14 47 51.9 +0.5
baz=84
N16K Nishlik Lake 154.43 300 P PKPbc 14 47 51.5 -0.4
baz=103
G19K Purcell Mounta 154.43 313 IAMs_20 IAMs_20 15 55 33.1
comp=Z,614nm,20.0s
G19K Purcell Mounta 154.43 313 P PKiKP 14 47 52.1 +0.3
baz=92
E19K Redstone River 154.51 316 P PKiKP 14 47 52.4 +0.4
baz=89
L17K Donlin 154.53 304 P PKiKP 14 47 53.0 +0.8
baz=100
INCN Inchon 154.58 127 IAMs_20 IAMs_20 15 49 49.5
comp=Z,745nm,22.0s
K17K Iditarod 154.63 305 P PKiKP 14 47 53.0 +0.7
baz=98
O15K Ungalikthiuk R 154.63 296 P PKiKP 14 47 53.7 +1.3
baz=105
M16K Timber Creek 154.64 301 P PKiKP 14 47 52.7 +0.4
baz=101
F19K Shaleruckik Mo 154.72 315 P PKiKP 14 47 53.6 +1.2
baz=90
D19K Kuna River 154.80 319 P PKiKP 14 47 53.5 +0.9
baz=86
H18K Honhosa River 154.91 311 P PKPab 14 48 08.2 -0.2
baz=93
N15K Kwethluk River 155.00 299 P PKPab 14 48 08.3 -0.6
baz=102
L16K Owhat River 155.01 302 P PKPab 14 48 09.7 +0.8
baz=100
G18K Tagagawik 155.06 312 P PKPab 14 48 09.2 +0.1
baz=91
FALS False Pass 155.13 285 P PKPab 14 48 09.7 +0.1
baz=112
C19K Lookout Ridge 155.28 320 P PKPab 14 48 10.5 +0.5
baz=83
O14K Tigyukauivet M 155.37 296 P PKPab 14 48 11.3 +0.8
baz=104
M15K Kasigluk River 155.40 300 P PKPab 14 48 11.7 +1.1
baz=101
F18K Selawik 155.47 314 P PKPab 14 48 11.4 +0.7
baz=89
H17K Granite Mounta 155.56 310 P PKPab 14 48 11.5 +0.3
baz=92
N14K Kuskokwak Cree 155.73 298 P PKPab 14 48 12.1 +0.1
baz=102
J16K Anvik River 155.74 306 P PKPab 14 48 12.1 +0.1
baz=95
E18K Tukpahlearik C 155.81 316 IAMs_20 IAMs_20 15 56 07.2
comp=Z,683nm,19.0s
I17K Unalakleet 155.83 307 P PKPab 14 48 12.6 +0.3
baz=94
G17K Kiwalik Mounta 155.88 311 P PKPab 14 48 13.1 +0.5
baz=90
C18K Utukok River 155.92 319 P PKPab 14 48 13.3 +0.6
baz=83
L15K Ungalak Mounta 155.95 302 P PKPab 14 48 13.3 +0.4
baz=98
M14K Beiel 156.03 300 P PKPab 14 48 13.4 +0.2
baz=100
B18K Kokolik River 156.03 321 P PKPab 14 48 13.4 +0.3
baz=80
K15K Wolf Creek Mou 156.06 303 P PKPab 14 48 13.3 -0.1
baz=97
F17K Baldwin Pennin 156.11 314 P PKPab 14 48 13.4 -0.1
baz=88
UNV Unalaska Valle 156.41 281 P PKPab 14 48 14.5 -0.6
baz=113
L14K Kuka Creek 156.47 301 P PKPab 14 48 15.1 -0.1
baz=98
H16K Elim 156.54 309 P PKPab 14 48 15.9 +0.6
baz=91
G16K Koyuk River 156.59 311 P PKPab 14 48 16.0 +0.4
baz=89
M13K Dall Lake 156.64 298 P PKPab 14 48 16.3 +0.4
baz=100
C17K DeLong Mountai 156.66 319 P PKPab 14 48 16.6 +0.8
baz=81
D17K Noatak River 156.73 317 P PKPab 14 48 17.1 +1.0
baz=83
J14K Nanvaranak Lak 157.03 304 P PKPab 14 48 17.5 0.0
baz=94
G15K Niukluk 157.31 310 P PKPab 14 48 18.8 +0.1
baz=88
C16K Lisburne Hills 157.49 319 IAMs_20 IAMs_20 15 56 06.5
comp=Z,601nm,20.0s
C16K Lisburne Hills 157.49 319 P PKPab 14 48 18.6 -0.7
baz=79
F15K North Star Dit 157.53 312 P PKPab 14 48 19.0 -0.7
baz=86
ANM Nome 157.89 309 P PKPab 14 48 20.4 -0.8
baz=88
M11K Mekoryuk 158.03 298 P PKPab 14 48 20.4 -1.5
baz=98
F14K Arctic Creek 158.25 312 P PKPab 14 48 21.1 -1.6
baz=85
TNA Tin City 158.90 312 P PKPab 14 48 21.5 -4.1
baz=83
CN2 Changchun 158.95 116 PKP **PKPdf** 14 47 45.1 -4.8
CN2 AMB AMB
comp=Z,400nm,6.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,300nm,20.0s
P08K Saint George I 158.98 287 P PKPab 14 48 23.4 -2.7
baz=106
HIA Hailar 159.38 97 IAMs_20 IAMs_20 16 04 00.5
comp=Z,596nm,22.0s
MDJ Mudanjiang 161.58 120 PKP **PKPdf** 14 47 54.1 +1.3
MDJ PP **PP** 14 52 21.5 -0.3
MDJ SS SS 15 12 33.1 -4.1
MDJ AMB AMB
comp=Z,440nm,8.5s
HEH HeiHe 164.11 102 PKP **PKPdf** 14 47 56.4 +1.3
HEH LR LR
comp=Z,400nm,21.6s
HEH LR LR
comp=Z,440nm,20.7s
HEH LR LR
comp=Z,850nm,20.2s
TEY Ternei 165.04 133 *e*PKIKP **PKPdf** 14 47 56.2 +0.2
YSS Yuzh-Sakhalins 168.93 145 *i* PKIKP **PKPdf** 14 48 00.1 +1.2
YSS *e* 14 55 02.2
YSS *e*SS SS 15 13 53.6 +2.1
YSS pmax pmax
comp=Z,10.0nm,1.6s
YSS pmax pmax
comp=Z,200nm,6.8s
GRNR Gornyy 169.15 115 *e*PKIKP **PKPdf** 14 47 59.8 +0.9

*IDC **10** 14:49:15.0±1.5,5.°98S×142.°61E,h0km,mb3.3/2, mbtmp3.4/5,ML3.2/2,Error ellipse: s-maj=37.3km s-min=28.6km az=69.0*

ISC 10 14:49:19.7±1.0,6.°1S±0.°1×142.°6E±0.°1,h28km,n6,σ1s72/7, mb3.5/3,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.63**	**126**			Pn	**Pn**	**14 50 41.9**	**+0.4**
	2.5nm,0.3s,baz=292,slow=11,SNR=2.3								
PMG						Sn	**Sn**	14 51 45.8	+0.4
	1.7nm,0.3s,baz=187,slow=19,SNR=6.4								
WRA	**Warramunga Arr**	**15.91**	**209**			Pn	**Pn**	**14 53 00.6**	**-1.3**
	0.1nm,0.3s,baz=26,slow=13,SNR=2.0								
ASAR	**Alice Springs**	**19.35**	**205**			P	**P**	**14 53 43.8**	**+0.5**
	0.1nm,0.3s,baz=32,slow=9.7,SNR=22								
	1.0nm,0.8s								
MKAR	**Makanchi Array**	**74.80**	**322**			P	**P**	**15 00 58.3**	**+0.8**
	0.1nm,0.6s,baz=101,slow=7.5,SNR=1.9								
	0.1nm,0.6s								
BVAR	**Borovoye Array**	**84.27**	**325**			P	**P**	**15 01 50.5**	**+1.7**
	0.7nm,0.8s,baz=88,slow=7.4,SNR=4.2								
ILAR	**Eielson Array**	**87.33**	**24**			P	**P**	**15 02 01.3**	**-2.5**
	0.2nm,0.6s,baz=256,slow=5.5,SNR=1.9								
	0.2nm,0.6s								

*SJA **10** 14:59:54.9±0.6,24.°13S×67.°18W,h200km±6km,ML3.5, MW3.4*
*GUC **10** 14:59:57.5±0.5,24.°14S×67.°37W,h196km±11km,ML3.6*

ISC 10 14:59:56.1±2.2,24.°11S±0.°05×67.°21W±0.°06, h188km±20km,n25,σ0s93/39,3C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.67**	**112**		*e*P		**Pn**	**15 00 30.6**	**+0.2**
LVC	**Limon Verde**	**2.16**	**313**		*e*P		**Pn**	**15 00 36.5**	**+0.6**
LVC					*e*S		**Sn**	**15 01 07.4**	**+0.7**
LVC	**Limon Verde**	**2.16**	**313**	↑	*i*P		**Pn**	**15 00 36.6**	**+0.8**
LVC					*e*S		**Sn**	**15 01 06.3**	**-0.5**
LVC					IAML			15 01 10.8	
	comp=Z,278nm,0.3s								
PB15	**IPOC Station P**	**2.26**	**293**		*e*P		**Pn**	**15 00 37.6**	**+0.8**
PB15					*e*S		**Sn**	**15 01 08.3**	**-0.1**
PB15					IAML			15 01 10.9	
	comp=Z,433nm,0.4s								
PB15	**IPOC Station P**	**2.26**	**293**	↑	*i*P		**Pn**	**15 00 37.6**	**+0.8**
PB15					*e*S		**Sn**	**15 01 07.8**	**-0.5**
FSA	**Cafayete**	**2.28**	**151**		*e*P		**Pn**	**15 00 36.8**	**-0.1**
GO02	**Mina Guanaco**	**2.41**	**244**		*e*P		**Pn**	**15 00 39.0**	**+0.5**
GO02					*e*S		**Sn**	**15 01 11.5**	**+0.1**
GO02	**Mina Guanaco**	**2.41**	**244**		*i* P		**Pn**	**15 00 38.9**	**+0.5**
GO02					*e*S		**Sn**	**15 01 10.7**	**-0.8**
GO02					IAML			15 01 11.7	
	comp=N,215nm,0.3s								
YJA	**Yavi**	**2.48**	**39**		*e*P		**Pn**	**15 00 40.1**	**+0.6**
PB06	**IPOC Station P**	**2.58**	**302**		*e*P		**Pn**	**15 00 41.2**	**+0.8**
PB06					*e*S		**Sn**	**15 01 14.8**	**-0.1**
PB06					IAML			15 01 15.5	
	comp=Z,117nm,0.3s								
PB06	**IPOC Station P**	**2.58**	**302**	↑	*i*P		**Pn**	**15 00 41.1**	**+0.8**
PB06					*e*S		**Sn**	**15 01 13.8**	**-1.1**
PB06					IAML			15 01 16.6	
	comp=N,214nm,0.4s								
PB14	**IPOC Station P**	**2.96**	**259**		*e*P		**Pn**	**15 00 45.1**	**+0.2**
PB14					IAML			15 01 24.8	
	comp=Z,38nm,0.6s								
PB09	**IPOC Station P**	**2.97**	**321**		*e*P		**Pn**	**15 00 46.3**	**+1.3**
PB09					*e*S		**Sn**	**15 01 23.5**	**+0.4**
PB09					IAML			15 01 24.0	
	comp=Z,77nm,0.6s								
PB09	**IPOC Station P**	**2.97**	**321**		*i* P		**Pn**	**15 00 46.0**	**+1.0**
PB09					*e*S		**Sn**	**15 01 23.2**	**+0.1**
PB09					IAML			15 01 25.2	
	comp=N,86nm,0.5s								
AC02	**Maricunga**	**3.22**	**212**		*e*P		**Pn**	**15 00 48.7**	**+0.5**
PB04	**IPOC Station P**	**3.23**	**303**		*e*P		**Pn**	**15 00 48.4**	**+0.3**
PB04					*e*S		**Sn**	**15 01 26.9**	**-1.9**
PB04					IAML			15 01 31.7	
	comp=Z,88nm,0.4s								
PB04	**IPOC Station P**	**3.23**	**303**		*i* P		**Pn**	**15 00 48.7**	**+0.6**
PB07	**IPOC Station P**	**3.43**	**313**		*e*P		**Pn**	**15 00 51.0**	**+0.5**
PB07					*e*S		**Sn**	**15 01 30.9**	**-2.1**
PB07					IAML			15 01 32.5	
	comp=Z,100nm,0.4s								
PB07	**IPOC Station P**	**3.43**	**313**		*i* P		**Pn**	**15 00 50.8**	**+0.3**
AC01	**Pan de Azucar**	**3.68**	**236**		*e*P		**Pn**	**15 00 52.6**	**-0.8**
AC01					IAML			15 01 40.2	
	comp=Z,28nm,0.3s								
PB01	**IPOC Station P**	**3.71**	**325**		*e*P		**Pn**	**15 00 54.1**	**+0.1**
PB01					*e*S		**Sn**	**15 01 37.9**	**-1.4**
PB01					IAML			15 01 40.1	
	comp=Z,42nm,0.2s								
PB01	**IPOC Station P**	**3.71**	**325**		*i* P		**Pn**	**15 00 55.0**	**+1.1**
PB02	**IPOC Station P**	**3.73**	**318**		*e*P		**Pn**	**15 00 54.4**	**+0.2**
PB02					*e*S		**Sn**	**15 01 38.0**	**-1.6**
PB02					IAML			15 01 42.2	
	comp=Z,114nm,0.6s								
PB02	**IPOC Station P**	**3.73**	**318**		*i* P		**Pn**	**15 00 55.2**	**+1.1**
GO03	**Copiap**	**4.41**	**218**		*i* P		**Pn**	**15 01 04.6**	**+2.0**

DJA 10 15:03:01.5±1.4,11.°5S±11.°×11.°3E±.°,h18km±19km,M3.7/7, mb3.8/1,MLv3.6/7,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**2.46**	**19**			P	Pn	15 03 41.6	+0.9
GMJI						S	Sn	15 04 11.3	+0.9
JAGI	**Jajag, Banyuwa**	**2.61**	**36**			P	Pn	15 03 43.9	+1.1
JAGI						S	Sn	15 04 14.9	+0.8
PWJI	**Pagerwojo**	**2.69**	**343**			P	Pn	15 03 43.6	-0.4
PWJI						S	Sn	15 04 15.5	-0.7
BLJI	**Banyuglugur**	**3.00**	**19**			P	Pn	15 03 48.5	+0.3
UGM	**Wanagama**	**3.39**	**322**			P	Pn	15 03 54.1	+0.6
UGM						S	Sn	15 04 34.8	+1.5
SRBI	**Singaraja**	**3.58**	**46**			P	Pn	15 03 56.1	-0.1
TWSI	**Taliwang, Sumb**	**4.59**	**66**			P	Pn	15 04 10.1	0.0
CMJI	**Cimerak**	**4.99**	**304**			P	Pn	15 04 15.7	+0.2
PLAI	**Plampang**	**5.38**	**71**			P	Pn	15 04 20.0	-1.0

*IDC **10** 15:10:21.2±1.2,6.°34S×143.°33E,h0km,mb4.0/3, mbtmp4.1/6,ML3.9/1,Error ellipse: s-maj=45.6km s-min=24.2km az=73.0*

ISC 10 15:10:22.5±1.0,6.°4S±0.°1×143.°41E±0.°10,h10km,n14, σ1s71/14,mb3.9/4,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.78**	**129**			P	**Pn**	**15 11 36.2**	**+1.6**
PMG	**Port Moresby**	**4.78**	**129**			Pn	**Pn**	**15 11 35.7**	**+1.2**
	9.3nm,0.3s,baz=11,slow=4.7,SNR=16								
PMG						Sn	**Sn**	**15 12 27.3**	**-2.7**
	2.4nm,0.3s,baz=253,slow=20,SNR=6.3								
GENI	**Genyem**	**4.96**	**319**			P	Pn	15 11 21.9	-15
COEN	**Coen**	**7.53**	**182**			P	**Pn**	**15 12 15.0**	**+2.5**
KDU	**Kakadu**	**12.47**	**239**			P	**Pn**	**15 13 18.6**	**-1.6**
MTN	**Manton Dam**	**13.70**	**241**			P	**Pn**	**15 13 35.3**	**-1.7**
QIS	**Mount Isa**	**14.57**	**194**			P	**Pn**	**15 13 49.9**	**+1.0**
WRA	**Warramunga Arr**	**16.11**	**212**			Pn	**Pn**	**15 14 07.3**	**-1.8**
	0.5nm,0.3s,baz=30,slow=13,SNR=23								
WRA						Lg	Lg	15 18 47.2	
	0.1nm,0.3s,baz=42,slow=31,SNR=2.3								
	1.7nm,0.5s								
KNRA	**Kununurra**	**17.08**	**236**			P	**Pn**	**15 14 19.7**	**-1.8**
ASAR	**Alice Springs**	**19.47**	**207**			P	**Pn**	**15 14 51.7**	**+0.9**
	18nm,0.7s,baz=31,slow=12,SNR=234								
ASAR						Lg	Lg	15 20 33.2	
	0.1nm,0.3s,baz=26,slow=28,SNR=2.2								
MKAR	**Makanchi Array**	**75.55**	**322**			P	**P**	**15 22 07.0**	**-0.3**
	0.5nm,0.6s,baz=109,slow=7.6,SNR=7.3								
	0.5nm,0.6s								
KURBB	**Kurchatov Arra**	**79.42**	**324**			P	**P**	**15 22 29.1**	**+0.2**
	0.5nm,0.8s,baz=111,slow=4.1,SNR=3.9								
QSPA	**South Pole Qui**	**83.59**	**180**			P	**P**	**15 22 50.9**	**0.0**
	2.5nm,0.9s,baz=232,slow=0.7,SNR=10								
	2.5nm,0.9s								
BVAR	**Borovoye Array**	**84.99**	**325**			P	**P**	**15 22 58.7**	**+0.6**
	0.7nm,0.6s,baz=115,slow=6.6,SNR=5.3								
	0.7nm,0.6s								

TEH 10 15:54:37.5,30.°68N×57.°34E,h12km±20km,ML3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRM1	**Kerman Provinc**	**0.19**	**197**			Pg	Pb	15 54 43.1	+0.1
ZRDN	**Zarand Kerman**	**0.74**	**293**			Pg	Pb	15 54 53.2	+0.6
KHGB	**Koh Gabri**	**0.80**	**248**			Pg	Pn	15 54 54.2	-0.7
CHMN	**Cheshme madani**	**0.84**	**168**			Pg	Pb	15 54 54.7	+0.5
TVBK	**TV Kerman**	**0.85**	**216**			Pg	Pn	15 54 55.8	+0.1
NGRK	**Negar Kerman**	**1.16**	**207**			Pg	Pn	15 55 01.2	+1.3
IBAF	**Bafgh**	**1.77**	**301**			Pg	Pg	15 55 11.2	-0.2
KBAM	**BAM**	**1.82**	**148**			Pn	Pg	15 55 11.8	-0.6
IKOO	**Kooshah**	**2.25**	**39**			Pn	Pb	15 55 17.7	-0.5
TPRV	**Parvadeh(Tabas**	**2.40**	**347**			Pn	Pb	15 55 19.7	-1.0
NHDN	**Nehbandan**	**2.44**	**72**			Pn	Pb	15 55 20.0	-1.4
IMEH	**Mehriz**	**2.44**	**288**			Pn	Pb	15 55 19.9	-1.6
ITEG	**Tejag**	**2.52**	**28**			Pn	Pb	15 55 21.4	-1.3
TKDS	**Koohdasht(Taba**	**2.93**	**357**			Pn	Pn	15 55 26.8	+2.8
AFRZ	**Afriz**	**3.09**	**27**			Pn	Pn	15 55 29.2	+3.0

ZHDN	**Zahedan**	**3.27**	**112**	Pn	Pn	15 55 31.8 +3.0
TNSJ	**Nastanj**	**3.33**	**350**	Pn	Pn	15 55 32.5 +3.0
SHRT	**Shahrakht**	**3.88**	**40**	Pn	Pn	15 55 40.4 +3.4
ANAR	**Anarak**	**3.96**	**310**	Pn	Pn	15 55 42.0 +3.9
TBJM	**Torbat-e-JAM**	**5.22**	**28**	Pn	Pn	15 55 59.2 +3.6
KRSH	**Karshahi**	**5.49**	**308**	Pn	Pn	15 56 03.1 +3.8

*SJA **10** 16:01:57.2±0.7, 19°.96S×70°.12W, h55^{km}±5^{km}, ML4.1, MW4.0*
*GUC **10** 16:01:59.2±0.8, 19°.96S×70°.09W, h50^{km}±2^{km}, ML4.0*
*IDC **10** 16:02:03.6±2.4, 19°.93S×69°.73W, h87^{km}±21^{km}, mb3.7/3, mbtmp4.1/7, MS3.4/2, Error ellipse: s-maj=38.4km s-min=14.3km az=96.0*
*VAO **10** 16:02:05.2±0.8, 19°.95S×69°.64W, h55^{km}±11^{km}, mb4.4*

ISC 10 16:01:58.7±0.8, **19°.95S**±0°.02×**70°.12W**±0°.05, **h44**^{km}±7^{km}, **n59**, σ1≦**59**/74, **mb3.8**/3, **5C-4D**, **Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TA02	**Huaiquique**	**0.32**	**182**	*eP*	**Pn**	**16 02 07.2**	**-0.3**
TA02				IAML		16 02 16.0	
	comp=Z,9μm,0.1s						
TA02	**Huaiquique**	**0.32**	**182**⇑	*eP*	**Pn**	**16 02 07.9**	**+0.4**
TA02				*eS*	**Sn**	**16 02 14.4**	**+0.7**
TA02				IAML		16 02 15.8	
	comp=N,34μm,0.2s						
HMBC	**Humberstone**	**0.39**	**146**⇑	*iP*	**Pn**	**16 02 08.8**	**+0.4**
HMBC				*i* S	**Sn**	**16 02 15.7**	**+0.4**
HMBC				IAML		16 02 16.7	
	comp=E,15μm,0.6s						
PB11	**IPOC Station P**	**0.47**	**66**	*eP*	**Pn**	**16 02 09.6**	**+0.2**
PB11				IAML		16 02 19.1	
	comp=Z,9μm,0.1s						
PB11	**IPOC Station P**	**0.47**	**66**⇓	*eP*	**Pn**	**16 02 09.9**	**+0.4**
PB11				*eS*	**Sn**	**16 02 17.7**	**+0.6**
PB11				IAML		16 02 18.4	
	comp=N,46μm,0.1s						
TA01	**Diego Aracena**	**0.61**	**186**	*eP*	**Pn**	**16 02 11.0**	**-0.1**
TA01				*eS*	**Sn**	**16 02 20.8**	**+0.9**
TA01	**Diego Aracena**	**0.61**	**186**⇑	*eP*	**Pn**	**16 02 11.1**	**0.0**
TA01				*eS*	**Sn**	**16 02 19.9**	**0.0**
TA01				IAML		16 02 22.9	
	comp=E,8μm,0.3s						
PATCX	**Punta Patache**	**0.86**	**182**	*eP*	**Pn**	**16 02 14.4**	**-0.2**
PATCX				*eS*	**Sn**	**16 02 26.7**	**+0.5**
PATCX				IAML		16 02 30.4	
	comp=E,5μm,0.4s						
GO01	**Chusmiza**	**0.91**	**72**	*eP*	**Pn**	**16 02 15.3**	**-0.3**
GO01				IAML		16 02 29.3	
	comp=Z,10μm,0.2s						
GO01				*eS*	**Sn**	**16 02 29.3**	**+1.5**
GO01	**Chusmiza**	**0.91**	**72**⇑	*eP*	**Pn**	**16 02 15.7**	**+0.1**
GO01				*eS*	**Sn**	**16 02 28.6**	**+0.8**
PB08	**IPOC Station P**	**0.93**	**102**	*eP*	**Pn**	**16 02 15.5**	**-0.2**
PB08				*eS*	**Sn**	**16 02 29.1**	**+1.1**
PB08				IAML		16 02 29.7	
	comp=Z,7μm,0.1s						
PB08	**IPOC Station P**	**0.93**	**102**⇓	*eP*	**Pn**	**16 02 16.3**	**+0.6**
PB08				*eS*	**Sn**	**16 02 28.5**	**+0.5**
PB08				IAML		16 02 29.8	
	comp=E,9μm,0.2s						
PB01	**IPOC Station P**	**1.23**	**152**	*eP*	**Pn**	**16 02 19.4**	**-0.2**
PB01				*eS*	**Sn**	**16 02 34.0**	**-1.1**
PB01				IAML		16 02 36.7	
	comp=Z,2μm,0.1s						
PB01	**IPOC Station P**	**1.23**	**152**⇑	*eP*	**Pn**	**16 02 19.8**	**+0.1**
PB01				*eS*	**Sn**	**16 02 35.4**	**+0.2**
PB01				IAML		16 02 35.8	
	comp=E,4μm,0.2s						
PB12	**IPOC Station P**	**1.35**	**351**	*eP*	**Pn**	**16 02 21.0**	**-0.2**
PB12				*eS*	**Sn**	**16 02 39.1**	**+1.1**
PB12				IAML		16 02 39.4	
	comp=Z,3μm,0.2s						
PB12	**IPOC Station P**	**1.35**	**351**⇓	*eP*	**Pn**	**16 02 21.7**	**+0.5**
PB12				*eS*	**Sn**	**16 02 38.2**	**+0.3**
PB12				IAML		16 02 39.1	
	comp=N,7μm,0.2s						
PB02	**IPOC Station P**	**1.38**	**171**	*eP*	Pn	16 02 16.6	-4.9
PB02				*eP*	**Pn**	**16 02 21.4**	**-0.2**
PB02				*eS*	**Sn**	**16 02 39.7**	**+1.1**
PB02				IAML		16 02 41.5	
	comp=Z,3μm,0.4s						
PB02	**IPOC Station P**	**1.38**	**171**	*eP*	**Pn**	**16 02 21.8**	**+0.2**
PB02				*eS*	**Sn**	**16 02 38.4**	**-0.3**
PB02				IAML		16 02 47.4	
	comp=E,4μm,0.2s						
PB16	**IPOC Station P**	**1.71**	**20**	*eP*	**Pn**	**16 02 26.8**	**+0.2**
PB16				*eS*	**Sn**	**16 02 49.4**	**+1.9**
PB16				IAML		16 02 51.2	
	comp=Z,1μm,0.4s						
PB16	**IPOC Station P**	**1.71**	**20**⇓	*eP*	**Pn**	**16 02 27.6**	**+1.0**
PB16				*eS*	**Sn**	**16 02 49.1**	**+1.6**
PB16				IAML		16 02 51.8	
	comp=E,1μm,0.5s						
PB07	**IPOC Station P**	**1.78**	**173**	*eP*	**Pn**	**16 02 27.6**	**+0.5**
PB07				*eS*	**Sn**	**16 02 54.4**	**+5.7**
PB07				IAML		16 02 57.7	
	comp=Z,2μm,0.4s						
PB07	**IPOC Station P**	**1.78**	**173**	*eP*	**Pn**	**16 02 27.7**	**+0.5**
PB07				*eS*	**Sn**	**16 02 49.0**	**+0.3**
PB07				IAML		16 02 51.5	
	comp=E,2μm,0.5s						
PB09	**IPOC Station P**	**2.01**	**156**	*eP*	**Pn**	**16 02 31.4**	**+1.1**
PB09				*eS*	**Sn**	**16 02 57.3**	**+3.0**
PB09				IAML		16 03 02.8	
	comp=Z,1μm,0.5s						
PB09	**IPOC Station P**	**2.01**	**156**	*eP*	**Pn**	**16 02 31.8**	**+1.5**
PB09				*eS*	**Sn**	**16 02 55.6**	**+1.3**
PB09				IAML		16 03 03.4	
	comp=E,2μm,0.4s						
PB04	**IPOC Station P**	**2.37**	**181**	*eP*	**Pn**	**16 02 35.5**	**+0.2**
PB04				*eS*	**Sn**	**16 03 02.9**	**-0.3**
PB04				IAML		16 03 17.9	
	comp=Z,778nm,0.5s						
PB18	**Visviri**	**2.43**	**14**	*eP*	**Pn**	**16 02 39.5**	**+3.1**
PB18				*eS*	**Sn**	**16 03 09.5**	**+4.3**
PB18				IAML		16 03 31.5	
	comp=E,664nm,1.0s						
PB06	**IPOC Station P**	**2.79**	**170**	*eP*	**Pn**	**16 02 41.4**	**+0.4**
PB06				*eS*	**Sn**	**16 03 15.6**	**+2.2**
PB06				IAML		16 03 29.1	
	comp=Z,393nm,0.8s						
LVC	**Limon Verde**	**2.87**	**157**	*eP*	**Pn**	**16 02 43.9**	**+1.5**
LVC				*eS*	Sn	16 03 01.0	-15
LVC	**Limon Verde**	**2.87**	**157**	P	**Pn**	**16 02 44.5**	**+2.2**
	comp=Z,93nm,0.4s,baz=9.1,slow=7.6,SNR=151						
LVC				S	**Sn**	**16 03 20.0**	**+4.2**
	comp=Z,108nm,0.3s,baz=223,slow=19,SNR=12						
LVC	**Limon Verde**	**2.87**	**157**	*eP*	**Pn**	**16 02 44.5**	**+2.2**
LVC				*eS*	**Sn**	**16 03 20.6**	**+4.7**
PB15	**IPOC Station P**	**3.29**	**170**	*eP*	**Pn**	**16 02 48.6**	**+0.6**
PB15				*eS*	**Sn**	**16 03 27.6**	**+1.6**
PB15				IAML		16 03 52.9	
	comp=Z,970nm,0.3s						
LPAZ	**La Paz**	**4.11**	**28**	P	Pn	16 03 03.9	+4.3
	comp=Z,19nm,0.3s,baz=212,slow=2.0,SNR=94						
LPAZ				LR	LR	16 04 55.1	
	comp=Z,136nm,19.4s,baz=265,slow=44						
LPAZ	**La Paz**	**4.11**	**28**	*eP*	Pn	16 03 03.4	+3.9
GO02	**Mina Guanaco**	**5.21**	**175**	*eP*	**Pn**	**16 03 14.7**	**+0.3**
GO02				*eS*	**Sn**	**16 04 16.6**	**+3.3**
GO02				IAML		16 04 55.5	
	comp=Z,98nm,0.5s						
BBSD	**Serra de San D**	**9.43**	**75**	*eP*	**Pn**	**16 04 11.6**	**-0.5**
SIV	**San Ignacio**	**9.46**	**67**	P	**Pn**	**16 04 11.9**	**-0.7**
	comp=Z,10nm,0.5s,baz=251,slow=10,SNR=51						
ETMB	**Extrema**	**10.76**	**21**	*eP*	Pn	16 04 35.0	+4.7
PTLB	**Pontes e Lacer**	**11.38**	**69**	*eP*	**Pn**	**16 04 39.2**	**+0.5**
VILB	**Vilhena**	**11.78**	**55**	*eP*	**Pn**	**16 04 45.4**	**+1.1**
CPUP	**Villa Florida**	**13.36**	**121**	P	**Pn**	**16 05 05.2**	**-0.6**
	comp=Z,2.1nm,0.7s,baz=314,slow=8.9,SNR=4.5						
H03N1	**Juan Fernandez**	**15.55**	**208**	T	T	16 21 09.5	
	baz=32,slow=72,SNR=398						
H03N2	**Juan Fernandez**	**15.56**	**209**	T	T	16 21 09.5	
	baz=32,slow=72,SNR=255						
H03N3	**Juan Fernandez**	**15.57**	**208**	T	T	16 21 12.4	
	baz=32,slow=72,SNR=293						
FRTB	**Fartura**	**19.40**	**104**	*eP*	**Pn**	**16 06 21.2**	**-1.4**
BB19B	**Bebedouro**	**20.25**	**97**	*eP*	Pn	16 06 32.0	-0.8
SADO	**Sadowa**	**64.93**	**353**	LR	LR	16 45 25.3	
	comp=Z,77nm,18.3s,baz=340,slow=40						

QSPA	**South Pole Qui**	**70.23**	**180**	P	**P**	**16 13 07.7**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=247,slow=0.9,SNR=8.2						
	comp=Z,0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**77.92**	**71**	P	**P**	**16 13 50.7**	**-1.9**
	comp=Z,0.5nm,0.5s,baz=249,slow=4.8,SNR=6.9						
	comp=Z,0.5nm,0.5s						
YKA	**Yellowknife Ar**	**89.36**	**341**	P	**P**	**16 14 49.9**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=136,slow=4.6,SNR=29						
	comp=Z,1.9nm,0.8s						
H11S2	**WAKE ISLAND Hyl**	**26.55**	**279**	T	T	18 40 17.3	
	baz=102,slow=75,SNR=124						
H11S1	**WAKE ISLAND Hyl**	**26.56**	**279**	T	T	18 40 19.9	
	baz=102,slow=75,SNR=192						
H11S3	**WAKE ISLAND Hyl**	**26.56**	**279**	T	T	18 40 20.4	
	baz=102,slow=75,SNR=177						
H11N3	**WAKE ISLAND Hyl**	**26.59**	**280**	T	T	18 40 21.1	
	baz=101,slow=75,SNR=96						
H11N2	**WAKE ISLAND Hyl**	**26.61**	**280**	T	T	18 40 19.7	
	baz=101,slow=75,SNR=104						
H11N1	**WAKE ISLAND Hyl**	**26.61**	**280**	T	T	18 40 20.0	
	baz=101,slow=75,SNR=97						
MKAR	**Makanchi Array**	**145.01**	**34**	PKP	**PKPdf**	**16 21 30.2**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=319,slow=3.4,SNR=18						
USRK	**Ussuriysk Ar.**	**149.60**	**328**	PKPbc	**PKiKP**	**16 21 43.3**	**-1.2**
	comp=Z,1.5nm,0.8s,baz=79,slow=0.7,SNR=4.9						
MJAR	**Matsushiro Arr**	**150.22**	**310**	PKPbc	**PKiKP**	**16 21 45.0**	**-1.0**
	comp=Z,1.0nm,1.0s,baz=40,slow=6.3,SNR=2.4						
SONM	**Songino Array**	**152.04**	**5**	PKPbc	**PKiKP**	**16 21 49.0**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=334,slow=0.3,SNR=6.3						

*SNET **10** 16:11:35.8±2.1, 13°.18N×89°.18W, h52^{km}, ML3.8*
*CATAC **10** 16:11:36.0±0.6, 13°.15N×89°.17W, h30^{km}±5^{km}, ML3.5*

ISC 10 16:11:36.4±1.6, **13°.15N**±0°.08×**89°.16W**±0°.05, **h47**^{km}±13^{km}, **n42**, σ0≦**73**/54, **1C-7D**, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.37**	**335**	*eP*	**Pn**	**16 11 45.8**	**-0.1**
LALI				*eS*	**Sn**	**16 11 53.1**	**+0.4**
LFRS	**El Faro**	**0.48**	**12**	*eP*	**Pn**	**16 11 47.2**	**-0.1**
SJTE	**Alcalda de S**	**0.48**	**18**⇓	*eP*	**Pn**	**16 11 47.1**	**-0.2**
LOMA	**Loma Larga**	**0.49**	**359**⇓	*iP*	**Pn**	**16 11 47.4**	**-0.1**
LOMA				*eS*	**Sn**	**16 11 56.2**	**+0.8**
ITCA	**Escuela Especi**	**0.53**	**348**	*i* P	**Pn**	**16 11 47.0**	**-1.0**
ITCA				*i* S	**Sn**	**16 11 56.8**	**+0.6**
ITCA				IAML		16 11 59.6	
	comp=Z,8μm,1.0s						
TECO	**Alcaldia de Te**	**0.53**	**44**	*eP*	**Pn**	**16 11 47.6**	**-0.3**
SNET	**Serv Nac Est T**	**0.54**	**353**	*eP*	**Pn**	**16 11 48.2**	**+0.2**
COEG	**Centro de Oper**	**0.54**	**30**	*eP*	**Pn**	**16 11 47.8**	**-0.2**
SNVI	**San Vicente**	**0.56**	**34**	*eP*	**Pn**	**16 11 48.2**	**-0.1**
UEES	**Universidad Ev**	**0.57**	**352**	*eP*	**Pn**	**16 11 48.5**	**+0.1**
JAYA	**Jayaque - finc**	**0.57**	**331**	*eP*	**Pn**	**16 11 47.9**	**-0.7**
JAYA				*eS*	**Sn**	**16 11 56.8**	**-0.4**
BOQS	**Boqueron**	**0.59**	**349**	*eP*	**Pn**	**16 11 48.7**	**-0.2**
LFU	**La Fuente**	**0.59**	**4**	*eP*	**Pn**	**16 11 48.8**	**0.0**
PAVA	**Las Pavas**	**0.60**	**21**⇓	*eP*	**Pn**	**16 11 48.9**	**0.0**
UESV	**Universidad de**	**0.60**	**37**	*i* P	**Pn**	**16 11 48.9**	**+0.1**
UESV				*i* S	**Sn**	**16 11 58.8**	**+1.1**
UESV				IAML		16 11 59.2	
	comp=Z,2μm,1.0s						
CEDA	**San Andres**	**0.69**	**341**	*eP*	**Pn**	**16 11 49.5**	**-0.4**
QUEZ	**Alcaldia de Qu**	**0.69**	**351**	*i* P	**Pn**	**16 11 49.8**	**-0.1**
QUEZ				*i* S	**Sn**	**16 12 01.1**	**+1.4**
QUEZ				IAML		16 12 06.2	
	comp=Z,4μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.69**	**38**⇓	*eP*	**Pn**	**16 11 50.3**	**+0.3**
COEB	**Comit de Eme**	**0.70**	**61**	*eP*	**Pn**	**16 11 48.2**	**-1.9**
COEB				*eS*	**Sn**	**16 11 56.9**	**-3.2**
TECA	**Tecapa**	**0.73**	**62**	*eP*	**Pn**	**16 11 50.6**	**+0.1**
PQSS	**Presa 15 de Se**	**0.75**	**51**	*eP*	**Pn**	**16 11 50.8**	**+0.1**
CEVE	**Cerro Verde**	**0.81**	**326**	*eP*	**Pn**	**16 11 51.4**	**-0.4**
SBLS	**San Blas**	**0.82**	**327**	*eP*	**Pn**	**16 11 51.5**	**-0.3**
SNJE	**San Jose**	**0.83**	**329**⇓	*eP*	**Pn**	**16 11 51.4**	**-0.6**
PACA	**Pacayal**	**0.87**	**69**	*eP*	**Pn**	**16 11 52.9**	**+0.4**
RTR	**El Retiro**	**0.88**	**328**	*eP*	**Pn**	**16 11 52.2**	**-0.3**
LCY	**Lacayo**	**0.89**	**72**	*eP*	**Pn**	**16 11 53.0**	**+0.4**
UNIC	**Universidad Ca**	**0.91**	**335**	*i* P	**Pn**	**16 11 52.4**	**-0.5**
UNIC				IAML		16 11 52.8	
	comp=Z,790nm,1.0s						
UNIC				*i* S	**Sn**	**16 12 05.1**	**+0.2**
BLLM	**Bellamira**	**0.94**	**72**	*eP*	**Pn**	**16 11 53.5**	**+0.2**
NUBE	**Las Nubes**	**0.96**	**321**	*iP*	**Pn**	**16 11 52.9**	**-0.8**
LLGN	**La Laguna**	**1.03**	**12**	*i* P	**Pn**	**16 11 53.9**	**-0.6**
LLGN				IAML		16 11 54.5	
	comp=Z,350nm,1.0s						
LLGN				*i* S	**Sn**	**16 12 08.6**	**+0.7**
LOAL	**Lomas de Alarc**	**1.03**	**324**	*i* P	**Pn**	**16 11 54.7**	**+0.1**
LOAL				*i* S	**Sn**	**16 12 08.2**	**+0.2**
LOAL				IAML		16 12 14.9	
	comp=Z,2μm,1.0s						
LCND	**La Caada**	**1.25**	**83**⇑	*iP*	**Pn**	**16 11 57.6**	**+0.2**
LCND	**La Caada**	**1.25**	**83**	*i* P	**Pn**	**16 11 57.6**	**+0.2**
LCND				*i* S	**Sn**	**16 12 13.3**	**+0.2**
LCND				IAML		16 12 17.6	
	comp=Z,760nm,1.0s						
MTO3	**Montecristo**	**1.25**	**351**⇓	*iP*	**Pn**	**16 11 57.2**	**-0.6**
CNCH	**Conchagua**	**1.30**	**84**	*eP*	**Pn**	**16 11 58.2**	**-0.1**
ESQI	**Esquipulas**	**1.41**	**353**	*i* P	**Pn**	**16 11 59.5**	**-0.3**
ESQI				IAML		16 11 59.8	
	comp=Z,820nm,1.0s						
ESQI				*i* S	**Sn**	**16 12 17.6**	**+0.3**
CSGN	**Cosiguina Volc**	**1.57**	**96**	*i* P	**Pn**	**16 12 01.7**	**-0.2**
CSGN				IAML		16 12 30.3	
	comp=Z,1μm,1.0s						
MACN	**El Madrono**	**2.52**	**105**	*i* P	**Pn**	**16 12 15.7**	**+0.8**
MACN				IAML		16 12 53.7	
	comp=Z,120nm,1.0s						
IZABA	**Izabal, Puerto**	**2.62**	**12**	*i* P	**Pn**	**16 12 16.5**	**+0.2**
IZABA				IAML		16 12 19.2	
	comp=Z,48nm,1.0s						
COPN	**Copaltepe**	**2.69**	**111**	*i* P	**Pn**	**16 12 17.6**	**+0.4**
COPN				IAML		16 12 52.6	
	comp=Z,62nm,1.0s						
RCPN	**Sur Rio San Ju**	**3.01**	**83**	*i* P	**Pn**	**16 12 20.5**	**-1.2**

*IDC **10** 16:18:31.4±3.5, 17°.61N×145°.48E, h331^{km}±35^{km}, mb3.3/16, mbtmp4.0/18, Error ellipse: s-maj=18.7km s-min=12.8km az=94.0*
*NEIC **10** 16:18:32.9±1.5, 17°.4N±0°.1×145°.55E±0°.08, h368^{km}±9^{km}, mb3.9/36, Error ellipse: s-maj=17.1km s-min=9.4km az=208.0*

ISC 10 16:18:31.4±0.6, **17°.38N**±0°.08×**145°.6E**±0°.1, **h350**^{km}, **n66**, σ1≧**38**/67, **mb3.8**/29, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**18.56**	**303**	P	**P**	**16 22 24.4**	**+0.1**
JOW	**Kunigami**	**18.56**	**303**	P	**P**	**16 22 24.4**	**+0.1**
	11nm,0.3s,baz=120,slow=20,SNR=7.6						
JMN	**Monobe**	**19.37**	**329**	P	**P**	**16 22 32.6**	**-0.3**
JMN				IAmb	IAmb	16 22 45.4	
	comp=Z,15nm,1.1s						
INU	**Inuyama**	**19.45**	**339**	P	**P**	**16 22 33.2**	**-0.4**
INU				IAmb	IAmb	16 22 44.1	
	comp=Z,6.2nm,1.1s						
JGF	**Kuroka**	**19.56**	**340**	P	**P**	**16 22 34.7**	**-0.2**
JGF				IAmb	IAmb	16 22 36.1	
	comp=Z,3.3nm,0.7s						
MJAR	**Matsushiro Arr**	**20.17**	**343**	P	**P**	**16 22 38.0**	**-2.9**
	comp=Z,1.6nm,0.8s,baz=156,slow=6.0,SNR=13						
MAJO	**Matsushiro**	**20.17**	**343**	P	**P**	**16 22 39.5**	**-1.5**
MAJO				IAmb	IAmb	16 22 41.9	
	comp=Z,6.8nm,1.1s						
MJB9	**Matsu-Tunnel**	**20.17**	**343**	P	**P**	**16 22 38.4**	**-2.5**
MJB9				IAmb	IAmb	16 22 42.9	
	comp=Z,6.6nm,1.1s						
JNU	**Nakatsue**	**20.51**	**323**	P	**P**	**16 22 42.1**	**-2.0**
JNU				IAmb	IAmb	16 22 44.3	
	comp=Z,14nm,1.1s						
JNU	**Nakatsue**	**20.51**	**323**	P	**P**	**16 22 42.5**	**-1.6**
	comp=Z,7.5nm,0.9s,baz=129,slow=1.3,SNR=8.9						
	comp=Z,7.5nm,0.9s						
JMM	**Marumori**	**20.84**	**349**	P	**P**	**16 22 44.5**	**-2.5**
YHNB	**Yeheng**	**23.69**	**292**	P	**P**	**16 23 11.8**	**-1.3**
YHNB				IAmb	IAmb	16 23 29.2	
	comp=Z,5.6nm,0.8s						
KSRS	**Korea Array**	**25.32**	**326**	P	**P**	**16 23 26.6**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=145,slow=9.2,SNR=7.5						
	comp=Z,1.4nm,0.7s						
PMG	**Port Moresby**	**26.66**	**176**	P	**P**	**16 23 37.6**	**-2.0**
JKA	**Kamikawa-asahi**	**26.77**	**355**	P	**P**	**16 23 40.3**	**-0.1**
JKA				IAmb	IAmb	16 23 43.3	
	comp=Z,3.4nm,0.7s						
USA0B	**Ussuriysk Arra**	**29.09**	**340**	P	**P**	**16 23 59.8**	**-1.0**
USRK	**Ussuriysk Ar.**	**29.09**	**340**	P	**P**	**16 23 59.6**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=144,slow=9.9,SNR=5.7						
	comp=Z,1.2nm,0.6s						
PETK	**Petropavlovsk-**	**36.90**	**12**	P	**P**	**16 25 09.2**	**+1.5**
	comp=Z,3.7nm,1.0s,baz=148,slow=7.7,SNR=11						
	comp=Z,3.7nm,1.0s						
HHC	**Hu-ho-hao-te**	**37.44**	**316**	*eP*	**P**	**16 25 14.8**	**+2.3**
HHC				pmax	pmax		
	comp=Z,18nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,5.3s						
WB0	**Warramunga Arr**	**38.51**	**197**	P	**P**	**16 25 20.6**	**-0.8**
WR0	**Warramunga Ar**	**38.65**	**197**	P	**P**	**16 25 22.5**	**0.0**
WRAB	**Tennant Creek**	**38.67**	**197**	P	**P**	**16 25 22.8**	**0.0**
WRAB				IAmb	IAmb	16 25 40.6	
	comp=Z,9.1nm,0.6s						
WRA	**Warramunga Arr**	**38.69**	**197**	P	**P**	**16 25 24.0**	**+1.1**
WRA	**Warramunga Ar**	**38.69**	**197**	P	**P**	**16 25 25.3**	**+2.4**
	comp=Z,0.5nm,0.6s,baz=11,slow=8.8,SNR=8.0						
	comp=Z,0.5nm,0.6s						
PZH	**PanZhiHua**	**41.48**	**290**	P	**P**	**16 25 49.5**	**+3.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,5.3s						
MA2	**Magadan**	**42.31**	**4**	P	**P**	**16 25 49.6**	**-2.2**
MA2				IAmb	IAmb	16 26 03.3	
	comp=Z,5.2nm,1.0s						
ASAR	**Alice Springs**	**42.35**	**196**	P	**P**	**16 25 55.8**	**+3.2**
	comp=Z,0.3nm,0.7s,baz=17,slow=6.9,SNR=4.5						
	comp=Z,0.3nm,0.7s						
LIFNC	**LIFOU**	**43.47**	**150**	P	**P**	**16 26 00.7**	**-0.8**
ULN	**Ulaanbaatar**	**43.73**	**323**	P	**P**	**16 26 03.5**	**+0.1**
ULN				IAmb	IAmb	16 26 04.4	
	comp=Z,4.5nm,0.8s						
SONM	**Songino Array**	**44.09**	**322**	P	**P**	**16 26 05.0**	**-1.3**
SONM				IAmb	IAmb	16 26 08.3	
	comp=Z,2.7nm,0.6s						
SONM	**Songino Array**	**44.09**	**322**	P	**P**	**16 26 06.7**	**+0.4**
	comp=Z,2.6nm,0.5s,baz=136,slow=6.0,SNR=30						
	comp=Z,2.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**44.27**	**279**	P	**P**	**16 26 09.6**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=73,slow=7.0,SNR=2.3						
	comp=Z,0.3nm,0.6s						
BBOO	**Buckleboo**	**50.72**	**190**	P	**P**	**16 26 55.8**	**-0.9**
BBOO				IAmb	IAmb	16 27 12.8	
	comp=Z,4.0nm,1.0s						
BILL	**Bilibino**	**52.34**	**10**	P	**P**	**16 27 08.8**	**+0.7**
TIXI	**Tiksi**	**55.16**	**354**	P	**P**	**16 27 27.8**	**-0.4**
ZALV	**Zalesovo Beam**	**58.98**	**323**	P	**P**	**16 27 54.7**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=107,slow=7.9,SNR=6.6						
	comp=Z,1.1nm,0.5s						
MK31	**Makanchi Array**	**59.28**	**314**	P	**P**	**16 27 57.3**	**0.0**
MKAR	**Makanchi Array**	**59.28**	**314**	P	**P**	**16 27 57.5**	**+0.2**
MKAR	**Makanchi Array**	**59.28**	**314**	P	**P**	**16 27 58.0**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=93,slow=8.6,SNR=18						
MKAR				PcP	**PcP**	**16 28 41.3**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=67,slow=4.6,SNR=2.3						
	comp=Z,1.6nm,0.7s						
MAKZ	**Makanchi**	**59.50**	**314**	P	**P**	**16 27 58.2**	**-0.5**
MAKZ				IAmb	IAmb	16 28 00.2	
	comp=Z,3.2nm,0.8s						
KURK	**Kurchatov**	**62.16**	**319**	P	**P**	**16 28 16.1**	**-0.4**
KURBB	**Kurchatov Arra**	**62.21**	**318**	P	**P**	**16 28 16.9**	**+0.1**
	comp=Z,14nm,0.6s,baz=97,slow=7.1,SNR=98						
NRIK	**Noril'sk**	**62.80**	**340**	P	**P**	**16 28 19.9**	**-0.4**
NRIK				IAmb	IAmb	16 28 21.4	
	comp=Z,4.5nm,0.6s						
NRIK	**Noril'sk**	**62.80**	**340**	P	**P**	**16 28 20.2**	**0.0**
	comp=Z,3.9nm,0.5s,baz=112,slow=8.2,SNR=13						
	comp=Z,3.9nm,0.5s						
ILAR	**Eielson Array**	**64.89**	**26**	P	**P**	**16 28 33.8**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=248,slow=6.1,SNR=14						
	com

0.6nm,0.5s,baz=129,slow=11,SNR=2.2
0.6nm,0.5s

KURBB **Kurchatov Arra 30.83 327** P **P 16 51 32.7 +0.3**
0.8nm,0.6s,baz=130,slow=10,SNR=11

NRIK **Noril'sk 43.56 351** P **P 16 53 20.1 +0.2**
0.7nm,0.5s,baz=173,slow=13,SNR=2.1
0.7nm,0.5s

WRA **Warramunga Arr 54.86 145** P **P 16 54 47.3 +0.3**
0.3nm,0.7s,baz=320,slow=11,SNR=3.2
0.3nm,0.7s

ASAR **Alice Springs 57.79 148** P **P 16 55 07.7 -0.2**
0.2nm,0.8s,baz=325,slow=7.4,SNR=1.3
0.2nm,0.8s

ARCES **ARCESS Array B 61.18 337** P **P 16 55 30.1 -0.5**
4.2nm,1.1s,baz=96,slow=8.3,SNR=1.4
4.2nm,1.1s

ILAR **Eielson Array 73.40 25** P **P 16 56 48.0 -0.1**
0.2nm,0.8s,baz=286,slow=4.9,SNR=1.5
0.2nm,0.8s

TAP 10 16:54:42.5,24.23N×121.72E,h11km,ML1.6,2D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.08**	**11**	*e*P	Pg	16 54 45.4	+0.3
	baz=15						
EAHA	**Aohua**	**0.10**	**8**	*e*P	Pg	16 54 45.9	+0.6
	baz=7.0						
EAHA				*e*S	Sg	16 54 48.9	+1.5
	baz=7.0						
ETL	**Fush Village**	**0.11**	**234**	P	Pb	16 54 46.2	-0.6
	baz=233						
ETL				S	Sg	16 54 48.8	+1.2
	baz=233						
NACB	**Ninganchiao**	**0.13**	**246**	*i*P	Pb	16 54 46.4	-0.7
	baz=245						
NACB				*i* S	Sg	16 54 49.2	+1.3
	baz=245						
TWD	**Chiawan**	**0.19**	**219**	*i* P	Pb	16 54 47.3	-0.7
	baz=216						
TWD				*i* S	Sg	16 54 50.3	+0.9
	baz=216						
ENA	**Nanau**	**0.20**	**4**	*i* P	Pb	16 54 47.6	-0.6
	baz=6.0						
ENA				*i* S	Sg	16 54 51.2	+1.4
	baz=6.0						
ETLH	**Xiulin Townshi**	**0.22**	**265**	P	Pb	16 54 48.0	-0.6
	baz=264						
ETLH				S	Sg	16 54 51.9	+1.4
	baz=264						
EWUT	**Wuta**	**0.22**	**13**	*i* P	Pb	16 54 48.0	-0.7
	baz=12						
EWUT				S	Sg	16 54 51.8	+1.4
	baz=12						
ETM	**Tongmen**	**0.34**	**219**	*e*P	Pg	16 54 49.6	+0.3
	baz=219						
ETM				*e*S	Sb	16 54 55.2	-0.7
	baz=219						
LXIB	**Xiulin Townshi**	**0.35**	**234**	P	Pb	16 54 50.7	-0.2
	baz=234						
LXIB				S	Sb	16 54 56.3	-0.2
	baz=234						
LATG	**Datong**	**0.36**	**330**	*i*P	Pb	16 54 50.7	-0.3
	baz=329						
LATG				S	Sb	16 54 56.1	-0.5
	baz=329						
NNSB	**Datong**	**0.37**	**303**	*i* P	Pb	16 54 51.0	-0.2
	baz=302						
NNSB				S	Sb	16 54 56.5	-0.6
	baz=302						
NNS	**Nan Shan**	**0.38**	**304**	*i* P	Pb	16 54 50.9	-0.5
	baz=303						
NNS				*i* S	Sb	16 54 57.1	-0.4
	baz=303						
TWC	**Suao**	**0.40**	**17**	*e*P	Pg	16 54 50.6	+0.2
	baz=18						
TWC				*e*S	Sb	16 54 56.8	-0.9
	baz=18						
NDS	**Dongshan**	**0.41**	**359**	P	Pb	16 54 51.2	-0.6
	baz=359						
NDS				*e*S	Sb	16 54 57.8	-0.2
	baz=359						
NDT	**Datong Townshi**	**0.42**	**333**	P	Pb	16 54 51.8	-0.2
	baz=332						
NDT				S	Sb	16 54 58.9	+0.5
	baz=332						
WHF	**Hehuan Shan**	**0.43**	**259**	*i* P	Pb	16 54 51.8	-0.6
	baz=258						
WHF				*i* S	Sb	16 54 58.2	-0.8
	baz=258						
ENTT	**Nioudou**	**0.44**	**341**	*i* P	Pb	16 54 52.1	-0.1
	baz=341						
ENTT				*i* S	Sb	16 54 58.7	-0.1
	baz=341						
FUSS	**Fushou**	**0.44**	**273**	P	Pb	16 54 52.2	-0.2
	baz=272						
FUSS				S	Sb	16 54 58.9	-0.2
	baz=272						
SHUL	**Shoufeng**	**0.46**	**199**	*e*P	Pb	16 54 52.2	-0.5
	baz=198						
SHUL				*e*S	Sb	16 55 01.2	+1.6
	baz=198						
TWE	**Neicheng**	**0.49**	**354**	*e*P	Pb	16 54 53.5	+0.3
	baz=355						
TWE				*e*S	Sb	16 55 00.2	-0.3
	baz=355						
EOS2	**EOS2**	**0.50**	**67**	*e*S	Sn	16 55 02.5	-1.6
	baz=67						
CHGB	**Renai**	**0.53**	**252**	*e*P	Pb	16 54 54.0	0.0
	baz=251						
CHGB				*i* S	Sb	16 55 01.3	-0.4
	baz=251						
YHNB	**Yeheng**	**0.54**	**324**	*i* P	Pb	16 54 54.3	+0.2
	baz=324						
YHNB				*i* S	Sb	16 55 02.7	+0.7
	baz=324						
FUSB	**Fushanzhiwuyua**	**0.55**	**347**	*e*P	Pb	16 54 54.1	-0.1
	baz=346						
FUSB				*e*S	Sb	16 55 01.6	-0.5
	baz=346						
NSK	**Sanguang**	**0.56**	**323**	P	Pb	16 54 54.5	+0.1
	baz=323						
NSK				S	Sb	16 55 02.8	+0.4
	baz=323						
OWD	**Renai**	**0.57**	**242**	*e*S	Sb	16 55 02.0	-0.8
	baz=241						
NWLT	**Wulai**	**0.58**	**340**	*e*P	Pb	16 54 55.2	+0.4
	baz=339						
NWLT				S	Sb	16 55 03.1	0.0
	baz=339						
WARBT	**Fenglin Townsh**	**0.59**	**211**	*e*P	Pg	16 54 53.8	-0.3
	baz=211						
WUSB	**Renai**	**0.60**	**247**	P	Pb	16 54 55.2	+0.1
	baz=247						
WUSB				*e*S	Sb	16 55 03.7	0.0
	baz=247						
VWDT	**VWDT**	**0.71**	**229**	*e*P	Pb	16 54 57.5	+0.6
	baz=228						
VWDT				*e*S	Sn	16 55 08.4	-1.1
	baz=228						
WHP	**Taichung City**	**0.71**	**274**	*e*S	Sb	16 55 08.2	+1.3
	baz=274						
TIPB	**Shuangxi**	**0.75**	**7**	*e*S	Sb	16 55 07.6	-0.2
	baz=7.0						
SSLB	**Suanglung**	**0.83**	**238**	*e*P	Pb	16 54 59.2	+0.2
	baz=238						
SSLB				*e*S	Sb	16 55 09.9	-0.3
	baz=238						

JMA 10 16:55:09.3±0.1,24.3N±0.4×123.8E±0.3,h14km±1km, MV1.6/10,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.12**	**315**	P	Pg	16 55 12.6	-0.1
IRIF				*e*S	Sg	16 55 15.3	+0.3
JKRS	**Kuro-shima**	**0.17**	**93**	*i* P	Pg	16 55 13.4	+0.1
JKRS				S	Sb	16 55 16.8	-0.7
HATJ	**Hateruma jima**	**0.19**	**186**	*i* P	Pg	16 55 13.4	-0.2
HATJ				*e*S	Sg	16 55 16.9	+0.3
JJ	**Ishigaki jima**	**0.31**	**68**	*i* P	Pg	16 55 15.5	-0.2
JJ				*e*S	Sg	16 55 20.0	0.0
JISG	**Ishigakijimahi**	**0.56**	**52**	P	Pg	16 55 20.2	-0.1
YOJ	**Yonaguni jima**	**0.78**	**286**	*e*P	Pg	16 55 24.4	0.0
YOJ				S	Sg	16 55 32.5	-2.1
JYNG	**Yonagunijimaku**	**0.83**	**284**	*e*P	Pb	16 55 25.6	0.0
JYNG				*e*S	Sb	16 55 37.2	+0.6
JTJ	**Tarama**	**0.89**	**64**	P	Pg	16 55 26.5	0.0
JTJ				*e*S	Sb	16 55 38.3	0.0

*IDC **10** 17:19:27.6±1.1,6.10S×142.71E,h0km,mb3.8/4, mbtmp3.9/6,ML1.4/1,MS3.4/1,Error ellipse: s-maj=42.9km s-min=26.9km az=79.0*

ISC 10 17:19:29.0±0.9,6.3S±0.1×142.7E±0.1,h10km,n7,σ1§65/8, mb4.0/4,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.42**	**126**	Pn	**Pn**	**17 20 51.9**	**+1.9**
	0.7nm,0.3s,baz=331,slow=13,SNR=2.1						
PMG				Sn	**Sn**	**17 21 50.5**	**-2.0**
	0.6nm,0.3s,baz=254,slow=15,SNR=2.2						
	6.2nm,0.7s						
WRA	**Warramunga Arr**	**15.84**	**210**	Pn	**Pn**	**17 23 10.6**	**-1.7**
	0.2nm,0.3s,baz=28,slow=13,SNR=7.4						
WRA				Sn	Sn	17 25 56.4	-12
	0.1nm,0.3s,baz=42,slow=21,SNR=3.0						
WRA				Lg	Lg	17 27 49.4	
	0.2nm,0.3s,baz=48,slow=30,SNR=2.6						
ASAR	**Alice Springs**	**19.26**	**205**	P	**Pn**	**17 23 55.4**	**+0.5**
	3.5nm,0.5s,baz=31,slow=9.9,SNR=28						
ASAR				Lg	Lg	17 29 42.2	
	baz=16,slow=31,SNR=2.8						
ASAR				LR	LR	17 31 59.4	
	comp=Z,122nm,20.2s,baz=56,slow=39						
MKAR	**Makanchi Array**	**75.01**	**322**	P	**P**	**17 31 11.3**	**+0.5**
	0.4nm,0.8s,baz=102,slow=6.2,SNR=3.5						
	0.4nm,0.8s						
QSPA	**South Pole Qui**	**83.71**	**180**	P	**P**	**17 31 58.8**	**+0.7**
	0.9nm,0.8s,baz=305,slow=1.8,SNR=7.2						
	0.9nm,0.8s						
BVAR	**Borovoye Array**	**84.47**	**325**	P	**P**	**17 32 02.2**	**+0.1**
	0.5nm,0.6s						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**87.42**	**24**	P	**P**	**17 32 14.8**	**-1.5**
	0.8nm,0.7s,baz=259,slow=4.9,SNR=11						
	0.8nm,0.7s						

*OSPL **10** 17:21:25.5±1.4,18.72N×71.46W,h60km±14km, ML1.9*
*SDD **10** 17:21:27.5±1.2,18.60N×71.47W,h22km±7km, MD2.7, ML2.1,MW3.8*

ISC 10 17:21:25.8±1.1,18.66N±0.05×71.45W±0.05,h23km±9km, n8,σ0§26/15,6C-3D,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEDR	**Neiba UASD**	**0.18**	**172**	*e*Pg	**Pb**	**17 21 31.0**	**0.0**
NEDR				*e*Sg	**Sb**	**17 21 34.4**	**-0.2**
NEDR				IAML		17 21 34.9	
	comp=N,266nm,0.2s						
NEDR				IAML		17 21 35.3	
	comp=E,291nm,0.2s						
SDDR	**Presa de Saban**	**0.35**	**25**	*e*Pg	**Pn**	**17 21 35.3**	**-0.2**
SDDR				*e*Sg	**Sn**	**17 21 42.0**	**+0.2**
SDDR				IAML		17 21 42.1	
	comp=E,26nm,0.7s						
SDDR				IAML		17 21 42.1	
	comp=N,25nm,0.5s						
SDDR	**Presa de Saban**	**0.35**	**25**	*i* P	**Pn**	**17 21 35.4**	**-0.2**
SDDR				*e*S	**Sn**	**17 21 42.0**	**+0.2**
SDDR				IAML		17 21 48.8	
	comp=Z,28nm,0.6s						
JIDR	**Jimani**	**0.42**	**246**	*e*Pg	**Pb**	**17 21 34.5**	**-0.1**
JIDR				*e*Sg	**Sb**	**17 21 41.1**	**+0.5**
JIDR				IAML		17 21 41.2	
	comp=N,673nm,0.2s						
JIDR				IAML		17 21 42.0	
	comp=E,394nm,0.2s						
PODR	**Polo**	**0.52**	**162**	*e*Pg	**Pb**	**17 21 36.2**	**-0.2**
PODR				*e*Sg	**Sb**	**17 21 43.9**	**+0.3**
PODR				IAML		17 21 44.1	
	comp=N,554nm,0.2s						
PODR				IAML		17 21 45.1	
	comp=E,382nm,0.2s						
PODR	**Polo**	**0.52**	**162**	*i* P	**Pb**	**17 21 36.2**	**-0.2**
PODR				*e*S	**Sb**	**17 21 43.9**	**+0.3**
LOBA2	**Hotel Casa Bon**	**0.67**	**150**	*e*Pg	**Pb**	**17 21 39.0**	**+0.2**
LOPE2	**Hotel El Peder**	**0.69**	**204**	*i* P	**Pb**	**17 21 39.0**	**-0.1**
LOPE2				IAML		17 21 49.0	
	comp=Z,78nm,3.4s						
LOPE2				*e*S	**Sn**	**17 21 50.0**	**-0.1**

SJA 10 17:27:29.4±0.7,31.20S×68.30W,h102km±2km,ML3.5, MW3.7,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJA	**San Juan**	**0.39**	**214**	*e*P	Pn	17 27 45.6	+0.8
SJA				*e*S	Sn	17 27 56.8	+0.5
SJA				IAML		17 27 59.6	
	comp=Z,1μm,0.2s						
RTCV	**Cerro Valdivia**	**0.69**	**197**	*e*P	Pn	17 27 47.9	+0.8
RTCV				*e*S	Sn	17 28 01.6	+1.4
DOCA	**Reserva Natura**	**0.71**	**290**	*e*P	Pn	17 27 48.2	+0.6
DOCA				*e*S	Sn	17 28 01.9	+0.7
DOCA				IAML		17 28 02.4	
	comp=Z,3μm,0.6s						
ACCO	**Cerro Coronel**	**0.89**	**313**	*e*P	Pn	17 27 50.2	+0.9
ACCO				IAML		17 28 09.8	
	comp=Z,519nm,0.5s						
AVFE	**Valle Fertil**	**0.91**	**54**	*e*P	Pn	17 27 50.3	+1.2
AVFE				*e*P		17 27 50.7	
AVFE				*e*S	Sn	17 28 06.1	+2.2
AVFE				IAML		17 28 06.1	
	comp=Z,645nm,0.5s						
RTLS	**Leoncito**	**1.04**	**235**	*e*P	Pn	17 27 52.0	+1.3
RTLS				*e*S	Sn	17 28 06.2	-0.5
RTLS				IAML		17 28 11.1	
	comp=Z,2μm,0.6s						
ACDV	**Cuesta del Vie**	**1.24**	**325**	*e*P	Pn	17 27 54.0	+1.1
ACDV				IAML		17 28 12.6	
	comp=Z,684nm,0.4s						
ACDV				*e*S	Sn	17 28 12.6	+2.0
ACHE	**Chepes**	**1.41**	**89**	*e*P	Pn	17 27 56.3	+1.5
AROD	**Rodeo**	**1.44**	**315**	*e*P	Pn	17 27 56.7	+1.4
AROD				*e*S	Sn	17 28 17.0	+1.9
ASAL	**Salagasta**	**1.46**	**198**	*e*P	Pn	17 27 56.4	+1.0
ASAL				*e*S	Sn	17 28 16.6	+1.6
ASAL				IAML		17 28 17.3	
	comp=Z,338nm,0.4s						
AGUA	**GUANDACOL**	**1.71**	**355**	*e*P	Pn	17 28 00.2	+1.6
AGUA				IAML		17 28 27.4	
	comp=Z,679nm,0.4s						
ARCO	**CERRO ARCO**	**1.72**	**198**	*e*P	Pn	17 27 59.9	+1.2
ARCO				IAML		17 28 25.4	
	comp=Z,258nm,0.2s						
APLL	**PUNTA DE LOS L**	**1.73**	**63**	*e*P	Pn	17 27 59.7	+1.1
AAGR	**Agrelo**	**1.93**	**193**	*e*P	Pn	17 28 02.5	+1.1
AAGR				IAML		17 28 28.9	
	comp=Z,284nm,0.2s						
CO01	**Juntas del Tor**	**1.97**	**308**	*e*P	Pn	17 28 03.7	+1.8
CO01				*e*S	Sn	17 28 28.8	+2.2
CO01				IAML		17 28 29.5	
	comp=Z,400nm,0.4s						
CO03	**El Pedregal**	**2.08**	**279**	*e*P	Pn	17 28 04.0	+0.8
CO03				IAML		17 28 31.8	
	comp=Z,534nm,0.7s						
ACLC	**CERRO LA CRUZ**	**2.12**	**34**	*e*P	Pn	17 28 05.1	+1.3
ACLC				*e*S	Sn	17 28 23.1	-6.9
ACLC				IAML		17 28 32.8	
	comp=Z,232nm,0.3s						
AVIZ	**Vizcacheras**	**2.27**	**184**	*e*P	Pn	17 28 07.2	+1.4
CO02	**Combarbal**	**2.31**	**269**	*e*P	Pn	17 28 07.2	+1.0
CO02				*e*S	Sn	17 28 36.4	+2.0
CO02				IAML		17 28 37.0	
	comp=Z,769nm,0.7s						
GO04	**Tololo Observa**	**2.38**	**295**	*e*P	Pn	17 28 08.8	+1.5
GO04				*e*S	Sn	17 28 38.1	+1.9
VCA	**Vinchina**	**2.46**	**2**	*e*P	Pn	17 28 09.5	+1.3
VCA				IAML		17 28 43.3	
	comp=Z,470nm,0.8s						
VA03	**San Esteban**	**2.47**	**230**	*e*P	Pn	17 28 09.5	+1.3
VA03				IAML		17 28 41.3	
	comp=Z,132nm,0.3s						
PEL	**Peldehue**	**2.80**	**226**	*e*P	Pn	17 28 13.8	+1.2
ROC1	**El Roble**	**2.90**	**232**	*e*P	Pn	17 28 14.1	0.0
MT03	**Universidad Ad**	**2.95**	**219**	*e*P	Pn	17 28 16.8	+2.1
MT03				IAML		17 28 58.3	
	comp=Z,91nm,0.7s						
MT05	**Renca**	**3.00**	**223**	*e*P	Pn	17 28 16.8	+1.5
MT05				IAML		17 28 55.9	
	comp=Z,86nm,0.7s						
LCO	**Las Campanas**	**3.01**	**316**	*e*P	Pn	17 28 16.7	+1.1
TCA	**Tanti**	**3.18**	**93**	*e*P	Pn	17 28 18.8	+1.1
TCA				*e*S	Sn	17 28 55.6	+0.7
TCA				IAML		17 28 56.5	
	comp=Z,72nm,0.5s						
BO01	**Tunca**	**3.95**	**216**	*e*P	Pn	17 28 27.4	-0.6
BO01				IAML		17 29 18.1	
	comp=Z,19nm,0.4s						

*CNRM **10** 17:33:07.6,36.53N×8.58W,h10km,ML1.8*
*MDD **10** 17:33:08.9±1.2,36.66N×9.40W,h39km±13km,mb_Lg2.5/3, Error ellipse: s-maj=10.3km s-min=7.2km az=43.0*
*SFS **10** 17:33:08.6,36.65N×9.39W,h42km,ML2.3/11,ML2.9/8, MLv2.0/11*
*IGIL **10** 17:33:08.4,36.63N×9.39W,h23km,ML1.7*
*INMG **10** 17:33:08.8±0.8,36.64N×9.39W,h25km±4km,ML1.9,Error ellipse: s-maj=3.5km s-min=2.3km az=77.0*

ISC 10 17:33:04.5±2.3,36.52N±0.07×9.48W±0.09,h33km±6km, n41,σ1§68/67,2C,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.81**	**41**	*i* P	**Pn**	**17 33 21.2**	**+1.7**
PFVI				*e*S	**Sn**	**17 33 30.6**	**+0.3**
PFVI				A	A	17 33 31.0	
	32nm,0.6s						
PFVI	**Vila Bisbo**	**0.81**	**41**	Pn	**Pn**	**17 33 21.2**	**+1.7**
PFVI				Sg	**Sb**	**17 33 29.5**	**-1.2**
MORF	**Marmelete**	**1.02**	**40**	*e*P	**Pb**	**17 33 24.3**	**+0.5**
MORF				*e*S	**Sn**	**17 33 35.9**	**0.0**
MORF				A	A	17 33 37.1	
	15nm,0.1s						
MORF	**Marmelete**	**1.02**	**40**	*e*P	**Pb**	**17 33 24.3**	**+0.5**
MORF				*e*S	**Sn**	**17 33 35.8**	**-0.1**
MORF				IAML		17 33 38.0	
	comp=E,28nm,0.2s						
PTEO	**Sao Teotonio**	**1.19**	**31**	*e*P	**Pn**	**17 33 26.4**	**+1.6**
PTEO				*e*S	**Sb**	**17 33 39.9**	**-1.6**
PTEO				A	A	17 33 41.0	
	comp=E,26nm,0.5s						
PBDV	**Barranco-do-Ve**	**1.44**	**60**	*e*P	**Pn**	**17 33 30.3**	**+2.1**
PBDV				*e*S	**Sn**	**17 33 46.1**	**+0.1**
PBDV				A	A	17 33 48.6	
	comp=E,4.7nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.44**	**60**	Pn	**Pn**	**17 33 30.3**	**+2.1**
PBDV				Sn	**Sn**	**17 33 45.7**	**-0.3**
PCVE	**Castro Verde**	**1.60**	**46**	*e*P	**Pn**	**17 33 32.4**	**+1.9**
PCVE				*e*S	**Sn**	**17 33 50.2**	**+0.2**
PCVE				A	A	17 33 51.8	
	comp=E,2.9nm,0.2s						
PCVE	**Castro Verde**	**1.60**	**46**	Pn	**Pn**	**17 33 32.2**	**+1.8**
MESJ	**Messejana**	**1.66**	**37**	*e*P	**Pn**	**17 33 32.9**	**+1.6**
MESJ				*e*S	**Sn**	**17 33 51.0**	**-0.4**
MESJ				A	A	17 33 52.7	
	comp=E,6.3nm,0.8s						
MESJ	**Messejana**	**1.66**	**37**	*e*P	**Pn**	**17 33 32.9**	**+1.6**
MESJ				*e*S	**Sn**	**17 33 51.0**	**-0.4**
MESJ				IAML		17 33 53.0	
	comp=E,4.1nm,0.1s						
PVAQ	**Vaqueiros**	**1.67**	**58**	*e*P	**Pn**	**17 33 33.3**	**+1.9**
PVAQ				*e*S	**Sn**	**17 33 51.5**	**-0.1**
PVAQ				A	A	17 33 52.0	
	comp=E,7.7nm,1.9s						
PVAQ	**Vaqueiros**	**1.67**	**58**	Pn	**Pn**	**17 33 33.3**	**+1.9**
PVAQ				Sn	**Sn**	**17 33 51.2**	**-0.4**
PVAQ	**Vaqueiros**	**1.67**	**58**	P	**Pn**	**17 33 29.9**	**-1.4**
PVAQ	**Vaqueiros**	**1.67**	**58**	S	**Sn**	**17 33 44.8**	**-6.8**
PNCL	**Nicolau / Gran**	**1.76**	**25**	*e*P	**Pn**	**17 33 34.0**	**+1.4**
PNCL				*e*S	**Sn**	**17 33 53.2**	**-0.7**
PNCL				A	A	17 33 54.7	
	comp=E,7.4nm,0.1s						
PNCL	**Nicolau / Gran**	**1.76**	**25**	Pn	**Pn**	**17 33 33.8**	**+1.1**
PNCL				Sn	**Sn**	**17 33 52.7**	**-1.1**
EGRO	**El Granado**	**1.89**	**57**	Pn	**Pn**	**17 33 36.5**	**+2.0**
EGRO				Sn	**Sn**	**17 33 56.7**	**-0.4**
EGRO	**El Granado**	**1.89**	**57**	P	**Pn**	**17 33 36.5**	**+2.0**
EGRO				S	**Sn**	**17 33 56.8**	**-0.4**
EGRO				*i* Vmb_Lg		17 34 01.7	
PBEJ	**Beja**	**1.98**	**40**	*e*S	**Sn**	**17 33 59.0**	**-0.3**
PBEJ				A	A	17 34 00.5	
	comp=E,3.9nm,0.6s						
EVO	**Evora**	**2.32**	**30**	*e*P	**Pn**	**17 33 41.9**	**+1.5**
EVO				*e*S	**Sn**	**17 34 06.9**	**-0.9**
EVO				A	A	17 34 07.3	
	comp=E,14nm,0.1s						
EVO	**Evora**	**2.32**	**30**	Pn	**Pn**	**17 33 41.3**	**+0.9**
EVO				Sn	**Sn**	**17 34 06.2**	**-1.6**
PMAFR	**Mafra**	**2.43**	**4**	*e*S	**Sn**	**17 34 10.3**	**-0.2**
PMAFR				A	A	17 34 12.4	
	comp=E,21nm,0.7s						
PMAFR	**Mafra**	**2.43**	**4**	Pn	**Pn**	**17 33 43.3**	**+1.3**
PMAFR				Sn	**Sn**	**17 34 09.2**	**-1.4**
PBAR	**Barrancos**	**2.55**	**49**	*e*P	**Pn**	**17 33 45.3**	**+1.8**
PBAR				*e*S	**Sn**	**17 34 12.9**	**-0.6**
PBAR				A	A	17 34 15.8	
	comp=E,1.8nm,0.2s						
PBAR	**Barrancos**	**2.55**	**49**	Pn	**Pn**	**17 33 44.7**	**+1.2**
EMIN	**Mina Concepcio**	**2.57**	**60**	Sn	**Sn**	**17 34 12.1**	**-1.7**
EMIN	**Mina Concepcio**	**2.57**	**60**	P	**Pn**	**17 33 45.8**	**+2.1**
EMIN				S	**Sn**	**17 34 12.4**	**-1.4**
EMIN				*i* Vmb_Lg		17 34 14.5	
PMTG	**Montargil**	**2.73**	**21**	*e*P	**Pn**	**17 33 47.7**	**+1.7**
PMTG				*e*S	**Sn**	**17 34 16.6**	**-1.2**
PMTG				A	A	17 34 18.0	
	comp=E,4.0nm,0.5s						
PESTR	**Estremoz**	**2.78**	**32**	*e*P	**Pn**	**17 33 48.4**	**+1.7**
PESTR				*e*S	**Sn**	**17 34 18.0**	**-1.1**
PESTR				A	A	17 34 19.0	
	comp=E,1.7nm,0.1s						
PESTR	**Estremoz**	**2.78**	**32**	Pn	**Pn**	**17 33 47.1**	**+0.4**
PESTR				Sn	**Sn**	**17 34 17.2**	**-1.9**
PESTR	**Estremoz**	**2.78**	**32**	P	**Pn**	**17 33 47.1**	**+0.4**
ESPR	**Espera**	**2.94**	**82**	Sn	**Sn**	**17 34 21.2**	**-1.7**
ESPR	**Espera**	**2.94**	**82**	P	**Pn**	**17 33 51.4**	**+2.6**
ESPR				S	**Sn**	**17 34 23.0**	**+0.1**
ESPR				*i* Vmb_Lg		17 34 23.9	
EBAD	**Badajoz**	**2.97**	**41**	Sn	**Sn**	**17 34 20.6**	**-3.1**
EBAD	**Badajoz**	**2.97**	**41**	P	**Pn**	**17 33 50.8**	**+1.5**
EBAD				S	**Sn**	**17 34 21.4**	**-2.3**
PMRV	**Marv??o**	**3.34**	**29**	*e*P	**Pn**	**17 33 55.8**	**+1.4**
PMRV				*e*S	**Sn**	**17 34 30.8**	**-2.1**
PMRV				A	A	17 34 32.7	
	comp=E,3.9nm,0.2s						
PCBR	**Castelo Branco**	**3.67**	**25**	*e*S	**Sn**	**17 34 39.9**	**-1.1**
PVIS	**Viseu**	**4.37**	**16**	*e*S	**Sn**	**17 34 56.6**	**-1.7**
MD31	**MD31**	**5.33**	**132**	P	**Pn**	**17 34 21.4**	**-0.5**
MD31	**MD31**	**5.33**	**132**	S	Sn	17 35 16.7	-5.5

IDC 10 17:42:10.2±2.0,6.78S×143.56E,h0km,mb3.1/1, mbtmp3.4/4,ML3.2/2,Error ellipse: s-maj=45.6km s-min=35.2km az=69.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.42**	**126**	Pn	Pn	17 43 18.2	-0.3
	12nm,0.7s,baz=7.0,slow=19,SNR=7.6						
PMG				Sn	Sn	17 44 05.6	-5.1
	0.7nm,0.3s,baz=330,slow=20,SNR=1.8						
WRA	**Warramunga Arr**	**15.86**	**213**	Pn	Pn	17 45 52.9	-2.1
	0.1nm,0.3s,baz=31,slow=13,SNR=6.2						
	0.3nm,0.8s						
**AS

WRA	**Warramunga Arr**	**15.19**	**206**	Pn	Pn	17 51 47.7	-0.3
	0.1nm,0.3s,baz=29,slow=13,SNR=2.2 1.2nm,1.1s						
ASAR	**Alice Springs**	**18.71**	**202**	P	Pn	17 52 32.8	+0.2
	0.2nm,0.3s,baz=30,slow=12,SNR=16 1.0nm,0.6s						
MKAR	**Makanchi Array**	**74.17**	**322**	P	P	17 59 51.4	+0.9
	0.2nm,0.6s,baz=114,slow=6.5,SNR=2.4 0.2nm,0.6s						
BVAR	**Borovoye Array**	**83.70**	**325**	P	P	18 00 41.8	-0.9
	0.7nm,0.7s,baz=98,slow=10,SNR=5.2 0.7nm,0.7s						

NEIC ***10*** *17:53:16.3±2.6, 6.5S±0.1×143.5E±0.09, h10km±2km, mb4.1/7, Error ellipse: s-maj=18.5km s-min=14.5km az=21.0*

IDC ***10*** *17:53:17.4±0.9, 6.64S×143.61E, h0km, mb3.9/8, mbtmp4.0/10, ML2.2/1, MS3.4/1, Error ellipse: s-maj=36.3km s-min=19.2km az=76.0*

ISC 10 17:53:17.3±0.8, 6.66S±0.09×143.55E±0.08, h10km, n25, σ1§93/23, mb3.8/10, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.50**	**128**	Pn	**Pn**	**17 54 25.9**	**+0.3**
	9.5nm,0.3s,baz=7.8,slow=1.9,SNR=37						
PMG				Sn	**Sn**	**17 55 14.3**	**-3.7**
	8.7nm,0.3s,baz=206,slow=21,SNR=6.2 30nm,0.5s						
COEN	**Coen**	**7.26**	**183**	Pn	**Pn**	**17 55 05.3**	**+1.7**
COEN					LR	17 57 12.0	
FAKI	**Fak Fak**	**11.85**	**288**	Pn	**Pn**	**17 56 04.0**	**-2.7**
MTN	**Manton Dam**	**13.69**	**242**	Pn	**Pn**	**17 56 30.2**	**-1.4**
WRA	**Warramunga Arr**	**15.94**	**213**	Lg	Lg	18 01 37.7	
	0.1nm,0.3s,baz=28,slow=29,SNR=2.3						
KNRA	**Kununurra**	**17.04**	**237**	P	**Pn**	**17 57 15.3**	**-0.5**
KNRA				IAmb	IAmb	17 57 20.3	
	comp=Z,14nm,1.1s						
AS31	**Alice Springs**	**19.28**	**208**	P	**Pn**	**17 57 44.7**	**+1.3**
AS31				IAmb	IAmb	17 58 08.5	
	comp=Z,6.7nm,0.3s						
ASAR	**Alice Springs**	**19.28**	**208**	P	**Pn**	**17 57 44.5**	**+1.0**
ASAR	**Alice Springs**	**19.28**	**208**	P	**Pn**	**17 57 45.5**	**+2.0**
	comp=Z,12nm,0.7s,baz=36,slow=9.2,SNR=45						
ASAR				Lg	Lg	18 03 24.4	
	baz=31,slow=31,SNR=2.4						
SOEI	**Soe**	**19.33**	**260**	P	**P**	**17 57 41.0**	**-2.2**
SOEI				IAmb	IAmb	17 58 06.8	
	comp=Z,43nm,1.3s						
FITZ	**Fitzroy Crossi**	**20.83**	**235**	P	**P**	**17 57 57.4**	**-2.0**
STKA	**Stephens Creek**	**25.15**	**184**	P	**P**	**17 58 42.7**	**-0.2**
STKA				IAmb	IAmb	17 58 56.6	
	comp=Z,2.4nm,1.4s						
STKA	**Stephens Creek**	**25.15**	**184**	P	**P**	**17 58 44.8**	**+1.9**
	comp=Z,1.3nm,0.8s,baz=349,slow=11,SNR=2.8 comp=Z,1.3nm,0.8s						
DZM	**Mont Dzumac**	**26.89**	**127**	LR	LR	18 07 41.2	
	comp=Z,79nm,18.8s,baz=198,slow=32						
MJAR	**Matsushiro Arr**	**43.27**	**354**	P	**P**	**18 01 19.7**	**+0.5**
	comp=Z,1.5nm,0.9s,baz=181,slow=6.5,SNR=5.2 comp=Z,1.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**50.58**	**300**	P	**P**	**18 02 18.9**	**+2.2**
	comp=Z,0.9nm,0.9s,baz=130,slow=5.7,SNR=7.2 comp=Z,0.9nm,0.9s						
MK31	**Makanchi Array**	**75.85**	**322**	P	**P**	**18 05 02.4**	**-1.6**
MK31				IAmb	IAmb	18 05 08.1	
	comp=Z,1.9nm,1.2s						
MKAR	**Makanchi Array**	**75.85**	**322**	P	**P**	**18 05 01.6**	**-2.3**
MKAR	**Makanchi Array**	**75.85**	**322**	P	**P**	**18 05 06.3**	**+2.4**
	comp=Z,0.8nm,0.8s,baz=101,slow=6.3,SNR=7.5 comp=Z,0.8nm,0.8s						
MAKZ	**Makanchi**	**76.05**	**322**	P	**P**	**18 05 02.9**	**-2.2**
ZALV	**Zalesovo Beam**	**77.77**	**329**	P	**P**	**18 05 15.4**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=97,slow=6.0,SNR=1.9 comp=Z,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**79.72**	**324**	P	**P**	**18 05 26.9**	**+1.5**
	comp=Z,0.9nm,0.9s,baz=112,slow=5.0,SNR=3.8						
QSPA	**South Pole Qui**	**83.31**	**180**	P	**P**	**18 05 45.3**	**+0.9**
	comp=Z,2.9nm,1.0s,baz=311,slow=0.8,SNR=8.4 comp=Z,2.9nm,1.0s						
BVAR	**Borovoye Array**	**85.30**	**325**	P	**P**	**18 05 55.8**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=123,slow=5.5,SNR=5.4 comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**87.45**	**24**	P	P	18 06 08.2	+3.3
	comp=Z,0.6nm,0.8s,baz=270,slow=5.4,SNR=5.4 comp=Z,0.6nm,0.8s						

NEIC ***10*** *18:01:48.9±1.8, 11.45S±0.09×165.91E±0.08, h10km±1km, mb4.3/10, Error ellipse: s-maj=17.2km s-min=9.8km az=140.0*

IDC ***10*** *18:01:56.0±4.8, 11.60S×166.13E, h74km±34km, mb3.6/4, mbtmp3.8/5, ML3.5/1, MS3.6/2, Error ellipse: s-maj=53.7km s-min=24.0km az=49.0*

ISC 10 18:01:54.0±0.9, 11.7S±0.1×166.2E±0.1, h50km, n21, σ1§29/19, mb4.1/9, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.50**	**289**		Pn	18 03 19.9	-7.3
HNR	**Honiara**	**6.50**	**289**	P	**Pn**	**18 03 28.2**	**+1.1**
	1µm,0.4s,baz=135,slow=7.8,SNR=17						
HNR				S	**Sn**	**18 04 41.0**	**+1.0**
	487nm,0.7s,baz=291,slow=17,SNR=1.2						
HNR				LR	LR	18 06 07.0	
	comp=Z,1µm,21.6s,baz=100,slow=39						
KOUNC	**Koumac, New Ca**	**9.03**	**191**	Pn	**Pn**	**18 04 00.4**	**-1.5**
DZM	**Mont Dzumac**	**10.37**	**179**	Pn	**Pn**	**18 04 21.2**	**+1.0**
DZM	**Mont Dzumac**	**10.37**	**179**	P	**Pn**	**18 04 23.0**	**+2.8**
	0.4nm,0.3s,baz=27,slow=16,SNR=1.0 3.5nm,0.9s						
PMG	**Port Moresby**	**18.82**	**275**	LR	LR	18 13 04.2	
	comp=Z,70nm,18.5s,baz=111,slow=36						
WB0	**Warramunga Arr**	**31.59**	**251**	P	**P**	**18 08 10.4**	**-1.8**
WB0				IAmb	IAmb	18 08 18.0	
	comp=Z,9.8nm,1.4s						
WRA	**Warramunga Arr**	**31.67**	**251**	P	**P**	**18 08 12.6**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=81,slow=8.8,SNR=5.4 comp=Z,0.6nm,0.8s						
ASAR	**Alice Springs**	**32.90**	**244**	P	**P**	**18 08 23.4**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=79,slow=9.7,SNR=2.9 comp=Z,0.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**39.63**	**256**	P	P	18 09 17.9	-3.2
VNDA	**Vanda**	**65.90**	**181**	P	**P**	**18 12 35.1**	**+0.9**
P18K	**Big Mountain,**	**77.33**	**19**	P	**P**	**18 13 42.7**	**-0.4**
M16K	**Timber Creek**	**77.52**	**17**	P	**P**	**18 13 43.7**	**-0.4**
QSPA	**South Pole Qui**	**78.36**	**180**	P	**P**	**18 13 47.8**	**-1.2**
QSPA				IAmb	IAmb	18 14 26.5	
	comp=Z,4.5nm,1.3s						
QSPA	**South Pole Qui**	**78.36**	**180**	P	**P**	**18 13 48.0**	**-1.0**
	comp=Z,1.7nm,1.1s,baz=323,slow=15,SNR=1.9 comp=Z,1.7nm,1.1s						
L19K	**White Mountain**	**79.62**	**17**	P	**P**	**18 13 56.3**	**+0.6**
L19K				IAmb	IAmb	18 14 32.0	
	comp=Z,13nm,1.4s						
IMAR	**Indian Mountai**	**82.89**	**15**	P	**P**	**18 14 12.9**	**-0.1**
E19K	**Redstone River**	**83.22**	**13**	P	**P**	**18 14 15.9**	**+1.4**
E19K				IAmb	IAmb	18 14 30.9	
	comp=Z,1.4nm,1.2s						
C19K	**Lookout Ridge**	**84.07**	**12**	P	**P**	**18 14 20.2**	**+1.2**
C19K				IAmb	IAmb	18 14 36.7	
	comp=Z,1.7nm,1.1s						
MK31	**Makanchi Array**	**94.24**	**317**	P	**P**	**18 15 06.5**	**-1.4**
MK31				IAmb	IAmb	18 15 07.1	
	comp=Z,1.1nm,0.9s						
MKAR	**Makanchi Array**	**94.24**	**317**	P	**P**	**18 15 06.8**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=97,slow=5.7,SNR=11 comp=Z,1.0nm,0.7s						

IDC ***10*** *18:16:16.2±3.3, 1.41S×14.50W, h0km, mb3.8/3, mbtmp4.0/4, ML3.9/1, MS3.5/19, Error ellipse: s-maj=77.1km s-min=39.3km az=89.0*

ISC 10 18:16:20.2±2.0, 1.4S±0.2×14.1W±0.3, h10km, n29, σ2§68/8, mb4.2/3, MS3.5/18, 2C-1D, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**6.44**	**183**	T	T	18 24 33.5	
	baz=356,slow=74,SNR=20						
H10N3	**ASCENSION HYDR**	**6.45**	**183**	T	T	18 24 34.1	
	baz=356,slow=74,SNR=24						
H10N1	**ASCENSION HYDR**	**6.45**	**183**	T	T	18 24 37.8	
	baz=356,slow=74,SNR=14						
H10S3	**ASCENSION HYDR**	**7.56**	**184**	T	T	18 26 09.6	
	baz=223,slow=74,SNR=14						
H10S2	**ASCENSION HYDR**	**7.57**	**184**	T	T	18 26 03.4	
	baz=357,slow=74,SNR=5.0						
LIC	**Lamto**	**11.81**	**50**	i	P	18 19 18.4	+10
	2.0nm,0.3s						
TIC	**Toumodi**	**12.08**	**49**	e	**P**	**18 19 16.3**	**+3.7**
	4.2nm,0.2s						
KIC	**Kosan Boka**	**12.11**	**51**	i	**P**	**18 19 15.2**	**+2.2**
	3.1nm,0.3s						
DBIC	**Dimbokro**	**12.22**	**49**	Pn	**Pn**	**18 19 16.3**	**+1.9**
	0.7nm,0.3s,baz=241,slow=14,SNR=7.8						
DBIC				Sn	**Sn**	**18 21 29.4**	**-1.5**
	0.6nm,0.3s,baz=319,slow=18,SNR=2.5						
DBIC				LR	LR	18 23 19.2	
	comp=Z,166nm,20.0s,baz=198,slow=34 2.3nm,0.3s						
TORD	**Torodi Ar. Bea**	**21.32**	**47**	P	**P**	**18 21 07.9**	**+0.5**
	1.0nm,0.5s,baz=236,slow=10,SNR=4.7						
TORD				S	**S**	**18 25 01.3**	**-3.1**
	0.4nm,0.4s,baz=228,slow=23,SNR=2.3						
TORD				LR	LR	18 29 02.0	
	comp=Z,152nm,18.7s,baz=194,slow=35 1.0nm,0.5s						
TSUM	**Tsumeb**	**35.77**	**122**	LR	LR	18 35 07.5	
	comp=Z,48nm,18.8s,baz=310,slow=31						
MDP	**Montagnes des**	**39.00**	**280**	LR	LR	18 35 04.2	
	comp=Z,62nm,20.5s,baz=16,slow=29						
ESDC	**Sonseca Array**	**41.89**	**12**	LR	LR	18 40 10.6	
	comp=Z,61nm,19.1s,baz=212,slow=34						
LSZ	**Lusaka**	**43.98**	**111**	LR	LR	18 41 31.4	
	comp=Z,65nm,19.0s,baz=232,slow=34						
MBAR	**Mbarara**	**44.87**	**89**	LR	LR	18 41 46.4	
	comp=Z,78nm,18.5s,baz=243,slow=34						
SUR	**Sutherland**	**45.10**	**137**	LR	LR	18 42 00.4	
	comp=Z,56nm,18.2s,baz=242,slow=34						
BOSA	**Boshof**	**46.33**	**130**	P	**P**	**18 24 46.2**	**-0.6**
	2.1nm,0.8s,baz=324,slow=9.2,SNR=4.1 2.1nm,0.8s						
VAE	**Valguarnera**	**46.81**	**31**	LR	LR	18 46 18.0	
	comp=Z,81nm,18.7s,baz=143,slow=38						
LPAZ	**La Paz**	**55.18**	**251**	LR	LR	18 47 57.2	
	comp=Z,37nm,18.5s,baz=55,slow=35						
EIL	**Elat**	**56.07**	**52**	LR	LR	18 50 13.2	
	comp=Z,51nm,20.1s,baz=251,slow=36						
SDV	**Santo Domingo**	**57.20**	**281**	LR	LR	18 48 12.1	
	comp=Z,34nm,18.2s,baz=352,slow=34						
MLR	**Muntele Rosu**	**58.58**	**32**	LR	LR	18 52 36.3	
	comp=Z,26nm,19.9s,baz=82,slow=37						
AKASG	**Malin Array Be**	**63.64**	**29**	LR	LR	18 56 57.0	
	comp=Z,34nm,18.4s,baz=267,slow=38						
ATAH	**Atahualpa**	**64.29**	**263**	LR	LR	18 53 14.0	
	comp=Z,54nm,19.2s,baz=134,slow=35						
NOA	**NORSAR Array B**	**65.22**	**13**	LR	LR	18 56 24.6	
	comp=Z,16nm,18.5s,baz=210,slow=37						
FINES	**FINESS Array B**	**69.75**	**19**	P	**P**	**18 27 28.9**	**-1.3**
	1.9nm,1.0s,baz=226,slow=7.6,SNR=3.3 1.9nm,1.0s						
SADO	**Sadowa**	**73.48**	**318**	LR	LR	18 55 26.6	
	comp=Z,27nm,21.6s,baz=216,slow=32						
KIRV	**Kirov**	**77.69**	**29**	LR	LR	19 05 45.7	
	comp=Z,21nm,18.7s,baz=269,slow=38						
CMIG	**Matias Romero**	**81.56**	**287**	LR	LR	18 59 30.4	
	comp=Z,28nm,20.0s,baz=186,slow=32						

NOU ***10*** *18:19:02.1, 38.40S×175.60E, h199km, MLv3.5/6, North Island, New Zealand*

WEL ***10*** *18:19:09.3, 39.3S±10×17.6E±1.2, h148km±15km, M2.5/36, ML1.8/11, MLv2.5/36, Error ellipse: s-maj=0.0km s-min=0.0km az=104.5*

ISC 10 18:19:03.9±1.6, 38.52S±0.06×175.68E±0.06, h186km, n80, σ0§67/80, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLZ	**Tolley Road**	**0.22**	**330**	P	**Pn**	**18 19 29.1**	**+0.4**
KATZ	**Kakaramea**	**0.45**	**179**	P	**Pn**	**18 19 29.8**	**+0.4**
KRVZ	**Karewarewa**	**0.57**	**183**	P	**Pn**	**18 19 30.4**	**+0.5**
NTVZ	**North Tongarir**	**0.58**	**180**	P	**Pn**	**18 19 30.5**	**+0.6**
TWVZ	**Taurewa**	**0.58**	**199**	P	**Pn**	**18 19 30.3**	**+0.5**
TMVZ	**Te Maari**	**0.59**	**178**	P	**Pn**	**18 19 30.7**	**+0.8**
WTVZ	**West Tongariro**	**0.60**	**187**	P	**Pn**	**18 19 30.5**	**+0.5**
NNVZ	**North Ngauruho**	**0.61**	**185**	P	**Pn**	**18 19 30.7**	**+0.6**
ETVZ	**East Tongariro**	**0.61**	**178**	P	**Pn**	**18 19 30.7**	**+0.6**
OTVZ	**Oturere**	**0.64**	**181**	P	**Pn**	**18 19 30.9**	**+0.7**
NGZ	**Ngauruhoe**	**0.66**	**185**	P	**Pn**	**18 19 31.0**	**+0.7**
SNVZ	**South Ngauruho**	**0.66**	**183**	P	**Pn**	**18 19 31.2**	**+0.8**
COVZ	**Chateau Observ**	**0.69**	**189**	P	**Pn**	**18 19 31.0**	**+0.6**
FWVZ	**Far West T-bar**	**0.74**	**188**	P	**Pn**	**18 19 31.5**	**+0.6**
TUVZ	**Tukino**	**0.74**	**182**	P	**Pn**	**18 19 31.5**	**+0.7**
WHVZ	**Whangaehu Hut**	**0.76**	**185**	P	**Pn**	**18 19 31.8**	**+0.8**
TRVZ	**Turoa**	**0.78**	**188**	P	**Pn**	**18 19 31.9**	**+0.8**
TOZ	**Tahuna Road**	**0.80**	**350**	P	**Pn**	**18 19 31.6**	**+0.7**
WNVZ	**Wahianoa**	**0.81**	**185**	P	**Pn**	**18 19 31.9**	**+0.7**
PKVZ	**Pokaka**	**0.81**	**199**	P	**Pn**	**18 19 31.8**	**+0.7**
MTVZ	**Mangateitei**	**0.88**	**191**	P	**Pn**	**18 19 32.3**	**+0.8**
MOVZ	**Moawhango**	**0.89**	**176**	P	**Pn**	**18 19 32.0**	**+0.4**
BKZ	**Black Stump Fm**	**0.90**	**136**	P	**Pn**	**18 19 32.0**	**+0.4**
BKZ	**Black Stump Fm**	**0.90**	**136**	P	**Pn**	**18 19 32.0**	**+0.4**
VRZ	**Vera Road**	**0.94**	**230**	P	**Pn**	**18 19 32.9**	**+1.1**
MTHZ	**Maungataniwha**	**0.97**	**110**	P	**Pn**	**18 19 32.3**	**+0.3**
BHHZ	**Black Hill Sta**	**1.01**	**163**	P	**Pn**	**18 19 32.8**	**+0.4**
RTZ	**Ruatahuna**	**1.02**	**96**	P	**Pn**	**18 19 32.5**	**0.0**
NMHZ	**Naumai**	**1.05**	**123**	P	**Pn**	**18 19 34.1**	**+1.4**
KWHZ	**Kaweka Forest**	**1.07**	**148**	P	**Pn**	**18 19 33.5**	**+0.7**
URZ	**Urewera**	**1.15**	**77**	P	**Pn**	**18 19 33.3**	**-0.1**
URZ	**Urewera**	**1.15**	**77**	P	**Pn**	**18 19 33.2**	**-0.2**
KRHZ	**Kereru**	**1.24**	**155**	P	**Pn**	**18 19 35.0**	**+0.8**
WAZ	**Wanganui**	**1.34**	**203**	P	**Pn**	**18 19 36.2**	**+1.2**
PNHZ	**Pukenui**	**1.45**	**164**	P	**Pn**	**18 19 36.8**	**+0.9**
MWZ	**Mawai**	**1.46**	**83**	P	**Pn**	**18 19 36.2**	**+0.1**
MKAZ	**Moumakai**	**1.47**	**344**	P	**Pn**	**18 19 37.2**	**+1.0**
TSZ	**Takapari Road**	**1.55**	**172**	P	**Pn**	**18 19 37.8**	**+0.9**
KAHZ	**Kahuranaki**	**1.57**	**144**	P	**Pn**	**18 19 38.3**	**+1.2**
RIGZ	**Rimuhau**	**1.64**	**97**	P	**Pn**	**18 19 38.4**	**+0.7**
WPHZ	**Waipukurau**	**1.65**	**159**	P	**Pn**	**18 19 38.7**	**+0.9**
RUGZ	**Raukumara Rang**	**1.67**	**71**	P	**Pn**	**18 19 37.4**	**-0.7**
PXZ	**Pawanui**	**1.76**	**149**	P	**Pn**	**18 19 39.9**	**+1.0**
DVHZ	**Dannevirke**	**1.81**	**168**	P	**Pn**	**18 19 40.0**	**+0.6**
HAZ	**Te Kaha**	**1.82**	**66**	P	**Pn**	**18 19 39.1**	**-0.5**
TWGZ	**Tauwhareparae**	**1.84**	**80**	P	**Pn**	**18 19 38.7**	**-1.1**
MHGZ	**Mahia Peninsul**	**1.85**	**111**	P	**Pn**	**18 19 40.8**	**+1.0**
POWZ	**Post Office Ro**	**1.87**	**178**	P	**Pn**	**18 19 40.6**	**+0.6**
PRHZ	**Porangahau**	**1.89**	**157**	P	**Pn**	**18 19 41.2**	**+0.9**
ANWZ	**Angora Road**	**2.03**	**163**	P	**Pn**	**18 19 42.7**	**+1.0**
PRWZ	**Pori Road**	**2.04**	**174**	P	**Pn**	**18 19 42.7**	**+0.9**
PUZ	**Puketiti**	**2.08**	**78**	P	**Pn**	**18 19 42.3**	**0.0**
MRZ	**Mangatainoka R**	**2.14**	**82**	P	**Pn**	**18 19 43.3**	**+0.4**
BFZ	**Birch Farm**	**2.20**	**169**	P	**Pn**	**18 19 44.1**	**+0.5**
BFZ	**Birch Farm**	**2.20**	**169**	P	**Pn**	**18 19 44.1**	**+0.5**
TIWZ	**Tintock**	**2.26**	**176**	P	**Pn**	**18 19 44.8**	**+0.6**
OGWZ	**Otaki Gorge**	**2.33**	**190**	P	**Pn**	**18 19 45.5**	**+0.6**
HOWZ	**Holdsworth Sta**	**2.38**	**183**	P	**Pn**	**18 19 45.7**	**+0.2**
KIW	**Kapiti Island**	**2.41**	**194**	P	**Pn**	**18 19 46.2**	**+0.3**
TMWZ	**Te Maipa**	**2.59**	**176**	P	**Pn**	**18 19 48.2**	**+0.3**
CAW	**Cannon Point**	**2.62**	**190**	P	**Pn**	**18 19 48.7**	**+0.3**
MTW	**Mount Morrison**	**2.64**	**183**	P	**Pn**	**18 19 48.4**	**-0.1**
DUWZ	**D'Urville Isla**	**2.65**	**210**	P	**Pn**	**18 19 49.0**	**+0.3**
WEL	**Wellington**	**2.85**	**194**	P	**Pn**	**18 19 51.0**	**+0.1**
PAWZ	**Paruwai Farm**	**2.86**	**184**	P	**Pn**	**18 19 51.0**	**-0.2**
TRWZ	**Traveller**	**2.87**	**180**	P	**Pn**	**18 19 51.3**	**0.0**
SNZO	**South Karori**	**2.88**	**195**	P	**Pn**	**18 19 51.3**	**-0.1**
TCW	**Tory Channel**	**2.89**	**201**	P	**Pn**	**18 19 51.8**	**+0.2**
BHW	**Baring Head**	**2.95**	**192**	P	**Pn**	**18 19 52.0**	**-0.2**
PLWZ	**Palliser**	**3.06**	**186**	P	**Pn**	**18 19 53.2**	**-0.4**
TUWZ	**Tuamarina**	**3.20**	**204**	P	**Pn**	**18 19 55.1**	**-0.1**
NNZ	**Nelson**	**3.22**	**213**	P	**Pn**	**18 19 55.4**	**0.0**
BSWZ	**Blackbirch Sta**	**3.48**	**203**	P	**Pn**	**18 19 58.6**	**0.0**
MRNZ	**Matariki Terra**	**3.65**	**217**	P	**Pn**	**18 20 00.4**	**-0.4**
THZ	**Tophouse**	**3.87**	**212**	P	**Pn**	**18 20 03.7**	**+0.1**
KHZ	**Kahutara**	**4.22**	**202**	P	**Pn**	**18 20 07.9**	**0.0**
KHZ	**Kahutara**	**4.22**	**202**	P	**Pn**	**18 20 07.9**	**0.0**
MQZ	**McQueen's Vall**	**5.66**	**203**	P	**Pn**	**18 20 24.7**	**-1.8**
TMZ	**Timaru**	**6.83**	**209**	P	**Pn**	**18 20 41.1**	**-0.6**
ODZ	**Otahua Downs**	**7.52**	**208**	P	**Pn**	**18 20 49.9**	**-0.9**

IDC ***10*** *18:25:37.6±1.0, 3.26S×131.23E, h0km, mb3.9/8, mbtmp4.1/10, ML3.8/2, MS3.2/10, Error ellipse: s-maj=41.9km s-min=17.9km az=78.0*

NEIC ***10*** *18:25:38.7±2.9, 3.40S±0.06×131.12E±0.05, h10km±1km, mb4.2/21, Error ellipse: s-maj=11.2km s-min=7.5km az=144.0*

DJA ***10*** *18:25:41.0±0.4, 3.5S×13.1E±, h10km, M4.0/11, mb4.2/4, mB5.6/1, MLv3.9/11, Mw(mB)5.1/1*

ISC 10 18:25:41.1±0.5, 3.37S±0.05×131.04E±0.06, h30km, n66, σ2§24/60, mb4.1/13, MS3.2/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.28**	**70**		**Pb**	**18 26 05.4**	**+0.8**
FAKI				Sn	**Sb**	**18 26 18.7**	**-2.1**
FAKI	**Fak Fak**	**1.28**	**70**	P	**Pb**	**18 26 05.5**	**+0.8**
BNDI	**Bandanaira**	**1.61**	**225**	P	**Pn**	**18 26 10.3**	**+2.8**
SWI	**Sorong**	**2.50**	**5**	P	**Pn**	**18 26 20.0**	**+0.3**
NLAI	**Namlea**	**3.94**	**272**	P	**Pn**	**18 26 40.2**	**+0.7**
LBMI	**Labuha**	**4.46**	**307**	P	**Pn**	**18 26 46.5**	**-0.2**
SAUI	**Saumlaki**	**4.59**	**177**		**Pn**	**18 26 46.9**	**-1.6**
SAUI				Sn	**Sn**	**18 27 41.2**	**+0.4**
SAUI	**Saumlaki**	**4.59**	**177**	P	**Pn**	**18 26 52.3**	**+3.8**
SAUI	**Saumlaki**	**4.59**	**177**	P	**Pn**	**18 26 51.8**	**+3.3**
SANI	**Sanana**	**5.22**	**284**	P	**Pn**	**18 26 56.3**	**-0.8**
SANI	**Sanana**	**5.22**	**284**	P	**Pn**	**18 26 55.6**	**-1.5**
	20nm,0.6s,0.1nm						
TNTI	**Ternate**	**5.52**	**318**	Pn	**Pn**	**18 27 02.7**	**+1.4**
LUWI	**Luwuk**	**8.58**	**285**	Pn	**Pn**	**18 27 44.1**	**+0.7**
DRS	**Darwin Rock St**	**9.00**	**181**	P	**Pn**	**18 27 51.2**	**+2.1**
SOEI	**Soe**	**9.25**	**226**	Pn	**Pn**	**18 27 51.4**	**-1.2**
MTN	**Manton Dam**	**9.41**	**179**		**Pn**	**18 27 54.8**	**+0.1**
MTN	**Manton Dam**	**9.41**	**179**	P	**Pn**	**18 27 55.1**	**+0.4**
BATI	**Baumata**	**9.99**	**227**	Pn	**Pn**	**18 28 05.7**	**+3.0**
	1.4nm,0.3s,baz=119,slow=1.5,SNR=6.3						
BATI				LR	LR	18 32 10.6	
	comp=Z,224nm,21.6s,baz=38,slow=38 38nm,1.1s						
KNRA	**Kununurra**	**12.43**	**190**		**Pn**	**18 28 33.6**	**-2.5**
KNRA	**Kununurra**	**12.43**	**190**	P	**Pn**	**18 28 33.8**	**-2.3**
FITZ	**Fitzroy Crossi**	**15.56**	**200**	Pn	**Pn**	**18 29 14.5**	**-4.0**
WB0	**Warramunga Arr**	**16.62**	**169**		**Pn**	**18 29 27.3**	**-4.8**
WB0				IAmb	IAmb	18 29 47.6	
	comp=Z,16nm,1.2s						
WRA	**Warramunga Arr**	**16.78**	**169**		**Pn**	**18 29 30.3**	**-3.8**
WRA	**Warramunga Arr**	**16.78**	**169**	Pn	**Pn**	**18 29 33.5**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=352,slow=13,SNR=6.8						
WRA				Sn	Sn	18 32 29.0	-11
	comp=Z,0.5nm,0.3s,baz=355,slow=22,SNR=5.0 comp=Z,3.3nm,0.8s						
WB2	**Warramunga Arr**	**16.78**	**169**		**Pn**	**18 29 32.5**	**-1.6**
WB2				IAmb	IAmb	18 30 14.1	
	comp=Z,8.5nm,0.8s						
WR0	**Warramunga Arr**	**16.84**	**169**	Pn	**Pn**	**18 29 33.4**	**-1.3**
JAGI	**Jajag, Banyuwa**	**17.54**	**252**	P	**Pn**	**18 29 43.6**	**0.0**
QIS	**Mount Isa**	**19.01**	**155**	P	**Pn**	**18 30 05.9**	**+4.4**
AS31	**Alice Springs**	**20.36**	**172**	P	**P**	**18 30 16.1**	**+0.7**
AS31				IAmb	IAmb	18 30 21.3	
	comp=Z,6.7nm,0.7s						
ASAR	**Alice Springs**	**20.36**	**172**	P	**P**	**18 30 16.1**	**+0.7**
ASAR	**Alice Springs**	**20.36**	**172**	P	Pn	18 30 17.4	-0.2
	comp=Z,16nm,0.7s,baz=350,slow=10,SNR=107						
ASAR				S	**S**	**18 33 54.6**	**-7.6**
	comp=Z,1.5nm,0.7s,baz=354,slow=26,SNR=6.6 comp=Z,16nm,0.7s						
AS01	**Alice Springs**	**20.37**	**172**	P	Pn	18 30 17.8	+0.2
UGM	**Wanagama**	**20.91**	**257**	P	**P**	**18 30 21.2**	**-0.2**
RABL	**Rabaul**	**21.09**	**93**	P	**P**	**18 30 21.8**	**-1.5**
PSA00	**Pilbara Seismi**	**21.11**	**210**	P	**P**	**18 30 22.8**	**-0.6**
WRKA	**Warakurna**	**21.70**	**187**	P	**P**	**18 30 30.4**	**+0.6**
LEM	**Lembang**	**23.58**	**261**	LR	LR	18 42 13.7	
	comp=

TPUB	**Ta-pu**	**19.79**	**343**	P	**P**	18 40 08.7	**0.0**
KNRA	**Kununurra**	**19.96**	**174**	P	**P**	18 40 10.3	**-0.2**
KNRA				IAmb	IAmb	18 40 45.1	
	comp=Z,9.7nm,1.1s						
FITZ	**Fitzroy Crossi**	**22.30**	**183**	P	**P**	18 40 35.1	**-0.6**
WB0	**Warramunga Arr**	**25.07**	**163**	P	**P**	18 41 02.1	**-0.8**
WB0				IAmb	IAmb	18 41 23.7	
	comp=Z,6.5nm,1.1s						
WRAB	**Tennant Creek**	**25.22**	**163**	P	**P**	18 41 02.4	**-1.8**
WRAB				IAmb	IAmb	18 41 26.3	
	comp=Z,6.5nm,0.6s						
WRA	**Warramunga Arr**	**25.22**	**163**	P	**P**	18 41 03.3	**-1.0**
	comp=Z,1.4nm,0.6s,baz=344,slow=10,SNR=8.7						
	comp=Z,1.4nm,0.6s						
WR0	**Warramunga Arr**	**25.30**	**163**	P	**P**	18 41 05.0	**+0.1**
WR0				IAmb	IAmb	18 41 18.9	
	comp=Z,22nm,1.5s						
ASAR	**Alice Springs**	**28.66**	**166**	P	**P**	18 41 35.4	**+0.1**
	comp=Z,0.3nm,0.5s,baz=353,slow=8.3,SNR=9.8						
	comp=Z,0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**30.62**	**300**	P	**P**	18 41 51.5	**-1.2**
	comp=Z,0.3nm,0.5s,baz=108,slow=7.7,SNR=2.3						
	comp=Z,0.3nm,0.5s						
BBOO	**Buckleboo**	**37.95**	**167**	P	**P**	18 42 55.5	**-0.4**
STKA	**Stephens Creek**	**38.65**	**160**	P	**P**	18 43 01.8	**-0.1**
STKA	**Stephens Creek**	**38.65**	**160**	P	**P**	18 43 03.6	**+1.7**
	comp=Z,1.7nm,0.6s,baz=337,slow=7.1,SNR=5.4						
	comp=Z,1.7nm,0.6s						
ARMA	**Armidale**	**41.92**	**147**	P	**P**	18 43 27.1	**-2.0**
MK31	**Makanchi Array**	**57.11**	**325**	P	**P**	18 45 25.1	**+0.3**
MK31				IAmb	IAmb	18 45 53.8	
	comp=Z,1.7nm,1.4s						
MKAR	**Makanchi Array**	**57.11**	**325**	P	**P**	18 45 25.1	**+0.3**
MKAR	**Makanchi Array**	**57.11**	**325**	P	**P**	18 45 25.7	**+0.9**
	comp=Z,0.4nm,0.4s,baz=117,slow=8.1,SNR=13						
MKAR				PcP	**PcP**	18 46 20.3	**+0.7**
	comp=Z,0.3nm,0.6s,baz=116,slow=4.8,SNR=3.6						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**61.28**	**327**	P	**P**	18 45 54.3	**+0.7**
	comp=Z,0.9nm,0.7s,baz=125,slow=6.1,SNR=8.1						
	comp=Z,0.9nm,0.7s						

DJA 10 18:41:15.3±0.3, 8°S±6', 11°6E±°, h10km, M3.8/11, mb4.2/2, MLv3.5/11, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBI	**Singaraja**	**0.34**	**292**	P	Pg	18 41 22.1	+0.1
ABJI	**Asem Bagus**	**1.35**	**288**	P	Pn	18 41 39.7	-0.5
ABJI				S	Sg	18 41 58.5	-0.2
JAGI	**Jajag, Banyuwa**	**1.39**	**259**	P	Pn	18 41 39.1	-1.7
TWSI	**Taliwang, Sumb**	**1.44**	**112**	P	Pn	18 41 41.1	-0.3
BLJI	**Banyuglugur**	**1.97**	**283**	P	Pn	18 41 48.4	-0.4
GMJI	**Gumukmas**	**2.07**	**268**	P	Pn	18 41 49.5	-0.6
PLAI	**Plampang**	**2.31**	**106**	P	Pn	18 41 53.8	+0.4
GRJI	**Gresik**	**3.29**	**293**	P	Pn	18 42 06.6	-0.3
PWJI	**Pagerwojo**	**3.69**	**273**	P	Pn	18 42 12.1	-0.4
UGM	**Wanagama**	**4.97**	**273**	P	Pn	18 42 30.3	+0.3

IDC 10 18:50:57.4±4.3, 5°07S×151°31E, h0km, mb3.0/2, mbtmp3.0/2, Error ellipse: s-maj=182.2km s-min=54.4km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.16**	**227**	P	P	18 55 57.0	+1.8
	0.3nm,0.5s,baz=52,slow=10,SNR=1.2						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**24.96**	**221**	P	P	18 56 21.1	-1.8
	0.2nm,0.4s,baz=52,slow=9.0,SNR=1.9						
	0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**148.97**	**287**	PKPbc	PKPbc	19 10 48.3	-0.2
	0.2nm,0.4s,baz=95,slow=3.2,SNR=4.3						

*NEIC **10** 18:57:18.7±1.9, 15°.01N±0°.07×94°.22W±0°.04, h34km±11km, mb4.0/31, Md4.3/50(MEX), Error ellipse: s-maj=10.0km s-min=5.9km az=185.0*
*MEX **10** 18:57:19.2±0.9, 15°.02N×94°.22W, h22km±74km, MD4.3*
ISC 10 18:57:14.5±2.0, 15°03N±0°.04×94°23W±0°.02, h6km±14km, n94, σ2s20/142, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.19**	**55**		**Pb**	18 57 37.0	**-0.4**
PCIG					**Sg**	18 57 50.5	**-2.2**
PCIG		**1.19**	**55**	*i* P	**Pb**	18 57 37.0	**-0.4**
PCIG				*e*S	**Sg**	18 57 50.5	**-2.2**
CARR	**Arriaga**	**1.25**	**14**	*e*P	**Pn**	18 57 38.2	**-0.4**
CARR				*i* S	**Sb**	18 57 52.1	**-2.9**
NILT	**Santiago Nilte**	**1.57**	**346**	*e*P	**Pn**	18 57 42.9	**-0.1**
NILT				*e*S	**Sn**	18 58 00.8	**-2.9**
THIG		**1.90**	**93**	*e*P	**Pn**	18 57 47.4	**-0.2**
THIG				*e*S	**Sn**	18 58 09.0	**-2.8**
PATR	**El Naranjo**	**1.93**	**87**	*e*P	**Pn**	18 57 47.4	**-0.8**
PATR				*i* S	**Sn**	18 58 10.4	**-2.5**
HUIG	**Huatulco**	**1.96**	**292**		**Pn**	18 57 48.8	**+0.5**
HUIG					**Sn**	18 58 10.4	**-2.8**
HUIG	**Huatulco**	**1.96**	**292**	*i* P	**Pn**	18 57 48.8	**+0.5**
HUIG				*e*S	**Sn**	18 58 10.4	**-2.8**
PAVE	**Pavencul**	**1.99**	**85**	*e*P	**Pn**	18 57 48.8	**-0.1**
PAVE				*i* S	**Sn**	18 58 12.1	**-2.2**
TGIG		**2.04**	**31**		**Pn**	18 57 50.5	**+1.0**
TGIG					**Sn**	18 58 15.6	**+0.3**
TGIG		**2.04**	**31**	*e*P	**Pn**	18 57 50.5	**+1.0**
TGIG				*e*S	**Sn**	18 58 15.6	**+0.3**
CHUJ	**Union Juarez**	**2.05**	**88**	*e*P	**Pn**	18 57 49.3	**-0.5**
CHUJ				*i* S	**Sn**	18 58 13.8	**-2.1**
TGBT	**Tuxtla Gutierr**	**2.06**	**32**		**Pn**	18 57 52.0	**+2.4**
TGBT					**Sn**	18 58 14.9	**-0.7**
TGBT	**Tuxtla Gutierr**	**2.06**	**32**	*e*P	**Pn**	18 57 51.7	**+2.0**
TGBT				*e*S	**Sn**	18 58 14.9	**-0.7**
CMIG	**Matias Romero**	**2.15**	**343**		**Pn**	18 57 51.5	**+0.6**
CMIG	**Matias Romero**	**2.15**	**343**	*e*P	**Pn**	18 57 51.5	**+0.6**
CMIG				*e*S	**Sn**	18 58 16.0	**-1.9**
UXUV	**UXUV**	**2.28**	**2**	*e*P	**Pn**	18 57 54.2	**+1.4**
UXUV				*e*S	**Sn**	18 58 21.3	**+0.1**
SMSP	**San Marcos**	**2.37**	**91**	*e*S	**Sn**	18 58 20.1	**-3.6**
CCIG	**Comitan**	**2.37**	**58**		**Pn**	18 57 55.9	**+1.7**
CCIG				Sn	**Sn**	18 58 23.0	**-0.7**
CCIG	**Comitan**	**2.37**	**58**	*e*P	**Pn**	18 57 56.2	**+2.1**
CCIG				*i* S	**Sn**	18 58 23.6	**0.0**
RTAL	**Retalhuleu**	**2.50**	**101**		**Pn**	18 57 56.8	**+1.0**
RTAL				Sn	**Sn**	18 58 26.4	**-0.3**
RTAL	**Retalhuleu**	**2.50**	**101**	*e*P	**Pn**	18 57 56.8	**+1.0**
RTAL				*e*S	**Sn**	18 58 25.4	**-1.3**
HUEH	**Huehuetenango**	**2.65**	**83**		**Pn**	18 57 59.7	**+1.7**
HUEH				Sn	**Sn**	18 58 27.8	**-2.9**
HUEH	**Huehuetenango**	**2.65**	**83**	*e*P	**Pn**	18 57 58.6	**+0.6**
HUEH				*e*S	**Sn**	18 58 31.9	**+1.3**
PEIG	**Puerto Escondi**	**2.97**	**289**		**Pn**	18 58 03.0	**+0.7**
PEIG					**Sn**	18 58 33.7	**-4.6**
PEIG	**Puerto Escondi**	**2.97**	**289**	*e*P	**Pn**	18 58 03.0	**+0.7**
PEIG				*e*S	**Sn**	18 58 33.7	**-4.6**
TUIG	**Tuzandepetl**	**3.00**	**356**	*e*P	**Pn**	18 58 03.1	**+0.6**
TUIG				*e*S	**Sn**	18 58 37.5	**-1.4**
NEUV	**Arroyo Zacate**	**3.07**	**331**	*e*P	**Pn**	18 58 03.9	**+0.3**
NEUV				*i* S	**Sn**	18 58 39.9	**-0.7**
OXIG	**Oaxaca**	**3.15**	**311**		**Pn**	18 58 08.2	**+3.3**
OXIG					**Sn**	18 58 42.6	**-0.3**
VHO	**Vista Hermosa**	**3.15**	**311**	*i* P	**Pn**	18 58 08.2	**+3.3**
VHO				*e*S	**Sn**	18 58 42.6	**-0.3**
PMUV	**Sontecomapan**	**3.60**	**346**	*e*P	**Pn**	18 58 10.6	**-0.4**
PMUV				*i* S	**Sn**	18 58 49.5	**-4.4**
YOIG	**Yosondua**	**3.67**	**300**		**Pn**	18 58 17.7	**+3.6**
YOIG					**Sn**	18 58 55.3	**-0.6**
YOIG	**Yosondua**	**3.67**	**300**	*e*P	**Pn**	18 58 15.7	**+3.6**
YOIG				*e*S	**Sn**	18 58 55.3	**-0.6**
PNIG	**Pinotepa**	**3.99**	**290**		**Pn**	18 58 18.0	**+1.7**
PNIG					**Sn**	18 58 57.6	**-5.9**
PNIG	**Pinotepa**	**3.99**	**290**	*e*P	**Pn**	18 58 18.0	**+1.7**
PNIG				*e*S	**Sn**	18 58 57.6	**-5.9**
TXIG	**Tlaxiaco**	**4.06**	**304**		**Pn**	18 58 20.9	**+3.5**
TXIG					**Sn**	18 59 03.9	**-1.5**
TXIG	**Tlaxiaco**	**4.06**	**304**	*e*P	**Pn**	18 58 20.9	**+3.5**
TXIG				*i* S	**Sn**	18 59 03.9	**-1.5**
TOIG	**Toxpalan**	**4.08**	**319**		**Pn**	18 58 21.0	**+3.3**
TOIG					**Sn**	18 59 07.8	**+1.9**
TOIG	**Toxpalan**	**4.08**	**319**	*e*P	**Pn**	18 58 21.0	**+3.3**
TOIG				*e*S	**Sn**	18 59 07.8	**+1.9**
HLIG	**Huajuapan de L**	**4.42**	**310**		**Pn**	18 58 27.1	**+4.8**
HLIG					**Sn**	18 59 13.3	**-1.0**
HLIG	**Huajuapan de L**	**4.42**	**310**	*e*P	**Pn**	18 58 27.1	**+4.8**
HLIG				*e*S	**Sn**	18 59 13.3	**-1.0**
TPIG	**Tehuac#an**	**4.51**	**319**	*e*S	**Sn**	18 59 13.5	**-3.1**
PETF	**Flores**	**4.60**	**65**		**Pn**	18 58 26.3	**+1.7**
PETF				Sn	**Sn**	18 59 14.7	**-3.7**
PETF	**Flores**	**4.60**	**65**	*e*P	**Pn**	18 58 24.2	**-0.5**
PETF				*e*S	**Sn**	18 59 17.0	**-1.4**
FTIG	**Fresnillo de T**	**4.71**	**308**		**Pn**	18 58 30.8	**+4.4**
FTIG					**Sn**	18 59 20.0	**-1.5**
FTIG	**Fresnillo de T**	**4.71**	**308**	*e*P	**Pn**	18 58 30.8	**+4.4**
FTIG				*e*S	**Sn**	18 59 20.0	**-1.5**
ESQI	**Esquipulas**	**4.75**	**95**		**Pn**	18 58 27.4	**+0.6**
MTO3	**Montecristo**	**4.75**	**97**		**Pn**	18 58 27.7	**+0.7**
MGIG	**Malinaltepec**	**4.77**	**298**		**Pn**	18 58 30.4	**+3.3**
MGIG					**Sn**	18 59 20.9	**-1.9**
MGIG	**Malinaltepec**	**4.77**	**298**	*e*P	**Pn**	18 58 30.4	**+3.3**
MGIG				*i* S	**Sn**	18 59 20.9	**-1.9**
TLIG	**Tlapa**	**4.87**	**302**		**Pn**	18 58 30.1	**+1.6**
TLIG	**Tlapa**	**4.87**	**302**	*e*P	**Pn**	18 58 28.6	**+0.1**
TLIG				*e*S	**Sn**	18 59 23.0	**-2.2**
JAUV	**Jalcomulco**	**4.96**	**331**	*e*P	**Pn**	18 58 29.3	**-0.5**
JAUV				*i* S	**Sn**	18 59 22.7	**-4.9**
LVIG	**Laguna Verde**	**5.12**	**336**	*e*P	**Pn**	18 58 30.9	**-0.8**
LVIG				*e*S	**Sn**	18 59 24.9	**-6.2**
TEIG	**Tepich**	**7.68**	**47**		**Pn**	18 59 07.6	**+0.6**
ORTG	**Ortega, Santa**	**9.73**	**117**	Pn	**Pn**	18 59 38.6	**+3.3**
PEZE	**Perez Zeledon,**	**11.74**	**117**	Pn	**Pn**	19 00 03.6	**+0.8**
SRBA	**San Rafael, Bu**	**12.09**	**117**	Pn	**Pn**	19 00 08.7	**+1.1**
DRK0	**Durika**	**12.17**	**117**	Pn	**Pn**	19 00 08.9	**+0.1**
HBVL	**Hebbronville**	**12.67**	**342**	Pn	**Pn**	19 00 14.0	**-1.4**
SOR	**Soroa**	**13.12**	**52**	Pn	**Pn**	19 00 21.9	**+0.3**
833A	**Chaparral WMA,**	**14.07**	**341**		**Pn**	19 00 36.3	**+1.8**
HKT	**Hockley**	**14.93**	**355**	Pn	**Pn**	19 00 49.0	**+2.9**
HNDO	**Hondo**	**15.16**	**343**		**Pn**	19 00 48.9	**-0.5**
HNDO				IAmb	IAmb	19 00 57.5	
	comp=Z,14nm,1.0s						
435B	**Jarrell**	**15.98**	**349**		**Pn**	19 01 03.0	**+3.0**
435B				IAmb	IAmb	19 01 07.9	
	comp=Z,16nm,0.8s						
PAYG	**Puerto Ayora**	**16.08**	**166**	Pn	**Pn**	19 01 01.9	**+0.5**
JCT	**Junction City**	**16.21**	**343**		**Pn**	19 01 05.2	**+2.2**
SAND	**Sanderson**	**16.54**	**335**		**Pn**	19 01 08.8	**+1.6**
TXAR	**Lajitas Array**	**16.69**	**330**		**Pn**	19 01 11.3	**+2.1**
TX31	**Lajitas Ar. Si**	**16.69**	**330**		**Pn**	19 01 10.4	**+1.2**
BRDY	**Brady**	**16.76**	**346**	Pn	**Pn**	19 01 11.0	**+0.9**
BRDY				IAmb	IAmb	19 01 25.6	
	comp=Z,8.9nm,1.0s						
OZNA	**Ozona**	**17.04**	**339**		**Pn**	19 01 15.2	**+1.6**
OZNA				IAmb	IAmb	19 01 17.6	
	comp=Z,13nm,1.0s						
WHTX	**Lake Whitney,**	**17.14**	**351**	P	**Pn**	19 01 15.8	**+1.0**
WHTX				IAmb	IAmb	19 01 31.4	
	comp=Z,8.9nm,0.6s						
ALPN	**Alpine**	**17.55**	**332**		**P**	19 01 22.2	**+1.0**
ALPN				IAmb	IAmb	19 01 29.8	
	comp=Z,7.9nm,1.0s						
SGCY	**Sterling City**	**17.95**	**341**	P	**Pn**	19 01 25.7	**+0.8**
SGCY				IAmb	IAmb	19 01 28.9	
	comp=Z,11nm,1.0s						
MNHN	**Monahans**	**18.02**	**336**	P	**Pn**	19 01 26.3	**+0.6**
MNHN				IAmb	IAmb	19 01 34.5	
	comp=Z,12nm,0.8s						
PLPT	**Palo Pinto**	**18.09**	**349**	P	**Pn**	19 01 27.5	**+0.9**
ABTX	**Abilene, Hawle**	**18.20**	**345**	P	**Pn**	19 01 26.9	**-1.0**
ABTX				IAmb	IAmb	19 01 31.3	
	comp=Z,8.1nm,0.8s						
VHRN	**Van Horn**	**18.53**	**330**		**P**	19 01 33.1	**+1.1**
ODSA	**Odessa**	**18.63**	**337**	P	**P**	19 01 34.1	**+1.1**
ODSA				IAmb	IAmb	19 01 39.6	
	comp=Z,15nm,1.2s						
SN05	**Snyder 5**	**18.77**	**342**	P	**P**	19 01 35.8	**+1.2**
SN05				IAmb	IAmb	19 02 02.2	
	comp=Z,8.7nm,1.2s						
APMT	**Aspermont**	**18.98**	**345**	P	**P**	19 01 37.9	**+1.0**
APMT				IAmb	IAmb	19 01 41.1	
	comp=Z,8.5nm,0.9s						
WTFS	**Witchita Falls**	**19.05**	**349**	Pn	**Pn**	19 01 40.3	**+2.1**
WTFS				IAmb	IAmb	19 01 48.6	
	comp=Z,9.6nm,0.6s						
POST	**Post**	**19.13**	**341**	P	**P**	19 01 39.2	**+0.6**
POST				IAmb	IAmb	19 01 42.5	
	comp=Z,8.5nm,0.8s						
MIAR	**Mount Ida**	**19.44**	**2**	P	**P**	19 01 42.4	**+0.5**
X37A	**Clayton**	**19.50**	**357**	P	**P**	19 01 43.1	**+0.6**
DKNS	**Dickens**	**19.52**	**343**		**P**	19 01 43.3	**+0.5**
DKNS				IAmb	IAmb	19 01 48.4	
	comp=Z,6.9nm,0.6s						
FNO	**Franklin**	**20.34**	**353**	P	**P**	19 01 51.6	**0.0**
MSTX	**Muleshoe**	**20.38**	**339**		**P**	19 01 52.0	**-0.1**
SMWD	**Samnorwood**	**20.71**	**346**	P	**P**	19 01 56.8	**+1.1**
SMWD				IAmb	IAmb	19 02 04.3	
	comp=Z,8.6nm,0.9s						
AMTX	**Amarillo**	**20.88**	**343**	P	**P**	19 01 58.1	**+0.6**
121A	**Cookes Peak, D**	**21.35**	**327**	P	**P**	19 02 04.4	**+1.6**
121A				IAmb	IAmb	19 02 08.2	
	comp=Z,11nm,0.8s						
ELIS	**Ellis County**	**21.46**	**348**	P	**P**	19 02 04.3	**+0.6**
N38A	**Joes South For**	**25.68**	**2**	P	**P**	19 02 43.1	**-2.2**

*NEIC **10** 19:06:41.8±1.3, 52°.3N±0°.2×172°.36W±0°.09, h109km±9km, mb3.6/17, ML3.7/8, ML3.4(AEIC), Error ellipse: s-maj=35.1km s-min=5.6km az=171.0*
*AEIC **10** 19:06:42.4±0.6, 51°.9N±0°.1×172°.17W±0°.08, h63km±9km, Error ellipse: s-maj=22.0km s-min=5.6km az=168.0*
*IDC **10** 19:06:44.2±8.7, 52°.52N×172°.50W, h121km±79km, mb3.3/9, mbtmp3.6/11, Error ellipse: s-maj=31.5km s-min=20.9km az=14.0*
ISC 10 19:06:42.0±0.8, 52°4N±0°.1×172°38W±0°.04, h105km±7km, n58, σ0s75/63, mb3.6/10, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.03**	**268**		**Pn**	19 07 03.0	**0.0**
KOFP	**Korovin Flat P**	**1.06**	**265**		**Pn**	19 07 03.7	**+0.2**
KOFP					**Sn**	19 07 19.5	**-0.1**
KOKL	**Mount Kliuchef**	**1.12**	**267**		**Pn**	19 07 04.2	**+0.1**
ATKA	**Atka Island**	**1.13**	**261**		**Pn**	19 07 03.8	**-0.3**
ATKA					**Sn**	19 07 20.0	**-0.9**
KOWE	**Korovin West**	**1.15**	**270**		**Pn**	19 07 04.6	**+0.2**
KOWE					**Sn**	19 07 22.6	**+1.3**
CLES	**Cleveland East**	**1.57**	**73**		**Pn**	19 07 09.1	**-0.2**
CLES					**Sn**	19 07 29.8	**-0.3**
CLCO	**Concord Point,**	**1.67**	**75**		**Pn**	19 07 09.8	**-0.7**
CLCO					**Sn**	19 07 32.2	**0.0**
NIKH	**Nikolski High**	**2.22**	**73**		**Pn**	19 07 17.7	**+0.2**
NIKH	**Nikolski High**	**2.22**	**73**		**Sn**	19 07 44.8	**0.0**
GSTR	**Great Sitkin T**	**2.28**	**264**	Pn	**Pn**	19 07 18.9	**+0.5**
GSMY	**Great Sitkin M**	**2.29**	**263**		**Pn**	19 07 18.6	**+0.1**
GSTD	**Great Sitkin T**	**2.34**	**263**		**Pn**	19 07 19.6	**+0.4**
GSTD					**Sn**	19 07 48.5	**+0.7**
GSCK	**Great Sitkin C**	**2.36**	**262**		**Pn**	19 07 19.9	**+0.5**
ADK	**Adak**	**2.70**	**261**	IAML		19 07 59.4	
	254nm,0.3s						
ADK				IAML		19 08 01.3	
	224nm,0.3s						
ADK	**Adak**	**2.70**	**261**		**Pn**	19 07 24.5	**+0.7**
ADK					**Sn**	19 07 56.1	**+0.1**
OKCE	**Okmok Cone E**	**2.75**	**66**		**Pn**	19 07 24.7	**+0.2**
OKTU	**Okmok Mt. Tuli**	**2.81**	**67**		**Pn**	19 07 25.5	**+0.2**
OKFG	**Magazine Ridge**	**2.89**	**67**		**Pn**	19 07 27.1	**+0.7**
KIWB	**Kanaga Island**	**2.99**	**262**	Pn	**Pn**	19 07 28.4	**+0.7**
MGOD	**Makushin Gods**	**3.60**	**65**		**Pn**	19 07 35.8	**+0.1**
MNAT	**Makushin Natee**	**3.74**	**64**		**Pn**	19 07 38.1	**+0.5**
UNV	**Unalaska Valle**	**3.83**	**65**		**Pn**	19 07 39.0	**+0.2**
AKUT	**Akutan**	**4.33**	**64**	Pn	**Pn**	19 07 46.3	**+0.6**
AKUT				IAML		19 10 07.5	
	comp=E,77nm,1.3s						
AKUT				IAML		19 10 38.1	
	comp=N,83nm,1.5s						
AMKA	**Amchitka**	**5.25**	**262**	Pn	**Pn**	19 07 58.8	**+0.7**
SDPT	**Sand Point**	**7.63**	**62**	Pn	**Pn**	19 08 31.6	**+1.3**
F17K	**Baldwin Pennin**	**15.15**	**17**		**P**	19 10 13.0	**+0.3**
F17K				IAmb	IAmb	19 10 27.2	
	comp=Z,3.4nm,1.4s						
CAST	**Castle Rocks**	**15.35**	**36**		**Pn**	19 10 14.0	**+1.4**
CAST				IAmb	IAmb	19 10 29.6	
	comp=Z,6.7nm,1.4s						
KTH	**Kantishna Hill**	**15.86**	**37**		**P**	19 10 20.4	**-0.2**
BPAW	**Bear Paw Mtn.**	**16.15**	**35**		**P**	19 10 23.9	**0.0**
BPAW				IAmb	IAmb	19 10 43.7	
	comp=Z,8.7nm,1.5s						
RND	**Reindeer**	**16.56**	**39**		**Pn**	19 10 28.2	**+0.6**
MLY	**Manley**	**16.81**	**33**		**P**	19 10 32.3	**+1.2**
KLU	**Klutina**	**16.95**	**47**		**P**	19 10 34.0	**+1.3**
KLU				IAmb	IAmb	19 10 58.9	
	comp=Z,9.4nm,1.2s						
D19K	**Kuna River**	**17.54**	**18**	P	**Pn**	19 10 41.0	**+1.5**
D19K				IAmb	IAmb	19 10 44.1	
	comp=Z,3.9nm,1.2s						
IL31		**18.00**	**37**	P	**P**	19 10 44.5	**+0.4**
ILAR	**Eielson Array**	**18.00**	**37**	P	**P**	19 10 43.7	**-0.5**
	comp=Z,0.2nm,0.4s,baz=226,slow=8.9,SNR=14						
PETK	**Petropavlovsk-**	**18.07**	**284**	P	**Pn**	19 10 46.0	**0.0**
	comp=Z,5.6nm,1.1s,baz=86,slow=15,SNR=1.5						
H24K	**Noodor Dome**	**18.25**	**33**	P	**P**	19 10 47.7	**+0.8**
H24K				IAmb	IAmb	19 11 12.2	
	comp=Z,4.7nm,1.2s						
J25K	**Salcha River,**	**18.49**	**38**	P	**P**	19 10 48.7	**-0.9**
J25K				IAmb	IAmb	19 10 51.1	
	comp=Z,5.2nm,1.2s						
SCRK	**Sand Creek**	**18.74**	**41**	P	**P**	19 10 51.6	**-0.8**
SCRK				IAmb	IAmb	19 11 20.1	
	comp=Z,2.8nm,1.2s						
BILL	**Bilibino**	**18.76**	**335**	P	**Pn**	19 10 54.2	**+0.1**
J26L	**Joseph Creek**	**19.13**	**40**	P	**P**	19 10 55.9	**-0.7**
BCAR	**Beaver Creek A**	**19.31**	**44**	P	**Pn**	19 11 01.0	**+0.4**
K27K	**Chicken**	**19.53**	**42**	P	**Pn**	19 11 03.6	**+0.5**
K27K				IAmb	IAmb	19 11 24.4	
	comp=Z,4.1nm,1.3s						
H11N2	**WAKE ISLAND Hy**	**36.38**	**214**	T	T	19 51 55.6	
	baz=21,slow=76,SNR=4.4						
H11N3	**WAKE ISLAND Hy**	**36.38**	**214**	T	T	19 51 56.2	
	baz=21,slow=76,SNR=4.9						
H11N1	**WAKE ISLAND Hy**	**36.39**	**214**	T	T	19 51 56.8	
	baz=21,slow=76,SNR=3.9						
NVAR	**Mina Array Bea**	**39.51**	**89**	P	**P**	19 14 04.6	**+2.1**
	comp=Z,0.1nm,0.3s,baz=284,slow=9.2,SNR=2.4						
NVAR				pP	**pP**	19 14 26.8	**+0.6**
	comp=Z,0.4nm,0.7s,baz=311,slow=8.2,SNR=3.5						
	comp=Z,0.1nm,0.3s						
PDAR	**Pinedale Array**	**42.20**	**77**	P	**P**	19 14 25.0	**+0.4**
	comp=Z,0.2nm,0.6s,baz=327,slow=4.8,SNR=1.5						
PDAR				pP	**pP**	19 14 46.7	**-1.9**
	comp=Z,0.1nm,0.4s,baz=311,slow=8.2,SNR=2.3						
	comp=Z,0.2nm,0.6s						
FCC	**Fort Churchill**	**42.34**	**49**	P	**P**	19 14 24.0	**-1.0**
SPITS	**Spitsbergen Ar**	**49.59**	**358**	P	**P**	19 15 20.9	**-0.8**
	comp=Z,3.3nm,0.9s,baz=17,slow=10,SNR=1.0						
	comp=Z,3.3nm,0.9s						
KURK	**Kurchatov**	**61.11**	**317**	P	**P**	19 16 44.1	**-0.6**
KURBB	**Kurchatov Arra**	**61.22**	**317**	P	**P**	19 16 45.3	**-0.1**
	comp=Z,0.1nm,0.4s,baz=44,slow=7.3,SNR=2.1						
MKAR	**Makanchi Array**	**62.43**	**312**	P	**P**	19 16 52.5	**-1.1**
	comp=Z,0.1nm,0.4s,baz=46,slow=5.1,SNR=4.2						
	comp=Z,0.1nm,0.4s						
BVAR	**Borovoye Array**	**62.59**	**323**	P	**P**	19 16 54.6	**0.0**
	comp=Z,0.6nm,0.6s,baz=54,slow=7.0,SNR=5.3						
	comp=Z,0.6nm,0.6s						
AKTO	**Aktyubinsk**	**69.05**	**328**	P	**P**	19 17 36.0	**0.0**
	comp=Z,1.1nm,0.7s,baz=25,slow=6.1,SNR=2.6						
	comp=Z,1.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**74.81**	**280**	P	**P**	19 18 10.1	**-0.8**
	comp=Z,0.4nm,0.3s,baz=33,slow=8.5,SNR=2.1						
	comp=Z,0.4nm,0.3s						
WRA	**Warramunga

YOA				*e*				20 06 18.0	
YOA				pmax	pmax				
	comp=Z,523nm,0.3s								
YOA				smax	smax				
	comp=E,3μm,0.3s								
YLYR	**Ulyunkhan**	**1.07**	**153**	⇑*i*Pg	**Pg**	**20 06 05.4**	**-1.1**		
YLYR				*e*Sg	**Sg**	**20 06 19.2**	**-1.2**		
YLYR				Pmax					
	comp=E,292nm,0.4s								
YLYR				Smax					
	comp=E,1μm,0.2s								
YLYR	**Ulyunkhan**	**1.07**	**153**	*e*PG	**Pg**	**20 06 05.4**	**-1.1**		
YLYR				*e*		20 06 18.5			
YLYR				pmax	pmax				
	comp=Z,210nm,0.1s								
YLYR				smax	smax				
	comp=E,1μm,0.2s								
SVKR	**Severomuysk**	**1.84**	**80**	*e*Pg	**Pg**	**20 06 22.1**	**+0.8**		
SVKR				*e*Sg	**Sg**	**20 06 47.1**	**+2.0**		
SVKR				Pmax					
	comp=E,540nm,0.3s								
SVKR				Smax					
	comp=E,5μm,0.6s								
SVKR	**Severomuysk**	**1.84**	**80**	*e*PN	**Pg**	**20 06 21.4**	**+0.1**		
SVKR				*e*		20 06 22.1			
SVKR				*e*		20 06 48.1			
SVKR				pmax	pmax				
	comp=Z,533nm,0.4s								
SVKR				smax	smax				
	comp=N,5μm,1.0s								
UKT	**Uakit**	**1.91**	**99**	⇓*i*Pg	**Pb**	**20 06 21.5**	**+0.3**		
	comp=N,26nm,0.5s								
UKT				⇑*i*Pg	**Pb**	**20 06 21.5**	**+0.3**		
	comp=N,45nm,0.5s								
UKT				⇑*i*Pg	**Pb**	**20 06 21.5**	**+0.3**		
	comp=N,48nm,0.5s								
UKT				*e*Sg	**Sg**	**20 06 48.3**	**+1.2**		
UKT				Pmax					
	comp=N,478nm,0.9s								
UKT				Smax					
	comp=N,1μm,0.6s								
UKT	**Uakit**	**1.91**	**99**	⇑*i*PN	**Pb**	**20 06 21.6**	**+0.3**		
UKT				*e*		20 06 47.1			
UKT				pmax	pmax				
	comp=Z,278nm,0.4s								
UKT				smax	smax				
	comp=N,1μm,0.5s								
SYVR	**Suvo**	**2.19**	**185**	*e*Pn	**Pn**	**20 06 22.7**	**-0.2**		
SYVR				*e*Pg	**Pb**	**20 06 24.4**	**-1.5**		
SYVR				*e*Sg	**Sb**	**20 06 52.5**	**-0.8**		
SYVR				Pmax					
	comp=N,122nm,0.6s								
SYVR				Smax					
	comp=N,2μm,0.9s								
SYVR	**Suvo**	**2.19**	**185**	*e*PN	**Pn**	**20 06 22.6**	**-0.3**		
SYVR				*e*		20 06 24.3			
SYVR				*e*		20 06 52.3			
SYVR				pmax	pmax				
	comp=Z,120nm,0.6s								
SYVR				smax	smax				
	comp=E,2μm,0.8s								
OGRR	**Ongureny**	**2.70**	**217**	⇓*i*Pn	**Pn**	**20 06 30.0**	**+0.1**		
OGRR				*e*Pg	**Pb**	**20 06 32.9**	**-1.8**		
OGRR				*e*		20 06 34.8			
OGRR				*e*Sn	**Sn**	**20 07 01.1**	**-1.9**		
OGRR				*e*		20 07 03.4			
OGRR				*e*Sg	**Sb**	**20 07 07.4**	**-0.7**		
OGRR				max					
	comp=E,39nm,0.3s								
OGRR				Smax					
	comp=E,330nm,0.4s								
OGRR	**Ongureny**	**2.70**	**217**	*e*PN	**Pn**	**20 06 30.1**	**+0.1**		
OGRR				*e*		20 06 33.1			
MXMB	**Maximikha**	**2.73**	**200**	*e*Pn	**Pn**	**20 06 30.9**	**+0.5**		
MXMB				*e*Pg	**Pb**	**20 06 34.6**	**-0.7**		
MXMB				*e*Sg	**Sb**	**20 07 09.0**	**0.0**		
BOD	**Bodaibo**	**2.84**	**44**	*e*Pn	**Pb**	**20 06 35.2**	**-1.8**		
BOD				*e*Pg	**Pg**	**20 06 39.7**	**-0.6**		
BOD				*e*		20 06 41.9			
BOD				*e*Sn	**Sb**	**20 07 10.4**	**-1.6**		
BOD				*e*Sg	**Sg**	**20 07 18.1**	**+1.0**		
BOD				max					
	comp=E,30nm,0.3s								
BOD				Smax					
	comp=E,406nm,0.7s								
BOD	**Bodaibo**	**2.84**	**44**	*e*PN	**Pb**	**20 06 35.0**	**-2.0**		
BOD				*e*		20 06 40.4			
BOD				*e*S	**Sb**	**20 07 10.2**	**-1.8**		
BOD				*e*		20 07 18.0			
BOD				pmax	pmax				
	comp=Z,30nm,0.2s								
BOD				smax	smax				
	comp=E,407nm,0.7s								
UZR	**Uzur**	**2.93**	**212**	*e*Pn	**Pn**	**20 06 33.1**	**0.0**		
UZR				*e*Pg	**Pb**	**20 06 37.0**	**-1.6**		
UZR				*e*		20 07 05.1			
UZR				*e*Sg	**Sb**	**20 07 14.0**	**-0.6**		
UZR				*e*		20 07 35.7			
UZR				Pmax					
	comp=E,60nm,0.7s								
UZR				Smax					
	comp=E,530nm,0.6s								
NLYR	**Nelyaty**	**3.08**	**75**	*e*Pn	**Pn**	**20 06 37.8**	**+2.6**		
NLYR				*e*Pg	**Pg**	**20 06 43.3**	**-1.7**		
NLYR				*e*		20 06 47.4			
NLYR				*e*Sn	**Sn**	**20 07 13.6**	**+1.3**		
NLYR				*e*Sg	**Sg**	**20 07 25.7**	**+0.8**		
NLYR				max					
	comp=E,124nm,0.7s								
NLYR				Smax					
	comp=E,522nm,1.2s								
NLYR	**Nelyaty**	**3.08**	**75**	*e*PN	**Pn**	**20 06 37.7**	**+2.6**		
NLYR				*e*		20 06 43.0			
NLYR				*e*		20 07 24.2			
NLYR				pmax	pmax				
	comp=Z,124nm,0.7s								
NLYR				smax	smax				
	comp=N,521nm,0.9s								
GORB	**Goryachinsk**	**3.09**	**203**	*e*Pn	**Pn**	**20 06 34.9**	**-0.4**		
GORB				*e*Pg	**Pb**	**20 06 40.1**	**-1.2**		
GORB				*e*Sg	**Sb**	**20 07 19.4**	**+0.1**		
KELR	**Kotokel**	**3.35**	**204**	*e*Pg	**Pb**	**20 06 44.3**	**-1.4**		
KELR				*e*Sg	**Sb**	**20 07 26.8**	**+0.2**		
TRG	**Tyrgan**	**3.86**	**219**	*e*Pn	**Pn**	**20 06 45.7**	**-0.2**		
TRG				*e*		20 06 51.8			
TRG				*e*Pg	**Pb**	**20 06 53.8**	**-0.6**		
TRG				*e*Sn	**Sn**	**20 07 28.7**	**-2.8**		
TRG				*e*Sg	**Sb**	**20 07 42.4**	**+1.0**		
TRG				Pmax					
	comp=N,34nm,0.5s								
TRG				Smax					
	comp=N,172nm,0.8s								
TRG	**Tyrgan**	**3.86**	**219**	*e*PN	**Pn**	**20 06 45.4**	**-0.5**		
TRG				*e*		20 06 54.3			
TRG				*e*S	**Sn**	**20 07 28.9**	**-2.6**		
TRG				*e*		20 07 42.1			
TRG				pmax	pmax				
	comp=Z,30nm,0.4s								
TRG				smax	smax				
	comp=E,161nm,0.5s								
CIT	**Chita**	**4.27**	**152**	*e*Pn	**Pn**	**20 06 54.2**	**+2.7**		
CIT				*e*Pg	**Pb**	**20 07 02.6**	**+1.2**		
CIT				*e*Sn	**Sn**	**20 07 41.1**	**-0.6**		
CIT				*e*		20 07 55.4			
CIT				*e*Sg	**Sb**	**20 07 57.1**	**+3.9**		
CIT				*e*		20 08 03.4			
CIT				Pmax					
	comp=E,103nm,0.6s								
CIT				max					
	comp=E,266nm,0.4s								
CIT	**Chita**	**4.27**	**152**	*e*PN	**Pn**	**20 06 52.2**	**+0.7**		
CIT				*e*		20 07 02.4			
CIT				*e*S	**Sn**	**20 07 39.1**	**-2.6**		
CIT				*e*		20 07 55.4			
CIT				pmax	pmax				
	comp=Z,103nm,0.8s								
CIT				smax	smax				
	comp=E,274nm,0.6s								
UUDB	**Ulan-Yde**	**4.27**	**203**	*e*Pg	**Pb**	**20 07 01.1**	**-0.4**		
UUDB				*e*Sg	**Sb**	**20 07 55.6**	**+2.3**		
FFNB	**Fofonovo**	**4.34**	**210**	*e*Sg	**Sb**	**20 07 57.3**	**+2.2**		
STDB	**Stepnoy Dvoret**	**4.35**	**214**	*e*Pn	**Pn**	**20 06 52.0**	**-0.6**		
STDB				*e*Pg	**Pb**	**20 07 02.3**	**-0.5**		
STDB				*e*Sg	**Sb**	**20 07 57.1**	**+1.6**		
KAB	**Kabansk**	**4.37**	**211**	*e*Sg	**Sb**	**20 07 58.2**	**+2.3**		
KAB				Smax					
	comp=E,432nm,0.6s								
CRS	**Chara**	**4.55**	**73**	*e*Pn	**Pn**	**20 06 58.1**	**+2.8**		
CRS				*e*Pg	**Pg**	**20 07 10.2**	**-2.8**		
CRS				*e*Sg	**Sg**	**20 08 11.0**	**-0.9**		
CRS				Pmax					
	comp=E,120nm,1.0s								
CRS				Smax					
	comp=E,170nm,1.3s								
CRS	**Chara**	**4.55**	**73**	*e*PN	**Pn**	**20 06 57.9**	**+2.6**		
CRS				*e*		20 07 10.7			
CRS				*e*		20 08 09.0			
CRS				pmax	pmax				
	comp=Z,102nm,0.7s								
CRS				smax	smax				
	comp=E,105nm,0.7s								
HRMR	**Khuramsha**	**4.66**	**207**	*e*Pn	**Pn**	**20 06 56.8**	**-0.1**		
HRMR				*e*Pg	**Pb**	**20 07 07.8**	**-0.3**		
HRMR				*e*Sg	**Sb**	**20 08 06.6**	**+2.1**		
HRMR				Pmax					
	comp=E,44nm,0.4s								
HRMR				Smax					
	comp=E,413nm,0.5s								
BGT	**Bolshoye Golou**	**4.78**	**219**	*e*Pn	**Pn**	**20 06 57.9**	**-0.6**		
BGT				*e*		20 06 59.3			
BGT				*e*Pg	**Pb**	**20 07 10.5**	**+0.4**		
BGT				*e*		20 07 54.9			
BGT				*e*Sg	**Sb**	**20 08 11.6**	**+3.8**		
BGT				*e*		20 08 16.0			
BGT				Pmax					
	comp=E,24nm,0.8s								
BGT				max					
	comp=E,156nm,0.9s								
VBR	**Suhoy Ruchey**	**4.78**	**214**	*e*Sg	**Sb**	**20 08 11.3**	**+3.5**		
IRK	**Irkutsk**	**5.06**	**227**	*e*Pg	**Pb**	**20 07 15.8**	**+0.9**		
IRK				*e*Sn	**Sn**	**20 07 58.2**	**-3.0**		
IRK				*e*Sg	**Sb**	**20 08 20.3**	**+4.3**		
IRK				Pmax					
	comp=E,41nm,0.3s								
IRK				Smax					
	comp=E,317nm,0.5s								
IRK	**Irkutsk**	**5.06**	**227**	*e*PN	**Pn**	**20 07 02.5**	**+0.1**		
IRK				*e*		20 07 16.4			
IRK				*e*S	**Sn**	**20 07 59.0**	**-2.1**		
IRK				*e*		20 08 20.5			
IRK				pmax	pmax				
	comp=Z,34nm,0.2s								
IRK				smax	smax				
	comp=N,316nm,0.5s								
LSTR	**Listvyanka**	**5.13**	**222**	*e*Pn	**Pn**	**20 07 02.9**	**-0.4**		
LSTR				*e*Pg	**Pb**	**20 07 16.5**	**+0.4**		
LSTR				*e*Sn	**Sn**	**20 07 58.6**	**-4.2**		
LSTR				*e*Sg	**Sb**	**20 08 20.8**	**+2.9**		
LSTR				Pmax					
	comp=N,16nm,1.6s								
LSTR				Smax					
	comp=N,117nm,1.4s								
IVK	**Ivanovka**	**5.34**	**223**	*e*Pn	**Pn**	**20 07 05.8**	**-0.4**		
IVK				*e*Pg	**Pb**	**20 07 21.1**	**+1.4**		
IVK				*e*Sn	**Sn**	**20 08 05.6**	**-2.4**		
IVK				*e*Sg	**Sb**	**20 08 29.2**	**+5.2**		
IVK				Pmax					
	comp=N,17nm,0.7s								
IVK				Smax					
	comp=N,97nm,0.7s								
KHNR	**Khani**	**5.48**	**75**	*e*Pn	**Pn**	**20 07 11.4**	**+3.3**		
KHNR				*e*Pg	**Pb**	**20 07 26.5**	**+4.5**		
KHNR				*e*Sg	**Sg**	**20 08 39.1**	**-2.6**		
TUP	**Tupik**	**5.71**	**100**	*e*Pn	**Pn**	**20 07 12.5**	**+1.3**		
TUP				*e*		20 07 19.3			
TUP				*e*Pg	**Pb**	**20 07 30.1**	**+4.2**		
TUP				*e*		20 07 31.8			
TUP				*e*Sn	**Sn**	**20 08 16.5**	**-0.5**		
TUP				*e*		20 08 34.1			
TUP				*e*Sg	**Sg**	**20 08 45.6**	**-3.4**		
TUP				max					
	comp=N,24nm,0.6s								
TUP				Smax					
	comp=N,268nm,1.0s								
TUP	**Tupik**	**5.71**	**100**	*e*PN	**Pn**	**20 07 12.3**	**+1.1**		
TUP				*e*		20 07 29.0			
TUP				*e*S	**Sn**	**20 08 15.6**	**-1.4**		
TUP				*e*		20 08 45.6			
TUP				pmax	pmax				
	comp=Z,20nm,0.4s								
TUP				smax	smax				
	comp=N,246nm,0.8s								
TLY	**Talaya**	**5.74**	**226**	*e*Pn	**Pn**	**20 07 10.8**	**-0.9**		
TLY				*e*Pg	**Pb**	**20 07 27.1**	**+0.6**		
TLY				*e*Sn	**Sn**	**20 08 14.6**	**-3.3**		
TLY				*e*Sg	**Sb**	**20 08 39.8**	**+4.3**		
TLY				Pmax					
	comp=N,18nm,1.2s								
TLY				Smax					
	comp=N,85nm,0.5s								
ARS	**Arshan**	**6.10**	**233**	*e*Pn	**Pn**	**20 07 15.9**	**-0.7**		
ARS				*e*		20 07 32.5			
ARS				*e*Pg	**Pb**	**20 07 33.5**	**+1.0**		
ARS				*e*Sn	**Sn**	**20 08 21.4**	**-5.3**		
ARS				*e*		20 08 27.3			
ARS				*e*Sg	**Sb**	**20 08 51.2**	**+5.5**		
ARS				*e*		20 08 57.8			
ARS				Pmax					
	comp=N,31nm,0.9s								
ARS				max					
	comp=N,454nm,0.7s								
KPC	**Khapcheranga**	**6.27**	**168**	*e*Pn	**Pn**	**20 07 19.6**	**+0.6**		
KPC				*e*Pg	**Pb**	**20 07 39.3**	**+3.9**		
KPC				*e*Sn	**Sb**	**20 08 48.4**	**-2.2**		
KPC				*e*Sg	**Sg**	**20 08 59.8**	**-7.2**		
KPC				Pmax					
	comp=N,17nm,1.1s								
KPC				Smax					
	comp=N,163nm,1.3s								
KPC	**Khapcheranga**	**6.27**	**168**	*e*PN	**Pn**	**20 07 19.2**	**+0.2**		
KPC				*e*		20 07 37.8			
KPC				*e*		20 08 55.7			
KPC				pmax	pmax				
	comp=Z,16nm,0.6s								
KPC				smax	smax				
	comp=E,163nm,1.3s								
YKLR	**Yuktali**	**6.37**	**78**	*e*Pg	Pb	20 07 42.5	+5.3		
YKLR				*e*Sg	**Sg**	**20 09 06.0**	**-4.3**		
ZAK	**Zakamensk**	**6.91**	**221**	*e*Pn	**Pn**	**20 07 28.1**	**+0.3**		
ZAK				*e*Pg	**Pb**	**20 07 48.5**	**+2.1**		
ZAK				*e*Sn	**Sn**	**20 08 41.2**	**-5.5**		
ZAK				*e*Sg	**Sb**	**20 09 17.1**	**+8.0**		
ZAK				Pmax					
	comp=E,16nm,1.2s								
ZAK				Smax					
	comp=E,64nm,0.7s								
ZAK	**Zakamensk**	**6.91**	**221**	*e*PN	**Pn**	**20 07 28.2**	**+0.4**		
ZAK				*e*		20 09 17.0			
ZAK				pmax	pmax				
	comp=Z,11nm,0.7s								
ZAK				smax	smax				
	comp=N,65nm,0.7s								
MOY	**Mondy**	**6.93**	**237**	*e*Pn	**Pn**	**20 07 29.0**	**+0.9**		
MOY				*e*Pg	**Pb**	**20 07 49.4**	**+2.7**		
MOY				*e*Sg	**Sb**	**20 09 17.8**	**+8.2**		
MOY				Pmax					
	comp=N,57nm,0.9s								
MOY				Smax					
	comp=N,173nm,1.3s								
MOY	**Mondy**	**6.93**	**237**	*e*PN	**Pn**	**20 07 28.9**	**+0.9**		
MOY				*e*		20 07 50.8			
MOY				*e*S	**Sn**	**20 08 43.5**	**-3.7**		
MOY				*e*		20 09 17.7			
MOY				pmax	pmax				
	comp=Z,13nm,0.5s								
MOY				smax	smax				
	comp=E,173nm,1.5s								
ORL	**Orlik**	**6.99**	**246**	*e*Pn	**Pn**	**20 07 29.7**	**+0.7**		
ORL				*e*Pg	**Pb**	**20 07 51.0**	**+3.1**		
ORL				*e*Sn	**Sn**	**20 08 44.8**	**-4.0**		
ORL				*e*Sg	**Sb**	**20 09 20.5**	**+8.9**		
ORL				Pmax					
	comp=E,13nm,0.8s								
ORL				Smax					
	comp=E,84nm,1.3s								
ORL	**Orlik**	**6.99**	**246**	*e*PN	**Pn**	**20 07 29.7**	**+0.7**		
ORL				*e*		20 07 52.2			
ORL				*e*S	**Sn**	**20 08 44.5**	**-4.3**		
ORL				*e*		20 09 20.0			
ORL				pmax	pmax				
	comp=Z,23nm,1.1s								
ORL				smax	smax				
	comp=N,64nm,1.2s								
CLNS	**Chul'man**	**8.16**	**77**	*e*Sg	**Sg**	**20 10 02.5**	**-5.2**		
SONM	**Songino Array**	**8.37**	**198**	Pn	**Pn**	**20 07 48.3**	**+0.4**		
	comp=N,0.2nm,0.3s,baz=24,slow=12,SNR=6.0								
SONM				Lg	Lg	20 10 07.8			
	comp=N,2.6nm,0.3s,baz=16,slow=28,SNR=13								
	comp=N,0.4nm,0.4s								
YAK	**Yakutsk**	**11.74**	**50**	*e*P	**Pn**	**20 08 36.7**	**+2.9**		
YAK				*e*S	**Sn**	**20 10 50.2**	**+5.2**		
YAK				pmax	pmax				
	comp=Z,4.0nm,0.8s								
YAK				pmax	pmax				
	comp=N,2.0nm,1.1s								
YAK				pmax	pmax				
	comp=E,2.0nm,1.3s								
YAK				smax	smax				
	comp=E,101nm,3.8s								
YAK				smax	smax				
	comp=N,98nm,3.7s								
YAK	**Yakutsk**	**11.74**	**50**	Lg	Lg	20 11 49.3			
	comp=N,2.9nm,0.3s,baz=174,slow=4.5,SNR=2.5								
KLR	**Kul'dur**	**14.59**	**108**	Pn	**Pn**	**20 09 13.9**	**+1.2**		
	comp=N,0.1nm,0.3s,baz=315,slow=14,SNR=5.1								
KLR				Lg	Lg	20 13 21.3			
	baz=217,slow=11								
	comp=N,0.6nm,0.5s								
ZALV	**Zalesovo Beam**	**14.77**	**273**	P	**Pn**	**20 09 16.0**	**+0.8**		
ZALV	**Zalesovo Beam**	**14.77**	**273**	Pn	**Pn**	**20 09 16.0**	**+0.8**		
	comp=N,0.1nm,0.3s,baz=87,slow=10,SNR=4.0								
ZALV				Lg	Lg	20 13 25.6			
	comp=N,0.1nm,0.3s,baz=21,slow=27,SNR=1.7								
	comp=N,0.5nm,0.5s								
NRIK	**Noril'sk**	**16.95**	**332**	Pn	**Pn**	**20 09 39.7**	**-3.7**		
	comp=N,0.2nm,0.3s,baz=175,slow=16,SNR=1.4								
NRIK				Sn	Sn	20 12 39.4	-12		
	comp=N,0.3nm,0.3s,baz=169,slow=22,SNR=1.8								
NRIK				Lg	Lg	20 14 37.0			
	comp=N,0.2nm,0.3s,baz=222,slow=18,SNR=1.5								
TIXI	**Tiksi**	**17.72**	**19**	P	**Pn**	**20 09 52.2**	**-0.8**		
	comp=N,0.3nm,0.3s,baz=245,slow=4.7,SNR=16								
TIXI				S	**Sn**	**20 13 00.2**	**-10**		
	comp=N,2.2nm,0.6s,baz=35,slow=6.9,SNR=7.0								
TIXI				Lg	Lg	20 15 01.9			
	baz=208,slow=7.1,SNR=4.9								
	comp=N,2.4nm,0.5s								
KURK	**Kurchatov**	**19.53**	**268**	P	**P**	**20 10 14.6**	**+0.8**		
MKAR	**Makanchi Array**	**19.60**	**254**	P	**P**	**20 10 14.4**	**-0.3**		
	comp=N,0.2nm,0.3s,baz=61,slow=11,SNR=24								
	comp=N,1.6nm,0.6s								
KURBB	**Kurchatov Arra**	**19.62**	**268**	P	**P**	**20 10 14.6**	**-0.2**		
	comp=N,0.1nm,0.3s,baz=68,slow=12,SNR=8.5								
	comp=N,1.7nm,0.8s								
BVAR	**Borovoye Array**	**23.17**	**280**	P	**P**	**20 10 53.5**	**+0.6**		
	comp=N,0.9nm,0.4s,baz=101,slow=7.5,SNR=5.6								
	comp=N,0.9nm,0.4s								
JHJ	**Hachijo jima 2**	**30.55**	**126**	LR	LR	20 23 17.7			
	comp=N,708nm,21.7s,baz=143,slow=34								
ARCES	**ARCESS Array B**	**37.74**	**325**	P	**P**	**20 13 02.0**	**0.0**		
	comp=N,2.4nm,0.9s,baz=60,slow=11,SNR=1.5								
	comp=N,2.4nm,0.9s								
FINES	**FINESS Array B**	**41.30**	**314**	P	**P**	**20 13 31.8**	**+0.1**		
	comp=N,0.8nm,0.6s,baz=62,slow=7.8,SNR=11								
	comp=N,0.8nm,0.6s								
ILAR	**Eielson Array**	**46.18**	**35**	P	**P**	**20 14 12.7**	**+1.7**		
	comp=N,0.7nm,1.0s,baz=299,slow=9.2,SNR=5.6								
	comp=N,0.7nm,1.0s								
HFS	**Hagfors**	**46.98**	**317**	P	**P**	**20 14 16.7**	**-0.6**		
	comp=N,1.6nm,0.8s,baz=28,slow=10,SNR=4.3								
	comp=N,1.6nm,0.8s								
NB2	**NORSAR Subarra**	**47.33**	**319**	P	**P**	**20 14 20.0**	**0.0**		
	comp=Z,0.3nm,0.6s,baz=47,slow=7.4								
NOA	**NORSAR Array B**	**47.33**	**319**	P	**P**	**20 14 20.2**	**+0.2**		
	comp=Z,0.5nm,0.8s,baz=44,slow=8.1,SNR=1.9								
	comp=Z,0.5nm,0.8s								
YKA	**Yellowknife Ar**	**56.92**	**23**	P	**P**	**20 15 30.7**	**-0.5**		
	comp=Z,0.3nm,0.9s,baz=335,slow=7.0,SNR=2.4								
	comp=Z,0.3nm,0.9s								

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*IDC **10** 20:05:55.0±3.3, 43.01N×105.12W, h0km, mb2.7/1, mbtmp3.1/3, ML2.6/2, MS2.7/4, Error ellipse: s-maj=56.8km s-min=10.5km az=158.0*

*NEIC **10** 20:05:57.8±1.5, 43.53N±0.04×105.35W±0.06, h0km±1km, ML3.1/40, Error ellipse: s-maj=10.1km s-min=2.8km az=312.0*

ISC 10 20:05:58.8±1.1, 43.56N±0.05×105.35W±0.06, h0km, n30, σt1s10/27, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.10**	**59**	Pg	**Pg**	**20 06 19.2**	**-0.7**
K22A	**Casper**	**1.25**	**224**	Pg	**Pg**	**20 06 21.5**	**-1.2**
K22A				IAML		20 07 02.8	
	comp=E,194nm,3.6s						
PHWY	**Pilot Hill**	**2.26**	**182**	Pn	**Pn**	**20 06 38.0**	**+0.5**
PHWY				IAML		20 07 16.8	
	comp=E,66nm,0.9s						
RWWY	**Rawlins**	**2.32**	**217**	Pn	**Pn**	**20 06 38.9**	**+0.5**
RWWY				IAML		20 07 16.8	
	comp=E,125nm,0.9s						
RWWY				IAML		20 07 27.8	
	comp=E,175nm,1.0s						
N23A	**Red Feather La**	**2.70**	**190**	Pn	**Pn**	**20 06 44.4**	**+0.8**
N23A				IAML		20 07 34.6	
	comp=N,94nm,0.9s						
N23A				IAML		20 07 36.7	
	comp=E,89nm,1.0s						
PD31	**Pinedale Array**	**3.18**	**257**	Pn	**Pn**	**20 06 51.1**	**+0.9**
PDAR	**Pinedale Array**	**3.18**	**257**	Pn	**Pn**	**20 06 50.1**	**-0.2**
PDAR	**Pinedale Array**	**3.18**	**257**	Pn	**Pn**	**20 06 51.1**	**+0.9**
	comp=E,0.3nm,0.3s,baz=71,slow=16,SNR=5.2						
PDAR				LR	LR	20 07 34.9	
	comp=E,41nm,18.3s,baz=106,slow=30						
PDAR				Lg	Lg	20 07 36.6	
	comp=E,6.5nm,0.3s,baz=67,slow=31,SNR=12						
	comp=E,1.8nm,0.3s						
LAO	**LASA Array**	**3.19**	**349**	Pn	**Pn**	**20 06 51.0**	**+0.8**
RLMT	**Red Lodge**	**3.22**	**300**	Pn	**Pn**	**20 06 51.6**	**+0.9**
RLMT				IAML		20 07 58.6	
	comp=E,51nm,1.1s						
RLMT				IAML		20 08 40.3	
	comp=E,40nm,3.1s						
YMP	**Mirror Lake Pl**	**3.66**	**291**	Pn	**Pn**	**20 06 56.2**	**-0.6**
ISCO	**Idaho Springs**	**3.76**	**183**	Pn	**Pn**	**20 06 58.1**	**-0.1**
LOHW	**Long Hollow**	**3.82**	**273**		**Pn**	**20 07 00.8**	**+1.8**
LOHW				IAML		20 08 08.5	
	comp=E,30nm,2.6s						
LOHW				IAML		20 08 23.1	
	comp=E,22nm,1.0s						
H17A	**Grant Village**	**3.86**	**284**		**Pn**	**20 07 00.5**	**+0.8**
H17A				IAML		20 08 10.6	
	comp=E,25nm,2.2s						
H17A				IAML		20 08 12.6	
	comp=N,41nm,2.1s						
FLWY	**Flagg Ranch**	**3.91**	**280**	Pn	**Pn**	**20 06 59.9**	**-0.3**
FLWY				IAML		20 08 21.7	
	comp=N,52nm,1.1s						
MOOW	**Moose Ponds

comp=N,0.1nm,0.3s,baz=160,slow=18,SNR=4.0
ULM LR LR 20 12 31.9
comp=N,27nm,19.8s,baz=214,slow=41
comp=N,1.1nm,0.4s
NEW Newport 9.46 304 LR LR 20 11 46.9
comp=N,46nm,20.0s,baz=158,slow=36
TKL Tuckaleechee C 18.37 108 LR LR 20 17 40.9
comp=N,64nm,19.6s,baz=156,slow=39
YKA Yellowknife Ar 19.73 347 P **Pn** **20 10 32.8 +1.7**
comp=N,0.3nm,0.8s,baz=157,slow=11,SNR=4.0
comp=N,0.3nm,0.8s

NEIC ***10*** *20:07:09.3±1.1, 19°.96N±0°.06×75°.46W±0°.04, h29km±7km, ML3.8/12, Error ellipse: s-maj=9.2km s-min=5.4km az=161.0*
SSNC ***10*** *20:07:10.1±1.1, 19°.79N×75°.45W, h40km±5km, MD3.2, ML3.3, MW3.6*
JSN ***10*** *20:07:15.4±0.4, 19°.69N×76°.31W, h15km, MD3.9*
ISC 10 20:07:09.2±1.1**, 19°.83N**±0°.05×**75°.47W**±0°.03**, h46**km±9km**, n22**,σ1°52/33**, Cuba region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCC	**Rio Carpintero**	**0.27**	**308**	*i* P	**Pn**	**20 07 17.3**	**-0.4**
RCC				*i* S	**Sn**	**20 07 22.5**	**-1.2**
GTBY	**Guantanamo Bay**	**0.35**	**74**	Pg	**Pn**	**20 07 18.1**	**-0.4**
GTBY				Sg	**Sn**	**20 07 24.1**	**-0.9**
GTBY				IAML		20 07 25.4	
	14μm,0.7s						
GTBY				IAML		20 07 25.5	
	6μm,0.5s						
GTBY	**Guantanamo Bay**	**0.35**	**74**	*e*P	**Pn**	**20 07 18.3**	**-0.2**
GTBY				*e*S	**Sn**	**20 07 24.5**	**-0.6**
GTBY				IAML		20 07 26.4	
	4μm,0.2s						
GTBY				IAML		20 07 26.8	
	comp=Z,3μm,0.1s						
MARVS	**Santiago de Cu**	**0.44**	**293**	*e*P	**Pn**	**20 07 19.5**	**-0.1**
MARVS				*e*S	**Sn**	**20 07 26.5**	**-0.3**
NMDO	**Nuevo Mundo**	**0.86**	**32**		**Pn**	**20 07 23.8**	**-1.2**
NMDO					**Sn**	**20 07 33.9**	**-2.6**
NMDO				IAML		20 07 35.8	
	comp=E,2μm,0.6s						
NMDO				IAML		20 07 36.1	
	comp=N,2μm,0.4s						
CHIV	**Chivirico**	**0.90**	**280**	*e*P	**Pn**	**20 07 25.6**	**0.0**
CHIV				*e*S	**Sn**	**20 07 37.5**	**0.0**
CHIV				IAML		20 07 40.2	
	comp=E,1μm,0.1s						
CHIV				IAML		20 07 40.4	
	comp=N,1μm,0.1s						
MOAC	**Moa**	**0.95**	**30**	*e*P	**Pn**	**20 07 25.6**	**-0.7**
YAR	**Yar**	**1.00**	**303**	*e*P	**Pn**	**20 07 26.9**	**+0.1**
YAR				*e*S	**Sn**	**20 07 39.2**	**-0.6**
YAR				IAML		20 07 41.5	
	comp=E,577nm,0.2s						
YAR				IAML		20 07 41.7	
	comp=N,226nm,0.1s						
HLGC	**Holguin**	**1.19**	**332**	*e*P	**Pn**	**20 07 31.3**	**+1.7**
MASC	**Masc**	**1.21**	**73**	*e*P	**Pn**	**20 07 29.1**	**-0.7**
MASC				*e*S	**Sn**	**20 07 43.5**	**-1.5**
MASC				IAML		20 07 51.7	
	comp=N,878nm,0.2s						
MASC				IAML		20 07 51.9	
	comp=E,608nm,0.2s						
LMGC	**Las Mercedes**	**1.47**	**279**	*e*P	**Pn**	**20 07 33.3**	**+0.1**
PILO	**Pilon**	**1.83**	**273**	*e*P	**Pn**	**20 07 37.9**	**-0.3**
PILO				*e*S	**Sn**	**20 07 57.0**	**-3.2**
GWJ	**Greenwich**	**2.11**	**215**	*i* P	**Pn**	**20 07 43.0**	**+0.8**
STH	**Stony Hill**	**2.16**	**216**	*i* P	**Pn**	**20 07 42.9**	**+0.2**
STH				*i* S	**Sn**	**20 08 03.6**	**-4.7**
STH	**Stony Hill**	**2.16**	**216**	*e*P	**Pn**	**20 07 42.7**	**-0.1**
STH				*e*S	**Sn**	**20 08 05.4**	**-2.9**
HOJ	**Hope**	**2.18**	**214**	*i* P	**Pn**	**20 07 43.5**	**+0.4**
PAPH	**Port-au-Prince**	**3.26**	**113**	Pn	**Pn**	**20 07 58.9**	**+0.9**
PAPH				IAML		20 08 48.2	
	comp=N,375nm,0.3s						
SDDR	**Presa de Saban**	**4.03**	**101**	Pn	**Pn**	**20 08 08.7**	**+0.2**
SDDR	**Presa de Saban**	**4.03**	**101**	*e*P	**Pn**	**20 08 08.8**	**+0.2**
GRTK	**Grand Turk**	**4.39**	**67**	Pn	**Pn**	**20 08 13.0**	**-0.4**
AGPR	**Aguadilla, PR**	**8.01**	**98**	Pn	**Pn**	**20 09 03.3**	**+0.1**
SDV	**Santo Domingo**	**11.84**	**156**	Pn	**Pn**	**20 09 58.3**	**+2.5**

IDC ***10*** *20:09:18.1±1.0, 5°.75S×142°.95E, h0km, mb3.8/5, mbtmp3.9/7, ML1.9/1, Error ellipse: s-maj=37.6km s-min=23.0km az=61.0*
ISC 10 20:09:19.8±0.8**, 5°.94S**±0°.09×**142°.69E**±0°.09**, h10**km**, n14**, σ2°07/15**, mb3.8/5, New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**4.17**	**323**	P	Pn	20 10 27.1	+3.5
PMG	**Port Moresby**	**5.61**	**128**	Pn	**Pn**	**20 10 43.4**	**0.0**
	2.3nm,0.3s,baz=42,slow=4.7,SNR=7.5						
PMG				Sn	**Sn**	**20 11 46.9**	**-1.0**
	1.2nm,0.3s,baz=101,slow=23,SNR=1.4						
	11nm,0.6s						
COEN	**Coen**	**7.98**	**177**	P	**Pg**	**20 11 54.5**	**+1.8**
	13nm,1.1s						
MTN	**Manton Dam**	**13.30**	**238**	P	**Pn**	**20 12 28.3**	**-0.6**
DRS	**Darwin Rock St**	**13.30**	**240**	P	**Pn**	**20 12 27.9**	**-1.0**
WRA	**Warramunga Arr**	**16.11**	**209**	Pn	**Pn**	**20 13 06.5**	**-0.2**
	0.3nm,0.3s,baz=27,slow=13,SNR=12						
WRA				Sn	Sn	20 15 54.0	-12
	0.2nm,0.3s,baz=33,slow=22,SNR=2.5						
WRA				Lg	Lg	20 18 00.4	
	0.1nm,0.3s,baz=47,slow=32,SNR=2.8						
KNRA	**Kununurra**	**16.74**	**234**	P	**Pn**	**20 13 13.5**	**-1.2**
ASAR	**Alice Springs**	**19.55**	**205**	P	**Pn**	**20 13 51.2**	**+2.1**
	3.8nm,0.5s,baz=30,slow=12,SNR=71						
ASAR				S	**S**	**20 17 23.1**	**-5.7**
	0.3nm,0.6s,baz=43,slow=20,SNR=1.9						
WRKA	**Warakurna**	**23.47**	**214**	P	**P**	**20 14 31.5**	**+1.7**
CMAR	**Chiang Mai Arr**	**49.48**	**300**	P	**P**	**20 18 11.4**	**+0.6**
	0.3nm,0.4s,baz=110,slow=6.4,SNR=2.2						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**74.76**	**322**	P	**P**	**20 21 00.8**	**+0.6**
	0.3nm,0.6s,baz=99,slow=7.4,SNR=4.0						
	0.3nm,0.6s						
QSPA	**South Pole Qui**	**84.03**	**180**	P	**P**	**20 21 50.5**	**0.0**
	1.6nm,0.8s,baz=282,slow=1.9,SNR=5.5						
	1.6nm,0.8s						
BVAR	**Borovoye Array**	**84.22**	**325**	P	**P**	**20 21 51.9**	**+0.4**
	1.2nm,0.6s,baz=97,slow=5.8,SNR=5.7						
	1.2nm,0.6s						
ILAR	**Eielson Array**	**87.14**	**24**	P	**P**	**20 22 04.0**	**-1.9**
	0.4nm,0.6s,baz=257,slow=4.6,SNR=9.6						
	0.4nm,0.6s						

IDC 10 20:10:00.3±48.0**, 15°.38S**×**170°.60W, h0**km**, mb4.3/3, mbtmp4.3/3, MS4.2/1, Error ellipse: s-maj=946.4km s-min=183.2km az=80.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**46.39**	**241**	P	P	20 18 28.7	0.0
	3.1nm,0.7s,baz=91,slow=9.8,SNR=7.8						
	3.1nm,0.7s						
WRA	**Warramunga Arr**	**52.47**	**257**	P	P	20 19 15.3	-0.1
	1.4nm,0.5s,baz=93,slow=6.8,SNR=9.4						
	1.4nm,0.5s						
ASAR	**Alice Springs**	**52.68**	**252**	P	P	20 19 16.8	-0.2
	2.3nm,0.4s,baz=91,slow=8.2,SNR=37						
ASAR				LR	LR	20 41 49.5	
	comp=Z,240nm,19.8s,baz=20,slow=36						
	2.3nm,0.4s						

DJA ***10*** *20:13:18.8±0.4, 18°N±4°×14°7E±°, h10km, M5.3/49, mB5.8/14, mb5.3/49, Mw(mB)5.3/14, MwMwp5.8/1, Mwp5.9/1*
BJI ***10*** *20:13:21.3±0.0, 18°.14N×147°.24E, h61km, mb4.6/51, mB5.1/28, Ms4.5/42, Ms7 4.3/43*
MOS ***10*** *20:13:23.3±0.7, 18°.24N×146°.60E, h47km, mb5.0/62, MS4.1/6, Error ellipse: s-maj=9.5km s-min=4.9km az=117.2*
IDC ***10*** *20:13:24.7±1.7, 18°.22N×146°.61E, h46km±14km, mb4.4/35, mbtmp4.7/36, ML3.8/1, MS4.2/59, Error ellipse: s-maj=16.4km s-min=9.4km az=86.0*
NEIC ***10*** *20:13:25.4±1.2, 18°.24N±0°.06×146°.67E±0°.09, h48km±5km, mb5.0/137, Error ellipse: s-maj=13.1km s-min=9.4km az=93.0*
GCMT ***10*** *20:13:26.4±0.2, 18°.29N±0°.01×147°.00E±0°.02, h36km, MW5.0/112, Moment Tensor Solution. s66,c89; s112,c170; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.63±.14; $M_{\theta\theta}$0.69±.09; $M_{\phi\phi}$-4.32±.09; $M_{r\theta}$0.07±.11; $M_{r\phi}$0.53±.07; $M_{\theta\phi}$2.35±.11; Best double couple: M_o4.64500×10^{16} NP1:ϕs359.00000°,δ60.00000°, λ95.00000°. NP2:ϕs168.00000°,δ30.00000°,λ81.00000°. Principal axes: T 4.2850, Plg74.0000°, Azm282.0000°; N 0.7190, Plg5.0000°, Azm176.0000°; P -5.0040, Plg15.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 10 20:13:25.2±0.5**, 18°.14N**±0°.04×**146°.69E**±0°.06**, h51**km±3km**, h51**km**:pP-P, n587,**σ1°28/595**, mb4.9**/182**, MS4.3/81, 19C-3D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**9.83**	**336**	Pn	**Pn**	**20 15 41.5**	**-2.4**
PATS	**Pohnpei**	**15.96**	**133**	Pn	**Pn**	**20 17 03.7**	**-2.7**
PATS				IAmb	IAmb	20 17 10.8	
	comp=Z,169nm,1.3s						
PATS	**Pohnpei**	**15.96**	**133**	P	**Pn**	**20 17 04.8**	**-1.6**
H11S3	**WAKE ISLAND Hy**	**18.99**	**86**	T	T	20 37 04.6	
	baz=271						
H11S1	**WAKE ISLAND Hy**	**19.00**	**86**	T	T	20 37 09.2	
	baz=271						
H11S2	**WAKE ISLAND Hy**	**19.01**	**86**	T	T	20 37 10.9	
	baz=271						
JOW	**Kunigami**	**19.07**	**300**		**P**	**20 17 43.4**	**-0.1**
JOW				IAmb	IAmb	20 17 50.9	
	comp=Z,42nm,0.7s						
JOW	**Kunigami**	**19.07**	**300**	LR	LR	20 23 56.5	
	comp=Z,1μm,20.5s,baz=123,slow=33						
INU	**Inuyama**	**19.17**	**335**	P	**P**	**20 17 43.0**	**-1.4**
INU				IAmb	IAmb	20 17 51.8	
	comp=Z,63nm,1.0s						
H11N1	**WAKE ISLAND Hy**	**19.18**	**82**	T	T	20 37 29.3	
	baz=271,slow=74						
H11N2	**WAKE ISLAND Hy**	**19.18**	**82**	T	T	20 37 33.8	
	baz=271						
H11N3	**WAKE ISLAND Hy**	**19.19**	**82**	T	T	20 37 27.8	
	baz=271,slow=74						
JGF	**Kuroka**	**19.26**	**336**	P	**P**	**20 17 44.5**	**-1.0**
MJAR	**Matsushiro Arr**	**19.80**	**339**	P	**P**	**20 17 50.4**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=167,slow=9.4,SNR=30						
	comp=Z,8.6nm,0.7s						
MAJO	**Matsushiro**	**19.80**	**339**		**P**	**20 17 49.8**	**-1.6**
MAJO				IAmb	IAmb	20 17 57.1	
	comp=Z,42nm,0.8s						
MAJO	**Matsushiro**	**19.80**	**339**	*i* P	**P**	**20 17 50.0**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,28nm,0.8s						
MJB9	**Matsu-Tunnel**	**19.80**	**339**		**P**	**20 17 49.9**	**-1.6**
MJB9				IAmb	IAmb	20 17 58.1	
	comp=Z,41nm,0.8s						
MANU	**Manus Island**	**20.07**	**178**	P	**P**	**20 17 55.4**	**+1.0**
MANU				IAmb	IAmb	20 18 03.0	
	comp=Z,165nm,1.7s						
JMM	**Marumori**	**20.32**	**346**		**P**	**20 17 56.1**	**-0.9**
JMM				IAmb	IAmb	20 18 10.3	
	comp=Z,143nm,1.5s						
JNU	**Nakatsue**	**20.59**	**319**	P	**P**	**20 17 59.3**	**-0.7**
JNU	**Nakatsue**	**20.59**	**319**	P	**P**	**20 17 58.9**	**-1.2**
	comp=Z,24nm,1.1s,baz=49,slow=5.9,SNR=4.3						
JNU				LR	LR	20 25 01.0	
	comp=Z,592nm,20.8s,baz=141,slow=34						
	comp=Z,24nm,1.1s						
GENI	**Genyem**	**21.58**	**198**	P	**P**	**20 18 11.2**	**+0.4**
	comp=Z,97nm,1.0s						
RABL	**Rabaul**	**22.84**	**166**	P	**P**	**20 18 24.7**	**+0.5**
JTM	**Tenmabayashi**	**23.08**	**349**	P	**P**	**20 18 25.6**	**-0.8**
JTM				IAmb	IAmb	20 18 30.7	
	comp=Z,54nm,1.1s						
DAV	**Davao City (W)**	**23.32**	**245**	LR	LR	20 25 39.5	
	comp=Z,892nm,22.0s,baz=72,slow=32						
SWI	**Sorong**	**24.23**	**220**	P	**P**	**20 18 38.7**	**+1.3**
SWI				pmax	pmax		
	comp=Z,158nm,1.1s						
SWI	**Sorong**	**24.23**	**220**	P	**P**	**20 18 38.9**	**+1.5**
	comp=Z,160nm,1.0s,comp=Z,1μm						
YULB	**Yu-li**	**24.29**	**287**	P	**P**	**20 18 37.5**	**-0.4**
YULB				IAmb	IAmb	20 18 47.2	
	comp=Z,29nm,0.9s						
YHNB	**Yeheng**	**24.42**	**290**	P	**P**	**20 18 37.8**	**-1.4**
SSLB	**Sungilang**	**24.66**	**288**	P	**P**	**20 18 39.6**	**-1.7**
FAKI	**Fak Fak**	**25.31**	**216**	P	**P**	**20 18 47.5**	**+0.3**
FAKI				IAmb	IAmb	20 18 58.2	
	comp=Z,54nm,1.3s						
FAKI	**Fak Fak**	**25.31**	**216**	P	**P**	**20 18 49.6**	**+2.4**
FAKI	**Fak Fak**	**25.31**	**216**	P	**P**	**20 18 48.4**	**+1.2**
	comp=Z,33nm,0.7s						
KSRS	**Korea Array**	**25.32**	**323**	P	**P**	**20 18 45.6**	**-1.5**
	comp=Z,9.0nm,0.9s,baz=141,slow=9.5,SNR=20						
KSRS				PcP	**PcP**	**20 22 19.4**	**+0.4**
	comp=Z,2.7nm,1.1s,baz=108,slow=4.0,SNR=4.8						
	comp=Z,9.0nm,0.9s						
KSAR	**Wonju Array Be**	**25.34**	**323**	P	**P**	**20 18 45.7**	**-1.6**
KSAR	**Wonju Array Be**	**25.34**	**323**	P	**P**	**20 18 45.7**	**-1.6**
KS19	**Wonju Array Si**	**25.39**	**323**	P	**P**	**20 18 46.1**	**-1.7**
JKA	**Kamikawa-asahi**	**26.12**	**353**		**P**	**20 18 54.5**	**+0.1**
JKA				IAmb	IAmb	20 19 05.0	
	comp=Z,29nm,1.0s						
ASAJ	**Asahikawa**	**26.12**	**353**	P	**P**	**20 18 54.5**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,29nm,1.0s						
ASAJ	**Asahikawa**	**26.12**	**353**	P	**P**	**20 18 54.4**	**+0.1**
	comp=Z,6.1nm,0.6s,baz=190,slow=7.0,SNR=14						
ASAJ				PcP	**PcP**	**20 22 22.1**	**+1.4**
	comp=Z,5.1nm,0.8s,baz=156,slow=2.5,SNR=4.1						
ASAJ				LR	LR	20 29 26.7	
	comp=Z,198nm,19.9s,baz=199,slow=37						
	comp=Z,6.1nm,0.6s						
LBMI	**Labuha**	**26.54**	**227**	P	**P**	**20 19 00.1**	**+1.7**
	comp=Z,51nm,1.0s						
PMG	**Port Moresby**	**27.38**	**179**	P	**P**	**20 19 06.5**	**+0.6**
PMG				IAmb	IAmb	20 19 25.9	
	comp=Z,38nm,0.9s						
PMG	**Port Moresby**	**27.38**	**179**	*ce*P	**P**	**20 19 07.0**	**+1.1**
PMG				pmax	pmax		
	comp=Z,57nm,1.7s						
PMG	**Port Moresby**	**27.38**	**179**	P	**P**	**20 19 07.2**	**+1.3**
	comp=Z,36nm,1.1s,baz=21,slow=16,SNR=3.1						
PMG				LR	LR	20 30 02.4	
	comp=Z,246nm,21.3s,baz=350,slow=36						
	comp=Z,36nm,1.1s						
VLA	**Vladivostok**	**27.88**	**336**	*i* P	**P**	**20 19 10.4**	**+0.3**
VLA				pmax	pmax		
	comp=Z,64nm,1.0s						
NJ2	**Nanjing**	**28.66**	**304**	*e*P	**P**	**20 19 17.9**	**+0.7**
NJ2				pP	**pwP**	**20 19 33.0**	**-1.0**
NJ2				sP	**sP**	**20 19 40.1**	**+5.3**
NJ2				sS	sS	20 24 30.5	+7.6
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,280nm,4.7s						
NJ2				LR	LR		
	comp=Z,380nm,18.9s						
NJ2				LR	LR		
	comp=Z,400nm,16.1s						
NJ2				LR	LR		
	comp=Z,550nm,17.1s						
NLAI	**Namlea**	**28.71**	**224**	P	**P**	**20 19 18.8**	**+1.0**
	comp=Z,18nm,0.9s						
USA0B	**Ussuriysk Arra**	**28.77**	**338**	P	**P**	**20 19 17.9**	**-0.1**
USA0B				IAmb	IAmb	20 19 20.0	
	comp=Z,47nm,1.2s						
USA0B	**Ussuriysk Arra**	**28.77**	**338**	P	**P**	**20 19 17.9**	**-0.1**
USA0B				pmax	pmax		
	comp=Z,47nm,1.3s						
USRK	**Ussuriysk Ar.**	**28.77**	**338**	P	**P**	**20 19 18.1**	**0.0**
	comp=Z,12nm,0.8s,baz=136,slow=9.4,SNR=16						
USRK				LR	LR	20 30 21.3	
	comp=Z,386nm,20.5s,baz=144,slow=36						
	comp=Z,12nm,0.8s						
YSS	**Yuzh-Sakhalins**	**28.91**	**354**	*e*P	P	20 19 24.8	+5.5
YSS				*e*S	**S**	**20 24 13.3**	**+7.1**
YSS				*e*		20 25 36.8	
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YSS				MLR	MLR		
	comp=Z,300nm,15.0s						
MRSI	**Marisa**	**29.99**	**237**	P	**P**	**20 19 30.0**	**+0.8**
	comp=Z,31nm,1.1s,comp=Z,389nm						
MDJ	**Mudanjiang**	**30.03**	**335**	P	**P**	**20 19 29.4**	**+0.2**
MDJ				pP	pwP	20 19 43.7	-2.5
MDJ				sP	sP	20 19 55.7	+8.8
MDJ				PP	**PnPn**	**20 20 30.9**	**+3.1**
MDJ				S	**S**	**20 24 28.1**	**+4.3**
MDJ				PcS	**PcS**	**20 26 09.9**	**-3.7**
MDJ				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,95nm,4.6s						
MDJ				LR	LR		
	comp=Z,390nm,15.4s						
MDJ				LR	LR		
	comp=Z,420nm,15.4s						
MDJ				LR	LR		
	comp=Z,810nm,21.7s						
MDJ	**Mudanjiang**	**30.03**	**335**	P	**P**	**20 19 28.1**	**-1.1**
MDJ				IAmb	IAmb	20 19 39.0	
	comp=Z,33nm,1.5s						
LUWI	**Luwuk**	**30.29**	**233**	P	**P**	**20 19 31.7**	**-0.1**
LUWI	**Luwuk**	**30.29**	**233**	P	**P**	**20 19 33.3**	**+1.5**
TOLI2	**Tolitoli**	**30.55**	**239**	P	**P**	**20 19 34.7**	**+0.6**
TOLI2				IAmb	IAmb	20 19 41.0	
	comp=Z,28nm,0.8s						
CN2	**Changchun**	**31.22**	**330**	P	**P**	**20 19 39.3**	**-0.4**
CN2				PcP	**PcP**	**20 22 31.7**	**-1.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,600nm,18.0s						
CN2				LR	LR		
	comp=Z,500nm,18.0s						
CN2				LR	LR		
	comp=Z,700nm,23.0s						
TIA	**Tai'an**	**31.69**	**311**	*e*P	**P**	**20 19 42.3**	**-1.7**
TIA				pmax	pmax		
	comp=Z,3.0nm,1.4s						
MPSI	**Mapaga**	**31.72**	**239**	P	**P**	**20 19 46.4**	**+2.0**
	comp=Z,14nm,1.1s						
BNX	**BinXian**	**31.84**	**334**	⇓P	**P**	**20 19 44.6**	**-0.6**
BNX				pmax	pmax		
	comp=Z,28nm,0.8s						
BNX				pmax	pmax		
	comp=Z,120nm,4.6s						
KKM	**Kota Kinabalu**	**32.07**	**252**	P	**P**	**20 19 47.5**	**-0.1**
KLR	**Kul'dur**	**33.28**	**342**	*ce*P	**P**	**20 19 57.3**	**-0.4**
KLR				pmax	pmax		
	comp=Z,84nm,1.8s						
KLR	**Kul'dur**	**33.28**	**342**	P	**P**	**20 19 57.4**	**-0.3**
	comp=Z,28nm,0.8s,baz=147,slow=8.4,SNR=94						
KLR				PcP	**PcP**	**20 22 39.8**	**+0.8**
	comp=Z,7.8nm,1.1s,baz=122,slow=3.5,SNR=5.2						
KLR				LR	LR	20 36 22.4	
	comp=Z,128nm,18.3s,baz=155,slow=42						
	comp=Z,28nm,0.8s						
GRNR	**Gornyy**	**33.57**	**348**	⇑*i*P	**P**	**20 20 00.6**	**+0.4**
GRNR				pmax	pmax		
	comp=N,4.0nm,0.8s						
GRNR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GRNR				MLR	MLR		
	comp=E,110nm,16.0s						
GRNR				MLR	MLR		
	comp=Z,220nm,15.0s						
KDU	**Kakadu**	**33.69**	**206**	P	**P**	**20 20 02.6**	**+1.0**
TTSI	**Tana Toraja**	**33.83**	**234**	P	**P**	**20 20 04.6**	**+1.8**
	comp=Z,83nm,1.0s,comp=Z,570nm						
HNS	**HongShan**	**33.95**	**311**	⇓P	**P**	**20 20 04.6**	**+0.9**
HNS				S	**S**	**20 25 25.3**	**+0.3**
HNS				pmax	pmax		
	comp=Z,21nm,0.9s						
HNS				LR	LR		
	comp=Z,310nm,16.2s						
HNS				LR	LR		
	comp=Z,190nm,15.2s						
HNS				LR	LR		
	comp=Z,390nm,19.9s						
MTN	**Manton Dam**	**34.40**	**208**	P	**P**	**20 20 06.6**	**-1.2**
MTN				IAmb	IAmb	20 20 16.4	
	comp=Z,16nm,1.1s						
QIZ	**Qiongzhong**	**34.90**	**277**	P	**P**	**20 20 12.5**	**+0.4**
QIZ				S	**S**	**20 25 40.6**	**+0.5**
QIZ				LR	LR		
	comp=Z,310nm,9.4s						
QIZ				LR	LR		
	comp=Z,360nm,14.5s						
QIZ				LR	LR		
	comp=Z,560nm,18.1s						
KAPI	**Kappang**	**35.15**	**232**	P	**P**	**20 20 13.9**	**-0.4**
KAPI	**Kappang**	**35.15**	**232**	P	**P**	**20 20 13.9**	**-0.4**
KAPI				pmax	pmax		
	comp=Z,177nm,1.8s						
SOEI	**Soe**	**35.48**	**220**	P	**P**	**20 20 16.5**	**-0.7**
SOEI	**Soe**	**35.48**	**220**	P	**P**	**20 20 18.9**	**+1.7**
SOEI	**Soe**	**35.48**	**220**	P	**P**	**20 20 17.9**	**+0.7**
	comp=Z,49nm,1.2s						
HEH	**HeiHe**	**35.56**	**339**	*e*P	**P**	**20 20 16.7**	**-0.7**
HEH				PcP	**PcP**	**20 22 45.0**	**-0.5**
HEH				pmax	pmax		
	comp=Z,82nm,1.1s						
HEH				pmax	pmax		
	comp=Z,230nm,5.7s						
HEH				LR	LR		
	comp=Z,130nm,16.3s						
HEH				LR	LR		
	comp=Z,330nm,15.8s						
HEH				LR	LR		
	comp=Z,280nm,15.5s						
PETK	**Petropavlovsk-**	**35.94**	**11**	P	**P**	**20 20 21.2**	**+0.6**
	comp=Z,3.6nm,0.9s,baz=163,slow=10,SNR=1.8						
PETK				LR	LR	20 34 17.6	
	comp=Z,202nm,19.7s,baz=191,slow=35						
	comp=Z,3.6nm,0.9s						
PET	**Petropavlovsk**	**36.04**	**12**	*e*P	P	20 20 33.2	+12
PET				MLR	MLR		
	comp=Z,200nm,17.0s						
MTSU	**Mount Surprise**	**36.12**	**184**	P	**P**	**20 20 24.2**	**+1.6**
BATI	**Baumata**	**36.20**	**221**	P	**P**	**20 20 23.1**	**-0.2**
	comp=Z,32nm,0.8s,baz=24,slow=4.2,SNR=8.9						
	comp=Z,32nm,0.8s						
XLT	**XiLinHaoTe**	**36.34**	**322**	*e*P	**P**	**20 20 24.4**	**+0.1**
XLT				PcP	**PcP**	**20 22 48.4**	**+0.3**
XLT				pmax	pmax		
	comp=Z,26nm,1.1s						
XLT				pmax	pmax		
	comp=Z,160nm,4.3s						
XLT				LR	LR		
	comp=Z,630nm,15.5s						
XLT				LR	LR		
	comp=Z,740nm,17.7s						
EDFI	**Ende, Flores**	**36.38**	**225**	P	**P**	**20 20 23.4**	**-1.5**
MTKI	**Muara Teweh, K**	**36.58**	**242**	P	**P**	**20 20 28.5**	**+2.0**
	comp=Z,47nm,0.8s,comp=Z,2μm						
XAN	**Xi'an**	**37.19**	**303**	P	**P**	**20 20 33.0**	**+1.4**
XAN				PcP	**PcP**	**20 22 50.7**	**-0.1**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
XAN				LR	LR		
	comp=Z,680nm,18.7s						
XAN				LR	LR		
	comp=Z,500nm,19.0s						
XAN				LR	LR		
	comp=Z,770nm,19.4s						

HIA **Hailar** 37.90 331 P **P** 20 20 36.3 -1.1
HIA pmax pmax
comp=Z,22nm,0.8s
HIA **Hailar** 37.90 331 P **P** 20 20 36.8 -0.6
KNRA **Kununurra** 37.96 209 P **P** 20 20 38.1 0.0
KNRA IAmb IAmb 20 20 45.6
comp=Z,16nm,0.9s
KNRA **Kununurra** 37.96 209 P **P** 20 20 39.7 +1.5
CTA **Charters Tower** 38.00 181 P **P** 20 20 39.8 +1.3
comp=Z,11nm,1.0s,baz=353,slow=12,SNR=2.3
CTA LR LR 20 35 18.9
comp=Z,249nm,21.8s,baz=288,slow=34
comp=Z,11nm,1.0s
CTAO **Charters Tower** 38.00 181 P **P** 20 20 39.2 +0.8
CTAO **Charters Tower** 38.00 181 P **P** 20 20 39.7 +1.3
CTAO **Charters Tower** 38.00 181 P **P** 20 20 39.2 +0.8
CTAO pmax pmax
comp=Z,82nm,1.8s
BASI **Baing, Sumba** 38.19 224 P **P** 20 20 38.5 -1.7
ZEA **Zeya** 38.59 342 *e*P **P** 20 20 42.3 -0.7
ZEA pmax pmax
comp=Z,30nm,1.4s
ZEA MLR MLR
comp=N,100nm,16.0s
ZEA MLR MLR
comp=Z,200nm,15.0s
BTO **Baotou** 38.61 313 *e*P **P** 20 20 45.6 +2.0
BTO pP **sP** 20 21 00.9 -0.6
BTO sP pwP 20 21 08.4 +7.7
BTO PP **PnPn** 20 22 20.4 +5.3
BTO S **S** 20 26 40.2 +3.7
BTO sS sS 20 27 04.5 +7.3
BTO SS **SnSn** 20 29 23.6 -4.4
BTO pmax pmax
comp=Z,9.0nm,1.0s
BTO pmax pmax
comp=Z,230nm,5.2s
BTO LR LR
comp=Z,900nm,15.2s
BTO LR LR
comp=Z,800nm,16.3s
BTO LR LR
comp=Z,1μm,19.4s
STKI **Sintang** 38.99 246 P **P** 20 20 48.3 +1.4
comp=Z,31nm,0.7s,comp=Z,2μm
QIS **Mount Isa** 39.08 191 P **P** 20 20 48.6 +1.0
PLAI **Plampang** 39.15 229 P **P** 20 20 48.8 +0.6
PLAI **Plampang** 39.15 229 P **P** 20 20 48.1 -0.1
comp=Z,73nm,0.8s,comp=Z,712nm
UBPT **Khong Chiam** 39.52 272 P **P** 20 20 51.1 -0.3
WB0 **Warramunga Arr** 39.56 198 P **P** 20 20 51.9 +0.4
WB0 IAmb IAmb 20 20 53.1
comp=Z,30nm,1.1s
TWSI **Taliwang, Sumb** 39.74 230 P **P** 20 20 53.8 +0.7
comp=Z,125nm,0.9s,comp=Z,1μm
WRA **Warramunga Arr** 39.74 198 P **P** 20 20 52.5 -0.6
WRA **Warramunga Arr** 39.74 198 *ce*P **P** 20 20 53.5 +0.4
WRA pmax pmax
comp=Z,22nm,1.0s
WRA **Warramunga Arr** 39.74 198 P **P** 20 20 53.2 +0.1
comp=Z,23nm,1.0s,baz=27,slow=8.5,SNR=33
WRA PcP **PcP** 20 22 58.8 -0.1
comp=Z,2.9nm,1.1s,baz=19,slow=3.7,SNR=2.2
WRA ScP **ScP** 20 26 44.6 +1.1
comp=Z,1.0nm,0.8s,baz=12,slow=4.4,SNR=3.1
comp=Z,23nm,1.0s
WB1 **Warramunga Ar.** 39.76 198 P **P** 20 20 53.7 +0.5
SRBI **Singaraja** 40.55 233 P **P** 20 21 01.1 +1.2
comp=Z,50nm,1.0s
SHEM **Shemya Is, Ala** 40.62 25 LR LR 20 36 40.1
comp=Z,247nm,18.9s,baz=134,slow=34
CD2 **Chengdu** 40.83 296 P **P** 20 21 01.6 -0.5
CD2 S **S** 20 27 09.0 -0.9
CD2 LR LR
comp=Z,170nm,19.2s
CD2 LR LR
comp=Z,440nm,21.0s
CD2 LR LR
comp=Z,470nm,19.4s
ABJI **Asem Bagus** 41.12 234 P **P** 20 21 05.8 +1.3
comp=Z,48nm,1.2s
MA2 **Magadan** 41.48 3 P **P** 20 21 06.8 -0.2
MA2 IAmb IAmb 20 22 40.2
comp=Z,68nm,1.9s
MA2 **Magadan** 41.48 3 *ce*P **P** 20 21 05.6 -1.4
MA2 pmax pmax
comp=Z,40nm,2.5s
MA2 **Magadan** 41.48 3 P **P** 20 21 06.1 -0.9
comp=Z,4.7nm,0.7s,baz=171,slow=7.5,SNR=4.5
MA2 LR LR 20 35 01.1
comp=Z,215nm,21.5s,baz=184,slow=31
comp=Z,4.7nm,0.7s
MA2 **Magadan** 41.48 3 P **P** 20 21 07.3 +0.3
FITZ **Fitzroy Crossi** 41.54 211 P **P** 20 21 08.5 +0.7
FITZ **Fitzroy Crossi** 41.54 211 P **P** 20 21 09.9 +2.0
BLJI **Banyuglugur** 41.58 235 P **P** 20 21 09.5 +1.2
comp=Z,64nm,1.1s
JAGI **Jajag, Banyuwa** 41.60 233 P **P** 20 21 08.1 -0.5
JAGI IAmb IAmb 20 21 09.9
comp=Z,34nm,0.9s
JAGI **Jajag, Banyuwa** 41.60 233 P **P** 20 21 09.5 +1.0
comp=Z,44nm,1.0s
GMJI **Gumukmas** 42.02 234 P **P** 20 21 12.7 +0.8
PZH **PanZhiHua** 42.23 290 P **P** 20 21 15.9 +2.2
PZH S **S** 20 27 30.8 0.0
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,140nm,5.3s
PZH LR LR
comp=Z,190nm,18.5s
PZH LR LR
comp=Z,180nm,17.4s
PZH LR LR
comp=Z,320nm,24.7s
CIT **Chita** 42.66 330 *e*P **P** 20 21 16.4 -0.4
CIT *e* 20 21 26.4
CIT *e* 20 23 08.6
CIT pmax pmax
comp=Z,91nm,1.3s
NGJI **Ngawi** 43.03 237 P **P** 20 21 21.5 +1.4
comp=Z,45nm,1.1s
PWJI **Pagerwojo** 43.15 236 P **P** 20 21 21.3 +0.2
comp=Z,68nm,0.7s
PWJI pP pP 20 21 25.4 -8.2
comp=Z,68nm,0.7s
AS31 **Alice Springs** 43.39 197 P **P** 20 21 23.2 +0.4
ASAR **Alice Springs** 43.39 197 P **P** 20 21 23.8 +0.9
ASAR **Alice Springs** 43.39 197 P **P** 20 21 23.8 +0.9
ASAR **Alice Springs** 43.39 197 P **P** 20 21 22.9 0.0
comp=Z,6.1nm,0.8s,baz=27,slow=7.6,SNR=28
ASAR PcP **PcP** 20 23 08.9 -1.9
comp=Z,4.3nm,1.1s,baz=15,slow=3.8,SNR=5.3
ASAR ScP **ScP** 20 26 58.8 +0.8
comp=Z,0.6nm,0.8s,baz=40,slow=3.6,SNR=3.9
comp=Z,6.1nm,0.8s
CRAI **Chiangrai** 43.69 281 P **P** 20 21 25.8 +0.3
ULN **Ulaanbaatar** 43.79 322 P **P** 20 21 25.2 -0.8
ULN **Ulaanbaatar** 43.79 322 *ce*P **P** 20 21 25.0 -1.0
ULN pmax pmax
comp=Z,15nm,1.7s
ULN **Ulaanbaatar** 43.79 322 P **P** 20 21 25.4 -0.6
UGM **Wanagama** 44.10 237 P **P** 20 21 29.1 +0.3
UGM **Wanagama** 44.10 237 P **P** 20 21 29.7 +0.9
UGM **Wanagama** 44.10 237 P **P** 20 21 29.5 +0.7
comp=Z,98nm,1.1s
SONM **Songino Array** 44.16 321 P **P** 20 21 28.0 -1.1
SONM **Songino Array** 44.16 321 P **P** 20 21 28.0 -1.1
SONM pmax pmax
comp=Z,27nm,1.8s
SONM **Songino Array** 44.16 321 P **P** 20 21 27.9 -1.1
comp=Z,4.2nm,0.6s,baz=137,slow=9.0,SNR=32
SONM PcP **PP** 20 23 12.3 -0.3
comp=Z,2.8nm,0.8s,baz=133,slow=3.6,SNR=5.3
SONM ScP **ScP** 20 27 00.3 -0.7
comp=Z,0.7nm,0.9s,baz=127,slow=3.8,SNR=3.0
SONM LR LR 20 41 08.3
comp=Z,666nm,18.1s,baz=132,slow=38
comp=Z,4.2nm,0.6s
YOGI **Yogyakarta** 44.23 237 P **P** 20 21 30.6 +0.8
comp=Z,123nm,1.0s
DZM **Mont Dzumac** 44.40 153 *e*S **S** 20 28 00.1 -2.2
comp=Z,174nm,26.6s
DZM **Mont Dzumac** 44.40 153 P **P** 20 21 31.8 +0.7
comp=Z,12nm,1.0s,baz=14,slow=17,SNR=2.7
DZM LR LR 20 38 00.9
comp=Z,853nm,21.8s,baz=348,slow=33
comp=Z,12nm,1.0s
SEY **Seymchan** 44.92 4 *ce*P **P** 20 21 35.5 +0.9
SEY pmax pmax
comp=Z,25nm,2.5s
SEY **Seymchan** 44.92 4 LR LR 20 37 36.9
comp=Z,164nm,20.5s,baz=171,slow=32
MYKOM **Kota Tinggi** 45.05 254 P **P** 20 21 36.7 +0.4
MYKOM IAmb IAmb 20 21 43.4
comp=Z,64nm,1.4s
KPJI **Karang Pucung** 45.05 239 P **P** 20 21 36.7 +0.4
comp=Z,68nm,1.1s
CHTO **Chiang Mai** 45.18 279 P **P** 20 21 38.2 +0.8
CHTO **Chiang Mai** 45.18 279 P **P** 20 21 38.2 +0.8
CHTO pmax pmax
comp=Z,24nm,2.0s
CMAR **Chiang Mai Arr** 45.23 278 P **P** 20 21 38.3 +0.5
CMAR **Chiang Mai Arr** 45.23 278 *i*P **P** 20 21 39.2 +1.4
CMAR pmax pmax
comp=Z,4.0nm,0.9s
CMAR **Chiang Mai Arr** 45.23 278 P **P** 20 21 37.9 +0.1
comp=Z,4.6nm,0.9s,baz=69,slow=6.6,SNR=16
CMAR PcP **PcP** 20 23 17.1 -0.2
comp=Z,2.8nm,1.0s,baz=122,slow=1.6,SNR=5.4
comp=Z,4.6nm,0.9s
YAK **Yakutsk** 45.44 349 P **P** 20 21 38.1 -0.6
YAK **Yakutsk** 45.44 349 *e*P **P** 20 21 38.4 -0.4
YAK *e**PP **pP** 20 21 49.8 -1.5
YAK *e* 20 23 16.9
YAK *e* 20 23 25.9
YAK *e*PPP PPP 20 24 05.7
YAK *e*S **S** 20 28 17.7 +1.4
YAK *e**SS **sS** 20 28 37.3 -0.1
YAK *e* 20 31 29.5
YAK pmax pmax
comp=Z,38nm,0.8s
YAK pmax pmax
comp=N,19nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=Z,195nm,4.4s
YAK pmax pmax
comp=N,85nm,3.8s
YAK pmax pmax
comp=E,138nm,4.9s
YAK smax smax
comp=N,139nm,4.1s
YAK smax smax
comp=E,35nm,2.1s
YAK **Yakutsk** 45.44 349 LR LR 20 40 05.6
comp=E,169nm,21.7s,baz=133,slow=35
GTA **Gaotai** 45.63 308 *e*P **P** 20 21 42.1 +1.3
GTA pP sP 20 21 59.1 +0.2
GTA PcP **PcP** 20 23 18.2 -0.3
GTA pmax pmax
comp=E,4.0nm,1.1s
GTA LR LR
comp=E,150nm,16.0s
GTA LR LR
comp=E,390nm,17.1s
GTA LR LR
comp=E,470nm,19.3s
LEM **Lembang** 45.85 241 LR LR 20 39 33.3
comp=E,145nm,21.5s,baz=20,slow=34
LEM **Lembang** 45.85 241 P **P** 20 21 43.9 +1.0
comp=E,39nm,0.9s
INKA **Innaminka** 45.97 187 P **P** 20 21 44.1 +0.7
BBJI **Bungbulang** 46.17 240 P **P** 20 21 46.0 +0.7
BOD **Bodaibo** 46.39 336 *i*P **P** 20 21 44.8 -1.5
BOD pmax pmax
comp=Z,16nm,1.3s
WRKA **Warakurna** 46.51 203 P **P** 20 21 48.5 +0.8
KULM **Kulim** 46.71 260 P **P** 20 21 49.9 +0.4
KULM IAmb IAmb 20 22 19.5
comp=Z,60nm,1.7s
OOD **Oodnadatta** 46.89 193 P **P** 20 21 51.8 +1.2
MBWA **Marble Bar** 47.15 215 P **P** 20 21 53.0 +0.3
MBWA IAmb IAmb 20 21 59.7
comp=Z,38nm,1.2s
MBWA **Marble Bar** 47.15 215 P **P** 20 21 53.2 +0.4
ZAK **Zakamensk** 47.16 323 *e*P **P** 20 21 51.3 -1.3
ZAK pmax pmax
comp=Z,5.0nm,1.5s
PSA00 **Pilbara Seismi** 47.42 215 P **P** 20 21 54.7 -0.1
PSA00 IAmb IAmb 20 23 14.4
comp=Z,11nm,0.8s
PSA00 **Pilbara Seismi** 47.42 215 P **P** 20 21 55.5 +0.6
PSA00 IAmb IAmb 20 21 56.4
comp=Z,28nm,1.1s
PSA00 **Pilbara Seismi** 47.42 215 P **P** 20 21 55.8 +1.0
KASI **Kota Agung** 47.80 244 P **P** 20 21 57.3 -0.6
comp=Z,51nm,1.0s,comp=Z,511nm
LWLI **Liwa** 47.93 245 P **P** 20 21 59.5 +0.5
comp=Z,72nm,0.8s
ARMA **Armidale** 48.51 174 P **P** 20 22 02.9 -0.3
GOMU **GeErMu** 48.94 302 P **P** 20 22 08.6 +1.7
GOMU pmax pmax
comp=Z,7.0nm,0.8s
GOMU LR LR
comp=Z,190nm,14.8s
GOMU LR LR
comp=Z,120nm,14.9s
GOMU LR LR
comp=Z,160nm,15.1s
MOY **Mondy** 49.02 324 *e*P **P** 20 22 06.4 -0.6
MOY pmax pmax
comp=Z,13nm,1.8s
XMIS **Christmas Isla** 49.50 238 P **P** 20 22 10.2 -0.7
MULG **Mulgathing** 49.66 194 P **P** 20 22 13.1 +1.2
STKA **Stephens Creek** 49.97 186 P **P** 20 22 14.6 +0.4
STKA **Stephens Creek** 49.97 186 P **P** 20 22 14.6 +0.4
comp=Z,20nm,0.9s,baz=5.1,slow=7.0,SNR=36
STKA LR LR 20 43 30.2
comp=Z,276nm,21.8s,baz=14,slow=36
comp=Z,20nm,0.9s
GSI **Gunungsitoli** 51.00 257 P **P** 20 22 22.9 +0.5
BILL **Bilibino** 51.41 9 P **P** 20 22 24.7 0.0
BILL IAmb IAmb 20 22 29.8
comp=Z,12nm,1.1s
BILL **Bilibino** 51.41 9 *e*P **P** 20 22 25.0 +0.3
BILL pmax pmax
comp=Z,15nm,1.1s
BILL **Bilibino** 51.41 9 P **P** 20 22 25.0 +0.3
LSA **Lhasa** 51.63 294 P **P** 20 22 27.9 +0.4
LSA IAmb IAmb 20 22 30.9
comp=Z,18nm,1.6s
LSA **Lhasa** 51.63 294 P **P** 20 22 27.9 +0.4
LSA pmax pmax
comp=Z,18nm,1.6s
LSA **Lhasa** 51.63 294 P **P** 20 22 29.2 +1.7
BBOO **Buckleboo** 51.67 191 P **P** 20 22 28.1 +1.1
FORT **Forrest** 51.84 200 P **P** 20 22 29.0 +0.8
CAN **Canberra** 53.21 178 P **P** 20 22 39.9 +1.4
CAN **Canberra** 53.21 178 P **P** 20 22 39.9 +1.4
CAN pmax pmax
comp=Z,73nm,1.7s
CAN **Canberra** 53.21 178 P **P** 20 22 39.8 +1.4
TIXI **Tiksi** 54.53 353 P **P** 20 22 46.7 -0.8
TIXI **Tiksi** 54.53 353 *ce*P **P** 20 22 46.9 -0.6
TIXI pmax pmax
comp=Z,3.0nm,0.6s
TIXI **Tiksi** 54.53 353 LR LR 20 46 01.4
comp=Z,86nm,20.9s,baz=194,slow=36
TIXI **Tiksi** 54.53 353 P **P** 20 22 46.7 -0.8
WMQ **Urumqi** 55.38 311 *e*P **P** 20 22 55.4 +1.1
WMQ pmax pmax
comp=Z,22nm,0.9s
WMQ pmax pmax
comp=Z,79nm,4.1s
WMQ LR LR
comp=Z,180nm,21.1s
MORW **Morawa** 55.49 213 P **P** 20 22 55.0 -0.1
MORW IAmb IAmb 20 22 56.5
comp=Z,24nm,0.9s
M14K **Bethel** 55.86 28 P **P** 20 22 58.6 +1.4
baz=244
J14K **Nanvaranak Lak** 56.11 25 P **P** 20 23 00.7 +1.7
baz=241
O15K **Ungalikthiuk R** 56.17 30 P **P** 20 23 00.2 +0.6
baz=247
N15K **Kwethluk River** 56.45 29 P **P** 20 23 01.9 +0.4
DGZ **Jazzator, Alta** 56.56 318 *d*iP **P** 20 23 02.7 0.0
DGZ pmax pmax
comp=Z,12nm,0.9s
N16K **Nishlik Lake** 57.17 29 P **P** 20 23 08.1 +1.4
baz=247
F15K **North Star Dit** 57.21 22 P **P** 20 23 07.9 +1.1
baz=238
M16K **Timber Creek** 57.30 28 P **P** 20 23 07.5 -0.1
M16K **Timber Creek** 57.30 28 P **P** 20 23 08.9 +1.3
baz=247
H16K **Elim** 57.54 23 P **P** 20 23 09.8 +0.6
baz=241
J16K **Anvik River** 57.56 25 P **P** 20 23 11.0 +1.7
baz=244
I17K **Unalakleet** 57.79 25 P **P** 20 23 12.1 +1.2
baz=243
ZSN **Zaisan** 57.86 315 *e*P **P** 20 23 11.5 -0.2
ZSN pmax pmax
comp=Z,8.0nm,0.9s
ZSN **Zaisan** 57.86 315 *e*P **P** 20 23 11.6 -0.2
comp=Z,7.8nm,0.9s,baz=315
K17K **Iditarod** 58.27 26 P **P** 20 23 14.9 +0.6
C16K **Lisburne Hills** 58.38 19 P **P** 20 23 15.4 +0.4
baz=236
G17K **Kiwalik Mounta** 58.55 23 P **P** 20 23 16.9 +0.7
baz=242
H17K **Granite Mounta** 58.57 24 P **P** 20 23 16.5 +0.2
H17K **Granite Mounta** 58.57 24 P **P** 20 23 17.3 +0.9
baz=244
N18K **Kilae Creek** 58.57 29 P **P** 20 23 17.4 +0.9
baz=250
F17K **Baldwin Pennin** 58.78 22 P **P** 20 23 18.0 +0.3
F17K IAmb IAmb 20 23 57.6
comp=Z,11nm,1.2s
F17K **Baldwin Pennin** 58.78 22 P **P** 20 23 18.5 +0.7
baz=241
D17K **Noatak River** 58.78 20 P **P** 20 23 18.5 +0.7
baz=239
M18K **Stony River** 58.88 28 P **P** 20 23 19.5 +0.9
baz=250
ZAA0 **Zalesovo Array** 59.03 323 P **P** 20 23 18.6 -1.1
ZAA0 IAmb IAmb 20 23 19.7
comp=Z,12nm,0.7s
ZALV **Zalesovo Beam** 59.03 323 P **P** 20 23 18.6 -1.1
comp=Z,14nm,0.7s,baz=108,slow=7.7,SNR=57
ZALV LR LR 20 49 17.1
comp=Z,287nm,20.1s,baz=99,slow=36
comp=Z,14nm,0.7s
C17K **DeLong Mountai** 59.16 19 P **P** 20 23 21.6 +1.1
baz=238
H18K **Honhosa River** 59.25 24 P **P** 20 23 21.0 -0.1
H18K IAmb IAmb 20 24 13.4
comp=Z,39nm,1.8s
H18K **Honhosa River** 59.25 24 P **P** 20 23 21.6 +0.5
baz=245
KDAK **Kodiak Island** 59.31 33 LR LR 20 46 51.7
comp=Z,187nm,20.8s,baz=268,slow=34
TTA **Tatalina** 59.32 27 P **P** 20 23 21.9 +0.2
baz=248
G18K **Tagagawik** 59.46 23 P **P** 20 23 22.8 +0.2
baz=244
E18K **Tukpahlearik C** 59.47 21 P **P** 20 23 23.4 +0.8
baz=242
MK31 **Makanchi Array** 59.52 314 P **P** 20 23 22.7 -0.7
MK31 IAmb IAmb 20 23 24.4
comp=Z,8.2nm,0.8s
MK31 PcP **PcP** 20 24 09.5 -0.9
MK31 **Makanchi Array** 59.52 314 *ce*P **P** 20 23 22.8 -0.5
MKAR **Makanchi Array** 59.52 314 P **P** 20 23 23.1 -0.2
MKAR PcP **PcP** 20 24 09.4 -1.0
MKAR **Makanchi Array** 59.52 314 *i* P **P** 20 23 23.2 -0.2
MKAR pmax pmax
comp=Z,8.0nm,0.6s
MKAR **Makanchi Array** 59.52 314 P **P** 20 23 23.1 -0.2
comp=Z,7.4nm,0.7s,baz=89,slow=8.9,SNR=82
MKAR LR LR 20 49 20.7
comp=Z,267nm,21.1s,baz=80,slow=36
comp=Z,7.4nm,0.7s
MAKZ **Makanchi** 59.74 314 P **P** 20 23 24.0 -0.8
MAKZ IAmb IAmb 20 23 26.0
comp=Z,14nm,0.8s
MAKZ **Makanchi** 59.74 314 P **P** 20 23 24.0 -0.8
MAKZ pmax pmax
comp=Z,14nm,0.8s
MAKZ **Makanchi** 59.74 314 P **P** 20 23 24.3 -0.5
C18K **Utukok River** 59.88 20 P **P** 20 23 25.4 -0.1
C18K **Utukok River** 59.88 20 P **P** 20 23 25.6 +0.2
baz=240
B18K **Kokolik River** 60.05 19 P **P** 20 23 27.3 +0.8
baz=239
H19K **Roundabout Mou** 60.14 24 P **P** 20 23 27.9 +0.8
baz=247
G19K **Purcell Mounta** 60.15 23 P **P** 20 23 27.9 +0.6
baz=246
K20K **Telida** 60.30 26 P **P** 20 23 28.9 +0.6
baz=250
C19K **Lookout Ridge** 60.61 19 P **P** 20 23 31.0 +0.5
baz=242
I20K **Naaghedeneel** 60.63 25 P **P** 20 23 32.1 +1.5
baz=249
E19K **Redstone River** 60.65 22 P **P** 20 23 31.3 +0.6
baz=245
H20K **Anotleneega Mo** 60.73 24 P **P** 20 23 31.9 +0.7
baz=248
D19K **Kuna River** 60.80 20 P **P** 20 23 31.8 0.0
baz=244
F20K **Avaraart Lake** 61.01 22 P **P** 20 23 34.0 +0.9
baz=247
CAST **Castle Rocks** 61.16 27 P **P** 20 23 34.2 0.0
CAST IAmb IAmb 20 23 58.7
comp=Z,5.7nm,0.8s
CAST **Castle Rocks** 61.16 27 P **P** 20 23 34.7 +0.5
baz=252
CHUM **Lake Minchumin** 61.21 26 P **P** 20 23 36.0 +1.5
baz=252
SEM **Semipalatinsk** 61.24 318 *e*P **P** 20 23 34.0 -1.3
SEM **Semipalatinsk** 61.24 318 *e*P **P** 20 23 34.0 -1.3
baz=318
SHLS **Shalkode** 61.30 310 *e*P **P** 20 23 33.2 -2.4
SHLS pmax pmax
comp=Z,5.0nm,1.2s
SHLS **Shalkode** 61.30 310 *e*P **P** 20 23 33.2 -2.4
comp=Z,5.2nm,1.2s,baz=310
IMAR **Indian Mountai** 61.34 24 P **P** 20 23 35.9 +0.5
E20K **Nigu River** 61.34 21 P **P** 20 23 36.1 +0.7
baz=246
D20K **Etivluk River** 61.40 20 P **P** 20 23 36.3 +0.6
baz=245
H21K **Melozitna Rive** 61.59 24 P **P** 20 23 38.1 +1.0
baz=250
UZB **Uzynbulak** 61.62 310 *e*P **P** 20 23 37.4 -0.4
UZB pmax pmax
comp=Z,4.0nm,0.9s
UZB **Uzynbulak** 61.62 310 *e*P **P** 20 23 37.5 -0.4
comp=Z,4.0nm,0.9s,baz=310
G21K **Allakaket** 61.63 23 P **P** 20 23 38.4 +1.1
baz=249
B20K **Meade River** 61.78 19 P **P** 20 23 39.1 +0.9
baz=244
BPAW **Bear Paw Mtn.** 61.83 26 P **P** 20 23 38.8 +0.1
BPAW IAmb IAmb 20 23 44.3
comp=Z,17nm,1.2s
BPAW **Bear Paw Mtn.** 61.83 26 P **P** 20 23 39.4 +0.6
baz=253
TRF **Thorofare Moun** 61.94 27 P **P** 20 23 39.8 +0.1
baz=254
PRZ **Przheval'sk** 62.06 309 P **P** 20 23 40.7 -0.2
PRZ **Przheval'sk** 62.06 309 P **P** 20 23 40.7 -0.2
PRZ pmax pmax
comp=Z,21nm,0.8s
SATY **Saty** 62.07 310 *e*P **P** 20 23 40.8 0.0
SATY pmax pmax
comp=Z,4.0nm,0.9s
SATY **Saty** 62.07 310 *e*P **P** 20 23 40.8 0.0
comp=Z,4.3nm,0.9s,baz=310
TDK **Taldyqorghan** 62.11 312 *e*P **P** 20 23 40.9 0.0
TDK pmax pmax
comp=Z,11nm,1.0s
TDK **Taldyqorghan** 62.11 312 *e*P **P** 20 23 41.0 0.0
comp=Z,11nm,1.0s,baz=312
C21K **Knifeblade Rid** 62.18 20 P **P** 20 23 41.7 +0.7
baz=246
MLY **Manley** 62.22 25 P **P** 20 23 41.5 +0.1
MLY IAmb IAmb 20 24 23.4
comp=Z,7.6nm,1.0s
MLY **Manley** 62.22 25 P **P** 20 23 42.1 +0.8
baz=253
KURK **Kurchatov** 62.31 318 P **P** 20 23 41.2 -0.9
KURK **Kurchatov** 62.31 318 *ce*P **P** 20 23 41.8 -0.3
KURK pmax pmax

comp=Z,39nm,1.7s
KURK Kurchatov 62.31 318 P P 20 23 41.4 -0.7
KURBB Kurchatov Arra 62.36 318 P P 20 23 41.1 -1.4
comp=Z,22nm,0.8s,baz=95,slow=7.1,SNR=96
comp=Z,22nm,0.8s
SML Sawmill 62.40 29 P P 20 23 42.7 +0.1
baz=257
B21K Ikpikpuk River 62.42 20 P P 20 23 43.4 +0.9
baz=246
NRIK Noril'sk 62.45 340 P P 20 23 42.1 -0.6
NRIK Noril'sk 62.45 340 *ce*P **P 20 23 42.4 -0.4**
NRIK Noril'sk 62.45 340 P P 20 23 41.9 -0.9
comp=Z,41nm,1.0s,baz=113,slow=8.0,SNR=43
NRIK LR LR 20 51 10.9
comp=Z,398nm,21.2s,baz=143,slow=36
comp=Z,41nm,1.0s
TARG Taragay, Kyrgy 62.51 308 P P 20 23 43.7 -0.5
TARG IAmb IAmb 20 23 46.4
comp=Z,7.2nm,1.0s
TARG Taragay, Kyrgy 62.51 308 P P 20 23 43.7 -0.5
TARG pmax pmax
comp=Z,7.0nm,1.0s
WAT1 Susitna Watana 62.54 28 P P 20 23 43.7 +0.2
baz=256
D22K Ayikyak River 62.77 21 P P 20 23 45.7 +0.8
baz=249
E22K Anaktuvuk Pass 62.81 22 P P 20 23 46.1 +0.8
baz=250
WAT6 Susitna Watana 62.85 28 P P 20 23 45.6 -0.2
baz=257
SCM Sheep Creek Mo 62.87 29 P P 20 23 46.0 +0.2
SCM Sheep Creek Mo 62.87 29 P P 20 23 46.0 +0.2
SCM pmax pmax
comp=Z,111nm,1.8s
URZ Urewera 62.96 153 LR LR 20 47 40.0
comp=Z,297nm,21.5s,baz=116,slow=33
G23K Bananza Creek 63.00 23 P P 20 23 47.0 +0.5
baz=252
MDOK Medeo 63.06 310 *eP* **P 20 23 47.3 -0.2**
MDOK Medeo 63.06 310 *eP* **P 20 23 47.3 -0.2**
baz=310
B22K Teshekpuk Lake 63.08 19 P P 20 23 47.5 +0.6
baz=247
COLD Coldfoot 63.09 23 P P 20 23 48.5 +1.4
baz=252
DHY Denali Highway 63.12 28 P P 20 23 48.2 +0.6
baz=257
TNSS Tian-Shan 63.14 310 *eP* **P 20 23 47.4 -0.9**
TNSS Tian-Shan 63.14 310 *eP* **P 20 23 47.5 -0.9**
baz=310
MDM Murphy Dome 63.22 26 P P 20 23 47.9 -0.1
MDM IAmb IAmb 20 24 56.5
comp=Z,18nm,1.6s
D23K Nanushuk River 63.48 21 P P 20 23 50.7 +1.1
baz=251
E23K Chandalar 63.56 22 P P 20 23 51.5 +1.2
baz=252
H24K Noodor Dome 63.59 25 P P 20 23 50.7 +0.3
baz=255
IL31 63.73 26 P P 20 23 49.9 -1.3
ILAR Eielson Array 63.73 26 P P 20 23 49.9 -1.5
comp=Z,2.4nm,0.9s,baz=259,slow=5.2,SNR=15
ILAR LR LR 20 47 54.9
comp=Z,194nm,21.9s,baz=252,slow=32
comp=Z,2.4nm,0.9s
TOLK Toolik Lake Re 63.76 21 P P 20 23 52.5 +1.0
baz=252
C23K Itkillik River 63.80 20 P P 20 23 52.3 +0.7
baz=250
NRN Naryn 63.87 308 P P 20 23 52.5 -0.6
NRN Naryn 63.87 308 P P 20 23 52.5 -0.6
NRN pmax pmax
comp=Z,6.0nm,1.2s
KSH Kashi 63.95 306 P P 20 23 55.8 +2.4
KSH sP sP 20 24 16.8 +4.9
KSH pmax pmax
comp=Z,6.0nm,0.9s
KSH LR LR
comp=Z,240nm,13.7s
KSH LR LR
comp=Z,190nm,14.4s
KSH LR LR
comp=Z,230nm,15.8s
E24K Your Creek 63.98 22 P P 20 23 53.5 +0.5
baz=253
F24K Squaw Lake 64.04 23 P P 20 23 54.4 +1.1
baz=254
D24K Happy Valley 64.18 21 P P 20 23 55.4 +1.2
baz=252
C24K Franklin Bluff 64.39 20 P P 20 23 56.4 +0.8
baz=252
H25L Birch Creek 64.51 24 P P 20 23 57.0 +0.6
baz=257
HYB Hyderabad 64.52 281 *eP* **P 20 23 56.3 -1.1**
SCRK Sand Creek 64.80 27 P P 20 23 57.6 -0.9
SCRK IAmb IAmb 20 24 24.7
comp=Z,19nm,1.6s
SCRK Sand Creek 64.80 27 P P 20 23 58.6 +0.1
baz=260
SGDS Sogindy 64.82 310 *eP* **P 20 23 58.8 -0.1**
SGDS pmax pmax
comp=Z,12nm,2.3s
SGDS Sogindy 64.82 310 *eP* **P 20 23 58.8 -0.1**
comp=Z,12nm,2.3s,baz=310
FRU1 Bishkek 64.84 309 P P 20 23 58.7 -0.4
FRU1 IAmb IAmb 20 24 13.7
comp=Z,8.9nm,0.4s
FRU1 Bishkek 64.84 309 P P 20 23 58.7 -0.4
FRU1 pmax pmax
comp=Z,9.0nm,0.4s
F25K Christian Rive 64.89 23 P P 20 24 00.1 +1.2
baz=256
AAK Ala-Archa 64.95 309 P P 20 23 59.4 -0.5
AAK Ala-Archa 64.95 309 *ce*P **P 20 24 00.1 +0.2**
AAK pmax pmax
comp=Z,7.0nm,1.7s
AAK Ala-Archa 64.95 309 LR LR 20 53 37.8
comp=Z,212nm,20.6s,baz=87,slow=37
AAK Ala-Archa 64.95 309 P P 20 23 60.0 +0.1
D25K Kavik River 65.06 21 P P 20 24 00.8 +0.8
baz=255
J26L Joseph Creek 65.07 27 P P 20 24 00.4 +0.2
baz=260
BTLS Baital 65.20 312 *eP* **P 20 24 01.3 0.0**
BTLS pmax pmax
comp=Z,7.0nm,0.8s
BTLS Baital 65.20 312 *eP* **P 20 24 01.3 0.0**
comp=Z,7.4nm,0.8s,baz=312
BMAR Burnt Mountain 65.25 23 P P 20 24 02.3 +1.1
G26K Porcupine Rive 65.45 24 P P 20 24 03.6 +1.1
baz=258
GVZ Greta Valley S 65.46 159 P P 20 24 03.1 +0.3
F26K Sheenjek River 65.47 23 P P 20 24 03.6 +1.0
baz=258
L27K Beaver Creek, 65.60 28 P P 20 24 03.4 -0.2
baz=262
C26K Camden Bay 65.71 21 P P 20 24 05.5 +1.4
baz=256
BRZS Berezniki 66.08 317 *eP* **P 20 24 06.2 -0.7**
BRZS pmax pmax
comp=Z,5.0nm,0.9s
BRZS Berezniki 66.08 317 *eP* **P 20 24 06.3 -0.7**
comp=Z,4.6nm,0.9s,baz=317
ARSB Arslanbob 66.14 308 P P 20 24 07.2 -0.4
ARSB Arslanbob 66.14 308 P P 20 24 07.2 -0.4
ARSB pmax pmax
comp=Z,3.0nm,1.0s
H27K Steamboat Moun 66.21 25 P P 20 24 08.5 +1.0
baz=261
NIL Nilore 66.62 299 P P 20 24 09.6 -1.1
NIL IAmb IAmb 20 24 11.9
comp=Z,13nm,0.9s
NIL Nilore 66.62 299 P P 20 24 09.6 -1.1
NIL pmax pmax
comp=Z,13nm,0.9s
NIL Nilore 66.62 299 P P 20 24 10.7 0.0
NIL pP **pwP 20 24 26.1 -2.5**
I28M Miner Creek 66.74 26 P P 20 24 11.1 +0.1
baz=263
DAWY Dawson 66.81 27 P P 20 24 11.4 0.0
DAWY IAmb IAmb 20 24 17.6
comp=Z,11nm,1.3s
DAWY Dawson 66.81 27 P P 20 24 11.9 +0.5
baz=264
D27M Malcolm River 66.92 22 P P 20 24 13.3 +1.3
baz=260
F28M Old Crow 67.06 23 P P 20 24 13.6 +0.7
baz=262
M29M Somme Creek 67.07 29 P P 20 24 14.7 +1.5
baz=265
DRK Karamyk 67.18 306 P P 20 24 13.8 -0.7
DZA Taraz 67.26 310 *eP* **P 20 24 14.4 -0.2**
DZA Taraz 67.26 310 *eP* **P 20 24 14.4 -0.2**
baz=310
L29M L29M 67.28 28 P P 20 24 15.6 +1.3
baz=265
E28M Babbage River 67.33 22 P P 20 24 15.8 +1.2
baz=262
H29M Whitestone 67.47 25 P P 20 24 16.1 +0.6
baz=264
BVAR Borovoye Array 67.50 321 P P 20 24 14.7 -1.2
comp=Z,22nm,0.6s,baz=94,slow=7.6,SNR=67
BVAR LR LR 20 54 44.1
comp=Z,286nm,21.5s,baz=82,slow=37
comp=Z,22nm,0.6s
BRVK Borovoye 67.56 321 P P 20 24 15.3 -0.9
BRVK IAmb IAmb 20 24 17.0
comp=Z,17nm,0.8s
BRVK Borovoye 67.56 321 *ce*P **P 20 24 15.6 -0.6**
BRVK pmax pmax
comp=Z,23nm,1.0s
BRVK Borovoye 67.56 321 P P 20 24 15.6 -0.6
BRVK pP **pP 20 24 30.6 +1.2**
K29M Barlow Dome 67.61 28 P P 20 24 17.3 +0.8
baz=266
G29M Pine Creek 67.69 24 P P 20 24 17.4 +0.6
baz=264
D28M Stokes Point 67.72 22 P P 20 24 18.4 +1.5
baz=262
KK31 Karatay Array 67.84 310 P P 20 24 17.5 -0.7
KK31 IAmb IAmb 20 24 19.4
comp=Z,12nm,0.8s
KK31 Karatay Array 67.84 310 P P 20 24 17.5 -0.7
KK31 pmax pmax
comp=Z,12nm,0.9s
KKAR Karatay Array 67.84 310 P P 20 24 17.5 -0.8
KKAR Karatay Array 67.84 310 P P 20 24 17.5 -0.8
M30M Minto, Yukon 67.85 29 P P 20 24 19.2 +1.3
baz=267
E29M Blow River 67.90 23 P P 20 24 19.7 +1.6
baz=263
EPYK Eagle Plains 68.15 25 P P 20 24 20.5 +0.7
baz=265
J30M Hart River 68.18 27 P P 20 24 20.1 0.0
J30M IAmb IAmb 20 24 21.8
comp=Z,16nm,1.4s
J30M Hart River 68.18 27 P P 20 24 20.3 +0.2
baz=266
I30M Mount Dempster 68.21 26 P P 20 24 21.0 +0.8
baz=266
IUG luzhnay 68.28 309 *eP* **P 20 24 21.1 0.0**
IUG luzhnay 68.28 309 *eP* **P 20 24 21.1 0.0**
baz=309
BRLS Borolday 68.34 310 *eP* **P 20 24 21.9 +0.6**
BRLS Borolday 68.34 310 *eP* **P 20 24 22.0 +0.6**
baz=310
GAR Garm 68.37 305 P P 20 24 20.8 -1.0
GAR IAmb IAmb 20 24 23.6
comp=Z,10nm,1.0s
F30M Barrier River 68.62 24 P P 20 24 23.4 +0.8
baz=266
M31M Drury Creek, Y 68.96 30 P P 20 24 26.1 +1.3
baz=269
H31M Peel River 69.08 26 P P 20 24 26.0 +0.4
baz=268
G31M Satah River 69.16 24 P P 20 24 26.3 +0.4
baz=267
CHGR Chuyangaron 69.31 305 P P 20 24 26.9 -0.7
CHGR IAmb IAmb 20 24 29.9
comp=Z,20nm,0.8s
CHGR Chuyangaron 69.31 305 P P 20 24 26.9 -0.7
CHGR pmax pmax
comp=Z,20nm,0.8s
SIMJ Simiganj 69.43 305 P P 20 24 26.9 -1.5
SIMJ Simiganj 69.43 305 P P 20 24 27.8 -0.6
INK Inuvik 69.51 23 P P 20 24 27.7 -0.4
INK Inuvik 69.51 23 P P 20 24 27.7 -0.4
INK pmax pmax
comp=Z,9.0nm,1.1s
INK Inuvik 69.51 23 P P 20 24 28.1 +0.1
baz=268
INK Inuvik 69.51 23 LR LR 20 53 31.9
comp=Z,136nm,21.4s,baz=194,slow=35
N32M Quiet Lake 69.58 31 P P 20 24 29.8 +1.1
baz=271
KBL Kabul 69.96 301 P P 20 24 30.6 -1.1
KBL IAmb IAmb 20 24 34.1
comp=Z,21nm,1.8s
KBL Kabul 69.96 301 P P 20 24 30.7 -1.1
KBL pmax pmax
comp=Z,21nm,1.8s
TGTN Hyland Airport 71.88 30 P P 20 24 43.4 +0.7
baz=275
PPT Papeete 72.03 116 LR LR 20 49 38.9
comp=Z,404nm,19.3s,baz=316,slow=30
PPT2 Papeete2 72.04 116 *e*S **S 20 34 07.5 +4.8**
comp=Z,150nm,32.5s
PPT2 Papeete2 72.04 116 *e*LR LR 20 46 27.5
comp=Z,508nm,25.2s
PPT2 *e*LR LR 20 46 42.5
comp=Z,668nm,24.2s
A36M Sachs Harbour 72.29 19 P P 20 24 44.7 -0.2
A36M Sachs Harbour 72.29 19 P P 20 24 45.0 +0.1
baz=274
SVE Sverdlovsk 72.87 325 *eP* **P 20 24 48.4 -0.2**
SVE pmax pmax
comp=Z,33nm,1.1s
C36M Paulatuk 72.91 22 P P 20 24 48.5 -0.1
baz=276
BBB Bella Bella 72.97 40 LR LR 20 51 22.8
comp=Z,274nm,20.8s,baz=252,slow=31
WRGLY Wrigley 73.92 28 P P 20 24 56.1 +1.5
baz=278
ARU Arti 74.06 325 P P 20 24 54.9 -0.7
ARU IAmb IAmb 20 24 55.8
comp=Z,21nm,1.0s
ARU Arti 74.06 325 *c i*P **P 20 24 54.9 -0.7**
ARU S **S 20 34 26.2 +1.8**
ARU SS **SS 20 39 12.6 +3.0**
ARU pmax pmax
comp=Z,27nm,1.0s
ARU Arti 74.06 325 LR LR 20 59 05.2
comp=Z,151nm,21.4s,baz=85,slow=37
ABKAR Akbulak array 74.38 317 P P 20 24 56.2 -1.4
ABKAR Akbulak array 74.38 317 P P 20 24 56.3 -1.4
TBI Tubuai 74.74 121 *e*LR LR 20 47 52.4
comp=Z,792nm,25.5s
AKTO Aktyubinsk 75.40 319 LR LR 21 00 18.1
comp=Z,341nm,18.0s,baz=69,slow=37
GEYT Alibeck 77.98 306 P P 20 25 17.6 -0.8
GEYT Alibeck 77.98 306 P P 20 25 17.6 -0.8
GEYT Alibeck 77.98 306 P P 20 25 18.0 -0.4
comp=Z,2.3nm,0.8s,baz=66,slow=3.6,SNR=5.6
comp=Z,2.3nm,0.8s
YKA Yellowknife Ar 78.04 28 P P 20 25 17.3 -0.8
YKA Yellowknife Ar 78.04 28 *i* P **P 20 25 18.2 +0.1**
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 78.04 28 P P 20 25 17.9 -0.2
comp=Z,2.7nm,0.8s,baz=288,slow=5.7,SNR=37
comp=Z,2.7nm,0.8s
H04A Detroit Lake 78.25 47 P P 20 25 18.5 -1.2
KIRV Kirov 78.43 328 *ce*P **P 20 25 20.1 -0.2**
KIRV Kirov 78.43 328 LR LR 21 01 27.2
comp=Z,167nm,21.6s,baz=75,slow=37
KCPM Cahto Peak 78.44 52 P P 20 25 20.4 -0.6
YBH Yreka Blue Hor 78.59 50 LR LR 20 52 51.6
comp=Z,262nm,20.5s,baz=283,slow=30
PINE Pine Mountain 79.34 47 P P 20 25 25.5 -0.5
PINE IAmb IAmb 20 25 28.7
comp=Z,14nm,1.0s
K05A Summer Lake 79.65 48 P P 20 25 28.1 +0.5
RES Resolute Bay 79.74 14 P P 20 25 27.9 +0.7
RES IAmb IAmb 20 25 28.8
comp=Z,13nm,0.9s
RES Resolute Bay 79.74 14 P P 20 25 27.9 +0.7
RES pmax pmax
comp=Z,13nm,1.0s
RES Resolute Bay 79.74 14 LR LR 20 59 32.9
comp=Z,56nm,21.9s,baz=358,slow=35
SPB1 Spitsbergen Ar 79.86 351 P P 20 25 28.6 +0.7
SPB1 IAmb IAmb 20 25 39.9
comp=Z,52nm,1.4s
SPA0 Spitsbergen Ar 79.86 351 *eP* **P 20 25 29.9 +2.0**
SPITS Spitsbergen Ar 79.86 351 P P 20 25 28.9 +1.0
SPITS pmax pmax
comp=Z,64nm,1.5s
SPITS Spitsbergen Ar 79.86 351 P P 20 25 28.9 +1.0
comp=Z,10nm,1.0s,baz=86,slow=5.9,SNR=10
SPITS LR LR 21 01 50.5
comp=Z,106nm,21.2s,baz=9.0,slow=36
comp=Z,10nm,1.0s
KBS Kingsbay 79.97 352 P P 20 25 28.9 +0.5
KBS Kingsbay 79.97 352 P P 20 25 28.9 +0.5
KBS pmax pmax
comp=Z,69nm,1.6s
KBS Kingsbay 79.97 352 *eP* **P 20 25 30.4 +2.0**
KBS Kingsbay 79.97 352 *i* P **P 20 25 32.2 +3.8**
NOR Nord 80.09 358 *i* P **P 20 25 31.0 +2.0**
NOR IAmb IAmb 20 25 35.6
comp=Z,1.3nm,0.7s
NEW Newport 80.69 42 P P 20 25 32.5 -0.5
NEW Newport 80.69 42 P P 20 25 32.5 -0.5
NEW pmax pmax
comp=Z,6.0nm,1.0s
NEW Newport 80.69 42 P P 20 25 33.8 +0.8
baz=287
NEW Newport 80.69 42 LR LR 20 55 53.0
comp=Z,283nm,19.9s,baz=315,slow=32
J08A Circle Bar Ran 81.19 47 P P 20 25 35.8 0.0
BELG Belogornoye 81.21 322 *eP* **P 20 25 34.9 -0.6**
BELG pmax pmax
comp=Z,6.0nm,0.9s
BELG Belogornoye 81.21 322 LR LR 21 03 32.6
comp=Z,250nm,19.4s,baz=141,slow=37
CMB Columbia Colle 81.28 53 P P 20 25 36.5 +0.3
CMB Columbia Colle 81.28 53 P P 20 25 36.6 +0.3
CMB pmax pmax
comp=Z,11nm,1.5s
BMO Blue Mountains 81.56 46 P P 20 25 37.6 -0.1
BMO Blue Mountains 81.56 46 P P 20 25 37.6 -0.1
BMO pmax pmax
comp=Z,6.0nm,1.2s
PNTR Pine Nut 81.58 52 P P 20 25 37.1 -1.0
PNTR IAmb IAmb 20 25 59.7
comp=Z,7.1nm,0.7s
VADS Vadso 81.86 342 *eP* **P 20 25 38.9 +0.2**
YERR Yerington 81.88 52 P P 20 25 37.9 -1.8
KLMR Klimovskoe 82.39 332 *eP* **P 20 25 38.1 -3.5**
KLMR pmax pmax
comp=Z,50nm,1.5s
PKM Mcpherson Peak 82.61 56 P P 20 25 44.9 +1.3
baz=287
NVAR Mina Array Bea 82.74 52 P P 20 25 44.0 -0.2
NVAR Mina Array Bea 82.74 52 P P 20 25 44.8 +0.6
comp=Z,2.8nm,0.8s,baz=264,slow=6.5,SNR=15
NVAR LR LR 20 56 04.0
comp=Z,191nm,20.1s,baz=298,slow=31
comp=Z,2.8nm,0.8s
KEV Kevo 82.75 342 P P 20 25 42.3 -0.9
KEV Kevo 82.75 342 P P 20 25 42.3 -0.9
KEV pmax pmax
comp=Z,52nm,1.1s
NV11 Mina Array Sit 82.85 52 P P 20 25 43.8 -0.9
HAMF Hammerfest 83.16 344 *eP* **P 20 25 44.9 -0.5**
ARA0 ARCESS Array S 83.31 342 *eP* **P 20 25 46.4 +0.1**
ARCES ARCESS Array B 83.31 342 P P 20 25 45.9 -0.3
ARCES ARCESS Array B 83.31 342 P P 20 25 45.9 -0.3
ARCES pmax pmax
comp=Z,43nm,0.9s
ARCES ARCESS Array B 83.31 342 P P 20 25 45.7 -0.5
comp=Z,29nm,0.8s,baz=62,slow=5.8,SNR=46
ARCES LR LR 21 06 12.7
comp=Z,196nm,21.7s,baz=68,slow=38
comp=Z,29nm,0.8s
NEEM North Greenlan 84.04 4 *i* P **P 20 25 50.2 0.0**
NEEM IAmb IAmb 20 25 55.1
comp=Z,9.0nm,0.7s
MPMC Manual Prospec 84.08 54 P P 20 25 51.1 +0.1
baz=288
LRMC Laurel Mtn Rad 84.11 55 P P 20 25 52.1 +0.9
baz=288
KTK1 Kautokeino 84.27 342 *eP* **P 20 25 51.0 -0.1**
ELK Elko 84.27 49 P P 20 25 51.9 -0.1
ELK Elko 84.27 49 P P 20 25 51.9 -0.1
ELK pmax pmax
comp=Z,4.0nm,0.9s
ELK Elko 84.27 49 LR LR 20 57 08.8
comp=Z,298nm,20.3s,baz=293,slow=31
LRM Limekiln Ridge 84.49 44 P P 20 25 52.6 -0.5
MCMT McKenzie Canyo 84.57 45 P P 20 25 53.3 -0.2
JETT Jettan, Norway 84.72 343 *eP* **P 20 25 54.0 +0.6**
R11B Troy Canyon, C 84.80 51 P P 20 25 55.8 +1.2
baz=289
GSC Goldstone, Bar 84.84 55 P P 20 25 56.2 +1.4
baz=289
DAG Danmarks Havn 84.88 357 *i* P **P 20 25 54.0 0.0**
DAG IAmb IAmb 20 25 56.0
comp=Z,4.9nm,0.8s
TRO Tromso 85.06 344 *eP* **P 20 25 55.0 0.0**
BOZ Bozeman (W) 85.11 44 P P 20 25 55.0 -1.0
BOZ IAmb IAmb 20 26 37.4
comp=Z,19nm,1.8s
BOZ Bozeman (W) 85.11 44 P P 20 25 55.0 -1.0
BOZ pmax pmax
comp=Z,19nm,1.8s
BOZ Bozeman (W) 85.11 44 P P 20 25 57.3 +1.3
baz=291
EGMT Eagleton 85.42 41 P P 20 25 57.6 +0.1
baz=292
PFO Pinyon Flats O 85.65 56 LR LR 21 04 19.4
comp=Z,102nm,19.1s,baz=233,slow=36
YHL Hebgen Lake 85.67 44 P P 20 25 59.0 0.0
YHL IAmb IAmb 20 26 15.8
comp=Z,8.7nm,1.0s
HVU Hansel Valley 85.68 48 P P 20 25 58.6 -0.4
HVU IAmb IAmb 20 26 17.7
comp=Z,7.2nm,1.2s
HVU Hansel Valley 85.68 48 P P 20 25 58.6 -0.4
HVU pmax pmax
comp=Z,7.0nm,1.2s
VALR Valaam 85.88 334 *i* P **P 20 25 58.3 -1.0**
VALR pmax pmax
comp=Z,24nm,0.9s
YHH Holmes Hill 85.92 44 P P 20 25 59.6 -0.7
DUG Dugway, Tooele 86.20 49 P P 20 26 01.1 -0.5
DUG IAmb IAmb 20 26 12.2
comp=Z,6.0nm,1.1s
DUG Dugway, Tooele 86.20 49 P P 20 26 01.1 -0.5
DUG pmax pmax
comp=Z,6.0nm,1.1s
DUG Dugway, Tooele 86.20 49 P P 20 26 02.2 +0.6
baz=291
H17A Grant Village 86.24 44 P P 20 26 05.3 +3.4
baz=292
OBN Obninsk 86.25 327 *eP* **P 20 26 01.0 -0.2**
OBN *e* 20 29 23.0
OBN *e*PPP PPP 20 31 15.8
OBN pmax pmax
comp=Z,4.0nm,1.0s
OBN Obninsk 86.25 327 LR LR 21 06 11.8
comp=Z,277nm,21.8s,baz=9.5,slow=37
LKWY Lake 86.30 44 P P 20 26 02.4 +0.3
LKWY IAmb IAmb 20 26 19.7
comp=Z,9.4nm,1.2s
LKWY Lake 86.30 44 P P 20 26 02.4 +0.3
LKWY pmax pmax
comp=Z,9.0nm,1.2s
VORR Voronezh 86.31 323 *eP* **P 20 25 58.0 -3.6**
VORR pmax pmax
comp=Z,10.0nm,0.4s
MOOW Moose Ponds 86.37 45 P P 20 26 02.2 -0.2
MOOW IAmb IAmb 20 26 09.1
comp=Z,18nm,2.0s
YMP Mirror Lake Pl 86.39 44 P P 20 26 02.0 -0.6
AHID Auburn Hatcher 86.49 46 P P 20 26 02.2 -0.8
AHID IAmb IAmb 20 26 19.7
comp=Z,11nm,1.3s
VSR Storozhevoye 86.53 323 *eP* **P 20 25 59.1 -3.6**
VSR pmax pmax
comp=Z,10.0nm,1.3s
VORD Divnogorie 86.56 323 *eP* **P 20 25 59.5 -3.4**
VORD pmax pmax
comp=Z,3.0nm,0.4s
RLMT Red Lodge 86.83 43 P P 20 26 04.1 -0.5
RLMT IAmb IAmb 20 26 08.2
comp=Z,38nm,2.0s
RLMT Red Lodge 86.83 43 P P 20 26 06.1 +1.4

baz=293
FFC Flin Flon 87.05 33 P **P** **20 26 04.5 -0.6**
FFC Flin Flon 87.05 33 P **P** **20 26 04.6 -0.6**
FFC pmax pmax
comp=Z,43nm,1.8s
KBZ Khabaz 87.20 315 *i* P **P** **20 26 05.0 -1.1**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 87.20 315 P **P** **20 26 06.8 +0.6**
comp=Z,2.6nm,0.8s,baz=89,slow=4.2,SNR=9.7
KBZ LR LR 21 07 52.7
comp=Z,248nm,20.8s,baz=68,slow=38
comp=Z,2.6nm,0.8s
STEI Steigen 87.21 344 *e*P **P** **20 26 05.5 -0.1**
PDMCI Parker Dam,Lak 87.24 55 P **P** **20 26 08.0 +1.5**
baz=290
KIV Kislovodsk 87.25 315 *e*P **P** **20 26 07.1 +0.5**
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR
comp=Z,100nm,20.0s
GNI Garni 87.25 311 LR LR 21 08 41.0
comp=Z,82nm,21.1s,baz=89,slow=38
DBG Daneborg 87.38 356 *i* P **P** **20 26 05.5 -0.9**
DBG IAmb IAmb 20 26 07.5
comp=Z,4.8nm,0.7s
PDAR Pinedale Array 87.54 46 P **P** **20 26 08.2 0.0**
PDAR Pinedale Array 87.54 46 P **P** **20 26 08.1 -0.1**
comp=Z,0.6nm,0.9s,baz=280,slow=0.9,SNR=5.1
PDAR LR LR 21 00 18.2
comp=Z,122nm,20.2s,baz=316,slow=32
comp=Z,0.6nm,0.9s
FAUS Fauske 87.58 343 *e*P **P** **20 26 07.2 -0.3**
FIA1 FINESS Array S 87.78 336 P **P** **20 26 06.8 -1.8**
FINES FINESS Array B 87.78 336 P **P** **20 26 06.6 -1.9**
FINES FINESS Array B 87.78 336 P **P** **20 26 06.8 -1.7**
comp=Z,8.7nm,0.7s,baz=60,slow=5.1,SNR=64
FINES LR LR 21 08 42.3
comp=Z,133nm,19.4s,baz=58,slow=38
comp=Z,8.7nm,0.7s
U15A North Rim 87.91 52 P **P** **20 26 09.3 -0.8**
LAO LASA Array 88.16 41 P **P** **20 26 12.1 +1.3**
baz=295
MOR8 Moi Rana 88.68 342 *e*P **P** **20 26 11.2 -1.6**
WUAZ Wupatki 88.94 53 P **P** **20 26 14.7 -0.1**
WUAZ IAmb IAmb 20 26 17.3
comp=Z,9.2nm,1.1s
WUAZ Wupatki 88.94 53 P **P** **20 26 16.3 +1.5**
baz=292
214A Organ Pipe Nat 89.10 57 P **P** **20 26 17.0 +1.5**
baz=291
VSU Vasula 89.21 333 *ce*P **P** **20 26 14.0 -1.3**
VSU pmax pmax
comp=Z,27nm,2.5s
SUMG Summit 89.44 2 *i* P **P** **20 26 16.4 -0.3**
SUMG IAmb IAmb 20 26 21.3
comp=Z,2.5nm,0.7s
O20A White River Ci 89.47 48 P **P** **20 26 18.4 +1.1**
baz=294
GURO Guroymak-BITLI 89.80 311 P **P** **20 26 17.5 -1.3**
GURO IAmb IAmb 20 26 19.2
comp=Z,13nm,1.6s
MVCO Mesa Verde 90.44 51 P **P** **20 26 23.1 +1.2**
baz=293
NSS Namsos 90.59 342 *e*P **P** **20 26 20.8 -0.9**
N23A Red Feather La 90.76 46 P **P** **20 26 23.1 -0.3**
N23A Red Feather La 90.76 46 P **P** **20 26 25.1 +1.7**
baz=295
MNK Minsk 90.91 329 *i* P **P** **20 26 21.8 -1.6**
comp=E,2.0nm,0.9s
MNK *i* P **P** **20 26 21.8 -1.6**
comp=N,9.0nm,1.0s
MNK *i* P **P** **20 26 21.8 -1.6**
comp=Z,21nm,0.9s,baz=56
MNK *i* pP **pP** **20 26 38.8 +1.7**
MNK *i* sP pwP 20 26 56.0 +14
MNK *i* PP **PP** **20 29 58.1 -1.2**
MNK *i* PPP PPP 20 31 56.3
MNK *i* S **SKSac** **20 36 47.4 -3.6**
MNK *i* sS **ScS** **20 37 21.3 +1.7**
MNK *i* SP **SP** **20 38 15.1 -8.2**
MNK *i* LQ LQ 21 01 11.4
MNK *i* LR LR 21 04 51.7
MNK *i* LRM MLR 21 07 16.5
comp=E,50nm,19.4s
MNK *i* LRM MLR 21 07 50.1
comp=N,155nm,17.6s
MNK *i* LRM MLR 21 08 11.1
comp=Z,201nm,19.9s
MNK Minsk 90.91 329 *i* P **P** **20 26 21.7 -1.6**
MNK *i* *PP **pP** **20 26 38.7 +1.7**
MNK *i* 20 29 58.0
MNK *i* PPP PPP 20 31 56.3
MNK *i* S **SKSac** **20 36 47.4 -3.6**
MNK *i* *SS **ScS** **20 37 21.3 +1.7**
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,21nm,0.9s
MNK pmax pmax
comp=N,9.0nm,1.0s
MNK MLR MLR
comp=E,50nm,19.0s
MNK MLR MLR
comp=N,155nm,18.0s
MNK MLR MLR
comp=Z,201nm,20.0s
AAL Aland 90.91 336 *e*P **P** **20 26 20.7 -2.6**
ISAL Salakas 91.14 331 *e*P **P** **20 26 25.5 +1.0**
ISCO Idaho Springs 91.45 47 P **P** **20 26 27.4 +0.8**
baz=295
VSVD Vaisvydziai 91.90 332 *e*P **P** **20 26 26.6 -1.3**
UPP Uppsala 92.02 337 *e*P **P** **20 26 26.5 -1.9**
TBLU Trondheim 92.05 342 *e*P **P** **20 26 27.1 -1.3**
PABE Paberze 92.17 331 P **P** **20 26 27.3 -1.9**
PABE Paberze 92.17 331 *e*P **P** **20 26 28.0 -1.2**
AKASG Malin Array Be 92.29 326 P **P** **20 26 29.0 -0.9**
comp=Z,0.4nm,0.4s,baz=54,slow=2.0,SNR=1.7
AKASG LR LR 21 11 38.5
comp=Z,178nm,19.3s,baz=48,slow=38
comp=Z,0.4nm,0.4s
AKBB Malin Array Si 92.29 326 *i* P **P** **20 26 29.4 -0.5**
AKBB pmax pmax
comp=Z,2.0nm,1.0s
ULM Lac du Bonnet 92.52 35 P **P** **20 26 30.6 -0.3**
comp=Z,2.3nm,0.8s,baz=292,slow=8.4,SNR=3.8
ULM LR LR 21 08 11.8
comp=Z,203nm,18.1s,baz=300,slow=36
comp=Z,2.3nm,0.8s
RAYN Ar Rayn 92.66 296 P **P** **20 26 30.2 -2.0**
RAYN IAmb IAmb 20 26 32.4
comp=Z,12nm,1.4s
RAYN Ar Rayn 92.66 296 P **P** **20 26 30.3 -2.0**
RAYN pmax pmax
comp=Z,12nm,1.5s
ANMO Albuquerque 92.87 52 P **P** **20 26 34.1 +0.9**
baz=294
ANMO Albuquerque 92.87 52 LR LR 21 01 22.5
comp=Z,126nm,21.1s,baz=22,slow=31
ICESG Greenland Ice 92.89 2 *i* P **P** **20 26 32.3 -0.4**
ICESG IAmb IAmb 20 26 34.6
comp=Z,4.7nm,0.8s
HFS Hagfors 93.25 338 P **P** **20 26 32.3 -1.8**
comp=Z,1.8nm,0.6s,baz=64,slow=3.4,SNR=12
HFS LR LR 21 11 39.9
comp=Z,152nm,19.8s,baz=52,slow=38
comp=Z,1.8nm,0.6s
VIKU Vikbolandet 93.29 336 *e*P **P** **20 26 32.3 -1.9**
NB2 NORSAR Subarra 93.42 340 P **P** **20 26 33.4 -1.5**
NB2 NORSAR Subarra 93.42 340 P **P** **20 26 33.2 -1.7**
comp=Z,2.3nm,0.8s,baz=43,slow=5.1
NB2 NORSAR Subarra 93.42 340 P **P** **20 26 33.2 -1.7**
baz=43,slow=5.1
NOA NORSAR Array B 93.42 340 P **P** **20 26 33.2 -1.7**
comp=Z,1.4nm,0.7s,baz=44,slow=4.8,SNR=8.3
NOA LR LR 21 12 55.0
comp=Z,118nm,20.4s,baz=35,slow=38
comp=Z,1.4nm,0.7s
SUW Suwalki 93.44 330 P **P** **20 26 32.6 -2.4**
SUW Suwalki 93.44 330 P **P** **20 26 32.6 -2.4**
SUW pmax pmax
comp=Z,25nm,1.0s
SUW Suwalki 93.44 330 *e*P **P** **20 26 34.0 -1.1**
NC602 NORSAR Array S 93.53 340 *e*P **P** **20 26 35.2 -0.2**
LPIG La Paz 94.00 63 LR LR 21 00 24.1
comp=Z,230nm,20.9s,baz=242,slow=30
SFJD Kangerlussuaq 94.14 7 LR LR 21 11 19.5
comp=Z,34nm,20.2s,baz=349,slow=37
MNTX Cornudas Mount 95.03 55 P **P** **20 26 44.9 +1.9**
baz=295
BRTR Keskin Array B 95.17 315 *i* P **P** **20 26 41.7 -1.9**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 95.17 315 P **P** **20 26 41.1 -2.5**
comp=Z,1.4nm,0.9s,baz=116,slow=3.1,SNR=7.2
BRTR LR LR 21 13 34.4
comp=Z,96nm,20.6s,baz=58,slow=38
comp=Z,1.4nm,0.9s
VNDA Vanda 95.88 177 LR LR 21 09 20.0
comp=Z,70nm,18.0s,baz=338,slow=35
BORG Borgarnes 96.86 355 LR LR 21 11 09.5
comp=Z,27nm,19.5s,baz=19,slow=36
MLR Muntele Rosu 97.00 322 LR LR 21 12 51.4
comp=Z,207nm,21.2s,baz=66,slow=37
EIL Elat 98.86 305 LR LR 21 17 03.4
comp=Z,71nm,19.2s,baz=64,slow=39
VRAC Vranov 99.60 329 LR LR 21 14 05.7
comp=Z,170nm,21.0s,baz=44,slow=37
CLL Collm 99.86 333 *i* Pdif **Pdif** **20 27 02.3 -1.9**
CLL L L 21 15 00.0
comp=Z,200nm,19.1s
ESDC Sonseca Array 116.29 335 PP **PP** **20 33 06.7 -1.9**
comp=Z,2.8nm,1.0s,baz=21,slow=7.2,SNR=7.3
TORD Torodi Ar. Bea 133.53 310 PKP **PKPdf** **20 32 35.8 -1.0**
comp=Z,0.7nm,0.8s,baz=48,slow=3.9,SNR=3.2
TORD SKPbc **SKPbc** **20 36 00.7 -0.6**
comp=Z,0.9nm,0.7s,baz=37,slow=4.1,SNR=4.2
PLCA Paso Flores 140.94 133 PKPdf **PKPdf** **20 32 50.2 +0.3**
PLCA Paso Flores 140.94 133 PKIKP **PKPdf** **20 32 50.2 +0.3**
PLCA Paso Flores 140.94 133 PKP **PKPdf** **20 32 50.6 +0.7**
comp=Z,4.3nm,1.0s,baz=216,slow=2.9,SNR=5.8
LCO Las Campanas 144.20 115 PKPdf **PKPab** **20 32 54.9 +0.7**
LCO Las Campanas 144.20 115 PKIKP **PKPab** **20 32 54.9 +0.7**
CO01 Juntas del Tor 144.56 116 PKPdf **PKPab** **20 32 56.2 +0.8**
AC06 Mina Casimiro 144.74 112 PKPdf **PKPab** **20 32 56.5 +0.6**
PB11 IPOC Station P 145.63 99 PKPdf **PKPdf** **20 32 57.4 -1.4**
PB01 IPOC Station P 145.84 101 PKPbc **PKPdf** **20 32 58.7 -0.4**
LPAZ La Paz 146.72 92 PKPbc **PKPdf** **20 33 02.8 +1.4**
comp=Z,7.3nm,1.1s,baz=311,slow=3.2,SNR=12

*SJA **10** 20:16:56.2± 1.2, 22°.36S × 67°.31W, h150km, ML4.0, MW3.8*
*NEIC **10** 20:16:56.9± 1.4, 22°.41S ± 0°.05 × 67°.51W ± 0°.10, h188km ± 6km, mb4.2/9, Error ellipse: s-maj=13.4km s-min=7.4km az=75.0.*
*VAO **10** 20:16:56.8 ± 0.3, 22°.33S × 67°.57W, h193km ± 4km, mb4.0*
*IDC **10** 20:16:56.2 ± 0.8, 22°.29S × 67°.31W, h166km ± 9km, mb3.7/4, mbtmp4.1/9, Error ellipse: s-maj=17.6km s-min=11.2km az=124.0*
*SCB **10** 20:16:57.1 ± 1.5, 22°.43S × 67°.45W, h165km ± 14km, ML4.2/3, MW4.4, Error ellipse: s-maj=9.1km s-min=3.5km az=0.0*
*GUC **10** 20:16:58.2 ± 0.7, 22°.41S × 67°.55W, h182km ± 6km, ML4.3*
ISC 10 20:16:56.6 ± 0.6, 22°.37S ± 0°.04 × 67°.45W ± 0°.04, h184km ± 6km, n146, σ1°23/186, mb4.2/5, 8C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AF01	**San Pedro de A**	**0.89**	**229**		**Pn**	**20 17 24.6**	**+0.2**
AF01				Sn	**Sn**	**20 17 45.8**	**0.0**
AF01	**San Pedro de A**	**0.89**	**229**	*e*P	**Pn**	**20 17 24.5**	**+0.2**
LVC	**Limon Verde**	**1.37**	**260**	Pn	**Pn**	**20 17 28.2**	**+0.1**
LVC				Sn	**Sn**	**20 17 51.6**	**-0.9**
LVC	**Limon Verde**	**1.37**	**260**	*e*P	**Pn**	**20 17 28.5**	**+0.4**
LVC				*e*S	**Sn**	**20 17 53.6**	**+1.1**
LVC	**Limon Verde**	**1.37**	**260**	P	**Pn**	**20 17 28.5**	**+0.4**
	302nm,0.3s,baz=70,slow=6.6,SNR=635						
LVC				S	**Sn**	**20 17 51.2**	**-1.3**
	180nm,0.4s,baz=338,slow=23,SNR=7.0						
LVC	**Limon Verde**	**1.37**	**260**	*e*P	**Pn**	**20 17 28.4**	**+0.2**
LVC				*e*S	**Sn**	**20 17 51.6**	**-0.9**
LVC				IAML		20 17 53.3	
	2μm,0.4s						
LVC	**Limon Verde**	**1.37**	**260**	*e*P	**Pn**	**20 17 28.6**	**+0.5**
LVC				*e*S	**Sn**	**20 17 52.0**	**-0.5**
PB09	**IPOC Station P**	**1.76**	**288**		**Pn**	**20 17 32.5**	**+0.9**
PB09				Sn	**Sn**	**20 17 58.4**	**-0.3**
PB09	**IPOC Station P**	**1.76**	**288**	*e*P	**Pn**	**20 17 32.0**	**+0.4**
PB09				*e*S	**Sn**	**20 17 59.5**	**+0.8**
PB09				IAML		20 18 00.2	
	comp=Z,584nm,0.3s						
PB09	**IPOC Station P**	**1.76**	**288**	*e*P	**Pn**	**20 17 32.5**	**+0.9**
PB09				*e*S	**Sn**	**20 17 58.1**	**-0.6**
PB09	**IPOC Station P**	**1.76**	**288**	Pg	**Pn**	**20 17 31.4**	**-0.2**
YJA	**Yavi**	**1.80**	**84**	*e*P	**Pn**	**20 17 33.1**	**+0.7**
YJA				*e*S	**Sn**	**20 18 00.3**	**+0.3**
PB06	**IPOC Station P**	**1.99**	**260**	Pn	**Pn**	**20 17 33.9**	**0.0**
PB06	**IPOC Station P**	**1.99**	**260**	*e*P	**Pn**	**20 17 34.1**	**0.0**
PB06				*e*S	**Sn**	**20 18 03.6**	**+0.6**
PB06				IAML		20 18 06.9	
	comp=Z,330nm,0.2s						
PB06	**IPOC Station P**	**1.99**	**260**	*e*P	**Pn**	**20 17 34.0**	**0.0**
PB06				*e*S	**Sn**	**20 18 01.5**	**-1.5**
PB06				IAML		20 18 05.5	
	comp=E,1μm,0.1s						
MOCB	**Mochara**	**2.02**	**57**	Pg	**Pn**	**20 17 35.5**	**+0.9**
MOCB				Sg	**Sn**	**20 18 03.4**	**-0.7**
MOCB				IAML		20 18 05.2	
	comp=E,1μm,0.4s						
PB15	**IPOC Station P**	**2.04**	**245**		**Pn**	**20 17 34.8**	**+0.2**
PB15	**IPOC Station P**	**2.04**	**245**	*e*P	**Pn**	**20 17 35.0**	**+0.3**
PB15				*e*S	**Sn**	**20 18 04.1**	**-0.1**
PB15				IAML		20 18 05.8	
	comp=Z,2μm,0.3s						
PB15	**IPOC Station P**	**2.04**	**245**	*e*P	**Pn**	**20 17 34.8**	**+0.2**
PB15				*e*S	**Sn**	**20 18 03.3**	**-0.9**
PB15	**IPOC Station P**	**2.04**	**245**	Pg	**Pn**	**20 17 34.8**	**+0.2**
PB01	**IPOC Station P**	**2.31**	**304**		**Pn**	**20 17 37.8**	**+0.4**
PB01	**IPOC Station P**	**2.31**	**304**	*e*P	**Pn**	**20 17 37.2**	**-0.2**
PB01				*e*S	**Sn**	**20 18 09.1**	**-0.1**
PB01				IAML		20 18 10.6	
	comp=Z,519nm,0.2s						
PB01	**IPOC Station P**	**2.31**	**304**	*e*P	**Pn**	**20 17 37.6**	**+0.2**
PB01				*e*S	**Sn**	**20 18 07.8**	**-1.4**
PB01				IAML		20 18 09.9	
	comp=N,2μm,0.3s						
PB01	**IPOC Station P**	**2.31**	**304**	Pg	**Pn**	**20 17 37.7**	**+0.3**
PB01				Sg	**Sn**	**20 18 08.9**	**-0.3**
PB01				IAML		20 18 10.3	
	comp=N,758nm,0.3s						
PB07	**IPOC Station P**	**2.35**	**285**		**Pn**	**20 17 37.8**	**-0.2**
PB07	**IPOC Station P**	**2.35**	**285**	*e*P	**Pn**	**20 17 38.1**	**+0.2**
PB07				*e*S	**Sn**	**20 18 09.8**	**-0.3**
PB07				IAML		20 18 10.5	
	comp=Z,534nm,0.3s						
PB07	**IPOC Station P**	**2.35**	**285**	*e*P	**Pn**	**20 17 38.3**	**+0.3**
PB07				*e*S	**Sn**	**20 18 08.6**	**-1.5**
PB07				IAML		20 18 09.4	
	comp=E,832nm,0.2s						
PB02	**IPOC Station P**	**2.50**	**294**		**Pn**	**20 17 39.7**	**0.0**
PB02	**IPOC Station P**	**2.50**	**294**	*e*P	**Pn**	**20 17 39.5**	**-0.1**
PB02				*e*S	**Sn**	**20 18 12.2**	**-0.9**
PB02				IAML		20 18 15.3	
	comp=Z,949nm,0.3s						
PB02	**IPOC Station P**	**2.50**	**294**	*e*P	**Pn**	**20 17 39.7**	**0.0**
PB02				*e*S	**Sn**	**20 18 11.0**	**-2.1**
PB02				IAML		20 18 12.2	
	comp=N,720nm,0.2s						
PB02				IAML		20 18 16.7	
	comp=E,754nm,0.1s						
PB02	**IPOC Station P**	**2.50**	**294**	Pg	**Pn**	**20 17 39.7**	**0.0**
PB02				Sg	**Sn**	**20 18 11.5**	**-1.6**
PB02				IAML		20 18 12.3	
	comp=E,543nm,0.3s						
PB04	**IPOC Station P**	**2.50**	**270**		**Pn**	**20 17 39.7**	**0.0**
PB04	**IPOC Station P**	**2.50**	**270**	*e*P	**Pn**	**20 17 39.7**	**0.0**
PB04				*e*S	**Sn**	**20 18 11.9**	**-1.3**
PB04				IAML		20 18 14.2	
	comp=Z,664nm,0.4s						
PB04	**IPOC Station P**	**2.50**	**270**	*e*P	**Pn**	**20 17 39.5**	**-0.2**
PB04				*e*S	**Sn**	**20 18 10.6**	**-2.6**
PB04				IAML		20 18 14.1	
	comp=E,871nm,0.1s						
PB05	**IPOC Station P**	**2.59**	**259**		**Pn**	**20 17 40.4**	**-0.3**
AOVT	**TarijaAcel**	**2.68**	**73**	Pg	**Pn**	**20 17 42.5**	**+0.7**
PB08	**IPOC Station P**	**2.73**	**324**		**Pn**	**20 17 43.7**	**+1.2**
PB08	**IPOC Station P**	**2.73**	**324**	*e*P	**Pn**	**20 17 43.4**	**+0.8**
PB08				*e*S	**Sn**	**20 18 19.4**	**+1.1**
PB08				IAML		20 18 20.1	
	comp=Z,189nm,0.6s						
PB08	**IPOC Station P**	**2.73**	**324**	*e*P	**Pn**	**20 17 43.9**	**+1.4**
PB08				*e*S	**Sn**	**20 18 18.5**	**+0.1**
PB08				IAML		20 18 20.2	
	comp=N,381nm,0.7s						
PB08	**IPOC Station P**	**2.73**	**324**	Pg	**Pn**	**20 17 43.8**	**+1.2**
SLA	**San Lorenzo**	**2.95**	**143**	*e*P	**Pn**	**20 17 45.6**	**+0.6**
PATCX	**Punta Patache**	**2.95**	**301**		**Pn**	**20 17 44.7**	**-0.2**
PATCX	**Punta Patache**	**2.95**	**301**	*i* P	**Pn**	**20 17 44.9**	**0.0**
PATCX				*i* S	**Sn**	**20 18 21.1**	**-1.5**
PATCX				IAML		20 18 23.4	
	comp=N,618nm,0.2s						
PB10	**IPOC Station P**	**3.08**	**248**		**Pn**	**20 17 45.7**	**-0.7**
TA01	**Diego Aracena**	**3.11**	**305**	Pn	**Pn**	**20 17 46.0**	**-0.8**
TA01	**Diego Aracena**	**3.11**	**305**	*e*P	**Pn**	**20 17 46.5**	**-0.3**
TA01				*e*S	**Sn**	**20 18 24.6**	**-1.3**
TA01				IAML		20 18 25.4	
	comp=Z,200nm,0.6s						
TA01	**Diego Aracena**	**3.11**	**305**	*e*P	**Pn**	**20 17 46.2**	**-0.6**
TA01				*e*S	**Sn**	**20 18 23.5**	**-2.4**
TA01				IAML		20 18 26.4	
	comp=E,625nm,0.2s						
GO01	**Chusmiza**	**3.14**	**328**		**Pn**	**20 17 48.5**	**+0.8**
GO01	**Chusmiza**	**3.14**	**328**	*e*P	**Pn**	**20 17 48.1**	**+0.4**
GO01				*e*S	**Sn**	**20 18 29.5**	**+2.1**
GO01				IAML		20 18 31.0	
	comp=Z,228nm,0.5s						
GO01	**Chusmiza**	**3.14**	**328**	*e*P	**Pn**	**20 17 48.6**	**+0.9**
GO01				*e*S	**Sn**	**20 18 26.7**	**-0.7**
GO01				IAML		20 18 31.6	
	comp=N,754nm,0.2s						
GO01	**Chusmiza**	**3.14**	**328**	Pg	**Pn**	**20 17 48.5**	**+0.8**
TA02	**Huaiquique**	**3.25**	**309**		**Pn**	**20 17 47.6**	**-0.9**
PB11	**IPOC Station P**	**3.31**	**321**	Pn	**Pn**	**20 17 49.3**	**-0.1**
PB11	**IPOC Station P**	**3.31**	**321**	*e*P	**Pn**	**20 17 49.2**	**-0.2**
PB11				*e*S	**Sn**	**20 18 29.5**	**-1.2**
PB11				IAML		20 18 30.8	
	comp=Z,291nm,0.2s						
GO02	**Mina Guanaco**	**3.41**	**215**	Pn	**Pn**	**20 17 50.5**	**-0.1**
GO02	**Mina Guanaco**	**3.41**	**215**	*e*P	**Pn**	**20 17 50.5**	**-0.1**
GO02				*e*S	**Sn**	**20 18 31.1**	**-1.9**
GO02				IAML		20 18 35.7	
	comp=Z,392nm,0.5s						
GO02	**Mina Guanaco**	**3.41**	**215**	*e*P	**Pn**	**20 17 50.6**	**-0.1**
GO02				*e*S	**Sn**	**20 18 30.2**	**-2.7**
PB14	**IPOC Station P**	**3.52**	**230**	Pn	**Pn**	**20 17 51.5**	**-0.6**
SOEO	**Opoqueri**	**3.81**	**354**	Pg	**Pn**	**20 17 57.2**	**+1.3**
SOTI	**Planta Incahua**	**4.35**	**55**	Pg	**Pn**	**20 18 02.5**	**0.0**
PB16	**IPOC Station P**	**4.45**	**334**		**Pn**	**20 18 04.8**	**+0.6**
PB16	**IPOC Station P**	**4.45**	**334**	*e*P	**Pn**	**20 18 04.5**	**+0.3**
PB16				*e*S	**Sn**	**20 18 56.5**	**-0.6**
PB16	**IPOC Station P**	**4.45**	**334**	Pg	**Pn**	**20 18 05.1**	**+0.9**
SOET	**ToroToro**	**4.50**	**20**	Pg	**Pn**	**20 18 05.0**	**+0.4**
PB12	**IPOC Station P**	**4.61**	**324**	Pn	**Pn**	**20 18 04.3**	**-1.3**
PB12	**IPOC Station P**	**4.61**	**324**	*e*P	**Pn**	**20 18 04.5**	**-1.2**
PB12				*e*P	**Pn**	**20 18 04.6**	**-1.1**
PB12				*e*S	**Sn**	**20 18 57.4**	**-2.5**
PB12				IAML		20 19 02.5	
	comp=Z,69nm,0.3s						
AOEA	**Aiquile**	**4.66**	**27**	Pg	**Pn**	**20 18 07.2**	**+0.7**
AC02	**Maricunga**	**4.71**	**199**	Pn	**Pn**	**20 18 06.9**	**-0.4**
AC01	**Pan de Azucar**	**4.74**	**217**	Pn	**Pn**	**20 18 05.4**	**-1.8**
AC01	**Pan de Azucar**	**4.74**	**217**	*e*P	**Pn**	**20 18 05.4**	**-1.8**
SOEJ	**Jacaque**	**5.41**	**352**	Pg	**Pn**	**20 18 18.4**	**+1.9**
BBOE	**La Paz, Chanca**	**5.55**	**355**	Pg	**Pn**	**20 18 20.4**	**+2.1**
AC06	**Mina Casimiro**	**5.63**	**207**		**Pn**	**20 18 15.8**	**-2.9**
GO03	**Copiap**	**5.79**	**205**		**Pn**	**20 18 18.4**	**-2.5**
BBOD	**La Paz, Gloria**	**5.80**	**349**	Pg	**Pn**	**20 18 23.5**	**+1.9**
LPAZ	**La Paz**	**6.08**	**354**	Pn	**Pn**	**20 18 26.4**	**+1.1**
LPAZ	**La Paz**	**6.08**	**354**	P	**Pn**	**20 18 25.8**	**+0.5**
	comp=Z,10nm,0.5s,baz=173,slow=8.0,SNR=45						
LPAZ				S	**Sn**	**20 19 33.1**	**-2.0**
	comp=Z,5.3nm,0.8s,baz=26,slow=11,SNR=1.2						
LPAZ	**La Paz**	**6.08**	**354**	*e*P	**Pn**	**20 18 25.6**	**+0.2**
LCO	**Las Campanas**	**7.24**	**203**		**Pn**	**20 18 37.0**	**-3.1**
TICA	**Tres Isletas**	**7.58**	**123**	*e*P	**Pn**	**20 18 44.5**	**+0.1**
CO01	**Juntas del Tor**	**7.94**	**197**	Pn	**Pn**	**20 18 48.4**	**-0.9**
VACA	**Villa Angela C**	**8.06**	**132**	*e*P	**Pn**	**20 18 51.1**	**+0.5**
SIV	**San Ignacio**	**8.75**	**45**	P	**Pn**	**20 18 57.7**	**-2.1**
	comp=Z,14nm,0.3s,baz=221,slow=10,SNR=61						
SIV				S	**Sn**	**20 20 29.4**	**-8.3**
	comp=Z,7.2nm,0.3s,baz=304,slow=22,SNR=9.3						
CO03	**El Pedregal**	**8.92**	**198**	Pn	**Pn**	**20 18 59.6**	**-2.5**
CPUP	**Villa Florida**	**10.04**	**115**	P	**Pn**	**20 19 16.1**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=314,slow=12,SNR=3.9						
CPUP	**Villa Florida**	**10.04**	**115**	*e*P	**Pn**	**20 19 18.9**	**+2.4**
BDQN	**Bodoquena, MS**	**10.15**	**81**	*e*P	**Pn**	**20 19 21.0**	**+3.0**
PTLB	**Pontes e Lacer**	**10.45**	**50**		**Pn**	**20 19 21.4**	**-0.6**
PTLB	**Pontes e Lacer**	**10.45**	**50**	*e*P	**Pn**	**20 19 21.3**	**-0.6**
ANTJ	**Antonio Joao (**	**10.61**	**90**	*e*P	**Pn**	**20 19 24.1**	**0.0**
AQDB	**Aquidauana**	**11.11**	**82**	*e*P	**Pn**	**20 19 31.1**	**+1.0**
VILB	**Vilhena**	**11.63**	**38**		**Pn**	**20 19 37.4**	**+0.1**
VILB	**Vilhena**	**11.63**	**38**	*e*P	**Pn**	**20 19 38.5**	**+1.2**
ITQB	**Itaqui**	**12.15**	**129**	*e*P	**P**	**20 19 46.6**	**-2.2**
ETMB	**Extrema**	**12.54**	**6**	*e*P	**Pn**	**20 19 47.3**	**-1.5**
BO02	**Sierra Bellavi**	**12.72**	**193**		**Pn**	**20 19 50.7**	**-0.3**
FRBT	**Francisco Belt**	**13.62**	**108**	*e*P	**P**	**20 20 04.9**	**-0.3**
TRCB	**Terra Rica**	**13.70**	**95**	Pn	**Pn**	**20 20 04.2**	**+0.8**
PTGB	**Pitanga**	**14.30**	**102**	*e*P	**P**	**20 20 14.1**	**+1.2**
ITAB	**Concordia**	**14.73**	**112**		**Pn**	**20 20 16.7**	**+0.6**
PDRB	**Porto dos Gac**	**14.80**	**46**	*e*P	**P**	**20 20 19.1**	**+0.6**
CPSB	**Cacapava Do Su**	**14.88**	**125**	*e*P	**P**	**20 20 19.8**	**+0.6**
PCMB	**Pacaembu**	**15.04**	**90**	*e*P	**P**	**20 20 23.0**	**+2.0**
LDASE	**Londrina, Braz**	**15.09**	**97**	*e*P	**P**	**20 20 22.7**	**+1.1**
PLTB	**Pedras Altas**	**15.47**	**130**		**Pn**	**20 20 24.5**	**-0.7**
PLTB				IAmb	IAmb	20 20 44.0	
	comp=Z,16nm,1.5s						
PLTB	**Pedras Altas**	**15.47**	**130**	*e*P	**Pn**	**20 20 24.4**	**-0.9**
ITRB	**Iturama**	**16.18**	**84**	*e*P	**Pn**	**20 20 34.6**	**+0.7**
ARAG	**Araguaiana, MT**	**16.19**	**69**	*e*P	**Pn**	**20 20 34.5**	**+0.4**
TRQA	**Tornquist**	**16.33**	**164**	P	**P**	**20 20 33.6**	**-1.5**
TRQA				IAmb	IAmb	20 20 43.6	
	comp=Z,12nm,1.4s						
FRTB	**Fartura**	**16.52**	**97**	*e*P	**Pn**	**20 20 38.1**	**+0.1**
GO06	**Curarrehue**	**17.50**	**190**	P	**P**	**20 20 47.4**	**-0.6**
GO06				IAmb	IAmb	20 20 50.6	
	comp=Z,6.3nm,0.7s						
BB19B	**Bebedouro**	**17.63**	**89**	*e*P	**P**	**20 20 50.5**	**+0.9**
LR05	**Currie**	**18.22**	**191**	P	**P**	**20 20 54.8**	**-1.0**
RCLB	**Rio Claro- Sao**	**18.42**	**94**	*e*P	**P**	**20 20 58.2**	**0.0**
SPB	**Sao Paulo**	**18.47**	**98**	*e*P	**P**	**20 20 59.2**	**+0.6**
PLCA	**Paso Flores**	**18.50**	**187**	P	**P**	**20 20 58.3**	**+0.6**
PLCA	**Paso Flores**	**18.50**	**187**	P	**P**	**20 20 59.4**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=13,slow=12,SNR=6.7						
PLCA	**Paso Flores**	**18.50**	**187**	*e*P	**P**	**20 20 59.5**	**+0.6**
SNDB	**Serra Nova Dou**	**18.56**	**59**	*e*P	**P**	**20 20 59.4**	**-0.3**

YKA	Yellowknife Ar	92.45	340	P	P	20 29 46.9	+0.9
	comp=Z,0.4nm,0.7s,baz=133,slow=4.4,SNR=8.1						
	comp=Z,0.4nm,0.7s						
WRA	Warramunga Arr	132.87	208	PKP	PKiKP	20 35 51.9	+0.1
	comp=Z,0.7nm,1.1s,baz=158,slow=1.8,SNR=6.0						
MKAR	Makanchi Array	145.51	38	PKPbc	PKPab	20 36 14.9	+1.2
	comp=Z,0.3nm,0.5s,baz=334,slow=2.6,SNR=5.8						

UPA ***10*** *20:33:54.7±2.2, 9.85N×84.45W, h10km±75km, MD4.3, MW4.4*
CATAC ***10*** *20:33:58.1±0.2, 9.77N×84.28W, h28km±2km, ML3.7*
UCR ***10*** *20:33:58.3±0.9, 9.80N×84.28W, h49km±2km, MW3.9*

ISC 10 20:33:59.1±0.9**, 9.78N**±0.02×**84.29W**±0.02**, h32**km±7km**, n74,σ1s01**/106**, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SANTA	**Santa Ana**	**0.18**	**33**	*eP*		**Pn**	**20 34 06.0**	**+0.3**
SANTA				*eS*		**Sn**	**20 34 12.4**	**+2.5**
ABE2	**San Pablo**	**0.24**	**108**	*eP*		**Pb**	**20 34 06.2**	**0.0**
AMPA	**Desamparados**	**0.25**	**62**	*eP*		**Pn**	**20 34 06.6**	**-0.1**
AMPA				*eS*		**Sn**	**20 34 13.0**	**+1.5**
RITA	**Parrita**	**0.26**	**190**	*eP*		**Pn**	**20 34 07.0**	**+0.4**
RITA				*eS*		**Sn**	**20 34 14.7**	**+3.1**
TCS1	**Tacares**	**0.26**	**357**	*iP*		**Pn**	**20 34 07.0**	**+0.1**
TCS1				IAML			20 34 15.9	
	comp=Z,82μm,1.0s							
LCR2	**La Lucha 2**	**0.28**	**97**	*eP*		**Pb**	**20 34 06.5**	**-0.3**
LCR2				*eS*		**Sn**	**20 34 13.2**	**+0.9**
LCR2	**La Lucha 2**	**0.28**	**97**	*iP*		**Pb**	**20 34 06.4**	**-0.3**
LCR2				*iS*		**Sn**	**20 34 13.1**	**+0.7**
LCR2				IAML			20 34 13.7	
	comp=Z,8μm,1.0s							
HDC	**Heredia**	**0.28**	**37**	*eP*		**Pn**	**20 34 07.2**	**+0.1**
SJS3	**Mercedes San J**	**0.28**	**55**	*eP*		**Pn**	**20 34 07.4**	**+0.3**
SJS3				*eS*		**Sn**	**20 34 14.3**	**+2.0**
HDC3	**Heredia 3**	**0.28**	**37**	*iP*		**Pn**	**20 34 07.3**	**+0.2**
HDC3				*iS*		**Sn**	**20 34 14.5**	**+2.1**
HDC3				IAML			20 34 15.9	
	comp=Z,5μm,1.0s							
CORON	**Coronado**	**0.34**	**55**	*eP*		**Pn**	**20 34 08.9**	**+0.9**
OCM	**Ochomogo**	**0.34**	**70**	*iP*		**Pb**	**20 34 07.3**	**-0.2**
OCM				*iS*		**Sn**	**20 34 14.0**	**+0.1**
OCM				IAML			20 34 15.8	
	comp=Z,3μm,1.0s							
LLNJ	**Naranjito**	**0.35**	**149**	*eP*		**Pb**	**20 34 07.5**	**+0.1**
SRA1	**San Ramn**	**0.36**	**328**	*eP*		**Pb**	**20 34 07.6**	**-0.1**
JACO	**JACO, Garabito**	**0.39**	**253**	*eP*		**Pb**	**20 34 07.7**	**-0.2**
JACO	**JACO, Garabito**	**0.39**	**253**	*iP*		**Pb**	**20 34 07.7**	**-0.2**
JACO				*iS*		**Sn**	**20 34 14.8**	**+0.1**
JACO				IAML			20 34 18.6	
	comp=Z,5μm,1.0s							
REPA	**Paraso**	**0.41**	**83**	*eP*		**Pn**	**20 34 09.1**	**+0.1**
ARZA	**Esparza**	**0.43**	**299**	*eP*		**Pn**	**20 34 09.3**	**+0.2**
VICA	**Volcano Irazu**	**0.48**	**65**	*eP*		**Pb**	**20 34 09.3**	**-0.3**
RAFA	**San Farael, Vo**	**0.50**	**69**	*eP*		**Pb**	**20 34 09.5**	**-0.4**
CPMI	**Catarata Coope**	**0.51**	**349**	*iP*		**Pb**	**20 34 09.6**	**-0.4**
CPMI				*iS*		**Sn**	**20 34 18.5**	**+0.4**
CPMI				IAML			20 34 19.9	
	comp=Z,3μm,1.0s							
CDM	**Cerro de Muert**	**0.56**	**113**	*iP*		**Pb**	**20 34 09.8**	**-1.1**
CDM				*iS*		**Sb**	**20 34 19.2**	**+0.2**
CDM				IAML			20 34 20.0	
	comp=Z,3μm,1.0s							
VTUN	**Crater Central**	**0.57**	**65**	*iP*		**Pb**	**20 34 10.4**	**-0.6**
VTUN				*iS*		**Sb**	**20 34 18.9**	**-0.3**
VTUN				IAML			20 34 26.6	
	comp=Z,2μm,1.0s							
VTR0	**Volcan Turrial**	**0.57**	**65**	*eP*		**Pb**	**20 34 10.8**	**-0.2**
VTCV	**VTCV, Calle Va**	**0.59**	**70**	*iP*		**Pb**	**20 34 10.6**	**-0.6**
VTCV				*iS*		**Sn**	**20 34 20.5**	**+0.5**
VTCV				IAML			20 34 21.9	
	comp=Z,6μm,1.0s							
VERB	**Verbena**	**0.60**	**74**	*eP*		**Pb**	**20 34 10.8**	**-0.7**
LAFE	**Finca La Fe, P**	**0.62**	**273**	*eP*		**Pb**	**20 34 11.6**	**+0.1**
LAFE	**Finca La Fe, P**	**0.62**	**273**	*iP*		**Pb**	**20 34 11.6**	**+0.1**
LAFE				*iS*		**Sn**	**20 34 22.5**	**+2.1**
LAFE				IAML			20 34 23.4	
	comp=Z,64nm,1.0s							
RIFO	**Rio Frio, Sara**	**0.65**	**34**	*iP*		**Pb**	**20 34 11.2**	**-0.8**
RIFO				*iS*		**Sb**	**20 34 20.8**	**0.0**
RIFO				IAML			20 34 28.7	
	comp=Z,3μm,1.0s							
ITAL	**Pital**	**0.67**	**1**	*eP*		**Pb**	**20 34 11.7**	**-0.8**
SOCE	**Pocosol**	**0.69**	**331**	*eP*		**Pb**	**20 34 12.0**	**-0.7**
SOCE	**Pocosol**	**0.69**	**331**	*iP*		**Pb**	**20 34 12.0**	**-0.7**
SOCE				*iS*		**Sn**	**20 34 23.1**	**+0.9**
SOCE				IAML			20 34 26.5	
	comp=Z,11μm,1.0s							
PEZE	**Perez Zeledon,**	**0.72**	**123**	*eP*		**Pb**	**20 34 11.8**	**-1.4**
PEZE	**Perez Zeledon,**	**0.72**	**123**	*iP*		**Pb**	**20 34 11.8**	**-1.4**
PEZE				*iS*		**Sb**	**20 34 22.4**	**-0.5**
PEZE				IAML			20 34 23.6	
	comp=Z,6μm,1.0s							
LCOCO	**El Coco**	**0.78**	**67**	*eP*		**Pn**	**20 34 13.3**	**-0.6**
CARI	**Cariari**	**0.80**	**43**	*eP*		**Pb**	**20 34 14.4**	**-0.1**
CBL1	**Cabuya**	**0.82**	**257**	*eP*		**Pn**	**20 34 13.2**	**-1.2**
JTS	**Las Juntas de**	**0.83**	**308**	*eP*		**Pn**	**20 34 13.7**	**-0.9**
JTS				*eS*		**Sb**	**20 34 25.8**	**-0.3**
JTS	**Las Juntas de**	**0.83**	**308**	*eP*		**Pn**	**20 34 13.7**	**-0.9**
OCHAL	**Ojochal**	**0.92**	**137**	*iP*		**Pn**	**20 34 14.5**	**-1.4**
OCHAL				IAML			20 34 15.9	
	comp=Z,60nm,1.0s							
OCHAL				*iS*		**Sn**	**20 34 28.1**	**+0.1**
COVE	**Coope Vega, Sa**	**0.94**	**353**	*eP*		**Pn**	**20 34 15.2**	**-1.0**
COVE	**Coope Vega, Sa**	**0.94**	**353**	*iP*		**Pn**	**20 34 15.1**	**-1.0**
COVE				IAML			20 34 33.0	
	comp=Z,2μm,1.0s							
BATAN	**Batan**	**0.95**	**70**	*eP*		**Pn**	**20 34 15.3**	**-0.9**
BATAN				*eS*		**Sb**	**20 34 29.6**	**+0.2**
BATAN	**Batan**	**0.95**	**70**	*iP*		**Pn**	**20 34 15.6**	**-0.6**
BATAN				*iS*		**Sb**	**20 34 29.3**	**-0.1**
BATAN				IAML			20 34 31.7	
	comp=Z,4μm,1.0s							
SRBA	**San Rafael, Bu**	**1.06**	**121**	*eP*		**Pn**	**20 34 16.4**	**-1.4**
SRBA	**San Rafael, Bu**	**1.06**	**121**	*iP*		**Pn**	**20 34 16.5**	**-1.4**
SRBA				IAML			20 34 16.8	
	comp=Z,3μm,1.0s							
EDPN	**Palmar Norte**	**1.15**	**135**	*eP*		**Pn**	**20 34 18.2**	**-0.7**
INDI	**Punta indio, G**	**1.20**	**274**	*eP*		**Pn**	**20 34 17.9**	**-1.7**
INDI	**Punta indio, G**	**1.20**	**274**	*iP*		**Pn**	**20 34 17.9**	**-1.7**
INDI				*iS*		**Sn**	**20 34 35.4**	**+0.5**
INDI				IAML			20 34 43.7	
	comp=Z,2μm,1.0s							
DUNO	**Dulce Nombre,**	**1.23**	**284**	*eP*		**Pn**	**20 34 18.9**	**-1.1**
DUNO	**Dulce Nombre,**	**1.23**	**284**	*iP*		**Pn**	**20 34 18.7**	**-1.3**
DUNO				IAML			20 34 41.6	
	comp=Z,4μm,1.0s							
ORTG	**Ortega, Santa**	**1.29**	**297**	*eP*		**Pn**	**20 34 20.1**	**-0.9**
ORTG	**Ortega, Santa**	**1.29**	**297**	*iP*		**Pn**	**20 34 20.2**	**-0.8**
ORTG				IAML			20 34 22.6	
	comp=Z,800nm,1.0s							
VMAR	**Armenia, Volca**	**1.31**	**322**	*eP*		**Pn**	**20 34 20.8**	**-0.5**
LCHIL	**Los Chiles**	**1.32**	**341**	*eP*		**Pn**	**20 34 20.6**	**-0.7**
POTG	**Potrero Grande**	**1.36**	**122**	*iP*		**Pn**	**20 34 20.9**	**-1.0**
POTG				IAML			20 34 42.0	
	comp=Z,2μm,1.0s							
SAJU	**San Juanillo,**	**1.43**	**282**	*iP*		**Pn**	**20 34 21.1**	**-1.8**
SAJU				*iS*		**Sb**	**20 34 44.2**	**+1.1**
SAJU				IAML			20 34 47.0	
	comp=Z,860nm,1.0s							
HZTE	**Horizontes, Gu**	**1.59**	**306**	*eP*		**Pn**	**20 34 24.9**	**-0.1**
HZTE	**Horizontes, Gu**	**1.59**	**306**	*iP*		**Pn**	**20 34 24.6**	**-0.4**
HZTE				IAML			20 34 35.4	
	comp=Z,580nm,1.0s							
PIRO	**Carate, Puerto**	**1.66**	**145**	*iP*		**Pn**	**20 34 26.4**	**+0.5**
PIRO				*iS*		**Sn**	**20 34 46.5**	**+0.4**
PIRO				IAML			20 34 50.1	
	comp=Z,2μm,1.0s							
CNI2	**El Empalme, Bo**	**1.82**	**101**	*eP*		**Pn**	**20 34 26.7**	**-1.5**
CNI2				*eS*		**Sn**	**20 34 51.2**	**+1.0**
LCRUZ	**La Cruz**	**1.85**	**314**	*eP*		**Pn**	**20 34 29.2**	**+0.6**
BRU2	**Volcan**	**1.85**	**122**	*eP*		**Pn**	**20 34 28.3**	**-0.5**
BRU2				*eS*		**Sb**	**20 34 54.8**	**-0.5**
CCOL	**Caracol de Cor**	**1.88**	**136**	*eP*		**Pn**	**20 34 29.6**	**+0.6**
CCOL	**Caracol de Cor**	**1.88**	**136**	*iP*		**Pn**	**20 34 30.1**	**+1.1**
CCOL				IAML			20 35 02.1	
	comp=Z,2μm,1.0s							
BC3P	**Paso Ancho**	**1.91**	**120**	*eP*		**Pn**	**20 34 28.9**	**-0.7**
BCO2	**Palmira**	**2.03**	**121**	*eP*		**Pn**	**20 34 30.7**	**-0.5**
BCO2				*eS*		**Sn**	**20 34 57.9**	**+2.3**
PTPM	**Petroterminale**	**2.09**	**138**	*eP*		**Pn**	**20 34 33.3**	**+1.4**
PTPM				*eS*		**Sb**	**20 35 01.7**	**-0.3**
CONN	**Concepcion**	**2.21**	**324**	*iP*		**Pb**	**20 34 38.9**	**+0.5**
DVD	**David**	**2.25**	**126**	*eP*		**Pn**	**20 34 34.7**	**+0.6**
DVD				*eS*		**Sn**	**20 35 03.4**	**+2.6**
CHGR2	**Aguacate**	**2.27**	**111**	*eP*		**Pn**	**20 34 34.8**	**+0.4**
CHGR2				*eS*		**Sb**	**20 35 04.5**	**-2.6**
ACON	**Acoyapa**	**2.35**	**338**	*iP*		**Pn**	**20 34 34.7**	**-0.7**
ACON				*iS*		**Sn**	**20 35 03.2**	**+0.1**
ACON				IAML			20 35 06.1	
	comp=Z,440nm,1.0s							
BOAB	**BOACO BROADBAN**	**2.98**	**333**	*iP*		**Pn**	**20 34 43.3**	**-0.9**
BOAB				*iS*		**Sn**	**20 35 18.7**	**-0.1**
BOAB				IAML			20 35 21.8	
	comp=Z,110nm,1.0s							
COPN	**Copaltepe**	**3.29**	**317**	*iP*		**Pn**	**20 34 48.6**	**+0.2**
COPN				IAML			20 34 49.8	
	comp=Z,64nm,1.0s							

KRNET ***10*** *20:38:58.6±0.1, 40.81N×74.09E, h16km, mb2.9*
SOME ***10*** *20:39:01.1, 40.92N×74.13E, h5km*
KNET ***10*** *20:39:02.0±0.5, 40.97N×74.21E, h2km±4km, ml2.5, Error ellipse: s-maj=5.6km s-min=3.4km az=96.0*
NNC ***10*** *20:39:01.1±0.8, 40.89N×74.12E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=6.4km s-min=3.2km az=172.0*

ISC 10 20:38:56.7±1.2**, 40.76N**±0.03×**74.15E**±0.02**, h2km**±12km**, n64,σ0s90/105, 45C-17D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SFK	**Sufi-Kurgan**	**0.90**	**214**	⇑*eP*		**Pb**	**20 39 16.2**	**+1.1**
	baz=10.0							
SFK				⇑*eS*		**Sb**	**20 39 28.9**	**+1.3**
	baz=10.0							
ARSB	**Arslanbob**	**1.05**	**303**	⇑*eP*		**Pg**	**20 39 17.4**	**+0.6**
	baz=2.0							
ARSB				⇑*eS*		**Sg**	**20 39 31.1**	**+0.8**
	baz=2.0							
OHH	**Osh**	**1.06**	**258**	⇓*eP*		**Pb**	**20 39 18.4**	**+0.5**
	baz=54							
OHH				⇓*eS*		**Sb**	**20 39 32.9**	**+0.6**
	baz=54							
ARLS	**Aral**	**1.10**	**7**	⇓*eP*		**Pb**	**20 39 18.8**	**+0.1**
	baz=10.0							
ARLS				⇓*eS*		**Sb**	**20 39 33.5**	**-0.1**
	baz=10.0							
UCH	**Uchtor**	**1.49**	**10**	⇑P		**Pg**	**20 39 26.7**	**+1.4**
	12nm,0.2s,SNR=26							
UCH				⇑S		**Sn**	**20 39 46.3**	**+1.1**
	45nm,0.3s							
UCH	**Uchtor**	**1.49**	**10**	⇑*eP*		**Pg**	**20 39 25.9**	**+0.6**
	baz=12							
UCH				⇑*eS*		**Sn**	**20 39 45.9**	**+0.7**
	baz=12							
NRN	**Naryn**	**1.55**	**64**	⇑*eP*		**Pg**	**20 39 27.6**	**+1.2**
	baz=66							
NRN				⇑*eS*		**Sg**	**20 39 48.6**	**+2.1**
	baz=66							
AAK	**Ala-Archa**	**1.89**	**8**	⇑P		**Pg**	**20 39 33.9**	**+0.9**
	15nm,0.4s,SNR=23							
AAK				⇑S		**Sg**	**20 39 58.3**	**+0.8**
	16nm,0.2s							
AAK	**Ala-Archa**	**1.89**	**8**	⇑*eP*		**Pg**	**20 39 32.9**	**-0.1**
	baz=9.0							
AAK				⇑*eS*		**Sg**	**20 39 57.9**	**+0.4**
	baz=9.0							
EKS2	**Erkin-Say**	**1.92**	**352**	⇑P		**Pg**	**20 39 34.1**	**+0.6**
	4.8nm,0.2s,SNR=9.7							
EKS2				⇑S		**Sg**	**20 39 59.2**	**+0.8**
	7.9nm,0.2s							
EKS2	**Erkin-Say**	**1.92**	**352**	⇑*eP*		**Pb**	**20 39 33.1**	**+0.6**
	baz=53							
EKS2				⇑*eS*		**Sg**	**20 39 58.3**	**0.0**
	baz=53							
ARK	**Arkit**	**1.95**	**303**	⇑*eP*		**Pb**	**20 39 33.5**	**+0.5**
	baz=2.0							
ARK				⇑*eS*		**Sg**	**20 39 59.0**	**-0.2**
	baz=2.0							
KBK	**Karagaybulak**	**1.98**	**17**	⇑P		**Pg**	**20 39 36.3**	**+1.6**
	17nm,0.2s,SNR=18							
KBK				⇑S		**Sg**	**20 40 01.8**	**+1.3**
	43nm,0.3s							
KBK	**Karagaybulak**	**1.98**	**17**	⇑*eP*		**Pg**	**20 39 34.7**	**-0.1**
	baz=19							
KBK				⇑*eS*		**Sg**	**20 40 01.1**	**+0.6**
	baz=19							
FRU1	**Bishkek**	**2.08**	**10**	⇑*eP*		**Pb**	**20 39 36.0**	**+0.8**
	baz=11							
FRU1				⇑*eS*		**Sg**	**20 40 03.8**	**+0.3**
	baz=11							
MRKS	**Merke**	**2.10**	**341**	*eP*		**Pg**	**20 39 38.2**	**+1.2**
	38nm,0.4s							
MRKS				*eS*		**Sg**	**20 40 04.4**	**+0.3**
	40nm,0.4s							
MRKS	**Merke**	**2.10**	**341**	Pg		**Pg**	**20 39 38.2**	**+1.2**
	38nm,0.4s							
MRKS				Lg		Lg	20 40 04.4	
	40nm,0.4s							
MNAS	**Manas**	**2.12**	**325**	⇑*eP*		**Pb**	**20 39 36.0**	**+0.1**
	baz=25							
MNAS				⇑*eS*		**Sg**	**20 40 04.1**	**-0.7**
	baz=25							
ULHL	**Ulahol**	**2.16**	**46**	⇓P		**Pg**	**20 39 38.6**	**+0.5**
	9.6nm,0.2s,SNR=54							
ULHL				⇑S		**Sg**	**20 40 06.9**	**+0.8**
	15nm,0.2s							
ULHL	**Ulahol**	**2.16**	**46**	⇑*eP*		**Pb**	**20 39 37.6**	**+0.9**
	baz=48							
ULHL				⇑*eS*		**Sg**	**20 40 06.1**	**0.0**
	baz=48							
DRK	**Karamyk**	**2.21**	**235**	⇑*eP*		**Pb**	**20 39 38.6**	**+1.0**
	baz=34							
DRK				⇑*eS*		**Sg**	**20 40 07.4**	**-0.3**
	baz=34							
CHMS	**Chumysh**	**2.28**	**11**	⇑P		**Pg**	**20 39 41.1**	**+0.7**
	6.3nm,0.2s,SNR=6.3							
CHMS				⇑S		**Sg**	**20 40 10.3**	**+0.4**
	31nm,0.5s							
CHMS	**Chumysh**	**2.28**	**11**	⇓Pg		**Pg**	**20 39 40.3**	**-0.1**
	2.2nm,0.3s							
CHMS				⇑Lg		Lg	20 40 09.8	
	35nm,0.7s							
CHMS	**Chumysh**	**2.28**	**11**	⇑*eP*		**Pb**	**20 39 38.7**	**+0.1**
	baz=12							
CHMS				⇑*eS*		**Sb**	**20 40 08.1**	**+0.9**
	baz=12							
TRKS	**Terek-Say**	**2.40**	**290**	⇓*eP*		**Pb**	**20 39 40.0**	**-0.7**
	baz=87							
TRKS				⇓*eS*		**Sb**	**20 40 09.6**	**-1.2**
	baz=87							
TKM2	**Tokmak 2**	**2.41**	**26**	⇓P		**Pg**	**20 39 42.8**	**-0.1**
	6.0nm,0.2s,SNR=7.2							
TKM2	**Tokmak 2**	**2.41**	**26**	⇓Pg		**Pg**	**20 39 42.9**	**-0.1**
	4.1nm,0.4s							
TKM2				⇓Lg		Lg	20 40 16.6	
	17nm,0.7s							
USP	**Ospenovka**	**2.52**	**6**	⇓P		**Pb**	**20 39 44.0**	**+1.3**
	8.0nm,0.2s,SNR=17							
BTK	**Batken**	**2.64**	**256**	⇑*eP*		**Pb**	**20 39 43.7**	**-1.1**
	baz=54							
BTK				⇑*eS*		**Sb**	**20 40 16.9**	**-0.8**
	baz=54							
KST	**Kastek**	**2.65**	**30**	*eP*		**Pg**	**20 39 48.0**	**+0.5**
	12nm,0.5s							
KST				*eS*		**Sg**	**20 40 21.2**	**-0.7**
	23nm,0.3s							
KST	**Kastek**	**2.65**	**30**	Pg		**Pg**	**20 39 49.2**	**+1.7**
	9.7nm,0.3s							
KST				Lg		Lg	20 40 23.5	
	23nm,0.4s							
KDJ	**Kajisay**	**2.66**	**58**	⇑*eP*		**Pb**	**20 39 44.8**	**-0.3**
	baz=60							
KDJ				⇑*eS*		**Sb**	**20 40 19.1**	**+0.9**
	baz=60							
SGDS	**Sogindy**	**2.71**	**7**	Pg		**Pg**	**20 39 49.0**	**+0.3**
	2.6nm,0.3s							
SGDS				Lg		Lg	20 40 23.0	
	12nm,0.3s							
DGS	**Degeres**	**2.76**	**25**	*eP*		**Pg**	**20 39 50.3**	**+0.8**
	11nm,0.4s							
DGS				*eS*		**Sg**	**20 40 25.7**	**+0.4**
	21nm,0.7s							
DGS	**Degeres**	**2.76**	**25**	Pg		**Pg**	**20 39 50.3**	**+0.8**
	11nm,0.4s							
DGS				Lg		Lg	20 40 25.7	
	21nm,0.7s							
MTBS	**Maitube**	**2.91**	**35**	*eP*		**Pg**	**20 39 53.3**	**+0.8**
	8.6nm,0.3s							
MTBS				*eS*		**Sg**	**20 40 30.5**	**+0.2**
	12nm,0.3s							
MTBS	**Maitube**	**2.91**	**35**	Pg		**Pg**	**20 39 53.3**	**+0.8**
	8.6nm,0.3s							
MTBS				Lg		Lg	20 40 30.5	
	12nm,0.3s							
TNSS	**Tian-Shan**	**3.09**	**42**	*eP*		**Pg**	**20 39 55.9**	**0.0**
	7.2nm,0.3s							
TNSS				*eS*		**Sg**	**20 40 35.2**	**-0.7**
	5.8nm,0.6s							
TNSS	**Tian-Shan**	**3.09**	**42**	Pg		**Pg**	**20 39 55.9**	**0.0**
	7.2nm,0.3s							
TNSS				Lg		Lg	20 40 35.2	
	5.8nm,0.6s							
KRBS	**Karabastau**	**3.14**	**21**	*eP*		**Pg**	**20 39 56.9**	**0.0**
	11nm,0.4s							
KRBS				*eS*		**Sg**	**20 40 37.0**	**-0.7**
	11nm,0.6s							
KRBS	**Karabastau**	**3.14**	**21**	Pg		**Pg**	**20 39 56.9**	**0.0**
	11nm,0.4s							
KRBS				Lg		Lg	20 40 37.0	
	11nm,0.6s							
KNDC	**Almaty**	**3.23**	**40**	⇑Pg		**Pg**	**20 39 58.7**	**+0.1**
	10nm,0.5s							
KNDC				⇓Lg		Lg	20 40 42.5	
	20nm,0.5s							
MDOK	**Medeo**	**3.23**	**41**	*eP*		**Pg**	**20 39 58.4**	**-0.2**
	7.5nm,0.4s							
MDOK				*eS*		**Sg**	**20 40 39.6**	**-0.8**
	7.1nm,0.7s							
MDOK	**Medeo**	**3.23**	**41**	Pg		**Pg**	**20 39 57.9**	**-0.7**
	4.1nm,0.4s							
MDOK				Pg		**Pg**	**20 39 58.4**	**-0.2**
	7.5nm,0.4s							
MDOK				Lg		Lg	20 40 39.6	
	7.1nm,0.7s							
MDOK				Lg		Lg	20 40 40.8	
	9.9nm,0.7s							
KOTS	**Kotyrbulak**	**3.31**	**41**	*eP*		**Pg**	**20 40 00.7**	**+0.5**
	8.6nm,0.4s							
KOTS				*eS*		**Sg**	**20 40 43.7**	**+0.6**
	20nm,0.5s							
KOTS	**Kotyrbulak**	**3.31**	**41**	Pg		**Pg**	**20 40 00.7**	**+0.5**
	8.6nm,0.4s							
KOTS				Lg		Lg	20 40 43.7	
	20nm,0.5s							
ANVS	**Anan'yevo**	**3.32**	**51**	⇓*eP*		**Pb**	**20 39 53.6**	**-2.8**
	baz=52							
ANVS				⇓*eS*		**Sb**	**20 40 34.1**	**-3.1**
	baz=52							
IUG	**Iuzhnay**	**3.39**	**295**	*eP*		**Pg**	**20 40 02.0**	**+0.3**
	9.0nm,0.3s							
IUG				*eS*		**Sg**	**20 40 45.2**	**-0.4**
	66nm,0.5s							
IUG	**Iuzhnay**	**3.39**	**295**	Pg		**Pg**	**20 40 01.2**	**-0.5**
	8.4nm,0.4s							
IUG				Lg		Lg	20 40 44.5	
	66nm,0.5s							
KTBS	**Karatobe**	**3.50**	**32**	*eP*		**Pg**	**20 40 03.3**	**-0.4**
	2.7nm,0.3s							
KTBS				*eS*		**Sg**	**20 40 47.6**	**-1.3**
	13nm,0.7s							
KTBS	**Karatobe**	**3.50**	**32**	Pg		**Pg**	**20 40 03.3**	**-0.4**
	2.7nm,0.3s							
KTBS				Lg		Lg	20 40 47.6	
	13nm,0.7s							
KK31	**Karatay Array**	**3.58**	**312**	⇓Pg		**Pg**	**20 40 03.8**	**-1.5**
	1.0nm,0.4s,baz=131,slow=16,SNR=15							
KK31				⇑Lg		Lg	20 40 49.6	
	5.6nm,0.6s,baz=130,slow=27,SNR=5.9							
CHKK	**Chushkaly**	**3.74**	**33**	*eP*		**Pg**	**20 40 07.8**	**-0.5**
	0.7nm,0.1s							
CHKK				*eS*		**Sg**	**20 40 56.0**	**-0.8**
	8.2nm,0.4s							
CHKK	**Chushkaly**	**3.74**	**33**	Pg		**Pg**	**20 40 07.8**	**-0.5**
	0.7nm,0.1s							
CHKK				Lg		Lg	20 40 56.0	
	8.2nm,0.4s							
SATY	**Saty**	**3.92**	**53**	*eP*		**Pg**	**20 40 12.0**	**+0.2**
	3.1nm,0.3s							
SATY				*eS*		**Sg**	**20 41 02.5**	**-0.1**
	11nm,0.7s							
SATY	**Saty**	**3.92**	**53**	Pg		**Pg**	**20 40 12.0**	**+0.2**
	3.1nm,0.3s							
SATY				Lg		Lg	20 41 02.5	
	11nm,0.7s							
BRLS	**Borolday**	**3.94**	**307**	*eP*		**Pg**	**20 40 11.2**	**-0.9**
	2.0nm,0.3s							
BRLS				*eS*		**Sg**	**20 41 01.4**	**-1.7**
	6.9nm,0.4s							
BRLS	**Borolday**	**3.94**	**307**	Pg		**Pg**	**20 40 11.2**	**-0.9**
	2.0nm,0.3s							
BRLS				Lg		Lg	20 41 01.4	
	6.9nm,0.4s							
UZB	**Uzynbulak**	**4.34**	**55**	*eP*		**Pg**	**20 40 19.2**	**-0.7**
	3.1nm,0.1s							
UZB				*eS*		**Sg**	**20 41 14.7**	**-1.6**
	6.7nm,0.4s							
UZB	**Uzynbulak**	**4.34**	**55**	Pg		**Pg**	**20 40 18.9**	**-1.1**
UZB				Lg		Lg	20 41 14.5	
ARXS	**Arharly**	**4.39**	**37**	*eP*		**Pg**	**20 40 20.1**	**-0.7**
	1.3nm,0.2s							
ARXS				*eS*		**Sg**	**20 41 16.6**	**-1.2**
	6.9nm

SNR=17
THN **Thein Dam** 5.95 140 *e*P Pn 20 55 19.6 +1.1
THN *e*S Sn 20 56 22.1 -3.2
THN IAML 20 56 26.7
comp=E,80nm,0.3s
THN IAML 20 56 26.8
comp=N,108nm,0.3s
BRLS Borolday 6.00 350 Pg Pn 20 55 15.9 -3.2
comp=N,2.7nm,0.1s
BRLS Lg Lg 20 56 17.7
comp=N,9.9nm,0.2s
KK31 Karatay Array 6.00 355 Pn Pn 20 55 19.1 -0.1
KK31 Karatay Array 6.00 355 ⇓P Pn 20 55 19.1 -0.1
comp=N,7.5nm,0.4s,baz=178,slow=13,SNR=182
KK31 ⇓S Sn 20 56 22.9 -3.6
comp=N,16nm,0.9s,baz=175,slow=21,SNR=5.7
KKAR Karatay Array 6.00 355 Pn 20 55 19.1 -0.2
KKAR Karatay Array 6.00 355 Pn Pn 20 55 19.0 -0.2
AAK Ala-Archa 6.06 23 P Pn 20 55 20.8 +0.8
SNR=26
AAK Ala-Archa 6.06 23 Pn Pn 20 55 20.3 +0.2
AAK Ala-Archa 6.06 23 P Pn 20 55 20.0 -0.1
comp=N,4.6nm,0.3s,baz=184,slow=6.0,SNR=112
AAK S Sn 20 56 26.7 -1.4
comp=N,3.2nm,0.3s,baz=326,slow=22,SNR=10
comp=N,11nm,0.4s
FRU1 Bishkek 6.26 24 Pn 20 55 21.9 -0.8
DHRM DHARAMSHALA 6.40 138 *e*P Pn 20 55 24.3 -0.5
DHRM *e*S Sn 20 56 31.5 -5.2
DHRM IAML 20 56 36.1
comp=N,190nm,0.4s
DHRM IAML 20 56 36.6
comp=E,195nm,0.2s
ULHL Ulahol 6.42 35 P Pn 20 55 25.4 +0.4
SNR=5.9
CHMS Chumysh 6.46 24 P Pn 20 55 25.7 +0.2
SNR=28
CHMS Chumysh 6.46 24 ⇓P Pn 20 55 24.6 -0.9
comp=E,15nm,0.6s
CHMS ⇓S Sn 20 56 33.4 -4.3
comp=E,6.3nm,0.6s
USP Ospenovka 6.63 21 P Pn 20 55 26.9 -0.9
SNR=16
TKM2 Tokmak 2 6.69 29 P Pn 20 55 29.0 +0.2
SNR=8.6
TKM2 Tokmak 2 6.69 29 ⇓P Pn 20 55 28.7 0.0
comp=E,6.6nm,0.5s
TKM2 ⇑S Sn 20 56 40.7 -2.9
comp=E,6.9nm,1.1s
SGDS Sogindy 6.84 21 P Pn 20 55 30.0 -0.6
KST Kastek 6.94 30 P Pn 20 55 32.5 +0.4
DGS Degeres 7.04 28 P Pn 20 55 33.4 +0.1
BHK Bhakra 7.12 141 *e*S Sn 20 56 48.5 -5.4
BHK IAML 20 56 53.9
comp=N,96nm,0.2s
BHK IAML 20 56 54.3
comp=E,54nm,0.2s
MTBS Maitube 7.21 32 P Pn 20 55 36.1 +0.5
TNSS Tian-Shan 7.36 35 P Pn 20 55 37.9 0.0
KRBS Karabastau 7.39 26 P Pn 20 55 37.2 -0.9
MDOK Medeo 7.50 35 Pg Pn 20 55 40.1 +0.4
KOTS Kotyrbulak 7.59 35 P Pn 20 55 41.6 +0.8
SMLA Simla 7.74 139 *e*P Pn 20 55 41.8 -1.0
SMLA *e*S Sn 20 57 00.1 -8.7
SMLA IAML 20 57 09.2
comp=E,96nm,0.3s
SMLA IAML 20 57 09.3
comp=E,73nm,0.2s
KTBS Karatobe 7.79 31 P Pn 20 55 42.4 -1.1
CHKK Chushkaly 8.03 31 P Pn 20 55 46.1 -0.7
BTLS Baital 8.20 14 P Pn 20 55 48.0 -1.0
KHET Khetri 9.81 156 *e*P Pn 20 56 10.0 -1.0
KHET *e*S Sn 20 57 51.5 -7.8
KUDL Kundal 9.98 152 *ex* Sn 20 57 52.4 -11
GEYT Alibeck 10.45 278 Pn Pn 20 56 18.8 -0.9
GEYT Alibeck 10.45 278 P Pn 20 56 18.3 -1.4
comp=E,1.3nm,0.3s,baz=90,slow=8.7,SNR=16
GEYT S Sn 20 58 09.3 -5.4
comp=E,5.3nm,0.3s,baz=268,slow=34,SNR=7.1
comp=E,3.2nm,0.4s
GYA0B ALIBECK ARRAY 10.45 278 ⇓P Pn 20 56 17.9 -1.8
GYA0B ⇓S Sn 20 58 09.2 -5.6
MAKZ Makanchi 12.55 36 Pn Pn 20 56 45.5 -2.2
MKAR Makanchi Array 12.69 37 Pn Pn 20 56 47.5 -2.1
MKAR Makanchi Array 12.69 37 P Pn 20 56 48.2 -1.3
comp=E,0.3nm,0.3s,baz=226,slow=15,SNR=31
comp=E,2.2nm,0.7s
WMQ Urumqi 14.20 57 *e*P Pn 20 57 10.5 +1.2
KURBB Kurchatov Arra 14.48 19 P P 20 57 15.8 -0.9
comp=E,2.4nm,0.7s,baz=208,slow=10,SNR=17
KURK Kurchatov 14.59 19 Pn Pn 20 57 11.8 -2.4
AB31 Akbulak array 14.64 330 ⇑P Pn 20 57 12.6 -2.2
comp=E,0.5nm,0.3s,baz=140,slow=13,SNR=43
AB31 ⇑S Sn 20 59 47.7 -8.4
comp=E,2.9nm,0.8s,baz=158,slow=23,SNR=6.6
ABKAR Akbulak array 14.64 330 Pn Pn 20 57 13.3 -1.6
ABKAR Akbulak array 14.64 330 Pn Pn 20 57 13.2 -1.6
BVAR Borovoye Array 15.92 358 P Pn 20 57 29.3 -1.6
comp=E,1.7nm,0.6s,baz=162,slow=13,SNR=14
BRVK Borovoye 15.96 358 Pn Pn 20 57 30.0 -1.4
BRVK IAmb IAmb 20 57 35.4
comp=Z,20nm,1.4s
AKTO Aktyubinsk 16.34 329 P P 20 57 40.0 +2.7
comp=Z,2.3nm,0.3s,baz=134,slow=9.7,SNR=46
comp=Z,14nm,0.5s
AKTO Aktyubinsk 16.34 329 ⇑P Pn 20 57 35.6 -0.7
comp=Z,1.5nm,0.5s
AKTO ⇓S Sn 21 00 29.9 -7.3
comp=Z,3.0nm,0.9s
ZAA0 Zalesovo Array 19.28 25 P P 20 58 08.9 -0.6
ZAA0 IAmb IAmb 20 58 09.6
comp=Z,3.3nm,0.6s
ZALV Zalesovo Beam 19.28 25 P P 20 58 08.8 -0.7
ZALV Zalesovo Beam 19.28 25 P P 20 58 09.1 -0.4
comp=Z,1.0nm,0.3s,baz=226,slow=10,SNR=22
comp=Z,3.7nm,0.5s
ARU Arti 21.11 340 P P 20 58 29.9 +0.7
ARU IAmb IAmb 20 58 34.0
comp=Z,13nm,1.4s
ARU Arti 21.11 340 P P 20 58 33.3 +4.1
comp=Z,1.8nm,0.4s,baz=119,slow=11,SNR=7.5
comp=Z,1.8nm,0.4s
ZIRO ZIRO 21.33 110 *e*P P 20 58 33.4 +1.4
KOHI KOHIMA 22.53 114 *e*P P 20 58 46.0 +1.3
KOHI IAmb IAmb 20 58 49.2
comp=Z,9.4nm,0.9s
IMP Imphal 22.94 116 *e*P P 20 58 50.8 +2.1
IMP IAmb IAmb 20 58 58.5
comp=Z,2.4nm,0.7s
PZH PanZhiHua 27.90 103 P P 20 59 36.9 +3.3
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,5.8s
HHC Hu-ho-hao-te 31.38 71 *e*P P 21 00 05.6 +1.3
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,77nm,5.0s
BURAR Bucovina Array 35.11 302 P P 21 00 38.9 +2.3
FIA1 FINESS Array S 37.08 326 P P 21 00 55.2 +2.2
FINES FINESS Array B 37.08 326 P P 21 00 54.8 +1.8
FINES FINESS Array B 37.08 326 P P 21 00 55.6 +2.6
comp=Z,1.5nm,0.7s,baz=121,slow=9.0,SNR=13
comp=Z,1.5nm,0.7s
ARCES ARCESS Array B 40.65 337 P P 21 01 24.8 +2.1
comp=Z,1.1nm,0.5s,baz=112,slow=8.3,SNR=14
comp=Z,1.1nm,0.5s
HFS Hagfors 42.70 321 P P 21 01 41.9 +2.3
comp=Z,5.6nm,0.4s,baz=96,slow=10,SNR=71
comp=Z,5.6nm,0.4s
NC602 NORSAR Array S 43.82 322 P P 21 01 49.9 +1.4
NB2 NORSAR Subarra 44.00 323 P P 21 01 52.0 +1.9
comp=Z,1.5nm,0.5s,baz=94,slow=7.9
NOA NORSAR Array B 44.00 323 P P 21 01 51.9 +1.8
comp=Z,1.5nm,0.5s,baz=107,slow=7.2,SNR=19
comp=Z,1.5nm,0.5s
TIXI Tiksi 45.13 22 P P 21 01 59.4 +0.5
TIXI IAmb IAmb 21 02 00.2
comp=Z,2.6nm,0.9s
ESDC Sonseca Array 57.33 298 P P 21 03 32.9 +2.4
comp=Z,0.6nm,0.7s,baz=58,slow=8.0,SNR=6.9
comp=Z,0.6nm,0.7s
PETK Petropavlovsk- 59.40 44 P P 21 03 44.9 +0.3
PETK Petropavlovsk- 59.40 44 P P 21 03 44.8 +0.2
comp=Z,5.5nm,0.9s,baz=284,slow=6.7,SNR=3.5
comp=Z,5.5nm,0.9s
TORD Torodi Ar. Bea 65.92 268 P P 21 04 29.6 +1.2
TORD Torodi Ar. Bea 65.92 268 P P 21 04 29.7 +1.2
comp=Z,0.2nm,0.5s,baz=52,slow=6.5,SNR=1.7
comp=Z,0.2nm,0.5s
C18K Utukok River 67.63 18 P P 21 04 39.7 +1.1
C18K IAmb IAmb 21 04 59.8
comp=Z,4.2nm,1.4s
C19K Lookout Ridge 67.69 17 P P 21 04 40.0 +1.1
C19K IAmb IAmb 21 05 04.9
comp=Z,2.0nm,1.2s
BMAR Burnt Mountain 72.30 14 P P 21 05 08.8 +1.7
WB2 Warramunga Arr 82.17 122 P P 21 06 04.5 +1.6
WB2 IAmb IAmb 21 06 14.6
comp=Z,6.1nm,1.2s

IDC 10 20:54:25.7±7.9, 2˚77S×140˚33E, h0km, mb3.1/2, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=307.8km s-min=33.6km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.04**	**198**	P	P	20 58 39.6	+1.0
	0.1nm,0.3s,baz=11,slow=12,SNR=5.0						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**21.68**	**196**	P	P	20 59 17.4	-0.9
	0.5nm,0.8s,baz=28,slow=10,SNR=5.0						
	0.5nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**33.46**	**50**	T	T	21 34 43.3	
	baz=231						
H11S2	**WAKE ISLAND Hy**	**33.48**	**50**	T	T	21 34 37.0	
	baz=231						
H11S1	**WAKE ISLAND Hy**	**33.48**	**50**	T	T	21 34 45.7	
	baz=231						
H11N1	**WAKE ISLAND Hy**	**34.35**	**48**	T	T	21 35 46.1	
	baz=229,slow=76,SNR=17						
H11N2	**WAKE ISLAND Hy**	**34.36**	**48**	T	T	21 35 47.4	
	baz=229,slow=76,SNR=23						
H11N3	**WAKE ISLAND Hy**	**34.37**	**48**	T	T	21 35 47.8	
	baz=229,slow=76,SNR=12						
MKAR	**Makanchi Array**	**70.83**	**322**	P	P	21 05 44.5	+0.1
	0.2nm,0.6s,baz=123,slow=5.3,SNR=1.6						
	0.2nm,0.6s						

IDC ***10*** *20:54:59.2±1.0, 4˚89S×81˚36W, h0km, mb4.1/5, mbtmp4.1/8, ML3.8/3, MS3.2/5, Error ellipse: s-maj=41.7km s-min=18.6km az=58.0*
NEIC ***10*** *20:55:00.3±1.9, 4˚84S±0.07˚×81˚32W±0.06, h11km±8km, mb4.0/4, Error ellipse: s-maj=10.9km s-min=7.5km az=220.0*
IGQ ***10*** *20:55:01±2.5, 5˚S×23˚×8˚1W±2˚1, h70km*
ISC 10 20:55:04.5±0.8, 4˚81S±0.06×81˚24W±0.09, h35km, n50, σ1ş79/42, mb4.2/5, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCRA	**Macar, Loja**	**1.36**	**71**		**Pn**	**20 55 26.0**	**-1.0**
MCRA				Sn	**Sn**	**20 55 44.9**	**+1.1**
MCRA	**Macar, Loja**	**1.36**	**71**	P	**Pn**	**20 55 26.0**	**-1.0**
MCRA				S	**Sn**	**20 55 45.0**	**+1.1**
ARNL	**Arenillas**	**1.72**	**43**		**Pn**	**20 55 32.1**	**+0.2**
ARNL	**Arenillas**	**1.72**	**43**	P	**Pn**	**20 55 32.0**	**+0.1**
ISPG	**Isla Puna-Puer**	**2.12**	**30**	P	**Pn**	**20 55 42.0**	**+4.5**
SALI	**Salinas**	**2.62**	**6**	Pn	**Pn**	**20 55 42.8**	**-1.5**
MILO	**Milagro-Astudi**	**3.02**	**34**	P	**Pn**	**20 55 52.0**	**+2.1**
COHC	**Cochancay**	**3.06**	**41**		**Pn**	**20 55 51.1**	**+0.7**
COHC	**Cochancay**	**3.06**	**41**	P	**Pn**	**20 55 51.0**	**+0.6**
ATAH	**Atahualpa**	**3.66**	**129**	Pn	**Pn**	**20 55 59.3**	**+0.4**
	10nm,0.3s,baz=352,slow=6.6,SNR=27						
ATAH				Sn	**Sn**	**20 56 44.7**	**+3.6**
	21nm,0.3s,baz=115,slow=21,SNR=4.4						
ATAH				LR	LR	20 57 12.4	
	comp=Z,84nm,21.9s,baz=284,slow=36						
	35nm,0.5s						
CHSH	**Refugio Sur-Vo**	**4.06**	**36**	Pn	**Pn**	**20 56 04.2**	**-0.5**
TAMH	**Tambohuasha Ch**	**4.07**	**37**	P	**Pn**	**20 56 03.0**	**-1.7**
PORT	**Chimborazo Vol**	**4.14**	**37**	P	**Pn**	**20 56 06.0**	**+0.2**
BMAS	**Trigal station**	**4.29**	**40**	P	**Pn**	**20 56 08.0**	**+0.3**
SLOR	**San Lorenzo -**	**4.89**	**34**		**Pn**	**20 56 14.3**	**-1.8**
GGPT	**Toaza - Volcan**	**5.25**	**30**	P	**Pn**	**20 56 24.0**	**+3.0**
TERV	**Terraza Guagua**	**5.30**	**30**	P	**Pn**	**20 56 24.0**	**+2.2**
PULU	**Pululahua**	**5.53**	**30**		**Pn**	**20 56 24.4**	**-0.3**
PULU	**Pululahua**	**5.53**	**30**	P	**Pn**	**20 56 28.0**	**+3.3**
PAC1	**Pacto, Paraso**	**5.61**	**26**	P	**Pn**	**20 56 26.0**	**+0.4**
OTAV	**Otavalo**	**5.74**	**29**		**Pn**	**20 56 28.1**	**+0.5**
IMBA	**Imbabura, San**	**5.90**	**31**	Pn	**Pn**	**20 56 28.7**	**-1.1**
NNA	**Nana**	**8.35**	**149**	Pn	**Pn**	**20 57 02.8**	**-0.4**
	1.7nm,0.3s,baz=331,slow=17,SNR=1.5						
NNA				Sn	**Sn**	**20 58 40.8**	**+4.4**
	2.5nm,0.3s,baz=291,slow=12,SNR=1.9						
	4.8nm,0.3s						
CZSB	**Cruzeiro do Su**	**8.97**	**109**		**Pn**	**20 57 09.7**	**-1.9**
ETMB	**Extrema**	**15.71**	**109**		**Pn**	**20 58 41.9**	**-1.5**
ETMB				IAmb	IAmb	20 58 55.2	
	comp=Z,5.6nm,0.8s						
LPAZ	**La Paz**	**17.20**	**133**	Pn	**Pn**	**20 58 59.8**	**-3.0**
LPAZ	**La Paz**	**17.20**	**133**	P	**P**	**20 59 02.9**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=321,slow=12,SNR=4.5						
LPAZ				LR	LR	21 06 14.9	
	comp=Z,71nm,19.2s,baz=330,slow=39						
	comp=Z,0.9nm,0.6s						
SDV	**Santo Domingo**	**17.23**	**38**	LR	LR	21 06 31.9	
	comp=Z,66nm,18.4s,baz=286,slow=40						
PB16	**IPOC Station P**	**17.67**	**140**		**Pn**	**20 59 07.1**	**-1.4**
SIV	**San Ignacio**	**22.71**	**121**	LR	LR	21 09 36.8	
	comp=Z,130nm,21.0s,baz=288,slow=38						
H03N2	**Juan Fernandez**	**28.57**	**176**	T	T	21 30 27.1	
	baz=355,slow=76,SNR=4.6						
H03N1	**Juan Fernandez**	**28.57**	**176**	T	T	21 30 28.1	
	baz=355,slow=76,SNR=8.7						
H03N3	**Juan Fernandez**	**28.58**	**176**	T	T	21 30 26.6	
	baz=355,slow=76,SNR=7.8						
MDP	**Montagnes des**	**30.21**	**71**	LR	LR	21 13 55.5	
	comp=Z,102nm,18.8s,baz=298,slow=37						
PDAR	**Pinedale Array**	**53.87**	**334**	P	**P**	**21 04 25.6**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=130,slow=8.3,SNR=5.5						
	comp=Z,0.6nm,0.8s						
ULM	**Lac du Bonnet**	**56.28**	**349**	P	**P**	**21 04 42.5**	**+1.0**
	comp=Z,3.9nm,0.8s,baz=158,slow=8.9,SNR=6.7						
	comp=Z,3.9nm,0.8s						
ESDC	**Sonseca Array**	**83.32**	**49**	P	**P**	**21 07 29.3**	**+1.2**
	comp=Z,1.1nm,0.9s,baz=274,slow=5.6,SNR=3.1						
	comp=Z,1.1nm,0.9s						
TOA0	**Torodi Ar. Sit**	**84.23**	**76**	P	**P**	**21 07 31.9**	**-1.3**
TORD	**Torodi Ar. Bea**	**84.23**	**76**	P	**P**	**21 07 32.6**	**-0.6**
TORD				IAmb	IAmb	21 07 33.7	
	comp=Z,1.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**84.23**	**76**	P	**P**	**21 07 32.8**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=282,slow=4.1,SNR=19						
	comp=Z,0.9nm,0.5s						
QSPA	**South Pole Qui**	**85.27**	**180**	P	**P**	**21 07 37.1**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=100,slow=1.7,SNR=18						
	comp=Z,3.4nm,0.9s						
H11N3	**WAKE ISLAND Hy**	**112.17**	**289**	T	T	23 15 23.9	
	baz=88,slow=75,SNR=9.8						
H11N2	**WAKE ISLAND Hy**	**112.18**	**289**	T	T	23 15 29.3	
	baz=88,slow=75,SNR=8.8						
H11N1	**WAKE ISLAND Hy**	**112.19**	**289**	T	T	23 15 18.6	
	baz=88,slow=75,SNR=7.6						
H11S2	**WAKE ISLAND Hy**	**112.42**	**288**	T	T	23 15 45.7	
	baz=85,slow=74,SNR=55						
H11S1	**WAKE ISLAND Hy**	**112.42**	**288**	T	T	23 15 43.1	
	baz=85,slow=74,SNR=42						
H11S3	**WAKE ISLAND Hy**	**112.43**	**288**	T	T	23 15 48.2	
	baz=85,slow=74,SNR=29						
ASAR	**Alice Springs**	**135.55**	**229**	PKP	**PKPdf**	**21 14 21.2**	**-0.7**
	comp=Z,0.7nm,1.0s,baz=111,slow=2.1,SNR=4.3						
MKAR	**Makanchi Array**	**135.82**	**16**	PKP	**PKPdf**	**21 14 21.2**	**-0.6**
	comp=Z,0.3nm,0.9s,baz=343,slow=4.5,SNR=1.9						
WRA	**Warramunga Arr**	**137.24**	**234**	PKP	**PKPdf**	**21 14 24.2**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=116,slow=1.9,SNR=6.7						

DJA 10 21:18:27.2±0.5, 9˚S±6˚×11˚0E±˚, h10km, M3.7/11, mb3.9/2, MLv3.6/11, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGM	**Wanagama**	**1.39**	**4**	P	Pn	21 18 51.5	-1.2
UGM				S	Sb	21 19 09.7	-1.5
YOGI	**Yogyakarta**	**1.49**	**355**	P	Pn	21 18 53.0	-1.1
YOGI				S	Sn	21 19 12.2	-1.4
PWJI	**Pagerwojo**	**1.87**	**47**	P	Pn	21 18 57.9	-1.3
PWJI				S	Sn	21 19 20.7	-2.2
SMRI	**Semarang**	**2.25**	**0**	P	Pb	21 19 06.3	-1.6
KPJI	**Karang Pucung**	**2.46**	**323**	P	Pn	21 19 08.6	+1.2
CMJI	**Cimerak**	**2.48**	**308**	P	Pn	21 19 06.7	-0.9
JAGI	**Jajag, Banyuwa**	**3.77**	**78**	P	Pn	21 19 25.2	-0.3
TWSI	**Taliwang, Sumb**	**6.40**	**85**	P	Pn	21 20 02.2	+0.6
	7.6nm,0.8s,0.0nm						
PLAI	**Plampang**	**7.27**	**87**	P	Pn	21 20 13.5	-0.1

DJA 10 21:35:06.9±0.7, 11˚S±6˚×11˚8E±˚, h10km, M3.5/6, mb3.6/1, mB5.5/1, MLv3.5/6, Mw(mB)5.0/1, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**1.81**	**346**	P	Pn	21 35 37.3	-0.9
PLAI				S	Sb	21 36 02.2	-0.9
TWSI	**Taliwang, Sumb**	**2.27**	**324**	P	Pb	21 35 46.5	-1.5
TWSI				S	Sg	21 36 19.7	-0.3
BASI	**Baing, Sumba**	**2.35**	**81**	P	Pn	21 35 30.2	-15
SRBI	**Singaraja**	**3.88**	**310**	P	Pb	21 36 12.1	-3.4
EDFI	**Ende, Flores**	**3.88**	**62**	P	Pn	21 35 49.9	-17
JAGI	**Jajag, Banyuwa**	**4.54**	**297**	P	Pn	21 36 15.9	+0.2
GMJI	**Gumukmas**	**5.25**	**296**	P	Pn	21 36 24.1	-1.4

BGR ***10*** *21:45:29.1, 2˚47S×14˚81W, h10km, mb5.3, Ms5.5*
IDC ***10*** *21:45:33.8±0.4, 1˚43S×15˚22W, h0km, mb4.9/35, mbtmp4.9/35, MS5.3/77, Error ellipse: s-maj=16.2km s-min=9.0km az=136.0*
MOS ***10*** *21:45:34.0±1.1, 1˚41S×15˚25W, h10km, mb5.5/104, MS5.4/59, Error ellipse: s-maj=7.9km s-min=3.1km az=61.9*
IPGP ***10*** *21:45:36.0, 1˚38S×15˚25W, h11km, Mw5.9, Fault plane solution: NP1:φs258.00000°, δ75.00000°, λ178.00000°. NP2:φs348.00000°, δ88.00000°, λ16.00000°.*
NEIC ***10*** *21:45:36.3±1.2, 1˚42S±0.06×15˚21W±0.08, h10km±1km, mb5.6/221, Ms_20 5.4/775, Mwb5.9/62, Mww5.9/25, Error ellipse: s-maj=13.8km s-min=10.3km az=101.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.42; Mθθ3.63; Mφφ-4.04; Mrθ0.23; Mθφ-6.61; Mrφ0.96; Fault plane solution: M₀7.71000×10¹⁷ NP1: φs255.11000°, δ83.80000°, λ-177.04000°. NP2: φs164.79000°, δ87.06000°, λ-6.21000°. Principal axes: T 7.4412, Plg2.0000°, Azm210.0000°; N 0.5142, Plg83.0000°, Azm320.0000°; P -7.9554, Plg6.0000°, Azm120.0000°;*
NEIC ***10*** *21:45:36.3, 1˚42S×15˚21W, h10km*
NEIC ***10*** *21:45:36.6, 1˚38S×15˚25W, h24km*
NEIC ***10*** *21:45:36.6, 1˚18S×14˚84W, h24km, Moment Tensor Solution. Duration: 49 Moment tensor: Scale 10¹⁸Nm; Mrr-0.15; Mθθ0.44; Mφφ-0.29; Mrθ-0.20; Mθφ-0.94; Mrφ0.21; Fault plane solution: M₀1.04000×10¹⁸ NP1: φs349.76000°, δ84.87000°, λ12.16000°. NP2: φs258.66000°, δ77.88000°, λ174.75000°. Principal axes: T 1.1456, Plg12.0000°, Azm215.0000°; N -0.2076, Plg77.0000°, Azm12.0000°; P -0.9380, Plg5.0000°, Azm124.0000°;*
GCMT ***10*** *21:45:39.3±0.1, 1˚12S×15˚12W, h20km, MW6.0/173, Moment Tensor Solution. s156,c327; s173,c612; Duration: 23 Moment tensor: Scale 10¹⁸Nm; Mrr-0.14±.01; Mθθ0.45±.01; Mφφ-0.30±.01; Mrθ0.13±.01; Mθφ-0.99±.01; Mrφ0.27±.01; Best double couple: M₀1.10400×10¹⁸ NP1:φs168.00000°, δ79.00000°, λ-14.00000°. NP2:φs261.00000°, δ76.00000°, λ-169.00000°. Principal axes: T 1.1300, Plg2.0000°, Azm215.0000°; N -0.0540, Plg73.0000°, Azm312.0000°; P -1.0770, Plg17.0000°, Azm124.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 10 21:45:35.9±0.2, 1˚47S±0.04×15˚20W±0.04, h11km, n1412, σ1ş70/1232, mb5.4/308, MS5.4/517, 79C-70D, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**6.35**	**174**	T	T	21 53 54.3	
	baz=351,slow=74,SNR=108						
H10N3	**ASCENSION HYDR**	**6.37**	**174**	T	T	21 53 29.9	
	baz=351,slow=74,SNR=139						
H10N1	**ASCENSION HYDR**	**6.37**	**174**	T	T	21 54 14.4	
	baz=351,SNR=132						
ASCN	**Ascension**	**6.47**	**173**	Pn	**Pn**	**21 47 10.9**	**-0.3**
LIC	**Lamto**	**12.71**	**53**	⇑*i*P	**Pn**	**21 48 33.3**	**-3.5**
	29nm,0.2s						
TIC	**Toumodi**	**12.97**	**51**	⇑*i*P	**Pn**	**21 48 36.3**	**-4.1**
	29nm,0.2s						
KIC	**Kosan Boka**	**13.02**	**53**	⇑*i*P	**Pn**	**21 48 37.2**	**-3.9**
	55nm,0.4s						
DBIC	**Dimbokro**	**13.12**	**52**	Pn	**Pn**	**21 48 37.8**	**-4.6**
DBIC	**Dimbokro**	**13.12**	**52**	P	**Pn**	**21 48 37.8**	**-4.6**
DBIC	**Dimbokro**	**13.12**	**52**	*e*P	**Pn**	**21 48 37.9**	**-4.4**
DBIC	**Dimbokro**	**13.12**	**52**	Pn	**Pn**	**21 48 37.9**	**-4.4**
	6.9nm,0.3s,baz=226,slow=13,SNR=92						
DBIC				Sn	Sn	21 50 55.6	-13
	15nm,0.3s,baz=133,slow=22,SNR=4.5						
DBIC				LR	LR	21 52 43.6	
	comp=Z,34μm,19.1s,baz=212,slow=33						
MBO	**M'Bour**	**15.86**	**354**		**Pn**	**21 49 17.2**	**-2.0**
MBO				IAmb	IAmb	21 49 19.4	
	comp=Z,1μm,2.0s						
BBTS	**Babate**	**16.08**	**355**	Pn	**Pn**	**21 49 20.9**	**-1.3**
BBTS				Sn	Sn	21 52 01.3	-19
SHEL	**Horse Pasture**	**17.15**	**148**		**Pn**	**21 49 35.6**	**-0.2**
SHEL				IAmb	IAmb	21 49 39.7	
	comp=Z,580nm,1.8s						
SHEL	**Horse Pasture**	**17.15**	**148**	P	**Pn**	**21 49 35.6**	**-0.2**
SHEL				pmax	pmax		
	comp=Z,580nm,1.8s						
SACV	**Santiago Islan**	**18.33**	**333**	Pn	**Pn**	**21 49 47.5**	**-2.9**
RCBR	**Riachuelo**	**21.10**	**258**	P	**P**	**21 50 20.2**	**-0.6**
RCBR				IAmb	IAmb	21 50 26.7	
	comp=Z,401nm,1.4s						
RCBR	**Riachuelo**	**21.10**	**258**	P	**P**	**21 50 20.3**	**-0.5**
	comp=Z,49nm,0.9s,baz=84,slow=12,SNR=35						
RCBR				S	S	21 54 01.3	-14
	comp=Z,3.9nm,0.6s,baz=36,slow=22,SNR=1.6						
RCBR				LR	LR	21 57 20.2	
	comp=Z,4μm,18.1s,baz=84,slow=34						
	comp=Z,49nm,0.9s						
RCBR	**Riachuelo**	**21.10**	**258**	*e*P	**P**	**21 50 21.3**	**+0.5**
NBCA	**Caruaru-PE**	**21.78**	**251**	*e*P	**P**	**21 50 27.6**	**-0.5**
TOA0	**Torodi Ar. Sit**	**22.18**	**49**	P	**P**	**21 50 29.6**	**-2.7**
TORD	**Torodi Ar. Bea**	**22.18**	**49**	P	**P**	**21 50 29.3**	**-3.1**
TORD	**Torodi Ar. Bea**	**22.18**	**49**	P	**P**	**21 50 30.1**	**-2.2**
	comp=Z,204nm,1.0s,baz=233,slow=8.8,SNR=156						
TORD				S	**S**	**21 54 27.4**	**-9.3**
	comp=Z,39nm,0.9s,baz=238,slow=22,SNR=5.0						
TORD				LR	LR	21 58 16.9	
	comp=Z,27μm,18.2s,baz=227,slow=34						
	comp=Z,204nm,1.0s						
NBLV	**Livramento - P**	**22.42**	**254**	*e*P	**P**	**21 50 34.4**	**-0.6**
NBAN	**Anadia - AL**	**22.48**	**248**	*e*P	**P**	**21 50 34.4**	**-1.2**
NBCL	**Cascavel-CE**	**23.22**	**263**	*e*P	**P**	**21 50 43.9**	**+0.6**
NBLA	**Lagarto - SE**	**24.34**	**246**	*e*P	**P**	**21 50 53.3**	**-0.8**
NBPB	**Pedra_Branca-C**	**24.66**	**260**	*e*P	**P**	**21 50 56.2**	**-0.9**
EKNA	**AfricaArray -**	**25.16**	**77**	⇓*e*P	**P**	**21 51 02.3**	**+0.7**
GDU01	**Guandu, BA**	**27.01**	**242**	*e*P	**P**	**21 51 17.8**	**-0.5**
CMC01	**Cam

PMOZ eLR LR 22 01 41.2
comp=Z,3µm,16.0s
VAS01 Vassouras-RJ 34.38 231 eP P 21 52 23.3 0.0
BSCB Bom Sucesso 34.76 234 eP P 21 52 26.7 0.0
PMNB Patos De Minas 35.01 239 eP P 21 52 28.8 -0.2
MAN01 Angra dos Reis 35.10 231 eP P 21 52 29.5 -0.1
BDFB Brasilia 35.28 245 P **P 21 52 30.7 -0.6**
BDFB IAmb IAmb 21 52 32.7
comp=Z,116nm,1.1s
BDFB IAMs_20 IAMs_20 22 04 31.7
comp=Z,5µm,18.0s
BDFB Brasilia 35.28 245 P **P 21 52 30.7 -0.6**
comp=Z,81nm,1.1s,baz=61,slow=10.0,SNR=72
BDFB LR LR 22 04 34.5
comp=Z,3µm,20.8s,baz=73,slow=32
comp=Z,81nm,1.1s
AVE Averroes 35.36 11 P **P 21 52 29.8 -1.8**
AVE IAmb IAmb 21 53 22.1
comp=Z,42nm,0.8s
MDT Midelt 35.54 15 LR LR 22 06 09.0
comp=Z,9µm,21.9s,baz=210,slow=35
IFR Ifrane 36.07 14 P **P 21 52 38.1 +0.1**
IPMB Ipameri, GO 36.32 241 eP P 21 52 39.8 -0.4
TSUM Tsumeb 36.62 121 P **P 21 52 42.6 -0.2**
TSUM IAmb IAmb 21 52 45.2
comp=Z,134nm,1.5s
TSUM Tsumeb 36.62 121 ⇓*iP* **P 21 52 43.5 +0.7**
TSUM IAmb IAmb 21 52 43.9
comp=Z,164nm,1.6s
TSUM Tsumeb 36.62 121 LR LR 22 04 41.4
comp=Z,5µm,20.9s,baz=291,slow=31
PARB Paraibuna 36.64 231 eP P 21 52 43.5 +0.7
MCPB Macapa, AP 36.87 271 eP P 21 52 44.7 -0.1
SNDB Serra Nova Dou 37.28 252 eP P 21 52 47.8 -0.5
VAO Valinhos 37.52 233 eP P 21 52 50.7 +0.3
RCLB Rio Claro- Sao 37.69 234 eP P 21 52 51.8 0.0
WIN Windhoek 37.74 126 P **P 21 52 52.5 +0.1**
WIN Windhoek 37.74 126 P **P 21 52 52.5 +0.1**
WIN pmax pmax
comp=Z,294nm,1.6s
WIN MLR MLR
comp=Z,4µm,20.0s
BB19B Bebedouro 37.88 237 eP P 21 52 53.5 +0.1
MDP Montagnes des 37.97 280 LR LR 22 04 41.3
comp=Z,3µm,20.4s,baz=96,slow=30
SPB Sao Paulo 38.19 232 P **P 21 52 56.0 +0.1**
SPB IAMs_20 IAMs_20 22 05 16.1
comp=Z,8µm,22.0s
SPB Sao Paulo 38.19 232 eP P 21 52 56.4 +0.5
WMELI Melilla 38.35 16 P **P 21 52 55.7 -1.4**
PET01 Itanhaem-SP 38.43 231 eP P 21 52 57.9 0.0
ARAG Araguaiana, MT 38.76 247 eP P 21 53 01.2 +0.3
PFVI Vila Bisbo 38.86 8 IAMs_20 IAMs_20 22 09 04.0
comp=Z,6µm,20.0s
ITRB Iturama 38.87 240 eP P 21 53 01.8 +0.1
MALB Monte Alegre 39.05 269 eP P 21 53 02.4 -0.9
MORF Marmelete 39.06 8 ePP PP 21 54 35.0 +2.3
MORF eS **S** 21 59 06.0 +3.8
MORF IAMs_20 IAMs_20 22 08 25.4
comp=N,10µm,20.8s
PBDV Barranco-do-Ve 39.11 9 eP P 21 53 00.0 -3.4
PBDV Barranco-do-Ve 39.11 9 P **P 21 53 00.5 -2.9**
ESPR Espera 39.12 12 P **P 21 53 02.8 -0.7**
PVAQ Vaqueiros 39.30 9 eP P 21 53 06.8 +1.8
comp=N,140nm,1.8s
PVAQ Vaqueiros 39.30 9 ePP PP 21 54 41.3 +6.1
PVAQ eS **S** **21 59 14.4 +8.6**
PVAQ eSS **SnSn** **22 02 03.1 +3.2**
PVAQ eLR LR 22 04 04.3
comp=N,6µm,20.0s
PVAQ Vaqueiros 39.30 9 IAMs_20 IAMs_20 22 08 30.5
comp=Z,5µm,20.0s
PCVE Castro Verde 39.47 9 eP P 21 53 05.4 -1.0
MESJ Messejana 39.65 9 ePP PP 21 54 41.1 +2.1
MESJ eS **S** **21 59 14.7 +3.6**
MESJ IAMs_20 IAMs_20 22 08 53.7
comp=Z,12µm,22.2s
EVO Evora 40.35 9 eP P 21 53 14.3 +0.6
comp=Z,88nm,1.5s
LIS Lisbon 40.38 7 ePP PP 21 54 49.5 +2.5
LIS IAMs_20 IAMs_20 22 08 40.2
comp=N,10µm,20.5s
NPGB Novo Progresso 40.41 261 eP P 21 53 13.6 -1.0
ITTB Itaituba 40.58 265 eP P 21 53 15.6 -0.3
PMTG Montargil 40.85 8 eP P 21 53 18.3 +0.5
comp=N,45nm,2.3s
CART Cartagena 41.03 17 IAMs_20 IAMs_20 22 09 54.6
comp=Z,6µm,22.0s
LDASE Londrina, Braz 41.07 235 eP P 21 53 19.9 -0.1
PMRV Marv??o 41.33 9 eP P 21 53 20.5 -1.3
comp=Z,94nm,1.6s
PMRV Marv??o 41.33 9 ePP PP 21 55 05.4 +8.0
PMRV eS **S** **21 59 40.9 +4.7**
PMRV eLR LR 22 05 50.1
comp=Z,7µm,18.0s
TATN Tataouine 41.70 33 P **P 21 53 25.4 +0.4**
TATN IAmb IAmb 21 53 31.3
comp=Z,118nm,0.9s
PCAS Casmilo, Conde 41.78 8 eP P 21 53 26.5 +1.0
comp=Z,183nm,1.6s
KOMG Komaggas 41.93 135 ⇓*iP* **P 21 53 27.9 +1.0**
KOMG IAmb IAmb 21 53 29.2
comp=Z,142nm,1.5s
PAB San Pablo 42.02 13 P **P 21 53 27.0 -0.5**
PAB San Pablo 42.02 13 P **P 21 53 27.0 -0.5**
PAB pmax pmax
comp=Z,73nm,1.3s
PAB MLR MLR
comp=Z,7µm,18.0s
TRCB Terra Rica 42.06 237 P **P 21 53 28.2 +0.1**
TRCB IAmb IAmb 21 53 29.6
comp=Z,71nm,1.0s
TRCB Terra Rica 42.06 237 eP P 21 53 28.9 +0.8
TER01 Tubaro-SC 42.10 227 eP P 21 53 29.9 +1.6
ESDC Sonseca Array 42.22 13 P **P 21 53 28.0 -1.2**
ESDC Sonseca Array 42.22 13 P **P 21 53 28.5 -0.7**
comp=Z,4.9nm,1.0s,baz=218,slow=6.9,SNR=11
ESDC LR LR 22 11 30.9
comp=Z,6µm,19.2s,baz=190,slow=37
comp=Z,4.9nm,1.0s
MTE Manteigas 42.26 9 eP P 21 53 30.2 +0.8
MTE Manteigas 42.26 9 ePP PP 21 55 14.9 +7.5
MTE eS **S** **21 59 58.2 +8.2**
MTE eSS **SS** **22 02 56.0 -2.5**
MTE eLR LR 22 05 25.7
comp=Z,5µm,18.0s
SALV Santo Antonio 42.40 248 eP P 21 53 31.0 +0.1
PDRB Porto dos Gac 42.41 254 eP P 21 53 31.1 +0.1
PTGB Pitanga 42.44 234 eP P 21 53 32.5 +1.2
PVIS Viseu 42.51 8 eP P 21 53 30.1 -1.4
MVO Moncorvo 43.08 9 eP P 21 53 36.5 +0.4
comp=Z,41nm,1.3s
MVO Moncorvo 43.08 9 ePP PP 21 55 24.1 +7.8
MVO eS S 22 00 10.9 +8.8
MVO eSS **SS** **22 03 07.5 -7.2**
MVO eLR LR 22 06 44.7
comp=Z,5µm,20.0s
GUD Guadarrama 43.11 12 P **P 21 53 36.6 +0.1**
KEST Kesra 43.53 29 P **P 21 53 39.5 -0.4**
KEST IAmb IAmb 21 53 42.0
comp=Z,99nm,1.4s
KEST Kesra 43.53 29 P **P 21 53 40.1 +0.2**
comp=Z,32nm,1.2s,baz=173,slow=6.0,SNR=19
KEST LR LR 22 12 09.4
comp=Z,6µm,19.1s,baz=176,slow=37
comp=Z,32nm,1.2s
ITAB Concordia 43.69 231 P **P 21 53 41.2 0.0**
ITAB IAmb IAmb 21 53 44.1
comp=Z,113nm,1.0s
ITAB Concordia 43.69 231 eP P 21 53 42.4 +1.3
PGAV Gavieira, Arco 43.69 7 eS **S** **22 00 15.5 +4.4**
PGAV eLR LR 22 06 56.0
comp=Z,5µm,20.0s
PBRG Braganca 43.75 9 eP P 21 53 42.1 +0.6
CNLB Canela 43.79 227 eP P 21 53 43.7 +1.6
AQDB Aquidauana 43.81 242 P **P 21 53 42.1 -0.2**
AQDB IAMs_20 IAMs_20 22 10 55.8
comp=Z,6µm,20.0s
AQDB Aquidauana 43.81 242 eP P 21 53 42.1 -0.2
FRBT Francisco Belt 43.82 233 eP P 21 53 43.0 +0.7
UPI Upington 43.89 131 ⇓*iP* **P 21 53 43.1 +0.2**
UPI IAmb IAmb 21 53 44.5
comp=Z,318nm,1.7s
MCR1 Marechal Candi 43.93 235 eP P 21 53 44.0 +0.8

CVNA Calvinia 44.51 136 ⇓*iP* **P 21 53 48.5 +0.6**
CVNA IAmb IAmb 21 53 49.8
comp=Z,152nm,1.5s
ANTJ Antonio Joao (44.62 240 eP P 21 53 49.0 +0.2
BDQN Bodoquena, MS 44.73 242 eP P 21 53 49.5 -0.1
LSZ Lusaka 44.95 110 P **P 21 53 51.6 0.0**
LSZ IAmb IAmb 21 53 53.7
comp=Z,77nm,1.2s
LSZ IAMs_20 IAMs_20 22 09 15.1
comp=Z,5µm,22.0s
LSZ Lusaka 44.95 110 *i*P **P 21 53 50.5 -1.0**
LSZ Lusaka 44.95 110 P **P 21 53 51.6 0.0**
LSZ pmax pmax
comp=Z,77nm,1.2s
LSZ MLR MLR
comp=Z,5µm,22.0s
LSZ Lusaka 44.95 110 LR LR 22 09 37.0
comp=Z,5µm,21.3s,baz=296,slow=32
LSZ Lusaka 44.95 110 P **P 21 53 52.2 +0.6**
LSZ P **P** **21 53 52.2 +0.6**
LSZ P **P** **21 53 52.2 +0.6**
LSZ S **S** **22 00 28.4 -1.7**
LSZ S **S** **22 00 28.4 -1.7**
LSZ S **S** **22 00 28.4 -1.7**
LSZ Lusaka 44.95 110 *i*P **P 21 53 50.5 -1.0**
ALGR Alto Alegre (B 45.15 229 eP P 21 53 54.1 +1.2
CER Ceres 45.29 138 ⇓*iP* **P 21 53 55.2 +1.2**
CER IAmb IAmb 21 53 56.6
comp=Z,191nm,1.4s
CRSM Crissiumal (Br 45.30 232 eP P 21 53 54.6 +0.5
BOAV Boa Vista 45.47 275 P **P 21 53 55.7 0.0**
BOAV Boa Vista 45.47 275 eP P 21 53 56.2 +0.5
MACA Manacapuru-AM 45.47 267 P **P 21 53 55.1 -0.5**
MACA IAMs_20 IAMs_20 22 10 59.8
comp=Z,4µm,22.0s
MACA Manacapuru-AM 45.47 267 eP P 21 53 56.0 +0.3
PTLB Pontes e Lacer 45.49 250 P **P 21 53 55.6 -0.2**
PTLB Pontes e Lacer 45.49 250 eP P 21 53 56.2 +0.4
PKA Prieska 45.69 132 eP P 21 53 56.5 -0.7
PKA IAmb IAmb 21 53 57.5
comp=Z,479nm,2.9s
SUR Sutherland 45.75 136 P **P 21 53 57.9 +0.1**
SUR IAmb IAmb 21 54 11.4
comp=Z,69nm,1.1s
SUR Sutherland 45.75 136 ⇓*iP* **P 21 53 58.4 +0.5**
SUR IAmb IAmb 21 54 10.5
comp=Z,912nm,2.5s
SUR Sutherland 45.75 136 LR LR 22 08 56.4
comp=Z,4µm,21.8s,baz=301,slow=31
SUR Sutherland 45.75 136 P **P 21 53 58.9 +1.1**
SUR P **P** **21 53 58.9 +1.1**
LBTB Lobatse 45.79 124 P **P 21 53 57.6 -0.5**
LBTB IAmb IAmb 21 53 59.7
comp=Z,56nm,0.9s
LBTB Lobatse 45.79 124 *i*P **P 21 53 57.7 -0.5**
LBTB Lobatse 45.79 124 P **P 21 53 57.6 -0.5**
LBTB pmax pmax
comp=Z,56nm,1.0s
LBTB Lobatse 45.79 124 ⇓*iP* **P 21 53 58.2 +0.1**
LBTB IAmb IAmb 21 53 59.4
comp=Z,245nm,1.7s
LBTB Lobatse 45.79 124 LR LR 22 09 53.4
comp=Z,3µm,21.6s,baz=288,slow=32
LBTB Lobatse 45.79 124 *i*P **P 21 53 57.7 -0.5**
MURT Porto Murtinho 45.89 241 eP P 21 53 58.8 -0.1
FRAZ Fraserburg 45.91 135 ⇓*iP* **P 21 53 59.0 -0.1**
FRAZ IAmb IAmb 21 54 00.7
comp=Z,235nm,1.7s
MBAR Mbarara 45.94 89 P **P 21 54 00.3 +0.7**
MBAR Mbarara 45.94 89 *diP* **P 21 54 00.8 +1.2**
MBAR pmax pmax
comp=Z,72nm,1.3s
MBAR MLR MLR
comp=Z,7µm,16.0s
MBAR Mbarara 45.94 89 ⇓*iP* **P 21 54 00.9 +1.4**
MBAR IAmb IAmb 21 54 02.2
comp=Z,172nm,1.4s
MBAR Mbarara 45.94 89 LR LR 22 11 39.3
comp=Z,6µm,19.5s,baz=251,slow=34
MBAR Mbarara 45.94 89 P **P 21 54 00.4 +0.8**
MBAR P **P** **21 54 00.4 +0.8**
MBAR P **P** **21 54 00.4 +0.8**
MBAR S **S** **22 00 46.3 +1.6**
MBAR S **S** **22 00 46.3 +1.6**
MBAR S **S** **22 00 46.3 +1.6**
VILB Vilhena 45.99 253 P **P 21 54 00.1 +0.3**
VILB IAmb IAmb 21 54 02.2
comp=Z,90nm,1.0s
VILB Vilhena 45.99 253 eP P 21 54 01.1 +1.3
ETSF Etsaut 46.10 15 eP P 21 54 00.7 +0.5
ETSF pmax pmax
comp=Z,28nm,0.9s
SJPF Ste Jean 46.13 14 eP P 21 54 01.0 +0.6
SJPF pmax pmax
comp=Z,32nm,0.8s
CPSB Cacapava Do Su 46.27 228 eP P 21 54 02.6 +0.9
CEST Esterri de Car 46.31 17 P **P 21 54 01.6 -0.4**
CEST IAmb IAmb 21 54 03.8
comp=Z,85nm,1.3s
MERW Merweville 46.41 136 ⇓*iP* **P 21 54 03.8 +0.8**
MERW IAmb IAmb 21 54 04.5
comp=Z,231nm,1.7s
EPF Esparros 46.46 16 eP P 21 54 03.7 +0.7
EPF pmax pmax
comp=Z,30nm,0.9s
SWZ Schweizer 46.50 127 eP P 21 54 03.2 -0.5
SWZ IAmb IAmb 21 54 04.8
comp=Z,85nm,1.1s
VSL Villasalto 46.59 26 P **P 21 54 04.4 +0.3**
VSL IAmb IAmb 21 54 08.7
comp=Z,46nm,1.1s
BLWY Bulawayo 46.64 117 *i*P **P 21 54 03.6 -1.4**
BLWY Bulawayo 46.64 117 *i*P **P 21 54 03.6 -1.4**
KRI Karoi 46.65 112 *i*P **P 21 54 05.3 +0.2**
KRI Karoi 46.65 112 ⇓*iP* **P 21 54 05.1 0.0**
KRI Karoi 46.65 112 *i*P **P 21 54 05.3 +0.2**
GRAN Grantham 46.66 135 eP P 21 54 05.3 +0.5
GRAN IAmb IAmb 21 54 17.5
comp=Z,30nm,0.8s
UNIS Unistalda (Bra 46.84 230 eP P 21 54 07.0 +0.8
BRAK Brakfontein 46.89 134 ⇓*iP* **P 21 54 07.4 +0.7**
BRAK IAmb IAmb 21 54 08.6
comp=Z,277nm,1.8s
CLTB Caltabellotta 46.92 31 P **P 21 54 07.4 +0.7**
BOSA Boshof 47.09 129 P **P 21 54 08.2 -0.1**
BOSA IAmb IAmb 21 54 09.6
comp=Z,55nm,0.8s
BOSA Boshof 47.09 129 *i*P **P 21 54 07.4 -0.9**
BOSA Boshof 47.09 129 ⇓*iP* **P 21 54 08.2 -0.1**
BOSA IAmb IAmb 21 54 09.4
comp=Z,56nm,0.8s
BOSA Boshof 47.09 129 P **P 21 54 08.2 -0.1**
comp=Z,31nm,0.6s,baz=307,slow=7.8,SNR=110
BOSA LR LR 22 11 47.5
comp=Z,2µm,18.6s,baz=284,slow=33
comp=Z,31nm,0.6s
BOSA Boshof 47.09 129 *i*P **P 21 54 07.4 -0.9**
PLTB Pedras Altas 47.10 226 P **P 21 54 09.5 +1.2**
PLTB IAmb IAmb 21 54 11.0
comp=Z,77nm,1.0s
PLTB Pedras Altas 47.10 226 eP P 21 54 09.4 +1.2
LEPH Lephalale, Lim 47.19 122 ⇓*iP* **P 21 54 08.5 -0.6**
LEPH IAmb IAmb 21 54 10.0
comp=Z,239nm,1.6s
KSR Koster 47.20 125 eP P 21 54 08.8 -0.5
KSR IAmb IAmb 21 54 19.4
comp=Z,66nm,1.3s
RAFF Raffo Rosso 47.26 32 P **P 21 54 09.9 +0.5**
RAFF IAMs_20 IAMs_20 22 17 08.1
comp=Z,5µm,18.0s
BBSD Serra de San D 47.28 248 eP P 21 54 10.8 +0.9
CPUP Villa Florida 47.42 235 P **P 21 54 10.8 0.0**
CPUP IAMs_20 IAMs_20 22 10 47.6
comp=Z,5µm,22.0s
CPUP Villa Florida 47.42 235 P **P 21 54 11.1 +0.3**
comp=Z,56nm,1.0s,baz=75,slow=7.8,SNR=72
CPUP S **S** **22 01 06.0 +0.8**
comp=Z,0.6nm,0.4s,baz=232,slow=14,SNR=1.4
CPUP LR LR 22 11 33.1
comp=Z,4µm,22.0s,baz=72,slow=33
comp=Z,56nm,1.0s
SIV San Ignacio 47.43 250 LR LR 22 13 17.8
comp=Z,6µm,19.0s,baz=94,slow=35
VAE Valguarnera 47.47 32 LR LR 22 13 17.7
comp=Z,5µm,19.6s,baz=162,slow=35
BFON Badsfontein, M 47.48 134 ⇓*iP* **P 21 54 11.7 +0.4**
BFON IAmb IAmb 21 54 13.0
comp=Z,183nm,1.6s
RODS Rosario do Sul 47.56 229 eP P 21 54 12.7 +0.9
ROOI Rooidraai Farm 47.74 134 eP P 21 54 13.3 -0.1
ROOI IAmb IAmb 21 54 14.1
comp=Z,201nm,1.7s
ESFA Espinillo Form 47.84 237 eP P 21 54 14.9 +0.9
HRAO HartRAO 47.87 124 ⇓*iP* **P 21 54 14.2 -0.3**
PRYS Parys 48.02 126 eP P 21 54 15.7 0.0
HVD Gariep Dam 48.21 131 ⇓*iP* **P 21 54 17.2 +0.1**
HVD IAmb IAmb 21 54 18.4
comp=Z,194nm,1.6s
GRAF Camdeboo Natio 48.31 134 ⇓*iP* **P 21 54 18.1 +0.5**
GRAF IAmb IAmb 21 54 19.4
comp=Z,66nm,1.1s
RUST Rust De Winter 48.31 123 ⇓*iP* **P 21 54 17.5 -0.4**
RUST IAmb IAmb 21 54 18.9
comp=Z,89nm,1.2s
SAML Samuel 48.31 259 P **P 21 54 17.8 -0.1**
SAML Samuel 48.31 259 P **P 21 54 17.8 -0.1**
SAML pmax pmax
comp=Z,112nm,1.2s
SAML Samuel 48.31 259 eP P 21 54 18.2 +0.3
ITQB Itaqui 48.32 230 P **P 21 54 18.2 +0.6**
ITQB Itaqui 48.32 230 eP P 21 54 18.3 +0.6
MUSN Musina, Limpop 48.42 119 *i*P **P 21 54 16.6 -2.2**
MUSN Musina, Limpop 48.42 119 ⇓*iP* **P 21 54 17.9 -0.8**
MUSN IAmb IAmb 21 54 19.6
comp=Z,191nm,1.6s
MUSN Musina, Limpop 48.42 119 *i*P **P 21 54 16.6 -2.2**
LMR La Mourre 48.68 21 eP P 21 54 22.7 +2.5
LMR pmax pmax
comp=Z,45nm,1.0s
CAF Calviac 48.69 16 eP P 21 54 20.3 0.0
CAF pmax pmax
comp=Z,35nm,1.0s
TBOT Tacuaremb 48.77 228 eP P 21 54 21.5 +0.4
CEL Celeste 48.84 33 P **P 21 54 21.8 +0.2**
CEL IAmb IAmb 21 54 26.3
comp=Z,68nm,1.0s
CEL IAMs_20 IAMs_20 22 14 57.1
comp=Z,5µm,20.0s
RJF Les Rejaudoux 48.88 16 eP P 21 54 21.8 0.0
RJF pmax pmax
comp=Z,91nm,1.6s
SNKL Senekal, Frees 48.92 127 ⇓*iP* **P 21 54 22.2 -0.4**
SNKL IAmb IAmb 21 54 23.4
comp=Z,100nm,1.0s
SOE Somerset East 49.30 133 P **P 21 54 25.4 +0.1**
SOE IAmb IAmb 21 54 27.1
comp=Z,122nm,1.4s
SOE Somerset East 49.30 133 eP P 21 54 24.3 -1.0
SOE IAmb IAmb 21 54 26.7
comp=Z,150nm,1.5s
VIVF Saint-Julien-l 49.40 19 eP P 21 54 26.2 +0.4
VIVF pmax pmax
comp=Z,39nm,1.1s
TEFE Tefe 49.42 267 eP P 21 54 26.6 +0.2
BUFB Buffelsbos 49.47 136 eP P 21 54 26.3 -0.1
BUFB IAmb IAmb 21 54 51.7
comp=Z,60nm,1.1s
SBF Sospel 49.48 21 eP P 21 54 26.7 +0.3
SBF pmax pmax
comp=Z,30nm,0.8s
MFF Saint Martin d 49.67 14 eP P 21 54 27.8 0.0
MFF pmax pmax
comp=Z,14nm,0.6s
PSAL Palomas, Salto 49.73 229 eP P 21 54 28.6 +0.1
SSB Saint Sauveur 49.74 18 P **P 21 54 28.1 -0.3**
SSB Saint Sauveur 49.74 18 P **P 21 54 28.1 -0.3**
SSB pmax pmax
comp=Z,42nm,1.1s
SSB MLR MLR
comp=Z,6µm,21.0s
CRLN Carolina, Mapu 49.85 123 eP P 21 54 28.7 -1.0
CRLN IAmb IAmb 21 54 30.6
comp=Z,37nm,1.2s
ORIF Oris-en-Rattie 49.85 20 eP P 21 54 30.4 +1.1
ORIF pmax pmax
comp=Z,105nm,1.7s
TICA Tres Isletas 49.96 236 eP P 21 54 31.4 +1.0
TIP Timpagrande 49.97 32 ⇑P **P 21 54 30.4 +0.1**
TIP Timpagrande 49.97 32 P **P 21 54 30.1 -0.2**
TIP IAmb IAmb 21 54 34.0
comp=Z,41nm,1.0s
TIP IAMs_20 IAMs_20 22 17 57.0
comp=Z,5µm,18.0s
TCF Toulx Ste Croi 49.98 16 eP P 21 54 30.7 +0.6
TCF pmax pmax
comp=Z,116nm,1.6s
MBDF Montbardon 49.99 20 eP P 21 54 31.5 +1.1
MBDF pmax pmax
comp=Z,63nm,1.0s
PILG Pilgrimsrest, 50.05 122 ⇓*iP* **P 21 54 31.0 -0.3**
PILG IAmb IAmb 21 54 32.0
comp=Z,127nm,1.5s
CUC Castrocucco 50.07 31 P **P 21 54 30.0 -1.0**
MOPA Mopani 50.16 120 *i*P **P 21 54 31.5 -0.4**
MOPA Mopani 50.16 120 ⇓*iP* **P 21 54 31.2 -0.7**
MOPA IAmb IAmb 21 54 32.5
comp=Z,301nm,1.9s
MOPA Mopani 50.16 120 *i*P **P 21 54 31.5 -0.4**
GRHM Grahamstown, E 50.18 134 P **P 21 54 31.8 -0.2**
GRHM IAmb IAmb 21 54 44.6
comp=Z,56nm,0.9s
GRHM Grahamstown, E 50.18 134 ⇓*iP* **P 21 54 32.2 +0.2**
GRHM IAmb IAmb 21 54 33.4
comp=Z,111nm,1.3s
BNI Bardonecchia 50.24 20 P **P 21 54 32.3 0.0**
BNI Bardonecchia 50.24 20 P **P 21 54 32.3 0.0**
BNI pmax pmax
comp=Z,49nm,1.2s
BNI MLR MLR
comp=Z,6µm,19.0s
BGF Bois d'Agland 50.40 16 eP P 21 54 33.9 +0.6
BGF pmax pmax
comp=Z,96nm,1.6s
CESX Cesi 50.53 26 P **P 21 54 34.1 -0.3**
CESX IAmb IAmb 21 54 58.8
comp=Z,46nm,1.0s
PCRV Puerto La Cruz 50.54 284 LR LR 22 14 27.9
comp=Z,937nm,20.4s,slow=34
LPG La Plagne 50.66 20 eP P 21 54 36.6 +1.0
LPG pmax pmax
comp=Z,53nm,1.1s
LPL La Plagne 50.66 20 eP P 21 54 36.5 +0.9
LPL pmax pmax
comp=Z,29nm,0.7s
ROSF Rostrenen 50.68 10 eP P 21 54 36.3 +0.9
ROSF pmax pmax
comp=Z,99nm,1.5s
OSSC Osservatorio P 50.69 25 IAMs_20 IAMs_20 22 13 17.6
comp=Z,4µm,18.0s
SEUS St. Eustatius 50.69 294 IAMs_20 IAMs_20 22 10 26.0
comp=Z,3µm,20.0s
SGMF Saint Gilles 50.73 11 eP P 21 54 38.8 +3.0
SGMF pmax pmax
comp=Z,29nm,1.0s
AVF Avril sur Loir 50.75 16 eP P 21 54 36.3 +0.3
AVF pmax pmax
comp=Z,19nm,1.0s
SMF Signal de Mont 50.76 17 eP P 21 54 36.3 +0.2
SMF pmax pmax
comp=Z,65nm,1.6s
LODK Lodwar 50.77 84 P **P 21 54 37.2 +0.4**
LODK IAmb IAmb 21 54 39.8
comp=Z,81nm,1.7s
LODK Lodwar 50.77 84 P **P 21 54 37.5 +0.6**
SNR=22
SMRT St. Marten 50.94 295 IAMs_20 IAMs_20 22 10 31.6
comp=Z,3µm,20.0s
NRCA Norcia 50.94 27 P **P 21 54 37.3 -0.3**
SABA Saba 50.97 294 IAMs_20 IAMs_20 22 10 42.3
comp=Z,3µm,20.0s
MATE Matera 51.01 31 ⇑P **P 21 54 38.3 +0.3**
KSTD Kokstad 51.13 129 eP P 21 54 40.0 +0.6
KSTD IAmb IAmb 21 54 41.1
comp=Z,87nm,1.5s
GRR Gorron 51.20 12 eP P 21 54 39.3 0.0
GRR pmax pmax
comp=Z,34nm,0.8s
GUMA Gualdo di Mace 51.22 27 IAMs_20 IAMs_20 22 16 14.3
comp=Z,6µm,21.0s

LTHK Lithakia 51.28 37 P **P** 21 54 38.5 -1.5
LOR Lormes 51.33 17 *e*P **P** 21 54 40.4 +0.1
LOR pmax pmax
comp=Z,30nm,0.8s
PRMA PARMA 51.33 23 IAMs_20 IAMs_20 22 16 47.0
comp=Z,4µm,19.0s
ETMB Extrema 51.38 259 P **P** 21 54 40.8 -0.4
ETMB IAmb IAmb 21 54 42.6
comp=Z,117nm,1.4s
ETMB IAMs_20 IAMs_20 22 13 52.3
comp=Z,3µm,19.0s
ETMB Extrema 51.38 259 *e*P **P** 21 54 40.8 -0.4
PSDA Pessada-Kefalo 51.39 36 P **P** 21 54 40.2 -0.7
CABF La Chapelle 51.42 19 *e*P **P** 21 54 41.2 +0.1
CABF pmax pmax
comp=Z,85nm,1.5s
KEF5 Kardakata, Kep 51.43 36 P **P** 21 54 39.8 -1.4
VLS Valsamata 51.44 36 P **P** 21 54 41.0 -0.3
LDF La Druitiere 51.56 13 *e*P **P** 21 54 45.1 +3.1
LDF pmax pmax
comp=Z,41nm,1.4s
CLF Chambon-Foret 51.59 15 P **P** 21 54 42.5 +0.3
CLF IAmb IAmb 21 54 47.1
comp=Z,58nm,0.8s
SENIN Lac Senin/Sane 51.60 20 P **P** 21 54 41.6 -1.0
SENIN IAmb IAmb 21 55 24.8
comp=Z,105nm,1.0s
FLN La Foliniere 51.64 12 *e*P **P** 21 54 42.3 -0.3
FLN pmax pmax
comp=Z,18nm,0.8s
RLS Riolos of Patr 51.88 37 P **P** 21 54 45.5 +0.9
LKD2 Lefkada island 51.88 36 P **P** 21 54 47.6 +3.0
VLI Veliai 51.93 39 P **P** 21 54 45.0 0.0
DRO Drossia 51.96 37 P **P** 21 54 45.5 +0.3
KEK Kerkira 52.02 34 P **P** 21 54 42.7 -2.9
SALO Salr 52.13 23 P **P** 21 54 45.2 -1.2
SALO IAmb IAmb 21 54 49.4
comp=Z,54nm,1.1s
SALO IAMs_20 IAMs_20 22 18 50.1
comp=Z,4µm,18.0s
IGT Igoumenitsa 52.20 35 P **P** 21 54 46.4 -0.5
SRN Sarande 52.25 34 P **P** 21 54 46.2 -1.0
PVO Paravola 52.28 36 P **P** 21 54 47.5 0.0
KLV Kalavryta, Ach 52.28 37 P **P** 21 54 48.3 +0.6
GUR Goura 52.33 37 P **P** 21 54 48.4 +0.3
IDI Anoyia 52.34 42 P **P** 21 54 49.2 +1.0
IDI IAmb IAmb 21 54 58.2
comp=Z,99nm,1.2s
IDI Anoyia 52.34 42 P **P** 21 54 48.6 +0.4
IDI Anoyia 52.34 42 LR LR 22 16 32.4
comp=Z,62nm,21.0s,baz=231,slow=36
TEOL Teolo 52.37 24 IAMs_20 IAMs_20 22 16 53.5
comp=Z,3µm,18.0s
TUE Stuetta 52.41 21 P **P** 21 54 47.6 -1.0
JAN Janina 52.58 35 P **P** 21 54 52.6 +2.8
EVR Evrytania 52.64 36 P **P** 21 54 51.0 +0.6
HINF Hinteralfeld 52.73 19 *e*P **P** 21 54 50.4 -0.4
HINF pmax pmax
comp=Z,58nm,1.6s
HAU Haudompre 52.74 18 *e*P **P** 21 54 50.7 -0.1
HAU pmax pmax
comp=Z,33nm,0.9s
DAVOX Davos/Dischmat 52.87 21 LR LR 22 17 02.0
comp=Z,6µm,19.4s,baz=226,slow=36
FUORN Ofenpass-Fuorn 52.87 22 P **P** 21 54 51.1 -1.0
FUORN IAMs_20 IAMs_20 22 16 43.7
comp=Z,4µm,21.0s
CTI Castel Tesino 52.92 23 IAMs_20 IAMs_20 22 18 30.2
comp=Z,3µm,19.0s
AGG Agios Georgios 53.02 36 P **P** 21 54 51.7 -1.4
AGG Agios Georgios 53.02 36 P **P** 21 54 55.4 +2.3
VILL Villia 53.07 38 P **P** 21 54 52.7 -0.8
KPRO Kipourio 53.07 35 P **P** 21 54 54.4 +0.9
STON Ston 53.15 30 *e*P **P** 21 54 57.0 +3.1
ECH Echery 53.18 19 P **P** 21 54 53.4 -0.6
ECH Echery 53.18 19 P **P** 21 54 53.4 -0.6
ECH pmax pmax
comp=Z,29nm,1.2s
ECH MLR MLR
comp=Z,6µm,21.0s
TIR Tirane 53.18 33 ⇓P **P** 21 54 54.5 +0.3
TIR Tirane 53.18 33 P **P** 21 54 54.4 +0.3
SLE Schleitheim 53.22 20 P **P** 21 54 53.5 -0.9
KIBK Kibwezi 53.22 92 P **P** 21 54 55.5 +0.4
KIBK Kibwezi 53.22 92 P **P** 21 54 55.9 +0.8
ATHU Athens Univers 53.24 38 P **P** 21 54 53.5 -1.2
HCY Herceg Novi 53.24 31 *e*P **P** 21 54 58.2 +3.6
DAVA Damuels 53.29 21 *e*P **P** 21 54 54.5 -0.6
comp=Z,83nm,0.7s
DAVA Damuels 53.29 21 *e*P **P** 21 54 54.1 -1.0
comp=Z,78nm,0.8s,baz=210,slow=7.1
PTL Penteli 53.34 38 P **P** 21 54 56.7 +1.3
TREB Trebinje 53.36 31 *e*P **P** 21 54 58.7 +3.2
FETA Feichten 53.38 22 *i*P **P** 21 54 55.0 -0.7
comp=Z,34nm,0.7s
CDF Champ du Feu 53.39 19 *e*P **P** 21 54 55.1 -0.6
CDF pmax pmax
comp=Z,38nm,1.0s
DION Dionisos Attik 53.40 38 P **P** 21 54 56.9 +1.0
DRME Dracevica, Mon 53.41 32⇑*i*P **P** 21 54 56.6 +0.7
SKDS Skadanscina 53.49 25 *e*P **P** 21 54 55.2 -1.2
SKDS *e*S **S** 22 02 26.9 -2.2
SKDS Skadanscina 53.49 25⇑*i*P **P** 21 54 55.2 -1.2
HUMP Col San Antoni 53.50 294 P **P** 21 54 56.4 -0.5
STAL STALIGIAL 53.52 24 IAMs_20 IAMs_20 22 17 40.0
comp=Z,3µm,21.0s
OHR Ohrid 53.53 34 *i*P **P** 21 54 59.2 +2.4
BRY Bratogost 53.59 30 *e*P **P** 21 55 00.8 +3.5
FNA Florina 53.63 34 P **P** 21 54 57.3 -0.3
FNA Florina 53.63 34 P **P** 21 54 57.7 +0.1
FNA Florina 53.63 34 P **P** 21 54 57.3 -0.3
FNA pmax pmax
comp=Z,22nm,1.0s
BAUV El Baul 53.65 282 P **P** 21 54 57.2 -0.9
BFO Black Forest 53.66 19 P **P** 21 54 56.7 -0.9
BFO IAmb IAmb 21 55 24.1
comp=Z,71nm,1.4s
BFO Black Forest 53.66 19 P **P** 21 54 56.7 -0.9
BFO pmax pmax
comp=Z,71nm,1.4s
BFO MLR MLR
comp=Z,5µm,18.0s
BFO Black Forest 53.66 19 *e*P **P** 21 54 56.2 -1.4
comp=Z,45nm,1.1s,baz=210,slow=7.1
BFO *e*S **S** 22 02 32.1 +0.8
baz=210,slow=14
SABO M.te Sabotino 53.66 25 P **P** 21 54 57.8 +0.1
SABO IAmb IAmb 21 55 24.9
comp=Z,232nm,1.5s
SABO IAMs_20 IAMs_20 22 19 00.2
comp=Z,3µm,19.0s
NEVS Nevesinje 53.66 30 *e*P **P** 21 55 01.1 +3.3
PUK Puka 53.68 32 P **P** 21 54 58.4 +0.4
UBR Ueberruh 53.71 21 *e*P **P** 21 54 56.4 -1.6
comp=Z,54nm,0.7s,baz=210,slow=7.1
UBR *e*S **S** 22 02 31.7 -0.4
baz=210,slow=14
SQTA Sankt Quirin 53.73 22 *e*P **P** 21 54 57.0 -1.2
comp=Z,54nm,0.6s
RETA Reutte 53.78 22 *i*P **P** 21 54 57.8 -0.8
comp=Z,35nm,1.2s
A050A Klekovaca 53.79 28⇑*i*P **P** 21 54 58.5 -0.2
MOTA Moosalm 53.79 22 *e*P **P** 21 54 57.9 -0.9
comp=Z,32nm,0.8s
APE Apeiranthos 53.80 40 ⇑P **P** 21 54 59.0 +0.1
APE Apeiranthos 53.80 40*c i*P **P** 21 54 58.3 -0.6
APE pmax pmax
comp=Z,20nm,0.9s
APE MLR MLR
comp=Z,3µm,16.0s
LIT Litokhoron 53.81 36 P **P** 21 54 58.3 -0.6
LIT Litokhoron 53.81 36 P **P** 21 54 57.2 -1.7
CEY Cerknica 53.82 25⇑*i*P **P** 21 54 58.1 -0.7
ABTA Abfaltersbach 53.84 23 *e*P **P** 21 54 59.3 +0.3
comp=Z,34nm,1.5s
WTTA Wattenberg 53.92 22 *i*P **P** 21 54 59.2 -0.5
comp=Z,65nm,1.1s
WTTA Wattenberg 53.92 22 *e*P **P** 21 54 59.1 -0.7
comp=Z,76nm,1.1s,baz=210,slow=7.1
WATA Walderalm 53.96 22 *i*P **P** 21 54 59.2 -0.8
comp=Z,44nm,1.2s
BAIF Baives 53.97 15 *e*P **P** 21 54 59.4 -0.4
BAIF pmax pmax
comp=Z,41nm,0.8s

BOJS Bojanci 53.99 26⇑*i*P **P** 21 54 59.6 -0.4
UPM Unac-Piva 54.00 30 *e*P **P** 21 54 59.7 -0.7
MGRS Mrkonjic Grad 54.00 28 *e*P **P** 21 55 00.9 +0.8
KARP Karpathos 54.01 43 P **P** 21 55 00.7 +0.3
KARP IAMs_20 IAMs_20 22 17 44.1
comp=Z,5µm,22.0s
KARP Karpathos 54.01 43 P **P** 21 54 59.7 -0.8
PRED Cave del Predi 54.02 24 P **P** 21 55 00.4 +0.1
PRED IAmb IAmb 21 55 27.4
comp=Z,103nm,1.3s
PRED IAMs_20 IAMs_20 22 20 28.1
comp=Z,3µm,22.0s
GORS Gorjuse 54.09 25 *i*P **P** 21 55 00.3 -0.6
GORS *e*S **S** 22 02 35.8 -1.6
DOU Dourbes 54.11 16 *d*P **P** 21 55 00.4 -0.4
comp=Z,18nm,1.1s
LPAZ La Paz 54.14 251 P **P** 21 55 01.1 -1.3
LPAZ La Paz 54.14 251 P **P** 21 55 01.8 -0.5
comp=Z,18nm,0.8s,baz=76,slow=5.3,SNR=34
LPAZ S **S** 22 02 37.0 -2.9
comp=Z,5.1nm,0.4s,baz=326,slow=4.7,SNR=2.2
LPAZ LR LR 22 17 20.1
comp=Z,5µm,19.5s,baz=88,slow=35
comp=Z,18nm,0.8s
LPAZ La Paz 54.14 251 *e*P **P** 21 55 01.6 -0.7
CELP Cerrillos 54.15 294 P **P** 21 55 00.8 -0.9
CELP IAmb IAmb 21 55 06.8
comp=Z,78nm,1.4s
WLF Walferdange 54.16 17 P **P** 21 55 00.5 -0.6
WLF IAmb IAmb 21 55 06.5
comp=Z,48nm,1.3s
WLF Walferdange 54.16 17 P **P** 21 55 00.5 -0.6
WLF pmax pmax
comp=Z,48nm,1.3s
WLF MLR MLR
comp=Z,7µm,18.0s
WLF Walferdange 54.16 17 *d*P **P** 21 55 01.1 0.0
comp=Z,14nm,1.0s
WLF Walferdange 54.16 17 P **P** 21 55 00.6 -0.6
WLF Walferdange 54.16 17 *e*P **P** 21 55 01.2 0.0
comp=Z,72nm,1.7s,baz=210,slow=7.1
WLF *e*S **S** 22 02 39.5 +1.6
baz=210,slow=14
GIVF Givet 54.17 16 *e*P **P** 21 55 00.9 -0.4
GIVF pmax pmax
comp=Z,62nm,1.1s
MYKA Terra Mystica 54.20 24 *e*P **P** 21 55 02.0 +0.3
comp=Z,37nm,1.4s
BLY Banja Luka 54.29 28 *e*P **P** 21 55 05.4 +3.1
UUPR Utuado, UPR, P 54.32 294 P **P** 21 55 02.9 -0.1
UUPR IAmb IAmb 21 55 21.3
comp=Z,41nm,0.9s
GRG Griva 54.33 35 P **P** 21 55 05.3 +2.7
CRES Cresnjev 54.33 26⇑*i*P **P** 21 55 02.2 -0.4
RCHB Rochefort 54.34 16 *d*P **P** 21 55 01.8 -0.6
comp=Z,16nm,1.0s
BMRD Maredsous 54.34 16 *d*P **P** 21 55 04.3 +1.8
A051A Mrakovica 54.36 28 *e*P **P** 21 55 06.0 +3.1
PAIG Paliouri 54.40 36 P **P** 21 55 02.9 -0.2
GCIS Gornji Cirnik 54.44 26 *i*P **P** 21 55 03.5 +0.2
GCIS *e*S **S** 22 02 38.0 -3.9
KBA Koelnbreinsper 54.44 24 *i*P **P** 21 55 03.5 -0.1
comp=Z,11nm,0.6s
KBA Koelnbreinsper 54.44 24 P **P** 21 55 02.8 -0.7
KBA Koelnbreinsper 54.44 24 *e*P **P** 21 55 02.9 -0.7
comp=Z,30nm,1.1s,baz=210,slow=7.1
LESA Schwarzleotal 54.46 23 *i*P **P** 21 55 02.9 -0.6
comp=Z,28nm,0.7s
SKO Skopje 54.47 33 *i*P **P** 21 55 04.8 +1.2
OBKA Obir 54.48 25 *i*P **P** 21 55 04.0 +0.3
comp=Z,24nm,1.7s
OBKA Obir 54.48 25 *e*P **P** 21 55 03.8 0.0
comp=Z,47nm,1.7s,baz=210,slow=7.1
OBKA Obir 54.48 25⇑*i*P **P** 21 55 02.5 -1.2
BGES Gesves 54.50 16 *d*P **P** 21 55 03.4 -0.2
comp=Z,23nm,0.9s
RUDO Rudo 54.53 30 *e*P **P** 21 55 03.4 -0.6
FUR Furstenfeldbru 54.54 21 *e*P **P** 21 55 02.6 -1.5
comp=Z,108nm,1.1s,baz=210,slow=7.1
FUR *e*S **S** 22 02 41.8 -1.5
baz=210,slow=14
SJES Sjenica 54.58 31⇑*i*P **P** 21 55 04.6 +0.1
BCLA Clavier 54.59 16 *d*P **P** 21 55 04.2 -0.2
comp=Z,17nm,0.9s
CRPR Cabo Rojo, PR 54.62 293 P **P** 21 55 04.5 -0.6
CRPR IAmb IAmb 21 55 46.9
comp=Z,60nm,1.1s
HAPS Han Pijesak,Bl 54.66 30 *e*P **P** 21 55 05.1 0.0
FURI Furi 54.66 78 P **P** 21 55 06.6 +0.7
FURI IAmb IAmb 21 55 25.6
comp=Z,70nm,1.2s
FURI Furi 54.66 78 IAMs_20 IAMs_20 22 14 35.3
comp=Z,4µm,20.0s
TBTG Tabatinga, AM 54.70 266 P **P** 21 55 05.0 -0.8
TBTG IAMs_20 IAMs_20 22 17 36.1
comp=Z,3µm,18.0s
TBTG Tabatinga, AM 54.70 266 *e*P **P** 21 55 05.4 -0.3
BBLS Lazi&#263i 54.73 30⇑*i*P **P** 21 55 04.6 -0.9
BHOU Houvegnez 54.73 16 *d*P **P** 21 55 04.4 -1.0
RJOB Jochberg 54.76 23 *e*P **P** 21 55 04.3 -1.3
comp=Z,31nm,0.7s,baz=210,slow=7.1
RJOB *e*S **S** 22 02 45.5 -0.8
baz=210,slow=14
BSTI Sart Tilman 54.81 16 *d*P **P** 21 55 06.0 +0.1
comp=Z,3.2nm,1.0s
SOKA Soboth 54.82 25 *i*P **P** 21 55 06.6 +0.4
comp=Z,35nm,1.0s
OUR Ouranopolis 54.84 36 P **P** 21 55 06.4 +0.2
OUR Ouranopolis 54.84 36 P **P** 21 55 06.5 +0.2
CHOS Chios island 54.91 39 P **P** 21 55 06.9 -0.1
MEM Membach 54.96 16 *d*P **P** 21 55 07.3 +0.3
comp=Z,12nm,1.2s
BTNL Ternell 54.98 16 *d*P **P** 21 55 07.5 +0.3
comp=Z,16nm,1.1s
ARG Arkhangelos 55.04 43 P **P** 21 55 08.2 +0.4
ARG IAmb IAmb 21 55 50.0
comp=Z,110nm,1.3s
ARG IAMs_20 IAMs_20 22 16 41.0
comp=Z,3µm,19.0s
ARG Arkhangelos 55.04 43 P **P** 21 55 08.2 +0.4
ARG pmax pmax
comp=Z,110nm,1.3s
ARG MLR MLR
comp=Z,3µm,19.0s
BIOA Bad Ischl, Aus 55.05 23 *i*P **P** 21 55 06.6 -1.2
comp=Z,36nm,1.4s
SRS Serrai 55.11 35 P **P** 21 55 07.8 -0.5
KOKK Kokkinochori, 55.16 36 P **P** 21 55 08.5 -0.1
AHRW Bad Neuenahr-A 55.21 17 *e*P **P** 21 55 08.5 -0.3
comp=Z,44nm,1.4s,baz=210,slow=7.1
AHRW *e*S **S** 22 02 55.2 +3.3
baz=210,slow=14
TEKS Tekeris 55.28 30 *e*P **P** 21 55 07.9 -1.5
SIGR SIGRI 55.28 38 P **P** 21 55 09.6 +0.1
TNS Taunus Mts 55.34 18 *e*P **P** 21 55 08.6 -1.2
comp=Z,44nm,1.2s,baz=210,slow=7.1
TNS *e*S **S** 22 02 56.3 +2.4
baz=210,slow=14
NVR Nevrokopi 55.42 35 P **P** 21 55 11.8 +1.3
MOA Molln 55.43 24 *i*P **P** 21 55 09.6 -0.9
comp=Z,23nm,1.3s
MOA Molln 55.43 24 *e*P **P** 21 55 09.0 -1.5
comp=Z,49nm,1.6s,baz=210,slow=7.1
HOPE Hope Point 55.47 195 IAMs_20 IAMs_20 22 11 50.0
comp=Z,4µm,21.0s
ARSA Arzberg 55.48 25 *i*P **P** 21 55 10.2 -0.6
comp=Z,17nm,1.0s
ARSA Arzberg 55.48 25 *e*P **P** 21 55 09.1 -1.7
comp=Z,20nm,1.1s,baz=210,slow=7.1
MMB Musomishta 55.48 35 *e*P **P** 21 55 14.7 +3.7
PRK Paraskevi 55.56 39 P **P** 21 55 11.9 +0.4
KAVA Kavala 55.57 36 P **P** 21 55 11.7 +0.1
AF01 San Pedro de A 55.62 243 P **P** 21 55 12.6 0.0
AF01 IAmb IAmb 21 55 14.7
comp=Z,80nm,1.1s
AF01 IAMs_20 IAMs_20 22 20 18.1
comp=Z,3µm,18.0s
GO01 Chusmiza 55.78 247 P **P** 21 55 12.1 -1.9
GRFO Grafenberg 55.80 20 P **P** 21 55 12.1 -1.0
GRFO IAMs_20 IAMs_20 22 18 58.2
comp=Z,3µm,18.0s
GRFO Grafenberg 55.80 20 P **P** 21 55 12.1 -1.0
GRFO pmax pmax
comp=Z,32nm,1.0s
GRFO MLR MLR

comp=Z,3µm,18.0s
PB16 IPOC Station P 55.80 249 P **P** 21 55 13.1 -1.2
PB16 IAmb IAmb 21 55 14.7
comp=Z,50nm,1.3s
PB16 IAMs_20 IAMs_20 22 17 27.0
comp=Z,5µm,22.0s
GRA1 Grafenberg Arr 55.81 20 P **P** 21 55 12.3 -0.8
GRA1 IAMs_20 IAMs_20 22 19 34.3
comp=Z,3µm,20.0s
GRF Grafenberg Arr 55.81 20 P **P** 21 55 12.3 -0.8
GRF pmax pmax
comp=Z,32nm,1.0s
GRF MLR MLR
comp=Z,3µm,20.0s
GRF Grafenberg Arr 55.81 20 *e*P **P** 21 55 12.2 -1.0
comp=Z,32nm,1.0s,baz=210,slow=7.1
GRF *e*S **S** 22 03 01.6 +1.5
baz=210,slow=14
GRF *e*L L 22 18 58.8
comp=Z,3µm,18.5s
PB08 IPOC Station P 55.84 247 P **P** 21 55 12.4 -2.0
PB08 IAmb IAmb 21 55 14.6
comp=Z,42nm,1.1s
PB08 IAMs_20 IAMs_20 22 16 58.0
comp=Z,3µm,19.0s
FRGS Fruska Gora 55.86 29⇑*i*P **P** 21 55 13.6 0.0
FRGS Fruska Gora 55.86 29⇑*i*P **P** 21 55 13.6 0.0
VTS Vitosha 55.89 34 *e*P **P** 21 55 13.7 -0.3
PCDR Punta Cana, DR 55.91 293 IAMs_20 IAMs_20 22 12 41.4
comp=Z,3µm,20.0s
EZN Ezine 55.94 38 P **P** 21 55 14.7 +0.5
WET Wettzell 55.95 22 *e*P **P** 21 55 12.8 -1.4
comp=Z,42nm,1.0s,baz=210,slow=7.1
WET *e*S **S** 22 03 02.5 +0.4
baz=210,slow=14
GEC2 GERESS Array S 56.02 23 P **P** 21 55 14.1 -0.6
GEC2 IAmb IAmb 21 55 41.1
comp=Z,120nm,1.6s
GEC2 GERESS Array S 56.02 23 *e*P **P** 21 55 13.6 -1.1
comp=Z,95nm,1.6s,baz=210,slow=7.1
GEC2 *e*S **S** 22 03 03.2 +0.1
baz=210,slow=14
GERES GERESS Array B 56.02 23 P **P** 21 55 13.9 -0.8
GERES GERESS Array B 56.02 23 P **P** 21 55 14.2 -0.6
comp=Z,10.0nm,0.7s,baz=197,slow=4.1,SNR=36
GERES LR LR 22 19 15.4
comp=Z,3µm,21.5s,baz=230,slow=36
comp=Z,10.0nm,0.7s
BUG Bochum-Univer 56.06 17 *e*P **P** 21 55 14.0 -0.9
comp=Z,36nm,1.2s,baz=210,slow=7.1
BUG *e*S **S** 22 03 07.0 +3.7
baz=210,slow=14
RZN Rozhen 56.14 35 *e*P **P** 21 55 17.3 +1.4
CONA Conrad Observa 56.15 25 *i*P **P** 21 55 15.6 -0.1
comp=Z,29nm,1.4s
RONA Rosalia, Austr 56.15 25 *e*P **P** 21 55 16.0 +0.2
comp=Z,44nm,1.4s
SDV Santo Domingo 56.18 282 P **P** 21 55 15.6 -1.1
SDV Santo Domingo 56.18 282 LR LR 22 17 17.7
comp=Z,1µm,21.6s,baz=100,slow=34
SDV Santo Domingo 56.18 282 *e*P **P** 21 55 16.9 +0.2
LVC Limon Verde 56.18 244 P **P** 21 55 15.4 -1.4
LVC Limon Verde 56.18 244 P **P** 21 55 15.4 -1.4
LVC pmax pmax
comp=Z,25nm,1.0s
LVC MLR MLR
comp=Z,3µm,22.0s
LVC Limon Verde 56.18 244 LR LR 22 20 38.8
comp=Z,1µm,18.2s,baz=80,slow=38
LVC Limon Verde 56.18 244 *e*P **P** 21 55 15.8 -1.0
KASTN Kahler Asten 56.19 18 *e*P **P** 21 55 15.6 -0.3
comp=Z,50nm,1.7s,baz=210,slow=7.1
KASTN *e*S **S** 22 03 08.8 +3.6
baz=210,slow=14
KHC Kasperske Hory 56.20 22 P **P** 21 55 13.9 -2.1
KHC IAmb IAmb 21 55 41.5
comp=Z,62nm,1.6s
KHC IAMs_20 IAMs_20 22 17 13.8
comp=Z,3µm,22.0s
KHC Kasperske Hory 56.20 22*ce*P **P** 21 55 15.5 -0.5
KHC pmax pmax
comp=Z,60nm,1.7s
KHC MLR MLR
comp=Z,5µm,14.0s
KHC Kasperske Hory 56.20 22 *e*P **P** 21 55 16.3 +0.3
KHC *ex* x 21 55 30.0
KHC *e*PP **PP** 21 57 21.7 +0.4
KHC *e*S **S** 22 03 03.3 -2.1
KHC AMS AMS 22 19 40.0
comp=Z,3µm,17.1s
TRQA Tornquist 56.21 224 P **P** 21 55 16.0 -0.3
TRQA IAmb IAmb 21 55 17.4
comp=Z,59nm,1.4s
TRQA Tornquist 56.21 224 P **P** 21 55 16.0 -0.3
TRQA pmax pmax
comp=Z,59nm,1.4s
TRQA MLR MLR
comp=Z,5µm,20.0s
ROTZ Rotzenmuhle 56.22 21 *e*P **P** 21 55 14.6 -1.5
comp=Z,5.8nm,1.2s,baz=210,slow=7.1
ROTZ *e*S **S** 22 03 07.2 +1.7
baz=210,slow=14
PB11 IPOC Station P 56.22 247 P **P** 21 55 14.9 -2.0
PB11 IAmb IAmb 21 55 19.6
comp=Z,40nm,0.8s
CKRC Cesky Krumlov 56.23 23 *e*P **P** 21 55 15.8 -0.4
CKRC *e*S **S** 22 03 04.5 -1.3
CKRC MLR MLR
comp=Z,4µm,15.9s
CKRC Cesky Krumlov 56.23 23 *e*P **P** 21 55 15.8 -0.4
CKRC *e*S **S** 22 03 04.5 -1.3
CKRC AMS AMS 22 20 40.0
comp=Z,4µm,15.9s
SOP Sopron 56.25 25 P **P** 21 55 18.5 +2.2
RDO Rodhopi 56.27 36 P **P** 21 55 16.5 -0.1
RDO IAMs_20 IAMs_20 22 19 15.3
comp=Z,4µm,19.0s
RDO Rodhopi 56.27 36 P **P** 21 55 09.1 -7.5
PB09 IPOC Station P 56.29 245 P **P** 21 55 17.1 -0.3
PB09 IAMs_20 IAMs_20 22 17 17.9
comp=Z,4µm,21.0s
PB01 IPOC Station P 56.34 246 IAMs_20 IAMs_20 22 18 45.3
comp=Z,3µm,19.0s
UBBA Unterbreizbach 56.36 19 *e*P **P** 21 55 15.9 -1.0
comp=Z,38nm,1.4s,baz=210,slow=7.1
UBBA *e*S **S** 22 03 09.9 +2.8
baz=210,slow=14
MANZ Manzenberg 56.37 21 *e*P **P** 21 55 16.2 -0.9
comp=Z,7.7nm,1.0s,baz=210,slow=7.1
MANZ *e*S **S** 22 03 09.4 +1.9
baz=210,slow=14
ALN Alexandroupoli 56.42 37 P **P** 21 55 16.8 -0.8
PLD Plovdiv 56.44 35 *e*P **P** 21 55 20.2 +2.4
ELL Elmali 56.53 43 P **P** 21 55 19.2 +0.5
ELL Elmali 56.53 43 P **P** 21 55 19.2 +0.5
ELL pmax pmax
comp=Z,166nm,1.2s
ELL MLR MLR
comp=Z,18µm,20.0s
MDVR Moldovita 56.54 31 ⇓P **P** 21 55 18.9 +0.4
PB12 IPOC Station P 56.62 249 P **P** 21 55 17.5 -2.2
PB12 IAMs_20 IAMs_20 22 18 02.6
comp=Z,4µm,21.0s
MPEP Malo Peshtene 56.66 33 *e*P **P** 21 55 21.7 +2.4
ZVC Zvikov 56.69 23 *e*P **P** 21 55 18.1 -1.3
ZVC *e*S **S** 22 03 10.0 -1.8
ZVC AMS AMS 22 17 20.0
comp=Z,3µm,19.6s
NKC Novy Kostel 56.69 21 P **P** 21 55 19.8 +0.3
NKC Novy Kostel 56.69 21 *e*S **S** 22 03 10.8 -1.1
NKC AMS AMS 22 19 00.0
comp=Z,4µm,18.8s
VALD Valchedram 56.71 33 *e*P **P** 21 55 22.2 +2.5
MOX Moxa 56.75 20 *e*P **P** 21 55 18.5 -1.3
comp=Z,27nm,1.1s,baz=210,slow=7.1
MOX *e*S **S** 22 03 15.2 +2.6
baz=210,slow=14
MOX *e*L L 22 21 12.2
comp=Z,5µm,18.0s
TA02 Huaiquique 56.77 247 P **P** 21 55 19.7 -0.8
PB02 IPOC Station P 56.78 245 IAMs_20 IAMs_20 22 19 07.7
comp=Z,3µm,21.0s
PB06 IPOC Station P 56.80 244 P **P** 21 55 20.1 -0.9
PB06 IAMs_20 IAMs_20 22 17 14.4
comp=Z,3µm,22.0s
PLN Plauen 56.80 21 *e*P **P** 21 55 19.3 -0.9

comp=Z,18nm,1.1s,baz=210,slow=7.1
PLN eS S 22 03 12.3 -0.9
baz=210,slow=14
PB15 IPOC Station P 56.83 243 P P 21 55 20.6 -0.6
PUNG Punghina 56.84 32 ⇓P P 21 55 20.9 +0.4
TANN Tannenbergstha 56.85 21 eP P 21 55 19.2 -1.5
comp=Z,33nm,1.0s,baz=210,slow=7.1
TANN eS S 22 03 16.1 +2.1
baz=210,slow=14
DJES Djerdap 56.88 31 ⇑P P 21 55 21.2 +0.3
DJES Djerdap 56.88 31 P P 21 55 21.0 +0.1
ZST Bratislava 56.88 25 eP P 21 55 21.0 +0.2
ZST pmax pmax
comp=Z,95nm,1.1s
ZST Bratislava 56.88 25 eP P 21 55 21.0 +0.2
ZST ePP PP 21 57 26.0 -1.4
PATCX Punta Patache 56.90 246 P P 21 55 21.2 -0.4
PATCX IAMs_20 IAMs_20 22 19 32.1
comp=Z,2µm,18.0s
GTTG Gottingen 56.97 18 eP P 21 55 20.8 -0.6
comp=Z,43nm,1.4s,baz=210,slow=7.1
GTTG eS S 22 03 19.6 +4.2
baz=210,slow=14
IBBN Ibbenburen 56.97 17 eS S 22 03 19.8 +4.5
baz=210,slow=14
HERR Herculane 56.98 31 ⇑P P 21 55 22.1 +0.6
EIL Elat 56.98 53 LR LR 22 20 27.5
comp=Z,7µm,18.1s,baz=250,slow=37
TREC Trest 57.08 23 P P 21 55 21.3 -0.9
TREC Trest 57.08 23 eS S 22 03 16.5 -0.5
TREC AMS AMS 22 21 50.0
comp=Z,4µm,19.0s
BZS Buzias 57.08 30 ⇑P P 21 55 22.5 +0.2
BZS Buzias 57.08 30 P P 21 55 22.4 +0.2
MODS Modra-Piesok 57.09 25 eP P 21 55 23.0 +0.7
MODS Modra-Piesok 57.09 25 eP P 21 55 23.0 +0.7
SRO Srobarova 57.12 26 eP P 21 55 22.8 +0.3
SRO pmax pmax
comp=Z,27nm,1.1s
SRO Srobarova 57.12 26 eP P 21 55 22.8 +0.3
AMBH Ambrzfalva 57.16 29 ⇑P P 21 55 23.1 +0.3
BUD Budapest 57.19 27 P P 21 55 26.4 +3.4
EDC Edincik 57.20 38 P P 21 55 23.1 -0.1
PB04 IPOC Station P 57.23 244 P P 21 55 23.9 -0.1
SRE Strehaia 57.24 32 ⇑P P 21 55 22.8 -0.7
SRE Strehaia 57.24 32 P P 21 55 22.7 -0.7
KRUC Moravsky 57.26 24 eP P 21 55 22.1 -1.4
PRU Pruhonice 57.26 22 eP P 21 55 25.7 +2.2
PRU eS S 22 03 19.1 -0.3
PRU MLR MLR
comp=Z,3µm,17.4s
PRU Pruhonice 57.26 22 eP P 21 55 25.7 +2.2
PRU eS S 22 03 19.1 -0.3
PRU AMS AMS 22 19 00.0
comp=Z,3µm,17.4s
NEUB Neuenburg 57.28 20 eP P 21 55 22.3 -1.3
comp=Z,44nm,1.2s,baz=210,slow=7.1
NEUB eS S 22 03 22.6 +3.2
baz=210,slow=14
PRA Prague 57.29 22 eS S 22 03 21.0 +1.3
PRA AMS AMS 22 18 50.0
comp=Z,4µm,18.9s
GOPC GO Pecny, Ondr 57.30 23 eP P 21 55 25.7 +1.9
GOPC eS S 22 03 21.9 +2.0
GOPC MLR MLR
comp=Z,3µm,21.4s
GOPC GO Pecny, Ondr 57.30 23 eP P 21 55 25.7 +1.9
GOPC eS S 22 03 21.9 +2.0
GOPC AMS AMS 22 18 20.0
comp=Z,3µm,21.4s
CLZ Clausthal 57.35 19 eP P 21 55 24.0 -0.1
comp=Z,17nm,1.3s,baz=210,slow=7.1
CLZ eS S 22 03 24.5 +3.9
baz=210,slow=14
HSKC Hora Svate Kat 57.36 21 eP P 21 55 23.7 -0.5
HSKC eS S 22 03 19.4 -1.2
HSKC AMS AMS 22 19 20.0
comp=Z,4µm,15.2s
EDRB Edirne 57.41 36 P P 21 55 23.9 -0.8
SURR Surduc 57.43 30 ⇓P P 21 55 24.4 -0.3
GO02 Mina Guanaco 57.43 241 P P 21 55 25.3 -0.3
GO02 IAMs_20 IAMs_20 22 19 48.2
comp=Z,4µm,20.0s
ESK Eskdalemuir 57.45 8 P P 21 55 24.3 -0.4
ESK Eskdalemuir 57.45 8 P P 21 55 24.3 -0.4
ESK pmax pmax
comp=Z,193nm,1.9s
EKA Eskdalemuir Ar 57.47 8 P P 21 55 23.6 -1.3
comp=Z,13nm,0.7s,baz=192,slow=7.4,SNR=15
comp=Z,13nm,0.7s
AC02 Maricunga 57.49 239 P P 21 55 26.2 +0.1
AC02 IAMs_20 IAMs_20 22 17 54.9
comp=Z,4µm,22.0s
GZR Gura Zlata 57.51 31 ⇑P P 21 55 25.6 +0.2
GZR Gura Zlata 57.51 31 P P 21 55 25.6 +0.2
ISP Isparta 57.52 42 IAMs_20 IAMs_20 22 22 33.8
comp=Z,2µm,19.0s
VRAC Vranov 57.53 24 ⇓P P 21 55 24.3 -1.2
VRAC Vranov 57.53 24 eP P 21 55 24.1 -1.3
VRAC Vranov 57.53 24 P P 21 55 24.2 -1.2
VRAC Vranov 57.53 24 LR LR 22 20 23.6
comp=Z,2µm,21.6s,baz=220,slow=36
RICC Richard 57.55 22 eS S 22 03 27.8 +4.7
RICC AMS AMS 22 21 50.0
comp=Z,4µm,14.6s
SIRR Siria 57.56 30 ⇑P P 21 55 25.9 +0.3
ELND Elena 57.58 35 ⇓P P 21 55 25.8 -0.1
CZSB Cruzeiro do Su 57.61 262 P P 21 55 25.5 -1.1
CZSB IAMs_20 IAMs_20 22 17 41.4
comp=Z,3µm,20.0s
CZSB Cruzeiro do Su 57.61 262 eP P 21 55 25.5 -1.1
BSZH Besenyszg 57.63 28 ⇓P P 21 55 26.1 +0.1
JAVC Velka Javorina 57.63 25 eP P 21 55 26.0 -0.2
JMB Yambol 57.68 36 eP P 21 55 28.6 +2.0
ASSE Asse, Remlinge 57.70 19 eP P 21 55 25.3 -1.1
comp=Z,13nm,1.0s,baz=210,slow=7.1
ASSE eS S 22 03 26.9 +2.1
baz=210,slow=14
PVCC Panska Ves 57.71 22 P P 21 55 26.9 +0.3
PVCC Panska Ves 57.71 22 eS S 22 03 23.2 -2.0
PVCC AMS AMS 22 19 20.0
comp=Z,4µm,20.4s
BRG Berggiesshubel 57.76 21 eP P 21 55 26.5 -0.5
BRG Amp 21 55 29.0
comp=Z,11nm,1.1s
BRG Berggiesshubel 57.76 21 P P 21 55 31.9 +5.0
BRG Amp 21 55 33.3
comp=Z,24nm,1.2s
BRG Berggiesshubel 57.76 21 SS SS 22 07 22.0 +5.4
BRG Amp 22 19 44.0
comp=N,2.5nm,14.9s
BRG Amp 22 19 48.0
comp=E,2.9nm,13.9s
BRG Amp 22 19 51.0
comp=Z,4.4nm,14.8s
BRG Berggiesshubel 57.76 21 eP P 21 55 26.4 -0.5
BRG 21 55 31.9
BRG 21 57 31.7
BRG S S 22 03 29.0 +3.1
BRG SS SS 22 07 22.0 +5.4
BRG pmax pmax
comp=Z,11nm,1.1s
BRG pmax pmax
comp=Z,26nm,1.2s
BRG MLR MLR
comp=N,3µm,14.9s
BRG MLR MLR
comp=E,3µm,13.9s
BRG MLR MLR
comp=Z,4µm,14.8s
BRG Berggiesshubel 57.76 21 eP P 21 55 25.9 -1.1
comp=Z,24nm,1.3s,baz=210,slow=7.1
BRG eS S 22 03 28.5 +2.7
baz=210,slow=14
CLL Collm 57.78 21 P P 21 55 26.1 -1.0
CLL IAmb IAmb 21 55 52.5
comp=Z,64nm,1.7s
CLL Collm 57.78 21 *i* P P 21 55 25.7 -1.4
CLL pmax pmax
comp=Z,62nm,1.7s
CLL Collm 57.78 21 *i* P P 21 55 25.7 -1.4
comp=Z,29nm,1.5s
CLL *i* x x 21 55 49.8
comp=Z,62nm,1.7s
CLL ePcP PcP 21 56 20.0 +0.3
CLL ePP PP 21 57 37.0 +1.7
comp=Z,24nm,1.6s
CLL eS S 22 03 29.0 +2.9
comp=N,3µm,22.3s
CLL eS S 22 03 29.0 +2.9
comp=E,2µm,17.9s
CLL eS S 22 03 29.0 +2.9
comp=Z,1µm,14.0s
CLL eSS SS 22 07 24.0 +7.1
CLL Collm 57.78 21 eP P 21 55 25.7 -1.4
comp=Z,14nm,1.1s,baz=210,slow=7.1
CLL eS S 22 03 29.7 +3.6
baz=210,slow=14
RETH Rethem/Aller, 57.82 17 eP P 21 55 27.0 -0.3
comp=Z,49nm,1.6s,baz=210,slow=7.1
NRDL Niedersach Rie 57.84 18 eP P 21 55 27.9 +0.5
comp=Z,18nm,1.3s,baz=210,slow=7.1
NRDL eS S 22 03 31.3 +4.7
baz=210,slow=14
SZH Strazhitsa 57.84 35 eP P 21 55 30.4 +2.7
VYHS Vyhne 57.86 26 eP P 21 55 27.6 -0.2
VYHS pmax pmax
comp=Z,41nm,1.2s
VYHS Vyhne 57.86 26 eP P 21 55 27.5 -0.2
PB10 IPOC Station P 57.87 243 IAMs_20 IAMs_20 22 20 11.8
comp=Z,2µm,19.0s
PSZ Piszkesteto 57.91 27 ⇓P P 21 55 27.6 -0.5
PSZ Piszkesteto 57.91 27 P P 21 55 27.5 -0.7
PSZ IAmb IAmb 21 55 47.1
comp=Z,45nm,1.1s
PSZ Piszkesteto 57.91 27 P P 21 55 27.6 -0.5
DEV Deva 57.91 31 ⇓P P 21 55 28.1 -0.1
DEV Deva 57.91 31 P P 21 55 28.0 -0.1
PB14 IPOC Station P 58.01 242 P P 21 55 29.5 -0.1
PB14 IAMs_20 IAMs_20 22 17 27.5
comp=Z,4µm,22.0s
FLTG Flechtingen 58.05 19 eP P 21 55 27.8 -1.1
comp=Z,24nm,1.2s,baz=210,slow=7.1
FLTG eS S 22 03 33.1 +3.6
baz=210,slow=14
CSS Mathiatis 58.05 46 P P 21 55 29.9 +0.5
CSS IAMs_20 IAMs_20 22 21 56.2
comp=Z,4µm,20.0s
LOT Lotru 58.06 31 ⇑P P 21 55 29.6 +0.3
MAUC Maruska 58.09 25 eP P 21 55 30.9 +1.5
HUMR Humele 58.10 33 ⇑P P 21 55 29.6 +0.1
GHAJ Ghor Haditha 58.13 51 IAMs_20 IAMs_20 22 20 41.6
comp=Z,3µm,19.0s
KRLC Kraliky 58.21 24 eP P 21 55 31.8 +1.6
KRLC eS S 22 03 30.0 -1.9
KRLC MLR MLR
comp=Z,3µm,16.6s
KRLC Kraliky 58.21 24 eP P 21 55 31.8 +1.6
KRLC eS S 22 03 30.0 -1.9
KRLC AMS AMS 22 22 50.0
comp=Z,3µm,16.6s
DPC Dobruska-Polom 58.24 23 eP P 21 55 29.8 -0.6
DPC MLR MLR
comp=Z,2µm,12.6s
DPC Dobruska-Polom 58.24 23 eP P 21 55 29.8 -0.6
DPC AMS AMS 22 22 40.0
comp=Z,2µm,12.6s
UPC Upice 58.25 23 eP P 21 55 31.7 +1.3
UPC eS S 22 03 32.5 +0.2
UPC MLR MLR
comp=Z,3µm,20.0s
UPC Upice 58.25 23 eP P 21 55 31.7 +1.3
UPC eS S 22 03 32.5 +0.2
UPC AMS AMS 22 18 40.0
comp=Z,3µm,20.0s
LOZB Loznitsa 58.26 35 ⇓P P 21 55 30.3 -0.3
MORC Moravsky Berou 58.29 24 ⇑P P 21 55 30.2 -0.6
MORC Moravsky Berou 58.29 24 P P 21 55 30.0 -0.8
MORC IAMs_20 IAMs_20 22 22 24.1
comp=Z,3µm,19.0s
MORC Moravsky Berou 58.29 24 eP P 21 55 29.9 -0.8
MORC Moravsky Berou 58.29 24 P P 21 55 30.1 -0.6
STFAR Stefanesti-Arg 58.31 33 ⇑P P 21 55 30.9 0.0
CHVC Chvalec 58.33 23 eP P 21 55 31.6 +0.6
CHVC Chvalec 58.33 23 eP P 21 55 31.6 +0.6
RAZG Razgrad 58.34 35 ⇑P P 21 55 30.8 -0.4
OSTC Ostas 58.36 23 eP P 21 55 30.8 -0.4
OSTC eS S 22 03 32.0 -1.8
OSTC Ostas 58.36 23 eP P 21 55 30.8 -0.4
OSTC eS S 22 03 32.0 -1.8
DRGR 58.44 30 ⇑P P 21 55 31.1 -0.8
DRGR 58.44 30 P P 21 55 31.1 -0.8
SGRR Singureni 58.45 34 ⇑P P 21 55 32.0 +0.1
ARR Arges 58.46 32 ⇓P P 21 55 31.8 -0.3
BALJ Balqa 58.51 51 IAMs_20 IAMs_20 22 23 43.6
comp=Z,3µm,18.0s
MARR Marisel-Cluj 58.56 30 ⇓P P 21 55 33.1 +0.2
AC01 Pan de Azucar 58.57 240 P P 21 55 33.0 -0.2
AC01 IAmb IAmb 21 55 38.4
comp=Z,74nm,1.0s
BORA Eskisehir 58.57 40 P P 21 55 32.5 -0.5
OKC Ostrava-Krasne 58.58 25 P P 21 55 34.3 +1.6
OKC Ostrava-Krasne 58.58 25 AMS AMS 22 21 30.0
comp=Z,3µm,17.8s
NEF NEVSHA 58.59 35 eP P 21 55 33.8 +0.9
PRD Provadia 58.60 35 eP P 21 55 34.1 +1.1
KSP Ksiaz 58.62 23 eP P 21 55 31.8 -1.2
KSP eL L 22 19 31.4
comp=Z,3µm,20.4s
KSP Ksiaz 58.62 23 P P 21 55 32.6 -0.4
LANS Liptovska Anna 58.63 26 eP P 21 55 36.4 +3.3
LANS pmax pmax
comp=Z,7.0nm,1.2s
LANS Liptovska Anna 58.63 26 eP P 21 55 36.4 +3.3
LANS ePP PP 21 57 42.7 -0.2
GO03 Copiap 58.65 238 P P 21 55 33.2 -0.6
GO03 IAmb IAmb 21 55 35.8
comp=Z,64nm,0.9s
HLG Helgoland 58.68 16 eS S 22 03 41.0 +3.4
baz=210,slow=14
AC06 Mina Casimiro 58.69 239 P P 21 55 33.5 -0.5
AC06 IAmb IAmb 21 55 35.0
comp=Z,63nm,0.8s
SDDR Presa de Saban 58.70 293 P P 21 55 32.9 -1.3
SDDR IAmb IAmb 21 55 45.2
comp=Z,75nm,1.2s
MMAI Mount Meron Ar 58.72 49 P P 21 55 32.8 -1.4
comp=Z,1.2nm,0.7s,baz=239,slow=13,SNR=1.7
MMAI LR LR 22 23 23.4
comp=Z,2µm,18.4s,baz=200,slow=39
VOIR 58.73 32 ⇓P P 21 55 33.2 -0.8
VOIR 58.73 32 P P 21 55 33.1 -0.8
CJR Cluj-Napoca 58.83 30 ⇓P P 21 55 34.6 0.0
CJR Cluj-Napoca 58.83 30 P P 21 55 34.6 0.0
CBBR Cluj-Babes-Bol 58.84 30 ⇓P P 21 55 34.1 -0.6
SULR 58.89 33 ⇓P P 21 55 35.4 +0.5
RUE Ruedersdorf 59.02 20 eP P 21 55 35.6 -0.2
RUE Ruedersdorf 59.02 20 eP P 21 55 34.6 -1.1
comp=Z,50nm,1.1s,baz=210,slow=7.1
RUE eS S 22 03 47.4 +5.2
baz=210,slow=14
ATD Arta Tunnel 59.11 76 P P 21 55 36.8 -0.3
ATD Arta Tunnel 59.11 76 LR LR 22 19 54.8
comp=Z,94nm,18.8s,baz=263,slow=35
BSEG Bad Segeberg 59.15 17 eP P 21 55 35.3 -1.2
comp=Z,37nm,1.1s,baz=210,slow=7.1
BSEG eS S 22 03 46.9 +3.1
baz=210,slow=14
NIE Niedzica 59.19 26 eP P 21 55 35.1 -1.9
NIE eS S 22 03 48.6 +3.9
NIE eL L 22 21 26.5
comp=Z,3µm,22.1s
NIE Niedzica 59.19 26 P P 21 55 37.3 +0.3
CO01 Juntas del Tor 59.23 236 P P 21 55 38.7 +0.7
CO01 IAmb IAmb 21 55 42.1
comp=Z,50nm,1.1s
MLR Muntele Rosu 59.24 33 ⇓P P 21 55 37.5 -0.1
MLR Muntele Rosu 59.24 33 P P 21 55 37.3 -0.3
MLR Muntele Rosu 59.24 33 P P 21 55 37.5 -0.1
MLR Muntele Rosu 59.24 33 LR LR 22 22 11.9
comp=Z,5µm,21.0s,baz=225,slow=37
DOPR Dopca 59.26 32 ⇑P P 21 55 37.2 -0.4
PSN Preselentsi 59.31 35 eP P 21 55 39.7 +1.8
ISR Istrita 59.33 33 ⇓P P 21 55 37.6 -0.6
ISR Istrita 59.33 33 P P 21 55 37.5 -0.6
CRVS Cervenica-Dubn 59.34 27 eP P 21 55 37.7 -0.3
CRVS pmax pmax
comp=Z,82nm,1.4s
CRVS Cervenica-Dubn 59.34 27 eP P 21 55 37.7 -0.3
MDUB Mudurnu 59.37 40 P P 21 55 38.5 -0.1
ROSC El Rosal 59.39 276 P P 21 55 39.2 -0.3
ROSC El Rosal 59.39 276 P P 21 55 39.8 +0.3
comp=Z,23nm,0.6s,baz=63,slow=4.1,SNR=13
ROSC LR LR 22 19 30.9
comp=Z,4µm,19.7s,baz=128,slow=34
comp=Z,23nm,0.6s
ICOR Ion Corvin 59.41 35 ⇑P P 21 55 38.4 -0.2
BMR Baia Mare 59.44 29 ⇑P P 21 55 38.5 -0.2
BMR Baia Mare 59.44 29 P P 21 55 38.5 -0.2
PGOR Pogoanele 59.44 34 ⇓P P 21 55 39.0 +0.2
LCO Las Campanas 59.45 237 P P 21 55 38.6 -0.9
LCO IAmb IAmb 21 55 55.7
comp=Z,84nm,1.4s
LCO Las Campanas 59.45 237 IAMs_20 IAMs_20 22 18 18.7
comp=Z,3µm,20.0s
LCO Las Campanas 59.45 237 P P 21 55 38.7 -0.9
LCO pmax pmax
comp=Z,83nm,1.4s
LCO MLR MLR
comp=Z,3µm,20.0s
TRSU Trosnyk 59.47 29 P P 21 55 39.4 +0.5
AC04 Llanos de Chal 59.53 238 P P 21 55 39.8 0.0
AC04 IAmb IAmb 21 55 41.0
comp=Z,41nm,1.1s
AC04 IAMs_20 IAMs_20 22 18 37.0
comp=Z,3µm,22.0s
OZUR 59.55 32 ⇑P P 21 55 39.5 -0.1
OJC Ojcow 59.57 25 eP P 21 55 40.1 +0.5
OJC eS S 22 03 53.1 +3.7
OJC eL L 22 20 53.7
comp=Z,3µm,21.0s
OJC Ojcow 59.57 25 P P 21 55 39.2 -0.3
OJC Ojcow 59.57 25 P P 21 55 39.3 -0.3
OJC pmax pmax
comp=Z,22nm,1.0s
COVR Voineasa-Covas 59.61 32 ⇑P P 21 55 39.6 -0.4
TURR Turia 59.65 32 ⇑P P 21 55 40.2 -0.1
TSMN Mangalia Port- 59.68 35 ⇓P P 21 55 38.9 -1.5
BISRR Bisoca 59.69 33 ⇓P P 21 55 40.5 -0.1
KOLS Kolonicke sedl 59.73 28 eP P 21 55 41.1 +0.3
KOLS pmax pmax
comp=Z,22nm,0.8s
KOLS Kolonicke sedl 59.73 28 eP P 21 55 41.1 +0.3
TLBR Topalu 59.81 35 ⇑P P 21 55 40.9 -0.5
HARR Harsova 59.84 34 ⇑P P 21 55 40.9 -0.7
HARR Harsova 59.84 34 P P 21 55 40.8 -0.7
PLOR Plostina 59.85 33 ⇑P P 21 55 41.1 -0.6
PLOR Plostina 59.85 33 P P 21 55 41.1 -0.6
GO04 Tololo Observa 59.88 236 P P 21 55 42.0 -0.5
GO04 IAmb IAmb 21 55 43.2
comp=Z,47nm,0.8s
GO04 IAMs_20 IAMs_20 22 20 44.0
comp=Z,2µm,18.0s
VRI Vrincioaia 59.91 33 ⇑P P 21 55 41.1 -1.0
VRI Vrincioaia 59.91 33 P P 21 55 41.0 -1.0
TIRR Tirgusor 59.97 35 ⇑P P 21 55 41.6 -0.8
TIRR Tirgusor 59.97 35 P P 21 55 42.8 +0.4
TIRR IAmb IAmb 21 56 21.4
comp=Z,85nm,1.4s
TIRR Tirgusor 59.97 35 P P 21 55 42.8 +0.4
TIRR pmax pmax
comp=Z,85nm,1.4s
TIRR MLR MLR
comp=Z,9µm,18.0s
CO03 El Pedregal 59.99 235 P P 21 55 42.5 -0.5
CO03 IAmb IAmb 21 55 44.1
comp=Z,56nm,0.9s
ODBI Odobesti 60.02 33 ⇓P P 21 55 42.0 -0.8
BR231 Keskin MP Arra 60.07 41 P P 21 55 43.5 +0.1
BR231 IAmb IAmb 21 56 12.1
comp=Z,83nm,1.4s
ANTO Ankara 60.09 41 ⇑P P 21 55 43.2 -0.3
ANTO Ankara 60.09 41 P P 21 55 43.5 +0.1
ANTO IAmb IAmb 21 55 48.9
comp=Z,45nm,1.1s
ANTO Ankara 60.09 41 P P 21 55 43.6 +0.1
ANTO pmax pmax
comp=Z,45nm,1.2s
ANTO Ankara 60.09 41 P P 21 55 44.5 +1.0
ANTO P P 21 55 44.5 +1.0
ANTO S S 22 03 56.0 -0.8
ANTO S S 22 03 56.0 -0.8
CO05 La Serena 60.16 236 P P 21 55 43.7 -0.4
CO05 IAMs_20 IAMs_20 22 20 47.6
comp=Z,3µm,21.0s
TPGR Topolog 60.21 34 ⇑P P 21 55 43.3 -0.8
CFR Carcaliu 60.25 34 ⇓P P 21 55 43.5 -0.9
CFR Carcaliu 60.25 34 P P 21 55 43.4 -0.9
BURAR Bucovina Array 60.26 30 ⇓P P 21 55 44.2 -0.3
BURAR Bucovina Array 60.26 30 P P 21 55 44.5 0.0
BURAR Bucovina Array 60.26 30 P P 21 55 44.1 -0.3
BUR08 Bucovina Ar. S 60.27 30 P P 21 55 44.3 -0.3
BUR08 IAmb IAmb 21 56 11.8
comp=Z,51nm,1.3s
TESR Tescani 60.28 32 ⇓P P 21 55 44.5 0.0
SCHL Schela 60.28 34 ⇑P P 21 55 44.8 +0.2
SSRD Sdr. Stenderup 60.30 16 eP P 21 55 52.2 +7.8
SLCR Slobozia Conac 60.30 33 ⇓P P 21 55 44.5 -0.2
NEGRR Negrea 60.33 34 ⇑P P 21 55 43.9 -1.0
CO02 Combarbal 60.35 235 P P 21 55 45.1 -0.4
GHRR 60.40 33 ⇑P P 21 55 44.5 -0.9
KWP Kalwaria Pacla 60.43 27 eP P 21 55 46.0 +0.5
KWP eL L 22 23 26.1
comp=Z,7µm,19.8s
KWP Kalwaria Pacla 60.43 27 P P 21 55 45.4 -0.1
KWP IAmb IAmb 21 56 09.9
comp=Z,33nm,1.0s
KWP Kalwaria Pacla 60.43 27 P P 21 55 45.4 -0.1
KWP pmax pmax
comp=Z,33nm,1.0s
KWP MLR MLR
comp=Z,7µm,20.0s
SCTR Scanteiesti 60.48 33 ⇑P P 21 55 44.7 -1.2
VA03 San Esteban 60.48 233 P P 21 55 45.9 -0.5
VA03 IAmb IAmb 21 55 47.2
comp=Z,60nm,1.1s
VA03 IAMs_20 IAMs_20 22 19 16.2
comp=Z,3µm,20.0s
VARL Varlezi 60.54 33 ⇑P P 21 55 46.9 +0.6
LMEL Las Melosas 60.57 232 P P 21 55 46.9 -0.1
LMEL IAmb IAmb 21 55 48.5
comp=Z,50nm,1.1s
LMEL IAMs_20 IAMs_20 22 20 39.6
comp=Z,3µm,21.0s
BR131 Keskin Array S 60.58 42 P P 21 55 46.5 -0.4
BR131 IAmb IAmb 21 55 52.2
comp=Z,45nm,1.1s
BR131 Keskin Array S 60.58 42 *c i* P P 21 55 46.5 -0.4
BRTR Keskin Array B 60.58 42 P P 21 55 46.4 -0.6
BRTR Keskin Array B 60.58 42 *i* P P 21 55 47.7 +0.8
BRTR pmax pmax
comp=Z,23nm,0.9s
BRTR Keskin Array B 60.58 42 P P 21 55 46.6 -0.3
comp=Z,8.7nm,0.9s,baz=227,slow=5.8,SNR=29
BRTR LR LR 22 25 16.2
comp=Z,2µm,18.2s,baz=224,slow=39
comp=Z,8.7nm,0.9s
RGN Rugen 60.59 19 eP P 21 55 46.4 -0.1
comp=Z,78nm,0.9s,baz=210,slow=7.1
RGN eS S 22 04 08.2 +5.8
baz=210,slow=14
MT13 San Alfonso 60.60 232 IAMs_20 IAMs_20 22 18 41.3
comp=Z,2µm,19.0s
PRAR RASCA 60.60 31 ⇑P P 21 55 46.7 -0.1
VLDR Vladesti 60.63 33 ⇑P P 21 55 46.2 -0.7
TLCR 60.64 34 ⇑P P 21 55 47.6 +0.6
TLCR 60.64 34 P P 21 55 47.6 +0.6
KSV Kosov 60.65 30 P P 21 55 46.6 -0.4
MT16 CCHEN 60.68 232 P P 21 55 47.8 +0.1
MT16 IAMs_20 IAMs_20 22 20 20.4
comp=Z,3µm,18.0s
MT03 Universidad Ad 60.69 232 IAMs_20 IAMs_20 22 25 36.7
comp=Z,3µm,18.0s
CO06 Fray Jorge 60.71 235 P P 21 55 47.5 -0.3
PEL Peldehue 60.72 232 P P 21 55 47.7 -0.2
PEL IAmb IAmb 21 55 49.1
comp=Z,90nm,1.3s
PEL IAMs_20 IAMs_20 22 19 54.1
comp=Z,3µm,20.0s
PEL Peldehue 60.72 232 P P 21 55 47.7 -0.2
PEL pmax pmax
comp=Z,90nm,1.3s
PEL MLR MLR

comp=Z,3µm,20.0s
GKP Gorka Klasztor 60.90 22 *e*P **P 21 55 48.5 -0.1**
GKP eL L 22 24 17.9
comp=Z,3µm,19.3s
GKP Gorka Klasztor 60.90 22 P **P 21 55 49.1 +0.5**
GKP Gorka Klasztor 60.90 22 *e*P **P 21 55 49.4 +0.8**
BO04 La Punta 60.94 231 IAMs_20 IAMs_20 22 18 12.2
comp=Z,3µm,21.0s
VASR Vaslui 60.97 33 ⇑P **P 21 55 49.4 +0.2**
VA06 Catapilco 61.02 233 P **P 21 55 49.0 -0.9**
MUD Monsted U'grnd 61.03 15 P **P 21 55 49.9 +0.5**
MT02 Curacav 61.11 232 P **P 21 55 50.1 -0.4**
MT02 IAmb IAmb 21 55 51.4
comp=Z,31nm,0.9s
MT02 IAMs_20 IAMs_20 22 19 12.8
comp=Z,4µm,22.0s
MT09 Talagante 61.16 232 IAMs_20 IAMs_20 22 26 34.2
comp=Z,3µm,18.0s
LVV L'vov 61.18 28 *e*P **P 21 55 50.2 -0.4**
LVV *e* 21 56 32.6
LVV *e*PPP PPP 21 59 40.4
LVV *e*S **S 22 04 06.2 -3.9**
LVV *e*PS **PnS 22 04 24.2 +0.3**
LVV *e* 22 05 37.9
LVV pmax pmax
comp=Z,100nm,1.2s
LVV MLR MLR
comp=E,2µm,14.0s
LVV MLR MLR
comp=N,900nm,13.0s
LVV MLR MLR
comp=Z,1µm,12.0s
ILGA Ilgaz 61.31 41 P **P 21 55 52.2 +0.3**
ILGA IAmb IAmb 21 55 56.7
comp=Z,62nm,1.0s
BO02 Sierra Bellavi 61.34 231 P **P 21 55 51.9 -0.2**
BO02 IAmb IAmb 21 55 53.2
comp=Z,47nm,1.0s
MT01 Popeta 61.40 232 IAMs_20 IAMs_20 22 21 06.4
comp=Z,3µm,21.0s
VA01 Torpederas 61.44 233 IAMs_20 IAMs_20 22 19 47.3
comp=Z,4µm,21.0s
BO01 Tunca 61.44 231 P **P 21 55 52.3 -0.4**
LUNU Lund 61.54 18 *e*P P 21 56 01.1 +8.2
BSD Bornholm Skovb 61.58 19 *e*P P 21 55 58.8 +5.6
VA05 Santo Domingo 61.62 232 IAMs_20 IAMs_20 22 21 53.2
comp=Z,3µm,18.0s
BNN Bunyan 61.66 44 P **P 21 55 53.6 -0.7**
MILM Milestii Mici 61.69 33⇑ *e*P **P 21 55 51.7 -2.4**
comp=Z,1µm,5.6s
MILM Milestii Mici 61.69 33 ⇑P **P 21 55 53.8 -0.3**
MILM Milestii Mici 61.69 33 *ce*P **P 21 55 51.7 -2.4**
MILM *e*PPP PPP 21 59 47.0
MILM *e*S **S 22 04 12.0 -4.7**
MILM pmax pmax
comp=Z,1µm,5.6s
KIS Kishinev 61.74 33 *e*P **P 21 55 59.0 +4.5**
comp=Z,280nm,5.6s
KIS Kishinev 61.74 33 *e*P **P 21 55 53.0 -1.5**
KIS *e*PPP PPP 21 59 49.0
KIS *e*S **S 22 04 17.0 -0.3**
KIS pmax pmax
comp=Z,280nm,5.6s
KIS MLR MLR
comp=Z,900nm,16.0s
GAZ Gaziantep 61.85 46 P **P 21 55 55.7 +0.1**
GAZ IAmb IAmb 21 56 05.5
comp=Z,37nm,0.9s
HORU Horodok 61.92 30 P **P 21 55 53.8 -1.8**
NNA Nana 61.97 257 *i* P **P 21 55 56.9 +0.2**
NNA pmax pmax
comp=Z,45nm,1.0s
NNA MLR MLR
comp=Z,5µm,13.0s
NNA Nana 61.97 257 LR LR 22 21 50.3
comp=Z,1µm,18.3s,baz=68,slow=35
PURM Purcari 62.03 34 ⇑P **P 21 55 55.3 -1.1**
ML02 Panimavida 62.16 230 P **P 21 55 57.2 -0.4**
ML02 IAMs_20 IAMs_20 22 20 25.7
comp=Z,3µm,19.0s
SORM Soroca 62.20 31 ⇑P **P 21 55 56.8 -0.7**
SORM Soroca 62.20 31 P **P 21 55 56.8 -0.7**
GO05 Huala 62.30 231 P **P 21 55 58.1 -0.4**
GO05 IAMs_20 IAMs_20 22 21 03.4
comp=Z,3µm,18.0s
DEL Delary 62.38 18 *e*P P 21 56 06.5 +8.0
HOMB Homborsund 62.48 14 *e*P P 21 56 06.5 +7.4
ONAU Onsala 62.60 16 *e*P P 21 56 06.5 +6.6
DIKM Dikmen 62.61 41 ⇓P **P 21 56 01.0 +0.6**
TOKA Tokat 62.78 42 P **P 21 56 01.4 -0.2**
BLEU Blekinge 62.85 19 *e*P P 21 56 06.5 +4.9
IMBA Imbabura, San 63.01 271 P **P 21 56 03.4 -0.8**
KLNR Kaliningrad 63.05 22 *i* P **P 21 56 03.8 +0.8**
KLNR pmax pmax
comp=Z,34nm,0.9s
KLNR MLR MLR
comp=Z,2µm,19.0s
ATAH Atahualpa 63.22 263 LR LR 22 22 57.5
comp=Z,4µm,20.2s,baz=99,slow=36
OTAV Otavalo 63.27 271 P **P 21 56 03.8 -2.0**
OTAV Otavalo 63.27 271 IAMs_20 IAMs_20 22 20 16.0
comp=Z,3µm,22.0s
OTAV Otavalo 63.27 271 P **P 21 56 03.8 -2.0**
OTAV pmax pmax
comp=Z,21nm,1.1s
OTAV MLR MLR
comp=Z,3µm,22.0s
OTAV Otavalo 63.27 271 *e*P **P 21 56 05.4 -0.4**
SLOR San Lorenzo - 63.28 270 P **P 21 56 04.4 -1.6**
PULU Pululahua 63.31 271 P **P 21 56 04.8 -1.3**
PLCA Paso Flores 63.35 224 P **P 21 56 04.7 -0.8**
PLCA IAMs_20 IAMs_20 22 18 53.2
comp=Z,4µm,22.0s
PLCA Paso Flores 63.35 224 P **P 21 56 04.7 -0.8**
comp=Z,8.9nm,1.0s,baz=78,slow=7.2,SNR=9.2
PLCA LR LR 22 19 26.2
comp=Z,3µm,21.6s,baz=66,slow=32
comp=Z,8.9nm,1.0s
PLCA Paso Flores 63.35 224 *e*P **P 21 56 04.5 -1.0**
OPO Ambohidratompo 63.41 110 LR LR 22 18 09.5
comp=Z,2µm,21.0s,baz=52,slow=31
ARPR Arapgir-MALATY 63.49 44 P **P 21 56 07.1 +0.5**
ARPR IAmb IAmb 21 56 14.8
comp=Z,42nm,0.9s
ABPO Ambohimpanom 63.51 110 P **P 21 56 06.2 -0.8**
ABPO Ambohimpanom 63.51 110 P **P 21 56 06.2 -0.8**
ABPO pmax pmax
comp=Z,35nm,1.4s
VOI Vohitsoka 63.55 114 P **P 21 56 06.7 -0.5**
VOI IAmb IAmb 21 56 10.1
comp=Z,75nm,1.5s
VOI IAMs_20 IAMs_20 22 21 28.1
comp=Z,3µm,20.0s
VOI Vohitsoka 63.55 114 P **P 21 56 09.8 +2.6**
VOI Vohitsoka 63.55 114 *e*P **P 21 56 08.2 +1.0**
VOI Vohitsoka 63.55 114 P **P 21 56 08.5 +1.2**
GO06 Curarrehue 63.57 226 P **P 21 56 06.2 -0.8**
GO06 IAmb IAmb 21 56 23.0
comp=Z,97nm,1.8s
GO06 IAMs_20 IAMs_20 22 19 29.8
comp=Z,3µm,20.0s
SIM Simferopol' 63.59 37 *e*P **P 21 56 08.2 +1.3**
SIM *e*PPP PPP 21 59 57.0
SIM *e*S **S 22 04 40.0 -0.7**
SIM pmax pmax
comp=Z,26nm,1.1s
CHSH Refugio Sur-Vo 63.64 269 P **P 21 56 07.7 -0.8**
CHSH IAmb IAmb 21 56 22.0
comp=Z,57nm,1.0s
CHSH IAMs_20 IAMs_20 22 20 30.1
comp=Z,3µm,22.0s
SUW Suwalki 63.77 24 *e*P **P 21 56 07.7 -0.2**
SUW *e*S **S 22 04 40.1 -2.5**
SUW *e*L L 22 24 04.3
comp=Z,3µm,20.4s
SUW Suwalki 63.77 24 P **P 21 56 06.6 -1.3**
SUW IAMs_20 IAMs_20 22 24 04.2
comp=Z,3µm,20.0s
SUW Suwalki 63.77 24 P **P 21 56 06.6 -1.3**
SUW pmax pmax
comp=Z,158nm,1.1s
SUW MLR MLR
comp=Z,2µm,20.0s
SUW Suwalki 63.77 24 *e*P **P 21 56 08.2 +0.3**
STRU Stroemstad 63.82 15 *e*P **P 21 56 07.7 -0.4**

BI05 Punta Hualpn 63.84 229 IAMs_20 IAMs_20 22 20 32.2
comp=Z,4µm,21.0s
KONO Kongsberg 63.97 14 P **P 21 56 08.9 -0.1**
KONO IAmb IAmb 21 56 22.3
comp=Z,43nm,1.1s
KONO Kongsberg 63.97 14 *ce*P **P 21 56 09.3 +0.3**
KONO pmax pmax
comp=Z,92nm,2.5s
KONO MLR MLR
comp=Z,4µm,20.0s
RAYN Ar Rayn 63.97 63 P **P 21 56 09.4 -0.4**
RAYN Ar Rayn 63.97 63 IAMs_20 IAMs_20 22 25 43.0
comp=Z,2µm,19.0s
RAYN Ar Rayn 63.97 63 P **P 21 56 09.7 -0.1**
RAYN Ar Rayn 63.97 63 P **P 21 56 12.0 +2.1**
RAYN Ar Rayn 63.97 63 P **P 21 56 12.7 +2.9**
RAYN S **S 22 04 49.8 +3.5**
COHC Cochancay 64.02 268 P **P 21 56 09.0 -1.2**
LR05 Currie 64.19 225 P **P 21 56 09.7 -1.1**
LR05 IAmb IAmb 21 56 11.8
comp=Z,63nm,1.1s
LR05 IAMs_20 IAMs_20 22 19 57.2
comp=Z,3µm,20.0s
AK05 Malin Array Si 64.20 30 P **P 21 56 09.8 -0.9**
AK05 IAmb IAmb 21 56 25.0
comp=Z,47nm,1.2s
LR03 Panguipulli 64.21 226 IAMs_20 IAMs_20 22 19 50.9
comp=Z,3µm,21.0s
LMN Caledonia Moun 64.24 324 P **P 21 56 09.8 -1.3**
KIEV Kiev 64.25 30 ⇓P **P 21 56 10.1 -0.9**
KIEV Kiev 64.25 30 P **P 21 56 08.9 -2.1**
KIEV IAmb IAmb 21 56 26.1
comp=Z,43nm,1.0s
KIEV Kiev 64.25 30 P **P 21 56 10.1 -0.9**
KIEV Kiev 64.25 30 *i* P **P 21 56 09.4 -1.6**
SNR=6.3
AKASG Malin Array Be 64.26 30 P **P 21 56 09.6 -1.5**
AKASG Malin Array Be 64.26 30 P **P 21 56 09.6 -1.5**
AKASG pmax pmax
comp=Z,24nm,1.2s
AKASG Malin Array Be 64.26 30 P **P 21 56 08.9 -2.2**
comp=Z,19nm,1.0s,baz=231,slow=6.9,SNR=22
AKASG LR LR 22 26 12.3
comp=Z,5µm,18.3s,baz=238,slow=38
comp=Z,19nm,1.0s
AKBB Malin Array Si 64.26 30 *ce*P **P 21 56 09.1 -2.0**
AKBB pmax pmax
comp=Z,36nm,1.0s
AKBB MLR MLR
comp=Z,6µm,17.0s
FOMA Nahampoana Res 64.27 117 IAMs_20 IAMs_20 22 21 35.1
comp=Z,3µm,20.0s
FOMA Nahampoana Res 64.27 117 P **P 21 56 14.6 +2.9**
MARD Mardin 64.50 47 P **P 21 56 12.1 -1.1**
MARD IAmb IAmb 21 56 25.2
comp=Z,69nm,1.5s
MCRA Macar, Loja 64.72 266 P **P 21 56 13.5 -1.4**
PBUR Paburge 64.76 22 *e*P **P 21 56 15.1 +0.8**
LL03 Petrohue 64.80 225 P **P 21 56 14.2 -0.7**
LL03 IAMs_20 IAMs_20 22 20 32.6
comp=Z,3µm,20.0s
ARNL Arenillas 64.83 267 P **P 21 56 14.6 -0.9**
ARNL IAmb IAmb 21 56 29.1
comp=Z,48nm,0.8s
VIKU Vikbolandet 64.92 18 *e*P **P 21 56 14.8 -0.5**
PABE Paberze 65.17 23 P **P 21 56 15.8 -1.2**
PABE IAMs_20 IAMs_20 22 27 25.0
comp=Z,3µm,18.0s
PABE Paberze 65.17 23 *e*P **P 21 56 16.7 -0.2**
LL02 Futaleuf 65.20 222 P **P 21 56 17.0 -0.5**
LL02 IAMs_20 IAMs_20 22 20 49.2
comp=Z,2µm,21.0s
LL01 San Ignacio de 65.28 223 P **P 21 56 16.9 -1.0**
LL01 IAmb IAmb 21 56 30.7
comp=Z,35nm,1.1s
LL01 IAMs_20 IAMs_20 22 19 13.1
comp=Z,3µm,21.0s
KTUT Trabzon 65.31 43 ⇑P **P 21 56 17.8 -0.4**
HFS Hagfors 65.42 15 P **P 21 56 16.3 -2.2**
comp=Z,28nm,1.0s,baz=191,slow=7.1,SNR=13
HFS LR LR 22 24 38.1
comp=Z,3µm,22.0s,baz=215,slow=36
comp=Z,28nm,1.0s
NBO00 NORSAR Array S 65.47 14 P **P 21 56 18.2 -0.7**
NBO00 IAmb IAmb 21 56 32.3
comp=Z,66nm,1.3s
VSVD Vaisvydziai 65.50 23 *e*P **P 21 56 18.6 -0.4**
ANN Anapa 65.54 38 *e*P **P 21 56 20.1 +0.5**
ANN *e**PP **sP 21 56 24.0 +1.5**
ANN *e* 21 56 45.4
ANN *e* 21 58 45.5
ANN *e*PPP PPP 22 00 19.0
ANN *e*S **S 22 05 06.4 +1.7**
ANN *e* 22 06 12.4
ANN pmax pmax
comp=Z,63nm,0.9s
ANN MLR MLR
comp=E,2µm,16.0s
ANN MLR MLR
comp=Z,1µm,17.0s
ANN MLR MLR
comp=N,3µm,18.0s
NB2 NORSAR Subarra 65.58 14 P **P 21 56 18.0 -1.6**
NB2 NORSAR Subarra 65.58 14 P **P 21 56 18.6 -1.0**
comp=Z,537nm,5.0s,baz=206,slow=6.9
NB2 NORSAR Subarra 65.58 14 P **P 21 56 18.6 -1.0**
baz=206,slow=6.9
NOA NORSAR Array B 65.58 14 P **P 21 56 18.4 -1.1**
comp=Z,16nm,1.0s,baz=208,slow=6.6,SNR=20
NOA LR LR 22 25 38.3
comp=Z,2µm,20.2s,baz=210,slow=37
comp=Z,16nm,1.0s
GURO Guroymak-BITLI 65.90 46 P **P 21 56 21.4 -0.8**
GURO IAmb IAmb 21 56 34.5
comp=Z,46nm,1.1s
ISAL Salakas 66.08 24 *e*P **P 21 56 22.7 -0.2**
MNK Minsk 66.10 26 *i* P **P 21 56 23.2 +0.2**
MNK *i* 21 56 52.6
MNK *i* PPP PPP 22 00 25.1
MNK *i* S **S 22 05 12.3 +1.1**
MNK pmax pmax
comp=Z,22nm,0.8s
MNK pmax pmax
comp=N,9.0nm,0.9s
MNK pmax pmax
comp=E,8.0nm,0.9s
MNK MLR MLR
comp=N,2µm,18.0s
MNK MLR MLR
comp=Z,3µm,18.0s
MNK MLR MLR
comp=E,694nm,18.0s
LL07 Hotel Espejo d 66.17 223 IAMs_20 IAMs_20 22 22 14.9
comp=Z,2µm,20.0s
BORG Borgarnes 66.21 357 LR LR 22 19 50.2
comp=Z,1µm,20.7s,baz=170,slow=31
UPP Uppsala 66.30 17 *e*P **P 21 56 24.3 +0.2**
SOC Sochi 66.42 40 *e*P P 21 56 20.0 -5.3
SOC *e* 21 58 51.1
SOC *e*PPP PPP 22 00 24.4
SOC *e*S S 22 05 06.5 -9.0
SOC *e*SS **SS 22 09 33.4 +1.0**
SOC MLR MLR
comp=Z,888nm,17.0s
GEVA Gevas 66.55 47 P **P 21 56 26.3 -0.2**
GEVA IAmb IAmb 21 56 39.0
comp=Z,60nm,1.3s
VSLR Vesyloye 66.57 41 *i* P **P 21 56 27.0 +0.7**
VSLR pmax pmax
comp=Z,70nm,1.0s
VSLR MLR MLR
comp=Z,684nm,18.0s
BCA Borcka 66.77 43 ⇓P **P 21 56 26.6 -1.0**
AAL Aland 67.28 18 *e*P **P 21 56 29.3 -1.1**
AY03 Cochrane 67.31 218 IAMs_20 IAMs_20 22 26 49.0
comp=Z,1µm,19.0s
KARS Kars 67.45 45 P **P 21 56 33.0 +0.9**
KARS Kars 67.45 45 P **P 21 56 33.0 +0.9**
KARS pmax pmax
comp=Z,134nm,1.4s
GO08 Villa O'Higgin 67.79 217 IAMs_20 IAMs_20 22 20 46.7
comp=Z,3µm,21.0s
ERBR Yeremizino-Bor 67.87 39 *e*P P 21 56 29.4 -5.1
ERBR *e**PP pP 21 56 32.9 -3.7
ERBR *e* 21 56 55.4
ERBR *e*S **S 22 05 26.3 -6.7**
ERBR *e* 22 06 36.7
ERBR pmax pmax
comp=Z,62nm,1.0s
ERBR MLR MLR
comp=E,2µm,17.0s
ERBR MLR MLR
comp=Z,2µm,18.0s
ERBR MLR MLR
comp=N,2µm,15.0s
V61A Roper 68.01 310 IAMs_20 IAMs_20 22 19 03.0
comp=Z,3µm,21.0s
MG01 Puerto William 68.12 210 IAMs_20 IAMs_20 22 23 29.5
comp=Z,3µm,20.0s
NEUR Neytrino 68.25 42 *i* P **P 21 56 37.7 +0.6**
NEUR pmax pmax
comp=Z,16nm,1.3s
VSU Vasula 68.34 22 *ce*P **P 21 56 37.5 +0.4**
VSU pmax pmax
comp=Z,43nm,1.3s
VSU MLR MLR
comp=Z,2µm,15.0s
GNI Garni 68.44 46 P **P 21 56 37.0 -1.4**
GNI Garni 68.44 46 *ce*P **P 21 56 38.5 +0.1**
GNI pmax pmax
comp=Z,45nm,1.3s
GNI Garni 68.44 46 P **P 21 56 39.2 +0.8**
GNI Garni 68.44 46 LR LR 22 30 11.1
comp=Z,572nm,18.6s,baz=256,slow=39
GNI Garni 68.44 46 P **P 21 56 41.5 +3.1**
GNI P **P 21 56 41.5 +3.1**
GNI S **S 22 05 43.3 +2.9**
GNI S **S 22 05 43.3 +2.9**
USHA Ushuaia 68.47 210 LR LR 22 21 44.7
comp=Z,5µm,20.8s,baz=80,slow=32
ONI Oni 68.48 43 P **P 21 56 39.2 +0.7**
TRLG Trialeti 68.52 44 P **P 21 56 42.3 +3.5**
KIV Kislovodsk 68.52 41 ⇓P **P 21 56 38.1 -0.6**
KIV Kislovodsk 68.52 41 P **P 21 56 38.0 -0.8**
KIV IAmb IAmb 21 57 18.3
comp=Z,42nm,1.1s
KIV Kislovodsk 68.52 41 *e*P **P 21 56 38.7 0.0**
KIV *e*PPP PPP 22 00 48.9
KIV *e*S **S 22 05 41.1 +0.1**
KIV *e*SS **SS 22 10 06.0 +0.8**
KIV pmax pmax
comp=Z,29nm,1.1s
KIV Kislovodsk 68.52 41 *i* P **P 21 56 39.1 +0.4**
SNR=16
KIV Kislovodsk 68.52 41 P **P 21 56 41.0 +2.2**
KIV P **P 21 56 41.0 +2.2**
KIV P **P 21 56 41.0 +2.2**
KIV S **S 22 05 40.8 -0.2**
KIV S **S 22 05 40.8 -0.2**
KIV S **S 22 05 40.8 -0.2**
KVAR Kislovodsk Arr 68.53 41 LR LR 22 29 18.9
comp=Z,775nm,19.0s,baz=96,slow=38
T60A Surry 68.56 311 IAMs_20 IAMs_20 22 20 29.7
comp=Z,2µm,20.0s
KBZ Khabaz 68.57 41 *ce*P **P 21 56 38.1 -0.8**
KBZ pmax pmax
comp=Z,32nm,0.9s
KBZ MLR MLR
comp=Z,1µm,20.0s
KBZ Khabaz 68.57 41 P **P 21 56 37.9 -1.0**
comp=Z,7.9nm,0.8s,baz=250,slow=5.7,SNR=20
KBZ LR LR 22 28 51.1
comp=Z,661nm,20.6s,baz=252,slow=38
comp=Z,7.9nm,0.8s
NAX Nakhchivan 68.64 47 P **P 21 56 39.8 +0.3**
060A Indiantown 68.71 300 IAMs_20 IAMs_20 22 19 56.2
comp=Z,3µm,20.0s
CNNC Cliffs of the 68.85 309 IAMs_20 IAMs_20 22 20 07.6
comp=Z,2µm,20.0s
GO09 Cerro Castillo 68.86 214 P **P 21 56 41.2 +0.6**
GO09 IAmb IAmb 21 57 00.2
comp=Z,57nm,1.4s
GO09 IAMs_20 IAMs_20 22 29 37.0
comp=Z,2µm,18.0s
SMRA Abu-Samra 68.98 63 P **P 21 56 44.4 +2.6**
SMRA S **S 22 05 49.1 +2.2**
SAKB Bahrain 68.98 62 P **P 21 56 44.1 +2.3**
PEZE Perez Zeledon, 69.03 281 P **P 21 56 41.8 -0.7**
U59A Littleton 69.12 310 P **P 21 56 42.7 +0.3**
U59A IAMs_20 IAMs_20 22 20 19.4
comp=Z,2µm,20.0s
GUDG Gudauri 69.13 43 P **P 21 56 46.0 +3.3**
T59A Double "B" Far 69.13 311 IAMs_20 IAMs_20 22 19 16.7
comp=Z,3µm,22.0s
MG05 Puerto Natales 69.13 214 IAMs_20 IAMs_20 22 19 39.2
comp=Z,2µm,22.0s
GOF Gofitskoye 69.21 40 *ce*P **P 21 56 45.6 +2.7**
RIMA Rio Macho 69.25 281 P **P 21 56 43.8 -0.2**
RIMA IAmb IAmb 21 57 25.3
comp=Z,50nm,1.4s
W59A Clinton 69.26 309 IAMs_20 IAMs_20 22 20 40.2
comp=Z,2µm,20.0s
TRNA Turayna 69.32 63 P **P 21 56 47.6 +3.6**
TRNA S **S 22 05 52.8 +1.8**
LCR2 La Lucha 2 69.39 281 P **P 21 56 44.5 -0.3**
LCR2 IAmb IAmb 21 57 26.0
comp=Z,90nm,2.0s
CBN Corbin Frederi 69.39 312 P **P 21 56 44.1 0.0**
CBN IAmb IAmb 21 56 51.5
comp=Z,19nm,0.5s
HDC Heredia 69.52 281 IAMs_20 IAMs_20 22 29 57.4
comp=Z,2µm,19.0s
VNA2 Neumayer--Watz 69.53 177 ⇑P **P 21 56 44.9 +0.6**
comp=Z,58nm,0.7s,baz=350,slow=6.9
JSRW J. Sargeant Re 69.61 311 P **P 21 56 45.5 +0.1**
SLWR Sila 69.62 64 P **P 21 56 49.5 +3.7**
SLWR S **S 22 05 56.1 +1.7**
VORD Divnogorie 69.67 33 *e*P **P 21 56 45.9 +0.3**
VORD pmax pmax
comp=Z,30nm,0.2s
VORD MLR MLR
comp=Z,2µm,14.0s
VSR Storozhevoye 69.73 33 *e*P **P 21 56 43.2 -2.7**
VSR pmax pmax
comp=Z,40nm,0.8s
VSR MLR MLR
comp=Z,2µm,15.0s
J58A Remsen 69.75 318 P **P 21 56 46.0 -0.2**
J58A IAMs_20 IAMs_20 22 20 07.7
comp=Z,2µm,21.0s
GANJ Ganja 69.75 45 P **P 21 56 46.7 +0.4**
LONY Lake Ozonia 69.77 319 P **P 21 56 46.0 -0.3**
LONY IAMs_20 IAMs_20 22 18 05.3
comp=Z,2µm,18.0s
BINY Binghamton 69.79 316 P **P 21 56 48.9 +2.3**
baz=112
N58A Sunbury 69.81 315 P **P 21 56 46.6 -0.1**
N58A IAmb IAmb 21 56 53.0
comp=Z,29nm,1.0s
DWPF Disney Wildern 69.88 301 IAMs_20 IAMs_20 22 20 32.1
comp=Z,2µm,20.0s
V58A Windy Hill, Pi 69.97 309 IAMs_20 IAMs_20 22 20 54.0
comp=Z,2µm,20.0s
ABTO Aybut 69.98 71 P **P 21 56 51.5 +3.3**
ABTO S **S 22 05 59.2 +0.1**
VORR Voronezh 69.98 33 *e*P **P 21 56 47.1 -0.4**
VORR pmax pmax
comp=Z,40nm,0.5s
VORR MLR MLR
comp=Z,170nm,6.0s
FINES FINESS Array B 70.21 20 P **P 21 56 48.1 -0.5**
FINES FINESS Array B 70.21 20 P **P 21 56 48.1 -0.5**
FINES FINESS Array B 70.21 20 P **P 21 56 47.8 -0.8**
comp=Z,29nm,1.0s,baz=218,slow=4.4,SNR=30
FINES LR LR 22 28 17.5
comp=Z,2µm,19.8s,baz=230,slow=36
comp=Z,29nm,1.0s
FIA1 FINESS Array S 70.21 20 P **P 21 56 48.2 -0.4**
FIA1 IAMs_20 IAMs_20 22 28 07.1
comp=Z,2µm,19.0s
SCHQ Schefferville 70.23 331 P **P 21 56 49.3 +0.3**
comp=Z,2.4nm,0.8s,baz=124,slow=6.4,SNR=6.7
SCHQ LR LR 22 20 47.7
comp=Z,1µm,21.6s,baz=130,slow=30
comp=Z,2.4nm,0.8s
J57A Williamstown 70.24 317 IAMs_20 IAMs_20 22 20 21.9
comp=Z,2µm,21.0s
LPSR Galich'ya Gora 70.30 32 *e*P **P 21 56 47.5 -1.9**
LPSR pmax pmax
comp=Z,50nm,0.8s

LPSR MLR MLR
comp=Z,2µm,17.0s
GROC Groznyy 70.31 43 *e*P **P** **21 56 50.5 +0.9**
GROC *e* 21 59 30.5
GROC *e*S **S** **22 06 08.5 +6.7**
GROC pmax pmax
comp=Z,50nm,0.9s
ZKTA Zakatala 70.31 45 P **P** **21 56 50.2 +0.4**
MNGR Mingechevir, A 70.34 46 P **P** **21 56 50.3 +0.4**
JTS Las Juntas de 70.37 281 LR LR 22 26 47.2
comp=Z,720nm,19.5s,baz=98,slow=35
TRQ Mont Tremblant 70.40 321 P **P** **21 56 50.0 -0.3**
TRQ IAmb IAmb 21 56 59.9
comp=Z,29nm,0.9s
T57A Hurt 70.43 310 IAMs_20 IAMs_20 22 19 30.2
comp=Z,2µm,22.0s
S57A Dark Hollow, R 70.44 311 IAMs_20 IAMs_20 22 20 06.3
comp=Z,2µm,22.0s
OBN Obninsk 70.46 29 P **P** **21 56 50.3 0.0**
OBN IAmb IAmb 21 57 13.0
comp=Z,68nm,1.5s
OBN Obninsk 70.46 29 *ce*P *e* **P** **21 56 51.9 +1.6**
OBN *e* 21 57 09.8
OBN *e* 21 59 26.8
OBN *e*PPP PPP 22 01 09.0
OBN *e*S **S** **22 06 00.0 -3.1**
OBN *e*SS **SS** **22 10 36.3 +2.1**
OBN pmax pmax
comp=Z,69nm,2.5s
OBN MLR MLR
comp=Z,3µm,16.0s
OBN Obninsk 70.46 29 LR LR 22 30 14.2
comp=Z,3µm,18.2s,baz=233,slow=38
257A Skidaway Islan 70.46 305 IAMs_20 IAMs_20 22 20 02.1
comp=Z,2µm,22.0s
Y57A Sumter 70.47 307 P **P** **21 56 50.9 +0.1**
Y57A IAmb IAmb 21 56 57.4
comp=Z,19nm,0.6s
WHFO Wadi Hawf 70.51 71 P **P** **21 56 54.7 +3.3**
SNR=6.3
WHFO S **S** **22 06 06.8 +1.7**
SNAA Sanae 70.54 176 P **P** **21 56 51.3 +0.7**
SNAA IAmb IAmb 21 57 02.8
comp=Z,50nm,1.1s
SNAA Sanae 70.54 176 *i*P **P** **21 56 52.6 +2.0**
SNAA pmax pmax
comp=Z,54nm,1.7s
SNAA Sanae 70.54 176 *e*P **P** **21 56 53.7 +3.1**
SNAA Sanae 70.54 176 ⇑P **P** **21 56 52.1 +1.5**
comp=Z,508nm,0.9s
SNAA Sanae 70.54 176 P **P** **21 56 51.8 +1.1**
comp=Z,15nm,0.8s,baz=305,slow=8.4,SNR=6.9
SNAA LR LR 22 20 03.7
comp=Z,2µm,19.5s,baz=350,slow=29
comp=Z,15nm,0.8s
SEKA Sheki 70.57 45 P **P** **21 56 52.1 +0.7**
SSPA Standing Stone 70.58 314 P **P** **21 56 50.8 -0.5**
SSPA Standing Stone 70.58 314 P **P** **21 56 53.5 +2.2**
baz=110
PUL Pulkovo 70.59 23 *i*P **P** **21 56 51.3 +0.3**
PUL pmax pmax
comp=Z,26nm,0.8s
PUL MLR MLR
comp=Z,3µm,17.0s
GHWR Ruwais 70.66 64 P **P** **21 56 56.0 +3.8**
GHWR S **S** **22 06 08.0 +1.3**
ACON Acoyapa 70.75 283 P **P** **21 56 52.1 -0.7**
ACON IAmb IAmb 21 57 34.0
comp=Z,73nm,1.3s
JRN Qarnain Island 70.82 63 P **P** **21 56 56.6 +3.5**
JRN S **S** **22 06 09.4 +0.9**
RBK Rabkut 70.86 71 P **P** **21 56 55.5 +1.9**
SNR=7.4
RBK S **S** **22 06 11.8 +2.5**
LKRN Lenkeran, Azer 70.90 48 P **P** **21 56 53.7 +0.3**
DOK Doka 70.94 70 P **P** **21 56 57.2 +3.2**
DOK P **P** **21 56 57.2 +3.2**
DOK S **S** **22 06 11.3 +1.2**
DOK S **S** **22 06 11.3 +1.2**
656A Willston 71.11 302 IAMs_20 IAMs_20 22 19 52.4
comp=Z,2µm,20.0s
U56A King 71.11 309 IAMs_20 IAMs_20 22 21 28.2
comp=Z,2µm,20.0s
VRH Novokhopyorsk 71.13 34 *e*P **P** **21 56 53.3 -1.2**
VRH pmax pmax
comp=Z,46nm,1.6s
BOAB BOACO BROADBAN 71.27 284 IAMs_20 IAMs_20 22 18 24.8
comp=Z,2µm,21.0s
BOAB BOACO BROADBAN 71.27 284 P **P** **21 56 55.3 -0.8**
MOS Moscow 71.30 28 *e*P **P** **21 56 53.4 -2.0**
MOS *e* 21 57 16.1
MOS *e* 21 59 28.6
MOS *e*PPP PPP 22 01 14.6
MOS *e*S **S** **22 06 06.2 -6.7**
MOS *e* 22 06 34.0
MOS *e* 22 06 55.5
MOS *e*SS **SS** **22 10 51.1 +3.9**
MOS *e*SSS SSS 22 13 59.1
MOS pmax pmax
comp=Z,79nm,1.1s
MOS MLR MLR
comp=N,1µm,18.0s
MOS MLR MLR
comp=Z,2µm,18.0s
MOS MLR MLR
comp=E,2µm,17.0s
TROLL Troll, Antarti 71.33 174 ⇑P **P** **21 56 58.4 +2.9**
comp=Z,1µm,0.8s
BLA Blacksburg 71.39 310 P **P** **21 56 57.1 +0.7**
BLA IAMs_20 IAMs_20 22 21 07.7
comp=Z,2µm,21.0s
BLA Blacksburg 71.39 310 P **P** **21 56 57.1 +0.7**
BLA pmax pmax
comp=Z,21nm,1.0s
BLA MLR MLR
comp=Z,2µm,21.0s
BLA Blacksburg 71.39 310 P **P** **21 56 58.7 +2.2**
baz=107
MAK Makhachkala 71.39 44 *e*P **P** **21 56 53.2 -3.0**
MAK *e* 21 59 34.0
MAK *e* 22 01 19.5
MAK *e*S **S** **22 06 11.3 -3.1**
MAK *e*SS **SS** **22 10 44.9 -4.2**
MAK pmax pmax
comp=Z,83nm,1.1s
NVL N'lazarevskaya 71.39 171 *e*P **P** **21 56 57.0 +1.3**
NVL pmax pmax
comp=Z,23nm,1.1s
J55A Hilton 71.43 317 IAMs_20 IAMs_20 22 20 34.3
comp=Z,2µm,21.0s
R55A Marlinton 71.47 311 IAMs_20 IAMs_20 22 20 05.6
comp=Z,2µm,22.0s
M55A Ridgway 71.48 315 P **P** **21 56 56.5 -0.4**
M55A IAmb IAmb 21 57 03.3
comp=Z,48nm,1.3s
M55A IAMs_20 IAMs_20 22 20 07.7
comp=Z,2µm,18.0s
KMSC Kings Mountain 71.52 308 IAMs_20 IAMs_20 22 22 16.2
comp=Z,2µm,21.0s
MZWR Madinat Zayed 71.53 64 P **P** **21 57 01.3 +3.8**
MZWR S **S** **22 06 17.4 +0.6**
MATN Matagalpa 71.57 284 P **P** **21 56 57.2 -0.8**
DMTO DMTO 71.59 71 P **P** **21 57 01.2 +3.3**
DMTO S **S** **22 06 17.6 -0.1**
V55A Taylorsville 71.62 309 P **P** **21 56 57.9 0.0**
V55A IAMs_20 IAMs_20 22 21 42.8
comp=Z,2µm,21.0s
WVNY West Valley, N 71.68 316 P **P** **21 56 58.3 +0.3**
WVNY IAmb IAmb 21 57 05.1
comp=Z,43nm,1.0s
DELO Deloro Mine 71.74 318 IAMs_20 IAMs_20 22 21 20.4
comp=Z,2µm,20.0s
VALR Valaam 71.84 21 *i*P **P** **21 56 59.5 +1.0**
VALR pmax pmax
comp=Z,73nm,1.1s
VALR MLR MLR
comp=Z,60nm,5.0s
J54A Appleton 72.00 317 IAMs_20 IAMs_20 22 20 51.3
comp=Z,2µm,21.0s
HODGE Hodges 72.03 307 P **P** **21 57 00.3 0.0**
Q54A Coxs Mills 72.21 312 IAMs_20 IAMs_20 22 22 25.2
comp=Z,2µm,21.0s
S54A Dingess, Beckl 72.23 310 IAMs_20 IAMs_20 22 21 34.9
comp=Z,2µm,22.0s
PMSA Palmer Station 72.24 200 LR LR 22 22 07.4
comp=Z,2µm,20.9s,baz=110,slow=30
SHAO Shalim 72.27 71 P **P** **21 57 05.1 +3.1**
SHAO S **S** **22 06 26.9 +1.4**
U54A Nelsons Funny 72.27 309 IAMs_20 IAMs_20 22 22 14.0
comp=Z,2µm,20.0s
154A Montrose 72.32 305 IAMs_20 IAMs_20 22 21 09.5
comp=Z,3µm,22.0s
ICESG Greenland Ices 72.37 351 *i*P **P** **21 57 02.3 +0.3**
ICESG IAmb IAmb 21 57 17.8
comp=Z,7.9nm,0.8s
TIGA Tifton 72.45 304 IAMs_20 IAMs_20 22 23 01.0
comp=Z,2µm,20.0s
JMIC Jan Mayen 72.46 2 LR LR 22 25 03.0
comp=Z,2µm,20.9s,baz=225,slow=33
ALLY Alegheny Colle 72.52 315 P **P** **21 57 03.2 +0.1**
ALLY IAmb IAmb 21 57 10.0
comp=Z,49nm,1.1s
UMZA Um Al Zommool 72.52 66 P **P** **21 57 07.3 +3.8**
UMZA P **P** **21 57 07.3 +3.8**
UMZA S **S** **22 06 29.1 +0.9**
UMZA S **S** **22 06 29.1 +0.9**
AJN Ajban 72.67 64 P **P** **21 57 08.0 +3.8**
SFJD Kangerlussuaq 72.74 346 *i*P **P** **21 57 06.1 +2.3**
SFJD IAmb IAmb 21 57 14.1
comp=Z,9.9nm,0.8s
SFJD Kangerlussuaq 72.74 346 P **P** **21 57 04.8 +1.0**
comp=Z,13nm,1.0s,baz=157,slow=3.0,SNR=6.3
comp=Z,13nm,1.0s
GOGA Godfrey 72.80 306 IAMs_20 IAMs_20 22 21 37.4
comp=Z,2µm,21.0s
GOGA Godfrey 72.80 306 P **P** **21 57 07.7 +2.8**
baz=104
V53A Saluda 72.83 308 P **P** **21 57 05.0 -0.1**
SADO Sadowa 72.85 318 IAMs_20 IAMs_20 22 21 52.7
comp=Z,2µm,20.0s
SADO Sadowa 72.85 318 P **P** **21 57 05.8 +0.9**
comp=Z,17nm,1.0s,baz=138,slow=3.4,SNR=5.8
SADO LR LR 22 22 14.4
comp=Z,1µm,21.5s,baz=113,slow=30
comp=Z,17nm,1.0s
O53A New Philadelph 72.86 313 IAMs_20 IAMs_20 22 21 22.4
comp=Z,2µm,21.0s
VLDQ Val d'Or 72.96 322 IAMs_20 IAMs_20 22 24 04.4
comp=Z,2µm,19.0s
TGUH Tegucigalpa,Un 72.99 285 P **P** **21 57 05.8 -0.7**
TGUH IAmb IAmb 21 57 33.3
comp=Z,58nm,1.1s
FAQ Al Faqa, Dubai 73.24 64 P **P** **21 57 09.5 +1.8**
FAQ Al Faqa, Dubai 73.24 64 P **P** **21 57 10.2 +2.5**
FAQ P **P** **21 57 10.2 +2.5**
FAQ S **S** **22 06 37.4 +1.1**
FAQ S **S** **22 06 37.4 +1.1**
ALNE Al Ain 73.27 64 P **P** **21 57 10.0 +2.1**
ALNE Al Ain 73.27 64 P **P** **21 57 10.4 +2.5**
SNR=8.4
ALNE S **S** **22 06 37.9 +1.1**
O52A Adamsville 73.28 313 IAMs_20 IAMs_20 22 23 20.5
comp=Z,2µm,21.0s
NAZ Nazwa, Dubai 73.34 63 P **P** **21 57 11.1 +2.8**
NAZ P **P** **21 57 11.1 +2.8**
NAZ S **S** **22 06 38.0 +0.5**
NAZ S **S** **22 06 38.0 +0.5**
P52A Corning 73.36 312 P **P** **21 57 08.5 +0.4**
baz=106
Y52A Lilburn 73.39 306 IAMs_20 IAMs_20 22 23 17.7
comp=Z,2µm,20.0s
UMQ Umm Al-Quwin 73.43 63 P **P** **21 57 12.9 +4.1**
UMQ S **SKiKP** **22 06 40.6 +0.3**
TKL Tuckaleechee C 73.58 308 LR LR 22 22 58.5
comp=Z,929nm,21.7s,baz=118,slow=30
TZTN Tazewell 73.62 309 IAMs_20 IAMs_20 22 23 16.0
comp=Z,2µm,20.0s
ASHO Ashiyiah 73.65 64 P **P** **21 57 12.8 +2.7**
ASHO P **P** **21 57 12.8 +2.7**
ASHO S **S** **22 06 42.1 +1.0**
ASHO S **S** **22 06 42.1 +1.0**
152A Waverly Hall 73.66 305 IAMs_20 IAMs_20 22 22 11.9
comp=Z,3µm,22.0s
HATD Hatta, Dubai 73.74 64 *i*P **P** **21 57 12.2 +1.6**
SNR=8.0
HATD Hatta, Dubai 73.74 64 P **P** **21 57 14.2 +3.6**
HATD P **P** **21 57 14.2 +3.6**
HATD S **S** **22 06 42.3 +0.3**
HATD S **S** **22 06 42.3 +0.3**
UOSS Minazif 73.82 64 P **P** **21 57 11.6 +0.5**
UOSS IAmb IAmb 21 57 23.6
comp=Z,57nm,1.1s
UOSS Minazif 73.82 64 IAMs_20 IAMs_20 22 30 04.0
comp=Z,2µm,19.0s
UOSS Minazif 73.82 64 P **P** **21 57 12.5 +1.4**
UOSS Minazif 73.82 64 P **P** **21 57 14.3 +3.2**
UOSS P **P** **21 57 14.3 +3.2**
UOSS S **S** **22 06 44.5 +1.6**
UOSS S **S** **22 06 44.5 +1.6**
MASF Masafi 73.85 63 P **P** **21 57 14.6 +3.3**
MASF P **P** **21 57 14.6 +3.3**
MASF S **S** **22 06 42.5 -0.9**
MASF S **S** **22 06 42.5 -0.9**
ARQ Araqi 73.85 65 P **P** **21 57 13.7 +2.3**
SNR=14
ARQ P **P** **21 57 13.7 +2.3**
SNR=14
ARQ S **S** **22 06 45.8 +2.4**
ARQ S **S** **22 06 45.8 +2.4**
S51A Beattyville 73.93 310 IAMs_20 IAMs_20 22 22 36.9
comp=Z,3µm,22.0s
MDH Madha 73.96 63 P **P** **21 57 13.0 +1.1**
MDH S **S** **22 06 44.2 -0.3**
SOHO SOHO 73.99 65 *i*P **P** **21 57 14.2 +2.1**
SNR=7.5
SOHO SOHO 73.99 65 P **P** **21 57 13.5 +1.4**
SOHO P **P** **21 57 13.5 +1.4**
SOHO S **S** **22 06 45.2 +0.4**
SOHO S **S** **22 06 45.2 +0.4**
Q51A Peebles 74.10 311 IAMs_20 IAMs_20 22 21 48.3
comp=Z,2µm,22.0s
ACSO Alum Creek Sta 74.16 313 IAMs_20 IAMs_20 22 23 46.9
comp=Z,2µm,21.0s
BSY Bisya 74.38 66 P **P** **21 57 15.8 +1.3**
BSY P **P** **21 57 15.8 +1.3**
ELIB Princess Elisa 74.45 168 *d*P **P** **21 57 15.2 +1.1**
comp=Z,30nm,0.0s
HOQ Hoqain 74.61 65 P **P** **21 57 17.5 +1.8**
HOQ P **P** **21 57 17.5 +1.8**
HOQ S **S** **22 06 50.8 -1.1**
HOQ S **S** **22 06 50.8 -1.1**
R50A Paris 74.66 310 IAMs_20 IAMs_20 22 23 10.0
comp=Z,3µm,21.0s
TEIG Tepich 74.66 291 LR LR 22 23 22.5
comp=Z,5µm,20.8s,slow=30
T50A Nancy 74.74 309 IAMs_20 IAMs_20 22 24 01.4
comp=Z,3µm,21.0s
MHTO MHTO 74.85 68 P **P** **21 57 19.1 +1.9**
MHTO S **S** **22 06 54.1 -0.5**
KLMR Klimovskoe 74.91 24 *e*P **P** **21 57 13.9 -2.7**
KLMR *e* 22 00 01.4
KLMR S **S** **22 06 49.1 -4.6**
KLMR pmax pmax
comp=Z,79nm,1.4s
BELG Belogornoye 74.95 34 *i*P **P** **21 57 16.1 -1.0**
BELG pmax pmax
comp=Z,14nm,0.9s
BELG Belogornoye 74.95 34 LR LR 22 30 41.8
comp=Z,2µm,21.7s,baz=248,slow=36
ESQI Esquipulas 75.04 285 IAMs_20 IAMs_20 22 26 01.5
comp=Z,2µm,22.0s
O49A Covington 75.14 312 P **P** **21 57 18.6 +0.1**
O49A IAmb IAmb 21 57 25.3
comp=Z,43nm,1.1s
O49A IAMs_20 IAMs_20 22 24 37.8
comp=Z,2µm,20.0s
JMDO Jabal Madar 75.16 67 P **P** **21 57 20.0 +1.1**
JMDO S **S** **22 06 58.2 +0.2**
SWET Sewanee 75.20 307 P **P** **21 57 18.2 -0.8**
SMDO Samad 75.20 66 P **P** **21 57 19.7 +0.4**
SMDO S **S** **22 06 59.1 +0.4**
N49A Columbus Grove 75.22 313 IAMs_20 IAMs_20 22 24 49.8
comp=Z,2µm,20.0s
P49A Miami Univ. Ec 75.26 311 P **P** **21 57 19.9 +0.7**
P49A IAMs_20 IAMs_20 22 22 46.0
comp=Z,2µm,21.0s
P49A Miami Univ. Ec 75.26 311 P **P** **21 57 20.1 +0.9**
baz=104
R49A Shelbyville 75.30 310 IAMs_20 IAMs_20 22 23 30.1
comp=Z,3µm,21.0s
BIDO Bidbid 75.34 65 P **P** **21 57 21.3 +1.4**
BIDO P **P** **21 57 21.3 +1.4**
SUMG Summit 75.38 353 P **P** **21 57 19.9 +0.2**
SUMG IAmb IAmb 21 58 01.3
comp=Z,49nm,1.4s
SUMG Summit 75.38 353 P **P** **21 57 19.9 +0.2**
SUMG pmax pmax
comp=Z,49nm,1.4s
SUMG Summit 75.38 353 *i*P **P** **21 57 20.9 +1.3**
SUMG IAmb IAmb 21 57 24.5
comp=Z,8.5nm,0.9s
JASK Jask - Hormozg 75.45 63 P **P** **21 57 22.8 +2.2**
JASK S **S** **22 07 03.4 +2.3**
LRAL Lakeview Retre 75.61 305 IAMs_20 IAMs_20 22 23 21.9
comp=Z,2µm,21.0s
LRAL Lakeview Retre 75.61 305 P **P** **21 57 22.1 +0.8**
baz=101
L48A N Adams 75.67 314 IAMs_20 IAMs_20 22 24 16.7
comp=Z,2µm,22.0s
DBG Daneborg 75.73 359 *i*P **P** **21 57 21.8 +0.7**
WSAR Wadi Sarin 75.76 66 LR LR 22 31 07.0
comp=Z,2µm,19.1s,baz=274,slow=36
O48B Farmland 75.77 312 IAMs_20 IAMs_20 22 23 16.4
comp=Z,2µm,22.0s
P48A Milroy 75.78 311 IAMs_20 IAMs_20 22 23 46.6
comp=Z,2µm,21.0s
X48A Hartselle 75.93 306 IAMs_20 IAMs_20 22 24 08.0
comp=Z,2µm,20.0s
ARCES ARCESS Array B 75.96 14 P **P** **21 57 22.4 -0.2**
comp=Z,7.8nm,0.8s,baz=208,slow=4.9,SNR=15
ARCES LR LR 22 31 51.1
comp=Z,3µm,20.8s,baz=230,slow=37
comp=Z,7.8nm,0.8s
FRB Frobisher Bay 75.96 338 P **P** **21 57 22.2 -0.4**
WBK Wadi Bani Khal 75.98 66 P **P** **21 57 26.1 +2.3**
WBK P **P** **21 57 26.1 +2.3**
WBK S **S** **22 07 08.4 +1.1**
WBK S **S** **22 07 08.4 +1.1**
UMMG Uummannaq 76.00 348 *i*P **P** **21 57 25.6 +2.9**
UMMG IAmb IAmb 21 57 48.6
comp=Z,11nm,0.9s
WCI Wyandotte Cave 76.15 310 IAMs_20 IAMs_20 22 23 54.5
comp=Z,3µm,21.0s
N47A Urbana 76.32 313 IAMs_20 IAMs_20 22 25 32.9
comp=Z,2µm,20.0s
JLN Jalan Bani Buh 76.33 67 P **P** **21 57 27.7 +2.0**
JLN P **P** **21 57 27.7 +2.0**
JLN S **S** **22 07 12.3 +1.3**
JLN S **S** **22 07 12.3 +1.3**
KEV Kevo 76.48 14 P **P** **21 57 25.2 -0.3**
KEV IAmb IAmb 21 57 29.3
comp=Z,46nm,1.1s
KEV Kevo 76.48 14 P **P** **21 57 25.2 -0.3**
KEV pmax pmax
comp=Z,46nm,1.1s
KEV MLR MLR
comp=Z,4µm,20.0s
T47A Sharon Grove 76.50 308 P **P** **21 57 26.6 +0.2**
T47A IAmb IAmb 21 57 32.2
comp=Z,40nm,1.2s
Z47A Carrollton 76.53 305 IAMs_20 IAMs_20 22 23 59.8
comp=Z,2µm,21.0s
APA Apatity 76.70 17 ⇓*i*P **P** **21 57 26.3 -0.5**
APA *i* 21 57 44.3
APA *i* 22 00 26.2
APA *i*S **S** **22 07 11.0 -2.3**
APA *i* 22 07 38.0
APA pmax pmax
comp=Z,9.0nm,1.0s
E46A Sault Ste Mari 76.79 318 IAMs_20 IAMs_20 22 24 15.1
comp=Z,2µm,22.0s
PLAL Pickwick Lake 76.87 306 IAMs_20 IAMs_20 22 24 05.1
comp=Z,2µm,22.0s
NUUG Nuugaatsiaq 76.89 348 *i*P **P** **21 57 30.8 +3.0**
NUUG IAmb IAmb 21 57 45.0
comp=Z,5.3nm,0.8s
WVT Waverly 76.90 308 P **P** **21 57 27.8 -0.7**
WVT Waverly 76.90 308 P **P** **21 57 27.8 -0.7**
WVT pmax pmax
comp=Z,35nm,1.3s
WVT MLR MLR
comp=Z,1µm,22.0s
WVT Waverly 76.90 308 P **P** **21 57 27.9 -0.7**
baz=102
L46A Eue Claire 77.03 314 IAMs_20 IAMs_20 22 24 58.7
comp=Z,2µm,21.0s
BELA Belgrano 2 77.04 184 P **P** **21 57 30.1 +1.5**
BELA IAmb IAmb 21 57 40.9
comp=Z,65nm,1.0s
USIN University of 77.15 309 IAMs_20 IAMs_20 22 24 56.0
comp=Z,2µm,20.0s
P46A Rosedale 77.15 311 IAMs_20 IAMs_20 22 24 29.0
comp=Z,2µm,21.0s
LVZ Lovozero 77.27 17 *ce*P **P** **21 57 31.2 +1.1**
LVZ pmax pmax
comp=Z,46nm,1.2s
LVZ MLR MLR
comp=Z,3µm,16.0s
G45A Suttons Bay 77.34 317 IAMs_20 IAMs_20 22 23 06.7
comp=Z,2µm,22.0s
UTMT University of 77.76 308 IAMs_20 IAMs_20 22 29 35.4
comp=Z,2µm,20.0s
GEYT Alibeck 77.80 51 P **P** **21 57 33.9 +0.2**
comp=Z,9.7nm,1.1s,baz=263,slow=7.3,SNR=17
GEYT LR LR 22 32 58.9
comp=Z,3µm,21.7s,baz=276,slow=37
comp=Z,9.7nm,1.1s
Y45A Yeager Farm, C 77.86 305 IAMs_20 IAMs_20 22 24 41.0
comp=Z,2µm,21.0s
OXF Oxford 77.86 306 IAMs_20 IAMs_20 22 24 21.4
comp=Z,3µm,22.0s
CCIG Comitan 77.88 287 P **P** **21 57 34.3 -0.3**
CCIG IAmb IAmb 21 57 48.0
comp=Z,41nm,1.0s
GLAT Glass 78.08 307 IAMs_20 IAMs_20 22 29 34.9
comp=Z,1µm,18.0s
M44A Midewin, Midew 78.16 313 IAMs_20 IAMs_20 22 26 39.7
comp=Z,2µm,19.0s
DAG Danmarks Havn 78.17 359 P **P** **21 57 35.1 +0.2**
DAG Danmarks Havn 78.17 359 *i*P **P** **21 57 34.8 -0.1**
DAG IAmb IAmb 21 57 46.1
comp=Z,8.3nm,0.8s
O44A Mansfield 78.21 311 IAMs_20 IAMs_20 22 24 28.1
comp=Z,2µm,22.0s
L44A Lake County Fo 78.24 314 IAMs_20 IAMs_20 22 26 25.7
comp=Z,2µm,19.0s
SIUC Southern Illin 78.30 309 IAMs_20 IAMs_20 22 26 30.5
comp=Z,2µm,20.0s
KIRV Kirov 78.30 29 *ce*P **P** **21 57 34.4 -1.5**
KIRV Kirov 78.30 29 LR LR 22 34 51.6
comp=Z,3µm,18.7s,baz=257,slow=38
S44A Carbondale 78.33 309 IAMs_20 IAMs_20 22 26 31.2
comp=Z,2µm,21.0s
MET Memphis--Engin 78.39 306 IAMs_20 IAMs_20 22 26 22.1
comp=Z,2µm,20.0s
UPNV Upernavik 78.43 349 *i*P **P** **21 57 39.3 +2.9**
UPNV IAmb IAmb 21 57 57.5
comp=Z,14nm,1.0s
PARMO Parma 78.52 308 IAMs_20 IAMs_20 22 29 57.5
comp=Z,1µm,18.0s
HDIL Hopedale 78.92 312 IAMs_20 IAMs_20 22 25 25.9
comp=Z,2µm,22.0s
HBAR Harrisburg 79.05 306 IAMs_20 IAMs_20 22 24 33.5
comp=Z,2µm,22.0s
FVM French Village 79.29 309 IAMs_20 IAMs_20 22 27 11.8
comp=Z,2µm,20.0s
L42A Oliver, Polo 79.48 313 IAMs_20 IAMs_20 22 27 19.6
comp=Z,2µm,21.0s
LCAR Lake Charles 79.53 307 P **P** **21 57 43.1 -0.1**
CCAR Cane Creek 79.69 305 IAMs_20 IAMs_20 22 26 51.7
comp=Z,2µm,20.0s
D41A Chassel 79.80 318 P **P** **21 57 44.0 -0.4**
D41A IAmb IAmb 21 57 54.1
comp=Z,44nm,0.8s
D41A IAMs_20 IAMs_20 22 25 33.7
comp=Z,2µm,21.0s
CCM Cathedral Cave 79.94 309 IAMs_20 IAMs_20 22 32 50.9
comp=Z,1µm,20.0s
KULLO Kullorsuaq 79.97 350 *i*P **P** **21 57 47.4 +2.6**
JFWS Jewell Farm 80.08 314 IAMs_20 IAMs_20 22 26 51.7
comp=Z,2µm,19.0s
JFWS Jewell Farm 80.08 314 P **P** **21 57 48.7 +2.6**
baz=101
N41A Harden Midland 80.11 312 IAMs_20 IAMs_20 22 26 11.3
comp=Z,2µm,22.0s
FCAR Ozark Folk Cen 80.28 307 IAMs_20 IAMs_20 22 25 46.2

comp=Z,2µm,22.0s
UALR University of **80.29 305** IAMs_20 IAMs_20 22 25 56.4
comp=Z,2µm,21.0s
WHAR Wooly Hollow **80.32 306** IAMs_20 IAMs_20 22 25 58.3
comp=Z,2µm,21.0s
HRA Herat **80.48 55** P **P** **21 57 48.0 -0.7**
AKTO Aktyubinsk **80.50 38** LR LR 22 35 42.0
comp=Z,929nm,21.8s,baz=272,slow=37
G40A Rib Lake **80.52 316** IAMs_20 IAMs_20 22 25 52.9
comp=Z,2µm,22.0s
CMIG Matias Romero **80.57 287** LR LR 22 33 01.3
comp=Z,442nm,18.9s,baz=86,slow=35
MGMO Mountain Grove **80.59 308** IAMs_20 IAMs_20 22 32 49.3
comp=Z,2µm,18.0s
L40A Anamosa **80.63 313** IAMs_20 IAMs_20 22 29 54.9
comp=Z,2µm,19.0s
X40A Basin Creek Fa **80.65 305** IAMs_20 IAMs_20 22 26 15.9
comp=Z,2µm,21.0s
R40A Maddies Statio **80.77 309** IAMs_20 IAMs_20 22 27 28.0
comp=Z,1µm,20.0s
NEEM North Greenlan **81.24 353** *i* P **P** **21 57 54.9 +3.0**
NEEM IAmb IAmb 21 58 13.0
comp=Z,30nm,0.9s
MIAR Mount Ida **81.26 305** IAMs_20 IAMs_20 22 26 34.5
comp=Z,2µm,21.0s
SPITS Spitsbergen Ar **81.33 6** P **P** **21 57 51.6 -0.4**
comp=Z,12nm,0.9s,baz=219,slow=6.5,SNR=7.5
SPITS LR LR 22 32 02.2
comp=Z,1µm,19.4s,baz=171,slow=34
comp=Z,12nm,0.9s
ABKAR Akbulak array **81.45 40** P **P** **21 57 52.6 -0.6**
S39A Bolivar **81.50 308** IAMs_20 IAMs_20 22 32 09.4
comp=Z,1µm,20.0s
KBS Kingsbay **81.55 5** IAMs_20 IAMs_20 22 33 36.8
comp=Z,1µm,19.0s
HHAR Hobbs **81.79 307** IAMs_20 IAMs_20 22 26 43.2
comp=Z,2µm,21.0s
N38A Joes South For **81.91 311** IAMs_20 IAMs_20 22 27 27.9
comp=Z,2µm,21.0s
EYMN Ely **81.93 319** P **P** **21 57 55.5 -0.3**
EYMN Ely **81.93 319** IAMs_20 IAMs_20 22 26 52.0
comp=Z,2µm,21.0s
EYMN Ely **81.93 319** P **P** **21 57 56.6 +0.8**
baz=101
SCIA State Center **82.07 313** IAMs_20 IAMs_20 22 27 11.3
comp=Z,2µm,21.0s
U38A Gravette **82.17 307** IAMs_20 IAMs_20 22 31 53.2
comp=Z,1µm,19.0s
ARU Arti **82.30 33***c i* P **P** **21 57 56.9 -0.6**
ARU 22 01 01.3
ARU PPP PPP 22 02 52.4
ARU S **S** **22 08 14.3 +1.3**
ARU Arti **82.30 33** LR LR 22 36 22.4
comp=Z,3µm,20.9s,baz=257,slow=37
SPMN Marine on St. **82.32 316** IAMs_20 IAMs_20 22 26 57.5
comp=Z,2µm,22.0s
X37A Clayton **82.74 305** IAMs_20 IAMs_20 22 29 28.3
comp=Z,2µm,19.0s
F36A Milaca **82.93 316** IAMs_20 IAMs_20 22 27 27.5
comp=Z,1µm,20.0s
TUL3 Leonard **83.23 306** IAMs_20 IAMs_20 22 29 49.4
comp=Z,1µm,20.0s
B35A Bob, Littlefor **83.47 319** IAMs_20 IAMs_20 22 32 43.8
comp=Z,1µm,19.0s
SVE Sverdlovsk **83.50 32***de* P **P** **21 58 07.2 +3.4**
SVE *eS* **S** **22 08 29.6 +4.3**
SVE pmax pmax
comp=Z,32nm,1.0s
SVE MLR MLR
comp=Z,2µm,18.0s
QUOK Quay **84.00 306** IAMs_20 IAMs_20 22 28 12.7
comp=Z,2µm,22.0s
OK052 Battle Ridge R **84.06 306** IAMs_20 IAMs_20 22 28 03.2
comp=Z,2µm,22.0s
MAW Mawson **84.10 158** P **P** **21 58 05.5 -1.0**
comp=Z,5.5nm,0.9s,baz=308,slow=19,SNR=1.5
MAW LR LR 22 28 44.1
comp=Z,1µm,19.2s,baz=291,slow=31
comp=Z,5.5nm,0.9s
Z35A Perchaven, San **84.16 304** IAMs_20 IAMs_20 22 30 52.0
comp=Z,1µm,20.0s
KSU1 Kansas State U **84.25 309** IAMs_20 IAMs_20 22 30 06.2
comp=Z,1µm,21.0s
L34A Svendsen Farm, **84.41 312** IAMs_20 IAMs_20 22 28 23.1
comp=Z,2µm,22.0s
FNO Franklin **84.47 305** IAMs_20 IAMs_20 22 28 25.1
comp=Z,2µm,22.0s
OK029 Liberty Lake **84.57 306** IAMs_20 IAMs_20 22 29 12.6
comp=Z,2µm,22.0s
ECSD EROS Data Cent **84.80 314** P **P** **21 58 10.0 -0.7**
ECSD IAMs_20 IAMs_20 22 29 35.4
comp=Z,2µm,22.0s
F33A 5 Mile Ranch, **84.84 316** IAMs_20 IAMs_20 22 28 57.1
comp=Z,1µm,20.0s
AGMN Agassiz Nation **84.87 319** IAMs_20 IAMs_20 22 33 27.9
comp=Z,1µm,18.0s
AGMN Agassiz Nation **84.87 319** P **P** **21 58 12.5 +1.6**
baz=98
ULM Lac du Bonnet **85.16 321** P **P** **21 58 11.2 -1.1**
comp=Z,5.5nm,1.1s,baz=74,slow=6.7,SNR=3.3
ULM LR LR 22 33 34.8
comp=Z,1µm,18.1s,baz=92,slow=34
comp=Z,5.5nm,1.1s
D32A Dogwood Acres, **85.50 317** IAMs_20 IAMs_20 22 27 43.4
comp=Z,2µm,22.0s
WMOK Wichita Mounta **85.55 305** IAMs_20 IAMs_20 22 29 56.0
comp=Z,2µm,22.0s
WMOK Wichita Mounta **85.55 305** P **P** **21 58 15.0 +0.3**
WMOK Wichita Mounta **85.55 305** P **P** **21 58 15.2 +0.5**
baz=95
833A Chaparral WMA, **85.58 298** P **P** **21 58 15.9 +1.0**
baz=94
OK035 E0210 Rd and N **85.66 307** IAMs_20 IAMs_20 22 29 21.5
comp=Z,1µm,21.0s
R32A Long Quarter, **85.81 309** IAMs_20 IAMs_20 22 32 29.5
comp=Z,1µm,20.0s
JCT Junction City **86.08 301** P **P** **21 58 17.7 +0.3**
JCT Junction City **86.08 301** P **P** **21 58 17.9 +0.5**
baz=94
KBL Kabul **86.08 55** P P 21 58 22.4 +4.9
KBL P P 21 58 22.4 +4.9
KBL S **SKSac** **22 08 41.7 -2.5**
KBL S **SKSac** **22 08 41.7 -2.5**
ABTX Abilene, Hawle **86.10 303** IAMs_20 IAMs_20 22 30 08.4
comp=Z,2µm,21.0s
ABTX Abilene, Hawle **86.10 303** P **P** **21 58 18.0 +0.6**
baz=94
KBU Kabul Universi **86.16 55** P **P** **21 58 22.2 +4.3**
SIMJ Simiganj **86.38 51** IAMs_20 IAMs_20 22 38 21.6
comp=Z,2µm,21.0s
CHGR Chuyangaron **86.50 51** P **P** **21 58 19.0 -0.4**
SUSD Miller **86.55 314** IAMs_20 IAMs_20 22 31 11.6
comp=Z,1µm,20.0s
CBKS Cedar Bluff **86.65 309** IAMs_20 IAMs_20 22 30 15.8
comp=Z,1µm,22.0s
K30B Basset **86.87 313** IAMs_20 IAMs_20 22 29 03.1
comp=Z,2µm,22.0s
MDND Maddock **87.31 318** P **P** **21 58 25.0 +2.0**
baz=95
BRLS Boroldav **87.36 47** *eP* **P** **21 58 23.3 -0.1**
BRLS pmax pmax
comp=Z,22nm,1.9s
BRLS Boroldav **87.36 47** *eP* **P** **21 58 23.4 -0.1**
comp=Z,22nm,1.9s,baz=47
IUG luzhnay **87.44 48** *eP* **P** **21 58 24.5 +0.6**
IUG pmax pmax
comp=Z,20nm,1.8s
IUG luzhnay **87.44 48** *eP* **P** **21 58 24.5 +0.6**
comp=Z,20nm,1.8s,baz=48
BTK Batken **87.89 50** P **P** **21 58 25.4 -0.7**
E28A Huff **87.95 317** IAMs_20 IAMs_20 22 35 56.4
comp=Z,2µm,18.0s
BRVK Borovoye **88.44 37***ce* P **P** **21 58 29.3 +1.0**
BRVK pmax pmax
comp=Z,17nm,1.1s
BRVK MLR MLR
comp=Z,2µm,20.0s
BRVK Borovoye **88.44 37** P **P** **21 58 31.8 +3.5**
BRVK P **P** **21 58 31.8 +3.5**
DZA Taraz **88.45 47** *eP* **P** **21 58 29.5 +0.9**
DZA Taraz **88.45 47** *eP* **P** **21 58 29.5 +0.9**
baz=47
BVAR Borovoye Array **88.50 37** P **P** **21 58 27.7 -0.9**
comp=Z,9.1nm,0.9s,baz=250,slow=3.0,SNR=22
BVAR LR LR 22 41 23.9
comp=Z,2µm,19.5s,baz=260,slow=38
comp=Z,9.1nm,0.9s

QSPA South Pole Qui **88.61 180** P **P** **21 58 29.8 +0.9**
comp=Z,11nm,0.9s,baz=209,slow=3.6,SNR=14
QSPA LR LR 22 31 55.1
comp=Z,2µm,19.2s,baz=210,slow=31
comp=Z,11nm,0.9s
MSTX Muleshoe **88.79 304** IAMs_20 IAMs_20 22 33 48.7
comp=Z,1µm,20.0s
MSTX Muleshoe **88.79 304** P **P** **21 58 31.8 +1.3**
baz=92
KSCO Kaye Shedlock' **88.91 309** IAMs_20 IAMs_20 22 34 54.4
comp=Z,1µm,20.0s
FFC Flin Flon **89.32 325** P **P** **21 58 32.6 +0.2**
TXAR Lajitas Array **89.37 299** P **P** **21 58 33.7 +0.4**
comp=Z,1.0nm,0.6s,baz=101,slow=6.6,SNR=7.6
TXAR LR LR 22 35 28.1
comp=Z,322nm,20.8s,baz=75,slow=34
comp=Z,1.0nm,0.6s
NIL Nilore **89.52 56** IAMs_20 IAMs_20 22 41 01.4
comp=Z,2µm,20.0s
NIL Nilore **89.52 56** P **P** **21 58 34.1 +0.3**
NIL Nilore **89.52 56** P **P** **21 58 37.0 +3.1**
NIL P **P** **21 58 37.0 +3.1**
BRZS Berezniki **89.75 40** *eP* **P** **21 58 35.2 +0.7**
BRZS Berezniki **89.75 40** *eP* **P** **21 58 35.3 +0.7**
baz=40
RSSD Black Hills **90.17 314** IAMs_20 IAMs_20 22 33 47.5
comp=Z,2µm,20.0s
BRIGG Briggsdale **90.27 310** IAMs_20 IAMs_20 22 33 25.4
comp=Z,2µm,20.0s
DGMT Dagmar **90.42 318** IAMs_20 IAMs_20 22 32 03.7
comp=Z,2µm,21.0s
BTLS Baital **90.50 45** *eP* **P** **21 58 39.1 +1.0**
BTLS Baital **90.50 45** *eP* **P** **21 58 39.2 +1.1**
baz=45
AAK Ala-Archa **90.76 48***ce* P **P** **21 58 41.0 +1.4**
AAK pmax pmax
comp=Z,16nm,1.2s
AAK MLR MLR
comp=Z,1µm,20.0s
AAK Ala-Archa **90.76 48** *i* P **P** **21 58 41.2 +1.6**
SNR=10
AAK Ala-Archa **90.76 48** LR LR 22 44 54.2
comp=Z,1µm,18.1s,baz=284,slow=39
AAK Ala-Archa **90.76 48** P **P** **21 58 43.6 +4.0**
AAK P **P** **21 58 43.6 +4.0**
Q24A Divide **90.87 309** IAMs_20 IAMs_20 22 32 59.4
comp=Z,2µm,21.0s
SGDS Sogindy **90.88 47** *eP* **P** **21 58 40.7 +0.7**
SGDS Sogindy **90.88 47** *eP* **P** **21 58 40.7 +0.7**
baz=47
SDCO Great Sand Dun **91.13 308** P **P** **21 58 43.5 +1.9**
baz=91
ISCO Idaho Springs **91.25 310** IAMs_20 IAMs_20 22 33 51.5
comp=Z,1µm,22.0s
ISCO Idaho Springs **91.25 310** P **P** **21 58 43.8 +1.7**
baz=91
N23A Red Feather La **91.52 311** IAMs_20 IAMs_20 22 34 19.2
comp=Z,2µm,20.0s
LAO LASA Array **91.76 316** P **P** **21 58 45.6 +1.6**
baz=90
KSH Kashi **91.83 51** P **P** **21 58 43.3 -1.3**
KSH PP **PP** **22 02 26.2 +2.5**
KSH SKS **SKSac** **22 09 13.8 -4.1**
KSH S **SKKSac** **22 09 38.4 +4.1**
KSH SS **SS** **22 15 50.5 -3.5**
KSH pmax pmax
comp=Z,5.0nm,1.5s
KSH pmax pmax
comp=Z,320nm,6.4s
KSH LR LR
comp=Z,1µm,21.0s
KSH LR LR
comp=Z,2µm,21.8s
KSH LR LR
comp=Z,3µm,25.0s
ANMO Albuquerque **91.86 305** IAMs_20 IAMs_20 22 34 28.2
comp=Z,2µm,20.0s
ANMO Albuquerque **91.86 305** P **P** **21 58 46.8 +1.8**
baz=90
ANMO Albuquerque **91.86 305** LR LR 22 34 49.5
comp=Z,2µm,20.4s,baz=186,slow=32
SMCO Snowmass **92.30 309** IAMs_20 IAMs_20 22 39 35.0
comp=Z,1µm,19.0s
MDOK Medeo **92.64 47** *eP* **P** **21 58 48.9 +0.6**
MDOK Medeo **92.64 47** *eP* **P** **21 58 48.9 +0.6**
baz=47
MDOK LR LR 22 43 41.0
comp=Z,684nm,17.5s,baz=47
RPN Rapa Nui **93.02 243** LR LR 22 36 52.6
comp=Z,1µm,19.9s,baz=96,slow=33
O20A White River Ci **93.27 310** IAMs_20 IAMs_20 22 33 09.7
comp=Z,2µm,22.0s
KURBB Kurchatov Arra **93.50 40** P **P** **21 58 51.4 -0.4**
comp=Z,2.4nm,1.0s,baz=275,slow=5.0,SNR=11
KURBB LR LR 22 44 49.8
comp=Z,2µm,20.9s,baz=312,slow=38
comp=Z,2.4nm,1.0s
KURK Kurchatov **93.56 39***ce* P **P** **21 58 53.7 +1.6**
KURK pmax pmax
comp=Z,6.0nm,1.2s
KURK MLR MLR
comp=Z,2µm,21.0s
KURK Kurchatov **93.56 39** P **P** **21 58 54.4 +2.3**
KURK P **P** **21 58 54.4 +2.3**
TDK Taldyqorghan **93.59 45** *eP* **P** **21 58 53.2 +0.8**
TDK Taldyqorghan **93.59 45** *eP* **P** **21 58 53.3 +0.8**
baz=45
TDK LR LR 22 43 53.9
comp=Z,648nm,14.5s,baz=45
SATY Saty **93.64 47** *eP* **P** **21 58 53.4 +0.5**
SATY Saty **93.64 47** *eP* **P** **21 58 53.4 +0.5**
baz=47
PRZ Przheval'sk **93.65 48** IAMs_20 IAMs_20 22 46 58.4
comp=Z,1µm,19.0s
RLMT Red Lodge **93.91 315** IAMs_20 IAMs_20 22 35 11.4
comp=Z,1µm,21.0s
RLMT Red Lodge **93.91 315** P **P** **21 58 55.1 +1.0**
baz=88
UZB Uzynbulak **94.09 47** *eP* **P** **21 58 55.6 +0.7**
UZB Uzynbulak **94.09 47** *eP* **P** **21 58 55.6 +0.7**
baz=47
EGMT Eagleton **94.14 318** IAMs_20 IAMs_20 22 34 10.0
comp=Z,2µm,22.0s
PDAR Pinedale Array **94.20 313** P **P** **21 58 55.2 -0.4**
comp=Z,0.5nm,0.8s,baz=113,slow=6.9,SNR=3.5
PDAR LR LR 22 35 20.7
comp=Z,1µm,21.9s,baz=90,slow=32
comp=Z,0.5nm,0.8s
RDMU Red Mountain **94.27 310** IAMs_20 IAMs_20 22 35 51.2
comp=Z,1µm,21.0s
SHLS Shalkode **94.41 47** *eP* **P** **21 58 58.4 +2.0**
SHLS Shalkode **94.41 47** *eP* **P** **21 58 58.5 +2.0**
baz=47
W18A Petrified Fore **94.55 305** IAMs_20 IAMs_20 22 36 25.1
comp=Z,2µm,20.0s
YMP Mirror Lake Pl **94.56 315** IAMs_20 IAMs_20 22 36 07.3
comp=Z,2µm,21.0s
SEM Semipalatinsk **94.61 40** *eP* **P** **21 58 58.0 +0.7**
SEM Semipalatinsk **94.61 40** *eP* **P** **21 58 58.0 +0.7**
baz=40
SEM LR LR 22 43 53.9
comp=Z,567nm,16.4s,baz=40
X18A Snowflake **94.74 304** IAMs_20 IAMs_20 22 36 42.2
comp=Z,2µm,20.0s
P18A Preston Nutter **94.82 309** IAMs_20 IAMs_20 22 35 11.8
comp=Z,1µm,21.0s
LOHW Long Hollow **94.93 313** IAMs_20 IAMs_20 22 40 58.3
comp=Z,1µm,18.0s
YNR Norris Junctio **94.93 315** IAMs_20 IAMs_20 22 35 32.2
comp=Z,2µm,21.0s
YNM Yellowstone No **94.94 315** IAMs_20 IAMs_20 22 36 18.7
comp=Z,2µm,21.0s
FLWY Flagg Ranch **94.97 314** IAMs_20 IAMs_20 22 36 47.5
comp=Z,1µm,20.0s
MOOW Moose Ponds **95.02 314** IAMs_20 IAMs_20 22 41 00.8
comp=Z,2µm,19.0s
SNOW Snow King Moun **95.04 313** IAMs_20 IAMs_20 22 36 42.3
comp=Z,1µm,19.0s
SRU San Rafael Swe **95.06 309** IAMs_20 IAMs_20 22 41 24.1
comp=Z,1µm,18.0s
IMW Indian Meadow **95.16 314** IAMs_20 IAMs_20 22 37 05.4
comp=Z,1µm,20.0s
BSUT Blindstream Ca **95.18 310** IAMs_20 IAMs_20 22 36 31.3
comp=Z,1µm,21.0s
TPAW Teton Pass **95.19 313** IAMs_20 IAMs_20 22 36 56.2
comp=Z,1µm,21.0s
P17A Butcher Ranch, **95.21 309** IAMs_20 IAMs_20 22 35 23.1
comp=Z,1µm,21.0s
FXWY Fox Creek **95.23 314** IAMs_20 IAMs_20 22 41 17.3
comp=Z,1µm,18.0s
LPIG La Paz **95.26 294** LR LR 22 38 29.6
comp=Z,335nm,21.6s,baz=96,slow=33
AHID Auburn Hatcher **95.33 313** IAMs_20 IAMs_20 22 35 02.2
comp=Z,2µm,22.0s
BOZ Bozeman (W) **95.55 315** IAMs_20 IAMs_20 22 35 54.6
comp=Z,1µm,22.0s
Q16A Castle Valley **95.57 309** IAMs_20 IAMs_20 22 35 09.7
comp=Z,1µm,22.0s
YKAW1 Yellowknife Wh **95.59 333** IAMs_20 IAMs_20 22 36 55.5
comp=Z,2µm,19.0s
TCUT Toone Canyon **95.64 311** IAMs_20 IAMs_20 22 35 45.5
comp=Z,2µm,20.0s
YKA Yellowknife Ar **95.65 333** P **P** **21 59 01.8 +0.4**
comp=Z,0.8nm,0.7s,baz=85,slow=5.1,SNR=12
YKA PKKP **PKKPdf** **22 15 55.5 +0.6**
comp=Z,0.2nm,0.7s,baz=281,slow=3.0,SNR=4.5
comp=Z,0.8nm,0.7s
NRIK Noril'sk **95.87 20** IAMs_20 IAMs_20 22 47 10.2
comp=Z,1µm,20.0s
NRIK Noril'sk **95.87 20** *i* P **P** **21 59 03.3 +1.0**
NRIK pmax pmax
comp=Z,6.0nm,1.6s
NRIK MLR MLR
comp=Z,2µm,25.0s
NRIK Noril'sk **95.87 20** LR LR 22 45 26.5
comp=Z,1µm,19.8s,baz=296,slow=38
MPU Maple Canyon **95.87 310** IAMs_20 IAMs_20 22 36 45.6
comp=Z,1µm,20.0s
WUAZ Wupatki **95.88 305** IAMs_20 IAMs_20 22 35 46.4
comp=Z,1µm,22.0s
CTU Camp Tracy **95.93 311** IAMs_20 IAMs_20 22 38 44.0
comp=Z,1µm,19.0s
X16A Lo Mia Camp, P **95.98 304** IAMs_20 IAMs_20 22 37 52.9
comp=Z,1µm,20.0s
MAKZ Makanchi **95.99 43** IAMs_20 IAMs_20 22 45 20.9
comp=Z,1µm,21.0s
PALK Pallekele **96.04 83** IAMs_20 IAMs_20 22 37 05.1
comp=Z,2µm,21.0s
PALK Pallekele **96.04 83** LR LR 22 37 26.7
comp=Z,2µm,21.5s,baz=7.2,slow=32
MK31 Makanchi Array **96.21 43***ce* P **P** **21 59 06.1 +1.7**
MKAR Makanchi Array **96.21 43** LR P **21 59 04.5 +0.1**
comp=Z,2.8nm,0.9s,baz=270,slow=4.9,SNR=18
MKAR PP **PP** **22 02 50.9 -6.6**
comp=Z,1.3nm,1.0s,baz=291,slow=4.0,SNR=2.1
MKAR PKKP **PKKPdf** **22 15 58.5 +4.9**
comp=Z,0.3nm,0.7s,baz=48,slow=1.8,SNR=3.6
MKAR LR LR 22 46 57.0
comp=Z,614nm,20.7s,baz=290,slow=38
comp=Z,2.8nm,0.9s
NLU North Lily Min **96.22 310** IAMs_20 IAMs_20 22 36 57.7
comp=Z,1µm,21.0s
MTPU Mount Pierson **96.41 308** IAMs_20 IAMs_20 22 36 33.9
comp=Z,1µm,21.0s
U15A North Rim **96.58 306** IAMs_20 IAMs_20 22 37 04.6
comp=Z,2µm,21.0s
TCRU Three Creeks R **96.58 309** IAMs_20 IAMs_20 22 37 30.5
comp=Z,1µm,20.0s
DUG Dugway, Tooele **96.77 310** IAMs_20 IAMs_20 22 42 26.5
comp=Z,1µm,18.0s
BGU Big Grassy Mou **96.88 311** IAMs_20 IAMs_20 22 36 46.2
comp=Z,1µm,21.0s
ZAA0 Zalesovo Array **97.09 36** IAMs_20 IAMs_20 22 47 06.1
comp=Z,2µm,19.0s
ZALV Zalesovo Beam **97.09 36** P Pdif 21 59 08.8 +0.6
comp=Z,1.6nm,1.0s,baz=270,slow=2.9,SNR=3.1
ZALV PP **PP** **22 03 00.6 -3.3**
comp=Z,1.2nm,0.8s,baz=289,slow=9.0,SNR=2.3
ZALV LR LR 22 47 25.6
comp=Z,997nm,18.1s,baz=294,slow=38
comp=Z,1.6nm,1.0s
Y14A Wickenburg **97.30 304** IAMs_20 IAMs_20 22 38 44.8
comp=Z,1µm,20.0s
CCUT Cedar City **97.37 308** IAMs_20 IAMs_20 22 36 52.4
comp=Z,1µm,22.0s
PSUT Pine Spring **97.69 309** IAMs_20 IAMs_20 22 35 41.8
comp=Z,1µm,22.0s
HLID Hailey **97.69 314** IAMs_20 IAMs_20 22 38 48.6
comp=Z,1µm,20.0s
ZSN Zaisan **97.89 42** *eP* Pdif 21 59 12.9 +0.9
ZSN Zaisan **97.89 42** *eP* Pdif 21 59 12.9 +0.9
baz=42
W13A Hualapai Mount **97.95 305** IAMs_20 IAMs_20 22 38 15.1
comp=Z,1µm,20.0s
113A Mohawk Valley, **98.00 303** IAMs_20 IAMs_20 22 37 15.5
comp=Z,1µm,21.0s
SPR3 Spring Creek 3 **98.02 309** IAMs_20 IAMs_20 22 37 25.6
comp=Z,1µm,21.0s
ELK Elko **98.57 311** IAMs_20 IAMs_20 22 38 41.0
comp=Z,1µm,20.0s
ELK Elko **98.57 311** LR LR 22 41 04.7
comp=Z,977nm,18.0s,baz=81,slow=34
PLID Pearl Lake **98.67 315** IAMs_20 IAMs_20 22 37 11.0
comp=Z,1µm,22.0s
V12A Nelson **98.69 306** IAMs_20 IAMs_20 22 37 25.7
comp=Z,2µm,22.0s
MFID Camas Ranch **98.73 314** IAMs_20 IAMs_20 22 39 30.1
comp=Z,1µm,20.0s
GLA Glamis **98.87 303** IAMs_20 IAMs_20 22 37 40.6
comp=Z,1µm,21.0s
NEW Newport **99.03 319** IAMs_20 IAMs_20 22 37 14.4
comp=Z,2µm,21.0s
NEW Newport **99.03 319** LR LR 22 37 35.8
comp=Z,1µm,21.8s,baz=70,slow=32
R11B Troy Canyon, C **99.06 308** IAMs_20 IAMs_20 22 38 11.0
comp=Z,1µm,22.0s
S11A Rachel **99.25 308** IAMs_20 IAMs_20 22 36 55.2
comp=Z,1µm,21.0s
DGZ Jazzator, Alta **99.29 40** *i* P **Pdif** **21 59 18.7 +0.3**
DGZ pmax pmax
comp=Z,6.0nm,1.6s
BMO Blue Mountains **99.61 315** IAMs_20 IAMs_20 22 37 51.4
comp=Z,1µm,22.0s
C09A Chrisman Ranch **99.86 318** IAMs_20 IAMs_20 22 38 20.4
comp=Z,1µm,19.0s
E09A Wood Farm, Sta **99.97 317** IAMs_20 IAMs_20 22 38 03.3
comp=Z,1µm,21.0s
BMN Battle Mountai **100.10 311** IAMs_20 IAMs_20 22 41 51.4
comp=Z,1µm,19.0s
PMD Palm Desert **100.12 304** IAMs_20 IAMs_20 22 40 31.6
comp=Z,1µm,19.0s
Q09A Carvers **100.25 309** IAMs_20 IAMs_20 22 43 11.6
comp=Z,1µm,20.0s
WMQ Urumqi **100.32 46** *eP* **Pdif** **21 59 25.2 +2.2**
WMQ LR LR
comp=Z,2µm,16.1s
WMQ LR LR
comp=Z,1µm,16.9s
WMQ LR LR
comp=Z,1µm,22.7s
GSC Goldstone, Bar **100.32 305** IAMs_20 IAMs_20 22 39 08.7
comp=Z,1µm,21.0s
TKX Tecate **100.40 303** IAMs_20 IAMs_20 22 39 44.2
comp=Z,947nm,19.0s
D08A Wollman Farm, **100.41 318** IAMs_20 IAMs_20 22 38 05.0
comp=Z,1µm,20.0s
E08A Dider Farm, El **100.59 317** IAMs_20 IAMs_20 22 38 10.9
comp=Z,1µm,20.0s
GRAC Grapevine Rang **100.60 307** IAMs_20 IAMs_20 22 39 25.9
comp=Z,1µm,20.0s
J08A Circle Bar Ran **100.65 314** IAMs_20 IAMs_20 22 40 20.7
comp=Z,1µm,20.0s
TJX Tijuana **100.78 303** IAMs_20 IAMs_20 22 38 59.3
comp=Z,1µm,20.0s
HAWA Hanford **100.93 317** IAMs_20 IAMs_20 22 43 27.9
comp=Z,1µm,20.0s
KVN Kaiserville **100.94 309** IAMs_20 IAMs_20 22 39 21.8
comp=Z,1µm,22.0s
DSP Deep Springs **101.04 308** IAMs_20 IAMs_20 22 39 44.5
comp=Z,1µm,22.0s
NV11 Mina Array Sit **101.06 309** IAMs_20 IAMs_20 22 43 36.9
comp=Z,1µm,18.0s
E07A Sunnyside **101.12 317** IAMs_20 IAMs_20 22 38 37.9
comp=Z,1µm,20.0s
NVAR Mina Array Bea **101.17 309** P **Pdif** **21 59 27.5 +0.4**
comp=Z,0.2nm,0.5s,baz=74,slow=3.9,SNR=2.2
I07A Izee **101.28 315** IAMs_20 IAMs_20 22 40 34.4
comp=Z,2µm,20.0s
CCAC Calif City Air **101.32 305** IAMs_20 IAMs_20 22 41 01.2
comp=Z,1µm,21.0s
MXC Moxie City **101.42 317** IAMs_20 IAMs_20 22 37 58.8
comp=Z,1µm,21.0s
ISA Isabella, Lake **101.64 306** IAMs_20 IAMs_20 22 40 44.5
comp=Z,1µm,20.0s
YERR Yerington **101.83 309** IAMs_20 IAMs_20 22 40 59.3

comp=Z,1μm,20.0s
PAHR Pah Rah Range 101.84 310 IAMs_20 IAMs_20 22 41 33.5
comp=Z,1μm,22.0s
MDPB Devils Postpil 101.88 308 IAMs_20 IAMs_20 22 40 11.8
comp=Z,2μm,22.0s
G06A Carlson Farm, 101.89 316 IAMs_20 IAMs_20 22 42 44.3
comp=Z,1μm,20.0s
F31M Tsiigehtchic 101.99 340 IAMs_20 IAMs_20 22 40 14.3
comp=Z,2μm,21.0s
WAKR Walker 102.05 309 IAMs_20 IAMs_20 22 46 29.1
comp=Z,1μm,18.0s
PNTR Pine Nut 102.09 310 IAMs_20 IAMs_20 22 41 36.2
comp=Z,1μm,20.0s
PINE Pine Mountain 102.35 314 IAMs_20 IAMs_20 22 40 12.7
comp=Z,1μm,22.0s
MPK Martis Peak 102.39 310 IAMs_20 IAMs_20 22 43 19.3
comp=Z,1μm,19.0s
D05A Enumclaw 102.45 318 IAMs_20 IAMs_20 22 39 29.9
comp=Z,2μm,21.0s
EMB Emerald Bay 102.50 310 IAMs_20 IAMs_20 22 42 18.9
comp=Z,1μm,20.0s
K05A Summer Lake 102.50 313 IAMs_20 IAMs_20 22 39 36.7
comp=Z,2μm,22.0s
I05D Terrebonne, OR 102.54 315 IAMs_20 IAMs_20 22 41 38.6
comp=Z,1μm,19.0s
HOOD Mount Hood Mea 102.58 316 IAMs_20 IAMs_20 22 39 26.5
comp=Z,1μm,22.0s
J05D Fort Rock, OR 102.65 314 IAMs_20 IAMs_20 22 41 55.7
comp=Z,1μm,20.0s
CMB Columbia Colle 102.85 309 IAMs_20 IAMs_20 22 40 35.4
comp=Z,1μm,22.0s
E29M Blow River 102.93 341 IAMs_20 IAMs_20 22 37 04.1
comp=Z,1μm,21.0s
GNW Green Mountain 102.93 319 IAMs_20 IAMs_20 22 51 05.5
comp=Z,905nm,19.0s
F04A Amboy 102.99 317 IAMs_20 IAMs_20 22 44 06.3
comp=Z,921nm,19.0s
H04A Detroit Lake 103.07 316 IAMs_20 IAMs_20 22 43 23.6
comp=Z,1μm,18.0s
PGC Sidney 103.10 320 IAMs_20 IAMs_20 22 39 53.0
comp=Z,2μm,22.0s
K04D Chiloquin, OR 103.14 313 IAMs_20 IAMs_20 22 46 56.7
comp=Z,1μm,18.0s
AFDM Forest Hills D 103.17 310 IAMs_20 IAMs_20 22 44 20.7
comp=Z,1μm,19.0s
B04A Port Angeles 103.27 319 IAMs_20 IAMs_20 22 31 17.5
comp=Z,1μm,18.0s
F04D Rainier, OR 103.36 317 IAMs_20 IAMs_20 22 50 30.2
comp=Z,970nm,20.0s
I04A Tendick Farm, 103.40 315 IAMs_20 IAMs_20 22 41 08.4
comp=Z,2μm,22.0s
ORV Oroville 103.48 310 IAMs_20 IAMs_20 22 41 09.9
comp=Z,1μm,21.0s
H04D Lebanon 103.49 315 IAMs_20 IAMs_20 22 43 46.7
comp=Z,959nm,21.0s
CLRS Cowichan Lake 103.50 320 IAMs_20 IAMs_20 22 44 04.5
comp=Z,1μm,19.0s
L04D Klamath Falls 103.62 313 IAMs_20 IAMs_20 22 39 59.3
comp=Z,1μm,22.0s
F03A Seaside 103.77 317 IAMs_20 IAMs_20 22 44 47.9
comp=Z,1μm,20.0s
COR Corvallis 103.87 316 IAMs_20 IAMs_20 22 42 45.8
comp=Z,1μm,21.0s
I30M Mount Dempster 103.96 338 IAMs_20 IAMs_20 22 43 55.4
comp=Z,2μm,21.0s
CBB Campbell River 103.99 321 IAMs_20 IAMs_20 22 40 11.3
comp=Z,1μm,20.0s
HUMO Hull Mountain 104.02 314 IAMs_20 IAMs_20 22 40 00.9
comp=Z,1μm,22.0s
DBO Dodson Butte 104.13 314 IAMs_20 IAMs_20 22 41 44.7
comp=Z,2μm,21.0s
MCCM Marconi Confer 104.78 309 IAMs_20 IAMs_20 22 41 55.3
comp=Z,1μm,20.0s
KHMM Horse Mountain 104.92 312 IAMs_20 IAMs_20 22 41 57.0
comp=Z,2μm,21.0s
KEBM Edson Butte 104.96 314 IAMs_20 IAMs_20 22 41 54.7
comp=Z,1μm,19.0s
KCPM Cahto Peak 105.04 311 IAMs_20 IAMs_20 22 42 00.1
comp=Z,1μm,20.0s
JCC Jacoby Creek, 105.16 312 IAMs_20 IAMs_20 22 46 49.1
comp=Z,1μm,21.0s
L29M L29M 105.65 337 IAMs_20 IAMs_20 22 44 58.2
comp=Z,1μm,21.0s
N30M Aishikik Lake 106.02 335 IAMs_20 IAMs_20 22 47 58.0
comp=Z,1μm,19.0s
TIXI Tiksi 106.30 11 IAMs_20 IAMs_20 22 56 16.4
comp=Z,1μm,20.0s
E24K Your Creek 106.32 343 IAMs_20 IAMs_20 22 39 29.6
comp=Z,1μm,22.0s
F24K Squaw Lake 106.51 343 IAMs_20 IAMs_20 22 46 15.7
comp=Z,1μm,22.0s
J26L Joseph Creek 106.95 339 IAMs_20 IAMs_20 22 51 53.3
comp=Z,1μm,19.0s
GOMU GeErMu 106.97 53 Pdif **Pdif** **21 59 54.6 +1.5**
GOMU PP **PP** **22 04 18.6 -0.7**
GOMU LR LR
comp=Z,540nm,22.4s
GOMU LR LR
comp=Z,510nm,22.0s
GOMU LR LR
comp=Z,890nm,22.6s
L27K Beaver Creek, 107.12 338 IAMs_20 IAMs_20 22 42 40.0
comp=Z,1μm,21.0s
M27K Edge Creek, AK 107.52 337 IAMs_20 IAMs_20 22 43 24.5
comp=Z,1μm,22.0s
CTGM Chitina Glacie 108.05 336 IAMs_20 IAMs_20 22 47 48.6
comp=Z,1μm,21.0s
C19K Lookout Ridge 108.38 347 IAMs_20 IAMs_20 22 49 24.9
comp=Z,1μm,18.0s
D19K Kuna River 108.53 346 IAMs_20 IAMs_20 22 43 41.7
comp=Z,996nm,21.0s
N25K Chitina, Valde 109.01 337 IAMs_20 IAMs_20 22 44 21.8
comp=Z,1μm,20.0s
F20K Avaraart Lake 109.03 345 IAMs_20 IAMs_20 22 45 01.1
comp=Z,966nm,20.0s
E19K Redstone River 109.11 345 IAMs_20 IAMs_20 22 43 30.1
comp=Z,955nm,21.0s
E18K Tukpahlearik C 109.95 347 IAMs_20 IAMs_20 22 49 33.4
comp=Z,1μm,19.0s
GTA Gaotai 110.10 48 *e*PKP **PKiKP** **22 04 10.0 +1.6**
GTA LR LR
comp=Z,2μm,19.6s
GTA LR LR
comp=Z,990nm,20.4s
GTA LR LR
comp=Z,950nm,18.2s
GHO Glory Hole Cre 110.55 338 IAMs_20 IAMs_20 22 46 47.4
comp=Z,979nm,22.0s
SONM Songino Array 111.82 38 PKiKP **PKiKP** **22 04 11.5 +0.1**
comp=Z,0.3nm,0.6s,baz=316,slow=4.0,SNR=2.2
TNCH TengChong 112.06 64 PKP **PKiKP** **22 04 07.2 -5.4**
TNCH sPKP 22 04 18.5
TNCH PP **PP** **22 04 58.3 +1.9**
TNCH SKS **SKSdf** **22 11 18.6 -6.7**
TNCH SS **SS** **22 20 35.6 +0.5**
TNCH AMB AMB
comp=Z,200nm,7.5s
TNCH LR LR
comp=Z,340nm,19.7s
TNCH LR LR
comp=Z,510nm,17.0s
TNCH LR LR
comp=Z,840nm,19.8s
CMAR Chiang Mai Arr 113.34 71 PKiKP **PKiKP** **22 04 15.2 +0.3**
comp=Z,0.4nm,0.4s,baz=268,slow=2.7,SNR=2.9
YAK Yakutsk 114.08 17 *e*PKiKP PKPdf 22 04 17.7 +2.7
YAK *e* 22 05 12.0
YAK *e*SS SS 22 21 03.8 +5.3
YAK pmax pmax
comp=Z,4.0nm,1.0s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,161nm,4.8s
YAK pmax pmax
comp=N,158nm,5.6s
YAK pmax pmax
comp=E,110nm,4.1s
PZH PanZhiHua 114.66 62 PKP PKPdf 22 04 16.3 -1.1
PZH PP PP 22 05 22.5 +7.7
PZH AMB AMB
comp=E,230nm,6.5s
PZH LR LR
comp=E,520nm,20.0s
PZH LR LR
comp=E,520nm,19.0s
PZH LR LR
comp=E,880nm,22.9s
CD2 Chengdu 115.41 56 PKP **PKiKP** **22 04 17.7 -0.9**
CD2 SKS **SKSdf** **22 11 29.8 -1.4**
CD2 SS **SS** **22 21 14.4 -4.2**
CD2 LR LR
comp=E,770nm,27.5s
CD2 LR LR
comp=E,890nm,25.5s
CD2 LR LR
comp=E,930nm,26.1s
IPM Ipoh 116.26 86 IAMs_20 IAMs_20 22 52 07.1
comp=Z,889nm,19.0s
MNAI Manna 117.94 96 IAMs_20 IAMs_20 22 47 16.4
comp=Z,1μm,22.0s
SEY Seymchan 117.99 6 *i* PKiKP **PKiKP** **22 04 22.7 +0.1**
SEY pmax pmax
comp=Z,4.0nm,1.1s
HHC Hu-ho-hao-te 118.07 44 *e*PKP **PKPdf** **22 04 19.7 -3.9**
HHC PP **PP** **22 05 40.3 +2.4**
HHC SS SS 22 21 48.6 -4.0
HHC LR LR
comp=Z,1μm,19.9s
HHC LR LR
comp=Z,760nm,20.6s
HHC LR LR
comp=Z,2μm,18.9s
XAN Xi'an 118.68 52 PKP PKiKP 22 04 34.6 +10
XAN LR LR
comp=N,1μm,18.7s
XAN LR LR
comp=E,1μm,20.0s
XAN LR LR
comp=Z,2μm,21.0s
GYA Guiyang 118.97 60 ⇓PKP **PKiKP** **22 04 26.5 +0.7**
GYA PP **PP** **22 05 49.8 +4.9**
GYA SKS **SKSdf** **22 11 31.2 -7.1**
GYA AMB AMB
comp=Z,240nm,6.5s
GYA LR LR
comp=Z,500nm,25.0s
GYA LR LR
comp=Z,610nm,21.9s
GYA LR LR
comp=Z,1μm,24.5s
ENH Enshi 120.33 56 IAMs_20 IAMs_20 23 01 31.9
comp=Z,878nm,21.0s
LYN LuoYang 121.24 50 *e*PKP **PKPdf** **22 04 26.1 -3.6**
LYN PP **PP** **22 05 59.3 -0.6**
LYN SS SS 22 22 28.4 -5.2
LYN AMB AMB
comp=Z,440nm,4.8s
LYN LR LR
comp=Z,1μm,21.3s
LYN LR LR
comp=Z,760nm,19.9s
LYN LR LR
comp=Z,2μm,21.3s
HNS HongShan 121.75 46 *e*PKP **PKiKP** **22 04 34.8 +4.1**
HNS PP **PP** **22 06 06.3 +3.2**
HNS AMB AMB
comp=Z,380nm,7.5s
HNS LR LR
comp=Z,1μm,19.2s
HNS LR LR
comp=Z,940nm,20.6s
HNS LR LR
comp=Z,2μm,19.1s
HEH HeiHe 121.97 27 Pdif **Pdif** **22 00 56.0 -3.0**
HEH PKP **sPKPdf** **22 04 34.7 +1.2**
HEH SS SS 22 22 39.7 -1.6
HEH AMB AMB
comp=Z,430nm,5.9s
HEH LR LR
comp=Z,760nm,20.8s
HEH LR LR
comp=Z,1μm,20.3s
HEH LR LR
comp=Z,2μm,20.8s
QIZ Qiongzhong 123.46 68 PKP **PKPdf** **22 04 33.4 -0.9**
QIZ PP **PP** **22 06 14.8 -0.8**
QIZ SS SS 22 23 03.9 +0.8
QIZ LR LR
comp=Z,440nm,20.1s
QIZ LR LR
comp=Z,500nm,18.6s
QIZ LR LR
comp=Z,700nm,20.6s
QIZ Qiongzhong 123.46 68 IAMs_20 IAMs_20 23 09 39.4
comp=Z,793nm,20.0s
WHN Wuhan 124.20 54 PKP **PKiKP** **22 04 38.2 +2.5**
WHN PP **PP** **22 06 25.3 +5.3**
WHN LR LR
comp=Z,2μm,18.4s
WHN LR LR
comp=Z,1μm,16.5s
WHN LR LR
comp=Z,3μm,33.4s
KLR Kul'dur 124.65 26 *i* PKiKP **PKiKP** **22 04 36.3 +0.2**
KLR pmax pmax
comp=Z,10.0nm,1.4s
CN2 Changchun 125.26 34 PKP **PKPdf** **22 04 34.4 -2.7**
CN2 PP **PP** **22 06 27.8 +1.4**
CN2 LR LR
comp=Z,1μm,19.0s
CN2 LR LR
comp=Z,1μm,19.0s
CN2 LR LR
comp=Z,2μm,20.0s
SNY Shenyang 125.38 37 PKP **PKPdf** **22 04 35.8 -1.6**
SNY SS SS 22 23 21.7 -3.4
SNY AMB AMB
comp=Z,120nm,4.9s
SNY LR LR
comp=Z,630nm,14.9s
SNY LR LR
comp=Z,480nm,14.3s
SNY LR LR
comp=Z,1μm,23.5s
DL2 Dalian 125.79 41 *e*PKP **PKPdf** **22 04 37.7 -0.6**
DL2 PP **PP** **22 06 33.2 +3.1**
DL2 AMB AMB
comp=Z,520nm,5.9s
DL2 LR LR
comp=Z,1μm,19.1s
DL2 LR LR
comp=Z,2μm,19.1s
DL2 LR LR
comp=Z,2μm,17.8s
MDJ Mudanjiang 126.96 31 PKP **PKPdf** **22 04 38.0 -2.3**
MDJ PP **PP** **22 06 38.4 +0.9**
MDJ SS SS 22 23 43.6 -0.9
MDJ AMB AMB
comp=Z,320nm,9.7s
MDJ LR LR
comp=Z,1μm,18.5s
MDJ LR LR
comp=Z,1μm,20.1s
MDJ LR LR
comp=Z,2μm,21.9s
NJ2 Nanjing 127.14 50 *e*PKP **PKPdf** **22 04 39.8 -1.2**
NJ2 LR LR
comp=Z,1μm,18.9s
NJ2 LR LR
comp=Z,830nm,20.8s
NJ2 LR LR
comp=Z,2μm,22.7s
PET Petropavlovsk 128.37 5 *i* PKiKP **PKiKP** **22 04 43.3 -0.1**
PET pmax pmax
comp=Z,22nm,1.1s
TBI Tubuai 129.13 238 *e*PP **PP** **22 06 47.6 -5.3**
comp=Z,742nm,26.5s
TBI Tubuai 129.13 238 *e*LR LR 22 45 23.0
comp=Z,10μm,28.2s
TBI *e*LR LR 22 45 30.3
comp=Z,3μm,29.5s
VLA Vladivostok 129.19 31 *i* PKiKP **PKiKP** **22 04 46.0 +0.7**
SSE Sheshan 129.35 50 PKP **PKiKP** **22 04 46.5 +0.5**
SSE PP **PP** **22 06 55.6 +1.6**
SSE SS SS 22 24 13.1 -2.4
SSE AMB AMB
comp=Z,210nm,7.1s
SSE LR LR
comp=Z,500nm,22.2s
SSE LR LR
comp=Z,350nm,21.1s
PPT2 Papeete2 131.24 245 *e*PP PP 22 06 43.3 -24
comp=Z,269nm,26.5s
PPT2 Papeete2 131.24 245 *e*SS SS 22 24 26.9 -13
comp=Z,1μm,31.5s
PPT2 Papeete2 131.24 245 *e*LR LR 22 46 22.5
comp=Z,2μm,23.8s
PPT2 *e*LR LR 22 46 34.5
comp=Z,1μm,24.2s
TOLI2 Tolitoli 135.99 90 IAMs_20 IAMs_20 23 00 34.3
comp=Z,647nm,21.0s
MAJO Matsushiro 137.31 32 IAMs_20 IAMs_20 23 11 37.6
comp=Z,945nm,20.0s
MJAR Matsushiro Arr 137.31 32 PKP **PKiKP** **22 05 01.6 -0.5**
comp=Z,0.6nm,0.6s,baz=321,slow=2.9,SNR=2.3
INU Inuyama 137.54 34 IAMs_20 IAMs_20 23 10 15.2
comp=Z,807nm,19.0s
LUWI Luwuk 137.90 93 IAMs_20 IAMs_20 22 59 10.0
comp=Z,850nm,22.0s
STKA Stephens Creek 140.20 148 PKP **PKPdf** **22 05 02.8 -2.8**
comp=Z,3.0nm,0.9s,baz=225,slow=2.9,SNR=2.7
ASAR Alice Springs 140.93 132 PKhKP PKPpre 22 04 59.1
comp=Z,3.6nm,0.8s,baz=231,slow=3.5,SNR=14
WRA Warramunga Arr 143.32 127 PKhKP PKPpre 22 05 07.2
comp=Z,5.1nm,0.9s,baz=238,slow=2.8,SNR=32
SAUI Saumlaki 145.30 106 PKP **PKPdf** **22 05 16.0 +1.0**
SAUI PKP **pPKPdf** **22 05 17.3 +0.1**

IDC ***10*** *22:07:43.4±1.2,6˚.16S×143˚.25E,h0km,mb4.0/3, mbtmp4.0/5,ML1.4/1,MS3.9/1,Error ellipse: s-maj=36.3km s-min=25.3km az=72.0*

ISC 10 22:07:44.5±1.0,6˚.4S±0˚.1×143˚.0E±0˚.1,h10km,n7,σ1s39/7, mb3.8/3,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.10**	**127**	Pn	**Pn**		**Pn**	**22 09 01.0**	**0.0**
	1.0nm,0.3s,baz=318,slow=23,SNR=2.4								
PMG				Sn	**Sn**		**Sn**	**22 10 00.2**	**+0.2**
	0.7nm,0.3s,baz=250,slow=17,SNR=1.5								
	9.0nm,0.6s								
WRA	**Warramunga Arr**	**15.91**	**211**	Pn	**Pn**		**Pn**	**22 11 26.9**	**-1.9**
	0.3nm,0.3s,baz=33,slow=14,SNR=15								
WRA				Sn	Sn		Sn	22 14 16.9	-8.4
	0.2nm,0.3s,baz=22,slow=18,SNR=4.7								
WRA				Lg	Lg		Lg	22 16 14.4	
	0.2nm,0.3s,baz=27,slow=23,SNR=5.5								
ASAR	**Alice Springs**	**19.31**	**206**	P	**Pn**		**Pn**	**22 12 12.7**	**+1.7**
	6.8nm,0.6s,baz=32,slow=10,SNR=86								
ASAR				S	S		S	22 15 37.7	-11
	0.5nm,0.6s,baz=17,slow=28,SNR=3.1								
ASAR				Lg	Lg		Lg	22 18 06.4	
	0.1nm,0.3s,baz=33,slow=28,SNR=4.3								
JHJ	**Hachijo jima 2**	**39.39**	**356**	LR	LR		LR	22 28 29.1	
	comp=Z,171nm,20.0s,baz=138,slow=32								
MKAR	**Makanchi Array**	**75.29**	**322**	P	**P**		**P**	**22 19 28.4**	**+0.4**
	0.5nm,0.6s,baz=106,slow=7.7,SNR=6.5								
	0.5nm,0.6s								
BVAR	**Borovoye Array**	**84.75**	**325**	P	**P**		**P**	**22 20 19.4**	**+0.5**
	3.1nm,0.8s,baz=117,slow=5.8,SNR=8.6								
	3.1nm,0.8s								
ILAR	**Eielson Array**	**87.39**	**24**	P	**P**		**P**	**22 20 30.8**	**-0.9**
	0.5nm,1.0s,baz=238,slow=5.0,SNR=2.2								
	0.5nm,1.0s								

RSNC 10 22:09:36.3±0.0,11˚N±5˚×7˚7W±˚,h8km±7km,mB5.4,ML2.6, MLv3.5,Mw(mB)4.8,North of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SJCC	**San Jacinto, C**	**1.89**	**115**	P	Pn		Pn	22 10 06.2	-2.7
SJCC				S	Sn		Sn	22 10 30.6	-2.3
CAPC	**Capurgana**	**2.09**	**192**	P	Pn		Pn	22 10 06.2	-5.4
CAPC				S	Sn		Sn	22 10 34.6	-3.2
APAC	**Apartado, Choc**	**2.79**	**173**	P	Pn		Pn	22 10 18.0	-3.3
APAC				S	Sn		Sn	22 10 51.0	-4.2
BCIP	**Isla Barro Col**	**3.25**	**242**	P	Pn		Pn	22 10 24.0	-3.6
BCIP				S	Sn		Sn	22 10 56.9	-10
DBBC	**Dabeiba**	**3.72**	**169**	P	Pn		Pn	22 10 30.8	-3.3
DBBC				S	Sn		Sn	22 11 11.0	-7.2
CRJC	**Cerrejon, Guaj**	**3.98**	**85**	P	Pn		Pn	22 10 34.4	-3.4
CRJC				S	Sn		Sn	22 11 20.4	-4.3
HELC	**Santa Helena**	**4.68**	**163**	P	Pn		Pn	22 10 45.6	-2.0
HELC				S	Sn		Sn	22 11 35.2	-7.1
PTBC	**PUERTO BERRIO,**	**4.79**	**149**	P	Pn		Pn	22 10 46.7	-2.1
PTBC				S	Sn		Sn	22 11 35.9	-8.7
CBOC	**Ciudad Bolivar**	**4.88**	**169**	P	Pn		Pn	22 10 47.7	-2.5
CBOC				S	Sn		Sn	22 11 41.0	-6.0
PAMC	**Pamplona, Colo**	**5.33**	**128**	P	Pn		Pn	22 10 54.1	-2.6

PAS ***10*** *22:20:39.0±1.2,32˚.21N±0˚.02×115˚.32W±0˚.02,h15km±4km, ML3.1/168,ML2.9/42(NEIC),Error ellipse: s-maj=3.7km s-min=1.7km az=142.0*

NEIC ***10*** *22:20:39.8±1.2,32˚.26N±0˚.03×115˚.36W±0˚.03,h17km±7km, Error ellipse: s-maj=4.4km s-min=3.7km az=132.0*

ANF ***10*** *22:20:40.5±0.4,32˚.41N×115˚.34W,h28km±2km,ML2.9/11, Error ellipse: s-maj=3.8km s-min=2.1km az=179.0*

MEX ***10*** *22:20:40.6±1.4,32˚.35N×115˚.41W,h5km±5km,MD4.0*

ECX ***10*** *22:20:41.3±0.5,32˚.32N×115˚.37W,h10km±4km,MD3.0, ML3.2,Fault plane solution: NP1:ϕ8.7.00000°,δ28.00000°, λ-122.00000°.*

ISC 10 22:20:39.2±0.9,32˚.30N±0˚.02×115˚.37W±0˚.02,h15km±7km, n87,σ0s91/130,11C-8D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.13**	**24**	Pg		**Pb**		**22 20 43.7**	**+0.2**
CPBX	**Cerro Prieto**	**0.13**	**24**	⇓*i*P		**Pb**		**22 20 43.6**	**+0.2**
CPBX				*e*S		**Sb**		**22 20 46.0**	**-0.2**
CPBX				IAML				22 20 47.7	
	comp=N,18μm,0.3s								
CPBX				*e*				22 20 47.7	
CPBX				⇓*e*				22 20 49.0	
CPBX				IAML				22 20 49.0	
	comp=E,28μm,0.2s								
AGSX	**Ej. Aguas Cali**	**0.18**	**101**	⇑*i*P		**Pb**		**22 20 44.9**	**+0.7**
AGSX				*e*S		**Sb**		**22 20 48.1**	**+0.6**
AGSX				⇓*e*				22 20 49.0	
AGSX				IAML				22 20 49.0	
	comp=N,8μm,0.4s								
AGSX				⇓*e*				22 20 49.0	
AGSX				IAML				22 20 49.0	
	comp=E,9μm,0.1s								
MBIG	**Mexicali**	**0.18**	**53**	*e*P		**Pg**		**22 20 43.6**	**+0.1**
MBIG				*e*P		**Pb**		**22 20 44.9**	**+0.7**
MBIG				*e*S		**Sg**		**22 20 45.6**	**-0.8**
MBIG				*e*S		**Sb**		**22 20 49.1**	**+1.6**
MBIG	**Mexicali**	**0.18**	**53**	⇑*i*P		**Pb**		**22 20 45.0**	**+0.7**
RHX	**Rio Hardy**	**0.18**	**157**	⇑*i*P		**Pb**		**22 20 44.8**	**+0.6**
RHX				*e*S		**Sb**		**22 20 47.8**	**+0.2**
CTLX	**Tlaxcala, TLX**	**0.26**	**47**	*e*P		**Pb**		**22 20 46.4**	**+0.9**
CTLX				*e*S		**Sb**		**22 20 51.3**	**+1.6**
JARAX	**Ej. Heriberto**	**0.30**	**323**	⇑*i*P		**Pb**		**22 20 46.5**	**+0.2**
JARAX				*e*S		**Sb**		**22 20 51.0**	**0.0**
UABX	**UABC, Campus M**	**0.34**	**349**	Pg		**Pb**		**22 20 47.7**	**+0.7**
UABX				Sg		**Sb**		**22 20 53.5**	**+1.4**
PESCX	**Ej. Pescaderos**	**0.37**	**69**	*e*P		**Pb**		**22 20 47.8**	**+0.4**
5053	**Calexico**	**0.38**	**344**			**Pb**		**22 20 48.4**	**+0.7**
5053						**Sb**		**22 20 54.8**	**+1.4**
5054	**Holtville Bond**	**0.39**	**4**			**Pb**		**22 20 48.5**	**+0.6**
5054						**Sb**		**22 20 55.1**	**+1.4**
ALAMX	**Rancho Alamar**	**0.41**	**225**	⇑*i*P		**Pb**		**22 20 49.2**	**+1.0**
ALAMX				*e*S		**Sb**		**22 20 55.1**	**+0.9**
ALAMX				⇓*e*				22 20 55.8	
ALAMX				IAML				22 20 55.8	
	comp=E,2μm,0.4s								
ALAMX				IAML				22 20 57.2	
	comp=N,2μm,0.2s								
CEA0	**Mexicali**	**0.43**	**324**	*e*P		**Pb**		**22 20 49.0**	**+0.5**
SGL	**Mount Signal**	**0.46**	**319**			**Pb**		**22 20 49.4**	**+0.3**
SGL						**Sb**		**22 20 55.7**	**0.0**
SGL	**Mount Signal**	**0.46**	**319**	⇑*i*P		**Pb**		**22 20 49.4**	**+0.3**
SGL				*e*S		**Sb**		**22 20 55.7**	**0.0**
DREC	**Desert Rsrch C**	**0.51**	**352**			**Pb**		**22 20 50.8**	**+0.9**
DREC						**Sb**		**22 20 58.9**	**+1.9**
EMSC	**East Mesa**	**0.54**	**36**			**Pb**		**22 20 50.9**	**+0.5**
EMSC						**Sb**		**22 20 59.2**	**+1.2**
EMSC	**East Mesa**	**0.54**	**36**	*e*P		**Pb**		**22 20 51.1**	**+0.6**
WESC	**Westside Schoo**	**0.55**	**326**			**Pb**		**22 20 51.3**	**+0.7**
WESC						**Sb**		**22 20 59.9**	**+1.6**

WESC	**Westside Schoo**	**0.55**	**326**	⇑*iP*	**Pb**	**22 20 51.2**	**+0.7**
SNR	**Schaffner Ranc**	**0.56**	**354**		**Pb**	**22 20 51.6**	**+0.8**
SNR					**Sb**	**22 21 00.6**	**+2.0**
ESJX	**Sierra Juarez**	**0.57**	**239**		**Pb**	**22 20 52.1**	**+1.0**
ESJX				Sg	**Sb**	**22 21 00.1**	**+1.0**
YUH2	**Yuha Desert**	**0.58**	**307**	⇑*iP*	**Pb**	**22 20 51.4**	**+0.2**
YUH2				*eS*	**Sg**	**22 20 59.3**	**+0.8**
YUH	**Yuha Desert**	**0.58**	**307**		**Sb**	**22 20 59.4**	**+0.2**
YUH	**Yuha Desert**	**0.58**	**307**		**Pb**	**22 20 51.3**	**+0.2**
YUH				IAML		22 20 60.0	
	comp=E,511nm,0.5s						
YUH				IAML		22 21 00.6	
	comp=N,525nm,0.5s						
COA	**Coachella**	**0.60**	**20**		**Pb**	**22 20 51.7**	**+0.3**
COA					**Sb**	**22 21 00.9**	**+1.3**
COA	**Coachella**	**0.60**	**20**	*eP*	**Pb**	**22 20 51.7**	**+0.3**
IMPE	**Imperial**	**0.62**	**345**		**Pb**	**22 20 52.5**	**+0.7**
IMPE					**Sb**	**22 21 01.9**	**+1.6**
COK2	**Cook Ranch 2**	**0.63**	**331**		**Pb**	**22 20 52.2**	**+0.3**
COK2					**Sb**	**22 21 02.3**	**+1.8**
COK2	**Cook Ranch 2**	**0.63**	**331**	*eP*	**Pb**	**22 20 52.2**	**+0.3**
RMX	**La Rumorosa**	**0.67**	**297**		**Pg**	**22 20 52.2**	**-0.3**
RMX				IAML		22 21 00.9	
	comp=E,631nm,0.4s						
RMX				IAML		22 21 01.1	
	comp=N,590nm,0.2s						
RMX	**La Rumorosa**	**0.67**	**297**		**Sg**	**22 21 00.3**	**-1.1**
RMX	**La Rumorosa**	**0.67**	**297**	*eP*	**Pg**	**22 20 52.1**	**-0.3**
RMX				*eS*	**Sg**	**22 21 00.5**	**-0.9**
RMX				⇑*e*		22 21 00.9	
RMX				IAML		22 21 00.9	
	comp=E,533nm,0.2s						
RMX				⇓*e*		22 21 01.1	
RMX				IAML		22 21 01.1	
	comp=N,604nm,0.1s						
IKP	**In-Ko-Pah, Jac**	**0.72**	**299**		**Pb**	**22 20 53.9**	**+0.4**
IKP					**Sb**	**22 21 03.4**	**+0.2**
IKP	**In-Ko-Pah, Jac**	**0.72**	**299**	P	**Pb**	**22 20 53.9**	**+0.4**
	baz=123,SNR=136						
IKP				S	**Sb**	**22 21 03.6**	**+0.4**
	baz=123						
IKP	**In-Ko-Pah, Jac**	**0.72**	**299**	*eP*	**Pb**	**22 20 54.0**	**+0.4**
IKP				*eS*	**Sb**	**22 21 03.5**	**+0.2**
SJX	**San Joaquin**	**0.73**	**223**	⇑*iP*	**Pg**	**22 20 52.1**	**-1.5**
SWSC	**Sam W. Stewart**	**0.74**	**330**		**Pg**	**22 20 53.6**	**-0.1**
SWSC					**Sg**	**22 21 03.5**	**+0.1**
SWSC	**Sam W. Stewart**	**0.74**	**330**	P	**Pg**	**22 20 53.6**	**-0.1**
	baz=151						
SWSC				S	**Sg**	**22 21 02.9**	**-0.5**
	baz=151						
SWSC	**Sam W. Stewart**	**0.74**	**330**	⇑*eP*	**Pg**	**22 20 53.6**	**-0.1**
RUN	**Ruthven**	**0.75**	**26**		**Pg**	**22 20 53.5**	**-0.2**
RUN					**Sg**	**22 21 03.4**	**-0.3**
WEMD	**Westmorland, C**	**0.76**	**346**		**Pb**	**22 20 54.8**	**+0.7**
WEMD					**Sn**	**22 21 06.2**	**-0.3**
CRR	**Carrizo Plain**	**0.78**	**319**		**Pg**	**22 20 54.4**	**+0.1**
CRR					**Sb**	**22 21 05.2**	**+0.5**
CRR	**Carrizo Plain**	**0.78**	**319**	*eP*	**Pg**	**22 20 54.4**	**+0.1**
CLI2	**Calipatria 2**	**0.84**	**348**		**Pg**	**22 20 55.5**	**0.0**
CLI2					**Sb**	**22 21 07.6**	**+1.1**
ECBX	**El Chinero**	**0.87**	**162**	*eP*	**Pb**	**22 20 56.2**	**+0.3**
ECBX				IAML		22 21 09.8	
	comp=E,651nm,0.6s						
ECBX				*e*		22 21 09.8	
ECBX				IAML		22 21 10.1	
	comp=N,1µm,0.4s						
GLA	**Glamis**	**0.88**	**31**	Pg	**Pg**	**22 20 55.6**	**-0.7**
GLA				IAML		22 21 08.3	
	comp=E,275nm,0.8s						
GLA				IAML		22 21 19.4	
	comp=N,285nm,0.5s						
GLA	**Glamis**	**0.88**	**31**		**Sg**	**22 21 08.0**	**+0.2**
GLA	**Glamis**	**0.88**	**31**	P	**Pg**	**22 20 55.5**	**-0.7**
	baz=206,SNR=38						
GLA				S	**Sg**	**22 21 06.3**	**-1.5**
	baz=206						
VTX	**Valle De La Tr**	**0.97**	**202**		**Pn**	**22 20 58.6**	**+0.2**
VTX				IAML		22 21 13.2	
	comp=E,305nm,0.7s						
VTX	**Valle De La Tr**	**0.97**	**202**		**Sn**	**22 21 12.6**	**+0.6**
VTX	**Valle De La Tr**	**0.97**	**202**	⇓*eP*	**Pn**	**22 20 58.7**	**+0.2**
MONP2	**Monument Peak**	**1.07**	**304**		**Pn**	**22 21 00.2**	**+0.3**
MONP2	**Monument Peak**	**1.07**	**304**	P	**Pb**	**22 20 59.3**	**-0.3**
	baz=126,SNR=116						
MONP2				S	**Sg**	**22 21 14.2**	**+0.3**
	baz=126						
TKX	**Tecate**	**1.08**	**285**		**Pn**	**22 21 00.1**	**+0.2**
TKX				IAML		22 21 16.0	
	comp=N,510nm,0.3s						
TKX				IAML		22 21 17.1	
	comp=E,343nm,0.2s						
CBX	**Cerro Bola**	**1.10**	**271**		**Pg**	**22 21 00.7**	**+0.2**
CBX				IAML		22 21 22.0	
	comp=N,508nm,0.8s						
CBX	**Cerro Bola**	**1.10**	**271**	*eP*	**Pn**	**22 21 00.3**	**+0.1**
CBX				*eS*	**Sb**	**22 21 14.6**	**+0.4**
TJIG	**Tijuana**	**1.11**	**277**	*eP*	**Pn**	**22 21 00.5**	**+0.2**
TJIG				*eS*	**Sg**	**22 21 15.4**	**0.0**
SLH	**Sleepy Hollow**	**1.16**	**320**		**Pb**	**22 21 01.4**	**+0.3**
BAR	**Barrett**	**1.17**	**289**		**Pn**	**22 21 01.2**	**+0.2**
BAR				IAML		22 21 18.8	
	comp=E,310nm,0.3s						
CCX	**Cicese**	**1.18**	**249**		**Pg**	**22 21 02.1**	**+0.1**
CCX				IAML		22 21 19.8	
	comp=N,432nm,0.5s						
SV2X	**San Vicente**	**1.21**	**218**	⇓*eP*	**Pg**	**22 21 02.4**	**-0.2**
DUZA	**Dulzura**	**1.23**	**285**		**Pg**	**22 21 02.8**	**-0.2**
SPIG	**San Pedro Mart**	**1.25**	**184**	*eP*	**Pb**	**22 21 02.8**	**0.0**
SPIG				*eS*	**Sn**	**22 21 19.1**	**-0.1**
SFX	**San Felipe**	**1.33**	**161**		**Pn**	**22 21 02.6**	**-0.7**
SFX				IAML		22 21 27.4	
	comp=N,236nm,0.6s						
SFX				IAML		22 21 27.8	
	comp=E,304nm,0.6s						
SFX	**San Felipe**	**1.33**	**161**	*eP*	**Pn**	**22 21 03.3**	**0.0**
SFX				*eS*	**Sg**	**22 21 23.4**	**+1.1**
BC3	**Big Chuckawall**	**1.35**	**357**	P	**Pn**	**22 21 02.5**	**-1.2**
	baz=176,SNR=35						
BC3				S	**Sn**	**22 21 18.7**	**-2.8**
	baz=176						
113A	**Mohawk Valley,**	**1.43**	**71**	Pn	**Pn**	**22 21 04.1**	**-0.5**
113A				IAML		22 21 22.2	
	comp=N,100nm,0.6s						
113A				IAML		22 21 22.2	
	comp=E,106nm,0.6s						
109C	**Camp Elliot, M**	**1.58**	**292**		**Pb**	**22 21 07.9**	**-0.3**
109C				IAML		22 21 29.6	
	comp=E,202nm,0.3s						
109C	**Camp Elliot, M**	**1.58**	**292**	Pb	**Pb**	**22 21 08.4**	**+0.3**
	baz=114,SNR=23						
109C				Sb	**Sb**	**22 21 29.1**	**+1.2**
	baz=114						
PMD	**Palm Desert**	**1.59**	**328**		**Pn**	**22 21 06.0**	**-0.8**
PFO	**Pinyon Flats O**	**1.60**	**325**		**Pn**	**22 21 06.2**	**-0.8**
PFO	**Pinyon Flats O**	**1.60**	**325**	P	**Pn**	**22 21 06.3**	**-0.8**
	baz=145,SNR=23						
PFO				S	**Sn**	**22 21 25.8**	**-1.8**
	baz=145						
BLYC	**Blythe**	**1.61**	**26**	Pn	**Pb**	**22 21 09.1**	**+0.4**
BELC	**Belle Mtn. Jos**	**1.78**	**343**	S	**Sn**	**22 21 29.2**	**-2.7**
	baz=162						
PIX	**Pinacate**	**1.78**	**114**		**Pn**	**22 21 09.3**	**-0.1**
MURC	**Murrieta**	**2.01**	**311**	Sb	**Sg**	**22 21 43.2**	**-0.8**
	baz=131						
ELS	**Elsinore Mount**	**2.19**	**308**		**Pn**	**22 21 16.1**	**+1.0**
ELS				IAML		22 21 58.5	
	comp=E,42nm,0.8s						
214A	**Organ Pipe Nat**	**2.19**	**98**	Pn	**Pn**	**22 21 14.8**	**-0.3**
214A				IAML		22 22 03.9	
	comp=N,78nm,0.6s						
214A				IAML		22 22 04.1	
	comp=E,95nm,0.5s						
214A	**Organ Pipe Nat**	**2.19**	**98**	P	**Pn**	**22 21 14.9**	**-0.3**
	baz=278						
214A				Sb	**Sg**	**22 21 48.3**	**-1.6**
	baz=278						
BBRC	**Big Bear Solar**	**2.35**	**327**	Sb	**Sb**	**22 21 50.0**	**-0.3**
	baz=146						
PASC	**Pasadena Art C**	**3.01**	**309**		**Pb**	**22 21 33.3**	**+0.8**
PASC	**Pasadena Art C**	**3.01**	**309**	IAML		22 22 16.9	
	comp=N,21nm,0.7s						
PASC				IAML		22 22 19.1	
	comp=E,19nm,1.0s						
V12A	**Nelson**	**3.44**	**7**		**Pn**	**22 21 34.7**	**+2.3**
TUC	**Tucson**	**3.88**	**89**	*eP*	**Pn**	**22 21 39.6**	**+1.2**
TUC				*eS*	**Sn**	**22 22 21.4**	**-2.4**
U15A	**North Rim**	**4.84**	**31**	Pn	**Pn**	**22 21 54.2**	**+2.4**

IDC ***10*** *22:22:05.9±1.8,23°.68S×179°.99W,h525km±17km, mb3.7/11,mbtmp4.5/12,Error ellipse: s-maj=20.6km s-min=15.9km az=165.0*

NOU ***10*** *22:22:06.7,23°.72S×179°.79W,h545km,mb4.3/20,South of Fiji Islands*

NEIC ***10*** *22:22:07.7±1.6,23°.8S±0°.1×180°.0W±0°.1,h553km±8km, mb4.5/46,Error ellipse: s-maj=19.7km s-min=15.6km az=157.0*

ISC 10 22:22:07.4±0.4,**23°.86S**±0°.06×**179°.99W**±0°.07,**h550**km, **n134,**σ**1**§**51**/151,**mb4.5**/39,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.69**	**161**	**P**	**P**	**22 23 43.5**	**+0.4**
GLKZ				S	**S**	**22 24 58.8**	**-2.6**
MSVF	**Nonsavu**	**6.37**	**343**	P	**P**	**22 23 47.5**	**-2.1**
TAVE	**Taveuni**	**7.12**	**1**	P	**P**	**22 23 55.0**	**-1.7**
DGTI	**Dogotuki**	**7.53**	**358**	P	**P**	**22 23 58.6**	**-2.0**
NIUE	**Niue**	**10.51**	**65**	P	**P**	**22 24 32.2**	**+1.6**
MARNC	**Mare, Loyalty**	**11.31**	**280**	P	**P**	**22 24 38.3**	**-0.6**
MARNC	**Mare, Loyalty**	**11.31**	**280**	P	**P**	**22 24 39.2**	**+0.3**
PINNC	**Pines Island,**	**11.62**	**274**	P	**P**	**22 24 42.2**	**+0.2**
PINNC	**Pines Island,**	**11.62**	**274**	P	**P**	**22 24 43.7**	**+1.7**
OUENC	**Ouen Island, N**	**12.20**	**274**	P	**P**	**22 24 48.0**	**-0.1**
LIFNC	**LIFOU**	**12.21**	**282**	P	**P**	**22 24 47.1**	**-1.1**
OUZ	**Omahuta**	**12.62**	**205**	P	**P**	**22 24 53.9**	**+1.8**
OUZ	**Omahuta**	**12.62**	**205**	P	**P**	**22 24 54.1**	**+2.0**
DZM	**Mont Dzumac**	**12.63**	**275**	P	**P**	**22 24 52.1**	**-0.5**
DZM	**Mont Dzumac**	**12.63**	**275**	P	**P**	**22 24 53.6**	**+1.0**
DZM	**Mont Dzumac**	**12.63**	**275**	P	**P**	**22 24 51.9**	**-0.6**
	5.6nm,0.4s,baz=77,slow=17,SNR=19						
WCZ	**Waipu Caves**	**12.99**	**201**	P	**P**	**22 24 58.7**	**+2.7**
KUZ	**Kuaotunu**	**13.36**	**195**	P	**P**	**22 25 00.8**	**+1.0**
MXZ	**Matakaoa Point**	**13.73**	**186**	P	**P**	**22 25 05.6**	**+2.0**
MXZ	**Matakaoa Point**	**13.73**	**186**	P	**P**	**22 25 04.5**	**+0.9**
HAZ	**Te Kaha**	**13.98**	**187**	P	**P**	**22 25 04.1**	**-2.1**
PKGZ	**Pakihiroa**	**14.08**	**186**	P	**P**	**22 25 07.8**	**+0.6**
RUGZ	**Raukumara Rang**	**14.20**	**188**	P	**P**	**22 25 07.0**	**-1.6**
RUGZ				S	**S**	**22 27 36.5**	**-1.3**
PUZ	**Puketiti**	**14.24**	**186**	P	**P**	**22 25 10.4**	**+1.5**
PUZ				S	**S**	**22 27 39.5**	**+1.1**
TWGZ	**Tauwhareparae**	**14.37**	**186**	P	**P**	**22 25 09.9**	**-0.4**
TWGZ				S	**S**	**22 27 42.8**	**+1.8**
URZ	**Urewera**	**14.56**	**189**	P	**P**	**22 25 13.3**	**+1.1**
URZ	**Urewera**	**14.56**	**189**	P	**P**	**22 25 08.9**	**-3.2**
	22nm,0.5s,baz=32,slow=17,SNR=20						
URZ	**Urewera**	**14.56**	**189**	P	**P**	**22 25 09.8**	**-2.4**
MWZ	**Matawai**	**14.58**	**188**	P	**P**	**22 25 10.6**	**-1.8**
MWZ				S	**S**	**22 27 44.1**	**-0.8**
TLZ	**Tolley Road**	**14.92**	**194**	P	**P**	**22 25 16.3**	**+0.4**
RIGZ	**Rimuhau**	**14.92**	**187**	P	**P**	**22 25 15.2**	**-0.7**
RIGZ				S	**S**	**22 27 50.5**	**-0.6**
RTZ	**Ruatahuna**	**14.93**	**189**	P	**P**	**22 25 14.5**	**-1.5**
RTZ				S	**S**	**22 27 47.2**	**-4.2**
SNGZ	**Shannon Statio**	**15.04**	**188**	P	**P**	**22 25 16.5**	**-0.7**
MTHZ	**Maungataniwha**	**15.19**	**189**	P	**P**	**22 25 17.1**	**-1.5**
RAHZ	**Arahi**	**15.21**	**189**	P	**P**	**22 25 18.7**	**-0.2**
HIZ	**Hauiti**	**15.25**	**196**	P	**P**	**22 25 20.7**	**+1.4**
NMHZ	**Naumai**	**15.43**	**189**	P	**P**	**22 25 20.3**	**-0.9**
BKZ	**Black Stump Fm**	**15.55**	**190**	P	**P**	**22 25 23.2**	**+0.9**
BKZ	**Black Stump Fm**	**15.55**	**190**	P	**P**	**22 25 19.4**	**-2.9**
BKZ				S	**S**	**22 27 58.7**	**-3.4**
NTVZ	**North Tongarir**	**15.63**	**193**	P	**P**	**22 25 22.1**	**-1.2**
TMVZ	**Te Maari**	**15.64**	**193**	P	**P**	**22 25 21.8**	**-1.6**
ETVZ	**East Tongariro**	**15.66**	**192**	P	**P**	**22 25 21.8**	**-1.8**
NNVZ	**North Ngauruho**	**15.67**	**193**	P	**P**	**22 25 24.7**	**+0.9**
OTVZ	**Oturere**	**15.69**	**193**	P	**P**	**22 25 21.6**	**-2.3**
OTVZ				S	**S**	**22 28 02.9**	**-1.9**
SNVZ	**South Ngauruho**	**15.72**	**193**	P	**P**	**22 25 23.7**	**-0.5**
MCHZ	**McNeill Hill**	**15.79**	**189**	P	**P**	**22 25 24.4**	**-0.3**
MCHZ				S	**S**	**22 28 08.7**	**+2.7**
TUVZ	**Tukino**	**15.80**	**193**	P	**P**	**22 25 23.0**	**-1.9**
KWHZ	**Kaweka Forest**	**15.81**	**190**	P	**P**	**22 25 22.8**	**-2.2**
KWHZ				S	**S**	**22 28 01.6**	**-4.9**
VRZ	**Vera Road**	**15.86**	**195**	P	**P**	**22 25 25.9**	**+0.5**
WNVZ	**Wahianoa**	**15.87**	**193**	P	**P**	**22 25 23.0**	**-2.7**
WNVZ				S	**S**	**22 28 08.2**	**+0.6**
MOVZ	**Moawhango**	**15.91**	**192**	P	**P**	**22 25 24.0**	**-1.9**
BHHZ	**Black Hill Sta**	**15.93**	**191**	P	**P**	**22 25 22.3**	**-3.9**
BHHZ				S	**S**	**22 28 06.2**	**-2.4**
KAHZ	**Kahuranaki**	**16.10**	**189**	P	**P**	**22 25 25.7**	**-2.1**
KAHZ				S	**S**	**22 28 12.0**	**+0.6**
PNHZ	**Pukenui**	**16.32**	**190**	P	**P**	**22 25 28.6**	**-1.3**
TSZ	**Takapari Road**	**16.51**	**191**	P	**P**	**22 25 30.3**	**-1.2**
PRHZ	**Porangahau**	**16.60**	**189**	P	**P**	**22 25 33.8**	**+1.5**
ANWZ	**Angora Road**	**16.81**	**189**	P	**P**	**22 25 33.3**	**-1.0**
BFZ	**Birch Farm**	**17.07**	**190**	P	**P**	**22 25 34.4**	**-2.1**
SNZO	**South Karori**	**17.96**	**193**	P	**P**	**22 25 45.3**	**+0.7**
JCZ	**Jackson Bay**	**22.16**	**202**	P	**P**	**22 26 23.4**	**+0.5**
ARMA	**Armidale**	**26.04**	**249**	P	**P**	**22 26 58.6**	**+1.1**
ARMA				IAmb	IAmb	22 27 11.6	
	comp=Z,24nm,1.3s						
ARMA	**Armidale**	**26.04**	**249**	P	**P**	**22 27 00.0**	**+2.5**
EIDS	**Eidsvold**	**26.32**	**261**	P	**P**	**22 27 00.1**	**+0.2**
EIDS	**Eidsvold**	**26.32**	**261**	P	**P**	**22 27 00.6**	**+0.7**
MGCD	**Mangrove Creek**	**26.97**	**243**	P	**P**	**22 27 07.0**	**+1.5**
CNB	**Canberra Magne**	**28.88**	**240**	P	**P**	**22 27 23.9**	**+1.7**
CAN	**Canberra**	**29.17**	**240**	P	**P**	**22 27 25.2**	**+0.5**
CAN				IAmb	IAmb	22 27 26.9	
	comp=Z,6.3nm,0.6s						
CAN	**Canberra**	**29.17**	**240**	P	**P**	**22 27 26.1**	**+1.4**
CTA	**Charters Tower**	**31.48**	**270**	P	**P**	**22 27 45.2**	**+0.5**
	comp=Z,51nm,0.4s,baz=94,slow=11,SNR=134						
CTAO	**Charters Tower**	**31.48**	**270**	P	**P**	**22 27 45.1**	**+0.3**
TOO	**Toolangi**	**32.48**	**237**	P	**P**	**22 27 53.5**	**+0.5**
TOO				IAmb	IAmb	22 28 15.7	
	comp=Z,14nm,1.2s						
PMG	**Port Moresby**	**34.49**	**289**	P	**P**	**22 28 09.2**	**-1.0**
PMG	**Port Moresby**	**34.49**	**289**	P	**P**	**22 28 09.4**	**-0.8**
	comp=Z,27nm,0.7s,baz=95,slow=8.2,SNR=4.2						
	comp=Z,27nm,0.7s						
STKA	**Stephens Creek**	**34.74**	**248**	P	**P**	**22 28 12.4**	**+0.3**
STKA	**Stephens Creek**	**34.74**	**248**	P	**P**	**22 28 12.6**	**+0.4**
	comp=Z,5.7nm,0.5s,baz=95,slow=11,SNR=14						
	comp=Z,5.7nm,0.5s						
COEN	**Coen**	**36.12**	**279**	P	**P**	**22 28 23.7**	**0.0**
BBOO	**Buckleboo**	**39.47**	**247**	P	**P**	**22 28 50.3**	**-0.4**
BBOO				IAmb	IAmb	22 28 51.7	
	comp=Z,20nm,1.1s						
AS31	**Alice Springs**	**42.05**	**261**	P	**P**	**22 29 11.4**	**0.0**
AS31				IAmb	IAmb	22 29 12.5	
	comp=Z,7.3nm,0.4s						
ASAR	**Alice Springs**	**42.05**	**261**	P	**P**	**22 29 10.8**	**-0.7**
ASAR	**Alice Springs**	**42.05**	**261**	P	**P**	**22 29 11.4**	**-0.1**
	comp=Z,14nm,0.5s,baz=95,slow=7.4,SNR=187						
ASAR				ScP	**ScP**	**22 33 55.6**	**+3.8**
	comp=Z,2.7nm,0.7s,baz=105,slow=4.4,SNR=11						
	comp=Z,14nm,0.5s						
WR0	**Warramunga Arr**	**42.23**	**266**	P	**P**	**22 29 12.0**	**-0.9**
WR0				IAmb	IAmb	22 29 12.8	
	comp=Z,16nm,0.9s						
WRA	**Warramunga Arr**	**42.42**	**266**	P	**P**	**22 29 12.7**	**-1.7**
WRA	**Warramunga Arr**	**42.42**	**266**	P	**P**	**22 29 13.7**	**-0.7**
	comp=Z,23nm,0.5s,baz=103,slow=8.3,SNR=768						
WRA				ScP	**ScP**	**22 33 57.2**	**+3.8**
	comp=Z,1.6nm,0.9s,baz=105,slow=3.8,SNR=2.1						
	comp=Z,23nm,0.5s						
FORT	**Forrest**	**46.33**	**250**	P	**P**	**22 29 43.6**	**-0.7**
KNRA	**Kununurra**	**48.70**	**270**	P	**P**	**22 30 01.5**	**-0.8**
KNRA				IAmb	IAmb	22 30 02.8	
	comp=Z,21nm,0.8s						
FAKI	**Fak Fak**	**50.58**	**287**	P	**P**	**22 30 15.1**	**-1.1**
FAKI				IAmb	IAmb	22 30 31.1	
	comp=Z,18nm,1.0s						
FITZ	**Fitzroy Crossi**	**50.84**	**266**	P	**P**	**22 30 17.7**	**-0.3**
SOEI	**Soe**	**54.85**	**275**	P	**P**	**22 30 47.2**	**+0.4**
SOEI				IAmb	IAmb	22 30 57.2	
	comp=Z,39nm,1.1s						
PSA00	**Pilbara Seismi**	**55.18**	**260**	P	**P**	**22 30 47.6**	**-1.2**
MORW	**Morawa**	**56.90**	**250**	P	**P**	**22 31 00.2**	**-0.4**
MORW				IAmb	IAmb	22 31 01.0	
	comp=Z,12nm,0.6s						
GIRL	**Giralia**	**59.93**	**257**	P	**P**	**22 31 21.6**	**+0.5**
TOLI2	**Tolitoli**	**62.58**	**285**	P	**P**	**22 31 37.5**	**-1.0**
TOLI2				IAmb	IAmb	22 31 38.1	
	comp=Z,14nm,0.8s						
JAGI	**Jajag, Banyuwa**	**64.58**	**272**	P	**P**	**22 31 49.9**	**-1.5**
JAGI				IAmb	IAmb	22 31 50.6	
	comp=Z,23nm,1.4s						
QSPA	**South Pole Qui**	**66.22**	**180**	P	**P**	**22 32 02.7**	**+1.9**
	comp=Z,2.9nm,0.8s,baz=334,slow=1.2,SNR=14						
	comp=Z,2.9nm,0.8s						
UGM	**Wanagama**	**68.11**	**271**	P	**P**	**22 32 11.8**	**-1.5**
KKM	**Kota Kinabalu**	**68.90**	**287**	P	**P**	**22 32 17.0**	**-1.0**
ADK	**Adak**	**75.47**	**2**	P	**P**	**22 32 54.0**	**-1.1**
BELA	**Belgrano 2**	**76.47**	**173**	P	**P**	**22 33 00.4**	**0.0**
BELA				IAmb	IAmb	22 33 19.6	
	comp=Z,15nm,1.4s						
KSRS	**Korea Array**	**78.22**	**320**	P	**P**	**22 33 11.2**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=98,slow=5.0,SNR=2.9						
	comp=Z,0.9nm,0.7s						
NJ2	**Nanjing**	**80.64**	**311**	*eP*	**P**	**22 33 25.2**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,150nm,5.0s						
USRK	**Ussuriysk Ar.**	**80.74**	**327**	P	**P**	**22 33 24.1**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=170,slow=4.5,SNR=2.4						
	comp=Z,0.9nm,0.6s						
KULM	**Kulim**	**82.44**	**279**	P	**P**	**22 33 32.7**	**-0.3**
KULM				IAmb	IAmb	22 33 52.7	
	comp=Z,26nm,1.4s						
KMRM	**Mail Ridge**	**82.51**	**40**	P	**P**	**22 33 33.1**	**+0.3**
SLBS	**Sierra La Lagu**	**82.78**	**60**	P	**P**	**22 33 34.4**	**-0.1**
SLBS				IAmb	IAmb	22 33 48.0	
	comp=Z,15nm,1.4s						
CMB	**Columbia Colle**	**83.17**	**43**	P	**P**	**22 33 35.8**	**-0.3**
AFDM	**Forest Hills D**	**83.36**	**42**	P	**P**	**22 33 36.7**	**-0.3**
GSI	**Gunungsitoli**	**83.60**	**274**	P	**P**	**22 33 38.3**	**-0.5**
GSI				IAmb	IAmb	22 33 41.6	
	comp=Z,10.0nm,0.8s						
NVAR	**Mina Array Bea**	**84.72**	**44**	P	**P**	**22 33 44.2**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=220,slow=7.8,SNR=6.7						
	comp=Z,0.8nm,0.7s						
N15K	**Kwethluk River**	**85.30**	**10**	P	**P**	**22 33 45.7**	**-0.3**
P18K	**Big Mountain,**	**85.42**	**12**	P	**P**	**22 33 45.1**	**-1.5**
P18K				IAmb	IAmb	22 33 57.6	
	comp=Z,24nm,1.4s						
K05A	**Summer Lake**	**85.72**	**39**	P	**P**	**22 33 48.2**	**-0.5**
K05A				IAmb	IAmb	22 33 49.8	
	comp=Z,7.6nm,1.2s						
O18K	**Koktuh Hills**	**85.86**	**12**	P	**P**	**22 33 47.4**	**-1.3**
O18K				IAmb	IAmb	22 34 08.3	
	comp=Z,17nm,1.3s						
J05D	**Fort Rock, OR**	**85.87**	**39**	P	**P**	**22 33 49.7**	**+0.4**
PINE	**Pine Mountain**	**86.36**	**38**	P	**P**	**22 33 51.6**	**-0.1**
U15A	**North Rim**	**87.57**	**48**	P	**P**	**22 33 57.8**	**+0.1**
L18K	**Granite Mounta**	**87.79**	**11**	P	**P**	**22 33 56.6**	**-1.0**
L18K				IAmb	IAmb	22 34 06.2	
	comp=Z,12nm,1.5s						
ELK	**Elko**	**87.98**	**43**	P	**P**	**22 33 59.3**	**-0.2**
SUA	**Susitna One**	**88.24**	**14**	P	**P**	**22 33 58.8**	**-1.1**
SUA				IAmb	IAmb	22 34 00.0	
	comp=Z,6.9nm,1.0s						
G08A	**Pilot Rock**	**88.39**	**38**	P	**P**	**22 34 00.4**	**-0.7**
G08A				IAmb	IAmb	22 34 02.9	
	comp=Z,5.8nm,1.5s						
J18K	**Innoko River**	**88.95**	**10**	P	**P**	**22 34 02.7**	**-0.4**
J18K				IAmb	IAmb	22 34 20.5	
	comp=Z,5.4nm,1.2s						
CMAR	**Chiang Mai Arr**	**89.52**	**290**	P	**P**	**22 34 08.2**	**+1.5**
	comp=Z,2.6nm,0.3s,baz=137,slow=3.4,SNR=8.6						
	comp=Z,2.6nm,0.3s						
HHC	**Hu-ho-hao-te**	**90.40**	**315**	*eP*	**P**	**22 34 13.4**	**+2.9**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,100nm,6.0s						
TXAR	**Lajitas Array**	**90.40**	**58**	P	**P**	**22 34 11.8**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=211,slow=4.9,SNR=14						
	comp=Z,1.2nm,0.7s						
PZH	**PanZhiHua**	**90.67**	**299**	P	**P**	**22 34 14.0**	**+1.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,140nm,8.0s						

mbtmp3.5/5, Error ellipse: s-maj=181.1km s-min=21.2km az=66.0
*DJA **10** 22:48:41.1±1.0, 1°N±6°×12°7E±°, h96km±8km, M3.5/7, MLv3.5/7*
ISC 10 22:48:35.0±1.2, 1°65N±0°09×127°2E±0°1, h103km, n11, σ2s56/14, mb3.4/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.89**	**170**	P	**Pn**	**22 48 58.8**	**+4.3**
TNTI				S	**Sn**	**22 49 11.9**	**+2.8**
LBMI	**Labuha**	**2.29**	**173**	P	**Pn**	**22 49 14.1**	**+2.6**
SANI	**Sanana**	**3.87**	**198**	P	**Pn**	**22 49 33.8**	**+1.2**
SANI				S	**Sn**	**22 50 14.7**	**-2.4**
GTOI	**Gorontalo**	**4.32**	**257**	P	**Pn**	**22 49 41.7**	**+3.1**
NLAI	**Namlea**	**4.86**	**181**	P	**Pn**	**22 49 46.9**	**+1.0**
NLAI				S	**Sn**	**22 50 39.8**	**-1.2**
LUWI	**Luwuk**	**5.18**	**239**	P	**Pn**	**22 49 53.3**	**+3.0**
WRA	**Warramunga Arr** 0.5nm,0.4s,baz=340,slow=11,SNR=11 0.5nm,0.4s	**22.57**	**162**	P	**P**	**22 53 25.5**	**-1.4**
ASAR	**Alice Springs** 0.3nm,0.8s,baz=344,slow=8.9,SNR=1.7 0.3nm,0.8s	**25.99**	**166**	P	**P**	**22 53 57.0**	**-1.4**
MKAR	**Makanchi Array** 0.4nm,0.4s,baz=115,slow=7.4,SNR=14 0.4nm,0.4s	**59.53**	**326**	P	**P**	**22 58 26.6**	**-1.1**
KURBB	**Kurchatov Arra** 0.4nm,0.5s,baz=129,slow=6.0,SNR=4.2 0.4nm,0.5s	**63.74**	**328**	P	**P**	**22 58 54.2**	**-1.7**
BVAR	**Borovoye Array** 0.4nm,0.7s,baz=126,slow=7.3,SNR=2.9 0.4nm,0.7s	**69.32**	**327**	P	**P**	**22 59 29.7**	**-1.6**

*NOU **10** 22:53:24.2, 32°53S×174°04W, h0km, mb4.9/13, South of Kermadec Islands*
*IDC **10** 22:54:56.3±2.9, 36°37S×179°06E, h0km, mb3.9/2, mbtmp4.0/3, ML4.2/1, Error ellipse: s-maj=65.3km s-min=41.3km az=121.0*
*WEL **10** 22:55:06.5±0.8, 37°S±4°×17°8E±°, h12km, M3.7/24, ML3.8/24, MLv3.7/24, Error ellipse: s-maj=0.0km s-min=0.0km az=59.4*
ISC 10 22:54:59.6±1.8, 36°56S±0°05×178°60E±0°06, h17km±9km, n139, σ1s97/150, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.03**	**193**	P	**Pg**	**22 55 20.9**	**+1.4**
MXZ	**Matakaoa Point**	**1.03**	**193**	P	**Pg**	**22 55 20.8**	**+1.3**
MXZ				S	**Sb**	**22 55 31.4**	**-0.8**
WMGZ	**Waiomatatini S**	**1.27**	**187**	P	**Pg**	**22 55 25.3**	**+1.3**
WMGZ				S	**Sg**	**22 55 41.9**	**+1.3**
HAZ	**Te Kaha**	**1.36**	**208**	P	**Pg**	**22 55 25.8**	**0.0**
PKGZ	**Pakihiroa**	**1.39**	**197**	P	**Pg**	**22 55 26.8**	**+0.4**
WIZ	**White Island**	**1.48**	**229**	P	**Pg**	**22 55 28.3**	**+0.2**
WIZ				S	**Sn**	**22 55 44.6**	**0.0**
WSRZ	**White Island S**	**1.49**	**230**	P	**Pg**	**22 55 28.7**	**+0.5**
WSRZ				S	**Sn**	**22 55 44.9**	**+0.2**
PUZ	**Puketiti**	**1.53**	**190**	P	**Pg**	**22 55 28.4**	**-0.7**
PUZ				S	**Sg**	**22 55 50.8**	**+1.8**
RUGZ	**Raukumara Rang**	**1.58**	**207**	P	**Pg**	**22 55 29.6**	**-0.5**
TWGZ	**Tauwhareparae**	**1.69**	**197**	P	**Pg**	**22 55 31.3**	**-0.8**
WHRZ	**Whale Island**	**1.83**	**225**	P	**Pg**	**22 55 35.2**	**+0.5**
WHRZ				S	**Sb**	**22 55 56.7**	**+1.4**
CNGZ	**Carnagh Statio**	**1.95**	**189**	P	**Pb**	**22 55 34.5**	**-0.1**
CNGZ				S	**Sb**	**22 55 57.9**	**-0.7**
MWZ	**Matawai**	**1.96**	**205**	P	**Pb**	**22 55 35.3**	**+0.3**
TKGZ	**Te Karaka**	**1.97**	**197**	P	**Pb**	**22 55 34.4**	**-0.6**
URZ	**Urewera**	**2.07**	**214**	P	**Pb**	**22 55 37.0**	**+0.2**
URZ	**Urewera** 50nm,0.3s,baz=352,slow=3.7,SNR=382	**2.07**	**214**	Pn	**Pb**	**22 55 36.9**	**+0.2**
URZ	63nm,0.3s,baz=213,slow=19,SNR=5.8 161nm,0.3s			Sn	**Sn**	**22 56 00.7**	**+1.7**
URZ	**Urewera**	**2.07**	**214**	P	**Pb**	**22 55 36.8**	**+0.1**
URZ				S	**Sb**	**22 56 01.0**	**-1.1**
MARZ	**Manawahe**	**2.09**	**227**	P	**Pb**	**22 55 38.0**	**+0.8**
EDRZ	**Edgecumbe**	**2.14**	**223**	P	**Pb**	**22 55 38.6**	**+0.6**
RAGZ	**Rawiri**	**2.15**	**206**	P	**Pb**	**22 55 37.9**	**-0.2**
TGRZ	**Tauranga**	**2.20**	**237**	P	**Pb**	**22 55 39.5**	**+0.5**
RIGZ	**Rimuhau**	**2.24**	**197**	P	**Pb**	**22 55 37.9**	**-1.8**
KUZ	**Kuaotunu**	**2.32**	**265**	P	**Pg**	**22 55 42.5**	**-1.7**
KUZ	**Kuaotunu**	**2.32**	**265**	P	**Pg**	**22 55 42.4**	**-1.7**
OMRZ	**Omania**	**2.35**	**228**	P	**Pb**	**22 55 42.2**	**+0.6**
TARZ	**Mount Tarawera**	**2.36**	**224**	P	**Pb**	**22 55 42.4**	**+0.7**
KARZ	**Kaharoa**	**2.38**	**231**	P	**Pb**	**22 55 42.2**	**+0.2**
MUGZ	**Murupara**	**2.40**	**217**	P	**Pb**	**22 55 41.7**	**-0.8**
RTZ	**Ruatahuna**	**2.42**	**212**	P	**Pb**	**22 55 41.5**	**-1.3**
PRGZ	**Paritu Road**	**2.43**	**193**	P	**Pn**	**22 55 38.4**	**-0.1**
RRRZ	**Republican Roa**	**2.43**	**222**	P	**Pb**	**22 55 42.7**	**-0.2**
SNGZ	**Shannon Statio**	**2.43**	**204**	P	**Pb**	**22 55 41.3**	**-1.7**
HLRZ	**Highlands Stat**	**2.46**	**226**	P	**Pb**	**22 55 43.7**	**+0.3**
NGRZ	**Ngongotaha**	**2.46**	**231**	P	**Pb**	**22 55 43.8**	**+0.3**
GRZ	**Great Barrier**	**2.55**	**276**	P	**Pg**	**22 55 46.8**	**-1.8**
GRZ				S	**Sb**	**22 56 16.2**	**+0.1**
HRRZ	**Handcock Road**	**2.59**	**225**	P	**Pb**	**22 55 46.7**	**+1.0**
PRRZ	**Plateau Road**	**2.61**	**222**	P	**Pb**	**22 55 44.9**	**-1.1**
RAHZ	**Arahi**	**2.64**	**207**	P	**Pb**	**22 55 44.3**	**-2.2**
MHGZ	**Mahia Peninsul**	**2.65**	**192**	P	**Pn**	**22 55 42.6**	**+1.0**
MTHZ	**Maungataniwha**	**2.68**	**211**	P	**Pb**	**22 55 44.7**	**-2.5**
ALRZ	**Allen Road**	**2.69**	**221**	P	**Pb**	**22 55 46.0**	**-1.2**
WHHZ	**Waihua**	**2.73**	**203**	P	**Pn**	**22 55 44.8**	**+2.0**
TOZ	**Tahuroa Road**	**2.74**	**244**	P	**Pb**	**22 55 47.3**	**-0.8**
WIAZ	**Waiheke Island**	**2.79**	**264**	P	**Pb**	**22 55 49.6**	**+0.5**
MKAZ	**Moumakai**	**2.81**	**258**	P	**Pb**	**22 55 49.4**	**+0.1**
MRHZ	**Matea Rd**	**2.85**	**217**	P	**Pb**	**22 55 47.6**	**-2.5**
NMHZ	**Naumai**	**2.90**	**209**	P	**Pb**	**22 55 47.8**	**-3.1**
KUTZ	**Kaahu Road**	**2.93**	**228**	P	**Pb**	**22 55 50.2**	**-1.2**
WHTZ	**Whakaora**	**2.97**	**224**	P	**Pg**	**22 55 54.1**	**-2.4**
ETAZ	**East Tamaki Re**	**2.97**	**261**	P	**Pb**	**22 55 52.2**	**+0.1**
ARHZ	**Aropaoanui**	**2.98**	**205**	P	**Pn**	**22 55 48.2**	**+2.0**
MBAZ	**Motutapu North**	**2.98**	**265**	P	**Pb**	**22 55 52.5**	**+0.2**
TLZ	**Tolley Road**	**3.01**	**253**	P	**Pb**	**22 55 51.7**	**-1.6**
ABAZ	**Army Bay**	**3.03**	**268**	P	**Pb**	**22 55 53.7**	**+0.5**
HATZ	**Hinemaiaia**	**3.06**	**220**	P	**Pb**	**22 55 51.2**	**-2.5**
BKZ	**Black Stump Fm**	**3.09**	**212**	P	**Pn**	**22 55 50.3**	**+2.6**
BKZ	**Black Stump Fm**	**3.09**	**212**	P	**Pn**	**22 55 50.1**	**+2.4**
EPAZ	**Eden Park BICE**	**3.11**	**263**	P	**Pb**	**22 55 54.7**	**+0.1**
HBAZ	**Herne Bay Bore**	**3.12**	**264**	P	**Pb**	**22 55 54.8**	**+0.1**
WATZ	**Wairara**	**3.13**	**226**	P	**Pb**	**22 55 53.2**	**-1.6**
RATZ	**Rangitukua**	**3.21**	**223**	P	**Pb**	**22 55 53.6**	**-2.6**
AWAZ	**Awhitu Peninsu**	**3.21**	**260**	P	**Pb**	**22 55 55.7**	**-0.5**
AWAZ				S	**Sb**	**22 56 31.6**	**-3.5**
RVAZ	**Riverhead Bore**	**3.24**	**265**	P	**Pb**	**22 55 56.6**	**0.0**
RVAZ				S	**Sb**	**22 56 33.6**	**-2.2**
MCHZ	**McNeill Hill**	**3.25**	**207**	P	**Pn**	**22 55 51.8**	**+2.0**
WTAZ	**Waiatarua**	**3.25**	**262**	P	**Pb**	**22 55 56.7**	**-0.2**
CKHZ	**Cape Kidnapper**	**3.32**	**201**	P	**Pn**	**22 55 51.5**	**+0.8**
KWHZ	**Kaweka Forest**	**3.34**	**210**	P	**Pn**	**22 55 52.6**	**+1.6**
TMVZ	**Te Maari**	**3.43**	**221**	P	**Pb**	**22 55 55.6**	**+3.2**
NTVZ	**North Tongarir**	**3.43**	**222**	P	**Pb**	**22 55 55.8**	**-4.2**
ETVZ	**East Tongariro**	**3.44**	**221**	P	**Pn**	**22 55 55.7**	**+3.1**
KRVZ	**Karewarewa**	**3.45**	**222**	P	**Pb**	**22 55 56.5**	**-3.8**
OTVZ	**Oturere**	**3.48**	**221**	P	**Pn**	**22 55 56.1**	**+2.9**
NNVZ	**North Ngauruho**	**3.49**	**222**	P	**Pb**	**22 55 57.1**	**-4.0**
WTVZ	**West Tongariro**	**3.49**	**222**	P	**Pb**	**22 55 57.0**	**-4.0**
WCZ	**Waipu Caves**	**3.49**	**279**	P	**Pb**	**22 56 00.2**	**-0.8**
KAHZ	**Kahuranaki**	**3.50**	**202**	P	**Pn**	**22 55 53.9**	**+0.5**
SNVZ	**South Ngauruho**	**3.52**	**221**	P	**Pn**	**22 55 57.0**	**+3.3**
NGZ	**Ngauruhoe**	**3.53**	**221**	P	**Pn**	**22 55 57.0**	**+3.2**
TWVZ	**Taurewa**	**3.54**	**224**	P	**Pb**	**22 55 58.0**	**-3.9**
BHHZ	**Black Hill Sta**	**3.54**	**214**	P	**Pn**	**22 55 56.3**	**+2.4**
KRHZ	**Kereru**	**3.54**	**209**	P	**Pn**	**22 55 54.8**	**+0.9**
HIZ	**Hauiti**	**3.56**	**236**	P	**Pb**	**22 55 59.1**	**-3.0**
HIZ	**Hauiti**	**3.56**	**236**	P	**Pb**	**22 55 58.9**	**-3.2**
TUVZ	**Tukino**	**3.57**	**220**	P	**Pn**	**22 55 57.4**	**+3.1**
COVZ	**Chateau Observ**	**3.58**	**222**	P	**Pb**	**22 55 58.2**	**-4.3**
FWVZ	**Far West T-bar**	**3.61**	**221**	P	**Pn**	**22 55 58.4**	**+3.4**
WHVZ	**Whangaehu Hut**	**3.61**	**220**	P	**Pn**	**22 55 58.0**	**+3.0**
MAVZ	**Matarangi**	**3.62**	**221**	P	**Pn**	**22 55 58.4**	**+3.2**
MOVZ	**Moawhango**	**3.62**	**217**	P	**Pn**	**22 55 56.9**	**+1.8**
WNVZ	**Wahianoa**	**3.64**	**220**	P	**Pn**	**22 55 57.8**	**+2.5**
TRVZ	**Turoa**	**3.65**	**220**	P	**Pn**	**22 55 58.4**	**+2.9**
PKVZ	**Pokaka**	**3.75**	**222**	P	**Pb**	**22 56 00.7**	**-4.7**
MTVZ	**Mangateitei**	**3.75**	**220**	P	**Pn**	**22 55 59.5**	**+2.8**
PNHZ	**Pukenui**	**3.84**	**209**	P	**Pn**	**22 55 58.3**	**+0.2**
WPHZ	**Waipukurau**	**3.89**	**205**	P	**Pn**	**22 55 59.3**	**+0.6**
VRZ	**Vera Road**	**3.97**	**229**	P	**Pb**	**22 56 04.6**	**-4.5**
PRHZ	**Porangahau**	**4.01**	**202**	P	**Pn**	**22 55 59.8**	**-0.5**
TSZ	**Takapari Road**	**4.06**	**210**	P	**Pn**	**22 56 00.9**	**-0.1**
DVHZ	**Dannevirke**	**4.19**	**206**	P	**Pn**	**22 56 02.6**	**-0.3**
MHEZ	**Mangahewa**	**4.21**	**232**	P	**Pb**	**22 56 11.6**	**-1.7**
ANWZ	**Angora Road**	**4.24**	**203**	P	**Pn**	**22 56 02.9**	**-0.4**
OUZ	**Omahuta**	**4.28**	**287**	P	**Pb**	**22 56 11.7**	**-2.6**
WAZ	**Wanganui**	**4.28**	**221**	P	**Pn**	**22 56 07.5**	**+3.6**
LREZ	**Lake Rotokare**	**4.40**	**228**	P	**Pb**	**22 56 12.8**	**-3.6**
POWZ	**Post Office Ro**	**4.42**	**209**	P	**Pn**	**22 56 06.5**	**+0.5**
PRWZ	**Pori Road**	**4.49**	**207**	P	**Pn**	**22 56 06.6**	**-0.3**
BFZ	**Birch Farm**	**4.51**	**203**	P	**Pn**	**22 56 06.1**	**-1.1**
BFZ	**Birch Farm**	**4.51**	**203**	P	**Pn**	**22 56 06.1**	**-1.1**
KHEZ	**Kahui Hut**	**4.54**	**232**	P	**Pb**	**22 56 14.6**	**-4.2**
KHEZ	**Kahui Hut**	**4.54**	**232**	P	**Pb**	**22 56 14.8**	**-4.0**
TIWZ	**Tintock**	**4.71**	**206**	P	**Pn**	**22 56 09.5**	**-0.5**
MRZ	**Mangatainoka R**	**4.73**	**209**	P	**Pn**	**22 56 09.1**	**-1.1**
HOWZ	**Holdsworth Sta**	**4.96**	**208**	P	**Pn**	**22 56 12.0**	**-1.3**
TMWZ	**Te Maipa**	**5.01**	**204**	P	**Pn**	**22 56 12.3**	**-1.8**
OGWZ	**Otaki Gorge**	**5.03**	**211**	P	**Pn**	**22 56 13.2**	**-1.0**
KIW	**Kapiti Island**	**5.17**	**213**	P	**Pn**	**22 56 15.3**	**-1.0**
MTW	**Mount Morrison**	**5.19**	**207**	P	**Pn**	**22 56 14.4**	**-2.1**
CAW	**Cannon Point**	**5.31**	**210**	P	**Pn**	**22 56 16.6**	**-1.6**
TRWZ	**Traveller**	**5.34**	**204**	P	**Pn**	**22 56 16.0**	**-2.6**
PAWZ	**Paruwai Farm**	**5.41**	**206**	P	**Pn**	**22 56 18.0**	**-1.5**
DUWZ	**D'Urville Isla**	**5.60**	**219**	P	**Pn**	**22 56 24.9**	**+2.8**
SNZO	**South Karori**	**5.63**	**211**	P	**Pn**	**22 56 23.8**	**+1.3**
PLWZ	**Palliser**	**5.64**	**206**	P	**Pn**	**22 56 20.0**	**-2.7**
BHW	**Baring Head**	**5.64**	**210**	P	Pb	22 56 29.8	-7.8
TCW	**Tory Channel**	**5.74**	**215**	P	**Pn**	**22 56 22.3**	**-1.7**
TUWZ	**Tuamarina**	**6.07**	**215**	P	**Pn**	**22 56 27.3**	**-1.2**
TKNZ	**Takaka Hill**	**6.27**	**223**	P	**Pn**	**22 56 33.9**	**+2.5**
BSWZ	**Blackbirch Sta**	**6.32**	**214**	P	**Pn**	**22 56 31.6**	**-0.5**
MRNZ	**Matariki Terra**	**6.64**	**221**	P	**Pn**	**22 56 35.8**	**-0.6**
THZ	**Tophouse**	**6.82**	**219**	P	**Pn**	**22 56 38.7**	**-0.2**
KHZ	**Kahutara**	**7.04**	**212**	P	**Pn**	**22 56 44.0**	**+2.2**
KHZ	**Kahutara**	**7.04**	**212**	P	**Pn**	**22 56 40.1**	**-1.7**
DSZ	**Denniston Nort**	**7.39**	**223**	P	**Pn**	**22 56 47.6**	**+0.8**
CTZ	**Chatham Island**	**8.05**	**154**	P	**Pn**	**22 56 56.2**	**+0.5**
ODZ	**Otahua Downs**	**10.39**	**213**	P	**Pn**	**22 57 27.9**	**0.0**
JCZ	**Jackson Bay**	**10.60**	**222**	P	**Pn**	**22 57 30.8**	**0.0**
ASAR	**Alice Springs** 1.9nm,0.5s,baz=120,slow=7.9,SNR=32 1.9nm,0.5s	**40.40**	**276**	P	**P**	**23 02 39.4**	**+2.3**
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=120,slow=7.6,SNR=14 0.4nm,0.3s	**41.96**	**281**	P	**P**	**23 02 51.5**	**+1.6**
FINES	**FINESS Array B** 1.0nm,0.8s,baz=54,slow=3.6,SNR=7.1	**149.69**	**334**	PKPbc	**PKPbc**	**23 14 46.7**	**-0.9**

IDC 10 23:04:46.1±4.3, 19°95S×177°59W, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=300.0km s-min=46.5km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 0.3nm,0.5s,baz=98,slow=8.3,SNR=5.4 0.3nm,0.5s	**45.02**	**256**	P	P	23 13 03.4	-0.5
WRA	**Warramunga Arr** 0.5nm,0.9s,baz=96,slow=8.3,SNR=12 0.5nm,0.9s	**45.06**	**261**	P	P	23 13 04.4	+0.3
BVAR	**Borovoye Array** 0.2nm,0.3s,baz=144,slow=0.5,SNR=5.1	**118.91**	**320**	PKP	PKPdf	23 23 35.1	-1.4
ARCES	**ARCESS Array B** 3.6nm,0.9s,baz=85,slow=1.1,SNR=3.9	**128.45**	**350**	PKP	PKiKP	23 23 55.0	+0.1

*NEIC **10** 23:06:16.6±0.4, 19°25N±0°03×155°433W±0°009, h36km±3km, Error ellipse: s-maj=4.7km s-min=1.3km az=177.0*
HVO 10 23:06:17.8±0.7, 19°19N±0°08×155°41W±0°02, h31km±7km, ML2.5/8, ML2.5/39(NEIC), Error ellipse: s-maj=11.0km s-min=3.1km az=175.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.14**	**42**	Pg	Pb	23 06 23.3	-0.4
HLP				Sg	Sn	23 06 27.5	-0.1
HLP	comp=E,496nm,1.1s			IAML		23 06 31.7	
HLP	comp=N,570nm,1.1s			IAML		23 06 33.2	
KHU	**Kahuku**	**0.20**	**285**		Pb	23 06 23.7	-0.8
KHU				Sg	Sb	23 06 28.0	-1.0
KHU	comp=N,441nm,1.1s			IAML		23 06 28.2	
SDHHI	**Sand Hill**	**0.22**	**28**		Pb	23 06 23.7	-0.9
SDHHI					Sb	23 06 28.3	-0.9
WRMHI	**West Rim**	**0.24**	**25**		Pb	23 06 24.9	+0.2
RIM	**Rim**	**0.24**	**32**		Sb	23 06 28.5	-0.9
KKO	**Keanakako`i**	**0.24**	**33**		Pb	23 06 23.9	-0.9
KKO					Sb	23 06 28.1	-1.5
KKO	comp=E,768nm,1.4s			IAML		23 06 28.5	
OBL	**Observatory Le**	**0.25**	**27**		Pb	23 06 23.9	-1.1
UWE	**Uwekahuna**	**0.25**	**25**		Pb	23 06 24.1	-0.8
PUH	**Pauahi**	**0.26**	**45**		Pb	23 06 24.0	-0.9
PUH	comp=N,452nm,1.0s			IAML		23 06 29.3	
BYL	**Byron's Ledge**	**0.26**	**32**		Pb	23 06 23.9	-1.1
UWB	**Uwekahuna B**	**0.26**	**28**		Pb	23 06 23.9	-1.2
UWB	comp=N,380nm,1.3s			IAML		23 06 29.0	
SBLHI	**Steaming Bluff**	**0.27**	**29**		Pb	23 06 23.9	-1.2
SBLHI					Sb	23 06 28.5	-1.6
SBLHI	comp=N,651nm,0.9s			IAML		23 06 29.8	
SBLHI	comp=E,777nm,1.4s			IAML		23 06 37.0	
KNHH	**Kane Nui o Ham**	**0.29**	**50**		Pb	23 06 24.4	-1.0
MLH	**Mauna Loa**	**0.30**	**4**		Pb	23 06 24.6	-1.0
MLH	**Mauna Loa**	**0.30**	**4**	IAML		23 06 29.9	
MLH	comp=E,578nm,0.4s			IAML		23 06 33.8	
MLH	comp=N,531nm,0.9s			IAML		23 06 37.0	
STCH	**Steam Cracks**	**0.33**	**54**		Pb	23 06 24.8	-1.0
STCH					Sb	23 06 30.1	-1.2
STCH	comp=E,370nm,0.6s			IAML		23 06 30.1	
MWH	**Moku'aweowe**	**0.34**	**328**		Pb	23 06 25.0	-1.4
MWH	comp=E,568nm,0.6s			IAML		23 06 30.9	
NPOC	**North of Pu'u**	**0.34**	**54**		Pb	23 06 25.1	-1.0
NPOC					Sb	23 06 30.3	-1.4
NPOC	comp=N,316nm,0.6s			IAML		23 06 33.5	
NPOC	comp=E,352nm,0.8s			IAML		23 06 35.6	
MLOA	**Mauna Loa Obse**	**0.38**	**335**		Pb	23 06 25.5	-1.4
MLOA	comp=N,439nm,0.4s			IAML		23 06 31.2	
ALEP	**Alea Permanent**	**0.41**	**327**		Pb	23 06 25.7	-1.6
HMH	**Humu'ula Sheep**	**0.41**	**350**		Sb	23 06 32.4	-1.4
HMH	**Humu'ula Sheep**	**0.41**	**350**		Pb	23 06 26.1	-1.2
HMH	comp=N,597nm,0.3s			IAML		23 06 32.5	
HMH	comp=E,286nm,0.4s			IAML		23 06 32.9	
JOKA	**Jonika Flow**	**0.45**	**58**		Pb	23 06 26.0	-1.5
POHA	**Pohakuloa**	**0.57**	**348**		Pb	23 06 27.5	-2.2
POHA	**Pohakuloa**	**0.57**	**348**	Pn	Pb	23 06 27.6	-2.1
POHA	comp=E,250nm,0.3s			IAML		23 06 41.0	
POHA	comp=E,176nm,1.3s			IAML		23 06 45.2	
KHLU	**Kahalu`u**	**0.61**	**311**		Pb	23 06 27.9	-2.2
KHLU	comp=N,201nm,0.1s			IAML		23 06 35.9	
HUH	**Hualalai**	**0.64**	**320**	Pn	Pb	23 06 28.7	-2.0
HUH	comp=N,234nm,0.2s			IAML		23 06 43.5	
HUH	comp=E,332nm,1.4s			IAML		23 06 44.5	
HPAH	**Hawaii Prepara**	**0.88**	**342**		Pn	23 06 31.3	-2.8
HPAH					Sn	23 06 41.5	-4.4
MHA	**Mahukona**	**1.09**	**335**	Pn	Pn	23 06 34.5	-2.5

*SCB **10** 23:55:25.3±1.2, 21°94S×67°30W, h182km±12km, ML3.4/4, MW3.5, Error ellipse: s-maj=5.9km s-min=3.5km az=0.0*
*GUC **10** 23:55:25.0±0.7, 22°00S×67°45W, h212km±9km, ML3.4*
ISC 10 23:55:24.1±2.3, 21°97S±0°06×67°31W±0°06, h196km±19km, n26, σ1s01/35, 3C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.61**	**246**	⇑*i*P	**Pn**	**23 55 59.7**	**+0.7**
LVC				*e*S	**Sn**	**23 56 25.4**	**-0.5**
MOCB	**Mochara**	**1.71**	**66**	Pg	**Pn**	**23 56 00.6**	**+0.6**
MOCB				Sg	**Sn**	**23 56 26.3**	**-1.4**
MOCB	336nm,0.6s			IAML		23 56 27.1	
PB09	**IPOC Station P**	**1.80**	**275**	*i* P	**Pn**	**23 56 01.7**	**+1.1**
PB09	**IPOC Station P**	**1.80**	**275**	Pg	**Pn**	**23 56 01.8**	**+1.2**
PB06	**IPOC Station P**	**2.22**	**250**	*e*P	**Pn**	**23 56 05.3**	**+0.4**
PB06	comp=E,70nm,0.1s			IAML		23 56 37.9	
PB01	**IPOC Station P**	**2.23**	**294**	⇑*i*P	**Pn**	**23 56 05.6**	**+0.7**
PB01				*e*S	**Sn**	**23 56 36.3**	**-0.3**
PB01	comp=N,89nm,0.3s			IAML		23 56 37.0	
PB01	**IPOC Station P**	**2.23**	**294**	Pg	**Pn**	**23 56 05.7**	**+0.8**
PB01				Sg	**Sn**	**23 56 36.5**	**-0.1**
PB01	comp=N,34nm,0.3s			IAML		23 56 39.5	
PB15	**IPOC Station P**	**2.35**	**238**	*e*P	**Pn**	**23 56 06.9**	**+0.6**
PB15				*e*S	**Sn**	**23 56 38.7**	**-0.4**
PB15	**IPOC Station P**	**2.35**	**238**	Pg	**Pn**	**23 56 07.2**	**+0.9**
PB15				Sg	**Sn**	**23 56 39.0**	**-0.1**
PB15	comp=N,325nm,0.3s			IAML		23 56 41.9	
PB07	**IPOC Station P**	**2.41**	**275**	*i* P	**Pn**	**23 56 07.5**	**+0.6**
PB07	comp=N,69nm,0.2s			IAML		23 56 40.0	
PB02	**IPOC Station P**	**2.49**	**285**	*e*P	**Pn**	**23 56 08.4**	**+0.6**
PB02	comp=E,75nm,0.2s			IAML		23 56 41.4	
PB02	**IPOC Station P**	**2.49**	**285**	Pg	**Pn**	**23 56 08.5**	**+0.7**
PB08	**IPOC Station P**	**2.51**	**316**	⇑*i*P	**Pn**	**23 56 10.1**	**+1.8**
PB08	**IPOC Station P**	**2.51**	**316**	Pg	**Pn**	**23 56 09.7**	**+1.4**
PB04	**IPOC Station P**	**2.66**	**262**	*e*P	**Pn**	**23 56 10.2**	**+0.4**
PB04	comp=N,43nm,0.2s			IAML		23 56 44.8	
PATCX	**Punta Patache**	**2.89**	**293**	*e*P	**Pn**	**23 56 12.8**	**+0.5**
PATCX				*e*S	**Sn**	**23 56 48.0**	**-2.0**
PATCX	comp=E,134nm,0.3s			IAML		23 56 50.4	
GO01	**Chusmiza**	**2.89**	**322**	*e*P	**Pn**	**23 56 14.0**	**+1.2**
GO01	comp=E,111nm,0.1s			IAML		23 56 55.9	
GO01	**Chusmiza**	**2.89**	**322**	Pg	**Pn**	**23 56 14.0**	**+1.2**
HMBC	**Humberstone**	**2.94**	**305**	*i* P	**Pn**	**23 56 13.1**	**+0.1**
HMBC	comp=N,76nm,0.2s			IAML		23 56 50.6	
TA01	**Diego Aracena**	**3.02**	**297**	*e*P	**Pn**	**23 56 14.1**	**+0.2**
PB11	**IPOC Station P**	**3.11**	**315**	*e*P	**Pn**	**23 56 15.4**	**+0.4**
PB11				*e*S	**Sn**	**23 56 53.1**	**-1.7**
PB11	**IPOC Station P**	**3.11**	**315**	Pg	**Pn**	**23 56 15.5**	**+0.4**
PB11				Sg	**Sn**	**23 56 53.3**	**-1.5**
PB11	comp=N,96nm,0.1s			IAML		23 56 54.8	
PB14	**IPOC Station P**	**3.88**	**227**	*e*P	**Pn**	**23 56 24.8**	**+0.2**
PB16	**IPOC Station P**	**4.17**	**330**	Pg	**Pn**	**23 56 30.3**	**+1.8**
AOEA	**Aiguile**	**4.25**	**28**	Pg	**Pn**	**23 56 29.8**	**+0.6**
PB12	**IPOC Station P**	**4.38**	**319**	Pg	**Pn**	**23 56 31.2**	**+0.5**

*MOS **11** 00:19:17.7±1.4, 41°90N×82°55E, h15km, mb4.3/10, Error ellipse: s-maj=6.4km s-min=5.0km az=128.8*
*IDC **11** 00:19:17.8±0.7, 41°98N×82°43E, h0km, mb3.9/19, mbtmp3.9/27, ML3.6/7, MS3.0/3, Error ellipse: s-maj=13.3km s-min=11.1km az=76.0*
*NEIC **11** 00:19:19.1±2.1, 41°89N±0°08×82°58E±0°10, h10km±1km, mb4.2/19, Error ellipse: s-maj=15.3km s-min=10.4km az=144.0*
*SOME **11** 00:19:19.3, 41°88N×82°38E, h20km, MS3.8*
*NNC **11** 00:19:21.0±0.8, 41°96N×82°28E, h0km, mb4.8, mpv4.5, Error ellipse: s-maj=6.2km s-min=4.5km az=161.0*
*KRNET **11** 00:20:04.1±0.1, 42°34N×78°25E, h35km, mb2.6*
ISC 11 00:19:18.9±0.4, 41°83N±0°04×82°38E±0°03, h13km, n224, σ2s33/249, mb4.0/36, 50C-22D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.20**	**318**	*e*P	**Pg**

KDJ ⇑*i*S **Pg** **00 20 31.2 -2.1**
baz=55
KAPS Kapalarasan **4.09 329** *e*P **Pb** **00 20 32.6 +1.8**
98nm,0.4s
KAPS *e*S **Sg** **00 21 25.1 -5.1**
278nm,0.7s
KAPS Kapalarasan **4.09 329** Pg **Pb** **00 20 32.6 +1.8**
98nm,0.4s
KAPS Lg Lg 00 21 25.1
277nm,0.7s
ARXS Arharly **4.10 307** *e*P **Pb** **00 20 33.3 +2.4**
40nm,0.2s
ARXS *e*S **Sg** **00 21 27.4 -3.1**
256nm,0.6s
ARXS Arharly **4.10 307** Pg **Pb** **00 20 33.3 +2.4**
40nm,0.2s
ARXS Lg Lg 00 21 27.3
256nm,0.6s
KOTS Kotyrbulak **4.14 292** *e*P **Pb** **00 20 33.0 +1.4**
180nm,0.6s
KOTS *e*S **Sg** **00 21 26.0 -5.6**
492nm,0.6s
KOTS Kotyrbulak **4.14 292** Pg **Pb** **00 20 33.0 +1.4**
180nm,0.6s
KOTS Lg Lg 00 21 26.0
492nm,0.6s
MDOK Medeo **4.16 290** PN **Pn** **00 20 25.2 +3.1**
MDOK Medeo **4.16 290** *e*P **Pb** **00 20 34.0 +2.0**
61nm,0.7s
MDOK *e*S **Sg** **00 21 27.8 -4.6**
208nm,1.1s
MDOK Medeo **4.16 290** ⇓Pn **Pn** **00 20 25.3 +3.1**
23nm,0.7s
MDOK Pg **Pb** **00 20 34.0 +2.0**
61nm,0.7s
MDOK ⇑Pg **Pg** **00 20 35.8 -2.7**
70nm,0.8s
MDOK Lg Lg 00 21 27.7
208nm,1.1s
MDOK ⇑Lg Lg 00 21 30.5
491nm,1.3s
TNSS Tian-Shan **4.20 289** *e*P **Pb** **00 20 35.2 +2.5**
88nm,0.3s
TNSS *e*S **Sg** **00 21 30.0 -3.6**
141nm,0.9s
TNSS Tian-Shan **4.20 289** Pg **Pb** **00 20 35.2 +2.5**
88nm,0.3s
TNSS Lg Lg 00 21 30.0
141nm,0.9s
KNDC Almaty **4.23 291** PN **Pn** **00 20 27.1 +4.0**
KNDC Almaty **4.23 291** ⇑Pn **Pn** **00 20 25.3 +2.2**
47nm,0.6s
KNDC ⇓Pg **Pg** **00 20 36.7 -3.2**
173nm,0.6s
KNDC ⇑Lg Lg 00 21 33.2
324nm,0.8s
AAA Alma-Ata **4.26 291** *e*P **Pg** **00 20 36.7 -3.8**
158nm,0.4s
AAA *e*S **Sg** **00 21 33.2 -2.6**
456nm,0.6s
AAA Alma-Ata **4.26 291** Pg **Pg** **00 20 36.7 -3.8**
158nm,0.4s
AAA Lg Lg 00 21 33.2
456nm,0.6s
TDK Taldyqorghan **4.29 319** *e*P **Pb** **00 20 36.1 +1.9**
197nm,0.5s
TDK *e*S **Sg** **00 21 31.2 -5.4**
585nm,0.6s
TDK Taldyqorghan **4.29 319** Pg **Pb** **00 20 36.1 +1.9**
197nm,0.5s
TDK Lg Lg 00 21 31.2
585nm,0.6s
WMQ Urumqi **4.39 61** *e*Pn **Pn** **00 20 27.6 +2.4**
WMQ Sn **Sn** **00 21 13.7 -2.5**
WMQ smax smax
comp=N,260nm,1.1s
WMQ smax smax
comp=E,340nm,0.9s
IZV Izvestkoviy **4.43 288** *e*P **Pb** **00 20 39.0 +2.4**
comp=E,41nm,0.6s
IZV *e*S **Sg** **00 21 36.7 -4.5**
comp=E,467nm,0.8s
IZV Izvestkoviy **4.43 288** Pg **Pb** **00 20 39.0 +2.4**
comp=E,41nm,0.6s
IZV Lg Lg 00 21 36.7
comp=E,467nm,0.8s
CHKK Chushkaly **4.45 299** *e*P **Pb** **00 20 39.7 +2.8**
comp=E,37nm,0.4s
CHKK *e*S **Sg** **00 21 37.5 -4.1**
comp=E,233nm,0.5s
CHKK Chushkaly **4.45 299** Pg **Pb** **00 20 39.7 +2.8**
comp=E,37nm,0.4s
CHKK Lg Lg 00 21 37.5
comp=E,233nm,0.5s
KASK Kaskelen **4.46 290** ⇑Pg **Pg** **00 20 42.1 -2.2**
KASK ⇑Lg Lg 00 21 40.2
MTBS Maitube **4.59 288** *e*P **Pb** **00 20 41.7 +2.5**
comp=E,47nm,0.4s
MTBS *e*S **Sg** **00 21 40.9 -5.2**
comp=E,141nm,0.6s
MTBS Maitube **4.59 288** Pg **Pb** **00 20 41.7 +2.5**
comp=E,47nm,0.4s
MTBS Lg Lg 00 21 40.9
comp=E,141nm,0.6s
ULHL Ulahol **4.59 277** P **Pn** **00 20 31.1 +3.0**
SNR=29
ULHL Ulahol **4.59 277** ⇓*e*P **Pn** **00 20 30.5 +2.4**
baz=67
ULHL ⇓*e*S **Pg** **00 20 49.4 +2.7**
baz=67
KTBS Karatobe **4.59 296** *e*P **Pb** **00 20 41.3 +2.0**
comp=E,58nm,0.6s
KTBS *e*S **Sg** **00 21 40.5 -5.9**
comp=E,339nm,0.7s
KTBS Karatobe **4.59 296** Pg **Pb** **00 20 41.3 +2.0**
comp=E,58nm,0.6s
KTBS Lg Lg 00 21 40.4
comp=E,339nm,0.7s
NRN Naryn **4.80 267** Pn **Pn** **00 20 33.2 +2.1**
NRN Naryn **4.80 267** PN **Pn** **00 20 33.2 +2.1**
NRN Naryn **4.80 267** ⇑*i*P Pn 00 20 36.8 +5.7
baz=42
NRN ⇑*i*S Pg 00 21 00.4 +10
baz=42
KST Kastek **4.90 286** *e*P **Pb** **00 20 47.6 +3.0**
comp=E,53nm,0.6s
KST *e*S **Sg** **00 21 51.0 -5.1**
comp=E,327nm,0.6s
KST Kastek **4.90 286** Pg **Pb** **00 20 47.6 +3.0**
comp=E,53nm,0.6s
KST Lg Lg 00 21 51.0
comp=E,327nm,0.6s
MK31 Makanchi Array **4.96 359** Pn **Pn** **00 20 34.2 +1.1**
MK31 Makanchi Array **4.96 359***ce*PN **Pn** **00 20 34.4 +1.3**
MKAR Makanchi Array **4.96 359** Pn **Pn** **00 20 34.3 +1.2**
MKAR Makanchi Array **4.96 359***ce*PN **Pn** **00 20 34.5 +1.4**
MKAR pmax pmax
comp=Z,7.0nm,0.3s
MKAR Makanchi Array **4.96 359** Pn **Pn** **00 20 34.5 +1.4**
comp=Z,4.7nm,0.3s,baz=180,slow=11,SNR=11.8
MKAR Lg Lg 00 21 51.2
comp=Z,13nm,0.3s,baz=180,slow=30,SNR=8.0
comp=Z,7.6nm,0.4s
MAKZ Makanchi **4.99 357** Pn **Pn** **00 20 34.8 +1.4**
MAKZ Makanchi **4.99 357** PN **Pn** **00 20 34.8 +1.4**
MAKZ Makanchi **4.99 357** ⇓Pn **Pn** **00 20 34.5 +1.1**
comp=Z,14nm,0.5s
MAKZ ⇑Pg **Pb** **00 20 47.2 +1.2**
comp=Z,16nm,0.5s
MAKZ ⇑Sn **Sn** **00 21 33.6 +2.8**
comp=Z,36nm,0.5s
MAKZ ⇑Lg Lg 00 21 51.4
comp=Z,102nm,0.9s
DGS Degeres **5.08 288** *e*P **Pg** **00 20 52.0 -4.1**
comp=Z,47nm,0.7s
DGS *e*S **Sg** **00 21 58.9 -3.0**
comp=Z,233nm,0.6s
DGS Degeres **5.08 288** Pg **Pg** **00 20 52.0 -4.1**
comp=Z,47nm,0.7s
DGS Lg Lg 00 21 58.9
comp=Z,233nm,0.6s
TKM2 Tokmak 2 **5.14 284** P **Pn** **00 20 39.5 +3.8**
SNR=22
TKM2 Tokmak 2 **5.14 284** *i* PN **Pn** **00 20 39.3 +3.6**
TKM2 pmax pmax
comp=Z,43nm,0.8s
TKM2 Tokmak 2 **5.14 284** ⇑Pn **Pn** **00 20 38.3 +2.6**
comp=Z,26nm,0.6s
TKM2 ⇓Pg **Pg** **00 20 53.2 -4.0**
comp=Z,43nm,0.8s
TKM2 ⇓Lg Lg 00 22 02.6
comp=Z,120nm,0.6s
TKM2 Tokmak 2 **5.14 284** ⇑*i*P **Pn** **00 20 38.1 +2.4**
baz=87
TKM2 ⇑*e*S Pg 00 21 03.0 +5.7
baz=87
KRBS Karabastau **5.27 293** *e*P **Pg** **00 20 57.1 -2.7**
comp=Z,26nm,0.6s
KRBS *e*S **Sg** **00 22 07.3 -0.8**
comp=Z,75nm,0.7s
KRBS Karabastau **5.27 293** Pg **Pg** **00 20 57.1 -2.7**
comp=Z,26nm,0.6s
KRBS Lg Lg 00 22 07.3
comp=Z,75nm,0.7s
KSH Kashi **5.39 247** Pn **Pb** **00 20 49.6 -3.3**
KSH Sn **Sb** **00 21 53.4 -4.2**
KSH smax smax
comp=N,130nm,0.6s
KSH smax smax
comp=E,130nm,1.0s
KBK Karagaybulak **5.58 281** P **Pn** **00 20 45.1 +3.5**
SNR=22
KBK Karagaybulak **5.58 281** ⇓*e*P **Pn** **00 20 43.9 +2.2**
baz=78
KBK ⇓*e*S Pg 00 21 12.9 +7.3
baz=78
CHMS Chumysh **5.76 284** ⇑Pg **Pg** **00 21 05.3 -3.9**
comp=E,38nm,1.1s
CHMS ⇑Lg Lg 00 22 22.6
comp=E,190nm,1.3s
CHMS Chumysh **5.76 284** ⇑*e*P **Pn** **00 20 46.5 +2.4**
baz=85
CHMS ⇑*e*S Pg 00 21 17.5 +8.3
baz=85
FRU1 Bishkek **5.83 282** **Pn** **00 20 48.9 +3.9**
FRU1 Bishkek **5.83 282** PN **Pn** **00 20 48.9 +3.9**
FRU1 Bishkek **5.83 282** ⇑*e*P **Pn** **00 20 47.6 +2.6**
baz=81
FRU1 ⇑*e*S Pg 00 21 19.2 +8.8
baz=81
UCH Uchtor **5.87 276** P Pn 00 20 50.8 +4.9
SNR=7.4
UCH Uchtor **5.87 276** ⇑*e*P **Pn** **00 20 48.4 +2.5**
baz=69
UCH ⇑*e*S Pg 00 21 20.6 +9.3
baz=69
ZSN Zaisan **5.89 17** *e*P Pg 00 21 06.6 -5.0
comp=E,41nm,0.6s
ZSN *e*S **Sg** **00 22 24.5 -3.4**
comp=E,113nm,1.1s
ZSN Zaisan **5.89 17** Pg Pg 00 21 06.6 -5.0
comp=E,41nm,0.6s
ZSN Lg Lg 00 22 24.5
comp=E,113nm,1.1s
AAK Ala-Archa **5.91 280** P **Pn** **00 20 50.3 +4.1**
SNR=8.8
AAK Ala-Archa **5.91 280** Pn **Pn** **00 20 49.0 +2.8**
AAK Ala-Archa **5.91 280** Pn **Pn** **00 20 49.5 +3.3**
comp=E,1.6nm,0.3s,baz=138,slow=7.8,SNR=23
AAK Lg Lg 00 22 22.9
comp=E,2.4nm,0.3s,baz=135,slow=20,SNR=1.6
AAK LR LR 00 23 21.4
comp=E,108nm,20.6s,baz=95,slow=41
comp=E,2.6nm,0.2s
AAK Ala-Archa **5.91 280** ⇑*e*P **Pn** **00 20 48.6 +2.4**
baz=77
AAK ⇑*i*S Pg 00 21 20.8 +8.9
baz=77
USP Ospenovka **5.99 286** P **Pn** **00 20 50.5 +3.3**
SNR=11
USP Ospenovka **5.99 286** ⇑*e*P **Pn** **00 20 50.0 +2.7**
baz=90
USP ⇑*e*S Pg 00 21 23.2 +10
baz=90
ARLS Aral **6.01 273** ⇑*e*P **Pn** **00 20 50.9 +3.2**
baz=62
ARLS ⇑*e*S Pg 00 21 24.6 +11
baz=62
EKS2 Erkin-Say **6.44 280** ⇓*e*P **Pn** **00 20 55.8 +2.4**
baz=77
EKS2 ⇓*e*S Pg 00 21 33.7 +12
baz=77
MRKS Merke **6.85 281** *e*P **Pg** **00 21 25.9 -4.0**
comp=E,19nm,0.4s
MRKS *e*S **Sg** **00 22 57.1 -1.5**
comp=E,46nm,0.9s
MRKS Merke **6.85 281** Pg **Pg** **00 21 25.9 -4.0**
comp=E,19nm,0.4s
MRKS Lg Lg 00 22 57.1
comp=E,46nm,0.9s
ARSB Arslanbob **7.06 269** **Pn** **00 21 05.0 +2.9**
ARSB Arslanbob **7.06 269** PN **Pn** **00 21 05.0 +2.9**
MNAS Manas **7.37 278** ⇑*e*P **Pn** **00 21 08.9 +2.7**
baz=74
MNAS ⇑*e*S Pg 00 21 56.0 +16
baz=74
DRK Karamyk **8.38 257** Pn **Pn** **00 21 23.1 +2.9**
DGZ Jazzator, Alta **8.62 22** *i* P **Pn** **00 21 23.1 -0.3**
SEM Semipalatinsk **8.71 351** *e*P Pg 00 21 59.8 -5.6
comp=E,5.7nm,0.2s
SEM *e*S **Sg** **00 23 54.8 -3.2**
comp=E,30nm,0.7s
SEM Semipalatinsk **8.71 351** Pg Pg 00 21 59.8 -5.6
comp=E,5.7nm,0.2s
SEM Lg Lg 00 23 54.8
comp=E,30nm,0.7s
KK31 Karatay Array **8.86 282** Pn **Pn** **00 21 30.0 +3.4**
KK31 Karatay Array **8.86 282** P **Pn** **00 21 30.0 +3.4**
KK31 Karatay Array **8.86 282** ⇑Pg Pg 00 22 00.7 -7.7
comp=E,6.6nm,0.8s,baz=90,slow=16,SNR=9.2
KK31 ⇓Lg Lg 00 23 59.5
comp=E,15nm,0.7s,baz=90,slow=27,SNR=6.2
KKAR Karatay Array **8.86 282** Pn **Pn** **00 21 29.4 +2.8**
KKAR Karatay Array **8.86 282** P **Pn** **00 21 29.4 +2.8**
BTK Batken **8.93 262** Pn **Pn** **00 21 31.2 +3.7**
BTK Batken **8.93 262** P **Pn** **00 21 31.2 +3.7**
KURBB Kurchatov Arra **9.19 344** P **Pn** **00 21 30.2 -0.8**
KURBB Kurchatov Arra **9.19 344** Pn **Pn** **00 21 30.4 -0.6**
comp=E,0.3nm,0.3s,baz=168,slow=12,SNR=11
KURBB Sn **Sn** **00 23 12.7 -1.4**
comp=E,0.3nm,0.3s,baz=157,slow=23,SNR=4.4
KURBB Lg Lg 00 24 02.2
comp=E,0.3nm,0.3s,baz=156,slow=30,SNR=5.0
comp=E,1.1nm,0.2s
KURBB Kurchatov Arra **9.19 344** ⇓Pn **Pn** **00 21 30.2 -0.8**
comp=E,4.2nm,0.5s
KURBB ⇑Pg 00 22 05.3
comp=E,5.5nm,0.6s
KURBB ⇓Sn **Sn** **00 23 16.5 +2.4**
comp=E,40nm,0.7s
KURBB ⇑Lg Lg 00 24 09.6
comp=E,96nm,0.8s
IUG luzhnay **9.20 276** *e*P Pn 00 22 10.8 +39
comp=E,27nm,1.1s
IUG *e*S Sn 00 24 14.1 +59
comp=E,70nm,1.5s
IUG luzhnay **9.20 276** Pg Pn 00 22 10.8 +39
comp=E,27nm,1.1s
IUG Lg Lg 00 24 14.1
comp=E,70nm,1.5s
KURK Kurchatov **9.26 345** Pn **Pn** **00 21 31.9 0.0**
KURK Kurchatov **9.26 345***ce*P **Pn** **00 21 31.2 -0.7**
KURK pmax pmax
comp=Z,2.0nm,0.6s
BRLS Boroldaу **9.35 282** *e*P Pn 00 22 14.9 +42
comp=Z,3.3nm,0.7s
BRLS *e*S 00 24 22.2
comp=Z,18nm,0.9s
BRLS Boroldaу **9.35 282** Pg Pn 00 22 14.9 +42
comp=Z,3.3nm,0.7s
BRLS Lg Lg 00 24 22.2
comp=Z,18nm,0.9s
OTUK Ortayu **9.57 315** P **Pn** **00 21 37.5 +1.3**
OTUK Ortayu **9.57 315** Pg Pn 00 22 16.8 +41
comp=Z,1.5nm,0.6s
OTUK Lg Lg 00 24 24.7
comp=Z,14nm,1.3s
OTUK Ortayu **9.57 315** ⇑Pn **Pn** **00 21 38.2 +1.9**
comp=Z,3.6nm,0.7s
OTUK ⇓Lg Lg 00 24 22.6
comp=Z,42nm,0.9s
GAR Garm **9.62 257** **Pn** **00 21 39.3 +2.1**
BRZS Berezniki **10.58 324** *e*P Pn 00 22 35.8 +46
comp=Z,2.2nm,0.4s
BRZS *e*S 00 24 56.6
comp=Z,19nm,1.0s
BRZS Berezniki **10.58 324** Pg Pn 00 22 35.8 +46
comp=Z,2.2nm,0.4s
BRZS Lg Lg 00 24 56.6
comp=Z,19nm,1.0s
CHGR Chuyangaron **10.59 257** Pn **Pn** **00 21 51.2 +0.9**
CHGR Chuyangaron **10.59 257** P **Pn** **00 21 51.2 +0.9**
SIMJ Simiganj **10.70 257** Pn **Pn** **00 21 52.4 +0.5**
NIL Nilore **10.90 224** Pn **Pn** **00 21 56.0 +1.5**
NIL Nilore **10.90 224** P **Pn** **00 21 56.0 +1.5**
GOMU GeErMu **11.19 116** Pn **Pn** **00 21 59.0 +0.2**
GOMU Sn **Sn** **00 23 59.9 -4.0**
GOMU smax smax
comp=N,26nm,1.1s
GOMU smax smax
comp=E,21nm,1.0s
ZAA0 Zalesovo Array **12.23 7** Pn **Pn** **00 22 10.7 -2.0**
ZAA0 Zalesovo Array **12.23 7** ⇑Pn **Pn** **00 22 14.7 +2.0**
ZALV Zalesovo Beam **12.23 7** Pn **Pn** **00 22 10.8 -1.9**
comp=E,1.1nm,0.3s,baz=185,slow=13,SNR=13
ZALV Sn **Sn** **00 24 28.9 +0.1**
comp=E,0.2nm,0.3s,baz=172,slow=24,SNR=2.4
ZALV Lg Lg 00 25 41.1
comp=E,0.1nm,0.3s,baz=192,slow=27,SNR=2.7
comp=E,1.2nm,0.3s
KBL Kabul **12.76 240** Pn **Pn** **00 22 20.2 +0.1**
KBL Kabul **12.76 240** P **Pn** **00 22 20.2 +0.1**
GTA Gaotai **13.47 95** *e*P **P** **00 22 36.6 -2.4**
GTA pmax pmax
comp=Z,3.0nm,1.2s
BVA0 Borovoye Array **13.81 328** *e*P **Pn** **00 22 36.3 +2.2**
BVA0 Borovoye Array **13.81 328** ⇓Pn **Pn** **00 22 36.4 +2.2**
comp=Z,5.5nm,1.4s,baz=137,slow=12,SNR=7.2
BVA0 ⇑Lg Lg 00 26 37.5
comp=Z,17nm,1.2s,baz=127,slow=26,SNR=5.5
BVAR Borovoye Array **13.81 328** Pn **Pn** **00 22 32.9 -1.3**
comp=Z,0.6nm,0.4s,baz=153,slow=13,SNR=4.7
BVAR Sn **Sn** **00 25 05.6 -1.6**
baz=128,slow=17,SNR=2.2
BVAR Lg Lg 00 26 33.5
comp=Z,0.1nm,0.3s,baz=130,slow=27,SNR=7.0
BRVK Borovoye **13.87 328** Pn **Pn** **00 22 37.0 +2.0**
BRVK Borovoye **13.87 328** P **Pn** **00 22 37.0 +2.0**
BRVK Borovoye **13.87 328** ⇑Pn **Pn** **00 22 37.4 +2.3**
comp=Z,4.3nm,0.9s
BRVK ⇓Lg Lg 00 26 39.4
comp=Z,23nm,1.1s
AB31 Akbulak array **17.34 303** P **Pn** **00 23 20.3 -0.1**
AB31 Akbulak array **17.34 303** ⇓Pn **Pn** **00 23 20.3 -0.1**
comp=Z,1.3nm,0.7s,baz=104,slow=12,SNR=15
ABKAR Akbulak array **17.34 303** P **Pn** **00 23 20.1 -0.3**
ABKAR Akbulak array **17.34 303** Pn **Pn** **00 23 20.4 0.0**
HRA Herat **17.48 251** **P** **00 23 24.6 +0.9**
SONM Songino Array **18.02 62** **Pn** **00 23 28.2 -0.9**
SONM Songino Array **18.02 62** P **Pn** **00 23 28.2 -0.9**
SONM pmax pmax
comp=Z,2.0nm,1.1s
SONM Songino Array **18.02 62** Pn **Pn** **00 23 28.5 -0.6**
comp=Z,0.1nm,0.3s,baz=248,slow=11,SNR=6.7
SONM Lg Lg 00 28 39.3
comp=Z,0.1nm,0.3s,baz=281,slow=30,SNR=2.2
comp=Z,0.8nm,0.7s
ULN Ulaanbaatar **18.47 63** *i* P **P** **00 23 31.9 -2.5**
ULN pmax pmax
comp=Z,9.0nm,2.5s
AKTO Aktyubinsk **18.88 305** P **P** **00 23 38.6 -0.2**
comp=Z,0.2nm,0.3s,baz=104,slow=9.5,SNR=5.2
AKTO Lg Lg 00 29 14.5
comp=Z,0.1nm,0.3s,baz=53,slow=20,SNR=1.9
comp=Z,1.6nm,0.6s
AKTO Aktyubinsk **18.88 305** ⇓Pn **Pn** **00 23 41.7 +2.3**
comp=Z,2.6nm,1.1s
GEYT Alibeck **19.00 266** P **Pn** **00 23 41.8 +0.8**
GEYT Alibeck **19.00 266** P **Pn** **00 23 41.8 +0.8**
GEYT pmax pmax
comp=Z,4.0nm,1.1s
GEYT Alibeck **19.00 266** P **P** **00 23 39.9 -0.4**
comp=Z,0.3nm,0.3s,baz=90,slow=7.4,SNR=5.0
comp=Z,1.7nm,0.6s
ARU Arti **21.20 322** P **P** **00 24 03.6 -0.4**
ARU IAmb IAmb 00 24 05.0
ARU Arti **21.20 322***c i* P **P** **00 24 04.3 +0.3**
ARU 00 24 22.4
ARU SS Sn 00 28 28.6 +22
ARU pmax pmax
comp=Z,7.0nm,0.7s
ARU Arti **21.20 322** P **P** **00 24 03.7 -0.3**
comp=Z,6.5nm,0.7s,baz=122,slow=4.9,SNR=18
comp=Z,6.5nm,0.7s
HHC Hu-ho-hao-te **21.89 83** *e*P **P** **00 24 10.0 -1.7**
HHC pmax pmax
comp=Z,6.0nm,0.8s
HHC pmax pmax
comp=Z,89nm,5.3s
HNS HongShan **25.21 89** ⇑P **P** **00 24 46.5 +2.3**
HNS pmax pmax
comp=Z,7.0nm,1.0s
WSAR Wadi Sarin **27.14 234** P **P** **00 25 05.4 +3.6**
comp=Z,4.1nm,0.8s,baz=65,slow=11,SNR=4.7
comp=Z,4.1nm,0.8s
CMAR Chiang Mai Arr **27.25 144** P **P** **00 25 04.4 +1.6**
comp=Z,0.5nm,0.3s,baz=328,slow=10.0,SNR=1.7
comp=Z,0.5nm,0.3s
NRIK Noril'sk **27.71 4** *i* P **P** **00 25 05.6 -0.8**
NRIK pmax pmax
comp=Z,10.0nm,2.3s
NRIK Noril'sk **27.71 4** P **P** **00 25 04.8 -1.6**
comp=Z,0.7nm,0.3s,baz=198,slow=3.2,SNR=1.8
comp=Z,0.7nm,0.3s
KBZ Khabaz **28.85 287** P **P** **00 25 17.3 +0.4**
comp=Z,0.5nm,0.7s,baz=345,slow=9.7,SNR=1.5
comp=Z,0.5nm,0.7s
KIV Kislovodsk **28.97 288** *e*P **P** **00 25 17.1 -0.9**
KIV pmax pmax
comp=Z,3.0nm,1.0s
YAK Yakutsk **34.42 38** *i* P **P** **00 26 04.3 -1.3**
YAK pmax pmax
comp=Z,5.0nm,0.8s
KLR Kul'dur **34.84 61** *i* P **P** **00 26 09.2 -0.2**
KLR pmax pmax
comp=Z,1.0nm,1.1s
KLR Kul'dur **34.84 61** LR LR 00 41 22.3
comp=Z,36nm,19.8s,baz=232,slow=38
KSRS Korea Array **35.03 82** LR LR 00 41 33.3
comp=Z,24nm,19.6s,baz=135,slow=38
BR131 Keskin Array S **36.58 283** P **P** **00 26 26.5 +2.0**
BR131 IAmb IAmb 00 26 27.4
comp=Z,3.4nm,1.1s
BR131 Keskin Array S **36.58 283** P **P** **00 26 26.5 +2.0**
BR131 pmax pmax
comp=Z,3.0nm,1.1s
BRTR Keskin Array B **36.58 283** P **P** **00 26 26.7 +2.1**
BRTR Keskin Array B **36.58 283***ce*P **P** **00 26 27.1 +2.5**
BRTR pmax pmax
comp=Z,2.0nm,0.5s
BRTR Keskin Array B **36.58 283** P **P** **00 26 26.5 +2.0**
comp=Z,2.1nm,0.8s,baz=103,slow=8.3,SNR=18
comp=Z,2.1nm,0.8s
AKASG Malin Array Be **37.08 302***ce*P **P** **00 26 30.3 +1.8**
AKASG Malin Array Be **37.08 302** P **P** **00 26 28.9 +0.4**
comp=Z,0.3nm,0.4s,baz=84,slow=12,SNR=4.4
comp=Z,0.3nm,0.4s
TIXI Tiksi **37.51 22** P **P** **00 26 32.4 +0.5**
TIXI IAmb IAmb 00 26 32.6
comp=Z,3.4nm,1.1s
TIXI Tiksi **37.51 22***ce*P **P** **00 26 31.1 -0.8**
TIXI pmax pmax
comp=Z,4.0nm,1.3s
MMAI Mount Meron Ar **37.93 272** P **P** **00 26 37.7 +1.7**
comp=Z,1.4nm,0.8s,baz=73,slow=11,SNR=1.9
comp=Z,1.4nm,0.8s
FINES FINESS Array B **38.56 320** P **P** **00 26 41.0 +0.2**
FINES FINESS Array B **38.56 320** P **P** **00 26 41.3 +0.4**
comp=Z,0.6nm,0.7s,baz=72,slow=14,SNR=1.6
comp=Z,0.6nm,0.7s
ARCES ARCESS Array B **40.04 333** P **P** **00 26 53.7 +0.6**
ARCES IAmb IAmb 00 27 13.3
comp=Z,14nm,1.4s
ARCES ARCESS Array B **40.04 333** P **P** **00 26 53.8 +0.6**
comp=Z,6.5nm,1.1s,baz=94,slow=7.7,SNR=13
comp=Z,6.5nm,1.1s
BURAR Bucovina Array **40.23 298** P **P** **00 26 55.9 +0.8**
BUR08 Bucovina Ar. S **40.23 298** P **P** **00 26 56.2 +1.1**
BUR08 IAmb IAmb 00 27 07.2
comp=Z,2.3nm,1.2s
MLR Muntele Rosu **40.28 295** P **P** **00 26 57.3 +1.7**

MLR					IAmb	IAmb	00 27 08.5	
	comp=Z,4.2nm,1.1s							
MLR	**Muntele Rosu**	**40.28**	**295**	P	**P**	**P**	**00 26 57.3**	**+1.7**
MLR					pmax	pmax		
	comp=Z,4.0nm,1.1s							
CRVS	**Cervenica-Dubn**	**42.36**	**301**	*e*P	**P**		**00 27 15.0**	**+2.5**
CRVS	**Cervenica-Dubn**	**42.36**	**301**	*e*P	**P**		**00 27 15.0**	**+2.5**
HFS	**Hagfors**	**44.67**	**318**	P	**P**		**00 27 31.9**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=97,slow=7.8,SNR=7.5							
	comp=Z,1.4nm,0.8s							
SRO	**Srobarova**	**44.67**	**300**	*e*P	**P**		**00 27 32.9**	**+1.8**
SRO	**Srobarova**	**44.67**	**300**	*e*P	**P**		**00 27 32.9**	**+1.8**
IDI	**Anoyia**	**44.70**	**281**	P	**P**		**00 27 32.3**	**+0.6**
AGG	**Agios Georgios**	**44.98**	**287**	P	**P**		**00 27 34.3**	**+0.5**
AGG					IAmb	IAmb	00 27 53.6	
	comp=Z,2.3nm,1.0s							
AGG	**Agios Georgios**	**44.98**	**287**	P	**P**		**00 27 34.3**	**+0.5**
AGG					pmax	pmax		
	comp=Z,2.0nm,1.0s							
NC405	**NORSAR Array S**	**45.49**	**320**	P	**P**		**00 27 37.7**	**+0.2**
PUK	**Puka**	**45.53**	**292**	P	**P**		**00 27 39.5**	**+1.3**
PUK					IAmb	IAmb	00 27 42.6	
	comp=Z,5.7nm,1.1s							
NB2	**NORSAR Subarra**	**45.74**	**320**	P	**P**		**00 27 39.8**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=79,slow=7.9							
NOA	**NORSAR Array B**	**45.74**	**320**	P	**P**		**00 27 39.6**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=81,slow=8.0,SNR=4.1							
	comp=Z,0.6nm,0.6s							
GERES	**GERESS Array B**	**47.28**	**303**	P	**P**		**00 27 52.7**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=74,slow=11,SNR=2.2							
	comp=Z,0.3nm,0.6s							
WTTA	**Wattenberg**	**49.13**	**302**	*i* P	**P**		**00 28 07.4**	**+1.2**
	comp=Z,0.7nm,0.3s							
SQTA	**Sankt Quirin**	**49.41**	**302**	*e*P	**P**		**00 28 09.2**	**+0.8**
	comp=Z,1.1nm,0.4s							
MOTA	**Moosalm**	**49.43**	**302**	*e*P	**P**		**00 28 08.7**	**+0.2**
	comp=Z,0.6nm,0.4s							
RETA	**Reutte**	**49.60**	**302**	*e*P	**P**		**00 28 10.6**	**+0.9**
	comp=Z,0.3nm,0.2s							
PETK	**Petropavlovsk-**	**49.89**	**50**	P	**P**		**00 28 11.3**	**-0.4**
PETK	**Petropavlovsk-**	**49.89**	**50**	P	**P**		**00 28 11.3**	**-0.4**
TUE	**Stuetta**	**50.88**	**302**	P	**P**		**00 28 20.1**	**+0.6**
TUE					IAmb	IAmb	00 28 25.5	
	comp=Z,2.6nm,0.9s							
C16K	**Lisburne Hills**	**59.26**	**24**	P	**P**		**00 29 19.5**	**0.0**
C16K					IAmb	IAmb	00 29 20.4	
	comp=Z,2.7nm,1.0s							
ESDC	**Sonseca Array**	**62.66**	**300**	P	**P**		**00 29 43.6**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=56,slow=6.1,SNR=5.3							
	comp=Z,0.8nm,0.7s							
E24K	**Your Creek**	**63.98**	**19**	P	**P**		**00 29 51.0**	**-0.5**
IMAR	**Indian Mountai**	**64.17**	**22**	P	**P**		**00 29 52.6**	**0.0**
ILAR	**Eielson Array**	**66.96**	**21**	P	**P**		**00 30 10.3**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=322,slow=4.5,SNR=17							
	comp=Z,1.1nm,0.7s							
TOA0	**Torodi Ar. Sit**	**74.45**	**274**	P	**P**		**00 30 57.6**	**+0.6**
TOA0					IAmb	IAmb	00 31 07.1	
	comp=Z,4.9nm,1.4s							
TORD	**Torodi Ar. Bea**	**74.45**	**274**	P	**P**		**00 30 57.5**	**+0.5**
	comp=Z,2.5nm,0.5s,baz=41,slow=5.6,SNR=46							
	comp=Z,2.5nm,0.5s							
YKA	**Yellowknife Ar**	**75.13**	**8**	P	**P**		**00 31 00.1**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=343,slow=5.7,SNR=22							
	comp=Z,1.1nm,0.8s							
WRA	**Warramunga Arr**	**78.00**	**131**	P	**P**		**00 31 18.4**	**+1.4**
	comp=Z,1.6nm,0.6s,baz=330,slow=5.4,SNR=4.2							
	comp=Z,1.6nm,0.6s							
ASAR	**Alice Springs**	**80.73**	**133**	P	**P**		**00 31 33.1**	**+1.3**
	comp=Z,1.1nm,0.5s,baz=327,slow=5.8,SNR=4.3							
	comp=Z,1.1nm,0.5s							
DBIC	**Dimbokro**	**83.54**	**273**	P	**P**		**00 31 46.9**	**0.0**
DBIC	**Dimbokro**	**83.54**	**273**	P	**P**		**00 31 46.9**	**0.0**
DBIC					pmax	pmax		
	comp=Z,9.0nm,1.2s							
PFO	**Pinyon Flats O**	**102.95**	**16**	*i* P	**Pdif**		**00 33 17.7**	**+0.6**

*IDC **11** 00:25:29.4±0.8,6˚.18S×143˚.32E, h0km, mb4.2/9, mbtmp4.3/12, ML2.0/1, MS3.2/6, Error ellipse: s-maj=29.5km s-min=17.7km az=79.0*
*NEIC **11** 00:25:30.8±1.9,6˚.2S±0˚.1×143˚.00E±0˚.06, h10km±1km, mb4.3/15, Error ellipse: s-maj=20.0km s-min=3.3km az=28.0*

ISC 11 00:25:31.0±0.5,6˚.39S±0˚.06×142˚.98E±0˚.07, h10km, n55, σ1§99/55, mb4.4/15, MS3.3/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.11**	**126**	Pn	**Pn**	**00 26 46.6**	**-1.1**
PMG				Sn	**Sn**	**00 27 46.9**	**+0.1**
PMG	**Port Moresby**	**5.11**	**126**	Pn	**Pn**	**00 26 45.1**	**-2.6**
	4.3nm,0.3s,baz=323,slow=18,SNR=3.1						
PMG				Sn	**Sn**	**00 27 46.5**	**-0.2**
	4.8nm,0.3s,baz=246,slow=22,SNR=7.0						
	11nm,0.3s						
COEN	**Coen**	**7.52**	**179**	Pn	**Pn**	**00 27 22.3**	**+1.5**
COEN	**Coen**	**7.52**	**179**	P	**Pg**	**00 27 54.3**	**-0.8**
FAKI	**Fak Fak**	**11.24**	**287**	Pn	**Pn**	**00 28 09.4**	**-2.4**
SAUI	**Saumlaki**	**11.70**	**262**	Pn	**Pn**	**00 28 17.9**	**-0.3**
MTN	**Manton Dam**	**13.32**	**240**	Pn	**Pn**	**00 28 38.4**	**-2.0**
CTA	**Charters Tower**	**13.98**	**167**	LR	LR	00 33 58.6	
	comp=Z,70nm,18.1s,baz=265,slow=36						
QIS	**Mount Isa**	**14.46**	**193**	P	**P**	**00 29 05.3**	**+2.6**
WR0	**Warramunga Arr**	**15.79**	**211**		**Pn**	**00 29 12.4**	**-1.2**
WR0					IAmb	IAmb	00 29 21.8	
	comp=Z,19nm,1.0s							
WRA	**Warramunga Arr**	**15.88**	**211**		**Pn**	**00 29 12.6**	**-2.1**
WRA	**Warramunga Arr**	**15.88**	**211**	Pn	**Pn**	**00 29 13.3**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=20,slow=13,SNR=26						
WRA				Sn	**Sn**	**00 32 04.8**	**-6.1**
	comp=Z,0.2nm,0.3s,baz=29,slow=22,SNR=3.7						
WRA				Lg	Lg	00 33 59.4	
	comp=Z,0.2nm,0.3s,baz=34,slow=29,SNR=6.7						
KNRA	**Kununurra**	**16.72**	**235**	Pn	**Pn**	**00 29 24.0**	**-1.6**
KNRA					IAmb	IAmb	00 29 31.9	
	comp=Z,19nm,0.7s							
KNRA	**Kununurra**	**16.72**	**235**	P	**Pn**	**00 29 25.9**	**+0.4**
SOEI	**Soe**	**18.83**	**259**		**P**	**00 29 50.5**	**-0.8**
SOEI					IAmb	IAmb	00 30 13.8	
	comp=Z,40nm,1.2s							
AS01	**Alice Springs**	**19.25**	**206**	P	**Pn**	**00 29 59.2**	**+2.5**
	comp=Z,31nm,1.0s							
AS31	**Alice Springs**	**19.27**	**206**		**P**	**00 29 57.5**	**+1.6**
AS31					IAmb	IAmb	00 30 02.5	
	comp=Z,7.4nm,1.0s							
ASAR	**Alice Springs**	**19.27**	**206**		**Pn**	**00 29 58.4**	**+1.4**
ASAR	**Alice Springs**	**19.27**	**206**	P	**Pn**	**00 29 58.6**	**+1.6**
	comp=Z,18nm,0.8s,baz=34,slow=9.4,SNR=106						
ASAR				S	**Sn**	**00 33 29.7**	**-3.5**
	comp=Z,0.9nm,0.8s,baz=21,slow=26,SNR=2.2						
ASAR				Lg	Lg	00 35 54.2	
	comp=Z,0.1nm,0.3s,baz=20,slow=31,SNR=4.5						
ASAR				LR	LR	00 37 53.9	
	comp=Z,188nm,21.3s,baz=12,slow=38						
BATI	**Baumata**	**19.49**	**257**	P	**Pn**	**00 30 03.0**	**+3.3**
	comp=Z,11nm,0.6s,baz=124,slow=11,SNR=2.4						
FITZ	**Fitzroy Crossi**	**20.53**	**234**	P	**P**	**00 30 09.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**20.53**	**234**	P	Pn	00 30 11.9	0.0
OOD	**Oodnadatta**	**22.39**	**197**	P	**P**	**00 30 33.5**	**+3.9**
WRKA	**Warakurna**	**23.27**	**216**	P	**P**	**00 30 41.5**	**+2.5**
TOLI2	**Tolitoli**	**23.38**	**288**	P	**P**	**00 30 37.8**	**-2.3**
TOLI2					IAmb	IAmb	00 30 43.8	
	comp=Z,12nm,0.9s							
MULG	**Mulgathing**	**25.21**	**198**	P	**P**	**00 31 02.8**	**+5.8**
STKA	**Stephens Creek**	**25.39**	**183**	P	**P**	**00 30 58.6**	**0.0**
STKA	**Stephens Creek**	**25.39**	**183**	P	**P**	**00 31 01.9**	**+3.3**
	comp=Z,1.8nm,0.7s,baz=32,slow=9.7,SNR=3.2						
STKA				LR	LR	00 41 25.0	
	comp=Z,84nm,18.5s,baz=24,slow=37						
	comp=Z,1.8nm,0.7s						
PSA00	**Pilbara Seismi**	**26.99**	**234**	P	**P**	**00 31 13.4**	**+0.1**
PSA00					IAmb	IAmb	00 31 22.3	
	comp=Z,18nm,1.2s							
NWAO	**Narrogin (SRO)**	**35.64**	**219**	LR	LR	00 46 46.9	
	comp=Z,53nm,19.3s,baz=84,slow=36							
TUWZ	**Tuamarina**	**44.46**	**146**	P	**P**	**00 33 42.5**	**+0.1**
KSRS	**Korea Array**	**45.83**	**343**	P	**P**	**00 33 52.8**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=164,slow=10,SNR=3.4						
KSRS				LR	LR	00 50 38.1	
	comp=Z,9.5nm,21.9s,baz=340,slow=33						
	comp=Z,1.0nm,0.7s						
PZH	**PanZhiHua**	**51.64**	**311**	P	**P**	**00 34 40.0**	**+1.7**
PZH					pmax	pmax		
	comp=Z,10.0nm,0.6s							
PZH					pmax	pmax		
	comp=Z,130nm,4.5s							
HHC	**Hu-ho-hao-te**	**55.15**	**331**	*e*P	**P**	**00 35 04.0**	**+0.1**
HHC					pmax	pmax		
	comp=Z,10.0nm,0.7s							
HHC					pmax	pmax		
	comp=Z,47nm,4.7s							
SONM	**Songino Array**	**62.87**	**333**	LR	LR	01 04 19.2		
	comp=Z,17nm,18.8s,baz=151,slow=37							
WMQ	**Urumqi**	**70.53**	**321**	*e*P	**P**	**00 36 47.3**	**+1.0**	
WMQ					LR	LR		
	comp=N,540nm,23.9s							
WMQ					LR	LR		
	comp=E,440nm,23.8s							
MK31	**Makanchi Array**	**75.29**	**322**	P	**P**	**00 37 13.8**	**-0.6**	
MK31					IAmb	IAmb	00 37 17.1	
	comp=Z,1.7nm,0.8s							
MKAR	**Makanchi Array**	**75.29**	**322**		**P**	**00 37 13.7**	**-0.7**	
MKAR	**Makanchi Array**	**75.29**	**322**	P	**P**	**00 37 15.0**	**+0.6**	
	comp=Z,2.6nm,0.7s,baz=97,slow=7.6,SNR=26							
	comp=Z,2.6nm,0.7s							
KSH	**Kashi**	**76.69**	**313**	P	**P**	**00 37 26.0**	**+3.3**	
ZALV	**Zalesovo Beam**	**77.25**	**329**	P	**P**	**00 37 23.6**	**-1.7**	
ZALV	**Zalesovo Beam**	**77.25**	**329**	P	**P**	**00 37 24.8**	**-0.6**	
	comp=Z,0.7nm,0.6s,baz=108,slow=4.8,SNR=5.6							
	comp=Z,0.7nm,0.6s							
KURK	**Kurchatov**	**79.16**	**324**	P	**P**	**00 37 35.4**	**-0.6**	
KURK					IAmb	IAmb	00 37 37.1	
	comp=Z,2.9nm,0.8s							
KURBB	**Kurchatov Arra**	**79.17**	**324**	P	**P**	**00 37 36.0**	**-0.1**	
	comp=Z,1.8nm,0.8s,baz=117,slow=4.7,SNR=16							
	comp=Z,1.8nm,0.8s							
CHGR	**Chuyangaron**	**81.49**	**311**	P	**P**	**00 37 48.0**	**-1.0**	
QSPA	**South Pole Qui**	**83.58**	**180**	P	**P**	**00 37 59.4**	**0.0**	
QSPA					IAmb	IAmb	00 37 59.5	
	comp=Z,4.0nm,1.2s							
QSPA	**South Pole Qui**	**83.58**	**180**	P	**P**	**00 37 59.4**	**0.0**	
	comp=Z,1.0nm,0.5s,baz=298,slow=1.6,SNR=2.5							
	comp=Z,1.0nm,0.5s							
NRIK	**Noril'sk**	**84.44**	**343**	P	**P**	**00 38 03.7**	**+0.2**	
	comp=Z,1.4nm,0.4s,baz=118,slow=5.6,SNR=7.9							
	comp=Z,1.4nm,0.4s							
BVAR	**Borovoye Array**	**84.75**	**325**	P	**P**	**00 38 06.0**	**+0.6**	
	comp=Z,9.2nm,0.8s,baz=113,slow=6.4,SNR=54							
	comp=Z,9.2nm,0.8s							
D19K	**Kuna River**	**85.04**	**18**	P	**P**	**00 38 06.5**	**0.0**	
IMAR	**Indian Mountai**	**85.29**	**22**	P	**P**	**00 38 07.3**	**-0.5**	
MLY	**Manley**	**86.01**	**23**	P	**P**	**00 38 11.2**	**-0.3**	
ILAR	**Eielson Array**	**87.43**	**24**	P	**P**	**00 38 16.9**	**-1.5**	
	comp=Z,1.1nm,0.8s,baz=256,slow=3.9,SNR=9.7							
	comp=Z,1.1nm,0.8s							
TORD	**Torodi Ar. Bea**	**141.30**	**283**	PKP	**PKPdf**	**00 45 02.7**	**-0.5**	
	comp=Z,0.2nm,0.8s,baz=88,slow=3.3,SNR=1.2							
DBIC	**Dimbokro**	**148.05**	**272**	PKPbc	**PKPbc**	**00 45 17.7**	**-0.3**	
	comp=Z,7.2nm,0.9s,baz=101,slow=2.9,SNR=4.7							

*UPP **11** 00:30:29.9±0.0,67˚.83N×20˚.21E, h0km, ML1.8, Suspected explosion*
*IDC **11** 00:30:31.0±1.2,67˚.85N×20˚.69E, h0km, mbtmp2.8/3, ML1.8/3, Error ellipse: s-maj=18.2km s-min=7.0km az=120.0*
*HEL **11** 00:30:30.0±0.2,67˚.81N×20˚.17E, h0km, ML1.7, Explosion*

ISC 11 00:30:30.0±0.8,67˚.82N±0˚.02×20˚.21E±0˚.03, h0km, n32, σ1§19/51, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**20**	P	**Pg**	**00 30 32.6**	**-0.1**
KUA				S	**Sg**	**00 30 34.5**	**0.0**
RATU	**Laukkuluspa**	**0.23**	**271**	P	**Pg**	**00 30 34.5**	**0.0**
RATU				S	**Sg**	**00 30 37.8**	**+0.2**
KOVU	**Salmi**	**0.40**	**357**	P	**Pg**	**00 30 37.5**	**-0.3**
LANU	**Lannavaara**	**0.71**	**71**	P	**Pg**	**00 30 43.2**	**-0.4**
LANU				S	**Sg**	**00 30 52.7**	**-0.1**
LANU	**Lannavaara**	**0.71**	**71**	PG	**Pg**	**00 30 42.9**	**-0.7**
LANU				SG	**Sg**	**00 30 52.7**	**-0.1**
DUNU	**Dundret**	**0.72**	**169**	P	**Pg**	**00 30 43.5**	**-0.3**
DUNU				S	**Sg**	**00 30 53.2**	**+0.2**
MASU	**Masugnsbyn**	**0.78**	**117**	P	**Pg**	**00 30 44.6**	**-0.3**
SALU	**Saltoluokta**	**0.79**	**237**	P	**Pg**	**00 30 44.8**	**-0.3**
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	**Pg**	**00 30 52.6**	**-0.6**
KIF	**Kilpisjarvi**	**1.21**	**10**	PG	**Pg**	**00 30 53.0**	**-0.1**
KIF				MSG		00 31 08.1	
	comp=Z,11nm,0.2s						
KIF				SG	**Sg**	**00 31 08.7**	**-0.1**
PAJU	**Pajala**	**1.38**	**124**	P	**Pg**	**00 30 55.2**	**-1.2**
PAJU	**Pajala**	**1.38**	**124**	PG	**Pg**	**00 30 54.9**	**-1.4**
	baz=303						
PAJU				SG	**Sg**	**00 31 13.9**	**-0.3**
HEF	**Hetta**	**1.42**	**64**	*e*P	**Pn**	**00 30 55.8**	**-1.3**
HEF	**Hetta**	**1.42**	**64**	PG	**Pn**	**00 30 55.8**	**-1.3**
HEF				MSG		00 31 13.3	
	comp=Z,4.5nm,0.2s						
HEF				SB	**Sg**	**00 31 14.7**	**-0.9**
KTK1	**Kautokeino**	**1.64**	**42**	PG	**Pn**	**00 30 59.6**	**-0.5**
KTK1				SN	**Sn**	**00 31 22.1**	**+0.3**
TRO	**Tromso**	**1.88**	**346**	PG	**Pn**	**00 31 03.7**	**+0.3**
TRO				SG	**Sn**	**00 31 28.5**	**+0.8**
KALU	**Kalix**	**2.33**	**146**	PN	**Pn**	**00 31 10.3**	**+0.8**
	baz=332						
KALU				SG	**Sb**	**00 31 41.7**	**-0.4**
TOF	**Tornio**	**2.38**	**135**	PB	**Pn**	**00 31 11.7**	**+1.5**
	baz=319						
TOF				MSG		00 31 40.7	
	comp=Z,2.7nm,0.2s						
TOF				SG	**Sb**	**00 31 43.5**	**-0.1**
SGF	**Sodankyl**	**2.45**	**96**	PB	**Pn**	**00 31 12.0**	**+0.8**
SGF				SB	**Sn**	**00 31 43.8**	**+2.1**
RNF	**Rovaniemi**	**2.57**	**116**	PB	**Pn**	**00 31 14.4**	**+1.6**
RNF				SG	**Sb**	**00 31 48.6**	**-0.3**
ARCES	**ARCESS Array B**	**2.59**	**46**	Pn	**Pn**	**00 31 13.5**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=226,slow=14,SNR=23						
ARCES				Lg	Lg	00 31 46.8	
	comp=Z,1.1nm,0.3s,baz=228,slow=25,SNR=14						
	comp=Z,0.7nm,0.3s						
KMNF	**Kaamanen**	**2.83**	**59**	PN	**Pn**	**00 31 16.7**	**+0.2**
RAJF	**Raja-Jooseppi**	**3.10**	**74**	PN	**Pn**	**00 31 19.6**	**-0.6**
KEV	**Kevo**	**3.14**	**49**	PB	**Pb**	**00 31 24.6**	**-2.0**
RANF	**Ranua**	**3.16**	**122**	PB	**Pb**	**00 31 25.6**	**-1.5**
	baz=312						
RANF				SG	**Sb**	**00 32 08.4**	**+2.3**
BURU	**Burvik**	**3.29**	**171**	SB	**Sb**	**00 32 07.1**	**-2.5**
OUL	**Oulu**	**3.57**	**138**	PG	**Pb**	**00 31 35.7**	**+1.7**
OUL				SG	**Sb**	**00 32 19.1**	**+1.3**
VRF	**Varrio**	**3.57**	**87**	PG	**Pb**	**00 31 34.2**	**+0.2**
VRF				SG	**Sb**	**00 32 21.0**	**+3.1**
OLKF	**Oulanka, Finla**	**3.90**	**108**	PG	**Pb**	**00 31 40.4**	**+0.8**
KU6	**Riekki**	**4.21**	**111**	PG	**Pb**	**00 31 45.7**	**+0.7**
	baz=296						
FINES	**FINESS Array B**	**6.88**	**156**	Pn	**Pn**	**00 32 12.5**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=347,slow=14,SNR=4.4						
FINES				Sn	**Sn**	**00 33 29.4**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=350,slow=23,SNR=1.2						
FINES				Lg	Lg	00 34 06.2	
	comp=Z,0.3nm,0.3s,baz=347,slow=27,SNR=7.6						
	comp=Z,1.4nm,0.9s						
NOA	**NORSAR Array B**	**7.83**	**214**	Pn	**Pn**	**00 32 26.6**	**+1.5**
	baz=22,slow=11,SNR=1.1						
NOA				Sn	**Sn**	**00 33 51.5**	**-2.9**
	baz=43,slow=20,SNR=0.8						
NOA				Lg	Lg	00 34 38.8	
	baz=15,slow=18,SNR=4.8						
	comp=Z,0.7nm,1.0s						

*IDC **11** 00:52:30.6±0.8,5˚.18S×153˚.36E, h0km, mb3.9/12, mbtmp3.9/13, ML1.9/1, MS3.2/10, Error ellipse: s-maj=29.6km s-min=19.2km az=96.0*

ISC 11 00:52:35.6±1.2,5˚.2S±0˚.2×153˚.2E±0˚.2, h35km, n22, σ1§67/9, mb4.0/12, MS3.2/8, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.37**	**235**	Pn	**Pn**	**00 54 20.6**	**-0.1**
	1.1nm,0.3s,baz=310,slow=12,SNR=2.2						
PMG				Sn	**Sn**	**00 55 43.0**	**-0.2**
	0.8nm,0.3s,baz=32,slow=18,SNR=2.8						
PMG				LR	LR	00 57 16.8	
	comp=Z,134nm,21.5s,baz=100,slow=38						
	5.9nm,0.3s						
CTA	**Charters Tower**	**16.33**	**204**	LR	LR	01 01 33.9	
	comp=Z,118nm,20.8s,baz=88,slow=33						
DZM	**Mont Dzumac**	**21.13**	**144**	P	**P**	**00 57 17.0**	**-0.6**
	9.2nm,1.1s,baz=308,slow=19,SNR=1.1						
DZM				LR	LR	01 04 30.2	
	comp=Z,95nm,18.4s,baz=285,slow=34						
	9.2nm,1.1s						
WRA	**Warramunga Arr**	**23.55**	**230**	P	**P**	**00 57 42.2**	**-0.8**
	1.0nm,0.8s,baz=54,slow=9.8,SNR=5.8						
WRA				PcP	**PcP**	**01 01 30.3**	**+2.4**
	0.6nm,1.0s,baz=46,slow=3.6,SNR=1.8						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**26.20**	**223**	P	**P**	**00 58 07.8**	**+0.6**
	0.5nm,0.6s,baz=57,slow=9.0,SNR=5.5						
ASAR				PcP	**PcP**	**01 01 36.2**	**+2.5**
	0.3nm,0.5s,baz=64,slow=4.2,SNR=1.3						
	0.5nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**26.98**	**29**	T	T	01 26 44.9	
	baz=208						
H11S2	**WAKE ISLAND Hy**	**26.98**	**29**	T	T	01 26 44.3	
	baz=208						
H11S1	**WAKE ISLAND Hy**	**26.99**	**29**	T	T	01 26 47.3	
	baz=208						
STKA	**Stephens Creek**	**28.75**	**201**	LR	LR	01 09 35.4	
	comp=Z,56nm,20.3s,baz=26,slow=36						
JNU	**Nakatsue**	**43.57**	**332**	LR	LR	01 14 49.6	
	comp=Z,12nm,21.1s,baz=92,slow=31						
MJAR	**Matsushiro Arr**	**43.79**	**342**	LR	LR	01 18 06.7	
	comp=Z,27nm,18.2s,baz=181,slow=35						
PETK	**Petropavlovsk-**	**58.16**	**3**	P	P	01 02 26.0	+0.2
	1.6nm,0.7s,baz=170,slow=4.3,SNR=4.0						
PETK				LR	LR	01 23 09.1	
	comp=Z,24nm,22.0s,baz=160,slow=32						
	1.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**58.42**	**295**	P	P	01 02 30.2	+2.0
	0.7nm,0.3s,baz=122,slow=5.5,SNR=5.5						
CMAR				LR	LR	01 29 41.9	
	comp=Z,9.4nm,18.3s,baz=90,slow=38						
	0.7nm,0.3s						
MA2	**Magadan**	**64.55**	**359**	LR	LR	01 31 14.1	
	comp=Z,10nm,19.2s,baz=48,slow=36						
SONM	**Songino Array**	**66.85**	**328**	P	P	01 03 25.6	+1.4
	0.4nm,0.4s,baz=142,slow=6.0,SNR=4.7						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**80.87**	**319**	P	P	01 04 47.8	+1.6
	0.9nm,0.9s,baz=103,slow=5.8,SNR=6.5						
	0.9nm,0.9s						
ZALV	**Zalesovo Beam**	**81.68**	**326**	P	P	01 04 51.2	+1.0
	1.1nm,0.6s,baz=109,slow=6.3,SNR=6.3						
	1.1nm,0.6s						
ILAR	**Eielson Array**	**82.31**	**22**	P	**P**	**01 04 52.9**	**-0.4**
	0.4nm,0.7s,baz=241,slow=4.6,SNR=4.0						
ILAR				LR	LR	01 43 02.9	
	comp=Z,23nm,18.2s,baz=84,slow=37						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**84.34**	**322**	P	P	01 05 05.2	+1.1
	1.1nm,0.9s,baz=108,slow=4.1,SNR=11						
	1.1nm,0.9s						
QSPA	**South Pole Qui**	**84.82**	**180**	P	P	01 05 06.7	+0.3
	0.6nm,0.6s,baz=239,slow=1.3,SNR=11						
	0.6nm,0.6s						
BVAR	**Borovoye Array**	**89.78**	**323**	P	P	01 05 31.1	+0.7
	2.1nm,0.7s,baz=97,slow=5.2,SNR=13						
	2.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.83**	**288**	PKPbc	**PKiKP**	**01 12 24.3**	**-1.8**
	1.8nm,0.8s,baz=34,slow=2.9,SNR=12						

GUC 11 01:05:45.1±0.5,26˚.45S×72˚.18W, h20km, ML2.9, 1C-2D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AC01	**Pan de Azucar**	**1.45**	**78**	↑P	*e*P	**01 06 11.8**	**+0.4**
AC01					*e*S	01 06 26.4	-2.4
AC06	**Mina Casimiro**	**1.86**	**119**		*e*P	01 06 17.6	-0.9
AC06					*e*S	01 06 36.2	-2.7
AC06					IAML	01 06 37.5	
	comp=N,143nm,0.2s						
AC06	**Mina Casimiro**	**1.86**	**119**		*e*P	01 06 17.8	-0.7
AC06					*e*S	01 06 36.2	-2.7
AC06					IAML	01 06 37.5	
	comp=N,143nm,0.2s						
AC04	**Llanos de Chal**	**2.00**	**151**	↓	*e*P	01 06 20.1	-0.8
AC04					*e*S	01 06 40.6	-1.8
AC04					IAML	01 06 41.6	
	comp=E,110nm,0.2s						
AC04	**Llanos de Chal**	**2.00**	**151**	↓	*e*P	01 06 20.1	-0.8
AC04					*e*S	01 06 40.9	-1.4
AC04					IAML	01 06 41.7	
	comp=E,113nm,0.2s

UZB Lg Lg 01 23 13.2
5.0nm,0.2s
SATY Saty 3.72 224 *eP* **Pb 01 22 37.7 +0.7**
1.1nm,0.2s
SATY *eS* **Sb 01 23 24.4 +2.4**
9.0nm,0.3s
SATY Saty 3.72 224 Pg **Pb 01 22 37.7 +0.7**
1.1nm,0.2s
SATY Lg Lg 01 23 24.4
9.0nm,0.3s
CHKK Chushkaly 4.00 243 *eP* **Pb 01 22 41.9 0.0**
1.6nm,0.1s
CHKK *eS* **Sb 01 23 31.2 +1.0**
3.8nm,0.2s
CHKK Chushkaly 4.00 243 Pg **Pb 01 22 41.9 0.0**
1.6nm,0.1s
CHKK Lg Lg 01 23 31.2
3.8nm,0.2s
KTBS Karatobe 4.27 243 *eP* **Pb 01 22 46.4 0.0**
0.8nm,0.3s
KTBS *eS* **Sb 01 23 39.1 +1.3**
1.6nm,0.4s
KTBS Karatobe 4.27 243 Pg **Pb 01 22 46.4 0.0**
0.8nm,0.3s
KTBS Lg Lg 01 23 39.1
1.6nm,0.4s
KOTS Kotyrbulak 4.28 235 *eP* **Pb 01 22 48.1 +1.4**
1.1nm,0.4s
KOTS *eS* **Sb 01 23 42.1 +3.7**
3.5nm,0.5s
KOTS Kotyrbulak 4.28 235 Pg **Pb 01 22 48.1 +1.4**
1.1nm,0.4s
KOTS Lg Lg 01 23 42.1
3.5nm,0.5s
KURBB Kurchatov Arra 5.32 336 ⇓Lg Lg 01 24 17.5
4.4nm,0.7s,baz=154,slow=29

*VAO **11** 01:30:22.5±0.5, 7°.32S×76°.57W, h107km, mb4.3*
*NEIC **11** 01:30:27.6±1.8, 7°.545±0°.07×76°.16W±0°.08, h108km±20km, mb4.1/5, Error ellipse: s-maj=14.1km s-min=3.9km az=48.0*
*IDC **11** 01:30:28.3±0.5, 7°.62S×76°.23W, h129km±5km, mb3.6/13, mbtmp4.0/19, MS2.8/1, Error ellipse: s-maj=10.9km s-min=8.0km az=38.0*
ISC 11 01:30:28.3±0.4, **7°.56S**±0°.05×**76°.11W**±0°.06, **h129**km, **n69, σ1s56/77, mb3.8/13, Northern Peru**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
ATAH	**Atahualpa**	**2.30**	**280**	P		**Pn**	**01**	**31**	**05.7**	**-0.6**
	417nm,0.3s,baz=63,slow=3.1,SNR=1819									
ATAH				S		**Sn**	**01**	**31**	**33.4**	**-2.2**
	1μm,0.4s,baz=178,slow=19,SNR=27									
ATAH				LR		LR	01	31	50.3	
	comp=Z,212nm,18.7s,baz=351,slow=37									
CZSB	**Cruzeiro do Su**	**3.38**	**93**	Pn		**Pn**	**01**	**31**	**19.9**	**0.0**
CZSB	**Cruzeiro do Su**	**3.38**	**93**	*eP*		**Pn**	**01**	**31**	**20.2**	**+0.3**
NNA	**Nana**	**4.46**	**189**			**Pn**	**01**	**31**	**33.2**	**-1.0**
NNA	**Nana**	**4.46**	**189**	P		**Pn**	**01**	**31**	**33.5**	**-0.8**
	11nm,0.4s,baz=338,slow=11,SNR=15									
NNA				S		**Sn**	**01**	**32**	**23.0**	**-2.5**
	63nm,0.3s,baz=275,slow=21,SNR=9.6									
MCRA	**Macar, Loja**	**4.96**	**309**	Pn		**Pn**	**01**	**31**	**36.9**	**-4.1**
ARNL	**Arenillas**	**5.60**	**315**			**Pn**	**01**	**31**	**45.7**	**-3.8**
COHC	**Cochancay**	**5.95**	**328**	Pn		**Pn**	**01**	**31**	**52.5**	**-1.6**
CHSH	**Refugio Sur-Vo**	**6.62**	**335**			**Pn**	**01**	**32**	**03.5**	**-0.3**
TBTG	**Tabatinga, AM**	**7.02**	**62**			**Pn**	**01**	**32**	**07.6**	**-1.0**
TBTG	**Tabatinga, AM**	**7.02**	**62**	*eP*		**Pn**	**01**	**32**	**08.1**	**-0.5**
SLOR	**San Lorenzo -**	**7.19**	**341**			**Pn**	**01**	**32**	**09.6**	**-1.7**
SALI	**Salinas**	**7.22**	**317**			**Pn**	**01**	**32**	**09.1**	**-2.2**
OTAV	**Otavalo**	**8.09**	**343**	Pn		**Pn**	**01**	**32**	**22.5**	**-0.8**
OTAV	**Otavalo**	**8.09**	**343**	*eP*		Pn	01	32	12.6	-11
ETMB	**Extrema**	**10.04**	**104**	Pn		**Pn**	**01**	**32**	**46.1**	**-3.1**
LPAZ	**La Paz**	**11.67**	**139**	Pn		**Pn**	**01**	**33**	**14.1**	**+2.5**
LPAZ	**La Paz**	**11.67**	**139**	P		**Pn**	**01**	**33**	**12.5**	**+1.0**
	0.4nm,0.4s,baz=27,slow=9.7,SNR=1.7									
LPAZ	**La Paz**	**11.67**	**139**	*eP*		**Pn**	**01**	**33**	**11.9**	**+0.4**
TEFE	**Tefe**	**12.11**	**71**	*eP*		**Pn**	**01**	**33**	**14.5**	**-2.2**
ROSC	**El Rosal**	**12.44**	**8**	P		**Pn**	**01**	**33**	**23.2**	**+1.7**
	3.9nm,0.5s,baz=124,slow=18,SNR=1.0									
SAML	**Samuel**	**12.87**	**97**	Pn		**Pn**	**01**	**33**	**25.2**	**-1.4**
PB11	**IPOC Station P**	**13.65**	**153**	Pn		**Pn**	**01**	**33**	**37.9**	**+1.1**
VILB	**Vilhena**	**16.55**	**110**	*eP*		**Pn**	**01**	**34**	**14.2**	**+1.2**
SIV	**San Ignacio**	**16.93**	**121**	P		**P**	**01**	**34**	**16.6**	**-0.9**
	2.7nm,0.6s,baz=300,slow=11,SNR=16									
SIV				S		**Sn**	**01**	**37**	**19.2**	**-7.3**
	3.3nm,0.9s,baz=37,slow=20,SNR=2.4									
SDV	**Santo Domingo**	**17.22**	**19**	P		**P**	**01**	**34**	**21.5**	**+0.7**
	2.5nm,0.4s,baz=236,slow=12,SNR=2.3									
BBSD	**Serra de San D**	**17.80**	**124**	*eP*		**Pn**	**01**	**34**	**30.7**	**+1.4**
BAUV	**El Baul**	**18.26**	**26**	P		**P**	**01**	**34**	**32.0**	**0.0**
PTLB	**Pontes e Lacer**	**18.38**	**117**	P		**P**	**01**	**34**	**34.4**	**+1.1**
PTLB				IAmb		IAmb	01	35	00.6	
	comp=Z,13nm,1.3s									
PTLB	**Pontes e Lacer**	**18.38**	**117**	*eP*		**P**	**01**	**34**	**34.5**	**+1.2**
BOAV	**Boa Vista**	**18.43**	**58**			**P**	**01**	**34**	**35.0**	**+1.0**
GO02	**Mina Guanaco**	**18.58**	**161**	P		**P**	**01**	**34**	**36.5**	**+0.6**
GO02				IAmb		IAmb	01	35	17.2	
	comp=Z,14nm,1.2s									
PDRB	**Porto dos Gac**	**19.53**	**103**	*eP*		**P**	**01**	**34**	**46.1**	**+0.2**
ITTB	**Itaituba**	**20.51**	**82**	*eP*		**P**	**01**	**34**	**57.4**	**+0.9**
NPGB	**Novo Progresso**	**20.59**	**90**	*eP*		**P**	**01**	**34**	**57.9**	**+0.5**
PCRV	**Puerto La Cruz**	**21.00**	**33**	P		**P**	**01**	**35**	**03.5**	**+1.9**
	comp=Z,14nm,0.7s,baz=188,slow=5.9,SNR=6.3									
	comp=Z,14nm,0.7s									
SALV	**Santo Antonio**	**21.63**	**114**	*eP*		**P**	**01**	**35**	**09.7**	**+1.3**
MALB	**Monte Alegre**	**22.49**	**76**	*eP*		**P**	**01**	**35**	**16.8**	**-0.5**
MURT	**Porto Murtinho**	**22.70**	**130**	*eP*		**P**	**01**	**35**	**19.1**	**-0.1**
BDQN	**Bodoquena, MS**	**22.70**	**126**	*eP*		**P**	**01**	**35**	**19.5**	**+0.2**
AQDB	**Aquidauana**	**23.56**	**125**	P		**P**	**01**	**35**	**28.2**	**+0.9**
AQDB				IAmb		IAmb	01	35	29.8	
	comp=Z,6.3nm,0.9s									
AQDB	**Aquidauana**	**23.56**	**125**	*eP*		**P**	**01**	**35**	**29.5**	**+2.2**
TICA	**Tres Isletas**	**23.97**	**143**	*eP*		**P**	**01**	**35**	**31.4**	**+0.5**
ANTJ	**Antonio Joao (**	**24.12**	**129**	*eP*		**P**	**01**	**35**	**33.0**	**+0.6**
SNDB	**Serra Nova Dou**	**24.84**	**102**	*eP*		**P**	**01**	**35**	**39.3**	**+0.4**
ARAG	**Araguaiana, MT**	**25.12**	**111**	*eP*		**P**	**01**	**35**	**43.5**	**+2.1**
AMBA	**Amambai (Brazi**	**25.41**	**129**	*eP*		**P**	**01**	**35**	**45.3**	**+1.2**
CPUP	**Villa Florida**	**25.84**	**138**	P		**P**	**01**	**35**	**48.4**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=309,slow=13,SNR=2.1									
CPUP				pP		**pP**	**01**	**36**	**14.4**	**-1.1**
	comp=Z,1.5nm,0.8s,baz=326,slow=12,SNR=2.3									
	comp=Z,1.1nm,0.6s									
SMTB	**Santa Maria do**	**28.26**	**95**	*eP*		**P**	**01**	**36**	**10.0**	**+0.3**
BDFB	**Brasilia**	**28.64**	**109**	P		**P**	**01**	**36**	**13.9**	**+0.8**
	comp=Z,2.4nm,0.7s,baz=282,slow=14,SNR=4.6									
BDFB				pP		**pP**	**01**	**36**	**42.5**	**+1.5**
	comp=Z,2.2nm,0.7s,baz=270,slow=13,SNR=2.6									
	comp=Z,2.4nm,0.7s									
IPMB	**Ipameri, GO**	**29.07**	**114**	*eP*		**P**	**01**	**36**	**17.4**	**+0.5**
UNIS	**Unistalda (Bra**	**29.17**	**140**	*eP*		**P**	**01**	**36**	**17.1**	**-0.4**
BSCB	**Bom Sucesso**	**33.09**	**117**	*eP*		**P**	**01**	**36**	**53.6**	**+1.4**
PARB	**Paraibuna**	**33.20**	**122**	*eP*		**P**	**01**	**36**	**53.6**	**+0.4**
PLCA	**Paso Flores**	**33.41**	**172**	P		**P**	**01**	**36**	**55.4**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=351,slow=9.7,SNR=4.9									
	comp=Z,1.1nm,0.7s									
NBLA	**Lagarto - SE**	**37.96**	**98**	*eP*		**P**	**01**	**37**	**33.1**	**-0.7**
NBAN	**Anadia - AL**	**39.43**	**96**	*eP*		**P**	**01**	**37**	**46.0**	**-0.1**
TXAR	**Lajitas Array**	**45.27**	**325**	P		**P**	**01**	**38**	**33.3**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=152,slow=8.3,SNR=4.9									
TXAR				pP		**pP**	**01**	**39**	**03.3**	**+0.6**
	comp=Z,0.3nm,1.0s,baz=161,slow=5.7,SNR=1.8									
	comp=Z,0.3nm,0.8s									
PDAR	**Pinedale Array**	**58.61**	**332**	P		**P**	**01**	**40**	**11.9**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=129,slow=7.1,SNR=2.0									
PDAR				pP		**pP**	**01**	**40**	**44.1**	**+1.1**
	comp=Z,0.1nm,0.4s,baz=134,slow=7.7,SNR=2.0									
	comp=Z,0.1nm,0.4s									
DBIC	**Dimbokro**	**72.46**	**81**	P		**P**	**01**	**41**	**41.6**	**+0.2**
	comp=Z,3.1nm,0.6s,baz=250,slow=4.3,SNR=6.1									
	comp=Z,3.1nm,0.6s									
YKA	**Yellowknife Ar**	**75.84**	**343**	P		**P**	**01**	**41**	**59.2**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=135,slow=6.5,SNR=5.9									
	comp=Z,0.3nm,0.7s									
SNAA	**Sanae**	**77.63**	**162**	P		**P**	**01**	**42**	**10.7**	**+0.6**
	comp=Z,4.1nm,0.8s,baz=294,slow=11,SNR=5.6									
	comp=Z,4.1nm,0.8s									
TORD	**Torodi Ar. Bea**	**79.95**	**75**	P		**P**	**01**	**42**	**23.6**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=286,slow=5.5,SNR=8.6									
TORD				pP		**pP**	**01**	**42**	**56.2**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=277,slow=3.8,SNR=2.6									
	comp=Z,1.2nm,0.7s									
ESDC	**Sonseca Array**	**81.29**	**48**	P		**P**	**01**	**42**	**31.3**	**+0.9**
	comp=Z,1.4nm,1.2s,baz=277,slow=6.3,SNR=1.9									
	comp=Z,1.4nm,1.2s									
QSPA	**South Pole Qui**	**82.55**	**180**	P		**P**	**01**	**42**	**37.6**	**+1.0**
	comp=Z,1.4nm,0.6s,baz=213,slow=2.4,SNR=9.2									
	comp=Z,1.4nm,0.6s									
ILAR	**Eielson Array**	**88.75**	**336**	P		**P**	**01**	**43**	**07.0**	**0.0**
	comp=Z,0.4nm,0.8s,baz=110,slow=3.9,SNR=1.8									
ILAR				pP		**pP**	**01**	**43**	**41.4**	**+1.1**
	comp=Z,0.3nm,0.9s,baz=98,slow=2.0,SNR=2.2									
	comp=Z,0.4nm,0.8s									
ZALV	**Zalesovo Beam**	**131.24**	**15**	PKP		**PKPdf**	**01**	**49**	**25.4**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=252,slow=2.3,SNR=4.8									
KURBB	**Kurchatov Arra**	**132.17**	**22**	PKP		**PKPdf**	**01**	**49**	**27.3**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=327,slow=2.8,SNR=2.3									
MKAR	**Makanchi Array**	**136.74**	**22**	PKP		**PKPdf**	**01**	**49**	**34.9**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=279,slow=3.5,SNR=5.1									

*CATAC **11** 01:46:17.3±0.3, 8°.54N×83°.26W, h3km±1km, ML3.2*
*UCR **11** 01:46:17.3±1.1, 8°.48N×83°.28W, h10km±2km, MW3.7*
*UPA **11** 01:46:18.2±1.0, 8°.56N×83°.18W, h3km±4km, MW3.4*
ISC 11 01:46:17.7±0.8, **8°.53N**±0°.03×**83°.26W**±0°.02, **h11**km±5km, **n49, σ0s79/72, 1C, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
JIME	**Puerto Jimenez**	**0.06**	**274**	*eP*		**Pg**	**01**	**46**	**19.3**	**-0.6**
JIME				*eS*		**Sg**	**01**	**46**	**21.6**	**0.0**
FITO	**Golfito**	**0.14**	**50**	*eP*		**Pg**	**01**	**46**	**21.8**	**+0.8**
FITO				*eS*		**Sg**	**01**	**46**	**25.0**	**+1.6**
PIRO	**Carate, Puerto**	**0.15**	**210**	*eP*		**Pg**	**01**	**46**	**20.1**	**-1.0**
PIRO	**Carate, Puerto**	**0.15**	**210**	*i* P		**Pg**	**01**	**46**	**20.2**	**-0.9**
PIRO				*i* S		**Sg**	**01**	**46**	**22.9**	**-0.6**
PIRO				IAML			01	46	27.8	
	comp=Z,20μm,1.0s									
EDAD	**Golfito**	**0.15**	**39**	*eP*		**Pg**	**01**	**46**	**21.1**	**-0.2**
CDITO	**Canoas**	**0.39**	**84**	*eP*		**Pg**	**01**	**46**	**25.2**	**-0.2**
CDITO	**Canoas**	**0.39**	**84**	*eP*		**Pg**	**01**	**46**	**25.5**	**0.0**
CDITO	**Canoas**	**0.39**	**84**	*i* P		**Pg**	**01**	**46**	**25.2**	**-0.2**
CDITO				*i* S		**Sg**	**01**	**46**	**29.9**	**-0.7**
CDITO				IAML			01	46	38.1	
	comp=Z,1μm,1.0s									
PLAN	**Los Planes de**	**0.44**	**288**	*i* P		**Pg**	**01**	**46**	**26.1**	**-0.2**
PLAN				*i* S		**Sg**	**01**	**46**	**32.1**	**0.0**
PLAN				IAML			01	46	38.8	
	comp=Z,3μm,1.0s									
EDPN	**Palmar Norte**	**0.47**	**336**	*eP*		**Pg**	**01**	**46**	**26.6**	**-0.3**
EDP2	**Potrero Grande**	**0.49**	**10**	*eP*		**Pb**	**01**	**46**	**27.7**	**-0.6**
PTPM	**Petroterminale**	**0.50**	**131**	*eP*		**Pb**	**01**	**46**	**28.6**	**+0.1**
PTPM				*eS*		**Sb**	**01**	**46**	**36.1**	**+0.3**
MLIR3	**Monte Lirio, C**	**0.50**	**59**	*eP*		**Pb**	**01**	**46**	**28.2**	**-0.4**
MLIR3				*eS*		**Sb**	**01**	**46**	**36.8**	**+0.7**
POTG	**Potrero Grande**	**0.54**	**15**	*eP*		**Pb**	**01**	**46**	**28.6**	**-0.6**
POTG	**Potrero Grande**	**0.54**	**15**	*i* P		**Pb**	**01**	**46**	**28.4**	**-0.8**
POTG				*i* S		**Sg**	**01**	**46**	**35.1**	**-0.2**
POTG				IAML			01	46	40.3	
	comp=Z,2μm,1.0s									
BRU2	**Volcan**	**0.62**	**65**	⇑*i* P		**Pg**	**01**	**46**	**29.8**	**-0.1**
BRU2				*eS*		**Sb**	**01**	**46**	**39.5**	**-0.1**
BRU2	**Volcan**	**0.62**	**65**	*eP*		**Pg**	**01**	**46**	**29.8**	**-0.1**
BRU2	**Volcan**	**0.62**	**65**	*i* P		**Pg**	**01**	**46**	**29.7**	**-0.1**
BRU2				*i* S		**Sg**	**01**	**46**	**37.2**	**-0.9**
BRU2				IAML			01	46	44.3	
	comp=Z,580nm,1.0s									
OCHAL	**Ojochal**	**0.68**	**326**	*i* P		**Pg**	**01**	**46**	**29.7**	**-1.2**
OCHAL				IAML			01	46	32.8	
	comp=Z,7.5nm,1.0s									
OCHAL				*i* S		**Sg**	**01**	**46**	**39.2**	**-0.6**
BC3P	**Paso Ancho**	**0.70**	**66**	*eP*		**Pg**	**01**	**46**	**31.2**	**-0.2**
DRK0	**Durika**	**0.72**	**1**	*eP*		**Pg**	**01**	**46**	**31.2**	**-0.6**
BCO2	**Palmira**	**0.75**	**76**	*eP*		**Pg**	**01**	**46**	**31.7**	**-0.5**
BCO2				*eS*		**Sb**	**01**	**46**	**43.1**	**-0.1**
DVD	**David**	**0.81**	**97**	*eS*		**Sb**	**01**	**46**	**44.6**	**-0.2**
LOCO3	**Loma Colorada,**	**0.84**	**98**	*eP*		**Pg**	**01**	**46**	**33.7**	**-0.4**
PEZE	**Perez Zeledon,**	**0.94**	**334**	*eP*		**Pg**	**01**	**46**	**35.0**	**-0.9**
CDM	**Cerro de Muert**	**1.13**	**334**	*eP*		**Pg**	**01**	**46**	**38.2**	**-1.3**
CDM	**Cerro de Muert**	**1.13**	**334**	*i* P		**Pg**	**01**	**46**	**38.2**	**-1.3**
CDM				*i* S		**Sg**	**01**	**46**	**53.9**	**-0.4**
CDM				IAML			01	47	01.1	
	comp=Z,230nm,1.0s									
CHGR2	**Aguacate**	**1.18**	**70**	*eP*		**Pg**	**01**	**46**	**38.4**	**-2.0**
CHGR2				*eS*		**Sg**	**01**	**46**	**54.2**	**-1.5**
ABE2	**San Pablo**	**1.40**	**326**	*eP*		**Pn**	**01**	**46**	**43.0**	**-0.5**
LCR2	**La Lucha 2**	**1.41**	**329**	*eP*		**Pn**	**01**	**46**	**42.5**	**-1.0**
LCR2	**La Lucha 2**	**1.41**	**329**	*i* P		**Pn**	**01**	**46**	**42.4**	**-1.1**
LCR2				*i* S		**Sg**	**01**	**47**	**02.0**	**-1.1**
LCR2				IAML			01	47	06.1	
	comp=Z,190nm,1.0s									
VTCV	**VTCV, Calle Va**	**1.51**	**342**	*eP*		**Pn**	**01**	**46**	**44.6**	**-0.4**
VTCV	**VTCV, Calle Va**	**1.51**	**342**	*i* P		**Pn**	**01**	**46**	**44.4**	**-0.6**
VTCV				*i* S		**Sn**	**01**	**47**	**05.2**	**+0.4**
VTCV				IAML			01	47	11.6	
	comp=Z,870nm,1.0s									
OCM	**Ochomogo**	**1.52**	**333**	*eP*		**Pn**	**01**	**46**	**44.5**	**-0.6**
OCM	**Ochomogo**	**1.52**	**333**	*i* P		**Pn**	**01**	**46**	**44.2**	**-0.8**
OCM				*i* S		**Sn**	**01**	**47**	**05.1**	**+0.2**
OCM				IAML			01	47	44.0	
	comp=Z,480nm,1.0s									
CVTV	**Tajo**	**1.54**	**342**	*eP*		**Pb**	**01**	**46**	**46.6**	**+0.1**
ICR3	**Volcano Irazu**	**1.54**	**339**	*eP*		**Pn**	**01**	**46**	**45.9**	**+0.4**
CVTQ	**Turrialba Volc**	**1.54**	**341**	*eP*		**Pn**	**01**	**46**	**46.2**	**+0.7**
VTLA	**Turrialba Volc**	**1.54**	**341**	*eP*		**Pb**	**01**	**46**	**46.4**	**-0.2**
BATAN	**Batan**	**1.56**	**356**	*eP*		**Pn**	**01**	**46**	**45.4**	**-0.1**
BATAN				*eS*		**Sb**	**01**	**47**	**06.8**	**+0.5**
BATAN	**Batan**	**1.56**	**356**	*eP*		**Pn**	**01**	**46**	**45.8**	**+0.4**
BATAN	**Batan**	**1.56**	**356**	*i* P		**Pn**	**01**	**46**	**45.3**	**-0.1**
BATAN				*i* S		**Sn**	**01**	**47**	**06.6**	**+1.0**
BATAN				IAML			01	47	13.7	
	comp=Z,480nm,1.0s									
JACO	**JACO, Garabito**	**1.78**	**309**	*eP*		**Pb**	**01**	**46**	**50.8**	**+0.5**
JACO	**JACO, Garabito**	**1.78**	**309**	*i* P		**Pn**	**01**	**46**	**49.5**	**+1.1**
JACO				IAML			01	46	51.3	
	comp=Z,89nm,1.0s									
JACO				*i* S		**Sn**	**01**	**47**	**12.3**	**+1.2**
CPMI	**Catarata Coope**	**2.06**	**328**	*i* P		**Pn**	**01**	**46**	**53.0**	**+0.5**
CPMI				*i* S		**Sn**	**01**	**47**	**19.4**	**+1.1**
CPMI				IAML			01	47	37.8	
	comp=Z,110nm,1.0s									
SOCE	**Pocosol**	**2.27**	**324**	*i* P		**Pn**	**01**	**46**	**55.7**	**+0.4**
SOCE				IAML			01	46	59.2	
	comp=Z,430nm,1.0s									
JTS	**Las Juntas de**	**2.42**	**316**	*eP*		**Pn**	**01**	**46**	**59.0**	**+1.7**
SAJU	**San Juanillo,**	**2.86**	**302**	*i* P		**Pn**	**01**	**47**	**03.9**	**+0.6**
SAJU				*i* S		**Sn**	**01**	**47**	**39.0**	**+1.3**
SAJU				IAML			01	49	10.8	
	comp=Z,32nm,1.0s									
HZTE	**Horizontes, Gu**	**3.16**	**313**	*i* P		**Pn**	**01**	**47**	**08.3**	**+0.8**
HZTE				*i* S		**Sn**	**01**	**47**	**46.6**	**+1.4**
HZTE				IAML			01	47	56.7	
	comp=Z,77nm,1.0s									

*IDC **11** 02:06:20.8±3.5, 8°.58S×116°.15E, h99km±26km, mb3.4/5, mbtmp3.9/6, Error ellipse: s-maj=45.5km s-min=14.6km az=46.0*
*DJA **11** 02:06:21.9±0.3, 9°.5S×116°.6E±°, h101km±5km, M4.3/15, mb4.3/7, mB5.0/2, MLv4.3/15, Mw(mB)4.4/2*
ISC 11 02:06:21.6±0.8, **8°.76S**±0°.10×**116°.03E**±0°.05, **h110**km±8km, **n28, σ1s20/37, mb3.9/4, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
TWSI	**Taliwang, Sumb**	**0.84**	**89**	P		**Pn**	**02**	**06**	**41.6**	**+0.4**
TWSI				S		**Sn**	**02**	**06**	**55.7**	**-0.3**
SRBI	**Singaraja**	**1.05**	**309**	P		**Pn**	**02**	**06**	**44.0**	**+0.7**
SRBI				S		**Sn**	**02**	**06**	**59.9**	**+0.2**
PLAI	**Plampang**	**1.73**	**92**	P		**Pn**	**02**	**06**	**52.8**	**+1.7**
PLAI	**Plampang**	**1.73**	**92**	P		**Pn**	**02**	**06**	**52.0**	**+0.9**
PLAI				S		**Sn**	**02**	**07**	**14.4**	**+0.7**
JAGI	**Jajag, Banyuwa**	**1.88**	**279**	P		**Pn**	**02**	**06**	**53.6**	**+0.5**
JAGI	**Jajag, Banyuwa**	**1.88**	**279**	P		**Pn**	**02**	**06**	**53.5**	**+0.5**
JAGI				S		**Sn**	**02**	**07**	**15.7**	**-1.4**
ABJI	**Asem Bagus**	**2.02**	**298**	P		**Pn**	**02**	**06**	**56.2**	**+1.4**
ABJI				S		**Sn**	**02**	**07**	**21.4**	**+1.2**
GMJI	**Gumukmas**	**2.60**	**280**	P		**Pn**	**02**	**07**	**03.1**	**+0.7**
GMJI				S		**Sn**	**02**	**07**	**33.2**	**-0.5**
BLJI	**Banyuglugur**	**2.61**	**292**	P		**Pn**	**02**	**07**	**04.0**	**+1.5**
BLJI				S		**Sn**	**02**	**07**	**33.5**	**-0.5**
GRJI	**Gresik**	**3.97**	**297**	P		**Pn**	**02**	**07**	**22.4**	**+1.9**
PWJI	**Pagerwojo**	**4.25**	**280**	P		**Pn**	**02**	**07**	**24.3**	**0.0**
BASI	**Baing, Sumba**	**4.71**	**108**	P		**Pn**	**02**	**07**	**29.6**	**-0.9**
UGM	**Wanagama**	**5.52**	**278**	P		**Pn**	**02**	**07**	**42.6**	**+1.2**
UGM	**Wanagama**	**5.52**	**278**	P		**Pn**	**02**	**07**	**42.0**	**+0.6**
	64nm,0.8s,0.4nm									
EDFI	**Ende, Flores**	**5.59**	**90**	P		**Pn**	**02**	**07**	**41.7**	**-0.9**
	28nm,0.7s,1μm0.2nm									
CMJI	**Cimerak**	**7.57**	**277**	P		**Pn**	**02**	**08**	**10.3**	**+1.1**
	24nm,0.8s,0.1nm									
BATI	**Baumata**	**7.66**	**101**	P		**Pn**	**02**	**08**	**08.9**	**-1.7**
	11nm,0.3s,baz=264,slow=9.2,SNR=2.0									
BATI				S		**Sn**	**02**	**09**	**33.5**	**-2.4**
	9.8nm,0.3s,baz=248,slow=14,SNR=2.1									
SOEI	**Soe**	**8.19**	**98**	P		Pn	02	08	23.3	+5.5
SOEI	**Soe**	**8.19**	**98**	P		**Pn**	**02**	**08**	**16.9**	**-0.9**
	13nm,1.0s									
BBJI	**Bungbulang**	**8.40**	**278**	P		**Pn**	**02**	**08**	**21.6**	**+1.0**
XMIS	**Christmas Isla**	**10.38**	**260**	P		**Pn**	**02**	**08**	**47.5**	**+0.1**
MBWA	**Marble Bar**	**12.84**	**164**	P		**Pn**	**02**	**09**	**19.4**	**-0.6**
PSA00	**Pilbara Seismi**	**13.26**	**164**	P		**Pn**	**02**	**09**	**26.9**	**+1.3**
WRA	**Warramunga Arr**	**20.91**	**124**	P		**P**	**02**	**10**	**55.8**	**+0.4**
	1.3nm,0.4s,baz=300,slow=12,SNR=29									
WRA				S		**S**	**02**	**14**	**43.4**	**+0.9**
	0.2nm,0.4s,baz=294,slow=21,SNR=5.6									
	1.3nm,0.4s									
ASAR	**Alice Springs**	**22.64**	**133**	P		**P**	**02**	**11**	**14.2**	**+0.7**
	2.3nm,0.4s,baz=308,slow=9.5,SNR=40									
ASAR				S		**S**	**02**	**15**	**16.4**	**+2.9**
	0.4nm,0.8s,baz=308,slow=21,SNR=2.5									
	2.3nm,0.4s									
STKA	**Stephens Creek**	**33.05**	**138**	P		**P**	**02**	**12**	**48.0**	**+1.3**
	1.4nm,0.7s,baz=300,slow=8.1,SNR=3.3									
	1.4nm,0.7s									
MJAR	**Matsushiro Arr**	**49.65**	**24**	P		**P**	**02**	**15**	**00.8**	**-1.3**
	1.2nm,0.7s,baz=190,slow=8.0,SNR=3.5									
	1.2nm,0.7s									
MKAR	**Makanchi Array**	**62.94**	**335**	P		**P**	**02**	**16**	**35.6**	**-0.8**
	0.1nm,0.3s,baz=139,slow=7.1,SNR=2.0									
	0.1nm,0.3s									

*IDC **11** 02:12:23.7±2.0, 55°.08N×166°.99E, h0km, mb3.4/3, mbtmp3.4/4, ML2.7/1, Error ellipse: s-maj=83.2km s-

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI				S	Sn	02 33 47.0	+1.5
	comp=E,328nm,1.2s						
IDI	Anoyia	1.31	51	P	Pg	02 33 29.4	+2.0
IDI				AML	AML	02 33 57.8	
	comp=N,544μm,0.6s						
IDI				AML	AML	02 34 05.3	
	comp=E,786μm,1.5s						
ANKY	Antikythira Is	1.42	349	P	Pb	02 33 30.4	+1.0
ANKY	Antikythira Is	1.42	349	P	Pn	02 33 30.0	+1.1
ANKY				AML	AML	02 34 05.8	
	comp=N,881μm,1.2s						
ANKY				AML	AML	02 34 10.6	
	comp=E,1077μm,0.9s						
KSTL	Kastelli Herak	1.44	54	P	Pg	02 33 32.9	+3.1
KSTL	Kastelli Herak	1.44	54	P	Pg	02 33 33.0	+3.2
FRMA	Ierapetra Chan	1.81	72	P	Pg	02 33 37.8	+0.9
FRMA	Ierapetra Chan	1.81	72	P	Pg	02 33 38.1	+1.2
ZKR	Zakros	2.21	72	Pn	Pn	02 33 39.7	-0.2
ZKR	Zakros	2.21	72	P	Pb	02 33 42.5	-0.4
MHLO	Agia Marina, M	2.30	15	P	Pn	02 33 42.7	+1.7
VLI	Veliai	2.31	346	P	Pn	02 33 42.7	+1.5
VLI	Veliai	2.31	346	P	Pn	02 33 42.1	+0.8
THR6	Thira Island,	2.37	37	P	Pb	02 33 44.3	-1.2
THR6	Thira Island,	2.37	37	P	Pn	02 33 43.7	+1.8
SNT5	Nea Kammeni, S	2.40	36	P	Pb	02 33 44.7	-1.4
THR3	Thira Island,	2.41	36	P	Pn	02 33 44.1	+1.6
THR3	Thira Island,	2.41	36	P	Pn	02 33 44.2	+1.6
THR8	Santorini-Mono	2.45	37	P	Pn	02 33 44.0	+1.0
THR8	Santorini-Mono	2.45	37	P	Pn	02 33 44.5	+1.5
CMBO	Columbo, Santo	2.46	35	P	Pn	02 33 45.2	+2.0
PYL	PYLOS	2.87	328	P	Pn	02 33 49.9	+1.0
KRND	KRANIDI	2.93	352	P	Pn	02 33 52.4	+2.7
KRND	KRANIDI	2.93	352	P	Pn	02 33 51.4	+1.7
APE	Apeiranthos	3.01	30	P	Pn	02 33 52.1	+1.2
KARP	Karpathos	3.08	69	Pn	Pn	02 33 51.6	-0.2
KARP	Karpathos	3.08	69	P	Pn	02 33 54.6	+2.8
DION	Dionisos Attik	3.61	4	P	Pn	02 34 00.5	+1.5
ARG	Arkhangelos	4.06	63	P	Pn	02 34 07.9	+2.7
BRTR	Keskin Array B	9.55	54	Pn	Pn	02 35 22.4	+1.6
	comp=E,8nm,0.7s,baz=229,slow=13,SNR=7.2						
MMAI	Mount Meron Ar	9.90	95	Pn	Pn	02 35 24.2	-1.3
	comp=E,0.6nm,0.3s,baz=302,slow=14,SNR=2.2						
MMAI				Sn	Sn	02 37 13.3	-3.9
	comp=E,0.6nm,0.3s,baz=313,slow=28,SNR=2.1 comp=E,0.5nm,0.4s						
CKRC	Cesky Krumlov	15.92	337	eP	P	02 36 51.6	+0.7
GERES	GERESS Array B	16.15	336	Pn	P	02 36 53.5	0.0
	comp=E,0.3nm,0.3s,baz=168,slow=8.2,SNR=3.3 comp=E,1.4nm,0.8s						
KHC	Kasperske Hory	16.43	336	eP	P	02 36 57.1	+0.5
ZVC	Zvikov	16.50	338	eP	P	02 36 57.9	+0.6
AKASG	Malin Array Be	16.72	12	Pn	Pn	02 36 57.2	-0.2
	comp=E,0.6nm,0.3s,baz=204,slow=9.3,SNR=4.5 comp=E,0.3nm,0.4s						
KBZ	Khabaz	17.54	52	P	Pn	02 37 07.8	+0.2
	baz=248,slow=19,SNR=5.6 comp=E,3.0nm,1.0s						
ESDC	Sonseca Array	22.58	291	P	P	02 38 03.3	-0.6
	comp=E,0.5nm,0.6s,baz=84,slow=11,SNR=5.1 comp=E,0.5nm,0.6s						
HFS	Hagfors	26.48	349	P	P	02 38 39.9	-0.5
	comp=E,1.8nm,0.8s,baz=150,slow=9.3,SNR=7.6 comp=E,1.8nm,0.8s						
FINES	FINESS Array B	27.04	3	P	P	02 38 44.5	-0.9
	comp=E,1.7nm,1.0s,baz=164,slow=7.7,SNR=1.6 comp=E,1.7nm,1.0s						
NOA	NORSAR Array B	27.77	347	P	P	02 38 51.5	-0.5
	comp=E,0.4nm,0.8s,baz=154,slow=10.0,SNR=1.8 comp=E,0.4nm,0.8s						
EKA	Eskdalemuir Ar	27.90	327	P	P	02 38 54.0	+0.7
	comp=E,0.7nm,0.5s,baz=130,slow=7.3,SNR=6.9 comp=E,0.7nm,0.5s						
TORD	Torodi Ar. Bea	29.09	228	P	P	02 39 03.5	-0.6
	comp=E,0.3nm,0.5s,baz=40,slow=11,SNR=4.6 comp=E,0.3nm,0.5s						
MKAR	Makanchi Array	45.20	56	P	P	02 41 20.0	-0.4
	comp=E,0.9nm,0.6s,baz=276,slow=6.6,SNR=13 comp=E,0.9nm,0.6s						
ZALV	Zalesovo Beam	46.38	46	P	P	02 41 29.6	0.0
	comp=E,0.4nm,0.4s,baz=281,slow=8.7,SNR=2.1 comp=E,0.4nm,0.4s						
SONM	Songino Array	60.89	50	P	P	02 43 16.2	0.0
	comp=E,0.2nm,0.4s,baz=194,slow=4.0,SNR=1.8 comp=E,0.2nm,0.4s						

*RSNC **11** 02:39:47.2±0.2, 7°N±2°×8°1W±°, h7km±2km, mb4.2, mB5.0, ML3.1, Mw(mB)4.3*
*UPA **11** 02:39:47.6±1.6, 7°.46N×80°.76W, h1km±5km, MD4.2, MW4.3*
*IDC **11** 02:39:48.3±3.8, 8°.05N×80°.50W, h0km, mb3.5/3, mbtmp3.8/6, ML3.9/2, MS2.8/3, Error ellipse: s-maj=116.8km s-min=19.1km az=17.0*
*UCR **11** 02:40:13.2±2.1, 8°.22N×82°.36W, h0km±124km, MW4.0*
*CATAC **11** 02:40:23.1±0.8, 8°.54N×83°.00W, h5km±5km, ML3.2*

ISC 11 02:39:46.7±0.9, 7°.32N±0°.03×80°.75W±0°.02, h11km±6km, n123, σ1°89/157, mb3.5/3, 7C-23D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACAO	El Cacao, Vera	0.11	282	↓iP	Pg	02 39 49.8	+0.1
CACAO	El Cacao, Vera	0.11	282	P	Pg	02 39 49.7	+0.1
CACAO				S	Sg	02 39 51.5	-0.2
TOSI3	Tonosi	0.32	74	↓iP	Pb	02 39 54.8	+0.4
TOSI3				*i* S	Sb	02 39 59.5	-0.1
ACHO3	Achotines, Los	0.58	81	↑eP	Pb	02 39 59.1	+0.2
PESE3	Pese, Herrera	0.60	13	*i* P	Pg	02 39 58.6	+0.2
PESE3				*i* S	Sg	02 40 05.3	-1.0
GMAL	Guarumal, Vera	0.65	313	↑iP	Pg	02 39 58.8	-0.6
GMAL				eS	Sg	02 40 09.2	+1.2
GMAL	Guarumal, Vera	0.65	313	P	Pg	02 39 58.8	-0.6
GMAL				S	Sb	02 40 11.1	+1.9
AZU	Azuero	0.66	45	↓iP	Pg	02 39 60.0	+0.4
AZU				eS	Sb	02 40 09.7	+0.2
AZU	Azuero	0.66	45	P	Pb	02 40 00.1	-0.2
AZU				S	Sb	02 40 09.1	-0.5
PCRI3	Pocri, Los San	0.71	62	↓iP	Pb	02 40 01.0	-0.1
PCRI3				*i* S	Sb	02 40 12.2	+1.3
CHIT3	Chitre	0.71	27	↓iP	Pg	02 40 00.4	-0.1
CHIT3				eS	Sg	02 40 10.0	+0.2
STIA3	Santiago, Vera	0.81	344	↑iP	Pg	02 40 01.4	-0.9
STIA3				*i* S	Sg	02 40 11.6	-1.2
MESA3	La Mesa, Verag	0.93	332	↑iP	Pg	02 40 03.0	-1.6
MESA3				eS	Sg	02 40 16.4	-0.3
CRIS3	El Cristo, Coc	0.94	8	↓iP	Pg	02 40 03.9	-0.9
CRIS3				*i* S	Sg	02 40 16.7	-0.3
PNME	Penonome	1.23	20	↓iP	Pg	02 40 08.9	-1.5
PNME				eS	Sg	02 40 24.8	-1.6
PNME	Penonome	1.23	20	P	Pg	02 40 09.1	-1.3
PNME				S	Sg	02 40 25.0	-1.4
ZANG	Zanguenga, Cho	1.84	28	eP	Pn	02 40 19.0	+0.6
ZANG				eS	Sn	02 40 40.5	-1.2
ZANG	Zanguenga, Cho	1.84	28	eP	Pn	02 40 19.3	+1.0
TABO3	Taboga, Panama	1.88	39	eP	Pn	02 40 19.3	+0.4
TABO3				*i* S	Sn	02 40 42.9	+0.3
PEDE3	Pedregal, Chir	1.97	303	↓eP	Pn	02 40 20.1	+0.1
LOCO3	Loma Colorada,	1.98	303	↓eP	Pn	02 40 20.4	+0.2
LOCO3				eS	Sg	02 40 49.9	-0.5
FLAM	Flamenco Islan	1.99	37	eP	Pn	02 40 21.6	+1.3
DVD	David	2.02	303	↓eP	Pn	02 40 20.9	+0.2
DVD				eS	Sb	02 40 49.4	+0.8
UPA	Univ. de Panam	2.04	36	↓iP	Pn	02 40 22.2	+1.1
UPA				eS	Sn	02 40 46.4	-0.2
UPA	Univ. de Panam	2.04	36	P	Pn	02 40 22.0	+1.0
UPA				S	Sn	02 40 48.3	+1.8
BCIP	Isla Barro Col	2.04	26	↓iP	Pn	02 40 22.6	+1.5
BCIP				*i* S	Sn	02 40 47.8	+1.2
BCIP	Isla Barro Col	2.04	26	eP	Pn	02 40 22.2	+1.1
BCIP	Isla Barro Col	2.04	26	P	Pn	02 40 22.2	+1.1
BCIP				S	Sb	02 40 48.9	-0.4
MLIR	Monte Lirio	2.10	25	↓eP	Pn	02 40 23.6	+1.7
CHGR2	Aguacate	2.12	319	↑eP	Pn	02 40 22.2	0.0
FRIJ	El Hiral	2.14	28	↓eP	Pn	02 40 23.8	+1.3
FRIJ				*i* S	Sn	02 40 49.2	+0.2
LNBQ3	Los Naranjos,	2.22	311	↓eP	Pn	02 40 24.2	+0.5
LNBQ3				eS	Sn	02 40 52.3	+1.1
BCO2	Palmira	2.25	308	↓iP	Pn	02 40 24.6	+0.6
PTPM	Petroterminale	2.29	293	↓eP	Pn	02 40 25.0	+0.6
BC3P	Paso Ancho	2.37	309	↓iP	Pn	02 40 26.2	+0.5
BRU2	Volcan	2.42	307	↓iP	Pn	02 40 27.0	+0.7
BRU2				*i* S	Sn	02 40 57.8	+1.7
BRU2	Volcan	2.42	307	eP	Pn	02 40 26.3	-0.1
CDITO	Canoas	2.44	301	eP	Pn	02 40 26.4	-0.2
CDITO	Canoas	2.44	301	*i* P	Pn	02 40 26.8	+0.2
CDITO				IAML		02 40 35.8	
	comp=Z,1μm,1.0s						
MLIR3	Monte Lirio, C	2.52	306	↓eP	Pn	02 40 29.4	+1.6
CNTA3	Canitas, Panam	2.64	44	↓eP	Pn	02 40 30.6	+1.3
CNTA3				eS	Sn	02 41 01.7	+0.5
CNI2	El Empalme, Bo	2.70	321	↑eP	Pn	02 40 31.8	+1.8
EDAD	Golfito	2.73	299	eP	Pn	02 40 32.0	+1.4
PIRO	Carate, Puerto	2.78	293	eP	Pn	02 40 30.2	-1.0
PIRO	Carate, Puerto	2.78	293	*i* P	Pn	02 40 31.1	-0.1
PIRO				IAML		02 40 49.3	
	comp=Z,380nm,1.0s						
TOTI	Torti	2.90	56	↓eP	Pn	02 40 34.4	+1.6
POTG	Potrero Grande	2.91	306	eP	Pn	02 40 34.5	+1.4
POTG	Potrero Grande	2.91	306	*i* P	Pn	02 40 33.9	+0.8
POTG				IAML		02 40 38.8	
	comp=Z,1μm,1.0s						
PTAC	Punta Ardita,	2.92	93	↑eP	Pn	02 40 32.5	-0.6
PTAC	Punta Ardita,	2.92	93	P	Pn	02 40 32.3	-0.9
PTAC				S	Sn	02 41 03.9	-4.4
EDP2	Potrero Grande	2.94	305	eP	Pn	02 40 35.4	+2.0
UPD2	Meteti	2.97	66	↓iP	Pn	02 40 35.3	+1.5
UPD2	Meteti	2.97	66	P	Pn	02 40 34.9	+1.1
UPD2				S	Sn	02 41 12.1	+2.6
EDBA	Buenos Aires	3.10	306	eP	Pn	02 40 38.4	+2.7
DRK0	Durika	3.13	308	eP	Pn	02 40 37.6	+1.4
PLAN	Los Planes de	3.20	295	*i* P	Pn	02 40 36.5	-0.5
PLAN				IAML		02 40 45.3	
	comp=E,680nm,1.0s						
PEZE	Perez Zeledon,	3.55	305	eP	Pn	02 40 44.6	+2.7
PEZE	Perez Zeledon,	3.55	305	*i* P	Pn	02 40 43.7	+1.8
PEZE				IAML		02 40 45.0	
	comp=Z,400nm,1.0s						
CAPC	Capurgana	3.61	69	P	Pn	02 40 43.0	+0.4
CDM	Cerro de Muert	3.72	307	eP	Pn	02 40 46.7	+2.2
CDM	Cerro de Muert	3.72	307	*i* P	Pn	02 40 45.5	+1.0
CDM				IAML		02 40 56.3	
	comp=Z,320nm,1.0s						
BATAN	Batan	3.79	317	eP	Pb	02 40 51.3	-2.4
BATAN	Batan	3.79	317	*i* P	Pb	02 40 51.3	-2.4
BATAN				IAML		02 42 03.5	
	comp=Z,470nm,1.0s						
LCOCO	El Coco	3.91	315	eP	Pn	02 40 51.2	+4.5
VTCV	VTCV, Calle Va	3.96	312	eP	Pn	02 40 51.6	+4.0
VTCV	VTCV, Calle Va	3.96	312	*i* P	Pn	02 40 51.3	+3.7
VTCV				IAML		02 41 02.2	
	comp=Z,580nm,1.0s						
PCAYA	Pacayas	3.98	311	eP	Pn	02 40 51.6	+3.7
VTLO	VTLO	4.00	313	eP	Pn	02 40 51.1	+2.9
VTLA	Turrialba Volc	4.01	312	eP	Pn	02 40 52.3	+3.9
LCR2	La Lucha 2	4.02	307	eP	Pn	02 40 49.3	+0.8
LCR2	La Lucha 2	4.02	307	*i* P	Pn	02 40 50.5	+2.0
LCR2				IAML		02 40 58.2	
	comp=Z,320nm,1.0s						
VTRT	Volcan Turrial	4.02	312	eP	Pn	02 40 53.0	+4.4
ICR3	Volcano Irazu	4.03	311	eP	Pn	02 40 52.9	+4.0
ABE2	San Pablo	4.04	306	eP	Pn	02 40 50.2	+1.4
VICA	Volcano Irazu	4.05	311	eP	Pn	02 40 52.9	+3.8
OCM	Ochomogo	4.08	309	eP	Pn	02 40 51.0	+1.7
OCM	Ochomogo	4.08	309	*i* P	Pn	02 40 51.9	+2.6
OCM				IAML		02 40 59.9	
	comp=Z,270nm,1.0s						
APAC	Apartado, Choc	4.17	82	P	Pn	02 40 53.8	+3.4
APAC				S	Sn	02 41 41.9	+2.7
BELE	Belen	4.30	308	eP	Pn	02 40 53.3	+4.0
RIFO	Rio Frio, Sara	4.33	314	*i* P	Pn	02 40 56.9	+4.4
RIFO				IAML		02 41 15.8	
	comp=Z,200nm,1.0s						
DBBC	Dabeiba	4.51	94	P	Pn	02 40 56.6	+1.5
DBBC				S	Sn	02 41 45.5	-2.2
JACO	JACO, Garabito	4.51	301	eP	Pn	02 40 58.3	+3.3
JACO	JACO, Garabito	4.51	301	*i* P	Pn	02 40 57.0	+1.9
JACO				IAML		02 41 07.9	
	comp=Z,160nm,1.0s						
CBOC	Ciudad Bolivar	4.92	107	P	Pn	02 41 02.6	+1.7
CBOC				S	Sn	02 41 57.5	-0.4
VACR	Volcan Arenal	4.99	309	eP	Pn	02 41 05.8	+4.2
ARE1	Arenal 1	5.01	309	eP	Pn	02 41 06.2	+4.2
PLMC	San Lo del P	5.05	118	P	Pn	02 41 02.3	-0.2
	comp=Z,8.3nm,0.7s,comp=Z,445nm						
JTS	Las Juntas de	5.10	306	eP	Pn	02 41 04.3	+1.2
JTS	Las Juntas de	5.10	306	Pn	Pn	02 41 04.7	+1.6
	comp=Z,4.1nm,0.3s,baz=135,slow=4.3,SNR=13						
JTS				Lg	Lg	02 42 24.7	
	comp=Z,0.7nm,0.3s,baz=162,slow=20,SNR=1.2						
JTS				LR	LR	02 42 43.0	
	comp=Z,39nm,21.2s,baz=118,slow=36 comp=Z,14nm,0.4s						
JTS	Las Juntas de	5.10	306	eP	Pn	02 41 06.2	+3.1
JTS	Las Juntas de	5.10	306	P	Pn	02 41 04.6	+1.5
	comp=Z,79nm,0.9s						
HELC	Santa Helena	5.30	102	P	Pn	02 41 06.6	+0.3
HELC				S	Sn	02 42 09.6	+2.0
	comp=Z,12nm,0.8s						
CUI	Cuipilapa	5.48	308	eP	Pn	02 41 12.5	+4.1
YOTC	Yotoco, Valle	5.49	127	P	Pn	02 41 06.8	-1.9
	comp=Z,5.6nm,0.6s						
YOTC				S	Sn	02 42 11.9	-0.1
	comp=Z,5.6nm,0.6s						
GUY2C	Guyana, Caldas	5.74	111	P	Pn	02 41 14.2	+1.8
	comp=Z,12nm,0.6s						
JAMC	Jamundi, Valle	5.75	135	P	Pn	02 41 11.6	-0.7
	comp=Z,11nm,0.6s						
ZARC	Zaragoza, Cauc	5.84	88	P	Pn	02 41 15.0	+1.6
	comp=Z,20nm,0.5s,comp=Z,479nm						
PRVC	Isla de Provid	6.05	354	P	Pn	02 41 16.1	-0.1
	comp=Z,51nm,0.7s						
PRVC				S	Sn	02 42 23.5	-1.9
	comp=Z,51nm,0.7s						
SJCC	San Jacinto, C	6.07	65	P	Pn	02 41 19.3	+2.7
	comp=Z,22nm,1.0s,comp=Z,1μm						
NORC	Norcasia	6.10	106	P	Pn	02 41 20.7	+3.8
	comp=Z,7.0nm,0.9s						
POPC	Popayan, Colom	6.25	139	P	Pn	02 41 19.8	+0.7
	comp=Z,6.7nm,0.9s						
POPC				S	Sn	02 42 30.6	-0.1
	comp=Z,6.7nm,0.9s						
PTBC	PUERTO BERRIO,	6.29	97	P	Pn	02 41 21.5	+1.9
	comp=Z,11nm,0.8s						
PTBC				S	Sn	02 42 32.0	+0.4
	comp=Z,11nm,0.8s						
BBAC	Balboa, Cauca	6.32	146	P	Pn	02 41 20.4	+0.4
	comp=Z,9.7nm,0.7s						
ORTC	Ortega, Tolima	6.44	121	P	Pn	02 41 23.2	+1.6
	comp=Z,10nm,0.8s						
SPBC	San Pablo de B	6.84	104	P	Pn	02 41 27.2	+0.1
	comp=Z,4.1nm,0.6s						
ARGC	Ariguani, Magd	6.91	68	P	Pn	02 41 29.8	+1.8
	comp=Z,86nm,0.8s						
GARC	Garzon, Huila	7.31	134	P	Pn	02 41 35.7	+2.0
	comp=Z,9.6nm,0.5s						
OCAC	Ocana	7.42	82	P	Pn	02 41 36.9	+1.8
	comp=Z,23nm,0.7s						
BARC	Barichara	7.55	95	P	Pn	02 41 38.6	+1.6
FLOC	Florencia	7.63	138	P	Pn	02 41 41.4	+3.4
	comp=Z,5.7nm,0.4s,comp=Z,361nm						
VILC	Villavicencio,	7.71	114	P	Pn	02 41 44.3	+5.2
RUSC	La Rusia	7.75	100	P	Pn	02 41 42.8	+2.9
	comp=Z,10nm,1.1s						
LL6C	La Loma 6 Bece	7.78	71	P	Pn	02 41 41.1	+1.2
	comp=Z,64nm,0.5s,comp=Z,1μm						
PAMC	Pamplona, Colo	7.98	89	P	Pn	02 41 41.1	-2.1
MACC	Macarena, Meta	8.59	126	P	Pn	02 41 52.8	+1.7
CRJC	Cerrejon, Guaj	8.59	64	P	Pn	02 41 51.7	+0.5
	comp=Z,36nm,0.6s						
SDV	Santo Domingo	10.13	80	Pn	Pn	02 42 11.0	-1.5
	comp=Z,1.4nm,0.3s,baz=285,slow=20,SNR=1.6						
SDV				Sn	Sn	02 44 03.2	-3.1
	comp=Z,0.5nm,0.3s,baz=209,slow=19,SNR=1.6						
PCRV	Puerto La Cruz	16.18	79	Pn	Pn	02 43 33.0	-1.3
	comp=Z,0.6nm,0.3s,baz=299,slow=14,SNR=2.1 comp=Z,4.7nm,0.6s						
CMIG	Matias Romero	16.87	306	LR	LR	02 50 12.2	
	comp=Z,59nm,18.1s,baz=130,slow=38						
TKL	Tuckaleechee C	28.34	355	LR	LR	02 56 16.4	
	comp=Z,31nm,20.1s,baz=136,slow=36						
YKA	Yellowknife Ar	60.36	343	P	P	02 49 53.8	-1.8
	comp=Z,0.2nm,0.5s,baz=130,slow=7.6,SNR=5.7 comp=Z,0.2nm,0.5s						
ESDC	Sonseca Array	75.20	51	P	P	02 51 30.7	+1.0
	comp=Z,0.7nm,0.6s,baz=273,slow=4.9,SNR=5.2 comp=Z,0.7nm,0.6s						
TORD	Torodi Ar. Bea	81.04	78	P	P	02 52 03.0	+0.5
	comp=Z,0.2nm,0.5s,baz=289,slow=6.2,SNR=4.3 comp=Z,0.2nm,0.5s						

*NEIC **11** 03:00:33.5±1.1, 18°.3N±0°.1×145°.9E±0°.2, h190km±9km, mb3.8/33, Error ellipse: s-maj=26.8km s-min=14.6km az=108.0*
*IDC **11** 03:00:40.8±4.9, 18°.38N×145°.46E, h273km±48km, mb3.1/9, mbtmp3.7/10, Error ellipse: s-maj=28.5km s-min=13.0km az=95.0*

ISC 11 03:00:33.7±0.6, 18°.36N±0°.09×145°.7E±0°.2, h200km, n63, σ0°90/60, mb3.7/26, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	19.28	341	P	P	03 04 45.0	+1.7
	0.5nm,0.5s,baz=156,slow=11,SNR=1.4						
H11S3	WAKE ISLAND Hy	19.93	86	T	T	03 25 49.1	
	baz=275						
H11S1	WAKE ISLAND Hy	19.94	86	T	T	03 25 51.2	
	baz=275						
H11S2	WAKE ISLAND Hy	19.95	86	T	T	03 25 53.0	
	baz=275						
H11N1	WAKE ISLAND Hy	20.09	83	T	T	03 26 20.0	
	baz=266						
H11N2	WAKE ISLAND Hy	20.10	83	T	T	03 26 12.4	
	baz=266						
H11N3	WAKE ISLAND Hy	20.11	83	T	T	03 26 18.9	
	baz=266						
MANU	Manus Island	20.34	175	P	P	03 04 54.5	-0.4
JKA	Kamikawa-asahi	25.81	355	P	P	03 05 47.1	+0.8
KNRA	Kununurra	37.70	207	P	P	03 07 30.2	+0.1
WB0	Warramunga Arr	39.48	197	P	P	03 07 45.0	+0.2
WB0				IAmb	IAmb	03 08 04.9	
	comp=Z,3.6nm,0.9s						
WR0	Warramunga Arr	39.62	197	P	P	03 07 46.6	+0.6
WB2	Warramunga Arr	39.66	197	P	P	03 07 46.1	-0.2
WRA	Warramunga Arr	39.66	197	P	P	03 07 45.9	-0.5
WRA	Warramunga Arr	39.66	197	P	P	03 07 46.3	-0.1
	comp=Z,4.2nm,0.9s,baz=18,slow=8.2,SNR=24						
WRA				PcP	PcP	03 09 48.7	-0.4
	comp=Z,0.3nm,0.5s,baz=8.3,slow=3.3,SNR=2.4 comp=Z,4.2nm,0.9s						
FITZ	Fitzroy Crossi	41.24	210	P	P	03 07 59.4	+0.1
AS31	Alice Springs	43.32	196	P	P	03 08 16.3	+0.2
AS31				IAmb	IAmb	03 08 19.1	
	comp=Z,1.0nm,0.7s						
ASAR	Alice Springs	43.32	196	P	P	03 08 15.9	-0.2
ASAR	Alice Springs	43.32	196	P	P	03 08 15.8	-0.3
	comp=Z,1.0nm,0.8s,baz=20,slow=6.6,SNR=15						
ASAR				PcP	PcP	03 09 60.0	-1.2
	comp=Z,0.2nm,0.6s,baz=35,slow=3.4,SNR=1.7 comp=Z,1.0nm,0.8s						
KULM	Kulim	45.81	259	P	P	03 08 38.1	+2.1
MBWA	Marble Bar	46.79	214	P	P	03 08 43.0	-0.3
MBWA				IAmb	IAmb	03 09 03.5	
	comp=Z,8.2nm,1.1s						
GSI	Gunungsitoli	50.13	256	P	P	03 09 10.1	+1.0
GIRL	Giralia	51.05	218	P	P	03 09 16.9	+1.2
MORW	Morawa	55.16	212	P	P	03 09 45.4	-0.2
F15K	North Star Dit	57.36	22	P	P	03 10 01.2	+0.5
J16K	Anvik River	57.77	26	P	P	03 10 04.6	+1.1
J16K				IAmb	IAmb	03 10 07.7	
	comp=Z,2.3nm,1.1s						
MKAR	Makanchi Array	58.69	314	P	P	03 10 09.9	-0.4
	comp=Z,0.2nm,0.5s,baz=91,slow=9.0,SNR=3.3						
MKAR				PcP	pP	03 10 54.8	0.0
	comp=Z,0.4nm,0.7s,baz=87,slow=6.1,SNR=3.5 comp=Z,0.2nm,0.5s						
H18K	Honhosa River	59.44	24	P	P	03 10 15.1	0.0
H18K				IAmb	IAmb	03 10 16.6	
	comp=Z,2.2nm,1.1s						
G18K	Tagagawik	59.64	23	P	P	03 10 16.4	0.0
C18K	Utukok River	60.00	20	P	P	03 10 18.2	-0.7
C18K				IAmb	IAmb	03 10 19.8	
	comp=Z,1.1nm,0.8s						
H19K	Roundabout Mou	60.33	24	P	P	03 10 21.1	+0.1
C19K	Lookout Ridge	60.73	20	P	P	03 10 24.7	+1.0
CAST	Castle Rocks	61.40	27	P	P	03 10 29.2	+0.9
CAST				IAmb	IAmb	03 10 30.8	
	comp=Z,1.3nm,0.7s						
IMAR	Indian Mountai	61.53	24	P	P	03 10 30.3	+1.1
I21K	Tanana	61.97	25	P	P	03 10 32.9	+0.9
BPAW	Bear Paw Mtn.	62.06	26	P	P	03 10 33.1	+0.3
BPAW				IAmb	IAmb	03 10 39.4	
	comp=Z,1.6nm,1.0s						
MLY	Manley	62.43	25	P	P	03 10 36.0	+0.7
B21K	Ikpikpuk River	62.54	20	P	P	03 10 36.8	+0.9
D22K	Ayikyak River	62.91	21	P	P	03 10 39.2	+0.8
D22K				IAmb	IAmb	03 10 41.7	
	comp

1µm,0.3s,baz=262,slow=19,SNR=27
LVC Limon Verde 0.48 211 *eP* **Pn 03 08 07.0 -0.7**
LVC *eS* **Sn 03 08 21.1 -1.0**
LVC IAML 03 08 22.4
comp=Z,13µm,0.2s
LVC Limon Verde 0.48 211 *eP* **Pn 03 08 07.8 0.0**
PB09 IPOC Station P 0.68 305 Pn **Pn 03 08 09.4 +0.6**
PB09 Sn **Sn 03 08 23.7 -0.2**
PB09 IPOC Station P 0.68 305 *eP* **Pn 03 08 09.6 +0.8**
PB09 *eS* **Sn 03 08 24.5 +0.6**
PB09 IAML 03 08 25.1
comp=Z,7µm,0.6s
PB09 IPOC Station P 0.68 305⇑ *iP* **Pn 03 08 09.5 +0.6**
PB09 *i* S **Sn 03 08 24.1 +0.2**
PB09 IAML 03 08 24.6
comp=N,5µm,0.3s
AF01 San Pedro de A 0.87 151 Pn **Pn 03 08 10.9 +0.3**
AF01 Sn **Sn 03 08 27.3 +0.4**
AF01 San Pedro de A 0.87 151⇑ *iP* **Pn 03 08 11.2 +0.7**
AF01 *i* S **Sn 03 08 27.7 +0.7**
AF01 IAML 03 08 28.4
comp=E,12µm,0.4s
PB06 IPOC Station P 1.00 239 Pn **Pn 03 08 11.9 +0.4**
PB06 Sn **Sn 03 08 28.9 +0.1**
PB06 IPOC Station P 1.00 239 *eP* **Pn 03 08 12.1 +0.6**
PB06 *eS* **Sn 03 08 29.8 +1.1**
PB06 IAML 03 08 31.1
comp=Z,3µm,0.3s
PB06 IPOC Station P 1.00 239⇑ *iP* **Pn 03 08 12.1 +0.6**
PB06 *i* S **Sn 03 08 29.4 +0.7**
PB06 IAML 03 08 30.9
comp=N,6µm,0.2s
PB07 IPOC Station P 1.24 292 Pn **Pn 03 08 14.1 +0.1**
PB07 Sn **Sn 03 08 32.6 -0.5**
PB07 IPOC Station P 1.24 292 *eP* **Pn 03 08 13.8 -0.2**
PB07 *eS* **Sn 03 08 33.4 +0.3**
PB07 IAML 03 08 34.0
comp=Z,2µm,0.3s
PB07 IPOC Station P 1.24 292⇑ *iP* **Pn 03 08 14.5 +0.5**
PB07 *i* S **Sn 03 08 32.9 -0.2**
PB07 IAML 03 08 34.0
comp=E,4µm,0.3s
PB15 IPOC Station P 1.27 217 Pn **Pn 03 08 15.4 +1.0**
PB15 Sn **Sn 03 08 34.2 +0.6**
PB15 IPOC Station P 1.27 217 *eP* **Pn 03 08 15.3 +1.0**
PB15 *eS* **Sn 03 08 34.9 +1.3**
PB15 IPOC Station P 1.27 217⇑ *iP* **Pn 03 08 15.1 +0.8**
PB15 *i* S **Sn 03 08 34.8 +1.1**
PB01 IPOC Station P 1.39 325 Pn **Pn 03 08 15.5 0.0**
PB01 IPOC Station P 1.39 325 *eP* **Pn 03 08 15.5 0.0**
PB01 *eS* **Sn 03 08 36.1 +0.4**
PB01 IAML 03 08 37.2
comp=Z,2µm,0.3s
PB01 IPOC Station P 1.39 325⇓ *iP* **Pn 03 08 15.6 0.0**
PB01 *i* S **Sn 03 08 35.4 -0.4**
PB01 IAML 03 08 37.4
comp=E,4µm,0.5s
PB04 IPOC Station P 1.40 264 Pn **Pn 03 08 16.0 +0.3**
PB04 IPOC Station P 1.40 264 *eP* **Pn 03 08 15.5 -0.2**
PB04 *eS* **Sn 03 08 36.9 +0.7**
PB04 IAML 03 08 38.9
comp=Z,3µm,0.2s
PB04 IPOC Station P 1.40 264⇑ *iP* **Pn 03 08 16.2 +0.4**
PB04 *i* S **Sn 03 08 36.5 +0.4**
PB04 IAML 03 08 38.6
comp=E,5µm,0.5s
PB02 IPOC Station P 1.45 306 Pn **Pn 03 08 16.1 -0.1**
PB02 IPOC Station P 1.45 306 *eP* **Pn 03 08 15.9 -0.4**
PB02 *eS* **Sn 03 08 37.3 +0.2**
PB02 IAML 03 08 38.6
comp=Z,3µm,0.2s
PB02 IPOC Station P 1.45 306⇓ *iP* **Pn 03 08 16.5 +0.2**
PB02 *i* S **Sn 03 08 36.5 -0.6**
PB02 IAML 03 08 37.5
comp=N,4µm,0.4s
PB05 IPOC Station P 1.58 245 Pn **Pn 03 08 17.6 -0.1**
PATCX Punta Patache 1.96 314 Pn **Pn 03 08 21.9 -0.3**
PATCX Punta Patache 1.96 314⇓ *iP* **Pn 03 08 22.0 -0.2**
PATCX *i* S **Sn 03 08 46.7 -0.9**
PATCX IAML 03 08 53.0
comp=N,1µm,0.3s
PX03 IPOC Station P 2.00 332 *eP* **Pn 03 08 22.3 -0.5**
PX03 *i* S **Sn 03 08 48.4 -0.3**
PX03 IAML 03 08 50.1
comp=N,2µm,0.3s
PB08 IPOC Station P 2.10 347 Pn **Pn 03 08 24.6 +0.4**
PB08 IPOC Station P 2.10 347 *eP* **Pn 03 08 25.0 +0.8**
PB08 *eS* **Sn 03 08 53.0 +1.8**
PB08 IPOC Station P 2.10 347⇓ *iP* **Pn 03 08 24.0 +0.8**
PB08 *i* S **Sn 03 08 52.0 +0.9**
PB08 IAML 03 08 54.1
comp=E,1µm,0.8s
TA01 Diego Aracena 2.16 318 Pn **Pn 03 08 23.6 -1.0**
TA01 Diego Aracena 2.16 318 *eP* **Pn 03 08 24.1 -0.5**
TA01 *eS* **Sn 03 08 51.7 -0.2**
TA01 Diego Aracena 2.16 318 *eP* **Pn 03 08 23.8 -0.8**
TA01 *i* S **Sn 03 08 50.9 -1.1**
TA01 IAML 03 08 56.4
comp=N,1µm,0.4s
PB10 IPOC Station P 2.20 233 Pn **Pn 03 08 26.1 +1.0**
HMBC Humberstone 2.23 326⇓ *iP* **Pn 03 08 24.9 -0.7**
HMBC *i* S **Sn 03 08 52.0 -1.7**
HMBC IAML 03 08 56.6
comp=N,2µm,0.3s
TA02 Huaiquique 2.36 324 Pn **Pn 03 08 27.3 +0.2**
TA02 Huaiquique 2.36 324 *eP* **Pn 03 08 28.5 +1.4**
TA02 *eS* **Sn 03 08 56.0 -0.5**
TA02 IAML 03 09 01.5
comp=N,1µm,0.1s
GO01 Chusmiza 2.56 348 Pn **Pn 03 08 30.1 -0.1**
GO01 Chusmiza 2.56 348⇓ *iP* **Pn 03 08 30.6 +0.4**
GO01 *i* S **Sn 03 09 01.9 +0.1**
GO01 IAML 03 09 03.8
comp=N,1µm,0.5s
PB11 IPOC Station P 2.60 338 Pn **Pn 03 08 29.2 -1.0**
PB11 IPOC Station P 2.60 338 *eP* **Pn 03 08 29.8 -0.5**
PB11 *eS* **Sn 03 09 01.3 -0.8**
PB11 IAML 03 09 04.5
comp=Z,624nm,0.4s
PB11 IPOC Station P 2.60 338⇓ *iP* **Pn 03 08 29.8 -0.5**
PB11 *i* S **Sn 03 09 01.0 -1.1**
PB11 IAML 03 09 03.9
comp=N,929nm,0.3s
YJA Yavi 2.90 90 *eP* **Pn 03 08 36.9 +2.5**
PB14 IPOC Station P 2.91 213 *eP* **Pn 03 08 34.6 +0.1**
GO02 Mina Guanaco 3.08 196 Pn **Pn 03 08 36.9 +0.3**
GO02 Mina Guanaco 3.08 196 *eP* **Pn 03 08 37.1 +0.4**
GO02 *eS* **Sn 03 09 07.3 -6.2**
GO02 IAML 03 09 17.1
comp=Z,1µm,0.3s
GO02 Mina Guanaco 3.08 196⇓ *iP* **Pn 03 08 37.0 +0.3**
GO02 *i* S **Sn 03 09 13.1 -0.5**
GO02 IAML 03 09 17.6
comp=N,1µm,0.2s
PB12 IPOC Station P 3.90 336 Pn **Pn 03 08 45.3 -1.9**
PB12 IPOC Station P 3.90 336 *eP* **Pn 03 08 45.6 -1.6**
PB12 *eS* **Sn 03 09 30.2 -2.3**
PB12 IAML 03 09 42.7
comp=Z,152nm,0.3s
PB16 IPOC Station P 3.92 348 Pn **Pn 03 08 47.7 -0.3**
PB16 IPOC Station P 3.92 348 *eP* **Pn 03 08 47.8 -0.2**
PB16 *eS* **Sn 03 09 18.0 -16**
AC01 Pan de Azucar 4.32 204 Pn **Pn 03 08 51.3 -1.5**
AC01 Pan de Azucar 4.32 204 *eP* **Pn 03 08 51.5 -1.3**
AC01 *eS* **Sn 03 09 39.6 -2.9**
AC01 IAML 03 09 40.2
comp=Z,251nm,0.3s
AC02 Maricunga 4.64 185 Pn **Pn 03 08 57.4 -0.2**
AC02 Maricunga 4.64 185 *eP* **Pn 03 08 57.1 -0.5**
AC02 IAML 03 10 24.0
comp=Z,145nm,0.7s
AC06 Mina Casimiro 5.37 196 Pn **Pn 03 09 04.4 -2.4**
GO03 Copiap 5.57 195 Pn **Pn 03 09 07.5 -2.1**
LPAZ La Paz 5.89 5 Pn **Pn 03 09 15.1 +0.6**
LPAZ La Paz 5.89 5 P **Pn 03 09 15.5 +1.0**
comp=Z,24nm,0.3s,baz=200,slow=8.5,SNR=173
LPAZ S Sn 03 10 08.3 -13
comp=Z,6.1nm,0.6s,baz=196,slow=14,SNR=1.5
LPAZ La Paz 5.89 5 *eP* **Pn 03 09 15.0 +0.6**
AC04 Llanos de Chal 6.38 200 Pn **Pn 03 09 16.4 -4.0**
LCO Las Campanas 7.04 195 Pn **Pn 03 09 26.0 -3.6**
CO01 Juntas del Tor 7.86 189 Pn **Pn 03 09 38.7 -1.9**
CO03 El Pedregal 8.80 192 **Pn 03 09 49.4 -3.8**

SIV San Ignacio 9.45 51 P **Pn 03 09 58.4 -3.5**
comp=Z,9.2nm,0.4s,baz=252,slow=11,SNR=90
SIV S Sn 03 11 34.6 -12
comp=Z,2.7nm,0.5s,baz=135,slow=23,SNR=2.4
VA03 San Esteban 10.67 189 Pn **Pn 03 10 14.0 -4.3**
PTLB Pontes e Lacer 11.22 55 Pn **Pn 03 10 21.7 -3.9**
LMEL Las Melosas 11.69 186 Pn **Pn 03 10 30.0 -1.9**
MT09 Talagante 11.72 190 Pn Pn 03 10 27.6 -4.8
AQDB Aquidauana 12.18 84 *eP* **Pn 03 10 41.3 +3.0**
VILB Vilhena 12.21 43 Pn **Pn 03 10 35.0 -3.8**
BO01 Tunca 12.34 189 Pn **Pn 03 10 38.5 -1.8**
ETMB Externa 12.52 11 Pn **Pn 03 10 39.0 -3.8**
BO02 Sierra Bellavi 12.69 188 Pn **Pn 03 10 40.8 -4.1**
GO05 Huala 13.09 192 Pn **Pn 03 10 49.0 -1.1**
ML02 Panimavida 13.74 190 Pn **Pn 03 10 57.1 -1.2**
SALV Santo Antonio 13.74 65 *eP* **Pn 03 11 00.3 +1.7**
CRSM Crissiumal (Br 14.26 115 *eP* **Pn 03 11 06.5 +1.4**
H03N1 Juan Fernandez baz=103 14.41 217 P **Pn 03 11 07.3 +0.6**
H03N2 Juan Fernandez baz=103 14.43 217 P **Pn 03 11 07.2 +0.4**
H03N3 Juan Fernandez baz=103 14.43 217 P **Pn 03 11 07.4 +0.4**
H03S3 Juan Fernandez baz=197 14.70 216 P **Pn 03 11 10.2 -0.2**
H03S1 Juan Fernandez baz=197 14.71 216 P **Pn 03 11 10.0 -0.5**
FRBT Francisco Belt 14.72 108 *eP* **Pn 03 11 12.5 +1.5**
H03S2 Juan Fernandez baz=197 14.72 216 P **Pn 03 11 10.2 -0.3**
TBOT Tacuarembo 14.74 133 *eP* **Pn 03 11 11.8 +0.7**
PTGB Pitanga 15.42 103 *eP* **P 03 11 22.1 +0.5**
PDRB Porto dos Gac 15.50 49 *eP* **Pn 03 11 20.7 -0.1**
ITAB Concordia 15.82 112 Pn **Pn 03 11 23.3 -1.3**
ITAB IAmb IAmb 03 11 28.8
comp=Z,22nm,1.4s
PCMB Pacaembu 16.14 91 *eP* **Pn 03 11 29.4 +0.7**
LDASE Londrina, Braz 16.21 98 *eP* **P 03 11 30.5 +0.3**
CLDB Colider 16.67 50 *eP* **P 03 11 36.1 +0.7**
TRQA Tornquist 16.82 162 P **Pn 03 11 34.9 -1.9**
TRQA IAmb IAmb 03 12 11.2
comp=Z,38nm,1.5s
ARAG Araguaiana, MT 17.17 71 *eP* **P 03 11 40.4 -0.5**
ITRB Iturama 17.26 85 *eP* **P 03 11 42.0 +0.2**
GO06 Curarrehue 17.50 187 P **P 03 11 43.3 -1.2**
GO06 IAmb IAmb 03 11 46.8
comp=Z,10nm,1.1s
FRTB Fartura 17.64 97 *eP* **P 03 11 45.6 -0.4**
TBTG Tabatinga, AM 17.94 356 *eP* **P 03 11 47.1 -2.2**
LR05 Currie 18.21 188 P **P 03 11 51.4 -0.6**
LR05 IAmb IAmb 03 11 57.1
comp=Z,26nm,1.2s
PLCA Paso Flores 18.55 185 P **P 03 11 54.6 -1.3**
PLCA IAmb IAmb 03 12 05.5
comp=Z,12nm,1.2s
PLCA Paso Flores 18.55 185 P **P 03 11 56.5 +0.6**
comp=Z,3.1nm,1.0s,baz=354,slow=9.5,SNR=12
SNDB Serra Nova Dou 19.43 61 *eP* **P 03 12 03.9 -1.7**
LL05 Los Muermos 19.59 191 P **P 03 12 07.6 +0.6**
IPMB Ipamami, GO 19.64 81 *eP* **P 03 12 06.6 -1.3**
NPGB Novo Progresso 19.77 42 *eP* **P 03 12 09.7 +0.4**
LL06 Loncomilla 20.40 191 P **P 03 12 16.8 +1.0**
BDFB Brasilia 20.56 75 P **P 03 12 15.3 -2.6**
BDFB Brasilia 20.56 75 P **P 03 12 15.6 -2.3**
comp=Z,2.8nm,0.5s,baz=233,slow=12,SNR=7.8
comp=Z,2.8nm,0.5s
MCRA Macar, Loja 20.83 327 P **P 03 12 22.4 +1.7**
ITTB Itaituba 21.69 37 *eP* **P 03 12 27.8 -2.0**
MALB Monte Alegre 24.58 37 *eP* **P 03 12 56.7 -0.6**
BOAV Boa Vista 25.69 19 P **P 03 13 06.7 -0.7**
BOAV IAmb IAmb 03 13 39.8
comp=Z,9.6nm,1.3s
BOAV Boa Vista 25.69 19 *eP* **P 03 13 06.4 -1.0**
GO08 Villa O'Higgin 26.40 186 P **P 03 13 15.5 +2.0**
GO08 IAmb IAmb 03 13 38.8
comp=Z,33nm,1.5s
GDU01 Guandu, BA 28.86 78 *eP* **P 03 13 33.8 -2.0**
NBLA Lagarto - SE 31.53 74 *eP* **P 03 13 57.1 -2.2**
NBPB Pedra_Branca-C 32.60 64 *eP* **P 03 14 08.0 -0.7**
RCBR Riachuelo 35.56 68 P **P 03 14 34.1 -0.2**
RCBR IAmb IAmb 03 14 35.0
comp=Z,7.4nm,0.7s
JTS Las Juntas de 36.03 332 P **P 03 14 39.3 +1.1**
JTS IAmb IAmb 03 15 08.3
comp=Z,9.0nm,1.1s
CELP Cerrillos 40.07 3 P **P 03 15 10.6 -1.4**
CELP IAmb IAmb 03 15 17.2
comp=Z,23nm,1.2s
MIAR Mount Ida 61.20 337 P **P 03 17 50.7 +0.4**
MIAR IAmb IAmb 03 18 32.5
comp=Z,2.7nm,0.9s
TXAR Lajitas Array 61.34 325 P **P 03 17 52.3 +0.9**
TXAR Lajitas Array 61.34 325 P **P 03 17 52.9 +1.4**
comp=Z,0.3nm,0.7s,baz=156,slow=8.9,SNR=3.8
comp=Z,0.3nm,0.7s
TX31 Lajitas Ar. Si 61.34 325 P **P 03 17 52.1 +0.6**
F64A Sherman 67.73 0 P **P 03 18 34.1 +1.6**
QSPA South Pole Qui 68.00 180 P **P 03 18 36.5 +2.2**
QSPA IAmb IAmb 03 18 37.2
comp=Z,7.1nm,1.4s
QSPA South Pole Qui 68.00 180 P **P 03 18 36.8 +2.5**
comp=Z,0.8nm,0.4s,baz=309,slow=1.5,SNR=16
QSPA pP **pP 03 19 06.6 +0.5**
comp=Z,1.4nm,0.5s,baz=151,slow=0.4,SNR=3.3
comp=Z,0.8nm,0.4s
E62A Clayton Lake 68.49 359 P **P 03 18 38.9 +1.5**
DBIC Dimbokro 68.70 73 P **P 03 18 39.1 -0.2**
DBIC Dimbokro 68.70 73 P **P 03 18 39.1 -0.2**
comp=Z,4.5nm,0.7s,baz=245,slow=14,SNR=6.2
comp=Z,4.5nm,0.7s
D62A Allapoint, All 68.95 360 P **P 03 18 41.3 +1.2**
BATG Bathurst New B 69.18 2 P **P 03 18 42.7 +1.2**
BATG IAmb IAmb 03 18 47.0
comp=Z,8.8nm,1.1s
QSM Queen of Sheba 73.66 321 P **P 03 19 06.6 -2.2**
GWY Greenwater Val 73.70 321 P **P 03 19 07.1 -2.1**
GWY IAmb IAmb 03 19 12.3
comp=Z,3.1nm,1.0s
TOA0 Torodi Ar. Sit 77.36 70 P **P 03 19 30.0 -0.3**
TORD Torodi Ar. Bea 77.36 70 P **P 03 19 30.0 -0.3**
TORD Torodi Ar. Bea 77.36 70 P **P 03 19 30.4 +0.1**
comp=Z,1.6nm,0.5s,baz=256,slow=5.3,SNR=20
TORD pP **pP 03 20 02.4 -0.9**
comp=Z,1.3nm,0.8s,baz=262,slow=5.1,SNR=3.7
comp=Z,1.6nm,0.5s
PINE Pine Mountain 81.29 325 P **P 03 19 53.7 +2.4**
PINE IAmb IAmb 03 20 31.0
comp=Z,6.3nm,1.4s
YKA Yellowknife Ar 91.92 340 P **P 03 20 43.8 +1.3**
comp=Z,0.5nm,0.5s,baz=132,slow=4.6,SNR=12
comp=Z,0.5nm,0.5s
WRA Warramunga Arr 132.48 210 PKP **PKPdf 03 26 49.5 +0.3**
comp=Z,0.6nm,1.0s,baz=171,slow=4.1,SNR=1.6
ZALV Zalesovo Beam 142.47 26 PKP **PKPdf 03 27 08.4 +1.9**
comp=Z,0.7nm,0.4s,baz=298,slow=3.1,SNR=4.2
MKAR Makanchi Array 146.04 37 PKPbc **PKPbc 03 27 14.9 +0.9**
comp=Z,2.3nm,0.8s,baz=320,slow=3.7,SNR=22
MKAR pPKPbc **pPKPdf 03 27 48.2 +0.3**
comp=Z,0.5nm,0.8s,baz=340,slow=3.8,SNR=2.6

KRSC ***11*** *03:09:22.3s 1.3, 54.27°N× 162.21°E, h58km±31km, Ml4.9*
NEIC ***11*** *03:09:24.8±2.2, 54.29°N±0.09× 162.05°E±0.10, h35km±2km, mb4.3/125, Error ellipse: s-maj=15.3km s-min=8.7km az=161.0*
MOS ***11*** *03:09:24.0±0.9, 54.29°N× 162.21°E, h42km, mb4.3/15, MS2.9/4, Error ellipse: s-maj=6.2km s-min=3.6km az=83.6*
IDC ***11*** *03:09:30.3±2.8, 54.55°N× 161.75°E, h80km±25km, mb3.6/27, mbtmp3.9/31, MS3.3/16, Error ellipse: s-maj=15.6km s-min=11.1km az=153.0*
ISC 11 03:09:25.7±0.6, 54.25°N±0.03× 162.13°E±0.03, h45km±5km, n498, σ1s24/563, mb4.2/107, MS3.5/12, 6C-2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TUMD	**Tumrok D**	**1.38**	**314**	*eP*		**Pn**	**03 09 46.2**	**-2.4**
TUMD				*eS*		**Sn**	**03 10 02.9**	**-2.7**
TUMR	**Tumrok**	**1.54**	**313**	PN		**Pn**	**03 09 46.2**	**-4.6**
TUMR	**Tumrok**	**1.54**	**313**	*eP*		**Pn**	**03 09 49.3**	**-1.5**
TUMR				*eS*		**Sn**	**03 10 09.6**	**-0.1**
KII	**Karymskiy**	**1.59**	**263**	PN		**Pn**	**03 09 50.5**	**-0.9**
KII	**Karymskiy**	**1.59**	**263**	*eP*		**Pn**	**03 09 50.5**	**-0.9**

SPN Mys Shipunski 1.71 228 PN **Pn 03 09 51.6 -1.3**
SPN S **Sn 03 10 11.0 -2.4**
SPN Mys Shipunski 1.71 228 *eP* **Pn 03 09 51.6 -1.3**
SPN *eS* **Sn 03 10 11.0 -2.4**
KMNR Kamenistaya 1.86 325 PN **Pn 03 09 54.2 -0.9**
KMNR S **Sn 03 10 16.7 -0.7**
KMNR Kamenistaya 1.86 325 *eP* **Pn 03 09 54.2 -0.9**
KMNR *eS* **Sn 03 10 16.7 -0.7**
BZGR Bezymyannyi-Gr 1.88 335 PN **Pn 03 09 54.6 -0.8**
BZGR S **Sn 03 10 17.8 -0.2**
BZGR Bezymyannyi-Gr 1.88 335 *eP* **Pn 03 09 54.6 -0.8**
BZGR *eS* **Sn 03 10 17.8 -0.2**
BZP Bezymyannyi-Pe 1.90 332 *eP* **Pn 03 09 54.5 -1.1**
BZP *eS* **Sn 03 10 17.6 -0.8**
ZLN Zelenaya 1.93 337 PN **Pn 03 09 53.9 -2.1**
ZLN Zelenaya 1.93 337 *eP* **Pn 03 09 53.9 -2.1**
BZMR Bezymyannaya 1.93 331 PN **Pn 03 09 55.6 -0.5**
BZMR S **Sn 03 10 18.9 -0.3**
BZMR Bezymyannaya 1.93 331 *eP* **Pn 03 09 55.6 -0.5**
BZMR *eS* **Sn 03 10 18.9 -0.3**
BZWR Bezymyannyi-We 1.96 332 PN **Pn 03 09 55.7 -0.8**
BZWR Bezymyannyi-We 1.96 332 *eP* **Pn 03 09 55.7 -0.8**
NLC Nalytchevo 1.98 238 PN **Pn 03 09 55.7 -0.9**
NLC S **Sn 03 10 20.3 +0.2**
NLC Nalytchevo 1.98 238 *eP* **Pn 03 09 55.7 -0.9**
NLC *eS* **Sn 03 10 20.3 +0.2**
KIRR Kirishev 1.99 330 PN **Pn 03 09 56.4 -0.5**
KIRR S **Sn 03 10 19.6 -1.1**
KIRR Kirishev 1.99 330 *eP* **Pn 03 09 56.4 -0.5**
KIRR *eS* **Sn 03 10 19.6 -1.1**
LGNR Loginova 2.01 336 PN **Pn 03 09 57.2 -0.2**
LGNR S **Sn 03 10 21.8 +0.1**
LGNR Loginova 2.01 336 *eP* **Pn 03 09 57.2 -0.2**
LGNR *eS* **Sn 03 10 21.5 +0.1**
CIRR Tsirk 2.03 338 PN **Pn 03 09 57.1 -0.3**
CIRR Tsirk 2.03 338 *eP* **Pn 03 09 57.1 -0.3**
KBG Krutoberegovo 2.03 9 PN **Pn 03 09 56.5 -0.8**
KBG S **Sn 03 10 22.5 +1.0**
KBG Krutoberegovo 2.03 9 *eP* **Pn 03 09 56.5 -0.8**
KBG *eS* **Sn 03 10 22.5 +1.0**
KPT Kopyto 2.04 328 PN **Pn 03 09 56.8 -0.7**
KPT Kopyto 2.04 328 *eP* **Pn 03 09 56.8 -0.7**
SDLR Sedlovina 2.16 244 PN **Pn 03 10 00.4 +1.2**
SDLR S **Sn 03 10 26.0 +1.2**
SDLR Sedlovina 2.16 244 *eP* **Pn 03 10 00.4 +1.2**
SDLR *eS* **Sn 03 10 26.0 +1.2**
KRSR Krestovskiy 2.16 336 PN **Pn 03 09 58.2 -1.1**
KRSR S **Sn 03 10 23.6 -1.3**
KRSR Krestovskiy 2.16 336 *eP* **Pn 03 09 58.2 -1.1**
KRSR *eS* **Sn 03 10 23.6 -1.3**
SMAR Somma 2.21 245 PN **Pn 03 09 59.8 -0.2**
SMAR S **Sn 03 10 24.8 -1.4**
SMAR Somma 2.21 245 *eP* **Pn 03 09 59.8 -0.2**
SMAR *eS* **Sn 03 10 24.8 -1.4**
KRER Koryakskii 2.22 246 PN **Pn 03 10 00.5 +0.4**
KRER S **Sn 03 10 26.1 -0.3**
KRER Koryakskii 2.22 246 *eP* **Pn 03 10 00.5 +0.4**
KRER *eS* **Sn 03 10 26.1 -0.3**
KOZ Kozyrevsk 2.23 325 PN **Pn 03 09 59.6 -0.4**
KOZ S **Sn 03 10 27.3 +1.0**
KOZ Kozyrevsk 2.23 325 *eP* **Pn 03 09 59.6 -0.4**
KOZ *eS* **Sn 03 10 27.3 +1.0**
KLY Klyuchi 2.23 338 PN **Pn 03 09 58.9 -1.2**
KLY S **Sn 03 10 25.4 -0.9**
KLY Klyuchi 2.23 338 *eP* **Pn 03 09 58.9 -1.2**
KLY *eS* **Sn 03 10 25.4 -0.9**
AVH Avacha 2.24 245 PN **Pn 03 10 00.7 +0.4**
AVH S **Sn 03 10 28.0 +1.2**
AVH Avacha 2.24 245 *eP* **Pn 03 10 00.7 +0.4**
AVH *eS* **Sn 03 10 28.0 +1.2**
KRX Arik 2.25 248 PN **Pn 03 10 00.5 0.0**
KRX S **Sn 03 10 27.0 -0.1**
KRX Arik 2.25 248 *eP* **Pn 03 10 00.5 0.0**
KRX *eS* **Sn 03 10 27.0 -0.1**
KOK Koryaka 2.29 247 PN **Pn 03 10 01.2 +0.3**
KOK S **Sn 03 10 29.4 +1.5**
KOK Koryaka 2.29 247 *eP* **Pn 03 10 01.2 +0.3**
KOK *eS* **Sn 03 10 29.4 +1.5**
DALK Dalny 2.35 240 PN **Pn 03 10 01.4 -0.3**
DALK S **Sn 03 10 29.1 -0.3**
DALK Dalny 2.35 240 *eP* **Pn 03 10 01.4 -0.3**
DALK *eS* **Sn 03 10 29.1 -0.3**
SMKR Semkarok 2.37 351 PN **Pn 03 10 02.8 +0.8**
SMKR S **Sn 03 10 33.5 +3.7**
SMKR Semkarok 2.37 351 *eP* **Pn 03 10 02.8 +0.8**
SMKR *eS* **Sn 03 10 33.5 +3.7**
BDR Baidarnaya 2.38 348 PN **Pn 03 10 02.8 +0.6**
BDR Baidarnaya 2.38 348 *eP* **Pn 03 10 02.8 +0.6**
PET Petropavlovsk 2.41 241 **Pn 03 10 01.4 -1.1**
PET Sn **Sn 03 10 30.7 0.0**
PET Petropavlovsk 2.41 241 *e*PN **Pn 03 10 02.0 -0.5**
PET *i* S **Sn 03 10 31.5 +0.8**
PET pmax pmax
comp=Z,700nm,0.6s
PET smax smax
comp=N,6µm,0.6s
PET smax smax
comp=E,6µm,0.8s
PET MLR MLR
comp=Z,700nm,13.0s
PET Petropavlovsk 2.41 241 *eP* **Pn 03 10 02.4 -0.1**
PET *eS* **Sn 03 10 31.7 +1.0**
BKI Bering 2.42 65 PN **Pn 03 10 01.8 -0.9**
BKI S **Sn 03 10 28.0 -3.1**
BKI Bering 2.42 65 *eP* **Pn 03 10 01.8 -0.9**
BKI *eS* **Sn 03 10 28.0 -3.1**
SRKR Sorokina 2.47 348 PN **Pn 03 10 04.5 +1.1**
SRKR Sorokina 2.47 348 *eP* **Pn 03 10 04.5 +1.1**
SRDR Sredinnyy 2.49 327 PN **Pn 03 10 02.7 -1.0**
SRDR S **Sn 03 10 32.7 -0.1**
SRDR Sredinnyy 2.49 327 *eP* **Pn 03 10 02.7 -1.0**
SRDR *eS* **Sn 03 10 32.7 -0.1**
GNL Ganaly 2.54 259 PN **Pn 03 10 05.0 +0.6**
GNL S **Sn 03 10 34.2 +0.1**
GNL Ganaly 2.54 259 *eP* **Pn 03 10 05.0 +0.6**
GNL *eS* **Sn 03 10 34.2 +0.1**
ESO Esso 2.59 312 PN **Pn 03 10 03.9 -1.1**
ESO S **Sn 03 10 35.1 -0.1**
ESO Esso 2.59 312 *eP* **Pn 03 10 03.9 -1.1**
ESO *eS* **Sn 03 10 35.1 -0.1**
KRMR Karymshinskiy 2.78 241 PN **Pn 03 10 07.7 +0.1**
KRMR S **Sn 03 10 41.1 +1.2**
KRMR Karymshinskiy 2.78 241 *eP* **Pn 03 10 07.7 +0.1**
KRMR *eS* **Sn 03 10 41.1 +1.2**
RUS Russkaya 2.83 231 PN **Pn 03 10 07.7 -0.6**
RUS S **Sn 03 10 41.3 +0.1**
RUS Russkaya 2.83 231 *eP* **Pn 03 10 07.7 -0.6**
RUS *eS* **Sn 03 10 41.3 +0.1**
PEA0B Petropavlovsk- 2.87 248 **Pn 03 10 08.8 -0.1**
PEA0B Sn **Sn 03 10 43.4 +1.1**
PEA0B Petropavlovsk- 2.87 248 *ce*PN **Pn 03 10 09.6 +0.7**
PETK Petropavlovsk- 2.87 248 **Pn 03 10 08.5 -0.4**
PETK Sn **Sn 03 10 44.0 +1.8**
PETK Petropavlovsk- 2.87 248 PN **Pn 03 10 08.5 -0.4**
PETK 03 10 44.0
PETK Petropavlovsk- 2.87 248 P **Pn 03 10 08.5 -0.4**
comp=Z,73nm,0.4s,baz=73,slow=13,SNR=358
PETK S **Sn 03 10 44.8 +2.5**
comp=Z,291nm,0.6s,baz=82,slow=39,SNR=12
PETK LR LR 03 11 25.3
comp=Z,354nm,20.2s,baz=57,slow=41
MTVR Mutnovka 2.96 235 PN **Pn 03 10 10.5 +0.3**
MTVR S **Sn 03 10 45.6 +1.2**
MTVR Mutnovka 2.96 235 *eP* **Pn 03 10 10.5 +0.3**
MTVR *eS* **Sn 03 10 45.6 +1.2**
GRL Gorelyy 2.97 237 PN **Pn 03 10 11.6 +1.3**
GRL S **Sn 03 10 46.9 +2.2**
GRL Gorelyy 2.97 237 *eP* **Pn 03 10 11.6 +1.3**
GRL *eS* **Sn 03 10 46.9 +2.2**
ASAK Asacha 3.15 235 PN **Pn 03 10 13.7 +0.9**
ASAK S **Sn 03 10 51.2 +2.0**
ASAK Asacha 3.15 235 *eP* **Pn 03 10 13.7 +0.9**
ASAK *eS* **Sn 03 10 51.2 +2.0**
APC Apacha 3.25 248 PN **Pn 03 10 15.3 +1.3**
APC S **Sn 03 10 51.4 0.0**
APC Apacha 3.25 248 *eP* **Pn 03 10 15.3 +1.3**
APC *eS* **Sn 03 10 51.4 0.0**
KDTR Khodutka, Kamc 3.46 227 PN **Pn 03 10 17.1 +0.2**
KDTR S **Sn 03 10 55.9 -0.7**
KDTR Khodutka, Kamc 3.46 227 *eP* **Pn 03 10 17.1 +0.2**

KDTR eS Sn 03 10 55.9 -0.7
TIGL Tigil 4.02 333 eP Pn 03 10 26.3 +1.8
PAU Pauzhetka 4.26 231 PN Pn 03 10 30.4 +2.5
PAU Pauzhetka 4.26 231 eP Pn 03 10 30.4 +2.5
PALN Palana 4.99 347 PN Pn 03 10 39.9 +2.0
PALN Palana 4.99 347 eP Pn 03 10 39.9 +2.0
OSSR Ossora 5.04 5 PN Pn 03 10 37.1 -1.4
OSSR Ossora 5.04 5 eP Pn 03 10 37.1 -1.4
OSSR eS Sn 03 11 32.3 -3.0
SKR Severo-Kuril's 5.13 228 ǁ iPN Pn 03 10 41.3 +1.5
SKR pmax pmax
comp=Z,106nm,0.8s
SKR MLR MLR
comp=Z,300nm,13.0s
SKR Severo-Kuril's 5.13 228 eP Pn 03 10 41.0 +1.3
SKR eS Sn 03 11 36.6 -1.1
TILK Tilichiki 6.58 18 PN Pn 03 10 57.7 -1.9
TILK Tilichiki 6.58 18 eP Pn 03 10 57.7 -1.9
SHEM Shemya Is, Ala 7.30 97 P Pn 03 11 10.4 +0.8
comp=Z,36nm,0.4s,baz=294,slow=12,SNR=5.4
SHEM S Sn 03 12 27.7 -3.4
comp=Z,29nm,0.3s,baz=272,slow=19,SNR=1.0
MA2 Magadan 8.19 315 ce PN Pn 03 11 23.2 +1.5
MA2 pmax pmax
comp=Z,17nm,1.0s
MA2 Magadan 8.19 315 P Pn 03 11 21.8 +0.1
comp=Z,6.5nm,0.6s,baz=130,slow=16,SNR=6.5
MA2 LR LR 03 14 20.1
comp=Z,73nm,19.7s,baz=138,slow=37
KMSK Kamenskaya 8.51 13 PN Pn 03 11 25.7 -0.4
KMSK Kamenskaya 8.51 13 eP Pn 03 11 25.7 -0.4
SEY Seymchan 10.07 334 P Pn 03 11 47.2 -0.2
comp=Z,0.2nm,0.3s,baz=180,slow=20,SNR=1.2
SEY LR LR 03 16 07.7
comp=Z,132nm,21.3s,baz=308,slow=41
TYV Tymovskoe 12.32 262 ePN Pn 03 12 22.0 +3.8
TYV pmax pmax
comp=Z,10.0nm,1.3s
TYV pmax pmax
comp=Z,100nm,6.3s
BILL Bilibino 13.97 6 Pn Pn 03 12 40.7 +0.1
BILL Bilibino 13.97 6 i P Pn 03 12 41.5 +0.9
BILL pmax pmax
comp=Z,6.0nm,1.1s
YSS Yuzh-Sakhalins 14.28 247 i P Pn 03 12 46.8 +1.9
YSS pmax pmax
comp=Z,8.0nm,0.3s
JKA Kamikawa-asahi 16.25 239 Pn 03 13 09.1 -1.4
ASAJ Asahikawa 16.25 239 P Pn 03 13 09.1 -1.5
ASAJ pmax pmax
comp=Z,11nm,0.8s
ASAJ Asahikawa 16.25 239 P Pn 03 13 11.7 +1.2
comp=Z,9.8nm,0.7s,baz=33,slow=17,SNR=8.2
ASAJ LR LR 03 19 00.7
comp=Z,94nm,20.8s,baz=84,slow=35
NIKH Nikolski High 17.21 82 P Pn 03 13 22.0 -0.5
baz=286
ERM Erimo 17.54 233 Pn Pn 03 13 23.8 -2.9
ERM Erimo 17.54 233 P Pn 03 13 23.8 -2.9
ERM pmax pmax
comp=Z,97nm,1.5s
M11K Mekoryuk 18.04 57 P P 03 13 32.7 +0.2
baz=264
TNA Tin City 18.58 41 P Pn 03 13 39.9 +0.8
baz=247
YAK Yakutsk 18.64 308 eP P 03 13 39.5 +0.3
YAK eS Sn 03 17 01.4 -5.7
YAK pmax pmax
comp=Z,18nm,0.8s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=Z,21nm,0.5s
YAK smax smax
comp=N,53nm,2.8s
YAK smax smax
comp=E,135nm,3.7s
YAK MLR MLR
comp=Z,78nm,15.0s
YAK MLR MLR
comp=E,36nm,14.0s
YAK MLR MLR
comp=N,76nm,18.0s
YAK Yakutsk 18.64 308 P P 03 13 39.4 +0.3
comp=N,39nm,0.4s,baz=175,slow=0.5,SNR=4.1
YAK S Sn 03 17 00.4 -6.7
comp=N,12nm,0.5s,baz=75,slow=1.0,SNR=1.8
YAK LR LR 03 21 33.3
comp=N,47nm,19.9s,baz=111,slow=40
F14K Arctic Creek 19.17 42 P Pn 03 13 46.4 +0.2
baz=249
ANM Nome 19.25 45 P P 03 13 46.3 +0.4
ANM Nome 19.25 45 P P 03 13 46.3 +0.4
ANM pmax pmax
comp=Z,10.0nm,1.4s
ANM Nome 19.25 45 P Pn 03 13 47.5 +0.3
baz=253
KLR Kul'dur 19.38 267 P Pn 03 13 48.6 -0.3
comp=Z,2.6nm,0.5s,baz=73,slow=12,SNR=12
KLR LR LR 03 21 10.8
comp=Z,81nm,20.1s,baz=2.5,slow=36
M13K Dall Lake 19.45 58 P Pn 03 13 49.1 -0.5
baz=267
JTM Tenmabayashi 19.49 235 P P 03 13 47.3 -1.3
J14K Nanvaranak Lak 19.62 51 P P 03 13 49.8 -0.1
J14K IAmb IAmb 03 13 52.5
comp=Z,11nm,0.8s
J14K Nanvaranak Lak 19.62 51 P Pn 03 13 50.9 -0.6
baz=260
L14K Kuka Creek 19.84 55 P Pn 03 13 53.5 -0.7
L14K IAmb IAmb 03 13 56.1
comp=Z,14nm,1.0s
L14K Kuka Creek 19.84 55 P Pn 03 13 54.0 -0.2
baz=265
F15K North Star Dit 19.90 42 P Pn 03 13 55.0 +0.1
baz=251
G15K Niukluk 19.93 44 P Pn 03 13 55.1 -0.1
baz=254
M14K Bethel 20.16 57 P P 03 13 56.7 +1.0
M14K Bethel 20.16 57 P Pn 03 13 57.4 -0.4
baz=267,SNR=5.3
N14K Kuskokwak Cree 20.27 59 P P 03 13 58.0 +1.0
baz=270
ZEA Zeya 20.39 283 eP Pn 03 14 03.1 +2.3
ZEA pmax pmax
comp=Z,10.0nm,0.8s
L15K Ungalak Mounta 20.44 54 P Pn 03 14 00.3 -1.1
baz=265
K15K Wolf Creek Mou 20.48 52 P Pn 03 14 00.7 -1.1
O14K Tigyukauivet M 20.50 61 P P 03 14 00.5 +1.1
baz=272
H16K Elim 20.58 46 P P 03 14 01.4 +1.1
baz=257,SNR=14
C16K Lisburne Hills 20.66 35 P P 03 14 00.8 -0.3
C16K IAmb IAmb 03 14 02.4
comp=Z,14nm,0.8s
C16K Lisburne Hills 20.66 35 P P 03 14 01.9 +0.8
baz=244
G16K Koyuk River 20.72 43 P P 03 14 00.8 -1.0
G16K Koyuk River 20.72 43 P P 03 14 02.6 +0.8
baz=255
M15K Kasigluk River 20.78 57 P P 03 14 03.5 +1.0
baz=269
J16K Anvik River 21.03 50 P P 03 14 07.7 +2.5
J16K Anvik River 21.03 50 P P 03 14 06.0 +0.8
baz=262
N15K Kwethluk River 21.07 58 P P 03 14 06.8 +1.2
N15K IAmb IAmb 03 14 08.5
comp=Z,20nm,1.0s
N15K Kwethluk River 21.07 58 P P 03 14 06.6 +1.0
baz=271
I17K Unalakleet 21.09 48 P P 03 14 04.3 -1.4
I17K IAmb IAmb 03 14 08.7
comp=Z,12nm,0.8s
I17K Unalakleet 21.09 48 P P 03 14 07.5 +1.8
baz=260,SNR=7.4
D17K Noatak River 21.19 37 P P 03 14 08.8 +2.0
baz=248,SNR=7.0
O15K Ungalikthiuk R 21.24 61 P P 03 14 08.7 +1.3
baz=273
L16K Owhat River 21.40 54 P P 03 14 09.7 +0.5
L16K IAmb IAmb 03 14 36.2
comp=Z,20nm,1.5s
SDPT Sand Point 21.42 72 P P 03 14 10.4 +1.1
baz=283
G17K Kiwalik Mounta 21.44 44 P P 03 14 11.7 +2.2
baz=256
F17K Baldwin Pennin 21.45 41 P P 03 14 10.2 +0.6
F17K IAmb IAmb 03 14 14.2
comp=Z,12nm,1.2s
F17K Baldwin Pennin 21.45 41 P P 03 14 11.2 +1.6
baz=253
C17K DeLong Mountai 21.47 35 P P 03 14 11.1 +1.3
baz=246
HEH HeiHe 21.49 274 eP P 03 14 10.9 +0.7
HEH pmax pmax
comp=Z,6.0nm,0.6s
H17K Granite Mounta 21.61 45 P P 03 14 12.2 +0.8
baz=259
M16K Timber Creek 21.63 56 P P 03 14 12.5 +0.9
baz=269
USRK Ussuriysk Ar. 21.94 255 P P 03 14 16.2 +1.1
comp=Z,1.8nm,0.7s,baz=47,slow=11,SNR=2.7
comp=Z,1.8nm,0.7s
JMM Marumori 21.95 230 P P 03 14 15.0 -0.1
L17K Donlin 21.98 53 P P 03 14 16.3 +0.9
baz=267
E18K Tukpahlearik C 21.99 39 P P 03 14 15.5 +0.1
E18K Tukpahlearik C 21.99 39 P P 03 14 16.1 +0.7
baz=252
K17K Iditarod 22.02 52 P P 03 14 15.5 -0.3
K17K IAmb IAmb 03 14 38.6
comp=Z,7.6nm,0.8s
K17K Iditarod 22.02 52 P P 03 14 16.4 +0.6
baz=266
F18K Selawik 22.11 41 P P 03 14 17.2 +0.6
baz=255
P16K Nushagak River 22.19 61 P P 03 14 18.0 +0.3
baz=275
C18K Utukok River 22.21 35 P P 03 14 16.9 -1.0
C18K IAmb IAmb 03 14 19.9
comp=Z,7.5nm,0.8s
C18K Utukok River 22.21 35 P P 03 14 18.3 +0.5
baz=248
B18K Kokolik River 22.29 33 P P 03 14 19.2 +0.6
baz=246
H18K Honhosa River 22.30 45 P P 03 14 19.4 +0.6
H18K Honhosa River 22.30 45 P P 03 14 19.5 +0.7
baz=260
G18K Tagagawik 22.33 43 P P 03 14 19.3 +0.2
G18K IAmb IAmb 03 14 40.1
comp=Z,14nm,1.4s
G18K Tagagawik 22.33 43 P P 03 14 19.5 +0.4
baz=258
M17K Holitna River 22.37 55 P P 03 14 19.4 -0.1
M17K Holitna River 22.37 55 P P 03 14 20.3 +0.8
baz=270
N17K Nushagak Hills 22.50 57 P P 03 14 21.5 +0.5
baz=272
TIXI Tiksi 22.56 333 ce P P 03 14 21.6 +0.1
TIXI pmax pmax
comp=Z,15nm,2.5s
TIXI Tiksi 22.56 333 LR LR 03 24 06.2
comp=Z,75nm,19.3s,baz=208,slow=40
O17K Koliganek Bris 22.59 59 P P 03 14 22.4 +0.5
baz=274
L18K Granite Mounta 22.74 53 P P 03 14 23.5 +0.1
L18K Granite Mounta 22.74 53 P P 03 14 24.3 +0.8
baz=268
J18K Innoko River 22.79 50 P P 03 14 25.2 +1.2
J18K Innoko River 22.79 50 P P 03 14 24.9 +0.9
baz=266
F19K Shaleruckik Mo 22.89 41 P P 03 14 24.9 -0.1
F19K IAmb IAmb 03 14 27.4
comp=Z,6.0nm,0.7s
F19K Shaleruckik Mo 22.89 41 P P 03 14 25.8 +0.9
baz=256
C19K Lookout Ridge 22.92 35 P P 03 14 24.0 -1.3
C19K IAmb IAmb 03 14 25.8
comp=Z,6.6nm,0.7s
C19K Lookout Ridge 22.92 35 P P 03 14 25.8 +0.6
baz=249
P17K Kvichak River 22.97 61 P P 03 14 26.2 +0.3
baz=276
G19K Purcell Mounta 23.01 43 P P 03 14 25.1 -1.1
G19K Purcell Mounta 23.01 43 P P 03 14 26.8 +0.6
baz=259,SNR=6.5
TTA Tatalina 23.08 51 P P 03 14 28.1 +1.1
TTA Tatalina 23.08 51 P P 03 14 28.1 +1.1
TTA pmax pmax
comp=Z,7.0nm,1.2s
TTA Tatalina 23.08 51 P P 03 14 27.4 +0.4
baz=268
N18K Kilae Creek 23.14 57 P P 03 14 27.1 -0.4
N18K IAmb IAmb 03 14 41.7
comp=Z,20nm,1.4s
N18K Kilae Creek 23.14 57 P P 03 14 27.4 -0.1
baz=273
M18K Stony River 23.14 55 P P 03 14 28.1 +0.5
baz=271
H19K Roundabout Mou 23.16 44 P P 03 14 27.2 -0.4
H19K IAmb IAmb 03 14 29.3
comp=Z,11nm,0.9s
H19K Roundabout Mou 23.16 44 P P 03 14 28.1 +0.4
baz=261
D19K Kuna River 23.22 37 P P 03 14 28.0 -0.3
D19K IAmb IAmb 03 14 29.9
comp=Z,14nm,1.1s
D19K Kuna River 23.22 37 P P 03 14 28.7 +0.5
baz=252
E19K Redstone River 23.25 40 P P 03 14 29.2 +0.6
E19K IAmb IAmb 03 14 30.2
comp=Z,16nm,1.1s
E19K Redstone River 23.25 40 P P 03 14 29.1 +0.6
baz=256,SNR=11
J19K Poorman 23.32 48 P P 03 14 29.3 0.0
J19K Poorman 23.32 48 P P 03 14 29.3 0.0
baz=265
Q17K Contact Creek 23.38 63 P P 03 14 29.9 -0.1
baz=278
MSHR Mys Shultsa 23.44 253 ce P P 03 14 33.3 +2.7
MSHR pmax pmax
comp=Z,76nm,1.7s
O18K Koktuh Hills 23.53 59 P P 03 14 31.3 -0.1
O18K Koktuh Hills 23.53 59 P P 03 14 31.3 -0.1
baz=275
P18K Big Mountain, 23.57 60 P P 03 14 30.4 -1.4
P18K IAmb IAmb 03 14 54.4
comp=Z,24nm,1.4s
P18K Big Mountain, 23.57 60 P P 03 14 31.8 +0.1
baz=276
F20K Avaraart Lake 23.72 41 P P 03 14 33.0 -0.1
F20K Avaraart Lake 23.72 41 P P 03 14 33.4 +0.4
baz=258
H20K Anotleneega Mo 23.80 45 P P 03 14 34.2 +0.3
baz=263
D20K Etivluk River 23.81 37 P P 03 14 33.9 0.0
baz=254
M19K Big River Lodg 23.82 54 P P 03 14 34.5 +0.4
M19K Big River Lodg 23.82 54 P P 03 14 34.5 +0.4
baz=271
N19K Bonanza Creek 23.82 56 P P 03 14 34.2 +0.1
baz=274
E20K Nigu River 23.83 38 P P 03 14 34.5 +0.3
baz=255
I20K Naaghedeneel 23.89 47 P P 03 14 35.1 +0.5
baz=265
O19K Port Alsworth 23.95 58 P P 03 14 35.5 +0.3
baz=275
K20K Telida 23.98 50 P P 03 14 35.5 0.0
K20K IAmb IAmb 03 14 37.6
comp=Z,17nm,1.3s
K20K Telida 23.98 50 P P 03 14 36.5 +1.0
baz=268
J20K Nowinta River 23.98 48 P P 03 14 35.8 +0.3
J20K IAmb IAmb 03 14 37.5
comp=Z,10nm,0.9s
J20K Nowinta River 23.98 48 P P 03 14 36.2 +0.7
baz=266
B20K Meade River 24.03 33 P P 03 14 35.9 0.0
B20K Meade River 24.03 33 P P 03 14 36.1 +0.2
baz=250,SNR=30
MJB9 Matsu-Tunnel 24.21 233 P P 03 14 38.0 +0.1
MAJO Matsushiro 24.22 233 P P 03 14 38.7 +0.8
MAJO Matsushiro 24.22 233 i P P 03 14 39.0 +1.1
MAJO pmax pmax
comp=Z,11nm,0.9s
MJAR Matsushiro Arr 24.22 233 P P 03 14 38.3 +0.4
comp=Z,5.3nm,0.6s,baz=20,slow=9.2,SNR=21
MJAR LR LR 03 24 29.5
comp=Z,66nm,21.5s,baz=31,slow=37
comp=Z,5.3nm,0.6s
IMAR Indian Mountai 24.33 44 P P 03 14 38.7 +0.1
M20K Styx River 24.42 54 P P 03 14 40.9 +1.3
M20K Styx River 24.42 54 P P 03 14 39.7 +0.1
baz=272
G21K Allakaket 24.50 43 P P 03 14 40.7 +0.5
G21K IAmb IAmb 03 14 42.8
comp=Z,19nm,1.4s
G21K Allakaket 24.50 43 P P 03 14 40.8 +0.5
baz=262
C21K Knifeblade Rid 24.57 36 P P 03 14 41.1 +0.3
baz=255
F21K Alatna River 24.62 41 P P 03 14 42.1 +0.8
F21K Alatna River 24.62 41 P P 03 14 41.9 +0.6
baz=260
A21K Barrow 24.68 31 P P 03 14 42.0 +0.2
baz=248
H21K Melozitna Rive 24.68 45 P P 03 14 41.3 -0.5
H21K IAmb IAmb 03 14 44.7
comp=Z,10nm,1.4s
H21K Melozitna Rive 24.68 45 P P 03 14 42.2 +0.4
baz=264
B21K Ikpikpuk River 24.75 35 P P 03 14 42.3 -0.1
B21K Ikpikpuk River 24.75 35 P P 03 14 43.1 +0.6
baz=254
CHUM Lake Minchumin 24.77 49 P P 03 14 44.0 +1.3
baz=269
PPLA Purkeypile 24.83 51 P P 03 14 43.5 +0.1
baz=271
CAST Castle Rocks 24.87 50 P P 03 14 44.4 +0.8
CAST IAmb IAmb 03 15 00.1
comp=Z,12nm,1.4s
CAST Castle Rocks 24.87 50 P P 03 14 44.2 +0.5
baz=270
N20K Mount Spurr 24.90 55 P P 03 14 44.4 +0.4
baz=275
OHAK Old Harbor 24.93 65 P P 03 14 43.1 -1.1
OHAK Old Harbor 24.93 65 P P 03 14 44.4 +0.2
baz=282
I21K Tanana 24.98 46 P P 03 14 44.8 +0.2
I21K IAmb IAmb 03 14 58.6
comp=Z,7.3nm,1.2s
I21K Tanana 24.98 46 P P 03 14 45.2 +0.7
baz=266
SYI Shuyak Island 25.14 61 P P 03 14 46.3 +0.3
SKT Skwentna 25.17 53 P P 03 14 45.2 -1.1
KDAK Kodiak Island 25.19 63 P P 03 14 45.5 -0.9
KDAK Kodiak Island 25.19 63 P P 03 14 45.6 -0.9
KDAK pmax pmax
comp=Z,22nm,1.4s
D22K Ayikyak River 25.23 37 P P 03 14 46.8 -0.1
D22K Ayikyak River 25.23 37 P P 03 14 47.7 +0.9
baz=258
H22K Ishtalitna Cre 25.28 44 P P 03 14 47.9 +0.5
baz=265
B22K Teshekpuk Lake 25.35 34 P P 03 14 47.7 -0.1
B22K Teshekpuk Lake 25.35 34 P P 03 14 48.0 +0.2
baz=254,SNR=12
BPAW Bear Paw Mtn. 25.36 48 P P 03 14 46.8 -1.3
BPAW IAmb IAmb 03 15 07.0
comp=Z,7.9nm,1.1s
BPAW Bear Paw Mtn. 25.36 48 P P 03 14 48.3 +0.2
baz=270
JGF Kuroka 25.38 233 P P 03 14 48.9 +0.4
JGF IAmb IAmb 03 14 53.7
comp=Z,5.3nm,0.7s
E22K Anaktuvuk Pass 25.40 39 P P 03 14 48.3 -0.1
E22K IAmb IAmb 03 14 50.6
comp=Z,7.4nm,0.9s
E22K Anaktuvuk Pass 25.40 39 P P 03 14 48.9 +0.4
baz=260,SNR=9.7
MLY Manley 25.50 46 P P 03 14 49.3 0.0
MLY Manley 25.50 46 P P 03 14 49.6 +0.3
baz=268
CNPM China Poot 25.57 59 P P 03 14 49.2 -0.8
SUA Susitna One 25.58 55 P P 03 14 50.0 -0.2
SUA IAmb IAmb 03 15 28.2
comp=Z,12nm,1.3s
SUA Susitna One 25.58 55 P P 03 14 50.5 +0.3
baz=275
TRF Thorofare Moun 25.68 50 P P 03 14 49.2 -1.9
TRF IAmb IAmb 03 15 10.5
comp=Z,14nm,1.4s
TRF Thorofare Moun 25.68 50 P P 03 14 51.5 +0.4
baz=272
CUT Chulitna 25.73 52 P P 03 14 52.0 +0.6
baz=274
INU Inuyama 25.75 233 P P 03 14 50.7 -1.0
BRSE Bradley Lake S 25.79 59 P P 03 14 51.9 -0.1
baz=279
COLD Coldfoot 25.88 41 P P 03 14 53.1 +0.4
baz=264
G23K Bananza Creek 25.90 42 P P 03 14 53.2 +0.2
G23K Bananza Creek 25.90 42 P P 03 14 53.5 +0.6
baz=265
D23K Nanushuk River 25.96 37 P P 03 14 53.9 +0.4
baz=260
I23K Minto, Yukon-K 26.08 46 P P 03 14 55.6 +1.1
I23K Minto, Yukon-K 26.08 46 P P 03 14 55.1 +0.6
baz=269
C23K Itkillik River 26.16 35 P P 03 14 55.0 -0.1
C23K IAmb IAmb 03 15 30.3
comp=Z,18nm,1.5s
C23K Itkillik River 26.16 35 P P 03 14 55.3 +0.1
baz=258
NEA2 Nenana 26.20 47 P P 03 14 55.5 -0.1
NEA2 Nenana 26.20 47 P P 03 14 55.5 -0.1
baz=270
E23K Chandalar 26.21 39 P P 03 14 56.0 +0.3
baz=263,SNR=7.4
MCK McKinley 26.27 49 P P 03 14 56.6 +0.3
baz=272
TOLK Toolik Lake Re 26.30 38 P P 03 14 56.9 +0.3
TOLK IAmb IAmb 03 14 59.8
comp=Z,5.9nm,0.7s
TOLK Toolik Lake Re 26.30 38 P P 03 14 57.3 +0.7
baz=262,SNR=5.4
RND Reindeer 26.32 50 P P 03 14 55.7 -1.2
RND IAmb IAmb 03 14 57.5
comp=Z,7.9nm,1.2s
RND Reindeer 26.32 50 P P 03 14 55.7 -1.2
RND pmax pmax
comp=Z,8.0nm,1.2s
PMR Palmer 26.34 54 P P 03 14 58.0 +1.1
baz=276
SEW Seward 26.38 58 P P 03 14 57.7 +0.5
baz=279
WAT1 Susitna Watana 26.50 51 P P 03 14 58.9 +0.6
baz=274
WRH Wood River Hil 26.63 48 P P 03 14 59.5 +0.1
WRH IAmb IAmb 03 15 10.7
comp=Z,5.9nm,0.9s
E24K Your Creek 26.63 39 P P 03 14 59.9 +0.4
E24K IAmb IAmb 03 15 27.8
comp=Z,5.3nm,0.9s
E24K Your Creek 26.63 39 P P 03 15 00.1 +0.6
baz=264
D24K Happy Valley 26.65 37 P P 03 15 00.5 +0.9
baz=261
SML Sawmill 26.69 54 P P 03 15 01.1 +1.0
H24K Noodor Dome 26.72 45 P P 03 15 00.8 +0.5
baz=269
COLA College 26.72 47 P P 03 15 00.1 -0.2
COLA College 26.72 47 P P 03 15 00.1 -0.2
COLA pmax pmax
comp=Z,12nm,0.3s
CCB Clear Creek Bu 26.75 47 P P 03 15 00.5 0.0
C24K Franklin Bluff 26.79 36 P P 03 15 01.3 +0.5
baz=260
F24K Squaw Lake 26.80 41 P P 03 15 01.9 +0.8
baz=265
WAT6 Susitna Watana 26.89 52 P P 03 15 02.3 +0.3
baz=275
POKR Poker Plat Res 26.90 46 P P 03 15 02.6 +0.7
baz=271
G24K Hadweenzic Riv 26.91 43 P P 03 15 01.9 -0.1
G24K IAmb IAmb 03 15 04.2
comp=Z,9.7nm,1.1s
G24K Hadweenzic Riv 26.91 43 P P 03 15 02.4 +0.3
baz=267
M23K Glacier View 26.98 54 P P 03 15 02.2 -0.5
baz=277
HDA Harding Lake 27.12 48 P P 03 15 04.1 +0.2
HDA Harding Lake 27.12 48 P P 03 15 03.8 -0.2
baz=272
IL31 27.14 47 P P 03 15 04.2 +0.2

ILAR Eielson Array 27.14 47 P **P 03 15 03.5 -0.6**
ILAR Eielson Array 27.14 47 P **P 03 15 03.5 -0.6**
ILAR Eielson Array 27.14 47 P **P 03 15 04.0 0.0**
comp=Z,1.9nm,0.9s,baz=267,slow=8.7,SNR=15
comp=Z,1.9nm,0.9s
SCM Sheep Creek Mo 27.16 53 P **P 03 15 03.7 -0.7**
SCM Sheep Creek Mo 27.16 53 P **P 03 15 03.7 -0.7**
SCM pmax pmax
comp=Z,29nm,1.3s
G25K Bearman Lake 27.46 43 P **P 03 15 07.0 +0.2**
baz=269
D25K Kavik River 27.54 37 P **P 03 15 07.0 -0.6**
D25K IAmb IAmb 03 15 34.6
comp=Z,5.2nm,0.7s
D25K Kavik River 27.54 37 P **P 03 15 07.4 -0.3**
baz=263
F25K Christian Rive 27.67 41 P **P 03 15 08.7 -0.1**
baz=268
M24K Tolsona, Glenn 27.67 53 P **P 03 15 08.0 -0.9**
PRP Porcupine Dome 27.69 45 P **P 03 15 09.3 +0.1**
PRP Porcupine Dome 27.69 45 P **P 03 15 09.5 +0.4**
baz=272
E25K Arctic Village 27.72 40 P **P 03 15 09.7 +0.3**
baz=266
J25K Salcha River, 27.80 47 P **P 03 15 07.4 -2.6**
J25K Salcha River, 27.80 47 P **P 03 15 10.1 +0.1**
baz=273
PAX Paxson 27.89 51 P **P 03 15 11.0 +0.1**
baz=276
Q23K Middleton Isla 28.04 58 P **P 03 15 13.3 +1.1**
baz=282
BMAR Burnt Mountain 28.07 41 P **P 03 15 12.4 0.0**
HARP HAARP 28.10 52 P **P 03 15 13.3 +0.6**
baz=278
C26K Camden Bay 28.12 36 P **P 03 15 13.3 +0.5**
baz=264
F26K Sheenjek River 28.24 41 P **P 03 15 14.7 +0.8**
baz=269
G26K Porcupine Rive 28.38 42 P **P 03 15 15.9 +0.8**
baz=270
SCRK Sand Creek 28.45 48 P **P 03 15 13.9 -2.0**
SCRK Sand Creek 28.45 48 P **P 03 15 16.0 +0.1**
baz=276
I26K Coal Creek Min 28.69 46 P **P 03 15 19.3 +1.4**
baz=274
KSRS Korea Array 28.77 248 P **P 03 15 15.2 -3.6**
comp=Z,2.7nm,0.9s,baz=39,slow=10,SNR=3.2
KSRS LR LR 03 26 27.5
comp=Z,39nm,19.5s,baz=60,slow=35
L26K Log Cabin Wild 28.84 50 P **P 03 15 19.9 +0.6**
baz=278
M26K Nabesna, AK 29.10 52 P **P 03 15 22.2 +0.6**
baz=279
MCARA McCarthy VSAT 29.26 54 P **P 03 15 23.4 +0.4**
baz=281
K27K Chicken 29.28 48 P **P 03 15 22.9 -0.2**
K27K IAmb IAmb 03 15 43.5
comp=Z,5.3nm,1.2s
K27K Chicken 29.28 48 P **P 03 15 23.6 +0.4**
baz=277
H27K Steamboat Moun 29.30 44 P **P 03 15 23.8 +0.4**
baz=274
D27M Malcolm River 29.45 37 P **P 03 15 23.9 -0.8**
D27M IAmb IAmb 03 15 47.7
comp=Z,8.4nm,1.4s
D27M Malcolm River 29.45 37 P **P 03 15 24.3 -0.4**
baz=269
L27K Beaver Creek, 29.52 50 P **P 03 15 25.4 0.0**
L27K IAmb IAmb 03 15 28.6
comp=Z,5.7nm,1.0s
L27K Beaver Creek, 29.52 50 P **P 03 15 24.8 -0.5**
baz=279
BCAR Beaver Creek A 29.54 50 P **P 03 15 26.3 +0.8**
EGAK Eagle 29.58 47 P **P 03 15 25.1 -0.7**
EGAK IAmb IAmb 03 16 03.1
comp=Z,9.6nm,1.4s
EGAK Eagle 29.58 47 P **P 03 15 25.4 -0.4**
baz=277
M27K Edge Creek, AK 29.62 51 P **P 03 15 27.0 +0.7**
M27K IAmb IAmb 03 15 32.0
comp=Z,11nm,1.3s
M27K Edge Creek, AK 29.62 51 P **P 03 15 26.0 -0.3**
baz=280
F28M Old Crow 29.88 41 P **P 03 15 28.5 +0.1**
F28M IAmb IAmb 03 15 59.9
comp=Z,5.3nm,1.3s
F28M Old Crow 29.88 41 P **P 03 15 28.0 -0.4**
baz=273
E28M Babbage River 29.97 39 P **P 03 15 28.9 -0.3**
baz=271
I28M Miner Creek 30.02 45 P **P 03 15 29.3 -0.5**
baz=276
YUK3 Moose Creek 30.39 52 P **P 03 15 33.7 +0.5**
baz=282
DAWY Dawson 30.44 48 P **P 03 15 34.3 +0.8**
baz=279
H29M Whitestone 30.58 43 P **P 03 15 35.2 +0.6**
H29M IAmb IAmb 03 15 36.9
comp=Z,11nm,1.4s
H29M Whitestone 30.58 43 P **P 03 15 35.3 +0.7**
baz=276
E29M Blow River 30.58 39 P **P 03 15 33.9 -0.7**
E29M Blow River 30.58 39 P **P 03 15 35.1 +0.5**
baz=273
G29M Pine Creek 30.64 42 P **P 03 15 35.6 +0.4**
G29M IAmb IAmb 03 16 11.8
comp=Z,14nm,1.4s
G29M Pine Creek 30.64 42 P **P 03 15 36.4 +1.3**
baz=276
M29M Somme Creek 31.16 51 P **P 03 15 40.2 +0.3**
M29M IAmb IAmb 03 15 42.2
comp=Z,3.4nm,0.8s
M29M Somme Creek 31.16 51 P **P 03 15 41.1 +1.2**
baz=283
L29M L29M 31.17 49 P **P 03 15 40.3 +0.4**
L29M IAmb IAmb 03 15 42.5
comp=Z,6.9nm,0.8s
L29M L29M 31.17 49 P **P 03 15 40.7 +0.8**
baz=282
G30M tAoh Zraii Nji 31.34 42 P **P 03 15 40.6 -0.8**
G30M IAmb IAmb 03 15 57.1
comp=Z,7.7nm,1.4s
PNL Peninsula 31.41 56 P **P 03 15 42.5 +0.5**
baz=286
F30M Barrier River 31.44 40 P **P 03 15 43.0 +0.9**
baz=276
G31M Satah River 32.11 42 P **P 03 15 49.2 +1.2**
baz=279
INK Inuvik 32.20 39 P **P 03 15 49.3 +0.5**
INK IAmb IAmb 03 16 28.1
comp=Z,4.7nm,1.4s
INK Inuvik 32.20 39 P **P 03 15 49.3 +0.5**
INK pmax pmax
comp=Z,5.0nm,1.5s
INK Inuvik 32.20 39 P **P 03 15 50.1 +1.3**
baz=277
M31M Drury Creek, Y 33.06 50 P **P 03 15 57.3 +0.9**
M31M IAmb IAmb 03 15 59.0
comp=Z,4.8nm,0.9s
M31M Drury Creek, Y 33.06 50 P **P 03 15 57.5 +1.0**
baz=286
P33M Teslin, Yukon 34.40 53 P **P 03 16 09.9 +1.7**
baz=290
A36M Sachs Harbour 34.51 32 P **P 03 16 09.9 +1.1**
baz=279
H11N2 WAKE ISLAND Hy 34.65 172 T T 03 53 21.1
baz=355,slow=76,SNR=389
H11N3 WAKE ISLAND Hy 34.67 172 T T 03 53 22.3
baz=355,slow=76,SNR=272
H11N1 WAKE ISLAND Hy 34.67 172 T T 03 53 23.4
baz=355,slow=76,SNR=440
SONM Songino Array 34.82 283 P **P 03 16 12.4 +0.5**
comp=Z,0.6nm,0.4s,baz=53,slow=8.7,SNR=4.8
SONM PcP **PcP 03 18 44.6 +0.3**
comp=Z,0.3nm,0.4s,baz=52,slow=2.4,SNR=2.3
comp=Z,0.6nm,0.4s
C36M Paulatuk 35.40 36 P **P 03 16 16.8 +0.3**
C36M Paulatuk 35.40 36 P **P 03 16 17.1 +0.6**
baz=284,SNR=5.9
H11S1 WAKE ISLAND Hy 35.85 173 T T 03 54 56.0
baz=352,slow=76,SNR=12
H11S3 WAKE ISLAND Hy 35.86 173 T T 03 54 49.9
baz=352,slow=76,SNR=14
H11S2 WAKE ISLAND Hy 35.87 173 T T 03 54 58.5
baz=352,slow=76,SNR=11
HHC Hu-ho-hao-te 35.87 269 *e*P **P 03 16 22.2 +1.1**
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,85nm,4.7s
WRGLY Wrigley 37.50 46 P **P 03 16 35.5 +1.0**
baz=292
EUNU Eureka 40.53 14 P **P 03 16 59.9 +0.2**
EUNU IAmb IAmb 03 17 00.2
comp=Z,3.5nm,0.7s
YKA Yellowknife Ar 41.49 44 P **P 03 17 08.3 +0.6**
comp=Z,1.2nm,0.9s,baz=298,slow=8.2,SNR=11
YKA PcP **PcP 03 19 05.0 +0.5**
comp=Z,0.2nm,0.6s,baz=295,slow=2.8,SNR=2.2
comp=Z,1.2nm,0.9s
RES Resolute Bay 41.79 23 P **P 03 17 09.6 -0.4**
RES Resolute Bay 41.79 23 P **P 03 17 09.6 -0.4**
RES pmax pmax
comp=Z,1.0nm,1.0s
ZALV Zalesovo Beam 43.17 303 LR LR 03 35 39.1
comp=Z,30nm,19.2s,baz=222,slow=37
DGZ Jazzator, Alta 44.24 296 *i* P **P 03 17 31.4 +1.0**
DGZ pmax pmax
comp=Z,6.0nm,3.0s
BRLDA Berland Lookou 44.64 56 P **P 03 17 34.5 +1.1**
SPITS Spitsbergen Ar 46.19 351 P **P 03 17 44.2 -1.1**
comp=Z,1.6nm,0.4s,baz=71,slow=11,SNR=13
comp=Z,1.6nm,0.4s
EDM Edmonton 47.10 55 P **P 03 17 53.3 +0.6**
EDM Edmonton 47.10 55 P **P 03 17 53.3 +0.6**
EDM pmax pmax
comp=Z,20nm,1.4s
KURK Kurchatov 48.15 302 P **P 03 17 58.5 -2.3**
KURK IAmb IAmb 03 18 17.6
comp=Z,2.0nm,0.8s
KURK Kurchatov 48.15 302 *i* P **P 03 18 01.6 +0.8**
KURK pmax pmax
comp=Z,1.0nm,1.0s
KURBB Kurchatov Arra 48.25 302 P **P 03 17 59.2 -2.4**
comp=Z,0.6nm,0.4s,baz=59,slow=7.6,SNR=5.1
KURBB PcP **PcP 03 19 28.2 +0.2**
comp=Z,0.4nm,0.3s,baz=47,slow=2.8,SNR=2.7
comp=Z,0.6nm,0.4s
NEW Newport 48.28 62 P **P 03 18 03.9 +1.9**
baz=309
MK31 Makanchi Array 48.74 296 *i* P **P 03 18 07.0 +1.5**
MKAR Makanchi Array 48.74 296 P **P 03 18 03.3 -2.1**
MKAR Makanchi Array 48.74 296 *ce*P **P 03 18 07.6 +2.1**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 48.74 296 P **P 03 18 02.5 -2.9**
comp=Z,0.3nm,0.7s,baz=39,slow=6.3,SNR=5.8
comp=Z,0.3nm,0.7s
J05D Fort Rock, OR 49.29 70 P **P 03 18 11.2 +1.4**
J05D IAmb IAmb 03 18 12.9
comp=Z,3.1nm,0.8s
YBH Yreka Blue Hor 49.50 72 LR LR 03 37 19.1
comp=Z,29nm,18.6s,baz=326,slow=34
K05A Summer Lake 49.85 70 P **P 03 18 16.0 +1.9**
K05A IAmb IAmb 03 18 59.9
comp=Z,4.6nm,1.3s
BVAR Borovoye Array 50.61 309 P **P 03 18 17.2 -2.4**
comp=Z,0.8nm,0.5s,baz=73,slow=7.1,SNR=4.6
comp=Z,0.8nm,0.5s
BRVK Borovoye 50.64 309 *i* P **P 03 18 20.4 +0.6**
BRVK pmax pmax
comp=Z,1.0nm,0.9s
PLID Pearl Lake 50.93 65 P **P 03 18 23.3 +0.9**
PLID IAmb IAmb 03 18 24.5
comp=Z,2.0nm,0.8s
BPMT Black Pine Rid 51.37 62 P **P 03 18 26.2 +0.5**
FCC Fort Churchill 51.81 40 P **P 03 18 28.0 -0.4**
FCC IAmb IAmb 03 18 54.1
comp=Z,6.9nm,1.4s
FCC Fort Churchill 51.81 40 P **P 03 18 28.0 -0.4**
FCC pmax pmax
comp=Z,7.0nm,1.4s
ARCES ARCESS Array B 52.55 342 P **P 03 18 31.1 -2.8**
comp=Z,2.4nm,0.9s,baz=7.6,slow=8.2,SNR=1.5
comp=Z,2.4nm,0.9s
BOZ Bozeman (W) 52.87 61 P **P 03 18 37.9 +1.2**
baz=313
ARU Arti 53.36 318 *d* iP **P 03 18 41.4 +1.5**
ARU 03 20 38.2
ARU S **S 03 26 13.5 +5.4**
ARU SS **SKiKP 03 29 50.6 -1.0**
ARU pmax pmax
comp=Z,9.0nm,1.7s
ARU Arti 53.36 318 LR LR 03 44 37.9
comp=Z,52nm,19.5s,baz=34,slow=40
WAKR Walker 53.53 73 P **P 03 18 43.5 +1.8**
WAKR IAmb IAmb 03 18 45.1
comp=Z,2.9nm,0.7s
KVN Kaiserville 53.90 72 P **P 03 18 46.4 +2.0**
KVN IAmb IAmb 03 18 47.6
comp=Z,2.5nm,0.7s
KVN Kaiserville 53.90 72 P **P 03 18 46.4 +2.0**
KVN pmax pmax
comp=Z,3.0nm,0.7s
RYN Ryan 53.96 72 P **P 03 18 46.5 +1.7**
RYN IAmb IAmb 03 18 47.5
comp=Z,2.4nm,0.7s
NVAR Mina Array Bea 54.22 72 P **P 03 18 48.6 +1.8**
NVAR Mina Array Bea 54.22 72 P **P 03 18 49.0 +2.3**
comp=Z,2.0nm,0.6s,baz=303,slow=7.5,SNR=22
comp=Z,2.0nm,0.6s
H17A Grant Village 54.24 62 P **P 03 18 49.2 +2.3**
baz=314
RLMT Red Lodge 54.41 60 P **P 03 18 48.7 +0.6**
RLMT IAmb IAmb 03 19 31.6
comp=Z,2.7nm,1.1s
RLMT Red Lodge 54.41 60 P **P 03 18 49.6 +1.6**
baz=314
LAO LASA Array 54.85 57 P **P 03 18 53.1 +2.1**
baz=314
GMN Gold Mountain 55.60 72 P **P 03 18 58.1 +1.4**
CWC Cottonwood Cre 55.75 74 P **P 03 19 00.0 +2.2**
baz=316
R11B Troy Canyon, C 55.79 70 P **P 03 19 00.1 +2.0**
baz=316
BW06 Boulder Array 55.91 63 P **P 03 19 00.6 +1.8**
baz=315
PDAR Pinedale Array 55.91 63 P **P 03 18 57.5 -1.3**
PDAR Pinedale Array 55.91 63 P **P 03 19 00.6 +1.7**
comp=Z,0.7nm,0.7s,baz=318,slow=2.0,SNR=6.6
comp=Z,0.7nm,0.7s
DUG Dugway, Tooele 55.99 67 P **P 03 19 01.6 +2.2**
baz=315
SPR3 Spring Creek 3 56.02 69 P **P 03 19 02.4 +2.5**
SPR3 IAmb IAmb 03 19 03.7
comp=Z,3.6nm,1.0s
MPMC Manual Prospec 56.36 74 P **P 03 19 04.4 +2.2**
baz=316
BSUT Blindstream Ca 56.85 65 P **P 03 19 08.4 +2.5**
BSUT IAmb IAmb 03 19 45.7
comp=Z,3.1nm,1.2s
ULM Lac du Bonnet 57.14 48 P **P 03 19 08.2 +1.0**
comp=Z,1.4nm,0.8s,baz=342,slow=6.4,SNR=3.0
comp=Z,1.4nm,0.8s
KK31 Karatay Array 57.37 300 P **P 03 19 08.2 -0.8**
KK31 IAmb IAmb 03 19 14.9
comp=Z,2.4nm,0.8s
KK31 Karatay Array 57.37 300 P **P 03 19 08.2 -0.8**
KK31 pmax pmax
comp=Z,2.0nm,0.8s
KKAR Karatay Array 57.37 300 P **P 03 19 08.3 -0.7**
KKAR IAmb IAmb 03 19 14.9
comp=Z,2.4nm,0.8s
KKAR Karatay Array 57.37 300 P **P 03 19 08.3 -0.7**
KKAR pmax pmax
comp=Z,2.0nm,0.8s
ABKAR Akbulak array 57.96 311 P **P 03 19 12.3 -0.7**
HMU Henry Mountain 58.73 67 P **P 03 19 20.3 +1.4**
FIA1 FINESS Array S 59.53 337 P **P 03 19 22.1 -1.6**
FINES FINESS Array B 59.53 337 P **P 03 19 22.4 -1.3**
FINES FINESS Array B 59.53 337 P **P 03 19 22.1 -1.6**
comp=Z,1.1nm,0.4s,baz=36,slow=7.6,SNR=38
comp=Z,1.1nm,0.4s
IKP In-Ko-Pah, Jac 59.62 75 P **P 03 19 29.5 +4.6**
baz=318
WUAZ Wupatki 60.16 70 P **P 03 19 31.3 +2.6**
baz=318
EYMN Ely 60.78 48 P **P 03 19 32.2 -0.3**
OBN Obninsk 62.18 328 *e*P **P 03 19 42.6 +0.8**
OBN *e**PP **pP 03 19 55.1 +1.0**
OBN *e**SP **sP 03 20 00.2 +1.1**
OBN *e* 03 20 22.9
OBN *e* 03 21 59.1
OBN *e*PPP PPP 03 23 27.5
OBN pmax pmax
comp=Z,4.0nm,1.1s
OBN MLR MLR
comp=Z,50nm,18.0s
NC405 NORSAR Array S 62.61 344 P **P 03 19 43.1 -1.5**
NB201 NORSAR Array S 62.73 345 P **P 03 19 43.6 -1.8**
NB2 NORSAR Subarra 62.76 345 P **P 03 19 44.2 -1.4**
comp=Z,0.8nm,0.8s,baz=20,slow=6.9
NOA NORSAR Array B 62.76 345 P **P 03 19 43.9 -1.8**
comp=Z,0.4nm,0.4s,baz=19,slow=6.1,SNR=6.3
comp=Z,0.4nm,0.4s
HFS Hagfors 63.21 343 P **P 03 19 46.6 -2.0**
comp=Z,1.0nm,0.4s,baz=46,slow=8.4,SNR=8.9
comp=Z,1.0nm,0.4s
SCHQ Schefferville 64.05 29 P **P 03 19 53.0 -1.2**
SCHQ IAmb IAmb 03 20 32.4
comp=Z,2.1nm,0.8s
SCHQ Schefferville 64.05 29 P **P 03 19 53.6 -0.7**
comp=Z,3.4nm,1.0s,baz=303,slow=5.2,SNR=5.1
comp=Z,3.4nm,1.0s
GEYT Alibeck 67.46 304 P **P 03 20 13.8 -2.7**
comp=Z,0.7nm,0.3s,baz=57,slow=5.3,SNR=1.6
comp=Z,0.7nm,0.3s
AKASG Malin Array Be 68.23 330 P **P 03 20 19.2 -1.8**
comp=Z,0.3nm,0.4s,baz=28,slow=6.5,SNR=2.5
AKASG LR LR 03 53 36.0
comp=Z,52nm,18.6s,baz=14,slow=39
comp=Z,0.3nm,0.4s
TX31 Lajitas Ar. Si 69.08 69 P **P 03 20 27.2 +0.3**
TXAR Lajitas Array 69.08 69 P **P 03 20 27.4 +0.6**
TXAR Lajitas Array 69.08 69 P **P 03 20 27.4 +0.6**
TXAR Lajitas Array 69.08 69 P **P 03 20 28.2 +1.4**
comp=Z,1.3nm,0.7s,baz=303,slow=4.8,SNR=13
comp=Z,1.3nm,0.7s
KIV Kislovodsk 69.41 318 *e*P **P 03 20 31.1 +2.5**
KIV pmax pmax
comp=Z,2.0nm,1.1s
KIV MLR MLR
comp=Z,17nm,17.0s
KBZ Khabaz 69.51 318 P **P 03 20 29.4 +0.3**
comp=Z,1.0nm,0.9s,baz=350,slow=17,SNR=2.4
comp=Z,1.0nm,0.9s
EKA Eskdalemuir Ar 70.11 351 P **P 03 20 31.7 -0.9**
comp=Z,0.4nm,0.4s,baz=20,slow=4.8,SNR=4.4
comp=Z,0.4nm,0.4s
STHS Stebnicka Huta 71.59 334 *e*P **P 03 20 43.5 +1.8**
STHS Stebnicka Huta 71.59 334 *e*P **P 03 20 43.5 +1.8**
CLL Collm 71.69 340 *e*P **P 03 20 42.0 -0.2**
BURAR Bucovina Array 72.16 331 P **P 03 20 43.4 -1.9**
VRAC Vranov 72.81 337 LR LR 03 59 00.5
comp=Z,41nm,19.1s,baz=333,slow=41
VYHS Vyhne 73.04 335 *e*P **P 03 20 51.7 +1.3**
VYHS Vyhne 73.04 335 *e*P **P 03 20 51.7 +1.3**
GERES GERESS Array B 73.88 339 P **P 03 20 52.9 -2.5**
comp=Z,0.5nm,0.6s,baz=8.5,slow=14,SNR=2.8
comp=Z,0.5nm,0.6s
KBA Koelnbreinsper 75.63 339 *e*P **P 03 21 06.4 +0.7**
comp=Z,4.3nm,1.2s
MOTA Moosalm 75.84 340 *e*P **P 03 21 07.8 +0.9**
comp=Z,5.1nm,1.4s
OBKA Obir 75.91 338 *e*P **P 03 21 08.2 +1.0**
comp=Z,0.3nm,0.3s
PRED Cave del Predi 76.19 338 P **P 03 21 06.7 -2.0**
FETA Feichten 76.23 340 *e*P **P 03 21 08.7 -0.3**
comp=Z,0.2nm,0.3s
BRTR Keskin Array B 76.48 322 P **P 03 21 09.1 -1.5**
BRTR Keskin Array B 76.48 322 *ce*P **P 03 21 10.8 +0.2**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 76.48 322 P **P 03 21 10.1 -0.6**
comp=Z,0.6nm,0.9s,baz=50,slow=2.8,SNR=4.4
comp=Z,0.6nm,0.9s
WRA Warramunga Arr 77.65 207 P **P 03 21 18.6 +1.5**
comp=Z,0.6nm,0.7s,baz=18,slow=6.1,SNR=10.0
comp=Z,0.6nm,0.7s
WSAR Wadi Sarin 78.95 294 LR LR 03 58 41.5
comp=Z,30nm,18.1s,baz=354,slow=38
ASAR Alice Springs 81.32 206 P **P 03 21 38.3 +1.4**
comp=Z,0.7nm,0.7s,baz=15,slow=5.9,SNR=7.2
comp=Z,0.7nm,0.7s
MMAI Mount Meron Ar 81.70 317 P **P 03 21 38.3 -0.9**
comp=Z,0.4nm,0.3s,baz=25,slow=4.8,SNR=2.1
MMAI LR LR 04 00 40.6
comp=Z,41nm,18.7s,baz=86,slow=38
comp=Z,0.4nm,0.3s
QSPA South Pole Qui 144.00 180 PKP **PKPdf 03 28 54.9 +0.3**
comp=Z,2.3nm,0.9s,baz=354,slow=0.5,SNR=6.4

BER ***11*** *03:17:15.4±2.4, 79.59N×3.13E, h10km, mb(Pn)2.8, Confirmed Earthquake*
DNK ***11*** *03:17:15.7±1.4, 79.50N×3.37E, h27km±23km, ML0.7*
ISC 11 03:17:14.3±1.8, 79.1N±0.3×3.19E±0.05, h10km, n9, σ1.935/16, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.69**	**90**	*e*P		**Pn**	**03 17 43.4**	**-0.4**
KBS				*e*S		**Sn**	**03 18 04.3**	**-1.1**
KBS				IAML			03 18 13.8	
comp=Z,3.4nm,0.3s								
KBS	**Kingsbay**	**1.69**	**90**	*i* P		**Pn**	**03 17 43.1**	**-0.7**
KBS				*i* S		**Sn**	**03 18 04.6**	**-0.8**
BRBB	**Barentsburg B**	**2.40**	**108**	*e*P		**Pb**	**03 17 57.9**	**+0.5**
BRBA	**Barentsburg A**	**2.41**	**109**	*e*P		**Pb**	**03 17 57.6**	**-0.2**
SPA0	**Spitsbergen Ar**	**2.76**	**102**	*e*P		**Pn**	**03 18 00.4**	**+1.9**
SPA0				*e*S		**Sn**	**03 18 32.3**	**+0.5**
SPA0				IAML			03 18 39.7	
comp=Z,2.8nm,0.7s								
DAG	**Danmarks Havn**	**5.10**	**254**	*e*P		**Pn**	**03 18 31.8**	**+1.1**
DAG				*e*S		**Sn**	**03 19 27.9**	**-1.6**
DAG	**Danmarks Havn**	**5.10**	**254**	*e*		**Pn**	**03 18 31.2**	**+0.6**
baz=54,slow=16								
DAG				*i* P		**Pn**	**03 18 32.0**	**+1.4**
DAG				*i* S		**Sn**	**03 19 27.5**	**-1.9**
DAG				IAML			03 19 38.9	
comp=Z,0.3nm,0.4s								
HOPEN	**Hopen**	**5.26**	**108**	*e*S		**Sn**	**03 19 33.8**	**+0.4**
HOPEN				IAML			03 19 34.7	
comp=Z,3.6nm,1.1s								
DBG	**Daneborg**	**7.14**	**240**	*e*P		**Pn**	**03 19 00.6**	**+2.0**
DBG				*e*S		**Sn**	**03 20 17.6**	**-1.9**
DBG				IAML			03 20 25.8	
comp=Z,0.2nm,0.3s								

THE ***11*** *03:18:47.8, 41.18N×22.88E, h10km, ML1.3/7, Error ellipse: s-maj=1.1km s-min=0.6km az=323.0*
ATH 11 03:18:47.9, 41.17N×22.86E, h10km±1km, ML1.4/4, Error ellipse: s-maj=1.9km s-min=0.9km az=339.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.03**	**114**	P		Pg	03 18 49.6	-0.2
KNT				S		Sg	03 18 51.2	0.0
2μm,0.0s								
KNT	**Kendrikon**	**0.03**	**114**	P		Pg	03 18 49.8	0.0
KNT				S		Sg	03 18 51.5	+0.2
GRG	**Griva**	**0.41**	**238**	P		Pg	03 18 55.6	-0.4
GRG				S		Sg	03 19 01.8	+0.4
112nm,0.2s								
GRG	**Griva**	**0.41**	**238**	P		Pg	03 18 55.6	-0.4
GRG				S		Sg	03 19 01.5	+0.1
GRG				AML		AML	03 19 03.1	
comp=E,270μm,0.1s								
GRG				AML		AML	03 19 03.6	
comp=N,218μm,0.1s								
SOH	**Sokhos**	**0.51**	**133**	P		Pg	03 18 57.7	-0.2
SOH				S		Sg	03 19 05.0	+0.3
comp=N,80nm,0.2s								
SOH	**Sokhos**	**0.51**	**133**	P		Pg	03 18 57.8	-0.2
SOH				S		Sg	03 19 04.8	+0.1
SOH				AML		AML	03 19 07.5	
comp=N,158μm,0.3s								
SOH				AML		AML	03 19 07.8	
comp=E,211μm,0.1s								
THE	**Thessaloniki**	**0.55**	**172**	P		Pg	03 18 58.4	-0.1
THE				S		Sb	03 19 06.9	-0.5
comp=E,45nm,0.2s								
THE	**Thessaloniki**	**0.55**	**172**	P		Pg	03 18 58.4	-0.1
SRS	**Serrai**	**0.56**	**96**	P		Pg	03 18 57.9	-0.8
SRS				S		Sg	03 19 05.8	-0.2
comp=E,30nm,0.1s								
SRS	**Serrai**	**0.56**	**96**	P		Pg	03 18 58.0	-0.7

SRS				S	Sg	03 19 05.7	-0.4	
HORT	**Hortiatis**	**0.60**	**162**	P	Pg	03 18 59.5	-0.1	
HORT				S	Sg	03 19 08.3	+0.7	
HORT	**Hortiatis**	**0.60**	**162**	P	Pg	03 18 59.6	0.0	
HORT				S	Sg	03 19 07.6	0.0	
HORT				AML	AML	03 19 10.0		
	comp=E,72μm,0.2s							
HORT				AML	AML	03 19 11.6		
	comp=N,46μm,0.1s							
NVR	**Nevrokopi**	**0.78**	**77**	P	Pg	03 19 02.9	0.0	
NVR				S	Sg	03 19 13.2	+0.2	
	comp=N,25nm,0.2s							
NVR	**Nevrokopi**	**0.78**	**77**	P	Pg	03 19 02.8	-0.1	
NVR				S	Sg	03 19 13.1	+0.1	
NVR				AML	AML	03 19 14.3		
	comp=N,42μm,0.1s							
NVR				AML	AML	03 19 16.9		
	comp=E,54μm,0.1s							
KOKK	**Kokkinochori,**	**0.93**	**112**	P	Pg	03 19 05.3	-0.6	
KOKK				S	Sg	03 19 17.9	-0.1	
	comp=E,12nm,0.3s							
KOKK	**Kokkinochori,**	**0.93**	**112**	P	Pg	03 19 05.4	-0.5	
OUR	**Ouranopolis**	**1.20**	**134**	P	Pb	03 19 10.3	-0.3	
KAVA	**Kavala**	**1.26**	**98**	P	Pn	03 19 10.9	-0.7	
KAVA				S	Sb	03 19 28.1	+0.1	
KAVA	**Kavala**	**1.26**	**98**	P	Pn	03 19 10.8	-0.7	
THAS	**Thassos island**	**1.52**	**111**	P	Pn	03 19 15.0	-0.1	

*IDC **11** 03:23:01.2±2.4, 22°.79S×176°.30W, h0km, mb3.9/5, mbtmp3.9/5, MS3.5/5, Error ellipse: s-maj=134.3km s-min=30.2km az=156.0*

ISC 11 03:23:16.6±2.0, 23°.03S×176°.43W±0°.4, h124km, n12, σ1°07/8, mb3.7/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**15.47**	**86**	LR		LR	03 31 54.6	
	comp=Z,70nm,18.3s,baz=242,slow=35							
PPT	**Papeete**	**25.67**	**83**	LR		LR	03 37 04.2	
	comp=Z,69nm,18.7s,baz=306,slow=33							
STKA	**Stephens Creek**	**38.15**	**247**	LR		LR	03 45 49.1	
	comp=Z,63nm,18.5s,baz=22,slow=36							
ASAR	**Alice Springs**	**45.48**	**259**	P		**P**	**03 31 23.6**	**-0.2**
	1.5nm,0.9s,baz=92,slow=7.3,SNR=8.4							
ASAR				PcP		**PcP**	**03 33 02.0**	**+1.3**
	0.1nm,0.4s,baz=102,slow=3.9,SNR=1.4							
	1.5nm,0.9s							
WRA	**Warramunga Arr**	**45.82**	**264**	P		**P**	**03 31 25.3**	**-1.1**
	0.9nm,0.5s,baz=94,slow=8.3,SNR=20							
	0.9nm,0.5s							
BATI	**Baumata**	**58.53**	**272**	LR		LR	03 59 02.9	
	comp=Z,76nm,18.6s,baz=326,slow=37							
NVAR	**Mina Array Bea**	**81.83**	**42**	LR		LR	04 05 37.3	
	comp=Z,30nm,20.2s,baz=324,slow=31							
TXAR	**Lajitas Array**	**87.15**	**57**	P		**P**	**03 35 48.9**	**-0.2**
	0.5nm,0.9s,baz=238,slow=5.2,SNR=3.5							
	0.5nm,0.9s							
ILAR	**Eielson Array**	**90.44**	**12**	P		**P**	**03 36 03.7**	**+0.1**
	0.2nm,0.8s,baz=217,slow=4.3,SNR=1.5							
	0.2nm,0.8s							
CMAR	**Chiang Mai Arr**	**92.39**	**289**	P		**P**	**03 36 14.8**	**+1.1**
	1.3nm,0.3s,baz=114,slow=3.3,SNR=11							
	1.3nm,0.3s							
AKASG	**Malin Array Be**	**145.96**	**331**	PKPbc		**PKPdf**	**03 42 40.0**	**-0.6**
	0.4nm,0.3s,baz=45,slow=2.8,SNR=2.9							
BRTR	**Keskin Array B**	**149.65**	**310**	PKPbc		**PKPbc**	**03 42 51.0**	**-1.0**
	0.4nm,0.9s,baz=76,slow=7.6,SNR=3.5							

DJA 11 03:33:37.4±0.7, 5°.S±5°.×10°.2E±°, h12km±6km, M3.8/9, mb4.0/1, MLv3.7/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.10**	**72**	P		Pb	03 33 57.5	-1.0
LHSI	**Lahat**	**1.84**	**62**	P		Pn	03 34 08.9	+0.1
LWLI	**Liwa**	**2.17**	**98**	P		Pn	03 34 13.2	-0.3
PPSI	**Pulau Pagai**	**2.69**	**316**	P		Pn	03 34 20.4	-0.2
KASI	**Kota Agung**	**2.71**	**108**	P		Pn	03 34 21.8	+1.0
PDSI	**Padang**	**4.03**	**339**	P		Pn	03 34 38.9	-0.1
SISI	**Saibi**	**4.37**	**320**	P		Pn	03 34 43.7	0.0

*IDC **11** 03:35:28.7±6.0, 18°.27N×146°.56E, h68km±53km, mb3.9/19, mbtmp4.2/20, ML3.4/1, MS3.3/28, Error ellipse: s-maj=27.2km s-min=13.1km az=85.0*

*NEIC **11** 03:35:28.4±1.5, 18°.24N±0°.09×146°.7E±0°.2, h66km±5km, mb4.4/27, Error ellipse: s-maj=21.8km s-min=12.3km az=91.0*

ISC 11 03:35:26.5±0.5, 18°.21N±0°.08×146°.6E±0°.1, h50km, n82, σ0°69/59, mb4.5/33, MS3.5/26, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PATS	**Pohnpei**	**16.05**	**133**		Pn	**Pn**	**03 39 07.8**	**-1.2**
JHJ	**Hachijo jima 2**	**16.07**	**339**	LR		LR	03 43 32.0	
	comp=Z,29nm,20.2s,baz=160,slow=30							
JOW	**Kunigami**	**18.98**	**300**	LR		LR	03 45 47.1	
	comp=Z,135nm,21.8s,baz=29,slow=33							
H11S3	**WAKE ISLAND Hy**	**19.05**	**86**	T		T	03 59 07.9	
	baz=272,slow=74,SNR=6.2							
H11S1	**WAKE ISLAND Hy**	**19.06**	**86**	T		T	03 59 08.5	
	baz=272,slow=74,SNR=4.7							
H11S2	**WAKE ISLAND Hy**	**19.07**	**86**	T		T	03 59 06.6	
	baz=272,slow=74,SNR=4.7							
JGF	**Kuroka**	**19.17**	**336**	P		**P**	**03 39 45.7**	**-0.3**
H11N1	**WAKE ISLAND Hy**	**19.23**	**82**	T		T	03 59 27.0	
	baz=265							
H11N2	**WAKE ISLAND Hy**	**19.24**	**82**	T		T	03 59 19.4	
	baz=265							
H11N3	**WAKE ISLAND Hy**	**19.25**	**82**	T		T	03 59 25.0	
	baz=265							
MJAR	**Matsushiro Arr**	**19.71**	**340**	P		**P**	**03 39 51.6**	**-0.3**
	0.1nm,0.3s,baz=168,slow=9.3,SNR=6.3							
	1.2nm,0.6s							
MAJO	**Matsushiro**	**19.71**	**340**	P		**P**	**03 39 51.1**	**-0.7**
MAJO						IAmb	IAmb	03 39 58.8
	comp=Z,11nm,0.9s							
MJB9	**Matsu-Tunnel**	**19.72**	**340**	P		**P**	**03 39 50.9**	**-1.1**
MJB9						IAmb	IAmb	03 39 58.7
	comp=Z,11nm,0.9s							
JNU	**Nakatsue**	**20.50**	**319**	LR		LR	03 47 01.6	
	comp=Z,72nm,19.8s,baz=146,slow=34							
DAV	**Davao City (W)**	**23.30**	**244**	P		**P**	**03 40 30.8**	**+0.6**
	comp=Z,308nm,0.3s,baz=49,slow=9.2,SNR=2.9							
DAV				LR		LR	03 47 40.2	
	comp=Z,83nm,21.5s,baz=359,slow=31							
KSRS	**Korea Array**	**25.23**	**323**	P		**P**	**03 40 47.5**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=143,slow=9.2,SNR=6.3							
	comp=Z,1.0nm,0.5s							
ASAJ	**Asahikawa**	**26.05**	**353**	LR		LR	03 53 24.2	
	comp=Z,24nm,18.2s,baz=138,slow=41							
PMG	**Port Moresby**	**27.45**	**179**	LR		LR	03 52 24.4	
	comp=Z,56nm,18.7s,baz=30,slow=37							
USRK	**Ussuriysk Ar.**	**28.68**	**338**	P		**P**	**03 41 19.6**	**+0.9**
	comp=Z,2.9nm,0.7s,baz=143,slow=10,SNR=4.9							
	comp=Z,2.9nm,0.7s							
KLR	**Kul'dur**	**33.19**	**342**	LR		LR	03 57 44.7	
	comp=Z,13nm,19.0s,baz=232,slow=40							
HEH	**HeiHe**	**35.47**	**339**	*eP*		**P**	**03 42 18.2**	**+0.1**
HEH				pmax		pmax		
	comp=Z,12nm,1.1s							
HEH				pmax		pmax		
	comp=Z,140nm,5.6s							
PETK	**Petropavlovsk-**	**35.88**	**11**	LR		LR	03 55 27.2	
	comp=Z,26nm,19.3s,baz=214,slow=33							
CTA	**Charters Tower**	**38.06**	**181**	LR		LR	03 57 32.4	
	comp=Z,37nm,20.7s,baz=264,slow=35							
WRA	**Warramunga Arr**	**39.79**	**198**	P		**P**	**03 42 55.1**	**+0.2**
	comp=Z,3.6nm,0.9s,baz=29,slow=8.6,SNR=11							
WRA				PcP		**PcP**	**03 45 00.7**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=2.2,slow=2.7,SNR=2.4							
	comp=Z,3.6nm,0.9s							
ASAR	**Alice Springs**	**43.44**	**197**	P		**P**	**03 43 25.6**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=18,slow=7.8,SNR=12							
	comp=Z,1.1nm,0.5s							
SONM	**Songino Array**	**44.07**	**321**	P		**P**	**03 43 30.1**	**+0.3**
SONM	**Songino Array**	**44.07**	**321**	P		**P**	**03 43 30.0**	**+0.3**
SONM				PcP		**PP**	**03 45 14.1**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=139,slow=4.0,SNR=2.3							
	comp=Z,0.8nm,0.4s							
CMAR	**Chiang Mai Arr**	**45.15**	**278**	LR		LR	04 01 22.4	
	comp=Z,18nm,20.6s,baz=100,slow=34							
MBWA	**Marble Bar**	**47.17**	**215**	P		**P**	**03 43 54.5**	**+0.2**

XMIS	**Christmas Isla**	**49.48**	**238**	P		**P**	**03 44 11.1**	**-1.2**
STKA	**Stephens Creek**	**50.03**	**186**	P		**P**	**03 44 16.3**	**+0.1**
STKA	**Stephens Creek**	**50.03**	**186**	P		**P**	**03 44 16.8**	**+0.6**
	comp=Z,2.5nm,0.5s,baz=357,slow=9.3,SNR=4.8							
STKA				LR		LR	04 08 04.4	
	comp=Z,37nm,18.4s,baz=24,slow=39							
	comp=Z,2.5nm,0.5s							
BBOO	**Buckleboo**	**51.73**	**191**	P		**P**	**03 44 29.7**	**+0.7**
MORW	**Morawa**	**55.51**	**213**	P		**P**	**03 44 56.5**	**-0.2**
NWAO	**Narrogin (SRO)**	**58.10**	**209**	LR		LR	04 11 49.2	
	comp=Z,38nm,18.1s,baz=170,slow=38							
ZAA0	**Zalesovo Array**	**58.93**	**323**	P		**P**	**03 45 20.2**	**-0.3**
ZAA0				IAmb		IAmb	03 45 21.2	
	comp=Z,2.9nm,0.7s							
ZALV	**Zalesovo Beam**	**58.93**	**323**	P		**P**	**03 45 19.5**	**-1.1**
	comp=Z,3.2nm,0.6s,baz=107,slow=8.0,SNR=16							
ZALV				LR		LR	04 11 18.6	
	comp=Z,46nm,18.7s,baz=196,slow=36							
	comp=Z,3.2nm,0.6s							
H18K	**Honhosa River**	**59.22**	**24**	P		**P**	**03 45 21.9**	**-0.5**
H18K				IAmb		IAmb	03 45 41.9	
	comp=Z,3.6nm,1.1s							
KDAK	**Kodiak Island**	**59.29**	**33**	LR		LR	04 08 45.2	
	comp=Z,30nm,19.6s,baz=223,slow=34							
MK31	**Makanchi Array**	**59.43**	**314**	P		**P**	**03 45 23.9**	**-0.3**
MKAR	**Makanchi Array**	**59.43**	**314**	P		**P**	**03 45 23.6**	**-0.5**
MKAR	**Makanchi Array**	**59.43**	**314**	P		**P**	**03 45 24.1**	**0.0**
	comp=Z,1.8nm,0.7s,baz=89,slow=9.2,SNR=22							
MKAR				PcP		**PcP**	**03 46 11.1**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=83,slow=6.7,SNR=1.8							
MKAR				LR		LR	04 10 59.7	
	comp=Z,38nm,20.7s,baz=32,slow=36							
	comp=Z,1.8nm,0.7s							
E18K	**Tukpahlearik C**	**59.43**	**21**	P		**P**	**03 45 23.9**	**+0.1**
MAKZ	**Makanchi**	**59.65**	**314**	P		**P**	**03 45 25.7**	**0.0**
MAKZ				IAmb		IAmb	03 45 27.2	
	comp=Z,3.0nm,0.6s							
G19K	**Purcell Mounta**	**60.11**	**23**	P		**P**	**03 45 27.8**	**-0.7**
G19K				IAmb		IAmb	03 45 45.3	
	comp=Z,3.3nm,1.1s							
C19K	**Lookout Ridge**	**60.57**	**19**	P		**P**	**03 45 31.6**	**0.0**
C19K				IAmb		IAmb	03 45 46.1	
	comp=Z,2.3nm,0.9s							
D19K	**Kuna River**	**60.76**	**20**	P		**P**	**03 45 33.4**	**+0.5**
BPAW	**Bear Paw Mtn.**	**61.80**	**26**	P		**P**	**03 45 39.7**	**-0.4**
BPAW				IAmb		IAmb	03 46 13.2	
	comp=Z,6.1nm,1.4s							
KURK	**Kurchatov**	**62.22**	**318**	P		**P**	**03 45 42.4**	**-0.6**
KURK				IAmb		IAmb	03 45 44.5	
	comp=Z,3.0nm,0.8s							
KURBB	**Kurchatov Arra**	**62.27**	**318**	P		**P**	**03 45 43.2**	**-0.1**
	comp=Z,3.4nm,0.6s,baz=93,slow=7.4,SNR=4.7							
	comp=Z,3.4nm,0.6s							
NRIK	**Noril'sk**	**62.37**	**340**	P		**P**	**03 45 43.7**	**0.0**
	comp=Z,3.7nm,0.7s,baz=105,slow=12,SNR=6.1							
	comp=Z,3.7nm,0.7s							
D22K	**Ayikyak River**	**62.73**	**21**	P		**P**	**03 45 47.2**	**+1.0**
D22K				IAmb		IAmb	03 45 50.2	
	comp=Z,2.5nm,1.1s							
URZ	**Urewera**	**63.05**	**153**	LR		LR	04 12 04.3	
	comp=Z,45nm,18.8s,baz=121,slow=35							
ILAR	**Eielson Array**	**63.70**	**26**	P		**P**	**03 45 51.7**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=256,slow=3.6,SNR=2.6							
ILAR				LR		LR	04 10 05.7	
	comp=Z,18nm,21.9s,baz=272,slow=33							
	comp=Z,0.5nm,0.8s							
TOLK	**Toolik Lake Re**	**63.72**	**22**	P		**P**	**03 45 53.0**	**+0.2**
TOLK				IAmb		IAmb	03 46 29.2	
	comp=Z,3.2nm,1.2s							
C23K	**Itkillik River**	**63.76**	**20**	P		**P**	**03 45 53.4**	**+0.5**
C23K				IAmb		IAmb	03 46 06.6	
	comp=Z,3.1nm,0.8s							
BMAR	**Burnt Mountain**	**65.21**	**23**	P		**P**	**03 46 03.3**	**+0.8**
BCAR	**Beaver Creek A**	**65.59**	**28**	P		**P**	**03 46 04.1**	**-1.0**
BVAR	**Borovoye Array**	**67.41**	**321**	P		**P**	**03 46 15.8**	**-1.0**
	comp=Z,5.3nm,0.5s,baz=94,slow=7.7,SNR=36							
BVAR				LR		LR	04 16 33.3	
	comp=Z,37nm,19.5s,baz=85,slow=37							
	comp=Z,5.3nm,0.5s							
BRVK	**Borovoye**	**67.47**	**321**	P		**P**	**03 46 16.9**	**-0.3**
BRVK				IAmb		IAmb	03 46 18.3	
	comp=Z,3.5nm,0.7s							
ARU	**Arti**	**73.97**	**325**	LR		LR	04 19 08.5	
	comp=Z,30nm,20.9s,baz=51,slow=36							
ABKAR	**Akbulak array**	**74.29**	**317**	P		**P**	**03 46 57.5**	**-1.1**
YKA	**Yellowknife Ar**	**78.01**	**28**	P		**P**	**03 47 19.4**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=287,slow=5.4,SNR=8.0							
YKA				LR		LR	04 20 42.2	
	comp=Z,37nm,20.2s,baz=280,slow=35							
	comp=Z,0.5nm,0.7s							
EUNU	**Eureka**	**78.08**	**8**	P		**P**	**03 47 19.9**	**+0.2**
EUNU				IAmb		IAmb	03 47 21.4	
	comp=Z,3.9nm,0.7s							
YBH	**Yreka Blue Hor**	**78.60**	**50**	LR		LR	04 16 36.4	
	comp=Z,29nm,19.2s,baz=332,slow=31							
RES	**Resolute Bay**	**79.69**	**14**	P		**P**	**03 47 29.0**	**+0.6**
SPITS	**Spitsbergen Ar**	**79.79**	**351**	P		**P**	**03 47 29.9**	**+0.9**
	comp=Z,4.9nm,0.8s,baz=100,slow=7.9,SNR=7.3							
	comp=Z,4.9nm,0.8s							
NEW	**Newport**	**80.68**	**42**	LR		LR	04 17 56.6	
	comp=Z,42nm,20.4s,baz=287,slow=32							
KEV	**Kevo**	**82.66**	**342**	P		**P**	**03 47 44.9**	**+0.6**
NVAR	**Mina Array Bea**	**82.75**	**52**	P		**P**	**03 47 46.8**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=280,slow=5.3,SNR=5.8							
	comp=Z,0.7nm,0.7s							
ARCES	**ARCESS Array B**	**83.22**	**342**	P		**P**	**03 47 47.5**	**+0.3**
ARCES				IAmb		IAmb	03 48 01.5	
	comp=Z,9.0nm,1.2s							
ARCES	**ARCESS Array B**	**83.22**	**342**	P		**P**	**03 47 48.0**	**+0.7**
	comp=Z,3.9nm,0.7s,baz=62,slow=6.9,SNR=23							
ARCES				LR		LR	04 28 14.3	
	comp=Z,17nm,21.9s,baz=40,slow=38							
	comp=Z,3.9nm,0.7s							
ELK	**Elko**	**84.28**	**49**	LR		LR	04 17 56.2	
	comp=Z,27nm,20.0s,baz=310,slow=30							
PDAR	**Pinedale Array**	**87.54**	**46**	LR		LR	04 24 05.0	
	comp=Z,20nm,20.6s,baz=72,slow=33							
FINES	**FINESS Array B**	**87.69**	**336**	P		**P**	**03 48 08.2**	**-1.4**
	comp=Z,2.1nm,0.5s,baz=57,slow=5.1,SNR=39							
	comp=Z,2.1nm,0.5s							
ANMO	**Albuquerque**	**92.87**	**52**	LR		LR	04 21 54.5	
	comp=Z,21nm,20.9s,baz=1.5,slow=30							
HFS	**Hagfors**	**93.16**	**338**	P		**P**	**03 48 33.9**	**-1.3**
	comp=Z,1.3nm,0.6s,baz=98,slow=2.9,SNR=8.7							
	comp=Z,1.3nm,0.6s							
NOA	**NORSAR Array B**	**93.33**	**340**	P		**P**	**03 48 34.9**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=45,slow=4.4,SNR=1.2							
	comp=Z,0.2nm,0.6s							
LPIG	**La Paz**	**94.03**	**63**	LR		LR	04 21 43.5	
	comp=Z,28nm,20.4s,baz=306,slow=30							
BRTR	**Keskin Array B**	**95.08**	**315**	LR		LR	04 34 37.7	
	comp=Z,25nm,19.7s,baz=18,slow=37							
TORD	**Torodi Ar. Bea**	**133.44**	**310**	PKP		**PKPdf**	**03 54 38.3**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=25,slow=1.9,SNR=1.4							
LPAZ	**La Paz**	**146.78**	**92**	PKPbc		**PKPdf**	**03 55 03.2**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=304,slow=3.6,SNR=2.4							

*DJA **11** 03:38:10.4±0.3, 9°.S±4°.×11°.8E±°, h118km±4km, M4.0/13, mb4.2/5, MLv4.0/13*

*IDC **11** 03:38:16.8±2.8, 8°.02S×119°.22E, h206km±22km, mb2.9/3, mbtmp3.6/5, Error ellipse: s-maj=70.5km s-min=12.6km az=48.0*

ISC 11 03:38:08.7±0.9, 8°.92S±0°.08×118°.33E±0°.04, h150km, n21, σ1°86/31, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.55**	**280**	P		**Pn**	**03 38 29.8**	**-0.5**
PLAI				S		**Sn**	**03 38 44.4**	**-2.3**
TWSI	**Taliwang, Sumb**	**1.44**	**277**	P		**Pn**	**03 38 37.6**	**-0.1**
TWSI				S		**Sn**	**03 39 00.0**	**+0.2**
BASI	**Baing, Sumba**	**2.57**	**120**	P		**Pn**	**03 38 53.7**	**+3.0**
BASI				S		**Sn**	**03 39 25.3**	**+2.2**
IGBI	**Denpasar**	**3.15**	**272**	P		**Pn**	**03 38 59.6**	**+1.7**
IGBI				S		**Sn**	**03 39 37.4**	**+1.4**
SRBI	**Singaraja**	**3.19**	**285**	P		**Pn**	**03 38 58.7**	**+0.2**
EDFI	**Ende, Flores**	**3.33**	**87**	P		**Pn**	**03 39 00.9**	**+0.5**
EDFI				S		**Sn**	**03 39 39.1**	**-1.3**
JAGI	**Jajag, Banyuwa**	**4.15**	**276**	P		**Pn**	**03 39 11.0**	**0.0**
JAGI				S		**Sn**	**03 39 58.6**	**-0.8**
GMJI	**Gumukmas**	**4.87**	**277**	P		**Pn**	**03 39 21.6**	**+1.1**
GMJI				S		**Sn**	**03 40 14.8**	**-1.6**
BATI	**Baumata**	**5.42**	**104**	P		**Pn**	**03 39 29.4**	**+1.7**
	20nm,0.3s,baz=294,slow=8.4,SNR=7.2							
BATI				S		**Sn**	**03 40 28.9**	**-0.6**
	42nm,0.4s,baz=37,slow=24,SNR=8.4							
SOEI	**Soe**	**5.92**	**99**	P		**Pn**	**03 39 36.3**	**+1.8**
	26nm,0.6s,0.2nm							
PWJI	**Pagerwojo**	**6.51**	**277**	P		**Pn**	**03 39 43.6**	**+1.3**
	12nm,1.2s,0.1nm							
UGM	**Wanagama**	**7.79**	**277**	P		**Pn**	**03 40 01.7**	**+2.4**
FITZ	**Fitzroy Crossi**	**11.56**	**143**	P		**Pn**	**03 40 52.2**	**+2.8**
	baz=10							
FITZ				S		**Sn**	**03 42 54.6**	**-2.6**
	baz=10							
KNRA	**Kununurra**	**12.21**	**124**	P		**Pn**	**03 40 59.8**	**+2.0**
	baz=11							
KNRA				S		**Sn**	**03 43 09.2**	**-3.6**
	baz=11							
GIRL	**Giralia**	**14.20**	**196**	P		P	03 41 34.3	+8.3
	baz=13							
GIRL				S		**Sn**	**03 43 59.6**	**-1.0**
	baz=13							
MEEK	**Meekatharra**	**17.62**	**179**	P		Pn	03 42 19.9	+15
	baz=17							
MEEK				S		**S**	**03 45 17.0**	**-2.6**
	baz=17							
WRA	**Warramunga Arr**	**18.97**	**127**	P		**Pn**	**03 42 21.8**	**+0.7**
	0.7nm,0.6s,baz=303,slow=12,SNR=11							
WRA				S		**S**	**03 45 44.7**	**-1.6**
	0.8nm,0.9s,baz=310,slow=23,SNR=3.0							
ASAR	**Alice Springs**	**20.91**	**136**	P		Pn	03 42 44.4	+0.4
	0.8nm,0.4s,baz=311,slow=9.0,SNR=14							
ASAR				S		**S**	**03 46 27.5**	**+3.1**
	0.3nm,0.6s,baz=311,slow=23,SNR=2.3							
	0.8nm,0.4s							
BLDU	**Ballidu**	**21.64**	**184**	S		S	03 46 50.3	+13
	baz=21							
MKAR	**Makanchi Array**	**64.09**	**333**	P		**P**	**03 48 26.3**	**-0.5**
	0.2nm,0.6s,baz=134,slow=6.2,SNR=2.1							
	0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**68.61**	**334**	P		**P**	**03 48 54.9**	**-0.5**
	0.3nm,0.6s,baz=144,slow=6.5,SNR=2.3							
	0.3nm,0.6s							

*IDC **11** 03:45:08.7±0.9, 9°.20S×159°.10E, h0km, mb3.6/6, mbtmp3.6/6, MS3.3/1, Error ellipse: s-maj=31.3km s-min=15.7km az=6.0*

ISC 11 03:45:10.2±0.9, 9°.2S±0°.2×159°.1E±0°.1, h10km, n8, σ1°02/8, mb3.6/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.87**	**104**	Pn		**Pn**	**03 45 28.6**	**+0.1**
	5μm,0.3s,baz=212,slow=13,SNR=42							
HNR				LR		LR	03 45 34.2	
	comp=Z,1μm,20.9s,baz=2.0,slow=29							
HNR				Sn		**Sn**	**03 45 40.6**	**-0.7**
	10μm,0.3s,baz=273,slow=23,SNR=11							
WRA	**Warramunga Arr**	**26.17**	**243**	P		**P**	**03 50 45.8**	**+0.7**
	0.9nm,0.6s,baz=70,slow=9.6,SNR=10							
	0.9nm,0.6s							
ASAR	**Alice Springs**	**28.03**	**236**	P		**P**	**03 51 01.8**	**0.0**
	0.4nm,0.6s,baz=63,slow=10,SNR=4.5							
	0.4nm,0.6s							
PPT	**Papeete**	**50.49**	**105**	LR		LR	04 12 32.7	
	comp=Z,33nm,19.3s,baz=302,slow=33							
SONM	**Songino Array**	**73.42**	**326**	P		**P**	**03 56 41.2**	**-1.5**
	0.2nm,0.4s,baz=141,slow=6.4,SNR=1.5							
	0.2nm,0.4s							
ILAR	**Eielson Array**	**84.00**	**20**	P		**P**	**03 57 41.6**	**+1.1**
	0.7nm,1.0s,baz=247,slow=4.8,SNR=8.0							
	0.7nm,1.0s							
MKAR	**Makanchi Array**	**87.75**	**318**	P		**P**	**03 57 59.2**	**-0.3**
	0.2nm,0.5s,baz=91,slow=6.9,SNR=2.8							
	0.2nm,0.5s							
NVAR	**Mina Array Bea**	**89.94**	**51**	P		**P**	**03 58 11.0**	**+0.7**
	0.2nm,0.6s,baz=239,slow=6.2,SNR=2.2							
	0.2nm,0.6s							

IDC 11 04:02:17.7±2.4, 4°.99S×148°.96E, h0km, mb3.1/3, mbtmp3.1/3, Error ellipse: s-maj=201.0km s-min=32.5km az=124.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.58**	**223**	P		P	04 06 58.8	+0.3
	0.2nm,0.4s,baz=46,slow=9.8,SNR=6.4							
	0.2nm,0.4s							
ASAR	**Alice Springs**	**23.57**	**217**	P		P	04 07 29.8	-0.5
	0.3nm,0.6s,baz=50,slow=8.0,SNR=4.1							
	0.3nm,0.6s							
ILAR	**Eielson Array**	**83.80**	**23**	P		P	04 14 48.9	+0.2
	0.3nm,0.9s,baz=236,slow=6.4,SNR=1.8							
	0.3nm,0.9s					

0.4nm,0.8s,baz=356,slow=23,SNR=2.3
0.7nm,0.3s
MKAR Makanchi Array 65.11 326 P P 04 25 13.5 0.0
0.1nm,0.3s,baz=134,slow=8.3,SNR=1.9
0.1nm,0.3s

IDC ***11*** *04:18:58.8±0.8, 27°.93N × 139°.66E, h476km±11km, mb3.1/8, mbtmp3.9/9, Error ellipse: s-maj=24.4km s-min=12.9km az=81.0*

ISC 11 04:18:59.9±0.8, 27°.9N±0°.2 × 139°.9E±0°.2, h500km, n9, σ1§63/11, mb3.4/8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.15**	**110**	P	**P**	**04 20 04.0**	**-1.8**
	62nm,0.5s,baz=186,slow=23,SNR=8.6						
JCJ				S	**S**	**04 20 56.9**	**-2.5**
	73nm,0.4s,baz=307,slow=20,SNR=6.6						
WRA	**Warramunga Arr**	**47.83**	**187**	P	**P**	**04 26 52.6**	**+0.8**
	1.2nm,0.4s,baz=4.6,slow=7.8,SNR=22						
WRA				PcP	**PcP**	**04 28 12.4**	**+1.5**
	0.2nm,0.6s,baz=1.2,slow=4.5,SNR=1.3						
	1.2nm,0.4s						
MKAR	**Makanchi Array**	**48.43**	**309**	P	**P**	**04 26 54.7**	**-1.4**
	0.1nm,0.4s,baz=91,slow=5.8,SNR=4.8						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**51.06**	**314**	P	**P**	**04 27 14.5**	**-0.8**
	5.1nm,0.3s,baz=91,slow=7.9,SNR=7.1						
	5.1nm,0.3s						
ASAR	**Alice Springs**	**51.55**	**187**	P	**P**	**04 27 19.9**	**+0.7**
	0.5nm,0.5s,baz=6.9,slow=6.9,SNR=16						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**56.12**	**317**	P	**P**	**04 27 50.9**	**-0.3**
	1.3nm,0.4s,baz=86,slow=6.9,SNR=10						
	1.3nm,0.4s						
ILAR	**Eielson Array**	**58.02**	**29**	P	**P**	**04 28 05.0**	**+1.0**
	0.3nm,0.8s,baz=247,slow=6.0,SNR=6.9						
	0.3nm,0.8s						
FINES	**FINESS Array B**	**76.36**	**333**	P	**P**	**04 29 56.5**	**-0.4**
	0.8nm,0.3s,baz=66,slow=4.7,SNR=24						
	0.8nm,0.3s						
NVAR	**Mina Array Bea**	**81.62**	**51**	P	**P**	**04 30 27.8**	**+2.2**
	0.3nm,0.7s,baz=279,slow=7.1,SNR=2.7						
	0.3nm,0.7s						

JMA ***11*** *04:21:56.3±0.3, 44°.N±1°.1 × 14°.8E±°, h0km, MV4.0/24, SE OFF ETOROFU*
SKHL ***11*** *04:21:57.4±0.1, 44°.30N × 148°.20E, h25km±5km, mb4.5/3*

ISC 11 04:21:54.3±3.3, 44°.3N±0°.1 × 148°.5E±0°.2, h50km, n14, σ1§50/25, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.09**	**335**	*i* P	**Pn**	**04 22 13.6**	**+0.4**
KUR				AMB	AMB	04 22 14.3	
	250nm,0.5s						
KUR				*i* S	**Sn**	**04 22 25.6**	**-1.6**
KUR				A	A	04 22 26.2	
	410nm,0.5s						
KUR				A	A	04 22 26.2	
	740nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.93**	**264**	*i* P	**Pn**	**04 22 25.1**	**+0.4**
YUK				AMB	AMB	04 22 26.7	
	340nm,0.5s						
YUK				*e*S	**Sn**	**04 22 45.9**	**-1.8**
YUK				A	A	04 22 50.5	
	390nm,0.3s						
YUK				A	A	04 22 50.5	
	590nm,0.3s						
NEM2	**Nemuro 2**	**2.20**	**247**	*e*P	**Pn**	**04 22 28.7**	**+0.3**
NEM2				*e*S	**Sn**	**04 22 51.9**	**-2.5**
NMR	**Nemuro--Hokkai**	**2.21**	**247**	*i* P	**Pn**	**04 22 28.8**	**+0.3**
NMR				*i* S	**Sn**	**04 22 52.4**	**-2.2**
JRA	**Rausu**	**2.47**	**264**	*e*P	**Pn**	**04 22 33.6**	**+1.5**
JRA				*e*S	**Sn**	**04 23 00.9**	**-0.1**
JNSB	**Nemuroshibetsu**	**2.58**	**261**	*e*P	**Pn**	**04 22 35.0**	**+1.3**
JNSB				*e*S	**Sn**	**04 23 04.1**	**+0.3**
JKHN	**Kushirohamanak**	**2.71**	**246**	*e*P	**Pn**	**04 22 35.8**	**+0.5**
JKHN				*e*S	**Sn**	**04 23 05.0**	**-1.8**
JNK	**Nakash**	**2.83**	**258**	*e*P	**Pn**	**04 22 38.2**	**+1.1**
JNK				*e*S	**Sn**	**04 23 08.5**	**-1.4**
AKK	**Akkeshi**	**2.94**	**247**	*e*P	**Pn**	**04 22 39.5**	**+0.9**
AKK				*e*S	**Sn**	**04 23 11.7**	**-1.0**
JAK	**Akkeshi**	**3.05**	**247**	*e*P	**Pn**	**04 22 41.1**	**+1.1**
JTKR	**Abashiri--Toko**	**3.34**	**267**	*e*P	**Pn**	**04 22 46.5**	**+2.5**
JAR	**Ashorobuto**	**3.57**	**256**	*e*P	**Pn**	**04 22 49.3**	**+2.1**
JOB	**Onbets**	**3.66**	**250**	*e*P	**Pn**	**04 22 50.1**	**+1.6**
JOB				*e*S	**Sn**	**04 23 29.0**	**-1.4**
JCH	**Churui**	**4.10**	**248**	*e*P	**Pn**	**04 22 55.9**	**+1.5**
JCH				*e*S	**Sn**	**04 23 40.3**	**-0.8**

DJA 11 04:38:43.1±0.4, 1°.S±4°.4 × 12°.3E±°, h10km, M4.0/6, mb4.8/1, MLv3.6/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.65**	**236**	P	Pg	04 38 55.7	-0.1
GTOI	**Gorontalo**	**1.33**	**347**	P	Pg	04 39 08.6	-0.1
KMSI	**Cibinong**	**1.41**	**28**	P	Pn	04 39 08.9	+0.1
MPSI	**Mapaga**	**3.56**	**286**	P	Pn	04 39 39.7	+1.3

IDC ***11*** *04:50:04.9±1.5, 34°.26N × 38°.81W, h0km, mb3.5/10, mbtmp3.5/10, MS3.3/25, Error ellipse: s-maj=45.9km s-min=20.4km az=1.0*

ISC 11 04:50:06.6±1.3, 34°.3N±0°.3 × 38°.8W±0°.1, h10km, n35, σ1§21/10, mb3.5/10, MS3.3/25, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**28.22**	**69**	P	**P**	**04 56 00.2**	**+0.6**
	0.7nm,1.0s,baz=297,slow=8.5,SNR=3.3						
	0.7nm,1.0s						
SCHQ	**Schefferville**	**28.35**	**325**	LR	LR	05 06 41.6	
	comp=Z,55nm,19.9s,baz=82,slow=35						
MDP	**Montagnes des**	**31.75**	**207**	LR	LR	05 05 17.5	
	comp=Z,62nm,20.1s,baz=119,slow=29						
EKA	**Eskdalemuir Ar**	**32.36**	**38**	P	**P**	**04 56 35.3**	**-0.7**
	2.0nm,1.0s,baz=242,slow=8.7,SNR=2.6						
	2.0nm,1.0s						
SADO	**Sadowa**	**32.55**	**301**	LR	LR	05 07 18.8	
	comp=Z,36nm,20.8s,baz=290,slow=32						
FRB	**Frobisher Bay**	**34.73**	**337**	LR	LR	05 10 23.6	
	comp=Z,35nm,18.2s,baz=191,slow=35						
TKL	**Tuckaleechee C**	**36.65**	**285**	LR	LR	05 09 58.7	
	comp=Z,58nm,21.2s,baz=60,slow=33						
DBIC	**Dimbokro**	**41.65**	**123**	LR	LR	05 12 33.1	
	comp=Z,31nm,18.1s,baz=308,slow=32						
TORD	**Torodi Ar. Bea**	**42.25**	**110**	P	**P**	**04 58 00.7**	**+0.5**
	0.2nm,0.5s,baz=304,slow=6.5,SNR=1.8						
TORD				LR	LR	05 13 36.4	
	comp=Z,51nm,21.7s,baz=296,slow=33						
	0.2nm,0.5s						
HFS	**Hagfors**	**42.46**	**36**	P	**P**	**04 58 01.5**	**+0.1**
	1.3nm,0.8s,baz=265,slow=7.2,SNR=1.8						
	1.3nm,0.8s						
ULM	**Lac du Bonnet**	**44.05**	**309**	LR	LR	05 15 28.3	
	comp=Z,30nm,20.2s,baz=184,slow=35						
H10N2	**ASCENSION HYDR**	**47.78**	**147**	T	T	05 48 50.9	
	baz=331,slow=75,SNR=109						
H10N3	**ASCENSION HYDR**	**47.79**	**147**	T	T	05 48 51.4	
	baz=331,slow=75,SNR=85						
H10N1	**ASCENSION HYDR**	**47.80**	**147**	T	T	05 48 55.0	
	baz=331,slow=75,SNR=111						
JTS	**Las Juntas de**	**48.40**	**252**	LR	LR	05 16 16.0	
	comp=Z,14nm,20.0s,baz=76,slow=32						
RES	**Resolute Bay**	**48.46**	**343**	LR	LR	05 16 23.8	
	comp=Z,31nm,19.1s,baz=349,slow=33						
FINES	**FINESS Array B**	**48.65**	**35**	P	**P**	**04 58 51.0**	**+0.7**
	1.0nm,0.9s,baz=276,slow=13,SNR=1.8						
	1.0nm,0.9s						
H10S3	**ASCENSION HYDR**	**48.70**	**147**	T	T	05 49 57.9	
	baz=330,slow=74,SNR=48						
H10S2	**ASCENSION HYDR**	**48.72**	**147**	T	T	05 50 01.2	
	baz=250,slow=74,SNR=22						
AKASG	**Malin Array Be**	**50.96**	**49**	LR	LR	05 18 20.8	
	comp=Z,22nm,18.4s,baz=268,slow=33						
CMIG	**Matias Romero**	**52.74**	**266**	LR	LR	05 19 08.9	
	comp=Z,13nm,20.6s,baz=56,slow=33						
YKA	**Yellowknife Ar**	**53.79**	**326**	P	**P**	**04 59 30.8**	**+1.8**
	0.1nm,0.7s,baz=84,slow=8.0,SNR=1.2						
YKA				LR	LR	05 21 32.1	
	comp=Z,45nm,20.3s,baz=310,slow=35						
	0.1nm,0.7s						
TXAR	**Lajitas Array**	**54.54**	**284**	P	**P**	**04 59 35.2**	**+0.2**
	0.4nm,0.8s,baz=79,slow=9.3,SNR=3.9						
TXAR				LR	LR	05 20 34.9	
	comp=Z,24nm,21.1s,baz=52,slow=34						
	0.4nm,0.8s						
PDAR	**Pinedale Array**	**54.54**	**301**	P	**P**	**04 59 33.2**	**-1.8**
	0.4nm,0.8s,baz=78,slow=8.4,SNR=2.7						
PDAR				LR	LR	05 21 55.7	
	comp=Z,25nm,18.9s,baz=88,slow=35						
	0.4nm,0.8s						
ANMO	**Albuquerque**	**54.68**	**291**	LR	LR	05 21 33.2	
	comp=Z,32nm,19.0s,baz=160,slow=34						
BRTR	**Keskin Array B**	**56.65**	**62**	P	**P**	**04 59 48.8**	**-1.4**
	0.3nm,0.8s,baz=268,slow=5.6,SNR=3.3						
	0.3nm,0.8s						
NEW	**Newport**	**58.06**	**310**	LR	LR	05 24 38.4	
	comp=Z,36nm,18.7s,baz=66,slow=36						
ELK	**Elko**	**59.21**	**301**	LR	LR	05 24 44.4	
	comp=Z,21nm,18.9s,baz=84,slow=35						
INK	**Inuvik**	**60.33**	**335**	LR	LR	05 27 10.4	
	comp=Z,23nm,18.0s,baz=180,slow=37						
DLBC	**Dease Lake**	**62.14**	**324**	LR	LR	05 26 57.2	
	comp=Z,77nm,19.1s,baz=73,slow=36						
NVAR	**Mina Array Bea**	**62.27**	**299**	P	**P**	**05 00 28.6**	**-0.5**
	0.2nm,0.6s,baz=70,slow=8.8,SNR=2.6						
NVAR				LR	LR	05 26 27.6	
	comp=Z,42nm,20.4s,baz=346,slow=35						
	0.2nm,0.6s						
PFO	**Pinyon Flats O**	**62.84**	**294**	LR	LR	05 26 52.1	
	comp=Z,24nm,19.3s,baz=62,slow=35						
YBH	**Yreka Blue Hor**	**64.06**	**304**	LR	LR	05 28 17.5	
	comp=Z,18nm,18.8s,baz=104,slow=36						
ILAR	**Eielson Array**	**66.66**	**334**	LR	LR	05 28 49.9	
	comp=Z,24nm,18.6s,baz=332,slow=35						
KDAK	**Kodiak Island**	**72.88**	**329**	LR	LR	05 33 25.8	
	comp=Z,45nm,18.1s,baz=117,slow=36						

IDC 11 05:01:23.8±3.2, 10°.60N × 125°.24E, h0km, mb3.4/3, mbtmp3.4/3, MS2.6/2, Error ellipse: s-maj=293.8km s-min=24.4km az=65.0, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.52**	**174**	LR	LR	05 03 39.3	
	comp=Z,65nm,20.2s,baz=236,slow=38						
CMAR	**Chiang Mai Arr**	**26.60**	**290**	LR	LR	05 18 05.7	
	comp=Z,16nm,19.5s,baz=195,slow=38						
WRA	**Warramunga Arr**	**31.64**	**164**	P	P	05 07 48.5	-0.5
	0.4nm,0.6s,baz=344,slow=8.8,SNR=2.0						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**35.09**	**166**	P	P	05 08 19.2	+0.2
	0.5nm,0.6s,baz=342,slow=7.1,SNR=7.7						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**51.16**	**323**	P	P	05 10 28.9	+0.2
	0.2nm,0.7s,baz=107,slow=6.4,SNR=2.4						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**55.23**	**326**	P	P	05 10 58.3	-0.3
	0.2nm,0.5s,baz=114,slow=9.1,SNR=2.8						

IDC ***11*** *05:15:42.5±3.3, 28°.04N × 127°.99E, h0km, mb3.5/3, mbtmp3.5/3, MS3.1/4, Error ellipse: s-maj=185.2km s-min=18.9km az=66.0*
JMA ***11*** *05:15:42.8±0.3, 28°.1N±0°.6 × 128°.1E±0°.8, h17km±3km, MV3.1/13, NW OFF OKINAWAJIMA IS*

ISC 11 05:15:43.1±1.7, 28°.07N±0°.05 × 128°.13E±0°.07, h9km±11km, n18, σ0§96/22, mb3.4/4, MS3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**0.78**	**111**	*i* P	**Pg**	**05 15 58.0**	**-0.1**
JTK				S	**Sg**	**05 16 09.0**	**+0.8**
JOKE	**Okinoerabujima**	**0.81**	**151**	*i* P	**Pg**	**05 15 59.2**	**+0.6**
JAMN	**Amaminishikomi**	**0.94**	**79**	*i* P	**Pg**	**05 16 00.6**	**-0.5**
JAMN				S	**Sg**	**05 16 13.6**	**+0.3**
JIH	**Iheya**	**1.04**	**188**	P	**Pg**	**05 16 02.4**	**-0.7**
JIH				S	**Sb**	**05 16 16.9**	**-0.1**
JYRO	**Yoronjima**	**1.08**	**165**	P	**Pg**	**05 16 03.8**	**0.0**
JYRO				S	**Sg**	**05 16 17.5**	**-0.4**
JOW	**Kunigami**	**1.24**	**174**	P	**Pn**	**05 16 06.1**	**-0.5**
JOW				S	**Sb**	**05 16 22.5**	**-0.2**
JOW	**Kunigami**	**1.24**	**174**	Pn	**Pn**	**05 16 06.2**	**-0.5**
	57nm,0.3s,baz=357,slow=13,SNR=59						
JOW				Sn	**Sb**	**05 16 20.9**	**-1.9**
	43nm,0.3s,baz=74,slow=30,SNR=13						
JOW				LR	LR	05 16 31.1	
	comp=Z,46nm,20.7s,baz=282,slow=40						
JAM	**Amami Oshima**	**1.34**	**75**	P	**Pn**	**05 16 07.2**	**-0.7**
JTAJ	**Takarajima**	**1.43**	**41**	*e*P	**Pn**	**05 16 07.9**	**-1.4**
JNTH	**Nagotoyohara**	**1.55**	**184**	*e*S	**Sn**	**05 16 29.9**	**-1.1**
JAGN	**Aguni-jima**	**1.68**	**208**	*e*P	**Pn**	**05 16 12.0**	**-0.6**
KSRS	**Korea Array**	**9.36**	**359**	LR	LR	05 21 37.8	
	comp=Z,20nm,20.7s,baz=195,slow=38						
SONM	**Songino Array**	**25.98**	**325**	P	**P**	**05 21 17.5**	**+1.3**
	0.7nm,0.8s,baz=132,slow=9.2,SNR=4.5						
SONM				ScP	**ScP**	**05 28 23.6**	**-0.6**
	0.6nm,0.4s,baz=147,slow=2.9,SNR=3.3						
	0.7nm,0.8s						
MA2	**Magadan**	**35.11**	**20**	LR	LR	05 37 52.4	
	comp=Z,20nm,18.5s,baz=118,slow=38						
MKAR	**Makanchi Array**	**40.27**	**310**	P	**P**	**05 23 20.8**	**+0.4**
	0.4nm,0.7s,baz=106,slow=9.1,SNR=2.4						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**43.48**	**315**	P	**P**	**05 23 46.0**	**-0.5**
	0.3nm,0.6s,baz=102,slow=9.3,SNR=4.0						
KURBB				LR	LR	05 45 13.6	
	comp=Z,57nm,19.1s,baz=174,slow=41						
WRA	**Warramunga Arr**	**48.11**	**172**	P	**P**	**05 24 25.3**	**+2.0**
	0.6nm,0.8s,baz=352,slow=8.1,SNR=3.2						
	0.6nm,0.8s						
BVAR	**Borovoye Array**	**48.86**	**317**	LR	LR	05 46 46.7	
	comp=Z,47nm,20.2s,baz=112,slow=38						

IDC ***11*** *05:22:38.6±1.8, 1°.09S × 127°.35E, h0km, mb3.5/2, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=204.7km s-min=27.8km az=73.0*
DJA ***11*** *05:23:05.4±0.3, 3°.S±3°.3 × 12°.9E±°, h10km, M3.9/12, mb4.6/6, mB5.9/2, MLv3.6/12, Mw(mB)5.5/2, MwMwp4.3/1, Mwp4.8/1*

ISC 11 05:23:04.5±1.2, 2.78S±0.08 × 129.47E±0.09, h10km, n12, σ0§94/11, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.78**	**166**	P	**Pb**	**05 23 37.0**	**-0.3**
NLAI	**Namlea**	**2.41**	**259**	P	**Pn**	**05 23 45.5**	**+1.4**
SWI	**Sorong**	**2.61**	**43**	P	**Pn**	**05 23 47.9**	**+1.1**
FAKI	**Fak Fak**	**2.77**	**93**	P	**Pn**	**05 23 49.7**	**+0.6**
LBMI	**Labuha**	**2.90**	**317**	P	**Pn**	**05 23 51.2**	**+0.4**
SANI	**Sanana**	**3.56**	**282**	P	**Pn**	**05 24 00.3**	**+0.5**
SAUI	**Saumlaki**	**5.48**	**161**	P	**Pn**	**05 24 27.3**	**+1.0**
	220nm,0.8s,8μm1.0nm						
BBSI	**Dai Bau**	**7.39**	**248**	P	**Pn**	**05 24 52.4**	**-0.2**
	20nm,0.8s,0.1nm						
SGSI	**Sangihe**	**7.54**	**328**	P	**Pn**	**05 24 54.7**	**+0.1**
	313nm,0.7s,2.0nm						
WRA	**Warramunga Arr**	**17.71**	**165**	P	**Pn**	**05 27 11.4**	**0.0**
	0.1nm,0.3s,baz=342,slow=12,SNR=7.1						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**21.20**	**169**	P	**P**	**05 27 49.1**	**-1.4**
	1.0nm,0.6s,baz=350,slow=9.8,SNR=19						
	1.0nm,0.6s						
SONM	**Songino Array**	**54.30**	**341**	P	P	05 31 50.1	-41
	0.3nm,0.4s,baz=141,slow=9.3,SNR=1.6						
	0.3nm,0.4s						

NEIC ***11*** *05:28:55.9±0.6, 35°.436N±0°.010 × 97°.92W±0°.02, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.5km az=242.0*

TUL 11 05:28:56±0.6, 35°.44N±0°.01 × 97°.93W±0°.02, h7km±5km, ML2.3, mb_Lg2.3/23(NEIC), ML2.5/32(NEIC), Error ellipse: s-maj=2.3km s-min=1.2km az=135.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKCSW	**OKLAHOMA CITY**	**0.40**	**95**		Pg	05 29 03.9	0.0
OKCSW				Sg	Sg	05 29 10.0	+0.8
FNO	**Franklin**	**0.47**	**113**		Pg	05 29 05.6	+0.5
FNO				Sg	Sg	05 29 12.5	+1.2
FNO				IAML		05 29 15.5	
	comp=N,316nm,0.7s						
ADOK	**Arcadia Dam**	**0.50**	**65**	Pg	Pg	05 29 05.4	-0.3
ADOK				Sg	Sg	05 29 13.2	+1.0
OK029	**Liberty Lake**	**0.52**	**48**	Pg	Pg	05 29 05.8	-0.3
OK029					IAML	05 29 16.7	
	comp=N,230nm,0.4s						
OK029					IAML	05 29 16.8	
	comp=N,340nm,0.3s						
W35A	**Tecumseh**	**0.91**	**108**		Pg	05 29 12.9	-0.5
W35A					IAML	05 29 28.7	
	comp=E,106nm,0.3s						
W35A					IAML	05 29 28.8	
	comp=N,162nm,0.5s						
WMOK	**Wichita Mounta**	**0.99**	**225**		Pg	05 29 14.6	-0.4
OK033	**Mehan**	**1.00**	**53**		Pg	05 29 15.4	+0.1
CROK	**Carrier**	**1.06**	**358**		Pg	05 29 15.9	-0.5
CROK					IAML	05 29 36.3	
	comp=E,178nm,0.3s						
OK052	**Battle Ridge R**	**1.07**	**59**		Pg	05 29 16.0	-0.6
OK052					IAML	05 29 33.6	
	comp=E,166nm,0.3s						
OK052					IAML	05 29 34.4	
	comp=E,150nm,0.3s						
OK038	**West end E0370**	**1.23**	**328**		Pb	05 29 18.8	-0.7
QUOK	**Quay**	**1.23**	**53**	Pg	Pb	05 29 18.8	-0.8
QUOK					IAML	05 29 39.6	
	comp=N,146nm,0.3s						
DEOK	**Depew**	**1.23**	**71**		Pb	05 29 18.6	-1.0
DEOK					IAML	05 29 37.0	
	comp=N,119nm,0.2s						
DEOK					IAML	05 29 40.0	
	comp=E,98nm,0.3s						
OK048	**Pawnee Station**	**1.26**	**39**	Pg	Pn	05 29 19.2	-0.8
GC02	**Grant County #**	**1.41**	**2**		Pb	05 29 22.4	-0.2
BLOK	**Blackwell**	**1.44**	**24**		Pn	05 29 22.7	+0.2
LOOK	**Love County**	**1.57**	**157**		Pn	05 29 24.7	+0.3
KAN17	**Caldwell West**	**1.60**	**5**		Pn	05 29 24.6	-0.2
WTFS	**Witchita Falls**	**1.73**	**195**		Pn	05 29 27.1	+0.6
TUL3	**Leonard**	**1.80**	**74**		Pn	05 29 27.5	0.0
T35A	**Sooner Cattle**	**1.86**	**38**	Pn	Pn	05 29 28.6	+0.3
SMWD	**Samnorwood**	**1.92**	**261**		Pn	05 29 30.1	+0.9
Z35A	**Perchaven, San**	**2.18**	**165**		Pn	05 29 33.6	+1.0
X37A	**Clayton**	**2.27**	**111**	IAmb_Lg		05 30 09.6	
	comp=Z,10.0nm,1.2s						
FW03	**Perrin-Whitt E**	**2.40**	**183**	IAmb_Lg		05 30 13.3	
	comp=Z,13nm,0.7s						
FW06	**Azle**	**2.48**	**173**	IAmb_Lg		05 30 19.6	
	comp=Z,14nm,0.9s						
PLPT	**Palo Pinto**	**2.64**	**187**	Pn	Pn	05 29 40.0	+0.9
PLPT				IAmb_Lg		05 30 18.2	
	comp=Z,8.0nm,0.7s						
U38A	**Gravette**	**3.04**	**70**	IAmb_Lg		05 30 36.8	
	comp=Z,9.6nm,1.2s						
MIAR	**Mount Ida**	**3.68**	**103**	IAmb_Lg		05 31 02.1	
	comp=Z,6.2nm,0.9s						
POST	**Post**	**3.79**	**232**	IAmb_Lg		05 31 05.3	
	comp=Z,6.7nm,0.8s						
KSU1	**Kansas State U**	**3.80**	**16**	IAmb_Lg		05 31 02.6	
	comp=Z,6.2nm,0.8s						
BRDY	**Brady**	**4.24**	**192**	IAmb_Lg		05 31 14.0	
	comp=Z,7.3nm,0.8s						
S39A	**Bolivar**	**4.33**	**57**	IAmb_Lg		05 31 13.9	
	comp=Z,5.0nm,0.7s						
WHAR	**Wooly Hollow**	**4.61**	**90**	Pn	Pn	05 30 06.2	0.0
435B	**Jarrell**	**4.66**	**176**	IAmb_Lg		05 31 33.7	
	comp=Z,7.1nm,0.7s						
MGMO	**Mountain Grove**	**4.88**	**68**	IAmb_Lg		05 31 39.9	
	comp=Z,5.0nm,0.7s						

CATAC ***11*** *05:41:25.1±0.6, 13°.77N × 91°.52W, h38km±19km, ML3.3*
GCG ***11*** *05:41:29.2±0.3, 14°.25N × 91°.64W, h51km±6km, MD3.6*

ISC 11 05:41:22.3±2.5, 13.7N±0°.1 × 91.7W±0°.1, h69km±31km, n20, σ1§09/36, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SULM	**Suchitepequez,**	**0.62**	**9**	*e*P	**Pn**	**05 41 37.1**	**+0.8**
RTAL	**Retalhuleu**	**0.83**	**358**	*i* P	**Pn**	**05 41 39.4**	**+0.6**
RTAL				*i* S	**Sn**	**05 41 51.0**	**+0.1**
RTAL				IAML		05 41 53.4	
	comp=Z,380nm,1.0s						
STG3	**Santiaguito 3,**	**1.02**	**5**	*e*P	**Pn**	**05 41 40.8**	**-0.4**
FUG	**Fuego 3**	**1.10**	**46**	*e*P	**Pn**	**05 41 42.7**	**+0.5**
SMSP	**San Marcos**	**1.28**	**355**	*i* P	**Pn**	**05 41 44.9**	**+0.2**
SMSP				*i* S	**Sn**	**05 42 00.5**	**-0.9**
SMSP				IAML		05 42 02.2	
	comp=Z,1μm,1.0s						
GUMI	**Mixco**	**1.38**	**47**	*i* P	**Pn**	**05 41 46.2**	**+0.3**
GUMI				*i* S	**Sn**	**05 42 02.4**	**-1.2**
GUMI				IAML		05 42 49.7	
	comp=Z,1μm,1.0s						
NBG	**Las Nubes**	**1.56**	**55**	*e*P	**Pn**	**05 41 51.9**	**+3.6**
NBG				*e*S	**Sn**	**05 42 09.6**	**+1.8**
GUNB	**GUNB**	**1.56**	**55**	*i* P	**Pn**	**05 41 48.4**	**0.0**
GUNB				*i* S	**Sn**	**05 42 05.9**	**-2.1**
GUNB				IAML		05 42 11.4	
	comp=Z,260nm,1.0s						
NUBE	**Las Nubes**	**1.84**	**83**	*i* P	**Pn**	**05 41 52.0**	**+0.1**
NUBE				*i* S	**Sn**	**05 42 13.4**	**-1.0**
NUBE				IAML		05 42 18.2	
	comp=Z,120nm,1.0s						
LOAL	**Lomas de Alarc**	**1.85**	**80**	*i* P	**Pn**	**05 41 52.7**	**+0.7**
LOAL				IAML		05 41 53.8	
	comp=Z,2μm,1.0s						
LOAL				*i* S	**Sn**	**05 42 13.2**	**-1.4**
CEVE	**Cerro Verde**	**1.98**	**86**	*i* P	**Pn**	**05 41 54.3**	**+0.3**
CEVE				*i* S	**Sn**	**05 42 17.7**	**-0.3**
CEVE				IAML		05 42 21.4	
	comp=Z,230nm,1.0s						
UNIC	**Universidad Ca**	**2.07**	**82**	*i* P	**Pn**	**05 41 56.0**	**+1.0**
UNIC				*i* S	**Sn**	**05

	4.8nm,0.2s								
UZB				*e*S		Sg	06 23 10.3	-0.7	
	24nm,0.6s								
UZB	**Uzynbulak**	**2.79**	**285**	Pg		Pb	06 22 32.4	+0.1	
	4.8nm,0.2s								
UZB				Lg		Lg	06 23 10.4		
	24nm,0.6s								
DJR	**Jarkent**	**2.82**	**312**	*e*P		Pb	06 22 33.0	+0.3	
	0.7nm,0.2s								
DJR				*e*S		Sg	06 23 11.5	-0.5	
	7.1nm,0.3s								
DJR	**Jarkent**	**2.82**	**312**	Pg		Pb	06 22 33.0	+0.3	
	0.7nm,0.2s								
DJR				Lg		Lg	06 23 11.5		
	7.1nm,0.3s								
ZHN	**Zhinishke**	**3.21**	**284**	*e*P		Pb	06 22 39.9	+0.5	
	3.8nm,0.2s								
ZHN				*e*S		Sg	06 23 23.1	-1.5	
	20nm,0.2s								
ZHN	**Zhinishke**	**3.21**	**284**	Pg		Pb	06 22 39.9	+0.5	
	3.8nm,0.2s								
ZHN				Lg		Lg	06 23 23.1		
	20nm,0.2s								
SATY	**Saty**	**3.21**	**282**	*e*P		Pb	06 22 39.8	+0.3	
	4.7nm,0.4s								
SATY				*e*S		Sg	06 23 23.2	-1.5	
	12nm,0.2s								
SATY	**Saty**	**3.21**	**282**	Pg		Pb	06 22 39.8	+0.3	
	4.7nm,0.4s								
SATY				Lg		Lg	06 23 23.2		
	12nm,0.2s								
KAPS	**Kapalarasan**	**3.71**	**320**	*e*P		Pb	06 22 48.8	+1.0	
	2.4nm,0.3s								
KAPS				*e*S		Sg	06 23 38.3	-2.2	
	5.0nm,0.2s								
KAPS	**Kapalarasan**	**3.71**	**320**	Pg		Pb	06 22 48.8	+1.0	
	2.4nm,0.3s								
KAPS				Lg		Lg	06 23 38.3		
	5.0nm,0.2s								
KOTS	**Kotyrbulak**	**4.18**	**282**	*e*P		Pb	06 22 57.2	+1.3	
	3.4nm,0.3s								
KOTS				*e*S		Sg	06 23 53.0	-2.6	
	11nm,0.6s								
KOTS	**Kotyrbulak**	**4.18**	**282**	Pg		Pb	06 22 57.2	+1.3	
	3.4nm,0.3s								
KOTS				Lg		Lg	06 23 53.0		
	11nm,0.6s								
MDOK	**Medeo**	**4.21**	**281**	Lg		Lg	06 23 56.0		
	10nm,1.2s								
TNSS	**Tian-Shan**	**4.27**	**280**	*e*P		Pb	06 22 58.7	+1.0	
	1.5nm,0.3s								
TNSS				*e*S		Sg	06 23 55.7	-3.0	
	3.1nm,0.8s								
TNSS	**Tian-Shan**	**4.27**	**280**	Pg		Pb	06 22 58.7	+1.0	
	1.5nm,0.3s								
TNSS				Lg		Lg	06 23 55.7		
	3.1nm,0.8s								
KTBS	**Karatobe**	**4.58**	**288**	*e*P		Pb	06 23 04.8	+2.1	
	2.0nm,0.4s								
KTBS				*e*S		Sg	06 24 05.9	-2.6	
	6.8nm,0.7s								
KTBS	**Karatobe**	**4.58**	**288**	Pg		Pb	06 23 04.8	+2.1	
	2.0nm,0.4s								
KTBS				Lg		Lg	06 24 05.9		
	6.8nm,0.7s								
KST	**Kastek**	**4.99**	**279**	*e*P		Pb	06 23 12.3	+2.5	
	2.4nm,0.6s								
KST				*e*S		Sg	06 24 18.9	-2.9	
	5.6nm,0.6s								
KST	**Kastek**	**4.99**	**279**	Pg		Pb	06 23 12.3	+2.5	
	2.4nm,0.6s								
KST				Lg		Lg	06 24 18.9		
	5.6nm,0.6s								
DGS	**Degeres**	**5.15**	**281**	*e*P		Pg	06 23 16.8	-3.3	
	1.8nm,0.5s								
DGS				*e*S		Sg	06 24 26.5	-0.3	
	4.7nm,0.7s								
DGS	**Degeres**	**5.15**	**281**	Pg		Pg	06 23 16.8	-3.3	
	1.8nm,0.5s								
DGS				Lg		Lg	06 24 26.5		
	4.7nm,0.7s								
TKM2	**Tokmak 2**	**5.25**	**277**	⇓Lg		Lg	06 24 29.6		
	1.2nm,0.4s								
KRBS	**Karabastau**	**5.29**	**286**	*e*P		Pg	06 23 19.3	-3.4	
	0.7nm,0.5s								
KRBS				*e*S		Sg	06 24 31.1	-0.1	
	2.0nm,0.5s								
KRBS	**Karabastau**	**5.29**	**286**	Pg		Pg	06 23 19.3	-3.4	
	0.7nm,0.5s								
KRBS				Lg		Lg	06 24 31.1		
	2.0nm,0.5s								

*KRSC **11** 06:37:46.9±1.1,53°.31N×160°.39E,h57^{km}±13^{km},MI4.5, Felt [II] at HMS Semyachik.*
*MOS **11** 06:37:48.6±1.1,53°.36N×160°.11E,h75^{km},mb4.3/18,Error ellipse: s-maj=8.1km s-min=4.0km az=82.5*
*IDC **11** 06:37:50.6±1.3,53°.55N×160°.04E,h70^{km}±11^{km},mb3.7/27, mbtmp4.0/31,MS3.3/12,Error ellipse: s-maj=14.6km s-min=10.4km az=154.0*
*NEIC **11** 06:37:50.2±1.2,53°.3N±0°.2×160°.1E±0°.1,h75^{km}±9^{km}, mb4.2/46,Error ellipse: s-maj=22.4km s-min=8.0km az=169.0*

ISC 11 06:37:48.4±0.7,53°.35N±0°.03×160°.24E±0°.04,h55^{km}±6km, n212,σ1§67/250,mb4.2/62,MS3.4/9,5C,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.29**	**208**	PN		**Pn**	**06 37 58.0**	**+0.1**
SPN	**Mys Shipunski**	**0.29**	**208**	*e*P		**Pn**	**06 37 58.0**	**+0.1**
NLC	**Nalytchevo**	**0.57**	**252**	PN		**Pn**	**06 38 01.3**	**+0.6**
NLC				S		**Sn**	**06 38 10.9**	**+1.2**
NLC	**Nalytchevo**	**0.57**	**252**	*e*P		**Pn**	**06 38 01.3**	**+0.6**
NLC				*e*S		**Sn**	**06 38 10.9**	**+1.2**
KII	**Karymskiy**	**0.83**	**326**	PN		**Pn**	**06 38 04.7**	**+0.6**
KII	**Karymskiy**	**0.83**	**326**	*e*P		**Pn**	**06 38 04.7**	**+0.6**
SMAR	**Somma**	**0.87**	**265**	PN		**Pn**	**06 38 05.7**	**+0.9**
SMAR				S		**Sn**	**06 38 16.7**	**0.0**
SMAR	**Somma**	**0.87**	**265**	*e*P		**Pn**	**06 38 05.7**	**+0.9**
SMAR				*e*S		**Sn**	**06 38 16.7**	**0.0**
KRER	**Koryakskii**	**0.90**	**268**	PN		**Pn**	**06 38 06.4**	**+1.3**
KRER				S		**Sn**	**06 38 18.8**	**+1.5**
KRER	**Koryakskii**	**0.90**	**268**	*e*P		**Pn**	**06 38 06.4**	**+1.3**
KRER				*e*S		**Sn**	**06 38 18.8**	**+1.5**
AVH	**Avacha**	**0.91**	**265**	PN		**Pn**	**06 38 06.4**	**+1.3**
AVH				S		**Sn**	**06 38 20.0**	**+2.6**
AVH	**Avacha**	**0.91**	**265**	*e*P		**Pn**	**06 38 06.4**	**+1.3**
AVH				*e*S		**Sn**	**06 38 20.0**	**+2.6**
DALK	**Dalny**	**0.95**	**251**	PN		**Pn**	**06 38 06.4**	**+0.8**
DALK				S		**Sn**	**06 38 19.7**	**+1.5**
DALK	**Dalny**	**0.95**	**251**	*e*P		**Pn**	**06 38 06.4**	**+0.8**
DALK				*e*S		**Sn**	**06 38 19.7**	**+1.5**
KRX	**Arik**	**0.96**	**271**	PN		**Pn**	**06 38 06.7**	**+0.9**
KRX				S		**Sn**	**06 38 20.1**	**+1.5**
KRX	**Arik**	**0.96**	**271**	*e*P		**Pn**	**06 38 06.7**	**+0.9**
KRX				*e*S		**Sn**	**06 38 20.1**	**+1.5**
KOK	**Koryaka**	**0.97**	**267**	PN		**Pn**	**06 38 07.1**	**+1.2**
KOK				S		**Sn**	**06 38 20.3**	**+1.5**
KOK	**Koryaka**	**0.97**	**267**	*e*P		**Pn**	**06 38 07.1**	**+1.2**
KOK				*e*S		**Sn**	**06 38 20.3**	**+1.5**
PET	**Petropavlovsk**	**1.01**	**252**			**Pn**	**06 38 07.3**	**+0.9**
PET				Sn		**Sn**	**06 38 20.7**	**+1.0**
PET	**Petropavlovsk**	**1.01**	**252**	*ce*PN		**Pn**	**06 38 07.1**	**+0.7**
PET				pmax		pmax		
	comp=Z,481nm,0.5s							
PET	**Petropavlovsk**	**1.01**	**252**	*e*P		**Pn**	**06 38 07.3**	**+0.9**
PET				*e*S		**Sn**	**06 38 21.1**	**+1.4**
KRMR	**Karymshinskiy**	**1.38**	**249**	PN		**Pn**	**06 38 12.6**	**+1.3**
KRMR				S		**Sn**	**06 38 30.5**	**+2.1**
KRMR	**Karymshinskiy**	**1.38**	**249**	*e*P		**Pn**	**06 38 12.6**	**+1.3**
KRMR				*e*S		**Sn**	**06 38 30.5**	**+2.1**
RUS	**Russkaya**	**1.40**	**229**	PN		**Pn**	**06 38 12.3**	**+0.8**
RUS				S		**Sn**	**06 38 29.6**	**+0.8**
RUS	**Russkaya**	**1.40**	**229**	*e*P		**Pn**	**06 38 12.3**	**+0.8**
RUS				*e*S		**Sn**	**06 38 29.6**	**+0.8**
GNL	**Ganaly**	**1.42**	**285**	PN		**Pn**	**06 38 13.8**	**+1.9**
GNL	**Ganaly**	**1.42**	**285**	*e*P		**Pn**	**06 38 13.8**	**+1.9**
MTVR	**Mutnovka**	**1.52**	**236**	PN		**Pn**	**06 38 14.4**	**+1.0**
MTVR				S		**Sn**	**06 38 33.5**	**+1.3**
MTVR	**Mutnovka**	**1.52**	**236**	*e*P		**Pn**	**06 38 14.4**	**+1.0**
MTVR				*e*S		**Sn**	**06 38 33.5**	**+1.3**
GRL	**Gorelyy**	**1.54**	**239**	PN		**Pn**	**06 38 15.1**	**+1.5**
GRL				S		**Sn**	**06 38 35.0**	**+2.5**
GRL	**Gorelyy**	**1.54**	**239**	*e*P		**Pn**	**06 38 15.1**	**+1.5**
GRL				*e*S		**Sn**	**06 38 35.0**	**+2.5**
PEA0B	**Petropavlovsk-**	**1.55**	**262**	Pn		**Pn**	**06 38 15.1**	**+1.4**
PEA0B	**Petropavlovsk-**	**1.55**	**262**	*ce*PN		**Pn**	**06 38 14.9**	**+1.3**
PETK	**Petropavlovsk-**	**1.55**	**262**	Pn		**Pn**	**06 38 14.5**	**+0.8**
PETK	**Petropavlovsk-**	**1.55**	**262**	P		**Pn**	**06 38 14.3**	**+0.7**
	comp=Z,393nm,0.4s,baz=78,slow=20,SNR=1697							
PETK				S		**Sn**	**06 38 34.0**	**+1.3**
	comp=Z,221nm,0.3s,baz=298,slow=23,SNR=11							
PETK				LR		LR	06 39 05.0	
	comp=Z,621nm,19.3s,baz=130,slow=50							
ASAK	**Asacha**	**1.72**	**237**	PN		**Pn**	**06 38 17.9**	**+1.9**
ASAK				S		**Sn**	**06 38 40.0**	**+3.1**
ASAK	**Asacha**	**1.72**	**237**	*e*P		**Pn**	**06 38 17.9**	**+1.9**
ASAK				*e*S		**Sn**	**06 38 40.0**	**+3.1**
TUMD	**Tumrok D**	**1.86**	**3**	*e*P		**Pn**	**06 38 18.8**	**+1.0**
TUMD				*e*S		**Sn**	**06 38 40.5**	**+0.3**
APC	**Apacha**	**1.91**	**258**	PN		**Pn**	**06 38 20.9**	**+2.4**
APC				S		**Sn**	**06 38 44.4**	**+3.1**
APC	**Apacha**	**1.91**	**258**	*e*P		**Pn**	**06 38 20.9**	**+2.4**
APC				*e*S		**Sn**	**06 38 44.4**	**+3.1**
TUMR	**Tumrok**	**1.94**	**358**	PN		**Pn**	**06 38 18.8**	**-0.2**
TUMR				S		**Sn**	**06 38 40.5**	**-1.7**
TUMR	**Tumrok**	**1.94**	**358**	*e*P		**Pn**	**06 38 20.8**	**+1.8**
TUMR				*e*S		**Sn**	**06 38 44.9**	**+2.6**
KDTR	**Khodutka, Kamc**	**2.03**	**221**	PN		**Pn**	**06 38 21.6**	**+1.4**
KDTR				S		**Sn**	**06 38 46.8**	**+2.4**
KDTR	**Khodutka, Kamc**	**2.03**	**221**	*e*P		**Pn**	**06 38 21.6**	**+1.4**
KDTR				*e*S		**Sn**	**06 38 46.8**	**+2.4**
KMNR	**Kamenistaya**	**2.41**	**360**	PN		**Pn**	**06 38 27.7**	**+2.2**
KMNR	**Kamenistaya**	**2.41**	**360**	*e*P		**Pn**	**06 38 27.7**	**+2.2**
BZP	**Bezymyannyi-Pe**	**2.57**	**4**	*e*P		**Pn**	**06 38 30.0**	**+2.3**
BZMR	**Bezymyannaya**	**2.59**	**3**	PN		**Pn**	**06 38 30.2**	**+2.2**
BZMR				S		**Sn**	**06 39 01.1**	**+2.8**
BZMR	**Bezymyannaya**	**2.59**	**3**	*e*P		**Pn**	**06 38 30.2**	**+2.2**
BZMR				*e*S		**Sn**	**06 39 01.1**	**+2.8**
BZGR	**Bezymyannyi-Gr**	**2.61**	**6**	PN		**Pn**	**06 38 30.1**	**+2.0**
BZGR				S		**Sn**	**06 39 00.6**	**+2.0**
BZGR	**Bezymyannyi-Gr**	**2.61**	**6**	*e*P		**Pn**	**06 38 30.1**	**+2.0**
BZGR				*e*S		**Sn**	**06 39 00.6**	**+2.0**
KIRR	**Kirishev**	**2.61**	**1**	PN		**Pn**	**06 38 30.8**	**+2.6**
KIRR	**Kirishev**	**2.61**	**1**	*e*P		**Pn**	**06 38 30.8**	**+2.6**
KPT	**Kopyto**	**2.62**	**360**	PN		**Pn**	**06 38 30.2**	**+1.9**
KPT	**Kopyto**	**2.62**	**360**	*e*P		**Pn**	**06 38 30.2**	**+1.9**
BZWR	**Bezymyannyi-We**	**2.62**	**3**	PN		**Pn**	**06 38 31.1**	**+2.7**
BZWR				S		**Sn**	**06 39 02.6**	**+3.5**
BZWR	**Bezymyannyi-We**	**2.62**	**3**	*e*P		**Pn**	**06 38 31.1**	**+2.7**
BZWR				*e*S		**Sn**	**06 39 02.6**	**+3.5**
KOZ	**Kozyrevsk**	**2.72**	**356**	PN		**Pn**	**06 38 31.7**	**+2.1**
KOZ	**Kozyrevsk**	**2.72**	**356**	*e*P		**Pn**	**06 38 31.7**	**+2.1**
ESO	**Esso**	**2.73**	**341**	PN		**Pn**	**06 38 31.2**	**+1.4**
ESO	**Esso**	**2.73**	**341**	*e*P		**Pn**	**06 38 31.2**	**+1.4**
PAU	**Pauzhetka**	**2.83**	**229**	PN		**Pn**	**06 38 35.1**	**+4.1**
PAU	**Pauzhetka**	**2.83**	**229**	*e*P		**Pn**	**06 38 35.1**	**+4.1**
KRSR	**Krestovskiy**	**2.88**	**4**	PN		**Pn**	**06 38 34.5**	**+2.7**
KRSR	**Krestovskiy**	**2.88**	**4**	*e*P		**Pn**	**06 38 34.5**	**+2.7**
KLY	**Klyuchi**	**2.98**	**4**	PN		**Pn**	**06 38 35.5**	**+2.4**
KLY				S		**Sn**	**06 39 09.7**	**+2.2**
KLY	**Klyuchi**	**2.98**	**4**	*e*P		**Pn**	**06 38 35.5**	**+2.4**
KLY				*e*S		**Sn**	**06 39 09.7**	**+2.2**
SRDR	**Sredinnyy**	**2.99**	**354**	PN		**Pn**	**06 38 34.6**	**+1.3**
SRDR	**Sredinnyy**	**2.99**	**354**	*e*P		**Pn**	**06 38 34.6**	**+1.3**
KBG	**Krutoberegovo**	**3.24**	**25**	PN		**Pn**	**06 38 38.6**	**+1.9**
KBG				S		**Sn**	**06 39 16.2**	**+2.3**
KBG	**Krutoberegovo**	**3.24**	**25**	*e*P		**Pn**	**06 38 38.6**	**+1.9**
KBG				*e*S		**Sn**	**06 39 16.2**	**+2.3**
BDR	**Baidarnaya**	**3.27**	**9**	PN		**Pn**	**06 38 40.7**	**+3.5**
BDR	**Baidarnaya**	**3.27**	**9**	*e*P		**Pn**	**06 38 40.7**	**+3.5**
SKR	**Severo-Kuril's**	**3.69**	**225**	*e*PN		Pn	06 38 49.2	+6.3
SKR				*e*S		**Sn**	**06 39 29.2**	**+4.1**
SKR				pmax		pmax		
	comp=Z,138nm,0.7s							
SKR				smax		smax		
	comp=E,660nm,0.6s							
SKR				smax		smax		
	comp=N,689nm,0.6s							
SKR				MLR		MLR		
	comp=Z,2μm,17.0s							
SKR	**Severo-Kuril's**	**3.69**	**225**	*e*P		**Pn**	**06 38 45.0**	**+2.1**
SKR				*e*S		**Sn**	**06 39 27.1**	**+2.0**
BKI	**Bering**	**3.84**	**59**	PN		**Pn**	**06 38 44.9**	**+0.1**
BKI	**Bering**	**3.84**	**59**	*e*P		**Pn**	**06 38 44.9**	**+0.1**
BKI				*e*S		**Sn**	**06 39 24.3**	**-4.3**
TIGL	**Tigil**	**4.51**	**349**	*e*P		**Pn**	**06 38 56.4**	**+2.4**
PALN	**Palana**	**5.75**	**359**	PN		**Pn**	**06 39 14.8**	**+3.7**
PALN	**Palana**	**5.75**	**359**	*e*P		**Pn**	**06 39 14.8**	**+3.7**
MA2	**Magadan**	**8.14**	**324**	*i* PN		**Pn**	**06 39 45.6**	**+1.8**
MA2	**Magadan**	**8.14**	**324**	P		**Pn**	**06 39 43.2**	**-0.6**
	comp=Z,2.3nm,0.4s,baz=122,slow=11,SNR=6.1							
MA2				LR		LR	06 43 24.2	
	comp=Z,98nm,18.2s,baz=116,slow=42							
SHEM	**Shemya Is, Ala**	**8.38**	**89**	P		**Pn**	**06 39 48.9**	**+1.9**
	comp=Z,59nm,0.7s,baz=65,slow=8.4,SNR=4.1							
SHEM				S		**Sn**	**06 41 18.4**	**-1.6**
	comp=Z,18nm,0.3s,baz=290,slow=22,SNR=1.1							
SEY	**Seymchan**	**10.46**	**340**	*i* PN		**Pn**	**06 40 17.0**	**+1.6**
SEY	**Seymchan**	**10.46**	**340**	P		**Pn**	**06 40 17.6**	**+2.2**
	comp=Z,1.0nm,0.2s,baz=167,slow=12,SNR=4.1							
YSS	**Yuzh-Sakhalins**	**12.90**	**247**	*e*PN		Pn	06 40 37.7	-11
YSS				MLR		MLR		
	comp=Z,200nm,17.0s							
ASAJ	**Asahikawa**	**14.83**	**239**	P		**Pn**	**06 41 16.1**	**+1.4**
	comp=Z,13nm,0.9s,baz=69,slow=12,SNR=7.5							
ASAJ				LR		LR	06 46 28.5	
	comp=Z,70nm,21.2s,baz=70,slow=35							
BILL	**Bilibino**	**15.02**	**9**	*i* P		**Pn**	**06 41 17.9**	**+1.0**
ERM	**Erimo**	**16.11**	**232**			**Pn**	**06 41 29.3**	**-1.8**
ERM				IAmb		IAmb	06 41 33.6	
	comp=Z,34nm,1.1s							
ERM	**Erimo**	**16.11**	**232**	P		**Pn**	**06 41 29.3**	**-1.8**
ERM				pmax		pmax		
	comp=Z,34nm,1.2s							
JTM	**Tenmabayashi**	**18.05**	**234**	P		**P**	**06 41 51.8**	**-3.1**
KLR	**Kul'dur**	**18.23**	**268**	*i* P		**P**	**06 41 56.5**	**-0.4**
KLR				pmax		pmax		
	comp=Z,11nm,2.5s							
KLR	**Kul'dur**	**18.23**	**268**	P		**Pn**	**06 41 56.9**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=73,slow=9.9,SNR=11							
KLR				LR		LR	06 49 27.8	
	comp=Z,58nm,18.9s,baz=154,slow=38							
YAK	**Yakutsk**	**18.34**	**310**	P		**P**	**06 41 56.9**	**-1.0**
YAK	**Yakutsk**	**18.34**	**310**	*ce*P		**P**	**06 41 56.9**	**-1.0**
YAK				pmax		pmax		
	comp=Z,20nm,0.8s							
YAK	**Yakutsk**	**18.34**	**310**	P		**P**	**06 41 57.0**	**-0.9**
	comp=Z,18nm,0.5s,baz=132,slow=3.3,SNR=4.4							
YAK				LR		LR	06 49 39.9	
	comp=Z,68nm,19.8s,baz=63,slow=39							
NIKH	**Nikolski High**	**18.47**	**79**	P		**P**	**06 42 00.5**	**+1.1**
TNA	**Tin City**	**19.99**	**40**	P		**P**	**06 42 17.7**	**+1.7**
HEH	**HeiHe**	**20.43**	**275**	*e*P		**P**	**06 42 21.5**	**+0.6**
HEH				pmax		pmax		
	comp=Z,6.0nm,1.2s							
HEH				pmax		pmax		
	comp=Z,230nm,4.3s							
USA0B	**Ussuriysk Arra**	**20.63**	**255**	P		**P**	**06 42 21.4**	**-1.7**
USA0B				IAmb		IAmb	06 42 43.9	
	comp=Z,21nm,1.4s							
USA0B	**Ussuriysk Arra**	**20.63**	**255**	P		**P**	**06 42 21.4**	**-1.7**
USA0B				pmax		pmax		
	comp=Z,21nm,1.5s							
USRK	**Ussuriysk Ar.**	**20.63**	**255**	LR		LR	06 51 29.4	
	comp=Z,68nm,21.2s,baz=80,slow=40							
ANM	**Nome**	**20.68**	**44**	P		**P**	**06 42 24.9**	**+1.4**
ANM	**Nome**	**20.68**	**44**	P		**P**	**06 42 24.9**	**+1.4**
ANM				pmax		pmax		
	comp=Z,4.0nm,1.0s							
MJB9	**Matsu-Tunnel**	**22.78**	**231**	P		**P**	**06 42 45.0**	**-1.2**
MJB9				IAmb		IAmb	06 42 48.2	
	comp=Z,14nm,0.8s							
MAJO	**Matsushiro**	**22.78**	**231**	P		**P**	**06 42 45.2**	**-0.9**
MAJO				IAmb		IAmb	06 42 48.2	
	comp=Z,14nm,0.8s							
MAJO	**Matsushiro**	**22.78**	**231**	*i* P		**P**	**06 42 45.6**	**-0.6**
MAJO				pmax		pmax		
	comp=Z,10.0nm,0.8s							
MJAR	**Matsushiro Arr**	**22.78**	**231**	P		**P**	**06 42 47.4**	**+1.2**
	comp=Z,7.5nm,0.8s,baz=17,slow=12,SNR=22							
	comp=Z,7.5nm,0.8s							
L16K	**Owhat River**	**22.84**	**53**	P		**P**	**06 42 46.8**	**+0.3**
L16K				IAmb		IAmb	06 43 11.0	
	comp=Z,5.3nm,0.8s							
F17K	**Baldwin Pennin**	**22.86**	**40**	P		**P**	**06 42 47.8**	**+1.1**
TIXI	**Tiksi**	**22.88**	**335**	P		**P**	**06 42 45.8**	**-1.1**
TIXI	**Tiksi**	**22.88**	**335**	*i* P		**P**	**06 42 43.4**	**-3.5**
TIXI				pmax		pmax		
	comp=Z,8.0nm,1.1s							
TIXI	**Tiksi**	**22.88**	**335**	LR		LR	06 52 12.3	
	comp=Z,50nm,18.2s,baz=194,slow=38							
H18K	**Honhosa River**	**23.73**	**44**	P		**P**	**06 42 55.6**	**+0.5**
H18K				IAmb		IAmb	06 43 10.8	
	comp=Z,11nm,1.4s							
JGF	**Kuroka**	**23.94**	**231**	P		**P**	**06 42 56.0**	**-1.4**
JGF				IAmb		IAmb	06 43 04.2	
	comp=Z,9.0nm,1.2s							
C19K	**Lookout Ridge**	**24.29**	**34**	P		**P**	**06 43 01.5**	**+1.2**
C19K				IAmb		IAmb	06 43 04.0	
	comp=Z,8.8nm,1.1s							
TTA	**Tatalina**	**24.52**	**50**	P		**P**	**06 43 03.7**	**+1.3**
TTA	**Tatalina**	**24.52**	**50**	P		**P**	**06 43 03.7**	**+1.3**
TTA				pmax		pmax		
	comp=Z,4.0nm,0.9s							
M19K	**Big River Lodg**	**25.26**	**52**	P		**P**	**06 43 09.8**	**+0.7**
M19K				IAmb		IAmb	06 43 31.6	
	comp=Z,13nm,1.5s							
IMAR	**Indian Mountai**	**25.75**	**43**	P		**P**	**06 43 13.4**	**-0.1**
B21K	**Ikpikpuk River**	**26.13**	**34**	P		**P**	**06 43 17.6**	**+0.8**
B21K				IAmb		IAmb	06 43 31.0	
	comp=Z,8.1nm,0.9s							
BPAW	**Bear Paw Mtn.**	**26.80**	**47**	P		**P**	**06 43 23.1**	**+0.2**
BPAW				IAmb		IAmb	06 43 42.5	
	comp=Z,6.3nm,1.3s							
E22K	**Anaktuvuk Pass**	**26.81**	**38**	P		**P**	**06 43 24.1**	**+1.1**
E22K				IAmb		IAmb	06 43 44.3	
	comp=Z,7.4nm,1.5s							
GHO	**Glory Hole Cre**	**27.85**	**52**	P		**P**	**06 43 33.2**	**+0.8**
WRH	**Wood River Hil**	**28.06**	**46**	P		**P**	**06 43 34.9**	**+0.7**
SML	**Sawmill**	**28.13**	**52**	P		**P**	**06 43 34.1**	**-0.8**
ILAR	**Eielson Array**	**28.57**	**46**	P		**P**	**06 43 37.5**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=269,slow=7.7,SNR=6.4							
	comp=Z,0.6nm,0.8s							
SCM	**Sheep Creek Mo**	**28.60**	**52**	P		**P**	**06 43 40.1**	**+1.0**
SCM				IAmb		IAmb	06 44 06.1	
	comp=Z,10.0nm,1.1s							
SCM	**Sheep Creek Mo**	**28.60**	**52**	P		**P**	**06 43 40.1**	**+1.0**
SCM				pmax		pmax		
	comp=Z,10.0nm,1.1s							
M24K	**Tolsona, Glenn**	**29.11**	**51**	P		**P**	**06 43 44.8**	**+1.2**
E25K	**Arctic Village**	**29.13**	**39**	P		**P**	**06 43 44.9**	**+1.2**
HIN	**Hinchinbrook I**	**29.21**	**55**	P		**P**	**06 43 43.9**	**-0.6**
HMT	**Hamilton**	**30.32**	**54**	P		**P**	**06 43 53.1**	**-1.2**
BCAR	**Beaver Creek A**	**30.98**	**49**	P		**P**	**06 44 01.2**	**+1.1**
EGAK	**Eagle**	**31.02**	**45**	P		**P**	**06 44 00.6**	**+0.3**
EGAK				IAmb		IAmb	06 44 09.5	
	comp=Z,6.0nm,1.4s							
M27K	**Edge Creek, AK**	**31.05**	**50**	P		**P**	**06 44 00.6**	**-0.3**
M27K				IAmb		IAmb	06 44 28.3	
	comp=Z,12nm,1.5s							
F28M	**Old Crow**	**31.29**	**40**	P		**P**	**06 44 03.3**	**+0.5**
CTGM	**Chitina Glacie**	**31.59**	**53**	P		**P**	**06 44 06.3**	**+0.7**
G31M	**Satah River**	**33.53**	**40**	P		**P**	**06 44 22.6**	**+0.4**
INK	**Inuvik**	**33.61**	**38**	P		**P**	**06 44 23.1**	**+0.2**
INK				IAmb		IAmb	06 44 48.2	
	comp=Z,3.1nm,1.4s							
INK	**Inuvik**	**33.61**	**38**	P		**P**	**06 44 23.2**	**+0.2**
INK				pmax		pmax		
	comp=Z,3.0nm,1.4s							
SONM	**Songino Array**	**33.93**	**283**	P		**P**	**06 44 25.3**	**-0.8**
SONM	**Songino Array**	**33.93**	**283**	P		**P**	**06 44 24.5**	**-1.7**
	comp=Z,0.7nm,0.7s,baz=66,slow=7.3,SNR=5.2							
SONM				PcP		**PcP**	**06 47 03.4**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=70,slow=1.8,SNR=7.7							
	comp=Z,0.7nm,0.7s							
H11N2	**WAKE ISLAND

ARCES ARCESS Array B 53.07 342 P **P** **06 46 58.0 -1.4**
comp=Z,2.1nm,0.9s,baz=29,slow=8.4,SNR=7.7
comp=Z,2.1nm,0.9s
FCC Fort Churchill 53.22 39 P **P** **06 47 01.3 +0.6**
FCC IAmb IAmb 06 47 02.5
comp=Z,4.8nm,1.1s
FCC Fort Churchill 53.22 39 P **P** **06 47 01.3 +0.6**
FCC pmax pmax
comp=Z,5.0nm,1.2s
SUMG Summit 53.69 7 P **P** **06 47 04.8 +0.4**
SUMG Summit 53.69 7 P **P** **06 47 04.8 +0.4**
SUMG pmax pmax
comp=Z,18nm,1.4s
SUMG Summit 53.69 7 *i* P **P** **06 47 04.0 -0.4**
AAK Ala-Archa 55.04 296 *ce*P **P** **06 47 12.1 -2.3**
AAK pmax pmax
comp=Z,6.0nm,2.5s
KIRV Kirov 55.24 323 *i* P **P** **06 47 14.2 -1.1**
KIRV Kirov 55.24 323 LR LR 07 11 40.3
comp=Z,60nm,18.2s,baz=92,slow=37
NVAR Mina Array Bea 55.57 70 P **P** **06 47 20.0 +1.7**
comp=Z,0.5nm,0.7s,baz=286,slow=6.7,SNR=5.9
comp=Z,0.5nm,0.7s
PDAR Pinedale Array 57.32 61 P **P** **06 47 32.4 +1.7**
comp=Z,0.3nm,0.5s,baz=336,slow=3.3,SNR=3.6
comp=Z,0.3nm,0.5s
CMAR Chiang Mai Arr 58.32 258 P **P** **06 47 39.2 +1.4**
comp=Z,0.8nm,0.3s,baz=29,slow=7.7,SNR=4.3
comp=Z,0.8nm,0.3s
ULM Lac du Bonnet 58.58 47 P **P** **06 47 39.9 +0.8**
comp=Z,1.0nm,0.4s,baz=329,slow=6.3,SNR=4.6
comp=Z,1.0nm,0.4s
FINES FINESS Array B 59.92 337 P **P** **06 47 47.1 -1.0**
comp=Z,1.0nm,0.4s,baz=39,slow=7.9,SNR=15
FINES LR LR 07 19 57.9
comp=Z,69nm,20.0s,baz=212,slow=42
comp=Z,1.0nm,0.4s
BELG Belogornoye 60.58 320 *i* P **P** **06 47 51.2 -1.6**
BELG pmax pmax
comp=Z,1.0nm,0.9s
OBN Obninsk 62.35 327 *e*P **P** **06 48 04.0 -0.7**
OBN *e**PP **pP** **06 48 18.8 -0.8**
OBN *e* 06 48 39.2
OBN *e* 06 50 21.1
OBN pmax pmax
comp=Z,3.0nm,0.8s
NB2 NORSAR Subarra 63.32 344 P **P** **06 48 10.0 -1.1**
comp=Z,0.9nm,0.6s,baz=23,slow=6.9
NOA NORSAR Array B 63.32 344 P **P** **06 48 10.4 -0.8**
comp=Z,1.5nm,0.7s,baz=22,slow=6.6,SNR=9.4
comp=Z,1.5nm,0.7s
HFS Hagfors 63.73 342 P **P** **06 48 12.6 -1.2**
comp=Z,1.2nm,0.6s,baz=53,slow=5.5,SNR=11
comp=Z,1.2nm,0.6s
ANMO Albuquerque 64.66 65 LR LR 07 16 30.6
comp=Z,21nm,18.2s,baz=104,slow=36
SCHQ Scheffervill 65.38 28 P **P** **06 48 24.0 -0.7**
comp=Z,1.8nm,0.8s,baz=347,slow=5.5,SNR=4.1
comp=Z,1.8nm,0.8s
AKASG Malin Array Be 68.44 329 P **P** **06 48 43.1 -1.0**
comp=Z,0.8nm,0.4s,baz=28,slow=6.7,SNR=5.1
comp=Z,0.8nm,0.4s
KBZ Khabaz 69.41 317 P **P** **06 48 49.5 -0.7**
comp=Z,1.0nm,0.6s,baz=106,slow=5.5,SNR=4.5
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 70.45 67 P **P** **06 48 58.8 +1.7**
comp=Z,0.8nm,0.6s,baz=303,slow=4.8,SNR=5.9
comp=Z,0.8nm,0.6s
BATI Baumata 70.55 218 LR LR 07 20 39.4
comp=Z,57nm,20.5s,baz=343,slow=36
EKA Eskdalemuir Ar 70.82 350 P **P** **06 48 58.9 +0.3**
comp=Z,2.5nm,0.4s,baz=16,slow=5.1,SNR=38
comp=Z,2.5nm,0.4s
CLL Collm 72.14 339 *e*P **P** **06 49 07.0 +0.3**
GERES GERESS Array B 74.31 338 P **P** **06 49 20.9 +1.2**
comp=Z,0.5nm,0.7s,baz=146,slow=7.1,SNR=2.8
comp=Z,0.5nm,0.7s
KBA Koelnbreinsper 76.05 337 *e*P **P** **06 49 29.2 -0.6**
comp=Z,5.9nm,1.0s
WATA Walderalm 76.20 339 *e*P **P** **06 49 29.9 -0.8**
comp=Z,0.7nm,0.2s
WTTA Wattenberg 76.26 339 *e*P **P** **06 49 29.7 -1.3**
comp=Z,0.4nm,0.2s
WRA Warramunga Arr 76.35 205 *i* P **P** **06 49 31.3 -0.2**
WRA pmax pmax
comp=Z,2.0nm,1.0s
WRA Warramunga Arr 76.35 205 P **P** **06 49 31.7 +0.2**
comp=Z,2.7nm,1.0s,baz=25,slow=6.3,SNR=13
comp=Z,2.7nm,1.0s
BRTR Keskin Array B 76.48 320 P **P** **06 49 31.2 -1.1**
comp=Z,0.6nm,0.7s,baz=29,slow=3.3,SNR=3.6
comp=Z,0.6nm,0.7s
ABTA Abfaltersbach 76.55 338 *e*P **P** **06 49 32.6 +0.1**
comp=Z,2.4nm,0.8s
FETA Feichten 76.69 339 *e*P **P** **06 49 33.7 +0.3**
comp=Z,0.8nm,0.5s
ASAR Alice Springs 80.03 204 P **P** **06 49 53.4 +1.6**
comp=Z,1.1nm,0.5s,baz=16,slow=5.3,SNR=12
comp=Z,1.1nm,0.5s
ESDC Sonseca Array 86.34 348 P **P** **06 50 23.4 -1.0**
comp=Z,1.6nm,0.8s,baz=358,slow=4.6,SNR=5.8
comp=Z,1.6nm,0.8s

IDC ***11*** *06:55:08.1±0.6,28.8ˊ89N×129.9ˊ95E, h0km, mb4.0/23, mbtmp4.0/26, ML3.7/3, MS3.7/32, Error ellipse: s-maj=17.8km s-min=11.8km az=115.0*

NEIC ***11*** *06:55:11.1±1.4,28.6ˊ68N±0.ˊ06×130.ˊ05E±0.ˊ08, h22km±5km, mb4.7/68, Error ellipse: s-maj=10.2km s-min=8.0km az=112.0*

NIED ***11*** *06:55:13.1,28.ˊ79N×129.ˊ95E, h36km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr=0.80; Mθθ3.23; Mφφ=-2.43; Mrθ=1.28; Mθφ=-2.10; Mφr5.27; Fault plane solution: M06.43000×1015 NP1: φs155.00000°, δ86.00000°, λ-56.00000°. NP2: φs251.00000°, δ34.00000°, λ-173.00000°.*

JMA ***11*** *06:55:13.1±0.2,28.8ˊ8N±0.ˊ7×13.ˊ0E±ˊ, h36km, MD4.4/27, MV4.3/27, NEAR AMAMI-OSHIMA ISLAND*

JMA Felt II J1 at NEAR AMAMI-OSHIMA ISLAND.

ISC 11 06:55:10.1±1.9, 28.73N±0.03×130.15E±0.04, h14km±12km, n175, σ1§90/143, mb4.7/58, MS3.8/31, 1C, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JZK	**Kikaishima**	**0.44**	**201**	*i* P		**Pn**	**06 55 23.1**	**+1.2**
JZK				S		**Sn**	**06 55 31.7**	**+2.0**
JZK	**Kikaishima**	**0.44**	**201**	A		A	06 55 23.1	
	comp=E,94nm,0.9s,comp=N,167nm,1.3s							
JAM	**Amami Oshima**	**0.57**	**237**	*i* P		**Pb**	**06 55 22.7**	**+0.8**
JAM				*e*S		**Sb**	**06 55 30.8**	**+0.9**
JAM	**Amami Oshima**	**0.57**	**237**	A		A	06 55 22.7	
	comp=E,17nm,1.1s,comp=N,39nm,2.1s							
JTAJ	**Takarajima**	**0.93**	**297**	*i* P		**Pb**	**06 55 27.5**	**-0.5**
JTAJ				S		**Sb**	**06 55 38.8**	**-1.4**
JAMN	**Amaminishikomi**	**0.98**	**241**	*i* P		**Pn**	**06 55 29.4**	**0.0**
JAMN				*e*S		**Sb**	**06 55 42.0**	**+0.3**
JAMN	**Amaminishikomi**	**0.98**	**241**	A		A	06 55 29.4	
	comp=E,23nm,0.7s,comp=N,30nm,0.7s							
JNN	**Nakanoshima**	**1.14**	**348**	*i* P		**Pn**	**06 55 31.5**	**0.0**
JNN				*e*S		**Sb**	**06 55 46.2**	**+0.1**
JNN	**Nakanoshima**	**1.14**	**348**	A		A	06 55 31.5	
	comp=E,25nm,0.7s,comp=N,30nm,0.4s							
JTK	**Tokunoshima**	**1.41**	**229**	*i* P		**Pb**	**06 55 36.5**	**+0.2**
JTK	**Tokunoshima**	**1.41**	**229**	A		A	06 55 36.5	
	comp=E,10.0nm,0.9s,comp=N,13nm,3.7s							
JYAK	**Yakushimahirau**	**1.54**	**12**	P		**Pb**	**06 55 38.2**	**-0.1**
JYAK				*e*S		**Sb**	**06 55 57.8**	**+0.2**
JYAK	**Yakushimahirau**	**1.54**	**12**	A		A	06 55 38.2	
	comp=E,16nm,2.0s,comp=N,11nm,1.5s							
JKC	**Kuchinoerabu**	**1.73**	**1**	P		**Pn**	**06 55 40.5**	**+0.8**
JKC				S		**Sn**	**06 56 01.4**	**-0.1**
JKC	**Kuchinoerabu**	**1.73**	**1**	A		A	06 55 40.5	
	comp=E,10.0nm,2.6s,comp=N,4.0nm,3.0s							
JMTN	**Minamitane**	**1.79**	**21**	P		**Pb**	**06 55 42.1**	**-0.5**
JMTN	**Minamitane**	**1.79**	**21**	A		A	06 55 42.1	
	comp=E,10.0nm,3.2s,comp=N,11nm,3.2s							
JOKE	**Okinoerabujima**	**1.95**	**226**	P		**Pn**	**06 55 44.2**	**+1.5**
JOKE	**Okinoerabujima**	**1.95**	**226**	A		A	06 55 44.2	
	comp=E,7.0nm,1.5s,comp=N,7.0nm,1.6s							
JTN	**Tanegashima 3**	**2.05**	**20**	P		**Pn**	**06 55 45.8**	**+1.7**
JYRO	**Yoronjima**	**2.27**	**222**	P		**Pn**	**06 55 48.2**	**+1.1**
JYRO				S		**Sn**	**06 56 15.2**	**+0.4**
JYRO	**Yoronjima**	**2.27**	**222**	A		A	06 55 48.2	
	comp=E,5.0nm,2.4s,comp=N,6.0nm,1.9s							
JOW	**Kunigami**	**2.52**	**222**	Pn		**Pn**	**06 55 49.1**	**-1.4**
JOW	**Kunigami**	**2.52**	**222**	P		**Pn**	**06 55 51.4**	**+0.8**
JOW	**Kunigami**	**2.52**	**222**	A		A	06 55 51.4	
	comp=E,5.0nm,2.9s,comp=N,4.0nm,2.8s							
JOW	**Kunigami**	**2.52**	**222**	Pn		**Pn**	**06 55 51.4**	**+0.8**
	comp=N,40nm,0.3s,baz=113,slow=26,SNR=79							
JOW				Sn		**Sn**	**06 56 22.4**	**+1.5**
	comp=N,76nm,0.3s,baz=125,slow=27,SNR=5.6							
JOW				Lg		Lg	06 56 28.4	
	comp=N,86nm,0.3s,baz=142,slow=26,SNR=12							
	comp=N,454nm,0.7s							
JIH	**Iheya**	**2.56**	**229**	P		**Pn**	**06 55 52.0**	**+0.9**
JIH	**Iheya**	**2.56**	**229**	A		A	06 55 52.0	
	comp=E,5.0nm,5.6s,comp=N,4.0nm,2.2s							
JNTH	**Nagotoyohara**	**2.90**	**221**	*e*P		**Pn**	**06 55 57.1**	**+1.3**
JKDJ	**Kitadaitoujima**	**2.95**	**159**	*e*P		**Pn**	**06 55 58.5**	**+2.0**
JKDJ				*e*S		**Sn**	**06 56 30.1**	**-1.6**
JMZ	**Minamidaito 2**	**3.05**	**161**	Pn		**Pn**	**06 55 56.7**	**-1.2**
JMZ	**Minamidaito 2**	**3.05**	**161**	P		**Pn**	**06 55 59.0**	**+1.1**
JMZ				*e*S		**Sn**	**06 56 34.5**	**+0.3**
JJT3	**Tamagusuku3**	**3.32**	**220**	*e*P		**Pn**	**06 56 03.2**	**+1.5**
JJT3				*e*S		**Sn**	**06 56 41.5**	**+0.6**
JAGN	**Aguni-jima**	**3.34**	**231**	*e*P		**Pn**	**06 56 03.0**	**+1.1**
JKE	**Kume jima 2**	**3.83**	**232**	P		**Pn**	**06 56 09.3**	**+0.8**
JKE				*e*S		**Sn**	**06 56 52.3**	**-1.0**
JNU	**Nakatsue**	**4.42**	**8**	Pn		**Pn**	**06 56 17.5**	**+0.7**
JNU	**Nakatsue**	**4.42**	**8**	Pn		**Pn**	**06 56 18.9**	**+2.1**
	comp=N,5.6nm,0.3s,baz=216,slow=8.7,SNR=34							
JNU				Sn		**Sn**	**06 57 07.3**	**-0.8**
	comp=N,3.2nm,0.3s,baz=160,slow=11,SNR=1.2							
JNU				LR		LR	06 58 19.8	
	comp=N,373nm,18.8s,baz=195,slow=45							
JMN	**Monobe**	**5.92**	**32**	Pn		**Pn**	**06 56 38.2**	**+0.8**
YOJ	**Yonaguni jima**	**7.67**	**238**	Pn		**Pn**	**06 56 59.0**	**-2.4**
INU	**Inuyama**	**8.80**	**40**	Pn		**Pn**	**06 57 17.6**	**+0.7**
YHNB	**Yeheng**	**8.82**	**245**	Pn		**Pn**	**06 57 15.9**	**-1.4**
KSAR	**Wonju Array Be**	**8.89**	**348**	Pn		**Pn**	**06 57 17.1**	**-1.0**
KSRS	**Korea Array**	**8.90**	**348**	Pn		Pn	06 57 23.4	+5.2
	comp=N,0.4nm,0.3s,baz=164,slow=15,SNR=8.0							
NACB	**Ninganchiao**	**8.91**	**241**	Pn		**Pn**	**06 57 16.0**	**-2.3**
JGF	**Kuroka**	**9.18**	**40**	Pn		**Pn**	**06 57 23.5**	**+1.5**
JHJ	**Hachijo jima 2**	**9.36**	**60**	LR		LR	07 00 39.7	
	comp=N,545nm,21.8s,baz=26,slow=35							
YULB	**Yu-li**	**9.57**	**238**			**Pn**	**06 57 23.6**	**-3.8**
SSLB	**Suanglung**	**9.61**	**241**	Pn		**Pn**	**06 57 25.8**	**-2.2**
TPUB	**Ta-pu**	**10.12**	**240**	Pn		**Pn**	**06 57 33.2**	**-1.8**
NJ2	**Nanjing**	**10.30**	**292**	*e*P		**Pn**	**06 57 37.0**	**-0.4**
NJ2				LR		LR		
	comp=N,260nm,16.1s							
NJ2				LR		LR		
	comp=E,660nm,15.6s							
NJ2				LR		LR		
	comp=Z,750nm,15.6s							
MAJO	**Matsushiro**	**10.33**	**39**	Pn		**Pn**	**06 57 37.9**	**0.0**
MJAR	**Matsushiro Arr**	**10.33**	**39**	Pn		**Pn**	**06 57 38.5**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=247,slow=14,SNR=8.7							
MJAR				LR		LR	07 01 43.9	
	comp=Z,224nm,20.8s,baz=219,slow=38							
	comp=Z,1.2nm,0.6s							
MJB9	**Matsu-Tunnel**	**10.33**	**39**	Pn		**Pn**	**06 57 37.8**	**-0.1**
JCJ	**Chichijima**	**10.77**	**96**	LR		LR	07 01 26.9	
	comp=Z,242nm,19.1s,baz=324,slow=35							
CN2	**Changchun**	**15.51**	**347**	P		**Pn**	**06 58 50.1**	**+1.8**
CN2				*e*S		**Sn**	**07 01 42.3**	**+2.5**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CN2				pmax		pmax		
	comp=Z,200nm,4.0s							
CN2				LR		LR		
	comp=N,400nm,12.0s							
CN2				LR		LR		
	comp=E,500nm,12.0s							
CN2				LR		LR		
	comp=Z,200nm,13.0s							
HNS	**HongShan**	**15.55**	**308**	⇑P		**P**	**06 58 54.1**	**+1.0**
HNS				S		**S**	**07 01 51.5**	**-4.9**
HNS				pmax		pmax		
	comp=Z,7.0nm,1.0s							
HNS				LR		LR		
	comp=N,260nm,14.3s							
HNS				LR		LR		
	comp=Z,340nm,15.9s							
BJI	**Beijing**	**16.11**	**318**	P		**P**	**06 59 04.1**	**+4.8**
BJI				S		**S**	**07 02 13.9**	**+6.0**
BJI				pmax		pmax		
	comp=Z,3.0nm,0.6s							
BJI				LR		LR		
	comp=N,100nm,13.7s							
BJI				LR		LR		
	comp=E,84nm,15.1s							
BJI				LR		LR		
	comp=Z,100nm,14.0s							
TGY	**Tagaytay City**	**16.88**	**212**	LR		LR	07 06 01.2	
	comp=Z,138nm,19.1s,baz=101,slow=39							
ASAJ	**Asahikawa**	**18.30**	**30**	P		**Pn**	**06 59 22.4**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=231,slow=21,SNR=4.5							
ASAJ				LR		LR	07 06 45.7	
	comp=Z,204nm,19.8s,baz=122,slow=38							
	comp=Z,3.1nm,0.4s							
XAN	**Xi'an**	**18.87**	**292**	P		**Pn**	**06 59 32.5**	**+2.0**
XAN				pP		sP	06 59 36.9	+1.3
XAN				pmax		pmax		
	comp=Z,17nm,0.7s							
XAN				LR		LR		
	comp=N,260nm,13.1s							
XAN				LR		LR		
	comp=E,320nm,14.9s							
XAN				LR		LR		
	comp=Z,330nm,15.5s							
XLT	**XiLinHaoTe**	**18.87**	**327**	*e*P		Pn	06 59 39.0	+8.5
XLT				sP		sP	06 59 47.7	+12
XLT				PcP		**PcP**	**07 04 02.8**	**+6.7**
XLT				PcS		PcS	07 07 46.4	+13
XLT				pmax		pmax		
	comp=Z,19nm,0.7s							
XLT				pmax		pmax		
	comp=Z,64nm,3.9s							
HHC	**Hu-ho-hao-te**	**19.43**	**313**	*e*P		Pn	06 59 44.6	+7.4
HHC				S		**S**	**07 03 19.9**	**+4.5**
HHC				sS		pS	07 03 28.4	-1.4
HHC				SS		**SnSn**	**07 03 37.4**	**+8.2**
HHC				pmax		pmax		
	comp=Z,9.0nm,0.7s							
HHC				pmax		pmax		
	comp=Z,110nm,4.9s							
HHC				LR		LR		
	comp=N,100nm,12.6s							
HHC				LR		LR		
	comp=E,140nm,11.5s							
HHC				LR		LR		
	comp=Z,130nm,11.1s							
KLR	**Kul'dur**	**20.51**	**3**	P		**P**	**06 59 46.2**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=262,slow=2.2,SNR=5.7							
	comp=Z,0.9nm,0.5s							
QIZ	**Qiongzhong**	**20.90**	**247**	P		**P**	**06 59 51.2**	**-0.9**
QIZ				S		**S**	**07 03 44.2**	**-0.7**
QIZ				LR		LR		
	comp=N,230nm,7.8s							
QIZ				LR		LR		
	comp=E,230nm,9.4s							
QIZ				LR		LR		
	comp=Z,300nm,9.8s							
HEH	**HeiHe**	**21.60**	**355**	*e*P		**P**	**06 59 58.3**	**-1.0**
CD2	**Chengdu**	**22.98**	**282**	P		**P**	**07 00 13.2**	**-1.2**
CD2				S		**S**	**07 04 24.5**	**0.0**
CD2				pmax		pmax		
	comp=Z,20nm,0.7s							
CD2				LR		LR		
	comp=N,290nm,18.8s							
CD2				LR		LR		
	comp=E,240nm,16.5s							
CD2				LR		LR		
	comp=Z,230nm,13.7s							
LZH	**Lanzhou**	**23.34**	**295**	*e*P		**P**	**07 00 25.0**	**+6.9**
LZH				pP		sP	07 00 31.8	+7.8
LZH				pmax		pmax		
	comp=Z,10.0nm,1.1s							
LZH				LR		LR		
	comp=N,230nm,13.1s							
LZH				LR		LR		
	comp=E,250nm,11.2s							
LZH				LR		LR		
	comp=Z,260nm,13.7s							
PZH	**PanZhiHua**	**25.25**	**272**	P		**P**	**07 00 34.4**	**-1.5**
PZH				S		**S**	**07 04 56.2**	**-5.1**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,100nm,5.9s							
PZH				LR		LR		
	comp=N,200nm,16.9s							
PZH				LR		LR		
	comp=E,260nm,17.1s							
PZH				LR		LR		
	comp=Z,250nm,14.5s							
SONM	**Songino Array**	**26.50**	**323**	P		**P**	**07 00 46.4**	**-0.6**
SONM	**Songino Array**	**26.50**	**323**	P		**P**	**07 00 46.2**	**-0.9**
	comp=Z,2.1nm,0.7s,baz=139,slow=9.0,SNR=12							
SONM				LR		LR	07 12 07.7	
	comp=Z,131nm,20.3s,baz=148,slow=39							
	comp=Z,2.1nm,0.7s							
GTA	**Gaotai**	**27.18**	**301**	*e*P		**P**	**07 00 56.4**	**+3.1**
GTA				sP		sP	07 01 02.4	+3.4
GTA				pmax		pmax		
	comp=Z,5.0nm,0.9s							
GTA				LR		LR		
	comp=N,170nm,13.1s							
GTA				LR		LR		
	comp=E,260nm,14.9s							
GTA				LR		LR		
	comp=Z,310nm,14.9s							
PHRA	**Phrae**	**29.17**	**256**	P		**P**	**07 01 10.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**30.29**	**257**	P		**P**	**07 01 20.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**30.29**	**257**	P		**P**	**07 01 21.0**	**0.0**
	comp=Z,1.0nm,0.3s,baz=61,slow=6.2,SNR=4.7							
	comp=Z,1.0nm,0.3s							
LUWI	**Luwuk**	**30.43**	**195**	P		**P**	**07 01 21.2**	**-1.0**
LUWI				IAmb		IAmb	07 01 22.1	
	comp=Z,19nm,0.9s							
PETK	**Petropavlovsk-**	**31.68**	**32**	LR		LR	07 14 23.3	
	comp=Z,130nm,21.8s,baz=240,slow=36							
YAK	**Yakutsk**	**33.31**	**360**	LR		LR	07 15 44.0	
	comp=Z,61nm,19.2s,baz=113,slow=37							
MA2	**Magadan**	**33.91**	**19**	LR		LR	07 16 56.2	
	comp=Z,74nm,19.6s,baz=178,slow=39							
PATS	**Pohnpei**	**34.37**	**124**	P		**P**	**07 01 55.5**	**-1.3**
H11N2	**WAKE ISLAND Hy**	**34.57**	**97**	T		T	07 38 48.7	
	baz=290,slow=75,SNR=9.4							
H11N1	**WAKE ISLAND Hy**	**34.58**	**97**	T		T	07 38 48.3	
	baz=290,slow=75,SNR=8.9							
H11N3	**WAKE ISLAND Hy**	**34.59**	**97**	T		T	07 38 49.5	
	baz=290,slow=75,SNR=11							
WMQ	**Urumqi**	**36.97**	**306**	*e*P		**P**	**07 02 20.4**	**+1.5**
WMQ				LR		LR		
	comp=Z,190nm,21.9s							
MK31	**Makanchi Array**	**41.21**	**309**	P		**P**	**07 02 53.4**	**-1.0**
MKAR	**Makanchi Array**	**41.21**	**309**	P		**P**	**07 02 52.9**	**-1.4**
MKAR	**Makanchi Array**	**41.21**	**309**	P		**P**	**07 02 52.4**	**-1.9**
	comp=Z,0.2nm,0.4s,baz=95,slow=10,SNR=7.3							
MKAR				LR		LR	07 21 41.9	
	comp=Z,66nm,19.1s,baz=78,slow=39							
	comp=Z,0.2nm,0.4s							
PMG	**Port Moresby**	**41.32**	**154**	LR		LR	07 18 05.0	
	comp=Z,94nm,20.1s,baz=296,slow=33							
GSI	**Gunungsitoli**	**41.35**	**235**	P		**P**	**07 02 54.3**	**-1.4**
ZAA0	**Zalesovo Array**	**41.35**	**320**	P		**P**	**07 02 53.6**	**-1.7**
ZALV	**Zalesovo Beam**	**41.35**	**320**	P		**P**	**07 02 54.0**	**-1.3**
ZALV	**Zalesovo Beam**	**41.35**	**320**	P		**P**	**07 02 53.6**	**-1.7**
	comp=Z,1.2nm,0.4s,baz=101,slow=9.0,SNR=7.2							
ZALV				LR		LR	07 20 59.4	
	comp=Z,45nm,21.9s,baz=98,slow=38							
	comp=Z,1.2nm,0.4s							
MAKZ	**Makanchi**	**41.42**	**309**	P		**P**	**07 02 55.2**	**-0.8**
KNRA	**Kununurra**	**44.16**	**182**	P		**P**	**07 03 15.9**	**-2.5**
KNRA				IAmb		IAmb	07 03 29.3	
	comp=Z,11nm,0.9s							
KURBB	**Kurchatov Arra**	**44.28**	**314**	P		**P**	**07 03 17.5**	**-1.6**
	comp=Z,1.4nm,0.2s,baz=97,slow=8.8,SNR=4.1							
	comp=Z,1.4nm,0.2s							
GSTR	**Great Sitkin T**	**45.86**	**44**	P		**P**	**07 03 31.9**	**+0.2**
AAK	**Ala-Archa**	**46.50**	**303**	LR		LR	07 25 49.0	
	comp=Z,77nm,18.4s,baz=97,slow=40							
WB0	**Warramunga Arr**	**48.38**	**175**	P		**P**	**07 03 51.4**	**-0.2**
WB0				IAmb		IAmb	07 04 03.3	
	comp=Z,10.0nm,1.4s							
WRA	**Warramunga Arr**	**48.55**	**175**	P		**P**	**07 03 53.9**	**+0.9**
	comp=Z,1.0nm,0.9s,baz=353,slow=8.2,SNR=4.3							
	comp=Z,1.0nm,0.9s							
BVAR	**Borovoye Array**	**49.59**	**317**	P		**P**	**07 04 00.2**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=87,slow=10,SNR=7.2							
BVAR				PcP		**PcP**	**07 05 21.5**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=117,slow=2.6,SNR=2.2							
BVAR				LR		LR	07 26 41.5	
	comp=Z,114nm,18.8s,baz=93,slow=38							
	comp=Z,1.1nm,0.5s							
BRVK	**Borovoye**	**49.66**	**317**	P		**P**	**07 03 59.3**	**-1.8**
CTA	**Charters Tower**	**50.96**	**160**	LR		LR	07 23 13.7	
	comp=Z,47nm,21.5s,baz=271,slow=33							
ASAR	**Alice Springs**	**52.22**	**176**	P		**P**	**07 04 22.0**	**+1.3**
	comp=Z,0.9nm,0.9s,baz=328,slow=6.4,SNR=5.7							
ASAR				PcP		**PcP**	**07 05 33.4**	**+1.3**
	comp=Z,0.4nm,0.9s,baz=76,slow=9.5,SNR=1.7							
	comp=Z,0.9nm,0.9s							
ANM	**Nome**	**53.51**	**29**	P		**P**	**07 04 29.9**	**+0.2**
ABKAR	**Akbulak array**	**56.21**	**312**	P		**P**	**07 04 48.8**	**-0.8**
ARU	**Arti**	**56.52**	**321**	P		**P**	**07 04 50.1**	**-1.5**
	comp=Z,1.2nm,0.3s,baz=39,slow=2.9,SNR=3.7							
ARU				LR		LR	07 31 43.1	
	comp=Z,75nm,18.2s,baz=88,slow=39							
	comp=Z,1.2nm,0.3s							
AKTO	**Aktyubinsk**	**57.32**	**314**	LR		LR	07 31 06.3	
	comp=Z,97nm,21.1s,baz=166,slow=38							
L19K	**White Mountain**	**58.06**	**32**	P		**P**	**07 05 03.4**	**+0.9**
L19K				IAmb		IAmb	07 05 05.0	
	comp=Z,16nm,1.4s							
O19K	**Port Alsworth**	**58.41**	**35**	P		**P**	**07 05 05.8**	**+1.0**
IMAR	**Indian Mountai**	**58.49**	**28**	P		**P**	**07 05 05.8**	**+0.4**
E22K	**Anaktuvuk Pass**	**59.23**	**25**	P		**P**	**07 05 10.8**	**+0.3**
E22K				IAmb		IAmb	07 05 24.2	
	comp=Z,5.1nm,1.0s							
CAST	**Castle Rocks**	**59.28**	**31**	P		**P**	**07 05 10.8**	**-0.2**
KDAK	**Kodiak Island**	**59.51**	**37**	P		**P**	**07 05 13.0**	**+0.5**
KDAK	**Kodiak Island**	**59.51**	**37**	LR		LR	07 30 22.4	
	comp=Z,53nm,21.1s,baz=275,slow=36							
MLY	**Manley**	**59.78**	**29**	P		**P**	**07 05 15.2**	**+0.9**
MLY				IAmb		IAmb	07 05 16.7	
	comp=Z,9.3nm,1.4s							
SUA	**Susitna One**	**60.06**	**33**	P		**P**	**07 05 17.2**	**+0.8**
D24K	**Happy Valley**	**60.30**	**24**	P		**P**	**07 05 18.7**	**+0.9**
D24K				IAmb		IAmb	07 05 30.5	

AKASG LR LR 07 42 59.4
comp=Z,59nm,19.4s,baz=54,slow=38
comp=Z,0.5nm,0.4s
YKA Yellowknife Ar 75.55 26 P **P** **07 06 54.8 +1.0**
YKA PKKPbc **PKKPbc** **07 26 16.2 +2.5**
comp=Z,0.2nm,0.7s,baz=64,slow=1.6,SNR=4.3
comp=Z,2.2nm,0.8s
BR131 Keskin Array S 76.84 308 P **P** **07 07 01.1 -0.8**
BRTR Keskin Array B 76.84 308 P **P** **07 06 58.6 -3.3**
BRTR Keskin Array B 76.84 308 P **P** **07 06 59.8 -2.0**
comp=Z,1.1nm,0.9s,baz=121,slow=3.8,SNR=6.4
comp=Z,1.1nm,0.9s
HFS Hagfors 77.40 333 P **P** **07 07 02.5 -1.9**
comp=Z,0.8nm,0.5s,baz=106,slow=3.7,SNR=5.3
comp=Z,0.8nm,0.5s
NB2 NORSAR Subarra 77.82 334 P **P** **07 07 05.3 -1.5**
comp=Z,4.0nm,1.2s,baz=51,slow=5.3
NOA NORSAR Array B 77.82 334 P **P** **07 07 04.5 -2.2**
comp=Z,1.0nm,0.9s,baz=51,slow=5.6,SNR=3.5
NOA LR LR 07 46 13.3
comp=Z,28nm,18.9s,baz=235,slow=40
comp=Z,1.0nm,0.9s
NC602 NORSAR Array S 77.89 334 P **P** **07 07 06.7 -0.4**
SUMG Summit 78.66 357 *i* P **P** **07 07 11.0 -0.7**
MLR Muntele Rosu 79.15 316 LR LR 07 47 13.3
comp=Z,67nm,19.0s,baz=36,slow=40
VYHS Vyhne 81.68 321 *eP* P 07 07 36.7 +8.8
J05D Fort Rock, OR 83.00 44 P **P** **07 07 34.7 -0.4**
J05D IAmb IAmb 07 07 37.5
comp=Z,4.6nm,0.8s
E09A Wood Farm, Sta 83.02 40 P **P** **07 07 34.3 -0.7**
E09A IAmb IAmb 07 07 37.2
comp=Z,5.0nm,0.9s
K05A Summer Lake 83.51 45 P **P** **07 07 37.5 -0.3**
K05A IAmb IAmb 07 07 40.4
comp=Z,9.3nm,1.2s
GERES GERESS Array B 84.23 324 P **P** **07 07 40.9 -0.3**
comp=Z,0.4nm,0.6s,baz=47,slow=4.3,SNR=3.2
comp=Z,0.4nm,0.6s
SFJD Kangerlussuaq 84.58 0 LR LR 07 45 38.9
comp=Z,53nm,18.1s,baz=78,slow=36
J08A Circle Bar Ran 84.63 43 IAmb IAmb 07 07 45.8
comp=Z,4.6nm,0.9s
AFDM Forest Hills D 85.54 48 P **P** **07 07 47.6 -0.3**
AFDM IAmb IAmb 07 07 49.7
comp=Z,5.9nm,1.3s
OVMT Ovando 85.54 38 P **P** **07 07 47.5 -0.4**
EMB Emerald Bay 86.09 47 IAmb IAmb 07 07 52.9
comp=Z,4.9nm,1.0s
EGMT Eagleton 86.63 36 IAmb IAmb 07 07 55.6
comp=Z,7.3nm,1.1s
FRB Frobisher Bay 86.66 8 LR LR 07 49 58.2
comp=Z,71nm,18.1s,baz=135,slow=38
EKA Eskdalemuir Ar 87.24 335 P **P** **07 07 54.2 -1.7**
comp=Z,1.0nm,0.8s,baz=40,slow=5.6,SNR=1.4
comp=Z,1.0nm,0.8s
KVN Kaiserville 87.33 46 IAmb IAmb 07 07 59.3
comp=Z,6.0nm,1.3s
DAVOX Davos/Dischmat 87.53 324 LR LR 07 51 32.8
comp=Z,145nm,21.3s,baz=79,slow=39
NVAR Mina Array Bea 87.56 47 P **P** **07 07 59.2 +1.1**
comp=Z,0.4nm,0.6s,baz=278,slow=4.1,SNR=5.5
comp=Z,0.4nm,0.6s
LKWY Lake 88.53 39 IAmb IAmb 07 08 06.6
comp=Z,3.8nm,0.9s
H17A Grant Village 88.54 39 IAmb IAmb 07 08 06.8
comp=Z,4.4nm,1.0s
HWUT Hardware Ranch 89.76 41 IAmb IAmb 07 08 11.8
comp=Z,5.4nm,1.1s
PDAR Pinedale Array 90.16 39 P **P** **07 08 10.6 +0.3**
comp=Z,0.7nm,0.7s,baz=48,slow=2.2,SNR=7.6
comp=Z,0.7nm,0.7s
ULM Lac du Bonnet 91.42 28 P **P** **07 08 16.2 +0.5**
comp=Z,1.6nm,0.7s,baz=264,slow=10,SNR=3.1
comp=Z,1.6nm,0.7s
PFO Pinyon Flats O 91.58 50 LR LR 07 47 00.6
comp=Z,42nm,18.7s,baz=267,slow=34
P17A Butcher Ranch, 91.60 43 IAmb IAmb 07 08 19.6
comp=Z,5.9nm,1.0s
MTPU Mount Pierson 91.64 44 IAmb IAmb 07 08 46.3
comp=Z,3.6nm,1.2s
P18A Preston Nutter 91.80 42 IAmb IAmb 07 08 20.7
comp=Z,3.9nm,0.9s
KNB Kanab 91.88 46 IAmb IAmb 07 08 21.1
comp=Z,5.0nm,1.0s
Y14A Wickenburg 93.67 48 IAmb IAmb 07 08 28.7
comp=Z,3.1nm,1.0s
SCHQ Schefferville 95.51 10 LR LR 07 53 39.9
comp=Z,51nm,20.9s,baz=42,slow=37
ANMO Albuquerque 97.15 44 LR LR 07 49 18.0
comp=Z,16nm,18.8s,baz=112,slow=34
TXAR Lajitas Array 102.69 46 P **Pdif** **07 09 07.9 +0.7**
comp=Z,0.4nm,1.0s,baz=253,slow=1.3,SNR=2.2

DJA 11 07:17:38.5±0.5, 8°S±4°×10°8E±°, h29km±6km, M4.3/12, mb5.4/3, MLv3.7/12, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**0.65**	**68**	P	Pn	07 17 52.2	+0.4
CMJI				S	Sn	07 18 01.2	+0.1
KPJI	**Karang Pucung**	**1.28**	**57**	P	Pn	07 18 00.5	0.0
UGM	**Wanagama**	**2.66**	**88**	P	Pn	07 18 19.4	-0.1
SMRI	**Semarang**	**2.76**	**69**	P	Pn	07 18 19.5	-1.3
PWJI	**Pagerwojo**	**3.93**	**90**	P	Pn	07 18 38.5	+1.6
LHSI	**Lahat**	**5.99**	**314**	P	Pn	07 19 03.4	-1.8
	1μm,0.8s,6.1nm						
SRBI	**Singaraja**	**7.30**	**91**	P	Pn	07 19 23.6	+0.3

*NNC **11** 07:19:56.2±0.3, 50°.00N×78°.74E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=3.0km s-min=1.6km az=60.0, Suspected Mining explosion.*
*IDC **11** 07:19:58.1±1.1, 50°.06N×78°.83E, h0km, mbtmp2.7/3, ML2.2/3, Error ellipse: s-maj=16.5km s-min=7.8km az=59.0*
ISC 11 07:19:58.1±0.8, 50°.02N±0°.04×78°.71E±0°.04, h0km, n20, σ1s31/36, 15C-12D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.58**	**348**	⇑P	**Pg**	**07 20 08.0**	**-1.2**
KUR07				⇓S	**Sg**	**07 20 16.7**	**+0.1**
KUR06	**Kurchatov Arra**	**0.60**	**349**	⇑P	**Pg**	**07 20 08.5**	**-1.0**
KUR06				⇑S	**Sg**	**07 20 17.3**	**+0.1**
KUR14	**Kurchatov Arra**	**0.60**	**353**	⇑P	**Pg**	**07 20 08.3**	**-1.3**
KUR14				⇓S	**Sg**	**07 20 17.0**	**-0.3**
KUR15	**Kurchatov Arra**	**0.61**	**351**	⇑P	**Pg**	**07 20 08.6**	**-1.1**
KUR15				⇑S	**Sg**	**07 20 16.9**	**-0.6**
KURBB	**Kurchatov Arra**	**0.61**	**349**	Pg	**Pg**	**07 20 08.8**	**-1.0**
	2.1nm,0.3s,baz=166,slow=17,SNR=105						
KURBB				Lg	Lg	07 20 18.8	
	2.2nm,0.3s,baz=179,slow=28,SNR=9.1						
KURBB	**Kurchatov Arra**	**0.61**	**349**	⇓P	**Pg**	**07 20 08.6**	**-1.3**
	14nm,0.3s						
KURBB				⇑S	**Sg**	**07 20 17.8**	**0.0**
	36nm,0.4s						
KUR16	**Kurchatov Arra**	**0.62**	**348**	⇓P	**Pg**	**07 20 08.8**	**-1.2**
KUR16				⇑S	**Sg**	**07 20 18.1**	**0.0**
KUR17	**Kurchatov Arra**	**0.63**	**346**	⇓P	**Pg**	**07 20 08.9**	**-1.3**
KUR17				⇓S	**Sg**	**07 20 17.9**	**-0.5**
KUR05	**Kurchatov Arra**	**0.63**	**350**	⇓P	**Pg**	**07 20 08.8**	**-1.4**
KUR05				⇑S	**Sg**	**07 20 17.8**	**-0.6**
KUR04	**Kurchatov Arra**	**0.65**	**351**	⇑P	**Pg**	**07 20 09.3**	**-1.2**
KUR04				⇑S	**Sg**	**07 20 18.7**	**-0.3**
KURK	**Kurchatov**	**0.70**	**356**	⇑P	**Pg**	**07 20 09.8**	**-1.7**
	4.2nm,0.3s						
KURK				⇓S	**Sg**	**07 20 19.3**	**-1.3**
	14nm,0.4s						
SEM	**Semipalatinsk**	**1.06**	**68**	P	**Pg**	**07 20 16.9**	**-1.6**
	7.1nm,0.2s						
SEM				S	**Sg**	**07 20 31.0**	**-1.3**
	15nm,0.1s						
MAKZ	**Makanchi**	**3.88**	**145**	⇓Pn	**Pn**	**07 20 56.8**	**-2.2**
	0.2nm,0.2s						
MAKZ				⇑Pg	**Pb**	**07 21 06.5**	**-0.9**
	0.6nm,0.4s						
MAKZ				⇑Lg	Lg	07 21 59.3	
	3.0nm,0.5s						
MKAR	**Makanchi Array**	**4.01**	**142**	Pn	**Pn**	**07 21 01.0**	**+0.2**
	0.3nm,0.3s,baz=321,slow=10,SNR=86						
MKAR				Sn	**Sn**	**07 21 51.6**	**+3.1**
	0.4nm,0.3s,baz=306,slow=11,SNR=2.0						
MKAR				Lg	Lg	07 22 01.1	
	1.5nm,0.3s,baz=336,slow=25,SNR=14						
	0.3nm,0.3s						
OTUK	**Ortayu**	**4.54**	**249**	Pg	**Pb**	**07 21 21.1**	**+2.5**
	0.7nm,0.2s						
OTUK				Lg	Lg	07 22 21.3	
	1.8nm,0.5s						
ZSN	**Zaisan**	**4.82**	**120**	Pg	**Pb**	**07 21 24.2**	**+0.8**
	2.1nm,0.2s						
ZSN				Lg	Lg	07 22 26.5	
	2.0nm,0.4s						
I46RU	**ZALESOVO INFRA**	**5.45**	**41**	I	I	07 50 00.0	
	baz=225,slow=333,SNR=5.4						
ZALV	**Zalesovo Beam**	**5.45**	**41**	Pn	**Pn**	**07 21 21.1**	**+0.6**
	0.6nm,0.3s,baz=230,slow=13,SNR=9.8						
ZALV				Sn	**Sn**	**07 22 26.2**	**+2.3**
	0.2nm,0.3s,baz=224,slow=22,SNR=1.4						
ZALV				Lg	Lg	07 22 46.0	
	0.3nm,0.3s,baz=238,slow=26,SNR=1.8						
	1.1nm,0.2s						
BVA0	**Borovoye Array**	**6.00**	**303**	⇓Pn	**Pn**	**07 21 27.3**	**-0.7**
	1.2nm,1.1s,baz=112,slow=14,SNR=3.4						
BVA0				⇑Pg	**Pb**	**07 21 45.4**	**+2.0**
	0.7nm,0.6s,baz=113,slow=15,SNR=4.2						
BVA0				⇑Sn	**Sn**	**07 22 36.7**	**-0.7**
	0.7nm,0.5s,baz=112,slow=22,SNR=2.6						
BVA0				⇓Lg	Lg	07 23 06.3	
	1.1nm,0.6s						
BVAR	**Borovoye Array**	**6.00**	**303**	Pn	**Pn**	**07 21 28.3**	**+0.3**
	baz=95,slow=14,SNR=2.0						
BVAR				Sn	**Sn**	**07 22 37.1**	**-0.3**
	0.1nm,0.3s,baz=111,slow=22,SNR=6.2						
BVAR				Lg	Lg	07 23 11.5	
	0.1nm,0.3s,baz=104,slow=27,SNR=3.8						
	0.2nm,0.3s						

*IDC **11** 07:26:10.3±2.1, 19°.45S×70°.32W, h0km, mb3.5/2, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=71.3km s-min=29.6km az=128.0*
*GUC **11** 07:26:24.8±0.8, 18°.65S×69°.78W, h87km±5km, ML3.4*
ISC 11 07:26:24.9±1.0, 18°.69S±0°.04×69°.84W±0°.07, h89km±7km, n17, σ1s07/24, 1C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PX02	**IPOC Station P**	**0.43**	**232**	*eP*	**Pn**	**07 26 38.3**	**-0.9**
PX02				*i* S	**Sn**	**07 26 49.9**	**+0.1**
PB12	**IPOC Station P**	**0.47**	**280**	⇓*i*P	**Pn**	**07 26 39.6**	**+0.1**
PB12				*e*S	**Sn**	**07 26 51.1**	**+0.9**
PB12				IAML		07 26 52.8	
	comp=E,3μm,0.3s						
PB16	**IPOC Station P**	**0.47**	**41**	⇓*i*P	**Pn**	**07 26 39.5**	**-0.6**
PB16				*i* S	**Sn**	**07 26 50.9**	**-0.3**
PB16				IAML		07 26 52.0	
	comp=E,1μm,0.2s						
PB11	**IPOC Station P**	**1.07**	**171**	⇓*i*P	**Pn**	**07 26 45.5**	**-0.1**
PB11				*i* S	**Sn**	**07 27 01.3**	**+0.2**
PB11				IAML		07 27 02.0	
	comp=N,997nm,0.2s						
GO01	**Chusmiza**	**1.14**	**148**	*eP*	**Pn**	**07 26 46.8**	**+0.1**
GO01				*e*S	**Sn**	**07 27 03.8**	**+0.8**
GO01				IAML		07 27 07.9	
	comp=N,1μm,0.1s						
PB18	**Visviri**	**1.15**	**17**	*eP*	**Pn**	**07 26 48.2**	**+1.3**
HMBC	**Humberstone**	**1.58**	**182**	⇑*i*P	**Pn**	**07 26 51.5**	**-0.3**
PB08	**IPOC Station P**	**1.58**	**156**	⇓*i*P	**Pn**	**07 26 51.8**	**-0.2**
PB08				*i* S	**Sn**	**07 27 13.0**	**+0.6**
PB08				IAML		07 27 14.5	
	comp=E,528nm,0.2s						
TA02	**Huaiquique**	**1.59**	**190**	*eP*	**Pn**	**07 26 51.9**	**+0.1**
TA02				*i* S	**Sn**	**07 27 11.8**	**-0.4**
TA02				IAML		07 27 19.2	
	comp=N,1μm,0.1s						
TA01	**Diego Aracena**	**1.89**	**190**	*eP*	**Pn**	**07 26 54.7**	**-1.0**
PATCX	**Punta Patache**	**2.14**	**188**	*eP*	**Pn**	**07 26 58.7**	**-0.3**
PATCX				IAML		07 27 33.3	
	comp=E,160nm,0.4s						
PB01	**IPOC Station P**	**2.36**	**172**	*eP*	**Pn**	**07 27 01.9**	**-0.1**
PB01				*e*S	**Sn**	**07 27 30.3**	**0.0**
PB02	**IPOC Station P**	**2.61**	**181**	*eP*	Pn	07 27 01.1	-4.3
PB02				IAML		07 27 47.4	
	comp=N,342nm,0.4s						
LPAZ	**La Paz**	**2.90**	**34**	Pn	**Pn**	**07 27 10.9**	**+1.3**
	comp=N,3.7nm,0.3s,baz=207,slow=7.2,SNR=85						
LPAZ				Sn	**Sn**	**07 27 40.1**	**-3.8**
	comp=N,0.4nm,0.3s,baz=114,slow=7.6,SNR=3.6						
LPAZ				Lg	Lg	07 28 10.0	
	baz=261,slow=2.0						
	comp=N,7.4nm,0.3s						
PB07	**IPOC Station P**	**3.02**	**181**	*eP*	Pn	07 27 04.7	-6.2
TORD	**Torodi Ar. Bea**	**77.26**	**71**	P	**P**	**07 38 10.8**	**+0.7**
	comp=N,0.2nm,0.4s,baz=235,slow=5.3,SNR=2.2						
	comp=N,0.2nm,0.4s						
YKA	**Yellowknife Ar**	**88.27**	**341**	P	**P**	**07 39 05.6**	**-0.3**
	comp=N,0.1nm,0.5s,baz=137,slow=4.7,SNR=5.7						
	comp=N,0.1nm,0.5s						

*NNC **11** 07:30:44.2±0.4, 43°.02N×78°.14E, h0km±2km, mb3.5, mpv3.8, Error ellipse: s-maj=4.4km s-min=1.5km az=173.0*
*KRNET **11** 07:30:45.3±0.1, 43°.05N×78°.04E, h30km, mb2.7*
*SOME **11** 07:30:45.6, 43°.07N×78°.10E, h10km*
*KNET **11** 07:30:46.6±0.3, 42°.95N×77°.96E, h0km, ml2.5, Error ellipse: s-maj=3.8km s-min=1.7km az=135.0*
ISC 11 07:30:44.3±0.9, 42°.99N±0°.02×78°.16E±0°.02, h17km±7km, n68, σ0s95/125, 32C-15D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**0.19**	**69**	*eP*	**Pb**	**07 30 49.7**	**+0.2**
	1μm,0.1s						
SATY				*e*S	**Sb**	**07 30 52.9**	**-0.1**
	4μm,0.2s						
SATY	**Saty**	**0.19**	**69**	P	**Pb**	**07 30 49.7**	**+0.2**
	1μm,0.1s						
SATY				S	**Sb**	**07 30 52.9**	**-0.1**
	4μm,0.2s						
ZHN	**Zhinishke**	**0.27**	**49**	*eP*	**Pb**	**07 30 50.5**	**-0.4**
	87nm,0.1s						
ZHN				*e*S	**Sg**	**07 30 54.2**	**-0.4**
	2μm,0.2s						
ZHN	**Zhinishke**	**0.27**	**49**	P	**Pb**	**07 30 50.5**	**-0.4**
	87nm,0.1s						
ZHN				S	**Sg**	**07 30 54.2**	**-0.4**
	2μm,0.2s						
ANVS	**Ânan'yevo**	**0.42**	**240**	⇑*i*P	**Pb**	**07 30 53.9**	**+0.5**
	baz=26						
ANVS				⇑*i*S	**Sb**	**07 31 00.2**	**+0.7**
	baz=26						
KURS	**Kuram**	**0.50**	**1**	*eP*	**Pg**	**07 30 54.2**	**-0.2**
	71nm,0.1s						
KURS				*e*S	**Sg**	**07 31 00.4**	**-0.7**
	31nm,0.2s						
KURS	**Kuram**	**0.50**	**1**	P	**Pg**	**07 30 54.2**	**-0.2**
	71nm,0.1s						
KURS				S	**Sg**	**07 31 00.4**	**-0.7**
	31nm,0.2s						
PRZ	**Przheval'sk**	**0.54**	**161**	⇑*i*P	**Pn**	**07 30 57.4**	**0.0**
	baz=54						
PRZ				⇑*i*S	**Sn**	**07 31 06.2**	**+0.1**
	baz=54						
KPKS	**Kokpek**	**0.61**	**39**	*eP*	**Pg**	**07 30 56.4**	**-0.1**
	58nm,0.1s						
KPKS				*e*S	**Sg**	**07 31 04.3**	**-0.3**
	856nm,0.3s						
KPKS	**Kokpek**	**0.61**	**39**	P	**Pg**	**07 30 56.4**	**-0.1**
	58nm,0.1s						
KPKS				S	**Sg**	**07 31 04.3**	**-0.3**
	856nm,0.3s						
KOTS	**Kotyrbulak**	**0.80**	**288**	*eP*	**Pg**	**07 31 00.1**	**0.0**
	58nm,0.2s						
KOTS				*e*S	**Sb**	**07 31 10.6**	**0.0**
	95nm,0.2s						
KOTS	**Kotyrbulak**	**0.80**	**288**	P	**Pg**	**07 31 00.1**	**0.0**
	58nm,0.2s						
KOTS				S	**Sb**	**07 31 10.6**	**0.0**
	95nm,0.2s						
MDOK	**Medeo**	**0.83**	**282**	*eP*	**Pb**	**07 31 00.4**	**0.0**
	43nm,0.2s						
MDOK				*e*S	**Sb**	**07 31 11.1**	**-0.3**
	30nm,0.2s						
MDOK	**Medeo**	**0.83**	**282**	⇓P	**Pb**	**07 31 00.1**	**-0.3**
	7.5nm,0.2s						
MDOK				Pg	**Pb**	**07 31 00.4**	**0.0**
	43nm,0.2s						
MDOK				S	**Sb**	**07 31 11.1**	**-0.3**
	21nm,0.6s						
MDOK				Lg	Lg	07 31 11.1	
	30nm,0.2s						
TNSS	**Tian-Shan**	**0.89**	**273**	*eP*	**Pg**	**07 31 01.6**	**-0.1**
	60nm,0.2s						
TNSS				*e*S	**Sb**	**07 31 13.3**	**0.0**
	38nm,0.1s						
TNSS	**Tian-Shan**	**0.89**	**273**	P	**Pg**	**07 31 01.6**	**-0.1**
	60nm,0.2s						
TNSS				S	**Sb**	**07 31 13.3**	**0.0**
	38nm,0.1s						
KNDC	**Almaty**	**0.90**	**285**	⇑P	**Pb**	**07 31 00.5**	**-1.1**
	22nm,0.5s						
KNDC				⇑S	**Sg**	**07 31 14.3**	**+0.5**
	16nm,0.2s						
AAA	**Alma-Ata**	**0.94**	**284**	*eP*	**Pb**	**07 31 01.9**	**-0.3**
	44nm,0.2s						
AAA				*e*S	**Sb**	**07 31 13.8**	**-0.6**
	65nm,0.1s						
AAA	**Alma-Ata**	**0.94**	**284**	P	**Pb**	**07 31 01.9**	**-0.3**
	44nm,0.2s						
AAA				S	**Sb**	**07 31 13.8**	**-0.6**
	65nm,0.1s						
SHLS	**Shalkode**	**0.97**	**80**	*eP*	Pn	07 31 08.6	+5.3
	22nm,0.1s						
SHLS				*e*S	Sn	07 31 25.3	+8.5
	43nm,0.2s						
SHLS	**Shalkode**	**0.97**	**80**	P	Pn	07 31 08.6	+5.3
	22nm,0.1s						
SHLS				S	Sn	07 31 25.3	+8.5
	43nm,0.2s						
PDGK	**Podgornoye**	**1.03**	**70**	P	**Pg**	**07 31 04.1**	**-0.3**
	14nm,0.1s						
PDGK				S	**Sg**	**07 31 17.6**	**-0.3**
	28nm,0.2s						
PDGK	**Podgornoye**	**1.03**	**70**	⇑P	**Pb**	**07 31 03.6**	**-0.2**
	8.7nm,0.2s						
PDGK				⇑S	**Sg**	**07 31 17.3**	**-0.6**
	31nm,0.5s						
KDJ	**Kajisay**	**1.12**	**220**	⇑*i*P	**Pg**	**07 31 06.1**	**0.0**
	baz=14						
KDJ				⇑*i*S	**Sg**	**07 31 21.2**	**+0.4**
	baz=14						
BLB	**Baldybastay**	**1.13**	**12**	P	**Pb**	**07 31 05.5**	**0.0**
	104nm,0.1s						
BLB				S	**Sb**	**07 31 19.9**	**-0.1**
	36nm,0.1s						
IZV	**Izvestkoviy**	**1.13**	**273**	*eP*	**Pb**	**07 31 05.6**	**0.0**
	31nm,0.1s						
IZV				*e*S	**Sb**	**07 31 20.0**	**-0.1**
	42nm,0.1s						
IZV	**Izvestkoviy**	**1.13**	**273**	P	**Pb**	**07 31 05.6**	**0.0**
	31nm,0.1s						
IZV				S	**Sb**	**07 31 20.0**	**-0.1**
	42nm,0.1s						
CHKK	**Chushkaly**	**1.21**	**316**	*eP*	**Pb**	**07 31 07.0**	**+0.2**
	11nm,0.2s						
CHKK				*e*S	**Sn**	**07 31 22.6**	**0.0**
	284nm,0.3s						
CHKK	**Chushkaly**	**1.21**	**316**	P	**Pb**	**07 31 07.0**	**+0.2**
	11nm,0.2s						
CHKK				S	**Sn**	**07 31 22.6**	**0.0**
	284nm,0.3s						
ARXS	**Arharly**	**1.25**	**349**	*eP*	**Pb**	**07 31 07.4**	**0.0**
	50nm,0.2s						
ARXS				*e*S	**Sb**	**07 31 23.2**	**0.0**
	87nm,0.4s						
ARXS	**Arharly**	**1.25**	**349**	P	**Pb**	**07 31 07.4**	**0.0**
	50nm,0.2s						
ARXS				S	**Sb**	**07 31 23.2**	**0.0**
	87nm,0.4s						
MTBS	**Maitube**	**1.27**	**277**	*eP*	**Pb**	**07 31 08.3**	**+0.3**
	21nm,0.1s						
MTBS				*e*S	**Sn**	**07 31 24.7**	**+0.5**
	30nm,0.3s						
MTBS	**Maitube**	**1.27**	**277**	P	**Pb**	**07 31 08.3**	**+0.3**
	21nm,0.1s						
MTBS				S	**Sn**	**07 31 24.7**	**+0.5**
	30nm,0.3s						
TARG	**Taragay, Kyrgy**	**1.29**	**192**	⇑*i*P	**Pg**	**07 31 09.7**	**+0.4**
	baz=88						
TARG				⇑*i*S	**Sg**	**07 31 27.3**	**+1.2**
	baz=88						
KTBS	**Karatobe**	**1.30**	**304**	*eP*	**Pb**	**07 31 08.7**	**+0.4**
	19nm,0.1s						
KTBS				*e*S	**Sb**	**07 31 25.3**	**+0.7**
	102nm,0.3s						
KTBS	**Karatobe**	**1.30**	**304**	P	**Pb**	**07 31 08.7**	**+0.4**
	19nm,0.1s						
KTBS				S	**Sb**	**07 31 25.3**	**+0.7**
	102nm,0.3s						
ULHL	**Ulahol**	**1.60**	**243**	⇑P	**Pg**	**07 31 14.5**	**-0.6**
	10nm,0.2s,SNR=15						
ULHL				⇑S	**Sg**	**07 31 36.2**	**+0.3**
	87nm,0.2s						
ULHL	**Ulahol**	**1.60**	**243**	⇓*i*P	**Pb**	**07 31 13.1**	**-0.4**
	baz=39						
ULHL				⇓*i*S	**Sb**	**07 31 33.4**	**-0.1**
	baz=39						
KST	**Kastek**	**1.61**	**273**	*eP*	**Pb**	**07 31 14.3**	**+0.6**
	12nm,0.2s						
KST				*e*S	**Sg**	**07 31 35.1**	**-1.2**
	20nm,0.3s						
KST	**Kastek**	**1.61**	**273**	P	**Pb**	**07 31 14.3**	**+0.6**
	12nm,0.2s						
KST				S	**Sg**	**07 31 35.1**	**-1.2**
	20nm,0.3s						
DGS	**Degeres**	**1.77**	**279**	*eP*	**Pb**	**07 31 16.9**	**+0.6**
	31nm,0.3s						
DGS				*e*S	**Sb**	**07 31 39.5**	**+1.3**
	35nm,0.3s						
DGS	**Degeres**	**1.77**	**279**	P	**Pb**	**07 31 16.9**	**+0.6**
	31nm,0.3s						
DGS				S	**Sb**	**07 31 39.5**	**+1.3**
	35nm,0.3s						
DJR	**Jarkent**	**1.79**	**41**	*eP*	**Pb**	**07 31 17.1**	**+0.4**
	7.3nm,0.1s						
DJR				*e*S	**Sb**	**07 31 39.8**	**+1.0**
	71nm,0.1s						
TKM2	**Tokmak 2**	**1.88**	**269**	⇓P	**Pg**	**07 31 19.8**	**-0.7**
	9.0nm,0.2s,SNR=16						
TKM2				⇑S	**Sg**	**07 31 45.3**	**+0.4**
	38nm,0.1s						
TKM2	**Tokmak 2**	**1.88**	**269**	⇑Pn	**Pb**	**07 31 18.9**	**+0.5**
	7.5nm,0.6s						
TKM2				⇓Sn	**Sg**	**07 31 43.6**	**-1.4**
	15nm,0.4s						
TKM2	**Tokmak 2**	**1.88**	**269**	⇑*i*P	Pn	**07 31 16.7**	**+0.8**
	baz=67						
TKM2				⇑*i*S	**Sn**	**07 31 39.4**	**0.0**
	baz=67						
KRBS	**Karabastau**	**1.94**	**292**	*eP*	**Pb**	**07 31 20.4**	**+1.0**
	11nm,0.2s						
KRBS				*e*S	**Sb**	**07 31 45.2**	**+1.9**
	60nm,0.3s						
KRBS	**Karabastau**	**1.94**	**292**	P	**Pb**	**07 31 20.4**	**+1.0**
	11nm,0.2s						
KRBS				S	**Sb**	**07 31 45.2**	**+1.9**
	60nm,0.3s						
TDK	**Taldyqorghan**	**2.02**	**5**	*eP*	**Pb**	**07 31 21.5**	**+0.9**
	24nm,0.1s						
TDK				*e*S	**Sb**	**07 31 46.8**	**+1.4**
	86nm,0.2s						
TDK	**Taldyqorghan**	**2.02**	**5**	P	**Pb**	**07 31 21.5**	**+0.9**
	24nm,0.1s						
TDK				S	**Sb**	**07 31 46.8**	**+1.4**
	86nm,0.2s						
NRN	**Naryn**	**2.23**	**227**	⇑*e*P	**Pb**	**07 31 22.8**	**-1.6**
	baz=24						
NRN				⇑*i*S	**Sb**	**07 31 50.0**	**-1.9**
	baz=24						
KBK	**Karagaybulak**	**2.38**	**263**	⇑P	**Pg**	**07 31 28.5**	**-1.6**
	8.4nm,0.1s,SNR=6.3						
KBK	**Karag

CHMS	**Chumysh** 3.5nm,0.5s	**2.50**	271	⇓Pn		**Pn**	07 31 26.2	+1.9
CHMS	7.1nm,0.4s			⇓Lg		Lg	07 32 05.0	
CHMS	**Chumysh** baz=70	**2.50**	271	⇑*i*P		**Pn**	07 31 25.1	+0.9
CHMS	baz=70			⇑*i*S		**Sn**	07 31 53.8	-0.5
USP	**Ospenovka** 3.2nm,0.1s,SNR=7.3	**2.69**	277	⇑P		**Pb**	07 31 32.4	+0.3
USP	16nm,0.2s			⇑S		**Sg**	07 32 08.0	-2.8
USP	**Ospenovka** baz=76	**2.69**	277	⇑*i*P		**Pn**	07 31 27.6	+0.7
USP	baz=76			⇑*i*S		**Sn**	07 31 58.5	-0.6
AAK	**Ala-Archa** 7.0nm,0.3s,SNR=13	**2.72**	264	⇓P		**Pb**	07 31 32.6	0.0
AAK	**Ala-Archa** baz=62	**2.72**	264	⇓*i*P		**Pn**	07 31 28.4	+1.0
AAK	baz=62			⇓*i*S		**Sn**	07 31 59.7	-0.2
UCH	**Uchtor** 5.7nm,0.3s,SNR=13	**2.80**	255	⇑P		**Pb**	07 31 34.0	-0.1
UCH	**Uchtor** baz=54	**2.80**	255	⇓*i*P		**Pn**	07 31 29.7	+1.0
UCH	baz=54			⇓*i*S		**Sn**	07 32 02.0	-0.3
EKS2	**Erkin-Say** baz=64	**3.24**	266	⇑*i*P		**Pn**	07 31 35.6	+1.1
EKS2	baz=64			⇑*i*S		**Sn**	07 32 12.1	-0.6
MRKS	**Merke** 4.8nm,0.3s	**3.63**	268	*e*P		**Pb**	07 31 50.8	+2.6
MRKS	6.7nm,0.3s			*e*S		**Sg**	07 32 37.0	-4.0
MRKS	**Merke** 4.8nm,0.3s	**3.63**	268	Pg		**Pb**	07 31 50.8	+2.6
MRKS	6.7nm,0.3s			Lg		Lg	07 32 37.0	
MAKZ	**Makanchi** 1.8nm,0.6s	**4.68**	34	⇓Lg		Lg	07 33 12.0	

*BUT **11** 07:38:29.3±0.6,46°.87N±0°.04×112°.53W±0°.07,h14^{km}±6^{km}, Error ellipse: s-maj=8.0km s-min=4.6km az=58.0*
NEIC 11 07:38:28.9±1.0,**46°.92N**±0°.04×**112°.51W**±0°.07,**h17**^{km}±6^{km}, **ML2.4**/14,**ML2.5**/3(BUT),**Error ellipse: s-maj=7.7km s-min=5.8km az=55.0,Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYMT	**Lyon Mountain**	**0.16**	**71**		Pb	07 38 34.0	+0.3
OVMT	**Ovando**	**0.36**	**294**		Pb	07 38 36.9	-0.1
BPMT	**Black Pine Rid**	**0.80**	**233**	Pg	Pb	07 38 43.9	-0.7
BOZ	**Bozeman (W)**	**1.46**	**155**		Pb	07 38 55.9	+0.2
BOZ					Sb	07 39 14.6	+0.6
EGMT	**Eagleton**	**2.17**	**58**	Pn	Pn	07 39 05.8	+1.4
EGMT	27nm,0.3s			IAML		07 39 38.4	
YHL	**Hebgen Lake**	**2.27**	**155**	Pn	Pn	07 39 07.0	+1.2
YHL	comp=E,15nm,0.9s			IAML		07 39 44.8	
YHH	**Holmes Hill**	**2.43**	**151**	Pn	Pn	07 39 09.3	+1.2
IMW	**Indian Meadow**	**3.22**	**159**	Pn	Pn	07 39 22.2	+3.2
IMW	comp=E,8.0nm,0.4s			IAML		07 40 14.3	
IMW	comp=E,7.5nm,5.0s			IAML		07 41 02.4	
F10A	**Beach Ranch, E**	**3.39**	**256**	Pn	Pn	07 39 22.7	+1.5
NEW	**Newport**	**3.40**	**295**	Pn	Pn	07 39 22.4	+1.2
NEW	comp=E,9.1nm,4.7s			IAML		07 40 10.2	
NEW	comp=E,10nm,5.0s			IAML		07 40 42.2	
HLID	**Hailey**	**3.61**	**202**	Pn	Pn	07 39 25.0	+0.7
HLID	comp=E,6.6nm,0.6s			IAML		07 40 22.6	
HLID	comp=E,6.8nm,1.7s			IAML		07 40 25.1	

*IDC **11** 07:38:38.8±4.5,4°.36S×153°.30E,h51^{km}±31^{km}, mb3.7/7, mbtmp4.0/8,ML1.9/1,MS3.7/3,Error ellipse: s-maj=50.3km s-min=22.0km az=102.0*
ISC 11 07:38:38.5±1.0,**4°.3S**±0°.1×**153°.3E**±0°.2,**h50**^{km},**n25, σ1°24/19, mb3.8/7,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 1.0nm,0.3s,baz=206,slow=16,SNR=2.9	**7.94**	**230**	P	**Pn**	**07 40 32.6**	**+1.2**
PMG	9.6nm,0.3s,baz=38,slow=18,SNR=2.9			S	**Sn**	**07 41 60.0**	**0.0**
HNR	**Honiara** comp=Z,2μm,18.4s,baz=330,slow=40	**8.30**	**128**	LR	LR	07 44 10.2	
COEN	**Coen**	**13.86**	**226**	P	**P**	**07 42 01.8**	**+2.5**
CTA	**Charters Tower** comp=Z,60nm,18.5s,baz=88,slow=33	**17.13**	**203**	LR	LR	07 48 04.8	
QIS	**Mount Isa**	**20.95**	**218**	P	Pn	07 43 19.9	-0.6
KDU	**Kakadu**	**22.23**	**247**	P	**P**	**07 43 29.2**	**-1.9**
WRA	**Warramunga Arr** 8.8nm,0.5s,baz=53,slow=9.8,SNR=119	**24.16**	**228**	P	**P**	**07 43 50.0**	**-0.2**
WRA	0.6nm,1.0s,baz=46,slow=2.5,SNR=0.9			PcP	**PcP**	**07 47 31.1**	**+0.8**
WB1	**Warramunga Ar.** 8.8nm,0.5s	**24.16**	**228**	P	**P**	**07 43 49.9**	**-0.4**
H11S3	**WAKE ISLAND Hy** baz=217,slow=72	**26.21**	**30**	T	T	08 11 36.1	
H11S2	**WAKE ISLAND Hy** baz=217,slow=72	**26.22**	**30**	T	T	08 11 41.9	
H11S1	**WAKE ISLAND Hy** baz=217,slow=72	**26.23**	**30**	T	T	08 11 38.1	
KNRA	**Kununurra**	**26.66**	**243**	P	**P**	**07 44 11.3**	**-1.6**
AS01	**Alice Springs**	**26.83**	**222**	P	**P**	**07 44 13.4**	**-1.0**
ASAR	**Alice Springs** 0.9nm,0.5s,baz=55,slow=8.9,SNR=20	**26.86**	**222**	P	**P**	**07 44 13.8**	**-0.9**
ASAR	0.3nm,0.6s,baz=48,slow=3.7,SNR=5.8			ScP	**ScP**	**07 51 12.6**	**0.0**
H11N1	**WAKE ISLAND Hy** 0.9nm,0.5s baz=216,slow=74	**27.35**	**29**	T	T	08 13 12.4	
H11N3	**WAKE ISLAND Hy** baz=216,slow=74	**27.36**	**29**	T	T	08 13 10.8	
H11N2	**WAKE ISLAND Hy** baz=216	**27.37**	**29**	T	T	08 13 11.7	
STKA	**Stephens Creek** 1.9nm,0.8s,baz=6.2,slow=9.0,SNR=3.0	**29.55**	**201**	P	**P**	**07 44 38.2**	**-0.3**
BATI	**Baumata** comp=Z,92nm,19.3s,baz=232,slow=41	**29.99**	**257**	LR	LR	07 59 17.8	
MULG	**Mulgathing**	**31.60**	**213**	P	**P**	**07 44 53.9**	**-2.7**
SONM	**Songino Array** 0.3nm,0.5s,baz=130,slow=8.4,SNR=3.7	**66.20**	**327**	P	**P**	**07 49 21.7**	**+0.5**
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=96,slow=8.0,SNR=4.7	**80.31**	**319**	P	**P**	**07 50 44.4**	**+0.1**
QSPA	**South Pole Qui** 1.1nm,0.9s,baz=298,slow=4.5,SNR=3.3	**85.64**	**180**	P	**P**	**07 51 11.6**	**0.0**
NRIK	**Noril'sk** 0.5nm,0.3s,baz=18,slow=5.6,SNR=3.8	**85.68**	**341**	P	**P**	**07 51 11.7**	**+0.1**
TORD	**Torodi Ar. Bea** 1.4nm,0.8s,baz=43,slow=2.6,SNR=7.3	**150.65**	**289**	PKPbc	**PKPbc**	**07 58 25.9**	**-0.2**
TORD	0.4nm,0.3s,baz=78,slow=3.0,SNR=5.2			PKPab	**PKPab**	**07 58 33.3**	**+0.2**

*SJA **11** 07:54:45.4±0.8,33°.06S×72°.24W,h18^{km}±4^{km}, ML3.8, MW3.8*
*GUC **11** 07:54:48.2±0.7,33°.03S×72°.18W,h33^{km}±3^{km}, ML3.7*
*IDC **11** 07:54:50.6±1.7,33°.25S×70°.91W,h0^{km},mb3.6/3, mbtmp3.5/7,ML3.4/4,Error ellipse: s-maj=45.5km s-min=28.7km az=95.0*
ISC 11 07:54:48.1±1.2,**33°.08S**±0°.02×**72°.19W**±0°.04,**h19**^{km}±3^{km}, **n56,σ1°28/86, mb3.8/3,8C-12D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.46**	**84**	*e*P	**Pg**	**07 54 56.4**	**-1.1**
VA01	**Torpederas**	**0.46**	**84**	⇓*i*P	**Pg**	**07 54 57.1**	**-0.3**
VA01				*i* S	**Sg**	**07 55 03.2**	**-0.6**
VA05	**Santo Domingo**	**0.75**	**140**	⇓*i*P	**Pb**	**07 55 02.7**	**+0.2**
VA05				*i* S	**Sg**	**07 55 13.5**	**+0.5**
VA05	comp=E,5μm,0.4s			IAML		07 55 15.2	
MT02	**Curacav**	**0.90**	**102**	*e*P	**Pb**	**07 55 03.6**	**-1.5**
MT02				*e*S	**Sb**	**07 55 16.3**	**-0.4**
MT02	**Curacav**	**0.90**	**102**	⇓*i*P	**Pb**	**07 55 04.3**	**-0.8**
MT02				*i* S	**Sb**	**07 55 15.7**	**-1.0**
VA06	**Catapilco**	**0.91**	**56**	⇓*i*P	**Pb**	**07 55 04.5**	**-0.7**
VA06				*i* S	**Sb**	**07 55 16.0**	**-0.9**
VA06	comp=E,6μm,0.4s			IAML		07 55 20.2	
ROCH	**El Roble**	**1.00**	**84**	⇓*i*P	**Pb**	**07 55 05.9**	**-1.0**
ROCH				*i* S	**Sb**	**07 55 17.7**	**-1.9**
ROCH	comp=N,2μm,0.4s			IAML		07 55 20.4	
MT01	**Popeta**	**1.11**	**135**	*e*P	**Pn**	**07 55 07.5**	**-1.1**
MT01				*e*S	**Sb**	**07 55 23.3**	**+0.5**
MT01	comp=Z,3μm,0.5s			IAML		07 55 23.6	
MT01	**Popeta**	**1.11**	**135**	⇑*i*P	**Pn**	**07 55 08.2**	**-0.4**
MT01				*i* S	**Sb**	**07 55 22.0**	**-0.8**
MT01	comp=E,3μm,0.2s			IAML		07 55 24.2	
MT09	**Talagante**	**1.22**	**125**	⇓*i*P	**Pn**	**07 55 10.1**	**-0.2**
MT09				*i* S	**Sb**	**07 55 26.0**	**-0.1**
MT09	comp=N,2μm,0.2s			IAML		07 55 27.5	
MT05	**Renca**	**1.26**	**105**	⇓*i*P	**Pn**	**07 55 10.5**	**-0.1**
MT05				*i* S	**Sn**	**07 55 28.0**	**+1.0**
MT05	comp=N,1μm,0.3s			IAML		07 55 31.0	
PEL	**Peldehue**	**1.27**	**94**	*e*P	**Pn**	**07 55 10.5**	**-0.3**
PEL				*i* S	**Sb**	**07 55 27.1**	**-0.1**
PEL	comp=N,1μm,0.5s			IAML		07 55 29.8	
MT10	**Hacienda Santa**	**1.40**	**99**	⇓*i*P	**Pn**	**07 55 12.9**	**+0.2**
MT10				*i* S	**Sb**	**07 55 31.9**	**+0.7**
MT10	comp=N,3μm,0.3s			IAML		07 55 35.6	
VA03	**San Esteban**	**1.41**	**78**	*e*P	**Pn**	**07 55 12.5**	**-0.4**
VA03				*e*S	**Sb**	**07 55 32.4**	**+0.9**
VA03	comp=Z,892nm,0.6s			IAML		07 55 39.3	
VA03	**San Esteban**	**1.41**	**78**	*e*P	**Pn**	**07 55 12.4**	**-0.4**
VA03				*i* S	**Sn**	**07 55 30.8**	**-0.1**
VA03	comp=N,2μm,0.5s			IAML		07 55 35.0	
MT14	**Cerro Cal¡n**	**1.42**	**103**	⇓*i*P	**Pn**	**07 55 13.3**	**+0.4**
MT14				*i* S	**Sn**	**07 55 31.7**	**+0.5**
MT14	comp=E,3μm,0.4s			IAML		07 55 35.8	
BO03	**Pichilemu**	**1.43**	**172**	*e*S	**Sn**	**07 55 29.7**	**-1.5**
MT16	**CCHEN**	**1.44**	**105**	⇓*i*P	**Pn**	**07 55 13.4**	**+0.2**
MT16				*i* S	**Sb**	**07 55 32.3**	**+0.1**
MT16	comp=N,771nm,0.5s			IAML		07 55 36.0	
MT03	**Universidad Ad**	**1.47**	**107**	*e*P	**Pn**	**07 55 14.0**	**+0.4**
MT03				*e*S	**Sg**	**07 55 35.5**	**-0.1**
MT03	comp=Z,1μm,0.3s			IAML		07 55 39.9	
MT03	**Universidad Ad**	**1.47**	**107**	*e*P	**Pn**	**07 55 14.0**	**+0.4**
MT03				*i* S	**Sb**	**07 55 33.8**	**+0.7**
MT03	comp=N,3μm,0.2s			IAML		07 55 41.1	
MT15	**Las Vizcachas**	**1.50**	**111**	⇓*i*P	**Pn**	**07 55 14.4**	**+0.4**
MT15				*i* S	**Sb**	**07 55 34.1**	**0.0**
MT15	comp=E,3μm,0.4s			IAML		07 55 38.4	
MT12	**Pirque**	**1.52**	**116**	⇓*i*P	**Pn**	**07 55 14.7**	**+0.4**
MT12				*i* S	**Sb**	**07 55 34.9**	**+0.3**
MT12	comp=N,2μm,0.5s			IAML		07 55 39.4	
BO01	**Tunca**	**1.60**	**145**	*e*P	**Pn**	**07 55 15.5**	**+0.2**
BO01				*e*S	**Sb**	**07 55 38.1**	**+1.2**
BO01	**Tunca**	**1.60**	**145**	⇑*i*P	**Pn**	**07 55 15.4**	**0.0**
BO01				*i* S	**Sn**	**07 55 36.2**	**+0.7**
BO04	**La Punta**	**1.60**	**125**	⇑*i*P	**Pn**	**07 55 15.7**	**+0.3**
BO04				*i* S	**Sb**	**07 55 37.2**	**+0.2**
BO04	comp=N,864nm,0.6s			IAML		07 55 40.9	
FCH	**Farellones**	**1.61**	**100**	*e*P	**Pn**	**07 55 16.2**	**+0.4**
FCH				*i* S	**Sb**	**07 55 38.1**	**+0.7**
FCH	comp=N,826nm,0.4s			IAML		07 55 42.1	
MT13	**San Alfonso**	**1.73**	**113**	⇑*i*P	**Pn**	**07 55 18.2**	**+1.1**
MT13				*e*S	**Sn**	**07 55 40.0**	**+1.3**
MT13	comp=E,2μm,0.3s			IAML		07 55 45.0	
MT04	**Ro Olivares**	**1.75**	**101**	⇑*i*P	**Pn**	**07 55 18.3**	**+0.7**
MT04				*i* S	**Sb**	**07 55 41.7**	**+0.3**
MT04	comp=E,943nm,0.3s			IAML		07 55 42.3	
LMEL	**Las Melosas**	**1.83**	**115**	⇑*i*P	**Pn**	**07 55 19.8**	**+1.1**
LMEL				*i* S	**Sb**	**07 55 43.7**	**+0.1**
LMEL	comp=N,1μm,0.3s			IAML		07 55 51.2	
GO05	**Huala**	**1.94**	**174**	*e*P	**Pn**	**07 55 19.6**	**-0.4**
GO05				*e*S	**Sn**	**07 55 44.6**	**+0.7**
GO05	**Huala**	**1.94**	**174**	*e*P	**Pn**	**07 55 20.3**	**+0.3**
GO05				*i* S	**Sn**	**07 55 42.9**	**-1.0**
GO05	comp=E,406nm,0.5s			IAML		07 55 54.2	
BO02	**Sierra Bellavi**	**2.08**	**146**	⇑*i*P	**Pn**	**07 55 22.9**	**+1.0**
BO02				*i* S	**Sn**	**07 55 48.4**	**+1.2**
BO02	comp=N,1μm,0.2s			IAML		07 55 59.2	
CO02	**Combarbal**	**2.12**	**29**	*e*P	**Pn**	**07 55 22.4**	**-0.2**
CO02				*e*S	**Sb**	**07 55 50.1**	**-1.8**
CO02	comp=Z,568nm,0.6s			IAML		07 56 00.2	
CO02	**Combarbal**	**2.12**	**29**	⇑*i*P	**Pn**	**07 55 22.4**	**-0.2**
CO02				*i* S	**Sn**	**07 55 48.1**	**-0.4**
CO02	comp=E,2μm,0.5s			IAML		07 55 57.6	
CO03	**El Pedregal**	**2.57**	**30**	*e*P	**Pn**	**07 55 28.7**	**0.0**
CO03				*e*S	**Sn**	**07 56 01.1**	**+1.7**
RTLS	**Leoncito**	**2.76**	**63**	*e*P	**Pb**	**07 55 34.6**	**-2.3**
RTLS				*e*S	**Sb**	**07 56 11.7**	**+1.3**
RTLS	comp=Z,291nm,0.5s			IAML		07 56 14.4	
GO04	**Tololo Observa**	**3.13**	**23**	*e*P	**Pn**	**07 55 36.1**	**-0.4**
GO04				*e*S	**Sb**	**07 56 19.6**	**-1.4**
GO04	comp=Z,394nm,0.6s			IAML		07 56 32.1	
CO01	**Juntas del Tor**	**3.57**	**31**	*e*P	**Pn**	**07 55 43.6**	**+1.0**
CO01				*e*S	**Sn**	**07 56 25.8**	**+1.4**
CO01	comp=Z,92nm,0.5s			IAML		07 56 40.6	
LCO	**Las Campanas**	**4.25**	**18**	*e*P	**Pn**	**07 55 51.4**	**-0.5**
LCO				*e*S	**Sb**	**07 56 49.6**	**-3.7**
LCO	comp=Z,131nm,0.6s			IAML		07 57 07.5	
AC04	**Llanos de Chal**	**4.95**	**11**	*e*P	**Pn**	**07 56 00.2**	**-1.2**
AC04				*e*S	**Sb**	**07 57 17.1**	**+3.9**
AC04	comp=Z,53nm,0.9s			IAML		07 57 26.4	
H03N1	**Juan Fernandez** baz=90,slow=74,SNR=28	**5.64**	**264**	T	T	08 02 43.9	
H03N3	**Juan Fernandez** baz=90,slow=74,SNR=30	**5.65**	**264**	T	T	08 02 53.6	
H03N2	**Juan Fernandez** baz=90,slow=74,SNR=21	**5.66**	**264**	T	T	08 02 54.9	
H03S1	**Juan Fernandez** baz=85,slow=75,SNR=42	**5.67**	**260**	T	T	08 02 29.6	
H03S3	**Juan Fernandez** baz=85,slow=75,SNR=34	**5.67**	**261**	T	T	08 02 31.9	
H03S2	**Juan Fernandez** baz=85,slow=75,SNR=48	**5.68**	**260**	T	T	08 02 32.9	
PLCA	**Paso Flores** comp=Z,0.3nm,0.3s,baz=341,slow=14,SNR=14	**7.75**	**171**	Pn	**Pn**	**07 56 40.3**	**+0.4**
PLCA	baz=292,slow=8.8,SNR=1.5 comp=Z,0.8nm,0.3s			Sn	**Sn**	**07 58 01.1**	**-6.1**
LVC	**Limon Verde** comp=Z,0.1nm,0.3s,baz=261,slow=14,SNR=1.8	**10.82**	**16**	Pn	**Pn**	**07 57 24.8**	**+2.6**
LVC	comp=Z,0.1nm,0.3s,baz=258,slow=20,SNR=1.6 comp=Z,2.2nm,0.7s			Sn	**Sn**	**07 59 24.8**	**+1.8**
LPAZ	**La Paz** baz=184,slow=14,SNR=2.3 comp=Z,0.6nm,0.8s	**17.11**	**13**	P	**P**	**07 58 50.9**	**+2.4**
SIV	**San Ignacio** baz=214,slow=15,SNR=3.6	**19.76**	**33**	P	**P**	**07 59 16.7**	**-0.3**

comp=Z,0.5nm,0.6s

BDFB	**Brasilia** comp=Z,0.9nm,0.5s,baz=185,slow=11,SNR=3.0 comp=Z,0.9nm,0.5s	**27.93**	**57**	P		**P**	**08 00 37.2**	**-0.1**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.6s,baz=153,slow=9.4,SNR=4.1 comp=Z,0.2nm,0.6s	**68.87**	**331**	P		P	08 06 01.9	+10
TORD	**Torodi Ar. Bea** comp=Z,0.6nm,0.8s,baz=234,slow=6.9,SNR=3.2 comp=Z,0.6nm,0.8s	**84.02**	**70**	P		**P**	**08 07 17.7**	**+0.2**
H11S2	**WAKE ISLAND Hy** baz=118	**25.65**	**270**	T		T	10 32 42.6	
H11S1	**WAKE ISLAND Hy** baz=118	**25.67**	**270**	T		T	10 32 44.6	
H11S3	**WAKE ISLAND Hy** baz=118	**25.67**	**270**	T		T	10 32 43.5	

*IDC **11** 08:12:55.9±0.9,19°.88N×95°.89E,h0^{km},mb3.9/13, mbtmp3.9/14,ML3.4/1,MS3.4/2,Error ellipse: s-maj=39.5km s-min=12.1km az=43.0*
ISC 11 08:12:57.4±1.1,**19°.9N**±0°.2×**95°.9E**±0°.2,**h10**^{km},**n15, σ0°71/15,mb4.0/13,Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 1.1nm,0.3s,baz=288,slow=12,SNR=5.7	**3.23**	**116**	Pn	**Pn**	**08 13 48.3**	**0.0**
CMAR	6.0nm,0.3s,baz=292,slow=18,SNR=35			Pg	**Pb**	**08 13 54.9**	**0.0**
CMAR	11nm,0.3s,baz=294,slow=18,SNR=2.0			Lg	Lg	08 14 35.8	
MKAR	**Makanchi Array** 0.9nm,0.6s,baz=147,slow=9.4,SNR=14	**29.05**	**341**	P	**P**	**08 18 58.8**	**+1.0**
DAV	**Davao City (W)** comp=Z,41nm,18.7s,baz=190,slow=37	**31.50**	**110**	LR	LR	08 32 30.5	
KURBB	**Kurchatov Arra** 1.5nm,0.5s,baz=150,slow=8.7,SNR=14	**33.60**	**340**	P	**P**	**08 19 38.6**	**+0.8**
ZALV	**Zalesovo Beam** 1.0nm,0.4s,baz=174,slow=8.3,SNR=5.3	**35.04**	**349**	P	**P**	**08 19 51.3**	**+1.0**
BVAR	**Borovoye Array** 0.5nm,0.5s,baz=123,slow=7.3,SNR=3.9	**38.49**	**335**	P	**P**	**08 20 19.8**	**+0.1**
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=315,slow=7.7,SNR=7.7	**54.65**	**134**	P	**P**	**08 22 26.6**	**-0.2**
TIXI	**Tiksi** 2.6nm,0.5s,baz=237,slow=4.4,SNR=10	**55.20**	**12**	P	**P**	**08 22 29.2**	**-0.8**
ASAR	**Alice Springs** 0.4nm,0.6s,baz=317,slow=7.4,SNR=7.6	**57.00**	**138**	P	**P**	**08 22 44.1**	**+0.5**
ASAR	comp=Z,44nm,19.5s,baz=64,slow=39			LR	LR	08 49 34.7	
MLR	**Muntele Rosu** 0.6nm,0.4s,baz=51,slow=3.9,SNR=2.6	**62.12**	**312**	P	**P**	**08 23 17.9**	**-1.0**
FINES	**FINESS Array B** 0.8nm,0.5s,baz=117,slow=6.1,SNR=9.5	**63.08**	**330**	P	**P**	**08 23 23.8**	**-1.0**
HFS	**Hagfors** 1.3nm,0.4s,baz=108,slow=4.8,SNR=14	**69.09**	**328**	P	**P**	**08 24 03.5**	**0.0**
GERES	**GERESS Array B** 1.4nm,0.6s,baz=57,slow=7.7,SNR=8.6	**70.21**	**316**	P	**P**	**08 24 11.3**	**+0.6**
NOA	**NORSAR Array B** 0.3nm,0.5s,baz=86,slow=6.3,SNR=3.3	**70.24**	**329**	P	**P**	**08 24 10.2**	**-0.4**
EKA	**Eskdalemuir Ar** 0.8nm,0.6s,baz=78,slow=5.2,SNR=3.7	**78.86**	**325**	P	**P**	**08 25 01.0**	**+0.3**

*NEIC **11** 08:15:28.8±1.3,17°.6S±0°.1×178°.5W±0°.1,h550^{km}±8^{km}, mb4.2/45,Error ellipse: s-maj=19.4km s-min=15.9km az=134.0*
*IDC **11** 08:15:28.4±2.1,17°.63S×178°.65W,h546^{km}±24^{km}, mb3.5/16,mbtmp4.4/17,Error ellipse: s-maj=13.5km s-min=11.4km az=142.0*
*NOU **11** 08:15:29.1,17°.48S×178°.33W,h542^{km},mb4.6/13,Fiji Islands Region*
ISC 11 08:15:28.5±0.5,**17°.57S**±0°.08×**178°.50W**±0°.07,**h547**^{km}, **n97,σ1°35/97,mb4.2/36,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**1.59**	**302**	P	**P**	**08 16 37.4**	**+1.1**
DGTI	**Dogotuki**	**2.11**	**307**	P	**P**	**08 16 39.2**	**+0.7**
MSVF	**Nonsavu**	**3.29**	**267**	P	**P**	**08 16 46.8**	**+1.5**
MSVF	**Nonsavu**	**3.29**	**267**	P	**P**	**08 16 46.8**	**+1.5**
YSA	**Yasawairara**	**3.85**	**282**	P	**P**	**08 16 49.9**	**+0.8**
AFI	**Afiamalu**	**7.42**	**62**	P	**P**	**08 17 19.0**	**-1.7**
AFI	**Afiamalu**	**7.42**	**62**	P	**P**	**08 17 19.0**	**-1.7**
FUNA	**Funafuti**	**9.27**	**346**	P	**P**	**08 17 39.5**	**+0.5**
RAO	**Raoul Island**	**11.64**	**177**	P	**P**	**08 18 03.8**	**+0.6**
DZM	**Mont Dzumac**	**14.86**	**250**	P	**P**	**08 18 38.7**	**+2.0**
DZM	**Mont Dzumac**	**14.86**	**250**	P	**P**	**08 18 38.4**	**+1.7**
DZM	**Mont Dzumac** 5.4nm,0.6s,baz=118,slow=19,SNR=8.0	**14.86**	**250**	P	**P**	**08 18 35.6**	**-1.1**
KOUNC	**Koumac, New Ca**	**16.54**	**257**	P	**P**	**08 18 52.9**	**-0.4**
OUZ	**Omahuta**	**18.94**	**200**	P	**P**	**08 19 17.9**	**+3.0**
KUZ	**Kuaotunu**	**19.77**	**194**	P	**P**	**08 19 25.0**	**+2.5**
TOZ	**Tahuroa Road**	**20.77**	**194**	P	**P**	**08 19 32.9**	**+1.4**
TOZ	comp=Z,15nm,1.2s			IAmb	IAmb	08 19 44.8	
URZ	**Urewera** comp=Z,9.4nm,0.5s,baz=265,slow=0.4,SNR=9.6 comp=Z,9.4nm,0.5s	**20.97**	**190**	P	**P**	**08 19 30.5**	**-2.8**
HNR	**Honiara**	**22.45**	**288**	P	**P**	**08 19 48.5**	**+1.6**
PREZ	**Palmer Road**	**22.62**	**195**	P	**P**	**08 19 55.0**	**+6.8**
BFZ	**Birch Farm**	**23.48**	**190**	P	**P**	**08 19 57.4**	**+1.7**
DUWZ	**D'Urville Isla**	**24.06**	**194**	P	**P**	**08 20 00.3**	**-0.7**
MTW	**Mount Morrison**	**24.07**	**191**	P	P	08 20 08.8	+7.8
TCW	**Tory Channel**	**24.37**	**193**	P	**P**	**08 20 03.6**	**0.0**
TUWZ	**Tuamarina**	**24.65**	**194**	P	**P**	**08 20 03.9**	**-2.2**
MRNZ	**Matariki Terra**	**24.91**	**196**	P	**P**	**08 20 07.1**	**-1.4**
THZ	**Tophouse**	**25.21**	**195**	P	**P**	**08 20 10.5**	**-0.7**
DSZ	**Denniston Nort**	**25.49**	**197**	P	**P**	**08 20 12.6**	**-1.0**
KHZ	**Kahutara**	**25.68**	**194**	P	**P**	**08 20 13.2**	**-2.0**
EIDS	**Eidsvold**	**29.30**	**249**	P	**P**	**08 20 46.5**	**-0.8**
EIDS	comp=Z,5.0nm,0.9s			IAmb	IAmb	08 20 47.8	
ARMA	**Armidale**	**30.04**	**239**	P	**P**	**08 20 53.8**	**+0.2**
ARMA	comp=Z,7.0nm,1.0s			IAmb	IAmb	08 21 19.3	
DCZ	**Deep Cove**	**30.28**	**200**	P	**P**	**08 20 54.6**	**-0.7**
CTA	**Charters Tower** comp=Z,6.4nm,0.6s,baz=90,slow=7.5,SNR=5.6 comp=Z,6.4nm,0.6s	**33.42**	**260**	P	**P**	**08 21 21.3**	**-1.2**
CTAO	**Charters Tower**	**33.42**	**260**	P	**P**	**08 21 21.8**	**-0.7**
COEN	**Coen**	**37.02**	**270**	P	**P**	**08 21 52.7**	**+0.3**
TOO	**Toolangi**	**37.32**	**230**	P	**P**	**08 21 54.9**	**+0.3**
TOO	comp=Z,8.5nm,1.1s			IAmb	IAmb	08 22 10.1	
STKA	**Stephens Creek**	**38.72**	**241**	P	**P**	**08 22 06.3**	**+0.2**
STKA	**Stephens Creek** comp=Z,4.6nm,0.7s,baz=90,slow=10.0,SNR=7.7 comp=Z,4.6nm,0.7s	**38.72**	**241**	P	**P**	**08 22 05.6**	**-0.4**
BBOO	**Buckleboo**	**43.49**	**241**	P	**P**	**08 22 43.6**	**-0.3**
BBOO	comp=Z,17nm,1.1s			IAmb	IAmb	08 22 54.1	
WR0	**Warramunga Arr**	**44.42**	**259**	P	**P**	**08 22 50.8**	**-0.4**
WB0	**Warramunga Arr**	**44.57**	**259**	P	**P**	**08 22 50.9**	**-1.5**
WB0	comp=Z,7.5nm,1.0s			IAmb	IAmb	08 22 51.9	
WB2	**Warramunga Arr**	**44.60**	**259**	P	**P**	**08 22 51.5**	**-1.1**
WB2	comp=Z,5.9nm,0.8s	

comp=Z,1.7nm,0.9s,baz=86,slow=16,SNR=5.5
comp=Z,31nm,0.6s

MTN	**Manton Dam**	**48.72**	**268**	P		**P**	**08 23 23.2**	**-0.6**
MTN				IAmb		IAmb	08 23 23.4	
	comp=Z,14nm,0.9s							
FORT	**Forrest**	**50.07**	**244**	P		**P**	**08 23 32.4**	**-1.2**
KNRA	**Kununurra**	**50.44**	**264**	P		**P**	**08 23 36.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**53.00**	**260**	P		**P**	**08 23 54.8**	**-0.1**
SOEI	**Soe**	**55.98**	**270**	P		**P**	**08 24 16.1**	**+0.1**
PSA00	**Pilbara Seismi**	**57.91**	**255**	P		**P**	**08 24 28.3**	**-0.7**
PSA00				IAmb		IAmb	08 24 28.5	
	comp=Z,7.1nm,0.7s							
MORW	**Morawa**	**60.54**	**246**	P		**P**	**08 24 45.7**	**-0.7**
SBA	**Scott Base**	**60.75**	**184**	P		**P**	**08 24 49.1**	**+2.2**
VNDA	**Vanda**	**60.77**	**185**	P		**P**	**08 24 46.6**	**-0.4**
VNDA	**Vanda**	**60.77**	**185**	P		**P**	**08 24 46.5**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=11,slow=6.3,SNR=12							
	comp=Z,0.7nm,0.3s							
KAPI	**Kappang**	**61.58**	**274**	P		**P**	**08 24 55.8**	**+2.3**
GIRL	**Giralia**	**62.91**	**253**	P		**P**	**08 25 02.4**	**+0.4**
JHJ2	**Mitsune**	**64.23**	**322**	P		**P**	**08 25 10.1**	**0.0**
JGF	**Kuroka**	**67.42**	**322**	P		**P**	**08 25 30.4**	**+0.4**
JGF				IAmb		IAmb	08 25 30.6	
	comp=Z,3.2nm,0.8s							
MJAR	**Matsushiro Arr**	**67.58**	**323**	P		**P**	**08 25 30.4**	**-0.5**
	comp=Z,2.9nm,0.5s,baz=160,slow=5.1,SNR=14							
	comp=Z,2.9nm,0.5s							
MAJO	**Matsushiro**	**67.59**	**323**	P		**P**	**08 25 30.9**	**-0.1**
MAJO				IAmb		IAmb	08 25 40.7	
	comp=Z,9.6nm,1.1s							
MJB9	**Matsu-Tunnel**	**67.59**	**323**	P		**P**	**08 25 30.7**	**-0.3**
MJB9				IAmb		IAmb	08 25 40.7	
	comp=Z,9.4nm,1.1s							
KKM	**Kota Kinabalu**	**68.58**	**284**	P		**P**	**08 25 37.3**	**-0.3**
KKM				IAmb		IAmb	08 25 40.3	
	comp=Z,12nm,0.9s							
SSLB	**Suanglung**	**71.98**	**303**	P		**P**	**08 25 56.5**	**-0.9**
SSLB				IAmb		IAmb	08 25 58.6	
	comp=Z,11nm,0.9s							
QSPA	**South Pole Qui**	**72.48**	**180**	P		**P**	**08 26 00.5**	**+0.8**
QSPA				IAmb		IAmb	08 26 01.3	
	comp=Z,10nm,0.9s							
QSPA	**South Pole Qui**	**72.48**	**180**	P		**P**	**08 26 00.3**	**+0.6**
	comp=Z,10nm,0.8s,baz=302,slow=0.6,SNR=49							
	comp=Z,10nm,0.8s							
PEA0B	**Petropavlovsk-**	**73.33**	**345**	P		**P**	**08 26 05.1**	**+0.6**
PEA0B				IAmb		IAmb	08 26 22.8	
	comp=Z,11nm,0.9s							
PETK	**Petropavlovsk-**	**73.33**	**345**	P		**P**	**08 26 04.9**	**+0.4**
PETK	**Petropavlovsk-**	**73.33**	**345**	P		**P**	**08 26 04.2**	**-0.3**
	comp=Z,3.7nm,0.8s,baz=117,slow=7.2,SNR=4.4							
	comp=Z,3.7nm,0.8s							
KSRS	**Korea Array**	**74.39**	**318**	P		**P**	**08 26 09.7**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=129,slow=6.5,SNR=4.7							
	comp=Z,0.7nm,0.6s							
N15K	**Kwethluk River**	**78.89**	**9**	P		**P**	**08 26 35.4**	**+0.4**
N15K				IAmb		IAmb	08 26 54.8	
	comp=Z,4.8nm,1.1s							
P18K	**Big Mountain,**	**79.01**	**12**	P		**P**	**08 26 35.3**	**-0.3**
NVAR	**Mina Array Bea**	**79.24**	**44**	P		**P**	**08 26 37.2**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=224,slow=8.4,SNR=7.2							
	comp=Z,0.7nm,0.7s							
O18K	**Koktuh Hills**	**79.44**	**12**	P		**P**	**08 26 37.9**	**0.0**
O18K				IAmb		IAmb	08 26 38.1	
	comp=Z,5.3nm,0.9s							
J05D	**Fort Rock, OR**	**80.11**	**39**	P		**P**	**08 26 43.5**	**+1.6**
K15K	**Wolf Creek Mou**	**80.72**	**8**	P		**P**	**08 26 45.4**	**+0.9**
PMR	**Palmer**	**82.30**	**14**	P		**P**	**08 26 52.3**	**-0.2**
PMR				IAmb		IAmb	08 27 11.1	
	comp=Z,4.4nm,1.2s							
BELA	**Belgrano 2**	**82.51**	**173**	P		**P**	**08 26 53.7**	**+0.1**
BELA				IAmb		IAmb	08 26 54.1	
	comp=Z,9.9nm,0.6s							
J18K	**Innoko River**	**82.54**	**10**	P		**P**	**08 26 54.3**	**+0.5**
CUT	**Chulitna**	**82.77**	**13**	P		**P**	**08 26 55.0**	**+0.1**
CUT				IAmb		IAmb	08 27 12.3	
	comp=Z,6.6nm,1.0s							
GLB	**Gilahina Butte**	**83.47**	**16**	P		**P**	**08 26 58.5**	**-0.1**
GLB				IAmb		IAmb	08 27 23.1	
	comp=Z,5.9nm,1.2s							
RND	**Reindeer**	**83.96**	**13**	P		**P**	**08 27 00.9**	**0.0**
MAW	**Mawson**	**84.15**	**200**	P		**P**	**08 27 00.4**	**-1.4**
	comp=Z,3.2nm,0.6s,baz=155,slow=9.4,SNR=1.5							
	comp=Z,3.2nm,0.6s							
ILAR	**Eielson Array**	**85.58**	**13**	P		**P**	**08 27 08.2**	**-0.5**
ILAR	**Eielson Array**	**85.58**	**13**	P		**P**	**08 27 07.8**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=224,slow=5.3,SNR=5.0							
	comp=Z,0.3nm,0.4s							
TXAR	**Lajitas Array**	**85.89**	**58**	P		**P**	**08 27 13.2**	**+2.0**
	comp=Z,1.0nm,0.7s,baz=216,slow=6.4,SNR=18							
	comp=Z,1.0nm,0.7s							
PDAR	**Pinedale Array**	**87.17**	**43**	P		**P**	**08 27 17.6**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=191,slow=2.6,SNR=6.9							
	comp=Z,0.5nm,0.6s							
SNAA	**Sanae**	**90.94**	**179**	P		**P**	**08 27 33.5**	**-0.4**
	comp=Z,2.3nm,0.5s,baz=195,slow=8.1,SNR=15							
	comp=Z,2.3nm,0.5s							
Z41A	**Richland Creek**	**95.96**	**57**	P		**P**	**08 27 56.1**	**-1.3**
BNN	**Bunyan**	**143.36**	**312**			PKPbc	08 34 00.4	+0.6
BR131	**Keskin Array S**	**144.48**	**315**			**PKPdf**	**08 34 02.3**	**-0.9**
BRTR	**Keskin Array B**	**144.48**	**315**			**PKPdf**	**08 34 02.8**	**-0.4**
BRTR	**Keskin Array B**	**144.48**	**315**	PKP		**PKPdf**	**08 34 03.1**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=111,slow=2.8,SNR=9.5							
MMAI	**Mount Meron Ar**	**145.89**	**303**	PKPbc		**PKPbc**	**08 34 07.8**	**+0.2**
	comp=Z,1.3nm,0.4s,baz=72,slow=2.7,SNR=4.9							
GERES	**GERESS Array B**	**147.26**	**345**	PKPbc		**PKPbc**	**08 34 10.5**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=35,slow=4.9,SNR=3.2							
DAVOX	**Davos/Dischmat**	**150.06**	**348**	PKPbc		**PKPbc**	**08 34 17.9**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=301,slow=3.6,SNR=3.6							

*OSPL **11** 08:17:34.6±0.9, 20°.03N×66°.00W, h40km±73km, ML2.9*
*NEIC **11** 08:17:34.8±0.5, 19°.96N±0°.07×66°.01W±0°.08, h35km±2km, ML2.9/26, Md3.1/4(RSPR), Error ellipse: s-maj=17.3km s-min=3.4km az=47.0*
*RSPR **11** 08:17:35.9, 19°.93N×65°.98W, h51km±10km, MD3.1/4*

ISC 11 08:17:33.5±2.5, 20°.0N±0°.1×66°.01W±0°.06, h35km, n33, σ9°67/35, 5C-2D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**1.61**	**198**	Pn	**Pn**	**08 17 59.9**	**+0.4**
EMPR				IAML		08 18 12.4	
	comp=N,142nm,1.8s						
EMPR				IAML		08 18 33.5	
	comp=E,149nm,1.6s						
GCPR	**Guaynabo City**	**1.70**	**182**	*eP*	**Pn**	**08 18 01.1**	**+0.3**
GCPR	**Guaynabo City**	**1.70**	**182**	*eS*	**Sn**	**08 18 20.8**	**-0.5**
GCPR	**Guaynabo City**	**1.70**	**182**		**Pn**	**08 18 00.9**	**+0.2**
GCPR				Sn	**Sn**	**08 18 21.1**	**-0.2**
GCPR				IAML		08 18 23.3	
	comp=E,74nm,0.7s						
AOPR	**Arecibo Observ**	**1.81**	**203**		**Pn**	**08 18 02.4**	**+0.1**
AOPR				IAML		08 18 32.2	
	comp=E,170nm,0.4s						
AOPR				IAML		08 18 37.3	
	comp=N,102nm,0.4s						
AGPR	**Aguadilla, PR**	**1.86**	**214**	*eP*	**Pn**	**08 18 03.5**	**+0.5**
AGPR	**Aguadilla, PR**	**1.86**	**214**	*eS*	**Sn**	**08 18 23.4**	**-1.9**
AGPR	**Aguadilla, PR**	**1.86**	**214**		**Pn**	**08 18 03.2**	**+0.3**
AGPR				IAML		08 18 38.0	
	comp=E,96nm,2.1s						
AGPR				IAML		08 18 55.3	
	comp=N,137nm,3.0s						
AGPR	**Aguadilla, PR**	**1.86**	**214**	*i* P	**Pn**	**08 18 02.7**	**-0.2**
AGPR				IAML		08 18 24.2	
	comp=Z,45nm,0.3s						
HUMP	**Col San Antoni**	**1.87**	**175**	*eP*	**Pn**	**08 18 03.7**	**+0.6**
HUMP	**Col San Antoni**	**1.87**	**175**	*eS*	**Sn**	**08 18 24.9**	**-0.7**
HUMP	**Col San Antoni**	**1.87**	**175**		**Pn**	**08 18 03.5**	**+0.4**
HUMP				IAML		08 18 28.1	
	comp=E,68nm,0.5s						
UUPR	**Utuado, UPR, P**	**1.88**	**201**	*eP*	**Pn**	**08 18 03.8**	**+0.5**
UUPR	**Utuado, UPR, P**	**1.88**	**201**	*eS*	**Sn**	**08 18 26.5**	**+0.8**
UUPR	**Utuado, UPR, P**	**1.88**	**201**	Pn	**Pn**	**08 18 03.6**	**+0.4**
CELP	**Cerrillos**	**2.01**	**196**	*eP*	**Pn**	**08 18 05.5**	**+0.5**
CELP	**Cerrillos**	**2.01**	**196**	*eS*	**Sn**	**08 18 28.5**	**-0.4**
CELP	**Cerrillos**	**2.01**	**196**		**Pn**	**08 18 05.5**	**+0.5**
OBIP	**Obispado Ponce**	**2.04**	**196**	Pn	**Pn**	**08 18 05.2**	**-0.3**
OBIP				IAML		08 18 29.9	
	comp=E,50nm,0.3s						
PRSN	**Puerto Rico Se**	**2.09**	**211**	Pn	**Pn**	**08 18 06.5**	**+0.4**
PRSN				IAML		08 18 30.6	
	comp=E,165nm,0.3s						
PRSN				IAML		08 18 36.3	
	comp=N,154nm,0.3s						
CRPR	**Cabo Rojo, PR**	**2.26**	**208**	*eP*	**Pn**	**08 18 09.2**	**+0.8**
CRPR	**Cabo Rojo, PR**	**2.26**	**208**	*eS*	**Sn**	**08 18 35.2**	**+0.2**
CRPR	**Cabo Rojo, PR**	**2.26**	**208**		**Pn**	**08 18 09.0**	**+0.6**
CRPR				IAML		08 18 37.9	
	comp=E,54nm,2.1s						
CRPR	**Cabo Rojo, PR**	**2.26**	**208**	*i* P	**Pn**	**08 18 09.2**	**+0.8**
CRPR				IAML		08 18 40.0	
	comp=Z,70nm,1.4s						
MLPR	**Magueyes Islan**	**2.26**	**206**	*eP*	**Pn**	**08 18 09.2**	**+0.7**
MLPR	**Magueyes Islan**	**2.26**	**206**	*eS*	**Sn**	**08 18 35.1**	**0.0**
MLPR	**Magueyes Islan**	**2.26**	**206**		**Pn**	**08 18 09.2**	**+0.7**
MLPR				IAML		08 18 31.3	
	comp=N,42nm,3.2s						
MLPR				IAML		08 18 58.1	
	comp=E,46nm,2.6s						
PCDR	**Punta Cana, DR**	**2.69**	**237**	Pn	**Pn**	**08 18 14.9**	**+0.5**
PCDR	**Punta Cana, DR**	**2.69**	**237**	*i* P	**Pn**	**08 18 15.1**	**+0.7**
PCDR				*eS*	**Sn**	**08 18 44.5**	**-1.2**
PCDR				IAML		08 18 46.2	
	comp=Z,200nm,1.4s						
ANBD	**Bethesda, Anti**	**4.99**	**126**	*eP*	**Pn**	**08 18 46.4**	**+0.4**
ANBD	**Bethesda, Anti**	**4.99**	**126**	*eS*	**Sn**	**08 19 41.7**	**-0.9**
SDDR	**Presa de Saban**	**5.08**	**259**	Pn	**Pn**	**08 18 48.2**	**+0.8**
SDDR	**Presa de Saban**	**5.08**	**259**	*i* P	**Pn**	**08 18 47.0**	**-0.3**

*IDC **11** 08:18:24.2±2.0, 6°.29S×155°.06E, h113km±19km, mb4.1/19, mbtmp4.6/23, MS3.4/8, Error ellipse: s-maj=13.5km s-min=12.2km az=17.0*
*NEIC **11** 08:18:24.8±1.1, 6°.26S±0°.08×155°.05E±0°.05, h106km±7km, mb4.5/94, Error ellipse: s-maj=11.9km s-min=6.7km az=184.0*

ISC 11 08:18:23.3±0.3, 6°.23S±0°.05×155°.08E±0°.05, h100km, n197, σ1§02/170, mb4.5/67, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.54**	**305**		**Pn**	**08 19 17.5**	**+1.2**
HNR	**Honiara**	**5.78**	**124**		**Pn**	**08 19 47.7**	**+1.1**
HNR					**Sn**	**08 20 53.3**	**+1.6**
HNR	**Honiara**	**5.78**	**124**	P	**Pn**	**08 19 47.9**	**+1.3**
HNR	**Honiara**	**5.78**	**124**	P	**Pn**	**08 19 46.1**	**-0.6**
	2μm,0.5s,baz=235,slow=9.5,SNR=7.8						
HNR				S	**Sn**	**08 20 51.7**	**0.0**
	6μm,0.7s,baz=323,slow=19,SNR=2.3						
HNR				LR	LR	08 22 15.0	
	comp=Z,3μm,20.9s,baz=334,slow=40						
PMG	**Port Moresby**	**8.46**	**248**	Pn	**Pn**	**08 20 23.9**	**+0.8**
PMG	**Port Moresby**	**8.46**	**248**	P	**Pn**	**08 20 24.1**	**+1.1**
	414nm,0.8s,baz=58,slow=8.6,SNR=108						
PMG				S	**Sn**	**08 21 56.2**	**-0.7**
	29nm,0.7s,baz=175,slow=13,SNR=1.0						
PMG				LR	LR	08 23 42.1	
	comp=Z,107nm,19.8s,baz=62,slow=38						
MANU	**Manus Island**	**8.74**	**298**	Pn	**Pn**	**08 20 27.4**	**+0.4**
PATS	**Pohnpei**	**13.37**	**14**	Pn	**Pn**	**08 21 27.4**	**-1.8**
COEN	**Coen**	**14.01**	**236**	Pn	**Pn**	**08 21 38.0**	**+0.6**
COEN	**Coen**	**14.01**	**236**	P	**Pn**	**08 21 38.7**	**+1.3**
CTA	**Charters Tower**	**16.23**	**211**	P	**Pn**	**08 22 05.5**	**+0.1**
	4.6nm,0.6s,baz=41,slow=8.4,SNR=2.0						
CTAO	**Charters Tower**	**16.23**	**211**	Pn	**Pn**	**08 22 04.5**	**-1.0**
LIFNC	**LIFOU**	**18.66**	**142**	P	**P**	**08 22 33.0**	**-0.6**
LIFNC	**LIFOU**	**18.66**	**142**	P	**P**	**08 22 34.0**	**+0.5**
NOUC	**Port Laguerre**	**19.15**	**147**	P	**P**	**08 22 38.6**	**-0.2**
DZM	**Mont Dzumac**	**19.20**	**146**	P	**P**	**08 22 39.4**	**-0.2**
DZM	**Mont Dzumac**	**19.20**	**146**	P	**P**	**08 22 39.9**	**+0.4**
DZM	**Mont Dzumac**	**19.20**	**146**	P	**P**	**08 22 39.7**	**+0.2**
DZM	**Mont Dzumac**	**19.20**	**146**	P	**P**	**08 22 39.7**	**+0.2**
	40nm,0.6s,baz=292,slow=8.5,SNR=44						
DZM				LR	LR	08 28 22.2	
	comp=Z,190nm,20.7s,baz=331,slow=31						
TARA	**Tarawa**	**19.34**	**68**	P	**P**	**08 22 41.6**	**+0.6**
ONTNC	**Ouen Toro**	**19.40**	**147**	P	**P**	**08 22 41.4**	**-0.1**
EIDS	**Eidsvold**	**19.41**	**191**	P	**P**	**08 22 42.2**	**+0.4**
EIDS				IAmb	IAmb	08 22 45.4	
	comp=Z,20nm,0.7s						
EIDS	**Eidsvold**	**19.41**	**191**	P	**P**	**08 22 42.3**	**+0.6**
MARNC	**Mare, Loyalty**	**19.67**	**142**	P	**P**	**08 22 43.5**	**-1.1**
OUENC	**Ouen Island, N**	**19.70**	**146**	P	**P**	**08 22 44.3**	**-0.5**
OUENC	**Ouen Island, N**	**19.70**	**146**	P	**P**	**08 22 45.3**	**+0.5**
OUENC	**Ouen Island, N**	**19.70**	**146**	P	**P**	**08 22 44.1**	**-0.7**
PINNC	**Pines Island,**	**20.19**	**145**	P	**P**	**08 22 49.7**	**-0.5**
PINNC				IAmb	IAmb	08 22 52.8	
	comp=Z,31nm,0.9s						
QIS	**Mount Isa**	**20.69**	**225**	P	**P**	**08 22 56.0**	**+0.4**
QLP	**Quilpie**	**22.73**	**206**	P	**P**	**08 23 17.0**	**0.0**
FAKI	**Fak Fak**	**22.99**	**277**	P	**P**	**08 23 18.9**	**-0.8**
FAKI				IAmb	IAmb	08 23 23.7	
	comp=Z,18nm,1.0s						
KDU	**Kakadu**	**23.19**	**252**	P	**P**	**08 23 22.3**	**+0.7**
WR0	**Warramunga Arr**	**24.17**	**234**	P	**P**	**08 23 30.8**	**+0.3**
WR0				IAmb	IAmb	08 23 32.1	
	comp=Z,16nm,0.7s						
WB0	**Warramunga Arr**	**24.19**	**234**	P	**P**	**08 23 31.1**	**+0.4**
WB0				IAmb	IAmb	08 23 32.2	
	comp=Z,14nm,0.6s						
ARMA	**Armidale**	**24.28**	**187**	P	**P**	**08 23 31.8**	**+0.3**
ARMA				IAmb	IAmb	08 23 32.2	
	comp=Z,16nm,0.7s						
ARMA	**Armidale**	**24.28**	**187**	P	**P**	**08 23 31.2**	**-0.3**
WB2	**Warramunga Arr**	**24.32**	**234**	P	**P**	**08 23 32.1**	**+0.3**
WB2				IAmb	IAmb	08 23 33.5	
	comp=Z,19nm,0.6s						
WRA	**Warramunga Arr**	**24.32**	**234**	P	**P**	**08 23 31.8**	**-0.1**
WRA	**Warramunga Arr**	**24.32**	**234**	P	**P**	**08 23 32.0**	**+0.1**
	comp=Z,12nm,0.5s,baz=56,slow=10.0,SNR=73						
	comp=Z,12nm,0.5s						
MSVF	**Nonsavu**	**25.18**	**119**	P	**P**	**08 23 39.6**	**-0.1**
INKA	**Innaminka**	**25.36**	**211**	P	**P**	**08 23 40.3**	**-0.8**
ASAR	**Alice Springs**	**26.74**	**227**	P	**P**	**08 23 52.8**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=57,slow=9.4,SNR=6.3						
ASAR				LR	LR	08 33 40.6	
	comp=Z,59nm,18.4s,baz=74,slow=34						
	comp=Z,0.9nm,0.4s						
MGCD	**Mangrove Creek**	**27.10**	**187**	P	**P**	**08 23 55.6**	**-1.2**
H11S3	**WAKE ISLAND Hy**	**27.10**	**25**	T	T	08 52 27.5	
	baz=207,slow=76,SNR=30						
H11S2	**WAKE ISLAND Hy**	**27.11**	**25**	T	T	08 52 26.4	
	baz=207,slow=76,SNR=30						
H11S1	**WAKE ISLAND Hy**	**27.12**	**25**	T	T	08 52 23.5	
	baz=207,slow=76,SNR=26						
STKA	**Stephens Creek**	**28.46**	**205**	P	**P**	**08 24 08.3**	**-0.6**
STKA	**Stephens Creek**	**28.46**	**205**	P	**P**	**08 24 07.9**	**-1.0**
	comp=Z,6.1nm,0.6s,baz=24,slow=12,SNR=16						
	comp=Z,6.1nm,0.6s						
YNG	**Young**	**28.61**	**192**	P	**P**	**08 24 09.6**	**-0.7**
LCRK	**Leigh Creek**	**28.84**	**211**	P	**P**	**08 24 11.4**	**-0.9**
CAN	**Canberra**	**29.49**	**190**	P	**P**	**08 24 18.5**	**+0.4**
CAN				IAmb	IAmb	08 24 18.6	
	comp=Z,14nm,1.1s						
FITZ	**Fitzroy Crossi**	**31.04**	**245**	P	**P**	**08 24 32.0**	**+0.1**
BBOO	**Buckleboo**	**31.83**	**211**	P	**P**	**08 24 37.5**	**-1.2**
BBOO	**Buckleboo**	**31.83**	**211**	P	**P**	**08 24 37.6**	**-1.1**
TOO	**Toolangi**	**32.40**	**194**	P	**P**	**08 24 44.1**	**+0.5**
TOO				IAmb	IAmb	08 24 59.0	
	comp=Z,13nm,1.1s						
FORT	**Forrest**	**35.20**	**223**	P	**P**	**08 25 06.0**	**-2.0**
TOZ	**Tahuroa Road**	**36.45**	**152**	P	**P**	**08 25 18.4**	**-0.2**
TOZ	**Tahuroa Road**	**36.45**	**152**	P	**P**	**08 25 18.8**	**+0.3**
HIZ	**Hauiti**	**36.80**	**154**	P	**P**	**08 25 21.7**	**+0.2**
HIZ	**Hauiti**	**36.80**	**154**	P	**P**	**08 25 23.6**	**+2.1**
OMRZ	**Omania**	**37.16**	**152**	P	**P**	**08 25 27.0**	**+2.4**
MBWA	**Marble Bar**	**37.29**	**243**	P	**P**	**08 25 26.0**	**0.0**
PSA00	**Pilbara Seismi**	**37.32**	**242**	P	**P**	**08 25 25.9**	**-0.3**
HAZ	**Te Kaha**	**37.57**	**150**	P	**P**	**08 25 27.8**	**-0.2**
WTVZ	**West Tongariro**	**37.62**	**153**	P	**P**	**08 25 30.6**	**+2.0**
URZ	**Urewera**	**37.63**	**151**	P	**P**	**08 25 28.4**	**-0.2**
URZ	**Urewera**	**37.63**	**151**	P	**P**	**08 25 28.6**	**0.0**
	comp=Z,12nm,0.6s,baz=346,slow=6.7,SNR=12						
	comp=Z,12nm,0.6s						
URZ	**Urewera**	**37.63**	**151**	P	**P**	**08 25 29.1**	**+0.5**
NNVZ	**North Ngauruho**	**37.64**	**153**	P	**P**	**08 25 30.2**	**+1.4**
PKVZ	**Pokaka**	**37.65**	**154**	P	**P**	**08 25 29.8**	**+1.0**
COVZ	**Chateau Observ**	**37.67**	**154**	P	**P**	**08 25 30.7**	**+1.7**
TMVZ	**Te Maari**	**37.67**	**153**	P	**P**	**08 25 31.0**	**+2.0**
NGZ	**Ngauruhoe**	**37.67**	**154**	P	**P**	**08 25 31.3**	**+2.2**
RUGZ	**Raukumara Rang**	**37.68**	**150**	P	**P**	**08 25 28.7**	**-0.4**
OTVZ	**Oturere**	**37.69**	**153**	P	**P**	**08 25 30.8**	**+1.6**
SNVZ	**South Ngauruho**	**37.70**	**153**	P	**P**	**08 25 30.2**	**+0.9**
FWVZ	**Far West T-bar**	**37.72**	**154**	P	**P**	**08 25 30.3**	**+0.8**
TRVZ	**Turoa**	**37.75**	**154**	P	**P**	**08 25 31.7**	**+1.8**
MTVZ	**Mangateitei**	**37.79**	**154**	P	**P**	**08 25 32.8**	**+2.8**
WNVZ	**Wahianoa**	**37.80**	**154**	P	**P**	**08 25 31.2**	**+1.1**
RTZ	**Ruatahuna**	**37.85**	**152**		**P**	**08 25 30.5**	**0.0**
RTZ	**Ruatahuna**	**37.85**	**152**	P	**P**	**08 25 30.3**	**-0.2**
WAZ	**Wanganui**	**37.88**	**155**	P	**P**	**08 25 35.1**	**+4.4**
MWZ	**Matawai**	**37.89**	**151**	P	**P**	**08 25 31.2**	**+0.4**
MOVZ	**Moawhango**	**37.93**	**154**	P	**P**	**08 25 32.3**	**+1.1**
RAGZ	**Rawiri**	**37.97**	**151**	P	**P**	**08 25 31.8**	**+0.4**
MTHZ	**Maungataniwha**	**37.98**	**152**	P	**P**	**08 25 31.5**	**-0.1**
TWGZ	**Tauwhareparae**	**37.99**	**150**	P	**P**	**08 25 31.6**	**-0.1**
PUZ	**Puketiti**	**38.05**	**150**	P	**P**	**08 25 31.4**	**-0.7**
BKZ	**Black Stump Fm**	**38.07**	**153**		**P**	**08 25 32.3**	**0.0**
BKZ	**Black Stump Fm**	**38.07**	**153**	P	**P**	**08 25 33.1**	**+0.8**
BKZ	**Black Stump Fm**	**38.07**	**153**	P	**P**	**08 25 32.5**	**+0.2**
TKGZ	**Te Karaka**	**38.13**	**151**	P	**P**	**08 25 32.4**	**-0.3**
BHHZ	**Black Hill Sta**	**38.13**	**153**	P	**P**	**08 25 32.8**	**-0.1**
RAHZ	**Arahi**	**38.14**	**152**	P	**P**	**08 25 33.1**	**+0.2**
NMHZ	**Naumai**	**38.16**	**152**	P	**P**	**08 25 34.0**	**+0.9**
SNGZ	**Shannon Statio**	**38.16**	**151**	P	**P**	**08 25 32.7**	**-0.3**
KWHZ	**Kaweka Forest**	**38.24**	**153**	P	**P**	**08 25 34.1**	**+0.3**
RIGZ	**Rimuhau**	**38.30**	**151**	P	**P**	**08 25 33.8**	**-0.5**
CNGZ	**Carnagh Statio**	**38.34**	**150**	P	**P**	**08 25 34.3**	**-0.3**
ARHZ	**Aropaoanui**	**38.38**	**152**	P	**P**	**08 25 34.9**	**+0.1**
MCHZ	**McNeill Hill**	**38.38**	**153**	P	**P**	**08 25 35.1**	**+0.2**
KRHZ	**Kereru**	**38.40**	**153**	P	**P**	**08 25 34.7**	**-0.4**
MRNZ	**Matariki Terra**	**38.41**	**158**	P	**P**	**08 25 35.0**	**-0.1**
PNHZ	**Pukenui**	**38.54**	**154**	P	**P**	**08 25 35.8**	**-0.4**
TSZ	**Takapari Road**	**38.56**	**154**	P	**P**	**08 25 35.9**	**-0.5**
MHGZ	**Mahia Peninsul**	**38.72**	**151**	P	**P**	**08 25 37.1**	**-0.6**
KAHZ	**Kahuranaki**	**38.75**	**153**	P	**P**	**08 25 38.0**	**0.0**
WPHZ	**Waipukurau**	**38.77**	**153**	P	**P**	**08 25 37.5**	**-0.7**
THZ	**Tophouse**	**38.78**	**159**	P	**P**	**08 25 37.6**	**-0.6**
TCW	**Tory Channel**	**38.82**	**157**	P	**P**	**08 25 38.0**	**-0.5**
TUWZ	**Tuamarina**	**38.88**	**157**	P	**P**	**08 25 38.4**	**-0.6**
MRZ	**Mangatainoka R**	**38.89**	**155**	P	**P**	**08 25 38.4**	**-0.7**
SNZO	**South Karori**	**39.08**	**156**	P	**P**	**08 25 40.3**	**-0.3**
BFZ	**Birch Farm**	**39.19**	**154**	P	**P**	**08 25 42.0**	**+0.4**
LTZ	**Lake Taylor**	**39.45**	**160**	P	**P**	**08 25 43.6**	**-0.2**
LTZ				IAmb	IAmb	08 25 46.6	
	comp=Z,10nm,0.8s						
KHZ	**Kahutara**	**39.58**	**158**	P	**P**	**08 25 45.3**	**+0.5**
KSRS	**Korea Array**	**50.30**	**332**	P	**P**	**08 27 10.1**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=146,slow=7.1,SNR=7.1						
KSRS				LR	LR	08 45 42.7	
	comp=Z,13nm,21.4s,baz=130,slow=32						
	comp=Z,1.2nm,0.6s						
ASAJ	**Asahikawa**	**51.36**	**349**	LR	LR	08 48 33.8	
	comp=Z,16nm,19.3s,baz=154,slow=35						
NJ2	**Nanjing**	**51.38**	**320**	*eP*	**P**	**08 27 20.3**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s		

L29M	**L29M**	**85.29**	**25**	IAmb	IAmb	08 30 50.6
	comp=Z,3.8nm,0.7s					
K29M	**Barlow Dome**	**85.83**	**24**	IAmb	IAmb	08 30 54.6
	comp=Z,5.1nm,0.9s					
KURK	**Kurchatov**	**86.28**	**322**	P	**P**	**08 30 54.2 +0.3**
KURBB	**Kurchatov Arra**	**86.32**	**322**	P	**P**	**08 30 53.6 -0.5**
	comp=Z,0.7nm,0.5s,baz=99,slow=4.9,SNR=5.2					
	comp=Z,0.7nm,0.5s					
F28M	**Old Crow**	**86.50**	**20**	IAmb	IAmb	08 30 56.3
	comp=Z,2.9nm,0.8s					
M31M	**Drury Creek, Y**	**86.55**	**26**	P	**P**	**08 30 55.9 +0.8**
M31M				IAmb	IAmb	08 30 56.0
	comp=Z,4.6nm,0.7s					
J30M	**Hart River**	**86.59**	**24**	IAmb	IAmb	08 30 57.3
	comp=Z,7.5nm,0.9s					
I30M	**Mount Dempster**	**86.82**	**23**	IAmb	IAmb	08 30 58.2
	comp=Z,4.0nm,0.8s					
EPYK	**Eagle Plains**	**87.12**	**22**	P	**P**	**08 30 58.8 +1.0**
DLBC	**Dease Lake**	**87.44**	**31**	P	**P**	**08 31 00.7 +1.2**
DLBC				IAmb	IAmb	08 31 00.9
	comp=Z,5.2nm,0.9s					
NRIK	**Noril'sk**	**88.04**	**341**	P	**P**	**08 30 59.8 -2.2**
	comp=Z,1.6nm,0.5s,baz=103,slow=6.7,SNR=1.8					
	comp=Z,1.6nm,0.5s					
G31M	**Satah River**	**88.23**	**22**	P	**P**	**08 31 03.9 +1.0**
G31M				IAmb	IAmb	08 31 04.1
	comp=Z,4.8nm,0.7s					
INK	**Inuvik**	**88.98**	**21**	P	**P**	**08 31 06.4 0.0**
GNW	**Green Mountain**	**89.24**	**42**	P	**P**	**08 31 07.8 -0.3**
GNW				IAmb	IAmb	08 31 08.9
	comp=Z,1.9nm,0.8s					
NVAR	**Mina Array Bea**	**91.18**	**52**	P	**P**	**08 31 17.9 +0.2**
	comp=Z,3.4nm,1.0s,baz=254,slow=6.0,SNR=15					
	comp=Z,3.4nm,1.0s					
KVN	**Kaiserville**	**91.42**	**51**	P	**P**	**08 31 18.8 0.0**
KVN				IAmb	IAmb	08 31 20.0
	comp=Z,2.6nm,0.9s					
BVAR	**Borovoye Array**	**91.74**	**323**	P	**P**	**08 31 18.8 -0.8**
	comp=Z,0.9nm,0.6s,baz=110,slow=5.2,SNR=6.3					
	comp=Z,0.9nm,0.6s					
NEW	**Newport**	**93.13**	**42**	LR	LR	09 04 04.8
	comp=Z,25nm,20.7s,baz=302,slow=29					
SPR3	**Spring Creek 3**	**94.33**	**51**	P	**P**	**08 31 32.6 +0.2**
YKA	**Yellowknife Ar**	**95.62**	**28**	P	**P**	**08 31 37.3 0.0**
	comp=Z,3.6nm,0.8s,baz=268,slow=4.7,SNR=51					
	comp=Z,3.6nm,0.8s					
PDAR	**Pinedale Array**	**98.13**	**48**	P	**P**	**08 31 48.8 -0.6**
	comp=Z,0.3nm,0.6s,baz=228,slow=1.8,SNR=4.0					
	comp=Z,0.3nm,0.6s					
NOA	**NORSAR Array B**	**119.01**	**341**	PKP	**PKPdf**	**08 36 58.0 -2.1**
	comp=Z,0.9nm,0.9s,baz=19,slow=5.2,SNR=2.9					
GERES	**GERESS Array B**	**126.44**	**329**	PKP	**PKPdf**	**08 37 14.0 -0.9**
	comp=Z,0.5nm,0.5s,baz=69,slow=3.3,SNR=2.7					
EKA	**Eskdalemuir Ar**	**128.03**	**344**	PKP	**PKPdf**	**08 37 17.0 -0.6**
	comp=Z,2.3nm,1.0s,baz=359,slow=3.0,SNR=2.7					
LPAZ	**La Paz**	**131.75**	**118**	PKP	**PKPdf**	**08 37 24.9 -1.6**
	comp=Z,0.5nm,0.5s,baz=315,slow=5.7,SNR=4.7					
BDFB	**Brasilia**	**148.45**	**134**	PKPbc	**PKPbc**	**08 37 58.3 -1.2**
	comp=Z,1.3nm,0.6s,baz=285,slow=0.5,SNR=4.8					
TORD	**Torodi Ar. Bea**	**152.90**	**287**	PKPbc	**PKPbc**	**08 38 07.7 -2.3**
	comp=Z,0.9nm,0.5s,baz=74,slow=2.3,SNR=8.1					

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*ISK **11** 08:21:46.8, 34°.63N×23°.38E, h16km, ML3.9/9*
*BGR **11** 08:21:49.0±3.3, 34°.12N×23°.96E, h10km, mb4.1, Error ellipse: s-maj=105.6km s-min=101.2km az=7.0*
*MED_RC **11** 08:21:48.0±0.6, 34°.38N×23°.61E, h17km±1km, MW4.4/15, Moment Tensor Solution.Mantle waves: s15,c15; Duration: 1ꝉ0 Moment tensor: Scale 10^15^Nm; Mrr4.22±.63; Mϑϑ-0.45±.40; Mϕϕ-3.77±.47; Mrϑ1.70±.63; Mϕϑ0.87±.21; Mϕr-1.09±.45; Best double couple: Mo4.55000×10^15^ NP1:ϕs150.00000°, δ57.00000°, λ73.00000°. NP2:ϕs360.00000°, δ37.00000°, λ114.00000°. Principal axes: T 4.8400, Plg72.0000°, Azm17.0000°; N -0.5900, Plg14.0000°, Azm160.0000°; P -4.2500, Plg10.0000°, Azm253.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*MOS **11** 08:21:49.3±1.4, 34°.42N×23°.69E, h28km, mb4.5/35 Error ellipse: s-maj=6.6km s-min=3.4km az=79.2*
*ATH **11** 08:21:50.4, 34°.62N×23°.57E, h13km±3km, ML3.8/5, Error ellipse: s-maj=6.5km s-min=2.1km az=44.0*
*GII **11** 08:21:51.8±0.3, 34°.23N±0°.04×23°.76E±0°.02, h60km, Mws4.3, confirmed*
*NEIC **11** 08:21:52.1±1.4, 34°.55N±0°.09×23°.59E±0°.04, h29km±7km, mb4.4/38, Error ellipse: s-maj=14.3km s-min=1.6km az=196.0*
*THE **11** 08:21:53.7, 34°.76N×23°.73E, h0km±6km, ML3.6/3, Error ellipse: s-maj=8.8km s-min=2.0km az=219.0*
*IDC **11** 08:21:53.5±1.5, 34°.39N×23°.70E, h53km±13km, mb3.9/23, mbtmp4.2/33, ML3.9/10, MS3.5/21, Error ellipse: s-maj=14.1km s-min=10.6km az=162.0*
*NAO **11** 08:22:21.8, 38°.27N×25°.67E, h33km, mb3.8*
ISC 11 08:21:50.4±0.5, 34°.47N±0°.05×23°.71E±0°.04, h22km±3km, n347, σ1ꝉ67/342, mb4.3/59, MS3.5/15, 30C-13D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.48**	**40**	Pg	**Pb**	**08 21 59.2**	**-1.1**
GVD				Sg	**Sn**	**08 22 08.6**	**-1.2**
GVD	**Gavdhos**	**0.48**	**40**	P	**Pb**	**08 21 59.1**	**-1.2**
GVD				S	**Sb**	**08 22 06.4**	**-0.5**
	21μm,0.4s						
GVD	**Gavdhos**	**0.48**	**40**	P	**Pb**	**08 21 59.6**	**-0.7**
GVD				S	**Sb**	**08 22 06.4**	**-0.5**
GVD				AML	AML	08 22 11.7	
	comp=E,38208μm,0.3s						
GVD				AML	AML	08 22 12.3	
	comp=N,43684μm,0.4s						
IMMV	**Iera Moni Meta**	**1.01**	**13**	Pg	**Pb**	**08 22 05.9**	**-3.4**
IMMV	**Iera Moni Meta**	**1.01**	**13**	P	**Pb**	**08 22 07.1**	**-2.2**
IMMV				S	**Sb**	**08 22 19.0**	**-3.2**
	comp=N,10μm,0.8s						
IMMV	**Iera Moni Meta**	**1.01**	**13**	P	**Pb**	**08 22 07.4**	**-1.9**
IMMV				AML	AML	08 22 35.0	
	comp=N,22553μm,1.0s						
IMMV				AML	AML	08 22 39.2	
	comp=E,17838μm,0.8s						
TMBK	**Timbaki Herakl**	**1.06**	**55**	P	**Pb**	**08 22 10.4**	**+0.4**
TMBK	**Timbaki Herakl**	**1.06**	**55**	P	**Pb**	**08 22 10.8**	**+0.8**
CHAN	**Chania**	**1.08**	**15**	P	**Pn**	**08 22 09.0**	**-1.3**
CHAN				AML	AML	08 22 36.4	
	comp=N,15063μm,0.9s						
CHAN				AML	AML	08 22 41.4	
	comp=E,26115μm,1.0s						
RODP	**Rodopos**	**1.09**	**2**	Pg	**Pn**	**08 22 06.4**	**-4.0**
RODP	**Rodopos**	**1.09**	**2**	P	**Pn**	**08 22 09.8**	**-0.6**
PRNS	**Prines Rethymn**	**1.11**	**36**	P	**Pn**	**08 22 08.6**	**-2.0**
PRNS				S	**Sb**	**08 22 20.6**	**-4.2**
	comp=E,2μm,0.7s						
IDI	**Anoyia**	**1.27**	**50**	Pn	**Pn**	**08 22 12.4**	**-0.5**
IDI	**Anoyia**	**1.27**	**50**		**Pn**	**08 22 13.3**	**+0.3**
IDI	**Anoyia**	**1.27**	**50**	P	**Pn**	**08 22 12.9**	**0.0**
IDI	**Anoyia**	**1.27**	**50**	P	**Pb**	**08 22 15.4**	**+1.7**
	comp=E,4.3nm,0.5s,baz=229,slow=16,SNR=88						
IDI				S	**Sb**	**08 22 32.7**	**+3.1**
	comp=E,13nm,0.7s,baz=227,slow=23,SNR=7.2						
IDI				LR	LR	08 22 40.5	
	comp=E,12nm,18.9s,baz=279,slow=36						
IDI	**Anoyia**	**1.27**	**50**	P	**Pn**	**08 22 12.7**	**-0.2**
IDI				AML	AML	08 22 48.1	
	comp=N,3364μm,1.2s						
IDI				AML	AML	08 22 49.9	
	comp=E,3334μm,0.7s						
KSTL	**Kastelli Herak**	**1.40**	**53**	P	**Pb**	**08 22 19.4**	**+3.6**
KSTL	**Kastelli Herak**	**1.40**	**53**	P	**Pb**	**08 22 19.6**	**+3.8**
IACM	**Heraklion**	**1.40**	**53**	P	**Pb**	**08 22 18.2**	**+2.4**
ANKY	**Antikythira Is**	**1.43**	**347**	P	**Pn**	**08 22 15.6**	**+0.5**
ANKY	**Antikythira Is**	**1.43**	**347**	P	**Pn**	**08 22 15.3**	**+0.2**
ANKY				AML	AML	08 22 51.3	
	comp=E,4368μm,1.0s						
ANKY				AML	AML	08 22 56.4	
	comp=N,3055μm,1.2s						
FRMA	**Ierapetra Chan**	**1.75**	**71**	P	**Pb**	**08 22 23.8**	**+1.9**
FRMA	**Ierapetra Chan**	**1.75**	**71**	P	**Pb**	**08 22 24.1**	**+2.2**
ZKR	**Zakros**	**2.16**	**72**	Pn	**Pn**	**08 22 26.6**	**+1.4**
ZKR	**Zakros**	**2.16**	**72**	P	**Pb**	**08 22 28.3**	**-0.6**
MHLO	**Agia Marina, M**	**2.29**	**14**	P	**Pn**	**08 22 28.2**	**+1.4**
THR6	**Thira Island,**	**2.33**	**36**	P	**Pb**	**08 22 29.6**	**-2.2**
THR3	**Thira Island,**	**2.38**	**35**	P	**Pn**	**08 22 30.0**	**+1.9**
THR8	**Santorini-Mono**	**2.41**	**36**	P	**Pn**	**08 22 30.2**	**+1.6**
CMBO	**Columbo, Santo**	**2.43**	**34**	P	**Pb**	**08 22 31.1**	**-2.3**
KRND	**KRANIDI**	**2.94**	**351**	P	**Pn**	**08 22 36.4**	**+0.6**
KARP	**Karpathos**	**3.03**	**68**	Pn	**Pn**	**08 22 38.9**	**+1.8**
KARP	**Karpathos**	**3.03**	**68**	Pn	**Pn**	**08 22 39.9**	**+2.8**
KARP	**Karpathos**	**3.03**	**68**	P	**Pb**	**08 22 41.2**	**-2.5**
KARP	**Karpathos**	**3.03**	**68**	P	**Pb**	**08 22 40.5**	**-3.2**
DION	**Dionisos Attik**	**3.60**	**3**	P	**Pn**	**08 22 46.4**	**+1.4**
VILL	**Villia**	**3.70**	**355**	P	**Pn**	**08 22 46.5**	**+0.2**
DAT	**Datca**	**3.88**	**53**	Pn	**Pn**	**08 22 49.7**	**+0.9**
DAT	**Datca**	**3.88**	**53**	P	**Pn**	**08 22 50.6**	**+1.8**
BODT	**Bodrum**	**3.91**	**48**	Pn	**Pn**	**08 22 49.4**	**+0.2**
ARG	**Arkhangelos**	**4.01**	**63**		**Pn**	**08 22 52.4**	**+1.8**
ARG	**Arkhangelos**	**4.01**	**63**	P	**Pn**	**08 22 53.4**	**+2.9**
ARG	**Arkhangelos**	**4.01**	**63**	P	**Pn**	**08 22 52.4**	**+1.8**
CHOS	**Chios island**	**4.34**	**25**	Pn	**Pn**	**08 22 53.9**	**-1.3**
AGG	**Agios Georgios**	**4.67**	**347**	Pn	**Pn**	**08 22 59.4**	**-0.3**
AGG	**Agios Georgios**	**4.67**	**347**	P	**Pn**	**08 22 59.4**	**-0.3**
KSL	**Kastellorizon**	**5.09**	**69**	P	**Pn**	**08 23 05.7**	**+0.3**
AKAS	**Kas**	**5.13**	**68**	Pn	**Pn**	**08 23 07.3**	**+1.3**
ELL	**Elmali**	**5.54**	**64**	Pn	**Pn**	**08 23 13.6**	**+1.9**
ELL	**Elmali**	**5.54**	**64**	P	**Pn**	**08 23 13.6**	**+1.9**
MANT	**Manisa**	**5.60**	**43**	Pn	**Pn**	**08 23 13.3**	**+0.7**
KEK	**Kerkira**	**6.09**	**330**	Pn	**Pn**	**08 23 18.1**	**-1.0**
SOH	**Sokhos**	**6.35**	**358**	P	**Pn**	**08 23 24.5**	**+1.8**
ISP	**Isparta**	**6.45**	**57**		**Pn**	**08 23 23.1**	**-1.1**
ISP	**Isparta**	**6.45**	**57**	*ce*P	**Pn**	**08 23 23.2**	**-0.9**
ISP				pmax	pmax		
	comp=Z,9.0nm,0.6s						
GRG	**Griva**	**6.56**	**351**	P	**Pn**	**08 23 26.7**	**+1.1**
KBN	**Korca**	**6.56**	**340**		**Pn**	**08 23 24.5**	**-1.2**
KBN	**Korca**	**6.56**	**340**	P	**Pn**	**08 23 24.5**	**-1.2**
FNA	**Florina**	**6.57**	**344**		**Pn**	**08 23 25.1**	**-0.6**
FNA	**Florina**	**6.57**	**344**	P	**Pn**	**08 23 25.1**	**-0.6**
SRS	**Serrai**	**6.64**	**359**	P	**Pn**	**08 23 27.3**	**+0.7**
ALN	**Alexandroupoli**	**6.68**	**15**	Pn	**Pn**	**08 23 27.2**	**0.0**
ALN	**Alexandroupoli**	**6.68**	**15**	P	**Pn**	**08 23 27.2**	**0.0**
RDO	**Rodhopi**	**6.82**	**12**		**Pn**	**08 23 28.6**	**-0.5**
SCTE	**Santa Cesarea**	**6.98**	**325**	Pn	**Pn**	**08 23 30.1**	**-1.2**
OHR	**Ohrid**	**7.02**	**342**	*i* P	**Pn**	**08 23 35.2**	**+3.3**
TIP	**Timpagrande**	**7.29**	**312**	⇑P	**Pn**	**08 23 33.7**	**-1.9**
TIP	**Timpagrande**	**7.29**	**312**		**Pn**	**08 23 34.4**	**-1.3**
CEL	**Celeste**	**7.35**	**303**		**Pn**	**08 23 34.5**	**-1.9**
SKO	**Skopje**	**7.70**	**347**	*i* P	Pn	08 23 46.2	+5.0
CSS	**Mathiatis**	**7.94**	**84**		**Pn**	**08 23 43.7**	**-0.8**
CSS	**Mathiatis**	**7.94**	**84**	P	**Pn**	**08 23 43.5**	**-1.0**
RAFF	**Raffo Rosso**	**8.07**	**293**	Pn	**Pn**	**08 23 44.5**	**-1.8**
VAE	**Valguarnera**	**8.11**	**294**	P	**Pn**	**08 23 50.1**	**+3.2**
	comp=Z,0.9nm,0.3s,baz=206,slow=16,SNR=2.2						
VAE				S	**Sn**	**08 25 16.4**	**-1.6**
	comp=Z,11nm,0.6s,baz=247,slow=19,SNR=1.4						
	comp=Z,12nm,0.9s						
PUK	**Puka**	**8.13**	**339**		**Pn**	**08 23 46.6**	**-0.6**
MATE	**Matera**	**8.30**	**320**	⇑P	**Pn**	**08 23 49.8**	**+0.4**
CUC	**Castrocucco**	**8.36**	**314**		**Pn**	**08 23 48.9**	**-1.5**
MDUB	**Mudurnu**	**8.44**	**43**		**Pn**	**08 23 52.3**	**+0.8**
ELND	**Elena**	**8.61**	**11**	⇓P	**Pn**	**08 23 57.0**	**+3.2**
BR231	**Keskin MP Arra**	**9.01**	**51**	Pn	**Pn**	**08 24 02.1**	**+2.9**
ANTO	**Ankara**	**9.03**	**51**	Pn	**Pn**	**08 24 01.7**	**+2.1**
ANTO	**Ankara**	**9.03**	**51**	P	**Pn**	**08 24 01.7**	**+2.1**
BR131	**Keskin Array S**	**9.51**	**54**	Pn	**Pn**	**08 24 07.8**	**+1.7**
BR131	**Keskin Array S**	**9.51**	**54**	*i* P	**Pn**	**08 24 07.8**	**+1.3**
BRTR	**Keskin Array B**	**9.51**	**54**	Pn	**Pn**	**08 24 07.7**	**+1.5**
BRTR	**Keskin Array B**	**9.51**	**54**	*i* P	**Pn**	**08 24 08.1**	**+2.0**
BRTR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BRTR	**Keskin Array B**	**9.51**	**54**	P	**Pn**	**08 24 08.2**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=232,slow=15,SNR=25						
BRTR				LR	LR	08 28 51.4	
	comp=Z,363nm,18.1s,baz=244,slow=44						
	comp=Z,7.5nm,0.8s						
SGRT	**San Giovanni R**	**9.60**	**322**	Pn	**Pn**	**08 24 07.2**	**-0.1**
MMAI	**Mount Meron Ar**	**9.85**	**95**	P	**Pn**	**08 24 11.0**	**+0.2**
	comp=Z,3.0nm,0.3s,baz=305,slow=12,SNR=8.6						
MMAI				S	**Sn**	**08 25 55.2**	**-5.5**
	comp=Z,1.4nm,0.4s,baz=269,slow=24,SNR=1.6						
	comp=Z,2.4nm,0.3s						
NATI	**Neve Ativ**	**10.08**	**93**	P	**Pn**	**08 24 14.6**	**+0.8**
NATI	**Neve Ativ**	**10.08**	**93**	P	**Pn**	**08 24 12.7**	**-1.1**
YTIR	**Yattir**	**10.08**	**105**	P	**Pn**	**08 24 12.7**	**-1.3**
HMDT	**Nahal Hemdat**	**10.13**	**99**	P	Pn	08 24 20.5	+6.0
QRNJ	**Al-Qirein**	**10.15**	**99**	P	Pn	08 24 19.3	+4.5
UJAP	**Al Uja**	**10.16**	**101**	P	Pn	08 24 21.4	+6.4
KSHT	**Keshet**	**10.19**	**95**	P	**Pn**	**08 24 15.0**	**-0.5**
SHMJ	**Sasam**	**10.21**	**96**	P	**Pn**	**08 24 15.0**	**-0.6**
DSI	**Dead Sea**	**10.22**	**103**	P	**Pn**	**08 24 16.4**	**+0.6**
DSI	**Dead Sea**	**10.22**	**103**	S	**Sn**	**08 26 07.7**	**-2.0**
DSI	**Dead Sea**	**10.22**	**103**	P	**Pn**	**08 24 14.4**	**-1.4**
KRMI	**Paran Flat**	**10.28**	**112**	P	**Pn**	**08 24 15.5**	**-1.2**
KRMI	**Paran Flat**	**10.28**	**112**	S	**Sn**	**08 26 07.7**	**-3.6**
MSBI	**Mazada**	**10.29**	**105**	P	**Pn**	**08 24 17.4**	**+0.7**
MSBI	**Mazada**	**10.29**	**105**	P	**Pn**	**08 24 15.6**	**-1.0**
PRNI	**Paran**	**10.39**	**110**	P	Pn	08 24 23.8	+5.6
PRNI	**Paran**	**10.39**	**110**	S	**Sn**	**08 26 10.5**	**-3.5**
PRNI	**Paran**	**10.39**	**110**	P	**Pn**	**08 24 16.6**	**-1.5**
MDVR	**Moldovita**	**10.41**	**352**	⇑P	**Pn**	**08 24 19.7**	**+1.3**
LISJ	**El Lisan**	**10.41**	**105**	P	**Pn**	**08 24 20.9**	**+2.5**
ZFRI	**Zfri**	**10.44**	**109**	P	**Pn**	**08 24 21.3**	**+2.5**
HERR	**Herculane**	**10.45**	**355**	⇑P	**Pn**	**08 24 18.4**	**-0.4**
GHAJ	**Ghor Haditha**	**10.46**	**104**	Pn	**Pn**	**08 24 20.4**	**+1.4**
GHAJ	**Ghor Haditha**	**10.46**	**104**	P	**Pn**	**08 24 21.7**	**+2.7**
HRFI	**Mount Harif**	**10.56**	**112**	P	**Pn**	**08 24 19.5**	**-1.0**
MBRI	**Mt Berech**	**10.58**	**113**	P	**Pn**	**08 24 22.9**	**+2.1**
MBRI	**Mt Berech**	**10.58**	**113**	P	**Pn**	**08 24 19.2**	**-1.7**
MBRI	**Mt Berech**	**10.58**	**113**	S	**Sn**	**08 26 14.7**	**-4.0**
KARJ	**KARJ**	**10.59**	**105**	P	**Pn**	**08 24 19.1**	**-1.8**
EIL	**Elat**	**10.67**	**114**	P	**Pn**	**08 24 22.2**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=6.4,slow=10,SNR=3.3						
EIL				S	**Sn**	**08 26 14.8**	**-5.9**
	comp=Z,4.3nm,0.5s,baz=35,slow=12,SNR=1.9						
	comp=Z,7.4nm,0.5s						
EIL	**Elat**	**10.67**	**114**	P	**Pn**	**08 24 25.1**	**+3.1**
EIL	**Elat**	**10.67**	**114**	P	**Pn**	**08 24 19.8**	**-2.2**
AQBJ	**Aqaba**	**10.72**	**113**	P	Pn	08 24 24.6	+5.0
ARR	**Arges**	**10.91**	**3**	⇑P	**Pn**	**08 24 25.3**	**+0.1**
GZR	**Gura Zlata**	**10.93**	**357**	⇓P	**Pn**	**08 24 27.5**	**+1.9**
GZR	**Gura Zlata**	**10.93**	**357**	⇓P	**Pn**	**08 24 27.5**	**+1.9**
LOT	**Lotru**	**10.96**	**0**	⇑P	Pn	08 24 30.6	+4.6
TPGR	**Topolog**	**10.99**	**18**	⇓P	Pn	08 24 34.1	+7.9
VOIR		**11.00**	**5**	⇑P	**Pn**	**08 24 29.4**	**+2.9**
VOIR		**11.00**	**5**	⇑P	**Pn**	**08 24 29.4**	**+2.9**
MLR	**Muntele Rosu**	**11.14**	**8**	⇑P	**Pn**	**08 24 32.6**	**+4.1**
MLR	**Muntele Rosu**	**11.14**	**8**		**Pn**	**08 24 29.2**	**+0.8**
MLR	**Muntele Rosu**	**11.14**	**8**	⇑P	**Pn**	**08 24 32.6**	**+4.1**
MLR	**Muntele Rosu**	**11.14**	**8**	P	**Pn**	**08 24 31.6**	**+3.1**
	comp=Z,0.2nm,0.3s,baz=191,slow=8.1,SNR=6.9						
MLR				LR	LR	08 29 34.6	
	comp=Z,196nm,20.9s,baz=190,slow=41						
	comp=Z,2.9nm,0.9s						
BZS	**Buzias**	**11.25**	**352**	⇓P	**Pn**	**08 24 28.8**	**-1.0**
BZS	**Buzias**	**11.25**	**352**	⇓P	**Pn**	**08 24 28.8**	**-1.0**
GAZ	**Gaziantep**	**11.29**	**72**	Pn	**Pn**	**08 24 31.1**	**+0.6**
DOPR	**Dopca**	**11.55**	**6**	⇑P	**Pn**	**08 24 38.3**	**+4.2**
PLOR	**Plostina**	**11.59**	**10**	⇑P	Pn	08 24 39.6	+5.1
PLOR	**Plostina**	**11.59**	**10**	⇑P	Pn	08 24 39.6	+5.1
VRI	**Vrincioaia**	**11.61**	**11**	⇑P	Pn	08 24 42.9	+8.1
VRI	**Vrincioaia**	**11.61**	**11**	⇑P	Pn	08 24 42.9	+8.1
KEST	**Kesra**	**11.83**	**280**	LR	LR	08 29 52.5	
	comp=Z,160nm,18.1s,baz=15,slow=40						
SIM	**Simferopol'**	**13.17**	**34**	*e*P	**Pn**	**08 24 59.6**	**+3.6**
SIM				pmax	pmax		
	comp=Z,120nm,0.9s						
SIM				MLR	MLR		
	comp=Z,80nm,19.0s						
SIM				pmax	pmax		
	comp=N,90nm,16.0s						
BURAR	**Bucovina Array**	**13.18**	**4**	⇑P	**P**	**08 25 02.5**	**-3.7**
BURAR	**Bucovina Array**	**13.18**	**4**	⇑P	**P**	**08 25 02.5**	**-3.7**
ARSA	**Arzberg**	**14.18**	**337**	*e*Pn	**Pn**	**08 25 08.7**	**-1.1**
	comp=N,1.0nm,0.5s						
RONA	**Rosalia, Austr**	**14.34**	**339**	*e*Pn	**Pn**	**08 25 10.3**	**-1.7**
	comp=N,5.0nm,0.9s						
VYHS	**Vyhne**	**14.47**	**347**	*e*P	**P**	**08 25 19.6**	**-0.8**
VYHS	**Vyhne**	**14.47**	**347**	*e*P	**P**	**08 25 19.6**	**-0.8**
CONA	**Conrad Observa**	**14.67**	**339**	*e*Pn	**Pn**	**08 25 17.6**	**+0.9**
	comp=N,2.4nm,0.9s						
MODS	**Modra-Piesok**	**14.70**	**343**	*e*P	**P**	**08 25 25.2**	**+2.3**
MODS	**Modra-Piesok**	**14.70**	**343**	*e*P	**P**	**08 25 25.2**	**+2.3**
ANN	**Anapa**	**14.75**	**42**	*e*P	Pn	08 25 11.5	-6.1
ANN				pmax	pmax		
	comp=Z,32nm,1.0s						
KBA	**Koelnbreinsper**	**14.82**	**331**	*e*P	**P**	**08 25 23.7**	**-0.8**
	comp=Z,6.5nm,0.8s						
HORU	**Horodok**	**14.87**	**7**	P	**P**	**08 25 22.7**	**-2.1**
ABTA	**Abfaltersbach**	**14.90**	**329**	*e*Pn	**Pn**	**08 25 20.9**	**+1.1**
	comp=Z,4.0nm,0.8s						
STHS	**Stebnicka Huta**	**15.05**	**354**	*e*P	**P**	**08 25 30.4**	**+3.6**
STHS	**Stebnicka Huta**	**15.05**	**354**	*e*P	**P**	**08 25 30.4**	**+3.6**
MOA	**Molln**	**15.12**	**335**	*e*Pn	**Pn**	**08 25 22.0**	**-0.6**
	comp=Z,15nm,0.7s						
LESA	**Schwarzleotal**	**15.37**	**331**	*e*Pn	**Pn**	**08 25 25.9**	**0.0**
	comp=Z,16nm,0.9s						
SOC	**Sochi**	**15.39**	**49**	*e*P	**Pn**	**08 25 25.1**	**-1.1**
SOC				*e*		08 28 15.4	
SOC				MLR	MLR		
	comp=Z,100nm,16.0s						
KRUC	**Moravsky**	**15.55**	**342**	*e*PN	**P**	**08 25 31.5**	**-0.9**
KRUC	**Moravsky**	**15.55**	**342**	P	**P**	**08 25 33.6**	**+1.2**
WTTA	**Wattenberg**	**15.68**	**328**	*e*Pn	**Pn**	**08 25 30.8**	**+0.7**
	comp=Z,7.5nm,0.8s						
VRAC	**Vranov**	**15.73**	**343**	*e*PN	**P**	**08 25 32.8**	**-1.6**
VRAC	**Vranov**	**15.73**	**343**	P	**P**	**08 25 33.2**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=163,slow=15,SNR=14						
VRAC				LR	LR	08 33 28.8	
	comp=Z,206nm,18.0s,baz=166,slow=44						
	comp=Z,10.0nm,0.8s						
WATA	**Walderalm**	**15.76**	**328**	*e*pP	**P**	**08 25 37.0**	**+2.1**
	comp=Z,7.4nm,1.0s						
SQTA	**Sankt Quirin**	**15.84**	**327**	*e*P	**P**	**08 25 37.0**	**+1.3**
	comp=Z,4.9nm,0.8s						
OKC	**Ostrava-Krasne**	**15.89**	**347**	*e*P	**P**	**08 25 38.9**	**+2.8**
OKC	**Ostrava-Krasne**	**15.89**	**347**	*e*P	**P**	**08 25 38.9**	**+2.8**
FETA	**Feichten**	**15.91**	**326**	*e*P	**P**	**08 25 36.2**	**-0.3**
	comp=Z,12nm,1.0s						
CKRC	**Cesky Krumlov**	**15.95**	**337**	*e*P	**P**	**08 25 38.1**	**+1.3**
CKRC	**Cesky Krumlov**	**15.95**	**337**	*e*P	**P**	**08 25 38.1**	**+1.3**
MORC	**Moravsky Berou**	**15.96**	**345**	*e*PN	**P**	**08 25 36.5**	**-0.4**
MOTA	**Moosalm**	**15.98**	**327**	*e*P	**P**	**08 25 37.1**	**-0.2**
	comp=Z,6.7nm,0.8s						
DAVOX	**Davos/Dischmat**	**16.14**	**324**	P	**P**	**08 25 38.8**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=132,slow=12,SNR=3.2						
	comp=Z,2.5nm,0.8s						
GEC2	**GERESS Array S**	**16.17**	**336**		**Pn**	**08 25 34.9**	**-1.4**
GEC2	**GERESS Array S**	**16.17**	**336**	*e*P	**P**	**08 25 42.3**	**+2.9**
	comp=Z,15nm,1.1s						
GERES	**GERESS Array B**	**16.17**	**336**		**Pn**	**08 25 35.1**	**-1.2**
GERES	**GERESS Array B**	**16.17**	**336**	P	**P**	**08 25 38.9**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=142,slow=15,SNR=6.7						
GERES				LR	LR	08 34 08.3	
	comp=Z,88nm,20.2s,baz=152,slow=45						
	comp=Z,4.6nm,0.8s						
**K

MNK	**Minsk**	**20.24**	**7**	*i* P		**P**	**08 26 21.7**	**-2.2**
MNK				*i*			08 26 38.7	
MNK				*i* S		**S**	**08 30 07.2**	**-2.7**
MNK				*i* SS		**SnSn**	**08 30 30.1**	**+2.4**
MNK				pmax	pmax			
	comp=Z,20nm,0.9s							
MNK				pmax	pmax			
	comp=E,4.0nm,0.9s							
MNK				pmax	pmax			
	comp=N,22nm,1.0s							
VORR	**Voronezh**	**20.51**	**28**	*e*P		**P**	**08 26 24.6**	**-2.3**
VORR				pmax	pmax			
	comp=Z,10.0nm,0.8s							
NACGM	**Naroch**	**20.54**	**5**	*e*P		**P**	**08 26 26.1**	**-1.2**
	comp=Z,28nm,0.8s,baz=188							
BTNL	**Ternell**	**20.58**	**327**	*d*P		Pn	08 26 29.4	-0.7
MEM	**Membach**	**20.66**	**327**	*d*P		**P**	**08 26 27.9**	**-0.6**
RCHB	**Rochefort**	**20.71**	**325**	*d*P		Pn	08 26 32.5	+1.1
BSTI	**Sart Tilman**	**20.84**	**326**	*d*P		Pn	08 26 32.5	-0.5
RETH	**Rethem/Aller,**	**20.94**	**335**	*e*P		Pn	08 26 38.1	+4.1
	comp=Z,46nm,1.6s							
DOU	**Dourbes**	**20.97**	**324**	*d*P		**P**	**08 26 31.1**	**-0.8**
BMRD	**Maredsous**	**21.02**	**325**	*d*P		**P**	**08 26 32.6**	**+0.1**
PABE	**Paberze**	**21.04**	**0**	P		**P**	**08 26 30.9**	**-1.6**
PABE	**Paberze**	**21.04**	**0**	*e*P		**P**	**08 26 32.7**	**+0.2**
LPSR	**Galich'ya Gora**	**21.14**	**26**	*e*P		**P**	**08 26 30.5**	**-3.2**
LPSR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
VRH	**Novokhopyorsk**	**21.22**	**33**	*e*P		**P**	**08 26 33.1**	**-1.4**
VRH				pmax	pmax			
	comp=Z,23nm,1.7s							
VSVD	**Vaisvydziai**	**21.51**	**0**	*e*P		**P**	**08 26 39.0**	**+1.4**
BSEG	**Bad Segeberg**	**21.63**	**338**	*e*P		**P**	**08 26 42.9**	**+4.0**
	comp=Z,17nm,0.9s							
OBN	**Obninsk**	**22.50**	**20**	*e*P		**P**	**08 26 48.5**	**+0.3**
OBN				*e*PPP		PPP	08 27 17.8	
OBN				*e*			08 30 40.7	
OBN				pmax	pmax			
	comp=Z,31nm,1.0s							
OBN				MLR		MLR		
	comp=Z,30nm,13.0s							
ESDC	**Sonseca Array**	**22.64**	**291**	P		**P**	**08 26 49.8**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=85,slow=9.5,SNR=6.3							
	comp=Z,1.0nm,0.7s							
MOS	**Moscow**	**23.34**	**20**	*e*P		**P**	**08 26 54.9**	**-2.0**
MOS				*e*			08 27 22.7	
MOS				pmax	pmax			
	comp=Z,29nm,0.8s							
VSU	**Vasula**	**24.08**	**4**	*i* P		**P**	**08 27 03.6**	**-0.4**
VSU				pmax	pmax			
	comp=Z,83nm,3.9s							
VIKU	**Vikbolandet**	**24.49**	**351**	*e*P		**P**	**08 27 07.4**	**-0.3**
BELG	**Belogornoye**	**24.77**	**36**	*i* P		**P**	**08 27 09.2**	**-1.1**
BELG				pmax	pmax			
	comp=Z,6.0nm,0.9s							
MEF	**Metsahovi**	**25.76**	**1**	*e*P		**P**	**08 27 19.2**	**0.0**
AAL	**Aland**	**25.84**	**356**	*e*P		**P**	**08 27 20.8**	**+0.9**
HFS	**Hagfors**	**26.50**	**349**	P		**P**	**08 27 25.5**	**-0.4**
	comp=Z,4.8nm,0.5s,baz=146,slow=11,SNR=20							
HFS				LR		LR	08 38 35.2	
	comp=Z,100nm,18.9s,baz=162,slow=38							
	comp=Z,4.8nm,0.5s							
FINES	**FINESS Array B**	**27.03**	**3**	P		**P**	**08 27 29.9**	**-0.8**
FINES	**FINESS Array B**	**27.03**	**3**	*i* P		**P**	**08 27 32.0**	**+1.3**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.6s							
FINES	**FINESS Array B**	**27.03**	**3**	P		**P**	**08 27 29.8**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=168,slow=8.1,SNR=7.0							
FINES				LR		LR	08 39 19.4	
	comp=Z,123nm,20.7s,baz=183,slow=39							
	comp=Z,1.7nm,0.7s							
VALR	**Valaam**	**27.30**	**8**	*i* P		**P**	**08 27 32.1**	**-1.0**
VALR				pmax	pmax			
	comp=Z,20nm,1.0s							
NAO01	**NORSAR Array S**	**27.66**	**346**	P		**P**	**08 27 36.5**	**+0.1**
NAO01				IAmb	IAmb		08 27 44.6	
	comp=Z,12nm,1.0s							
KEF	**Keuruu**	**27.73**	**1**	*e*P		**P**	**08 27 38.6**	**+1.6**
NB2	**NORSAR Subarra**	**27.78**	**347**	P		**P**	**08 27 37.4**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=152,slow=10							
NOA	**NORSAR Array B**	**27.78**	**347**	P		**P**	**08 27 37.9**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=149,slow=11,SNR=7.8							
NOA				LR		LR	08 41 12.1	
	comp=Z,63nm,18.9s,baz=170,slow=42							
	comp=Z,1.0nm,0.7s							
GEYT	**Alibeck**	**27.89**	**73**	P		**P**	**08 27 39.0**	**+0.3**
GEYT	**Alibeck**	**27.89**	**73**	P		**P**	**08 27 39.0**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=286,slow=13,SNR=2.4							
	comp=Z,1.4nm,0.7s							
EKA	**Eskdalemuir Ar**	**27.93**	**327**	P		**P**	**08 27 39.1**	**+0.3**
	comp=Z,3.5nm,0.7s,baz=123,slow=7.9,SNR=17							
	comp=Z,3.5nm,0.7s							
KLMR	**Klimovskoe**	**28.31**	**16**	*e*P		**P**	**08 27 43.1**	**+1.0**
KLMR				pmax	pmax			
	comp=Z,14nm,1.8s							
JOF	**Joensuu**	**28.87**	**7**	*e*P		**P**	**08 27 46.1**	**-1.0**
TOA0	**Torodi Ar. Sit**	**29.14**	**229**	P		**P**	**08 27 50.1**	**+0.2**
TOA0				IAmb	IAmb		08 27 50.5	
	comp=Z,6.0nm,1.1s							
TORD	**Torodi Ar. Bea**	**29.14**	**229**	P		**P**	**08 27 49.5**	**-0.5**
TORD	**Torodi Ar. Bea**	**29.14**	**229**	P		**P**	**08 27 49.7**	**-0.2**
	comp=Z,3.1nm,0.9s,baz=36,slow=11,SNR=14							
	comp=Z,3.1nm,0.9s							
KIRV	**Kirov**	**29.56**	**27**	*i* P		**P**	**08 27 51.0**	**-2.3**
KIRV	**Kirov**	**29.56**	**27**	LR		LR	08 39 50.9	
	comp=Z,46nm,19.0s,baz=247,slow=36							
UOSS	**Minazif**	**29.67**	**100**	P		**P**	**08 27 55.2**	**+0.5**
UOSS				IAmb	IAmb		08 28 02.7	
	comp=Z,8.6nm,0.9s							
ABKAR	**Akbulak array**	**30.43**	**50**	P		**P**	**08 28 01.9**	**+0.8**
ARU	**Arti**	**32.32**	**36**	P		**P**	**08 28 16.9**	**-0.7**
ARU				IAmb	IAmb		08 28 28.2	
	comp=Z,7.7nm,1.0s							
ARU	**Arti**	**32.32**	**36***c*	*i*P		**P**	**08 28 16.5**	**-1.1**
ARU							08 29 19.7	
ARU							08 31 03.2	
ARU				S		**S**	**08 33 29.3**	**-0.7**
ARU				SS		**SnSn**	**08 35 18.2**	**-4.2**
ARU				pmax	pmax			
	comp=Z,8.0nm,1.0s							
SVE	**Sverdlovsk**	**33.52**	**37**	*e*P		**P**	**08 28 27.9**	**-0.2**
SVE				pmax	pmax			
	comp=Z,10.0nm,0.8s							
ARCES	**ARCESS Array B**	**35.13**	**1**	P		**P**	**08 28 40.4**	**-1.6**
	comp=Z,1.2nm,0.6s,baz=176,slow=8.5,SNR=9.9							
ARCES				LR		LR	08 43 59.7	
	comp=Z,101nm,21.1s,baz=203,slow=38							
	comp=Z,1.2nm,0.6s							
MBAR	**Mbarara**	**35.51**	**168**	LR		LR	08 45 03.8	
	comp=Z,112nm,18.4s,baz=346,slow=39							
SIMJ	**Simiganj**	**36.34**	**70**	P		**P**	**08 28 53.7**	**+0.8**
SIMJ				IAmb	IAmb		08 28 55.3	
	comp=Z,9.4nm,1.1s							
CHGR	**Chuyangaron**	**36.46**	**70**	P		**P**	**08 28 54.8**	**+0.9**
CHGR	**Chuyangaron**	**36.46**	**70**	P		**P**	**08 28 54.8**	**+0.9**
CHGR				pmax	pmax			
	comp=Z,20nm,0.8s							
KK31	**Karatay Array**	**37.08**	**62**	P		**P**	**08 28 59.9**	**+0.9**
KK31				IAmb	IAmb		08 29 02.6	
	comp=Z,4.9nm,0.8s							
KK31	**Karatay Array**	**37.08**	**62**	P		**P**	**08 28 59.9**	**+0.9**
KK31				pmax	pmax			
	comp=Z,5.0nm,0.8s							
KKAR	**Karatay Array**	**37.08**	**62**	P		**P**	**08 28 59.9**	**+0.9**
KKAR				IAmb	IAmb		08 29 02.6	
	comp=Z,4.9nm,0.8s							
KKAR	**Karatay Array**	**37.08**	**62**	P		**P**	**08 28 59.9**	**+0.9**
KKAR				pmax	pmax			
	comp=Z,5.0nm,0.8s							
GAR	**Garm**	**37.31**	**69**	P		**P**	**08 29 02.3**	**+1.2**
BTK	**Batken**	**37.56**	**67**	P		**P**	**08 29 04.0**	**+0.8**
BTK				IAmb	IAmb		08 29 05.0	
	comp=Z,3.7nm,0.7s							
BTK	**Batken**	**37.56**	**67**	P		**P**	**08 29 04.0**	**+0.8**
BTK				pmax	pmax			
	comp=Z,4.0nm,0.7s							
BRVK	**Borovoye**	**37.63**	**46**	P		**P**	**08 29 03.8**	**+0.3**
BRVK				IAmb	IAmb		08 29 13.3	
	comp=Z,3.4nm,0.8s							
BRVK	**Borovoye**	**37.63**	**46***ce*	P		**P**	**08 29 02.8**	**-0.7**
BRVK				pmax	pmax			
	comp=Z,3.0nm,1.0s							
BVAR	**Borovoye Array**	**37.69**	**46**	P		**P**	**08 29 03.7**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=264,slow=4.5,SNR=7.1							
	comp=Z,1.8nm,0.9s							
DBIC	**Dimbokro**	**38.21**	**230**	P		**P**	**08 29 08.2**	**-0.5**
	comp=Z,10nm,1.1s,baz=46,slow=5.6,SNR=3.5							
	comp=Z,10nm,1.1s							
ARSB	**Arslanbob**	**39.05**	**65**	P		**P**	**08 29 16.8**	**+1.0**
ARSB	**Arslanbob**	**39.05**	**65**	P		**P**	**08 29 16.8**	**+1.0**
ARSB				pmax	pmax			
	comp=Z,2.0nm,1.0s							
AAK	**Ala-Archa**	**40.03**	**63**	P		**P**	**08 29 24.9**	**+0.9**
AAK				IAmb	IAmb		08 29 42.7	
	comp=Z,7.2nm,1.1s							
AAK	**Ala-Archa**	**40.03**	**63***ce*	P		**P**	**08 29 24.3**	**+0.3**
AAK				pmax	pmax			
	comp=Z,13nm,2.5s							
NIL	**Nilore**	**40.72**	**77**	P		**P**	**08 29 31.2**	**+1.6**
NIL	**Nilore**	**40.72**	**77**	P		**P**	**08 29 31.2**	**+1.6**
NIL				pmax	pmax			
	comp=Z,16nm,0.7s							
NRN	**Naryn**	**41.29**	**64**	P		**P**	**08 29 35.9**	**+1.3**
NRN				IAmb	IAmb		08 29 37.5	
	comp=Z,7.8nm,0.8s							
NRN	**Naryn**	**41.29**	**64**	P		**P**	**08 29 35.9**	**+1.3**
NRN				pmax	pmax			
	comp=Z,8.0nm,0.8s							
KURBB	**Kurchatov Arra**	**42.48**	**50**	P		**P**	**08 29 43.3**	**-0.5**
	comp=Z,4.0nm,0.8s,baz=277,slow=9.5,SNR=4.1							
KURBB				LR		LR	08 50 44.3	
	comp=Z,74nm,18.7s,baz=176,slow=41							
	comp=Z,4.0nm,0.8s							
KURK	**Kurchatov**	**42.54**	**50**	P		**P**	**08 29 44.2**	**-0.1**
KURK				IAmb	IAmb		08 29 54.9	
	comp=Z,4.3nm,0.8s							
KURK	**Kurchatov**	**42.54**	**50***ce*	P		**P**	**08 29 43.8**	**-0.4**
KURK				pmax	pmax			
	comp=Z,7.0nm,1.3s							
SPITS	**Spitsbergen Ar**	**43.92**	**358**	P		**P**	**08 29 56.2**	**+1.1**
	comp=Z,4.4nm,0.8s,baz=161,slow=7.9,SNR=5.3							
	comp=Z,4.4nm,0.8s							
MAKZ	**Makanchi**	**44.94**	**56**	P		**P**	**08 30 04.0**	**+0.5**
MAKZ				IAmb	IAmb		08 30 05.0	
	comp=Z,3.2nm,0.8s							
MAKZ	**Makanchi**	**44.94**	**56**	P		**P**	**08 30 04.1**	**+0.5**
MAKZ				pmax	pmax			
	comp=Z,3.0nm,0.8s							
MK31	**Makanchi Array**	**45.15**	**56**	P		**P**	**08 30 06.0**	**+0.7**
MK31				IAmb	IAmb		08 30 08.3	
	comp=Z,5.5nm,0.8s							
MK31	**Makanchi Array**	**45.15**	**56***ce*	P		**P**	**08 30 05.5**	**+0.2**
MKAR	**Makanchi Array**	**45.15**	**56**	P		**P**	**08 30 06.2**	**+0.8**
MKAR	**Makanchi Array**	**45.15**	**56**	P		**P**	**08 30 05.9**	**+0.6**
	comp=Z,8.3nm,0.8s,baz=281,slow=6.6,SNR=75							
	comp=Z,8.3nm,0.8s							
ZALV	**Zalesovo Beam**	**46.34**	**46**	P		**P**	**08 30 14.6**	**+0.1**
ZALV	**Zalesovo Beam**	**46.34**	**46**	*i* P		**P**	**08 30 14.3**	**-0.3**
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ZALV	**Zalesovo Beam**	**46.34**	**46**	P		**P**	**08 30 14.2**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=270,slow=10,SNR=7.9							
	comp=Z,1.3nm,0.4s							
DGZ	**Jazzator, Alta**	**48.24**	**51**	*i* P		**P**	**08 30 29.3**	**-0.4**
DGZ				pmax	pmax			
	comp=Z,8.0nm,1.8s							
NRIK	**Noril'sk**	**49.01**	**25***ce*	P		**P**	**08 30 34.7**	**-0.3**
NRIK				pmax	pmax			
	comp=Z,3.0nm,1.1s							
NRIK	**Noril'sk**	**49.01**	**25**	P		**P**	**08 30 35.1**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=241,slow=3.8,SNR=5.5							
	comp=Z,2.2nm,0.8s							
WMQ	**Urumqi**	**49.38**	**59**	*e*P		**P**	**08 30 41.0**	**+2.6**
TSUM	**Tsumeb**	**53.69**	**187**	LR		LR	08 57 01.0	
	comp=Z,143nm,18.2s,baz=336,slow=39							
ZAK	**Zakamensk**	**58.09**	**48**	*e*P		**P**	**08 31 41.9**	**-0.2**
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.1s							
SONM	**Songino Array**	**60.84**	**50**	P		**P**	**08 32 01.1**	**0.0**
	comp=Z,1.1nm,0.5s,baz=280,slow=9.2,SNR=5.9							
	comp=Z,1.1nm,0.5s							
ULN	**Ulaanbaatar**	**61.25**	**50***ce*	P		**P**	**08 32 03.1**	**-0.8**
ULN				pmax	pmax			
	comp=Z,9.0nm,2.5s							
TIXI	**Tiksi**	**62.23**	**20**	*i* P		**P**	**08 32 09.6**	**-0.3**
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.8s							
TIXI	**Tiksi**	**62.23**	**20**	LR		LR	09 02 17.7	
	comp=Z,46nm,18.4s,baz=200,slow=39							
BOSA	**Boshof**	**62.76**	**178**	P		**P**	**08 32 12.4**	**-1.7**
	comp=Z,0.6nm,0.5s,baz=358,slow=11,SNR=1.5							
BOSA				LR		LR	09 02 31.5	
	comp=Z,131nm,19.8s,baz=24,slow=39							
	comp=Z,0.6nm,0.5s							
SCHQ	**Schefferville**	**62.93**	**319**	P		**P**	**08 32 14.8**	**-0.1**
	comp=Z,2.2nm,0.9s,baz=54,slow=8.7,SNR=2.3							
	comp=Z,2.2nm,0.9s							
PZH	**PanZhiHua**	**66.20**	**73**	P		**P**	**08 32 37.5**	**+0.6**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,100nm,4.7s							
SUR	**Sutherland**	**66.55**	**183**	LR		LR	09 06 24.4	
	comp=Z,146nm,19.7s,baz=341,slow=40							
HHC	**Hu-ho-hao-te**	**67.01**	**55**	*e*P		**P**	**08 32 42.7**	**+0.9**
HHC				pmax	pmax			
	comp=Z,14nm,0.7s							
HHC				pmax	pmax			
	comp=Z,76nm,5.3s							
CMAR	**Chiang Mai Arr**	**67.84**	**82**	*i* P		**P**	**08 32 47.5**	**+0.2**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**67.84**	**82**	P		**P**	**08 32 46.0**	**-1.2**
	comp=Z,1.2nm,0.3s,baz=284,slow=5.8,SNR=4.3							
CMAR				LR		LR	09 10 37.0	
	comp=Z,4.5nm,21.0s,baz=235,slow=43							
	comp=Z,1.2nm,0.3s							
CRAI	**Chiangrai**	**68.12**	**80**	P		**P**	**08 32 49.8**	**+0.7**
A36M	**Sachs Harbour**	**71.63**	**350**	P		**P**	**08 33 09.9**	**+0.2**
HEH	**HeiHe**	**72.16**	**41**	*e*P		**P**	**08 33 14.0**	**+0.7**
HEH				pmax	pmax			
	comp=Z,6.0nm,0.8s							
HEH				pmax	pmax			
	comp=Z,190nm,4.0s							
SEY	**Seymchan**	**74.64**	**22**	*i* P		**P**	**08 33 27.8**	**+0.1**
SEY				pmax	pmax			
	comp=Z,15nm,2.8s							
KLR	**Kul'dur**	**75.07**	**40***ce*	P		**P**	**08 33 29.3**	**-1.1**
KLR				pmax	pmax			
	comp=Z,5.0nm,1.7s							
INK	**Inuvik**	**76.13**	**351**	P		**P**	**08 33 35.6**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=6.8,slow=4.7,SNR=2.5							
	comp=Z,0.8nm,0.8s							
MA2	**Magadan**	**76.61**	**25***ce*	P		**P**	**08 33 38.2**	**-0.8**
MA2				pmax	pmax			
	comp=Z,15nm,2.5s							
YKA	**Yellowknife Ar**	**77.73**	**342**	P		**P**	**08 33 45.4**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=32,slow=5.4,SNR=6.6							
	comp=Z,0.4nm,0.7s							
USRK	**Ussuriysk Ar.**	**78.17**	**44**	P		**P**	**08 33 48.3**	**+0.3**
	comp=Z,3.2nm,0.7s,baz=262,slow=4.7,SNR=6.0							
	comp=Z,3.2nm,0.7s							
KSRS	**Korea Array**	**79.65**	**52**	P		**P**	**08 33 56.0**	**-0.2**
KSRS	**Korea Array**	**79.65**	**52**	P		**P**	**08 33 56.0**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=307,slow=4.9,SNR=8.3							
KSRS				LR		LR	09 14 06.7	
	comp=Z,20nm,18.7s,baz=300,slow=39							
	comp=Z,2.1nm,0.7s							
PDAR	**Pinedale Array**	**92.05**	**328**	LR		LR	09 18 20.0	
	comp=Z,24nm,18.7s,baz=6.5,slow=37							

*IDC **11** 08:22:48.4±4.2,9°.46S×117°.35E, h0km, mb3.8/2, mbtmp4.0/4, ML4.0/2, Error ellipse: s-maj=60.9km s-min=43.2km az=40.0*

*DJA **11** 08:22:56.0±0.4,9°.S±12°×11°.7E±°, h69km±10km, M4.3/11, mb4.5/5, mB5.2/2, MLv4.3/11, Mw(mB)4.5/2*

ISC 11 08:22:55.2±1.0,**9°.5S**±0°.1×**117°.35E**±0°.07,**h71**km,**n19,** σ1**9**/20,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.76**	**34**	P	**Pn**	**08 23 11.4**	**+0.5**
PLAI				S	**Sn**	**08 23 22.3**	**-0.1**
TWSI	**Taliwang, Sumb**	**0.85**	**327**	P	**Pn**	**08 23 12.5**	**+0.5**
TWSI				S	**Sn**	**08 23 24.0**	**-0.4**
SRBI	**Singaraja**	**2.52**	**303**	P	**Pn**	**08 23 33.2**	**-0.6**
BASI	**Baing, Sumba**	**3.27**	**104**	P	**Pn**	**08 23 46.1**	**+2.0**
JAGI	**Jajag, Banyuwa**	**3.31**	**287**	P	**Pn**	**08 23 44.8**	**+0.2**
GMJI	**Gumukmas**	**4.03**	**287**	P	**Pn**	**08 23 54.4**	**-0.1**
BLJI	**Banyuglugur**	**4.08**	**294**	P	**Pn**	**08 23 55.1**	**-0.1**
EDFI	**Ende, Flores**	**4.35**	**81**	P	**Pn**	**08 23 58.7**	**-0.2**
GRJI	**Gresik**	**5.44**	**297**	P	**Pn**	**08 24 14.3**	**+0.5**
	84nm,0.8s,0.4nm						
PWJI	**Pagerwojo**	**5.66**	**284**	P	**Pn**	**08 24 16.7**	**-0.1**
	21nm,0.6s,917nm0.2nm						
BATI	**Baumata**	**6.27**	**97**	Pn	**Pn**	**08 24 22.9**	**-2.2**
	4.9nm,0.3s,baz=282,slow=20,SNR=2.0						
BATI				Sn	**Sn**	**08 25 35.0**	**-0.4**
	6.6nm,0.3s,baz=36,slow=22,SNR=5.5						
	23nm,0.4s						
UGM	**Wanagama**	**6.92**	**282**	P	**Pn**	**08 24 34.5**	**+0.5**
	44nm,1.3s,0.3nm						
CMJI	**Cimerak**	**8.96**	**280**	P	**Pn**	**08 25 01.4**	**-0.4**
WRA	**Warramunga Arr**	**19.44**	**124**	P	**P**	**08 27 17.0**	**+0.9**
	0.4nm,0.3s,baz=302,slow=12,SNR=7.5						
WRA				S	**S**	**08 30 50.0**	**-2.3**
	0.3nm,0.4s,baz=232,slow=29,SNR=5.1						
	1.7nm,0.6s						
ASAR	**Alice Springs**	**21.21**	**134**	P	**P**	**08 27 36.9**	**+1.6**
	1.4nm,0.5s,baz=310,slow=10.0,SNR=13						
ASAR				S	Sn	08 31 33.8	-4.5
	1.0nm,0.7s,baz=312,slow=24,SNR=5.5						
	1.4nm,0.5s						
STKA	**Stephens Creek**	**31.66**	**138**	P	**P**	**08 29 12.5**	**+0.6**
	0.8nm,0.4s,baz=287,slow=11,SNR=1.5						
	0.8nm,0.4s						
H08S2	**Diego Garcia H**	**44.37**	**269**	T	T	09 18 16.1	
	baz=98						
H08S3	**Diego Garcia H**	**44.38**	**269**	T	T	09 18 14.9	
	baz=98						
H08S1	**Diego Garcia H**	**44.39**	**269**	T	T	09 18 18.2	
	baz=98						

*IDC **11** 08:32:37.4±1.7,53°.35N×164°.53W, h0km, mb3.8/10, mbtmp3.8/12, ML3.1/2, MS3.3/4, Error ellipse: s-maj=39.2km s-min=21.1km az=175.0*

*NEIC **11** 08:32:38.4±1.4,53°.27N±0°.04×164°.14W±0°.08, h10km±2km, mb3.6/11, ML3.3/6, ML3.4(AEIC), Error ellipse: s-maj=9.0km s-min=3.8km az=125.0*

*AEIC **11** 08:32:39.6±1.5,53°.29N±0°.06×164°.16W±0°.08, h16km±6km, Error ellipse: s-maj=9.3km s-min=6.1km az=153.0*

ISC 11 08:32:39.3±2.3,**53°.33N**±0°.08×**164°.16W**±0°.04, **h14**km±13km,**n101,** σ1**9**22/101,**mb4.0**/10,**MS3.4**/4,**Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.17**	**348**		**Pb**	**08 33 01.0**	**-0.4**
AKSA	**Akutan Strait**	**1.22**	**312**		**Pn**	**08 33 01.6**	**-0.3**
AKSA					**Sb**	**08 33 18.1**	**+0.4**
AKSA	**Akutan Strait**	**1.22**	**312**		**Pn**	**08 33 01.2**	**-0.7**
AKSA					**Sn**	**08 33 18.6**	**+0.4**
AKUT	**Akutan**	**1.25**	**311**		**Pn**	**08 33 02.1**	**-0.2**
AKUT					**Sg**	**08 33 19.5**	**-0.3**
AKUT				IAML		08 33 20.0	
	comp=N,515nm,0.5s						
AKUT				IAML		08 33 25.4	
	comp=E,679nm,0.6s						
WECS	**Westdahl Cape**	**1.26**	**343**		**Pn**	**08 33 02.6**	**+0.1**
WECS					**Sg**	**08 33 20.1**	**+0.1**
AHB	**Akutan Harbor**	**1.26**	**309**		**Pn**	**08 33 02.3**	**-0.2**
AKBBA	**Akutan Broad B**	**1.30**	**307**		**Pb**	**08 33 03.2**	**-0.4**
WEBT	**Westdahl Beart**	**1.31**	**345**		**Pn**	**08 33 03.2**	**+0.1**
ZRO	**Akutan Zero**	**1.32**	**306**		**Pn**	**08 33 03.2**	**-0.2**
SSLS	**Shishaldin Sou**	**1.39**	**4**		**Pn**	**08 33 04.3**	**0.0**
AKRB	**Akutan Reef Bi**	**1.39**	**306**		**Pn**	**08 33 04.2**	**0.0**
AKRB					**Sg**	**08 33 24.1**	**-0.1**
LVA	**Lava Point**	**1.39**	**308**		**Pn**	**08 33 04.1**	**-0.1**
LVA					**Sg**	**08 33 23.8**	**-0.4**
ISLZ	**Isanotski Laza**	**1.42**	**11**		**Pn**	**08 33 04.5**	**-0.2**
UNV	**Unalaska Valle**	**1.49**	**291**		**Pn**	**08 33 05.4**	**-0.2**
UNV	**Unalaska Valle**	**1.49**	**291**	P	**Pn**	**08 33 04.9**	**-0.7**
	baz=111						
ISNN	**Isanotski Nort**	**1.52**	**8**		**Pb**	**08 33 07.0**	**-0.3**
ISNN					**Sg**	**08 33 28.0**	**-0.3**
FALS	**False Pass**	**1.59**	**16**		**Pn**	**08 33 07.7**	**+0.8**
FALS	**False Pass**	**1.59**	**16**	P	**Pn**	**08 33 07.6**	**+0.6**
	baz=196						
MNAT	**Makushin Natee**	**1.60**	**291**		**Pn**	**08 33 07.2**	**0.0**
MSW	**Makushin Switc**	**1.67**	**292**		**Pn**	**08 33 08.1**	**0.0**
MGOD	**Makushin Gods**	**1.68**	**287**		**Pn**	**08 33 08.2**	**-0.1**
MGOD					**Sn**	**08 33 30.1**	**+0.4**
MAPS	**Pakushin South**	**1.73**	**287**		**Pn**	**08 33 09.0**	**+0.1**
OKFG	**Magazine Ridge**	**2.25**	**274**		**Pn**	**08 33 16.0**	**-0.1**
OKER	**Okmok East Rim**	**2.33**	**275**		**Pn**	**08 33 17.6**	**+0.3**
HAG	**Hague Volcano**	**2.39**	**33**		**Pn**	**08 33 19.6**	**+1.6**
PS4A	**Pavlof South-4**	**2.43**	**33**		**Pn**	**08 33 20.1**	**+1.6**
PS1A	**Pavlof South-1**	**2.53**	**33**		**Pn**	**08 33 21.7**	**+1.8**
**NI

G31M **Satah River** **19.89** **35** P **P** 08 37 07.9 **-1.9**
G31M IAmb IAmb 08 37 18.0
comp=Z,3.4nm,1.0s
F31M **Tsiigehtchic** **20.32** **34** P **P** **08 37 13.9 -0.6**
INK **Inuvik** **20.82** **32** P **P** **08 37 19.8 -0.1**
INK IAmb IAmb 08 37 24.5
comp=Z,2.3nm,0.7s
INK **Inuvik** **20.82** **32** P Pn 08 37 22.1 -0.3
comp=Z,1.9nm,0.5s,baz=232,slow=7.5,SNR=6.1
INK LR LR 08 46 58.0
comp=Z,49nm,18.5s,baz=228,slow=41
comp=Z,1.9nm,0.5s
C36M **Paulatuk** **24.37** **34** P **P** **08 37 56.7 +0.3**
C36M IAmb IAmb 08 37 58.0
comp=Z,2.3nm,0.6s
A36M **Sachs Harbour** **25.09** **27** P **P** **08 38 01.4 -1.5**
RADR **Rader Ridge** **26.62** **89** P **P** **08 38 16.0 -1.1**
YKA **Yellowknife Ar** **27.21** **51** P **P** **08 38 24.2 +2.0**
comp=Z,0.3nm,0.8s,baz=277,slow=9.5,SNR=5.6
comp=Z,0.3nm,0.8s
H11N2 **WAKE ISLAND Hy** **40.27** **225** T T 09 23 35.2
baz=26,slow=76,SNR=18
H11N3 **WAKE ISLAND Hy** **40.28** **225** T T 09 23 39.8
baz=26,slow=76,SNR=16
H11N1 **WAKE ISLAND Hy** **40.29** **225** T T 09 23 41.6
baz=26,slow=76,SNR=14
H11S1 **WAKE ISLAND Hy** **41.45** **224** T T 09 24 49.2
baz=25,slow=76,SNR=22
H11S2 **WAKE ISLAND Hy** **41.46** **224** T T 09 24 50.4
baz=25,slow=76,SNR=25
H11S3 **WAKE ISLAND Hy** **41.46** **224** T T 09 24 50.5
baz=25,slow=76,SNR=18
JHJ **Hachijo jima 2** **44.26** **266** LR LR 08 56 40.7
comp=Z,36nm,21.9s,baz=112,slow=33
TXAR **Lajitas Array** **49.61** **94** P **P** **08 41 32.1 +2.0**
comp=Z,0.6nm,0.9s,baz=298,slow=5.9,SNR=7.7
comp=Z,0.6nm,0.9s
SONM **Songino Array** **53.47** **303** P **P** **08 41 57.5 -1.3**
comp=Z,0.6nm,0.5s,baz=53,slow=7.1,SNR=4.3
comp=Z,0.6nm,0.5s
ARCES **ARCESS Array B** **57.24** **356** P **P** **08 42 24.3 -1.2**
comp=Z,5.4nm,1.0s,baz=19,slow=8.7,SNR=1.8
comp=Z,5.4nm,1.0s
BVAR **Borovoye Array** **64.69** **327** P **P** **08 43 16.5 +0.2**
comp=Z,1.4nm,0.7s,baz=46,slow=8.5,SNR=7.4
comp=Z,1.4nm,0.7s
FINES **FINESS Array B** **65.28** **355** P **P** **08 43 19.5 -0.5**
comp=Z,1.2nm,0.9s,baz=28,slow=8.6,SNR=5.1
comp=Z,1.2nm,0.9s
MKAR **Makanchi Array** **65.37** **316** P **P** **08 43 20.2 -0.7**
comp=Z,0.4nm,0.5s,baz=40,slow=7.6,SNR=5.7
comp=Z,0.4nm,0.5s
EKA **Eskdalemuir Ar** **70.57** **11** P **P** **08 43 53.9 +0.6**
comp=Z,1.7nm,0.8s,baz=312,slow=8.8,SNR=3.6
comp=Z,1.7nm,0.8s
KBZ **Khabaz** **80.56** **340** LR LR 09 24 44.2
comp=Z,20nm,18.5s,baz=211,slow=39
GNI **Garni** **83.60** **338** LR LR 09 29 27.2
comp=Z,21nm,18.5s,baz=252,slow=41
BRTR **Keskin Array B** **86.05** **346** P **P** **08 45 20.1 +0.7**
comp=Z,0.8nm,0.7s,baz=16,slow=2.7,SNR=3.9
comp=Z,0.8nm,0.7s

*IDC **11** 08:34:37.9±0.9,6°.38S×143°.52E, h0km, mb4.0/9, mbtmp4.0/11, ML1.9/1, Error ellipse: s-maj=38.8km s-min=22.3km az=79.0*
ISC 11 08:34:42.8±0.7, **6°.5S**±0°.1×**143°.5E**±0°.1, **h35**km, **n13,** σ1§**14**/**14**, **mb4.0/9, New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.66**	**129**	Pn		**Pn**	**Pn**	**08 35 51.8**	**+1.1**
	3.5nm,0.3s,baz=337,slow=7.9,SNR=7.0								
PMG				Sn		**Sn**	**Sn**	**08 36 42.4**	**-1.1**
	2.2nm,0.3s,baz=256,slow=17,SNR=1.3								
	8.2nm,0.4s								
WRA	**Warramunga Arr**	**16.03**	**213**	Pn		**Pn**	**Pn**	**08 38 23.7**	**-2.1**
	0.5nm,0.3s,baz=20,slow=13,SNR=29								
WRA				Sn		Sn	Sn	08 41 13.0	-10
	0.4nm,0.3s,baz=33,slow=22,SNR=3.4								
WRA				Lg		Lg	Lg	08 43 03.6	
	0.2nm,0.3s,baz=32,slow=30,SNR=4.7								
ASAR	**Alice Springs**	**19.38**	**207**	P		**P**	**P**	**08 39 07.9**	**+2.0**
	3.6nm,0.7s,baz=35,slow=10,SNR=34								
ASAR				Lg		Lg	Lg	08 44 53.6	
	0.1nm,0.3s,baz=22,slow=30,SNR=2.4								
KSRS	**Korea Array**	**46.08**	**343**	P		**P**	**P**	**08 43 04.1**	**+0.7**
	1.4nm,0.7s,baz=160,slow=9.2,SNR=7.2								
	1.4nm,0.7s								
PETK	**Petropavlovsk-**	**60.60**	**10**	P		**P**	**P**	**08 44 49.5**	**-0.4**
	3.3nm,0.8s,baz=216,slow=7.1,SNR=2.9								
	3.3nm,0.8s								
SONM	**Songino Array**	**63.19**	**333**	P		**P**	**P**	**08 45 07.3**	**-0.3**
	0.3nm,0.5s,baz=141,slow=5.5,SNR=2.1								
	0.3nm,0.5s								
MKAR	**Makanchi Array**	**75.68**	**322**	P		**P**	**P**	**08 46 25.5**	**+0.8**
	1.4nm,0.8s,baz=106,slow=6.1,SNR=10								
	1.4nm,0.8s								
ZALV	**Zalesovo Beam**	**77.60**	**329**	P		**P**	**P**	**08 46 35.0**	**-0.3**
	1.0nm,0.7s,baz=116,slow=5.3,SNR=2.3								
	1.0nm,0.7s								
KURBB	**Kurchatov Arra**	**79.55**	**324**	P		**P**	**P**	**08 46 45.4**	**-0.7**
	0.5nm,0.7s,baz=122,slow=3.7,SNR=4.2								
	0.5nm,0.7s								
QSPA	**South Pole Qui**	**83.47**	**180**	P		**P**	**P**	**08 47 06.8**	**0.0**
	1.6nm,0.8s,baz=192,slow=18,SNR=2.5								
	1.6nm,0.8s								
BVAR	**Borovoye Array**	**85.12**	**325**	P		**P**	**P**	**08 47 15.8**	**+0.6**
	1.3nm,0.7s,baz=106,slow=4.8,SNR=5.8								
	1.3nm,0.7s								
ILAR	**Eielson Array**	**87.34**	**24**	P		**P**	**P**	**08 47 25.1**	**-0.8**
	0.9nm,0.8s,baz=254,slow=4.1,SNR=7.3								
	0.9nm,0.8s								
DBIC	**Dimbokro**	**148.54**	**272**	PKPbc		**PKPbc**	**PKPbc**	**08 54 27.6**	**+0.5**
	3.7nm,0.9s,baz=121,slow=3.1,SNR=3.5								

WEL 11 08:58:31.2,38°S±3°×**17°6E**±°, **h10**km±4km, **M3.4**/18, **ML3.6**/18, **MLv3.4**/18, **Error ellipse: s-maj=0.0km s-min=0.0km az=173.6, North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KARZ	**Kaharoa**	**0.30**	**112**	P		P	Pb	08 58 38.1	-0.7
KARZ				S		S	Sg	08 58 41.9	+0.6
NGRZ	**Ngongotaha**	**0.30**	**130**	P		P	Pb	08 58 38.3	-0.5
NGRZ				S		S	Sb	08 58 42.8	-1.0
TGRZ	**Tauranga**	**0.34**	**59**	P		P	Pb	08 58 39.0	-0.4
TGRZ				S		S	Sg	08 58 43.5	+0.9
TOZ	**Tahuroa Road**	**0.36**	**300**	P		P	Pb	08 58 39.1	-0.5
TOZ				S		S	Sb	08 58 44.3	-1.0
UTU	**Utuhina**	**0.36**	**138**	P		P	Pb	08 58 39.4	-0.3
UTU				S		S	Sb	08 58 44.5	-0.9
TACG	**Te Aroha Colle**	**0.40**	**337**	P		P	Pg	08 58 39.2	+0.1
LIRZ	**Lichensteins R**	**0.40**	**104**	P		P	Pb	08 58 40.1	-0.3
LIRZ				S		S	Sb	08 58 45.9	-0.7
OMRZ	**Omania**	**0.43**	**118**	P		P	Pb	08 58 40.5	-0.4
OMRZ				S		S	Sb	08 58 46.4	-1.0
GRRZ	**Galatos Road**	**0.47**	**159**	P		P	Pb	08 58 41.3	-0.4
GRRZ				S		S	Sb	08 58 48.2	-0.6
HSRZ	**Hossack Road**	**0.49**	**145**	P		P	Pb	08 58 41.7	-0.2
HSRZ				S		S	Sb	08 58 48.5	-0.7
HLRZ	**Highlands Stat**	**0.50**	**133**	P		P	Pb	08 58 42.2	+0.1
TLZ	**Tolley Road**	**0.50**	**213**	P		P	Pg	08 58 41.3	+0.2
TLZ				S		S	Sg	08 58 48.5	+0.7
MKRZ	**Makatiti**	**0.51**	**117**	P		P	Pb	08 58 42.5	+0.1
MKRZ				S		S	Sb	08 58 49.7	-0.1
HRRZ	**Handcock Road**	**0.57**	**147**	P		P	Pb	08 58 43.2	-0.1
KUTZ	**Kaahu Road**	**0.58**	**185**	P		P	Pb	08 58 43.2	-0.3
TARZ	**Mount Tarawera**	**0.58**	**124**	P		P	Pb	08 58 44.2	+0.5
MARZ	**Manawahe**	**0.62**	**97**	P		P	Pb	08 58 44.4	+0.1
PRRZ	**Plateau Road**	**0.71**	**146**	P		P	Pb	08 58 45.8	0.0
WHTZ	**Whakaora**	**0.76**	**176**	P		P	Pn	08 58 47.4	-0.7
WATZ	**Wairara**	**0.81**	**189**	P		P	Pb	08 58 47.3	-0.1
MKAZ	**Moumakai**	**0.99**	**324**	P		P	Pb	08 58 50.6	+0.1
HIZ	**Hauiti**	**1.01**	**233**	P		P	Pg	08 58 50.6	-0.1
URZ	**Urewera**	**1.02**	**110**	P		P	Pg	08 58 50.7	-0.2

IDC 11 09:11:11.4±27.0, **7°.24S**×**120°.45E**, **h389**km±318km, **mb2.4/2, mbtmp3.2/3, Error ellipse: s-maj=372.0km s-min=54.3km az=65.0, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.47**	**135**	P		P	P	09 15 01.6	+0.1
	0.3nm,0.4s,baz=312,slow=9.8,SNR=6.6								
ASAR	**Alice Springs**	**20.82**	**143**	P		P	P	09 15 24.2	0.0
	0.2nm,0.5s,baz=321,slow=8.7,SNR=6.5								
	0.2nm,0.5s								
MKAR	**Makanchi Array**	**63.58**	**332**	P		P	P	09 21 02.1	0.0
	0.3nm,0.7s,baz=147,slow=8.0,SNR=2.7								
	0.3nm,0.7s								

*RSNC **11** 09:28:15.8±0.0, 7°.1N×1°.7W, h145km±2km, mb3.9, mB4.5, ML3.0, Mw(mB)3.7*
*IDC **11** 09:28:17.0±3.0, 6°.59N×73°.49W, h185km±24km, mb2.7/2, mbtmp3.2/2, Error ellipse: s-maj=55.6km s-min=31.0km az=70.0*
ISC 11 09:28:13.8±0.9, **6°.83N**±0°.03×**73°.10W**±0°.05, **h152**km±6km, **n37,** σ1§**12**/**62, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**200**	P		P	**Pn**	**09 28 34.9**	**+0.2**
BARC				S		S	**Sn**	**09 28 50.2**	**-0.4**
PAMC	**Pamplona, Colo**	**0.65**	**38**	P		P	**Pn**	**09 28 37.6**	**+0.8**
PAMC				S		S	**Sn**	**09 28 54.9**	**+0.7**
RUSC	**La Rusia**	**0.93**	**179**	P		P	**Pn**	**09 28 38.7**	**-0.1**
RUSC				S		S	**Sn**	**09 28 57.4**	**-0.3**
PTBC	**PUERTO BERRIO,**	**1.38**	**258**	P		P	**Pn**	**09 28 41.5**	**-0.8**
PTBC				S		S	**Sn**	**09 29 03.1**	**-0.9**
OCAC	**Ocana**	**1.42**	**351**	P		P	**Pn**	**09 28 43.3**	**+0.4**
OCAC				S		S	**Sn**	**09 29 05.3**	**+0.1**
SPBC	**San Pablo de B**	**1.52**	**220**	P		P	**Pn**	**09 28 43.6**	**-0.2**
SPBC				S		S	**Sn**	**09 29 05.8**	**-0.9**
ZARC	**Zaragoza, Cauc**	**1.87**	**291**	P		P	**Pn**	**09 28 47.4**	**-0.2**
ZARC				S		S	**Sn**	**09 29 12.8**	**-0.6**
NORC	**Norcasia**	**2.16**	**235**	P		P	**Pn**	**09 28 50.6**	**-0.4**
NORC				S		S	**Sn**	**09 29 19.0**	**-0.6**
ROSC	**El Rosal**	**2.32**	**212**	P		P	**Pn**	**09 28 54.8**	**+1.6**
	91nm,0.3s,baz=300,slow=21,SNR=49								
ROSC				S		S	**Sn**	**09 29 22.9**	**-0.6**
	182nm,0.5s,baz=22,slow=23,SNR=19								
ROSC	**El Rosal**	**2.32**	**212**	P		P	**Pn**	**09 28 54.1**	**+0.9**
ROSC				S		S	**Sn**	**09 29 23.5**	**0.0**
HELC	**Santa Helena**	**2.50**	**256**	P		P	**Pn**	**09 28 56.0**	**+0.6**
HELC				S		S	**Sn**	**09 29 27.7**	**+0.4**
GUY2C	**Guyana, Caldas**	**2.76**	**235**	P		P	**Pn**	**09 28 59.2**	**+0.5**
GUY2C				S		S	**Sn**	**09 29 33.1**	**-0.2**
VILC	**Villavicencio,**	**2.76**	**192**	P		P	**Pn**	**09 28 58.0**	**-0.4**
VILC				S		S	**Sn**	**09 29 32.1**	**-0.8**
PTGC	**Puerto Gaitan,**	**2.78**	**160**	P		P	**Pn**	**09 28 57.7**	**-0.8**
PTGC				S		S	**Sn**	**09 29 30.7**	**-2.4**
LL6C	**La Loma 6 Bece**	**2.90**	**357**	P		P	**Pn**	**09 28 59.4**	**-0.6**
LL6C				S		S	**Sn**	**09 29 35.3**	**-0.4**
DBBC	**Dabeiba**	**3.10**	**274**	P		P	**Pn**	**09 29 02.5**	**-0.1**
DBBC				S		S	**Sn**	**09 29 37.6**	**-2.6**
ARGC	**Ariguani, Magd**	**3.22**	**339**	P		P	**Pn**	**09 29 05.7**	**+1.6**
ARGC				S		S	**Sn**	**09 29 44.4**	**+1.3**
ANIL	**Santa Ana**	**3.26**	**225**	P		P	**Pn**	**09 29 05.5**	**+0.6**
ANIL				S		S	**Sn**	**09 29 44.4**	**0.0**
ORTC	**Ortega, Tolima**	**3.60**	**217**	P		P	**Pn**	**09 29 09.1**	**+0.1**
ORTC				S		S	**Sn**	**09 29 51.8**	**-0.1**
APAC	**Apartado, Choc**	**3.62**	**287**	P		P	**Pn**	**09 29 08.7**	**-0.5**
APAC				S		S	**Sn**	**09 29 50.9**	**-1.2**
SJCC	**San Jacinto, C**	**3.68**	**326**	P		P	**Pn**	**09 29 08.8**	**-1.3**
SJCC				S		S	**Sn**	**09 29 50.9**	**-2.9**
PLMC	**San Jos del P**	**3.70**	**239**	P		P	**Pn**	**09 29 10.4**	**+0.1**
PLMC				S		S	**Sn**	**09 29 54.5**	**+0.4**
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	P		P	**Pn**	**09 29 15.0**	**-1.5**
CRJC				S		S	**Sn**	**09 30 03.0**	**-2.3**
YOTC	**Yotoco, Valle**	**4.29**	**229**	P		P	**Pn**	**09 29 17.3**	**-0.8**
PIZC	**Pizarro, Choco**	**4.62**	**247**	P		P	**Pn**	**09 29 23.3**	**+0.9**
PTAC	**Punta Ardita,**	**4.69**	**274**	P		P	**Pn**	**09 29 21.9**	**-1.3**
MACC	**Macarena, Meta**	**4.71**	**189**	P		P	**Pn**	**09 29 21.6**	**-1.9**
JAMC	**Jamundi, Valle**	**5.05**	**225**	P		P	**Pn**	**09 29 28.6**	**+0.3**
	8.3nm,0.6s								
MALC	**Bahia Malaga**	**5.06**	**237**	P		P	**Pn**	**09 29 29.1**	**+1.0**
GARC	**Garzon, Huila**	**5.19**	**208**	P		P	**Pn**	**09 29 28.5**	**-1.6**
POPC	**Popayan, Colom**	**5.55**	**220**	P		P	**Pn**	**09 29 34.8**	**-0.1**
	7.2nm,0.7s								
POPC				S		S	**Sn**	**09 30 38.1**	**-0.1**
	7.2nm,0.7s								
FLOC	**Florencia**	**5.80**	**206**	P		P	**Pn**	**09 29 37.2**	**-0.7**
	15nm,0.7s,351nm								
FLOC				S		S	**Sn**	**09 30 43.3**	**-0.4**
	15nm,0.7s,351nm								
BBAC	**Balboa, Cauca**	**6.31**	**221**	P		P	**Pn**	**09 29 45.8**	**+0.8**
TXAR	**Lajitas Array**	**36.48**	**312**	P		P	**P**	**09 35 04.6**	**0.0**
	0.2nm,0.6s,baz=130,slow=10,SNR=3.8								
	0.2nm,0.6s								
YKA	**Yellowknife Ar**	**63.27**	**340**	P		P	**P**	**09 38 25.2**	**-0.8**
	0.2nm,0.7s,baz=118,slow=8.4,SNR=4.7								
	0.2nm,0.7s								
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc		**PKPdf**	**PKPdf**	**09 47 42.7**	**+1.8**
	0.2nm,0.6s,baz=121,slow=3.3,SNR=4.4								
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc		**PKPdf**	**PKPdf**	**09 47 45.9**	**+3.1**
	0.2nm,0.4s,baz=107,slow=3.0,SNR=1.4								

*IDC **11** 09:48:56.1±2.1, 34°.76N×45°.22E, h0km, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=45.4km s-min=26.0km az=165.0*
*TEH **11** 09:48:57.3, 34°.62N×45°.42E, h8km±45km, ML3.7*
*ISN **11** 09:49:00.5±1.5, 34°.55N×45°.51E, h21km±10km, ML3.6*
*AFAD **11** 09:49:18.0±0.0, 35°.59N×45°.77E, h35km, ML3.5*
ISC 11 09:48:56.9±1.2, **34°.66N**±0°.03×**45°.34E**±0°.03, **h9**km±9km, **n33,** σ1§**42**/**42, mb3.7**/8, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.26**	**127**	Pg		Pg	**Pg**	**09 49 02.0**	**-0.1**
IDHR	**Dehrash**	**0.86**	**87**	Pg		Pg	**Pg**	**09 49 12.3**	**-1.3**
IGHG	**Ghaleghazi**	**1.06**	**108**	Pg		Pg	**Pg**	**09 49 16.3**	**-1.1**
IGHG				Sg		Sg	**Sg**	**09 49 31.7**	**+0.4**
ILBA	**Ilam Banvizeh**	**1.26**	**145**	Pg		Pg	**Pg**	**09 49 19.5**	**-1.6**
ILBA				Sg		Sb	**Sb**	**09 49 38.1**	**+0.8**
ILIN	**Lien**	**1.36**	**79**	Pg		Pg	**Pg**	**09 49 22.1**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.45**	**105**	Pg		Pn	**Pn**	**09 49 24.0**	**+0.4**
SDS1	**Sardasht. Az.**	**1.49**	**4**	Pg		Pg	**Pg**	**09 49 26.7**	**+1.1**
BHD	**Baghdad**	**1.60**	**210**	*e*Pg		Pg	**Pg**	**09 49 28.0**	**+0.3**
BHD				*e*Sg		Sg	**Sg**	**09 49 50.0**	**+1.6**
BHD				*i* AML		AML	AML	09 49 51.7	
	comp=E,2μm,0.4s								
IBDR	**Badra**	**1.62**	**162**	*e*Pg		Pg	**Pg**	**09 49 28.0**	**-0.1**
IBDR				*e*Sg		Sg	**Sn**	**09 49 46.0**	**-0.8**
IBDR				*i* AML		AML	AML	09 50 04.6	
	comp=N,603nm,0.4s								
IBZA	**Bozab**	**2.09**	**95**	Pn		Pn	**Pn**	**09 49 33.6**	**+1.2**
MAHB	**Mahabad**	**2.12**	**8**	Pn		Pb	**Pb**	**09 49 36.0**	**+0.3**
IKFM	**Kafar-mosalman**	**2.37**	**118**	Pn		Pn	**Pn**	**09 49 37.0**	**+1.0**
IDOB	**Doab**	**2.50**	**110**	Pn		Pn	**Pn**	**09 49 38.7**	**+0.6**
CUKT	**Cukurca**	**2.94**	**332**	P		P	**Pg**	**09 49 54.4**	**+1.1**
CUKT				S		S	**Sb**	**09 50 24.9**	**-0.8**
CUKT				*i* AML		AML	AML	09 50 47.0	
	comp=N,199nm,0.9s								
CUKT				*i* AML		AML	AML	09 50 47.0	
	comp=N,273nm,0.6s								
RAFI	**Al-Rafai**	**3.00**	**167**	*e*Pn		Pn	**Pn**	**09 49 47.0**	**+2.3**
RAFI				*e*Sn		Sn	**Sn**	**09 50 21.0**	**+0.2**
YOVA	**Hakkari_Yksek**	**3.04**	**344**	P		Pg	**Pg**	**09 49 54.4**	**-0.9**
YOVA				S		S	**Sn**	**09 50 22.6**	**+0.4**
IHSH	**Hashtrud**	**3.06**	**30**	Pn		Pn	**Pn**	**09 49 48.6**	**+2.8**
HAKT	**HAKKARI**	**3.18**	**336**	P		P	**Pb**	**09 49 51.8**	**-2.0**
HAKT				S		S	**Sn**	**09 50 25.6**	**0.0**
SIRN	**Sirnak**	**3.69**	**321**	P		P	**Pg**	**09 50 08.3**	**+0.7**
SIRN				S		S	**Sb**	**09 50 46.2**	**-1.1**
SIRN				*i* AML		AML	AML	09 51 16.0	
	comp=N,120nm,0.8s								
IRAZ	**Razeghan**	**3.83**	**78**	Pn		Pn	**Pn**	**09 49 58.3**	**+1.9**
IHRS	**Heris**	**3.90**	**20**	Pn		Pn	**Pn**	**09 50 00.1**	**+2.8**
MARD	**Mardin**	**4.55**	**307**	P		Pg	**Pg**	**09 50 22.2**	**-1.9**
MARD				*i* AML		AML	AML	09 51 45.0	
	comp=N,85nm,0.6s								
MARD				*i* AML		AML	AML	09 51 45.0	
	comp=N,77nm,0.9s								
SVAN	**Silvan-Diyarba**	**4.83**	**317**	P		P	**Pg**	**09 50 25.8**	**-3.6**
QAMS	**Qamsar**	**5.10**	**99**	Pn		Pn	**Pn**	**09 50 14.9**	**+1.1**
IZEF	**Zefreh**	**6.08**	**105**	Pn		Pn	**Pn**	**09 50 28.4**	**+1.1**
BVAR	**Borovoye Array**	**25.54**	**36**	P		P	**P**	**09 54 27.7**	**+1.9**
	comp=N,0.9nm,0.7s,baz=251,slow=4.4,SNR=3.9								
	comp=N,0.9nm,0.7s								
KURBB	**Kurchatov Arra**	**28.86**	**46**	P		P	**P**	**09 54 56.0**	**+0.4**
	comp=N,0.5nm,0.2s,baz=254,slow=8.5,SNR=1.1								
	comp=N,0.5nm,0.2s								
FINES	**FINESS Array B**	**29.49**	**341**	P		P	**P**	**09 54 59.1**	**-2.1**
	comp=N,1.5nm,0.9s,baz=147,slow=11,SNR=4.5								
	comp=N,1.5nm,0.9s								
MKAR	**Makanchi Array**	**30.23**	**55**	P		P	**P**	**09 55 07.6**	**-0.4**
	comp=N,0.4nm,0.8s,baz=258,slow=7.1,SNR=3.9								
	comp=N,0.4nm,0.8s								
HFS	**Hagfors**	**32.72**	**331**	P		P	**P**	**09 55 29.6**	**0.0**
	comp=N,1.5nm,0.6s,baz=116,slow=10,SNR=8.6								
	comp=N,1.5nm,0.6s								
NOA	**NORSAR Array B**	**34.24**	**331**	P		P	**P**	**09 55 41.8**	**-1.1**
	comp=N,0.7nm,0.8s,baz=129,slow=8.5,SNR=1.7								
	comp=N,0.7nm,0.8s								
TORD	**Torodi Ar. Bea**	**44.85**	**252**	P		P	**P**	**09 57 11.7**	**0.0**
	comp=N,0.3nm,0.6s,baz=68,slow=9.5,SNR=1.8								
	comp=N,0.3nm,0.6s								
SPITS	**Spitsbergen Ar**	**45.36**	**352**	P		P	**P**	**09 57 15.0**	**-0.1**
	comp=N,4.6nm,0.9s,baz=143,slow=8.4,SNR=1.2								
	comp=N,4.6nm,0.9s								

*IDC **11** 09:50:09.2±1.9, 46°.62N×152°.62E, h0km, mb3.5/9, mbtmp3.5/10, ML2.2/1, MS2.6/1, Error ellipse: s-maj=51.4km s-min=24.2km az=164.0*
*SKHL **11** 09:50:19.8±0.6, 47°.10N×153°.00E, h90km±2km, mb4.5/4, msha5.3/4*
ISC 11 09:50:22.2±1.6, **47°.2N**±0°.2×**152°.7E**±0°.2, **h100**km, **n22,** σ2§**78**/**17, mb3.5/8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.87**	**242**	*e*P		**Pn**	**Pn**	**09 51 19.1**	**-0.4**
KUR						AMB	AMB	09 51 21.5	
	20nm,0.4s								
KUR				*e*S		**Sn**	**Sn**	**09 52 03.9**	**0.0**
KUR				A		A	A	09 52 22.8	
	100nm,0.6s								
KUR				A		A	A	09 52 22.8	
	60nm,0.6s								
SKR	**Severo-Kuril's**	**4.18**	**32**	*e*P		**Pn**	**Pn**	**09 51 21.1**	**-2.5**
SKR						AMB	AMB	09 51 22.3	
	20nm,0.4s								
SKR				*e*S		**Sn**	**Sn**	**09 52 07.3**	**-4.0**
SKR				A		A	A	09 52 12.0	
	120nm,0.7s								
SKR				A		A	A	09 52 12.0	
	160nm,0.7s								
YUK	**Yuzh-Kuril'sk**	**5.72**	**239**	*e*P		**Pn**	**Pn**	**09 51 44.6**	**0.0**
YUK						AMB	AMB	09 51 45.6	
	30nm,0.7s								
YUK				*e*S		**Sn**	**Sn**	**09 52 48.4**	**-0.5**
YUK				A		A	A	09 53 06.2	
	80nm,0.7s								
YUK				A		A	A	09 53 06.2	
	50nm,0.7s								
NMR	**Nemuro--Hokkai**	**6.21**	**235**	*e*S		**Sn**	**Sn**	**09 52 56.4**	**-4.3**
PETK	**Petropavlovsk-**	**6.75**	**27**	Pn		**Pn**	**Pn**	**09 51 57.5**	**-1.1**
	0.2nm,0.3s,baz=191,slow=12,SNR=0.9								
	0.6nm,0.5s								
AKK	**Akkeshi**	**6.93**	**236**	*e*S		**Sn**	**Sn**	**09 53 17.4**	**-0.9**
MJAR	**Matsushiro Arr**	**15.11**	**231**	LR		LR	LR	10 00 12.8	
	comp=Z,21nm,18.6s,baz=286,slow=41								
KSRS	**Korea Array**	**20.65**	**251**	P		**P**	**P**	**09 54 49.0**	**-4.6**
	0.7nm,0.9s,baz=55,slow=11,SNR=1.5								
	0.7nm,0.9s								
H11N2	**WAKE ISLAND Hy**	**29.74**	**152**	T		T	T	10 27 42.6	
	baz=340,slow=75,SNR=56								
H11N1	**WAKE ISLAND Hy**	**29.75**	**152**	T		T	T	10 27 35.6	
	baz=340,slow=75,SNR=30								
H11N3	**WAKE ISLAND Hy**	**29.75**	**152**	T		T	T	10 27 35.8	
	baz=340,slow=75,SNR=36								
H11S1	**WAKE ISLAND Hy**	**30.82**	**153**	T		T	T	10 28 50.6	
	baz=341,slow=76,SNR=59								
H11S3	**WAKE ISLAND Hy**	**30.83**	**153**	T		T	T	10 29 06.5	
	baz=341,slow=76,SNR=62								
H11S2	**WAKE ISLAND Hy**	**30.84**	**153**	T		T	T	10 29 01.7	
	baz=341,slow=76,SNR=42								
ILAR	**Eielson Array**	**36.40**	**39**	P		**P**	**P**	**09 57 18.1**	**+1.7**
	0.2nm,0.9s,baz=265,slow=9.0,SNR=1.5								
	0.2nm,0.9s								
MKAR	**Makanchi Array**	**46.48**	**297**	P		**P

GYA0B	**ALIBECK ARRAY**		**3.85**	**119**	⇑Pn		**Pn**	**10 03 28.5**	**+0.3**
GYA0B					⇑Sn		**Sn**	**10 04 11.4**	**-2.1**
IPRN	**Peran**		**3.85**	**199**	Pn		**Pn**	**10 03 27.8**	**-0.5**
IALA	**Alasht**		**3.91**	**193**	Pn		**Pn**	**10 03 29.5**	**+0.2**
MZPU	**Pul - Mazandar**		**3.91**	**209**	Pn		**Pn**	**10 03 28.9**	**-0.3**
ISFR	**Sfrayin**		**4.31**	**130**	Pn		**Pn**	**10 03 36.2**	**+1.5**
IEMG	**Emamgholi**		**4.49**	**122**	Pn		**Pn**	**10 03 37.7**	**+0.5**
GRMI	**Germi**		**4.77**	**259**	Pn		**Pn**	**10 03 42.2**	**+1.2**
ISRB	**Sarab**		**5.28**	**249**	Pn		**Pn**	**10 03 49.0**	**+1.0**
IHRS	**Heris**		**5.55**	**256**	Pn		**Pn**	**10 03 53.3**	**+1.6**
KBZ	**Khabaz**		**9.05**	**299**	Pn		**Pn**	**10 04 40.9**	**+1.4**
	0.1nm,0.3s,baz=69,slow=8.6,SNR=1.8								
KBZ					Sn		**Sn**	**10 06 17.0**	**-4.3**
	0.1nm,0.3s,baz=336,slow=15,SNR=1.4								
	0.3nm,0.3s								
AB31	**Akbulak array**		**10.30**	**23**	⇓Pn		**Pn**	**10 04 54.9**	**-1.7**
	0.1nm,0.2s,baz=205,slow=13,SNR=11								
AB31					⇓Sn		**Sn**	**10 06 47.9**	**-4.1**
	0.6nm,0.5s,baz=22,slow=32,SNR=3.8								
AKTO	**Aktyubinsk**		**10.93**	**14**	Pn		**Pn**	**10 05 08.0**	**+2.8**
	0.4nm,0.3s,baz=188,slow=9.9,SNR=6.5								
AKTO					Sn		**Sn**	**10 07 03.1**	**-4.3**
	0.7nm,0.3s,baz=302,slow=19,SNR=5.7								
	0.6nm,0.3s								
AKTO	**Aktyubinsk**		**10.93**	**14**	⇓Pn		**Pn**	**10 05 06.4**	**+1.2**
	1.0nm,0.7s								
AKTO					⇑Sn		**Sn**	**10 07 07.7**	**+0.3**
	1.7nm,0.8s								
ARU	**Arti**		**16.82**	**9**	P		**P**	**10 06 30.0**	**+3.6**
	0.9nm,0.3s,baz=211,slow=12,SNR=4.1								
	2.5nm,0.4s								
AKASG	**Malin Array Be**		**20.33**	**310**	P		**P**	**10 07 07.0**	**+2.0**
	0.2nm,0.3s,baz=105,slow=11,SNR=2.6								
	0.2nm,0.3s								

*TEH **11** 10:16:44.2, 34˚.61N × 45˚.51E, h12km ± 41km, ML3.2*
*ISN **11** 10:16:44.6 ± 0.9, 34˚.64N × 45˚.52E, h15km ± 5km, ML3.2*
ISC 11 10:16:44.7 ± 1.1, 34˚.62N ± 0˚.04 × 45˚.52E ± 0˚.05, h16km ± 10km, n13, σ1°23/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.13**	**151**	Pg	**Pg**	**10 16 48.7**	**+0.2**
IDHR	**Dehrash**	**0.72**	**83**	Pg	**Pg**	**10 16 59.2**	**+0.2**
IGHG	**Ghaleghazi**	**0.92**	**108**	Pg	**Pn**	**10 17 03.2**	**+0.1**
ILBA	**Ilam Banvizeh**	**1.15**	**150**	Pg	**Pb**	**10 17 06.4**	**+0.2**
ILIN	**Lien**	**1.23**	**75**	Pg	**Pg**	**10 17 09.0**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.31**	**105**	Pg	**Pg**	**10 17 10.6**	**+0.7**
SDS1	**Sardasht. Az.**	**1.53**	**359**	Pg	**Pg**	**10 17 14.1**	**-0.1**
IBDR	**Badra**	**1.54**	**167**	*e*Pg	**Pb**	**10 17 13.0**	**+0.1**
IBDR				*e*Sg	**Sg**	**10 17 34.0**	**-0.5**
IBDR				AML	AML	10 17 41.1	
	comp=N,127nm,0.6s						
IBDR				AML	AML	10 17 46.1	
	comp=E,155nm,0.8s						
BHD	**Baghdad**	**1.64**	**215**	*e*Pg	**Pb**	**10 17 15.0**	**+0.4**
BHD				*e*Sg	**Sg**	**10 17 37.0**	**-0.7**
BHD				AML	AML	10 17 38.7	
	comp=E,412nm,0.4s						
IBZA	**Bozab**	**1.94**	**94**	Pn	**Pb**	**10 17 20.6**	**+0.7**
MAHB	**Mahabad**	**2.15**	**4**	Pn	**Pb**	**10 17 23.2**	**-0.2**
IKFM	**Kafar-mosalman**	**2.22**	**119**	Pn	**Pb**	**10 17 23.7**	**-0.8**
RAFI	**Al-Rafai**	**2.93**	**170**	*e*Pn	**Pn**	**10 17 33.0**	**+2.4**
RAFI				*e*Sn	**Sb**	**10 18 09.0**	**-3.1**
RAFI				AML	AML	10 18 10.9	
	comp=E,310nm,0.1s						
RAFI				AML	AML	10 18 11.2	
	comp=N,239nm,0.2s						

*IDC **11** 10:22:17.5 ± 4.9, 35˚.86N × 71˚.50E, h68km ± 32km, mb3.5/7, mbtmp3.8/13, ML3.5/6, Error ellipse: s-maj=54.7km s-min=25.2km az=149.0*
*NNC **11** 10:22:27.1 ± 2.6, 36˚.66N × 71˚.22E, h106km ± 41km, mb3.7, mpv4.4, Error ellipse: s-maj=23.5km s-min=18.3km az=49.0*
ISC 11 10:22:26.5 ± 1.4, 36˚.6N ± 0˚.1 × 71˚.4E ± 0˚.1, h114km, n27, σ1°76/30, mb3.7/6, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**6.14**	**22**	P	**Pn**	**10 23 55.4**	**+0.3**
	SNR=12						
EKS2	**Erkin-Say**	**6.35**	**16**	P	**Pn**	**10 23 58.3**	**+0.6**
	SNR=28						
AAK	**Ala-Archa**	**6.51**	**21**	P	**Pn**	**10 24 00.8**	**+0.9**
	SNR=20						
AAK	**Ala-Archa**	**6.51**	**21**	P	**Pn**	**10 24 00.8**	**+0.9**
	5.4nm,0.3s,baz=163,slow=6.4,SNR=54						
AAK				S	**Sn**	**10 25 13.1**	**+0.3**
	5.0nm,0.4s,baz=321,slow=24,SNR=7.7						
	11nm,0.3s						
KK31	**Karatay Array**	**6.56**	**354**	⇑P	**Pn**	**10 23 60.0**	**-0.4**
	25nm,0.3s,baz=180,slow=12,SNR=496						
KK31				S	**Sn**	**10 25 12.9**	**-0.8**
	3.4nm,0.3s,baz=130,slow=38,SNR=5.3						
CHMS	**Chumysh**	**6.92**	**21**	P	**Pn**	**10 24 05.6**	**+0.4**
	SNR=7.6						
CHMS	**Chumysh**	**6.92**	**21**	⇑P	**Pn**	**10 24 05.3**	**+0.1**
	10nm,0.7s						
CHMS				⇓S	**Sn**	**10 25 22.4**	**0.0**
	5.4nm,0.7s						
USP	**Ospenovka**	**7.10**	**19**	P	**Pn**	**10 24 07.6**	**-0.1**
	SNR=16						
TKM2	**Tokmak 2**	**7.12**	**26**	P	**Pn**	**10 24 08.9**	**+0.8**
	SNR=15						
TKM2	**Tokmak 2**	**7.12**	**26**	⇑P	**Pn**	**10 24 08.3**	**+0.2**
	8.7nm,0.6s						
GEYT	**Alibeck**	**10.67**	**281**	P	Pn	10 24 50.4	-5.6
	0.2nm,0.3s,baz=91,slow=15,SNR=1.8						
GEYT				S	Sn	10 26 44.2	-9.3
	3.6nm,0.5s,baz=45,slow=52,SNR=4.1						
	1.2nm,0.3s						
MKAR	**Makanchi Array**	**13.05**	**35**	P	**Pn**	**10 25 27.2**	**-0.2**
	0.1nm,0.3s,baz=224,slow=15,SNR=3.2						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**14.96**	**18**	P	**P**	**10 25 54.5**	**0.0**
	baz=207,slow=10,SNR=6.0						
	0.6nm,0.7s						
AB31	**Akbulak array**	**15.18**	**330**	P	**Pn**	**10 25 52.0**	**-2.6**
	1.8nm,0.3s,baz=138,slow=12,SNR=183						
AB31				⇑S	**Sn**	**10 28 38.7**	**-3.5**
	0.8nm,0.5s,baz=156,slow=23,SNR=5.0						
BVA0	**Borovoye Array**	**16.47**	**358**	P	**P**	**10 26 11.8**	**+0.6**
	1.0nm,0.5s,baz=151,slow=11,SNR=7.9						
BVAR	**Borovoye Array**	**16.47**	**358**	P	**P**	**10 26 11.2**	**0.0**
	0.1nm,0.3s,baz=150,slow=10,SNR=7.7						
	1.3nm,0.4s						
AKTO	**Aktyubinsk**	**16.88**	**329**	P	**Pn**	**10 26 15.8**	**+0.2**
	1.2nm,0.3s,baz=119,slow=10.0,SNR=12						
	5.9nm,0.6s						
AKTO	**Aktyubinsk**	**16.88**	**329**	⇓P	**Pn**	**10 26 15.6**	**+0.1**
	3.1nm,0.6s						
ZALV	**Zalesovo Beam**	**19.72**	**24**	P	**P**	**10 26 47.0**	**+0.2**
	2.8nm,0.4s,baz=202,slow=10,SNR=15						
	2.8nm,0.4s						
FINES	**FINESS Array B**	**37.60**	**326**	P	**P**	**10 29 30.6**	**+1.0**
	0.5nm,0.4s,baz=123,slow=9.8,SNR=17						
	0.5nm,0.4s						
ARCES	**ARCESS Array B**	**41.20**	**337**	P	**P**	**10 30 01.0**	**+1.6**
	3.2nm,0.9s,baz=111,slow=6.6,SNR=6.5						
	3.2nm,0.9s						
RICI	**Ricice**	**41.49**	**297**	Sn	**S**	**10 36 15.6**	**+6.5**
HFS	**Hagfors**	**43.20**	**322**	P	**P**	**10 30 16.8**	**+1.0**
	1.5nm,0.6s,baz=99,slow=9.6,SNR=8.9						
	1.5nm,0.6s						
NB2	**NORSAR Subarra**	**44.51**	**323**	P	**P**	**10 30 26.5**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.51**	**323**	P	**P**	**10 30 26.8**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=96,slow=7.7,SNR=5.1						
	comp=Z,0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**66.03**	**269**	P	**P**	**10 32 57.7**	**-3.6**
	comp=Z,0.3nm,0.5s,baz=46,slow=6.4,SNR=6.2						
	comp=Z,0.3nm,0.5s						
YKA	**Yellowknife Ar**	**81.16**	**3**	P	**P**	**10 34 28.9**	**0.0**
	comp=Z,0.2nm,0.7s,baz=349,slow=6.0,SNR=4.1						
	comp=Z,0.2nm,0.7s						

*IDC **11** 10:30:10.9 ± 0.8, 4˚.97N × 124˚.65E, h0km, mb4.1/12, mbtmp4.1/13, ML4.1/1, MS3.4/4, Error ellipse: s-maj=36.3km s-min=15.2km az=75.0*
*NEIC **11** 10:30:11.3 ± 2.3, 5˚.56N ± 0˚.07 × 126˚.41E ± 0˚.04, h10km ± 1km, mb4.3/18, Error ellipse: s-maj=13.6km s-min=3.6km az=207.0*
*DJA **11** 10:30:17.9 ± 1.4, 5˚.N ± 5˚ × 12˚.6E ± ˚, h37km ± 25km, M4.2/7, mb4.2/7, MLv4.2/7*
ISC 11 10:30:10.6 ± 0.5, 5˚.57N ± 0˚.07 × 126˚.4E ± 0˚.1, h10km, n45, σ1°20/40, mb4.2/21, MS3.7/3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.68**	**332**	Pn	**Pn**	**10 30 38.5**	**-1.7**
DAV	**Davao City (W)**	**1.68**	**332**	Pn	Pg	10 30 50.7	+7.8
	56nm,0.3s,baz=243,slow=8.3,SNR=2.2						
DAV				Sn	Sg	10 31 20.2	+15
	69nm,0.3s,baz=278,slow=17,SNR=4.9						
DAV				LR	LR	10 31 54.5	
	comp=Z,139nm,21.3s,baz=199,slow=45						
	176nm,0.3s						
SGSI	**Sangihe**	**2.05**	**204**	P	**Pn**	**10 30 45.5**	**+0.3**
GTOI	**Gorontalo**	**5.94**	**214**	P	**Pn**	**10 31 39.5**	**+0.8**
	9.8nm,0.7s,0.0nm						
LBMI	**Labuha**	**6.27**	**170**	P	**Pn**	**10 31 44.2**	**+0.9**
	35nm,0.7s,0.2nm						
TOLI2	**Tolitoli**	**7.12**	**232**	Pn	**Pn**	**10 31 55.6**	**+0.7**
SANI	**Sanana**	**7.58**	**183**	P	**Pn**	**10 32 00.3**	**-1.0**
	8.3nm,1.6s,0.1nm						
FAKI	**Fak Fak**	**10.28**	**145**	Pn	**Pn**	**10 32 37.5**	**-0.8**
MTN	**Manton Dam**	**18.90**	**166**	P	**P**	**10 34 28.1**	**-3.4**
MTN				IAmb	IAmb	10 35 10.9	
	comp=Z,18nm,1.4s						
KNRA	**Kununurra**	**21.24**	**174**	P	**P**	**10 34 56.0**	**-1.1**
KNRA				IAmb	IAmb	10 35 11.7	
	comp=Z,6.8nm,0.8s						
COEN	**Coen**	**25.59**	**139**	P	**P**	**10 35 39.2**	**-1.0**
COEN				IAmb	IAmb	10 35 42.1	
	comp=Z,13nm,1.1s						
WB0	**Warramunga Arr**	**26.39**	**163**	P	**P**	**10 35 47.4**	**-0.1**
WB0				IAmb	IAmb	10 36 11.7	
	comp=Z,15nm,1.4s						
WRA	**Warramunga Arr**	**26.54**	**163**	P	**P**	**10 35 49.7**	**+0.9**
WRA	**Warramunga Arr**	**26.54**	**163**	P	**P**	**10 35 49.9**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=337,slow=10,SNR=9.1						
	comp=Z,0.4nm,0.5s						
WB2	**Warramunga Arr**	**26.54**	**163**	P	**P**	**10 35 47.5**	**-1.4**
WB2				IAmb	IAmb	10 36 19.7	
	comp=Z,6.0nm,1.1s						
WR0	**Warramunga Arr**	**26.61**	**163**	P	**P**	**10 35 49.5**	**0.0**
WR0				IAmb	IAmb	10 36 21.8	
	comp=Z,12nm,1.5s						
PSA00	**Pilbara Seismi**	**27.72**	**193**	P	**P**	**10 36 00.1**	**+0.7**
AS31	**Alice Springs**	**29.98**	**166**	P	**P**	**10 36 19.4**	**-0.1**
ASAR	**Alice Springs**	**29.98**	**166**	P	**P**	**10 36 19.9**	**+0.4**
ASAR	**Alice Springs**	**29.98**	**166**	P	**P**	**10 36 20.5**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=341,slow=7.0,SNR=8.3						
	comp=Z,0.3nm,0.6s						
USRK	**Ussuriysk Ar.**	**38.79**	**6**	P	**P**	**10 37 35.6**	**+0.1**
BBOO	**Buckleboo**	**39.27**	**167**	P	**P**	**10 37 40.1**	**+0.5**
BBOO				IAmb	IAmb	10 37 51.2	
	comp=Z,9.4nm,1.0s						
STKA	**Stephens Creek**	**39.97**	**160**	P	**P**	**10 37 44.0**	**-1.5**
STKA	**Stephens Creek**	**39.97**	**160**	P	**P**	**10 37 49.1**	**+3.6**
	comp=Z,1.7nm,0.6s,baz=346,slow=15,SNR=2.9						
	comp=Z,1.7nm,0.6s						
JKA	**Kamikawa-asahi**	**40.96**	**18**	P	**P**	**10 37 53.4**	**-0.1**
SONM	**Songino Array**	**45.45**	**341**	P	**P**	**10 38 31.5**	**+1.5**
SONM	**Songino Array**	**45.45**	**341**	P	**P**	**10 38 31.6**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=152,slow=7.5,SNR=5.4						
	comp=Z,0.5nm,0.5s						
PETK	**Petropavlovsk-**	**53.88**	**23**	P	P	10 39 45.8	+12
	comp=Z,2.8nm,0.9s,baz=241,slow=5.9,SNR=2.1						
	comp=Z,2.8nm,0.9s						
MK31	**Makanchi Array**	**55.85**	**325**	P	**P**	**10 39 49.5**	**+1.1**
MK31				IAmb	IAmb	10 39 49.6	
	comp=Z,1.2nm,0.5s						
MKAR	**Makanchi Array**	**55.85**	**325**	P	**P**	**10 39 49.3**	**+0.9**
MKAR	**Makanchi Array**	**55.85**	**325**	P	**P**	**10 39 48.6**	**+0.2**
	comp=Z,1.4nm,0.4s,baz=122,slow=7.9,SNR=17						
	comp=Z,1.4nm,0.4s						
AAK	**Ala-Archa**	**58.76**	**317**	LR	LR	11 07 54.2	
	comp=Z,31nm,18.8s,baz=220,slow=39						
ZALV	**Zalesovo Beam**	**58.80**	**333**	P	**P**	**10 40 09.4**	**+0.4**
ZALV	**Zalesovo Beam**	**58.80**	**333**	P	**P**	**10 40 08.8**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=123,slow=7.5,SNR=2.8						
	comp=Z,0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**60.01**	**327**	P	**P**	**10 40 17.6**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=127,slow=6.4,SNR=12						
	comp=Z,1.5nm,0.7s						
KURK	**Kurchatov**	**60.01**	**327**	P	**P**	**10 40 17.8**	**+0.4**
GAR	**Garm**	**60.42**	**312**	P	**P**	**10 40 19.6**	**-1.2**
GAR				IAmb	IAmb	10 40 23.6	
	comp=Z,3.0nm,0.8s						
BVAR	**Borovoye Array**	**65.59**	**327**	P	**P**	**10 40 53.9**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=93,slow=5.8,SNR=3.5						
	comp=Z,1.3nm,0.7s						
NRIK	**Noril'sk**	**68.57**	**346**	P	**P**	**10 41 14.7**	**+1.4**
	comp=Z,2.7nm,0.5s,baz=115,slow=5.8,SNR=7.2						
	comp=Z,2.7nm,0.5s						
GEYT	**Alibeck**	**69.47**	**308**	LR	LR	11 17 20.6	
	comp=Z,138nm,18.1s,baz=230,slow=41						
ABKAR	**Akbulak array**	**70.51**	**320**	P	**P**	**10 41 25.5**	**-0.2**
ABKAR				IAmb	IAmb	10 41 26.2	
	comp=Z,1.2nm,0.8s						
BMAR	**Burnt Mountain**	**84.53**	**23**	P	**P**	**10 42 45.2**	**+1.4**
OBN	**Obninsk**	**85.36**	**325**	LR	LR	11 21 41.8	
	comp=Z,28nm,19.1s,baz=176,slow=36						
ARCES	**ARCESS Array B**	**88.61**	**340**	P	**P**	**10 43 03.5**	**-0.1**
	comp=Z,4.3nm,0.9s,baz=60,slow=4.3,SNR=8.4						
	comp=Z,4.3nm,0.9s						
FINES	**FINESS Array B**	**90.05**	**332**	P	**P**	**10 43 10.3**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=58,slow=4.7,SNR=11						
	comp=Z,0.9nm,0.5s						

*CATAC **11** 10:53:19.8 ± 0.3, 15˚.50N × 94˚.57W, h119km ± 13km, MB5.3, mb4.4, ML4.4*
*MEX **11** 10:53:21.7 ± 0.8, 15˚.39N × 94˚.61W, h26km ± 12km, MD4.4*
ISC 11 10:53:19.4 ± 1.6, 15˚.37N ± 0˚.04 × 94˚.60W ± 0˚.03, h31km ± 13km, n58, σ2°40/112, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.09**	**37**	*e*P	**Pn**	**10 53 38.6**	**0.0**
CARR				*e*S	**Sb**	**10 53 51.2**	**-2.5**
NILT	**Santiago Nilte**	**1.19**	**359**	*e*P	**Pn**	**10 53 40.1**	**+0.3**
NILT				*e*S	**Sn**	**10 53 53.6**	**-1.3**
PCIG		**1.37**	**76**	*e*P	**Pn**	**10 53 42.7**	**+0.3**
PCIG				*e*S	**Sn**	**10 53 58.7**	**-0.8**
HUIG	**Huatulco**	**1.51**	**285**	*i* P	**Pn**	**10 53 44.8**	**+0.5**
HUIG				*e*S	**Sn**	**10 54 01.6**	**-1.3**
CMIG	**Matias Romero**	**1.73**	**351**	*e*P	**Pn**	**10 53 48.1**	**+0.8**
CMIG				*e*S	**Sn**	**10 54 06.9**	**-1.6**
UXUV	**UXUV**	**1.98**	**13**	*e*P	**Pn**	**10 53 52.5**	**+1.6**
UXUV				*e*S	**Sn**	**10 54 15.6**	**+0.9**
TGIG		**1.99**	**45**	*e*P	**Pn**	**10 53 52.1**	**+1.0**
TGIG				*e*S	**Sn**	**10 54 15.6**	**+0.6**
TGBT	**Tuxtla Gutierr**	**2.01**	**46**	*e*P	**Pb**	**10 53 55.7**	**+0.3**
TGBT				*e*S	**Sn**	**10 54 17.5**	**+2.1**
PATR	**El Naranjo**	**2.30**	**96**	*e*P	**Pn**	**10 53 55.8**	**+0.4**
PATR				*e*S	**Sn**	**10 54 21.2**	**-1.6**
THIG		**2.30**	**101**	*e*P	**Pn**	**10 53 55.5**	**+0.3**
THIG				*e*S	**Sn**	**10 54 22.5**	**-0.1**
PAVE	**Pavencul**	**2.35**	**94**	*e*P	**Pn**	**10 53 56.8**	**+0.8**
PAVE				*e*S	**Sn**	**10 54 23.3**	**-0.6**
CHUJ	**Union Juarez**	**2.42**	**96**	*e*P	**Pn**	**10 53 57.6**	**+0.5**
CHUJ				*e*S	**Sn**	**10 54 24.5**	**-1.4**
PEIG	**Puerto Escondi**	**2.53**	**285**	*e*P	**Pn**	**10 53 59.1**	**+0.7**
PEIG				*e*S	Sn	10 54 22.7	-5.5
CCIG	**Comitan**	**2.54**	**69**	*e*P	**Pn**	**10 54 01.1**	**+2.4**
CCIG				*e*S	**Sn**	**10 54 28.3**	**-0.3**
CCIG	**Comitan**	**2.54**	**69**	*i* P	**Pn**	**10 53 58.5**	**-0.1**
CCIG				*i* S	**Sn**	**10 54 30.5**	**+1.9**
CCIG				IAML		10 54 35.9	
	comp=Z,680nm,1.0s						
NEUV	**Arroyo Zacate**	**2.60**	**334**	*e*P	**Pn**	**10 54 00.5**	**+1.2**
NEUV				*e*S	**Sn**	**10 54 28.3**	**-1.5**
VHO	**Vista Hermosa**	**2.66**	**310**	*e*P	**Pn**	**10 54 03.1**	**+2.8**
VHO				*e*S	**Sn**	**10 54 31.9**	**+0.3**
SMSP	**San Marcos**	**2.75**	**98**	*e*P	**Pn**	**10 54 02.3**	**+0.6**
SMSP				*e*S	**Sn**	**10 54 32.7**	**-1.3**
SMSP	**San Marcos**	**2.75**	**98**	*i* P	**Pn**	**10 54 02.4**	**+0.7**
SMSP				*i* S	**Sn**	**10 54 35.4**	**+1.4**
SMSP				IAML		10 56 08.9	
	comp=Z,1μm,1.0s						
HUEH	**Huehuetenango**	**2.99**	**91**	*e*P	**Pn**	**10 54 08.0**	**+3.1**
HUEH				*e*S	**Sn**	**10 54 40.1**	**+0.2**
HUEH	**Huehuetenango**	**2.99**	**91**	*i* P	**Pn**	**10 54 05.4**	**+0.5**
HUEH				*i* S	**Sn**	**10 54 42.1**	**+2.3**
HUEH				IAML		10 55 01.1	
	comp=Z,1μm,1.0s						
YOIG	**Yosondua**	**3.19**	**298**	*e*P	**Pn**	**10 54 10.7**	**+2.9**
YOIG				*e*S	**Sn**	**10 54 44.5**	**-0.4**
PMUV	**Sontecomapan**	**3.19**	**351**	*e*P	**Pn**	**10 54 06.1**	**-1.5**
PMUV				*e*S	**Sn**	**10 54 40.5**	**-4.1**
PNIG	**Pinotepa**	**3.54**	**287**	*e*P	**Pn**	**10 54 13.7**	**+1.4**
PNIG				*e*S	**Sn**	**10 54 49.6**	**-3.6**
TXIG	**Tlaxiaco**	**3.57**	**302**	*e*P	**Pn**	**10 54 16.2**	**+3.3**
TXIG				*e*P	**Pn**	**10 54 16.2**	**+3.3**
TXIG				*e*S	**Sn**	**10 54 53.0**	**-1.3**
TXIG				*e*S	**Sn**	**10 54 53.0**	**-1.3**
TOIG	**Toxpalan**	**3.59**	**319**	*e*P	**Pn**	**10 54 16.9**	**+3.8**
TOIG				*e*P	**Pn**	**10 54 16.9**	**+3.8**
TOIG				*e*S	**Sn**	**10 54 55.7**	**+1.1**
TOIG				*e*S	**Sn**	**10 54 55.7**	**+1.1**
HLIG	**Huajuapan de L**	**3.92**	**309**	*e*P	**Pn**	**10 54 21.2**	**+3.4**
HLIG				*e*P	**Pn**	**10 54 21.2**	**+3.4**
HLIG				*e*S	**Sn**	**10 55 01.9**	**-1.1**
HLIG				*e*S	**Sn**	**10 55 01.9**	**-1.1**
TPIG	**Tehuac#an**	**4.02**	**319**	*e*P	**Pn**	**10 54 22.2**	**+3.2**
TPIG				*e*S	**Sn**	**10 55 01.8**	**-3.5**
FTIG	**Fresnillo de T**	**4.22**	**307**	*e*P	**Pn**	**10 54 25.5**	**+3.7**
FTIG				*e*P	**Pn**	**10 54 25.5**	**+3.7**
FTIG				*e*S	**Sn**	**10 55 09.5**	**-0.6**
FTIG				*e*S	**Sn**	**10 55 09.5**	**-0.6**
MGIG	**Malinaltepec**	**4.29**	**296**	*e*P	**Pn**	**10 54 25.8**	**+3.0**
MGIG				*e*P	**Pn**	**10 54 25.8**	**+3.0**
MGIG				*e*S	**Sn**	**10 55 09.6**	**-2.4**
MGIG				*e*S	**Sn**	**10 55 09.6**	**-2.4**
TLIG	**Tlapa**	**4.38**	**300**	*e*P	**Pn**	**10 54 27.5**	**+3.5**
TLIG				*e*P	**Pn**	**10 54 27.5**	**+3.5**
TLIG				*e*S	**Sn**	**10 55 12.6**	**-1.6**
TLIG				*e*S	**Sn**	**10 55 12.6**	**-1.6**
TLIG	**Tlapa**	**4.38**	**300**	*i* P	**Pn**	**10 54 24.6**	**+0.6**
TLIG				IAML		10 54 27.8	
	comp=Z,67nm,1.0s						
TLIG				*i* S	**Sn**	**10 55 13.4**	**-0.7**
JAUV	**Jalcomulco**	**4.49**	**332**	*e*P	**Pn**	**10 54 25.0**	**-0.5**
JAUV				*e*P	**Pn**	**10 54 25.0**	**-0.5**
JAUV				*e*S	**Sn**	**10 55 13.8**	**-3.0**
JAUV				*e*S	**Sn**	**10 55 13.8**	**-3.0**
CRIG	**Cruz Grande**	**4.56**	**288**	*e*P	**Pn**	**10 54 28.1**	**+1.7**
CRIG				*e*P	**Pn**	**10 54 28.1**	**+1.7**
CRIG				*e*S	**Sn**	**10 55 14.0**	**-4.3**
CRIG				*e*S	**Sn**	**10 55 14.0**	**-4.3**
PETF	**Flores**	**4.80**	**71**	*e*P	**Pn**	**10 54 31.0**	**+1.4**
PETF				*e*P	**Pn**	**10 54 31.0**	**+1.4**
PETF				*e*S	**Sn**	**10 55 19.6**	**-4.6**
PETF				*e*S	**Sn**	**10 55 19.6**	**-4.6**
PETF	**Flores**	**4.80**	**71**	*i* P	**Pn**	**10 54 30.8**	**+1.2**
PETF				IAML		10 54 34.8	
	comp=Z,150nm,1.0s						
PETF				*i* S	**Sn**	**10 55 22.3**	**-1.9**
SCIG	**Sabancuy**	**4.84**	**42**	*i* P	**Pn**	**10 54 30.9**	**+0.8**
NUBE	**Las Nubes**	**4.89**	**107**	*i* P	**Pn**	**10 54 33.0**	**+2.0**
NUBE				IAML		10 54 42.3	
	comp=Z,60nm,1.0s						
NUBE				*i* S	**Sn**	**10 55 27.0**	**+0.4**
CEVE	**Cerro Verde**	**5.06**	**107**	*i* P	**Pn**	**10 54 35.1**	**+1.7**
CEVE				IAML		10 54 37.3	
	comp=Z,110nm,1.0s						
CEVE				*i* S	**Sn**	**10 55 30.2**	**-0.7**
DAIG	**Los Arroyos**	**5.12**	**289**	*e*P	**Pn**	**10 54 36.2**	**+2.2**
DAIG				*e*S	**Sn**	**10 55 27.0**	**-5.2**
JAYA	**Jayaque - finc**	**5.27**	**108**	*i* P	**Pn**	**10 54 37.3**	**+1.0**
JAYA				IAmb	IAmb	10 54 46.5	
	comp=Z,34nm,0.5s						
JAYA				IAML		10 54 51.3	
	comp=Z,120nm,1.0s						
JAYA				*i* S	**Sn**	**10 55 35.1**

comp=Z,67nm,19.3s,baz=271,slow=35
PFO Pinyon Flats O 31.95 338 LR LR 11 20 00.8
comp=Z,73nm,20.7s,baz=140,slow=30
WUAZ Wupatki 32.14 346 P **P** **11 10 21.8 +1.2**
WUAZ IAmb IAmb 11 10 23.0
comp=Z,6.1nm,1.1s
MVCO Mesa Verde 33.22 351 P **P** **11 10 30.2 +0.1**
MVCO IAmb IAmb 11 10 31.8
comp=Z,7.0nm,1.1s
SDCO Great Sand Dun 33.40 356 P **P** **11 10 32.2 +0.4**
GSC Goldstone, Bar 33.59 338 P **P** **11 10 32.1 -1.1**
HMU Henry Mountain 34.33 348 P **P** **11 10 41.2 +1.4**
HMU IAmb IAmb 11 10 44.2
comp=Z,9.0nm,1.4s
R40A Maddies Statio 35.08 14 P **P** **11 10 44.9 -1.1**
R40A IAmb IAmb 11 10 46.7
comp=Z,6.3nm,0.9s
PAULI Pauline 35.89 30 P **P** **11 10 53.7 +0.8**
O20A White River Ci 36.05 352 P **P** **11 10 55.1 +0.6**
O20A IAmb IAmb 11 10 56.8
comp=Z,10nm,1.2s
MPU Maple Canyon 36.51 348 P **P** **11 10 59.1 +0.7**
MPU IAmb IAmb 11 11 01.0
comp=Z,7.3nm,1.1s
N23A Red Feather La 36.57 356 P **P** **11 10 59.8 +0.7**
N23A IAmb IAmb 11 11 02.6
comp=Z,8.1nm,1.3s
WCI Wyandotte Cave 36.84 21 P **P** **11 11 00.5 -0.6**
NVAR Mina Array Bea 36.91 339 P **P** **11 11 03.5 +1.5**
comp=Z,0.6nm,0.8s,baz=162,slow=9.3,SNR=4.8
NVAR LR LR 11 22 29.5
comp=Z,54nm,19.9s,baz=186,slow=30
comp=Z,0.6nm,0.8s
P46A Rosedale 37.77 19 P **P** **11 11 08.8 -0.1**
HDIL Hopedale 37.99 16 P **P** **11 11 09.7 -1.1**
HWUT Hardware Ranch 38.03 349 P **P** **11 11 11.8 +0.5**
HWUT IAmb IAmb 11 11 13.6
comp=Z,6.4nm,1.2s
ELK Elko 38.06 344 LR LR 11 23 55.4
comp=Z,55nm,20.8s,baz=147,slow=31
PD31 Pinedale Array 38.82 352 P **P** **11 11 18.1 +0.1**
PD31 IAmb IAmb 11 11 19.6
comp=Z,6.3nm,1.2s
PDAR Pinedale Array 38.82 352 P **P** **11 11 18.1 +0.1**
PDAR Pinedale Array 38.82 352 P **P** **11 11 18.4 +0.3**
comp=Z,2.1nm,1.0s,baz=149,slow=7.4,SNR=12
comp=Z,2.1nm,1.0s
REDW Red Top Meadow 39.60 350 P **P** **11 11 25.1 +0.5**
LPAZ La Paz 39.63 122 LR LR 11 25 37.8
comp=Z,59nm,21.7s,baz=307,slow=34
LOHW Long Hollow 39.81 351 P **P** **11 11 24.0 -2.2**
FLWY Flagg Ranch 40.28 351 P **P** **11 11 30.9 +0.7**
FLWY IAmb IAmb 11 11 32.0
comp=Z,5.2nm,1.1s
K05A Summer Lake 41.63 339 P **P** **11 11 41.3 0.0**
L04D Klamath Falls 41.70 338 P **P** **11 11 42.8 +1.0**
L04D IAmb IAmb 11 11 43.8
comp=Z,7.5nm,1.1s
J05D Fort Rock, OR 42.24 340 P **P** **11 11 46.6 +0.4**
J05D IAmb IAmb 11 11 49.1
comp=Z,5.5nm,1.2s
LVC Limon Verde 42.30 131 LR LR 11 25 12.6
comp=Z,74nm,19.1s,baz=284,slow=31
PLID Pearl Lake 42.32 346 P **P** **11 11 46.5 -0.5**
PLID IAmb IAmb 11 11 47.7
comp=Z,7.1nm,1.4s
PINE Pine Mountain 42.59 340 P **P** **11 11 50.0 +0.9**
K02D Willamette Mer 42.63 337 P **P** **11 11 50.7 +1.3**
K02D IAmb IAmb 11 11 51.7
comp=Z,7.8nm,1.2s
G08A Pilot Rock 43.31 343 P **P** **11 11 56.0 +1.1**
OVMT Ovando 43.56 350 P **P** **11 11 56.4 -0.5**
SADO Sadowa 45.20 23 LR LR 11 31 40.8
comp=Z,32nm,18.6s,baz=53,slow=37
MDP Montagnes des 49.64 87 LR LR 11 31 13.8
comp=Z,35nm,18.5s,baz=114,slow=34
PLCA Paso Flores 53.49 150 LR LR 11 29 40.6
comp=Z,44nm,18.3s,baz=317,slow=29
YKA Yellowknife Ar 58.76 353 P **P** **11 13 50.0 -0.6**
comp=Z,0.6nm,1.0s,baz=161,slow=7.1,SNR=7.4
comp=Z,0.6nm,1.0s
INK Inuvik 67.25 348 P **P** **11 14 46.7 -0.2**
comp=Z,1.6nm,1.0s,baz=143,slow=6.6,SNR=3.3
comp=Z,1.6nm,1.0s
ILAR Eielson Array 68.13 341 P **P** **11 14 52.6 0.0**
comp=Z,0.9nm,0.9s,baz=158,slow=5.6,SNR=6.3
comp=Z,0.9nm,0.9s
RES Resolute Bay 70.45 2 P **P** **11 15 06.1 -0.7**
comp=Z,1.0nm,1.0s,baz=204,slow=10.0,SNR=3.6
comp=Z,1.0nm,1.0s
H11N3 WAKE ISLAND Hy 89.17 290 T T 12 55 18.8
baz=86
H11N2 WAKE ISLAND Hy 89.18 290 T T 12 55 20.0
baz=86
H11N1 WAKE ISLAND Hy 89.19 290 T T 12 55 20.4
baz=86
H11S2 WAKE ISLAND Hy 89.45 288 T T 12 55 45.1
baz=85,slow=74,SNR=6.3
H11S1 WAKE ISLAND Hy 89.46 288 T T 12 55 45.2
baz=85,slow=74,SNR=4.3
H11S3 WAKE ISLAND Hy 89.47 288 T T 12 55 46.5
baz=85,slow=74,SNR=6.1

MOS ***11*** *11:11:39.8±0.9, 44˚.68N×149˚.25E, h54km, mb4.7/23, Error ellipse: s-maj=6.8km s-min=5.2km az=102.5*
BGR ***11*** *11:11:39.9, 44˚.54N×149˚.19E, h33km, mb4.8*
JMA ***11*** *11:11:39.3±0.6, 45˚.1N±3˚×14˚.9E±˚, h30km, MV4.4/13, SE OFF ETOROFU*
NIED ***11*** *11:11:39.3, 44˚.86N×149˚.27E, h30km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.58; Mθθ-0.31; Mφφ-1.27; Mrθ2.20; Mθφ-0.76; Mφr0.86; Fault plane solution: M₀2.86000×10¹⁵ NP1:φs59.00000°, δ74.00000°, λ108.00000°. NP2:φs190.00000°, δ24.00000°, λ43.00000°.*
SKHL ***11*** *11:11:40.1±0.9, 44˚.60N×149˚.40E, h55km±5km, mb5.0/8*
IDC ***11*** *11:11:42.8±1.9, 44˚.77N×149˚.10E, h63km±16km, mb4.0/28, mbtmp4.2/36, MS3.2/18, Error ellipse: s-maj=15.4km s-min=10.3km az=156.0*
NEIC ***11*** *11:11:43.7±1.3, 44˚.8N±0˚.1×149˚.11E±0˚.08, h66km±10km, mb4.5/111, Error ellipse: s-maj=18.1km s-min=5.2km az=156.0*
ISC 11 11:11:39.3±0.4,**44˚.62N**±0˚.05×**149˚.34E**±0˚.05,**h35**km,**n589,** σ1**s32**/600,**mb4.5**/142,**MS3.5**/12,**33C-23D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.21**	**301**	*d*	*i* P	N	**11 12 00.5**	**+0.8**
KUR					*i* S	**Sn**	**11 12 15.0**	**+0.1**
KUR				pmax	pmax			
	comp=Z,4μm,0.7s							
KUR				pmax	pmax			
	comp=N,1μm,0.4s							
KUR				pmax	pmax			
	comp=E,471nm,0.2s							
KUR				smax	smax			
	comp=E,9μm,0.2s							
KUR				smax	smax			
	comp=N,5μm,0.5s							
KUR	**Kuril'sk**	**1.21**	**301**	*i*	P	**Pn**	**11 12 00.5**	**+0.8**
KUR				AMB	AMB		11 12 01.0	
	comp=N,4μm,0.7s							
KUR				*i*	S	**Sn**	**11 12 15.1**	**+0.1**
KUR				A	A		11 12 17.8	
	comp=N,5μm,0.5s							
KUR				A	A		11 12 17.8	
	comp=N,9μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**2.56**	**258**	*e*	PN	**Pn**	**11 12 19.0**	**+0.7**
YUK				*e*	S	**Sn**	**11 12 49.3**	**+1.0**
YUK				pmax	pmax			
	comp=Z,418nm,0.4s							
YUK				pmax	pmax			
	comp=E,165nm,0.2s							
YUK				smax	smax			
	comp=N,1μm,0.6s							
YUK				smax	smax			
	comp=E,684nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**2.56**	**258**	*e*	P	**Pn**	**11 12 19.3**	**+1.0**
YUK				AMB	AMB		11 12 28.1	
	comp=E,420nm,0.4s							
YUK				*e*	S	**Sn**	**11 12 49.2**	**+1.0**
YUK				A	A		11 12 53.8	
	comp=E,1μm,0.6s							
YUK				A	A		11 12 53.8	
	comp=E,680nm,0.6s							
NEM2	**Nemuro 2**	**2.88**	**245**	*e*	P	**Pn**	**11 12 22.8**	**0.0**
NEM2				*e*	S	**Sn**	**11 12 56.4**	**+0.3**
NMR	**Nemuro--Hokkai**	**2.89**	**246**	*e*	PN	**Pn**	**11 12 22.9**	**+0.1**
NMR				*e*	S	**Sn**	**11 12 56.4**	**0.0**
NMR	**Nemuro--Hokkai**	**2.89**	**246**	*i*	P	**Pn**	**11 12 22.9**	**+0.1**
NMR				*i*	S	**Sn**	**11 12 56.4**	**0.0**
RUSJ	**Misakicho**	**2.98**	**261**	*e*	PN	**Pn**	**11 12 25.9**	**+1.8**
RUSJ				*e*	S	**Sn**	**11 13 01.8**	**+3.3**
JRA	**Rausu**	**3.10**	**259**	*e*	P	**Pn**	**11 12 27.8**	**+2.0**
JRA				*e*	S	**Sn**	**11 13 03.6**	**+2.0**
JNK	**Nakash**	**3.49**	**254**	*e*	P	**Pn**	**11 12 32.4**	**+1.3**
JNK				*e*	S	**Sn**	**11 13 12.6**	**+1.5**
AKK	**Akkeshi**	**3.63**	**245**	*e*	P	**Pn**	**11 12 33.7**	**+0.7**
AKK				*e*	S	**Sn**	**11 13 14.0**	**-0.6**
JAK	**Akkeshi**	**3.73**	**246**	*e*	P	**Pn**	**11 12 35.0**	**+0.5**
JAK				*e*	S	**Sn**	**11 13 16.8**	**-0.3**
JTKR	**Abashiri--Toko**	**3.95**	**262**	*e*	P	**Pn**	**11 12 39.4**	**+2.0**
JTKR				*e*	S	**Sn**	**11 13 23.8**	**+1.2**
JAR	**Ashorobuto**	**4.23**	**254**	*e*	S	**Sn**	**11 13 29.6**	**+0.1**
JCH	**Churui**	**4.78**	**247**	*e*	P	**Pn**	**11 12 50.3**	**+1.5**
JCH				*e*	S	**Sn**	**11 13 41.5**	**-1.5**
JKK2	**Kamakawa 2**	**4.79**	**263**	*e*	P	**Pn**	**11 12 52.0**	**+2.9**
JKK2				*e*	S	**Sn**	**11 13 45.9**	**+2.6**
JKA	**Kamikawa-asahi**	**4.86**	**266**		Pn	**Pn**	**11 12 53.0**	**+3.1**
JKA	**Kamikawa-asahi**	**4.86**	**266**	*i*	P	**Pn**	**11 12 52.1**	**+2.2**
ASAJ	**Asahikawa**	**4.86**	**266**		P	**Pn**	**11 12 52.1**	**+2.2**
	comp=E,8.2nm,0.4s,baz=82,slow=17,SNR=27							
ASAJ					S	**Sn**	**11 13 45.1**	**+0.2**
	comp=E,12nm,0.5s,baz=54,slow=17,SNR=1.2							
ASAJ					LR	LR	11 14 54.3	
	comp=E,223nm,20.4s,baz=157,slow=41							
YSS	**Yuzh-Sakhalins**	**5.16**	**299**		Pn	**Pn**	**11 12 56.1**	**+2.1**
YSS	**Yuzh-Sakhalins**	**5.16**	**299**	‖	ePN	**Pn**	**11 12 55.8**	**+1.8**
YSS					eS	**Sn**	**11 13 53.1**	**+0.8**
YSS				pmax	pmax			
	comp=Z,50nm,0.4s							
YSS				smax	smax			
	comp=N,40nm,0.6s							
YSS				smax	smax			
	comp=E,50nm,0.7s							
YSS				MLR	MLR			
	comp=Z,20μm,17.0s							
YSS				MLR	MLR			
	comp=N,300nm,15.0s							
YSS				MLR	MLR			
	comp=E,100nm,15.0s							
YSS	**Yuzh-Sakhalins**	**5.16**	**299**	*e*	P	**Pn**	**11 12 55.8**	**+1.8**
YSS				AMB	AMB		11 12 58.4	
	comp=E,50nm,0.4s							
YSS				*e*	S	**Sn**	**11 13 53.1**	**+0.8**
YSS				A	A		11 13 55.1	
	comp=E,40nm,0.6s							
YSS				A	A		11 13 55.1	
	comp=E,50nm,0.6s							
ERM	**Erimo**	**5.21**	**242**		Pn	**Pn**	**11 12 57.7**	**+3.0**
ERM	**Erimo**	**5.21**	**242**		PN	**Pn**	**11 12 57.7**	**+3.0**
JWK2	**Keihoku**	**5.33**	**280**	*e*	P	Pn	11 13 01.2	+4.9
JNBK	**Urakawa-nobuka**	**5.34**	**246**	*e*	P	**Pn**	**11 12 57.0**	**+0.6**
JNBK				*e*	S	**Sn**	**11 13 57.4**	**+0.7**
JRBN	**Rebuntou**	**5.92**	**281**	*e*	P	**Pn**	**11 13 07.7**	**+3.3**
UGL	**Uglegorsk**	**6.69**	**314**	*e*	PN	**Pn**	**11 13 16.7**	**+1.8**
UGL				*e*	S	**Sn**	**11 14 33.9**	**+4.1**
UGL				pmax	pmax			
	comp=Z,50nm,0.4s							
UGL				smax	smax			
	comp=E,80nm,0.6s							
UGL				smax	smax			
	comp=N,50nm,0.9s							
UGL	**Uglegorsk**	**6.69**	**314**	*e*	P	**Pn**	**11 13 17.9**	**+3.0**
UGL				AMB	AMB		11 13 22.7	
	comp=N,60nm,0.4s							
UGL				*e*	S	**Sn**	**11 14 30.9**	**+1.1**
UGL				A	A		11 14 34.5	
	comp=N,50nm,0.5s							
UGL				A	A		11 14 34.5	
	comp=N,60nm,0.5s							
JTM	**Tenmabayashi**	**7.20**	**241**		Pn	**Pn**	**11 13 23.0**	**+1.0**
SKR	**Severo-Kuril's**	**7.59**	**35**	*e*	PN	**Pn**	**11 13 29.9**	**+2.5**
SKR					MLR	MLR		
	comp=Z,1μm,12.0s							
SKR	**Severo-Kuril's**	**7.59**	**35**	*e*	P	**Pn**	**11 13 29.9**	**+2.5**
SKR				*e*	S	**Sn**	**11 14 50.6**	**-1.5**
SKR				A	A		11 15 05.5	
	comp=Z,130nm,0.8s							
SKR				A	A		11 15 05.5	
	comp=Z,140nm,0.8s							
SKR				AMS	AMS		11 15 17.6	
	comp=Z,1μm,12.0s							
TYV	**Tymovskoe**	**7.70**	**327**	*e*	PN	**Pn**	**11 13 31.6**	**+2.8**
TYV				pmax	pmax			
	comp=Z,100nm,3.7s							
TYV				pmax	pmax			
	comp=Z,7.0nm,0.9s							
TYV	**Tymovskoe**	**7.70**	**327**	*e*	P	**Pn**	**11 13 31.6**	**+2.8**
TYV				AMB	AMB		11 13 32.5	
	comp=Z,200nm,3.5s							
TYV				AMB	AMB		11 13 34.4	
	comp=Z,10.0nm,0.9s							
TYV				*e*	S	**Sn**	**11 14 55.6**	**+1.0**
TYV				A	A		11 14 56.1	
	comp=Z,50nm,0.6s							
TYV				A	A		11 14 56.1	
	comp=Z,30nm,0.6s							
TYV				A	A		11 14 56.7	
	comp=Z,100nm,4.9s							
TYV				A	A		11 14 56.7	
	comp=Z,100nm,4.9s							
TEY	**Ternei**	**9.06**	**277**	*e*	P	Pn	11 13 52.0	+4.4
OKH	**Okha**	**9.87**	**337**		AMS	AMS	11 18 33.3	
	comp=Z,200nm,11.0s							
OKH					AMS	AMS	11 18 33.3	
	comp=Z,300nm,11.0s							
OKH					AMS	AMS	11 18 33.3	
	comp=Z,200nm,11.0s							
PEA0B	**Petropavlovsk-**	**10.11**	**30**		Pn	**Pn**	**11 14 04.8**	**+2.9**
PEA0B	**Petropavlovsk-**	**10.11**	**30**	*i*	PN	**Pn**	**11 14 04.8**	**+2.9**
PETK	**Petropavlovsk-**	**10.11**	**30**		Pn	**Pn**	**11 14 04.2**	**+2.2**
PETK	**Petropavlovsk-**	**10.11**	**30**		PN	**Pn**	**11 14 04.2**	**+2.2**
PETK	**Petropavlovsk-**	**10.11**	**30**		P	**Pn**	**11 14 04.5**	**+2.5**
	comp=Z,5.7nm,0.8s,baz=212,slow=8.6,SNR=24							
PETK					LR	LR	11 17 49.0	
	comp=Z,117nm,21.3s,baz=213,slow=36							
PET	**Petropavlovsk**	**10.40**	**33**		Pn	**Pn**	**11 14 05.7**	**-0.1**
PET	**Petropavlovsk**	**10.40**	**33**	*i*	PN	**Pn**	**11 14 06.6**	**+0.8**
PET	**Petropavlovsk**	**10.40**	**33**	*e*	P	**Pn**	**11 14 06.7**	**+0.9**
PET					AMS	AMS	11 19 37.3	
	comp=Z,400nm,17.0s							
MJAR	**Matsushiro Arr**	**11.69**	**230**		P	**Pn**	**11 14 24.7**	**+1.1**
	comp=Z,1.2nm,0.9s,baz=42,slow=13,SNR=1.9							
MJAR					LR	LR	11 18 54.5	
	comp=Z,78nm,20.6s,baz=38,slow=37							
USA0B	**Ussuriysk Arra**	**12.42**	**274**	*i*	PN	**Pn**	**11 14 35.5**	**+2.0**
USRK	**Ussuriysk Ar.**	**12.42**	**274**		P	**Pn**	**11 14 34.4**	**+0.9**
	comp=Z,4.7nm,0.9s,baz=84,slow=13,SNR=4.3							
USRK					LR	LR	11 19 18.0	
	comp=Z,77nm,22.0s,baz=3.8,slow=37							
JGF	**Kuroka**	**12.85**	**230**		Pn	**Pn**	**11 14 41.6**	**+2.2**
KLR	**Kul'dur**	**12.87**	**297**	*i*	PN	**Pn**	**11 14 40.7**	**+1.1**
KLR				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KLR	**Kul'dur**	**12.87**	**297**		P	**Pn**	**11 14 40.7**	**+1.1**
	comp=Z,1.1nm,0.9s,baz=104,slow=14,SNR=1.5							
KLR					LR	LR	11 19 35.8	
	comp=Z,84nm,20.9s,baz=128,slow=37							
KLR	**Kul'dur**	**12.87**	**297**	*e*	P	**Pn**	**11 14 40.7**	**+1.1**
KLR				AMB	AMB		11 14 47.3	
	comp=Z,30nm,1.0s							
EKMR	**Ekimchan**	**13.68**	**314**	*e*	P	**Pn**	**11 14 52.2**	**+1.5**
EKMR				AMB	AMB		11 15 05.2	
	comp=Z,10.0nm,0.8s							
MA2	**Magadan**	**15.00**	**3**		Pn	**Pn**	**11 15 10.3**	**+1.8**
MA2	**Magadan**	**15.00**	**3**	*i*	P	**Pn**	**11 15 08.9**	**+0.4**
MA2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
MA2	**Magadan**	**15.00**	**3**		P	**Pn**	**11 15 09.5**	**+1.0**
	comp=Z,5.2nm,0.6s,baz=171,slow=10,SNR=5.5							
MA2					LR	LR	11 20 19.5	
	comp=Z,58nm,21.8s,baz=202,slow=35							
MA2	**Magadan**	**15.00**	**3**	*e*	P	**Pn**	**11 15 08.9**	**+0.4**
MA2				AMB	AMB		11 15 15.6	
	comp=Z,10.0nm,0.8s							
BNX	**BinXian**	**15.50**	**282**	‖	P	**P**	**11 15 19.0**	**-0.2**
BNX				pmax	pmax			
	comp=Z,7.0nm,0.4s							
BNX				pmax	pmax			
	comp=Z,190nm,5.0s							
HEH	**HeiHe**	**15.84**	**299**	*e*	P	**P**	**11 15 22.0**	**-0.9**
HEH				pmax	pmax			
	comp=Z,4.0nm,0.9s							
HEH				pmax	pmax			
	comp=Z,130nm,4.4s							
ZEA	**Zeya**	**17.02**	**310**	*e*	P	**P**	**11 15 37.2**	**+1.3**
ZEA	**Zeya**	**17.02**	**310**	*e*	P	**Pn**	**11 15 32.1**	**-2.3**
KSRS	**Korea Array**	**17.64**	**253**		P	**P**	**11 15 44.0**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=56,slow=11,SNR=6.7							
KSRS					LR	LR	11 22 43.9	
	comp=Z,43nm,18.5s,baz=75,slow=38							
JNU	**Nakatsue**	**18.35**	**238**		LR	LR	11 23 29.5	
	comp=Z,24nm,19.9s,baz=359,slow=39							
SEY	**Seymchan**	**18.43**	**4**	*i*	P	**P**	**11 15 50.6**	**-0.8**
SEY				pmax	pmax			
	comp=Z,18nm,1.8s							
SEY	**Seymchan**	**18.43**	**4**		P	**P**	**11 15 50.6**	**-0.8**
	comp=Z,4.9nm,0.7s,baz=181,slow=7.6,SNR=17							
YAK	**Yakutsk**	**20.87**	**334**		P	**P**	**11 16 16.2**	**-1.8**
YAK					IAmb	IAmb	11 16 24.5	
	comp=Z,33nm,1.1s							
YAK	**Yakutsk**	**20.87**	**334**	*ce*	P	Pn	11 16 19.3	-1.3
YAK				pmax	pmax			
	comp=Z,33nm,1.3s							
YAK	**Yakutsk**	**20.87**	**334**		P	**P**	**11 16 16.1**	**-1.8**
	comp=Z,16nm,0.3s,baz=125,slow=4.0,SNR=6.4							
YAK					LR	LR	11 24 36.4	
	comp=Z,67nm,18.9s,baz=112,slow=37							
	comp=Z,16nm,0.3s							
YAK	**Yakutsk**	**20.87**	**334**	*e*	P	Pn	11 16 19.3	-1.3
JOW	**Kunigami**	**24.53**	**231**		LR	LR	11 27 08.0	
	comp=Z,23nm,19.3s,baz=68,slow=38							
BILL	**Bilibino**	**25.10**	**15**	*i*	P	**P**	**11 17 02.9**	**+2.6**
BILL				pmax	pmax			
	comp=Z,14nm,1.9s							
BILL	**Bilibino**	**25.10**	**15**	*i*	P	**P**	**11 17 02.9**	**+2.6**
HNS	**HongShan**	**26.96**	**267**	‖	P	**P**	**11 17 19.4**	**+1.9**
HNS				pmax	pmax			
	comp=Z,7.0nm,1.0s							
H11N2	**WAKE ISLAND Hy**	**28.80**	**144**		T	T	11 48 22.0	
	baz=334,slow=76,SNR=1913							
H11N1	**WAKE ISLAND Hy**	**28.82**	**144**		T	T	11 48 25.0	
	baz=334,slow=76,SNR=1171							
H11N3	**WAKE ISLAND Hy**	**28.82**	**144**		T	T	11 48 29.4	
	baz=334,slow=76,SNR=1166							
TIXI	**Tiksi**	**28.85**	**347**		P	**P**	**11 17 30.5**	**-3.4**
TIXI	**Tiksi**	**28.85**	**347**		P	**P**	**11 17 30.5**	**-3.4**
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.5s							
TIXI	**Tiksi**	**28.85**	**347**		LR	LR	11 28 45.7	
	comp=Z,33nm,20.8s,baz=203,slow=36							
SONM	**Songino Array**	**29.60**	**292**		P	**P**	**11 17 40.0**	**-1.0**
SONM	**Songino Array**	**29.60**	**292**		P	**P**	**11 17 40.1**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=84,slow=9.0,SNR=7.1							
SONM					PcP	**PcP**	**11 20 44.7**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=87,slow=3.8,SNR=2.7							
SONM					LR	LR	11 29 07.0	
	comp=Z,70nm,19.3s,baz=73,slow=36							
	comp=Z,0.7nm,0.6s							
H11S1	**WAKE ISLAND Hy**	**29.82**	**145**		T	T	11 49 44.4	
	baz=335,slow=76,SNR=1064							
H11S3	**WAKE ISLAND Hy**	**29.82**	**145**		T	T	11 49 38.1	
	baz=335,slow=76,SNR=930							
H11S2	**WAKE ISLAND Hy**	**29.83**	**145**		T	T	11 49 42.1	
	baz=335,slow=76,SNR=738							
TNA	**Tin City**	**31.26**	**33**		P	**P**	**11 17 56.6**	**+1.3**
	baz=249							
F14K	**Arctic Creek**	**31.86**	**34**		P	**P**	**11 18 02.4**	**+1.8**
	baz=251							
ANM	**Nome**	**31.96**	**35**		P	**P**	**11 18 02.7**	**+1.1**
ANM	**Nome**	**31.96**	**35**		P	**P**	**11 18 02.7**	**+1.1**
ANM				pmax	pmax			
	comp=Z,2.0nm,1.0s							
ANM	**Nome**	**31.96**	**35**		P	**P**	**11 18 03.6**	**+2.0**
	baz=254							
M13K	**Dall Lake**	**32.00**	**43**		P	**P**	**11 18 04.1**	**+2.2**
	baz=262							
J14K	**Nanvaranak Lak**	**32.31**	**39**		P	**P**	**11 18 01.7**	**-2.8**
J14K					IAmb	IAmb	11 18 06.3	
	comp=Z,6.0nm,0.7s							
L14K	**Kuka Creek**	**32.46**	**42**		P	**P**	**11 18 06.6**	**+0.7**
L14K					IAmb	IAmb	11 18 11.2	
	comp=Z,14nm,1.2s							
L14K	**Kuka Creek**	**32.46**	**42**		P	**P**	**11 18 07.5**	**+1.6**
	baz=262							
F15K	**North Star Dit**	**32.59**	**34**		P	**P**	**11 18 08.3**	**+1.3**
F15K	**North Star Dit**	**32.59**	**34**		P	**P**	**11 18 07.9**	**+0.8**
	baz=253							
G15K	**Niukluk**	**32.63**	**35**		P	**P**	**11 18 09.3**	**+1.9**
	baz=255							
M14K	**Bethel**	**32.73**	**43**		P	**P**	**11 18 09.6**	**+1.4**
M14K	**Bethel**	**32.73**	**43**		P	**P**	**11 18 10.1**	**+1.9**
	baz=263							
L15K	**Ungalak Mounta**	**33.08**	**41**		P	**P**	**11 18 12.4**	**+1.1**
	baz=262							
K15K	**Wolf Creek Mou**	**33.15**	**40**		P	**P**	**11 18 13.4**	**+1.4**
K15K					IAmb	IAmb	11 18 13.7	
	comp=Z,18nm,1.5s							
K15K	**Wolf Creek Mou**	**33.15**	**40**		P	**P**	**11 18 13.2**	**+1.2**
	baz=261							
C16K	**Lisburne Hills**	**33.21**	**29**		P	**P**	**11 18 11.8**	**-0.5**
C16K	**Lisburne Hills**	**33.21**	**29**		P	**P**	**11 18 12.3**	**-0.1**
	baz=248							
H16K	**Elim**	**33.29**	**36**		P	**P**	**11 18 14.1**	**+1.0**
	baz=257							
G16K	**Koyuk River**	**33.42**	**35**		P	**P**	**11 18 13.5**	**-0.8**
J16K	**Anvik River**	**33.73**	**39**		P	**P**	**11 18 18.2**	**+1.2**
J16K	**Anvik River**	**33.73**	**39**		P	**P**	**11 18 18.6**	**+1.6**
	baz=261							
I17K	**Unalakleet**	**33.79**	**38**		P	**P**	**11 18 17.6**	**+0.1**
	baz=260							
D17K	**Noatak River**	**33.81**	**30**		P	**P**	**11 18 18.6**	**+1.0**
	baz=252,SNR=5.1							
C17K	**DeLong Mountai**	**34.03**	**29**		P	**P**	**11 18 20.1**	**+0.5**
	baz=250							
L16K	**Owhat River**	**34.03**	**42**		P	**P**	**11 18 20.8**	**+1.2**
	baz=264							
F17K	**Baldwin Pennin**	**34.13**	**33**		P	**P**	**11 18 21.7**	**+1.3**
F17K	**Baldwin Pennin**	**34.13**	**33**		P	**P**	**11 18 22.2**	**+1.8**
	baz=256							
G17K	**Kiwalik Mounta**	**34.14**	**35**		P	**P**	**11 18 21.8**	**+1.3**
	baz=258							
M16K	**Timber Creek**	**34.21**	**43**		P	**P**	**11 18 22.9**	**+1.7**
	baz=266							
N16K	**Nishlik Lake**	**34.27**	**44**		P	**P**	**11 18 23.4**	**+1.7**
	baz=267							
H17K	**Granite Mounta**	**34.33**	**36**		P	**P**	**11 18 23.0**	**+0.8**
	baz=259							
P16K	**Nushagak River**	**34.60**	**46**		P	**P**	**11 18 27.1**	**+2.6**
	baz=270							
L17K	**Donlin**	**34.63**	**41**		P	**P**	**11 18 26.3**	**+1.5**
	baz=265							
E18K	**Tukpahlearik C**	**34.63**	**31**		P	**P**	**11 18 25.4**	**+0.6**
E18K	**T

comp=Z,25nm,1.6s
L18K Granite Mounta 35.39 41 P P 11 18 32.8 +1.5
L18K IAmb IAmb 11 18 34.1
comp=Z,6.4nm,0.7s
L18K Granite Mounta 35.39 41 P P 11 18 33.2 +1.8
baz=266,SNR=5.1
C19K Lookout Ridge 35.47 29 P P 11 18 32.6 +0.6
C19K IAmb IAmb 11 18 34.8
comp=Z,13nm,1.4s
C19K Lookout Ridge 35.47 29 P P 11 18 32.2 +0.1
baz=254
J18K Innoko River 35.49 39 P P 11 18 33.0 +0.7
J18K IAmb IAmb 11 18 33.8
comp=Z,3.9nm,0.6s
J18K Innoko River 35.49 39 P P 11 18 33.5 +1.2
baz=264
F19K Shaleruckik Mo 35.57 33 P P 11 18 33.4 +0.6
F19K IAmb IAmb 11 18 35.0
comp=Z,3.7nm,0.6s
F19K Shaleruckik Mo 35.57 33 P P 11 18 33.8 +0.9
baz=259
N18K Kilae Creek 35.70 44 P P 11 18 36.5 +2.5
baz=269
G19K Purcell Mounta 35.71 34 P P 11 18 34.7 +0.6
G19K Purcell Mounta 35.71 34 P P 11 18 35.0 +1.0
baz=260,SNR=5.1
M18K Stony River 35.76 42 P P 11 18 36.6 +2.1
baz=268
TTA Tatalina 35.76 40 P P 11 18 35.9 +1.3
TTA IAmb IAmb 11 18 36.7
comp=Z,6.3nm,0.8s
TTA Tatalina 35.76 40 P P 11 18 35.9 +1.3
TTA pmax pmax
comp=Z,6.0nm,0.8s
TTA Tatalina 35.76 40 P P 11 18 35.8 +1.3
baz=266
D19K Kuna River 35.82 30 P P 11 18 35.7 +0.7
D19K Kuna River 35.82 30 P P 11 18 35.8 +0.7
baz=256,SNR=10
SVW2 Sparrevohn 35.86 43 P P 11 18 35.6 +0.2
SVW2 IAmb IAmb 11 18 38.1
comp=Z,8.1nm,0.8s
H19K Roundabout Mou 35.87 35 P P 11 18 36.7 +1.3
H19K Roundabout Mou 35.87 35 P P 11 18 36.4 +1.1
baz=262
E19K Redstone River 35.91 32 P P 11 18 36.8 +1.0
E19K Redstone River 35.91 32 P P 11 18 36.7 +1.0
baz=258
P18K Big Mountain, 36.02 46 P P 11 18 38.8 +2.0
baz=271
J19K Poorman 36.03 38 P P 11 18 37.7 +0.9
J19K IAmb IAmb 11 18 38.7
comp=Z,5.9nm,0.7s
J19K Poorman 36.03 38 P P 11 18 38.1 +1.3
baz=265
O18K Koktuh Hills 36.03 45 P P 11 18 39.4 +2.5
baz=271
L19K White Mountain 36.24 41 P P 11 18 39.5 +0.8
L19K IAmb IAmb 11 18 43.3
comp=Z,3.8nm,0.8s
L19K White Mountain 36.24 41 P P 11 18 40.5 +1.7
baz=268
N19K Bonanza Creek 36.39 43 P P 11 18 40.6 +0.5
N19K IAmb IAmb 11 18 42.7
comp=Z,4.6nm,0.8s
F20K Avaraart Lake 36.40 33 P P 11 18 40.1 +0.2
F20K Avaraart Lake 36.40 33 P P 11 18 41.0 +1.1
baz=260
D20K Etivluk River 36.41 30 P P 11 18 41.1 +1.0
baz=257
M19K Big River Lodg 36.45 42 P P 11 18 41.5 +1.0
M19K IAmb IAmb 11 18 43.1
comp=Z,5.5nm,0.8s
M19K Big River Lodg 36.45 42 P P 11 18 42.4 +1.9
baz=269
E20K Nigu River 36.46 31 P P 11 18 41.5 +0.9
baz=258,SNR=15
O19K Port Alsworth 36.47 44 P P 11 18 43.4 +2.8
baz=271
H20K Anotleneega Mo 36.51 35 P P 11 18 42.4 +1.4
baz=263
B20K Meade River 36.54 28 P P 11 18 41.6 +0.5
baz=255
I20K Naaghedeneel 36.60 37 P P 11 18 42.9 +1.3
baz=265
K20K Telida 36.67 39 P P 11 18 43.9 +1.6
K20K Telida 36.67 39 P P 11 18 43.3 +1.0
baz=267
J20K Nowinta River 36.69 38 P P 11 18 43.8 +1.4
J20K Nowinta River 36.69 38 P P 11 18 43.6 +1.2
baz=266
GTA Gaotai 36.70 280 P P 11 18 43.0 0.0
GTA pmax pmax
comp=Z,9.0nm,0.7s
L20K Farewell, AK 36.71 41 P P 11 18 44.5 +1.8
baz=268
IMAR Indian Mountai 37.03 35 P P 11 18 46.0 +0.7
M20K Styx River 37.05 42 P P 11 18 47.2 +1.6
M20K IAmb IAmb 11 18 48.1
comp=Z,5.6nm,0.7s
M20K Styx River 37.05 42 P P 11 18 48.0 +2.4
baz=270
A21K Barrow 37.08 26 P P 11 18 45.8 +0.2
baz=254,SNR=17
C21K Knifeblade Rid 37.15 29 P P 11 18 47.5 +1.2
baz=259,SNR=9.9
G21K Allakaket 37.19 34 P P 11 18 48.2 +1.5
G21K IAmb IAmb 11 18 50.0
comp=Z,7.7nm,0.8s
G21K Allakaket 37.19 34 P P 11 18 48.1 +1.3
baz=263
F21K Alatna River 37.30 33 P P 11 18 48.6 +1.0
F21K Alatna River 37.30 33 P P 11 18 48.9 +1.3
baz=262
B21K Ikpikpuk River 37.31 29 P P 11 18 48.9 +1.4
baz=258
O20K Slope Mountain 37.32 45 P P 11 18 50.4 +2.4
baz=273
H21K Melozitna Rive 37.39 35 P P 11 18 49.6 +1.3
H21K IAmb IAmb 11 18 50.5
comp=Z,15nm,1.4s
H21K Melozitna Rive 37.39 35 P P 11 18 49.4 +1.0
baz=265
CHUM Lake Minchumin 37.48 38 P P 11 18 50.7 +1.6
baz=268
N20K Mount Spurr 37.49 43 P P 11 18 51.8 +2.4
baz=272
PPLA Purkeypile 37.50 40 P P 11 18 51.5 +2.0
baz=269
CAST Castle Rocks 37.56 39 P P 11 18 51.7 +1.8
CAST Castle Rocks 37.56 39 P P 11 18 51.9 +2.0
baz=269,SNR=6.7
I21K Tanana 37.69 36 P P 11 18 52.0 +1.1
I21K IAmb IAmb 11 18 52.8
comp=Z,4.7nm,0.6s
I21K Tanana 37.69 36 P P 11 18 52.4 +1.5
baz=266
D22K Ayikyak River 37.84 30 P P 11 18 53.2 +1.0
D22K Ayikyak River 37.84 30 P P 11 18 52.9 +0.7
baz=261
B22K Teshekpuk Lake 37.86 28 P P 11 18 52.7 +0.4
baz=258
H22K Ishtalitna Cre 37.99 35 P P 11 18 54.9 +1.4
baz=266
E22K Anaktuvuk Pass 38.05 31 P P 11 18 54.9 +0.9
E22K Anaktuvuk Pass 38.05 31 P P 11 18 55.1 +1.1
baz=263,SNR=14
BPAW Bear Paw Mtn. 38.07 38 P P 11 18 55.3 +1.1
BPAW IAmb IAmb 11 18 57.9
comp=Z,4.4nm,1.0s
BPAW Bear Paw Mtn. 38.07 38 P P 11 18 55.7 +1.5
baz=269
KTH Kantishna Hill 38.09 39 P P 11 18 55.9 +1.5
SUA Susitna One 38.19 42 P P 11 18 55.8 +0.5
SUA IAmb IAmb 11 18 56.7
comp=Z,8.4nm,1.1s
SUA Susitna One 38.19 42 P P 11 18 56.5 +1.2
baz=272
MLY Manley 38.21 36 P P 11 18 57.1 +1.8
MLY IAmb IAmb 11 18 57.6
comp=Z,4.3nm,0.7s
MLY Manley 38.21 36 P P 11 18 56.9 +1.5
baz=268,SNR=5.3
TRF Thorofare Moun 38.37 39 P P 11 18 57.4 +0.5
TRF IAmb IAmb 11 19 01.0
comp=Z,4.7nm,0.9s
TRF Thorofare Moun 38.37 39 P P 11 18 57.9 +1.1
baz=270
CUT Chulitna 38.39 41 P P 11 18 57.4 +0.6
CUT Chulitna 38.39 41 P P 11 18 58.0 +1.2
baz=272
COLD Coldfoot 38.57 33 P P 11 18 59.4 +1.1
baz=266,SNR=6.3
D23K Nanushuk River 38.57 30 P P 11 18 59.7 +1.4
baz=263
G23K Bananza Creek 38.60 34 P P 11 18 58.9 +0.3
G23K IAmb IAmb 11 19 01.6
comp=Z,4.5nm,0.9s
G23K Bananza Creek 38.60 34 P P 11 18 59.7 +1.1
baz=266
C23K Itkillik River 38.72 29 P P 11 19 00.1 +0.6
C23K Itkillik River 38.72 29 P P 11 19 00.3 +0.8
baz=262,SNR=10
I23K Minto, Yukon-K 38.80 36 P P 11 19 01.4 +1.1
I23K IAmb IAmb 11 19 02.1
comp=Z,3.1nm,0.7s
I23K Minto, Yukon-K 38.80 36 P P 11 19 01.3 +1.1
baz=269
E23K Chandalar 38.86 32 P P 11 19 02.1 +1.3
baz=265,SNR=9.1
NEA2 Nenana 38.91 37 P P 11 19 02.1 +0.9
NEA2 IAmb IAmb 11 19 03.2
comp=Z,8.5nm,0.8s
NEA2 Nenana 38.91 37 P P 11 19 02.5 +1.3
baz=270,SNR=9.1
TOLK Toolik Lake Re 38.94 31 P P 11 19 02.1 +0.7
TOLK IAmb IAmb 11 19 05.5
comp=Z,12nm,1.4s
TOLK Toolik Lake Re 38.94 31 P P 11 19 02.4 +0.9
baz=264,SNR=5.7
PMR Palmer 38.96 42 P P 11 19 03.0 +1.4
baz=274
MCK McKinley 38.97 39 P P 11 19 02.6 +0.9
baz=271
RND Reindeer 39.02 39 P P 11 19 02.8 +0.6
RND IAmb IAmb 11 19 09.4
comp=Z,6.2nm,1.1s
RND Reindeer 39.02 39 P P 11 19 02.8 +0.6
RND pmax pmax
comp=Z,6.0nm,1.1s
WAT1 Susitna Watana 39.17 40 P P 11 19 04.3 +0.9
baz=273
D24K Happy Valley 39.26 30 P P 11 19 04.9 +0.9
D24K Happy Valley 39.26 30 P P 11 19 05.7 +1.7
baz=264
NRIK Noril'sk 39.26 330 LR LR 11 35 53.5
comp=Z,74nm,19.0s,baz=26,slow=37
MDM Murphy Dome 39.27 37 P P 11 19 05.5 +1.3
MDM IAmb IAmb 11 19 06.3
comp=Z,7.0nm,0.7s
E24K Your Creek 39.29 32 P P 11 19 05.1 +0.7
E24K Your Creek 39.29 32 P P 11 19 05.4 +1.1
baz=266
KNK Knik Glacier 39.29 42 P P 11 19 05.4 +1.0
baz=274
SML Sawmill 39.33 42 P P 11 19 06.3 +1.6
SML Sawmill 39.33 42 P P 11 19 06.1 +1.3
baz=274,SNR=6.1
WRH Wood River Hil 39.34 37 P P 11 19 05.8 +1.1
WRH IAmb IAmb 11 19 07.3
comp=Z,4.4nm,0.6s
C24K Franklin Bluff 39.36 29 P P 11 19 05.9 +1.0
baz=264
H24K Noodor Dome 39.43 35 P P 11 19 06.3 +0.8
H24K Noodor Dome 39.43 35 P P 11 19 07.0 +1.5
baz=270
COLA College 39.43 37 *i* P P 11 19 05.6 +0.1
COLA pmax pmax
comp=Z,8.0nm,0.8s
COLA College 39.43 37 P P 11 19 07.2 +1.6
baz=271
CCB Clear Creek Bu 39.46 37 P P 11 19 06.8 +1.0
F24K Squaw Lake 39.48 33 P P 11 19 06.0 +0.1
F24K Squaw Lake 39.48 33 P P 11 19 07.0 +1.0
baz=267
WAT6 Susitna Watana 39.56 40 P P 11 19 07.7 +0.9
baz=274
G24K Hadweenzic Riv 39.61 34 P P 11 19 08.8 +1.8
baz=269,SNR=8.7
POKR Poker Plat Res 39.61 36 P P 11 19 08.7 +1.7
baz=271,SNR=11
DHY Denali Highway 39.70 40 P P 11 19 08.3 +0.3
DHY IAmb IAmb 11 19 21.6
comp=Z,9.3nm,1.2s
DHY Denali Highway 39.70 40 P P 11 19 08.7 +0.7
baz=273
SCM Sheep Creek Mo 39.80 41 P P 11 19 09.6 +0.9
baz=275
HDA Harding Lake 39.83 37 P P 11 19 09.3 +0.4
baz=272,SNR=6.9
IL31 39.85 37 P P 11 19 09.5 +0.5
IL31 IAmb IAmb 11 19 11.7
comp=Z,4.8nm,0.9s
ILAR Eielson Array 39.85 37 P P 11 19 09.2 +0.2
ILAR Eielson Array 39.85 37 P P 11 19 09.6 +0.6
comp=Z,2.5nm,0.7s,baz=266,slow=8.4,SNR=61
ILAR PcP **PcP 11 21 13.0 -1.2**
comp=Z,0.2nm,0.7s,baz=276,slow=4.6,SNR=1.8
comp=Z,2.5nm,0.7s
D25K Kavik River 40.14 30 P P 11 19 11.7 +0.2
D25K Kavik River 40.14 30 P P 11 19 12.4 +0.9
baz=267
G25K Bearman Lake 40.16 34 P P 11 19 13.2 +1.7
baz=270
M24K Tolsona, Glenn 40.32 41 P P 11 19 14.2 +1.2
baz=276
F25K Christian Rive 40.34 32 P P 11 19 14.4 +1.2
baz=269,SNR=6.1
K24K Donnelly Dome 40.37 38 P P 11 19 13.6 +0.1
baz=274
E25K Arctic Village 40.38 32 P P 11 19 14.8 +1.4
E25K Arctic Village 40.38 32 P P 11 19 14.4 +1.0
baz=269
PRP Porcupine Dome 40.40 36 P P 11 19 14.7 +0.9
PRP IAmb IAmb 11 19 15.9
comp=Z,7.3nm,1.0s
PRP Porcupine Dome 40.40 36 P P 11 19 14.8 +1.0
baz=272
KLU Klutina 40.50 42 P P 11 19 16.2 +1.7
baz=276
J25K Salcha River, 40.51 37 P P 11 19 14.3 -0.2
J25K Salcha River, 40.51 37 P P 11 19 14.4 -0.1
baz=273
PAX Paxson 40.57 40 P P 11 19 17.4 +2.3
baz=275
C26K Camden Bay 40.69 29 P P 11 19 16.8 +1.0
baz=267
HARP HAARP 40.77 40 P P 11 19 18.5 +1.9
baz=276
RIDG Independent Ri 40.79 38 P P 11 19 17.2 +0.3
RIDG IAmb IAmb 11 19 21.2
comp=Z,5.0nm,0.8s
F26K Sheenjek River 40.92 32 P P 11 19 19.4 +1.6
baz=271
G26K Porcupine Rive 41.07 33 P P 11 19 20.7 +1.7
baz=272
N25K Chitina, Valde 41.12 42 P P 11 19 21.6 +2.0
baz=277
SCRK Sand Creek 41.15 38 P P 11 19 20.2 +0.3
SCRK IAmb IAmb 11 19 22.8
comp=Z,4.7nm,0.6s
SCRK Sand Creek 41.15 38 P P 11 19 20.6 +0.7
baz=275,SNR=6.0
BMRM Bremner River 41.19 43 P P 11 19 21.6 +1.4
baz=278
J26L Joseph Creek 41.29 37 P P 11 19 21.3 +0.3
J26L Joseph Creek 41.29 37 P P 11 19 21.1 0.0
baz=275
DGZ Jazzator, Alta 41.34 300 *i* P P 11 19 21.0 -0.7
DGZ pmax pmax
comp=Z,7.0nm,2.0s
MENT Mentasta 41.37 40 P P 11 19 22.9 +1.3
I26K Coal Creek Min 41.41 36 P P 11 19 21.8 0.0
L26K Log Cabin Wild 41.53 39 P P 11 19 23.4 +0.5
L26K IAmb IAmb 11 19 25.6
comp=Z,5.4nm,0.8s
L26K Log Cabin Wild 41.53 39 P P 11 19 25.4 +2.5
baz=277,SNR=5.2
GOMU GeErMu 41.68 278 P P 11 19 22.7 -2.2
GOMU pmax pmax
comp=Z,8.0nm,0.9s
ZALV Zalesovo Beam 41.73 307 P P 11 19 23.0 -1.7
comp=Z,0.5nm,0.3s,baz=54,slow=7.3,SNR=2.5
ZALV PcP **PcP 11 21 19.7 -0.8**
comp=Z,2.3nm,0.6s,baz=77,slow=2.8,SNR=8.5
comp=Z,0.5nm,0.3s
M26K Nabesna, AK 41.77 40 P P 11 19 26.4 +1.5
M26K IAmb IAmb 11 19 27.9
comp=Z,12nm,1.1s
M26K Nabesna, AK 41.77 40 P P 11 19 26.9 +2.0
baz=278
MCARA McCarthy VSAT 41.89 42 P P 11 19 27.7 +1.8
baz=279
CRQM Cirque 41.94 43 P P 11 19 27.6 +1.2
CRQE Cirque 41.96 43 P P 11 19 28.0 +1.4
baz=280
BGLC Bering Glacier 41.97 44 P P 11 19 28.4 +1.9
baz=280
K27K Chicken 41.98 38 P P 11 19 28.0 +1.4
K27K IAmb IAmb 11 19 29.4
comp=Z,8.8nm,0.9s
K27K Chicken 41.98 38 P P 11 19 27.8 +1.2
baz=277
H27K Steamboat Moun 42.01 34 P P 11 19 28.7 +1.9
baz=275
I27K Kandik River 42.02 35 P P 11 19 28.1 +1.1
baz=275
D27M Malcolm River 42.06 30 P P 11 19 28.1 +0.8
baz=272
PZH PanZhiHua 42.08 261 P P 11 19 29.3 +1.3
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,120nm,5.9s
L27K Beaver Creek, 42.21 39 P P 11 19 30.4 +1.9
L27K IAmb IAmb 11 19 31.2
comp=Z,7.3nm,0.7s
L27K Beaver Creek, 42.21 39 P P 11 19 30.1 +1.6
baz=278
BCAR Beaver Creek A 42.23 39 P P 11 19 30.4 +1.8
EGAK Eagle 42.30 37 P P 11 19 29.9 +0.8
EGAK IAmb IAmb 11 19 30.4
comp=Z,5.2nm,0.6s
EGAK Eagle 42.30 37 P P 11 19 29.4 +0.3
baz=277
F28M Old Crow 42.55 32 P P 11 19 32.6 +1.4
F28M Old Crow 42.55 32 P P 11 19 32.6 +1.4
baz=275,SNR=5.1
E28M Babbage River 42.61 31 P P 11 19 33.0 +1.3
E28M Babbage River 42.61 31 P P 11 19 32.9 +1.3
baz=274
I28M Miner Creek 42.73 36 P P 11 19 33.5 +0.7
I28M IAmb IAmb 11 19 35.0
comp=Z,7.7nm,0.6s
I28M Miner Creek 42.73 36 P P 11 19 34.4 +1.6
baz=277
BVCY Beaver Creek 42.75 40 P P 11 19 34.7 +1.8
baz=280
D28M Stokes Point 42.85 30 P P 11 19 34.9 +1.3
baz=274
DAWY Dawson 43.15 38 P P 11 19 36.9 +0.8
DAWY Dawson 43.15 38 P P 11 19 37.0 +0.9
baz=279
E29M Blow River 43.23 31 P P 11 19 38.7 +2.0
E29M IAmb IAmb 11 19 39.8
comp=Z,6.7nm,1.0s
E29M Blow River 43.23 31 P P 11 19 38.2 +1.5
baz=276
H29M Whitestone 43.28 34 P P 11 19 38.1 +1.0
H29M Whitestone 43.28 34 P P 11 19 39.2 +2.0
baz=278
G29M Pine Creek 43.34 33 P P 11 19 38.7 +1.2
G29M Pine Creek 43.34 33 P P 11 19 39.4 +1.8
baz=277
M29M Somme Creek 43.84 40 P P 11 19 43.4 +1.6
baz=281
L29M L29M 43.87 39 P P 11 19 43.1 +1.3
L29M IAmb IAmb 11 19 45.9
comp=Z,7.7nm,1.1s
L29M L29M 43.87 39 P P 11 19 44.2 +2.3
baz=281
EPYK Eagle Plains 43.92 34 P P 11 19 43.5 +1.2
EPYK IAmb IAmb 11 19 44.7
comp=Z,13nm,1.1s
EPYK Eagle Plains 43.92 34 P P 11 19 43.9 +1.6
baz=279,SNR=6.5
K29M Barlow Dome 44.00 38 P P 11 19 44.6 +1.5
baz=281
G30M tAoh Zraii Nji 44.03 33 P P 11 19 43.6 +0.5
G30M IAmb IAmb 11 19 46.7
comp=Z,6.7nm,0.9s
G30M tAoh Zraii Nji 44.03 33 P P 11 19 44.2 +1.1
baz=278
F30M Barrier River 44.11 32 P P 11 19 45.8 +2.0
baz=278
I30M Mount Dempster 44.24 36 P P 11 19 46.1 +1.1
I30M IAmb IAmb 11 19 47.2
comp=Z,11nm,0.8s
I30M Mount Dempster 44.24 36 P P 11 19 46.5 +1.5
baz=280
J30M Hart River 44.38 36 P P 11 19 47.4 +1.3
J30M IAmb IAmb 11 19 48.2
comp=Z,12nm,1.4s
J30M Hart River 44.38 36 P P 11 19 47.6 +1.5
baz=281
M30M Minto, Yukon 44.57 39 P P 11 19 49.7 +2.2
baz=282
HYT Haines Junctio 44.63 42 P P 11 19 50.0 +1.9
HYT IAmb IAmb 11 19 51.4
comp=Z,9.3nm,0.9s
HYT Haines Junctio 44.63 42 P P 11 19 50.5 +2.4
baz=284
N30M Aishikik Lake 44.68 41 P P 11 19 51.4 +3.0
baz=283
G31M Satah River 44.80 33 P P 11 19 50.4 +1.2
baz=280
P29M Windy Craggy 44.81 44 P P 11 19 51.6 +2.3
P29M Windy Craggy 44.81 44 P P 11 19 51.8 +2.3
baz=285
INK Inuvik 44.85 31 P P 11 19 50.3 +0.8
INK IAmb IAmb 11 19 51.5
comp=Z,6.5nm,1.1s
INK Inuvik 44.85 31 P P 11 19 50.3 +0.8
INK pmax pmax
comp=Z,7.0nm,1.2s
INK Inuvik 44.85 31 P P 11 19 50.7 +1.1
baz=280,SNR=5.7
F31M Tsiigehtchic 44.91 32 P P 11 19 51.3 +1.3
F31M IAmb IAmb 11 19 52.0
comp=Z,5.8nm,0.7s
F31M Tsiigehtchic 44.91 32 P P 11 19 51.4 +1.3
baz=280,SNR=8.0
H31M Peel River 44.97 35 P P 11 19 52.3 +1.6
baz=281
P30M Million Dollar 45.06 43 P P 11 19 54.1 +2.6
baz=285
TNCH TengChong 45.27 262 P P 11 19 54.1 +0.4
TNCH S **S 11 26 36.2 +4.4**
TNCH pmax pmax
comp=Z,84nm,2.7s
O30N Mendenhall 45.32 42 P P 11 19 53.5 0.0
baz=285
MK31 Makanchi Array 45.58 298 P P 11 19 54.8 -0.9
MK31 Makanchi Array 45.58 298 P P 11 19 54.8 -0.9
MK31 pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 45.58 298 *ce* P P 11 19 54.9 -0.8
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 45.58 298 P P 11 19 54.6 -1.1
comp=Z,2.3nm,0.6s,baz=75,slow=8.3,SNR=27
MKAR PcP **PcP 11 21 33.2 -0.5**
comp=Z,1.0nm,0.6s,baz=72,slow=3.8,SNR=5.7
MKAR LR LR 11 39 31.4
comp=Z,58nm,18.1s,baz=56,slow=37
comp=Z,2.3nm,0.6s
M31M Drury Creek, Y 45.75 39 P P 11 19 58.4 +1.5
M31M IAmb IAmb 11 20 12.0
comp=Z,6.9nm,1.3s
M31M Drury Creek, Y 45.75 39 P P 11 19 57.9 +1.0
baz=285
FARO Faro, Yukon 46.21 39 P P 11 20 01.8 +1.2
FARO IAmb IAmb 11 20 11.1
comp=Z,9.3nm,1.4s
FARO Faro, Yukon 46.21 39 P P 11 20 01.7 +1.2
baz=286
KURK Kurchatov 46.35 304 P P 11 19 59.7 -1.9
KURK Kurchatov 46.35 304 *ce* P P 11 19 59.8 -1.9
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURBB Kurchatov Arra 46.43 304 P P 11 20 01.1 -1.3

comp=Z,2.0nm,0.7s,baz=68,slow=8.4,SNR=13
KURBB PcP **PcP** **11 21 36.0 -0.5**
comp=Z,1.6nm,0.6s,baz=73,slow=3.6,SNR=8.4
comp=Z,2.0nm,0.7s
A36M Sachs Harbour 46.92 25 P **P** **11 20 06.5 +0.6**
A36M Sachs Harbour 46.92 25 P **P** **11 20 06.4 +0.6**
baz=283,SNR=9.7
P33M Teslin, Yukon 47.03 42 P **P** **11 20 08.4 +1.4**
baz=288
Q32M Nakina River 47.69 43 P **P** **11 20 14.2 +2.0**
Q32M IAmb IAmb 11 20 42.0
comp=Z,11nm,1.2s
R33M Jennings River 48.18 42 P **P** **11 20 17.6 +1.6**
R33M IAmb IAmb 11 20 48.3
comp=Z,8.1nm,1.5s
R33M Jennings River 48.18 42 P **P** **11 20 17.8 +1.8**
baz=290
WTLY Watson Lake, Y 48.96 41 P **P** **11 20 22.8 +0.9**
baz=291
DLBC Dease Lake 48.97 43 P **P** **11 20 23.9 +1.9**
DLBC IAmb IAmb 11 20 50.6
comp=Z,6.3nm,1.1s
DLBC Dease Lake 48.97 43 P **P** **11 20 23.5 +1.5**
comp=Z,3.2nm,0.9s,baz=285,slow=6.1,SNR=6.0
comp=Z,3.2nm,0.9s
CMAR Chiang Mai Arr 49.28 255 P **P** **11 20 24.1 -0.6**
comp=Z,0.5nm,0.5s,baz=39,slow=7.3,SNR=1.4
CMAR LR LR 11 43 11.5
comp=Z,23nm,18.0s,baz=85,slow=38
comp=Z,0.5nm,0.5s
BVAR Borovoye Array 50.16 309 P **P** **11 20 29.8 -1.3**
comp=Z,0.9nm,0.6s,baz=72,slow=9.3,SNR=4.9
BVAR PcP **PcP** **11 21 49.1 -0.9**
comp=Z,0.9nm,0.5s,baz=104,slow=4.8,SNR=4.5
comp=Z,0.9nm,0.6s
BRVK Borovoye 50.21 310 *ce*P **P** **11 20 30.5 -0.9**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
WRGLY Wrigley 50.21 36 P **P** **11 20 32.7 +1.4**
baz=292
AAK Ala-Archa 52.39 296 *ce*P **P** **11 20 47.5 -0.7**
AAK pmax pmax
comp=Z,6.0nm,2.5s
AAK Ala-Archa 52.39 296 LR LR 11 43 30.1
comp=Z,45nm,18.5s,baz=34,slow=37
KSH Kashi 53.00 292 P **P** **11 20 56.3 +3.6**
KSH pmax pmax
comp=Z,5.0nm,0.8s
RES Resolute Bay 53.67 17 P **P** **11 20 57.1 +0.2**
RES Resolute Bay 53.67 17 P **P** **11 20 57.1 +0.2**
RES pmax pmax
comp=Z,17nm,1.0s
YKA Yellowknife Ar 54.19 35 P **P** **11 21 00.5 -0.4**
YKA Yellowknife Ar 54.19 35 P **P** **11 21 01.6 +0.7**
comp=Z,3.1nm,0.7s,baz=298,slow=7.2,SNR=51
YKA PcP **PcP** **11 22 04.9 0.0**
comp=Z,0.3nm,0.6s,baz=301,slow=3.6,SNR=2.2
comp=Z,3.1nm,0.7s
KK31 Karatay Array 54.69 298 P **P** **11 21 03.6 -1.2**
KK31 Karatay Array 54.69 298 P **P** **11 21 03.6 -1.2**
KK31 pmax pmax
comp=Z,2.0nm,0.9s
KKAR Karatay Array 54.69 298 P **P** **11 21 03.8 -1.0**
KKAR Karatay Array 54.69 298 P **P** **11 21 03.8 -1.0**
ARU Arti 54.78 317 LR LR 11 47 04.6
comp=Z,62nm,19.7s,baz=344,slow=39
GAR Garm 56.99 294 P **P** **11 21 20.4 -1.1**
NEEM North Greenlan 57.54 5 *e*P **P** **11 21 22.9 -2.1**
NEEM IAmb IAmb 11 21 24.0
comp=Z,11nm,0.7s
ABKAR Akbulak array 57.74 309 P **P** **11 21 25.6 -0.9**
CHGR Chuyangaron 57.94 294 P **P** **11 21 26.8 -1.3**
CHGR Chuyangaron 57.94 294 P **P** **11 21 26.8 -1.3**
CHGR pmax pmax
comp=Z,25nm,0.8s
SIMJ Simiganj 58.03 295 P **P** **11 21 27.9 -0.9**
DAG Danmarks Havn 58.64 357 *e*P **P** **11 21 29.7 -2.6**
ARCES ARCESS Array B 58.97 340 P **P** **11 21 32.1 -2.6**
comp=Z,4.5nm,1.1s,baz=46,slow=8.7,SNR=6.6
comp=Z,4.5nm,1.1s
NEW Newport 60.57 50 P **P** **11 21 47.4 +1.3**
baz=305
UPNV Upernavik 61.56 8 *e*P **P** **11 21 50.9 -1.4**
UPNV IAmb IAmb 11 21 51.2
comp=Z,10nm,0.7s
SUMG Summit 62.98 3 *i*P **P** **11 22 01.0 -1.3**
SUMG IAmb IAmb 11 22 03.2
comp=Z,6.5nm,0.8s
EGMT Eagleton 64.65 47 P **P** **11 22 14.6 +1.2**
baz=309,SNR=5.4
FINES FINESS Array B 64.80 334 *i*P **P** **11 22 12.5 -1.5**
FINES pmax pmax
comp=Z,4.0nm,0.6s
FINES FINESS Array B 64.80 334 P **P** **11 22 13.1 -0.9**
comp=Z,3.6nm,0.6s,baz=43,slow=6.2,SNR=21
comp=Z,3.6nm,0.6s
HLID Hailey 64.90 53 P **P** **11 22 16.4 +1.3**
baz=309
BOZ Bozeman (W) 65.18 50 P **P** **11 22 18.4 +1.5**
baz=309,SNR=12
GEYT Alibeck 65.39 300 P **P** **11 22 17.6 -0.7**
comp=Z,4.7nm,0.7s,baz=66,slow=3.5,SNR=8.1
comp=Z,4.7nm,0.7s
OBN Obninsk 65.53 324 *e*P **P** **11 22 18.1 -0.7**
OBN *e**PP **sP** **11 22 34.8 +1.9**
OBN *e**SP PcP 11 22 41.7 -8.6
OBN *e* 11 22 50.5
OBN *e* 11 24 44.2
OBN *e*PPP PPP 11 26 15.3
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,26nm,11.0s
OBN Obninsk 65.53 324 *e*P **P** **11 22 18.1 -0.7**
WRA Warramunga Arr 65.70 195 P **P** **11 22 20.5 +0.3**
comp=Z,0.8nm,0.7s,baz=13,slow=6.6,SNR=5.3
comp=Z,0.8nm,0.7s
NVAR Mina Array Bea 65.78 59 P **P** **11 22 22.2 +1.2**
comp=Z,1.1nm,0.7s,baz=299,slow=7.1,SNR=12
comp=Z,1.1nm,0.7s
H17A Grant Village 66.52 50 P **P** **11 22 28.4 +2.7**
baz=310
RLMT Red Lodge 66.76 49 P **P** **11 22 28.4 +1.2**
baz=311
DGMT Dagmar 67.18 44 P **P** **11 22 30.6 +1.0**
baz=312,SNR=5.9
GRAC Grapevine Rang 67.26 60 P **P** **11 22 31.7 +1.5**
baz=310
R11B Troy Canyon, C 67.49 58 P **P** **11 22 32.8 +0.9**
baz=310
MPMC Manual Prospec 67.78 61 P **P** **11 22 35.2 +1.5**
baz=310
FURC Furnace Creek, 67.91 60 P **P** **11 22 35.9 +1.6**
baz=310
DUG Dugway, Tooele 67.95 55 P **P** **11 22 35.7 +1.0**
baz=311
BW06 Boulder Array 68.14 51 P **P** **11 22 36.8 +0.8**
baz=311,SNR=5.9
PDAR Pinedale Array 68.14 51 P **P** **11 22 36.6 +0.6**
comp=Z,1.9nm,0.7s,baz=274,slow=1.7,SNR=24
comp=Z,1.9nm,0.7s
NB2 NORSAR Subarra 69.34 340 P **P** **11 22 41.3 -1.6**
comp=Z,4.2nm,0.6s,baz=31,slow=6.5
NOA NORSAR Array B 69.34 340 P **P** **11 22 41.2 -1.6**
comp=Z,1.2nm,0.4s,baz=33,slow=6.6,SNR=39
comp=Z,1.2nm,0.4s
ASAR Alice Springs 69.41 195 P **P** **11 22 44.2 +0.5**
comp=Z,0.5nm,0.7s,baz=9.8,slow=4.6,SNR=6.9
comp=Z,0.5nm,0.7s
HFS Hagfors 69.48 338 P **P** **11 22 42.0 -1.7**
HFS Hagfors 69.48 338 P **P** **11 22 42.0 -1.7**
comp=Z,2.6nm,0.4s,baz=44,slow=5.4,SNR=40
comp=Z,2.6nm,0.4s
GMRC Granite Mounta 69.74 61 P **P** **11 22 47.4 +1.5**
baz=311
ULM Lac du Bonnet 69.84 38 P **P** **11 22 45.4 -0.7**
comp=Z,1.1nm,0.5s,baz=286,slow=7.4,SNR=4.3
comp=Z,1.1nm,0.5s
K22A Casper 69.89 50 P **P** **11 22 47.4 +0.6**
baz=313
RSSD Black Hills 70.21 47 P **P** **11 22 49.1 +0.4**
baz=314
KIV Kislovodsk 70.34 313 ⇓P **P** **11 22 49.5 +0.1**
KIV Kislovodsk 70.34 313 *e*P **P** **11 22 47.9 -1.5**
KIV pmax pmax
comp=Z,18nm,0.9s
KIV MLR MLR
comp=Z,32nm,18.0s
KBZ Khabaz 70.39 312 *ce*P **P** **11 22 48.6 -0.9**
KBZ pmax pmax
comp=Z,10.0nm,0.9s
KBZ Khabaz 70.39 312 P **P** **11 22 49.2 -0.2**
comp=Z,8.0nm,0.8s,baz=60,slow=3.5,SNR=25
comp=Z,8.0nm,0.8s
O20A White River Ci 70.63 53 P **P** **11 22 52.8 +1.5**
baz=313
AGMN Agassiz Nation 71.27 40 P **P** **11 22 54.5 -0.3**
baz=317
N23A Red Feather La 71.40 51 P **P** **11 22 57.4 +1.3**
baz=314
AKASG Malin Array Be 71.79 325 P **P** **11 22 56.7 -1.2**
comp=Z,2.7nm,0.5s,baz=36,slow=5.9,SNR=18
comp=Z,2.7nm,0.5s
AKBB Malin Array Si 71.79 325 *ce*P **P** **11 22 55.7 -2.2**
AKBB pmax pmax
comp=Z,10.0nm,0.9s
KIEV Kiev 71.81 325 ⇑P **P** **11 22 56.3 -1.7**
KIEV Kiev 71.81 325 ⇑P **P** **11 22 56.3 -1.7**
ISCO Idaho Springs 72.33 51 P **P** **11 23 03.0 +1.2**
baz=314
MVCO Mesa Verde 72.46 55 P **P** **11 23 03.4 +1.0**
baz=313
EYMN Ely 73.48 38 P **P** **11 23 07.8 -0.3**
baz=320
OGNE Ogallala 73.49 48 P **P** **11 23 08.8 +0.5**
baz=315
SDCO Great Sand Dun 73.82 53 P **P** **11 23 12.3 +1.7**
baz=314
SORM Soroca 74.13 323 ⇑P **P** **11 23 10.3 -1.5**
SORM Soroca 74.13 323 ⇑P **P** **11 23 10.3 -1.5**
T25A Trinidad 74.86 53 P **P** **11 23 17.7 +1.2**
baz=315
MILM Milestii Mici 74.87 322 *e*P **P** **11 23 15.0 -1.1**
comp=Z,20nm,0.7s
MILM Milestii Mici 74.87 322 *e*P **P** **11 23 15.0 -1.1**
MILM pmax pmax
comp=Z,20nm,0.7s
DIKM Dikmen 75.81 315 ⇓P **P** **11 23 22.6 +1.0**
BURAR Bucovina Array 75.85 325 ⇓P **P** **11 23 21.8 -0.1**
BURAR Bucovina Array 75.85 325 ⇓P **P** **11 23 21.8 -0.1**
KOLS Kolonicke sedl 75.97 327 *e*P **P** **11 23 23.1 +0.7**
KOLS pmax pmax
comp=Z,8.0nm,1.0s
KOLS Kolonicke sedl 75.97 327 *e*P **P** **11 23 23.1 +0.7**
STHS Stebnicka Huta 75.97 328 *e*P **P** **11 23 22.2 -0.2**
STHS Stebnicka Huta 75.97 328 *e*P **P** **11 23 22.2 -0.2**
RUE Ruedersdorf 75.99 334 *e*P **P** **11 23 23.4 +1.0**
comp=Z,18nm,0.5s,baz=29,slow=5.5
VLDR Vladesti 76.02 322 ⇓P **P** **11 23 23.0 +0.3**
TESR Tescani 76.12 323 ⇑P **P** **11 23 22.8 -0.5**
TLCR 76.20 321 ⇑P **P** **11 23 23.3 -0.5**
TLCR 76.20 321 ⇑P **P** **11 23 23.3 -0.5**
SCHQ Schefferville 76.26 21 P **P** **11 23 23.8 -0.2**
comp=Z,1.6nm,0.7s,baz=338,slow=6.6,SNR=5.5
comp=Z,1.6nm,0.7s
CRVS Cervenica-Dubn 76.31 328 *e*P **P** **11 23 24.0 -0.4**
CRVS Cervenica-Dubn 76.31 328 *e*P **P** **11 23 24.0 -0.4**
CFR Carcaliu 76.51 322 ⇑P **P** **11 23 25.0 -0.5**
CFR Carcaliu 76.51 322 ⇑P **P** **11 23 25.0 -0.5**
VRI Vrincioaia 76.59 323 ⇑P **P** **11 23 26.3 +0.3**
VRI Vrincioaia 76.59 323 ⇑P **P** **11 23 26.3 +0.3**
ARCR ARCALIA 76.63 325 ⇓P **P** **11 23 26.9 +0.7**
TPGR Topolog 76.64 321 ⇑P **P** **11 23 26.2 -0.1**
PLOR Plostina 76.64 323 ⇓P **P** **11 23 26.1 -0.2**
PLOR Plostina 76.64 323 ⇓P **P** **11 23 26.1 -0.2**
SPBR Spulber 76.67 323 ⇑P **P** **11 23 26.9 +0.4**
COVR Voineasa-Covas 76.83 323 ⇑P **P** **11 23 27.4 0.0**
OSTC Ostas 76.83 331 *e*P **P** **11 23 27.3 0.0**
OSTC Ostas 76.83 331 *e*P **P** **11 23 27.3 0.0**
LANS Liptovska Anna 76.85 329 *e*P **P** **11 23 28.5 +1.0**
LANS pmax pmax
comp=Z,8.0nm,0.8s
LANS Liptovska Anna 76.85 329 *e*P **P** **11 23 28.5 +1.0**
CHVC Chvalec 76.86 332 *e*P **P** **11 23 26.7 -0.8**
CHVC Chvalec 76.86 332 *e*P **P** **11 23 26.7 -0.8**
FLTG Flechtingen 76.91 335 *e*P **P** **11 23 26.8 -0.8**
comp=Z,11nm,0.8s,baz=29,slow=5.5
TIRR Tirgusor 76.95 321 ⇑P **P** **11 23 28.1 +0.1**
TIRR Tirgusor 76.95 321 ⇑P **P** **11 23 28.1 +0.1**
DPC Dobruska-Polom 76.97 331 *e*P **P** **11 23 28.1 0.0**
DPC Dobruska-Polom 76.97 331 *e*P **P** **11 23 28.1 0.0**
HARR Harsova 76.98 321 ⇑P **P** **11 23 28.6 +0.4**
HARR Harsova 76.98 321 ⇑P **P** **11 23 28.6 +0.4**
MORC Moravsky Berou 77.03 330 ⇓P **P** **11 23 28.7 +0.3**
MORC Moravsky Berou 77.03 330 *e*P **P** **11 23 28.2 -0.3**
MORC Moravsky Berou 77.03 330 ⇓P **P** **11 23 28.7 +0.3**
KRLC Kraliky 77.04 331 *e*P **P** **11 23 28.4 -0.1**
KRLC Kraliky 77.04 331 *e*P **P** **11 23 28.4 -0.1**
DOPR Dopca 77.08 324 ⇓P **P** **11 23 28.9 +0.1**
RETH Rethem/Aller, 77.10 336 *e*P **P** **11 23 28.2 -0.4**
comp=Z,13nm,1.1s,baz=29,slow=5.5
MLR Muntele Rosu 77.22 323 ⇑P **P** **11 23 30.1 +0.3**
MLR Muntele Rosu 77.22 323 ⇑P **P** **11 23 30.1 +0.3**
CLL Collm 77.25 334 *i*P **P** **11 23 28.8 -0.8**
CLL pmax pmax
comp=Z,18nm,0.6s
CLL Collm 77.25 334 *i*P **P** **11 23 28.8 -0.8**
comp=Z,18nm,0.6s
CLL Collm 77.25 334 *e*P **P** **11 23 28.8 -0.8**
comp=Z,17nm,0.6s,baz=29,slow=5.5
ISR Istrita 77.26 322 ⇓P **P** **11 23 30.1 +0.2**
ISR Istrita 77.26 322 ⇓P **P** **11 23 30.1 +0.2**
SCIA State Center 77.28 43 P **P** **11 23 30.5 +0.5**
baz=320
BRG Berggiesshubel 77.32 333 *e*P **P** **11 23 29.6 -0.5**
BRG Amp 11 23 30.2
comp=Z,4.4nm,0.8s
BRG Berggiesshubel 77.32 333 *e*P **P** **11 23 29.5 -0.5**
BRG pmax pmax
comp=Z,4.0nm,0.8s
BRG Berggiesshubel 77.32 333 *e*P **P** **11 23 29.3 -0.7**
comp=Z,4.4nm,0.8s,baz=29,slow=5.5
ICOR Ion Corvin 77.49 321 ⇓P **P** **11 23 31.3 +0.2**
DRGR 77.53 326 ⇓P **P** **11 23 31.3 -0.1**
DRGR 77.53 326 ⇓P **P** **11 23 31.3 -0.1**
RICC Richard 77.55 333 *e*P **P** **11 23 31.6 +0.3**
CLZ Clausthal 77.59 335 *e*P **P** **11 23 31.4 -0.1**
comp=Z,12nm,0.9s,baz=29,slow=5.5
VYHS Vyhne 77.63 329 *e*P **P** **11 23 31.9 +0.1**
VYHS pmax pmax
comp=Z,5.0nm,0.9s
VYHS Vyhne 77.63 329 *e*P **P** **11 23 31.9 +0.1**
VOIR 77.65 323 ⇑P **P** **11 23 31.9 -0.1**
VOIR 77.65 323 ⇑P **P** **11 23 31.9 -0.1**
KSU1 Kansas State U 77.69 47 P **P** **11 23 32.1 -0.2**
baz=318
PSZ Piszkesteto 77.71 328 ⇓P **P** **11 23 32.7 +0.4**
PSZ Piszkesteto 77.71 328 ⇓P **P** **11 23 32.7 +0.4**
HSKC Hora Svate Kat 77.72 333 *e*P **P** **11 23 32.1 -0.2**
EKA Eskdalemuir Ar 77.72 344 P **P** **11 23 31.4 -0.8**
comp=Z,3.9nm,0.6s,baz=20,slow=4.5,SNR=9.1
comp=Z,3.9nm,0.6s
JAVC Velka Javorina 77.75 330 *e*P **P** **11 23 33.5 +1.0**
VRAC Vranov 77.76 331 *e*P **P** **11 23 32.5 0.0**
VRAC Vranov 77.76 331 LR LR 12 01 54.2
comp=Z,38nm,18.5s,baz=302,slow=39
GOPC GO Pecny, Ondr 77.86 332 *e*P **P** **11 23 33.2 +0.1**
GOPC GO Pecny, Ondr 77.86 332 *e*P **P** **11 23 33.2 +0.1**
PRU Pruhonice 77.88 332 *e*P **P** **11 23 33.3 +0.2**
PRU Pruhonice 77.88 332 *e*P **P** **11 23 33.3 +0.2**
IBBN Ibbenburen 77.93 337 *e*P **P** **11 23 33.2 -0.2**
comp=Z,14nm,0.9s,baz=29,slow=5.5
GTTG Gottingen 77.97 335 *e*P **P** **11 23 33.9 +0.3**
comp=Z,9.7nm,0.9s,baz=29,slow=5.5
KRUC Moravsky 78.03 331 *e*P **P** **11 23 33.9 -0.1**
BR131 Keskin Array S 78.06 315 *i*P **P** **11 23 34.4 -0.1**
BRTR Keskin Array B 78.06 315 P **P** **11 23 34.4 -0.1**
comp=Z,3.1nm,0.7s,baz=56,slow=5.7,SNR=18
comp=Z,3.1nm,0.7s
SMOL Smolenice 78.13 330 *e*P **P** **11 23 34.9 +0.3**
TANN Tannenbergstha 78.19 333 *e*P **P** **11 23 34.5 -0.4**
comp=Z,3.6nm,0.9s,baz=29,slow=5.5
PLN Plauen 78.23 334 *e*P **P** **11 23 34.7 -0.4**
comp=Z,5.5nm,1.0s,baz=29,slow=5.5
MOX Moxa 78.26 334 *e*P **P** **11 23 34.7 -0.6**
comp=Z,4.3nm,0.8s,baz=29,slow=5.5
MODS Modra-Piesok 78.30 330 *e*P **P** **11 23 36.5 +1.0**
MODS Modra-Piesok 78.30 330 *e*P **P** **11 23 36.5 +1.0**
ZVC Zvikov 78.47 332 *e*P **P** **11 23 36.7 +0.3**
GZR Gura Zlata 78.64 325 ⇑P **P** **11 23 37.0 -0.5**
GZR Gura Zlata 78.64 325 ⇑P **P** **11 23 37.0 -0.5**
MANZ Manzenberg 78.68 333 *e*P **P** **11 23 37.3 -0.3**
comp=Z,1.6nm,0.9s,baz=29,slow=5.5
KASTN Kahler Asten 78.73 336 *e*P **P** **11 23 37.8 -0.1**
comp=Z,5.0nm,0.8s,baz=29,slow=5.5
ROTZ Rotzenmuhle 78.84 333 *e*P **P** **11 23 38.4 -0.1**
comp=Z,1.5nm,1.0s,baz=29,slow=5.5
BUG Bochum--Univer 78.84 337 *e*P **P** **11 23 38.2 -0.2**
comp=Z,7.2nm,0.8s,baz=29,slow=5.5
BZS Buzias 78.93 326 ⇓P **P** **11 23 38.5 -0.5**
BZS Buzias 78.93 326 ⇓P **P** **11 23 38.5 -0.5**
KHC Kasperske Hory 78.94 332 *ce*P **P** **11 23 37.1 -2.0**
KHC pmax pmax
comp=Z,35nm,0.8s
KHC Kasperske Hory 78.94 332 *e*P **P** **11 23 38.9 -0.2**
GEC2 GERESS Array S 79.15 332 *e*P **P** **11 23 39.3 -1.0**
comp=Z,5.3nm,0.7s,baz=29,slow=5.5
GERES GERESS Array B 79.15 332 P **P** **11 23 39.8 -0.5**
comp=Z,3.7nm,0.5s,baz=32,slow=7.4,SNR=14
comp=Z,3.7nm,0.5s
WET Wettzell 79.16 333 *e*P **P** **11 23 40.6 +0.3**
comp=Z,11nm,0.9s,baz=29,slow=5.5
CONA Conrad Observa 79.19 330 *i*P **P** **11 23 40.4 -0.1**
comp=Z,5.0nm,0.6s
GRF Grafenberg Arr 79.22 334 *e*P **P** **11 23 40.5 -0.1**
comp=Z,14nm,0.6s,baz=29,slow=5.5
RONA Rosalia, Austr 79.22 330 *i*P **P** **11 23 40.8 +0.1**
comp=Z,1.9nm,0.5s
MOA Molln 79.81 331 *i*P **P** **11 23 43.6 -0.2**
comp=Z,3.7nm,0.7s
HDIL Hopedale 80.20 41 P **P** **11 23 46.7 +0.7**
baz=322
LESA Schwarzleotal 80.72 332 *e*P **P** **11 23 48.8 0.0**
comp=Z,5.3nm,0.6s
KBA Koelnbreinsper 80.79 331 *i*P **P** **11 23 48.9 -0.4**
comp=Z,7.7nm,0.8s
TXAR Lajitas Array 80.85 58 P **P** **11 23 50.8 +0.9**
comp=Z,2.3nm,0.6s,baz=306,slow=4.4,SNR=19
comp=Z,2.3nm,0.6s
OBKA Obir 80.86 330 *i*P **P** **11 23 48.7 -0.9**
comp=Z,2.7nm,0.7s
MYKA Terra Mystica 81.08 331 *i*P **P** **11 23 48.5 -2.2**
comp=Z,1.9nm,0.5s
WATA Walderalm 81.17 332 *e*P **P** **11 23 51.1 -0.1**
comp=Z,7.7nm,0.5s
CCM Cathedral Cave 81.21 44 P **P** **11 23 52.0 +0.6**
baz=321
WTTA Wattenberg 81.21 332 *i*P **P** **11 23 51.3 -0.2**
comp=Z,6.2nm,0.3s
MOTA Moosalm 81.31 333 *i*P **P** **11 23 51.8 -0.2**
comp=Z,7.8nm,0.7s
BFO Black Forest 81.32 335 *e*P **P** **11 23 51.4 -0.5**
comp=Z,5.0nm,0.8s,baz=29,slow=5.5
SFIN Lafayette 81.36 40 P **P** **11 23 51.9 -0.3**
baz=323
SQTA Sank Quirin 81.39 333 *e*P **P** **11 23 52.3 -0.1**
comp=Z,5.9nm,0.7s
FETA Feichten 81.72 333 *i*P **P** **11 23 54.0 -0.2**
comp=Z,5.0nm,1.1s
DAVA Damuels 81.76 333 *i*P **P** **11 23 54.1 -0.3**
comp=Z,0.8nm,0.2s
MMAI Mount Meron Ar 82.17 309 P **P** **11 23 56.3 -0.4**
comp=Z,1.1nm,0.4s,baz=34,slow=5.7,SNR=5.5
comp=Z,1.1nm,0.4s
O48B Farmland 82.34 39 P **P** **11 23 57.4 0.0**
baz=324
MIAR Mount Ida 82.72 48 P **P** **11 24 00.3 +0.9**
baz=320,SNR=5.3
LONY Lake Ozonia 82.95 30 P **P** **11 23 58.8 -1.7**
baz=330
ACSO Alum Creek Sta 83.33 38 P **P** **11 24 03.0 +0.5**
baz=326
O53A New Philadelph 84.07 36 P **P** **11 24 06.3 -0.1**
baz=327
WVT Waverly 84.40 43 P **P** **11 24 08.8 +0.8**
baz=323
TZTN Tazewell 86.10 40 P **P** **11 24 17.0 +0.4**
baz=326
TORD Torodi Ar. Bea 115.43 325 PKP **PKiKP** **11 30 15.2 -2.6**
comp=Z,0.2nm,0.3s,baz=30,slow=3.0,SNR=4.7
QSPA South Pole Qui 134.36 180 PKP **PKPdf** **11 30 52.9 +0.6**
comp=Z,1.4nm,1.0s,baz=206,slow=1.0,SNR=6.1
H03N2 Juan Fernandez 141.39 90 T T 14 08 55.8
baz=305,slow=77,SNR=10
H03N3 Juan Fernandez 141.40 90 T T 14 09 10.2
baz=305,slow=77,SNR=19
H03N1 Juan Fernandez 141.40 90 T T 14 09 01.4
baz=305,slow=77,SNR=14
BDFB Brasilia 147.59 32 PKPbc **PKPbc** **11 31 20.3 +0.1**
comp=Z,1.8nm,0.6s,baz=290,slow=3.2,SNR=4.3

ROM 11 11:21:43.1±0.0,**43°.056N**±0°.002×**13°.035E**±0°.003,
h9km,ML1.2/10,**1C,Error ellipse: s-maj=0.2km**
s-min=0.2km az=315.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CESI	**CESI - Serrava**	**0.11**	**242**	P		Pg	11 21 46.1	+0.4
CESI				S		Sg	11 21 48.3	+0.6
CESI				AML		AML		
	comp=E,138μm,0.8s							
CESI				AML		AML		
	comp=N,155μm,0.3s							
CSP1	**Cessapalombo**	**0.13**	**74**	P		Pg	11 21 46.6	+0.5
CSP1				S		Sg	11 21 49.1	+0.8
CSP1				AML		AML		
	comp=E,125μm,0.3s							
PF6	**Pievefavera**	**0.15**	**51**	P		Pg	11 21 46.7	+0.4
PF6				S		Sg	11 21 49.4	+0.7
PF6				AML		AML		
	comp=E,68μm,0.2s							
SNTG	**Esanatoglia**	**0.21**	**341**	P		Pg	11 21 48.0	+0.6
SNTG				S		Sg	11 21 51.8	+1.4
SNTG				AML		AML		
	comp=E,24μm,0.1s							
SNTG				AML		AML		
	comp=N,31μm,0.2s							
NRCA	**Norcia**	**0.23**	**165**	P		Pg	11 21 48.4	+0.6
NRCA				S		Sg	11 21 52.4	+1.5
NRCA				AML		AML		
	comp=E,189μm,1.6s							
NRCA				AML		AML		
	comp=N,182μm,0.1s							
NRCA				AML		AML		
	comp=E,189μm,0.4s							
T1221	**Campello sul C**	**0.24**	**215**	⇑P		Pg	11 21 48.6	+0.7
T1221				S		Sg	11 21 53.0	+1.7
ATCC	**AVT- Casa Cast**	**0.32**	**294**	P		Pg	11 21 50.0	+0.6
ATCC				S		Sb	11 21 55.6	-0.6

CNRM ***11*** *11:38:31.9,36°.40N×11°.08W,h20km,ML3.6*
MDD ***11*** *11:38:37.2±1.9,36°.28N×11°.06W,h33km±34km,Mb3.2/3,*
M_mb2.4/2,Error ellipse: s-maj=24.2km s-min=8.7km
az=75.0
INMG ***11*** *11:38:38.5±0.8,36°.42N×10°.92W,h10km,ML2.3,Error*
ellipse: s-maj=8.3km s-min=5.3km az=111.0

ISC 11 11:38:34.6±2.3,**36°.29N**±0°.06×**11°.1W**±0°.1,**h58**km±59km,
n35,σ1s64/50,**3C,Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PFVI	**Vila Bisbo**	**2.01**	**65**	*e*P		**Pn**	**11 39 07.8**	**+1.6**
PFVI				*e*S		**Sn**	**11 39 30.0**	**-0.2**
PFVI	**Vila Bisbo**	**2.01**	**65**	Pn		**Pn**	**11 39 07.6**	**+1.4**
PFVI				Sn		**Sn**	**11 39 29.6**	**-0.6**
PFVI	**Vila Bisbo**	**2.01**	**65**	P		**Pn**	**11 39 03.0**	**-3.1**
PFVI	**Vila Bisbo**	**2.01**	**65**	S		**Sn**	**11 39 27.2**	**-3.0**
MORF	**Marmelete**	**2.21**	**62**	*e*P		**Pn**	**11 39 10.7**	**+1.8**
MORF				*e*S		**Sn**	**11 39 35.4**	**+0.2**
MORF				A		A	11 39 39.2	
	12nm,0.3s							
PBDV	**Barranco-do-Ve**	**2.72**	**68**	*e*S		**Sn**	**11 39 47.7**	**+0.2**
PBDV	**Barranco-do-Ve**	**2.72**	**68**	Pn		**Pn**	**11 39 16.4**	**+0.6**
PBDV				Sn		**Sn**	**11 39 47.0**	**-0.6**
PNCL	**Nicolau / Gran**	**2.75**	**48**	*e*S		**Sn**	**11 39 47.8**	**-0.3**
PNCL	**Nicolau / Gran**	**2.75**	**48**	Pn		**Pn**	**11 39 17.6**	**+1.5**
PNCL				Sn		**Sn**	**11 39 47.7**	**-0.3**
MESJ	**Messejana**	**2.78**	**55**	*e*S		**Sn**	**11 39 48.5**	**-0.4**
PCVE	**Castro Verde**	**2.80**	**60**	Sn		**Sn**	**11 39 48.4**	**-1.0**
PVAQ	**Vaqueiros**	**2.94**	**67**	*e*P		**Pn**	**11 39 21.1**	**+2.4**
PVAQ				*e*S		**Sn**	**11 39 52.6**	**-0.2**
PVAQ				A		A	11 39 55.3	
	9.8nm,0.4s							
PVAQ	**Vaqueiros**	**2.94**	**67**	Pn		**Pn**	**11 39 20.6**	**+1.9**
PVAQ				Sn		**Sn**	**11 39 51.6**	**-1.2**

PVAQ	**Vaqueiros**	**2.94**	**67**	P		**Pn**	**11 39 16.0**	**-2.7**
PBEJ	**Beja**	**3.11**	**55**	*e*S		**Sn**	**11 39 56.3**	**-0.9**
EGRO	**El Granado**	**3.16**	**66**	Pn		**Pn**	**11 39 23.9**	**+2.1**
EGRO				Sn		**Sn**	**11 39 58.2**	**0.0**
EGRO	**El Granado**	**3.16**	**66**	P		**Pn**	**11 39 23.9**	**+2.1**
EGRO				⇑*i*Vmb_V			11 39 24.2	
	24nm,SNR=1.7							
EGRO				S		**Sn**	**11 39 57.7**	**-0.5**
EVO	**Evora**	**3.33**	**47**	Sn		**Sn**	**11 40 01.4**	**-1.0**
EVO				Pn		**Pn**	**11 39 25.4**	**+1.2**
PMTG	**Montargil**	**3.59**	**39**	*e*S		**Sn**	**11 40 07.7**	**-1.3**
PBAR	**Barrancos**	**3.75**	**59**	*e*S		**Sn**	**11 40 12.0**	**-0.8**
PBAR	**Barrancos**	**3.75**	**59**	Pn		**Pn**	**11 39 32.0**	**+2.1**
PBAR				Sn		**Sn**	**11 40 11.2**	**-1.6**
PESTR	**Estremoz**	**3.80**	**46**	*e*S		**Sn**	**11 40 13.0**	**-1.0**
PESTR	**Estremoz**	**3.80**	**46**	Pn		**Pn**	**11 39 32.6**	**+2.1**
PESTR				Sn		**Sn**	**11 40 12.3**	**-1.7**
PESTR	**Estremoz**	**3.80**	**46**	P		**Pn**	**11 39 28.7**	**-1.9**
PESTR	**Estremoz**	**3.80**	**46**	S		**Sn**	**11 40 12.6**	**-1.4**
PMRV	**Marv??o**	**4.30**	**42**	*e*S		**Sn**	**11 40 24.3**	**-1.9**
SRHM	**Skhour des Reh**	**4.64**	**144**	P		**Pn**	**11 39 43.4**	**+1.2**
ECAB	**El Cabril**	**4.88**	**67**	Pn		**Pn**	**11 39 47.0**	**+1.7**
ECAB				Sn		**Sn**	**11 40 37.9**	**-2.6**
ECAB	**El Cabril**	**4.88**	**67**	P		**Pn**	**11 39 47.0**	**+1.7**
ECAB				⇑*i*Vmb_V			11 39 47.5	
	16nm,SNR=2.9							
ECAB				S		**Sn**	**11 40 37.7**	**-2.8**
EADA	**Adamuz**	**5.53**	**68**	P		**Pn**	**11 39 56.4**	**+2.0**
EADA				⇑*i*Vmb_V			11 39 58.1	
	20nm,SNR=4.4							
EADA				S		**Sn**	**11 40 55.6**	**-1.1**
TISM	**Timmit**	**5.97**	**138**	P		**Pn**	**11 39 59.5**	**-0.9**
TTIG	**Tnine Tigouga,**	**6.14**	**158**	P		**Pn**	**11 40 02.3**	**-0.5**
TIO	**Tiouine**	**6.23**	**148**	Pn		**Pn**	**11 40 05.7**	**+1.6**
TIO	**Tiouine**	**6.23**	**148**	P		**Pn**	**11 40 05.8**	**+1.7**
MD31	**MD31**	**6.24**	**121**	P		**Pn**	**11 40 05.5**	**+1.3**

*IDC **11** 11:43:13.6±0.9,56°.18N×149°.29W,h0km,mb4.0/20, mbtmp4.1/25,ML3.7/5,MS3.4/25,Error ellipse: s-maj=25.0km s-min=13.0km az=15.0*
*NEIC **11** 11:43:15.6±1.8,56°.11N±0°.07×149°.28W±0°.09,h21km±7km, mb4.3/23,ML4.3/54,ML4.1(AEIC),Error ellipse: s-maj=10.4km s-min=7.1km az=166.0*
*AEIC **11** 11:43:18.9±2.0,56°.11N±0°.08×149°.21W±0°.10,h11km±6km, Error ellipse: s-maj=11.1km s-min=8.0km az=177.0*

ISC 11 11:43:14.8±0.6,**56°.18N**±0°.07×**149°.26W**±0°.04,**h10**km, **n430,**σ1**05**/410,**mb4.2**/32,**MS3.4**/20,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h	m	s	Res ISC
KDAK	**Kodiak Island**	**2.43**	**313**				**Pn**	**11 43 54.0**			**-0.4**
KDAK	**Kodiak Island**	**2.43**	**313**				**Sn**	**11 44 22.1**			**-2.0**
KDAK	**Kodiak Island**	**2.43**	**313**	Pn			**Pn**	**11 43 54.0**			**-0.4**
	16nm,0.3s,baz=128,slow=4.8,SNR=588										
KDAK				S			**Sn**	**11 44 21.3**			**-2.8**
	20nm,0.3s,baz=11,slow=20,SNR=8.0										
	54nm,0.2s										
OHAK	**Old Harbor**	**2.46**	**297**				**Pn**	**11 43 53.7**			**-1.1**
OHAK	**Old Harbor**	**2.46**	**297**				**Sn**	**11 44 21.6**			**-3.3**
OHAK	**Old Harbor**	**2.46**	**297**	P			**Pn**	**11 43 53.7**			**-1.1**
OHAK	**Old Harbor**	**2.46**	**297**	P			**Pn**	**11 43 53.5**			**-1.3**
	baz=115										
OHAK				S			**Sn**	**11 44 21.6**			**-3.3**
	baz=115										
SYI	**Shuyak Island**	**2.97**	**326**				**Sn**	**11 44 37.3**			**-0.1**
SYI	**Shuyak Island**	**2.97**	**326**				**Pn**	**11 44 01.3**			**-0.5**
SYI	**Shuyak Island**	**2.97**	**326**	IAML				11 44 39.0			
	comp=N,220nm,0.6s										
SYI				IAML				11 44 40.4			
	comp=E,220nm,0.5s										
Q20K	**Shuyak Island**	**2.97**	**326**	P			**Pn**	**11 44 01.7**			**-0.1**
	baz=145										
Q20K				S			**Sn**	**11 44 37.3**			**-0.1**
	baz=145										
CNPM	**China Poot**	**3.52**	**343**				**Pn**	**11 44 09.3**			**-0.1**
CNPM	**China Poot**	**3.52**	**343**				**Sn**	**11 44 48.9**			**-2.1**
Q23K	**Middleton Isla**	**3.61**	**24**	Pn			**Pn**	**11 44 10.0**			**-0.7**
Q23K				IAML				11 45 08.5			
	comp=E,378nm,1.9s										
Q23K	**Middleton Isla**	**3.61**	**24**				**Sn**	**11 44 51.8**			**-1.4**
Q23K	**Middleton Isla**	**3.61**	**24**	P			**Pn**	**11 44 10.4**			**-0.3**
	baz=206										
Q23K				S			**Sn**	**11 44 51.8**			**-1.4**
	baz=206										
MID	**Middleton Isla**	**3.61**	**24**	Pn			**Pn**	**11 44 10.2**			**-0.5**
MID				IAML				11 45 02.1			
	comp=N,300nm,1.9s										
MID				IAML				11 45 09.3			
	comp=E,342nm,1.7s										
MID	**Middleton Isla**	**3.61**	**24**				**Sn**	**11 44 51.0**			**-2.3**
MID	**Middleton Isla**	**3.61**	**24**	P			**Pn**	**11 44 10.5**			**-0.2**
Q19K	**Cape Douglas,**	**3.63**	**321**				**Pn**	**11 44 12.0**			**+1.0**
Q19K	**Cape Douglas,**	**3.63**	**321**	IAML				11 45 06.9			
	comp=N,952nm,0.9s										
Q19K	**Cape Douglas,**	**3.63**	**321**	P			**Pn**	**11 44 12.0**			**+1.0**
	baz=138										
BRSE	**Bradley Lake S**	**3.66**	**348**				**Pn**	**11 44 11.1**			**-0.2**
BRSE							**Sn**	**11 44 53.5**			**-1.0**
BRSE	**Bradley Lake S**	**3.66**	**348**	P			**Pn**	**11 44 11.1**			**-0.2**
	baz=167										
BRSE				S			**Sn**	**11 44 53.5**			**-1.0**
	baz=167										
KAPH	**Katmai Pasha**	**3.67**	**313**				**Pn**	**11 44 12.2**			**+0.7**
BRLK	**Bradley Lake**	**3.69**	**347**				**Pn**	**11 44 10.9**			**-1.0**
BRLK				IAML				11 44 58.9			
	comp=E,310nm,0.5s										
BRLK				IAML				11 45 00.1			
	comp=N,258nm,0.7s										
HOM	**Homer**	**3.71**	**341**				**Pn**	**11 44 12.6**			**+0.5**
HOM				IAML				11 45 01.3			
	comp=N,834nm,0.6s										
HOM				IAML				11 45 03.8			
	comp=E,618nm,1.2s										
HOM	**Homer**	**3.71**	**341**	P			**Pn**	**11 44 12.5**			**+0.4**
	baz=159										
KAKN	**Katmai Knife C**	**3.80**	**306**				**Pn**	**11 44 14.1**			**+0.6**
KAKN							**Sn**	**11 44 57.1**			**-1.0**
KCE	**Katmai Mt Cerb**	**3.83**	**305**				**Pn**	**11 44 14.8**			**+1.0**
ACHA	**Angle Creek He**	**3.88**	**304**				**Pn**	**11 44 15.0**			**+0.6**
AUCH	**Augustine Cone**	**3.90**	**327**				**Pn**	**11 44 15.4**			**+0.7**
AUL	**Augustine Lava**	**3.91**	**327**				**Pn**	**11 44 15.6**			**+0.8**
SEW	**Seward**	**3.93**	**359**				**Pn**	**11 44 14.7**			**-0.4**
SEW	**Seward**	**3.93**	**359**	P			**Pn**	**11 44 14.7**			**-0.4**
	baz=178										
ANCK	**Angle Creek**	**3.95**	**303**				**Pn**	**11 44 15.9**			**+0.5**
KVTA	**Katmai Vly 10**	**3.95**	**306**				**Pn**	**11 44 16.3**			**+0.9**
P23K	**Montague Islan**	**3.95**	**14**				**Pn**	**11 44 15.3**			**-0.1**
P23K	**Montague Islan**	**3.95**	**14**	P			**Pn**	**11 44 15.5**			**+0.1**
	baz=195										
KAHC	**Katmai Hardscr**	**3.97**	**311**				**Pn**	**11 44 16.5**			**+0.7**
KAHC	**Katmai Hardscr**	**3.97**	**311**	P			**Pn**	**11 44 16.5**			**+0.7**
	baz=127										
P19K	**Oil Pt**	**4.07**	**330**				**Pn**	**11 44 17.6**			**+0.4**
P19K				IAML				11 45 11.0			
	comp=N,616nm,0.5s										
P19K	**Oil Pt**	**4.07**	**330**	P			**Pn**	**11 44 17.5**			**+0.4**
	baz=148										
PLK3	**Peulik 3**	**4.13**	**294**				**Pn**	**11 44 18.0**			**+0.2**
CNTC	**Contact Creek**	**4.16**	**303**				**Pn**	**11 44 18.6**			**+0.2**
Q17K	**Contact Creek**	**4.16**	**303**	P			**Pn**	**11 44 18.7**			**+0.2**
	baz=118										
KELA	**Mount Kelaz**	**4.18**	**305**				**Pn**	**11 44 19.2**			**+0.6**
O20K	**Slope Mountain**	**4.30**	**337**				**Pn**	**11 44 20.3**			**+0.1**
O20K	**Slope Mountain**	**4.30**	**337**	P			**Pn**	**11 44 20.3**			**+0.1**
	baz=154										
O22K	**Cooper Landing**	**4.32**	**357**				**Pn**	**11 44 20.1**			**-0.3**
O22K	**Cooper Landing**	**4.32**	**357**	P			**Pn**	**11 44 20.1**			**-0.3**
	baz=177										
ILSW	**Iliamna Southw**	**4.33**	**333**				**Pn**	**11 44 20.5**			**-0.3**
ILSW	**Iliamna Southw**	**4.33**	**333**	IAML				11 45 13.7			
	comp=N,244nm,0.4s										
ILSW				IAML				11 45 13.8			
	comp=E,277nm,0.7s										
PLK1	**Peulik 1**	**4.33**	**295**				**Pn**	**11 44 20.8**			**+0.1**
SLKM	**Skilak Lake**	**4.37**	**354**				**Pn**	**11 44 20.7**			**-0.4**
HIN	**Hinchinbrook I**	**4.47**	**18**				**Pn**	**11 44 22.8**			**+0.3**
HIN				IAML				11 45 16.6			
	comp=N,396nm,0.5s										
HIN				IAML				11 45 18.0			
	comp=E,288nm,0.4s										
P18K	**Big Mountain,**	**4.53**	**318**	Pn			**Pn**	**11 44 22.9**			**-0.6**
P18K	**Big Mountain,**	**4.53**	**318**	P			**Pn**	**11 44 23.1**			**-0.4**
	baz=133										
KAIM	**Kayak Island**	**4.55**	**32**				**Pn**	**11 44 23.5**			**-0.1**
KAIM	**Kayak Island**	**4.55**	**32**	IAML				11 45 26.1			
	comp=N,335nm,0.9s										
KAIM				IAML				11 45 26.4			
	comp=E,270nm,1.3s										
KAIM	**Kayak Island**	**4.55**	**32**	P			**Pn**	**11 44 23.7**			**+0.1**
	baz=216										
RED	**Redoubt Volcan**	**4.63**	**338**				**Pn**	**11 44 24.1**			**-0.8**
RSO	**Redoubt South**	**4.67**	**338**				**Pn**	**11 44 25.0**			**-0.5**
RDT	**Redoubt**	**4.70**	**341**				**Pn**	**11 44 25.0**			**-0.8**
CAPN	**Captain Cook N**	**4.71**	**349**				**Pn**	**11 44 27.1**			**+1.4**
CAPN	**Captain Cook N**	**4.71**	**349**	P			**Pn**	**11 44 27.0**			**+1.3**
	baz=167										
RDWB	**Redoubt West**	**4.71**	**338**				**Pn**	**11 44 25.0**			**-1.0**
Q16K	**King Salmon**	**4.71**	**305**				**Pn**	**11 44 26.4**			**+0.5**
Q16K	**King Salmon**	**4.71**	**305**	P			**Pn**	**11 44 26.4**			**+0.5**
	baz=120										
EYAK	**Cordova Ski Ar**	**4.75**	**21**				**Pn**	**11 44 26.5**			**+0.1**
EYAK	**Cordova Ski Ar**	**4.75**	**21**	P			**Pn**	**11 44 26.5**			**+0.1**
R16K	**Pilot Point**	**4.77**	**290**				**Pn**	**11 44 26.0**			**-0.6**
R16K	**Pilot Point**	**4.77**	**290**	IAML				11 45 42.2			
	comp=N,195nm,1.2s										
R16K				IAML				11 46 46.2			
	comp=E,144nm,2.6s										
R16K	**Pilot Point**	**4.77**	**290**	P			**Pn**	**11 44 26.2**			**-0.4**
	baz=104										
DFR	**Drift River**	**4.78**	**339**				**Pn**	**11 44 26.2**			**-0.6**
NCT	**North Crescent**	**4.80**	**338**				**Pn**	**11 44 26.4**			**-0.7**
RDJH	**Redoubt Jeurge**	**4.80**	**339**				**Pn**	**11 44 26.9**			**-0.3**
O19K	**Port Alsworth**	**4.83**	**328**				**Pn**	**11 44 27.0**			**-0.5**
O19K	**Port Alsworth**	**4.83**	**328**	P			**Pn**	**11 44 27.0**			**-0.5**
	baz=145										
O18K	**Koktuh Hills**	**4.85**	**322**	Pn			**Pn**	**11 44 27.5**			**-0.3**
O18K	**Koktuh Hills**	**4.85**	**322**	P			**Pn**	**11 44 27.5**			**-0.3**
	baz=137										
RAGM	**Ragged Mountai**	**4.86**	**28**				**Pn**	**11 44 28.0**			**+0.1**
SUCK	**Suckling Hills**	**4.86**	**34**				**Pn**	**11 44 28.3**			**+0.3**
SUCK				IAML				11 45 26.7			
	comp=N,233nm,0.6s										
SUCK				IAML				11 45 37.2			
	comp=E,185nm,1.6s										
P17K	**Kvichak River**	**4.89**	**311**				**Pn**	**11 44 28.9**			**+0.6**
P17K	**Kvichak River**	**4.89**	**311**	P			**Pn**	**11 44 28.9**			**+0.6**
	baz=126										
ANNE	**Aniakchak Nort**	**4.93**	**282**				**Pn**	**11 44 28.2**			**-0.7**
RC01	**Rabbit Creek A**	**4.93**	**357**	Pn			**Pn**	**11 44 28.6**			**-0.2**
RC01				IAML				11 45 28.8			
	comp=N,121nm,0.3s										
RC01				IAML				11 45 30.5			
	comp=E,216nm,0.6s										
RC01	**Rabbit Creek A**	**4.93**	**357**	P			**Pn**	**11 44 28.9**			**+0.1**
	baz=177										
HMT	**Hamilton**	**4.93**	**30**				**Pn**	**11 44 29.3**			**+0.5**
NICHA	**Nichawak Mount**	**4.93**	**32**				**Pn**	**11 44 28.9**			**+0.1**
GOAT	**Goat Mountain**	**5.01**	**27**				**Pn**	**11 44 30.5**			**+0.5**
BGLC	**Bering Glacier**	**5.06**	**36**				**Pn**	**11 44 31.4**			**+0.9**
BGLC	**Bering Glacier**	**5.06**	**36**	P			**Pn**	**11 44 31.4**			**+0.9**
	baz=221										
CHGN	**Chignik**	**5.11**	**275**	Pn			**Pn**	**11 44 30.7**			**-0.6**
CHGN				IAML				11 45 31.1			
	comp=E,187nm,0.5s										
CHGN				IAML				11 45 31.8			
	comp=N,167nm,0.7s										
BERG	**Berg Lake**	**5.14**	**32**				**Pn**	**11 44 31.5**			**-0.2**
BERG				IAML				11 45 38.1			
	comp=N,279nm,0.6s										
GRIN	**Grindle Hills**	**5.17**	**35**				**Pn**	**11 44 32.5**			**+0.4**
SNH	**Sunshine Point**	**5.25**	**38**				**Pn**	**11 44 33.5**			**+0.2**
SNH				IAML				11 45 44.7			
	comp=E,152nm,1.0s										
SNH				IAML				11 45 52.9			
	comp=N,147nm,1.5s										
N20K	**Mount Spurr**	**5.26**	**344**	P			**Pn**	**11 44 33.2**			**-0.2**
	baz=162										
KNK	**Knik Glacier**	**5.26**	**4**	Pn			**Pn**	**11 44 34.2**			**+0.8**
KNK				IAML				11 45 33.1			
	comp=E,111nm,0.7s										
KNK				IAML				11 45 52.0			
	comp=N,82nm,0.6s										
KNK	**Knik Glacier**	**5.26**	**4**	P			**Pn**	**11 44 34.1**			**+0.6**
	baz=185										
SPCR	**Spurr Chakacha**	**5.26**	**344**				**Pn**	**11 44 32.7**			**-0.8**
SPCN	**Chakachatna No**	**5.28**	**344**				**Pn**	**11 44 33.7**			**0.0**
DIV	**Divide**	**5.28**	**19**				**Pn**	**11 44 34.0**			**+0.3**
KHIT	**Khitrov Hills**	**5.32**	**34**				**Pn**	**11 44 33.9**			**-0.3**
SPCP	**Crater Peak Br**	**5.32**	**345**				**Pn**	**11 44 34.0**			**-0.3**
SPCG	**Spurr Capps Gl**	**5.32**	**345**				**Pn**	**11 44 34.3**			**-0.1**
SPBG	**Spurr Blockage**	**5.34**	**344**				**Pn**	**11 44 34.2**			**-0.4**
SUA	**Susitna One**	**5.35**	**352**				**Pn**	**11 44 34.4**			**-0.4**
SUA	**Susitna One**	**5.35**	**352**	P			**Pn**	**11 44 34.6**			**-0.1**
	baz=171										
BMRM	**Bremner River**	**5.38**	**25**				**Pn**	**11 44 35.2**			**+0.1**
BMRM	**Bremner River**	**5.38**	**25**	P			**Pn**	**11 44 35.2**			**+0.1**
	baz=209										
N19K	**Bonanza Creek**	**5.39**	**332**				**Pn**	**11 44 34.6**			**-0.6**
PMR	**Palmer**	**5.43**	**1**				**Pn**	**11 44 35.9**			**+0.3**
PMR	**Palmer**	**5.43**	**1**	P			**Pn**	**11 44 35.9**			**+0.3**
WAX	**Waxell Ridge**	**5.45**	**36**				**Pn**	**11 44 36.0**			**-0.1**
P16K	**Nushagak River**	**5.50**	**305**				**Pn**	**11 44 36.9**			**+0.3**
P16K	**Nushagak River**	**5.50**	**305**	P			**Pn**	**11 44 36.9**			**+0.3**
	baz=118										
STLK	**Strandline Lak**	**5.50**	**347**				**Pn**	**11 44 36.6**			**-0.1**
SPNN	**North Nagishla**	**5.50**	**342**				**Pn**	**11 44 36.8**			**0.0**
O17K	**Koliganek Bris**	**5.51**	**314**				**Pn**	**11 44 36.8**			**0.0**
O17K	**Koliganek Bris**	**5.51**	**314**	P			**Pn**	**11 44 36.8**			**0.0**
	baz=128										
BARK	**Barkley Ridge**	**5.53**	**37**				**Pn**	**11 44 37.4**			**+0.2**
MESA	**MESA**	**5.56**	**41**				**Pn**	**11 44 38.8**			**+1.1**
MESA	**MESA**	**5.56**	**41**	P			**Pn**	**11 44 37.8**			**+0.1**
	baz=227										
CRQM	**Cirque**	**5.60**	**32**	Pn			**Pn**	**11 44 38.1**			**-0.1**
KLU	**Klutina**	**5.60**	**17**	Pn			**Pn**	**11 44 38.5**			**+0.4**
KLU	**Klutina**	**5.60**	**17**	P			**Pn**	**11 44 38.5**			**+0.4**
	baz=199										
M22K	**Willow**	**5.61**	**356**				**Pn**	**11 44 39.3**			**+1.2**
CRQE	**Cirque**	**5.61**	**33**	P			**Pn**	**11 44 38.0**			**-0.2**
	baz=218										
GHO	**Glory Hole Cre**	**5.61**	**2**	Pn			**Pn**	**11 44 39.1**			**+0.9**
SML	**Sawmill**	**5.66**	**4**	Pn			**Pn**	**11 44 39.9**			**+1.0**
SML	**Sawmill**	**5.66**	**4**	P			**Pn**	**11 44 39.8**			**+1.0**
	baz=185										
M23K	**Glacier View**	**5.68**	**7**				**Pn**	**11 44 40.1**			**+0.9**
M23K	**Glacier View**	**5.68**	**7**	P			**Pn**	**11 44 40.1**			**+0.9**
	baz=189										
TGL	**Tana Glacier**	**5.69**	**34**				**Pn**	**11 44 39.4**			**0.0**
N18K	**Kilae Creek**	**5.70**	**325**				**Pn**	**11 44 39.0**			**-0.4**
N18K	**Kilae Creek**	**5.70**	**325**	P			**Pn**	**11 44 39.0**			**-0.4**
	baz=140										
ISLE	**Juniper Island**	**5.73**	**37**				**Pn**	**11 44 40.0**			**0.0**
BAGL	**Bagley Icefiel**	**5.73**	**38**				**Pn**	**11 44 39.9**			**0.0**
SCM	**Sheep Creek Mo**	**5.75**	**9**	Pn			**Pn**	**11 44 41.5**			**+1.3**
SCM	**Sheep Creek Mo**	**5.75**	**9**	P			**Pn**	**11 44 41.2**			**+0.9**
	baz=191										
O16K	**Kokwok River B**	**5.82**	**310**	Pn			**Pn**	**11 44 41.7**			**+0.6**
VRDI	**Verde Repeater**	**5.89**	**28**	Pn			**Pn**	**11 44 42.5**			**+0.3**
SVW2	**Sparrevohn**	**5.93**	**329**	Pn			**Pn**	**11 44 41.7**			**-0.8**
SVW2	**Sparrevohn**	**5.93**	**329**	P			**Pn**	**11 44 42.2**			**-0.4**
SKT	**Skwentna**	**5.93**	**350**				**Pn**	**11 44 42.7**			**+0.1**
SKT	**Skwentna**	**5.93**	**350**	P			**Pn**	**11 44 43.0**			**+0.4**
	baz=168										
N25K	**Chitina, Valde**	**5.95**	**22**	Pn			**Pn**	**11 44 43.8**			**+0.8**
N25K	**Chitina, Valde**	**5.95**	**22**	P			**Pn**	**11 44 43.5**			**+0.6**
	baz=206										
KIAG	**Kiagna River**	**5.97**	**34**				**Pn**	**11 44 43.1**			**-0.1**
SAMH	**Samovar Hills**	**5.98**	**45**				**Pn**	**11 44 43.4**			**+0.1**
GLB	**Gilahina Butte**	**5.98**	**26**	Pn			**Pn**	**11 44 43.8**			**+0.4**
GRNC	**Granite Creek**	**6.02**	**38**				**Pn**	**11 44 44.1**			**+0.1**
CHNA	**Chernabura Isl**	**6.03**	**261**	P			**Pn**	**11 44 41.4**			**-2.5**
	baz=74										
CNBA	**Chnabura Isl**	**6.03**	**261**	Pn			**Pn**	**11 44 41.7**			**-2.3**
N17K	**Nushagak Hills**	**6.03**	**319**				**Pn**	**11 44 43.7**			**-0.3**
TABL	**Table Mountain**	**6.04**	**42**				**Pn**	**11 44 43.9**			**-0.4**
M20K	**Styx River**	**6.05**	**342**				**Pn**	**11 44 44.0**			**-0.4**
M20K	**Styx River**	**6.05**	**342**	P			**Pn**	**11 44 44.0**			**-0.4**
	baz=159										
MCARA	**McCarthy VSAT**	**6.14**	**29**	Pn			**Pn**	**11 44 45.9**			**+0.4**
MCARA	**McCarthy VSAT**	**6.14**	**29**	P			**Pn**	**11 44 45.4**			**0.0**
	baz=214										
PTPK	**Patty Peak**	**6.14**	**32**				**Pn**	**11 44 45.8**			**+0.2**
M24K	**Tolsona, Glenn**	**6.15**	**14**	Pn			**Pn**	**11 44 47.3**			**+1.7**
M24K	**Tolsona, Glenn**	**6.15**	**14**	P			**Pn**	**11 44 47.2**			**+1.6**
	baz=196										
PCA	**Pinnacle**	**6.17**	**47**				**Pn**	**11 44 46.0**			**+0.1**
	baz=133										
PINM	**Pinnacle**	**6.17**	**47**	P			**Pn**	**11 44 46.0**			**+0.1**
	baz=234										
CUT	**Chulitna**	**6.26**	**356**				**Pn**	**11 44 47.9**			**+0.8**
CUT	**Chulitna**	**6.26**	**356**	P			**Pn**	**11 44 47.7**			**+0.6**
	baz=175										
BARN	**Barnard Glacie**	**6.29**	**36**				**Pn**	**11 44 47.9**			**+0.2**
PNL	**Peninsula**	**6.31**	**52**				**Pn**	**11 44 47.8**			**0.0**
PNL	**Peninsula**	**6.31**	**52**	P			**Pn**	**11 44 47.9**			**+0.1**
PNL	**Peninsula**	**6.31**	**52**	P			**Pn**	**11 44 47.7**			**0.0**
	baz=240										
M18K	**Stony River**	**6.32**	**330**				**Pn**	**11 44 47.1**			**-0.8**
M19K	**Big River Lodg**	**6.32**	**337**				**Pn**	**11 44 47.4**			**-0.5**
M19K	**Big River Lodg**	**6.32**	**337**	P			**Pn**	**11 44 47.4**			**-0.5**
	baz=153										
CTG	**Chitna Glacier**	**6.33**	**38**	P			**Pn**	**11 44 48.1**			**-0.1**
	baz=224										
CTGM	**Chitina Glacie**	**6.33**	**38**				**Pn**	**11 44 48.1**			**-0.2**
BCPM	**Bancas Point**	**6.35**	**50**				**Pn**	**11 44 48.9**			**+0.6**
LOGN	**Logan Glacier**	**6.35**	**39**				**Pn**	**11 44 48.4**			**-0.1**
SDPT	**Sand Point**	**6.39**	**267**				**Pn**	**11 44 47.0**			**-1.8**
SDPT	**Sand Point**	**6.39**	**267**	P			**Pn**	**11 44 47.6**			**-1.3**
SDPT	**Sand Point**	**6.39**	**267**	P			**Pn**	**11 44 47.5**			**-1.3**
	baz=79										
O15K	**Ungalikthiuk R**	**6.41**	**302**				**Pn**	**11 44 49.4**			**+0.2**
O15K	**Ungalikthiuk R**	**6.41**	**302**	P			**Pn**	**11 44 49.4**			**+0.2**
	baz=114										
WAT6	**Susitna Watana**	**6.46**	**6**				**Pn**	**11 44 50.4**			**+0.4**
WAT6	**Susitna Watana**	**6.46**	**6**	P			**Pn**	**11 44 50.4**			**+0.4**
	baz=188										
HARP	**HAARP**	**6.58**	**17**				**Pn**	**11 44 51.8**			**+0.3**
HARP	**HAARP**	**6.58**	**17**	P			**Pn**	**11 44 51.8**			**+0.3**
	baz=200										
N16K	**Nishlik Lake**	**6.60**	**315**				**Pn**	**11 44 52.0**			**+0.3**
N16K	**Nishlik Lake**	**6.60**	**315**	P			**Pn**	**11 44 52.0**			**+0.3**
	baz=127										
L19K	**White Mountain**	**6.67**	**337**				**Pn**	**11 44 51.8**			**-0.9**

ILAR Sn Sn **11 46 53.1 -5.3**
comp=N,0.8nm,0.3s,baz=201,slow=22,SNR=1.8
ILAR LR LR 11 48 56.5
comp=N,104nm,19.8s,baz=252,slow=39
COLA College 8.75 4 Pn Pn 11 45 21.8 +0.7
COLA College 8.75 4 P **Pn 11 45 22.0 +0.9**
K15K Wolf Creek Mou 8.77 319 Pn **Pn 11 45 22.1 +0.6**
WHY Whitehorse 8.77 53 Pn 11 45 21.6 0.0
J26L Joseph Creek 8.80 16 Pn 11 45 22.8 +0.8
MDM Murphy Dome 8.82 3 Pn 11 45 22.8 +0.6
MLY Manley 8.91 356 Pn 11 45 22.7 -0.7
MLY Manley 8.91 356 P **Pn 11 45 24.1 +0.7**
baz=175
WESE West Dahl East 8.91 265 Pn 11 45 22.2 -1.3
L29M L29M 8.93 34 Pn 11 45 24.1 +0.3
P32M Atlin 8.95 61 Pn 11 45 23.3 -0.7
P32M Atlin 8.95 61 P **Pn 11 45 23.4 -0.6**
baz=254
I23K Minto, Yukon-K 8.99 360 Pn 11 45 24.4 -0.1
POKR Poker Plat Res 9.01 5 Pn 11 45 27.1 +2.4
U33K Whale Pass 9.01 84 Pn Pn 11 45 20.8 -4.0
I20K Naaghedeneel 9.01 346 Pn 11 45 25.4 +0.6
M30M Minto, Yukon 9.02 40 Pn **Pn 11 45 25.3 +0.3**
I21K Tanana 9.12 353 Pn 11 45 26.0 -0.4
I21K Tanana 9.12 353 P **Pn 11 45 28.1 +1.8**
baz=170
J16K Anvik River 9.13 326 Pn 11 45 25.7 -0.7
DAWY Dawson 9.30 28 Pn **Pn 11 45 29.8 +1.0**
EGAK Eagle 9.49 21 Pn **Pn 11 45 33.1 +1.7**
Q32M Nakina River 9.54 66 Pn 11 45 31.0 -1.2
PRP Porcupine Dome 9.54 9 Pn **Pn 11 45 33.5 +1.3**
P33M Teslin, Yukon 9.56 58 Pn **Pn 11 45 32.0 -0.5**
P33M Teslin, Yukon 9.56 58 P **Pn 11 45 31.9 -0.5**
baz=252
I17K Unalakleet 9.60 328 Pn **Pn 11 45 33.1 +0.4**
I26K Coal Creek Min 9.62 15 Pn 11 45 34.2 +1.1
K29M Barlow Dome 9.65 33 Pn 11 45 34.2 +0.5
H21K Melozitna Rive 9.66 351 Pn 11 45 32.9 -0.8
M31M Drury Creek, Y 9.71 45 Pn 11 45 35.2 +0.8
M31M Drury Creek, Y 9.71 45 P **Pn 11 45 35.2 +0.8**
baz=238
H24K Noodor Dome 9.71 3 Pn 11 45 37.5 +3.1
H18K Honhosa River 10.03 337 Pn **Pn 11 45 38.1 -0.6**
IMAR Indian Mountai 10.07 349 Pn **Pn 11 45 38.3 -0.9**
FARO Faro, Yukon 10.14 47 Pn **Pn 11 45 41.7 +1.4**
UNV Unalaska Valle 10.18 264 P **Pn 11 45 38.4 -2.4**
H17K Granite Mounta 10.21 334 Pn **Pn 11 45 41.3 +0.1**
R33M Jennings River 10.27 64 Pn 11 45 41.6 -0.6
I28M Miner Creek 10.33 22 Pn 11 45 45.2 +2.2
FYU Fort Yukon 10.59 9 Pn **Pn 11 48 4.4 +2.0**
DLBC Dease Lake 10.64 70 Pn **Pn 11 45 46.9 -0.3**
DLBC Dease Lake 10.64 70 Pn **Pn 11 45 47.5 +0.4**
comp=N,1.3nm,0.3s,baz=243,slow=8.1,SNR=37
DLBC Sn Sn **11 47 43.7 -2.5**
comp=N,0.4nm,0.3s,baz=180,slow=18,SNR=1.6
DLBC LR LR 11 49 12.4
comp=N,234nm,19.2s,baz=283,slow=34
comp=N,2.1nm,0.3s
I30M Mount Dempster 11.02 29 Pn Pn 11 45 54.6 +2.2
F21K Alatna River 11.25 352 Pn **Pn 11 45 56.1 +0.7**
F24K Squaw Lake 11.39 3 Pn 11 45 58.6 +1.2
BMAR Burnt Mountain 11.49 9 Pn Pn 11 45 59.6 +0.8
ANM Nome 11.55 323 Pn Pn 11 46 00.3 +0.8
F17K Baldwin Pennin 11.76 336 Pn 11 46 03.2 +0.8
E19K Redstone River 11.91 345 Pn **Pn 11 46 06.0 +1.5**
E22K Anaktuvuk Pass 12.05 355 Pn 11 46 09.1 +2.7
F15K North Star Dit 12.09 328 Pn Pn 11 46 06.8 -0.1
E25K Arctic Village 12.10 7 Pn Pn 11 46 09.0 +1.9
E18K Tukpahlearik C 12.46 339 Pn **Pn 11 46 12.6 +0.7**
TOLK Toolik Lake Re 12.51 359 Pn 11 46 14.2 +1.7
D22K Ayikyak River 12.84 354 Pn 11 46 18.7 +1.6
G31M Satah River 12.87 27 Pn **Pn 11 46 19.5 +1.9**
BBB Bella Bella 13.00 99 Pn **Pn 11 46 20.5 +1.2**
comp=N,0.2nm,0.3s,baz=297,slow=6.8,SNR=2.5
BBB Sn Sn 11 48 34.6 -9.2
comp=N,0.2nm,0.3s,baz=132,slow=14,SNR=1.6
BBB LR LR 11 50 04.6
comp=N,154nm,18.5s,baz=332,slow=32
comp=N,22nm,1.1s
F31M Tsiigehtchic 13.40 26 Pn **Pn 11 46 26.1 +1.3**
INK Inuvik 14.13 24 Pn **Pn 11 46 35.7 +1.1**
INK Inuvik 14.13 24 Pn **Pn 11 46 36.0 +1.3**
comp=N,0.1nm,0.3s,baz=208,slow=15,SNR=22
INK LR LR 11 52 12.8
comp=N,139nm,19.6s,baz=183,slow=38
comp=N,13nm,1.1s
FLDN Fort Liard 14.14 63 Pn 11 46 34.6 -0.2
B22K Teshekpuk Lake 14.33 354 Pn 11 46 37.7 +0.3
WRGLY Wrigley 14.72 51 Pn **Pn 11 46 44.4 +1.6**
C36M Paulatuk 17.32 30 P **Pn 11 47 14.3 -2.0**
HILA High Level 17.45 69 Pn 11 47 18.6 +0.6
YKA Yellowknife Ar 18.58 56 P **P 11 47 31.2 -0.5**
YKA Yellowknife Ar 18.58 56 P **P 11 47 32.6 +1.0**
comp=N,0.2nm,0.3s,baz=265,slow=12,SNR=36
YKA LR LR 11 54 37.7
comp=N,90nm,18.1s,baz=280,slow=37
comp=N,6.9nm,1.1s
A36M Sachs Harbour 18.77 23 P **P 11 47 34.7 +1.1**
A36M IAmb IAmb 11 47 46.5
comp=Z,23nm,0.8s
LTY Liberty 19.71 105 P **P 11 47 44.6 +0.5**
LTY IAmb IAmb 11 47 55.0
comp=Z,15nm,1.2s
E07A Sunnyside 20.58 105 P **P 11 47 53.3 -0.3**
E07A IAmb IAmb 11 48 04.4
comp=Z,8.8nm,1.0s
H04A Detroit Lake 20.58 113 P **P 11 47 52.9 -0.7**
H04A IAmb IAmb 11 48 05.9
comp=Z,33nm,1.4s
NEW Newport 21.06 99 P **P 11 48 01.2 +2.4**
comp=Z,1.9nm,0.9s,baz=304,slow=4.0,SNR=4.5
NEW LR LR 11 54 26.7
comp=Z,99nm,21.4s,baz=306,slow=32
comp=Z,1.9nm,0.9s
I04A Tendick Farm, 21.09 115 P **P 11 47 57.9 -1.2**
I05D Terrebonne, OR 21.26 112 P **P 11 47 59.8 -1.2**
I05D IAmb IAmb 11 48 09.4
comp=Z,14nm,1.1s
SHEM Shemya Is, Ala 21.41 276 LR LR 11 56 13.6
comp=Z,80nm,20.8s,baz=170,slow=36
HUMO Hull Mountain 21.68 118 P **P 11 48 05.0 -0.4**
HUMO IAmb IAmb 11 48 15.1
comp=Z,13nm,1.2s
PINE Pine Mountain 21.84 113 P **P 11 48 07.4 0.0**
PINE IAmb IAmb 11 48 20.7
comp=Z,21nm,1.1s
G08A Pilot Rock 21.87 107 P **P 11 48 07.6 0.0**
J05D Fort Rock, OR 22.05 114 P **P 11 48 09.8 +0.2**
J05D IAmb IAmb 11 48 23.0
comp=Z,16nm,1.0s
L04D Klamath Falls 22.29 117 P **P 11 48 12.2 +0.1**
F10A Beach Ranch, E 22.37 104 P **P 11 48 12.5 -0.4**
F10A IAmb IAmb 11 48 28.9
comp=Z,16nm,1.4s
I07A Izee 22.39 110 P **P 11 48 13.3 +0.1**
I07A IAmb IAmb 11 48 22.2
comp=Z,11nm,1.0s
YBH Yreka Blue Hor 22.45 119 LR LR 11 54 42.2
comp=Z,140nm,21.8s,baz=326,slow=31
K05A Summer Lake 22.63 115 P **P 11 48 12.9 -2.9**
BILL Bilibino 23.32 318 P **P 11 48 23.0 +0.4**
BILL IAmb IAmb 11 48 24.6
comp=Z,5.5nm,0.8s
WVOR Wild Horse Val 24.00 112 P **P 11 48 28.2 -1.3**
WVOR IAmb IAmb 11 48 31.6
comp=Z,5.7nm,1.0s
MFID Camas Ranch 24.79 107 P **P 11 48 35.0 -1.8**
ELK Elko 26.98 110 P **P 11 48 56.1 -0.6**
ELK Elko 26.98 110 LR LR 11 57 48.7
comp=Z,61nm,18.9s,baz=312,slow=32
NVAR Mina Array Bea 27.15 118 P **P 11 48 57.9 -0.4**
comp=Z,1.2nm,0.9s,baz=296,slow=9.3,SNR=6.8
NVAR LR LR 11 57 49.4
comp=Z,125nm,18.1s,baz=354,slow=32
comp=Z,1.2nm,0.9s
RES Resolute Bay 27.64 28 LR LR 12 00 24.1
comp=Z,87nm,18.8s,baz=13,slow=37
R11B Troy Canyon, C 28.58 114 P **P 11 49 09.9 -1.1**
R11B IAmb IAmb 11 49 20.1
comp=Z,5.4nm,1.4s
PDAR Pinedale Array 28.63 101 P **P 11 49 11.7 +0.2**
comp=Z,0.2nm,0.6s,baz=312,slow=5.9,SNR=2.6
comp=Z,0.2nm,0.6s
SEY Seymchan 29.38 307 LR LR 12 02 19.3
comp=Z,132nm,21.8s,baz=325,slow=39
PEA0B Petropavlovsk- 30.22 287 P **P 11 49 25.6 +0.5**
PETK Petropavlovsk- 30.22 287 P **P 11 49 25.3 +0.1**
comp=Z,2.2nm,0.6s,baz=69,slow=13,SNR=18
PETK LR LR 12 02 42.1
comp=Z,38nm,18.5s,baz=83,slow=39
comp=Z,2.2nm,0.6s
MA2 Magadan 31.12 302 LR LR 12 03 17.2
comp=Z,66nm,19.1s,baz=66,slow=39
PFO Pinyon Flats O 31.89 121 LR LR 12 00 56.2
comp=Z,89nm,18.3s,baz=335,slow=33
X16A Lo Mia Camp, P 33.73 114 P **P 11 49 54.5 -1.9**
TIXI Tiksi 35.77 328 LR LR 12 05 51.0
comp=Z,23nm,18.7s,baz=28,slow=38
ANMO Albuquerque 35.93 108 LR LR 12 03 21.1
comp=Z,55nm,18.0s,baz=53,slow=34
FRB Frobisher Bay 38.49 45 LR LR 12 06 27.7
comp=Z,141nm,19.0s,baz=332,slow=36
YAK Yakutsk 39.45 313 LR LR 12 07 29.2
comp=Z,73nm,18.5s,baz=84,slow=37
TXAR Lajitas Array 41.78 111 LR LR 12 07 28.2
comp=Z,47nm,18.3s,baz=344,slow=35
LPIG La Paz 42.77 122 LR LR 12 07 17.7
comp=Z,58nm,18.1s,baz=336,slow=34
SFJD Kangerlussuaq 43.16 35 LR LR 12 08 49.3
comp=Z,81nm,18.5s,baz=340,slow=36
DAG Dannarks Havn 43.70 15 *i* P **11 51 19.0 -0.2**
SCHQ Schefferville 44.04 56 LR LR 12 09 49.8
comp=Z,57nm,19.1s,baz=16,slow=36
TKL Tuckaleechee C 47.92 87 LR LR 12 11 41.8
comp=Z,110nm,18.0s,baz=348,slow=36
NRIK Noril'sk 48.20 337 P **P 11 51 55.0 +0.2**
comp=Z,1.5nm,0.3s,baz=42,slow=8.4,SNR=3.5
comp=Z,1.5nm,0.3s
H11N2 WAKE ISLAND Hy 48.85 240 T T 12 44 33.6
baz=31,slow=76,SNR=37
H11N3 WAKE ISLAND Hy 48.85 240 T T 12 44 31.3
baz=31,slow=76,SNR=37
H11N1 WAKE ISLAND Hy 48.86 240 T T 12 44 32.4
baz=31,slow=76,SNR=27
H11S1 WAKE ISLAND Hy 49.99 239 T T 12 46 00.1
baz=30,slow=76,SNR=33
H11S2 WAKE ISLAND Hy 50.00 239 T T 12 45 57.9
baz=30,slow=76,SNR=31
H11S3 WAKE ISLAND Hy 50.00 239 T T 12 46 01.4
baz=30,slow=76,SNR=37
MJAR Matsushiro Arr 51.20 280 P **P 11 52 17.8 -0.2**
comp=Z,0.8nm,0.5s,baz=41,slow=6.9,SNR=2.2
comp=Z,0.8nm,0.5s
ARCES ARCESS Array B 54.53 2 P **P 11 52 42.2 0.0**
comp=Z,1.0nm,0.5s,baz=1.1,slow=7.2,SNR=6.8
comp=Z,1.0nm,0.5s
KSRS Korea Array 56.11 288 P **P 11 52 54.8 +0.9**
comp=Z,0.9nm,0.9s,baz=35,slow=7.0,SNR=2.4
comp=Z,0.9nm,0.9s
SONM Songino Array 58.71 310 P **P 11 53 13.5 +1.1**
comp=Z,4.7nm,0.9s,baz=40,slow=6.6,SNR=29
comp=Z,4.7nm,0.9s
ZALV Zalesovo Beam 61.65 327 P **P 11 53 33.0 +0.7**
comp=Z,3.1nm,0.5s,baz=31,slow=7.4,SNR=18
comp=Z,3.1nm,0.5s
HHC Hu-ho-hao-te 61.80 302 *e*P **P 11 53 33.3 -0.3**
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,93nm,5.0s
NOA NORSAR Array B 62.11 11 P **P 11 53 35.2 -0.1**
comp=Z,0.6nm,0.8s,baz=350,slow=9.8,SNR=2.1
NOA LR LR 12 22 35.3
comp=Z,14nm,18.8s,baz=235,slow=38
comp=Z,0.6nm,0.8s
FINES FINESS Array B 62.66 3 P **P 11 53 39.4 +0.6**
comp=Z,1.1nm,0.6s,baz=2.3,slow=9.6,SNR=13
comp=Z,1.1nm,0.6s
BVAR Borovoye Array 66.38 335 P **P 11 54 03.3 -0.1**
comp=Z,1.5nm,0.8s,baz=10,slow=8.8,SNR=5.8
comp=Z,1.5nm,0.8s
KURBB Kurchatov Arra 66.43 329 P **P 11 54 03.8 +0.1**
comp=Z,1.2nm,0.5s,baz=28,slow=6.3,SNR=8.5
comp=Z,1.2nm,0.5s
MKAR Makanchi Array 68.68 325 P **P 11 54 18.4 +0.3**
comp=Z,2.7nm,0.6s,baz=30,slow=6.2,SNR=33
comp=Z,2.7nm,0.6s
WMQ Urumqi 69.43 320 *e*P **P 11 54 20.1 -2.7**
WMQ pmax pmax
comp=Z,17nm,0.7s
AKASG Malin Array Be 73.47 1 P **P 11 54 46.8 -0.2**
comp=Z,1.7nm,0.7s,baz=1.9,slow=6.0,SNR=5.5
comp=Z,1.7nm,0.7s
GERES GERESS Array B 74.38 12 P **P 11 54 52.8 +0.4**
comp=Z,0.2nm,0.5s,baz=6.7,slow=9.2,SNR=1.2
comp=Z,0.2nm,0.5s
KSH Kashi 77.24 326 P **P 11 55 12.9 +3.9**
PZH PanZhiHua 78.18 300 P **P 11 55 14.1 -0.3**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.6s
KBZ Khabaz 79.93 351 P **P 11 55 24.7 +1.2**
comp=Z,1.0nm,0.6s,baz=21,slow=5.5,SNR=4.8
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 84.43 358 P **P 11 55 47.8 +0.4**
comp=Z,0.5nm,0.6s,baz=6.7,slow=5.2,SNR=3.3
comp=Z,0.5nm,0.6s
CMAR Chiang Mai Arr 86.34 298 P **P 11 55 57.2 +0.2**
comp=Z,1.4nm,0.7s,baz=9.4,slow=5.1,SNR=12
comp=Z,1.4nm,0.7s

BJI ***11*** *11:52:31.7±0.0,4.°42S×130.°98E,h58km,mb4.9/51, mB5.0/27,Ms4.4/4,Ms7 4.2/4*
DJA ***11*** *11:52:33.9±0.2,4.°S±2.°×13.°1E±.°,h56km±3km,M4.9/43, mB5.3/17,mb5.1/43,MLv5.1/12,Mw(mB)4.8/17*
NEIC ***11*** *11:52:34.1±2.1,4.°27S±0.°05×130.°93E±0.°04,h54km±8km, mb4.8/41,Error ellipse: s-maj=7.5km s-min=5.1km az=200.0*
IDC ***11*** *11:52:36.5±2.9,4.°36S×130.°87E,h75km±26km,mb4.1/17, mbtmp4.4/18,MS3.6/26,Error ellipse: s-maj=20.8km s-min=11.0km az=70.0*
ISC 11 11:52:32.3±0.5,4.°38S±0.°04×131.°02E±0.°04,h37km±1km, h39km;pP-P,n184,σ1§94/177,mb4.8/44,MS3.6/24,2C-2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
BNDI	**Bandanaira**	**1.12**	**263**	P		**Pn**	**11 52 51.9**	**+0.5**
BNDI	**Bandanaira**	**1.12**	**263**	P		**Pn**	**11 52 52.4**	**+1.0**
BNDI				S		**Sn**	**11 53 06.3**	**+0.8**
FAKI	**Fak Fak**	**1.90**	**40**	Pn		**Pn**	**11 53 04.0**	**+1.8**
FAKI				Sn		**Sn**	**11 53 24.8**	**0.0**
FAKI	**Fak Fak**	**1.90**	**40**	P		**Pn**	**11 53 04.2**	**+2.1**
FAKI	**Fak Fak**	**1.90**	**40**	P		**Pn**	**11 53 03.8**	**+1.7**
SWI	**Sorong**	**3.50**	**4**	P		**Pn**	**11 53 23.7**	**-0.4**
SAUI	**Saumlaki**	**3.59**	**176**	Pn		**Pn**	**11 53 29.3**	**+3.9**
SAUI				Sn		**Sn**	**11 54 12.5**	**+5.8**
SAUI	**Saumlaki**	**3.59**	**176**	P		**Pn**	**11 53 29.0**	**+3.6**
NLAI	**Namlea**	**4.07**	**286**	P		**Pn**	**11 53 33.8**	**+1.8**
LBMI	**Labuha**	**5.11**	**316**	P		**Pn**	**11 53 45.7**	**-0.6**
	366nm,1.1s,4μm1.5nm							
SANI	**Sanana**	**5.53**	**295**	P		**Pn**	**11 53 50.7**	**-1.4**
SANI	**Sanana**	**5.53**	**295**	P		**Pn**	**11 53 50.3**	**-1.8**
	106nm,0.6s,2μm0.5nm							
TNTI	**Ternate**	**6.28**	**324**	Pn		**Pn**	**11 54 01.4**	**-1.0**
TNTI	**Ternate**	**6.28**	**324**	P		**Pn**	**11 54 03.7**	**+1.3**
DRS	**Darwin Rock St**	**8.00**	**181**	P		**Pn**	**11 54 26.9**	**+0.8**
KDU	**Kakadu**	**8.38**	**170**	P		**Pn**	**11 54 31.7**	**+0.5**
MTN	**Manton Dam**	**8.41**	**179**	Pn		**Pn**	**11 54 32.8**	**+1.1**
MTN	**Manton Dam**	**8.41**	**179**	P		**Pn**	**11 54 32.6**	**+0.9**
BBSI	**Bau Bau**	**8.49**	**262**	P		Pn	11 54 36.7	+4.0
	110nm,1.1s,1μm							
SOEI	**Soe**	**8.57**	**231**	Pn		Pn	11 54 37.8	+3.9
SOEI	**Soe**	**8.57**	**231**	P		**Pn**	**11 54 36.9**	**+3.0**
	289nm,1.2s,3μm							
GENI	**Genyem**	**9.30**	**79**	P		**Pn**	**11 54 45.5**	**+1.6**
	60nm,1.0s,3μm							
BATI	**Bamata**	**9.31**	**231**	P		Pn	11 54 48.0	+4.0
	283nm,0.9s,baz=180,slow=1.0,SNR=58							
BATI				S		**Sn**	**11 56 28.7**	**+1.1**
	16nm,0.5s,baz=330,slow=21,SNR=0.9							
BATI				LR		LR	11 57 47.8	
	comp=Z,202nm,20.4s,baz=55,slow=34							
GTOI	**Gorontalo**	**9.42**	**302**	P		**Pn**	**11 54 47.1**	**+1.6**
	53nm,1.0s,480nm							
MMPI	**Merauke**	**10.15**	**114**	P		**Pn**	**11 54 58.9**	**+3.3**
	480nm,0.6s							
EDFI	**Ende, Flores**	**10.23**	**244**	P		Pn	11 55 01.5	+4.7
	106nm,1.4s,1μm							
KAPI	**Kappang**	**11.25**	**266**	Pn		**Pn**	**11 55 14.4**	**+3.8**
KAPI	**Kappang**	**11.25**	**266**	P		**Pn**	**11 55 09.4**	**-1.1**
TTSI	**Tana Toraja**	**11.25**	**276**	P		**Pn**	**11 55 11.8**	**+1.2**
	37nm,1.1s,2μm							
KNRA	**Kununurra**	**11.45**	**191**	Pn		**Pn**	**11 55 11.8**	**-1.4**
KNRA	**Kununurra**	**11.45**	**191**	P		**Pn**	**11 55 12.3**	**-1.0**
TOLI2	**Tolitoli**	**11.59**	**298**	Pn		**Pn**	**11 55 15.8**	**+0.6**
BASI	**Baing, Sumba**	**11.87**	**240**	P		Pn	11 55 22.4	+3.4
	139nm,0.8s,2μm							
DAV	**Davao City (W)**	**12.60**	**334**	LR		LR	12 01 17.9	
	comp=Z,403nm,21.9s,baz=158,slow=42							
PLAI	**Plampang**	**13.88**	**251**	P		**Pn**	**11 55 44.8**	**-1.7**
PLAI	**Plampang**	**13.88**	**251**	P		**Pn**	**11 55 46.8**	**+0.3**
	53nm,1.3s,567nm							
FITZ	**Fitzroy Crossi**	**14.62**	**201**	Pn		**Pn**	**11 55 54.0**	**-2.5**
FITZ	**Fitzroy Crossi**	**14.62**	**201**	P		**Pn**	**11 55 55.3**	**-1.2**
TWSI	**Taliwang, Sumb**	**14.69**	**252**	P		**Pn**	**11 55 57.0**	**-0.6**
	36nm,0.8s							
COEN	**Coen**	**15.31**	**129**	Pn		**Pn**	**11 56 04.6**	**-1.1**
WB0	**Warramunga Arr**	**15.65**	**168**	Pn		**Pn**	**11 56 07.0**	**-3.1**
WRAB	**Tennant Creek**	**15.80**	**168**			**Pn**	**11 56 05.5**	**-6.6**
WRA	**Warramunga Arr**	**15.81**	**168**	Pn		**Pn**	**11 56 07.3**	**-4.9**
WRA	**Warramunga Arr**	**15.81**	**168**	P		**Pn**	**11 56 07.5**	**-4.7**
	1.6nm,0.3s,baz=346,slow=12,SNR=50							
WRA				S		**Sn**	**11 58 57.3**	**-9.1**
	6.5nm,0.6s,baz=47,slow=2.6,SNR=2.1							
WB2	**Warramunga Arr**	**15.81**	**168**	Pn		**Pn**	**11 56 07.5**	**-4.7**
WR0	**Warramunga Arr**	**15.87**	**168**	Pn		**Pn**	**11 56 07.7**	**-5.2**
WR0				IAmb		IAmb	11 56 18.2	
	comp=Z,102nm,0.7s							
SRBI	**Singaraja**	**16.14**	**256**	P		**P**	**11 56 17.9**	**-1.4**
	comp=Z,51nm,0.9s							
PMG	**Port Moresby**	**16.78**	**108**			**P**	**11 56 27.3**	**+0.8**
PMG				IAmb		IAmb	11 56 29.3	
	comp=Z,40nm,0.8s							
PMG	**Port Moresby**	**16.78**	**108**	P		**P**	**11 56 27.1**	**+0.6**
PMG	**Port Moresby**	**16.78**	**108**	P		**P**	**11 56 27.2**	**+0.8**
PMG	**Port Moresby**	**16.78**	**108**	P		**P**	**11 56 27.1**	**+0.6**
	comp=Z,32nm,0.7s,baz=316,slow=6.6,SNR=16							
PMG				S		**Sn**	**11 59 23.7**	**-6.3**
	comp=Z,3.7nm,0.6s,baz=348,slow=24,SNR=1.2							
PMG				LR		LR	12 04 27.3	
	comp=Z,250nm,18.3s,baz=271,slow=42							
ABJI	**Asem Bagus**	**17.03**	**258**	P		**P**	**11 56 29.5**	**+0.3**
	comp=Z,75nm,1.1s							
JAGI	**Jajag, Banyuwa**	**17.24**	**256**	P		**P**	**11 56 30.6**	**-1.0**
JAGI	**Jajag, Banyuwa**	**17.24**	**256**	P		**P**	**11 56 30.8**	**-0.8**
	comp=Z,32nm,0.7s							
BLJI	**Banyuglugur**	**17.64**	**258**	P		**P**	**11 56 36.9**	**+0.9**
	comp=Z,53nm,0.6s							
GMJI	**Gumukmas**	**17.89**	**257**	P		**P**	**11 56 38.6**	**-0.1**
KKM	**Kota Kinabalu**	**18.05**	**305**	P		**P**	**11 56 39.9**	**-0.7**
KKM				IAmb		IAmb	11 56 41.6	
	comp=Z,74nm,1.0s							
KKM	**Kota Kinabalu**	**18.05**	**305**	P		**P**	**11 56 40.3**	**-0.2**
QIS	**Mount Isa**	**18.12**	**153**	P		**Pn**	**11 56 42.9**	**+1.7**
MTSU	**Mount Surprise**	**18.87**	**137**	P		**Pn**	**11 56 52.1**	**+1.7**
AS31	**Alice Springs**	**19.38**	**172**			**Pn**	**11 56 56.1**	**-0.2**
AS31				IAmb		IAmb	11 56 57.9	
	comp=Z,36nm,0.7s							
ASAR	**Alice Springs**	**19.38**	**172**	P		**Pn**	**11 56 56.2**	**-0.2**
ASAR	**Alice Springs**	**19.38**	**172**	P		**Pn**	**11 56 56.5**	**+0.1**
	comp=Z,95nm,0.7s,baz=348,slow=9.7,SNR=899							
ASAR				S		**S**	**12 00 24.7**	**-7.7**
	comp=Z,4.3nm,0.6s,baz=358,slow=26,SNR=6.6							
ASAR				LR		LR	12 06 09.8	
	comp=Z,138nm,18.4s,baz=344,slow=42							
AS01	**Alice Springs**	**19.38**	**172**	P		**P**	**11 56 55.8**	**+0.7**
MBWA	**Marble Bar**	**19.96**	**212**			**P**	**11 57 00.0**	**-1.4**
MBWA				IAmb		IAmb	11 57 04.9	
	comp=Z,27nm,0.8s							
MBWA	**Marble Bar**	**19.96**	**212**	P		**P**	**11 57 00.2**	**-1.2**
PSA00	**Pilbara Seismi**	**20.24**	**211**			**P**	**11 57 03.3**	**-1.2**
PSA00				IAmb		IAmb	11 57 04.5	
	comp=Z,57nm,0.7s							
PSA00	**Pilbara Seismi**	**20.24**	**211**	P		**P**	**11 57 02.3**	**-2.1**
PSA00				IAmb		IAmb	11 57 04.9	
	comp=Z,40nm,1.1s							
PSA00	**Pilbara Seismi**	**20.24**	**211**	P		**P**	**11 57 03.3**	**-1.2**
WRKA	**Warakurna**	**20.71**	**187**	P		**P**	**11 57 10.0**	**+0.5**
CTA	**Charters Tower**	**21.54**	**138**	P		**P**	**11 57 19.9**	**+1.4**
CTA	**Charters Tower**	**21.54**	**138**	P		**P**	**11 57 21.4**	**+2.9**
	comp=Z,11nm,0.8s,baz=309,slow=9.2,SNR=8.9							
CTA				LR		LR	12 07 39.3	
	comp=Z,194nm,18.9s,baz=270,slow=42							
	comp=Z,11nm,0.8s							
CTAO	**Charters Tower**	**21.54**	**138**	P		**P**	**11 57 22.1**	**+3.6**
BBJI	**Bungbulang**	**23.44**	**261**	P		**P**	**11 57 36.8**	**-1.8**
OOD	**Oodnadatta**	**23.71**	**170**	P		**P**	**11 57 41.4**	**+0.5**
GIRL	**Giralia**	**24.36**	**220**	P		**P**	**11 57 46.0**	**-1.0**
INKA	**Innaminka**	**25.02**	**159**	P		**P**	**11 57 54.1**	**+1.3**
MEEK	**Meekatharra**	**25.11**	**207**	P		**P**	**11 57 53.9**	**+0.1**
QLP	**Quilpie**	**25.44**	**152**	P		**P**	**11 57 58.3**	**+1.5**
MULG	**Mulgathing**	**25.93**	**174**	P		**P**	**11 58 02.0**	**+0.9**
FORT	**Forrest**	**26.41**	**186**	P		**P**	**11 58 05.6**	**+0.2**
FORT	**Forrest**	**26.41**	**186**	P		**P**	**11 58 06.2**	**+0.7**
LCRK	**Leigh Creek**	**26.81**	**166**	P		**P**	**11 58 10.0**	**+1.0**
KMBL	**Kambalda**	**28.19**	**197**	P		**P**	**11 58 21.1**	**-0.4**
MORW	**Morawa**	**28.37**	**208**	P		**P**	**11 58 21.8**	**-1.2**
MORW				IAmb		IAmb	11 58 22.4	
	comp=Z,19nm,0.7s							
MORW	**Morawa**	**28.37**	**208**	P		**P**	**11 58 22.0**	**-1.1**
BBOO	**Buckleboo**	**28.68**	**171**	P		**P**	**11 58 25.9**	**+0.1**
BBOO				IAmb		IAmb	11 59 06.1	
	comp=Z,50nm,1.3s							
STKA	**Stephens Creek**	**29.10**	**161**	P		**P**	**11 58 29.9**	**+0.3**
STKA	**Stephens Creek**	**29.10**	**161**	P		**P**	**11 58 30.8**	**+1.2**
STKA	**Stephens Creek**	**29.10**	**161**	P		**P**	**11 58 30.5**	**+0.9**
	comp=Z,5.9nm,0.5s,baz=338,slow=8.8,SNR=12							
STKA				LR		LR	12 11 15.8	
	comp=Z,198nm,20.1s,baz=344,slow=38							
	comp=Z,5.9nm,0.5s							
HNR	**Honiara**	**29.14**	**101**	LR		LR	12 11 25.3	
	comp=Z,2μm,20.9s,baz=283,slow=38							
BLDU	**Ballidu**	**29.38**	**206**	P		**P**	**11 58 31.0**	**-1.1**
AULRC	**Lightning Ridg**	**29.65**	**149**	P		**P**	**11 58 36.1**	**+1.7**
KLBR	**Kellerberrin**	**29.80**	**203**	P		**P**	**11 58 35.1**	**-0.7**
CMSA	**Cobar Meteorol**	**30.34**	**155**	P		**P**	**11 58 41.9**	**+1.4**
MUN	**Mundaring**	**30.77**	**205**	P		**P**	**11 58 43.4**	**-0.9**
JOW	**Kunigami**	**31.14**	**355**	LR		LR	12 09 50.9	
	comp=Z,205nm,21.7s,baz=140,slow=33							
NWAO	**Narrogin (SRO)**	**31.19**	**203**	P		**P**	**11 58 47.3**	**-0.7**
NWAO				IAmb		IAmb	11 58 48.0	
	comp=Z,21nm,0.8s							
NWAO	**Narrogin (SRO)**	**31.19**	**203**	P		**P**	**11 58 47.0**	**-1.0**
AUDCS	**Dubbo College**	**32.25**	**151**	P		**P**	**11 58 58.9**	**+1.5**
JCJ	**Chichijima**	**33.10**	**18**	LR		LR	12 10 15.6	
	comp=Z,76nm,21.6s,baz=322,slow=32							
YNG	**Yong**	**33.87**	**154**	P		**P**	**11 59 12.9**	**+1.4**
CAN	**Canberra**	**34.99**	**154**	P		**P

comp=Z,1.7nm,0.8s
PZH PanZhiHua 41.78 319 P P 12 00 17.5 -1.0
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,160nm,5.3s
LYN LuoYang 42.48 337 ⇑P **P 12 00 23.4 -0.5**
LYN pmax pmax
comp=Z,18nm,0.8s
LYN pmax pmax
comp=Z,120nm,4.2s
TNCH TengChong 43.03 314 *eP* **P 12 00 30.1 +1.4**
TNCH pmax pmax
comp=Z,77nm,3.5s
XAN Xi'an 43.53 333 P **P 12 00 31.4 -1.1**
XAN pmax pmax
comp=Z,23nm,0.7s
XAN Xi'an 43.53 333 P **P 12 00 30.9 -1.6**
CD2 Chengdu 43.69 325 P **P 12 00 33.8 0.0**
HNS HongShan 44.25 341 ⇓P **P 12 00 37.1 -1.0**
HNS pmax pmax
comp=Z,12nm,0.8s
TIY Taiyuan 45.30 339 *eP* **P 12 00 46.4 -0.2**
TIY S S 12 07 11.0 -14
TIY pmax pmax
comp=Z,28nm,0.8s
TIY pmax pmax
comp=Z,87nm,3.9s
BJT Baijiatuan 46.24 344 P **P 12 00 52.7 -1.2**
BJT IAmb IAmb 12 00 54.2
comp=Z,12nm,0.8s
BJT Baijiatuan 46.24 344 P **P 12 00 53.1 -0.8**
BJI Beijing 46.26 344 P **P 12 00 53.6 -0.4**
BJI pP **sP 12 01 09.0 -0.4**
BJI pmax pmax
comp=Z,8.0nm,0.8s
BJI pmax pmax
comp=Z,44nm,4.9s
BJI LR LR
comp=Z,57nm,12.7s
BJI LR LR
comp=Z,70nm,14.7s
BJI LR LR
comp=Z,83nm,18.8s
LZH Lanzhou 47.62 330 *eP* **P 12 01 04.4 -0.5**
LZH pP pP 12 01 15.4 +0.6
LZH pmax pmax
comp=Z,19nm,1.0s
USRK Ussuriysk Ar. 48.36 1 P **P 12 01 10.6 +0.3**
comp=Z,1.3nm,0.6s,baz=192,slow=7.7,SNR=3.3
comp=Z,1.3nm,0.6s
HHC Hu-ho-hao-te 48.41 340 *eP* **P 12 01 13.8 +2.9**
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,71nm,5.1s
BTO Baotou 48.73 339 *eP* **P 12 01 13.6 +0.2**
BTO pmax pmax
comp=Z,16nm,0.8s
BTO pmax pmax
comp=Z,140nm,4.4s
BTO Baotou 48.73 339 *eP* **P 12 01 14.5 +1.1**
BTO pP **sP 12 01 30.1 +1.3**
BTO sP pwP 12 01 37.3 +10
BTO PP **PP 12 03 08.9 +2.1**
BTO pmax pmax
comp=Z,13nm,0.8s
BTO pmax pmax
comp=Z,190nm,7.7s
ASAJ Asahikawa 49.38 11 LR LR 12 20 10.4
comp=Z,31nm,21.1s,baz=178,slow=34
LSA Lhasa 51.06 314 P **P 12 01 30.1 -1.7**
LSA IAmb IAmb 12 01 33.0
comp=Z,8.2nm,0.6s
PALK Pallekele 51.53 283 LR LR 12 25 24.7
comp=Z,37nm,18.1s,baz=206,slow=38
GTA Gaotai 52.21 329 P **P 12 01 39.6 -0.1**
GTA sP sP 12 01 59.1 +4.1
GTA pmax pmax
comp=Z,9.0nm,0.7s
KLR Kul'dur 53.39 1 LR LR 12 25 02.2
comp=Z,48nm,19.5s,baz=186,slow=36
ULN Ulaanbaatar 56.12 341 P **P 12 02 06.9 -1.2**
ULN IAmb IAmb 12 02 09.3
comp=Z,10nm,1.4s
ULN Ulaanbaatar 56.12 341 P **P 12 02 07.8 -0.3**
SONM Songino Array 56.31 340 P **P 12 02 09.9 +0.4**
SONM Songino Array 56.31 340 P **P 12 02 09.6 +0.1**
comp=Z,4.9nm,0.8s,baz=158,slow=6.7,SNR=22
comp=Z,4.9nm,0.8s
WMQ Urumqi 61.79 326 *eP* **P 12 02 47.8 +0.4**
WMQ pP pwP 12 03 04.2 +1.6
WMQ PcP **PcP 12 03 30.0 +1.7**
WMQ pmax pmax
comp=Z,19nm,0.9s
WMQ pmax pmax
comp=Z,60nm,4.1s
DRV Dumont d'Urvil 62.49 176 P **P 12 02 52.3 +0.7**
MA2 Magadan 65.65 11 LR LR 12 33 10.6
comp=Z,22nm,18.1s,baz=242,slow=37
YAK Yakutsk 66.23 359 P **P 12 03 15.8 -0.2**
YAK Yakutsk 66.23 359 LR LR 12 31 45.5
comp=Z,33nm,19.5s,baz=123,slow=36
MK31 Makanchi Array 66.62 326 P **P 12 03 18.8 -0.2**
MK31 IAmb IAmb 12 03 19.7
comp=Z,7.6nm,0.8s
MKAR Makanchi Array 66.62 326 P **P 12 03 18.6 -0.4**
MKAR Makanchi Array 66.62 326 P **P 12 03 18.9 -0.2**
comp=Z,9.3nm,0.7s,baz=122,slow=8.0,SNR=111
MKAR LR LR 12 34 09.3
comp=Z,33nm,20.4s,baz=32,slow=38
comp=Z,9.3nm,0.7s
MAKZ Makanchi 66.80 326 P **P 12 03 19.3 -0.8**
MAKZ IAmb IAmb 12 03 20.7
comp=Z,8.2nm,0.8s
MAKZ Makanchi 66.80 326 P **P 12 03 19.9 -0.3**
KSH Kashi 66.81 316 P **P 12 03 21.1 +0.6**
KSH pmax pmax
comp=Z,4.0nm,0.8s
NRN Naryn 67.67 318 P **P 12 03 24.3 -1.9**
AAK Ala-Archa 69.22 319 LR LR 12 37 26.9
comp=Z,40nm,21.9s,baz=66,slow=39
ZAA0 Zalesovo Array 69.71 333 P **P 12 03 37.2 -1.0**
ZAA0 IAmb IAmb 12 03 38.0
comp=Z,6.5nm,0.8s
ZALV Zalesovo Beam 69.71 333 P **P 12 03 36.9 -1.2**
ZALV Zalesovo Beam 69.71 333 P **P 12 03 37.1 -1.1**
comp=Z,6.6nm,0.8s,baz=108,slow=5.3,SNR=27
ZALV LR LR 12 35 56.0
comp=Z,33nm,18.4s,baz=118,slow=37
comp=Z,6.6nm,0.8s
CCD Concordia, Ant 70.81 182 P **P 12 03 45.7 +0.7**
KURBB Kurchatov Arra 70.83 328 P **P 12 03 44.6 -0.5**
comp=Z,7.4nm,0.7s,baz=128,slow=5.4,SNR=52
comp=Z,7.4nm,0.7s
KURK Kurchatov 70.84 328 P **P 12 03 44.8 -0.3**
KURK IAmb IAmb 12 04 07.9
comp=Z,17nm,0.8s
KURK Kurchatov 70.84 328 P **P 12 03 44.8 -0.3**
KURK pP **pwP 12 04 00.4 0.0**
KURK sP **PcP 12 04 06.1 +0.5**
KK31 Karatay Array 72.06 318 P **P 12 03 50.5 -2.2**
KKAR Karatay Array 72.06 318 P **P 12 03 51.1 -1.7**
VNDA Vanda 74.92 173 P **P 12 04 09.1 +0.2**
VNDA Vanda 74.92 173 P **P 12 04 09.1 +0.2**
comp=Z,5.0nm,0.8s,baz=318,slow=6.9,SNR=24
VNDA LR LR 12 36 59.7
comp=Z,44nm,18.5s,baz=268,slow=36
comp=Z,5.0nm,0.8s
TIXI Tiksi 75.89 359 LR LR 12 37 41.4
comp=Z,36nm,20.9s,baz=159,slow=36
BVAR Borovoye Array 76.41 327 P **P 12 04 17.3 -0.5**
comp=Z,4.6nm,0.9s,baz=104,slow=6.3,SNR=12
comp=Z,4.6nm,0.9s
BRVK Borovoye 76.48 327 P **P 12 04 17.1 -1.1**
BRVK IAmb IAmb 12 04 40.7
comp=Z,11nm,1.1s
MAW Mawson 77.75 201 P **P 12 04 24.8 -0.3**
comp=Z,4.3nm,0.9s,baz=82,slow=15,SNR=2.2
comp=Z,4.3nm,0.9s
NRIK Noril'sk 79.28 346 LR LR 12 40 03.8
comp=Z,53nm,21.7s,baz=148,slow=36
GEYT Alibeck 79.31 310 P **P 12 04 34.5 +0.1**
comp=Z,1.5nm,0.6s,baz=124,slow=3.8,SNR=3.0
comp=Z,1.5nm,0.6s
ABKAR Akbulak array 81.11 321 P **P 12 04 42.7 -1.0**

QSPA South Pole Qui 85.58 180 P **P 12 05 06.3 -0.3**
QSPA IAmb IAmb 12 05 07.3
comp=Z,15nm,1.2s
QSPA South Pole Qui 85.58 180 P **P 12 05 05.9 -0.7**
comp=Z,7.0nm,0.9s,baz=287,slow=0.8,SNR=17
comp=Z,7.0nm,0.9s
KDAK Kodiak Island 86.47 31 LR LR 12 45 02.9
comp=Z,25nm,18.4s,baz=247,slow=36
GNI Garni 89.95 310 LR LR 12 52 43.5
comp=Z,22nm,18.0s,baz=300,slow=40
ILAR Eielson Array 90.56 25 P **P 12 05 29.9 -0.4**
comp=Z,0.2nm,0.6s,baz=250,slow=5.3,SNR=1.6
ILAR LR LR 12 40 17.5
comp=Z,34nm,20.3s,baz=358,slow=32
comp=Z,0.2nm,0.6s
ELIB Princess Elisa 91.28 197 *d*PcP **PcP 12 05 34.3 -0.3**
comp=Z,9.7nm,0.8s
SNAA Sanae 98.43 193 P Pdif 12 06 06.3 0.0
BRTR Keskin Array B 98.45 309 P **P 12 06 04.3 -2.9**
comp=Z,0.3nm,0.6s,baz=46,slow=4.2,SNR=2.8
comp=Z,0.3nm,0.6s
SPITS Spitsbergen Ar 99.20 349 LR LR 12 56 13.0
comp=Z,26nm,19.2s,baz=104,slow=38
ARCES ARCESS Array B 99.48 340 LR LR 12 56 21.0
comp=Z,55nm,18.0s,baz=231,slow=38
TORD Torodi Ar. Bea 129.25 283 PKP **PKPdf 12 11 34.4 -3.3**
comp=Z,1.3nm,0.7s,baz=70,slow=2.6,SNR=7.5
CPUP Villa Florida 148.42 166 PKPbc **PKPbc 12 12 16.4 +0.7**
comp=Z,8.4nm,0.8s,baz=206,slow=1.4,SNR=16
LPAZ La Paz 152.07 138 PKPbc **PKiKP 12 12 26.6 +0.8**
comp=Z,4.2nm,0.7s,baz=123,slow=2.3,SNR=14

SNET ***11*** *12:24:31.9±1.2, 14.87N×91.90W, h128km±34km, ML4.0*
IDC ***11*** *12:24:33.3±0.9, 14.91N×91.73W, h98km±6km, mb3.7/13, mbtmp4.0/16, MS3.3/10, Error ellipse: s-maj=25.4km s-min=9.5km az=36.0*
NEIC ***11*** *12:24:34.8±2.1, 14.77N±0.07×91.88W±0.09, h89km±6km, mb4.3/60, Error ellipse: s-maj=13.8km s-min=8.3km az=51.0*
CATAC ***11*** *12:24:36.2±0.4, 14.71N×91.80W, h68km±4km, mb5.3, MB5.6, ML4.7*
GCG ***11*** *12:24:38.6±0.4, 14.68N×91.69W, h51km±15km, MD4.4*
ISC 11 12:24:32.9±0.6, 14.69N±0.05×91.91W±0.05, h96km±4km, n171, σ1.59/213, mb4.2/30, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.27**	**128**			**Pn**		**12 24 45.8**	**-1.1**
RTAL						Sn		**12 24 56.0**	**-1.3**
RTAL	**Retalhuleu**	**0.27**	**128**	*i*	P	**Pn**		**12 24 45.8**	**-1.1**
RTAL					IAML			12 24 46.5	
	comp=Z,66μm,1.0s								
RTAL				*i*	S	**Sn**		**12 24 56.4**	**-0.9**
STG3	**Santiaguito 3,**	**0.33**	**87**	*eP*		**Pn**		**12 24 47.3**	**-0.1**
SULM	**Suchitepequez,**	**0.51**	**139**	*eP*		**Pn**		**12 24 48.6**	**+0.3**
HUEH	**Huehuetenango**	**0.74**	**33**			**Pn**		**12 24 51.4**	**+0.8**
HUEH					Sn	**Sn**		**12 25 05.4**	**+1.6**
HUEH	**Huehuetenango**	**0.74**	**33**	*i*	P	**Pn**		**12 24 50.9**	**+0.3**
HUEH					IAML			12 24 51.5	
	comp=Z,35μm,1.0s								
HUEH				*i*	S	**Sn**		**12 25 02.3**	**-1.4**
CHTG	**Tecpan**	**0.90**	**86**	*i*	P	**Pn**		**12 24 52.6**	**+0.4**
CHTG					IAML			12 24 53.7	
	comp=Z,30μm,1.0s								
CHTG				*i*	S	**Sn**		**12 25 08.4**	**+1.6**
FUG	**Fuego 3**	**1.07**	**103**	*eP*		**Pn**		**12 24 54.9**	**+1.0**
GUMI	**Mixco**	**1.26**	**93**	*i*	P	**Pn**		**12 24 57.1**	**+0.9**
GUMI				*i*	S	**Sn**		**12 25 13.0**	**-0.8**
GUMI					IAML			12 25 23.1	
	comp=Z,35μm,1.0s								
PCG	**Pacaya**	**1.30**	**103**	*eP*		**Pn**		**12 24 58.3**	**+1.5**
GCG4	**OSOP**	**1.34**	**94**	*i*	P	**Pn**		**12 24 58.2**	**+1.0**
GCG4				*i*	S	**Sn**		**12 25 14.2**	**-1.3**
GCG4					IAML			12 25 31.7	
	comp=Z,7μm,1.0s								
NBG	**Las Nubes**	**1.52**	**94**	*eP*		**Pn**		**12 25 01.7**	**+2.3**
GUNB	**GUNB**	**1.52**	**93**	*i*	P	**Pn**		**12 25 01.0**	**+1.5**
GUNB				*i*	S	**Sn**		**12 25 19.2**	**-0.4**
GUNB					IAML			12 25 31.6	
	comp=Z,3μm,1.0s								
CCIG	**Comitan**	**1.59**	**352**			**Pn**		**12 25 01.2**	**+0.9**
CCIG					Sn	**Sn**		**12 25 22.8**	**+1.7**
AVCB	**Coban**	**1.65**	**62**	*i*	P	**Pn**		**12 25 03.1**	**+2.1**
AVCB					IAML			12 25 08.0	
	comp=Z,11μm,1.0s								
AVCB				*i*	S	**Sn**		**12 25 21.9**	**-0.4**
JUAM	**Asuncion Mita**	**2.17**	**99**	*i*	P	**Pn**		**12 25 08.1**	**+0.5**
JUAM				*i*	S	**Sn**		**12 25 32.4**	**-1.7**
JUAM					IAML			12 25 48.3	
	comp=Z,2μm,1.0s								
SLOZ	**Alcaldia de Sa**	**2.17**	**108**	*eP*		**Pn**		**12 25 08.9**	**+1.4**
LOAL	**Lomas de Alarc**	**2.18**	**108**	*i*	P	**Pn**		**12 25 09.9**	**+2.2**
LOAL				*i*	S	**Sn**		**12 25 35.2**	**+0.8**
LOAL					IAML			12 25 46.7	
	comp=Z,6μm,1.0s								
MRL	**Marmol**	**2.19**	**80**	*eP*		**Pn**		**12 25 10.5**	**+2.5**
NUBE	**Las Nubes**	**2.21**	**111**	*eP*		**Pn**		**12 25 09.5**	**+1.3**
NUBE				*eS*		**Sn**		**12 25 38.7**	**+3.4**
NUBE	**Las Nubes**	**2.21**	**111**	*i*	P	**Pn**		**12 25 09.0**	**+0.7**
NUBE				*i*	S	**Sn**		**12 25 36.2**	**+0.9**
NUBE					IAML			12 25 39.9	
	comp=Z,3μm,1.0s								
RTR	**El Retiro**	**2.34**	**110**	*eP*		**Pn**		**12 25 11.1**	**+1.2**
SBLS	**San Blas**	**2.38**	**111**	*eP*		**Pn**		**12 25 13.1**	**+2.6**
CEVE	**Cerro Verde**	**2.38**	**111**	*eP*		**Pn**		**12 25 12.5**	**+2.0**
CEVE				*eS*		**Sn**		**12 25 43.9**	**+4.5**
CEVE	**Cerro Verde**	**2.38**	**111**	*i*	P	**Pn**		**12 25 11.7**	**+1.1**
CEVE				*i*	S	**Sn**		**12 25 39.9**	**+0.5**
CEVE					IAML			12 25 52.1	
	comp=Z,5μm,1.0s								
SNJE	**San Jose**	**2.38**	**110**	*eP*		**Pn**		**12 25 13.3**	**+2.8**
UNIC	**Universidad Ca**	**2.40**	**107**	*i*	P	**Pn**		**12 25 12.6**	**+2.0**
UNIC				*i*	S	**Sn**		**12 25 38.7**	**-0.9**
UNIC					IAML			12 25 51.4	
	comp=Z,640nm,1.0s								
MTO3	**Montecristo**	**2.49**	**96**			**Pn**		**12 25 13.0**	**+1.1**
MTO3	**Montecristo**	**2.49**	**96**	*eP*		**Pn**		**12 25 13.1**	**+1.1**
MTO3					IAML			12 26 04.2	
	comp=Z,71nm,0.3s								
MTO3	**Montecristo**	**2.49**	**96**	*i*	P	**Pn**		**12 25 12.9**	**+0.9**
MTO3				*i*	S	**Sn**		**12 25 41.6**	**-0.3**
MTO3					IAML			12 25 58.1	
	comp=Z,500nm,1.0s								
ESQI	**Esquipulas**	**2.49**	**93**			**Pn**		**12 25 12.7**	**+0.8**
ESQI	**Esquipulas**	**2.49**	**93**	*i*	P	**Pn**		**12 25 13.2**	**+1.3**
ESQI				*i*	S	**Sn**		**12 25 41.6**	**-0.2**
ESQI					IAML			12 26 06.7	
	comp=Z,1μm,1.0s								
CEDA	**San Andres**	**2.60**	**110**	*eP*		**Pn**		**12 25 15.1**	**+1.9**
CEDA	**San Andres**	**2.60**	**110**	*i*	P	**Pn**		**12 25 15.7**	**+2.5**
CEDA				*i*	S	**Sn**		**12 25 44.3**	**+0.1**
CEDA					IAML			12 26 10.6	
	comp=Z,5μm,1.0s								
JAYA	**Jayaque - finc**	**2.60**	**113**	*eP*		**Pn**		**12 25 14.7**	**+1.2**
JAYA				*eS*		**Sn**		**12 25 47.7**	**+3.1**
JAYA					IAML			12 25 50.4	
	comp=Z,2μm,0.2s								
JAYA	**Jayaque - finc**	**2.60**	**113**	*i*	P	**Pn**		**12 25 14.1**	**+0.7**
JAYA				*i*	S	**Sn**		**12 25 44.2**	**-0.4**
JAYA					IAML			12 25 55.2	
	comp=Z,6μm,1.0s								
QUEZ	**Alcaldia de Qu**	**2.70**	**108**	*i*	P	**Pn**		**12 25 17.2**	**+2.6**
QUEZ				*i*	S	**Sn**		**12 25 46.3**	**-0.4**
QUEZ					IAML			12 26 05.1	
	comp=Z,4μm,1.0s								
PMON	**Piamonte**	**2.70**	**111**	*i*	P	**Pn**		**12 25 16.1**	**+1.4**
PMON				*i*	S	**Sn**		**12 25 47.5**	**+0.7**
PMON					IAML			12 26 01.3	
	comp=Z,4μm,1.0s								
UEES	**Universidad Ev**	**2.77**	**110**	*i*	P	**Pn**		**12 25 17.7**	**+2.1**
UEES				*i*	S	**Sn**		**12 25 49.9**	**+1.5**
UEES					IAML			12 25 57.6	
	comp=Z,1μm,1.0s								
LALI	**Alcalda de L**	**2.79**	**115**	*eS*		**Sn**		**12 25 52.0**	**+3.4**
LALI	**Alcalda de L**	**2.79**	**115**	*i*	P	**Pn**		**12 25 17.1**	**+1.4**
LALI				*i*	S	**Sn**		**12 25 49.4**	**+0.7**
LALI					IAML			12 26 01.5	
	comp=Z,780nm,1.0s								
SNET	**Serv Nac Est T**	**2.79**	**111**			**Pn**		**12 25 17.0**	**+1.2**
SNET	**Serv Nac Est T**	**2.79**	**111**	*i*	P	**Pn**		**12 25 18.5**	**+2.7**
SNET				*i*	S	**Sn**		**12 25 49.2**	**+0.4**
SNET					IAML			12 26 01.2	

comp=Z,4μm,1.0s
LOMA Loma Larga 2.86 111 *eP* **Pn 12 25 17.5 +0.7**
LOMA *eS* **Sn 12 25 55.4 +4.9**
LOMA Loma Larga 2.86 111 *i* P **Pn 12 25 18.2 +1.4**
LOMA *i* S **Sn 12 25 51.4 +0.8**
LOMA IAML 12 26 08.0
comp=Z,2μm,1.0s
PANCS Alcalda de 2.86 112 *i* P **Pn 12 25 18.0 +1.2**
PANCS *i* S **Sn 12 25 51.1 +0.5**
PANCS IAML 12 25 59.1
comp=Z,4μm,1.0s
PETF Flores 2.96 41 Pn 12 25 19.3 +1.3
PETF Sn **Sn 12 25 54.7 +1.9**
PETF Flores 2.96 41 *i* P **Pn 12 25 19.8 +1.8**
PETF *i* S **Sn 12 25 53.0 +0.2**
PETF IAML 12 25 56.3
comp=Z,2μm,1.0s
LFRS El Faro 2.96 111 *eP* **Pn 12 25 19.1 +1.0**
SJTE Alcalda de S 3.02 110 *i* P **Pn 12 25 19.9 +1.0**
SJTE *i* S **Sn 12 25 53.9 -0.4**
SJTE IAML 12 26 03.9
comp=Z,1μm,1.0s
PAVA Las Pavas 3.05 108 *eP* **Pn 12 25 20.9 +1.6**
PAVA IAML 12 26 07.8
comp=Z,359nm,0.4s
PAVA Las Pavas 3.05 108 *i* P **Pn 12 25 20.5 +1.2**
PAVA *i* S **Sn 12 25 57.2 +2.1**
PAVA IAML 12 26 21.9
comp=Z,2μm,1.0s
COEG Centro de Oper 3.13 110 *eP* **Pn 12 25 21.8 +1.4**
COEG IAML 12 26 11.8
comp=Z,932nm,0.3s
COEG Centro de Oper 3.13 110 *i* P **Pn 12 25 21.8 +1.4**
COEG *i* S **Sn 12 25 57.2 +0.2**
COEG IAML 12 26 07.4
comp=Z,940nm,1.0s
SCLA Alcaldia de Sa 3.24 107 *eP* **Pn 12 25 23.1 +1.2**
SCLA Alcaldia de Sa 3.24 107 *i* P **Pn 12 25 22.2 +0.3**
SCLA *i* S **Sn 12 25 58.1 -1.6**
SCLA IAML 12 26 25.4
comp=Z,430nm,1.0s
TECO Alcaldia de Te 3.25 110 *i* P **Pn 12 25 23.6 +1.6**
TECO *i* S **Sn 12 26 01.6 +1.8**
TECO IAML 12 26 14.9
comp=Z,500nm,1.0s
PQSS Presa 15 de Se 3.42 108 *i* P **Pn 12 25 26.0 +1.8**
PQSS *i* S **Sn 12 26 03.8 -0.1**
PQSS IAML 12 26 24.6
comp=Z,270nm,1.0s
PACA Pacayal 3.69 109 *i* P **Pn 12 25 30.0 +2.0**
PACA *i* S **Sn 12 26 11.5 +0.9**
PACA IAML 12 26 37.2
comp=Z,4μm,1.0s
CMIG Matias Romero 3.72 310 P **Pn 12 25 27.8 -0.5**
comp=Z,29nm,0.3s,baz=141,slow=14,SNR=116
CMIG S **Sn 12 26 09.7 -1.4**
comp=Z,80nm,0.3s,baz=145,slow=9.5,SNR=7.9
BLLM Bellamira 3.78 109 *eP* **Pn 12 25 30.2 +1.1**
LCND La Caada 4.14 109 *i* P **Pn 12 25 36.0 +2.0**
LCND *i* S **Sn 12 26 22.5 +1.2**
LCND IAML 12 26 41.2
comp=Z,590nm,1.0s
CNCH Conchagua 4.20 109 *i* P **Pn 12 25 36.1 +1.2**
CNCH *i* S **Sn 12 26 23.7 +0.7**
CNCH IAML 12 26 44.7
comp=Z,1μm,1.0s
AMPH Amapala 4.36 108 *eP* **Pn 12 25 38.3 +1.4**
TGUH Tegucigalpa,Un 4.54 97 Pn 12 25 40.3 +0.8
CRIN San Cristobal 5.13 112 Pn 12 25 49.2 +1.8
PKGN Cerro Pekin 5.20 112 *i* P **Pn 12 25 50.6 +2.2**
PKGN IAmb IAmb 12 25 52.4
comp=Z,450nm,0.6s
PKGN IVmB_BB 12 26 07.1
comp=Z,12μm,1.0s
PKGN *i* S **Sn 12 26 45.2 -2.0**
PKGN IAML 12 27 17.3
comp=Z,660nm,1.0s
CNGA Al SSO del Vol 5.52 113 *i* P **Pn 12 25 55.0 +2.3**
CNGA IAML 12 25 56.3
comp=Z,170nm,1.0s
CNGA IAmb IAmb 12 26 03.8
comp=Z,73nm,0.4s
CNGA IVmB_BB 12 26 13.6
comp=Z,3μm,1.0s
CNGN Cerro Negro 5.52 113 Pn 12 25 54.1 +1.4
MATN Matagalpa 6.08 106 Pn 12 26 01.8 +1.4
BOAB BOACO BROADBAN 6.47 109 Pn **Pn 12 26 06.2 +0.5**
TEIG Tepich 6.50 32 Pn **Pn 12 26 06.0 -0.1**
TLIG Tlapa 7.00 295 Pn 12 26 12.8 -0.1
ACON Acoyapa 7.10 112 Pn 12 26 15.0 +0.8
HZTE Horizontes, Gu 7.33 122 Pn **Pn 12 26 19.6 +2.3**
ORTG Ortega, Santa 7.63 124 Pn 12 26 22.9 +1.4
DUNO Dulce Nombre, 7.77 125 Pn 12 26 26.0 +2.7
JTS Las Juntas de 8.08 122 Pn 12 26 29.5 +1.9
JTS Las Juntas de 8.08 122 P **Pn 12 26 29.0 +1.4**
comp=Z,12nm,0.3s,baz=314,slow=14,SNR=18
JTS S **Sn 12 27 56.1 -1.3**
comp=Z,6.3nm,0.6s,baz=274,slow=14,SNR=1.1
ARE1 Arenal 1 8.19 120 Pn 12 26 31.9 +2.9
COVE Coope Vega, Sa 8.33 117 Pn 12 26 31.2 +0.3
JACO JACO, Garabito 8.68 124 Pn 12 26 38.5 +2.8
LCR2 La Lucha 2 9.16 122 Pn 12 26 43.4 +0.9
RIMA Rio Macho 9.27 121 Pn 12 26 45.7 +1.8
PEZE Perez Zeledon, 9.63 122 Pn 12 26 50.0 +1.2
DRK0 Durika 10.05 122 Pn 12 26 57.5 +3.0
MOIG Morelia 10.15 301 Pn **Pn 12 26 60.0 +4.0**
BRU2 Volcan 10.77 122 Pn **Pn 12 27 06.1 +1.8**
SOR Soroa 11.66 45 Pn **Pn 12 27 16.1 -0.1**
061Z Ochoppi 15.16 41 Pn **Pn 12 28 02.4 +0.6**
553A Crawfordville 16.89 23 P **P 12 28 27.2 +3.4**
250A Grady 17.96 16 Pn 12 28 38.5 +2.1
250A IAmb IAmb 12 28 39.4
comp=Z,23nm,0.9s
TXAR Lajitas Array 18.17 325 P **P 12 28 40.3 +2.2**
TXAR Lajitas Array 18.17 325 P **P 12 28 38.1 0.0**
comp=Z,3.8nm,0.9s,baz=149,slow=10,SNR=14
TX31 Lajitas Ar. Si 18.17 325 P **P 12 28 40.1 +2.0**
TIGA Tifton 18.33 23 P **Pn 12 28 41.8 +1.0**
Z41A Richland Creek 18.50 358 P **Pn 12 28 44.3 +1.5**
Z47A Carrollton 18.75 10 P **P 12 28 46.3 +2.0**
LRAL Lakeview Retre 18.80 13 P **Pn 12 28 47.5 +1.1**
LRAL IAmb IAmb 12 28 50.5
comp=Z,17nm,1.0s
WLAR White Oak Lake 18.94 357 P **P 12 28 47.4 +1.1**
WLAR IAmb IAmb 12 28 51.8
comp=Z,19nm,0.8s
ALPN Alpine 18.97 327 P **P 12 28 48.8 +1.9**
152A Waverly Hall 19.06 19 P **Pn 12 28 50.6 +1.2**
152A IAmb IAmb 12 28 52.8
comp=Z,24nm,1.2s
LPIG La Paz 19.69 301 LR LR 12 36 56.4
comp=Z,36nm,21.8s,baz=92,slow=38
MIAR Mount Ida 19.82 356 P **P 12 28 56.4 +0.4**
MIAR IAmb IAmb 12 29 18.9
comp=Z,17nm,1.1s
VHRN Van Horn 20.02 325 P **P 12 29 00.2 +1.9**
GOGA Godfrey 20.15 21 P **P 12 29 01.8 +2.3**
GOGA IAmb IAmb 12 29 05.5
comp=Z,8.1nm,0.7s
X48A Hartselle 20.16 12 P **P 12 29 00.8 +1.2**
X48A IAmb IAmb 12 29 06.6
comp=Z,11nm,0.9s
Y52A Lilburn 20.37 19 P **P 12 29 04.2 +2.3**
Y52A IAmb IAmb 12 29 25.3
comp=Z,11nm,0.9s
WHAR Wooly Hollow 20.51 359 P **P 12 29 03.4 0.0**
WHAR IAmb IAmb 12 29 25.1
comp=Z,14nm,1.2s
FPAL Fort Paine 20.56 15 P **P 12 29 05.0 +1.1**
FPAL IAmb IAmb 12 29 06.8
comp=Z,22nm,1.2s
WMOK Wichita Mounta 20.90 344 P **P 12 29 07.4 -0.2**
SWET Sewanee 21.13 14 P **P 12 29 10.5 +0.4**
SWET IAmb IAmb 12 29 11.6
comp=Z,10nm,0.8s
LCAR Lake Charles 21.30 2 P **P 12 29 12.0 +0.2**
LCAR IAmb IAmb 12 29 30.0
comp=Z,6.2nm,0.5s
HODGE Hodges 21.32 22 P **P 12 29 12.9 +0.9**
SDV Santo Domingo 21.61 103 P **P 12 29 13.6 -1.9**
comp=Z,9.1nm,0.6s,baz=300,slow=9.9,SNR=14
comp=Z,9.1nm,0.6s
WVT Waverly 21.66 9 P **P 12 29 15.4 -0.3**
CPCT Cooper Cave 21.71 16 P **P 12 29 17.5 +1.3**

CPCT					IAmb	IAmb	12 29 42.6	
	comp=Z,7.7nm,0.7s							
BG3	**Lake Jocassee**	**21.77**	**20**	P	**P**	**P**	**12 29 17.9**	**+1.1**
BG3					IAmb	IAmb	12 29 27.0	
	comp=Z,18nm,1.2s							
TKL	**Tuckaleechee C**	**22.12**	**18**	P	**P**	**P**	**12 29 21.2**	**+0.7**
TKL					IAmb	IAmb	12 30 01.0	
	comp=Z,16nm,1.1s							
TKL	**Tuckaleechee C**	**22.12**	**18**	P	**P**	**P**	**12 29 19.1**	**-1.4**
	comp=Z,2.0nm,0.5s,baz=186,slow=7.7,SNR=6.0							
TKL				LR	LR		12 39 35.7	
	comp=Z,72nm,18.2s,baz=180,slow=41							
	comp=Z,2.0nm,0.5s							
U49A	**Red Boiling Sp**	**22.41**	**13**	P	**P**	**P**	**12 29 23.6**	**0.0**
U49A					IAmb	IAmb	12 29 24.4	
	comp=Z,14nm,0.9s							
V53A	**Saluda**	**22.43**	**20**	P	**P**	**P**	**12 29 24.5**	**+0.6**
V53A					IAmb	IAmb	12 30 07.0	
	comp=Z,15nm,1.2s							
TZTN	**Tazewell**	**23.01**	**17**	P	**P**	**P**	**12 29 29.7**	**+0.1**
TZTN					IAmb	IAmb	12 30 01.5	
	comp=Z,11nm,1.0s							
S44A	**Carbondale**	**23.03**	**5**	P	**P**	**P**	**12 29 29.4**	**-0.4**
T50A	**Nancy**	**23.11**	**15**	P	**P**	**P**	**12 29 30.4**	**-0.2**
T50A					IAmb	IAmb	12 29 53.4	
	comp=Z,7.7nm,0.7s							
CCM	**Cathedral Cave**	**23.28**	**1**	P	**P**	**P**	**12 29 31.0**	**-1.1**
CCM					IAmb	IAmb	12 29 32.0	
	comp=Z,18nm,1.4s							
DUN6	**Lazy B Ranch**	**23.68**	**322**	P	**P**	**P**	**12 29 38.4**	**+2.4**
RTBA	**Rita Blanca**	**23.72**	**338**	P	**P**	**P**	**12 29 36.6**	**+0.3**
RTBA					IAmb	IAmb	12 29 38.1	
	comp=Z,8.8nm,0.9s							
WCI	**Wyandotte Cave**	**23.96**	**11**	P	**P**	**P**	**12 29 37.9**	**-0.4**
WCI					IAmb	IAmb	12 29 38.9	
	comp=Z,16nm,0.8s							
OLIL	**Olney**	**24.18**	**7**	P	**P**	**P**	**12 29 40.1**	**-0.1**
TUC	**Tucson**	**24.57**	**319**	P	**P**	**P**	**12 29 45.8**	**+1.8**
SSFO	**Shawnee State**	**25.12**	**16**	P	**P**	**P**	**12 29 48.3**	**-0.6**
P46A	**Rosedale**	**25.17**	**9**	P	**P**	**P**	**12 29 48.0**	**-1.3**
X16A	**Lo Mia Camp, P**	**26.39**	**322**	P	**P**	**P**	**12 30 02.0**	**+1.4**
WUAZ	**Wupatki**	**27.11**	**323**	P	**P**	**P**	**12 30 08.1**	**+1.0**
LCMT	**Little Creek M**	**29.23**	**323**	P	**P**	**P**	**12 30 25.7**	**-0.2**
V12A	**Nelson**	**29.35**	**320**	P	**P**	**P**	**12 30 28.3**	**+1.4**
V12A					IAmb	IAmb	12 30 29.9	
	comp=Z,5.6nm,0.8s							
SZCU	**Shurtz Canyon**	**29.55**	**324**	P	**P**	**P**	**12 30 30.9**	**+2.0**
CCUT	**Cedar City**	**29.68**	**324**	P	**P**	**P**	**12 30 31.8**	**+1.9**
PDAR	**Pinedale Array**	**31.83**	**335**	P	**P**	**P**	**12 30 48.9**	**0.0**
	comp=Z,0.1nm,0.5s,baz=146,slow=8.3,SNR=1.6							
PDAR				PcP	**PcP**		**12 33 37.1**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=119,slow=6.6,SNR=2.3							
	comp=Z,0.1nm,0.5s							
SADO	**Sadowa**	**31.88**	**17**	LR	LR		12 44 36.4	
	comp=Z,48nm,20.5s,baz=89,slow=38							
REDW	**Red Top Meadow**	**32.86**	**334**	P	**P**	**P**	**12 30 58.2**	**+0.4**
NV11	**Mina Array Sit**	**33.10**	**321**	P	**P**	**P**	**12 31 01.8**	**+1.8**
NVAR	**Mina Array Bea**	**33.19**	**320**	P	**P**	**P**	**12 31 03.1**	**+2.4**
NVAR	**Mina Array Bea**	**33.19**	**320**	P	**P**	**P**	**12 31 02.4**	**+1.6**
	comp=Z,4.4nm,0.6s,baz=132,slow=8.4,SNR=61							
NVAR				PcP	**PcP**		**12 33 42.0**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=128,slow=3.4,SNR=4.9							
	comp=Z,4.4nm,0.6s							
LHV	**Little Huntoon**	**33.20**	**320**	P	**P**	**P**	**12 31 03.7**	**+3.1**
KVN	**Kaiserville**	**33.45**	**321**	P	**P**	**P**	**12 31 04.2**	**+1.2**
KVN					IAmb	IAmb	12 31 06.2	
	comp=Z,5.9nm,1.1s							
YERR	**Yerington**	**34.11**	**320**	P	**P**	**P**	**12 31 10.8**	**+2.1**
YERR					IAmb	IAmb	12 31 11.6	
	comp=Z,2.9nm,0.6s							
PNTR	**Pine Nut**	**34.39**	**320**	P	**P**	**P**	**12 31 13.5**	**+2.3**
PNTR					IAmb	IAmb	12 31 14.6	
	comp=Z,4.5nm,0.8s							
WVOR	**Wild Horse Val**	**35.97**	**325**	P	**P**	**P**	**12 31 26.1**	**+1.5**
WVOR					IAmb	IAmb	12 31 27.0	
	comp=Z,2.7nm,1.0s							
F10A	**Beach Ranch, E**	**37.75**	**331**	P	**P**	**P**	**12 31 40.3**	**+0.7**
F10A					IAmb	IAmb	12 31 43.0	
	comp=Z,3.9nm,0.9s							
LPAZ	**La Paz**	**38.72**	**142**	P	**P**	**P**	**12 31 49.7**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=336,slow=4.4,SNR=2.4							
	comp=Z,0.6nm,0.5s							
H04A	**Detroit Lake**	**39.39**	**325**	P	**P**	**P**	**12 31 54.5**	**+1.2**
NEW	**Newport**	**39.41**	**333**	LR	LR		12 52 35.9	
	comp=Z,47nm,18.5s,baz=299,slow=43							
SCHQ	**Scheffer ville**	**44.55**	**20**	P	**P**	**P**	**12 32 33.5**	**-1.5**
	comp=Z,1.3nm,0.7s,baz=222,slow=9.9,SNR=5.0							
SCHQ				LR	LR		12 52 33.2	
	comp=Z,47nm,18.2s,baz=200,slow=38							
	comp=Z,1.3nm,0.7s							
YKA	**Yellowknife Ar**	**50.37**	**347**	P	**P**	**P**	**12 33 19.0**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=151,slow=13,SNR=35							
YKA				pP	**pP**		**12 33 42.9**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=147,slow=7.6,SNR=6.8							
YKA				PcP	**PcP**		**12 34 36.2**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=164,slow=3.2,SNR=2.7							
	comp=Z,1.0nm,0.6s							
FRB	**Frobisher Bay**	**51.62**	**13**	LR	LR		12 56 23.2	
	comp=Z,35nm,18.7s,baz=268,slow=37							
BDFB	**Brasilia**	**52.83**	**123**	P	**P**	**P**	**12 33 38.1**	**-1.0**
	comp=Z,2.1nm,0.6s,baz=301,slow=8.5,SNR=4.8							
	comp=Z,1nm,0.6s							
SFJD	**Kangerlussuaq**	**58.83**	**18**	LR	LR		13 02 36.0	
	comp=Z,35nm,18.2s,baz=160,slow=39							
RES	**Resolute Bay**	**60.01**	**359**	LR	LR		13 00 56.0	
	comp=Z,35nm,19.6s,baz=20,slow=36							
ILAR	**Eielson Array**	**62.24**	**337**	P	**P**	**P**	**12 34 44.1**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=130,slow=5.9,SNR=18							
ILAR				pP	**pP**		**12 35 09.2**	**+0.4**
	comp=Z,0.8nm,1.0s,baz=111,slow=4.9,SNR=3.0							
	comp=Z,1.1nm,0.5s							
EKA	**Eskdalemuir Ar**	**77.36**	**36**	P	**P**	**P**	**12 36 14.8**	**-2.3**
	comp=Z,0.6nm,0.3s,baz=269,slow=5.4,SNR=14							
EKA				pP	**pP**		**12 36 41.2**	**-1.6**
	comp=Z,2.0nm,0.7s,baz=277,slow=5.7,SNR=4.7							
	comp=Z,0.6nm,0.3s							
ESDC	**Sonseca Array**	**79.22**	**52**	P	**P**	**P**	**12 36 25.4**	**-2.4**
	comp=Z,0.3nm,0.5s,baz=316,slow=5.4,SNR=1.5							
	comp=Z,0.3nm,0.5s							
NOA	**NORSAR Array B**	**83.50**	**28**	LR	LR		13 14 00.4	
	comp=Z,13nm,18.3s,baz=185,slow=36							
ARCES	**ARCESS Array B**	**85.45**	**18**	P	**P**	**P**	**12 36 57.5**	**-2.2**
	comp=Z,6.5nm,1.2s,baz=330,slow=4.2,SNR=3.6							
	comp=Z,6.5nm,1.2s							
TIXI	**Tiksi**	**89.60**	**348**	LR	LR		13 23 03.5	
	comp=Z,12nm,19.4s,baz=326,slow=39							
TORD	**Torodi Ar. Bea**	**90.14**	**76**	P	**P**	**P**	**12 37 21.5**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=310,slow=5.9,SNR=1.5							
	comp=Z,0.2nm,0.6s							
MKAR	**Makanchi Array**	**118.58**	**5**	PKP		**PKPdf**	**12 43 08.2**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=328,slow=2.8,SNR=5.7							
WRA	**Warramunga Arr**	**135.64**	**256**	PKP		**PKPdf**	**12 43 45.2**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=88,slow=3.3,SNR=2.5							
ASAR	**Alice Springs**	**135.97**	**251**	PKP		**PKPdf**	**12 43 45.2**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=101,slow=2.5,SNR=1.5							
CMAR	**Chiang Mai Arr**	**145.36**	**342**	PKPbc		**PKPbc**	**12 44 00.1**	**-0.4**
	comp=Z,2.7nm,0.6s,baz=336,slow=3.2,SNR=23							

*ISN **11** 12:24:49.4±1.2,34˚.64N×46˚.32E,h10km±106km,ML3.2*
*TEH **11** 12:24:51.3,34˚.62N×46˚.44E,h8km±29km,ML3.0*
ISC 11 12:24:51.3±1.1,34˚.64N±0˚.04×46˚.46E±0˚.04,h4km±9km,
n14,σ0°77/19,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IDHR	**Dehrash**	**0.08**	**314**	Pg		**Pg**	**12 24 53.4**	**+0.2**
IDHR				Sg		**Sg**	**12 24 55.0**	**+0.5**
IGHG	**Ghaleghazi**	**0.33**	**164**	Pg		**Pg**	**12 24 56.9**	**-0.8**
ILIN	**Lien**	**0.50**	**56**	Pg		**Pb**	**12 25 02.3**	**-0.5**
KCHF	**Cheshme Sefid,**	**0.61**	**127**	Pg		**Pg**	**12 25 02.7**	**-0.3**
KCHF				Sg		**Sb**	**12 25 13.0**	**-0.6**
KGS1	**Ghasr-e-Shirin**	**0.73**	**259**	Pg		**Pg**	**12 25 05.7**	**+0.4**
ILBA	**Ilam Banvizeh**	**1.04**	**192**	Pg		**Pg**	**12 25 11.0**	**-0.2**
IBZA	**Bozab**	**1.17**	**98**	Pg		**Pn**	**12 25 14.3**	**-0.4**
IBDR	**Badra**	**1.59**	**196**	*e*Pn		**Pn**	**12 25 20.0**	**-0.2**
IBDR				*e*Sn		**Sn**	**12 25 42.0**	**+0.8**
IBDR				AML		AML	12 26 01.5	
	comp=N,212nm,0.1s							
IKFM	**Kafar-mosalman**	**1.61**	**134**	Pg		**Pb**	**12 25 21.3**	**-0.2**
IDOB	**Doab**	**1.66**	**120**	Pg		**Pg**	**12 25 24.3**	**+1.2**
SDS1	**Sardasht. Az.**	**1.70**	**332**	Pg		**Pg**	**12 25 24.2**	**+0.3**
BHD	**Baghdad**	**2.20**	**232**	*e*Pn		**Pn**	**12 25 28.0**	**-0.6**
BHD				*e*Sn		**Sn**	**12 25 56.0**	**-0.3**
BHD				AML		AML	12 26 07.2	
	comp=E,380nm,0.3s							
MAHB	**Mahabad**	**2.21**	**344**	Pn		**Pb**	**12 25 31.0**	**-0.9**
RAFI	**Al-Rafai**	**2.93**	**186**	*e*Pn		**Pn**	**12 25 39.0**	**+0.4**
RAFI				*e*Sn		**Sn**	**12 26 16.0**	**+1.9**

*GCG **11** 12:32:28.1±0.4,14˚.43N×90˚.30W,h0km±14km,MD3.7*
*CATAC **11** 12:32:29.5±0.2,14˚.51N×90˚.32W,h3km±1km,ML3.7*
*SNET **11** 12:32:29.8±1.2,14˚.48N×90˚.30W,h6km±11km,ML3.4*
ISC 11 12:32:29.5±1.0,14˚.49N±0˚.04×90˚.31W±0˚.02,h6km±9km,
n36,σ0°54/58,2C,Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NBG	**Las Nubes**	**0.11**	**341**	*e*P		**Pg**	**12 32 33.1**	**+1.1**
GUNB	**GUNB**	**0.12**	**343**	*i* P		**Pg**	**12 32 31.5**	**-0.6**
GUNB				*i* S		**Sg**	**12 32 33.2**	**-0.7**
GUNB				IAML			12 32 33.8	
	comp=Z,110μm,1.0s							
GCG4	**OSOP**	**0.24**	**295**	*i* P		**Pg**	**12 32 34.0**	**-0.2**
GCG4				*i* S		**Sg**	**12 32 38.0**	**+0.6**
GCG4				IAML			12 32 38.7	
	comp=Z,23μm,1.0s							
PCG	**Pacaya**	**0.30**	**252**	*e*P		**Pg**	**12 32 36.3**	**+0.8**
GUMI	**Mixco**	**0.33**	**296**	*i* P		**Pg**	**12 32 35.9**	**-0.1**
GUMI				IAML			12 32 36.4	
	comp=Z,30μm,1.0s							
GUMI				*i* S		**Sg**	**12 32 40.8**	**+0.5**
FUG	**Fuego 3**	**0.52**	**266**	*e*P		**Pg**	**12 32 39.9**	**+0.5**
JUAM	**Asuncion Mita**	**0.60**	**104**	*i* P		**Pg**	**12 32 41.5**	**+0.4**
JUAM				*i* S		**Sg**	**12 32 49.5**	**+0.5**
JUAM				IAML			12 32 50.9	
	comp=Z,2μm,1.0s							
SLOZ	**Alcaldia de Sa**	**0.69**	**132**	*e*P		**Pg**	**12 32 43.0**	**+0.3**
SLOZ				*e*S		**Sb**	**12 32 52.6**	**-1.0**
LOAL	**Lomas de Alarc**	**0.71**	**133**	*i* P		**Pg**	**12 32 43.3**	**+0.2**
LOAL				*i* S		**Sb**	**12 32 53.7**	**-0.5**
LOAL				IAML			12 32 58.6	
	comp=Z,5μm,1.0s							
CHTG	**Tecpan**	**0.71**	**293**	*i* P		**Pg**	**12 32 42.7**	**-0.5**
CHTG				IAML			12 32 43.3	
	comp=Z,7μm,1.0s							
CHTG				*i* S		**Sg**	**12 32 52.7**	**+0.3**
NUBE	**Las Nubes**	**0.78**	**138**	*e*P		**Pg**	**12 32 44.4**	**0.0**
NUBE	**Las Nubes**	**0.78**	**138**	*i* P		**Pg**	**12 32 44.3**	**-0.1**
NUBE				*i* S		**Sb**	**12 32 55.5**	**-0.8**
NUBE				IAML			12 32 57.4	
	comp=Z,1μm,1.0s							
MRL	**Marmol**	**0.85**	**46**	*e*P		**Pg**	**12 32 46.2**	**+0.5**
UNIC	**Universidad Ca**	**0.89**	**124**	*i* P		**Pg**	**12 32 46.2**	**-0.4**
UNIC				*i* S		**Sg**	**12 32 58.7**	**+0.5**
UNIC				IAML			12 32 59.1	
	comp=Z,460nm,1.0s							
SNJE	**San Jose**	**0.92**	**132**	*e*P		**Pg**	**12 32 47.2**	**0.0**
MTO3	**Montecristo**	**0.92**	**95**	*e*P		**Pg**	**12 32 47.2**	**0.0**
MTO3	**Montecristo**	**0.92**	**95**	*i* P		**Pg**	**12 32 47.2**	**0.0**
MTO3				*i* S		**Sb**	**12 33 00.2**	**-0.5**
MTO3				IAML			12 33 04.7	
	comp=Z,2μm,1.0s							
CEVE	**Cerro Verde**	**0.93**	**134**	*e*P		**Pg**	**12 32 47.7**	**+0.3**
CEVE				IAML			12 33 03.2	
	comp=Z,2μm,0.3s							
CEVE	**Cerro Verde**	**0.93**	**134**	*i* P		**Pg**	**12 32 47.7**	**+0.3**
CEVE				*i* S		**Sb**	**12 33 01.4**	**+0.4**
CEVE				IAML			12 33 03.1	
	comp=Z,2μm,1.0s							
ESQI	**Esquipulas**	**0.94**	**85**	*e*P		**Pg**	**12 32 47.7**	**+0.1**
ESQI				*e*S		**Sb**	**12 33 01.1**	**0.0**
ESQI	**Esquipulas**	**0.94**	**85**	*i* P		**Pg**	**12 32 47.7**	**+0.1**
ESQI				*i* S		**Sb**	**12 33 01.2**	**+0.1**
ESQI				IAML			12 33 05.4	
	comp=Z,2μm,1.0s							
CEDA	**San Andres**	**1.12**	**127**	*e*P		**Pg**	**12 32 50.4**	**-0.5**
CEDA				IAML			12 33 12.6	
	comp=Z,2μm,0.4s							
JAYA	**Jayaque - finc**	**1.18**	**135**	*e*P		**Pg**	**12 32 51.6**	**-0.5**
JAYA	**Jayaque - finc**	**1.18**	**135**	*i* P		**Pg**	**12 32 51.5**	**-0.5**
JAYA				IAML			12 32 55.9	
	comp=Z,1μm,1.0s							
JAYA				*i* S		**Sb**	**12 33 08.1**	**+0.2**
SULM	**Suchitepequez,**	**1.23**	**262**	*e*P		**Pn**	**12 32 54.2**	**+1.0**
PMON	**Piamonte**	**1.23**	**128**	*i* P		**Pg**	**12 32 53.0**	**-0.2**
PMON				*i* S		**Sb**	**12 33 09.6**	**+0.1**
PMON				IAML			12 33 14.6	
	comp=Z,2μm,1.0s							
STG3	**Santiaguito 3,**	**1.24**	**281**	*e*P		**Pg**	**12 32 52.6**	**-0.7**
PIC2	**El Picacho**	**1.26**	**126**	*e*P		**Pg**	**12 32 52.7**	**-1.0**
RTAL	**Retalhuleu**	**1.34**	**272**	*e*P		**Pn**	**12 32 53.9**	**-0.9**
LLGN	**La Laguna**	**1.36**	**103**	*i* P		**Pn**	**12 32 54.8**	**-0.3**
LLGN				*i* S		**Sn**	**12 33 14.0**	**+0.4**
LLGN				IAML			12 33 16.5	
	comp=Z,2μm,1.0s							
LALI	**Alcalda de L**	**1.38**	**136**	*i* P		**Pn**	**12 32 55.1**	**-0.2**
LALI				*i* S		**Sn**	**12 33 14.6**	**+0.7**
LALI				IAML			12 33 17.9	
	comp=Z,190nm,1.0s							
PAVA	**Las Pavas**	**1.54**	**120**	*i* P		**Pn**	**12 32 57.7**	**+0.1**
PAVA				*i* S		**Sg**	**12 33 18.9**	**0.0**
PAVA				IAML			12 33 24.0	
	comp=Z,740nm,1.0s							
COEG	**Centro de Oper**	**1.63**	**122**	*e*P		**Pn**	**12 32 59.5**	**+0.7**
COEG				*e*S		**Sg**	**12 33 21.8**	**-0.2**
COEG				IAML			12 33 23.9	
	comp=Z,219nm,0.2s							
COEG	**Centro de Oper**	**1.63**	**122**	*i* P		**Pn**	**12 32 59.0**	**+0.2**
COEG				IAML			12 33 00.8	
	comp=Z,230nm,1.0s							
COEG				*i* S		**Sb**	**12 33 21.0**	**0.0**
PQSS	**Presa 15 de Se**	**1.90**	**117**	*i* P		**Pb**	**12 33 03.8**	**-0.8**
PQSS				IAML			12 33 05.1	
	comp=Z,180nm,1.0s							
PQSS				*i* S		**Sn**	**12 33 27.8**	**+1.0**
PACA	**Pacayal**	**2.18**	**117**	*i* P		**Pn**	**12 33 06.7**	**+0.3**
PACA				*i* S		**Sn**	**12 33 34.5**	**+0.7**
PACA				IAML			12 33 42.8	
	comp=Z,640nm,1.0s							

*IDC **11** 12:41:40.5±0.8,3˚.19N×126˚.96E,h0km,mb3.9/12,*
mbtmp3.9/12,Error ellipse: s-maj=59.0km s-min=15.0km
az=68.0
*NEIC **11** 12:41:42.6±1.2,3˚.21N±0˚.08×127˚.1E±0˚.1,h10km±2km,*
mb4.3/14,Error ellipse: s-maj=20.8km s-min=13.5km
az=73.0
*DJA **11** 12:41:47.7±1.8,3˚N±6˚×12˚7E±˚,h19km±17km,M4.1/7,*
mb4.3/3,mB4.7/1,MLv3.9/7,Mw(mB)3.9/1
ISC 11 12:41:42.1±0.6,3˚.22N±0˚.06×127˚.04E±0˚.08,h10km,n37,
σ0°93/40,mb4.1/17,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SGSI	**Sangihe**	**1.58**	**287**	P		**Pb**	**12 42 12.2**	**+0.7**
SGSI				S		**Sn**	**12 42 29.2**	**-1.6**
TNTI	**Ternate**	**2.45**	**172**			**Pn**	**12 42 22.3**	**+0.1**
TNTI	**Ternate**	**2.45**	**172**	P		**Pb**	**12 42 24.7**	**-1.7**
TNTI				S		**Sn**	**12 42 54.0**	**+1.7**
LBMI	**Labuha**	**3.86**	**173**	P		**Pn**	**12 42 44.1**	**+2.5**
GTOI	**Gorontalo**	**4.78**	**238**	P		**Pn**	**12 42 53.1**	**-1.1**
SANI	**Sanana**	**5.34**	**191**	P		**Pn**	**12 43 02.7**	**+0.7**
	6.3nm,0.5s,704nm0.1nm							
LUWI	**Luwuk**	**6.01**	**225**	Pn		**Pn**	**12 43 11.4**	**+0.2**
LUWI	**Luwuk**	**6.01**	**225**	P		**Pn**	**12 43 10.7**	**-0.5**
FAKI	**Fak Fak**	**8.02**	**139**	Pn		**Pn**	**12 43 38.7**	**0.0**
KNRA	**Kununurra**	**18.85**	**175**	P		**P**	**12 46 02.7**	**+0.2**
KNRA				IAmb		IAmb	12 46 05.9	
	comp=Z,5.3nm,0.8s							
FITZ	**Fitzroy Crossi**	**21.23**	**184**	P		**P**	**12 46 28.5**	**+0.1**
WB0	**Warramunga Arr**	**23.96**	**163**	P		**P**	**12 46 56.0**	**-0.8**
WB0				IAmb		IAmb	12 47 36.6	
	comp=Z,8.5nm,1.1s							
WRA	**Warramunga Arr**	**24.11**	**163**	P		**P**	**12 46 56.3**	**-1.9**
WRA	**Warramunga Arr**	**24.11**	**163**	P		**P**	**12 46 57.7**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=335,slow=1.1,SNR=21							
	comp=Z,1.2nm,0.4s							
WB2	**Warramunga Arr**	**24.11**	**163**	P		**P**	**12 46 57.9**	**-0.4**
WB2				IAmb		IAmb	12 47 31.5	
	comp=Z,16nm,1.4s							
WR0	**Warramunga Arr**	**24.18**	**163**	P		**P**	**12 46 58.3**	**-0.7**
WR0				IAmb		IAmb	12 47 29.7	
	comp=Z,17nm,1.5s							
AS31	**Alice Springs**	**27.55**	**166**	P		**P**	**12 47 29.1**	**-0.3**
ASAR	**Alice Springs**	**27.55**	**166**	P		**P**	**12 47 29.6**	**+0.2**
ASAR	**Alice Springs**	**27.55**	**166**	P		**P**	**12 47 29.1**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=341,slow=7.5,SNR=14							
ASAR				PcP		**PcP**	**12 50 48.2**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=356,slow=2.0,SNR=1.8							
	comp=Z,0.5nm,0.7s							
CMAR	**Chiang Mai Arr**	**31.40**	**301**	P		**P**	**12 48 04.1**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=108,slow=6.0,SNR=2.0							
	comp=Z,0.3nm,0.3s							
KSRS	**Korea Array**	**34.08**	**1**	P		**P**	**12 48 27.1**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=182,slow=10.0,SNR=4.4							
	comp=Z,1.2nm,0.9s							
BBOO	**Buckleboo**	**36.84**	**167**	P		**P**	**12 48 49.7**	**-1.0**
STKA	**Stephens Creek**	**37.55**	**159**	P		**P**	**12 48 56.8**	**+0.2**
	comp=Z,1.4nm,0.4s,baz=329,slow=13,SNR=3.1							
	comp=Z,1.4nm,0.4s							
USA0B	**Ussuriysk Arra**	**41.04**	**5**	P		**P**	**12 49 25.0**	**-0.7**
USRK	**Ussuriysk Ar.**	**41.04**	**5**	P		**P**	**12 49 24.1**	**-1.6**
SONM	**Songino Array**	**47.88**	**341**	P		**P**	**12 50 19.8**	**-0.7**
SONM				IAmb		IAmb	12 50 45.7	
	comp=Z,4.1nm,1.5s							
SONM	**Songino Array**	**47.88**	**341**	P		**P**	**12 50 20.7**	**+0.2**
	comp=Z,1.5nm,1.1s,baz=145,slow=8.1,SNR=3.9							
	comp=Z,1.5nm,1.1s							
MK31	**Makanchi Array**	**58.15**	**325**	P		**P**	**12 51 36.5**	**+0.3**
MK31				IAmb		IAmb	12 52 03.8	
	comp=Z,1.1nm,0.8s							
MKAR	**Makanchi Array**	**58.15**	**325**	P		**P**	**12 51 36.1**	**-0.1**
MKAR	**Makanchi Array**	**58.15**	**325**	P		**P**	**12 51 35.6**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=117,slow=8.7,SNR=12							
	comp=Z,0.9nm,0.6s							
MAKZ	**Makanchi**	**58.34**	**325**	P		**P**	**12 51 38.7**	**+1.2**
MAKZ				IAmb		IAmb	12 52 04.2	
	comp=Z,2.0nm,0.8s							
ZALV	**Zalesovo Beam**	**61.18**	**333**	P		**P**	**12 51 56.0**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=111,slow=7.9,SNR=2.1							
	comp=Z,1.1nm,0.8s							
KURBB	**Kurchatov Arra**	**62.33**	**327**	P		**P**	**12 52 03.8**	**-1.0**
	comp=Z,1.4nm,0.5s,baz=127,slow=6.4,SNR=6.8							
	comp=Z,1.4nm,0.5s							
KURK	**Kurchatov**	**62.34**	**328**	P		**P**	**12 52 04.6**	**-0.1**
BVAR	**Borovoye Array**	**67.92**	**327**	P		**P**	**12 52 41.5**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=113,slow=11,SNR=4.4							
	comp=Z,1.0nm,0.6s							
NRIK	**Noril'sk**	**71.00**	**346**	P		**P**	**12 53 00.4**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=41,slow=4.2,SNR=2.2							
	comp=Z,1.2nm,0.3s							
AKTO	**Aktyubinsk**	**74.25**	**322**	P		**P**	**12 53 19.2**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=130,slow=4.5,SNR=5.8							
	comp=Z,1.4nm,0.6s							

*IDC **11** 12:42:05.0±0.9,3˚.11N×126˚.66E,h0km,mb3.9/10,*
mbtmp3.9/10,Error ellipse: s-maj=81.3km s-min=17.8km
az=71.0
ISC 11 12:42:06.5±1.0,3˚.1N±0˚.2×126˚.7E±0˚.5,h10km,n10,
σ0°46/11,mb4.1/10,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**24.12**	**162**	P		**P**	**12 47 22.4**	**-0.4**
	1.7nm,0.6s,baz=338,slow=11,SNR=9.2							
	1.7nm,0.6s							
ASAR	**Alice Springs**	**27.54**	**166**	P		**P**	**12 47 53.6**	**-0.1**
	0.5nm,0.7s,baz=348,slow=12,SNR=5.9							
ASAR				PcP		**PcP**	**12 51 12.6**	**+0.7**
	0.6nm,0.9s,baz=343,slow=2.5,S

PFO	Pinyon Flats O	0.57	320			Pg	12 45 32.1	-0.9
PFO				Sg		Sg	12 45 39.8	-0.8
PFO	Pinyon Flats O	0.57	320			Pg	12 45 32.5	-0.6
PFO						Sg	12 45 40.1	-0.6
PFO	Pinyon Flats O	0.57	320	P		Pg	12 45 32.5	-0.6
	baz=139,SNR=304							
PFO				S		Sg	12 45 40.2	-0.5
	baz=139							
RMX	La Rumorosa	0.57	185			Pb	12 45 33.9	+0.4
RMX						Sb	12 45 42.4	+0.9
RMX	La Rumorosa	0.57	185	IAML			12 45 43.5	
	comp=N,2µm,0.2s							
SGL	Mount Signal	0.58	155			Pb	12 45 33.2	-0.3
SGL						Sb	12 45 41.4	-0.1
SNR	Schaffner Ranc	0.58	122			Pb	12 45 33.6	+0.1
SNR						Sb	12 45 43.4	+1.9
FRD	Ford Ranch, An	0.58	303			Pb	12 45 33.1	-0.6
FRD						Sg	12 45 40.8	-0.3
HAY	Hayfield	0.60	28			Pb	12 45 33.7	-0.2
HAY						Sb	12 45 42.2	0.0
DREC	Desert Rsrch C	0.61	127			Pb	12 45 34.1	+0.2
DREC						Sn	12 45 44.8	-0.4
SNDA	J Saunders Pla	0.62	307			Pb	12 45 33.8	-0.5
SNDA						Sb	12 45 42.4	-0.5
BZNA	Buzz No.'s Pla	0.63	300			Pb	12 45 34.0	-0.5
BZNA						Sg	12 45 42.3	-0.2
DNR	Dunn Ranch,Anz	0.64	307			Pb	12 45 34.2	-0.5
DNR						Sb	12 45 43.0	-0.5
5053	Calexico	0.67	139			Pb	12 45 35.2	+0.1
5053						Sb	12 45 46.1	+2.0
BC3	Big Chuckawall	0.67	45			Pg	12 45 34.7	-0.3
BC3						Sg	12 45 43.8	-0.1
BC3	Big Chuckawall	0.67	45	P		Pg	12 45 34.7	-0.3
	baz=225,SNR=715							
BC3				S		Sg	12 45 43.9	-0.1
	baz=225							
CRY	Cary Ranch	0.72	303			Pb	12 45 35.5	-0.4
CRY						Sg	12 45 44.7	-0.6
PLM	Palomar	0.73	284			Pg	12 45 35.6	-0.4
PLM						Sb	12 45 45.5	-0.4
UABX	UABC, Campus M	0.73	138			Pb	12 45 35.8	-0.2
UABX	UABC, Campus M	0.73	138			Sb	12 45 47.3	+1.6
GVDA	Garner Valley	0.74	312			Pg	12 45 35.6	-0.5
GVDA						Sb	12 45 46.1	0.0
BAR	Barrett	0.74	228			Pg	12 45 35.4	-0.7
BAR				IAML			12 45 45.7	
	comp=E,1µm,0.1s							
BAR				IAML			12 45 47.1	
	comp=N,2µm,0.4s							
BAR	Barrett	0.74	228			Sg	12 45 45.2	-0.8
5054	Holtville Bond	0.75	130			Pb	12 45 36.1	-0.2
5054						Sn	12 45 48.6	0.0
EML	El Monte Cty P	0.75	248			Pg	12 45 35.7	-0.7
EML						Sg	12 45 45.4	-0.9
TKX	Tecate	0.78	219			Pg	12 45 36.4	-0.6
TKX						Sg	12 45 46.4	-0.9
DPP	Dos Picos Cty	0.79	257			Pg	12 45 36.6	-0.6
DPP						Sg	12 45 47.2	-0.5
COA	Coachella	0.81	112			Pg	12 45 36.8	-0.7
COA						Sb	12 45 48.8	+0.6
BELC	Belle Mtn. Jos	0.82	1			Pg	12 45 37.1	-0.6
BELC						Sg	12 45 48.4	-0.2
BELC	Belle Mtn. Jos	0.82	1	P		Pg	12 45 37.1	-0.6
	baz=181,SNR=670							
BELC				S		Sb	12 45 48.5	-0.1
	baz=181							
EW2	E Wide Canyon	0.83	337			Pg	12 45 37.4	-0.5
EW2						Sb	12 45 48.7	-0.1
DUZA	Dulzura	0.85	228			Pg	12 45 37.5	-0.8
DUZA						Sg	12 45 48.8	-0.7
DEVC	Devers	0.89	329			Pg	12 45 38.5	-0.5
DEVC						Sb	12 45 52.0	+1.6
SDRC	San Diego Road	0.89	241			Pg	12 45 38.1	-1.0
SDRC						Pn	12 45 49.6	+10
RUN	Ruthven	0.90	103			Pg	12 45 37.9	-1.2
POB	Polly Butte	0.91	304			Pg	12 45 38.8	-0.6
POB						Pn	12 45 50.5	+11
TPC	Twentynine Pal	0.93	358			Pg	12 45 39.0	-0.8
TPC						Sg	12 45 51.5	-0.4
BLAC	Blackrock camp	0.94	341			Pg	12 45 39.2	-0.8
OLP	Otay Lakes Par	0.95	234			Pg	12 45 39.3	-0.9
OLP						Sg	12 45 51.9	-0.9
109C	Camp Elliot, M	0.96	253			Pg	12 45 39.3	-0.9
109C	Camp Elliot, M	0.96	253	P		Pg	12 45 39.3	-0.9
	baz=72,SNR=335							
109C				S		Sg	12 45 51.6	-1.2
	baz=72							
CPE	Camp Elliot	0.96	253			Pg	12 45 39.3	-0.9
BACC	Bachelor Mtn.	0.96	297			Pg	12 45 39.5	-0.8
CPBX	Cerro Prieto	0.96	141			Pg	12 45 38.9	-1.5
EMSC	East Mesa	0.97	116			Pg	12 45 39.5	-1.0
HMTC	Hemet	0.98	303			Pg	12 45 39.7	-1.0
HMTC						Sg	12 45 52.8	-0.7
GLA	Glamis	1.01	97			Pg	12 45 39.8	-1.4
GLA				IAML			12 45 54.7	
	comp=N,786nm,0.6s							
GLA				IAML			12 45 57.4	
	comp=E,896nm,0.6s							
GLA	Glamis	1.01	97	P		Pg	12 45 39.8	-1.4
	baz=278,SNR=234							
GLA				S		Sg	12 45 53.2	-1.2
	baz=278							
GORC	Green Oak Ranc	1.01	269			Pg	12 45 40.2	-1.2
CBX	Cerro Bola	1.02	212			Pg	12 45 40.5	-1.0
SDMC	San Diego Miss	1.02	248			Pg	12 45 40.7	-0.7
MURC	Murrieta	1.07	294			Pg	12 45 41.8	-0.7
MURC	Murrieta	1.07	294	P		Pg	12 45 41.4	-1.0
	baz=113							
MURC				S		Sg	12 45 55.6	-0.8
	baz=113							
BBSC	Beaumont Base	1.09	313			Pb	12 45 42.4	+0.1
TJX	Tijuana	1.10	233			Pg	12 45 42.1	-0.7
TJX				IAML			12 46 01.0	
	comp=E,1µm,0.7s							
TJX				IAML			12 46 02.5	
	comp=N,1µm,0.6s							
ESJX	Sierra Juarez	1.17	177			Pg	12 45 42.2	-2.1
ESJX				IAML			12 45 59.9	
	comp=E,1µm,0.3s							
ESJX				IAML			12 46 01.0	
	comp=N,526nm,0.2s							
IRM	Iron Mountain	1.22	36			Pb	12 45 44.0	-0.4
IRM	Iron Mountain	1.22	36	P		Pb	12 45 43.2	-1.3
	baz=217,SNR=307							
IRM				S		Sg	12 46 00.2	-1.0
	baz=217							
CFT	Crafton Hills	1.25	314			Pg	12 45 45.4	-0.4
ELS	Elsinore Mount	1.27	292			Pn	12 45 44.5	-0.4
SVD	Seven Oaks Dam	1.29	316			Pg	12 45 46.3	-0.4
BBRC	Big Bear Solar	1.32	325			Pn	12 45 46.2	+0.4
BBRC	Big Bear Solar	1.32	325	Pb		Pn	12 45 46.1	+0.4
	baz=145							
BBRC				S		Sb	12 46 03.4	+0.3
	baz=145							
SIL	Silver Peak	1.35	330			Pb	12 45 46.8	0.0
BLYC	Blythe	1.38	65			Pn	12 45 45.2	-1.0
BLYC				IAML			12 46 11.4	
	comp=E,457nm,0.8s							
RVR	Riverside	1.40	306			Pb	12 45 47.6	+0.2
CCX	Cicese	1.41	203			Pn	12 45 47.3	+0.5
CCX				IAML			12 46 09.8	
	comp=N,571nm,0.4s							
CCX				IAML			12 46 10.0	
	comp=E,794nm,0.4s							
GMRC	Granite Mounta	1.63	10	P		Pn	12 45 48.9	-1.0
	baz=191,SNR=90							
GMRC				Sb		Sb	12 46 12.8	+0.8
	baz=191							
HEC	Hector,Ludlow	1.67	351	P		Pn	12 45 49.6	-0.9
	baz=171,SNR=127							
HEC				Sb		Sg	12 46 14.6	-0.9
	baz=171							
BFSC	Mount Baldy Ra	1.73	308	P		Pn	12 45 50.6	-0.7
	baz=127,SNR=33							
BFSC				Sb		Sb	12 46 15.6	+0.8
	baz=127							
VTX	Valle De La Tr	1.79	174			Pb	12 45 53.8	-0.4
RRX	Edison Barstow	1.88	335	Pg		Pb	12 45 56.5	+0.8
	baz=154							
PDMCI	Parker Dam,Lak	1.93	54	Pg		Pg	12 45 58.6	-0.1
	baz=235,SNR=47							
PDMCI				Sb		Sb	12 46 20.7	+0.4
	baz=235							

113A	Mohawk Valley,	1.94	102			Pn	12 45 54.1	+0.2
NEE2	Needles Airpor	1.97	36	Sb		Sb	12 46 23.1	+1.6
	baz=216							
FMP	Fort Macarthur	1.98	286	Pb		Pb	12 45 56.9	-0.4
	baz=105							
FMP				Sb		Sb	12 46 23.0	+1.3
	baz=105							
CIS	Catalina Islan	2.02	277	Pb		Pb	12 45 57.9	-0.2
	baz=96							
CIS				Sb		Sb	12 46 23.8	+0.8
	baz=96							
PASC	Pasadena Art C	2.06	299			Pn	12 45 57.3	+1.6
PASC				IAML			12 46 26.1	
	comp=E,245nm,0.5s							
PASC				IAML			12 46 26.4	
	comp=N,208nm,0.4s							
SCI2	San Clemente I	2.13	265	Pb		Pb	12 45 59.4	-0.6
	baz=84							
DECC	Green Verdugo	2.21	300	Pb		Pb	12 46 01.0	-0.3
	baz=118							
DECC				Sb		Sb	12 46 29.8	+1.3
	baz=118							
GSC	Goldstone, Bar	2.22	343			Pn	12 45 57.4	-0.6
GSC				IAML			12 46 37.7	
	comp=E,147nm,0.7s							
GSC	Goldstone, Bar	2.22	343	P		Pn	12 45 57.4	-0.6
	baz=163							
TUQ	Turquoise Moun	2.26	2	P		Pn	12 45 57.8	-0.7
	baz=182,SNR=19							
TUQ				Sb		Sg	12 46 32.8	-1.5
	baz=182							
EDW2	Edwards Air Fo	2.36	317	Pb		Pb	12 46 04.6	+0.6
	baz=136							
EDW2				Sb		Sb	12 46 35.2	+2.2
	baz=136							
W13A	Hualapai Mount	2.61	42			Pn	12 46 03.3	-0.1
Y14A	Wickenburg	2.63	72			Pn	12 46 03.2	-0.4
OSI	Osito Audit: C	2.67	303	Sb		Sb	12 46 43.9	+2.2
	baz=122							
LRMC	Laurel Mtn Rad	2.68	330	Pb		Pb	12 46 10.0	+0.6
	baz=149							
PIX	Pinacate	2.70	126			Pn	12 46 04.0	-0.5
V12A	Nelson	2.72	20			Pn	12 46 05.2	+0.4
SHOC	Shoshone, Teco	2.73	356	P		Pn	12 46 04.4	-0.4
	baz=176,SNR=51							
SHOC				Sb		Sg	12 46 47.3	-2.0
	baz=176							
QSM	Queen of Sheba	2.87	346			Pn	12 46 06.7	-0.2
214A	Organ Pipe Nat	2.97	113			Pn	12 46 07.5	-0.8
214A	Organ Pipe Nat	2.97	113	P		Pn	12 46 07.0	-1.2
	baz=295							
ARVC	Arvin	3.04	311	Pb		Pb	12 46 14.9	-0.5
	baz=129,SNR=12							
ARVC				Sb		Sb	12 46 55.1	+2.8
	baz=129							
GWY	Greenwater Val	3.05	350			Pn	12 46 09.2	-0.3
MPMC	Manual Prospec	3.12	338	P		Pn	12 46 09.8	-0.6
	baz=157,SNR=28							
MPMC				S		Sn	12 46 49.6	+2.0
	baz=157							
ISA	Isabella, Lake	3.21	321	Pb		Pb	12 46 19.0	+0.7
	baz=140,SNR=44							
FURC	Furnace Creek,	3.36	348	Pg		Pg	12 46 25.5	-0.5
	baz=168,SNR=74							
SHPR	Sheep Range	3.40	12			Pn	12 46 14.7	+0.5
GRAC	Grapevine Rang	3.97	344			Pn	12 46 22.5	+0.6
GRAC	Grapevine Rang	3.97	344	P		Pn	12 46 22.9	+0.9
	baz=164,SNR=5.6							
X16A	Lo Mia Camp, P	4.01	71			Pn	12 46 23.0	+0.4
GMN	Gold Mountain	4.24	346			Pn	12 46 25.8	0.0
LCH	Last Change Ra	4.26	342			Pn	12 46 26.1	0.0
PRN	Pahroc Range	4.29	10			Pn	12 46 27.3	+0.7
LCMT	Little Creek M	4.45	30			Pn	12 46 29.6	+0.8
U15A	North Rim	4.46	42			Pn	12 46 30.2	+1.2
DSP	Deep Springs	4.48	340			Pn	12 46 29.1	+0.2
TUC	Tucson	4.49	100			Pn	12 46 30.4	+1.1
WUAZ	Wupatki	4.50	57			Pn	12 46 30.6	+1.2
KNB	Kanab	4.64	33			Pn	12 46 32.1	+0.7
MZP	Montezuma Peak	4.65	347			Pn	12 46 32.7	+1.1
CCUT	Cedar City	4.87	26	Pn		Pn	12 46 34.9	+0.3
TPH	Tonopah	4.99	349			Pn	12 46 37.0	+0.9
SZCU	Shurtz Canyon	5.02	28			Pn	12 46 36.8	+0.3
R11B	Troy Canyon, C	5.17	4			Pn	12 46 40.2	+1.5
X18A	Snowflake	5.23	73			Pn	12 46 39.1	-0.3
LHV	Little Huntoon	5.45	339			Pn	12 46 42.7	+0.4
PSUT	Pine Spring	5.63	18	Pn		Pn	12 46 45.4	+0.5
MTPU	Mount Pierson	5.77	32			Pn	12 46 48.1	+1.0
SPR3	Spring Creek 3	5.97	13			Pn	12 46 49.7	-0.1
KVN	Kaiserville	6.10	345			Pn	12 46 50.3	-1.1
MVU	Marysvale	6.15	29			Pn	12 46 53.2	+1.1
MSU	Marysvale	6.17	29			Pn	12 46 52.0	-0.4
121A	Cookes Peak, D	6.96	93			Pn	12 47 03.8	+0.6
121A	Cookes Peak, D	6.96	93	P		Pn	12 47 03.5	+0.3
	baz=278							

*NOU **11** 13:09:07.6, 18°.79S×169°.93E, h219km, mb4.1/21, Vanuatu Islands*
*IDC **11** 13:09:13.2±2.6, 18°.95S×169°.42E, h242km±22km, mb3.5/8, mbtmp4.1/9, Error ellipse: s-maj=28.9km s-min=21.9km az=165.0*
*NEIC **11** 13:09:13.4±1.8, 19°.11S±0°.07×169°.5E±0°.1, h227km±8km, mb4.4/42, Error ellipse: s-maj=16.9km s-min=10.5km az=89.0*

ISC 11 13:09:12.8±0.7, 19°.02S±0°.09×169°.50E±0°.10, h227km, n83, σ1ᵗ16ᵗ/84, mb4.3/28, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	2.75	230		Pn	13 09 59.8	-1.3
LIFNC	LIFOU	2.75	230	P	Pn	13 10 00.2	-0.9
MARNC	Mare, Loyalty	2.81	209		Pn	13 10 00.5	-1.2
MARNC	Mare, Loyalty	2.81	209	P	Pn	13 10 01.0	-0.7
PINNC	Pines Island,	4.05	208		Pn	13 10 15.9	-0.3
PINNC	Pines Island,	4.05	208	P	Pn	13 10 16.3	+0.1
DZM	Mont Dzumac	4.17	223	P	Pn	13 10 17.6	-0.1
DZM	Mont Dzumac	4.17	223	P	Pn	13 10 17.4	-0.3
	17nm,0.7s,baz=47,slow=16,SNR=17						
DZM				S	S	13 11 12.3	+3.3
	9.0nm,0.4s,baz=315,slow=20,SNR=1.0						
OUENC	Ouen Island, N	4.20	216		Pn	13 10 17.6	-0.3
OUENC	Ouen Island, N	4.20	216	P	Pn	13 10 17.9	0.0
NOUC	Port Laguerre	4.28	224	P	Pn	13 10 19.0	0.0
ONTNC	Ouen Toro	4.34	221	P	Pn	13 10 19.7	+0.1
KOUNC	Koumac, New Ca	5.14	252	Pn	Pn	13 10 29.9	+0.3
KOUNC	Koumac, New Ca	5.14	252	P	Pn	13 10 30.4	+0.8
EIDS	Eidsvold	18.18	246	P	P	13 13 09.5	+0.7
ARMA	Armidale	19.77	232	P	P	13 13 26.5	+0.5
ARMA				IAmb	IAmb	13 13 57.4	
	comp=Z,16nm,1.4s						
ARMA	Armidale	19.77	232	P	P	13 13 26.9	+0.9
CTA	Charters Tower	21.93	263	P	P	13 13 47.3	-0.9
	comp=Z,7.6nm,1.1s,baz=84,slow=9.3,SNR=1.5						
	comp=Z,7.6nm,1.1s						
CTAO	Charters Tower	21.93	263	P	P	13 13 48.1	0.0
CTAO				IAmb	IAmb	13 14 31.4	
	comp=Z,24nm,1.4s						
MRZ	Mangatainoka R	22.19	168	P	P	13 13 50.4	0.0
MRZ				IAmb	IAmb	13 13 53.8	
	comp=Z,12nm,1.1s						
BFZ	Birch Farm	22.35	166	P	P	13 13 52.9	+1.0
TUWZ	Tuamarina	22.66	171	P	P	13 13 54.8	+0.3
SNZO	South Karori	22.66	170	P	P	13 13 55.0	+0.4
THZ	Tophouse	22.85	173	P	P	13 13 56.9	+0.4
THZ				IAmb	IAmb	13 13 58.4	
	comp=Z,18nm,1.1s						
PLWZ	Palliser	23.00	169	P	P	13 13 57.4	-0.4
LTZ	Lake Taylor	23.80	175	P	P	13 14 04.9	-0.1
LTZ				IAmb	IAmb	13 14 24.3	
	comp=Z,18nm,1.4s						
MTSU	Mount Surprise	23.88	268	P	P	13 14 06.3	+0.3
CNB	Canberra Magne	24.10	224	P	P	13 14 07.6	-0.2
FOZ	Fox Glacier	24.44	179	P	P	13 14 10.7	+0.1
FOZ				IAmb	IAmb	13 14 40.8	
	comp=Z,16nm,1.1s						
CMSA	Cobar Meteorol	24.81	235	P	P	13 14 13.7	-0.5
STKA	Stephens Creek	28.17	238	P	P	13 14 44.1	-0.2
STKA	Stephens Creek	28.17	238	P	P	13 14 43.9	-0.3
STKA	Stephens Creek	28.17	238	P	P	13 14 43.5	-0.7
	comp=Z,4.1nm,0.6s,baz=68,slow=8.7,SNR=12						
	comp=Z,4.1nm,0.6s						
LCRK	Leigh Creek	30.51	242	P	P	13 15 04.3	-0.6
OOD	Oodnadatta	32.15	248	P	P	13 15 18.9	-0.4

BBOO	Buckleboo	32.91	239	P		P	13 15 25.1	-0.7
BBOO				IAmb		IAmb	13 15 50.9	
	comp=Z,15nm,1.1s							
WR0	Warramunga Arr	32.93	262	P		P	13 15 24.3	-1.9
WR0				IAmb		IAmb	13 15 25.0	
	comp=Z,8.6nm,1.2s							
WB0	Warramunga Arr	33.09	263	P		P	13 15 25.5	-2.0
WB2	Warramunga Arr	33.11	262	P		P	13 15 25.7	-2.0
WB2				IAmb		IAmb	13 15 59.0	
	comp=Z,15nm,1.5s							
WRA	Warramunga Arr	33.12	262	P		P	13 15 25.7	-2.1
WRA	Warramunga Arr	33.12	262	P		P	13 15 25.5	-2.3
	comp=Z,1.7nm,0.6s,baz=83,slow=6.0,SNR=40							
	comp=Z,1.7nm,0.6s							
AS01	Alice Springs	33.38	256	P		P	13 15 28.9	-1.1
AS31	Alice Springs	33.42	256	P		P	13 15 29.0	-1.4
ASAR	Alice Springs	33.42	256	P		P	13 15 29.1	-1.4
	comp=Z,12nm,0.4s,baz=81,slow=8.9,SNR=512							
	comp=Z,12nm,0.4s							
MULG	Mulgathing	33.97	244	P		P	13 15 34.3	-0.7
MTN	Manton Dam	37.34	274	P		P	13 16 03.1	-0.7
MTN				IAmb		IAmb	13 16 03.4	
	comp=Z,7.9nm,0.7s							
WRKA	Warakurna	38.55	253	P		P	13 16 12.9	-1.0
KNRA	Kununurra	38.97	268	P		P	13 16 16.0	-1.3
KNRA				IAmb		IAmb	13 16 54.1	
	comp=Z,18nm,1.5s							
KNRA	Kununurra	38.97	268	P		P	13 16 16.1	-1.2
FITZ	Fitzroy Crossi	41.51	264	P		P	13 16 37.5	-0.7
PSA00	Pilbara Seismi	46.48	258	P		P	13 17 16.5	-1.1
PSA00				IAmb		IAmb	13 17 49.0	
	comp=Z,15nm,1.2s							
MBWA	Marble Bar	46.64	259	P		P	13 17 17.9	-0.9
MBWA				IAmb		IAmb	13 17 34.7	
	comp=Z,12nm,1.1s							
MBWA	Marble Bar	46.64	259	P		P	13 17 18.1	-0.7
MEEK	Meekatharra	47.26	251	P		P	13 17 22.5	-1.1
SBA	Scott Base	58.88	181	P		P	13 18 48.2	+0.8
QSPA	South Pole Qui	71.03	180	P		P	13 20 05.1	-0.7
QSPA	South Pole Qui	71.03	180	P		P	13 20 04.9	-0.9
	comp=Z,1.5nm,1.0s,baz=10,slow=3.8,SNR=7.4							
	comp=Z,1.5nm,1.0s							
PETK	Petropavlovsk-	72.55	353	P		P	13 20 15.7	+1.0
O14K	Tigyukauivet M	81.59	15	P		P	13 21 05.4	+0.6
N15K	Kwethluk River	82.68	15	P		P	13 21 11.9	+1.3
N15K				IAmb		IAmb	13 21 36.2	
	comp=Z,16nm,1.4s							
O16K	Kokwok River B	82.69	16	P		P	13 21 10.7	+0.2
O16K				IAmb		IAmb	13 21 53.7	
	comp=Z,13nm,1.4s							
P18K	Big Mountain,	83.29	17	P		P	13 21 14.1	+0.5
P18K				IAmb		IAmb	13 21 15.3	
	comp=Z,10nm,1.0s							
M16K	Timber Creek	83.70	15	P		P	13 21 17.1	+1.4
N17K	Nushagak Hills	83.72	16	P		P	13 21 17.5	+1.7
N17K				IAmb		IAmb	13 22 00.5	
	comp=Z,9.4nm,1.4s							
L16K	Owhat River	84.18	14	P		P	13 21 19.4	+1.3
L16K				IAmb		IAmb	13 21 56.2	
	comp=Z,8.7nm,1.4s							
N18K	Kilae Creek	84.19	16	P		P	13 21 19.3	+1.1
K15K	Wolf Creek Mou	84.24	13	P		P	13 21 20.0	+1.6
M17K	Holitna River	84.41	15	P		P	13 21 21.2	+1.9
L18K	Granite Mounta	85.29	15	P		P	13 21 25.6	+2.0
L18K				IAmb		IAmb	13 21 44.1	
	comp=Z,7.3nm,1.4s							
J16K	Anvik River	85.31	13	P		P	13 21 25.1	+1.4
J16K				IAmb		IAmb	13 21 25.9	
	comp=Z,2.9nm,0.7s							
SUA	Susitna One	86.27	18	P		P	13 21 29.8	+1.2
J18K	Innoko River	86.35	14	P		P	13 21 29.3	+0.5
G16K	Koyuk River	86.84	11	P		P	13 21 32.7	+1.6
SONM	Songino Array	87.19	323	P		P	13 21 33.4	0.0
	comp=Z,0.4nm,0.9s,baz=125,slow=2.3,SNR=1.3							
	comp=Z,0.4nm,0.9s							
F17K	Baldwin Pennin	87.99	11	P		P	13 21 37.7	+1.2
F17K				IAmb		IAmb	13 22 01.5	
	comp=Z,6.2nm,1.4s							
H19K	Roundabout Mou	88.17	13	P		P	13 21 38.2	+0.9
NVAR	Mina Array Bea	88.47	48	P		P	13 21 40.1	+0.3
	comp=Z,0.3nm,0.7s,baz=235,slow=7.2,SNR=3.9							
	comp=Z,0.3nm,0.7s							
G19K	Purcell Mounta	88.56	13	P		P	13 21 40.0	+0.7
G19K				IAmb		IAmb	13 22 13.2	
	comp=Z,4.8nm,1.4s							
J05D	Fort Rock, OR	88.67	43	P		P	13 21 41.5	+1.0
IMAR	Indian Mountai	89.16	14	P		P	13 21 42.4	+0.3
E19K	Redstone River	89.65	12	P		P	13 21 45.3	+1.0
ILAR	Eielson Array	89.95	17	P		P	13 21 42.8	-2.9
	comp=Z,0.5nm,0.8s,baz=226,slow=5.8,SNR=4.4							
	comp=Z,0.5nm,0.8s							
YKA	Yellowknife Ar	100.36	27	P		Pdif	13 22 30.7	-2.4
	comp=Z,0.2nm,0.6s,baz=256,slow=5.2,SNR=3.0							

*NEIC **11** 13:39:11.5±1.1, 4°.23S±0°.10×153°.21E±0°.09, h33km±6km, mb4.3/18, Error ellipse: s-maj=14.0km s-min=13.6km az=195.0*
*IDC **11** 13:39:13.2±2.2, 4°.31S×153°.10E, h52km±17km, mb3.6/10, mbtmp3.9/11, ML2.1/1, MS4.1/1, Error ellipse: s-maj=21.8km s-min=15.3km az=112.0*

ISC 11 13:39:11.4±0.6, 4°.16S±0°.07×153°.15E±0°.08, h35km, n48, σ1ᵗ43/52, mb4.1/17, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	0.99	268		Pn	13 39 29.6	+0.9
RABL	Rabaul	0.99	268	P	Pn	13 39 29.9	+1.1
MANU	Manus Island	6.15	290		Pn	13 40 41.1	+1.3
PMG	Port Moresby	7.91	228	Pn	Pn	13 41 04.

comp=Z,0.3nm,0.5s,baz=54,slow=9.0,SNR=15
ASAR PcP **PcP** 13 48 10.3 -0.8
comp=Z,0.3nm,0.7s,baz=54,slow=1.8,SNR=2.4
ASAR ScP **ScP** 13 51 48.4 -0.4
comp=Z,0.6nm,1.0s,baz=35,slow=3.0,SNR=5.4
comp=Z,0.3nm,0.5s
FITZ Fitzroy Crossi 30.27 241 P **P** 13 45 18.3 -1.1
FITZ Fitzroy Crossi 30.27 241 P **P** 13 45 18.5 -0.9
MULG Mulgathing 31.63 213 P **P** 13 45 35.9 +4.7
WRKA Warakurna 31.65 227 P **P** 13 45 31.6 +0.1
PLAI Plampang 35.44 261 P **P** 13 46 02.4 -2.2
MBWA Marble Bar 36.59 240 P **P** 13 46 13.7 -0.7
MBWA Marble Bar 36.59 240 P **P** 13 46 15.1 +0.7
CTZ Chatham Island 47.60 150 P **P** 13 47 44.2 +0.4
KULM Kulim 53.27 280 P **P** 13 48 27.3 0.0
CMAR Chiang Mai Arr 57.93 295 P **P** 13 49 01.9 +1.3
comp=Z,0.5nm,0.4s,baz=107,slow=5.3,SNR=5.2
comp=Z,0.5nm,0.4s
SONM Songino Array 65.98 327 P **P** 13 49 55.7 +1.3
SONM Songino Array 65.98 327 P **P** 13 49 55.3 +0.9
comp=Z,0.8nm,0.5s,baz=145,slow=6.1,SNR=8.1
comp=Z,0.8nm,0.5s
VNDA Vanda 73.45 178 P **P** 13 50 38.7 -1.0
VNDA IAmb IAmb 13 50 39.4
comp=Z,1.4nm,0.7s
VNDA Vanda 73.45 178 P **P** 13 50 38.6 -1.1
comp=Z,1.6nm,0.7s,baz=344,slow=6.7,SNR=10.0
comp=Z,1.6nm,0.7s
MKAR Makanchi Array 80.08 319 P **P** 13 51 17.1 -0.6
MKAR Makanchi Array 80.08 319 P **P** 13 51 17.8 +0.1
comp=Z,0.3nm,0.5s,baz=94,slow=8.4,SNR=4.6
comp=Z,0.3nm,0.5s
ILAR Eielson Array 81.44 22 P **P** 13 51 25.5 +0.9
comp=Z,0.3nm,0.8s,baz=236,slow=6.4,SNR=1.3
comp=Z,0.3nm,0.8s
QSPA South Pole Qui 85.80 180 P **P** 13 51 45.3 -1.7
QSPA South Pole Qui 85.80 180 P **P** 13 51 45.0 -2.1
comp=Z,1.3nm,0.4s,baz=117,slow=6.8,SNR=44
comp=Z,1.3nm,0.4s
BVAR Borovoye Array 88.94 323 P **P** 13 52 01.1 -1.2
comp=Z,0.7nm,0.7s,baz=103,slow=6.5,SNR=4.5
comp=Z,0.7nm,0.7s
TORD Torodi Ar. Bea 150.44 289 PKPbc **PKPbc** 13 58 58.5 -1.9
comp=Z,0.7nm,0.3s,baz=97,slow=2.8,SNR=20

NEIC ***11*** *13:49:33.3±1.1,31.77S±0.09×179.8W±0.1, h293km±6km, mb4.3/15, Error ellipse: s-maj=16.3km s-min=13.3km az=95.0*
IDC ***11*** *13:49:37.8±0.8,31.62S×179.94W, h342km±7km, mb3.5/9, mbtmp4.2/10, Error ellipse: s-maj=16.3km s-min=11.1km az=117.0*
NOU ***11*** *13:49:37.4,31.955S×179.19W, h378km, mb4.4/11, Kermadec Islands Region*
WEL ***11*** *13:49:39.5±1.0,32.5±6.7×17.9W±1.5, h324km±13km, M4.3/15, mB4.4/7, MLv5.0/15, Mw(mB)3.5/7, Error ellipse: s-maj=0.0km s-min=0.0km az=106.2*

ISC 11 13:49:37.5±0.5,**31.84S**±0.05×**179.54W**±0.09,**h350**km, **n105,σ2s06**/116,**mb4.0**/17,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.92**	**29**	P	**Pn**	**13 50 36.5**	**+0.2**
GLKZ				S	**S**	**13 51 22.0**	**-1.5**
RAO	**Raoul Island**	**2.94**	**29**	P	**Pn**	**13 50 34.2**	**-2.2**
	434nm,0.3s,baz=195,slow=23,SNR=1.9						
RAO				S	**S**	**13 51 23.8**	**+0.2**
	1μm,0.4s,baz=87,slow=20,SNR=5.6						
MXZ	**Matakaoa Point**	**5.98**	**197**	P	**Pn**	**13 51 10.1**	**+2.2**
MXZ	**Matakaoa Point**	**5.98**	**197**	P	**Pn**	**13 51 10.4**	**+2.5**
MXZ				S	**S**	**13 52 20.0**	**-1.2**
WMGZ	**Waiomatatini S**	**6.20**	**195**	P	**Pn**	**13 51 12.4**	**+2.0**
WMGZ				S	**S**	**13 52 24.3**	**-1.6**
HAZ	**Te Kaha**	**6.30**	**200**	P	**Pn**	**13 51 12.9**	**+1.3**
HAZ				S	**S**	**13 52 27.4**	**-0.5**
PKGZ	**Pakihiroa**	**6.34**	**197**	P	**Pn**	**13 51 12.6**	**+0.4**
PKGZ				S	**S**	**13 52 29.3**	**+0.3**
PUZ	**Puketiti**	**6.47**	**196**	P	**Pn**	**13 51 14.2**	**+0.6**
PUZ				S	**S**	**13 52 30.7**	**-1.0**
WCZ	**Waipu Caves**	**6.52**	**230**	P	**Pn**	**13 51 17.5**	**+3.3**
RUGZ	**Raukumara Rang**	**6.52**	**200**	P	**Pn**	**13 51 15.4**	**+1.1**
RUGZ				S	**S**	**13 52 33.2**	**+0.3**
WIAZ	**Waiheke Island**	**6.62**	**220**	P	**Pn**	**13 51 19.5**	**+4.2**
OUZ	**Omahuta**	**6.65**	**238**	P	**Pn**	**13 51 18.3**	**+2.6**
OUZ	**Omahuta**	**6.65**	**238**	P	**Pn**	**13 51 17.8**	**+2.1**
MBAZ	**Motutapu North**	**6.73**	**222**	P	**Pn**	**13 51 20.7**	**+4.1**
MKAZ	**Moumakai**	**6.83**	**218**	P	**Pn**	**13 51 21.6**	**+3.9**
ETAZ	**East Tamaki Re**	**6.85**	**220**	P	**Pn**	**13 51 22.4**	**+4.4**
EPAZ	**Eden Park BICE**	**6.90**	**222**	P	**Pn**	**13 51 21.7**	**+3.2**
MWZ	**Matawai**	**6.91**	**200**	P	**Pn**	**13 51 19.7**	**0.0**
MWZ				S	**S**	**13 52 40.8**	**-0.3**
RVAZ	**Riverhead Bore**	**6.92**	**223**	P	**Pn**	**13 51 23.0**	**+4.2**
TKGZ	**Te Karaka**	**6.92**	**197**	P	**Pn**	**13 51 18.9**	**+0.1**
TKGZ				S	**S**	**13 52 40.7**	**-0.5**
URZ	**Urewera**	**6.97**	**202**	P	**Pn**	**13 51 18.7**	**-0.6**
URZ	**Urewera**	**6.97**	**202**	P	**Pn**	**13 51 18.5**	**-0.9**
	13nm,0.4s,baz=354,slow=4.2,SNR=55						
URZ				S	**S**	**13 52 41.8**	**-0.4**
	297nm,0.6s,baz=128,slow=23,SNR=17						
URZ	**Urewera**	**6.97**	**202**	P	**Pn**	**13 51 18.5**	**-0.9**
URZ				S	**S**	**13 52 41.4**	**-0.8**
WTAZ	**Waiatarua**	**7.03**	**222**	P	**Pn**	**13 51 23.4**	**+3.3**
AWAZ	**Awhitu Peninsu**	**7.09**	**221**	P	**Pn**	**13 51 25.1**	**+4.4**
RAGZ	**Rawiri**	**7.09**	**200**	P	**Pn**	**13 51 20.7**	**-0.2**
RAGZ				S	**S**	**13 52 45.3**	**+0.3**
TARZ	**Mount Tarawera**	**7.16**	**206**	P	Pn	13 51 13.0	-8.7
BKZ	**Black Stump Fm**	**7.99**	**203**		Pn	13 51 27.4	-4.1
BKZ	**Black Stump Fm**	**7.99**	**203**	P	**Pn**	**13 51 31.4**	**-0.1**
HIZ	**Hauiti**	**8.08**	**213**	P	**Pn**	**13 51 34.2**	**+1.7**
WAZ	**Wanganui**	**9.06**	**208**	P	**Pn**	**13 51 42.4**	**-1.7**
WAZ				S	**S**	**13 53 26.9**	**-0.8**
KHEZ	**Kahui Hut**	**9.10**	**213**	P	**P**	**13 51 47.1**	**+0.2**
BFZ	**Birch Farm**	**9.46**	**200**		**Pn**	**13 51 46.4**	**-2.4**
BFZ	**Birch Farm**	**9.46**	**200**	P	**Pn**	**13 51 48.0**	**-0.8**
MRZ	**Mangatainoka R**	**9.64**	**203**	Pn	Pn	13 51 47.3	-3.7
SNZO	**South Karori**	**10.52**	**204**	Pn	Pn	13 51 57.0	-4.4
SNZO	**South Karori**	**10.52**	**204**	P	**Pn**	**13 52 01.2**	**-0.2**
BHW	**Baring Head**	**10.55**	**204**	Pn	Pn	13 51 57.6	-4.2
PLWZ	**Palliser**	**10.57**	**202**	Pn	Pn	13 51 58.1	-4.0
TCW	**Tory Channel**	**10.59**	**206**	Pn	Pn	13 51 58.4	-3.9
TUWZ	**Tuamarina**	**10.90**	**207**	Pn	**Pn**	**13 52 02.3**	**-3.8**
NNZ	**Nelson**	**10.95**	**209**	Pn	Pn	13 52 02.2	-4.4
TKNZ	**Takaka Hill**	**10.98**	**211**	Pn	Pn	13 52 03.3	-3.9
BSWZ	**Blackbirch Sta**	**11.18**	**206**	Pn	**Pn**	**13 52 05.8**	**-3.5**
MRNZ	**Matariki Terra**	**11.37**	**211**	Pn	**Pn**	**13 52 07.8**	**-3.7**
THZ	**Tophouse**	**11.60**	**209**	Pn	**Pn**	**13 52 10.4**	**-4.0**
KHZ	**Kahutara**	**11.91**	**206**	Pn	**P**	**13 52 14.2**	**-3.7**
KHZ	**Kahutara**	**11.91**	**206**	P	**P**	**13 52 16.5**	**-1.4**
DSZ	**Denniston Nort**	**12.07**	**213**	Pn	**P**	**13 52 15.9**	**-3.9**
GVZ	**Greta Valley S**	**12.57**	**206**		**P**	**13 52 22.0**	**-3.3**
LTZ	**Lake Taylor**	**12.71**	**208**		**P**	**13 52 23.3**	**-3.5**
INZ	**Inchbonnie**	**13.01**	**211**		**P**	**13 52 26.8**	**-3.3**
OXZ	**Oxford**	**13.26**	**208**	P	**P**	**13 52 30.1**	**-2.8**
MQZ	**McQueen's Vall**	**13.35**	**205**	P	**P**	**13 52 30.9**	**-2.9**
MSVF	**Nonsavu**	**14.21**	**351**	P	**P**	**13 52 41.8**	**-1.9**
LBZ	**Lake Benmore**	**14.89**	**210**	P	**P**	**13 52 48.4**	**-2.3**
ODZ	**Otahua Downs**	**15.24**	**207**	P	**P**	**13 52 53.8**	**-0.8**
JCZ	**Jackson Bay**	**15.27**	**214**	P	**P**	**13 52 54.5**	**-0.5**
WKZ	**Wanaka**	**15.75**	**211**	Pn	**P**	**13 52 59.6**	**-0.5**
CTA	**Charters Tower**	**32.77**	**283**	P	**P**	**13 55 40.8**	**+1.6**
	10nm,1.0s,baz=95,slow=8.1,SNR=2.7						
STKA	**Stephens Creek**	**32.89**	**259**	P	**P**	**13 55 40.1**	**+0.1**
	3.6nm,0.5s,baz=104,slow=9.6,SNR=8.5						
	3.6nm,0.5s						
BBOO	**Buckleboo**	**37.33**	**256**	P	**P**	**13 56 16.7**	**-0.9**
BBOO				IAmb	IAmb	13 56 34.1	
	comp=Z,38nm,1.4s						
AS31	**Alice Springs**	**41.74**	**269**	P	**P**	**13 56 52.1**	**-1.6**
ASAR	**Alice Springs**	**41.74**	**269**	P	**P**	**13 56 52.3**	**-1.5**
ASAR	**Alice Springs**	**41.74**	**269**	P	**P**	**13 56 51.9**	**-1.9**
	comp=Z,1.5nm,0.8s,baz=110,slow=7.6,SNR=17						
ASAR				ScP	**ScP**	**14 01 57.8**	**-1.2**
	comp=Z,1.6nm,0.9s,baz=118,slow=4.2,SNR=8.6						
	comp=Z,1.5nm,0.8s						
WR0	**Warramunga Arr**	**42.68**	**275**	P	**P**	**13 56 59.5**	**-1.9**
WB2	**Warramunga Arr**	**42.85**	**275**	P	**P**	**13 57 00.8**	**-1.8**
WB2				IAmb	IAmb	13 57 02.8	
	comp=Z,8.2nm,1.1s						
WRA	**Warramunga Arr**	**42.86**	**275**	P	**P**	**13 57 00.7**	**-2.1**
WRA	**Warramunga Arr**	**42.86**	**275**	P	**P**	**13 57 00.6**	**-2.1**
	comp=Z,1.8nm,0.6s,baz=112,slow=7.9,SNR=37						
WRA				ScP	**ScP**	**14 02 02.3**	**-1.3**
	comp=Z,2.1nm,0.9s,baz=117,slow=4.2,SNR=9.3						
	comp=Z,1.8nm,0.6s						
WB0	**Warramunga Arr**	**42.89**	**275**	P	**P**	**13 57 01.1**	**-1.9**
WB0				IAmb	IAmb	13 57 04.8	
	comp=Z,7.6nm,1.1s						
FORT	**Forrest**	**44.42**	**257**	P	**P**	**13 57 13.6**	**-1.3**
FORT				IAmb	IAmb	13 57 23.0	
	comp=Z,35nm,1.1s						
KNRA	**Kununurra**	**49.52**	**276**	P	**P**	**13 57 53.7**	**-0.4**
KNRA				IAmb	IAmb	13 57 57.4	
	comp=Z,25nm,1.4s						
WAKE	**Wake Island**	**52.53**	**344**	P	**P**	**13 58 14.9**	**-1.1**
HATHI	**Halema'uma'u T**	**56.04**	**28**	P	**P**	**13 58 41.2**	**-0.1**
QSPA	**South Pole Qui**	**58.27**	**180**	P	**P**	**13 59 00.5**	**+4.3**
QSPA				IAmb	IAmb	13 59 30.5	
	comp=Z,4.6nm,1.2s						
QSPA	**South Pole Qui**	**58.27**	**180**	P	**P**	**13 58 59.8**	**+3.5**
	comp=Z,2.3nm,0.6s,baz=53,slow=4.4,SNR=26						
	comp=Z,2.3nm,0.6s						
BELA	**Belgrano 2**	**68.54**	**172**	P	**P**	**14 00 05.5**	**+3.0**
BELA				IAmb	IAmb	14 00 11.2	
	comp=Z,3.3nm,1.1s						
PLCA	**Paso Flores**	**82.48**	**134**	P	**P**	**14 01 24.8**	**+3.1**
PLCA				IAmb	IAmb	14 01 35.4	
	comp=Z,12nm,1.4s						
PLCA	**Paso Flores**	**82.48**	**134**	P	**P**	**14 01 25.6**	**+3.9**
	comp=Z,1.8nm,0.8s,baz=244,slow=3.8,SNR=4.9						
	comp=Z,1.8nm,0.8s						
JKA	**Kamikawa-asahi**	**83.12**	**334**	P	**P**	**14 01 25.5**	**+1.0**
JKA				IAmb	IAmb	14 02 08.2	
	comp=Z,15nm,1.3s						
KSRS	**Korea Array**	**84.60**	**321**	P	**P**	**14 01 32.4**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=144,slow=6.2,SNR=8.6						
	comp=Z,1.6nm,0.7s						
KSAR	**Wonju Array Be**	**84.61**	**321**	P	**P**	**14 01 33.2**	**+1.1**
PETK	**Petropavlovsky-**	**86.89**	**346**	P	**P**	**14 01 42.9**	**0.0**
	comp=Z,2.7nm,0.8s,baz=134,slow=7.5,SNR=4.2						
	comp=Z,2.7nm,0.8s						
USRK	**Ussuriysk Ar.**	**87.64**	**327**	P	**P**	**14 01 47.1**	**+0.4**
USRK	**Ussuriysk Ar.**	**87.64**	**327**	P	**P**	**14 01 46.8**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=124,slow=4.2,SNR=4.9						
	comp=Z,1.5nm,0.6s						
NVAR	**Mina Array Bea**	**90.19**	**44**	P	**P**	**14 02 01.1**	**+2.1**
	comp=Z,0.5nm,0.7s,baz=217,slow=7.8,SNR=6.1						
	comp=Z,0.5nm,0.7s						
MKAR	**Makanchi Array**	**117.68**	**310**	PKP	**PKPdf**	**14 07 41.3**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=87,slow=0.7,SNR=6.5						
KURBB	**Kurchatov Arra**	**121.11**	**313**	PKP	**PKPdf**	**14 07 47.5**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=96,slow=1.7,SNR=10						
BVAR	**Borovoye Array**	**126.50**	**315**	PKP	**PKPdf**	**14 07 58.3**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=115,slow=2.5,SNR=9.7						
KBZ	**Khabaz**	**144.78**	**302**	PKP	**PKPdf**	**14 08 32.3**	**-0.5**
	comp=Z,3.3nm,1.0s,baz=77,slow=4.8,SNR=8.6						
FIA1	**FINESS Array S**	**146.01**	**338**	PKPdf	**PKPbc**	**14 08 35.4**	**-0.5**
FINES	**FINESS Array B**	**146.01**	**338**	PKPbc	**PKPbc**	**14 08 35.3**	**-0.5**
	comp=Z,12nm,1.5s,baz=55,slow=4.1,SNR=108						
NB2	**NORSAR Subarra**	**149.95**	**350**	PKP	**PKPbc**	**14 08 45.9**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**149.95**	**350**	PKPbc	**PKPbc**	**14 08 45.9**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=15,slow=4.2,SNR=7.9						
HFS	**Hagfors**	**150.36**	**347**	PKPbc	**PKPbc**	**14 08 46.1**	**-1.0**
	comp=Z,2.3nm,0.7s,baz=77,slow=6.5,SNR=10						
HFS				PKPab	**PKPab**	**14 08 53.9**	**-1.0**
	comp=Z,1.4nm,0.4s,baz=72,slow=4.8,SNR=12						
BNN	**Bunyan**	**150.43**	**294**		**PKiKP**	**14 08 48.2**	**-0.5**
MMAI	**Mount Meron Ar**	**150.56**	**282**	PKPbc	**PKiKP**	**14 08 49.4**	**+0.3**
	comp=Z,3.0nm,0.4s,baz=92,slow=4.3,SNR=7.7						
PABE	**Paberze**	**151.14**	**332**		**PKiKP**	**14 08 49.1**	**-0.3**
AKASG	**Malin Array Be**	**151.59**	**320**	PKPbc	**PKPbc**	**14 08 49.6**	**-0.6**
	comp=Z,3.3nm,0.9s,baz=64,slow=2.2,SNR=6.4						
AKASG				PKPab	**PKPab**	**14 08 59.2**	**-1.1**
	comp=Z,1.0nm,0.4s,baz=53,slow=4.8,SNR=8.0						
BR131	**Keskin Array S**	**152.07**	**296**		**PKPbc**	**14 08 51.3**	**-0.5**
BRTR	**Keskin Array B**	**152.07**	**296**		**PKPbc**	**14 08 51.2**	**-0.7**
BRTR	**Keskin Array B**	**152.07**	**296**	PKPbc	**PKiKP**	**14 08 51.5**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=123,slow=2.7,SNR=12						
BRTR				PKPab	**PKPab**	**14 09 01.8**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=46,slow=6.2,SNR=2.8						
BUR08	**Bucovina Ar. S**	**155.43**	**317**		**PKPab**	**14 09 16.8**	**-0.2**
GERES	**GERESS Array B**	**160.29**	**333**	PKPab	**PKPab**	**14 09 37.0**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=31,slow=6.2,SNR=7.0						
TORD	**Torodi Ar. Bea**	**161.36**	**184**	PKPab	**PKPab**	**14 09 44.5**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=187,slow=3.1,SNR=1.7						

NEIC ***11*** *14:07:00.9±1.4,4.3S±0.1×153.4E±0.1, h47km±8km, mb4.4/13, Error ellipse: s-maj=18.5km s-min=17.0km az=181.0*
IDC ***11*** *14:07:04.9±8.0,4.38S×153.18E, h79km±62km, mb3.5/7, mbtmp3.8/8, ML2.2/1, Error ellipse: s-maj=55.1km s-min=28.2km az=76.0*

ISC 11 14:07:01.0±1.0,**4.27S**±0.09×**153.3E**±0.1,**h50**km,**n29, σ0s82/27,mb4.1**/12,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.11**	**274**	Pn	**Pn**	**14 07 20.3**	**0.0**
MANU	**Manus Island**	**6.30**	**290**	Pn	**Pn**	**14 08 32.6**	**+1.2**
PMG	**Port Moresby**	**7.93**	**230**	Pn	**Pn**	**14 08 54.4**	**+0.6**
PMG	**Port Moresby**	**7.93**	**230**	P	**Pn**	**14 08 56.1**	**+2.3**
	1.8nm,0.3s,baz=53,slow=10,SNR=8.5						
PMG				S	**Sn**	**14 10 22.0**	**-0.2**
	12nm,0.5s,baz=61,slow=21,SNR=7.3						
	9.3nm,0.6s						
WB0	**Warramunga Arr**	**24.00**	**229**	P	**P**	**14 12 10.6**	**-0.7**
WB0				IAmb	IAmb	14 12 26.9	
	comp=Z,20nm,1.5s						
WR0	**Warramunga Arr**	**24.01**	**228**	P	**P**	**14 12 10.8**	**-0.6**
WR0				IAmb	IAmb	14 12 37.0	
	comp=Z,10nm,1.3s						
WRAB	**Tennant Creek**	**24.14**	**228**	P	**P**	**14 12 12.3**	**-0.2**
WRAB				IAmb	IAmb	14 12 15.6	
	comp=Z,9.0nm,0.6s						
WB2	**Warramunga Arr**	**24.14**	**228**	P	**P**	**14 12 12.7**	**+0.2**
WB2				IAmb	IAmb	14 12 32.7	
	comp=Z,9.7nm,1.3s						
WRA	**Warramunga Arr**	**24.15**	**228**	P	**P**	**14 12 12.4**	**-0.2**
WRA	**Warramunga Arr**	**24.15**	**228**	P	**P**	**14 12 13.2**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=57,slow=9.7,SNR=23						
	comp=Z,1.1nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**26.20**	**30**	T	T	14 40 03.8	
	baz=210,slow=76						
H11S2	**WAKE ISLAND Hy**	**26.20**	**30**	T	T	14 40 06.2	
	baz=210,slow=76						
H11S1	**WAKE ISLAND Hy**	**26.22**	**30**	T	T	14 40 07.7	
	baz=210,slow=76						
KNRA	**Kununurra**	**26.63**	**243**	P	**P**	**14 12 35.6**	**+0.4**
KNRA				IAmb	IAmb	14 13 13.6	
	comp=Z,14nm,1.1s						
AS31	**Alice Springs**	**26.86**	**222**	P	**P**	**14 12 36.9**	**-0.4**
ASAR	**Alice Springs**	**26.86**	**222**	P	**P**	**14 12 37.5**	**+0.3**
ASAR	**Alice Springs**	**26.86**	**222**	P	**P**	**14 12 37.1**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=57,slow=9.2,SNR=12						
	comp=Z,0.2nm,0.4s						
STKA	**Stephens Creek**	**29.57**	**200**	P	**P**	**14 13 00.9**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=32,slow=14,SNR=3.2						
	comp=Z,1.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**30.33**	**241**	P	**P**	**14 13 06.7**	**-1.4**
MBWA	**Marble Bar**	**36.65**	**240**	P	**P**	**14 14 01.8**	**-1.3**
TPUB	**Ta-pu**	**42.02**	**312**	P	**P**	**14 14 48.1**	**+0.3**
KULM	**Kulim**	**53.42**	**280**	P	**P**	**14 16 15.6**	**-0.8**
VNDA	**Vanda**	**73.34**	**178**	P	**P**	**14 18 27.0**	**0.0**
VNDA				IAmb	IAmb	14 18 54.4	
	comp=Z,5.4nm,1.4s						
VNDA	**Vanda**	**73.34**	**178**	P	**P**	**14 18 27.4**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=337,slow=7.0,SNR=9.0						
	comp=Z,0.8nm,0.6s						
MKAR	**Makanchi Array**	**80.24**	**319**	P	**P**	**14 19 08.0**	**+1.5**
	comp=Z,0.1nm,0.5s,baz=111,slow=6.2,SNR=2.3						
	comp=Z,0.1nm,0.5s						
QSPA	**South Pole Qui**	**85.69**	**180**	P	**P**	**14 19 34.2**	**-0.2**
QSPA				IAmb	IAmb	14 19 39.7	
	comp=Z,7.2nm,1.5s						
QSPA	**South Pole Qui**	**85.69**	**180**	P	**P**	**14 19 34.1**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=326,slow=17,SNR=32						
	comp=Z,0.9nm,0.4s						
BVAR	**Borovoye Array**	**89.11**	**323**	P	**P**	**14 19 50.3**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=103,slow=6.4,SNR=3.5						
	comp=Z,0.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.59**	**289**	PKPbc	**PKPbc**	**14 26 48.4**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=86,slow=2.7,SNR=8.4						

ISN ***11*** *14:07:50.2±1.1,34.68N×45.41E, h15km±7km, ML3.3*
TEH ***11*** *14:07:51.2,34.62N×45.44E, h8km±44km, ML3.3*

ISC 11 14:07:51.1±1.4,**34.61N**±0.03×**45.43E**±0.05,**h4**km±12km,

n16,σ1s14/21,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.17**	**129**	Pg	**Pg**	**14 07 55.8**	**+1.4**
IDHR	**Dehrash**	**0.79**	**83**	Pg	**Pg**	**14 08 06.2**	**-0.1**
IDHR				Sg	**Sb**	**14 08 17.9**	**-0.9**
IGHG	**Ghaleghazi**	**0.98**	**106**	Pg	**Pg**	**14 08 10.1**	**+0.2**
IGHG				Sg	**Sn**	**14 08 25.3**	**-1.1**
ILBA	**Ilam Banvizeh**	**1.18**	**147**	Pg	**Pg**	**14 08 13.3**	**-0.4**
ILIN	**Lien**	**1.30**	**76**	Pg	**Pg**	**14 08 15.9**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.37**	**104**	Pg	**Pg**	**14 08 17.7**	**+0.3**
SDS1	**Sardasht. Az.**	**1.53**	**2**	Pg	**Pg**	**14 08 20.4**	**-0.2**
IBDR	**Badra**	**1.56**	**164**	*e*Pg	**Pb**	**14 08 20.0**	**-0.5**
IBDR				*e*Sg	**Sg**	**14 08 41.0**	**-0.1**
IBDR				AML	AML	14 08 55.0	
	comp=N,194nm,0.5s						
IBDR				AML	AML	14 08 59.4	
	comp=E,218nm,0.7s						
BHD	**Baghdad**	**1.60**	**213**	*e*Pg	**Pn**	**14 08 20.0**	**-0.2**
BHD				*e*Sg	**Sb**	**14 08 42.0**	**+0.2**
BHD				AML	AML	14 08 45.9	
	comp=E,794nm,0.5s						
IBZA	**Bozab**	**2.01**	**93**	Pn	**Pb**	**14 08 27.3**	**-1.1**
MAHB	**Mahabad**	**2.16**	**6**	Pn	**Pb**	**14 08 30.0**	**-0.9**
IKFM	**Kafar-mosalman**	**2.28**	**118**	Pn	**Pb**	**14 08 30.8**	**-2.0**
RAFI	**Al-Rafai**	**2.94**	**169**	*e*Pn	**Pn**	**14 08 39.0**	**+0.4**
RAFI				*e*Sn	**Sn**	**14 09 16.0**	**+1.6**
RAFI				AML	AML	14 09 21.7	
	comp=N,223nm,0.3s						
RAFI				AML	AML	14 09 35.8	
	comp=E,240nm,0.5s						
ISRB	**Sarab**	**3.68**	**29**	Pn	**Pn**	**14 08 50.9**	**+1.8**
IRAZ	**Razeghan**	**3.77**	**77**	Pn	**Pn**	**14 08 52.2**	**+1.8**
QAMS	**Qamsar**	**5.02**	**98**	Pn	**Pn**	**14 09 09.0**	**+1.4**

IDC 11 14:14:57.9±55.0,**17.33S×175.29W,h0**km,**mb3.5**/3, **mbtmp3.5**/3,**Error ellipse: s-maj=1041.0km s-min=188.2km az=80.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.51**	**241**	P	P	14 22 47.3	+0.2
	1.1nm,0.8s,baz=61,slow=10,SNR=1.6						
	1.1nm,0.8s						
WRA	**Warramunga Arr**	**47.66**	**259**	P	P	14 23 35.8	-0.6
	0.3nm,0.8s,baz=97,slow=6.7,SNR=5.9						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**47.81**	**254**	P	P	14 23 37.6	0.0
	0.3nm,0.5s,baz=88,slow=9.2,SNR=12						
	0.3nm,0.5s						

IDC ***11*** *14:21:52.9±3.2,32.44S×178.00W, h0km, mb3.5/2, mbtmp3.6/3, ML3.1/1, Error ellipse: s-maj=74.8km s-min=37.3km az=116.0*

ISC 11 14:21:50.6±3.5,**32.6S**±0.3×**177.4W**±0.5,**h10**km,**n5, σ1s07/5,1C,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.25**	**217**	Pn	**Pn**	**14 23 35.8**	**-0.8**
	0.3nm,0.3s,baz=53,slow=20,SNR=1.0						
URZ				Sn	**Sn**	**14 24 60.0**	**+0.9**
	1.0nm,0.3s,baz=158,slow=21,SNR=6.4						
	6.3nm,1.0s						
ASAR	**Alice Springs**	**43.55**	**269**	P	**P**	**14 29 55.0**	**+0.1**
	0.6nm,1.0s,baz=108,slow=8.0,SNR=2.9						
	0.6nm,1.0s						
WRA	**Warramunga Arr**	**44.73**	**274**	P	**P

KIV				*e*Sn	**Sn**	14 36 03.8	-1.5
AKT	**Akhty**	**2.45**	**147**	*e*Pn	**Pn**	14 35 35.4	+0.2
AKT				*e*Sn	**Sn**	14 36 05.0	-1.0
ALER	**Alexandrovskoy**	**2.51**	**300**	*e*Pn	**Pn**	14 35 36.9	+1.0
ALER				*e*Sn	**Sn**	14 36 06.2	-1.2

DJA 11 14:49:06.4±0.3, 9°S±4°×11°3E±°, h98km±5km, M3.8/17, mb4.1/3, MLv3.7/17, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PWJI	**Pagerwojo**	**0.99**	**315**	P	Pn	14 49 26.8	+0.2
PWJI				S	Sn	14 49 42.6	+0.8
GMJI	**Gumukmas**	**1.03**	**64**	P	Pn	14 49 27.6	+0.6
GMJI				S	Sn	14 49 43.9	+1.4
BLJI	**Banyuglugur**	**1.45**	**48**	P	Pn	14 49 32.2	+0.2
BLJI				S	Sn	14 49 51.9	+0.6
JAGI	**Jajag, Banyuwa**	**1.64**	**81**	P	Pn	14 49 34.4	0.0
JAGI				S	Sn	14 49 55.3	-0.3
NGJI	**Ngawi**	**1.71**	**322**	P	Pn	14 49 35.4	+0.2
GRJI	**Gresik**	**1.80**	**359**	P	Pn	14 49 36.1	-0.3
GRJI				S	Sn	14 49 59.4	+0.2
ABJI	**Asem Bagus**	**1.94**	**62**	P	Pn	14 49 39.3	+1.1
ABJI				S	Sn	14 50 02.8	+0.4
UGM	**Wanagama**	**2.13**	**292**	P	Pn	14 49 41.9	+1.3
UGM				S	Sn	14 50 06.7	-0.1
YOGI	**Yogyakarta**	**2.37**	**292**	P	Pn	14 49 43.7	-0.1
SMRI	**Semarang**	**2.64**	**309**	P	Pn	14 49 47.5	+0.1
SRBI	**Singaraja**	**2.75**	**77**	P	Pn	14 49 48.2	-0.6
BWJI	**Bawean**	**2.86**	**3**	P	Pn	14 49 50.0	-0.3
KPJI	**Karang Pucung**	**3.81**	**291**	P	Pn	14 50 02.5	-0.5
CMJI	**Cimerak**	**4.13**	**283**	P	Pn	14 50 08.8	+1.5
TWSI	**Taliwang, Sumb**	**4.32**	**90**	P	Pn	14 50 09.8	-0.1
PLAI	**Plampang**	**5.21**	**91**	P	Pn	14 50 21.7	-0.2
	4.9nm,0.8s,0.1nm						

*IDC **11** 14:51:22.8±12.0, 1°.06S×101°.14E, h148km±110km, mb3.2/9, mbtmp3.6/10, ML4.1/1, Error ellipse: s-maj=89.9km s-min=15.0km az=56.0*

*DJA **11** 14:51:29.5±0.3, 1°S±2°×10°1E±°, h187km±4km, M4.0/16, mb3.9/3, MLv4.0/16*

ISC 11 14:51:28.5±0.7, 0.89S±0.06×101°.42E±0.07, h200km, n22, σ0$80/28, mb3.2/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**0.96**	**269**	P	**Pn**	**14 51 58.7**	**+0.6**
PDSI				S	**Sn**	**14 52 19.8**	**-1.0**
KRJI	**Kerinci**	**1.19**	**178**	P	**Pn**	**14 52 00.2**	**+0.3**
KRJI				S	**Sn**	**14 52 22.4**	**-1.8**
BKNI	**Bangkinang**	**1.27**	**343**	P	**Pn**	**14 51 59.6**	**-0.7**
PPSI	**Pulau Pagai**	**2.33**	**217**	P	**Pn**	**14 52 10.5**	**-0.1**
PPSI				S	**Sn**	**14 52 42.8**	**-0.6**
SISI	**Saibi**	**2.37**	**259**	P	**Pn**	**14 52 12.0**	**+1.0**
SISI				S	**Sn**	**14 52 42.5**	**-1.5**
PBSI	**Pulau Batu**	**3.25**	**285**	P	**Pn**	**14 52 21.1**	**0.0**
PBSI				S	**Sn**	**14 53 01.3**	**-1.0**
MNAI	**Manna**	**3.77**	**156**	P	**Pn**	**14 52 28.1**	**+0.5**
MNAI				S	**Sn**	**14 53 13.5**	**-0.4**
GSI	**Gunungsitoli**	**4.42**	**300**	P	**Pn**	**14 52 36.4**	**+0.8**
LWLI	**Liwa**	**4.87**	**147**	P	**Pn**	**14 52 41.0**	**-0.5**
PPBI	**Pangkal Pinang**	**4.88**	**105**	P	**Pn**	**14 52 41.8**	**+0.3**
KCSI	**Kotacane, Aceh**	**5.70**	**320**	P	**Pn**	**14 52 52.1**	**+0.1**
	11nm,0.7s,0.1nm						
SNSI	**Sinabang, Aceh**	**6.06**	**303**	P	**Pn**	**14 52 57.9**	**+1.3**
	75nm,1.2s,0.4nm						
CMAR	**Chiang Mai Arr**	**19.38**	**353**	P	**P**	**14 55 39.0**	**-0.4**
	0.2nm,0.3s,baz=183,slow=9.4,SNR=4.4 0.4nm,0.3s						
WRA	**Warramunga Arr**	**37.36**	**123**	P	**P**	**14 58 22.4**	**+0.2**
	0.2nm,0.4s,baz=303,slow=8.5,SNR=8.5 0.2nm,0.4s						
ASAR	**Alice Springs**	**38.78**	**128**	P	**P**	**14 58 34.4**	**+0.2**
	0.4nm,0.6s,baz=300,slow=7.7,SNR=13 0.4nm,0.6s						
SONM	**Songino Array**	**48.72**	**4**	P	**P**	**14 59 54.1**	**+1.1**
	0.2nm,0.5s,baz=192,slow=11,SNR=2.1 0.2nm,0.5s						
MKAR	**Makanchi Array**	**50.37**	**343**	P	**P**	**15 00 05.2**	**-0.1**
	0.3nm,0.4s,baz=149,slow=9.1,SNR=12 0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**54.91**	**342**	P	**P**	**15 00 38.1**	**-0.3**
	0.3nm,0.6s,baz=156,slow=7.9,SNR=3.3 0.3nm,0.6s						
BVAR	**Borovoye Array**	**59.65**	**339**	P	**P**	**15 01 11.2**	**-0.4**
	0.7nm,0.5s,baz=150,slow=8.7,SNR=6.5 0.7nm,0.5s						
BRTR	**Keskin Array B**	**73.63**	**312**	P	**P**	**15 02 40.2**	**-0.3**
	0.4nm,0.6s,baz=99,slow=7.7,SNR=2.9 0.4nm,0.6s						
FINES	**FINESS Array B**	**83.80**	**332**	P	**P**	**15 03 35.4**	**+0.3**
	1.3nm,1.0s,baz=99,slow=8.6,SNR=1.4 1.3nm,1.0s						
ARCES	**ARCESS Array B**	**85.92**	**340**	P	**P**	**15 03 46.4**	**+0.7**
	2.1nm,0.8s,baz=86,slow=2.8,SNR=3.7 2.1nm,0.8s						

*IDC **11** 15:09:04.2±2.2, 4°.33S×152°.41E, h147km±18km, mb4.1/22, mbtmp4.5/23, Error ellipse: s-maj=19.2km s-min=10.8km az=102.0*

*NEIC **11** 15:09:05.1±1.1, 4°.29S±0°.09×152°.36E±0°.09, h149km±4km, mb4.6/134, Error ellipse: s-maj=15.5km s-min=10.4km az=50.0*

ISC 11 15:09:05.0±0.6, 4°.34S±0°.05×152°.33E±0°.07, h152km±4km, n429, σ0$74/446, mb4.6/98, 1C-2D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.23**	**311**		**Pn**	**15 09 25.3**	**-0.4**
RABL				Sn	**Sn**	**15 09 40.4**	**-0.9**
MANU	**Manus Island**	**5.46**	**295**		**Pn**	**15 10 24.9**	**+0.3**
PMG	**Port Moresby**	**7.19**	**225**	Pn	**Pn**	**15 10 48.3**	**+0.7**
PMG	**Port Moresby**	**7.19**	**225**	P	**Pn**	**15 10 48.8**	**+1.2**
	9.9nm,0.4s,baz=42,slow=5.7,SNR=16						
PMG				S	**Sn**	**15 12 06.7**	**-1.5**
	18nm,0.4s,baz=120,slow=20,SNR=3.3						
COEN	**Coen**	**13.15**	**223**	P	**P**	**15 12 12.0**	**+1.4**
CTAO	**Charters Tower**	**16.73**	**200**	P	**Pn**	**15 12 51.8**	**+1.2**
CTAO				IAmb	IAmb	15 12 59.4	
	comp=Z,26nm,1.3s						
KOUNC	**Koumac, New Ca**	**19.87**	**145**	P	**P**	**15 13 24.1**	**-0.4**
EIDS	**Eidsvold**	**20.94**	**183**	P	**P**	**15 13 36.7**	**+0.8**
DZM	**Mont Dzumac**	**22.31**	**143**	P	**P**	**15 13 50.8**	**+0.5**
DZM				IAmb	IAmb	15 13 52.9	
	comp=Z,57nm,1.5s						
MTN	**Manton Dam**	**22.58**	**247**	P	**P**	**15 13 52.5**	**-0.4**
MTN				IAmb	IAmb	15 13 53.9	
	comp=Z,17nm,0.7s						
OUENC	**Ouen Island, N**	**22.81**	**143**	P	**P**	**15 13 55.6**	**+0.7**
OUENC				IAmb	IAmb	15 13 56.7	
	comp=Z,35nm,1.0s						
WB0	**Warramunga Arr**	**23.26**	**227**	P	**P**	**15 13 59.4**	**+0.3**
WB0				IAmb	IAmb	15 14 00.4	
	comp=Z,38nm,1.2s						
WR0	**Warramunga Arr**	**23.27**	**227**	P	**P**	**15 13 59.4**	**+0.2**
WR0				IAmb	IAmb	15 14 00.6	
	comp=Z,30nm,1.2s						
WRAB	**Tennant Creek**	**23.39**	**227**	P	**P**	**15 14 00.8**	**+0.5**
WRAB				IAmb	IAmb	15 14 01.5	
	comp=Z,22nm,1.1s						
WB2	**Warramunga Arr**	**23.40**	**227**	P	**P**	**15 14 00.6**	**+0.2**
WB2				IAmb	IAmb	15 14 01.7	
	comp=Z,34nm,1.2s						
WRA	**Warramunga Arr**	**23.41**	**227**	P	**P**	**15 14 00.7**	**+0.3**
	comp=Z,16nm,0.9s,baz=49,slow=9.7,SNR=144						
WRA				PcP	**PcP**	**15 17 42.7**	**0.0**
	comp=Z,1.5nm,0.7s,baz=50,slow=1.9,SNR=6.3						
WRA				S	**S**	**15 17 58.8**	**-3.5**
	comp=Z,7.4nm,0.9s,baz=44,slow=15,SNR=21						
WRA				ScP	**ScP**	**15 21 07.0**	**+0.2**
	comp=Z,0.8nm,1.0s,baz=51,slow=2.1,SNR=3.1 comp=Z,16nm,0.9s						
KNRA	**Kununurra**	**25.76**	**242**	P	**P**	**15 14 21.7**	**-0.1**
KNRA				IAmb	IAmb	15 14 24.9	
	comp=Z,17nm,0.8s						
AS31	**Alice Springs**	**26.18**	**221**	P	**P**	**15 14 25.6**	**0.0**
ASAR	**Alice Springs**	**26.18**	**221**	P	**P**	**15 14 25.6**	**0.0**
ASAR	**Alice Springs**	**26.18**	**221**	P	**P**	**15 14 25.8**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=46,slow=8.0,SNR=20						
ASAR				pP	**pP**	**15 14 57.9**	**+0.4**
	comp=Z,8.1nm,0.9s,baz=50,slow=8.8,SNR=15						
ASAR				PcP	**PcP**	**15 17 48.8**	**0.0**
	comp=Z,1.1nm,0.7s,baz=77,slow=2.4,SNR=5.6						
ASAR				S	**S**	**15 18 43.5**	**-2.9**
	comp=Z,0.6nm,0.7s,baz=43,slow=13,SNR=2.7						
ASAR				ScP	**ScP**	**15 21 14.7**	**+0.2**
	comp=Z,0.7nm,1.1s,baz=44,slow=1.8,SNR=2.1 comp=Z,0.7nm,0.3s						
LHI	**Lord Howe Isla**	**27.77**	**168**	P	**P**	**15 14 39.5**	**-0.1**
BATI	**Baumata**	**29.02**	**257**	P	**P**	**15 14 51.6**	**+0.7**
	comp=Z,4.7nm,0.5s,baz=208,slow=10,SNR=2.3 comp=Z,4.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**29.47**	**240**	P	**P**	**15 14 54.3**	**-0.6**
MBWA	**Marble Bar**	**35.80**	**239**	P	**P**	**15 15 49.2**	**-0.8**
PSA00	**Pilbara Seismi**	**35.87**	**239**	P	**P**	**15 15 49.7**	**-0.8**
PSA00				IAmb	IAmb	15 15 51.1	
	comp=Z,8.4nm,0.9s						
PSA00	**Pilbara Seismi**	**35.87**	**239**	P	**P**	**15 15 50.2**	**-0.3**
PSA00				IAmb	IAmb	15 15 50.6	
	comp=Z,31nm,1.1s						
RTZ	**Ruatahuna**	**40.82**	**150**	P	**P**	**15 16 32.1**	**+0.3**
RTZ				IAmb	IAmb	15 16 59.0	
	comp=Z,26nm,1.2s						
GIRL	**Giralia**	**41.09**	**240**	P	**P**	**15 16 34.7**	**+0.6**
MRZ	**Mangatainoka R**	**41.77**	**153**	P	**P**	**15 16 39.8**	**+0.4**
MRZ				IAmb	IAmb	15 17 10.0	
	comp=Z,19nm,1.2s						
JGF	**Kuroka**	**42.15**	**342**	P	**P**	**15 16 42.1**	**-0.4**
MORW	**Morawa**	**42.27**	**230**	P	**P**	**15 16 43.1**	**-0.5**
JNU	**Nakatsue**	**42.45**	**333**	P	**P**	**15 16 44.7**	**-0.3**
JNU	**Nakatsue**	**42.45**	**333**	P	**P**	**15 16 45.1**	**+0.1**
	comp=Z,24nm,0.8s,baz=127,slow=2.1,SNR=24 comp=Z,24nm,0.8s						
MJAR	**Matsushiro Arr**	**42.76**	**343**	P	**P**	**15 16 46.2**	**-1.2**
	comp=Z,2.1nm,1.0s,baz=296,slow=37,SNR=2.1						
MJAR				PcP	**PcP**	**15 18 35.3**	**-0.9**
	comp=Z,1.7nm,0.6s,baz=156,slow=5.0,SNR=9.3 comp=Z,2.1nm,1.0s						
JTM	**Tenmabayashi**	**46.08**	**348**	P	**P**	**15 17 12.8**	**-0.8**
KSRS	**Korea Array**	**47.38**	**333**	P	**P**	**15 17 23.9**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=149,slow=8.1,SNR=14						
KSRS				PcP	**PcP**	**15 18 50.8**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=135,slow=4.5,SNR=4.5 comp=Z,2.5nm,0.7s						
NJ2	**Nanjing**	**48.20**	**321**	*e*P	**P**	**15 17 32.4**	**+2.2**
NJ2				pP	**pP**	**15 18 04.0**	**0.0**
NJ2				sP	**sP**	**15 18 20.2**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,430nm,11.8s						
JKA	**Kamikawa-asahi**	**49.03**	**351**	P	**P**	**15 17 36.4**	**0.0**
JKA				IAmb	IAmb	15 17 44.6	
	comp=Z,9.4nm,1.0s						
ASAJ	**Asahikawa**	**49.03**	**351**	P	**P**	**15 17 36.4**	**0.0**
	comp=Z,5.0nm,0.8s,baz=207,slow=18,SNR=5.4 comp=Z,5.0nm,0.8s						
HNS	**HongShan**	**54.30**	**323**	⇑P	**P**	**15 18 16.0**	**+0.4**
HNS				pmax	pmax		
	comp=Z,11nm,1.0s						
XAN	**Xi'an**	**55.97**	**316**	P	**P**	**15 18 28.0**	**+0.2**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KLR	**Kul'dur**	**56.28**	**344**	P	**P**	**15 18 29.7**	**+0.2**
	comp=Z,2.7nm,0.6s,baz=160,slow=4.5,SNR=14 comp=Z,2.7nm,0.6s						
CRAI	**Chiangrai**	**56.55**	**298**	P	**P**	**15 18 32.7**	**+0.6**
CRAI				IAmb	IAmb	15 18 34.2	
	comp=Z,4.6nm,0.7s						
CM31	**Chiang Mai Arr**	**57.26**	**295**	P	**P**	**15 18 38.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**57.26**	**295**	P	**P**	**15 18 37.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**57.26**	**295**	P	**P**	**15 18 38.5**	**+1.4**
	comp=Z,5.9nm,0.7s,baz=119,slow=5.6,SNR=52 comp=Z,5.9nm,0.7s						
PEA0B	**Petropavlovsk-**	**57.41**	**4**	P	**P**	**15 18 37.5**	**0.0**
PETK	**Petropavlovsk-**	**57.41**	**4**	P	**P**	**15 18 37.5**	**0.0**
PETK	**Petropavlovsk-**	**57.41**	**4**	P	**P**	**15 18 37.4**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=148,slow=6.3,SNR=6.0 comp=Z,1.7nm,0.7s						
PZH	**PanZhiHua**	**57.73**	**305**	P	**P**	**15 18 42.7**	**+2.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,4.3s						
CD2	**Chengdu**	**58.09**	**311**	P	**P**	**15 18 43.3**	**+0.6**
HHC	**Hu-ho-hao-te**	**58.41**	**324**	*e*P	**P**	**15 18 49.0**	**+4.2**
HHC				pmax	pmax		
	comp=Z,23nm,0.9s						
HHC				pmax	pmax		
	comp=Z,83nm,4.7s						
HEH	**HeiHe**	**58.48**	**342**	*e*P	**P**	**15 18 44.0**	**-0.9**
HEH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
LZH	**Lanzhou**	**60.58**	**316**	*e*P	**P**	**15 19 00.0**	**+0.1**
LZH				pP	pP	15 19 32.4	-2.7
LZH				pmax	pmax		
	comp=Z,15nm,1.1s						
MA2	**Magadan**	**63.73**	**359**	P	**P**	**15 19 20.0**	**-0.2**
MA2				IAmb	IAmb	15 19 58.5	
	comp=Z,6.5nm,1.2s						
GTA	**Gaotai**	**65.01**	**317**	P	**P**	**15 19 30.2**	**+1.1**
GTA				pP	PcP	15 20 01.5	+0.7
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SONM	**Songino Array**	**65.69**	**328**	P	**P**	**15 19 33.8**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=136,slow=6.0,SNR=5.0						
SONM				PcP	**PcP**	**15 20 02.1**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=144,slow=4.3,SNR=2.3 comp=Z,0.8nm,0.6s						
GOMU	**GeErMu**	**67.11**	**312**	P	**P**	**15 19 41.5**	**-1.4**
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SPIA	**Saint Paul Isl**	**68.39**	**21**	P	**P**	**15 19 51.6**	**+1.6**
	baz=221						
BILL	**Bilibino**	**72.88**	**5**	P	**P**	**15 20 17.5**	**+0.6**
GAMB	**Gambell**	**73.07**	**16**	P	**P**	**15 20 19.1**	**+1.0**
	baz=218						
O14K	**Tigyukauivet M**	**73.22**	**23**	P	**P**	**15 20 19.4**	**+0.3**
O14K				IAmb	IAmb	15 20 49.5	
	comp=Z,22nm,1.3s						
O15K	**Ungalikthiuk R**	**73.73**	**23**	P	**P**	**15 20 23.1**	**+1.0**
	baz=230						
M14K	**Bethel**	**73.95**	**21**	P	**P**	**15 20 23.9**	**+0.6**
M14K				IAmb	IAmb	15 20 24.8	
	comp=Z,13nm,1.1s						
M14K	**Bethel**	**73.95**	**21**	P	**P**	**15 20 24.3**	**+1.0**
	baz=228						
L14K	**Kuka Creek**	**74.09**	**21**	P	**P**	**15 20 25.0**	**+1.0**
	baz=227						
N15K	**Kwethluk River**	**74.26**	**23**	P	**P**	**15 20 25.5**	**+0.3**
	baz=230						
O16K	**Kokwok River B**	**74.68**	**24**	P	**P**	**15 20 28.5**	**+0.9**
	baz=232						
L15K	**Ungalak Mounta**	**74.74**	**21**	P	**P**	**15 20 28.4**	**+0.5**
	baz=228						
Q17K	**Contact Creek**	**74.80**	**25**	P	**P**	**15 20 28.1**	**-0.3**
	baz=234						
N16K	**Nishlik Lake**	**74.97**	**23**	P	**P**	**15 20 29.1**	**-0.2**
	baz=231						
WMQ	**Urumqi**	**75.09**	**317**	*e*P	**P**	**15 20 29.6**	**-0.8**
WMQ				PcP	**PcP**	**15 20 44.1**	**+0.8**
WMQ				sP	sP	15 21 20.9	-2.2
WMQ				pmax	pmax		
	comp=Z,20nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,96nm,4.9s						
P17K	**Kvichak River**	**75.11**	**25**	P	**P**	**15 20 30.1**	**+0.1**
	baz=234						
O17K	**Koliganek Bris**	**75.19**	**24**	P	**P**	**15 20 30.2**	**-0.3**
	baz=233						
M16K	**Timber Creek**	**75.24**	**22**	P	**P**	**15 20 31.4**	**+0.6**
	baz=231						
OHAK	**Old Harbor**	**75.36**	**27**	P	**P**	**15 20 31.4**	**-0.1**
OHAK	**Old Harbor**	**75.36**	**27**	P	**P**	**15 20 31.6**	**+0.1**
	baz=237						
ANM	**Nome**	**75.48**	**17**	P	**P**	**15 20 33.0**	**+1.0**
	baz=224						
L16K	**Owhat River**	**75.49**	**22**	P	**P**	**15 20 32.8**	**+0.7**
L16K				IAmb	IAmb	15 20 32.9	
	comp=Z,11nm,1.2s						
L16K	**Owhat River**	**75.49**	**22**	P	**P**	**15 20 33.2**	**+1.0**
	baz=230						
N17K	**Nushagak Hills**	**75.61**	**23**	P	**P**	**15 20 34.0**	**+1.1**
	baz=232						
P18K	**Big Mountain,**	**75.73**	**25**	P	**P**	**15 20 34.1**	**+0.5**
	baz=235						
F14K	**Arctic Creek**	**75.87**	**17**	P	**P**	**15 20 34.9**	**+0.7**
	baz=223						
KDAK	**Kodiak Island**	**75.98**	**27**	P	**P**	**15 20 35.8**	**+0.7**
	baz=237						
M17K	**Holitna River**	**76.05**	**22**	P	**P**	**15 20 36.5**	**+1.1**
	baz=232						
J16K	**Anvik River**	**76.12**	**20**	P	**P**	**15 20 36.5**	**+0.8**
	baz=229						
Q19K	**Cape Douglas,**	**76.14**	**26**	P	**P**	**15 20 35.6**	**-0.4**
Q19K	**Cape Douglas,**	**76.14**	**26**	P	**P**	**15 20 36.9**	**+1.0**
	baz=236						
G15K	**Niukluk**	**76.19**	**18**	P	**P**	**15 20 37.6**	**+1.6**
	baz=225						
L17K	**Donlin**	**76.19**	**22**	P	**P**	**15 20 37.5**	**+1.3**
	baz=231						
N18K	**Kilae Creek**	**76.22**	**23**	P	**P**	**15 20 37.4**	**+1.0**
	baz=234						
I17K	**Unalakleet**	**76.49**	**19**	P	**P**	**15 20 38.7**	**+0.9**
	baz=228						
H16K	**Elim**	**76.49**	**18**	P	**P**	**15 20 38.2**	**+0.4**
	baz=227						
Q20K	**Shuyak Island**	**76.51**	**26**	P	**P**	**15 20 39.3**	**+1.3**
	baz=237						
K17K	**Iditarod**	**76.55**	**21**	P	**P**	**15 20 38.8**	**+0.6**
K17K	**Iditarod**	**76.55**	**21**	P	**P**	**15 20 38.3**	**+0.1**
	baz=231						
P19K	**Oil Pt**	**76.72**	**25**	P	**P**	**15 20 39.0**	**-0.3**
P19K	**Oil Pt**	**76.72**	**25**	P	**P**	**15 20 38.9**	**-0.3**
	baz=236						
M18K	**Stony River**	**76.73**	**23**	P	**P**	**15 20 40.2**	**+1.1**
	baz=234						
L18K	**Granite Mounta**	**76.84**	**22**	P	**P**	**15 20 40.3**	**+0.6**
	baz=233						
N19K	**Bonanza Creek**	**76.86**	**24**	P	**P**	**15 20 40.6**	**+0.6**
	baz=235						
G16K	**Koyuk River**	**76.98**	**18**	P	**P**	**15 20 41.7**	**+1.2**
	baz=227						
H17K	**Granite Mounta**	**77.44**	**19**	P	**P**	**15 20 43.0**	**-0.1**
	baz=229						
CNPM	**China Poot**	**77.51**	**26**	P	**P**	**15 20 43.9**	**+0.3**
L19K	**White Mountain**	**77.51**	**23**	P	**P**	**15 20 43.8**	**+0.2**
	baz=234						
TTA	**Tatalina**	**77.52**	**22**	P	**P**	**15 20 44.0**	**+0.4**
TTA	**Tatalina**	**77.52**	**22**	P	**P**	**15 20 44.9**	**+1.2**
	baz=233						
M19K	**Big River Lodg**	**77.52**	**23**	P	**P**	**15 20 44.0**	**+0.3**
	baz=235						
G17K	**Kiwalik Mounta**	**77.58**	**18**	P	**P**	**15 20 44.5**	**+0.6**
	baz=228						
J18K	**Innoko River**	**77.59**	**21**	P	**P**	**15 20 44.1**	**+0.1**
J18K	**Innoko River**	**77.59**	**21**	P	**P**	**15 20 44.2**	**+0.3**
	baz=232						
BRLK	**Bradley Lake**	**77.78**	**26**	P	**P**	**15 20 44.9**	**-0.2**
BRSE	**Bradley Lake S**	**77.83**	**26**	P	**P**	**15 20 45.6**	**+0.1**
	baz=239						
M20K	**Styx River**	**78.00**	**23**	P	**P**	**15 20 46.8**	**+0.4**
	baz=236						
F17K	**Baldwin Pennin**	**78.03**	**17**	P	**P**	**15 20 47.0**	**+0.7**
F17K				IAmb	IAmb	15 20 48.0	
	comp=Z,9.2nm,1.0s						
F17K	**Baldwin Pennin**	**78.03**	**17**	P	**P**	**15 20 46.9**	**+0.7**
	baz=228						
L20K	**Farewell, AK**	**78.05**	**23**	P	**P**	**15 20 47.0**	**+0.5**
	baz=235						
H18K	**Honhosa River**	**78.08**	**19**	P	**P**	**15 20 46.7**	**0.0**
C16K	**Lisburne Hills**	**78.19**	**15**	P	**P**	**15 20 47.6**	**+0.4**
	baz=223						
CAPN	**Captain Cook N**	**78.20**	**25**	P	**P**	**15 20 48.2**	**+0.9**
CAPN	**Captain Cook N**	**78.20**	**25**	P	**P**	**15 20 46.9**	**-0.4**
	baz=238						
J19K	**Poorman**	**78.30**	**21**	P	**P**	**15 20 48.4**	**+0.6**
J19K				IAmb	IAmb	15 20 49.4	
	comp=Z,18nm,1.4s						
J19K	**Poorman**	**78.30**	**21**	P	**P**	**15 20 48.4**	**+0.6**
	baz=233						
GCSA	**Galena City Sc**	**78.32**	**20**	P	**P**	**15 20 48.2**	**+0.4**
	baz=232						
D17K	**Noatak River**	**78.37**	**16**	P	**P**	**15 20 48.7**	**+0.5**
	baz=226,SNR=5.1						
G18K	**Tagagawik**	**78.46**	**18**	P	**P**	**15 20 48.9**	**+0.2**
G18K	**Tagagawik**	**78.46**	**18**	P	**P**	**15 20 49.2**	**+0.4**
	baz=230						
K20K	**Telida**	**78.48**	**22**	P	**P**	**15 20 49.5**	**+0.6**
K20K				IAmb	IAmb	15 20 50.5	
	comp=Z,7.3nm,0.8s						
K20K	**Telida**	**78.48**	**22**	P	**P**	**15 20 49.1**	**+0.2**
	baz=235						
SEW	**Seward**	**78.58**	**26**	P	**P**	**15 20 49.9**	**+0.5**
	baz=240						
F18K	**Selawik**	**78.61**	**18**	P	**P**	**15 20 50.0**	**+0.5**
	baz=229						
O22K	**Cooper Landing**	**78.65**	**25**	P	**P**	**15 20 49.8**	**-0.1**
	baz=240						
SKT	**Skwentna**	**78.69**	**24**	P	**P**	**15 20 49.2**	**-0.9**
SKT				IAmb	IAmb	15 21 01.6	
	comp=Z,12nm,1.5s						
SKT	**Skwentna**	**78.69**	**24**	P	**P**	**15 20 49.8**	**-0.3**
	baz=238						
SUA	**Susitna One**	**78.73**	**24**	P	**P**	**15 20 49.6**	**-0.8**
SUA				IAmb	IAmb	15 20 50.6	
	comp=Z,10nm,0.8s						
SUA	**Susitna One**	**78.73**	**24**	P	**P**	**15 20 49.5**	**-1.0**
	baz=238,SNR=6.4						
E18K	**Tukpahlearik C**	**78.88**	**17**	P	**P**	**15 20 50.7**	**-0.2**
	baz=228						
C17K	**DeLong Mountai**	**78.89**	**15**	P	**P**	**15 20 51.2**	**+0.1**
	baz=225						
J20K	**Nowinta River**	**78.93**	**21**	P	**P**	**15 20 51.6**	**+0.3**
J20K				IAmb	IAmb	15 20 52.9	
	comp=Z,9.5nm,0.8s						
J20K	**Nowinta River**	**78.93**	**21**	P	**P**	**15 20 51.1**	**-0.2**
	baz=235						
H19K	**Roundabout Mou**	**78.94**	**19**	P	**P**	**15 20 51.3**	**0.0**
	baz=232				

TRF	**Thorofare Moun**	**79.96**	**23**	P	**P**	**15 20 56.0**	**-1.1**
TRF				IAmb	IAmb	15 20 56.3		
	comp=Z,23nm,1.5s							
TRF	**Thorofare Moun**	**79.96**	**23**	P	**P**	**15 20 54.7**	**-2.4**
	baz=238							
BPAW	**Bear Paw Mtn.**	**80.04**	**22**	P	**P**	**15 20 55.6**	**-1.7**
	baz=238							
F20K	**Avaraart Lake**	**80.10**	**18**	P	**P**	**15 20 56.5**	**-1.0**
	baz=233							
IMAR	**Indian Mountai**	**80.11**	**20**	P	**P**	**15 20 57.6**	**0.0**
M23K	**Glacier View**	**80.14**	**25**	P	**P**	**15 20 57.3**	**-0.7**
	baz=241							
H21K	**Melozitna Rive**	**80.24**	**20**	P	**P**	**15 20 58.9**	**+0.5**
	baz=236							
I21K	**Tanana**	**80.26**	**21**	P	**P**	**15 20 58.5**	**0.0**
I21K				IAmb	IAmb	15 21 00.5		
	comp=Z,9.1nm,0.9s							
I21K	**Tanana**	**80.26**	**21**	P	**P**	**15 20 58.3**	**-0.2**
	baz=237,SNR=6.6							
C19K	**Lookout Ridge**	**80.28**	**16**	P	**P**	**15 20 58.6**	**+0.1**
C19K				IAmb	IAmb	15 21 00.2		
	comp=Z,10nm,0.7s							
C19K	**Lookout Ridge**	**80.28**	**16**	P	**P**	**15 20 57.9**	**-0.6**
	baz=229							
D19K	**Kuna River**	**80.29**	**17**	P	**P**	**15 20 58.8**	**+0.1**
D19K	**Kuna River**	**80.29**	**17**	P	**P**	**15 20 57.9**	**-0.8**
	baz=230,SNR=7.2							
WAT1	**Susitna Watana**	**80.32**	**24**	P	**P**	**15 20 57.6**	**-1.3**
	baz=240							
SCM	**Sheep Creek Mo**	**80.33**	**25**	P	**P**	**15 20 58.9**	**-0.1**
SCM				IAmb	IAmb	15 21 37.1		
	comp=Z,20nm,1.3s							
SCM	**Sheep Creek Mo**	**80.33**	**25**	P	**P**	**15 20 58.4**	**-0.7**
	baz=242							
EYAK	**Cordova Ski Ar**	**80.41**	**26**	P	**P**	**15 20 58.2**	**-1.1**
	baz=243							
RND	**Reindeer**	**80.49**	**23**	P	**P**	**15 20 59.0**	**-0.8**
RND				IAmb	IAmb	15 20 59.7		
	comp=Z,12nm,0.8s							
G21K	**Allakaket**	**80.50**	**19**	P	**P**	**15 20 59.4**	**-0.3**
	baz=235							
ZAA0	**Zalesovo Array**	**80.52**	**326**	P	**P**	**15 20 59.0**	**-1.1**
ZALV	**Zalesovo Beam**	**80.52**	**326**	P	**P**	**15 20 59.0**	**-1.0**
ZALV	**Zalesovo Beam**	**80.52**	**326**	P	**P**	**15 20 59.2**	**-0.8**
	comp=Z,1.4nm,0.4s,baz=114,slow=6.8,SNR=9.0							
	comp=Z,1.4nm,0.4s							
WAT6	**Susitna Watana**	**80.52**	**24**	P	**P**	**15 20 59.5**	**-0.6**
	baz=241							
MCK	**McKinley**	**80.62**	**23**	P	**P**	**15 20 59.2**	**-1.2**
	baz=240,SNR=9.3							
MLY	**Manley**	**80.63**	**21**	P	**P**	**15 21 00.4**	**-0.1**
MLY				IAmb	IAmb	15 21 01.1		
	comp=Z,10nm,0.6s							
MLY	**Manley**	**80.63**	**21**	P	**P**	**15 20 59.7**	**-0.8**
	baz=238,SNR=13							
E20K	**Nigu River**	**80.70**	**17**	P	**P**	**15 21 00.6**	**-0.2**
	baz=232							
KLU	**Klutina**	**80.76**	**25**	P	**P**	**15 21 01.1**	**-0.2**
KLU				IAmb	IAmb	15 21 02.5		
	comp=Z,12nm,1.1s							
KLU	**Klutina**	**80.76**	**25**	P	**P**	**15 21 00.2**	**-1.1**
	baz=243							
D20K	**Etivluk River**	**80.86**	**17**	P	**P**	**15 21 01.3**	**-0.3**
	baz=232							
H22K	**Ishtalitna Cre**	**80.87**	**20**	P	**P**	**15 21 01.5**	**-0.3**
	baz=237							
DHY	**Denali Highway**	**80.91**	**24**	P	**P**	**15 21 01.6**	**-0.6**
DHY	**Denali Highway**	**80.91**	**24**	P	**P**	**15 21 01.8**	**-0.4**
	baz=241							
F21K	**Alatna River**	**80.91**	**19**	P	**P**	**15 21 02.2**	**+0.2**
	baz=235							
M24K	**Tolsona, Glenn**	**80.94**	**25**	P	**P**	**15 21 02.5**	**+0.2**
M24K	**Tolsona, Glenn**	**80.94**	**25**	P	**P**	**15 21 01.6**	**-0.6**
	baz=242							
NEA2	**Nenana**	**81.01**	**22**	P	**P**	**15 21 01.7**	**-0.8**
NEA2				IAmb	IAmb	15 21 02.3		
	comp=Z,8.4nm,0.8s							
NEA2	**Nenana**	**81.01**	**22**	P	**P**	**15 21 01.7**	**-0.8**
	baz=240,SNR=6.7							
I23K	**Minto, Yukon-K**	**81.19**	**21**	P	**P**	**15 21 02.9**	**-0.5**
I23K	**Minto, Yukon-K**	**81.19**	**21**	P	**P**	**15 21 02.7**	**-0.7**
	baz=239							
WRH	**Wood River Hil**	**81.31**	**22**	P	**P**	**15 21 03.0**	**-1.0**
WRH				IAmb	IAmb	15 21 04.5		
	comp=Z,11nm,1.0s							
N25K	**Chitina, Valde**	**81.38**	**26**	P	**P**	**15 21 03.7**	**-0.9**
	baz=244							
E21K	**Killik River**	**81.47**	**18**	P	**P**	**15 21 04.5**	**-0.4**
	baz=234							
HARP	**HAARP**	**81.50**	**25**	P	**P**	**15 21 04.9**	**-0.3**
	baz=243							
CCB	**Clear Creek Bu**	**81.51**	**22**	P	**P**	**15 21 04.0**	**-1.1**
B20K	**Meade River**	**81.52**	**16**	P	**P**	**15 21 05.1**	**+0.1**
	baz=231							
COLA	**College**	**81.60**	**22**	P	**P**	**15 21 04.2**	**-1.4**
COLA				IAmb	IAmb	15 21 05.2		
	comp=Z,9.3nm,0.7s							
COLA	**College**	**81.60**	**22**	P	**P**	**15 21 04.4**	**-1.1**
	baz=241							
PAX	**Paxson**	**81.63**	**24**	P	**P**	**15 21 04.9**	**-1.0**
	baz=243							
C21K	**Knifeblade Rid**	**81.65**	**17**	P	**P**	**15 21 05.2**	**-0.6**
	baz=233							
CRQE	**Cirque**	**81.68**	**27**	P	**P**	**15 21 05.0**	**-1.2**
	baz=246							
HDA	**Harding Lake**	**81.72**	**23**	P	**P**	**15 21 05.5**	**-0.7**
	baz=242							
VRDI	**Verde Repeater**	**81.72**	**26**	P	**P**	**15 21 05.7**	**-0.8**
VRDI				IAmb	IAmb	15 21 17.7		
	comp=Z,13nm,1.0s							
G23K	**Bananza Creek**	**81.77**	**20**	P	**P**	**15 21 06.5**	**0.0**
G23K	**Bananza Creek**	**81.77**	**20**	P	**P**	**15 21 05.9**	**-0.6**
	baz=238							
POKR	**Poker Plat Res**	**81.88**	**22**	P	**P**	**15 21 06.4**	**-0.7**
	baz=241							
K24K	**Donnelly Dome**	**81.89**	**23**	P	**P**	**15 21 06.7**	**-0.5**
	baz=243							
IL31		**81.91**	**22**	P	**P**	**15 21 05.8**	**-1.4**
IL31				IAmb	IAmb	15 21 06.6		
	comp=Z,7.1nm,0.8s							
ILAR	**Eielson Array**	**81.91**	**22**	P	**P**	**15 21 05.3**	**-2.0**
ILAR	**Eielson Array**	**81.91**	**22**	P	**P**	**15 21 05.9**	**-1.3**
	comp=Z,5.5nm,0.8s,baz=246,slow=5.0,SNR=58							
	comp=Z,5.5nm,0.8s							
E22K	**Anaktuvuk Pass**	**81.95**	**18**	P	**P**	**15 21 07.2**	**-0.3**
E22K	**Anaktuvuk Pass**	**81.95**	**18**	P	**P**	**15 21 07.2**	**-0.3**
	baz=236							
MCARA	**McCarthy VSAT**	**81.97**	**26**	P	**P**	**15 21 07.5**	**-0.1**
MCARA				IAmb	IAmb	15 21 18.2		
	comp=Z,16nm,1.0s							
MCARA	**McCarthy VSAT**	**81.97**	**26**	P	**P**	**15 21 07.2**	**-0.4**
	baz=246							
B21K	**Ikpikpuk River**	**81.98**	**16**	P	**P**	**15 21 07.8**	**+0.3**
	baz=234							
COLD	**Coldfoot**	**81.98**	**19**	P	**P**	**15 21 07.2**	**-0.4**
	baz=238							
H24K	**Noodor Dome**	**82.07**	**21**	P	**P**	**15 21 07.2**	**-0.9**
H24K	**Noodor Dome**	**82.07**	**21**	P	**P**	**15 21 08.7**	**+0.6**
	baz=240							
D22K	**Ayikyak River**	**82.11**	**17**	P	**P**	**15 21 08.4**	**+0.2**
	baz=236							
RIDG	**Independent Ri**	**82.23**	**24**	P	**P**	**15 21 08.8**	**-0.1**
	baz=244							
GRNC	**Granite Creek**	**82.27**	**27**	P	**P**	**15 21 09.5**	**0.0**
KSH	**Kashi**	**82.28**	**311**	P	**P**	**15 21 12.3**	**+2.4**
KSH				pmax	pmax			
	comp=Z,4.0nm,0.9s							
MENT	**Mentasta**	**82.33**	**24**	P	**P**	**15 21 09.4**	**-0.1**
J25K	**Salcha River,**	**82.42**	**23**	P	**P**	**15 21 09.5**	**-0.4**
J25K				IAmb	IAmb	15 21 10.2		
	comp=Z,13nm,0.8s							
J25K	**Salcha River,**	**82.42**	**23**	P	**P**	**15 21 09.7**	**-0.2**
	baz=243							
L26K	**Log Cabin Wild**	**82.52**	**24**	P	**P**	**15 21 10.3**	**-0.1**
L26K				IAmb	IAmb	15 21 11.8		
	comp=Z,6.0nm,0.8s							
L26K	**Log Cabin Wild**	**82.52**	**24**	P	**P**	**15 21 10.1**	**-0.4**
	baz=245,SNR=7.1							
CTG	**Chitna Glacier**	**82.55**	**27**	P	**P**	**15 21 09.8**	**-1.0**
	baz=247							
CTGM	**Chitina Glacie**	**82.55**	**27**	P	**P**	**15 21 11.2**	**+0.3**
E23K	**Chandalar**	**82.61**	**19**	P	**P**	**15 21 11.3**	**+0.3**
	baz=238							
G24K	**Hadweenzic Riv**	**82.64**	**20**	P	**P**	**15 21 10.4**	**-0.6**
	baz=241							
SCRK	**Sand Creek**	**82.67**	**23**	P	**P**	**15 21 11.1**	**-0.3**
SCRK	**Sand Creek**	**82.67**	**23**	P	**P**	**15 21 10.1**	**-1.2**
	baz=244							
PINM	**Pinnacle**	**82.71**	**28**	P	**P**	**15 21 10.6**	**-1.0**
	baz=248							
B22K	**Teshekpuk Lake**	**82.74**	**16**	P	**P**	**15 21 10.8**	**-0.6**
	baz=235							
D23K	**Nanushuk River**	**82.76**	**18**	P	**P**	**15 21 11.9**	**+0.3**
	baz=237							
PRP	**Porcupine Dome**	**82.77**	**22**	P	**P**	**15 21 11.9**	**+0.1**
	baz=243							
M27K	**Edge Creek, AK**	**82.86**	**25**	P	**P**	**15 21 12.8**	**+0.4**
M27K	**Edge Creek, AK**	**82.86**	**25**	P	**P**	**15 21 11.7**	**-0.7**
	baz=246							
F24K	**Squaw Lake**	**82.90**	**20**	P	**P**	**15 21 12.6**	**+0.3**
F24K				IAmb	IAmb	15 21 13.9		
	comp=Z,7.1nm,0.8s							
F24K	**Squaw Lake**	**82.90**	**20**	P	**P**	**15 21 12.7**	**+0.3**
	baz=240							
TOLK	**Toolik Lake Re**	**82.93**	**18**	P	**P**	**15 21 12.6**	**+0.1**
TOLK				IAmb	IAmb	15 21 13.8		
	comp=Z,5.5nm,0.8s							
TOLK	**Toolik Lake Re**	**82.93**	**18**	P	**P**	**15 21 12.6**	**+0.1**
	baz=238							
PNL	**Peninsula**	**82.96**	**28**	P	**P**	**15 21 13.0**	**+0.2**
	baz=249							
E24K	**Your Creek**	**82.98**	**19**	P	**P**	**15 21 12.6**	**-0.2**
	baz=240							
J26L	**Joseph Creek**	**83.07**	**23**	P	**P**	**15 21 13.3**	**-0.1**
J26L	**Joseph Creek**	**83.07**	**23**	P	**P**	**15 21 13.0**	**-0.3**
	baz=245							
G25K	**Bearman Lake**	**83.15**	**21**	P	**P**	**15 21 13.3**	**-0.3**
	baz=242							
KURBB	**Kurchatov Arra**	**83.15**	**322**	P	**P**	**15 21 13.2**	**-0.8**
	comp=Z,2.1nm,0.2s,baz=105,slow=4.2,SNR=10.0							
	comp=Z,2.1nm,0.2s							
L27K	**Beaver Creek,**	**83.17**	**25**	P	**P**	**15 21 14.1**	**+0.3**
L27K				IAmb	IAmb	15 21 15.1		
	comp=Z,6.5nm,0.9s							
L27K	**Beaver Creek,**	**83.17**	**25**	P	**P**	**15 21 13.5**	**-0.3**
	baz=246							
BCAR	**Beaver Creek A**	**83.19**	**25**	P	**P**	**15 21 14.2**	**+0.2**
C23K	**Itkillik River**	**83.25**	**17**	P	**P**	**15 21 14.4**	**+0.4**
C23K				IAmb	IAmb	15 21 16.0		
	comp=Z,9.7nm,1.1s							
C23K	**Itkillik River**	**83.25**	**17**	P	**P**	**15 21 14.3**	**+0.2**
	baz=237							
YUK3	**Moose Creek**	**83.25**	**26**	P	**P**	**15 21 13.7**	**-0.8**
	baz=248							
BVCY	**Beaver Creek**	**83.32**	**26**	P	**P**	**15 21 14.6**	**0.0**
	baz=247							
NIL	**Nilore**	**83.33**	**304**	P	**P**	**15 21 15.6**	**+0.3**
NIL				IAmb	IAmb	15 21 16.2		
	comp=Z,8.9nm,0.8s							
YUK8	**Steele Glacier**	**83.38**	**27**	P	**P**	**15 21 14.6**	**-0.6**
	baz=248							
D24K	**Happy Valley**	**83.43**	**18**	P	**P**	**15 21 15.0**	**0.0**
	baz=239							
K27K	**Chicken**	**83.46**	**24**	P	**P**	**15 21 15.8**	**+0.6**
	baz=246							
I26K	**Coal Creek Min**	**83.57**	**22**	P	**P**	**15 21 15.9**	**+0.1**
	baz=245							
O29M	**Mount Kennedy**	**83.57**	**28**	P	**P**	**15 21 16.5**	**+0.5**
	baz=250							
F25K	**Christian Rive**	**83.69**	**20**	P	**P**	**15 21 16.7**	**+0.3**
	baz=242							
C24K	**Franklin Bluff**	**83.76**	**17**	P	**P**	**15 21 17.5**	**+0.9**
	baz=239							
YUK4	**Talbot Arm**	**83.90**	**27**	P	**P**	**15 21 18.9**	**+1.0**
	baz=250							
E25K	**Arctic Village**	**83.96**	**19**	P	**P**	**15 21 18.7**	**+0.9**
	baz=242							
BMAR	**Burnt Mountain**	**83.98**	**20**	P	**P**	**15 21 18.3**	**+0.4**
AAK	**Ala-Archa**	**84.02**	**314**	P	**P**	**15 21 19.0**	**+0.2**
G26K	**Porcupine Rive**	**84.05**	**21**	P	**P**	**15 21 18.4**	**+0.3**
	baz=244							
EGAK	**Eagle**	**84.12**	**23**	P	**P**	**15 21 18.9**	**+0.4**
EGAK				IAmb	IAmb	15 21 20.2		
	comp=Z,8.2nm,0.8s							
EGAK	**Eagle**	**84.12**	**23**	P	**P**	**15 21 19.1**	**+0.5**
	baz=247,SNR=5.3							
HYT	**Haines Junctio**	**84.25**	**28**	P	**P**	**15 21 20.0**	**+0.6**
HYT	**Haines Junctio**	**84.25**	**28**	P	**P**	**15 21 20.3**	**+0.8**
	baz=250							
F26K	**Sheenjek River**	**84.25**	**20**	P	**P**	**15 21 20.1**	**+0.9**
	baz=244							
P30M	**Million Dollar**	**84.27**	**28**	P	**P**	**15 21 20.1**	**+0.6**
	baz=251							
D25K	**Kavik River**	**84.27**	**18**	P	**P**	**15 21 19.7**	**+0.4**
	baz=242							
I27K	**Kandik River**	**84.28**	**22**	P	**P**	**15 21 20.0**	**+0.5**
	baz=246							
M29M	**Somme Creek**	**84.37**	**26**	P	**P**	**15 21 19.6**	**-0.4**
M29M				IAmb	IAmb	15 21 22.4		
	comp=Z,6.3nm,0.8s							
M29M	**Somme Creek**	**84.37**	**26**	P	**P**	**15 21 20.3**	**+0.2**
	baz=250							
DAWY	**Dawson**	**84.56**	**24**	P	**P**	**15 21 20.6**	**-0.3**
DAWY	**Dawson**	**84.56**	**24**	P	**P**	**15 21 20.9**	**+0.1**
	baz=248							
H27K	**Steamboat Moun**	**84.56**	**22**	P	**P**	**15 21 21.2**	**+0.4**
	baz=246							
L29M	**L29M**	**84.75**	**25**	P	**P**	**15 21 22.5**	**+0.7**
L29M				IAmb	IAmb	15 21 23.6		
	comp=Z,18nm,1.2s							
L29M	**L29M**	**84.75**	**25**	P	**P**	**15 21 22.6**	**+0.7**
	baz=250							
SKAG	**Skagway**	**84.84**	**29**	P	**P**	**15 21 22.6**	**+0.3**
	baz=252							
I28M	**Miner Creek**	**84.86**	**23**	P	**P**	**15 21 22.4**	**-0.1**
I28M	**Miner Creek**	**84.86**	**23**	P	**P**	**15 21 22.9**	**+0.4**
	baz=248							
JIS	**Juneau Island**	**84.97**	**31**	P	**P**	**15 21 23.4**	**+0.5**
C26K	**Camden Bay**	**85.00**	**18**	P	**P**	**15 21 24.1**	**+1.2**
	baz=243							
U33K	**Whale Pass**	**85.04**	**33**	P	**P**	**15 21 24.5**	**+1.2**
	baz=255							
M30M	**Minto, Yukon**	**85.14**	**26**	P	**P**	**15 21 24.2**	**+0.4**
M30M	**Minto, Yukon**	**85.14**	**26**	P	**P**	**15 21 24.3**	**+0.4**
	baz=251							
K29M	**Barlow Dome**	**85.26**	**25**	P	**P**	**15 21 24.9**	**+0.5**
K29M	**Barlow Dome**	**85.26**	**25**	P	**P**	**15 21 25.6**	**+1.2**
	baz=250							
NRIK	**Noril'sk**	**85.38**	**341**	P	**P**	**15 21 24.4**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=95,slow=5.6,SNR=4.2							
	comp=Z,1.5nm,0.5s							
QSPA	**South Pole Qui**	**85.61**	**180**	P	**P**	**15 21 26.3**	**+0.1**
	comp=Z,4.5nm,0.8s,baz=342,slow=1.0,SNR=19							
	comp=Z,4.5nm,0.8s							
P32M	**Atlin**	**85.67**	**29**	P	**P**	**15 21 26.9**	**+0.4**
F28M	**Old Crow**	**85.70**	**21**	P	**P**	**15 21 26.9**	**+0.4**
F28M				IAmb	IAmb	15 21 27.8		
	comp=Z,8.1nm,0.8s							
F28M	**Old Crow**	**85.70**	**21**	P	**P**	**15 21 26.7**	**+0.3**
	baz=248							
MAW	**Mawson**	**85.81**	**203**	P	**P**	**15 21 27.2**	**+0.3**
MAW	**Mawson**	**85.81**	**203**	P	**P**	**15 21 27.2**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=6.8,slow=23,SNR=1.7							
	comp=Z,2.1nm,0.5s							
MAYO	**Mayo, Yukon**	**85.86**	**25**	P	**P**	**15 21 27.8**	**+0.5**
	baz=252,SNR=5.1							
D27M	**Malcolm River**	**85.97**	**19**	P	**P**	**15 21 28.6**	**+0.8**
	baz=247							
J30M	**Hart River**	**85.99**	**24**	P	**P**	**15 21 28.4**	**+0.3**
	baz=251							
M31M	**Drury Creek, Y**	**86.09**	**27**	P	**P**	**15 21 28.3**	**-0.2**
M31M	**Drury Creek, Y**	**86.09**	**27**	P	**P**	**15 21 28.9**	**+0.4**
	baz=253							
G29M	**Pine Creek**	**86.12**	**22**	P	**P**	**15 21 28.8**	**+0.3**
G29M				IAmb	IAmb	15 21 29.7		
	comp=Z,13nm,1.0s							
G29M	**Pine Creek**	**86.12**	**22**	P	**P**	**15 21 29.0**	**+0.5**
	baz=250							
I30M	**Mount Dempster**	**86.18**	**24**	P	**P**	**15 21 29.1**	**+0.1**
I30M				IAmb	IAmb	15 21 30.0		
	comp=Z,7.3nm,0.8s							
I30M	**Mount Dempster**	**86.18**	**24**	P	**P**	**15 21 29.6**	**+0.6**
	baz=251							
E28M	**Babbage River**	**86.20**	**20**	P	**P**	**15 21 29.1**	**+0.3**
	baz=248							
RUBB	**Prince Rupert**	**86.20**	**35**	P	**P**	**15 21 29.6**	**+0.5**
Q32M	**Nakina River**	**86.22**	**30**	P	**P**	**15 21 30.0**	**+0.6**
Q32M	**Nakina River**	**86.22**	**30**	P	**P**	**15 21 30.0**	**+0.6**
	baz=255							
P33M	**Teslin, Yukon**	**86.27**	**29**	P	**P**	**15 21 30.6**	**+1.1**
	baz=255							
N32M	**Quiet Lake**	**86.40**	**28**	P	**P**	**15 21 30.2**	**+0.2**
	baz=254							
EPYK	**Eagle Plains**	**86.42**	**22**	P	**P**	**15 21 30.3**	**+0.3**
	baz=251							
EPYK	**Eagle Plains**	**86.42**	**22**	P	**P**	**15 21 30.8**	**+0.7**
	baz=251							
S34M	**Telegraph Cree**	**86.54**	**31**	P	**P**	**15 21 30.8**	**+0.1**
	baz=256							
FARO	**Faro, Yukon**	**86.57**	**27**	P	**P**	**15 21 30.8**	**0.0**
FARO	**Faro, Yukon**	**86.57**	**27**	P	**P**	**15 21 30.5**	**-0.3**
	baz=254,SNR=5.7							
E29M	**Blow River**	**86.68**	**20**	P	**P**	**15 21 30.8**	**-0.4**
E29M	**Blow River**	**86.68**	**20**	P	**P**	**15 21 31.5**	**+0.3**
	baz=250							
D28M	**Stokes Point**	**86.73**	**19**	P	**P**	**15 21 32.0**	**+0.6**
	baz=249							
T35M	**Bob Quinn**	**86.79**	**32**	P	**P**	**15 21 31.4**	**-0.6**
	baz=257							
G30M	**tAoh Zraii Nji**	**86.81**	**22**	P	**P**	**15 21 31.6**	**-0.4**
G30M				IAmb	IAmb	15 21 32.6		
	comp=Z,8.2nm,1.1s							
G30M	**tAoh Zraii Nji**	**86.81**	**22**	P	**P**	**15 21 31.7**	**-0.2**
	baz=251							
R33M	**Jennings River**	**86.97**	**30**	P	**P**	**15 21 33.8**	**+0.8**
R33M				IAmb	IAmb	15 21 34.7		
	comp=Z,9.2nm,0.8s							
R33M	**Jennings River**	**86.97**	**30**	P	**P**	**15 21 32.5**	**-0.5**
	baz=256							
H31M	**Peel River**	**87.17**	**23**	P	**P**	**15 21 33.3**	**-0.4**
	baz=253							
F30M	**Barrier River**	**87.17**	**21**	P	**P**	**15 21 33.3**	**-0.3**
	baz=252							
DLBC	**Dease Lake**	**87.23**	**31**	P	**P**	**15 21 34.3**	**+0.1**
DLBC				IAmb	IAmb	15 21 35.8		
	comp=Z,9.5nm,1.0s							
DLBC	**Dease Lake**	**87.23**	**31**	P	**P**	**15 21 33.3**	**-0.9**
	baz=257							
G31M	**Satah River**	**87.52**	**22**	P	**P**	**15 21 35.4**	**+0.2**
G31M	**Satah River**	**87.52**	**22**	P	**P**	**15 21 35.0**	**-0.3**
	baz=253							
F31M	**Tsiigehtchic**	**87.87**	**22**	P	**P**	**15 21 36.9**	**0.0**
	baz=254							
INK	**Inuvik**	**88.19**	**21**	P	**P**	**15 21 38.0**	**-0.4**
INK				IAmb	IAmb	15 21 39.4		
	comp=Z,7.1nm,1.1s							
INK	**Inuvik**	**88.19**	**21**	P	**P**	**15 21 38.4**	**0.0**
	baz=254							
WTLY	**Watson Lake, Y**	**88.21**	**29**	P	**P**	**15 21 38.4**	**-0.3**
	baz=258,SNR=7.6							
BVAR	**Borovoye Array**	**88.60**	**323**	P	**P**	**15 21 39.6**	**-1.0**
	comp=Z,6.5nm,0.8s,baz=99,slow=5.9,SNR=23							
	comp=Z,6.5nm,0.8s							
BRVK	**Borovoye**	**88.67**	**323**	P	**P**	**15 21 40.1**	**-0.8**
BRVK				IAmb	IAmb	15 21 40.7		
	comp=Z,4.3nm,1.0s							
TGTN	**Hyland Airport**	**88.74**	**28**	P	**P**	**15 21 41.3**	**+0.1**
	baz=259							
HUMO	**Hull Mountain**	**89.02**	**47**	P	**P**	**15 21 42.8**	**-0.1**
HUMO				IAmb	IAmb	15 21 45.0		
	comp=Z,4.5nm,1.1s							
J05D	**Fort Rock, OR**	**90.35**	**47**	P	**P**	**15 21 48.5**	**-0.7**
KOTAN	**Kotaneelee Air**	**90.55**	**30**	P	**P**	**15 21 48.9**	**-0.7**
	baz=262							
PINE	**Pine Mountain**	**90.61**	**46**	P	**P**	**15 21 50.0**	**-0.5**
WRGLY	**Wrigley**	**91.23**	**27**	P	**P**	**15 21 52.7**	**+0.1**
	baz=263							
A36M	**Sachs Harbour**	**91.75**	**18**	P	**P**	**15 21 54.5**	**-0.4**
A36M				IAmb	IAmb	15 21 55.2		
	comp=Z,5.0nm,0.8s							
A36M	**Sachs Harbour**	**91.75**	**18**	P	**P**	**15 21 54.4**	**-0.5**
	baz=261							
C36M	**Paulatuk**	**91.77**	**21**	P	**P**	**15 21 55.2**	**+0.2**
	baz=262							
NVAR	**Mina Array Bea**	**92.17**	**52**	P	**P**	**15 21 57.4**	**-0.5**
NVAR	**Mina Array Bea**	**92.17**	**52**	P	**P**	**15 21 58.4**	**+0.4**
	comp=Z,2.2nm,0.9s,baz=252,slow=6.9,SNR=18							
	comp=Z,2.2nm,0.9s							
EDW2	**Edwards Air Fo**	**92.19**	**55**	P	**P**	**15 21 57.9**	**0.0**
	baz=266							
CWC	**Cottonwood Cre**	**92.22**	**54**	P	**P**	**15 21 57.8**	**-0.3**
	baz=266							
BFSC	**Mount Baldy Ra**	**92.42**	**56**	P	**P**	**15 21 58.8**	**-0.2**
	baz=266							
LRMC	**Laurel Mtn Rad**	**92.48**	**55**	P	**P**	**15 21 59.1**	**-0.2**
	baz=266							
MPMC	**Manual Prospec**	**92.67**	**54**	P	**P**	**15 21 60.0**	**-0.3**
	baz=267							
MURC	**Murrieta**	**92.77**	**57**	P	**P**	**15 22 00.3**	**-0.2**
	baz=267							
GRAC	**Grapevine Rang**	**92.82**	**53**	P	**P**	**15 22 00.7**	**0.0**
	baz=267							
MZP	**Montezuma Peak**	**92.85**	**53**	P	**P**	**15 22 01.0**	**-0.1**
MZP				IAmb	IAmb	15 22 02.3		
	comp=Z,2.1nm,0.8s							
BMO	**Blue Mountains**	**93.29**	**45**	P	**P**	**15 22 02.4**	**-0.4**
BMO				IAmb	IAmb	15 22 03.0		
	comp=Z,2.5nm,0.9s							
MONP2	**Monument Peak**	**93.38**	**57**	P	**P**	**15 22 02.5**	**-1.1**
	baz=267							
TPFO	**Pinon Flats**	**93.38**	**57**	P	**P**	**15 22 02.8**	**-0.7**
	baz=267							
WCT	**Wildcat Mounta**	**93.41**	**54**	P	**P**	**15 22 03.8**	**+0.3**
HEC	**Hector,Ludlow**	**93.54**	**55**	P	**P**	**15 22 03.9**	**-0.3**
	baz=267							
NEW	**Newport**	**93.57**	**42**	P	**P**	**15 22 03.3**	**-0.6**
	baz=268							
IKP	**In-Ko-Pah, Jac**	**93.63**	**58**	P	**P**	**15 22 04.2**	**-0.3**
	baz=267				

WTTA	**Wattenberg**	**125.49**	**328**	*e*PKiKP	**PKPdf**	**15 27 48.2**	**-0.2**
	comp=Z,2.2nm,0.3s						
MOTA	**Moosalm**	**125.72**	**328**	*e*PKP	**PKPdf**	**15 27 48.5**	**-0.4**
	comp=Z,3.6nm,0.5s						
MEM	**Membach**	**125.92**	**334**	*d*PKP	**PKPdf**	**15 27 48.7**	**-0.2**
FETA	**Feichten**	**126.12**	**328**	*i* PKiKP	**PKPdf**	**15 27 49.5**	**-0.1**
	comp=Z,3.5nm,0.7s						
DAVA	**Damuels**	**126.39**	**329**	*e*PKiKP	**PKPdf**	**15 27 50.1**	**-0.1**
	comp=Z,0.6nm,0.2s						
BMRD	**Maredsous**	**126.68**	**335**	*d*PKP	**PKPdf**	**15 27 50.5**	**+0.1**
LPAZ	**La Paz**	**135.04**	**118**	PKP	**PKPdf**	**15 28 08.3**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=278,slow=2.0,SNR=8.9						
ESDC	**Sonseca Array**	**138.81**	**332**	PKP	**PKPdf**	**15 28 13.5**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=34,slow=1.8,SNR=1.7						
TORD	**Torodi Ar. Bea**	**149.72**	**289**	PKP	**PKPdf**	**15 28 31.6**	**-1.5**
	comp=Z,1.1nm,1.0s,baz=354,slow=1.4,SNR=4.1						
TORD				PKPbc	**PKPbc**	**15 28 37.2**	**-0.7**
	comp=Z,17nm,0.8s,baz=67,slow=3.0,SNR=89						
TORD				PKPab	**PKPab**	**15 28 43.0**	**-0.7**
	comp=Z,2.2nm,0.6s,baz=61,slow=4.2,SNR=6.4						
BDFB	**Brasilia**	**151.72**	**135**	PKPbc	**PKPbc**	**15 28 42.4**	**-0.3**
	comp=Z,5.5nm,0.7s,baz=209,slow=1.8,SNR=11						
DBIC	**Dimbokro**	**157.18**	**277**	PKPab	**PKPab**	**15 29 14.6**	**-0.7**
	comp=Z,3.6nm,0.8s,baz=46,slow=3.0,SNR=3.7						

*IDC **11** 15:16:33.1±2.6,23˚.59N×142˚.55E,h0km,mb3.4/5,*
mbtmp3.5/6,ML3.3/1,MS3.5/1,Error ellipse:
s-maj=107.9km s-min=20.8km az=82.0
ISC 11 15:16:34.6±2.1,**23˚.71N**±0˚.09×**142˚.6E**±0˚.6,**h10**km,**n7**,
σ1s62/7,mb3.5/5,**Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.40**	**354**	Pn	**Pn**	**15 17 29.5**	**+1.8**
	2.9nm,0.3s,baz=118,slow=24,SNR=1.5						
JCJ				Sn	**Sb**	**15 18 14.0**	**-2.2**
	13nm,0.3s,baz=99,slow=23,SNR=6.0						
	76nm,0.8s						
JHJ	**Hachijo jima 2**	**9.70**	**346**	LR	LR	15 22 53.3	
	comp=Z,247nm,18.1s,baz=124,slow=39						
WRA	**Warramunga Arr**	**44.12**	**191**	P	**P**	**15 24 42.9**	**-0.5**
	0.7nm,0.7s,baz=16,slow=9.6,SNR=5.0						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**47.84**	**191**	P	**P**	**15 25 11.7**	**-1.0**
	0.3nm,0.7s,baz=19,slow=12,SNR=5.1						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**52.95**	**312**	P	**P**	**15 25 52.0**	**+0.8**
	0.1nm,0.4s,baz=98,slow=8.9,SNR=1.3						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**55.70**	**316**	P	**P**	**15 26 11.4**	**+0.4**
	0.3nm,0.7s,baz=93,slow=8.1,SNR=2.3						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**60.80**	**319**	P	**P**	**15 26 46.4**	**-0.4**
	0.4nm,0.5s,baz=80,slow=7.9,SNR=2.8						
	0.4nm,0.5s						

*IDC **11** 15:19:05.2±2.0,21˚.50N×143˚.28E,h281km±18km,*
mb3.2/14,mbtmp3.9/15,Error ellipse: s-maj=19.5km
s-min=13.1km az=92.0
ISC 11 15:19:07.2±0.9,**21˚.57N**±0˚.10×**143˚.3E**±0˚.2,**h300**km,**n16,**
σ1s10/18,mb3.4/13,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.58**	**350**	P	**Pn**	**15 20 30.1**	**-1.4**
	47nm,0.4s,baz=279,slow=22,SNR=7.8						
JCJ				S	**S**	**15 21 37.1**	**-2.3**
	31nm,0.4s,baz=293,slow=18,SNR=1.7						
MJAR	**Matsushiro Arr**	**15.55**	**345**	P	**Pn**	**15 22 34.0**	**+2.0**
	0.5nm,0.3s,baz=165,slow=9.8,SNR=5.0						
KSRS	**Korea Array**	**20.65**	**323**	P	**P**	**15 23 25.4**	**+0.8**
	0.9nm,0.6s,baz=150,slow=8.9,SNR=9.8						
	0.9nm,0.6s						
KLR	**Kul'dur**	**29.08**	**344**	P	**P**	**15 24 41.3**	**+0.9**
	1.5nm,0.4s,baz=182,slow=8.8,SNR=6.8						
	1.5nm,0.4s						
CMAR	**Chiang Mai Arr**	**41.64**	**274**	P	**P**	**15 26 27.6**	**+0.5**
	0.4nm,0.4s,baz=88,slow=6.4,SNR=4.6						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**42.17**	**193**	P	**P**	**15 26 30.3**	**-1.0**
	0.2nm,0.4s,baz=15,slow=9.1,SNR=9.8						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**45.88**	**192**	P	**P**	**15 26 59.5**	**-0.9**
	0.4nm,0.9s,baz=12,slow=12,SNR=5.1						
	0.4nm,0.9s						
ZALV	**Zalesovo Beam**	**54.34**	**322**	P	**P**	**15 28 03.5**	**+0.2**
	0.7nm,0.5s,baz=115,slow=6.5,SNR=2.6						
ZALV				PcP	**PcP**	**15 29 02.1**	**-0.9**
	0.3nm,0.3s,baz=114,slow=3.5,SNR=1.9						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**54.82**	**313**	P	**P**	**15 28 07.3**	**+0.4**
	0.5nm,0.5s,baz=90,slow=8.2,SNR=7.5						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**57.65**	**317**	P	**P**	**15 28 26.7**	**+0.1**
	1.8nm,0.5s,baz=94,slow=7.6,SNR=20						
	1.8nm,0.5s						
ILAR	**Eielson Array**	**62.12**	**27**	P	**P**	**15 28 56.6**	**0.0**
	0.5nm,0.6s,baz=256,slow=5.8,SNR=9.3						
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**62.80**	**320**	P	**P**	**15 29 01.6**	**+0.2**
	2.5nm,0.4s,baz=97,slow=7.8,SNR=20						
	2.5nm,0.4s						
YKA	**Yellowknife Ar**	**76.54**	**28**	P	**P**	**15 30 25.3**	**+0.9**
	0.7nm,0.6s,baz=291,slow=5.5,SNR=12						
	0.7nm,0.6s						
ARCES	**ARCESS Array B**	**79.06**	**342**	P	**P**	**15 30 38.8**	**+0.7**
	2.1nm,0.8s,baz=74,slow=8.8,SNR=12						
	2.1nm,0.8s						
NVAR	**Mina Array Bea**	**83.17**	**51**	P	**P**	**15 31 00.8**	**+0.2**
	0.2nm,0.7s,baz=297,slow=5.0,SNR=2.3						
	0.2nm,0.7s						
FINES	**FINESS Array B**	**83.32**	**335**	P	**P**	**15 30 59.5**	**-1.0**
	0.7nm,0.5s,baz=71,slow=5.2,SNR=11						
	0.7nm,0.5s						

*IDC **11** 15:24:59.4±1.2,38˚.36N×22˚.21E,h0km,mb3.6/5,*
mbtmp3.6/6,ML3.0/1,Error ellipse: s-maj=39.5km
s-min=22.3km az=163.0
*THE **11** 15:25:00.5,38˚.25N×22˚.17E,h6km,ML3.2/16,Error*
ellipse: s-maj=0.8km s-min=0.4km az=192.0
*ATH **11** 15:25:00.5,38˚.26N×22˚.18E,h6km±1km,ML3.1/23,Error*
ellipse: s-maj=1.3km s-min=0.6km az=241.0
ISC 11 15:25:00.1±0.8,**38˚.26N**±0˚.02×**22˚.17E**±0˚.02,**h8**km±5km,
n77,σ0s64/116,mb3.6/4,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALIK	**Aliki, Aigiali**	**0.05**	**267**	P	**Pg**	**15 25 01.7**	**-0.1**
ALIK				S	**Sg**	**15 25 03.2**	**+0.2**
KLV	**Kalavryta, Ach**	**0.22**	**184**	P	**Pg**	**15 25 04.7**	**+0.1**
KLV				S	**Sg**	**15 25 08.0**	**+0.4**
	5µm,0.3s						
KLV	**Kalavryta, Ach**	**0.22**	**184**	P	**Pg**	**15 25 04.7**	**+0.1**
KLV				S	**Sg**	**15 25 08.2**	**+0.6**
KLV				AML	AML	15 25 10.2	
	comp=N,12406µm,0.3s						
KLV				AML	AML	15 25 11.0	
	comp=E,9453µm,0.3s						
EFP	**Efpalio**	**0.26**	**308**	P	**Pg**	**15 25 05.4**	**0.0**
EFP				S	**Sg**	**15 25 09.1**	**+0.1**
	comp=E,5µm,0.5s						
EFP	**Efpalio**	**0.26**	**308**	P	**Pg**	**15 25 05.3**	**0.0**
EFP				S	**Sg**	**15 25 09.7**	**+0.7**
EFP				AML	AML	15 25 10.2	
	comp=E,12416µm,0.4s						
EFP				AML	AML	15 25 12.2	
	comp=N,7598µm,0.6s						
UPR	**University Cam**	**0.30**	**274**	P	**Pg**	**15 25 06.3**	**+0.2**
UPR				S	**Sg**	**15 25 11.1**	**+0.9**
DLFA	**Delphi**	**0.33**	**50**	P	**Pg**	**15 25 06.6**	**-0.1**
DLFA				S	**Sg**	**15 25 11.1**	**-0.1**
DLFA				AML	AML	15 25 12.2	
	comp=N,10231µm,0.5s						
DLFA				AML	AML	15 25 12.3	
	comp=E,5007µm,0.4s						
GUR	**Goura**	**0.35**	**157**	P	**Pg**	**15 25 07.0**	**-0.1**
GUR				S	**Sg**	**15 25 12.4**	**+0.6**
	comp=E,11µm,0.4s						
GUR	**Goura**	**0.35**	**157**	P	**Pg**	**15 25 07.0**	**-0.1**
GUR				S	**Sg**	**15 25 12.5**	**+0.6**
GUR				AML	AML	15 25 13.9	
	comp=N,24784µm,0.3s						
GUR				AML	AML	15 25 14.6	
	comp=E,17663µm,0.2s						
THAL	**Thalero**	**0.45**	**120**	P	**Pg**	**15 25 09.1**	**+0.2**
THAL				S	**Sg**	**15 25 15.2**	**+0.4**
	comp=E,7µm,0.4s						
THAL	**Thalero**	**0.45**	**120**	P	**Pg**	**15 25 09.1**	**+0.2**
THAL				S	**Sg**	**15 25 15.4**	**+0.6**
THAL				AML	AML	15 25 21.2	
	comp=N,13525µm,0.5s						
THAL				AML	AML	15 25 23.8	
	comp=E,13044µm,0.4s						
DRO	**Drossia**	**0.48**	**230**	P	**Pg**	**15 25 09.3**	**-0.1**
DRO				S	**Sb**	**15 25 17.2**	**-0.8**
	comp=E,5µm,0.3s						
DRO	**Drossia**	**0.48**	**230**	P	**Pg**	**15 25 09.3**	**-0.1**
DRO				S	**Sg**	**15 25 16.6**	**+1.0**
DRO				AML	AML	15 25 18.3	
	comp=E,10644µm,0.3s						
DRO				AML	AML	15 25 22.6	
	comp=N,9660µm,0.3s						
RLS	**Riolos of Patr**	**0.59**	**250**	P	**Pg**	**15 25 11.2**	**-0.4**
RLS				S	**Sb**	**15 25 21.1**	**-0.1**
	comp=N,2µm,0.7s						
RLS	**Riolos of Patr**	**0.59**	**250**	P	**Pg**	**15 25 11.1**	**-0.4**
RLS				S	**Sg**	**15 25 20.2**	**+0.9**
RLS				AML	AML	15 25 24.9	
	comp=E,3421µm,0.6s						
RLS				AML	AML	15 25 25.9	
	comp=N,3384µm,0.2s						
PVO	**Paravola**	**0.62**	**305**	P	**Pg**	**15 25 11.9**	**-0.2**
PVO				S	**Sb**	**15 25 22.0**	**0.0**
PVO	**Paravola**	**0.62**	**305**	P	**Pg**	**15 25 12.0**	**-0.1**
AXAR	**Agios Charalam**	**0.63**	**37**	P	**Pg**	**15 25 11.9**	**-0.5**
AXAR				S	**Sb**	**15 25 22.2**	**-0.3**
	comp=N,4µm,0.5s						
AXAR	**Agios Charalam**	**0.63**	**37**	P	**Pg**	**15 25 11.8**	**-0.6**
AXAR				S	**Sb**	**15 25 21.4**	**-1.1**
AXAR				AML	AML	15 25 26.4	
	comp=N,6948µm,0.5s						
AXAR				AML	AML	15 25 28.5	
	comp=E,8091µm,0.5s						
LTK	**Loutraki**	**0.67**	**111**	P	**Pg**	**15 25 13.3**	**+0.2**
LTK				S	**Sb**	**15 25 22.8**	**-0.8**
LOUT	**Loutraki**	**0.69**	**113**	P	**Pg**	**15 25 13.3**	**-0.2**
LOUT				S	**Sb**	**15 25 23.8**	**-0.4**
	comp=E,1µm,0.6s						
EVR	**Evrytania**	**0.71**	**337**	P	**Pg**	**15 25 14.3**	**+0.4**
EVR				S	**Sb**	**15 25 25.4**	**+0.5**
	comp=E,2µm,0.6s						
EVR	**Evrytania**	**0.71**	**337**	P	**Pb**	**15 25 14.4**	**-0.5**
EVR				S	**Sg**	**15 25 23.6**	**+0.4**
EVR				AML	AML	15 25 29.4	
	comp=E,2666µm,0.4s						
EVR				AML	AML	15 25 29.5	
	comp=N,3523µm,0.5s						
MAKR	**Makrakomi, Fth**	**0.75**	**358**	P	**Pg**	**15 25 14.6**	**0.0**
MAKR				S	**Sb**	**15 25 26.1**	**+0.2**
	comp=N,2µm,0.5s						
MAKR	**Makrakomi, Fth**	**0.75**	**358**	P	**Pg**	**15 25 14.4**	**-0.2**
MAKR				S	**Sg**	**15 25 24.7**	**+0.4**
MAKR				AML	AML	15 25 30.5	
	comp=E,4016µm,0.5s						
MAKR				AML	AML	15 25 34.9	
	comp=N,4623µm,0.4s						
AGG	**Agios Georgios**	**0.77**	**9**	P	**Pg**	**15 25 15.1**	**+0.1**
AGG				S	**Sb**	**15 25 26.6**	**+0.2**
	comp=N,645nm,0.9s						
AGG	**Agios Georgios**	**0.77**	**9**	P	**Pg**	**15 25 14.1**	**-0.9**
AGG				S	**Sg**	**15 25 25.2**	**+0.2**
AGG				AML	AML	15 25 31.0	
	comp=N,1888µm,0.5s						
AGG				AML	AML	15 25 32.2	
	comp=E,1844µm,0.7s						
VIL2	**Platees**	**0.87**	**93**	P	**Pb**	**15 25 17.9**	**+0.4**
VIL2				S	**Sb**	**15 25 29.3**	**+0.1**
VIL2				AML	AML	15 25 37.1	
	comp=N,2624µm,0.9s						
VIL2				AML	AML	15 25 38.1	
	comp=E,5779µm,1.0s						
VILL	**Villia**	**0.91**	**96**	P	**Pg**	**15 25 17.5**	**-0.1**
VILL				S	**Sb**	**15 25 31.0**	**+0.6**
	comp=E,2µm,0.9s						
KRND	**KRANIDI**	**1.17**	**138**	P	**Pg**	**15 25 21.9**	**-0.7**
KRND				S	**Sn**	**15 25 39.2**	**+0.2**
	comp=E,2µm,0.6s						
KRND	**KRANIDI**	**1.17**	**138**	P	**Pg**	**15 25 22.1**	**-0.5**
KRND				S	**Sg**	**15 25 37.8**	**0.0**
KRND				AML	AML	15 25 41.0	
	comp=N,3755µm,0.6s						
KRND				AML	AML	15 25 45.8	
	comp=E,3820µm,0.6s						
LTHK	**Lithakia**	**1.19**	**243**	P	**Pb**	**15 25 21.9**	**-1.0**
LTHK	**Lithakia**	**1.19**	**243**	P	**Pb**	**15 25 22.0**	**-0.9**
LTHK				S	**Sn**	**15 25 39.6**	**+0.2**
LTHK				AML	AML	15 25 48.3	
	comp=N,2469µm,0.4s						
LTHK				AML	AML	15 25 50.2	
	comp=E,3092µm,0.5s						
KLMT	**Kalamata**	**1.20**	**184**	P	**Pb**	**15 25 22.3**	**-0.8**
KLMT				S	**Sn**	**15 25 40.6**	**+0.9**
	comp=E,708nm,0.4s						
NYDR	**Nydri-Lefkada**	**1.24**	**292**	P	**Pn**	**15 25 23.5**	**-0.2**
EVGI	**Lefkada island**	**1.24**	**287**	P	**Pn**	**15 25 23.7**	**-0.1**
EVGI	**Lefkada island**	**1.24**	**287**	P	**Pn**	**15 25 23.5**	**-0.3**
VLS	**Valsamata**	**1.25**	**267**	P	**Pn**	**15 25 22.6**	**-1.3**
VLS				S	**Sn**	**15 25 42.0**	**+1.1**
	comp=E,940nm,0.9s						
VLS	**Valsamata**	**1.25**	**267**	P	**Pn**	**15 25 22.9**	**-1.0**
VLS				AML	AML	15 25 49.6	
	comp=E,987µm,0.5s						
VLS				AML	AML	15 25 50.3	
	comp=N,2614µm,0.6s						
ATH	**Athens Observa**	**1.25**	**103**	P	**Pb**	**15 25 24.0**	**0.0**
ATH	**Athens Observa**	**1.25**	**103**	P	**Pn**	**15 25 23.6**	**-0.3**
ATH				S	**Sb**	**15 25 40.1**	**-0.3**
ATH				AML	AML	15 25 44.1	
	comp=E,1262µm,0.5s						
ATH				AML	AML	15 25 46.6	
	comp=N,1116µm,0.4s						
PSDA	**Pessada-Kefalo**	**1.26**	**264**	P	**Pn**	**15 25 22.8**	**-1.2**
PSDA				S	**Sn**	**15 25 42.4**	**+1.3**
	comp=N,698nm,0.3s						
LKD2	**Lefkada island**	**1.30**	**294**	P	**Pn**	**15 25 23.9**	**-0.7**
THL	**Klokotos Trika**	**1.30**	**355**	P	**Pb**	**15 25 24.8**	**-0.1**
THL	**Klokotos Trika**	**1.30**	**355**	P	**Pb**	**15 25 24.8**	**-0.1**
THL				S	**Sn**	**15 25 42.5**	**+0.2**
THL				AML	AML	15 25 45.5	
	comp=E,787µm,0.9s						
THL				AML	AML	15 25 45.5	
	comp=N,388µm,0.9s						
ATHU	**Athens Univers**	**1.31**	**103**	P	**Pn**	**15 25 23.7**	**-1.0**
TSLK	**Tsoukalades, L**	**1.31**	**296**	P	**Pb**	**15 25 25.0**	**-0.1**
TSLK	**Tsoukalades, L**	**1.31**	**296**	P	**Pn**	**15 25 24.4**	**-0.4**
DRAG	**Dragano-Lefkad**	**1.32**	**289**	P	**Pn**	**15 25 24.6**	**-0.3**
NEO	**Neokhori**	**1.33**	**38**	P	**Pn**	**15 25 24.8**	**-0.2**
NEO	**Neokhori**	**1.33**	**38**	P	**Pn**	**15 25 24.7**	**-0.3**
NEO				AML	AML	15 25 49.7	
	comp=N,607µm,0.6s						
NEO				AML	AML	15 25 51.7	
	comp=E,647µm,0.8s						
KEF5	**Kardakata, Kep**	**1.34**	**271**	P	**Pn**	**15 25 24.1**	**-1.1**
KEF5				S	**Sg**	**15 25 44.9**	**+1.7**
PTL	**Penteli**	**1.35**	**99**	P	**Pb**	**15 25 25.5**	**-0.3**
PTL	**Penteli**	**1.35**	**99**	P	**Pn**	**15 25 25.3**	**0.0**
PTL				S	**Sb**	**15 25 42.5**	**-0.8**
PTL				AML	AML	15 25 48.7	
	comp=N,783µm,0.7s						
PTL				AML	AML	15 25 49.8	
	comp=E,1034µm,0.6s						
XOR	**Xorichti**	**1.36**	**36**	P	**Pn**	**15 25 25.0**	**-0.5**
XOR	**Xorichti**	**1.36**	**36**	P	**Pn**	**15 25 25.3**	**-0.2**
XOR				AML	AML	15 25 51.9	
	comp=E,647µm,0.7s						
XOR				AML	AML	15 25 53.2	
	comp=N,792µm,1.2s						
DION	**Dionisos Attik**	**1.40**	**97**	P	**Pb**	**15 25 26.6**	**0.0**
DION				S	**Sg**	**15 25 45.2**	**0.0**
DION	**Dionisos Attik**	**1.40**	**97**	P	**Pn**	**15 25 26.0**	**0.0**
DION				S	**Sb**	**15 25 44.3**	**-0.4**
DION				AML	AML	15 25 47.3	
	comp=N,1208µm,0.5s						
DION				AML	AML	15 25 54.0	
	comp=E,1062µm,0.4s						
PYL	**PYLOS**	**1.41**	**194**	P	**Pn**	**15 25 25.7**	**-0.4**
PYL	**PYLOS**	**1.41**	**194**	P	**Pn**	**15 25 25.6**	**-0.4**
KEF3	**Kipouria, Keph**	**1.44**	**268**	P	**Pn**	**15 25 25.5**	**-1.0**
TYRN	**Tyrnavos**	**1.45**	**2**	P	**Pn**	**15 25 26.1**	**-0.5**
KYMI	**Kymi, Euboea I**	**1.56**	**76**	P	**Pn**	**15 25 28.0**	**-0.2**
KYMI	**Kymi, Euboea I**	**1.56**	**76**	P	**Pn**	**15 25 28.0**	**-0.2**
KYMI				AML	AML	15 25 59.0	
	comp=E,506µm,0.9s						
KYMI				AML	AML	15 26 00.9	
	comp=N,349µm,0.7s						
KPRO	**Kipourio**	**1.80**	**340**	P	**Pb**	**15 25 32.7**	**-0.7**
KPRO	**Kipourio**	**1.80**	**340**	P	**Pb**	**15 25 32.5**	**-1.0**
KPRO				AML	AML	15 26 09.7	
	comp=N,454µm,0.6s						
KPRO				AML	AML	15 26 16.4	
	comp=E,473µm,0.6s						
LIT	**Litokhoron**	**1.85**	**8**	P	**Pn**	**15 25 31.9**	**-0.3**
HORT	**Hortiatis**	**2.44**	**17**	P	**Pn**	**15 25 39.6**	**-0.8**
ANKY	**Antikythira Is**	**2.56**	**159**	P	**Pn**	**15 25 41.8**	**-0.1**
OHR	**Ohrid**	**3.04**	**340**	*i* Pn	**Pb**	**15 25 53.5**	**-1.0**
BRTR	**Keskin Array B**	**9.05**	**77**	Pn	**Pn**	**15 27 13.7**	**+2.5**
	comp=E,0.2nm,0.3s,baz=261,slow=12,SNR=8.1						
	comp=E,0.8nm,0.5s						
ESDC	**Sonseca Array**	**20.35**	**282**	P	Pn	15 29 38.4	-0.6
	comp=E,1.0nm,0.7s,baz=74,slow=12,SNR=5.6						
	comp=E,1.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**24.12**	**323**	P	**P**	**15 30 15.8**	**-0.4**
	comp=E,1.7nm,1.0s,baz=121,slow=9.3,SNR=2.1						
	comp=E,1.7nm,1.0s						
TORD	**Torodi Ar. Bea**	**30.93**	**222**	P	**P**	**15 31 18.1**	**+0.5**
	comp=E,0.5nm,0.6s,baz=35,slow=9.3,SNR=4.1						
	comp=E,0.5nm,0.6s						
MKAR	**Makanchi Array**	**44.15**	**59**	P	**P**	**15 33 08.5**	**-0.7**
	comp=E,0.5nm,0.6s,baz=272,slow=9.4,SNR=3.6						
	comp=E,0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**44.67**	**48**	P	**P**	**15 33 12.3**	**-0.8**
	comp=E,0.7nm,0.4s,baz=278,slow=8.5,SNR=3.2						
	comp=E,0.7nm,0.4s						
ASAR	**Alice Springs**	**120.89**	**97**	PKP	**PKiKP**	**15 43 55.1**	**+1.7**
	comp=E,0.2nm,0.8s,baz=306,slow=1.7,SNR=1.9						

IDC 11 15:27:27.4±1.9,**5˚.66S×142˚.96E,h0**km,**mb3.5**/2,
mbtmp3.5/4,**ML3.2**/2,**Error ellipse: s-maj=77.0km**
s-min=31.9km az=106.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.49**	**210**	Pn	Pn	15 31 18.6	-1.7
	0.1nm,0.3s,baz=30,slow=12,SNR=2.5						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**19.92**	**205**	P	P	15 32 01.4	+0.5
	0.1nm,0.3s,baz=32,slow=10,SNR=29						
	1.9nm,0.7s						
MKAR	**Makanchi Array**	**74.70**	**322**	P	P	15 39 09.6	+0.5
	0.3nm,0.8s,baz=110,slow=3.8,SNR=2.8						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**86.77**	**24**	P	P	15 40 12.6	-0.6
	0.3nm,0.9s,baz=247,slow=5.8,SNR=1.6						
	0.3nm,0.9s						

*SOME **11** 15:27:42.5,41˚.92N×82˚.40E,h15km*
*NNC **11** 15:27:45.8±1.1,42˚.00N×82˚.28E,h0km,mb4.1,mpv3.8,*
Error ellipse: s-maj=8.2km s-min=6.1km az=167.0
ISC 11 15:27:47.2±1.9,**42˚.04N**±0˚.09×**82˚.17E**±0˚.06,**h10**km,**n42,**
σ1s86/62,6C-7D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.94**	**317**	*e*P	**Pb**	**15 28 22.4**	**-0.3**
	88nm,0.2s						
KTMS				*e*S	**Sg**	**15 28 51.1**	**+1.6**
	132nm,0.5s						
KTMS	**Ketmen**	**1.94**	**317**	Pg	**Pb**	**15 28 22.4**	**-0.3**
	88nm,0.2s						
KTMS				Lg	Lg	15 28 51.1	
	132nm,0.5s						
SHLS	**Shalkode**	**2.29**	**300**	*e*P	**Pn**	**15 28 24.7**	**-0.4**
	43nm,0.2s						
SHLS				*e*S	**Sn**	**15 28 55.1**	**+1.7**
	262nm,0.3s						
SHLS	**Shalkode**	**2.29**	**300**	Pg	**Pn**	**15 28 24.7**	**-0.4**
	43nm,0.2s						
SHLS				Lg	Lg	15 28 55.1	
	262nm,0.3s						
PDGK	**Podgornoye**	**2.36**	**304**	Pg	**Pb**	**15 28 29.1**	**-0.7**
	8.7nm,0.2s						
PDGK				Lg	Lg	15 29 02.8	
	118nm,0.4s						
PDGK	**Podgornoye**	**2.36**	**304**	⇓Pn	**Pb**	**15 28 28.2**	**-1.6**
	14nm,0.6s						
PDGK				⇓Sn	**Sb**	**15 29 00.3**	**+1.3**
	245nm,0.7s						
UZB	**Uzynbulak**	**2.57**	**297**	*e*P	**Pb**	**15 28 34.4**	**+0.9**
	21nm,0.2s						
UZB				*e*S	**Sg**	**15 29 11.8**	**+2.0**
	121nm,0.3s						
UZB	**Uzynbulak**	**2.57**	**297**	Pg	**Pb**	**15 28 34.4**	**+0.9**
	21nm,0.2s						
UZB				Lg	Lg	15 29 11.8	
	121nm,0.3s						
DJR	**Jarkent**	**2.88**	**324**	*e*P	**Pb**	**15 28 39.3**	**+0.7**
	8.2nm,0.1s						
DJR				*e*S	**Sg**	**15 29 20.2**	**+0.7**
	36nm,0.6s						
DJR	**Jarkent**	**2.88**	**324**	Pg	**Pb**	**15 28 39.3**	**+0.7**
	8.2nm,0.1s						
DJR				Lg	Lg	15 29 20.2	
	36nm,0.6s						
KPKS	**Kokpek**	**2.93**	**300**	*e*P	**Pb**	**15 28 40.4**	**+0.7**
	14nm,0.3s						
KPKS				*e*S	**Sg**	**15 29 22.0**	**+0.6**
	99nm,0.3s						
KPKS	**Kokpek**	**2.93**	**300**	Pg	**Pb**	**15 28 40.4**	**+0.7**
	14nm,0.3s						
KPKS				Lg	Lg	15 29 22.0	
	99nm,0.3s						
SATY	**Saty**	**2.96**	**291**	*e*P	**Pb**	**15 28 41.1**	**+1.1**

	25nm,0.3s						
TDK				*e*S	**Sg**	15 29 54.6	**-1.9**
	59nm,0.6s						
TDK	**Taldyqorghan**	**4.03 319**		Pg	**Pb**	15 28 59.2	**+0.9**
	25nm,0.3s						
TDK				Lg	Lg	15 29 54.6	
	59nm,0.6s						
CHKK	**Chushkaly**	**4.21 297**		*e*P	**Pb**	15 29 02.5	**+1.2**
	1.5nm,0.2s						
CHKK				*e*S	**Sg**	15 30 00.2	**-2.1**
	18nm,0.5s						
CHKK	**Chushkaly**	**4.21 297**		Pg	**Pb**	15 29 02.5	**+1.2**
	1.5nm,0.2s						
CHKK				Lg	Lg	15 30 00.2	
	18nm,0.5s						
KTBS	**Karatobe**	**4.36 294**		*e*P	**Pb**	15 29 06.4	**+2.5**
	4.6nm,0.2s						
KTBS				*e*S	**Sg**	15 30 06.5	**-0.8**
	19nm,0.3s						
KTBS	**Karatobe**	**4.36 294**		Pg	**Pb**	15 29 06.4	**+2.5**
	4.6nm,0.2s						
KTBS				Lg	Lg	15 30 06.5	
	19nm,0.3s						
MTBS	**Maitube**	**4.37 286**		*e*P	**Pb**	15 29 05.0	**+0.8**
	4.4nm,0.2s						
MTBS				*e*S	**Sg**	15 30 04.5	**-3.1**
	12nm,0.3s						
KST	**Kastek**	**4.69 284**		*e*P	**Pg**	15 29 13.8	**-3.3**
	6.1nm,0.3s						
KST				*e*S	**Sg**	15 30 19.3	**+1.5**
	24nm,0.3s						
MAKZ	**Makanchi**	**4.77 358**		⇓Pn	**Pn**	15 29 00.2	**+1.1**
	1.2nm,0.4s						
MAKZ				⇑Sn	**Sn**	15 29 57.1	**+2.7**
	3.9nm,0.5s						
MAKZ				⇑Lg	Lg	15 30 18.0	
	7.3nm,0.9s						
DGS	**Degeres**	**4.87 286**		*e*P	**Pb**	15 29 15.6	**+3.0**
	2.9nm,0.2s						
DGS				*e*S	**Sg**	15 30 22.2	**-1.2**
	18nm,0.3s						
TKM2	**Tokmak 2**	**4.94 282**		⇑Pg	**Pg**	15 29 18.1	**-3.7**
	4.4nm,0.8s						
TKM2				⇓Lg	Lg	15 30 25.7	
	17nm,1.1s						
KRBS	**Karabastau**	**5.05 291**		*e*P	**Pg**	15 29 20.6	**-3.2**
	2.9nm,0.3s						
KRBS				*e*S	**Sg**	15 30 30.9	**+1.7**
	7.0nm,0.4s						
KRBS	**Karabastau**	**5.05 291**		Pg	**Pg**	15 29 20.6	**-3.2**
	2.9nm,0.3s						
KRBS				Lg	Lg	15 30 30.9	
	7.0nm,0.4s						
CHMS	**Chumysh**	**5.56 282**		⇑Pg	**Pg**	15 29 30.2	**-3.5**
	3.0nm,0.7s						
CHMS				⇓Lg	Lg	15 30 45.2	
	5.6nm,0.6s						
ZSN	**Zaisan**	**5.74 19**		*e*P	**Pb**	15 29 29.8	**+2.4**
	4.8nm,0.3s						
ZSN				*e*S	**Sg**	15 30 47.0	**-4.4**
	14nm,0.4s						
ZSN	**Zaisan**	**5.74 19**		Pg	**Pb**	15 29 29.8	**+2.4**
	4.8nm,0.3s						
ZSN				Lg	Lg	15 30 47.0	
	14nm,0.4s						
KK31	**Karatay Array**	**8.67 281**		⇑Lg	Lg	15 32 22.6	
	1.2nm,0.6s,baz=90,slow=26,SNR=3.6						
KURK	**Kurchatov**	**9.02 345**		⇓Lg	Lg	15 32 32.6	
	8.5nm,0.9s						

IDC 11 15:29:39.5±4.6, 8°.10S×133°.41E, h0km, mb3.1/1, mbtmp3.0/3, ML2.7/2, Error ellipse: s-maj=266.1km s-min=35.3km az=77.0, Arafura Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**11.81**	**176**	Pn	Pn	15 32 29.3	-0.1
	0.1nm,0.3s,baz=358,slow=13,SNR=1.8						
WRA				Sn	Sn	15 34 38.1	-4.0
	0.1nm,0.3s,baz=0.1,slow=23,SNR=3.1						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**15.49**	**178**	Pn	Pn	15 33 19.6	+0.1
	baz=353,slow=14,SNR=1.6						
ASAR				Sn	Sn	15 36 08.9	-3.0
	baz=0.7,slow=29,SNR=2.3						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**71.01**	**326**	P	P	15 40 59.3	0.0
	0.1nm,0.5s,baz=137,slow=5.1,SNR=1.7						
	0.1nm,0.5s						

IDC 11 15:43:25.7±10.0, 35°.93N×70°.96E, h123km±39km, mb3.7/2, mbtmp3.7/7, Error ellipse: s-maj=147.3km s-min=27.9km az=160.0

NNC 11 15:43:32.7±4.0, 36°.67N×70°.47E, h118km±76km, mb3.0, mpv3.7, Error ellipse: s-maj=36.2km s-min=26.9km az=49.0

ISC 11 15:43:28.9±2.7, 36°.4N±0°.2×70°.6E±0°.1, h100km, n12, σ1°32/15, 3C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.67**	**359**	P	**Pn**	**15 45 05.8**	**+1.5**
	1.9nm,0.4s,baz=187,slow=13,SNR=39						
KK31				S	Sn	15 46 17.5	-1.3
	4.4nm,0.6s,baz=191,slow=22,SNR=16						
AAK	**Ala-Archa**	**6.88**	**24**	P	**Pn**	**15 45 09.0**	**+1.7**
	4.6nm,0.4s,baz=196,slow=8.5,SNR=28						
AAK				S	**Sn**	**15 46 23.2**	**-1.0**
	2.9nm,0.5s,baz=351,slow=22,SNR=6.6						
CHMS	**Chumysh**	**7.29**	**25**	⇑P	**Pn**	**15 45 13.7**	**+0.9**
	3.1nm,0.5s						
CHMS				⇑S	**Sn**	**15 46 34.4**	**+0.5**
	7.6nm,0.8s						
TKM2	**Tokmak 2**	**7.53**	**29**	⇑P	**Pn**	**15 45 17.1**	**+1.0**
	2.2nm,0.5s						
GEYT	**Alibeck**	**10.10**	**282**	P	**Pn**	**15 45 52.6**	**+1.7**
	0.7nm,0.3s,baz=118,slow=12,SNR=4.2						
GEYT				S	**Sn**	**15 47 40.4**	**-2.0**
	1.3nm,0.5s,baz=46,slow=54,SNR=2.3						
MKAR	**Makanchi Array**	**13.53**	**36**	P	**Pn**	**15 46 35.7**	**-0.9**
	0.5nm,0.8s,baz=220,slow=14,SNR=5.0						
AB31	**Akbulak array**	**15.01**	**332**	P	**Pn**	**15 46 54.3**	**-1.3**
	0.2nm,0.3s,baz=122,slow=15,SNR=16						
AB31				⇓S	Sn	15 49 35.4	-5.7
	0.8nm,0.7s,baz=163,slow=21,SNR=2.6						
KURBB	**Kurchatov Arra**	**15.29**	**19**	P	**Pn**	**15 47 00.1**	**+1.0**
	0.2nm,0.3s,baz=206,slow=11,SNR=2.1						
AKTO	**Aktyubinsk**	**16.70**	**331**	P	**P**	**15 47 17.6**	**+0.3**
	2.2nm,0.7s,baz=148,slow=8.6,SNR=9.1						
AKTO	**Aktyubinsk**	**16.70**	**331**	⇓P	**P**	**15 47 17.6**	**+0.3**
	1.9nm,0.9s						
ZALV	**Zalesovo Beam**	**20.11**	**25**	P	**P**	**15 47 53.2**	**-1.3**
	4.7nm,0.4s,baz=220,slow=11,SNR=26						
	4.7nm,0.4s						
FINES	**FINESS Array B**	**37.38**	**326**	P	**P**	**15 50 30.9**	**-0.7**
	2.3nm,1.1s,baz=115,slow=12,SNR=3.9						
	2.3nm,1.1s						

HEL 11 15:57:44.2±0.2, 67°.62N×33°.79E, h0km, ML1.9, Suspected explosion

KOLA 11 15:57:44.9, 67°.64N×33°.75E, h0km, ML2.2, Error ellipse: s-maj=5.7km s-min=2.0km az=150.0, Khibiny, mines Kirovsk, Yukspor

IDC 11 15:57:45.7±1.2, 67°.72N×33°.63E, h0km, mbtmp3.5/6, ML2.2/4, Error ellipse: s-maj=15.3km s-min=8.5km az=69.0

ISC 11 15:57:41.5±0.8, 67°.59N±0°.03×34°.06E±0°.04, h0km, n36, σ1°87/63, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.25**	**265**	P	**Pg**	**15 57 47.4**	**+1.1**
LVZ	**Lovozero**	**0.38**	**36**	P	**Pb**	**15 57 52.0**	**+0.8**
LVZ				S	**Sb**	**15 57 59.0**	**+1.4**
LVZ	**Lovozero**	**0.38**	**36**	PG	**Pb**	**15 57 51.5**	**+0.4**
	baz=225						
LVZ				SG	**Sb**	**15 57 58.3**	**+0.7**
APA0	**Apatity Array**	**0.41**	**272**	P	**Pg**	**15 57 49.7**	**+0.4**
APA0				S	**Sg**	**15 57 53.9**	**-0.7**
TERR	**Teriberka**	**1.66**	**13**	P	**Pb**	**15 58 13.6**	**+0.6**
TERR				S	**Sb**	**15 58 34.9**	**+0.5**
VRF	**Varrio**	**1.71**	**277**	PG	**Pn**	**15 58 12.6**	**+0.2**
VRF				MSG		15 58 32.1	
	comp=Z,12nm,0.2s						
VRF				SG	**Sn**	**15 58 33.1**	**-1.9**
OLKF	**Oulanka, Finla**	**2.23**	**237**	PG	**Pb**	**15 58 23.1**	**+0.4**
OLKF				MSG		15 58 48.2	
	comp=Z,6.6nm,0.2s						
OLKF				SG	**Sg**	**15 58 52.5**	**-0.6**
PRVG	**Vayda Guba**	**2.27**	**343**	P	**Pb**	**15 58 23.7**	**+0.4**
PRVG				S	**Sb**	**15 58 52.6**	**+0.8**
KU6	**Riekki**	**2.28**	**228**	PG	**Pb**	**15 58 23.8**	**+0.3**
	baz=45						
KU6				MSG		15 58 50.0	
	comp=Z,4.7nm,0.2s						
KU6				SG	**Sb**	**15 58 53.8**	**+1.6**
RAJF	**Raja-Jooseppi**	**2.34**	**295**	PB	**Pn**	**15 58 22.9**	**+1.8**
RAJF				SN	**Sn**	**15 58 50.8**	**+0.3**
MSF	**Maaselka**	**2.61**	**232**	PG	**Pb**	**15 58 29.4**	**+0.3**
MSF				SG	**Sb**	**15 59 03.3**	**+1.6**
SGF	**Sodankyl**	**2.90**	**271**	PG	**Pb**	**15 58 33.2**	**-0.8**
SGF				SG	**Sb**	**15 59 08.8**	**-1.1**
KMNF	**Kaamanen**	**3.05**	**304**	PN	**Pn**	**15 58 32.0**	**+1.1**
KMNF				SN	**Sn**	**15 59 08.1**	**+0.1**
VADS	**Vadso**	**3.06**	**328**	P	**Pn**	**15 58 32.1**	**+1.2**
VADS				S	**Sn**	**15 59 07.5**	**-0.7**
RANF	**Ranua**	**3.29**	**245**	PB	**Pb**	**15 58 39.7**	**-0.9**
	baz=57						
RANF				SG	**Sb**	**15 59 22.2**	**+1.2**
RNF	**Rovaniemi**	**3.30**	**256**	PN	**Pn**	**15 58 35.8**	**+1.5**
	baz=72						
RNF				SN	**Sn**	**15 59 14.7**	**+0.6**
KEV	**Kevo**	**3.37**	**313**	PN	**Pn**	**15 58 36.8**	**+1.5**
	baz=129						
KEV				SN	**Sn**	**15 59 15.3**	**-0.6**
ARA0	**ARCESS Array S**	**3.70**	**306**	PN	**Pn**	**15 58 40.6**	**+0.8**
	baz=121						
ARA0				SN	**Sn**	**15 59 22.3**	**-1.7**
ARCES	**ARCESS Array B**	**3.70**	**306**	P	**Pn**	**15 58 40.5**	**+0.7**
ARCES				S	**Sn**	**15 59 22.0**	**-2.0**
ARCES	**ARCESS Array B**	**3.70**	**306**	Pn	**Pn**	**15 58 40.7**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=116,slow=14,SNR=52						
ARCES				Pg	**Pb**	**15 58 49.1**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=117,slow=15,SNR=15						
ARCES				Sn	**Sn**	**15 59 21.0**	**-3.0**
	comp=Z,1.1nm,0.3s,baz=116,slow=24,SNR=13						
ARCES				Lg	Lg	15 59 33.0	
	comp=Z,2.1nm,0.3s,baz=113,slow=36,SNR=12						
	comp=Z,2.0nm,0.3s						
RMF	**Romuvaara**	**3.79**	**208**	PN	**Pn**	**15 58 43.5**	**+2.4**
	baz=25						
KLF	**Kolari**	**3.91**	**269**	PG	**Pb**	**15 58 51.6**	**+0.4**
	baz=82						
KLF				SG	**Sb**	**15 59 42.3**	**+3.2**
HEF	**Hetta**	**4.00**	**287**	PN	**Pn**	**15 58 46.0**	**+2.1**
HEF				SN	**Sn**	**15 59 29.8**	**-1.6**
TOF	**Tornio**	**4.13**	**253**	PG	**Pb**	**15 58 56.9**	**+1.9**
OUL	**Oulu**	**4.14**	**236**	PB	**Pb**	**15 58 52.9**	**-2.2**
	baz=45						
KTK1	**Kautokeino**	**4.26**	**294**	PG	**Pb**	**15 58 58.3**	**+1.1**
KTK1				SN	**Sn**	**15 59 36.2**	**-1.7**
PAJU	**Pajala**	**4.28**	**267**	PG	**Pb**	**15 58 58.6**	**+1.1**
	baz=74						
PAJU				SN	**Sn**	**15 59 38.1**	**-0.3**
KALU	**Kalix**	**4.59**	**253**	PG	**Pb**	**15 59 05.1**	**+2.4**
KALU				SG	**Sb**	**16 00 03.6**	**+5.2**
LANU	**Lannavaara**	**4.60**	**281**	PN	**Pn**	**15 58 52.5**	**+0.4**
LANU				SN	**Sn**	**15 59 45.5**	**-0.6**
FINES	**FINESS Array B**	**7.06**	**213**	Pn	**Pn**	**15 59 27.7**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=30,slow=14,SNR=5.2						
FINES				Sn	**Sn**	**16 00 46.1**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=23,slow=23,SNR=2.3						
FINES				Lg	Lg	16 01 20.0	
	comp=Z,0.6nm,0.3s,baz=23,slow=26,SNR=4.7						
	comp=Z,1.1nm,0.9s						
FAUS	**Fauske**	**7.21**	**277**	S	**Sn**	**16 00 44.9**	**-5.4**
HFS	**Hagfors**	**11.63**	**240**	Sn	**Sn**	**16 02 32.0**	**-6.8**
	comp=Z,0.2nm,0.3s,baz=60,slow=20,SNR=3.3						
HFS				Lg	Lg	16 03 41.2	
	comp=Z,0.1nm,0.3s,baz=63,slow=26,SNR=2.2						
SPITS	**Spitsbergen Ar**	**11.75**	**342**	Pn	**Pn**	**16 00 28.7**	**-1.3**
	comp=Z,7.3nm,1.0s,baz=142,slow=14,SNR=6.3						
SPITS				Sn	Sn	16 02 32.7	-8.9
	baz=151,slow=24						
NOA	**NORSAR Array B**	**11.83**	**247**	Pn	**Pn**	**16 00 30.9**	**-0.3**
	baz=51,slow=9.7,SNR=2.0						
NOA				Lg	Lg	16 03 50.2	
	baz=41,slow=25,SNR=2.0						
	comp=Z,0.3nm,0.6s						
ARU	**Arti**	**15.90**	**123**	Pn	**Pn**	**16 01 26.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=331,slow=7.7,SNR=4.0						
	comp=Z,1.9nm,0.5s						
AKASG	**Malin Array Be**	**17.11**	**190**	Pn	**Pn**	**16 01 39.2**	**-2.5**
	comp=Z,0.4nm,0.6s,baz=8.9,slow=13,SNR=2.2						

IDC 11 16:02:25.4±0.8, 6°.30S×142°.89E, h0km, mb4.0/12, mbtmp4.0/15, ML2.1/1, MS3.5/2, Error ellipse: s-maj=30.3km s-min=18.0km az=79.0

ISC 11 16:02:30.7±0.6, 6°.51S±0°.06×142°.73E±0°.07, h35km, n29, σ1°93/31, mb3.9/12, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**4.65**	**327**	P	**Pn**	**16 03 38.2**	**-0.3**
PMG	**Port Moresby**	**5.25**	**124**	P	**Pn**	**16 03 47.9**	**+1.2**
PMG	**Port Moresby**	**5.25**	**124**	P	**Pn**	**16 03 47.8**	**+1.1**
PMG	**Port Moresby**	**5.25**	**124**	Pn	**Pn**	**16 03 46.8**	**+0.2**
	4.4nm,0.3s,baz=356,slow=9.4,SNR=26						
PMG				Sn	**Sn**	**16 04 44.2**	**-1.8**
	3.5nm,0.3s,baz=218,slow=23,SNR=13						
	8.6nm,0.3s						
FAKI	**Fak Fak**	**11.03**	**288**	P	**Pn**	**16 05 06.1**	**0.0**
KDU	**Kakadu**	**11.83**	**238**	P	**Pn**	**16 05 17.4**	**+0.5**
MTN	**Manton Dam**	**13.04**	**240**	P	**Pn**	**16 05 33.3**	**-0.3**
DRS	**Darwin Rock St**	**13.06**	**242**	P	**Pn**	**16 05 34.2**	**+0.3**
QIS	**Mount Isa**	**14.29**	**192**	P	**Pn**	**16 05 51.7**	**+1.1**
WRA	**Warramunga Arr**	**15.64**	**211**	Pn	**Pn**	**16 06 07.8**	**-0.8**
	0.6nm,0.3s,baz=32,slow=13,SNR=34						
WRA				Sn	**Sn**	**16 08 53.9**	**-7.0**
	0.6nm,0.3s,baz=29,slow=24,SNR=5.7						
WRA				Lg	Lg	16 10 44.0	
	0.4nm,0.3s,baz=32,slow=30,SNR=4.7						
KNRA	**Kununurra**	**16.45**	**235**	P	**Pn**	**16 06 19.8**	**+0.9**
ASAR	**Alice Springs**	**19.05**	**206**	P	**Pn**	**16 06 53.5**	**+2.4**
	10nm,0.8s,baz=28,slow=12,SNR=65						
ASAR				S	**Sn**	**16 10 19.4**	**-4.2**
	1.3nm,0.7s,baz=15,slow=29,SNR=5.0						
ASAR				Lg	Lg	16 12 27.8	
	0.1nm,0.3s,baz=19,slow=29,SNR=2.3						
ASAR				LR	LR	16 14 55.3	
	comp=Z,178nm,18.4s,baz=5.5,slow=39						
BATI	**Baumata**	**19.21**	**258**	P	**P**	**16 06 52.6**	**+0.8**
	6.9nm,0.8s,baz=135,slow=5.7,SNR=3.6						
INKA	**Innaminka**	**21.20**	**185**	P	**P**	**16 07 15.7**	**+2.4**
OOD	**Oodnadatta**	**22.20**	**197**	P	**P**	**16 07 26.3**	**+2.2**
WRKA	**Warakurna**	**23.03**	**215**	P	**P**	**16 07 34.2**	**+1.3**
STKA	**Stephens Creek**	**25.26**	**182**	P	**P**	**16 07 54.0**	**+0.4**
	2.8nm,0.8s,baz=18,slow=6.4,SNR=3.2						
	2.8nm,0.8s						
KSRS	**Korea Array**	**45.87**	**344**	P	**P**	**16 10 48.4**	**-1.2**
	0.7nm,0.8s,baz=134,slow=7.1,SNR=2.9						
	0.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**49.80**	**301**	P	**P**	**16 11 21.1**	**+0.7**
	0.3nm,0.5s,baz=123,slow=5.4,SNR=4.4						
	0.3nm,0.5s						
USRK	**Ussuriysk Ar.**	**51.40**	**350**	P	**P**	**16 11 30.5**	**-1.5**
	1.0nm,0.7s,baz=168,slow=8.7,SNR=2.4						
	1.0nm,0.7s						
SONM	**Songino Array**	**62.86**	**333**	P	**P**	**16 12 52.8**	**-0.5**
	0.3nm,0.5s,baz=152,slow=7.6,SNR=2.5						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**75.22**	**322**	P	**P**	**16 14 10.5**	**+0.7**
	1.1nm,0.9s,baz=98,slow=8.7,SNR=7.5						
	1.1nm,0.9s						
ZALV	**Zalesovo Beam**	**77.22**	**329**	P	**P**	**16 14 20.4**	**-0.6**
	0.6nm,0.5s,baz=140,slow=12,SNR=3.7						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**79.12**	**324**	P	**P**	**16 14 31.7**	**+0.1**
	1.0nm,0.9s,baz=113,slow=4.6,SNR=5.8						
	1.0nm,0.9s						
QSPA	**South Pole Qui**	**83.46**	**180**	P	**P**	**16 14 55.9**	**+1.4**
	1.0nm,0.8s,baz=300,slow=0.9,SNR=7.4						
	1.0nm,0.8s						
NRIK	**Noril'sk**	**84.48**	**343**	P	**P**	**16 14 59.3**	**-0.1**
	2.3nm,0.6s,baz=143,slow=5.2,SNR=5.2						
	2.3nm,0.6s						
BVAR	**Borovoye Array**	**84.70**	**325**	P	**P**	**16 15 00.8**	**-0.1**
	3.6nm,0.8s,baz=108,slow=7.0,SNR=22						
	3.6nm,0.8s						
ILAR	**Eielson Array**	**87.64**	**24**	P	**P**	**16 15 13.5**	**-1.7**
	1.6nm,0.7s,baz=252,slow=4.8,SNR=23						
	1.6nm,0.7s						
YBH	**Yreka Blue Hor**	**97.69**	**49**	LR	LR	16 50 27.8	
	comp=Z,19nm,20.2s,baz=16,slow=30						

NOU 11 16:07:09.9, 10°.62S×162°.14E, h48km, mb4.6/14, Solomon Islands

NEIC 11 16:07:10.3±2.0, 10°.8S±0°.2×162°.0E±0°.2, h35km±2km, mb4.3/5, Error ellipse: s-maj=35.1km s-min=12.4km az=47.0

IDC 11 16:07:14.9±2.7, 10°.40S×161°.86E, h113km±21km, mb3.5/13, mbtmp3.9/14, MS3.3/13, Error ellipse: s-maj=27.1km s-min=18.1km az=98.0

ISC 11 16:07:08.0±0.6, 10°.47S±0°.08×162°.21E±0°.09, h54km, n46, σ1°45/38, mb3.8/15, MS3.3/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.46**	**295**	P	**Pn**	**16 07 47.4**	**+1.8**
HNR	**Honiara**	**2.46**	**295**	P	**Pn**	**16 07 47.7**	**+2.1**
	11μm,0.4s,baz=174,slow=7.4,SNR=33						
HNR				S	**Sn**	**16 08 16.9**	**+2.4**
	33μm,0.4s,baz=65,slow=15,SNR=15						
KOUNC	**Koumac, New Ca**	**10.22**	**169**	Pn	**Pn**	**16 09 30.4**	**-1.6**
KOUNC	**Koumac, New Ca**	**10.22**	**169**	P	**Pn**	**16 09 32.0**	**0.0**
LIFNC	**LIFOU**	**11.33**	**155**	Pn	**Pn**	**16 09 45.8**	**-1.4**
LIFNC	**LIFOU**	**11.33**	**155**	P	**Pn**	**16 09 46.4**	**-0.8**
DZM	**Mont Dzumac**	**12.23**	**161**	Pn	**Pn**	**16 09 60.0**	**+0.4**
DZM	**Mont Dzumac**	**12.23**	**161**	P	**Pn**	**16 10 01.0**	**+1.4**
DZM	**Mont Dzumac**	**12.23**	**161**	LR	LR	16 13 42.9	
	comp=Z,162nm,19.4s,baz=328,slow=31						
MARNC	**Mare, Loyalty**	**12.29**	**154**	Pn	**Pn**	**16 10 01.1**	**+0.7**
MARNC	**Mare, Loyalty**	**12.29**	**154**	P	**Pn**	**16 10 02.1**	**+1.8**
	2.0nm,0.8s						
OUENC	**Ouen Island, N**	**12.68**	**160**	Pn	**Pn**	**16 10 06.1**	**+0.5**
OUENC	**Ouen Island, N**	**12.68**	**160**	P	**Pn**	**16 10 06.2**	**+0.5**
	47nm,2.5s						
PINNC	**Pines Island,**	**13.07**	**158**	Pn	**Pn**	**16 10 12.0**	**+1.1**
PMG	**Port Moresby**	**14.86**	**273**	LR	LR	16 15 57.3	
	comp=Z,259nm,19.7s,baz=104,slow=36						
RK1H	**Rockhampton Ha**	**17.03**	**220**	P	**Pn**	**16 11 01.3**	**-1.2**
	11nm,0.9s						
CTA	**Charters Tower**	**18.11**	**236**	P	**Pn**	**16 11 17.0**	**+1.2**
	42nm,1.0s						
CTA	**Charters Tower**	**18.11**	**236**	P	**Pn**	**16 11 15.7**	**-0.1**
	20nm,0.7s,baz=74,slow=11,SNR=7.9						
CTA				LR	LR	16 16 40.7	
	comp=Z,90nm,19.8s,baz=90,slow=32						
CTAO	**Charters Tower**	**18.11**	**236**	P		**16 11 15.0**	**-0.5**
CTAO				IAmb	IAmb	16 11 18.4	
	comp=Z,24nm,0.8s						
CTAO	**Charters Tower**	**18.11**	**236**	P	**Pn**	**16 11 17.0**	**+1.2**
	comp=Z,36nm,1.1s						
EIDS	**Eidsvold**	**18.19**	**214**	P	**P**	**16 11 15.2**	**-1.2**
EIDS				IAmb	IAmb	16 11 19.6	
	comp=Z,36nm,1.5s						
ARMA	**Armidale**	**22.16**	**205**	P	**P**	**16 11 59.1**	**-0.5**
ARMA	**Armidale**	**22.16**	**205**	P	**P**	**16 11 59.8**	**+0.3**
	comp=Z,10nm,2.0s						
INKA	**Innaminka**	**26.50**	**227**	P	**P**	**16 12 41.3**	**+0.8**
	comp=Z,22nm,1.3s						
WRA	**Warramunga Arr**	**28.45**	**247**	P	**P**	**16 12 57.1**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=78,slow=8.9,SNR=1.3						
	comp=Z,1.3nm,0.7s						
STKA	**Stephens Creek**	**28.59**	**219**	LR	LR	16 24 13.0	
	comp=Z,141nm,19.2s,baz=25,slow=36						
ASAR	**Ice Springs**	**30.00**	**240**	P	**P**	**16 13 09.8**	**-1.9**
	comp=Z,1.9nm,0.8s,baz=61,slow=9.6,SNR=4.5						
ASAR				LR	LR	16 24 46.6	
	comp=Z,124nm,18.6s,baz=67,slow=35						
	comp=Z,1.9nm,0.8s						
URZ	**Urewera**	**30.73**	**157**	LR	LR	16 23 53.6	
	comp=Z,65nm,18.9s,baz=122,slow=32						
BATI	**Baumata**	**37.91**	**267**	P	**P**	**16 14 20.4**	**0.0**
	comp=Z,6.1nm,0.6s,baz=155,slow=17,SNR=2.8						
BATI				LR	LR	16 31 21.7	
	comp=Z,67nm,18.3s,baz=236,slow=38						
	comp=Z,6.1nm,0.6s						
PPT	**Papeete**	**47.20**	**104**	LR	LR	16 32 39.0	
	comp=Z,21nm,18.9s,baz=296,slow=32						
JNU	**Nakatsue**	**52.64**	**327**	LR	LR	16 39 24.3	
	comp=Z,13nm,18.0s,baz=113,slow=37						
ASAJ	**Asahikawa**	**57.17**	**343**	LR	LR	16 38 31.5	
	comp=Z,19nm,21.6s,baz=92,slow=33						
KSRS	**Korea Array**	**57.49**	**328**	LR	LR	16 39 49.3	
	comp=Z,9.2nm,20.5s,baz=150,slow=34						
USRK	**Ussuriysk Ar.**	**60.93**	**336**	P	**P**	**16 17 14.9**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=148,slow=4.2,SNR=1.5						
	comp=Z,0.8nm,0.9s						
VNDA	**Vanda**	**67.03**	**180**	P	**P**	**16 17 56.5**	**+1.6**
VNDA	**Vanda**	**67.03**	**180**	P	**P**	**16 17 56.3**	**+1.3**
	comp=Z,2.6nm,0.8s,baz=329,slow=5.6,SNR=7.3						
	comp=Z,2.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**68.71**	**295**	P	**P**	**16 18 03.0**	**-3.5**
	comp=Z,0.2nm,0.4s,baz=120,slow=4.6,SNR=1.5						
	comp=Z,0.2nm,0.4s						
MA2	**Magadan**	**70.42**	**354**	LR	LR	16 46 11.7	
	comp=Z,15nm,21.1s,baz=92,slow=33						
SONM	**Songino Array**	**76.18**	**325**	P	**P**	**16 18 47.9**	**-2.6**
	comp=Z,0.1nm,0.4s,baz=140,slow=6.1,SNR=1.6						
SONM				LR	LR

ASAR	**Alice Springs**	**24.99**	**220**	P	**P**	**16 28 56.6**	**-2.3**
	0.5nm,0.6s,baz=57,slow=8.8,SNR=12							
	0.5nm,0.6s							
MJAR	**Matsushiro Arr**	**42.97**	**345**	LR	LR	16 50 36.6		
	comp=Z,12nm,18.1s,baz=1.5,slow=37							
SONM	**Songino Array**	**65.55**	**329**	P	**P**	**16 34 17.6**	**-1.2**
	0.1nm,0.4s,baz=131,slow=8.1,SNR=1.7							
	0.1nm,0.4s							
MKAR	**Makanchi Array**	**79.33**	**319**	P	**P**	**16 35 42.1**	**+1.2**
	0.3nm,0.9s,baz=102,slow=4.7,SNR=1.9							
	0.3nm,0.9s							

IDC 11 16:26:54.5±13.0, 33°60N×136°44E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=569.4km s-min=30.2km az=64.0, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**26.64**	**311**	P	P	16 32 34.9	0.0
	0.2nm,0.5s,baz=98,slow=8.9,SNR=5.5						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**53.28**	**182**	P	P	16 36 14.9	-0.3
	0.2nm,0.4s,baz=0.9,slow=8.2,SNR=6.9						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**57.00**	**183**	P	P	16 36 42.1	+0.1
	0.6nm,1.0s,baz=358,slow=5.6,SNR=7.3						
	0.6nm,1.0s						

NEIC 11 16:40:24.9±0.6, 19°.14N±0°.03×155°.52W±0°.03, h45km±3km, Error ellipse: s-maj=5.2km s-min=3.7km az=211.0

HVO 11 16:40:24.8±1.1, 19°02N±0°.03×155°50W±0°.09, h51km±6km, ML2.6/26, ML2.9/52(NEIC), Error ellipse: s-maj=12.4km s-min=4.6km az=93.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.24**	**23**		Pn	16 40 32.6	-0.9
KHU	**Kahuku**	**0.25**	**333**		Pn	16 40 32.2	-1.7
KHU				IAML		16 40 39.5	
	comp=E,693nm,1.0s						
HLP	**Hilina Pali**	**0.33**	**33**		Pn	16 40 33.2	-1.2
HLP	**Hilina Pali**	**0.33**	**33**		Sn	16 40 40.6	-0.6
SDHHI	**Sand Hill**	**0.41**	**27**		Pn	16 40 33.4	-1.9
WRMHI	**West Rim**	**0.43**	**25**		Pn	16 40 33.8	-1.7
RIM	**Rim**	**0.43**	**29**		Pn	16 40 34.1	-1.4
RIM				IAML		16 40 48.4	
	comp=E,858nm,0.8s						
KKO	**Keanakako`i**	**0.43**	**30**		Pn	16 40 34.3	-1.2
KKO				IAML		16 40 44.6	
	comp=E,918nm,1.0s						
NPH	**North Pit**	**0.44**	**27**	Pn	Pn	16 40 34.3	-1.2
NPH				IAML		16 40 43.0	
	comp=N,485nm,1.2s						
PUH	**Pauahi**	**0.44**	**37**		Pn	16 40 34.0	-1.6
PUH				IAML		16 40 46.2	
	comp=N,592nm,0.3s						
UWE	**Uwekahuna**	**0.44**	**25**		Pn	16 40 34.0	-1.6
OBL	**Observatory Le**	**0.45**	**27**	Pn	Pn	16 40 34.4	-1.2
BYL	**Byron's Ledge**	**0.45**	**29**		Pn	16 40 34.7	-1.0
BYL	**Byron's Ledge**	**0.45**	**29**	IAML		16 40 41.3	
	comp=N,620nm,1.0s						
BYL				IAML		16 40 50.1	
	comp=E,605nm,0.8s						
UWB	**Uwekahuna B**	**0.45**	**27**		Pn	16 40 34.6	-1.1
HATHI	**Halema'uma'u T**	**0.46**	**29**		Pn	16 40 34.5	-1.3
HATHI				IAML		16 40 44.8	
	comp=E,857nm,0.7s						
SBLHI	**Steaming Bluff**	**0.46**	**28**		Pn	16 40 34.2	-1.6
SBLHI	**Steaming Bluff**	**0.46**	**28**	IAML		16 40 45.0	
	comp=N,688nm,0.6s						
SBLHI				IAML		16 40 46.2	
	comp=E,798nm,0.8s						
KNHH	**Kane Nui o Ham**	**0.47**	**40**		Pn	16 40 34.7	-1.2
MWH	**Moku'aweowe**	**0.47**	**348**		Pn	16 40 34.5	-1.9
MWH				IAML		16 40 42.9	
	comp=E,486nm,0.8s						
MLH	**Mauna Loa**	**0.48**	**12**		Pn	16 40 34.4	-1.8
MLH				IAML		16 40 45.6	
	comp=E,680nm,0.4s						
MLH				IAML		16 40 47.1	
	comp=N,842nm,0.7s						
RSD	**Rainshed**	**0.49**	**25**		Pn	16 40 34.6	-1.5
RSD				IAML		16 40 56.1	
	comp=N,464nm,3.3s						
STCH	**Steam Cracks**	**0.51**	**44**		Pn	16 40 35.1	-1.1
STCH				IAML		16 40 44.0	
	comp=E,591nm,0.5s						
JCUZ	**Jacuzzi**	**0.52**	**46**	Pn	Pn	16 40 35.6	-0.8
JCUZ				IAML		16 40 43.9	
	comp=N,523nm,0.7s						
JCUZ				IAML		16 40 51.1	
	comp=E,486nm,0.6s						
MLOA	**Mauna Loa Obse**	**0.52**	**352**		Pn	16 40 34.9	-1.9
MLOA				IAML		16 40 48.7	
	comp=N,489nm,0.2s						
NPOC	**North of Pu'u**	**0.52**	**44**		Pn	16 40 34.9	-1.5
NPOC				IAML		16 40 43.7	
	comp=N,478nm,0.6s						
NPOC				IAML		16 40 50.1	
	comp=E,504nm,0.8s						
ALEP	**Alea Permanent**	**0.54**	**345**		Pn	16 40 34.9	-2.1
ALEP					Sn	16 40 42.2	-3.5
HMH	**Humu'ula Sheep**	**0.58**	**1**		Pn	16 40 35.4	-2.0
HMH				IAML		16 40 44.7	
	comp=N,630nm,0.2s						
HMH				IAML		16 40 49.4	
	comp=E,713nm,0.7s						
JOKA	**Jonika Flow**	**0.62**	**48**		Pn	16 40 36.5	-1.1
KHLU	**Kahalu`u**	**0.68**	**327**		Pn	16 40 36.4	-2.1
POHA	**Pohakuloa**	**0.74**	**357**		Pn	16 40 37.1	-2.2
POHA				IAML		16 40 52.8	
	comp=E,434nm,0.5s						
POHA				IAML		16 40 55.7	
	comp=E,516nm,0.5s						
HUH	**Hualalai**	**0.74**	**334**		Pn	16 40 37.4	-1.9
HUH				IAML		16 40 57.7	
	comp=N,418nm,0.2s						
HUH				IAML		16 41 04.4	
	comp=E,440nm,0.6s						
HPAH	**Hawaii Prepara**	**1.02**	**349**		Pn	16 40 40.6	-2.4
MHA	**Mahukona**	**1.23**	**342**	Pn	Pn	16 40 43.4	-2.2
HLK	**Haleakala**	**1.87**	**338**	Pn	Pn	16 40 54.2	-0.4

IDC 11 16:44:35.2±7.7, 6°.50S×103°.25E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=158.7km s-min=79.3km az=179.0

DJA 11 16:44:44.6±0.9, 6°.5S×10°.2E±°, h25km±5km, M3.9/7, mb4.1/1, MLv3.8/7

ISC 11 16:44:43.4±1.6, 6°0S±0°.1×102°27E±0°.07, h21km, n24, σ0s87/13, mb3.7/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.73**	**23**	P	**Pn**	**16 45 13.6**	**+1.3**
MNAI				S	**Sb**	**16 45 35.1**	**-0.7**
LWLI	**Liwa**	**2.01**	**62**	P	**Pn**	**16 45 17.0**	**+0.7**
LWLI				S	**Sb**	**16 45 43.4**	**-0.7**
KASI	**Kota Agung**	**2.26**	**79**	P	**Pb**	**16 45 22.1**	**-1.4**
PPSI	**Pulau Pagai**	**3.89**	**325**	P	**Pn**	**16 45 41.3**	**-0.7**
PDSI	**Padang**	**5.33**	**340**	P	**Pn**	**16 46 02.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**24.48**	**352**	P	**P**	**16 50 01.4**	**+0.1**
	0.3nm,0.3s,baz=183,slow=8.7,SNR=5.1						
	0.3nm,0.3s						
H08S2	**Diego Garcia H**	**29.61**	**265**	T	T	17 21 49.7	
	baz=88,slow=76,SNR=41						
H08S3	**Diego Garcia H**	**29.62**	**265**	T	T	17 21 51.2	
	baz=88,slow=76,SNR=38						
H08S1	**Diego Garcia H**	**29.63**	**265**	T	T	17 21 51.0	
	baz=88,slow=76,SNR=22						
H01W3	**Cape Leeuwin H**	**30.80**	**161**	T	T	17 23 35.3	
	baz=335						
H01W2	**Cape Leeuwin H**	**30.81**	**161**	T	T	17 23 31.7	
	baz=335						
H01W1	**Cape Leeuwin H**	**30.81**	**161**	T	T	17 23 33.4	
	baz=335						
SONM	**Songino Array**	**53.69**	**3**	P	**P**	**16 54 04.2**	**+0.4**
	0.9nm,0.8s,baz=184,slow=8.2,SNR=6.9						
	0.9nm,0.8s						
MKAR	**Makanchi Array**	**55.44**	**343**	P	**P**	**16 54 17.3**	**+0.9**
	0.1nm,0.4s,baz=156,slow=7.3,SNR=2.9						
	0.1nm,0.4s						
USRK	**Ussuriysk Ar.**	**56.66**	**25**	P	P	16 54 19.5	-5.6
	0.6nm,0.8s,baz=210,slow=8.3,SNR=1.6						
	0.6nm,0.8s						
H04N2	**CROZET ISLANDS**	**59.06**	**219**	T	T	17 58 43.3	
	baz=62,slow=75,SNR=35						
H04N1	**CROZET ISLANDS**	**59.07**	**219**	T	T	17 58 45.8	
	baz=62,slow=75,SNR=34						
H04N3	**CROZET ISLANDS**	**59.07**	**219**	T	T	17 58 43.7	
	baz=62,slow=75,SNR=39						
H04S1	**CROZET ISLANDS**	**59.29**	**218**	T	T	17 59 04.9	
	baz=62,slow=76,SNR=10						
H04S3	**CROZET ISLANDS**	**59.31**	**218**	T	T	17 59 02.2	
	baz=62,slow=76,SNR=8.5						
H04S2	**CROZET ISLANDS**	**59.31**	**218**	T	T	17 59 03.6	
	baz=62,slow=76,SNR=8.0						
KURBB	**Kurchatov Arra**	**59.97**	**343**	P	**P**	**16 54 48.3**	**+0.2**
	0.4nm,0.7s,baz=161,slow=8.8,SNR=2.3						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**61.47**	**348**	P	**P**	**16 54 59.1**	**+0.9**
	0.8nm,0.6s,baz=156,slow=7.4,SNR=4.2						
	0.8nm,0.6s						
BVAR	**Borovoye Array**	**64.66**	**339**	P	**P**	**16 55 19.7**	**+0.1**
	0.5nm,0.4s,baz=125,slow=6.7,SNR=4.6						
	0.5nm,0.4s						

IDC 11 16:45:36.3±8.1, 6°.97S×129°.38E, h132km±85km, mb2.9/1, mbtmp3.7/4, Error ellipse: s-maj=70.9km s-min=29.0km az=33.0

DJA 11 16:45:39.2±0.4, 7°.S±2°×12°.9E±°, h104km±17km, M3.8/11, mb3.6/6, mB4.7/1, MLv3.9/11, Mw(mB)3.9/1

ISC 11 16:45:36.8±0.8, 7°19S±0°.05×129°47E±0°.06, h139km, n18, σ2s70/25, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.98**	**114**	P	Pn	16 46 18.8	+7.8
SAUI	**Saumlaki**	**1.98**	**114**	P	**Pn**	**16 46 14.3**	**+3.3**
SAUI				S	**Sn**	**16 46 38.3**	**+1.1**
BNDI	**Bandanaira**	**2.69**	**9**	P	**Pn**	**16 46 19.4**	**-0.4**
BNDI				S	**Sn**	**16 46 55.6**	**+2.6**
NLAI	**Namlea**	**4.58**	**329**	P	**Pn**	**16 46 45.8**	**+1.2**
NLAI				S	**Sn**	**16 47 37.8**	**+0.6**
FAKI	**Fak Fak**	**5.07**	**33**	P	**Pn**	**16 46 51.0**	**0.0**
FAKI	**Fak Fak**	**5.07**	**33**	P	**Pn**	**16 46 52.8**	**+1.8**
	13nm,1.2s,0.1nm						
FAKI				S	**Sn**	**16 47 44.8**	**-4.0**
	13nm,1.2s,0.1nm						
DRS	**Darwin Rock St**	**5.39**	**165**	P	Pn	16 47 00.8	+5.5
SOEI	**Soe**	**5.74**	**243**	P	**Pn**	**16 47 03.2**	**+3.0**
SOEI	**Soe**	**5.74**	**243**	P	**Pn**	**16 47 02.7**	**+2.5**
	11nm,2.5s,0.1nm						
SOEI				S	**Sn**	**16 48 05.7**	**+0.5**
	11nm,2.5s,0.1nm						
MTN	**Manton Dam**	**5.85**	**164**	P	**Pn**	**16 47 06.0**	**+4.5**
SANI	**Sanana**	**6.18**	**326**	P	**Pn**	**16 47 05.5**	**-0.4**
	6.9nm,1.2s,0.0nm						
SANI				S	**Sn**	**16 48 14.5**	**-0.9**
	6.9nm,1.2s,0.0nm						
KDU	**Kakadu**	**6.21**	**152**	P	**Pn**	**16 47 11.0**	**+4.7**
BATI	**Baumata**	**6.48**	**242**	P	**Pn**	**16 47 11.4**	**+1.5**
	3.4nm,0.4s,baz=128,slow=12,SNR=2.3						
BATI				S	**Sn**	**16 48 22.4**	**-0.3**
	13nm,0.5s,baz=53,slow=20,SNR=11						
EDFI	**Ende, Flores**	**7.86**	**258**	P	**Pn**	**16 47 29.7**	**+1.1**
	4.1nm,1.7s,0.0nm						
KNRA	**Kununurra**	**8.46**	**185**	P	**Pn**	**16 47 38.8**	**+2.3**
WRA	**Warramunga Arr**	**13.53**	**160**	P	**Pn**	**16 48 44.5**	**+1.2**
	0.3nm,0.4s,baz=337,slow=13,SNR=19						
WRA				S	**Sn**	**16 51 08.2**	**-4.7**
	1.2nm,0.4s,baz=333,slow=22,SNR=9.4						
ASAR	**Alice Springs**	**16.93**	**166**	P	**Pn**	**16 49 28.8**	**+3.3**
	2.7nm,0.4s,baz=345,slow=10,SNR=141						
ASAR				S	**S**	**16 52 30.7**	**-3.9**
	0.4nm,0.5s,baz=345,slow=26,SNR=2.5						
MKAR	**Makanchi Array**	**68.10**	**327**	P	**P**	**16 56 20.2**	**-1.5**
	0.2nm,0.5s,baz=122,slow=7.6,SNR=2.5						
	0.2nm,0.5s						

NEIC 11 16:47:49.8±1.7, 19°.18N±0°.03×155°.45W±0°.02, h45km±3km, Error ellipse: s-maj=5.0km s-min=2.5km az=159.0

HVO 11 16:47:51.4±1.9, 19°10N±0°.05×155°37W±0°.03, h38km±3km, ML2.4/15, ML2.7/42(NEIC), Error ellipse: s-maj=7.1km s-min=3.0km az=159.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.14**	**348**		Pn	16 47 57.8	-4.6
HLP	**Hilina Pali**	**0.20**	**16**		Pn	16 47 57.0	-3.5
HLP				IAML		16 48 07.4	
	comp=N,784nm,0.7s						
KHU	**Kahuku**	**0.28**	**302**		Sn	16 48 03.8	-3.5
KHU	**Kahuku**	**0.28**	**302**		Pn	16 47 56.6	-3.4
KHU	**Kahuku**	**0.28**	**302**	IAML		16 48 04.0	
	comp=E,800nm,1.1s						
KHU				IAML		16 48 06.8	
	comp=N,679nm,0.5s						
SDHHI	**Sand Hill**	**0.29**	**14**		Pn	16 47 56.8	-3.1
RIM	**Rim**	**0.30**	**17**		Pn	16 47 56.9	-2.9
RIM				IAML		16 48 05.8	
	comp=E,520nm,1.1s						
RIM				IAML		16 48 11.5	
	comp=N,883nm,1.4s						
PUH	**Pauahi**	**0.31**	**28**		Pn	16 47 57.7	-2.2
PUH				IAML		16 48 05.2	
	comp=N,540nm,1.1s						
KKO	**Keanakako`i**	**0.31**	**18**		Pn	16 47 57.9	-2.0
KKO				IAML		16 48 07.0	
	comp=E,598nm,1.0s						
KKO				IAML		16 48 07.4	
	comp=N,872nm,0.6s						
WRMHI	**West Rim**	**0.31**	**12**		Pn	16 47 58.0	-1.9
NPH	**North Pit**	**0.32**	**15**	Pn	Pn	16 47 58.0	-1.9
OBL	**Observatory Le**	**0.32**	**14**	Pn	Pn	16 47 58.3	-1.7
BYL	**Byron's Ledge**	**0.33**	**18**		Pn	16 47 58.0	-1.9
BYL	**Byron's Ledge**	**0.33**	**18**	IAML		16 48 05.7	
	comp=E,538nm,0.6s						
BYL				IAML		16 48 10.8	
	comp=N,575nm,1.6s						
UWE	**Uwekahuna**	**0.33**	**12**		Pn	16 47 58.1	-1.8
UWB	**Uwekahuna B**	**0.33**	**15**		Pn	16 47 58.0	-2.0
KNHH	**Kane Nui o Ham**	**0.33**	**34**		Pn	16 47 59.2	-0.8
HATHI	**Halema'uma'u T**	**0.34**	**17**		Pn	16 47 57.9	-2.1
HATHI				IAML		16 48 09.2	
	comp=E,586nm,1.0s						
HATHI				IAML		16 48 09.7	
	comp=N,619nm,0.6s						
SBLHI	**Steaming Bluff**	**0.34**	**16**		Pn	16 47 57.8	-2.2
SBLHI				IAML		16 48 06.2	
	comp=N,564nm,0.6s						
STCH	**Steam Cracks**	**0.36**	**39**		Pn	16 47 58.0	-2.2
STCH				IAML		16 48 10.5	
	comp=N,455nm,0.6s						
RSD	**Rainshed**	**0.37**	**13**	Pn	Pn	16 47 59.2	-1.2
MLH	**Mauna Loa**	**0.39**	**357**		Pn	16 47 59.1	-1.6
MLH				IAML		16 48 07.2	
	comp=N,515nm,0.4s						
MWH	**Moku'aweowe**	**0.44**	**330**		Pn	16 47 59.0	-2.6
MWH				IAML		16 48 07.1	
	comp=E,473nm,1.2s						
MWH				IAML		16 48 12.6	
	comp=N,504nm,0.5s						
MLOA	**Mauna Loa Obse**	**0.47**	**336**	Pn	Pn	16 47 59.9	-2.2
MLOA				IAML		16 48 07.7	
	comp=E,568nm,0.7s						
MLOA				IAML		16 48 08.2	
	comp=N,462nm,0.6s						
JOKA	**Jonika Flow**	**0.48**	**46**		Pn	16 47 58.9	-2.8
ALEP	**Alea Permanent**	**0.51**	**329**		Pn	16 48 00.9	-1.7
ALEP					Sn	16 48 07.6	-2.7
HMH	**Humu'ula Sheep**	**0.51**	**348**		Sn	16 48 07.4	-2.8
CPH	**Captain Cook**	**0.65**	**307**		Pn	16 48 00.3	-3.9
POHA	**Pohakuloa**	**0.67**	**347**	Pn	Pn	16 48 02.9	-1.8
POHA				IAML		16 48 17.2	
	comp=N,305nm,0.5s						
HPAH	**Hawaii Prepara**	**0.97**	**341**	Pn	Pn	16 48 04.8	-3.9
HPAH				IAML		16 48 16.1	
	comp=E,179nm,0.2s						
HPAH				IAML		16 48 18.1	
	comp=N,150nm,0.6s						
MHA	**Mahukona**	**1.19**	**335**	Pn	Pn	16 48 07.8	-3.8
HLK	**Haleakala**	**1.84**	**333**	Pn	Pn	16 48 17.5	-3.3
KHLH	**Kahului Airpor**	**2.04**	**331**	Pn	Pn	16 48 21.0	-2.3

IDC 11 16:55:07.4±4.7, 52°.05N×169°.77E, h0km, mb3.4/5, mbtmp3.5/7, ML3.3/2, Error ellipse: s-maj=127.2km s-min=19.3km az=177.0

KRSC 11 16:55:14.7±1.9, 52°.47N×168°.76E, h24km±58km, Ml3.9

ISC 11 16:55:09.1±1.0, 52°3N±0°.1×169°57E±0°.06, h10km, n32, σ2s88/33, mb3.5/6, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**2.80**	**79**	Pn	**Pn**	**16 55 53.3**	**-0.5**
	8.2nm,0.3s,baz=202,slow=19,SNR=12						
SHEM				Sn	**Sn**	**16 56 23.6**	**-4.0**
	20nm,0.3s,baz=268,slow=23,SNR=14						
	113nm,0.9s						
BKI	**Bering**	**3.61**	**325**	*eS*	**Sn**	**16 56 43.9**	**-3.8**
TUMD	**Tumrok D**	**6.17**	**302**	*eP*	**Pn**	**16 56 41.2**	**+1.0**
TUMD				*eS*	Sn	16 57 44.7	-6.1
TUMR	**Tumrok**	**6.34**	**302**	*eP*	**Pn**	**16 56 43.5**	**+1.0**
KMNR	**Kamenistaya**	**6.50**	**306**	*eS*	**Sn**	**16 57 55.5**	**-3.5**
KLY	**Klyuchi**	**6.59**	**311**	*eP*	**Pn**	**16 56 47.0**	**+1.1**
KLY				*eS*	**Sn**	**16 57 56.6**	**-4.4**
SMAR	**Somma**	**6.61**	**283**	*eP*	**Pn**	**16 56 48.3**	**+1.9**
DALK	**Dalny**	**6.62**	**281**	*eP*	**Pn**	**16 56 47.7**	**+1.3**
DALK				*eS*	**Sn**	**16 57 56.7**	**-5.2**
KRER	**Koryakskii**	**6.64**	**283**	*eP*	**Pn**	**16 56 48.0**	**+1.2**
AVH	**Avacha**	**6.65**	**283**	*eP*	**Pn**	**16 56 48.3**	**+1.5**
PET	**Petropavlovsk**	**6.69**	**281**	*eP*	**Pn**	**16 56 48.9**	**+1.7**
KRX	**Arik**	**6.71**	**283**	*eP*	**Pn**	**16 56 49.7**	**+2.1**
KOK	**Koryaka**	**6.71**	**283**	*eP*	**Pn**	**16 56 49.3**	**+1.6**
RUS	**Russkaya**	**6.78**	**276**	*eP*	**Pn**	**16 56 49.7**	**+1.3**
RUS				*eS*	**Sn**	**16 58 00.7**	**-4.9**
MTVR	**Mutnovka**	**6.98**	**276**	*eP*	**Pn**	**16 56 53.6**	**+2.2**
MTVR				*eS*	**Sn**	**16 58 07.4**	**-3.4**
KRMR	**Karymshinskiy**	**7.00**	**279**	*eP*	**Pn**	**16 56 52.3**	**+0.8**
KRMR				*eS*	**Sn**	**16 58 05.4**	**-5.7**
ASAK	**Asacha**	**7.16**	**275**	*eP*	**Pn**	**16 56 56.9**	**+3.2**
GNL	**Ganaly**	**7.16**	**286**	*eP*	**Pn**	**16 56 56.9**	**+3.0**
PETK	**Petropavlovsk-**	**7.26**	**281**	Pn	**Pn**	**16 56 57.5**	**+2.3**
	1.4nm,0.3s,baz=94,slow=17,SNR=22						
PETK				Sn	**Sn**	**16 58 13.9**	**-3.8**
	0.3nm,0.3s,baz=86,slow=34,SNR=1.4						
	9.8nm,0.7s						
APC	**Apacha**	**7.59**	**280**	*eP*	**Pn**	**16 57 02.9**	**+3.3**
KDAK	**Kodiak Island**	**22.15**	**61**	P	**P**	**17 00 03.7**	**-1.0**
	5.4nm,0.9s,baz=297,slow=6.8,SNR=1.2						
	5.4nm,0.9s						
YAK	**Yakutsk**	**23.35**	**310**	P	**P**	**17 00 20.0**	**+2.9**
	9.7nm,0.4s,baz=28,slow=17,SNR=5.1						
ILAR	**Eielson Array**	**25.33**	**44**	P	**P**	**17 00 36.2**	**+0.5**
	0.3nm,0.7s,baz=251,slow=7.3,SNR=6.3						
	0.3nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**32.57**	**185**	T	T	17 36 15.0	
	baz=2.6,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**32.58**	**185**	T	T	17 36 15.0	
	baz=2.6,slow=76,SNR=9.7						
H11N1	**WAKE ISLAND Hy**	**32.59**	**185**	T	T	17 36 11.8	
	baz=2.6,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy**	**33.79**	**185**	T	T	17 37 46.2	
	baz=3.0,slow=76,SNR=9.2						
H11S3	**WAKE ISLAND Hy**	**33.81**	**185**	T	T	17 37 47.9	
	baz=3.0,slow=76,SNR=6.4						
H11S2	**WAKE ISLAND Hy**	**33.81**	**185**	T	T	17 37 48.0	
	baz=3.0,slow=76,SNR=9.5						
YKA	**Yellowknife Ar**	**39.75**	**45**	P	**P**	**17 02 42.4**	**+1.0**
	0.2nm,0.6s,baz=292,slow=7.9,SNR=5.1						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**53.60**	**301**	P	**P**	**17 04 31.3**	**+1.2**
	0.2nm,0.7s,baz=60,slow=8.5,SNR=1.8						
	0.2nm,0.7s						
BVAR	**Borovoye Array**	**55.27**	**313**	P	**P**	**17 04 43.4**	**+1.3**
	0.5nm,0.5s,baz=58,slow=11,SNR=3.5						
	0.5nm,0.5s						

HEL 11 17:06:53.1±0.2, 67°.72N×33°.64E, h0km, ML1.5, Suspected explosion

KOLA 11 17:06:53.1, 67°.63N×33°.80E, h0km, ML1.8, Error ellipse: s-maj=3.7km s-min=1.2km az=150.0, Khibiny, mines Rasvumchorr, Central

IDC 11 17:06:55.3±1.9, 67°.68N×33°.38E, h0km, mbtmp3.5/4, ML2.3/4, Error ellipse: s-maj=21.4km s-min=11.9km az=73.0

ISC 11 17:06:52.8±0.8, 67°70N±0°.04×33°70E±0°.03, h0km, n25, σ1s25/40, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.17**	**221**	P	**Pg**	**17 06 56.1**	**0.0**
APA				S	**Sg**	**17 06 58.8**	**+0.5**
APA0	**Apatity Array**	**0.29**	**252**	P	**Pg**	**17 06 58.5**	**+0.2**
APA0				S	**Sg**	**17 07 02.7**	**+0.7**
LVZ	**Lovozero**	**0.41**	**60**	P	**Pg**	**17 07 00.8**	**+0.1**
LVZ				S	**Sg**	**17 07 06.7**	**+0.7**
LVZ	**Lovozero**	**0.41**	**60**	PG	**Pg**	**17 07 00.5**	**-0.3**
LVZ				SG	**Sg**	**17 07 06.9**	**+0.8**
VRF	**Varrio**	**1.56**	**274**	PN	**Pn**	**17 07 21.8**	**0.0**
	baz=86						
VRF				MSG		17 07 39.2	
	comp=Z,5.5nm,0.2s						
VRF				SN	**Sn**	**17 07 42.1**	**-0.6**
TERR	**Teriberka**	**1.60**	**18**	P	**Pn**	**17 07 22.4**	**+0.2**
TERR				S	**Sn**	**17 07 43.5**	**0.0**
PRVG	**Vayda Guba**	**2.13**	**346**	S	**Sb**	**17 07 59.5**	**+0.3**
RAJF	**Raja-Jooseppi**	**2.17**	**294**	PG	**Pn**	**17 07 31.3**	**+1.2**
RAJF				SG	**Sb**	**17 08 00.4**	**+0.2**
OLKF	**Oulanka, Finla**	**2.18**	**233**	PG	**Pb**	**17 07 32.2**	**-0.9**
OLKF				MSG		17 07 57.6	
	comp=Z,2.5nm,0.2s						
OLKF				SG	**Sb**	**17 08 00.5**	**-0.2**
KU6	**Riekki**	**2.26**	**224**	PG	**Pn**	**17 07 32.8**	**+1.4**
	baz=44						
KU6				MSG		17 07 60.0	
	comp=Z,1.4nm,0.2s						
KU6				SG	**Sb**	**17 08 02.7**	**-0.1**
MSF	**Maaselka**	**2.57**	**228**	PG	**Pb**	**17 07 38.2**	**-1.6**
MSF				SG	**Sb**	**17 08 13.5**	**+1.5**
SGF	**Sodankyl**	**2.76**	**268**	SG	**Sb**	**17 08 17.6**	**+0.2**
KMNF	**Kaamanen**	**2.88**	**304**

KK31	**Karatay Array**	**6.58**	**358**	Pn		**Pn**	**17 18 10.5**	**+2.6**
	1.5nm,0.4s,baz=174,slow=12,SNR=24							
KK31				Sn		**Sn**	**17 19 21.6**	**+0.3**
	1.8nm,0.3s,baz=188,slow=23,SNR=9.6							
GEYT	**Alibeck**	**10.29**	**282**	Pn		**Pn**	**17 18 59.0**	**+0.6**
	0.2nm,0.3s,baz=103,slow=6.4,SNR=1.7							
GEYT				Sn		**Sn**	**17 20 49.9**	**-1.8**
	0.8nm,0.3s,baz=139,slow=21,SNR=6.4							
	0.5nm,0.4s							
MKAR	**Makanchi Array**	**13.32**	**36**	Pn		**Pn**	**17 19 36.4**	**-2.3**
	baz=224,slow=4.0,SNR=1.7							
	0.1nm,0.4s							
AB31	**Akbulak array**	**15.02**	**331**	⇑P		**P**	**17 20 02.5**	**-1.0**
	0.4nm,0.6s,baz=169,slow=11,SNR=8.0							
ZALV	**Zalesovo Beam**	**19.93**	**25**	P		**P**	**17 20 58.0**	**+0.7**
	0.5nm,0.3s,baz=219,slow=11,SNR=4.6							
	0.5nm,0.3s							
BRG	**Berggiesshubel**	**42.54**	**308**	*e*P		**P**	**17 24 17.4**	**-1.8**
BRG				Amp			17 24 19.5	
	comp=Z,6.5nm,1.3s							
KLR	**Kul'dur**	**45.20**	**54**	LR		LR	17 44 20.9	
	comp=Z,45nm,18.1s,baz=30,slow=37							
TORD	**Torodi Ar. Bea**	**65.63**	**269**	P		**P**	**17 27 09.5**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=55,slow=5.2,SNR=4.2							
	comp=Z,0.3nm,0.5s							

IDC ***11*** *17:19:52.3±0.7,84°.81N×4°.06E,h0km,mb3.6/16, mbtmp3.7/18,ML4.1/2,MS3.4/32,Error ellipse: s-maj=19.9km s-min=14.3km az=65.0*

NEIC ***11*** *17:19:52.6±2.4,84°.7N±0°.1×±°,h10km±2km,mb4.1/22, Error ellipse: s-maj=31.1km s-min=14.0km az=55.0*

BER ***11*** *17:19:54.8±3.4,84°.75N×6°.02E,h10km,mb(Pn)3.9, ML3.9(NAO),Confirmed Earthquake*

KOLA ***11*** *17:19:54.7,84°.66N×1°.86E,h0km,ML2.6,Error ellipse: s-maj=206.7km s-min=43.0km az=60.0,Arctic Ocean,Gakkel ridge*

FCIAR ***11*** *17:19:55.0,84°.61N×7°.27E,h10km,station ZFI2 has station magnitude of 3.70 station OMEGA has station magnitude of 3.80 station LSH has station magnitude of 4.61 station PRGR has station magnitude of 4.65 station KLMR has station magnitude of 4.55*

ISC 11 17:19:52.9±0.5,84°.68N±0°.05×5°.35E±0°.05,h10km,n112, σ2941/112,mb4.0/30,MS3.3/30,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
NOR	**Nord**	**4.02**	**232**	Pn		**Pn**	**17 20 55.9**	**+1.5**
NOR	**Nord**	**4.02**	**232**	*e*P		**Pn**	**17 20 55.9**	**+1.5**
NOR	**Nord**	**4.02**	**232**	*e*P		**Pn**	**17 20 55.9**	**+1.5**
KBS	**Kingsbay**	**5.85**	**167**	Pn		**Pn**	**17 21 19.9**	**+0.4**
KBS				Sn		**Sn**	**17 22 23.8**	**-2.7**
KBS	**Kingsbay**	**5.85**	**167**			**Pn**	**17 21 20.0**	**+0.5**
KBS	**Kingsbay**	**5.85**	**167**	P		**Pn**	**17 21 18.9**	**-0.6**
KBS				S		**Sn**	**17 22 21.7**	**-4.8**
KBS	**Kingsbay**	**5.85**	**167**	*e*P		**Pn**	**17 21 19.1**	**-0.4**
KBS				*e*S		**Sn**	**17 22 21.2**	**-5.3**
KBS				IAML			17 22 26.1	
	comp=Z,7.6nm,0.5s							
KBS	**Kingsbay**	**5.85**	**167**	*e*P		**Pn**	**17 21 19.6**	**+0.1**
KBS	**Kingsbay**	**5.85**	**167**	*e*P		**Pn**	**17 21 18.8**	**-0.7**
KBS				*e*S		**Sn**	**17 22 22.2**	**-4.3**
ZFI2	**Zemlya Franca-**	**6.39**	**104**	*e*P		**Pn**	**17 21 26.8**	**-0.1**
ZFI2				*e*S		**Sn**	**17 22 33.0**	**-6.7**
	comp=Z,30nm,2.8s							
OMEGA	**Omega**	**6.42**	**104**	*e*P		**Pn**	**17 21 27.1**	**-0.1**
OMEGA				*e*S		**Sn**	**17 22 34.0**	**-6.4**
	comp=Z,34nm,1.8s							
SPA0	**Spitsbergen Ar**	**6.71**	**160**	Pn		**Pn**	**17 21 31.5**	**+0.2**
	baz=8.7,slow=12							
SPA0	**Spitsbergen Ar**	**6.71**	**160**	Pn		**Pn**	**17 21 31.5**	**+0.2**
	baz=8.7,slow=12							
SPA0	**Spitsbergen Ar**	**6.71**	**160**	*e*P		**Pn**	**17 21 31.1**	**-0.2**
SPA0				*e*S		**Sn**	**17 22 44.9**	**-2.9**
SPITS	**Spitsbergen Ar**	**6.71**	**160**	P		**Pn**	**17 21 31.3**	**-0.1**
SPITS				S		**Sn**	**17 22 43.7**	**-4.0**
SPITS	**Spitsbergen Ar**	**6.71**	**160**	Pn		**Pn**	**17 21 31.6**	**+0.2**
	baz=9.2,slow=11							
SPITS				Sn		**Sn**	**17 22 43.8**	**-4.0**
	baz=20,slow=9.8							
	comp=Z,3.8nm,0.3s							
SPB2	**Spitsbergen Ar**	**6.72**	**160**			**Pn**	**17 21 30.9**	**-0.5**
BRBB	**Barentsburg B**	**6.74**	**164**	Pn		**Pn**	**17 21 31.7**	**0.0**
BRBB				Sn		**Sn**	**17 22 45.8**	**-2.5**
BRBB	**Barentsburg B**	**6.74**	**164**	P		**Pn**	**17 21 31.6**	**0.0**
BRBB				S		**Sn**	**17 22 45.6**	**-2.6**
BRBB	**Barentsburg B**	**6.74**	**164**	*e*P		**Pn**	**17 21 31.4**	**-0.2**
BRBB				*e*S		**Sn**	**17 22 43.5**	**-4.7**
BRBA	**Barentsburg A**	**6.77**	**164**	Pn		**Pn**	**17 21 32.6**	**+0.5**
BRBA	**Barentsburg A**	**6.77**	**164**	*e*P		**Pn**	**17 21 32.0**	**0.0**
BRBA				*e*S		**Sn**	**17 22 44.5**	**-4.5**
BRBA				IAML			17 22 53.1	
	comp=Z,5.3nm,0.8s							
HSPB	**Hornsund (broa**	**7.86**	**163**	Pn		**Pn**	**17 21 48.0**	**+1.0**
HSPB	**Hornsund (broa**	**7.86**	**163**	P		**Pn**	**17 21 49.1**	**+2.1**
HSPB	**Hornsund (broa**	**7.86**	**163**	*e*P		**Pn**	**17 21 47.7**	**+0.7**
HSPB				IAML			17 23 18.5	
	comp=Z,2.3nm,0.4s							
DAG	**Danmarks Havn**	**8.69**	**218**	*e*		**Pn**	**17 21 59.4**	**+1.0**
	baz=4.7,slow=14							
DAG				*i* P		**Pn**	**17 21 59.8**	**+1.4**
DAG	**Danmarks Havn**	**8.69**	**218**	*e*		**Pn**	**17 21 59.4**	**+1.0**
	baz=4.7,slow=14							
DAG				*i* P		**Pn**	**17 21 59.8**	**+1.4**
HOPEN	**Hopen**	**8.71**	**149**	Pn		**Pn**	**17 21 58.0**	**-0.7**
HOPEN				Sn		**Sn**	**17 23 31.1**	**-5.7**
HOPEN	**Hopen**	**8.71**	**149**	*e*P		**Pn**	**17 21 57.6**	**-1.0**
HOPEN				*e*S		**Sn**	**17 23 28.9**	**-7.8**
HOPEN				IAML			17 23 36.3	
	comp=Z,6.5nm,1.0s							
HOPEN	**Hopen**	**8.71**	**149**	*e*P		**Pn**	**17 21 57.5**	**-1.2**
HOPEN				*e*S		**Sn**	**17 23 29.9**	**-6.9**
NEEM	**North Greenlan**	**10.64**	**261**	*i* P		**Pn**	**17 22 22.5**	**-2.8**
NEEM				*e*S		Sn	17 24 08.6	-16
NEEM				IAML			17 24 26.5	
	comp=Z,1.5nm,0.4s							
NEEM	**North Greenlan**	**10.64**	**261**	*i* P		**Pn**	**17 22 22.5**	**-2.8**
NEEM				*e*S		Sn	17 24 08.6	-16
NEEM				IAML			17 24 26.5	
	comp=Z,1.5nm,0.4s							
DBG	**Daneborg**	**11.19**	**217**	Pn		**Pn**	**17 22 32.9**	**+0.3**
DBG	**Daneborg**	**11.19**	**217**	*e*P		**Pn**	**17 22 34.3**	**+1.7**
DBG	**Daneborg**	**11.19**	**217**	*e*P		**Pn**	**17 22 34.3**	**+1.7**
EUNU	**Eureka**	**11.49**	**299**	Pn		**Pn**	**17 22 34.2**	**-2.5**
SVZ	**Severnaya Zeml**	**12.55**	**59**	*e*P		**Pn**	**17 22 49.4**	**-1.7**
SUMG	**Summit**	**14.14**	**239**	Pn		**Pn**	**17 23 11.5**	**-1.7**
SUMG	**Summit**	**14.14**	**239**	*i* P		**Pn**	**17 23 11.3**	**-1.9**
SUMG	**Summit**	**14.14**	**239**	*i* P		**Pn**	**17 23 11.3**	**-1.9**
KEV	**Kevo**	**15.51**	**151**	P		**Pn**	**17 23 32.1**	**+0.9**
KEV	**Kevo**	**15.51**	**151**	Pn		**Pn**	**17 23 30.9**	**-0.3**
KEV	**Kevo**	**15.51**	**151**	P		**Pn**	**17 23 32.1**	**+0.9**
ARA0	**ARCESS Array S**	**15.66**	**153**	P		**Pn**	**17 23 32.3**	**-0.9**
	slow=12							
ARA0	**ARCESS Array S**	**15.66**	**153**	P		**Pn**	**17 23 32.3**	**-0.9**
	slow=12							
ARCES	**ARCESS Array B**	**15.66**	**153**	Pn		**Pn**	**17 23 31.8**	**-1.5**
ARCES	**ARCESS Array B**	**15.66**	**153**	Pn		**Pn**	**17 23 32.1**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=2.8,slow=9.7,SNR=19							
ARCES				Sn		Sn	17 26 13.6	-13
	comp=Z,0.1nm,0.3s,baz=4.8,slow=16,SNR=1.7							
ARCES				LR		LR	17 29 18.7	
	comp=Z,84nm,18.2s,baz=338,slow=36							
	comp=Z,4.4nm,0.8s							
RES	**Resolute Bay**	**17.18**	**298**	Pn		**Pn**	**17 23 48.4**	**-4.0**
RES	**Resolute Bay**	**17.18**	**298**	Pn		**Pn**	**17 23 48.0**	**-4.4**
	comp=Z,0.4nm,0.3s,baz=18,slow=12,SNR=13							
RES				Sn		Sn	17 26 47.9	-15
	comp=Z,0.1nm,0.3s,baz=282,slow=6.8,SNR=1.5							
RES				LR		LR	17 30 19.1	
	comp=Z,127nm,21.5s,baz=25,slow=37							
LVZ	**Lovozero**	**17.75**	**143**	Pn		**Pn**	**17 23 59.0**	**-0.6**
LVZ				IAmb		IAmb	17 24 36.4	
	comp=Z,13nm,1.4s							
APA0	**Apatity Array**	**17.95**	**145**	P		**Pn**	**17 24 00.2**	**-1.8**
	baz=346,slow=14							
APA0	**Apatity Array**	**17.95**	**145**	P		**Pn**	**17 24 00.2**	**-1.8**
	baz=346,slow=14							
SFJD	**Kangerlussuaq**	**20.60**	**248**	LR		LR	17 32 15.8	
	comp=Z,68nm,18.7s,baz=47,slow=36							
NRIK	**Noril'sk**	**20.72**	**84**	P		**P**	**17 24 34.6**	**+1.7**
	comp=Z,0.9nm,0.3s,baz=16,slow=3.7,SNR=2.1							
	comp=Z,0.9nm,0.3s							
LSH	**Leshukonskoye**	**21.45**	**131**	*e*P		**P**	**17 24 42.1**	**+1.4**
	comp=Z,35nm,2.0s							
FINES	**FINESS Array B**	**23.77**	**155**	P		**P**	**17 25 05.9**	**+0.9**
FINES	**FINESS Array B**	**23.77**	**155**	P		**P**	**17 25 06.9**	**+2.0**
	comp=Z,1.3nm,0.7s,baz=14,slow=10,SNR=6.2							
FINES				PcP		**PcP**	**17 28 49.1**	**+1.2**
	comp=Z,1.1nm,0.9s,baz=348,slow=2.0,SNR=4.4							
FINES				LR		LR	17 35 06.2	
	comp=Z,70nm,20.3s,baz=280,slow=38							
	comp=Z,1.3nm,0.7s							
NOA	**NORSAR Array B**	**23.80**	**173**	P		**P**	**17 25 06.7**	**+1.4**
	comp=Z,1.6nm,0.9s,baz=360,slow=10,SNR=4.2							
NOA				LR		LR	17 34 50.0	
	comp=Z,35nm,18.3s,baz=235,slow=38							
	comp=Z,1.6nm,0.9s							
C36M	**Paulatuk**	**24.52**	**319**	P		**P**	**17 25 11.9**	**+0.1**
C36M				IAmb		IAmb	17 25 29.6	
	comp=Z,6.0nm,1.4s							
PRGR	**Permogore**	**24.66**	**132**	P		**P**	**17 25 09.6**	**-3.5**
	comp=Z,32nm,2.0s							
HFS	**Hagfors**	**24.74**	**170**	P		**P**	**17 25 15.8**	**+1.9**
	comp=Z,1.5nm,0.7s,baz=336,slow=3.3,SNR=2.7							
	comp=Z,1.5nm,0.7s							
KLMR	**Klimovskoe**	**25.04**	**139**	*e*P		**P**	**17 25 13.5**	**-3.1**
	comp=Z,12nm,1.1s							
C23K	**Itkillik River**	**25.28**	**341**	P		**P**	**17 25 16.2**	**-2.4**
C23K				IAmb		IAmb	17 25 48.8	
	comp=Z,7.4nm,1.2s							
FRB	**Frobisher Bay**	**25.41**	**265**	LR		LR	17 35 22.8	
	comp=Z,57nm,18.8s,baz=242,slow=37							
E28M	**Babbage River**	**26.09**	**331**	P		**P**	**17 25 25.4**	**-0.7**
INK	**Inuvik**	**26.09**	**326**	LR		LR	17 36 12.2	
	comp=Z,38nm,21.7s,baz=356,slow=38							
E29M	**Blow River**	**26.23**	**330**	P		**P**	**17 25 27.6**	**+0.2**
E29M				IAmb		IAmb	17 25 32.7	
	comp=Z,3.6nm,1.1s							
C18K	**Utukok River**	**26.72**	**349**	P		**P**	**17 25 31.5**	**-0.4**
C18K				IAmb		IAmb	17 25 52.2	
	comp=Z,6.6nm,1.5s							
D19K	**Kuna River**	**26.82**	**347**	P		**P**	**17 25 33.8**	**+1.1**
D19K				IAmb		IAmb	17 26 14.1	
	comp=Z,4.6nm,1.4s							
E25K	**Arctic Village**	**26.82**	**336**	P		**P**	**17 25 33.1**	**+0.4**
E25K				IAmb		IAmb	17 25 52.4	
	comp=Z,6.8nm,1.2s							
E22K	**Anaktuvuk Pass**	**27.02**	**341**	P		**P**	**17 25 33.3**	**-1.2**
E22K				IAmb		IAmb	17 25 36.7	
	comp=Z,2.8nm,1.1s							
F28M	**Old Crow**	**27.09**	**331**	P		**P**	**17 25 35.7**	**+0.6**
F28M				IAmb		IAmb	17 25 51.8	
	comp=Z,6.4nm,1.2s							
C16K	**Lisburne Hills**	**27.16**	**352**	P		**P**	**17 25 34.6**	**-1.1**
C16K				IAmb		IAmb	17 25 41.9	
	comp=Z,5.1nm,1.1s							
BMAR	**Burnt Mountain**	**27.47**	**335**	P		**P**	**17 25 37.2**	**-1.4**
G31M	**Satah River**	**27.51**	**326**	P		**P**	**17 25 38.2**	**-0.6**
G31M				IAmb		IAmb	17 25 41.0	
	comp=Z,4.6nm,1.1s							
E19K	**Redstone River**	**27.84**	**346**	P		**P**	**17 25 41.5**	**-0.3**
KIRV	**Kirov**	**27.96**	**129**	LR		LR	17 38 18.3	
	comp=Z,69nm,19.1s,baz=326,slow=39							
F21K	**Alatna River**	**27.98**	**343**	P		**P**	**17 25 42.5**	**-0.6**
H29M	**Whitestone**	**28.41**	**330**	P		**P**	**17 25 47.5**	**+0.6**
H29M				IAmb		IAmb	17 26 17.3	
	comp=Z,5.3nm,1.5s							
F17K	**Baldwin Pennin**	**28.94**	**349**	P		**P**	**17 25 51.4**	**-0.2**
EKA	**Eskdalemuir Ar**	**29.55**	**190**	P		**P**	**17 25 58.9**	**+1.8**
	comp=Z,2.3nm,1.1s,baz=9.8,slow=8.7,SNR=2.3							
	comp=Z,2.3nm,1.1s							
G16K	**Koyuk River**	**30.01**	**350**	P		**P**	**17 26 01.1**	**+0.1**
ILAR	**Eielson Array**	**30.22**	**337**	P		**P**	**17 26 03.0**	**0.0**
	comp=Z,0.5nm,0.8s,baz=0.5,slow=8.8,SNR=7.2							
ILAR				LR		LR	17 38 09.5	
	comp=Z,35nm,18.6s,baz=304,slow=36							
	comp=Z,0.5nm,0.8s							
YKA	**Yellowknife Ar**	**30.67**	**308**	P		**P**	**17 26 05.5**	**-1.4**
	comp=Z,0.2nm,0.8s,baz=6.9,slow=8.2,SNR=5.3							
	comp=Z,0.2nm,0.8s							
ARU	**Arti**	**30.80**	**120**	LR		LR	17 40 43.5	
	comp=Z,77nm,18.0s,baz=328,slow=40							
ANM	**Nome**	**30.89**	**352**	P		**P**	**17 26 09.9**	**+1.1**
YAK	**Yakutsk**	**31.44**	**48**	P		**P**	**17 26 13.9**	**+0.2**
	comp=Z,4.0nm,0.3s,baz=279,slow=0.8,SNR=2.1							
YAK				LR		LR	17 38 45.2	
	comp=Z,30nm,18.0s,baz=273,slow=36							
AKASG	**Malin Array Be**	**34.64**	**153**	P		**P**	**17 26 43.2**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=346,slow=8.0,SNR=2.5							
AKASG				LR		LR	17 41 09.5	
	comp=Z,53nm,18.3s,baz=38,slow=37							
	comp=Z,0.4nm,0.5s							
BVAR	**Borovoye Array**	**35.19**	**108**	LR		LR	17 44 30.1	
	comp=Z,38nm,18.3s,baz=318,slow=42							
ZALV	**Zalesovo Beam**	**35.59**	**93**	LR		LR	17 42 31.0	
	comp=Z,45nm,19.7s,baz=338,slow=38							
VRAC	**Vranov**	**35.64**	**167**	LR		LR	17 41 02.8	
	comp=Z,61nm,19.0s,baz=346,slow=36							
GERES	**GERESS Array B**	**36.05**	**171**	P		**P**	**17 26 57.8**	**+3.8**
	comp=Z,0.2nm,0.3s,baz=343,slow=3.1,SNR=2.1							
GERES				LR		LR	17 41 42.5	
	comp=Z,60nm,18.7s,baz=266,slow=36							
	comp=Z,0.2nm,0.3s							
AKTO	**Aktyubinsk**	**36.71**	**122**	LR		LR	17 44 34.3	
	comp=Z,138nm,18.4s,baz=196,slow=40							
KURBB	**Kurchatov Arra**	**38.30**	**100**	P		**P**	**17 27 14.5**	**+1.6**
	comp=Z,0.6nm,0.2s,baz=338,slow=9.5,SNR=1.5							
KURBB				LR		LR	17 46 29.4	
	comp=Z,38nm,18.6s,baz=166,slow=42							
	comp=Z,0.6nm,0.2s							
ULM	**Lac du Bonnet**	**41.26**	**287**	P		**P**	**17 27 37.3**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=20,slow=6.7,SNR=5.1							
ULM				LR		LR	17 44 52.7	
	comp=Z,77nm,18.2s,baz=78,slow=36							
	comp=Z,1.9nm,0.6s							
MURB	**Monte Urbino**	**41.61**	**172**	P		**P**	**17 27 39.5**	**-1.2**
KBZ	**Khabaz**	**42.31**	**139**	P		**P**	**17 27 49.6**	**+3.5**
	comp=Z,1.5nm,0.9s,baz=328,slow=2.4,SNR=4.5							
KBZ				LR		LR	17 46 19.6	
	comp=Z,42nm,18.4s,baz=37,slow=37							
	comp=Z,1.5nm,0.9s							
MKAR	**Makanchi Array**	**42.45**	**97**	LR		LR	17 47 28.5	
	comp=Z,37nm,19.9s,baz=248,slow=39							
SONM	**Songino Array**	**43.64**	**73**	P		**P**	**17 28 00.3**	**+3.2**
	comp=Z,0.2nm,0.5s,baz=337,slow=6.9,SNR=2.4							
	comp=Z,0.2nm,0.5s							
BRTR	**Keskin Array B**	**45.80**	**149**	P		**P**	**17 28 18.5**	**+4.1**
	comp=Z,0.2nm,0.4s,baz=309,slow=4.6,SNR=2.3							
BRTR				LR		LR	17 49 08.1	
	comp=Z,34nm,19.3s,baz=328,slow=38							
	comp=Z,0.2nm,0.4s							
AAK	**Ala-Archa**	**45.85**	**106**	LR		LR	17 49 07.3	
	comp=Z,35nm,19.2s,baz=326,slow=38							
GNI	**Gani**	**45.99**	**137**	LR		LR	17 48 07.4	
	comp=Z,28nm,20.6s,baz=311,slow=37							
GEYT	**Alibeck**	**49.15**	**124**	LR		LR	17 53 56.0	
	comp=Z,45nm,18.2s,baz=340,slow=41							
PDAR	**Pinedale Array**	**49.86**	**299**	LR		LR	17 50 03.3	
	comp=Z,35nm,18.1s,baz=53,slow=36							
YBH	**Yreka Blue Hor**	**51.89**	**312**	LR		LR	17 53 34.1	
	comp=Z,28nm,18.1s,baz=346,slow=39							
ELK	**Elko**	**52.32**	**304**	LR		LR	17 53 35.0	
	comp=Z,46nm,18.4s,baz=9.0,slow=39							
TKL	**Tuckaleechee C**	**54.62**	**273**	LR		LR	17 51 57.4	
	comp=Z,56nm,19.6s,baz=16,slow=35							
ANMO	**Albuquerque**	**57.37**	**295**	LR		LR	17 54 56.2	
	comp=Z,67nm,18.6s,baz=104,slow=37							
TORD	**Torodi Ar. Bea**	**71.59**	**184**	P		**P**	**17 31 15.8**	**+1.9**
	comp=Z,0.7nm,0.7s,baz=359,slow=7.8,SNR=3.6							
	comp=Z,0.7nm,0.7s							
CMAR	**Chiang Mai Arr**	**72.08**	**85**	P		**P**	**17 31 17.4**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=350,slow=7.5,SNR=6.2							
CMAR				LR		LR	18 04 34.7	
	comp=Z,15nm,18.3s,baz=340,slow=37							
	comp=Z,0.5nm,0.8s							
CMIG	**Matias Romero**	**74.04**	**282**	LR		LR	18 07 23.7	
	comp=Z,27nm,18.7s,baz=18,slow=39							
ASAR	**Alice Springs**	**116.80**	**53**	PKP		**PKiKP**	**17 38 37.3**	**+0.6**
	comp=Z,0.2nm,0.8s,baz=8.7,slow=1.2,SNR=1.3							

DJA 11 17:21:15.8±1.7,7°S±9°×107°1E±°,h19km±23km,M4.2/10, mb4.2/3,MLv4.1/10,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MNAI	**Manna**	**3.00**	**35**	P		Pn	17 22 03.1	+0.7
MNAI				S		Sn	17 22 38.1	+0.3
LWLI	**Liwa**	**3.33**	**57**	P		Pn	17 22 07.0	-0.1
LWLI				S		Sn	17 22 47.3	+1.0
KASI	**Kota Agung**	**3.49**	**68**	P		Pn	17 22 09.3	+0.2
PPSI	**Pulau Pagai**	**4.24**	**343**	P		Pn	17 22 20.2	+0.7
PPSI				S		Sn	17 23 08.0	-0.5
KRJI	**Kerinci**	**4.73**	**3**	P		Pn	17 22 25.6	-0.7
SISI	**Saibi**	**5.89**	**338**	P		Pn	17 22 42.1	-0.1
	14nm,1.1s,0.1nm							
PDSI	**Padang**	**5.95**	**352**	P		Pn	17 22 43.5	+0.5
CMJI	**Cimerak**	**7.20**	**98**	P		Pn	17 23 00.2	+0.1

IDC ***11*** *17:43:20.8±1.8,2°.77S×126°.86E,h0km,mb3.8/3, mbtmp3.8/5,ML3.6/2,Error ellipse: s-maj=56.7km s-min=25.6km az=74.0*

ISC 11 17:43:21.9±1.5,2°.7S±0°.1×126°.9E±0°.2,h10km,n5,σ1§39/6, mb4.0/3,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BATI	**Baumata**	**8.11**	**203**	Pn		**Pn**	**17 45 18.4**	**-1.4**
	0.1nm,0.3s,baz=90,slow=5.1,SNR=1.1							
BATI				Sn		**Sn**	**17 46 53.0**	**+1.4**
	0.4nm,0.3s,baz=143,slow=7.4,SNR=1.9							
	2.7nm,0.6s							
WRA	**Warramunga Arr**	**18.58**	**158**	P		**Pn**	**17 47 40.5**	**+1.0**
	0.5nm,0.3s,baz=333,slow=13,SNR=42							
	1.8nm,0.5s							
ASAR	**Alice Springs**	**21.88**	**163**	P		**P**	**17 48 15.7**	**+0.4**
	3.0nm,0.5s,baz=344,slow=12,SNR=82							
	3.0nm,0.5s							
STKA	**Stephens Creek**	**32.12**	**156**	P		**P**	**17 49 48.8**	**-0.8**
	1.8nm,0.8s,baz=349,slow=16,SNR=1.8							
	1.8nm,0.8s							
MKAR	**Makanchi Array**	**63.00**	**327**	P		**P**	**17 53 49.6**	**+0.5**
	0.3nm,0.6s,baz=110,slow=6.3,SNR=2.3							
	0.3nm,0.6s							

IDC ***11*** *17:44:32.2±0.6,50°.25N×177°.49W,h0km,mb4.2/35, mbtmp4.2/37,ML3.9/2,MS3.4/29,Error ellipse: s-maj=16.5km s-min=11.4km az=174.0*

NEIC ***11*** *17:44:36.2±2.2,50°.37N±0°.03×177°.46W±0°.07,h22km±5km, mb4.3/167,ML4.2(AEIC),Error ellipse: s-maj=6.5km s-min=5.0km az=83.0*

MOS ***11*** *17:44:37.1±1.1,50°.39N×177°.50W,h41km,mb4.7/38, Error ellipse: s-maj=10.0km s-min=5.7km az=101.0*

AEIC ***11*** *17:44:37.6±2.4,50°.26N±0°.09×177°.40W±0°.09,h3km±5km, Error ellipse: s-maj=13.8km s-min=7.9km az=173.0*

BGR ***11*** *17:44:51.4,52°.43N×178°.94E,h33km,mb4.8*

ISC 11 17:44:37.1±1.7,50°.37N±0°.06×177°.48W±0°.03, h30km±11km,n398,σ1§47/385,mb4.4/138,MS3.5/29, 24C-15D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KIMD	**Kanaga Island**	**1.41**	**6**			**Pn**	**17 45 00.8**	**+0.2**
TAFL	**Tanaga Flats**	**1.42**	**349**			**Pn**	**17 45 01.0**	**+0.2**
TAFL						**Sn**	**17 45 19.5**	**+1.1**
KIWB	**Kanaga Island**	**1.50**	**8**			**Pn**	**17 45 02.0**	**0.0**
KIWB	**Kanaga Island**	**1.50**	**8**			**Sb**	**17 45 22.4**	**-0.6**
TASE	**Tanaga Southea**	**1.51**	**347**			**Pn**	**17 45 02.6**	**+0.4**
KICM	**Kanaga Island**	**1.56**	**6**			**Pn**	**17 45 03.2**	**+0.4**
TAFP	**Tanaga Falls P**	**1.57**	**349**			**Pn**	**17 45 03.2**	**+0.3**
TAFP						**Sn**	**17 45 24.0**	**+1.8**
ADK	**Adak**	**1.60**	**18**			**Sn**	**17 45 24.1**	**+1.2**
ADK	**Adak**	**1.60**	**18**			**Pn**	**17 45 02.8**	**-0.5**
TANO	**Tanaga North**	**1.60**	**346**			**Pn**	**17 45 03.8**	**+0.5**
GAEA	**Gareloi East**	**1.63**	**331**			**Pn**	**17 45 04.2**	**+0.5**
GANE	**Gareloi Northe**	**1.67**	**331**			**Pn**	**17 45 04.3**	**0.0**
GSTD	**Great Sitkin T**	**1.89**	**26**			**Pn**	**17 45 07.5**	**+0.1**
GSTD						**Sn**	**17 45 30.9**	**+0.7**
GSMY	**Great Sitkin M**	**1.90**	**28**			**Pn**	**17 45 07.2**	**-0.3**
GSTR	**Great Sitkin T**	**1.95**	**27**			**P

KDAK Sn **Sn** **17 51 19.5 -4.2**
comp=Z,0.9nm,0.3s,baz=1.2,slow=11,SNR=1.7
KDAK LR LR 17 55 09.1
comp=Z,160nm,21.6s,baz=264,slow=39
L18K Granite Mounta 16.46 36 P **Pn** **17 48 27.1 +1.6**
N19K Bonanza Creek 16.59 42 **Pn** **17 48 29.0 +1.8**
N19K IAmb IAmb 17 48 40.1
comp=Z,15nm,0.8s
P19K Oil Pt 16.64 47 P **P** **17 48 32.0 +1.9**
SYI Shuyak Island 16.67 51 Pn **Pn** **17 48 25.3 -2.9**
F15K North Star Dit 16.75 19 P **P** **17 48 33.8 +2.5**
F15K IAmb IAmb 17 48 37.3
comp=Z,33nm,1.5s
G16K Koyuk River 17.00 22 Pn **Pn** **17 48 31.3 -1.0**
TTA Tatalina 17.14 35 P **Pn** **17 48 35.3 +1.1**
TTA Tatalina 17.14 35 P **P** **17 48 37.8 +2.2**
TTA Tatalina 17.14 35 P **Pn** **17 48 35.3 +1.1**
TTA pmax pmax
comp=Z,15nm,1.3s
L19K White Mountain 17.14 38 Pn **Pn** **17 48 33.8 -0.4**
L19K IAmb IAmb 17 48 40.7
comp=Z,36nm,1.2s
M19K Big River Lodg 17.18 39 Pn **Pn** **17 48 32.9 -1.7**
M19K IAmb IAmb 17 48 52.0
comp=Z,24nm,1.2s
RSO Redoubt South 17.19 45 P **P** **17 48 36.6 +0.3**
CNPM China Poot 17.53 48 **Pn** **17 48 37.7 -1.4**
CNPM IAmb IAmb 17 49 16.6
comp=Z,57nm,1.4s
M20K Styx River 17.68 40 Pn **Pn** **17 48 37.4 -3.5**
BRLK Bradley Lake 17.78 48 Pn **Pn** **17 48 39.6 -2.5**
BRLK IAmb IAmb 17 48 54.1
comp=Z,37nm,1.4s
H18K Honhosa River 17.87 27 P **P** **17 48 45.2 +1.7**
J19K Poorman 17.94 32 P **P** **17 48 46.6 +2.3**
SKT Skwentna 18.39 41 P **P** **17 48 49.8 +0.5**
SKT IAmb IAmb 17 49 12.0
comp=Z,30nm,1.4s
SUA Susitna One 18.50 43 P **P** **17 48 50.8 +0.2**
J20K Nowinta River 18.56 33 P **P** **17 48 48.6 -2.6**
H19K Roundabout Mou 18.70 28 P **P** **17 48 52.5 -0.2**
RC01 Rabbit Creek A 18.80 45 P **P** **17 48 53.9 +0.2**
CAST Castle Rocks 18.88 37 P **Pn** **17 48 56.3 +0.8**
C16K Lisburne Hills 18.93 14 P **P** **17 48 53.7 -1.4**
G19K Purcell Mounta 18.95 26 P **P** **17 48 53.3 -2.2**
E18K Tukpahlearik C 19.07 20 P **P** **17 48 56.0 -0.8**
PMR Palmer 19.26 44 P **P** **17 48 58.2 -0.6**
PMR Palmer 19.26 44 P **P** **17 48 58.2 -0.6**
PMR pmax pmax
comp=Z,18nm,1.5s
F19K Shaleruckik Mo 19.28 24 Pn **Pn** **17 49 00.8 +0.6**
KTH Kantishna Hill 19.40 37 **P** **17 49 01.1 +0.7**
BILL Bilibino 19.46 342 P **P** **17 49 02.4 +1.5**
BILL IAmb IAmb 17 49 06.8
comp=Z,30nm,1.1s
BILL Bilibino 19.46 342 *i* P **P** **17 49 02.2 +1.2**
BILL pmax pmax
comp=Z,26nm,1.0s
KNK Knik Glacier 19.49 44 P **P** **17 49 01.2 -0.2**
TRF Thorofare Moun 19.59 38 **P** **17 49 02.7 +0.1**
TRF IAmb IAmb 17 49 07.7
comp=Z,16nm,1.0s
BPAW Bear Paw Mtn. 19.66 36 **P** **17 49 04.1 +0.9**
BPAW IAmb IAmb 17 49 10.5
comp=Z,14nm,1.0s
SML Sawmill 19.69 43 **P** **17 49 03.9 +0.3**
SML IAmb IAmb 17 49 33.4
comp=Z,17nm,1.1s
IMAR Indian Mountai 19.83 29 **P** **17 49 05.9 +0.8**
E19K Redstone River 19.90 23 IAmb IAmb 17 49 21.5
comp=Z,15nm,1.0s
I21K Tanana 19.91 32 IAmb IAmb 17 49 13.6
comp=Z,23nm,1.1s
H21K Melozitna Rive 19.92 31 P **P** **17 49 03.6 -2.5**
H21K IAmb IAmb 17 49 10.9
comp=Z,17nm,1.1s
C18K Utukok River 19.98 17 IAmb IAmb 17 49 12.6
comp=Z,20nm,1.4s
F20K Avaraart Lake 19.99 25 Pn **P** **17 49 08.2 +1.5**
RND Reindeer 20.14 39 P **P** **17 49 07.6 -0.9**
RND IAmb IAmb 17 49 23.4
comp=Z,13nm,0.6s
RND Reindeer 20.14 39 P **P** **17 49 07.6 -0.9**
RND pmax pmax
comp=Z,13nm,0.6s
SCM Sheep Creek Mo 20.14 44 **P** **17 49 09.3 +0.7**
SCM Sheep Creek Mo 20.14 44 P **P** **17 49 09.3 +0.7**
SCM pmax pmax
comp=Z,39nm,1.5s
MA2 Magadan 20.24 309 P **P** **17 49 11.1 +1.6**
MA2 IAmb IAmb 17 49 12.5
comp=Z,10nm,0.8s
MA2 Magadan 20.24 309 *i* P **P** **17 49 10.3 +0.8**
MA2 pmax pmax
comp=Z,10.0nm,0.8s
MA2 Magadan 20.24 309 P **P** **17 49 09.7 +0.2**
comp=Z,11nm,0.9s,baz=97,slow=8.3,SNR=15
MA2 LR LR 17 57 38.5
comp=Z,29nm,19.1s,baz=86,slow=39
comp=Z,11nm,0.9s
MLY Manley 20.25 33 **P** **17 49 09.5 -0.2**
MLY IAmb IAmb 17 49 21.7
comp=Z,9.3nm,0.7s
G21K Allakaket 20.25 28 Pn **P** **17 49 10.8 +1.1**
G21K IAmb IAmb 17 49 17.4
comp=Z,14nm,0.8s
BWN Browne 20.27 36 P **P** **17 49 10.6 +0.8**
D19K Kuna River 20.50 20 Pn **P** **17 49 13.7 +1.4**
D19K IAmb IAmb 17 49 30.0
comp=Z,14nm,0.8s
SEY Seymchan 20.56 319 *i* P **P** **17 49 13.3 +0.4**
SEY pmax pmax
comp=Z,9.0nm,1.3s
SEY Seymchan 20.56 319 P **P** **17 49 13.6 +0.7**
comp=Z,2.7nm,0.7s,baz=120,slow=12,SNR=13
comp=Z,2.7nm,0.7s
DHY Denali Highway 20.60 40 P **P** **17 49 13.2 -0.5**
NEA2 Nenana 20.63 36 P **P** **17 49 13.9 +0.2**
NEA2 IAmb IAmb 17 49 29.8
comp=Z,9.8nm,0.9s
KLU Klutina 20.66 45 P **P** **17 49 15.2 +0.9**
KLU IAmb IAmb 17 49 22.2
comp=Z,8.0nm,0.5s
F21K Alatna River 20.74 27 Pn **P** **17 49 16.2 +1.3**
F21K IAmb IAmb 17 49 29.2
comp=Z,9.7nm,0.8s
I23K Minto, Yukon-K 20.81 34 P **P** **17 49 16.2 +0.6**
I23K IAmb IAmb 17 49 45.5
comp=Z,26nm,1.4s
WRH Wood River Hil 20.94 37 **P** **17 49 15.8 -1.3**
WRH IAmb IAmb 17 49 34.8
comp=Z,16nm,1.1s
MDM Murphy Dome 21.12 35 P **P** **17 49 17.7 -1.4**
MDM IAmb IAmb 17 49 34.4
comp=Z,11nm,0.8s
CCB Clear Creek Bu 21.13 36 P **P** **17 49 18.0 -1.1**
CCB IAmb IAmb 17 49 34.3
comp=Z,6.4nm,0.5s
COLA College 21.22 36 *i* P **P** **17 49 19.9 -0.2**
COLA pmax pmax
comp=Z,20nm,2.0s
N25K Chitina, Valde 21.30 46 P **P** **17 49 21.9 +0.9**
N25K IAmb IAmb 17 49 38.1
comp=Z,29nm,1.4s
SUCK Suckling Hills 21.31 50 P **P** **17 49 18.6 -2.4**
HDA Harding Lake 21.35 37 P **P** **17 49 19.9 -1.5**
HDA IAmb IAmb 17 49 49.6
comp=Z,10nm,0.8s
POKR Poker Plat Res 21.50 35 P **P** **17 49 22.0 -1.1**
IL31 21.54 36 **P** **17 49 23.4 0.0**
ILAR Eielson Array 21.54 36 P **P** **17 49 22.4 -1.1**
comp=Z,1.1nm,0.6s,baz=226,slow=10,SNR=21
ILAR S **S** **17 53 19.3 -1.1**
comp=Z,0.4nm,0.5s,baz=317,slow=15,SNR=5.4
comp=Z,1.1nm,0.6s
GLB Gilahina Butte 21.62 46 P **P** **17 49 26.5 +2.0**
GLB IAmb IAmb 17 49 51.3
comp=Z,8.2nm,0.7s
H24K Noodor Dome 21.70 33 P **P** **17 49 25.0 -0.3**
VRDI Verde Repeater 21.73 47 P **P** **17 49 26.2 +0.4**
VRDI IAmb IAmb 17 49 49.8
comp=Z,27nm,1.5s
E22K Anaktuvuk Pass 21.82 26 P **P** **17 49 27.2 +0.6**
WAX Waxell Ridge 21.84 49 P **P** **17 49 26.0 -0.8**
RIDG Independent Ri 21.91 40 P **P** **17 49 26.4 -1.2**

B20K Meade River 21.92 19 P **P** **17 49 27.0 -0.5**
B20K IAmb IAmb 17 49 42.1
comp=Z,9.6nm,0.9s
MCARA McCarthy VSAT 21.97 47 P **P** **17 49 30.9 +2.7**
MCARA IAmb IAmb 17 49 50.7
comp=Z,20nm,1.1s
J25K Salcha River, 22.05 38 P **P** **17 49 27.5 -1.6**
J25K IAmb IAmb 17 49 46.7
comp=Z,6.1nm,0.7s
D22K Ayikyak River 22.10 24 P **P** **17 49 28.4 -1.1**
D22K IAmb IAmb 17 49 56.0
comp=Z,13nm,1.1s
B21K Ikpikpuk River 22.17 21 P **P** **17 49 29.9 -0.4**
B21K IAmb IAmb 17 49 44.0
comp=Z,12nm,0.9s
L26K Log Cabin Wild 22.29 42 P **P** **17 49 32.3 +0.7**
L26K IAmb IAmb 17 49 57.5
comp=Z,8.7nm,0.7s
SCRK Sand Creek 22.35 40 P **P** **17 49 31.3 -1.1**
SCRK IAmb IAmb 17 49 49.9
comp=Z,12nm,0.8s
GRNC Granite Creek 22.43 49 P **P** **17 49 34.0 +0.7**
GRNC IAmb IAmb 17 50 04.1
comp=Z,19nm,1.0s
BARN Barnard Glacie 22.54 48 P **P** **17 49 34.6 +0.1**
F24K Squaw Lake 22.61 30 IAmb IAmb 17 49 50.2
comp=Z,16nm,1.2s
CTGM Chitina Glacie 22.67 48 P **P** **17 49 36.8 +1.0**
J26L Joseph Creek 22.72 39 P **P** **17 49 35.0 -1.2**
J26L IAmb IAmb 17 49 52.2
comp=Z,17nm,1.2s
M27K Edge Creek, AK 22.75 45 P **P** **17 49 36.8 +0.2**
E24K Your Creek 22.75 28 P **P** **17 49 36.2 -0.3**
TOLK Toolik Lake Re 22.79 26 P **P** **17 49 36.8 -0.1**
TOLK IAmb IAmb 17 49 53.1
comp=Z,20nm,1.4s
LOGN Logan Glacier 22.80 49 P **P** **17 49 38.2 +1.0**
L27K Beaver Creek, 22.96 43 P **P** **17 49 39.5 +0.8**
L27K IAmb IAmb 17 49 56.1
comp=Z,12nm,1.4s
BCAR Beaver Creek A 22.98 43 P **P** **17 49 39.6 +0.7**
FYU Fort Yukon 22.99 33 P **P** **17 49 39.6 +0.7**
FYU IAmb IAmb 17 49 58.7
comp=Z,8.7nm,1.2s
K27K Chicken 23.16 40 P **P** **17 49 38.8 -1.9**
K27K IAmb IAmb 17 50 00.7
comp=Z,17nm,1.1s
I26K Coal Creek Min 23.20 37 P **P** **17 49 40.3 -0.7**
I26K IAmb IAmb 17 50 04.6
comp=Z,9.9nm,1.1s
YKU2 Yakutat 23.27 52 P **P** **17 49 41.2 -0.5**
C23K Itkillik River 23.30 23 P **P** **17 49 39.9 -2.0**
D24K Happy Valley 23.32 26 P **P** **17 49 40.6 -1.6**
D24K IAmb IAmb 17 49 57.9
comp=Z,11nm,0.9s
PNL Peninsula 23.42 52 P **P** **17 49 49.8 +6.5**
BMAR Burnt Mountain 23.64 32 P **P** **17 49 46.2 +0.8**
EGAK Eagle 23.79 39 P **P** **17 49 46.3 -0.5**
EGAK IAmb IAmb 17 50 01.2
comp=Z,8.5nm,0.8s
DAWY Dawson 24.30 41 P **P** **17 49 52.1 +0.6**
HYT Haines Junctio 24.50 49 P **P** **17 49 53.5 -0.1**
HYT IAmb IAmb 17 49 56.2
comp=Z,6.4nm,0.9s
I28M Miner Creek 24.50 38 IAmb IAmb 17 50 12.7
comp=Z,8.0nm,1.1s
L29M L29M 24.60 44 P **P** **17 49 53.2 -1.2**
L29M IAmb IAmb 17 49 59.4
comp=Z,9.3nm,1.1s
S31K Pelican 24.98 56 P **P** **17 49 58.8 +1.1**
K29M Barlow Dome 25.04 42 IAmb IAmb 17 50 02.3
comp=Z,8.3nm,0.8s
TYV Tymovskoe 25.09 287 *eP* **P** **17 49 59.6 +0.8**
TYV pmax pmax
comp=Z,5.0nm,0.8s
TYV pmax pmax
comp=Z,100nm,4.0s
M30M Minto, Yukon 25.10 45 P **P** **17 49 58.5 -0.3**
M30M IAmb IAmb 17 50 32.5
comp=Z,14nm,1.4s
O30N Mendenhall 25.18 50 P **P** **17 50 00.2 +0.6**
O30N IAmb IAmb 17 50 31.4
comp=Z,11nm,1.1s
F28M Old Crow 25.34 33 P **P** **17 50 00.5 -0.5**
F28M IAmb IAmb 17 50 38.5
comp=Z,7.1nm,1.2s
H29M Whitestone 25.37 37 P **P** **17 50 00.6 -0.6**
H29M IAmb IAmb 17 50 30.8
comp=Z,15nm,1.4s
J30M Hart River 25.72 41 P **P** **17 50 05.2 +0.7**
I30M Mount Dempster 25.86 39 P **P** **17 50 05.8 0.0**
I30M IAmb IAmb 17 50 20.5
comp=Z,6.2nm,0.8s
E28M Babbage River 25.87 31 P **P** **17 50 05.2 -0.6**
EPYK Eagle Plains 26.05 37 P **P** **17 50 06.9 -0.5**
EPYK IAmb IAmb 17 50 18.6
comp=Z,9.2nm,1.4s
YSS Yuzh-Sakhalins 26.27 278 *ceP* **P** **17 50 10.0 +0.5**
YSS pmax pmax
comp=Z,30nm,2.5s
P32M Atlin 26.30 53 P **P** **17 50 10.2 +0.5**
E29M Blow River 26.33 32 P **P** **17 50 09.2 -0.7**
N32M Quiet Lake 26.67 49 P **P** **17 50 13.5 +0.4**
P33M Teslin, Yukon 26.76 51 P **P** **17 50 15.6 +1.6**
P33M IAmb IAmb 17 50 17.1
comp=Z,8.9nm,0.8s
Q32M Nakina River 27.04 54 P **P** **17 50 18.3 +1.6**
F31M Tsiigehtchic 27.49 35 P **P** **17 50 19.6 -0.7**
R33M Jennings River 27.70 53 P **P** **17 50 22.0 -0.4**
R33M IAmb IAmb 17 50 35.7
comp=Z,17nm,1.5s
INK Inuvik 27.82 34 P **P** **17 50 23.5 +0.3**
INK Inuvik 27.82 34 P **P** **17 50 23.5 +0.3**
INK pmax pmax
comp=Z,5.0nm,1.3s
INK Inuvik 27.82 34 P **P** **17 50 22.8 -0.5**
comp=Z,1.1nm,0.3s,baz=233,slow=6.4,SNR=11
INK LR LR 18 02 41.1
comp=Z,56nm,19.1s,baz=178,slow=39
comp=Z,1.1nm,0.3s
DLBC Dease Lake 28.24 55 P **P** **17 50 26.6 -0.5**
YAK Yakutsk 30.72 313 *ceP* **P** **17 50 48.6 -0.3**
YAK pmax pmax
comp=Z,12nm,0.8s
YAK Yakutsk 30.72 313 LR LR 18 03 12.6
comp=Z,46nm,20.7s,baz=92,slow=36
C36M Paulatuk 31.41 33 P **P** **17 50 55.0 +0.1**
C36M IAmb IAmb 17 51 24.8
comp=Z,5.8nm,1.4s
TIXI Tiksi 31.93 331 *i* P **P** **17 50 59.6 +0.1**
TIXI pmax pmax
comp=Z,2.0nm,1.0s
TIXI Tiksi 31.93 331 P **P** **17 50 59.6 +0.1**
comp=Z,1.1nm,0.3s,baz=131,slow=9.6,SNR=4.3
TIXI PcP **PcP** **17 53 48.5 -0.5**
comp=Z,0.4nm,0.2s,baz=69,slow=1.4,SNR=4.3
TIXI LR LR 18 05 15.9
comp=Z,42nm,18.4s,baz=173,slow=39
comp=Z,1.1nm,0.3s
KLR Kul'dur 32.27 288 *ceP* **P** **17 51 02.5 -0.3**
KLR pmax pmax
comp=Z,8.0nm,1.3s
KLR Kul'dur 32.27 288 LR LR 18 07 43.4
comp=Z,20nm,18.1s,baz=12,slow=43
H11N2 WAKE ISLAND Hy 32.99 208 T T 18 28 13.4
baz=18,slow=75,SNR=24
H11N3 WAKE ISLAND Hy 33.00 208 T T 18 28 11.3
baz=18,slow=75,SNR=15
H11N1 WAKE ISLAND Hy 33.01 208 T T 18 28 13.6
baz=18,slow=75,SNR=17
ZEA Zeya 33.43 298 *eP* **P** **17 51 12.7 -0.2**
H11S1 WAKE ISLAND Hy 34.21 207 T T 18 29 39.4
baz=18,slow=76,SNR=8.6
H11S2 WAKE ISLAND Hy 34.22 207 T T 18 29 45.0
baz=18,slow=76,SNR=2.6
H11S3 WAKE ISLAND Hy 34.22 207 T T 18 29 44.9
baz=18,slow=76,SNR=6.3
USRK Ussuriysk Ar. 34.27 280 P **P** **17 51 20.2 0.0**
comp=Z,3.9nm,0.8s,baz=67,slow=10,SNR=2.2
comp=Z,3.9nm,0.8s
HEH HeiHe 34.51 292 *eP* **P** **17 51 21.0 -1.2**
HEH pmax pmax
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 35.33 46 P **P** **17 51 30.4 +1.2**
comp=Z,3.5nm,0.7s,baz=276,slow=7.5,SNR=70

YKA PcP **PcP** **17 53 58.9 +0.1**
comp=Z,0.2nm,0.5s,baz=218,slow=5.2,SNR=1.9
comp=Z,3.5nm,0.7s
BRLDA Berland Lookou 36.02 60 P **P** **17 51 35.3 0.0**
DBO Dodson Butte 37.14 80 P **P** **17 51 45.5 +0.5**
DBO IAmb IAmb 17 51 46.8
comp=Z,8.3nm,1.5s
G05A Wamic 37.30 76 P **P** **17 51 47.3 +1.0**
NEW Newport 38.46 69 P **P** **17 51 57.0 +0.9**
NEW IAmb IAmb 17 52 17.3
comp=Z,3.3nm,0.7s
NEW Newport 38.46 69 P **P** **17 51 57.0 +0.9**
NEW pmax pmax
comp=Z,3.0nm,0.7s
EDM Edmonton 38.58 60 P **P** **17 51 58.0 +1.0**
EDM Edmonton 38.58 60 P **P** **17 51 58.0 +1.0**
EDM pmax pmax
comp=Z,22nm,0.8s
K05A Summer Lake 38.82 79 P **P** **17 51 60.0 +0.6**
K05A IAmb IAmb 17 52 01.7
comp=Z,5.0nm,0.9s
BOD Bodaibo 39.26 308 *eP* **P** **17 52 01.9 -0.6**
BOD pmax pmax
comp=Z,5.0nm,1.5s
ORV Oroville 40.17 83 P **P** **17 52 09.8 -0.6**
ORV Oroville 40.17 83 P **P** **17 52 09.8 -0.6**
ORV pmax pmax
comp=Z,3.0nm,1.1s
RES Resolute Bay 40.33 24 LR LR 18 10 43.0
comp=Z,37nm,21.7s,baz=282,slow=39
KSRS Korea Array 40.51 273 P **P** **17 52 13.7 +0.6**
comp=Z,1.7nm,0.7s,baz=62,slow=7.9,SNR=9.8
KSRS PcP **PcP** **17 54 15.2 0.0**
comp=Z,1.2nm,1.0s,baz=56,slow=3.2,SNR=4.4
KSRS LR LR 18 08 05.3
comp=Z,8.3nm,21.1s,baz=60,slow=35
comp=Z,1.7nm,0.7s
PAHR Pah Rah Range 41.43 82 P **P** **17 52 20.0 -0.9**
PAHR IAmb IAmb 17 52 22.9
comp=Z,6.4nm,1.2s
PNTR Pine Nut 41.64 83 P **P** **17 52 23.1 +0.3**
LYMT Lyon Mountain 41.95 68 P **P** **17 52 24.7 -0.5**
NVAR Mina Array Bea 42.85 83 P **P** **17 52 33.4 +0.8**
comp=Z,1.7nm,0.8s,baz=290,slow=8.8,SNR=7.3
NVAR PcP **PcP** **17 54 23.5 +0.3**
comp=Z,1.0nm,0.9s,baz=286,slow=3.2,SNR=3.8
comp=Z,1.7nm,0.8s
EGMT Eagleton 42.93 66 P **P** **17 52 32.9 0.0**
EGMT IAmb IAmb 17 52 34.6
comp=Z,6.8nm,0.7s
BOZ Bozeman (W) 43.04 70 P **P** **17 52 33.7 -0.3**
BOZ Bozeman (W) 43.04 70 P **P** **17 52 33.7 -0.3**
BOZ pmax pmax
comp=Z,3.0nm,1.0s
FFC Flin Flon 44.06 54 P **P** **17 52 43.0 +1.1**
FFC IAmb IAmb 17 52 43.3
comp=Z,3.7nm,0.8s
FFC Flin Flon 44.06 54 P **P** **17 52 43.0 +1.1**
FFC pmax pmax
comp=Z,4.0nm,0.8s
R11B Troy Canyon, C 44.62 81 P **P** **17 52 46.3 -0.5**
R11B IAmb IAmb 17 52 48.2
comp=Z,4.1nm,1.1s
GWY Greenwater Val 45.24 84 P **P** **17 52 52.4 +0.7**
GWY IAmb IAmb 17 52 53.1
comp=Z,3.7nm,1.0s
GSC Goldstone, Bar 45.70 85 IAmb IAmb 17 52 56.9
comp=Z,5.2nm,0.9s
NRIK Noril'sk 45.70 330 *ceP* **P** **17 52 54.7 0.0**
NRIK pmax pmax
comp=Z,23nm,3.2s
NRIK Noril'sk 45.70 330 P **P** **17 52 55.0 +0.2**
comp=Z,3.8nm,0.8s,baz=71,slow=10.0,SNR=8.3
comp=Z,3.8nm,0.8s
PD31 Pinedale Array 45.82 72 IAmb IAmb 17 53 06.6
comp=Z,4.7nm,1.3s
PDAR Pinedale Array 45.82 72 P **P** **17 52 56.0 -0.3**
comp=Z,1.1nm,0.7s,baz=315,slow=3.7,SNR=11
comp=Z,1.1nm,0.7s
ULN Ulaanbaatar 47.47 298 P **P** **17 53 10.1 +1.0**
ULN IAmb IAmb 17 53 10.3
comp=Z,2.6nm,0.8s
ULN Ulaanbaatar 47.47 298 *ceP* **P** **17 53 09.5 +0.5**
ULN pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 47.85 298 P **P** **17 53 10.9 -1.1**
comp=Z,1.7nm,0.8s,baz=51,slow=8.5,SNR=12
SONM PcP **PcP** **17 54 40.1 -0.2**
comp=Z,1.3nm,0.7s,baz=77,slow=2.5,SNR=5.8
SONM LR LR 18 17 04.8
comp=Z,29nm,18.1s,baz=336,slow=41
comp=Z,1.7nm,0.8s
ZAK Zakamensk 48.20 302 *eP* **P** **17 53 14.7 +0.1**
ZAK pmax pmax
comp=Z,6.0nm,1.0s
MOY Mondy 48.73 305 *eP* **P** **17 53 19.8 +1.1**
HHC Hu-ho-hao-te 48.78 288 *eP* **P** **17 53 20.5 +1.3**
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,94nm,5.7s
ULM Lac du Bonnet 49.54 57 P **P** **17 53 24.6 -0.2**
comp=Z,2.4nm,0.6s,baz=296,slow=8.1,SNR=6.6
comp=Z,2.4nm,0.6s
SPITS Spitsbergen Ar 51.44 356 P **P** **17 53 38.9 +0.1**
comp=Z,2.7nm,0.4s,baz=37,slow=8.4,SNR=18
comp=Z,2.7nm,0.4s
EYMN Ely 53.22 57 P **P** **17 53 52.4 0.0**
EYMN IAmb IAmb 17 53 53.3
comp=Z,4.5nm,0.8s
SUMG Summit 54.08 14 P **P** **17 53 57.5 -1.3**
SUMG IAmb IAmb 17 54 32.3
comp=Z,6.4nm,1.2s
SUMG Summit 54.08 14 P **P** **17 53 57.5 -1.3**
SUMG pmax pmax
comp=Z,6.0nm,1.2s
ZALV Zalesovo Beam 55.34 315 P **P** **17 54 07.0 -0.6**
comp=Z,0.5nm,0.5s,baz=75,slow=1.7,SNR=2.8
ZALV PcP **PcP** **17 55 08.4 +0.5**
comp=Z,0.3nm,0.3s,baz=39,slow=7.6,SNR=2.1
comp=Z,0.5nm,0.5s
SFJD Kangerlussuaq 56.27 22 LR LR 18 22 41.1
comp=Z,23nm,18.8s,baz=308,slow=41
GTA Gaotai 56.73 293 P **P** **17 54 18.8 +0.8**
GTA pP pP 17 54 24.7 -0.1
GTA pmax pmax
comp=Z,3.0nm,0.8s
DGZ Jazzator, Alta 56.82 309 *i* P **P** **17 54 18.6 +0.1**
DGZ pmax pmax
comp=Z,6.0nm,1.4s
TX31 Lajitas Ar. Si 57.98 82 IAmb IAmb 17 54 27.8
comp=Z,6.3nm,1.4s
TXAR Lajitas Array 57.98 82 P **P** **17 54 26.4 -0.5**
comp=Z,1.6nm,0.8s,baz=316,slow=3.5,SNR=7.1
comp=Z,1.6nm,0.8s
JMIC Jan Mayen 58.70 4 LR LR 18 20 16.3
comp=Z,21nm,19.3s,baz=34,slow=36
ARCES ARCESS Array B 59.23 351 P **P** **17 54 35.0 +0.1**
ARCES ARCESS Array B 59.23 351 P **P** **17 54 35.0 +0.1**
comp=Z,4.1nm,0.7s,baz=22,slow=7.8,SNR=16
comp=Z,4.1nm,0.7s
SCHQ Schefferville 60.28 39 P **P** **17 54 42.8 +0.5**
comp=Z,2.4nm,0.5s,baz=317,slow=5.4,SNR=8.2
comp=Z,2.4nm,0.5s
KURK Kurchatov 60.33 315 P **P** **17 54 43.0 +0.3**
KURK Kurchatov 60.33 315 *ceP* **P** **17 54 42.8 +0.1**
KURK pmax pmax
comp=Z,11nm,2.5s
KURBB Kurchatov Arra 60.43 315 P **P** **17 54 43.7 +0.3**
comp=Z,4.4nm,0.6s,baz=43,slow=6.7,SNR=51
comp=Z,4.4nm,0.6s
MK31 Makanchi Array 61.32 310 *ceP* **P** **17 54 49.3 -0.3**
MKAR Makanchi Array 61.32 310 P **P** **17 54 49.3 -0.2**
comp=Z,0.7nm,0.5s,baz=45,slow=7.0,SNR=7.5
MKAR LR LR 18 24 20.0
comp=Z,40nm,18.3s,baz=30,slow=39
comp=Z,0.7nm,0.5s
MAKZ Makanchi 61.47 310 P **P** **17 54 50.2 -0.3**
MAKZ IAmb IAmb 17 54 54.6
comp=Z,3.3nm,1.1s
MAKZ Makanchi 61.47 310 P **P** **17 54 50.1 -0.4**
SADO Sadowa 61.78 53 LR LR 18 22 42.2
comp=Z,71nm,18.6s,baz=276,slow=37
GOMU GeErMu 61.81 294 P P 17 54 42.2 -11
GOMU pP pP 17 54 47.4 -13
GOMU sP sP 17 54 48.8 -14
GOMU pmax pmax

comp=Z,3.0nm,0.4s
BVAR Borovoye Array 62.20 321 P **P** **17 54 56.2 +0.9**
comp=Z,7.1nm,0.6s,baz=50,slow=7.0,SNR=38
BVAR LR LR 18 24 18.8
comp=Z,50nm,18.5s,baz=39,slow=38
comp=Z,7.1nm,0.6s
BRVK Borovoye 62.22 321 P **P** **17 54 56.6 +1.1**
BRVK Borovoye 62.22 321 *ce*P **P** **17 54 55.8 +0.3**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
SVE Sverdlovsk 62.90 328 *e*P **P** **17 55 01.9 +2.0**
SVE pmax pmax
comp=Z,9.0nm,0.9s
BORG Borgarnes 63.73 11 LR LR 18 24 11.2
comp=Z,21nm,20.6s,baz=334,slow=37
ARU Arti 63.90 329 P **P** **17 55 07.1 +0.5**
ARU Arti 63.90 329 *d* iP **P** **17 55 07.4 +0.8**
ARU 17 55 40.4
ARU 17 57 25.2
ARU S **S** **18 03 44.8 +5.0**
ARU SS **SS** **18 07 41.8 -5.6**
ARU pmax pmax
comp=Z,9.0nm,0.7s
ARU Arti 63.90 329 LR LR 18 25 05.9
comp=Z,31nm,18.6s,baz=347,slow=38
PZH PanZhiHua 64.35 281 P **P** **17 55 10.5 +0.4**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,120nm,5.3s
KIRV Kirov 64.85 335 *ce*P **P** **17 55 13.4 +0.7**
KIRV Kirov 64.85 335 LR LR 18 29 13.9
comp=Z,34nm,18.2s,baz=20,slow=41
KLMR Klimovskoe 65.21 341 *e*P **P** **17 55 15.1 +0.1**
KLMR pmax pmax
comp=Z,18nm,1.9s
FINES FINESS Array B 66.95 348 *i* P **P** **17 55 26.8 +0.6**
FINES pmax pmax
comp=Z,4.0nm,0.7s
FINES FINESS Array B 66.95 348 P **P** **17 55 26.4 +0.2**
comp=Z,4.3nm,0.7s,baz=15,slow=7.9,SNR=15
comp=Z,4.3nm,0.7s
PMG Port Moresby 67.00 218 *ce*P **P** **17 55 28.4 +1.3**
PMG pmax pmax
comp=Z,30nm,1.7s
AAK Ala-Archa 68.15 311 P **P** **17 55 35.9 +1.5**
AAK Ala-Archa 68.15 311 *ce*P **P** **17 55 35.1 +0.8**
AAK pmax pmax
comp=Z,4.0nm,0.6s
NB2 NORSAR Subarra 68.73 355 P **P** **17 55 38.5 +1.1**
comp=Z,3.3nm,0.6s,baz=7,2,slow=6.5
NOA NORSAR Array B 68.73 355 P **P** **17 55 38.6 +1.1**
comp=Z,1.7nm,0.6s,baz=3.8,slow=7.4,SNR=17
NOA LR LR 18 26 47.5
comp=Z,14nm,20.0s,baz=215,slow=37
comp=Z,1.7nm,0.6s
AAL Aland 68.91 351 *e*P **P** **17 55 39.4 +0.9**
AKTO Aktyubinsk 68.99 326 LR LR 18 29 44.7
comp=Z,36nm,18.1s,baz=22,slow=39
UPP Uppsala 69.45 352 *e*P **P** **17 55 43.1 +1.3**
HFS Hagfors 69.48 354 P **P** **17 55 43.0 +0.9**
HFS Hagfors 69.48 354 P **P** **17 55 43.0 +0.9**
comp=Z,4.2nm,0.6s,baz=25,slow=3.9,SNR=16
comp=Z,4.2nm,0.6s
KK31 Karatay Array 69.69 314 IAmb IAmb 17 55 46.2
comp=Z,3.0nm,0.8s
VSU Vasula 69.73 347 *ce*P **P** **17 55 43.6 0.0**
VSU pmax pmax
comp=Z,22nm,1.7s
MOS Moscow 70.30 340 *e*P **P** **17 55 48.3 +1.2**
BELG Belogornoye 70.74 333 *i* P **P** **17 55 49.5 -0.3**
BELG pmax pmax
comp=Z,2.0nm,0.8s
BELG Belogornoye 70.74 333 LR LR 18 28 46.8
comp=Z,43nm,21.6s,baz=200,slow=38
VIKU Vikbolandet 70.87 352 *e*P **P** **17 55 51.3 +0.7**
OBN Obninsk 71.11 340 *e*P **P** **17 55 52.9 +0.8**
OBN *e* 17 56 11.7
OBN *e* 17 58 30.1
OBN *e*PPP PPP 18 00 17.0
OBN pmax pmax
comp=Z,23nm,0.9s
OBN MLR MLR
comp=Z,45nm,17.0s
CMAR Chiang Mai Arr 71.96 277 *i* P **P** **17 55 58.0 +0.2**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 71.96 277 P **P** **17 55 57.5 -0.2**
comp=Z,1.4nm,0.8s,baz=26,slow=7.2,SNR=11
comp=Z,1.4nm,0.8s
PBUR Paburge 72.76 349 *e*P **P** **17 56 03.1 +1.2**
LPSR Galich'ya Gora 72.89 338 *e*P **P** **17 56 03.0 +0.2**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
PABE Paberze 72.99 347 P **P** **17 56 02.9 -0.4**
PABE Paberze 72.99 347 *e*P **P** **17 56 04.0 +0.7**
DEL Delary 73.11 353 *e*P **P** **17 56 05.2 +1.2**
MNK Minsk 73.36 345 *i* P P 17 56 01.2 -4.4
MNK *i* PPP PPP 18 00 29.5
MNK *i* S **S** **18 05 28.1 -4.0**
MNK *i* SSS SSS 18 13 32.6
MNK pmax pmax
comp=Z,5.0nm,0.8s
MNK pmax pmax
comp=N,7.0nm,0.8s
MNK pmax pmax
comp=E,4.0nm,0.9s
VRH Novokhopyorsk 73.45 335 *e*P **P** **17 56 05.0 -1.2**
VRH pmax pmax
comp=Z,10.0nm,0.6s
DZM Mont Dzumac 73.51 196 LR LR 18 23 15.8
comp=Z,23nm,19.8s,baz=290,slow=32
VSR Storozhevoye 74.10 337 *e*P **P** **17 56 09.4 -0.6**
VSR pmax pmax
comp=Z,9.0nm,0.8s
EKA Eskdalemuir Ar 74.56 3 P **P** **17 56 13.8 +1.2**
comp=Z,4.0nm,0.7s,baz=352,slow=4.7,SNR=28
comp=Z,4.0nm,0.7s
BSEG Bad Segeberg 75.86 355 *e*P **P** **17 56 22.0 +2.0**
comp=Z,12nm,0.8s,baz=7.7,slow=5.7
AKASG Malin Array Be 76.77 343 *i* P **P** **17 56 26.1 +0.9**
AKASG pmax pmax
comp=Z,8.0nm,0.7s
AKASG Malin Array Be 76.77 343 P **P** **17 56 25.9 +0.6**
comp=Z,8.2nm,0.7s,baz=18,slow=5.7,SNR=29
AKASG LR LR 18 33 32.9
comp=Z,28nm,20.1s,baz=38,slow=38
comp=Z,8.2nm,0.7s
AKBB Malin Array Si 76.77 343 *i* P **P** **17 56 25.1 -0.1**
AKBB pmax pmax
comp=Z,15nm,0.9s
KIEV Kiev 76.78 343 ⇓P **P** **17 56 25.8 +0.5**
KIEV Kiev 76.78 343 P **P** **17 56 25.7 +0.5**
KIEV Kiev 76.78 343 ⇓P **P** **17 56 25.8 +0.5**
FLTG Flechtingen 77.41 355 *e*P **P** **17 56 30.0 +1.2**
comp=Z,6.7nm,0.9s,baz=7.7,slow=5.7
IBBN Ibbenburen 77.61 357 *e*P **P** **17 56 31.6 +1.7**
comp=Z,10nm,0.7s,baz=7.7,slow=5.7
CLZ Clausthal 77.95 355 *e*P **P** **17 56 34.0 +2.1**
comp=Z,9.1nm,0.9s,baz=7.7,slow=5.7
GTTG Gottingen 78.27 355 *e*P **P** **17 56 36.1 +2.5**
comp=Z,8.8nm,1.1s,baz=7.7,slow=5.7
CLL Collm 78.31 353 *i* P **P** **17 56 34.9 +1.0**
CLL Collm 78.31 353 *i* P **P** **17 56 34.9 +1.0**
BRG Berggiesshubel 78.67 353 *e*P **P** **17 56 37.3 +1.5**
comp=Z,7.1nm,1.2s,baz=7.7,slow=5.7
MOX Moxa 79.07 354 *e*P **P** **17 56 39.6 +1.5**
comp=Z,8.3nm,1.3s,baz=7.7,slow=5.7
STHS Stebnicka Huta 79.31 348 *e*P **P** **17 56 39.7 +0.3**
STHS pmax pmax
comp=Z,5.0nm,0.9s
STHS Stebnicka Huta 79.31 348 *e*P **P** **17 56 39.7 +0.3**
SORM Soroca 79.39 343 ⇑P **P** **17 56 40.3 +0.5**
SORM Soroca 79.39 343 P **P** **17 56 40.3 +0.5**
AHRW Bad Neuenahr-A 79.39 357 *e*P **P** **17 56 42.2 +2.4**
comp=Z,6.5nm,0.9s,baz=7.7,slow=5.7
GEYT Ailbeck 79.40 318 P **P** **17 56 38.9 -1.3**
comp=Z,2.2nm,0.8s,baz=76,slow=12,SNR=4.9
comp=Z,2.2nm,0.8s
KOLS Kolonicke sedl 79.64 347 *e*P **P** **17 56 43.6 +2.4**
KOLS pmax pmax
comp=Z,6.0nm,0.9s
KOLS Kolonicke sedl 79.64 347 *e*P **P** **17 56 43.6 +2.4**
TNS Taunus Mts 79.66 356 *e*P **P** **17 56 43.9 +2.6**
comp=Z,2.3nm,0.6s,baz=7.7,slow=5.7
KIV Kislovodsk 79.76 332 *e*P **P** **17 56 42.4 +0.3**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,34nm,19.0s
LANS Liptovska Anna 79.80 349 *e*P **P** **17 56 44.5 +2.4**
LANS pmax pmax
comp=Z,4.0nm,1.0s
LANS Liptovska Anna 79.80 349 *e*P **P** **17 56 44.5 +2.4**
KBZ Khabaz 79.90 332 *ce*P **P** **17 56 43.1 +0.4**
KBZ pmax pmax
comp=Z,5.0nm,1.4s
KBZ Khabaz 79.90 332 P **P** **17 56 44.2 +1.6**
comp=Z,1.9nm,0.9s,baz=20,slow=0.8,SNR=6.5
KBZ LR LR 18 37 59.0
comp=Z,33nm,19.0s,baz=22,slow=40
comp=Z,1.9nm,0.9s
VRAC Vranov 79.97 351 LR LR 18 37 34.5
comp=Z,48nm,18.1s,baz=274,slow=40
KHC Kasperske Hory 80.43 353 *ce*P **P** **17 56 46.3 +0.8**
KHC pmax pmax
comp=Z,11nm,1.3s
BURAR Bucovina Array 80.45 345 ⇓P **P** **17 56 46.7 +0.9**
BURAR Bucovina Array 80.45 345 P **P** **17 56 46.7 +0.9**
VYHS Vyhne 80.53 349 *e*P **P** **17 56 47.6 +1.6**
VYHS Vyhne 80.53 349 *e*P **P** **17 56 47.6 +1.6**
GERES GERESS Array B 80.70 353 P **P** **17 56 47.3 +0.2**
comp=Z,1.5nm,0.9s,baz=17,slow=9.8,SNR=5.5
GERES LR LR 18 36 44.2
comp=Z,47nm,18.1s,baz=262,slow=39
comp=Z,1.5nm,0.9s
TESR Tescani 81.27 343 ⇓P **P** **17 56 51.1 +1.1**
CONA Conrad Observa 81.41 351 *e*P **P** **17 56 52.6 +1.7**
comp=Z,5.3nm,1.3s
MOA Molln 81.64 352 *e*P **P** **17 56 54.3 +2.3**
comp=Z,7.0nm,1.5s
DRGR 81.66 346 ⇑P **P** **17 56 53.2 +1.0**
DRGR 81.66 346 ⇑P **P** **17 56 53.2 +1.0**
TURR Turia 81.83 344 ⇓P **P** **17 56 55.3 +2.3**
OZUR 81.83 344 ⇑P **P** **17 56 54.7 +1.7**
BIOA Bad Ischl, Aus 81.85 352 *e*P **P** **17 56 54.4 +1.3**
comp=Z,9.8nm,1.4s
WRA Warramunga Arr 81.88 225 P **P** **17 56 52.4 -1.1**
comp=Z,1.0nm,0.8s,baz=32,slow=5.8,SNR=4.3
comp=Z,1.0nm,0.8s
VRI Vrincioaia 81.88 343 ⇑P **P** **17 56 54.7 +1.4**
VRI Vrincioaia 81.88 343 ⇑P **P** **17 56 54.7 +1.4**
PLOR Plostina 81.91 343 ⇑P **P** **17 56 54.5 +1.1**
PLOR Plostina 81.91 343 P **P** **17 56 54.5 +1.1**
COVR Voineasa-Covas 81.99 344 ⇓P **P** **17 56 55.7 +1.8**
DOPR Dopca 82.02 344 ⇓P **P** **17 56 55.2 +1.2**
LESA Schwarzleotal 82.20 353 *e*P **P** **17 56 56.4 +1.4**
comp=Z,8.3nm,1.4s
RETA Reutte 82.27 354 *e*P **P** **17 56 56.6 +1.3**
comp=Z,9.4nm,1.6s
SIRR Siria 82.33 347 ⇓P **P** **17 56 57.7 +2.1**
MLR Muntele Rosu 82.38 344 ⇑P **P** **17 56 58.2 +2.2**
MLR Muntele Rosu 82.38 344 P **P** **17 56 58.2 +2.2**
MOTA Moosalm 82.39 354 *e*P **P** **17 56 56.7 +0.6**
comp=Z,1.1nm,0.4s
KBA Koelnbreinsper 82.49 353 *e*P **P** **17 56 57.7 +1.1**
comp=Z,7.1nm,0.6s
TPGR Topolog 82.52 342 ⇓P **P** **17 56 58.2 +1.6**
GNI Garni 82.55 329 LR LR 18 37 52.2
comp=Z,25nm,19.7s,baz=346,slow=39
VOIR 82.59 344 ⇑P **P** **17 56 58.7 +1.6**
VOIR 82.59 344 P **P** **17 56 58.7 +1.6**
SOKA Soboth 82.73 351 *e*P **P** **17 56 59.3 +1.5**
comp=Z,3.9nm,0.7s
ARR Arges 82.73 344 ⇓P **P** **17 56 59.6 +1.8**
FETA Feichten 82.73 354 *e*P **P** **17 56 59.4 +1.5**
comp=Z,2.2nm,0.8s
SURR Surduc 82.76 346 ⇑P **P** **17 56 59.8 +1.9**
OBKA Obir 82.94 352 *e*PcP **P** **17 57 00.8 +1.9**
comp=Z,1.8nm,0.5s
BZS Buzias 82.97 347 ⇓P **P** **17 57 00.1 +1.1**
BZS Buzias 82.97 347 ⇓P **P** **17 57 00.1 +1.1**
GZR Gura Zlata 83.01 346 ⇓P **P** **17 57 00.8 +1.5**
GZR Gura Zlata 83.01 346 ⇓P **P** **17 57 00.8 +1.5**
ASAR Alice Springs 85.32 224 P **P** **17 57 10.0 -1.0**
comp=Z,0.8nm,0.7s,baz=26,slow=5.5,SNR=8.2
ASAR LR LR 18 36 21.7
comp=Z,20nm,19.4s,baz=174,slow=36
comp=Z,0.8nm,0.7s
BRTR Keskin Array B 86.21 336 *i* P **P** **17 57 16.5 +0.9**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 86.21 336 P **P** **17 57 15.9 +0.2**
comp=Z,1.3nm,0.7s,baz=27,slow=2.7,SNR=12
BRTR LR LR 18 40 58.5
comp=Z,25nm,19.7s,baz=308,slow=39
comp=Z,1.3nm,0.7s
STKA Stephens Creek 89.54 214 P **P** **17 57 30.7 -0.4**
comp=Z,3.3nm,0.8s,baz=342,slow=8.6,SNR=5.1
comp=Z,3.3nm,0.8s
ESDC Sonseca Array 90.16 5 P **P** **17 57 34.5 +0.2**
comp=Z,2.1nm,1.0s,baz=343,slow=4.8,SNR=4.6
comp=Z,2.1nm,1.0s
TORD Torodi Ar. Bea 116.76 1 PKP **PKPdf** **18 03 17.2 -1.5**
comp=Z,0.2nm,0.4s,baz=322,slow=2.0,SNR=2.1
PLCA Paso Flores 129.86 109 PKP **PKPdf** **18 03 42.9 -0.1**
comp=Z,1.5nm,0.8s,baz=275,slow=3.7,SNR=3.8
QSPA South Pole Qui 140.12 180 PKhKP PKPpre 18 03 53.4
comp=Z,1.7nm,1.0s,baz=356,slow=0.8,SNR=6.6
QSPA PKP **PKPdf** **18 04 02.5 +1.2**
comp=Z,1.9nm,0.8s,baz=287,slow=1.8,SNR=6.8
BOSA Boshof 152.28 313 PKPbc **PKPbc** **18 04 29.8 0.0**
comp=Z,2.9nm,0.6s,baz=15,slow=4.0,SNR=15
BOSA PKPab **PKPab** **18 04 39.8 +0.1**
comp=Z,1.3nm,0.5s,baz=42,slow=5.1,SNR=5.6

*IDC **11** 17:47:32.1±11.0, 22.°13S×179.°73W, h637km±117km, mb3.2/5, mbtmp4.2/6, Error ellipse: s-maj=98.0km s-min=26.1km az=53.0*
IDC 11 17:47:27.1±1.6, 22.°0S±0.°3×179.°3W±0.°2, h592km, n8, σ1ᵖ39/8, mb3.9/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.22**	**267**	P		P		**17 50 19.6**	**+1.3**
	5.7nm,0.7s,baz=102,slow=13,SNR=2.3								
STKA	**Stephens Creek**	**36.06**	**246**	P		P		**17 53 39.5**	**-0.7**
	2.3nm,0.5s,baz=84,slow=12,SNR=5.2								
	2.3nm,0.5s								
ASAR	**Alice Springs**	**43.01**	**258**	P		P		**17 54 34.8**	**-1.1**
	5.2nm,0.8s,baz=94,slow=8.5,SNR=68								
	5.2nm,0.8s								
WRA	**Warramunga Arr**	**43.21**	**264**	P		P		**17 54 36.1**	**-1.4**
	1.2nm,0.3s,baz=90,slow=5.6,SNR=189								
	1.2nm,0.3s								
QSPA	**South Pole Qui**	**68.11**	**180**	P		P		**17 57 29.4**	**+0.7**
	1.8nm,0.8s,baz=359,slow=2.7,SNR=15								
	1.8nm,0.8s								
CMAR	**Chiang Mai Arr**	**89.46**	**290**	P		P		**17 59 23.9**	**+1.5**
	0.8nm,0.8s,baz=129,slow=3.0,SNR=5.0								
	0.8nm,0.8s								
AKASG	**Malin Array Be**	**143.66**	**329**	PKP		**PKPdf**		**18 05 54.6**	**-0.6**
	0.6nm,0.3s,baz=45,slow=4.2,SNR=7.9								
BRTR	**Keskin Array B**	**146.87**	**310**	PKPbc		**PKPbc**		**18 06 03.1**	**-1.1**
	0.2nm,0.5s,baz=132,slow=4.1,SNR=1.7								

IDC 11 17:53:26.8±8.5, 4.°91S×145.°82E, h90km±85km, mb2.8/2, mbtmp3.1/4, ML3.2/1, Error ellipse: s-maj=65.4km s-min=37.0km az=141.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.66**	**164**	P		P	Pn	17 54 36.8	+2.0
	5.8nm,0.7s,baz=333,slow=11,SNR=1.9								
PMG				S			Sn	17 55 26.9	-0.8
	4.4nm,0.3s,baz=311,slow=19,SNR=15								
WRA	**Warramunga Arr**	**18.66**	**216**	P		P		17 57 36.7	-1.1
	0.1nm,0.3s,baz=33,slow=11,SNR=1.3								
	0.3nm,0.9s								
ASAR	**Alice Springs**	**21.91**	**211**	P		P		17 58 14.6	+1.7
	0.2nm,0.4s,baz=36,slow=7.6,SNR=7.0								
	0.2nm,0.4s								
ILAR	**Eielson Array**	**84.95**	**23**	P		P		18 05 51.1	-0.5
	0.2nm,0.6s,baz=241,slow=9.2,SNR=1.8								
	0.2nm,0.6s								

*NNC **11** 17:54:34.1±6.0, 37.°96N×70.°52E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=70.8km s-min=46.6km az=68.0*

*KRNET **11** 17:54:43.3±0.1, 39.°01N×70.°76E, h17km, mb2.5*
ISC 11 17:54:44.0±1.0, 39.°04N±0.°06×70.°73E±0.°04, h10km, n13, σ1ᵖ73/23, 15C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.33**	**264**	⇑*i*P			**Pg**	**17 54 50.1**	**-0.4**
	baz=68								
GAR				⇑*i*S			**Sg**	**17 54 55.3**	**+0.4**
	baz=68								
DRK	**Karamyk**	**0.94**	**62**	⇑*i*P			**Pg**	**17 55 01.1**	**-1.0**
	baz=60								
DRK				⇑*i*S			**Sg**	**17 55 13.6**	**-0.8**
	baz=60								
BTK	**Batken**	**1.02**	**4**	⇓*i*P			**Pg**	**17 55 03.1**	**-0.6**
	baz=3.0								
BTK				⇓*i*S			**Sg**	**17 55 16.9**	**-0.1**
	baz=3.0								
CHGR	**Chuyangaron**	**1.29**	**253**	⇓*i*P			**Pn**	**17 55 07.2**	**-0.9**
	baz=55								
CHGR				⇓*i*S			**Sb**	**17 55 24.7**	**-0.2**
	baz=55								
OHH	**Osh**	**2.17**	**46**	⇑*e*P			**Pb**	**17 55 21.7**	**-1.7**
	baz=45								
OHH				⇑*e*S			**Sb**	**17 55 48.6**	**-1.8**
	baz=45								
SFK	**Sufi-Kurgan**	**2.35**	**65**	⇑*i*P			**Pn**	**17 55 24.0**	**+1.1**
	baz=64								
SFK				⇑*i*S			**Sn**	**17 55 53.0**	**+1.0**
	baz=64								
TRKS	**Terek-Say**	**2.51**	**7**	⇑*e*P			**Pn**	**17 55 25.9**	**+0.9**
	baz=7.0								
TRKS				⇑*i*S			**Sn**	**17 55 56.1**	**+0.3**
	baz=7.0								
ARSB	**Arslanbob**	**2.86**	**36**	⇑*e*P			**Pn**	**17 55 31.4**	**+1.6**
	baz=36								
ARSB				⇑*e*S			**Sn**	**17 56 05.5**	**+1.1**
	baz=36								
ARK	**Arkit**	**2.92**	**18**	⇓*e*P			**Pn**	**17 55 31.7**	**+1.2**
	baz=18								
ARK				⇓*e*S			**Sn**	**17 56 07.2**	**+1.5**
	baz=18								
MNAS	**Manas**	**3.70**	**21**	⇑*e*P			**Pn**	**17 55 42.8**	**+1.5**
	baz=20								
MNAS				⇑*e*S			**Sn**	**17 56 26.2**	**+1.1**
	baz=20								
KK31	**Karatay Array**	**4.07**	**358**	Pn			**Pb**	**17 55 51.1**	**-4.6**
	0.7nm,0.3s,baz=172,slow=12,SNR=15								
KK31				⇓Sn			**Sg**	**17 56 53.7**	**-0.9**
	1.5nm,0.5s,baz=174,slow=29,SNR=4.2								
TKM2	**Tokmak 2**	**5.35**	**42**	⇓Pn			Pn	17 56 09.0	+5.0
	1.2nm,0.4s								
AB31	**Akbulak array**	**12.81**	**326**	⇑P			**Pn**	**17 57 49.9**	**+3.9**
	0.6nm,0.8s,baz=168,slow=12,SNR=6.8								

IDC 11 17:58:57.4±3.8, 36.°40S×177.°33E, h198km±20km, mb3.1/3, mbtmp3.6/3, Error ellipse: s-maj=64.6km s-min=22.9km az=46.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.86**	**185**	P		P	Pn	17 59 33.6	-0.6
	31nm,0.3s,baz=15,slow=19,SNR=59								
URZ				S			Sn	18 00 03.6	+0.4
	36nm,0.3s,baz=13,slow=19,SNR=22								
ASAR	**Alice Springs**	**39.37**	**276**	P		P	P	18 06 07.8	0.0
	0.5nm,0.6s,baz=116,slow=8.0,SNR=14								
	0.5nm,0.6s								
WRA	**Warramunga Arr**	**40.93**	**282**	P		P	P	18 06 20.1	-0.6
	0.6nm,0.8s,baz=120,slow=7.8,SNR=8.4								
	0.6nm,0.8s								
QSPA	**South Pole Qui**	**53.72**	**180**	P		P	P	18 07 58.2	-0.6
	0.6nm,0.6s,baz=45,slow=17,SNR=7.7								
	0.6nm,0.6s								
MKAR	**Makanchi Array**	**118.55**	**309**	PKP		PKiKP		18 17 23.1	+1.9
	0.1nm,0.5s,baz=102,slow=1.1,SNR=2.6								

*SOME **11** 18:01:31.6, 41.°60N×83.°45E, h5km*
*NNC **11** 18:01:34.4±1.6, 41.°60N×83.°33E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=12.5km s-min=9.8km az=179.0*
ISC 11 18:01:37.6±2.4, 41.°7N±0.°1×83.°19E±0.°07, h10km, n28, σ2ᵖ17/38, 2C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.70**	**310**	*e*P			**Pg**	**18 02 27.6**	**-1.7**
	8.2nm,0.3s								
KTMS				*e*S			**Sg**	**18 03 07.8**	**+3.5**
	7.9nm,0.2s								
KTMS	**Ketmen**	**2.70**	**310**	Pg			**Pg**	**18 02 27.6**	**-1.7**
	8.2nm,0.3s								
KTMS				Lg			Lg	18 03 07.8	
	7.9nm,0.2s								
SHLS	**Shalkode**	**3.10**	**298**	*e*P			**Pn**	**18 02 28.4**	**+1.8**
	8.5nm,0.4s								
SHLS				*e*S			**Sb**	**18 03 09.6**	**-1.2**
	24nm,0.3s								
SHLS	**Shalkode**	**3.10**	**298**	Pg			**Pn**	**18 02 28.4**	**+1.8**
	8.5nm,0.4s								
SHLS				Lg			Lg	18 03 09.6	
	24nm,0.3s								
PDGK	**Podgornoye**	**3.16**	**301**	Pg			**Pb**	**18 02 33.6**	**-0.3**
	0.9nm,0.3s								
PDGK				Lg			Lg	18 03 18.5	
	4.6nm,0.7s								
PDGK	**Podgornoye**	**3.16**	**301**	Pn			**Pn**	**18 02 29.7**	**+2.2**
	5.7nm,0.8s								
PDGK				Lg			Lg	18 03 23.4	
	16nm,0.9s								
UZB	**Uzynbulak**	**3.39**	**296**	*e*P			**Pb**	**18 02 37.8**	**0.0**
	3.4nm,0.2s								
UZB				*e*S			**Sg**	**18 03 25.6**	**-0.8**
	7.4nm,0.3s								
UZB	**Uzynbulak**	**3.39**	**296**	Pg			**Pb**	**18 02 37.8**	**0.0**
	3.4nm,0.2s								
UZB				Lg			Lg	18 03 25.6	
	7.4nm,0.3s								
DJR	**Jarkent**	**3.59**	**317**	*e*P			**Pb**	**18 02 43.0**	**+1.7**
	1.8nm,0.2s								
DJR				*e*S			**Sg**	**18 03 34.2**	**+1.3**
	3.6nm,0.4s								
DJR	**Jarkent**	**3.59**	**317**	Pg			**Pb**	**18 02 43.0**	**+1.7**
	1.8nm,0.2s								
DJR				Lg			Lg	18 03 34.2	
	3.6nm,0.4s								
KPKS	**Kokpek**	**3.75**	**299**	*e*P			**Pb**	**18 02 45.5**	**+1.6**
	5.1nm,0.3s								
KPKS				*e*S			**Sg**	**18 03 38.5**	**+0.7**
	10nm,0.3s								
KPKS	**Kokpek**	**3.75**	**299**	Pg			**Pb**	**18 02 45.5**	**+1.6**
	5.1nm,0.3s								
KPKS				Lg			Lg	18 03 38.5	
	10nm,0.3s								
SATY	**Saty**	**3.78**	**292**	*e*P			**Pb**	**18 02 45.7**	**+1.3**
	2.8nm,0.2s								
SATY				*e*S			**Sg**	**18 03 39.2**	**+0.2**
	9.4nm,0.3s								
SATY	**Saty**	**3.78**	**292**	Pg			**Pb**	**18 02 45.7**	**+1.3**
	2.8nm,0.2s								
SATY				Lg			Lg	18 03 39.2	
	9.4nm,0.3s								
KNOS	**Konyrlen**	**3.94**	**313**	Pg			**Pb**	**18 02 48.5**	**+1.4**
	3.3nm,0.5s								
KNOS				Lg			Lg	18 03 44.1	
	3.9nm,0.3s								
KURS	**Kuram**	**4.10**	**297**	*e*P			**Pb**	**18 02 51.0**	**+1.3**
	2.5nm,0.3s								
KURS				*e*S			**Sg**	**18 03 48.3**	**-0.8**
	2.1nm,0.2s								
ARXS	**Arharly**	**4.65**	**304**	*e*P			**Pg**	**18 03 02.7**	**-3.8**
	1.0nm,0.1s								
ARXS				*e*S			**Sg**	**18 04 08.2**	**+1.6**
	5.0nm,0.5s								
ARXS	**Arharly**	**4.65**	**304**	Pg			**Pg**	**18 03 02.7**	**-3.8**
	1.0nm,0.1s								
ARXS				Lg			Lg	18 04 08.2	
	5.0nm,0.5s								
MDOK	**Medeo**	**4.76**	**289**	*e*P			**Pg**	**18 03 04.5**	**-4.2**
	2.5nm,0.4s								
MDOK				*e*S			**Sg**	**18 04 11.3**	**+0.9**
	2.7nm,0.3s								
MDOK	**Medeo**	**4.76**	**289**	⇑Pg			**Pg**	**18 03 06.0**	**-2.7**
	1.9nm,0.6s								
MDOK				⇑Lg			Lg	18 04 13.3	
	6.0nm,0.8s								
TNSS	**Tian-Shan**	**4.80**	**288**	*e*P			**Pb**	**18 03 04.0**	**+2.0**
	0.8nm,0.2s								

TNSS				*e*S		**Sg**	**18 04 10.3**	**-1.5**
	2.4nm,0.5s							
TNSS	**Tian-Shan**	**4.80**	**288**	Pg		**Pb**	**18 03 04.0**	**+2.0**
	0.8nm,0.2s							
TNSS				Lg		Lg	18 04 10.3	
	2.4nm,0.5s							
MAKZ	**Makanchi**	**5.14**	**351**	⇓Lg		Lg	18 04 24.8	
	4.3nm,1.0s							
KTBS	**Karatobe**	**5.18**	**294**	*e*P		**Pb**	**18 03 11.2**	**+2.9**
	0.8nm,0.1s							
KTBS				*e*S		**Sg**	**18 04 22.9**	**-1.0**
	2.2nm,0.9s							
KTBS	**Karatobe**	**5.18**	**294**	Pg		**Pb**	**18 03 11.2**	**+2.9**
	0.8nm,0.1s							
KTBS				Lg		Lg	18 04 22.9	
	2.2nm,0.9s							
ZSN	**Zaisan**	**5.83**	**11**	*e*P		**Pb**	**18 03 21.6**	**+2.3**
	1.7nm,0.2s							
ZSN				*e*S		**Sg**	**18 04 40.5**	**-4.1**
	6.1nm,1.9s							
ZSN	**Zaisan**	**5.83**	**11**	Pg		**Pb**	**18 03 21.6**	**+2.3**
	1.7nm,0.2s							
ZSN				Pg		Pg	18 04 03.0	+34
	8.5nm,0.6s							
ZSN				Lg		Lg	18 04 40.2	
	6.1nm,0.7s							
ZSN				Lg		Lg	18 04 40.5	
	6.1nm,1.9s							
KURK	**Kurchatov**	**9.51**	**342**	⇓Lg		Lg	18 06 43.4	
	3.3nm,1.2s							

*NEIC **11** 18:05:25.8±1.9,43˚.79N±0˚.04×105˚.39W±0˚.06,h0km±1km, ML3.1/86, Error ellipse: s-maj=9.2km s-min=5.6km az=313.0*
*IDC **11** 18:05:26.2±2.3,43˚.92N×105˚.59W,h0km,mb3.7/6, mbtmp3.7/9,ML3.6/3, Error ellipse: s-maj=83.5km s-min=8.4km az=147.0*

ISC 11 18:05:25.9±0.8,43.80N±0˚.06×105.32W±0˚.06,h0km,n50, σ1833/46,mb3.7/6,Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RSSD	**Black Hills**	**0.98**	**70**			**Pb**	**18 05 45.6**	**-0.4**
K22A	**Casper**	**1.44**	**218**			**Pn**	**18 05 52.3**	**-1.2**
K22A					IAML		18 06 19.9	
	comp=N,404nm,0.3s							
PHWY	**Pilot Hill**	**2.50**	**182**			**Pn**	**18 06 08.5**	**+0.4**
PHWY					IAML		18 06 45.0	
	comp=N,93nm,0.4s							
PHWY					IAML		18 06 49.8	
	comp=N,80nm,0.3s							
RWWY	**Rawlins**	**2.52**	**214**			**Pn**	**18 06 09.9**	**+1.4**
RWWY					IAML		18 06 50.6	
	comp=N,98nm,0.3s							
N23A	**Red Feather La**	**2.94**	**189**	Pn		**Pn**	**18 06 15.2**	**+1.1**
N23A					IAML		18 06 57.7	
	comp=N,86nm,0.7s							
N23A					IAML		18 07 04.2	
	comp=E,66nm,0.6s							
LAO	**LASA Array**	**2.96**	**348**	Pn		**Pn**	**18 06 14.9**	**+0.7**
RLMT	**Red Lodge**	**3.12**	**297**			**Pn**	**18 06 17.9**	**+1.4**
RLMT					IAML		18 07 05.3	
	comp=E,49nm,0.3s							
RLMT					IAML		18 07 08.3	
	comp=E,57nm,0.3s							
PD31	**Pinedale Array**	**3.26**	**253**	Pn		**Pn**	**18 06 19.5**	**+1.0**
PDAR	**Pinedale Array**	**3.26**	**253**	Pn		**Pn**	**18 06 19.4**	**+0.8**
	comp=E,5.2nm,0.3s,baz=70,slow=17,SNR=91							
PDAR				Lg		Lg	18 07 04.2	
	comp=E,14nm,0.3s,baz=65,slow=31,SNR=2.7							
	comp=E,5.1nm,0.3s							
BRIGG	**Briggsdale**	**3.30**	**167**			**Pn**	**18 06 20.4**	**+1.4**
YMP	**Mirror Lake Pl**	**3.60**	**287**			**Pn**	**18 06 24.7**	**+1.5**
LKWY	**Lake**	**3.73**	**284**			**Pn**	**18 06 25.1**	**0.0**
LKWY					IAML		18 07 29.1	
	comp=E,30nm,0.7s							
OGNE	**Ogallala**	**3.75**	**138**			**Pn**	**18 06 26.9**	**+1.8**
H17A	**Grant Village**	**3.83**	**281**		IAML		18 07 32.3	
	comp=N,23nm,0.8s							
LOHW	**Long Hollow**	**3.83**	**269**			**Pn**	**18 06 28.3**	**+1.9**
FLWY	**Flagg Ranch**	**3.89**	**276**	Pn		**Pn**	**18 06 28.7**	**+1.5**
FLWY					IAML		18 07 34.6	
	comp=N,32nm,3.2s							
FLWY					IAML		18 07 38.0	
	comp=N,20nm,1.6s							
MOOW	**Moose Ponds**	**3.93**	**271**	Pn		**Pn**	**18 06 29.6**	**+1.9**
YNR	**Norris Junctio**	**3.96**	**285**			**Pn**	**18 06 27.7**	**-0.4**
SNOW	**Snow King Moun**	**3.96**	**267**			**Pn**	**18 06 29.2**	**+1.1**
SNOW					IAML		18 07 34.1	
	comp=N,30nm,2.0s							
SNOW					IAML		18 07 44.1	
	comp=N,29nm,1.3s							
ISCO	**Idaho Springs**	**4.00**	**183**	Pn		**Pn**	**18 06 29.8**	**+1.1**
REDW	**Red Top Meadow**	**4.04**	**266**			**Pn**	**18 06 30.7**	**+1.5**
IMW	**Indian Meadow**	**4.07**	**273**			**Pn**	**18 06 30.2**	**+0.6**
IMW					IAML		18 07 39.7	
	comp=N,19nm,0.6s							
YHH	**Holmes Hill**	**4.09**	**286**			**Pn**	**18 06 32.7**	**+2.6**
TPAW	**Teton Pass**	**4.10**	**268**			**Pn**	**18 06 30.9**	**+0.8**
TPAW					IAML		18 07 54.0	
	comp=N,26nm,0.7s							
O20A	**White River Ci**	**4.26**	**212**		IAML		18 07 43.2	
	comp=E,26nm,0.4s							
O20A					IAML		18 07 49.8	
	comp=N,31nm,0.7s							
E28A	**Huff**	**4.29**	**48**			**Pn**	**18 06 34.0**	**+1.4**
K30B	**Basset**	**4.32**	**103**			**Pn**	**18 06 35.8**	**+2.9**
YHL	**Hebgen Lake**	**4.34**	**286**			**Pn**	**18 06 34.6**	**+1.3**
YHL					IAML		18 07 49.4	
	comp=E,22nm,0.7s							
YHL					IAML		18 08 18.1	
	comp=N,18nm,1.0s							
AHID	**Auburn Hatcher**	**4.34**	**258**			**Pn**	**18 06 34.9**	**+1.5**
AHID					IAML		18 07 46.9	
	comp=N,26nm,0.4s							
AHID					IAML		18 07 50.5	
	comp=N,24nm,0.7s							
RDMU	**Red Mountain**	**4.51**	**226**			**Pn**	**18 06 36.2**	**+0.5**
RDMU					IAML		18 07 52.1	
	comp=E,16nm,1.2s							
RDMU					IAML		18 07 56.2	
	comp=N,18nm,1.1s							
DGMT	**Dagmar**	**4.74**	**9**	Pn		**Pn**	**18 06 41.4**	**+2.7**
Q24A	**Divide**	**4.83**	**178**			**Pn**	**18 06 40.8**	**+0.7**
Q24A					IAML		18 08 04.4	
	comp=N,15nm,0.7s							
BOZ	**Bozeman (W)**	**4.84**	**294**		IAML		18 07 46.6	
	comp=N,11nm,4.9s							
BOZ					IAML		18 07 57.9	
	comp=N,10nm,1.1s							
HWUT	**Hardware Ranch**	**5.09**	**247**	Pn		**Pn**	**18 06 44.5**	**+0.8**
HWUT					IAML		18 08 12.0	
	comp=N,17nm,0.8s							
BSUT	**Blindstream Ca**	**5.19**	**233**	Pn		**Pn**	**18 06 46.0**	**+0.8**
BSUT					IAML		18 07 43.9	
	comp=N,9.8nm,4.1s							
BSUT					IAML		18 08 32.7	
	comp=E,11nm,2.5s							
KSCO	**Kaye Shedlock'**	**5.19**	**156**	Pn		**Pn**	**18 06 44.9**	**-0.1**
EGMT	**Eagleton**	**5.24**	**325**	Pn		**Pn**	**18 06 46.2**	**+0.6**
SDCO	**Great Sand Dun**	**6.05**	**181**			**Pn**	**18 06 56.3**	**-0.6**
ECSD	**EROS Data Cent**	**6.31**	**88**			**Pn**	**18 07 01.4**	**+1.2**
BPMT	**Black Pine Rid**	**6.33**	**297**			**Pn**	**18 07 02.6**	**+2.0**
DUG	**Dugway, Tooele**	**6.64**	**240**			**Pn**	**18 07 05.6**	**+0.7**
I10CA	**LAC DU BONNET**	**9.02**	**41**	I		I	19 03 40.0	
	baz=225,slow=330,SNR=1.6							
ULM	**Lac du Bonnet**	**9.12**	**42**	Pn		**Pn**	**18 07 37.9**	**-0.8**
	comp=E,3.1nm,0.3s,baz=227,slow=11,SNR=44							
ULM				Lg		Lg	18 10 05.9	
	comp=E,0.3nm,0.3s,baz=229,slow=14,SNR=2.2							
	comp=E,4.9nm,0.3s							
NVAR	**Mina Array Bea**	**11.16**	**246**	Pn		**Pn**	**18 08 08.8**	**+1.9**
	comp=E,0.1nm,0.3s,baz=46,slow=12,SNR=6.3							
	comp=E,0.4nm,0.6s							
FINES	**FINESS Array B**	**67.99**	**23**	P		**P**	**18 16 25.2**	**-1.2**
	comp=E,1.3nm,0.9s,baz=335,slow=6.2,SNR=2.3							
	comp=E,1.3nm,0.9s							
ZALV	**Zalesovo Beam**	**82.25**	**354**	P		**P**	**18 17 48.6**	**-0.1**
	comp=E,0.4nm,0.5s,baz=347,slow=5.9,SNR=1.9							
	comp=E,0.4nm,0.5s							
BVAR	**Borovoye Array**	**83.48**	**3**	P		**P**	**18 17 55.3**	**+0.1**
	comp=E,0.3nm,0.5s,baz=0.0,slow=3.8,SNR=2.0							
	comp=E,0.3nm,0.5s							
SONM	**Songino Array**	**84.57**	**339**	P		**P**	**18 18 00.5**	**-0.5**
	comp=E,0.2nm,0.4s,baz=14,slow=3.0,SNR=1.8							
	comp=E,0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**85.90**	**358**	P		**P**	**18 18 06.8**	**-0.6**
	comp=E,0.2nm,0.4s,baz=2.3,slow=4.1,SNR=2.2							
	comp=E,0.2nm,0.4s							
MKAR	**Makanchi Array**	**89.54**	**355**	P		**P**	**18 18 24.6**	**-0.4**
	comp=E,0.3nm,0.6s,baz=6.0,slow=4.2,SNR=4.4							
	comp=E,0.3nm,0.6s							

*ANF **11** 18:09:07.6±1.5,36˚.85N×121˚.50W,h0km, Error ellipse: s-maj=12.9km s-min=9.9km az=126.0*
*NEIC **11** 18:09:08.1±1.6,36˚.94N±0˚.03×121˚.48W±0˚.03,h16km±5km, Error ellipse: s-maj=5.1km s-min=3.4km az=212.0*
*NCEDC **11** 18:09:08.4±2.0,36˚.94N±0˚.02×121˚.44W±0˚.03,h3km±6km, ML3.4/47,ML3.1/86(NEIC), Error ellipse: s-maj=4.4km s-min=1.9km az=45.0*

ISC 11 18:09:07.9±0.8,36.94N±0˚.01×121.46W±0˚.02,h14km±5km, n215,σ0891/230,Central California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OCR	**O'Connell Ranc**	**0.05**	**239**			**Pg**	**18 09 11.8**	**+1.3**
HFEM	**San Felipe**	**0.06**	**48**			**Pg**	**18 09 09.6**	**-1.1**
CDC	**Canada Road**	**0.09**	**346**			**Pg**	**18 09 10.7**	**-0.4**
HCAM	**Canada Road**	**0.09**	**346**			**Pg**	**18 09 10.6**	**-0.4**
HBTM	**San Juan Bauti**	**0.12**	**219**			**Pb**	**18 09 11.8**	**-0.1**
ANZ	**Anzar Road**	**0.12**	**242**			**Pb**	**18 09 11.9**	**-0.1**
HLTM	**Lone Tree Road**	**0.13**	**115**			**Pg**	**18 09 11.9**	**+0.4**
HSFM	**Saint Francis**	**0.13**	**194**			**Pb**	**18 09 12.1**	**-0.2**
PACP	**Pacheco Peak**	**0.15**	**64**			**Pg**	**18 09 11.6**	**-0.3**
PACP						**Sg**	**18 09 14.2**	**-0.4**
GHS	**Gilroy Hot Spr**	**0.15**	**4**			**Pg**	**18 09 11.8**	**-0.1**
HCBM	**Chamberlain**	**0.16**	**267**			**Pb**	**18 09 12.5**	**-0.2**
HCBM						**Sb**	**18 09 16.3**	**+0.3**
HLPM	**Lions Peak**	**0.17**	**306**			**Pg**	**18 09 12.1**	**0.0**
SAO	**San Andreas Ge**	**0.18**	**177**			**Pg**	**18 09 12.3**	**+0.2**
HTUM	**Tustin Road**	**0.19**	**232**			**Pb**	**18 09 12.9**	**-0.2**
HTUM						**Sb**	**18 09 16.6**	**0.0**
BSLM	**Silva Ranch**	**0.19**	**152**			**Pg**	**18 09 12.8**	**+0.5**
FRP	**Fremont Peak**	**0.19**	**188**			**Pg**	**18 09 12.8**	**+0.4**
HPCM	**Pacheco Lake**	**0.19**	**51**			**Pg**	**18 09 12.3**	**-0.1**
HPCM						**Sg**	**18 09 15.6**	**+0.2**
HCOM	**Corn Cob Canyo**	**0.21**	**255**			**Pb**	**18 09 13.4**	**0.0**
SLD	**San Luis Dam**	**0.23**	**55**			**Pg**	**18 09 13.1**	**0.0**
SLD						**Sg**	**18 09 16.9**	**+0.3**
HERM	**Elkhorn Road**	**0.25**	**235**			**Pb**	**18 09 14.3**	**+0.1**
CADM	**Anderson Res.**	**0.26**	**329**			**Pg**	**18 09 13.9**	**+0.4**
BSRM	**Salinas Radio**	**0.28**	**190**			**Pb**	**18 09 14.3**	**-0.4**
JELB	**Ellicott, Sant**	**0.30**	**267**			**Pb**	**18 09 15.2**	**+0.2**
JELB						**Sb**	**18 09 21.1**	**+1.4**
JLAB	**Laurel Hill**	**0.31**	**314**			**Pb**	**18 09 14.8**	**-0.4**
BJOM	**Mount Johnson**	**0.33**	**159**			**Pb**	**18 09 15.7**	**0.0**
SCZ	**Santa Cruz**	**0.34**	**173**			**Pg**	**18 09 15.4**	**+0.4**
CCOB	**Coe Ranch Numb**	**0.36**	**332**			**Pb**	**18 09 16.6**	**+0.4**
CCOB						**Sn**	**18 09 24.1**	**-1.6**
BPCNC	**Pine Canyon**	**0.39**	**200**			**Pb**	**18 09 16.7**	**+0.1**
SCKWR	**San Luis Creek**	**0.39**	**52**			**Pb**	**18 09 16.8**	**+0.1**
SCKWR						**Sg**	**18 09 22.2**	**+1.0**
BJCM	**Johnson Can.**	**0.40**	**172**			**Pg**	**18 09 16.3**	**+0.4**
BEMM	**Emmet**	**0.40**	**134**			**Pg**	**18 09 16.3**	**+0.2**
ARN	**Arnold Ranch**	**0.41**	**352**			**Pb**	**18 09 16.9**	**-0.2**
ARN	**Arnold Ranch**	**0.41**	**352**			**Sb**	**18 09 24.0**	**+0.8**
BVL	**Bear Valley**	**0.42**	**149**			**Pb**	**18 09 17.3**	**+0.1**
MHC	**Mount Hamilton**	**0.43**	**340**			**Pb**	**18 09 17.2**	**-0.1**
MHC						**Sb**	**18 09 24.4**	**+0.7**
CMPM	**Mikes Peak**	**0.43**	**15**			**Pg**	**18 09 17.2**	**+0.6**
C054	**Valleyhaven Wa**	**0.44**	**319**			**Pb**	**18 09 17.3**	**-0.2**
C059	**Quail Canyon R**	**0.47**	**328**			**Pb**	**18 09 18.3**	**+0.3**
SCCB	**Santa Clara Co**	**0.47**	**317**			**Pb**	**18 09 18.0**	**0.0**
JJOM	**Saint Joseph's**	**0.49**	**303**			**Pb**	**18 09 18.0**	**-0.4**
BBGB	**Big Mountain B**	**0.49**	**137**			**Pg**	**18 09 18.2**	**+0.5**
HMOM	**Monterey**	**0.50**	**227**			**Pb**	**18 09 18.7**	**+0.2**
CMMM	**Mount Mocho**	**0.52**	**357**			**Pb**	**18 09 18.8**	**0.0**
C041	**El Campo Drive**	**0.52**	**326**			**Pb**	**18 09 19.7**	**+0.8**
BBNM	**San Benito**	**0.53**	**144**			**Pb**	**18 09 19.4**	**+0.3**
C046	**N 16th Street**	**0.53**	**321**			**Pb**	**18 09 19.6**	**+0.5**
BSGM	**Shirttail Gulc**	**0.55**	**163**			**Pg**	**18 09 19.0**	**+0.2**
HAST	**Hastings Reser**	**0.56**	**188**			**Pb**	**18 09 19.5**	**0.0**
BSMM	**Soledad Missio**	**0.56**	**177**			**Pb**	**18 09 19.6**	**+0.1**
CMLM	**Mount Lewis**	**0.56**	**344**			**Pb**	**18 09 19.8**	**+0.2**
C016	**Longford Drive**	**0.56**	**324**			**Pb**	**18 09 20.3**	**+0.8**
MTOS	**Mt Oso, Westle**	**0.57**	**10**			**Pb**	**18 09 19.9**	**+0.1**
BPRM	**Ponciano Ridge**	**0.58**	**202**			**Pb**	**18 09 19.9**	**+0.1**
CALM	**Calaveras Res.**	**0.58**	**332**			**Pb**	**18 09 20.2**	**+0.4**
LRV	**Little Rabbit**	**0.63**	**145**			**Pb**	**18 09 21.2**	**+0.5**
JSJM	**St Joseph**	**0.64**	**308**			**Pb**	**18 09 21.3**	**+0.4**
JBMM	**Black Mountain**	**0.67**	**304**			**Pg**	**18 09 21.1**	**+0.1**
C017	**S Grimmer Bl F**	**0.68**	**327**			**Pb**	**18 09 22.2**	**+0.7**
C001	**Firth Court Fr**	**0.69**	**327**			**Pb**	**18 09 22.4**	**+0.6**
CSTL	**Corral Hollow**	**0.70**	**357**			**Pb**	**18 09 22.5**	**+0.6**
CSTL	**Corral Hollow**	**0.70**	**357**			**Pn**	**18 09 23.5**	**+0.1**
JFP	**Foothills Park**	**0.72**	**306**			**Pb**	**18 09 22.1**	**-0.2**
WENL	**Wente Vineyard**	**0.72**	**341**			**Pn**	**18 09 23.2**	**-0.5**
JSFB	**Stanford Teles**	**0.74**	**309**			**Pb**	**18 09 22.7**	**+0.2**
CVLM	**Vallecito**	**0.75**	**336**			**Pn**	**18 09 23.7**	**-0.4**
C015	**Bright Common**	**0.75**	**326**			**Pb**	**18 09 23.2**	**+0.5**
BPDM	**Post Ranch**	**0.75**	**199**			**Pb**	**18 09 23.0**	**+0.2**
CSAM	**Sandia**	**0.76**	**345**			**Pn**	**18 09 24.5**	**+0.3**
JPSM		**0.76**	**290**			**Pb**	**18 09 22.6**	**-0.2**
LRC	**Lone Oak Road**	**0.77**	**154**			**Pb**	**18 09 23.3**	**+0.2**
JRSC	**Jasper Ridge**	**0.78**	**307**			**Pb**	**18 09 23.0**	**-0.2**
CBZL	**Buffer Zone**	**0.78**	**345**			**Pn**	**18 09 25.0**	**+0.5**
CBZL	**Buffer Zone**	**0.78**	**345**			**Pn**	**18 09 25.1**	**+0.6**
CNIC	**Niles Canyon**	**0.78**	**329**			**Pb**	**18 09 23.7**	**+0.4**
CYD1	**Coyote D'meter**	**0.80**	**321**			**Pn**	**18 09 24.2**	**-0.6**
C006	**Lk Pillsbury D**	**0.81**	**324**			**Pn**	**18 09 24.7**	**-0.2**
CDOM	**Doolan Road**	**0.84**	**339**			**Pn**	**18 09 25.9**	**+0.5**
PCCM	**Crazy Canyon**	**0.88**	**164**			**Pn**	**18 09 25.6**	**-0.3**
CBSNC	**Byron Hot Spri**	**0.89**	**351**			**Pn**	**18 09 26.5**	**+0.5**
PMPB	**Monarch Peak**	**0.90**	**144**			**Pg**	**18 09 25.7**	**+0.4**
CMOB	**Morgan Territo**	**0.91**	**343**			**Pn**	**18 09 26.6**	**+0.2**
CLCB	**Lake Chabot**	**0.93**	**329**			**Pn**	**18 09 26.6**	**0.0**
JCHM	**Cahill Ridge**	**0.93**	**308**			**Pb**	**18 09 25.8**	**-0.1**
HULI	**Fort Hunter Li**	**0.94**	**169**			**Pg**	**18 09 26.3**	**+0.3**
MYLM	**Yosemite Lake**	**0.94**	**62**			**Pb**	**18 09 25.9**	**-0.1**
CSLM	**San Leandro Hi**	**0.94**	**326**			**Pn**	**18 09 26.4**	**-0.3**
PJUM	**Juniper Ridge**	**1.00**	**135**			**Pg**	**18 09 27.5**	**+0.3**
BGC	**Bolinger Road**	**1.00**	**331**			**Pn**	**18 09 27.4**	**-0.1**
SAC	**San Andreas**	**1.00**	**310**			**Pg**	**18 09 27.1**	**-0.1**
C044	**Maitland Drive**	**1.00**	**322**			**Pn**	**18 09 27.6**	**+0.1**
CMCM	**Mills College**	**1.01**	**326**			**Pn**	**18 09 27.7**	**0.0**
PPTM	**Peach Tree Val**	**1.02**	**144**			**Pg**	**18 09 28.0**	**+0.3**
PSAM	**San Ardo**	**1.02**	**153**			**Pb**	**18 09 27.7**	**+0.3**
PAPM	**Alder Peak**	**1.03**	**176**			**Pg**	**18 09 28.0**	**+0.1**
CRPB	**Russellman Par**	**1.03**	**340**			**Pb**	**18 09 26.4**	**-1.2**
PDRM	**Domengine Ranc**	**1.06**	**124**			**Pn**	**18 09 28.7**	**+0.3**
JMGM	**Milagra Ridge**	**1.07**	**311**			**Pb**	**18 09 27.6**	**-0.6**
PSMM	**Smith Mountain**	**1.11**	**141**			**Pg**	**18 09 29.6**	**+0.2**
BKS	**Berkeley--Byer**	**1.12**	**327**			**Pb**	**18 09 28.9**	**-0.1**
CVPM	**Vollmer Peak**	**1.12**	**327**			**Pn**	**18 09 29.2**	**0.0**
PWMM	**Westland Maint**	**1.12**	**116**			**Pg**	**18 09 29.9**	**+0.3**
BL67	**Building 67, L**	**1.13**	**326**			**Pg**	**18 09 29.7**	**0.0**
CYBM	**Yerba Buena Is**	**1.13**	**321**			**Pb**	**18 09 28.7**	**-0.5**
VAK	**Adit at Lawren**	**1.13**	**326**			**Pg**	**18 09 29.5**	**-0.2**
BRK	**Berkeley--Havi**	**1.13**	**326**			**Pg**	**18 09 29.5**	**-0.2**
PHSB	**Hesperia Broad**	**1.16**	**164**			**Pn**	**18 09 29.6**	**-0.2**
CTAM	**Taylor**	**1.17**	**338**			**Pb**	**18 09 30.0**	**+0.1**
JPRM	**Presidio of Sa**	**1.18**	**317**			**Pn**	**18 09 29.4**	**-0.6**
PHPM	**Hope Ranch**	**1.18**	**144**			**Pn**	**18 09 30.2**	**+0.1**
CPIM	**Pinole Ridge**	**1.21**	**330**			**Pb**	**18 09 30.6**	**0.0**
MCUB	**Copperopolis B**	**1.23**	**33**			**Pn**	**18 09 30.8**	**0.0**
PKD	**Bear Valley Ra**	**1.24**	**143**			**Pn**	**18 09 30.7**	**-0.1**
PANM	**San Antonio Re**	**1.24**	**159**			**Pn**	**18 09 30.8**	**-0.1**
CPMM	**Point Molate**	**1.26**	**323**			**Pn**	**18 09 31.0**	**-0.1**
PVCM	**Vineyard Canyo**	**1.26**	**143**			**Pn**	**18 09 31.4**	**+0.2**
MHDM	**Hidden Dam**	**1.26**	**82**			**Pn**	**18 09 30.9**	**-0.2**
PSTM	**Stockdale Moun**	**1.27**	**143**			**Pn**	**18 09 31.2**	**-0.1**
PPO	**Portuguese Can**	**1.27**	**147**			**Pb**	**18 09 31.6**	**0.0**
PHFM	**Heflinger Ranc**	**1.36**	**141**			**Pb**	**18 09 33.0**	**-0.2**
PWKM	**Work Ranch**	**1.36**	**145**			**Pn**	**18 09 32.8**	**+0.3**
CMB	**Columbia Colle**	**1.39**	**38**	Pg		**Pn**	**18 09 33.1**	**+0.2**
CMB					IAML		18 09 54.8	
	comp=E,323nm,0.8s							
CMB					IAML		18 09 55.1	
	comp=N,234nm,0.7s							
RAMR	**Ramage Ranch**	**1.39**	**160**			**Pn**	**18 09 32.8**	**-0.1**
PHAM	**Harlan Ranch**	**1.40**	**142**			**Pb**	**18 09 33.6**	**-0.2**
PKEM	**Kettleman Hill**	**1.40**	**128**			**Pb**	**18 09 34.5**	**+0.7**
FRI	**Friant**	**1.40**	**87**			**Pn**	**18 09 33.2**	**+0.1**
GHC	**Gold Hill**	**1.42**	**141**			**Pn**	**18 09 33.8**	**+0.4**
PSRM	**Scobie Ranch**	**1.44**	**138**			**Pn**	**18 09 34.1**	**+0.5**
FARB	**Farallon Islan**	**1.44**	**302**			**Pn**	**18 09 32.8**	**-0.8**
MMIM	**Miami Mountain**	**1.45**	**70**			**Pn**	**18 09 34.5**	**+0.6**
SNT	**Sears Point**	**1.47**	**328**			**Pn**	**18 09 34.2**	**+0.2**
PKLM	**Kerr Lake**	**1.48**	**142**			**Pn**	**18 09 34.7**	**+0.6**
TCAS	**Cass Winery, P**	**1.51**	**151**			**Pn**	**18 09 34.6**	**0.0**
TCHL	**Shandon**	**1.51**	**145**			**Pb**	**18 09 35.4**	**-0.4**
PMRM	**Maxey Ranch**	**1.52**	**139**			**Pb**	**18 09 35.6**	**-0.3**
NOLM	**Olema**	**1.53**	**316**			**Pn**	**18 09 34.4**	**-0.3**
NBRB	**Beebe Ranch Br**	**1.58**	**327**			**Pn**	**18 09 35.3**	**-0.2**
TRAM	**Private Proper**	**1.58**	**142**			**Pn**	**18 09 36.3**	**+0.7**
CVS	**Carmenet Viney**	**1.61**	**331**			**Pn**	**18 09 35.9**	**-0.1**
NAPC	**Atlas Peak**	**1.62**	**337**			**Pn**	**18 09 36.3**	**+0.1**
MCCM	**Marconi Confer**	**1.65**	**317**	Pg		**Pn**	**18 09 36.2**	**-0.3**
MCCM					IAML		18 10 17.4	
	comp=E,360nm,0.8s							
TSCN	**Private Proper**	**1.66**	**147**			**Pn**	**18 09 37.1**	**+0.5**
NTYM	**Taylor**	**1.73**	**327**			**Pn**	**18 09 37.8**	**+0.2**
KCC	**Kaiser Creek**	**1.75**	**77**			**Pn**	**18 09 39.2**	**+1.2**
TRAY	**Twisselman Ran**	**1.76**	**142**			**Pn**	**18 09 38.3**	**+0.3**
PBPM	**Bitterwater Pu**	**1.76**	**140**			**Pn**	**18 09 38.8**	**+0.8**
VOG	**Valley Oaks Go**	**1.78**	**110**	P		**Pn**	**18 09 39.4**	**+1.1**
	baz=291							
VOG				S		**Sb**	**18 10 03.0**	**+0.5**
	baz=291							
DCD	**Diablo Creek**	**1.80**	**164**			**Pn**	**18 09 38.6**	**+0.1**
NBPM	**Berryessa Peak**	**1.82**	**342**			**Pn**	**18 09 39.7**	**+0.9**
SMMC	**Simmler**	**2.01**	**143**	P		**Pn**	**18 09 42.0**	**+0.5**
	baz=325,SNR=12							
SMMC				S		**Sb**	**18 10 08.6**	**-0.6**
	baz=325							
MRHM	**Rocky Hill**	**2.02**	**108**			**Pn**	**18 09 42.5**	**+0.9**
MDPB	**Devils Postpil**	**2.02**	**69**			**Pb**	**18 09 43.5**	**-1.1**
NMTM	**Middletown**	**2.02**	**338**			**Pn**	**18 09 42.3**	**+0.7**
MRDM	**Red Cones**	**2.02**	**70**			**Pb**	**18 09 44.0**	**-0.7**
AFDM	**Forest Hills D**	**2.04**	**11**			**Pn**	**18 09 42.9**	**+1.0**
MINS	**Minaret Summit**	**2.04**	**69**			**Pb**	**18 09 44.2**	**-0.8**
MMPM	**Mammoth Pass**	**2.05**	**70**			**Pb**	**18 09 44.5**	**-0.7**
MDCM	**Deadman Creek**	**2.07**	**68**			**Pb**	**18 09 44.8**	**-0.7**
MDYM	**Dry Creek**	**2.08**	**69**			**Pb**	**18 09 45.4**	**-0.3**
MNRC	**McLaughlin Min**	**2.08**	**338**			**Pn**	**18 09 43.4**	**+0.9**
CARC	**Carrizo Plain**	**2.09**	**141**			**Pn**	**18 09 42.0**	**-0.6**
GGPM	**Geyser Peak**	**2.12**	**329**			**Pn**	**18 09 43.0**	**-0.2**
MEMM	**East Mammoth H**	**2.13**	**

comp=E,17nm,2.2s
KHMM IAML 18 12 55.3
comp=N,19nm,4.1s
JCC Jacoby Creek, 4.36 333 Pn **Pn 18 10 12.1 -1.7**
JCC IAML 18 11 18.6
comp=N,16nm,4.9s
JCC IAML 18 12 51.2
comp=E,16nm,4.7s
ELS Elsinore Mount 4.66 134 Pn **Pn 18 10 19.8 +2.0**
YBH Yreka Blue Hor 4.88 349 Pn **Pn 18 10 21.5 +0.5**
KRMB Red Mountain 4.96 338 **Pn 18 10 23.5 +1.5**
KRMB IAML 18 11 07.8
comp=E,13nm,4.6s
KRMB IAML 18 11 17.8
comp=N,16nm,4.6s
KSXB Camp Six Broad 5.23 340 Pn **Pn 18 10 29.1 +3.3**
KSXB IAML 18 12 36.8
comp=N,16nm,4.9s
KSXB IAML 18 13 30.7
comp=E,16nm,4.8s
PFO Pinyon Flats O 5.27 128 Pn **Pn 18 10 27.9 +1.5**
PFO IAML 18 11 39.2
comp=E,7.6nm,4.5s
PFO IAML 18 12 04.1
comp=E,7.9nm,3.3s
KBO Bosley Butte 5.68 339 Pn **Pn 18 10 34.4 +2.5**
ESJX Sierra Juarez 6.70 136 Pn **Pn 18 10 47.3 +1.2**

*NEIC **11** 18:10:35.9±0.9,36°.961N±0°.008×121°.447W±0°.006, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.4km az=223.0*
NCEDC 11 18:10:35.8±1.1,36°.943N±0°.005×121°.44W±0°.01, h3km±3km, ML2.7/11, ML2.7/20(NEIC), Error ellipse: s-maj=1.6km s-min=0.9km az=95.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HFEM	**San Felipe**	**0.05**	**37**		Pg	18 10 37.1	+0.1
OCR	**O'Connell Ranc**	**0.06**	**245**		Pg	18 10 39.3	+2.2
CDC	**Canada Road**	**0.09**	**336**		Pg	18 10 38.0	+0.4
HCAM	**Canada Road**	**0.09**	**336**		Pg	18 10 38.0	+0.4
HCAM					Sg	18 10 40.3	+1.4
HLTM	**Lone Tree Road**	**0.12**	**119**		Pg	18 10 39.3	+1.1
HBTM	**San Juan Bauti**	**0.13**	**224**		Pg	18 10 39.3	+0.9
ANZ	**Anzar Road**	**0.14**	**244**		Pg	18 10 39.4	+0.9
PACP	**Pacheco Peak**	**0.14**	**62**		Pg	18 10 39.0	+0.4
PACP					Sg	18 10 41.7	+1.2
HSFM	**Saint Francis**	**0.14**	**200**		Pg	18 10 39.5	+0.9
GHS	**Gilroy Hot Spr**	**0.15**	**358**		Pg	18 10 39.2	+0.4
HPCM	**Pacheco Lake**	**0.17**	**48**		Pg	18 10 39.7	+0.4
HPCM					Sg	18 10 43.1	+1.5
HCBM	**Chamberlain**	**0.18**	**266**		Pg	18 10 39.9	+0.6
SAO	**San Andreas Ge**	**0.18**	**182**	Pg	Pg	18 10 40.1	+0.8
BSLM	**Silva Ranch**	**0.18**	**157**		Pg	18 10 40.2	+0.8
HLPM	**Lions Peak**	**0.18**	**302**		Pg	18 10 39.6	+0.2
HLPM					Sg	18 10 43.3	+1.5
FRP	**Fremont Peak**	**0.19**	**192**		Pg	18 10 40.2	+0.6
HTUM	**Tustin Road**	**0.20**	**235**		Pg	18 10 40.4	+0.6
HTUM					Sg	18 10 44.0	+1.7
SLD	**San Luis Dam**	**0.22**	**53**		Pg	18 10 40.5	+0.5
SLD					Sg	18 10 44.3	+1.3
HCOM	**Corn Cob Canyo**	**0.22**	**256**		Pg	18 10 40.9	+0.8
HERM	**Elkhorn Road**	**0.26**	**237**		Pg	18 10 41.7	+0.8
CADM	**Anderson Res.**	**0.27**	**326**		Pg	18 10 41.4	+0.4
BSRM	**Salinas Radio**	**0.28**	**193**		Pg	18 10 41.8	+0.5
JELB	**Ellicott, Sant**	**0.31**	**267**		Pg	18 10 42.6	+0.8
JELB					Sb	18 10 48.3	-1.2
JLAB	**Laurel Hill**	**0.32**	**312**		Pg	18 10 42.3	+0.4
BJOM	**Mount Johnson**	**0.33**	**162**		Pg	18 10 43.1	+0.9
SCZ	**Santa Cruz**	**0.35**	**175**		Pg	18 10 42.9	+0.4
JTGM	**Trout Gulch Ro**	**0.36**	**284**		Pg	18 10 39.5	-3.3
CCOB	**Coe Ranch Numb**	**0.37**	**329**		Pb	18 10 44.0	-1.0
SCKWR	**San Luis Creek**	**0.38**	**51**		Pb	18 10 44.2	-1.0
BJCM	**Johnson Can.**	**0.40**	**175**		Pg	18 10 43.8	+0.3
BPCNC	**Pine Canyon**	**0.40**	**202**		Pg	18 10 44.1	+0.7
ARN	**Arnold Ranch**	**0.41**	**350**		Pg	18 10 44.3	+0.5
BVL	**Bear Valley**	**0.42**	**151**		Pg	18 10 44.8	+0.9
CMPM	**Mikes Peak**	**0.42**	**13**		Pg	18 10 44.7	+0.7
MHC	**Mount Hamilton**	**0.43**	**338**		Pg	18 10 44.8	+0.7
SCCB	**Santa Clara Co**	**0.48**	**315**		Pg	18 10 45.6	+0.4
BBGB	**Big Mountain B**	**0.48**	**138**		Pg	18 10 45.7	+0.6
BPIM	**Pinnacles**	**0.50**	**154**		Pg	18 10 45.9	+0.5
JJOM	**Saint Joseph's**	**0.50**	**302**		Pg	18 10 45.4	-0.1
CMMM	**Mount Mocho**	**0.51**	**355**		Pg	18 10 46.2	+0.5
HMOM	**Monterey**	**0.52**	**228**		Pg	18 10 46.1	+0.4
BBNM	**San Benito**	**0.52**	**146**		Pb	18 10 47.2	-0.5
BSGM	**Shirttail Gulc**	**0.55**	**164**		Pg	18 10 46.5	+0.2
BSMM	**Soledad Missio**	**0.56**	**179**		Pg	18 10 47.0	+0.5
CMLM	**Mount Lewis**	**0.56**	**342**		Pg	18 10 47.3	+0.7
HAST	**Hastings Reser**	**0.56**	**189**		Pg	18 10 46.9	+0.3
MTOS	**Mt Oso, Westle**	**0.57**	**9**		Pg	18 10 47.3	+0.6
CALM	**Calaveras Res.**	**0.58**	**331**		Pg	18 10 47.7	+0.6
BPRM	**Ponciano Ridge**	**0.58**	**204**		Pg	18 10 47.4	+0.3
LRV	**Little Rabbit**	**0.62**	**147**		Pb	18 10 48.8	-0.5
JSJM	**St Joseph**	**0.65**	**307**		Pg	18 10 48.8	+0.5
JBMM	**Black Mountain**	**0.68**	**303**		Pg	18 10 49.3	+0.4
CSTL	**Corral Hollow**	**0.70**	**356**		Pb	18 10 51.3	+0.7
WENL	**Wente Vineyard**	**0.72**	**340**		Pb	18 10 50.5	-0.5
JFP	**Foothills Park**	**0.73**	**305**		Pg	18 10 49.7	-0.2
JSFB	**Stanford Teles**	**0.75**	**308**		Pg	18 10 50.3	+0.1
CVLM	**Vallecito**	**0.75**	**335**		Pb	18 10 51.3	-0.3
BPOM	**Post Ranch**	**0.76**	**200**		Pg	18 10 50.5	0.0
LRC	**Lone Oak Road**	**0.77**	**155**		Pg	18 10 50.9	+0.4
JPSM		**0.77**	**290**		Pg	18 10 50.7	+0.1
CBZL	**Buffer Zone**	**0.78**	**344**		Pb	18 10 52.2	+0.2
CNIC	**Niles Canyon**	**0.79**	**328**		Pg	18 10 51.4	+0.5
JRSC	**Jasper Ridge**	**0.79**	**306**		Pg	18 10 50.6	-0.3
PCCM	**Crazy Canyon**	**0.88**	**165**		Pb	18 10 53.3	-0.5
PMPB	**Monarch Peak**	**0.89**	**145**		Pb	18 10 53.7	-0.2
MYLM	**Yosemite Lake**	**0.93**	**61**		Pg	18 10 53.5	-0.1
HULI	**Fort Hunter Li**	**0.94**	**170**		Pg	18 10 53.9	+0.2
JCHM	**Cahill Ridge**	**0.94**	**308**		Pg	18 10 53.6	-0.3
CSLM	**San Leandro Hi**	**0.95**	**325**		Pg	18 10 54.1	0.0
PJUM	**Juniper Ridge**	**0.99**	**136**		Pb	18 10 55.8	+0.1
SAC	**San Andreas**	**1.01**	**310**		Pg	18 10 54.8	-0.4
PPTM	**Peach Tree Val**	**1.01**	**145**		Pg	18 10 55.6	+0.3
PSAM	**San Ardo**	**1.02**	**154**		Pg	18 10 55.3	0.0
PAPM	**Alder Peak**	**1.03**	**177**		Pg	18 10 55.6	+0.1
PDRM	**Domengine Ranc**	**1.05**	**125**		Pb	18 10 56.7	0.0
JMGM	**Milagra Ridge**	**1.08**	**310**		Pg	18 10 56.2	-0.3
PSMM	**Smith Mountain**	**1.11**	**142**		Pb	18 10 57.9	+0.2
BKS	**Berkeley--Byer**	**1.13**	**326**		Pg	18 10 57.0	-0.4
CVPM	**Vollmer Peak**	**1.13**	**327**		Pg	18 10 56.8	-0.6
VAK	**Adit at Lawren**	**1.13**	**326**		Pg	18 10 57.6	0.0
BRK	**Berkeley--Havi**	**1.14**	**325**		Pg	18 10 57.2	-0.4
CYBM	**Yerba Buena Is**	**1.14**	**320**		Pg	18 10 56.9	-0.7
PHSB	**Hesperia Broad**	**1.16**	**164**		Pg	18 10 57.2	-0.9
PHPM	**Hope Ranch**	**1.17**	**145**		Pg	18 10 57.9	-0.4
JPRM	**Presidio of Sa**	**1.18**	**316**		Pg	18 10 57.9	-0.7
CPIM	**Pinole Ridge**	**1.21**	**330**		Pg	18 10 58.3	-0.8
MCUB	**Copperopolis B**	**1.22**	**32**		Pg	18 10 58.2	-1.0
PKD	**Bear Valley Ra**	**1.23**	**144**		Pg	18 10 58.0	-1.4
MHDM	**Hidden Dam**	**1.25**	**82**		Pg	18 10 58.5	-1.3
PSTM	**Stockdale Moun**	**1.26**	**143**		Pg	18 10 59.1	-0.9
PPO	**Portuguese Can**	**1.26**	**148**		Pg	18 10 60.0	-0.1
CMB	**Columbia Colle**	**1.37**	**37**	Pg	Pn	18 11 00.6	-1.4
MMIM	**Miami Mountain**	**1.44**	**70**		Pn	18 11 02.2	-0.7
MCCM	**Marconi Confer**	**1.66**	**317**		Pn	18 11 03.9	-1.9
MCCM					IAML	18 11 45.3	
comp=E,83nm,0.9s							
MDPB	**Devils Postpil**	**2.00**	**69**	Pn	Pn	18 11 11.4	+0.6
MDPB					IAML	18 11 39.9	
comp=E,56nm,0.8s							
MDPB					IAML	18 11 40.5	
comp=N,60nm,0.8s							
MGPM	**Gravel Pit**	**2.13**	**71**		Pb	18 11 15.1	-0.2
GDXM	**Geysers**	**2.15**	**330**	Pn	Pn	18 11 10.9	-1.7
WAKR	**Walker**	**2.23**	**45**	Pn	Pn	18 11 13.2	-0.6
WAKR					IAML	18 11 49.2	
comp=E,42nm,1.1s							
WAKR					IAML	18 11 57.8	
comp=N,32nm,2.3s							
EMB	**Emerald Bay**	**2.29**	**27**	Pn	Pn	18 11 13.9	-0.8
EMB					IAML	18 11 49.5	
comp=E,51nm,0.6s							
EMB					IAML	18 11 56.0	
comp=N,48nm,0.6s							
HOPS	**Hopland Field**	**2.42**	**328**	Pn	Pn	18 11 14.7	-1.5
HOPS					IAML	18 12 43.4	
comp=N,25nm,3.6s							
BONR	**Boundary Peak**	**2.69**	**67**		Pb	18 11 24.8	-0.1

IDC 11 18:11:37.4±9.2,18°.50N×144°.64E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=370.8km s-min=26.0km az=79.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.52**	**195**	P	P	18 19 10.4	+0.4
	0.4nm,0.9s,baz=15,slow=7.9,SNR=1.9						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**43.20**	**194**	P	P	18 19 39.6	-0.7
	0.7nm,1.1s,baz=24,slow=7.2,SNR=2.8						
	0.7nm,1.1s						
MKAR	**Makanchi Array**	**57.88**	**314**	P	P	18 21 31.8	+0.6
	0.3nm,0.7s,baz=97,slow=8.8,SNR=4.2						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**60.80**	**318**	P	P	18 21 51.5	+0.3
	0.5nm,0.6s,baz=94,slow=7.5,SNR=9.9						
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**65.99**	**320**	P	P	18 22 24.4	-1.2
	0.4nm,0.4s,baz=89,slow=5.4,SNR=3.0						
	0.4nm,0.4s						

IDC 11 18:26:31.3±2.2,12°.53S×166°.32E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=96.8km s-min=33.3km az=145.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.53**	**252**	P	P	18 32 57.5	+2.0
	0.5nm,1.0s,baz=86,slow=9.1,SNR=2.9						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**32.66**	**246**	P	P	18 33 04.5	-0.9
	0.7nm,0.8s,baz=78,slow=8.8,SNR=14						
	0.7nm,0.8s						
SONM	**Songino Array**	**80.19**	**324**	P	P	18 38 42.6	-1.1
	0.4nm,0.5s,baz=104,slow=4.8,SNR=2.6						
	0.4nm,0.5s						
NVAR	**Mina Array Bea**	**86.55**	**50**	P	P	18 39 17.6	+0.7
	0.1nm,0.3s,baz=247,slow=4.6,SNR=1.6						
	0.1nm,0.3s						

IDC 11 18:28:03.8±8.3,4°.51N×92°.85E, h0km, mb3.3/3, mbtmp3.3/3, MS3.7/1, Error ellipse: s-maj=390.8km s-min=32.7km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**43.11**	**349**	P	P	18 36 05.7	-0.1
	0.2nm,0.5s,baz=174,slow=8.4,SNR=2.7						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**47.46**	**122**	P	P	18 36 41.3	+0.5
	0.7nm,1.1s,baz=299,slow=8.5,SNR=4.9						
	0.7nm,1.1s						
ASAR	**Alice Springs**	**48.84**	**127**	P	P	18 36 50.8	-0.7
	0.3nm,0.7s,baz=304,slow=7.9,SNR=4.4						
	0.3nm,0.7s						
OPO	**Ambohidratompo**	**50.49**	**242**	LR	LR	18 54 25.7	
	comp=Z,76nm,19.0s,baz=340,slow=31						

*IDC **11** 18:50:36.7±1.7,39°.19N×71°.50E, h0km, mb3.6/11, mbtmp3.7/18, ML3.1/7, MS3.0/1, Error ellipse: s-maj=31.5km s-min=13.1km az=154.0*
*KRNET **11** 18:50:39.0±0.1,39°.45N×71°.50E, h12km, mb3.8*
*NNC **11** 18:50:45.9±3.6,39°.66N×71°.51E, h16km±14km, mb4.2, mpv3.9, Error ellipse: s-maj=26.8km s-min=15.1km az=5.0*
*SOME **11** 18:50:46.7,39°.80N×71°.60E, h5km*
ISC 11 18:50:38.9±1.1,39°.45N±0°.03×71°.52E±0°.02, h8km±7km, n83, σ2s20/122, mb3.5/10, 26C-35D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.22**	**82**	⇓*i*P	**Pg**	**18 50 44.2**	**+0.8**
	baz=81						
DRK				⇓*i*S	**Sg**	**18 50 46.8**	**+0.3**
	baz=81						
BTK	**Batken**	**0.81**	**318**	⇓*i*P	**Pg**	**18 50 54.4**	**-0.2**
	baz=19						
BTK				⇓*i*S	**Sg**	**18 51 05.4**	**+0.2**
	baz=19						
GAR	**Garm**	**1.04**	**245**	⇓*i*P	**Pg**	**18 50 58.4**	**-0.4**
	baz=44						
GAR				⇓*i*S	**Sb**	**18 51 12.1**	**-0.9**
	baz=44						
OHH	**Osh**	**1.45**	**42**	⇓*i*P	**Pb**	**18 51 06.2**	**+0.1**
	baz=42						
OHH				⇓*i*S	**Sg**	**18 51 25.7**	**+0.2**
	baz=42						
SFK	**Sufi-Kurgan**	**1.63**	**69**	⇓*i*P	**Pb**	**18 51 09.3**	**0.0**
	baz=69						
SFK				⇓*i*S	**Sg**	**18 51 31.5**	**+0.2**
	baz=69						
CHGR	**Chuyangaron**	**2.00**	**247**	⇓*i*P	**Pb**	**18 51 15.0**	**-0.6**
	baz=47						
CHGR				⇓*i*S	**Sb**	**18 51 41.1**	**+0.4**
	baz=47						
TRKS	**Terek-Say**	**2.10**	**352**	⇑*i*P	**Pb**	**18 51 16.1**	**-1.2**
	baz=53						
TRKS				⇑*i*S	**Sb**	**18 51 42.4**	**-1.2**
	baz=53						
ARSB	**Arslanbob**	**2.18**	**30**	⇑*i*P	**Pb**	**18 51 18.2**	**-0.4**
	baz=31						
ARSB				⇑*i*S	**Sb**	**18 51 46.0**	**+0.1**
	baz=31						
ARK	**Arkit**	**2.37**	**8**	⇓*i*P	**Pb**	**18 51 20.7**	**-1.2**
	baz=8.0						
ARK				⇓*i*S	**Sb**	**18 51 50.6**	**-0.7**
	baz=8.0						
IUG	**luzhnay**	**2.92**	**338**	*e*P	**Pg**	**18 51 33.9**	**-1.0**
	295nm,0.2s						
IUG				*e*S	**Sb**	**18 52 08.0**	**+0.8**
	487nm,0.3s						
IUG	**luzhnay**	**2.92**	**338**	Pg	**Pg**	**18 51 33.9**	**-1.0**
	295nm,0.2s						
IUG				Lg	Lg	18 52 08.0	
	487nm,0.3s						
MNAS	**Manas**	**3.12**	**13**	⇑*e*P	**Pn**	**18 51 31.3**	**+2.8**
	baz=14						
MNAS				⇑*i*S	**Sn**	**18 52 08.8**	**+2.7**
	baz=14						
CHM	**Chimkent**	**3.21**	**334**	*e*P	**Pg**	**18 51 43.0**	**+2.5**
	133nm,0.2s						
CHM				*e*S	**Sg**	**18 52 23.7**	**+1.5**
	388nm,0.2s						
ARLS	**Aral**	**3.22**	**41**	⇓*e*P	**Pn**	**18 51 32.5**	**+2.7**
	baz=41						
ARLS				⇓*i*S	**Sn**	**18 52 11.1**	**+2.7**
	baz=41						
DZA	**Taraz**	**3.44**	**358**	*e*P	**Pg**	**18 51 44.1**	**-0.7**
	46nm,0.2s						
DZA				*e*S	**Sb**	**18 52 25.4**	**+3.3**
	187nm,0.3s						
DZA	**Taraz**	**3.44**	**358**	Pg	**Pg**	**18 51 44.1**	**-0.7**
	46nm,0.2s						
DZA				Lg	Lg	18 52 25.4	
	187nm,0.3s						
MRKS	**Merke**	**3.54**	**21**	*e*P	**Pg**	**18 51 45.2**	**-1.4**
	7.7nm,0.3s						
MRKS				*e*S	**Sb**	**18 52 27.1**	**+2.3**
	48nm,0.4s						
MRKS	**Merke**	**3.54**	**21**	Pg	**Pg**	**18 51 45.2**	**-1.4**
	7.7nm,0.3s						
MRKS				Lg	Lg	18 52 27.1	
	48nm,0.4s						
UCH	**Uchtor**	**3.58**	**38**	P	**Pb**	**18 51 41.6**	**-1.2**
	SNR=31						
UCH	**Uchtor**	**3.58**	**38**	⇓*e*P	**Pn**	**18 51 37.9**	**+2.8**
	baz=39						
UCH				⇓*i*S	**Sn**	**18 52 20.3**	**+2.4**
	baz=39						
EKS2	**Erkin-Say**	**3.63**	**27**	P	**Pb**	**18 51 40.0**	**-3.5**
	SNR=14						
EKS2	**Erkin-Say**	**3.63**	**27**	⇑*i*P	**Pn**	**18 51 38.2**	**+2.7**
	baz=27						
EKS2				⇑*i*S	**Sn**	**18 52 21.1**	**+2.5**
	baz=27						
KK31	**Karatay Array**	**3.73**	**349**	Pn	**Pn**	**18 51 38.5**	**+1.8**
	21nm,0.5s,baz=188,slow=16,SNR=266						
KK31				⇓Lg	Lg	18 52 36.9	
	25nm,0.3s,baz=166,slow=29,SNR=9.2						
KKAR	**Karatay Array**	**3.73**	**349**	⇑*i*P	**Pn**	**18 51 39.3**	**+2.6**
	baz=49						
KKAR				⇑*i*S	**Sn**	**18 52 23.1**	**+2.3**
	baz=49						
BRLS	**Borolday**	**3.80**	**341**	*e*P	**Pb**	**18 51 48.5**	**+2.4**
	17nm,0.3s						
BRLS				*e*S	**Sb**	**18 52 32.9**	**+0.6**
	55nm,0.1s						
AAK	**Ala-Archa**	**3.90**	**34**	P	**Pb**	**18 51 45.1**	**-2.9**
	SNR=17						
AAK	**Ala-Archa**	**3.90**	**34**	Pn	**Pb**	**18 51 43.7**	**-4.2**
	7.0nm,0.3s,baz=215,slow=5.6,SNR=65						
AAK				Sn	**Sb**	**18 52 31.3**	**-4.0**
	2.8nm,0.3s,baz=183,slow=23,SNR=6.5						
	14nm,0.3s						
AAK	**Ala-Archa**	**3.90**	**34**	⇑*i*P	**Pn**	**18 51 41.8**	**+2.6**
	baz=34						
AAK				⇑*i*S	**Sn**	**18 52 27.7**	**+2.5**
	baz=34						
NRN	**Naryn**	**3.95**	**58**	⇓*e*P	**Pn**	**18 51 42.4**	**+2.4**
	baz=59						
NRN				⇓*i*S	**Sn**	**18 52 28.7**	**+2.0**
	baz=59						
FRU1	**Bishkek**	**4.10**	**34**	⇓*i*P	**Pn**	**18 51 44.7**	**+2.9**
	baz=34						
FRU1				⇓*i*S	**Sn**	**18 52 32.5**	**+2.5**
	baz=34						
KBK	**Karagaybulak**	**4.12**	**38**	P	**Pb**	**18 51 47.8**	**-3.9**
	SNR=18						
KBK	**Karagaybulak**	**4.12**	**38**	⇓*i*P	**Pn**	**18 51 44.9**	**+2.6**
	baz=38						
KBK				⇓*i*S	**Sn**	**18 52 33.2**	**+2.5**
	baz=38						
CHMS	**Chumysh**	**4.30**	**33**	P	Pn	18 51 49.4	+4.8
	SNR=17						
CHMS	**Chumysh**	**4.30**	**33**	⇑Pn	**Pn**	**18 51 48.8**	**+4.2**
	21nm,0.9s						
CHMS				⇓Sn	**Sn**	**18 52 38.5**	**+3.5**
	30nm,0.9s						
CHMS	**Chumysh**	**4.30**	**33**	⇓*i*P	**Pn**	**18 51 47.4**	**+2.8**
	baz=34						
CHMS				⇓*i*S	**Sn**	**18 52 37.3**	**+2.3**
	baz=34						
USP	**Ospenovka**	**4.42**	**29**	P	**Pn**	**18 51 50.4**	**+4.1**
	SNR=12						
USP	**Ospenovka**	**4.42**	**29**	⇓*i*P	**Pn**	**18 51 48.9**	**+2.6**
	baz=30						
USP				⇓*i*S	**Sn**	**18 52 40.0**	**+2.0**
	baz=30						
ULHL	**Ulahol**	**4.54**	**51**	P	Pb	18 51 53.8	-5.1
	SNR=5.6						
ULHL	**Ulahol**	**4.54**	**51**	⇑*i*P	**Pn**	**18 51 50.9**	**+2.8**
	baz=51						
ULHL				⇑*i*S	**Sn**	**18 52 43.2**	**+2.1**
	baz=51						
TKM2	**Tokmak 2**	**4.63**	**40**	P	**Pb**	**18 51 56.7**	**-3.8**
	SNR=8.3						
TKM2	**Tokmak 2**	**4.63**	**40**	⇓Pn	**Pn**	**18 51 53.9**	**+4.5**
	3.4nm,0.4s						
TKM2				⇓Pg	**Pg**	**18 52 08.3**	**+0.7**
	6.7nm,0.5s						
TKM2				⇑Lg	Lg	18 53 08.3	
	21nm,0.8s						
TKM2	**Tokmak 2**	**4.63**	**40**	⇓*i*P	**Pn**	**18 51 52.1**	**+2.8**
	baz=40						
TKM2				⇓*i*S	**Sn**	**18 52 45.5**	**+2.1**
	baz=40						
KST	**Kastek**	**4.91**	**42**	*e*P	**Pg**	**18 52 12.8**	**-0.1**
	5.6nm,0.3s						
KST				*e*S	**Sg**	**18 53 14.8**	**-1.7**
	19nm,0.6s						
KST	**Kastek**	**4.91**	**42**	Pg	**Pg**	**18 52 12.9**	**-0.1**
	5.6nm,0.3s						
KST				Lg	Lg	18 53 14.8	
	19nm,0.6s						
DGS	**Degeres**	**4.96**	**39**	*e*P	**Pg**	**18 52 13.8**	**0.0**
	11nm,0.8s						
DGS				*e*S	**Sg**	**18 53 16.6**	**-1.5**
	23nm,0.4s						
DGS	**Degeres**	**4.96**	**39**	Pg	**Pg**	**18 52 13.8**	**0.0**
	11nm,0.8s						
DGS				Lg	Lg	18 53 16.6	
	23nm,0.4s						
KDJ	**Kajisay**	**5.06**	**56**	⇑*e*P	**Pn**	**18 51 58.0**	**+2.8**
	baz=56						
KDJ				⇑*i*S	**Sn**	**18 52 55.8**	**+1.9**
	baz=56						
MTBS	**Maitube**	**5.21**	**44**	*e*P	**Pg**	**18 52 18.9**	**+0.2**
	3.4nm,0.2s						
MTBS				*e*S	**Sg**	**18 53 25.3**	**-1.0**
	15nm,0.2s						
KRBS	**Karabastau**	**5.26**	**35**	*e*P	**Pg**	**18 52 19.1**	**-0.6**
	4.9nm,0.3s						
KRBS				*e*S	**Sg**	**18 53 25.7**	**-2.2**
	10nm,0.5s						
KRBS	**Karabastau**	**5.26**	**35**	Pg	**Pg**	**18 52 19.1**	**-0.6**
	4.9nm,0.3s						
KRBS				Lg	Lg	18 53 25.7	
	10nm,0.5s						
TNSS	**Tian-Shan**	**5.44**	**47**	*e*P	**Pg**	**18 52 23.4**	**+0.4**
	6.6nm,0.3s						
TNSS				*e*S	**Sg**	**18 53 32.8**	**-0.7**
	7.0nm,0.4s						
TNSS	**Tian-Shan**	**5.44**	**47**	Pg	**Pg**	**18 52 23.4**	**+0.4**
	6.6nm,0.3s						
TNSS				Lg	Lg	18 53 32.8	
	7.0nm,0.4s						
MDOK	**Medeo**	**5.58**	**46**	*e*P	**Pg**	**18 52 23.6**	**-2.0**
	4.8nm,0.4s						
MDOK				*e*S	**Sg**	**18 53 33.4**	**-4.5**
	13nm,0.5s						
MDOK	**Medeo**	**5.58**	**46**	Pn	Pn	18 52 07.3	+5.1
	4.3nm,0.7s						
MDOK				⇑Pg	**Pg**	**18 52 25.5**	**-0.1**
	6.1nm,0.7s						
MDOK				⇑Lg	Lg	18 53 40.1	
	17nm,0.8s						
KOTS	**Kotyrbulak**	**5.66**	**46**	*e*P	**Pg**	**18 52 26.2**	**-1.0**
	4.0nm,0.2s						
KOTS				*e*S	**Sg**	**18 53 37.8**	**-2.7**
	22nm,0.4s						
KOTS	**Kotyrbulak**	**5.66**	**46**	Pg	**Pg**	**18 52 26.2**	**-1.0**
	4.0nm,0.2s						
KOTS				Lg	Lg	18 53 37.8	
	22nm,0.4s						
ANVS	**Anan'yevo**	**5.71**	**52**	⇑*i*P	**Pn**	**18 52 06.8**	**+2.7**
	baz=52						
ANVS				⇑*i*S	**Sn**	**18 53 11.1**	**+1.2**
	baz=52						
KTBS	**Karatobe**	**5.75**	**41**

AKTO	**Aktyubinsk** 2.7nm,0.8s	14.54	323	⇑P		Pn	18 54 06.0	+1.2
ZALV	**Zalesovo Beam** 0.9nm,0.3s,baz=217,slow=12,SNR=19 3.3nm,0.5s	17.09	28	Pn		P	18 54 40.7	+1.0
ARU	**Arti** 0.2nm,0.3s,baz=101,slow=19,SNR=2.2 1.1nm,0.4s	19.02	338	P		Pn	18 55 02.2	+0.6
BELG	**Belogornoye** 2.1nm,0.6s,baz=71,slow=18,SNR=1.6 2.1nm,0.6s	20.95	316	P		P	18 55 21.3	-0.6
KBZ	**Khabaz** 0.3nm,0.5s,baz=24,slow=8.2,SNR=1.5 0.3nm,0.5s	21.78	291	P		P	18 55 30.0	-0.9
BRTR	**Keskin Array B** 0.8nm,0.8s,baz=82,slow=8.9,SNR=5.9 0.8nm,0.8s	29.06	283	P		P	18 56 38.0	-1.6
FINES	**FINESS Array B** 1.3nm,0.5s,baz=109,slow=9.8,SNR=13 1.3nm,0.5s	35.31	324	P		P	18 57 35.4	+1.4
ARCES	**ARCESS Array B** 0.6nm,0.4s,baz=107,slow=7.6,SNR=14 0.6nm,0.4s	38.60	336	P		P	18 58 03.3	+1.4
HFS	**Hagfors** 1.3nm,0.5s,baz=103,slow=12,SNR=9.1 1.3nm,0.5s	41.04	320	P		P	18 58 23.5	+1.1
GERES	**GERESS Array B** 0.3nm,0.4s,baz=84,slow=10,SNR=1.7 0.3nm,0.4s	41.62	303	P		P	18 58 28.1	+0.6
NOA	**NORSAR Array B** 0.6nm,0.7s,baz=97,slow=7.7,SNR=1.8 0.6nm,0.7s	42.31	321	P		P	18 58 32.7	0.0
KSRS	**Korea Array** comp=Z,18nm,18.3s,baz=240,slow=40	43.60	74	LR		LR	19 20 06.6	
TORD	**Torodi Ar. Bea** 1.3nm,0.7s,baz=51,slow=5.5,SNR=8.7 1.3nm,0.7s	66.23	268	P		P	19 01 26.6	-0.9
ILAR	**Eielson Array** 0.3nm,0.8s,baz=328,slow=6.4,SNR=3.1 0.3nm,0.8s	71.84	16	P		P	19 02 03.5	+1.8
YKA	**Yellowknife Ar** 0.3nm,0.6s,baz=346,slow=6.0,SNR=6.4 0.3nm,0.6s	78.28	3	P		P	19 02 39.0	+0.1

KRNET 11 18:54:51.7±0.1, 39.47N×71.48E, h14km, mb2.4, 18C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk** baz=86	0.25	86	⇑*i*P	Pg	18 54 57.0	-0.2
DRK	baz=86			⇑*i*S	Sg	18 55 00.2	-0.8
BTK	**Batken** baz=19	0.78	319	⇑*i*P	Pg	18 55 06.7	-0.2
BTK	baz=19			⇑*i*S	Sg	18 55 17.4	+0.1
GAR	**Garm** baz=43	1.02	243	⇑*i*P	Pb	18 55 10.9	-0.3
GAR	baz=43			⇑*i*S	Sg	18 55 24.8	+0.1
OHH	**Osh** baz=43	1.46	43	⇑*i*P	Pb	18 55 18.8	+0.1
OHH	baz=43			⇑*i*S	Sg	18 55 38.6	-0.1
SFK	**Sufi-Kurgan** baz=70	1.65	70	⇓*i*P	Pb	18 55 22.4	+0.3
SFK	baz=70			⇓*i*S	Sg	18 55 44.8	-0.2
CHGR	**Chuyangaron** baz=47	1.98	247	⇑*i*P	Pb	18 55 27.8	+0.2
CHGR	baz=47			⇑*i*S	Sg	18 55 54.1	-1.3
TRKS	**Terek-Say** baz=53	2.08	353	⇓*i*P	Pb	18 55 28.4	-0.9
TRKS	baz=53			⇓*i*S	Sb	18 55 54.9	-0.2
ARSB	**Arslanbob** baz=31	2.18	31	⇑*e*P	Pb	18 55 30.5	-0.6
ARSB	baz=31			⇑*e*S	Sb	18 55 58.5	+0.5
ARK	**Arkit** baz=9.0	2.36	9	⇑*i*P	Pb	18 55 33.2	-0.9
ARK	baz=9.0			⇑*i*S	Sb	18 56 03.4	+0.3
ARLS	**Aral** baz=41	3.23	41	⇑*e*P	Pn	18 55 44.8	+2.7
ARLS	baz=41			⇑*e*S	Sn	18 56 23.9	+3.5
KK31	**Karatay Array** 1.2nm,0.3s,baz=176,slow=32,SNR=8.1	3.71	349	⇑Lg	Lg	18 56 50.0	
KK31	**Karatay Array** 1.3nm,0.5s,baz=168,slow=16,SNR=4.3	3.71	349	⇑Pn	Pb	18 55 55.2	-1.7

SOME 11 18:55:51.2, 38.37N×72.32E, h5km
NNC 11 18:55:55.2±2.5, 37.39N×71.71E, h125km±54km, mb3.0, mpv3.6, Error ellipse: s-maj=23.9km s-min=19.4km az=13.0

ISC 11 18:55:58.5±3.2, 37.5N±0.2×71.45E±0.08, h100km, n11, σ1=39/21, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay** 23nm,0.2s	4.77	347	*e*P	Pn	18 57 08.2	0.0
IUG	64nm,0.4s			*e*S	Sn	18 58 03.8	+1.5
CHM	**Chimkent** 35nm,0.1s	5.02	344	*e*P	Pn	18 57 13.5	+2.0
CHM	90nm,0.5s			*e*S	Sn	18 58 12.7	+4.5
DZA	**Taraz** 20nm,0.1s	5.39	359	*e*P	Pn	18 57 16.4	-0.1
DZA	86nm,0.3s			*e*S	Sn	18 58 17.8	+0.6
MRKS	**Merke** 5.1nm,0.2s	5.42	14	*e*P	Pn	18 57 14.9	-2.0
MRKS	51nm,0.3s			*e*S	Sn	18 58 15.4	-2.6
KK31	**Karatay Array** 2.8nm,0.3s,baz=182,slow=16,SNR=12	5.64	353	P ⇑S	Pn	18 57 18.8	-1.1
KK31	13nm,0.3s,baz=168,slow=21,SNR=34				Sn	18 58 24.2	+0.8
CHMS	**Chumysh** 1.9nm,0.3s	6.05	24	⇓P	Pn	18 57 22.3	-3.1
CHMS	7.8nm,0.8s			⇑S	Sn	18 58 31.4	-1.8
KST	**Kastek** 1.8nm,0.2s	6.53	31	*e*P	Pn	18 57 31.2	-0.9
KST	3.0nm,0.5s			*e*S	Sn	18 58 42.9	-2.1
DGS	**Degeres** 1.9nm,0.6s	6.62	29	*e*P	Pn	18 57 34.9	+1.6
DGS	1.9nm,0.3s			*e*S	Sn	18 58 49.4	+2.2
KRBS	**Karabastau** 0.7nm,0.2s	6.98	26	*e*P	Pn	18 57 39.3	+1.2
KRBS	1.0nm,0.2s			*e*S	Sn	18 58 57.0	+1.1
KOTS	**Kotyrbulak** 1.1nm,0.3s	7.18	35	*e*P	Pn	18 57 44.2	+3.3
KOTS	2.1nm,0.9s			*e*S	Sn	18 59 05.5	+4.5
AB31	**Akbulak array** 0.6nm,0.3s	14.40	328	⇓P	Pn	18 59 15.6	-1.8

DJA 11 18:57:21.9±0.5, 4.7N×12.8E±, h10km, M4.5/12, mb4.7/8, mB4.8/4, MLv4.5/12, Mw(mB)4.1/4
NEIC 11 18:57:23.0±1.8, 3.90N±0.05×127.75E±0.10, h146km±10km, mb4.4/23, Error ellipse: s-maj=15.2km s-min=4.7km az=114.0
IDC 11 18:57:24.9±5.8, 3.92N×127.80E, h169km±56km, mb3.6/8, mbtmp4.1/9, MS2.6/1, Error ellipse: s-maj=48.2km s-min=12.3km az=65.0

ISC 11 18:57:22.9±0.7, 3.82N±0.07×127.71E±0.06, h150km, n48, σ1=29/54, mb4.4/19, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	2.18	267	P	Pn	18 57 58.2	-1.9
SGSI				S	Sn	18 58 26.7	-2.0
TNTI	**Ternate**	3.04	186		Pn	18 58 11.7	+0.9
TNTI	**Ternate**	3.04	186	P	Pn	18 58 08.1	-2.7
TNTI				S	Sn	18 58 43.6	-4.4
DAV	**Davao City (W)** comp=Z,73nm,18.9s,baz=282,slow=45	3.86	327	LR	LR	19 00 18.9	
LBMI	**Labuha**	4.43	183	P	Pn	18 58 28.5	-0.3
LBMI				S	Sn	18 59 18.9	-1.3
KMSI	**Cibinong**	4.92	229	P	Pn	18 58 34.4	-0.9
KMSI				S	Sn	18 59 30.7	-1.1
GTOI	**Gorontalo** 30nm,0.5s,622nm0.2nm	5.66	236	P	Pn	18 58 44.8	-0.3
GTOI	30nm,0.5s,622nm0.2nm			S	Sn	18 59 50.4	+1.1
SWI	**Sorong** 41nm,0.5s,0.4nm	5.85	143	P	Pn	18 58 47.7	+0.1
SWI	41nm,0.5s,0.4nm			S	Sn	18 59 53.2	-0.7
SANI	**Sanana** 30nm,0.6s,901nm0.2nm	6.08	196	P	Pn	18 58 48.9	-1.7
LUWI	**Luwuk**	6.90	226		Pn	18 59 03.2	+1.5
LUWI	**Luwuk** 41nm,0.7s,0.2nm	6.90	226	P	Pn	18 58 59.9	-1.8
NLAI	**Namlea** 16nm,1.0s,0.2nm	7.04	185	P	Pn	18 59 01.8	-1.6
TOLI2	**Tolitoli**	7.42	249		Pn	18 59 09.0	+0.4
FAKI	**Fak Fak**	8.09	146	Pn	Pn	18 59 17.9	+0.4
BKB	**Balikpapan**	11.92	245	P	Pn	19 00 09.8	+1.5
BATI	**Baumata** 6.6nm,0.4s,baz=172,slow=2.2,SNR=7.3	14.50	196	P	P	19 00 45.8	+2.1
MTN	**Manton Dam** comp=Z,11nm,0.8s	16.90	168	P IAmb	P IAmb	19 01 08.1 19 01 20.1	-2.0
KNRA	**Kununurra** comp=Z,20nm,0.7s	19.40	177	P IAmb	P IAmb	19 01 38.7 19 01 41.0	+1.3
FITZ	**Fitzroy Crossi**	21.87	185	P	P	19 02 02.9	-1.0
COEN	**Coen** comp=Z,11nm,1.1s	23.39	139	P IAmb	P IAmb	19 02 17.3 19 03 00.5	-1.1
WB0	**Warramunga Arr** comp=Z,29nm,1.2s	24.34	165	P IAmb	P IAmb	19 02 27.7 19 02 29.5	+0.7
WRAB	**Tennant Creek** comp=Z,8.9nm,0.7s	24.49	165	P IAmb	P IAmb	19 02 29.0 19 02 30.7	+0.7
WRA	**Warramunga Arr**	24.49	165	P	P	19 02 28.1	-0.3
WRA	**Warramunga Arr** comp=Z,5.2nm,0.4s,baz=344,slow=9.9,SNR=48 comp=Z,5.2nm,0.4s	24.49	165	P	P	19 02 28.9	+0.5
WB2	**Warramunga Arr** comp=Z,10nm,0.7s	24.50	165	P IAmb	P IAmb	19 02 29.4 19 02 30.7	+0.9
WR0	**Warramunga Arr** comp=Z,13nm,1.1s	24.56	164	P IAmb	P IAmb	19 02 29.9 19 02 32.1	+0.9
AS31	**Alice Springs** comp=Z,3.8nm,0.5s	27.98	168	P IAmb	P IAmb	19 02 59.5 19 03 01.6	-0.2
ASAR	**Alice Springs**	27.98	168	P	P	19 02 58.7	-1.0
ASAR	**Alice Springs** comp=Z,6.6nm,0.5s,baz=354,slow=7.9,SNR=238	27.98	168	P PcP	P PcP	19 03 00.8 19 06 11.4	+1.1 +0.3
CRAI	**Chiangrai** comp=Z,2.6nm,1.1s	31.23	304	P IAmb	P IAmb	19 03 29.3 19 03 37.3	+0.9
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,0.8s,baz=108,slow=7.0,SNR=6.3 comp=Z,0.5nm,0.8s	31.67	300	P	P	19 03 32.8	+0.4
JGF	**Kuroka** comp=Z,5.7nm,1.0s	32.86	15	P IAmb	P IAmb	19 03 41.9 19 03 45.6	-0.7
KSRS	**Korea Array** comp=Z,0.3nm,0.5s,baz=172,slow=8.9,SNR=1.8 comp=Z,0.3nm,0.5s	33.48	0	P	P	19 03 47.7	-0.1
BBOO	**Buckleboo**	37.28	168	P	P	19 04 21.7	+1.4
STKA	**Stephens Creek**	37.88	161	P	P	19 04 26.3	+0.9
STKA	**Stephens Creek** comp=Z,4.1nm,0.3s,baz=341,slow=8.1,SNR=35 comp=Z,4.1nm,0.3s	37.88	161	P	P	19 04 25.9	+0.5
ARMA	**Armidale** comp=Z,23nm,1.5s	41.01	148	P IAmb	P IAmb	19 04 52.1 19 05 30.5	+0.5
TOO	**Toolangi** comp=Z,20nm,1.2s	44.37	160	P IAmb	P IAmb	19 05 20.2 19 05 35.9	+1.7
MK31	**Makanchi Array** comp=Z,3.4nm,1.5s	58.04	325	P IAmb	P IAmb	19 06 59.5 19 07 02.0	-0.7
MKAR	**Makanchi Array**	58.04	325	P	P	19 06 59.5	-0.7
MKAR	**Makanchi Array** comp=Z,0.5nm,0.4s,baz=111,slow=7.5,SNR=14 comp=Z,0.5nm,0.4s	58.04	325	P	P	19 07 00.0	-0.2
MAKZ	**Makanchi**	58.23	325	P	P	19 07 00.8	-0.7
THZ	**Tophouse**	61.17	143	P	P	19 07 21.5	-0.2
LBZ	**Lake Benmore**	61.21	146	P	P	19 07 22.0	+0.1
KHZ	**Kahutara**	61.94	143	P	P	19 07 26.2	-0.6
RTZ	**Ruatahuna**	62.04	138	P	P	19 07 26.5	-1.1
KURBB	**Kurchatov Arra** comp=Z,0.6nm,0.4s,baz=127,slow=6.1,SNR=9.2 comp=Z,0.6nm,0.4s	62.20	327	P	P	19 07 27.7	-0.6
VNDA	**Vanda** comp=Z,0.6nm,0.6s,baz=309,slow=7.7,SNR=5.8 comp=Z,0.6nm,0.6s	83.39	173	P	P	19 09 33.8	+1.0

IDC 11 19:19:29.5±1.3, 6.07S×142.45E, h0km, mb3.6/3, mbtmp3.6/6, ML3.5/2, Error ellipse: s-maj=42.2km s-min=28.8km az=85.0

ISC 11 19:19:30.7±1.0, 6.2S±0.1×142.5E±0.1, h10km, n6, σ1=57/7, mb3.7/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** 10.0nm,0.9s,baz=30,slow=20,SNR=2.5	5.58	125	Pn	Pn	19 20 54.9	+1.1
PMG	1.1nm,0.3s,baz=343,slow=19,SNR=6.3			Sn	Sn	19 21 56.6	-1.5
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=29,slow=13,SNR=9.7	15.82	209	Pn	Pn	19 23 12.7	-1.0
WRA	0.1nm,0.3s,baz=29,slow=23,SNR=1.9 0.8nm,0.8s			Sn	Sn	19 25 58.4	-11
ASAR	**Alice Springs** 0.3nm,0.3s,baz=30,slow=11,SNR=41 1.4nm,0.5s	19.25	205	P	Pn	19 23 57.7	+1.2
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=103,slow=5.0,SNR=4.7 0.1nm,0.5s	74.86	322	P	P	19 31 10.0	-1.7
BVAR	**Borovoye Array** 0.7nm,0.6s,baz=110,slow=3.9,SNR=5.5 0.7nm,0.6s	84.34	325	P	P	19 32 04.1	+1.1
ILAR	**Eielson Array** 0.4nm,0.9s,baz=237,slow=6.3,SNR=2.2 0.4nm,0.9s	87.43	24	P	P	19 32 18.3	+0.2

IDC 11 19:30:51.5±6.5, 5.03S×126.29E, h75km±72km, mb3.1/3, mbtmp3.4/6, ML3.2/3, Error ellipse: s-maj=46.6km s-min=32.9km az=47.0

ISC 11 19:30:53.5±1.1, 5.14S±0.10×126.3E±0.2, h100km, n6, σ1=05/7, mb3.2/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata** 2.6nm,0.3s,baz=120,slow=20,SNR=8.1	5.66	207	P	Pn	19 32 15.6	+0.4
BATI	2.2nm,0.6s,baz=42,slow=22,SNR=0.9 9.5nm,0.5s			S	Sn	19 33 18.4	-0.5
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=336,slow=10,SNR=2.0 0.1nm,0.8s	16.68	153	P	P	19 34 43.3	+1.3
ASAR	**Alice Springs** 0.1nm,0.3s,baz=344,slow=12,SNR=11 0.5nm,0.6s	19.84	159	P	Pn	19 35 17.8	-1.2
USRK	**Ussuriysk Ar.** 0.5nm,0.5s,baz=170,slow=6.9,SNR=5.0 0.5nm,0.5s	49.38	5	P	P	19 39 32.4	-0.4
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=116,slow=6.7,SNR=5.1 0.2nm,0.7s	64.67	328	P	P	19 41 21.5	+0.8
KURBB	**Kurchatov Arra** 0.1nm,0.4s,baz=125,slow=6.7,SNR=1.6 0.1nm,0.4s	69.01	330	P	P	19 41 47.8	-0.4

NEIC 11 19:31:45.6±1.9, 51.6N±0.2×173.2W±0.1, h40km±70km,
Error ellipse: s-maj=23.5km s-min=9.2km az=178.0
AEIC 11 19:31:47.0±1.8, 51.65N±0.07×173.34W±0.10, h41km±10km, ML2.8, Error ellipse: s-maj=12.7km s-min=3.4km az=219.0
IDC 11 19:31:50.1±2.2, 52.94N×174.25W, h0km, mb3.5/4, mbtmp3.4/5, ML3.5/1, Error ellipse: s-maj=62.0km s-min=39.0km az=126.0

ISC 11 19:31:45.6±1.5, 51.6N±0.2×173.16W±0.07, h37km, n11, σ1=33/11, mb3.6/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	0.89	314		Pn	19 32 00.9	-0.6
ATKA				Sn	Sn	19 32 11.8	-1.4
GSTR	**Great Sitkin T**	1.87	287	Pn	Pn	19 32 14.7	-0.3
ADK	**Adak**	2.21	279	Pn	Pn	19 32 20.2	+0.6
CLES	**Cleveland East**	2.36	57	Pn	Pn	19 32 20.5	-1.2
KIWB	**Kanaga Island**	2.49	278	Pn	Pn	19 32 23.9	+0.4
AMKA	**Amchitka**	4.71	270	Pn	Pn	19 32 51.4	-2.7
ILAR	**Eielson Array** 0.1nm,0.3s,baz=230,slow=8.4,SNR=12 0.2nm,0.5s	18.94	36	P	Pn	19 36 04.8	+1.0
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=48,slow=7.7,SNR=2.1 0.1nm,0.3s	62.60	311	P	P	19 42 05.9	+0.2
BVAR	**Borovoye Array** 0.6nm,0.5s,baz=55,slow=6.8,SNR=8.1 0.6nm,0.5s	62.93	323	P	P	19 42 09.1	+1.3
AKASG	**Malin Array Be** 0.2nm,0.3s,baz=18,slow=6.4,SNR=2.1 0.2nm,0.3s	76.33	346	P	P	19 43 30.2	-0.1
ASAR	**Alice Springs** 0.3nm,0.7s,baz=50,slow=4.0,SNR=4.3 0.3nm,0.7s	88.12	227	P	P	19 44 45.0	+13

IDC 11 19:43:07.7±1.0, 6.14S×143.18E, h0km, mb3.9/5, mbtmp3.9/7, ML1.4/1, Error ellipse: s-maj=40.6km s-min=23.8km az=64.0

ISC 11 19:43:12.5±0.9, 6.55S±0.09×142.80E±0.10, h35km, n8, σ2=44/11, mb3.8/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** 0.9nm,0.3s,baz=182,slow=12,SNR=2.0	5.17	124	Pn	Pn	19 44 25.9	-1.5
PMG	3.9nm,0.3s,baz=214,slow=16,SNR=7.1 6.8nm,0.6s			Sn	Sn	19 45 27.0	+1.1
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=30,slow=13,SNR=14	15.65	211	Pn	P	19 46 53.0	-1.4
WRA	0.2nm,0.3s,baz=26,slow=22,SNR=2.6			Sn	Sn	19 49 40.6	-2.4
WRA	0.1nm,0.3s,baz=22,slow=26,SNR=3.8			Lg	Lg	19 51 34.1	
ASAR	**Alice Springs** 8.1nm,0.8s,baz=33,slow=10,SNR=72	19.05	206	P	Pn	19 47 37.4	+4.5
ASAR	0.5nm,0.8s,baz=20,slow=28,SNR=2.4			S	S	19 51 04.0	-2.3
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=116,slow=6.5,SNR=5.2 0.5nm,0.6s	75.30	322	P	P	19 54 52.8	+0.6
KURBB	**Kurchatov Arra** 0.3nm,0.7s,baz=111,slow=5.1,SNR=2.5 0.3nm,0.7s	79.20	324	P	P	19 55 13.3	-0.6
QSPA	**South Pole Qui** 1.1nm,0.7s,baz=49,slow=11,SNR=2.2 1.1nm,0.7s	83.42	180	P	P	19 55 38.5	+2.3
BVAR	**Borovoye Array** 2.4nm,0.6s,baz=113,slow=7.7,SNR=19 2.4nm,0.6s	84.78	325	P	P	19 55 43.8	+0.6
ILAR	**Eielson Array** 0.4nm,0.7s,baz=257,slow=4.7,SNR=5.2 0.4nm,0.7s	87.64	24	P	P	19 55 54.8	-2.2

IDC 11 19:48:41.2±0.8, 6.02S×142.93E, h0km, mb4.0/11, mbtmp4.0/14, ML2.0/1, MS3.7/2, Error ellipse: s-maj=28.4km s-min=17.3km az=73.0

ISC 11 19:48:42.7±0.7, 6.10S±0.10×142.8E±0.1, h10km, n18, σ1=18/16, mb4.0/11, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** 3.2nm,0.3s,baz=5.4,slow=1.1,SNR=17	5.41	128	Pn	Pn	19 50 04.6	+1.1
PMG	6.3nm,0.3s,baz=259,slow=20,SNR=21 22nm,0.6s			Sn	Sn	19 51 05.1	-0.8
CTA	**Charters Tower** baz=343,slow=20,SNR=1.4	14.30	167	Lg	Lg	19 56 04.4	
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=28,slow=14,SNR=1.4	16.04	210	Pn	Pn	19 52 26.1	-2.5
WRA	0.2nm,0.3s,baz=25,slow=27,SNR=4.0			Sn	Sn	19 55 15.1	-12
WRA	0.1nm,0.3s,baz=30,slow=22,SNR=2.6			Lg	Lg	19 57 04.8	
BATI	**Baumata** 3.0nm,0.4s,baz=43,slow=19,SNR=1.8	19.39	257	P	Pn	19 53 10.8	+0.6
BATI	1.7nm,0.3s,baz=102,slow=19,SNR=1.6			S	Sn	19 56 38.5	-10
ASAR	**Alice Springs** 5.0nm,0.6s,baz=36,slow=8.5,SNR=35	19.46	205	P	Pn	19 53 10.5	-0.5
ASAR	0.9nm,1.0s,baz=35,slow=20,SNR=2.4			S	S	19 56 35.4	-15
ASAR	0.1nm,0.3s,baz=33,slow=28,SNR=4.0			Lg	Lg	19 58 50.7	
STKA	**Stephens Creek** 3.7nm,0.9s,baz=12,slow=9.3,SNR=3.1 3.7nm,0.9s	25.67	182	P	P	19 54 14.5	+1.6
MJAR	**Matsushiro Arr** 0.9nm,0.6s,baz=165,slow=5.0,SNR=2.7 0.9nm,0.6s	42.63	355	P	P	19 56 37.7	-1.7
CMAR	**Chiang Mai Arr** 0.6nm,0.3s,baz=121,slow=6.0,SNR=4.6 0.6nm,0.3s	49.67	300	P	P	19 57 35.9	+0.8
USRK	**Ussuriysk Ar.** 1.3nm,0.7s,baz=165,slow=6.0,SNR=3.5 1.3nm,0.7s	51.01	350	P	P	19 57 45.2	+0.4
KLR	**Kul'dur** comp=Z,29nm,18.4s,baz=309,slow=35	55.94	351	LR	LR	20 20 56.6	
SONM	**Songino Array** 0.5nm,0.8s,baz=165,slow=6.6,SNR=4.2 0.5nm,0.8s	62.54	333	P	P	19 59 07.9	+1.1
VNDA	**Vanda** comp=Z,88nm,18.1s,baz=246,slow=35	72.09	176	LR	LR	20 31 02.5	
MKAR	**Makanchi Array** 0.8nm,0.7s,baz=106,slow=6.7,SNR=8.7 0.8nm,0.7s	74.96	322	P	P	20 00 24.9	+0.7
ZALV	**Zalesovo Beam** 0.7nm,0.5s,baz=130,slow=6.0,SNR=3.6 0.7nm,0.5s	76.92	329	P	P	20 00 34.5	-0.7
KURBB	**Kurchatov Arra** 0.5nm,0.8s,baz=107,slow=4.3,SNR=4.5 0.5nm,0.8s	78.84	324	P	P	20 00 45.1	-0.8
QSPA	**South Pole Qui** 1.0nm,0.5s,baz=265,slow=2.2,SNR=5.4 1.0nm,0.5s	83.87	180	P	P	20 01 12.2	-0.4
BVAR	**Borovoye Array** 3.4nm,0.7s,baz=114,slow=6.8,SNR=28 3.4nm,0.7s	84.42	325	P	P	20 01 15.8	+0.5
ILAR	**Eielson Array** 0.8nm,0.7s,baz=244,slow=5.3,SNR=12 0.8nm,0.7s	87.23	24	P	P	20 01 28.4	-0.7

JMA 11 19:55:39.3±0.2, 24.2N±0.4×123.8E±0.4, h16km±1km, MV0.4/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	0.14	314	*e*P	Pg	19 55 43.1	0.0
IRIF				*e*S	Sg	19 55 45.9	+0.2
JKRS	**Kuro-shima**	0.15	89	P	Pg	19 55 43.1	-0.2
JKRS				*e*S	Sb	19 55 46.4	-0.4
HATJ	**Hateruma jima**	0.18	191	P	Pg	19 55 43.5	-0.1
HATJ				*e*S	Sg	19 55 46.9	+0.3
JIJ	**Ishigaki jima**	0.30	65	P	Pg	19 55 45.5	-0.2
JIJ				*e*S	Sg	19 55 49.8	-0.2
JISG	**Ishigakijimahi**	0.55	51	*e*P	Pg	19 55 50.0	-0.2
JISG				S	Sb	19 55 58.8	+0.4
JTJ	**Tarama**	0.88	63	*i* S	Sb	19 56 07.8	0.0

TAP 11 19:55:55.0, 24.35N×121.66E, h6km±1km, ML0.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAHA	**Aohua**	**0.08**	**108**	P	Pg	19 55 57.2	+0.3
	baz=110						
EAHA				S	Sg	19 55 58.5	+0.4
	baz=110						
EHP	**Heping Village**	**0.09**	**119**	*e*P	Pg	19 55 57.7	+0.7
	baz=120						
ENA	**Nanau**	**0.11**	**46**	*i* S	Sg	19 55 59.4	+0.5
	baz=46						
EWUT	**Wuta**	**0.14**	**51**	*i* P	Pg	19 55 58.5	+0.5
	baz=49						
EWUT				*e*S	Sg	19 56 00.1	+0.2
	baz=49						
NACB	**Ninganchiao**	**0.19**	**197**	*e*P	Pg	19 56 00.1	+1.4
	baz=200						
NACB				*i* S	Sg	19 56 02.2	+1.0
	baz=200						
ETLH	**Xiulin Townshi**	**0.22**	**227**	*i* P	Pg	19 56 00.0	+0.7
	baz=229						
ETLH				*e*S	Sg	19 56 02.6	+0.4
	baz=229						
LATG	**Datong**	**0.22**	**327**	*e*P	Pg	19 55 59.0	-0.3
	baz=325						
LATG				S	Sg	19 56 03.3	+1.1
	baz=325						
NNSB	**Datong**	**0.26**	**287**	*i* P	Pg	19 56 01.0	+0.8
	baz=286						
NNSB				S	Sg	19 56 04.6	+1.0
	baz=286						
NNS	**Nan Shan**	**0.27**	**288**	*e*P	Pb	19 56 02.0	-0.4
	baz=288						
NNS				*i* S	Sg	19 56 04.8	+0.8
	baz=288						
NDT	**Datong Townshi**	**0.28**	**332**	*e*S	Sb	19 56 05.9	-1.5
	baz=330						

*SJA **11** 20:00:37.2±0.8,30.°68S×71.°67W,h8km±4km,ML3.7, MW3.4*
*GUC **11** 20:00:41.3±0.8,30.°68S×71.°39W,h43km±2km,ML3.5*
ISC 11 20:00:41.4±1.3,30.°69S±0.°02×71.°28W±0.°03,h18km±3km, n36,σ2s07/76,5C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.30**	**274**	*e*P	**Pb**	**20 00 49.5**	**+1.1**
CO06				*e*S	**Sb**	**20 00 55.3**	**+2.3**
CO06				IAML		20 00 56.5	
	comp=E,11μm,0.2s						
CO03	**El Pedregal**	**0.53**	**106**	*e*P	**Pn**	**20 00 54.6**	**+0.4**
CO03				IAML	**Sn**	**20 01 05.4**	**+2.6**
	comp=Z,2μm,0.7s						
CO03				*e*S	**Sn**	**20 01 05.4**	**+2.6**
CO03	**El Pedregal**	**0.53**	**106**	*e*P	**Pn**	**20 00 55.2**	**+1.0**
CO03				*e*S	**Sn**	**20 01 05.0**	**+2.3**
CO03				IAML		20 01 06.1	
	comp=N,6μm,0.1s						
CO02	**Combarbal**	**0.56**	**154**	*e*P	**Pb**	**20 00 53.2**	**+0.4**
CO02				*e*P	**Pn**	**20 00 54.7**	**0.0**
CO02				*e*S	**Sn**	**20 01 04.2**	**+0.6**
CO02				IAML		20 01 05.3	
	comp=Z,6μm,0.1s						
CO02	**Combarbal**	**0.56**	**154**↓	*e*P	**Pn**	**20 00 54.9**	**+0.2**
CO02				*e*S	**Sn**	**20 01 04.2**	**+0.6**
GO04	**Tololo Observa**	**0.67**	**39**	*e*P	**Pg**	**20 00 53.2**	**-1.5**
GO04				*e*P	**Pn**	**20 00 56.3**	**+0.1**
GO04				*e*S	**Sn**	**20 01 08.4**	**+2.2**
GO04				IAML		20 01 15.9	
	comp=Z,2μm,0.3s						
GO04	**Tololo Observa**	**0.67**	**39**↑	*e*P	**Pn**	**20 00 56.8**	**+0.6**
GO04				*e*S	**Sn**	**20 01 07.9**	**+1.6**
GO04				IAML		20 01 14.2	
	comp=E,4μm,0.3s						
CO05	**La Serena**	**0.77**	**3**↑	*e*P	**Pn**	**20 00 56.7**	**-0.7**
CO05				*e*S	**Sn**	**20 01 07.8**	**-0.7**
CO05				IAML		20 01 09.2	
	comp=N,2μm,0.4s						
CO01	**Juntas del Tor**	**1.25**	**56**	*e*P	**Pg**	**20 01 06.3**	**+0.5**
CO01				*e*S	**Sg**	**20 01 24.7**	**+2.6**
CO01				IAML		20 01 28.5	
	comp=Z,581nm,0.3s						
CO01	**Juntas del Tor**	**1.25**	**56**	*e*P	**Pg**	**20 01 06.2**	**+0.5**
CO01				*e*S	**Sg**	**20 01 24.3**	**+2.2**
CO01				IAML		20 01 28.4	
	comp=N,1μm,0.3s						
AROD	**Rodeo**	**1.65**	**72**	*e*P	**Pg**	**20 01 13.9**	**+0.6**
AROD				*e*S	**Sn**	**20 01 29.7**	**-1.0**
LCO	**Las Campanas**	**1.75**	**17**	*e*P	**Pb**	**20 01 11.8**	**-1.4**
LCO				*e*S	Sn	20 01 24.4	-8.7
LCO				IAML		20 01 43.6	
	comp=Z,2μm,0.6s						
LCO	**Las Campanas**	**1.75**	**17**	*e*P	**Pb**	**20 01 11.8**	**-1.4**
LCO				*e*S	**Sn**	**20 01 33.9**	**+0.8**
VA06	**Catapilco**	**1.86**	**180**↑	*e*P	**Pn**	**20 01 12.2**	**-0.2**
VA06				*e*S	**Sn**	**20 01 35.6**	**+0.2**
VA06				IAML		20 01 43.9	
	comp=N,1μm,0.3s						
ACCO	**Cerro Coronel**	**1.92**	**87**	*e*P	**Pg**	**20 01 18.1**	**-0.2**
ACCO				*e*S	**Sn**	**20 01 30.7**	**-6.5**
VA03	**San Esteban**	**2.16**	**163**	*e*P	**Pn**	**20 01 17.7**	**+1.1**
VA03				*e*S	**Sb**	**20 01 48.7**	**+2.2**
VA03				IAML		20 01 58.1	
	comp=Z,408nm,0.5s						
VA03	**San Esteban**	**2.16**	**163**	*e*P	**Pn**	**20 01 17.7**	**+1.1**
VA03				*e*S	**Sb**	**20 01 46.0**	**-0.5**
VA03				IAML		20 01 58.3	
	comp=N,749nm,0.5s						
AC04	**Llanos de Chal**	**2.49**	**4**	*e*P	**Pn**	**20 01 21.0**	**0.0**
AC04				*e*S	**Sb**	**20 01 54.7**	**-1.2**
AC04				IAML		20 02 05.9	
	comp=Z,180nm,0.5s						
AC04	**Llanos de Chal**	**2.49**	**4**↑	*e*P	**Pn**	**20 01 21.6**	**+0.6**
AC04				*e*S	**Sn**	**20 01 52.6**	**+1.7**
AC04				IAML		20 02 01.0	
	comp=E,237nm,0.3s						
RTLL	**Cerro Villicun**	**2.49**	**105**	*e*P	**Pb**	**20 01 24.9**	**-0.8**
RTLL				*e*S	**Sb**	**20 01 59.9**	**+3.8**
MT02	**Curacav**	**2.56**	**177**	*e*P	**Pn**	**20 01 21.9**	**-0.2**
MT02				*e*S	**Sb**	**20 01 57.3**	**-0.7**
MT02				IAML		20 02 06.6	
	comp=Z,235nm,0.6s						
MT02	**Curacav**	**2.56**	**177**↑	*e*P	**Pn**	**20 01 22.1**	**+0.1**
MT02				*e*S	**Sn**	**20 01 53.8**	**+1.0**
MT02				IAML		20 02 07.3	
	comp=E,288nm,0.3s						
RTCV	**Cerro Valdivia**	**2.62**	**117**	*e*P	**Pb**	**20 01 28.3**	**+0.4**
RTCV				*e*P	**Pg**	**20 01 29.8**	**-2.0**
RTCV				*e*S	**Sg**	**20 02 07.7**	**+1.9**
AGUA	**GUANDACOL**	**2.70**	**64**	*e*P	**Pb**	**20 01 29.8**	**+0.5**
AGUA				*e*P	**Pg**	**20 01 30.0**	**-3.3**
AGUA				*e*S	**Sg**	**20 02 11.4**	**+3.0**
AGUA				IAML		20 02 14.4	
	comp=Z,255nm,0.8s						
MT03	**Universidad Ad**	**2.87**	**167**	*e*P	**Pn**	**20 01 27.7**	**+1.4**
MT03				*e*S	**Sb**	**20 02 04.7**	**-2.3**
MT03				IAML		20 02 12.7	
	comp=Z,270nm,0.3s						
MT01	**Popeta**	**3.16**	**180**	*e*P	**Pn**	**20 01 30.0**	**-0.3**
MT01				*e*S	**Sn**	**20 02 08.7**	**+1.1**
MT01				IAML		20 02 18.9	
	comp=Z,113nm,0.6s						
GO03	**Copiap**	**3.22**	**17**	*e*P	**Pn**	**20 01 32.2**	**+1.0**
GO03				*e*S	**Sb**	**20 02 15.2**	**-1.9**
GO03				IAML		20 02 25.9	
	comp=Z,126nm,0.7s						
AVFE	**Valle Fertil**	**3.30**	**90**	*e*P	**Pn**	**20 01 29.7**	**-2.6**
AVFE				*e*P	**Pb**	**20 01 35.5**	**-3.9**
AVFE				*e*S	**Sb**	**20 02 22.4**	**+3.1**
AVFE				IAML		20 02 31.5	
	comp=Z,111nm,0.5s						
VCA	**Vinchina**	**3.31**	**55**	*e*P	**Pb**	**20 01 37.2**	**-2.5**
VCA				*e*S	**Sb**	**20 02 21.2**	**+1.4**
VCA				IAML		20 02 34.2	
	comp=Z,344nm,0.6s						
BO01	**Tunca**	**3.69**	**177**	*e*P	**Pn**	**20 01 37.8**	**+0.3**
BO01				*e*S	**Sn**	**20 02 23.2**	**+2.6**
ACLC	**CERRO LA CRUZ**	**3.96**	**72**	*e*P	**Pn**	**20 01 45.0**	**+3.6**
ACLC				*e*P	Pb	20 01 45.2	-5.6
ACLC				*e*S	**Sb**	**20 02 36.2**	**-2.3**
ACLC				IAML		20 02 42.8	
	comp=Z,371nm,0.5s						
ACHE	**Chepes**	**4.00**	**98**	*e*P	**Pn**	**20 01 44.9**	**+3.0**
ACHE				*e*S	**Sb**	**20 02 36.5**	**-3.0**
BO02	**Sierra Bellavi**	**4.11**	**174**	*e*P	**Pn**	**20 01 44.1**	**+0.7**
BO02				*e*S	**Sb**	**20 02 38.2**	**-4.5**
BO02				IAML		20 02 46.9	
	comp=Z,98nm,0.3s						
APLL	**PUNTA DE LOS L**	**4.11**	**87**	*e*P	**Pn**	**20 01 47.0**	**+3.5**
APLL				*e*S	**Sb**	**20 02 45.0**	**+2.3**
AC02	**Maricunga**	**4.28**	**27**	*e*P	**Pn**	**20 01 48.4**	**+2.2**
AC02				*e*S	**Sb**	**20 02 46.2**	**-1.9**
AC02				IAML		20 02 57.7	
	comp=Z,52nm,1.1s						
RFA	**San Rafael**	**4.71**	**150**	*e*P	**Pn**	**20 01 48.7**	**-2.9**
RFA				*e*P	Pb	20 01 53.9	-10

TAP 11 20:09:39.6,24.°24N×121.°75E,h12km,ML1.1,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.07**	**356**	*e*P	Pg	20 09 42.5	+0.3
	baz=2.0						
EHP				*e*S	Sg	20 09 45.2	+1.1
	baz=2.0						
EAHA	**Aohua**	**0.09**	**356**	*i* P	Pg	20 09 43.0	+0.6
	baz=356						
EAHA				*i* S	Sg	20 09 45.3	+0.9
	baz=356						
ETL	**Fush Village**	**0.14**	**236**	P	Pb	20 09 43.7	-0.4
	baz=235						
ETL				S	Sg	20 09 46.7	+1.2
	baz=235						
NACB	**Ninganchiao**	**0.15**	**246**	P	Pg	20 09 43.7	+0.5
	baz=245						
NACB				*i* S	Sg	20 09 47.0	+1.2
	baz=245						
ENA	**Nanau**	**0.19**	**359**	*i* P	Pb	20 09 44.5	-0.5
ENA				S	Sg	20 09 48.2	+1.4
EWUT	**Wuta**	**0.21**	**8**	*e*P	Pb	20 09 44.8	-0.5
	baz=8.0						
EWUT				*e*S	Sg	20 09 48.6	+1.3
	baz=8.0						
ETLH	**Xiulin Townshi**	**0.24**	**263**	P	Pg	20 09 45.3	+0.6
	baz=263						
ETLH				*e*S	Sg	20 09 49.4	+1.1
	baz=263						
LATG	**Datong**	**0.36**	**326**	*i* P	Pb	20 09 47.5	-0.5
	baz=326						
LATG				S	Sb	20 09 53.7	+0.1
	baz=326						
NNSB	**Datong**	**0.38**	**300**	*e*P	Pb	20 09 48.2	-0.2
	baz=300						
NNSB				*i* S	Sb	20 09 54.1	-0.2
	baz=300						
NNS	**Nan Shan**	**0.40**	**301**	*e*P	Pb	20 09 48.3	-0.3
	baz=301						
NNS				S	Sb	20 09 54.2	-0.4
	baz=301						
NDT	**Datong Townshi**	**0.42**	**330**	*e*P	Pb	20 09 49.2	+0.3
	baz=329						
NDT				*i* S	Sb	20 09 55.5	+0.2
	baz=329						
FUSS	**Fushou**	**0.46**	**272**	P	Pb	20 09 49.5	-0.2
	baz=271						
TDCB	**Techi**	**0.54**	**272**	P	Pb	20 09 50.9	-0.1
	baz=271						
TDCB				*e*S	Sb	20 09 58.4	-0.4
	baz=271						
YHNB	**Yeheng**	**0.55**	**322**	P	Pb	20 09 51.3	+0.1
	baz=322						
YHNB				S	Sb	20 09 59.1	+0.1
	baz=322						
CHGB	**Renai**	**0.55**	**252**	*e*P	Pn	20 09 52.5	-0.9
	baz=251						
CHGB				S	Sb	20 09 59.7	+0.4
	baz=251						
NSK	**Sanguang**	**0.56**	**321**	*e*P	Pg	20 09 50.1	-0.5
	baz=321						
NSK				*i* S	Sb	20 09 59.5	+0.1
	baz=321						
WARBT	**Fenglin Townsh**	**0.61**	**213**	*e*P	Pg	20 09 51.6	0.0
	baz=212						
WARBT				*e*S	Sg	20 09 59.7	+0.1
	baz=212						
WUSB	**Renai**	**0.62**	**247**	P	Pb	20 09 52.5	0.0
	baz=247						
WUSB				S	Sb	20 10 01.6	+0.4
	baz=247						

JMA 11 20:10:23.0±0.2,24.°2N±0.°3×123.°8E±0.°4,h16km±1km, MV0.3/7,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.13**	**315**	P	Pg	20 10 26.8	0.0
IRIF				*e*S	Sg	20 10 29.1	-0.1
JKRS	**Kuro-shima**	**0.16**	**92**	*i* P	Pg	20 10 27.1	0.0
JKRS				*e*S	Sg	20 10 30.3	+0.4
HATJ	**Hateruma jima**	**0.19**	**187**	P	Pg	20 10 27.4	-0.1
HATJ				*e*S	Sg	20 10 30.7	+0.2
JIJ	**Ishigaki jima**	**0.31**	**67**	P	Pg	20 10 29.3	-0.3
JIJ				*e*S	Sg	20 10 33.7	-0.3
JISG	**Ishigakijimahi**	**0.56**	**52**	*e*P	Pg	20 10 34.1	0.0
JISG				*e*S	Sb	20 10 41.9	-0.3
YOJ	**Yonaguni jima**	**0.78**	**286**	*e*S	Sg	20 10 47.5	-1.0

IDC 11 20:19:20.5±4.3,18.°65S×176.°86W,h0km,mb3.8/4, mbtmp3.8/4,Error ellipse: s-maj=183.6km s-min=36.1km az=139.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.58**	**242**	P	P	20 26 53.3	-0.4
	0.9nm,0.4s,baz=76,slow=12,SNR=6.2						
	0.9nm,0.4s						
WRA	**Warramunga Arr**	**45.95**	**260**	P	P	20 27 45.7	+0.1
	0.4nm,0.3s,baz=97,slow=7.7,SNR=28						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**46.02**	**255**	P	P	20 27 46.0	-0.1
	2.9nm,0.6s,baz=87,slow=7.9,SNR=36						
	2.9nm,0.6s						
ILAR	**Eielson Array**	**86.28**	**12**	P	P	20 32 03.6	-0.1
	0.1nm,0.5s,baz=222,slow=5.2,SNR=4.3						
	0.1nm,0.5s						

JMA 11 20:21:44.1±0.3,24.°2N±0.°5×123.°8E±0.°5,h19km±2km, MV0.5/5,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.14**	**316**	P	Pg	20 21 48.3	0.0
IRIF				*e*S	Sg	20 21 51.1	-0.1
JKRS	**Kuro-shima**	**0.16**	**89**	*i* P	Pg	20 21 48.5	-0.1
JKRS				*e*S	Sg	20 21 51.6	0.0
HATJ	**Hateruma jima**	**0.18**	**189**	P	Pg	20 21 48.7	-0.1
HATJ				*e*S	Sg	20 21 52.1	0.0
JIJ	**Ishigaki jima**	**0.31**	**65**	*e*P	Pg	20 21 50.7	-0.2
JISG	**Ishigakijimahi**	**0.56**	**51**	*e*S	Sg	20 22 03.9	+1.1

TAP 11 20:22:35.7,24.°93N×122.°17E,h9km±1km,ML1.7,C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.19**	**296**	*i* P	Pg	20 22 39.5	-0.1
	baz=296						
TWB1				S	Sg	20 22 42.1	-0.1
	baz=296						
SXI1	**Grass Mountain**	**0.32**	**302**	P	Pg	20 22 42.2	+0.1
	baz=301						
SXI1				S	Sg	20 22 46.8	+0.5
	baz=301						
TIPB	**Shuangxi**	**0.32**	**278**	P	Pg	20 22 41.8	-0.3
	baz=278						
TIPB				*e*S	Sg	20 22 46.6	+0.3
	baz=278						
TWC	**Suao**	**0.43**	**223**	*e*P	Pg	20 22 42.6	-1.6
	baz=221						
TWE	**Neicheng**	**0.50**	**246**	*e*P	Pg	20 22 45.8	+0.3
	baz=244						
EOS2	**EOS2**	**0.51**	**174**	P	Pg	20 22 45.4	-0.2
	baz=173						
EOS2				S	Sg	20 22 52.8	+0.6
	baz=173						
EWUT	**Wuta**	**0.60**	**217**	*e*P	Pg	20 22 46.0	-1.3
	baz=216						
EWUT				*e*S	Sg	20 22 52.9	-2.3
	baz=216						
TWY	**Chenhua**	**0.62**	**304**	*e*P	Pg	20 22 46.9	-1.0
	baz=303						
NWLT	**Wulai**	**0.63**	**256**	*e*P	Pg	20 22 47.8	-0.1
	baz=256						
ENA	**Nanau**	**0.63**	**218**	*e*P	Pg	20 22 46.6	-1.3
	baz=217						
ENA				*e*S	Sg	20 22 53.8	-2.5
	baz=217						
EOS3	**EOS3**	**0.65**	**168**	*e*P	Pg	20 22 48.6	+0.3
	baz=168						
EOS3				*e*S	Sg	20 22 57.5	+0.7
	baz=168						
NDT	**Datong Townshi**	**0.68**	**242**	*e*P	Pg	20 22 49.1	+0.2
	baz=241						
LATG	**Datong**	**0.71**	**237**	*e*P	Pg	20 22 49.8	+0.4
	baz=236						
YHNB	**Yeheng**	**0.77**	**251**	*e*P	Pg	20 22 49.6	-0.9
	baz=250						
EOS4	**EOS4**	**0.81**	**171**	*e*P	Pg	20 22 51.5	+0.1
	baz=170						
EOS4				*e*S	Sg	20 23 02.0	+0.1
	baz=170						
NNSB	**Datong**	**0.87**	**236**	*e*P	Pg	20 22 52.5	0.0
	baz=235						
NNSB				*e*S	Sg	20 23 04.1	+0.1
	baz=235						
YOJ	**Yonaguni jima**	**0.89**	**121**	*e*P	Pg	20 22 52.2	-0.7
	baz=121						
NACB	**Ninganchiao**	**0.92**	**215**	*e*P	Pg	20 22 51.7	-1.7
	baz=215						
ETLH	**Xiulin Townshi**	**0.95**	**221**	*e*P	Pg	20 22 52.7	-1.4
	baz=221						
FUSS	**Fushou**	**1.08**	**232**	*e*P	Pg	20 22 55.3	-1.3
	baz=231						
FUSS				*e*S	Sg	20 23 09.8	-0.9
	baz=231						
TDCB	**Techi**	**1.14**	**234**	*e*P	Pg	20 22 56.8	-0.9
	baz=233						
TDCB				*e*S	Sg	20 23 12.1	-0.4
	baz=233						
CHGB	**Renai**	**1.25**	**227**	*e*P	Pn	20 22 58.9	-0.8
	baz=226						
CHGB				*e*S	Sb	20 23 14.9	-1.1
	baz=226						
WUSB	**Renai**	**1.34**	**226**	*e*P	Pn	20 23 00.3	-0.4
	baz=225						
WUSB				*e*S	Sb	20 23 17.8	-0.7
	baz=225						

CATAC 11 20:23:23.9±0.8,7.°87N×82.°67W,h13km±3km,ML2.8, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCOL	**Caracol de Cor**	**0.62**	**331**	*i* P	Pb	20 23 37.2	+0.7
CCOL				*i* S	Sn	20 23 47.5	-0.6
CCOL				IAML		20 23 49.8	
	comp=Z,790nm,1.0s						
CDITO	**Canoas**	**0.73**	**344**	*i* P	Pg	20 23 37.8	-0.3
CDITO				*i* S	Sb	20 23 48.9	+0.4
PIRO	**Carate, Puerto**	**0.85**	**309**	*i* P	Pg	20 23 38.5	-1.8
PIRO				*i* S	Sb	20 23 52.3	+0.5
PIRO				IAML		20 23 56.3	
	comp=Z,260nm,1.0s						
BRU2	**Volcan**	**0.92**	**359**	*i* P	Pg	20 23 41.0	-0.8
BRU2				*i* S	Sg	20 23 53.5	-0.4
BRU2				IAML		20 24 43.2	
	comp=Z,130nm,1.0s						
POTG	**Potrero Grande**	**1.26**	**340**	*i* P	Pn	20 23 47.1	-0.2
POTG				*i* S	Sg	20 24 04.4	-0.2
PLAN	**Los Planes de**	**1.28**	**309**	*i* P	Pn	20 23 46.2	-1.3
PLAN				*i* S	Sb	20 24 03.7	-0.5
PLAN				IAML		20 25 03.3	
	comp=Z,330nm,1.0s						
SRBA	**San Rafael, Bu**	**1.52**	**333**	*i* P	Pn	20 23 50.8	-0.1
SRBA				*i* S	Sn	20 24 10.3	-0.3
OCHAL	**Ojochal**	**1.56**	**322**	*i* P	Pn	20 23 51.8	+0.5
OCHAL				*i* S	Sn	20 24 11.8	+0.4
PEZE	**Perez Zeledon,**	**1.81**	**327**	*i* P	Pb	20 23 56.1	-0.8
PEZE				*i* S	Sn	20 24 17.7	0.0
PEZE				IAML		20 25 21.9	
	comp=Z,100nm,1.0s						
CDM	**Cerro de Muert**	**1.99**	**327**	*i* P	Pn	20 23 58.2	+0.4
CDM				*i* S	Sn	20 24 23.4	+0.6
CDM				IAML		20 25 22.2	
	comp=Z,39nm,1.0s						
LCR2	**La Lucha 2**	**2.28**	**325**	*i* P	Pb	20 24 04.2	-0.9
LCR2				*i* S	Sn	20 24 29.6	0.0

*CATAC **11** 20:24:19.7±0.7,7.°88N×82.°67W,h11km±2km,ML2.9*
*UPA **11** 20:24:20.4±0.5,7.°93N×82.°60W,h42km±3km,ML3.9, MW3.8*
ISC 11 20:24:17.9±2.8,7.°9N±0.°1×82.°61W±0.°06,h13km±14km,n19, σ0s77/35,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.56**	**16**	*e*P	**Pn**	**20 24 31.0**	**-0.8**
DVD				*e*S	**Sb**	**20 24 39.1**	**+1.3**
CCOL	**Caracol de Cor**	**0.63**	**325**	*i* P	**Pn**	**20 24 32.6**	**-0.1**
CCOL				*i* S	**Sn**	**20 24 42.9**	**+0.2**
CCOL				IAML		20 24 45.0	
	comp=Z,1μm,1.0s						
CDITO	**Canoas**	**0.73**	**339**	*e*P	**Pn**	**20 24 33.7**	**-0.3**
CDITO	**Canoas**	**0.73**	**339**	*i* P	**Pn**	**20 24 33.3**	**-0.7**
CDITO				*i* S	**Sn**	**20 24 44.1**	**-1.0**
CDITO				IAML		20 24 47.4	
	comp=Z,380nm,1.0s						
BCO2	**Palmira**	**0.83**	**5**	*e*P	**Pn**	**20 24 35.2**	**-0.3**
BCO2				AMP		20 24 36.3	
	comp=Z,4μm,0.1s						
BCO2				*e*S	**Sb**	**20 24 46.4**	**+0.9**
PIRO	**Carate, Puerto**	**0.89**	**305**	*i* P	**Pn**	**20 24 36.3**	**+0.1**
PIRO				*i* S	**Sb**	**20 24 47.2**	**+0.2**
PIRO				IAML		20 24 51.5	
	comp=Z,450nm,1.0s						
BRU2	**Volcan**	**0.90**	**355**	*e*P	**Pn**	**20 24 36.4**	**-0.1**
BRU2				*e*S	**Sb**	**20 24 48.7**	**+1.0**
BRU2	**Volcan**	**0.90**	**355**	*i* P	**Pb**	**20 24 35.9**	**+0.3**
BRU2				*i* S	**Sn**	**20 24 49.1**	**-0.5**
BRU2				IAML		20 24 50.1	
	comp=Z,260nm,1.0s						
BC3P	**Paso Ancho**	**0.92**	**360**	*e*P	**Pb**	**20 24 36.4**	**+0.5**
CHGR2	**Aguacate**	**1.14**	**24**	*e*P	**Pb**	**20 24 39.3**	**-0.2**
CHGR2				*e*S	**Sb**	**20 24 53.5**	**-0.8**
POTG	**Potrero Grande**	**1.26**	**336**	*i* P	**Pg**	**20 24 42.5**	**+0.2**
POTG				IAML		20 24 42.8	
	comp=Z,500nm,1.0s						
POTG				*i* S	**Sn**	**20 24 59.6**	**+1.2**
PLAN	**Los Planes de**	**1.32**	**306**	*i* P	**Pn**	**20 24 41.8**	**-0.3**
PLAN				*i* S	**Sb**	**20 24 59.2**	**-0.3**
PLAN				IAML		20 25 04.8	
	comp=Z,340nm,1.0s						
SRBA	**San Rafael, Bu**	**1.53**	**331**	*i* P	**Pb**	**20 24 45.8**	**-0.5**
SRBA				*i* S	**Sb**	**20 25 05.6**	**-0.1**
SRBA				IAML		20 25 08.5	
	comp=Z,55nm,1.0s						
OCHAL	**Ojochal**	**1.58**	**319**	*i* P	**Pb**	**20 24 47.0**	**-0.1**
OCHAL				IAML		20 24 54.4	
	comp=Z,3.0nm,1.0s						
OCHAL				*i* S	**Sb**	**20 25 07.0**	**-0.1**
PEZE	**Perez Zeledon,**	**1.82**	**325**	*i* P	**Pb**	**20 24 51.7**	**+0.4**
PEZE				*i* S	**Sb**	**20 25 13.8**	**-0.3**
PEZE				IAML		20 26 26.8	
	comp=Z,340nm,1.0s						
CDM	**Cerro de Muert**	**2.01**	**325**	*i* P	**Pn**	**20 24 52.9**	**+0.8**
CDM				*i* S	**Sb**	**20 25 19.2**	**-0.7**
CDM				IAML		20 25 21.2	
	comp=Z,39nm,1.0s						
LCR2	**La Lucha 2**	**2.30**

GUC 11 20:28:16.8±0.4, 39°11S×71°33W, h160km±10km, ML4.2, 1C, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LC02	**Puerto Saavedr**	**1.63**	**280**	*e*P	Pn	20 28 48.1	-0.3
LC02				*e*S	Sn	20 29 12.4	-0.4
LC02	comp=N,3μm,0.2s			IAML		20 29 15.3	
BI04	**Isla Mocha**	**2.11**	**288**	*e*P	Pn	20 28 53.5	-0.3
BI04				*e*S	Sn	20 29 21.5	-0.8
BI04	comp=E,2μm,0.2s			IAML		20 29 22.6	
BI02	**San Fabin de**	**2.44**	**1**	*e*P	Pn	20 28 57.7	0.0
BI05	**Punta Hualpn**	**2.77**	**327**	*e*P	Pn	20 29 01.8	0.0
BI05				*e*S	Sn	20 29 35.8	-0.8
BI05	comp=E,763nm,0.2s			IAML		20 29 39.5	
ML02	**Panimavida**	**3.34**	**359**	*e*P	Pn	20 29 09.1	+0.3
ML02				*e*S	Sn	20 29 49.9	+0.6
ML02	comp=E,163nm,0.5s			IAML		20 29 53.0	
GO05	**Huala**	**4.12**	**353**	*e*P	Pn	20 29 18.1	-0.8
GO05				*e*S	Sn	20 30 06.3	-0.9
BO02	**Sierra Bellavi**	**4.33**	**6**	*e*P	Pn	20 29 21.0	-0.6
BO02				*e*S	Sn	20 30 10.2	-2.0
BO03	**Pichilemu**	**4.63**	**354**	*e*P	Pn	20 29 24.1	-1.4
BO04	**La Punta**	**5.14**	**7**	*e*P	Pn	20 29 30.6	-1.7
MT01	**Popeta**	**5.23**	**1**	*e*P	Pn	20 29 30.7	-2.8
LMEL	**Las Melosas**	**5.33**	**10**	*e*P	Pn	20 29 34.4	-0.5

*MOS **11** 20:28:52.4, 42°.31N×45°.65E, h21km, MPVA3.4*
*NORS **11** 20:28:53.0, 42°.26N×45°.61E, h8km, MPVA3.5*
*TIF **11** 20:28:53.4, 42°.48N×45°.55E, h23km±1km*
*DRS **11** 20:28:55.2, 42°.32N×45°.61E, h16km*

ISC 11 20:28:54.1±1.0, 42°.36N±0°.02×45°.60E±0°.02, h10km±9km, n39, σ1§28/77, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHTL	**Shatili**	**0.45**	**312**	P	**Pg**	**20 29 01.4**	**-1.5**
SHTL				S	**Sg**	**20 29 05.7**	**-3.1**
CHRG	**Chargali**	**0.50**	**267**	P	**Pg**	**20 29 03.2**	**-0.6**
CHRG				S	**Sg**	**20 29 09.8**	**-0.6**
LGD	**Lagodekhi**	**0.71**	**137**	P	**Pb**	**20 29 07.4**	**-1.1**
DVE	**Vedeno**	**0.71**	**33**	*e*Pg	**Pb**	**20 29 07.5**	**-1.2**
DVE				*e*Sg	**Sg**	**20 29 17.4**	**+0.2**
GUDG	**Gudauri**	**0.84**	**278**	P	**Pb**	**20 29 08.1**	**-2.7**
GUDG				S	**Sb**	**20 29 20.7**	**-1.5**
GUDG	**Gudauri**	**0.84**	**278**	*i* Pg	**Pb**	**20 29 09.0**	**-1.8**
GUDG				*e*Sg	**Sb**	**20 29 21.4**	**-0.8**
XNZR	**Khunzakh**	**0.84**	**77**	*i* Pg	**Pb**	**20 29 10.1**	**-0.7**
XNZR				*e*Sg	**Sb**	**20 29 21.5**	**-0.7**
MTEO	**Meteo**	**0.85**	**293**	P	**Pb**	**20 29 09.4**	**-1.8**
MTEO				S	**Sb**	**20 29 20.1**	**-2.8**
GROC	**Groznyy**	**0.86**	**10**	*e*Pg	**Pg**	**20 29 11.4**	**+0.8**
GROC				*e*Sg	**Sn**	**20 29 24.4**	**-0.4**
KMGR	**Komgaron**	**0.88**	**323**	*e*Pg	**Pb**	**20 29 11.7**	**+0.1**
KMGR				*e*Sg	**Sn**	**20 29 25.6**	**+0.1**
DGRG	**David-gareji**	**0.92**	**191**	P	**Pn**	**20 29 13.4**	**+0.3**
UNCR	**Uncukul**	**0.95**	**68**	*e*Pg	**Pb**	**20 29 11.6**	**-1.2**
UNCR				*e*Sg	**Sb**	**20 29 24.3**	**-1.1**
VLKR	**Vladikavkaz**	**0.97**	**316**	*e*Pg	**Pb**	**20 29 12.3**	**-0.7**
VLKR				*e*Pg	**Pb**	**20 29 12.3**	**-0.7**
VLKR				*e*Sg	**Sn**	**20 29 27.4**	**-0.2**
VLKR				*e*Sg	**Sn**	**20 29 27.4**	**-0.2**
GNBR	**Gunib**	**1.01**	**88**	*e*Pg	**Pb**	**20 29 12.8**	**-1.0**
GNBR				*e*Sg	**Sb**	**20 29 26.6**	**-0.5**
DLMR	**Dylym**	**1.04**	**47**	*e*Pg	**Pb**	**20 29 13.6**	**-0.7**
DLMR				*e*Sg	**Sb**	**20 29 27.4**	**-0.5**
ARKR	**Arakani**	**1.06**	**76**	*e*Pg	**Pb**	**20 29 13.8**	**-0.8**
ARKR				*e*Sg	**Sb**	**20 29 28.0**	**-0.5**
LACR	**Lac**	**1.07**	**296**	*e*Pg	**Pb**	**20 29 13.2**	**-1.5**
LACR				*e*Sg	**Sb**	**20 29 28.1**	**-0.8**
KRNR	**Karanay**	**1.07**	**64**	*e*Pg	**Pb**	**20 29 14.1**	**-0.8**
KRNR				*e*Sg	**Sg**	**20 29 28.8**	**0.0**
DBC	**Dubki**	**1.12**	**53**	*e*Pg	**Pb**	**20 29 14.7**	**-1.0**
DBC				*e*Sg	**Sg**	**20 29 30.7**	**+0.4**
KMKR	**Kumukh**	**1.14**	**101**	*e*Pg	**Pb**	**20 29 14.1**	**-1.8**
KMKR				*e*Sg	**Sb**	**20 29 28.4**	**-2.4**
BUJR	**Buynaksk**	**1.21**	**67**	*e*Pg	**Pb**	**20 29 16.9**	**-0.2**
BUJR				*e*Sg	**Sg**	**20 29 33.3**	**+0.3**
ARNR	**Ardon**	**1.27**	**311**	*e*Pg	**Pb**	**20 29 18.8**	**+0.7**
ARNR				*e*Sg	**Sg**	**20 29 37.5**	**+2.6**
VSHL	**Vashlovani**	**1.28**	**152**	P	**Pg**	**20 29 19.5**	**+1.0**
VSHL				S	**Sg**	**20 29 39.1**	**+4.0**
BTKR	**Batakoyurt**	**1.28**	**323**	*e*Pg	**Pg**	**20 29 20.4**	**+1.8**
BTKR				*e*Sg	**Sg**	**20 29 38.9**	**+3.7**
KORR	**Kora**	**1.34**	**303**	*e*Pg	**Pb**	**20 29 19.5**	**+0.1**
KORR				*e*Sg	**Sg**	**20 29 39.2**	**+1.9**
TRLG	**Trialeti**	**1.38**	**234**	P	**Pn**	**20 29 19.6**	**+0.1**
TRLG				S	**Sg**	**20 29 38.9**	**+0.3**
ALIG	**Mtskhetisjvari**	**1.47**	**261**	P	**Pn**	**20 29 20.6**	**-0.1**
ALIG				S	**Sb**	**20 29 40.1**	**-0.1**
DMNI	**Dmanisi**	**1.47**	**226**	P	**Pn**	**20 29 20.8**	**0.0**
DMNI				S	**Sb**	**20 29 41.0**	**+0.6**
BRNG	**Burnasheti**	**1.51**	**242**	P	**Pb**	**20 29 22.0**	**-0.3**
BRNG				S	**Sg**	**20 29 42.7**	**0.0**
URKR	**Urkarakh**	**1.52**	**97**	*e*Pg	**Pn**	**20 29 21.4**	**-0.1**
URKR				*e*Sg	**Sb**	**20 29 41.4**	**-0.5**
SGKR	**Sergokala**	**1.53**	**85**	*e*Pg	**Pb**	**20 29 21.7**	**-0.8**
SGKR				*e*Sg	**Sb**	**20 29 42.0**	**+0.1**
DIGR	**Digorskoe uzhe**	**1.58**	**291**	*e*Pg	**Pn**	**20 29 22.7**	**+0.3**
DIGR				*e*Sg	**Sg**	**20 29 45.5**	**+0.4**
LSNR	**Lesken**	**1.60**	**306**	*e*Pg	**Pb**	**20 29 24.3**	**+0.7**
LSNR				*e*Sg	**Sg**	**20 29 46.9**	**+1.5**
ONI	**Oni**	**1.60**	**279**	P	**Pb**	**20 29 23.3**	**-0.5**
PRTR	**Priterechnaya**	**1.69**	**326**	*e*Pg	**Pb**	**20 29 26.3**	**+1.0**
PRTR				*e*Sg	**Sg**	**20 29 49.7**	**+1.1**
AKT	**Akhty**	**1.82**	**118**	*e*Pg	**Pn**	**20 29 25.8**	**+0.3**
AKT				*e*Sg	**Sb**	**20 29 49.8**	**-0.5**
BGD	**Bogdanovka**	**1.85**	**235**	P	**Pn**	**20 29 25.9**	**-0.2**
BGD				S	**Sb**	**20 29 52.1**	**+0.7**
TKB	**Tkibuli**	**1.93**	**271**	P	**Pb**	**20 29 28.8**	**-0.6**
TKB				S	**Sb**	**20 29 54.7**	**+1.2**
ABS	**Abastumani**	**2.16**	**255**	P	**Pb**	**20 29 32.2**	**-1.2**
ABS				S	**Sb**	**20 30 01.5**	**+1.3**

*IDC **11** 20:37:54.9±2.0, 6°.14S×154°.70E, h395km±20km, mb3.5/17, mbtmp4.3/20, Error ellipse: s-maj=19.0km s-min=11.1km az=84.0*
*NEIC **11** 20:37:55.9±1.8, 6°.2S±0°.1×154°.6E±0°.1, h404km±8km, mb4.2/61, Error ellipse: s-maj=18.0km s-min=14.1km az=65.0*

ISC 11 20:37:55.1±0.5, 6°.13S±0°.06×154°.59E±0°.09, h400km, n92, σ0§97/95, mb4.2/45, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.09**	**308**		**Pn**	**20 38 58.6**	**-0.5**
PMG	**Port Moresby**	**8.05**	**246**	P	**P**	**20 39 52.6**	**+1.5**
PMG	**Port Moresby**	**8.05**	**246**	P	**P**	**20 39 52.7**	**+1.6**
	16nm,0.6s,baz=71,slow=6.3,SNR=6.7						
MANU	**Manus Island**	**8.27**	**299**		**P**	**20 39 55.0**	**+1.4**
COEN	**Coen**	**13.66**	**234**	P	**Pn**	**20 40 56.0**	**+0.4**
CTA	**Charters Tower**	**16.06**	**210**	P	**P**	**20 41 20.6**	**+1.4**
	9.0nm,0.7s,baz=38,slow=8.0,SNR=12						
CTAO	**Charters Tower**	**16.06**	**210**	P	**P**	**20 41 20.3**	**+1.2**
DZM	**Mont Dzumac**	**19.55**	**145**	P	**P**	**20 41 55.3**	**-0.2**
DZM				IAmb	IAmb	20 41 57.8	
	comp=Z,16nm,1.0s						
DZM	**Mont Dzumac**	**19.55**	**145**	P	**P**	**20 41 55.1**	**-0.5**
	comp=Z,11nm,0.9s,baz=251,slow=8.0,SNR=7.4						
FAKI	**Fak Fak**	**22.50**	**277**	P	**P**	**20 42 22.6**	**+0.1**
WR0	**Warramunga Arr**	**23.84**	**233**	P	**P**	**20 42 34.9**	**+0.4**
WR0				IAmb	IAmb	20 42 36.5	
	comp=Z,17nm,1.2s						
WB0	**Warramunga Arr**	**23.86**	**234**	P	**P**	**20 42 34.7**	**+0.1**
WB0				IAmb	IAmb	20 42 36.1	
	comp=Z,7.7nm,0.8s						
WB2	**Warramunga Arr**	**23.98**	**233**	P	**P**	**20 42 36.3**	**+0.5**
WB2				IAmb	IAmb	20 42 37.2	
	comp=Z,15nm,1.1s						
WRA	**Warramunga Arr**	**23.99**	**233**	P	**P**	**20 42 35.8**	**-0.2**
WRA	**Warramunga Arr**	**23.99**	**233**	P	**P**	**20 42 36.2**	**+0.3**
	comp=Z,6.1nm,0.7s,baz=59,slow=9.4,SNR=39						
	comp=Z,6.1nm,0.7s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**24.07**	**252**	P	**P**	**20 42 37.3**	**+0.7**
MTN				IAmb	IAmb	20 42 37.5	
	comp=Z,17nm,1.0s						
AS31	**Alice Springs**	**26.45**	**227**	P	**P**	**20 42 57.8**	**0.0**
ASAR	**Alice Springs**	**26.46**	**227**	P	**P**	**20 42 57.5**	**-0.3**
ASAR	**Alice Springs**	**26.46**	**227**	P	**P**	**20 42 57.9**	**+0.1**
	comp=Z,6.9nm,0.3s,baz=56,slow=9.3,SNR=149						
ASAR				PcP	**PcP**	**20 46 12.2**	**+1.2**
	comp=Z,1.0nm,0.6s,baz=52,slow=3.0,SNR=5.0						
ASAR				S	**S**	**20 46 59.6**	**-2.4**
	comp=Z,0.5nm,0.5s,baz=58,slow=14,SNR=4.6						
ASAR				ScP	**ScP**	**20 49 13.2**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=66,slow=3.2,SNR=2.3						
	comp=Z,6.9nm,0.3s						
KNRA	**Kununurra**	**27.05**	**247**	P	**P**	**20 43 03.2**	**+0.2**
STKA	**Stephens Creek**	**28.35**	**204**	P	**P**	**20 43 14.3**	**-0.1**
STKA	**Stephens Creek**	**28.35**	**204**	P	**P**	**20 43 14.4**	**+0.1**
	comp=Z,3.2nm,0.6s,baz=10,slow=8.6,SNR=14						
	comp=Z,3.2nm,0.6s						
SOEI	**Soe**	**30.24**	**261**	P	**P**	**20 43 31.9**	**+0.6**
SOEI				IAmb	IAmb	20 43 55.5	
	comp=Z,12nm,0.9s						
FITZ	**Fitzroy Crossi**	**30.64**	**245**	P	**P**	**20 43 34.4**	**-0.3**
FITZ				IAmb	IAmb	20 43 35.1	
	comp=Z,6.0nm,0.6s						
BBOO	**Buckleboo**	**31.66**	**211**	P	**P**	**20 43 43.2**	**-0.1**
MMRI	**Maumere**	**32.18**	**264**	P	**P**	**20 43 47.3**	**-0.6**
FORT	**Forrest**	**34.95**	**222**	P	**P**	**20 44 11.6**	**+0.2**
MBWA	**Marble Bar**	**36.90**	**243**	P	**P**	**20 44 27.7**	**-0.2**
MBWA				IAmb	IAmb	20 44 29.1	
	comp=Z,18nm,1.1s						
PSA00	**Pilbara Seismi**	**36.94**	**242**	P	**P**	**20 44 27.2**	**-1.0**
PSA00	**Pilbara Seismi**	**36.94**	**242**	P	**P**	**20 44 27.0**	**-1.2**
PSA00				IAmb	IAmb	20 44 46.4	
	comp=Z,40nm,1.5s						
BFZ	**Birch Farm**	**39.49**	**154**	P	**P**	**20 44 47.5**	**-1.4**
BFZ				IAmb	IAmb	20 45 28.8	
	comp=Z,25nm,1.2s						
LTZ	**Lake Taylor**	**39.71**	**160**	P	**P**	**20 44 50.2**	**-0.5**
LTZ				IAmb	IAmb	20 45 10.0	
	comp=Z,19nm,1.3s						
JAGI	**Jajag, Banyuwa**	**40.17**	**264**	P	**P**	**20 44 53.1**	**-1.7**
JAGI				IAmb	IAmb	20 44 55.1	
	comp=Z,12nm,0.7s						
KKM	**Kota Kinabalu**	**40.17**	**287**	P	**P**	**20 44 55.3**	**+0.4**
KKM				IAmb	IAmb	20 44 56.7	
	comp=Z,18nm,0.8s						
DCZ	**Deep Cove**	**40.68**	**166**	P	**P**	**20 44 57.3**	**-1.1**
MLZ	**Mavora Lakes**	**40.82**	**165**	P	**P**	**20 44 59.8**	**+0.2**
MLZ				IAmb	IAmb	20 45 21.3	
	comp=Z,22nm,1.2s						
MORW	**Morawa**	**42.94**	**233**	P	**P**	**20 45 16.0**	**-0.8**
MORW				IAmb	IAmb	20 45 28.1	
	comp=Z,16nm,1.3s						
UGM	**Wanagama**	**43.76**	**265**	P	**P**	**20 45 23.5**	**0.0**
JMN	**Monobe**	**44.23**	**335**	P	**P**	**20 45 27.5**	**+0.6**
JMN				IAmb	IAmb	20 45 29.0	
	comp=Z,14nm,0.8s						
JNU	**Nakatsue**	**45.07**	**332**	P	**P**	**20 45 33.5**	**+0.1**
JNU				IAmb	IAmb	20 45 35.3	
	comp=Z,7.8nm,0.8s						
JNU	**Nakatsue**	**45.07**	**332**	P	**P**	**20 45 34.0**	**+0.7**
	comp=Z,6.0nm,0.7s,baz=108,slow=3.2,SNR=3.9						
	comp=Z,6.0nm,0.7s						
MJAR	**Matsushiro Arr**	**45.14**	**341**	P	**P**	**20 45 33.6**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=172,slow=7.1,SNR=4.4						
	comp=Z,1.8nm,0.8s						
KSRS	**Korea Array**	**49.99**	**332**	P	**P**	**20 46 11.4**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=141,slow=8.4,SNR=5.9						
	comp=Z,0.9nm,0.5s						
GSI	**Gunungsitoli**	**57.40**	**275**	P	**P**	**20 47 02.7**	**-1.4**
PEA0B	**Petropavlovsk-**	**59.07**	**2**	P	**P**	**20 47 14.1**	**-0.7**
PETK	**Petropavlovsk-**	**59.07**	**2**	P	**P**	**20 47 14.8**	**0.0**
PETK	**Petropavlovsk-**	**59.07**	**2**	P	**P**	**20 47 15.5**	**+0.7**
	comp=Z,4.7nm,0.9s,baz=150,slow=3.2,SNR=2.8						
	comp=Z,4.7nm,0.9s						
CRAI	**Chiangrai**	**59.37**	**298**	P	**P**	**20 47 15.0**	**-2.5**
CMAR	**Chiang Mai Arr**	**60.05**	**295**	P	**P**	**20 47 19.2**	**-2.9**
CMAR	**Chiang Mai Arr**	**60.05**	**295**	P	**P**	**20 47 23.4**	**+1.3**
	comp=Z,3.3nm,0.8s,baz=117,slow=5.2,SNR=30						
	comp=Z,3.3nm,0.8s						
CHTO	**Chiang Mai**	**60.17**	**296**	P	**P**	**20 47 21.1**	**-1.7**
CHTO				IAmb	IAmb	20 47 25.9	
	comp=Z,11nm,1.5s						
SONM	**Songino Array**	**68.40**	**327**	P	**P**	**20 48 15.7**	**+0.5**
SONM	**Songino Array**	**68.40**	**327**	P	**P**	**20 48 16.2**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=144,slow=6.2,SNR=7.3						
	comp=Z,1.0nm,0.8s						
YAK	**Yakutsk**	**70.63**	**348**	P	**P**	**20 48 27.2**	**-1.0**
YAK				IAmb	IAmb	20 48 30.1	
	comp=Z,6.4nm,1.0s						
VNDA	**Vanda**	**71.45**	**178**	P	**P**	**20 48 32.3**	**-0.6**
VNDA	**Vanda**	**71.45**	**178**	P	**P**	**20 48 34.1**	**+1.2**
	comp=Z,1.5nm,1.0s,baz=0.0,slow=4.0,SNR=2.6						
	comp=Z,1.5nm,1.0s						
PALK	**Pallekele**	**74.91**	**279**	P	**P**	**20 48 54.7**	**+0.6**
M16K	**Timber Creek**	**76.06**	**21**	P	**P**	**20 49 00.5**	**+0.9**
ANM	**Nome**	**76.52**	**17**	P	**P**	**20 49 02.8**	**+0.7**
ANM				IAmb	IAmb	20 49 15.9	
	comp=Z,6.0nm,1.4s						
J16K	**Anvik River**	**77.04**	**19**	P	**P**	**20 49 05.5**	**+0.6**
J16K				IAmb	IAmb	20 49 10.2	
	comp=Z,14nm,1.5s						
G16K	**Koyuk River**	**78.00**	**17**	P	**P**	**20 49 11.6**	**+1.5**
H17K	**Granite Mounta**	**78.41**	**18**	P	**P**	**20 49 13.3**	**+0.9**
H17K				IAmb	IAmb	20 49 16.9	
	comp=Z,7.2nm,1.5s						
F17K	**Baldwin Pennin**	**79.07**	**17**	P	**P**	**20 49 15.6**	**-0.3**
E18K	**Tukpahlearik C**	**79.95**	**16**	P	**P**	**20 49 21.1**	**+0.6**
CAST	**Castle Rocks**	**80.07**	**21**	P	**P**	**20 49 22.0**	**+0.7**
CAST				IAmb	IAmb	20 50 02.8	
	comp=Z,6.0nm,1.4s						
F19K	**Shaleruckik Mo**	**80.35**	**17**	P	**P**	**20 49 22.3**	**-0.4**
C18K	**Utukok River**	**80.66**	**15**	P	**P**	**20 49 23.9**	**-0.5**
E19K	**Redstone River**	**80.92**	**17**	P	**P**	**20 49 27.3**	**+1.6**
E19K				IAmb	IAmb	20 49 28.0	
	comp=Z,3.4nm,0.7s						
IMAR	**Indian Mountai**	**81.05**	**19**	P	**P**	**20 49 26.9**	**+0.5**
F20K	**Avaraart Lake**	**81.10**	**18**	P	**P**	**20 49 27.2**	**+0.6**
D19K	**Kuna River**	**81.37**	**16**	P	**P**	**20 49 28.7**	**+0.6**
G21K	**Allakaket**	**81.45**	**19**	P	**P**	**20 49 29.9**	**+1.5**
G21K				IAmb	IAmb	20 49 39.7	
	comp=Z,5.8nm,1.4s						
GLB	**Gilahina Butte**	**82.29**	**25**	P	**P**	**20 49 32.8**	**-0.1**
MK31	**Makanchi Array**	**82.50**	**319**	P	**P**	**20 49 34.0**	**-0.3**
MK31				IAmb	IAmb	20 49 36.3	
	comp=Z,3.5nm,0.8s						
MKAR	**Makanchi Array**	**82.50**	**319**	P	**P**	**20 49 35.7**	**+1.4**
MKAR	**Makanchi Array**	**82.50**	**319**	P	**P**	**20 49 35.6**	**+1.3**
	comp=Z,3.6nm,0.8s,baz=106,slow=5.7,SNR=44						
	comp=Z,3.6nm,0.8s						
B20K	**Meade River**	**82.64**	**15**	P	**P**	**20 49 35.4**	**+1.0**
MAKZ	**Makanchi**	**82.71**	**319**	P	**P**	**20 49 36.4**	**+1.1**
MAKZ				IAmb	IAmb	20 49 37.3	
	comp=Z,5.3nm,0.8s						
ILAR	**Eielson Array**	**82.72**	**22**	P	**P**	**20 49 34.6**	**-0.4**
ILAR	**Eielson Array**	**82.72**	**22**	P	**P**	**20 49 34.3**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=252,slow=5.5,SNR=8.3						
	comp=Z,0.7nm,0.8s						
H24K	**Noodor Dome**	**82.93**	**20**	P	**P**	**20 49 36.9**	**+0.8**
H24K				IAmb	IAmb	20 49 48.5	
	comp=Z,5.5nm,1.4s						
E22K	**Anaktuvuk Pass**	**82.95**	**18**	P	**P**	**20 49 37.3**	**+1.2**
E22K				IAmb	IAmb	20 50 07.0	
	comp=Z,5.5nm,1.5s						
ZALV	**Zalesovo Beam**	**83.25**	**326**	P	**P**	**20 49 37.6**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=106,slow=5.6,SNR=5.1						
	comp=Z,0.8nm,0.5s						
QSPA	**South Pole Qui**	**83.84**	**180**	P	**P**	**20 49 41.2**	**+0.4**
QSPA				IAmb	IAmb	20 50 20.7	
	comp=Z,6.0nm,1.3s						
QSPA	**South Pole Qui**	**83.84**	**180**	P	**P**	**20 49 41.4**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=45,slow=1.9,SNR=12						
	comp=Z,1.6nm,0.6s						
MAW	**Mawson**	**85.03**	**203**	P	**P**	**20 49 46.3**	**-0.2**
MAW	**Mawson**	**85.03**	**203**	P	**P**	**20 49 47.1**	**+0.6**
	comp=Z,5.1nm,0.8s,baz=331,slow=18,SNR=1.4						
	comp=Z,5.1nm,0.8s						
KSH	**Kashi**	**85.15**	**310**	P	**P**	**20 49 49.4**	**+1.5**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURBB	**Kurchatov Arra**	**85.94**	**322**	P	**P**	**20 49 51.7**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=103,slow=4.7,SNR=11						
	comp=Z,0.5nm,0.6s						
BTK	**Batken**	**89.16**	**310**	P	**P**	**20 50 05.2**	**-1.6**
BTK				IAmb	IAmb	20 50 10.3	
	comp=Z,2.5nm,0.6s						
BVAR	**Borovoye Array**	**91.37**	**323**	P	**P**	**20 50 16.0**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=86,slow=8.0,SNR=8.5						
	comp=Z,1.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**152.40**	**287**	PKPbc	**PKPbc**	**20 57 05.8**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=52,slow=3.3,SNR=12						

IDC 11 20:44:28.9±29.0, 22°.46S×173°.83W, h0km, mb4.1/4, mbtmp4.1/4, Error ellipse: s-maj=535.7km s-min=166.6km az=77.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.20**	**266**	P	P	20 51 42.1	0.0
	3.7nm,0.3s,baz=99,slow=11,SNR=5.9						
	3.7nm,0.3s						
STKA	**Stephens Creek**	**40.51**	**247**	P	P	20 52 10.2	+0.4
	1.0nm,0.5s,baz=61,slow=10,SNR=3.1						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**47.88**	**258**	P	P	20 53 08.8	-0.3
	0.9nm,0.5s,baz=102,slow=7.2,SNR=13						
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**48.19**	**263**	P	P	20 53 11.1	-0.4
	0.9nm,0.4s,baz=101,slow=8.3,SNR=47						
	0.9nm,0.4s						

*IDC **11** 21:08:44.5±1.6, 5°.84S×130°.88E, h0km, mb3.8/3, mbtmp3.8/5, ML3.9/2, Error ellipse: s-maj=130.9km s-min=22.5km az=68.0*

ISC 11 21:09:03.4±1.1, 6°.6S±0°.1×129°.9E±0°.1, h150km, n20, σ2§23/21, mb3.6/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.92**	**134**	P	**Pn**	**21 09 40.0**	**+2.5**
DRS	**Darwin Rock St**	**5.84**	**170**	P	**Pn**	**21 10 29.7**	**+1.8**
SANI	**Sanana**	**6.01**	**319**	P	**Pn**	**21 10 32.5**	**+2.3**
MTN	**Manton Dam**	**6.28**	**169**	P	**Pn**	**21 10 34.9**	**+1.0**
SOEI	**Soe**	**6.39**	**241**	P	**Pn**	**21 10 37.3**	**+1.9**
KDU	**Kakadu**	**6.52**	**157**	P	**Pn**	**21 10 37.5**	**+0.5**
KNRA	**Kununurra**	**9.05**	**187**	P	**Pn**	**21 11 12.5**	**+1.7**
PLAI	**Plampang**	**12.22**	**259**	P	**Pn**	**21 11 53.7**	**+1.1**
WRA	**Warramunga Arr**	**13.90**	**162**	Pn	**Pn**	**21 12 10.3**	**-3.9**
	0.6nm,0.3s,baz=349,slow=13,SNR=18						
WRA				Sn	Sn	21 14 37.7	-11
	1.6nm,0.3s,baz=341,slow=22,SNR=10						
	1.0nm,0.6s						
QIS	**Mount Isa**	**16.72**	**147**	P	**Pn**	**21 12 49.8**	**+0.8**
ASAR	**Alice Springs**	**17.36**	**168**	P	**Pn**	**21 12 56.9**	**+0.2**
	0.4nm,0.3s,baz=358,slow=10,SNR=19						
ASAR				S	**S**	**21 16 02.8**	**-6.2**
	0.8nm,0.5s,baz=355,slow=27,SNR=6.7						
	0.8nm,0.4s						
AS01	**Alice Springs**	**17.37**	**168**	P	**Pn**	**21 12 58.0**	**+1.2**
PSA00	**Pilbara Seismi**	**17.75**	**212**	P	**Pn**	**21 13 01.6**	**+0.3**
WRKA	**Warakurna**	**18.36**	**185**	P	**Pn**	**21 13 08.1**	**-0.4**
OOD	**Oodnadatta**	**21.74**	**166**	P	**P**	**21 13 43.4**	**+0.4**
MULG	**Mulgathing**	**23.84**	**171**	P	**P**	**21 14 04.5**	**+1.7**
LCRK	**Leigh Creek**	**24.93**	**163**	P	**P**	**21 14 14.2**	**+1.4**
STKA	**Stephens Creek**	**27.38**	**158**	P	**P**	**21 14 34.5**	**-0.2**
	0.9nm,0.3s,baz=340,slow=8.0,SNR=4.3						
	0.9nm,0.3s						
MKAR	**Makanchi Array**	**67.88**	**327**	P	**P**	**21 19 44.4**	**-1.2**
	0.4nm,0.4s,baz=123,slow=7.4,SNR=14						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**72.16**	**328**	P	**P**	**21 20 09.6**	**-2.0**
	0.2nm,0.5s,baz=126,slow=5.1,SNR=4.3						
	0.2nm,0.5s						

*IDC **11** 21:11:54.0±1.3, 19°.23N×64°.20W, h0km, mb3.3/5, mbtmp3.7/8, ML3.4/3, MS3.2/7, Error ellipse: s-maj=33.4km s-min=25.5km az=80.0*
*NEIC **11** 21:12:01.3±1.5, 19°.07N±0°.10×64°.77W±0°.02, h23km±11km, mb4.3/9, ML4.0/32, Md4.1/15(RSPR), Error ellipse: s-maj=15

CRPR	**Cabo Rojo, PR**	**2.53 244**			**Pn**	**21 12 40.3 +1.0**	
IDE	**Isla Desecheo**	**2.72 255**⇑	*eP*		**Pn**	**21 12 42.7 +0.8**	
IDE	**Isla Desecheo**	**2.72 255**	*eS*		**Sn**	**21 13 15.9 +1.1**	
IDE	**Isla Desecheo**	**2.72 255**			**Pn**	**21 12 42.7 +0.8**	
IDE					**Sn**	**21 13 15.9 +1.1**	
MBFL	**Flemmings, Mon**	**3.36 134**	*eP*		**Pn**	**21 12 52.1 +1.3**	
MBFL			*eS*		**Sn**	**21 13 29.5 -1.2**	
ANDO	**Antigua, Disas**	**3.40 126**	*eP*		**Pn**	**21 12 53.4 +2.1**	
ANDO			*eS*		**Sn**	**21 13 30.1 -1.6**	
ANBD	**Bethesda, Anti**	**3.49 126**	*eP*		**Pn**	**21 12 52.1 -0.4**	
ANBD			*eS*		**Sn**	**21 13 28.0 -5.9**	
PCDR	**Punta Cana, DR**	**3.53 261**⇑	*eP*		**Pn**	**21 12 54.1 +1.1**	
PCDR	**Punta Cana, DR**	**3.53 261**	*eS*		**Sn**	**21 13 34.9 +0.1**	
PCDR	**Punta Cana, DR**	**3.53 261**			**Pn**	**21 12 54.1 +1.1**	
PCDR	**Punta Cana, DR**	**3.53 261**	IAML			21 13 45.5	
	comp=N,432nm,2.0s						
PCDR			IAML			21 14 06.8	
	comp=E,184nm,1.3s						
ABD	**La Joyeuse, An**	**4.05 130**	*eP*		**Pn**	**21 13 00.4 +0.1**	
ABD	**La Joyeuse, An**	**4.05 130**	*eS*		**Sn**	**21 13 49.6 +1.8**	
MAGL	**Barre de l'île**	**4.55 133**	Pn		**Pn**	**21 13 08.4 +1.3**	
MAGL			IAML			21 14 00.6	
	comp=N,220nm,3.9s						
SVN	**Savane Anatole**	**5.45 141**	Pn		**Pn**	**21 13 21.4 +1.8**	
SVN	**Savane Anatole**	**5.45 141**	*eP*		**Pn**	**21 13 22.3 +2.8**	
SC01	**Santiago de lo**	**5.69 274**			**Pn**	**21 13 24.8 +2.0**	
SC01					**Sn**	**21 14 27.2 -0.9**	
BIM	**Bigot**	**5.76 142**	Pn		**Pn**	**21 13 26.2 +2.4**	
BIM	**Bigot**	**5.76 142**	*eP*		**Pn**	**21 13 25.5 +1.6**	
MPOM	**Morne Pois Mar**	**5.94 141**	*eP*		**Pn**	**21 13 28.2 +1.9**	
SDDR	**Presa de Saban**	**6.22 270**⇑	*eP*		**Pn**	**21 13 31.6 +1.5**	
SDDR	**Presa de Saban**	**6.22 270**	*eS*		**Sn**	**21 14 42.1 +0.7**	
SDDR	**Presa de Saban**	**6.22 270**			**Pn**	**21 13 31.6 +1.5**	
SDDR	**Presa de Saban**	**6.22 270**	*eP*		**Pn**	**21 13 31.5 +1.3**	
SDDR	**Presa de Saban**	**6.22 270**	*eS*		**Sn**	**21 14 43.8 +2.5**	
PCRV	**Puerto La Cruz**	**8.90 179**	Pn		**Pn**	**21 14 04.7 -2.3**	
	comp=N,0.6nm,0.3s,baz=349,slow=10,SNR=1.9						
PCRV			Sn		**Sn**	**21 15 43.0 -4.4**	
	comp=N,0.6nm,0.3s,baz=1.3,slow=9.4,SNR=1.7						
PCRV			LR		LR	21 17 16.5	
	comp=N,34nm,20.8s,slow=36						
	comp=N,17nm,1.2s						
BAUV	**El Baul**	**10.63 198**	Pn		**Pn**	**21 14 33.0 +2.5**	
SDV	**Santo Domingo**	**11.69 210**	Pn		**Pn**	**21 14 45.3 0.0**	
SDV	**Santo Domingo**	**11.69 210**	Pn		**Pn**	**21 14 48.1 +2.8**	
	comp=N,1.8nm,0.3s,baz=47,slow=15,SNR=9.4						
SDV			Sn		**Sn**	**21 16 55.6 -0.4**	
	comp=N,0.5nm,0.3s,baz=323,slow=21,SNR=2.2						
SDV			LR		LR	21 19 50.4	
	comp=N,94nm,18.1s,baz=74,slow=40						
	comp=N,5.5nm,0.5s						
ROSC	**El Rosal**	**17.02 215**			**Pn**	**21 15 56.1 -0.7**	
ROSC			IAmb		IAmb	21 16 05.2	
	comp=Z,14nm,0.6s						
ROSC	**El Rosal**	**17.02 215**	Pn		**Pn**	**21 15 57.1 +0.3**	
	comp=Z,2.3nm,0.3s,baz=125,slow=20,SNR=5.1						
ROSC			LR		LR	21 22 49.6	
	comp=Z,137nm,21.3s,baz=20,slow=38						
	comp=Z,13nm,0.6s						
BOAV	**Boa Vista**	**17.13 166**			**P**	**21 16 01.8 +2.2**	
MDP	**Montagnes des**	**18.25 138**	LR		LR	21 24 18.0	
	comp=Z,54nm,18.3s,baz=288,slow=41						
BATAN	**Batan**	**20.15 246**	P		**P**	**21 16 34.1 +1.4**	
HODGE	**Hodges**	**21.67 317**	P		**P**	**21 16 50.4 +1.3**	
HODGE			IAmb		IAmb	21 17 13.9	
	comp=Z,5.2nm,0.6s						
KMSC	**Kings Mountain**	**21.70 321**	P		**P**	**21 16 51.0 +1.6**	
KMSC			IAmb		IAmb	21 17 04.3	
	comp=Z,22nm,1.4s						
T57A	**Hurt**	**21.89 327**	P		**P**	**21 16 50.6 -0.8**	
T57A			IAmb		IAmb	21 17 24.9	
	comp=Z,20nm,1.4s						
V55A	**Taylorsville**	**22.12 322**	P		**P**	**21 16 55.2 +1.3**	
V55A			IAmb		IAmb	21 17 18.7	
	comp=Z,20nm,1.4s						
TEIG	**Tepich**	**22.21 277**	LR		LR	21 27 45.3	
	comp=Z,338nm,19.5s,slow=42						
OTAV	**Otavalo**	**23.11 217**	P		**P**	**21 17 04.3 -0.6**	
TKL	**Tuckaleechee C**	**23.54 318**	P		**P**	**21 17 08.7 0.0**	
NNA	**Nana**	**33.15 202**	LR		LR	21 34 54.0	
	comp=Z,28nm,18.1s,baz=13,slow=41						
PDAR	**Pinedale Array**	**44.44 312**	P		**P**	**21 20 09.7 0.0**	
	comp=Z,0.9nm,0.6s,baz=104,slow=9.0,SNR=10						
	comp=Z,0.9nm,0.6s						
NVAR	**Mina Array Bea**	**50.03 304**	P		**P**	**21 20 54.1 +0.8**	
	comp=Z,0.1nm,0.3s,baz=100,slow=6.2,SNR=3.6						
	comp=Z,0.1nm,0.3s						
YKA	**Yellowknife Ar**	**55.16 334**	P		**P**	**21 21 28.8 -1.8**	
	comp=Z,0.2nm,0.7s,baz=111,slow=7.2,SNR=2.8						
	comp=Z,0.2nm,0.7s						
JMIC	**Jan Mayen**	**61.31 18**	LR		LR	21 43 58.2	
	comp=Z,19nm,20.7s,baz=222,slow=32						
TORD	**Torodi Ar. Bea**	**63.76 84**	P		P	21 22 25.5 -5.3	
	comp=Z,0.2nm,0.7s,baz=298,slow=7.7,SNR=0.9						
	comp=Z,0.2nm,0.7s						
ILAR	**Eielson Array**	**69.54 333**	P		**P**	**21 23 03.5 -3.4**	
	comp=Z,0.2nm,0.6s,baz=99,slow=5.6,SNR=2.1						
	comp=Z,0.2nm,0.6s						

NEIC ***11*** *21:25:50.0±1.1, 19.2°N±0.1°×64.5°W±0.1°, h35km±2km, ML2.7/13, Md3.5/5(RSPR), Error ellipse: s-maj=24.2km s-min=13.9km az=130.0*
TRN ***11*** *21:25:50.5, 19.12°N×64.62°W, h35km, MD0.0*
RSPR ***11*** *21:25:52.0, 19.15°N×64.56°W, h25km±29km, MD3.5/5*
ISC 11 21:25:52.6±2.6, 19.1°N±0.2°×64.66°W±0.06°, h42km, n25, σ0°63/27, 7C-4D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.49 229**⇑		*eP*		**Pn**		**21 26 16.5**	**-0.4**
HUMP	**Col San Antoni**	**1.49 229**		IAML				21 26 39.7	
	comp=N,71nm,0.2s								
HUMP				IAML				21 26 41.1	
	comp=E,82nm,0.2s								
HUMP	**Col San Antoni**	**1.49 229**				**Pn**		**21 26 16.5**	**-0.4**
HUMP						**Sn**		**21 26 35.2**	**0.0**
HUMP	**Col San Antoni**	**1.49 229**⇑		*eP*		**Pn**		**21 26 16.5**	**-0.4**
HUMP				*eS*		**Sn**		**21 26 35.2**	**0.0**
GCPR	**Guaynabo City**	**1.58 239**⇑		*eP*		**Pn**		**21 26 17.1**	**-1.0**
GCPR	**Guaynabo City**	**1.58 239**				**Pn**		**21 26 16.9**	**-1.1**
CELP	**Cerrillos**	**2.10 241**‖		*eP*		**Pn**		**21 26 24.9**	**-0.3**
CELP	**Cerrillos**	**2.10 241**				**Pn**		**21 26 24.6**	**-0.7**
CELP	**Cerrillos**	**2.10 241**				**Sn**		**21 26 51.2**	**+1.0**
CELP	**Cerrillos**	**2.10 241**		IAML				21 26 55.6	
	comp=N,33nm,2.0s								
CELP				IAML				21 27 46.0	
	comp=E,28nm,2.8s								
CELP	**Cerrillos**	**2.10 241**‖		*eP*		**Pn**		**21 26 24.9**	**-0.3**
CELP				*eS*		**Sn**		**21 26 51.2**	**+1.0**
AOPR	**Arecibo Observ**	**2.13 249**⇑		*eP*		**Pn**		**21 26 25.1**	**-0.5**
AOPR	**Arecibo Observ**	**2.13 249**				**Pn**		**21 26 25.1**	**-0.5**
AOPR						**Sn**		**21 26 51.5**	**+0.5**
AOPR	**Arecibo Observ**	**2.13 249**		IAML				21 26 57.5	
	comp=N,58nm,0.8s								
AOPR	**Arecibo Observ**	**2.13 249**⇑		*eP*		**Pn**		**21 26 25.1**	**-0.5**
AOPR	**Arecibo Observ**	**2.13 249**		*eP*		**Pn**		**21 26 25.2**	**-0.5**
AOPR				*eS*		**Sn**		**21 26 51.5**	**+0.5**
AOPR				*eS*				21 26 53.9	
UUPR	**Utuado, UPR, P**	**2.14 246**‖		*eP*		**Pn**		**21 26 25.8**	**+0.1**
UUPR	**Utuado, UPR, P**	**2.14 246**				**Pn**		**21 26 25.8**	**+0.1**
MLPR	**Magueyes Islan**	**2.54 243**‖		*eP*		**Pn**		**21 26 31.8**	**+0.6**
MLPR	**Magueyes Islan**	**2.54 243**				**Pn**		**21 26 30.1**	**-1.2**
MLPR				IAML				21 27 26.8	
	comp=N,38nm,3.3s								
MLPR				IAML				21 27 55.1	
	comp=E,31nm,3.7s								
CRPR	**Cabo Rojo, PR**	**2.58 245**⇑		*eP*		**Pn**		**21 26 32.0**	**+0.3**
CRPR	**Cabo Rojo, PR**	**2.58 245**				**Pn**		**21 26 31.3**	**-0.5**
CRPR				IAML				21 27 28.1	
	comp=N,32nm,3.5s								
CRPR				IAML				21 27 47.0	
	comp=E,32nm,3.4s								
CRPR	**Cabo Rojo, PR**	**2.58 245**⇑		*eP*		**Pn**		**21 26 32.0**	**+0.3**
ANDO	**Antigua, Disas**	**3.35 126**		*eP*		**Pn**		**21 26 42.3**	**-0.2**
ANBD	**Bethesda, Anti**	**3.44 126**		*eP*		**Pn**		**21 26 43.5**	**-0.2**

IDC ***11*** *21:43:00.2±2.3, 4.17°S×152.72°E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=80.9km s-min=28.1km az=110.0*
ISC 11 21:43:02.0±3.1, 4.4°S±0.3°×153.6°E±0.8, h35km, n9, σ0°56/7, mb3.5/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.34 229**		P		**P**		**21 48 16.7**	**-0.2**
	1.9nm,0.5s,baz=54,slow=10,SNR=15								
WRA				PcP		**PcP**		**21 51 56.5**	**+0.4**
	0.9nm,0.8s,baz=46,slow=2.2,SNR=3.0								
	1.9nm,0.5s								
H11S3	**WAKE ISLAND Hy 26.11**	**29**		T		T		22 16 12.6	
	baz=210,slow=76,SNR=4.1								
H11S2	**WAKE ISLAND Hy 26.12**	**29**		T		T		22 16 08.9	
	baz=210,slow=76,SNR=4.8								
H11S1	**WAKE ISLAND Hy 26.13**	**29**		T		T		22 16 07.8	
	baz=210,slow=76,SNR=4.6								
ASAR	**Alice Springs**	**27.02 223**		P		**P**		**21 48 41.1**	**0.0**
	0.3nm,0.6s,baz=54,slow=9.5,SNR=3.0								
	0.3nm,0.6s								
SONM	**Songino Array**	**66.40 327**		P		**P**		**21 53 47.9**	**+0.2**
	0.3nm,0.6s,baz=134,slow=6.0,SNR=2.7								
	0.3nm,0.6s								
MKAR	**Makanchi Array**	**80.54 319**		P		**P**		**21 55 11.4**	**+0.5**
	0.1nm,0.5s,baz=90,slow=6.2,SNR=1.4								
	0.1nm,0.5s								
BVAR	**Borovoye Array**	**89.39 323**		P		**P**		**21 55 54.3**	**-0.8**
	0.3nm,0.5s,baz=103,slow=4.6,SNR=3.0								
	0.3nm,0.5s								
TORD	**Torodi Ar. Bea**	**150.95 289**		PKPbc		**PKPbc**		**22 02 52.0**	**-0.2**
	0.8nm,0.7s,baz=80,slow=3.3,SNR=5.2								

SNET ***11*** *21:44:17.2±1.1, 13.00°N×87.62°W, h222km±13km, ML3.8*
CATAC ***11*** *21:44:20.5±0.4, 13.18°N×87.54°W, h197km±3km, ML2.9*
ISC 11 21:44:20.8±2.0, 13.20°N±0.08°×87.54°W±0.05°, h200km±12km, n33, σ1°01/55, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AMPH	**Amapala**	**0.15 307**		*eP*		**Pn**		**21 44 46.2**	**-0.8**
AMPH	**Amapala**	**0.15 307**		*i P*		**Pn**		**21 44 46.1**	**-0.9**
AMPH				*i S*		**S**		**21 45 08.0**	**+0.4**
POTN	**Potosi Cosigui**	**0.20 171**		*i S*		**S**		**21 45 08.2**	**+0.4**
CNCH	**Conchagua**	**0.30 285**		*eP*		**Pn**		**21 44 46.5**	**-1.0**
CNCH				*eS*		**S**		**21 45 10.7**	**+2.5**
CNCH	**Conchagua**	**0.30 285**		*i P*		**Pn**		**21 44 46.2**	**-1.3**
CNCH				*i S*		**S**		**21 45 08.6**	**+0.4**
CNCH				IAML				21 45 19.5	
	comp=Z,250nm,1.0s								
CRIN	**San Cristobal**	**0.69 136**		*i P*		**Pn**		**21 44 48.5**	**-0.3**
CRIN				*i S*		**S**		**21 45 10.1**	**-0.4**
CRIN				IAML				21 45 24.0	
	comp=Z,550nm,1.0s								
PKGN	**Cerro Pekin**	**0.76 134**		*i P*		**Pn**		**21 44 48.9**	**-0.2**
PKGN				*i S*		**S**		**21 45 11.7**	**+0.7**
PKGN				IAML				21 45 21.7	
	comp=Z,470nm,1.0s								
PACA	**Pacayal**	**0.81 290**		*eP*		**Pn**		**21 44 49.0**	**-0.5**
PACA				*eS*		**S**		**21 45 14.4**	**+2.7**
PACA	**Pacayal**	**0.81 290**		*i P*		**Pn**		**21 44 49.8**	**+0.3**
PACA				*i S*		**S**		**21 45 11.3**	**-0.4**
PACA				IAML				21 45 19.2	
	comp=Z,770nm,1.0s								
TGUH	**Tegucigalpa,Un**	**0.89 17**		*i P*		**Pn**		**21 44 50.1**	**0.0**
TGUH				IAML				21 44 50.5	
	comp=Z,420nm,1.0s								
TGUH				*i S*		**S**		**21 45 13.3**	**+0.5**
HERN	**Volcan Telica**	**0.90 130**		*i P*		**Pn**		**21 44 48.9**	**-1.2**
HERN				IAML				21 45 22.0	
	comp=Z,180nm,1.0s								
YUSH	**Yuscaran**	**1.01 42**		*i P*		**Pn**		**21 44 50.9**	**+0.1**
YUSH				*i S*		**S**		**21 45 12.9**	**-1.0**
PQSS	**Presa 15 de Se**	**1.08 293**		*i P*		**Pn**		**21 44 50.2**	**-0.9**
PQSS				*i S*		**S**		**21 45 15.6**	**+1.2**
PQSS				IAML				21 45 35.0	
	comp=Z,130nm,1.0s								
MACN	**El Madrono**	**1.11 131**		*i P*		**Pn**		**21 44 50.6**	**-0.8**
MACN				*i S*		**S**		**21 45 15.7**	**+0.8**
MACN				IAML				21 45 20.6	
	comp=Z,77nm,1.0s								
LIMN	**Finca el Limon**	**1.15 97**		*i P*		**Pn**		**21 44 51.3**	**-0.5**
LIMN				IAML				21 44 51.8	
	comp=Z,120nm,1.0s								
LIMN				*i S*		**S**		**21 45 14.7**	**-0.7**
COMHN	**El Horno**	**1.24 359**		*i P*		**Pn**		**21 44 52.2**	**-0.4**
COMHN				*i S*		**S**		**21 45 17.3**	**+0.2**
TECO	**Alcaldia de Te**	**1.26 286**		*i P*		**Pn**		**21 44 51.6**	**-0.9**
TECO				*i S*		**S**		**21 45 16.3**	**-0.4**
TECO				IAML				21 45 25.5	
	comp=Z,150nm,1.0s								
SCLA	**Alcaldia de Sa**	**1.26 294**		*eP*		**Pn**		**21 44 51.9**	**-0.6**
SCLA				*eS*		**S**		**21 45 19.9**	**+3.0**
SCLA	**Alcaldia de Sa**	**1.26 294**		*i P*		**Pn**		**21 44 51.8**	**-0.8**
SCLA				*i S*		**S**		**21 45 17.7**	**+0.8**
SCLA				IAML				21 45 31.9	
	comp=Z,46nm,1.0s								
MOM2	**El Cardon**	**1.27 126**		*i P*		**Pn**		**21 44 51.4**	**-1.2**
MOM2				IAML				21 45 55.7	
	comp=Z,150nm,1.0s								
COPN	**Copaltepe**	**1.37 137**		*i P*		**Pn**		**21 44 52.5**	**-0.9**
COPN				IAML				21 45 21.1	
	comp=Z,63nm,1.0s								
SJTE	**Alcalda de S**	**1.49 286**		*eP*		**Pn**		**21 44 53.9**	**-0.6**
LOMA	**Loma Larga**	**1.65 286**		*i P*		**Pn**		**21 44 55.4**	**-0.6**
LOMA				*i S*		**S**		**21 45 24.7**	**+1.8**
LOMA				IAML				21 45 27.0	
	comp=Z,320nm,1.0s								
PANCS	**Alcalda de**	**1.65 285**		*i S*		**S**		**21 45 22.8**	**+0.1**
PMON	**Piamonte**	**1.80 287**		*eP*		**Pn**		**21 44 56.8**	**-0.7**
PMON				*eS*		**S**		**21 45 26.2**	**+0.9**
PMON	**Piamonte**	**1.80 287**		*i P*		**Pn**		**21 44 57.4**	**-0.1**
PMON				*i S*		**S**		**21 45 25.9**	**+0.5**
PMON				IAML				21 45 34.2	
	comp=Z,210nm,1.0s								
JAYA	**Jayaque - finc**	**1.91 284**		*eP*		**Pn**		**21 44 57.5**	**-1.1**
JAYA				IAML				21 45 29.4	
	comp=Z,337nm,0.2s								
JAYA	**Jayaque - finc**	**1.91 284**		*i P*		**Pn**		**21 44 58.1**	**-0.5**
JAYA				*i S*		**S**		**21 45 26.7**	**-0.7**
JAYA				IAML				21 45 29.2	
	comp=Z,750nm,1.0s								
BOAB	**BOACO BROADBAN**	**1.97 112**		IAML				21 44 59.5	
	comp=Z,35nm,1.0s								
BOAB				*i P*		**Pn**		**21 44 59.8**	**+0.8**
BOAB				*i S*		**S**		**21 45 28.8**	**+0.7**
SNJE	**San Jose**	**2.12 289**		*eP*		**Pn**		**21 45 00.3**	**-0.5**
NUBE	**Las Nubes**	**2.29 288**		*i P*		**Pn**		**21 45 01.6**	**-1.0**
NUBE				*i S*		**S**		**21 45 35.6**	**+1.2**
NUBE				IAML				21 46 48.7	
	comp=Z,270nm,1.0s								
HZTE	**Horizontes, Gu**	**3.12 142**		*i P*		**Pn**		**21 45 12.1**	**+0.2**
HZTE				IAML				21 45 58.6	
	comp=Z,49nm,1.0s								
ORTG	**Ortega, Santa**	**3.48 144**		*i P*		**Pn**		**21 45 16.2**	**-0.1**
ORTG				IAML				21 47 04.8	
	comp=Z,27nm,1.0s								

ATH ***11*** *21:45:59.9, 34.97°N×28.10°E, h8km±2km, ML2.5/3, Error ellipse: s-maj=3.6km s-min=1.8km az=327.0*
ISK ***11*** *21:46:01.9, 35.20°N×27.92°E, h26km, ML2.4/13*
ISC 11 21:46:01.6±2.2, 35.11°N±0.08°×27.96°E±0.05°, h20km±7km, n25, σ0°99/33, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.79 304**				Pg	**Pb**	**21 46 16.7**	**0.0**
KARP						Sg	**Sb**	**21 46 27.3**	**+0.4**
KARP	**Karpathos**	**0.79 304**				P	**Pb**	**21 46 15.5**	**-1.2**
KARP						S	**Sb**	**21 46 26.0**	**-0.9**
KARP	**Karpathos**	**0.79 304**				P	**Pn**	**21 46 17.9**	**+0.3**
KARP						S	**Sn**	**21 46 31.0**	**+2.2**
KARP						AML	AML	21 46 34.5	
	comp=N,972μm,0.6s								
KARP						AML	AML	21 46 37.1	
	comp=E,1040μm,0.5s								
ARG	**Arkhangelos**	**1.11 7**		Pg		**Pn**		**21 46 21.2**	**-1.0**
ARG	**Arkhangelos**	**1.11 7**		P		**Pb**		**21 46 22.6**	**+0.4**
ARG				S		**Sg**		**21 46 38.2**	**+0.3**
ARG	**Arkhangelos**	**1.11 7**		P		**Pb**		**21 46 22.6**	**+0.4**
ARG				S		**Sg**		**21 46 39.2**	**+1.3**
ARG				AML		AML		21 46 51.3	
	comp=E,395μm,0.9s								
ARG				AML		AML		21 46 53.1	
	comp=N,319μm,1.0s								
ZKR	**Zakros**	**1.43 271**		Pn		**Pn**		**21 46 26.3**	**-0.2**
ZKR				Sn		**Sn**		**21 46 44.2**	**-0.5**
ZKR	**Zakros**	**1.43 271**		P		**Pn**		**21 46 27.1**	**+0.6**
ZKR				S		**Sb**		**21 46 45.6**	**+0.2**
ZKR	**Zakros**	**1.43 271**		P		**Pn**		**21 46 27.3**	**+0.8**
ZKR				S		**Sg**		**21 46 47.0**	**-0.9**
ZKR				AML		AML		21 47 04.7	
	comp=N,102μm,0.8s								
ZKR				AML		AML		21 47 05.8	
	comp=E,129μm,1.3s								
DAT	**Datca**	**1.65 349**		Pn		**Pn**		**21 46 28.6**	**-1.0**
DAT	**Datca**	**1.65 349**		P		**Pn**		**21 46 26.3**	**-3.3**
KSL	**Kastellorizon**	**1.68 51**		P		**Pn**		**21 46 28.9**	**-1.0**
FETY	**Fethiye**	**1.78 31**		Pn		**Pn**		**21 46 30.9**	**-0.4**
DALY	**Dalyan (Mula)**	**1.80 18**		Pn		**Pn**		**21 46 31.0**	**-0.5**
FRMA	**Ierapetra Chan**	**1.83 268**		P		**Pn**		**21 46 30.7**	**-1.2**
BODT	**Bodrum**	**2.02 345**		Pn		**Pn**		**21 46 33.7**	**-0.9**
CAME	**Cameli-Denizli**	**2.13 30**		Pn		**Pn**		**21 46 35.9**	**-0.4**
MLSB	**Milas**	**2.19 356**		Pn		**Pn**		**21 46 36.4**	**-0.6**
ELL	**Elmali**	**2.28 43**		Pn		**Pn**		**21 46 38.2**	**-0.1**
IDI	**Anoyia**	**2.52 275**		P		**Pn**		**21 46 41.3**	**-0.2**
IDI	**Anoyia**	**2.52 275**		P		**Pn**		**21 46 42.1**	**+0.6**
APMY	**Acipayam-Deniz**	**2.60 24**		Pn		**Pn**		**21 46 42.6**	**0.0**
APE	**Apeiranthos**	**2.77 316**		Pn		**Pn**		**21 46 44.8**	**-0.2**
IMMV	**Iera Moni Meta**	**3.27 277**		P		**Pn**		**21 46 51.6**	**-0.2**
BLCB	**Balcova**	**3.35 348**		Pn		**Pn**		**21 46 52.8**	**-0.1**

IDC ***11*** *21:48:40.9±3.8, 52.21°N×161.38°E, h0km, mb3.7/6, mbtmp3.7/7, ML2.7/1, Error ellipse: s-maj=81.3km s-min=34.8km az=171.0*
KRSC ***11*** *21:48:44.6±1.6, 52.67°N×161.56°E, h47km±20km, Ml3.6*
ISC 11 21:48:42.9±2.5, 52.58°N±0.07°×161.38°E±0.08°, h4km±14km, n27, σ1°38/36, mb3.8/6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.97 303**		*eP*		**Pb**		**21 49 03.4**	**+1.1**
SPN				*eS*		**Sb**		**21 49 15.2**	**-0.2**
NLC	**Nalytchevo**	**1.37 297**		*eP*		**Pn**		**21 49 09.3**	**+0.6**
DALK	**Dalny**	**1.66 287**		*eP*		**Pb**		**21 49 14.5**	**+0.6**
DALK				*eS*		**Sg**		**21 49 35.2**	**-0.8**
SMAR	**Somma**	**1.70 295**		*eP*		**Pb**		**21 49 15.0**	**+0.1**
PET	**Petropavlovsk**	**1.71 286**		*eP*		**Pb**		**21 49 15.5**	**+0.7**
PET				*eS*		**Sg**		**21 49 37.2**	**-0.6**
AVH	**Avacha**	**1.74 294**		*eP*		**Pb**		**21 49 15.9**	**+0.5**
KRER	**Koryakskii**	**1.75 296**		*eP*		**Pb**		**21 49 16.1**	**+0.5**
RUS	**Russkaya**	**1.75 266**		*eP*		**Pg**		**21 49 16.6**	**+0.2**
RUS				*eS*		**Sg**		**21 49 37.9**	**-1.3**
KOK	**Koryaka**	**1.81 294**		*eP*		**Pb**		**21 49 16.7**	**+0.1**
KRX	**Arik**	**1.82 296**		*eP*		**Pb**		**21 49 16.8**	**-0.1**
MTVR	**Mutnovka**	**1.95 268**		*eP*		**Pb**		**21 49 19.7**	**+0.7**
MTVR				*eS*		**Sg**		**21 49 44.1**	**-1.4**
KRMR	**Karymshinskiy**	**1.99 279**		*eP*		**Pb**		**21 49 19.5**	**-0.1**
ASAK	**Asacha**	**2.13 266**		*eP*		**Pb**		**21 49 22.8**	**+0.6**
KDTR	**Khodutka, Kamc**	**2.17 251**		*eP*		**Pb**		**21 49 22.7**	**0.0**
KDTR				*eS*		**Sb**		**21 49 48.6**	**-1.4**
PETK	**Petropavlovsk-**	**2.29 285**	Pn			**Pn**		**21 49 23.2**	**+1.7**
	9.3nm,0.3s,baz=106,slow=19,SNR=94								
PETK			Sn			**Sb**		**21 49 51.7**	**-1.8**
	2.8nm,0.3s,baz=96,slow=20,SNR=1.8								
	36nm,0.5s								
GNL	**Ganaly**	**2.35 300**		*eP*		**Pb**		**21 49 25.7**	**-0.2**
APC	**Apacha**	**2.59 279**		*eP*		**Pb**		**21 49 29.2**	**-0.6**
APC				*eS*		**Sb**		**21 50 02.0**	**+0.1**
TUMD	**Tumrok D**	**2.69 348**		*eP*		**Pn**		**21 49 27.4**	**+0.4**
TUMD				*eS*		**Sn**		**21 49 58.3**	**-1.7**
TUMR	**Tumrok**	**2.81 345**		*eP*		**Pn**		**21 49 30.2**	**+1.6**
KMNR	**Kamenistaya**	**3.25 349**		*eP*		**Pn**		**21 49 37.0**

ARHZ	**Aropaoanui**	**0.30**	**12**	P		Pb	22 07 40.0	+0.9
ARHZ				S		Sn	22 07 46.6	-0.7
KWHZ	**Kaweka Forest**	**0.40**	**290**	P		Pb	22 07 41.6	+0.9
KWHZ				S		Sn	22 07 49.2	-0.7
KRHZ	**Kereru**	**0.43**	**259**	P		Pb	22 07 42.1	+0.9
KRHZ				S		Sn	22 07 49.7	-0.7
NMHZ	**Naumai**	**0.47**	**350**	P		Pn	22 07 42.9	-0.9
NMHZ				S		Sn	22 07 51.6	+0.1
PXZ	**Pawanui**	**0.47**	**185**	P		Pb	22 07 42.7	+0.7
PXZ				S		Sn	22 07 52.6	+1.1
BKZ	**Black Stump Fm**	**0.51**	**320**	P		Pb	22 07 43.4	+0.6
BKZ				S		Sn	22 07 52.1	-0.4
WHHZ	**Waihua**	**0.54**	**27**	P		Pn	22 07 44.3	-0.5
WHHZ				S		Sn	22 07 53.2	0.0
WPHZ	**Waipukurau**	**0.62**	**216**	P		Pn	22 07 45.5	-0.4
WPHZ				S		Sn	22 07 56.3	+1.1
PNHZ	**Pukenui**	**0.65**	**237**	P		Pb	22 07 45.7	+0.5
PNHZ				S		Sn	22 07 56.3	+0.2
RAHZ	**Arahi**	**0.66**	**12**	P		Pn	22 07 45.9	-0.5
RAHZ				S		Sn	22 07 56.8	+0.7
BHHZ	**Black Hill Sta**	**0.66**	**276**	P		Pb	22 07 45.9	+0.6
BHHZ				S		Sn	22 07 55.7	-0.6
MTHZ	**Maungataniwha**	**0.71**	**355**	P		Pb	22 07 46.6	+0.5
MTHZ				S		Sn	22 07 58.0	+0.6
PRHZ	**Porangahau**	**0.74**	**197**	P		Pb	22 07 46.9	+0.4
PRHZ				S		Sn	22 08 00.5	+2.4
MRHZ	**Matea Rd**	**0.82**	**332**	P		Pb	22 07 48.0	0.0
SNGZ	**Shannon Statio**	**0.85**	**23**	P		Pb	22 07 48.5	+0.2
MHGZ	**Mahia Peninsul**	**0.87**	**62**	P		Pb	22 07 48.2	-0.6
TSZ	**Takapari Road**	**0.89**	**236**	P		Pb	22 07 48.9	-0.2
MOVZ	**Moawhango**	**0.91**	**279**	P		Pn	22 07 50.1	+0.1
HATZ	**Hinemaiaia**	**0.91**	**316**	P		Pn	22 07 50.6	+0.6
DVVZ	**Dannevirke**	**0.94**	**218**	P		Pb	22 07 49.3	-0.6
RTZ	**Ruatahuna**	**0.94**	**3**	P		Pn	22 07 50.4	0.0
ANWZ	**Angora Road**	**0.96**	**200**	P		Pb	22 07 49.6	-0.7
PRGZ	**Paritu Road**	**0.99**	**50**	P		Pb	22 07 49.7	-1.0
RITZ	**Rihia Road**	**1.01**	**305**	P		Pn	22 07 52.5	+1.3
TUVZ	**Tukino**	**1.02**	**286**	P		Pn	22 07 52.4	+1.0
ETVZ	**East Tongariro**	**1.03**	**294**	P		Pn	22 07 52.4	+0.9
TMVZ	**Te Maari**	**1.04**	**295**	P		Pn	22 07 52.6	+0.9
WNVZ	**Wahianoa**	**1.05**	**282**	P		Pn	22 07 52.8	+0.9
OTVZ	**Oturere**	**1.05**	**292**	P		Pn	22 07 52.6	+0.7
SNVZ	**South Ngauruho**	**1.06**	**290**	P		Pb	22 07 52.8	+0.8
WHVZ	**Whangaehu Hut**	**1.06**	**285**	P		Pb	22 07 53.2	+1.0
NTVZ	**North Tongarir**	**1.07**	**295**	P		Pb	22 07 52.8	+0.7
RIGZ	**Rimuhau**	**1.08**	**38**	P		Pn	22 07 51.2	-1.0
MAVZ	**Matarangi**	**1.09**	**285**	P		Pb	22 07 53.6	+0.9
MUGZ	**Murupara**	**1.09**	**354**	P		Pn	22 07 52.2	-0.1
NGZ	**Ngauruhoe**	**1.09**	**290**	P		Pb	22 07 53.2	+0.7
TRVZ	**Turoa**	**1.09**	**283**	P		Pb	22 07 53.5	+0.8
ALRZ	**Allen Road**	**1.09**	**336**	P		Pb	22 07 53.6	+1.1
KRVZ	**Karewarewa**	**1.09**	**295**	P		Pb	22 07 53.7	+1.1
NNVZ	**North Ngauruho**	**1.09**	**293**	P		Pb	22 07 53.3	+0.6
FWVZ	**Far West T-bar**	**1.10**	**286**	P		Pb	22 07 53.4	+0.6
KATZ	**Kakaramea**	**1.11**	**301**	P		Pb	22 07 54.1	+1.1
WTVZ	**West Tongariro**	**1.12**	**293**	P		Pb	22 07 53.8	+0.7
COVZ	**Chateau Observ**	**1.12**	**288**	P		Pb	22 07 54.0	+0.9
RATZ	**Rangitukua**	**1.13**	**308**	P		Pb	22 07 54.6	+1.4
MTVZ	**Mangateitei**	**1.13**	**278**	P		Pb	22 07 54.3	+1.1
RAGZ	**Rawiri**	**1.13**	**20**	P		Pn	22 07 52.3	-0.7
WHTZ	**Whakaora**	**1.16**	**320**	P		Pb	22 07 55.5	+1.7
WPRZ	**Whakapapatarin**	**1.19**	**330**	P		Pb	22 07 55.6	+1.3
POWZ	**Post Office Ro**	**1.21**	**226**	P		Pn	22 07 54.0	0.0
PRWZ	**Pori Road**	**1.23**	**216**	P		Pn	22 07 53.7	-0.6
BFZ	**Birch Farm**	**1.23**	**204**	P		Pn	22 07 52.6	-1.6
PKVZ	**Pokaka**	**1.25**	**282**	P		Pb	22 07 55.8	+0.7
TWVZ	**Taurewa**	**1.25**	**293**	P		Pb	22 07 55.8	+0.6
WATZ	**Wairara**	**1.25**	**312**	P		Pb	22 07 56.9	+1.6
URZ	**Urewera**	**1.31**	**7**	P		Pn	22 07 54.7	-0.6
MWZ	**Matawai**	**1.31**	**22**	P		Pn	22 07 54.4	-1.0
HSRZ	**Hossack Road**	**1.35**	**337**	P		Pb	22 07 59.3	+2.3
TARZ	**Mount Tarawera**	**1.36**	**346**	P		Pn	22 07 56.4	+0.3
TIWZ	**Tintock**	**1.45**	**213**	P		Pn	22 07 57.0	-0.2
MRZ	**Mangatainoka R**	**1.50**	**223**	P		Pn	22 07 56.7	-1.3
WAZ	**Wanganui**	**1.50**	**262**	P		Pb	22 08 00.6	+1.1
OMRZ	**Omania**	**1.51**	**344**	P		Pb	22 08 01.4	+1.7
TWGZ	**Tauwhareparae**	**1.61**	**31**	P		Pn	22 07 58.5	-1.0
RUGZ	**Raukumara Rang**	**1.70**	**21**	P		Pn	22 08 00.0	-0.8
HOWZ	**Holdsworth Sta**	**1.71**	**218**	P		Pn	22 07 59.6	-1.3
VRZ	**Vera Road**	**1.73**	**284**	P		Pb	22 08 03.6	+0.3
OGWZ	**Otaki Gorge**	**1.83**	**226**	P		Pn	22 08 01.1	-1.4
PKGZ	**Pakihiroa**	**1.90**	**29**	P		Pn	22 08 02.4	-1.1
HIZ	**Hauiti**	**1.92**	**302**	P		Pb	22 08 05.8	-0.8
HAZ	**Te Kaha**	**1.93**	**21**	P		Pn	22 08 03.2	-0.6
LREZ	**Lake Rotokare**	**1.95**	**272**	P		Pn	22 08 09.4	+2.3
WMGZ	**Waiomatatini S**	**2.10**	**34**	P		Pn	22 08 04.7	-1.5
PREZ	**Palmer Road**	**2.15**	**275**	P		Pb	22 08 10.8	+0.3
NEZ	**North Egmont**	**2.20**	**277**	P		Pb	22 08 13.6	+2.0
KHEZ	**Kahui Hut**	**2.26**	**276**	P		Pb	22 08 14.2	+1.6
PKE	**Pukeiti**	**2.30**	**278**	P		Pb	22 08 12.6	-0.5
DUWZ	**D'Urville Isla**	**2.61**	**241**	P		Pb	22 08 19.8	+1.5
CTZ	**Chatham Island**	**6.39**	**133**	P		Pn	22 09 03.0	-2.2

IDC ***11*** *22:08:17.4±0.5,0.˝38S×91.˝43W,h0km,mb4.8/16, mbtmp4.7/21,ML3.9/3,MS4.4/52,Error ellipse: s-maj=21.4km s-min=10.9km az=49.0*

MOS ***11*** *22:08:18.9±0.8,0.˝37S×91.˝38W,h16km,mb5.5/24,Error ellipse: s-maj=10.6km s-min=6.7km az=108.4*

IGQ ***11*** *22:08:19±0.9,0.˝5×9.˝1W×,h20km*

NEIC ***11*** *22:08:20.8±1.2,0.˝41S±0.˝09×91.˝33W±0.˝05,h10km±1km, mb5.2/586,Mww4.8/8,Error ellipse: s-maj=15.7km s-min=6.8km az=202.0*

NEIC ***11*** *22:08:21.4,0.˝47S×91.˝31W,h14km*

NEIC ***11*** *22:08:21.4,0.˝97S×91.˝51W,h14km,Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10¹⁶Nm; Mrr-1.60; Mθθ0.96; Mφφ0.64; Mrθ-1.06; Mrφ0.34; Mθr-0.92; Fault plane solution: M₀1.97000×10¹⁶ NP1:φ₁51.93000°, δ67.69000°,λ-92.83000°. NP2:φ₂239.35000°,δ22.48000°, λ-83.13000°. Principal axes: T 1.7550, Plg23.0000°, Azm144.0000°; N 0.4335, Plg3.0000°, Azm53.0000°; P -2.1884, Plg67.0000°, Azm317.0000°;*

GCMT ***11*** *22:08:22.8±0.4,0.˝43S±0.˝02×91.˝45W±0.˝03,h13km±5km, MW5.0/75,Moment Tensor Solution. s18,c19; s75,c95; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.21±.08; Mθθ0.44±.07; Mφφ-0.64±.10; Mrθ3.48±1.58; Mφθ-0.72±.09; Mφr2.10±.95; Best double couple: M₀4.16100×10¹⁶ NP1:φ₁60.00000°,δ88.00000°,λ101.00000°. NP2: φ₂161.00000°,δ12.00000°,λ12.00000°. Principal axes: T 4.0210, Plg46.0000°, Azm341.0000°; N 0.2810, Plg11.0000°, Azm239.0000°; P -4.3020, Plg42.0000°, Azm139.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***11*** *22:08:22.0±0.0,0.˝40S×91.˝50W,h14km,mB5.3/3,Ms4.8/1, Ms7 4.6/5*

ISC 11 22:08:20.7±0.8,0.˝48S±0.˝05×91.˝41W±0.˝04,h20km±3km, n1103,σ0.˝94/911,mb5.2/302,MS4.3/52,3C-1D, Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FER2	**Fernandina2, P**	**0.01**	**14**	P	**Pg**	**22 08 24.0**	**-0.2**
FER2				S	**Sg**	**22 08 27.0**	**+0.5**
VCH1	**Volcn Chico**	**0.44**	**133**	P	**Pg**	**22 08 29.0**	**-0.9**
VCH1				S	**Sg**	**22 08 37.0**	**+0.9**
ALCE	**Alcedo, Punta**	**0.56**	**274**	P	**Pg**	**22 08 29.0**	**-3.0**
ALCE				S	**Sg**	**22 08 36.0**	**-3.6**
PVIL	**Puerto Villami**	**0.65**	**135**	P	**Pg**	**22 08 31.0**	**-2.7**
PVIL				S	**Sg**	**22 08 40.0**	**-2.5**
I20EC	**Galapagos** baz=284,slow=26	**1.05**	**97**	Pg	**Pb**	**22 08 38.6**	**-1.7**
I20EC	baz=280,slow=302,SNR=2.3			I	I	22 16 30.0	
PAYG	**Puerto Ayora**	**1.15**	**100**		**Pb**	**22 08 39.8**	**-2.1**
PAYG				Sg	**Sb**	**22 08 55.6**	**-0.8**
PAYG	**Puerto Ayora**	**1.15**	**100**	P	**Pb**	**22 08 39.0**	**-2.9**
ARNL	**Arenillas**	**11.74**	**105**	Pn	**Pn**	**22 11 07.5**	**+0.1**
MCRA	**Macar, Loja**	**12.08**	**109**	Pn	**Pn**	**22 11 10.9**	**-1.2**
JACO	**JACO, Garabito**	**12.12**	**34**	Pn	**Pn**	**22 11 11.3**	**-1.1**
COHC	**Cochancay**	**12.31**	**99**	Pn	**Pn**	**22 11 15.1**	**-0.1**
PEZE	**Perez Zeledon,**	**12.46**	**38**	Pn	**Pn**	**22 11 16.4**	**-0.9**
JTS	**Las Juntas de**	**12.48**	**31**	Pn	**Pn**	**22 11 17.4**	**-0.1**
JTS	**Las Juntas de** 7.7nm,1.2s,baz=146,slow=15,SNR=1.3	**12.48**	**31**	Pn	**Pn**	**22 11 17.1**	**-0.4**
JTS				LR	LR	22 14 51.8	
	comp=Z,3μm,18.9s,baz=191,slow=32						
DRK0	**Durika**	**12.64**	**40**	Pn	**Pn**	**22 11 18.8**	**-1.1**
RIMA	**Rio Macho**	**12.65**	**36**		**Pn**	**22 11 20.5**	**+0.5**
BRU2	**Volcan**	**12.67**	**43**	Pn	**Pn**	**22 11 18.1**	**-2.0**
ARE1	**Arenal 1**	**12.75**	**31**	Pn	**Pn**	**22 11 19.3**	**-1.9**
SLOR	**San Lorenzo -**	**12.92**	**91**	Pn	**Pn**	**22 11 23.4**	**-0.4**
PULU	**Pululahua**	**12.92**	**88**		**Pn**	**22 11 22.3**	**-1.6**
OTAV	**Otavalo**	**12.98**	**87**	Pn	**Pn**	**22 11 25.8**	**+1.1**
OTAV	**Otavalo**	**12.98**	**87**	P	**Pn**	**22 11 25.8**	**+1.1**
OTAV	**Otavalo**	**12.98**	**87**	*eP*	**Pn**	**22 11 25.8**	**+1.1**
COTA	**Cotacachi**	**13.10**	**86**	P	**Pn**	**22 11 30.0**	**+3.6**
BATAN	**Batan**	**13.21**	**37**	Pn	**Pn**	**22 11 27.1**	**-0.3**
IMBA	**Imbabura, San**	**13.24**	**87**		**Pn**	**22 11 26.8**	**-1.3**
CNGN	**Cerro Negro**	**13.72**	**20**	Pn	**Pn**	**22 11 35.6**	**+1.2**
ACON	**Acoyapa**	**13.83**	**26**		**Pn**	**22 11 33.4**	**-2.5**
BOAB	**BOACO BROADBAN**	**14.06**	**24**	Pn	**Pn**	**22 11 39.1**	**+0.1**
ATAH	**Atahualpa** 0.3nm,0.3s,baz=294,slow=20,SNR=3.1	**14.57**	**117**	Pn	**Pn**	**22 11 47.6**	**+1.2**
ATAH				LR	LR	22 16 31.2	
	comp=Z,4μm,18.2s,baz=302,slow=34						
RTAL	**Retalhuleu**	**14.91**	**359**	Pn	**Pn**	**22 11 52.1**	**+1.5**
MTO3	**Montecristo**	**14.92**	**8**		**Pn**	**22 11 49.6**	**-1.4**
TGUH	**Tegucigalpa,Un**	**15.02**	**16**	Pn	**Pn**	**22 11 53.5**	**+1.4**
ESQI	**Esquipulas**	**15.09**	**8**	Pn	**Pn**	**22 11 54.8**	**+1.8**
ESQI				lAmb	lAmb	22 11 58.9	
	comp=Z,237nm,1.8s						
PETF	**Flores**	**17.36**	**5**		**P**	**22 12 22.7**	**-0.5**
CMIG	**Matias Romero** comp=Z,0.3nm,0.3s,baz=176,slow=10,SNR=30	**17.79**	**349**	P	**Pn**	**22 12 26.4**	**-1.0**
CMIG				LR	LR	22 17 46.8	
	comp=Z,2μm,18.5s,baz=138,slow=32 comp=Z,24nm,1.0s						
ROSC	**El Rosal**	**17.88**	**73**		**P**	**22 12 29.4**	**0.0**
ROSC	**El Rosal** comp=Z,32nm,0.9s,baz=243,slow=8.5,SNR=15	**17.88**	**73**	P	**P**	**22 12 29.3**	**-0.1**
NNA	**Nana**	**18.43**	**129**		**Pn**	**22 12 36.6**	**+1.2**
NNA	**Nana**	**18.43**	**129**	*eP*	**Pn**	**22 12 36.8**	**+1.4**
NNA	comp=Z,75nm,1.0s			pmax	pmax		
NNA	**Nana** comp=Z,1.0nm,0.3s,baz=316,slow=8.3,SNR=8.2	**18.43**	**129**	P	**Pn**	**22 12 36.9**	**+1.4**
NNA	comp=Z,1μm,20.0s,baz=310,slow=32 comp=Z,34nm,1.0s			LR	LR	22 18 17.2	
TLIG	**Tlapa**	**19.26**	**339**	P	**Pn**	**22 12 45.9**	**+0.5**
CZSB	**Cruzeiro do Su**	**19.99**	**112**		**Pn**	**22 12 54.4**	**+0.3**
CZSB	comp=Z,312nm,1.8s			lAmb	lAmb	22 12 56.1	
CZSB	**Cruzeiro do Su**	**19.99**	**112**	*eP*	**Pn**	**22 12 54.5**	**+0.4**
TEIG	**Tepich**	**20.81**	**8**	P	**P**	**22 13 01.2**	**+0.2**
TEIG	comp=Z,86nm,0.9s			lAmb	lAmb	22 13 05.8	
TEIG	**Tepich** comp=Z,9μm,18.3s,slow=34	**20.81**	**8**	LR	LR	22 20 10.0	
TBTG	**Tabatinga, AM**	**21.80**	**100**	P	**P**	**22 13 13.2**	**+1.4**
TBTG	**Tabatinga, AM**	**21.80**	**100**	*eP*	**P**	**22 13 13.3**	**+1.4**
MOIG	**Morelia**	**22.21**	**335**	P	**P**	**22 13 17.5**	**+1.1**
MOIG	comp=Z,78nm,1.0s			lAmb	lAmb	22 13 20.8	
SDV	**Santo Domingo**	**22.70**	**65**	P	**P**	**22 13 22.4**	**+0.7**
SDV	**Santo Domingo** comp=Z,539nm,18.1s,baz=230,slow=35	**22.70**	**65**	LR	LR	22 21 34.7	
SDV	**Santo Domingo**	**22.70**	**65**	*eP*	**P**	**22 13 21.4**	**-0.3**
JRQG	**Juriquilla Cam**	**22.84**	**338**	P	**P**	**22 13 22.9**	**-0.1**
BAUV	**El Baul**	**25.09**	**68**	P	**P**	**22 13 44.5**	**+0.1**
BAUV	comp=Z,89nm,1.1s			lAmb	lAmb	22 13 54.5	
CAMR	**Camarioca**	**25.36**	**22**	P	**P**	**22 13 47.0**	**+0.3**
CAMR	comp=Z,197nm,1.1s			lAmb	lAmb	22 13 54.3	
NMDO	**Nuevo Mundo**	**26.38**	**37**	P	**P**	**22 13 55.0**	**-1.0**
NMDO	comp=Z,77nm,1.3s			lAmb	lAmb	22 14 05.6	
ETMB	**Extrema**	**26.73**	**111**	P	**P**	**22 13 59.1**	**-0.2**
ETMB	comp=Z,55nm,1.1s			lAmb	lAmb	22 14 09.6	
ETMB	**Extrema**	**26.73**	**111**	*eP*	**P**	**22 13 58.6**	**-0.7**
LPAZ	**La Paz**	**27.82**	**126**	P	**P**	**22 14 08.3**	**-1.4**
LPAZ	comp=Z,34nm,1.1s			lAmb	lAmb	22 14 19.2	
LPAZ	**La Paz** comp=Z,11nm,0.8s,baz=307,slow=6.7,SNR=43	**27.82**	**126**	P	**P**	**22 14 10.9**	**+1.2**
LPAZ	comp=Z,1μm,20.8s,baz=303,slow=35 comp=Z,11nm,0.8s			LR	LR	22 24 36.3	
LPAZ	**La Paz**	**27.82**	**126**	*eP*	**P**	**22 14 09.9**	**+0.2**
PB16	**IPOC Station P**	**27.89**	**131**	P	**P**	**22 14 11.8**	**+1.5**
PB16	comp=Z,38nm,0.8s			lAmb	lAmb	22 14 13.6	
HBVL	**Hebbronville**	**28.26**	**346**	P	**P**	**22 14 12.7**	**-0.2**
PB11	**IPOC Station P**	**28.66**	**133**	P	**P**	**22 14 15.8**	**-0.8**
PCRV	**Puerto La Cruz** comp=Z,703nm,19.2s,slow=37	**28.67**	**68**	LR	LR	22 26 06.8	
TA01	**Diego Aracena**	**28.80**	**135**	P	**P**	**22 14 18.3**	**+0.6**
GO01	**Chusmiza**	**28.94**	**133**	P	**P**	**22 14 19.6**	**+0.1**
PB08	**IPOC Station P**	**29.26**	**133**	P	**P**	**22 14 22.8**	**+0.5**
SAML	**Samuel**	**29.34**	**107**	P	**P**	**22 14 22.9**	**+0.3**
SAML	comp=Z,77nm,1.3s			lAmb	lAmb	22 14 30.6	
SAML	**Samuel**	**29.34**	**107**	P	**P**	**22 14 22.9**	**+0.3**
SAML	comp=Z,77nm,1.3s			pmax	pmax		
SAML	**Samuel**	**29.34**	**107**	*eP*	**P**	**22 14 23.0**	**+0.3**
PB02	**IPOC Station P**	**29.50**	**136**	P	**P**	**22 14 23.5**	**-0.5**
PB01	**IPOC Station P**	**29.60**	**135**	P	**P**	**22 14 24.3**	**-0.6**
PB01	comp=Z,70nm,2.0s			lAmb	lAmb	22 14 35.6	
833A	**Chaparral WMA,**	**29.64**	**346**	P	**P**	**22 14 25.1**	**0.0**
833A	comp=Z,25nm,0.8s			lAmb	lAmb	22 14 26.8	
833A	**Chaparral WMA,** baz=164,SNR=7.6	**29.64**	**346**	P	**P**	**22 14 26.3**	**+1.2**
833A	**Chaparral WMA,** baz=164,SNR=7.6	**29.64**	**346**	P	**P**	**22 14 26.0**	**+0.9**
PB07	**IPOC Station P**	**29.77**	**137**	P	**P**	**22 14 27.8**	**+1.2**
DWPF	**Disney Wildern** baz=200	**30.00**	**18**	P	**P**	**22 14 29.1**	**+0.8**
SLBS	**Sierra La Lagu**	**30.02**	**324**	P	**P**	**22 14 29.4**	**+0.8**
SLBS	comp=Z,45nm,1.3s			lAmb	lAmb	22 14 30.7	
PB09	**IPOC Station P**	**30.27**	**136**	P	**P**	**22 14 31.7**	**+0.8**
PB09	comp=Z,28nm,0.9s			lAmb	lAmb	22 14 40.4	
PB05	**IPOC Station P**	**30.33**	**139**	P	**P**	**22 14 32.2**	**+0.8**
PB05	comp=Z,29nm,1.0s			lAmb	lAmb	22 14 34.8	
HPIG		**30.52**	**334**	P	**P**	**22 14 33.7**	**+0.6**
HPIG	comp=Z,32nm,1.0s			lAmb	lAmb	22 14 35.5	
LPIG	**La Paz** comp=Z,578nm,21.1s,baz=130,slow=30	**30.55**	**324**	LR	LR	22 23 41.6	
HKT	**Hockley**	**30.55**	**352**	P	**P**	**22 14 34.2**	**+1.1**
HKT	comp=Z,101nm,1.9s			lAmb	lAmb	22 14 43.3	
HKT	**Hockley**	**30.55**	**352**	P	**P**	**22 14 34.2**	**+1.1**
HKT	comp=Z,101nm,2.0s			pmax	pmax		
HKT	**Hockley** baz=171	**30.55**	**352**	P	**P**	**22 14 34.1**	**+1.0**
PB06	**IPOC Station P**	**30.65**	**138**	P	**P**	**22 14 32.8**	**-1.5**
PB06	comp=Z,48nm,1.1s			lAmb	lAmb	22 14 37.7	
HNDO	**Hondo**	**30.77**	**347**	P	**P**	**22 14 36.0**	**+0.9**
DRIO	**Del Rio**	**31.01**	**344**	P	**P**	**22 14 37.0**	**-0.2**
DRIO	comp=Z,39nm,1.1s			lAmb	lAmb	22 14 38.6	
BOAV	**Boa Vista**	**31.02**	**85**	P	**P**	**22 14 36.3**	**-1.2**
BOAV	**Boa Vista**	**31.02**	**85**	*eP*	**P**	**22 14 36.9**	**-0.6**
LVC	**Limon Verde**	**31.04**	**137**	P	**P**	**22 14 38.6**	**+0.7**
LVC	comp=Z,45nm,1.1s			pmax	pmax		
LVC	**Limon Verde** comp=Z,663nm,19.6s,baz=316,slow=31	**31.04**	**137**	LR	LR	22 24 32.4	
LVC	**Limon Verde**	**31.04**	**137**	*eP*	**P**	**22 14 38.3**	**+0.4**
RPN	**Rapa Nui** comp=Z,500nm,18.1s,baz=80,slow=30	**31.60**	**212**	LR	LR	22 24 06.5	
435B	**Jarrell**	**31.64**	**350**	P	**P**	**22 14 43.6**	**+0.9**
435B	**Jarrell** baz=168	**31.64**	**350**	P	**P**	**22 14 43.2**	**+0.5**
JCT	**Junction City**	**31.81**	**346**	P	**P**	**22 14 44.8**	**+0.6**
JCT				lAmb	lAmb	22 14 46.9	
	comp=Z,28nm,0.8s						
JCT	**Junction City**	**31.81**	**346**	P	**P**	**22 14 45.0**	**+0.8**
JCT				pmax	pmax		
	comp=Z,28nm,0.8s						
JCT	**Junction City** baz=164,SNR=11	**31.81**	**346**	P	**P**	**22 14 44.9**	**+0.6**
JCT	**Junction City** baz=164,SNR=11	**31.81**	**346**	P	**P**	**22 14 44.9**	**+0.6**
TXAR	**Lajitas Array**	**31.88**	**339**	P	**P**	**22 14 45.3**	**+0.4**
TXAR	**Lajitas Array** comp=Z,24nm,1.0s,baz=152,slow=10,SNR=80	**31.88**	**339**	P	**P**	**22 14 45.5**	**+0.6**
TXAR				PcP	**PcP**	**22 17 36.1**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=150,slow=3.8,SNR=3.5						
TXAR				LR	LR	22 26 23.3	
	comp=Z,1μm,18.7s,baz=138,slow=34 comp=Z,24nm,1.0s						
TX31	**Lajitas Ar. Si**	**31.88**	**339**	P	**P**	**22 14 45.6**	**+0.6**
TX31				lAmb	lAmb	22 14 47.1	
	comp=Z,74nm,1.6s						
TX31	**Lajitas Ar. Si** baz=156,SNR=36	**31.88**	**339**	P	**P**	**22 14 45.7**	**+0.7**
SAND	**Sanderson**	**31.94**	**342**	P	**P**	**22 14 46.2**	**+0.7**
SAND	comp=Z,33nm,1.0s			lAmb	lAmb	22 14 47.4	
GRHS	**Sauteurs**	**32.14**	**66**	*eP*	P	22 14 54.1	+6.8
NATX	**Nacogdoches** baz=174,SNR=5.1	**32.21**	**355**	P	**P**	**22 14 48.6**	**+0.9**
NATX	**Nacogdoches** baz=174,SNR=5.1	**32.21**	**355**	P	**P**	**22 14 49.0**	**+1.2**
GO02	**Mina Guanaco** comp=Z,49nm,1.1s	**32.35**	**141**	lAmb	lAmb	22 14 53.1	
BRDY	**Brady** comp=Z,22nm,0.8s	**32.40**	**348**	lAmb	lAmb	22 14 50.8	
VBMS	**Vicksburg** baz=182	**32.53**	**1**	P	**P**	**22 14 51.1**	**+0.6**
OZNA	**Ozona** comp=Z,32nm,0.7s	**32.57**	**344**	lAmb	lAmb	22 14 52.2	
TIGA	**Tifton** baz=194	**32.60**	**12**	P	**P**	**22 14 51.6**	**+0.4**
TIGA	**Tifton** baz=194	**32.60**	**12**	P	**P**	**22 14 51.5**	**+0.4**
WHTX	**Lake Whitney,** comp=Z,54nm,1.1s	**32.80**	**350**	lAmb	lAmb	22 14 54.8	
WHTX	**Lake Whitney,** baz=169	**32.80**	**350**	P	**P**	**22 14 53.4**	**+0.5**
WHTX	**Lake Whitney,** baz=169	**32.80**	**350**	P	**P**	**22 14 53.9**	**+1.0**
ALPN	**Alpine** comp=Z,44nm,1.6s	**32.82**	**340**	lAmb	lAmb	22 14 55.1	
146A	**Union** comp=Z,36nm,0.8s	**33.02**	**4**	lAmb	lAmb	22 14 56.2	
146A	**Union** baz=184	**33.02**	**4**	P	**P**	**22 14 55.3**	**+0.5**
VILB	**Vilhena**	**33.32**	**113**	*eP*	**P**	**22 14 58.5**	**+0.8**
MNHN	**Monahans** comp=Z,50nm,1.5s	**33.43**	**342**	lAmb	lAmb	22 15 00.2	
AC06	**Mina Cassimiro** comp=Z,65nm,1.3s	**33.51**	**145**	lAmb	lAmb	22 15 03.0	
Z41A	**Richland Creek** comp=Z,28nm,0.9s	**33.59**	**358**	lAmb	lAmb	22 15 00.2	
LRAL	**Lakeview Retre** comp=Z,48nm,1.8s	**33.60**	**7**	lAmb	lAmb	22 15 01.1	
LRAL	**Lakeview Retre** baz=188	**33.60**	**7**	P	**P**	**22 14 59.9**	**+0.1**
LRAL	**Lakeview Retre** baz=188	**33.60**	**7**	P	**P**	**22 15 00.1**	**+0.2**
Z47A	**Carrollton** comp=Z,44nm,0.9s	**33.65**	**5**	lAmb	lAmb	22 15 01.3	
Z47A	**Carrollton** baz=186,SNR=8.3	**33.65**	**5**	P	**P**	**22 15 00.3**	**+0.1**
SIV	**San Ignacio** comp=Z,1μm,20.4s,baz=304,slow=36	**33.66**	**119**	LR	LR	22 28 16.6	
Z38A	**Mt. Pleasant** baz=179	**33.73**	**355**	P	**P**	**22 15 02.2**	**+1.2**
PLPT	**Palo Pinto** comp=Z,39nm,1.1s	**33.75**	**350**	lAmb	lAmb	22 15 04.2	
FW06	**Azle** comp=Z,28nm,0.9s	**33.78**	**351**	lAmb	lAmb	22 15 03.1	
PECS	**Pecos** comp=Z,33nm,1.1s	**33.81**	**341**	lAmb	lAmb	22 15 03.7	
ABTX	**Abilene, Hawle** comp=Z,33nm,0.9s	**33.83**	**347**	lAmb	lAmb	22 15 04.5	
ABTX	**Abilene, Hawle** baz=165,SNR=9.0	**33.83**	**347**	P	**P**	**22 15 02.5**	**+0.6**
ABTX	**Abilene, Hawle** baz=165,SNR=9.0	**33.83**	**347**	P	**P**	**22 15 02.0**	**0.0**
154A	**Montrose** baz=195	**33.84**	**13**	P	**P**	**22 15 01.9**	**0.0**
Z35A	**Perchaven, San** baz=169,SNR=7.3	**34.08**	**351**	P	**P**	**22 15 04.5**	**+0.5**
SRIG	**Santa Rosalia** comp=Z,46nm,1.2s	**34.13**	**326**	lAmb	lAmb	22 15 06.4	
Y49A	**Blount Mountai** baz=189	**34.48**	**7**	P	**P**	**22 15 07.2**	**-0.3**
GOGA	**Godfrey** baz=194	**34.53**	**12**	P	**P**	**22 15 07.1**

CO01 Juntas del Tor 35.67 147 P P 22 15 18.1 0.0
CO01 IAmb IAmb 22 15 21.6
comp=Z,33nm,1.1s
WMOK Wichita Mounta 35.71 350 P 22 15 17.7 -0.4
WMOK Wichita Mounta 35.71 350 P P 22 15 17.7 -0.4
WMOK pmax pmax
comp=Z,60nm,1.0s
WMOK Wichita Mounta 35.71 350 P P 22 15 18.1 0.0
baz=167,SNR=64
WMOK Wichita Mounta 35.71 350 P P 22 15 18.2 +0.1
baz=167,SNR=64
W35A Tecumseh 35.81 352 P 22 15 18.4 -0.6
Y57A Sumter 35.84 16 P P 22 15 18.8 -0.5
Y57A IAmb IAmb 22 15 19.9
comp=Z,43nm,0.8s
Y57A Sumter 35.84 16 P P 22 15 19.0 -0.3
baz=199
Y57A P P 22 15 19.0 -0.3
baz=199
ITTB Itaituba 35.85 97 eP P 22 15 19.8 +0.2
JSC Jenkinsville 35.87 14 P P 22 15 18.9 -0.6
JSC IAmb IAmb 22 15 19.8
comp=Z,48nm,1.2s
JSC Jenkinsville 35.87 14 P P 22 15 18.9 -0.6
JSC pmax pmax
comp=Z,48nm,1.2s
SWET Sewanee 35.88 8 P P 22 15 18.5 -1.1
SWET IAmb IAmb 22 15 20.4
comp=Z,39nm,1.2s
MSTX Muleshoe 35.89 344 P P 22 15 20.6 +0.7
MSTX Muleshoe 35.89 344 P P 22 15 20.5 +0.7
baz=160,SNR=30
MSTX Muleshoe 35.89 344 P P 22 15 20.0 +0.2
baz=160,SNR=30
319A Douglas 35.93 333 P P 22 15 21.0 +0.8
FNO Franklin 35.99 352 P 22 15 21.1 +0.6
CO03 El Pedregal 36.03 149 P P 22 15 21.9 +0.8
OKCSW OKLAHOMA CITY 36.14 352 P 22 15 22.2 +0.4
CO02 Combarbal 36.16 150 P P 22 15 24.0 +1.8
PDRB Porto dos Gac 36.16 109 eP P 22 15 22.2 -0.1
BG3 Lake Jocassee 36.17 12 P P 22 15 22.1 0.0
CASEE Lake Jocassee 36.17 12 P P 22 15 22.0 -0.1
baz=194,SNR=5.0
FCAR Ozark Folk Cen 36.19 359 P P 22 15 22.4 +0.2
PAULI Pauline 36.25 13 P P 22 15 21.8 -0.9
PAULI IAmb IAmb 22 15 23.6
comp=Z,31nm,0.9s
PAULI Pauline 36.25 13 P P 22 15 22.6 -0.1
baz=196,SNR=8.6
V48A Smith Brothers 36.29 6 P P 22 15 22.1 -1.0
V48A IAmb IAmb 22 15 23.9
comp=Z,51nm,1.1s
V48A Smith Brothers 36.29 6 P P 22 15 22.5 -0.6
baz=188,SNR=13
121A Cookes Peak, D 36.30 336 P P 22 15 24.4 +1.1
121A IAmb IAmb 22 15 26.2
comp=Z,55nm,1.0s
121A Cookes Peak, D 36.30 336 P P 22 15 24.9 +1.6
baz=152,SNR=43
121A Cookes Peak, D 36.30 336 P P 22 15 24.7 +1.3
baz=152,SNR=43
CPCT Cooper Cave 36.32 10 P P 22 15 22.9 -0.4
SMWD Samnorwood 36.35 348 P P 22 15 24.2 +0.6
LCAR Lake Charles 36.37 0 P P 22 15 23.5 -0.2
LCAR IAmb IAmb 22 15 24.8
comp=Z,47nm,0.9s
BIRD Birdtown, Kers 36.42 15 P P 22 15 24.2 +0.1
BIRD Birdtown, Kers 36.42 15 P P 22 15 23.5 -0.6
baz=198,SNR=6.0
TUL3 Leonard 36.44 354 P P 22 15 23.9 -0.4
TUL3 Leonard 36.44 354 P P 22 15 23.9 -0.4
baz=172,SNR=18
TUL3 Leonard 36.44 354 P P 22 15 23.6 -0.7
baz=172,SNR=18
DEOK Depew 36.45 353 P 22 15 24.1 -0.3
AMTX Amarillo 36.47 346 P P 22 15 25.2 +0.5
AMTX Amarillo 36.47 346 P P 22 15 25.1 +0.4
baz=162
AMTX Amarillo 36.47 346 P P 22 15 24.8 +0.1
baz=162,SNR=11
OK029 Liberty Lake 36.53 352 P 22 15 24.9 -0.2
OK029 IAmb IAmb 22 15 26.1
comp=Z,63nm,1.1s
NPGB Novo Progresso 36.54 101 eP P 22 15 25.2 -0.4
CSTR Hydro, Custer 36.58 350 P 22 15 26.1 +0.5
WVT Waverly 36.58 5 P P 22 15 25.0 -0.5
WVT Waverly 36.58 5 P P 22 15 25.0 -0.5
WVT pmax pmax
comp=Z,31nm,1.1s
WVT Waverly 36.58 5 P P 22 15 25.2 -0.3
baz=186
WVT Waverly 36.58 5 P P 22 15 24.5 -1.0
baz=186,SNR=9.8
OK052 Battle Ridge R 36.63 353 P 22 15 26.1 +0.1
X58A Rowland 36.64 17 P P 22 15 25.9 -0.1
baz=200
X58A P P 22 15 25.9 -0.1
baz=200
HHAR Hobbs 36.65 357 P P 22 15 26.3 +0.2
HHAR IAmb IAmb 22 15 27.4
comp=Z,40nm,1.2s
TKL Tuckaleechee C 36.65 10 P P 22 15 26.3 +0.1
TKL IAmb IAmb 22 15 34.3
comp=Z,69nm,1.8s
TKL Tuckaleechee C 36.65 10 P P 22 15 26.3 +0.1
TKL pmax pmax
comp=Z,69nm,1.8s
TKL Tuckaleechee C 36.65 10 P P 22 15 26.1 -0.1
baz=193
TKL Tuckaleechee C 36.65 10 LR LR 22 30 57.2
comp=Z,253nm,19.0s,baz=186,slow=37
KMSC Kings Mountain 36.67 14 P P 22 15 26.1 -0.2
KMSC IAmb IAmb 22 15 27.1
comp=Z,31nm,0.9s
KMSC Kings Mountain 36.67 14 P P 22 15 25.9 -0.4
baz=197,SNR=8.0
KMSC Kings Mountain 36.67 14 P P 22 15 25.8 -0.5
baz=197,SNR=8.0
U40A Yellville 36.67 358 P P 22 15 26.7 +0.3
baz=178,SNR=16
U40A P P 22 15 26.7 +0.3
baz=178,SNR=16
CLTN Cedars of Leba 36.69 7 P P 22 15 26.6 +0.1
OK033 Mehan 36.70 352 P 22 15 26.1 -0.5
OK033 IAmb IAmb 22 15 32.9
comp=Z,37nm,0.9s
QUOK Quay 36.80 353 P 22 15 27.6 +0.2
U38A Gravette 36.84 356 P P 22 15 28.1 +0.4
U38A IAmb IAmb 22 15 29.0
comp=Z,56nm,1.1s
U38A Gravette 36.84 356 P P 22 15 27.6 -0.1
baz=175,SNR=24
V53A Saluda 36.85 12 P P 22 15 27.9 0.0
baz=194
V53A P P 22 15 27.9 0.0
baz=194
DUN6 Lazy B Ranch 36.85 335 P P 22 15 29.6 +1.6
CLDB Colider 36.87 108 eP P 22 15 28.3 0.0
PARMO Parma 36.99 2 P P 22 15 29.6 +0.6
W57A Gilead 37.02 16 P P 22 15 28.7 -0.5
baz=199
W57A P P 22 15 28.7 -0.5
baz=199
OK048 Pawnee Station 37.07 353 P 22 15 29.6 -0.1
PBMO Poplar Bluff 37.08 1 P P 22 15 30.1 +0.3
PBMO IAmb IAmb 22 15 31.1
comp=Z,63nm,0.9s
PBMO Poplar Bluff 37.08 1 P P 22 15 29.9 +0.1
baz=182,SNR=19
ELIS Ellis County 37.12 349 P P 22 15 30.4 +0.2
MALB Monte Alegre 37.17 92 eP P 22 15 30.9 0.0
U49A Red Boiling Sp 37.18 8 P P 22 15 30.2 -0.4
U49A Red Boiling Sp 37.18 8 P P 22 15 30.0 -0.6
baz=189,SNR=6.9
Y22A Socorro 37.22 338 P P 22 15 32.6 +1.3
baz=154,SNR=27
CROK Carrier 37.30 351 P 22 15 31.2 -0.5
T42A Van Buren 37.32 0 P P 22 15 31.9 +0.1
T42A Van Buren 37.32 0 P P 22 15 31.4 -0.4
baz=180
Y22D IRIS PASSCAL I 37.33 339 P P 22 15 33.5 +1.4
Y22D IRIS PASSCAL I 37.33 339 P P 22 15 33.8 +1.7
baz=154
Y22F Passcal Instru 37.33 339 P P 22 15 34.1 +2.0
baz=154

U32A Winter Ranch, 37.35 350 P 22 15 32.2 +0.1
U32A Winter Ranch, 37.35 350 P P 22 15 32.6 +0.6
baz=167,SNR=11
V55A Taylorsville 37.38 14 P P 22 15 32.3 0.0
V55A Taylorsville 37.38 14 P P 22 15 31.7 -0.7
baz=197
V55A P P 22 15 31.7 -0.7
baz=197
OK038 West end E0370 37.40 350 P P 22 15 32.7 +0.2
T45A Paducah 37.40 4 P P 22 15 32.6 +0.1
TUC Tucson 37.40 332 P P 22 15 33.8 +1.1
TUC IAmb IAmb 22 15 35.1
comp=Z,43nm,1.0s
TUC Tucson 37.40 332 P P 22 15 33.8 +1.1
TUC pmax pmax
comp=Z,43nm,1.0s
TUC Tucson 37.40 332 P P 22 15 34.3 +1.6
baz=147
BLOK Blackwell 37.44 352 P P 22 15 33.0 +0.1
MGMO Mountain Grove 37.45 359 P P 22 15 33.6 +0.7
MGMO IAmb IAmb 22 15 34.6
comp=Z,82nm,1.1s
T47A Sharon Grove 37.49 6 P P 22 15 33.2 -0.1
T47A IAmb IAmb 22 15 34.2
comp=Z,62nm,0.9s
T47A Sharon Grove 37.49 6 P P 22 15 32.8 -0.5
baz=187,SNR=21
T35A Sooner Cattle 37.51 353 P P 22 15 33.5 +0.1
T35B Sooner Cattle 37.51 353 P P 22 15 33.0 -0.4
baz=172,SNR=20
TZTN Tazewell 37.56 10 P P 22 15 34.2 +0.4
baz=193
OK035 E0210 Rd and N 37.62 350 P 22 15 34.4 0.0
CGM3 Cape Girardeau 37.63 2 P P 22 15 34.3 -0.1
CGM3 IAmb IAmb 22 15 35.6
comp=Z,55nm,1.1s
OK032 Salt Plains WL 37.63 351 P P 22 15 34.3 -0.2
VA03 San Esteban 37.65 151 P P 22 15 35.0 +0.3
CNNC Cliffs of the 37.72 18 P P 22 15 34.8 -0.4
baz=202
KAN13 South Haven SW 37.73 352 P P 22 15 35.4 +0.1
KAN14 Manchester OK 37.74 351 P P 22 15 34.9 -0.5
KAN14 IAmb IAmb 22 15 36.2
comp=Z,61nm,1.1s
MT02 Curacav 37.77 152 P P 22 15 37.2 +1.5
MT02 IAmb IAmb 22 15 44.4
comp=Z,70nm,1.1s
KAN17 Caldwell West 37.80 352 P P 22 15 36.1 +0.3
V58A Windy Hill, Pi 37.87 16 P P 22 15 36.0 -0.4
V58A Windy Hill, Pi 37.87 16 P P 22 15 35.5 -0.9
baz=200,SNR=5.4
V58A P P 22 15 35.5 -0.9
baz=200,SNR=5.4
KAN09 Caldwell North 37.87 352 P P 22 15 36.8 +0.3
U54A Nelsons Funny 37.88 13 P P 22 15 36.5 -0.1
U54A Nelsons Funny 37.88 13 P P 22 15 35.8 -0.8
baz=196,SNR=5.7
U54A P P 22 15 35.8 -0.8
baz=196,SNR=5.7
PEL Peldehue 37.89 151 P P 22 15 37.8 +1.0
PEL Peldehue 37.89 151 P P 22 15 37.8 +1.0
PEL pmax pmax
comp=Z,67nm,0.9s
ANMO Albuquerque 37.95 340 P P 22 15 37.9 +0.5
ANMO IAmb IAmb 22 15 39.6
comp=Z,32nm,0.9s
ANMO Albuquerque 37.95 340 P P 22 15 37.9 +0.5
ANMO pmax pmax
comp=Z,32nm,1.0s
ANMO Albuquerque 37.95 340 P P 22 15 38.3 +0.8
baz=155
ANMO Albuquerque 37.95 340 P P 22 15 38.5 +1.1
baz=155,SNR=47
ANMO Albuquerque 37.95 340 LR LR 22 30 19.2
comp=Z,2um,18.2s,baz=249,slow=35
S39A Bolivar 38.02 358 P P 22 15 38.1 +0.3
S39A Bolivar 38.02 358 P P 22 15 38.1 +0.3
baz=177,SNR=75
S44A Carbondale 38.04 3 P P 22 15 38.6 +0.7
S44A IAmb IAmb 22 15 39.3
comp=Z,65nm,1.0s
S44A Carbondale 38.04 3 P P 22 15 37.9 0.0
baz=183,SNR=11
U56A King 38.05 15 P P 22 15 38.5 +0.5
baz=198
U56A P P 22 15 38.5 +0.5
baz=198
SIUC Southern Illin 38.06 3 P P 22 15 38.4 +0.3
SIUC IAmb IAmb 22 15 39.4
comp=Z,74nm,1.1s
KAN12 Harper NE Stat 38.08 351 P P 22 15 38.7 +0.4
214A Organ Pipe Nat 38.09 330 P P 22 15 39.5 +1.0
214A IAmb IAmb 22 15 40.8
comp=Z,51nm,0.8s
214A Organ Pipe Nat 38.09 330 P P 22 15 39.4 +1.0
baz=144,SNR=22
PIX Pinacate 38.11 329 P P 22 15 39.4 +0.8
MT16 CCHEN 38.20 151 P P 22 15 40.3 +0.8
MT16 IAmb IAmb 22 15 47.7
comp=Z,55nm,0.9s
RTBA Rita Blanca 38.21 345 P P 22 15 40.2 +0.7
MT01 Popeta 38.22 152 P P 22 15 40.3 +0.9
MT01 IAmb IAmb 22 15 41.7
comp=Z,38nm,0.9s
MT03 Universidad Ad 38.26 151 IAmb IAmb 22 15 42.8
comp=Z,116nm,1.5s
MT09 Talagante 38.27 152 P P 22 15 40.6 +0.6
MT09 IAmb IAmb 22 15 42.2
comp=Z,41nm,0.8s
FVM French Village 38.29 1 P P 22 15 39.9 -0.1
baz=182,SNR=6.1
CCM Cathedral Cave 38.35 0 P P 22 15 40.6 +0.2
CCM Cathedral Cave 38.35 0 P P 22 15 40.6 +0.2
CCM pmax pmax
comp=Z,94nm,0.9s
CCM Cathedral Cave 38.35 0 P P 22 15 40.7 +0.2
baz=180
CCM Cathedral Cave 38.35 0 P P 22 15 40.8 +0.3
baz=180,SNR=54
USIN University of 38.41 5 P P 22 15 41.1 +0.1
SALV Santo Antonio 38.42 115 eP P 22 15 42.1 +0.7
SFX San Felipe 38.44 327 P P 22 15 41.6 +0.2
SFX IAmb IAmb 22 15 43.7
comp=Z,86nm,1.4s
MT13 San Alfonso 38.57 151 P P 22 15 43.0 +0.4
MT13 IAmb IAmb 22 15 51.4
comp=Z,47nm,0.9s
R40A Maddies Statio 38.59 359 P P 22 15 42.9 +0.4
R40A Maddies Statio 38.59 359 P P 22 15 42.5 0.0
baz=178,SNR=44
S51A Beattyville 38.61 10 P P 22 15 41.1 -1.6
S51A Beattyville 38.61 10 P P 22 15 42.5 -0.3
baz=192
S51A P P 22 15 42.5 -0.3
baz=192
BO04 La Punta 38.62 152 P P 22 15 44.0 +1.1
LMEL Las Melosas 38.70 151 P P 22 15 44.2 +0.5
LMEL IAmb IAmb 22 15 47.0
comp=Z,64nm,0.9s
BO01 Tunca 38.73 153 IAmb IAmb 22 15 46.5
comp=Z,40nm,0.9s
U59A Littleton 38.77 18 P P 22 15 43.2 -0.8
baz=202
U59A P P 22 15 43.2 -0.8
baz=202
WCI Wyandotte Cave 38.81 6 P P 22 15 44.3 0.0
WCI IAmb IAmb 22 15 45.3
comp=Z,57nm,0.9s
WCI Wyandotte Cave 38.81 6 P P 22 15 44.3 0.0
WCI pmax pmax
comp=Z,57nm,0.9s
WCI Wyandotte Cave 38.81 6 P P 22 15 44.3 0.0
baz=188
WCI Wyandotte Cave 38.81 6 P P 22 15 44.0 -0.4
baz=188,SNR=21
BLA Blacksburg 38.86 14 IAmb IAmb 22 15 51.1
comp=Z,46nm,1.1s
BLA Blacksburg 38.86 14 P P 22 15 44.7 -0.2
baz=198,SNR=5.6
BLA Blacksburg 38.86 14 P P 22 15 45.0 +0.1
baz=198,SNR=5.6
GO05 Huala 38.87 154 P P 22 15 45.5 +0.5
X18A Snowflake 38.92 335 IAmb IAmb 22 15 48.3
comp=Z,69nm,1.3s
T57A Hurt 38.96 16 P P 22 15 44.6 -1.0
baz=199,SNR=6.1

T57A P P 22 15 44.6 -1.0
baz=199,SNR=6.1
R49A Shelbyville 39.01 8 P P 22 15 45.4 -0.6
baz=190,SNR=7.0
R49A P P 22 15 45.4 -0.6
baz=190,SNR=7.0
MURT Porto Murtinho 39.10 125 eP P 22 15 47.8 +0.7
MDP Montagnes des 39.12 81 LR LR 22 31 31.4
comp=Z,1um,18.9s,baz=260,slow=36
R50A Paris 39.12 9 P P 22 15 46.7 -0.2
baz=191
R50A P P 22 15 46.7 -0.2
baz=191
OLIL Olney 39.14 4 IAmb IAmb 22 15 48.4
comp=Z,77nm,1.1s
OLIL Olney 39.14 4 P P 22 15 47.2 +0.1
baz=185,SNR=12
BO02 Sierra Bellavi 39.20 153 IAmb IAmb 22 15 56.7
comp=Z,61nm,1.1s
S54A Dingess, Beckl 39.22 13 P P 22 15 47.1 -0.8
baz=196
S54A P P 22 15 47.1 -0.8
baz=196
113A Mohawk Valley, 39.22 330 IAmb IAmb 22 15 50.3
comp=Z,48nm,0.8s
Q44A Meyer Farm, Va 39.26 3 IAmb IAmb 22 15 49.1
comp=Z,70nm,1.0s
Q44A Meyer Farm, Va 39.26 3 P P 22 15 47.9 -0.1
baz=184
BDQN Bodoquena, MS 39.27 123 eP P 22 15 48.3 -0.2
R32A Long Quarter, 39.29 351 P P 22 15 48.7 +0.2
baz=168,SNR=28
T25A Trinidad 39.32 344 P P 22 15 50.5 +1.5
baz=159,SNR=21
W18A Petrified Fore 39.34 336 P P 22 15 50.2 +1.1
baz=150
MCPB Macapa, AP 39.36 90 eP P 22 15 49.3 0.0
X16A Lo Mia Camp, P 39.47 334 IAmb IAmb 22 15 52.9
comp=Z,43nm,1.1s
KSU1 Kansas State U 39.68 354 P P 22 15 52.0 +0.4
baz=172,SNR=34
KSU1 Kansas State U 39.68 354 P P 22 15 51.8 +0.2
baz=172,SNR=34
BLO Bloomington 39.72 6 IAmb IAmb 22 15 52.6
comp=Z,40nm,0.8s
ML02 Panimavida 39.73 154 IAmb IAmb 22 15 54.8
comp=Z,67nm,1.1s
Y14A Wickenburg 39.79 331 IAmb IAmb 22 15 55.1
comp=Z,41nm,0.9s
P40A Paris 39.82 359 IAmb IAmb 22 15 53.9
comp=Z,69nm,0.9s
P40A Paris 39.82 359 P P 22 15 53.0 +0.2
baz=179,SNR=13
CBKS Cedar Bluff 39.85 350 IAmb IAmb 22 15 54.6
comp=Z,80nm,1.1s
CBKS Cedar Bluff 39.85 350 P P 22 15 53.7 +0.6
baz=167,SNR=10
CBKS Cedar Bluff 39.85 350 P P 22 15 53.5 +0.4
baz=167,SNR=10
R55A Marlinton 39.95 14 P P 22 15 54.1 +0.1
baz=198
R55A P P 22 15 54.1 +0.1
baz=198
P38A Dawn 39.96 357 IAmb IAmb 22 15 55.3
comp=Z,64nm,1.4s
P38A Dawn 39.96 357 P P 22 15 53.8 -0.2
baz=177,SNR=10
P43A Skaggs, Pawnee 39.97 2 IAmb IAmb 22 15 55.1
comp=Z,43nm,1.0s
P43A Skaggs, Pawnee 39.97 2 P P 22 15 54.3 +0.4
baz=183
GLA Glamis 39.99 329 IAmb IAmb 22 15 56.9
comp=Z,85nm,1.1s
GLA Glamis 39.99 329 P P 22 15 55.9 +1.6
baz=142,SNR=15
Q51A Peebles 40.01 10 IAmb IAmb 22 15 55.4
comp=Z,84nm,1.2s
Q51A Peebles 40.01 10 P P 22 15 54.0 -0.3
baz=192,SNR=11
Q51A P P 22 15 54.0 -0.3
baz=192,SNR=11
ESFA Espinillo Form 40.06 130 eP P 22 15 55.6 +0.6
P46A Rosedale 40.09 5 IAmb IAmb 22 15 55.9
comp=Z,100nm,1.6s
P46A Rosedale 40.09 5 P P 22 15 54.7 -0.3
baz=186,SNR=6.4
P48A Milroy 40.13 7 IAmb IAmb 22 15 55.6
comp=Z,53nm,1.1s
P48A Milroy 40.13 7 P P 22 15 54.6 -0.8
baz=189,SNR=12
P48A P P 22 15 54.6 -0.8
baz=189,SNR=12
Q52A Bidwell 40.14 11 IAmb IAmb 22 15 56.3
comp=Z,55nm,1.1s
Q52A Bidwell 40.14 11 P P 22 15 54.8 -0.7
baz=194,SNR=9.4
Q52A P P 22 15 54.8 -0.7
baz=194,SNR=9.4
AQDB Aquidauana 40.17 122 P P 22 15 56.7 +0.7
AQDB IAmb IAmb 22 16 03.9
comp=Z,93nm,1.1s
AQDB Aquidauana 40.17 122 eP P 22 15 55.5 -0.5
SDCO Great Sand Dun 40.20 343 IAmb IAmb 22 15 58.5
comp=Z,145nm,1.9s
SDCO Great Sand Dun 40.20 343 P P 22 15 57.4 +1.1
baz=158,SNR=23
SDCO Great Sand Dun 40.20 343 P P 22 15 57.3 +0.9
baz=158,SNR=23
YUH Yuha Desert 40.26 327 IAmb IAmb 22 15 59.2
comp=Z,101nm,1.7s
P49A Miami Univ. Ec 40.29 8 P P 22 15 57.0 +0.3
baz=190
P49A Miami Univ. Ec 40.29 8 P P 22 15 56.0 -0.7
baz=190
IKP In-Ko-Pah, Jac 40.36 327 P P 22 15 58.6 +1.1
baz=140,SNR=13
WUAZ Wupatki 40.37 335 P P 22 15 59.3 +1.7
baz=148,SNR=86
BLYC Blythe 40.39 330 IAmb IAmb 22 16 00.2
comp=Z,58nm,1.0s
CBX Cerro Bola 40.41 326 IAmb IAmb 22 16 00.6
comp=Z,75nm,1.3s
SWSC Sam W. Stewart 40.42 328 P P 22 15 58.9 +1.1
baz=140
Q54A Coxs Mills 40.46 13 P P 22 15 57.1 -1.0
baz=196,SNR=5.8
Q54A P P 22 15 57.1 -1.0
baz=196,SNR=5.8
P51A Williamsport 40.50 10 P P 22 15 58.2 -0.2
baz=193
P51A P P 22 15 58.2 -0.2
baz=193
O44A Mansfield 40.53 3 P P 22 15 58.5 -0.2
baz=184,SNR=18
TKX Tecate 40.57 326 IAmb IAmb 22 16 01.7
comp=Z,59nm,1.0s
ANTJ Antonio Joao (40.58 124 eP P 22 15 59.9 +0.4
CBN Corbin Frederi 40.61 17 P P 22 15 59.9 +0.5
baz=202
KSCO Kaye Shedlock' 40.63 347 IAmb IAmb 22 16 01.6
comp=Z,102nm,1.6s
KSCO Kaye Shedlock' 40.63 347 P P 22 16 00.5 +0.8
baz=162,SNR=6.2
KSCO Kaye Shedlock' 40.63 347 P P 22 16 00.3 +0.6
baz=162,SNR=6.2
PDMCI Parker Dam,Lak 40.64 331 P P 22 16 01.0 +1.4
baz=144,SNR=17
BAR Barrett 40.69 327 IAmb IAmb 22 16 02.6
comp=Z,37nm,0.9s
MVCO Mesa Verde 40.70 339 IAmb IAmb 22 16 02.6
comp=Z,66nm,1.2s
MVCO Mesa Verde 40.70 339 P P 22 16 01.2 +0.7
baz=153,SNR=36
MONP2 Monument Peak 40.72 327 P P 22 16 01.7 +1.1
baz=140,SNR=7.1
BC3 Big Chuckawall 40.79 329 P P 22 16 02.0 +1.0
baz=141,SNR=45
P52A Corning 40.82 11 P P 22 16 00.9 -0.1
baz=194,SNR=7.7
P53A Whipple 40.82 12 P P 22 16 01.2 +0.1
baz=195,SNR=7.5
P53A P P 22 16 01.2 +0.1
baz=195,SNR=7.5
SFIN Lafayette 40.86 5 P P 22 16 01.2 -0.1
baz=186
HDIL Hopedale 40.89 2 P P 22 16 01.1 -0.5
baz=183,SNR=11
HDIL Hopedale 40.89 2 P P 22 16 01.7 +0.1

baz=183,SNR=11
O48B Farmland 40.95 7 lAmb lAmb 22 16 02.2
comp=Z,59nm,1.4s
O48B Farmland 40.95 7 P **P** **22 16 00.4 -1.7**
baz=189,SNR=5.9
O48B Farmland 40.95 7 P **P** **22 16 01.3 -0.8**
baz=189,SNR=5.9
O49A Covington 40.99 8 P **P** **22 16 01.8 -0.6**
baz=191,SNR=6.1
O49A P **P** **22 16 01.8 -0.6**
baz=191,SNR=6.1
N41A Harden Midland 41.00 1 P **P** **22 16 02.6 +0.1**
baz=181,SNR=8.0
IRM Iron Mountain 41.02 329 P **P** **22 16 04.4 +1.5**
baz=142,SNR=21
109C Camp Elliot, M 41.09 326 P **P** **22 16 04.2 +0.8**
baz=139
N38A Joes South For 41.11 358 P **P** **22 16 03.2 -0.3**
baz=177,SNR=10.0
W13A Hualapai Mount 41.16 332 lAmb lAmb 22 16 07.0
comp=Z,48nm,1.0s
Q24A Divide 41.23 344 P **P** **22 16 05.9 +1.0**
baz=159
ACSO Alum Creek Sta 41.24 10 P **P** **22 16 06.0 +1.5**
baz=193
NEE2 Needles Airpor 41.24 331 P **P** **22 16 06.0 +1.3**
baz=143
TPFO Pinon Flats 41.28 328 P **P** **22 16 06.7 +1.5**
baz=140,SNR=16
PFO Pinyon Flats O 41.29 328 P **P** **22 16 06.1 +0.9**
PFO Pinyon Flats O 41.29 328 *i* P **P** **22 16 05.3 +0.1**
PFO pmax pmax
comp=Z,43nm,0.9s
PFO Pinyon Flats O 41.29 328 P **P** **22 16 06.6 +1.5**
baz=140,SNR=16
PFO Pinyon Flats O 41.29 328 LR LR 22 30 02.6
comp=Z,730nm,20.7s,baz=144,slow=32
MCWV Mont Chateau 41.33 14 P **P** **22 16 05.8 +0.6**
baz=198
O52A Adamsville 41.34 11 P **P** **22 16 04.8 -0.5**
baz=194,SNR=5.2
O52A P **P** **22 16 04.8 -0.5**
baz=194,SNR=5.2
BELC Belle Mtn. Jos 41.34 328 P **P** **22 16 07.1 +1.5**
baz=141,SNR=32
SNDB Serra Nova Dou 41.41 108 *eP* **P** **22 16 05.6 -0.8**
N47A Urbana 41.49 7 P **P** **22 16 05.2 -1.4**
N47A lAmb lAmb 22 16 06.3
comp=Z,47nm,1.2s
N47A Urbana 41.49 7 P **P** **22 16 05.3 -1.4**
baz=188,SNR=6.5
N47A P **P** **22 16 05.3 -1.4**
baz=188,SNR=6.5
O53A New Philadelph 41.59 12 P **P** **22 16 07.5 +0.1**
baz=195
P57A Homestead Farm 41.62 16 P **P** **22 16 06.0 -1.7**
baz=200
P57A P **P** **22 16 06.0 -1.7**
baz=200
MURC Murrieta 41.67 327 P **P** **22 16 09.3 +1.0**
baz=139
CPUP Villa Florida 41.68 131 P **P** **22 16 09.3 +1.0**
CPUP Villa Florida 41.68 131 P **P** **22 16 09.3 +1.0**
CPUP pmax pmax
comp=Z,36nm,1.3s
CPUP Villa Florida 41.68 131 P **P** **22 16 08.8 +0.5**
comp=Z,12nm,0.9s,baz=308,slow=9.4,SNR=16
comp=Z,12nm,0.9s
O54A Avella 41.71 13 P **P** **22 16 08.0 -0.3**
baz=197
O54A P **P** **22 16 08.0 -0.3**
baz=197
GMRC Granite Mounta 41.78 330 P **P** **22 16 10.8 +1.6**
baz=142,SNR=19
M44A Midewin, Midew 41.79 4 lAmb lAmb 22 16 09.2
comp=Z,41nm,1.1s
SDMD Soldier's Deli 41.89 17 P **P** **22 16 09.3 -0.5**
baz=202
ARAG Araguaiana, MT 41.90 113 *eP* **P** **22 16 10.2 -0.1**
SMCO Snowmass 41.97 342 lAmb lAmb 22 16 20.7
comp=Z,71nm,1.8s
SCI2 San Clemente I 41.97 325 P **P** **22 16 11.7 +1.1**
baz=137
V12A Nelson 42.13 331 P **P** **22 16 13.0 +1.0**
V12A lAmb lAmb 22 16 14.5
comp=Z,57nm,1.0s
ISCO Idaho Springs 42.14 344 lAmb lAmb 22 16 14.1
comp=Z,32nm,0.8s
ISCO Idaho Springs 42.14 344 P **P** **22 16 13.1 +0.8**
baz=158,SNR=50
BGNE Belgrade 42.14 352 P **P** **22 16 11.9 0.0**
baz=170
BGNE Belgrade 42.14 352 P **P** **22 16 12.5 +0.6**
baz=170
HEC Hector,Ludlow 42.16 329 P **P** **22 16 14.2 +1.9**
baz=141,SNR=17
CIS Catalina Islan 42.20 326 P **P** **22 16 13.1 +0.5**
baz=138
N53A Lisbon 42.21 12 P **P** **22 16 12.3 -0.1**
baz=196
N53A P **P** **22 16 12.3 -0.1**
baz=196
SCIA State Center 42.23 358 lAmb lAmb 22 16 13.4
comp=Z,77nm,1.3s
SCIA State Center 42.23 358 P **P** **22 16 12.1 -0.4**
baz=177,SNR=6.6
SCIA State Center 42.23 358 P **P** **22 16 12.2 -0.4**
baz=177,SNR=6.6
KNB Kanab 42.26 334 lAmb lAmb 22 16 15.8
comp=Z,44nm,1.2s
L42A Oliver, Polo 42.32 2 P **P** **22 16 12.9 -0.5**
baz=182,SNR=20
OGNE Ogallala 42.35 348 P **P** **22 16 14.3 +0.6**
baz=164,SNR=13
OGNE Ogallala 42.35 348 P **P** **22 16 13.9 +0.2**
baz=164,SNR=13
L40A Anamosa 42.35 0 lAmb lAmb 22 16 14.3
comp=Z,61nm,0.8s
L40A Anamosa 42.35 0 P **P** **22 16 13.1 -0.5**
baz=180,SNR=20
M50A Fremont 42.38 9 lAmb lAmb 22 16 14.5
comp=Z,73nm,1.0s
M50A Fremont 42.38 9 P **P** **22 16 13.4 -0.4**
baz=192,SNR=9.1
M50A P **P** **22 16 13.4 -0.4**
baz=192,SNR=9.1
PKCU Pink Cliffs 42.40 335 lAmb lAmb 22 16 17.6
comp=Z,106nm,1.3s
BFSC Mount Baldy Ra 42.41 327 P **P** **22 16 15.7 +1.4**
baz=139,SNR=14
TUQ Turquoise Moun 42.42 330 P **P** **22 16 15.7 +1.2**
baz=142,SNR=35
L34A Svendsen Farm, 42.49 355 P **P** **22 16 14.4 -0.3**
baz=172,SNR=12
PAMR Moraine State 42.49 13 P **P** **22 16 14.3 -0.5**
baz=197
BRIGG Briggsdale 42.53 345 lAmb lAmb 22 16 17.1
comp=Z,58nm,1.2s
RRX Edison Barstow 42.54 328 P **P** **22 16 16.4 +1.1**
baz=140
L44A Lake County Fo 42.58 4 P **P** **22 16 16.2 +0.7**
baz=185
GEDE Greenville 42.62 18 P **P** **22 16 15.6 -0.2**
baz=204
LR03 Panguipulli 42.68 158 lAmb lAmb 22 16 25.0
comp=Z,55nm,1.0s
L48A N Adams 42.70 8 lAmb lAmb 22 16 16.3
comp=Z,44nm,0.9s
L48A N Adams 42.70 8 P **P** **22 16 15.7 -0.7**
baz=190
L48A P **P** **22 16 15.7 -0.7**
baz=190
SNCC San Nicolas Is 42.73 324 P **P** **22 16 17.9 +1.0**
baz=136
SSPA Standing Stone 42.74 15 P **P** **22 16 16.6 -0.1**
baz=200
GSC Goldstone, Bar 42.77 329 P **P** **22 16 18.6 +1.4**
baz=141,SNR=22
DECC Green Verdugo 42.79 326 P **P** **22 16 18.6 +1.3**
baz=138
M53A WI Miller and 42.85 12 P **P** **22 16 17.6 0.0**
baz=196
SZCU Shurtz Canyon 42.86 334 lAmb lAmb 22 16 20.9
comp=Z,54nm,1.2s
SHPR Sheep Range 42.90 332 P **P** **22 16 18.9 +0.5**
K38A Parkersburg 42.95 359 P **P** **22 16 18.0 -0.4**
baz=178,SNR=24
SHOC Shoshone, Teco 42.97 330 P **P** **22 16 19.8 +1.1**
baz=142,SNR=9.2
GO06 Curarrehue 42.97 157 lAmb lAmb 22 16 27.4
comp=Z,42nm,0.9s
EDW2 Edwards Air Fo 43.07 327 P **P** **22 16 20.4 +0.7**
baz=139,SNR=35
K43A Burlington 43.08 3 lAmb lAmb 22 16 19.7
comp=Z,54nm,1.3s
K43A Burlington 43.08 3 P **P** **22 16 18.6 -0.9**
baz=184
TUPA Temple Univers 43.08 18 P **P** **22 16 19.1 -0.4**
baz=204,SNR=8.3
AAM Ann Arbor 43.16 8 lAmb lAmb 22 16 20.7
comp=Z,49nm,1.4s
AAM Ann Arbor 43.16 8 P **P** **22 16 19.5 -0.6**
baz=191
Q16A Castle Valley 43.20 337 lAmb lAmb 22 16 23.2
comp=Z,46nm,1.1s
JFWS Jewell Farm 43.21 1 P **P** **22 16 19.9 -0.6**
JFWS lAmb lAmb 22 16 20.8
comp=Z,44nm,0.8s
JFWS Jewell Farm 43.21 1 P **P** **22 16 19.9 -0.6**
JFWS pmax pmax
comp=Z,44nm,0.8s
JFWS Jewell Farm 43.21 1 P **P** **22 16 20.0 -0.6**
baz=182,SNR=18
JFWS Jewell Farm 43.21 1 P **P** **22 16 19.4 -1.2**
baz=182,SNR=18
O20A White River Ci 43.24 341 P **P** **22 16 22.0 +0.9**
baz=155,SNR=21
N58A Sunbury 43.25 16 P **P** **22 16 20.1 -0.7**
baz=202
N58A P **P** **22 16 20.1 -0.7**
baz=202
N23A Red Feather La 43.25 344 P **P** **22 16 21.5 +0.3**
baz=158
OSI Osito Audit: C 43.27 326 P **P** **22 16 22.4 +1.1**
baz=140
CCAC Calif City Air 43.29 328 lAmb lAmb 22 16 23.8
comp=Z,57nm,1.0s
M55A Ridgway 43.30 14 P **P** **22 16 19.9 -1.5**
baz=198
M55A P **P** **22 16 19.9 -1.5**
baz=198
QSM Queen of Sheba 43.31 329 P **P** **22 16 22.9 +1.4**
QSM lAmb lAmb 22 16 24.1
comp=Z,79nm,1.1s
LR05 Currie 43.33 158 P **P** **22 16 23.0 +1.5**
LR05 lAmb lAmb 22 16 30.0
comp=Z,63nm,0.9s
SCZ2 Santa Cruz Isl 43.33 325 P **P** **22 16 22.4 +0.7**
baz=136
TMAB Tom-Au,PA,Br 43.34 93 *eP* **P** **22 16 22.1 0.0**
LRMC Laurel Mtn Rad 43.36 328 P **P** **22 16 23.4 +1.3**
baz=140,SNR=20
GWY Greenwater Val 43.39 330 P **P** **22 16 23.4 +1.1**
GWY lAmb lAmb 22 16 24.7
comp=Z,47nm,1.1s
PANJ Princeton 43.43 19 P **P** **22 16 22.3 0.0**
baz=205,SNR=5.2
P18A Preston Nutter 43.48 339 lAmb lAmb 22 16 25.3
comp=Z,42nm,1.2s
P17A Butcher Ranch, 43.52 338 lAmb lAmb 22 16 25.3
comp=Z,35nm,1.0s
K30B Basset 43.59 351 P **P** **22 16 24.2 +0.5**
baz=168,SNR=28
M57A Sunshine Farm, 43.59 16 P **P** **22 16 23.1 -0.6**
baz=201
M57A P **P** **22 16 23.1 -0.6**
baz=201
ERPA Erie 43.64 12 lAmb lAmb 22 16 24.9
comp=Z,38nm,1.1s
ERPA Erie 43.64 12 P **P** **22 16 23.6 -0.4**
baz=196
ERPA Erie 43.64 12 P **P** **22 16 23.7 -0.3**
baz=196
FURC Furnace Creek, 43.70 330 P **P** **22 16 26.4 +1.8**
baz=142,SNR=13
MPMC Manual Prospec 43.70 329 P **P** **22 16 26.1 +1.2**
baz=140,SNR=56
ARVC Arvin 43.71 327 P **P** **22 16 25.9 +1.2**
baz=138,SNR=7.7
ISA Isabella, Lake 43.92 328 P **P** **22 16 27.5 +1.0**
baz=139,SNR=16
RDMU Red Mountain 44.08 340 lAmb lAmb 22 16 35.7
comp=Z,44nm,1.3s
PKM Mcpherson Peak 44.08 326 P **P** **22 16 28.8 +0.8**
baz=137,SNR=12
S11A Rachel 44.10 332 lAmb lAmb 22 16 45.7
comp=Z,55nm,1.3s
I42A Draeger Farm, 44.23 3 lAmb lAmb 22 16 29.2
comp=Z,59nm,1.1s
I42A Draeger Farm, 44.23 3 P **P** **22 16 27.8 -1.0**
baz=184,SNR=21
PAL Palisades 44.25 19 P **P** **22 16 29.7 +0.8**
baz=205
CWC Cottonwood Cre 44.30 329 P **P** **22 16 31.0 +1.3**
baz=140
PLCA Paso Flores 44.32 157 lAmb lAmb 22 16 38.0
comp=Z,49nm,1.2s
PLCA Paso Flores 44.32 157 P **P** **22 16 30.6 +1.0**
comp=Z,16nm,1.1s,baz=328,slow=8.8,SNR=14
PLCA LR LR 22 31 26.2
comp=Z,641nm,18.2s,baz=339,slow=31
comp=Z,16nm,1.1s
PLCA Paso Flores 44.32 157 *eP* **P** **22 16 30.0 +0.4**
I37B Waseca 44.34 358 P **P** **22 16 28.7 -0.9**
baz=177,SNR=15
RWWY Rawlins 44.34 343 lAmb lAmb 22 16 38.0
comp=Z,77nm,1.6s
GRAC Grapevine Rang 44.37 330 lAmb lAmb 22 16 38.2
comp=Z,49nm,1.2s
GRAC Grapevine Rang 44.37 330 P **P** **22 16 31.8 +1.7**
baz=141,SNR=18
VES Vestal, Richgr 44.38 327 P **P** **22 16 31.6 +1.5**
baz=138,SNR=39
PCMB Pacaembu 44.41 121 *eP* **P** **22 16 31.1 +0.5**
SMMC Simmler 44.49 326 P **P** **22 16 32.7 +1.7**
baz=137,SNR=8.3
GMN Gold Mountain 44.55 330 lAmb lAmb 22 16 34.3
comp=Z,33nm,1.2s
SPR3 Spring Creek 3 44.56 334 P **P** **22 16 32.4 +0.5**
SPR3 lAmb lAmb 22 16 33.7
comp=Z,35nm,1.2s
R11B Troy Canyon, C 44.59 333 lAmb lAmb 22 16 34.6
comp=Z,36nm,1.4s
R11B Troy Canyon, C 44.59 333 P **P** **22 16 33.2 +1.3**
baz=144,SNR=33
BINY Binghamton 44.71 16 P **P** **22 16 33.4 +0.8**
baz=202
FRBT Francisco Belt 44.80 128 *eP* **P** **22 16 34.1 +0.4**
Q12A Willow Creek R 44.82 334 lAmb lAmb 22 16 36.0
comp=Z,47nm,1.2s
UNIS Unistalda (Bra 44.83 133 *eP* **P** **22 16 33.4 -0.4**
TIN Tinemaha, Big 44.85 329 P **P** **22 16 35.1 +1.1**
baz=140
H43A Windswept, Lux 44.87 4 P **P** **22 16 33.3 -0.6**
H43A lAmb lAmb 22 16 34.0
comp=Z,70nm,1.9s
DUG Dugway, Tooele 44.95 337 P **P** **22 16 35.6 +0.9**
baz=149,SNR=24
DSP Deep Springs 44.96 330 lAmb lAmb 22 16 43.3
comp=Z,40nm,1.3s
CTU Camp Tracy 44.97 338 lAmb lAmb 22 16 42.7
comp=Z,35nm,1.1s
PTGB Pitanga 45.03 125 *eP* **P** **22 16 36.0 +0.4**
K22A Casper 45.04 344 P **P** **22 16 35.3 -0.2**
baz=158,SNR=7.3
K22A Casper 45.04 344 P **P** **22 16 35.5 0.0**
baz=158,SNR=7.3
LL01 San Ignacio de 45.08 160 P **P** **22 16 36.9 +1.4**
LL01 lAmb lAmb 22 16 44.4
comp=Z,48nm,1.1s
SUSD Miller 45.23 352 P **P** **22 16 35.8 -0.9**
baz=169,SNR=7.1
SUSD Miller 45.23 352 P **P** **22 16 36.5 -0.3**
baz=169,SNR=7.1
LDASE Londrina, Braz 45.25 123 *eP* **P** **22 16 37.2 -0.1**
BDFB Brasilia 45.40 112 P **P** **22 16 38.5 -0.1**
BDFB Brasilia 45.40 112 P **P** **22 16 38.5 -0.1**
BDFB pmax pmax
comp=Z,90nm,1.1s
BDFB Brasilia 45.40 112 P **P** **22 16 38.9 +0.2**
comp=Z,23nm,0.8s,baz=277,slow=8.8,SNR=36
BDFB LR LR 22 35 48.2
comp=Z,906nm,19.1s,baz=316,slow=36
comp=Z,23nm,0.8s
RODS Rosario do Sul 45.45 134 *eP* **P** **22 16 38.9 +0.3**
GLMI Grayling 45.51 7 lAmb lAmb 22 16 39.1
comp=Z,47nm,1.1s
GLMI Grayling 45.51 7 P **P** **22 16 37.9 -1.1**
baz=189
GLMI Grayling 45.51 7 P **P** **22 16 37.9 -1.1**
baz=189
SPMN Marine on St. 45.53 359 lAmb lAmb 22 16 38.9
comp=Z,35nm,0.9s
SPMN Marine on St. 45.53 359 P **P** **22 16 38.0 -1.1**
baz=178,SNR=12
SPMN Marine on St. 45.53 359 P **P** **22 16 37.9 -1.2**
baz=178,SNR=12
G40A Rib Lake 45.57 1 lAmb lAmb 22 16 40.6
comp=Z,42nm,1.4s
G40A Rib Lake 45.57 1 P **P** **22 16 38.4 -1.0**
baz=182,SNR=13
MLAC Mammoth, Mammo 45.60 329 P **P** **22 16 41.4 +1.4**
baz=140,SNR=8.5
G45A Suttons Bay 45.61 6 lAmb lAmb 22 16 40.0
comp=Z,43nm,1.0s
G45A Suttons Bay 45.61 6 P **P** **22 16 38.3 -1.4**
baz=188,SNR=6.7
G45A P **P** **22 16 38.3 -1.4**
baz=188,SNR=6.7
BGU Big Grassy Mou 45.66 337 lAmb lAmb 22 16 42.4
comp=Z,40nm,1.2s
MDPB Devils Postpil 45.73 329 lAmb lAmb 22 16 43.4
comp=Z,24nm,1.1s
SPUT South Promonto 45.76 338 lAmb lAmb 22 16 49.0
comp=Z,38nm,1.3s
RSSD Black Hills 45.81 347 P **P** **22 16 41.8 +0.2**
RSSD lAmb lAmb 22 16 42.9
comp=Z,19nm,0.9s
RSSD Black Hills 45.81 347 P **P** **22 16 41.8 +0.2**
RSSD pmax pmax
comp=Z,19nm,1.0s
RSSD Black Hills 45.81 347 P **P** **22 16 41.5 -0.1**
baz=162
RSSD Black Hills 45.81 347 P **P** **22 16 41.9 +0.3**
baz=162,SNR=14
IPMB Ipameri, GO 45.87 115 *eP* **P** **22 16 41.8 -0.5**
NV11 Mina Array Sit 45.88 331 lAmb lAmb 22 16 44.7
comp=Z,37nm,1.1s
LHV Little Huntoon 45.91 330 lAmb lAmb 22 16 51.0
comp=Z,45nm,1.2s
NVAR Mina Array Bea 45.95 330 P **P** **22 16 42.9 +0.1**
comp=Z,19nm,0.8s,baz=158,slow=8.6,SNR=155
NVAR PcP **PcP** **22 18 19.8 +0.2**
comp=Z,2.5nm,1.0s,baz=141,slow=4.4,SNR=2.7
NVAR LR LR 22 33 32.9
comp=Z,417nm,20.3s,baz=166,slow=33
comp=Z,19nm,0.8s
J58A Remsen 45.98 16 P **P** **22 16 42.4 -0.4**
J58A lAmb lAmb 22 16 48.7
comp=Z,24nm,1.1s
J58A Remsen 45.98 16 P **P** **22 16 42.3 -0.4**
baz=203,SNR=5.9
J58A P **P** **22 16 42.3 -0.4**
baz=203,SNR=5.9
LL02 Futaleuf 45.99 160 P **P** **22 16 44.1 +1.3**
BBGB Big Mountain B 45.99 326 lAmb lAmb 22 16 47.4
comp=Z,28nm,0.9s
BW06 Boulder Array 46.04 341 P **P** **22 16 43.6 +0.1**
baz=154,SNR=15
PDAR Pinedale Array 46.04 341 P **P** **22 16 43.0 -0.5**
comp=Z,4.3nm,0.7s,baz=146,slow=8.2,SNR=27
PDAR PcP **PcP** **22 18 18.9 -0.8**
comp=Z,1.4nm,0.8s,baz=139,slow=4.4,SNR=3.7
PDAR LR LR 22 35 20.9
comp=Z,601nm,19.9s,baz=170,slow=35
comp=Z,4.3nm,0.7s
ITAB Concordia 46.14 129 *eP* **P** **22 16 44.4 +0.3**
F36A Milaca 46.19 358 lAmb lAmb 22 16 44.3
comp=Z,19nm,0.7s
F36A Milaca 46.19 358 P **P** **22 16 42.9 -1.3**
baz=177,SNR=21
RYN Ryan 46.21 330 lAmb lAmb 22 16 53.1
comp=Z,74nm,1.8s
HVU Hansel Valley 46.29 338 lAmb lAmb 22 16 52.9
comp=Z,52nm,1.3s
F33A 5 Mile Ranch, 46.33 355 P **P** **22 16 44.3 -1.0**
baz=173,SNR=19
KVN Kaiserville 46.33 331 lAmb lAmb 22 16 47.8
comp=Z,20nm,0.9s
SADO Sadowa 46.36 12 P **P** **22 16 45.5 -0.1**
SADO lAmb lAmb 22 16 51.6
comp=Z,20nm,1.0s
SADO Sadowa 46.36 12 LR LR 22 35 42.1
comp=Z,126nm,18.7s,baz=270,slow=36
HRV Adam Dziewonsk 46.38 20 P **P** **22 16 45.3 -0.5**
baz=208
ELK Elko 46.40 335 lAmb lAmb 22 16 48.5
comp=Z,30nm,1.1s
ELK Elko 46.40 335 LR LR 22 35 44.0
comp=Z,494nm,18.2s,baz=146,slow=36
COWI Conover 46.43 2 lAmb lAmb 22 16 46.2
comp=Z,43nm,1.7s
COWI Conover 46.43 2 P **P** **22 16 45.0 -1.2**
baz=183
DELO Deloro Mine 46.46 14 lAmb lAmb 22 16 46.9
comp=Z,25nm,1.1s
FRTB Fartura 46.54 122 *eP* **P** **22 16 47.1 -0.3**
WAKR Walker 46.58 329 lAmb lAmb 22 16 55.6
comp=Z,24nm,1.1s
BB19B Bebedouro 46.59 119 *eP* **P** **22 16 47.5 -0.3**
CPSB Cacapava Do Su 46.75 133 *eP* **P** **22 16 48.9 -0.1**
E43A Lone Tree Farm 46.82 4 P **P** **22 16 48.2 -1.0**
baz=186,SNR=10
E38A The Farm, Brul 46.89 360 P **P** **22 16 48.5 -1.2**
baz=180,SNR=13
BMN Battle Mountai 47.02 333 lAmb lAmb 22 16 58.9
comp=Z,28nm,1.2s
E46A Sault Ste Mari 47.07 7 lAmb lAmb 22 16 51.0
comp=Z,31nm,1.4s
LOHW Long Hollow 47.14 341 lAmb lAmb 22 16 59.4
comp=Z,47nm,1.4s
TPAW Teton Pass 47.15 341 lAmb lAmb 22 16 58.6
comp=Z,22nm,1.1s
FXWY Fox Creek 47.30 341 lAmb lAmb 22 17 01.3
comp=Z,22nm,0.9s
LONY Lake Ozonia 47.34 16 lAmb lAmb 22 17 01.5
comp=Z,26nm,1.1s
LONY Lake Ozonia 47.34 16 P **P** **22 16 52.9 -0.4**
baz=203
D41A Chassel 47.41 3 P **P** **22 16 52.4 -1.4**
baz=184,SNR=14
PAHR Pah Rah Range 47.47 331 lAmb lAmb 22 16 56.9
comp=Z,20nm,1.2s
MPK Martis Peak 47.48 330 lAmb lAmb 22 16 57.3
comp=Z,27nm,1.0s
BMNY Brushton-Moira 47.56 16 P **P** **22 16 54.3 -0.7**
baz=203
E28A Huff 47.56 351 P **P** **22 16 54.7 -0.4**
baz=167,SNR=10
FLWY Flagg Ranch 47.59 341 lAmb lAmb 22 17 19.4
comp=Z,38nm,1.5s
SDBA SAO DESIDERIO 47.62 106 *eP* **P** **22 16 55.5 -0.6**
AFDM Forest Hills D 47.70 329 lAmb lAmb 22 16 58.1
comp=Z,22nm,1.1s
LBNH Lisbon 47.80 19 P **P** **22 16 57.7 +0.9**
baz=207
FRNY Flat Rock 47.82 17 lAmb lAmb 22 17 03.3
comp=Z,19nm,1.2s
H17A Grant Village 47.83 341 P **P** **22 16 59.0 +1.6**
baz=154
YFT Old Faithful 47.96 341 lAmb lAmb 22 17 07.1
comp=Z,26nm,1.3s
COYC Coyhaique 48.03 162 P **P** **22 17 00.2 +1.5**
RLMT Red Lodge 48.09 343 P **P** **22 16 59.0 -0.4**
baz=156,SNR=5.1
EYMN Ely 48.23 360 lAmb lAmb 22 17 00.0
comp=Z,23nm,0.9s
EYMN Ely 48.23 360 P **P** **22 16 59.0 -1.2**
baz=180,SNR=13
EYMN Ely 48.23 360 P **P** **22 16 58.5 -1.7**
baz=180,SNR=13
H62A Milan 48.35 19 P **P** **22 17 00.9 -0.2**
baz=207
H62A P **P** **22 17 00.9 -0.2**
baz=207
ORV Oroville 48.42 329 lAmb lAmb 22 17 04.1
comp=Z,28nm,1.1s
SPB Sao Paulo 48.44 122 lAmb lAmb 22 17 08.9
comp=Z,57nm,1.6s
SPB Sao Paulo 48.44 122 *eP* **P** **22 16 59.9 -2.3**
HLID Hailey 48.44 338 P **P** **22 17 02.6 +0.5**
baz=148,SNR=31
GDXM Geysers 48.56 327 lAmb lAmb 22 17 05.3
comp=Z,25nm,1.2s

VAO **Valinhos** 48.62 121 *e*P P 22 17 04.1 +0.3
MDND **Maddock** 48.66 353 P P 22 17 02.7 -0.8
baz=169,SNR=23
MDND **Maddock** 48.66 353 P P 22 17 02.7 -0.8
baz=169,SNR=23
B35A **Bob, Littlefor** 48.69 358 P P 22 17 02.3 -1.4
baz=177,SNR=31
JANB **Januaria** 48.72 110 *e*P P 22 17 04.5 0.0
AGMN **Agassiz Nation** 48.74 356 P P 22 17 03.5 -0.6
baz=174,SNR=43
AGMN **Agassiz Nation** 48.74 356 P P 22 17 03.0 -1.1
baz=174,SNR=43
LAO **LASA Array** 48.74 346 IAmb IAmb 22 17 04.2
comp=Z,20nm,1.1s
LAO **LASA Array** 48.74 346 P P 22 17 03.7 -0.5
baz=160,SNR=5.9
LAO **LASA Array** 48.74 346 P P 22 17 03.8 -0.4
baz=160,SNR=5.9
PET01 **Itanhaem-SP** 48.83 122 *e*P P 22 17 05.2 0.0
HOPS **Hopland Field** 48.85 327 IAmb IAmb 22 17 07.6
comp=Z,47nm,1.2s
MFID **Camas Ranch** 48.87 336 IAmb IAmb 22 17 12.3
comp=Z,32nm,1.2s
G62A **West of Eustis** 49.12 19 P P 22 17 07.2 +0.1
baz=208
G62A P P 22 17 07.2 +0.1
baz=208
BOZ **Bozeman (W)** 49.24 341 IAmb IAmb 22 17 09.5
comp=Z,37nm,1.8s
BOZ **Bozeman (W)** 49.24 341 P P 22 17 08.1 -0.1
baz=153,SNR=11
AY03 **Cochrane** 49.39 163 IAmb IAmb 22 17 12.6
comp=Z,68nm,1.2s
PKME **Peaks-Kenny Pk** 49.59 20 P P 22 17 10.3 -0.2
baz=210
BSCB **Bom Sucesso** 49.87 117 *e*P P 22 17 13.8 +0.4
DGMT **Dagmar** 50.00 349 P P 22 17 13.8 +0.1
baz=163,SNR=11
DGMT **Dagmar** 50.00 349 P P 22 17 13.5 -0.3
baz=163,SNR=11
KMRM **Mail Ridge** 50.07 328 IAmb IAmb 22 17 16.7
comp=Z,40nm,1.0s
DIAM **Diamantina, MG** 50.10 114 *e*P P 22 17 15.3 +0.2
PLID **Pearl Lake** 50.34 337 IAmb IAmb 22 17 23.2
comp=Z,33nm,1.4s
KMPM **Mount Pierce** 50.43 328 IAmb IAmb 22 17 19.3
comp=Z,29nm,1.0s
KHMM **Horse Mountain** 50.55 328 P P 22 17 19.0 +0.8
KHMM IAmb IAmb 22 17 28.7
comp=Z,20nm,0.9s
YBH **Yreka Blue Hor** 50.65 330 LR LR 22 38 47.8
comp=Z,295nm,18.7s,baz=142,slow=36
JCC **Jacoby Creek,** 50.67 328 IAmb IAmb 22 17 28.0
comp=Z,33nm,1.1s
ULM **Lac du Bonnet** 50.68 356 P P 22 17 17.4 -1.4
comp=Z,68nm,0.9s,baz=176,slow=7.5,SNR=109
ULM PcP PcP 22 18 35.1 -0.9
comp=Z,6.1nm,0.7s,baz=176,slow=6.0,SNR=2.3
ULM LR LR 22 39 07.4
comp=Z,302nm,20.7s,baz=144,slow=37
comp=Z,68nm,0.9s
E62A **Clayton Lake** 50.69 19 IAmb IAmb 22 17 28.1
comp=Z,50nm,1.4s
E62A **Clayton Lake** 50.69 19 P P 22 17 18.7 -0.3
baz=209,SNR=5.7
E62A P P 22 17 18.7 -0.3
baz=209,SNR=5.7
EGMT **Eagleton** 50.88 344 P P 22 17 20.4 0.0
baz=156,SNR=6.0
KRPM **Rodgers** 50.91 328 IAmb IAmb 22 17 22.9
comp=Z,53nm,1.2s
J05D **Fort Rock, OR** 51.11 332 IAmb IAmb 22 17 30.2
comp=Z,69nm,1.5s
KRMB **Red Mountain** 51.11 329 IAmb IAmb 22 17 24.3
comp=Z,42nm,1.5s
D62A **Allapoint, All** 51.25 19 IAmb IAmb 22 17 24.8
comp=Z,44nm,1.4s
LDAQ **Lac Daran** 51.34 17 P P 22 17 23.4 -0.6
LDAQ IAmb IAmb 22 17 32.6
comp=Z,36nm,1.4s
PINE **Pine Mountain** 51.37 333 IAmb IAmb 22 17 32.0
comp=Z,28nm,1.0s
F10A **Beach Ranch, E** 51.55 337 IAmb IAmb 22 17 26.8
comp=Z,40nm,1.6s
G08A **Pilot Rock** 51.69 335 IAmb IAmb 22 17 33.8
comp=Z,39nm,1.4s
KBO **Bosley Butte** 51.77 329 IAmb IAmb 22 17 29.2
comp=Z,82nm,1.7s
K02D **Willamette Mer** 51.84 330 IAmb IAmb 22 17 35.3
comp=Z,55nm,1.2s
I04A **Tendick Farm,** 52.05 332 IAmb IAmb 22 17 41.9
comp=Z,66nm,1.8s
J01E **Myrtle Point** 52.32 330 IAmb IAmb 22 17 33.0
comp=Z,33nm,1.0s
E09A **Wood Farm, Sta** 52.36 337 IAmb IAmb 22 17 38.0
comp=Z,49nm,1.3s
G06A **Carlson Farm,** 52.36 334 IAmb IAmb 22 17 38.5
comp=Z,29nm,1.3s
SJMB **Sao Joao De Ma** 52.48 113 *e*P P 22 17 32.5 -0.4
F07A **Phinny Hill Vi** 52.58 335 IAmb IAmb 22 17 40.9
comp=Z,48nm,1.3s
BUCK **Buck Mountain** 52.63 332 IAmb IAmb 22 17 39.9
comp=Z,44nm,1.4s
G05A **Wamic** 52.66 334 IAmb IAmb 22 17 40.7
comp=Z,34nm,1.3s
GDU01 **Guandu, BA** 52.96 107 *e*P P 22 17 36.5 0.0
COR **Corvallis** 53.07 332 P P 22 17 37.1 +0.4
COR **Corvallis** 53.07 332 P P 22 17 37.1 +0.4
COR pmax pmax
comp=Z,74nm,1.5s
E07A **Sunnyside** 53.08 336 IAmb IAmb 22 17 44.5
comp=Z,71nm,1.5s
MXC **Moxie City** 53.28 335 IAmb IAmb 22 17 46.1
comp=Z,30nm,1.5s
GUA01 **Guaratinga, BA** 53.28 110 *e*P P 22 17 38.5 -0.3
CMC01 **Camacan, BA** 53.31 109 *e*P P 22 17 38.5 -0.5
RIB01 **Linhares ES** 53.36 114 *e*P P 22 17 38.9 -0.4
ALF01 **Guarapari-ES** 53.39 115 *e*P P 22 17 40.0 +0.5
NEW **Newport** 53.43 339 P P 22 17 38.7 -0.7
baz=147
NEW **Newport** 53.43 339 LR LR 22 39 59.8
comp=Z,672nm,18.2s,baz=150,slow=36
NBLA **Lagarto - SE** 54.28 103 *e*P P 22 17 44.6 -1.5
D05A **Enumclaw** 54.47 335 IAmb IAmb 22 17 53.2
comp=Z,25nm,1.2s
NBLV **Livramento - P** 54.75 99 *e*P P 22 17 49.2 -0.4
NBAN **Anadia - AL** 55.60 101 *e*P P 22 17 54.1 -1.6
RCBR **Riachuelo** 55.66 97 LR LR 22 41 44.1
comp=Z,306nm,18.7s,baz=266,slow=36
FFC **Flin Flon** 55.71 353 P P 22 17 54.9 -0.8
FFC IAmb IAmb 22 17 56.2
comp=Z,28nm,1.2s
FFC **Flin Flon** 55.71 353 P P 22 17 54.9 -0.8
FFC pmax pmax
comp=Z,28nm,1.2s
NBCA **Caruaru-PE** 55.72 100 *e*P P 22 17 56.7 +0.1
SCHQ **Schefferville** 58.71 16 P P 22 18 15.5 -1.6
comp=Z,2.6nm,0.5s,baz=213,slow=5.5,SNR=10
SCHQ LR LR 22 43 12.2
comp=Z,249nm,21.2s,baz=218,slow=36
comp=Z,2.6nm,0.5s
PPT **Papeete** 59.62 250 LR LR 22 38 39.0
comp=Z,77nm,20.0s,baz=24,slow=30
PPT2 **Papeete2** 59.63 250 *e*LR LR 22 35 55.8
comp=Z,94nm,27.5s
PPT2 *e*LR LR 22 36 04.8
comp=Z,140nm,25.0s
BBB **Bella Bella** 60.85 335 LR LR 22 43 17.6
comp=Z,173nm,19.1s,baz=158,slow=35
HILA **High Level** 62.25 345 P P 22 18 40.4 -0.7
YKA **Yellowknife Ar** 65.20 348 P P 22 18 59.6 -0.9
comp=Z,11nm,0.8s,baz=150,slow=6.0,SNR=167
YKA PP PP 22 21 23.3 -0.8
comp=Z,2.2nm,1.0s,baz=149,slow=9.1,SNR=4.1
YKA LR LR 22 47 55.3
comp=Z,202nm,19.8s,baz=42,slow=36
comp=Z,11nm,0.8s
FLDN **Fort Liard** 65.44 343 P P 22 19 02.2 +0.1
baz=144
KOTAN **Kotaneelee Air** 65.53 343 P P 22 19 02.7 +0.1
baz=144,SNR=10
WRAK **Wrangell Islan** 65.61 336 P P 22 19 04.0 +0.8
baz=134
U33K **Whale Pass** 65.72 336 P P 22 19 04.4 +0.5
baz=133
DLBC **Dease Lake** 66.18 339 P P 22 19 07.6 +0.7
baz=137
DLBC **Dease Lake** 66.18 339 LR LR 22 48 00.3
comp=Z,484nm,18.4s,baz=98,slow=36
FRB **Frobisher Bay** 66.28 11 LR LR 22 47 42.1
comp=Z,244nm,19.5s,baz=189,slow=36
WTLY **Watson Lake, Y** 67.00 341 P P 22 19 12.2 0.0
baz=139
PMSA **Palmer Station** 67.16 168 LR LR 22 40 43.8
comp=Z,242nm,21.5s,baz=314,slow=29
R33M **Jennings River** 67.21 339 P P 22 19 14.2 +0.6
baz=136
Q32M **Nakina River** 67.37 338 P P 22 19 16.0 +1.3
baz=135
WRGLY **Wrigley** 67.89 345 P P 22 19 17.2 -0.4
baz=145,SNR=5.6
TGTN **Hyland Airport** 67.91 342 P P 22 19 18.6 +0.7
baz=140
S31K **Pelican** 68.22 336 P P 22 19 20.3 +0.5
baz=131
P32M **Atlin** 68.34 338 P P 22 19 21.7 +1.1
baz=134
P33M **Teslin, Yukon** 68.45 339 P P 22 19 22.4 +1.1
baz=135
SKAG **Skagway** 68.86 338 P P 22 19 24.8 +1.1
baz=132
N32M **Quiet Lake** 69.21 340 P P 22 19 27.0 +1.0
baz=135
WHY **Whitehorse** 69.50 339 P P 22 19 28.5 +0.5
baz=133
MMPY **Sheldon Lake,** 69.66 342 P P 22 19 29.6 +0.8
baz=137
P29M **Windy Craggy** 69.90 337 P P 22 19 30.2 -0.1
baz=130
P30M **Million Dollar** 69.92 338 P P 22 19 30.6 +0.2
baz=130
O30N **Mendenhall** 70.02 338 P P 22 19 32.2 +1.2
baz=132
FARO **Faro, Yukon** 70.06 341 P P 22 19 31.9 +0.6
baz=135
M31M **Drury Creek, Y** 70.39 340 P P 22 19 33.5 +0.2
baz=134
HYT **Haines Junctio** 70.58 338 P P 22 19 35.0 +0.5
baz=130
PNL **Peninsula** 70.58 336 P P 22 19 34.6 +0.2
baz=128
O29M **Mount Kennedy** 70.65 337 P P 22 19 36.0 +1.0
baz=129
N30M **Aishikik Lake** 70.84 339 P P 22 19 36.9 +0.8
baz=131
YUK6 **Outpost Mounta** 70.98 338 P P 22 19 38.0 +0.9
baz=129
PINM **Pinnacle** 71.18 337 P P 22 19 39.0 +0.8
baz=127
YUK4 **Talbot Arm** 71.34 338 P P 22 19 40.9 +1.6
baz=125
M30M **Minto, Yukon** 71.47 340 P P 22 19 40.4 +0.6
baz=131
YUK8 **Steele Glacier** 71.72 338 P P 22 19 43.0 +1.3
baz=128
MESA **MESA** 71.91 336 P P 22 19 43.9 +1.2
baz=126
M29M **Somme Creek** 71.97 339 P P 22 19 44.2 +1.3
baz=130
CTG **Chitna Glacier** 72.14 337 P P 22 19 45.6 +1.6
baz=126
L29M **L29M** 72.28 340 IAmb IAmb 22 19 46.4
comp=Z,28nm,1.2s
L29M **L29M** 72.28 340 P P 22 19 45.8 +1.1
baz=130
YUK3 **Moose Creek** 72.29 338 P P 22 19 45.3 +0.3
baz=128
BGLC **Bering Glacier** 72.43 336 P P 22 19 46.8 +1.3
baz=124
K29M **Barlow Dome** 72.55 340 P P 22 19 47.4 +1.0
baz=131,SNR=5.1
J30M **Hart River** 72.65 341 P P 22 19 48.0 +1.1
baz=132
CRQE **Cirque** 72.71 336 P P 22 19 48.9 +1.6
baz=125
KAIM **Kayak Island** 72.79 335 P P 22 19 48.8 +1.1
baz=123
BVCY **Beaver Creek** 72.83 338 P P 22 19 48.4 +0.4
baz=127
H31M **Peel River** 72.89 343 IAmb IAmb 22 19 49.7
comp=Z,36nm,1.4s
H31M **Peel River** 72.89 343 P P 22 19 48.9 +0.6
baz=134
MCARA **McCarthy VSAT** 73.04 337 P P 22 19 50.2 +1.0
baz=125
C36M **Paulatuk** 73.09 348 P P 22 19 49.4 +0.2
baz=146
I30M **Mont Dempster** 73.11 342 P P 22 19 50.2 +0.6
baz=132
SFJD **Kangerlussuaq** 73.15 16 LR LR 22 50 05.8
comp=Z,143nm,21.9s,baz=212,slow=34
M27K **Edge Creek, AK** 73.17 338 P P 22 19 51.1 +1.0
baz=126
DAWY **Dawson** 73.33 340 P P 22 19 50.6 -0.2
DAWY **Dawson** 73.33 340 P P 22 19 51.3 +0.4
baz=129
Q23K **Middleton Isla** 73.35 334 P P 22 19 52.3 +1.3
baz=121
BMRM **Bremner River** 73.44 336 P P 22 19 52.6 +1.0
baz=123
BCAR **Beaver Creek A** 73.56 339 P P 22 19 53.1 +0.9
L27K **Beaver Creek,** 73.57 339 P P 22 19 53.3 +1.0
baz=126
M26K **Nabesna, AK** 73.62 338 IAmb IAmb 22 19 54.1
comp=Z,33nm,1.4s
M26K **Nabesna, AK** 73.62 338 P P 22 19 53.5 +0.9
baz=125
G31M **Satah River** 73.66 344 P P 22 19 53.1 +0.4
baz=135,SNR=19
EYAK **Cordova Ski Ar** 73.69 335 P P 22 19 53.0 0.0
baz=122
N25K **Chitina, Valde** 73.79 337 IAmb IAmb 22 20 00.9
comp=Z,19nm,0.9s
N25K **Chitina, Valde** 73.79 337 P P 22 19 54.0 +0.3
baz=124
F31M **Tsiigehtchic** 73.89 344 P P 22 19 54.4 +0.4
baz=135,SNR=18
EPYK **Eagle Plains** 73.99 343 P P 22 19 54.6 -0.1
baz=132
P23K **Montague Islan** 74.11 334 P P 22 19 55.9 +0.4
baz=120
L26K **Log Cabin Wild** 74.11 338 P P 22 19 56.0 +0.5
baz=125
K27K **Chicken** 74.24 339 IAmb IAmb 22 19 58.4
comp=Z,34nm,1.3s
K27K **Chicken** 74.24 339 P P 22 19 57.0 +0.8
baz=126
G30M **tAoh Zraii Nji** 74.26 343 P P 22 19 57.1 +0.8
baz=133
KLU **Klutina** 74.26 336 P P 22 19 57.0 +0.6
baz=122
EGAK **Eagle** 74.38 340 IAmb IAmb 22 19 58.0
comp=Z,28nm,1.4s
EGAK **Eagle** 74.38 340 P P 22 19 57.2 +0.3
baz=128,SNR=9.5
H29M **Whitestone** 74.39 342 IAmb IAmb 22 19 58.6
comp=Z,29nm,1.2s
H29M **Whitestone** 74.39 342 P P 22 19 57.6 +0.6
baz=131
I28M **Miner Creek** 74.39 341 P P 22 19 57.5 +0.4
baz=129
HARP **HAARP** 74.45 337 P P 22 19 57.7 +0.3
baz=123
INK **Inuvik** 74.45 345 IAmb IAmb 22 19 58.8
comp=Z,43nm,1.1s
INK **Inuvik** 74.45 345 P P 22 19 57.6 +0.4
baz=136,SNR=32
INK **Inuvik** 74.45 345 LR LR 22 53 25.5
comp=Z,438nm,18.2s,baz=186,slow=36
F30M **Barrier River** 74.57 344 P P 22 19 58.5 +0.5
baz=133
M24K **Toisona, Glenn** 74.69 337 P P 22 19 59.1 +0.2
baz=122
G29M **Pine Creek** 74.74 343 P P 22 19 59.7 +0.7
baz=131
PAX **Paxson** 74.89 337 P P 22 20 00.6 +0.6
baz=123
SCRK **Sand Creek** 74.89 339 P P 22 20 00.5 +0.4
SCRK **Sand Creek** 74.89 339 P P 22 20 00.4 +0.3
baz=125
SCM **Sheep Creek Mo** 75.01 336 P P 22 20 01.7 +0.9
baz=121
I27K **Kandik River** 75.03 341 P P 22 20 01.4 +0.6
baz=127
J26L **Joseph Creek** 75.04 339 IAmb IAmb 22 20 02.5
comp=Z,23nm,1.1s
J26L **Joseph Creek** 75.04 339 P P 22 20 01.4 +0.5
baz=125
SEW **Seward** 75.05 334 P P 22 20 01.8 +0.9
baz=118
RIDG **Independent Ri** 75.08 338 IAmb IAmb 22 20 10.7
comp=Z,67nm,2.0s
RIDG **Independent Ri** 75.08 338 P P 22 20 01.5 +0.4
baz=124
RES **Resolute Bay** 75.10 359 LR LR 22 53 01.8
comp=Z,125nm,20.5s,baz=187,slow=36
M23K **Glacier View** 75.16 336 P P 22 20 01.8 +0.3
baz=120
KNK **Knik Glacier** 75.27 335 P P 22 20 02.5 +0.3
baz=120
O22K **Cooper Landing** 75.35 334 P P 22 20 02.8 +0.2
baz=118
I26K **Coal Creek Min** 75.37 340 IAmb IAmb 22 20 10.1
comp=Z,23nm,1.2s
I26K **Coal Creek Min** 75.37 340 P P 22 20 02.9 +0.3
baz=126
H27K **Steamboat Moun** 75.39 341 P P 22 20 03.0 +0.2
baz=128
SML **Sawmill** 75.41 336 P P 22 20 03.5 +0.5
baz=120
KDAK **Kodiak Island** 75.45 331 P P 22 20 03.2 0.0
baz=115
KDAK **Kodiak Island** 75.45 331 LR LR 22 51 54.6
comp=Z,179nm,18.6s,baz=119,slow=35
BRSE **Bradley Lake S** 75.45 333 P P 22 20 03.7 +0.4
baz=117
K24K **Donnelly Dome** 75.46 338 P P 22 20 03.9 +0.6
baz=123
A36M **Sachs Harbour** 75.49 350 IAmb IAmb 22 20 09.1
comp=Z,19nm,0.8s
A36M **Sachs Harbour** 75.49 350 P P 22 20 02.3 -0.9
baz=145,SNR=19
OHAK **Old Harbor** 75.56 330 P P 22 20 03.6 -0.3
baz=114
WAT6 **Susitna Watana** 75.56 337 P P 22 20 04.1 0.0
baz=121,SNR=13
PMR **Palmer** 75.64 335 P P 22 20 05.0 +0.8
baz=119
RC01 **Rabbit Creek A** 75.65 335 IAmb IAmb 22 20 05.7
comp=Z,36nm,1.3s
RC01 **Rabbit Creek A** 75.65 335 P P 22 20 04.9 +0.5
baz=118
DHY **Denali Highway** 75.68 337 P P 22 20 03.9 -0.7
baz=121
E29M **Blow River** 75.68 344 IAmb IAmb 22 20 05.7
comp=Z,34nm,1.4s
E29M **Blow River** 75.68 344 P P 22 20 04.9 +0.5
baz=132
Q20K **Shuyak Island** 75.71 332 P P 22 20 04.2 -0.5
baz=116
F28M **Old Crow** 75.74 343 IAmb IAmb 22 20 12.4
comp=Z,16nm,0.9s
F28M **Old Crow** 75.74 343 P P 22 20 04.9 +0.1
baz=129,SNR=15
J25K **Salcha River,** 75.75 339 P P 22 20 05.0 +0.1
baz=123
WAT1 **Susitna Watana** 76.01 337 P P 22 20 06.7 +0.3
baz=120
CAPN **Captain Cook N** 76.11 334 P P 22 20 07.6 +0.7
baz=117
M22K **Willow** 76.13 335 P P 22 20 07.5 +0.5
baz=118
HDA **Harding Lake** 76.22 338 IAmb IAmb 22 20 08.9
comp=Z,24nm,1.2s
HDA **Harding Lake** 76.22 338 P P 22 20 07.9 +0.3
baz=122
SUA **Susitna One** 76.25 335 P P 22 20 08.0 0.0
baz=118
E28M **Babbage River** 76.28 344 IAmb IAmb 22 20 08.6
comp=Z,27nm,1.4s
E28M **Babbage River** 76.28 344 P P 22 20 08.1 +0.2
baz=130
PRP **Porcupine Dome** 76.31 340 IAmb IAmb 22 20 09.2
comp=Z,19nm,1.2s
PRP **Porcupine Dome** 76.31 340 P P 22 20 08.3 0.0
baz=123,SNR=6.2
ILAR **Eielson Array** 76.39 339 P P 22 20 07.5 -1.0
comp=Z,7.5nm,1.0s,baz=148,slow=4.2,SNR=47
ILAR LR LR 22 54 16.0
comp=Z,308nm,18.6s,baz=115,slow=36
comp=Z,7.5nm,1.0s
RND **Reindeer** 76.42 337 IAmb IAmb 22 20 10.1
comp=Z,36nm,1.2s
Q19K **Cape Douglas,** 76.44 332 P P 22 20 08.5 -0.5
baz=114
O20K **Slope Mountain** 76.46 333 P P 22 20 09.6 +0.5
baz=116
CUT **Chulitna** 76.50 336 P P 22 20 09.0 -0.1
baz=118
D28M **Stokes Point** 76.53 344 P P 22 20 09.9 +0.8
baz=131
G26K **Porcupine Rive** 76.54 341 P P 22 20 10.0 +0.7
baz=125
P19K **Oil Pt** 76.55 333 P P 22 20 09.6 0.0
baz=115
E27K **Coleen River** 76.61 343 IAmb IAmb 22 20 11.2
comp=Z,44nm,1.3s
E27K **Coleen River** 76.61 343 P P 22 20 09.6 -0.1
baz=128
MCK **McKinley** 76.62 337 P P 22 20 09.8 -0.1
baz=120
N20K **Mount Spurr** 76.76 334 P P 22 20 11.3 +0.5
baz=116
POKR **Poker Plat Res** 76.77 339 P P 22 20 10.8 +0.2
baz=122
COLA **College** 76.79 339 *i* P P 22 20 10.6 -0.1
COLA pmax pmax
comp=Z,27nm,3.0s
COLA **College** 76.79 339 P P 22 20 11.0 +0.3
baz=121
FYU **Fort Yukon** 76.79 341 IAmb IAmb 22 20 12.2
comp=Z,44nm,1.4s
H25L **Birch Creek** 76.82 340 P P 22 20 11.6 +0.7
baz=123
SKT **Skwentna** 76.83 335 IAmb IAmb 22 20 18.6
comp=Z,38nm,1.3s
SKT **Skwentna** 76.83 335 P P 22 20 11.5 +0.4
baz=117,SNR=6.8
TRF **Thorofare Moun** 77.01 337 P P 22 20 12.4 +0.2
baz=118
BWN **Browne** 77.04 338 IAmb IAmb 22 20 13.0
comp=Z,40nm,1.2s
D27M **Malcolm River** 77.09 344 IAmb IAmb 22 20 13.8
comp=Z,25nm,1.1s
D27M **Malcolm River** 77.09 344 P P 22 20 13.1 +0.6
baz=129
F26K **Sheenjek River** 77.09 342 P P 22 20 13.2 +0.7
baz=125
NEA2 **Nenana** 77.10 338 IAmb IAmb 22 20 13.3
comp=Z,29nm,1.2s
NEA2 **Nenana** 77.10 338 P P 22 20 12.4 -0.2
baz=120,SNR=9.0
G25K **Bearman Lake** 77.19 341 P P 22 20 13.9 +0.9
baz=123
Q17K **Contact Creek** 77.25 331 P P 22 20 13.8 +0.2
baz=112
H24K **Noodor Dome** 77.30 339 IAmb IAmb 22 20 14.9
comp=Z,25nm,1.1s
H24K **Noodor Dome** 77.30 339 P P 22 20 13.5 -0.2
baz=121
P18K **Big Mountain,** 77.37 332 P P 22 20 14.0 -0.2
baz=113
M20K **Styx River** 77.46 335 P P 22 20 14.5 -0.2
baz=116
I23K **Minto, Yukon-K** 77.48 338 IAmb IAmb 22 20 22.3
comp=Z,22nm,1.1s
I23K **Minto, Yukon-K** 77.48 338 P P 22 20 14.3 -0.3
baz=120,SNR=12
F25K **Christian Rive** 77.50 341 P P 22 20 15.7 +0.9
baz=124,SNR=13
PPLA **Purkeypile** 77.51 336 P P 22 20 15.0 0.0
baz=117,SNR=6.0
O18K **Koktuh Hills** 77.55 332 P P 22 20 15.1 0.0
O18K IAmb IAmb 22 20 22.9
comp=Z,27nm,1.0s
O18K **Koktuh Hills** 77.55 332 P P 22 20 14.8 -0.4
baz=113
BPAW **Bear Paw Mtn.** 77.59 337 IAmb IAmb 22 20 22.2
comp=Z,21nm,1.2s
BPAW **Bear Paw Mtn.** 77.59 337 P P 22 20 15.5 +0.2
baz=118,SNR=8.5
N19K **Bonanza Creek** 77.60 333 IAmb IAmb 22 20 16.3
comp=Z,25nm,1.2s

N19K	**Bonanza Creek**	77.60	333	P	P	22 20 15.6	+0.1	
	baz=114							
G24K	**Hadweenzic Riv**	77.62	340	IAmb	IAmb	22 20 17.0		
	comp=Z,25nm,1.1s							
G24K	**Hadweenzic Riv**	77.62	340	P	P	22 20 15.6	+0.2	
	baz=122							
CAST	**Castle Rocks**	77.71	336	IAmb	IAmb	22 20 16.6		
	comp=Z,38nm,1.2s							
CAST	**Castle Rocks**	77.71	336	P	P	22 20 15.2	-0.8	
	baz=117,SNR=15							
E25K	**Arctic Village**	77.78	342	IAmb	IAmb	22 20 18.2		
	comp=Z,20nm,1.1s							
E25K	**Arctic Village**	77.78	342	P	P	22 20 16.9	+0.6	
	baz=124,SNR=14							
Q16K	**King Salmon**	77.78	331	P	P	22 20 16.5	+0.1	
	baz=112							
CHGN	**Chignik**	77.83	328	P	P	22 20 16.7	0.0	
	baz=110							
P17K	**Kvichak River**	77.87	331	P	P	22 20 17.4	+0.5	
	baz=112							
MLY	**Manley**	77.94	338	P	P	22 20 17.2	-0.1	
MLY	**Manley**	77.94	338	P	P	22 20 16.9	-0.3	
	baz=118,SNR=6.5							
CHNA	**Chernabura Isl**	77.98	327	P	P	22 20 17.4	-0.2	
	baz=108							
CHUM	**Lake Minchumin**	78.01	337	P	P	22 20 17.4	-0.2	
	baz=117							
M19K	**Big River Lodg**	78.01	334	IAmb	IAmb	22 20 24.4		
	comp=Z,39nm,1.6s							
M19K	**Big River Lodg**	78.01	334	P	P	22 20 17.9	+0.2	
	baz=114							
L20K	**Farewell, AK**	78.03	335	P	P	22 20 18.0	+0.2	
	baz=115							
N18K	**Kilae Creek**	78.18	333	P	P	22 20 19.0	+0.3	
	baz=113							
F24K	**Squaw Lake**	78.19	341	P	P	22 20 19.3	+0.7	
	baz=122							
SVW2	**Sparrevohn**	78.21	333	IAmb	IAmb	22 20 19.4		
	comp=Z,25nm,1.2s							
L19K	**White Mountain**	78.32	335	IAmb	IAmb	22 20 26.4		
	comp=Z,30nm,1.5s							
L19K	**White Mountain**	78.32	335	P	P	22 20 19.3	-0.2	
	baz=114							
O17K	**Koliganek Bris**	78.39	332	P	P	22 20 19.8	0.0	
	baz=112,SNR=8.4							
M18K	**Stony River**	78.47	334	P	P	22 20 20.0	-0.2	
	baz=113							
I21K	**Tanana**	78.47	338	P	P	22 20 20.0	-0.2	
	baz=117							
K20K	**Telida**	78.48	336	IAmb	IAmb	22 20 26.4		
	comp=Z,41nm,1.6s							
K20K	**Telida**	78.48	336	P	P	22 20 19.9	-0.4	
	baz=115							
G23K	**Bananza Creek**	78.50	340	P	P	22 20 20.7	+0.4	
	baz=119,SNR=9.4							
P16K	**Nushagak River**	78.56	331	P	P	22 20 20.9	+0.2	
	baz=110							
H22K	**Ishtalitna Cre**	78.58	339	P	P	22 20 20.8	0.0	
	baz=118							
C26K	**Camden Bay**	78.60	344	P	P	22 20 21.9	+1.1	
	baz=125							
SDPT	**Sand Point**	78.62	327	P	P	22 20 21.5	+0.4	
	baz=108							
E24K	**Your Creek**	78.67	341	P	P	22 20 22.0	+0.7	
	baz=121							
D25K	**Kavik River**	78.69	343	IAmb	IAmb	22 20 22.8		
	comp=Z,31nm,0.9s							
D25K	**Kavik River**	78.69	343	P	P	22 20 21.6	+0.2	
	baz=123							
N17K	**Nushagak Hills**	78.72	333	IAmb	IAmb	22 20 29.2		
	comp=Z,55nm,1.4s							
N17K	**Nushagak Hills**	78.72	333	P	P	22 20 21.8	+0.2	
	baz=112							
O16K	**Kokwok River B**	78.80	332	P	P	22 20 22.3	+0.2	
O16K				IAmb	IAmb	22 20 28.6		
	comp=Z,30nm,1.4s							
O16K	**Kokwok River B**	78.80	332	P	P	22 20 22.1	+0.1	
	baz=110							
COLD	**Coldfoot**	78.81	340	P	P	22 20 22.5	+0.5	
	baz=119,SNR=11							
J20K	**Nowinta River**	78.86	337	IAmb	IAmb	22 20 29.4		
	comp=Z,27nm,1.4s							
J20K	**Nowinta River**	78.86	337	P	P	22 20 21.5	-0.8	
	baz=115							
H21K	**Melozitna Rive**	79.00	338	IAmb	IAmb	22 20 31.5		
	comp=Z,23nm,1.3s							
H21K	**Melozitna Rive**	79.00	338	P	P	22 20 22.4	-0.6	
	baz=116,SNR=8.3							
E23K	**Chandalar**	79.03	341	P	P	22 20 23.6	+0.3	
	baz=120							
TTA	**Tatalina**	79.11	335	P	P	22 20 23.8	0.0	
	baz=113							
L18K	**Granite Mounta**	79.13	334	P	P	22 20 23.7	-0.1	
	baz=112							
M17K	**Holitna River**	79.15	333	IAmb	IAmb	22 23 09.1		
	comp=Z,72nm,1.9s							
M17K	**Holitna River**	79.15	333	P	P	22 20 23.9	0.0	
	baz=111							
I20K	**Naaghedeneel**	79.26	337	IAmb	IAmb	22 21 10.9		
	comp=Z,30nm,1.2s							
I20K	**Naaghedeneel**	79.26	337	P	P	22 20 24.4	0.0	
	baz=115							
TOLK	**Toolik Lake Re**	79.31	342	P	P	22 20 24.9	+0.1	
	baz=120,SNR=5.6							
D24K	**Happy Valley**	79.34	342	P	P	22 20 25.5	+0.6	
	baz=121							
J19K	**Poorman**	79.38	336	P	P	22 20 25.4	+0.2	
	baz=114							
N16K	**Nishlik Lake**	79.43	332	P	P	22 20 25.7	+0.1	
	baz=110							
O15K	**Ungalikthiuk R**	79.50	331	P	P	22 20 25.7	-0.2	
	baz=109							
C24K	**Franklin Bluff**	79.59	343	P	P	22 20 26.6	+0.5	
	baz=121,SNR=25							
J18K	**Innoko River**	79.62	335	P	P	22 20 26.7	+0.2	
	baz=112							
G21K	**Allakaket**	79.63	339	IAmb	IAmb	22 20 35.6		
	comp=Z,27nm,1.2s							
G21K	**Allakaket**	79.63	339	P	P	22 20 26.7	+0.2	
	baz=116							
H20K	**Anotleneega Mo**	79.70	338	P	P	22 20 27.2	+0.3	
	baz=114							
M16K	**Timber Creek**	79.71	333	P	P	22 20 28.1	+1.1	
	baz=110							
E22K	**Anaktuvuk Pass**	79.79	341	P	P	22 20 28.4	+1.1	
	baz=118							
L17K	**Donlin**	79.80	334	P	P	22 20 27.9	+0.4	
	baz=111							
D23K	**Nanushuk River**	79.82	342	P	P	22 20 28.3	+0.8	
	baz=119							
F21K	**Alatna River**	79.94	340	P	P	22 20 29.2	+1.0	
	baz=116							
N15K	**Kwethluk River**	79.95	332	P	P	22 20 29.4	+1.0	
	baz=109							
SUMG	**Summit**	80.01	14	P	P	22 20 29.3	+0.4	
SUMG				IAmb	IAmb	22 20 35.8		
	comp=Z,26nm,1.3s							
SUMG	**Summit**	80.01	14	P	P	22 20 29.3	+0.4	
SUMG				pmax	pmax			
	comp=Z,26nm,1.3s							
SUMG	**Summit**	80.01	14	*i* P	P	22 20 28.3	-0.6	
SUMG				IAmb	IAmb	22 20 30.0		
	comp=Z,4.3nm,0.8s							
K17K	**Iditarod**	80.01	335	IAmb	IAmb	22 20 29.8		
	comp=Z,27nm,1.2s							
K17K	**Iditarod**	80.01	335	P	P	22 20 29.5	+0.9	
	baz=111							
FALS	**False Pass**	80.11	326	P	P	22 20 30.0	+0.7	
	baz=105							
L16K	**Owhat River**	80.17	333	IAmb	IAmb	22 20 31.4		
	comp=Z,31nm,0.9s							
L16K	**Owhat River**	80.17	333	P	P	22 20 30.4	+0.9	
	baz=110,SNR=9.9							
GCSA	**Galena City Sc**	80.18	337	P	P	22 20 30.1	+0.7	
	baz=112							
O14K	**Tigyukauivet M**	80.22	331	P	P	22 20 29.4	-0.4	
	baz=108							
C23K	**Itkillik River**	80.23	342	P	P	22 20 30.4	+0.7	
	baz=119							
H19K	**Roundabout Mou**	80.31	337	P	P	22 20 30.9	+0.7	
	baz=113							
M15K	**Kasigluk River**	80.40	332	P	P	22 20 30.7	0.0	
	baz=108							
D22K	**Ayikyak River**	80.42	341	P	P	22 20 31.3	+0.5	
	baz=117							
EUNU	**Eureka**	80.50	1	P	P	22 20 31.3	+0.2	
N14K	**Kuskokwak Cree**	80.63	331	P	P	22 20 31.8	-0.2	
	baz=107							
E21K	**Killik River**	80.64	341	P	P	22 20 32.5	+0.5	
	baz=116							
F20K	**Avaraart Lake**	80.66	339	IAmb	IAmb	22 20 39.1		
	comp=Z,35nm,1.6s							
F20K	**Avaraart Lake**	80.66	339	P	P	22 20 32.9	+0.9	
	baz=114							
G19K	**Purcell Mounta**	80.80	338	P	P	22 20 33.5	+0.7	
	baz=112,SNR=20							
NEEM	**North Greenlan**	80.88	8	*i* P	P	22 20 32.9	-0.5	
NEEM				IAmb	IAmb	22 20 34.8		
	comp=Z,11nm,0.8s							
H18K	**Honhosa River**	80.92	337	IAmb	IAmb	22 20 41.9		
	comp=Z,38nm,1.4s							
H18K	**Honhosa River**	80.92	337	P	P	22 20 33.9	+0.5	
	baz=111							
M14K	**Bethel**	81.01	332	P	P	22 20 33.9	-0.1	
	baz=107,SNR=8.0							
L15K	**Ungalak Mounta**	81.07	333	P	P	22 20 34.4	+0.1	
	baz=108,SNR=6.5							
J16K	**Anvik River**	81.19	335	P	P	22 20 36.1	+1.2	
	baz=109							
C21K	**Knifeblade Rid**	81.22	341	P	P	22 20 35.8	+0.8	
	baz=115							
K15K	**Wolf Creek Mou**	81.28	334	P	P	22 20 36.5	+1.0	
	baz=108							
G18K	**Tagagawik**	81.30	337	P	P	22 20 36.6	+1.2	
	baz=111							
E20K	**Nigu River**	81.31	340	P	P	22 20 35.7	+0.1	
	baz=114							
B22K	**Teshekpuk Lake**	81.31	342	IAmb	IAmb	22 20 36.4		
	comp=Z,17nm,0.9s							
B22K	**Teshekpuk Lake**	81.31	342	P	P	22 20 36.0	+0.6	
	baz=117							
F19K	**Shaleruckik Mo**	81.32	338	P	P	22 20 36.3	+0.8	
	baz=112							
E19K	**Redstone River**	81.36	339	P	P	22 20 35.9	+0.1	
	baz=113							
B21K	**Ikpikpuk River**	81.37	342	IAmb	IAmb	22 20 37.0		
	comp=Z,18nm,1.0s							
B21K	**Ikpikpuk River**	81.37	342	P	P	22 20 35.8	+0.1	
	baz=115,SNR=13							
I17K	**Unalakleet**	81.43	335	P	P	22 20 36.4	+0.3	
	baz=109							
H17K	**Granite Mounta**	81.46	336	P	P	22 20 37.1	+0.8	
	baz=110							
L14K	**Kuka Creek**	81.52	333	P	P	22 20 37.7	+1.1	
	baz=107							
M13K	**Dall Lake**	81.57	332	P	P	22 20 37.0	0.0	
	baz=106							
D20K	**Etivluk River**	81.64	340	P	P	22 20 38.0	+0.7	
	baz=113							
F18K	**Selawik**	81.93	338	P	P	22 20 39.0	+0.3	
	baz=110							
G17K	**Kiwalik Mounta**	81.94	337	P	P	22 20 39.8	+0.9	
	baz=109							
BORG	**Borgarnes**	82.04	24	LR	LR	22 53 59.5		
	comp=Z,127nm,19.6s,baz=240,slow=34							
D19K	**Kuna River**	82.06	340	IAmb	IAmb	22 20 46.5		
	comp=Z,33nm,1.4s							
D19K	**Kuna River**	82.06	340	P	P	22 20 40.0	+0.5	
	baz=112							
H16K	**Elim**	82.30	336	P	P	22 20 41.8	+1.0	
	baz=108,SNR=7.6							
J14K	**Nanvaranak Lak**	82.31	334	P	P	22 20 41.6	+0.8	
	baz=106,SNR=6.0							
B20K	**Meade River**	82.33	342	IAmb	IAmb	22 20 42.4		
	comp=Z,24nm,0.9s							
B20K	**Meade River**	82.33	342	P	P	22 20 41.7	+0.9	
	baz=113							
F17K	**Baldwin Pennin**	82.48	338	IAmb	IAmb	22 20 51.9		
	comp=Z,20nm,1.1s							
F17K	**Baldwin Pennin**	82.48	338	P	P	22 20 42.5	+0.9	
	baz=103							
E18K	**Tukpahlearik C**	82.56	339	IAmb	IAmb	22 20 43.4		
	comp=Z,20nm,1.1s							
E18K	**Tukpahlearik C**	82.56	339	P	P	22 20 42.9	+0.8	
	baz=109							
G16K	**Koyuk River**	82.58	336	IAmb	IAmb	22 20 44.2		
	comp=Z,22nm,1.4s							
G16K	**Koyuk River**	82.58	336	P	P	22 20 43.2	+1.1	
	baz=108							
A21K	**Barrow**	82.69	343	P	P	22 20 43.2	+0.6	
	baz=114							
C19K	**Lookout Ridge**	82.78	340	IAmb	IAmb	22 20 50.6		
	comp=Z,38nm,1.4s							
C19K	**Lookout Ridge**	82.78	340	P	P	22 20 43.8	+0.5	
	baz=111,SNR=7.3							
NIKH	**Nikolski High**	82.83	323	P	P	22 20 44.0	+0.3	
	baz=100							
BELA	**Belgrano 2**	82.88	170	P	P	22 20 43.9	+0.3	
BELA				IAmb	IAmb	22 20 45.6		
	comp=Z,18nm,1.2s							
G15K	**Niukluk**	83.14	336	P	P	22 20 46.5	+1.4	
	baz=106							
C18K	**Utukok River**	83.18	340	IAmb	IAmb	22 20 52.8		
	comp=Z,27nm,1.5s							
C18K	**Utukok River**	83.18	340	P	P	22 20 46.3	+0.9	
	baz=109							
D17K	**Noatak River**	83.55	339	P	P	22 20 48.5	+1.4	
	baz=107,SNR=11							
ANM	**Nome**	83.58	335	P	P	22 20 48.3	+0.9	
ANM				IAmb	IAmb	22 20 54.8		
	comp=Z,38nm,1.7s							
ANM	**Nome**	83.58	335	P	P	22 20 48.3	+0.9	
ANM				pmax	pmax			
	comp=Z,38nm,1.7s							
ANM	**Nome**	83.58	335	P	P	22 20 48.6	+1.2	
	baz=105							
F15K	**North Star Dit**	83.58	337	IAmb	IAmb	22 20 49.6		
	comp=Z,22nm,1.1s							
F15K	**North Star Dit**	83.58	337	P	P	22 20 48.2	+0.8	
	baz=105							
B18K	**Kokolik River**	83.62	340	P	P	22 20 48.2	+0.7	
	baz=108							
C17K	**DeLong Mountai**	83.81	339	P	P	22 20 49.2	+0.6	
	baz=107							
F14K	**Arctic Creek**	84.20	336	P	P	22 20 51.5	+1.0	
	baz=104							
C16K	**Lisburne Hills**	84.53	339	P	P	22 20 53.4	+1.2	
	baz=105							
TNA	**Tin City**	84.87	336	P	P	22 20 55.3	+1.4	
	baz=102							
GAMB	**Gambell**	86.13	334	P	P	22 21 01.2	+1.0	
	baz=99							
DAG	**Danmarks Havn**	86.55	13	*i* P	P	22 21 01.7	-0.3	
DAG				IAmb	IAmb	22 21 03.1		
	comp=Z,2.5nm,0.7s							
DBIC	**Dimbokro**	86.64	83	P	P	22 21 02.6	-1.1	
	comp=Z,6.5nm,0.7s,baz=277,slow=3.9,SNR=6.9							
DBIC				LR	LR	22 56 26.9		
	comp=Z,106nm,19.6s,baz=249,slow=33							
	comp=Z,6.5nm,0.7s							
JMIC	**Jan Mayen**	88.13	19	LR	LR	23 01 06.4		
	comp=Z,45nm,18.1s,baz=204,slow=36							
ESDC	**Sonseca Array**	88.34	50	P	P	22 21 10.8	-0.8	
	comp=Z,0.8nm,0.6s,baz=284,slow=4.6,SNR=7.9							
ESDC				LR	LR	22 53 15.0		
	comp=Z,92nm,21.0s,baz=258,slow=31							
	comp=Z,0.8nm,0.6s							
EKA	**Eskdalemuir Ar**	89.39	35	P	P	22 21 14.4	-1.7	
	comp=Z,0.8nm,0.7s,baz=321,slow=0.9,SNR=2.2							
	comp=Z,0.8nm,0.7s							
QSPA	**South Pole Qui**	89.56	180	P	P	22 21 18.4	+1.6	
QSPA	**South Pole Qui**	89.56	180	P	P	22 21 17.0	+0.2	
	comp=Z,12nm,1.0s,baz=141,slow=2.4,SNR=13							
QSPA				LR	LR	22 56 25.2		
	comp=Z,341nm,18.0s,baz=159,slow=32							
	comp=Z,12nm,1.0s							
SHEM	**Shemya Is, Ala**	93.11	323	LR	LR	22 53 36.9		
	comp=Z,82nm,21.9s,baz=50,slow=29							
VNDA	**Vanda**	93.12	192	LR	LR	22 54 16.8		
	comp=Z,185nm,20.7s,baz=176,slow=30							
TORD	**Torodi Ar. Bea**	93.14	77	P	P	22 21 33.9	-0.4	
	comp=Z,1.9nm,1.2s,baz=295,slow=7.8,SNR=1.7							
TORD				LR	LR	23 02 16.7		
	comp=Z,163nm,19.2s,baz=313,slow=35							
	comp=Z,1.9nm,1.2s							
SPITS	**Spitsbergen Ar**	94.08	11	LR	LR	23 04 31.4		
	comp=Z,156nm,19.8s,baz=255,slow=36							
BILL	**Bilibino**	95.05	338	P	P	22 21 42.4	+0.4	
NOA	**NORSAR Array B**	96.53	29	LR	LR	23 02 23.8		
	comp=Z,48nm,19.8s,baz=265,slow=34							
ELIB	**Princess Elisa**	97.05	163	*d* P	P	22 21 51.5	+0.4	
	comp=Z,4.1nm,1.5s							
HFS	**Hagfors**	97.91	29	LR	LR	23 01 16.7		
	comp=Z,48nm,19.2s,baz=263,slow=32							
DAVOX	**Davos/Dischmat**	98.08	43	LR	LR	23 07 18.3		
	comp=Z,73nm,18.4s,baz=258,slow=36							
ARCES	**ARCESS Array B**	99.62	19	LR	LR	23 05 52.7		
	comp=Z,56nm,19.0s,baz=284,slow=35							
DZM	**Mont Dzumac**	101.07	248	*e*LR	LR	22 55 17.5		
	comp=Z,66nm,22.2s							
H11N3	**WAKE ISLAND Hyl**	101.15	290	T	T	00 14 34.6		
	baz=86,slow=75							
H11N2	**WAKE ISLAND Hyl**	101.17	290	T	T	00 14 35.9		
	baz=86,slow=75							
H11N1	**WAKE ISLAND Hyl**	101.17	290	T	T	00 14 49.9		
	baz=86,slow=75							
H11S2	**WAKE ISLAND Hyl**	101.42	289	T	T	00 15 09.0		
	baz=87,slow=75							
H11S1	**WAKE ISLAND Hyl**	101.42	289	T	T	00 14 54.9		
	baz=87,slow=75							
H11S3	**WAKE ISLAND Hyl**	101.44	289	T	T	00 15 10.3		
	baz=87,slow=75							
OBN	**Obninsk**	111.12	29	*i* PKIKP	PKiKP	22 26 52.7	-0.2	
OBN				*e*		22 27 30.3		
OBN				*e*PPP	PPP	22 29 56.1		
OBN				pmax	pmax			
	comp=Z,3.0nm,0.9s							
OBN				MLR	MLR			
	comp=Z,45nm,15.0s							
BRTR	**Keskin Array B**	116.63	45	PKP	PKPdf	22 27 03.0	-1.2	
	comp=Z,0.5nm,0.7s,baz=195,slow=1.1,SNR=4.7							
KIV	**Kislovodsk**	120.55	37	*i* PKIKP	PKPdf	22 27 09.4	-2.2	
KIV				pmax	pmax			
	comp=Z,2.0nm,1.1s							
KIV				MLR	MLR			
	comp=Z,55nm,21.0s							
KBZ	**Khabaz**	120.81	37	*i* PKIKP	PKPdf	22 27 10.4	-1.5	
KBZ	**Khabaz**	120.81	37	PKP	PKPdf	22 27 11.5	-0.4	
	comp=Z,2.0nm,0.8s,baz=225,slow=4.1,SNR=7.9							
MDJ	**Mudanjiang**	123.01	326	PKP	PKPdf	22 27 17.1	+1.0	
BRVK	**Borovoye**	125.43	13	*i* PKIKP	PKPdf	22 27 19.3	-1.2	
BVAR	**Borovoye Array**	125.48	13	PKP	PKPdf	22 27 19.8	-0.9	
	comp=Z,2.2nm,0.6s,baz=320,slow=0.9,SNR=21							
ZALV	**Zalesovo Beam**	126.62	3	PKP	PKPdf	22 27 21.3	-1.4	
	comp=Z,2.2nm,0.5s,baz=252,slow=2.4,SNR=15							
ZALV				PP	PP	22 29 14.8	-3.2	
	comp=Z,1.5nm,0.8s,baz=349,slow=6.8,SNR=4.5							
KURK	**Kurchatov**	129.24	8	*i* PKIKP	PKPdf	22 27 26.1	-1.7	
KURBB	**Kurchatov Arra**	129.32	8	PKP	PKPdf	22 27 27.1	-0.8	
	comp=Z,2.4nm,0.8s,baz=346,slow=2.3,SNR=28							
ASAR	**Alice Springs**	129.89	238	PKP	PKPdf	22 27 29.3	-0.7	
	comp=Z,0.8nm,0.8s,baz=88,slow=2.8,SNR=4.6							
ULN	**Ulaanbaatar**	130.15	344	*i* PKIKP	PKPdf	22 27 26.6	-3.3	
SONM	**Songino Array**	130.36	344	PKP	PKPdf	22 27 29.4	-0.9	
	comp=Z,0.2nm,0.5s,baz=20,slow=0.3,SNR=4.0							
WRA	**Warramunga Arr**	130.81	243	PKP	PKPdf	22 27 31.9	+0.1	
	comp=Z,1.1nm,0.7s,baz=101,slow=2.3,SNR=6.9							
DGZ	**Jazzator, Alta**	130.96	1	*i* PKIKP	PKPdf	22 27 29.8	-1.6	
GEYT	**Alibeck**	133.37	33	PKP	PKPdf	22 27 35.8	-0.3	
	comp=Z,3.5nm,0.6s,baz=253,slow=4.5,SNR=15							
MK31	**Makanchi Array**	133.55	6	*i* PKIKP	PKPdf	22 27 33.8	-2.4	
MKAR	**Makanchi Array**	133.55	6	PKhKP	PKPpre	22 27 18.0		
	comp=Z,0.1nm,0.5s,baz=0.6,slow=3.0,SNR=4.1							
MKAR				PKP	PKPdf	22 27 34.9	-1.3	
	comp=Z,0.3nm,0.6s,baz=354,slow=2.2,SNR=5.5							
MKAR				PP	PP	22 30 00.2	-3.0	
	comp=Z,0.6nm,0.7s,baz=23,slow=4.9,SNR=4.1							
HHC	**Hu-ho-hao-te**	134.73	335	*e*PKP	PKPdf	22 27 36.5	-2.2	
HNS	**HongShan**	136.06	330	⇑PKP	PKiKP	22 27 48.2	+5.5	
AAK	**Ala-Archa**	136.16	15	*i* PKIKP	PKPdf	22 27 42.1	+0.7	
WMQ	**Urumqi**	136.84	1	*e*PKP	PKPdf	22 27 44.0	+1.5	
WMQ				LR	LR			
	comp=Z,140nm,23.5s							
TIY	**Taiyuan**	136.92	332	*e*PKP	PKPdf	22 27 42.2	-0.6	
H01W1	**Cape Leeuwin H**	137.46	212	T	T	01 00 25.8		
	baz=138,slow=76,SNR=63							
H01W2	**Cape Leeuwin H**	137.46	212	T	T	01 00 26.3		
	baz=138,slow=76,SNR=52							
H01W3	**Cape Leeuwin H**	137.47	212	T	T	01 00 27.1		
	baz=138,slow=76,SNR=52							
NJ2	**Nanjing**	137.54	321	*e*PKP	PKPdf	22 27 45.2	+1.2	
KSH	**Kashi**	139.47	15	PKP	PKiKP	22 27 54.5	+4.6	
GTA	**Gaotai**	139.92	346	*e*PKP	PKiKP	22 27 54.3	+3.5	
GTA				PP	PP	22 30 50.0	+6.7	
GTA				LR	LR			
	comp=Z,71nm,19.6s							
GTA				LR	LR			
	comp=Z,71nm,19.6s							
GTA				LR	LR			
	comp=Z,120nm,21.1s							
XAN	**Xi'an**	141.56	332	PKP	PKPdf	22 27 52.7	+1.3	
LZH	**Lanzhou**	141.84	340	*e*PKP	PKPdf	22 27 47.5	-4.5	
LZH				sPKP		22 27 58.8		
GOMU	**GeErMu**	144.00	351	PKP	PKPab	22 27 54.0	+0.7	
CD2	**Chengdu**	146.49	336	PKPbc	PKiKP	22 28 07.2	+2.8	
GYA	**Guiyang**	148.85	327	⇑PKPbc	PKPbc	22 28 07.0	-1.1	
PZH	**PanZhiHua**	151.19	335	PKPbc	PKPbc	22 28 13.8	0.0	
TNCH	**TengChong**	153.77	339	PKPbc	PKPdf	22 28 10.0	-1.8	
TNCH				PP	PP	22 32 09.6	+4.4	
TNCH				SKS	SKSdf	22 35 16.6	-1.7	
TNCH				AMB	AMB			
	comp=Z,140nm,4.4s							
CMAR	**Chiang Mai Arr**	159.44	331	PKP	PKPdf	22 28 19.1	0.0	
	comp=Z,0.4nm,0.3s,baz=29,slow=2.1,SNR=4.5							
CMAR				PKPab	PKPab	22 28 55.5	-1.2	
	comp=Z,2.2nm,0.8s,baz=3.6,slow=4.9,SNR=11							

ATH **11** *22:40:07.1,34˚.98N×28˚.02E,h12km±2km, ML2.6/3, Error ellipse: s-maj=4.4km s-min=2.1km az=311.0*
ISK **11** *22:40:08.0,35˚.20N×28˚.02E,h16km, ML2.6/12*
THE **11** *22:40:09.8,35˚.23N×27˚.80E,h0km±6km, ML2.5/1, Error ellipse: s-maj=8.4km s-min=2.1km az=139.0*

ISC 11 22:40:06.4±2.1, **35˚.08N**±0˚.08×**27˚.98E**±0˚.05, **h9**km±11km, **n25,σ1°01**/36, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	0.82	305	Pg	**Pb**	**

*IDC **11** 22:52:43.9±3.1,24°.27S×179°.86E,h518km±30km,mb3.1/5, mbtmp4.0/6,Error ellipse: s-maj=33.7km s-min=24.9km az=16.0*

ISC 11 22:52:43.7±1.2,24°.4S±0°.3×179°.9E±0°.2,h517km,n8, σ0^{s}66/9,mb3.5/5,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.60**	**278**	P		**P**		**22 55 29.5**	**+0.8**
	4.2nm,0.8s,baz=92,slow=18,SNR=1.8								
STKA	**Stephens Creek**	**34.48**	**249**	P		**P**		**22 58 48.4**	**+0.2**
	1.5nm,0.5s,baz=103,slow=11,SNR=4.9								
	1.5nm,0.5s								
ASAR	**Alice Springs**	**41.89**	**261**	P		**P**		**22 59 48.2**	**-0.5**
	1.0nm,0.6s,baz=96,slow=7.0,SNR=11								
	1.0nm,0.6s								
WRA	**Warramunga Arr**	**42.30**	**267**	P		**P**		**22 59 51.3**	**-0.7**
	2.5nm,0.5s,baz=98,slow=8.3,SNR=28								
WRA					ScP	**ScP**		**23 04 34.5**	**-0.8**
	0.9nm,0.9s,baz=90,slow=5.8,SNR=13								
	2.5nm,0.5s								
QSPA	**South Pole Qui**	**65.72**	**180**	P		**P**		**23 02 37.0**	**+0.2**
	1.2nm,1.0s,baz=33,slow=1.4,SNR=8.1								
	1.2nm,1.0s								
TXAR	**Lajitas Array**	**90.74**	**58**	P		**P**		**23 04 51.9**	**+0.3**
	0.3nm,0.7s,baz=201,slow=6.7,SNR=3.9								
	0.3nm,0.7s								
BRTR	**Keskin Array B**	**147.80**	**307**	PKPbc		**PKPbc**		**23 11 30.0**	**-0.6**
	0.3nm,0.7s,baz=106,slow=3.5,SNR=2.9								
MMAI	**Mount Meron Ar**	**147.82**	**294**	PKPbc		**PKPbc**		**23 11 30.8**	**0.0**
	0.7nm,0.5s,baz=93,slow=5.8,SNR=4.9								

IDC 11 23:00:17.4±1.6,14°.14N×145°.19E,h0km,mb3.5/5, mbtmp3.5/5,Error ellipse: s-maj=55.2km s-min=33.2km az=94.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.51**	**198**	P		P		23 07 15.9	-0.3
	0.6nm,0.8s,baz=13,slow=8.8,SNR=1.4								
	0.6nm,0.8s								
MKAR	**Makanchi Array**	**61.31**	**316**	P		P		23 10 35.6	+0.8
	0.2nm,0.5s,baz=98,slow=7.5,SNR=4.9								
	0.2nm,0.5s								
KURBB	**Kurchatov Arra**	**64.41**	**320**	P		P		23 10 55.3	-0.1
	0.2nm,0.4s,baz=103,slow=7.3,SNR=2.7								
	0.2nm,0.4s								
ILAR	**Eielson Array**	**67.94**	**25**	P		P		23 11 17.4	-0.4
	0.3nm,0.7s,baz=263,slow=6.0,SNR=4.3								
	0.3nm,0.7s								
BVAR	**Borovoye Array**	**69.69**	**322**	P		P		23 11 28.9	-0.1
	0.4nm,0.3s,baz=104,slow=8.0,SNR=5.1								
	0.4nm,0.3s								

*SOME **11** 23:13:23.6,39°.53N×75°.82E,h15km*
*NNC **11** 23:13:26.2±1.0,39°.70N×75°.83E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=7.3km s-min=4.7km az=157.0*
*KRNET **11** 23:13:35.8±0.1,39°.84N×75°.76E,mb2.8*

ISC 11 23:13:37.3±1.1,39°.84N±0°.05×75°.71E±0°.03,h10km,n37, σ1^{s}22/56,12C-12D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.70**	**276**	⇑*eP*		**Pb**		**23 14 07.6**	**-1.2**
	baz=76								
SFK				⇑*eS*		**Sb**		**23 14 30.8**	**+0.4**
	baz=76								
ARLS	**Aral**	**2.27**	**333**	⇓*eP*		**Pn**		**23 14 15.2**	**+0.1**
	baz=32								
ARLS				⇓*eS*		**Sb**		**23 14 44.1**	**-2.7**
	baz=32								
ULHL	**Ulahol**	**2.44**	**9**	⇓*eP*		**Pn**		**23 14 17.3**	**0.0**
	baz=8.0								
ULHL				⇓*eS*		**Sn**		**23 14 47.5**	**+0.2**
	baz=8.0								
KDJ	**Kajisay**	**2.54**	**26**	⇓*eP*		**Pn**		**23 14 18.5**	**-0.3**
	baz=25								
KDJ				⇓*eS*		**Sn**		**23 14 49.9**	**0.0**
	baz=25								
ARSB	**Arslanbob**	**2.55**	**306**	⇑*eP*		**Pn**		**23 14 19.5**	**+0.7**
	baz=6.0								
ARSB				⇑*eS*		**Sb**		**23 14 51.9**	**-2.8**
	baz=6.0								
UCH	**Uchtor**	**2.55**	**340**	⇑*eP*		**Pn**		**23 14 19.5**	**+0.4**
	baz=39								
UCH				⇑*eS*		**Sn**		**23 14 51.1**	**+0.7**
	baz=39								
KBK	**Karagaybulak**	**2.87**	**349**	⇓*eP*		**Pn**		**23 14 23.6**	**+0.3**
	baz=48								
KBK				⇓*eS*		**Sn**		**23 14 58.3**	**+0.4**
	baz=48								
AAK	**Ala-Archa**	**2.94**	**342**	⇓*eP*		**Pn**		**23 14 24.5**	**+0.3**
	baz=42								
AAK				⇓*eS*		**Sn**		**23 15 00.2**	**+0.6**
	baz=42								
TKM2	**Tokmak 2**	**3.08**	**358**	⇑Pg		**Pn**		**23 14 24.0**	**-2.1**
	2.3nm,0.5s								
TKM2				⇓Lg		Lg		23 15 08.2	
	9.4nm,0.6s								
KST	**Kastek**	**3.21**	**3**	*eP*		**Pn**		**23 14 27.6**	**-0.2**
	3.3nm,0.2s								
KST				*eS*		**Sb**		**23 15 13.8**	**+0.3**
	9.6nm,0.4s								
KST	**Kastek**	**3.21**	**3**	Pg		**Pn**		**23 14 27.6**	**-0.2**
	3.3nm,0.2s								
KST				Lg		Lg		23 15 13.8	
	9.6nm,0.4s								
ANVS	**Anan'yevo**	**3.29**	**26**	⇑*eP*		**Pn**		**23 14 28.9**	**-0.1**
	baz=25								
ANVS				⇑*eS*		**Sn**		**23 15 07.5**	**-0.8**
	baz=25								
TNSS	**Tian-Shan**	**3.33**	**16**	*eP*		**Pn**		**23 14 29.2**	**-0.6**
	5.7nm,0.2s								
TNSS				*eS*		**Sb**		**23 15 16.6**	**-0.7**
	4.7nm,0.5s								
TNSS	**Tian-Shan**	**3.33**	**16**	Pg		**Pn**		**23 14 29.2**	**-0.6**
	5.7nm,0.2s								
TNSS				Lg		Lg		23 15 16.6	
	4.7nm,0.5s								
MTBS	**Maitube**	**3.33**	**9**	*eP*		**Pn**		**23 14 28.9**	**-0.6**
	1.3nm,0.1s								
MTBS				*eS*		**Sb**		**23 15 16.0**	**-1.0**
	6.0nm,0.5s								
MTBS	**Maitube**	**3.33**	**9**	Pg		**Pn**		**23 14 28.9**	**-0.6**
	1.3nm,0.1s								
MTBS				Lg		Lg		23 15 16.0	
	6.0nm,0.5s								
DGS	**Degeres**	**3.40**	**1**	*eP*		**Pn**		**23 14 30.3**	**-0.2**
	3.9nm,0.5s								
DGS				*eS*		**Sb**		**23 15 18.4**	**-0.7**
	7.9nm,0.4s								
DGS	**Degeres**	**3.40**	**1**	Pg		**Pn**		**23 14 30.3**	**-0.2**
	3.9nm,0.5s								
DGS				Lg		Lg		23 15 18.4	
	7.9nm,0.4s								
MRKS	**Merke**	**3.45**	**328**	*eP*		**Pn**		**23 14 32.3**	**+1.1**
	0.8nm,0.2s								
MRKS				*eS*		**Sb**		**23 15 21.8**	**+1.3**
	4.6nm,0.5s								
MRKS	**Merke**	**3.45**	**328**	Pg		**Pn**		**23 14 32.3**	**+1.1**
	0.8nm,0.2s								
MRKS				Lg		Lg		23 15 21.8	
	4.6nm,0.5s								
MDOK	**Medeo**	**3.47**	**16**	*eP*		**Pn**		**23 14 30.9**	**-0.5**
	1.9nm,0.3s								
MDOK				*eS*		**Sb**		**23 15 19.5**	**-1.6**
	8.7nm,1.3s								
MDOK	**Medeo**	**3.47**	**16**	Pg		**Pn**		**23 14 30.9**	**-0.5**
	1.9nm,0.3s								
MDOK				Pg		Pb		23 14 32.5	-6.4
	1.3nm,0.4s								
MDOK				⇑Lg		Lg		23 15 19.4	
	18nm,1.3s								
MDOK				Lg		Lg		23 15 19.5	
	8.7nm,1.3s								
KOTS	**Kotyrbulak**	**3.55**	**17**	*eP*		**Pn**		**23 14 32.8**	**+0.3**
	3.6nm,0.2s								
KOTS				*eS*		**Sb**		**23 15 22.8**	**-0.7**
	19nm,0.5s								
KOTS	**Kotyrbulak**	**3.55**	**17**	Pg		**Pn**		**23 14 32.8**	**+0.3**
	3.6nm,0.2s								
KOTS				Lg		Lg		23 15 22.8	
	19nm,0.5s								
MNAS	**Manas**	**3.58**	**319**	⇑*eP*		**Pn**		**23 14 33.7**	**+0.7**
	baz=18								
MNAS				⇑*eS*		**Sn**		**23 15 15.5**	**0.0**
	baz=18								
SATY	**Saty**	**3.80**	**31**	*eP*		**Pn**		**23 14 37.1**	**+1.1**
	0.7nm,0.1s								
SATY				*eS*		**Sb**		**23 15 30.0**	**-0.7**
	6.7nm,0.4s								
SATY	**Saty**	**3.80**	**31**	Pg		**Pn**		**23 14 37.1**	**+1.1**
	0.7nm,0.1s								
SATY				Lg		Lg		23 15 30.0	
	6.7nm,0.4s								
KRBS	**Karabastau**	**3.85**	**360**	*eP*		**Pn**		**23 14 38.3**	**+1.6**
	0.5nm,0.3s								
KRBS				*eS*		**Sb**		**23 15 32.1**	**0.0**
	5.4nm,0.4s								
KURS	**Kuram**	**4.08**	**26**	*eP*		**Pn**		**23 14 42.1**	**+2.3**
	0.6nm,0.1s								
KURS				*eS*		**Sb**		**23 15 38.6**	**-0.1**
	2.3nm,0.6s								
KURS	**Kuram**	**4.08**	**26**	Pg		**Pn**		**23 14 42.1**	**+2.3**
	0.6nm,0.1s								
KURS				Lg		Lg		23 15 38.6	
	2.3nm,0.6s								
CHKK	**Chushkaly**	**4.12**	**13**	*eP*		Pb		23 14 43.6	-6.3
	0.6nm,0.1s								
CHKK				*eS*		**Sb**		**23 15 41.1**	**+1.3**
	6.1nm,0.3s								
CHKK	**Chushkaly**	**4.12**	**13**	Pg		Pb		23 14 43.6	-6.3
	0.6nm,0.1s								
CHKK				Lg		Lg		23 15 41.1	
	6.1nm,0.3s								
UZB	**Uzynbulak**	**4.14**	**36**	*eP*		**Pn**		**23 14 43.1**	**+2.5**
	3.5nm,0.2s								
UZB				*eS*		**Sb**		**23 15 40.3**	**0.0**
	3.5nm,0.6s								
UZB	**Uzynbulak**	**4.14**	**36**	Pg		**Pn**		**23 14 43.1**	**+2.5**
	3.5nm,0.2s								
UZB				Lg		Lg		23 15 40.3	
	3.5nm,0.6s								
IUG	**Iuzhnay**	**4.87**	**300**	*eP*		Pb		23 14 57.1	-5.7
	2.6nm,0.2s								
IUG				*eS*		**Sb**		**23 16 04.3**	**+2.9**
	4.1nm,0.4s								
IUG	**Iuzhnay**	**4.87**	**300**	Pg		Pb		23 14 57.1	-5.7
	2.6nm,0.2s								
IUG				Lg		Lg		23 16 04.4	
	4.1nm,0.4s								
KK31	**Karatay Array**	**5.08**	**312**	⇓Pg		**Pb**		**23 15 03.9**	**-2.4**
	0.3nm,0.3s,baz=126,slow=16,SNR=8.5								
KK31				Lg		Lg		23 16 15.1	
	0.5nm,0.4s,baz=123,slow=27,SNR=4.8								

*IDC **11** 23:52:55.1±1.3,2°.83N×128°.76E,h236km±12km,mb3.9/21, mbtmp4.5/23,Error ellipse: s-maj=20.4km s-min=8.6km az=75.0*
*DJA **11** 23:52:55.2±0.4,3°.N±4°.×12°.8E±°,h223km±5km,M4.6/15, mB5.0/5,mb4.5/10,MLv4.7/15,Mw(mB)4.4/5*
*NEIC **11** 23:52:55.5±1.4,2°.77N±0°.06×128°.53E±0°.05,h227km±7km, mb4.4/124,Error ellipse: s-maj=10.6km s-min=3.3km az=144.0*

ISC 11 23:52:57.0±0.3,2°.67N±0°.04×128°.44E±0°.06,h250km,n205, σ1^{s}34/217,mb4.4/93,1C-1D,Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.17**	**210**	Pn		**Pn**		**23 53 39.1**	**-1.9**
TNTI	**Ternate**	**2.17**	**210**	P		**Pn**		**23 53 39.3**	**-1.7**
TNTI	**Ternate**	**2.17**	**210**	P		**Pn**		**23 53 39.1**	**-1.9**
TNTI				S		**S**		**23 54 12.5**	**-3.3**
SGSI	**Sangihe**	**3.08**	**289**	P		**Pn**		**23 53 47.2**	**-3.2**
SGSI				S		**S**		**23 54 27.7**	**-4.9**
LBMI	**Labuha**	**3.42**	**196**	P		**Pn**		**23 53 53.3**	**-0.8**
LBMI				S		**S**		**23 54 38.0**	**-1.5**
SWI	**Sorong**	**4.50**	**141**	P		**Pn**		**23 54 05.3**	**-1.4**
KMSI	**Cibinong**	**4.92**	**245**	P		**Pn**		**23 54 09.0**	**-2.9**
KMSI				S		**S**		**23 55 10.2**	**-1.3**
DAV	**Davao City (W)**	**5.22**	**327**	Pn		**Pn**		**23 54 12.3**	**-3.2**
DAV	**Davao City (W)**	**5.22**	**327**	P		**Pn**		**23 54 12.8**	**-2.7**
	101nm,0.3s,baz=118,slow=8.2,SNR=6.7								
SANI	**Sanana**	**5.29**	**208**	P		**Pn**		**23 54 14.6**	**-1.8**
SANI	**Sanana**	**5.29**	**208**	P		**Pn**		**23 54 13.9**	**-2.5**
	145nm,0.7s,3μm0.8nm								
SANI				S		**S**		**23 55 12.7**	**-7.1**
	145nm,0.7s,3μm0.8nm								
GTOI	**Gorontalo**	**5.79**	**250**	P		**Pn**		**23 54 22.7**	**+0.1**
	13nm,0.5s,268nm0.1nm								
GTOI				S		**S**		**23 55 30.4**	**-0.6**
	13nm,0.5s,268nm0.1nm								
NLAI	**Namlea**	**6.02**	**193**	P		**Pn**		**23 54 24.1**	**-1.3**
	34nm,0.5s,5μm0.3nm								
NLAI				S		**S**		**23 55 34.7**	**-1.5**
	34nm,0.5s,5μm0.3nm								
FAKI	**Fak Fak**	**6.73**	**146**	Pn		**Pn**		**23 54 32.2**	**-2.1**
FAKI	**Fak Fak**	**6.73**	**146**	P		**Pn**		**23 54 33.8**	**-0.5**
FAKI	**Fak Fak**	**6.73**	**146**	P		**Pn**		**23 54 32.6**	**-1.7**
	70nm,0.9s,0.2nm								
LUWI	**Luwuk**	**6.76**	**237**			**Pn**		**23 54 34.9**	**+0.1**
LUWI	**Luwuk**	**6.76**	**237**	P		**Pn**		**23 54 34.8**	**+0.1**
	50nm,0.7s,0.8nm								
MRSI	**Marisa**	**6.86**	**252**	P		**Pn**		**23 54 35.9**	**0.0**
	22nm,0.4s,0.2nm								
BNDI	**Bandanaira**	**7.29**	**168**	P		**Pn**		**23 54 39.8**	**-1.6**
	108nm,0.9s,1.3nm								
TOLI2	**Tolitoli**	**7.81**	**259**	Pn		**Pn**		**23 54 47.4**	**-0.5**
SOEI	**Soe**	**13.03**	**199**			**P**		**23 55 54.8**	**-0.4**
SOEI	**Soe**	**13.03**	**199**	P		**P**		**23 55 54.7**	**-0.4**
SOEI	**Soe**	**13.03**	**199**	P		**Pn**		**23 55 53.7**	**+0.3**
BATI	**Baumata**	**13.65**	**200**	P		**P**		**23 56 02.6**	**+0.7**
	57nm,0.4s,baz=18,slow=3.2,SNR=12								
DRS	**Darwin Rock St**	**15.20**	**171**	P		**Pn**		**23 56 20.8**	**+1.1**
	44nm,1.1s								
PLAI	**Plampang**	**15.61**	**223**	P		**Pn**		**23 56 26.4**	**+1.9**
MTN	**Manton Dam**	**15.64**	**170**	P		**P**		**23 56 23.7**	**-0.2**
MTN	**Manton Dam**	**15.64**	**170**	P		**P**		**23 56 23.9**	**-0.1**
KDU	**Kakadu**	**15.77**	**165**	P		**Pn**		**23 56 25.9**	**-0.6**
KNRA	**Kununurra**	**18.23**	**179**	P		**P**		**23 56 53.5**	**+1.3**
KNRA	**Kununurra**	**18.23**	**179**	P		**P**		**23 56 53.4**	**+1.2**
FITZ	**Fitzroy Crossi**	**20.82**	**188**	P		**P**		**23 57 19.8**	**0.0**
WB0	**Warramunga Arr**	**23.05**	**166**	P		**P**		**23 57 40.9**	**+0.2**
WRAB	**Tennant Creek**	**23.20**	**166**	P		**P**		**23 57 42.7**	**+0.7**
WRAB						IAmb	IAmb	23 57 44.5	
	comp=Z,27nm,1.2s								
WRA	**Warramunga Arr**	**23.20**	**166**	P		**P**		**23 57 41.7**	**-0.3**
WRA	**Warramunga Arr**	**23.20**	**166**	P		**P**		**23 57 42.1**	**0.0**
	comp=Z,4.9nm,0.5s,baz=344,slow=10.0,SNR=63								
WRA					ScP	**ScP**		**00 04 37.6**	**+1.0**
	comp=Z,0.8nm,0.9s,baz=332,slow=2.6,SNR=1.6								
	comp=Z,4.9nm,0.5s								
WB2	**Warramunga Arr**	**23.21**	**166**	P		**P**		**23 57 42.5**	**+0.4**
WB2						IAmb	IAmb	23 57 44.6	
	comp=Z,30nm,1.4s								
WR0	**Warramunga Arr**	**23.27**	**165**	P		**P**		**23 57 42.6**	**-0.1**
WR0						IAmb	IAmb	23 57 44.6	
	comp=Z,24nm,1.4s								
MBWA	**Marble Bar**	**25.17**	**199**	P		**P**		**23 58 01.0**	**+1.1**
PSA00	**Pilbara Seismi**	**25.52**	**199**	P		**P**		**23 58 03.9**	**+0.9**
PSA00						IAmb	IAmb	23 58 21.1	
	comp=Z,26nm,1.3s								
QIS	**Mount Isa**	**25.55**	**155**	P		**P**		**23 58 03.7**	**+0.4**
UBPT	**Khong Chiam**	**25.88**	**300**	P		**P**		**23 58 08.0**	**+1.7**
UBPT						IAmb	IAmb	23 58 08.7	
	comp=Z,13nm,0.9s								
AS31	**Alice Springs**	**26.71**	**169**	P		**P**		**23 58 14.2**	**+0.5**
ASAR	**Alice Springs**	**26.71**	**169**	P		**P**		**23 58 14.1**	**+0.4**
ASAR	**Alice Springs**	**26.71**	**169**	P		**P**		**23 58 13.9**	**+0.2**
	comp=Z,4.3nm,0.5s,baz=353,slow=7.6,SNR=74								
ASAR					ScP	**ScP**		**00 04 47.5**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=358,slow=2.9,SNR=6.2								
	comp=Z,4.3nm,0.5s								
WRKA	**Warakurna**	**27.54**	**180**	P		**P**		**23 58 22.1**	**+1.1**
NJ2	**Nanjing**	**30.59**	**344**	*eP*		**P**		**23 58 49.2**	**+1.4**
NJ2					*pP*	**pP**		**23 59 33.9**	**-2.6**
NJ2					sP	**PP**		**23 59 59.3**	**-3.2**
NJ2					pmax	pmax			
	comp=Z,13nm,0.5s								
NJ2					pmax	pmax			
	comp=Z,88nm,4.1s								
GSI	**Gunungsitoli**	**30.88**	**268**	P		**P**		**23 58 52.0**	**+1.4**
JMN	**Monobe**	**31.32**	**9**	P		**P**		**23 58 53.0**	**-1.2**
CRAI	**Chiangrai**	**32.48**	**305**	P		**P**		**23 59 05.3**	**+0.9**
CRAI						IAmb	IAmb	23 59 07.0	
	comp=Z,6.4nm,0.8s								
CMAR	**Chiang Mai Arr**	**32.88**	**301**	P		**P**		**23 59 09.3**	**+1.3**
CMAR	**Chiang Mai Arr**	**32.88**	**301**	P		**P**		**23 59 09.8**	**+1.8**
	comp=Z,4.2nm,0.5s,baz=114,slow=7.0,SNR=42								
CMAR					ScP	**ScP**		**00 05 08.7**	**+2.0**
	comp=Z,0.6nm,0.4s,baz=95,slow=3.2,SNR=4.4								
	comp=Z,4.2nm,0.5s								
FORT	**Forrest**	**33.26**	**181**	P		**P**		**23 59 12.0**	**+1.0**
FORT	**Forrest**	**33.26**	**181**	P		**P**		**23 59 12.2**	**+1.1**
KMI	**Kunming**	**33.34**	**314**	⇑P		**P**		**23 59 14.4**	**+2.3**
KMI					pmax	pmax			
	comp=Z,12nm,1.2s								
INU	**Inuyama**	**33.48**	**13**	P		**P**		**23 59 11.5**	**-1.3**
MORW	**Morawa**	**33.72**	**200**	P		**P**		**23 59 16.1**	**+1.0**
MORW					IAmb	IAmb		23 59 26.6	
	comp=Z,9.8nm,0.9s								
KSRS	**Korea Array**	**34.62**	**359**	P		**P**		**23 59 20.9**	**-1.7**
	comp=Z,4.1nm,0.6s,baz=176,slow=9.8,SNR=13								
	comp=Z,4.1nm,0.6s								
MAJO	**Matsushiro**	**34.89**	**14**	P		**P**		**23 59 23.8**	**-1.2**
MAJO					IAmb	IAmb		23 59 24.0	
	comp=Z,12nm,0.7s								
MJAR	**Matsushiro Arr**	**34.89**	**14**	P		**P**		**23 59 22.2**	**-2.8**
	comp=Z,8.5nm,0.7s,baz=188,slow=9.4,SNR=17								
	comp=Z,8.5nm,0.7s								
PZH	**PanZhiHua**	**34.89**	**315**	P		**P**		**23 59 26.5**	**+1.2**
PZH					pmax	pmax			
	comp=Z,10.0nm,0.6s								
PZH					pmax	pmax			
	comp=Z,100nm,6.9s								
MJB9	**Matsu-Tunnel**	**34.90**	**14**	P		**P**		**23 59 23.2**	**-1.8**
MJB9					IAmb	IAmb		23 59 24.0	
	comp=Z,12nm,0.7s								
BBOO	**Buckleboo**	**36.02**	**169**	P		**P**		**23 59 34.9**	**+0.3**
XAN	**Xi'an**	**36.14**	**332**	P		**P**		**23 59 35.3**	**-0.4**
XAN					pmax	pmax			
	comp=Z,13nm,0.8s								
STKA	**Stephens Creek**	**36.56**	**161**	P		**P**		**23 59 39.8**	**+0.6**
STKA	**Stephens Creek**	**36.56**	**161**	P		**P**		**23 59 38.9**	**-0.3**
	comp=Z,5.7nm,0.6s,baz=340,slow=8.7,SNR=12								
	comp=Z,5.7nm,0.6s								
HNS	**HongShan**	**36.80**	**342**	⇓P		**P**		**23 59 40.8**	**-0.3**
HNS					pmax	pmax			
	comp=Z,10.0nm,0.9s								
NWAO	**Narrogin (SRO)**	**36.96**	**196**	P		**P**		**23 59 43.8**	**+1.2**
BJT	**Baijiatuao**	**38.81**	**345**	P		**P**		**23 59 57.0**	**-0.8**
BJT					IAmb	IAmb		23 59 58.2	
	comp=Z,11nm,0.7s								
BJI	**Beijing**	**38.83**	**345**	P		**P**		**23 59 57.4**	**-0.6**
BJI					pmax	pmax			
	comp=Z,8.0nm,0.7s								
BJI					pmax	pmax			
	comp=Z,53nm,5.3s								
LZH	**Lanzhou**	**40.29**	**329**	*eP*		**P**		**00 00 11.6**	**+1.3**
LZH					pP	pwP		00 01 02.9	-1.4
LZH					pmax	pmax			
	comp=Z,17nm,1.0s								
H11S3	**WAKE ISLAND Hy**	**40.61**	**64**	T		T		00 44 22.0	
	baz=252								
H11S2	**WAKE ISLAND Hy**	**40.63**	**64**	T		T		00 44 21.2	
	baz=252								
H11S1	**WAKE ISLAND Hy**	**40.63**	**64**	T		T		00 44 15.8	
	baz=252								
HHC	**Hu-ho-hao-te**	**40.95**	**340**	*eP*		**P**		**00 00 15.8**	**+0.2**
HHC					pmax	pmax			
	comp=Z,13nm,0.7s								
HHC					pmax	pmax			
	comp=Z,79nm,5.0s								
H11N1	**WAKE ISLAND Hy**	**41.19**	**63**	T		T		00 45 01.4	
	baz=250,slow=74								
H11N2	**WAKE ISLAND Hy**	**41.20**	**63**	T		T		00 44 59.9	
	baz=250								
H11N3	**WAKE ISLAND Hy**	**41.20**	**63**	T		T		00 45 04.3	
	baz=250,slow=74								
USRK	**Ussuriysk Ar.**	**41.48**	**4**	P		**P**		**00 00 18.1**	**-1.5**
USRK	**Ussuriysk Ar.**	**41.48**	**4**	P		**P**		**00 00 17.7**	**-1.9**
	comp=Z,4.8nm,0.7s,baz=194,slow=9.9,SNR=9.8								
	comp=Z,4.8nm,0.7s								
MDJ	**Mudanjiang**	**41.78**	**1**	P		**P**		**00 00 21.9**	**-0.2**
MDJ					pP	pP		00 01 09.2	-2.7
MDJ					PcS	**PcS**		**00 06 04.3**	**-0.7**
MDJ					S	**S**		**00 06 24.5**	**+4.2**
MDJ					SS	**SS**		**00 09 42.6**	**+5.4**
MDJ					pmax	pmax			
	comp=Z,10.0nm,0.9s								
MDJ					pmax	pmax			
	comp=Z,140nm,4.5s								
LSA	**Lhasa**	**44.42**	**311**	P		**P**		**00 00 44.9**	**+0.9**
LSA					IAmb	IAmb		00 00 46.9	
	comp=Z,16nm,1.2s								
DZM	**Mont Dzumac**	**44.53**	**125**	P		**P**		**00 00 44.6**	**+0.1**
DZM					IAmb	IAmb		00 01 14.8	
	comp=Z,24nm,1.3s								
GTA	**Gaotai**	**44.89**	**328**	P		**P**		**00 00 47.9**	**+0.8**
GTA					pP	pP		00 01 40.6	+1.6
GTA					pmax	pmax			
	comp=Z,11nm,0.9s								
GOMU	**GeErMu**	**45.58**	**321**	P		**P**		**00 00 54.3**	**+1.5**
GOMU					pmax	pmax			
	comp=Z,4.0nm,0.8s								
HEH	**HeiHe**	**47.42**	**359**	*eP*		**P**		**00 01 05.3**	**-1.1**
HEH					pmax	pmax			
	comp=Z,8.0nm,0.5s								
HEH					pmax	pmax			
	comp

comp=Z,5.0nm,1.0s
GAR Garm 63.90 313 P P 00 03 03.3 -0.4
CHGR Chuyangaron 64.64 312 P P 00 03 07.7 -0.7
CHGR IAmb IAmb 00 03 09.1
comp=Z,5.3nm,0.8s
SIMJ Simiganj 64.76 312 P P 00 03 08.7 -0.5
KK31 Karatay Array 65.17 317 P P 00 03 11.2 -0.4
KK31 IAmb IAmb 00 03 12.7
comp=Z,7.0nm,1.1s
KKAR Karatay Array 65.17 317 P P 00 03 11.8 +0.2
KKAR Karatay Array 65.17 317 P P 00 03 11.8 +0.2
KKAR IAmb IAmb 00 03 12.7
comp=Z,6.9nm,1.1s
TIXI Tiksi 68.88 0 P P 00 03 33.4 -1.0
TIXI IAmb IAmb 00 03 34.3
comp=Z,4.6nm,0.8s
HRA Herat 68.94 306 P 00 03 35.8 0.0
BVAR Borovoye Array 69.14 327 P P 00 03 36.2 -0.1
comp=Z,6.4nm,0.6s,baz=122,slow=7.6,SNR=37
comp=Z,6.4nm,0.6s
BRVK Borovoye 69.21 327 P P 00 03 36.5 -0.3
BRVK IAmb IAmb 00 03 37.6
comp=Z,10nm,0.9s
BILL Bilibino 70.14 14 P P 00 03 42.4 +0.3
NRIK Noril'sk 71.86 346 P P 00 03 52.0 -0.4
NRIK IAmb IAmb 00 03 53.0
comp=Z,4.6nm,0.8s
NRIK Noril'sk 71.86 346 P P 00 03 51.8 -0.6
comp=Z,3.8nm,0.7s,baz=130,slow=5.5,SNR=8.2
comp=Z,3.8nm,0.7s
GEYT Alibeck 72.89 309 P P 00 03 59.5 +0.4
comp=Z,3.0nm,0.7s,baz=117,slow=9.0,SNR=8.8
comp=Z,3.0nm,0.7s
ABKAR Akbulak array 74.05 321 P P 00 04 04.9 -0.6
ABKAR IAmb IAmb 00 04 06.3
comp=Z,3.8nm,0.8s
G19K Purcell Mounta 81.31 23 P P 00 04 46.6 +1.3
G19K IAmb IAmb 00 04 47.2
comp=Z,5.5nm,0.7s
N19K Bonanza Creek 81.38 29 P P 00 04 47.1 +1.3
N19K IAmb IAmb 00 05 18.1
comp=Z,15nm,1.4s
OHAK Old Harbor 81.41 33 P P 00 04 46.5 +0.6
OHAK IAmb IAmb 00 04 47.4
comp=Z,16nm,1.0s
H19K Roundabout Mou 81.43 24 P P 00 04 47.4 +1.6
H19K IAmb IAmb 00 04 47.8
comp=Z,4.1nm,0.6s
L19K White Mountain 81.45 27 P P 00 04 46.7 +0.6
L19K IAmb IAmb 00 05 05.1
comp=Z,5.8nm,1.1s
J19K Poorman 81.46 26 P P 00 04 47.0 +0.9
D19K Kuna River 81.49 21 P P 00 04 47.3 +1.1
D19K IAmb IAmb 00 04 47.6
comp=Z,4.7nm,0.6s
E19K Redstone River 81.56 22 P P 00 04 47.6 +1.1
E19K IAmb IAmb 00 04 48.7
comp=Z,6.8nm,0.9s
M19K Big River Lodg 81.62 28 P P 00 04 48.3 +1.3
M19K IAmb IAmb 00 04 54.5
comp=Z,12nm,1.5s
KDAK Kodiak Island 81.87 32 P P 00 04 48.0 -0.3
K20K Telida 82.02 26 P P 00 04 49.5 +0.4
F20K Avaraart Lake 82.04 23 P P 00 04 49.7 +0.7
J20K Nowinta River 82.13 26 P P 00 04 50.9 +1.4
J20K IAmb IAmb 00 04 51.5
comp=Z,5.1nm,0.8s
RSO Redoubt South 82.17 29 P P 00 04 49.6 -0.4
VNDA Vanda 82.17 173 P P 00 04 50.7 +1.3
VNDA Vanda 82.17 173 P P 00 04 50.0 +0.6
comp=Z,1.0nm,0.6s,baz=325,slow=7.4,SNR=2.8
comp=Z,1.0nm,0.6s
B20K Meade River 82.19 20 P P 00 04 50.9 +1.2
M20K Styx River 82.20 28 P P 00 04 51.2 +1.1
M20K IAmb IAmb 00 05 25.1
comp=Z,11nm,1.4s
IMAR Indian Mountai 82.61 24 P P 00 04 52.9 +0.8
CNPM China Poot 82.80 30 P P 00 04 52.9 -0.2
G21K Allakaket 82.80 23 P P 00 04 53.8 +0.9
G21K IAmb IAmb 00 04 55.0
comp=Z,6.4nm,1.0s
CAST Castle Rocks 82.91 26 P P 00 04 54.6 +1.0
F21K Alatna River 82.94 23 P P 00 04 54.1 +0.5
H21K Melozitna Rive 82.94 24 P P 00 04 54.8 +1.0
SKT Skwentna 82.96 28 P P 00 04 53.6 -0.3
SKT IAmb IAmb 00 04 54.0
comp=Z,6.4nm,1.1s
B21K Ikpikpuk River 82.97 20 P P 00 04 55.1 +1.4
B21K IAmb IAmb 00 04 55.8
comp=Z,8.0nm,0.7s
BRLK Bradley Lake 83.00 30 P P 00 04 54.0 -0.1
VOI Vohitsoka 83.25 248 P P 00 04 56.8 +0.5
VOI IAmb IAmb 00 05 25.4
comp=Z,10nm,1.1s
SUA Susitna One 83.27 29 P P 00 04 55.4 -0.2
SUA IAmb IAmb 00 04 55.8
comp=Z,9.3nm,1.0s
KTH Kantishna Hill 83.45 26 P P 00 04 56.7 +0.3
KTH IAmb IAmb 00 04 57.9
comp=Z,14nm,1.4s
B22K Teshekpuk Lake 83.51 19 P P 00 04 57.7 +1.2
B22K IAmb IAmb 00 04 58.2
comp=Z,4.7nm,0.8s
D22K Ayikyak River 83.51 21 P P 00 04 58.3 +1.7
MLY Manley 83.71 25 P P 00 04 58.3 +0.6
E22K Anaktuvuk Pass 83.71 22 P P 00 04 59.2 +1.5
E22K IAmb IAmb 00 04 59.2
comp=Z,5.8nm,1.1s
RC01 Rabbit Creek A 83.71 29 P P 00 04 57.8 +0.1
RC01 IAmb IAmb 00 04 58.3
comp=Z,11nm,0.9s
TRF Thorofare Moun 83.72 27 P P 00 04 57.7 -0.2
TRF IAmb IAmb 00 04 59.6
comp=Z,10nm,1.3s
GHO Glory Hole Cre 84.17 28 P P 00 04 59.8 -0.3
G23K Bananza Creek 84.21 23 P P 00 05 00.9 +0.8
G23K IAmb IAmb 00 05 02.8
comp=Z,6.1nm,1.1s
RND Reindeer 84.35 27 P P 00 05 00.8 -0.1
RND IAmb IAmb 00 05 27.2
comp=Z,5.9nm,1.2s
KNK Knik Glacier 84.36 29 P P 00 05 01.3 +0.3
KNK IAmb IAmb 00 05 02.4
comp=Z,12nm,1.0s
C23K Itkillik River 84.38 20 P P 00 05 02.0 +1.1
C23K IAmb IAmb 00 05 02.7
comp=Z,5.2nm,0.7s
SML Sawmill 84.45 28 P P 00 05 01.9 +0.4
SML IAmb IAmb 00 05 02.5
comp=Z,11nm,0.8s
TOLK Toolik Lake Re 84.60 21 P P 00 05 02.8 +0.7
CCB Clear Creek Bu 84.92 25 P P 00 05 03.5 -0.1
D24K Happy Valley 84.93 21 P P 00 05 04.3 +0.7
D24K IAmb IAmb 00 05 05.9
comp=Z,4.8nm,0.8s
SCM Sheep Creek Mo 84.93 28 P P 00 05 04.3 +0.4
E24K Your Creek 84.94 22 P P 00 05 04.5 +0.7
KBZ Khabaz 84.95 313 P P 00 05 03.7 -0.5
comp=Z,2.0nm,1.0s,baz=88,slow=4.8,SNR=5.2
comp=Z,2.0nm,1.0s
H24K Noodor Dome 84.98 24 P P 00 05 03.5 -0.5
ILAR Eielson Array 85.32 25 P P 00 05 04.0 -1.7
comp=Z,0.3nm,0.5s,baz=252,slow=5.3,SNR=6.6
comp=Z,0.3nm,0.5s
M24K Tolsona, Glenn 85.49 28 P P 00 05 07.9 +1.3
GURO Guroymak-BITLI 85.54 308 P P 00 05 08.1 +0.6
GURO IAmb IAmb 00 05 10.1
comp=Z,6.6nm,0.9s
KLU Klutina 85.58 29 P P 00 05 08.3 +1.1
E25K Arctic Village 86.04 22 P P 00 05 09.8 +0.7
N25K Chitina, Valde 86.22 29 P P 00 05 10.5 +0.2
BMAR Burnt Mountain 86.39 23 P P 00 05 11.8 +0.9
J26L Joseph Creek 86.74 26 P P 00 05 12.8 0.0
J26L IAmb IAmb 00 05 55.3
comp=Z,6.0nm,1.5s
K27K Chicken 87.39 26 P P 00 05 16.4 +0.7
K27K IAmb IAmb 00 05 53.9
comp=Z,6.9nm,1.4s
D27M Malcolm River 87.73 21 P P 00 05 17.8 +0.5
F28M Old Crow 88.20 23 P P 00 05 19.5 0.0
I28M Miner Creek 88.27 25 P P 00 05 20.1 +0.2
I28M IAmb IAmb 00 06 00.3
comp=Z,8.7nm,1.5s
E28M Babbage River 88.28 22 P P 00 05 19.8 0.0
H29M Whitestone 88.87 24 P P 00 05 23.2 +0.6
E29M Blow River 88.89 22 P P 00 05 22.2 -0.4
E29M IAmb IAmb 00 05 25.4
comp=Z,6.3nm,1.5s
G29M Pine Creek 88.96 23 P P 00 05 22.8 -0.2
LVZ Lovozero 88.98 338 P P 00 05 22.6 -0.5
I30M Mount Dempster 89.77 25 P P 00 05 26.8 -0.2
I30M IAmb IAmb 00 05 27.2
comp=Z,4.4nm,1.2s
BRTR Keskin Array B 92.01 310 P P 00 05 37.1 -0.8
comp=Z,5.5nm,0.8s,baz=108,slow=4.0,SNR=5.5
comp=Z,0.5nm,0.8s
ARCES ARCESS Array B 92.03 340 P P 00 05 35.5 -1.8
comp=Z,2.7nm,0.7s,baz=79,slow=5.9,SNR=14
comp=Z,2.7nm,0.7s
FINES FINESS Array B 93.57 332 P P 00 05 43.2 -1.2
comp=Z,1.3nm,0.8s,baz=64,slow=8.7,SNR=1.7
comp=Z,1.3nm,0.8s
HFS Hagfors 99.75 333 P Pdif 00 06 10.7 -1.7
comp=Z,3.5nm,1.0s,baz=69,slow=8.1,SNR=4.8
comp=Z,3.5nm,1.0s
TORD Torodi Ar. Bea 124.87 288 PKP PKPdf 00 11 28.4 +0.1
comp=Z,0.3nm,0.4s,baz=57,slow=1.5,SNR=4.2

NEIC ***12*** *00:00:35.6±1.1,3.°99S±0.°09×153.°36E±0.°08,h27km±5km, mb4.5/23, Error ellipse: s-maj=13.7km s-min=10.8km az=165.0*
IDC ***12*** *00:00:38.7±3.4,4.°28S×153.°10E,h37km±24km,mb3.8/7, mbtmp4.0/7,MS3.6/2, Error ellipse: s-maj=44.0km s-min=21.0km az=101.0*
ISC 12 00:00:36.8±0.6,4.°14S±0.°07×153.°35E±0.°08,h35km,n47, σ1s59/52,mb4.5/21,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.19**	**267**		**Pn**	**00 00 57.6**	**+0.7**
RABL				Sn	**Sn**	**00 01 12.4**	**+0.6**
RABL	**Rabaul**	**1.19**	**267**	P	**Pn**	**00 00 57.6**	**+0.7**
MANU	**Manus Island**	**6.33**	**289**	Pn	**Pn**	**00 02 06.1**	**-1.5**
PMG	**Port Moresby**	**8.07**	**229**	Pn	**Pn**	**00 02 32.0**	**+0.4**
PMG	**Port Moresby**	**8.07**	**229**	Pn	**Pn**	**00 02 34.7**	**+3.0**
	3.4nm,0.3s,baz=61,slow=13,SNR=2.7						
PMG				Sn	**Sn**	**00 04 01.7**	**0.0**
	2.6nm,0.3s,baz=276,slow=20,SNR=2.4						
HNR	**Honiara**	**8.40**	**129**	LR		00 05 27.4	
	comp=Z,51nm,19.1s,baz=151,slow=34						
PATS	**Pohnpei**	**11.97**	**24**	Pn	**Pn**	**00 03 22.4**	**-2.7**
COEN	**Coen**	**14.00**	**225**	P	**P**	**00 04 00.8**	**+0.5**
CTA	**Charters Tower**	**17.30**	**203**	P	**Pn**	**00 04 30.1**	**-5.6**
CTAO	**Charters Tower**	**17.30**	**203**	P	**Pn**	**00 04 30.4**	**-5.3**
KOUNC	**Koumac, New Ca**	**19.48**	**148**	P	**P**	**00 04 59.8**	**-1.0**
FAKI	**Fak Fak**	**21.10**	**273**		**P**	**00 05 18.1**	**-0.3**
FAKI				IAmb	IAmb	00 05 22.7	
	comp=Z,19nm,1.1s						
DZM	**Mont Dzumac**	**21.89**	**146**	P	**P**	**00 05 28.6**	**+1.6**
DZM				IAmb	IAmb	00 05 48.0	
	comp=Z,5.7nm,0.9s						
KDU	**Kakadu**	**22.32**	**246**	P	**P**	**00 05 30.6**	**-0.9**
MARNC	**Mare, Loyalty**	**22.37**	**142**	P	**P**	**00 05 32.6**	**+0.5**
MTN	**Manton Dam**	**23.60**	**247**	P	**P**	**00 05 44.8**	**+0.1**
WB0	**Warramunga Arr**	**24.15**	**228**	P	**P**	**00 05 49.6**	**-0.2**
WB0				IAmb	IAmb	00 05 51.4	
	comp=Z,11nm,0.7s						
WR0	**Warramunga Arr**	**24.16**	**228**	P	**P**	**00 05 49.6**	**-0.3**
WR0				IAmb	IAmb	00 05 51.1	
	comp=Z,11nm,0.6s						
WRAB	**Tennant Creek**	**24.28**	**228**	P	**P**	**00 05 50.5**	**-0.6**
WRAB				IAmb	IAmb	00 05 52.6	
	comp=Z,19nm,0.7s						
WB2	**Warramunga Arr**	**24.29**	**228**	P	**P**	**00 05 50.7**	**-0.4**
WRA	**Warramunga Arr**	**24.29**	**228**	P	**P**	**00 05 50.1**	**-1.1**
WRA	**Warramunga Arr**	**24.29**	**228**	P	**P**	**00 05 50.7**	**-0.4**
	comp=Z,11nm,0.6s,baz=54,slow=10.0,SNR=44						
WRA				PcP	**PcP**	**00 09 31.7**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=50,slow=2.3,SNR=5.1						
WRA				ScP	**ScP**	**00 13 07.5**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=51,slow=2.8,SNR=2.9						
	comp=Z,11nm,0.6s						
ARMA	**Armidale**	**26.19**	**183**	P	**P**	**00 06 05.7**	**-2.7**
	comp=Z,6.6nm,0.7s						
KNRA	**Kununurra**	**26.76**	**243**	P	**P**	**00 06 13.6**	**+0.1**
KNRA				IAmb	IAmb	00 06 15.6	
	comp=Z,15nm,0.7s						
KNRA	**Kununurra**	**26.76**	**243**	P	**P**	**00 06 14.2**	**+0.7**
AS31	**Alice Springs**	**27.01**	**222**		**P**	**00 06 16.6**	**+0.9**
ASAR	**Alice Springs**	**27.01**	**222**	P	**P**	**00 06 17.1**	**+1.3**
ASAR	**Alice Springs**	**27.01**	**222**	P	**P**	**00 06 15.1**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=52,slow=9.0,SNR=14						
ASAR				PcP	**PcP**	**00 09 37.6**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=66,slow=2.1,SNR=2.8						
ASAR				ScP	**ScP**	**00 13 14.8**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=57,slow=3.4,SNR=6.3						
	comp=Z,1.5nm,0.5s						
STKA	**Stephens Creek**	**29.72**	**200**	P	**P**	**00 06 39.8**	**+0.1**
STKA	**Stephens Creek**	**29.72**	**200**	P	**P**	**00 06 39.4**	**-0.4**
	comp=Z,3.7nm,0.6s,baz=14,slow=12,SNR=9.4						
STKA				LR	LR	00 18 29.2	
	comp=Z,69nm,18.5s,baz=205,slow=36						
	comp=Z,3.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**30.46**	**241**	P	**P**	**00 06 45.5**	**-0.9**
FITZ				IAmb	IAmb	00 06 46.5	
	comp=Z,2.7nm,1.0s						
BBOO	**Buckleboo**	**32.79**	**208**	P	**P**	**00 07 06.3**	**-0.6**
BBOO				IAmb	IAmb	00 07 09.4	
	comp=Z,6.6nm,0.9s						
FORT	**Forrest**	**35.65**	**219**	P	**P**	**00 07 31.2**	**-0.4**
MBWA	**Marble Bar**	**36.78**	**240**	P	**P**	**00 07 41.0**	**-0.4**
MBWA				IAmb	IAmb	00 07 55.8	
	comp=Z,4.4nm,0.8s						
PSA00	**Pilbara Seismi**	**36.84**	**239**	P	**P**	**00 07 40.8**	**-1.1**
PSA00				IAmb	IAmb	00 07 41.4	
	comp=Z,6.5nm,0.7s						
JHJ2	**Mitsune**	**39.20**	**342**	P	**P**	**00 08 00.2**	**-1.4**
GIRL	**Giralia**	**42.07**	**240**	P	**P**	**00 08 25.7**	**+0.2**
GIRL				IAmb	IAmb	00 08 36.7	
	comp=Z,12nm,0.8s						
GVZ	**Greta Valley S**	**42.44**	**159**	P	**P**	**00 08 28.5**	**+0.3**
LBZ	**Lake Benmore**	**42.74**	**162**	P	**P**	**00 08 30.8**	**+0.2**
MLZ	**Mavora Lakes**	**43.05**	**165**	P	**P**	**00 08 33.6**	**+0.4**
MLZ				IAmb	IAmb	00 08 39.1	
	comp=Z,12nm,1.0s						
MORW	**Morawa**	**43.19**	**231**	P	**P**	**00 08 34.7**	**+0.1**
MORW				IAmb	IAmb	00 08 40.8	
	comp=Z,11nm,1.1s						
SONM	**Songino Array**	**66.06**	**327**	P	**P**	**00 11 22.3**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=134,slow=3.0,SNR=3.3						
	comp=Z,0.5nm,0.6s						
VNDA	**Vanda**	**73.47**	**178**	P	**P**	**00 12 06.3**	**+1.1**
VNDA	**Vanda**	**73.47**	**178**	P	**P**	**00 12 06.1**	**+0.9**
	comp=Z,2.9nm,0.8s,baz=335,slow=5.7,SNR=12						
	comp=Z,2.9nm,0.8s						
MKAR	**Makanchi Array**	**80.19**	**319**	P	**P**	**00 12 44.8**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=89,slow=8.5,SNR=4.1						
	comp=Z,0.2nm,0.5s						
ILAR	**Eielson Array**	**81.34**	**22**	P	**P**	**00 12 52.9**	**+3.5**
	comp=Z,0.2nm,0.5s,baz=244,slow=5.9,SNR=5.0						
	comp=Z,0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**150.61**	**290**	PKPbc	**PKPbc**	**00 20 26.2**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=71,slow=2.3,SNR=14						

ASIES ***12*** *00:15:37.7,23.°19N×120.°81E,h6km,ML3.5,Mw3.3, Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm; M_{rr}-3.32; $M_{\theta\theta}$8.33; $M_{\phi\phi}$-5.00; $M_{r\theta}$-3.30; $M_{r\phi}$-5.60; $M_{\theta\phi}$-3.51; Fault plane solution: $M_0$10.35860×10^{20} NP1: ϕ_s70.36000°,δ72.98000°,λ-148.52000°. NP2: ϕ_s330.20000°,δ60.05000°,λ-19.75000°. Principal axes: T Plg8.3940°, Azm197.9230°; N Plg54.6360°, Azm95.9220°; P Plg34.0600°, Azm293.6480°;*
TAP ***12*** *00:15:37.7,23.°19N×120.°81E,h6km,ML3.5,B*
ISC 12 00:15:38.0±0.8,23.°20N±0.°01×120.°81E±0.°01,h6km±5km, n143,σ1s13/278,22C-15D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STYH	**Taoyuan**	**0.04**	**227**	⇑P	**Pg**	**00 15 39.3**	**-0.1**
	baz=230						
STYH				S	**Sg**	**00 15 40.1**	**-0.3**
	baz=230						
STYT	**Tauyuan**	**0.06**	**233**	⇑*i*P	**Pg**	**00 15 39.6**	**-0.1**
	baz=228						
STYT				*i* S	**Sg**	**00 15 40.8**	**-0.1**
	baz=228						
WTP	**Ta-pu**	**0.19**	**285**	⇓*i*P	**Pg**	**00 15 42.2**	**+0.4**
	baz=287						
WTP				S	**Sg**	**00 15 45.6**	**+1.2**
	baz=287						
ELDTW	**Lidau**	**0.19**	**93**	⇓*i*P	**Pg**	**00 15 42.5**	**+0.6**
	baz=93						
ELDTW				*i* S	**Sg**	**00 15 45.6**	**+1.1**
	baz=93						
TPUB	**Ta-pu**	**0.19**	**301**	P	**Pg**	**00 15 42.4**	**+0.5**
TPUB	**Ta-pu**	**0.19**	**301**	⇓P	**Pg**	**00 15 42.4**	**+0.5**
	baz=315						
TPUB				S	**Sg**	**00 15 45.5**	**+1.0**
	baz=315						
SGST	**Jiashian**	**0.24**	**241**	⇑*i*P	**Pg**	**00 15 42.3**	**-0.5**
	baz=246						
SGST				*i* S	**Sg**	**00 15 46.1**	**+0.2**
	baz=246						
CHN4	**Tsaushan**	**0.25**	**307**	⇓*i*P	**Pb**	**00 15 43.7**	**-1.3**
	baz=318						
CHN4				S	**Sb**	**00 15 48.3**	**-1.3**
	baz=318						
SLGT	**Liugui**	**0.25**	**216**	⇑P	**Pg**	**00 15 43.7**	**+0.6**
	baz=206						
SLGT				S	**Sg**	**00 15 47.7**	**+1.2**
	baz=206						
CHN1	**Nanshi**	**0.26**	**267**	⇓*i*P	**Pb**	**00 15 43.9**	**-1.2**
	baz=264						
CHN1				*i* S	**Sb**	**00 15 48.1**	**-1.8**
	baz=264						
SNST	**Tainan City**	**0.29**	**274**	⇓P	**Pb**	**00 15 44.6**	**-1.0**
	baz=275						
SNST				S	**Sb**	**00 15 49.8**	**-0.8**
	baz=275						
TWK	**Hsinying**	**0.30**	**283**	⇓*i*P	**Pb**	**00 15 44.8**	**-1.1**
	baz=284						
TWK				S	**Sb**	**00 15 50.5**	**-0.7**
	baz=284						
WCKO	**Fanlu**	**0.30**	**322**	P	**Pb**	**00 15 44.8**	**-1.1**
	baz=332						
WCKO				S	**Sb**	**00 15 50.1**	**-1.0**
	baz=332						
ALS	**Alishan**	**0.31**	**359**	⇑*i*P	**Pg**	**00 15 44.6**	**+0.4**
	baz=1.0						
ALS				*i* S	**Sg**	**00 15 49.7**	**+1.3**
	baz=1.0						
ECS	**Chishang**	**0.39**	**105**	⇓P	**Pb**	**00 15 46.4**	**-1.0**
	baz=105						
ECS				S	**Sb**	**00 15 52.4**	**-1.2**
	baz=105						
CHN5	**Tsauling**	**0.41**	**343**	⇑*i*P	**Pg**	**00 15 46.6**	**+0.5**
	baz=343						
CHN5				*i* S	**Sb**	**00 15 53.9**	**-0.5**
	baz=343						
LONT	**Longtian**	**0.41**	**135**	⇓P	**Pb**	**00 15 46.6**	**-1.2**
	baz=131						
LONT				S	**Sg**	**00 15 52.4**	**+0.9**
	baz=131						
CHN3	**Shinhua**	**0.43**	**253**	*i* P	**Pg**	**00 15 46.4**	**0.0**
	baz=254						
CHN3				*e*S	**Sb**	**00 15 55.6**	**+1.0**
	baz=254						
SCST	**Cishan**	**0.43**	**223**	P	**Pb**	**00 15 47.5**	**-0.4**
	baz=223						
SCST				S	**Sb**	**00 15 55.8**	**+1.1**
	baz=223						
FULB	**Fuli**	**0.45**	**90**	⇓*i*P	**Pb**	**00 15 47.8**	**-0.6**
	baz=81						
FULB				*i* S	**Sb**	**00 15 54.4**	**-0.8**
	baz=81						
TWG	**Pinlang**	**0.45**	**147**	⇓*i*P	**Pb**	**00 15 47.2**	**-1.1**
	baz=147						
TWG				*i* S	**Sb**	**00 15 53.6**	**-1.7**
	baz=147						
CHN2	**Minshiung**	**0.45**	**317**	P	**Pb**	**00 15 48.7**	**+0.3**
	baz=318						
CHN2				*i* S	**Sb**	**00 15 56.7**	**+1.3**
	baz=318						
TWGBT	**Beinan**	**0.45**	**147**	P	**Pb**	**00 15 47.3**	**-1.2**
TWGBT	**Beinan**	**0.45**	**147**	⇓P	**Pb**	**00 15 47.2**	**-1.2**
	baz=147						
TWGBT				S	**Sg**	**00 15 53.4**	**+0.6**
	baz=147						
SHHT	**Tainan City**	**0.46**	**247**	P	**Pn**	**00 15 49.5**	**-1.6**
	baz=248						
SHHT				S	**Sb**	**00 15 58.9**	**+3.3**
	baz=248						
CHY	**Chiayi**	**0.46**	**310**	*e*P	**Pb**	**00 15 47.9**	**-0.7**
	baz=311						
CHY				*e*S	**Sb**	**00 15 55.6**	**-0.1**
	baz=311						
TWF1	**Yuli**	**0.47**	**71**	⇓*i*P	**Pb**	**00 15 47.8**	**-1.0**
	baz=81						
TWF1				*i* S	**Sg**	**00 15 53.4**	**0.0**
	baz=81						
SSD	**Sandimen**	**0.48**	**200**	⇑*i*P	**Pg**	**00 15 47.4**	**+0.1**
	baz=192						
SSD				*e*S	**Sg**	**00 15 53.7**	**+0.1**
	baz=192						
SSHA	**Shanhua**	**0.48**	**263**	*e*P	**Pb**	**00 15 48.4**	**-0.6**
	baz=263						
SSHA				S	**Sb**	**00 15 57.9**	**+1.6**
	baz=263						
YULB	**Yu-li**	**0.49**	**67**	P	**Pg**	**00 15 47.9**	**+0.4**
YULB	**Yu-li**	**0.49**	**67**	⇑P	**Pg**	**00 15 47.7**	**+0.2**
	baz=67						
YULB				S	**Sg**	**00 15 54.1**	**+0.2**
	baz=67						
EYUL	**Yuli**	**0.49**	**72**	P	**Pb**	**00 15 48.0**	**-1.1**
	baz=79						
EYUL				S	**Sg**	**00 15 54.4**	**+0.4**
	baz=79						
WHYT	**Xinyi Township**	**0.50**	**5**	⇑P	**Pg**	**00 15 48.0**	**+0.3**
	baz=4.0						
WHYT				S	**Sb**	**00 15 55.2**	**-1.5**
	baz=4.0						
ICHU	**Yijhu**	**0.51**	**288**	P	**Pb**	**00 15 49.2**	**-0.2**
	baz=289						
ICHU				S	**Sn**	**00 15 59.0**	**-1.9**
	baz=289						
TSMG	**Majia**	**0.52**	**197**	⇑P	**Pg**	**00 15 47.9**	**-0.1**
	baz=191						
TSMG				S	**Sg**	**00 15 54.4**	**-0.3**
	baz=191						
TWM1	**Shoushan**	**0.52**	**224**	⇑*i*P	**Pb**	**00 15 50.0**	**+0.4**
	baz=223						
TWM1				*e*S	**Sn**	**00 15 58.7**	**-2.4**
	baz=223						
CHKT	**Chengkung**	**0.52**	**101**	⇓*i*P	**Pb**	**00 15 49.4**	**-0.2**
	baz=101						
CHKT				*i* S	**Sb**	**00 15 58.5**	**+1.1**
	baz=101						
WGK	**Gukeng**	**0.54**	**335**	*i* P	**Pb**	**00 15 50.1**	**+0.2**
	baz=335						
WGK				*i* S	**Sn**	**00 15 59.5**	**-2.1**
	baz=335						
CHKH	**Chenggong**	**0.54**	**91**	P	**Pb**	**00 15 49.3**	**-0.6**
	baz=86						
CHKH				S	**Sb**	**00 15 58.7**	**+0.9**
	baz=86						
TTN	**Taitung**	**0.54**	**145**	*i* P	**Pb**	**00 15 49.9**	**-0.1**
	baz=144						
TTN				*i* S	**Sb**	**00 15 58.4**	**+0.5**
	baz=144						
WDLH	**Douliu**	**0.55**	**333**	P	**Pb**	**00 15 50.4**	**+0.4**
	baz=332						
WDLH				S	**Sb**	**00 15 59.5**	**+1.4**
	baz=332						
SGLT	**Jiouru**	**0.56**	**212**	*i* P	**Pb**	**00 15 50.2**	**0.0**
	baz=203						
SGLT				*e*S	**Sn**	**00 16 00.0**	**-2.0**
	baz=203						
EHY	**Hungye**	**0.56**	**57**	*i* P	**Pg**	**00 15 49.2**	**+0.3**
	baz=63						
EHY				*i* S	**Sg**	**00 15 56.6**	**+0.4**
	baz=63						
SCLT	**Jiali**	**0.57**	**268**	*i* P	**Pb**	**00 15 50.9**	**+0.5**
	baz=268						
SCLT				*e*S	**Sn**	**00 16 00.0**	**-2.2**
	baz=268						
CHN8	**Yiju**	**0.57**	**285**	*i* P	**Pb**	**00 15 50.1**	**-0.3**
	baz=286						
CHN8				*i* S	**Sn**	**00 16 00.6**	**-1.8**
	baz=286						
EHYH	**Wanrong**	**0.57**	**59**	P	**Pg**	**00 15 49.5**	**+0.4**
	baz=64						
EHYH				S	**Sg**	**00 15 56.7**	**+0.1**
	baz=64						
TSPT	**Pingtung City**	**0.59**	**209**	P	**Pb**	**00 15 51.1**	**+0.3**
	baz=201						

TSPT					*e*S	**Sn**	**00 16 01.6**	**-1.4**
	baz=201								
SSLB	**Suanglung**	**0.60**	**13**	P		**Pg**	**00 15 49.6**	**-0.1**
SSLB	**Suanglung**	**0.60**	**13**	⇑P		**Pg**	**00 15 49.6**	**-0.1**
	baz=18								
SSLB					S	**Sg**	**00 15 58.1**	**+0.6**
	baz=18								
ECBN	**Changbin**	**0.60**	**79**	P		**Pb**	**00 15 50.9**	**0.0**
	baz=71								
ECBN					S	**Sn**	**00 16 01.4**	**-1.7**
	baz=71								
MASBT	**Mashibuluo**	**0.61**	**196**	⇑P		**Pg**	**00 15 49.6**	**-0.1**
	baz=190								
MASBT					S	**Sg**	**00 15 58.0**	**+0.3**
	baz=190								
ECL	**Taimali**	**0.61**	**167**	⇑*i*P		**Pg**	**00 15 50.0**	**+0.1**
	baz=159								
ECL					*i* S	**Sb**	**00 15 58.5**	**-1.5**
	baz=159								
WTK	**Tuku**	**0.62**	**322**	P		**Pb**	**00 15 51.8**	**+0.5**
	baz=322								
WTK					*e*S	**Sn**	**00 16 01.7**	**-1.9**
	baz=322								
SNJT	**Kaohsiung City**	**0.62**	**225**	P		**Pn**	**00 15 53.0**	**-0.4**
	baz=225								
SNJT					S	**Sn**	**00 16 05.5**	**+1.8**
	baz=225								
WJS	**Zhushan**	**0.62**	**353**	P		**Pb**	**00 15 51.4**	**0.0**
	baz=353								
WJS					S	**Sn**	**00 16 01.9**	**-1.8**
	baz=353								
WSL	**Shuilin Townsh**	**0.62**	**301**	P		**Pb**	**00 15 51.5**	**+0.2**
	baz=302								
WSL					S	**Sn**	**00 16 02.2**	**-1.5**
	baz=302								
VWDT	**VWDT**	**0.63**	**29**	⇑P		**Pg**	**00 15 50.3**	**+0.1**
	baz=28								
VWDT					*e*S	**Sb**	**00 15 59.7**	**-0.8**
	baz=28								
HGSD	**Ruisui**	**0.64**	**63**	P		**Pb**	**00 15 51.1**	**-0.4**
	baz=67								
HGSD					*e*S	**Sb**	**00 16 00.5**	**-0.2**
	baz=67								
TSCK	**Chigu Township**	**0.67**	**266**	P		**Pb**	**00 15 52.0**	**-0.1**
	baz=266								
TSCK					S	**Sn**	**00 16 03.0**	**-1.7**
	baz=266								
WNT	**Mingjian**	**0.69**	**350**	*i* P		**Pb**	**00 15 52.6**	**+0.2**
	baz=350								
WNT					*i* S	**Sn**	**00 16 03.9**	**-1.3**
	baz=350								
SMLT	**Sun Moon Lake**	**0.69**	**7**	⇑*i*S		**Pb**	**00 15 51.8**	**-0.7**
	baz=14								
SMLT					S	**Sb**	**00 16 03.5**	**+1.3**
	baz=14								
WSF	**Szhu**	**0.69**	**309**	*i* S		**Sn**	**00 16 03.7**	**-1.7**
	baz=310								
TYC	**Yuchr**	**0.70**	**4**	⇑*i*P		**Pb**	**00 15 52.2**	**-0.5**
	baz=4.0								
TYC					*i* S	**Sb**	**00 16 03.8**	**+1.2**
	baz=4.0								
WNT1	**Nantou City**	**0.71**	**350**	P		**Pn**	**00 15 53.6**	**-1.1**
	baz=350								
WNT1					S	**Sn**	**00 16 05.2**	**-0.7**
	baz=350								
EGFH	**Guangfu**	**0.73**	**50**	P		**Pg**	**00 15 52.4**	**+0.2**
	baz=59								
EGFH					S	**Sb**	**00 16 04.7**	**+1.1**
	baz=59								
WARBT	**Fenglin Townsh**	**0.74**	**46**	P		**Pg**	**00 15 52.3**	**0.0**
	baz=45								
WARBT					S	**Sb**	**00 16 03.4**	**-0.3**
	baz=45								
WSSB	**Gushan**	**0.75**	**222**	P		**Pn**	**00 15 55.3**	**+0.1**
	baz=241								
WSSB					S	**Sn**	**00 16 09.2**	**+2.3**
	baz=241								
LDUT	**Ludao**	**0.80**	**131**	P		**Pg**	**00 15 53.5**	**0.0**
	baz=131								
LDUT					S	**Sb**	**00 16 06.3**	**+0.8**
	baz=131								
RLNB	**Erlin**	**0.80**	**329**	*e*P		**Pb**	**00 15 54.8**	**+0.4**
	baz=318								
RLNB					S	**Sn**	**00 16 07.2**	**-1.0**
	baz=318								
WRL	**Guolierlin Hig**	**0.80**	**330**	P		**Pb**	**00 15 53.7**	**-0.7**
	baz=330								
WRL					S	**Sb**	**00 16 06.2**	**+0.6**
	baz=330								
EAST	**Anshuo**	**0.81**	**178**	⇑*i*P		**Pb**	**00 15 53.8**	**-0.8**
	baz=171								
EAST					*e*S	**Sn**	**00 16 07.5**	**-1.0**
	baz=171								
OWD	**Renai**	**0.82**	**24**	*e*P		**Pg**	**00 15 53.9**	**0.0**
	baz=23								
OWD					*e*S	**Sb**	**00 16 06.5**	**+0.3**
	baz=23								
DPDB	**Guoxing**	**0.84**	**7**	P		**Pb**	**00 15 54.6**	**-0.4**
	baz=6.0								
DPDB					S	**Sn**	**00 16 07.9**	**-1.2**
	baz=6.0								
ESL	**Shilin**	**0.84**	**43**	*i* P		**Pb**	**00 15 54.4**	**-0.6**
	baz=43								
ESL					S	**Sb**	**00 16 06.7**	**+0.2**
	baz=43								
WUSB	**Renai**	**0.84**	**20**	⇑P		**Pg**	**00 15 53.6**	**-0.6**
	baz=26								
WUSB					S	**Sn**	**00 16 08.0**	**-1.2**
	baz=26								
SCZT	**Fangliau**	**0.84**	**192**	⇑*i*P		**Pg**	**00 15 54.1**	**-0.1**
	baz=201								
SCZT					*e*S	**Sn**	**00 16 07.5**	**-1.5**
	baz=201								
TAW	**Tawu**	**0.84**	**175**	*i* P		**Pb**	**00 15 54.4**	**-0.7**
	baz=168								
TAW					*e*S	**Sb**	**00 16 06.3**	**-0.3**
	baz=168								
TAWH	**Dawu Township**	**0.86**	**175**	P		**Pb**	**00 15 54.5**	**-0.8**
	baz=169								
TAWH					S	**Sb**	**00 16 07.8**	**+0.7**
	baz=169								
WCS	**Beigang Elemen**	**0.86**	**6**	P		**Pb**	**00 15 54.9**	**-0.5**
	baz=5.0								
WCS					S	**Sn**	**00 16 08.6**	**-0.9**
	baz=5.0								
SHUL	**Shoufeng**	**0.91**	**50**	P		**Pb**	**00 15 56.3**	**+0.2**
	baz=37								
SHUL					*e*S	**Sn**	**00 16 10.2**	**-0.4**
	baz=37								
WCHH	**Zhanghua**	**0.91**	**345**	P		**Pn**	**00 15 57.6**	**+0.3**
	baz=344								
WCHH					S	**Sn**	**00 16 10.8**	**+0.1**
	baz=344								
CHGB	**Renai**	**0.92**	**21**	⇑P		**Pg**	**00 15 55.2**	**-0.5**
	baz=5.0								
CHGB					*e*S	**Sn**	**00 16 10.5**	**-0.8**
	baz=5.0								
TWP	**Hsiaoliuchiu**	**0.94**	**206**	*i* P		**Pn**	**00 15 59.3**	**+1.5**
	baz=207								
TWP					S	**Sn**	**00 16 16.4**	**+4.8**
	baz=207								
SLIU	**Shizi**	**0.98**	**181**	P		**Pb**	**00 15 56.9**	**-0.5**
	baz=181								
SLIU					*e*S	**Sn**	**00 16 13.9**	**+1.5**
	baz=181								
ETM	**Tongmen**	**0.99**	**39**	P		**Pg**	**00 15 56.9**	**-0.1**
	baz=49								
ETM					S	**Sb**	**00 16 11.0**	**+0.2**
	baz=49								
LXIB	**Xiulin Townshi**	**0.99**	**34**	P		**Pg**	**00 15 56.5**	**-0.5**
	baz=47								
LXIB					S	**Sn**	**00 16 12.3**	**-0.6**
	baz=47								
WHF	**Hehuan Shan**	**1.03**	**24**	⇑*i*P		**Pg**	**00 15 57.4**	**-0.5**
	baz=23								
WHF					S	**Sn**	**00 16 13.4**	**-1.0**
	baz=23								
WDGT	**Dungji**	**1.06**	**273**	⇓*i*P		**Pg**	**00 15 57.8**	**-0.6**
	baz=274								
WDGT					*i* S	**Sb**	**00 16 12.7**	**-0.2**
	baz=274								
HWA	**Hwalien**	**1.06**	**43**	*i* P		**Pn**	**00 15 59.3**	**-0.1**
	baz=42								
HWA					*e*S	**Sn**	**00 16 15.7**	**+1.1**
	baz=42								
WHP	**Taichung City**	**1.08**	**7**	P		**Pn**	**00 15 59.6**	**-0.2**
	baz=14								
WHP					S	**Sn**	**00 16 16.9**	**+1.8**
	baz=14								
TDCB	**Techi**	**1.10**	**17**	P		**Pg**	**00 15 58.1**	**-1.0**
	baz=23								
TDCB					*e*S	**Sn**	**00 16 15.6**	**0.0**
	baz=23								
TWT	**Tachien**	**1.10**	**18**	*i* P		**Pg**	**00 15 58.9**	**-0.3**
	baz=23								
TWT					*e*S	**Sn**	**00 16 15.2**	**-0.6**
	baz=23								
FUSS	**Fushou**	**1.12**	**21**	P		**Pg**	**00 15 58.9**	**-0.6**
	baz=6.0								
FUSS					*e*S	**Sn**	**00 16 15.7**	**-0.6**
	baz=6.0								
TWD	**Chiawan**	**1.14**	**39**	*i* P		**Pg**	**00 15 59.6**	**-0.2**
	baz=48								
TWD					*i* S	**Sn**	**00 16 16.1**	**-0.2**
	baz=48								
TWQ1	**Liyutan**	**1.14**	**358**	*i* P		**Pn**	**00 16 00.9**	**+0.3**
	baz=357								
TWQ1					*i* S	**Sn**	**00 16 18.4**	**+1.8**
	baz=357								
WDJ	**Dajia District**	**1.15**	**352**	P		**Pn**	**00 16 00.8**	**+0.1**
	baz=338								
WDJ					S	**Sn**	**00 16 19.4**	**+2.6**
	baz=338								
SMST	**Manzhou Townsh**	**1.17**	**179**	*e*P		**Pn**	**00 16 02.1**	**+1.2**
	baz=180								
SMST					*e*S	**Sn**	**00 16 20.1**	**+2.8**
	baz=180								
ETLH	**Xiulin Townshi**	**1.18**	**31**	P		**Pg**	**00 15 59.8**	**-0.8**
	baz=22								
ETLH					*i* S	**Sn**	**00 16 17.7**	**+0.2**
	baz=22								
PHUB	**P'eng-hu**	**1.18**	**286**	P		**Pg**	**00 15 59.6**	**-1.1**
	baz=286								
PHUB					*e*S	**Sg**	**00 16 15.2**	**-0.8**
	baz=286								
HEN	**Hengchun**	**1.19**	**183**	*i* P		**Pn**	**00 16 01.8**	**+0.6**
	baz=182								
HEN					S	**Sn**	**00 16 21.0**	**+3.4**
	baz=182								
NACB	**Ninganchiao**	**1.21**	**36**	P		**Pg**	**00 16 00.9**	**-0.3**
NACB	**Ninganchiao**	**1.21**	**36**	P		**Pg**	**00 16 00.6**	**-0.7**
	baz=45								
NACB					S	**Sn**	**00 16 19.0**	**+0.8**
	baz=45								
PNG	**Penghu**	**1.21**	**288**	*i* P		**Pg**	**00 16 00.2**	**-1.0**
	baz=273								
PNG					*i* S	**Sb**	**00 16 17.0**	**-0.2**
	baz=273								
ETL	**Fush Village**	**1.21**	**38**	*e*P		**Pb**	**00 16 01.2**	**-0.2**
	baz=47								
ETL					*e*S	**Sb**	**00 16 17.4**	**0.0**
	baz=47								
TWK1	**Hengchun**	**1.25**	**180**	*i* P		**Pn**	**00 16 02.5**	**+0.5**
	baz=174								
TWK1					*e*S	**Sn**	**00 16 23.0**	**+3.9**
	baz=174								
TWKBT	**Hengchun**	**1.25**	**180**	P		**Pn**	**00 16 02.3**	**+0.3**
	baz=174								
TWKBT					*e*S	**Sn**	**00 16 21.0**	**+1.8**
	baz=174								
VCHM	**Qimei**	**1.27**	**271**	P		**Pn**	**00 16 00.6**	**-1.7**
	baz=271								
VCHM					S	**Sb**	**00 16 18.6**	**-0.3**
	baz=271								
NNSB	**Datong**	**1.33**	**23**	*e*P		**Pg**	**00 16 03.5**	**-0.2**
	baz=9.0								
NNSB					S	**Sn**	**00 16 23.6**	**+2.3**
	baz=9.0								
NNSH	**Datong**	**1.33**	**23**	P		**Pn**	**00 16 03.0**	**-0.3**
	baz=8.0								
NNSH					*e*S	**Sn**	**00 16 22.1**	**+0.8**
	baz=8.0								
NMLH	**Miaoli**	**1.33**	**359**	*e*P		**Pg**	**00 16 03.7**	**+0.1**
	baz=358								
NMLH					*e*S	**Sn**	**00 16 23.7**	**+2.5**
	baz=358								
NNS	**Nan Shan**	**1.34**	**23**	*i* P		**Pn**	**00 16 02.9**	**-0.5**
	baz=8.0								
NNS					*i* S	**Sn**	**00 16 24.2**	**+2.7**
	baz=8.0								
LAY	**Lan-yu**	**1.34**	**149**	*i* P		**Pn**	**00 16 02.1**	**-1.2**
	baz=136								
LAY					*e*S	**Sg**	**00 16 20.9**	**-0.4**
	baz=136								
LYUB	**Lan-yu**	**1.39**	**149**	P		**Pn**	**00 16 01.2**	**-2.8**
	baz=137								
LYUB					*e*S	**Sb**	**00 16 21.8**	**-0.6**
	baz=137								
EAHA	**Aohua**	**1.41**	**37**	*e*P		**Pn**	**00 16 02.8**	**-1.5**
	baz=35								
EAHA					S	**Sg**	**00 16 23.8**	**+0.4**
	baz=35								
NSTT	**Nanjuang**	**1.44**	**7**	*i* P		**Pb**	**00 16 05.1**	**-0.1**
	baz=5.0								
NSTT					S	**Sg**	**00 16 26.0**	**+1.7**
	baz=5.0								
LIOB	**Emei**	**1.45**	**7**	*i* P		**Pg**	**00 16 05.8**	**-0.1**
	baz=5.0								
LIOB					S	**Sg**	**00 16 26.6**	**+1.8**
	baz=5.0								
NFF	**Wufeng Townshi**	**1.45**	**11**	P		**Pg**	**00 16 05.7**	**-0.3**
	baz=352								
NFF					S	**Sg**	**00 16 25.6**	**+0.8**
	baz=352								
LATG	**Datong**	**1.48**	**26**	P		**Pn**	**00 16 05.1**	**-0.3**
	baz=36								
LATG					*e*S	**Sg**	**00 16 28.6**	**+2.9**
	baz=36								
ENA	**Nanau**	**1.49**	**35**	*i* P		**Pb**	**00 16 05.6**	**-0.5**
	baz=45								
ENA					S	**Sg**	**00 16 26.6**	**+0.6**
	baz=45								
EWUT	**Wuta**	**1.52**	**35**	P		**Pb**	**00 16 06.4**	**-0.3**
	baz=45								
EWUT					S	**Sg**	**00 16 27.3**	**+0.2**
	baz=45								
NDT	**Datong Townshi**	**1.54**	**25**	P		**Pb**	**00 16 06.6**	**-0.3**
	baz=35								
NDT					S	**Sg**	**00 16 29.9**	**+2.3**
	baz=35								
NSK	**Sanguang**	**1.55**	**19**	*i* P		**Pb**	**00 16 07.2**	**0.0**
	baz=17								
NSK					*i* S	**Sg**	**00 16 30.5**	**+2.5**
	baz=17								
YHNB	**Yeheng**	**1.55**	**19**	P		**Pg**	**00 16 07.3**	**-0.6**
YHNB	**Yeheng**	**1.55**	**19**	P		**Pb**	**00 16 06.9**	**-0.3**
	baz=6.0								
YHNB					S	**Sg**	**00 16 30.0**	**+2.0**
	baz=6.0								
EOS4	**EOS4**	**1.66**	**56**	*e*P		**Pb**	**00 16 08.2**	**-0.6**
	baz=74								
EOS4					*e*S	**Sb**	**00 16 29.4**	**-0.4**
	baz=74								
ESAO	**Su ao**	**1.67**	**34**	P		**Pg**	**00 16 10.1**	**+0.1**
	baz=43								
ESAO					*e*S	**Sg**	**00 16 31.0**	**-0.6**
	baz=43								
NWLT	**Wulai**	**1.69**	**22**	P		**Pb**	**00 16 09.4**	**-0.2**
	baz=9.0								
NWLT					S	**Sg**	**00 16 33.6**	**+1.1**
	baz=9.0								
TWC	**Suao**	**1.69**	**34**	*i* P		**Pg**	**00 16 10.2**	**-0.4**
	baz=44								
TWC					*i* S	**Sg**	**00 16 33.2**	**+0.6**
	baz=44								
TWE	**Neicheng**	**1.71**	**27**	*i* P		**Pg**	**00 16 10.5**	**-0.3**
	baz=36								
TWE					S	**Sg**	**00 16 35.8**	**+2.8**
	baz=36								
EOS3	**EOS3**	**1.75**	**52**	*e*P		**Pb**	**00 16 10.4**	**-0.1**
	baz=48								
EOS3					S	**Sg**	**00 16 33.4**	**-1.0**
	baz=48								
EOS2	**EOS2**	**1.78**	**47**	*e*P		**Pn**	**00 16 09.6**	**+0.3**
	baz=63								
EOS2					*e*S	**Sb**	**00 16 33.2**	**-0.4**
	baz=63								
EGS		**1.93**	**32**	*i* P		**Pg**	**00 16 14.6**	**-0.5**
	baz=43								
EGS					*e*S	**Sg**	**00 16 39.7**	**-0.5**
	baz=43								
TIPB	**Shuangxi**	**1.99**	**28**	*i* P		**Pb**	**00 16 14.8**	**+0.1**
	baz=7.0								
TIPB					S	**Sg**	**00 16 41.6**	**-0.6**
	baz=7.0								
YM01	**YM01**	**2.06**	**20**	*e*P		**Pb**	**00 16 16.3**	**+0.4**
	baz=17								
YM01					*e*S	**Sb**	**00 16 41.9**	**+0.2**
	baz=17								
NWF	**Wu-fen Shan**	**2.06**	**25**	*e*P		**Pg**	**00 16 17.5**	**-0.2**
	baz=7.0								
NWF					*e*S	**Sg**	**00 16 43.5**	**-0.9**
	baz=7.0								
WFSB	**Wu-fen Shan**	**2.06**	**25**	*e*P		**Pb**	**00 16 16.3**	**+0.4**
	baz=7.0								
WFSB					*e*S	**Sb**	**00 16 42.8**	**+1.0**
	baz=7.0								
TWB1	**Santiao Chiao**	**2.10**	**31**	*e*P		**Pb**	**00 16 17.0**	**+0.5**
	baz=43								
TWB1					*e*S	**Sg**	**00 16 44.4**	**-1.1**
	baz=43								
SXI1	**Grass Mountain**	**2.12**	**27**	P		**Pg**	**00 16 17.7**	**-1.0**
	baz=7.0								
SXI1					*e*S	**Sg**	**00 16 44.9**	**-1.4**
	baz=7.0								
VWUC	**VWUC**	**2.17**	**325**	*e*P		**Pn**	**00 16 13.7**	**-1.1**
	baz=323								
VWUC					*e*S	**Sb**	**00 16 45.6**	**+0.6**
	baz=323								
YOJ	**Yonaguni jima**	**2.38**	**58**	P		**Pb**	**00 16 19.5**	**-1.7**
YOJ	**Yonaguni jima**	**2.38**	**58**	P		**Pb**	**00 16 19.2**	**-2.0**
	baz=58								
YOJ					*e*S	**Sb**	**00 16 49.6**	**-1.2**
	baz=58								
KNM	**Kinmen**	**2.49**	**300**	P		**Pn**	**00 16 20.2**	**+1.1**
	baz=298								
KNM					*e*S	**Sb**	**00 16 53.6**	**-0.5**
	baz=298								
MHZQ	**Yeshan**	**3.31**	**331**	*e*P		**Pn**	**00 16 31.9**	**+1.5**
	baz=329								
MHZQ					*e*S	**Sn**	**00 17 12.5**	**+2.5**
	baz=329								

IDC 12 00:22:29.0±2.5, 12°.40N×124°.00E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=292.6km s-min=24.0km az=67.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.71**	**162**	P	P	00 29 11.2	-1.0
	0.6nm,0.8s,baz=341,slow=8.3,SNR=2.6 0.6nm,0.8s						
ASAR	**Alice Springs**	**37.13**	**165**	P	P	00 29 42.2	+0.5
	0.5nm,0.6s,baz=346,slow=7.2,SNR=5.4 0.5nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**41.77**	**74**	T	T	01 13 59.9	
	baz=266						
H11N2	**WAKE ISLAND Hy**	**41.78**	**74**	T	T	01 14 04.4	
	baz=266						
H11N3	**WAKE ISLAND Hy**	**41.79**	**74**	T	T	01 14 01.0	
	baz=266						
ZALV	**Zalesovo Beam**	**51.70**	**332**	P	P	00 31 37.2	-0.7
	0.6nm,0.7s,baz=111,slow=8.0,SNR=2.2 0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**53.07**	**325**	P	P	00 31 48.5	+0.4
	0.4nm,0.6s,baz=123,slow=8.1,SNR=4.6 0.4nm,0.6s						

IDC 12 01:00:05.6±2.2, 7°.44S×129°.51E, h0km, mb3.5/1, mbtmp4.1/3, ML3.7/2, MS3.1/1, Error ellipse: s-maj=140.4km s-min=32.3km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.29**	**160**	Pn	Pn	01 03 15.2	-0.5
	0.4nm,0.3s,baz=342,slow=13,SNR=17						
WRA				Sn	Sn	01 05 34.1	-10
	0.8nm,0.3s,baz=329,slow=22,SNR=11 1.4nm,0.5s						
ASAR	**Alice Springs**	**16.68**	**166**	Pn	Pn	01 04 01.4	+0.5
	0.2nm,0.3s,baz=342,slow=9.7,SNR=4.2 11nm,0.3s						
LEM	**Lembang**	**21.73**	**270**	LR	LR	01 15 52.7	
	comp=Z,47nm,19.5s,baz=216,slow=44						
MKAR	**Makanchi Array**	**68.32**	**327**	P	P	01 11 08.7	0.0
	0.3nm,0.5s,baz=125,slow=7.9,SNR=6.3 0.3nm,0.5s						

*NIED **12** 01:16:07.9, 36°.20N×139°.79E, h56km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.83; $M_{\theta\theta}$0.21; $M_{\phi\phi}$0.62; $M_{r\theta}$0.17; $M_{\theta\phi}$-0.26; $M_{\phi r}$3.66; Fault plane solution: $M_0$3.75000×10^{14} NP1: ϕ_s182.00000°, δ84.00000°, λ-86.00000°. NP2: ϕ_s324.00000°, δ7.00000°, λ-127.00000°.*
*JMA **12** 01:16:07.9±0.1, 36°.2N±0°.3×139°.8E±0°.3, h56km, MV3.5/34, SW IBARAKI PREF*
JMA Felt I J1 at SW IBARAKI PREF .
*IDC **12** 01:16:07.4±2.1, 36°.19N×139°.80E, h63km±18km, mb3.3/6, mbtmp3.6/7, MS2.2/1, Error ellipse: s-maj=26.1km s-min=9.1km az=62.0*

ISC 12 01:16:07.4±0.9, 36°.25N±0°.05×139°.84E±0°.06, h60km±7km, n20, σ1°.14/27, mb3.6/6, 4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.29**	**94**	*i* P	**Pn**	**01 16 17.9**	**+0.5**
JYT				S	**Sn**	**01 16 25.0**	**+0.4**
JAG	**Ashikaga**	**0.36**	**300**	⇓*i*P	**Pn**	**01 16 18.0**	**0.0**
JAG				⇓S	**Sn**	**01 16 25.2**	**-0.5**
JKT	**Katashina**	**0.71**	**318**	*i* P	**Pn**	**01 16 21.8**	**-0.1**
JKT				S	**Sn**	**01 16 32.3**	**-0.1**
JRY	**Ryogami san**	**0.79**	**254**	⇓*i*P	**Pn**	**01 16 22.5**	**-0.3**
JRY				⇓S	**Sn**	**01 16 33.2**	**-1.0**
JOD2	**Odawara 2**	**1.16**	**212**	*i* P	**Pn**	**01 16 27.6**	**+0.1**
JOD2				S	**Sn**	**01 16 41.9**	**-0.6**
JFY	**Yanaizu**	**1.16**	**355**	P	**Pn**	**01 16 28.4**	**+0.7**
JYN	**Shimob**	**1.29**	**235**	*i* P	**Pn**	**01 16 30.1**	**+0.7**
JYN				S	**Sn**	**01 16 47.5**	**+1.8**
MJAR	**Matsushiro Arr**	**1.35**	**283**	P	**Pn**	**01 16 29.6**	**-0.5**
	50nm,0.6s,baz=92,slow=13,SNR=110						
MJAR				S	**Sn**	**01 16 45.9**	**-1.2**
	16nm,0.4s,baz=102,slow=24,SNR=4.1						
MAJO	**Matsushiro**	**1.35**	**283**	P	**Pn**	**01 16 30.3**	**+0.2**
JSG	**Sagara**	**2.07**	**221**	P	Pn	01 16 48.2	+8.4
JGF	**Kuroka**	**2.12**	**253**	P	**Pn**	**01 16 42.2**	**+1.7**
INU	**Inuyama**	**2.46**	**250**	P	**Pn**	**01 16 46.4**	**+1.2**
JHJ	**Hachijo jima 2**	**3.12**	**181**	P	**Pn**	**01 16 54.6**	**+0.4**
	36nm,0.2s,baz=48,slow=17,SNR=5.9						
JHJ				S	**Sn**	**01 17 28.9**	**-1.4**
	112nm,0.6s,baz=123,slow=23,SNR=6.2						
KSRS	**Korea Array**	**9.63**	**281**	P	**Pn**	**01 18 26.6**	**+3.3**
	0.8nm,0.3s,baz=95,slow=14,SNR=2.9						
KSRS				LR	LR	01 21 12.6	
	comp=Z,16nm,20.6s,baz=290,slow=32						
ZALV	**Zalesovo Beam**	**41.52**	**313**	P	**P**	**01 23 48.2**	**-0.4**
	0.6nm,0.5s,baz=90,slow=6.2,SNR=2.4 0.6nm,0.5s						
MKAR	**Makanchi Array**	**43.47**	**303**	P	**P**	**01 24 03.1**	**-1.5**
	0.6nm,0.7s,baz=90,slow=9.2,SNR=3.4 0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**45.49**	**308**	P	**P**	**01 24 19.8**	**-0.9**
	0.9nm,0.6s,baz=86,slow=7.9,SNR=8.4 0.9nm,0.6s						
BVAR	**Borovoye Array**	**50.17**	**313**	P	**P**	**01 24 57.4**	**+0.6**
	0.4nm,0.6s,baz=62,slow=6.7,SNR=2.8 0.4nm,0.6s						
ILAR	**Eielson Array**	**50.83**	**32**	P	**P**	**01 25 02.2**	**+0.6**
	0.3nm,1.0s,baz=265,slow=7.2,SNR=1.9 0.3nm,1.0s						
WRA	**Warramunga Arr**	**56.12**	**186**	P	**P**	**01 25 40.0**	**-0.8**
	1.0nm,0.7s,baz=2.1,slow=7.5,SNR=6.7 1.0nm,0.7s						

*CATAC **12** 01:20:37.2±0.4, 9°.66N×83°.41W, h6km±3km, ML2.9*
*UPA **12** 01:20:38.8±1.2, 9°.51N×83°.36W, h0km±59km, ML4.0, MW3.9*

**ISC 12 01:20:37.6±1.0, 9°.66N±0°.03×

	comp=Z,1µm,1.0s							
BATAN	**Batan**	**0.44**	**4**	*i* P	**Pg**	**01 20 46.0**	**-0.3**
BATAN				IAML		01 20 46.2	
	comp=Z,1µm,1.0s						
BATAN				*i* S	**Sg**	**01 20 53.2**	**+1.0**
VTCV	**VTCV, Calle Va**	**0.45**	**316**	*i* P	**Pg**	**01 20 46.3**	**-0.3**
VTCV				*i* S	**Sg**	**01 20 52.9**	**+0.3**
VTCV				IAML		01 20 53.8	
	comp=Z,2µm,1.0s						
VTUN	**Crater Central**	**0.50**	**316**	*i* P	**Pg**	**01 20 47.5**	**-0.1**
VTUN				IAML		01 21 00.0	
	comp=Z,1µm,1.0s						
OCM	**Ochomogo**	**0.59**	**294**	*i* P	**Pg**	**01 20 48.5**	**-0.7**
OCM				IAML		01 20 57.9	
	comp=Z,380nm,1.0s						
OCHAL	**Ojochal**	**0.60**	**203**	*i* P	**Pg**	**01 20 48.9**	**-0.5**
OCHAL				IAML		01 20 50.9	
	comp=Z,12nm,1.0s						
POTG	**Potrero Grande**	**0.67**	**154**	*i* P	**Pg**	**01 20 50.1**	**-0.5**
POTG				IAML		01 21 02.5	
	comp=Z,490nm,1.0s						
RIFO	**Rio Frio, Sara**	**0.83**	**322**	*i* P	**Pg**	**01 20 52.2**	**-1.4**
RIFO				IAML		01 21 05.1	
	comp=Z,580nm,1.0s						
TCS1	**Tacares**	**0.96**	**294**	*i* P	**Pg**	**01 20 55.3**	**-0.8**
TCS1				IAML		01 21 13.5	
	comp=Z,1µm,1.0s						
PLAN	**Los Planes de**	**1.02**	**195**	*i* P	**Pg**	**01 20 56.6**	**-0.6**
PLAN				IAML		01 21 16.7	
	comp=Z,160nm,1.0s						
BRU2	**Volcan**	**1.11**	**140**	*e*P	**Pg**	**01 20 58.3**	**-0.8**
BRU2				*e*S	**Sb**	**01 21 13.7**	**+0.3**
CPMI	**Catarata Coope**	**1.14**	**303**	*i* P	**Pg**	**01 20 58.4**	**-1.2**
CPMI				IAML		01 21 16.3	
	comp=Z,74nm,1.0s						
BC3P	**Paso Ancho**	**1.15**	**137**	*e*P	**Pb**	**01 20 59.2**	**-0.3**
BC3P				*e*S	**Sb**	**01 21 14.2**	**-0.2**
JACO	**JACO, Garabito**	**1.23**	**270**	*i* P	**Pg**	**01 20 59.8**	**-1.5**
JACO				IAML		01 21 01.3	
	comp=Z,63nm,1.0s						
BCO2	**Palmira**	**1.27**	**137**	*e*P	**Pn**	**01 21 01.8**	**+0.4**
BCO2				AMP		01 21 02.7	
	comp=Z,3µm,0.1s						
BCO2				*e*S	**Sn**	**01 21 18.9**	**+0.4**
SOCE	**Pocosol**	**1.39**	**301**	*i* P	**Pn**	**01 21 03.9**	**+1.0**
SOCE				IAML		01 21 04.6	
	comp=Z,200nm,1.0s						
CHGR2	**Aguacate**	**1.44**	**120**	*e*P	**Pn**	**01 21 03.2**	**-0.3**
CHGR2				*e*S	**Sb**	**01 21 22.8**	**+0.1**
DVD	**David**	**1.54**	**142**	*e*P	**Pn**	**01 21 05.2**	**+0.4**

*IDC **12** 01:20:30.7±5.2,35°.05N×70°.84E,h0km,mb3.6/4, mbtmp3.5/5,ML2.7/1,Error ellipse: s-maj=97.9km s-min=64.3km az=160.0*
*NNC **12** 01:21:06.8±14.0,37°.06N×70°.73E,h168km±189km,mb2.8, mpv3.9,Error ellipse: s-maj=138.6km s-min=73.1km az=1.0*

ISC 12 01:20:45.4±3.3,35°.4N±0°.3×70°.7E±0°.2,h102km,n15, σ1§17/15,mb3.5/4,3C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**7.45**	**23**	P	**Pn**	**01 22 33.1**	**+1.4**
	SNR=14						
EKS2	**Erkin-Say**	**7.64**	**18**	P	**Pn**	**01 22 35.1**	**+1.0**
	SNR=16						
KK31	**Karatay Array**	**7.69**	**359**	⇑P	**Pn**	**01 22 35.3**	**+0.7**
	1.8nm,0.3s,baz=180,slow=13,SNR=50						
KK31				⇑S	Sn	01 23 45.4	-15
	1.6nm,0.3s,baz=184,slow=23,SNR=6.0						
AAK	**Ala-Archa**	**7.82**	**21**	P	**Pn**	**01 22 37.7**	**+1.2**
	SNR=11						
KBK	**Karagaybulak**	**7.97**	**23**	P	**Pn**	**01 22 40.1**	**+1.5**
	SNR=6.5						
USP	**Ospenovka**	**8.40**	**20**	P	**Pn**	**01 22 44.6**	**+0.4**
	SNR=13						
TKM2	**Tokmak 2**	**8.43**	**26**	P	**Pn**	**01 22 45.8**	**+1.0**
	SNR=18						
TKM2	**Tokmak 2**	**8.43**	**26**	⇓P	**Pn**	**01 22 45.7**	**+0.9**
	9.9nm,0.6s						
TKM2				⇓S	Sn	01 24 03.6	-15
	1.5nm,0.8s						
AB31	**Akbulak array**	**15.92**	**334**	P	**P**	**01 24 24.9**	**-0.1**
	0.5nm,0.5s,baz=265,slow=34,SNR=15						
AKTO	**Aktyubinsk**	**17.61**	**332**	⇑P	**Pn**	**01 24 44.0**	**0.0**
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**17.62**	**359**	P	**P**	**01 24 42.3**	**-1.4**
	baz=176,slow=13,SNR=4.2						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**21.03**	**24**	P	**P**	**01 25 18.6**	**-2.1**
	0.4nm,0.4s,baz=215,slow=9.8,SNR=2.2						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**38.24**	**327**	P	**P**	**01 27 55.9**	**+0.8**
	1.6nm,1.0s,baz=129,slow=12,SNR=1.9						
	1.6nm,1.0s						
ARCES	**ARCESS Array B**	**42.05**	**338**	P	**P**	**01 28 26.3**	**-0.2**
	3.1nm,1.0s,baz=104,slow=7.5,SNR=1.1						
	3.1nm,1.0s						
YKA	**Yellowknife Ar**	**82.35**	**2**	P	**P**	**01 32 55.7**	**+0.3**
	0.1nm,0.5s,baz=12,slow=6.2,SNR=4.5						
	0.1nm,0.5s						

*TEH **12** 01:25:09.6,32°.27N×48°.94E,h20km±30km,ML3.0*
*IDC **12** 01:25:16.3±13.0,33°.53N×49°.27E,h0km,mb3.4/4, mbtmp3.4/5,ML3.0/1,Error ellipse: s-maj=282.2km s-min=33.4km az=6.0*

ISC 12 01:25:08.8±0.8,32°.20N±0°.06×48°.92E±0°.04,h10km,n26, σ1§09/26,mb3.4/4,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.90**	**195**	Pg	**Pn**	**01 25 28.3**	**+0.8**
JHBN	**Jahan bin**	**1.48**	**88**	Pg	**Pb**	**01 25 36.8**	**+0.3**
IKFM	**Kafar-mosalman**	**1.60**	**326**	Pg	**Pb**	**01 25 38.7**	**+0.3**
ZNGN	**Zangian**	**1.64**	**93**	Pg	**Pb**	**01 25 39.2**	**-0.2**
IDOB	**Doab**	**1.70**	**339**	Pg	**Pb**	**01 25 40.3**	**+0.1**
IPIR	**Pirpir**	**1.73**	**73**	Pg	**Pb**	**01 25 40.6**	**-0.4**
ABEH	**Behbahan**	**1.96**	**144**	Pn	**Pg**	**01 25 47.4**	**+1.0**
IBRJ	**Brojen**	**2.01**	**98**	Pn	**Pn**	**01 25 44.1**	**+1.1**
IKLH	**Kolahrood**	**2.50**	**63**	Pn	**Pn**	**01 25 51.4**	**+1.6**
KLNJ	**Kolanjah**	**2.57**	**117**	Pn	**Pn**	**01 25 52.1**	**+1.2**
QAMS	**Qamsar**	**2.58**	**53**	Pn	**Pn**	**01 25 52.6**	**+1.7**
ILBA	**Ilam Banvizeh**	**2.69**	**303**	Pn	**Pn**	**01 25 52.8**	**+0.7**
IGHG	**Ghaleghazi**	**2.89**	**318**	Pn	**Pn**	**01 25 56.9**	**+1.7**
IZEF	**Zefreh**	**2.96**	**76**	Pn	**Pn**	**01 25 57.1**	**+1.0**
IRAM	**Ramesheh**	**2.97**	**97**	Pn	**Pn**	**01 25 56.8**	**+0.6**
KRSH	**Karshahi**	**3.22**	**56**	Pn	**Pn**	**01 26 00.5**	**+0.9**
IDHR	**Dehrash**	**3.27**	**320**	Pn	**Pn**	**01 26 01.5**	**+1.2**
ISFB	**Sefidab**	**3.51**	**51**	Pn	**Pn**	**01 26 04.6**	**+1.1**
KGS1	**Ghasr-e-Shirin**	**3.61**	**310**	Pn	**Pn**	**01 26 05.5**	**+0.7**
ANAR	**Anarak**	**4.17**	**75**	Pn	**Pn**	**01 26 13.4**	**+0.8**
SDS1	**Sardasht. Az.**	**4.86**	**325**	Pn	**Pn**	**01 26 23.6**	**+1.5**
BRTR	**Keskin Array B**	**14.46**	**306**	Pn	**P**	**01 28 40.6**	**+0.1**
	0.1nm,0.3s,baz=131,slow=13,SNR=6.2						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**28.56**	**41**	P	**P**	**01 31 04.1**	**-0.5**
	0.2nm,0.5s,baz=243,slow=9.1,SNR=3.0						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**29.33**	**50**	P	**P**	**01 31 10.5**	**-1.1**
	0.1nm,0.6s,baz=242,slow=9.5,SNR=1.6						
	0.1nm,0.6s						
FINES	**FINESS Array B**	**32.80**	**340**	P	**P**	**01 31 40.4**	**-1.6**
	0.9nm,0.9s,baz=140,slow=11,SNR=4.0						
	0.9nm,0.9s						
ZALV	**Zalesovo Beam**	**33.52**	**39**	P	**P**	**01 31 46.9**	**-1.4**
	0.5nm,0.4s,baz=237,slow=9.3,SNR=4.1						
	0.5nm,0.4s						

*NEIC **12** 01:34:06.8±1.6,55°.7N±0°.1×149°.29W±0°.06,h9km±8km, ML3.5/26,ML3.2(AEIC),Error ellipse: s-maj=15.8km s-min=4.5km az=172.0*
*AEIC **12** 01:34:11.2±1.5,55°.7N±0°.1×149°.3W±0°.1,h4km±7km,Error ellipse: s-maj=15.5km s-min=7.7km az=169.0*

ISC 12 01:34:07.0±2.2,55°.8N±0°.1×149°.32W±0°.07,h10km,n112, σ0§94/120,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.63**	**305**		**Pn**	**01 34 49.4**	**-0.1**
OHAK					**Sn**	**01 35 19.6**	**-1.8**
OHAK	**Old Harbor**	**2.63**	**305**	P	**Pn**	**01 34 49.5**	**0.0**
	baz=122						
OHAK				S	**Sn**	**01 35 20.3**	**-1.1**
	baz=122						
KDAK	**Kodiak Island**	**2.70**	**320**	Pn	**Pn**	**01 34 50.4**	**0.0**
KDAK	**Kodiak Island**	**2.70**	**320**	Sn	**Sn**	**01 35 21.9**	**-1.1**
KDAK	**Kodiak Island**	**2.70**	**320**	S	**Sn**	**01 35 22.3**	**-0.7**
	baz=137						
Q20K	**Shuyak Island**	**3.30**	**331**	P	**Pn**	**01 34 59.4**	**+0.8**
	baz=148						
Q20K				S	**Sn**	**01 35 38.2**	**+0.4**
	baz=148						
SYI	**Shuyak Island**	**3.30**	**331**	Pn	**Pn**	**01 34 59.0**	**+0.4**
SYI				Sn	**Sn**	**01 35 37.6**	**-0.2**
CNPM	**China Poot**	**3.90**	**345**	Pn	**Pn**	**01 35 06.7**	**-0.1**
CNPM				Sn	**Sn**	**01 35 51.8**	**-0.8**
CNPM				IAML		01 36 25.0	
	comp=N,66nm,3.3s						
CNPM				IAML		01 36 28.3	
	comp=E,69nm,2.4s						
Q19K	**Cape Douglas,**	**3.93**	**325**	Pn	**Pn**	**01 35 08.3**	**+1.0**
Q19K				IAML		01 35 47.2	
	comp=N,77nm,1.4s						
Q19K	**Cape Douglas,**	**3.93**	**325**	P	**Pn**	**01 35 08.6**	**+1.2**
	baz=142						
KAKN	**Katmai Knife C**	**4.03**	**311**		**Pn**	**01 35 10.1**	**+1.4**
BRSE	**Bradley Lake S**	**4.05**	**350**		**Pn**	**01 35 09.0**	**+0.1**
BRSE					**Sn**	**01 35 55.4**	**-1.0**
BRSE	**Bradley Lake S**	**4.05**	**350**	P	**Pn**	**01 35 09.0**	**+0.1**
	baz=168						
BRSE				S	**Sn**	**01 35 55.4**	**-1.0**
	baz=168						
BRLK	**Bradley Lake**	**4.09**	**349**	Pn	**Pn**	**01 35 09.1**	**-0.3**
BRLK				IAML		01 35 40.2	
	comp=N,43nm,2.8s						
BRLK				Sn	**Sn**	**01 35 55.9**	**-1.4**
BRLK				IAML		01 36 14.5	
	comp=E,61nm,3.0s						
P23K	**Montague Islan**	**4.36**	**13**		**Pn**	**01 35 13.6**	**+0.5**
P23K	**Montague Islan**	**4.36**	**13**	P	**Pn**	**01 35 13.6**	**+0.5**
	baz=194						
CNTC	**Contact Creek**	**4.37**	**308**		**Pn**	**01 35 14.9**	**+1.5**
Q17K	**Contact Creek**	**4.37**	**307**	P	**Pn**	**01 35 14.9**	**+1.4**
	baz=122						
P19K	**Oil Pt**	**4.42**	**333**	Pn	**Pn**	**01 35 14.8**	**+0.8**
P19K				IAML		01 36 07.7	
	comp=N,57nm,3.6s						
P19K				Sn	**Sn**	**01 36 07.8**	**+2.3**
P19K	**Oil Pt**	**4.42**	**333**	P	**Pn**	**01 35 15.2**	**+1.2**
	baz=150						
P19K				S	**Sn**	**01 36 04.7**	**-0.8**
	baz=150						
O20K	**Slope Mountain**	**4.66**	**339**		**Pn**	**01 35 18.2**	**+0.8**
O20K	**Slope Mountain**	**4.66**	**339**	P	**Pn**	**01 35 18.2**	**+0.8**
	baz=156						
ILSW	**Iliamna Southw**	**4.69**	**336**	Pn	**Pn**	**01 35 17.8**	**0.0**
ILSW				IAML		01 36 58.1	
	comp=N,29nm,3.3s						
ILSW				IAML		01 38 24.5	
	comp=E,37nm,4.2s						
SLKM	**Skilak Lake**	**4.77**	**355**		**Pn**	**01 35 18.8**	**-0.1**
P18K	**Big Mountain,**	**4.82**	**321**	Pn	**Pn**	**01 35 19.9**	**+0.3**
P18K				IAML		01 38 11.8	
	comp=N,25nm,4.3s						
P18K				IAML		01 38 26.6	
	comp=E,31nm,4.0s						
P18K	**Big Mountain,**	**4.82**	**321**	P	**Pn**	**01 35 20.1**	**+0.5**
	baz=136						
RSO	**Redoubt South**	**5.04**	**340**	Pn	**Pn**	**01 35 22.1**	**-0.6**
RDT	**Redoubt**	**5.08**	**343**		**Pn**	**01 35 23.1**	**0.0**
CHGN	**Chignik**	**5.13**	**280**	Pn	**Pn**	**01 35 23.6**	**0.0**
CHGN				IAML		01 37 42.0	
	comp=N,27nm,2.1s						
EYAK	**Cordova Ski Ar**	**5.14**	**20**	P	**Pn**	**01 35 24.9**	**+1.0**
P17K	**Kvichak River**	**5.15**	**315**		**Pn**	**01 35 25.3**	**+1.4**
P17K	**Kvichak River**	**5.15**	**315**	P	**Pn**	**01 35 25.3**	**+1.4**
	baz=129						
O18K	**Koktuh Hills**	**5.16**	**325**	Pn	**Pn**	**01 35 24.2**	**0.0**
O18K				IAML		01 37 15.9	
	comp=E,34nm,4.0s						
O18K				IAML		01 37 44.5	
	comp=N,31nm,4.0s						
O18K	**Koktuh Hills**	**5.16**	**325**	P	**Pn**	**01 35 24.7**	**+0.5**
	baz=140						
HMT	**Hamilton**	**5.30**	**28**	Pn	**Pn**	**01 35 27.2**	**+1.1**
RC01	**Rabbit Creek A**	**5.33**	**358**	Pn	**Pn**	**01 35 26.1**	**-0.4**
RC01				IAML		01 36 51.5	
	comp=N,31nm,3.5s						
KNK	**Knik Glacier**	**5.67**	**4**	Pn	**Pn**	**01 35 31.1**	**-0.1**
N19K	**Bonanza Creek**	**5.74**	**334**	Pn	**Pn**	**01 35 32.0**	**-0.2**
N19K	**Bonanza Creek**	**5.74**	**334**	P	**Pn**	**01 35 32.3**	**+0.1**
	baz=150						
SUA	**Susitna One**	**5.75**	**353**	Pn	**Pn**	**01 35 31.3**	**-1.1**
BMRM	**Bremner River**	**5.77**	**24**	Pn	**Pn**	**01 35 32.9**	**+0.4**
BMRM	**Bremner River**	**5.77**	**24**	P	**Pn**	**01 35 33.1**	**+0.6**
	baz=207						
STLK	**Strandline Lak**	**5.89**	**348**		**Pn**	**01 35 34.7**	**+0.5**
KLU	**Klutina**	**6.00**	**16**	Pn	**Pn**	**01 35 36.3**	**+0.6**
KLU	**Klutina**	**6.00**	**16**	P	**Pn**	**01 35 36.5**	**+0.7**
	baz=198						
N18K	**Kilae Creek**	**6.02**	**327**	Pn	**Pn**	**01 35 35.6**	**-0.4**
N18K	**Kilae Creek**	**6.02**	**327**	P	**Pn**	**01 35 36.6**	**+0.7**
	baz=142						
GHO	**Glory Hole Cre**	**6.02**	**2**	Pn	**Pn**	**01 35 36.5**	**+0.5**
O16K	**Kokwok River B**	**6.06**	**313**	Pn	**Pn**	**01 35 37.5**	**+0.9**
SML	**Sawmill**	**6.07**	**4**	Pn	**Pn**	**01 35 37.1**	**+0.4**
ISLE	**Juniper Island**	**6.08**	**34**	Pn	**Pn**	**01 35 36.5**	**-0.5**
SCM	**Sheep Creek Mo**	**6.16**	**9**	Pn	**Pn**	**01 35 39.2**	**+1.2**
SVW2	**Sparrevohn**	**6.27**	**331**	P	**Pn**	**01 35 39.7**	**+0.4**
N17K	**Nushagak Hills**	**6.33**	**322**	Pn	**Pn**	**01 35 40.6**	**+0.5**
KIAG	**Kiagna River**	**6.33**	**32**		**Pn**	**01 35 40.8**	**+0.4**
GLB	**Gilahina Butte**	**6.37**	**25**	Pn	**Pn**	**01 35 40.6**	**-0.2**
TABL	**Table Mountain**	**6.37**	**39**	Pn	**Pn**	**01 35 41.1**	**+0.2**
MCARA	**McCarthy VSAT**	**6.51**	**28**	Pn	**Pn**	**01 35 43.4**	**+0.6**
M24K	**Tolsona, Glenn**	**6.55**	**13**	Pn	**Pn**	**01 35 44.4**	**+1.0**
PNL	**Peninsula**	**6.59**	**50**		**Pn**	**01 35 44.3**	**+0.5**
PNL	**Peninsula**	**6.59**	**50**	P	**Pn**	**01 35 44.5**	**+0.7**
PNL	**Peninsula**	**6.59**	**50**	P	**Pn**	**01 35 44.3**	**+0.5**
	baz=238						
BCPM	**Bancas Point**	**6.65**	**47**	Pn	**Pn**	**01 35 44.6**	**0.0**
BARN	**Barnard Glacie**	**6.65**	**34**	Pn	**Pn**	**01 35 44.5**	**-0.2**
M18K	**Stony River**	**6.66**	**332**		**Pn**	**01 35 44.9**	**+0.2**
M18K	**Stony River**	**6.66**	**332**	P	**Pn**	**01 35 44.9**	**+0.2**
	baz=147						
CTG	**Chitina Glacier**	**6.68**	**36**	P	**Pn**	**01 35 45.5**	**+0.4**
	baz=222						
CTGM	**Chitina Glacie**	**6.68**	**36**	Pn	**Pn**	**01 35 44.9**	**-0.3**
M19K	**Big River Lodg**	**6.68**	**339**	Pn	**Pn**	**01 35 46.4**	**+1.3**
LOGN	**Logan Glacier**	**6.69**	**37**	Pn	**Pn**	**01 35 45.4**	**+0.1**
M17K	**Holitna River**	**7.05**	**326**	P	**Pn**	**01 35 50.7**	**+0.6**
	baz=140						
N15K	**Kwethluk River**	**7.22**	**312**	Pn	**Pn**	**01 35 54.0**	**+1.6**
O29M	**Mount Kennedy**	**7.28**	**47**	Pn	**Pn**	**01 35 53.9**	**+0.5**
O29M	**Mount Kennedy**	**7.28**	**47**	P	**Pn**	**01 35 54.1**	**+0.7**
	baz=236						
M16K	**Timber Creek**	**7.30**	**320**	Pn	**Pn**	**01 35 55.4**	**+1.9**
P29M	**Windy Craggy**	**7.31**	**53**	Pn	**Pn**	**01 35 53.8**	**+0.1**
P29M	**Windy Craggy**	**7.31**	**53**	P	**Pn**	**01 35 54.0**	**+0.3**
	baz=243						
DHY	**Denali Highway**	**7.39**	**7**	Pn	**Pn**	**01 35 56.1**	**+1.2**
M26K	**Nabesna, AK**	**7.40**	**23**	Pn	**Pn**	**01 35 56.8**	**+1.9**
L18K	**Granite Mounta**	**7.50**	**333**	Pn	**Pn**	**01 35 54.3**	**-1.8**
S31K	**Pelican**	**7.50**	**68**	Pn	Pn	01 35 53.1	-3.1
S31K	**Pelican**	**7.50**	**68**	P	**Pn**	**01 35 53.8**	**-2.4**
	baz=258						
M27K	**Edge Creek, AK**	**7.63**	**27**	Pn	**Pn**	**01 35 58.8**	**+0.7**
RND	**Reindeer**	**7.66**	**2**	Pn	**Pn**	**01 35 59.1**	**+0.6**
TRF	**Thorofare Moun**	**7.71**	**357**	Pn	**Pn**	**01 36 00.9**	**+1.5**
CAST	**Castle Rocks**	**7.79**	**351**	Pn	**Pn**	**01 36 02.2**	**+1.9**
KTH	**Kantishna Hill**	**7.84**	**355**	Pn	**Pn**	**01 36 02.0**	**+1.0**
L16K	**Chuwhat River**	**7.95**	**323**	Pn	**Pn**	**01 36 02.8**	**+0.4**
HYT	**Haines Junctio**	**8.02**	**46**	Pn	**Pn**	**01 36 01.4**	**-2.1**
L27K	**Beaver Creek,**	**8.24**	**24**	Pn	**Pn**	**01 36 06.5**	**0.0**
BCAR	**Beaver Creek A**	**8.25**	**25**	Pn	**Pn**	**01 36 07.3**	**+0.7**
S32K	**Killisnoo**	**8.31**	**72**	Pn	Pn	01 36 04.6	-2.7
S32K	**Killisnoo**	**8.31**	**72**	P	**Pn**	**01 36 05.2**	**-2.0**
	baz=264						
K17K	**Iditarod**	**8.34**	**330**	Pn	**Pn**	**01 36 07.0**	**-0.7**
BPAW	**Bear Paw Mtn.**	**8.39**	**355**	Pn	**Pn**	**01 36 07.9**	**-0.6**
JIS	**Juneau Island**	**8.52**	**67**	Pn	**Pn**	**01 36 08.1**	**-2.2**
JIS	**Juneau Island**	**8.52**	**67**	P	**Pn**	**01 36 11.9**	**+1.7**
	comp=N,27nm,2.0s						
N30M	**Aishikik Lake**	**8.55**	**43**	Pn	**Pn**	**01 36 10.9**	**+0.2**
O30N	**Mendenhall**	**8.57**	**49**	Pn	**Pn**	**01 36 10.3**	**-0.7**
M29M	**Somme Creek**	**8.70**	**35**	Pn	**Pn**	**01 36 13.5**	**+0.7**
J20K	**Nowinta River**	**8.77**	**346**	Pn	**Pn**	**01 36 15.4**	**+1.9**
P32M	**Atlin**	**9.19**	**59**	Pn	**Pn**	**01 36 18.6**	**-0.8**
M30M	**Minto, Yukon**	**9.36**	**38**	Pn	**Pn**	**01 36 21.9**	**+0.1**
I21K	**Tanana**	**9.53**	**353**	Pn	**Pn**	**01 36 25.2**	**+1.2**
P33M	**Teslin, Yukon**	**9.81**	**56**	Pn	**Pn**	**01 36 27.8**	**-0.2**
EGAK	**Eagle**	**9.89**	**21**	Pn	**Pn**	**01 36 28.7**	**-0.2**
M31M	**Drury Creek, Y**	**10.02**	**44**	Pn	**Pn**	**01 36 31.5**	**+0.7**
H21K	**Melozitna Rive**	**10.06**	**352**	Pn	**Pn**	**01 36 32.0**	**+0.7**
IMAR	**Indian Mountai**	**10.46**	**350**	Pn	**Pn**	**01 36 37.1**	**+0.3**
R33M	**Jennings River**	**10.49**	**62**	Pn	**Pn**	**01 36 37.3**	**0.0**
MMPY	**Sheldon Lake,**	**11.49**	**46**	Pn	**Pn**	**01 36 51.1**	**+0.2**

*KRSC **12** 01:53:48.1±1.8,52°.63N×161°.52E,h48km±23km,Ml4.6*
*IDC **12** 01:53:48.2±0.6,52°.87N×161°.07E,h0km,mb4.3/30, mbtmp4.4/36,ML4.6/6,MS3.6/27,Error ellipse: s-maj=14.8km s-min=10.8km az=165.0*
*NEIC **12** 01:53:51.5±1.8,52°.9N±0°.1×161°.0E±0°.1,h21km±6km, mb4.6/95,Error ellipse: s-maj=16.7km s-min=8.7km az=172.0*
*MOS **12** 01:53:53.0±1.1,52°.80N×161°.07E,h51km,mb4.8/50,Error ellipse: s-maj=6.1km s-min=3.7km az=103.4*
*BGR **12** 01:53:54.3,52°.58N×161°.12E,h33km,mb4.4*

ISC 12 01:53:51.7±0.8,52°.76N±0°.04×161°.14E±0°.04,h27km±5km, n400,σ1§40/411,mb4.6/133,MS3.8/27,38C-15D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.76**	**297**	PN	**Pn**	**01 54 06.3**	**-0.2**
SPN				S	**Sn**	**01 54 18.3**	**+1.3**
SPN	**Mys Shipunski**	**0.76**	**297**	*e*P	**Pn**	**01 54 06.3**	**-0.2**
SPN				*e*S	**Sn**	**01 54 18.3**	**+1.3**
NLC	**Nalytchevo**	**1.16**	**292**	PN	**Pn**	**01 54 12.3**	**+0.3**
NLC				S	**Sn**	**01 54 29.4**	**+2.4**
NLC	**Nalytchevo**	**1.16**	**292**	*e*P	**Pn**	**01 54 12.3**	**+0.3**
NLC				*e*S	**Sn**	**01 54 29.4**	**+2.4**
DALK	**Dalny**	**1.47**	**282**	PN	**Pb**	**01 54 17.2**	**-1.1**
DALK				S	**Sb**	**01 54 39.0**	**+2.5**
DALK	**Dalny**	**1.47**	**282**	*e*P	**Pb**	**01 54 17.2**	**-1.1**
DALK				*e*S	**Sb**	**01 54 39.0**	**+2.5**
SMAR	**Somma**	**1.50**	**291**	PN	**Pb**	**01 54 18.2**	**-0.7**
SMAR	**Somma**	**1.50**	**291**	*e*P	**Pb**	**01 54 18.2**	**-0.7**
SMAR				*e*S	**Sb**	**01 54 41.7**	**+4.1**
PET	**Petropavlovsk**	**1.53**	**281**		**Pb**	**01 54 17.6**	**-1.7**
PET	**Petropavlovsk**	**1.53**	**281**	⇑*i*PN	**Pb**	**01 54 18.1**	**-1.2**
PET				*e*S	**Sb**	**01 54 39.6**	**+1.4**
PET				pmax	pmax		
	comp=Z,2µm,0.5s						
PET	**Petropavlovsk**	**1.53**	**281**	*e*P	**Pb**	**01 54 18.3**	**-0.9**
PET				*e*S	**Sb**	**01 54 40.6**	**+2.4**
AVH	**Avacha**	**1.54**	**290**	PN	**Pb**	**01 54 18.9**	**-0.6**
AVH	**Avacha**	**1.54**	**290**	*e*P	**Pb**	**01 54 18.9**	**-0.6**
KRER	**Koryakskii**	**1.54**	**292**	PN	**Pb**	**01 54 19.0**	**-0.7**
KRER	**Koryakskii**	**1.54**	**292**	*e*P	**Pb**	**01 54 19.0**	**-0.7**
KOK	**Koryaka**	**1.60**	**290**	PN	**Pb**	**01 54 19.8**	**-0.8**
KOK	**Koryaka**	**1.60**	**290**	*e*P	**Pb**	**01 54 19.8**	**-0.8**
KRX	**Arik**	**1.62**	**293**	PN	**Pb**	**01 54 19.7**	**-1.2**
KRX	**Arik**	**1.62**	**293**	*e*P	**Pb**	**01 54 19.7**	**-1.2**
KII	**Karymskiy**	**1.63**	**322**	PN	**Pb**	**01 54 21.8**	**+0.8**
KII	**Karymskiy**	**1.63**	**322**	*e*P	**Pb**	**01 54 21.8**	**+0.8**
RUS	**Russkaya**	**1.63**	**259**	PN	**Pb**	**01 54 19.9**	**-1.2**
RUS	**Russkaya**	**1.63**	**259**	*e*P	**Pb**	**01 54 19.9**	**-1.2**
MTVR	**Mutnovka**	**1.82**	**262**	PN	**Pb**	**01 54 22.7**	**-1.7**
MTVR				S	**Sb**	**01 54 48.0**	**+1.2**
MTVR	**Mutnovka**	**1.82**	**262**	*e*P	**Pb**	**01 54 22.7**	**-1.7**
MTVR				*e*S	**Sb**	**01 54 48.0**	**+1.2**
KRMR	**Karymshinskiy**	**1.83**	**273**	PN	**Pb**	**01 54 22.8**	**-1.6**
KRMR				S	**Sb**	**01 54 48.8**	**+2.0**
KRMR	**Karymshinskiy**	**1.83**	**273**	*e*P	**Pb**	**01 54 22.8**	**-1.6**
KRMR				*e*S	**Sb**	**01 54 48.8**	**+2.0**
ASAK	**Asacha**	**2.01**	**260**	PN	**Pb**

YSS MLR MLR
comp=Z,500nm,14.0s
YSS MLR MLR
comp=N,300nm,15.0s
JKA Kamikawa-asahi 15.00 242 Pn **Pn** **01 57 18.6 -3.0**
ASAJ Asahikawa 15.01 242 Pn **Pn** **01 57 21.8 +0.1**
comp=N,2.5nm,0.3s,baz=79,slow=12,SNR=11
ASAJ LR LR 02 03 15.4
comp=N,108nm,19.8s,baz=14,slow=38
comp=N,9.6nm,0.4s
GRNR Gornyy 15.41 272⇓ *i*P **P** **01 57 33.1 +1.8**
GRNR pmax pmax
comp=E,10.0nm,0.7s
GRNR pmax pmax
comp=N,3.0nm,1.1s
GRNR pmax pmax
comp=Z,10.0nm,1.2s
GRNR MLR MLR
comp=E,150nm,14.0s
GRNR MLR MLR
comp=N,120nm,16.0s
GRNR MLR MLR
comp=Z,160nm,14.0s
BILL Bilibino 15.53 7 Pn **Pn** **01 57 28.4 0.0**
BILL Bilibino 15.53 7 *i*P **Pn** **01 57 27.2 -1.2**
ERM Erimo 16.19 236 Pn **Pn** **01 57 31.4 -5.7**
ERM IAmb IAmb 01 57 37.9
comp=Z,89nm,1.4s
ERM Erimo 16.19 236 P **Pn** **01 57 31.4 -5.7**
ERM pmax pmax
comp=Z,89nm,1.5s
KLR Kulʻdur 18.77 271*ce*P **Pn** **01 58 09.6 +0.6**
KLR pmax pmax
comp=Z,12nm,1.7s
KLR Kulʻdur 18.77 271 P **Pn** **01 58 09.2 +0.2**
comp=Z,0.6nm,0.3s,baz=65,slow=10,SNR=19
KLR LR LR 02 05 14.7
comp=Z,79nm,19.7s,baz=25,slow=37
comp=Z,4.2nm,0.5s
YAK Yakutsk 19.13 311 *e*P **P** **01 58 10.7 -1.6**
YAK *e*S **Sn** **02 01 44.8 -1.8**
YAK pmax pmax
comp=Z,51nm,1.1s
YAK pmax pmax
comp=E,16nm,1.2s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=Z,83nm,1.1s
YAK pmax pmax
comp=E,32nm,1.3s
YAK smax smax
comp=N,121nm,4.1s
YAK smax smax
comp=E,75nm,3.7s
YAK Yakutsk 19.13 311 P **P** **01 58 10.6 -1.7**
comp=E,4.0nm,0.3s,baz=110,slow=2.6,SNR=6.2
YAK LR LR 02 06 29.7
comp=E,170nm,19.0s,baz=106,slow=40
comp=E,23nm,0.4s
ZEA Zeya 20.19 286 *e*P **P** **01 58 23.6 -0.3**
ZEA pmax pmax
comp=Z,10.0nm,0.5s
ANM Nome 20.75 42 P **P** **01 58 30.6 +0.8**
ANM Nome 20.75 42 P **P** **01 58 30.6 +0.8**
ANM pmax pmax
comp=Z,21nm,1.2s
M13K Dall Lake 20.78 54 P **P** **01 58 31.9 +1.7**
M13K IAmb IAmb 01 58 50.7
comp=Z,43nm,1.2s
USA0B Ussuriysk Arra 21.02 258 P **P** **01 58 33.1 +0.2**
USA0B Ussuriysk Arra 21.02 258 P **P** **01 58 33.1 +0.2**
USA0B pmax pmax
comp=Z,10.0nm,0.8s
USRK Ussuriysk Ar. 21.02 258 P **P** **01 58 32.7 -0.2**
USRK Ussuriysk Ar. 21.02 258 P **P** **01 58 32.7 -0.2**
USRK Ussuriysk Ar. 21.02 258 P **P** **01 58 32.4 -0.5**
comp=Z,7.6nm,0.9s,baz=56,slow=11,SNR=9.0
comp=Z,7.6nm,0.9s
HEH HeiHe 21.03 277 *e*P **P** **01 58 30.2 -2.8**
J14K Nanvaranak Lak 21.05 48 P **P** **01 58 33.2 +0.2**
J14K IAmb IAmb 01 58 37.7
comp=Z,30nm,1.4s
F15K North Star Dit 21.42 40 P **P** **01 58 37.7 +0.6**
F15K IAmb IAmb 01 59 07.5
comp=Z,26nm,1.5s
K15K Wolf Creek Mou 21.89 49 P **P** **01 58 42.0 -0.1**
K15K IAmb IAmb 01 59 15.3
comp=Z,23nm,1.3s
MDJ Mudanjiang 22.22 261 P **P** **01 58 45.7 -0.1**
MDJ pP sP 01 58 53.1 -2.6
MDJ S **S** **02 02 49.4 +0.7**
MDJ sS Sn 02 03 03.7 +2.8
MDJ PcS **PcS** **02 06 19.6 -0.2**
MDJ Mudanjiang 22.22 261 ScS ScS 02 09 59.8 -1.6
MDJ pmax pmax
comp=Z,5.0nm,1.0s
MDJ pmax pmax
comp=Z,88nm,5.2s
MDJ LR LR
comp=N,210nm,18.9s
MDJ LR LR
comp=E,190nm,23.4s
MDJ LR LR
comp=Z,210nm,21.6s
N15K Kwethluk River 22.38 55 P **P** **01 58 47.9 +0.5**
N15K IAmb IAmb 01 59 08.0
comp=Z,22nm,1.1s
J16K Anvik River 22.47 47 P **P** **01 58 48.8 +0.5**
L16K Owhat River 22.78 51 P **P** **01 58 51.0 -0.6**
MJAR Matsushiro Arr 22.85 234 P **P** **01 58 53.1 +0.5**
comp=Z,6.1nm,0.8s,baz=22,slow=10,SNR=14
MJAR LR LR 02 08 15.2
comp=Z,118nm,20.4s,baz=40,slow=38
comp=Z,6.1nm,0.8s
MJB9 Matsu-Tunnel 22.85 234 P **P** **01 58 52.9 +0.3**
MJB9 IAmb IAmb 01 59 05.3
comp=Z,16nm,0.8s
MAJO Matsushiro 22.85 234 P **P** **01 58 52.6 0.0**
MAJO IAmb IAmb 01 59 05.3
comp=Z,16nm,0.8s
MAJO Matsushiro 22.85 234 P **P** **01 58 52.6 0.0**
MAJO pmax pmax
comp=Z,16nm,0.8s
M16K Timber Creek 22.98 53 P **P** **01 58 53.3 -0.4**
M16K IAmb IAmb 01 59 08.5
comp=Z,29nm,1.4s
H17K Granite Mounta 23.10 43 P **P** **01 58 54.6 -0.3**
TIXI Tiksi 23.65 335 P **P** **01 58 58.4 -1.9**
TIXI IAmb IAmb 01 59 00.6
comp=Z,16nm,0.9s
TIXI Tiksi 23.65 335*ce*P **P** **01 58 59.3 -0.9**
TIXI pmax pmax
comp=Z,13nm,0.7s
TIXI Tiksi 23.65 335 P **P** **01 58 58.9 -1.3**
comp=Z,12nm,0.7s,baz=132,slow=8.9,SNR=42
comp=Z,12nm,0.7s
J18K Innoko River 24.23 47 P **P** **01 59 06.2 +0.4**
J18K IAmb IAmb 01 59 19.3
comp=Z,15nm,1.1s
TTA Tatalina 24.50 49 P **P** **01 59 08.3 0.0**
TTA Tatalina 24.50 49 P **P** **01 59 08.3 0.0**
TTA pmax pmax
comp=Z,8.0nm,0.9s
P18K Big Mountain, 24.86 57 P **P** **01 59 11.4 -0.1**
P18K IAmb IAmb 01 59 42.7
comp=Z,24nm,1.4s
L19K White Mountain 24.99 50 P **P** **01 59 13.2 +0.5**
L19K IAmb IAmb 01 59 30.8
comp=Z,20nm,1.4s
M19K Big River Lodg 25.20 51 P **P** **01 59 15.0 +0.4**
K20K Telida 25.41 48 P **P** **01 59 16.9 +0.5**
K20K IAmb IAmb 01 59 18.7
comp=Z,11nm,0.6s
IMAR Indian Mountai 25.83 42 P **P** **01 59 19.9 -0.3**
HIA Hailar 26.02 279 P **P** **01 59 20.9 -1.2**
HIA IAmb IAmb 01 59 21.5
comp=Z,17nm,0.6s
HIA Hailar 26.02 279 P **P** **01 59 20.9 -1.2**
HIA pmax pmax
comp=Z,17nm,0.6s
RSO Redoubt South 26.03 54 P **P** **01 59 24.6 +2.2**
CAST Castle Rocks 26.30 48 P **P** **01 59 24.8 +0.2**
B21K Ikpikpuk River 26.32 33 P **P** **01 59 23.9 -0.7**
B21K IAmb IAmb 01 59 48.9
comp=Z,10nm,1.0s
BOD Bodaibo 26.86 300 *e*P **P** **01 59 28.5 -1.1**
BOD pmax pmax
comp=Z,15nm,1.6s
B22K Teshekpuk Lake 26.93 32 P **P** **01 59 29.7 -0.3**
SUA Susitna One 26.95 52 P **P** **01 59 32.9 +2.4**
TRF Thorofare Moun 27.11 48 P **P** **01 59 33.5 +1.5**
TRF IAmb IAmb 01 59 49.9
comp=Z,11nm,1.2s
KSRS Korea Array 27.68 250 P **P** **01 59 37.9 +0.7**
comp=Z,0.9nm,0.4s,baz=43,slow=9.1,SNR=2.6
KSRS LR LR 02 11 52.4
comp=Z,90nm,18.4s,baz=50,slow=39
comp=Z,0.9nm,0.4s
C23K Itkillik River 27.72 34 P **P** **01 59 36.9 -0.3**
C23K IAmb IAmb 02 00 19.3
comp=Z,32nm,1.4s
TOLK Toolik Lake Re 27.85 36 P **P** **01 59 37.9 -0.6**
SML Sawmill 28.07 51 P **P** **01 59 40.0 -0.5**
SML IAmb IAmb 01 59 53.6
comp=Z,24nm,1.2s
D24K Happy Valley 28.21 35 P **P** **01 59 41.1 -0.5**
SCM Sheep Creek Mo 28.55 51 P **P** **01 59 44.9 +0.1**
SCM Sheep Creek Mo 28.55 51 P **P** **01 59 44.9 +0.1**
SCM pmax pmax
comp=Z,37nm,1.4s
ILAR Eielson Array 28.60 45 P **P** **01 59 44.8 -0.4**
comp=Z,1.0nm,0.9s,baz=262,slow=9.2,SNR=9.1
ILAR LR LR 02 13 04.0
comp=Z,64nm,18.1s,baz=275,slow=40
comp=Z,1.0nm,0.9s
D25K Kavik River 29.10 35 P **P** **01 59 49.1 -0.4**
D25K IAmb IAmb 01 59 50.0
comp=Z,5.2nm,0.7s
E25K Arctic Village 29.26 38 P **P** **01 59 51.3 +0.3**
BMAR Burnt Mountain 29.59 39 P **P** **01 59 55.3 +1.3**
L27K Beaver Creek, 30.95 48 P **P** **02 00 06.5 +0.6**
L27K IAmb IAmb 02 00 38.7
comp=Z,20nm,1.4s
BCAR Beaver Creek A 30.97 48 P **P** **02 00 06.8 +0.7**
D27M Malcolm River 31.01 36 P **P** **02 00 06.4 0.0**
F28M Old Crow 31.41 39 P **P** **02 00 10.7 +0.8**
H29M Whitestone 32.08 42 P **P** **02 00 17.2 +1.3**
H29M IAmb IAmb 02 00 30.0
comp=Z,10nm,1.4s
H11N2 WAKE ISLAND Hy 33.27 170 T T 02 36 03.3
baz=353,slow=76,SNR=14
H11N3 WAKE ISLAND Hy 33.28 170 T T 02 36 05.8
baz=353,slow=76,SNR=7.8
H11N1 WAKE ISLAND Hy 33.28 170 T T 02 36 04.5
baz=353,slow=76,SNR=6.8
INK Inuvik 33.75 37 P **P** **02 00 30.4 +0.1**
INK Inuvik 33.75 37 P **P** **02 00 30.4 +0.1**
INK pmax pmax
comp=Z,4.0nm,1.1s
ULN Ulaanbaatar 34.19 284*ce*P **P** **02 00 32.7 -1.9**
ULN pmax pmax
comp=Z,6.0nm,1.0s
H11S1 WAKE ISLAND Hy 34.46 171 T T 02 38 16.8
baz=352
H11S3 WAKE ISLAND Hy 34.47 171 T T 02 38 19.4
baz=352
H11S2 WAKE ISLAND Hy 34.48 171 T T 02 37 48.7
baz=352
SONM Songino Array 34.59 284 P **P** **02 00 36.8 -1.3**
SONM Songino Array 34.59 284 P **P** **02 00 36.8 -1.3**
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 34.59 284 P **P** **02 00 37.7 -0.4**
comp=Z,1.5nm,0.5s,baz=64,slow=7.5,SNR=16
SONM PcP **PcP** **02 03 13.1 +1.1**
comp=Z,1.0nm,0.7s,baz=70,slow=1.4,SNR=5.1
SONM LR LR 02 16 13.1
comp=Z,125nm,18.9s,baz=42,slow=39
comp=Z,1.5nm,0.5s
HHC Hu-ho-hao-te 35.27 271 *e*P **P** **02 00 43.8 -0.2**
HHC pP pP 02 00 49.6 -1.6
HHC pmax pmax
comp=Z,5.0nm,0.5s
HHC pmax pmax
comp=Z,54nm,4.8s
HHC LR LR
comp=N,130nm,13.7s
HHC LR LR
comp=E,160nm,13.1s
HHC LR LR
comp=Z,140nm,15.1s
HNS HongShan 35.52 263⇑ P **P** **02 00 46.4 +0.4**
HNS *e*S **S** **02 06 14.8 -4.9**
HNS pmax pmax
comp=Z,7.0nm,1.0s
HNS LR LR
comp=N,100nm,14.3s
HNS LR LR
comp=E,180nm,22.3s
HNS LR LR
comp=Z,220nm,22.3s
BTO Baotou 36.36 271 *e*P **P** **02 00 53.7 +0.4**
BTO pP **pwP** **02 01 05.8 +1.4**
BTO sP sP 02 01 11.1 +7.9
BTO PP **PP** **02 02 17.4 +1.4**
BTO S **S** **02 06 31.7 -0.9**
BTO sS sS 02 06 51.5 +6.4
BTO SS **SnSn** **02 08 56.6 -4.3**
BTO pmax pmax
comp=Z,15nm,1.0s
BTO pmax pmax
comp=Z,140nm,6.6s
BTO LR LR
comp=N,250nm,10.4s
BTO LR LR
comp=E,290nm,12.8s
BTO LR LR
comp=Z,430nm,14.7s
NJ2 Nanjing 36.76 253 *e*P **P** **02 00 57.2 +0.6**
NJ2 pmax pmax
comp=Z,11nm,0.8s
BBB Bella Bella 41.48 61 LR LR 02 18 35.3
comp=Z,56nm,18.0s,baz=56,slow=36
EUNU Eureka 42.12 14 P **P** **02 01 42.3 +1.4**
YKA Yellowknife Ar 42.98 43 P **P** **02 01 47.5 -0.4**
comp=Z,1.0nm,0.8s,baz=297,slow=8.1,SNR=10.0
comp=Z,1.0nm,0.8s
GTA Gaotai 43.27 277 P P 02 01 58.6 +7.8
GTA pP pwP 02 02 04.7 +2.8
GTA pmax pmax
comp=Z,5.0nm,1.0s
ZAA0 Zalesovo Array 43.49 303 P **P** **02 01 50.3 -1.8**
ZALV Zalesovo Beam 43.49 303 P **P** **02 01 50.3 -1.8**
ZALV Zalesovo Beam 43.49 303 *i*P **P** **02 01 51.2 -0.9**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 43.49 303 P **P** **02 01 50.6 -1.6**
comp=Z,2.3nm,0.7s,baz=75,slow=7.6,SNR=11
ZALV LR LR 02 21 10.8
comp=Z,57nm,18.2s,baz=56,slow=38
comp=Z,2.3nm,0.7s
DGZ Jazzator, Alta 44.38 297 *i*P **P** **02 01 59.0 -0.6**
DGZ pmax pmax
comp=Z,8.0nm,0.8s
CD2 Chengdu 46.57 265 P **P** **02 02 15.4 -1.6**
KBS Kingsbay 47.29 352 P **P** **02 02 22.1 +0.2**
KBS Kingsbay 47.29 352 P **P** **02 02 22.1 +0.2**
KBS pmax pmax
comp=Z,65nm,1.5s
SPITS Spitsbergen Ar 47.57 351 P **P** **02 02 24.8 +0.7**
SPITS pmax pmax
comp=Z,55nm,1.3s
SPITS Spitsbergen Ar 47.57 351 P **P** **02 02 24.7 +0.5**
comp=Z,8.5nm,0.4s,baz=53,slow=9.9,SNR=77
comp=Z,8.5nm,0.4s
SPB2 Spitsbergen Ar 47.57 351 P **P** **02 02 24.8 +0.7**
KURK Kurchatov 48.45 303 P **P** **02 02 29.9 -1.3**
KURK Kurchatov 48.45 303*ce*P **P** **02 02 29.5 -1.7**
KURK pmax pmax
comp=Z,30nm,1.7s
NEEM North Greenlan 48.52 9 *i*P **P** **02 02 31.7 -0.1**
NEEM IAmb IAmb 02 02 32.8
comp=Z,10nm,1.0s
KURBB Kurchatov Arra 48.55 303 P **P** **02 02 30.9 -1.1**
comp=Z,5.3nm,0.4s,baz=56,slow=7.6,SNR=27
comp=Z,5.3nm,0.4s
MK31 Makanchi Array 48.87 296 P **P** **02 02 33.3 -1.3**
MK31 IAmb IAmb 02 02 35.1
comp=Z,5.9nm,1.3s
MK31 Makanchi Array 48.87 296 P **P** **02 02 33.3 -1.3**
MK31 pmax pmax
comp=Z,6.0nm,1.3s
MKAR Makanchi Array 48.87 296 P **P** **02 02 33.0 -1.6**
MKAR Makanchi Array 48.87 296 *i*P **P** **02 02 34.0 -0.6**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 48.87 296 P **P** **02 02 33.2 -1.4**
comp=Z,1.8nm,0.5s,baz=50,slow=6.8,SNR=36
MKAR LR LR 02 23 52.9
comp=Z,50nm,18.0s,baz=333,slow=37
comp=Z,1.8nm,0.5s
MAKZ Makanchi 49.03 297 P **P** **02 02 33.7 -2.1**
MAKZ IAmb IAmb 02 02 36.3
comp=Z,9.1nm,1.2s
MAKZ Makanchi 49.03 297 P **P** **02 02 33.7 -2.1**
MAKZ pmax pmax
comp=Z,9.0nm,1.3s
NEW Newport 49.52 60 LR LR 02 21 15.0
comp=Z,36nm,20.4s,baz=332,slow=33
KULLO Kullorsuaq 50.38 12 *e*P **P** **02 02 46.0 +0.4**
KULLO IAmb IAmb 02 02 46.7
comp=Z,12nm,0.8s
J05D Fort Rock, OR 50.38 68 P **P** **02 02 47.6 +1.3**
J05D IAmb IAmb 02 03 00.0
comp=Z,4.0nm,0.9s
YBH Yreka Blue Hor 50.54 70 LR LR 02 20 52.6
comp=Z,51nm,19.8s,baz=328,slow=32
DAG Danmarks Havn 50.74 360 *i*P **P** **02 02 48.0 -0.3**
DAG IAmb IAmb 02 02 49.5
comp=Z,4.2nm,0.8s
K05A Summer Lake 50.93 68 P **P** **02 02 51.8 +1.2**
K05A IAmb IAmb 02 03 22.3
comp=Z,8.0nm,1.4s
PZH PanZhiHua 50.97 263 P **P** **02 02 51.3 +0.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,80nm,4.8s
BVAR Borovoye Array 51.09 309 P **P** **02 02 50.2 -1.1**
comp=Z,3.6nm,0.6s,baz=46,slow=8.3,SNR=18
BVAR PP **PP** **02 04 49.3 +1.6**
comp=Z,1.4nm,0.6s,baz=58,slow=9.3,SNR=3.5
BVAR LR LR 02 26 24.5
comp=Z,86nm,18.5s,baz=57,slow=38
comp=Z,3.6nm,0.6s
BRVK Borovoye 51.12 309*ce*P **P** **02 02 49.9 -1.6**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
LYMT Lyon Mountain 52.87 59 P **P** **02 03 04.8 -0.2**
DBG Daneborg 53.22 0 *e*P **P** **02 03 06.0 -0.8**
FCC Fort Churchill 53.34 39 P **P** **02 03 07.8 -0.1**
FCC Fort Churchill 53.34 39 P **P** **02 03 07.8 -0.1**
FCC pmax pmax
comp=Z,3.0nm,1.0s
ARCES ARCESS Array B 53.80 342 P **P** **02 03 10.8 -0.4**
ARCES ARCESS Array B 53.80 342 P **P** **02 03 10.8 -0.4**
ARCES pmax pmax
comp=Z,34nm,1.5s
ARCES ARCESS Array B 53.80 342 P **P** **02 03 10.2 -1.0**
comp=Z,6.9nm,0.8s,baz=44,slow=8.0,SNR=8.1
comp=Z,6.9nm,0.8s
APA Apatity 53.80 338⇓ *i*P **P** **02 03 12.8 +1.6**
APA pmax pmax
comp=Z,5.0nm,1.1s
APA MLR MLR
comp=Z,1μm,20.0s
DAV Davao City (W) 54.00 226 LR LR 02 26 17.6
comp=Z,21nm,21.1s,baz=322,slow=36
ARU Arti 54.07 318 P **P** **02 03 12.1 -1.2**
ARU Arti 54.07 318*d* *i*P **P** **02 03 12.6 -0.7**
ARU 02 04 13.8
ARU S **S** **02 10 48.4 +0.9**
ARU SS **SS** **02 14 28.4 0.0**
ARU pmax pmax
comp=Z,15nm,0.7s
ARU Arti 54.07 318 LR LR 02 30 25.7
comp=Z,73nm,18.2s,baz=22,slow=41
SUMG Summit 54.21 7 P **P** **02 03 13.6 -1.0**
SUMG IAmb IAmb 02 03 28.5
comp=Z,14nm,1.1s
SUMG Summit 54.21 7 P **P** **02 03 13.6 -1.0**
SUMG pmax pmax
comp=Z,14nm,1.1s
SUMG Summit 54.21 7 *i*P **P** **02 03 15.0 +0.4**
SUMG IAmb IAmb 02 03 16.8
comp=Z,18nm,1.5s
WAKR Walker 54.56 71 P **P** **02 03 18.8 +1.4**
WAKR IAmb IAmb 02 03 30.6
comp=Z,9.8nm,1.4s
KVN Kaiserville 54.95 70 P **P** **02 03 21.3 +1.1**
KVN IAmb IAmb 02 03 33.3
comp=Z,7.1nm,1.3s
KVN Kaiserville 54.95 70 P **P** **02 03 21.3 +1.1**
KVN pmax pmax
comp=Z,7.0nm,1.3s
NVAR Mina Array Bea 55.26 71 P **P** **02 03 23.7 +1.2**
NVAR Mina Array Bea 55.26 71 P **P** **02 03 24.0 +1.5**
comp=Z,0.8nm,0.6s,baz=304,slow=7.2,SNR=9.6
comp=Z,0.8nm,0.6s
FLWY Flagg Ranch 55.62 61 P **P** **02 03 26.1 +1.1**
FLWY IAmb IAmb 02 03 48.1
comp=Z,5.1nm,1.2s
RLMT Red Lodge 55.67 59 P **P** **02 03 26.1 +0.7**
RLMT IAmb IAmb 02 03 27.5
comp=Z,6.5nm,1.1s
AAK Ala-Archa 55.79 297 P **P** **02 03 25.7 -0.5**
AAK IAmb IAmb 02 03 27.8
comp=Z,4.4nm,0.9s
AAK Ala-Archa 55.79 297*ce*P **P** **02 03 26.0 -0.2**
AAK pmax pmax
comp=Z,12nm,2.5s
MOOW Moose Ponds 55.83 61 P **P** **02 03 27.7 +1.2**
KIRV Kirov 56.03 324*ce*P **P** **02 03 26.6 -0.8**
SCO Scoresbysund 57.04 1 P **P** **02 03 37.5 +3.1**
SCO IAmb IAmb 02 04 14.3
comp=Z,12nm,1.3s
SCO Scoresbysund 57.04 1 P **P** **02 03 37.5 +3.1**
SCO pmax pmax
comp=Z,12nm,1.3s
KSH Kashi 57.12 293 P **P** **02 03 38.7 +3.1**
KSH pmax pmax
comp=Z,2.0nm,1.0s
SPR3 Spring Creek 3 57.12 67 P **P** **02 03 37.6 +1.7**
PDAR Pinedale Array 57.13 61 P **P** **02 03 36.2 +0.4**
PDAR Pinedale Array 57.13 61 P **P** **02 03 36.6 +0.9**
comp=Z,1.8nm,0.7s,baz=305,slow=3.2,SNR=19
comp=Z,1.8nm,0.7s
ICESG Greenland Ices 57.50 9 *e*P **P** **02 03 38.2 0.0**
ICESG IAmb IAmb 02 03 39.1
comp=Z,12nm,1.0s
KLMR Klimovskoe 57.55 330 *e*P **P** **02 03 38.0 -0.2**
KLMR pmax pmax
comp=Z,23nm,0.7s
KK31 Karatay Array 57.60 300 P **P** **02 03 36.9 -1.9**
KK31 IAmb IAmb 02 03 39.8
comp=Z,4.9nm,0.6s
KK31 Karatay Array 57.60 300 P **P** **02 03 36.9 -1.9**
KK31 pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 57.60 300 P **P** **02 03 37.6 -1.2**
KKAR Karatay Array 57.60 300 P **P** **02 03 37.6 -1.2**
ABKAR Akbulak array 58.49 311 P **P** **02 03 44.4 -0.5**
RDMU Red Mountain 58.65 63 P **P** **02 03 48.3 +1.8**
RDMU IAmb IAmb 02 04 01.6
comp=Z,4.9nm,1.0s
CMAR Chiang Mai Arr 58.73 259 P **P** **02 03 49.1 +2.1**
comp=Z,4.4nm,0.6s,baz=25,slow=6.8,SNR=23
comp=Z,4.4nm,0.6s
RSSD Black Hills 59.06 57 P **P** **02 03 49.8 +0.6**
RSSD IAmb IAmb 02 03 50.8
comp=Z,5.2nm,0.8s
RSSD Black Hills 59.06 57 P **P** **02 03 49.8 +0.6**
RSSD pmax pmax
comp=Z,5.0nm,0.8s
SRU San Rafael Swe 59.16 65 P **P** **02 03 51.2 +1.2**
SRU IAmb IAmb 02 04 02.7
comp=Z,5.4nm,0.7s
SRU San Rafael Swe 59.16 65 P **P** **02 03 51.2 +1.2**
SRU pmax pmax
comp=Z,5.0nm,0.7s
VALR Valaam 59.56 335 *i*P **P** **02 03 50.9 -1.2**
VALR pmax pmax
comp=Z,27nm,0.9s
BTK Batken 59.57 297 P **P** **02 03 52.1 -0.6**
BTK Batken 59.57 297 P **P** **02 03 52.1 -0.6**
BTK pmax pmax
comp=Z,9.0nm,0.9s

HMU	**Henry Mountain**	**59.87**	**66**	P	**P**	**02 03 56.0**	**+1.0**
HMU				IAmb	IAmb	02 04 07.7		
	comp=Z,7.9nm,0.8s							
GAR	**Garm**	**60.60**	**297**	P	**P**	**02 03 59.3**	**-0.5**
FIA1	**FINESS Array S**	**60.67**	**337**	P	**P**	**02 04 00.0**	**+0.3**
FINES	**FINESS Array B**	**60.67**	**337**	P	**P**	**02 04 00.1**	**+0.3**
FINES	**FINESS Array B**	**60.67**	**337**	P	**P**	**02 04 00.4**	**+0.7**
	comp=Z,6.6nm,0.5s,baz=32,slow=8.9,SNR=87							
FINES				LR	LR	02 33 29.5		
	comp=Z,66nm,18.3s,baz=14,slow=39							
	comp=Z,6.6nm,0.5s							
BELG	**Belogornoye**	**61.38**	**320**	*i* P	**P**	**02 04 04.1**	**-0.6**
BELG				pmax	pmax			
	comp=Z,3.0nm,0.8s							
BELG	**Belogornoye**	**61.38**	**320**	LR	LR	02 35 21.1		
	comp=Z,82nm,18.1s,baz=92,slow=41							
CHGR	**Chuyangaron**	**61.47**	**297**	P	**P**	**02 04 04.7**	**-1.0**
CHGR	**Chuyangaron**	**61.47**	**297**	P	**P**	**02 04 04.7**	**-1.0**
CHGR				pmax	pmax			
	comp=Z,24nm,1.0s							
VSU	**Vasula**	**63.12**	**335**	*ce*P	**P**	**02 04 15.8**	**-0.4**
VSU				pmax	pmax			
	comp=Z,21nm,1.7s							
OBN	**Obninsk**	**63.14**	**328**	*ce*P	**P**	**02 04 16.8**	**+0.4**
OBN				*e*		02 04 51.2		
OBN				*e*		02 06 34.5		
OBN				*e*S	S	02 13 05.6	+20	
OBN				pmax	pmax			
	comp=Z,31nm,2.5s							
AAL	**Aland**	**63.17**	**339**	*e*P	**P**	**02 04 16.8**	**+0.3**
NC204	**NORSAR Array S**	**63.89**	**345**	P	**P**	**02 04 20.9**	**-0.4**
NB2	**NORSAR Subarra**	**64.04**	**344**	P	**P**	**02 04 22.6**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=20,slow=6.9							
NOA	**NORSAR Array B**	**64.04**	**344**	P	**P**	**02 04 22.5**	**+0.2**
	comp=Z,4.9nm,0.8s,baz=14,slow=5.4,SNR=23							
	comp=Z,4.9nm,0.8s							
LPSR	**Galich'ya Gora**	**64.42**	**325**	*e*P	**P**	**02 04 21.5**	**-3.4**
LPSR				pmax	pmax			
	comp=Z,10.0nm,0.8s							
HFS	**Hagfors**	**64.46**	**343**	P	**P**	**02 04 25.0**	**0.0**
	comp=Z,4.3nm,0.5s,baz=36,slow=5.4,SNR=32							
	comp=Z,4.3nm,0.5s							
VRH	**Novokhopyorsk**	**64.56**	**323**	*e*P	**P**	**02 04 24.2**	**-1.6**
VRH				pmax	pmax			
	comp=Z,7.0nm,0.8s							
SLIT	**Slitere, Latvi**	**64.96**	**337**	*e*P	**P**	**02 04 29.1**	**+0.9**
VIKU	**Vikbolandet**	**65.40**	**340**	*e*P	**P**	**02 04 32.4**	**+1.3**
VSR	**Storozhevoye**	**65.48**	**324**	*e*P	**P**	**02 04 30.5**	**-1.3**
VSR				pmax	pmax			
	comp=Z,7.0nm,0.9s							
SCHQ	**Schefferville**	**65.65**	**28**	P	**P**	**02 04 33.0**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=270,slow=4.0,SNR=4.2							
	comp=Z,2.0nm,0.9s							
ISAL	**Salakas**	**65.83**	**334**	*e*P	**P**	**02 04 34.2**	**+0.3**
VSVD	**Vaisvydziai**	**66.03**	**335**	*e*P	**P**	**02 04 36.0**	**+0.7**
MNK	**Minsk**	**66.28**	**332**	*i* P	**P**	**02 04 38.5**	**+1.6**
MNK				*i*		02 07 03.3		
MNK				*i* PPP	PPP	02 08 38.5		
MNK				*i* S	**S**	**02 13 27.3**	**+3.1**
MNK				*i* SS	**SS**	**02 17 44.3**	**+4.8**
MNK				pmax	pmax			
	comp=E,3.0nm,0.9s							
MNK				pmax	pmax			
	comp=Z,19nm,0.9s							
MNK				pmax	pmax			
	comp=N,13nm,0.9s							
MNK				MLR	MLR			
	comp=N,41nm,11.0s							
MNK				MLR	MLR			
	comp=Z,114nm,15.0s							
PABE	**Paberze**	**66.45**	**335**	P	**P**	**02 04 38.7**	**+0.7**
PABE	**Paberze**	**66.45**	**335**	*e*P	**P**	**02 04 39.0**	**+1.1**
GEYT	**Alibeck**	**67.80**	**304**	P	**P**	**02 04 47.4**	**+0.5**
GEYT	**Alibeck**	**67.80**	**304**	P	**P**	**02 04 47.4**	**+0.5**
GEYT				pmax	pmax			
	comp=Z,7.0nm,0.7s							
GEYT	**Alibeck**	**67.80**	**304**	P	**P**	**02 04 47.5**	**+0.6**
	comp=Z,4.7nm,0.5s,baz=8.1,slow=2.0,SNR=14							
	comp=Z,4.7nm,0.5s							
GYA0B	**ALIBECK ARRAY**	**67.80**	**304**	P	**P**	**02 04 47.4**	**+0.5**
GYA0B				IAmb	IAmb	02 04 48.3		
	comp=Z,5.6nm,0.7s							
DEL	**Delary**	**67.86**	**341**	*e*P	**P**	**02 04 48.0**	**+1.1**
GOF	**Gofitskoye**	**69.06**	**318**	*ce*P	**P**	**02 04 56.0**	**+1.4**
AKASG	**Malin Array Be**	**69.22**	**330**	P	**P**	**02 04 55.2**	**-0.3**
AKASG				IAmb	IAmb	02 04 56.8		
	comp=Z,6.0nm,1.2s							
AKASG	**Malin Array Be**	**69.22**	**330**	P	**P**	**02 04 55.2**	**-0.3**
AKASG				pmax	pmax			
	comp=Z,6.0nm,1.2s							
AKASG	**Malin Array Be**	**69.22**	**330**	P	**P**	**02 04 55.5**	**0.0**
	comp=Z,3.0nm,0.4s,baz=27,slow=5.8,SNR=16							
	comp=Z,3.0nm,0.4s							
AKASG				LR	LR	02 38 52.1		
	comp=Z,74nm,19.6s,baz=38,slow=39							
	comp=Z,3.0nm,0.4s							
AKBB	**Malin Array Si**	**69.22**	**330**	P	**P**	**02 04 54.0**	**-1.5**
AKBB	**Malin Array Si**	**69.22**	**330**	*ce*P	**P**	**02 04 55.1**	**-0.4**
AKBB				pmax	pmax			
	comp=Z,15nm,1.2s							
KIEV	**Kiev**	**69.23**	**330**	⇓P	**P**	**02 04 55.8**	**+0.2**
KIEV	**Kiev**	**69.23**	**330**	P	**P**	**02 04 54.2**	**-1.3**
KIEV	**Kiev**	**69.23**	**330**	P	**P**	**02 04 54.2**	**-1.3**
KIEV				pmax	pmax			
	comp=Z,11nm,1.1s							
GROC	**Groznyy**	**69.42**	**315**	*e*P	**P**	**02 04 55.1**	**-1.8**
GROC				*e*		02 07 29.0		
GROC				pmax	pmax			
	comp=Z,35nm,1.2s							
KIV	**Kislovodsk**	**70.11**	**318**	⇑P	**P**	**02 05 01.7**	**+0.5**
KIV	**Kislovodsk**	**70.11**	**318**	P	**P**	**02 05 01.7**	**+0.5**
KIV	**Kislovodsk**	**70.11**	**318**	*e*P	**P**	**02 05 01.9**	**+0.7**
KIV				pmax	pmax			
	comp=Z,7.0nm,1.0s							
TX31	**Lajitas Ar. Si**	**70.18**	**68**	P	**P**	**02 05 02.9**	**+1.0**
TXAR	**Lajitas Array**	**70.18**	**68**	P	**P**	**02 05 02.5**	**+0.6**
TXAR	**Lajitas Array**	**70.18**	**68**	P	**P**	**02 05 02.5**	**+0.6**
TXAR	**Lajitas Array**	**70.18**	**68**	P	**P**	**02 05 02.7**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=303,slow=4.8,SNR=11							
	comp=Z,1.4nm,0.6s							
KBZ	**Khabaz**	**70.21**	**317**	*ce*P	**P**	**02 05 02.2**	**+0.5**
KBZ				pmax	pmax			
	comp=Z,11nm,0.8s							
KBZ	**Khabaz**	**70.21**	**317**	P	**P**	**02 05 03.0**	**+1.3**
	comp=Z,11nm,0.8s,baz=64,slow=2.1,SNR=34							
	comp=Z,11nm,0.8s							
ONI	**Oni**	**70.92**	**316**	P	**P**	**02 05 07.3**	**+1.2**
ONI				IAmb	IAmb	02 05 09.0		
	comp=Z,7.6nm,0.8s							
ONI	**Oni**	**70.92**	**316**	P	**P**	**02 05 07.3**	**+1.2**
ONI				pmax	pmax			
	comp=Z,8.0nm,0.8s							
EKA	**Eskdalemuir Ar**	**71.49**	**351**	P	**P**	**02 05 10.3**	**+1.0**
	comp=Z,1.7nm,0.5s,baz=14,slow=5.2,SNR=11							
	comp=Z,1.7nm,0.5s							
SORM	**Soroca**	**71.75**	**329**	⇑P	**P**	**02 05 10.9**	**-0.1**
SORM	**Soroca**	**71.75**	**329**	⇑P	**P**	**02 05 10.9**	**-0.1**
KWP	**Kalwaria Pacla**	**72.08**	**333**	P	**P**	**02 05 14.2**	**+1.2**
KWP	**Kalwaria Pacla**	**72.08**	**333**	P	**P**	**02 05 14.2**	**+1.2**
KWP				pmax	pmax			
	comp=Z,15nm,0.8s							
GNI	**Garni**	**72.36**	**314**	*i* P	**P**	**02 05 15.5**	**+0.5**
GNI				pmax	pmax			
	comp=Z,12nm,0.9s							
STHS	**Stebnicka Huta**	**72.67**	**334**	*e*P	**P**	**02 05 17.3**	**+0.8**
STHS				pmax	pmax			
	comp=Z,5.0nm,0.7s							
STHS	**Stebnicka Huta**	**72.67**	**334**	*e*P	**P**	**02 05 17.3**	**+0.8**
KOLS	**Kolonicke sedl**	**72.83**	**333**	*e*P	**P**	**02 05 19.0**	**+1.5**
KOLS				pmax	pmax			
	comp=Z,7.0nm,0.7s							
KOLS	**Kolonicke sedl**	**72.83**	**333**	*e*P	**P**	**02 05 19.0**	**+1.5**
CLL	**Collm**	**72.89**	**340**	*i* P	**P**	**02 05 18.0**	**+0.3**
CLL				*e**PP	**pwP**	**02 05 30.0**	**+0.5**
CLL				pmax	pmax			
	comp=Z,8.0nm,1.1s							
CLL	**Collm**	**72.89**	**340**	*i* P	**P**	**02 05 18.0**	**+0.3**
	comp=Z,8.0nm,1.1s							
CLL				*ex*	x	02 05 30.0		
CRVS	**Cervenica-Dubn**	**73.08**	**333**	*e*P	**P**	**02 05 19.7**	**+0.8**
CRVS	**Cervenica-Dubn**	**73.08**	**333**	*e*P	**P**	**02 05 19.7**	**+0.8**
BUR08	**Bucovina Ar. S**	**73.16**	**331**	P	**P**	**02 05 19.9**	**+0.4**
BUR08				IAmb	IAmb	02 05 21.7		
	comp=Z,6.1nm,0.8s							
BURAR	**Bucovina Array**	**73.18**	**331**	⇓P	**P**	**02 05 20.2**	**+0.6**
BURAR	**Bucovina Array**	**73.18**	**331**	P	**P**	**02 05 19.7**	**+0.1**
BURAR	**Bucovina Array**	**73.18**	**331**	⇓P	**P**	**02 05 20.2**	**+0.6**
MORC	**Moravsky Berou**	**73.29**	**336**	*e*P	**P**	**02 05 20.5**	**+0.3**
LANS	**Liptovska Anna**	**73.38**	**335**	*e*P	**P**	**02 05 22.6**	**+1.9**
LANS				pmax	pmax			
	comp=Z,5.0nm,0.8s							
LANS	**Liptovska Anna**	**73.38**	**335**	*e*P	**P**	**02 05 22.6**	**+1.9**
TESR	**Tescani**	**73.73**	**329**	⇑P	**P**	**02 05 22.7**	**0.0**
VRAC	**Vranov**	**73.95**	**337**	*e*P	**P**	**02 05 24.2**	**+0.1**
VRAC	**Vranov**	**73.95**	**337**	LR	LR	02 43 17.9		
	comp=Z,59nm,18.2s,baz=353,slow=40							
JAVC	**Velka Javorina**	**74.11**	**336**	*e*P	**P**	**02 05 27.2**	**+2.2**
VYHS	**Vyhne**	**74.15**	**335**	*e*P	**P**	**02 05 26.3**	**+1.1**
VYHS				pmax	pmax			
	comp=Z,7.0nm,1.2s							
VYHS	**Vyhne**	**74.15**	**335**	*e*P	**P**	**02 05 26.3**	**+1.1**
KRUC	**Moravsky**	**74.23**	**337**	*e*P	**P**	**02 05 26.8**	**+1.1**
ODBI	**Odobesti**	**74.27**	**329**	⇓P	**P**	**02 05 28.1**	**+2.2**
VRI	**Vrincioaia**	**74.28**	**329**	⇑P	**P**	**02 05 26.4**	**+0.4**
VRI	**Vrincioaia**	**74.28**	**329**	⇑P	**P**	**02 05 26.4**	**+0.4**
PLOR	**Plostina**	**74.32**	**329**	⇑P	**P**	**02 05 27.5**	**+1.3**
PLOR	**Plostina**	**74.32**	**329**	⇑P	**P**	**02 05 27.5**	**+1.3**
CFR	**Carcaliu**	**74.44**	**328**	⇑P	**P**	**02 05 27.1**	**+0.2**
CFR	**Carcaliu**	**74.44**	**328**	⇑P	**P**	**02 05 27.1**	**+0.2**
COVR	**Voineasa-Covas**	**74.46**	**329**	⇑P	**P**	**02 05 28.8**	**+1.7**
CJR	**Cluj-Napoca**	**74.47**	**331**	⇓P	**P**	**02 05 28.6**	**+1.4**
CJR	**Cluj-Napoca**	**74.47**	**331**	⇓P	**P**	**02 05 28.6**	**+1.4**
DRGR		**74.66**	**332**	⇑P	**P**	**02 05 29.0**	**+0.7**
DRGR		**74.66**	**332**	⇑P	**P**	**02 05 29.0**	**+0.7**
DZM	**Mont Dzumac**	**74.66**	**175**	LR	LR	02 30 55.1		
	comp=Z,136nm,20.2s,baz=208,slow=30							
MODS	**Modra-Piesok**	**74.66**	**336**	*e*P	**P**	**02 05 30.4**	**+2.2**
MODS	**Modra-Piesok**	**74.66**	**336**	*e*P	**P**	**02 05 30.4**	**+2.2**
GRF	**Grafenberg Arr**	**74.79**	**340**	*e*P	**P**	**02 05 30.5**	**+1.6**
	comp=Z,4.7nm,1.1s,baz=16,slow=4.8							
KHC	**Kasperske Hory**	**74.82**	**339**	*ce*P	**P**	**02 05 28.2**	**-0.9**
KHC				pmax	pmax			
	comp=Z,29nm,2.5s							
MLR	**Muntele Rosu**	**74.86**	**329**	⇑P	**P**	**02 05 30.9**	**+1.4**
MLR	**Muntele Rosu**	**74.86**	**329**	P	**P**	**02 05 30.4**	**+0.9**
MLR				IAmb	IAmb	02 05 33.1		
	comp=Z,6.1nm,0.9s							
MLR	**Muntele Rosu**	**74.86**	**329**	⇑P	**P**	**02 05 30.9**	**+1.4**
MLR	**Muntele Rosu**	**74.86**	**329**	LR	LR	02 42 39.4		
	comp=Z,95nm,19.2s,baz=26,slow=39							
SRO	**Srobarova**	**74.91**	**335**	*e*P	**P**	**02 05 31.6**	**+2.0**
SRO	**Srobarova**	**74.91**	**335**	*e*P	**P**	**02 05 31.6**	**+2.0**
TIRR	**Tirgusor**	**74.99**	**327**	⇓P	**P**	**02 05 30.9**	**+0.8**
TIRR	**Tirgusor**	**74.99**	**327**	⇓P	**P**	**02 05 30.9**	**+0.8**
GERES	**GERESS Array B**	**75.06**	**338**	P	**P**	**02 05 31.0**	**+0.4**
GERES	**GERESS Array B**	**75.06**	**338**	P	**P**	**02 05 31.4**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=17,slow=7.2,SNR=5.7							
GERES				LR	LR	02 46 48.1		
	comp=Z,41nm,18.9s,baz=298,slow=42							
	comp=Z,1.4nm,0.6s							
VOIR		**75.19**	**330**	⇓P	**P**	**02 05 32.5**	**+1.2**
VOIR		**75.19**	**330**	⇓P	**P**	**02 05 32.5**	**+1.2**
ARR	**Arges**	**75.38**	**330**	⇑P	**P**	**02 05 33.9**	**+1.5**
ICOR	**Ion Corvin**	**75.49**	**327**	⇑P	**P**	**02 05 34.3**	**+1.3**
SURR	**Surduc**	**75.77**	**332**	⇑P	**P**	**02 05 35.9**	**+1.3**
MOA	**Molln**	**75.87**	**338**	*e*P	**P**	**02 05 37.6**	**+2.5**
	comp=Z,13nm,1.9s							
GZR	**Gura Zlata**	**75.91**	**331**	⇑P	**P**	**02 05 36.1**	**+0.6**
GZR	**Gura Zlata**	**75.91**	**331**	⇑P	**P**	**02 05 36.1**	**+0.6**
BZS	**Buzias**	**76.04**	**332**	⇓P	**P**	**02 05 36.6**	**+0.5**
BZS	**Buzias**	**76.04**	**332**	⇓P	**P**	**02 05 36.6**	**+0.5**
WRA	**Warramunga Arr**	**76.05**	**206**	P	**P**	**02 05 36.6**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=21,slow=6.3,SNR=3.7							
	comp=Z,1.2nm,0.8s							
HERR	**Herculane**	**76.48**	**331**	⇑P	**P**	**02 05 38.7**	**+0.1**
LESA	**Schwarzleotal**	**76.63**	**339**	*e*P	**P**	**02 05 40.9**	**+1.3**
	comp=Z,6.8nm,1.2s							
SOKA	**Soboth**	**76.79**	**337**	*e*P	**P**	**02 05 41.5**	**+1.0**
	comp=Z,0.1nm,0.2s							
KBA	**Kohnbreinsper**	**76.80**	**338**	*e*P	**P**	**02 05 42.3**	**+1.6**
	comp=Z,6.8nm,0.7s							
FRGS	**Fruska Gora**	**76.97**	**333**	⇑P	**P**	**02 05 42.1**	**+0.7**
WTTA	**Wattenberg**	**77.01**	**339**	*e*P	**P**	**02 05 44.0**	**+2.2**
	comp=Z,3.9nm,0.7s							
MOTA	**Moosalm**	**77.04**	**340**	*e*P	**P**	**02 05 43.3**	**+1.3**
	comp=Z,7.1nm,1.0s							
OBKA	**Obir**	**77.06**	**337**	*e*P	**P**	**02 05 43.5**	**+1.5**
	comp=Z,15nm,1.1s							
SQTA	**Sankt Quirin**	**77.14**	**339**	*e*P	**P**	**02 05 44.7**	**+2.2**
	comp=Z,7.3nm,1.1s							
MYKA	**Terra Mystica**	**77.16**	**338**	*e*P	**P**	**02 05 44.7**	**+2.1**
	comp=Z,7.3nm,1.1s							
BNN	**Bunyan**	**77.17**	**319**	P	**P**	**02 05 42.9**	**+0.1**
BR131	**Keskin Array S**	**77.28**	**321**	P	**P**	**02 05 44.4**	**+1.0**
BR131				IAmb	IAmb	02 05 46.2		
	comp=Z,5.2nm,1.3s							
BR131	**Keskin Array S**	**77.28**	**321**	P	**P**	**02 05 44.4**	**+1.0**
BR131				pmax	pmax			
	comp=Z,5.0nm,1.3s							
BRTR	**Keskin Array B**	**77.28**	**321**	P	**P**	**02 05 43.1**	**-0.3**
BRTR	**Keskin Array B**	**77.28**	**321**	*i* P	**P**	**02 05 44.0**	**+0.6**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BRTR	**Keskin Array B**	**77.28**	**321**	P	**P**	**02 05 44.0**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=43,slow=3.1,SNR=14							
	comp=Z,1.2nm,0.5s							
DAVA	**Damuels**	**77.35**	**340**	*i* P	**P**	**02 05 45.4**	**+1.7**
	comp=Z,17nm,1.5s							
FETA	**Feichten**	**77.43**	**340**	*i* P	**P**	**02 05 45.8**	**+1.6**
	comp=Z,8.1nm,1.1s							
DAVOX	**Davos/Dischmat**	**77.84**	**340**	LR	LR	02 45 52.8		
	comp=Z,35nm,18.8s,baz=258,slow=40							
FUORN	**Ofenpass-Fuorn**	**77.91**	**340**	P	**P**	**02 05 47.9**	**+0.9**
FUORN				IAmb	IAmb	02 05 53.1		
	comp=Z,3.3nm,0.8s							
TUE	**Stuetta**	**78.24**	**341**	P	**P**	**02 05 49.2**	**+0.5**
TUE				IAmb	IAmb	02 06 09.8		
	comp=Z,7.4nm,0.9s							
RDO	**Rodhopi**	**78.89**	**327**	P	**P**	**02 05 51.8**	**-0.4**
RDO				IAmb	IAmb	02 05 53.8		
	comp=Z,12nm,1.4s							
UOSS	**Minazif**	**78.99**	**297**	P	**P**	**02 05 52.8**	**-0.1**
UOSS				IAmb	IAmb	02 06 18.8		
	comp=Z,10nm,1.3s							
ASAR	**Alice Springs**	**79.72**	**205**	P	**P**	**02 05 57.7**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=14,slow=5.1,SNR=7.1							
	comp=Z,0.9nm,0.6s							
NRCA	**Norcia**	**80.87**	**337**	P	**P**	**02 06 02.3**	**-0.6**
MMAI	**Mount Meron Ar**	**82.39**	**317**	P	**P**	**02 06 12.0**	**+0.9**
	comp=Z,2.1nm,0.5s,baz=31,slow=6.7,SNR=13							
	comp=Z,2.1nm,0.5s							
IDI	**Anoyia**	**84.40**	**325**	P	**P**	**02 06 20.1**	**-1.3**
EIL	**Elat**	**85.48**	**315**	LR	LR	02 51 25.0		
	comp=Z,48nm,18.5s,baz=248,slow=40							
RAYN	**Ar Rayn**	**85.77**	**304**	P	**P**	**02 06 28.3**	**-0.1**
RAYN	**Ar Rayn**	**85.77**	**304**	P	**P**	**02 06 28.3**	**-0.1**
RAYN				pmax	pmax			
	comp=Z,7.0nm,0.6s							
ESDC	**Sonseca Array**	**87.04**	**349**	P	P	02 06 39.5	+5.1	
	comp=Z,0.7nm,0.6s,baz=359,slow=4.6,SNR=6.7							
TORD	**Torodi Ar. Bea**	**112.01**	**338**	PP	**PP**	**02 13 07.0**	**-0.2**
	comp=Z,0.7nm,1.0s,baz=13,slow=6.0,SNR=4.4							

DJA 12 01:59:43.2±0.5,**9˚S**±4˚×**12˚0E**±˚,**h29**km±6km,**M4.1**/12,
mb4.6/1,**MLv3.9**/12,**Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.25**	**224**	P	Pn	01 59 51.3	+0.3
BASI	**Baing, Sumba**	**1.25**	**127**	P	Pn	02 00 04.0	-0.7
BASI				S	Sn	02 00 21.0	+0.5
PLAI	**Plampang**	**1.88**	**289**	P	Pn	02 00 13.0	-0.4
PLAI				S	Sn	02 00 35.6	-0.6
EDFI	**Ende, Flores**	**2.21**	**72**	P	Pn	02 00 17.4	-0.6
TWSI	**Taliwang, Sumb**	**2.75**	**285**	P	Pn	02 00 25.6	+0.2
MMRI	**Maumere**	**2.76**	**73**	P	Pn	02 00 25.2	-0.3
SRBI	**Singaraja**	**4.52**	**287**	P	Pn	02 00 49.6	-0.1
SOEI	**Soe**	**4.64**	**94**	P	Pn	02 00 52.0	+0.5
JAGI	**Jajag, Banyuwa**	**5.44**	**280**	P	Pn	02 01 02.6	+0.2

IDC ***12*** *02:29:22.7*±*0.9,6˚.53S×143˚.61E,h0km,mb3.9/9,*
mbtmp4.0/11,ML2.0/1,MS3.6/3,Error ellipse:
s-maj=37.3km s-min=19.3km az=73.0
ISC 12 02:29:24.0±0.7,**6˚6S**±0˚.1×**143˚.5E**±0˚.1,**h10**km,**n14,**
σ1°**35/13,mb3.9/9,MS3.8/3,New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.57**	**127**	Pn	**Pn**	**02 30 32.3**	**-0.9**
PMG					Sn	**Sn**	**02 31 27.1**	**+0.7**
	5.1nm,0.3s,baz=330,slow=14,SNR=6.2							
	3.2nm,0.3s,baz=234,slow=19,SNR=2.1							
	17nm,0.4s							
WRA	**Warramunga Arr**	**15.93**	**213**	Pn	**Pn**	**02 33 05.8**	**-2.6**
	0.6nm,0.3s,baz=31,slow=13,SNR=15							
WRA				Lg	Lg	02 37 47.2		
	0.1nm,0.3s,baz=34,slow=30,SNR=2.6							
ASAR	**Alice Springs**	**19.27**	**208**	P	**P**	**02 33 50.6**	**+1.6**
	18nm,0.9s,baz=38,slow=8.7,SNR=68							
ASAR				Lg	Lg	02 39 36.8		
	baz=23,slow=29,SNR=3.2							
STKA	**Stephens Creek**	**25.17**	**184**	P	**P**	**02 34 51.4**	**+1.8**
	0.7nm,0.3s,baz=30,slow=8.1,SNR=2.8							
STKA				LR	LR	02 45 19.9		
	comp=Z,76nm,19.8s,baz=354,slow=38							
	0.7nm,0.3s							
KSRS	**Korea Array**	**46.21**	**343**	P	**P**	**02 37 49.5**	**+0.2**
	1.8nm,0.7s,baz=160,slow=9.2,SNR=7.9							
	1.8nm,0.7s							
USRK	**Ussuriysk Ar.**	**51.66**	**349**	P	**P**	**02 38 30.2**	**-0.7**
	1.9nm,0.7s,baz=175,slow=8.5,SNR=6.1							
	1.9nm,0.7s							
SONM	**Songino Array**	**63.31**	**333**	P	**P**	**02 39 54.3**	**+1.0**
	0.4nm,0.8s,baz=131,slow=4.0,SNR=2.0							
	0.4nm,0.8s							
MKAR	**Makanchi Array**	**75.79**	**322**	P	**P**	**02 41 09.8**	**-0.4**
	0.9nm,0.9s,baz=126,slow=7.3,SNR=7.3							
	0.9nm,0.9s							
KURBB	**Kurchatov Arra**	**79.66**	**324**	P	**P**	**02 41 30.8**	**-0.9**
	0.3nm,0.7s,baz=104,slow=4.9,SNR=2.7							
	0.3nm,0.7s							
KDAK	**Kodiak Island**	**82.14**	**29**	LR	LR	03 10 08.4		
	comp=Z,47nm,21.5s,baz=125,slow=30							
NRIK	**Noril'sk**	**84.83**	**343**	P	**P**	**02 41 59.0**	**+0.6**
	1.5nm,0.3s,baz=129,slow=6.5,SNR=4.1							
	1.5nm,0.3s							
BVAR	**Borovoye Array**	**85.24**	**325**	P	**P**	**02 42 01.7**	**+0.9**
	1.3nm,0.8s,baz=98,slow=5.0,SNR=7.4							
	1.3nm,0.8s							
ILAR	**Eielson Array**	**87.46**	**24**	P	**P**	**02 42 10.7**	**-0.8**
	0.4nm,0.7s,baz=241,slow=5.0,SNR=5.3							
	0.4nm,0.7s							
YBH	**Yreka Blue Hor**	**97.22**	**49**	LR	LR	03 19 39.8		
	comp=Z,29nm,19.8s,baz=330,slow=31							

KRNET ***12*** *02:52:09.7*±*0.1,39˚.54N×72˚.08E,h20km,mb3.0*
NNC ***12*** *02:52:17.1*±*2.4,39˚.71N×72˚.11E,h0km,mb3.6,mpv3.3,*
Error ellipse: s-maj=18.6km s-min=9.1km az=7.0
SOME ***12*** *02:52:18.2,39˚.72N×72˚.02E,h15km*
ISC 12 02:52:10.2±1.3,**39˚56N**±0˚.04×**72˚.05E**±0˚.03,**h2**km±10km,
n41,σ1°**54/67,28C-16D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**0.21**	**249**	⇑*i*P	**Pg**	**02 52 14.3**	**+0.1**
	baz=54						
DRK				⇑*i*S	**Sg**	**02 52 18.1**	**+1.2**
	baz=54						
BTK	**Batken**	**1.07**	**298**	⇓*e*P	**Pg**	**02 52 30.4**	**-0.3**
	baz=98						
BTK				⇓*e*S	**Sb**	**02 52 45.3**	**-0.8**
	baz=98						
OHH	**Osh**	**1.12**	**30**	⇑*e*P	**Pb**	**02 52 30.8**	**-1.5**
	baz=29						
OHH				⇑*e*S	**Sb**	**02 52 46.0**	**-1.4**
	baz=29						
SFK	**Sufi-Kurgan**	**1.21**	**67**	⇑*i*P	**Pb**	**02 52 31.8**	**-2.1**
	baz=66						
SFK				⇑*i*S	**Sb**	**02 52 48.1**	**-2.0**
	baz=66						
GAR	**Garm**	**1.46**	**248**	⇑*i*P	**Pn**	**02 52 36.8**	**-0.8**
	baz=49						
GAR				⇑*i*S	**Sb**	**02 52 56.3**	**-0.8**
	baz=49						
ARSB	**Arslanbob**	**1.91**	**22**	⇑*e*P	**Pb**	**02 52 43.9**	**-1.8**
	baz=21						
ARSB				⇑*e*S	**Sb**	**02 53 09.0**	**-1.0**
	baz=21						
TRKS	**Terek-Say**	**2.09**	**341**	⇑*i*P	**Pn**	**02 52 46.0**	**-0.4**
	baz=40						
TRKS				⇑*i*S	**Sn**	**02 53 12.7**	**-0.4**
	baz=40						
ARK	**Arkit**

	SNR=7.4							
TKM2	**Tokmak 2**	**4.30**	**37**	⇑Pn		**Pb**	**02 53 22.4**	**-4.1**
	0.5nm,0.2s							
TKM2				⇑Lg		Lg	02 54 27.8	
	2.3nm,0.5s							
KST	**Kastek**	**4.56**	**39**	*e*P		**Pg**	**02 53 39.8**	**+2.2**
	1.8nm,0.2s							
KST				*e*S		**Sg**	**02 54 38.9**	**+2.1**
	6.0nm,0.5s							
KST	**Kastek**	**4.56**	**39**	Pg		**Pg**	**02 53 37.8**	**+0.2**
	1.9nm,0.3s							
KST				Lg		Lg	02 54 37.6	
	6.0nm,0.5s							
DGS	**Degeres**	**4.63**	**36**	*e*P		**Pg**	**02 53 40.2**	**+1.4**
	3.3nm,0.5s							
DGS				*e*S		**Sg**	**02 54 39.9**	**+1.2**
	8.1nm,0.5s							
DGS	**Degeres**	**4.63**	**36**	Pg		**Pg**	**02 53 38.4**	**-0.3**
	3.3nm,0.5s							
DGS				Lg		Lg	02 54 39.3	
	8.1nm,0.5s							
KRBS	**Karabastau**	**4.95**	**32**	*e*P		**Pg**	**02 53 45.4**	**+0.4**
	1.5nm,0.4s							
KRBS				*e*S		**Sg**	**02 54 48.7**	**-0.4**
	2.8nm,0.4s							
KRBS	**Karabastau**	**4.95**	**32**	Pg		**Pg**	**02 53 43.7**	**-1.3**
	1.7nm,0.5s							
KRBS				Lg		Lg	02 54 47.9	
	2.8nm,0.8s							
KTBS	**Karatobe**	**5.41**	**38**	Pg		**Pg**	**02 53 53.0**	**-0.9**
	1.1nm,0.3s							
KTBS				Lg		Lg	02 55 03.6	
	6.2nm,0.6s							
AB31	**Akbulak array**	**12.98**	**322**	⇑P		**Pn**	**02 55 18.3**	**+2.7**
	0.3nm,0.5s,baz=130,slow=13,SNR=12							
AKTO	**Aktyubinsk**	**14.70**	**322**	⇓P		**P**	**02 55 46.8**	**+1.4**
	0.3nm,0.5s							

RSNC ***12*** *03:24:51.7±0.0,8°N±2°×7°7W×°, h16km±3km, mb3.8, ML2.6*
UPA ***12*** *03:24:53.4±0.7, 7°48N×77°36W, h42km±136km, MW3.8*
ISC 12 03:24:50.4±1.3, 7°54N±0°03×77°23W±0°03, h29km±13km, n32, σ1§74/50, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.69**	**236**	P	**Pn**	**03 25 05.0**	**+0.7**
PTAC				S	**Sn**	**03 25 15.3**	**+1.2**
APAC	**Apartado, Choc**	**0.74**	**61**	P	**Pb**	**03 25 04.3**	**-0.5**
APAC				S	**Sb**	**03 25 14.6**	**+0.1**
CAPC	**Capurgana**	**1.09**	**354**	P	**Pn**	**03 25 08.4**	**-1.4**
CAPC				S	**Sn**	**03 25 22.6**	**-1.4**
DBBC	**Dabeiba**	**1.14**	**117**	P	**Pn**	**03 25 09.5**	**-1.0**
UPD2	**Meteti**	**1.27**	**322**	P	**Pn**	**03 25 12.6**	**+0.4**
UPD2				S	**Sb**	**03 25 29.5**	**-0.2**
CBOC	**Ciudad Bolivar**	**2.06**	**144**	P	**Pn**	**03 25 22.6**	**-0.6**
CBOC				S	**Sn**	**03 25 45.9**	**-2.1**
HELC	**Santa Helena**	**2.16**	**128**	P	**Pn**	**03 25 25.5**	**+0.7**
HELC				S	**Sn**	**03 25 52.0**	**+1.3**
CHPO	**Chepo, Panama**	**2.47**	**311**	*e*P	**Pn**	**03 25 30.0**	**+1.2**
CHPO				*e*S	**Sn**	**03 25 58.2**	**+0.2**
PLMC	**San Jos del P**	**2.78**	**160**	P	**Pn**	**03 25 31.5**	**-1.6**
PLMC				S	**Sn**	**03 25 59.8**	**-6.0**
PTBC	**PUERTO BERRIO,**	**2.93**	**110**	P	**Pn**	**03 25 35.8**	**+0.7**
PTBC				S	**Sn**	**03 26 09.6**	**+0.3**
GUY2C	**Guyana, Caldas**	**2.95**	**141**	P	**Pn**	**03 25 36.8**	**+0.9**
GUY2C				S	**Sn**	**03 26 12.1**	**+1.5**
AZU	**Azuero**	**3.03**	**275**	*e*P	**Pn**	**03 25 38.1**	**+1.7**
AZU				*e*S	**Sn**	**03 26 10.2**	**-1.6**
AZU	**Azuero**	**3.03**	**275**	P	**Pn**	**03 25 38.4**	**+2.0**
AZU				S	**Sn**	**03 26 12.6**	**+0.8**
BCIP	**Isla Barro Col**	**3.04**	**302**	*e*P	**Pn**	**03 25 37.8**	**+1.2**
BCIP				*e*S	**Sn**	**03 26 11.9**	**-0.2**
BCIP	**Isla Barro Col**	**3.04**	**302**	P	**Pn**	**03 25 38.0**	**+1.3**
SJCC	**San Jacinto, C**	**3.10**	**41**	P	**Pn**	**03 25 36.8**	**-0.6**
SJCC				S	**Sn**	**03 26 10.8**	**-2.7**
CHIT3	**Chitre**	**3.19**	**278**	*e*P	**Pn**	**03 25 39.5**	**+0.9**
CHIT3				*e*S	**Sn**	**03 26 14.3**	**-1.4**
CACAO	**El Cacao, Vera**	**3.61**	**267**	*e*P	**Pn**	**03 25 44.5**	**+0.1**
CACAO				*e*S	**Sn**	**03 26 23.6**	**-2.4**
YOTC	**Yotoco, Valle**	**3.64**	**166**	P	**Pn**	**03 25 44.0**	**-1.0**
ARGC	**Ariguani, Magd**	**3.74**	**52**	P	**Pn**	**03 25 49.1**	**+2.8**
ARGC				S	**Sn**	**03 26 30.1**	**+0.7**
OCAC	**Ocana**	**3.94**	**80**	P	**Pn**	**03 25 50.4**	**+1.3**
OCAC				S	**Sn**	**03 26 34.6**	**+0.2**
ROSC	**El Rosal**	**3.94**	**133**	P	Pb	03 25 55.0	-4.5
GMAL	**Guarumal, Vera**	**3.98**	**273**	*e*P	**Pn**	**03 25 50.8**	**+1.3**
GMAL				*e*S	**Sn**	**03 26 33.4**	**-1.7**
ORTC	**Ortega, Tolima**	**4.11**	**151**	P	**Pn**	**03 25 54.3**	**+2.9**
BARC	**Barichara**	**4.12**	**103**	P	**Pn**	**03 25 53.1**	**+1.3**
JAMC	**Jamundi, Valle**	**4.33**	**173**	P	**Pn**	**03 25 55.1**	**+0.5**
RUSC	**La Rusia**	**4.43**	**111**	P	**Pn**	**03 25 57.9**	**+1.7**
LL6C	**La Loma 6 Bece**	**4.48**	**61**	P	**Pn**	**03 25 57.4**	**+1.0**
PAMC	**Pamplona, Colo**	**4.50**	**92**	P	**Pn**	**03 25 58.3**	**+1.2**
POPC	**Popayan, Colom**	**5.00**	**174**	P	**Pn**	**03 26 06.6**	**+2.8**
	3.4nm,0.8s							
CRJC	**Cerrejon, Guaj**	**5.51**	**51**	P	**Pn**	**03 26 10.0**	**-0.7**
	17nm,0.7s							
FLOC	**Florencia**	**6.12**	**165**	P	**Pn**	**03 26 22.4**	**+3.3**

CATAC ***12*** *03:32:23.3±0.5, 9°67N×83°43W, h14km±3km, ML2.5*
UPA ***12*** *03:32:25.4±1.8, 9°74N×83°31W, h21km±778km, ML3.6*
ISC 12 03:32:23.4±1.1, 9°69N±0°04×83°42W±0°05, h27km±12km, n16, σ0§74/22, 1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDM	**Cerro de Muert**	**0.37**	**249**	*i* P	**Pb**	**03 32 31.6**	**-0.3**
CDM				IAML		03 32 38.2	
	comp=Z,310nm,1.0s						
PEZE	**Perez Zeledon,**	**0.40**	**220**	*i* P	**Pb**	**03 32 32.0**	**-0.1**
PEZE				*i* S	**Sb**	**03 32 37.7**	**-0.3**
PEZE				IAML		03 32 38.1	
	comp=Z,730nm,1.0s						
BATAN	**Batan**	**0.41**	**6**	⇓*i* P	**Pn**	**03 32 32.9**	**-0.7**
BATAN				AMP		03 32 32.9	
	comp=Z,5μm,0.1s						
BATAN	**Batan**	**0.41**	**6**	*i* P	**Pn**	**03 32 32.8**	**-0.7**
BATAN				IAML		03 32 33.0	
	comp=Z,720nm,1.0s						
BATAN				*i* S	**Sn**	**03 32 39.7**	**-0.6**
VTCV	**VTCV, Calle Va**	**0.42**	**314**	*i* P	**Pb**	**03 32 33.1**	**+0.5**
VTCV				*i* S	**Sb**	**03 32 40.0**	**+1.2**
VTCV				IAML		03 32 40.6	
	comp=Z,1μm,1.0s						
OCM	**Ochomogo**	**0.57**	**291**	*i* P	**Pb**	**03 32 35.4**	**+0.4**
OCM				*i* S	**Sb**	**03 32 42.9**	**-0.1**
OCM				IAML		03 32 44.2	
	comp=Z,200nm,1.0s						
OCHAL	**Ojochal**	**0.63**	**201**	*i* P	**Pb**	**03 32 36.3**	**+0.4**
OCHAL				IAML		03 32 49.0	
	comp=Z,5.9nm,1.0s						
PLAN	**Los Planes de**	**1.04**	**194**	*i* P	**Pn**	**03 32 41.8**	**-0.5**
PLAN				IAML		03 33 05.1	
	comp=Z,140nm,1.0s						
CPMI	**Catarata Coope**	**1.12**	**302**	*i* P	**Pb**	**03 32 44.8**	**+0.6**
CPMI				IAML		03 33 03.4	
	comp=Z,45nm,1.0s						
BRU2	**Volcan**	**1.14**	**141**	*e*P	**Pb**	**03 32 45.0**	**+0.4**
BRU2				*e*S	**Sn**	**03 32 60.0**	**+1.2**
BC3P	**Paso Ancho**	**1.18**	**137**	*e*P	**Pb**	**03 32 45.4**	**+0.1**
JACO	**JACO, Garabito**	**1.22**	**269**	*i* P	**Pb**	**03 32 46.6**	**+0.7**
JACO				IAML		03 33 08.0	
	comp=Z,41nm,1.0s						
CDITO	**Canoas**	**1.23**	**154**	*e*P	**Pb**	**03 32 46.8**	**+0.8**
BCO2	**Palmira**	**1.30**	**138**	*e*P	**Pb**	**03 32 48.6**	**+1.2**
BCO2				*e*S	**Sb**	**03 33 02.8**	**-1.0**
COVE	**Coope Vega, Sa**	**1.41**	**317**	*i* P	**Pn**	**03 32 46.9**	**-0.5**
COVE				IAML		03 33 09.4	
	comp=Z,120nm,1.0s						
CHGR2	**Aguacate**	**1.46**	**121**	*e*P	**Pb**	**03 32 50.2**	**+0.2**

IDC ***12*** *04:02:47.7±2.2, 15°80S×71°74W, h141km±28km, mb3.2/3, mbtmp3.7/6, Error ellipse: s-maj=39.3km s-min=19.2km az=46.0*
ISC 12 04:02:48.0±1.0, 15°91S±0°10×71°88W±0°10, h150km, n7, σ1§54/9, mb3.4/3, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.62**	**97**	P	**Pn**	**04 03 45.1**	**+1.2**
	2.4nm,0.3s,baz=301,slow=8.1,SNR=19						
LPAZ				S	**Sn**	**04 04 28.7**	**+1.6**
	2.6nm,0.7s,baz=326,slow=3.6,SNR=4.2						
NNA	**Nana**	**6.20**	**308**	P	**Pn**	**04 04 17.8**	**+0.4**
	4.1nm,0.3s,baz=129,slow=14,SNR=4.3						
NNA				S	Sn	04 05 17.1	-10
	12nm,0.4s,baz=201,slow=17,SNR=6.2						
LVC	**Limon Verde**	**7.23**	**158**	P	**Pn**	**04 04 32.8**	**+1.4**
	2.4nm,0.3s,baz=345,slow=11,SNR=17						
LVC				S	**Sn**	**04 05 53.1**	**+0.4**
	3.6nm,0.3s,baz=287,slow=19,SNR=12						
SIV	**San Ignacio**	**10.39**	**92**	P	**Pn**	**04 05 10.5**	**-2.8**
	0.7nm,0.4s,baz=270,slow=16,SNR=5.6						
BDFB	**Brasilia**	**22.96**	**93**	P	**P**	**04 07 39.8**	**+0.1**
	1.4nm,0.5s,baz=263,slow=11,SNR=7.8						
	1.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**78.26**	**73**	P	**P**	**04 14 31.7**	**-0.1**
	0.3nm,0.4s,baz=242,slow=5.3,SNR=5.1						
	0.3nm,0.4s						
YKA	**Yellowknife Ar**	**85.01**	**342**	P	**P**	**04 15 06.2**	**0.0**
	0.3nm,0.8s,baz=142,slow=6.3,SNR=2.9						
	0.3nm,0.8s						

MDD ***12*** *04:04:55.7±1.1, 37°37N×16°11W, h38km±53km, Mb4.2/3, M_mb3.6/3, Error ellipse: s-maj=21.9km s-min=18.9km az=16.0*
INMG ***12*** *04:04:57.2±2.0, 37°38N×16°30W, h17km, ML2.9, Error ellipse: s-maj=11.6km s-min=4.6km az=126.0*
CNRM ***12*** *04:04:59.2, 37°36N×15°63W, h36km*
ISC 12 04:04:50.7±2.4, 37°39N±0°07×16°0W±0°1, h10km, n55, σ3§19/77, 3C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPST	**Porto Santo, M**	**4.31**	**184**	*e*S	**Sn**	**04 06 40.9**	**-5.8**
PMOZ	**Porto Moniz, M**	**4.66**	**192**	*e*S	**Sn**	**04 06 48.4**	**-7.0**
PMAR	**Madeira**	**4.71**	**189**	*e*S	**Sn**	**04 06 48.2**	**-8.7**
PMAR				A	A	04 06 50.2	
	31nm,0.2s						
PMAFR	**Mafra**	**5.53**	**72**	*e*P	**Pn**	**04 06 16.5**	**+3.4**
PMAFR				*e*S	**Sn**	**04 07 15.6**	**-1.2**
PMAFR				A	A	04 07 17.7	
	22nm,0.2s						
PMAFR	**Mafra**	**5.53**	**72**	Pn	**Pn**	**04 06 15.6**	**+2.4**
PMAFR				Sn	**Sn**	**04 07 14.4**	**-2.4**
PFVI	**Vila Bisbo**	**5.74**	**90**	*e*P	**Pn**	**04 06 20.1**	**+4.1**
PFVI				*e*S	**Sn**	**04 07 21.0**	**-1.0**
PTEO	**Sao Teotonio**	**5.80**	**86**	*e*S	**Sn**	**04 07 21.4**	**-2.1**
PTEO				A	A	04 07 25.6	
	14nm,0.5s						
MORF	**Marmelete**	**5.87**	**89**	*e*P	**Pn**	**04 06 21.2**	**+3.4**
MORF				*e*S	**Sn**	**04 07 24.8**	**-0.4**
MORF				A	A	04 07 33.7	
	6.1nm,0.2s						
PNCL	**Nicolau / Gran**	**5.98**	**81**	*e*S	**Sn**	**04 07 26.7**	**-1.1**
PNCL				A	A	04 07 30.2	
	11nm,0.7s						
PNCL	**Nicolau / Gran**	**5.98**	**81**	Pn	**Pn**	**04 06 21.6**	**+2.3**
PNCL				Sn	**Sn**	**04 07 25.7**	**-2.1**
MESJ	**Messejana**	**6.21**	**83**	*e*P	**Pn**	**04 06 26.3**	**+3.9**
MESJ				*e*S	**Sn**	**04 07 32.1**	**-1.3**
MESJ				A	A	04 07 37.5	
	6.1nm,0.5s						
PCVE	**Castro Verde**	**6.35**	**85**	*e*P	**Pn**	**04 06 28.1**	**+3.8**
PCVE				*e*S	**Sn**	**04 07 35.3**	**-1.6**
PCVE				A	A	04 07 45.1	
	4.6nm,0.4s						
PCVE	**Castro Verde**	**6.35**	**85**	Pn	**Pn**	**04 06 27.8**	**+3.5**
PCVE				Sn	**Sn**	**04 07 35.0**	**-1.9**
PMTG	**Montargil**	**6.36**	**72**	*e*P	**Pn**	**04 06 27.7**	**+3.2**
PMTG				*e*S	**Sn**	**04 07 35.3**	**-1.9**
PMTG				A	A	04 07 41.3	
	3.9nm,0.7s						
EVO	**Evora**	**6.43**	**77**	*e*S	**Sn**	**04 07 37.3**	**-1.5**
EVO				A	A	04 07 40.7	
	5.3nm,0.1s						
EVO	**Evora**	**6.43**	**77**	Pn	**Pn**	**04 06 27.6**	**+2.2**
EVO				Sn	**Sn**	**04 07 36.2**	**-2.7**
PBDV	**Barranco-do-Ve**	**6.45**	**89**	*e*S	**Sn**	**04 07 39.0**	**-0.4**
PBDV				A	A	04 07 42.9	
	9.0nm,0.7s						
PBDV	**Barranco-do-Ve**	**6.45**	**89**	Sn	**Sn**	**04 07 37.8**	**-1.6**
PCAS	**Casmilo, Conde**	**6.45**	**63**	*e*P	**Pn**	**04 06 30.4**	**+4.6**
PCAS				*e*S	**Sn**	**04 07 36.4**	**-3.1**
PCAS				A	A	04 07 38.8	
	4.9nm,0.7s						
PBEJ	**Beja**	**6.50**	**82**	*e*S	**Sn**	**04 07 39.3**	**-1.2**
PBEJ				A	A	04 07 43.5	
	5.1nm,0.7s						
COI	**Coimbra**	**6.57**	**62**	*e*S	**Sn**	**04 07 39.1**	**-3.3**
PVAQ	**Vaqueiros**	**6.61**	**87**	*e*P	**Pn**	**04 06 31.3**	**+3.4**
PVAQ				*e*S	**Sn**	**04 07 41.8**	**-1.5**
PVAQ				A	A	04 07 49.0	
	6.8nm,0.5s						
PVAQ	**Vaqueiros**	**6.61**	**87**	Pn	**Pn**	**04 06 30.7**	**+2.8**
PVAQ				Sn	**Sn**	**04 07 42.4**	**-0.9**
PVAQ	**Vaqueiros**	**6.61**	**87**	P	**Pn**	**04 06 29.1**	**+1.1**
PVAQ	**Vaqueiros**	**6.61**	**87**	S	**Sn**	**04 07 40.5**	**-2.8**
EGRO	**El Granado**	**6.79**	**86**	Sn	**Sn**	**04 07 45.6**	**-2.2**
EGRO	**El Granado**	**6.79**	**86**	P	**Pn**	**04 06 33.9**	**+3.5**
EGRO				⇑*i*Vmb_V		04 06 34.8	
	67nm,SNR=0.8						
EGRO				S	**Sn**	**04 07 44.9**	**-2.9**
PESTR	**Estremoz**	**6.81**	**75**	*e*P	**Pn**	**04 06 34.6**	**+4.0**
PESTR				*e*S	**Sn**	**04 07 45.6**	**-2.6**
PESTR				A	A	04 07 56.1	
	3.3nm,0.8s						
PESTR	**Estremoz**	**6.81**	**75**	Sn	**Sn**	**04 07 44.9**	**-3.2**
PESTR	**Estremoz**	**6.81**	**75**	P	**Pn**	**04 06 32.0**	**+1.4**
PESTR	**Estremoz**	**6.81**	**75**	S	**Sn**	**04 07 46.4**	**-1.8**
PMRV	**Marv??o**	**7.07**	**71**	*e*P	**Pn**	**04 06 37.6**	**+3.3**
PMRV				*e*S	**Sn**	**04 07 51.5**	**-3.3**
PMRV				A	A	04 07 54.0	
	3.4nm,0.2s						
PCBR	**Castelo Branco**	**7.12**	**67**	*e*S	**Sn**	**04 07 52.8**	**-3.1**
PVIS	**Viseu**	**7.14**	**60**	*e*S	**Sn**	**04 07 51.8**	**-4.7**
PBAR	**Barrancos**	**7.16**	**81**	*e*P	**Pn**	**04 06 38.6**	**+3.2**
PBAR				*e*S	**Sn**	**04 07 54.6**	**-2.1**
PBAR				A	A	04 08 01.5	
	3.0nm,0.5s						
PBAR	**Barrancos**	**7.16**	**81**	Pn	**Pn**	**04 06 38.6**	**+3.2**
EBAD	**Badajoz**	**7.23**	**76**	Pn	**Pn**	**04 06 39.2**	**+2.7**
EBAD				Sn	**Sn**	**04 07 55.2**	**-3.4**
EBAD	**Badajoz**	**7.23**	**76**	P	**Pn**	**04 06 39.2**	**+2.7**
EBAD				⇑*i*Vmb_V		04 06 42.0	
	173nm,SNR=1.0						
EBAD				S	**Sn**	**04 07 54.9**	**-3.7**
PVRL	**Vila Real**	**7.51**	**56**	*e*S	**Sn**	**04 08 01.4**	**-4.2**
PGAV	**Gavieira, Arco**	**7.52**	**50**	*e*P	**Pn**	**04 06 42.0**	**+1.5**
PGAV				*e*S	**Sn**	**04 08 02.0**	**-3.9**
PCAB	**Cabril**	**7.53**	**53**	*e*S	**Sn**	**04 08 01.8**	**-4.2**
MVO	**Moncorvo**	**7.92**	**59**	*e*S	**Sn**	**04 08 11.5**	**-4.3**
MVO				A	A	04 08 21.7	
	4.2nm,0.9s						
ECAB	**El Cabril**	**8.43**	**82**	P	**Pn**	**04 06 56.3**	**+3.4**
ECAB				⇑*i*Vmb_V		04 07 00.6	
	49nm,SNR=1.2						
ECAB				S	**Sn**	**04 08 23.3**	**-4.8**
TTIG	**Tnine Tigouga,**	**9.28**	**135**	P	**Pn**	**04 07 05.1**	**+0.4**
TTIG	**Tnine Tigouga,**	**9.28**	**135**	S	**Sn**	**04 08 47.3**	**-2.0**
IFR	**Ifrane**	**9.69**	**110**	Pn	**Pn**	**04 07 14.4**	**+4.0**
TIO	**Tiouine**	**9.70**	**129**	Sn	**Sn**	**04 08 58.5**	**-1.1**
TIO				Pn	**Pn**	**04 07 14.7**	**+4.2**
TIO	**Tiouine**	**9.70**	**129**	P	**Pn**	**04 07 13.6**	**+3.1**
TIO	**Tiouine**	**9.70**	**129**	S	**Sn**	**04 08 59.6**	**-0.1**
OUZM	**OUZ**	**10.03**	**127**	P	**Pn**	**04 07 17.5**	**+2.6**
OUZM	**OUZ**	**10.03**	**127**	S	**Sn**	**04 09 07.1**	**-0.5**
MD31	**MD31**	**10.26**	**113**	P	**Pn**	**04 07 19.9**	**+1.7**
MD31	**MD31**	**10.26**	**113**	S	**Sn**	**04 09 10.4**	**-2.9**
MDT	**Midelt**	**10.40**	**113**	P	**Pn**	**04 07 21.7**	**+1.7**
MDT	**Midelt**	**10.40**	**113**	S	**Sn**	**04 09 12.7**	**-4.1**

AZER ***12*** *04:35:09.4, 41°98N×46°55E, h43km, ml2.6*
TIF ***12*** *04:35:10.8, 41°89N×46°78E, h48km±1km*
DRS ***12*** *04:35:10.4, 41°57N×46°45E, h24km*
ISC 12 04:35:11.3±1.1, 41°90N±0°02×46°65E±0°02, h15km±9km, n36, σ1§47/68, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKTA	**Zakatala**	**0.26**	**185**	P	**Pb**	**04 35 19.9**	**+2.1**
ZKTA				S	**Sn**	**04 35 27.4**	**+1.0**
LGD	**Lagodekhi**	**0.31**	**258**	P	**Pn**	**04 35 21.3**	**0.0**
LGD				S	**Sn**	**04 35 29.6**	**+1.9**
KMKR	**Kumukh**	**0.41**	**55**	*i* Pg	**Pn**	**04 35 21.9**	**-1.0**
	247nm,0.2s						
KMKR				*e*Sg	**Sn**	**04 35 30.1**	**-0.2**
	14nm,0.8s						
GNBR	**Gunib**	**0.54**	**25**	*e*Pg	**Pn**	**04 35 24.1**	**-0.5**
	41nm,0.5s						
GNBR				*e*Sg	**Sn**	**04 35 34.3**	**+0.8**
	284nm,0.5s						
XNZR	**Khunzakh**	**0.64**	**4**	*e*Pg	**Pn**	**04 35 26.1**	**0.0**
	45nm,0.4s						
XNZR				*e*Sg	**Sn**	**04 35 37.5**	**+1.4**
	128nm,0.4s						
VSHL	**Vashlovani**	**0.69**	**196**	P	**Pb**	**04 35 26.3**	**+1.1**
VSHL				S	**Sb**	**04 35 36.8**	**+2.3**
ARKR	**Arakani**	**0.75**	**20**	*e*Pg	**Pn**	**04 35 27.1**	**-0.3**
	41nm,0.3s						
ARKR				*e*Sg	**Sn**	**04 35 39.5**	**+0.9**
	241nm,0.4s						
URKR	**Urkarakh**	**0.78**	**70**	*e*Pg	**Pb**	**04 35 26.4**	**-0.2**
	41nm,0.3s						
URKR				*e*Sg	**Sg**	**04 35 38.6**	**+1.8**
	127nm,0.3s						
SEKA	**Sheki**	**0.80**	**149**	P	**Pb**	**04 35 25.7**	**-1.2**
SEKA				S	**Sb**	**04 35 37.3**	**-0.4**
UNCR	**Uncukul**	**0.82**	**7**	*e*Pg	**Pn**	**04 35 28.2**	**-0.2**
	43nm,0.2s						
UNCR				*e*Sg	**Sn**	**04 35 41.1**	**+0.8**
	143nm,0.4s						
AKT	**Akhty**	**0.91**	**117**	*e*Pg	**Pb**	**04 35 26.2**	**-2.6**
	50nm,0.2s						
AKT				*e*Sg	**Sb**	**04 35 37.7**	**-3.1**
	76nm,0.7s						
SGKR	**Sergokala**	**0.94**	**53**	*e*Pg	**Pb**	**04 35 29.5**	**+0.2**
	46nm,0.9s						
SGKR				*e*Sg	**Sn**	**04 35 43.3**	**+0.2**
	46nm,0.4s						
KRNR	**Karanay**	**0.95**	**11**	*e*Pg	**Pn**	**04 35 29.9**	**-0.2**
	9.0nm,0.3s						
KRNR				*e*Sg	**Sn**	**04 35 44.5**	**+1.0**
	189nm,0.3s						
BUJR	**Buynaksk**	**0.98**	**20**	*e*Pg	**Pg**	**04 35 29.9**	**-0.4**
	68nm,0.4s						
BUJR				*e*Sg	**Sn**	**04 35 44.6**	**+0.3**
	27nm,0.5s						
DGRG	**David-gareji**	**1.06**	**245**	P	**Pn**	**04 35 31.8**	**+0.2**
DGRG				S	**Sg**	**04 35 48.8**	**+3.3**
DBC	**Dubki**	**1.13**	**7**	*e*Pg	**Pg**	**04 35 32.7**	**-0.4**
	14nm,0.8s						
DBC				*e*Sg	**Sg**	**04 35 48.7**	**+0.9**
	118nm,0.2s						
MNGR	**Mingechevir, A**	**1.17**	**164**	P	**Pn**	**04 35 32.4**	**-0.7**
MNGR				S	**Sn**	**04 35 49.6**	**+0.8**
DRN	**Derbent**	**1.26**	**83**	*e*Pg	**Pn**	**04 35 32.5**	**-1.8**
	82nm,0.1s						
DRN				*e*Sg	**Sn**	**04 35 48.8**	**-2.2**
	118nm,0.2s						
QSAR	**Qusar**	**1.27**	**107**	P	**Pn**	**04 35 33.8**	**-0.7**
QSAR				S	**Sn**	**04 35 51.0**	**-0.3**
GANJ	**Ganja**	**1.28**	**191**	P	**Pn**	**04 35 32.2**	**-2.5**
GANJ				S	**Sn**	**04 35 48.7**	**-2.8**
QZX	**Qazax, Azerbai**	**1.28**	**229**	P	**Pn**	**04 35 33.2**	**-1.5**
QZX				S	**Sb**	**04 35 51.8**	**+0.5**
QBL	**Gabala**	**1.30**	**136**	P	**Pn**	**04 35 34.9**	**-0.2**
QBL				S	**Sb**	**04 35 55.3**	**+3.2**
XNQ	**Khinaliq**	**1.33**	**123**	P	**Pn**	**04 35 34.4**	**-1.2**
XNQ				S	**Sn**	**04 35 52.6**	**-0.6**
SHTL	**Shatili**	**1.34**	**305**	P	**Pg**	**04 35 36.6**	**-0.6**
CHRG	**Chargali**	**1.35**	**289**	P	**Pg**	**04 35 36.2**	**-1.1**
CHRG				S	**Sg**	**04 35 54.4**	**-0.6**
GDB	**GEDABAY**	**1.36**	**210**	P	**Pn**	**04 35 33.4**	**-2.5**
GDB				S	**Sn**	**04 35 52.7**	**-1.0**
SEAG	**Tbilisi Sea**	**1.39**	**265**	P	**Pb**	**04 35 36.5**	**-0.4**
SEAG				S	**Sg**	**04 35 54.6**	**-1.4**
QUBA	**Quba, Azerbaij**	**1.48**	**111**	P	**Pn**	**04 35 37.5**	**0.0**
QUBA				S	**Sn**	**04 35 58.9**	**+2.3**
IML	**Ismayilli**	**1.60**	**133**	P	**Pn**	**04 35 38.5**	**-0.5**
IML				S	**Sn**	**04 36 01.2**	**+1.7**
BRDA	**Brd**	**1.68**	**166**	S	**Sb**	**04 36 05.0**	**+2.1**
MTEO	**Meteo**	**1.75**	**297**	P	**Pg**	**04 35 44.3**	**-0.7**
AGDM	**Agdam**	**1.82**	**169**	P	**Pn**	**04 35 42.3**	**+0.2**
AGDM				S	**Sn**	**04 36 05.7**	**+0.8**
PQL	**Pirkuli**	**1.83**	**127**	P	**Pn**	**04 35 41.5**	**-0.9**
PQL				S	**Sn**	**04 36 08.8**	**+3.4**
SIZA	**Siyzn**	**1.88**	**115**	S	**Sn**	**04 36 08.0**	**+1.5**
DMNI	**Dmanisi**	**1.93**	**254**	P	**Pn**	**04 35 42.1**	**-1.6**
DMNI				S	**Sn**	**04 36 06.6**	**-1.2**
TRLG	**Trialeti**	**1.94**	**260**	P	**Pn**	**04 35 43.0**	**-1.0**
TRLG				S	**Sn**	**04 36 07.5**	**-0.7**

comp=Z,11nm,1.1s
WB0 Warramunga Arr 41.03 63 P **P** **04 43 44.3 -1.1**
WB0 IAmb IAmb 04 43 49.0
comp=Z,7.9nm,0.8s
BATI Baumata 43.04 42 LR LR 05 00 47.6
comp=Z,448nm,19.0s,baz=201,slow=35
H08S2 Diego Garcia H 43.67 325 T T 05 30 47.2
baz=156,slow=76,SNR=91
H08S1 Diego Garcia H 43.67 325 T T 05 30 45.3
baz=156,slow=76,SNR=79
H08S3 Diego Garcia H 43.69 325 T T 05 30 48.6
baz=156,slow=76,SNR=90
QSPA South Pole Qui 43.70 180 P **P** **04 44 05.2 -1.6**
QSPA IAmb IAmb 04 44 32.1
comp=Z,2.5nm,1.1s
QSPA South Pole Qui 43.70 180 P **P** **04 44 08.5 +1.7**
comp=Z,1.8nm,0.9s,baz=327,slow=4.4,SNR=3.5
QSPA LR LR 05 01 13.8
comp=Z,838nm,19.0s,baz=311,slow=34
comp=Z,1.8nm,0.9s
CTA Charters Tower 48.44 75 LR LR 05 03 42.9
comp=Z,615nm,19.4s,baz=270,slow=34
OPO Ambohidratompo 48.74 288 LR LR 05 00 11.7
comp=Z,128nm,20.0s,baz=355,slow=30
BELA Belgrano 2 52.37 192 P **P** **04 45 12.1 -1.3**
BELA IAmb IAmb 04 45 22.0
comp=Z,8.9nm,1.5s
PALK Pallekele 55.22 341 LR LR 05 04 01.4
comp=Z,220nm,21.2s,baz=270,slow=30
PMG Port Moresby 56.87 66 LR LR 05 08 22.3
comp=Z,560nm,20.2s,baz=198,slow=34
BOSA Boshof 57.10 262 P **P** **04 45 49.6 +1.1**
comp=Z,2.6nm,0.8s,baz=130,slow=5.7,SNR=3.3
BOSA LR LR 05 04 47.5
comp=Z,506nm,20.3s,baz=162,slow=30
comp=Z,2.6nm,0.8s
SUR Sutherland 57.78 255 LR LR 05 06 05.3
comp=Z,280nm,18.4s,baz=142,slow=31
URZ Urewera 57.93 113 LR LR 05 06 22.8
comp=Z,245nm,21.6s,baz=301,slow=32
LBTB Lobatse 59.16 265 LR LR 05 06 28.8
comp=Z,367nm,19.4s,baz=139,slow=31
DAV Davao City (W) 59.37 35 LR LR 05 08 37.1
comp=Z,32nm,21.9s,baz=172,slow=33
DZM Mont Dzumac 60.92 92 LR LR 05 08 37.9
comp=Z,219nm,19.4s,baz=218,slow=32
LSZ Lusaka 63.92 275 P **P** **04 46 33.8 -1.4**
LSZ Lusaka 63.92 275 LR LR 05 09 29.8
comp=Z,333nm,20.1s,baz=146,slow=31
CM31 Chiang Mai Arr 64.64 3 P **P** **04 46 40.0 +0.5**
CM31 IAmb IAmb 04 46 49.4
comp=Z,7.6nm,1.1s
CMAR Chiang Mai Arr 64.64 3 P **P** **04 46 39.2 -0.3**
CMAR Chiang Mai Arr 64.64 3 P **P** **04 46 39.8 +0.3**
comp=Z,0.6nm,0.3s,baz=198,slow=5.7,SNR=7.3
CMAR LR LR 05 10 22.2
comp=Z,266nm,21.2s,baz=195,slow=32
comp=Z,0.6nm,0.3s
PHRA Phrae 64.74 4 P **P** **04 46 40.4 +0.3**
CHTO Chiang Mai 64.99 3 P **P** **04 46 42.4 +0.6**
CHTO IAmb IAmb 04 46 47.4
comp=Z,2.6nm,0.8s
CRAI Chiangrai 66.46 4 P **P** **04 46 51.1 -0.1**
CRAI IAmb IAmb 04 46 54.0
comp=Z,6.6nm,1.1s
PMSA Palmer Station 68.05 189 LR LR 05 17 48.1
comp=Z,243nm,18.3s,baz=154,slow=37
TSUM Tsumeb 68.54 264 LR LR 05 11 13.8
comp=Z,355nm,22.0s,baz=149,slow=31
MBAR Mbarara 72.82 288 LR LR 05 15 22.8
comp=Z,220nm,20.0s,baz=122,slow=32
WSAR Wadi Sarin 77.22 325 LR LR 05 17 05.7
comp=Z,152nm,18.0s,baz=172,slow=32
RAR Rarotonga 84.10 115 LR LR 05 22 49.0
comp=Z,58nm,18.7s,baz=183,slow=33
KBL Kabul 84.23 338 P **P** **04 48 34.1 +0.8**
JNU Nakatsue 85.18 29 LR LR 05 23 26.4
comp=Z,22nm,20.4s,baz=193,slow=34
KSRS Korea Array 88.26 25 LR LR 05 27 55.8
comp=Z,31nm,20.5s,baz=170,slow=35
JHJ Hachijo jima 2 88.44 35 LR LR 05 30 13.2
comp=Z,37nm,19.1s,baz=110,slow=37
GEYT Alibeck 90.65 331 LR LR 05 24 15.0
comp=Z,118nm,21.1s,baz=162,slow=32
AAK Ala-Archa 90.76 344 LR LR 05 26 20.7
comp=Z,102nm,20.1s,baz=176,slow=33
PLCA Paso Flores 92.40 190 LR LR 05 31 15.7
comp=Z,131nm,18.2s,baz=170,slow=36
PPT Papeete 93.13 119 LR LR 05 23 41.4
comp=Z,61nm,19.4s,baz=232,slow=31
MKAR Makanchi Array 93.64 351 LR LR 05 29 26.9
comp=Z,126nm,19.4s,baz=166,slow=34
EIL Elat 93.77 310 LR LR 05 24 53.4
comp=Z,160nm,20.4s,baz=66,slow=31
SONM Songino Array 94.32 7 LR LR 05 29 48.4
comp=Z,79nm,21.8s,baz=182,slow=34
MMAI Mount Meron Ar 96.18 312 LR LR 05 27 20.2
comp=Z,100nm,19.5s,baz=140,slow=32
GNI Garni 97.66 323 LR LR 05 30 15.3
comp=Z,70nm,19.0s,baz=168,slow=33
KURBB Kurchatov Array 97.87 349 LR LR 05 31 46.7
comp=Z,80nm,19.5s,baz=169,slow=34
ILAR Eielson Array 141.31 38 PKP **PKiKP** **04 55 33.3 -2.1**
comp=Z,0.2nm,0.6s,baz=299,slow=3.0,SNR=1.8
NVAR Mina Array Bea 153.51 95 PKPbc **PKiKP** **04 56 02.4 +2.0**
comp=Z,0.6nm,0.8s,baz=193,slow=3.6,SNR=3.9
YKA Yellowknife Ar 156.31 36 PKPbc PKPdf 04 56 07.7 +12
comp=Z,0.4nm,0.8s,baz=309,slow=2.7,SNR=6.0

TEH ***12*** *04:37:28.2,28˚.14N×56˚.93E,h12km±21km,ML3.5*
OMAN ***12*** *04:37:32.1±0.1,27˚.96N×56˚.89E,h10km,mb4.7/5, ml3.3/17,ms2.9/1,Error ellipse: s-maj=2.5km s-min=1.7km az=10.0*
IDC ***12*** *04:37:33.4±3.7,27˚.98N×56˚.76E,h53km±43km,mb3.5/12, mbtmp3.8/13,ML3.9/1,Error ellipse: s-maj=22.6km s-min=20.8km az=172.0*
ISC 12 04:37:31.1±0.6,28˚.13N±0˚.03×56˚.92E±0˚.04,h24km,n56, σ1ᵗ49/78,mb3.7/12,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNJ	**Kahnooj**	**0.72**	**105**	Pg	**Pb**	**04 37 43.3**	**-1.7**
IBND	**Bandar-abas**	**0.76**	**206**	Pg	**Pb**	**04 37 44.6**	**-1.1**
GENO	**Geno**	**0.98**	**222**	Pg	**Pb**	**04 37 48.5**	**-1.1**
GENO				Sg	**Sb**	**04 38 03.0**	**+0.7**
NGRK	**Negar Kerman**	**1.52**	**354**	Pg	**Pn**	**04 37 57.9**	**+0.8**
KBAM	**BAM**	**1.68**	**53**	Pg	**Pn**	**04 38 00.0**	**+0.9**
CHMN	**Cheshme madani**	**1.81**	**17**	Pg	**Pn**	**04 38 03.0**	**+1.9**
TVBK	**TV Kerman**	**1.85**	**356**	Pn	**Pn**	**04 38 02.9**	**+1.1**
SHME	**Shamm**	**2.19**	**199**	P	**Pn**	**04 38 07.6**	**+1.6**
SHME				S	**Sn**	**04 38 34.5**	**+2.2**
BANOM	**Banah**	**2.27**	**194**	P	**Pn**	**04 38 08.5**	**+1.3**
KHGB	**Koh Gabri**	**2.27**	**350**	Pn	**Pn**	**04 38 09.0**	**+1.7**
KRM1	**Kerman Provinc**	**2.38**	**7**	Pn	**Pn**	**04 38 10.3**	**+1.4**
JASK	**Jask - Hormozg**	**2.41**	**159**	Pn	**Pn**	**04 38 10.1**	**+1.0**
JASK	**Jask - Hormozg**	**2.41**	**159**	P	**Pn**	**04 38 10.0**	**+1.0**
JASK				S	**Sn**	**04 38 38.4**	**+0.6**
MASF	**Masafi**	**2.83**	**194**	P	**Pn**	**04 38 15.9**	**+0.9**
MASF				S	**Sn**	**04 38 50.1**	**+1.7**
MDH	**Madha**	**2.88**	**191**	P	**Pn**	**04 38 16.6**	**+1.1**
UOSS	**Minazif**	**3.24**	**192**	P	**Pn**	**04 38 23.5**	**+3.0**
NAZ	**Nazwa, Dubai**	**3.33**	**200**	P	**Pn**	**04 38 23.4**	**+1.7**
NAZ				S	**Sn**	**04 39 02.5**	**+2.0**
HATD	**Hatta, Dubai**	**3.37**	**192**	P	**Pn**	**04 38 24.5**	**+2.3**
ASHO	**Ashiyiah**	**3.52**	**193**	P	**Pn**	**04 38 25.4**	**+1.1**
FAQ	**Al Faqa, Dubai**	**3.58**	**200**	P	**Pn**	**04 38 25.9**	**+0.8**
	SNR=5.7						
FAQ				S	**Sn**	**04 39 07.6**	**+0.9**
IBAF	**Bafgh**	**3.64**	**342**	Pn	**Pn**	**04 38 27.6**	**+1.4**
IMEH	**Mehriz**	**3.82**	**329**	Pn	**Pn**	**04 38 30.6**	**+2.0**
AJN	**Ajban**	**3.96**	**206**	P	**Pn**	**04 38 31.8**	**+1.5**
AJN				S	**Sn**	**04 39 17.7**	**+1.8**
ALNE	**Al Ain**	**4.19**	**195**	P	**Pn**	**04 38 33.8**	**+0.2**
ALNE				S	**Sn**	**04 39 22.9**	**+1.0**
HOQ	**Hoqain**	**4.54**	**175**	P	**Pn**	**04 38 39.2**	**+0.7**
HOQ				S	**Sn**	**04 39 28.3**	**-2.3**
NGCH	**Negor - Chabah**	**4.67**	**125**	S	**Sn**	**04 39 35.8**	**+2.1**
BIDO	**Bidbid**	**4.72**	**166**	P	**Pn**	**04 38 40.0**	**-0.8**
ARQ	**Araqi**	**4.79**	**184**	P	**Pn**	**04 38 43.1**	**+1.3**
	SNR=12						
WSAR	**Wadi Sarin**	**5.11**	**162**	P	**Pn**	**04 38 46.4**	**+0.1**
	4.6nm,0.3s,baz=352,slow=11,SNR=98						
WSAR				S	**Sn**	**04 39 43.5**	**-1.0**
	43nm,0.6s,baz=356,slow=19,SNR=19						
	12nm,0.3s						
WSAR	**Wadi Sarin**	**5.11**	**162**	P	**Pn**	**04 38 46.6**	**+0.4**
	SNR=5.9						
WSAR				S	**Sn**	**04 39 44.1**	**-0.4**
MZWR	**Madinat Zayed**	**5.14**	**213**	P	**Pn**	**04 38 47.4**	**+0.8**
MZWR				S	**Sn**	**04 39 44.6**	**-0.6**
SMDO	**Samad**	**5.15**	**168**	P	**Pn**	**04 38 47.5**	**+0.6**
SMDO				S	**Sn**	**04 39 45.5**	**-0.2**
BSY	**Bisya**	**5.37**	**177**	P	**Pn**	**04 38 52.0**	**+2.2**
BSY				S	**Sn**	**04 39 55.3**	**+4.4**
IRAM	**Ramesheh**	**5.38**	**314**	Pn	**Pn**	**04 38 51.7**	**+1.6**
KLNJ	**Kolanjah**	**5.45**	**303**	Pn	**Pn**	**04 38 52.8**	**+1.5**
UMZA	**Um Al Zommool**	**5.62**	**197**	P	**Pn**	**04 38 53.0**	**-0.3**
UMZA				S	**Sn**	**04 39 55.1**	**-2.1**
WBK	**Wadi Bani Khal**	**5.80**	**161**	Pn	**Pn**	**04 38 56.5**	**+0.7**
WBK	**Wadi Bani Khal**	**5.80**	**161**	P	**Pn**	**04 38 56.4**	**+0.7**
	SNR=13						
WBK				S	**Sn**	**04 40 01.1**	**-0.5**
JMDO	**Jabal Madar**	**5.84**	**169**	P	**Pn**	**04 38 58.2**	**+2.0**
JMDO				S	**Sn**	**04 40 04.1**	**+1.7**
TRNA	**Turayna**	**6.13**	**238**	P	**Pn**	**04 39 00.8**	**+0.5**
TRNA				S	**Sn**	**04 40 06.4**	**-3.2**
	SNR=6.5						
JLN	**Jalan Bani Buh**	**6.37**	**159**	P	**Pn**	**04 39 03.8**	**+0.3**
JLN				S	**Sn**	**04 40 14.7**	**-0.8**
SMRA	**Abu-Samra**	**6.42**	**240**	P	**Pn**	**04 39 04.6**	**+0.4**
SMRA				S	**Sn**	**04 40 14.2**	**-2.6**
	SNR=6.3						
ZNGN	**Zangian**	**6.58**	**309**	Pn	**Pn**	**04 39 07.7**	**+0.9**
MHTO	**MHTO**	**7.18**	**172**	P	**Pn**	**04 39 15.0**	**+0.4**
	SNR=8.4						
MHTO				P	**Pn**	**04 39 15.0**	**+0.4**
	SNR=8.4						
MHTO				S	**Sn**	**04 40 32.5**	**-3.0**
MHTO				S	**Sn**	**04 40 32.5**	**-3.0**
BRTR	**Keskin Array B**	**22.44**	**307**	P	**P**	**04 42 28.6**	**+0.1**
	0.6nm,0.7s,baz=112,slow=11,SNR=6.6						
	0.6nm,0.7s						
BVAR	**Borovoye Array**	**26.80**	**18**	P	**P**	**04 43 09.6**	**+0.4**
	0.9nm,0.5s,baz=212,slow=8.0,SNR=6.3						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**27.24**	**40**	P	**P**	**04 43 14.1**	**+0.8**
	0.4nm,0.8s,baz=225,slow=10.0,SNR=3.8						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**27.80**	**30**	P	**P**	**04 43 18.9**	**+0.7**
	0.4nm,0.7s,baz=230,slow=8.3,SNR=4.2						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**32.89**	**31**	P	**P**	**04 44 03.6**	**+0.4**
	1.0nm,0.4s,baz=260,slow=8.3,SNR=3.2						
	1.0nm,0.4s						
FINES	**FINESS Array B**	**39.13**	**337**	P	**P**	**04 44 55.9**	**-0.6**
	1.1nm,0.4s,baz=134,slow=9.9,SNR=20						
	1.1nm,0.4s						
HFS	**Hagfors**	**43.27**	**330**	P	**P**	**04 45 29.8**	**-0.6**
	1.0nm,0.6s,baz=118,slow=12,SNR=1.6						
	1.0nm,0.6s						
ARCES	**ARCESS Array B**	**45.24**	**345**	P	**P**	**04 45 46.4**	**+0.2**
	7.6nm,1.2s,baz=135,slow=8.2,SNR=2.2						
	7.6nm,1.2s						
EKA	**Eskdalemuir Ar**	**50.46**	**320**	P	**P**	**04 46 25.6**	**-1.1**
	0.2nm,0.3s,baz=98,slow=7.7,SNR=4.4						
	0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**53.37**	**266**	P	P	04 46 46.0	-3.0
	0.3nm,0.4s,baz=61,slow=8.2,SNR=7.5						
	0.3nm,0.4s						
PETK	**Petropavlovsk-**	**74.06**	**38**	P	**P**	**04 49 05.2**	**+0.3**
	1.5nm,0.6s,baz=304,slow=4.0,SNR=5.9						
	1.5nm,0.6s						
YKA	**Yellowknife Ar**	**89.44**	**356**	P	**P**	**04 50 25.7**	**+0.1**
	0.2nm,0.6s,baz=4.8,slow=5.0,SNR=4.6						
	0.2nm,0.6s						

WEL 12 04:58:07.1±0.8,31˚S±9˚×18˚0W±2˚3,h323km±14km, M4.2/16,mB4.7/11,ML5.0/24,MLv4.8/16,Mw(mB)3.9/11, Error ellipse: s-maj=0.0km s-min=0.0km az=108.3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.49**	**40**	P	Pn	04 58 59.0	-0.9
GLKZ				S	S	04 59 41.8	-0.3
WMGZ	**Waiomatatini S**	**6.78**	**193**	P	Pn	04 59 47.5	+1.3
WCZ	**Waipu Caves**	**6.84**	**225**	P	Pn	04 59 48.4	+1.5
HAZ	**Te Kaha**	**6.85**	**197**	P	Pn	04 59 48.2	+1.1
HAZ				S	S	05 01 11.2	+3.2
PKGZ	**Pakihiroa**	**6.91**	**195**	P	Pn	04 59 50.1	+2.3
PUZ	**Puketiti**	**7.05**	**193**	P	Pn	04 59 50.5	+1.0
PUZ				S	S	05 01 12.1	-0.3
RUGZ	**Raukumara Rang**	**7.08**	**197**	P	Pn	04 59 50.3	+0.5
TWGZ	**Tauwhareparae**	**7.21**	**194**	P	Pn	04 59 53.3	+2.0
TWGZ				S	S	05 01 18.2	+2.2
CNGZ	**Carnagh Statio**	**7.46**	**193**	P	Pn	04 59 57.9	+3.6
MWZ	**Matawai**	**7.46**	**197**	P	Pn	04 59 55.7	+1.3
TKGZ	**Te Karaka**	**7.49**	**195**	P	Pn	04 59 55.7	+1.0
TKGZ				S	S	05 01 22.7	+0.7
URZ	**Urewera**	**7.50**	**199**	P	Pn	04 59 55.5	+0.7
RAGZ	**Rawiri**	**7.64**	**197**	P	Pn	04 59 58.4	+1.8
RIGZ	**Rimuhau**	**7.76**	**195**	P	Pn	04 59 58.7	+0.7
RIGZ				S	S	05 01 25.7	-2.5
MUGZ	**Murupara**	**7.81**	**201**	P	Pn	04 59 59.1	+0.6
MUGZ				S	S	05 01 26.6	-2.4
RTZ	**Ruatahuna**	**7.87**	**199**	P	Pn	04 59 59.0	-0.3
HRRZ	**Handcock Road**	**7.88**	**203**	P	Pn	05 00 01.1	+1.6
SNGZ	**Shannon Statio**	**7.94**	**197**	P	Pn	05 00 01.2	+1.1
SNGZ				S	S	05 01 30.8	-1.0
PRRZ	**Plateau Road**	**7.95**	**203**	P	Pn	04 59 59.2	-1.0
ALRZ	**Allen Road**	**8.02**	**203**	P	Pn	05 00 01.8	+0.8
RAHZ	**Arahi**	**8.13**	**198**	P	Pn	05 00 02.5	+0.1
MTHZ	**Maungataniwha**	**8.13**	**199**	P	Pn	05 00 02.7	+0.2
MHGZ	**Mahia Peninsul**	**8.16**	**193**	P	Pn	05 00 04.8	+2.0
NMHZ	**Naumai**	**8.37**	**199**	P	Pn	05 00 05.4	0.0
ARHZ	**Aropaoanui**	**8.48**	**197**	P	Pn	05 00 05.9	-0.7
BKZ	**Black Stump Fm**	**8.53**	**200**	P	Pn	05 00 05.8	-1.4
HIZ	**Hauiti**	**8.54**	**210**	P	P	05 00 09.6	-1.8
MCHZ	**McNeill Hill**	**8.73**	**199**	P	Pn	05 00 08.5	-1.1
KWHZ	**Kaweka Forest**	**8.78**	**200**	P	Pn	05 00 08.5	-1.8
OTVZ	**Oturere**	**8.79**	**204**	P	Pn	05 00 08.5	-2.0
TWVZ	**Taurewa**	**8.79**	**205**	P	Pn	05 00 10.3	-0.2
SNVZ	**South Ngauruho**	**8.82**	**204**	P	Pn	05 00 09.6	-1.3
BHHZ	**Black Hill Sta**	**8.95**	**201**	P	Pn	05 00 09.6	-2.8
KRHZ	**Kereru**	**9.00**	**200**	P	Pn	05 00 10.2	-2.7
KAHZ	**Kahuranaki**	**9.01**	**197**	P	Pn	05 00 12.4	-0.7
PNHZ	**Pukenui**	**9.30**	**200**	P	Pn	05 00 12.9	-3.7

IDC 12 04:59:35.3±2.8,43˚.62N×105˚.51E,h0km,mb3.4/2, mbtmp3.3/3,ML2.8/1,Error ellipse: s-maj=45.3km s-min=28.7km az=118.0,Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I34MN	**SONGINO INFRAS**	**4.23**	**8**	I	I	05 25 00.0	
	0.1nm,0.6s,baz=183,slow=320,SNR=1.2						
SONM	**Songino Array**	**4.26**	**8**	Pn	Pn	05 00 42.2	+0.7
	0.5nm,0.3s,baz=187,slow=11,SNR=12						
SONM				Pg	Pb	05 00 52.9	+1.8
	1.4nm,0.3s,baz=189,slow=16,SNR=18						
SONM				Lg	Lg	05 01 50.5	
	1.6nm,0.3s,baz=191,slow=29,SNR=18						
	1.5nm,0.5s						
BVAR	**Borovoye Array**	**24.95**	**305**	P	P	05 04 59.8	-0.3
	0.8nm,0.5s,baz=93,slow=8.6,SNR=4.4						
	0.8nm,0.5s						
ILAR	**Eielson Array**	**58.20**	**29**	P	P	05 09 30.8	+0.1
	0.2nm,0.6s,baz=311,slow=5.8,SNR=1.8						
	0.2nm,0.6s						

WEL 12 05:01:59.0±0.6,31˚S±7˚×17˚9W±1˚8,h311km±8km, M4.3/28,mB4.9/28,ML5.1/31,MLv5.0/24,Mw(mB)4.2/28, Error ellipse: s-maj=0.0km s-min=0.0km az=109.6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.41**	**23**	P	Pn	05 02 48.5	-1.6
GLKZ				S	S	05 03 29.8	-1.2
WMGZ	**Waiomatatini S**	**6.67**	**198**	P	Pn	05 03 38.4	+2.0
WMGZ				S	S	05 04 57.9	+2.7
HAZ	**Te Kaha**	**6.79**	**202**	P	Pn	05 03 37.0	-0.9
HAZ				S	S	05 04 58.9	+0.9
PKGZ	**Pakihiroa**	**6.83**	**200**	P	Pn	05 03 41.9	+3.5
PKGZ				S	S	05 04 60.0	+1.2
PUZ	**Puketiti**	**6.95**	**198**	P	Pn	05 03 41.3	+1.5
PUZ				S	S	05 05 02.6	+1.2
RUGZ	**Raukumara Rang**	**7.02**	**202**	P	Pn	05 03 42.0	+1.2
RUGZ				S	S	05 05 02.8	-0.4
WCZ	**Waipu Caves**	**7.11**	**230**	P	Pn	05 03 42.2	+0.4
TWGZ	**Tauwhareparae**	**7.12**	**200**	P	Pn	05 03 43.7	+1.8
TWGZ				S	S	05 05 08.0	+2.6
CNGZ	**Carnagh Statio**	**7.35**	**197**	P	Pn	05 03 48.8	+4.3
MWZ	**Matawai**	**7.40**	**202**	P	Pn	05 03 44.2	-1.1
MWZ				S	S	05 05 11.2	-0.3
TKGZ	**Te Karaka**	**7.40**	**200**	P	Pn	05 03 47.3	+2.0
TKGZ				S	S	05 05 12.1	+0.7
URZ	**Urewera**	**7.47**	**204**	P	Pn	05 03 43.6	-2.5
URZ				S	S	05 05 13.0	0.0
RAGZ	**Rawiri**	**7.59**	**202**	P	Pn	05 03 49.6	+2.0
RIGZ	**Rimuhau**	**7.67**	**199**	P	Pn	05 03 50.0	+1.4
RIGZ				S	S	05 05 18.5	+0.9
MUGZ	**Murupara**	**7.79**	**205**	P	Pn	05 03 50.0	0.0
MUGZ				S	S	05 05 19.6	-0.5
RTZ	**Ruatahuna**	**7.84**	**204**	P	Pn	05 03 49.8	-0.8
PRGZ	**Paritu Road**	**7.84**	**198**	P	Pn	05 03 53.6	+3.0
PRGZ				S	S	05 05 20.2	-1.1
SNGZ	**Shannon Statio**	**7.87**	**201**	P	Pn	05 03 50.2	-0.7
SNGZ				S	S	05 05 22.0	+0.1
ALRZ	**Allen Road**	**8.03**	**207**	P	Pn	05 03 54.0	+1.2
MHGZ	**Mahia Peninsul**	**8.05**	**197**	P	Pn	05 03 55.6	+2.4
MHGZ				S	S	05 05 23.8	-2.2
RAHZ	**Arahi**	**8.07**	**202**	P	Pn	05 03 53.4	0.0
RAHZ				S	S	05 05 24.6	-1.8
MTHZ	**Maungataniwha**	**8.10**	**204**	S	S	05 05 24.8	-2.2
TLZ	**Tolley Road**	**8.17**	**212**	P	Pn	05 03 57.5	-1.9
WHHZ	**Waihua**	**8.17**	**201**	P	Pn	05 03 55.6	+1.0
WHHZ				S	S	05 05 29.8	+1.1
NMHZ	**Naumai**	**8.33**	**203**	P	Pn	05 03 57.8	+1.2
NMHZ				S	S	05 05 31.5	-0.8
ARHZ	**Aropaoanui**	**8.42**	**202**	P	Pn	05 03 58.4	+0.8
ARHZ				S	S	05 05 35.0	+0.9
BKZ	**Black Stump Fm**	**8.50**	**204**	P	Pn	05 03 57.8	-0.8
BKZ				S	S	05 05 34.4	-1.6
RATZ	**Rangitukua**	**8.52**	**209**	P	Pn	05 04 00.6	+1.7
HIZ	**Hauiti**	**8.63**	**214**	P	P	05 04 04.1	-0.7
MCHZ	**McNeill Hill**	**8.68**	**203**	P	Pn	05 04 01.2	+0.4
NTVZ	**North Tongarir**	**8.75**	**208**	P	Pn	05 04 02.4	+0.6
KWHZ	**Kaweka Forest**	**8.76**	**204**	P	Pn	05 04 00.4	-1.4
TMVZ	**Te Maari**	**8.76**	**208**	P	Pn	05 04 02.8	+1.0
CKHZ	**Cape Kidnapper**	**8.76**	**200**	P	Pn	05 04 02.6	+0.9
KRVZ	**Karewarewa**	**8.76**	**209**	P	Pn	05 04 03.4	+1.5
WTVZ	**West Tongariro**	**8.80**	**209**	P	Pn	05 04 02.8	+0.3
NNVZ	**North Ngauruho**	**8.80**	**209**	P	Pn	05 04 03.0	+0.5
OTVZ	**Oturere**	**8.81**	**208**	P	Pn	05 04 00.1	-2.4
SNVZ	**South Ngauruho**	**8.84**	**208**	P	Pn	05 04 02.7	-0.3
NGZ	**Ngauruhoe**	**8.85**	**208**	P	Pn	05 04 02.9	-0.1
TUVZ	**Tukino**	**8.90**	**208**	P	Pn	05 04 03.5	-0.2
FWVZ	**Far West T-bar**	**8.94**	**208**	P	Pn	05 04 03.1	-1.1
BHHZ	**Black Hill Sta**	**8.94**	**205**	P	Pn	05 04 02.0	-2.1
KAHZ	**Kahuranaki**	**8.94**	**201**	P	Pn	05 04 03.1	-0.9
KRHZ	**Kereru**	**8.97**	**204**	P	Pn	05 04 02.0	-2.4
WNVZ	**Wahianoa**	**8.98**	**208**	P	Pn	05 04 03.7	-0.9
MOVZ	**Moawhango**	**8.99**	**207**	P	Pn	05 04 03.1	-1.5
MTVZ	**Mangateitei**	**9.08**	**208**	P	Pn	05 04 05.9	+0.1
PXZ	**Pawanui**	**9.16**	**200**	P	Pn	05 04 05.4	-1.2
PNHZ	**Pukenui**	**9.27**	**204**	P	Pn	05 04 05.0	-3.0
WPHZ	**Waipukurau**	**9.32**	**202**	P	Pn	05 04 08.5	-0.2
PRHZ	**Porangahau**	**9.45**	**201**	P	Pn	05 04 09.0	-1.2
TSZ	**Takapari Road**	**9.48**	**204**	P	Pn	05 04 08.6	-2.0
PKE	**Pukeiti**	**9.59**	**215**	P	P	05 04 15.1	-0.4
DVHZ	**Dannevirke**	**9.63**	**203**	P	Pn	05 04 10.9	-1.5
ANWZ	**Angora Road**	**9.67**	**201**	P	Pn	05 04 12.4	-0.5
PRWZ	**Pori Road**	**9.92**	**203**	P	Pn	05 04 15.0	-1.0
BFZ	**Birch Farm**	**9.95**	**201**	P	Pn	05 04 13.7	-2.5
TIWZ	**Tintock**	**10.15**	**203**	P	Pn	05 04 16.7	-2.1
HOWZ	**Holdsworth Sta**	**10.38**	**204**	P	Pn	05 04 18.9	-2.6

SNET ***12*** *05:05:33.7±0.5, 12˚.84N×88˚.63W,h41km,ML3.5*
CATAC ***12*** *05:05:33.1±0.5, 12˚.82N×88˚.61W,h39km±9km,ML3.4*
ISC 12 05:05:32.2±2.0,12˚.75N±0˚.08×88˚.65W±0˚.04,h33km±6km, n52,σ0ᵗ63/66,3C-1D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCY	**Lacayo**	**0.75**	**27**	*e*P	**Pb**	**05 05 47.1**	**+0.2**
RANC	**El Ranchito**	**0.76**	**27**	*i* P	**Pb**	**05 05 47.2**	**+0.1**
RANC				*i* S	**Sb**	**05 05 57.9**	**+0.6**
RANC				IAML		05 06 04.4	
	comp=Z,1μm,1.0s						
PACA	**Pacayal**	**0.78**	**24**	*e*P	**Pb**	**05 05 47.5**	**+0.1**
PACA				*e*S	**Sb**	**05 05 57.9**	**+0.2**
PACA	**Pacayal**	**0.78**	**24**	*i* P	**Pb**	**05 05 47.5**	**+0.1**
PACA				*i* S	**Sb**	**05 05 58.3**	**+0.5**
PACA				IAML		05 05 59.4	
	comp=Z,10μm,1.0s						
TECO	**Alcaldia de Te**	**0.79**	**350**	*e*P	**Pb**	**05 05 47.5**	**-0.1**
TECO	**Alcaldia de Te**	**0.79**	**350**	*i* P	**Pb**	**05 05 47.5**	**-0.1**
TECO				*i* S	**Sb**	**05 05 57.7**	**-0.3**
TECO				IAML		05 05 59.0	
	comp=Z,1μm,1.0s						
BLLM	**

UEES				IAML		05 06 08.8	
	comp=Z,530nm,1.0s						
PIC2	**El Picacho**	**1.15**	**329**	*eP*	**Pn**	**05 05 53.1**	**+0.9**
BOQS	**Boqueron**	**1.16**	**328**	*eP*	**Pn**	**05 05 53.4**	**+1.2**
PMON	**Piamonte**	**1.16**	**326**	*iP*	**Pn**	**05 05 52.6**	**+0.5**
PMON				IAML		05 06 10.3	
	comp=Z,1μm,1.0s						
JAYA	**Jayaque - finc**	**1.19**	**319**	*eP*	**Pn**	**05 05 53.0**	**+0.3**
JAYA	**Jayaque - finc**	**1.19**	**319**	*iP*	**Pn**	**05 05 53.0**	**+0.3**
NUBE	**Las Nubes**	**1.59**	**316**	*eP*	**Pn**	**05 05 58.9**	**+0.7**
NUBE	**Las Nubes**	**1.59**	**316**	*iP*	**Pn**	**05 05 58.8**	**+0.7**
NUBE				IAML		05 06 20.7	
	comp=Z,480nm,1.0s						
PKGN	**Cerro Pekin**	**1.63**	**93**	*iP*	**Pn**	**05 05 59.4**	**+0.8**
PKGN				IAML		05 06 25.3	
	comp=Z,710nm,1.0s						
TEL3	**Telica 3**	**1.77**	**96**	*iP*	**Pn**	**05 06 00.3**	**-0.2**
TEL3				IAML		05 06 47.7	
	comp=Z,510nm,1.0s						
HERN	**Volcan Telica**	**1.78**	**94**	*iP*	**Pn**	**05 06 01.2**	**+0.6**
HERN				IAML		05 06 44.0	
	comp=Z,540nm,1.0s						
CNGA	**AI SSO del Vol**	**1.92**	**98**	*iP*	**Pn**	**05 06 03.2**	**+0.7**
CNGA				IAML		05 06 34.2	
	comp=Z,200nm,1.0s						
CNGN	**Cerro Negro**	**1.92**	**97**	*iP*	**Pn**	**05 06 02.1**	**-0.5**
CNGN				IAML		05 06 34.5	
	comp=Z,150nm,1.0s						
MACN	**El Madrono**	**1.94**	**98**	*iP*	**Pn**	**05 06 03.7**	**+0.8**
MACN				IAML		05 06 38.4	
	comp=Z,81nm,1.0s						
MOMN	**Momotombo**	**2.08**	**99**	*iP*	**Pn**	**05 06 05.4**	**+0.6**
MOMN				IAML		05 06 32.7	
	comp=Z,4.3nm,1.0s						
COPN	**Copaltepe**	**2.08**	**106**	*iP*	**Pn**	**05 06 05.3**	**+0.5**
COPN				IAML		05 06 39.1	
	comp=Z,96nm,1.0s						
MOM2	**El Cardon**	**2.13**	**98**	*iP*	**Pn**	**05 06 06.5**	**+1.0**
MOM2				IAML		05 06 37.3	
	comp=Z,81nm,1.0s						
MATN	**Matagalpa**	**2.66**	**86**	*iP*	**Pn**	**05 06 12.6**	**-0.2**
MATN				IAML		05 06 13.5	
	comp=Z,25nm,1.0s						
MATN				*iS*	**Sn**	**05 06 43.1**	**-0.9**
BOAB	**BOACO BROADBAN**	**2.92**	**96**	*iP*	**Pn**	**05 06 16.5**	**+0.1**
BOAB				IAML		05 08 16.2	
	comp=Z,22nm,1.0s						

CATAC **12** *05:24:59.9±1.6,8˚.28N×82˚.95W, h9km±3km, ML3.3*
UPA **12** *05:25:01.4±1.2,8˚.37N×82˚.85W, h15km±2km, MW3.2*
ISC 12 05:25:01.1±1.0,**8˚.34N**±0˚.03×**82˚.90W**±0˚.03,**h27**km±6km,
n41,σ1°08/53,**4D,Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.13**	**173**	*iP*	**Pb**	**05 25 06.0**	**-0.2**
PTPM				*eS*	**Sb**	**05 25 09.5**	**-0.3**
LIMO3	**Limones**	**0.23**	**173**	*eP*	**Pb**	**05 25 07.1**	**-0.3**
LIMO3				*eS*	**Sb**	**05 25 11.3**	**-0.4**
CDITO	**Canoas**	**0.24**	**5**	*eP*	**Pb**	**05 25 07.0**	**-0.4**
CDITO				*eS*	**Sb**	**05 25 10.5**	**-1.3**
CDITO	**Canoas**	**0.24**	**5**	*iP*	**Pb**	**05 25 07.0**	**-0.4**
CDITO				IAML		05 25 12.1	
	comp=Z,2μm,1.0s						
CDITO				*iS*	**Sb**	**05 25 12.2**	**+0.4**
PIRO	**Carate, Puerto**	**0.44**	**279**	*iP*	**Pb**	**05 25 09.8**	**-0.6**
PIRO				IAML		05 25 21.6	
	comp=Z,3μm,1.0s						
DVD	**David**	**0.45**	**77**	*eP*	**Pb**	**05 25 10.3**	**-0.3**
DVD				*eS*	**Sb**	**05 25 16.5**	**-0.5**
MLIR3	**Monte Lirio, C**	**0.46**	**9**	*eP*	**Pb**	**05 25 11.1**	**+0.2**
MLIR3				*eS*	**Sb**	**05 25 17.3**	**-0.1**
PEDE3	**Pedregal, Chir**	**0.47**	**84**	*eP*	**Pb**	**05 25 10.2**	**-0.7**
BRU2	**Volcan**	**0.50**	**24**	*iP*	**Pb**	**05 25 11.1**	**-0.4**
BRU2				*eS*	**Sb**	**05 25 18.5**	**0.0**
BRU2	**Volcan**	**0.50**	**24**	*iP*	**Pb**	**05 25 11.1**	**-0.4**
BRU2				IAML		05 25 23.1	
	comp=Z,1μm,1.0s						
BCO2	**Palmira**	**0.53**	**44**	*eP*	**Pb**	**05 25 11.5**	**-0.4**
BCO2				*eS*	**Sb**	**05 25 19.0**	**-0.3**
BC3P	**Paso Ancho**	**0.55**	**31**	*iP*	**Pb**	**05 25 11.7**	**-0.7**
POTG	**Potrero Grande**	**0.75**	**343**	*iP*	**Pb**	**05 25 14.7**	**-0.8**
POTG				IAML		05 25 30.0	
	comp=Z,2μm,1.0s						
PLAN	**Los Planes de**	**0.85**	**293**	*iP*	**Pb**	**05 25 15.5**	**-1.7**
PLAN				IAML		05 25 30.1	
	comp=Z,2μm,1.0s						
CHGR2	**Aguacate**	**0.95**	**51**	*eP*	**Pb**	**05 25 17.3**	**-1.7**
CHGR2				*eS*	**Sb**	**05 25 29.8**	**-1.4**
OCHAL	**Ojochal**	**1.06**	**316**	*iP*	**Pn**	**05 25 19.1**	**-1.0**
OCHAL				IAML		05 25 20.1	
	comp=Z,19nm,1.0s						
CNI2	**El Empalme, Bo**	**1.16**	**21**	*eP*	**Pn**	**05 25 21.4**	**-0.1**
CNI2				*eS*	**Sb**	**05 25 36.0**	**-1.1**
PEZE	**Perez Zeledon,**	**1.30**	**323**	*iP*	**Pn**	**05 25 22.7**	**-0.8**
PEZE				IAML		05 25 24.0	
	comp=Z,240nm,1.0s						
CDM	**Cerro de Muert**	**1.48**	**325**	*iP*	**Pn**	**05 25 25.7**	**-0.7**
CDM				IAML		05 25 28.3	
	comp=Z,150nm,1.0s						
MESA3	**La Mesa, Verag**	**1.70**	**96**	*eP*	**Pn**	**05 25 29.1**	**+0.2**
GMAL	**Guarumal, Vera**	**1.74**	**109**	*eP*	**Pn**	**05 25 28.9**	**-0.6**
GMAL				*eS*	**Sn**	**05 25 50.8**	**0.0**
BATAN	**Batan**	**1.81**	**345**	*eP*	**Pn**	**05 25 31.6**	**+1.1**
BATAN	**Batan**	**1.81**	**345**	*iP*	**Pn**	**05 25 31.6**	**+1.1**
BATAN				IAML		05 25 36.0	
	comp=Z,280nm,1.0s						
VTCV	**VTCV, Calle Va**	**1.83**	**333**	*iP*	**Pn**	**05 25 31.7**	**+0.8**
VTCV				IAML		05 25 59.3	
	comp=Z,510nm,1.0s						
OCM	**Ochomogo**	**1.87**	**326**	*iP*	**Pn**	**05 25 31.7**	**+0.2**
OCM				IAML		05 25 59.8	
	comp=Z,220nm,1.0s						
HDC3	**Heredia 3**	**2.05**	**324**	*iP*	**Pn**	**05 25 35.6**	**+1.8**
HDC3				IAML		05 25 35.8	
	comp=Z,260nm,1.0s						
JACO	**JACO, Garabito**	**2.19**	**307**	*iP*	**Pn**	**05 25 34.9**	**-0.7**
JACO				IAML		05 25 39.6	
	comp=Z,98nm,1.0s						
TCS1	**Tacares**	**2.19**	**321**	*iP*	**Pn**	**05 25 37.5**	**+1.7**
TCS1				IAML		05 26 10.8	
	comp=Z,1μm,1.0s						
RIFO	**Rio Frio, Sara**	**2.21**	**333**	*iP*	**Pn**	**05 25 38.2**	**+2.2**
RIFO				IAML		05 26 10.5	
	comp=Z,91nm,1.0s						
CACAO	**El Cacao, Vera**	**2.24**	**116**	*eP*	**Pn**	**05 25 37.4**	**+1.0**
CPMI	**Catarata Coope**	**2.43**	**323**	*iP*	**Pn**	**05 25 41.0**	**+1.8**
CPMI				IAML		05 25 43.6	
	comp=Z,51nm,1.0s						
CHIT3	**Chitre**	**2.48**	**99**	*eP*	**Pn**	**05 25 41.1**	**+1.4**
AZU	**Azuero**	**2.65**	**102**	*eP*	**Pn**	**05 25 43.6**	**+1.6**
SOCE	**Pocosol**	**2.65**	**320**	*iP*	**Pn**	**05 25 44.6**	**+2.5**
SOCE				IAML		05 25 46.2	
	comp=Z,380nm,1.0s						
JTS	**Las Juntas de**	**2.81**	**314**	*eP*	**Pn**	**05 25 45.4**	**+1.1**
JTS				*eS*	**Sn**	**05 26 18.7**	**+1.4**
INDI	**Punta indio, G**	**2.99**	**301**	*iP*	**Pn**	**05 25 46.7**	**0.0**
INDI				IAML		05 25 52.4	
	comp=Z,37nm,1.0s						
DUNO	**Dulce Nombre,**	**3.10**	**304**	*iP*	**Pn**	**05 25 48.7**	**+0.5**
DUNO				IAML		05 26 24.8	
	comp=Z,49nm,1.0s						
BCIP	**Isla Barro Col**	**3.13**	**74**	*eP*	**Pn**	**05 25 49.1**	**+0.5**
ORTG	**Ortega, Santa**	**3.23**	**309**	*iP*	**Pn**	**05 25 51.3**	**+1.2**
ORTG				IAML		05 25 52.9	
	comp=Z,24nm,1.0s						
SAJU	**San Juanillo,**	**3.27**	**302**	*iP*	**Pn**	**05 25 50.4**	**-0.1**
SAJU				IAML		05 25 51.0	
	comp=Z,45nm,1.0s						
HZTE	**Horizontes, Gu**	**3.56**	**312**	*iP*	**Pn**	**05 25 57.0**	**+2.4**
HZTE				IAML		05 25 57.7	
	comp=Z,59nm,1.0s						

JMA **12** *05:46:26.2±0.2,36˚.1N±0˚.5×14˚1E±˚, h44km±2km, MV3.1/34, FAR E OFF IBARAKI PREF*
IDC **12** *05:46:28.0±3.7,36˚.78N×140˚.98E, h0km, mb3.8/5, mbtmp3.7/6, ML2.3/1, MS2.1/2, Error ellipse: s-maj=60.7km s-min=36.7km az=131.0*
ISC 12 05:46:27.2±1.6,**36˚.27N**±0˚.07×**141˚.2E**±0˚.1,**h21**km±5km,
n16,σ0°84/20,**mb3.8**/5,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.51**	**279**	P	**Pn**	**05 46 38.8**	**-0.4**
JHYU				S	**Sn**	**05 46 47.3**	**+0.1**
JHO	**Hitachi**	**0.62**	**304**	P	**Pn**	**05 46 39.6**	**-1.1**
JHO				S	**Sn**	**05 46 50.6**	**+0.6**
JIHU	**Itakohorinouch**	**0.63**	**242**	P	**Pb**	**05 46 39.6**	**+0.1**
JIHU				*eS*	**Sb**	**05 46 49.2**	**+1.3**
JYT	**Yasato**	**0.82**	**268**	P	**Pb**	**05 46 42.6**	**-0.1**
JYT				S	**Sn**	**05 46 54.2**	**-0.8**
JSMT	**Sammumatsuo**	**0.88**	**225**	*eP*	**Pb**	**05 46 42.5**	**-1.2**
ONAJ	**Iwakimizuishiy**	**0.90**	**339**	P	**Pn**	**05 46 44.2**	**-0.4**
JFK	**Kawauchi**	**1.13**	**346**	P	**Pn**	**05 46 47.5**	**-0.3**
JAG	**Ashikaga**	**1.43**	**277**	P	**Pb**	**05 46 51.5**	**-1.6**
JOTO	**OTAMA OYAMA**	**1.47**	**332**	P	**Pb**	**05 46 53.7**	**-0.1**
MJAR	**Matsushiro Arr**	**2.44**	**277**	Pn	**Pn**	**05 47 06.7**	**+1.0**
	0.8nm,0.3s,baz=83,slow=22,SNR=18						
MJAR				Sn	**Sn**	**05 47 33.8**	**-1.1**
	0.6nm,0.3s,baz=81,slow=15,SNR=6.9						
MJAR				LR	LR	05 47 37.6	
	comp=Z,24nm,18.5s,baz=54,slow=31 4.5nm,0.4s						
KSRS	**Korea Array**	**10.71**	**280**	LR	LR	05 53 01.8	
	comp=Z,16nm,21.5s,baz=295,slow=38						
SONM	**Songino Array**	**28.08**	**305**	P	**P**	**05 52 17.8**	**+0.5**
	0.9nm,1.0s,baz=108,slow=9.4,SNR=2.5 0.9nm,1.0s						
ZALV	**Zalesovo Beam**	**42.31**	**313**	P	**P**	**05 54 19.9**	**+0.8**
	0.9nm,0.5s,baz=95,slow=7.2,SNR=5.0 0.9nm,0.5s						
MKAR	**Makanchi Array**	**44.39**	**303**	P	**P**	**05 54 36.6**	**+0.6**
	0.7nm,0.7s,baz=90,slow=9.5,SNR=8.1 0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**46.35**	**309**	P	**P**	**05 54 51.4**	**-0.1**
	1.5nm,0.6s,baz=84,slow=7.7,SNR=11 1.5nm,0.6s						
BVAR	**Borovoye Array**	**50.97**	**313**	P	**P**	**05 55 26.7**	**-0.3**
	0.4nm,0.4s,baz=91,slow=5.9,SNR=2.2 0.4nm,0.4s						

RSPR **12** *05:47:45.0,19˚.32N×65˚.95W, h97km±8km, MD2.9/3*
NEIC 12 05:47:36.2±1.6,**19˚.2N**±0˚.1×**65˚.1W**±0˚.1,**h35**km±2km,
ML2.2/14,**Md2.9**/3(RSPR),**3C,Error ellipse: s-maj=22.4km s-min=14.6km az=148.0,Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.25**	**214**	Pn	Pn	05 47 57.1	-0.1
GCPR	**Guaynabo City**	**1.26**	**227**	Pn	Pn	05 47 56.9	-0.5
GCPR				IAML		05 48 20.9	
	comp=E,16nm,3.6s						
EMPR	**Esperanza - Ma**	**1.51**	**243**	Pn	Pn	05 48 00.5	-0.2
AOPR	**Arecibo Observ**	**1.76**	**242**	*eP*	Pn	05 48 07.6	+3.3
AOPR	**Arecibo Observ**	**1.76**	**242**	*eS*	Sn	05 48 25.0	-0.5
AOPR	**Arecibo Observ**	**1.76**	**242**		Pn	05 48 05.5	+1.2
AOPR					Sn	05 48 24.9	-0.6
AOPR				IAML		05 49 02.6	
	comp=N,32nm,2.0s						
AOPR				IAML		05 49 03.5	
	comp=E,32nm,1.9s						
CELP	**Cerrillos**	**1.77**	**232**	*eP*	Pn	05 48 09.1	+4.7
CELP	**Cerrillos**	**1.77**	**232**	*eS*	Sn	05 48 28.1	+2.4
CELP	**Cerrillos**	**1.77**	**232**		Pn	05 48 05.4	+1.0
CELP					Sn	05 48 26.2	+0.5
CELP				IAML		05 49 02.1	
	comp=N,24nm,2.8s						
CELP				IAML		05 49 05.1	
	comp=E,24nm,3.0s						
UUPR	**Utuado, UPR, P**	**1.78**	**239**	*eP*	Pn	05 48 08.1	+3.6
UUPR	**Utuado, UPR, P**	**1.78**	**239**	*eS*	Sn	05 48 26.0	+0.1
UUPR	**Utuado, UPR, P**	**1.78**	**239**		Pn	05 48 05.2	+0.7
UUPR					Sn	05 48 24.9	-1.0
UUPR				IAML		05 48 26.3	
	comp=E,25nm,0.4s						
UUPR				IAML		05 48 28.4	
	comp=N,34nm,0.5s						
OBIP	**Obispado Ponce**	**1.81**	**232**	Pn	Pn	05 48 04.7	-0.2
OBIP				IAML		05 49 12.6	
	comp=E,20nm,4.0s						

IDC **12** *05:58:20.9±7.4,24˚.37S×179˚.96W, h514km±71km, mb3.2/3, mbtmp4.1/4, Error ellipse: s-maj=55.9km s-min=30.1km az=64.0*
NEIC **12** *05:58:20.1±1.0,24˚.6S±0˚.1×180˚.0W±0˚.1, h493km±10km, mb4.5/9, Error ellipse: s-maj=21.1km s-min=15.1km az=162.0*
ISC 12 05:58:19.6±0.8,**24˚.4S**±0˚.1×**179˚.9W**±0˚.1,**h505**km,**n32,**
σ0°75/31,**mb4.1**/6,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.94**	**343**	P	**P**	**06 00 05.6**	**0.0**
DZM	**Mont Dzumac**	**12.80**	**278**	P	**P**	**06 01 07.8**	**+0.9**
DZM	**Mont Dzumac**	**12.80**	**278**	P	**P**	**06 01 08.3**	**+1.4**
	3.6nm,0.8s,baz=82,slow=15,SNR=1.8						
TCW	**Tory Channel**	**17.44**	**195**	P	**P**	**06 01 53.5**	**-0.9**
BHW	**Baring Head**	**17.50**	**193**	P	**P**	**06 01 53.9**	**-1.0**
BHW				IAmb	IAmb	06 02 20.1	
	comp=Z,23nm,1.2s						
MRNZ	**Matariki Terra**	**18.01**	**198**	P	**P**	**06 01 58.8**	**-0.9**
THZ	**Tophouse**	**18.31**	**197**	P	**P**	**06 02 02.1**	**-0.3**
THZ				IAmb	IAmb	06 02 03.1	
	comp=Z,11nm,1.0s						
CTAO	**Charters Tower**	**31.61**	**271**	P	**P**	**06 04 01.0**	**+0.3**
CTAO				IAmb	IAmb	06 04 05.1	
	comp=Z,22nm,1.4s						
STKA	**Stephens Creek**	**34.65**	**249**	P	**P**	**06 04 26.4**	**+0.1**
	comp=Z,1.4nm,0.4s,baz=90,slow=12,SNR=5.4 comp=Z,1.4nm,0.4s						
BBOO	**Buckleboo**	**39.35**	**247**	P	**P**	**06 05 04.5**	**-0.5**
BBOO				IAmb	IAmb	06 05 20.7	
	comp=Z,25nm,1.3s						
WB2	**Warramunga Arr**	**42.49**	**267**	P	**P**	**06 05 29.7**	**-0.5**
WB2				IAmb	IAmb	06 05 36.7	
	comp=Z,12nm,1.3s						
WRA	**Warramunga Arr**	**42.50**	**267**	P	**P**	**06 05 29.6**	**-0.6**
WRA	**Warramunga Arr**	**42.50**	**267**	P	**P**	**06 05 29.4**	**-0.9**
	comp=Z,2.2nm,0.4s,baz=100,slow=8.2,SNR=6.1 comp=Z,2.2nm,0.4s						
FORT	**Forrest**	**46.25**	**250**	P	**P**	**06 05 58.2**	**-0.9**
SOEI	**Soe**	**55.01**	**275**	P	**P**	**06 07 03.2**	**-0.4**
QSPA	**South Pole Qui**	**65.66**	**180**	P	**P**	**06 08 14.4**	**+1.1**
QSPA	**South Pole Qui**	**65.66**	**180**	P	**P**	**06 08 14.1**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=90,slow=6.1,SNR=6.4 comp=Z,0.6nm,0.6s						
BELA	**Belgrano 2**	**75.90**	**173**	P	**P**	**06 09 14.2**	**+0.8**
ARCES	**ARCESS Array B**	**132.43**	**348**	PKP	**PKPdf**	**06 16 34.9**	**-0.5**
	comp=Z,6.3nm,1.0s,baz=23,slow=4.9,SNR=1.8						
FINES	**FINESS Array B**	**138.98**	**341**	PKP	**PKPdf**	**06 16 48.1**	**+0.3**
	comp=Z,3.4nm,1.1s,baz=97,slow=4.6,SNR=4.5						
PABE	**Paberze**	**144.35**	**337**	PKPbc	PKPbc	06 16 57.5	+0.3
ARPR	**Arapgir-MALATY**	**144.66**	**304**	PKPdf	**PKPdf**	**06 16 59.1**	**+0.3**
AKASG	**Malin Array Be**	**145.48**	**327**	PKPbc	**PKPdf**	**06 16 59.5**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=48,slow=3.3,SNR=7.1						
AKBB	**Malin Array Si**	**145.48**	**327**	PKPdf	**PKPdf**	**06 17 00.2**	**+0.6**
KIEV	**Kiev**	**145.49**	**327**	PKPdf	**PKPdf**	**06 17 00.1**	**+0.5**
BR131	**Keskin Array S**	**147.99**	**307**	PKPbc	**PKPbc**	**06 17 08.0**	**-0.2**
BRTR	**Keskin Array B**	**147.99**	**307**	PKPbc	**PKPbc**	**06 17 07.5**	**-0.7**
BRTR	**Keskin Array B**	**147.99**	**307**	PKPbc	**PKPbc**	**06 17 07.8**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=123,slow=4.6,SNR=4.2						
MMAI	**Mount Meron Ar**	**148.03**	**294**	PKPbc	**PKPbc**	**06 17 09.2**	**+0.8**
	comp=Z,1.8nm,0.4s,baz=48,slow=5.0,SNR=5.8						
EKA	**Eskdalemuir Ar**	**149.03**	**4**	PKPbc	**PKPbc**	**06 17 09.2**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=353,slow=3.4,SNR=3.7						
TOA0	**Torodi Ar. Sit**	**168.68**	**188**	PKPdf	**PKPdf**	**06 17 27.9**	**-1.2**
TORD	**Torodi Ar. Bea**	**168.68**	**188**	PKPab	**PKPab**	**06 18 42.8**	**+0.5**

IDC **12** *06:00:22.2±1.0,8˚.95S×118˚.34E, h0km, mb3.9/8, mbtmp3.9/8, ML4.9/1, MS3.5/1, Error ellipse: s-maj=46.7km s-min=21.1km az=59.0*
DJA **12** *06:00:24.8±0.2,9˚S±2˚×11˚9E±˚, h10km, M4.8/21, mb4.8/17, mB5.5/5, MLv4.8/21, Mw(mB)5.0/5*
NEIC **12** *06:00:25.8±1.6,9˚.55S±0˚.07×118˚.47E±0˚.07, h44km±5km, mb4.0/11, Error ellipse: s-maj=11.6km s-min=9.4km az=46.0*
ISC 12 06:00:26.3±0.6,**9˚.57S**±0˚.07×**118˚.48E**±0˚.06,**h48**km,**n75,**
σ1°72/70,**mb3.9**/12,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.01**	**317**	P	**Pn**	**06 00 41.9**	**-2.2**
PLAI	**Plampang**	**1.01**	**317**	P	**Pn**	**06 00 42.0**	**-2.2**
PLAI				S	**Sn**	**06 00 55.5**	**-1.8**
TWSI	**Taliwang, Sumb**	**1.78**	**297**	P	**Pn**	**06 00 54.3**	**-0.4**
BASI	**Baing, Sumba**	**2.17**	**108**	P	**Pn**	**06 01 00.6**	**+0.7**
BASI				S	**Sn**	**06 01 29.2**	**+3.6**
EDFI	**Ende, Flores**	**3.27**	**76**	P	**Pn**	**06 01 13.6**	**-1.6**
IGBI	**Denpasar**	**3.38**	**282**	P	**Pn**	**06 01 17.3**	**+0.7**
SRBI	**Singaraja**	**3.55**	**294**	P	**Pn**	**06 01 19.8**	**+0.8**
MMRI	**Maumere**	**3.82**	**76**		**Pn**	**06 01 21.9**	**-0.9**
MMRI	**Maumere**	**3.82**	**76**	P	**Pn**	**06 01 23.4**	**+0.7**
MMRI	**Maumere**	**3.82**	**76**	P	**Pn**	**06 01 22.9**	**+0.2**
JAGI	**Jajag, Banyuwa**	**4.41**	**284**		**Pn**	**06 01 31.4**	**+0.6**
JAGI	**Jajag, Banyuwa**	**4.41**	**284**	P	**Pn**	**06 01 31.7**	**+0.9**
JAGI	**Jajag, Banyuwa**	**4.41**	**284**	P	**Pn**	**06 01 31.3**	**+0.5**
BKSI	**Bulukumba**	**4.52**	**21**	P	**Pn**	**06 01 31.6**	**-0.7**
ABJI	**Asem Bagus**	**4.55**	**292**	P	**Pn**	**06 01 34.6**	**+1.9**
KAPI	**Kappang**	**4.70**	**16**		**Pn**	**06 01 35.0**	**+0.2**
KAPI	**Kappang**	**4.70**	**16**	P	**Pn**	**06 01 34.9**	**+0.2**
GMJI	**Gumukmas**	**5.14**	**284**	P	**Pn**	**06 01 41.3**	**+0.5**
	188nm,1.0s,3μm						
BATI	**Baumata**	**5.15**	**98**	Pn	**Pn**	**06 01 42.2**	**+1.3**
	34nm,0.3s,baz=334,slow=16,SNR=15						
BATI				Sn	**Sn**	**06 02 41.1**	**+2.1**
	8.2nm,0.3s,baz=6.8,slow=22,SNR=4.3						
BLJI	**Banyuglugur**	**5.16**	**290**	P	**Pn**	**06 01 42.4**	**+1.3**
	274nm,0.5s,6μm1.4nm						
SOEI	**Soe**	**5.71**	**92**	P	**Pn**	**06 01 49.6**	**+0.9**
	102nm,0.9s,0.4nm						
BBSI	**Bau Bau**	**5.73**	**45**	P	**Pn**	**06 01 50.0**	**+1.0**
	46nm,0.8s,0.2nm						
GRJI	**Gresik**	**6.50**	**293**	P	**Pn**	**06 02 00.6**	**+1.1**
	122nm,0.5s,0.6nm						
TTSI	**Tana Toraja**	**6.61**	**12**	P	**Pn**	**06 02 02.0**	**+0.9**
	75nm,0.8s,1μm0.2nm						
PWJI	**Pagerwojo**	**6.78**	**283**	P	**Pn**	**06 02 05.2**	**+1.9**
	76nm,0.5s,0.5nm						
UGM	**Wanagama**	**8.04**	**281**	Pn	**Pn**	**06 02 19.5**	**-1.1**
UGM	**Wanagama**	**8.04**	**281**	P	**Pn**	**06 02 23.6**	**+3.0**
UGM	**Wanagama**	**8.04**	**281**	P	**Pn**	**06 02 22.7**	**+2.1**
	69nm,1.9s						
LUWI	**Luwuk**	**9.48**	**27**	P	**Pn**	**06 02 39.8**	**-0.6**
	62nm,0.6s,4μm						
KPJI	**Karang Pucung**	**9.70**	**282**	P	**Pn**	**06 02 45.5**	**+2.1**
	24nm,1.0s						
CMJI	**Cimerak**	**10.07**	**279**	P	**Pn**	**06 02 50.4**	**+1.9**
	54nm,0.7s						
BBJI	**Bungbulang**	**10.91**	**280**	P	**Pn**	**06 03 00.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**10.96**	**141**	Pn	**Pn**	**06 02 59.5**	**-1.1**
MBWA	**Marble Bar**	**11.59**	**174**	Pn	**Pn**	**06 03 09.8**	**+0.6**
KNRA	**Kununurra**	**11.73**	**122**		**Pn**	**06 03 10.6**	**-0.5**
KNRA	**Kununurra**	**11.73**	**122**	P	**Pn**	**06 03 12.2**	**+1.1**
PSA00	**Pilbara Seismi**	**12.01**	**174**	Pn	**Pn**	**06 03 13.9**	**-1.1**
PSA00	**Pilbara Seismi**	**12.01**	**174**	P	Pn	06 03 20.3	+5.4
	6.7nm,0.9s						
MTN	**Manton Dam**	**12.83**	**106**		**Pn**	**06 03 23.9**	**-2.3**
FAKI	**Fak Fak**	**15.19**	**65**	Pn	**Pn**	**06 03 56.4**	**-1.5**
WB0	**Warramunga Arr**	**18.42**	**125**	Pn	**Pn**	**06 04 38.7**	**+0.4**
WB0				IAmb	IAmb	06 05 21.1	
	comp=Z,22nm,1.4s						
WRA	**Warramunga Arr**	**18.46**	**126**	P	**P**	**06 04 37.8**	**-0.5**
WRA	**Warramunga Arr**	**18.46**	**126**	P	**P**	**06 04 38.3**	**0.0**
	comp=Z,2.6nm,0.8s,baz=300,slow=14,SNR=7.7						
WRA				S	**Sn**	**06 07 59.7**	**-4.8**
	comp=Z,0.8nm,0.6s,baz=302,slow=25,SNR=2.5						
WRAB	**Tennant Creek**	**18.47**	**126**	P	**P**	**06 04 37.3**	**-1.0**
WRAB				IAmb	IAmb	06 05 13.2	
	comp=Z,9.7nm,0.7s						
WB2	**Warramunga Arr**	**18.47**	**126**	P	**P**	**06 04 37.4**	**-1.1**
WB2				IAmb	IAmb	06 05 05.9	
	comp=Z,19nm,1.5s						
WR0	**Warramunga Arr**	**18.63**	**125**		**P**	**06 04 38.9**	**-1.3**
WR0				IAmb	IAmb	06 04 58.6	
	comp=Z,6.5nm,0.8s						
AS31	**Alice Springs**	**20.34**	**135**	P	**P**	**06 04 57.5**	**-1.4**
ASAR	**Alice Springs**	**20.34**	**135**	P	**P**	**06 04 59.1**	**+0.3**
ASAR	**Alice Springs**	**20.34**	**135**	P	**P**	**06 05 00.7**	**+1.8**
	comp=Z,3.4nm,0.7s,baz=312,slow=10,SNR=26						
ASAR				S	**S**	**06 08 41.3**	**-3.0**
	comp=Z,0.3nm,0.3s,baz=305,sl

ML3.5/12, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0
*LDG **12** 06:01:49.0±0.1, 43°.16N×17°.87E, h2km, Ml3.5/14, Error ellipse: s-maj=3.5km s-min=2.2km az=25.0*
*PRU **12** 06:01:53.4, 43°.12N×17°.03E, h0km*
ISC 12 06:01:49.0±0.9, 43°.21N±0°.02×17°.79E±0°.02, h9km±8km, n151, σ2§02/234, 28C-14D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEVS	**Nevesinje**	**0.25**	**68**	*e*Pg	**Pg**	**06 01 53.3**	**-0.7**
NEVS				*e*Sg	**Sg**	**06 01 57.3**	**-0.1**
STON	**Ston**	**0.34**	**191**	*e*Pg	**Pg**	**06 01 55.4**	**-0.3**
STON				*e*Sg	**Sg**	**06 02 01.0**	**+0.9**
STON	**Ston**	**0.34**	**191**	*e*Pg	**Pg**	**06 01 55.3**	**-0.3**
STON				Sg	**Sg**	**06 02 01.1**	**+0.9**
STON	**Ston**	**0.34**	**191**	⇓*i*Pg	**Pg**	**06 01 55.4**	**-0.3**
STON				*e*Sg	**Sg**	**06 02 01.0**	**+0.9**
RICI	**Ricice**	**0.56**	**301**	*e*Pg	**Pg**	**06 01 59.2**	**-0.5**
RICI				Sg	**Sg**	**06 02 08.3**	**+1.2**
MAKA	**Makarska**	**0.56**	**279**	*i* Pg	**Pg**	**06 01 59.4**	**-0.5**
MAKA				Sg	**Sg**	**06 02 08.5**	**+1.3**
KLINJ	**Klinje**	**0.59**	**93**	*e*Pg	**Pg**	**06 01 59.6**	**-0.7**
KLINJ				*e*Sg	**Sg**	**06 02 07.7**	**-0.3**
DBRK	**Dubrovnik**	**0.60**	**154**	*e*Pg	**Pg**	**06 01 59.9**	**-0.6**
BRY	**Bratogost**	**0.63**	**119**	⇑*i*Pg	**Pg**	**06 01 59.9**	**-1.3**
BRY				*e*Sg	**Sg**	**06 02 08.9**	**-0.6**
BRY	**Bratogost**	**0.63**	**119**	⇓*i*Pg	**Pg**	**06 02 00.1**	**-1.1**
BRY				*i* Sg	**Sg**	**06 02 09.5**	**0.0**
TREB	**Trebinje**	**0.64**	**140**	*e*Pg	**Pg**	**06 02 00.6**	**-0.7**
TREB				*e*Sg	**Sg**	**06 02 10.0**	**+0.3**
TREB	**Trebinje**	**0.64**	**140**	⇓*i*Pg	**Pg**	**06 02 00.2**	**-1.1**
TREB				*e*Sg	**Sg**	**06 02 10.0**	**+0.3**
LSTV	**Lastovo**	**0.79**	**237**	*e*Pg	**Pg**	**06 02 02.9**	**-1.2**
LSTV				Sg	**Sg**	**06 02 15.1**	**+0.7**
UPM	**Unac-Piva**	**0.82**	**90**	⇑*i*Pg	**Pg**	**06 02 03.7**	**-1.0**
UPM				*e*Sg	**Sg**	**06 02 15.5**	**+0.1**
UPM	**Unac-Piva**	**0.82**	**90**	⇑*i*Pg	**Pg**	**06 02 03.7**	**-1.0**
UPM				*i* Sg	**Sb**	**06 02 16.1**	**-0.6**
HCY	**Herceg Novi**	**0.92**	**145**	⇑*i*Pg	**Pg**	**06 02 05.4**	**-1.2**
HCY				*e*Sg	**Sg**	**06 02 18.5**	**-0.1**
HCY	**Herceg Novi**	**0.92**	**145**	⇑*i*Pg	**Pg**	**06 02 05.4**	**-1.2**
HCY				*i* Sg	**Sb**	**06 02 19.3**	**-0.2**
NKME	**Niksic**	**0.96**	**117**	⇑*i*Pg	**Pg**	**06 02 06.2**	**-1.3**
NKME				*i* Sg	**Sb**	**06 02 20.7**	**0.0**
HVAR	**Hvar**	**0.98**	**269**	*e*Pg	**Pg**	**06 02 06.2**	**-1.5**
HVAR				Sg	**Sg**	**06 02 22.2**	**+1.8**
CEME	**Cevo**	**1.06**	**128**	⇑*i*Pg	**Pg**	**06 02 08.0**	**-1.4**
CEME				*i* Sg	**Sb**	**06 02 24.0**	**+0.4**
PLE	**Pljevlja**	**1.18**	**83**	⇓*i*Pg	**Pg**	**06 02 10.4**	**-1.2**
PLE				*i* Sg	**Sn**	**06 02 28.4**	**+0.4**
BUM	**Brajici-Budva**	**1.22**	**138**	*e*Pg	**Pg**	**06 02 11.0**	**-1.4**
BUM				*i* Sg	**Sn**	**06 02 29.4**	**+0.5**
HAPS	**Han Pijesak,Bl**	**1.22**	**44**	*e*Pg	**Pg**	**06 02 11.8**	**-0.6**
HAPS				*e*Sg	**Sn**	**06 02 31.4**	**+2.3**
HAPS	**Han Pijesak,Bl**	**1.22**	**44**	⇓*i*Pg	**Pg**	**06 02 11.2**	**-1.2**
HAPS				*e*Sg	**Sg**	**06 02 28.4**	**+0.2**
RUDO	**Rudo**	**1.23**	**70**	*e*Pg	**Pg**	**06 02 10.5**	**-2.0**
RUDO				*e*Sg	**Sn**	**06 02 29.5**	**+0.5**
RUDO	**Rudo**	**1.23**	**70**	⇓*i*Pg	**Pg**	**06 02 10.4**	**-2.0**
RUDO				*e*Sg	**Sg**	**06 02 27.5**	**-0.9**
KIJV	**Kijevo**	**1.28**	**309**	*e*Pg	**Pg**	**06 02 11.8**	**-1.7**
MGRS	**Mrkonjic Grad**	**1.31**	**338**	⇑*i*Pg	**Pg**	**06 02 10.6**	**-0.5**
MGRS				*e*Sg	**Sb**	**06 02 32.7**	**+1.9**
KOME	**Kolasin**	**1.32**	**105**	⇓*i*Pg	**Pg**	**06 02 12.8**	**-1.4**
KOME				*i* Sg	**Sn**	**06 02 32.8**	**+1.4**
BBLS	**Lazi&#263i**	**1.35**	**60**	*e*Pg	**Pg**	**06 02 13.6**	**-1.3**
BBLS				*e*Sg	**Sb**	**06 02 32.7**	**+0.8**
BBLS	**Lazi&#263i**	**1.35**	**60**	⇓*i*Pg	**Pg**	**06 02 13.4**	**-1.5**
BBLS				*e*Sg	**Sg**	**06 02 31.8**	**-0.6**
DRME	**Dracevica, Mon**	**1.45**	**134**	*e*Pg	**Pn**	**06 02 15.3**	**-0.1**
DRME				*e*Sg	**Sn**	**06 02 34.9**	**+0.4**
DRME	**Dracevica, Mon**	**1.45**	**134**	⇑*i*Pg	**Pn**	**06 02 15.3**	**-0.1**
DRME				*i* Sg	**Sn**	**06 02 37.3**	**+2.8**
DOB	**Doboj**	**1.54**	**8**	*e*Pn	**Pn**	**06 02 17.6**	**+0.9**
DOB				*e*Sn	**Sg**	**06 02 39.1**	**+0.5**
A050A	**Klekovaca**	**1.56**	**325**	*e*Pn	**Pn**	**06 02 18.5**	**+1.5**
A050A				*e*Sn	**Sg**	**06 02 40.7**	**+1.4**
IVA	**Berane**	**1.58**	**101**	⇓*i*Pg	**Pn**	**06 02 17.7**	**+0.4**
IVA				*i* Sg	**Sg**	**06 02 42.0**	**+2.2**
SJES	**Sjenica**	**1.60**	**87**	*e*Pn	**Pn**	**06 02 18.7**	**-0.1**
SJES				*e*Sg	**Sg**	**06 02 43.2**	**+2.8**
SJES	**Sjenica**	**1.60**	**87**	⇑*i*Pn	**Pn**	**06 02 18.5**	**+0.9**
SJES				*e*Sn	**Sn**	**06 02 38.6**	**+0.2**
BLY	**Banja Luka**	**1.60**	**344**	*e*Pg	**Pn**	**06 02 18.9**	**+1.4**
BLY				*e*Sg	**Sg**	**06 02 41.4**	**+1.0**
BLY	**Banja Luka**	**1.60**	**344**	*e*Pn	**Pn**	**06 02 18.6**	**+1.1**
BLY				*e*Sn	**Sn**	**06 02 40.5**	**+2.2**
ZIRJ	**Zirje**	**1.62**	**287**	*e*Pn	**Pn**	**06 02 17.9**	**+0.1**
ULC	**Ulcinj**	**1.65**	**139**	⇑*i*Pn	**Pn**	**06 02 18.7**	**+0.6**
ULC				*i* Sn	**Sg**	**06 02 43.1**	**+1.3**
MORI	**Morici**	**1.65**	**294**	*i* Pn	**Pn**	**06 02 18.6**	**+0.5**
PVY	**Plav**	**1.71**	**110**	*e*Pn	**Pn**	**06 02 20.1**	**+1.0**
PVY				*i* Sn	**Sg**	**06 02 45.1**	**+1.2**
IVAS	**Ivanjica**	**1.77**	**77**	*e*Pn	**Pn**	**06 02 19.8**	**0.0**
IVAS	**Ivanjica**	**1.77**	**77**	*e*Pn	**Pn**	**06 02 20.5**	**+0.7**
IVAS				*e*Sn	**Sg**	**06 02 45.6**	**-0.1**
DIVS	**Divibare**	**1.83**	**60**	*e*Pn	**Pn**	**06 02 20.9**	**+0.2**
DIVS				*e*Sn	**Sn**	**06 02 44.7**	**+0.6**
TEKS	**Tekeris**	**1.84**	**43**	*e*Pn	**Pn**	**06 02 20.3**	**-0.5**
TEKS				*e*Sn	**Sn**	**06 02 45.6**	**+1.3**
TEKS	**Tekeris**	**1.84**	**43**	*e*Pn	**Pn**	**06 02 21.2**	**+0.4**
TEKS				*e*Sn	**Sn**	**06 02 45.5**	**+1.3**
BLJ	**Bijeljina**	**1.91**	**34**	*e*Pn	**Pn**	**06 02 22.1**	**+0.5**
BLJ				*e*Sn	**Sn**	**06 02 46.0**	**+0.3**
A051A	**Mrakovica**	**1.91**	**341**	*e*Pn	**Pn**	**06 02 22.9**	**+1.1**
A051A				*e*Sn	**Sn**	**06 02 48.3**	**+2.2**
PRIJ	**Prijedor**	**1.93**	**337**	*e*Pn	**Pn**	**06 02 23.5**	**+1.5**
PRIJ				*e*Sn	**Sn**	**06 02 48.6**	**+2.2**
UDBI	**Udbina**	**1.97**	**313**	*e*Pn	**Pb**	**06 02 25.6**	**+0.5**
DUGI	**Dugi Otok**	**2.13**	**293**	*e*Pn	**Pn**	**06 02 26.5**	**+1.7**
TRUS	**Trudelj**	**2.16**	**61**	*e*Pn	**Pn**	**06 02 25.2**	**+0.1**
TRUS				*e*Sn	**Sn**	**06 02 53.3**	**+1.3**
GRUS	**Gruza**	**2.24**	**71**	*e*Pn	**Pn**	**06 02 26.8**	**+0.6**
GRUS				*e*Sn	**Sn**	**06 02 56.0**	**+2.0**
VIRC	**Vir**	**2.26**	**300**	*e*Pn	**Pn**	**06 02 28.0**	**+2.2**
PLIT	**Plitvice**	**2.29**	**318**	*e*Pn	**Pn**	**06 02 29.8**	**+2.9**
TIR	**Tirane**	**2.42**	**140**	⇑P	**Pn**	**06 02 30.7**	**+2.1**
TIR				⇑S	**Sb**	**06 03 03.8**	**+1.4**
TIR	**Tirane**	**2.42**	**140**	P	**Pn**	**06 02 30.7**	**+2.1**
FRGS	**Fruska Gora**	**2.44**	**36**	⇑P	**Pn**	**06 02 28.5**	**-0.5**
FRGS	**Fruska Gora**	**2.44**	**36**	*e*Pn	**Pn**	**06 02 28.1**	**-0.8**
FRGS	**Fruska Gora**	**2.44**	**36**	*e*Pn	**Pn**	**06 02 29.7**	**+0.8**
FRGS				*e*Sn	**Sn**	**06 03 00.7**	**+1.8**
SELS	**Selova**	**2.44**	**89**	*e*Pn	**Pn**	**06 02 30.0**	**+1.0**
SELS				*e*Sn	**Sn**	**06 03 01.1**	**+2.1**
NVLJ	**Novalja**	**2.50**	**304**	*e*Pn	**Pn**	**06 02 31.8**	**+1.9**
RABC	**Rab**	**2.66**	**306**	*i* Pn	**Pn**	**06 02 34.4**	**+2.4**
MATE	**Matera**	**2.68**	**198**	⇑P	**Pn**	**06 02 34.5**	**+2.3**
BOJS	**Bojanci**	**2.93**	**323**	*i* Pn	**Pn**	**06 02 38.5**	**+2.8**
BOJS				*e*Sn	**Sn**	**06 03 15.4**	**+4.4**
BOJS				IAML		06 03 16.7	
	comp=Z,142nm,0.7s						
BOJS	**Bojanci**	**2.93**	**323**	⇑*i*Pn	**Pn**	**06 02 38.2**	**+2.5**
BOJS				*e*Sn	**Sn**	**06 03 12.9**	**+1.9**
BARS	**Barje**	**2.98**	**96**	*e*Pn	**Pn**	**06 02 38.3**	**+1.8**
BARS				*e*Sn	**Sn**	**06 03 14.5**	**+2.2**
OHR	**Ohrid**	**3.07**	**132**	*i* Pn	**Pb**	**06 02 41.9**	**-1.9**
OHR				*i* Sn	**Sb**	**06 03 19.4**	**-1.9**
KALN	**Kalnik**	**3.07**	**342**	*e*Pn	**Pn**	**06 02 38.6**	**+0.9**
GCIS	**Gornji Cirnik**	**3.08**	**331**	*i* Pn	**Pn**	**06 02 40.4**	**+2.7**
CRES	**Cresnjev**	**3.10**	**328**	⇑*i*Pn	**Pn**	**06 02 40.0**	**+1.9**
CRES				*e*Sn	**Sn**	**06 03 18.2**	**+2.9**
SMRN	**Sveta Marina**	**3.19**	**306**	*e*Pn	**Pn**	**06 02 41.5**	**+2.2**
PRVS	**Prvonek**	**3.23**	**101**	*e*Pn	**Pn**	**06 02 42.3**	**+2.4**
PRVS				*e*Sn	**Sn**	**06 03 21.8**	**+3.3**
MDVR	**Moldovita**	**3.24**	**60**	⇑P	**Pn**	**06 02 40.9**	**+0.9**
ZAGS	**Zajecar**	**3.29**	**78**	*e*Pn	**Pn**	**06 02 41.4**	**+0.7**
ZAGS				*e*Sn	**Sn**	**06 03 20.8**	**+0.8**
BEHE	**Becsehely**	**3.34**	**348**	*e*Pn	**Pn**	**06 02 42.7**	**+1.3**
BEHE				*e*Sn	**Sn**	**06 03 23.3**	**+2.1**
VISS	**Visnje**	**3.34**	**322**	*e*Pn	**Pn**	**06 02 44.0**	**+2.6**
VISS				*e*Sn	**Sn**	**06 03 25.3**	**+4.0**
VISS				IAML		06 03 42.2	
	comp=Z,158nm,1.1s						
BRJN	**Brijuni**	**3.37**	**302**	*e*Pn	**Pn**	**06 02 43.1**	**+1.4**
KBN	**Korca**	**3.42**	**138**	P	**Pn**	**06 02 41.2**	**-1.3**
CEY	**Cerknica**	**3.49**	**318**	⇑*i*Pn	**Pn**	**06 02 45.7**	**+2.2**
CEY				*e*Sn	**Sn**	**06 03 27.1**	**+2.2**
ZAPS	**Zavoj**	**3.54**	**87**	*e*Pn	**Pn**	**06 02 46.0**	**+1.8**
ZAPS				*e*Sn	**Sn**	**06 03 27.5**	**+1.3**
SKDS	**Skadanscina**	**3.57**	**312**	*e*Pn	**Pn**	**06 02 46.9**	**+2.3**
SKDS				*e*Sn	**Sn**	**06 03 28.6**	**+1.6**
FNA	**Florina**	**3.61**	**131**	P	**Pn**	**06 02 47.7**	**+2.6**
BZS	**Buzias**	**3.65**	**47**	⇓P	**Pn**	**06 02 45.4**	**-0.3**
BZS				⇑S	**Sn**	**06 03 30.1**	**+1.3**
NEST	**Nestorio**	**3.71**	**138**	P	**Pn**	**06 02 46.6**	**+0.1**
LSK	**Leskovik**	**3.71**	**144**	P	**Pn**	**06 02 44.4**	**-2.1**
SRN	**Sarande**	**3.72**	**153**	P	**Pn**	**06 02 45.5**	**-1.0**
HERR	**Herculane**	**3.73**	**62**	⇑P	**Pn**	**06 02 47.1**	**+0.3**
JAVS	**Javornik**	**3.78**	**317**	*i* Pn	**Pn**	**06 02 49.6**	**+2.1**
KEK	**Kerkira**	**3.81**	**156**	P	**Pn**	**06 02 45.5**	**-2.3**
SOKA	**Soboth**	**3.98**	**332**	*i* Pn	**Pn**	**06 02 52.9**	**+2.6**
	comp=Z,10nm,0.3s,SNR=7.4						
SURR	**Surduc**	**4.02**	**49**	⇑P	**Pn**	**06 02 50.0**	**-0.6**
OBKA	**Obir**	**4.02**	**326**	*i* Pn	**Pn**	**06 02 54.7**	**+3.9**
	comp=Z,2.5nm,0.3s						
OBKA	**Obir**	**4.02**	**326**	⇑*i*Pn	**Pn**	**06 02 52.6**	**+1.7**
OBKA				*e*Sn	**Sn**	**06 03 39.1**	**+0.9**
TIP	**Timpagrande**	**4.10**	**191**	⇑P	**Pn**	**06 02 53.5**	**+1.6**
SIRR	**Siria**	**4.12**	**41**	⇓P	**Pn**	**06 02 51.7**	**-0.4**
SRE	**Strehaia**	**4.18**	**68**	⇑P	**Pn**	**06 02 53.4**	**+0.5**
GZR	**Gura Zlata**	**4.20**	**57**	⇓P	**Pn**	**06 02 53.5**	**+0.3**
ARSA	**Arzberg**	**4.35**	**339**	*i* Pn	**Pn**	**06 02 56.7**	**+1.5**
	comp=Z,5.2nm,0.3s,SNR=15						
ARSA	**Arzberg**	**4.35**	**339**	*e*Pn	**Pn**	**06 02 57.1**	**+1.9**
ARSA				*e*Sn	**Sn**	**06 03 47.3**	**+1.3**
MYKA	**Terra Mystica**	**4.51**	**321**	*i* Pn	**Pn**	**06 02 59.8**	**+2.3**
	comp=Z,3.0nm,0.6s						
RONA	**Rosalia, Austr**	**4.61**	**347**	*i* Pn	**Pn**	**06 03 02.3**	**+3.4**
	comp=Z,3.6nm,0.4s						
CONA	**Conrad Observa**	**4.91**	**345**	*e*Pn	**Pn**	**06 03 05.7**	**+2.7**
	comp=Z,0.8nm,0.3s						
PSZ	**Piszkesteto**	**4.94**	**17**	⇓P	**Pn**	**06 03 03.3**	**-0.1**
KBA	**Koelnbreinsper**	**4.99**	**322**	*i* Pn	**Pn**	**06 03 07.0**	**+2.9**
	comp=Z,2.9nm,0.4s						
DRGR		**5.00**	**43**	⇑P	**Pn**	**06 03 03.8**	**-0.5**
ZST	**Bratislava**	**5.01**	**355**	*e*SN	**Sn**	**06 04 02.4**	**0.0**
MARR	**Marisel-Cluj**	**5.13**	**46**	⇓P	**Pn**	**06 03 07.0**	**+0.9**
ABTA	**Abfaltersbach**	**5.15**	**315**	*i* Pn	**Pn**	**06 03 09.2**	**+2.9**
	comp=Z,4.9nm,0.5s,SNR=5.0						
MODS	**Modra-Piesok**	**5.18**	**356**	*e*PN	**Pn**	**06 03 08.2**	**+1.5**
MODS				*e*PG	**Pg**	**06 03 25.1**	**-3.0**
MODS				*e*SN	**Sn**	**06 04 08.3**	**+1.8**
MOA	**Molln**	**5.26**	**333**	*i* Pn	**Pn**	**06 03 11.8**	**+4.0**
	comp=Z,2.3nm,0.3s						
VYHS	**Vyhne**	**5.34**	**8**	*e*PN	**Pn**	**06 03 12.3**	**+3.5**
VYHS				*e*PG	**Pg**	**06 03 29.1**	**-2.1**
VYHS				*e*SN	**Sn**	**06 04 11.9**	**+1.5**
BIOA	**Bad Ischl, Aus**	**5.35**	**328**	*e*Pn	**Pn**	**06 03 11.2**	**+2.2**
	comp=Z,3.4nm,0.3s,SNR=6.3						
ARR	**Arges**	**5.37**	**64**	⇑P	**Pn**	**06 03 10.8**	**+1.5**
LESA	**Schwarzleotal**	**5.54**	**321**	*i* Pn	**Pn**	**06 03 14.5**	**+2.7**
	comp=Z,8.2nm,0.3s						
KECS	**Kecovo**	**5.60**	**19**	*e*PN	**Pn**	**06 03 14.8**	**+2.3**
VOIR		**5.67**	**64**	⇑P	**Pn**	**06 03 14.8**	**+1.3**
WTTA	**Wattenberg**	**5.94**	**315**	*i* Pn	**Pn**	**06 03 19.9**	**+2.7**
	comp=Z,1.1nm,0.2s						
WATA	**Walderalm**	**6.02**	**315**	*i* Pn	**Pn**	**06 03 21.2**	**+2.9**
	comp=Z,1.7nm,0.3s						
CKRC	**Cesky Krumlov**	**6.11**	**338**	*e*PN	**Pn**	**06 03 22.1**	**+2.6**
CKRC				*e*SN	**Sn**	**06 04 28.8**	**-0.7**
SQTA	**Sankt Quirin**	**6.14**	**313**	*i* Pn	**Pn**	**06 03 23.4**	**+3.5**
	comp=Z,3.6nm,0.3s						
MOTA	**Moosalm**	**6.27**	**314**	*e*Pn	**Pn**	**06 03 24.2**	**+2.4**
	comp=Z,15nm,0.7s,SNR=4.4						
FETA	**Feichten**	**6.28**	**310**	*i* Pn	**Pn**	**06 03 24.7**	**+2.8**
	comp=Z,3.8nm,0.6s						
PGF	**Pioggiola**	**6.49**	**267**	*e*Pn	**Pn**	**06 03 24.5**	**-0.2**
PGF				*e*Sn	**Sn**	**06 04 34.9**	**-4.0**
	comp=Z,1.7nm,0.3s						
RETA	**Reutte**	**6.54**	**313**	*i* Pn	**Pn**	**06 03 29.8**	**+4.4**
	comp=Z,2.2nm,0.4s						
KHC	**Kasperske Hory**	**6.61**	**335**	*e*PN	**Pn**	**06 03 29.1**	**+2.9**
KHC				*e*SN	**Sn**	**06 04 41.8**	**+0.1**
ZVC	**Zvikov**	**6.71**	**340**	*e*PN	**Pn**	**06 03 31.7**	**+4.0**
ZVC				*e*SN	**Sn**	**06 04 43.4**	**-0.8**
DAVA	**Damuels**	**6.91**	**309**	*e*Pn	**Pn**	**06 03 34.4**	**+3.8**
	comp=Z,0.6nm,0.2s						
PRU	**Pruhonice**	**7.14**	**343**	*e*SN	**Sn**	**06 04 57.0**	**+2.2**
SBF	**Sospel**	**7.55**	**279**	*e*Pn	**Pn**	**06 03 37.5**	**-1.7**
NKC	**Novy Kostel**	**7.92**	**334**	*e*SN	**Sn**	**06 05 12.8**	**-1.3**
MBDF	**Montbardon**	**8.09**	**285**	*e*Pn	**Pn**	**06 03 45.9**	**-0.8**
MBDF				*e*Sn	**Sn**	**06 05 13.4**	**-5.0**
	comp=Z,6.5nm,0.5s						
LMR	**La Mourre**	**8.23**	**275**	*e*Pn	**Pn**	**06 03 47.8**	**-0.7**
LMR				*e*Sn	**Sn**	**06 05 16.4**	**-5.2**
	comp=Z,4.0nm,0.3s						
LPG	**La Plagne**	**8.23**	**290**	*e*Pn	**Pn**	**06 03 47.9**	**-0.9**
LPG				*e*Sn	**Sn**	**06 05 16.9**	**-5.2**
	comp=Z,25nm,0.8s						
LPL	**La Plagne**	**8.25**	**290**	*e*Pn	**Pn**	**06 03 48.3**	**-0.7**
LPL				*e*Sn	**Sn**	**06 05 16.9**	**-5.5**
	comp=Z,12nm,0.6s						
CLL	**Collm**	**8.73**	**340**	*e*Sn	Sn	06 05 22.0	-12
CLL				*e*Sb	Sg	06 06 02.0	-27
CLL				*e*Sg	Sg	06 06 33.0	+4.1
ORIF	**Oris-en-Rattie**	**8.74**	**285**	*e*Pn	**Pn**	**06 03 54.5**	**-1.1**
ORIF				*e*Sn	**Sn**	**06 05 28.9**	**-5.4**
	comp=Z,11nm,0.7s						
SMRF	**Simiane la Rot**	**8.90**	**279**	*e*Pn	**Pn**	**06 03 57.1**	**-0.6**
SMRF				*e*Sn	**Sn**	**06 05 32.2**	**-5.8**
	comp=Z,1.1nm,0.3s						
HINF	**Hinteralfeld**	**8.95**	**305**	*e*Pn	**Pn**	**06 03 57.4**	**-1.0**
CABF	**La Chapelle**	**8.97**	**296**	*e*Pn	**Pn**	**06 03 57.9**	**-0.8**
CABF				*e*Sn	**Sn**	**06 05 34.1**	**-5.8**
	comp=Z,1.7nm,0.3s						
CDF	**Champ du Feu**	**8.99**	**309**	*e*Pn	**Pn**	**06 03 58.0**	**-1.1**
HAU	**Haudompre**	**9.34**	**305**	*e*Pn	**Pn**	**06 04 02.7**	**-1.0**
HAU				*e*Sn	**Sn**	**06 05 42.7**	**-6.2**
	comp=Z,4.6nm,0.4s						
VIVF	**Saint-Julien-l**	**9.59**	**284**	*e*Pn	**Pn**	**06 04 06.3**	**-0.9**
VIVF				*e*Sn	**Sn**	**06 05 48.7**	**-6.3**
	comp=Z,0.9nm,0.3s						
SFTF	**Sexfontaines**	**10.22**	**304**	*e*Pn	**Pn**	**06 04 14.6**	**-1.1**
	baz=115						
SMF	**Signal de Mont**	**10.47**	**294**	*e*Pn	**Pn**	**06 04 18.1**	**-1.1**
SMF				*e*Sn	Sn	06 06 09.9	-6.6
	comp=Z,12nm,0.7s						
SSF	**Saint Saulge**	**10.80**	**296**	*e*Pn	**Pn**	**06 04 22.3**	**-1.4**
SSF				*e*Sn	Sn	06 06 17.5	-7.1
	comp=Z,4.7nm,0.6s						
AVF	**Avril sur Loir**	**10.83**	**294**	*e*Pn	**Pn**	**06 04 23.8**	**-0.3**
AVF				*e*Sn	Sn	06 06 18.2	-7.2
	comp=Z,1.1nm,0.3s						
BGF	**Bois d'Agland**	**11.12**	**293**	*e*Pn	**Pn**	**06 04 27.0**	**-1.0**

*IDC **12** 06:13:46.9±0.4, 46°.35S×96°.05E, h0km, mb4.7/22, mbtmp4.6/22, MS5.1/38, Error ellipse: s-maj=17.1km s-min=11.9km az=150.0*
*BJI **12** 06:13:47.0±0.0, 46°.41S×95°.68E, h9km, mb5.0/55, mB5.3/35, Ms5.4/41, Ms7 5.2/39*
*MOS **12** 06:13:47.8±1.2, 46°.40S×95°.99E, h10km, mb5.2/22, Error ellipse: s-maj=16.0km s-min=9.6km az=84.8*
*NEIC **12** 06:13:49.9±2.3, 46°.36S±0°.09×95°.9E±0°.1, h10km±1km, mb5.2/72, Ms_20 5.3/109, Mwb5.7/26, Mww5.6/18, Error ellipse: s-maj=17.3km s-min=15.7km az=292.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.34; Mθθ-3.82; Mφφ4.16; Mrθ-0.13; Mrφ-3.25; Mθφ-0.10; Fault plane solution: M₀5.16000×10¹⁷ NP1: φs115.42000°, δ88.24000°, λ-179.02000°. NP2: φs25.39000°, δ89.02000°, λ-1.76000°. Principal axes: T 5.3166, Plg1.0000°, Azm70.0000°; N -0.3375, Plg88.0000°, Azm176.0000°; P -4.9791, Plg2.0000°, Azm340.0000°;*
*NEIC **12** 06:13:50.3, 46°.39S×96°.15E, h18km, Moment Tensor Solution. Duration: 3§2 Moment tensor: Scale 10¹⁷Nm; Mrr-0.31; Mθθ-2.60; Mφφ2.91; Mrθ0.07; Mrφ-1.14; Mθφ-1.84; Fault plane solution: M₀3.39000×10¹⁷ NP1: φs215.09000°, δ79.67000°, λ22.78000°. NP2: φs120.78000°, δ67.61000°, λ168.82000°. Principal axes: T 3.9166, Plg23.0000°, Azm80.0000°; N -1.0520, Plg65.0000°, Azm238.0000°; P -2.8646, Plg8.0000°, Azm346.0000°;*
*NEIC **12** 06:13:50.3, 46°.39S×96°.01E, h10km*
*NEIC **12** 06:13:50.3, 46°.39S×96°.01E, h18km*
*GCMT **12** 06:13:51.9±0.1, 46°.40S±0°.01×96°.03E±0°.01, h15km, MW5.6/158, Moment Tensor Solution. s131,c240; s158,c322; Duration: 1§6 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.33±.03; Mθθ-2.76±.04; Mφφ3.09±.04; Mrθ-0.02±.06; Mrφ-1.45±.03; Mθφ0.03±.06; Best double couple: M₀3.26500×10¹⁷ NP1:φs302.00000°, δ90.00000°, λ180.00000°. NP2:φs32.00000°, δ90.00000°, λ0.00000°. Principal axes: T 3.4300, Plg0.0000°, Azm257.0000°; N -0.3300, Plg90.0000°, Azm102.0000°; P -3.1000, Plg0.0000°, Azm347.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 12 06:13:50.6±0.6, 46°.50S±0°.05×95°.97E±0°.06, h18km±3km, n568, σ1§36/536, mb5.1/89, MS5.2/106, 5C-4D, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**17.95**	**56**	T	T	06 36 07.7	
	baz=224,slow=74,SNR=310						
H01W3	**Cape Leeuwin H**	**17.97**	**56**	T	T	06 36 05.7	
	baz=224,slow=74,SNR=181						
H01W1	**Cape Leeuwin H**	**17.97**	**56**	T	T	06 36 11.4	
	baz=224,slow=74,SNR=124						
NWAO	**Narrogin (SRO)**	**21.16**	**58**	P	**P**	**06 18 34.5**	**-0.2**
	baz=21,SNR=4.7						
NWAO				P	**P**	**06 18 34.5**	**-0.2**
	baz=21,SNR=4.7						
NWAO	**Narrogin (SRO)**	**21.16**	**58**	P	**P**	**06 18 34.0**	**-0.7**
NWAO	**Narrogin (SRO)**	**21.16**	**58**	IAMs_20	IAMs_20	06 24 25.3	
	comp=Z,12µm,21.0s						
NWAO	**Narrogin (SRO)**	**21.16**	**58**	P	**P**	**06 18 34.1**	**-0.7**
NWAO				pmax	pmax		
	comp=Z,49nm,1.1s						
NWAO	**Narrogin (SRO)**	**21.16**	**58**	P	**P**	**06 18 30.4**	**-4.3**
	comp=Z,16nm,0.9s,baz=153,slow=6.8,SNR=2.3						
NWAO				LR	LR	06 24 46.2	
	comp=Z,12µm,20.0s,baz=219,slow=31 comp=Z,16nm,0.9s						
MUN	**Mundaring**	**21.27**	**54**	P	**P**	**06 18 35.7**	**-0.3**
	baz=21,SNR=4.4						
CASY	**Casey**	**21.30**	**164**	P	**P**	**06 18 36.3**	**+0.4**
CASY	**Casey**	**21.30**	**164**	IAMs_20	IAMs_20	06 24 34.0	
	comp=Z,13µm,20.0s						
KLBR	**Kellerberrin**	**22.43**	**56**	P	**P**	**06 18 46.8**	**-1.6**
	baz=22,SNR=7.2						
BLDU	**Ballidu**	**22.58**	**53**	P	**P**	**06

WB0 Warramunga Arr 41.17 63 P **P** **06 21 32.3 -1.7**
SMRI Semarang 41.23 22 P **P** **06 21 33.7 -0.9**
ELIB Princess Elisa 41.29 207 *d*P **P** **06 21 34.6 0.0**
comp=Z,15nm,1.2s
ELIB *d*PP **PP** **06 23 10.8 +1.0**
ABJI Asem Bagus 41.63 28 P **P** **06 21 38.6 +0.8**
comp=Z,56nm,1.6s
TWSI Taliwang, Sumb 41.67 32 P **P** **06 21 38.6 +0.5**
comp=Z,44nm,1.1s,comp=Z,811nm
PLAI Plampang 41.92 33 P **P** **06 21 40.5 +0.3**
comp=Z,29nm,2.4s,comp=Z,842nm
MNAI Manna 42.41 10 IAMs_20 IAMs_20 06 34 53.7
comp=Z,3µm,20.0s
QLP Quilpie 42.81 80 P **P** **06 21 48.4 +1.0**
baz=43,SNR=3.6
BATI Baumata 43.17 42 LR LR 06 39 22.1
comp=Z,3µm,19.1s,baz=203,slow=36
EDFI Ende, Flores 43.58 38 P **P** **06 21 52.4 -1.3**
comp=Z,59nm,1.2s,comp=Z,604nm
QSPA South Pole Qui 43.64 180 P **P** **06 21 54.8 +0.9**
QSPA IAmb IAmb 06 22 09.7
comp=Z,74nm,1.6s
QSPA South Pole Qui 43.64 180 P **P** **06 21 53.6 -0.3**
comp=Z,7.4nm,0.7s,baz=296,slow=2.1,SNR=35
QSPA PP **PP** **06 23 35.0 -0.1**
comp=Z,5.8nm,1.1s,baz=317,slow=17,SNR=6.8
QSPA LR LR 06 38 60.0
comp=Z,9µm,18.6s,baz=312,slow=34
comp=Z,7.4nm,0.7s
H08S2 Diego Garcia H 43.65 325 T T 07 08 27.8
baz=156,slow=76,SNR=82
H08S1 Diego Carcia H 43.65 325 T T 07 08 25.2
baz=156,slow=76,SNR=98
H08S3 Diego Garcia H 43.67 325 T T 07 08 26.2
baz=156,slow=76,SNR=88
SOEI Soe 43.84 42 IAMs_20 IAMs_20 06 39 07.8
comp=Z,4µm,19.0s
QIS Mount Isa 43.87 69 P **P** **06 21 55.6 -0.4**
baz=44,SNR=5.3
DGAR Diego Garcia 43.87 325 P **P** **06 21 53.6 -2.4**
DGAR Diego Garcia 43.87 325 P **P** **06 21 53.6 -2.4**
DGAR pmax pmax
comp=Z,435nm,1.7s
FOMA Nahampoana Res 44.35 282 IAMs_20 IAMs_20 06 36 26.7
comp=Z,3µm,19.0s
MTN Manton Dam 44.73 53 P **P** **06 22 02.6 -0.2**
baz=45
MTN Manton Dam 44.73 53 P **P** **06 22 01.8 -1.0**
NVL N'lazarevskaya 45.12 208 *e*P **P** **06 22 04.2 -1.1**
NVL *e*S **S** **06 28 40.6 -2.8**
NVL pmax pmax
comp=Z,43nm,1.5s
NVL smax smax
comp=N,739nm,9.4s
ARMA Armidale 45.51 90 P **P** **06 22 09.7 +0.6**
baz=46,SNR=4.0
ARMA Armidale 45.51 90 P **P** **06 22 08.7 -0.4**
ARMA IAmb IAmb 06 22 22.0
comp=Z,29nm,1.1s
KDU Kakadu 45.60 54 P **P** **06 22 08.1 -1.7**
baz=46
VOI Vohitsoka 46.56 285 IAMs_20 IAMs_20 06 36 39.0
comp=Z,3µm,21.0s
TROLL Troll, Antarti 47.59 205 ⇑P **P** **06 22 25.4 +0.5**
comp=Z,987nm,0.9s
GSI Gunungsitoli 47.62 2 P **P** **06 22 24.9 -0.6**
GSI IAMs_20 IAMs_20 06 37 44.9
comp=Z,2µm,20.0s
CTA Charters Tower 48.57 75 P **P** **06 22 29.3 -3.7**
comp=Z,8.8nm,1.0s,baz=302,slow=9.5,SNR=1.8
CTA LR LR 06 41 39.6
comp=Z,4µm,19.0s,baz=270,slow=34
comp=Z,8.8nm,1.0s
CTAO Charters Tower 48.57 75 IAMs_20 IAMs_20 06 41 26.8
comp=Z,4µm,18.0s
MYKOM Kota Tinggi 48.59 11 IAMs_20 IAMs_20 06 39 40.4
comp=Z,3µm,20.0s
SNAA Sanae 49.27 204 P **P** **06 22 37.8 0.0**
SNAA IAmb IAmb 06 22 42.3
comp=Z,48nm,1.1s
SNAA IAMs_20 IAMs_20 06 40 10.6
comp=Z,4µm,20.0s
SNAA Sanae 49.27 204 *i* P **P** **06 22 38.3 +0.5**
SNAA pmax pmax
comp=Z,56nm,1.2s
SNAA Sanae 49.27 204 ⇑P **P** **06 22 37.8 0.0**
comp=Z,550nm,1.2s
SNAA Sanae 49.27 204 P **P** **06 22 37.3 -0.5**
comp=Z,35nm,1.1s,baz=146,slow=11,SNR=12
SNAA LR LR 06 40 22.0
comp=Z,4µm,21.1s,baz=84,slow=32
comp=Z,35nm,1.1s
VNA2 Neumayer--Watz 50.92 204 ⇑P **P** **06 22 50.2 0.0**
comp=Z,18nm,0.7s,baz=118,slow=8.7
VNA2 ⇓PP **PP** **06 24 51.4 +5.2**
comp=Z,8.7nm,0.6s,baz=118,slow=8.7
IPM Ipoh 50.96 7 IAMs_20 IAMs_20 06 41 27.1
comp=Z,2µm,18.0s
KAAM Kaadhehdhoo 50.96 330 IAMs_20 IAMs_20 06 38 26.2
comp=Z,3µm,19.0s
VNA3 Neumayer Olymp 51.39 203 ⇑P **P** **06 22 52.7 -1.1**
comp=Z,17nm,0.8s
OXZ Oxford 52.00 116 IAMs_20 IAMs_20 06 40 00.6
comp=Z,2µm,21.0s
MQZ McQueen's Vall 52.18 117 IAMs_20 IAMs_20 06 40 42.5
comp=Z,4µm,20.0s
TOLI2 Tolitoli 52.20 32 P **P** **06 22 58.7 -1.6**
BELA Belgrano 2 52.29 192 P **P** **06 23 00.5 +0.2**
BELA IAmb IAmb 06 23 12.9
comp=Z,76nm,1.9s
DSZ Denniston Nort 52.69 114 IAMs_20 IAMs_20 06 39 54.0
comp=Z,2µm,21.0s
GVZ Greta Valley S 52.81 116 IAMs_20 IAMs_20 06 41 03.1
comp=Z,2µm,20.0s
GRHM Grahamstown, E 53.37 258 P **P** **06 23 08.9 -0.1**
NNZ Nelson 53.97 114 IAMs_20 IAMs_20 06 40 44.9
comp=Z,2µm,21.0s
BSWZ Blackbirch Sta 54.01 115 P **P** **06 23 12.8 -0.7**
SOE Somerset East 54.25 258 P **P** **06 23 15.8 +0.3**
SOE IAmb IAmb 06 23 18.0
comp=Z,31nm,1.0s
SNZO South Karori 54.75 115 IAMs_20 IAMs_20 06 41 55.6
comp=Z,2µm,20.0s
PALK Pallekele 55.24 341 LR LR 06 41 39.4
comp=Z,2µm,20.6s,baz=275,slow=30
MRZ Mangatainoka R 55.66 115 P **P** **06 23 26.0 +0.5**
MRZ IAmb IAmb 06 24 02.9
comp=Z,50nm,1.5s
MRZ IAMs_20 IAMs_20 06 42 42.7
comp=Z,2µm,20.0s
HMDM Hanimaadhoo 56.78 333 IAMs_20 IAMs_20 06 42 37.5
comp=Z,2µm,18.0s
BOSA Boshof 56.97 262 P **P** **06 23 34.5 -0.6**
BOSA Boshof 56.97 262 P **P** **06 23 34.5 -0.6**
BOSA pmax pmax
comp=Z,65nm,1.6s
BOSA Boshof 56.97 262 P **P** **06 23 33.7 -1.4**
comp=Z,7.9nm,0.8s,baz=144,slow=7.7,SNR=12
BOSA LR LR 06 42 35.2
comp=Z,4µm,20.7s,baz=147,slow=30
comp=Z,7.9nm,0.8s
PMG Port Moresby 57.01 66 LR LR 06 46 19.7
comp=Z,4µm,19.4s,baz=212,slow=34
BKZ Black Stump Fm 57.10 114 P **P** **06 23 35.7 -0.2**
BKZ IAmb IAmb 06 23 49.7
comp=Z,36nm,1.3s
SUR Sutherland 57.65 256 P **P** **06 23 40.4 +0.4**
SUR IAmb IAmb 06 23 44.6
comp=Z,41nm,1.2s
SUR Sutherland 57.65 256 P **P** **06 23 39.6 -0.4**
comp=Z,19nm,0.9s,baz=117,slow=8.3,SNR=10
SUR LR LR 06 43 52.3
comp=Z,3µm,18.2s,baz=136,slow=31
comp=Z,19nm,0.9s
RTZ Ruatahuna 57.73 114 P **P** **06 23 40.8 +0.5**
URZ Urewera 58.02 114 LR LR 06 45 47.1
comp=Z,1µm,18.3s,baz=317,slow=33
LBTB Lobatse 59.03 265 P **P** **06 23 49.2 -0.4**
LBTB IAmb IAmb 06 23 53.0
comp=Z,22nm,1.2s
LBTB Lobatse 59.03 265 P **P** **06 23 49.2 -0.4**
LBTB pmax pmax
comp=Z,23nm,1.2s
LBTB Lobatse 59.03 265 P **P** **06 23 48.2 -1.4**
comp=Z,9.1nm,0.9s,baz=134,slow=8.3,SNR=11
LBTB LR LR 06 44 25.8
comp=Z,3µm,19.2s,baz=136,slow=31
comp=Z,9.1nm,0.9s
DAV Davao City (W) 59.49 35 LR LR 06 48 21.7
comp=Z,187nm,20.5s,baz=184,slow=35
DZM Mont Dzumac 61.04 92 LR LR 06 46 25.2
comp=Z,2µm,20.0s,baz=245,slow=32
LSZ Lusaka 63.80 275 P **P** **06 24 21.6 -0.4**
LSZ IAMs_20 IAMs_20 06 47 05.2
comp=Z,3µm,20.0s
LSZ Lusaka 63.80 275 P **P** **06 24 21.6 -0.4**
comp=Z,2.3nm,0.5s,baz=165,slow=6.7,SNR=9.4
LSZ LR LR 06 47 17.0
comp=Z,3µm,19.8s,baz=144,slow=32
comp=Z,2.3nm,0.5s
CM31 Chiang Mai Arr 64.71 3 P **P** **06 24 26.7 -0.8**
CM31 IAmb IAmb 06 24 34.4
comp=Z,24nm,1.1s
CMAR Chiang Mai Arr 64.71 3 P **P** **06 24 26.3 -1.2**
CMAR Chiang Mai Arr 64.71 3 *e*P **P** **06 24 26.7 -0.8**
CMAR pmax pmax
comp=Z,13nm,1.0s
CMAR Chiang Mai Arr 64.71 3 P **P** **06 24 25.9 -1.6**
comp=Z,12nm,0.9s,baz=204,slow=6.0,SNR=24
CMAR LR LR 06 47 59.3
comp=Z,2µm,21.4s,baz=185,slow=32
comp=Z,12nm,0.9s
PHRA Phrae 64.81 4 P **P** **06 24 27.5 -0.6**
CHTO Chiang Mai 65.06 3 P **P** **06 24 28.6 -1.2**
CHTO IAmb IAmb 06 24 31.4
comp=Z,9.3nm,0.9s
CHTO Chiang Mai 65.06 3 IAMs_20 IAMs_20 06 47 47.0
comp=Z,2µm,21.0s
CHTO Chiang Mai 65.06 3 P **P** **06 24 28.6 -1.2**
CHTO pmax pmax
comp=Z,9.0nm,0.9s
QIZ Qiongzhong 66.42 14 P **P** **06 24 37.0 -1.6**
QIZ S **S** **06 33 32.2 +4.4**
QIZ SS **SS** **06 37 49.8 +4.6**
QIZ pmax pmax
comp=Z,30nm,1.4s
QIZ LR LR
comp=Z,410nm,21.9s
QIZ LR LR
comp=Z,980nm,18.6s
QIZ LR LR
comp=Z,1µm,20.6s
WIN Windhoek 66.47 262 P **P** **06 24 39.8 +0.5**
WIN Windhoek 66.47 262 P **P** **06 24 39.8 +0.5**
WIN pmax pmax
comp=Z,60nm,1.6s
CRAI Chiangrai 66.53 5 P **P** **06 24 38.8 -0.5**
KIBK Kibwezi 66.68 293 IAMs_20 IAMs_20 06 46 58.5
comp=Z,1µm,20.0s
RAO Raoul Island 66.90 109 LR LR 06 49 58.1
comp=Z,783nm,19.2s,baz=278,slow=32
SLVN Son La 67.89 8 P **P** **06 24 47.4 -0.5**
SLVN IAmb IAmb 06 25 02.1
comp=Z,9.6nm,1.0s
PMSA Palmer Station 67.97 189 LR LR 06 52 32.8
comp=Z,1µm,20.1s,baz=156,slow=34
TSUM Tsumeb 68.42 265 P **P** **06 24 51.5 -0.1**
TSUM Tsumeb 68.42 265 IAMs_20 IAMs_20 06 49 00.8
comp=Z,3µm,21.0s
TSUM Tsumeb 68.42 265 P **P** **06 24 51.2 -0.4**
comp=Z,2.5nm,0.4s,baz=143,slow=8.7,SNR=7.0
TSUM LR LR 06 49 23.1
comp=Z,2µm,21.0s,baz=150,slow=31
comp=Z,2.5nm,0.4s
TNCH TengChong 71.23 2 P **P** **06 25 10.3 +1.7**
TNCH sP sP 06 25 15.2 -0.2
TNCH pmax pmax
comp=Z,190nm,2.4s
KMI Kunming 71.55 6 ⇑P **P** **06 25 12.6 +2.0**
KMI PcP **PcP** **06 25 28.7 -1.2**
KMI S **S** **06 34 34.7 +5.9**
KMI pmax pmax
comp=Z,23nm,1.0s
KMI pmax pmax
comp=Z,270nm,4.3s
KMI LR LR
comp=Z,1µm,19.5s
KMI LR LR
comp=Z,950nm,18.2s
KMI LR LR
comp=Z,1µm,19.0s
MBAR Mbarara 72.72 288 *i* P **P** **06 25 17.5 -0.5**
MBAR pmax pmax
comp=Z,6.0nm,1.3s
MBAR Mbarara 72.72 288 LR LR 06 53 20.6
comp=Z,2µm,19.3s,baz=128,slow=33
LODK Lodwar 72.81 294 P **P** **06 25 17.1 -1.2**
PZH PanZhiHua 72.85 5 P **P** **06 25 19.0 +0.8**
PZH S **S** **06 34 44.4 +0.9**
PZH SKS **SKSac** **06 35 20.8 -1.8**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,270nm,5.2s
PZH LR LR
comp=Z,790nm,18.6s
PZH LR LR
comp=Z,700nm,21.0s
PZH LR LR
comp=Z,1µm,18.6s
GYA Guiyang 73.26 10 P **P** **06 25 22.7 +2.0**
GYA S **SKiKP** **06 34 51.2 -0.1**
GYA SS **SS** **06 39 28.0 -2.7**
GYA pmax pmax
comp=Z,17nm,0.8s
GYA LR LR
comp=Z,940nm,20.2s
GYA LR LR
comp=Z,890nm,18.7s
GYA LR LR
comp=Z,1µm,18.6s
SSLB Suanglung 73.53 24 P **P** **06 25 20.9 -1.3**
SSLB IAmb IAmb 06 25 35.2
comp=Z,27nm,1.1s
ATD Arta Tunnel 74.77 306 LR LR 06 53 09.4
comp=Z,20nm,19.9s,baz=130,slow=32
H09W1 TRISTAN DA CUN 74.88 232 T T 07 48 47.8
SNR=2.1
H09N1 TRISTAN DA CUN 74.89 232 T T 07 49 30.8
SNR=14
LSA Lhasa 75.97 356 P **P** **06 25 35.8 -1.0**
LSA IAmb IAmb 06 25 43.4
comp=Z,22nm,1.4s
LSA Lhasa 75.97 356 P **P** **06 25 35.8 -1.0**
LSA pmax pmax
comp=Z,21nm,1.4s
WSAR Wadi Sarin 77.20 325 LR LR 06 54 53.6
comp=Z,1µm,18.1s,baz=158,slow=32
CD2 Chengdu 77.37 7 P **P** **06 25 45.2 +1.1**
CD2 S **S** **06 35 35.0 +1.5**
CD2 pmax pmax
comp=Z,170nm,5.2s
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 LR LR
comp=Z,1µm,18.2s
CD2 LR LR
comp=Z,720nm,18.4s
CD2 LR LR
comp=Z,1µm,17.6s
ENH Enshi 77.39 12 IAMs_20 IAMs_20 06 58 32.6
comp=Z,1µm,19.0s
USHA Ushuaia 78.18 189 LR LR 06 58 47.3
comp=Z,2µm,19.8s,baz=164,slow=34
JOW Kunigami 78.64 29 LR LR 07 01 01.2
comp=Z,294nm,18.7s,baz=190,slow=36
SSE Sheshan 80.53 22 P **P** **06 26 01.5 +0.1**
SSE S **S** **06 36 10.1 +3.1**
SSE pmax pmax
comp=Z,14nm,0.6s
SSE pmax pmax
comp=Z,51nm,5.1s
SSE LR LR
comp=Z,260nm,16.2s
SSE LR LR
comp=Z,170nm,16.2s
NJ2 Nanjing 80.88 20 *e*P **P** **06 26 05.2 +2.0**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
XAN Xi'an 81.02 11 P **P** **06 26 02.6 -1.4**
XAN pP pwP 06 26 14.0 +1.2
XAN S **S** **06 36 08.5 -3.6**
XAN SS **SS** **06 41 26.0 -1.6**
XAN pmax pmax
comp=Z,18nm,0.8s
XAN pmax pmax
comp=Z,210nm,4.0s
XAN LR LR
comp=Z,2µm,21.0s
XAN LR LR
comp=Z,990nm,21.0s
XAN LR LR
comp=Z,3µm,20.8s
LYN LuoYang 82.04 14 *e*P **P** **06 26 07.3 -2.0**
LYN sP pP 06 26 15.6 +1.3
LYN S **S** **06 36 21.9 -0.7**
LYN pmax pmax
comp=Z,15nm,0.9s
LYN pmax pmax
comp=Z,130nm,4.8s
LYN LR LR
comp=Z,1µm,21.3s
LYN LR LR
comp=Z,1µm,20.6s
LYN LR LR
comp=Z,2µm,18.5s
GOMU GeErMu 82.33 359 P **P** **06 26 12.8 +1.5**
GOMU pP sP 06 26 18.9 +0.7
GOMU sP pwP 06 26 20.4 +0.3
GOMU S **S** **06 36 25.3 -1.0**
GOMU pmax pmax
comp=Z,3.0nm,0.7s
GOMU LR LR
comp=Z,610nm,19.2s
GOMU LR LR
comp=Z,550nm,19.6s
GOMU LR LR
comp=Z,660nm,19.1s
NIL Nilore 82.37 341 P **P** **06 26 10.0 -1.1**
NIL IAmb IAmb 06 26 17.2
comp=Z,30nm,1.1s
NIL Nilore 82.37 341 P **P** **06 26 10.0 -1.1**
NIL pmax pmax
comp=Z,30nm,1.1s
LZH Lanzhou 82.52 6 *e*P **P** **06 26 12.9 +0.9**
LZH pP pP 06 26 18.2 +1.2
LZH S **S** **06 36 27.9 +0.1**
LZH SS **SS** **06 41 48.0 -2.2**
LZH pmax pmax
comp=Z,20nm,1.0s
LZH pmax pmax
comp=Z,280nm,4.8s
LZH LR LR
comp=Z,540nm,18.9s
LZH LR LR
comp=Z,830nm,18.5s
LZH LR LR
comp=Z,710nm,21.0s
RAYN Ar Rayn 83.30 315 P **P** **06 26 16.3 +0.1**
RAYN IAmb IAmb 06 26 41.3
comp=Z,29nm,1.6s
RAYN Ar Rayn 83.30 315 P **P** **06 26 16.3 +0.1**
RAYN pmax pmax
comp=Z,29nm,1.6s
RAR Rarotonga 84.19 115 LR LR 06 57 26.0
comp=Z,323nm,19.2s,baz=255,slow=31
KBL Kabul 84.24 338 P **P** **06 26 19.7 -1.3**
KBL IAmb IAmb 06 26 27.4
comp=Z,16nm,0.9s
KBL Kabul 84.24 338 P **P** **06 26 19.7 -1.3**
KBL pmax pmax
comp=Z,15nm,1.0s
HNS HongShan 85.20 15 ⇓P **P** **06 26 23.9 -1.5**
HNS S **SKSac** **06 36 50.5 +1.6**
HNS ScS **SKKSac** **06 36 58.0 +2.7**
HNS SS **SS** **06 42 25.1 -4.4**
HNS pmax pmax
comp=Z,12nm,1.2s
HNS LR LR
comp=Z,320nm,19.1s
HNS LR LR
comp=Z,520nm,18.3s
HNS LR LR
comp=Z,640nm,18.1s
JNU Nakatsue 85.29 29 P **P** **06 26 25.7 -0.3**
GTA Gaotai 85.60 3 P **P** **06 26 25.6 -2.0**
GTA sP pP 06 26 33.1 +0.5
GTA S **SKSac** **06 36 53.6 +1.9**
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA pmax pmax
comp=Z,140nm,4.7s
GTA LR LR
comp=Z,540nm,20.0s
GTA LR LR
comp=Z,1µm,18.5s
GTA LR LR
comp=Z,1µm,17.8s
HRA Herat 86.06 333 P **P** **06 26 30.8 +0.7**
HRA IAmb IAmb 06 26 40.1
comp=Z,19nm,1.4s
KSH Kashi 87.48 345 P **P** **06 26 34.0 -2.8**
KSH pP PcP 06 26 38.1 -0.7
KSH pmax pmax
comp=Z,5.0nm,2.2s
KSH LR LR
comp=Z,1µm,16.7s
KSH LR LR
comp=Z,2µm,16.9s
KSH LR LR
comp=Z,1µm,18.6s
BTO Baotou 87.63 11 *e*P **P** **06 26 38.6 +1.2**
BTO pP **pP** **06 26 43.4 +0.9**
BTO sP **sP** **06 26 45.6 +1.3**
BTO PP **PP** **06 30 06.4 +3.0**
BTO S **S** **06 37 23.0 +5.0**
BTO SS **SS** **06 43 08.4 +3.2**
BTO pmax pmax
comp=Z,29nm,1.9s
BTO pmax pmax
comp=Z,440nm,4.6s
BTO LR LR
comp=Z,2µm,22.9s
BTO LR LR
comp=Z,1µm,19.7s
BTO LR LR
comp=Z,3µm,21.6s
BJI Beijing 88.03 15 P **P** **06 26 40.4 +1.2**
BJI PcP **PcP** **06 26 42.5 +1.5**
BJI S **S** **06 37 25.3 +3.7**
BJI SS **SS** **06 43 16.2 +5.3**
BJI pmax pmax
comp=Z,2.0nm,0.8s
BJI pmax pmax
comp=Z,83nm,4.6s
BJI LR LR
comp=Z,150nm,15.8s
BJI LR LR
comp=Z,170nm,18.5s
BJI LR LR
comp=Z,170nm,20.6s
HHC Hu-ho-hao-te 88.07 12 *e*P **P** **06 26 41.9 +2.3**
HHC sP pwP 06 26 48.8 +0.3
HHC SKS **SKSac** **06 37 07.4 +0.6**
HHC S **S** **06 37 24.7 +2.4**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,100nm,4.5s
HHC LR LR
comp=Z,1µm,22.1s
HHC LR LR
comp=Z,740nm,19.1s
HHC LR LR
comp=Z,2µm,20.9s
CHGR Chuyangaron 88.11 339 P **P** **06 26 40.2 +0.4**
CHGR Chuyangaron 88.11 339 P **P** **06 26 40.2 +0.4**
CHGR pmax pmax
comp=Z,23nm,1.0s
SIMJ Simiganj 88.15 339 P **P** **06 26 38.3 -1.7**
SIMJ IAmb IAmb 06 26 46.8
comp=Z,17nm,1.0s
GAR Garm 88.17 340 P **P** **06 26 38.4 -1.7**
KSAR Wonju Array Be 88.34 25 P **P** **06 26 39.7 -1.0**
KSAR Wonju Array Be 88.34 25 P **P** **06 26 39.7 -1.0**
KSRS Korea Array 88.36 25 *e*P P 06 26 47.7 +6.8
KSRS pmax pmax
comp=Z,2.0nm,0.9s
KSRS Korea Array 88.36 25 P **P** **06 26 39.5 -1.4**

comp=Z,0.6nm,0.4s,baz=193,slow=4.0,SNR=1.8
comp=Z,0.6nm,0.4s
JHJ Hachijo jima 2 88.56 36 LR LR 07 06 55.6
comp=Z,244nm,20.5s,baz=182,slow=36
TBI Tubuai 88.80 123 *e*S **S 06 37 33.3 +3.2**
comp=Z,1µm,38.0s
TBI *e*SS **SS 06 43 14.5 -6.6**
comp=Z,795nm,37.2s
TBI Tubuai 88.80 123 *e*LR LR 06 54 52.1
comp=Z,4µm,29.2s
BTK Batken 89.06 341 P **P 06 26 45.9 +1.7**
BTK Batken 89.06 341 P **P 06 26 45.9 +1.7**
BTK pmax pmax
comp=Z,6.0nm,1.0s
NRN Naryn 89.34 345 P **P 06 26 46.6 +0.8**
NRN Naryn 89.34 345 P **P 06 26 46.6 +0.8**
NRN pmax pmax
comp=Z,6.0nm,1.3s
LL02 Futaleuf 90.04 189 P **P 06 26 49.0 0.0**
LL02 IAmb IAmb 06 30 16.2
comp=Z,39nm,1.6s
WMQ Urumqi 90.23 354 *e*P **P 06 26 49.5 -0.1**
WMQ PP **PP 06 30 24.4 +0.3**
WMQ pmax pmax
comp=Z,14nm,1.3s
WMQ LR LR
comp=Z,600nm,18.3s
WMQ LR LR
comp=Z,740nm,15.7s
WMQ LR LR
comp=Z,550nm,19.3s
GEYT Alibeck 90.65 331 P **P 06 26 52.4 +0.8**
GEYT IAmb IAmb 06 27 11.3
comp=Z,28nm,1.8s
GEYT Alibeck 90.65 331 P **P 06 26 52.4 +0.8**
GEYT pmax pmax
comp=Z,28nm,1.8s
GEYT Alibeck 90.65 331 P **P 06 26 52.2 +0.6**
comp=Z,1.3nm,0.4s,baz=130,slow=2.3,SNR=1.5
GEYT LR LR 07 02 13.4
comp=Z,805nm,20.7s,baz=154,slow=32
comp=Z,1.3nm,0.4s
AAK Ala-Archa 90.78 344 P **P 06 26 52.4 +0.1**
AAK Ala-Archa 90.78 344 *i* P **P 06 26 51.6 -0.7**
AAK pmax pmax
comp=Z,7.0nm,1.6s
AAK Ala-Archa 90.78 344 P **P 06 26 51.3 -1.0**
comp=Z,0.7nm,0.5s,baz=178,slow=7.9,SNR=2.7
AAK LR LR 07 04 28.5
comp=Z,832nm,19.0s,baz=168,slow=34
comp=Z,0.7nm,0.5s
MJAR Matsushiro Arr 90.96 33 P **P 06 26 51.9 -1.3**
comp=Z,2.4nm,0.7s,baz=183,slow=4.4,SNR=5.0
comp=Z,2.4nm,0.7s
MJA0 Matsu Arr-Jizo 90.98 33 *e*P **P 06 26 54.3 +1.1**
MJA0 pmax pmax
comp=Z,2.0nm,0.6s
XLT XiLinHaoTe 91.76 14 *e*P **P 06 26 57.4 +0.7**
XLT pP pP 06 27 01.5 -0.3
XLT sP sP 06 27 04.9 +1.3
XLT pmax pmax
comp=Z,9.0nm,0.9s
XLT pmax pmax
comp=Z,110nm,5.1s
KKAR Karatay Array 92.03 342 P **P 06 26 57.4 -0.5**
KKAR Karatay Array 92.03 342 P **P 06 26 57.4 -0.5**
PLCA Paso Flores 92.32 190 P **P 06 26 59.5 -0.3**
comp=Z,1.5nm,0.9s,baz=225,slow=1.4,SNR=1.8
PLCA LR LR 07 06 43.2
comp=Z,1µm,22.0s,baz=170,slow=34
comp=Z,1.5nm,0.9s
PPT2 Papeete2 93.19 120 *e*S **S 06 38 08.5 -2.0**
comp=Z,126nm,25.0s
PPT2 *e*SS **SS 06 44 30.1 +5.2**
comp=Z,424nm,28.0s
PPT2 Papeete2 93.19 120 *e*LR LR 06 57 02.6
comp=Z,1µm,26.0s
PPT2 *e*LR LR 06 57 09.7
comp=Z,921nm,27.0s
PPT Papeete 93.20 120 LR LR 07 00 25.2
comp=Z,415nm,21.4s,baz=250,slow=30
MK31 Makanchi Array 93.68 351 P **P 06 27 05.7 +0.2**
MK31 Makanchi Array 93.68 351 *i* P **P 06 27 07.7 +2.3**
MKAR Makanchi Array 93.68 351 P **P 06 27 05.7 +0.2**
MKAR Makanchi Array 93.68 351 P **P 06 27 05.7 +0.2**
EIL Elat 93.71 310 LR LR 07 02 41.5
comp=Z,1µm,21.0s,baz=104,slow=31
MAKZ Makanchi 93.73 350 P **P 06 27 05.9 +0.2**
MAKZ IAmb IAmb 06 27 11.6
comp=Z,6.9nm,1.1s
MAKZ IAMs_20 IAMs_20 07 06 51.8
comp=Z,1µm,20.0s
MAKZ Makanchi 93.73 350 P **P 06 27 05.9 +0.2**
MAKZ pmax pmax
comp=Z,7.0nm,1.1s
SONM Songino Array 94.39 7 P **P 06 27 06.5 -2.3**
comp=Z,1.5nm,1.0s,baz=170,slow=4.5,SNR=6.7
SONM LR LR 07 07 25.4
comp=Z,734nm,22.0s,baz=162,slow=34
comp=Z,1.5nm,1.0s
ULN Ulaanbaatar 94.48 7 P **P 06 27 09.0 -0.2**
ULN IAmb IAmb 06 27 39.1
comp=Z,16nm,1.9s
ULN Ulaanbaatar 94.48 7 *i* P **P 06 27 08.6 -0.7**
ULN pmax pmax
comp=Z,8.0nm,2.2s
GHAJ Ghor Haditha 94.69 312 IAMs_20 IAMs_20 07 03 54.3
comp=Z,1µm,20.0s
MDJ Mudanjiang 95.47 23 P **P 06 27 14.9 +1.3**
MDJ PP **PP 06 31 06.7 +1.5**
MDJ S **S 06 38 32.7 +4.0**
MDJ pmax pmax
comp=Z,4.0nm,0.5s
MDJ pmax pmax
comp=Z,100nm,6.2s
USRK Ussuriysk Ar. 95.77 25 LR LR 07 11 43.8
comp=Z,196nm,19.4s,baz=193,slow=36
DGZ Jazzator, Alta 96.11 354 *i* P **P 06 27 16.9 +0.3**
DGZ pmax pmax
comp=Z,6.0nm,2.1s
MMAI Mount Meron Ar 96.14 313 LR LR 07 05 18.5
comp=Z,714nm,19.4s,baz=90,slow=32
HIA Hailar 97.60 15 IAMs_20 IAMs_20 07 12 25.5
comp=Z,622nm,20.0s
GNI Garni 97.63 323 IAMs_20 IAMs_20 07 08 10.6
comp=Z,708nm,19.0s
GNI Garni 97.63 323 LR LR 07 08 12.9
comp=Z,603nm,18.5s,baz=160,slow=34
KURBB Kurchatov Arra 97.91 349 P **P 06 27 24.1 -0.4**
comp=Z,0.3nm,0.4s,baz=191,slow=4.4,SNR=1.5
comp=Z,0.3nm,0.4s
KURK Kurchatov 97.99 349 *i* P Pdif 06 27 26.6 +1.7
KURK pmax pmax
comp=Z,2.0nm,1.2s
CSS Mathiatis 98.72 312 IAMs_20 IAMs_20 07 06 30.1
comp=Z,746nm,20.0s
MAK Makhachkala 98.90 326 *e*P **P 06 27 26.5 -2.7**
MAK *e* 06 31 30.4
MAK *e* 06 38 01.9
MAK *e*SS SS 06 45 43.2 -3.2
MAK pmax pmax
comp=Z,285nm,1.2s
MAK MLR MLR
comp=Z,475nm,18.0s
ARPR Arapgir-MALATY 99.57 318 IAMs_20 IAMs_20 07 08 48.3
comp=Z,1µm,21.0s
KLR Kul'dur 100.29 23 *i* P **Pdif 06 27 35.7 +0.5**
KLR pmax pmax
comp=Z,1.0nm,0.6s
KIV Kislovodsk 101.64 324 *e*P **Pdif 06 27 41.5 0.0**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,395nm,20.0s
TORD Torodi Ar. Bea 102.33 276 PP **PP 06 31 55.3 -2.5**
comp=Z,0.7nm,0.9s,baz=123,slow=5.1,SNR=3.0
SPB Sao Paulo 102.77 214 IAMs_20 IAMs_20 07 12 20.0
comp=Z,683nm,20.0s
TAM Tamanrasset 106.47 286 IAMs_20 IAMs_20 07 15 49.4
comp=Z,1µm,18.0s
WDD Wied Dalam 109.75 301 IAMs_20 IAMs_20 07 22 54.7
comp=Z,817nm,18.0s
MLR Muntele Rosu 110.36 315 IAMs_20 IAMs_20 07 28 22.9
comp=Z,559nm,20.0s
CEL Celeste 110.62 304 IAMs_20 IAMs_20 07 24 24.4
comp=Z,603nm,19.0s
TIP Timpagrande 110.76 305 IAMs_20 IAMs_20 07 26 59.0
comp=Z,658nm,19.0s
YAK Yakutsk 111.52 16 IAMs_20 IAMs_20 07 21 34.5
comp=Z,555nm,18.0s
KIEV Kiev 112.62 321 IAMs_20 IAMs_20 07 19 12.3
comp=Z,664nm,22.0s
PABE Paberze 118.24 322 IAMs_20 IAMs_20 07 25 59.0
comp=Z,872nm,20.0s
GERES GERESS Array B 118.78 312 PKP **PKiKP 06 32 37.3 +0.3**
comp=Z,0.3nm,0.2s,baz=115,slow=1.6,SNR=1.5
CART Cartagena 120.38 294 IAMs_20 IAMs_20 07 20 20.5
comp=Z,898nm,19.0s
CLL Collm 120.65 314 *e*SS SS 06 50 37.0 -1.2
CLL *e*SSS SSS 06 55 10.0
CLL *e*SSSS 06 58 36.0
CLL AMS AMS 07 34 00.0
comp=Z,500nm,19.1s
CLL AMS AMS 07 36 00.0
comp=N,400nm,19.4s
CLL AMS AMS 07 36 00.0
comp=E,300nm,19.0s
FINES FINESS Array B 121.33 328 PKIKP **PKPdf 06 32 39.0 -2.4**
FINES FINESS Array B 121.33 328 PKP **PKPdf 06 32 39.0 -2.4**
comp=E,1.7nm,1.0s,baz=35,slow=5.1,SNR=1.8
ESDC Sonseca Array 123.48 294 PKP **PKPdf**
comp=E,0.7nm,0.9s,baz=79,slow=2.2,SNR=2.0 **06 32 44.7 -1.7**
P08K Saint George I 129.22 45 P **PKiKP 06 32 57.7 +0.4**
baz=243
GAMB Gambell 131.32 36 P **PKiKP 06 33 02.1 +0.7**
baz=247
M11K Mekoryuk 132.40 42 P **PKPdf 06 33 02.6 +0.1**
baz=248
SDPT Sand Point 133.31 50 P **PKPdf 06 33 05.0 +0.6**
baz=248
CHNA Chernabura Isl 133.59 51 P **PKPdf 06 33 05.7 +0.7**
baz=248
ANM Nome 134.19 37 P **PKiKP 06 33 06.8 -0.4**
baz=252
O14K Tigyukauivet M 134.33 44 P **PKiKP 06 33 07.7 +0.1**
baz=250
J14K Nanvaranak Lak 134.41 39 P **PKiKP 06 33 07.4 -0.2**
baz=252
CHGN Chignik 134.75 49 P **PKPdf 06 33 07.4 +0.4**
baz=250
F15K North Star Dit 134.82 35 P **PKiKP 06 33 07.9 -0.5**
baz=254
G15K Niukluk 134.87 36 P **PKPdf 06 33 07.4 +0.3**
baz=254
L15K Ungalak Mounta 135.00 41 P **PKPdf 06 33 07.0 -0.4**
baz=253
O15K Ungalikthiuk R 135.00 45 P **PKPdf 06 33 07.5 0.0**
baz=251
M15K Kasigluk River 135.07 43 P **PKPdf 06 33 07.2 -0.4**
baz=252
C16K Lisburne Hills 135.23 32 P **PKPdf 06 33 08.1 +0.4**
baz=256
G16K Koyuk River 135.66 36 P **PKiKP 06 33 09.7 -0.4**
baz=256
P16K Nushagak River 135.86 46 P **PKPdf 06 33 08.8 -0.2**
baz=252
N16K Nishlik Lake 135.91 43 P **PKPdf 06 33 07.3 -1.9**
baz=253
D17K Noatak River 135.92 33 P **PKPdf 06 33 08.9 0.0**
baz=257
L16K Owhat River 135.93 42 P **PKPdf 06 33 10.0 +0.8**
baz=254
I17K Unalakleet 135.97 38 P **PKPdf 06 33 09.6 +0.5**
baz=255
M16K Timber Creek 135.97 43 P **PKPdf 06 33 09.2 0.0**
baz=254
O16K Kokwok River B 135.97 45 P **PKPdf 06 33 09.5 +0.2**
baz=253
C17K DeLong Mountai 136.06 31 P **PKiKP 06 33 10.6 -0.3**
baz=258
F17K Baldwin Pennin 136.35 35 P **PKiKP 06 33 10.9 -0.5**
baz=258
G17K Kiwalik Mounta 136.38 36 P **PKiKP 06 33 11.0 -0.6**
baz=257
Q16K King Salmon 136.41 46 P **PKPdf 06 33 10.5 +0.4**
baz=253
O17K Koliganek Bris 136.51 45 P **PKPdf 06 33 09.8 -0.4**
baz=254
H17K Granite Mounta 136.55 37 P **PKPdf 06 33 10.7 +0.5**
baz=257
N17K Nushagak Hills 136.68 44 P **PKPdf 06 33 11.4 +0.8**
baz=255
B18K Kokolik River 136.72 30 P **PKiKP 06 33 11.6 -0.6**
baz=260
K17K Iditarod 136.72 40 P **PKPdf 06 33 11.2 +0.6**
baz=256
M17K Holitna River 136.79 42 P **PKPdf 06 33 11.8 +1.0**
baz=255
E18K Tukpahlearik C 136.80 33 P **PKPdf 06 33 11.6 +0.9**
baz=259
C18K Utukok River 136.81 31 P **PKiKP 06 33 12.2 -0.3**
baz=260
F18K Selawik 137.01 35 P **PKiKP 06 33 12.1 -0.7**
baz=259
G18K Tagagawik 137.27 36 P **PKiKP 06 33 12.8 -0.6**
baz=259
P18K Big Mountain, 137.32 46 P **PKPdf 06 33 11.9 +0.1**
baz=255
L18K Granite Mounta 137.33 41 P **PKiKP 06 33 13.0 -0.7**
baz=257
N18K Kilae Creek 137.33 44 P **PKPdf 06 33 12.8 +0.9**
baz=256
C19K Lookout Ridge 137.46 31 P **PKiKP 06 33 13.2 -0.6**
baz=262
J18K Innoko River 137.59 39 P **PKPdf 06 33 13.2 +1.0**
baz=258
F19K Shaleruckik Mo 137.78 34 P **PKPdf 06 33 13.1 +0.7**
baz=261
TTA Tatalina 137.79 40 P **PKPdf 06 33 13.6 +0.9**
baz=258
G19K Purcell Mounta 137.94 36 P **PKPdf 06 33 13.6 +0.9**
baz=261
O19K Port Alsworth 137.97 45 P **PKPdf 06 33 13.3 +0.4**
baz=256
E19K Redstone River 138.09 34 P **PKPdf 06 33 13.5 +0.5**
baz=262
H19K Roundabout Mou 138.10 36 P **PKPdf 06 33 13.1 +0.1**
baz=260
L19K White Mountain 138.16 42 P **PKPdf 06 33 13.8 +0.5**
baz=258
KDAK Kodiak Island 138.24 48 P **PKPdf 06 33 13.6 +0.1**
baz=255
P19K Oil Pt 138.37 46 P **PKPdf 06 33 13.6 -0.2**
baz=257
D20K Etivluk River 138.47 32 P **PKPdf 06 33 14.8 +1.1**
baz=264
E20K Nigu River 138.58 32 P **PKPdf 06 33 14.8 +0.8**
baz=264
F20K Avaraart Lake 138.61 34 P **PKPdf 06 33 14.8 +0.9**
baz=263
A21K Barrow 138.69 28 P **PKiKP 06 33 15.4 -0.7**
baz=267
H20K Anotleneega Mo 138.74 37 P **PKiKP 06 33 16.3 -0.1**
baz=262
K20K Telida 138.74 40 P **PKPdf 06 33 15.1 +0.7**
baz=260
O20K Slope Mountain 138.77 45 P **PKPdf 06 33 14.3 -0.2**
baz=258
I20K Naaghedeneel 138.80 38 P **PKPdf 06 33 14.8 +0.5**
baz=261
J20K Nowinta River 138.85 39 P **PKPdf 06 33 14.4 0.0**
baz=261
C21K Knifeblade Rid 139.17 31 P **PKPdf 06 33 15.5 +0.5**
baz=266
B21K Ikpikpuk River 139.26 30 P **PKPdf 06 33 15.6 +0.5**
baz=267
H21K Melozitna Rive 139.62 37 P **PKPdf 06 33 17.1 +1.2**
baz=264
CAST Castle Rocks 139.63 40 IAMs_20 IAMs_20 07 31 44.8
comp=Z,702nm,20.0s
I21K Tanana 139.90 37 P **PKPdf 06 33 17.6 +1.2**
baz=264
D22K Ayikyak River 139.91 32 P **PKPdf 06 33 17.4 +1.0**
baz=268
SUA Susitna One 139.94 43 P **PKPdf 06 33 17.3 +0.5**
baz=260
E22K Anaktuvuk Pass 140.20 33 P **PKiKP 06 33 18.5 -0.9**
baz=268
BPAW Bear Paw Mtn. 140.21 39 P **PKiKP 06 33 19.2 -0.3**
baz=263
H22K Ishtalitna Cre 140.22 36 P **PKiKP 06 33 18.6 -0.9**
baz=265
G22K Bettles 140.25 35 P **PKiKP 06 33 18.4 -1.0**
baz=266
MLY Manley 140.41 38 P **PKPdf 06 33 16.8 -0.5**
baz=265
TRF Thorofare Moun 140.44 40 P **PKPdf 06 33 17.9 +0.3**
baz=263
D23K Nanushuk River 140.64 32 P **PKPdf 06 33 17.9 +0.2**
baz=270
C23K Itkillik River 140.66 30 P **PKPdf 06 33 18.3 +0.7**
baz=271
PMR Palmer 140.73 43 P **PKPdf 06 33 18.7 +0.7**
baz=262
COLD Coldfoot 140.78 34 P **PKPdf 06 33 19.1 +1.2**
baz=268
G23K Bananza Creek 140.82 35 IAMs_20 IAMs_20 07 41 31.9
comp=Z,734nm,19.0s
G23K Bananza Creek 140.82 35 P **PKPdf 06 33 17.6 -0.5**
baz=267
I23K Minto, Yukon-K 141.00 38 P **PKPdf 06 33 18.3 0.0**
baz=266
E23K Chandalar 141.02 33 P **PKPdf 06 33 18.3 -0.1**
baz=270
TOLK Toolik Lake Re 141.04 32 P **PKPdf 06 33 19.2 +0.8**
baz=270
MCK McKinley 141.07 40 P **PKPdf 06 33 18.4 -0.1**
baz=265
SML Sawmill 141.13 43 P **PKPdf 06 33 19.4 +0.6**
baz=263
D24K Happy Valley 141.31 31 P **PKPdf 06 33 18.4 -0.4**
baz=272
C24K Franklin Bluff 141.33 30 P **PKPdf 06 33 18.1 -0.8**
baz=272
SCM Sheep Creek Mo 141.61 43 P **PKPdf 06 33 19.6 -0.1**
baz=264
H24K Noodor Dome 141.66 37 P **PKPdf 06 33 20.5 +0.9**
baz=268
F24K Squaw Lake 141.68 34 P **PKPdf 06 33 20.1 +0.5**
baz=270
Q23K Middleton Isla 141.77 47 P **PKPdf 06 33 19.5 -0.4**
baz=261
G24K Hadweenzic Riv 141.84 35 P **PKPdf 06 33 20.4 +0.5**
baz=270
HDA Harding Lake 141.99 39 P **PKPdf 06 33 19.8 -0.3**
baz=267
ILAR Eielson Array 142.03 38 PKhKP PKPpre 06 33 13.4
comp=Z,0.7nm,0.9s,baz=255,slow=3.5,SNR=5.8
ILAR PKP **PKPdf 06 33 19.8 -0.5**
comp=Z,0.7nm,0.8s,baz=284,slow=3.2,SNR=6.9
K24K Donnelly Dome 142.47 40 P **PKPdf 06 33 20.5 -0.6**
baz=268
H25L Birch Creek 142.50 36 P **PKPdf 06 33 19.7 -1.3**
baz=271
F25K Christian River 142.54 34 P **PKPdf 06 33 19.8 -1.4**
baz=273
E25K Arctic Village 142.54 33 PKPdf **PKPdf 06 33 19.1 -2.0**
E25K Arctic Village 142.54 33 P **PKPdf 06 33 20.4 -0.7**
baz=273
PAX Paxson 142.57 41 P **PKPdf 06 33 19.0 -2.4**
baz=267
C26K Camden Bay 142.62 30 P **PKPdf 06 33 20.7 -0.4**
baz=276
J25K Salcha River, 142.68 39 P **PKPdf 06 33 18.8 -2.7**
baz=269
N25K Chitina, Valde 142.88 44 P **PKPdf 06 33 21.2 -0.7**
baz=266
RIDG Independent Ri 142.89 40 P **PKPdf 06 33 21.4 -0.5**
baz=268
BMAR Burnt Mountain 142.95 34 PKPdf **PKPdf 06 33 21.5 -0.4**
F26K Sheenjek River 143.10 33 P **PKPdf 06 33 21.3 -0.8**
baz=274
SCRK Sand Creek 143.27 40 P **PKPdf 06 33 21.6 -1.1**
baz=269
G26K Porcupine Rive 143.29 35 P **PKPdf 06 33 21.2 -1.1**
baz=274
J26L Joseph Creek 143.46 39 PKPdf **PKPdf 06 33 24.1 +1.2**
J26L Joseph Creek 143.46 39 P **PKPdf 06 33 21.9 -1.0**
baz=270
L26K Log Cabin Wild 143.54 41 P **PKPdf 06 33 22.3 -0.7**
baz=269
I26K Coal Creek Min 143.62 37 P **PKPdf 06 33 22.7 -0.3**
baz=272
M26K Nabesna, AK 143.68 42 P **PKPdf 06 33 22.3 -1.0**
baz=268
ORTG Ortega, Santa 143.97 178 PKPdf **PKPdf 06 33 24.9 -0.5**
D27M Malcolm River 144.09 31 P **PKPdf 06 33 23.5 -0.4**
baz=279
K27K Chicken 144.12 40 P **PKPdf 06 33 23.9 0.0**
baz=271
M27K Edge Creek, AK 144.20 42 PKPdf **PKPdf 06 33 25.9 +1.5**
M27K Edge Creek, AK 144.20 42 P **PKPdf 06 33 24.1 -0.2**
baz=269
L27K Beaver Creek, 144.23 41 PKPdf **PKPdf 06 33 23.9 -0.4**
L27K Beaver Creek, 144.23 41 P **PKPdf 06 33 24.4 +0.1**
baz=270
H27K Steamboat Moun 144.24 36 P **PKPdf 06 33 24.6 +0.4**
baz=275
I27K Kandik River 144.25 37 P **PKPdf 06 33 24.2 0.0**
baz=274
BCAR Beaver Creek A 144.25 41 PKPdf **PKPdf 06 33 24.4 +0.2**
CTG Chitna Glacier 144.41 45 P **PKPdf 06 33 24.3 -0.5**
baz=268
EGAK Eagle 144.49 38 PKPdf PKPbc 06 33 23.9 +0.7
EGAK Eagle 144.49 38 P **PKPdf 06 33 24.8 +0.2**
baz=273
BVCY Beaver Creek 144.68 42 P **PKPdf 06 33 24.7 -0.3**
baz=270
E28M Babbage River 144.71 32 PKPdf **PKPab 06 33 22.9 -0.8**
E28M Babbage River 144.71 32 P **PKPab 06 33 23.4 -0.4**
baz=280
F28M Old Crow 144.74 33 PKPdf **PKPab 06 33 22.8 -1.1**
F28M Old Crow 144.74 33 P **PKPab 06 33 23.2 -0.6**
baz=278
D28M Stokes Point 144.85 30 P **PKPab 06 33 24.0 -0.1**
baz=282
YUK3 Moose Creek 144.86 43 P **PKPab 06 33 24.5 -0.2**
baz=269
PINM Pinnacle 144.91 46 P **PKPab 06 33 24.1 -0.7**
baz=267
I28M Miner Creek 144.96 37 PKPdf **PKPdf 06 33 25.4 -0.1**
I28M Miner Creek 144.96 37 P **PKPab 06 33 24.6 -0.2**
baz=275
YUK8 Steele Glacier 145.19 44 P **PKPbc 06 33 25.2 -0.7**
baz=269
DAWY Dawson 145.29 39 **PKPbc 06 33 25.1 -0.8**
DAWY Dawson 145.29 39 P **PKPbc 06 33 25.1 -0.8**
baz=274,SNR=15
E29M Blow River 145.34 32 **PKPbc 06 33 24.2 -1.6**
E29M Blow River 145.34 32 P **PKPbc 06 33 24.8 -1.1**
baz=281
H29M Whitestone 145.51 36 **PKPdf 06 33 25.2 -1.1**
H29M Whitestone 145.51 36 P **PKPdf 06 33 24.9 -1.4**
baz=278
G29M Pine Creek 145.55 34 P **PKPdf 06 33 25.7 -0.7**
baz=279
ACON Acoyapa 145.57 178 PKPdf **PKPdf 06 33 27.2 -0.8**
YUK4 Talbot Arm 145.73 44 P **PKPdf 06 33 27.0 -0.1**
baz=271
J29N Klondike Camp 145.78 39 PKPdf **PKPbc 06 33 27.6 +0.2**
J29N Klondike Camp 145.78 39 P **PKPdf 06 33 27.2 +0.3**
baz=275,SNR=9.0
M29M Somme Creek 145.79 42 PKPdf **PKPdf 06 33 27.2 +0.2**
M29M Somme Creek 145.79 42 P **PKPdf 06 33 27.0 0.0**
baz=272
YUK6 Outpost Mounta 145.86 45 P **PKPdf 06 33 26.3 -1.1**
baz=270
L29M L29M 145.91 41 PKPdf **PKPdf 06 33 27.6 +0.4**
L29M L29M 145.91 41 P **PKPbc 06 33 27.8 -0.1**
baz=273,SNR=9.5
BOAB BOACO BROADBAN 146.03 177 PKPdf **PKPdf 06 33 27.2 -1.6**
K29M Barlow Dome 146.13 40 PKPdf **PKPdf 06 33 27.0 -0.6**
K29M Barlow Dome 146.13 40 P **PKPbc 06 33 28.6 0.0**
baz=275
EPYK Eagle Plains 146.15 35 PKPdf **PKPdf 06 33 27.1 -0.4**
EPYK Eagle Plains 146.15 35 P **PKPbc 06 33 28.2 -0.3**
baz=280,SNR=8.0
P29M Windy Craggy 146.16 47 P **PKPdf 06 33 28.2 +0.6**
baz=269
G30M tAoh Zraii Nji 146.24 34 PKPdf **PKPdf 06 33 27.4 -0.1**
G30M tAoh Zraii Nji 146.24 34 P **PKPbc 06 33 28.3 -0.4**
baz=281
F30M Barrier River 146.28 33 P **PKPbc 06 33 28.8 0.0**
baz=282,SNR=14
HYT Haines Junctio 146.28 45 P **PKPdf 06 33 28.4 +0.5**
baz=271
NEEM North Greenlan 146.34 348 *i* P **PKPbc 06 33 28.9 -0.2**
I30M Mount Dempster 146.47 37 PKPdf **PKPdf 06 33 28.9 +0.8**
I30M Mount Dempster 146.47 37 P **PKPdf 06 33 28.9 +0.8**
baz=278
N30M Aishikik Lake 146.47 44 PKPdf **PKPbc 06 33 29.9 +0.3**
N30M Aishikik Lake 146.47 44 P **PKPdf 06 33 28.9 +0.7**

	baz=272							
MATN	**Matagalpa**	146.50	177		PKPdf	**PKPdf**	06 33 29.2	-0.5
P30M	**Million Dollar** baz=270	146.56	46		P	**PKPdf**	06 33 28.5	+0.2
M30M	**Minto, Yukon**	146.56	42			**PKPab**	06 33 31.1	+0.2
M30M	**Minto, Yukon** baz=274	146.56	42		P	**PKPdf**	06 33 28.5	+0.3
J30M	**Hart River**	146.57	38		PKPdf	**PKPbc**	06 33 29.4	-0.5
J30M	**Hart River** baz=277,SNR=17	146.57	38		P	**PKPdf**	06 33 28.1	-0.2
SUMG	**Summit**	146.63	337		PKPdf	**PKPdf**	06 33 27.4	-1.1
SUMG	**Summit**	146.63	337		PKIKP	**PKPdf**	06 33 27.4	-1.1
SUMG	**Summit**	146.63	337	*i*	P	**PKPab**	06 33 32.0	+0.7
MAYO	**Mayo, Yukon** baz=276	146.88	40		P	**PKPdf**	06 33 29.4	+0.7
INK	**Inuvik**	146.94	31		PKPdf	**PKPdf**	06 33 29.0	+0.4
INK	**Inuvik** baz=286,SNR=17	146.94	31		P	**PKPdf**	06 33 29.1	+0.4
INK	**Inuvik** comp=Z,12nm,0.8s,baz=243,slow=1.5,SNR=38	146.94	31		PKPbc	**PKPdf**	06 33 28.2	-0.3
O30N	**Mendenhall** baz=272	146.98	45		P	**PKPdf**	06 33 29.7	+0.7
G31M	**Satah River**	147.00	34		PKPdf	**PKPdf**	06 33 29.3	+0.5
G31M	**Satah River** baz=283,SNR=22	147.00	34		P	**PKPdf**	06 33 29.5	+0.7
F31M	**Tsiigehtchic**	147.08	33		PKPdf	**PKPdf**	06 33 29.5	+0.7
F31M	**Tsiigehtchic** baz=284,SNR=15	147.08	33		P	**PKPdf**	06 33 29.6	+0.8
H31M	**Peel River**	147.21	36		PKPdf	**PKPdf**	06 33 30.0	+0.8
H31M	**Peel River** baz=281	147.21	36		P	**PKPdf**	06 33 28.5	-0.7
SIT	**Sitka** baz=267	147.31	52		P	**PKPdf**	06 33 28.8	-0.8
WHY	**Whitehorse** baz=273	147.58	45		P	**PKPbc**	06 33 32.3	-0.5
MTO3	**Montecristo**	147.69	170			**PKPbc**	06 33 33.5	-1.0
M31M	**Drury Creek, Y** baz=276	147.70	43		P	**PKPbc**	06 33 31.8	-1.2
R32K	**Eaglecrest** baz=269	147.79	50		P	**PKPbc**	06 33 32.2	-1.1
A36M	**Sachs Harbour** baz=301,SNR=9.1	148.09	23		P	**PKPdf**	06 33 31.5	+1.1
FARO	**Faro, Yukon**	148.19	42			**PKPbc**	06 33 33.3	-1.0
FARO	**Faro, Yukon** baz=277	148.19	42		P	**PKPdf**	06 33 32.1	+1.2
P32M	**Atlin** baz=272	148.20	47		P	**PKPdf**	06 33 32.2	+1.1
N32M	**Quiet Lake** baz=275	148.42	44		P	**PKPbc**	06 33 33.4	-1.5
CRAG	**Craig** baz=266	148.43	55		P	**PKPdf**	06 33 31.6	+0.1
U33K	**Whale Pass** baz=267	148.47	54		P	**PKPdf**	06 33 31.0	-0.5
P33M	**Teslin, Yukon** baz=274	148.62	46		P	**PKPdf**	06 33 33.1	+1.3
S34M	**Telegraph Cree** baz=272	149.59	51		P	**PKPdf**	06 33 35.5	+2.3
R33M	**Jennings River** baz=274	149.61	48		P	**PKPbc**	06 33 36.7	-1.4
C36M	**Paulatuk** baz=298	149.73	27		P	**PKPdf**	06 33 34.8	+1.6
SNCC	**San Nicolas Is** baz=233	149.98	103		P	**PKPbc**	06 33 37.4	-2.3
T35M	**Bob Quinn**	150.09	52			**PKiKP**	06 33 41.1	+1.0
T35M	**Bob Quinn** baz=271	150.09	52		P	**PKPdf**	06 33 36.1	+1.9
DLBC	**Dease Lake**	150.16	49			**PKiKP**	06 33 40.5	+0.3
DLBC	**Dease Lake** baz=273	150.16	49		P	**PKPbc**	06 33 37.8	-1.6
SCZ2	**Santa Cruz Isl** baz=234	150.35	102		P	**PKPbc**	06 33 39.8	-0.8
WTLY	**Watson Lake, Y** baz=278	150.63	46		P	**PKiKP**	06 33 41.5	+0.4
TGTN	**Hyland Airport** baz=280	150.67	43		P	**PKPbc**	06 33 40.0	-0.5
PKM	**Mcpherson Peak** baz=236	150.74	100		P	**PKPbc**	06 33 40.4	-1.2
CIS	**Catalina Islan** baz=233	150.82	104		P	**PKiKP**	06 33 42.6	+0.3
NUUG	**Nuugaatsiaq**	150.97	340	*e*	P	**PKPbc**	06 33 40.5	-0.3
KHMM	**Horse Mountain**	150.97	87			**PKiKP**	06 33 43.2	+0.6
BCW	**Bitter Crk WRg**	151.04	101		PKPbc	**PKiKP**	06 33 43.3	+0.5
FMP	**Fort Macarthur** baz=234	151.09	104		P	**PKPbc**	06 33 42.3	+0.1
RES	**Resolute Bay**	151.32	6		PKPbc	**PKiKP**	06 33 45.0	+2.9
RES	**Resolute Bay**	151.32	6		PKIKP	**PKiKP**	06 33 45.0	+2.9
109C	**Camp Elliot, M** baz=232	151.38	107		P	**PKiKP**	06 33 43.5	0.0
MURC	**Murrieta** baz=233	151.75	105		P	**PKPbc**	06 33 43.3	-0.5
VES	**Vestal, Richgr** baz=237	151.76	100		P	**PKPbc**	06 33 42.7	-1.1
BFSC	**Mount Baldy Ra** baz=234	151.82	104		P	**PKPbc**	06 33 44.2	0.0
MONP2	**Monument Peak** baz=232	151.83	107		P	**PKPbc**	06 33 44.2	-0.1
IKP	**In-Ko-Pah, Jac** baz=231	151.89	108		P	**PKPbc**	06 33 44.0	-0.2
ORV	**Oroville**	151.95	91			**PKiKP**	06 33 45.6	+1.2
ORV	comp=Z,649nm,19.0s				IAMs_20	IAMs_20	07 34 11.9	
ORV	**Oroville**	151.95	91		PKIKP	**PKiKP**	06 33 45.6	+1.2
EDW2	**Edwards Air Fo** baz=235	151.97	102		P	**PKPbc**	06 33 43.2	-1.1
CMB	**Columbia Colle**	152.00	94			**PKPbc**	06 33 44.6	+0.3
CMB	comp=Z,641nm,20.0s				IAMs_20	IAMs_20	07 30 12.6	
CMB	**Columbia Colle**	152.00	94		PKIKP	**PKPbc**	06 33 44.6	+0.3
YBH	**Yreka Blue Hor** comp=Z,1.6nm,0.9s,baz=158,slow=4.8,SNR=3.8	152.03	86		PKPbc	**PKPbc**	06 33 43.3	-1.0
AFDM	**Forest Hills D**	152.03	92			**PKPbc**	06 33 44.6	+0.3
ISA	**Isabella, Lake**	152.08	100			**PKPbc**	06 33 44.9	+0.3
ISA	**Isabella, Lake**	152.08	100		PKIKP	**PKPbc**	06 33 44.9	+0.3
ISA	**Isabella, Lake** baz=237	152.08	100		P	**PKiKP**	06 33 45.2	+0.3
HUMO	**Hull Mountain**	152.19	84			**PKiKP**	06 33 45.4	+0.6
PFO	**Pinyon Flats O** baz=232	152.25	106		P	**PKPbc**	06 33 44.3	-0.8
TPFO	**Pinon Flats** baz=233	152.25	106		P	**PKPbc**	06 33 44.8	-0.3
SWSC	**Sam W. Stewart** baz=232	152.28	108		P	**PKiKP**	06 33 45.9	+0.6
BBRC	**Big Bear Solar** baz=234	152.33	104		P	**PKPbc**	06 33 45.6	+0.2
WRGLY	**Wrigley**	152.41	38			**PKiKP**	06 33 45.5	+0.9
WRGLY	**Wrigley** baz=289	152.41	38		P	**PKPbc**	06 33 44.4	+0.1
LRMC	**Laurel Mtn Rad** baz=236	152.51	102		P	**PKiKP**	06 33 46.6	+0.7
EMB	**Emerald Bay**	152.65	93		PKPbc	**PKiKP**	06 33 47.4	+1.2
CWC	**Cottonwood Cre** baz=238	152.77	99		P	**PKPbc**	06 33 46.5	+0.2
BELC	**Belle Mtn. Jos** baz=233	152.79	106		P	**PKiKP**	06 33 46.7	+0.2
MLAC	**Mammoth, Mammt** baz=240	152.87	96		P	**PKiKP**	06 33 47.5	+0.8
BC3	**Big Chuckawall** baz=232	152.94	107		P	**PKiKP**	06 33 47.9	+1.1
MPMC	**Manual Prospec** baz=237	152.97	101		P	**PKiKP**	06 33 47.3	+0.4
KOTAN	**Kotaneelee Air** baz=282	152.97	45		P	**PKiKP**	06 33 47.9	+2.0
GLA	**Glamis**	152.98	109		PKPab	**PKPab**	06 33 57.5	-0.6
GSC	**Goldstone, Bar** baz=236	153.01	103		P	**PKiKP**	06 33 48.0	+1.2
PNTR	**Pine Nut**	153.05	93		PKPbc	**PKiKP**	06 33 47.3	+0.3
IRM	**Iron Mountain** baz=233	153.45	107		P	**PKiKP**	06 33 47.9	+0.2
GMRC	**Granite Mounta** baz=234	153.48	105		P	**PKiKP**	06 33 49.1	+1.2
GRAC	**Grapevine Rang** baz=239	153.55	99		P	**PKiKP**	06 33 49.5	+1.6
TEIG	**Tepich** comp=Z,657nm,20.0s	153.56	171		IAMs_20	IAMs_20	07 37 43.0	
214A	**Organ Pipe Nat** baz=228	153.57	113		P	**PKiKP**	06 33 49.6	+1.5
FURC	**Furnace Creek,** baz=238	153.61	100		P	**PKiKP**	06 33 49.3	+1.4
NVAR	**Mina Array Bea** comp=Z,0.5nm,0.8s,baz=236,slow=3.0,SNR=4.5	153.63	95		PKP	**PKPdf**	06 33 40.5	+0.2
NVAR					PKPbc	**PKiKP**	06 33 48.5	+0.2
TUQ	**Turquoise Moun** baz=236	153.68	103		P	**PKiKP**	06 33 49.9	+1.6
SHOC	**Shoshone, Teco** baz=236	153.70	102		P	**PKiKP**	06 33 50.8	+2.6
HPIG		154.03	131		PKPdf	**PKPdf**	06 33 41.0	-0.3
HPIG					PKPab	**PKPab**	06 34 03.2	+0.4
PDMCI	**Parker Dam,Lak** baz=233	154.20	107		P	**PKiKP**	06 33 51.1	+1.9
W13A	**Hualapai Mount**	154.84	106		PKPdf	**PKPdf**	06 33 41.6	-0.5
W13A					PKPab	**PKPab**	06 34 06.6	+0.5
I07A	**Izee**	155.06	83		PKPdf	**PKPdf**	06 33 41.7	-0.3
I07A					PKPab	**PKPab**	06 34 06.5	-0.1
TUC	**Tucson** comp=Z,618nm,20.0s	155.09	115		IAMs_20	IAMs_20	07 39 09.7	
TUC	**Tucson** baz=228	155.09	115		P	PKPdf	06 33 53.2	+11
R11B	**Troy Canyon, C** comp=Z,598nm,20.0s	155.45	98		IAMs_20	IAMs_20	07 39 28.0	
R11B	**Troy Canyon, C** baz=241	155.45	98		P	**PKPab**	06 34 07.4	-1.2
PNT	**Penticton**	156.12	70		PKIKP	**PKPdf**	06 33 47.3	+4.2
YKA	**Yellowknife Ar** comp=Z,0.1nm,0.4s,baz=297,slow=1.9,SNR=2.4	156.43	36		PKP	**PKPdf**	06 33 41.5	-1.6
YKA					PKPbc	**sPKPdf**	06 33 53.4	+3.4
YKA	comp=Z,1.7nm,1.0s,baz=306,slow=1.8,SNR=12				PKPab	**PKPab**	06 34 11.7	-0.1
TXAR	**Lajitas Array** comp=Z,0.5nm,0.9s,baz=197,slow=8.5,SNR=2.0	157.00	131		PKP	**PKPdf**	06 33 42.6	-2.5
TXAR					PKPab	**PKPab**	06 34 14.3	-1.0
121A	**Cookes Peak, D** baz=226	157.09	119		P	**PKPab**	06 34 15.4	-0.3
NEW	**Newport** baz=262	157.62	73		P	**PKPab**	06 34 17.4	-0.1
NEW	**Newport** comp=Z,1.7nm,0.8s,baz=206,slow=6.5,SNR=3.9	157.62	73		PKPab	**PKPab**	06 34 15.9	-1.6
833A	**Chaparral WMA,** baz=210	158.21	141		P	**PKPab**	06 34 20.7	+0.3
DUG	**Dugway, Tooele** comp=Z,653nm,20.0s	158.22	96		IAMs_20	IAMs_20	07 59 19.2	
HLID	**Hailey** comp=Z,710nm,22.0s	158.39	87		IAMs_20	IAMs_20	07 33 27.4	
HLID	**Hailey** baz=252	158.39	87		P	**PKPab**	06 34 21.3	+0.1
ANMO	**Albuquerque** comp=Z,907nm,22.0s	159.53	116		IAMs_20	IAMs_20	08 02 03.4	
ANMO	**Albuquerque** baz=229	159.53	116		P	**PKPab**	06 34 26.5	+0.2
MVCO	**Mesa Verde** baz=236	159.62	108		P	**PKPab**	06 34 28.0	+1.3
JCT	**Junction City** baz=213	159.86	137		P	**PKPab**	06 34 27.6	+0.1
435B	**Jarrell** baz=210	161.12	141		P	**PKPab**	06 34 34.0	+1.0
H17A	**Grant Village** baz=255	161.29	87		P	**PKPab**	06 34 33.8	0.0
O20A	**White River Ci** baz=242	161.31	101		P	**PKPab**	06 34 32.7	-1.2
BW06	**Boulder Array** baz=250	161.48	92		P	**PKPab**	06 34 35.8	+1.1
PDAR	**Pinedale Array** comp=Z,0.2nm,0.5s,baz=316,slow=3.8,SNR=2.1	161.48	92		PKP	**PKPdf**	06 33 48.5	-1.5
PDAR					PKPab	**PKPab**	06 34 32.5	-2.2
ABTX	**Abilene, Hawle** baz=216	161.69	134		P	**PKPab**	06 34 36.5	+1.0
SDCO	**Great Sand Dun** baz=235	161.88	111		P	**PKPab**	06 34 36.6	0.0
T25A	**Trinidad** baz=232	162.21	114		P	**PKPab**	06 34 38.1	+0.1
AMTX	**Amarillo** baz=224	162.33	125		P	**PKPab**	06 34 39.0	+0.7
EGMT	**Eagleton** baz=266	162.50	76		P	**PKPab**	06 34 38.5	-0.2
ISCO	**Idaho Springs** baz=240	162.92	105		P	**PKPab**	06 34 41.1	-0.1
N23A	**Red Feather La** baz=244	163.22	102		P	**PKPab**	06 34 43.9	+1.5
K22A	**Casper** baz=249	163.53	95		P	**PKPab**	06 34 44.6	+1.0
WMOK	**Wichita Mounta** baz=219	163.80	131		P	**PKPab**	06 34 46.7	+1.9
LAO	**LASA Array** baz=263	164.75	81		P	**PKPab**	06 34 50.3	+1.6
RSSD	**Black Hills** baz=254	165.73	92		P	**PKPab**	06 34 53.7	+0.3
MIAR	**Mount Ida** baz=209	166.04	145		P	**PKPab**	06 34 54.5	+0.1
TUL3	**Leonard** baz=216	166.22	136		P	**PKPab**	06 34 54.8	-0.4
CNNC	**Cliffs of the** baz=159	167.83	205		P	**PKPab**	06 35 04.3	+2.0
PKME	**Peaks-Kenny Pk** baz=101	169.64	268		P	**PKPab**	06 35 08.2	-2.1
TZTN	**Tazewell** baz=178	170.04	182		P	**PKPab**	06 35 11.0	-1.1
MCWV	**Mont Chateau** baz=157	172.51	206		P	**PKPab**	06 35 23.7	+0.8

DJA 12 06:19:18.9±0.3,2°**S**×3°×**10°1E**×, **h57**km±5km, **M3.8**/9, **mB6.8**/1, **MLv3.8**/9, **Mw(mB)6.6**/1, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRJI	**Kerinci**	0.47	65	P	Pn	06 19 31.5	+1.0
KRJI				S	Sn	06 19 42.7	+3.9
PPSI	**Pulau Pagai**	1.12	245	P	Pn	06 19 38.9	+0.4
PDSI	**Padang**	1.48	337	P	Pn	06 19 43.2	-0.1
PDSI				S	Sn	06 20 01.6	-0.1
SISI	**Saibi**	2.16	296	P	Pn	06 19 52.7	+0.1
SISI				S	Sn	06 20 18.3	+0.1
BKNI	**Bangkinang**	2.60	0	P	Pn	06 19 58.5	0.0
MNAI	**Manna**	2.81	137	P	Pn	06 20 02.2	+0.7
PBSI	**Pulau Batu**	3.53	309	P	Pn	06 20 11.9	+0.6
DSRI	**Dabo**	3.98	63	P	Pn	06 20 17.1	-0.3
PPBI	**Pangkal Pinang**	5.10	89	P	Pn	06 20 32.8	-0.1
KPJI	**Karang Pucung** 26nm,0.8s	9.33	123	P	Pn	06 21 31.1	+0.3

*IDC **12** 06:22:25.1±1.0,6°37**S**×143°60**E**, h0km, mb4.1/6, mbtmp4.0/8, ML0.9/1, Error ellipse: s-maj=40.4km s-min=23.0km az=65.0*

ISC 12 06:22:29.9±0.8,**6°69S**±0°09×**143°32E**±0°10, **h35**km, **n9,** σ**2°40**/12, **mb4.0**/6, **New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** 0.4nm,0.3s,baz=280,slow=19,SNR=1.1	4.67	126	Pn	**Pn**	06 23 35.7	-2.3
PMG				Sn	**Sn**	06 24 32.5	+1.6
WRA	**Warramunga Arr** 1.8nm,0.3s,baz=263,slow=16,SNR=1.4	15.79	213	Pn	**Pn**	06 26 09.5	-0.4
WRA	5.0nm,0.4s			Sn	**Sn**	06 28 59.1	-4.8
WRA	0.2nm,0.3s,baz=19,slow=28,SNR=2.3			Lg	Lg	06 30 52.0	
ASAR	0.2nm,0.3s,baz=40,slow=30,SNR=5.1						
ASAR	**Alice Springs** 2.5nm,0.7s,baz=32,slow=8.8,SNR=26	19.15	207	P	**Pn**	06 26 54.6	+3.1
ASAR				S	**S**	06 30 27.5	+1.8
MKAR	**Makanchi Array** 1.2nm,0.7s,baz=104,slow=7.2,SNR=12	75.73	322	P	**P**	06 34 12.7	+0.7
KURBB	1.2nm,0.7s **Kurchatov Arra** 0.5nm,0.6s,baz=112,slow=4.3,SNR=5.3	79.61	324	P	**P**	06 34 33.7	+0.1
QSPA	0.5nm,0.6s **South Pole Qui** 1.1nm,0.8s,baz=286,slow=3.7,SNR=2.2	83.28	180	P	**P**	06 34 55.3	+2.4
NRIK	1.1nm,0.8s **Noril'sk** 1.2nm,0.3s,baz=117,slow=6.1,SNR=2.5	84.83	343	P	**P**	06 35 00.8	+0.3
BVAR	1.2nm,0.3s **Borovoye Array** 1.3nm,0.6s,baz=119,slow=5.1,SNR=4.8	85.19	325	P	**P**	06 35 02.1	-0.5
ILAR	1.3nm,0.6s **Eielson Array** 0.6nm,0.8s,baz=245,slow=6.2,SNR=4.3	87.57	24	P	**P**	06 35 12.7	-1.4
	0.6nm,0.8s						

*AFAD **12** 06:25:35.1±0.0,39°74N×41°25E, h10km, ML2.2*

ISK 12 06:25:14.5, 40°32N×42°05E, **h18**km, **ML1.8**/3, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERZM	**Erzurum**	0.67	232	S	Sg	06 25 42.4	+5.6
ERZM				P	Sn	06 25 39.2	-0.1
EDAM	**Erzurum-Paland**	0.73	235	Pg	Pg	06 25 29.2	+0.3
EDAM					Sg	Sn	06 25 40.6	-0.3
EJDE	**Erzurum, Palan**	0.75	230		P	Pn	06 25 37.9	+7.4
EJDE					S	Sg	06 25 39.9	+0.6
EJDE				*i*	AML	AML	06 25 40.0	
EJDE	comp=N,1μm,0.2s			*i*	AML	AML	06 25 40.0	
EKONA	comp=E,1μm,0.5s **Konaki - Erz**	0.83	230		P	Pn	06 25 37.3	+5.7
EKONA					S	Sb	06 25 38.8	-2.7
EKONA				*i*	AML	AML	06 25 39.0	
EKONA	comp=N,761nm,0.3s			*i*	AML	AML	06 25 39.0	
EMRE	comp=E,820nm,0.3s **Erzurum,Aziziy**	0.87	251		P	Pn	06 25 41.1	+9.1
EMRE					S	Sn	06 25 47.8	+3.4
ETEKE	**Tekederesi - E**	0.88	233		P	Pn	06 25 37.9	+5.8
ETEKE					S	Sb	06 25 40.6	-2.1
ETEKE				*i*	AML	AML	06 25 41.0	
ETEKE	comp=N,2μm,0.4s			*i*	AML	AML	06 25 41.0	
CHOM	comp=E,2μm,0.7s **Cayeli-Rize**	1.25	309		Pn	Pb	06 25 37.8	+0.3
KARO	**Karliova-Bingo**	1.27	218		Pn	Pb	06 25 37.8	-0.2
KARO					Sn	Sn	06 25 54.8	+0.7
AKDM	**Akdamar-Van**	2.12	160		Pn	Pn	06 25 50.2	+1.1
AKDM					Sn	Sn	06 26 16.0	+1.0
ESPY	**Espiye-Giresun**	2.60	284		Pn	Pn	06 25 56.8	+1.3

*IDC **12** 06:33:12.3±3.2,38°10N×75°12E, h124km±27km, mb3.7/19, mbtmp4.0/25, Error ellipse: s-maj=23.2km s-min=12.2km az=10.0*

*NEIC **12** 06:33:15.4±1.9,38°29N±0°07×75°03E±0°08, h141km±7km, mb4.3/17, Error ellipse: s-maj=9.8km s-min=9.2km az=144.0*

*NNC **12** 06:33:20.4±4.7,38°71N×74°85E, h161km±69km, mb3.4, mpv4.3, Error ellipse: s-maj=48.9km s-min=36.1km az=2.0*

ISC 12 06:33:13.5±0.4,**38°20N**±0°04×**75°06E**±0°05, **h135**km, **n88,** σ**2°00**/100, **mb4.1**/27, **3C-3D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	1.49	28	Pg	**Pn**	**06 33 39.1**	**-2.9**
KSH				Sg	**Sn**	**06 33 55.3**	**-8.5**
KSH	comp=N,4μm,0.3s			smax	smax		
KSH	comp=E,2μm,0.3s			smax	smax		
DRK	**Karamyk**	2.84	298		**Pn**	**06 33 59.1**	**+0.6**
DRK				Sn	**Sn**	**06 34 32.4**	**-0.8**
NRN	**Naryn**	3.31	12		**Pn**	**06 34 05.4**	**+0.9**
ARSB	**Arslanbob**	3.50	333		**Pn**	**06 34 07.2**	**+0.3**
BTK	**Batken**	3.78	301		**Pn**	**06 34 11.1**	**+0.6**
GAR	**Garm**	3.80	284		**Pn**	**06 34 10.2**	**-0.6**
UCH	**Uchtor** SNR=125	4.04	354	P	**Pn**	**06 34 15.3**	**+1.1**
TARG	**Taragay, Kyrgy**	4.11	30		**Pn**	**06 34 16.7**	**+1.6**
ULHL	**Ulahol** SNR=25	4.14	12	P	**Pn**	**06 34 16.6**	**+1.3**
BOOM	**Boomskoye usch**	4.33	9		**Pn**	**06 34 19.3**	**+1.4**
KBK	**Karagaybulak** SNR=25	4.45	359	P	**Pn**	**06 34 20.8**	**+1.4**
AAK	**Ala-Archa** SNR=56	4.45	355	P	**Pn**	**06 34 20.7**	**+1.3**
AAK	**Ala-Archa**	4.45	355		**Pn**	**06 34 20.7**	**+1.3**
AAK	**Ala-Archa** comp=E,25nm,0.4s,baz=178,slow=8.1,SNR=98	4.45	355	P	**Pn**	**06 34 20.4**	**+1.0**
AAK				S	Sn	06 35 00.8	-10
EKS2	comp=E,20nm,0.4s,baz=171,slow=7.2,SNR=4.1 **Erkin-Say** SNR=49	4.56	348	P	**Pn**	**06 34 21.9**	**+1.1**
CHGR	**Chuyangaron**	4.65	277	Pn	**Pn**	**06 34 21.1**	**-1.0**
TKM2	**Tokmak 2** SNR=83	4.73	5	P	**Pn**	**06 34 24.5**	**+1.3**
TKM2	**Tokmak 2** comp=E,32nm,0.4s	4.73	5	⇑P	**Pn**	**06 34 24.3**	**+1.1**
TKM2	comp=E,36nm,0.6s			⇓S	**Sn**	**06 35 15.8**	**-1.6**
SIMJ	**Simiganj**	4.77	277	Pn	**Pn**	**06 34 22.6**	**-1.1**
NIL	**Nilore**	4.78	198		**Pn**	**06 34 27.6**	**+3.9**
CHMS	**Chumysh** SNR=18	4.79	357	P	**Pn**	**06 34 24.9**	**+1.0**
CHMS	**Chumysh** comp=E,9.3nm,0.5s	4.79	357	⇑P	**Pn**	**06 34 24.9**	**+1.0**
CHMS	comp=E,20nm,0.8s			⇓S	**Sn**	**06 35 13.7**	**-5.0**
PRZ	**Przheval'sk**	4.98	30	Pn	**Pn**	**06 34 28.4**	**+1.9**
USP	**Ospenovka** SNR=62	5.08	355	P	**Pn**	**06 34 28.5**	**+0.8**
THN	**Thein Dam**	5.78	174	*e*P	**Pn**	**06 34 40.2**	**+3.1**
THN				*e*S	**Sn**	**06 35 42.3**	**-0.1**
KK31	**Karatay Array**	5.99	326		**Pn**	**06 34 39.8**	**0.0**
KK31	**Karatay Array** comp=E,35nm,0.3s,baz=132,slow=12,SNR=870	5.99	326	P	**Pn**	**06 34 39.7**	**-0.2**
KK31	comp=E,20nm,0.4s,baz=134,slow=23,SNR=9.8			⇓S	**Sn**	**06 35 44.6**	**-2.7**
KKAR	**Karatay Array**	5.99	326	Pn	**Pn**	**06 34 39.7**	**-0.1**
DHRM	**DHARAMSHALA**	6.03	170	*e*P	**Pn**	**06 34 43.3**	**+2.7**
DHRM				*e*S	**Sn**	**06 35 48.2**	**-0.4**
DHRM	comp=N,383nm,0.1s			IAML		06 35 56.0	
DHRM	comp=E,454nm,0.5s			IAML		06 35 57.5	
KBL	**Kabul**	6.07	235	Pn	**Pn**	**06 34 43.7**	**+2.5**
BHK	**Bhakra**	6.86	170	*e*P	**Pn**	**06 34 54.7**	**+3.0**
BHK				*e*S	**Sn**	**06 36 07.3**	**-1.2**
SMLA	**Simla**	7.27	166	*e*P	**Pn**	**06 34 58.3**	**+1.2**
SMLA				*e*S	**Sn**	**06 36 13.4**	**-4.8**
SMLA	comp=E,86nm,0.4s			IAML		06 36 16.8	
SMLA	comp=N,116nm,0.3s			IAML		06 36 17.2	
DDI	**Dehra Dun**	8.24	162	*e*P	**Pn**	**06 35 12.6**	**+2.3**
MAKZ	**Makanchi**	10.00	28	Pn	**Pn**	**06 35 34.5**	**+0.9**
KUDL	**Kundal**	10.10	173	*e*P	**Pn**	**06 35 35.3**	**+0.2**
KUDL				*e*S	**Sn**	**06 37 19.2**	**-7.5**
MK31	**Makanchi Array**	10.11	30	Pn	**Pn**	**06 35 36.1**	**+1.1**
MKAR	**Makanchi Array**	10.11	30	Pn	**Pn**	**06 35 35.7**	**+0.6**
MKAR	**Makanchi Array** comp=N,0.5nm,0.5s,baz=205,slow=15,SNR=8.1	10.11	30	P	**Pn**	**06 35 35.5**	**+0.5**
WMQ	**Urumqi**	11.07	56	*e*P	**P**	**06 35 55.6**	**-1.4**
WMQ	comp=N,13nm,0.7s			smax	smax		
WMQ	comp=E,26nm,0.7s			smax	smax		
AJM	**Ajmer**	11.70	182	*e*P	**Pn**	**06 35 53.6**	**-2.7**
AJM				*e*S	**Sn**	**06 38 02.6**	**-2.8**
KURBB	**Kurchatov Arra** comp=E,1.3nm,0.8s,baz=200,slow=12,SNR=8.7	12.66	10	P	**Pn**	**06 36 07.1**	**-1.5**
KURK	**Kurchatov**	12.76	10	Pn	**Pn**	**06 36 10.0**	**+0.1**
GEYT	**Alibeck**	13.36	274	Pn	**Pn**	**06 36 15.2**	**-2.6**
GEYT	**Alibeck** comp=E,3.5nm,0.3s,baz=108,slow=10,SNR=5.7	13.36	274	P	**Pn**	**06 36 14.4**	**-3.3**
GEYT	comp=E,2.5nm,0.5s,baz=90,slow=10,SNR=2.0			S	Sn	06 38 35.9	-9.3
GYA0B	**ALIBECK ARRAY**	13.36	274	Pn	**Pn**	**06 36 15.1**	**-2.7**
BVAR	**Borovoye Array** comp=E,3.9nm,0.7s,baz=160,slow=14,SNR=13	15.17	349	P	**Pn**	**06 36 39

HHC				pmax	pmax			
	comp=Z,120nm,5.1s							
BRTR	**Keskin Array B**	**32.04**	**286**	P	**P**	**06 39 28.8**	**+1.5**	
	comp=Z,0.6nm,0.5s,baz=90,slow=4.9,SNR=4.0							
	comp=Z,0.6nm,0.5s							
AKASG	**Malin Array Be**	**34.47**	**306**	P	**P**	**06 39 49.1**	**+1.0**	
AKASG	**Malin Array Be**	**34.47**	**306**	P	**P**	**06 39 48.2**	**+0.1**	
	comp=Z,0.6nm,0.4s,baz=78,slow=7.4,SNR=7.3							
	comp=Z,0.6nm,0.4s							
AKBB	**Malin Array Si**	**34.47**	**306**	P	**P**	**06 39 48.5**	**+0.3**	
AKBB				IAmb	IAmb	06 39 53.9		
	comp=Z,5.2nm,1.2s							
KIEV	**Kiev**	**34.48**	**306**	P	**P**	**06 39 49.0**	**+0.8**	
KIEV				IAmb	IAmb	06 39 53.9		
	comp=Z,5.0nm,1.2s							
FIA1	**FINESS Array S**	**37.95**	**324**	P	**P**	**06 40 18.3**	**+0.8**	
FINES	**FINESS Array B**	**37.95**	**324**	P	**P**	**06 40 18.2**	**+0.7**	
FINES	**FINESS Array B**	**37.95**	**324**	P	**P**	**06 40 18.7**	**+1.2**	
	comp=Z,1.5nm,0.4s,baz=113,slow=9.8,SNR=19							
	comp=Z,1.5nm,0.4s							
ARCES	**ARCESS Array B**	**40.86**	**336**	P	**P**	**06 40 43.0**	**+1.4**	
ARCES	**ARCESS Array B**	**40.86**	**336**	P	**P**	**06 40 42.8**	**+1.2**	
	comp=Z,2.3nm,0.6s,baz=107,slow=8.1,SNR=16							
	comp=Z,2.3nm,0.6s							
KSRS	**Korea Array**	**41.28**	**74**	P	**P**	**06 40 43.0**	**-2.5**	
	comp=Z,0.5nm,0.3s,baz=294,slow=12,SNR=1.7							
	comp=Z,0.5nm,0.3s							
KLR	**Kul'dur**	**41.52**	**56**	P	**P**	**06 40 47.4**	**+0.1**	
	comp=Z,0.8nm,0.5s,baz=275,slow=8.4,SNR=4.3							
	comp=Z,0.8nm,0.5s							
TIXI	**Tiksi**	**42.98**	**22**	P	**P**	**06 41 00.0**	**+1.3**	
TIXI				IAmb	IAmb	06 41 00.7		
	comp=Z,4.0nm,0.4s							
HFS	**Hagfors**	**43.77**	**321**	P	**P**	**06 41 06.1**	**+0.9**	
	comp=Z,5.1nm,0.6s,baz=94,slow=11,SNR=13							
	comp=Z,5.1nm,0.6s							
NC405	**NORSAR Array S**	**44.76**	**322**	P	**P**	**06 41 14.3**	**+1.2**	
NC405				IAmb	IAmb	06 41 40.7		
	comp=Z,20nm,1.4s							
NC303	**NORSAR Array S**	**44.93**	**322**	P	**P**	**06 41 15.7**	**+1.2**	
NC303				IAmb	IAmb	06 41 43.2		
	comp=Z,24nm,1.4s							
NB201	**NORSAR Array S**	**44.97**	**322**	P	**P**	**06 41 15.4**	**+0.7**	
NB201				IAmb	IAmb	06 41 19.0		
	comp=Z,11nm,1.3s							
NB2	**NORSAR Subarra**	**45.00**	**322**	P	**P**	**06 41 15.8**	**+0.7**	
	comp=Z,3nm,0.5s,baz=90,slow=7.9							
NOA	**NORSAR Array B**	**45.00**	**322**	P	**P**	**06 41 16.0**	**+0.9**	
	comp=Z,2.1nm,0.6s,baz=91,slow=7.8,SNR=11							
	comp=Z,2.1nm,0.6s							
NC204	**NORSAR Array S**	**45.22**	**322**	P	**P**	**06 41 17.6**	**+0.8**	
NC204				IAmb	IAmb	06 41 20.4		
	comp=Z,6.6nm,1.1s							
SPITS	**Spitsbergen Ar**	**46.60**	**346**	P	**P**	**06 41 29.0**	**+1.6**	
	comp=Z,1.4nm,0.5s,baz=119,slow=12,SNR=8.0							
	comp=Z,1.4nm,0.5s							
KBS	**Kingsbay**	**47.69**	**347**	P	**P**	**06 41 36.4**	**+0.7**	
EKA	**Eskdalemuir Ar**	**53.32**	**316**	P	**P**	**06 42 18.8**	**+0.5**	
	comp=Z,1.5nm,0.5s,baz=93,slow=7.1,SNR=14							
	comp=Z,1.5nm,0.5s							
PETK	**Petropavlovsk-**	**56.48**	**46**	P	**P**	**06 42 41.4**	**+0.3**	
	comp=Z,3.4nm,0.9s,baz=286,slow=12,SNR=2.1							
	comp=Z,3.4nm,0.9s							
ESDC	**Sonseca Array**	**59.51**	**298**	P	**P**	**06 43 02.3**	**-0.2**	
	comp=Z,0.3nm,0.5s,baz=84,slow=4.0,SNR=1.1							
	comp=Z,0.3nm,0.5s							
TORD	**Torodi Ar. Bea**	**68.97**	**270**	P	**P**	**06 44 04.2**	**-0.1**	
	comp=Z,1.4nm,0.4s,baz=47,slow=6.1,SNR=19							
	comp=Z,1.4nm,0.4s							
ILAR	**Eielson Array**	**72.22**	**18**	P	**P**	**06 44 23.1**	**-0.2**	
	comp=Z,0.6nm,0.9s,baz=324,slow=5.4,SNR=5.6							
	comp=Z,0.6nm,0.9s							
YKA	**Yellowknife Ar**	**79.34**	**5**	P	**P**	**06 45 04.7**	**+0.9**	
	comp=Z,1.0nm,0.7s,baz=348,slow=5.4,SNR=16							
	comp=Z,1.0nm,0.7s							
WRA	**Warramunga Arr**	**80.23**	**125**	P	**P**	**06 45 09.6**	**+0.5**	
	comp=Z,1.1nm,0.8s,baz=312,slow=4.0,SNR=4.7							
	comp=Z,1.1nm,0.8s							
ASAR	**Alice Springs**	**82.66**	**128**	P	**P**	**06 45 22.0**	**+0.1**	
	comp=Z,0.2nm,0.6s,baz=318,slow=5.8,SNR=5.5							
	comp=Z,0.2nm,0.6s							

MOS ***12*** *06:40:03.8±0.9,41.2°24N×142.2°54E,h43km,mb5.3/87, MS4.7/9,Error ellipse: s-maj=5.1km s-min=3.6km az=111.7*

BJI ***12*** *06:40:04.4±0.0,41.2°21N×142.2°52E,h58km,mb5.1/78, mB5.0/40,Ms4.5/52,Ms7 4.4/51*

JMA ***12*** *06:40:04.6±0.1,41.2°2N±0.5×142.2°6E±0.2°6,h36km±4km, MD4.9/40,MW4.9/40,E OFF AOMORI PREF*

JMA Felt II J1 at E OFF AOMORI PREF .

NIED ***12*** *06:40:04.6,41.2°15N×142.2°62E,h36km,MW4.9,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr1.59; Mθθ-0.16; Mϕϕ-1.43; Mrθ 0.92; Mθϕ-0.01; Mϕr 2.07; Fault plane solution: M₀2.71000×10¹⁶ NP1:φs19.00000°, δ74.00000°, λ99.00000°. NP2:φs170.00000°, δ19.00000°, λ62.00000°.*

NEIC ***12*** *06:40:05.6±2.1,41.2°21N±0.2°06×142.2°6E±0.2°1,h39km±6km, mb5.1/306,Mwr4.9/10 Error ellipse: s-maj=11.9km s-min=7.9km az=110.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr1.83; Mθθ-0.04; Mϕϕ-1.79; Mrθ 0.54; Mθϕ 0.01; Mrϕ1.48; Fault plane solution: M₀2.40000×10¹⁶ NP1:φs168.48000°, δ26.28000°, λ68.28000°. NP2:φs12.43000°, δ65.71000°, λ100.36000°. Principal axes: T 2.4697, Plg68.0000°, Azm302.0000°; N -0.1354, Plg9.0000°, Azm188.0000°; P -2.3343, Plg20.0000°, Azm95.0000°;*

IDC ***12*** *06:40:06.2±0.4,41.2°18N×142.2°62E,h56km±2km,mb4.6/31, mbtmp4.8/40,MS4.3/20 Error ellipse: s-maj=9.4km s-min=7.8km az=94.0*

BGR ***12*** *06:40:07.0,41.2°58N×143.2°74E,h63km±5km,mb5.0,Ms4.9*

GCMT ***12*** *06:40:06.6±0.4,41.2°21N±0.2°02×143.2°00E±0.2°04,h55km±2km, MW5.1/68,Moment Tensor Solution. s31,c34; s68,c85; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.13±.40; Mθθ 1.52±.29; Mϕϕ-5.65±.27; Mrθ 1.04±.19; Mθϕ-2.54±.21; Mrϕ2.01±.19; Best double couple: M₀5.77600×10¹⁶ NP1:φs26.00000°, δ57.00000°, λ101.00000°. NP2: φs187.00000°, δ34.00000°, λ74.00000°. Principal axes: T 4.6410, Plg75.0000°, Azm327.0000°; N 2.2690, Plg9.0000°, Azm200.0000°; P -6.9100, Plg11.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***12*** *06:40:06.1,41.2°19N×142.2°70E,h42km*

ISC 12 06:40:06.0±0.3,41°21N±0°03×142°64E±0°03,h55km±1km, h55km:pP-P,n1306,σ1935/1318,mb5.1/332,MS4.6/32, 68C-55D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**0.90**	**25**	Pn	**Pn**	**06 40 21.7**	**-0.8**
ERM	**Erimo**	**0.90**	**25**	P	**Pn**	**06 40 22.2**	**-0.3**
ERM	**Erimo**	**0.90**	**25**	*ce*P	**Pn**	**06 40 21.5**	**-1.0**
ERM				pmax	pmax		
	comp=Z,4μm,1.3s						
JEM	**Erimo**	**0.90**	**25**	P	**Pn**	**06 40 21.8**	**-0.7**
JEM	**Erimo**	**0.90**	**25**	*i* P	**Pn**	**06 40 21.6**	**-0.9**
JEM				*e*S	**Sn**	**06 40 34.3**	**-0.3**
JEM	**Erimo**	**0.90**	**25**	A	A	06 40 21.6	
	comp=E,34nm,3.8s,comp=N,37nm,1.4s						
JARK	**Aomorirokkasho**	**0.98**	**259**	⇓P	**Pn**	**06 40 21.9**	**-1.7**
JARK				⇓*e*S	**Sn**	**06 40 34.3**	**-2.3**
JARK	**Aomorirokkasho**	**0.98**	**259**	A	A	06 40 21.9	
	comp=E,31nm,0.9s,comp=N,60nm,3.0s						
JAHD	**Aomorihigashid**	**0.99**	**274**	⇓*i*P	**Pn**	**06 40 22.1**	**-1.5**
JAHD				⇓S	**Sn**	**06 40 34.9**	**-1.8**
JAHD	**Aomorihigashid**	**0.99**	**274**	A	A	06 40 22.1	
	comp=E,82nm,0.9s,comp=N,93nm,1.2s						
JNBK	**Urakawa-nobuka**	**1.08**	**4**	⇓*i*P	**Pn**	**06 40 24.7**	**-0.1**
JNBK				⇓S	**Sn**	**06 40 40.0**	**+1.1**
JNBK	**Urakawa-nobuka**	**1.08**	**4**	A	A	06 40 24.7	
	comp=E,53nm,2.5s,comp=N,48nm,3.9s						
JANG	**Nango**	**1.19**	**226**	⇓*i*P	**Pn**	**06 40 24.4**	**-2.0**
JANG				⇓*e*S	**Sn**	**06 40 39.4**	**-2.3**
JANG	**Nango**	**1.19**	**226**	A	A	06 40 24.4	
	comp=E,35nm,4.3s,comp=N,27nm,1.5s						
JTHR	**Tokachihiroo**	**1.19**	**24**	A	A	06 40 26.2	
	comp=E,47nm,2.2s,comp=N,44nm,0.8s						
JSHD	**Hidakashinhida**	**1.21**	**354**	A	A	06 40 26.4	
	comp=E,88nm,2.2s,comp=N,68nm,1.3s						
JOT	**Ohata**	**1.21**	**279**	⇓*i*P	**Pn**	**06 40 25.5**	**-1.2**
JOT				⇓*e*S	**Sn**	**06 40 40.8**	**-1.3**
JOT	**Ohata**	**1.21**	**279**	A	A	06 40 25.5	
	comp=E,43nm,0.9s,comp=N,37nm,1.3s						
JKEN	**Kujiedanarisaw**	**1.22**	**216**	A	A	06 40 25.0	
	comp=E,55nm,0.7s,comp=N,65nm,0.6s						
JTM	**Tenmabayashi**	**1.26**	**251**	Pn	**Pn**	**06 40 26.5**	**-0.9**
JTM	**Tenmabayashi**	**1.26**	**251**	P	**Pn**	**06 40 26.6**	**-0.7**
JTM	**Tenmabayashi**	**1.26**	**251**	⇓*i*P	**Pn**	**06 40 26.5**	**-0.9**
JTM				⇓S	**Sn**	**06 40 42.4**	**-0.9**
JTM	**Tenmabayashi**	**1.26**	**251**	A	A	06 40 26.5	
	comp=E,54nm,0.7s,comp=N,79nm,1.4s						
JKB	**Kayabe**	**1.39**	**300**	⇓*i*P	**Pn**	**06 40 27.8**	**-1.2**
JKB				⇓S	**Sn**	**06 40 45.0**	**-1.3**
JKB	**Kayabe**	**1.39**	**300**	A	A	06 40 27.8	
	comp=E,22nm,3.9s,comp=N,27nm,3.6s						
JTH	**Tanohata**	**1.40**	**205**	A	A	06 40 27.5	
	comp=E,12nm,0.8s,comp=N,12nm,1.0s						
JCH	**Churui**	**1.51**	**21**	*i* P	**Pn**	**06 40 30.6**	**-0.1**
JCH				*e*S	**Sn**	**06 40 50.0**	**+0.8**
JCH	**Churui**	**1.51**	**21**	A	A	06 40 30.6	
	comp=E,22nm,3.0s,comp=N,19nm,2.0s						
JIAM	**Iburiatsuma**	**1.52**	**339**	⇓*i*P	**Pn**	**06 40 31.8**	**+1.0**
JIAM				⇓S	**Sn**	**06 40 53.0**	**+3.6**
JIAM	**Iburiatsuma**	**1.52**	**339**	A	A	06 40 31.8	
	comp=E,80nm,0.7s,comp=N,100nm,2.4s						
JKZ	**Kuzumaki**	**1.58**	**220**	A	A	06 40 30.2	
	comp=E,52nm,0.8s,comp=N,64nm,0.6s						
JBT2	**Biratori 2**	**1.59**	**353**	*i* P	**Pn**	**06 40 32.2**	**+0.5**
JBT2	**Biratori 2**	**1.59**	**353**	A	A	06 40 32.2	
	comp=E,17nm,5.0s,comp=N,16nm,3.2s						
JSI2	**Shiura 2**	**1.69**	**266**	A	A	06 40 32.4	
	comp=E,39nm,0.8s,comp=N,37nm,1.1s						
JSR	**Shiriuchi**	**1.71**	**282**	⇓*i*P	**Pn**	**06 40 32.9**	**-0.4**
JSR				⇓*e*S	**Sn**	**06 40 53.2**	**-0.8**
JSR	**Shiriuchi**	**1.71**	**282**	A	A	06 40 32.9	
	comp=E,46nm,2.8s,comp=N,16nm,0.9s						
JNB	**Noboribetsu**	**1.74**	**317**	⇓P	**Pn**	**06 40 32.7**	**-1.1**
JNB				⇓S	**Sn**	**06 40 54.6**	**-0.3**
JNB	**Noboribetsu**	**1.74**	**317**	A	A	06 40 32.7	
	comp=E,11nm,1.3s,comp=N,14nm,2.6s						
MIYJ	**Miyakonagasawa**	**1.74**	**201**	A	A	06 40 32.6	
	comp=E,18nm,2.4s,comp=N,13nm,0.6s						
JHHS	**Hirosakihyakuz**	**1.82**	**253**	A	A	06 40 34.0	
	comp=E,64nm,3.3s,comp=N,69nm,1.4s						
JAH	**Hinai**	**1.83**	**237**	A	A	06 40 34.1	
	comp=E,30nm,2.8s,comp=N,31nm,1.6s						
JEW	**Eniwo**	**1.86**	**332**	⇓*i*P	**Pn**	**06 40 35.9**	**+0.5**
JEW				⇓S	**Sn**	**06 40 59.2**	**+1.4**
JEW	**Eniwo**	**1.86**	**332**	A	A	06 40 35.9	
	comp=E,113nm,1.4s,comp=N,88nm,1.3s						
JOB	**Onbets**	**1.92**	**27**	A	A	06 40 36.8	
	comp=E,20nm,1.5s,comp=N,20nm,2.3s						
JYM2	**Yakumo 2**	**1.93**	**299**	A	A	06 40 36.4	
	comp=E,18nm,2.7s,comp=N,24nm,2.0s						
JSZI	**Iwateshizukuis**	**1.95**	**222**	A	A	06 40 35.7	
	comp=E,49nm,1.6s,comp=N,75nm,1.4s						
JFR	**Furan**	**1.96**	**359**	A	A	06 40 37.4	
	comp=E,15nm,1.5s,comp=N,12nm,1.0s						
JOMM	**Oshimamatsumae**	**2.01**	**280**	P	**Pn**	**06 40 36.7**	**-0.8**
JOMM				*e*S	**Sn**	**06 41 00.8**	**-0.6**
JOMM	**Oshimamatsumae**	**2.01**	**280**	A	A	06 40 36.7	
	comp=E,12nm,1.9s,comp=N,12nm,3.4s						
JOM	**Ohasama**	**2.01**	**211**	*i* P	**Pn**	**06 40 36.9**	**-0.7**
JOM				S	**Sn**	**06 41 01.9**	**+0.3**
JOM	**Ohasama**	**2.01**	**211**	A	A	06 40 36.9	
	comp=E,43nm,1.9s,comp=N,42nm,0.5s						
JIW	**Iwasaki**	**2.09**	**254**	A	A	06 40 38.0	
	comp=E,35nm,4.1s,comp=N,35nm,1.0s						
JNTW	**Noshirotokiwa**	**2.10**	**245**	A	A	06 40 38.1	
	comp=E,64nm,3.1s,comp=N,101nm,2.9s						
OFUJ	**Ofunato**	**2.25**	**200**	A	A	06 40 39.9	
	comp=E,21nm,1.5s,comp=N,11nm,2.0s						
JAR	**Ashorobuto**	**2.25**	**21**	A	A	06 40 41.6	
	comp=E,13nm,3.1s,comp=N,12nm,1.6s						
JISS	**Ishikarishitsu**	**2.26**	**337**	A	A	06 40 41.5	
	comp=E,40nm,2.5s,comp=N,33nm,3.6s						
JAB	**Ashibetsu**	**2.32**	**352**	A	A	06 40 42.5	
	comp=E,23nm,2.5s,comp=N,28nm,2.0s						
JAK	**Akkeshi**	**2.35**	**40**	A	A	06 40 43.0	
	comp=E,13nm,3.2s,comp=N,15nm,1.6s						
JRG	**Rokugo**	**2.37**	**221**	A	A	06 40 41.7	
	comp=E,26nm,0.6s,comp=N,30nm,2.3s						
JHST	**Hiyamasetana**	**2.40**	**301**	A	A	06 40 43.1	
	comp=E,12nm,3.6s,comp=N,11nm,3.4s						
JSH	**Shimam**	**2.41**	**307**	A	A	06 40 43.4	
	comp=E,5.0nm,3.7s,comp=N,6.0nm,3.7s						
JYW	**Yuwa**	**2.49**	**229**	A	A	06 40 43.5	
	comp=E,31nm,2.9s,comp=N,37nm,2.0s						
JMK	**Ichinoseki**	**2.50**	**206**	A	A	06 40 43.5	
	comp=E,15nm,2.9s,comp=N,11nm,1.3s						
JKMT	**Kesennumamotoy**	**2.55**	**201**	A	A	06 40 44.3	
	comp=E,16nm,2.1s,comp=N,8.0nm,1.0s						
JHR	**Horuyu**	**2.63**	**345**	A	A	06 40 46.8	
	comp=E,28nm,3.4s,comp=N,23nm,1.7s						
JKHN	**Kushirohamanak**	**2.65**	**44**	A	A	06 40 47.2	
	comp=E,13nm,3.1s,comp=N,18nm,1.4s						
JKK2	**Kamakawa 2**	**2.67**	**2**	A	A	06 40 47.5	
	comp=E,8.0nm,1.7s,comp=N,11nm,1.7s						
JSK	**Shakotan**	**2.68**	**324**	A	A	06 40 47.4	
	comp=E,8.0nm,7.5s,comp=N,7.0nm,3.4s						
JNK	**Nakash**	**2.83**	**32**	A	A	06 40 49.9	
	comp=E,7.0nm,1.6s,comp=N,9.0nm,1.1s						
JMP	**Maruseppu**	**2.85**	**10**	A	A	06 40 50.1	
	comp=E,8.0nm,1.1s,comp=N,6.0nm,0.8s						
JYK	**Kaneyama**	**2.88**	**218**	A	A	06 40 48.9	
	comp=E,10.0nm,2.2s,comp=N,9.0nm,2.1s						
ASAJ	**Asahikawa**	**2.91**	**359**	A	A	06 40 51.0	
	comp=E,8.0nm,2.0s,comp=N,5.0nm,2.1s						
ASAJ	**Asahikawa**	**2.91**	**359**	P	**Pn**	**06 40 50.5**	**+0.7**
	comp=N,399nm,0.4s,baz=216,slow=13,SNR=80						
ASAJ				S	**Sn**	**06 41 24.9**	**+1.4**
	comp=N,1μm,0.7s,baz=160,slow=33,SNR=5.8						
JKA	**Kamikawa-asahi**	**2.91**	**359**	Pn	**Pn**	**06 40 50.5**	**+0.7**
JTKR	**Abashiri--Toko**	**2.92**	**18**	A	A	06 40 51.1	
	comp=E,7.0nm,2.4s,comp=N,5.0nm,1.3s						
JOFO	**Osakifurukawao**	**2.92**	**208**	A	A	06 40 49.5	
	comp=E,45nm,3.2s,comp=N,48nm,2.4s						
JOG3	**Oga3**	**3.00**	**246**	A	A	06 40 43.9	
	comp=E,16nm,2.5s,comp=N,18nm,2.4s						
JYYZ	**Yamagatayuza**	**3.02**	**224**	A	A	06 40 50.9	
	comp=E,34nm,2.4s,comp=N,24nm,2.8s						
JTB	**Tobi-shima**	**3.10**	**231**	A	A	06 40 52.2	
	comp=E,16nm,7.5s,comp=N,15nm,2.9s						
JNSB	**Nemuroshibetsu**	**3.11**	**33**	A	A	06 40 53.7	
	comp=E,9.0nm,2.1s,comp=N,11nm,3.5s						
NMR	**Nemuro--Hokkai**	**3.15**	**46**	⇓*i*P	**Pn**	**06 40 51.2**	**-1.8**
NMR				*e*S	**Sn**	**06 41 25.0**	**-4.4**
NEM2	**Nemuro 2**	**3.15**	**46**	A	A	06 40 54.3	
	comp=E,6.0nm,6.8s,comp=N,5.0nm,4.0s						
JOU	**Okura**	**3.22**	**209**	A	A	06 40 53.7	
	comp=E,11nm,1.8s,comp=N,12nm,0.7s						
JSS	**Shosan**	**3.25**	**350**	A	A	06 40 55.7	
	comp=E,11nm,4.2s,comp=N,11nm,5.5s						
JRA	**Rausu**	**3.29**	**33**	A	A	06 40 56.3	
	comp=E,5.0nm,1.5s,comp=N,6.0nm,1.8s						
JYG	**Yagishiri**	**3.34**	**345**	A	A	06 40 57.0	
	comp=E,7.0nm,9.3s,comp=N,5.0nm,3.9s						
JYA	**Atsumi**	**3.45**	**222**	A	A	06 40 57.0	
	comp=E,20nm,1.5s,comp=N,23nm,1.4s						
RUSJ	**Misakicho**	**3.48**	**33**	⇓*i*P	**Pn**	**06 40 57.2**	**-0.3**
RUSJ				*e*S	**Sn**	**06 41 39.4**	**+2.0**
JYS	**Shirataka**	**3.58**	**215**	A	A	06 40 58.9	
	comp=E,25nm,2.3s,comp=N,19nm,2.9s						
JMM	**Marumori**	**3.63**	**204**		**Pn**	**06 40 58.8**	**-0.8**
JMM	**Marumori**	**3.63**	**204**	P	**Pn**	**06 40 59.7**	**+0.1**
JMM	**Marumori**	**3.63**	**204**	A	A	06 40 59.5	
	comp=N,4.0nm,1.1s						
YUK	**Yuzh-Kuril'sk**	**3.69**	**39**	*d* P	**Pn**	**06 40 59.5**	**-1.0**
JMST	**Minamisoumatoc**	**3.73**	**202**	A	A	06 41 01.0	
	comp=E,9.0nm,1.7s,comp=N,8.0nm,1.4s						
JYAR	**Yonezawaarcadi**	**3.81**	**211**	A	A	06 41 02.1	
	comp=E,26nm,1.3s,comp=N,32nm,1.1s						
JOTO	**OTAMA OYAMA**	**4.06**	**207**	A	A	06 41 05.5	
	comp=E,12nm,1.6s,comp=N,12nm,2.7s						
JFK	**Kawauchi**	**4.07**	**200**	A	A	06 41 05.7	
	comp=E,10.0nm,4.3s,comp=N,4.0nm,1.2s						
JWK2	**Keihoku**	**4.15**	**353**	A	A	06 41 08.4	
	comp=E,3.0nm,4.9s,comp=N,6.0nm,6.1s						
JNS	**Sasagawa**	**4.25**	**218**	A	A	06 41 08.3	
	comp=E,3.0nm,4.0s,comp=N,4.0nm,3.6s						
ONAJ	**Iwakimizuishiy**	**4.34**	**200**	A	A	06 41 09.5	
	comp=E,9.0nm,2.4s,comp=N,7.0nm,1.4s						
JFFD	**Fukushimafurud**	**4.42**	**202**	A	A	06 41 10.6	
	comp=E,5.0nm,4.9s,comp=N,4.0nm,2.2s						
JFY	**Yanaizu**	**4.42**	**212**	A	A	06 41 10.7	
	comp=E,5.0nm,2.5s,comp=N,3.0nm,4.2s						
JSD	**Sado**	**4.63**	**228**		**Pn**	**06 41 14.5**	**+1.1**
JSD	**Sado**	**4.63**	**228**	P	**Pn**	**06 41 14.8**	**+1.4**
JSB	**Shiboa**	**4.73**	**207**	A	A	06 41 15.0	
	comp=E,11nm,4.5s,comp=N,8.0nm,2.2s						
KUR	**Kuril'sk**	**5.55**	**42**	*d* P	**Pn**	**06 41 25.4**	**-0.5**
KUR				*i* S	**Sn**	**06 42 26.7**	**-1.6**
KUR				pmax	pmax		
	comp=N,65nm,0.5s						
KUR				pmax	pmax		
	comp=E,130nm,0.5s						
KUR				pmax	pmax		
	comp=Z,762nm,0.5s						
KUR				smax	smax		
	comp=N,3μm,4.0s						
KUR				smax	smax		
	comp=E,2μm,2.1s						
KUR				smax	smax		
	comp=E,680nm,0.8s						
KUR				smax	smax		
	comp=N,276nm,0.3s						
KUR				MLR	MLR		
	comp=Z,3μm,18.0s						
YSS	**Yuzh-Sakhalins**	**5.75**	**1**	Pn	**Pn**	**06 41 30.0**	**+1.3**
YSS	**Yuzh-Sakhalins**	**5.75**	**1**	P	**Pn**	**06 41 29.5**	**+0.9**
YSS	**Yuzh-Sakhalins**	**5.75**	**1**	⇑*e*P	**Pn**	**06 41 29.6**	**+0.9**
YSS				*e*S	**Sn**	**06 42 35.1**	**+1.9**
YSS				pmax	pmax		
	comp=Z,230nm,1.0s						
YSS				smax	smax		
	comp=N,230nm,1.2s						
YSS				smax	smax		
	comp=E,100nm,1.3s						
YSS				MLR	MLR		
	comp=Z,2μm,13.0s						
YSS				MLR	MLR		
	comp=N,1μm,11.0s						
MJAR	**Matsushiro Arr**	**5.80**	**218**	P	**Pn**	**06 41 30.8**	**+1.3**
	comp=N,117nm,0.7s,baz=29,slow=13,SNR=222						
MJAR				LR	LR	06 44 07.7	
	comp=N,2μm,20.3s,baz=40,slow=42						
MJB9	**Matsu-Tunnel**	**5.80**	**218**	Pn	**Pn**	**06 41 30.7**	**+1.3**
MAJO	**Matsushiro**	**5.80**	**218**	Pn	**Pn**	**06 41 30.6**	**+1.1**
MAJO	**Matsushiro**	**5.80**	**218**	P	**Pn**	**06 41 30.6**	**+1.1**
MAJO	**Matsushiro**	**5.80**	**218**	*c i*P	**Pn**	**06 41 30.5**	**+1.1**
TEY	**Ternei**	**5.85**	**313**	⇑*e*P	**Pn**	**06 41 29.9**	**-0.1**
TEY				*e*		06 42 36.7	
TEY				pmax	pmax		
	comp=N,30nm,0.9s						
TEY				pmax	pmax		
	comp=E,40nm,0.9s						
TEY				pmax	pmax		
	comp=Z,40nm,0.9s						
TEY				pmax	pmax		
	comp=N,100nm,3.1s						
TEY				pmax	pmax		
	comp=E,100nm,3.1s						
TEY				pmax	pmax		
	comp=Z,100nm,3.1s						
JGF	**Kuroka**	**6.96**	**218**	Pn	**Pn**	**06 41 46.7**	**+1.2**
JGF	**Kuroka**	**6.96**	**218**	P	**Pn**	**06 41 46.6**	**+1.2**
INU	**Inuyama**	**7.33**	**219**	Pn	**Pn**	**06 41 50.7**	**+0.3**
INU	**Inuyama**	**7.33**	**219**	P	**Pn**	**06 41 51.5**	**+1.1**
JSG	**Sagara**	**7.41**	**210**	Pn	**Pn**	**06 41 51.9**	**+0.4**
JSG	**Sagara**	**7.41**	**210**	P	**Pn**	**06 41 53.9**	**+2.5**
UGL	**Uglegorsk**	**7.88**	**357**	*e*P	**Pn**	**06 41 58.6**	**+0.7**
UGL				*e*S	**Sn**	**06 43 28.4**	**+2.8**
UGL				pmax	pmax		
	comp=Z,100nm,0.8s						
UGL				smax	smax		
	comp=E,580nm,2.5s						
UGL				smax	smax		
	comp=N,220nm,2.0s						
UGL				MLR	MLR		
	comp=N,2μm,19.0s						
UGL				MLR	MLR		
	comp=E,2μm,19.0s						
UGL				MLR	MLR		
	comp=Z,2μm,13.0s						
VLA	**Vladivostok**	**8.22**	**287**	*i* P	**Pn**	**06 42 00.3**	**-2.2**
JHJ	**Hachijo jima 2**	**8.39**	**197**	P	**Pn**	**06 42 03.2**	**-1.6**
	comp=Z,73nm,0.3s,baz=342,slow=19,SNR=6.3						
JHJ				S	**Sn**	**06 43 31.2**	**-6.8**
	comp=Z,140nm,0.3

NKL pmax pmax
comp=N,80nm,0.9s
NKL pmax pmax
comp=Z,135nm,1.1s
NKL pmax pmax
comp=E,182nm,1.0s
NKL MLR MLR
comp=N,5µm,16.0s
NKL MLR MLR
comp=E,4µm,19.0s
NKL MLR MLR
comp=Z,5µm,19.0s
KSAR Wonju Array Be 12.03 257 Pn **Pn** **06 42 55.8 +1.2**
KSAR Wonju Array Be 12.03 257 P **Pn** **06 42 55.8 +1.2**
JNU Nakatsue 12.37 233 Pn **Pn** **06 42 58.8 -0.4**
JNU Nakatsue 12.37 233 P **Pn** **06 43 00.6 +1.3**
JNU Nakatsue 12.37 233 P **Pn** **06 42 58.6 -0.6**
comp=Z,12nm,0.9s,baz=98,slow=9.5,SNR=6.9
JNU LR LR 06 47 56.3
comp=Z,1µm,20.0s,baz=34,slow=38
JTU Tsushima 12.40 242 Pn **Pn** **06 42 58.6 -1.1**
TJN Taejon 12.85 253 Pn **Pn** **06 43 06.7 +0.9**
TJN Taejon 12.85 253 P **Pn** **06 43 07.0 +1.2**
TJN Taejon 12.85 253 P **Pn** **06 43 06.7 +0.9**
INCN Inchon 12.94 259 Pn **Pn** **06 43 08.0 +1.0**
INCN Inchon 12.94 259 P **Pn** **06 43 08.0 +1.0**
INCN Inchon 12.94 259 P **Pn** **06 43 04.3 -2.7**
INCN P **Pn** **06 43 04.3 -2.7**
CN2 Changchun 12.95 287 P **Pn** **06 43 08.1 +1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,900nm,17.0s
CN2 LR LR
comp=Z,2µm,17.0s
CN2 LR LR
comp=Z,2µm,19.0s
HEH HeiHe 13.94 316 *e*P **Pn** **06 43 17.0 -3.5**
HEH S **Sn** **06 45 47.2 -6.4**
HEH SS **SnSn** **06 46 05.2 -1.2**
HEH pmax pmax
comp=Z,21nm,1.0s
HEH pmax pmax
comp=Z,250nm,4.0s
HEH LR LR
comp=Z,820nm,18.0s
HEH LR LR
comp=Z,960nm,18.0s
HEH LR LR
comp=Z,2µm,17.1s
JCJ Chichijima 14.08 182 Pn **Pn** **06 43 21.0 -1.6**
JCJ Chichijima 14.08 182 P Pn 06 43 14.6 -7.9
comp=Z,40nm,0.4s,baz=95,slow=23,SNR=6.1
JCJ S Sn 06 45 41.5 -16
comp=Z,29nm,0.5s,baz=92,slow=21,SNR=1.5
PETK Petropavlovsk- 15.66 35 P **Pn** **06 43 41.6 -1.3**
comp=Z,1.2nm,0.4s,baz=224,slow=10,SNR=6.4
PETK LR LR 06 50 04.0
comp=Z,624nm,19.1s,baz=228,slow=38
ZEA Zeya 16.25 326 *e*P **Pn** **06 43 48.5 -1.8**
ZEA pmax pmax
comp=E,30nm,0.8s
ZEA pmax pmax
comp=N,40nm,0.9s
ZEA pmax pmax
comp=Z,50nm,0.7s
ZEA MLR MLR
comp=E,400nm,19.0s
ZEA MLR MLR
comp=N,300nm,21.0s
ZEA MLR MLR
comp=Z,500nm,23.0s
DL2 Dalian 16.25 269 P **Pn** **06 43 51.4 +0.9**
DL2 pmax pmax
comp=Z,140nm,0.9s
DL2 LR LR
comp=Z,540nm,17.4s
DL2 LR LR
comp=Z,700nm,15.8s
DL2 LR LR
comp=Z,1µm,22.5s
HIA Hailar 17.98 304 P **P** **06 44 10.3 -1.5**
JOW Kunigami 18.60 224 P **P** **06 44 18.5 -0.2**
JOW Kunigami 18.60 224 P **Pn** **06 44 20.7 +1.2**
JOW Kunigami 18.60 224 P **P** **06 44 17.7 -1.0**
comp=Z,16nm,0.6s,baz=0.3,slow=2.1,SNR=4.9
MA2 Magadan 19.08 13 P **P** **06 44 22.2 -1.5**
MA2 Magadan 19.08 13 P **P** **06 44 23.0 -0.7**
comp=Z,37nm,1.6s
MA2 Magadan 19.08 13 *ce*P **P** **06 44 22.1 -1.6**
MA2 pmax pmax
comp=Z,63nm,2.2s
MA2 Magadan 19.08 13 P **P** **06 44 21.4 -2.3**
comp=Z,14nm,0.8s,baz=201,slow=9.3,SNR=9.2
MA2 LR LR 06 53 02.6
comp=Z,304nm,18.7s,baz=197,slow=41
XLT XiLinHaoTe 19.73 287 *e*P **P** **06 44 28.9 -2.1**
XLT pP pP 06 44 42.0 -0.9
XLT sP sP 06 44 48.5 -1.2
XLT S **S** **06 48 02.1 -8.3**
XLT sS sS 06 48 26.0 -3.5
XLT SS **SnSn** **06 48 34.9 +6.4**
XLT pmax pmax
comp=Z,24nm,1.0s
XLT pmax pmax
comp=Z,160nm,4.5s
XLT LR LR
comp=Z,810nm,21.7s
XLT LR LR
comp=Z,790nm,21.0s
BJI Beijing 20.10 275 P **P** **06 44 33.2 -1.8**
BJI pmax pmax
comp=Z,22nm,1.3s
BJI LR LR
comp=Z,130nm,21.0s
BJI LR LR
comp=Z,410nm,18.0s
BJI LR LR
comp=Z,550nm,18.8s
BJT Baijiatuau 20.11 275 P **P** **06 44 33.4 -1.7**
BJT Baijiatuau 20.11 275 P **P** **06 44 34.7 -0.4**
BJT Baijiatuau 20.11 275 P **P** **06 44 33.4 -1.7**
BJT pmax pmax
comp=Z,31nm,0.7s
NJ2 Nanjing 21.11 252 ⇓P **P** **06 44 44.1 -1.9**
NJ2 pP **pP** **06 44 57.2 -0.8**
NJ2 sP **sP** **06 45 04.5 -0.3**
NJ2 pmax pmax
comp=Z,89nm,0.7s
NJ2 pmax pmax
comp=Z,100nm,9.5s
NJ2 LR LR
comp=Z,1µm,15.2s
NJ2 LR LR
comp=Z,1µm,17.6s
NJ2 LR LR
comp=Z,1µm,18.0s
HNS HongShan 21.91 269 ⇑P **P** **06 44 51.2 -3.2**
HNS pmax pmax
comp=Z,33nm,1.0s
YAK Yakutsk 22.27 344 P **P** **06 44 55.0 -3.1**
YAK IAmb IAmb 06 44 59.1
comp=Z,55nm,0.8s
YAK Yakutsk 22.27 344 *e*P **P** **06 44 54.2 -3.9**
YAK *e**PP **pP** **06 45 06.8 -3.4**
YAK *e* 06 48 50.0
YAK *e*S **S** **06 48 54.4 -5.0**
YAK *e* 06 56 08.2
YAK pmax pmax
comp=Z,70nm,1.0s
YAK pmax pmax
comp=E,13nm,1.0s
YAK pmax pmax
comp=N,18nm,1.0s
YAK pmax pmax
comp=Z,92nm,1.5s
YAK pmax pmax
comp=E,47nm,1.5s
YAK smax smax
comp=E,173nm,2.5s
YAK smax smax
comp=N,164nm,2.0s
YAK Yakutsk 22.27 344 P **P** **06 44 54.3 -3.9**
comp=N,58nm,0.7s,baz=123,slow=3.3,SNR=9.1
YAK LR LR 06 53 51.1
comp=N,552nm,21.4s,baz=147,slow=37

SEY Seymchan 22.52 12 *ce*P **P** **06 44 57.7 -3.1**
SEY pmax pmax
comp=Z,11nm,0.7s
SEY Seymchan 22.52 12 P **P** **06 44 57.3 -3.4**
comp=Z,9.6nm,0.6s,baz=191,slow=8.0,SNR=31
SEY S **S** **06 48 58.8 -4.9**
comp=Z,1.1nm,0.3s,baz=210,slow=20,SNR=1.7
CIT Chita 22.57 308 *e*P **P** **06 44 58.6 -2.9**
CIT *e* 06 45 12.0
HHC Hu-ho-hao-te 23.39 279 *e*P **P** **06 45 07.3 -2.6**
HHC sP pP 06 45 25.6 +3.1
HHC *e*S **S** **06 49 13.8 -5.1**
HHC pmax pmax
comp=Z,27nm,0.8s
HHC pmax pmax
comp=Z,86nm,4.5s
HHC LR LR
comp=Z,300nm,15.9s
HHC LR LR
comp=Z,800nm,17.1s
HHC LR LR
comp=Z,1µm,17.4s
TIY Taiyuan 23.52 271 *e*P **P** **06 45 11.9 +0.7**
TIY S **S** **06 49 17.3 -3.7**
TIY pmax pmax
comp=Z,45nm,0.5s
TIY pmax pmax
comp=Z,190nm,4.7s
TIY LR LR
comp=Z,1µm,19.2s
TIY LR LR
comp=Z,420nm,19.2s
TIY LR LR
comp=Z,1µm,22.0s
TATO Taipei 23.91 234 P **P** **06 45 14.6 0.0**
SHEM Shemya Is, Ala 24.16 51 LR LR 06 56 03.7
comp=Z,114nm,19.4s,baz=258,slow=40
YHNB Yeheng 24.20 234 P **P** **06 45 15.8 -1.6**
YHNB IAmb IAmb 06 45 23.6
comp=Z,26nm,0.7s
YHNB Yeheng 24.20 234 P **P** **06 45 19.5 +2.1**
NACB Ninganchiao 24.44 232 P **P** **06 45 17.5 -2.0**
BTO Baotou 24.59 279 *e*P **P** **06 45 19.8 -1.1**
BTO pP **pP** **06 45 34.1 -0.2**
BTO sP **sP** **06 45 41.4 +0.7**
BTO PP **PnPn** **06 45 57.3 +2.8**
BTO S **S** **06 49 35.3 -2.8**
BTO sS **sS** **06 49 58.5 -2.1**
BTO SS **SnSn** **06 50 31.3 +3.7**
BTO pmax pmax
comp=Z,100nm,1.2s
BTO pmax pmax
comp=Z,260nm,5.0s
BTO LR LR
comp=Z,2µm,22.2s
BTO LR LR
comp=Z,1µm,19.7s
BTO LR LR
comp=Z,3µm,22.2s
LYN LuoYang 24.65 264 ⇓P **P** **06 45 18.8 -2.5**
LYN S **S** **06 49 36.2 -2.7**
LYN pmax pmax
comp=Z,42nm,0.8s
LYN pmax pmax
comp=Z,200nm,4.9s
BOD Bodaibo 24.66 322 *e*P **P** **06 45 20.5 -0.8**
BOD pmax pmax
comp=Z,37nm,1.2s
SSLB Suanglung 25.11 233 P **P** **06 45 24.6 -1.0**
SSLB Suanglung 25.11 233 P **P** **06 45 27.7 +2.0**
WHN Wuhan 25.17 254 ⇓*i*P **P** **06 45 26.5 +0.4**
WHN sP **sP** **06 45 42.9 -2.9**
WHN pmax pmax
comp=Z,180nm,1.2s
WHN LR LR
comp=Z,1µm,10.9s
WHN LR LR
comp=Z,4µm,19.5s
WHN LR LR
comp=Z,4µm,18.0s
YULB Yu-li 25.21 232 P **P** **06 45 25.4 -1.1**
QZH Quanzhou 25.74 238 *e*P **P** **06 45 32.2 +0.9**
TWG Pinlang 25.78 231 P **P** **06 45 30.6 -1.1**
TWG IAmb IAmb 06 45 48.9
comp=Z,147nm,1.7s
ULN Ulaanbaatar 26.06 297 P **P** **06 45 33.7 -0.5**
ULN IAmb IAmb 06 45 35.8
comp=Z,84nm,1.4s
ULN Ulaanbaatar 26.06 297 *ce*P **P** **06 45 34.3 +0.1**
ULN pmax pmax
comp=Z,66nm,1.3s
ULN Ulaanbaatar 26.06 297 P **P** **06 45 34.7 +0.4**
ULN P **P** **06 45 34.7 +0.4**
KNMB Chin-men Tao 26.21 238 P **P** **06 45 35.0 -0.6**
KNMB IAmb IAmb 06 45 36.5
comp=Z,60nm,0.9s
SONM Songino Array 26.50 297 P **P** **06 45 37.9 -0.3**
SONM IAmb IAmb 06 45 39.9
comp=Z,66nm,1.2s
SONM Songino Array 26.50 297 P **P** **06 45 37.9 -0.3**
SONM pmax pmax
comp=Z,66nm,1.2s
SONM Songino Array 26.50 297 P **P** **06 45 37.7 -0.5**
comp=Z,33nm,1.1s,baz=94,slow=7.7,SNR=111
comp=Z,33nm,1.1s
CNSH ChangSha 27.52 251 ⇑P **P** **06 45 48.4 +1.0**
CNSH pmax pmax
comp=Z,23nm,0.9s
CNSH LR LR
comp=Z,830nm,17.3s
CNSH LR LR
comp=Z,590nm,15.7s
CNSH LR LR
comp=Z,1µm,21.6s
XAN Xi'an 27.53 266 P **P** **06 45 45.8 -1.6**
XAN S **S** **06 50 22.2 -2.4**
XAN pmax pmax
comp=Z,49nm,0.9s
XAN pmax pmax
comp=Z,210nm,3.9s
XAN LR LR
comp=Z,2µm,18.6s
XAN LR LR
comp=Z,990nm,17.0s
XAN LR LR
comp=Z,3µm,19.4s
IRK Irkutsk 28.20 306 *e*P **P** **06 45 52.8 -0.4**
IRK pmax pmax
comp=Z,73nm,1.1s
ZAK Zakamensk 28.64 302 *e*P **P** **06 45 56.7 -0.6**
ZAK pmax pmax
comp=Z,24nm,1.4s
ENH Enshi 28.88 258 P **P** **06 45 59.5 0.0**
comp=Z,50nm,1.0s
H11N2 WAKE ISLAND Hy 29.74 129 T T 07 17 29.9
baz=322,slow=74
H11N1 WAKE ISLAND Hy 29.75 129 T T 07 17 38.6
baz=322,slow=74
H11N3 WAKE ISLAND Hy 29.76 129 T T 07 17 11.7
baz=322
BILL Bilibino 29.77 18 P **P** **06 46 05.7 -1.2**
BILL Bilibino 29.77 18 *e*P **P** **06 46 07.9 +1.0**
BILL pmax pmax
comp=Z,14nm,1.3s
MOY Mondy 30.16 305 *e*P **P** **06 46 11.1 +0.3**
LZH Lanzhou 30.55 273 *e*P **P** **06 46 14.1 -0.3**
LZH pP pP 06 46 26.5 -1.4
LZH pmax pmax
comp=Z,33nm,1.0s
H11S1 WAKE ISLAND Hy 30.59 131 T T 07 18 42.7
baz=324,slow=76,SNR=450
H11S3 WAKE ISLAND Hy 30.59 131 T T 07 18 42.5
baz=324,slow=76,SNR=418
H11S2 WAKE ISLAND Hy 30.60 131 T T 07 18 46.0
baz=324,slow=76,SNR=394
TIXI Tiksi 31.29 352 P **P** **06 46 19.2 -1.0**
TIXI Tiksi 31.29 352 *ce*P **P** **06 46 18.7 -1.5**
TIXI pmax pmax
comp=Z,5.0nm,1.7s
TIXI Tiksi 31.29 352 LR LR 07 00 07.3
comp=Z,274nm,20.4s,baz=201,slow=38
GTA Gaotai 32.47 281 P **P** **06 46 30.9 -0.3**
GTA pP pP 06 46 43.9 -0.9
GTA sP sP 06 46 49.0 -2.1
GTA PcP **PcP** **06 49 18.7 +1.6**

GTA pmax pmax
comp=Z,20nm,1.0s
GTA LR LR
comp=Z,530nm,18.9s
GTA LR LR
comp=Z,1µm,20.0s
GTA LR LR
comp=Z,1µm,17.5s
CD2 Chengdu 32.83 264 P **P** **06 46 32.3 -2.0**
CD2 S **S** **06 51 48.2 +0.4**
CD2 pmax pmax
comp=Z,30nm,0.7s
GYA Guiyang 33.05 255 ⇓*i*P **P** **06 46 36.2 -0.2**
GYA pP pP 06 46 51.4 +1.5
GYA pmax pmax
comp=Z,53nm,0.8s
SPIA Saint Paul Isl 33.90 46 P **P** **06 46 42.5 -0.7**
baz=262
P08K Saint George I 34.21 47 P **P** **06 46 44.8 -1.1**
baz=264
NIKH Nikolski High 34.41 53 P **P** **06 46 46.7 -1.0**
baz=270
GAMB Gambell 34.69 34 P **P** **06 46 49.4 -0.5**
baz=251
M11K Mekoryuk 36.43 41 P **P** **06 47 04.7 -0.2**
baz=262
PZH PanZhiHua 36.65 259 P **P** **06 47 07.4 0.0**
PZH pmax pmax
comp=Z,30nm,0.8s
PZH pmax pmax
comp=Z,190nm,7.3s
KMI Kunming 36.70 257 ⇑P **P** **06 47 08.1 +0.2**
KMI pmax pmax
comp=Z,31nm,1.1s
TNA Tin City 36.78 32 P **P** **06 47 08.0 +0.1**
baz=253
GOMU GeErMu 37.29 278 P **P** **06 47 12.8 -0.2**
GOMU pmax pmax
comp=Z,43nm,0.8s
F14K Arctic Creek 37.40 32 P **P** **06 47 13.4 +0.3**
baz=255
ANM Nome 37.57 34 P **P** **06 47 16.9 +2.3**
ANM IAmb IAmb 06 47 54.6
comp=Z,27nm,1.4s
ANM Nome 37.57 34 P **P** **06 47 16.9 +2.3**
ANM pmax pmax
comp=Z,27nm,1.4s
ANM Nome 37.57 34 P **P** **06 47 15.3 +0.7**
baz=257
J14K Nanvaranak Lak 38.03 37 P **P** **06 47 18.4 0.0**
baz=261
F15K North Star Dit 38.13 32 P **P** **06 47 20.5 +1.1**
baz=256
SLVN Son La 38.18 251 P **P** **06 47 20.0 -0.3**
SLVN IAmb IAmb 06 47 24.0
comp=Z,29nm,0.9s
G15K Niukluk 38.22 33 P **P** **06 47 20.5 +0.4**
baz=258
L14K Kuka Creek 38.25 39 P **P** **06 47 20.8 +0.5**
baz=264
M14K Bethel 38.55 40 P **P** **06 47 25.6 +2.8**
M14K Bethel 38.55 40 P **P** **06 47 23.4 +0.5**
baz=265
C16K Lisburne Hills 38.56 28 P **P** **06 47 22.9 +0.1**
baz=252
N14K Kuskokwak Cree 38.63 42 P **P** **06 47 23.9 +0.4**
baz=266
O14K Tigyukauivet M 38.81 43 P **P** **06 47 25.3 +0.3**
baz=268
L15K Ungalak Mounta 38.86 39 P **P** **06 47 25.6 +0.1**
baz=264
DGZ Jazzator, Alta 38.87 302 ⇑*i*P **P** **06 47 27.1 +1.2**
DGZ pmax pmax
comp=Z,89nm,0.8s
K15K Wolf Creek Mou 38.90 38 P **P** **06 47 26.7 +0.9**
baz=264
H16K Elim 38.91 34 P **P** **06 47 26.7 +0.9**
baz=260,SNR=9.2
G16K Koyuk River 39.00 33 P **P** **06 47 27.4 +0.8**
baz=259
M15K Kasigluk River 39.17 41 P **P** **06 47 28.8 +0.8**
baz=266
D17K Noatak River 39.22 29 P **P** **06 47 29.6 +1.3**
baz=256,SNR=9.2
C17K DeLong Mountai 39.39 28 P **P** **06 47 30.5 +0.7**
baz=254,SNR=9.8
J16K Anvik River 39.44 37 P **P** **06 47 31.3 +1.0**
baz=263
N15K Kwethluk River 39.44 41 P **P** **06 47 31.3 +0.9**
baz=268
I17K Unalakleet 39.47 36 P **P** **06 47 32.7 +2.2**
I17K IAmb IAmb 06 47 52.1
comp=Z,60nm,1.7s
I17K Unalakleet 39.47 36 P **P** **06 47 31.6 +1.1**
baz=263
O15K Ungalikthiuk R 39.55 43 P **P** **06 47 33.3 +2.1**
baz=269
F17K Baldwin Pennin 39.64 32 P **P** **06 47 32.9 +1.0**
baz=259,SNR=5.3
G17K Kiwalik Mounta 39.72 33 P **P** **06 47 34.8 +2.2**
baz=261
CHNA Chernabura Isl 39.82 50 P **P** **06 47 35.2 +1.7**
baz=275
L16K Owhat River 39.82 39 P **P** **06 47 35.5 +2.1**
L16K Owhat River 39.82 39 P **P** **06 47 34.8 +1.3**
baz=266
TNCH TengChong 39.87 260 ⇑P **P** **06 47 35.2 +0.6**
TNCH pP pP 06 47 50.7 +2.3
TNCH pmax pmax
comp=Z,220nm,1.0s
TNCH pmax pmax
comp=Z,400nm,2.9s
ZAA0 Zalesovo Array 39.93 309 P **P** **06 47 34.5 +0.1**
ZALV Zalesovo Beam 39.93 309 P **P** **06 47 34.7 +0.2**
ZALV Zalesovo Beam 39.93 309 P **P** **06 47 34.3 -0.1**
comp=Z,31nm,0.5s,baz=89,slow=8.1,SNR=152
ZALV PcP **PcP** **06 49 39.2 +0.2**
comp=Z,4.2nm,0.5s,baz=105,slow=3.6,SNR=3.0
comp=Z,31nm,0.5s
NRIK Noril'sk 39.93 333 P **P** **06 47 34.4 +0.1**
NRIK IAmb IAmb 06 47 35.9
comp=Z,55nm,1.3s
NRIK Noril'sk 39.93 333 *ce*P **P** **06 47 33.1 -1.2**
NRIK pmax pmax
comp=Z,51nm,1.3s
NRIK Noril'sk 39.93 333 P **P** **06 47 33.7 -0.6**
comp=Z,24nm,1.1s,baz=113,slow=8.5,SNR=30
comp=Z,24nm,1.1s
H17K Granite Mounta 39.94 34 P **P** **06 47 35.4 +0.9**
baz=262
WMQ Urumqi 39.96 293 ⇑P **P** **06 47 35.9 +0.9**
WMQ pP pP 06 47 44.7 -4.1
WMQ pmax pmax
comp=Z,91nm,1.1s
WMQ pmax pmax
comp=Z,330nm,3.7s
WMQ LR LR
comp=Z,560nm,17.1s
WMQ LR LR
comp=Z,780nm,20.1s
WMQ LR LR
comp=Z,850nm,20.7s
M16K Timber Creek 40.03 40 P **P** **06 47 36.1 +0.8**
baz=268
E18K Tukpahlearik C 40.09 30 P **P** **06 47 37.0 +1.3**
baz=258
B18K Kokolik River 40.10 27 P **P** **06 47 37.2 +1.5**
baz=255
N16K Nishlik Lake 40.10 41 P **P** **06 47 37.1 +1.2**
baz=268
C18K Utukok River 40.14 28 P **P** **06 47 36.8 +0.7**
baz=256,SNR=18
F18K Selawik 40.30 31 P **P** **06 47 38.0 +0.7**
baz=260,SNR=9.2
CHGN Chignik 40.38 47 P **P** **06 47 38.3 +0.2**
baz=274
L17K Donlin 40.40 38 P **P** **06 47 38.9 +0.7**
baz=267
K17K Iditarod 40.43 38 P **P** **06 47 39.3 +0.8**
baz=266
O16K Kokwok River B 40.43 42 P **P** **06 47 39.6 +1.0**
baz=270
P16K Nushagak River 40.49 43 P **P** **06 47 40.0 +0.9**
baz=271
G18K Tagagawik 40.60 33 P **P** **06 47 40.7 +0.8**
baz=262,SNR=11
H18K Honhosa River 40.62 34 P **P** **06 47 41.2 +1.1**

baz=263
R16K **Pilot Point** 40.76 45 P P 06 47 41.6 +0.4
baz=273
M17K **Holitna River** 40.78 40 P P 06 47 40.9 -0.5
baz=268
C19K **Lookout Ridge** 40.81 28 P P 06 47 42.3 +0.7
C19K **Lookout Ridge** 40.81 28 P P 06 47 41.6 0.0
baz=258,SNR=14
NONG **Nongkai** 40.87 248 P P 06 47 43.7 +1.1
comp=Z,50nm,0.8s
N17K **Nushagak Hills** 40.89 41 P P 06 47 42.7 +0.3
baz=270
O17K **Koliganek Bris** 40.94 42 P P 06 47 42.8 +0.1
baz=271
ZSN **Zaisan** 40.97 299*c i* P P 06 47 43.8 +0.6
ZSN pmax pmax
comp=Z,21nm,0.7s
ZSN **Zaisan** 40.97 299⇑ *i* P P 06 47 43.9 +0.6
comp=Z,21nm,0.7s,baz=299
F19K **Shaleruckik Mo** 41.08 31 P P 06 47 45.1 +1.3
F19K **Shaleruckik Mo** 41.08 31 P P 06 47 44.2 +0.4
baz=262,SNR=12
L18K **Granite Mounta** 41.16 38 P P 06 47 45.1 +0.6
baz=268
J18K **Innoko River** 41.20 36 P P 06 47 46.3 +1.5
baz=267
Q16K **King Salmon** 41.20 44 P P 06 47 46.1 +1.2
baz=272
D19K **Kuna River** 41.21 29 P P 06 47 46.3 +1.4
baz=260
GCSA **Galena City Sc** 41.21 35 P P 06 47 45.9 +1.1
baz=265
UBPT **Khong Chiam** 41.23 242 P P 06 47 46.2 +0.6
G19K **Purcell Mounta** 41.26 32 P P 06 47 46.0 +0.7
baz=263
P17K **Kvichak River** 41.29 43 P P 06 47 46.0 +0.4
baz=272
E19K **Redstone River** 41.37 30 P P 06 47 47.1 +0.8
baz=262
H19K **Roundabout Mou** 41.46 33 P P 06 47 48.1 +1.2
baz=265
TTA **Tatalina** 41.49 37 P P 06 47 50.0 +2.7
TTA **Tatalina** 41.49 37 P P 06 47 50.0 +2.7
TTA pmax pmax
comp=Z,9.0nm,1.0s
TTA **Tatalina** 41.49 37 P P 06 47 48.3 +1.0
baz=268
N18K **Kilae Creek** 41.53 41 P P 06 47 50.4 +2.9
N18K **Kilae Creek** 41.53 41 P P 06 47 48.5 +0.9
baz=271
M18K **Stony River** 41.55 39 P P 06 47 48.3 +0.6
baz=270
Q17K **Contact Creek** 41.62 44 P P 06 47 48.9 +0.4
baz=274
SVW2 **Sparrevohn** 41.67 40 P P 06 47 51.1 +2.3
SVW2 IAmb IAmb 06 48 13.5
comp=Z,71nm,1.8s
SVW2 **Sparrevohn** 41.67 40 P P 06 47 49.2 +0.4
J19K **Poorman** 41.71 36 P P 06 47 49.2 +0.2
baz=267
D20K **Etivluk River** 41.79 29 P P 06 47 50.5 +0.8
baz=261
E20K **Nigu River** 41.88 29 P P 06 47 51.0 +0.5
baz=262
O18K **Koktuh Hills** 41.89 42 P P 06 47 53.5 +3.0
O18K IAmb IAmb 06 48 05.5
comp=Z,45nm,1.3s
O18K **Koktuh Hills** 41.89 42 P P 06 47 51.2 +0.6
baz=272
P18K **Big Mountain,** 41.90 43 P P 06 47 52.4 +1.7
P18K IAmb IAmb 06 48 07.6
comp=Z,38nm,1.2s
P18K **Big Mountain,** 41.90 43 P P 06 47 51.4 +0.7
baz=273
F20K **Avaraart Lake** 41.90 31 P P 06 47 51.4 +0.8
baz=264
L19K **White Mountain** 42.01 38 P P 06 47 51.5 0.0
baz=270
H20K **Anotleneega Mo** 42.11 33 P P 06 47 52.8 +0.5
baz=266,SNR=12
N19K **Bonanza Creek** 42.21 40 P P 06 47 53.6 +0.3
baz=272
KKM **Kota Kinabalu** 42.22 221 P P 06 47 54.1 +0.4
KKM IAmb IAmb 06 48 57.4
comp=Z,54nm,1.4s
M19K **Big River Lodg** 42.23 39 P P 06 47 53.7 +0.3
baz=271
I20K **Naaghedeneel** 42.24 35 P P 06 47 53.6 +0.3
baz=267
O19K **Port Alsworth** 42.32 41 P P 06 47 54.3 +0.3
baz=273
J20K **Nowinta River** 42.36 35 P P 06 47 54.9 +0.6
baz=268
K20K **Telida** 42.38 37 P P 06 47 55.7 +1.1
baz=269
L20K **Farewell, AK** 42.47 38 P P 06 47 56.5 +1.2
baz=270
C21K **Knifeblade Rid** 42.51 28 P P 06 47 56.9 +1.5
baz=262,SNR=15
IMAR **Indian Mountai** 42.60 33 P P 06 47 57.0 +0.7
B21K **Ikpikpuk River** 42.63 27 P P 06 47 57.4 +1.0
baz=262
G21K **Allakaket** 42.73 32 P P 06 47 58.8 +1.4
baz=266
Q19K **Cape Douglas,** 42.74 43 P P 06 47 58.4 +0.9
baz=275
F21K **Alatna River** 42.79 31 P P 06 47 58.6 +0.8
baz=266,SNR=8.3
M20K **Styx River** 42.83 39 P P 06 47 59.0 +0.8
baz=272
MK31 **Makanchi Array** 42.84 299 P P 06 47 58.8 +0.3
MK31 IAmb IAmb 06 47 59.7
comp=Z,43nm,0.9s
MK31 **Makanchi Array** 42.84 299*ce* P P 06 47 58.4 -0.1
MKAR **Makanchi Array** 42.84 299 P P 06 47 58.7 +0.2
MKAR **Makanchi Array** 42.84 299 *i* P P 06 47 58.7 +0.2
MKAR pmax pmax
comp=Z,38nm,0.8s
MKAR **Makanchi Array** 42.84 299 P P 06 47 58.5 0.0
comp=Z,38nm,0.8s,baz=84,slow=9.5,SNR=335
MKAR S S 06 54 20.1 +1.4
comp=Z,0.2nm,0.6s,baz=130,slow=6.2,SNR=1.2
comp=Z,38nm,0.8s
P19K **Oil Pt** 42.90 42 P P 06 48 00.0 +1.3
baz=274
LSA **Lhasa** 42.92 271 P P 06 48 01.3 +1.4
LSA P P 06 48 01.3 +1.4
H21K **Melozitna Rive** 42.98 33 P P 06 48 00.8 +1.5
baz=268
MAKZ **Makanchi** 43.04 299 P P 06 48 00.3 +0.2
MAKZ **Makanchi** 43.04 299 P P 06 48 00.3 +0.2
MAKZ pmax pmax
comp=Z,64nm,1.0s
MAKZ **Makanchi** 43.04 299 P P 06 48 00.5 +0.4
RSO **Redoubt South** 43.08 41 P P 06 48 01.9 +1.4
OHAK **Old Harbor** 43.10 46 P P 06 48 01.7 +1.4
baz=277
B22K **Teshekpuk Lake** 43.14 26 P P 06 48 01.5 +1.0
baz=262
CHUM **Lake Minchumin** 43.17 36 P P 06 48 01.4 +0.6
baz=270
O20K **Slope Mountain** 43.17 41 P P 06 48 01.5 +0.4
baz=274
D22K **Ayikyak River** 43.23 29 P P 06 48 02.9 +1.6
baz=265
PPLA **Purkeypile** 43.24 37 P P 06 48 02.5 +0.8
baz=272
CAST **Castle Rocks** 43.27 37 P P 06 48 04.0 +2.3
CAST **Castle Rocks** 43.27 37 P P 06 48 02.4 +0.7
baz=271,SNR=8.0
SEM **Semipalatinsk** 43.28 304 *eP* P 06 48 02.9 +0.7
SEM pmax pmax
comp=Z,20nm,0.7s
SEM **Semipalatinsk** 43.28 304 *eP* P 06 48 02.9 +0.7
comp=Z,20nm,0.7s,baz=304
N20K **Mount Spurr** 43.30 40 P P 06 48 03.2 +1.1
baz=273
I21K **Tanana** 43.31 34 P P 06 48 03.7 +1.7
baz=269
CHTO **Chiang Mai** 43.36 252 P P 06 48 03.6 +0.7
CHTO IAmb IAmb 06 48 08.1
comp=Z,19nm,0.6s
CHTO **Chiang Mai** 43.36 252 P P 06 48 04.0 +1.1
CHTO **Chiang Mai** 43.36 252 P P 06 48 03.7 +0.7
CHTO pmax pmax
comp=Z,19nm,0.6s
CHTO **Chiang Mai** 43.36 252 P P 06 48 03.6 +0.7
CHTO pP pP 06 48 17.6 +0.7
CHTO sP sP 06 48 24.3 +1.2
KDAK **Kodiak Island** 43.41 45 P P 06 48 03.8 +1.0
baz=277
KDAK **Kodiak Island** 43.41 45 P P 06 48 04.1 +1.2
KDAK pP pP 06 48 17.9 +1.2
MND **Mandalay** 43.42 258 P P 06 48 04.3 +0.9
Q20K **Shuyak Island** 43.42 44 P P 06 48 03.9 +1.0
baz=276
E22K **Anaktuvuk Pass** 43.49 30 P P 06 48 04.4 +1.0
baz=266
G22K **Bettles** 43.55 31 P P 06 48 05.0 +1.1
baz=268
H22K **Ishtalitna Cre** 43.57 33 P P 06 48 05.2 +1.1
baz=269,SNR=9.3
SKT **Skwentna** 43.58 39 P P 06 48 05.2 +1.0
baz=273
CM31 **Chiang Mai Arr** 43.59 252 P P 06 48 06.0 +1.2
CMAR **Chiang Mai Arr** 43.59 252 P P 06 48 04.4 -0.4
CMAR **Chiang Mai Arr** 43.59 252 *i* P P 06 48 05.5 +0.7
CMAR pmax pmax
comp=Z,4.0nm,0.4s
CMAR **Chiang Mai Arr** 43.59 252 P P 06 48 05.2 +0.4
comp=Z,4.5nm,0.5s,baz=42,slow=7.0,SNR=24
CMAR LR LR 07 08 07.5
comp=Z,261nm,18.0s,baz=85,slow=39
comp=Z,4.5nm,0.5s
HOM **Homer** 43.70 42 P P 06 48 06.1 +0.9
baz=275
BPAW **Bear Paw Mtn.** 43.75 36 P P 06 48 07.7 +2.2
BPAW IAmb IAmb 06 48 14.4
comp=Z,51nm,1.8s
BPAW **Bear Paw Mtn.** 43.75 36 P P 06 48 07.0 +1.4
baz=271
KTH **Kantishna Hill** 43.79 36 P P 06 48 07.7 +1.7
KTH IAmb IAmb 06 48 21.5
comp=Z,28nm,0.9s
MLY **Manley** 43.84 34 P P 06 48 08.4 +2.2
MLY **Manley** 43.84 34 P P 06 48 07.7 +1.4
baz=270,SNR=7.6
D23K **Nanushuk River** 43.96 29 P P 06 48 07.5 +0.3
baz=266
SUA **Susitna One** 43.99 39 P P 06 48 10.7 +3.0
SUA IAmb IAmb 06 48 35.1
comp=Z,20nm,0.9s
SUA **Susitna One** 43.99 39 P P 06 48 08.6 +0.9
baz=274
C23K **Itkillik River** 44.04 27 P P 06 48 08.8 +1.0
baz=266
COLD **Coldfoot** 44.07 31 P P 06 48 08.9 +0.9
baz=269
BRLK **Bradley Lake** 44.07 42 P P 06 48 11.7 +3.5
BRLK IAmb IAmb 06 48 39.5
comp=Z,38nm,1.2s
TRF **Thorofare Moun** 44.08 37 P P 06 48 09.5 +1.1
TRF **Thorofare Moun** 44.08 37 P P 06 48 09.4 +1.1
baz=273
GTOI **Gorontalo** 44.12 209 P P 06 48 09.0 0.0
comp=Z,19nm,0.8s
G23K **Bananza Creek** 44.13 32 P P 06 48 09.2 +0.6
baz=269
CUT **Chulitna** 44.15 38 P P 06 48 11.5 +2.8
CUT **Chulitna** 44.15 38 P P 06 48 09.9 +1.2
baz=274
BRSE **Bradley Lake S** 44.15 42 P P 06 48 10.1 +1.3
baz=276
KURK **Kurchatov** 44.22 305 P P 06 48 09.6 +0.2
KURK **Kurchatov** 44.22 305 *ce* P P 06 48 09.3 -0.1
KURK pmax pmax
comp=Z,132nm,1.3s
KURK **Kurchatov** 44.22 305 P P 06 48 09.6 +0.2
KURK P P 06 48 09.6 +0.2
KURK **Kurchatov** 44.22 305 P P 06 48 09.6 +0.2
KURK pP pP 06 48 23.5 +0.1
M22K **Willow** 44.27 39 P P 06 48 10.4 +0.8
baz=274
KURBB **Kurchatov Arra** 44.30 305 P P 06 48 10.1 0.0
comp=Z,70nm,0.7s,baz=77,slow=8.6,SNR=422
KURBB S S 06 54 41.2 +1.4
comp=Z,0.2nm,0.3s,baz=18,slow=7.5,SNR=1.8
comp=Z,70nm,0.7s
E23K **Chandalar** 44.31 30 P P 06 48 10.6 +0.5
baz=268
TOLK **Toolik Lake Re** 44.35 29 P P 06 48 11.3 +1.0
TOLK **Toolik Lake Re** 44.35 29 P P 06 48 11.1 +0.8
baz=268
BWN **Browne** 44.41 35 P P 06 48 11.9 +1.0
I23K **Minto, Yukon-K** 44.42 34 P P 06 48 13.3 +2.4
I23K IAmb IAmb 06 48 26.6
comp=Z,21nm,1.1s
I23K **Minto, Yukon-K** 44.42 34 P P 06 48 12.3 +1.5
baz=272
RC01 **Rabbit Creek A** 44.51 40 P P 06 48 13.3 +1.7
RC01 IAmb IAmb 06 48 28.0
comp=Z,17nm,0.8s
RC01 **Rabbit Creek A** 44.51 40 P P 06 48 12.5 +0.9
baz=276
TOLI2 **Tolitoli** 44.54 212 P P 06 48 11.8 -0.5
NEA2 **Nenana** 44.56 35 P P 06 48 14.0 +1.9
NEA2 IAmb IAmb 06 48 30.7
comp=Z,46nm,1.3s
NEA2 **Nenana** 44.56 35 P P 06 48 13.6 +1.5
baz=272,SNR=15
O22K **Cooper Landing** 44.58 41 P P 06 48 11.7 -0.5
O22K **Cooper Landing** 44.58 41 P P 06 48 12.5 +0.4
baz=276
D24K **Happy Valley** 44.63 28 P P 06 48 14.3 +1.8
baz=268
MCK **McKinley** 44.67 36 P P 06 48 14.5 +1.6
baz=274,SNR=6.1
C24K **Franklin Bluff** 44.70 27 P P 06 48 14.4 +1.4
baz=268
NAYO **Nakonayok** 44.72 245 P P 06 48 15.7 +1.9
comp=Z,106nm,1.0s
RND **Reindeer** 44.73 37 P P 06 48 14.3 +0.9
RND **Reindeer** 44.73 37 P P 06 48 14.3 +0.9
RND pmax pmax
comp=Z,12nm,0.8s
E24K **Your Creek** 44.74 30 P P 06 48 15.1 +1.6
E24K **Your Creek** 44.74 30 P P 06 48 14.5 +1.1
baz=270,SNR=22
PMR **Palmer** 44.75 39 P P 06 48 14.6 +1.1
PMR IAmb IAmb 06 48 48.8
comp=Z,26nm,1.2s
PMR **Palmer** 44.75 39 P P 06 48 14.6 +1.1
PMR pmax pmax
comp=Z,26nm,1.2s
PMR **Palmer** 44.75 39 P P 06 48 15.1 +1.6
baz=276
SEW **Seward** 44.75 41 P P 06 48 15.2 +1.6
baz=277
GHO **Glory Hole Cre** 44.83 39 P P 06 48 16.0 +1.7
GHO IAmb IAmb 06 48 35.1
comp=Z,26nm,0.8s
MDM **Murphy Dome** 44.91 34 P P 06 48 16.6 +1.8
MDM IAmb IAmb 06 48 31.8
comp=Z,23nm,1.2s
WAT1 **Susitna Watana** 44.91 37 P P 06 48 15.7 +0.9
baz=275
FAKI **Fak Fak** 44.93 195 P P 06 48 15.9 +0.5
FAKI IAmb IAmb 06 48 31.9
comp=Z,44nm,1.0s
FAKI **Fak Fak** 44.93 195 P P 06 48 16.1 +0.7
comp=Z,47nm,0.9s
F24K **Squaw Lake** 44.97 31 P P 06 48 16.2 +1.0
baz=271
WRH **Wood River Hil** 44.99 35 P P 06 48 17.1 +1.7
WRH IAmb IAmb 06 48 41.0
comp=Z,23nm,1.3s
H24K **Noodor Dome** 45.01 33 P P 06 48 16.6 +0.9
baz=272,SNR=9.5
COLA **College** 45.07 34 P P 06 48 18.0 +2.0
COLA IAmb IAmb 06 48 35.1
comp=Z,26nm,0.8s
COLA **College** 45.07 34 P P 06 48 16.8 +0.8
COLA **College** 45.07 34 *i* P P 06 48 18.2 +2.2
COLA pmax pmax
comp=Z,42nm,2.2s
COLA **College** 45.07 34 P P 06 48 17.2 +1.2
baz=273
COLA **College** 45.07 34 P P 06 48 17.9 +1.8
KNK **Knik Glacier** 45.09 39 P P 06 48 18.0 +1.8
baz=276
CCB **Clear Creek Bu** 45.11 35 P P 06 48 17.9 +1.6
SML **Sawmill** 45.11 39 P P 06 48 17.8 +1.3
SML IAmb IAmb 06 48 47.4
comp=Z,36nm,0.9s
SML **Sawmill** 45.11 39 P P 06 48 17.3 +0.8
baz=276
G24K **Hadweenzic Riv** 45.14 32 P P 06 48 17.6 +1.0
baz=272,SNR=6.7
POKR **Poker Plat Res** 45.23 34 P P 06 48 19.5 +2.1
POKR IAmb IAmb 06 48 35.9
comp=Z,25nm,0.8s
POKR **Poker Plat Res** 45.23 34 P P 06 48 18.4 +1.1
baz=273,SNR=11
WAT6 **Susitna Watana** 45.30 38 P P 06 48 19.2 +1.1
baz=276
M23K **Glacier View** 45.40 39 P P 06 48 20.3 +1.6
baz=276
DHY **Denali Highway** 45.42 37 P P 06 48 20.0 +1.0
DHY IAmb IAmb 06 48 34.1
comp=Z,18nm,1.0s
DHY **Denali Highway** 45.42 37 P P 06 48 19.7 +0.6
baz=276,SNR=5.9
IL31 45.49 34 P P 06 48 20.4 +1.1
IL31 IAmb IAmb 06 48 37.5
comp=Z,22nm,0.9s
ILAR **Eielson Array** 45.49 34 P P 06 48 20.0 +0.6
ILAR **Eielson Array** 45.49 34 P P 06 48 20.3 +1.0
comp=Z,7.5nm,0.8s,baz=262,slow=5.7,SNR=94
comp=Z,7.5nm,0.8s
HDA **Harding Lake** 45.49 35 P P 06 48 20.3 +0.9
HDA IAmb IAmb 06 48 32.1
comp=Z,74nm,1.9s
HDA **Harding Lake** 45.49 35 P P 06 48 21.2 +1.8
baz=274,SNR=7.2
D25K **Kavik River** 45.51 28 P P 06 48 19.8 +0.3
baz=270
SCM **Sheep Creek Mo** 45.58 39 P P 06 48 20.8 +0.6
baz=277
SANI **Sanana** 45.64 204 P P 06 48 21.8 +0.7
SANI **Sanana** 45.64 204 P P 06 48 21.0 -0.1
comp=Z,53nm,1.1s
G25K **Bearman Lake** 45.69 32 P P 06 48 21.0 +0.1
baz=273
P23K **Montague Islan** 45.79 41 P P 06 48 21.2 -0.5
baz=278
F25K **Christian Rive** 45.82 30 P P 06 48 23.3 +1.3
baz=273
H25L **Birch Creek** 45.83 32 P P 06 48 24.3 +2.3
baz=274
E25K **Arctic Village** 45.83 30 P P 06 48 23.7 +1.7
E25K **Arctic Village** 45.83 30 P P 06 48 23.9 +1.9
baz=272,SNR=6.5
SHLS **Shalkode** 45.86 294 *eP* P 06 48 20.6 -2.2
SHLS pmax pmax
comp=Z,16nm,0.6s
SHLS **Shalkode** 45.86 294 *eP* P 06 48 20.6 -2.2
comp=Z,16nm,0.6s,baz=294
TDK **Taldyqorghan** 45.96 297 *eP* P 06 48 23.9 +0.5
TDK **Taldyqorghan** 45.96 297 *eP* P 06 48 23.9 +0.5
baz=297
PRP **Porcupine Dome** 46.01 33 P P 06 48 25.6 +1.9
PRP IAmb IAmb 06 48 42.4
comp=Z,25nm,0.9s
PRP **Porcupine Dome** 46.01 33 P P 06 48 23.7 +0.1
baz=275,SNR=14
C26K **Camden Bay** 46.02 27 P P 06 48 24.6 +1.2
baz=271
FYU **Fort Yukon** 46.05 32 P P 06 48 25.8 +2.2
K24K **Donnelly Dome** 46.06 36 P P 06 48 24.2 +0.3
baz=276,SNR=7.0
M24K **Tolsona, Glenn** 46.08 38 P P 06 48 23.6 -0.6
baz=277
J25K **Salcha River,** 46.16 35 P P 06 48 25.0 +0.3
baz=276
UZB **Uzynbulak** 46.17 295 *eP* P 06 48 25.1 -0.1
UZB pmax pmax
comp=Z,15nm,0.8s
UZB **Uzynbulak** 46.17 295 *eP* P 06 48 25.1 -0.1
comp=Z,15nm,0.8s,baz=295
BMAR **Burnt Mountain** 46.24 31 P P 06 48 28.1 +2.8
KLU **Klutina** 46.29 39 P P 06 48 27.8 +2.0
KLU IAmb IAmb 06 48 52.8
comp=Z,22nm,0.9s
KLU **Klutina** 46.29 39 P P 06 48 26.8 +1.0
baz=278
KPKS **Kokpek** 46.29 295 *eP* P 06 48 26.3 +0.2
KPKS **Kokpek** 46.29 295 *eP* P 06 48 26.3 +0.2
baz=295
PAX **Paxson** 46.30 37 P P 06 48 26.4 +0.5
baz=277
F26K **Sheenjek River** 46.39 30 P P 06 48 27.7 +1.2
baz=274
Q23K **Middleton Isla** 46.41 42 P P 06 48 26.6 0.0
baz=280
NLAI **Namlea** 46.45 202 P P 06 48 29.3 +1.9
comp=Z,27nm,1.3s
RIDG **Independent Ri** 46.48 36 P P 06 48 27.6 +0.3
baz=277
EYAK **Cordova Ski Ar** 46.52 40 P P 06 48 27.4 -0.1
baz=279
HARP **HAARP** 46.52 38 P P 06 48 28.5 +1.0
baz=278
ZHN **Zhinishke** 46.56 295 *c i* P P 06 48 28.4 +0.2
ZHN pmax pmax
comp=Z,13nm,0.7s
ZHN **Zhinishke** 46.56 295⇑ *i* P P 06 48 28.5 +0.2
comp=Z,13nm,0.7s,baz=295
G26K **Porcupine Rive** 46.59 31 P P 06 48 28.6 +0.7
baz=275
SATY **Saty** 46.62 295 *eP* P 06 48 29.1 +0.4
SATY pmax pmax
comp=Z,17nm,0.8s
SATY **Saty** 46.62 295 *eP* P 06 48 29.2 +0.4
comp=Z,17nm,0.8s,baz=295
WUS **Wushi** 46.74 292 P P 06 48 30.3 +0.6
WUS pP pP 06 48 44.7 +0.9
WUS sP sP 06 48 51.6 +1.6
SCRK **Sand Creek** 46.83 35 P P 06 48 31.4 +1.4
SCRK IAmb IAmb 06 48 32.8
comp=Z,13nm,0.7s
SCRK **Sand Creek** 46.83 35 P P 06 48 31.5 +1.4
baz=278,SNR=11
PRZ **Przheval'sk** 46.83 294 P P 06 48 32.1 +1.6
PRZ **Przheval'sk** 46.83 294 P P 06 48 32.1 +1.6
PRZ pmax pmax
comp=Z,95nm,1.0s
N25K **Chitina, Valde** 46.90 39 P P 06 48 32.2 +1.7
baz=279
J26L **Joseph Creek** 46.94 35 P P 06 48 32.6 +1.7
baz=277
BMRM **Bremner River** 47.00 40 P P 06 48 33.0 +1.7
baz=280
I26K **Coal Creek Min** 47.01 34 P P 06 48 31.8 +0.5
I26K **Coal Creek Min** 47.01 34 P P 06 48 32.8 +1.4
baz=277
MENT **Mentasta** 47.09 37 P P 06 48 34.5 +2.5
MENT IAmb IAmb 06 49 29.9
comp=Z,36nm,1.4s
MENT **Mentasta** 47.09 37 P P 06 48 33.1 +1.1
L26K **Log Cabin Wild** 47.25 37 P P 06 48 35.8 +2.5
L26K IAmb IAmb 06 48 57.8
comp=Z,18nm,0.9s
L26K **Log Cabin Wild** 47.25 37 P P 06 48 35.2 +2.0
baz=279,SNR=9.5
KAIM **Kayak Island** 47.28 41 P P 06 48 34.3 +0.9
baz=281
CHKK **Chushkaly** 47.30 296⇑ *i* P P 06 48 33.8 -0.1
CHKK **Chushkaly** 47.30 296⇑ *i* P P 06 48 33.9 -0.1
baz=296
D27M **Malcolm River** 47.44 28 P P 06 48 36.7 +2.0
baz=275
M26K **Nabesna, AK** 47.51 37 P P 06 48 37.2 +1.9
baz=280
MDOK **Medeo** 47.51 295 *i* P P 06 48 36.2 +0.5
MDOK **Medeo** 47.51 295 *i* P P 06 48 36.2 +0.5
baz=295
H27K **Steamboat Moun** 47.56 32 P P 06 48 37.6 +2.0
baz=278
AAA **Alma-Ata** 47.59 295 *eP* P 06 48 36.7 +0.5
AAA pmax pmax
comp=Z,22nm,0.8s
AAA **Alma-Ata** 47.59 295 *eP* P 06 48 36.7 +0.5
comp=Z,22nm,0.8s,baz=295
I27K **Kandik River** 47.61 33 P P 06 48 38.0 +2.0
baz=278
TNSS **Tian-Shan** 47.63 295 *eP* P 06 48 37.1 +0.2
TNSS **Tian-Shan** 47.63 295 *eP* P 06 48 37.2 +0.2
baz=295
K27K **Chicken** 47.65 35 P P 06 48 37.9 +1.6

baz=279
MCARA **McCarthy VSAT** 47.68 39 P P 06 48 37.5 +1.0
baz=281
BGLC **Bering Glacier** 47.80 41 P P 06 48 39.0 +1.6
baz=282
L27K **Beaver Creek,** 47.92 36 P P 06 48 40.1 +1.6
baz=280
EGAK **Eagle** 47.93 34 P P 06 48 39.2 +0.8
EGAK IAmb IAmb 06 49 04.2
comp=Z,18nm,1.0s
EGAK **Eagle** 47.93 34 P P 06 48 39.8 +1.4
baz=279
BCAR **Beaver Creek A** 47.94 36 P P 06 48 41.1 +2.5
E28M **Babbage River** 48.02 29 P P 06 48 41.1 +2.0
E28M IAmb IAmb 06 48 43.9
comp=Z,13nm,0.9s
E28M **Babbage River** 48.02 29 P P 06 48 40.5 +1.4
baz=277,SNR=16
F28M **Old Crow** 48.02 30 P P 06 48 41.4 +2.3
F28M IAmb IAmb 06 48 42.7
comp=Z,18nm,0.9s
F28M **Old Crow** 48.02 30 P P 06 48 40.6 +1.4
baz=278,SNR=16
M27K **Edge Creek, AK** 48.03 37 P P 06 48 40.6 +1.1
baz=281
BRZS **Berezniki** 48.08 305*c i* P P 06 48 39.8 0.0
BRZS pmax pmax
comp=Z,15nm,0.6s
BRZS **Berezniki** 48.08 305⇑ *i* P P 06 48 39.9 0.0
comp=Z,15nm,0.6s,baz=305
D28M **Stokes Point** 48.22 28 P P 06 48 41.1 +0.6
baz=277
I28M **Miner Creek** 48.33 33 P P 06 48 42.4 +0.8
baz=280,SNR=12
ULHL **Ulahol** 48.40 295 P P 06 48 43.1 +0.4
SNR=25
MESA **MESA** 48.44 40 P P 06 48 43.4 +0.7
baz=283
BVCY **Beaver Creek** 48.48 37 P P 06 48 44.5 +1.7
baz=282
BOOM **Boomskoye usch** 48.52 295 P P 06 48 44.2 +0.7
BOOM **Boomskoye usch** 48.52 295 P P 06 48 44.2 +0.7
BOOM pmax pmax
comp=Z,86nm,1.0s
BVAR **Borovoye Array** 48.55 310 P P 06 48 43.8 +0.3
comp=Z,12nm,0.5s,baz=76,slow=8.2,SNR=51
BVAR S S 06 55 45.2 +4.4
comp=Z,0.3nm,0.5s,baz=43,slow=21,SNR=1.3
comp=Z,12nm,0.5s
CTG **Chitna Glacier** 48.56 39 P P 06 48 45.1 +1.6
baz=282
TKM2 **Tokmak 2** 48.59 296 P P 06 48 44.9 +0.8
SNR=81
BRVK **Borovoye** 48.60 310 P P 06 48 44.3 +0.5
BRVK **Borovoye** 48.60 310*ce* P P 06 48 44.5 +0.7
BRVK pmax pmax
comp=Z,44nm,1.7s
BRVK **Borovoye** 48.60 310 P P 06 48 44.2 +0.5
BRVK P P 06 48 44.2 +0.5
BRVK **Borovoye** 48.60 310 P P 06 48 44.4 +0.5
E29M **Blow River** 48.65 29 P P 06 48 45.6 +1.7
baz=279
YUK3 **Moose Creek** 48.80 38 P P 06 48 46.0 +0.6
baz=282
DAWY **Dawson** 48.81 35 P P 06 48 46.0 +0.7
baz=281
H29M **Whitestone** 48.83 32 P P 06 48 46.5 +1.2
baz=280
G29M **Pine Creek** 48.84 31 P P 06 48 46.7 +1.3
G29M **Pine Creek** 48.84 31 P P 06 48 46.7 +1.3
baz=280,SNR=14
BTLS **Baital** 48.85 299*c i* P P 06 48 45.4 -0.4
BTLS pmax pmax
comp=Z,15nm,1.2s
BTLS **Baital** 48.85 299⇑ *i* P P 06 48 45.5 -0.4
comp=Z,16nm,1.2s,baz=299
NRN **Naryn** 48.88 294 P P 06 48 46.9 +0.4
NRN **Naryn** 48.88 294 P P 06 48 46.9 +0.4
NRN pmax pmax
comp=Z,32nm,1.0s
SGDS **Sogindy** 49.05 297*c i* P P 06 48 47.5 +0.1
SGDS pmax pmax
comp=Z,12nm,0.9s
SGDS **Sogindy** 49.05 297⇑ *i* P P 06 48 47.6 +0.1
comp=Z,12nm,0.9s,baz=296
KBK **Karagaybulak** 49.13 296 P P 06 48 48.7 +0.5
SNR=44
USP **Ospenovka** 49.20 296 P P 06 48 49.1 +0.5
SNR=12
J29N **Klondike Camp** 49.23 34 P P 06 48 51.1 +2.6
J29N IAmb IAmb 06 50 14.1
comp=Z,18nm,1.4s
J29N **Klondike Camp** 49.23 34 P P 06 48 50.4 +1.8
baz=282
YUK8 **Steele Glacier** 49.24 39 P P 06 48 49.8 +1.0
baz=283
PINM **Pinnacle** 49.28 40 P P 06 48 49.6 +0.6
baz=284
FRU1 **Bishkek** 49.29 296 P P 06 48 50.3 +1.0
FRU1 **Bishkek** 49.29 296 P P 06 48 50.3 +1.0
FRU1 pmax pmax
comp=Z,60nm,0.4s
AAK **Ala-Archa** 49.45 296 P P 06 48 50.7 +0.1
SNR=9.9
AAK **Ala-Archa** 49.45 296 P P 06 48 50.7 +0.1
AAK IAmb IAmb 06 49 06.1
comp=Z,24nm,1.0s
AAK **Ala-Archa** 49.45 296*ce* P P 06 48 50.7 +0.1
AAK pmax pmax
comp=Z,41nm,1.7s
AAK **Ala-Archa** 49.45 296 *i* P P 06 48 50.7 +0.1
SNR=22
AAK **Ala-Archa** 49.45 296 P P 06 48 50.8 +0.2
AAK P P 06 48 50.8 +0.2
AAK **Ala-Archa** 49.45 296 P P 06 48 50.9 +0.2
AAK pP pP 06 49 05.0 +0.2
EPYK **Eagle Plains** 49.45 32 P P 06 48 52.0 +1.8
EPYK **Eagle Plains** 49.45 32 P P 06 48 51.2 +1.0
baz=282,SNR=12
G30M **tAoh Zrail Nji** 49.53 31 P P 06 48 52.9 +2.2
baz=281,SNR=9.7
L29M **L29M** 49.56 36 P P 06 48 53.2 +2.1
baz=283
F30M **Barrier River** 49.57 30 P P 06 48 52.8 +1.9
baz=281,SNR=23
M29M **Somme Creek** 49.57 37 P P 06 48 53.0 +1.8
baz=283
UCH **Uchtor** 49.59 295 P P 06 48 43.1 -9.0
SNR=40
K29M **Barlow Dome** 49.66 35 P P 06 48 52.6 +0.7
baz=283
KSH **Kashi** 49.68 291 P P 06 48 56.3 +3.9
KSH pP pP 06 49 09.8 +3.2
KSH pmax pmax
comp=Z,25nm,0.9s
KSH LR LR
comp=Z,840nm,15.3s
KSH LR LR
comp=Z,810nm,13.7s
KSH LR LR
comp=Z,920nm,13.8s
YUK4 **Talbot Arm** 49.75 38 P P 06 48 53.3 +0.7
baz=284
PNL **Peninsula** 49.81 41 P P 06 48 53.2 +0.3
baz=285
I30M **Mount Dempster** 49.84 33 P P 06 48 54.6 +1.4
baz=283,SNR=29
EKS2 **Erkin-Say** 49.93 296 P P 06 48 54.1 -0.1
SNR=14
YUK6 **Outpost Mounta** 49.98 39 P P 06 48 55.4 +0.9
baz=285
SRIT **Nakonsritamara** 50.00 242 P P 06 48 57.0 +2.1
SRIT **Nakonsritamara** 50.00 242 P P 06 48 56.9 +2.1
comp=Z,50nm,0.9s
J30M **Hart River** 50.00 34 P P 06 48 55.1 +0.6
baz=283
O29M **Mount Kennedy** 50.04 40 P P 06 48 55.3 +0.4
baz=285
INK **Inuvik** 50.26 29 P P 06 48 57.9 +1.8
INK IAmb IAmb 06 49 14.5
comp=Z,33nm,1.2s
INK **Inuvik** 50.26 29 P P 06 48 57.9 +1.8
INK pmax pmax
comp=Z,33nm,1.3s
INK **Inuvik** 50.26 29 P P 06 48 57.4 +1.2
baz=283,SNR=20
INK **Inuvik** 50.26 29 LR LR 07 12 29.5
comp=Z,253nm,19.1s,baz=255,slow=39
M30M **Minto, Yukon** 50.29 36 P P 06 48 59.0 +2.5
M30M IAmb IAmb 06 49 28.4
comp=Z,15nm,1.2s
M30M **Minto, Yukon** 50.29 36 P P 06 48 57.6 +1.1
baz=285
G31M **Satah River** 50.29 31 P P 06 48 58.1 +1.7
G31M IAmb IAmb 06 49 20.6
comp=Z,19nm,0.9s
G31M **Satah River** 50.29 31 P P 06 48 57.8 +1.4
baz=283,SNR=13
F31M **Tsiigehtchic** 50.37 30 P P 06 48 58.6 +1.7
F31M IAmb IAmb 06 49 28.8
comp=Z,26nm,1.0s
F31M **Tsiigehtchic** 50.37 30 P P 06 48 57.9 +0.9
baz=283,SNR=13
HYT **Haines Junctio** 50.42 39 P P 06 49 00.3 +2.6
HYT **Haines Junctio** 50.42 39 P P 06 48 58.0 +0.3
baz=285,SNR=6.9
MAYO **Mayo, Yukon** 50.43 35 P P 06 48 58.6 +1.1
baz=284
N30M **Aishikik Lake** 50.44 38 P P 06 48 58.6 +0.9
baz=285
H31M **Peel River** 50.52 32 P P 06 49 00.4 +2.1
H31M **Peel River** 50.52 32 P P 06 49 00.2 +1.9
baz=284,SNR=21
KAPI **Kappang** 50.54 210 P P 06 49 00.0 +1.1
KAPI **Kappang** 50.54 210 P P 06 49 00.6 +1.7
KAPI **Kappang** 50.54 210 P P 06 49 00.0 +1.1
KAPI pmax pmax
comp=Z,78nm,1.5s
KAPI **Kappang** 50.54 210 P P 06 48 59.6 +0.7
P29M **Windy Craggy** 50.63 40 P P 06 48 59.4 +0.2
baz=286
P30M **Million Dollar** 50.87 40 P P 06 49 02.1 +1.1
baz=286
ARSB **Arslanbob** 51.01 295 P P 06 49 03.1 +0.8
ARSB IAmb IAmb 06 49 19.1
comp=Z,32nm,1.0s
ARSB **Arslanbob** 51.01 295 P P 06 49 03.2 +0.8
ARSB pmax pmax
comp=Z,32nm,1.0s
O30N **Mendenhall** 51.10 39 P P 06 49 03.8 +1.1
baz=287
PLBC **Pleasant Camp** 51.35 40 P P 06 49 06.2 +1.7
baz=287
M31M **Drury Creek, Y** 51.47 36 P P 06 49 07.9 +2.5
M31M IAmb IAmb 06 49 18.9
comp=Z,42nm,1.6s
M31M **Drury Creek, Y** 51.47 36 P P 06 49 07.1 +1.7
baz=287
DZA **Taraz** 51.48 297 *eP* P 06 49 06.0 +0.2
DZA pmax pmax
comp=Z,24nm,0.8s
DZA **Taraz** 51.48 297 *eP* P 06 49 06.0 +0.2
comp=Z,24nm,0.8s,baz=297
WHY **Whitehorse** 51.70 38 P P 06 49 07.6 +0.3
baz=288
KULM **Kulim** 51.79 238 P P 06 49 09.6 +1.3
SKAG **Skagway** 51.85 40 P P 06 49 09.1 +0.9
baz=288
S31K **Pelican** 51.88 42 P P 06 49 09.3 +0.8
baz=289
FARO **Faro, Yukon** 51.92 36 P P 06 49 09.4 +0.6
baz=288
KK31 **Karatay Array** 51.95 298 P P 06 49 09.2 0.0
KK31 **Karatay Array** 51.95 298 P P 06 49 09.2 0.0
KK31 pmax pmax
comp=Z,33nm,0.8s
KKAR **Karatay Array** 51.95 298 P P 06 49 09.2 0.0
KKAR **Karatay Array** 51.95 298 P P 06 49 09.2 0.0
R31K **City Hall, Gus** 51.98 41 P P 06 49 10.3 +1.1
baz=289
A36M **Sachs Harbour** 52.05 23 IAmb IAmb 06 49 13.0
comp=Z,27nm,0.9s
A36M **Sachs Harbour** 52.05 23 P P 06 49 10.1 +0.6
baz=287,SNR=25
IPM **Ipoh** 52.17 237 IAmb IAmb 06 49 12.6
comp=Z,35nm,1.0s
IPM **Ipoh** 52.17 237 P P 06 49 11.9 +0.7
comp=Z,36nm,0.9s
N32M **Quiet Lake** 52.38 38 P P 06 49 12.7 +0.5
baz=289
BRLS **Borolday** 52.43 298*c i* P P 06 49 14.2 +1.4
BRLS **Borolday** 52.43 298⇑ *i* P P 06 49 14.2 +1.4
baz=298
P32M **Atlin** 52.59 40 P P 06 49 13.6 -0.2
baz=289
DRK **Karamyk** 52.61 293 P P 06 49 14.2 -0.3
R32K **Eaglecrest** 52.64 41 P P 06 49 15.0 +0.9
baz=290
SIT **Sitka** 52.64 43 P P 06 49 14.1 0.0
baz=290
IUG **luzhnay** 52.67 297*c i* P P 06 49 15.0 +0.3
IUG pmax pmax
comp=Z,23nm,1.1s
IUG **luzhnay** 52.67 297⇑ *i* P P 06 49 15.1 +0.3
comp=Z,23nm,1.1s,baz=297
SVE **Sverdlovsk** 52.71 317 *eP* P 06 49 15.6 +1.0
SVE pmax pmax
comp=Z,74nm,1.4s
SVE MLR MLR
comp=Z,1μm,18.0s
P33M **Teslin, Yukon** 52.81 39 P P 06 49 15.8 +0.3
P33M IAmb IAmb 06 49 35.6
comp=Z,16nm,1.1s
P33M **Teslin, Yukon** 52.81 39 P P 06 49 15.9 +0.5
baz=289
HNR **Honiara** 52.85 158 LR LR 07 11 45.7
comp=Z,2μm,19.0s,baz=346,slow=36
S32K **Killisnoo** 52.88 42 P P 06 49 16.5 +0.7
baz=290
C36M **Paulatuk** 53.26 26 IAmb IAmb 06 49 47.0
comp=Z,21nm,1.1s
C36M **Paulatuk** 53.26 26 P P 06 49 19.3 +0.9
baz=290,SNR=16
EDFI **Ende, Flores** 53.32 206 P P 06 49 18.7 -0.9
SOEI **Soe** 53.46 203 P P 06 49 20.5 -0.2
SOEI **Soe** 53.46 203 P P 06 49 22.6 +1.9
SOEI **Soe** 53.46 203 P P 06 49 20.6 -0.1
comp=Z,65nm,0.8s
Q32M **Nakina River** 53.51 40 P P 06 49 21.5 +0.8
baz=291
GAR **Garm** 53.86 293 P P 06 49 23.4 -0.1
ARU **Arti** 53.92 317 P P 06 49 23.7 +0.2
ARU **Arti** 53.92 317*c i* P P 06 49 23.7 +0.2
ARU *PP pP 06 49 38.0 +0.1
ARU 06 51 20.9
ARU S S 06 56 55.6 +1.0
ARU SS SKiKP 07 00 31.4 +0.4
ARU pmax pmax
comp=Z,25nm,1.1s
ARU MLR MLR
comp=Z,1μm,22.0s
ARU **Arti** 53.92 317 P P 06 49 22.8 -0.8
comp=Z,7.6nm,0.2s,baz=69,slow=3.8,SNR=12
ARU LR LR 07 13 56.7
comp=Z,1μm,21.2s,baz=114,slow=38
comp=Z,7.6nm,0.2s
T33K **Petersburg** 53.95 43 P P 06 49 23.5 -0.1
baz=292
R33M **Jennings River** 53.98 39 P P 06 49 24.7 +0.6
baz=291
U33K **Whale Pass** 54.12 43 P P 06 49 24.7 -0.2
baz=292
LHMI **Lhok Sumawe** 54.25 241 P P 06 49 27.6 +1.2
comp=Z,79nm,0.9s
NIL **Nilore** 54.30 286 P P 06 49 27.6 +0.9
NIL **Nilore** 54.30 286 P P 06 49 27.6 +0.9
NIL pmax pmax
comp=Z,102nm,0.8s
NIL **Nilore** 54.30 286 P P 06 49 27.9 +1.2
NIL P P 06 49 27.9 +1.2
NIL **Nilore** 54.30 286 P P 06 49 27.9 +1.2
NIL pP pP 06 49 42.6 +1.5
CRAG **Craig** 54.37 44 P P 06 49 26.5 -0.2
baz=292
WRAK **Wrangell Islan** 54.41 43 P P 06 49 27.1 +0.1
baz=292
TGTN **Hyland Airport** 54.43 36 P P 06 49 28.2 +1.0
baz=292
PPBI **Pangkal Pinang** 54.45 227 P P 06 49 29.5 +1.7
S34M **Telegraph Cree** 54.45 41 P P 06 49 29.1 +1.8
baz=292
WTLY **Watson Lake, Y** 54.73 38 P P 06 49 30.9 +1.5
baz=292
DLBC **Dease Lake** 54.79 40 P P 06 49 30.4 +0.6
baz=293
CHGR **Chuyangaron** 54.82 293 P P 06 49 30.4 0.0
CHGR **Chuyangaron** 54.82 293 P P 06 49 30.5 0.0
CHGR pmax pmax
comp=Z,89nm,0.9s
MTN **Manton Dam** 54.82 194 P P 06 49 30.4 0.0
MTN IAmb IAmb 06 49 48.7
comp=Z,15nm,0.8s
COEN **Coen** 54.88 179 P P 06 49 30.1 -0.8
COEN **Coen** 54.88 179 P P 06 49 32.6 +1.7
SIMJ **Simiganj** 54.92 293 P P 06 49 31.1 -0.2
SIMJ **Simiganj** 54.92 293 P P 06 49 31.1 -0.2
SIMJ pP pP 06 49 45.5 -0.1
SRBI **Singaraja** 55.15 214 P P 06 49 34.0 +1.2
comp=Z,43nm,1.2s
V35K **Ketchikan** 55.21 44 P P 06 49 34.6 +1.7
baz=294
T35M **Bob Quinn** 55.25 42 P P 06 49 34.5 +1.3
baz=294
MLSI **Meulaboh, Aceh** 55.32 241 P P 06 49 34.3 +0.1
comp=Z,51nm,0.6s
BKNI **Bangkinang** 55.39 234 P P 06 49 35.9 +1.2
BKNI **Bangkinang** 55.39 234 P P 06 49 36.0 +1.3
comp=Z,186nm,1.0s
U35K **Hyder** 55.80 43 P P 06 49 38.1 +1.0
baz=294
WRGLY **Wrigley** 55.81 33 P P 06 49 37.0 -0.1
WRGLY IAmb IAmb 06 49 56.8
comp=Z,46nm,1.7s
WRGLY **Wrigley** 55.81 33 P P 06 49 38.4 +1.3
baz=294
ALE **Alert** 55.89 4 P P 06 49 38.3 +0.8
EUNU **Eureka** 55.92 9 P P 06 49 38.3 +0.6
ABKAR **Akbulak array** 56.04 308 P P 06 49 38.6 -0.4
NGJI **Ngawi** 56.17 218 P P 06 49 41.6 +1.4
comp=Z,43nm,1.3s
PWJI **Pagerwojo** 56.59 217 P P 06 49 42.3 -0.9
comp=Z,38nm,0.8s
SPITS **Spitsbergen Ar** 56.63 349 P P 06 49 42.9 +0.2
comp=Z,11nm,0.9s,baz=83,slow=8.5,SNR=8.5
comp=Z,11nm,0.9s
KBS **Kingsbay** 56.72 350 P P 06 49 44.3 +1.0
KBS **Kingsbay** 56.72 350*ce* P P 06 49 45.1 +1.8
KBS pmax pmax
comp=Z,82nm,2.5s
KBS **Kingsbay** 56.72 350 *eP* P 06 49 44.5 +1.2
KBS **Kingsbay** 56.72 350 P P 06 49 44.8 +1.5
KBS pP pP 06 50 00.7 +2.9
SNSI **Sinabang, Aceh** 56.76 240 P P 06 49 45.1 +0.6
comp=Z,107nm,1.5s
GSI **Gunungsitoli** 56.80 238 P P 06 49 45.7 +1.0
GSI **Gunungsitoli** 56.80 238 P P 06 49 45.9 +1.2
comp=Z,52nm,1.1s,comp=Z,4μm
KOTAN **Kotaneelee Air** 56.88 37 P P 06 49 45.8 +1.0
baz=296
KBL **Kabul** 56.89 289 P P 06 49 44.8 -0.7
KBL **Kabul** 56.89 289 P P 06 49 44.8 -0.7
KBL pmax pmax
comp=Z,40nm,1.1s
KBL **Kabul** 56.89 289 P P 06 49 44.7 -0.7
SNR=9.7
KBL P P 06 49 44.7 -0.7
SNR=9.7
TOAD **Toad River Com** 56.90 38 P P 06 49 45.7 +0.8
baz=296
NOR **Nord** 56.95 356 *i* P P 06 49 45.1 +0.1
NOR IAmb IAmb 06 49 46.0
comp=Z,12nm,1.0s
FLDN **Fort Liard** 57.09 36 P P 06 49 47.2 +0.9
baz=296
KPJI **Karang Pucung** 57.36 221 P P 06 49 48.5 -0.1
comp=Z,90nm,1.0s
KIRV **Kirov** 57.53 322*ce* P P 06 49 49.9 +0.6
KIRV **Kirov** 57.53 322 LR LR 07 18 09.0
comp=Z,400nm,18.3s,baz=155,slow=40
LEM **Lembang** 57.58 222 P P 06 49 50.7 +0.3
comp=Z,72nm,0.9s
KNRA **Kununurra** 58.04 196 P P 06 49 54.1 +0.8
KNRA **Kununurra** 58.04 196 P P 06 49 54.0 +0.8
KASI **Kota Agung** 58.13 226 P P 06 49 52.5 -1.6
comp=Z,54nm,1.3s
RES **Resolute Bay** 58.33 15 P P 06 49 55.3 +0.6
RES IAmb IAmb 06 50 12.4
comp=Z,16nm,0.8s
RES **Resolute Bay** 58.33 15 P P 06 49 55.3 +0.6
RES pmax pmax
comp=Z,16nm,0.8s
MTSU **Mount Surprise** 59.05 178 P P 06 50 01.2 +0.8
APA **Apatity** 59.30 335⇓ *i* P P 06 50 01.7 +0.2
APA pmax pmax
comp=Z,13nm,0.9s
HYB **Hyderabad** 59.34 267 *eP* P 06 50 02.5 0.0
YKA **Yellowknife Ar** 59.74 32 P P 06 50 05.6 +0.9
YKA **Yellowknife Ar** 59.74 32 *i* P P 06 50 05.5 +0.9
YKA pmax pmax
comp=Z,4.0nm,0.9s
YKA **Yellowknife Ar** 59.74 32 P P 06 50 05.1 +0.5
comp=Z,3.5nm,0.9s,baz=301,slow=7.0,SNR=37
comp=Z,3.5nm,0.9s
ARCES **ARCESS Array B** 60.44 339 P P 06 50 09.0 -0.4
comp=Z,16nm,1.1s,baz=42,slow=9.8,SNR=7.6
ARCES pP pP 06 50 25.6 +1.7
comp=Z,3.0nm,0.6s,baz=51,slow=8.1,SNR=2.2
comp=Z,16nm,1.1s
KLMR **Klimovskoe** 60.77 327 *eP* P 06 50 08.4 -3.2
KLMR *e*PP pP 06 50 24.2 -2.0
KLMR pmax pmax
comp=Z,34nm,1.2s
KLMR MLR MLR
comp=Z,753nm,20.0s
HILA **High Level** 60.80 36 P P 06 50 12.8 +0.9
CTA **Charters Tower** 61.07 176 LR LR 07 18 09.3
comp=Z,87nm,18.9s,baz=90,slow=37
WB0 **Warramunga Arr** 61.14 189 P P 06 50 14.3 -0.3
WB0 IAmb IAmb 06 50 30.6
comp=Z,18nm,0.8s
WR0 **Warramunga Arr** 61.31 189 P P 06 50 15.5 -0.3
WR0 IAmb IAmb 06 50 31.9
comp=Z,29nm,1.4s
NEEM **North Greenlan** 61.32 3 *eP* P 06 50 15.4 -0.1
NEEM IAmb IAmb 06 50 17.0
comp=Z,39nm,1.3s
WB2 **Warramunga Arr** 61.32 189 P P 06 50 15.4 -0.4
WB2 IAmb IAmb 06 50 31.9
comp=Z,25nm,1.2s
WRA **Warramunga Arr** 61.32 189 P P 06 50 15.5 -0.3
WRA **Warramunga Arr** 61.32 189 *i* P P 06 50 15.5 -0.3
WRA pmax pmax
comp=Z,10.0nm,0.5s
WRA **Warramunga Arr** 61.32 189 P P 06 50 15.2 -0.6
comp=Z,9.6nm,0.5s,baz=4.4,slow=6.9,SNR=101
WRA pP pP 06 50 30.7 +0.3
comp=Z,8.1nm,0.7s,baz=5.2,slow=7.0,SNR=8.3
comp=Z,9.6nm,0.5s
BELG **Belogornoye** 61.44 316⇑ *i* P P 06 50 16.6 +0.3
BELG pmax pmax
comp=Z,5.0nm,0.9s
QIS **Mount Isa** 61.51 183 P P 06 50 18.7 +1.6
DAG **Danmarks Havn** 61.70 355 *i* P P 06 50 17.0 -0.8
DAG IAmb IAmb 06 50 18.9
comp=Z,17nm,0.8s
HRA **Herat** 61.77 292 P P 06 50 20.1 +1.0
HRA IAmb IAmb 06 50 20.8
comp=Z,20nm,1.0s
GEYT **Alibeck** 62.70 298 P P 06 50 25.3 +0.2
GEYT **Alibeck** 62.70 298 P P 06 50 25.3 +0.2
GEYT pmax pmax
comp=Z,24nm,0.9s
GEYT **Alibeck** 62.70 298 P P 06 50 24.9 -0.2
comp=Z,19nm,0.8s,baz=29,slow=3.4,SNR=29
GEYT pP pP 06 50 40.4 +0.6
comp=Z,16nm,0.7s,baz=64,slow=6.8,SNR=9.2
comp=Z,19nm,0.8s
DBG **Daneborg** 64.20 355 *i* P P 06 50 33.9 -0.5
DBG IAmb IAmb 06 50 36.5
comp=Z,16nm,1.3s
D05A **Enumclaw** 64.42 49 P P 06 50 38.4 +2.1
D05A IAmb IAmb 06 50 55.6
comp=Z,23nm,0.9s
MOS **Moscow** 64.49 323 *eP* P 06 50 50.0 +13
MOS *e* 06 51 18.1
MOS pmax pmax
comp=Z,32nm,0.6s
MOS MLR MLR
comp=Z,700nm,22.0s

LON Longmire 64.77 49 P **P** **06 50 40.4 +1.8**
LON IAmb IAmb 06 50 58.9
comp=Z,15nm,1.2s
LON Longmire 64.77 49 P **P** **06 50 40.4 +1.8**
LON pmax pmax
comp=Z,15nm,1.3s
AS01 Alice Springs 65.04 189 P **P** **06 50 41.3 +0.9**
comp=Z,15nm,1.0s
AS31 Alice Springs 65.05 189 P **P** **06 50 41.0 +0.5**
ASAR Alice Springs 65.05 189 P **P** **06 50 41.2 +0.7**
ASAR Alice Springs 65.05 189 P **P** **06 50 41.2 +0.7**
ASAR Alice Springs 65.05 189 P **P** **06 50 40.9 +0.4**
comp=Z,8.5nm,0.7s,baz=12,slow=6.3,SNR=70
comp=Z,8.5nm,0.7s
COR Corvallis 65.10 52 P **P** **06 50 43.3 +2.6**
COR pP **sP** **06 50 58.8 -2.6**
LTY Liberty 65.13 48 IAmb IAmb 06 50 59.4
comp=Z,22nm,1.4s
VRH Novokhopyorsk 65.16 317 *e*P **P** **06 50 40.5 -0.4**
VRH pmax pmax
comp=Z,34nm,0.4s
OBN Obninsk 65.35 323 *ce*P **P** **06 50 42.1 0.0**
OBN *e* 06 51 16.2
OBN *e* 06 53 03.4
OBN *e*PPP PPP 06 54 44.9
OBN pmax pmax
comp=Z,16nm,0.6s
EDM Edmonton 65.51 40 P **P** **06 50 44.6 +1.3**
EDM IAmb IAmb 06 51 01.3
comp=Z,28nm,1.2s
EDM Edmonton 65.51 40 P **P** **06 50 44.6 +1.3**
EDM pmax pmax
comp=Z,28nm,1.2s
FIA1 FINESS Array S 65.58 332 P **P** **06 50 43.9 +0.4**
FINES FINESS Array B 65.58 332 P **P** **06 50 43.5 0.0**
FINES FINESS Array B 65.58 332 P **P** **06 50 43.6 +0.1**
comp=Z,34nm,0.8s,baz=48,slow=7.8,SNR=69
FINES pP **pP** **06 50 57.5 -0.7**
comp=Z,22nm,0.6s,baz=42,slow=7.8,SNR=11
FINES LR LR 07 23 21.7
comp=Z,1μm,20.9s,baz=104,slow=40
comp=Z,34nm,0.8s
MBWA Marble Bar 65.59 204 P **P** **06 50 44.0 +0.1**
MBWA Marble Bar 65.59 204 P **P** **06 50 44.1 +0.1**
MBWA pP **pP** **06 50 59.4 +0.7**
H04A Detroit Lake 65.71 51 P **P** **06 50 46.5 +1.8**
H04A IAmb IAmb 06 51 02.9
comp=Z,15nm,0.9s
MXC Moxie City 65.73 49 P **P** **06 50 46.2 +1.4**
MXC IAmb IAmb 06 51 03.1
comp=Z,19nm,1.2s
LPSR Galich'ya Gora 65.74 319 *e*P **P** **06 50 43.0 -1.7**
LPSR *e**SP **pP** **06 50 58.9 -0.5**
LPSR pmax pmax
comp=Z,40nm,1.8s
E07A Sunnyside 65.98 49 IAmb IAmb 06 51 04.8
comp=Z,18nm,1.1s
I04A Tendick Farm, 66.08 52 IAmb IAmb 06 51 05.4
comp=Z,13nm,0.9s
C09A Chrisman Ranch 66.15 47 IAmb IAmb 06 51 05.9
comp=Z,30nm,1.2s
VORR Voronezh 66.15 319 *e*P **P** **06 50 44.8 -2.5**
VORR *e**SP **pP** **06 51 02.2 +0.1**
VORR pmax pmax
comp=Z,110nm,0.4s
D08A Wollman Farm, 66.22 48 IAmb IAmb 06 51 08.1
comp=Z,10nm,0.9s
VSR Storozhevoye 66.45 318 *e*P **P** **06 50 47.4 -1.8**
VSR *e**SP **pP** **06 51 04.0 0.0**
VSR pmax pmax
comp=Z,10.0nm,0.6s
NEW Newport 66.51 46 P **P** **06 50 50.6 +0.8**
NEW IAmb IAmb 06 51 08.3
comp=Z,18nm,1.2s
NEW Newport 66.51 46 P **P** **06 50 50.6 +0.8**
NEW pmax pmax
comp=Z,18nm,1.3s
NEW Newport 66.51 46 P **P** **06 50 51.3 +1.6**
baz=306
SUMG Summit 66.52 0 P **P** **06 50 51.0 +1.2**
SUMG Summit 66.52 0 P **P** **06 50 51.0 +1.2**
SUMG pmax pmax
comp=Z,38nm,1.0s
SUMG Summit 66.52 0 *i* P **P** **06 50 50.0 +0.1**
SUMG IAmb IAmb 06 50 52.0
comp=Z,36nm,1.0s
MAK Makhachkala 66.67 307 *e*P **P** **06 50 51.5 +0.7**
MAK *e*PPP PPP 06 54 51.4
MAK *e*S **S** **06 59 39.8 +1.7**
MAK pmax pmax
comp=Z,327nm,1.4s
MAK MLR MLR
comp=Z,454nm,15.0s
DZM Mont Dzumac 66.72 156 LR LR 07 15 56.2
comp=Z,124nm,21.3s,baz=311,slow=32
PINE Pine Mountain 66.95 51 IAmb IAmb 06 51 11.6
comp=Z,21nm,0.9s
J05D Fort Rock, OR 67.07 52 P **P** **06 50 55.6 +2.0**
J05D IAmb IAmb 06 51 12.3
comp=Z,20nm,1.1s
YBH Yreka Blue Hor 67.08 54 P **P** **06 50 55.1 +1.5**
YBH IAmb IAmb 06 51 12.3
comp=Z,15nm,1.0s
YBH Yreka Blue Hor 67.08 54 P **P** **06 50 55.1 +1.5**
YBH pmax pmax
comp=Z,15nm,1.0s
WRKA Warakurna 67.24 194 P **P** **06 50 55.7 +1.2**
comp=Z,15nm,2.0s
VSU Vasula 67.36 329 *ce*P **P** **06 50 55.8 +0.9**
VSU pmax pmax
comp=Z,41nm,1.3s
K05A Summer Lake 67.60 52 P **P** **06 50 59.0 +2.0**
SEKA Sheki 67.87 306 P **P** **06 50 57.0 -1.6**
UMMG Uummannaq 67.92 5 *i* P **P** **06 50 58.5 +0.2**
UMMG IAmb IAmb 06 50 59.5
comp=Z,12nm,0.9s
ZKTA Zakatala 67.97 306 P **P** **06 50 58.0 -1.1**
SCO Scoresbysund 68.06 354 *i* P **P** **06 51 00.5 +1.4**
MNGR Mingechevir, A 68.20 305 P **P** **06 50 59.5 -1.0**
LKRN Lenkeran, Azer 68.35 303 P **P** **06 51 00.5 -1.0**
AAL Aland 68.60 333 *e*P **P** **06 51 02.4 -0.2**
INKA Innaminka 68.62 182 P **P** **06 51 04.8 +1.8**
GANJ Ganja 68.74 306 P **P** **06 51 02.8 -1.2**
KIV Kislovodsk 68.92 310 ⇑P **P** **06 51 07.0 +1.9**
KIV Kislovodsk 68.92 310 P **P** **06 51 06.6 +1.5**
KIV Kislovodsk 68.92 310 *e*P **P** **06 51 06.4 +1.3**
KIV pmax pmax
comp=Z,41nm,1.0s
KIV Kislovodsk 68.92 310 *i* P **P** **06 51 06.4 +1.3**
SNR=10
KIV Kislovodsk 68.92 310 P **P** **06 51 06.3 +1.2**
KIV P **P** **06 51 06.3 +1.2**
KIV Kislovodsk 68.92 310 P **P** **06 51 06.3 +1.3**
KIV pP **pP** **06 51 21.8 +1.9**
KBZ Khabaz 68.93 310 *ce*P **P** **06 51 05.8 +0.8**
KBZ pmax pmax
comp=Z,24nm,1.4s
KBZ Khabaz 68.93 310 P **P** **06 51 05.7 +0.7**
comp=Z,9.2nm,0.9s,baz=40,slow=3.5,SNR=21
KBZ pP **pP** **06 51 20.8 +1.0**
comp=Z,34nm,0.9s,baz=59,slow=5.6,SNR=19
comp=Z,9.2nm,0.9s
PLID Pearl Lake 69.03 48 P **P** **06 51 06.8 +0.9**
PLID IAmb IAmb 06 51 23.5
comp=Z,25nm,1.6s
ORV Oroville 69.10 55 P **P** **06 51 07.4 +1.2**
ORV Oroville 69.10 55 P **P** **06 51 07.4 +1.2**
ORV pmax pmax
comp=Z,7.0nm,0.8s
WVOR Wild Horse Val 69.12 52 P **P** **06 51 07.9 +1.5**
WVOR IAmb IAmb 06 51 24.7
comp=Z,14nm,1.1s
WVOR Wild Horse Val 69.12 52 P **P** **06 51 07.9 +1.5**
WVOR pmax pmax
comp=Z,14nm,1.2s
ISAL Salakas 69.59 327 *e*P **P** **06 51 10.9 +2.0**
MNK Minsk 69.59 326 *i* P **P** **06 51 07.8 -1.1**
MNK *i**PP **pP** **06 51 21.9 -1.8**
MNK *i* 06 53 40.9
MNK *i* PPP PPP 06 55 21.2
MNK *i* S **S** **07 00 12.1 -0.5**
MNK *i**SS **sS** **07 00 36.3 -1.4**
MNK *i* SS **SS** **07 04 40.5 +0.3**
MNK pmax pmax
comp=N,14nm,0.8s
MNK pmax pmax
comp=Z,42nm,0.9s
MNK pmax pmax
comp=E,9.0nm,0.9s
MNK MLR MLR
comp=Z,566nm,21.0s
MNK MLR MLR
comp=N,670nm,17.0s
MNK MLR MLR
comp=E,160nm,14.0s
FFC Flin Flon 69.70 34 P **P** **06 51 10.5 +0.9**
FFC IAmb IAmb 06 51 27.6
comp=Z,11nm,0.8s
FFC Flin Flon 69.70 34 P **P** **06 51 10.5 +0.9**
FFC pmax pmax
comp=Z,11nm,0.9s
FFC Flin Flon 69.70 34 P **P** **06 51 10.6 +0.9**
FFC pP **pP** **06 51 26.7 +2.3**
JASK Jask - Hormozg 69.72 287 P **P** **06 51 11.5 +1.3**
FCC Fort Churchill 69.86 28 P **P** **06 51 11.2 +0.8**
FCC IAmb IAmb 06 51 28.3
comp=Z,23nm,1.2s
FCC Fort Churchill 69.86 28 P **P** **06 51 11.2 +0.8**
FCC pmax pmax
comp=Z,23nm,1.2s
ICESG Greenland Ices 70.01 1 *e*P **P** **06 51 12.8 +1.1**
ICESG IAmb IAmb 06 51 13.6
comp=Z,45nm,0.9s
MPK Martis Peak 70.17 55 IAmb IAmb 06 51 31.4
comp=Z,29nm,0.8s
VSVD Vaisvydziai 70.18 328 *e*P **P** **06 51 13.6 +1.2**
PAHR Pah Rah Range 70.32 54 P **P** **06 51 15.4 +1.6**
PABE Paberze 70.51 328 P **P** **06 51 15.0 +0.5**
PABE Paberze 70.51 328 *e*P **P** **06 51 15.0 +0.5**
EGMT Eagleton 70.54 43 P **P** **06 51 16.3 +1.3**
EGMT IAmb IAmb 06 51 33.3
comp=Z,26nm,1.1s
EGMT Eagleton 70.54 43 P **P** **06 51 16.3 +1.3**
baz=310
PNTR Pine Nut 70.56 55 P **P** **06 51 16.6 +1.2**
PNTR IAmb IAmb 06 51 33.9
comp=Z,17nm,1.0s
HFS Hagfors 70.69 336 P **P** **06 51 15.6 +0.1**
comp=Z,15nm,0.6s,baz=46,slow=6.4,SNR=52
HFS pP **pP** **06 51 31.7 +1.3**
comp=Z,4.8nm,0.5s,baz=32,slow=5.6,SNR=4.0
HFS LR LR 07 28 48.2
comp=Z,688nm,18.8s,baz=116,slow=41
comp=Z,15nm,0.6s
NB2 NORSAR Subarra 70.71 337 P **P** **06 51 15.6 -0.1**
comp=Z,16nm,0.7s,baz=36,slow=6.5
NB2 NORSAR Subarra 70.71 337 P **P** **06 51 15.6 -0.1**
baz=36,slow=6.5
NOA NORSAR Array B 70.71 337 P **P** **06 51 15.8 +0.1**
comp=Z,16nm,0.8s,baz=37,slow=6.1,SNR=51
NOA LR LR 07 26 40.1
comp=Z,88nm,20.4s,baz=95,slow=40
comp=Z,16nm,0.8s
BANOM Banah 70.81 288 P **P** **06 51 16.1 -0.8**
SOEG Soedalen 70.82 358 *i* P **P** **06 51 16.2 0.0**
SOC Sochi 70.84 311 *e*P **P** **06 51 15.7 -1.1**
SOC *e* 06 53 50.4
SOC *e*PPP PPP 06 55 34.7
SOC *e*S **S** **07 00 28.0 +0.4**
SOC *e*SS **SS** **07 05 02.1 +2.1**
SOC pmax pmax
comp=Z,30nm,1.1s
SOC MLR MLR
comp=Z,248nm,17.0s
YERR Yerington 70.84 55 P **P** **06 51 19.2 +2.1**
YERR IAmb IAmb 06 51 35.4
comp=Z,24nm,0.8s
NBO00 NORSAR Array S 70.85 337 P **P** **06 51 17.1 +0.6**
SHME Shamm 70.85 288 *i* P **P** **06 51 17.4 +0.3**
SNR=8.1
SHME Shamm 70.85 288 P **P** **06 51 17.8 +0.7**
SNR=8.1
HLID Hailey 70.87 49 P **P** **06 51 18.0 +0.8**
HLID Hailey 70.87 49 P **P** **06 51 17.9 +0.8**
baz=309
WBK Wadi Bani Khal 70.87 284 P **P** **06 51 18.0 +0.7**
PBUR Paburge 70.93 329 *e*P **P** **06 51 17.8 +0.7**
BIDO Bidbid 70.94 285 P **P** **06 51 17.4 -0.3**
BIDO P **P** **06 51 17.4 -0.3**
VIKU Vikbolandet 70.97 333 *e*P **P** **06 51 17.6 +0.3**
BOZ Bozeman (W) 71.11 46 IAmb IAmb 06 51 36.6
comp=Z,14nm,0.8s
BOZ Bozeman (W) 71.11 46 P **P** **06 51 20.3 +1.7**
baz=310,SNR=14
BMN Battle Mountai 71.18 53 IAmb IAmb 06 51 37.6
comp=Z,14nm,0.9s
MDH Madha 71.19 287 P **P** **06 51 20.2 +1.0**
MASF Masafi 71.25 288 P **P** **06 51 20.1 +0.6**
MASF P **P** **06 51 20.1 +0.6**
MSFE Esma-Masafi 71.25 288 P **P** **06 51 20.4 +0.8**
ANN Anapa 71.34 314 *e*P **P** **06 51 18.2 -1.5**
ANN *e**PP **pP** **06 51 32.1 -2.5**
ANN *e* 06 51 36.3
ANN *e*S **S** **07 00 31.2 -2.1**
ANN pmax pmax
comp=Z,51nm,1.1s
LCRK Leigh Creek 71.41 184 P **P** **06 51 22.5 +2.4**
UOSS Minazif 71.47 287 P **P** **06 51 21.3 +0.5**
UOSS Minazif 71.47 287 *i* P **P** **06 51 21.0 +0.1**
SNR=11
UOSS Minazif 71.47 287 P **P** **06 51 20.9 0.0**
UOSS P **P** **06 51 20.9 0.0**
UOSS Minazif 71.47 287 P **P** **06 51 20.9 0.0**
UOSS pP **pP** **06 51 36.2 +0.4**
UOSS sP **sP** **06 51 42.7 +0.9**
HOQ Hoqain 71.49 285 P **P** **06 51 21.4 +0.4**
SNR=6.8
HOQ P **P** **06 51 21.4 +0.4**
SNR=6.8
RYN Ryan 71.50 55 P **P** **06 51 22.6 +1.6**
AKASG Malin Array Be 71.59 322 *i* P **P** **06 51 21.2 0.0**
AKASG pmax pmax
comp=Z,19nm,0.8s
AKASG Malin Array Be 71.59 322 P **P** **06 51 21.2 0.0**
comp=Z,17nm,0.8s,baz=44,slow=6.0,SNR=63
AKASG pP **pP** **06 51 35.9 -0.1**
comp=Z,10nm,0.5s,baz=43,slow=6.2,SNR=12
AKASG PP **PP** **06 53 58.0 -1.9**
comp=Z,2.3nm,0.8s,baz=47,slow=8.7,SNR=4.6
comp=Z,17nm,0.8s
HATD Hatta, Dubai 71.59 287 *i* P **P** **06 51 22.1 +0.4**
SNR=8.0
HATD Hatta, Dubai 71.59 287 P **P** **06 51 22.3 +0.6**
SNR=8.1
HATD P **P** **06 51 22.3 +0.6**
SNR=8.1
KIEV Kiev 71.61 322 ⇑P **P** **06 51 21.4 +0.2**
KIEV Kiev 71.61 322 P **P** **06 51 21.2 0.0**
KIEV IAmb IAmb 06 51 39.0
comp=Z,22nm,0.8s
KIEV Kiev 71.61 322 ⇑P **P** **06 51 21.4 +0.2**
KIEV Kiev 71.61 322 *i* P **P** **06 51 21.1 -0.1**
SNR=13
KIEV Kiev 71.61 322 P **P** **06 51 21.2 0.0**
KIEV pP **pP** **06 51 37.3 +1.1**
JMDO Jabal Madar 71.65 284 P **P** **06 51 22.4 +0.4**
JMDO P **P** **06 51 22.4 +0.4**
SFJD Kangerlussuaq 71.65 5 P **P** **06 51 22.1 +0.9**
SFJD IAmb IAmb 06 51 39.0
comp=Z,23nm,1.1s
SFJD Kangerlussuaq 71.65 5 P **P** **06 51 22.1 +0.9**
SFJD pmax pmax
comp=Z,23nm,1.2s
SFJD Kangerlussuaq 71.65 5 *i* P **P** **06 51 21.8 +0.6**
SFJD IAmb IAmb 06 51 22.1
comp=Z,17nm,1.1s
SFJD Kangerlussuaq 71.65 5 P **P** **06 51 21.8 +0.6**
SFJD pP **PcP** **06 51 38.2 -1.9**
SOHO SOHO 71.72 286 *i* P **P** **06 51 22.5 +0.2**
SNR=5.8
SOHO SOHO 71.72 286 P **P** **06 51 22.6 +0.2**
ASHO Ashiyiah 71.73 287 *i* P **P** **06 51 22.9 +0.4**
SNR=9.7
ASHO Ashiyiah 71.73 287 P **P** **06 51 23.6 +1.1**
SNR=9.7
ASHO P **P** **06 51 23.6 +1.1**
SNR=9.7
LHV Little Huntoon 71.75 55 P **P** **06 51 23.4 +1.1**
LHV IAmb IAmb 06 51 41.4
comp=Z,32nm,1.0s
NVAR Mina Array Bea 71.76 55 P **P** **06 51 22.6 -0.2**
NVAR Mina Array Bea 71.76 55 P **P** **06 51 23.0 +0.2**
comp=Z,4.0nm,0.8s,baz=294,slow=6.5,SNR=30
NVAR pP **pwP** **06 51 38.9 -0.9**
comp=Z,12nm,0.9s,baz=288,slow=6.8,SNR=15
comp=Z,4.0nm,0.8s
MDPB Devils Postpil 71.78 56 P **P** **06 51 22.8 -0.1**
NAZ Nazwa, Dubai 71.83 287 P **P** **06 51 23.1 +0.1**
MLAC Mammoth, Mammo 71.93 56 P **P** **06 51 24.9 +1.2**
baz=398
FAQ Al Faqa, Dubai 72.03 287 P **P** **06 51 24.3 +0.1**
FAQ Al Faqa, Dubai 72.03 287 P **P** **06 51 24.9 +0.6**
FAQ P **P** **06 51 24.9 +0.6**
BSY Bisya 72.08 285 P **P** **06 51 25.5 +0.9**
BSY P **P** **06 51 25.5 +0.9**
ARQ Araqi 72.22 286 P **P** **06 51 26.0 +0.6**
SNR=7.2
ARQ P **P** **06 51 26.0 +0.6**
SNR=7.2
YFT Old Faithful 72.28 46 P **P** **06 51 27.8 +2.0**
STRU Stroemstad 72.34 336 *e*P **P** **06 51 25.5 +0.1**
DY2G Dye2 72.43 4 *i* P **P** **06 51 27.1 +0.9**
DY2G IAmb IAmb 06 51 27.9
comp=Z,110nm,1.6s
H17A Grant Village 72.46 46 P **P** **06 51 29.2 +2.4**
H17A IAmb IAmb 06 51 47.2
comp=Z,22nm,1.1s
H17A Grant Village 72.46 46 P **P** **06 51 27.7 +0.9**
baz=311
IMW Indian Meadow 72.59 47 IAmb IAmb 06 51 46.5
comp=Z,14nm,0.8s
MHTO MHTO 72.60 283 P **P** **06 51 28.5 +0.9**
SNR=10
FLWY Flagg Ranch 72.60 46 IAmb IAmb 06 51 45.9
comp=Z,29nm,1.6s
DSP Deep Springs 72.63 55 IAmb IAmb 06 51 46.4
comp=Z,15nm,1.0s
SMMC Simmler 72.63 58 P **P** **06 51 29.1 +1.4**
baz=308
TPH Tonopah 72.65 54 P **P** **06 51 30.1 +2.1**
TPH Tonopah 72.65 54 P **P** **06 51 30.1 +2.1**
TPH pmax pmax
comp=Z,66nm,0.9s
RLMT Red Lodge 72.69 45 P **P** **06 51 28.8 +0.7**
baz=311
FXWY Fox Creek 72.71 47 P **P** **06 51 30.0 +1.7**
FXWY IAmb IAmb 06 51 49.8
comp=Z,20nm,1.4s
STKA Stephens Creek 72.72 181 P **P** **06 51 28.7 +0.8**
comp=Z,2.2nm,0.8s,baz=335,slow=0.5,SNR=2.2
STKA pP **pP** **06 51 42.7 -0.1**
comp=Z,5.4nm,0.8s,baz=359,slow=3.6,SNR=5.1
comp=Z,2.2nm,0.8s
VES Vestal, Richgr 72.88 57 P **P** **06 51 30.4 +1.3**
baz=309
LOHW Long Hollow 72.96 47 P **P** **06 51 30.7 +0.9**
LOHW IAmb IAmb 06 51 48.4
comp=Z,36nm,1.9s
SNOW Snow King Moun 72.97 47 P **P** **06 51 30.6 +0.8**
REDW Red Top Meadow 72.98 47 P **P** **06 51 31.5 +1.6**
DGMT Dagmar 73.00 40 P **P** **06 51 29.8 +0.1**
baz=314
PKM Mcpherson Peak 73.01 58 P **P** **06 51 30.8 +0.6**
baz=309
SIM Simferopol' 73.03 315 *e*P **P** **06 51 29.7 -0.2**
SIM pmax pmax
comp=Z,30nm,0.8s
CWC Cottonwood Cre 73.14 56 P **P** **06 51 31.5 +0.6**
baz=309
LAO LASA Array 73.22 42 IAmb IAmb 06 51 49.6
comp=Z,17nm,1.0s
LAO LASA Array 73.22 42 P **P** **06 51 31.7 +0.7**
baz=313
GRAC Grapevine Rang 73.24 55 P **P** **06 51 32.1 +0.8**
baz=309
SBC Santa Barbara 73.35 59 P **P** **06 51 32.8 +0.9**
baz=309
ISA Isabella, Lake 73.38 57 P **P** **06 51 32.8 +0.6**
baz=309
R11B Troy Canyon, C 73.47 53 P **P** **06 51 33.4 +0.5**
baz=310
ARVC Arvin 73.49 58 P **P** **06 51 32.6 -0.1**
baz=309
UMZA Um Al Zommool 73.59 286 P **P** **06 51 33.1 -0.3**
UMZA P **P** **06 51 33.1 -0.3**
SCZ2 Santa Cruz Isl 73.68 59 P **P** **06 51 34.5 +0.6**
baz=309
HWUT Hardware Ranch 73.73 49 P **P** **06 51 36.0 +1.7**
HWUT IAmb IAmb 06 51 52.7
comp=Z,24nm,1.4s
MPMC Manual Prospec 73.75 56 P **P** **06 51 36.4 +1.9**
baz=309
SORM Soroca 73.78 321 ⇓P **P** **06 51 35.4 +1.2**
SORM Soroca 73.78 321 ⇓P **P** **06 51 35.4 +1.2**
S11A Rachel 73.83 54 P **P** **06 51 35.5 +0.6**
S11A IAmb IAmb 06 51 57.8
comp=Z,19nm,0.9s
JRN Qarnain Island 73.88 289 P **P** **06 51 34.5 -0.6**
OSI Osito Audit: C 73.88 58 P **P** **06 51 36.5 +1.4**
baz=309
FURC Furnace Creek, 73.89 56 P **P** **06 51 36.2 +1.2**
baz=310
DUG Dugway, Tooele 73.94 50 P **P** **06 51 36.7 +1.2**
DUG IAmb IAmb 06 51 56.6
comp=Z,12nm,0.9s
DUG Dugway, Tooele 73.94 50 P **P** **06 51 36.7 +1.2**
DUG pmax pmax
comp=Z,12nm,1.0s
DUG Dugway, Tooele 73.94 50 P **P** **06 51 36.7 +1.2**
baz=311
LRMC Laurel Mtn Rad 74.00 57 P **P** **06 51 36.9 +1.0**
baz=309
BW06 Boulder Array 74.09 47 P **P** **06 51 37.6 +1.1**
baz=312
PDAR Pinedale Array 74.09 47 P **P** **06 51 37.6 +1.2**
comp=Z,4.4nm,0.8s,baz=260,slow=1.6,SNR=26
PDAR pP **pP** **06 51 53.1 +1.7**
comp=Z,6.7nm,0.6s,baz=277,slow=2.6,SNR=13
comp=Z,4.4nm,0.8s
TCUT Toone Canyon 74.14 49 P **P** **06 51 37.5 +0.7**
EDW2 Edwards Air Fo 74.18 57 P **P** **06 51 38.4 +1.5**
baz=309
QSM Queen of Sheba 74.20 56 P **P** **06 51 37.8 +0.9**
QSM IAmb IAmb 06 51 55.1
comp=Z,24nm,1.2s
SNCC San Nicolas Is 74.22 60 P **P** **06 51 37.3 +0.3**
baz=309
BSD Bornholm Skovb 74.22 332 *e*P **P** **06 51 36.9 +0.2**
NUUK Nuuk 74.34 6 *i* P **P** **06 51 37.8 +0.6**
NUUK IAmb IAmb 06 51 39.0
comp=Z,30nm,0.9s
DECC Green Verdugo 74.36 58 P **P** **06 51 38.1 +0.2**
baz=309
PSUT Pine Spring 74.40 52 P **P** **06 51 38.5 +0.3**
PRN Pahroc Range 74.40 54 P **P** **06 51 40.2 +2.0**
MILM Milestii Mici 74.41 319 *e*P **P** **06 51 37.8 0.0**
comp=Z,40nm,1.0s
MILM *e*L L 07 26 42.0
MILM LRM MLR 07 27 44.0
comp=Z,500nm,16.0s
MILM Milestii Mici 74.41 319 *e*P **P** **06 51 37.8 0.0**
MILM pmax pmax
comp=Z,40nm,1.0s
MILM MLR MLR
comp=Z,500nm,16.0s
LVV L'vov 74.58 324 *e*P **P** **06 51 39.3 +0.5**
SHOC Shoshone, Teco 74.61 56 P **P** **06 51 40.6 +1.3**
baz=310
GSC Goldstone, Bar 74.66 56 P **P** **06 51 40.7 +1.0**
baz=310
FMP Fort Macarthur 74.72 59 P **P** **06 51 42.1 +2.2**
baz=310
BFSC Mount Baldy Ra 74.80 58 P **P** **06 51 41.7 +1.1**
baz=310
CIS Catalina Islan 74.84 59 P **P** **06 51 42.3 +1.6**
baz=310
SAKB Bahrain 74.87 291 P **P** **06 51 40.1 -0.8**
BSUT Blindstream Ca 74.89 49 P **P** **06 51 42.1 +0.8**
SHPR Sheep Range 74.92 55 P **P** **06 51 43.6 +2.4**
SCI2 San Clemente I 75.03 59 P **P** **06 51 43.5 +1.8**
baz=310
TUQ Turquoise Moun 75.13 56 P **P** **06 51 44.0 +1.6**
baz=310
BBRC Big Bear Solar 75.25 57 P **P** **06 51 45.1 +1.8**
baz=310
HEC Hector,Ludlow 75.26 57 P **P** **06 51 45.0 +1.9**

baz=310
MURC Murrieta 75.50 58 P **P** **06 51 46.2 +1.7**
baz=310
ULM Lac du Bonnet 75.51 34 P **P** **06 51 44.4 +0.2**
comp=Z,3.5nm,0.5s,baz=320,slow=7.8,SNR=8.0
comp=Z,3.5nm,0.5s
RDMU Red Mountain 75.55 49 lAmb lAmb 06 52 03.2
comp=Z,19nm,0.8s
MDND Maddock 75.62 38 P **P** **06 51 45.5 +0.6**
baz=316
BUR08 Bucovina Ar. S 75.62 322 P **P** **06 51 45.8 +0.8**
BUR08 lAmb lAmb 06 51 46.8
comp=Z,15nm,0.8s
BURAR Bucovina Array 75.64 322 ⇑P **P** **06 51 45.8 +0.7**
BURAR Bucovina Array 75.64 322 P **P** **06 51 46.1 +1.0**
BURAR lAmb lAmb 06 51 47.1
comp=Z,14nm,0.8s
BURAR Bucovina Array 75.64 322 ⇑P **P** **06 51 45.8 +0.7**
GMRC Granite Mounta 75.71 56 P **P** **06 51 46.9 +1.1**
baz=310
TESR Tescani 75.75 320 ⇑P **P** **06 51 46.2 +0.6**
LCMT Little Creek M 75.75 53 P **P** **06 51 46.8 +0.8**
K22A Casper 75.82 45 P **P** **06 51 47.5 +1.2**
baz=313
CFR Carcaliu 75.96 318 ⇑P **P** **06 51 47.3 +0.5**
CFR Carcaliu 75.96 318 ⇑P **P** **06 51 47.3 +0.5**
PFO Pinyon Flats O 75.96 58 P **P** **06 51 48.4 +1.1**
baz=310
TPFO Pinon Flats 75.97 58 P **P** **06 51 48.5 +1.3**
baz=310
SRU San Rafael Swe 75.98 50 P **P** **06 51 48.8 +1.5**
SRU San Rafael Swe 75.98 50 P **P** **06 51 48.8 +1.5**
SRU pmax pmax
comp=Z,10.0nm,0.8s
KNB Kanab 76.01 53 P **P** **06 51 48.5 +1.0**
KNB Kanab 76.01 53 P **P** **06 51 48.5 +1.0**
KNB pmax pmax
comp=Z,7.0nm,0.9s
BELC Belle Mtn. Jos 76.01 57 P **P** **06 51 49.3 +1.8**
baz=310
KOLS Kolonicke sedl 76.01 324 *eP* **P** **06 51 48.6 +1.5**
KOLS pmax pmax
comp=Z,17nm,1.1s
KOLS Kolonicke sedl 76.01 324 *eP* **P** **06 51 48.6 +1.5**
109C Camp Elliot, M 76.02 59 P **P** **06 51 48.9 +1.6**
baz=310
STHS Stebnicka Huta 76.10 325 *eP* **P** **06 51 48.5 +0.9**
STHS pmax pmax
comp=Z,11nm,0.8s
STHS Stebnicka Huta 76.10 325 *eP* **P** **06 51 48.5 +0.9**
RWWY Rawlins 76.10 46 lAmb lAmb 06 52 06.3
comp=Z,18nm,0.9s
RSSD Black Hills 76.11 43 P **P** **06 51 48.7 +0.7**
RSSD lAmb lAmb 06 52 05.4
comp=Z,15nm,0.9s
RSSD Black Hills 76.11 43 P **P** **06 51 48.7 +0.7**
RSSD pmax pmax
comp=Z,15nm,1.0s
RSSD Black Hills 76.11 43 P **P** **06 51 49.2 +1.2**
baz=314
OJC Ojcow 76.11 326 *eP* **P** **06 51 48.7 +1.1**
VRI Vrincioaia 76.17 320 ⇓P **P** **06 51 49.4 +1.4**
VRI Vrincioaia 76.17 320 ⇓P **P** **06 51 49.4 +1.4**
TURR Turia 76.38 320 ⇓P **P** **06 51 50.8 +1.5**
CRVS Cervenica-Dubn 76.39 324 *eP* **P** **06 51 50.3 +1.1**
CRVS pmax pmax
comp=Z,16nm,0.9s
CRVS Cervenica-Dubn 76.39 324 *eP* **P** **06 51 50.3 +1.1**
IRM Iron Mountain 76.44 56 P **P** **06 51 50.7 +0.9**
baz=311
MONP2 Monument Peak 76.45 58 P **P** **06 51 50.1 0.0**
baz=310
OZUR 76.46 320 ⇓P **P** **06 51 51.3 +1.6**
NIE Niedzica 76.50 325 *eP* **P** **06 51 51.4 +1.4**
MFTR Murfatlar 76.53 318 ⇑P **P** **06 51 50.6 +0.6**
BC3 Big Chuckawall 76.58 57 P **P** **06 51 52.6 +2.0**
baz=311
O20A White River Ci 76.59 48 lAmb lAmb 06 52 11.3
comp=Z,17nm,1.2s
O20A White River Ci 76.59 48 P **P** **06 51 52.6 +1.8**
baz=313
HMU Henry Mountain 76.63 51 lAmb lAmb 06 52 09.3
comp=Z,16nm,0.8s
RUE Ruedersdorf 76.72 331 *eP* **P** **06 51 52.0 +1.0**
comp=Z,21nm,0.7s,baz=34,slow=5.4
DOPR Dopca 76.75 320 ⇓P **P** **06 51 53.3 +2.0**
BSEG Bad Segeberg 76.77 333 *eP* **P** **06 51 52.3 +1.0**
comp=Z,26nm,0.9s,baz=34,slow=5.4
ISR Istrita 76.80 319 ⇑P **P** **06 51 52.5 +0.8**
ISR Istrita 76.80 319 ⇑P **P** **06 51 52.5 +0.8**
BR131 Keskin Array S 76.81 311 P **P** **06 51 52.8 +0.9**
SNR=7.2
BR131 P **P** **06 51 52.8 +0.9**
SNR=7.2
BRTR Keskin Array B 76.81 311 P **P** **06 51 51.8 -0.2**
BRTR Keskin Array B 76.81 311 *i* P **P** **06 51 52.5 +0.6**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 76.81 311 P **P** **06 51 52.2 +0.3**
comp=Z,1.4nm,0.7s,baz=89,slow=3.3,SNR=11
BRTR pP **pP** **06 52 08.2 +1.2**
comp=Z,4.7nm,0.7s,baz=65,slow=4.9,SNR=12
BRTR PP PP 06 54 36.6 -8.1
comp=Z,1.0nm,0.9s,baz=5.7,slow=7.2,SNR=2.3
comp=Z,1.4nm,0.7s
IKP In-Ko-Pah, Jac 76.81 58 P **P** **06 51 54.3 +2.4**
baz=311
SWSC Sam W. Stewart 76.82 58 P **P** **06 51 53.5 +1.6**
baz=311
MLR Muntele Rosu 76.82 320 ⇑P **P** **06 51 53.8 +1.9**
MLR Muntele Rosu 76.82 320 P **P** **06 51 53.0 +1.1**
MLR Muntele Rosu 76.82 320 ⇑P **P** **06 51 53.8 +1.9**
DOK Doka 76.89 283 P **P** **06 51 52.5 0.0**
PDMCI Parker Dam,Lak 76.98 56 P **P** **06 51 55.0 +2.2**
baz=311
AGMN Agassiz Nation 76.98 36 P **P** **06 51 54.7 +2.1**
baz=319
KSP Ksiaz 77.06 328 *eP* **P** **06 51 54.0 +1.0**
LANS Liptovska Anna 77.06 326 *eP* **P** **06 51 54.8 +1.7**
LANS pmax pmax
comp=Z,11nm,1.1s
LANS Liptovska Anna 77.06 326 *eP* **P** **06 51 54.8 +1.7**
OKC Ostrava-Krasne 77.09 327 *eP* **P** **06 51 53.5 +0.4**
OKC Ostrava-Krasne 77.09 327 *eP* **P** **06 51 53.5 +0.4**
KECS Kecovo 77.13 325 *eP* **P** **06 51 54.7 +1.3**
KECS Kecovo 77.13 325 *eP* **P** **06 51 54.7 +1.3**
VOIR 77.29 320 ⇓P **P** **06 51 56.2 +1.7**
VOIR 77.29 320 ⇓P **P** **06 51 56.2 +1.7**
N23A Red Feather La 77.34 46 P **P** **06 51 55.9 +0.8**
baz=314
GLA Glamis 77.37 57 P **P** **06 51 57.0 +1.9**
baz=311
MORC Moravsky Berou 77.39 327 ⇑P **P** **06 51 56.0 +1.1**
MORC Moravsky Berou 77.39 327 lAmb lAmb 06 51 57.0
comp=Z,22nm,0.9s
MORC Moravsky Berou 77.39 327 *eP* **P** **06 51 55.8 +0.9**
MORC *e* 06 52 12.6
MORC Moravsky Berou 77.39 327 ⇑P **P** **06 51 56.0 +1.1**
DRGR 77.40 322 ⇑P **P** **06 51 55.5 +0.5**
DRGR 77.40 322 ⇑P **P** **06 51 55.5 +0.5**
DPC Dobruska-Polom 77.43 328 *eP* **P** **06 51 55.9 +0.8**
DPC *e**PP **sP** **06 52 13.5 -2.6**
DPC Dobruska-Polom 77.43 328 *eP* **P** **06 51 55.9 +0.8**
DPC *ep*P **sP** **06 52 13.5 -2.6**
KRLC Kraliky 77.46 328 *eP* **P** **06 51 56.5 +1.2**
KRLC *e**PP **pP** **06 52 12.5 +2.1**
KRLC Kraliky 77.46 328 *eP* **P** **06 51 56.5 +1.2**
KRLC *ep*P **pP** **06 52 12.5 +2.1**
ARR Arges 77.55 320 ⇑P **P** **06 51 57.7 +1.8**
WHFO Wadi Hawf 77.59 283 P **P** **06 51 55.9 -0.6**
FLTG Flechtingen 77.77 332 *eP* **P** **06 51 57.2 +0.3**
comp=Z,24nm,0.8s,baz=34,slow=5.4
FLTG *ep*P **pP** **06 52 13.7 +1.8**
PSZ Piszkesteto 77.82 325 lAmb lAmb 06 51 59.7
comp=Z,22nm,1.1s
VYHS Vyhne 77.83 326 *eP* **P** **06 51 58.6 +1.2**
VYHS pmax pmax
comp=Z,15nm,1.1s
VYHS Vyhne 77.83 326 *eP* **P** **06 51 58.6 +1.2**
B35A Bob, Littlefor 77.86 35 lAmb lAmb 06 52 14.8
comp=Z,16nm,0.7s
WUAZ Wupatki 77.88 53 lAmb lAmb 06 52 19.3
comp=Z,12nm,0.9s
WUAZ Wupatki 77.88 53 P **P** **06 51 59.4 +1.4**
baz=312
Y14A Wickenburg 77.93 55 lAmb lAmb 06 52 16.5
comp=Z,17nm,1.3s
BRG Berggiesshubel 77.95 330 *eP* **P** **06 51 58.8 +0.8**
BRG Amp 06 51 59.7
comp=Z,9.7nm,1.0s
BRG Berggiesshubel 77.95 330 *eP* **P** **06 51 58.7 +0.8**
BRG pmax pmax
comp=Z,10.0nm,1.0s
BRG Berggiesshubel 77.95 330 *eP* **P** **06 51 58.5 +0.6**
comp=Z,9.7nm,1.0s,baz=34,slow=5.4
CLL Collm 77.95 330 P **P** **06 51 58.4 +0.4**
CLL lAmb lAmb 06 51 59.3
comp=Z,19nm,0.8s
CLL Collm 77.95 330 *i* P **P** **06 51 58.3 +0.4**
CLL *i* *PP **pP** **06 52 14.9 +1.9**
CLL pmax pmax
comp=Z,21nm,0.9s
CLL Collm 77.95 330 *i* P **P** **06 51 58.3 +0.4**
comp=Z,21nm,0.9s
CLL *i* PcP **PcP** **06 52 07.9 +0.4**
CLL *i* sP **pP** **06 52 14.9 +1.9**
comp=Z,34nm,1.5s
CLL Collm 77.95 330 *eP* **P** **06 51 58.4 +0.4**
comp=Z,18nm,0.8s,baz=34,slow=5.4
CLL *ep*P **pP** **06 52 15.1 +2.1**
SMCO Snowmass 77.96 48 P **P** **06 51 59.9 +1.2**
SMCO lAmb lAmb 06 52 17.0
comp=Z,21nm,1.4s
PVCC Panska Ves 77.98 329 *eP* **P** **06 51 59.4 +1.3**
PVCC Panska Ves 77.98 329 *eP* **P** **06 51 59.4 +1.3**
NRDL Niedersach Rie 78.03 333 *eP* **P** **06 51 59.1 +0.9**
comp=Z,9.3nm,1.1s,baz=34,slow=5.4
JAVC Velka Javorina 78.04 326 *eP* **P** **06 52 00.5 +1.9**
RETH Rethem/Aller, 78.08 333 *eP* **P** **06 51 59.6 +1.0**
comp=Z,11nm,0.9s,baz=34,slow=5.4
ASSE Asse, Remlinge 78.13 332 *eP* **P** **06 51 59.5 +0.7**
comp=Z,8.3nm,1.0s,baz=34,slow=5.4
VRAC Vranov 78.14 327 ⇓P **P** **06 52 00.3 +1.3**
VRAC Vranov 78.14 327 *eP* **P** **06 52 00.2 +1.2**
VRAC *e* 06 52 16.8
VRAC Vranov 78.14 327 ⇓P **P** **06 52 00.3 +1.3**
ISCO Idaho Springs 78.28 47 lAmb lAmb 06 52 21.3
comp=Z,51nm,2.0s
ISCO Idaho Springs 78.28 47 P **P** **06 52 01.7 +1.3**
baz=314
HSKC Hora Svate Kat 78.36 330 *eP* **P** **06 52 00.4 +0.2**
GOPC GO Pecny, Ondr 78.39 329 *eP* **P** **06 52 01.4 +1.0**
GOPC *e**PP **pP** **06 52 17.5 +2.0**
GOPC GO Pecny, Ondr 78.39 329 *eP* **P** **06 52 01.4 +1.0**
GOPC *ep*P **pP** **06 52 17.5 +2.0**
GZR Gura Zlata 78.41 321 ⇑P **P** **06 52 01.3 +0.6**
GZR Gura Zlata 78.41 321 ⇑P **P** **06 52 01.3 +0.6**
KRUC Moravsky 78.41 327 *eP* **P** **06 52 01.1 +0.6**
KRUC *e* 06 52 17.7
SMOL Smolenice 78.41 326 *eP* **P** **06 52 02.1 +1.6**
SMOL pmax pmax
comp=Z,9.0nm,0.9s
SUSD Miller 78.41 40 P **P** **06 52 01.8 +1.1**
SUSD Miller 78.41 40 P **P** **06 52 01.5 +0.9**
baz=317
PRU Pruhonice 78.42 329 *eP* **P** **06 52 01.6 +1.1**
PRU Pruhonice 78.42 329 *eP* **P** **06 52 01.6 +1.1**
MVCO Mesa Verde 78.44 50 P **P** **06 52 03.1 +2.0**
MVCO Mesa Verde 78.44 50 P **P** **06 52 02.2 +1.0**
baz=313
SURR Surduc 78.45 322 ⇓P **P** **06 52 02.3 +1.5**
CLZ Clausthal 78.47 332 *eP* **P** **06 52 02.0 +1.1**
comp=Z,16nm,0.7s,baz=34,slow=5.4
CLZ *ep*P **pP** **06 52 18.4 +2.5**
NEUB Neuenburg 78.49 331 *eP* **P** **06 52 01.6 +0.7**
comp=Z,30nm,1.0s,baz=34,slow=5.4
SRO Srobarova 78.58 325 *eP* **P** **06 52 03.4 +2.0**
SRO pmax pmax
comp=Z,30nm,1.0s
SRO Srobarova 78.58 325 *eP* **P** **06 52 03.4 +2.0**
MODS Modra-Piesok 78.59 326 *eP* **P** **06 52 03.1 +1.6**
MODS Modra-Piesok 78.59 326 *eP* **P** **06 52 03.1 +1.6**
F33A 5 Mile Ranch, 78.64 38 lAmb lAmb 06 52 19.4
comp=Z,14nm,0.8s
ELND Elena 78.71 318 ⇓P **P** **06 52 03.6 +1.3**
BZS Buzias 78.78 322 ⇑P **P** **06 52 03.1 +0.5**
BZS Buzias 78.78 322 ⇑P **P** **06 52 03.1 +0.5**
ZST Bratislava 78.80 326 *eP* **P** **06 52 04.4 +1.8**
ZST Bratislava 78.80 326 *eP* **P** **06 52 04.4 +1.8**
GTTG Gottingen 78.86 332 *eP* **P** **06 52 03.9 +0.9**
comp=Z,17nm,0.8s,baz=34,slow=5.4
TANN Tannenbergstha 78.88 330 *eP* **P** **06 52 03.7 +0.6**
comp=Z,6.3nm,1.1s,baz=34,slow=5.4
PLN Plauen 78.93 330 *eP* **P** **06 52 03.9 +0.5**
comp=Z,6.2nm,0.9s,baz=34,slow=5.4
IBBN Ibbenburen 78.99 334 *eP* **P** **06 52 04.3 +0.7**
comp=Z,25nm,0.8s,baz=34,slow=5.4
ZVC Zvikov 79.00 329 *eP* **P** **06 52 04.8 +1.1**
MOX Moxa 79.01 331 *eP* **P** **06 52 04.6 +0.8**
comp=Z,18nm,1.3s,baz=34,slow=5.4
MOX *ep*P **sP** **06 52 22.3 -2.5**
MOX *eL* L 07 33 14.6
comp=Z,543nm,18.9s
Q24A Divide 79.13 47 P **P** **06 52 06.1 +1.1**
baz=315
EYMN Ely 79.13 34 lAmb lAmb 06 52 21.9
comp=Z,21nm,0.8s
EYMN Ely 79.13 34 P **P** **06 52 06.1 +1.6**
baz=322
W18A Petrified Fore 79.13 53 P **P** **06 52 06.7 +1.7**
baz=313
MANZ Manzenberg 79.36 330 *eP* **P** **06 52 06.6 +0.8**
comp=Z,2.3nm,0.9s,baz=34,slow=5.4
214A Organ Pipe Nat 79.36 57 P **P** **06 52 07.7 +1.6**
baz=312
OGNE Ogallala 79.40 44 P **P** **06 52 08.0 +1.8**
OGNE lAmb lAmb 06 52 24.4
comp=Z,23nm,0.8s
OGNE Ogallala 79.40 44 P **P** **06 52 08.0 +1.8**
baz=316
CKRC Cesky Krumlov 79.45 328 *eP* **P** **06 52 07.3 +1.1**
CKRC *e**PP **pP** **06 52 24.0 +2.7**
CKRC Cesky Krumlov 79.45 328 *eP* **P** **06 52 07.3 +1.1**
CKRC *ep*P **pP** **06 52 24.0 +2.7**
UBBA Unterbreizbach 79.45 332 *eP* **P** **06 52 06.7 +0.6**
comp=Z,3.6nm,0.7s,baz=34,slow=5.4
KHC Kasperske Hory 79.48 329 P **P** **06 52 07.5 +1.1**
KHC lAmb lAmb 06 52 08.5
comp=Z,16nm,0.7s
KHC Kasperske Hory 79.48 329 *eP* **P** **06 52 07.3 +0.9**
KHC *e**PP **pP** **06 52 24.4 +2.8**
KHC Kasperske Hory 79.48 329 *eP* **P** **06 52 07.3 +0.9**
KHC *ep*P **pP** **06 52 24.4 +2.8**
ROTZ Rotzenmuhle 79.50 330 *eP* **P** **06 52 07.6 +1.1**
comp=Z,2.6nm,0.9s,baz=34,slow=5.4
EKA Eskdalemuir Ar 79.52 341 P **P** **06 52 06.7 +0.3**
comp=Z,4.6nm,0.5s,baz=30,slow=4.7,SNR=20
comp=Z,4.6nm,0.5s
CONA Conrad Observa 79.52 327 *i* P **P** **06 52 08.2 +1.4**
comp=Z,14nm,1.1s,SNR=5.9
RONA Rosalia, Austr 79.52 326 *i* P **P** **06 52 08.3 +1.6**
comp=Z,20nm,0.9s,SNR=7.1
GEC2 GERESS Array S 79.67 329 *eP* **P** **06 52 08.2 +0.7**
comp=Z,6.7nm,0.8s,baz=34,slow=5.4
GERES GERESS Array B 79.67 329 P **P** **06 52 07.5 0.0**
comp=Z,4.6nm,0.7s,baz=32,slow=7.8,SNR=16
GERES pP **pP** **06 52 24.4 +1.8**
comp=Z,3.5nm,0.7s,baz=36,slow=7.1,SNR=6.5
comp=Z,4.6nm,0.7s
KASTN Kahler Asten 79.69 333 *eP* **P** **06 52 07.9 +0.4**
comp=Z,11nm,1.0s,baz=34,slow=5.4
KASTN *ep*P **pP** **06 52 25.6 +3.0**
WET Wettzell 79.75 329 *eP* **P** **06 52 08.8 +0.9**
comp=Z,15nm,1.0s,baz=34,slow=5.4
WET *ep*P **pP** **06 52 25.4 +2.5**
SDCO Great Sand Dun 79.78 48 P **P** **06 52 10.1 +1.5**
baz=315
BUG Bochum--Univer 79.88 333 *eP* **P** **06 52 08.7 +0.3**
comp=Z,28nm,1.2s,baz=34,slow=5.4
GRA1 Grafenberg Arr 79.93 330 lAmb lAmb 06 52 11.0
comp=Z,27nm,0.8s
GRF Grafenberg Arr 79.93 330 *eP* **P** **06 52 09.9 +1.0**
comp=Z,27nm,0.8s,baz=34,slow=5.4
GRF *eL* L 07 33 05.8
comp=Z,531nm,20.0s
GRFO Grafenberg 79.93 330 P **P** **06 52 10.4 +1.6**
GRFO lAmb lAmb 06 52 11.0
comp=Z,25nm,0.8s
GRFO Grafenberg 79.93 330 P **P** **06 52 10.4 +1.6**
GRFO pmax pmax
comp=Z,25nm,0.8s
RAYN Ar Rayn 79.96 292 P **P** **06 52 09.7 +0.2**
RAYN lAmb lAmb 06 52 25.9
comp=Z,23nm,0.8s
RAYN Ar Rayn 79.96 292 ⇑P **P** **06 52 09.7 +0.2**
RAYN Ar Rayn 79.96 292 P **P** **06 52 09.7 +0.2**
RAYN Ar Rayn 79.96 292 P **P** **06 52 10.0 +0.5**
FRGS Fruska Gora 79.96 323 ⇓P **P** **06 52 10.1 +1.0**
ECSD EROS Data Cent 80.07 39 P **P** **06 52 10.3 +0.6**
ECSD lAmb lAmb 06 52 26.8
comp=Z,13nm,0.8s
ALN Alexandroupoli 80.10 317 P **P** **06 52 10.9 +1.1**
ALN lAmb lAmb 06 52 27.5
comp=Z,21nm,1.3s
ALN Alexandroupoli 80.10 317 P **P** **06 52 10.9 +1.1**
ALN pmax pmax
comp=Z,21nm,1.3s
ARSA Arzberg 80.20 327 *i* P **P** **06 52 11.6 +1.2**
comp=Z,11nm,1.0s
MOA Molln 80.24 328 *eP* **P** **06 52 11.5 +1.0**
comp=Z,5.9nm,1.0s
MMAI Mount Meron Ar 80.33 306 P **P** **06 52 11.9 +0.6**
comp=Z,1.6nm,0.3s,baz=44,slow=6.1,SNR=17
MMAI pP **pP** **06 52 28.4 +1.9**
comp=Z,23nm,0.9s,baz=46,slow=6.0,SNR=4.9
comp=Z,1.6nm,0.3s
TUC Tucson 80.40 55 P **P** **06 52 13.6 +1.9**
baz=313
KSCO Kaye Shedlock' 80.47 46 P **P** **06 52 12.4 +0.3**
baz=316
TNS Taunus Mts 80.50 332 *eP* **P** **06 52 12.0 +0.1**
comp=Z,9.0nm,0.8s,baz=34,slow=5.4
BIOA Bad Ischl, Aus 80.62 328 *i* P **P** **06 52 13.8 +1.2**
comp=Z,20nm,1.2s
SPMN Marine on St. 80.69 36 P **P** **06 52 14.2 +1.2**
baz=321
AHRW Bad Neuenahr-A 80.71 333 *eP* **P** **06 52 13.0 +0.1**
comp=Z,13nm,1.0s,baz=34,slow=5.4
AHRW *ep*P **sP** **06 52 31.5 -2.5**
T25A Trinidad 80.83 48 P **P** **06 52 14.8 +0.6**
baz=315
PERS Pernice 80.86 326 *i* P **P** **06 52 14.6 +0.7**
SOKA Soboth 80.86 326 *i* P **P** **06 52 14.8 +0.8**
comp=Z,28nm,0.8s,SNR=11
RJOB Jochberg 80.92 328 *eP* **P** **06 52 15.5 +1.3**
comp=Z,20nm,0.9s,baz=34,slow=5.4
BTNL Ternell 80.99 334 *dP* **P** **06 52 15.1 +0.6**
MEM Membach 81.01 334 *dP* **P** **06 52 15.3 +0.8**
BGNE Belgrade 81.06 42 P **P** **06 52 15.5 +0.5**
baz=318
GOLS Golise 81.14 326 *i* P **P** **06 52 15.8 +0.4**
FUR Furstenfeldbru 81.16 329 *eP* **P** **06 52 16.6 +1.2**
comp=Z,30nm,1.0s,baz=34,slow=5.4
ANMO Albuquerque 81.19 51 P **P** **06 52 17.8 +1.7**
ANMO Albuquerque 81.19 51 P **P** **06 52 17.8 +1.7**
ANMO pmax pmax
comp=Z,6.0nm,0.9s
ANMO Albuquerque 81.19 51 P **P** **06 52 17.1 +1.0**
baz=315
OBKA Obir 81.20 327 *i* P **P** **06 52 16.5 +0.8**
comp=Z,14nm,0.7s
OBKA Obir 81.20 327 *eP* **P** **06 52 16.0 +0.3**
comp=Z,14nm,0.7s,baz=34,slow=5.4
LESA Schwarzleotal 81.22 328 *i* P **P** **06 52 16.9 +1.1**
comp=Z,24nm,1.0s
KBA Koelnbreinsper 81.23 328 *i* P **P** **06 52 17.2 +1.2**
comp=Z,22nm,1.0s,SNR=7.7
KBA Koelnbreinsper 81.23 328 *eP* **P** **06 52 17.0 +0.9**
comp=Z,19nm,0.8s,baz=34,slow=5.4
LEGS Legarje 81.32 326 *i* P **P** **06 52 16.5 +0.2**
I37A Lemond, Waseca 81.36 37 P **P** **06 52 16.5 0.0**
I37A lAmb lAmb 06 52 34.1
comp=Z,19nm,0.7s
MYKA Terra Mystica 81.47 327 *i* P **P** **06 52 17.6 +0.4**
comp=Z,19nm,1.0s
BGES Gesves 81.51 334 *dP* **P** **06 52 17.8 +0.7**
comp=Z,8.6nm,1.0s
Y22D IRIS PASSCAL I 81.53 52 P **P** **06 52 19.4 +1.6**
baz=314
Y22F Passcal Instru 81.53 52 P **P** **06 52 19.4 +1.6**
baz=314
PRED Cave del Predi 81.65 327 lAmb lAmb 06 52 18.5
comp=Z,10nm,0.7s
RCHB Rochefort 81.66 334 *dP* **P** **06 52 18.0 0.0**
comp=Z,11nm,1.1s
BMRD Maredsous 81.68 334 *dP* **P** **06 52 17.9 -0.2**
comp=Z,13nm,1.1s
WATA Walderalm 81.72 329 *i* P **P** **06 52 19.5 +0.9**
comp=Z,8.0nm,0.5s
WTTA Wattenberg 81.76 329 *i* P **P** **06 52 19.8 +1.0**
comp=Z,17nm,0.7s
WTTA Wattenberg 81.76 329 *eP* **P** **06 52 19.5 +0.7**
comp=Z,15nm,0.8s,baz=34,slow=5.4
ABTA Abfaltersbach 81.83 328 *i* P **P** **06 52 19.2 +0.1**
comp=Z,12nm,1.0s
MOTA Moosalm 81.90 329 *i* P **P** **06 52 20.6 +1.1**
comp=Z,38nm,0.9s,SNR=6.7
DOU Dourbes 81.92 334 *dP* **P** **06 52 19.6 +0.2**
comp=Z,6.8nm,1.1s
RETA Reutte 81.92 329 *i* P **P** **06 52 20.7 +1.2**
comp=Z,28nm,0.9s,SNR=7.5
SQTA Sankt Quirin 81.96 329 *i* P **P** **06 52 20.7 +0.9**
comp=Z,18nm,0.9s
UBR Ueberruh 82.01 330 *eP* **P** **06 52 21.0 +1.0**
comp=Z,32nm,1.6s,baz=34,slow=5.4
121A Cookes Peak, D 82.08 53 P **P** **06 52 21.9 +1.1**
baz=314
BFO Black Forest 82.13 331 P **P** **06 52 21.2 +0.6**
BFO lAmb lAmb 06 52 22.8
comp=Z,26nm,1.2s
BFO Black Forest 82.13 331 P **P** **06 52 21.2 +0.6**
BFO pmax pmax
comp=Z,26nm,1.2s
BFO Black Forest 82.13 331 *eP* **P** **06 52 20.9 +0.3**
comp=Z,27nm,1.2s,baz=34,slow=5.4
BFO *ep*P **pP** **06 52 38.8 +3.1**
STAL STALIGIAL 82.15 328 P **P** **06 52 20.5 -0.3**
STAL lAmb lAmb 06 52 20.6
comp=Z,16nm,0.7s
CBKS Cedar Bluff 82.16 44 lAmb lAmb 06 52 38.4
comp=Z,23nm,1.1s
CBKS Cedar Bluff 82.16 44 P **P** **06 52 21.7 +0.8**
baz=318
E43A Lone Tree Farm 82.23 32 P **P** **06 52 21.4 +0.3**
FETA Feichten 82.31 329 *i* P **P** **06 52 22.2 +0.5**
comp=Z,14nm,0.8s
DAVA Damuels 82.42 330 *i* P **P** **06 52 23.1 +0.9**
comp=Z,33nm,0.9s,SNR=5.9
DAVA Damuels 82.42 330 *eP* **P** **06 52 22.8 +0.6**
comp=Z,29nm,0.9s,baz=34,slow=5.4
DAVA *ep*P **sP** **06 52 40.7 -2.7**
ECH Echery 82.64 332 lAmb lAmb 06 52 24.7
comp=Z,18nm,1.1s
CTI Castel Tesino 82.75 328 P **P** **06 52 23.9 -0.1**
CTI lAmb lAmb 06 52 42.2
comp=Z,19nm,1.0s
CTI Castel Tesino 82.75 328 P **P** **06 52 23.9 -0.1**
CTI pmax pmax
comp=Z,19nm,1.0s
FUORN Ofenpass-Fuorn 82.83 329 P **P** **06 52 25.5 +1.0**
SCIA State Center 83.08 38 P **P** **06 52 26.8 +1.2**
baz=321
TUE Stuetta 83.30 330 lAmb lAmb 06 52 47.1
comp=Z,12nm,0.9s
KSU1 Kansas State U 83.57 42 lAmb lAmb 06 52 44.9
comp=Z,12nm,0.7s
KSU1 Kansas State U 83.57 42 P **P** **06 52 29.6 +1.5**
baz=319
JFWS Jewell Farm 83.64 36 P **P** **06 52 29.5 +1.0**
baz=323
AMTX Amarillo 83.98 48 P **P** **06 52 31.4 +1.0**
baz=317
MSTX Muleshoe 84.03 49 P **P** **06 52 32.1 +1.3**
MSTX lAmb lAmb 06 52 48.4
comp=Z,12nm,1.1s
MSTX Muleshoe 84.03 49 P **P** **06 52 31.6 +0.9**
baz=316
MNTX Cornudas Mount 84.12 53 P **P** **06 52 31.5 +0.4**
baz=315
VLDQ Val d'Or 84.25 26 P **P** **06 52 31.0 -0.4**
GLMI Grayling 84.45 32 P **P** **06 52 33.8 +1.2**
baz=326
SMWD Samnorwood 84.62 47 P **P** **06 52 35.0 +1.3**
PECS Pecos 85.26 52 lAmb lAmb 06 52 54.9
comp=Z,18nm,1.2s
L44A Lake County Fo 85.26 35 P **P** **06 52 36.0 -0.6**
baz=324

T35A	**Sooner Cattle**	**85.27**	**44**	P	**P**	**06 52 37.8**	**+1.0**
T35A				IAmb	IAmb	06 52 54.6	
	comp=Z,21nm,0.9s						
DKNS	**Dickens**	**85.30**	**49**	P	**P**	**06 52 38.0**	**+0.9**
DKNS				IAmb	IAmb	06 52 56.1	
	comp=Z,10nm,0.8s						
POST	**Post**	**85.41**	**49**	P	**P**	**06 52 38.8**	**+1.2**
POST				IAmb	IAmb	06 52 56.0	
	comp=Z,18nm,0.9s						
P40A	**Paris**	**85.48**	**39**	IAmb	IAmb	06 52 55.3	
	comp=Z,17nm,0.9s						
ODSA	**Odessa**	**85.49**	**51**	IAmb	IAmb	06 52 56.0	
	comp=Z,15nm,0.8s						
PPT	**Papeete**	**85.68**	**118**	LR	LR	07 25 35.1	
	comp=Z,256nm,21.1s,baz=306,slow=32						
PPT2	**Papeete2**	**85.70**	**118**	*e*LR	LR	07 19 18.2	
	comp=Z,434nm,26.5s						
PPT2				*e*LR	LR	07 19 31.1	
	comp=Z,400nm,21.5s						
WMOK	**Wichita Mounta**	**85.70**	**46**	IAmb	IAmb	06 52 56.6	
	comp=Z,8.9nm,0.9s						
WMOK	**Wichita Mounta**	**85.70**	**46**	P	**P**	**06 52 39.8**	**+0.8**
	baz=318						
QUOK	**Quay**	**85.73**	**44**	P	**P**	**06 52 40.3**	**+1.1**
OK052	**Battle Ridge R**	**85.82**	**44**		**P**	**06 52 40.5**	**+0.9**
HDIL	**Hopedale**	**85.95**	**37**	P	**P**	**06 52 40.9**	**+0.8**
	baz=324						
S39A	**Bolivar**	**86.30**	**41**	IAmb	IAmb	06 52 58.6	
	comp=Z,10nm,0.9s						
TUL3	**Leonard**	**86.41**	**44**	P	**P**	**06 52 43.0**	**+0.6**
	baz=320						
ABTX	**Abilene, Hawle**	**86.79**	**48**	P	**P**	**06 52 45.4**	**+1.0**
	baz=318						
TXAR	**Lajitas Array**	**86.84**	**53**	P	**P**	**06 52 46.2**	**+1.5**
	comp=Z,1.9nm,0.9s,baz=298,slow=4.0,SNR=8.7						
TXAR				pP	**pP**	**06 53 01.2**	**+1.2**
	comp=Z,4.5nm,0.8s,baz=306,slow=4.2,SNR=11						
	comp=Z,1.9nm,0.9s						
TXAR	**Lajitas Array**	**86.84**	**53**	PcP	**P**	**06 52 46.3**	**+1.5**
LMQ	**La Malbaie**	**86.91**	**22**	IAmb	IAmb	06 53 02.8	
	comp=Z,16nm,1.2s						
AAM	**Ann Arbor**	**86.94**	**32**	P	**P**	**06 52 46.4**	**+1.5**
	baz=327						
CCM	**Cathedral Cave**	**87.03**	**40**	P	**P**	**06 52 46.0**	**+0.6**
CCM				IAmb	IAmb	06 53 02.8	
	comp=Z,17nm,0.9s						
CCM	**Cathedral Cave**	**87.03**	**40**	P	**P**	**06 52 46.0**	**+0.6**
CCM				pmax	pmax		
	comp=Z,17nm,0.9s						
CCM	**Cathedral Cave**	**87.03**	**40**	P	**P**	**06 52 46.1**	**+0.7**
	baz=322						
SFIN	**Lafayette**	**87.08**	**36**	P	**P**	**06 52 45.8**	**+0.2**
	baz=325						
O48B	**Farmland**	**88.02**	**35**	P	**P**	**06 52 51.0**	**+0.8**
	baz=326						
LONY	**Lake Ozonia**	**88.26**	**26**	P	**P**	**06 52 52.0**	**+0.8**
	baz=333						
JCT	**Junction City**	**88.29**	**50**	P	**P**	**06 52 52.6**	**+0.9**
	baz=318						
WHTX	**Lake Whitney,**	**88.49**	**47**	P	**P**	**06 52 52.7**	**+0.2**
	baz=319						
ERPA	**Erie**	**88.54**	**30**	P	**P**	**06 52 52.9**	**+0.3**
	baz=329						
MIAR	**Mount Ida**	**88.62**	**43**	P	**P**	**06 52 53.9**	**+0.8**
MIAR				IAmb	IAmb	06 53 10.8	
	comp=Z,13nm,0.9s						
MIAR	**Mount Ida**	**88.62**	**43**	P	**P**	**06 52 53.9**	**+0.8**
MIAR				pmax	pmax		
	comp=Z,13nm,1.0s						
MIAR	**Mount Ida**	**88.62**	**43**	P	**P**	**06 52 52.9**	**-0.2**
	baz=321						
P49A	**Miami Univ. Ec**	**88.81**	**35**	P	**P**	**06 52 54.7**	**+0.8**
	baz=326						
P49A	**Miami Univ. Ec**	**88.81**	**35**		**PcP**	**06 52 55.0**	**-0.4**
M53A	**WI Miller and**	**88.86**	**31**	P	**P**	**06 52 54.4**	**+0.3**
	baz=329						
WCI	**Wyandotte Cave**	**89.20**	**36**	P	**P**	**06 52 56.3**	**+0.5**
	baz=325						
PKME	**Peaks-Kenny Pk**	**89.29**	**22**	P	**P**	**06 52 56.1**	**+0.1**
	baz=336						
435B	**Jarrell**	**89.33**	**48**	P	**P**	**06 52 56.5**	**0.0**
	baz=319						
LBNH	**Lisbon**	**89.45**	**24**	P	**P**	**06 52 57.8**	**+1.0**
	baz=335						
O53A	**New Philadelph**	**89.66**	**32**	P	**P**	**06 52 58.9**	**+1.0**
	baz=328						
O53A	**New Philadelph**	**89.66**	**32**		**P**	**06 52 58.9**	**+1.0**
P52A	**Corning**	**89.81**	**33**	P	**P**	**06 52 59.4**	**+0.8**
	baz=328						
P52A	**Corning**	**89.81**	**33**		**P**	**06 52 59.4**	**+0.8**
TBI	**Tubuai**	**89.87**	**122**	*e*LR	LR	07 21 30.0	
	comp=Z,969nm,23.5s						
BINY	**Binghamton**	**89.93**	**28**	P	**P**	**06 52 58.8**	**-0.3**
	baz=332						
833A	**Chaparral WMA,**	**90.13**	**51**	P	**P**	**06 53 00.1**	**-0.2**
	baz=318						
NATX	**Nacogdoches**	**90.20**	**46**	P	**P**	**06 53 01.2**	**+0.7**
	baz=321						
WVT	**Waverly**	**90.20**	**39**	P	**P**	**06 53 00.8**	**+0.3**
	baz=324						
SSPA	**Standing Stone**	**90.61**	**30**	P	**P**	**06 53 02.7**	**+0.4**
	baz=331						
MCWV	**Mont Chateau**	**90.71**	**31**	P	**P**	**06 53 03.2**	**+0.4**
	baz=329						
OXF	**Oxford**	**90.75**	**41**	P	**P**	**06 53 03.4**	**+0.3**
	baz=324						
L61B	**Northampton**	**90.82**	**25**	P	**P**	**06 53 03.8**	**+0.6**
	baz=334						
HRV	**Adam Dziewonsk**	**91.13**	**25**	P	**P**	**06 53 05.5**	**+0.8**
	baz=335						
PAL	**Palisades**	**91.71**	**27**	P	**P**	**06 53 07.3**	**-0.1**
	baz=333						
TZTN	**Tazewell**	**91.81**	**36**	P	**P**	**06 53 08.1**	**+0.1**
	baz=327						
VBMS	**Vicksburg**	**92.02**	**43**	P	**P**	**06 53 07.8**	**-1.1**
	baz=323						
KEST	**Kesra**	**92.26**	**324**	P	**P**	**06 53 09.2**	**-1.0**
	comp=Z,7.5nm,1.0s,baz=51,slow=14,SNR=4.2						
	comp=Z,7.5nm,1.0s						
KEST	**Kesra**	**92.26**	**324**	P	**P**	**06 53 10.3**	**+0.2**
M65A	**Busby, Falmout**	**92.27**	**24**	P	**P**	**06 53 08.7**	**-1.2**
	baz=336						
BLA	**Blacksburg**	**92.58**	**33**	P	**P**	**06 53 11.1**	**-0.4**
	baz=329						
CBN	**Corbin Frederi**	**92.93**	**30**	P	**P**	**06 53 11.5**	**-1.5**
	baz=331						
LRAL	**Lakeview Retre**	**93.12**	**40**	P	**P**	**06 53 12.9**	**-1.1**
	baz=325						
ESDC	**Sonseca Array**	**93.95**	**335**	P	**P**	**06 53 16.9**	**-0.9**
	comp=Z,2.0nm,0.8s,baz=30,slow=3.2,SNR=7.8						
ESDC				pP	**pP**	**06 53 34.5**	**+1.3**
	comp=Z,2.0nm,0.8s,baz=21,slow=3.8,SNR=4.3						
	comp=Z,2.0nm,0.8s						
KMSC	**Kings Mountain**	**93.95**	**35**	P	**P**	**06 53 17.3**	**-0.5**
	baz=328						
GOGA	**Godfrey**	**94.47**	**37**	P	**P**	**06 53 19.4**	**-0.8**
	baz=327						
CNNC	**Cliffs of the**	**95.31**	**32**	P	**P**	**06 53 23.7**	**-0.3**
	baz=331						
TIGA	**Tifton**	**96.06**	**38**	P	**P**	**06 53 25.8**	**-1.7**
	baz=327						
DWPF	**Disney Wildern**	**99.86**	**39**	P	**Pdif**	**06 53 43.4**	**-1.3**
	baz=326						
TORD	**Torodi Ar. Bea**	**114.99**	**317**	PKP	**PKiKP**	**06 58 40.0**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=353,slow=1.5,SNR=3.6						
TORD				PP	**PP**	**06 59 39.4**	**-0.6**
	comp=Z,1.1nm,0.9s,baz=22,slow=10,SNR=5.0						
VNDA	**Vanda**	**119.05**	**175**	PKP	**PKPdf**	**06 58 46.7**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=330,slow=9.4,SNR=2.7						
ATAH	**Atahualpa**	**130.22**	**59**	PKP	**PKPdf**	**06 59 09.9**	**-0.9**
	comp=Z,3.1nm,0.7s,baz=0.0,slow=2.0,SNR=2.7						
QSPA	**South Pole Qui**	**130.94**	**180**	PKP	**PKPdf**	**06 59 09.7**	**-0.4**
	comp=Z,3.2nm,0.9s,baz=14,slow=0.7,SNR=11						
TROLL	**Troll, Antarti**	**143.48**	**200**	⇑PKPdf	PKPbc	06 59 31.0	+0.3
	comp=Z,102nm,0.3s						
LPAZ	**La Paz**	**143.66**	**56**	PKP	PKPbc	06 59 33.4	0.0
	comp=Z,1.6nm,0.7s,baz=34,slow=3.6,SNR=6.7						
SNAA	**Sanae**	**145.01**	**198**	⇓PKPdf	**PKPbc**	**06 59 35.1**	**-0.2**
	comp=Z,56nm,0.4s						
SNAA	**Sanae**	**145.01**	**198**	PKP	**PKPbc**	**06 59 34.3**	**-0.9**
	comp=Z,13nm,0.7s,baz=190,slow=4.2,SNR=22						
SNAA				pPKP	pPKPab	06 59 50.4	-0.3
	comp=Z,15nm,0.8s,baz=94,slow=2.0,SNR=6.2						
H03N2	**Juan Fernandez**	**146.30**	**90**	T	T	09 43 01.2	
	baz=300,slow=76,SNR=11						
H03N3	**Juan Fernandez**	**146.31**	**90**	T	T	09 43 02.2	
	baz=300,slow=76,SNR=14						
H03N1	**Juan Fernandez**	**146.31**	**90**	T	T	09 43 02.5	
	baz=300,slow=76,SNR=12						
VNA2	**Neumayer--Watz**	**146.58**	**197**	⇓PKPdf	**PKPbc**	**06 59 39.9**	**-0.2**
	comp=Z,18nm,0.7s,baz=128,slow=1.4						
VNA3	**Neumayer Olymp**	**146.84**	**196**	⇓PKPdf	**PKPbc**	**06 59 41.0**	**+0.2**
	comp=Z,1.3nm,0.2s						
BDFB	**Brasilia**	**152.91**	**23**	PKPbc	**PKPbc**	**06 59 56.7**	**-0.7**
	comp=Z,5.0nm,0.9s,baz=257,slow=2.3,SNR=7.3						
BDFB				PKPab	**PKPab**	**07 00 08.4**	**-0.2**
	comp=Z,9.1nm,1.0s,baz=276,slow=1.4,SNR=7.9						

JMA 12 06:40:42.8±0.1, 34.3N±0.1×136.2E±0.1, h9km, MV0.4/11, SOUTHERN MIE PREF, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKN2	**Miekihoku**	**0.12**	**140**	P	Pg	06 40 45.6	+0.1
JKN2				S	Sg	06 40 47.5	+0.1
JNTK	**Naratenkawa**	**0.25**	**257**	*e*P	Pg	06 40 48.0	0.0

*IDC **12** 06:44:10.5±1.3, 12.03N×85.96W, h168km±13km, mb3.6/13, mbtmp4.1/15, Error ellipse: s-maj=22.5km s-min=12.4km az=61.0*
*NEIC **12** 06:44:11.9±2.1, 11.85N±0.06×86.20W±0.06, h165km±6km, mb4.6/202, Error ellipse: s-maj=9.4km s-min=6.6km az=225.0*
*CATAC **12** 06:44:12.0±0.2, 11.79N×86.27W, h152km±2km, ML4.2*
*SNET **12** 06:44:13.5±0.7, 11.56N×86.77W, h0km±88km, ML4.3*
*UPA **12** 06:44:20.1±1.3, 11.11N×86.15W, h86km±999km, MW4.8*
*GCG **12** 06:45:12.2±2.4, 14.67N×89.95W, h30km±21km, MD3.2*
ISC 12 06:44:10.7±0.5, 11.80N±0.04×86.23W±0.04, h172km±4km, n554, σ19 31/613, mb4.5/104, 4C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADRN	**Diriamba**	**0.06**	**352**	*i* P	**Pn**	**06 44 32.9**	**-0.7**
ADRN				IAML		06 44 33.1	
	comp=Z,11μm,1.0s						
RB213	**Mirador 2 Volc**	**0.19**	**19**	*i* P	**Pn**	**06 44 33.2**	**-0.5**
RB213				IAML		06 44 33.8	
	comp=Z,16μm,1.0s						
MASN	**Masaya**	**0.20**	**23**	*i* P	**Pn**	**06 44 33.1**	**-0.6**
MASN				IAML		06 45 06.6	
	comp=Z,930nm,1.0s						
MAS3	**Al N del Volca**	**0.23**	**14**	*i* P	**Pn**	**06 44 32.9**	**-0.9**
MAS3				IAML		06 44 33.9	
	comp=Z,4μm,1.0s						
MAFN	**Magfor**	**0.29**	**359**	*i* P	**Pn**	**06 44 33.6**	**-0.3**
MAFN				IAML		06 44 33.8	
	comp=Z,14μm,1.0s						
R1628	**Naciones Unida**	**0.30**	**1**	*i* P	**Pn**	**06 44 33.4**	**-0.5**
R1628				IAML		06 44 33.8	
	comp=Z,11μm,1.0s						
GRNN	**Granada**	**0.30**	**64**	*i* P	**Pn**	**06 44 33.5**	**-0.3**
GRNN				IAML		06 44 33.9	
	comp=Z,8μm,1.0s						
UNAN	**Cigeo UNAN**	**0.31**	**353**	*i* P	**Pn**	**06 44 33.3**	**-0.6**
UNAN				IAML		06 44 33.9	
	comp=Z,37μm,1.0s						
UNAN				*i* S	**Sn**	**06 44 51.5**	**-0.3**
R8CCA	**La Lomita**	**0.31**	**357**	*i* P	**Pn**	**06 44 33.4**	**-0.5**
R8CCA				IAML		06 44 33.8	
	comp=Z,21μm,1.0s						
ENAN	**Enatrel Managu**	**0.32**	**355**	*i* P	**Pn**	**06 44 33.4**	**-0.5**
ENAN				IAML		06 44 33.8	
	comp=Z,20μm,1.0s						
R0529	**La Mascota**	**0.32**	**359**	*i* P	**Pn**	**06 44 33.4**	**-0.5**
R0529				IAML		06 44 33.8	
	comp=Z,14μm,1.0s						
RB28C	**Hialeah**	**0.33**	**352**	*i* P	**Pn**	**06 44 33.4**	**-0.6**
RB28C				IAML		06 44 33.8	
	comp=Z,15μm,1.0s						
ABCN	**Banco Central**	**0.33**	**347**	*i* P	**Pn**	**06 44 33.6**	**-0.4**
ABCN				IAML		06 44 33.9	
	comp=Z,12μm,1.0s						
RE6B4	**Centro civico**	**0.33**	**349**	*i* P	**Pn**	**06 44 33.4**	**-0.6**
RE6B4				IAML		06 44 33.8	
	comp=Z,17μm,1.0s						
R45A8	**Distro VI**	**0.34**	**2**	*i* P	**Pn**	**06 44 33.4**	**-0.6**
R45A8				IAML		06 44 33.9	
	comp=Z,10μm,1.0s						
TISN	**Laguna Tiscapa**	**0.34**	**354**	*i* P	**Pn**	**06 44 33.4**	**-0.6**
TISN				IAML		06 44 33.9	
	comp=Z,1μm,1.0s						
R4DEC	**Barrio San Lui**	**0.35**	**357**	*i* P	**Pn**	**06 44 32.8**	**-1.2**
R4DEC				IAML		06 44 33.4	
	comp=Z,10μm,1.0s						
ALLN	**Telcor Managua**	**0.36**	**353**	*i* P	**Pn**	**06 44 33.4**	**-0.6**
ALLN				IAML		06 44 33.9	
	comp=Z,11μm,1.0s						
WILN	**Americas 2**	**0.36**	**7**	*i* P	**Pn**	**06 44 33.4**	**-0.6**
WILN				IAML		06 44 34.0	
	comp=Z,5μm,1.0s						
WILN				*i* S	**Sn**	**06 44 53.6**	**+1.6**
APQ2	**Apoyeque**	**0.41**	**347**	*i* P	**Pn**	**06 44 33.7**	**-0.5**
APQ2				*i* S	**Sn**	**06 44 52.9**	**+0.6**
APQ2				IAML		06 44 53.4	
	comp=Z,6μm,1.0s						
TIPN	**Tipitapa**	**0.42**	**19**	*i* P	**Pn**	**06 44 33.8**	**-0.4**
TIPN				IAML		06 44 34.1	
	comp=Z,7μm,1.0s						
AMTN	**Mateare**	**0.48**	**336**	*i* P	**Pn**	**06 44 34.4**	**-0.1**
AMTN				*i* S	**Sn**	**06 44 52.9**	**+0.1**
AMTN				IAML		06 45 00.4	
	comp=Z,15μm,1.0s						
HUGN	**San Franciso L**	**0.49**	**5**	*i* P	**Pn**	**06 44 34.2**	**-0.3**
HUGN				IAML		06 44 34.5	
	comp=Z,8μm,1.0s						
HUGN				*i* S	**Sn**	**06 44 53.1**	**+0.2**
COPN	**Copaltepe**	**0.52**	**317**	*i* P	**Pn**	**06 44 33.7**	**-0.9**
COPN				IAML		06 45 04.1	
	comp=Z,4μm,1.0s						
ARIN	**Rivas**	**0.52**	**131**	*i* P	**Pn**	**06 44 34.1**	**-0.5**
ARIN				IAML		06 45 00.7	
	comp=Z,6μm,1.0s						
SBEN	**San Benito**	**0.53**	**19**	*i* P	**Pn**	**06 44 34.3**	**-0.4**
SBEN				IAML		06 44 34.8	
	comp=Z,10μm,1.0s						
SBEN				*i* S	**Sn**	**06 44 52.6**	**-0.6**
BC86	**Nagarote**	**0.57**	**325**	*i* P	**Pn**	**06 44 34.5**	**-0.4**
BC86				IAML		06 44 34.9	
	comp=Z,10μm,1.0s						
BC86				*i* S	**Sn**	**06 44 52.5**	**-1.0**
JAPN	**Al SSO del Vol**	**0.61**	**116**	*i* P	**Pn**	**06 44 35.2**	**+0.1**
JAPN				IAML		06 44 35.9	
	comp=Z,14μm,1.0s						
MORN	**Al O del Volca**	**0.62**	**114**	*i* P	**Pn**	**06 44 35.1**	**-0.1**
MORN				IAML		06 44 35.4	
	comp=Z,13μm,1.0s						
MOMN	**Momotombo**	**0.68**	**334**	*i* P	**Pn**	**06 44 34.9**	**-0.6**
MOMN				*i* S	**Sn**	**06 44 53.4**	**-1.2**
MOMN				IAML		06 45 00.7	
	comp=Z,220nm,1.0s						
MOM2	**El Cardon**	**0.68**	**339**	*i* P	**Pn**	**06 44 35.2**	**-0.3**
MOM2				IAML		06 44 36.0	
	comp=Z,4μm,1.0s						
MOM2				*i* S	**Sn**	**06 44 54.0**	**-0.6**
BC87	**San Francisco**	**0.71**	**355**	*i* P	**Pn**	**06 44 35.2**	**-0.4**
BC87				IAML		06 45 19.4	
	comp=Z,6μm,1.0s						
MACN	**El Madrono**	**0.79**	**327**	*i* P	**Pn**	**06 44 35.6**	**-0.6**
MACN				*i* S	**Sn**	**06 44 55.6**	**-0.3**
MACN				IAML		06 44 58.3	
	comp=Z,4μm,1.0s						
CNGA	**Al SSO del Vol**	**0.83**	**327**	*i* P	**Pn**	**06 44 35.9**	**-0.6**
CNGA				IAML		06 45 02.3	
	comp=Z,4μm,1.0s						
CNGN	**Cerro Negro**	**0.83**	**327**		**Pn**	**06 44 35.0**	**-1.5**
CNGN				Sn	**Sn**	**06 44 55.0**	**-1.3**
CNGN	**Cerro Negro**	**0.83**	**327**	*i* P	**Pn**	**06 44 34.8**	**-1.7**
CNGN				*i* S	**Sn**	**06 44 54.7**	**-1.7**
CNGN				IAML		06 45 02.5	
	comp=Z,6μm,1.0s						
BOAB	**BOACO BROADBAN**	**0.85**	**40**		**Pn**	**06 44 35.9**	**-0.7**
BOAB				Sn	**Sn**	**06 44 55.3**	**-1.1**
BOAB	**BOACO BROADBAN**	**0.85**	**40**	*i* P	**Pn**	**06 44 36.0**	**-0.5**
BOAB				IAML		06 44 36.4	
	comp=Z,2μm,1.0s						
BOAB				*i* S	**Sn**	**06 44 54.6**	**-1.8**
HERN	**Volcan Telica**	**1.00**	**324**	*i* P	**Pn**	**06 44 37.0**	**-0.7**
HERN				*i* S	**Sn**	**06 44 58.4**	**-0.1**
HERN				IAML		06 45 05.8	
	comp=Z,6μm,1.0s						
ACON	**Acoyapa**	**1.05**	**81**		**Pn**	**06 44 37.5**	**-0.4**
ACON				Sn	**Sn**	**06 44 58.1**	**-0.8**
ACON	**Acoyapa**	**1.05**	**81**	*i* P	**Pn**	**06 44 37.7**	**-0.3**
ACON				IAML		06 44 38.1	
	comp=Z,3μm,1.0s						
ACON				*i* S	**Sn**	**06 44 57.6**	**-1.3**
PKGN	**Cerro Pekin**	**1.13**	**320**	*i* P	**Pn**	**06 44 38.2**	**-0.4**
PKGN				*i* S	**Sn**	**06 44 59.7**	**-0.5**
PKGN				IAML		06 45 02.7	
	comp=Z,15μm,1.0s						
MATN	**Matagalpa**	**1.16**	**15**		**Pn**	**06 44 38.8**	**-0.3**
MATN				Sn	**Sn**	**06 44 59.9**	**-1.1**
MATN	**Matagalpa**	**1.16**	**15**	*i* P	**Pn**	**06 44 38.6**	**-0.5**
MATN				*i* S	**Sn**	**06 45 00.1**	**-0.9**
MATN				IAML		06 45 00.5	
	comp=Z,680nm,1.0s						
CRIN	**San Cristobal**	**1.20**	**318**		**Pn**	**06 44 38.9**	**-0.4**
CRIN	**San Cristobal**	**1.20**	**318**	*i* P	**Pn**	**06 44 38.8**	**-0.5**
CRIN				*i* S	**Sn**	**06 45 01.3**	**-0.1**
CRIN				IAML		06 45 12.1	
	comp=Z,14μm,1.0s						
HZTE	**Horizontes, Gu**	**1.25**	**150**		**Pn**	**06 44 40.0**	**+0.3**
HZTE	**Horizontes, Gu**	**1.25**	**150**	*i* P	**Pn**	**06 44 39.7**	**0.0**
HZTE				*i* S	**Sn**	**06 45 01.4**	**-0.6**
HZTE				IAML		06 45 06.3	
	comp=Z,4μm,1.0s						
LIMN	**Finca el Limon**	**1.26**	**354**	*i* P	**Pn**	**06 44 39.6**	**-0.3**
LIMN				*i* S	**Sn**	**06 45 01.4**	**-1.1**
LIMN				IAML		06 45 03.7	
	comp=Z,1μm,1.0s						
ORTG	**Ortega, Santa**	**1.62**	**152**		**Pn**	**06 44 43.9**	**+0.6**
ORTG	**Ortega, Santa**	**1.62**	**152**	*i* P	**Pn**	**06 44 43.5**	**+0.2**
ORTG				*i* S	**Sn**	**06 45 06.2**	**-2.2**
ORTG				IAML		06 45 08.4	
	comp=Z,2μm,1.0s						
RCPN	**Sur Rio San Ju**	**1.72**	**4**	*i* P	**Pn**	**06 44 43.5**	**-0.9**
RCPN				IAML		06 45 14.3	
	comp=Z,3.4nm,1.0s						
SAJU	**San Juanillo,**	**1.79**	**163**	*i* P	**Pn**	**06 44 45.0**	**0.0**
SAJU				IAML		06 45 12.7	
	comp=Z,7μm,1.0s						
DUNO	**Dulce Nombre,**	**1.86**	**157**		**Pn**	**06 44 46.2**	**+0.5**
DUNO	**Dulce Nombre,**	**1.86**	**157**	*i* P	**Pn**	**06 44 46.0**	**+0.3**
DUNO				IAML		06 45 14.4	
	comp=Z,24μm,1.0s						
ESPN	**Las Esperanzas**	**1.93**	**78**		**Pn**	**06 44 46.7**	**+0.3**
ESPN	**Las Esperanzas**	**1.93**	**78**	*i* P	**Pn**	**06 44 46.5**	**0.0**
ESPN				IAML		06 44 46.8	
	comp=Z,750nm,1.0s						
JTS	**Las Juntas de**	**1.96**	**140**		**Pn**	**06 44 46.9**	**+0.1**
JTS	**Las Juntas de**	**1.96**	**140**	P	**Pn**	**06 44 47.0**	**+0.2**
	comp=Z,364nm,0.3s,baz=309,slow=17,SNR=378						
JTS				S	**Sn**	**06 45 12.5**	**-2.2**
	comp=Z,797nm,0.3s,baz=308,slow=19,SNR=18						
ARE1	**Arenal 1**	**1.99**	**132**		**Pn**	**06 44 48.1**	**+0.9**
ARE1	**Arenal 1**	**1.99**	**132**	*e*P	**Pn**	**06 44 48.5**	**+1.3**
MTEVE	**Monteverde**	**2.02**	**137**	*e*P	**Pn**	**06 44 49.3**	**+1.7**
AMPH	**Amapala**	**2.03**	**317**	⇑*e*P	**Pn**	**06 44 47.5**	**0.0**
INDI	**Punta indio, G**	**2.05**	**159**	*i* P	**Pn**	**06 44 48.1**	**+0.3**
INDI				IAML		06 45 17.1	
	comp=Z,5μm,1.0s						
COVE	**Coope Vega, Sa**	**2.09**	**121**		**Pn**	**06 44 48.5**	**+0.2**
COVE	**Coope Vega, Sa**	**2.09**	**121**	*i* P	**Pn**	**06 44 48.2**	**-0.1**
COVE				IAML		06 45 53.9	
	comp=Z,690nm,1.0s						
SOCE	**Pocosol**	**2.12**	**131**		**Pn**	**06 44 49.1**	**+0.5**
SOCE	**Pocosol**	**2.12**	**131**	*i* P	**Pn**	**06 44 49.1**	**+0.5**
SOCE				*i* S	**Sn**	**06 45 17.5**	**-0.5**
SOCE				IAML		06 45 26.0	
	comp=Z,1μm,1.0s						
CNCH	**Conchagua**	**2.15**	**313**	*i* P	**Pn**	**06 44 48.4**	**-0.6**
CNCH				*i* S	**Sn**	**06 45 18.0**	**-0.7**
CNCH				IAML		06 45 23.8	
	comp=Z,3μm,1.0s						
LCND	**La Caada**	**2.21**	**313**	*e*P	**Pn**	**06 44 49.3**	**-0.3**
LCND				*e*S	**Sn**	**06 45 17.1**	**-2.6**
LCND				IAML		06 45 23.2	
	comp=Z,2μm,0.3s						
LCND	**La Caada**	**2.21**	**313**	*i* P	**Pn**	**06 44 49.3**	**-0.3**
LCND				*i* S	**Sn**	**06 45 17.5**	**-2.2**
LCND				IAML		06 45 22.9	
	comp=Z,2μm,1.0s						
ITAL	**Pital**	**2.34**	**125**	⇓*i* P	**Pn**	**06 44 51.6**	**+0.5**
ITAL				*e*S	**Sn**	**06 45 21.2**	**-1.3**
CPMI	**Catarata Coope**	**2.36**	**129**	*e*P	**Pn**	**06 44 52.2**	**+0.7**
CPMI				*e*S	**Sn**	**06 45 22.4**	**-0.8**
CPMI	**Catarata Coope**	**2.36**	**129**	*i* P	**Pn**	**06 44 52.0**	**+0.4**
CPMI				IAML		06 45 29.3	
	comp=Z,1μm,1.0s						
ARZA	**Esparza**	**2.36**	**139**	*e*P	**Pn**	**06 44 52.3**	**+0.9**
LAFE	**Finca La Fe, P**	**2.37**	**147**	*e*P	**Pn**	**06 44 51.9**	**+0.5**
LAFE				*e*S	**Sn**	**06 45 20.8**	**-2.2**
LAFE	**Finca La Fe, P**	**2.37**	**147**	*i* P	**Pn**	**06 44 51.5**	**+0.1**
LAFE				IAML		06 44 52.5	
	comp=Z,35nm,1.0s						
SIUN	**Universidad Ur**	**2.38**	**37**	*i* P	**Pn**	**06 44 51.2**	**-0.4**
SIUN				IAML		06 44 51.9	
	comp=Z,400nm,1.0s						
ZARE	**Zarcero**	**2.42**	**131**	*e*P	**Pn**	**06 44 53.9**	**+1.6**
SRA1	**San Ramn**	**2.42**	**135**	*e*P	**Pn**	**06 44 53.2**	**+1.0**
RAMO	**San

TAGO Cartago 2.97 130 eP Pn 06 45 00.6 +1.7
RAFA San Farael, Vo 3.00 127 eP Pn 06 45 00.6 +1.2
VTLA Turrialba Volc 3.00 126 eP Pn 06 44 59.7 +0.3
CVTV Tajo 3.02 126 eP Pn 06 45 04.2 +4.6
PCAYA Pacayas 3.02 128 eP Pn 06 45 00.7 +1.2
TECO Alcaldia de Te 3.03 305 eP Pn 06 44 59.4 0.0
TECO Alcaldia de Te 3.03 305 iP Pn 06 44 59.4 0.0
TECO iS Sn 06 45 34.4 -2.9
TECO IAML 06 45 41.5
comp=Z,480nm,1.0s
REPA Paraso 3.04 130 eP Pn 06 45 02.6 +2.9
RAZU San Marcos de 3.04 134 eP Pn 06 45 01.0 +1.3
VTCV VTCV, Calle Va 3.05 126 eP Pn 06 45 01.5 +0.6
VTCV VTCV, Calle Va 3.05 126 iP Pn 06 45 02.1 +2.2
VTCV IAML 06 45 50.6
comp=Z,800nm,1.0s
RIMA Rio Macho 3.08 131 Pn 06 45 01.2 +1.0
RIMA Rio Macho 3.08 131 eP Pn 06 45 01.5 +1.3
RIMA Rio Macho 3.08 131 iP Pn 06 45 01.5 +1.3
RIMA IAML 06 45 43.1
comp=Z,1µm,1.0s
SCLA Alcaldia de Sa 3.08 308 eP Pn 06 45 00.5 +0.3
SCLA Alcaldia de Sa 3.08 308 iP Pn 06 45 00.4 +0.3
SCLA iS Sn 06 45 37.0 -1.5
SCLA IAML 06 45 45.1
comp=Z,350nm,1.0s
UESV Universidad de 3.09 307 iP Pn 06 45 00.7 +0.5
UESV iS Sn 06 45 37.3 -1.3
UESV IAML 06 45 42.2
comp=Z,820nm,1.0s
VERB Verbena 3.10 126 eP Pn 06 45 04.2 +3.8
TURIB Turrialba 3.13 127 eP Pn 06 45 03.9 +3.2
TURIB eS Sn 06 45 42.2 +2.7
COEG Centro de Oper 3.15 305 eP Pn 06 45 01.2 +0.1
COEG IAML 06 45 48.0
comp=Z,789nm,0.5s
COEG Centro de Oper 3.15 305 iP Pn 06 45 01.1 +0.1
COEG iS Sn 06 45 38.5 -1.6
COEG IAML 06 45 48.1
comp=Z,760nm,1.0s
IRES Siquirres 3.17 122 eP Pn 06 45 02.2 +1.1
PAVA Las Pavas 3.25 306‖ eP Pn 06 45 02.6 +0.3
PAVA Las Pavas 3.25 306 iP Pn 06 45 02.5 +0.3
PAVA IAML 06 45 48.7
comp=Z,940nm,1.0s
SJTE Alcalda de S 3.25 304 eP Pn 06 45 02.4 +0.2
SJTE Alcalda de S 3.25 304 iP Pn 06 45 02.2 0.0
SJTE iS Sn 06 45 40.0 -2.4
SJTE IAML 06 45 47.3
comp=Z,780nm,1.0s
BATAN Batan 3.27 121 Pn 06 45 04.0 +1.5
BATAN Batan 3.27 121 eP Pn 06 45 02.7 +0.3
BATAN Batan 3.27 121 eP Pn 06 45 02.2 -0.2
BATAN Batan 3.27 121 iP Pn 06 45 05.1 +2.7
BATAN IAML 06 45 58.2
comp=Z,410nm,1.0s
CDM Cerro de Muert 3.30 132 eP Pn 06 45 04.7 +1.6
CDM Cerro de Muert 3.30 132 iP Pn 06 45 04.5 +1.4
CDM IAML 06 45 47.3
comp=Z,1µm,1.0s
PANCS Alcalda de 3.39 302 iP Pn 06 45 04.3 +0.3
PANCS IAML 06 45 48.5
comp=Z,3µm,1.0s
LOMA Loma Larga 3.40 303 eP Pn 06 45 04.6 +0.4
LOMA eS Sn 06 45 44.7 -1.1
LOMA Loma Larga 3.40 303 iP Pn 06 45 04.6 +0.4
LOMA IAML 06 45 06.5
comp=Z,1µm,1.0s
UDBS Universidad Do 3.43 304 iP Pn 06 45 05.2 +0.8
UDBS IAML 06 45 51.5
comp=Z,730nm,1.0s
LALI Alcalda de L 3.45 299 eP Pn 06 45 04.8 +0.2
LALI Alcalda de L 3.45 299 iP Pn 06 45 04.7 +0.1
LALI IAML 06 45 47.7
comp=Z,290nm,1.0s
ZELE Perez Zeledon 3.46 134 eP Pn 06 45 06.7 +1.8
PEZE Perez Zeledon, 3.47 133 Pn 06 45 06.6 +1.5
PEZE Perez Zeledon, 3.47 133 eP Pn 06 45 06.7 +1.6
PEZE Perez Zeledon, 3.47 133 iP Pn 06 45 06.5 +1.5
PEZE IAML 06 45 51.4
comp=Z,1µm,1.0s
SNET Serv Nac Est T 3.48 303 Pn Pn 06 45 05.8 +0.7
SNET Serv Nac Est T 3.48 303 iP Pn 06 45 05.9 +0.9
SNET IAML 06 45 51.7
comp=Z,1µm,1.0s
UEES Universidad Ev 3.50 303 eP Pn 06 45 05.7 +0.4
UEES IAML 06 45 52.6
comp=Z,463nm,0.4s
UEES Universidad Ev 3.50 303 iP Pn 06 45 05.3 0.0
UEES IAML 06 45 49.6
comp=Z,530nm,1.0s
PIC2 El Picacho 3.53 304 eP Pn 06 45 06.9 +1.1
PMON Piamonte 3.56 303 iP Pn 06 45 06.5 +0.4
PMON IAML 06 45 53.3
comp=Z,2µm,1.0s
JAYA Jayaque - finc 3.64 301 eP Pn 06 45 07.6 +0.4
JAYA eS Sn 06 45 48.6 -2.6
JAYA IAML 06 45 56.2
comp=Z,894nm,0.2s
JAYA Jayaque - finc 3.64 301 iP Pn 06 45 07.2 0.0
JAYA IAML 06 45 56.9
comp=Z,2µm,1.0s
BURE Buenos Aires 3.86 132 eP Pn 06 45 12.0 +2.1
DRK0 Durika 3.87 130 Pn 06 45 11.2 +1.0
DRK0 Durika 3.87 130 eP Pn 06 45 11.4 +1.2
CEVE Cerro Verde 3.88 302 eP Pn 06 45 11.1 +0.8
CEVE IAML 06 46 04.2
comp=Z,1µm,0.6s
CEVE Cerro Verde 3.88 302 iP Pn 06 45 10.8 +0.6
CEVE IAML 06 46 03.4
comp=Z,1µm,1.0s
SNJE San Jose 3.88 302 eP Pn 06 45 11.0 +0.7
UNIC Universidad Ca 3.89 304 iP Pn 06 45 10.7 +0.4
UNIC IAML 06 45 11.9
comp=Z,280nm,1.0s
MTO3 Montecristo 4.00 311 Pn 06 45 12.6 +0.8
MTO3 Montecristo 4.00 311 iP Pn 06 45 12.3 +0.5
MTO3 IAML 06 45 13.1
comp=Z,170nm,1.0s
PLAN Los Planes de 4.00 141 iP Pn 06 45 12.7 +1.1
PLAN IAML 06 46 02.0
comp=Z,1µm,1.0s
NUBE Las Nubes 4.04 302 eP Pn 06 45 13.1 +0.8
NUBE Las Nubes 4.04 302 iP Pn 06 45 12.6 +0.3
NUBE IAML 06 45 15.2
comp=Z,710nm,1.0s
LOAL Lomas de Alarc 4.09 303 iP Pn 06 45 14.6 +1.8
LOAL IAML 06 45 55.5
comp=Z,2µm,1.0s
POTG Potrero Grande 4.10 131 eP Pn 06 45 14.2 +1.2
POTG Potrero Grande 4.10 131 iP Pn 06 45 14.4 +1.4
POTG IAML 06 45 15.8
comp=Z,2µm,1.0s
SLOZ Alcaldia de Sa 4.11 303‖ eP Pn 06 45 13.8 +0.7
JIME Puerto Jimenez 4.32 138‖ iP Pn 06 45 17.5 +1.7
PTJ1 Puerto Jimnez 4.34 138 eP Pn 06 45 17.1 +1.1
CNI2 El Empalme, Bo 4.39 122 eP Pn 06 45 18.3 +1.7
CNI2 eS Sn 06 46 01.9 -6.2
PIRO Carate, Puerto 4.42 140 eP Pn 06 45 18.3 +1.3
PIRO Carate, Puerto 4.42 140 iP Pn 06 45 18.7 +1.7
PIRO IAML 06 46 13.3
comp=Z,860nm,1.0s
BRU2 Volcan 4.59 130 Pn Pn 06 45 21.0 +1.6
BRU2 Volcan 4.59 130 eP Pn 06 45 20.9 +1.6
BRU2 eS Sn 06 46 06.2 -6.9
BRU2 Volcan 4.59 130 eP Pn 06 45 20.1 +0.7
CDITO Canoas 4.61 134 Pn 06 45 20.2 +0.8
CDITO Canoas 4.61 134 eP Pn 06 45 20.5 +1.0
CDITO Canoas 4.61 134 eP Pn 06 45 20.4 +0.9
CDITO Canoas 4.61 134 iS Sn 06 46 14.6 +1.4
BC3P Paso Ancho 4.63 129 eP Pn 06 45 21.6 +1.6
MRL Marmol 4.68 315 eP Pn 06 45 23.0 +2.4
BCO2 Palmira 4.76 130 eP Pn 06 45 23.1 +1.4
BCO2 eS Sn 06 46 10.7 -6.4
NBG Las Nubes 4.87 305 eP Pn 06 45 20.0 -3.2
CHGR2 Aguacate 4.92 125 eP Pn 06 45 24.7 +1.1
CHGR2 eS Sn 06 46 15.1 -5.6
PCG Pacaya 4.98 302 eP Pn 06 45 27.2 +2.6
DVD David 5.00 132 eP Pn 06 45 25.1 +0.5
FUG Fuego 3 5.21 301 eP Pn 06 45 30.1 +2.7
SULM Suchitepequez, 5.76 296 eP Pn 06 45 37.0 +2.5
STG3 Santiaguito 3, 5.95 300 eP Pn 06 45 39.3 +2.1
GMAL Guarumal, Vera 6.35 129 eP Pn 06 45 42.9 +0.5

BCIP Isla Barro Col 6.81 112 Pn 06 45 49.6 +1.2
CCIG Comitan 7.26 309 Pn 06 45 56.4 +1.9
TEIG Tepich 8.61 347 Pn Pn 06 46 14.0 +1.9
CMIG Matias Romero 9.89 303 P Pn 06 46 29.1 +0.1
comp=Z,16nm,0.2s,baz=162,slow=13,SNR=40
CMIG S Sn 06 48 13.3 -5.8
comp=Z,1.5nm,0.3s,baz=64,slow=16,SNR=1.6
TLIG Tlapa 13.23 297 P 06 47 14.6 -1.5
OTAV Otavalo 13.84 146 Pn Pn 06 47 20.4 +0.1
PULU Pululahua 13.99 146 P 06 47 23.8 -1.0
061Z Ochoppi 14.87 19 Pn Pn 06 47 32.4 -0.2
PAPH Port-au-Prince 15.01 62 Pn Pn 06 47 34.0 -0.4
SDV Santo Domingo 15.62 99 P Pn 06 47 40.5 -1.5
comp=Z,2.7nm,0.7s,baz=18,slow=8.7,SNR=2.0
COHC Cochancay 15.78 153 P P 06 47 46.9 +2.7
HATO Hato, Curacao 16.90 87 P P 06 47 55.9 -0.7
MCRA Macar, Loja 17.23 158 P Pn 06 48 02.8 +1.4
656A Willston 17.82 11 P Pn 06 48 08.5 +0.3
BAUV El Baul 18.12 97 P Pn 06 48 11.1 -0.7
MLPR Magueyes Islan 19.52 69 P P 06 48 26.4 +1.2
MLPR IAmb IAmb 06 48 35.1
comp=Z,50nm,1.3s
TIGA Tifton 19.70 7 P Pn 06 48 29.0 -1.3
TIGA IAmb IAmb 06 48 31.2
comp=Z,21nm,0.8s
TIGA Tifton 19.70 7 P Pn 06 48 29.1 -1.2
baz=188
OBIP Obispado Ponce 19.95 70 P P 06 48 31.3 +1.7
OBIP IAmb IAmb 06 48 40.8
comp=Z,26nm,1.1s
CELP Cerrillos 19.98 69 P P 06 48 28.5 -1.5
CELP IAmb IAmb 06 48 43.8
comp=Z,24nm,1.1s
250A Grady 20.08 360 P Pn 06 48 33.0 -1.9
250A IAmb IAmb 06 48 45.5
comp=Z,33nm,1.5s
255A Hazlehurst 20.33 9 P P 06 48 34.6 +1.0
255A IAmb IAmb 06 48 58.5
comp=Z,39nm,1.4s
ATAH Atahualpa 20.36 157 P P 06 48 35.1 +0.5
comp=Z,2.1nm,0.6s,baz=54,slow=19,SNR=1.8
comp=Z,2.1nm,0.6s
GCPR Guaynabo City 20.50 69 P P 06 48 34.8 -0.7
GCPR IAmb IAmb 06 48 42.6
comp=Z,22nm,1.1s
833A Chaparral WMA, 20.54 325 P P 06 48 37.6 +1.7
833A Chaparral WMA, 20.54 325 P P 06 48 37.7 +1.7
baz=140
VBMS Vicksburg 20.70 350 P P 06 48 39.6 +2.0
baz=168
152A Waverly Hall 20.82 4 P P 06 48 40.4 +1.5
152A IAmb IAmb 06 48 43.7
comp=Z,27nm,0.7s
146A Union 20.90 353 P P 06 48 39.4 -0.3
146A IAmb IAmb 06 48 43.2
comp=Z,28nm,0.9s
154A Montrose 20.92 7 P Pn 06 48 42.9 -2.2
LRAL Lakeview Retre 21.15 358 P 06 48 43.9 +1.6
LRAL IAmb IAmb 06 48 46.1
comp=Z,10nm,0.5s
LRAL Lakeview Retre 21.15 358 P P 06 48 44.3 +2.0
baz=178,SNR=8.4
PCRV Puerto La Cruz 21.26 92 P P 06 48 45.2 +1.4
comp=Z,7.5nm,0.6s,baz=245,slow=5.1,SNR=6.3
NATX Nacogdoches 21.33 340 P P 06 48 46.5 +2.2
baz=157
HNDO Hondo 21.42 327 P P 06 48 45.9 +0.6
HNDO IAmb IAmb 06 48 48.4
comp=Z,6.9nm,0.5s
435B Jarrell 21.62 333 P P 06 48 49.6 +2.2
435B IAmb IAmb 06 48 51.0
comp=Z,13nm,0.8s
435B Jarrell 21.62 333 P P 06 48 49.6 +2.2
baz=148
GOGA Godfrey 21.66 6 P P 06 48 48.9 +1.1
GOGA IAmb IAmb 06 48 50.6
comp=Z,9.2nm,0.6s
GOGA Godfrey 21.66 6 P P 06 48 49.7 +2.0
baz=187,SNR=6.1
Y49A Blount Mountai 21.96 360 P P 06 48 52.2 +1.4
Y49A IAmb IAmb 06 48 53.4
comp=Z,15nm,0.8s
Y52A Lilburn 22.05 5 P P 06 48 53.2 +1.4
Y52A IAmb IAmb 06 48 55.5
comp=Z,41nm,1.4s
DRIO Del Rio 22.07 325 P P 06 48 53.2 +1.2
DRIO IAmb IAmb 06 48 54.8
comp=Z,12nm,0.6s
Z41A Richland Creek 22.19 345 P P 06 48 52.4 -0.7
Z41A IAmb IAmb 06 48 54.0
comp=Z,17nm,0.8s
JCT Junction City 22.45 328 P P 06 48 56.1 +0.5
JCT Junction City 22.45 328 P P 06 48 56.7 +1.1
baz=143
X48A Hartselle 22.56 358 P P 06 48 57.6 +1.0
WHTX Lake Whitney, 22.60 335 P P 06 48 57.2 +0.3
WHTX IAmb IAmb 06 49 00.6
comp=Z,9.1nm,0.6s
WHTX Lake Whitney, 22.60 335 P P 06 48 58.7 +1.7
baz=150
HODGE Hodges 22.62 9 P P 06 48 58.5 +1.4
HODGE IAmb IAmb 06 48 59.2
comp=Z,11nm,0.6s
FPAL Fort Paine 22.65 1 P P 06 48 57.8 +0.4
X51A Calhoun 22.70 3 P P 06 48 59.4 +1.6
X51A IAmb IAmb 06 48 59.8
comp=Z,18nm,1.2s
BRDY Brady 22.70 331 P P 06 48 58.4 +0.5
OXF Oxford 22.80 353 P P 06 48 59.6 +1.0
baz=172
JSC Jenkinsville 22.84 11 P P 06 49 00.6 +1.6
JSC IAmb IAmb 06 49 01.4
comp=Z,18nm,0.6s
PAULI Pauline 23.27 9 P P 06 49 04.9 +1.9
PAULI IAmb IAmb 06 49 05.0
comp=Z,12nm,0.5s
BG3 Lake Jocassee 23.29 7 P P 06 49 05.2 +2.0
BG3 IAmb IAmb 06 49 06.6
comp=Z,30nm,1.3s
W52A Murphy 23.29 5 P P 06 49 05.0 +1.8
W52A IAmb IAmb 06 49 05.4
comp=Z,16nm,1.1s
W50A Signal Mountai 23.31 2 P P 06 49 04.7 +1.2
W50A IAmb IAmb 06 49 06.3
comp=Z,17nm,0.9s
SWET Sewanee 23.32 1 P P 06 49 04.5 +1.0
SWET IAmb IAmb 06 49 06.2
comp=Z,12nm,0.9s
BIRD Birdtown, Kers 23.34 12 P P 06 49 05.1 +1.4
BIRD IAmb IAmb 06 49 06.0
comp=Z,15nm,0.6s
FW07 Weatherford 23.36 335 P P 06 49 03.6 -0.2
X40A Basin Creek Fa 23.37 346 P P 06 49 03.7 -0.2
OZNA Ozona 23.50 326 P P 06 49 06.0 +0.8
X58A Rowland 23.51 14 P P 06 49 05.4 +0.2
X58A IAmb IAmb 06 49 06.0
comp=Z,18nm,0.7s
CPCT Cooper Cave 23.60 3 P P 06 49 06.6 +0.6
CPCT IAmb IAmb 06 49 09.6
comp=Z,17nm,1.0s
MIAR Mount Ida 23.61 345 P 06 49 06.3 +0.2
MIAR IAmb IAmb 06 49 08.0
comp=Z,9.0nm,0.7s
MIAR Mount Ida 23.61 345 P P 06 49 06.6 +0.5
baz=162,SNR=6.3
KMSC Kings Mountain 23.66 10 P P 06 49 08.4 +1.8
KMSC IAmb IAmb 06 49 08.9
comp=Z,14nm,0.8s
KMSC Kings Mountain 23.66 10 P P 06 49 08.2 +1.7
baz=192
HPIG 23.67 312 P P 06 49 07.7 +0.7
PLPT Palo Pinto 23.68 334 P P 06 49 06.5 -0.2
TXAR Lajitas Array 23.84 320 P P 06 49 09.3 +0.9
TXAR Lajitas Array 23.84 320 P P 06 49 09.4 +1.0
comp=Z,5.9nm,0.5s,baz=144,slow=9.3,SNR=42
TXAR ScP ScP 06 56 11.1 +1.8
comp=Z,0.5nm,0.7s,baz=119,slow=3.5,SNR=3.6
comp=Z,5.9nm,0.5s
TX31 Lajitas Ar. Si 23.84 320 P P 06 49 09.4 +1.0
TX31 IAmb IAmb 06 49 11.7
comp=Z,8.9nm,0.7s
TX31 PcP 06 52 46.2 -0.7
V48A Smith Brothers 23.84 359 P P 06 49 09.1 +0.9
V48A IAmb IAmb 06 49 10.6
comp=Z,10nm,0.8s

TKL Tuckaleechee C 23.86 5 P P 06 49 09.8 +1.4
W57A Gilead 23.93 13 P P 06 49 10.6 +1.6
W57A IAmb IAmb 06 49 11.1
comp=Z,12nm,0.8s
V53A Saluda 23.97 7 P P 06 49 10.8 +1.4
V53A IAmb IAmb 06 49 13.5
comp=Z,8.2nm,0.7s
WHAR Wooly Hollow 24.02 348 P 06 49 09.7 -0.2
WHAR IAmb IAmb 06 49 10.7
comp=Z,12nm,1.0s
WHAR PcP PcP 06 52 47.8 +0.7
V52A Sevierville 24.06 5 P P 06 49 11.4 +1.3
ABTX Abilene, Hawle 24.11 331 P P 06 49 12.8 +2.0
ABTX Abilene, Hawle 24.11 331 P P 06 49 11.8 +1.0
baz=146
GDHS Morne Mazeau, 24.14 77 P P 06 49 12.4 +1.2
CLTN Cedars of Leba 24.19 360 P P 06 49 12.0 +0.7
CLTN IAmb IAmb 06 49 15.0
comp=Z,9.0nm,0.7s
LOOK Love County 24.25 337 P P 06 49 11.4 -0.5
LOOK IAmb IAmb 06 49 28.8
comp=Z,38nm,1.4s
WVT Waverly 24.27 357 P P 06 49 12.1 0.0
WVT Waverly 24.27 357 P P 06 49 13.1 +1.0
baz=176
SGCY Sterling City 24.27 328 P P 06 49 13.2 +1.0
CNNC Cliffs of the 24.54 17 P P 06 49 15.7 +1.3
baz=200
ALPN Alpine 24.54 322 P P 06 49 15.5 +0.7
FCAR Ozark Folk Cen 24.57 348 P P 06 49 14.4 -0.4
FCAR PcP 06 52 50.7 +2.5
LCAR Lake Charles 24.57 350 P P 06 49 14.4 -0.4
LCAR IAmb IAmb 06 49 15.4
comp=Z,7.4nm,0.7s
U49A Red Boiling Sp 24.61 1 P P 06 49 16.3 +1.1
MNHN Monahans 24.73 324 P P 06 49 17.8 +1.4
MNHN IAmb IAmb 06 49 19.5
comp=Z,6.3nm,0.6s
V58A Windy Hill, Pi 24.74 14 P P 06 49 17.0 +0.6
TZTN Tazewell 24.76 5 P P 06 49 17.9 +1.4
baz=186
U54A Nelsons Funny 24.93 8 P P 06 49 19.5 +1.3
U54A IAmb IAmb 06 49 23.4
comp=Z,30nm,0.9s
W35A Tecumseh 25.18 339 P P 06 49 19.8 -0.6
HHAR Hobbs 25.35 345 P P 06 49 21.7 -0.2
TUL3 Leonard 25.52 342 P P 06 49 22.6 -0.8
TUL3 IAmb IAmb 06 49 23.8
comp=Z,5.6nm,0.6s
TUL3 Leonard 25.52 342 P P 06 49 23.4 0.0
baz=158
WMOK Wichita Mounta 25.53 335 P P 06 49 24.1 +0.5
WMOK Wichita Mounta 25.53 335 P P 06 49 26.1 +2.6
baz=150
U38A Gravette 25.61 345 P P 06 49 24.1 -0.2
VHRN Van Horn 25.66 320 P P 06 49 25.3 +0.4
VHRN PcP 06 52 53.1 +2.1
BLA Blacksburg 25.84 11 P P 06 49 28.3 +2.0
BLA IAmb IAmb 06 49 29.4
comp=Z,30nm,1.4s
BLA Blacksburg 25.84 11 P P 06 49 27.5 +1.2
baz=193
S51A Beattyville 25.84 5 P P 06 49 27.5 +1.2
S51A IAmb IAmb 06 49 28.5
comp=Z,20nm,1.1s
T57A Hurt 25.87 13 P P 06 49 28.1 +1.5
T57A IAmb IAmb 06 49 28.2
comp=Z,14nm,0.5s
OK052 Battle Ridge R 25.92 340 P P 06 49 25.9 -1.1
OK052 IAmb IAmb 06 49 27.5
comp=Z,6.8nm,0.5s
S44A Carbondale 25.93 355 P P 06 49 26.9 -0.2
S44A IAmb IAmb 06 49 28.2
comp=Z,9.5nm,0.8s
S44A PcP 06 52 52.8 +1.6
OK033 Mehan 26.01 340 P P 06 49 27.9 0.0
OK033 IAmb IAmb 06 49 28.9
comp=Z,12nm,1.1s
QUOK Quay 26.05 340 P P 06 49 28.2 0.0
QUOK IAmb IAmb 06 49 28.6
comp=Z,5.9nm,0.5s
QUOK PcP 06 52 54.3 +2.7
WCI Wyandotte Cave 26.32 360 P P 06 49 31.7 +1.1
baz=180
R49A Shelbyville 26.40 2 P P 06 49 32.0 +0.7
R49A IAmb IAmb 06 49 32.1
comp=Z,17nm,1.1s
CCM Cathedral Cave 26.53 351 P P 06 49 32.9 +0.5
CCM IAmb IAmb 06 49 33.1
comp=Z,6.2nm,0.7s
CCM Cathedral Cave 26.53 351 P P 06 49 33.0 +0.5
baz=169
MNTX Cornudas Mount 26.54 321 P P 06 49 33.0 +0.4
baz=134
S39A Bolivar 26.55 347 P P 06 49 32.9 +0.1
S57A Dark Hollow, R 26.66 13 P P 06 49 34.9 +1.2
S57A IAmb IAmb 06 49 35.5
comp=Z,21nm,1.4s
MSTX Muleshoe 26.74 328 P P 06 49 35.0 +0.5
MSTX Muleshoe 26.74 328 P P 06 49 35.3 +0.7
baz=142
R40A Maddies Statio 26.93 349 P P 06 49 35.7 -0.3
R40A IAmb IAmb 06 49 38.4
comp=Z,13nm,1.5s
R40A PcP 06 52 53.2 -0.4
AMTX Amarillo 26.93 331 P P 06 49 37.1 +0.9
baz=145
Q44A Meyer Farm, Va 27.11 355 P P 06 49 38.0 +0.4
Q44A IAmb IAmb 06 49 39.0
comp=Z,24nm,1.0s
Q51A Peebles 27.24 5 P P 06 49 40.1 +1.3
Q52A Bidwell 27.28 7 P P 06 49 40.6 +1.4
CBN Corbin Frederi 27.46 15 P P 06 49 42.3 +1.6
baz=199
Q54A Coxs Mills 27.50 9 P P 06 49 42.2 +1.1
Q54A IAmb IAmb 06 49 43.2
comp=Z,14nm,0.8s
P48A Milroy 27.56 1 P P 06 49 41.9 +0.2
P48A IAmb IAmb 06 49 42.4
comp=Z,18nm,0.8s
P49A Miami Univ. Ec 27.66 3 P P 06 49 42.4 -0.1
P49A IAmb IAmb 06 49 43.3
comp=Z,14nm,0.6s
P49A Miami Univ. Ec 27.66 3 P P 06 49 43.2 +0.7
baz=183
P51A Williamsport 27.71 5 P P 06 49 44.0 +1.0
P51A IAmb IAmb 06 49 44.5
comp=Z,14nm,0.7s
P46A Rosedale 27.72 358 P P 06 49 43.4 +0.3
P53A Whipple 27.91 8 P P 06 49 46.2 +1.4
P52A Corning 27.96 7 P P 06 49 45.9 +0.7
P52A Corning 27.96 7 P P 06 49 46.1 +1.0
baz=188,SNR=14
Q44A Mansfield 28.31 356 P P 06 49 48.7 +0.4
MCWV Mont Chateau 28.32 10 P P 06 49 49.1 +0.7
baz=193
Q48B Farmland 28.36 2 P P 06 49 48.6 -0.1
O48B Farmland 28.36 2 P P 06 49 48.8 0.0
baz=182,SNR=8.6
P38A Dawn 28.46 348 P P 06 49 49.2 -0.4
P38A IAmb IAmb 06 49 49.8
comp=Z,12nm,0.5s
O52A Adamsville 28.47 7 P P 06 49 50.7 +1.0
SFIN Lafayette 28.48 359 P P 06 49 49.6 -0.2
SFIN Lafayette 28.48 359 P P 06 49 49.9 +0.1
baz=178,SNR=6.5
P57A Homestead Farm 28.52 13 P P 06 49 51.9 +1.8
121A Cookes Peak, D 28.60 320 P P 06 49 52.9 +1.7
baz=131
O53A New Philadelph 28.68 8 P P 06 49 52.6 +1.0
O53A New Philadelph 28.68 8 P P 06 49 52.7 +1.1
baz=190,SNR=13
KSU1 Kansas State U 28.71 343 P P 06 49 51.9 0.0
KSU1 Kansas State U 28.71 343 P P 06 49 51.7 -0.2
baz=158
SDMD Soldier's Deli 28.74 15 P P 06 49 53.0 +0.9
SDMD IAmb IAmb 06 49 54.3
comp=Z,9.4nm,1.2s
O54A Avella 28.74 9 P P 06 49 52.5 +0.4
O54A IAmb IAmb 06 49 53.7
comp=Z,6.7nm,0.8s
HDIL Hopedale 28.77 355 P P 06 49 52.6 +0.3
HDIL Hopedale 28.77 355 P P 06 49 52.7 +0.3
baz=174,SNR=8.3
319A Douglas 28.85 316 P P 06 49 54.4 +1.0

N49A	**Columbus Grove**	**29.07**	**3**	P	**P**	**06 49 55.6**	**+0.6**
ETMB	**Extrema**	**29.27**	**136**	P	**P**	**06 49 57.8**	**+0.7**
ETMB				IAmb	IAmb	06 49 58.2	
	comp=Z,5.6nm,0.7s						
N53A	**Lisbon**	**29.28**	**8**	P	**P**	**06 49 57.7**	**+0.8**
MVL	**Millersville**	**29.42**	**16**	P	**P**	**06 49 59.4**	**+1.4**
MVL				IAmb	IAmb	06 50 01.1	
	comp=Z,12nm,0.9s						
ANMO	**Albuquerque**	**29.47**	**325**	P	**P**	**06 50 00.6**	**+1.7**
ANMO	**Albuquerque** baz=136	**29.47**	**325**	P	**P**	**06 49 59.9**	**+1.0**
CBKS	**Cedar Bluff** baz=152	**29.47**	**338**	P	**P**	**06 49 59.4**	**+0.8**
M50A	**Fremont**	**29.62**	**5**	P	**P**	**06 50 00.5**	**+0.6**
SSPA	**Standing Stone**	**29.65**	**13**	P	**P**	**06 50 01.5**	**+1.3**
SSPA	**Standing Stone** baz=197	**29.65**	**13**	P	**P**	**06 50 01.3**	**+1.2**
M53A	**WI Miller and**	**29.93**	**8**	P	**P**	**06 50 03.7**	**+1.2**
M53A	**WI Miller and** baz=191,SNR=13	**29.93**	**8**	P	**P**	**06 50 03.8**	**+1.2**
L48A	**N Adams**	**30.07**	**3**	P	**P**	**06 50 04.0**	**+0.1**
L48A					**PcP**	**06 53 01.8**	**+0.4**
L46A	**Eue Claire**	**30.10**	**360**	P	**P**	**06 50 03.2**	**-0.9**
N35A	**Tabor**	**30.11**	**346**	P	**P**	**06 50 04.2**	**0.0**
N58A	**Sunbury**	**30.12**	**14**	P	**P**	**06 50 05.5**	**+1.3**
N58A					**PcP**	**06 53 04.4**	**+2.9**
M55A	**Ridgway** comp=Z,13nm,1.1s	**30.27**	**11**	IAmb	IAmb	06 50 07.9	
L40A	**Anamosa**	**30.46**	**353**	P	**P**	**06 50 07.3**	**0.0**
L40A	comp=Z,11nm,0.8s			IAmb	IAmb	06 50 08.2	
M57A	**Sunshine Farm,**	**30.49**	**14**	P	**P**	**06 50 09.0**	**+1.5**
M57A					**PcP**	**06 53 01.8**	**-0.7**
ERPA	**Erie** baz=192,SNR=14	**30.69**	**9**	P	**P**	**06 50 10.1**	**+0.8**
KSPA	**Keystone Colle**	**31.03**	**15**	P	**P**	**06 50 13.6**	**+1.3**
KSPA	comp=Z,14nm,0.7s			IAmb	IAmb	06 50 14.5	
PAL	**Palisades** baz=204	**31.05**	**18**	P	**P**	**06 50 13.4**	**+1.0**
SDCO	**Great Sand Dun** baz=141	**31.07**	**330**	P	**P**	**06 50 13.8**	**+0.7**
JFWS	**Jewell Farm**	**31.20**	**354**	P	**P**	**06 50 13.4**	**-0.4**
JFWS	comp=Z,17nm,0.9s			IAmb	IAmb	06 50 14.2	
JFWS	**Jewell Farm** baz=172,SNR=8.0	**31.20**	**354**	P	**P**	**06 50 13.5**	**-0.2**
WVNY	**West Valley, N**	**31.21**	**11**	P	**P**	**06 50 14.6**	**+0.7**
WVNY	comp=Z,15nm,1.1s			IAmb	IAmb	06 50 16.0	
WVNY				PcP	**PcP**	**06 53 06.2**	**+1.8**
K38A	**Parkersburg**	**31.26**	**351**	P	**P**	**06 50 13.9**	**-0.4**
X18A	**Snowflake**	**31.27**	**320**	P	**P**	**06 50 16.0**	**+1.3**
J47A	**Sunmer**	**31.35**	**2**	P	**P**	**06 50 14.0**	**-1.0**
J47A	comp=Z,19nm,1.0s			IAmb	IAmb	06 50 15.0	
BINY	**Binghamton**	**31.58**	**15**	P	**P**	**06 50 18.5**	**+1.4**
BINY	**Binghamton** baz=199,SNR=8.9	**31.58**	**15**	P	**P**	**06 50 18.5**	**+1.4**
L59A	**Walton**	**31.81**	**16**	P	**P**	**06 50 20.8**	**+1.6**
K57A	**Scipio Center**	**31.96**	**14**	P	**P**	**06 50 20.9**	**+0.5**
K57A	comp=Z,16nm,1.1s			IAmb	IAmb	06 50 21.9	
I42A	**Draeger Farm,**	**32.06**	**356**	P	**P**	**06 50 21.3**	**0.0**
X16A	**Lo Mia Camp, P**	**32.15**	**319**	P	**P**	**06 50 24.4**	**+2.0**
I49A	**Point Hope**	**32.16**	**5**	P	**P**	**06 50 20.3**	**-1.8**
I40A	**Norwalk**	**32.20**	**354**	P	**P**	**06 50 22.1**	**-0.4**
I40A	comp=Z,14nm,0.9s			IAmb	IAmb	06 50 23.1	
J56A	**Wolcott**	**32.40**	**13**	P	**P**	**06 50 24.9**	**+0.7**
I37A	**Lemond, Waseca**	**32.69**	**350**	P	**P**	**06 50 26.3**	**-0.5**
J57A	**Williamstown**	**32.72**	**14**	P	**P**	**06 50 27.7**	**+0.7**
L61B	**Northampton** baz=205	**32.74**	**19**	P	**P**	**06 50 28.4**	**+1.2**
WUAZ	**Wupatki** baz=130	**32.80**	**320**	P	**P**	**06 50 28.9**	**+0.9**
J58A	**Remsen**	**32.85**	**15**	P	**P**	**06 50 28.8**	**+0.7**
GLMI	**Grayling** baz=183,SNR=5.3	**32.94**	**2**	P	**P**	**06 50 28.6**	**-0.3**
ECSD	**EROS Data Cent**	**33.06**	**346**	P	**P**	**06 50 29.6**	**-0.4**
J59A	**Piesco**	**33.15**	**16**	P	**P**	**06 50 31.6**	**+0.8**
J59A	comp=Z,8.3nm,0.8s			IAmb	IAmb	06 50 32.6	
G40A	**Rib Lake**	**33.53**	**355**	P	**P**	**06 50 33.7**	**-0.4**
G40A	comp=Z,6.5nm,0.7s			IAmb	IAmb	06 50 34.1	
J61A	**Chester** comp=Z,12nm,0.9s	**33.59**	**18**	IAmb	IAmb	06 50 36.5	
NCB	**Newcomb**	**33.69**	**16**	P	**P**	**06 50 37.1**	**+1.7**
SPMN	**Marine on St.** comp=Z,12nm,0.7s	**33.78**	**352**	IAmb	IAmb	06 50 36.0	
SPMN	**Marine on St.** baz=168,SNR=7.0	**33.78**	**352**	P	**P**	**06 50 35.5**	**-0.7**
PDMCI	**Parker Dam,Lak** baz=125	**33.88**	**316**	P	**P**	**06 50 37.5**	**+0.3**
LONY	**Lake Ozonia** comp=Z,18nm,0.8s	**34.20**	**15**	IAmb	IAmb	06 50 41.2	
LONY	**Lake Ozonia** baz=200,SNR=8.1	**34.20**	**15**	P	**P**	**06 50 40.7**	**+0.9**
COWI	**Conover**	**34.28**	**356**	P	**P**	**06 50 39.9**	**-0.6**
COWI	comp=Z,9.0nm,0.8s			IAmb	IAmb	06 50 40.4	
E43A	**Lone Tree Farm**	**34.47**	**359**	P	**P**	**06 50 41.7**	**-0.4**
E43A	comp=Z,18nm,0.8s			IAmb	IAmb	06 50 42.7	
IRM	**Iron Mountain** baz=123	**34.48**	**315**	P	**P**	**06 50 44.1**	**+1.6**
F36A	**Milaca**	**34.51**	**351**	P	**P**	**06 50 41.5**	**-1.0**
F36A	comp=Z,5.8nm,0.7s			IAmb	IAmb	06 50 43.0	
MONP2	**Monument Peak** baz=120	**34.73**	**312**	P	**P**	**06 50 46.5**	**+1.7**
F33A	**5 Mile Ranch,**	**34.99**	**348**	P	**P**	**06 50 45.5**	**-1.1**
F33A	comp=Z,8.2nm,0.9s			IAmb	IAmb	06 50 46.2	
BELC	**Belle Mtn. Jos** baz=122	**34.99**	**314**	P	**P**	**06 50 48.2**	**+1.2**
TPFO	**Pinon Flats** baz=121	**35.11**	**313**	P	**P**	**06 50 50.0**	**+2.0**
PFO	**Pinyon Flats O** baz=121	**35.12**	**313**	P	**P**	**06 50 49.7**	**+1.7**
D41A	**Chassel**	**35.20**	**357**	P	**P**	**06 50 48.2**	**-0.2**
D41A	comp=Z,12nm,1.1s			IAmb	IAmb	06 50 48.5	
MNTQ	**Montreal, Queb**	**35.27**	**15**	P	**P**	**06 50 49.5**	**+0.6**
MNTQ	comp=Z,17nm,0.8s			IAmb	IAmb	06 50 50.7	
K22A	**Casper** baz=144	**35.44**	**334**	P	**P**	**06 50 52.3**	**+1.6**
MURC	**Murrieta** baz=120	**35.64**	**313**	P	**P**	**06 50 54.2**	**+1.8**
TUQ	**Turquoise Moun** baz=124	**35.72**	**316**	P	**P**	**06 50 55.3**	**+2.2**
SHOC	**Shoshone, Teco** baz=124	**36.22**	**317**	P	**P**	**06 50 58.8**	**+1.5**
PSUT	**Pine Spring**	**36.25**	**322**	P	**P**	**06 50 60.0**	**+2.3**
SCI2	**San Clemente I** baz=118	**36.33**	**311**	P	**P**	**06 51 00.5**	**+2.3**
PKME	**Peaks-Kenny Pk** baz=209	**36.36**	**20**	P	**P**	**06 51 00.2**	**+1.9**
F63A	**Nahmakanta, Br**	**36.81**	**20**	P	**P**	**06 51 03.1**	**+1.1**
F63A	comp=Z,30nm,1.5s			IAmb	IAmb	06 51 07.4	
SPR3	**Spring Creek 3**	**36.84**	**322**	P	**P**	**06 51 03.5**	**+0.7**
BW06	**Boulder Array** baz=140	**36.91**	**331**	P	**P**	**06 51 05.0**	**+1.7**
PD31	**Pinedale Array**	**36.91**	**331**	P	**P**	**06 51 04.0**	**+0.7**
PDAR	**Pinedale Array**	**36.91**	**331**	P	**P**	**06 51 04.5**	**+1.3**
PDAR	**Pinedale Array** comp=Z,0.5nm,0.6s,baz=126,slow=10.0,SNR=6.7 comp=Z,0.5nm,0.6s	**36.91**	**331**	P	**P**	**06 51 03.5**	**+0.2**
G65A	**Princeton**	**36.92**	**22**	P	**P**	**06 51 04.0**	**+1.1**
G65A	comp=Z,17nm,1.0s			IAmb	IAmb	06 51 05.5	
FURC	**Furnace Creek,** baz=124	**36.93**	**317**	P	**P**	**06 51 05.6**	**+2.4**
LRMC	**Laurel Mtn Rad** baz=122	**36.95**	**315**	P	**P**	**06 51 05.7**	**+2.1**
MPMC	**Manual Prospec** baz=123	**37.13**	**316**	P	**P**	**06 51 07.0**	**+1.8**
SNCC	**San Nicolas Is** baz=117	**37.18**	**310**	P	**P**	**06 51 07.6**	**+2.2**
R11B	**Troy Canyon, C** baz=127	**37.20**	**320**	P	**P**	**06 51 07.6**	**+1.9**
AGMN	**Agassiz Nation**	**37.27**	**349**	P	**P**	**06 51 05.1**	**-0.8**
AGMN	comp=Z,9.7nm,0.5s			IAmb	IAmb	06 51 06.2	
E62A	**Clayton Lake**	**37.48**	**19**	P	**P**	**06 51 08.3**	**+0.6**
E62A	comp=Z,25nm,1.4s			IAmb	IAmb	06 51 13.1	
GRAC	**Grapevine Rang** baz=124	**37.56**	**317**	P	**P**	**06 51 10.7**	**+2.2**
ARVC	**Arvin** baz=120	**37.58**	**314**	P	**P**	**06 51 11.3**	**+2.6**
ISA	**Isabella, Lake** baz=121	**37.60**	**315**	P	**P**	**06 51 11.1**	**+2.1**
MDND	**Maddock**	**37.65**	**345**	P	**P**	**06 51 09.1**	**0.0**
MDND	comp=Z,16nm,0.7s			IAmb	IAmb	06 51 09.4	
AHID	**Auburn Hatcher**	**37.66**	**330**	P	**P**	**06 51 11.0**	**+1.5**
HVU	**Hansel Valley**	**37.81**	**327**	P	**P**	**06 51 12.5**	**+1.7**
REDW	**Red Top Meadow**	**37.98**	**330**	P	**P**	**06 51 13.1**	**+0.9**
SNOW	**Snow King Moun**	**38.01**	**331**	P	**P**	**06 51 13.8**	**+1.2**
PQI	**Presque Isle**	**38.02**	**20**	P	**P**	**06 51 11.2**	**-1.0**
PQI	comp=Z,13nm,1.0s			IAmb	IAmb	06 51 13.7	
D62A	**Allapoint, All**	**38.04**	**19**	P	**P**	**06 51 13.4**	**+1.0**
D62A	comp=Z,16nm,0.8s			IAmb	IAmb	06 51 14.4	
LOHW	**Long Hollow**	**38.05**	**331**	P	**P**	**06 51 14.7**	**+1.8**
LMQ	**La Malbaie**	**38.06**	**18**	P	**P**	**06 51 12.8**	**+0.2**
LMQ	comp=Z,14nm,0.5s			IAmb	IAmb	06 51 13.5	
TPH	**Tonopah**	**38.08**	**319**	P	**P**	**06 51 15.0**	**+1.9**
TPAW	**Teton Pass**	**38.13**	**330**	P	**P**	**06 51 14.1**	**+0.6**
LDAQ	**Lac Daran**	**38.18**	**16**	P	**P**	**06 51 13.9**	**+0.3**
LDAQ	comp=Z,7.3nm,0.8s			IAmb	IAmb	06 51 14.4	
IMW	**Indian Meadow**	**38.43**	**331**	P	**P**	**06 51 16.0**	**0.0**
IMW	comp=Z,6.5nm,0.8s			IAmb	IAmb	06 51 31.0	
ELK	**Elko**	**38.49**	**324**	P	**P**	**06 51 17.9**	**+1.3**
SMMC	**Simmler** baz=119	**38.50**	**313**	P	**P**	**06 51 18.8**	**+2.3**
LMN	**Caledonia Moun**	**38.52**	**24**	P	**P**	**06 51 16.9**	**+0.5**
RLMT	**Red Lodge**	**38.61**	**334**	P	**P**	**06 51 17.5**	**+0.1**
RLMT	comp=Z,7.7nm,0.8s			IAmb	IAmb	06 51 46.4	
RLMT	**Red Lodge** baz=142	**38.61**	**334**	P	**P**	**06 51 19.2**	**+1.7**
LAO	**LASA Array** baz=148	**38.67**	**338**	P	**P**	**06 51 20.1**	**+2.4**
NV11	**Mina Array Sit**	**38.88**	**319**	P	**P**	**06 51 22.0**	**+2.2**
NV11	comp=Z,9.8nm,0.9s			IAmb	IAmb	06 51 41.5	
ULM	**Lac du Bonnet**	**39.15**	**350**	P	**P**	**06 51 19.9**	**-1.8**
ULM	**Lac du Bonnet** comp=Z,2.2nm,0.3s,baz=156,slow=8.6,SNR=19 comp=Z,2.2nm,0.3s	**39.15**	**350**	P	**P**	**06 51 19.8**	**-1.8**
KVN	**Kaiserville**	**39.20**	**319**	P	**P**	**06 51 23.4**	**+1.0**
BATG	**Bathurst New B**	**39.23**	**22**	P	**P**	**06 51 22.9**	**+0.6**
BATG	comp=Z,8.6nm,0.9s			IAmb	IAmb	06 51 25.0	
DGMT	**Dagmar**	**39.51**	**341**	P	**P**	**06 51 24.7**	**+0.1**
BBGB	**Big Mountain B**	**39.85**	**314**	P	**P**	**06 51 27.2**	**-0.6**
BBGB	comp=Z,28nm,1.4s			IAmb	IAmb	06 51 46.7	
SAO	**San Andreas Ge**	**40.23**	**314**	P	**P**	**06 51 30.4**	**-0.3**
PAHR	**Pah Rah Range**	**40.39**	**319**	P	**P**	**06 51 31.5**	**-0.7**
PAHR	comp=Z,18nm,0.9s			IAmb	IAmb	06 51 32.0	
EMB	**Emerald Bay**	**40.45**	**318**	P	**P**	**06 51 31.5**	**-1.3**
EMB	comp=Z,19nm,0.9s			IAmb	IAmb	06 51 34.9	
LRM	**Limekiln Ridge**	**40.58**	**332**	P	**P**	**06 51 33.0**	**-0.8**
LYMT	**Lyon Mountain**	**41.37**	**333**	P	**P**	**06 51 41.0**	**+0.8**
KCPM	**Cahto Peak**	**43.13**	**317**	P	**P**	**06 51 55.1**	**+0.8**
KCPM	comp=Z,16nm,1.3s			IAmb	IAmb	06 51 55.9	
DRLN	**Deer Lake**	**44.27**	**27**	P	**P**	**06 52 03.6**	**+0.5**
SCHQ	**Schefferville**	**45.57**	**16**	P	**P**	**06 52 12.7**	**-0.7**
SCHQ	comp=Z,17nm,0.6s			IAmb	IAmb	06 52 13.3	
SCHQ	**Schefferville** comp=Z,17nm,0.4s,baz=215,slow=7.9,SNR=129	**45.57**	**16**	P	**P**	**06 52 12.3**	**-1.1**
SCHQ	comp=Z,1.2nm,0.4s,baz=215,slow=2.2,SNR=1.5			PcP	**PcP**	**06 53 46.9**	**-2.0**
PLCA	**Paso Flores** comp=Z,0.4nm,0.4s,baz=336,slow=11,SNR=1.3	**54.24**	**165**	P	**P**	**06 53 20.1**	**+1.2**
PLCA	comp=Z,3.2nm,1.0s,baz=330,slow=5.9,SNR=7.4 comp=Z,0.4nm,0.4s			PcP	**PcP**	**06 54 22.1**	**+1.1**
YKAB2	**New Yellowknif**	**54.50**	**344**	P	**P**	**06 53 20.0**	**-0.4**
YKA	**Yellowknife Ar** comp=Z,1.1nm,0.8s,baz=139,slow=7.4,SNR=9.1	**54.55**	**344**	P	**P**	**06 53 19.6**	**-1.2**
YKA	comp=Z,0.2nm,0.5s,baz=146,slow=3.6,SNR=1.4 comp=Z,1.1nm,0.8s			PcP	**PcP**	**06 54 21.0**	**-0.8**
Q32M	**Nakina River** baz=124	**58.27**	**334**	P	**P**	**06 53 48.8**	**+1.4**
EPYK	**Eagle Plains** baz=123	**64.08**	**340**	P	**P**	**06 54 26.1**	**-0.1**
INK	**Inuvik** baz=127	**64.18**	**342**	P	**P**	**06 54 26.7**	**0.0**
L27K	**Beaver Creek,** baz=116	**64.35**	**335**	P	**P**	**06 54 28.8**	**+0.8**
F30M	**Barrier River** baz=124	**64.47**	**341**	P	**P**	**06 54 29.0**	**+0.4**
K27K	**Chicken** baz=116	**64.88**	**336**	P	**P**	**06 54 31.9**	**+0.6**
I27K	**Kandik River** baz=118	**65.43**	**338**	P	**P**	**06 54 35.4**	**+0.5**
E29M	**Blow River** baz=122	**65.56**	**341**	P	**P**	**06 54 35.8**	**+0.2**
H27K	**Steamboat Moun** baz=118	**65.69**	**339**	P	**P**	**06 54 37.4**	**+0.9**
F28M	**Old Crow** baz=120	**65.79**	**340**	P	**P**	**06 54 37.3**	**+0.1**
I26K	**Coal Creek Min** baz=116	**65.87**	**337**	P	**P**	**06 54 37.5**	**-0.1**
RIDG	**Independent Ri** baz=114	**65.87**	**335**	P	**P**	**06 54 37.1**	**-0.7**
E28M	**Babbage River** baz=121	**66.19**	**341**	P	**P**	**06 54 39.1**	**-0.5**
D28M	**Stokes Point** baz=122	**66.33**	**342**	P	**P**	**06 54 41.0**	**+0.6**
D27M	**Malcolm River** baz=120	**66.96**	**342**	P	**P**	**06 54 44.4**	**-0.2**
ILAR	**Eielson Array** comp=Z,0.7nm,0.8s,baz=132,slow=4.2,SNR=12 comp=Z,0.7nm,0.8s	**67.09**	**336**	P	**P**	**06 54 44.5**	**-0.9**
H25L	**Birch Creek** baz=114	**67.27**	**338**	P	**P**	**06 54 46.9**	**+0.4**
F26K	**Sheenjek River** baz=116	**67.28**	**339**	P	**P**	**06 54 46.5**	**0.0**
MCK	**McKinley** baz=110	**67.56**	**335**	P	**P**	**06 54 48.8**	**+0.4**
TRF	**Thorofare Moun** baz=108	**68.04**	**334**	P	**P**	**06 54 51.1**	**-0.5**
G24K	**Hadweenzic Riv** baz=112	**68.05**	**338**	P	**P**	**06 54 51.8**	**+0.4**
SKT	**Skwentna** baz=106	**68.14**	**332**	P	**P**	**06 54 52.3**	**+0.3**
I23K	**Minto, Yukon-K** baz=110	**68.21**	**336**	P	**P**	**06 54 53.1**	**+0.7**
F24K	**Squaw Lake** baz=112	**68.51**	**339**	P	**P**	**06 54 54.6**	**+0.3**
BPAW	**Bear Paw Mtn.** baz=108	**68.54**	**335**	P	**P**	**06 54 54.3**	**-0.2**
D25K	**Kavik River** baz=114	**68.71**	**341**	P	**P**	**06 54 55.0**	**-0.5**
MLY	**Manley** baz=108	**68.73**	**336**	P	**P**	**06 54 54.9**	**-0.8**
G23K	**Bananza Creek** baz=110	**69.00**	**338**	P	**P**	**06 54 55.6**	**-1.7**
L20K	**Farewell, AK** baz=104	**69.34**	**333**	P	**P**	**06 54 59.1**	**-0.4**
TOLK	**Toolik Lake Re** baz=111	**69.51**	**340**	P	**P**	**06 55 00.8**	**+0.4**
G22K	**Bettles** baz=108	**69.63**	**338**	P	**P**	**06 55 01.2**	**+0.1**
J20K	**Nowinta River** baz=105	**69.89**	**334**	P	**P**	**06 55 03.0**	**+0.3**
M18K	**Stony River** baz=102	**70.00**	**331**	P	**P**	**06 55 03.4**	**-0.1**
G21K	**Allakaket** baz=106	**70.26**	**337**	P	**P**	**06 55 05.8**	**+0.8**
F21K	**Alatna River** baz=107	**70.45**	**338**	P	**P**	**06 55 06.4**	**+0.2**
H19K	**Roundabout Mou** baz=103	**71.17**	**336**	P	**P**	**06 55 10.3**	**-0.2**
F20K	**Avaraart Lake** baz=104	**71.25**	**337**	P	**P**	**06 55 11.2**	**+0.3**
E20K	**Nigu River** baz=104	**71.73**	**338**	P	**P**	**06 55 14.4**	**+0.5**
H18K	**Honhosa River** baz=101	**71.88**	**335**	P	**P**	**06 55 15.4**	**+0.7**
D20K	**Etivluk River** baz=104	**71.99**	**339**	P	**P**	**06 55 16.2**	**+0.8**
G18K	**Tagagawik** baz=101	**72.14**	**336**	P	**P**	**06 55 17.1**	**+0.8**
H17K	**Granite Mounta** baz=100	**72.48**	**335**	P	**P**	**06 55 18.6**	**+0.2**
C19K	**Lookout Ridge** baz=101	**73.13**	**339**	P	**P**	**06 55 22.4**	**+0.3**
C18K	**Utukok River** baz=100	**73.62**	**338**	P	**P**	**06 55 25.3**	**+0.3**
J14K	**Nanvaranak Lak** baz=96	**73.78**	**332**	P	**P**	**06 55 27.0**	**+1.0**
B18K	**Kokolik River** baz=99	**73.95**	**339**	P	**P**	**06 55 26.6**	**-0.2**
D17K	**Noatak River** baz=98	**74.17**	**337**	P	**P**	**06 55 28.4**	**+0.3**
F15K	**North Star Dit** baz=96	**74.56**	**335**	P	**P**	**06 55 31.3**	**+0.9**
C16K	**Lisburne Hills** baz=96	**75.08**	**338**	P	**P**	**06 55 33.7**	**+0.3**
EKA	**Eskdalemuir Ar** comp=Z,0.4nm,0.4s,baz=275,slow=5.3,SNR=4.9 comp=Z,0.4nm,0.4s	**76.46**	**36**	P	**P**	**06 55 38.9**	**-2.5**
ESDC	**Sonseca Array** comp=Z,1.5nm,0.8s,baz=265,slow=5.9,SNR=4.3 comp=Z,1.5nm,0.8s	**76.65**	**52**	P	**P**	**06 55 40.5**	**-2.5**
SPIA	**Saint Paul Isl** baz=88	**76.94**	**326**	P	**P**	**06 55 46.0**	**+1.9**
SPITS	**Spitsbergen Ar** comp=Z,6.4nm,0.9s,baz=240,slow=2.8,SNR=1.3 comp=Z,6.4nm,0.9s	**81.10**	**12**	P	**P**	**06 56 05.5**	**-0.9**
NOA	**NORSAR Array B** comp=Z,0.9nm,0.8s,baz=283,slow=5.2,SNR=2.5 comp=Z,0.9nm,0.8s	**83.36**	**29**	P	**P**	**06 56 16.9**	**-1.5**
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.7s,baz=348,slow=3.4,SNR=2.0 comp=Z,0.3nm,0.7s	**85.39**	**78**	P	**P**	**06 56 28.9**	**-0.6**
ARCES	**ARCESS Array B** comp=Z,6.8nm,1.1s,baz=283,slow=4.6,SNR=5.9 comp=Z,6.8nm,1.1s	**86.41**	**19**	P	**P**	**06 56 31.8**	**-1.7**
SONM	**Songino Array** comp=Z,0.3nm,0.3s,baz=356,slow=0.3,SNR=5.7	**119.58**	**350**	PKP	**PKPdf**	**07 02 39.6**	**-0.9**
MKAR	**Makanchi Array** comp=Z,0.2nm,0.5s,baz=11,slow=1.6,SNR=2.1	**120.78**	**9**	PKP	**PKPdf**	**07 02 40.9**	**-1.8**
KSRS	**Korea Array** comp=Z,1.0nm,0.6s,baz=22,slow=3.7,SNR=2.6	**121.45**	**328**	PKP	**PKPdf**	**07 02 44.2**	**+0.1**
STKA	**Stephens Creek** comp=Z,3.3nm,0.5s,baz=78,slow=3.7,SNR=13	**131.76**	**238**	PKP	**PKiKP**	**07 03 05.2**	**+0.2**
ASAR	**Alice Springs** comp=Z,0.9nm,0.5s,baz=115,slow=3.4,SNR=16	**140.12**	**247**	PKhKP	PKPpre	07 03 12.9	
ASAR	comp=Z,3.6nm,0.6s,baz=96,slow=2.1,SNR=20			PKP	**PKPdf**	**07 03 20.6**	**+0.8**
WRA	**Warramunga Arr** comp=Z,1.0nm,0.4s,baz=93,slow=3.3,SNR=12	**140.23**	**253**	PKhKP	PKPpre	07 03 15.0	
WRA	comp=Z,4.0nm,0.6s,baz=92,slow=2.6,SNR=19			PKP	**PKPdf**	**07 03 21.2**	**+1.2**
CMAR	**Chiang Mai Arr** comp=Z,0.9nm,0.3s,baz=47,slow=3.2,SNR=1.5	**149.51**	**350**	PKPbc	**PKPbc**	**07 03 40.4**	**-0.3**

IDC 12 07:05:06.1±2.7, 54°.18N×86°.34E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=20.5km s-min=11.9km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA** baz=75,slow=338,SNR=12	**0.92**	**256**	I	I	07 12 30.0	
ZALV	**Zalesovo Beam** 1.6nm,0.3s,baz=75,slow=18,SNR=17	**0.92**	**256**	Pg	Pg	07 05 22.8	-0.9
ZALV	4.8nm,0.3s,baz=76,slow=30,SNR=25			Lg	Lg	07 05 37.1	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=51,slow=13,SNR=2.9 0.3nm,0.4s	**5.96**	**236**	Pn	Pn	07 06 36.3	+0.9
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=24,slow=14,SNR=7.3	**7.83**	**201**	Pn	Pn	07 07 02.4	+1.2
MKAR	0.1nm,0.3s,baz=15,slow=30,SNR=3.3 0.2nm,0.3s			Lg	Lg	07 09 13.6	

NNC ***12*** *07:11:39.5±1.5, 51°.91N×74°.37E, h0km, mb2.4, mpv2.0, Error ellipse: s-maj=20.7km s-min=8.3km az=25.0, Suspected Mining explosion.*

IDC ***12*** *07:11:40.1±0.9, 51°.80N×74°.37E, h0km, mbtmp2.3/4, ML1.5/4, Error ellipse: s-maj=29.8km s-min=7.4km az=30.0*

ISC 12 07:11:39.1±1.0, 51°.7N±0°.1×74°.30E±0°.08, h0km, n10, σ1°32/9, 3C-3D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BVA0	**Borovoye Array** 0.3nm,0.3s,baz=128,slow=16,SNR=7.7	**2.77**	**301**	⇓Pg	**Pb**	**07 12 29.3**	**-0.1**
BVA0	9.2nm,0.9s,baz=114,slow=22,SNR=10.0			⇓Lg	Lg	07 13 03.0	
BVAR	**Borovoye Array** baz=114,slow=14,SNR=2.4	**2.77**	**301**	Pn	**Pn**	**07 12 24.2**	**-0.4**
BVAR	baz=112,slow=18,SNR=11			Pg	**Pb**	**07 12 28.7**	**-0.7**
BVAR	baz=111,slow=28,SNR=5.0 0.2nm,0.4s			Sn	**Sn**	**07 12 59.7**	**+1.0**
KURBB	**Kurchatov Arra** baz=297,slow=14,SNR=4.0	**2.86**	**109**	Pn	**Pn**	**07 12 26.4**	**+0.5**
KURBB	0.1nm,0.3s,baz=294,slow=30,SNR=13 0.6nm,0.2s			Lg	Lg	07 13 11.4	
KURBB	**Kurchatov Arra** 18nm,0.8s	**2.86**	**109**	⇑Lg	Lg	07 13 11.7	
KURK	**Kurchatov** 14nm,0.9s	**2.88**	**107**	⇓Lg	Lg	07 13 12.7	
OTUK	**Ortayu** 4.3nm,0.9s	**3.64**	**201**	⇑Lg	Lg	07 13 43.6	
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=249,slow=12,SNR=2.8 0.9nm,0.6s	**6.78**	**66**	Pn	**Pn**	**07 13 20.6**	**+0.8**
I46RU	**ZALESOVO INFRA** 0.1nm,1.2s,baz=255,slow=326,SNR=2.6	**6.78**	**66**	I	I	07 50 35.0	
MAKZ	**Makanchi** 2.8nm,0.8s	**6.98**	**131**	⇑Lg	Lg	07 15 22.9	
MKAR	**Makanchi Array** baz=316,slow=10,SNR=1.6	**7.14**	**130**	Pn	**Pn**	**07 13 26.7**	**+2.0**
MKAR	baz=315,slow=13,SNR=4.4			Pg	**Pb**	**07 13 41.9**	**-1.9**
MKAR	baz=315,slow=20,SNR=1.9			Sn	**Sn**	**07 14 47.2**	**+0.7**
MKAR	baz=318,slow=25,SNR=7.4 0.1nm,0.4s			Lg	Lg	07 15 28.4	

IDC ***12*** *07:17:52.7±0.6, 16°.05S×67°.44E, h0km, mb4.1/21, mbtmp4.1/22, ML3.8/1, MS4.6/24, Error ellipse: s-maj=20.4km s-min=16.5km az=38.0*

NEIC ***12*** *07:17:55.8±1.4, 16°.36S±0°.05×67°.3E±0°.1, h10km±1km, mb4.9/26, Error ellipse: s-maj=19.3km s-min=7.5km az=259.0*

GCMT ***12*** *07:17:58.8±0.1, 16°.07S±0°.01×67°.21E±0°.01, h15km, MW5.4/149, Moment Tensor Solution. s101,c146; s149,c266; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr=0.17±.02; Mθθ=1.18±.02; Mϕϕ 1.36±.02; Mrθ=0.26±.06; Mrϕ 0.55±.02; Mθϕ=0.28±.06; Best double couple: M0 1.43400×10^17 NP1:ϕs=237.00000°, δ89.00000°, λ15.00000°. NP2:ϕs=146.00000°, δ75.00000°, λ179.00000°. Principal axes: T 1.5400, Plg11.0000°, Azm103.0000°; N -0.2020, Plg75.0000°, Azm240.0000°; P -1.3280, Plg10.0000°, Azm11.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

**ISC 12 07:17:54.7

H08S3 Diego Garcia H 9.97 31 T T 07 30 16.5
baz=211,slow=75,SNR=3084
OPO Ambohidratompo 19.30 260 P **Pn** **07 22 22.1 +1.0**
baz=49,slow=3.9,SNR=2.8
4.0nm,0.8s
H04N2 CROZET ISLANDS 32.50 200 T T 07 58 59.1
baz=29
H04N1 CROZET ISLANDS 32.51 200 T T 07 58 57.7
baz=29
H04N3 CROZET ISLANDS 32.52 200 T T 07 58 56.0
baz=29
ATD Arta Tunnel 36.68 317 LR LR 07 38 24.4
comp=Z,48nm,19.5s,baz=105,slow=34
LSZ Lusaka 37.58 266 P **P** **07 25 09.6 -0.3**
LSZ IAmb IAmb 07 25 36.0
comp=Z,18nm,1.5s
LSZ Lusaka 37.58 266 LR LR 07 38 30.9
comp=Z,2μm,21.2s,baz=112,slow=33
MBAR Mbarara 39.22 290 LR LR 07 38 44.1
comp=Z,2μm,21.5s,baz=95,slow=32
LBTB Lobatse 39.83 250 P **P** **07 25 28.6 -0.1**
BOSA Boshof 40.53 245 P **P** **07 25 37.4 +2.9**
comp=Z,1.9nm,0.9s,baz=104,slow=4.2,SNR=2.2
comp=Z,1.9nm,0.9s
LEM Lembang 40.56 81 LR LR 07 38 58.6
comp=Z,1μm,20.5s,baz=232,slow=31
H01W3 Cape Leeuwin H 45.72 123 T T 08 15 11.1
baz=282,slow=75,SNR=24
H01W2 Cape Leeuwin H 45.72 123 T T 08 15 14.9
baz=282,slow=75,SNR=25
H01W1 Cape Leeuwin H 45.73 123 T T 08 15 13.7
baz=282,slow=75,SNR=23
JAGI Jajag, Banyuwa 46.36 86 P **P** **07 26 21.8 +0.2**
CMAR Chiang Mai Arr 46.50 43 P **P** **07 26 24.2 +1.7**
CMAR Chiang Mai Arr 46.50 43 P P 07 26 18.5 -4.0
comp=Z,1.4nm,0.3s,baz=235,slow=7.3,SNR=1.9
comp=Z,1.4nm,0.3s
CHTO Chiang Mai 46.75 43 P **P** **07 26 25.9 +1.4**
TSUM Tsumeb 47.29 259 P **P** **07 26 29.2 +0.2**
TSUM Tsumeb 47.29 259 LR LR 07 44 19.0
comp=Z,637nm,20.9s,baz=146,slow=33
PHRA Phrae 47.38 45 P **P** **07 26 29.6 +0.1**
WIN Windhoek 47.56 254 P **P** **07 26 32.1 +1.1**
WIN IAmb IAmb 07 26 46.3
comp=Z,20nm,1.4s
NWAO Narrogin (SRO) 47.93 120 LR LR 07 42 16.5
comp=Z,1μm,20.5s,baz=242,slow=31
MAW Mawson 51.40 182 LR LR 07 43 44.2
comp=Z,446nm,18.2s,baz=352,slow=30
BATI Baumata 55.09 91 LR LR 07 47 20.0
comp=Z,649nm,21.4s,baz=264,slow=32
EIL Elat 55.28 326 LR LR 07 49 05.0
comp=Z,472nm,19.5s,baz=101,slow=34
FITZ Fitzroy Crossi 55.60 101 P **P** **07 27 30.6 -0.5**
KSH Kashi 56.07 8 P **P** **07 27 34.4 +0.3**
KSH pP pwP 07 27 41.6 +1.3
KSH pmax pmax
comp=Z,5.0nm,1.1s
GOMU GeErMu 58.31 26 P **P** **07 27 48.8 -1.5**
GOMU pP pP 07 27 54.0 +1.4
GOMU sP pwP 07 27 56.8 +0.2
GOMU S S 07 35 09.2 -44
GOMU sS pS 07 35 47.4 -8.6
DAV Davao City (W) 62.18 73 LR LR 07 53 18.2
comp=Z,354nm,20.9s,baz=240,slow=34
ASAR Alice Springs 62.60 109 P **P** **07 28 19.2 -0.5**
ASAR Alice Springs 62.60 109 P **P** **07 28 18.8 -0.9**
comp=Z,3.7nm,0.7s,baz=270,slow=6.4,SNR=26
ASAR LR LR 07 51 52.1
comp=Z,2μm,20.4s,baz=278,slow=33
comp=Z,3.7nm,0.7s
AS31 Alice Springs 62.60 109 P **P** **07 28 19.3 -0.4**
AS31 IAmb IAmb 07 28 26.2
comp=Z,9.0nm,1.8s
GTA Gaotai 63.16 28 P **P** **07 28 24.7 +1.6**
GTA pP pwP 07 28 34.9 +5.5
GTA pmax pmax
comp=Z,7.0nm,0.9s
WRA Warramunga Arr 63.49 104 P **P** **07 28 25.2 -0.4**
comp=Z,12nm,0.9s,baz=266,slow=6.5,SNR=16
WRA LR LR 07 52 57.1
comp=Z,463nm,21.4s,baz=246,slow=33
comp=Z,12nm,0.9s
WB2 Warramunga Arr 63.51 104 P **P** **07 28 25.0 -0.7**
WRAB Tennant Creek 63.51 104 P **P** **07 28 25.7 0.0**
WB0 Warramunga Arr 63.57 104 P **P** **07 28 25.5 -0.7**
WB0 IAmb IAmb 07 28 30.8
comp=Z,16nm,1.1s
WR0 Warramunga Arr 63.68 105 P **P** **07 28 25.8 -1.0**
KBZ Khabaz 63.72 341 LR LR 07 53 36.7
comp=Z,180nm,19.2s,baz=158,slow=34
XAN Xi'an 63.83 38 P **P** **07 28 30.6 +3.1**
XAN pmax pmax
comp=Z,13nm,1.0s
BRTR Keskin Array B 63.91 332 P **P** **07 28 28.8 +0.8**
comp=Z,0.9nm,0.8s,baz=156,slow=9.2,SNR=4.7
comp=Z,0.9nm,0.8s
MAKZ Makanchi 64.15 11 P **P** **07 28 31.1 +1.9**
MK31 Makanchi Array 64.19 11 P **P** **07 28 29.0 -0.6**
MK31 IAmb IAmb 07 28 53.7
comp=Z,5.7nm,1.2s
MKAR Makanchi Array 64.19 11 P **P** **07 28 27.6 -2.0**
comp=Z,1.8nm,1.0s,baz=220,slow=9.2,SNR=7.9
comp=Z,1.8nm,1.0s
ABKAR Akbulak array 65.53 355 P **P** **07 28 39.1 +0.9**
KURBB Kurchatov Arra 67.31 8 P **P** **07 28 47.7 -1.8**
comp=Z,1.0nm,0.3s,baz=203,slow=7.3,SNR=4.3
KURBB LR LR 07 54 02.3
comp=Z,1μm,19.4s,baz=190,slow=32
comp=Z,1.0nm,0.3s
KURK Kurchatov 67.42 8 P **P** **07 28 53.4 +3.1**
KURK IAmb IAmb 07 29 14.2
comp=Z,8.7nm,1.1s
STKA Stephens Creek 68.48 118 P **P** **07 28 56.2 -1.3**
comp=Z,1.8nm,0.7s,baz=312,slow=18,SNR=2.8
STKA LR LR 07 54 35.8
comp=Z,719nm,21.5s,baz=248,slow=32
comp=Z,1.8nm,0.7s
BVAR Borovoye Array 69.04 2 P **P** **07 28 58.2 -2.2**
comp=Z,0.6nm,0.6s,baz=165,slow=6.2,SNR=3.9
comp=Z,0.6nm,0.6s
BRVK Borovoye 69.07 2 P **P** **07 29 02.3 +1.7**
HNS HongShan 69.56 39 *eP* **P** **07 29 07.3 +3.3**
HHC Hu-ho-hao-te 70.10 34 *eP* **P** **07 29 09.3 +1.9**
HHC pP pwP 07 29 15.0 +1.3
HHC sP sP 07 29 16.6 +6.1
HHC *eS* **S** **07 38 19.0 +0.4**
HHC sS sS 07 38 26.6 +4.2
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,74nm,4.5s
HHC LR LR
comp=N,260nm,18.3s
HHC LR LR
comp=E,300nm,16.3s
HHC LR LR
comp=Z,200nm,17.0s
TORD Torodi Ar. Bea 71.09 290 P **P** **07 29 12.2 -1.6**
comp=Z,0.3nm,0.5s,baz=116,slow=3.4,SNR=1.4
TORD LR LR 07 59 16.6
comp=Z,286nm,18.8s,baz=119,slow=35
comp=Z,0.3nm,0.5s
ZAA0 Zalesovo Array 71.52 11 P **P** **07 29 17.3 +1.8**
ZAA0 IAmb IAmb 07 29 23.2
comp=Z,4.6nm,0.9s
ZALV Zalesovo Beam 71.52 11 P **P** **07 29 16.9 +1.3**
ZALV Zalesovo Beam 71.52 11 P **P** **07 29 13.0 -2.6**
comp=Z,1.1nm,0.6s,baz=145,slow=5.4,SNR=2.5
comp=Z,1.1nm,0.6s
MLR Muntele Rosu 71.95 331 P **P** **07 29 18.6 0.0**
comp=Z,1.1nm,0.3s,baz=116,slow=13,SNR=2.6
MLR LR LR 07 59 24.1
comp=Z,231nm,18.5s,baz=110,slow=35
comp=Z,1.1nm,0.3s
SONM Songino Array 72.75 26 P **P** **07 29 25.7 +2.5**
SONM IAmb IAmb 07 29 37.2
comp=Z,24nm,2.0s
SONM Songino Array 72.75 26 P **P** **07 29 22.5 -0.7**
comp=Z,2.0nm,0.8s,baz=210,slow=8.0,SNR=4.5
comp=Z,2.0nm,0.8s
JOW Kunigami 73.07 55 LR LR 07 59 10.9
comp=Z,118nm,19.6s,baz=218,slow=34
QSPA South Pole Qui 73.84 180 P **P** **07 29 29.5 0.0**
QSPA IAmb IAmb 07 29 46.7
comp=Z,15nm,1.2s
QSPA South Pole Qui 73.84 180 P **P** **07 29 29.0 -0.5**
comp=Z,3.0nm,0.9s,baz=6.6,slow=1.9,SNR=5.4
QSPA LR LR 07 58 18.5
comp=Z,406nm,20.2s,baz=283,slow=33
comp=Z,3.0nm,0.9s
CTA Charters Tower 74.49 107 P **P** **07 29 34.9 +0.9**
comp=Z,2.9nm,0.6s,baz=292,slow=9.7,SNR=1.9
comp=Z,2.9nm,0.6s
AKASG Malin Array Be 74.55 336 P **P** **07 29 32.8 -0.7**
comp=Z,0.2nm,0.3s,baz=151,slow=5.1,SNR=4.9
comp=Z,0.2nm,0.3s
XLT XiLinHaoTe 74.63 34 *eP* **P** **07 29 37.2 +2.9**
XLT pP pP 07 29 41.8 +5.2
XLT sP sP 07 29 44.7 +7.3
XLT PcP **PcP** **07 29 51.9 +3.3**
XLT pmax pmax
comp=Z,4.0nm,0.7s
XLT pmax pmax
comp=Z,100nm,4.2s
VNDA Vanda 75.24 167 LR LR 07 58 50.1
comp=Z,294nm,18.6s,baz=262,slow=33
KEST Kesra 75.32 315 LR LR 08 00 51.3
comp=Z,382nm,21.8s,baz=31,slow=34
INTR Introdacqua 76.01 322 P **P** **07 29 42.2 -0.1**
BELA Belgrano 2 76.70 192 P **P** **07 29 46.3 +0.6**
BELA IAmb IAmb 07 31 18.8
comp=Z,20nm,1.8s
PMG Port Moresby 77.79 96 LR LR 08 02 34.0
comp=Z,396nm,20.2s,baz=260,slow=34
FINES FINESS Array B 84.06 341 P **P** **07 30 24.3 -1.0**
comp=Z,1.8nm,1.0s,baz=123,slow=5.1,SNR=1.7
comp=Z,1.8nm,1.0s
USA0B Ussuriysk Arra 84.16 41 P **P** **07 30 27.0 +0.9**
USA0B IAmb IAmb 07 30 39.2
comp=Z,11nm,0.8s
USRK Ussuriysk Ar. 84.16 41 P **P** **07 30 25.4 -0.7**
MDT Midelt 84.16 306 LR LR 08 06 17.4
comp=Z,318nm,21.3s,baz=114,slow=34
MJAR Matsushiro Arr 84.97 50 P **P** **07 30 28.9 -1.6**
comp=Z,0.4nm,0.3s,baz=215,slow=5.9,SNR=1.7
comp=Z,0.4nm,0.3s
ESDC Sonseca Array 86.46 313 P **P** **07 30 36.3 -1.6**
comp=Z,0.6nm,0.7s,baz=62,slow=15,SNR=2.0
comp=Z,0.6nm,0.7s
KLR Kul'dur 86.49 36 P **P** **07 30 35.7 -2.0**
comp=Z,0.3nm,0.3s,baz=283,slow=21,SNR=1.8
comp=Z,0.3nm,0.3s
NRIK Noril'sk 86.57 7 P **P** **07 30 36.9 -0.7**
comp=Z,1.1nm,0.4s,baz=163,slow=4.2,SNR=1.4
comp=Z,1.1nm,0.4s
PMSA Palmer Station 91.17 199 LR LR 08 06 24.9
comp=Z,98nm,18.6s,baz=123,slow=32
URZ Urewera 94.89 132 LR LR 08 07 30.2
comp=Z,255nm,18.8s,baz=303,slow=31
ILAR Eielson Array 126.29 17 PKP **PKPdf** **07 36 54.7 -2.5**
comp=Z,0.8nm,1.2s,baz=309,slow=5.7,SNR=4.0
YKA Yellowknife Ar 133.79 1 PKP **PKPdf** **07 37 11.0 -0.5**
comp=Z,0.2nm,0.8s,baz=1.8,slow=2.0,SNR=2.8
PDAR Pinedale Array 153.43 355 PKPbc **PKPbc** **07 37 52.8 -1.1**
comp=Z,1.2nm,0.8s,baz=92,slow=3.6,SNR=5.2
NVAR Mina Array Bea 157.37 11 PKPab **PKPab** **07 38 19.8 -3.0**
comp=Z,0.2nm,0.6s,baz=322,slow=2.8,SNR=1.9
TXAR Lajitas Array 164.53 329 PKPab **PKPab** **07 38 55.0 +0.7**
comp=Z,0.1nm,0.5s,baz=51,slow=4.7,SNR=1.3

IDC ***12*** *07:25:00.1±0.5,25.46S×70.07E,h0km,mb4.3/27, mbtmp4.3/27,MS4.5/5,Error ellipse: s-maj=16.0km s-min=14.1km az=59.0*

GCMT ***12*** *07:25:01.8±0.3,25.36S±0.03×69.87E±0.02,h19km±1km, MW5.1/104,Moment Tensor Solution. s16,c16; s104,c147; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-5.50±.40; Mθθ0.83±.21; Mϕϕ4.67±.26; Mrθ0.56±.56; Mθϕ-1.28±.14; Mϕr3.87±.50; Best double couple: M₀6.54900×10¹⁶ NP1:ϕs177.00000°,δ63.00000°, λ-79.00000°. NP2:ϕs333.00000°,δ29.00000°, λ-111.00000°. Principal axes: T 6.1780, Plg17.0000°, Azm258.0000°; N 0.7460, Plg10.0000°, Azm352.0000°; P -6.9200, Plg70.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS ***12*** *07:25:01.0±0.8,25.39S×70.05E,h10km,mb5.0/33 Error ellipse: s-maj=13.5km s-min=7.5km az=92.7*

NEIC ***12*** *07:25:02.8±2.2,25.6S±0.1×70.1E±0.1,h10km±1km, mb5.0/72,Error ellipse: s-maj=19.5km s-min=16.0km az=190.0*

ISC 12 07:25:03.9±0.4,**25.63S**±0.07×**69.92E**±0.07,**h21**km, **h22**km:**pP-P,n230,**σ1s**48**/232,**mb4.9**/109,**MS4.7**/18,**6C-2D, Indian Ocean Triple Junction**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
H08S1	**Diego Garcia H**	**18.05**	**8**	T	T	07 47 35.1	
	baz=188,slow=76,SNR=77						
H08S2	**Diego Garcia H**	**18.05**	**8**	T	T	07 47 35.3	
	baz=188,slow=76,SNR=122						
H08S3	**Diego Garcia H**	**18.07**	**8**	T	T	07 47 36.5	
	baz=188,slow=76,SNR=81						
VOI	**Vohitsoka**	**21.48**	**275**	P	**P**	**07 29 53.2 +1.8**	
VOI				IAmb	IAmb	07 29 55.6	
	comp=Z,64nm,1.3s						
ABPO	**Ambohimpanom**	**21.98**	**283**	P	**P**	**07 29 59.3 +2.5**	
ABPO	**Ambohimpanom**	**21.98**	**283**	P	**P**	**07 29 59.3 +2.5**	
ABPO				pmax	pmax		
	comp=Z,37nm,1.6s						
OPO	**Ambohidratompo**	**22.18**	**284**	P	**P**	**07 30 00.1 +1.1**	
	comp=Z,13nm,0.9s,baz=119,slow=9.6,SNR=8.4						
	comp=Z,13nm,0.9s						
H04N2	**CROZET ISLANDS**	**25.10**	**211**	T	T	07 56 44.8	
	baz=45,slow=74						
H04N1	**CROZET ISLANDS**	**25.11**	**211**	T	T	07 56 47.4	
	baz=45,slow=74						
H04N3	**CROZET ISLANDS**	**25.12**	**211**	T	T	07 56 44.6	
	baz=45,slow=74						
PALK	**Pallekele**	**34.34**	**19**	LR	LR	07 42 13.8	
	comp=Z,880nm,21.1s,baz=339,slow=30						
MNAI	**Manna**	**38.08**	**62**	P	P	07 32 29.9	+8.5
	comp=Z,178nm,1.2s						
KRJI	**Kerinci**	**38.33**	**57**	P	P	07 32 32.7	+9.1
PDSI	**Padang**	**38.35**	**55**	P	P	07 32 31.6	+7.9
	comp=Z,31nm,1.4s,comp=Z,9um						
KIBK	**Kibwezi**	**38.42**	**302**	P	**P**	**07 32 25.6 +1.2**	
SBJI	**Serang**	**39.66**	**67**	P	P	07 32 43.2	+8.6
	comp=Z,136nm,0.5s						
BOSA	**Boshof**	**39.70**	**255**	P	**P**	**07 32 36.9 +1.9**	
BOSA				IAmb	IAmb	07 32 39.0	
	comp=Z,27nm,1.1s						
BOSA	**Boshof**	**39.70**	**255**	P	**P**	**07 32 36.9 +1.9**	
BOSA				pmax	pmax		
	comp=Z,27nm,1.2s						
BOSA	**Boshof**	**39.70**	**255**	P	**P**	**07 32 36.2 +1.3**	
	comp=Z,8.6nm,0.9s,baz=89,slow=9.2,SNR=12						
BOSA				LR	LR	07 46 38.2	
	comp=Z,878nm,18.1s,baz=96,slow=33						
	comp=Z,8.6nm,0.9s						
LSZ	**Lusaka**	**40.29**	**277**	P	**P**	**07 32 41.5 +1.5**	
LSZ	**Lusaka**	**40.29**	**277**	P	**P**	**07 32 41.5 +1.5**	
LSZ				pmax	pmax		
	comp=Z,25nm,1.8s						
LEM	**Lembang**	**40.53**	**69**	P	P	07 32 49.9	+7.9
	comp=Z,25nm,1.0s						
JCJI	**Jatiwangi**	**41.25**	**69**	P	P	07 32 54.6	+6.8
SUR	**Sutherland**	**43.17**	**249**	LR	LR	07 47 55.8	
	comp=Z,1μm,19.7s,baz=113,slow=32						
LODK	**Lodwar**	**44.22**	**306**	P	**P**	**07 33 13.0 +1.0**	
GRJI	**Gresik**	**44.63**	**73**	P	P	07 33 23.8	+8.6
	comp=Z,83nm,0.9s						
PLAI	**Plampang**	**48.38**	**79**	P	P	07 33 51.5	+6.9
	comp=Z,31nm,1.4s						
KAPI	**Kappang**	**51.87**	**75**	P	**P**	**07 34 10.2 -0.8**	
KAPI	**Kappang**	**51.87**	**75**	P	**P**	**07 34 10.3 -0.8**	
KAPI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
EDFI	**Ende, Flores**	**51.89**	**81**	P	**P**	**07 34 11.4 0.0**	
FITZ	**Fitzroy Crossi**	**51.94**	**94**	P	**P**	**07 34 11.4 -0.2**	
UOSS	**Minazif**	**51.99**	**344**	P	**P**	**07 34 11.2 -0.5**	
CM31	**Chiang Mai Arr**	**52.12**	**36**	P	**P**	**07 34 12.7 -0.2**	
CM31				IAmb	IAmb	07 34 19.6	
	comp=Z,16nm,1.0s						
CMAR	**Chiang Mai Arr**	**52.12**	**36**	P	**P**	**07 34 13.1 +0.3**	
CMAR	**Chiang Mai Arr**	**52.12**	**36**	*eP*	**P**	**07 34 13.6 +0.7**	
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**52.12**	**36**	P	**P**	**07 34 11.6 -1.3**	
	comp=Z,3.3nm,0.8s,baz=227,slow=6.7,SNR=21						
CMAR				LR	LR	07 52 24.5	
	comp=Z,169nm,21.4s,baz=215,slow=32						
	comp=Z,3.3nm,0.8s						
CHTO	**Chiang Mai**	**52.42**	**35**	P	**P**	**07 34 15.2 +0.1**	
CHTO	**Chiang Mai**	**52.42**	**35**	P	**P**	**07 34 15.2 +0.1**	
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MMRI	**Maumere**	**52.42**	**81**	P	**P**	**07 34 13.5 -1.8**	
PHRA	**Phrae**	**52.85**	**37**	P	**P**	**07 34 16.2 -2.0**	
ELIB	**Princess Elisa**	**52.97**	**196**	*dP*	**P**	**07 34 20.6 +1.9**	
	comp=Z,4.8nm,1.3s						
UBPT	**Khong Chiam**	**53.40**	**44**	P	**P**	**07 34 21.6 -0.8**	
RAYN	**Ar Rayn**	**54.28**	**332**	P	**P**	**07 34 29.9 +1.2**	
RAYN				IAmb	IAmb	07 34 42.4	
	comp=Z,19nm,1.6s						
RAYN	**Ar Rayn**	**54.28**	**332**	P	**P**	**07 34 29.9 +1.2**	
RAYN				pmax	pmax		
	comp=Z,19nm,1.6s						
CRAI	**Chiangrai**	**54.34**	**36**	P	**P**	**07 34 28.8 -0.4**	
CRAI				IAmb	IAmb	07 34 40.9	
	comp=Z,19nm,1.5s						
LUWI	**Luwuk**	**56.44**	**73**	P	**P**	**07 34 44.8 +0.3**	
SLVN	**Son La**	**57.16**	**38**	P	**P**	**07 34 49.1 -0.4**	
SLVN				IAmb	IAmb	07 35 01.7	
	comp=Z,30nm,1.5s						
ASAR	**Alice Springs**	**57.67**	**103**	P	**P**	**07 34 50.7 -2.5**	
ASAR	**Alice Springs**	**57.67**	**103**	P	**P**	**07 34 50.7 -2.5**	
ASAR	**Alice Springs**	**57.67**	**103**	P	**P**	**07 34 52.4 -0.8**	
	comp=Z,2.6nm,0.6s,baz=251,slow=6.3,SNR=27						
	comp=Z,2.6nm,0.6s						
AS31	**Alice Springs**	**57.67**	**103**	P	**P**	**07 34 50.3 -2.9**	
LSA	**Lhasa**	**58.66**	**22**	P	**P**	**07 34 59.4 -0.9**	
LSA				IAmb	IAmb	07 35 12.6	
	comp=Z,23nm,1.3s						
LSA	**Lhasa**	**58.66**	**22**	P	**P**	**07 34 59.4 -0.9**	
LSA				pmax	pmax		
	comp=Z,23nm,1.3s						
MTN	**Manton Dam**	**58.73**	**90**	P	**P**	**07 35 00.1 -0.6**	
MTN				IAmb	IAmb	07 35 07.5	
	comp=Z,28nm,1.2s						
QIZ	**Qiongzhong**	**58.97**	**45**	P	**P**	**07 35 03.6 +1.5**	
QIZ				S	**S**	**07 43 11.0 +3.5**	
QIZ				LR	LR		
	comp=Z,530nm,11.8s						
QIZ				LR	LR		
	comp=Z,510nm,13.5s						
QIZ				LR	LR		
	comp=Z,490nm,16.8s						
NIL	**Nilore**	**59.03**	**3**	P	**P**	**07 35 02.6 +0.3**	
NIL				IAmb	IAmb	07 35 11.9	
	comp=Z,40nm,1.9s						
NIL	**Nilore**	**59.03**	**3**	P	**P**	**07 35 02.6 +0.3**	
NIL				pmax	pmax		
	comp=Z,40nm,1.9s						
WRA	**Warramunga Arr**	**59.17**	**99**	P	**P**	**07 35 02.8 -0.9**	
WRA	**Warramunga Arr**	**59.17**	**99**	*eP*	**P**	**07 35 05.4 +1.8**	
WRA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WRA	**Warramunga Arr**	**59.17**	**99**	P	**P**	**07 35 02.6 -1.0**	
	comp=Z,3.8nm,1.0s,baz=253,slow=5.7,SNR=8.2						
	comp=Z,3.8nm,1.0s						
WB0	**Warramunga Arr**	**59.27**	**99**	P	**P**	**07 35 02.3 -2.1**	
WR0	**Warramunga Arr**	**59.34**	**99**	P	**P**	**07 35 03.0 -1.8**	
WR0				IAmb	IAmb	07 35 18.1	
	comp=Z,44nm,1.9s						
KMI	**Kunming**	**59.59**	**35**	⇑P	**P**	**07 35 04.7 -1.9**	
KMI				S	**S**	**07 43 16.5 +0.6**	
KMI				SS	**SS**	**07 47 12.5 +0.5**	
KMI				pmax	pmax		
	comp=Z,320nm,12.9s						
KMI				LR	LR		
	comp=Z,210nm,15.2s						
KMI				LR	LR		
	comp=Z,200nm,19.7s						
KMI				LR	LR		
	comp=Z,320nm,19.9s						
KBL	**Kabul**	**59.84**	**359**	P	**P**	**07 35 06.6 -1.5**	
KBL				IAmb	IAmb	07 35 14.5	
	comp=Z,17nm,1.3s						
KBL	**Kabul**	**59.84**	**359**	P	**P**	**07 35 06.6 -1.5**	
KBL				pmax	pmax		
	comp=Z,17nm,1.3s						
PZH	**PanZhiHua**	**60.23**	**33**	P	**P**	**07 35 11.0 +0.2**	
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,210nm,10.0s						
SNAA	**Sanae**	**60.48**	**200**	*i* P	**P**	**07 35 13.6 +1.7**	
SNAA				pmax	pmax		
	comp=Z,26nm,2.0s						
SNAA	**Sanae**	**60.48**	**200**	P	**P**	**07 35 13.8 +1.9**	
	comp=Z,4.0nm,0.9s,baz=90,slow=7.6,SNR=2.2						
	comp=Z,4.0nm,0.9s						
STKA	**Stephens Creek**	**62.13**	**114**	*i* P	**P**	**07 35 24.2 +0.6**	
STKA	**Stephens Creek**	**62.13**	**114**	P	**P**	**07 35 23.1 -0.5**	
	comp=Z,2.6nm,0.9s,baz=275,slow=11,SNR=3.2						
	comp=Z,2.6nm,0.9s						
GYA	**Guiyang**	**62.75**	**37**	P	P	07 35 33.0	+5.2
GYA				pmax	pmax		
	comp=Z,20nm,1.2s						
CHGR	**Chuyangaron**	**63.95**	**359**	P	**P**	**07 35 34.3 -1.2**	
CHGR	**Chuyangaron**	**63.95**	**359**	P	**P**	**07 35 34.3 -1.2**	
CHGR				pmax	pmax		
	comp=Z,37nm,1.6s						
SIMJ	**Simiganj**	**63.95**	**359**	P	**P**	**07 35 34.4 -1.1**	
SIMJ				IAmb	IAmb	07 35 47.0	
	comp=Z,13nm,1.5s						
GEYT	**Alibeck**	**64.18**	**350**	P	**P**	**07 35 37.1 +0.1**	
GEYT	**Alibeck**	**64.18**	**350**	P	**P**	**07 35 37.1 +0.1**	
GEYT				pmax	pmax		
	comp=Z,39nm,1.4s						
GYA0B	**ALIBECK ARRAY**	**64.18**	**350**	P	**P**	**07 35 36.9 -0.1**	
GAR	**Garm**	**64.29**	**0**	P	**P**	**07 35 35.9 -1.8**	
GAR				IAmb	IAmb	07 35 48.4	
	comp=Z,15nm,1.2s						
QSPA	**South Pole Qui**	**64.51**	**180**	P	**P**	**07 35 40.0 +1.0**	
QSPA	**South Pole Qui**	**64.51**	**180**	P	**P**	**07 35 39.4 +0.4**	
	comp=Z,14nm,1.0s,baz=267,slow=3.4,SNR=17						
	comp=Z,14nm,1.0s						
CD2	**Chengdu**	**64.87**	**32**	P	**P**	**07 35 41.2 -0.5**	
CD2				pP	pP	07 35 46.0	-1.3
CD2				S	**S**	**07 44 25.4 +3.5**	
CD2				pmax	pmax		
	comp=Z,20nm,0.3s						
CD2				LR	LR		
	comp=Z,440nm,17.1s						
CD2				LR	LR		
	comp=Z,330nm,18.2s						
CD2				LR	LR		
	comp=Z,330nm,15.3s						
KSH	**Kashi**	**65.05**	**5**	P	**P**	**07 35 40.2 -2.5**	
KSH				sP	sP	07 35 50.6	+0.2
KSH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BTK	**Batken**	**65.35**	**1**	P	**P**	**07 35 43.1 -1.5**	
BTK				IAmb	IAmb	07 35 56.3	
	comp=Z,28nm,1.6s						
BTK	**Batken**	**65.35**	**1**	P	**P**	**07 35 43.1 -1.5**	
BTK				pmax	pmax		
	comp=Z,28nm,1.6s						
ASF	**Jabal al Asfar**	**65.54**	**329**	P	**P**	**07 35 45.6 -0.4**	
	comp=Z,2.5nm,0.6s,baz=153,slow=2.6,SNR=4.2						
ASF				LR	LR	07 59 23.4	
	comp=Z,7μm,19.0s,baz=63,slow=32						
	comp=Z,2.5nm,0.6s						
VNDA	**Vanda**	**65.59**	**166**	P	**P**	**07 35 47.0 +1.3**	
VNDA				IAmb	IAmb	07 35 47.6	
	comp=Z,9.6nm,1.1s						
VNDA	**Vanda**	**65.59**	**166**	P	**P**	**07 35 47.0 +1.3**	
VNDA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
VNDA	**Vanda**	**65.59**	**166**	P	**P**	**07 35 46.2 +0.5**	
	comp=Z,4.7nm,0.9s,baz=275,slow=8.4,SNR=6.9						
	comp=Z,4.7nm,0.9s						
ARSB	**Arslanbob**	**66.67**	**3**	P	**P**	**07 35 52.5 -0.6**	
ARSB	**Arslanbob**	**66.67**	**3**	P	**P**	**07 35 52.5 -0.6**	
ARSB				pmax	pmax		
	comp=Z,8.0nm,1.5s						
MMAI	**Mount Meron Ar**	**66.94**	**329**	P	**P**	**07 35 55.8 +0.8**	
	comp=Z,0.8nm,0.3s,baz=86,slow=15,SNR=4.2						
	comp=Z,0.8nm,0.3s						
NRN	**Naryn**	**66.96**	**5**	P	**P**	**07 35 54.3 -0.9**	
NRN				IAmb	IAmb	07 36 07.3	
	comp=Z,8.0nm,1.2s						
NRN	**Naryn**	**66.96**	**5**	P	**P**	**07 35 54.3 -0.9**	
NRN				pmax	pmax		

comp=Z,8.0nm,1.2s
ENH Enshi 67.28 37 P **P** **07 35 56.6 -0.5**
TARG Taragay, Kyrgy 67.41 6 P **P** **07 35 57.0 -1.2**
TARG Taragay, Kyrgy 67.41 6 P **P** **07 35 57.0 -1.2**
TARG pmax pmax
comp=Z,6.0nm,1.3s
BOOM Boomskoye usch 68.00 5 P **P** **07 36 01.8 +0.2**
BOOM IAmb IAmb 07 36 15.6
comp=Z,8.1nm,1.2s
BOOM Boomskoye usch 68.00 5 P **P** **07 36 01.8 +0.2**
BOOM pmax pmax
comp=Z,8.0nm,1.2s
AAK Ala-Archa 68.05 4 P **P** **07 36 01.1 -0.7**
AAK IAmb IAmb 07 36 14.0
comp=Z,14nm,1.4s
AAK Ala-Archa 68.05 4 *i* P **P** **07 36 01.8 -0.1**
AAK Ala-Archa 68.05 4 P **P** **07 36 00.0 -1.9**
comp=Z,0.4nm,0.3s,baz=131,slow=4.6,SNR=1.7
comp=Z,0.4nm,0.3s
PRZ Przheval'sk 68.22 7 P **P** **07 36 03.1 +0.2**
PRZ Przheval'sk 68.22 7 P **P** **07 36 03.1 +0.2**
PRZ pmax pmax
comp=Z,36nm,1.4s
KK31 Karatay Array 68.39 0 P **P** **07 36 03.6 -0.2**
KK31 IAmb IAmb 07 36 16.0
comp=Z,21nm,1.4s
KK31 Karatay Array 68.39 0 P **P** **07 36 03.6 -0.2**
KK31 pmax pmax
comp=Z,21nm,1.4s
KKAR Karatay Array 68.39 0 P **P** **07 36 02.5 -1.3**
KKAR Karatay Array 68.39 0 P **P** **07 36 02.5 -1.3**
GURO Guroymak-BITLI 68.98 337 P **P** **07 36 07.7 -0.1**
GURO IAmb IAmb 07 36 16.3
comp=Z,9.9nm,1.0s
TWG Pinlang 69.11 50 P **P** **07 36 09.5 +0.8**
LZH Lanzhou 69.23 29 *e*P P 07 36 13.4 +4.0
LZH sP pwP 07 36 20.5 +0.8
LZH pmax pmax
comp=Z,19nm,1.2s
LZH LR LR
comp=Z,260nm,17.2s
LZH LR LR
comp=Z,350nm,17.5s
LZH LR LR
comp=Z,350nm,16.2s
GNI Garni 69.51 340 P **P** **07 36 08.3 -2.8**
comp=Z,4.8nm,0.3s,baz=140,slow=16,SNR=1.5
comp=Z,4.8nm,0.3s
SSLB Suanglung 69.66 49 P **P** **07 36 11.8 -0.3**
XAN Xi'an 69.94 34 P **P** **07 36 13.5 -0.2**
XAN pP pP 07 36 17.8 -1.6
XAN pmax pmax
comp=Z,17nm,0.9s
WHN Wuhan 70.20 40 P **P** **07 36 16.1 +0.8**
GTA Gaotai 70.47 24 P **P** **07 36 18.0 +1.1**
GTA pP pP 07 36 22.7 +0.1
GTA sP pwP 07 36 26.8 -0.4
GTA pmax pmax
comp=Z,7.0nm,1.3s
GTA LR LR
comp=Z,180nm,18.5s
GTA LR LR
comp=Z,270nm,18.9s
GTA LR LR
comp=Z,140nm,19.4s
WMQ Urumqi 71.01 14 *e*P **P** **07 36 22.3 +2.3**
WMQ LR LR
comp=Z,560nm,17.1s
WMQ LR LR
comp=Z,1μm,21.1s
WMQ LR LR
comp=Z,890nm,19.1s
GROC Groznyy 72.00 342 *e*P **P** **07 36 22.8 -3.1**
GROC pmax pmax
comp=Z,26nm,0.6s
LYN LuoYang 72.17 36 *e*P **P** **07 36 29.5 +2.4**
LYN pmax pmax
comp=Z,9.0nm,0.9s
LYN pmax pmax
comp=Z,180nm,5.8s
LYN LR LR
comp=Z,430nm,15.5s
LYN LR LR
comp=Z,310nm,15.1s
LYN LR LR
comp=Z,470nm,20.3s
MAKZ Makanchi 72.91 9 P **P** **07 36 30.2 -1.1**
MAKZ Makanchi 72.91 9 P **P** **07 36 30.2 -1.1**
MAKZ pmax pmax
comp=Z,10.0nm,1.3s
MK31 Makanchi Array 72.94 9 P **P** **07 36 30.4 -1.0**
MK31 IAmb IAmb 07 36 43.3
comp=Z,14nm,1.2s
MK31 Makanchi Array 72.94 9 *i* P **P** **07 36 29.7 -1.8**
MKAR Makanchi Array 72.94 9 P **P** **07 36 30.4 -1.1**
MKAR Makanchi Array 72.94 9 P **P** **07 36 29.6 -1.9**
comp=Z,2.7nm,0.8s,baz=190,slow=6.0,SNR=2.6
comp=Z,2.7nm,0.8s
BRTR Keskin Array B 73.29 332 P **P** **07 36 33.4 -0.5**
BRTR Keskin Array B 73.29 332 *e*P **P** **07 36 33.9 0.0**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 73.29 332 P **P** **07 36 33.5 -0.4**
comp=Z,2.8nm,0.9s,baz=148,slow=7.3,SNR=11
comp=Z,2.8nm,0.9s
BR131 Keskin Array S 73.30 332 P **P** **07 36 33.9 0.0**
BR131 IAmb IAmb 07 36 47.1
comp=Z,13nm,1.4s
BR131 Keskin Array S 73.30 332 P **P** **07 36 33.9 0.0**
BR131 pmax pmax
comp=Z,13nm,1.4s
KBZ Khabaz 73.34 340 *i* P **P** **07 36 34.1 +0.3**
KBZ pmax pmax
comp=Z,8.0nm,1.1s
KBZ Khabaz 73.34 340 P **P** **07 36 33.7 -0.1**
comp=Z,2.5nm,0.9s,baz=198,slow=9.5,SNR=5.1
comp=Z,2.5nm,0.9s
KIV Kislovodsk 73.61 340 P **P** **07 36 35.5 0.0**
KIV IAmb IAmb 07 36 42.2
comp=Z,9.4nm,1.0s
KIV Kislovodsk 73.61 340 *e*P **P** **07 36 34.7 -0.9**
KIV pmax pmax
comp=Z,6.0nm,1.0s
NJ2 Nanjing 73.95 42 *e*P **P** **07 36 38.9 +1.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.7s
MDUB Mudurnu 74.98 330 P **P** **07 36 43.9 +0.3**
ABKAR Akbulak array 75.07 353 P **P** **07 36 43.2 -0.6**
HNS HongShan 75.52 35 ‖P **P** **07 36 47.4 +0.8**
HNS PcP **pwP** **07 36 57.6 +0.7**
HNS *e*S **S** **07 46 28.6 +2.6**
HNS pmax pmax
comp=Z,24nm,1.0s
HNS LR LR
comp=Z,280nm,16.7s
HNS LR LR
comp=Z,100nm,13.5s
HNS LR LR
comp=Z,330nm,20.6s
BTO Baotou 75.71 30 *e*P **P** **07 36 50.2 +2.4**
BTO pP **sP** **07 36 55.0 -0.8**
BTO sP **pwP** **07 36 57.2 -1.0**
BTO PP **PP** **07 39 42.6 +4.5**
BTO sS **sS** **07 46 40.6 +2.5**
BTO SS **SS** **07 51 27.3 +6.6**
BTO pmax pmax
comp=Z,19nm,1.1s
BTO pmax pmax
comp=Z,300nm,4.2s
BTO LR LR
comp=Z,540nm,16.4s
BTO LR LR
comp=Z,1μm,17.2s
BTO LR LR
comp=Z,1μm,17.8s
ANN Anapa 76.11 337 *e*P **P** **07 36 46.4 -3.4**
ANN *e**PP **pP** **07 36 49.9 -5.9**
ANN *e* 07 36 55.9
ANN *e*S **S** **07 46 28.6 -3.6**
ANN pmax pmax
comp=Z,33nm,0.9s
KURBB Kurchatov Arra 76.29 6 P **P** **07 36 50.0 -0.7**
comp=Z,2.1nm,0.9s,baz=202,slow=6.3,SNR=15
comp=Z,2.1nm,0.9s
KURK Kurchatov 76.39 6 P **P** **07 36 50.9 -0.4**
KURK IAmb IAmb 07 37 04.0
comp=Z,23nm,1.2s
KURK Kurchatov 76.39 6 *i* P **P** **07 36 49.7 -1.6**
KURK pmax pmax
comp=Z,24nm,1.2s
DGZ Jazzator, Alta 76.59 12 *i* P **P** **07 36 53.0 +0.3**
DGZ pmax pmax
comp=Z,20nm,1.8s
HHC Hu-ho-hao-te 76.61 31 *e*P **P** **07 36 54.8 +1.8**
HHC pP sP 07 36 59.6 -1.4
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,98nm,3.6s
HHC LR LR
comp=Z,210nm,17.6s
HHC LR LR
comp=Z,250nm,16.1s
HHC LR LR
comp=Z,280nm,20.9s
TOA0 Torodi Ar. Sit 76.76 292 P **P** **07 36 54.5 +0.2**
TORD Torodi Ar. Bea 76.76 292 P **P** **07 36 54.8 +0.5**
TORD Torodi Ar. Bea 76.76 292 P **P** **07 36 54.5 +0.3**
comp=Z,4.5nm,1.0s,baz=100,slow=4.5,SNR=13
comp=Z,4.5nm,1.0s
ALN Alexandroupoli 77.71 327 P **P** **07 36 59.1 +0.1**
ALN IAmb IAmb 07 37 12.5
comp=Z,17nm,1.3s
ALN Alexandroupoli 77.71 327 P **P** **07 36 59.1 +0.1**
ALN pmax pmax
comp=Z,17nm,1.3s
RDO Rodhopi 78.15 327 P **P** **07 37 01.6 +0.2**
BJI Beijing 78.25 35 P P 07 37 07.5 +5.5
BJI pmax pmax
comp=Z,4.0nm,0.7s
BJI pmax pmax
comp=Z,31nm,3.6s
BJI LR LR
comp=Z,130nm,17.7s
BJI LR LR
comp=Z,95nm,14.1s
BJI LR LR
comp=Z,100nm,17.3s
BVAR Borovoye Array 78.32 0 P **P** **07 37 00.7 -1.4**
comp=Z,1.2nm,0.7s,baz=158,slow=5.9,SNR=6.3
comp=Z,1.2nm,0.7s
BRVK Borovoye 78.35 0 P **P** **07 37 01.6 -0.6**
BRVK IAmb IAmb 07 39 03.3
comp=Z,6.6nm,0.6s
BRVK Borovoye 78.35 0 *i* P **P** **07 37 01.6 -0.6**
BRVK pmax pmax
comp=Z,6.0nm,1.2s
DBIC Dimbokro 79.29 283 P **P** **07 37 08.4 0.0**
comp=Z,5.2nm,1.1s,baz=75,slow=3.7,SNR=2.4
comp=Z,5.2nm,1.1s
BELG Belogornoye 80.10 346 *i* P **P** **07 37 12.3 +0.5**
BELG pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 80.14 24 P **P** **07 37 11.2 -1.2**
SONM IAmb IAmb 07 37 24.2
comp=Z,18nm,1.2s
SONM Songino Array 80.14 24 P **P** **07 37 11.2 -1.2**
SONM pmax pmax
comp=Z,18nm,1.2s
SONM Songino Array 80.14 24 P **P** **07 37 11.4 -1.0**
comp=Z,2.1nm,0.9s,baz=208,slow=4.4,SNR=10.0
comp=Z,2.1nm,0.9s
ZAA0 Zalesovo Array 80.28 9 P **P** **07 37 11.1 -1.7**
ZAA0 IAmb IAmb 07 37 19.0
comp=Z,10nm,1.0s
ZALV Zalesovo Beam 80.28 9 P **P** **07 37 11.8 -1.0**
ZALV Zalesovo Beam 80.28 9 P **P** **07 37 11.8 -1.0**
ZALV Zalesovo Beam 80.28 9 P **P** **07 37 10.8 -1.9**
comp=Z,3.5nm,0.8s,baz=194,slow=3.6,SNR=12
comp=Z,3.5nm,0.8s
ULN Ulaanbaatar 80.41 24 P **P** **07 37 13.6 -0.2**
ULN IAmb IAmb 07 37 26.0
comp=Z,16nm,1.1s
ULN Ulaanbaatar 80.41 24 *i* P **P** **07 37 14.2 +0.4**
ULN pmax pmax
comp=Z,19nm,1.1s
XLT XiLinHaoTe 81.09 32 *e*P **P** **07 37 18.6 +1.1**
XLT pP PcP 07 37 23.8 0.0
XLT sP pwP 07 37 26.8 -1.1
XLT pmax pmax
comp=Z,8.0nm,0.9s
XLT pmax pmax
comp=Z,130nm,4.3s
VRI Vrincioaia 81.25 331 ⇑P **P** **07 37 18.9 +0.7**
PLOR Plostina 81.27 331 ⇑P **P** **07 37 17.7 -0.6**
MLR Muntele Rosu 81.30 330 P **P** **07 37 19.0 +0.4**
MLR IAmb IAmb 07 37 31.6
comp=Z,29nm,1.4s
MLR Muntele Rosu 81.30 330 ⇑P **P** **07 37 19.0 +0.4**
ARU Arti 82.30 354 P **P** **07 37 23.4 0.0**
ARU Arti 82.30 354 *c* *i*P **P** **07 37 22.9 -0.5**
ARU S **S** **07 47 39.9 +2.3**
ARU SS **SS** **07 52 55.9 -3.0**
ARU pmax pmax
comp=Z,9.0nm,1.3s
KSAR Wonju Array Be 83.06 43 P **P** **07 37 27.3 -0.6**
KSAR Wonju Array Be 83.06 43 P **P** **07 37 27.3 -0.6**
KSRS Korea Array 83.09 43 P **P** **07 37 27.4 -0.6**
comp=Z,0.5nm,0.3s,baz=227,slow=6.2,SNR=2.3
KSRS LR LR 08 13 29.9
comp=Z,190nm,19.4s,baz=270,slow=35
comp=Z,0.5nm,0.3s
BURAR Bucovina Array 83.26 331 P **P** **07 37 28.5 -0.3**
BUR08 Bucovina Ar. S 83.29 331 P **P** **07 37 27.7 -1.2**
BUR08 IAmb IAmb 07 37 42.4
comp=Z,20nm,1.4s
DRGR 83.75 330 ⇑P **P** **07 37 31.0 -0.3**
AKASG Malin Array Be 84.07 335 P **P** **07 37 31.2 -1.5**
comp=Z,0.4nm,0.5s,baz=148,slow=4.4,SNR=8.4
comp=Z,0.4nm,0.5s
AKBB Malin Array Si 84.07 335 P **P** **07 37 31.5 -1.2**
AKBB IAmb IAmb 07 37 44.7
comp=Z,14nm,1.2s
AKBB Malin Array Si 84.07 335 *i* P **P** **07 37 32.5 -0.2**
AKBB pmax pmax
comp=Z,23nm,3.0s
KIEV Kiev 84.07 335 P **P** **07 37 31.6 -1.1**
KIEV IAmb IAmb 07 37 44.7
comp=Z,11nm,1.2s
KIEV Kiev 84.07 335 P **P** **07 37 31.6 -1.1**
KIEV pmax pmax
comp=Z,11nm,1.2s
CN2 Changchun 85.80 37 P P 07 37 46.0 +4.4
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=Z,300nm,19.0s
CN2 LR LR
comp=Z,400nm,19.0s
CN2 LR LR
comp=Z,300nm,19.0s
SOKA Soboth 87.39 326 *e*P **P** **07 37 51.5 +2.1**
comp=Z,4.9nm,1.2s
RONA Rosalia, Austr 87.45 327 *i* P **P** **07 37 49.8 +0.1**
comp=Z,6.7nm,1.0s
ARSA Arzberg 87.53 326 *e*P **P** **07 37 51.3 +1.3**
comp=Z,6.0nm,1.0s
CONA Conrad Observa 87.82 327 *i* P **P** **07 37 52.1 +0.6**
comp=Z,12nm,1.2s
MYKA Terra Mystica 88.07 325 *e*P **P** **07 37 54.0 +1.3**
comp=Z,7.2nm,1.1s
KBA Koelnbreinsper 88.52 325 *i* P **P** **07 37 57.4 +2.5**
comp=Z,6.5nm,1.2s
MOA Molln 88.56 326 *i* P **P** **07 37 56.6 +1.7**
comp=Z,14nm,1.9s
MDJ Mudanjiang 88.60 38 P **P** **07 37 56.3 +1.2**
MDJ pmax pmax
comp=Z,9.0nm,1.7s
MDJ pmax pmax
comp=Z,160nm,6.2s
ABTA Abfaltersbach 88.73 325 *e*P **P** **07 37 57.2 +1.3**
comp=Z,7.8nm,1.0s
BIOA Bad Ischl, Aus 88.77 326 *e*P **P** **07 37 58.5 +2.6**
comp=Z,1.9nm,0.4s
LESA Schwarzleotal 89.09 325 *e*PcP **PcP** **07 38 00.2 +1.3**
comp=Z,1.8nm,0.5s
GERES GERESS Array B 89.50 327 P **P** **07 37 57.9 -1.5**
comp=Z,0.3nm,0.3s,baz=121,slow=5.5,SNR=1.6
comp=Z,0.3nm,0.3s
WTTA Wattenberg 89.52 325 *e*P **P** **07 37 59.5 -0.1**
comp=Z,15nm,1.2s
WATA Walderalm 89.60 325 *e*PcP **PcP** **07 38 02.9 +1.6**
comp=Z,1.3nm,0.4s
KLMR Klimovskoe 89.65 346 *e*P **P** **07 37 58.6 -1.0**
KLMR pmax pmax
comp=Z,48nm,1.4s
SQTA Sankt Quirin 89.72 324 *e*P **P** **07 38 01.0 +0.5**
comp=Z,4.2nm,0.6s
FETA Feichten 89.85 324 *i* P **P** **07 38 02.4 +1.3**
comp=Z,8.5nm,1.3s
MOTA Moosalm 89.86 324 *e*P **P** **07 38 03.2 +2.1**
comp=Z,2.4nm,0.7s
RETA Reutte 90.12 324 *e*P **P** **07 38 03.0 +0.7**
comp=Z,8.3nm,1.0s
DAVA Damuels 90.47 324 *i* P **P** **07 38 05.0 +1.0**
comp=Z,9.4nm,1.0s
KLR Kul'dur 92.60 35 P **P** **07 38 13.2 -0.5**
comp=Z,0.6nm,0.5s,baz=280,slow=7.9,SNR=2.9
comp=Z,0.6nm,0.5s
ESDC Sonseca Array 94.59 312 P **P** **07 38 22.0 -1.2**
comp=Z,0.5nm,0.7s,baz=106,slow=4.5,SNR=2.3
comp=Z,0.5nm,0.7s
ILAR Eielson Array 134.30 21 PKP **PKPdf** **07 44 17.2 -2.3**
comp=Z,0.3nm,1.0s,baz=331,slow=4.1,SNR=1.3
YKA Yellowknife Ar 143.01 3 *e*PKIKP **PKPdf** **07 44 35.7 +0.2**
YKA Yellowknife Ar 143.01 3 PKP **PKPdf** **07 44 32.8 -2.7**
comp=Z,0.4nm,0.9s,baz=342,slow=2.9,SNR=5.9
YKA PP **PP** **07 47 43.9 -0.9**
comp=Z,0.5nm,1.0s,baz=349,slow=6.1,SNR=4.4
FCC Fort Churchill 145.02 345 **PKPab** **07 44 38.1 -0.3**
FCC Fort Churchill 145.02 345 PKIKP **PKPab** **07 44 38.1 -0.3**
TRQ Mont Tremblant 145.05 315 PKPbc **PKPab** **07 44 39.2 +0.1**
L61B Northampton 145.09 308 PKPbc **PKPbc** **07 44 38.9 -0.3**
T35M Bob Quinn 145.47 19 PKPbc **PKPdf** **07 44 39.7 -0.2**
NCB Newcomb 145.68 311 **PKPab** **07 44 42.3 +0.8**
WBO Williamsburg 146.00 314 PKPbc **PKPab** **07 44 42.9 +0.4**
FFC Flin Flon 150.32 350 PKPab **PKPab** **07 44 59.1 -0.4**
BRLDA Berland Lookou 151.05 9 PKPdf **PKPdf** **07 44 48.7 -0.6**
SOCE Pocosol 151.51 242 PKPdf **PKPdf** **07 44 47.7 -3.4**
EDM Edmonton 152.33 4 **PKiKP** **07 44 58.0 -0.2**
EDM Edmonton 152.33 4 PKIKP **PKiKP** **07 44 58.0 -0.2**
ULM Lac du Bonnet 153.08 340 PKPbc **PKPbc** **07 44 57.1 -2.6**
baz=32,slow=5.6
PDAR Pinedale Array 162.90 359 PKP **PKPdf** **07 45 02.6 -2.2**
comp=Z,0.3nm,0.8s,baz=64,slow=6.2,SNR=2.3
PDAR PKPab **PKPab** **07 45 52.5 -1.5**
comp=Z,0.3nm,0.8s,baz=55,slow=14,SNR=1.6
WMOK Wichita Mounta 166.67 316 PKPdf **PKPdf** **07 45 08.1 0.0**
WMOK PKPab **PKPab** **07 46 10.8 +0.1**
WMOK Wichita Mounta 166.67 316 PKIKP **PKPdf** **07 45 08.1 0.0**
WMOK 07 46 10.8
GMN Gold Mountain 166.85 26 PKPdf **PKPdf** **07 45 08.6 +0.1**
GMN PKPab **PKPab** **07 46 09.3 -2.2**
MSU Marysvale 167.03 7 PKPdf **PKPdf** **07 45 08.0 -0.5**
MSU PKPab **PKPab** **07 46 10.4 -1.8**
MSU Marysvale 167.03 7 PKIKP **PKPdf** **07 45 08.0 -0.5**
MSU 07 46 10.5
ALPN Alpine 172.60 311 PKPdf **PKPdf** **07 45 11.9 0.0**
ALPN PKPab **PKPab** **07 46 37.1 -0.1**
TXAR Lajitas Array 173.21 304 PKP **PKPdf** **07 45 11.6 -0.6**
comp=Z,0.3nm,0.8s,baz=90,slow=0.9,SNR=1.9
TXAR PKPab **PKPab** **07 46 39.8 -0.2**
comp=Z,0.2nm,0.6s,baz=54,slow=4.6,SNR=1.5

IDC ***12*** *07:35:29.3±0.5,28.°13N×57.°50E,h0km,mb4.4/32, mbtmp4.4/39,ML4.1/7,MS4.3/22,Error ellipse: s-maj=12.6km s-min=8.7km az=169.0*

MOS ***12*** *07:35:29.5±1.1,28.°01N×57.°42E,h14km,mb4.9/58,Error ellipse: s-maj=5.3km s-min=3.6km az=74.1*

BJI ***12*** *07:35:30.0±0.0,28.°10N×57.°50E,h10km,mb4.7/59, mB5.0/30,Ms4.6/31,Ms7 4.4/31*

NEIC ***12*** *07:35:32.2±2.5,28.°14N±0.°06×57.°39E±0.°08,h10km±1km, mb4.9/140,Error ellipse: s-maj=12.9km s-min=9.9km az=108.0*

OMAN ***12*** *07:35:32.5±0.0,28.°14N×57.°42E,h10km,mb5.4/23, ml4.7/17,ms3.9/11,Mwp5.3/3,Error ellipse: s-maj=1.7km s-min=1.0km az=252.0*

DSN ***12*** *07:35:32.3±1.0,28.°34N×57.°30E,h15km,mb5.3/1, ML4.7/13,Error ellipse: s-maj=25.2km s-min=10.0km az=118.0*

THR ***12*** *07:35:33.7±1.2,28.°22N×57.°43E,h18km±9km,ML4.6*

TEH ***12*** *07:35:34.1,28.°23N×57.°50E,h24km±23km,ML4.9*

BGR ***12*** *07:35:39.2,28.°46N×57.°01E,h33km,mb4.3*

ISC 12 07:35:32.1±0.5,28.°12N±0.°02×57.°46E±0.°02,h16km±3km, n831,σ1§49/879,mb4.8/166,MS4.3/37,14C-1D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNJ	Kahnooj	0.28	129	Pg	Pn	07 35 41.3	-0.3
KHNJ				Sg	Sn	07 35 48.2	+0.7
IBND	Bandar-abas	1.06	231	Pg	Pg	07 35 55.1	+2.5
KBAM	BAM	1.33	40	Pg	Pb	07 35 57.0	+0.1
KBAM				Sg	Sb	07 36 13.9	+0.1
GENO	Geno	1.35	238	Pg	Pg	07 35 59.2	+1.0
BNDS	Bandar-Abbas	1.35	238	*e*Pg	Pg	07 35 59.5	+1.3
BNDS				*e*Sg	Sg	07 36 18.1	+2.3
BNDS				IAML		07 36 25.2	
	comp=E,8μm,0.6s						
BNDS				IAML		07 36 27.6	
	comp=N,8μm,0.4s						
NGRK	Negar Kerman	1.65	337	Pg	Pn	07 36 01.6	+0.8
CHMN	Cheshme madani	1.73	2	Pg	Pb	07 36 03.4	-0.5
KRBR	Kerman	1.95	342	*e*Pn	Pb	07 36 06.6	-1.0
KRBR				*e*Sg	Sb	07 36 32.1	+0.3
KRBR				IAML		07 36 38.9	
	comp=N,4μm,0.5s						
KRBR				IAML		07 36 48.3	
	comp=E,6μm,0.6s						
TVBK	TV Kerman	1.96	342	Pn	Pb	07 36 06.8	-0.9
JASK	Jask - Hormozg	2.27	171	Pn	Pb	07 36 12.2	-0.6
JASK	Jask - Hormozg	2.27	171	P	Pb	07 36 12.4	-0.4
	SNR=163						
SHME	Shamm	2.38	210	*e*P	Pb	07 36 12.8	-1.7
	SNR=39						
SHME				S	Sg	07 36 47.2	-1.3
SHME	Shamm	2.38	210	P	Pb	07 36 13.1	-1.5
	SNR=38						
SHME				S	Sb	07 36 43.1	-0.6
	SNR=8.8						
KRM1	Kerman Provinc	2.38	356	Pn	Pb	07 36 13.3	-1.5
KHGB	Koh Gabri	2.41	339	Pn	Pb	07 36 13.3	-1.9
BANOM	Banah	2.42	206	*e*P	Pn	07 36 12.8	+1.6
	SNR=123						
BANOM	Banah	2.42	206	P	Pb	07 36 13.7	-1.7
LAR1	LAR	2.77	261	Pn	Pb	07 36 19.6	-1.7
MASF	Masafi	2.98	203	P	Pn	07 36 21.4	+2.6
	SNR=115						
MSFE	Esma-Masafi	2.99	203	*i* P	Pn	07 36 20.4	+1.5
	SNR=28						
MDH	Madha	3.00	201	*i* P	Pn	07 36 20.3	+1.3
	SNR=64						
MDH	Madha	3.00	201	P	Pn	07 36 21.0	+2.0
	SNR=13						
MDH				P	Pn	07 36 21.0	+2.0
	SNR=13						
MDH				S	Sn	07 36 57.3	+2.7
	SNR=69						
MDH				S	Sn	07 36 57.3	+2.7
	SNR=69						
UMQ	Umm Al-Quwin	3.04	212	*i* P	Pn	07 36 22.2	+2.6
	SNR=7.9						
UMQ	Umm Al-Quwin	3.04	212	P	Pb	07 36 23.1	-2.9
	SNR=7.9						
ZHDN	Zahedan	3.20	66	Pn	Pn	07 36 24.4	+2.4
ZHSF	Zahedan	3.26	62	*e*Pn	Pb	07 36 27.0	-2.8
UOSS	Minazif	3.36	200	Pn	Pn	07 36 25.3	+1.3
UOSS				Sn	Sn	07 37 05.5	+1.9
UOSS	Minazif	3.36	200	*i* P	Pn	07 36 25.3	+1.3
	SNR=121						
UOSS	Minazif	3.36	200	P	Pn	07 36 26.0	+2.0
UOSS				S	Sb	07 37 08.7	-3.3
	SNR=118						
JHRM	Jahrom	3.45	277	Pn	Pn	07 36 28.0	+2.7
HATD	Hatta, Dubai	3.49	200	*i* P	Pn	07 36 27.6	+1.7
	SNR=60						
HATD	Hatta, Dubai	3.49	200	P	Pn	07 36 28.1	+2.3
	SNR=44						
HATD				P	Pn	07 36 28.1	+2.3
	SNR=44						
NAZ	Nazwa, Dubai	3.51	208	*i* P	Pn	07 36 29.0	+2.9
	SNR=56						
NAZ	Nazwa, Dubai	3.51	208	P	Pn	07 36 29.1	+2.9
	SNR=28						

NAZ S Sn 07 37 12.0 +4.6
ASHO Ashiyiah 3.65 201 *i* P Pn 07 36 30.8 +2.8
SNR=186
ASHO Ashiyiah 3.65 201 P Pn 07 36 31.2 +3.2
SNR=186
CHBR Chabahar 3.69 132 *e*Pn Pn 07 36 31.7 +3.2
CHBR Chabahar 3.69 132 Pn Pn 07 36 31.2 +2.7
FAQ Al Faqa, Dubai 3.76 207 *i* P Pn 07 36 32.5 +3.0
SNR=18
FAQ Al Faqa, Dubai 3.76 207 P Pn 07 36 32.5 +3.0
SNR=20
FAQ S Sn 07 37 17.1 +3.7
IBAF Bafgh 3.83 335 Pn Pn 07 36 33.3 +2.7
LMD1 Lamerd 3.89 259 Pn Pn 07 36 34.8 +3.5
QIR1 Qir 3.91 276 Pn Pn 07 36 35.3 +3.6
GHIR Ghir-Karzin 3.95 273 *e*Pn Pn 07 36 35.3 +3.0
NHDN Nehbandan 3.96 34 Pn Pn 07 36 35.5 +3.0
SOHO SOHO 4.06 192 *i* P Pn 07 36 34.5 +0.9
SNR=74
SOHO SOHO 4.06 192 P Pn 07 36 34.8 +1.2
BSRN Basiran 4.09 20 *e*Pn Pn 07 36 36.7 +2.5
BSRN IAML 07 38 01.0
comp=E,369nm,0.6s
BSRN Basiran 4.09 20 Pn Pn 07 36 36.5 +2.2
IMEH Mehriz 4.09 323 Pn Pn 07 36 36.5 +2.2
AJN Ajban 4.18 213 *i* P Pn 07 36 37.8 +2.4
SNR=63
AJN Ajban 4.18 213 P Pn 07 36 38.3 +2.9
SNR=63
AJN S Sn 07 37 25.9 +2.0
SNR=6.0
NGCH Negor - Chabah 4.29 129 Pn Pn 07 36 39.8 +3.1
NGCH Negor - Chabah 4.29 129 P Pn 07 36 39.6 +2.9
SNR=59
SRVN Saravan 4.43 98 Pn Pn 07 36 42.3 +3.4
IKOO Kooshah 4.49 17 Pn Pn 07 36 42.7 +2.9
HOQ Hoqain 4.52 182 Pn Pn 07 36 41.1 +1.1
HOQ Hoqain 4.52 182 P Pn 07 36 41.4 +1.4
SNR=44
HOQ S Sn 07 37 35.1 +2.7
SHI Shiraz 4.60 290 Pn Pn 07 36 44.0 +2.8
BIDO Bidbid 4.62 172 P Pn 07 36 42.8 +1.4
SNR=34
BIDO S Sn 07 37 35.8 +1.1
ARQ Araqi 4.84 190 P Pn 07 36 48.1 +3.7
SNR=63
ARQ S Sn 07 37 44.4 +4.2
YZKH Yazd 4.93 330 *e*Pn Pn 07 36 48.1 +2.5
YZKH IAML 07 38 19.7
comp=N,196nm,0.8s
TPRV Parvadeh(Tabas 4.94 352 Pn Pn 07 36 49.3 +3.5
WSAR Wadi Sarin 4.97 168 Pn Pn 07 36 48.2 +1.9
comp=N,25nm,0.3s,baz=339,slow=4.8,SNR=182
WSAR Sn Sn 07 37 42.2 -1.3
comp=N,107nm,0.3s,baz=292,slow=18,SNR=12
WSAR Wadi Sarin 4.97 168 P Pn 07 36 48.5 +2.2
SNR=30
WSAR S Sn 07 37 44.2 +0.7
SMDO Samad 5.07 174 P Pn 07 36 49.9 +2.3
SNR=32
SMDO S Sn 07 37 47.8 +1.9
JRN Qarnain Island 5.21 234 P Pn 07 36 50.9 +1.5
SNR=17
JRN S Sn 07 37 49.9 +0.8
KAZ2 Kazeron-Fars-I 5.30 288 Pn Pn 07 36 54.5 +3.8
BSY Bisya 5.36 183 P Pn 07 36 55.4 +3.9
SNR=36
BSY P Pn 07 36 55.4 +3.9
SNR=36
BSY S Sn 07 37 56.3 +3.3
BSY S Sn 07 37 56.3 +3.3
MZWR Madinat Zayed 5.41 217 P Pn 07 36 54.5 +2.4
MZWR S Sn 07 37 54.0 -0.1
AFRZ Afriz 5.45 14 Pn Pn 07 36 55.7 +2.8
DSBU Dashti - Bushe 5.48 274 Pn Pn 07 36 55.3 +2.1
AHBU AHRAM 5.48 279 Pn Pn 07 36 56.2 +3.1
TKDS Koohdasht(Taba 5.48 357 Pn Pn 07 36 56.2 +2.9
TABS Tabas 5.52 357 *e*Pn Pn 07 36 56.6 +2.9
TABS IAML 07 38 49.8
comp=N,189nm,0.6s
WBK Wadi Bani Khal 5.65 166 Pn Pn 07 36 57.5 +1.9
WBK Wadi Bani Khal 5.65 166 P Pn 07 36 58.0 +2.4
SNR=30
IRAM Ramesheh 5.74 311 Pn Pn 07 36 59.1 +2.2
JMDO Jabal Madar 5.76 174 P Pn 07 37 00.1 +3.1
SNR=21
UMZA Um Al Zommool 5.77 202 P Pn 07 37 00.3 +3.2
GHWR Ruwais 5.84 226 P Pn 07 36 59.0 +0.8
GHWR S Sn 07 38 05.3 +0.5
KLNJ Kolanjah 5.87 301 Pn Pn 07 37 01.3 +2.5
TNSJ Nastanj 5.87 353 Pn Pn 07 37 02.2 +3.6
ANAR Anarak 5.99 328 Pn Pn 07 37 03.1 +2.8
SHRT Shahrakht 6.02 23 *e*Pn Pn 07 37 03.6 +3.0
NASN Na'in 6.15 320 *e*Pn Pn 07 37 05.0 +2.3
JLN Jalan Bani Buh 6.20 163 P Pn 07 37 05.5 +2.4
SNR=20
SHMA Al-Shehemyia 6.22 250 P Pn 07 37 04.7 +1.4
SNR=57
SHMA S Sn 07 38 14.3 +0.2
IGAR Gharneh 6.34 314 Pn Pn 07 37 07.3 +2.1
IZEF Zefreh 6.50 318 Pn Pn 07 37 09.5 +2.1
SAKB Bahrain 6.53 253 P Pn 07 37 09.7 +2.1
SAKB S Sn 07 38 23.1 +1.3
TRNA Turayna 6.54 240 P Pn 07 37 09.0 +1.3
SNR=25
TRNA S Sn 07 38 20.8 -1.2
SNR=18
IBRJ Brojen 6.57 307 Pn Pn 07 37 10.9 +2.6
SLWR Sila 6.57 233 P Pn 07 37 09.2 +1.0
SLWR S Sn 07 38 22.3 -0.5
SMRA Abu-Samra 6.83 242 P Pn 07 37 13.2 +1.4
SNR=26
SMRA S Sn 07 38 29.5 +0.3
ZNGN Zangian 6.97 306 Pn Pn 07 37 16.7 +2.8
MHTO MHTO 7.12 176 P Pn 07 37 18.4 +2.7
SNR=32
JHBN Jahan bin 7.17 307 Pn Pn 07 37 18.8 +2.2
IKLH Kolahrood 7.24 317 Pn Pn 07 37 17.9 +0.2
IPIR Pirpir 7.27 310 Pn Pn 07 37 19.5 +1.5
HRA Herat 7.47 32 Pn Pn 07 37 24.8 +4.1
QAMS Qamsar 7.64 319 Pn Pn 07 37 24.8 +1.7
ISFB Sefidab 7.65 326 Pn Pn 07 37 25.8 +2.7
SHRO Shahrood 7.94 351 *e*Pn Pn 07 37 30.6 +3.5
JRKH Jarkhoshk 8.14 17 Pn Pn 07 37 32.8 +3.0
GHVR GHOM 8.25 322 *e*Pn Pn 07 37 34.1 +2.9
IVRN Varamin 8.42 326 Pn Pn 07 37 36.5 +3.0
KHMZ Khomeyn 8.54 313 *e*Pn Pn 07 37 37.6 +2.3
KBD Kabd 8.65 279 P Pn 07 37 37.7 +1.0
DAMV Damavand 8.82 329 *e*Pn Pn 07 37 41.7 +2.4
IGLO Ghaloghah 8.90 341 Pn Pn 07 37 43.6 +3.2
ASAO Ashtian 9.03 317 *e*Pn Pn 07 37 44.8 +2.8
CHTH Charan 9.44 327 *e*Pn Pn 07 37 50.3 +2.5
BJRD Bojnurd 9.55 360 *e*Pn Pn 07 37 51.1 +1.9
THKV Tehran--Karaj 9.57 326 *e*Pn Pn 07 37 51.9 +2.4
MRVT Maraveh tapeh 9.58 353 *e*Pn Pn 07 37 54.5 +5.0
MRVT Maraveh tapeh 9.58 353 Pn Pn 07 37 52.6 +3.1
GEYT Alibeck 9.80 3 Pn Pn 07 37 56.6 +4.2
GEYT Alibeck 9.80 3 P Pn 07 37 56.6 +4.2
GEYT Alibeck 9.80 3 Pn Pn 07 37 56.9 +4.5
comp=N,1.5nm,0.3s,baz=184,slow=13,SNR=22
GEYT LR LR 07 42 17.7
comp=N,3µm,19.8s,baz=178,slow=42
GYA0B ALIBECK ARRAY 9.80 3 Pn Pn 07 37 57.1 +4.7
IKFM Kafar-mosalman 9.86 305 Pn Pn 07 37 55.6 +2.3
DOK Doka 9.94 199 P Pn 07 37 56.0 +1.5
SNR=18
DOK P Pn 07 37 56.0 +1.5
SNR=18
SHAO Shalim 10.19 190 *i* P Pn 07 37 59.0 +1.1
SNR=23
SHAO Shalim 10.19 190 P Pn 07 37 59.0 +1.1
SNR=23
SHAO P Pn 07 37 59.0 +1.1
SNR=23
DMTO DMTO 10.61 193 P Pn 07 38 04.0 +0.4
SNR=34
DMTO P Pn 07 38 04.0 +0.4
SNR=34
WHFO Wadi Hawf 10.71 199 P Pn 07 38 06.0 +1.0
SNR=14
WHFO P Pn 07 38 06.0 +1.0
SNR=14
KCHF Cheshme Sefid, 10.82 307 Pn Pn 07 38 06.9 +0.3
SNGE Sanandaj 11.07 311 *e*Pn Pn 07 38 10.3 +0.3

ILBA Ilam Banvizeh 11.11 302 *e*Pn Pn 07 38 10.2 -0.4
IGHG Ghaleghazi 11.19 306 Pn Pn 07 38 13.2 +1.5
ZNJK Zanjan 11.29 321 *e*Pn Pn 07 38 15.5 +2.4
ABTO Aybut 11.38 201 P Pn 07 38 15.1 +0.9
SNR=32
ABTO P Pn 07 38 15.1 +0.9
SNR=32
RAYN Ar Rayn 11.70 250 Pn Pn 07 38 16.2 -2.4
RAYN Ar Rayn 11.70 250 P Pn 07 38 16.2 -2.4
RAYN Ar Rayn 11.70 250 *i* P Pn 07 38 16.1 -2.4
SNR=9.9
KBL Kabul 11.78 54 Pn Pn 07 38 19.1 -0.7
KBL Kabul 11.78 54 P Pn 07 38 19.1 -0.7
SRSL SARDASHT 12.99 311 *e*Pn Pn 07 38 37.0 +0.7
GRMI Germi 13.31 326 *e*Pn Pn 07 38 44.4 +3.9
GRMI Germi 13.31 326 Pn Pn 07 38 44.3 +3.8
SIMJ Simiganj 14.25 40 Pn Pn 07 38 55.5 +2.1
CHGR Chuyangaron 14.33 40 Pn Pn 07 38 57.1 +2.6
CHGR Chuyangaron 14.33 40 P Pn 07 38 57.2 +2.6
NIL Nilore 14.63 64 P 07 39 03.6 -1.2
NIL Nilore 14.63 64 P P 07 39 03.6 -1.2
GAR Garm 15.23 41 Pn 07 39 08.8 +2.2
GAR IAmb IAmb 07 39 18.8
comp=Z,48nm,0.8s
MAKU Maku 15.43 320 *e*Pn P 07 39 13.7 -0.1
GNI Garni 15.94 322 P 07 39 19.9 +0.4
GNI IAmb IAmb 07 39 45.6
comp=Z,63nm,1.1s
GNI Garni 15.94 322 Pn P 07 39 18.6 -0.9
comp=Z,1.8nm,0.3s,baz=60,slow=1.4,SNR=8.6
comp=Z,16nm,0.7s
BTK Batken 16.23 39 Pn Pn 07 39 21.1 +1.5
BTK Batken 16.23 39 P Pn 07 39 21.1 +1.5
BTK pmax pmax
comp=Z,41nm,1.1s
DRK Karamyk 16.42 43 P 07 39 25.3 +0.4
DRK IAmb IAmb 07 39 36.9
comp=Z,93nm,1.0s
GURO Guroymak-BITLI 16.54 313 P 07 39 27.0 +0.9
MARD Mardin 16.75 307 Pn 07 39 24.4 -1.8
MARD IAmb IAmb 07 39 49.6
comp=Z,46nm,0.6s
MAK Makhachkala 16.86 334 *e*P Pn 07 39 25.2 -2.2
MAK *e*S Sn 07 42 33.1 -1.3
MAK pmax pmax
comp=Z,247nm,1.4s
MAK MLR MLR
comp=Z,408nm,23.0s
KARS Kars 17.19 320 P 07 39 35.2 +1.8
KARS IAmb IAmb 07 39 55.9
comp=Z,129nm,1.2s
KARS Kars 17.19 320 P P 07 39 35.2 +1.8
KARS pmax pmax
comp=Z,129nm,1.2s
CHM Chimkent 17.27 32 *e*P Pn 07 39 33.1 +0.5
CHM Chimkent 17.27 32 *e*P Pn 07 39 33.2 +0.6
baz=32
IUG Iuzhnay 17.34 33 *e*P Pn 07 39 33.5 0.0
IUG *e*S Sn 07 42 49.2 +3.1
IUG Iuzhnay 17.34 33 *e*P Pn 07 39 33.6 0.0
baz=33
IUG *e*S Sn 07 42 49.3 +3.1
baz=33
IUG *e*Lg Lg 07 44 44.5
baz=33
TRKS Terek-Say 17.43 36 P Pn 07 39 35.2 +0.4
GROC Groznyy 17.76 331 *e*P P 07 39 40.2 +0.8
GROC *e*S Sn 07 42 58.6 +2.4
GROC pmax pmax
comp=Z,110nm,1.5s
BRLS Borolday 17.93 31 *e*P Pn 07 39 37.2 -3.6
BRLS Borolday 17.93 31 *e*P Pn 07 39 37.2 -3.6
baz=31
ASF Jabal al Asfar 18.23 288 P Pn 07 39 43.8 -1.0
comp=Z,1.6nm,0.3s,baz=153,slow=3.4,SNR=12
ASF S Sn 07 42 53.4 -15
comp=Z,2.3nm,0.3s,baz=153,slow=20,SNR=1.7
comp=Z,6.5nm,0.5s
KK31 Karatay Array 18.30 32 P P 07 39 46.3 +0.9
KK31 Karatay Array 18.30 32 P P 07 39 46.3 +0.9
KK31 pmax pmax
comp=Z,38nm,1.3s
KKAR Karatay Array 18.30 32 P P 07 39 46.2 +0.8
KKAR Karatay Array 18.30 32 P P 07 39 46.2 +0.8
KKAR pmax pmax
comp=Z,38nm,1.3s
ARSB Arslanbob 18.30 40 P P 07 39 46.6 +1.0
ARSB Arslanbob 18.30 40 P P 07 39 46.6 +1.0
ARSB pmax pmax
comp=Z,5.0nm,0.7s
ONI Oni 18.37 325 P Pn 07 39 47.6 +1.3
ONI Oni 18.37 325 P Pn 07 39 47.6 +1.3
ONI pmax pmax
comp=Z,16nm,1.0s
DZA Taraz 18.53 34 *e*P Pn 07 39 48.8 +0.7
DZA Taraz 18.53 34 *e*P Pn 07 39 48.8 +0.7
baz=34
KSH Kashi 19.08 49 P P 07 39 51.2 -3.0
KSH pP Pn 07 39 53.4 -1.6
KSH sP sP 07 39 59.9 -1.1
KSH pmax pmax
comp=Z,18nm,0.7s
KSH LR LR
comp=Z,760nm,13.5s
KSH LR LR
comp=Z,2µm,17.1s
KSH LR LR
comp=Z,2µm,18.2s
GAZ Gaziantep 19.27 303 P Pn 07 39 58.0 +0.8
GHAJ Ghor Haditha 19.28 285 P 07 39 56.7 +0.5
GHAJ IAmb IAmb 07 40 09.4
comp=Z,39nm,0.6s
BALJ Balqa 19.28 287 P Pn 07 39 57.8 +0.4
BALJ IAmb IAmb 07 40 22.8
comp=Z,38nm,0.8s
ARPR Arapgir-MALATY 19.29 309 P Pn 07 39 59.4 +1.9
KBZ Khabaz 19.49 327 *ce*P P 07 39 58.9 +0.5
KBZ pmax pmax
comp=Z,25nm,2.2s
KBZ Khabaz 19.49 327 P Pn 07 39 59.7 0.0
comp=Z,0.1nm,0.3s,baz=124,slow=6.9,SNR=7.7
comp=Z,2.7nm,0.9s
MMAI Mount Meron Ar 19.60 290 P P 07 39 59.8 0.0
comp=Z,3.4nm,0.3s,baz=108,slow=13,SNR=7.3
MMAI S S 07 43 28.9 -12
comp=Z,0.8nm,0.2s,baz=120,slow=28,SNR=1.1
comp=Z,1.8nm,0.2s
EKS2 Erkin-Say 19.63 38 P Pn 07 40 02.3 +0.7
SNR=12
UCH Uchtor 19.75 40 P Pn 07 40 03.0 -0.3
SNR=11
KVAR Kislovodsk Arr 19.76 327 P Pn 07 40 02.3 -0.7
baz=150,slow=20
comp=Z,1.9nm,0.4s
KIV Kislovodsk 19.76 327 P Pn 07 40 03.6 +0.5
KIV IAmb IAmb 07 40 21.1
comp=Z,47nm,1.1s
KIV Kislovodsk 19.76 327 *e*P Pn 07 40 03.2 +0.1
KIV *e*S Sn 07 43 47.3 +2.6
KIV pmax pmax
comp=Z,23nm,1.1s
KIV MLR MLR
comp=Z,111nm,14.0s
KIV Kislovodsk 19.76 327 P Pn 07 40 03.1 +0.1
KIV P Pn 07 40 03.1 +0.1
EIL Elat 19.77 280 P P 07 40 01.8 +0.1
comp=Z,0.8nm,0.3s,baz=62,slow=6.8,SNR=9.5
EIL S Sn 07 43 47.4 +2.3
comp=Z,4.3nm,0.6s,baz=16,slow=16,SNR=1.3
comp=Z,13nm,0.7s
AAK Ala-Archa 20.01 39 P Pn 07 40 06.4 +0.3
SNR=12
AAK Ala-Archa 20.01 39 P Pn 07 40 06.1 0.0
AAK IAmb IAmb 07 40 17.0
comp=Z,54nm,1.2s
AAK Ala-Archa 20.01 39 *ce*P Pn 07 40 06.4 +0.3
AAK pmax pmax
comp=Z,75nm,2.5s
AAK Ala-Archa 20.01 39 P Pn 07 40 05.5 -0.6
AAK Ala-Archa 20.01 39 P Pn 07 40 05.2 -0.8
comp=Z,0.6nm,0.3s,baz=229,slow=14,SNR=15
AAK S 07 43 49.0 +0.1
comp=Z,0.6nm,0.5s,baz=192,slow=21,SNR=1.4
comp=Z,7.8nm,0.7s
AAK Ala-Archa 20.01 39 P Pn 07 40 06.3 +0.2

AAK P Pn 07 40 06.3 +0.2
NRN Naryn 20.15 44 P Pn 07 40 07.2 -0.7
NRN IAmb IAmb 07 40 14.0
comp=Z,40nm,0.8s
NRN Naryn 20.15 44 P Pn 07 40 07.2 -0.7
NRN pmax pmax
comp=Z,40nm,0.8s
KBK Karagaybulak 20.28 40 P Pn 07 40 15.0 +5.8
SNR=5.3
USP Ospenovka 20.43 38 P Pn 07 40 11.2 +0.3
SNR=11
SGDS Sogindy 20.62 38 *e*P P 07 40 11.4 +0.5
SGDS Sogindy 20.62 38 *e*P P 07 40 11.4 +0.5
baz=38
BOOM Boomskoye usch 20.74 41 P Pn 07 40 14.3 -0.4
BOOM IAmb IAmb 07 40 27.7
comp=Z,50nm,0.9s
BOOM Boomskoye usch 20.74 41 P Pn 07 40 14.3 -0.4
BOOM pmax pmax
comp=Z,50nm,0.9s
ULHL Ulahol 20.77 42 P Pn 07 40 14.6 -0.5
SNR=25
TKM2 Tokmak 2 20.81 40 P Pn 07 40 14.6 -1.0
SNR=16
TKM2 Tokmak 2 20.81 40 *i* P P 07 40 13.7 +0.6
TKM2 pmax pmax
comp=Z,43nm,1.2s
BNN Bunyan 20.92 306 P Pn 07 40 16.0 -0.8
SOC Sochi 21.03 322 *e*P P 07 40 12.4 -2.7
SOC *e*PPP PPP 07 40 39.7
SOC *e*S S 07 44 06.9 -1.8
SOC *e*SS SnSn 07 44 31.4 +1.4
SOC *e*SSS SSS 07 44 44.1
SOC pmax pmax
comp=Z,5.0nm,0.4s
SOC MLR MLR
comp=Z,341nm,15.0s
AB31 Akbulak array 21.19 4 *i* P P 07 40 17.5 +0.7
ABKAR Akbulak array 21.19 4 P P 07 40 17.9 +1.1
ABKAR Akbulak array 21.19 4 P P 07 40 17.9 +1.1
ABKAR IAmb IAmb 07 40 21.5
comp=Z,46nm,0.9s
BTLS Baital 21.43 34 *e*P P 07 40 20.0 +0.5
BTLS *e*S S 07 44 19.1 +2.3
BTLS Baital 21.43 34 *e*P P 07 40 20.0 +0.5
baz=34
BTLS *e*S S 07 44 19.1 +2.3
baz=34
BTLS *e*Lg Lg 07 46 54.4
baz=34
TARG Taragay, Kyrgy 21.44 45 P P 07 40 21.9 +1.9
TARG IAmb IAmb 07 40 29.8
comp=Z,34nm,0.9s
TARG Taragay, Kyrgy 21.44 45 P P 07 40 21.9 +1.9
TARG pmax pmax
comp=Z,34nm,0.9s
ATD Arta Tunnel 21.44 223 P P 07 40 21.3 +1.4
ATD IAmb IAmb 07 40 39.9
comp=Z,48nm,1.0s
ATD Arta Tunnel 21.44 223 P P 07 40 20.5 +0.6
comp=Z,0.4nm,0.5s,baz=53,slow=20,SNR=1.6
CSS Mathiatis 21.64 294 P P 07 40 22.9 +1.0
CSS IAmb IAmb 07 40 29.4
comp=Z,37nm,0.8s
TNSS Tian-Shan 21.66 41 *e*P P 07 40 23.0 +0.6
TNSS Tian-Shan 21.66 41 *e*P P 07 40 23.0 +0.6
baz=41
AAA Alma-Ata 21.75 41 *e*P P 07 40 23.6 +0.6
AAA pmax pmax
comp=Z,39nm,1.0s
AAA Alma-Ata 21.75 41 *e*P P 07 40 23.7 +0.6
comp=Z,39nm,1.0s,baz=41
MDOK Medeo 21.80 41 *e*P P 07 40 24.5 +0.9
MDOK *e*S S 07 44 27.0 +2.7
MDOK Medeo 21.80 41 *e*P P 07 40 24.5 +0.9
baz=41
MDOK *e*S S 07 44 27.0 +2.7
baz=41
MDOK *e*Lg Lg 07 47 06.3
baz=41
CHKK Chushkaly 22.19 40 *e*P P 07 40 28.5 +0.8
CHKK Chushkaly 22.19 40 *e*P P 07 40 28.5 +0.8
baz=40
PRZ Przheval'sk 22.22 44 P P 07 40 29.5 +1.3
PRZ IAmb IAmb 07 40 40.5
comp=Z,48nm,1.1s
PRZ Przheval'sk 22.22 44 P P 07 40 29.5 +1.3
PRZ pmax pmax
comp=Z,48nm,1.1s
AKTO Aktyubinsk 22.29 1 P P 07 40 28.6 0.0
AKTO Aktyubinsk 22.29 1 LR LR 07 50 47.2
comp=Z,1µm,18.9s,baz=200,slow=41
SATY Saty 22.54 43 *e*P P 07 40 32.4 +0.8
SATY *e*S S 07 44 41.1 +2.8
SATY pmax pmax
comp=Z,29nm,1.5s
SATY Saty 22.54 43 *e*P P 07 40 32.5 +0.8
comp=Z,29nm,1.5s,baz=43
SATY *e*S S 07 44 41.1 +2.8
baz=43
SATY *e*Lg Lg 07 47 30.0
baz=43
ZHN Zhinishke 22.62 43 *e*P P 07 40 33.1 +0.7
ZHN Zhinishke 22.62 43 *e*P P 07 40 33.2 +0.7
baz=43
BR131 Keskin Array S 22.84 307 P P 07 40 34.9 +0.2
BR131 IAmb IAmb 07 40 37.9
comp=Z,66nm,1.4s
BR131 Keskin Array S 22.84 307 P P 07 40 34.9 +0.2
BR131 pmax pmax
comp=Z,65nm,1.4s
BR131 Keskin Array S 22.84 307 P P 07 40 34.9 +0.2
SNR=27
BR131 P P 07 40 34.9 +0.2
SNR=27
BRTR Keskin Array B 22.84 307 *i* P P 07 40 35.2 +0.5
BRTR pmax pmax
comp=Z,15nm,0.9s
BRTR Keskin Array B 22.84 307 P P 07 40 34.6 -0.1
comp=Z,37nm,1.2s,baz=127,slow=9.5,SNR=50
BRTR PcP PcP 07 44 26.4 +0.7
comp=Z,0.9nm,0.8s,baz=146,slow=6.2,SNR=2.4
BRTR ScP ScP 07 48 00.9 -1.9
comp=Z,0.4nm,0.4s,baz=173,slow=4.2,SNR=2.5
BRTR LR LR 07 51 06.2
comp=Z,1µm,20.9s,baz=131,slow=41
comp=Z,37nm,1.2s
UZB Uzunbulak 22.97 44 *e*P P 07 40 36.8 +0.7
UZB pmax pmax
comp=Z,36nm,1.4s
UZB Uzunbulak 22.97 44 *e*P P 07 40 36.8 +0.7
comp=Z,36nm,1.4s,baz=44
ANN Anapa 23.07 322 *e*P P 07 40 35.7 -1.2
ANN *e**PP pP 07 40 38.1 -3.5
ANN *e*S S 07 44 48.5 +1.4
ANN pmax pmax
comp=Z,30nm,0.7s
OTUK Ortayu 23.17 26 P P 07 40 38.2 +0.3
SHLS Shalkode 23.24 44 *e*P P 07 40 41.7 +2.9
SHLS pmax pmax
comp=Z,17nm,1.0s
SHLS Shalkode 23.24 44 *e*P P 07 40 41.8 +2.9
comp=Z,17nm,1.0s,baz=44
PDGK Podgornoye 23.35 44 P P 07 40 39.5 -0.5
ANTO Ankara 23.49 306 P P 07 40 42.7 +1.4
ANTO IAmb IAmb 07 40 55.2
comp=Z,42nm,1.1s
ANTO Ankara 23.49 306 P P 07 40 42.7 +1.4
ANTO pmax pmax
comp=Z,42nm,1.2s
BR231 Keskin MP Arra 23.49 306 P P 07 40 43.2 +1.8
BR231 IAmb IAmb 07 40 55.3
comp=Z,71nm,1.2s
TDK Taldyqorghan 23.70 39 *e*P P 07 40 43.4 +0.2
TDK Taldyqorghan 23.70 39 *e*P P 07 40 43.4 +0.2
baz=39
ISP Isparta 24.51 300 P P 07 40 51.4 +0.5
ISP Isparta 24.51 300 *i* P P 07 40 51.5 +0.5
ISP pmax pmax
comp=Z,20nm,0.8s
BRZS Berezniki 24.73 24 *e*P P 07 40 52.8 +0.1
BRZS pmax pmax
comp=Z,25nm,1.6s
BRZS Berezniki 24.73 24 *e*P P 07 40 52.8 +0.1
comp=Z,24nm,1.6s,baz=24
ELL Elmali 24.73 297 P P 07 40 53.8 +0.8

ELL Elmali 24.73 297 P **P** **07 40 53.8 +0.8**
ELL pmax pmax
comp=Z,125nm,0.8s
MDUB Mudurnu 24.85 307 P **P** **07 40 54.3 +0.3**
SIM Simferopol' 25.04 318 *e*P **P** **07 40 54.8 -0.8**
SIM pmax pmax
comp=Z,28nm,0.8s
BELG Belogornoye 25.33 346 *i* P **P** **07 40 57.9 -0.2**
BELG pmax pmax
comp=Z,7.0nm,1.0s
BELG Belogornoye 25.33 346 LR LR 07 53 53.7
comp=Z,462nm,19.2s,baz=152,slow=44
VRH Novokhopyorsk 25.93 337 *e*P **P** **07 41 02.7 -0.8**
VRH pmax pmax
comp=Z,8.0nm,0.5s
ARG Arkhangelos 26.04 296 P **P** **07 41 04.4 -0.3**
ARG IAmb IAmb 07 41 26.3
comp=Z,18nm,0.7s
ARG Arkhangelos 26.04 296 P **P** **07 41 04.4 -0.3**
ARG pmax pmax
comp=Z,18nm,0.7s
BVA0 Borovoye Array 26.66 18 *i* P **P** **07 41 10.2 +0.1**
BVAR Borovoye Array 26.66 18 P **P** **07 41 10.7 +0.6**
comp=Z,15nm,0.8s,baz=199,slow=8.6,SNR=57
BVAR PcP **PcP** **07 44 33.1 -0.5**
comp=Z,3.2nm,0.6s,baz=214,slow=2.1,SNR=5.5
BVAR ScP **ScP** **07 48 11.4 -1.6**
comp=Z,1.6nm,0.7s,baz=200,slow=2.0,SNR=6.5
comp=Z,15nm,0.8s
BRVK Borovoye 26.66 17 P **P** **07 41 10.6 +0.4**
BRVK Borovoye 26.66 17 *ce*P **P** **07 41 11.0 +0.9**
BRVK pmax pmax
comp=Z,33nm,1.7s
BRVK Borovoye 26.66 17 P **P** **07 41 10.5 +0.4**
BRVK P **P** **07 41 10.5 +0.4**
KARP Karpathos 26.71 294 P **P** **07 41 11.0 +0.1**
MAKZ Makanchi 26.78 39 P **P** **07 41 11.3 0.0**
MAKZ IAmb IAmb 07 41 17.7
comp=Z,26nm,1.1s
MAKZ Makanchi 26.78 39 P **P** **07 41 11.3 0.0**
MAKZ pmax pmax
comp=Z,26nm,1.2s
VSR Storozhevoye 26.88 334 *e*P **P** **07 41 10.1 -2.0**
VSR pmax pmax
comp=Z,10.0nm,1.1s
MK31 Makanchi Array 26.94 40 P **P** **07 41 13.7 +0.9**
MK31 Makanchi Array 26.94 40 *ce*P **P** **07 41 13.5 +0.7**
MKAR Makanchi Array 26.94 40 P **P** **07 41 13.1 +0.3**
MKAR Makanchi Array 26.94 40 *i* P **P** **07 41 13.5 +0.7**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 26.94 40 P **P** **07 41 13.2 +0.4**
comp=Z,3.0nm,0.8s,baz=219,slow=7.5,SNR=13
MKAR PcP **PcP** **07 44 34.9 +0.4**
comp=Z,1.2nm,0.7s,baz=224,slow=3.3,SNR=3.6
MKAR ScP **ScP** **07 48 11.0 -3.1**
comp=Z,0.5nm,0.9s,baz=264,slow=1.2,SNR=3.6
comp=Z,3.0nm,0.8s
VORR Voronezh 27.23 335 *e*P **P** **07 41 11.1 -4.1**
VORR pmax pmax
comp=Z,39nm,0.4s
KURBB Kurchatov Arra 27.57 30 P **P** **07 41 18.9 +0.6**
comp=Z,8.3nm,0.9s,baz=228,slow=8.6,SNR=63
KURBB ScP **ScP** **07 48 12.9 -2.9**
comp=Z,1.0nm,0.8s,baz=234,slow=3.3,SNR=6.6
comp=Z,8.3nm,0.9s
KURK Kurchatov 27.68 30 P **P** **07 41 20.0 +0.7**
KURK IAmb IAmb 07 41 26.0
comp=Z,14nm,0.8s
KURK Kurchatov 27.68 30 *ce*P **P** **07 41 20.4 +1.1**
KURK pmax pmax
comp=Z,25nm,1.7s
KURK Kurchatov 27.68 30 P **P** **07 41 19.5 +0.3**
KURK P **P** **07 41 19.5 +0.3**
LPSR Galich'ya Gora 28.07 336 *e*P **P** **07 41 23.5 +0.7**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
SEM Semipalatinsk 28.19 32 *e*P **P** **07 41 24.5 +0.4**
SEM pmax pmax
comp=Z,33nm,1.9s
SEM Semipalatinsk 28.19 32 *e*P **P** **07 41 24.5 +0.4**
comp=Z,33nm,1.9s,baz=32
ARU Arti 28.30 1 P **P** **07 41 24.9 +0.1**
ARU Arti 28.30 1 LR LR 07 53 53.8
comp=Z,360nm,21.9s,baz=168,slow=39
IDI Anoyia 28.53 293 P **P** **07 41 27.4 +0.2**
IDI IAmb IAmb 07 41 30.8
comp=Z,12nm,0.7s
ALN Alexandroupoli 28.69 305 P **P** **07 41 28.4 -0.1**
ALN Alexandroupoli 28.69 305 P **P** **07 41 28.4 -0.1**
ALN pmax pmax
comp=Z,11nm,1.1s
ZSN Zaisan 28.77 40 *e*P **P** **07 41 28.7 -0.4**
ZSN *e*S **S** **07 46 20.2 +2.2**
ZSN pmax pmax
comp=Z,29nm,2.5s
ZSN Zaisan 28.77 40 *e*P **P** **07 41 28.7 -0.4**
comp=Z,29nm,2.5s,baz=40
ZSN *e*S **S** **07 46 20.3 +2.2**
baz=40
ZSN *e*Lg Lg 07 50 47.8
baz=40
WMQ Urumqi 28.85 49 *e*P **P** **07 41 30.6 +0.7**
WMQ pmax pmax
comp=Z,23nm,0.7s
WMQ pmax pmax
comp=Z,180nm,6.5s
WMQ LR LR
comp=Z,550nm,15.5s
WMQ LR LR
comp=Z,1μm,21.7s
WMQ LR LR
comp=Z,940nm,21.7s
RDO Rodhopi 29.13 305 P **P** **07 41 32.7 +0.4**
PALK Pallekele 30.22 129 LR LR 07 53 44.8
comp=Z,430nm,19.2s,baz=46,slow=36
MLR Muntele Rosu 30.36 313 P **P** **07 41 44.1 +0.8**
MLR Muntele Rosu 30.36 313 P **P** **07 41 44.1 +0.8**
MLR pmax pmax
comp=Z,9.0nm,1.0s
KIRV Kirov 30.96 352 *ce*P **P** **07 41 49.3 +1.0**
AGG Agios Georgios 31.05 300 P **P** **07 41 51.0 +1.6**
AGG Agios Georgios 31.05 300 P **P** **07 41 51.0 +1.6**
AGG pmax pmax
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 31.05 324 *i* P **P** **07 41 48.2 -1.0**
AKASG Malin Array Be 31.05 324 P **P** **07 41 47.8 -1.4**
comp=Z,1.0nm,0.5s,baz=137,slow=8.7,SNR=7.9
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 31.05 324 P **P** **07 41 50.6 +1.4**
AKBB IAmb IAmb 07 42 02.8
comp=Z,7.6nm,0.6s
AKBB Malin Array Si 31.05 324 *i* P **P** **07 41 47.7 -1.5**
AKBB pmax pmax
comp=Z,19nm,3.0s
KIEV Kiev 31.06 324 P **P** **07 41 50.6 +1.3**
KIEV Kiev 31.06 324 P **P** **07 41 50.6 +1.3**
KIEV pmax pmax
comp=Z,7.0nm,0.6s
DGZ Jazzator, Alta 31.41 38 *i* P **P** **07 41 53.4 +0.8**
DGZ pmax pmax
comp=Z,10.0nm,0.7s
BURAR Bucovina Array 31.71 317 P **P** **07 41 55.0 -0.2**
BUR08 Bucovina Ar. S 31.74 317 P **P** **07 41 55.5 0.0**
FNA Florina 32.10 303 P **P** **07 41 59.0 +0.3**
FNA Florina 32.10 303 P **P** **07 41 59.0 +0.3**
FNA pmax pmax
comp=Z,12nm,1.4s
LODK Lodwar 32.36 225 P **P** **07 42 00.0 -1.1**
GOMU GeErMu 32.48 66 P **P** **07 42 04.0 +1.6**
GOMU pP sP **07 42 08.6 -1.0**
GOMU sP pP 07 42 11.8 +4.3
GOMU pmax pmax
comp=Z,11nm,1.1s
KBN Korca 32.51 302 P **P** **07 42 02.2 -0.1**
KBN Korca 32.51 302 P **P** **07 42 02.2 -0.1**
KBN pmax pmax
comp=Z,50nm,1.0s
ZAA0 Zalesovo Array 32.66 30 P **P** **07 42 03.6 +0.3**
ZALV Zalesovo Beam 32.66 30 P **P** **07 42 03.5 +0.2**
ZALV Zalesovo Beam 32.66 30 *i* P **P** **07 42 03.5 +0.2**
ZALV pmax pmax
comp=Z,15nm,0.5s
ZALV Zalesovo Beam 32.66 30 P **P** **07 42 02.9 -0.4**
comp=Z,8.5nm,0.4s,baz=249,slow=9.9,SNR=79
ZALV PcP **PcP** **07 44 47.6 -1.4**
comp=Z,1.8nm,0.4s,baz=228,slow=3.8,SNR=4.5
comp=Z,8.5nm,0.4s
MNK Minsk 34.02 329 *i* P **P** **07 42 13.6 -1.6**
comp=E,7.0nm,0.8s
MNK *i* P **P** **07 42 13.6 -1.6**
comp=N,29nm,0.9s
MNK *i* P **P** **07 42 13.6 -1.6**
comp=Z,10.0nm,0.8s,baz=129
MNK *i* PP **PnPn** **07 43 26.7 -1.6**
MNK *i* PPP PPP 07 43 38.2
MNK *i* S **S** **07 47 40.2 +0.5**
MNK *i* SS **SnSn** **07 49 48.1 +1.5**
MNK *i* SSS SSS 07 50 03.9
MNK *i* LQ LQ 07 53 23.9
MNK *i* LR LR 07 55 04.5
MNK *i* LRM MLR 07 56 32.8
comp=Z,157nm,21.4s
MNK *i* LRM MLR 07 56 38.6
comp=N,466nm,17.5s
MNK *i* LRM MLR 07 56 48.2
comp=E,304nm,16.4s
MNK Minsk 34.02 329 *i* P **P** **07 42 13.5 -1.6**
MNK *i* 07 43 26.7
MNK *i* S **S** **07 47 40.1 +0.5**
MNK *i* SS **SnSn** **07 49 48.1 +1.5**
MNK pmax pmax
comp=N,29nm,0.9s
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK pmax pmax
comp=Z,10.0nm,0.8s
MNK MLR MLR
comp=Z,157nm,21.0s
MNK MLR MLR
comp=N,466nm,18.0s
MNK MLR MLR
comp=E,304nm,16.0s
KOLS Kolonicke sedl 34.05 317 *e*P **P** **07 42 16.9 +1.3**
KOLS Kolonicke sedl 34.05 317 *e*P **P** **07 42 16.9 +1.3**
KWP Kalwaria Pacla 34.10 319 P **P** **07 42 16.0 +0.1**
KWP IAmb IAmb 07 42 28.7
comp=Z,18nm,1.1s
KWP Kalwaria Pacla 34.10 319 P **P** **07 42 16.0 +0.1**
KWP pmax pmax
comp=Z,18nm,1.1s
CRVS Cervenica-Dubn 34.53 317 *e*P **P** **07 42 24.3 +4.6**
CRVS Cervenica-Dubn 34.53 317 *e*P **P** **07 42 24.3 +4.6**
KLMR Klimovskoe 34.89 345 *e*P **P** **07 42 20.5 -2.1**
KLMR *e* 07 43 36.9
KLMR pmax pmax
comp=Z,25nm,1.4s
TIP Timpagrande 35.37 299 P **P** **07 42 27.6 +0.5**
TIP IAmb IAmb 07 42 47.5
comp=Z,17nm,0.9s
VYHS Vyhne 35.99 315 *e*P **P** **07 42 34.2 +1.9**
VYHS Vyhne 35.99 315 *e*P **P** **07 42 34.2 +1.9**
OJC Ojcow 36.05 318 P **P** **07 42 32.7 -0.1**
OJC IAmb IAmb 07 42 53.2
comp=Z,14nm,0.7s
OJC Ojcow 36.05 318 P **P** **07 42 32.7 -0.1**
OJC pmax pmax
comp=Z,14nm,0.7s
CUC Castrocucco 36.18 300 P **P** **07 42 34.6 +0.6**
CUC IAmb IAmb 07 42 50.5
comp=Z,28nm,1.1s
GTA Gaotai 36.66 61 P **P** **07 42 39.0 +0.7**
GTA pP pP 07 42 44.0 +0.6
GTA pmax pmax
comp=Z,12nm,1.1s
GTA LR LR
comp=Z,250nm,16.0s
GTA LR LR
comp=Z,270nm,16.7s
GTA LR LR
comp=Z,330nm,15.6s
JAVC Velka Javorina 36.84 315 *e*P **P** **07 42 40.1 +0.5**
VSU Vasula 37.06 334 *ce*P **P** **07 42 40.4 -0.8**
VSU pmax pmax
comp=Z,22nm,1.7s
MORC Moravsky Berou 37.23 317 *e*P **P** **07 42 42.0 -0.9**
RONA Rosalia, Austr 37.36 313 *i* P **P** **07 42 44.2 +0.3**
comp=Z,9.4nm,0.7s
VRAC Vranov 37.66 315 *e*P **P** **07 42 44.9 -1.6**
CONA Conrad Observa 37.70 313 *i* P **P** **07 42 46.7 -0.3**
comp=Z,7.7nm,1.6s
KRUC Moravsky 37.70 315 *e*P **P** **07 42 46.1 -0.7**
ARSA Arzberg 37.74 312 *i* P **P** **07 42 47.5 +0.3**
comp=Z,9.2nm,1.0s
OBKA Obir 38.20 310 *e*P **P** **07 42 51.8 +0.6**
comp=Z,21nm,1.7s
MBAR Mbarara 38.37 226 LR LR 08 00 48.7
comp=Z,1μm,18.3s,baz=20,slow=40
CHVC Chvalec 38.41 317 *e*P **P** **07 42 53.5 +0.7**
CHVC Chvalec 38.41 317 *e*P **P** **07 42 53.5 +0.7**
NRCA Norcia 38.53 304 P **P** **07 42 53.8 -0.3**
NRCA IAmb IAmb 07 43 12.2
comp=Z,16nm,0.9s
MOA Molln 38.72 313 *e*P **P** **07 42 54.7 -0.7**
comp=Z,9.1nm,1.4s
MYKA Terra Mystica 38.84 310 *i* pP **P** **07 42 58.4 +1.9**
comp=Z,5.3nm,0.9s
PRED Cave del Predi 38.85 310 P **P** **07 42 56.1 -0.5**
CESX Cesi 38.90 304 P **P** **07 42 56.9 -0.1**
CESX IAmb IAmb 07 43 17.2
comp=Z,15nm,0.8s
CKRC Cesky Krumlov 38.95 314 *e*P P 07 43 07.2 +10
CKRC Cesky Krumlov 38.95 314 *e*P P 07 43 07.2 +10
CHTO Chiang Mai 39.00 95 P **P** **07 42 58.3 +0.2**
CHTO Chiang Mai 39.00 95 P **P** **07 42 58.3 +0.2**
CHTO pmax pmax
comp=Z,4.0nm,0.9s
MURB Monte Urbino 39.02 305 P **P** **07 42 58.2 +0.1**
BIOA Bad Ischl, Aus 39.09 312 *i* P **P** **07 42 58.1 -0.4**
comp=Z,2.4nm,0.8s
CMAR Chiang Mai Arr 39.13 95 P **P** **07 42 58.0 -1.3**
comp=Z,1.3nm,0.2s,baz=294,slow=8.8,SNR=1.9
CMAR PcP **PcP** **07 45 08.7 -0.1**
comp=Z,0.9nm,0.3s,baz=344,slow=9.6,SNR=1.6
comp=Z,1.3nm,0.2s
KBA Koelnbreinsper 39.14 311 *e*P **P** **07 42 59.9 +0.8**
comp=Z,9.4nm,1.2s
ZVC Zvikov 39.19 315 *e*P P 07 43 07.0 +7.6
PZH PanZhiHua 39.22 82 P **P** **07 43 01.4 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,140nm,4.5s
FIA1 FINESS Array S 39.33 337 P **P** **07 43 00.4 +0.1**
FINES FINESS Array B 39.33 337 P **P** **07 43 00.4 +0.1**
FINES FINESS Array B 39.33 337 *i* P **P** **07 43 00.7 +0.4**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 39.33 337 P **P** **07 42 59.7 -0.6**
comp=Z,1.4nm,0.4s,baz=120,slow=9.9,SNR=12
comp=Z,1.4nm,0.4s
GEC2 GERESS Array S 39.34 314 P **P** **07 42 60.0 -0.7**
GERES GERESS Array B 39.34 314 P **P** **07 42 59.6 -1.1**
GERES GERESS Array B 39.34 314 P **P** **07 42 59.1 -1.6**
comp=Z,1.5nm,0.6s,baz=117,slow=11,SNR=5.2
GERES PcP **PcP** **07 45 08.3 -0.7**
comp=Z,0.6nm,0.4s,baz=160,slow=3.1,SNR=2.5
GERES ScP **ScP** **07 48 55.3 -1.8**
comp=Z,0.4nm,0.2s,baz=126,slow=5.0,SNR=1.9
GERES LR LR 08 01 44.0
comp=Z,202nm,20.4s,baz=80,slow=40
comp=Z,1.5nm,0.6s
STAL STALIGIAL 39.39 310 P **P** **07 42 60.0 -1.1**
KHC Kasperske Hory 39.49 314 P **P** **07 43 01.1 -0.8**
KHC Kasperske Hory 39.49 314 *ce*P **P** **07 43 01.8 -0.1**
KHC pmax pmax
comp=Z,40nm,1.7s
KHC Kasperske Hory 39.49 314 *e*P P 07 43 09.1 +7.2
ABTA Abfaltersbach 39.62 310 *i* P **P** **07 43 03.9 +0.8**
comp=Z,4.0nm,0.8s
LESA Schwarzleotal 39.66 311 *e*pP **P** **07 43 05.9 +2.5**
comp=Z,2.8nm,0.6s
CRAI Chiangrai 39.77 92 P **P** **07 43 07.1 +2.6**
LZH Lanzhou 39.78 66 *e*P **P** **07 43 05.3 +0.7**
LZH sP sP 07 43 14.9 +3.0
LZH pmax pmax
comp=Z,23nm,1.1s
LZH LR LR
comp=Z,310nm,17.2s
LZH LR LR
comp=Z,350nm,18.2s
LZH LR LR
comp=Z,380nm,15.1s
TEOL Teolo 39.94 308 P **P** **07 43 04.5 -1.1**
MOY Mondy 40.03 42 *e*P **P** **07 43 07.8 +1.3**
MOY pmax pmax
comp=Z,23nm,1.4s
CD2 Chengdu 40.16 74 P **P** **07 43 11.1 +3.4**
CD2 pmax pmax
comp=Z,20nm,0.7s
WTTA Wattenberg 40.31 311 *e*P **P** **07 43 07.7 -1.3**
comp=Z,3.8nm,0.6s
WATA Walderalm 40.37 311 *e*P **P** **07 43 08.8 -0.6**
comp=Z,5.3nm,0.7s
KMI Kunming 40.41 83 ⇓P **P** **07 43 11.8 +1.7**
KMI S **S** **07 49 16.5 -1.7**
KMI SS **SS** **07 52 12.3 -5.0**
KMI pmax pmax
comp=Z,23nm,0.9s
KMI LR LR
comp=Z,210nm,15.2s
KMI LR LR
comp=Z,200nm,23.6s
KMI LR LR
comp=Z,320nm,19.9s
CLL Collm 40.47 317 *e*P **P** **07 43 09.0 -1.0**
CLL pmax pmax
comp=Z,28nm,1.8s
CLL Collm 40.47 317 *e*P **P** **07 43 09.0 -1.0**
comp=Z,28nm,1.8s
CLL *i* x x 07 43 20.5
CLL *e*SS SS 07 52 24.0 +6.7
CLL AMS AMS 08 04 00.0
comp=Z,200nm,18.4s
SQTA Sankt Quirin 40.59 311 *i* P **P** **07 43 10.5 -0.6**
comp=Z,7.5nm,0.5s
MOTA Moosalm 40.69 311 *i* P **P** **07 43 09.0 -2.9**
comp=Z,3.0nm,0.9s
FETA Feichten 40.87 310 *i* P **P** **07 43 13.1 -0.4**
comp=Z,3.2nm,0.7s
RETA Reutte 40.94 311 *e*P **P** **07 43 15.0 +1.0**
comp=Z,5.2nm,0.8s
ZAK Zakamensk 41.04 44 *e*P **P** **07 43 14.7 -0.1**
ZAK pmax pmax
comp=Z,7.0nm,1.3s
FUORN Ofenpass-Fuorn 41.12 310 P **P** **07 43 15.7 0.0**
GRF Grafenberg Arr 41.12 315 *e*P **P** **07 43 15.6 +0.2**
comp=Z,4.8nm,0.8s,baz=109,slow=8.9
DAVA Damuels 41.49 311 *i* P **P** **07 43 17.5 -1.1**
comp=Z,23nm,2.1s
LVZ Lovozero 42.09 347 P **P** **07 43 23.5 +0.5**
LVZ Lovozero 42.09 347 P **P** **07 43 23.5 +0.5**
LVZ pmax pmax
comp=Z,58nm,1.5s
SONM Songino Array 42.49 49 P **P** **07 43 27.0 +0.3**
SONM Songino Array 42.49 49 P **P** **07 43 26.6 -0.1**
comp=Z,5.9nm,0.9s,baz=253,slow=8.8,SNR=30
SONM LR LR 08 03 13.3
comp=Z,967nm,21.1s,baz=232,slow=39
comp=Z,5.9nm,0.9s
ULN Ulaanbaatar 42.93 49 P **P** **07 43 30.6 +0.2**
ULN IAmb IAmb 07 43 37.6
comp=Z,12nm,0.7s
ULN Ulaanbaatar 42.93 49 *ce*P **P** **07 43 30.9 +0.6**
ULN pmax pmax
comp=Z,12nm,0.7s
SENIN Lac Senin/Sane 43.11 309 P **P** **07 43 32.1 +0.3**
BNI Bardonecchia 43.40 307 P **P** **07 43 34.4 +0.2**
BNI IAmb IAmb 07 43 47.2
comp=Z,14nm,0.8s
BNI Bardonecchia 43.40 307 P **P** **07 43 34.4 +0.2**
BNI pmax pmax
comp=Z,14nm,0.9s
HFS Hagfors 43.52 330 P **P** **07 43 34.4 -0.3**
comp=Z,1.6nm,0.4s,baz=133,slow=8.7,SNR=11
comp=Z,1.6nm,0.4s
XAN Xi'an 44.09 69 P **P** **07 43 37.3 -2.5**
XAN pmax pmax
comp=Z,10.0nm,1.0s
BTO Baotou 44.53 60 *e*P **P** **07 43 42.0 -1.3**
BTO pP **pP** **07 43 46.5 -2.0**
BTO sP **sP** **07 43 49.1 -1.5**
BTO PP **PP** **07 45 27.0 -0.2**
BTO S **S** **07 50 17.2 -1.1**
BTO sS **pS** **07 50 25.4 +1.1**
BTO SS SS 07 53 25.9 -12
BTO pmax pmax
comp=Z,26nm,0.9s
BTO pmax pmax
comp=Z,340nm,5.2s
BTO LR LR
comp=Z,540nm,15.5s
BTO LR LR
comp=Z,1μm,15.7s
BTO LR LR
comp=Z,1μm,17.6s
NC602 NORSAR Array S 44.74 330 P **P** **07 43 43.5 -1.1**
NRIK Noril'sk 44.80 15 P **P** **07 43 44.5 -0.3**
NRIK IAmb IAmb 07 43 51.0
comp=Z,11nm,0.9s
NRIK Noril'sk 44.80 15 *ce*P **P** **07 43 45.4 +0.6**
NRIK pmax pmax
comp=Z,15nm,1.3s
NRIK Noril'sk 44.80 15 P **P** **07 43 44.7 -0.2**
comp=Z,6.8nm,0.9s,baz=222,slow=5.9,SNR=10
comp=Z,6.8nm,0.9s
NC405 NORSAR Array S 44.83 330 P **P** **07 43 44.7 -0.5**
NC405 IAmb IAmb 07 44 00.0
comp=Z,24nm,1.2s
NB2 NORSAR Subarra 45.02 330 P **P** **07 43 45.3 -1.5**
comp=Z,6.7nm,1.1s,baz=115,slow=7.9
NOA NORSAR Array B 45.02 330 P **P** **07 43 45.9 -0.8**
comp=Z,0.7nm,0.6s,baz=115,slow=7.8,SNR=4.6
comp=Z,0.7nm,0.6s
ARCES ARCESS Array B 45.37 345 P **P** **07 43 49.2 -0.2**
comp=Z,2.0nm,0.5s,baz=137,slow=7.9,SNR=12
comp=Z,2.0nm,0.5s
HHC Hu-ho-hao-te 45.70 59 *e*P **P** **07 43 54.0 +1.4**
HHC pP sP 07 43 59.0 -0.9
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,85nm,4.3s
HHC LR LR
comp=Z,260nm,12.8s
HHC LR LR
comp=Z,150nm,12.9s
HHC LR LR
comp=Z,200nm,14.9s
TIY Taiyuan 46.55 63 *e*P **P** **07 44 00.4 +1.1**
TIY S **S** **07 50 48.4 +0.9**
TIY pmax pmax
comp=Z,31nm,0.5s
TIY LR LR
comp=Z,180nm,5.5s
TIY LR LR
comp=Z,150nm,12.0s
TIY LR LR
comp=Z,180nm,19.1s
LYN LuoYang 46.94 68 *e*P **P** **07 44 02.7 +0.5**
LYN pmax pmax
comp=Z,23nm,0.9s
LYN pmax pmax
comp=Z,220nm,4.8s
OPO Ambohidratompo 47.47 193 LR LR 08 02 03.6
comp=Z,223nm,21.6s,baz=182,slow=34
HNS HongShan 48.38 64 *e*P **P** **07 44 13.9 +0.5**
BOD Bodaibo 48.95 36 *e*P **P** **07 44 17.3 -0.2**
BOD pmax pmax
comp=Z,44nm,1.4s
XLT XiLinHaoTe 48.97 55 *e*P **P** **07 44 18.3 +0.4**
XLT pP pP 07 44 23.6 +0.4
XLT sP sP 07 44 25.2 -0.1
XLT S **S** **07 51 21.8 +0.2**
XLT SS **SS** **07 54 48.4 -3.9**
XLT pmax pmax
comp=Z,10.0nm,1.1s
XLT pmax pmax
comp=Z,100nm,4.6s
XLT LR LR
comp=Z,340nm,14.0s
XLT LR LR
comp=Z,320nm,14.9s
BJI Beijing 49.26 60 P **P** **07 44 20.3 +0.2**
BJI PcP **PcP** **07 45 43.0 +0.1**
BJI pmax pmax

comp=Z,3.0nm,0.7s
BJI pmax pmax
comp=Z,59nm,5.5s
BJI LR LR
comp=Z,150nm,18.4s
BJI LR LR
comp=Z,91nm,15.9s
BJI LR LR
comp=Z,120nm,23.1s
TIA Tai'an 50.46 65 P P 07 44 29.8 +0.5
TIA pmax pmax
comp=Z,9.0nm,0.9s
EKA Eskdalemuir Ar 50.77 320 P P 07 44 30.6 -0.8
comp=Z,0.2nm,0.3s,baz=103,slow=7.0,SNR=2.0
comp=Z,0.2nm,0.3s
VOI Vohitsoka 50.79 193 P P 07 44 32.1 +0.2
VOI IAmb IAmb 07 44 48.5
comp=Z,31nm,1.4s
HKPS Hong Kong Po S 51.23 83 P P 07 44 35.7 +0.4
ESDC Sonseca Array 51.38 300 P P 07 44 35.1 -1.1
comp=Z,2.4nm,1.1s,baz=81,slow=8.1,SNR=4.6
comp=Z,2.4nm,1.1s
HIA Hailar 51.43 48 P P 07 44 36.4 -0.1
HIA IAmb IAmb 07 44 37.9
comp=Z,12nm,1.0s
HIA Hailar 51.43 48 P P 07 44 36.4 -0.1
HIA pmax pmax
comp=Z,12nm,1.0s
LSZ Lusaka 51.62 217 LR LR 08 08 59.8
comp=Z,312nm,20.6s,baz=6.0,slow=39
NJ2 Nanjing 52.64 70 *eP* **P 07 44 46.4 +0.7**
NJ2 pmax pmax
comp=Z,12nm,0.6s
SPITS Spitsbergen Ar 53.41 350 P P 07 44 50.2 -0.5
comp=Z,15nm,1.0s,baz=130,slow=9.9,SNR=9.3
comp=Z,15nm,1.0s
TOA0 Torodi Ar. Sit 53.84 266 P P 07 44 53.6 -1.1
TOA0 Torodi Ar. Sit 53.84 266 P P 07 44 54.3 -0.4
SNR=21
TOA0 P P 07 44 54.3 -0.4
SNR=21
TORD Torodi Ar. Bea 53.84 266 P P 07 44 53.8 -1.0
TORD IAmb IAmb 07 44 57.2
comp=Z,11nm,0.7s
TORD Torodi Ar. Bea 53.84 266 P P 07 44 53.6 -1.0
comp=Z,16nm,0.6s,baz=61,slow=7.7,SNR=75
comp=Z,16nm,0.6s
PCBR Castelo Branco 54.04 300 *eP* **P 07 44 59.9 +4.1**
comp=Z,67nm,1.5s
CN2 Changchun 55.73 54 P P 07 45 06.9 -1.1
CN2 pmax pmax
comp=Z,10.0nm,0.5s
JMIC Jan Mayen 55.88 339 LR LR 08 10 37.0
comp=Z,194nm,19.8s,baz=80,slow=38
ZEA Zeya 56.05 42 *eP* **P 07 45 10.9 +0.7**
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA MLR MLR
comp=E,200nm,17.0s
ZEA MLR MLR
comp=Z,300nm,15.0s
KASI Kota Agung 56.33 119 P P 07 45 16.0 +3.4
HEH HeiHe 56.37 46 *eP* **P 07 45 12.0 -0.4**
HEH pmax pmax
comp=Z,20nm,0.9s
HEH LR LR
comp=Z,440nm,19.7s
HEH LR LR
comp=Z,430nm,20.3s
HEH LR LR
comp=Z,770nm,19.5s
INCN Inchon 57.73 62 P P 07 45 22.6 +0.2
INCN Inchon 57.73 62 P P 07 45 22.6 +0.2
INCN pmax pmax
comp=Z,21nm,0.7s
TIXI Tiksi 57.73 21 P P 07 45 21.6 -0.1
TIXI IAmb IAmb 07 45 23.2
comp=Z,23nm,1.4s
TIXI Tiksi 57.73 21 *ce* **P P 07 45 21.2 -0.5**
TIXI pmax pmax
comp=Z,24nm,1.7s
MDJ Mudanjiang 58.55 53 P P 07 45 28.1 +0.1
MDJ PcP **PcP 07 46 20.1 +1.9**
MDJ PcS **PcS 07 50 20.5 +0.7**
MDJ S **S 07 53 29.6 -1.6**
MDJ SS **SS 07 57 20.1 -3.4**
MDJ pmax pmax
comp=Z,8.0nm,1.8s
MDJ pmax pmax
comp=Z,110nm,3.6s
MDJ LR LR
comp=Z,300nm,15.1s
MDJ LR LR
comp=Z,290nm,17.5s
MDJ LR LR
comp=Z,540nm,16.5s
KS19 Wonju Array Si 58.68 61 P P 07 45 29.0 0.0
KS19 IAmb IAmb 07 45 41.4
comp=Z,16nm,1.1s
KSAR Wonju Array Be 58.71 61 P P 07 45 28.6 -0.5
KSAR Wonju Array Be 58.71 61 P P 07 45 28.7 -0.5
KSRS Korea Array 58.73 61 P P 07 45 28.4 -0.9
comp=Z,5.6nm,0.6s,baz=279,slow=7.0,SNR=20
comp=Z,5.6nm,0.6s
KLR Kul'dur 59.28 47 *ce* **P P 07 45 32.4 -0.5**
KLR pmax pmax
comp=Z,23nm,1.7s
KLR Kul'dur 59.28 47 P P 07 45 31.6 -1.3
comp=Z,8.4nm,0.9s,baz=284,slow=7.9,SNR=20
comp=Z,8.4nm,0.9s
LEM Lembang 59.56 118 LR LR 08 11 39.4
comp=Z,94nm,19.6s,baz=158,slow=36
DAG Danmarks Havn 59.66 345 *i* **P P 07 45 34.0 -1.2**
DAG IAmb IAmb 07 45 35.2
comp=Z,21nm,1.7s
DBG Daneborg 59.84 342 *eP* **P 07 45 37.2 +0.8**
USA0B Ussuriysk Arra 60.31 53 P P 07 45 39.2 -0.9
USA0B IAmb IAmb 07 45 48.4
comp=Z,6.4nm,0.8s
USA0B Ussuriysk Arra 60.31 53 P P 07 45 39.3 -0.9
USA0B pmax pmax
comp=Z,6.0nm,0.9s
USRK Ussuriysk Ar. 60.31 53 P P 07 45 39.5 -0.6
USRK Ussuriysk Ar. 60.31 53 P P 07 45 39.5 -0.6
USRK Ussuriysk Ar. 60.31 53 P P 07 45 38.6 -1.6
comp=Z,2.3nm,0.8s,baz=269,slow=7.2,SNR=4.1
comp=Z,2.3nm,0.8s
TSUM Tsumeb 60.84 224 LR LR 08 16 36.8
comp=Z,273nm,19.1s,baz=334,slow=40
LBTB Lobatse 61.09 213 P P 07 45 46.5 +0.8
LBTB IAmb IAmb 07 45 56.5
comp=Z,8.5nm,0.8s
LBTB Lobatse 61.09 213 P P 07 45 46.5 +0.8
LBTB pmax pmax
comp=Z,8.0nm,0.8s
LBTB Lobatse 61.09 213 LR LR 08 13 12.6
comp=Z,160nm,19.7s,baz=30,slow=37
DBIC Dimbokro 62.51 263 P P 07 45 54.6 -0.8
DBIC Dimbokro 62.51 263 P P 07 45 54.6 -0.8
DBIC pmax pmax
comp=Z,20nm,1.4s
DBIC Dimbokro 62.51 263 P P 07 45 54.8 -0.6
comp=Z,5.0nm,0.9s,baz=34,slow=6.2,SNR=5.6
comp=Z,5.0nm,0.9s
BOSA Boshof 64.30 211 P P 07 46 07.6 +0.6
BOSA IAmb IAmb 07 46 11.6
comp=Z,10nm,0.9s
BOSA Boshof 64.30 211 P P 07 46 06.6 -0.4
comp=Z,7.9nm,0.8s,baz=34,slow=6.3,SNR=13
BOSA LR LR 08 14 54.1
comp=Z,168nm,18.3s,baz=30,slow=37
comp=Z,7.9nm,0.8s
SUMG Summit 65.19 341 P P 07 46 12.5 -0.2
SUMG Summit 65.19 341 P P 07 46 12.5 -0.2
SUMG pmax pmax
comp=Z,10.0nm,0.7s
SUMG Summit 65.19 341 *i* **P P 07 46 12.0 -0.7**
SUMG IAmb IAmb 07 46 14.2
comp=Z,24nm,1.4s
TYV Tymovskoe 65.82 44 *eP* **P 07 46 16.1 -0.5**
TYV pmax pmax
comp=Z,5.0nm,0.8s
TYV pmax pmax
comp=Z,100nm,5.6s
ICESG Greenland Ices 66.52 337 *eP* **P 07 46 19.8 -1.4**

NEEM North Greenlan 66.66 347 *eP* **P 07 46 21.5 -0.5**
MJAR Matsushiro Arr 66.90 60 P P 07 46 22.5 -1.4
comp=Z,1.6nm,0.7s,baz=288,slow=6.9,SNR=2.2
comp=Z,1.6nm,0.7s
YSS Yuzh-Sakhalins 66.97 48 P P 07 46 23.4 -0.6
YSS Yuzh-Sakhalins 66.97 48 *eP* **P 07 46 22.9 -1.1**
YSS *e* 07 46 32.1
YSS pmax pmax
comp=Z,30nm,0.7s
YSS MLR MLR
comp=E,200nm,15.0s
YSS MLR MLR
comp=Z,300nm,15.0s
SEY Seymchan 67.52 30 *ce* **P P 07 46 27.4 +0.1**
SEY pmax pmax
comp=Z,7.0nm,0.7s
SEY Seymchan 67.52 30 P P 07 46 27.2 -0.1
comp=Z,6.4nm,0.6s,baz=294,slow=6.9,SNR=23
SEY LR LR 08 19 04.3
comp=Z,490nm,18.0s,baz=322,slow=39
comp=Z,6.4nm,0.6s
ASAJ Asahikawa 67.71 51 P P 07 46 27.7 -1.1
comp=Z,3.1nm,0.7s,baz=330,slow=20,SNR=2.1
comp=Z,3.1nm,0.7s
MA2 Magadan 67.81 33 LR LR 08 20 07.4
comp=Z,193nm,18.1s,baz=312,slow=40
SUR Sutherland 69.53 213 LR LR 08 18 11.6
comp=Z,184nm,18.8s,baz=1.5,slow=37
DY2G Dye2 69.80 335 *eP* **P 07 46 41.6 -0.1**
EUNU Eureka 70.26 354 P P 07 46 44.6 +0.4
EUNU IAmb IAmb 07 46 51.2
comp=Z,10nm,1.1s
BILL Bilibino 70.89 22 P P 07 46 47.9 -0.2
BILL IAmb IAmb 07 46 49.1
comp=Z,14nm,1.3s
BILL Bilibino 70.89 22 *i* *eP* **P 07 46 48.8 +0.7**
BILL pmax pmax
comp=Z,11nm,1.7s
PETK Petropavlovsk- 73.77 38 P P 07 47 04.3 -1.3
comp=Z,2.8nm,0.9s,baz=302,slow=3.2,SNR=1.9
comp=Z,2.8nm,0.9s
BATI Baumata 74.44 111 P P 07 47 09.4 -0.6
comp=Z,13nm,0.4s,baz=344,slow=4.5,SNR=2.0
BATI LR LR 08 20 33.9
comp=Z,117nm,21.6s,baz=297,slow=36
comp=Z,13nm,0.4s
B18K Kokolik River 78.70 13 P P 07 47 33.4 +0.2
baz=325
C16K Lisburne Hills 78.82 15 P P 07 47 34.1 +0.2
baz=322
C17K DeLong Mountai 79.14 14 P P 07 47 36.2 +0.5
baz=324
C19K Lookout Ridge 79.35 13 P P 07 47 37.4 +0.5
baz=327
B22K Teshekpuk Lake 79.36 10 P P 07 47 36.4 -0.4
baz=333
C18K Utukok River 79.41 13 P P 07 47 36.8 -0.5
C18K IAmb IAmb 07 47 38.1
comp=Z,26nm,1.4s
C18K Utukok River 79.41 13 P P 07 47 37.0 -0.2
baz=326,SNR=7.6
D17K Noatak River 79.79 15 P P 07 47 38.9 -0.4
baz=324,SNR=8.9
B21K Ikpikpuk River 79.81 11 P P 07 47 39.2 -0.1
baz=332
A36M Sachs Harbour 80.15 1 P P 07 47 40.8 -0.3
A36M Sachs Harbour 80.15 1 P P 07 47 41.5 +0.5
baz=358
D19K Kuna River 80.16 13 IAmb IAmb 07 47 42.2
comp=Z,18nm,1.2s
D19K Kuna River 80.16 13 P P 07 47 41.8 +0.5
baz=329
C21K Knifeblade Rid 80.19 11 P P 07 47 41.9 +0.6
baz=332
C23K Itkillik River 80.24 10 P P 07 47 42.2 +0.6
baz=335
D20K Etivluk River 80.25 12 P P 07 47 41.9 +0.2
baz=330
TNA Tin City 80.31 17 P P 07 47 42.2 +0.2
baz=320
FITZ Fitzroy Crossi 80.36 116 P P 07 47 44.2 +1.2
E18K Tukpahlearik C 80.56 14 IAmb IAmb 07 47 44.1
comp=Z,18nm,1.2s
E18K Tukpahlearik C 80.56 14 P P 07 47 43.5 +0.1
baz=327
GAMB Gambell 80.59 20 P P 07 47 43.6 0.0
baz=317
C24K Franklin Bluff 80.62 9 P P 07 47 44.5 +0.9
baz=337,SNR=6.4
E20K Nigu River 80.72 12 P P 07 47 44.6 +0.2
baz=330
D22K Ayikyak River 80.78 11 P P 07 47 45.1 +0.5
baz=333
F14K Arctic Creek 80.80 17 P P 07 47 45.1 +0.4
baz=322
C26K Camden Bay 80.92 8 P P 07 47 45.5 +0.2
baz=340
D23K Nanushuk River 81.02 10 P P 07 47 46.4 +0.5
baz=335
F15K North Star Dit 81.04 16 P P 07 47 45.6 -0.4
baz=323
D24K Happy Valley 81.12 9 P P 07 47 46.9 +0.5
baz=337
E19K Redstone River 81.22 13 IAmb IAmb 07 48 11.5
comp=Z,7.1nm,0.4s
E19K Redstone River 81.22 13 P P 07 47 46.9 0.0
baz=330
F17K Baldwin Pennin 81.24 15 P P 07 47 46.9 -0.1
baz=326
D25K Kavik River 81.30 8 P P 07 47 47.8 +0.5
baz=339
F18K Selawik 81.46 14 P P 07 47 48.0 -0.2
baz=328,SNR=7.2
TOLK Toolik Lake Re 81.48 10 P P 07 47 48.6 +0.2
TOLK IAmb IAmb 07 47 49.7
comp=Z,8.1nm,0.8s
TOLK Toolik Lake Re 81.48 10 P P 07 47 48.2 -0.2
baz=336,SNR=7.6
E22K Anaktuvuk Pass 81.60 11 P P 07 47 48.5 -0.5
baz=334
F19K Shaleruckik Mo 81.65 13 P P 07 47 48.5 -0.7
F19K IAmb IAmb 07 47 49.8
comp=Z,12nm,1.1s
F19K Shaleruckik Mo 81.65 13 P P 07 47 48.6 -0.6
baz=329,SNR=6.7
G15K Niukluk 81.76 17 P P 07 47 49.5 -0.4
baz=324
ANM Nome 81.77 17 P P 07 47 50.3 +0.4
ANM IAmb IAmb 07 48 01.4
comp=Z,16nm,1.3s
ANM Nome 81.77 17 P P 07 47 50.3 +0.4
ANM pmax pmax
comp=Z,16nm,1.3s
ANM Nome 81.77 17 P P 07 47 49.0 -0.8
baz=323
G16K Koyuk River 81.85 16 P P 07 47 49.8 -0.5
baz=325
F20K Avaraart Lake 81.87 13 P P 07 47 49.9 -0.5
baz=331
D27M Malcolm River 81.99 7 P P 07 47 51.1 +0.1
baz=344
E23K Chandalar 82.01 10 P P 07 47 50.8 -0.4
baz=336
D28M Stokes Point 82.12 6 P P 07 47 51.2 -0.4
baz=346
F21K Alatna River 82.13 12 P P 07 47 51.8 0.0
baz=333
G17K Kiwalik Mounta 82.16 15 P P 07 47 52.0 +0.1
baz=327
E24K Your Creek 82.17 10 P P 07 47 52.5 +0.5
E24K IAmb IAmb 07 47 54.0
comp=Z,8.1nm,0.8s
E24K Your Creek 82.17 10 P P 07 47 51.3 -0.7
baz=337,SNR=9.9
G18K Tagagawik 82.27 14 P P 07 47 52.4 -0.1
baz=328
G19K Purcell Mounta 82.39 13 P P 07 47 52.7 -0.4
baz=330
H16K Elim 82.50 16 P P 07 47 53.2 -0.5
baz=325
E25K Arctic Village 82.53 9 P P 07 47 54.2 +0.4
E25K Arctic Village 82.53 9 P P 07 47 53.5 -0.3
baz=340,SNR=7.7
COLD Coldfoot 82.68 10 P P 07 47 54.7 0.0
baz=336
G22K Bettles 82.75 11 P P 07 47 55.1 +0.2
baz=334
E28M Babbage River 82.75 6 IAmb IAmb 07 47 56.3
comp=Z,16nm,1.4s
E28M Babbage River 82.75 6 P P 07 47 55.5 +0.5
baz=345,SNR=5.8
G21K Allakaket 82.76 12 P P 07 47 55.1 0.0
baz=333
F24K Squaw Lake 82.77 10 P P 07 47 55.2 +0.1
baz=338
H17K Granite Mounta 82.81 15 P P 07 47 55.3 0.0
H17K IAmb IAmb 07 47 55.4
comp=Z,6.9nm,0.9s
H17K Granite Mounta 82.81 15 P P 07 47 54.8 -0.5
baz=327
C36M Paulatuk 82.81 1 IAmb IAmb 07 47 58.1
comp=Z,6.9nm,0.6s
C36M Paulatuk 82.81 1 P P 07 47 55.0 -0.2
baz=359,SNR=14
H18K Honhosa River 82.97 14 P P 07 47 56.1 0.0
H18K IAmb IAmb 07 48 08.0
comp=Z,16nm,1.2s
H18K Honhosa River 82.97 14 P P 07 47 55.7 -0.4
baz=329
F25K Christian Rive 83.02 9 P P 07 47 56.5 +0.1
baz=340
H19K Roundabout Mou 83.06 14 P P 07 47 56.8 +0.3
baz=330
E29M Blow River 83.11 6 IAmb IAmb 07 48 06.5
comp=Z,13nm,1.4s
E29M Blow River 83.11 6 P P 07 47 56.9 +0.1
baz=346
F26K Sheenjek River 83.11 8 P P 07 47 56.4 -0.5
baz=341
G23K Bananza Creek 83.19 11 P P 07 47 56.8 -0.5
baz=336
BMAR Burnt Mountain 83.31 8 P P 07 47 58.5 +0.5
H20K Anoteneega Mo 83.40 13 P P 07 47 58.6 +0.2
baz=332
I17K Unalakeet 83.50 16 P P 07 47 59.4 +0.5
baz=327
INK Inuvik 83.52 4 P P 07 47 58.8 -0.1
INK IAmb IAmb 07 47 59.7
comp=Z,10nm,1.4s
INK Inuvik 83.52 4 P P 07 47 58.8 -0.1
INK pmax pmax
comp=Z,10.0nm,1.4s
INK Inuvik 83.52 4 P P 07 47 58.5 -0.4
baz=350
G24K Hadweenzic Riv 83.59 10 P P 07 48 00.0 +0.7
baz=338
GCSA Galena City Sc 83.64 14 P P 07 47 59.7 +0.1
baz=330
H21K Melozitna Rive 83.66 12 P P 07 48 00.0 +0.3
baz=334
F28M Old Crow 83.68 7 P P 07 47 59.1 -0.6
F28M IAmb IAmb 07 48 09.3
comp=Z,14nm,1.2s
F28M Old Crow 83.68 7 P P 07 47 59.9 +0.1
baz=345
H22K Ishtalitna Cre 83.70 11 P P 07 48 00.4 +0.4
baz=335
J14K Nanvaranak Lak 83.72 18 P P 07 48 00.4 +0.4
baz=324
G25K Bearman Lake 83.73 9 P P 07 48 00.1 +0.1
baz=339
G26K Porcupine Rive 83.87 8 P P 07 48 01.3 +0.6
baz=341
J16K Anvik River 84.03 16 P P 07 48 02.0 +0.4
J16K IAmb IAmb 07 48 30.9
comp=Z,9.8nm,1.1s
J16K Anvik River 84.03 16 P P 07 48 02.1 +0.5
baz=327
F30M Barrier River 84.05 5 P P 07 48 02.2 +0.6
baz=348
I20K Naaghedeneel 84.10 13 P P 07 48 02.3 +0.4
baz=332
I21K Tanana 84.24 12 P P 07 48 03.0 +0.4
baz=334
H25L Birch Creek 84.24 9 P P 07 48 03.0 +0.4
baz=340
H24K Noodor Dome 84.33 10 P P 07 48 03.5 +0.3
baz=338
F31M Tsiigehtchic 84.36 4 P P 07 48 02.9 -0.3
F31M Tsiigehtchic 84.36 4 P P 07 48 03.2 0.0
baz=350,SNR=6.9
G29M Pine Creek 84.54 6 P P 07 48 03.9 -0.3
baz=346
J19K Poorman 84.57 14 P P 07 48 04.5 +0.1
baz=331
SCHQ Schefferville 84.58 331 P P 07 48 04.8 +0.2
comp=Z,1.6nm,0.7s,baz=358,slow=8.5,SNR=2.6
comp=Z,1.6nm,0.7s
MLY Manley 84.60 12 IAmb IAmb 07 48 08.1
comp=Z,6.2nm,1.1s
MLY Manley 84.60 12 P P 07 48 04.1 -0.4
baz=335
K15K Wolf Creek Mou 84.63 17 P P 07 48 04.2 -0.5
baz=326
G30M tAoh Zraii Nji 84.63 5 P P 07 48 03.8 -0.9
baz=348
J20K Nowinta River 84.72 13 P P 07 48 05.1 0.0
baz=332
I23K Minto, Yukon-K 84.73 11 P P 07 48 05.4 +0.3
baz=336
J18K Innoko River 84.80 15 P P 07 48 05.7 +0.2
baz=330
H27K Steamboat Moun 84.83 8 P P 07 48 05.4 -0.3
baz=343
G31M Satah River 84.84 5 P P 07 48 05.5 -0.1
G31M Satah River 84.84 5 P P 07 48 05.5 -0.1
baz=350,SNR=6.3
M11K Mekoryuk 84.86 20 P P 07 48 05.3 -0.5
baz=322
PRP Porcupine Dome 84.99 9 P P 07 48 06.9 +0.2
baz=340
POKR Poker Plat Res 85.07 10 P P 07 48 07.3 +0.4
baz=338
K17K Iditarod 85.08 16 P P 07 48 07.4 +0.4
baz=329
MDM Murphy Dome 85.09 11 IAmb IAmb 07 48 08.4
comp=Z,13nm,1.2s
L14K Kuka Creek 85.11 18 P P 07 48 07.4 +0.4
baz=325
L15K Ungalak Mounta 85.15 18 P P 07 48 07.6 +0.4
baz=326
H29M Whitestone 85.18 6 P P 07 48 07.4 0.0
baz=346
EPYK Eagle Plains 85.19 6 P P 07 48 07.3 -0.2
baz=348
COLA College 85.23 11 P P 07 48 07.2 -0.4
baz=338
NEA2 Nenana 85.29 11 P P 07 48 07.8 -0.1
baz=337
CHUM Lake Minchumin 85.35 13 P P 07 48 08.2 0.0
baz=334
BPAW Bear Paw Mtn. 85.40 12 P P 07 48 08.7 +0.1
BPAW Bear Paw Mtn. 85.40 12 P P 07 48 08.1 -0.5
baz=335
TTA Tatalina 85.42 15 P P 07 48 09.0 +0.2
baz=331
I27K Kandik River 85.42 8 P P 07 48 08.5 -0.2
baz=343
K20K Telida 85.46 14 P P 07 48 09.1 +0.2
baz=332
IL31 85.48 10 P P 07 48 08.2 -0.7
IL31 IAmb IAmb 07 48 27.6
comp=Z,7.7nm,1.4s
ILAR Eielson Array 85.48 10 P P 07 48 07.9 -1.0
ILAR Eielson Array 85.48 10 P P 07 48 07.9 -1.0
ILAR Eielson Array 85.48 10 P P 07 48 07.4 -1.5
comp=Z,0.9nm,0.6s,baz=323,slow=4.8,SNR=19
ILAR PP **PP 07 51 26.4 -0.1**
comp=Z,0.5nm,0.9s,baz=273,slow=7.0,SNR=4.4
comp=Z,0.9nm,0.6s
IL03 Eielson Array 85.49 10 P P 07 48 08.3 -0.7
I26K Coal Creek Min 85.51 9 P P 07 48 09.1 +0.1
I26K IAmb IAmb 07 48 09.3
comp=Z,10nm,1.4s
I26K Coal Creek Min 85.51 9 P P 07 48 09.3 +0.2
baz=342
WRH Wood River Hil 85.57 11 P P 07 48 08.4 -0.9
L17K Donlin 85.58 16 P P 07 48 09.4 0.0
baz=329
L16K Owhat River 85.65 17 P P 07 48 10.0 +0.2
baz=328
I28M Miner Creek 85.77 7 IAmb IAmb 07 48 15.1
comp=Z,4.6nm,0.8s
I28M Miner Creek 85.77 7 P P 07 48 10.2 -0.3
baz=345
M14K Bethel 85.79 18 P P 07 48 10.7 +0.3

	baz=326							
CAST	Castle Rocks	85.81	13	P		P	07 48 10.3	-0.3
	baz=334							
HDA	Harding Lake	85.81	10	P		P	07 48 10.0	-0.6
	baz=339							
J25K	Salcha River,	85.86	10	P		P	07 48 10.5	-0.4
	baz=340							
L18K	Granite Mounta	85.89	15	P		P	07 48 10.8	-0.1
	baz=330							
H31M	Peel River	85.94	5	P		P	07 48 10.9	-0.3
	baz=350							
SPIA	Saint Paul Isl	86.01	24	P		P	07 48 11.3	-0.3
	baz=319							
MCK	McKinley	86.11	11	P		P	07 48 11.1	-1.0
	baz=337							
TRF	Thorofare Moun	86.12	12	P		P	07 48 11.7	-0.6
	baz=336							
M15K	Kasigluk River	86.19	18	P		P	07 48 12.7	+0.2
	baz=327							
J26L	Joseph Creek	86.23	9	P		P	07 48 12.5	-0.2
J26L				IAmb		IAmb	07 48 17.6	
	comp=Z,8.9nm,0.8s							
J26L	Joseph Creek	86.23	9	P		P	07 48 12.7	-0.1
	baz=342							
PPLA	Purkeypile	86.26	13	P		P	07 48 12.8	-0.2
	baz=334							
EGAK	Eagle	86.27	8	P		P	07 48 12.7	-0.2
	baz=344							
L20K	Farewell, AK	86.28	14	P		P	07 48 13.1	+0.1
	baz=333							
I30M	Mount Dempster	86.34	6	P		P	07 48 12.9	-0.5
I30M				IAmb		IAmb	07 48 19.9	
	comp=Z,15nm,1.2s							
I30M	Mount Dempster	86.34	6	P		P	07 48 12.4	-0.9
	baz=348							
M16K	Timber Creek	86.36	17	P		P	07 48 12.6	-0.7
	baz=328							
M17K	Holitna River	86.42	16	P		P	07 48 13.1	-0.5
	baz=330							
N14K	Kuskokwak Cree	86.56	19	P		P	07 48 14.1	-0.2
	baz=326							
K24K	Donnelly Dome	86.56	10	P		P	07 48 13.3	-1.0
	baz=340							
SCRK	Sand Creek	86.67	9	P		P	07 48 14.6	-0.3
	baz=341							
M19K	Big River Lodg	86.69	14	P		P	07 48 14.6	-0.3
	baz=332							
P08K	Saint George I	86.70	24	P		P	07 48 15.2	+0.1
	baz=320							
M18K	Stony River	86.72	15	P		P	07 48 15.2	+0.1
	baz=331							
RIDG	Independent Ri	86.77	10	P		P	07 48 15.1	-0.3
	baz=340							
N15K	Kwethluk River	86.79	18	P		P	07 48 15.6	+0.2
	baz=328							
K27K	Chicken	86.88	8	P		P	07 48 15.4	-0.4
	baz=343							
N16K	Nishlik Lake	86.88	17	P		P	07 48 16.1	+0.1
	baz=329							
J29N	Klondike Camp	86.92	7	IAmb		IAmb	07 48 34.1	
	comp=Z,7.6nm,0.9s							
J29N	Klondike Camp	86.92	7	P		P	07 48 15.5	-0.6
	baz=346							
M20K	Styx River	86.98	14	P		P	07 48 16.2	-0.3
	baz=333							
J30M	Hart River	86.98	6	P		P	07 48 15.3	-1.2
	baz=348							
DHY	Denali Highway	86.99	11	P		P	07 48 15.8	-0.7
	baz=338							
CUT	Chulitna	87.08	13	P		P	07 48 15.7	-1.2
	baz=336							
DAWY	Dawson	87.17	7	P		P	07 48 16.7	-0.6
DAWY	Dawson	87.17	7	P		P	07 48 16.9	-0.4
	baz=345							
SKT	Skwentna	87.22	13	IAmb		IAmb	07 48 28.7	
	comp=Z,12nm,1.2s							
SKT	Skwentna	87.22	13	P		P	07 48 16.4	-1.1
	baz=335							
O14K	Tigyukauivet M	87.24	19	P		P	07 48 17.1	-0.5
	baz=326							
N17K	Nushagak Hills	87.24	16	P		P	07 48 17.2	-0.4
	baz=330							
WAT6	Susitna Watana	87.38	11	P		P	07 48 18.0	-0.5
	baz=338							
PAX	Paxson	87.40	10	P		P	07 48 18.3	-0.2
	baz=340							
N18K	Kilae Creek	87.42	16	P		P	07 48 18.1	-0.4
	baz=331							
K29M	Barlow Dome	87.58	7	P		P	07 48 19.2	-0.2
	baz=347							
N19K	Bonanza Creek	87.63	15	P		P	07 48 19.3	-0.3
	baz=332							
L26K	Log Cabin Wild	87.66	9	P		P	07 48 18.9	-0.8
	baz=342							
O15K	Ungalikthiuk R	87.70	18	P		P	07 48 19.9	+0.1
	baz=328							
M22K	Willow	87.71	13	P		P	07 48 19.4	-0.5
	baz=336							
N20K	Mount Spurr	87.79	14	P		P	07 48 20.2	-0.2
	baz=334							
O16K	Kokwok River B	87.81	17	P		P	07 48 20.7	+0.3
	baz=329							
L27K	Beaver Creek,	87.84	9	P		P	07 48 20.7	+0.2
	baz=343							
SUA	Susitna One	87.85	13	P		P	07 48 20.6	-0.1
	baz=335							
O17K	Koliganek Bris	87.91	17	P		P	07 48 20.4	-0.4
	baz=330							
MAYO	Mayo, Yukon	87.98	6	P		P	07 48 20.4	-0.8
	baz=348							
HARP	HAARP	87.98	10	P		P	07 48 20.6	-0.6
	baz=340							
SML	Sawmill	88.00	12	P		P	07 48 20.9	-0.4
	baz=338							
PMR	Palmer	88.05	12	P		P	07 48 21.2	-0.3
	baz=337							
M24K	Tolsona, Glenn	88.09	11	P		P	07 48 21.1	-0.7
	baz=339							
M23K	Glacier View	88.12	12	P		P	07 48 21.1	-0.8
	baz=338							
SCM	Sheep Creek Mo	88.15	11	P		P	07 48 21.3	-0.8
	baz=338							
O19K	Port Alsworth	88.22	15	P		P	07 48 21.3	-0.9
	baz=332							
L29M	L29M	88.24	7	P		P	07 48 22.5	+0.1
	baz=346							
WB0	Warramunga Arr	88.25	113	P		P	07 48 24.5	+1.4
WRA	Warramunga Arr	88.30	114	P		P	07 48 24.5	+1.1
WRA	Warramunga Arr	88.30	114	P		P	07 48 24.5	+1.1
	comp=Z,14nm,1.0s,baz=309,slow=4.3,SNR=31							
WB2	Warramunga Arr	88.31	114	P		P	07 48 24.9	+1.5
M26K	Nabesna, AK	88.31	9	P		P	07 48 22.1	-0.7
	baz=342							
O18K	Koktuh Hills	88.31	16	P		P	07 48 21.7	-1.1
	baz=332							
P16K	Nushagak River	88.32	17	P		P	07 48 22.8	0.0
	baz=329							
KNK	Knik Glacier	88.34	12	P		P	07 48 22.4	-0.5
	baz=337							
RC01	Rabbit Creek A	88.39	13	P		P	07 48 22.9	-0.3
RC01	Rabbit Creek A	88.39	13	P		P	07 48 22.0	-1.1
	baz=336							
WR0	Warramunga Arr	88.47	113	P		P	07 48 25.2	+1.0
M27K	Edge Creek, AK	88.51	9	P		P	07 48 23.1	-0.7
	baz=343							
P17K	Kvichak River	88.58	17	P		P	07 48 23.4	-0.6
	baz=331							
BVCY	Beaver Creek	88.59	8	P		P	07 48 23.1	-1.0
	baz=344							
O20K	Slope Mountain	88.70	15	P		P	07 48 23.6	-1.1
	baz=334							
P18K	Big Mountain,	88.71	16	P		P	07 48 23.1	-1.6
	baz=332							
KLU	Klutina	88.71	11	P		P	07 48 23.7	-1.0
	baz=340							
N25K	Chitina, Valde	88.82	10	P		P	07 48 23.8	-1.5
	baz=341							
M29M	Somme Creek	88.85	7	P		P	07 48 24.2	-1.2
	baz=346							
M30M	Minto, Yukon	88.90	7	P		P	07 48 23.6	-2.0
	baz=348							
O22K	Cooper Landing	88.95	13	P		P	07 48 24.1	-1.7
	baz=336							
WRGLY	Wrigley	88.96	0	P		P	07 48 25.8	0.0
WRGLY				IAmb		IAmb	07 48 30.2	
	comp=Z,6.3nm,0.8s							
WRGLY	Wrigley	88.96	0	P		P	07 48 24.3	-1.5
	baz=359							
Q16K	King Salmon	88.98	17	P		P	07 48 24.5	-1.4
	baz=330							
YUK3	Moose Creek	89.26	8	P		P	07 48 25.6	-1.9
	baz=344							
MCARA	McCarthy VSAT	89.28	10	P		P	07 48 25.8	-1.5
	baz=342							
HOM	Homer	89.30	14	P		P	07 48 26.5	-0.9
	baz=335							
SEW	Seward	89.35	13	P		P	07 48 26.8	-0.9
	baz=336							
BRSE	Bradley Lake S	89.42	14	P		P	07 48 27.3	-0.7
	baz=335							
BMRM	Bremner River	89.43	11	P		P	07 48 26.9	-1.2
	baz=341							
YKA	Yellowknife Ar	89.48	356	P		P	07 48 27.8	-0.4
	comp=Z,1.9nm,0.7s,baz=359,slow=4.9,SNR=33							
	comp=Z,1.9nm,0.7s							
M31M	Drury Creek, Y	89.49	6	P		P	07 48 27.7	-0.6
	baz=350							
FARO	Faro, Yukon	89.55	5	P		P	07 48 28.1	-0.5
	baz=350							
EYAK	Cordova Ski Ar	89.63	11	P		P	07 48 27.6	-1.3
	baz=340							
ASAR	Alice Springs	89.84	117	P		P	07 48 31.7	+1.1
ASAR	Alice Springs	89.84	117	P		P	07 48 31.6	+1.0
	comp=Z,3.0nm,0.8s,baz=304,slow=4.4,SNR=15							
	comp=Z,3.0nm,0.8s							
KAIM	Kayak Island	90.44	11	P		P	07 48 32.4	-0.3
	baz=341							
HYT	Haines Junctio	90.54	7	P		P	07 48 32.5	-0.9
	baz=347							
MESA	MESA	90.59	10	P		P	07 48 31.5	-2.2
	baz=343							
N32M	Quiet Lake	90.64	5	P		P	07 48 32.8	-0.9
	baz=351							
O30N	Mendenhall	90.74	7	P		P	07 48 33.4	-0.8
	baz=348							
SDPT	Sand Point	90.74	21	P		P	07 48 34.0	-0.2
	baz=327							
KDAK	Kodiak Island	90.78	16	P		P	07 48 33.2	-1.1
	baz=334							
PINM	Pinnacle	90.91	9	P		P	07 48 33.8	-1.2
	baz=344							
OHAK	Old Harbor	91.11	16	P		P	07 48 35.1	-0.8
	baz=333							
P30M	Million Dollar	91.28	7	P		P	07 48 37.3	+0.5
	baz=347							
P33M	Teslin, Yukon	91.59	5	P		P	07 48 38.0	-0.2
	baz=351							
SKAG	Skagway	92.11	6	P		P	07 48 40.6	+0.2
	baz=349							
P32M	Atlin	92.13	6	P		P	07 48 40.7	0.0
	baz=350							
PKME	Peaks-Kenny Pk	92.37	326	P		P	07 48 42.1	+0.1
	baz=45							
R33M	Jennings River	92.53	4	P		P	07 48 42.4	-0.2
	baz=353							
Q32M	Nakina River	92.87	5	P		P	07 48 43.9	-0.4
	baz=352							
R31K	City Hall, Gus	93.09	7	P		P	07 48 44.3	-0.7
	baz=348							
R32K	Eaglecrest	93.35	6	P		P	07 48 44.3	-2.0
	baz=350							
S34M	Telegraph Cree	94.00	5	P		P	07 48 47.2	-2.0
	baz=352							
S32K	Killisnoo	94.14	6	P		P	07 48 47.9	-1.9
	baz=349							
LBNH	Lisbon	94.41	326	P		P	07 48 50.1	-1.3
	baz=43							
SIT	Sitka	94.47	7	P		P	07 48 51.0	-0.4
	baz=349							
T33K	Petersburg	94.94	6	P		P	07 48 52.2	-1.3
	baz=351							
WRAK	Wrangell Islan	95.38	5	P		P	07 48 54.0	-1.6
	baz=351							
LONY	Lake Ozonia	95.41	328	P		P	07 48 54.6	-1.4
	baz=41							
SADO	Sadowa	97.36	330	LR		LR	08 33 55.4	
	comp=Z,154nm,21.3s,baz=44,slow=36							
STKA	Stephens Creek	99.76	121	LR		LR	08 32 08.6	
	comp=Z,86nm,21.9s,baz=347,slow=34							
ERPA	Erie	99.84	329	P		Pdif	07 49 14.0	-1.9
	baz=37							
AAM	Ann Arbor	101.28	332	P		Pdif	07 49 20.3	-2.1
	baz=34							
MDND	Maddock	101.62	344	P		Pdif	07 49 21.3	-2.5
	baz=21							
CBN	Corbin Frederi	101.64	325	P		Pdif	07 49 22.1	-1.9
	baz=40							
MCWV	Mont Chateau	101.72	328	P		Pdif	07 49 20.7	-3.7
	baz=38							
DGMT	Dagmar	102.00	348	P		Pdif	07 49 22.6	-3.0
	baz=16							
HDIL	Hopedale	105.02	334	P		Pdif	07 49 36.8	-2.3
	baz=30							
RSSD	Black Hills	106.14	346	P		PKiKP	07 53 55.3	-0.7
	baz=17							
K22A	Casper	108.05	348	P		PKiKP	07 53 57.7	-1.9
	baz=15							
WVT	Waverly	108.22	331	P		PKiKP	07 53 58.7	-1.1
	baz=32							
HLID	Hailey	108.28	354	P		PKiKP	07 53 58.3	-1.7
	baz=7.6							
BW06	Boulder Array	108.46	350	P		PKiKP	07 53 58.2	-2.3
	baz=12							
GRHS	Sauteurs	108.75	296	eP		Pdif	07 50 06.2	+10
LRAL	Lakeview Retre	110.45	329	P		PKiKP	07 54 02.2	-1.9
	baz=33							
ISCO	Idaho Springs	110.61	346	P		PKiKP	07 54 04.4	-0.3
	baz=16							
DUG	Dugway, Tooele	111.43	352	P		PKiKP	07 54 05.8	-0.2
	baz=9.2							
TUL3	Leonard	111.50	337	P		PKiKP	07 54 06.0	-0.1
	baz=25							
MIAR	Mount Ida	111.92	334	P		PKiKP	07 54 06.1	-0.8
	baz=27							
SDCO	Great Sand Dun	112.56	345	P		PKiKP	07 54 08.1	-0.3
	baz=16							
T25A	Trinidad	112.89	344	P		PKiKP	07 54 08.1	-0.8
	baz=17							
R11B	Troy Canyon, C	113.56	354	P		PKiKP	07 54 09.5	-0.6
	baz=6.7							
WMOK	Wichita Mounta	113.57	339	P		PKiKP	07 54 09.4	-0.6
	baz=23							
MVCO	Mesa Verde	113.69	348	P		PKiKP	07 54 10.0	-0.5
	baz=14							
AMTX	Amarillo	114.31	341	P		PKPdf	07 54 11.7	+0.1
	baz=20							
MLAC	Mammoth, Mamm	114.50	357	P		PKiKP	07 54 11.2	-0.8
	baz=3.6							
NATX	Nacogdoches	114.80	334	P		PKiKP	07 54 11.8	-0.6
	baz=27							
GRAC	Grapevine Rang	115.05	355	P		PKPdf	07 54 12.9	+0.1
	baz=5.1							
ANMO	Albuquerque	115.46	345	P		PKiKP	07 54 12.9	-1.0
	baz=16							
WHTX	Lake Whitney,	115.63	336	P		PKPdf	07 54 14.7	+0.7
	baz=24							
CWC	Cottonwood Cre	115.64	356	P		PKiKP	07 54 13.5	-0.6
	baz=4.4							
ABTX	Abilene, Hawle	115.79	339	P		PKiKP	07 54 14.0	-0.3
	baz=22							
VOG	Valley Oaks Go	115.83	357	P		PKPdf	07 54 14.9	+0.6
	baz=3.1							
WUAZ	Wupatki	115.83	350	P		PKPdf	07 54 15.0	+0.5
	baz=11							
W18A	Petrified Fore	115.95	348	P		PKPdf	07 54 15.4	+0.6
	baz=13							
MPMC	Manual Prospec	115.99	355	P		PKPdf	07 54 15.1	+0.2
	baz=5.0							
Y22D	IRIS PASSCAL I	116.40	346	P		PKPdf	07 54 15.7	+0.1
	baz=15							
Y22F	Passcal Instru	116.40	346	P		PKPdf	07 54 16.4	+0.7
	baz=15							
ISA	Isabella, Lake	116.44	356	P		PKPdf	07 54 16.2	+0.6
	baz=4.0							
TUQ	Turquoise Moun	116.48	354	P		PKiKP	07 54 15.7	-0.1
	baz=6.5							
LRMC	Laurel Mtn Rad	116.58	356	P		PKPdf	07 54 15.0	-0.9
	baz=4.8							
GSC	Goldstone, Bar	116.69	355	P		PKPdf	07 54 15.0	-1.1
	baz=5.7							
435B	Jarrell	116.77	336	P		PKPdf	07 54 15.2	-1.0
	baz=25							
SMMC	Simmler	116.86	358	P		PKPdf	07 54 16.2	-0.2
	baz=2.5							
ARVC	Arvin	117.00	357	P		PKPdf	07 54 16.1	-0.5
	baz=3.7							
NEE2	Needles Airpor	117.00	353	P		PKPdf	07 54 16.2	-0.5
	baz=7.9							
PKM	Mcpherson Peak	117.28	357	P		PKPdf	07 54 16.2	-1.2
	baz=2.7							
OSI	Osito Audit: C	117.50	356	P		PKPdf	07 54 17.3	-0.4
	baz=3.8							
IRM	Iron Mountain	117.67	353	P		PKPdf	07 54 17.9	-0.1
	baz=7.4							
SBC	Santa Barbara	117.72	357	P		PKPdf	07 54 18.0	0.0
	baz=2.9							
BBRC	Big Bear Solar	117.73	355	P		PKPdf	07 54 16.9	-1.4
	baz=5.6							
BFSC	Mount Baldy Ra	117.81	355	P		PKPdf	07 54 17.0	-1.4
	baz=4.9							
JCT	Junction City	117.82	338	P		PKPdf	07 54 18.2	-0.1
	baz=23							
DECC	Green Verdugo	117.84	356	P		PKPdf	07 54 18.0	-0.2
	baz=4.2							
BELC	Belle Mtn. Jos	117.91	354	P		PKPdf	07 54 17.5	-1.1
	baz=6.5							
QSPA	South Pole Qui	117.96	180	PKP		PKPdf	07 54 16.7	-0.6
	comp=Z,0.9nm,0.7s,baz=270,slow=2.7,SNR=2.2							
121A	Cookes Peak, D	118.07	346	P		PKPdf	07 54 18.2	-0.7
	baz=15							
BC3	Big Chuckawall	118.19	353	P		PKPdf	07 54 18.9	-0.2
	baz=7.1							
MNTX	Cornudas Mount	118.31	343	P		PKiKP	07 54 19.5	+0.3
	baz=17							
PFO	Pinyon Flats O	118.33	354	P		PKPdf	07 54 19.1	-0.2
	baz=6.1							
TPFO	Pinon Flats	118.34	354	P		PKiKP	07 54 19.7	+0.3
	baz=6.1							
FMP	Fort Macarthur	118.37	356	P		PKiKP	07 54 19.7	+0.5
	baz=4.3							
MURC	Murrieta	118.41	355	P		PKiKP	07 54 19.6	+0.2
	baz=5.4							
CIS	Catalina Islan	118.69	356	P		PKPdf	07 54 19.9	0.0
	baz=4.2							
GLA	Glamis	118.72	353	P		PKiKP	07 54 20.3	+0.3
	baz=7.8							
SNCC	San Nicolas Is	118.90	357	P		PKPdf	07 54 20.2	-0.1
	baz=3.1							
SWSC	Sam W. Stewart	118.93	354	P		PKPdf	07 54 20.3	-0.1
	baz=6.8							
MONP2	Monument Peak	119.04	354	P		PKPdf	07 54 20.5	-0.4
	baz=6.2							
109C	Camp Elliot, M	119.11	355	P		PKPdf	07 54 20.4	-0.3
	baz=5.5							
SCI2	San Clemente I	119.12	356	P		PKPdf	07 54 20.6	-0.1
	baz=4.1							
IKP	In-Ko-Pah, Jac	119.25	354	P		PKPdf	07 54 20.9	-0.2
	baz=6.5							
214A	Organ Pipe Nat	119.54	350	P		PKPdf	07 54 21.5	-0.2
	baz=9.9							

ROM 12 07:39:40.1±0.1, 42°.716N±0°.003×13°.242E±0°.006, h14km, ML1.5/10, 2D, Error ellipse: s-maj=0.5km s-min=0.2km az=260.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1214	Arquata del Tr	0.05	331	P	Pg	07 39 43.0	+0.1
T1214				S	Sg	07 39 44.9	+0.1
SMA1	SAN MARTINO	0.11	141	P	Pg	07 39 43.6	+0.2
SMA1				S	Sg	07 39 45.9	+0.3
SMA1				AML	AML		
	comp=N,97μm,0.6s						
SMA1				AML	AML		
	comp=E,102μm,1.3s						
SMA1				AML	AML		
	comp=N,97μm,0.6s						
MTRA	Matera	0.12	70	P	Pg	07 39 43.8	+0.3
MTRA				S	Sg	07 39 46.1	+0.3
MTRA				AML	AML		
	comp=N,217μm,0.1s						
MTRA				AML	AML		
	comp=E,264μm,1.2s						
NRCA	Norcia	0.15	321	P	Pg	07 39 44.2	+0.3
NRCA				S	Sg	07 39 46.9	+0.4
NRCA				AML	AML		
	comp=E,584μm,0.1s						
NRCA				AML	AML		
	comp=N,680μm,0.2s						
NRCA				AML	AML		
	comp=N,626μm,0.1s						
NRCA				AML	AML		
	comp=E,555μm,0.1s						
LNSS	Leonessa	0.19	233	P	Pg	07 39 44.7	+0.3
LNSS				S	Sg	07 39 48.0	+0.6
MMO1	Montemonaco	0.19	19	P	Pg	07 39 45.0	+0.4
MMO1				S	Sb	07 39 48.5	-0.6
MC2	Monte Cornacci	0.20	349	P	Pg	07 39 45.2	+0.4
MC2				S	Sb	07 39 48.9	-0.6
RM33	Pellescritta (	0.21	186	P	Pg	07 39 45.1	+0.3
RM33				S	Sg	07 39 48.7	+0.7
RM33				AML	AML		
	comp=N,83μm,1.3s						
RM33				AML	AML		
	comp=E,93μm,0.6s						
T1221	Campello sul C	0.33	297	⇓P	Pg	07 39 47.1	+0.3
T1221				S	Sb	07 39 52.1	-0.7
T1221				AML	AML		
	comp=E,202μm,1.3s						
T1221				AML	AML		
	comp=N,234μm,1.0s						
CSP1	Cessapalombo	0.38	356	⇓P	Pg	07 39 48.1	+0.4
CSP1				S	Sg	07 39 52.8	-0.1

IDC 12 07:40:22.8±0.8, 4°.94S×145°.69E, h0km, mb3.9/10, mbtmp3.9/12, ML3.4/1, Error ellipse: s-maj=34.6km s-min=21.5km az=93.0

ISC 12 07:40:30.7±0.6, 5°.14S±0°.09×145°.7E±0°.2, h64km, n16, σ1°.00/17, mb4.0/10, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	4.47	162	Pn	Pn	07 41 35.3	-0.6
	7.7nm,0.4s,baz=293,slow=13,SNR=2.7						
PMG				Sn	Sn	07 42 25.7	-0.9
	5.5nm,0.3s,baz=280,slow=22,SNR=8.2						
WRA	Warramunga Arr	18.43	216	P	Pn	07 44 41.2	-0.6
	0.1nm,0.3s,baz=39,slow=12,SNR=2.5						
	0.6nm,0.6s						
ASAR	Alice Springs	21.67	211	P	P	07 45 18.2	+2.1
	0.5nm,0.7s,baz=40,slow=10,SNR=2.7						
	0.5nm,0.7s						
CMAR	Chiang Mai Arr	51.74	298	P	P	07 49 31.0	-1.1
	1.9nm,0.3s,baz=107,slow=5.8,SNR=2.5						
	1.9nm,0.3s						
PETK	Petropavlovsk-	58.90	8	P	P	07 50 22.8	-0.2
	0.9nm,0.5s,baz=159,slow=8.8,SNR=1.7						
	0.9nm,0.5s						
MKAR	Makanchi Array	76.04	321	P	P	07 52 11.3	0.0
	0.2nm,0.4s,baz=104,slow=6.1,SNR=3.3						
	0.2nm,0.4s						
ZALV	Zalesovo Beam	77.62	328	P	P	07 52 20.6	+0.6
	0.3nm,0.4s,baz=79,slow=2.5,SNR=1.2						
	0.3nm,0.4s						
QSPA	South Pole Qui	84.82	180	P	P	07 52 58.9	+0.7
	1.7nm,0.8s,baz=334,slow=0.9,SNR=3.0						
	1.7nm,0.8s						
ILAR	Eielson Array	85.19	23	P	P	07 53 00.2	+0.5
	1.2nm,0.8s,baz=259,slow=5.0,SNR=9.4						
	1.2nm,0.8s						
BVAR	Borovoye Array	85.34	324	P	P	07 53 00.1	-0.7
	0.6nm,0.6s,baz=89,slow=7.5,SNR=2.7						
	0.6nm,0.6s						
GEYT	Alibeck	91.25	308	P	P	07 53 29.2	-0.2
	0.9nm,0.4s,baz=81,slow=8.9,SNR=1.5						
	0.9nm,0.4s						
NVAR	Mina Array Bea	97.83	52	P	P	07 53 59.6	-0.1
	0.1nm,0.6s,baz=264,slow=0.9,SNR=2.1						
	0.1nm,0.6s						
PLCA	Paso Flores	123.52	147	PKP	PKiKP	07 59 23.4	+1.8
	2.0nm,1.0s,baz=284,slow=5.5,SNR=4.7						
ESDC	Sonseca Array	136.08	326	PKP	PKiKP	07 59 47.0	+0.2
	0.7nm,0.5s,baz=120,slow=5.5,SNR=2.9						
TORD	Torodi Ar. Bea	143.66	285	PKP	PKPdf	07 59 58.1	-1.4
	0.6

s-min=22.4km az=178.0
NEIC ***12*** *07:48:02.6±0.8, 27°.9N×0°.2×43°.6W×0°.2, h10km×2km, mb4.3/11, Error ellipse: s-maj=34.5km s-min=29.6km az=117.0*

ISC 12 07:48:02.8±0.7, 28°.1N±0°.1×43°.7W±0°.1, h10km, n33, σ1§44/25, mb4.0/17, MS4.1/3, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRHS	**Sauteurs**	**23.01**	**230**	*eP*	**P**	**07 53 04.5**	**-3.5**
TORD	**Torodi Ar. Bea**	**44.76**	**100**	**P**	**P**	**07 56 17.6**	**+0.8**
	0.7nm,0.9s,baz=312,slow=8.0,SNR=2.7						
	0.7nm,0.9s						
CZSB	**Cruzeiro do Su**	**45.29**	**223**	P	**P**	**07 56 19.1**	**-1.9**
CZSB				IAmb	IAmb	07 56 23.9	
	comp=Z,7.8nm,1.3s						
H10N2	**ASCENSION HYDR**	**45.51**	**137**	T	T	08 45 06.5	
	baz=323,slow=75,SNR=11						
H10N3	**ASCENSION HYDR**	**45.52**	**137**	T	T	08 45 08.1	
	baz=323,slow=75,SNR=9.7						
H10N1	**ASCENSION HYDR**	**45.53**	**137**	T	T	08 45 28.0	
	baz=323,slow=75,SNR=13						
FCC	**Fort Churchill**	**46.11**	**326**	P	**P**	**07 56 27.6**	**+0.7**
FCC				IAmb	IAmb	07 56 28.0	
	comp=Z,2.7nm,0.9s						
H10S3	**ASCENSION HYDR**	**46.30**	**138**	T	T	08 46 06.5	
	baz=323,slow=74,SNR=26						
H10S2	**ASCENSION HYDR**	**46.32**	**138**	T	T	08 46 07.7	
	baz=257,slow=74,SNR=14						
LPAZ	**La Paz**	**50.04**	**211**	P	**P**	**07 57 01.9**	**+3.5**
	comp=Z,1.4nm,0.7s,baz=12,slow=5.3,SNR=4.3						
	comp=Z,1.4nm,0.7s						
TXAR	**Lajitas Array**	**52.08**	**287**	P	**P**	**07 57 14.0**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=76,slow=7.6,SNR=1.4						
	comp=Z,0.2nm,0.6s						
PD31	**Pinedale Array**	**54.34**	**304**	P	**P**	**07 57 30.6**	**+0.7**
PD31				IAmb	IAmb	07 57 31.1	
	comp=Z,2.0nm,0.8s						
PDAR	**Pinedale Array**	**54.34**	**304**	P	**P**	**07 57 30.8**	**+0.9**
PDAR	**Pinedale Array**	**54.34**	**304**	P	**P**	**07 57 30.0**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=87,slow=7.5,SNR=16						
	comp=Z,1.5nm,0.6s						
LOHW	**Long Hollow**	**54.99**	**305**	P	**P**	**07 57 34.8**	**+0.2**
REDW	**Red Top Meadow**	**55.20**	**305**	P	**P**	**07 57 37.2**	**+1.0**
TPAW	**Teton Pass**	**55.26**	**305**	P	**P**	**07 57 37.1**	**+0.5**
TPAW				IAmb	IAmb	07 57 43.2	
	comp=Z,3.3nm,1.0s						
CPUP	**Villa Florida**	**55.65**	**195**	LR	LR	08 19 12.8	
	comp=Z,154nm,20.9s,baz=88,slow=33						
FINES	**FINESS Array B**	**56.14**	**33**	P	**P**	**07 57 43.0**	**+0.7**
FINES	**FINESS Array B**	**56.14**	**33**	P	**P**	**07 57 41.6**	**-0.6**
	comp=Z,1.5nm,0.9s,baz=270,slow=11,SNR=2.4						
	comp=Z,1.5nm,0.9s						
FIA1	**FINESS Array S**	**56.14**	**33**	P	**P**	**07 57 42.6**	**+0.3**
YKA	**Yellowknife Ar**	**56.71**	**328**	P	**P**	**07 57 45.3**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=92,slow=7.2,SNR=6.4						
	comp=Z,0.4nm,0.8s						
CCUT	**Cedar City**	**58.10**	**299**	P	**P**	**07 57 58.9**	**+2.1**
AKASG	**Malin Array Be**	**58.26**	**46**	P	**P**	**07 57 55.9**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=272,slow=6.3,SNR=2.9						
	comp=Z,0.6nm,0.6s						
SPR3	**Spring Creek 3**	**58.54**	**300**	P	**P**	**07 58 01.7**	**+1.7**
SPR3				IAmb	IAmb	07 58 08.4	
	comp=Z,1.5nm,0.8s						
PLID	**Pearl Lake**	**58.61**	**308**	P	**P**	**07 58 01.0**	**+0.7**
PLID				IAmb	IAmb	07 58 07.8	
	comp=Z,1.8nm,1.0s						
NVAR	**Mina Array Bea**	**61.69**	**301**	P	**P**	**07 58 21.7**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=70,slow=7.3,SNR=4.8						
	comp=Z,0.4nm,0.6s						
PAHR	**Pah Rah Range**	**62.19**	**302**	P	**P**	**07 58 25.3**	**+0.6**
PAHR				IAmb	IAmb	07 58 26.6	
	comp=Z,2.4nm,0.9s						
ILAR	**Eielson Array**	**70.33**	**334**	P	**P**	**07 59 16.2**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=72,slow=3.7,SNR=7.3						
	comp=Z,0.5nm,0.7s						
GNI	**Garni**	**71.41**	**54**	LR	LR	08 30 59.1	
	comp=Z,45nm,19.9s,baz=331,slow=36						
KDAK	**Kodiak Island**	**75.98**	**329**	LR	LR	08 34 47.6	
	comp=Z,176nm,21.3s,baz=347,slow=37						
BVAR	**Borovoye Array**	**81.08**	**34**	P	**P**	**08 00 18.3**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=298,slow=3.1,SNR=2.6						
	comp=Z,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**86.53**	**33**	P	**P**	**08 00 45.1**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=316,slow=5.2,SNR=2.9						
	comp=Z,0.3nm,0.3s						

IDC ***12*** *07:53:14.5±3.1, 27°.78N×57°.57E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=80.4km s-min=34.5km az=157.0*
TEH ***12*** *07:53:20.8, 28°.21N×57°.55E, h24km±17km, ML3.5*
OMAN ***12*** *07:53:23.6±0.1, 27°.99N×57°.65E, h10km, mb5.0/1, ml3.0/10, Error ellipse: s-maj=2.4km s-min=1.2km az=329.0*

ISC 12 07:53:20.7±0.9, 28°.15N±0°.04×57°.59E±0°.05, h30km, n29, σ2§95/41, mb3.5/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNJ	**Kahnooj**	**0.23**	**152**	Pg	**Pb**	**07 53 28.0**	**+0.6**
IBND	**Bandar-abas**	**1.16**	**233**	Pg	**Pb**	**07 53 42.8**	**+0.6**
KBAM	**BAM**	**1.24**	**38**	Pg	**Pn**	**07 53 43.3**	**+1.1**
GENO	**Geno**	**1.46**	**240**	Pg	**Pb**	**07 53 47.2**	**-0.1**
NGRK	**Negar Kerman**	**1.67**	**333**	Pg	**Pn**	**07 53 50.3**	**+2.0**
CHMN	**Cheshme madani**	**1.71**	**359**	Pg	**Pn**	**07 53 49.9**	**+1.1**
TVBK	**TV Kerman**	**1.97**	**339**	Pn	**Pn**	**07 53 53.7**	**+1.3**
JASK	**Jask - Hormozg**	**2.29**	**174**	Pn	**Pb**	**07 53 59.3**	**-2.1**
JASK	**Jask - Hormozg**	**2.29**	**174**	P	**Pb**	**07 53 59.4**	**-1.9**
SHME	**Shamm**	**2.46**	**212**	P	**Pb**	**07 54 02.1**	**-2.1**
	SNR=29						
SHME				S	**Sb**	**07 54 32.6**	**-1.4**
BANOM	**Banah**	**2.50**	**208**	P	**Pb**	**07 54 04.1**	**-0.9**
BANOM				S	**Sb**	**07 54 33.6**	**-1.7**
MASF	**Masafi**	**3.05**	**205**	P	**Pb**	**07 54 11.4**	**-2.9**
MASF				S	**Sb**	**07 54 45.7**	**-5.4**
MDH	**Madha**	**3.06**	**202**	P	**Pn**	**07 54 08.2**	**+1.1**
MDH				S	**Sn**	**07 54 44.9**	**+2.1**
UOSS	**Minazif**	**3.42**	**202**	P	**Pn**	**07 54 13.8**	**+1.7**
UOSS				S	**Sb**	**07 54 56.2**	**-5.6**
HATD	**Hatta, Dubai**	**3.56**	**202**	P	**Pn**	**07 54 17.9**	**+3.9**
HATD				S	**Sb**	**07 54 59.6**	**-6.2**
ASHO	**Ashiyiah**	**3.71**	**202**	P	**Pn**	**07 54 20.0**	**+3.8**
	SNR=8.1						
FAQ	**Al Faqa, Dubai**	**3.83**	**208**	P	**Pn**	**07 54 21.1**	**+3.3**
FAQ				S	**Sn**	**07 55 05.6**	**+3.8**
NGCH	**Negor - Chabah**	**4.22**	**130**	Pn	**Pn**	**07 54 26.2**	**+3.2**
NGCH	**Negor - Chabah**	**4.22**	**130**	P	**Pn**	**07 54 26.0**	**+3.0**
ARQ	**Araqi**	**4.89**	**192**	P	**Pn**	**07 54 35.9**	**+3.6**
	SNR=9.3						
ARQ				S	**Sn**	**07 55 32.7**	**+4.8**
WSAR	**Wadi Sarin**	**4.98**	**169**	P	**Pn**	**07 54 35.4**	**+1.8**
	SNR=24						
WSAR				S	**Sn**	**07 55 29.4**	**-0.7**
SMDO	**Samad**	**5.09**	**175**	P	Pn	07 54 40.1	+5.1
SMDO				S	**Sn**	**07 55 33.8**	**+0.9**
WBK	**Wadi Bani Khal**	**5.66**	**167**	P	**Pn**	**07 54 44.4**	**+1.5**
WBK				S	**Sn**	**07 55 46.7**	**-0.1**
JMDO	**Jabal Madar**	**5.77**	**175**	P	**Pn**	**07 54 48.2**	**+3.7**
JMDO				S	**Sn**	**07 55 54.0**	**+4.3**
KLNJ	**Kolanjah**	**5.95**	**300**	Pn	**Pn**	**07 54 48.9**	**+1.8**
MHTO	**MHTO**	**7.14**	**177**	P	**Pn**	**07 55 07.2**	**+4.0**
MHTO				S	**Sn**	**07 56 26.9**	**+3.6**
BRTR	**Keskin Array B**	**22.91**	**306**	P	**P**	**07 58 22.2**	**0.0**
	1.5nm,0.9s,baz=129,slow=12,SNR=6.3						
	1.5nm,0.9s						
MKAR	**Makanchi Array**	**26.85**	**39**	P	**P**	**07 58 59.3**	**+0.7**
	0.2nm,0.7s,baz=215,slow=7.0,SNR=1.7						
	0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**53.95**	**266**	P	**P**	**08 02 40.1**	**-2.0**
	0.8nm,0.5s,baz=59,slow=7.6,SNR=7.5						
	0.8nm,0.5s						

IDC ***12*** *08:02:15.5±1.9, 71°.56N×1°.53W, h0km, mb3.1/2, mbtmp3.5/8, ML3.3/6, MS3.4/1, Error ellipse: s-maj=34.6km s-min=21.5km az=67.0*
NAO ***12*** *08:02:16.0±5.0, 71°.66N×1°.31W, ML3.3*
BER ***12*** *08:02:16.1±2.3, 71°.72N×2°.34W, h10km, mb(Pn)4.2, ML3.3(NAO), Confirmed Earthquake*

ISC 12 08:02:13.3±0.9, 71°.76N±0°.09×2°.67W±0°.09, h10km, n41, σ1§77/41, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBG	**Daneborg**	**5.72**	**305**	*eP*	**Pn**	**08 03 39.3**	**+1.1**
DBG				*eS*	**Sn**	**08 04 40.8**	**-3.0**
DBG	**Daneborg**	**5.72**	**305**	*iP*	**Pn**	**08 03 39.0**	**+0.8**
DBG				*eS*	Sn	08 04 39.7	-4.1
DAG	**Danmarks Havn**	**6.62**	**327**	*e*	**Pn**	**08 03 50.3**	**-0.2**
	baz=134,slow=16						
DAG				*iP*	**Pn**	**08 03 51.8**	**+1.3**
DAG				*iS*	Sn	08 04 57.0	-8.8
DAG				IAML		08 05 01.1	
	comp=Z,3.4nm,0.3s						
LOF	**Lofoten**	**6.65**	**115**	*eP*	**Pn**	**08 03 48.9**	**-1.9**
LOF				*eS*	Sn	08 04 57.1	-9.4
LOF				IAML		08 05 25.6	
	comp=Z,9.2nm,0.9s						
HSPB	**Hornsund (broa**	**7.16**	**35**	Pn	**Pn**	**08 03 58.9**	**+1.1**
HSPB	**Hornsund (broa**	**7.16**	**35**	*eP*	**Pn**	**08 03 58.5**	**+0.7**
STEI	**Steigen**	**7.27**	**113**	*eP*	**Pn**	**08 03 57.5**	**-1.8**
STEI				*eS*	Sn	08 05 11.2	-11
STEI				IAML		08 05 22.8	
	comp=Z,3.5nm,0.7s						
TRO	**Tromso**	**7.45**	**96**	*eP*	**Pn**	**08 03 58.3**	**-3.5**
FAUS	**Fauske**	**7.64**	**116**	*eP*	**Pn**	**08 04 02.6**	**-1.9**
FAUS				*eS*	Sn	08 05 20.4	-11
FAUS				IAML		08 05 32.0	
	comp=Z,2.2nm,0.8s						
KONS	**Konsvik**	**7.70**	**125**	*eP*	**Pn**	**08 04 03.0**	**-2.3**
KONS				*eS*	Sn	08 05 20.0	-13
KONS				IAML		08 05 37.3	
	comp=Z,3.1nm,0.8s						
STOK	**Stokkvaagen**	**7.81**	**127**	*eP*	**Pn**	**08 04 05.9**	**-0.9**
JETT	**Jettan, Norway**	**7.95**	**95**	Pn	**Pn**	**08 04 06.6**	**-2.1**
JETT	**Jettan, Norway**	**7.95**	**95**	Pn	**Pn**	**08 04 06.6**	**-2.1**
SPA0	**Spitsbergen Ar**	**8.06**	**29**	Pn	**Pn**	**08 04 12.5**	**+2.2**
	baz=215,slow=16						
SPA0	**Spitsbergen Ar**	**8.06**	**29**	Pn	**Pn**	**08 04 12.5**	**+2.2**
	baz=215,slow=16						
SPITS	**Spitsbergen Ar**	**8.06**	**29**	Pn	**Pn**	**08 04 12.5**	**+2.2**
	baz=206,slow=13						
	comp=Z,3.6nm,0.7s						
MOR8	**Moi Rana**	**8.30**	**124**	*eP*	**Pn**	**08 04 11.7**	**-1.9**
MOR8				*eS*	Sn	08 05 32.9	-14
MOR8				IAML		08 05 48.8	
	comp=Z,2.4nm,0.6s						
KIF	**Kilpisjarvi**	**8.34**	**98**	Pn	**Pn**	**08 04 12.7**	**-1.3**
KIF	**Kilpisjarvi**	**8.34**	**98**	*eP*	**Pn**	**08 04 12.1**	**-1.8**
KIF				*eS*	Sn	08 05 36.6	-11
NSS	**Namsos**	**9.05**	**136**	*eP*	**Pn**	**08 04 22.9**	**-1.0**
NSS				IAML		08 05 59.1	
	comp=Z,2.4nm,0.9s						
KTK1	**Kautokeino**	**9.09**	**95**	*eP*	**Pn**	**08 04 22.6**	**-1.8**
HEF	**Hetta**	**9.54**	**98**	*eP*	**Pn**	**08 04 28.6**	**-1.9**
ARA0	**ARCESS Array S**	**9.56**	**90**	Pn	**Pn**	**08 04 28.9**	**-1.9**
	baz=291,slow=12						
ARA0	**ARCESS Array S**	**9.56**	**90**	*eP*	**Pn**	**08 04 28.1**	**-2.7**
ARA0				Pn	Pn	08 04 28.9	-1.9
	baz=291,slow=12						
ARCES	**ARCESS Array B**	**9.56**	**90**	Pn	**Pn**	**08 04 28.9**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=292,slow=12,SNR=12						
	comp=Z,0.7nm,0.4s						
AKN	**Aaknes**	**10.32**	**154**	Pn	**Pn**	**08 04 41.4**	**+0.1**
AKN	**Aaknes**	**10.32**	**154**	*eP*	**Pn**	**08 04 41.3**	**0.0**
AKN				Pn	Pn	08 04 41.4	+0.1
AKN				IAML		08 06 40.1	
	comp=Z,2.5nm,0.7s						
NOR	**Nord**	**10.34**	**349**	*eP*	**Pn**	**08 04 41.8**	**+0.3**
NOD	**Norderasen**	**10.64**	**133**	*eP*	**Pn**	**08 04 44.6**	**-1.0**
DOMB	**Dombas**	**10.76**	**149**	*eP*	**Pn**	**08 04 46.3**	**-1.0**
NOA	**NORSAR Array B**	**12.07**	**146**	Pn	**Pn**	**08 05 04.1**	**-1.1**
	baz=338,slow=13,SNR=2.6						
	comp=Z,0.2nm,0.4s						
HFS	**Hagfors**	**13.37**	**142**	Pn	**Pn**	**08 05 22.0**	**-0.8**
	baz=349,slow=10						
HFS	**Hagfors**	**13.37**	**142**	Pn	**Pn**	**08 05 22.0**	**-0.8**
	baz=349,slow=10						
HFS	**Hagfors**	**13.37**	**142**	Pn	**Pn**	**08 05 22.3**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=332,slow=12,SNR=23						
	comp=Z,3.6nm,0.4s						
FIA0	**FINESS Array S**	**15.20**	**118**	P	**Pn**	**08 05 45.9**	**-1.8**
	baz=331,slow=10						
FIA0	**FINESS Array S**	**15.20**	**118**	P	**Pn**	**08 05 45.9**	**-1.8**
	baz=331,slow=10						
FINES	**FINESS Array B**	**15.20**	**118**	Pn	**Pn**	**08 05 45.5**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=325,slow=12,SNR=5.8						
	comp=Z,3.2nm,0.9s						
EKA	**Eskdalemuir Ar**	**16.50**	**181**	Pn	**Pn**	**08 06 05.8**	**+1.3**
	baz=357,slow=13						
	comp=Z,1.0nm,0.8s						
OBN	**Obninsk**	**23.52**	**114**	LR	LR	08 16 18.4	
	comp=Z,86nm,18.6s,baz=178,slow=36						
KURBB	**Kurchatov Arra**	**40.33**	**77**	P	**P**	**08 09 51.9**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=322,slow=8.6,SNR=1.8						
	comp=Z,0.2nm,0.5s						
ILAR	**Eielson Array**	**41.57**	**338**	P	P	08 10 06.4	+5.9
	comp=Z,0.3nm,0.8s,baz=5.7,slow=10.0,SNR=2.4						
	comp=Z,0.3nm,0.8s						

DJA 12 08:08:52.1±1.3, 4°.5S×10°.0E±°, h24km±13km, M4.1/9, mb4.7/2, mB5.3/1, MLv3.9/9, Mw(mB)4.7/1, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPSI	**Pulau Pagai**	**1.04**	**2**	P	Pb	08 09 11.5	0.0
PPSI				S	Sn	08 09 26.0	+1.0
KRJI	**Kerinci**	**2.27**	**41**	P	Pn	08 09 26.6	-1.6
SISI	**Saibi**	**2.62**	**340**	P	Pn	08 09 34.1	+1.2
SISI				S	Sn	08 10 04.6	+0.6
PDSI	**Padang**	**2.92**	**10**	P	Pn	08 09 35.7	-1.4
MNAI	**Manna**	**3.03**	**101**	P	Pn	08 09 38.9	+0.3
PBSI	**Pulau Batu**	**4.09**	**336**	P	Pn	08 09 52.3	-0.9
LWLI	**Liwa**	**4.25**	**107**	P	Pn	08 09 55.2	-0.3
KASI	**Kota Agung**	**4.82**	**111**	P	Pn	08 10 03.8	+0.6
GSI	**Gunungsitoli**	**5.62**	**335**	P	Pn	08 10 14.8	+0.6
	24nm,1.0s,3μm0.2nm						

IDC ***12*** *08:10:15.6±1.4, 28°.14N×57°.11E, h0km, mb3.6/6, mbtmp3.6/7, ML3.4/1, Error ellipse: s-maj=31.8km s-min=25.7km az=120.0*
TEH ***12*** *08:10:17.9, 28°.24N×57°.56E, h23km±21km, ML3.5*
OMAN ***12*** *08:10:21.7±0.4, 27°.89N×57°.92E, h10km, mb4.7/2, ml3.2/15, Error ellipse: s-maj=6.3km s-min=3.0km az=36.0*

ISC 12 08:10:19.2±0.7, 28°.18N±0°.04×57°.61E±0°.05, h30km, n38, σ2§04/52, mb3.5/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNJ	**Kahnooj**	**0.24**	**159**	Pg	**Pb**	**08 10 25.7**	**-0.4**
KHNJ				Sg	**Sb**	**08 10 30.1**	**-0.5**
IBND	**Bandar-abas**	**1.19**	**233**	Pg	**Pn**	**08 10 40.2**	**+0.4**
IBND				Sg	**Sb**	**08 10 57.2**	**+1.0**
KBAM	**BAM**	**1.21**	**38**	Pg	**Pn**	**08 10 40.3**	**0.0**
GENO	**Geno**	**1.49**	**239**	Pg	**Pn**	**08 10 44.7**	**+0.6**
NGRK	**Negar Kerman**	**1.65**	**333**	Pg	**Pn**	**08 10 46.5**	**-0.1**
CHMN	**Cheshme madani**	**1.68**	**358**	Pg	**Pn**	**08 10 47.9**	**+1.0**
TVBK	**TV Kerman**	**1.95**	**338**	Pn	**Pn**	**08 10 52.0**	**+1.4**
JASK	**Jask - Hormozg**	**2.31**	**174**	Pn	**Pn**	**08 10 56.7**	**+1.4**
JASK	**Jask - Hormozg**	**2.31**	**174**	P	**Pn**	**08 10 57.0**	**+1.7**
	SNR=12						
SHME	**Shamm**	**2.49**	**212**	P	**Pb**	**08 11 01.8**	**-1.5**
	SNR=12						
SHME				S	**Sb**	**08 11 33.0**	**-0.5**
BANOM	**Banah**	**2.53**	**208**	P	**Pb**	**08 11 01.7**	**-2.3**
MASF	**Masafi**	**3.08**	**205**	P	**Pn**	**08 11 08.4**	**+2.5**
MASF				S	**Sb**	**08 11 45.7**	**-4.9**
MDH	**Madha**	**3.10**	**202**	P	**Pn**	**08 11 06.9**	**+0.8**
MDH				S	**Sn**	**08 11 44.2**	**+2.1**
UOSS	**Minazif**	**3.45**	**202**	P	**Pn**	**08 11 13.5**	**+2.5**
HATD	**Hatta, Dubai**	**3.59**	**202**	P	**Pn**	**08 11 17.0**	**+4.1**
HATD				S	**Sn**	**08 11 58.7**	**+4.4**
CHBR	**Chabahar**	**3.63**	**134**	Pn	**Pn**	**08 11 15.3**	**+1.8**
ASHO	**Ashiyiah**	**3.74**	**202**	P	**Pn**	**08 11 18.0**	**+2.9**
	SNR=8.8						
FAQ	**Al Faqa, Dubai**	**3.86**	**208**	P	**Pn**	**08 11 18.4**	**+1.8**
FAQ				S	**Sn**	**08 12 02.8**	**+1.8**
SOHO	**SOHO**	**4.14**	**194**	P	**Pn**	**08 11 23.1**	**+2.7**
NGCH	**Negor - Chabah**	**4.22**	**131**	P	**Pn**	**08 11 23.4**	**+1.8**
HOQ	**Hoqain**	**4.58**	**183**	P	**Pn**	**08 11 27.0**	**+0.4**
BIDO	**Bidbid**	**4.66**	**174**	P	**Pn**	**08 11 27.4**	**-0.2**
ARQ	**Araqi**	**4.92**	**192**	P	**Pn**	**08 11 33.4**	**+2.2**
ARQ				S	**Sn**	**08 12 28.7**	**+1.6**
WSAR	**Wadi Sarin**	**5.00**	**169**	Pn	**Pn**	**08 11 32.9**	**+0.6**
	1.3nm,0.3s,baz=344,slow=4.8,SNR=28						
WSAR				Sn	**Sn**	**08 12 27.8**	**-1.4**
	3.9nm,0.3s,baz=67,slow=22,SNR=11						
	4.8nm,0.4s						
WSAR	**Wadi Sarin**	**5.00**	**169**	P	**Pn**	**08 11 32.9**	**+0.6**
	SNR=24						
WSAR				S	**Sn**	**08 12 27.8**	**-1.4**
SMDO	**Samad**	**5.11**	**175**	P	**Pn**	**08 11 35.0**	**+1.1**
SMDO				S	**Sn**	**08 12 30.6**	**-1.4**
BSY	**Bisya**	**5.42**	**184**	P	**Pn**	**08 11 40.4**	**+2.3**
BSY				S	**Sn**	**08 12 39.0**	**-0.6**
WBK	**Wadi Bani Khal**	**5.68**	**167**	P	**Pn**	**08 11 42.2**	**+0.6**
	SNR=6.8						
WBK				S	**Sn**	**08 12 44.7**	**-1.2**
JMDO	**Jabal Madar**	**5.80**	**175**	P	**Pn**	**08 11 45.6**	**+2.3**
KLNJ	**Kolanjah**	**5.95**	**300**	Pn	**Pn**	**08 11 45.9**	**+0.3**
JLN	**Jalan Bani Buh**	**6.22**	**164**	P	**Pn**	**08 11 46.3**	**-2.7**
JLN				S	**Sn**	**08 12 57.9**	**-1.2**
MHTO	**MHTO**	**7.17**	**177**	P	**Pn**	**08 12 02.3**	**+0.2**
AKTO	**Aktyubinsk**	**22.23**	**1**	P	**P**	**08 15 14.8**	**+1.5**
	2.3nm,0.8s,baz=185,slow=13,SNR=5.7						
	2.3nm,0.8s						
BRTR	**Keskin Array B**	**22.90**	**306**	P	**P**	**08 15 18.1**	**-2.6**
	2.0nm,0.9s,baz=123,slow=9.1,SNR=9.8						
	2.0nm,0.9s						
BVAR	**Borovoye Array**	**26.57**	**17**	P	**P**	**08 15 55.3**	**+0.8**
	0.4nm,0.6s,baz=200,slow=7.1,SNR=2.4						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**26.82**	**39**	P	**P**	**08 16 02.3**	**+5.4**
	0.3nm,0.7s,baz=229,slow=11,SNR=2.8						
	0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**53.97**	**266**	P	**P**	**08 19 38.7**	**-2.0**
	1.2nm,0.6s,baz=58,slow=7.7,SNR=8.7						
	1.2nm,0.6s						
YKA	**Yellowknife Ar**	**89.43**	**356**	P	**P**	**08 23 12.7**	**-0.2**
	0.1nm,0.5s,baz=0.8,slow=5.7,SNR=6.1						
	0.1nm,0.5s						

TEH ***12*** *08:18:49.4, 38°.86N×43°.58E, h11km, ML2.6*
AZER ***12*** *08:18:55.4, 38°.87N×44°.12E, h12km, ml2.3*

ISC 12 08:18:49.0±3.1, 38°.69N±0°.08×43°.6E±0°.1, h13km±13km, n10, σ0§98/15, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAKU	**Maku**	**1.09**	**52**	Pg	**Pb**	**08 19 08.1**	**-1.6**
HYR	**Heyderabad**	**1.43**	**43**	P	**Pg**	**08 19 17.5**	**+1.1**
HYR				S	**Sn**	**08 19 32.6**	**-0.7**
NAX	**Nakhchivan**	**1.57**	**71**	P	**Pg**	**08 19 19.4**	**+0.3**
NAX				S	**Sn**	**08 19 37.3**	**+0.5**
ISHB	**Shabestar**	**1.65**	**104**	Pg	**Pg**	**08 19 20.7**	**+0.1**
IMRD	**Marand**	**1.66**	**88**	Pg	**Pg**	**08 19 20.8**	**-0.1**
SBZ	**Shahbuz**	**1.69**	**65**	P	**Pg**	**08 19 21.7**	**+0.3**
SBZ				S	**Sg**	**08 19 43.3**	**-0.1**
ORD	**Ordubad**	**1.90**	**82**	P	**Pg**	**08 19 24.5**	**-0.9**
ORD				S	**Sb**	**08 19 48.5**	**+1.3**
IAZR	**Azarshahr**	**2.14**	**117**	Pn	**Pg**	**08 19 31.0**	**+1.0**
GDB	**GEDABAY**	**2.63**	**39**	P	**Pb**	**08 19 35.5**	**-0.6**
GDB				S	**Sb**	**08 20 09.6**	**+1.2**
QZX	**Qazax, Azerbai**	**2.74**	**30**	P	**Pb**	**08 19 37.1**	**-0.7**

SOME ***12*** *08:23:19.9, 41°.23N×78°.72E, h10km*
KRNET ***12*** *08:23:21.6±0.1, 41°.35N×78°.75E, h19km, mb2.3*
NNC ***12*** *08:23:21.2±0.9, 41°.25N×78°.71E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=5.8km s-min=3.8km az=166.0*

ISC 12 08:23:20.9±2.0, 41°.29N±0°.07×78°.69E±0°.04, h2km±11km, n46, σ1§17/75, 15C-10D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**0.80**	**304**	⇓*iP*	**Pg**	**08 23 36.9**	**+0.6**
	baz=98						
TARG				⇓*iS*	**Sb**	**08 23 48.3**	**-1.0**
	baz=98						
PRZ	**Przheval'sk**	**1.22**	**350**	⇑*iP*	**Pn**	**08 23 43.6**	**-1.6**
	baz=47						
PRZ				⇑*iS*	**Sb**	**08 23 59.4**	**-1.7**
	baz=47						
KDJ	**Kajisay**	**1.41**	**307**	⇑*iP*	**Pn**	**08 23 47.3**	**-0.6**
	baz=4.0						
KDJ				⇑*iS*	**Sn**	**08 24 06.1**	**-1.1**
	baz=4.0						
**ANVS

KTMS	**Ketmen**	**2.48**	**29**	*e*P		**Pg**	**08 24 07.0**	**-1.5**
	1.2nm,0.2s								
KTMS				*e*S		**Sg**	**08 24 41.1**	**+0.3**
	4.0nm,0.2s								
KTMS	**Ketmen**	**2.48**	**29**	Pg		**Pg**	**08 24 07.0**	**-1.5**
	1.2nm,0.2s								
KTMS				Lg		Lg	08 24 41.1		
	4.0nm,0.2s								
MTBS	**Maitube**	**2.50**	**318**	*e*P		**Pb**	**08 24 07.4**	**+0.8**
	4.4nm,0.2s								
MTBS				*e*S		**Sg**	**08 24 41.5**	**+0.4**
	8.6nm,0.2s								
MTBS	**Maitube**	**2.50**	**318**	Pg		**Pg**	**08 24 08.0**	**-0.8**
	3.9nm,0.2s								
MTBS				Lg		Lg	08 24 42.7		
	9.4nm,0.5s								
KST	**Kastek**	**2.68**	**312**	*e*P		**Pb**	**08 24 10.6**	**+0.9**
	5.5nm,0.3s								
KST				*e*S		**Sg**	**08 24 47.2**	**+0.1**
	8.4nm,0.3s								
KST	**Kastek**	**2.68**	**312**	Pg		**Pb**	**08 24 10.6**	**+0.9**
	5.6nm,0.5s								
KST				Lg		Lg	08 24 47.2		
	8.4nm,0.3s								
BLB	**Baldybastay**	**2.81**	**357**	Pg		**Pb**	**08 24 12.6**	**+0.6**
	5.0nm,0.2s								
BLB				Lg		Lg	08 24 50.5		
	12nm,0.6s								
TKM2	**Tokmak 2**	**2.82**	**306**	⇓Pg		**Pb**	**08 24 12.8**	**+0.6**
	1.8nm,0.4s								
TKM2				⇓Lg		Lg	08 24 51.9		
	1.6nm,0.4s								
TKM2	**Tokmak 2**	**2.82**	**306**	⇓*i*P		**Pn**	**08 24 08.6**	**+1.3**
	baz=5.0								
TKM2				⇓*i*S		**Sn**	**08 24 42.7**	**+0.6**
	baz=5.0								
KTBS	**Karatobe**	**2.84**	**329**	*e*P		**Pb**	**08 24 13.5**	**+1.0**
	3.7nm,0.4s								
KTBS				*e*S		**Sg**	**08 24 52.1**	**-0.2**
	8.5nm,0.3s								
KTBS	**Karatobe**	**2.84**	**329**	Pg		**Pb**	**08 24 13.5**	**+1.0**
	3.7nm,0.4s								
KTBS				Lg		Lg	08 24 52.1		
	8.5nm,0.3s								
CHKK	**Chushkaly**	**2.86**	**334**	*e*P		**Pb**	**08 24 13.6**	**+0.9**
	1.1nm,0.1s								
CHKK				*e*S		**Sg**	**08 24 52.1**	**-0.7**
	16nm,0.5s								
CHKK	**Chushkaly**	**2.86**	**334**	Pg		**Pb**	**08 24 13.6**	**+0.9**
	1.1nm,0.1s								
CHKK				Lg		Lg	08 24 52.1		
	16nm,0.5s								
DGS	**Degeres**	**2.92**	**313**	*e*P		**Pb**	**08 24 14.0**	**+0.2**
	6.5nm,0.5s								
DGS				*e*S		**Sg**	**08 24 52.8**	**-1.9**
	9.7nm,0.6s								
DGS	**Degeres**	**2.92**	**313**	Pg		**Pb**	**08 24 14.0**	**+0.2**
	6.5nm,0.5s								
DGS				Lg		Lg	08 24 52.7		
	9.7nm,0.6s								
ARXS	**Arharly**	**3.00**	**348**	*e*P		**Pb**	**08 24 15.9**	**+0.9**
	1.7nm,0.2s								
ARXS				*e*S		**Sg**	**08 24 56.0**	**-1.1**
	16nm,0.5s								
ARXS	**Arharly**	**3.00**	**348**	Pg		**Pb**	**08 24 15.9**	**+0.9**
	1.7nm,0.2s								
ARXS				Lg		Lg	08 24 56.0		
	16nm,0.5s								
KNOS	**Konyrlen**	**3.09**	**6**	Pg		**Pb**	**08 24 17.3**	**+0.5**
	1.8nm,0.3s								
KNOS				Lg		Lg	08 24 58.6		
	10nm,0.4s								
DJR	**Jarkent**	**3.15**	**14**	*e*P		**Pb**	**08 24 18.0**	**+0.3**
	0.7nm,0.1s								
DJR				*e*S		**Sg**	**08 24 59.6**	**-2.5**
	6.8nm,0.5s								
DJR	**Jarkent**	**3.15**	**14**	Pg		**Pb**	**08 24 18.0**	**+0.3**
	0.7nm,0.1s								
DJR				Lg		Lg	08 24 59.6		
	6.8nm,0.5s								
UCH	**Uchtor**	**3.27**	**288**	⇑*i*P		**Pn**	**08 24 15.0**	**+1.4**
	baz=87								
UCH				⇑*i*S		**Sn**	**08 24 54.0**	**+0.7**
	baz=87								
KRBS	**Karabastau**	**3.28**	**318**	*e*P		**Pb**	**08 24 20.9**	**+1.0**
	1.9nm,0.3s								
KRBS				*e*S		**Sg**	**08 25 04.9**	**-1.5**
	2.4nm,0.3s								
KRBS	**Karabastau**	**3.28**	**318**	Pg		**Pb**	**08 24 20.9**	**+1.0**
	1.9nm,0.3s								
KRBS				Lg		Lg	08 25 04.9		
	2.4nm,0.3s								
AAK	**Ala-Archa**	**3.41**	**295**	⇑*i*P		**Pn**	**08 24 16.8**	**+1.5**
	baz=94								
AAK				⇑*i*S		**Sn**	**08 24 57.1**	**+0.7**
	baz=94								

*CNRM **12** 08:24:22.1,36°.32N×6°.05W,h1km,ML1.7*
*INMG **12** 08:24:24.8±1.8,36°.71N×5°.92W,h18km±5km,ML2.1,Error ellipse: s-maj=3.6km s-min=2.7km az=38.0*
*MDD **12** 08:24:24.2±0.4,36°.76N×5°.92W,h11km,mb_Lg2.5/5, Error ellipse: s-maj=4.5km s-min=2.2km az=179.0*
*SFS **12** 08:24:24.2,36°.70N×6°.03W,h4km,ML2.2/12,ML2.6/11, MLv2.0/12*
ISC 12 08:24:23.2±0.9,36°.66N±0°.03×5°.91W±0°.02,h18km±6km, n49,σ1°58/72,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	**Espera**	**0.21**	**13**	Pg	**Pg**	**08 24 27.9**	**-0.4**
ESPR				Sg	**Sg**	**08 24 30.1**	**-1.7**
ESPR				*i* Vmb_Lg		08 24 34.8	
ESPR	**Espera**	**0.21**	**13**	Pg	**Pg**	**08 24 27.6**	**-0.8**
ESPR				Sg	**Sg**	**08 24 31.5**	**-0.3**
SFS	**San Fernando**	**0.31**	**230**	Pg	**Pg**	**08 24 29.7**	**-0.2**
EJIF	**Jimena Fronter**	**0.41**	**120**	Sg	**Sg**	**08 24 39.5**	**+2.0**
CEU	**Ceuta**	**0.88**	**150**	Pg	**Pb**	**08 24 42.2**	**+2.3**
EMIJ	**Mijas**	**0.92**	**96**	Pg	**Pg**	**08 24 42.1**	**+0.9**
EMIJ	**Mijas**	**0.92**	**96**	Pg	**Pg**	**08 24 41.9**	**+0.7**
EMIJ				Sg	**Sg**	**08 24 53.8**	**+0.4**
SMIR	**Smir Dam**	**1.07**	**156**	P	Pb	08 24 37.7	-5.5
SMIR	**Smir Dam**	**1.07**	**156**	S	Sb	08 24 48.7	-8.1
ECAB	**El Cabril**	**1.46**	**15**	Pn	**Pn**	**08 24 49.7**	**+0.9**
ECAB				Sn	**Sg**	**08 25 09.8**	**-0.8**
ECAB	**El Cabril**	**1.46**	**15**	Pg	**Pb**	**08 24 50.3**	**+0.4**
ECAB				Sg	**Sn**	**08 25 07.0**	**-0.5**
ECAB				*i* Vmb_Lg		08 25 13.0	
EGOR	**Sierra Gorda,**	**1.51**	**72**	Pn	**Pb**	**08 24 52.4**	**+1.5**
EGRO	**El Granado**	**1.53**	**305**	Pn	**Pn**	**08 24 49.2**	**-0.4**
EGRO				Sn	**Sn**	**08 25 08.3**	**-0.8**
EGRO	**El Granado**	**1.53**	**305**	Pn	**Pn**	**08 24 49.0**	**-0.6**
EGRO				Sn	**Sn**	**08 25 07.8**	**-1.2**
EGRO				Sg	**Sb**	**08 25 10.3**	**+0.3**
EGRO				*i* Vmb_Lg		08 25 15.5	
PVAQ	**Vaqueiros**	**1.62**	**298**	*e*Pn	**Pn**	**08 24 51.1**	**+0.2**
PVAQ	**Vaqueiros**	**1.62**	**298**	*e*Pg	**Pb**	**08 24 53.3**	**+0.7**
PVAQ				*e*Sg	**Sg**	**08 25 14.8**	**-0.8**
PVAQ				A	A	08 25 17.2	
	10nm,0.5s						
PVAQ	**Vaqueiros**	**1.62**	**298**	Pn	**Pn**	**08 24 50.4**	**-0.6**
PVAQ	**Vaqueiros**	**1.62**	**298**	P	**Pb**	**08 24 53.6**	**+1.0**
PVAQ	**Vaqueiros**	**1.62**	**298**	S	**Sg**	**08 25 15.5**	**-0.1**
PBDV	**Barranco-do-Ve**	**1.72**	**290**	*e*Pn	**Pn**	**08 24 52.3**	**0.0**
PBDV	**Barranco-do-Ve**	**1.72**	**290**	*e*Pg	**Pb**	**08 24 55.7**	**+1.4**
PBDV				*e*Sg	**Sg**	**08 25 18.3**	**-0.3**
PBDV				A	A	08 25 23.6	
	8.8nm,0.6s						
PBDV	**Barranco-do-Ve**	**1.72**	**290**	Pn	**Pn**	**08 24 51.6**	**-0.7**
PBAR	**Barrancos**	**1.76**	**330**	*e*Pn	**Pn**	**08 24 52.6**	**-0.2**
PBAR	**Barrancos**	**1.76**	**330**	*e*Pg	**Pb**	**08 24 55.5**	**+0.6**
PBAR				*e*Sg	**Sb**	**08 25 17.8**	**+1.2**
PBAR				A	A	08 25 24.9	
	13nm,0.6s						
PBAR	**Barrancos**	**1.76**	**330**	Pn	**Pn**	**08 24 52.6**	**-0.2**
PBAR				Sn	**Sn**	**08 25 14.1**	**-0.5**
PBAR				Sg	**Sb**	**08 25 17.6**	**+1.0**
EADA	**Adamuz**	**1.84**	**35**	Pn	**Pn**	**08 24 54.8**	**+0.8**
EADA	**Adamuz**	**1.84**	**35**	Pn	**Pn**	**08 24 52.1**	**-1.9**
EADA				Sn	**Sn**	**08 25 13.8**	**-3.0**
EADA				Sg	**Sb**	**08 25 19.8**	**+0.7**
EADA				*i* Vmb_Lg		08 25 23.9	
PCVE	**Castro Verde**	**1.96**	**300**	*e*Pg	**Pb**	**08 24 59.2**	**+0.9**
PCVE				*e*Sg	**Sb**	**08 25 23.6**	**+1.3**
PCVE				A	A	08 25 28.4	
	9.2nm,1.5s						
PCVE	**Castro Verde**	**1.96**	**300**	Pn	**Pn**	**08 24 55.9**	**+0.3**
PBEJ	**Beja**	**2.07**	**312**	*e*Sg	**Sb**	**08 25 27.5**	**+1.9**
PBEJ				A	A	08 25 35.3	
	5.7nm,0.1s						
MESJ	**Messejana**	**2.18**	**303**	*e*Pg	**Pb**	**08 25 03.7**	**+1.5**
MESJ				*e*Sg	**Sg**	**08 25 34.1**	**+0.6**
MESJ				A	A	08 25 36.9	
	7.0nm,0.9s						
EBAD	**Badajoz**	**2.26**	**338**	Pn	**Pn**	**08 24 59.5**	**-0.3**
EBAD				Sn	**Sn**	**08 25 26.1**	**-1.1**
EBAD				Sg	**Sb**	**08 25 31.1**	**-0.2**
EBAD				*i* Vmb_Lg		08 25 41.3	
MORF	**Marmelete**	**2.29**	**287**	*e*Pg	**Pb**	**08 25 06.1**	**+2.1**
MORF				*e*Sg	**Sg**	**08 25 37.0**	**+0.2**
MORF				A	A	08 25 44.2	
	5.1nm,0.2s						
PTEO	**Sao Teotonio**	**2.41**	**292**	*e*Sg	**Sg**	**08 25 41.7**	**+0.8**
EVO	**Evora**	**2.50**	**319**	*e*Sg	**Sb**	**08 25 40.8**	**+2.7**
EVO				A	A	08 25 47.0	
	8.9nm,0.5s						
EVO	**Evora**	**2.50**	**319**	Pn	**Pn**	**08 25 03.6**	**+0.6**
EVO				Sg	**Sg**	**08 25 41.7**	**-2.0**
PNCL	**Nicolau / Gran**	**2.54**	**306**	*e*Pn	**Pn**	**08 25 04.8**	**+1.3**
PNCL	**Nicolau / Gran**	**2.54**	**306**	*e*Pg	**Pb**	**08 25 10.0**	**+1.8**
PNCL				*e*Sg	**Sb**	**08 25 41.2**	**+2.1**
PNCL				A	A	08 25 48.0	
	7.7nm,0.7s						
PESTR	**Estremoz**	**2.57**	**329**	*e*Pn	**Pn**	**08 25 05.9**	**+1.9**
PESTR				*e*Sg	**Sg**	**08 25 46.0**	**+0.1**
PESTR				A	A	08 25 51.1	
	5.8nm,0.6s						
PESTR	**Estremoz**	**2.57**	**329**	P	**Pb**	**08 25 09.3**	**+0.5**
PESTR	**Estremoz**	**2.57**	**329**	S	**Sg**	**08 25 43.8**	**-2.1**
PSIM	**Granatula de C**	**2.75**	**38**	Sg	**Sb**	**08 25 48.7**	**+3.4**
PMRV	**Marv??o**	**3.00**	**338**	*e*Sg	**Sg**	**08 25 56.8**	**-2.8**
PMRV				A	A	08 26 05.7	
	5.6nm,0.4s						
PMTG	**Montargil**	**3.02**	**323**	*e*Pn	**Pn**	**08 25 10.6**	**+0.5**
PMTG				*e*Sg	**Sg**	**08 25 57.5**	**-2.8**
PMTG				A	A	08 26 05.1	
	10nm,0.4s						
PAB	**San Pablo**	**3.13**	**23**	Pn	**Pn**	**08 25 09.8**	**-1.9**
PAB				Sg	**Sb**	**08 25 59.2**	**+2.8**
MD31	**MD31**	**3.90**	**166**	P	**Pn**	**08 25 20.1**	**-2.3**
MD31	**MD31**	**3.90**	**166**	S	**Sn**	**08 26 04.2**	**-3.6**
MDT	**Midelt**	**3.99**	**164**	P	**Pn**	**08 25 21.6**	**-2.0**
MDT	**Midelt**	**3.99**	**164**	S	**Sn**	**08 26 05.5**	**-4.4**

*SJA **12** 08:29:04.6±0.5,24°.67S×69°.21W,h108km±3km,ML4.1, MW3.9*
*GUC **12** 08:29:05.6±0.8,24°.67S×69°.21W,h104km±5km,ML4.2*
*IDC **12** 08:29:06.7±2.6,24°.60S×68°.87W,h101km±21km,mb3.4/6, mbtmp3.8/8,Error ellipse: s-maj=28.7km s-min=23.0km az=59.0*
*VAO **12** 08:29:11.2±0.6,24°.20S×68°.78W,h101km,mb4.0*
ISC 12 08:29:05.8±0.7,24°.66S±0°.03×69°.17W±0°.05,h98km±7km, n72,σ1°08/86,mb3.6/6,4C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**0.63**	**217**	*e*P	**Pn**	**08 29 23.0**	**+0.2**
GO02				*e*S	**Sn**	**08 29 36.5**	**+1.0**
GO02	**Mina Guanaco**	**0.63**	**217**	*e*P	**Pn**	**08 29 22.5**	**-0.4**
GO02				*i* S	**Sn**	**08 29 35.6**	**+0.1**
GO02				IAML		08 29 36.3	
	comp=E,15μm,0.3s						
PB14	**IPOC Station P**	**1.13**	**271**	*e*P	**Pn**	**08 29 28.0**	**+0.1**
PB14				*e*S	**Sn**	**08 29 45.4**	**+1.0**
PB14				IAML		08 29 52.1	
	comp=Z,2μm,0.3s						
PB14	**IPOC Station P**	**1.13**	**271**	⇑*i*P	**Pn**	**08 29 27.9**	**0.0**
PB14				*i* S	**Sn**	**08 29 44.5**	**+0.1**
PB15	**IPOC Station P**	**1.47**	**349**	*e*P	**Pn**	**08 29 32.1**	**+0.2**
PB15				*e*S	**Sn**	**08 29 52.7**	**+1.2**
PB15	**IPOC Station P**	**1.47**	**349**	*e*P	**Pn**	**08 29 31.5**	**-0.4**
PB15				*i* S	**Sn**	**08 29 52.2**	**+0.7**
AF01	**San Pedro de A**	**1.92**	**28**	⇑*i*P	**Pn**	**08 29 38.3**	**+0.7**
AF01				*i* S	**Sn**	**08 30 03.1**	**+1.2**
AF01				IAML		08 30 06.0	
	comp=N,4μm,0.4s						
AC01	**Pan de Azucar**	**1.97**	**221**	*e*P	**Pn**	**08 29 37.7**	**-0.2**
AC01				IAML		08 30 07.6	
	comp=Z,596nm,0.5s						
AC01	**Pan de Azucar**	**1.97**	**221**	⇑*i*P	**Pn**	**08 29 38.0**	**+0.1**
AC01				*i* S	**Sn**	**08 30 03.4**	**+0.9**
PB06	**IPOC Station P**	**1.98**	**349**	*e*P	**Pn**	**08 29 38.6**	**+0.4**
PB06				IAML		08 30 10.6	
	comp=Z,1μm,0.2s						
PB06	**IPOC Station P**	**1.98**	**349**	*e*P	**Pn**	**08 29 38.4**	**+0.2**
PB06				*i* S	**Sn**	**08 30 03.5**	**+0.6**
PB06				IAML		08 30 06.8	
	comp=E,2μm,0.3s						
PB05	**IPOC Station P**	**2.03**	**332**	*e*P	**Pn**	**08 29 39.1**	**+0.2**
PB05				IAML		08 30 11.7	
	comp=Z,819nm,0.2s						
PB05	**IPOC Station P**	**2.03**	**332**	*e*P	**Pn**	**08 29 39.0**	**+0.2**
PB05				*i* S	**Sn**	**08 30 03.9**	**-0.2**
PB05				IAML		08 30 10.2	
	comp=E,1μm,0.5s						
LVC	**Limon Verde**	**2.05**	**7**	*e*P	**Pn**	**08 29 39.3**	**-0.1**
LVC	**Limon Verde**	**2.05**	**7**	P	**Pn**	**08 29 39.0**	**-0.4**
	comp=E,163nm,0.3s,baz=172,slow=8.1,SNR=343						
LVC				S	**Sn**	**08 30 04.7**	**-0.2**
	comp=E,457nm,0.3s,baz=179,slow=13,SNR=21						
LVC	**Limon Verde**	**2.05**	**7**	*e*P	**Pn**	**08 29 39.3**	**-0.1**
LVC				*e*S	**Sn**	**08 30 04.5**	**-0.4**
LVC				IAML		08 30 09.8	
	comp=E,4μm,0.3s						
LVC	**Limon Verde**	**2.05**	**7**	*e*P	**Pn**	**08 29 39.5**	**+0.1**
AC02	**Maricunga**	**2.17**	**179**	*e*P	**Pn**	**08 29 41.3**	**+0.3**
AC02				IAML		08 30 55.1	
	comp=Z,501nm,0.7s						
AC02	**Maricunga**	**2.17**	**179**	⇑*i*P	**Pn**	**08 29 41.6**	**+0.6**
AC02				*i* S	**Sn**	**08 30 08.4**	**+0.6**
PB04	**IPOC Station P**	**2.48**	**339**	*e*P	**Pn**	**08 29 44.4**	**-0.4**
PB04				IAML		08 30 27.4	
	comp=Z,745nm,0.3s						
PB04	**IPOC Station P**	**2.48**	**339**	*e*P	**Pn**	**08 29 44.4**	**-0.4**
PB04				*i* S	**Sn**	**08 30 16.1**	**+1.4**
PB04				IAML		08 30 30.6	
	comp=N,1μm,0.3s						
PB09	**IPOC Station P**	**2.85**	**359**	*e*P	**Pn**	**08 29 50.1**	**+0.4**
PB09				IAML		08 30 33.4	
	comp=Z,474nm,0.4s						
PB09	**IPOC Station P**	**2.85**	**359**	*e*P	**Pn**	**08 29 50.3**	**+0.6**
PB09				IAML		08 30 34.5	
	comp=N,841nm,0.4s						
AC06	**Mina Casimiro**	**2.89**	**201**	*e*P	**Pn**	**08 29 49.2**	**-0.9**
AC06				*i* S	**Sn**	**08 30 23.9**	**-0.3**
AC06				IAML		08 30 36.1	
	comp=E,403nm,0.3s						
PB07	**IPOC Station P**	**2.99**	**347**	*e*P	**Pn**	**08 29 50.9**	**-0.7**
PB07				IAML		08 30 37.2	
	comp=Z,656nm,0.6s						
PB07	**IPOC Station P**	**2.99**	**347**	*e*P	**Pn**	**08 29 51.1**	**-0.5**
PB07				*i* S	**Sn**	**08 30 27.9**	**+1.0**
PB07				IAML		08 30 36.5	
	comp=E,1μm,0.3s						
GO03	**Copiap**	**3.08**	**198**	*e*P	**Pn**	**08 29 52.6**	**0.0**
GO03	**Copiap**	**3.08**	**198**	*e*P	**Pn**	**08 29 51.8**	**-0.8**
GO03				*i* S	**Sn**	**08 30 28.9**	**+0.3**
GO03				IAML		08 30 34.5	
	comp=E,334nm,0.5s						
FSA	**Cafayete**	**3.23**	**117**	*e*P	Pn	08 29 55.8	+1.1
SLA	**San Lorenzo**	**3.33**	**92**	*e*P	Pn	08 29 57.8	+1.7
PB02	**IPOC Station P**	**3.39**	**348**	*e*P	**Pn**	**08 29 56.2**	**-0.7**
PB02				IAML		08 30 50.8	
	comp=Z,1μm,0.3s						
PB01	**IPOC Station P**	**3.61**	**355**	*e*P	**Pn**	**08 29 59.2**	**-0.6**
PB01				IAML		08 30 54.8	
	comp=Z,514nm,0.2s						
AC04	**Llanos de Chal**	**3.92**	**205**	*e*P	**Pn**	**08 30 02.8**	**-1.1**
AC04				IAML		08 31 02.9	
	comp=Z,278nm,1.6s						
VCA	**Vinchina**	**4.15**	**168**	*e*P	Pn	08 30 09.6	+2.4
YJA	**Yavi**	**4.17**	**54**	*e*P	**Pn**	**08 30 09.1**	**+1.4**
TA01	**Diego Aracena**	**4.18**	**347**	*e*P	**Pn**	**08 30 05.8**	**-1.6**
TA01				*e*S	Sn	08 30 39.9	-15
TA01				IAML		08 30 40.0	
	comp=Z,272nm,0.8s						
PB08	**IPOC Station P**	**4.50**	**0**	*e*P	**Pn**	**08 30 11.2**	**-0.9**
PB08				IAML		08 31 27.1	
	comp=Z,107nm,0.4s						
LCO	**Las Campanas**	**4.55**	**197**	*e*P	**Pn**	**08 30 11.3**	**-1.3**
LCO				IAML		08 31 20.1	
	comp=Z,153nm,0.3s						
AGUA	**GUANDACOL**	**4.85**	**173**	*e*P	**Pn**	**08 30 17.2**	**+0.7**
AGUA				IAML		08 31 20.4	
	comp=Z,54nm,0.6s						
PB11	**IPOC Station P**	**4.89**	**355**	*e*P	**Pn**	**08 30 15.5**	**-1.8**
PB11				IAML		08 31 28.6	
	comp=Z,188nm,0.7s						
GO01	**Chusmiza**	**4.97**	**360**	*e*P	**Pn**	**08 30 17.4**	**-1.2**
CO01	**Juntas del Tor**	**5.36**	**189**	*e*P	**Pn**	**08 30 23.7**	**+0.1**
CO01				IAML		08 31 59.4	
	comp=Z,40nm,0.6s						
LPAZ	**La Paz**	**8.38**	**7**	P	**Pn**	**08 31 04.1**	**-1.1**
	comp=Z,1.0nm,0.4s,baz=181,slow=4.3,SNR=7.5						
LPAZ	**La Paz**	**8.38**	**7**	*e*P	**Pn**	**08 31 04.3**	**-0.9**
MURT	**Porto Murtinho**	**11.04**	**77**	*e*P	**Pn**	**08 31 39.7**	**-1.0**
SIV	**San Ignacio**	**11.48**	**43**	P	**Pn**	**08 31 43.1**	**-3.6**
	comp=Z,9.3nm,0.6s,baz=230,slow=10.0,SNR=42						
AQDB	**Aquidauana**	**13.12**	**74**	*e*P	**Pn**	**08 32 07.5**	**-0.9**
VILB	**Vilhena**	**14.40**	**38**	*e*P	**Pn**	**08 32 23.4**	**-1.7**
FRBT	**Francisco Belt**	**14.62**	**99**	*e*P	**P**	**08 32 30.3**	**-1.3**
CPSB	**Cacapava Do Su**	**15.08**	**116**	*e*P	**P**	**08 32 38.9**	**+2.4**
PTGB	**Pitanga**	**15.55**	**94**	*e*P	**P**	**08 32 41.2**	**-0.7**
LDASE	**Londrina, Braz**	**16.54**	**89**	*e*P	**P**	**08 32 52.1**	**-0.8**
SAML	**Samuel**	**16.63**	**21**	*e*P	**Pn**	**08 32 51.0**	**-2.0**
PDRB	**Porto dos Gac**	**17.53**	**44**	*e*P	**Pn**	**08 33 02.8**	**-1.3**
ARAG	**Araguaiana, MT**	**18.55**	**65**	*e*P	**Pn**	**08 33 14.7**	**-1.6**
IPMB	**Ipameri, GO**	**20.61**	**75**	*e*P	**P**	**08 33 36.2**	**-1.1**
SNDB	**Serra Nova Dou**	**21.11**	**56**	*e*P	**P**	**08 33 40.8**	**-1.9**
TEFE	**Tefe**	**21.48**	**12**	*e*P	**P**	**08 33 47.0**	**+0.5**
PARB	**Paraibuna**	**21.55**	**91**	*e*P	**P**	**08 33 50.2**	**+2.8**
BDFB	**Brasilia**	**21.77**	**70**	P	**P**	**08 33 47.7**	**-2.1**
	comp=Z,1.9nm,0.6s,baz=241,slow=15,SNR=4.2						
	comp=Z,1.9nm,0.6s						
NPGB	**Novo Progresso**	**21.95**	**39**	*e*P	**P**	**08 33 49.6**	**-2.0**
ITTB	**Itaituba**	**23.96**	**35**	*e*P	**P**	**08 34 09.7**	**-1.5**
SMTB	**Santa Maria do**	**25.89**	**56**	*e*P	**P**	**08 34 29.4**	**+0.6**
RCBR	**Riachuelo**	**36.99**	**65**	*e*P	**P**	**08 36 07.5**	**+1.5**
TXAR	**Lajitas Array**	**63.09**	**326**	P	**P**	**08 39 24.4**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=139,slow=8.4,SNR=2.3						
	comp=Z,0.2nm,0.6s						
QSPA	**South Pole Qui**	**65.55**	**180**	P	**P**	**08 39 39.9**	**+1.2**
	comp=Z,0.9nm,0.4s,baz=286,slow=1.2,SNR=8.6						
	comp=Z,0.9nm,0.4s						
PDAR	**Pinedale Array**	**76.72**	**331**	P	**P**	**08 40 46.9**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=128,slow=8.2,SNR=1.9						
	comp=Z,0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**78.65**	**70**	P	**P**	**08 40 56.7**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=263,slow=4.3,SNR=7.8						
	comp=Z,0.7nm,0.6s						
YKA	**Yellowknife Ar**	**94.07**	**341**	P	**P**	**08 42 12.9**	**+0.3**
	comp=Z,0.2nm,0.9s,baz=134,slow=6.0,SNR=3.6						
	comp=Z,0.2nm,0.9s						
ASAR	**Alice Springs**	**127.01**	**207**	PKP	**PKPdf**	**08 47 59.1**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=146,slow=1.4,SNR=5.0						
ZALV	**Zalesovo Beam**	**144.88**	**27**	PKP	**PKPab**	**08 48 31.0**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=307,slow=3.0,SNR=7.7						
MKAR	**Makanchi Array**	**148.28**	**39**	PKPbc	**PKPbc**	**08 48 40.2**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=325,slow=3.4,SNR=7.9						

IDC 12 08:49:55.9±3.2,54°.20N×87°.75E,h0km,mbtmp2.7/2, ML2.6/2,Error ellipse: s-maj=27.6km s-min=20.8km az=45.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.75**	**263**	I	I	09 02 20.0	
	baz=84,slow=328,SNR=1.0						
ZALV	**Zalesovo Beam**	**1.75**	**263**	Pn	Pn	08 50 27.3	-0.2
	2.7nm,0.3s,baz=82,slow=16,SNR=17						
ZALV				Lg	Lg	08 50 51.5	
	1.1nm,0.3s,baz=83,slow=25,SNR=5.7						
KURBB	**Kurchatov Arra**	**6.68**	**241**	Pn	Pn	08 51 34.6	-0.6
	0.1nm,0.3s,baz=54,slow=13,SNR=6.2						
KURBB				Lg	Lg	08 53 29.2	
	baz=64,slow=36,SNR=1.2						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**8.19**	**207**	Pn	Pn	08 51 58.4	+2.4
	0.1nm,0.3s,baz=26,slow=16,SNR=2.7						
MKAR				Lg	Lg	08 54 18.8	
	baz=23,slow=30						
	0.1nm,0.3s						

KRSC 12 08:53:58.4±2.3,49°.80N×157°.11E,h17km±37km,MI4.0, East of Kuril Islands

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

comp=Z,110nm,1.0s
DVD David 1.02 161 *e*P **Pb 08 58 03.7 -0.4**
VTCV VTCV, Calle Va 1.09 302 *i* P **Pn 08 58 06.1 0.0**
VTCV IAML 08 58 22.9
comp=Z,150nm,1.0s
RIMA Rio Macho 1.12 289 *i* P **Pn 08 58 06.4 -0.1**
RIMA IAML 08 58 23.5
comp=Z,56nm,1.0s
PLAN Los Planes de 1.15 231 *i* P **Pb 08 58 05.7 -0.7**
PLAN IAML 08 58 26.0
comp=Z,150nm,1.0s
LCR2 La Lucha 2 1.25 286 *i* P **Pg 08 58 08.6 +0.3**
LCR2 IAML 08 58 30.4
comp=Z,51nm,1.0s
OCM Ochomogo 1.26 293 *i* P **Pg 08 58 08.7 +0.3**
OCM IAML 08 58 31.2
comp=Z,58nm,1.0s
JACO JACO, Garabito 1.87 278 *i* P **Pb 08 58 18.6 -0.1**
JACO IAML 08 58 50.5
comp=Z,38nm,1.0s

OMAN ***12*** *09:01:12.9±2.0, 28°.17N×57°.84E, h10km, mb5.7/1, ml3.1/10, Error ellipse: s-maj=20.1km s-min=10.9km az=60.0*
TEH ***12*** *09:01:15.9, 28°.25N×57°.56E, h24km±19km, ML3.5*
ISC 12 09:01:16.0±1.1, 28°.16N±0°.03×57°.71E±0°.06, h30km, n27, σ1§72/36, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.21**	**181**	Pg	**Pn**	**09 01 23.4**	**+0.4**
KBAM	**BAM**	**1.17**	**34**	Pg	**Pb**	**09 01 37.8**	**+0.1**
IBND	**Bandar-abas**	**1.25**	**236**	Pg	**Pb**	**09 01 38.4**	**-0.6**
IBND				Sg	**Sb**	**09 01 55.2**	**+0.5**
GENO	**Geno**	**1.56**	**241**	Pg	**Pb**	**09 01 42.7**	**-1.5**
CHMN	**Cheshme madani**	**1.71**	**355**	Pg	**Pn**	**09 01 45.1**	**+1.1**
NGRK	**Negar Kerman**	**1.71**	**330**	Pg	**Pn**	**09 01 44.9**	**+0.8**
TVBK	**TV Kerman**	**2.00**	**336**	Pn	**Pb**	**09 01 50.2**	**-1.8**
JASK	**Jask - Hormozg**	**2.28**	**176**	Pn	**Pb**	**09 01 55.2**	**-1.4**
JASK	**Jask - Hormozg**	**2.28**	**176**	P	**Pn**	**09 01 49.7**	**-1.9**
SHME	**Shamm** SNR=9.6	**2.52**	**214**	P	**Pn**	**09 01 57.2**	**+2.3**
SHME				S	**Sb**	**09 02 28.4**	**-2.7**
BANOM	**Banah**	**2.56**	**210**	P	**Pn**	**09 01 56.3**	**+0.9**
BANOM				S	**Sb**	**09 02 30.2**	**-2.0**
MASF	**Masafi**	**3.10**	**207**	P	**Pn**	**09 02 05.4**	**+2.5**
MDH	**Madha**	**3.11**	**204**	P	**Pn**	**09 02 04.4**	**+1.3**
MDH				S	**Sn**	**09 02 41.7**	**+2.5**
UOSS	**Minazif**	**3.47**	**203**	P	**Pn**	**09 02 10.1**	**+2.1**
HATD	**Hatta, Dubai**	**3.60**	**203**	P	**Pn**	**09 02 12.5**	**+2.7**
ASHO	**Ashiyiah** SNR=8.7	**3.76**	**204**	P	**Pn**	**09 02 13.9**	**+1.9**
FAQ	**Al Faqa, Dubai**	**3.89**	**210**	P	**Pn**	**09 02 16.4**	**+2.6**
FAQ				S	**Sn**	**09 03 01.5**	**+3.0**
SOHO	**SOHO**	**4.14**	**195**	P	**Pn**	**09 02 16.8**	**-0.4**
HOQ	**Hoqain**	**4.57**	**185**	P	**Pn**	**09 02 21.8**	**-1.3**
HOQ				S	**Sn**	**09 03 14.9**	**-0.2**
ARQ	**Araqi** SNR=8.7	**4.92**	**193**	P	**Pn**	**09 02 29.1**	**+1.2**
ARQ				S	**Sn**	**09 03 26.4**	**+2.6**
WSAR	**Wadi Sarin**	**4.97**	**170**	P	**Pn**	**09 02 30.1**	**+1.6**
WSAR				S	**Sn**	**09 03 24.8**	**-0.1**
BSY	**Bisya**	**5.41**	**185**	P	**Pn**	**09 02 36.4**	**+1.8**
BSY				S	**Sn**	**09 03 38.0**	**+2.1**
IRAM	**Ramesheh**	**5.88**	**310**	Pn	**Pn**	**09 02 41.1**	**-0.2**
KLNJ	**Kolanjah**	**6.04**	**300**	Pn	**Pn**	**09 02 43.5**	**-0.1**
SHMA	**Al-Shehemyia**	**6.44**	**251**	P	**Pn**	**09 02 48.3**	**-0.4**
TRNA	**Turayna** SNR=8.3	**6.75**	**241**	P	**Pn**	**09 02 52.5**	**-0.5**
SMRA	**Abu-Samra**	**7.04**	**243**	P	**Pn**	**09 02 56.5**	**-0.6**

IDC ***12*** *09:25:22.6±8.3, 56°.97S×26°.48W, h103km±73km, mb3.9/6, mbtmp4.2/6, Error ellipse: s-maj=37.7km s-min=18.9km az=68.0*
NEIC ***12*** *09:25:24.2±0.9, 57°.05S±0°.1×26°.6W±0°.2, h120km±8km, mb4.5/22, Error ellipse: s-maj=21.1km s-min=12.1km az=205.0*
ISC 12 09:25:22.2±0.6, 56°.9S±0°.1×26°.5W±0°.1, h100km, n42, σ0§92/37, mb4.4/14, 1C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.25**	**291**	Pn	**Pn**	**09 26 53.5**	**+1.8**
VNA1	**Neumayer--Stat** comp=Z,0.6nm,0.2s	**15.84**	**158**	⇑P	**P**	**09 29 02.3**	**+1.6**
VNA3	**Neumayer Olymp** comp=Z,0.3nm,0.1s	**16.04**	**160**	⇓P	**P**	**09 29 04.2**	**+1.2**
SNAA	**Sanae**	**17.79**	**155**		**P**	**09 29 22.3**	**0.0**
EFI	**East Falkland**	**19.05**	**273**	P	**P**	**09 29 36.3**	**+0.2**
TROLL	**Troll, Antarti** comp=Z,9.6nm,0.1s	**19.29**	**153**	⇓P	**Pn**	**09 29 43.7**	**+2.8**
BELA	**Belgrano 2**	**21.23**	**185**	P	**P**	**09 29 57.7**	**-1.8**
BELA	comp=Z,9.9nm,0.5s			IAmb	IAmb	09 30 00.8	
MG02	**Cerro Sombrero**	**24.64**	**261**	P	**P**	**09 30 32.4**	**-0.5**
MG05	**Puerto Natales**	**26.94**	**261**	P	**P**	**09 30 52.7**	**-1.0**
GO09	**Cerro Castillo**	**27.05**	**262**	P	**P**	**09 30 54.1**	**-0.6**
PLTB	**Pedras Altas**	**31.37**	**312**	P	**P**	**09 31 33.4**	**+0.2**
PLTB	comp=Z,23nm,1.3s			IAmb	IAmb	09 31 41.2	
QSPA	**South Pole Qui**	**33.32**	**180**	P	**P**	**09 31 50.0**	**-0.1**
QSPA	comp=Z,5.2nm,0.6s			IAmb	IAmb	09 31 50.5	
QSPA	**South Pole Qui** comp=Z,4.1nm,0.5s,baz=216,slow=0.4,SNR=82 comp=Z,4.1nm,0.5s	**33.32**	**180**	P	**P**	**09 31 49.8**	**-0.3**
CPUP	**Villa Florida**	**37.68**	**311**	P	**P**	**09 32 27.2**	**-0.3**
CPUP	comp=Z,12nm,1.4s			IAmb	IAmb	09 32 55.2	
CPUP	**Villa Florida** comp=Z,1.3nm,0.5s,baz=127,slow=8.1,SNR=3.9 comp=Z,1.3nm,0.5s	**37.68**	**311**	P	**P**	**09 32 27.2**	**-0.3**
VNDA	**Vanda**	**45.72**	**183**	P	**P**	**09 33 31.6**	**-0.8**
VNDA	comp=Z,9.5nm,1.4s			IAmb	IAmb	09 33 57.8	
VNDA	**Vanda** comp=Z,1.3nm,0.6s,baz=183,slow=7.5,SNR=5.8 comp=Z,1.3nm,0.6s	**45.72**	**183**	P	**P**	**09 33 32.5**	**+0.1**
LVC	**Limon Verde**	**46.07**	**300**	P	**P**	**09 33 36.4**	**+0.1**
PB01	**IPOC Station P**	**47.69**	**301**	P	**P**	**09 33 48.0**	**-0.6**
PB01	comp=Z,6.5nm,1.2s			IAmb	IAmb	09 33 52.5	
PTLB	**Pontes e Lacer**	**48.19**	**316**	P	**P**	**09 33 52.5**	**+0.2**
H10S2	**ASCENSION HYDR** baz=189,slow=74,SNR=24	**48.73**	**16**	T	T	10 26 37.0	
GO01	**Chusmiza**	**48.73**	**302**	P	**P**	**09 33 56.9**	**-0.1**
GO01	comp=Z,6.0nm,1.4s			IAmb	IAmb	09 34 34.8	
H10S3	**ASCENSION HYDR** baz=31,slow=74,SNR=53	**48.74**	**16**	T	T	10 26 37.2	
H10N1	**ASCENSION HYDR** baz=188,slow=75,SNR=13	**49.85**	**16**	T	T	10 28 00.9	
H10N3	**ASCENSION HYDR** baz=188,slow=75,SNR=29	**49.85**	**16**	T	T	10 28 01.3	
H10N2	**ASCENSION HYDR** baz=188,slow=75,SNR=15	**49.87**	**16**	T	T	10 28 02.2	
LPAZ	**La Paz**	**51.20**	**305**	P	**P**	**09 34 16.5**	**+0.7**
LPAZ	comp=Z,5.4nm,0.4s			IAmb	IAmb	09 34 16.9	
LPAZ	**La Paz** comp=Z,4.8nm,0.4s,baz=101,slow=4.4,SNR=32 comp=Z,4.8nm,0.4s	**51.20**	**305**	P	**P**	**09 34 16.4**	**+0.5**
SAML	**Samuel**	**55.69**	**314**	P	**P**	**09 34 48.0**	**-0.1**
SAML	comp=Z,4.6nm,0.6s			IAmb	IAmb	09 34 48.3	
ETMB	**Extrema**	**56.13**	**311**	P	**P**	**09 34 50.7**	**-0.4**
ETMB	comp=Z,3.8nm,1.3s			IAmb	IAmb	09 35 18.9	
BOAV	**Boa Vista**	**65.21**	**322**	P	**P**	**09 35 52.5**	**-0.2**
BOAV	comp=Z,6.0nm,0.8s			IAmb	IAmb	09 35 53.0	
TOA0	**Torodi Ar. Sit**	**73.63**	**29**	P	**P**	**09 36 43.8**	**-0.7**
TORD	**Torodi Ar. Bea**	**73.63**	**29**	P	**P**	**09 36 45.4**	**+0.9**
TORD	**Torodi Ar. Bea** comp=Z,1.5nm,0.8s,baz=195,slow=5.1,SNR=8.8 comp=Z,1.5nm,0.8s	**73.63**	**29**	P	**P**	**09 36 45.0**	**+0.5**
BAUV	**El Baul**	**73.96**	**317**	P	**P**	**09 36 45.5**	**-1.0**
SDV	**Santo Domingo**	**74.90**	**315**	P	**P**	**09 36 52.0**	**-0.2**
SDV	comp=Z,5.8nm,0.6s			IAmb	IAmb	09 36 52.7	
ASAR	**Alice Springs**	**98.04**	**162**	P	**P**	**09 38 46.1**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=185,slow=3.2,SNR=1.6 comp=Z,0.2nm,0.5s						
PDAR	**Pinedale Array**	**121.13**	**301**	PKP	**PKPdf**	**09 44 01.5**	**-1.0**
NVAR	comp=Z,0.3nm,0.4s,baz=131,slow=3.7,SNR=4.6 **Mina Array Bea** comp=Z,0.4nm,0.5s,baz=126,slow=2.6,SNR=4.6	**122.09**	**292**	PKP	**PKPdf**	**09 44 05.3**	**+0.8**
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.3s,baz=127,slow=2.1,SNR=10	**137.08**	**317**	PKP	**PKPdf**	**09 44 31.8**	**0.0**
SONM	**Songino Array** comp=Z,1.8nm,0.6s,baz=223,slow=3.6,SNR=15	**150.39**	**87**	PKPbc	**PKPbc**	**09 45 00.4**	**-0.5**
ILAR	**Eielson Array** comp=Z,4.2nm,0.7s,baz=134,slow=1.9,SNR=74	**150.98**	**310**	PKPbc	**PKPbc**	**09 45 01.5**	**-0.1**

WEL 12 09:43:49.2±0.7, 40°.5E±4°×17°.9E±°, h33km, M2.8/12, ML3.1/15, MLv2.8/12, Error ellipse: s-maj=0.0km s-min=0.0km az=103.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**0.97**	**324**	P	Pn	09 44 06.4	-0.1
KAHZ	**Kahuranaki**	**1.37**	**275**	P	Pb	09 44 14.5	+0.2
PXZ	**Pawanui**	**1.37**	**266**	P	Pn	09 44 11.8	-0.3
PXZ				S	Sn	09 44 28.6	-0.5
WHHZ	**Waihua**	**1.39**	**308**	P	Pb	09 44 13.6	-1.0
RIGZ	**Rimuhau**	**1.41**	**331**	P	Pn	09 44 12.5	-0.1
RIGZ				S	Sn	09 44 30.1	+0.1
ARHZ	**Aropaoanui**	**1.44**	**297**	P	Pn	09 44 14.1	+1.0
ARHZ				S	Sn	09 44 31.8	+1.0
SNGZ	**Shannon Statio**	**1.54**	**318**	P	Pn	09 44 15.0	+0.7
SNGZ				S	Sn	09 44 34.5	+1.3
PRHZ	**Porangahau**	**1.58**	**257**	P	Pb	09 44 17.5	-0.3
PRHZ				S	Sn	09 44 20.1	-14
RAHZ	**Arahi**	**1.58**	**310**	P	Pn	09 44 15.2	+0.3
RAHZ				S	Sb	09 44 36.0	-1.5
PGFS	**Porangahau Fir**	**1.60**	**256**	P	Pb	09 44 17.4	-0.8
PGFS				S	Sn	09 44 20.4	-14
WPHZ	**Waipukurau**	**1.70**	**265**	P	Pb	09 44 20.9	+1.0
WPHZ				S	Sn	09 44 25.9	-11
ANWZ	**Angora Road**	**1.74**	**252**	S	Sn	09 44 37.5	-0.7
ANWZ	**Angora Road**	**1.74**	**252**	P	Pb	09 44 20.7	+0.1
ANWZ				S	Sn	09 44 26.3	-12
MTHZ	**Maungataniwha**	**1.77**	**307**	S	Sn	09 44 40.1	+1.2
KRHZ	**Kereru**	**1.78**	**279**	P	Pn	09 44 18.3	+0.7
KRHZ				S	Sn	09 44 38.5	-0.7
KRHZ	**Kereru**	**1.78**	**279**	P	Pb	09 44 27.6	+6.4
KRHZ				S	Sn	09 44 38.7	-0.5
KWHZ	**Kaweka Forest**	**1.79**	**286**	P	Pn	09 44 18.7	+0.8
MWZ	**Matawai**	**1.82**	**331**	P	Pn	09 44 18.1	-0.2
MWZ				S	Sn	09 44 39.0	-1.3
TWGZ	**Tauwhareparae**	**1.83**	**343**	S	Sn	09 44 40.8	+0.3
BKZ	**Black Stump Fm**	**1.83**	**294**	P	Pn	09 44 19.2	+0.7
BKZ				S	Sn	09 44 41.2	+0.7
PNHZ	**Pukenui**	**1.88**	**270**	P	Pn	09 44 19.8	+0.7
PNHZ	**Pukenui**	**1.88**	**270**	P	Pb	09 44 25.0	+2.0
PNHZ				S	Sn	09 44 33.0	-8.7
DVHZ	**Dannevirke**	**1.94**	**258**	P	Pb	09 44 22.7	-1.2
DVHZ				S	Sn	09 44 42.1	-1.0
DVHZ	**Dannevirke**	**1.94**	**258**	S	Sn	09 44 29.1	-14
BFZ	**Birch Farm**	**1.98**	**247**	P	Pb	09 44 25.4	+0.8
BFZ				S	Sn	09 44 34.6	-9.5
BHHZ	**Black Hill Sta**	**2.04**	**282**	P	Pn	09 44 21.9	+0.6
BHHZ				S	Sn	09 44 45.0	-0.7
URZ	**Urewera**	**2.06**	**324**	P	Pn	09 44 21.8	+0.3
URZ				S	Sn	09 44 46.4	+0.4
TSZ	**Takapari Road**	**2.07**	**266**	P	Pn	09 44 21.7	0.0
RUGZ	**Raukumara Rang**	**2.11**	**339**	P	Pn	09 44 21.6	-0.7
RUGZ				S	Sn	09 44 47.0	-0.5
CTZ	**Chatham Island**	**5.19**	**139**	P	Pn	09 45 02.5	-2.0
CTZ				S	Sn	09 45 56.2	-6.9

JMA 12 10:03:36.8±0.2, 28°N±1°×14°0E±°, h446km, MV3.7/17, W OFF OGASAWARA, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.99**	**105**	P	P	10 04 37.0	0.0
CBIJ				*e*S	S	10 05 24.7	-1.0
JHH2	**Haha-jima-NKT2**	**2.16**	**117**	*e*P	P	10 04 38.7	+0.7
JHH2				*e*S	S	10 05 26.9	-0.5
BSO1	**Boso 1**	**7.04**	**6**	*e*P	P	10 05 23.6	+2.5
BSO3	**Boso 3**	**7.15**	**3**	*e*P	P	10 05 24.4	+1.8
JRY	**Ryogami san**	**8.40**	**354**	P	P	10 05 38.8	+2.4
JAG	**Ashikaga**	**8.77**	**357**	P	P	10 05 40.8	+0.4
JHO	**Hitachi**	**8.95**	**3**	P	P	10 05 43.7	+1.3

IDC ***12*** *10:05:48.7±0.8, 4°.38S×153°.24E, h0km, mb4.0/12, mbtmp4.0/13, ML1.7/1, MS3.7/6, Error ellipse: s-maj=27.8km s-min=18.3km az=93.0*
ISC 12 10:05:56.6±0.8, 4°.4S±0°.1×153°.2E±0°.1, h55km, n17, σ1§58/17, mb3.9/12, MS3.4/4, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.75**	**230**	Pn	**Pn**	**10 07 45.0**	**-1.9**
PMG	0.5nm,0.3s,baz=242,slow=16,SNR=1.2 1.1nm,0.3s,baz=277,slow=22,SNR=1.5 3.4nm,0.4s			Sn	**Sn**	**10 09 15.4**	**+2.1**
HNR	**Honiara** comp=Z,3µm,19.3s,baz=286,slow=38	**8.34**	**127**	LR	LR	10 11 05.9	
CTA	**Charters Tower** comp=Z,170nm,19.4s,baz=89,slow=34	**16.96**	**203**	LR	LR	10 15 34.4	
DZM	**Mont Dzumac** 4.6nm,0.9s,baz=331,slow=19,SNR=1.6	**21.73**	**145**	P	**P**	**10 10 43.4**	**-0.1**
DZM	comp=Z,126nm,20.0s,baz=346,slow=32 4.6nm,0.9s			LR	LR	10 17 26.8	
WRA	**Warramunga Arr** 5.4nm,0.5s,baz=53,slow=10,SNR=26	**23.97**	**228**	P	**P**	**10 11 06.0**	**-0.2**
WRA	1.7nm,1.0s,baz=45,slow=2.3,SNR=3.0 5.4nm,0.5s			PcP	**PcP**	**10 14 48.1**	**+0.8**
ASAR	**Alice Springs** 0.9nm,0.6s,baz=56,slow=9.1,SNR=19	**26.67**	**222**	P	**P**	**10 11 30.6**	**-0.1**
ASAR	0.2nm,0.6s,baz=43,slow=3.1,SNR=4.1			ScP	**ScP**	**10 18 33.8**	**+4.7**
ASAR	comp=Z,95nm,18.1s,baz=40,slow=36 0.9nm,0.6s			LR	LR	10 22 05.7	
STKA	**Stephens Creek** 4.4nm,0.9s,baz=54,slow=12,SNR=4.8	**29.38**	**200**	P	**P**	**10 11 53.8**	**-0.8**
STKA	comp=Z,102nm,18.7s,baz=19,slow=37 4.4nm,0.9s			LR	LR	10 24 06.7	
BATI	**Baumata** comp=Z,139nm,18.8s,baz=116,slow=43	**29.82**	**257**	LR	LR	10 27 01.9	
CMAR	**Chiang Mai Arr** 0.7nm,0.3s,baz=109,slow=4.9,SNR=4.7 0.7nm,0.3s	**58.08**	**295**	P	**P**	**10 15 45.5**	**+0.8**
SONM	**Songino Array** 0.3nm,0.6s,baz=157,slow=7.8,SNR=3.0 0.3nm,0.6s	**66.23**	**328**	P	**P**	**10 16 38.4**	**-0.6**
VNDA	**Vanda** 3.8nm,1.0s,baz=325,slow=4.5,SNR=5.2 3.8nm,1.0s	**73.17**	**178**	P	**P**	**10 17 21.3**	**+0.3**
MKAR	**Makanchi Array** 0.4nm,0.8s,baz=88,slow=6.8,SNR=2.7 0.4nm,0.8s	**80.31**	**319**	P	**P**	**10 18 01.4**	**-0.4**
ILAR	**Eielson Array** 0.4nm,1.0s,baz=246,slow=5.8,SNR=1.7 0.4nm,1.0s	**81.68**	**22**	P	**P**	**10 18 09.4**	**+0.7**
KURBB	**Kurchatov Arra** 0.2nm,0.2s,baz=98,slow=5.7,SNR=3.2 0.2nm,0.2s	**83.76**	**322**	P	**P**	**10 18 18.8**	**-1.0**
QSPA	**South Pole Qui** 4.9nm,0.9s,baz=340,slow=1.0,SNR=17 4.9nm,0.9s	**85.52**	**180**	P	**P**	**10 18 28.1**	**-0.4**
BVAR	**Bovoye Array** 0.3nm,0.3s,baz=108,slow=4.7,SNR=2.3 0.3nm,0.3s	**89.19**	**323**	P	**P**	**10 18 45.5**	**-0.8**
TORD	**Torodi Ar. Bea** 2.0nm,0.7s,baz=73,slow=2.6,SNR=18	**150.56**	**289**	PKPbc	**PKPbc**	**10 25 43.1**	**-0.2**

BJI ***12*** *10:21:24.0±0.0, 26°.87N×128°.63E, h59km, mb4.3/53, mB4.7/30, Ms4.0/33, Ms7 3.8/37*
MOS ***12*** *10:21:24.8±1.1, 27°.20N×128°.34E, h52km, mb4.7/23, Error ellipse: s-maj=10.4km s-min=5.7km az=101.9*
IDC ***12*** *10:21:25.4±0.5, 27°.22N×128°.35E, h44km±6km, mb4.1/29, mbtmp4.4/30, ML4.5/1, MS3.9/47, Error ellipse: s-maj=15.8km s-min=10.0km az=93.0*

NEIC ***12*** *10:21:26.9±1.7, 27°.14N±0°.07×128°.38E±0°.08, h54km±2km, mb4.9/84, Error ellipse: s-maj=11.4km s-min=8.2km az=137.0*
NIED ***12*** *10:21:26.1, 27°.25N×128°.43E, h48km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr0.72; Mθθ-0.54; Mϕϕ-0.18; Mrθ1.51; Mrϕ-0.76; Mθϕ0.18; Fault plane solution: M₀1.82000×10¹⁶ NP1:φ₈80.00000°, δ77.00000°, λ111.00000°. NP2:φ₈200.00000°, δ25.00000°, λ33.00000°.*
JMA ***12*** *10:21:26.1±0.1, 27°.3N±0°.4×128°.4E±0°.7, h48km±1km, MD4.6/27, MW4.8/27, NEAR OKINAWAJIMA ISLAND*
JMA Felt III J1 at NEAR OKINAWAJIMA ISLAND .
GCMT ***12*** *10:21:27.9±0.4, 27°.26N±0°.03×128°.46E±0°.03, h46km±2km, MW4.8/81, Moment Tensor Solution. s17,c20; s81,c103; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.93±.14; Mθθ-1.17±.10; Mϕϕ0.24±.11; Mrθ1.45±.09; Mθϕ-1.13±.07; Mϕr0.03±.07; Best double couple: M₀2.08700×10¹⁶ NP1:φ₈89.00000°, δ73.00000°, λ120.00000°. NP2: φ₈205.00000°, δ34.00000°, λ31.00000°. Principal axes: T 1.8490, Plg52.0000°, Azm34.0000°; N 0.4770, Plg29.0000°, Azm259.0000°; P -2.3240, Plg22.0000°, Azm156.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 12 10:21:26.6±0.5, 27°.14N±0°.03×128°.52E±0°.03, h59km±4km, n631, σ1§41/580, mb4.7/102, MS4.0/49, 12C-1D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**0.13**	**208**	*i* P	**Pn**	**10 21 34.3**	**-1.3**
JYRO				S	**Sn**	**10 21 39.8**	**-2.2**
JYRO	**Yoronjima** comp=E,45nm,0.6s,comp=N,172nm,0.4s	**0.13**	**208**	A	A	10 21 34.3	
JOKE	**Okinoerabujima**	**0.23**	**12**	*i* P	**Pn**	**10 21 33.9**	**-2.1**
JOKE				S	**Sn**	**10 21 39.4**	**-3.6**
JOKE	**Okinoerabujima** comp=E,79nm,0.3s,comp=N,164nm,1.4s	**0.23**	**12**	A	A	10 21 33.9	
JOW	**Kunigami**	**0.37**	**216**	*i* P	**Pn**	**10 21 36.4**	**-0.8**
JOW				S	**Sn**	**10 21 43.9**	**-1.0**
JOW	**Kunigami** comp=E,194nm,0.3s,comp=N,157nm,0.4s	**0.37**	**216**	A	A	10 21 36.4	
JOW	**Kunigami** comp=N,13µm,0.3s,baz=30,slow=8.1	**0.37**	**216**	P	**Pn**	**10 21 36.4**	**-0.8**
JOW	comp=N,36µm,0.3s,baz=125,slow=22,SNR=42			S	**Sn**	**10 21 44.3**	**-0.5**
JIH	**Iheya**	**0.50**	**259**	*i* P	**Pn**	**10 21 36.6**	**-1.8**
JIH				S	**Sn**	**10 21 44.2**	**-2.9**
JIH	**Iheya** comp=E,122nm,2.0s,comp=N,112nm,1.3s	**0.50**	**259**	A	A	10 21 36.6	
JTK	**Tokunoshima**	**0.75**	**31**	*i* P	**Pn**	**10 21 39.7**	**-1.7**
JTK				S	**Sn**	**10 21 49.4**	**-2.9**
JTK	**Tokunoshima** comp=E,28nm,0.5s,comp=N,71nm,0.5s	**0.75**	**31**	A	A	10 21 39.7	
JNTH	**Nagotoyohara**	**0.76**	**216**	*i* P	**Pn**	**10 21 41.2**	**-0.2**
JNTH	**Nagotoyohara** comp=E,34nm,0.8s,comp=N,25nm,2.5s	**0.76**	**216**	A	A	10 21 41.2	
JJT3	**Tamagusuku3**	**1.19**	**214**	*i* P	**Pn**	**10 21 48.4**	**+1.4**
JJT3	**Tamagusuku3** comp=E,71nm,1.7s,comp=N,90nm,3.8s	**1.19**	**214**	A	A	10 21 48.4	
JAMN	**Amaminishikomi**	**1.25**	**28**	*i* P	**Pn**	**10 21 46.0**	**-1.8**
JAMN				S	**Sn**	**10 22 00.8**	**-2.9**
JAMN	**Amaminishikomi** comp=E,10.0nm,0.3s,comp=N,15nm,2.7s	**1.25**	**28**	A	A	10 21 46.0	
JAGN	**Aguni-jima**	**1.26**	**245**	*i* P	**Pn**	**10 21 47.0**	**-1.0**
JAGN				S	**Sn**	**10 22 02.3**	**-1.7**
JAGN	**Aguni-jima** comp=E,21nm,2.4s,comp=N,24nm,1.2s	**1.26**	**245**	A	A	10 21 47.0	
JAM	**Amami Oshima**	**1.59**	**37**	*e*P	**Pn**	**10 21 51.6**	**-0.8**
JAM	**Amami Oshima** comp=E,6.0nm,1.5s,comp=N,7.0nm,3.4s	**1.59**	**37**	A	A	10 21 51.6	
JZK	**Kikaishima**	**1.74**	**47**	*e*P	**Pn**	**10 21 54.8**	**+0.3**
JZK	**Kikaishima** comp=E,36nm,2.5s,comp=N,23nm,2.9s	**1.74**	**47**	A	A	10 21 54.8	
JKE	**Kume jima 2**	**1.75**	**243**	*e*P	**Pn**	**10 21 53.5**	**-1.1**
JKE	**Kume jima 2** comp=E,5.0nm,1.3s,comp=N,5.0nm,0.9s	**1.75**	**243**	A	A	10 21 53.5	
JTAJ	**Takarajima**	**2.10**	**17**	*e*P	**Pn**	**10 21 57.4**	**-1.9**
JTAJ				*e*S	**Sn**	**10 22 20.5**	**-3.9**
JKDJ	**Kitadaitoujima**	**2.76**	**115**	*e*P	**Pn**	**10 22 08.0**	**-0.3**
JKDJ				*e*S	**Sn**	**10 22 40.1**	**-0.3**
JKDJ	**Kitadaitoujima** comp=E,5.0nm,2.8s,comp=N,7.0nm,2.9s	**2.76**	**115**	A	A	10 22 08.0	
JMZ	**Minamidaito 2**	**2.76**	**118**	Pn	**Pn**	**10 22 08.7**	**+0.3**
JMZ	**Minamidaito 2**	**2.76**	**118**	*e*P	**Pn**	**10 22 07.6**	**-0.7**
JMZ				*e*S	**Sn**	**10 22 40.0**	**-0.5**
JNN	**Nakanoshima**	**2.95**	**24**	*e*P	**Pn**	**10 22 09.4**	**-1.5**
JYAK	**Yakushimahirau**	**3.55**	**29**	*e*P	**Pn**	**10 22 18.1**	**-1.1**
JYAK				S	**Sn**	**10 22 56.7**	**-3.3**
JKC	**Kuchinoerabu**	**3.63**	**24**	*e*P	**Pn**	**10 22 19.0**	**-1.2**
JOGS	**Gusukube** comp=E,8.0nm,3.6s,comp=N,10.0nm,1.7s	**3.67**	**230**	A	A	10 22 22.1	
JIKM	**Ikemajima** comp=E,6.0nm,3.3s,comp=N,6.0nm,1.1s	**3.67**	**234**	A	A	10 22 22.1	
JMJ	**Miyako jima 2**	**3.71**	**232**	P	**Pn**	**10 22 21.8**	**+0.4**
JMJ2	**Miyako jima3** comp=E,9.0nm,4.6s,comp=N,8.0nm,5.7s	**3.73**	**231**	A	A	10 22 23.0	
JIRB	**Irabujima** comp=E,5.0nm,1.3s,comp=N,5.0nm,3.2s	**3.79**	**233**	A	A	10 22 23.6	
JMTN	**Minamitane**	**3.87**	**32**	*e*P	**Pn**	**10 22 22.7**	**-0.8**
JMTN				*e*S	**Sn**	**10 23 06.6**	**-1.0**
JTN	**Tanegashima 3**	**4.12**	**31**	*e*P	**Pn**	**10 22 26.3**	**-0.6**
JTN	**Tanegashima 3** comp=E,3.0nm,2.2s,comp=N,4.0nm,2.4s	**4.12**	**31**	A	A	10 22 26.3	
JTJ	**Tarama** comp=E,5.0nm,1.3s,comp=N,5.0nm,5.4s	**4.24**	**235**	A	A	10 22 30.0	
YOJ	**Yonaguni jima**	**5.63**	**243**		**Pn**	**10 22 46.9**	**-0.8**
YOJ	**Yonaguni jima**	**5.63**	**243**	P	**Pn**	**10 22 47.1**	**-0.6**
YOJ	**Yonaguni jima**	**5.63**	**243**	P	**Pn**	**10 22 46.9**	**-0.8**
JNU	**Nakatsue**	**6.31**	**18**	Pn	**Pn**	**10 22 57.6**	**+0.6**
JNU	**Nakatsue** comp=N,10nm,0.3s,baz=238,slow=4.8,SNR=102	**6.31**	**18**

WHN Wuhan 12.88 289 P **Pn** **10 24 28.7 +2.0**
TGY Tagaytay City 14.77 210 LR LR 10 30 47.7
comp=N,185nm,19.3s,baz=116,slow=38
HNS HongShan 15.51 315 ⇑P **Pn** **10 25 03.1 +1.5**
HNS pP **pP** **10 25 14.2 -3.1**
HNS *e*S **Sn** **10 27 54.5 +2.1**
HNS SS **SnSn** **10 28 13.3 +7.3**
HNS pmax pmax
comp=N,18nm,1.0s
HNS LR LR
comp=N,220nm,14.7s
HNS LR LR
comp=N,300nm,14.7s
HNS LR LR
comp=N,400nm,18.6s
LYN LuoYang 15.63 302 ⇑P **P** **10 25 05.0 -1.2**
LYN sP sP 10 25 25.0 -1.1
LYN S **S** **10 28 02.0 -5.6**
LYN sS sS 10 28 12.5 -15
LYN pmax pmax
comp=N,50nm,0.8s
LYN pmax pmax
comp=N,180nm,4.8s
LYN LR LR
comp=N,240nm,11.7s
LYN LR LR
comp=N,390nm,14.1s
LYN LR LR
comp=N,580nm,15.1s
BJT Baijiatuau 16.44 325 Pn **Pn** **10 25 12.5 -0.8**
BJT Baijiatuau 16.44 325 P **Pn** **10 25 12.5 -0.8**
BJT pmax pmax
comp=Z,13nm,0.8s
BJI Beijing 16.45 325 P **Pn** **10 25 13.6 +0.1**
BJI pmax pmax
comp=Z,8.0nm,0.8s
BJI LR LR
comp=Z,200nm,18.4s
BJI LR LR
comp=Z,130nm,20.0s
BJI LR LR
comp=Z,220nm,19.5s
CN2 Changchun 16.81 352 P **P** **10 25 23.3 +4.0**
CN2 pP pP 10 25 32.5 +0.8
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=Z,600nm,16.0s
CN2 LR LR
comp=Z,500nm,16.0s
CN2 LR LR
comp=Z,500nm,17.0s
JTM Tenmabayashi 17.11 34 **P** **10 25 23.0 +0.3**
USRK Ussuriysk Ar. 17.26 8 **P** **10 25 25.2 +1.1**
USRK Ussuriysk Ar. 17.26 8 P **P** **10 25 25.2 +1.1**
USRK Ussuriysk Ar. 17.26 8 P **P** **10 25 24.7 +0.6**
comp=Z,1.0nm,0.6s,baz=196,slow=13,SNR=6.1
USRK LR LR 10 31 31.2
comp=Z,326nm,20.8s,baz=187,slow=35
MDJ Mudanjiang 17.46 3 P **P** **10 25 27.8 +1.3**
MDJ sP sP 10 25 45.3 -1.1
MDJ S **S** **10 28 42.4 -2.3**
MDJ sS sS 10 28 57.3 -7.6
MDJ PcS **PcS** **10 33 40.5 +0.4**
MDJ pmax pmax
comp=Z,4.0nm,1.2s
MDJ pmax pmax
comp=Z,180nm,4.7s
MDJ LR LR
comp=Z,310nm,18.2s
MDJ LR LR
comp=Z,300nm,14.8s
MDJ LR LR
comp=Z,610nm,21.9s
XAN Xi'an 18.21 297 P **Pn** **10 25 35.1 -0.1**
XAN pP pP 10 25 47.2 -0.1
XAN S **Sn** **10 28 56.8 -1.0**
XAN sS sS 10 29 16.4 -3.9
XAN pmax pmax
comp=Z,17nm,0.8s
XAN pmax pmax
comp=Z,300nm,4.0s
XAN LR LR
comp=Z,610nm,13.9s
XAN LR LR
comp=Z,460nm,16.0s
XAN LR LR
comp=Z,370nm,14.3s
BNX BinXian 18.59 358 ⇓P **Pn** **10 25 40.8 +1.2**
BNX pP **pP** **10 25 52.4 +1.1**
BNX PP **PnPn** **10 25 59.9 +6.8**
BNX sP **sP** **10 26 01.6 +2.9**
BNX S **S** **10 29 09.4 +1.9**
BNX pmax pmax
comp=Z,4.0nm,1.1s
BNX pmax pmax
comp=Z,230nm,5.3s
BNX LR LR
comp=Z,460nm,19.1s
BNX LR LR
comp=Z,400nm,19.6s
BNX LR LR
comp=Z,570nm,22.8s
QIZ Qiongzhong 18.96 249 P **P** **10 25 43.4 +0.2**
QIZ LR LR
comp=Z,250nm,20.2s
QIZ LR LR
comp=Z,320nm,16.8s
QIZ LR LR
comp=Z,380nm,20.2s
XLT XiLinHaoTe 19.51 332 *e*P **P** **10 25 49.9 +0.8**
XLT pP pP 10 26 03.3 +1.7
XLT PP **PnPn** **10 26 11.5 +5.6**
XLT sP sP 10 26 14.9 +6.0
XLT S **Sn** **10 29 29.4 +0.3**
XLT sS sS 10 29 43.4 -3.3
XLT SS **SnSn** **10 29 49.8 +5.5**
XLT PcP **PcP** **10 30 11.9 +4.3**
XLT pmax pmax
comp=Z,26nm,1.0s
XLT pmax pmax
comp=Z,170nm,7.2s
XLT LR LR
comp=Z,32nm,15.3s
XLT LR LR
comp=Z,270nm,16.6s
XLT LR LR
comp=Z,450nm,16.2s
HHC Hu-ho-hao-te 19.57 319 *e*P **Pn** **10 25 51.1 -0.4**
HHC pP pP 10 26 02.2 -0.1
HHC sP sP 10 26 08.4 -1.2
HHC *e*S **S** **10 29 26.7 -0.9**
HHC sS sS 10 29 44.3 -3.6
HHC SS **SnSn** **10 29 55.2 +10**
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,77nm,4.7s
HHC LR LR
comp=Z,360nm,12.6s
HHC LR LR
comp=Z,300nm,13.1s
HHC LR LR
comp=Z,580nm,14.4s
DAV Davao City (W) 20.15 188 LR LR 10 34 05.4
comp=Z,140nm,19.7s,baz=7.0,slow=38
BTO Baotou 20.35 316 *e*P Pn 10 26 00.5 -0.2
BTO pP pP 10 26 13.8 +3.0
BTO sP sP 10 26 21.7 +3.6
BTO PP **PnPn** **10 26 23.5 +6.2**
BTO sS sS 10 29 59.7 -3.9
BTO SS **SnSn** **10 30 14.8 +10**
BTO pmax pmax
comp=Z,19nm,0.6s
BTO pmax pmax
comp=Z,210nm,5.8s
BTO LR LR
comp=Z,540nm,19.2s
BTO LR LR
comp=Z,380nm,16.3s
BTO LR LR
comp=Z,710nm,18.4s
ASAJ Asahikawa 20.40 30 LR LR 10 34 48.5
comp=Z,250nm,20.3s,baz=272,slow=39
CD2 Chengdu 21.96 286 P **P** **10 26 16.7 +1.2**
CD2 sP sP 10 26 32.8 -2.8
CD2 S **S** **10 30 13.7 -1.1**
CD2 sS sS 10 30 34.8 -0.9
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,110nm,4.7s
CD2 LR LR
comp=Z,410nm,15.7s
CD2 LR LR
comp=Z,180nm,13.3s
CD2 LR LR
comp=Z,190nm,13.3s
KLR Kul'dur 22.20 6 *i*P **P** **10 26 17.9 0.0**
KLR pmax pmax
comp=Z,6.0nm,2.5s
KLR Kul'dur 22.20 6 P **P** **10 26 16.9 -1.0**
comp=Z,0.5nm,0.4s,baz=159,slow=8.7,SNR=2.5
YSS Yuzh-Sakhalins 22.75 26 *e*P P 10 26 06.9 -17
YSS *e* 10 26 26.3
YSS pmax pmax
comp=Z,200nm,5.6s
YSS MLR MLR
comp=Z,400nm,14.0s
YSS MLR MLR
comp=N,300nm,15.0s
YSS MLR MLR
comp=E,200nm,14.0s
LZH Lanzhou 22.78 299 *e*P **P** **10 26 23.1 -1.3**
LZH sP sP 10 26 47.5 +3.1
LZH sS Sn 10 30 49.2 +1.5
LZH pmax pmax
comp=E,11nm,1.1s
LZH LR LR
comp=E,370nm,14.3s
LZH LR LR
comp=E,190nm,12.7s
LZH LR LR
comp=E,310nm,15.3s
PZH PanZhiHua 23.89 275 P **P** **10 26 33.9 -1.2**
PZH pmax pmax
comp=E,10.0nm,0.6s
PZH pmax pmax
comp=E,100nm,4.3s
ULN Ulaanbaatar 26.64 327 P **P** **10 26 59.6 -0.2**
ULN Ulaanbaatar 26.64 327 *ce*P **P** **10 27 00.3 +0.5**
ULN pmax pmax
comp=Z,7.0nm,0.8s
GTA Gaotai 26.82 304 P **P** **10 27 01.0 -0.5**
GTA pP pP 10 27 17.3 +1.6
GTA pmax pmax
comp=Z,11nm,0.7s
GTA LR LR
comp=Z,230nm,18.9s
GTA LR LR
comp=Z,210nm,17.1s
GTA LR LR
comp=Z,270nm,19.6s
GTOI Gorontalo 26.87 192 P **P** **10 27 00.0 -2.0**
comp=Z,6.2nm,1.1s
SONM Songino Array 26.94 326 P **P** **10 27 02.4 -0.1**
comp=Z,4.7nm,0.7s,baz=142,slow=9.9,SNR=16
SONM LR LR 10 39 22.3
comp=Z,226nm,18.2s,baz=122,slow=40
comp=Z,4.7nm,0.7s
PHRA Phrae 27.41 258 P **P** **10 27 06.1 -0.7**
LBMI Labuha 27.63 182 P **P** **10 27 07.4 -1.4**
MPSI Mapaga 27.90 199 P **P** **10 27 10.4 -0.8**
comp=Z,8.0nm,0.9s,comp=Z,1µm
SWI Sorong 27.96 174 P **P** **10 27 10.4 -1.3**
comp=Z,12nm,1.9s
CHTO Chiang Mai 28.41 259 P **P** **10 27 15.2 -0.5**
CHTO Chiang Mai 28.41 259 P **P** **10 27 15.2 -0.5**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CMAR Chiang Mai Arr 28.54 259 P **P** **10 27 16.1 -0.8**
comp=Z,1.0nm,0.3s,baz=52,slow=6.5,SNR=11
CMAR PcP **PcP** **10 30 28.5 +1.2**
comp=Z,0.5nm,0.3s,baz=50,slow=2.2,SNR=4.6
comp=Z,1.0nm,0.3s
LUWI Luwuk 28.56 192 P **P** **10 27 15.3 -1.7**
comp=Z,18nm,0.8s,comp=Z,1µm
SANI Sanana 29.12 185 P **P** **10 27 21.3 -0.7**
comp=Z,16nm,1.0s
FAKI Fak Fak 30.10 173 P **P** **10 27 27.2 -3.5**
comp=Z,21nm,1.3s
NLAI Namlea 30.23 183 P **P** **10 27 30.7 -1.1**
comp=Z,8.6nm,0.9s
PETK Petropavlovsk- 33.80 32 P **P** **10 28 02.4 -0.4**
comp=Z,4.9nm,0.8s,baz=234,slow=5.1,SNR=4.0
PETK LR LR 10 42 17.4
comp=Z,121nm,22.0s,baz=225,slow=37
comp=Z,4.9nm,0.8s
H11N2 WAKE ISLAND Hy 35.87 94 T T 11 06 31.3
baz=290,slow=75,SNR=54
H11N1 WAKE ISLAND Hy 35.87 94 T T 11 06 31.5
baz=290,slow=75,SNR=47
H11N3 WAKE ISLAND Hy 35.89 94 T T 11 06 32.5
baz=290,slow=75,SNR=55
WMQ Urumqi 36.76 308 *e*P **P** **10 28 30.7 +2.2**
WMQ LR LR
comp=Z,180nm,22.7s
DGZ Jazzator, Alta 38.63 317 *i*P **P** **10 28 44.3 0.0**
DGZ pmax pmax
comp=Z,1.0nm,0.3s
SEY Seymchan 39.08 17 *i*P **P** **10 28 48.4 +0.8**
SEY pmax pmax
comp=Z,4.0nm,1.9s
SEY Seymchan 39.08 17 LR LR 10 45 35.1
comp=Z,223nm,19.8s,baz=220,slow=37
LEM Lembang 39.36 214 LR LR 10 44 20.7
comp=Z,116nm,21.7s,baz=132,slow=35
MK31 Makanchi Array 41.13 311 *ce*P **P** **10 29 03.8 -1.1**
MKAR Makanchi Array 41.13 311 P **P** **10 29 04.3 -0.6**
MKAR Makanchi Array 41.13 311 *i*P **P** **10 29 04.4 -0.5**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 41.13 311 P **P** **10 29 04.0 -0.8**
comp=Z,2.4nm,0.7s,baz=96,slow=9.6,SNR=29
MKAR LR LR 10 48 30.6
comp=Z,109nm,18.1s,baz=72,slow=40
comp=Z,2.4nm,0.7s
MAKZ Makanchi 41.34 311 P **P** **10 29 06.1 -0.5**
ZAA0 Zalesovo Array 41.69 322 P **P** **10 29 08.6 -0.7**
ZALV Zalesovo Beam 41.69 322 P **P** **10 29 07.7 -1.6**
ZALV Zalesovo Beam 41.69 322 *i*P **P** **10 29 07.5 -1.8**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 41.69 322 P **P** **10 29 06.4 -2.9**
comp=Z,2.5nm,0.6s,baz=102,slow=10,SNR=10
comp=Z,2.5nm,0.6s
SHEM Shemya Is, Ala 42.31 40 LR LR 10 49 06.0
comp=Z,20nm,19.9s,baz=83,slow=39
KNRA Kununurra 42.56 180 P **P** **10 29 16.7 0.0**
KNRA IAmb IAmb 10 29 19.5
comp=Z,34nm,1.0s
TARG Taragay, Kyrgy 43.68 303 IAmb IAmb 10 30 59.8
comp=Z,7.7nm,0.4s
KURK Kurchatov 44.34 316 P **P** **10 29 29.8 -1.0**
KURK Kurchatov 44.34 316 *ce*P **P** **10 29 29.4 -1.4**
KURK pmax pmax
comp=Z,10.0nm,1.7s
KURK Kurchatov 44.34 316 P **P** **10 29 29.6 -1.2**
KURBB Kurchatov Arra 44.38 316 P **P** **10 29 29.9 -1.2**
comp=Z,4.5nm,0.5s,baz=104,slow=8.8,SNR=13
KURBB LR LR 10 49 32.9
comp=Z,167nm,18.5s,baz=164,slow=38
comp=Z,4.5nm,0.5s
TIXI Tiksi 44.55 0 *ce*P **P** **10 29 31.1 -1.1**
TIXI pmax pmax
comp=Z,2.0nm,1.0s
AAK Ala-Archa 46.17 304 LR LR 10 50 15.8
comp=Z,80nm,19.4s,baz=88,slow=38
BILL Bilibino 46.73 18 P **P** **10 29 48.6 -0.8**
BILL IAmb IAmb 10 30 17.1
comp=Z,37nm,2.0s
BILL Bilibino 46.73 18⇑ *e*P **P** **10 29 50.4 +1.0**
BILL pmax pmax
comp=Z,7.0nm,1.3s
WRAB Tennant Creek 47.13 173 P **P** **10 29 54.1 +1.1**
WRAB IAmb IAmb 10 29 55.8
comp=Z,10nm,0.9s
WRAB Tennant Creek 47.13 173 P **P** **10 29 54.2 +1.1**
WRAB pmax pmax
comp=Z,10.0nm,1.0s
WRA Warramunga Arr 47.14 173 P **P** **10 29 54.2 +1.1**
comp=Z,5.3nm,0.7s,baz=353,slow=8.7,SNR=45
comp=Z,5.3nm,0.7s
WB2 Warramunga Arr 47.14 173 IAmb IAmb 10 29 55.9
comp=Z,16nm,1.1s
WR0 Warramunga Arr 47.18 172 P **P** **10 29 55.2 +1.8**
WR0 IAmb IAmb 10 29 55.7
comp=Z,14nm,1.1s
NRIK Noril'sk 48.47 342 *i*P **P** **10 30 03.4 +0.5**
NRIK pmax pmax
comp=Z,2.0nm,0.3s
BVAR Borovoye Array 49.77 318 P **P** **10 30 12.0 -1.1**
comp=Z,3.1nm,0.5s,baz=90,slow=9.8,SNR=9.0
BVAR LR LR 10 52 58.2
comp=Z,382nm,20.0s,baz=91,slow=38
comp=Z,3.1nm,0.5s
BRVK Borovoye 49.84 318 P **P** **10 30 12.5 -1.1**
BRVK IAmb IAmb 10 31 39.2
comp=Z,12nm,0.7s
BRVK Borovoye 49.84 318 *ce*P **P** **10 30 12.7 -0.9**
BRVK pmax pmax
comp=Z,9.0nm,1.3s
BRVK Borovoye 49.84 318 P **P** **10 30 12.7 -0.9**
CTA Charters Tower 49.99 158 LR LR 10 51 18.4
comp=Z,281nm,19.9s,baz=270,slow=36
AS31 Alice Springs 50.77 174 P **P** **10 30 21.1 +0.2**
ASAR Alice Springs 50.77 174 P **P** **10 30 21.8 +0.9**
ASAR Alice Springs 50.77 174 P **P** **10 30 22.9 +2.0**
comp=Z,7.0nm,0.9s,baz=359,slow=7.2,SNR=48
comp=Z,7.0nm,0.9s
KBL Kabul 50.97 294 P **P** **10 30 21.5 -1.2**
KBL IAmb IAmb 10 30 24.1
comp=Z,9.9nm,0.6s
KBL Kabul 50.97 294 P **P** **10 30 21.5 -1.2**
KBL pmax pmax
comp=Z,10.0nm,0.6s
SPIA Saint Paul Isl 52.12 37 P **P** **10 30 31.3 +0.7**
baz=262
P08K Saint George I 52.42 38 P **P** **10 30 33.3 +0.5**
baz=263
NIKH Nikolski High 52.48 43 P **P** **10 30 33.7 +0.4**
baz=266
GAMB Gambell 52.72 29 P **P** **10 30 35.2 +0.3**
baz=256
M11K Mekoryuk 54.63 34 P **P** **10 30 49.4 +0.5**
baz=263
TNA Tin City 54.72 27 P **P** **10 30 50.6 +1.1**
baz=258
F14K Arctic Creek 55.35 27 P **P** **10 30 55.2 +1.1**
baz=260,SNR=8.0
ANM Nome 55.59 29 P **P** **10 30 57.2 +1.3**
ANM Nome 55.59 29 P **P** **10 30 57.2 +1.3**
ANM pmax pmax
comp=Z,44nm,1.8s
ANM Nome 55.59 29 P **P** **10 30 57.6 +1.7**
baz=261
FALS False Pass 55.76 40 P **P** **10 30 58.5 +1.3**
baz=269
M13K Dall Lake 56.04 34 P **P** **10 30 59.8 +0.7**
baz=266
F15K North Star Dit 56.08 27 IAmb IAmb 10 31 01.4
comp=Z,20nm,1.4s
F15K North Star Dit 56.08 27 P **P** **10 30 59.5 +0.2**
baz=261
J14K Nanvaranak Lak 56.16 31 P **P** **10 30 59.9 0.0**
baz=264
G15K Niukluk 56.22 28 P **P** **10 31 00.3 0.0**
baz=262
C16K Lisburne Hills 56.27 24 IAmb IAmb 10 31 16.5
comp=Z,17nm,1.6s
C16K Lisburne Hills 56.27 24 P **P** **10 30 60.0 -0.7**
baz=259
L14K Kuka Creek 56.44 33 P **P** **10 31 01.5 -0.4**
baz=266
M14K Bethel 56.75 33 P **P** **10 31 04.8 +0.7**
baz=267
N14K Kuskokwak Cree 56.84 34 P **P** **10 31 05.0 +0.2**
baz=268
ARU Arti 56.84 321 LR LR 10 57 58.1
comp=Z,130nm,19.7s,baz=96,slow=39
H16K Elim 56.94 29 P **P** **10 31 05.9 +0.4**
baz=264
G16K Koyuk River 56.98 28 P **P** **10 31 06.2 +0.5**
baz=263
D17K Noatak River 57.01 25 P **P** **10 31 07.3 +1.5**
baz=261,SNR=9.3
O14K Tigyukauivet M 57.03 35 P **P** **10 31 06.8 +0.6**
baz=268
L15K Ungalak Mounta 57.03 32 P **P** **10 31 06.8 +0.6**
baz=266
K15K Wolf Creek Mou 57.05 32 P **P** **10 31 07.2 +0.9**
baz=266
C17K DeLong Mountai 57.10 24 P **P** **10 31 07.6 +1.1**
baz=260
M15K Kasigluk River 57.37 33 P **P** **10 31 08.8 +0.3**
baz=268
AKTO Aktyubinsk 57.38 314 P **P** **10 31 08.4 -0.5**
comp=Z,1.4nm,0.5s,baz=89,slow=10,SNR=2.4
AKTO LR LR 10 58 29.0
comp=Z,142nm,18.6s,baz=222,slow=39
comp=Z,1.4nm,0.5s
SDPT Sand Point 57.45 40 P **P** **10 31 09.3 +0.1**
baz=272
J16K Anvik River 57.55 30 P **P** **10 31 10.3 +0.6**
baz=266
I17K Unalakleet 57.55 30 P **P** **10 31 10.7 +1.0**
baz=266
F17K Baldwin Pennin 57.55 27 P **P** **10 31 10.7 +1.0**
baz=264
G17K Kiwalik Mounta 57.70 28 P **P** **10 31 11.7 +1.0**
baz=265
B18K Kokolik River 57.73 23 P **P** **10 31 11.9 +1.0**
baz=261
O15K Ungalikthiuk R 57.77 35 P **P** **10 31 12.2 +0.8**
baz=270
C18K Utukok River 57.84 24 IAmb IAmb 10 31 13.5
comp=Z,15nm,1.1s
C18K Utukok River 57.84 24 P **P** **10 31 12.5 +0.7**
baz=262
E18K Tukpahlearik C 57.91 26 IAmb IAmb 10 31 14.8
comp=Z,14nm,1.3s
E18K Tukpahlearik C 57.91 26 P **P** **10 31 12.7 +0.4**
baz=264
H17K Granite Mounta 57.96 28 P **P** **10 31 13.3 +0.6**
baz=266
F18K Selawik 58.20 27 P **P** **10 31 15.0 +0.8**
baz=265,SNR=7.8
M16K Timber Creek 58.23 33 P **P** **10 31 14.9 +0.4**
baz=269
N16K Nishlik Lake 58.31 34 P **P** **10 31 15.6 +0.4**
baz=270
C19K Lookout Ridge 58.48 24 P **P** **10 31 17.1 +0.9**
baz=264
G18K Tagagawik 58.55 27 IAmb IAmb 10 31 19.1
comp=Z,18nm,1.3s
G18K Tagagawik 58.55 27 P **P** **10 31 17.8 +1.0**
baz=266
L17K Donlin 58.56 32 P **P** **10 31 17.4 +0.6**
baz=269
K17K Iditarod 58.57 31 P **P** **10 31 17.3 +0.3**
baz=269
CHGN Chignik 58.58 39 P **P** **10 31 16.3 -0.7**
baz=273
H18K Honhosa River 58.63 28 P **P** **10 31 17.0 -0.3**
baz=267
O16K Kokwok River B 58.66 35 P **P** **10 31 16.5 -1.1**
baz=271
P16K Nushagak River 58.72 35 P **P** **10 31 16.9 -1.1**
baz=271
D19K Kuna River 58.95 24 P **P** **10 31 18.8 -0.7**
baz=265
M17K Holitna River 58.96 33 P **P** **10 31 19.8 +0.1**
baz=270
F19K Shaleruckik Mo 58.97 26 IAmb IAmb 10 31 21.5
comp=Z,20nm,1.5s
F19K Shaleruckik Mo 58.97 26 P **P** **10 31 19.2 -0.4**
baz=267
R16K Pilot Point 58.98 37 P **P** **10 31 19.0 -0.8**
baz=272
N17K Nushagak Hills 59.10 34 P **P** **10 31 19.5 -1.1**
baz=271
O17K Koliganek Bris 59.16 35 P **P** **10 31 20.6 -0.5**
baz=272
G19K Purcell Mounta 59.21 27 P **P** **10 31 22.0 +0.7**
G19K IAmb IAmb 10 31 23.5
comp=Z,21nm,1.4s
G19K Purcell Mounta 59.21 27 P **P** **10 31 20.7 -0.6**
baz=268,SNR=6.5
E19K Redstone River 59.21 26 IAmb IAmb 10 31 23.6
comp=Z,16nm,1.1s

E19K	Redstone River baz=267	59.21	26	P		P		10 31 20.5	-0.8
GCSA	Galena City Sc baz=269	59.25	29	P		P		10 31 21.4	-0.2
J18K	Innoko River baz=270	59.30	30	P		P		10 31 22.5	+0.5
L18K	Granite Mounta baz=270	59.31	32	P		P		10 31 22.4	+0.3
Q16K	King Salmon baz=273	59.42	36	P		P		10 31 23.2	+0.3
H19K	Roundabout Mou baz=269	59.45	28	P		P		10 31 23.4	+0.5
D20K	Etivluk River baz=267,SNR=8.6	59.52	24	P		P		10 31 24.4	+1.0
TTA	Tatalina baz=271	59.62	31	P		P		10 31 25.2	+0.9
E20K	Nigu River baz=267,SNR=12	59.65	25	P		P		10 31 24.3	-0.1
N18K	Kilae Creek baz=272	59.73	34	P		P		10 31 26.3	+1.3
M18K	Stony River baz=272	59.74	33	P		P		10 31 25.4	+0.4
F20K	Avaraart Lake comp=Z,19nm,1.5s	59.78	26	IAmb		IAmb		10 31 28.5	
F20K	Avaraart Lake baz=268	59.78	26	P		P		10 31 25.6	+0.4
J19K	Poorman comp=Z,20nm,1.5s	59.79	30	IAmb		IAmb		10 31 29.2	
J19K	Poorman baz=270	59.79	30	P		P		10 31 25.9	+0.6
Q17K	Contact Creek baz=274	59.85	36	P		P		10 31 27.2	+1.2
STKA	Stephens Creek comp=Z,5.6nm,1.0s,baz=356,slow=6.0,SNR=5.3 comp=Z,5.6nm,1.0s	59.99	167	P		P		10 31 28.4	+1.4
H20K	Anotleneega Mo baz=270	60.10	28	P		P		10 31 28.0	+0.5
O18K	Koktuh Hills baz=273	60.11	34	P		P		10 31 28.9	+1.3
P18K	Big Mountain, baz=273	60.12	35	P		P		10 31 28.2	+0.5
L19K	White Mountain baz=268	60.18	32	P		P		10 31 28.7	+0.6
C21K	Knifeblade Rid baz=272	60.20	24	P		P		10 31 29.3	+1.3
B21K	Ikpikpuk River baz=268	60.27	23	P		P		10 31 28.7	+0.2
I20K	Naaghedeneel baz=271	60.28	29	P		P		10 31 29.3	+0.7
M19K	Big River Lodg baz=273	60.41	32	P		P		10 31 29.9	+0.3
N19K	Bonanza Creek baz=273	60.41	33	P		P		10 31 30.5	+0.7
J20K	Nowinta River baz=272	60.43	29	P		P		10 31 30.2	+0.4
E21K	Killik River baz=269	60.48	24	P		P		10 31 30.4	+0.4
K20K	Telida baz=272	60.49	30	P		P		10 31 31.0	+0.9
O19K	Port Alsworth baz=274	60.53	34	P		P		10 31 31.6	+1.1
L20K	Farewell, AK baz=273	60.62	31	P		P		10 31 31.9	+0.8
G21K	Allakaket baz=271	60.66	27	P		P		10 31 32.6	+1.4
F21K	Alatna River comp=Z,11nm,1.3s	60.66	26	IAmb		IAmb		10 31 33.5	
F21K	Alatna River baz=270	60.66	26	P		P		10 31 32.6	+1.4
B22K	Teshekpuk Lake comp=Z,14nm,1.1s	60.71	22	IAmb		IAmb		10 31 33.5	
B22K	Teshekpuk Lake baz=269	60.71	22	P		P		10 31 32.5	+1.1
D22K	Ayikyak River baz=270,SNR=10.0	60.95	24	P		P		10 31 34.2	+1.0
H21K	Melozitna Rive comp=Z,14nm,1.2s	60.96	28	IAmb		IAmb		10 31 37.6	
H21K	Melozitna Rive baz=272	60.96	28	P		P		10 31 34.4	+1.1
Q19K	Cape Douglas, baz=275	60.97	35	P		P		10 31 34.4	+0.9
M20K	Styx River baz=274	61.00	32	P		P		10 31 34.4	+0.6
P19K	Oil Pt baz=275	61.12	35	P		P		10 31 35.0	+0.5
DZM	Mont Dzumac comp=Z,134nm,21.6s,baz=224,slow=33	61.15	139	LR		LR		10 55 00.7	
CHUM	Lake Minchumin baz=273	61.25	30	P		P		10 31 35.7	+0.4
E22K	Anaktuvuk Pass baz=272	61.28	25	P		P		10 31 36.4	+0.9
OHAK	Old Harbor baz=276	61.32	37	P		P		10 31 35.9	+0.1
I21K	Tanana comp=Z,10nm,1.0s	61.33	28	IAmb		IAmb		10 31 55.2	
I21K	Tanana baz=273	61.33	28	P		P		10 31 36.8	+1.0
PPLA	Purkeypile baz=274	61.37	31	P		P		10 31 36.1	-0.2
CAST	Castle Rocks comp=Z,7.3nm,1.0s	61.38	30	IAmb		IAmb		10 31 54.5	
CAST	Castle Rocks baz=274	61.38	30	P		P		10 31 36.8	+0.6
O20K	Slope Mountain baz=275	61.39	34	P		P		10 31 37.2	+0.9
N20K	Mount Spurr baz=275	61.49	33	P		P		10 31 36.9	-0.2
H22K	Ishtalitna Cre baz=273	61.54	27	P		P		10 31 37.4	+0.2
KDAK	Kodiak Island baz=276	61.64	37	P		P		10 31 37.9	-0.1
KDAK	Kodiak Island comp=Z,27nm,20.9s,baz=257,slow=35	61.64	37	LR		LR		10 57 10.6	
Q20K	Shuyak Island baz=276	61.65	36	P		P		10 31 39.0	+0.9
KIRV	Kirov comp=Z,205nm,18.5s,baz=88,slow=39	61.66	324	LR		LR		11 01 25.0	
C23K	Itkillik River baz=272	61.67	23	P		P		10 31 38.9	+0.9
D23K	Nanushuk River baz=272	61.67	24	P		P		10 31 38.8	+0.8
SKT	Skwentna baz=275	61.75	32	P		P		10 31 39.5	+0.8
BPAW	Bear Paw Mtn. baz=274	61.82	29	P		P		10 31 40.0	+0.8
MLY	Manley MLY comp=Z,8.2nm,1.1s	61.86	28	P IAmb		P IAmb		10 31 41.2 10 31 43.7	+1.8
MLY	Manley baz=274	61.86	28	P		P		10 31 40.0	+0.6
HOM	Homer baz=276	61.92	34	P		P		10 31 40.8	+0.9
COLD	Coldfoot baz=273	61.94	26	P		P		10 31 40.8	+1.0
G23K	Bananza Creek comp=Z,12nm,1.3s	62.04	26	IAmb		IAmb		10 31 43.2	
G23K	Bananza Creek baz=274	62.04	26	P		P		10 31 41.1	+0.5
CAPN	Captain Cook N baz=276	62.05	33	P		P		10 31 41.6	+1.0
TOLK	Toolik Lake Re comp=Z,22nm,1.6s	62.09	24	IAmb		IAmb		10 32 02.3	
TOLK	Toolik Lake Re baz=273,SNR=6.0	62.09	24	P		P		10 31 41.2	+0.3
E23K	Chandalar baz=274	62.11	25	P		P		10 31 41.4	+0.3
SUA	Susitna One baz=276	62.17	32	P		P		10 31 41.8	+0.1
TRF	Thorofare Moun baz=275	62.19	30	P		P		10 31 41.9	+0.1
D24K	Happy Valley baz=274	62.33	24	P		P		10 31 42.7	+0.2
C24K	Franklin Bluff baz=274	62.34	23	P		P		10 31 43.1	+0.6
BRSE	Bradley Lake S baz=277	62.37	34	P		P		10 31 43.2	+0.3
I23K	Minto, Yukon-K baz=275	62.43	28	P		P		10 31 43.8	+0.7
M22K	Willow baz=276	62.44	32	P		P		10 31 43.8	+0.5
E24K	Your Creek comp=Z,12nm,1.2s	62.53	25	IAmb		IAmb		10 31 48.8	
E24K	Your Creek baz=275	62.53	25	P		P		10 31 44.7	+0.8
NEA2	Nenana baz=276	62.61	29	P		P		10 31 45.2	+0.8
RC01	Rabbit Creek A baz=277	62.70	33	P		P		10 31 45.3	+0.3
MCK	McKinley baz=276	62.76	30	P		P		10 31 46.4	+0.9
O22K	Cooper Landing baz=277	62.78	33	P		P		10 31 45.6	+0.1
F24K	Squaw Lake comp=Z,18nm,1.5s	62.80	25	IAmb		IAmb		10 32 07.1	
F24K	Squaw Lake baz=275	62.80	25	P		P		10 31 46.5	+0.8
RND	Reindeer	62.83	30	P		P		10 31 46.3	+0.3
RND	Reindeer RND comp=Z,17nm,1.0s	62.83	30	P pmax		P pmax		10 31 46.3	+0.3
PMR	Palmer baz=277	62.92	32	P		P		10 31 48.1	+1.6
SEW	Seward baz=278	62.96	34	P		P		10 31 48.3	+1.6
H24K	Noodor Dome baz=276	62.98	27	P		P		10 31 47.7	+0.8
WAT1	Susitna Watana baz=277	63.04	31	P		P		10 31 47.7	+0.3
G24K	Hadweenzic Riv baz=276	63.05	26	P		P		10 31 48.4	+1.1
COLA	College baz=277	63.10	28	P		P		10 31 48.7	+1.1
COLA	College	63.10	28	P		P		10 31 49.7	+2.1
D25K	Kavik River comp=Z,8.6nm,1.1s	63.19	23	IAmb		IAmb		10 31 50.5	
D25K	Kavik River baz=276	63.19	23	P		P		10 31 49.1	+0.9
POKR	Poker Plat Res	63.25	28	P		P		10 31 49.8	+1.1
POKR comp=Z,16nm,1.1s				IAmb		IAmb		10 31 53.0	
POKR	Poker Plat Res baz=277	63.25	28	P		P		10 31 50.0	+1.3
KNK	Knik Glacier baz=278	63.27	32	P		P		10 31 49.4	+0.6
SML	Sawmill baz=278	63.27	32	P		P		10 31 48.9	0.0
WAT6	Susitna Watana baz=278	63.44	31	P		P		10 31 51.0	+0.8
ILAR	Eielson Array comp=Z,1.4nm,1.0s,baz=269,slow=4.2,SNR=12	63.52	28	P		P		10 31 50.3	-0.1
ILAR comp=Z,33nm,18.2s,baz=266,slow=38 comp=Z,1.4nm,1.0s				LR		LR		11 01 24.9	
DHY	Denali Highway baz=278	63.54	30	P		P		10 31 52.0	+1.2
HDA	Harding Lake comp=Z,9.1nm,1.0s	63.54	29	IAmb		IAmb		10 31 53.5	
HDA	Harding Lake baz=278	63.54	29	P		P		10 31 52.1	+1.5
M23K	Glacier View baz=278	63.56	32	P		P		10 31 52.3	+1.5
BELG	Belogornoye	63.58	317	*i* P		P		10 31 52.2	+1.2
BELG comp=Z,2.0nm,1.1s				pmax		pmax			
BELG	Belogornoye comp=Z,9.1nm,0.8s,baz=34,slow=1.6,SNR=4.1	63.58	317	P		P		10 31 49.5	-1.4
BELG comp=Z,185nm,21.2s,baz=133,slow=38 comp=Z,9.1nm,0.8s				LR		LR		11 01 32.7	
G25K	Bearman Lake baz=277	63.58	26	P		P		10 31 52.3	+1.6
E25K	Arctic Village comp=Z,27nm,1.6s	63.62	25	IAmb		IAmb		10 31 54.1	
E25K	Arctic Village baz=277,SNR=6.3	63.62	25	P		P		10 31 52.4	+1.4
C26K	Camden Bay baz=277	63.63	23	P		P		10 31 53.3	+2.2
F25K	Christian River baz=277	63.65	25	P		P		10 31 53.2	+1.9
SCM	Sheep Creek Mo baz=279	63.74	32	P		P		10 31 53.9	+1.8
H25L	Birch Creek baz=278	63.76	27	P		P		10 31 53.7	+1.8
PRP	Porcupine Dome	63.99	28	P		P		10 31 54.8	+1.1
PRP	Porcupine Dome baz=278	63.99	28	P		P		10 31 55.8	+2.2
P23K	Montague Islan baz=280	64.00	34	P		P		10 31 55.7	+2.1
K24K	Donnelly Dome baz=279	64.14	29	P		P		10 31 55.6	+1.0
J25K	Salcha River, baz=275	64.19	29	P		P		10 31 55.9	+1.0
F26K	Sheenjek River baz=279	64.21	25	P		P		10 31 55.7	+0.8
M24K	Tolsona, Glenn baz=280	64.24	31	P		P		10 31 55.5	+0.3
PAX	Paxson baz=280	64.41	30	P		P		10 31 56.4	0.0
KLU	Klutina baz=280	64.46	32	P		P		10 31 56.5	-0.2
G26K	Porcupine Rive baz=279	64.46	26	P		P		10 31 56.7	+0.2
RIDG	Independent Ri baz=280	64.56	29	P		P		10 31 57.8	+0.5
Q23K	Middleton Isla baz=281	64.62	34	P		P		10 31 58.0	+0.3
HARP	HAARP baz=280	64.66	31	P		P		10 31 58.0	+0.1
SCRK	Sand Creek baz=281	64.89	29	P		P		10 31 59.1	-0.5
J26L	Joseph Creek comp=Z,16nm,1.4s	64.98	29	IAmb		IAmb		10 32 02.5	
J26L	Joseph Creek baz=281	64.98	29	P		P		10 32 00.4	+0.4
I26K	Coal Creek Min baz=281	65.00	28	P		P		10 32 00.4	+0.4
N25K	Chitina, Valde baz=281	65.06	32	P		P		10 32 01.6	+0.9
D27M	Malcom River baz=281	65.10	23	P		P		10 32 00.8	+0.1
BMRM	Bremner River baz=281	65.18	32	P		P		10 32 01.4	0.0
MENT	Mentasta comp=Z,12nm,1.2s	65.21	30	IAmb		IAmb		10 32 11.3	
L26K	Log Cabin Wild baz=282	65.36	30	P		P		10 32 02.1	-0.4
H27K	Steamboat Moun baz=282	65.48	26	P		P		10 32 04.0	+0.7
KAIM	Kayak Island baz=282	65.48	34	P		P		10 32 03.6	+0.3
I27K	Kandik River baz=282	65.57	27	P		P		10 32 03.9	0.0
M26K	Nabesna, AK baz=282	65.64	31	P		P		10 32 04.4	0.0
K27K	Chicken baz=282	65.71	29	P		P		10 32 05.0	+0.3
E28M	Babbage River comp=Z,22nm,1.6s	65.74	24	IAmb		IAmb		10 32 06.9	
E28M	Babbage River baz=282	65.74	24	P		P		10 32 04.7	-0.1
F28M	Old Crow comp=Z,17nm,1.4s	65.83	25	IAmb		IAmb		10 32 09.4	
F28M	Old Crow baz=282	65.83	25	P		P		10 32 06.5	+1.0
MCARA	McCarthy VSAT baz=283	65.85	32	P		P		10 32 04.6	-1.1
D28M	Stokes Point baz=283	65.86	23	P		P		10 32 04.8	-0.7
EGAK	Eagle baz=283	65.94	28	P		P		10 32 06.0	-0.1
BGLC	Bering Glacier baz=283	66.00	33	P		P		10 32 05.3	-1.2
L27K	Beaver Creek, baz=283	66.03	30	P		P		10 32 06.8	0.0
M27K	Edge Creek, AK baz=283	66.16	31	P		P		10 32 07.7	-0.1
I28M	Miner Creek comp=Z,27nm,1.7s	66.29	27	IAmb		IAmb		10 32 24.2	
I28M	Miner Creek baz=283	66.29	27	P		P		10 32 08.3	-0.3
E29M	Blow River baz=284	66.38	24	P		P		10 32 08.3	-0.6
BVCY	Beaver Creek baz=284	66.61	30	P		P		10 32 09.4	-1.1
MESA	MESA baz=284	66.64	33	P		P		10 32 09.2	-1.8
G29M	Pine Creek baz=284	66.69	25	P		P		10 32 10.4	-0.6
H29M	Whitestone baz=284	66.73	26	P		P		10 32 10.8	-0.4
CTG	Chitna Glacier baz=284	66.74	32	P		P		10 32 11.2	-0.3
DAWY	Dawson baz=284	66.85	29	P		P		10 32 12.5	+0.5
YUK3	Moose Creek baz=284	66.95	31	P		P		10 32 12.7	-0.2
J29N	Klondike Camp comp=Z,5.6nm,0.7s	67.25	28	IAmb		IAmb		10 32 18.8	
J29N	Klondike Camp baz=285	67.25	28	P		P		10 32 14.8	+0.2
EPYK	Eagle Plains comp=Z,18nm,1.2s	67.33	26	IAmb		IAmb		10 32 18.4	
EPYK	Eagle Plains baz=286	67.33	26	P		P		10 32 14.7	-0.4
F30M	Barrier River baz=286	67.34	24	P		P		10 32 14.9	-0.1
G30M	tAoh Zraii Nji baz=286	67.36	25	P		P		10 32 14.8	-0.4
YUK8	Steele Glacier baz=285	67.40	32	P		P		10 32 15.3	-0.5
PINM	Pinnacle baz=285	67.48	33	P		P		10 32 16.3	+0.2
L29M	L29M baz=286	67.64	29	P		P		10 32 17.6	+0.5
M29M	Somme Creek baz=286	67.68	30	P		P		10 32 16.9	-0.6
K29M	Barlow Dome baz=286	67.70	29	P		P		10 32 17.5	-0.1
I30M	Mount Dempster comp=Z,12nm,1.2s	67.79	27	IAmb		IAmb		10 32 35.1	
I30M	Mount Dempster baz=287	67.79	27	P		P		10 32 17.3	-0.8
YUK4	Talbot Arm baz=286	67.90	31	P		P		10 32 18.9	-0.1
INK	Inuvik comp=Z,29nm,1.9s	67.96	23	IAmb		IAmb		10 32 44.9	
INK	Inuvik baz=288	67.96	23	P		P		10 32 18.3	-0.6
INK	Inuvik comp=Z,40nm,19.5s,baz=338,slow=40	67.96	23	LR		LR		11 06 26.5	
J30M	Hart River baz=287	68.00	28	P		P		10 32 18.1	-1.3
SPITS	Spitsbergen Ar	68.00	348	P		P		10 32 18.0	-1.1
SPITS	Spitsbergen Ar comp=Z,4.7nm,0.6s,baz=85,slow=11,SNR=12	68.00	348	P		P		10 32 18.0	-1.1
SPITS comp=Z,79nm,18.8s,baz=5.5,slow=38 comp=Z,4.7nm,0.6s				LR		LR		11 04 25.6	
PNL	Peninsula baz=286	68.01	33	P		P		10 32 19.0	-0.5
G31M	Satah River baz=288	68.11	25	P		P		10 32 19.5	-0.3
YUK6	Outpost Mounta baz=287	68.14	32	P		P		10 32 20.3	-0.3
F31M	Tsiigehtchic baz=288	68.15	24	P		P		10 32 19.3	-0.8
O29M	Mount Kennedy baz=287	68.23	32	P		P		10 32 19.9	-1.1
M30M	Minto, Yukon baz=287	68.38	30	P		P		10 32 21.0	-0.7
H31M	Peel River baz=288	68.43	26	P		P		10 32 21.0	-0.9
MAYO	Mayo, Yukon baz=288	68.47	29	P		P		10 32 22.3	0.0
HYT	Haines Junctio baz=287	68.58	32	P		P		10 32 22.1	-1.1
N30M	Aishikik Lake baz=287	68.58	31	P		P		10 32 21.4	-1.7
KBZ	Khabaz	68.79	309	*ce* P		P		10 32 22.9	-1.6
KBZ comp=Z,4.0nm,0.9s				pmax		pmax			
KBZ	Khabaz comp=Z,2.9nm,0.7s,baz=90,slow=3.0,SNR=6.0	68.79	309	P		P		10 32 24.6	+0.1
KBZ comp=Z,45nm,18.5s,baz=76,slow=38 comp=Z,2.9nm,0.7s				LR		LR		11 05 20.3	
P29M	Windy Craggy baz=288	68.83	33	P		P		10 32 23.8	-0.7
KIV	Kislovodsk	68.86	309	*e* P		P		10 32 23.4	-1.7
KIV comp=Z,7.0nm,1.1s				pmax		pmax			
KIV comp=Z,33nm,17.0s				MLR		MLR			
P30M	Million Dollar baz=288	69.05	32	P		P		10 32 25.2	-0.7
O30N	Mendenhall baz=288	69.26	32	P		P		10 32 26.0	-1.2
ARCES	ARCESS Array B comp=Z,6.3nm,1.0s,baz=56,slow=5.6,SNR=8.2	69.26	339	P		P		10 32 26.5	-0.5
ARCES comp=Z,73nm,21.9s,baz=108,slow=39 comp=Z,6.3nm,1.0s				LR		LR		11 06 45.4	
OBN	Obninsk	69.27	322	LR		LR		11 05 42.6	
A36M	Sachs Harbour comp=Z,217nm,18.0s,baz=3.5,slow=38	69.29	19	IAmb		IAmb		10 32 32.0	
A36M	Sachs Harbour comp=Z,17nm,0.8s	69.29	19	P		P		10 32 27.0	-0.1
PLBC	Sachs Harbour baz=294,SNR=18 Pleasant Camp baz=289	69.55	33	P		P		10 32 28.7	-0.2
M31M	Drury Creek, Y baz=289	69.56	30	P		P		10 32 28.6	-0.5
WHY	Whitehorse baz=290	69.86	31	P		P		10 32 30.6	-0.4
FARO	Faro, Yukon baz=290	70.02	30	P		P		10 32 31.8	0.0
SKAG	Skagway baz=290	70.05	33	P		P		10 32 31.9	-0.1
NOR	Nord	70.05	355	*i* P		P		10 32 18.0	-14
S31K	Pelican baz=289	70.10	34	P		P		10 32 31.5	-0.9
R31K	City Hall, Gus baz=290	70.19	34	P		P		10 32 32.3	-0.6
N32M	Quiet Lake baz=291	70.51	31	P		P		10 32 33.8	-1.1
C36M	Paulatuk baz=296,SNR=8.3	70.76	21	P		P		10 32 36.7	+0.5
P32M	Atlin baz=291	70.77	32	P		P		10 32 36.5	-0.1
R32K	Eaglecrest baz=291	70.85	34	P		P		10 32 36.3	-0.7
SIT	Sitka baz=290	70.87	35	P		P		10 32 35.8	-1.2
P33M	Teslin, Yukon baz=291	70.97	31	P		P		10 32 36.4	-1.4
S32K	Killisnoo baz=291	71.10	35	P		P		10 32 38.2	-0.2
Q32M	Nakina River baz=292	71.69	33	P		P		10 32 41.1	-1.2
ANN	Anapa	72.15	312	*e* P		P		10 32 42.4	-2.6
ANN				*e**PP		pP		10 32 56.3	-4.5
ANN				*e*				10 35 20.4	
ANN				*e*S		S		10 42 00.6	-2.2
ANN comp=Z,37nm,0.9s				pmax		pmax			
R33M	Jennings River baz=293	72.15	32	P		P		10 32 44.5	-0.4
T33K	Petersburg baz=292	72.17	35	P		P		10 32 44.2	-0.7
FINES	FINESS Array B comp=Z,1.7nm,0.4s,baz=58,slow=5.8,SNR=8.1	72.20	330	P		P		10 32 44.2	-0.8
FINES comp=Z,231nm,19.1s,baz=69,slow=39 comp=Z,1.7nm,0.4s				LR		LR		11 08 17.2	
U33K	Whale Pass baz=292	72.35	36	P		P		10 32 45.7	-0.2
TGTN	Hyland Airport baz=295	72.51	29	P		P		10 32 47.0	+0.1
CRAG	Craig baz=293	72.59	36	P		P		10 32 47.4	0.0
WRAK	Wrangell Islan baz=293	72.63	35	P		P		10 32 48.1	+0.5
S34M	Telegraph Cree baz=293	72.65	33	P		P		10 32 48.4	+0.7
WTLY	Watson Lake, Y baz=295	72.86	31	P		P		10 32 48.7	-0.3
DLBC	Dease Lake baz=294	72.98	33	P		P		10 32 50.6	+0.8
V35K	Ketchikan baz=294	73.44	36	P		P		10 32 52.2	-0.3
T35M	Bob Quinn baz=294	73.47	34	P		P		10 32 53.5	+0.8
WRGLY	Wrigley baz=298	73.76	27	P		P		10 32 54.9	+0.7
U35K	Hyder baz=295	74.02	35	P		P		10 32 57.2	+1.4
DAG	Danmarks Havn	74.39	353	*e* P		P		10 32 55.9	-1.8
DAG comp=Z,3.2nm,0.9s				IAmb		IAmb		10 32 57.8	
RES	Resolute Bay comp=Z,51nm,18.1s,baz=16,slow=39	74.61	11	LR		LR		11 09 56.9	
KOTAN	Kotaneelee Air baz=298	74.98	30	P		P		10 33 02.4	+1.1
AKASG	Malin Array Be	75.01	319	P		P		10 33 00.3	-1.3

comp=Z,2.7nm,0.4s,baz=59,slow=6.3,SNR=8.1
AKASG LR LR 11 08 30.8
comp=Z,255nm,19.5s,baz=46,slow=38
comp=Z,2.7nm,0.4s
AKBB Malin Array Si 75.01 319 *ce*P **P 10 33 01.3 -0.4**
AKBB pmax pmax
comp=Z,4.0nm,0.9s
FLDN Fort Liard 75.18 29 P **P 10 33 04.7 +2.2**
baz=299
NEEM North Greenlan 75.66 360 *e*P **P 10 33 04.8 -0.5**
NEEM IAmb IAmb 10 33 05.7
comp=Z,22nm,1.4s
BR131 Keskin Array S 76.68 308 P **P 10 33 10.6 -1.0**
BR131 Keskin Array S 76.68 308 P **P 10 33 10.6 -1.0**
BR131 pmax pmax
comp=Z,6.0nm,0.9s
BRTR Keskin Array B 76.68 308 P **P 10 33 11.5 -0.2**
BRTR Keskin Array B 76.68 308 P **P 10 33 11.7 +0.1**
comp=Z,3.6nm,0.8s,baz=109,slow=5.3,SNR=13
comp=Z,3.6nm,0.8s
DBG Daneborg 76.75 352 *e*P **P 10 33 10.6 -0.6**
DBG IAmb IAmb 10 33 11.8
comp=Z,9.9nm,1.3s
ASF Jabal al Asfar 77.35 300 P **P 10 33 16.4 +0.9**
comp=Z,5.6nm,0.8s,baz=2.0,slow=0.1,SNR=4.5
comp=Z,5.6nm,0.8s
JMIC Jan Mayen 77.59 347 LR LR 11 11 08.6
comp=Z,33nm,18.1s,baz=58,slow=38
YKA Yellowknife Ar 77.60 25 P **P 10 33 17.1 +1.0**
comp=Z,2.4nm,0.9s,baz=298,slow=5.7,SNR=29
YKA LR LR 11 09 39.1
comp=Z,42nm,18.7s,baz=338,slow=37
comp=Z,2.4nm,0.9s
HFS Hagfors 78.14 332 P **P 10 33 18.7 -0.5**
comp=Z,2.9nm,0.6s,baz=64,slow=6.8,SNR=4.7
HFS LR LR 11 10 50.7
comp=Z,106nm,18.7s,baz=64,slow=38
comp=Z,2.9nm,0.6s
MMAI Mount Meron Ar 78.15 301 P **P 10 33 20.6 +0.7**
comp=Z,0.4nm,0.3s,baz=57,slow=5.3,SNR=1.2
comp=Z,0.4nm,0.3s
NC405 NORSAR Array S 78.38 334 P **P 10 33 19.8 -0.7**
NB2 NORSAR Subarra 78.62 334 P **P 10 33 21.2 -0.7**
comp=Z,5.7nm,0.8s,baz=54,slow=6.2
NOA NORSAR Array B 78.62 334 P **P 10 33 21.2 -0.7**
comp=Z,3.4nm,0.7s,baz=51,slow=5.5,SNR=15
NOA LR LR 11 12 37.1
comp=Z,73nm,18.8s,baz=55,slow=39
comp=Z,3.4nm,0.7s
BUR08 Bucovina Ar. S 78.73 318 P **P 10 33 23.1 +0.2**
BURAR Bucovina Array 78.73 318 P **P 10 33 23.2 +0.3**
MLR Muntele Rosu 79.28 316 LR LR 11 11 21.1
comp=Z,154nm,20.4s,baz=57,slow=38
EIL Elat 79.91 298 LR LR 11 13 57.9
comp=Z,79nm,18.3s,baz=66,slow=40
SUMG Summit 80.15 356 P **P 10 33 30.1 -0.3**
SUMG Summit 80.15 356 P **P 10 33 30.1 -0.3**
SUMG pmax pmax
comp=Z,9.0nm,1.0s
SUMG Summit 80.15 356 *i* P **P 10 33 30.5 0.0**
SUMG IAmb IAmb 10 33 32.1
comp=Z,7.8nm,0.9s
LANS Liptovska Anna 81.30 321 *e*P **P 10 33 38.7 +2.1**
LANS Liptovska Anna 81.30 321 *e*P **P 10 33 38.7 +2.1**
VYHS Vyhne 82.00 321 *e*P **P 10 33 40.9 +0.6**
VYHS pmax pmax
comp=Z,6.0nm,0.9s
VYHS Vyhne 82.00 321 *e*P **P 10 33 40.9 +0.6**
SMOL Smolenice 82.78 321 *e*P **P 10 33 46.2 +1.9**
VRAC Vranov 82.81 322 LR LR 11 13 59.8
comp=Z,149nm,18.0s,baz=83,slow=38
CLL Collm 83.56 325 *e*P **P 10 33 48.0 -0.2**
CLL Collm 83.56 325 *e*P **P 10 33 48.0 -0.2**
CLL AMS AMS 11 15 00.0
comp=N,100nm,18.2s
CLL AMS AMS 11 15 00.0
comp=E,100nm,18.6s
CLL AMS AMS 11 15 00.0
comp=Z,200nm,18.7s
KHC Kasperske Hory 84.53 323 *ce*P **P 10 33 53.4 +0.1**
KHC pmax pmax
comp=Z,20nm,1.7s
GERES GERESS Array B 84.63 323 P **P 10 33 54.2 +0.3**
comp=Z,1.1nm,0.8s,baz=32,slow=9.6,SNR=3.0
GERES LR LR 11 15 32.7
comp=Z,125nm,18.7s,baz=72,slow=38
comp=Z,1.1nm,0.8s
NEW Newport 84.73 38 P **P 10 33 54.9 +0.6**
baz=306
J05D Fort Rock, OR 85.14 43 P **P 10 33 57.6 +1.0**
BORG Borgarnes 85.45 348 LR LR 11 14 01.9
comp=Z,26nm,19.6s,baz=5.6,slow=37
SFJD Kangerlussuaq 86.16 360 LR LR 11 14 09.7
comp=Z,55nm,19.4s,baz=11,slow=37
DY2G Dye2 86.60 358 *e*P **P 10 34 04.2 +0.7**
DY2G IAmb IAmb 10 34 06.4
comp=Z,5.8nm,0.6s
FFC Flin Flon 87.67 27 P **P 10 34 09.6 +1.0**
FFC IAmb IAmb 10 34 10.5
comp=Z,5.6nm,0.8s
FFC Flin Flon 87.67 27 P **P 10 34 09.6 +1.0**
FFC pmax pmax
comp=Z,6.0nm,0.9s
DAVOX Davos/Dischmat 87.93 323 LR LR 11 17 13.7
comp=Z,187nm,18.8s,baz=78,slow=38
EKA Eskdalemuir Ar 88.07 335 P **P 10 34 10.3 -0.1**
comp=Z,0.4nm,0.4s,baz=54,slow=4.4,SNR=3.6
comp=Z,0.4nm,0.4s
EGMT Eagleton 88.76 35 P **P 10 34 14.7 +0.7**
baz=311
HLID Hailey 89.04 40 P **P 10 34 14.7 -0.8**
baz=308
BOZ Bozeman (W) 89.33 38 P **P 10 34 16.0 -0.8**
baz=310
NVAR Mina Array Bea 89.69 46 P **P 10 34 19.7 +0.9**
comp=Z,0.4nm,0.8s,baz=256,slow=2.7,SNR=2.4
comp=Z,0.4nm,0.8s
MLAC Mammoth, Mammo 89.81 47 P **P 10 34 18.8 -0.5**
baz=305
SMMC Simmler 90.34 50 P **P 10 34 22.1 +0.5**
baz=304
VES Vestal, Richgr 90.66 49 P **P 10 34 23.7 +0.7**
baz=305
H17A Grant Village 90.68 38 P **P 10 34 24.0 +0.7**
baz=310
PKM Mcpherson Peak 90.70 50 P **P 10 34 23.9 +0.4**
baz=304
RLMT Red Lodge 90.91 37 P **P 10 34 24.6 +0.3**
baz=311
PPT2 Papeete2 90.95 109 *e*LR LR 11 03 30.8
comp=Z,91nm,24.0s
CWC Cottonwood Cre 90.98 48 P **P 10 34 23.7 -1.0**
baz=305
SBC Santa Barbara 91.02 50 P **P 10 34 25.5 +0.9**
baz=304
GRAC Grapevine Rang 91.13 47 P **P 10 34 25.6 +0.3**
baz=306
ISA Isabella, Lake 91.16 49 P **P 10 34 26.6 +1.1**
baz=305
DGMT Dagmar 91.18 32 P **P 10 34 25.0 -0.3**
baz=315
ARVC Arvin 91.23 49 P **P 10 34 26.5 +0.8**
baz=305
SCZ2 Santa Cruz Isl 91.32 50 P **P 10 34 26.7 +0.5**
baz=304
LAO LASA Array 91.44 34 P **P 10 34 26.6 0.0**
baz=313
R11B Troy Canyon, C 91.47 45 P **P 10 34 27.3 +0.3**
baz=307
MPMC Manual Prospec 91.59 48 P **P 10 34 28.4 +0.7**
baz=306
OSI Osito Audit: C 91.59 50 P **P 10 34 27.4 -0.1**
baz=305
FURC Furnace Creek, 91.76 47 P **P 10 34 28.7 +0.6**
baz=306
LRMC Laurel Mtn Rad 91.80 48 P **P 10 34 29.9 +1.5**
baz=306
SNCC San Nicolas Is 91.81 51 P **P 10 34 29.2 +0.8**
baz=304
EDW2 Edwards Air Fo 91.93 49 P **P 10 34 29.7 +0.7**
baz=305
DUG Dugway, Tooele 92.05 42 P **P 10 34 30.2 +0.6**
baz=309
DECC Green Verdugo 92.06 50 P **P 10 34 30.2 +0.6**
baz=305
BW06 Boulder Array 92.30 39 P **P 10 34 31.0 +0.2**
baz=311
PDAR Pinedale Array 92.30 39 P **P 10 34 29.9 -0.9**
comp=Z,0.3nm,0.7s,baz=347,slow=1.9,SNR=2.6
comp=Z,0.3nm,0.7s
FMP Fort Macarthur 92.40 50 P **P 10 34 30.9 -0.2**
baz=305
GSC Goldstone, Bar 92.48 48 P **P 10 34 31.6 -0.1**
baz=306
CIS Catalina Islan 92.49 50 P **P 10 34 31.0 -0.6**
baz=305
SCI2 San Clemente I 92.64 51 P **P 10 34 33.1 +0.8**
baz=305
BBRC Big Bear Solar 93.01 49 P **P 10 34 34.2 0.0**
baz=306
HEC Hector,Ludlow 93.07 48 P **P 10 34 35.0 +0.6**
baz=306
MURC Murrieta 93.21 50 P **P 10 34 36.5 +1.6**
baz=306
ULM Lac Du Bonnet 93.50 27 P **P 10 34 36.3 +0.5**
comp=Z,2.3nm,0.9s,baz=333,slow=6.1,SNR=5.6
ULM LR LR 11 20 31.1
comp=Z,13nm,18.7s,baz=306,slow=38
comp=Z,2.3nm,0.9s
GMRC Granite Mounta 93.55 48 P **P 10 34 38.0 +1.4**
baz=307
109C Camp Elliot, M 93.69 50 P **P 10 34 38.3 +1.2**
baz=306
PFO Pinyon Flats O 93.70 49 P **P 10 34 38.3 +1.0**
baz=306
TPFO Pinon Flats 93.71 49 P **P 10 34 38.4 +1.0**
baz=306
TBI Tubuai 93.73 114 *e*LR LR 11 04 46.5
comp=Z,526nm,27.5s
MDND Maddock 93.75 30 P **P 10 34 36.9 -0.2**
baz=318
BELC Belle Mtn. Jos 93.79 49 P **P 10 34 39.3 +1.6**
baz=306
K22A Casper 94.04 37 P **P 10 34 39.6 +0.9**
baz=313
MONP2 Monument Peak 94.15 50 P **P 10 34 40.2 +0.7**
baz=306
RSSD Black Hills 94.33 35 P **P 10 34 39.7 -0.4**
baz=315
BC3 Big Chuckawall 94.36 49 P **P 10 34 41.3 +1.0**
baz=307
IKP In-Ko-Pah, Jac 94.51 50 P **P 10 34 40.8 -0.2**
baz=306
SWSC Sam W. Stewart 94.54 49 P **P 10 34 42.2 +1.2**
baz=306
O20A White River Ci 94.77 40 P **P 10 34 41.4 -0.8**
baz=312
AGMN Agassiz Nation 95.03 28 P **P 10 34 42.9 0.0**
baz=321
GLA Glamis 95.14 49 P **P 10 34 43.8 0.0**
baz=307
N23A Red Feather La 95.56 38 P **P 10 34 45.5 -0.3**
baz=313
WUAZ Wupatki 95.87 45 P **P 10 34 46.5 -0.8**
baz=309
ISCO Idaho Springs 96.49 39 P **P 10 34 49.1 -1.0**
baz=314
MVCO Mesa Verde 96.55 42 P **P 10 34 48.7 -1.7**
baz=311
SUSD Miller 96.60 32 P **P 10 34 48.4 -1.7**
baz=319
EYMN Ely 97.07 26 P **P 10 34 50.0 -2.2**
baz=325
214A Organ Pipe Nat 97.15 49 P **P 10 34 52.9 0.0**
baz=308
W18A Petrified Fore 97.16 45 P **P 10 34 53.0 -0.1**
baz=310
SCHQ Schefferville 97.31 9 LR LR 11 20 22.3
comp=Z,56nm,22.0s,baz=32,slow=36
Q24A Divide 97.33 39 P **P 10 34 53.3 -0.7**
baz=314
OGNE Ogallala 97.63 36 P **P 10 34 54.9 -0.1**
baz=316
SDCO Great Sand Dun 97.96 40 P **P 10 34 55.9 -0.9**
baz=313
TUC Tucson 98.28 47 P **P 10 34 57.1 -1.0**
baz=309
KSCO Kaye Shedlock' 98.69 38 P **P 10 34 58.0 -1.8**
baz=316
SPMN Marine on St. 98.74 28 P Pdif 10 35 00.6 +0.8
baz=324
T25A Trinidad 99.01 40 P **Pdif 10 35 02.2 +0.8**
baz=314
BGNE Belgrade 99.27 34 P **Pdif 10 35 02.4 +0.1**
baz=319
ANMO Albuquerque 99.29 43 P **Pdif 10 35 01.7 -1.0**
baz=312
Y22D IRIS PASSCAL I 99.59 44 P **Pdif 10 35 03.2 -0.7**
baz=312
Y22F Passcal Instru 99.59 44 P **Pdif 10 35 03.7 -0.3**
baz=312
121A Cookes Peak, D 100.07 46 P **Pdif 10 35 05.2 -1.0**
baz=311
ESDC Sonseca Array 100.14 325 LR LR 11 24 39.3
comp=Z,122nm,18.1s,baz=92,slow=38
CBKS Cedar Bluff 100.39 36 P **Pdif 10 35 06.4 -0.9**
baz=318
SCIA State Center 101.22 30 P **Pdif 10 35 10.0 -0.9**
baz=323
JFWS Jewell Farm 101.69 28 P **Pdif 10 35 12.7 -0.3**
baz=325
KSU1 Kansas State U 101.79 34 P **Pdif 10 35 13.4 -0.1**
baz=320
MNTX Cornudas Mount 102.14 45 P **Pdif 10 35 15.2 0.0**
baz=313
AMTX Amarillo 102.16 40 P **Pdif 10 35 14.3 -1.0**
baz=316
MSTX Muleshoe 102.17 42 P **Pdif 10 35 13.8 -1.6**
baz=315
GLMI Grayling 102.26 23 P **Pdif 10 35 14.7 -0.8**
baz=330
L44A Lake County Fo 103.27 27 P **Pdif 10 35 18.3 -1.6**
baz=327
WMOK Wichita Mounta 103.91 39 P **Pdif 10 35 22.5 -0.5**
baz=318
HDIL Hopedale 104.04 29 P **Pdif 10 35 21.8 -1.6**
baz=326
TUL3 Leonard 104.64 36 P **Pdif 10 35 24.4 -1.8**
baz=320
AAM Ann Arbor 104.80 24 P **Pdif 10 35 26.0 -0.7**
baz=331
ABTX Abilene, Hawle 104.96 41 P **Pdif 10 35 26.9 -0.9**
baz=317
SFIN Lafayette 105.11 27 P **Pdif 10 35 27.6 -0.6**
baz=328
CCM Cathedral Cave 105.21 32 P **Pdif 10 35 28.1 -0.6**
baz=324
LONY Lake Ozonia 105.53 17 P **PKiKP 10 39 43.4 +0.3**
baz=339
O48B Farmland 105.99 26 P **PKiKP 10 39 44.5 +0.4**
baz=329
PKME Peaks-Kenny Pk 106.14 13 P **PKiKP 10 39 44.1 -0.1**
baz=344
ERPA Erie 106.23 22 P **PKiKP 10 39 43.1 -1.4**
baz=334
JCT Junction City 106.42 42 P **PKiKP 10 39 44.2 -1.0**
baz=316
LBNH Lisbon 106.55 15 P **PKiKP 10 39 44.9 -0.2**
baz=341
M53A WI Miller and 106.61 22 P **PKiKP 10 39 44.8 -0.4**
baz=333
WHTX Lake Whitney, 106.68 40 P **PKiKP 10 39 45.7 +0.1**
baz=318
P49A Miami Univ. Ec 106.79 26 P **PKiKP 10 39 45.8 +0.2**
baz=330
MIAR Mount Ida 106.84 35 P **PKiKP 10 39 44.9 -0.9**
baz=322
ACSO Alum Creek Sta 106.85 25 P **PKiKP 10 39 45.1 -0.6**
baz=331
WCI Wyandotte Cave 107.26 28 P **PKiKP 10 39 45.4 -1.0**
baz=328
BINY Binghamton 107.39 19 P **PKiKP 10 39 45.4 -1.2**
baz=337
O53A New Philadelph 107.48 23 P **PKiKP 10 39 45.2 -1.7**
baz=333
435B Jarrell 107.50 41 P **PKiKP 10 39 45.2 -2.0**
baz=318
P52A Corning 107.69 24 P **PKiKP 10 39 45.8 -1.5**
baz=332
L61B Northampton 108.05 16 P **PKiKP 10 39 46.0 -1.8**
baz=340
833A Chaparral WMA, 108.21 44 P **PKiKP 10 39 47.2 -1.4**
baz=316
SSPA Standing Stone 108.25 21 P **PKiKP 10 39 47.0 -1.2**
baz=336
HRV Adam Dziewonsk 108.27 16 P **PKiKP 10 39 47.2 -1.0**
baz=341
WVT Waverly 108.35 30 P **PKiKP 10 39 47.9 -0.7**
baz=326
NATX Nacogdoches 108.42 38 P **PKiKP 10 39 48.3 -0.5**
baz=320
MCWV Mont Chateau 108.48 23 P **PKiKP 10 39 48.1 -0.6**
baz=334
OXF Oxford 108.94 32 P **PKiKP 10 39 49.3 -0.4**
baz=325
PAL Palisades 109.08 18 P **PKiKP 10 39 50.4 +0.6**
baz=339
BLA Blacksburg 110.45 24 P **PKiKP 10 39 52.2 -0.4**
baz=333
KMSC Kings Mountain 111.93 26 P **PKiKP 10 39 55.7 +0.3**
baz=332
TIGA Tifton 114.19 30 P PKPdf 10 40 00.2 +0.5
baz=329
TORD Torodi Ar. Bea 114.69 301 PKP **PKiKP 10 40 00.5 -0.6**
comp=Z,0.2nm,0.7s,baz=42,slow=4.5,SNR=1.6
QSPA South Pole Qui 116.91 180 PKP **PKiKP 10 40 04.0 +0.2**
comp=Z,0.8nm,0.7s,baz=236,slow=2.0,SNR=5.7

GCMT 12 10:23:49.0±0.3, 46.49S±0.02, 95.86E±0.02, h21km±1km, MW4.9/96, Moment Tensor Solution. s17,c18; s96,c114; Duration: 0 Moment tensor: Scale 10^{16} **Nm;** M_{rr}-0.53±.15; $M_{\theta\theta}$-2.00±.10; $M_{\phi\phi}$2.53±.13; $M_{r\theta}$0.26±.20; $M_{\theta\phi}$-0.89±.09; $M_{\phi r}$0.61±.19; **Best double couple:** $M_0$2.52000×10^{16} **NP1:**ϕ_s214.00000°, δ88.00000°, λ-16.00000°. **NP2:**ϕ_s304.00000°,δ74.00000°, λ-178.00000°. **Principal axes:** T 2.7910, Plg9.0000°, Azm260.0000°; N -0.5400, Plg74.0000°, Azm26.0000°; P -2.2500, Plg12.0000°, Azm168.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Southeast Indian Ridge**

IDC **12** *10:23:58.2±0.6,27.88N×54.98E, h0km, mb4.1/27, mbtmp4.2/32, ML3.8/4, MS4.2/1 Error ellipse: s-maj=15.0km s-min=12.4km az=14.0*
NEIC **12** *10:24:00.3±1.3,27.90N±0.08×54.95E±0.09, h10km±1km, mb4.1/20, Error ellipse: s-maj=13.1km s-min=13.1km az=140.0*
TEH **12** *10:24:01.2,27.87N×55.00E, h19km±21km, ML4.1*
OMAN **12** *10:24:03.6±0.3,27.83N×55.05E, h16km±3km, mb4.1/9, ml3.6/17, Error ellipse: s-maj=6.1km s-min=1.6km az=10.0*
DSN **12** *10:24:05.1±1.2,27.78N×55.11E, h15km, ML3.7/8, Error ellipse: s-maj=29.4km s-min=11.3km az=72.0*
ISC 12 10:24:02.5±0.4, 27.92N±0.04×55.02E±0.03, h26km, n145, σ1§44/166, mb4.1/34, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.62**	**247**	Pg	**Pn**	**Pb**	**10 24 13.2**	**-1.6**
GENO	**Geno**	**1.14**	**116**	Pg	**Pn**	**Pn**	**10 24 22.7**	**-0.2**
JHRM	**Jahrom**	**1.40**	**295**	Pg	**Pn**	**Pn**	**10 24 27.6**	**+1.1**
IBND	**Bandar-abas**	**1.43**	**109**	Pg	**Pn**	**Pn**	**10 24 27.9**	**+1.3**
QIR1	**Qir**	**1.83**	**288**	Pn	**Pn**	**Pn**	**10 24 33.6**	**+1.3**
SHME	**Shamm** SNR=13	**2.11**	**151**	P	**Pn**	**Pn**	**10 24 38.2**	**+2.1**
NGRK	**Negar Kerman**	**2.29**	**41**	Pn	**Pn**	**Pn**	**10 24 40.4**	**+1.5**
BANOM	**Banah**	**2.29**	**150**	P	**Pn**	**Pn**	**10 24 40.2**	**+1.6**
BANOM				S	**Sn**	**Sn**	**10 25 09.2**	**+3.2**
KHNJ	**Kahnooj**	**2.38**	**89**	Pn	**Pn**	**Pn**	**10 24 40.8**	**+1.0**
UMQ	**Umm Al-Quwin**	**2.45**	**166**	P	**Pn**	**Pn**	**10 24 41.8**	**+1.1**
MASF	**Masafi** SNR=9.5	**2.73**	**158**	P	**Pn**	**Pn**	**10 24 47.1**	**+2.4**
MSFE	**Esma-Masafi** SNR=6.3	**2.74**	**158**	*e*P		**Pn**	**10 24 46.9**	**+2.1**
KHGB	**Koh Gabri**	**2.76**	**27**	Pn	**Pn**	**Pn**	**10 24 47.4**	**+2.1**
MDH	**Madha** SNR=6.8	**2.84**	**156**	*e*P	**Pn**	**Pn**	**10 24 47.8**	**+1.6**
MDH	**Madha**	**2.84**	**156**	P	**Pn**	**Pn**	**10 24 48.0**	**+1.8**
CHMN	**Cheshme madani**	**2.94**	**48**	Pn	**Pn**	**Pn**	**10 24 50.1**	**+2.3**
NAZ	**Nazwa, Dubai**	**2.97**	**169**	P	**Pn**	**Pn**	**10 24 50.9**	**+3.0**
NAZ	**Nazwa, Dubai**	**2.97**	**169**	P	**Pn**	**Pn**	**10 24 49.8**	**+1.8**
UOSS	**Minazif**	**3.14**	**160**	Pn	**Pn**	**Pn**	**10 24 52.0**	**+1.7**
UOSS	**Minazif**	**3.14**	**160**	P	**Pn**	**Pn**	**10 24 51.9**	**+1.7**
UOSS	**Minazif**	**3.14**	**160**	P	**Pn**	**Pn**	**10 24 52.1**	**+1.7**
FAQ	**Al Faqa, Dubai**	**3.20**	**171**	P	**Pn**	**Pn**	**10 24 53.0**	**+1.9**
FAQ	**Al Faqa, Dubai**	**3.20**	**171**	P	**Pn**	**Pn**	**10 24 53.1**	**+2.0**
HATD	**Hatta, Dubai** SNR=7.5	**3.23**	**162**	*i* P	**Pn**	**Pn**	**10 24 53.8**	**+2.2**
HATD	**Hatta, Dubai** SNR=7.5	**3.23**	**162**	P	**Pn**	**Pn**	**10 24 53.9**	**+2.3**
HATD				S	**Sn**	**Sn**	**10 25 29.5**	**+0.2**
KRM1	**Kerman Provinc**	**3.24**	**37**	Pn	**Pn**	**Pn**	**10 24 53.9**	**+2.0**
KBAM	**BAM**	**3.26**	**67**	Pn	**Pn**	**Pn**	**10 24 53.8**	**+1.8**
JASK	**Jask - Hormozg**	**3.26**	**128**	P	**Pn**	**Pn**	**10 24 52.9**	**+1.0**
JASK				S	**Sn**	**Sn**	**10 25 31.2**	**+1.4**
ASHO	**Ashiyiah** SNR=18	**3.35**	**164**	*i* P	**Pn**	**Pn**	**10 24 55.2**	**+2.0**
ASHO				S	**Sn**	**Sn**	**10 25 33.9**	**+1.7**
ASHO	**Ashiyiah** SNR=32	**3.35**	**164**	P	**Pn**	**Pn**	**10 24 55.3**	**+2.1**
ASHO				S	**Sn**	**Sn**	**10 25 33.9**	**+1.7**
DSBU	**Dashti - Bushe**	**3.35**	**279**	Pn	**Pn**	**Pn**	**10 24 54.5**	**+1.3**
KAZ2	**Kazeron-Fars-I**	**3.40**	**301**	Pn	**Pn**	**Pn**	**10 24 55.0**	**+1.1**
AHBU	**AHRAM**	**3.42**	**287**	Pn	**Pn**	**Pn**	**10 24 55.6**	**+1.5**
IMEH	**Mehriz**	**3.48**	**354**	Pn	**Pn**	**Pn**	**10 24 57.0**	**+1.8**
JRN	**Qarnain Island**	**3.54**	**214**	P	**Pn**	**Pn**	**10 24 58.0**	**+2.2**
JRN				S	**Sn**	**Sn**	**10 25 39.1**	**+2.3**
IBAF	**Bafgh**	**3.69**	**7**	Pn	**Pn**	**Pn**	**10 24 59.8**	**+1.8**
SOHO	**SOHO**	**4.00**	**160**	P	**Pn**	**Pn**	**10 25 03.2**	**+1.1**
SOHO	**SOHO**	**4.00**	**160**	P	**Pn**	**Pn**	**10 25 03.4**	**+1.3**
SHMA	**Al-Shehemyia** SNR=20	**4.16**	**241**	P	**Pn**	**Pn**	**10 25 07.2**	**+2.9**
SHMA				S	**Sn**	**Sn**	**10 25 56.0**	**+3.9**
KLNJ	**Kolanjah**	**4.29**	**317**	Pn	**Pn**	**Pn**	**10 25 07.4**	**+1.0**
SAKB	**Bahrain**	**4.44**	**245**	P	**Pn**	**Pn**	**10 25 10.8**	**+2.7**
SAKB				S	**Sn**	**Sn**	**10 26 02.2**	**+3.2**
IRAM	**Ramesheh**	**4.51**	**330**	Pn	**Pn**	**Pn**	**10 25 11.2**	**+1.9**
TRNA	**Turayna** SNR=12	**4.66**	**228**	P	**Pn**	**Pn**	**10 25 13.0**	**+1.8**
TRNA	SNR=5.9			S	**Sn**	**Sn**	**10 26 06.0**	**+1.6**
ARQ	**Araqi** SNR=8.4	**4.76**	**163**	P	**Pn**	**Pn**	**10 25 14.9**	**+2.4**
ARQ				S	**Sn**	**Sn**	**10 26 06.4**	**-0.5**
HOQ	**Hoqain**	**4.78**	**154**	P	**Pn**	**Pn**	**10 25 14.4**	**+1.5**
HOQ				S	**Sn**	**Sn**	**10 26 10.7**	**+3.1**
SLWR	**Sila**	**4.86**	**219**	P	**Pn**	**Pn**	**10 25 14.7**	**+0.7**
SLWR				S	**Sn**	**Sn**	**10 26 11.6**	**+2.2**
SMRA	**Abu-Samra**	**4.91**	**231**	P	**Pn**	**Pn**	**10 25 16.4**	**+1.8**
SMRA				S	**Sn**	**Sn**	**10 26 12.0**	**+1.3**
MZR	**Muzera**	**5.09**	**196**	P	**Pn**	**Pn**	**10 25 18.1**	**+1.1**
IBRJ	**Brojen**	**5.15**	**322**	Pn	**Pn**	**Pn**	**10 25 19.5**	**+1.4**
IGAR	**Gharneh**	**5.16**	**331**	Pn	**Pn**	**Pn**	**10 25 20.1**	**+1.8**
UMZA	**Um Al Zommool**	**5.18**	**179**	P	**Pn**	**Pn**	**10 25 20.1**	**+1.8**
UMZA				S	**Sn**	**Sn**	**10 26 18.7**	**+1.5**
BIDO	**Bidbid**	**5.20**	**147**	P	**Pn**	**Pn**	**10 25 19.2**	**+0.6**
BIDO				S	**Sn**	**Sn**	**10 26 15.6**	**-2.1**
ANAR	**Anarak**	**5.38**	**348**	Pn	**Pn**	**Pn**	**10 25 23.0**	**+1.9**
CHBR	**Chabahar**	**5.40**	**114**	Pn	**Pn**	**Pn**	**10 25 21.9**	**+0.6**
BSY	**Bisya**	**5.51**	**159**	P	**Pn**	**Pn**	**10 25 24.1**	**+1.2**
BSY				S	**Sn**	**Sn**	**10 26 26.5**	**+0.9**
SMDO	**Samad**	**5.56**	**150**	P	**Pn**	**Pn**	**10 25 25.2**	**+1.6**
SMDO				S	**Sn**	**Sn**	**10 26 28.0**	**+1.3**
IKOO	**Kooshah**	**5.67**	**37**	Pn	**Pn**	**Pn**	**10 25 27.0**	**+1.8**
WSAR	**Wadi Sarin** 3.3nm,0.3s,baz=358,slow=9.7,SNR=54	**5.68**	**144**	Pn	**Pn**	**Pn**	**10 25 25.6**	**+0.3**
WSAR	5.4nm,0.3s,baz=85,slow=19,SNR=6.9 12nm,0.5s			S	**Sn**	**Sn**	**10 26 29.6**	**-0.1**
WSAR	**Wadi Sarin** SNR=41	**5.68**	**144**	P		**Pn**	**10 25 26.4**	**+1.2**
WSAR				S	**Sn**	**Sn**	**10 26 29.3**	**-0.4**
JHBN	**Jahan bin**	**5.72**	**320**	Pn	**Pn**	**Pn**	**10 25 27.1**	**+1.1**
IPIR	**Pirpir**	**5.94**	**324**	Pn	**Pn**	**Pn**	**10 25 30.3**	**+1.2**
TKDS	**Koohdasht(Taba**	**5.96**	**17**	Pn	**Pn**	**Pn**	**10 25 31.3**	**+2.1**
NGCH	**Negor - Chabah**	**6.04**	**114**	Pn	**Pn**	**Pn**	**10 25 30.7**	**+0.7**
NGCH	**Negor - Chabah** SNR=16	**6.04**	**114**	P	**Pn**	**Pn**	**10 25 31.0**	**+0.9**
IKLH	**Kolahrood**	**6.15**	**332**	Pn	**Pn**	**Pn**	**10 25 33.6**	**+1.7**
JMDO	**Jabal Madar**	**6.19**	**152**	P	**Pn**	**Pn**	**10 25 33.5**	**+1.3**
JMDO				S	**Sn**	**Sn**	**10 26 44.1**	**+1.9**
WBK	**Wadi Bani Khal**	**6.38**	**145**	P	**Pn**	**Pn**	**10 25 35.3**	**+0.5**
AFRZ	**Afriz**	**6.48**	**31**	Pn	**Pn**	**Pn**	**10 25 38.9**	**+2.6**
KRSH	**Karshahi**	**6.52**	**338**	Pn	**Pn**	**Pn**	**10 25 38.4**	**+1.5**
SRVN	**Saravan**	**6.56**	**93**	Pn	**Pn**	**Pn**	**10 25 39.1**	**+1.6**

KBD	**Kabd**	**6.57**	**283**	P		**Pn**	**10 25 38.2**	**+0.8**
KBD				S		**Sn**	**10 26 53.0**	**+1.6**
QAMS	**Qamsar**	**6.59**	**333**	Pn		**Pn**	**10 25 39.7**	**+1.8**
ISFB	**Sefidab**	**6.84**	**340**	Pn		**Pn**	**10 25 43.0**	**+1.8**
JLN	**Jalan Bani Buh**	**6.98**	**144**	P		**Pn**	**10 25 43.1**	**-0.1**
	SNR=10.0							
SHRT	**Shahrakht**	**7.29**	**37**	Pn		**Pn**	**10 25 49.6**	**+2.2**
MHTO	**MHTO**	**7.40**	**158**	P		**Pn**	**10 25 49.4**	**+0.5**
DQM	**DQM**	**8.28**	**163**	P		**Pn**	**10 26 01.2**	**+0.3**
IGLO	**Ghaloghah**	**8.62**	**354**	Pn		**Pn**	**10 26 08.5**	**+2.8**
HRA	**Herat**	**8.94**	**42**	Pn		**Pn**	**10 26 11.5**	**+1.4**
DOK	**Doka**	**9.29**	**185**	P		**Pn**	**10 26 15.5**	**+0.7**
	SNR=6.0							
RAYN	**Ar Rayn**	**9.63**	**245**	Pn		**Pn**	**10 26 18.2**	**-1.3**
RAYN	**Ar Rayn**	**9.63**	**245**	P		**Pn**	**10 26 18.9**	**-0.5**
SHAO	**Shalim**	**9.86**	**177**	P		**Pn**	**10 26 21.8**	**-0.8**
	SNR=13							
SHAO				S		**Sn**	**10 28 12.1**	**-0.5**
WHFO	**Wadi Hawf**	**10.02**	**187**	P		**Pn**	**10 26 25.1**	**+0.3**
	SNR=6.2							
DMTO	**DMTO**	**10.15**	**180**	P		**Pn**	**10 26 26.8**	**+0.2**
ABTO	**Aybut**	**10.63**	**189**	P		**Pn**	**10 26 33.1**	**-0.2**
	SNR=9.6							
ASF	**Jabal al Asfar**	**16.25**	**290**	Pn		**Pn**	**10 27 46.9**	**-2.2**
	1.6nm,0.3s,baz=334,slow=3.9,SNR=8.1							
	3.0nm,0.3s							
GAR	**Garm**	**16.86**	**45**	P		**Pn**	**10 27 57.8**	**+1.0**
GAR				IAmb		IAmb	10 28 02.9	
	comp=Z,11nm,0.8s							
MMAI	**Mount Meron Ar**	**17.65**	**292**	P		**Pn**	**10 28 05.0**	**-1.6**
	comp=Z,5.0nm,0.6s,baz=104,slow=16,SNR=11							
EIL	**Elat**	**17.68**	**280**	P		**Pn**	**10 28 06.5**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=94,slow=7.6,SNR=2.9							
	comp=Z,3.7nm,0.6s							
ARPR	**Arapgir-MALATY**	**17.80**	**313**	P		**Pn**	**10 28 07.3**	**-1.2**
ARPR				IAmb		IAmb	10 28 20.6	
	comp=Z,8.9nm,0.8s							
KBZ	**Khabaz**	**18.56**	**331**	P		**P**	**10 28 17.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=152,slow=9.2,SNR=7.3							
	comp=Z,2.4nm,0.8s							
KK31	**Karatay Array**	**19.67**	**36**	P		**P**	**10 28 29.5**	**+0.1**
KKAR	**Karatay Array**	**19.67**	**36**	P		**P**	**10 28 29.2**	**-0.2**
KKAR	**Karatay Array**	**19.67**	**36**	P		**P**	**10 28 29.1**	**-0.3**
ARSB	**Arslanbob**	**19.88**	**43**	P		**P**	**10 28 31.8**	**-0.2**
BR131	**Keskin Array S**	**21.26**	**309**			**P**	**10 28 47.3**	**+0.5**
BR131				IAmb		IAmb	10 28 53.4	
	comp=Z,9.1nm,0.8s							
BRTR	**Keskin Array B**	**21.26**	**309**	P		**P**	**10 28 47.1**	**+0.2**
BRTR	**Keskin Array B**	**21.26**	**309**	P		**P**	**10 28 47.7**	**+0.9**
	comp=Z,5.6nm,0.8s,baz=129,slow=13,SNR=22							
	comp=Z,5.6nm,0.8s							
AAK	**Ala-Archa**	**21.57**	**42**	P		**P**	**10 28 51.0**	**+0.8**
AAK				IAmb		IAmb	10 28 59.0	
	comp=Z,17nm,1.4s							
AAK	**Ala-Archa**	**21.57**	**42**	P		**P**	**10 28 51.2**	**+1.0**
	comp=Z,2.9nm,0.5s,baz=199,slow=5.9,SNR=9.3							
	comp=Z,2.9nm,0.5s							
ABKAR	**Akbulak array**	**21.64**	**9**	P		**P**	**10 28 50.3**	**-0.4**
ABKAR	**Akbulak array**	**21.64**	**9**	IAmb		IAmb	10 28 59.7	
	comp=Z,6.0nm,0.8s							
NRN	**Naryn**	**21.83**	**46**	P		**P**	**10 28 53.0**	**-0.1**
NRN				IAmb		IAmb	10 29 01.0	
	comp=Z,5.0nm,0.8s							
BOOM	**Boomskoye usch**	**22.36**	**44**	P		**P**	**10 28 58.1**	**-0.6**
BOOM				IAmb		IAmb	10 29 32.9	
	comp=Z,4.0nm,0.7s							
AKTO	**Aktyubinsk**	**22.61**	**5**	P		**P**	**10 29 01.1**	**+0.1**
	comp=Z,5.4nm,0.8s,baz=189,slow=8.3,SNR=15							
	comp=Z,5.4nm,0.8s							
TARG	**Taragay, Kyrgy**	**23.14**	**48**	P		**P**	**10 29 07.1**	**-0.1**
TARG				IAmb		IAmb	10 29 44.6	
	comp=Z,4.3nm,0.8s							
BELG	**Belogornoye**	**25.07**	**349**	P		**P**	**10 29 24.4**	**-0.2**
	comp=Z,12nm,0.9s,baz=121,slow=1.1,SNR=5.2							
	comp=Z,12nm,0.9s							
BVAR	**Borovoye Array**	**27.55**	**20**	P		**P**	**10 29 47.2**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=209,slow=8.5,SNR=11							
	comp=Z,2.0nm,0.6s							
MAKZ	**Makanchi**	**28.32**	**41**	P		**P**	**10 29 54.5**	**+0.4**
MAKZ				IAmb		IAmb	10 30 00.1	
	comp=Z,4.9nm,1.2s							
MKAR	**Makanchi Array**	**28.50**	**41**	P		**P**	**10 29 55.3**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=224,slow=6.8,SNR=4.9							
	comp=Z,0.9nm,0.5s							
AKASG	**Malin Array Be**	**29.99**	**326**	P		**P**	**10 30 08.4**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=120,slow=7.3,SNR=0.9							
	comp=Z,0.9nm,0.5s							
BURAR	**Bucovina Array**	**30.41**	**318**	P		**P**	**10 30 12.8**	**+0.2**
ZAA0	**Zalesovo Array**	**33.95**	**32**	P		**P**	**10 30 43.1**	**-0.3**
ZALV	**Zalesovo Beam**	**33.95**	**32**	P		**P**	**10 30 43.2**	**-0.3**
	comp=Z,6.3nm,0.5s,baz=241,slow=9.4,SNR=26							
	comp=Z,6.3nm,0.5s							
GTA	**Gaotai**	**38.65**	**61**	P		**P**	**10 31 25.0**	**+1.0**
GTA				pP		pP	10 31 29.8	-2.2
GTA				pmax		pmax		
	comp=Z,4.0nm,0.8s							
FIA1	**FINESS Array S**	**38.69**	**338**	P		**P**	**10 31 23.6**	**-0.2**
FINES	**FINESS Array B**	**38.69**	**338**	P		**P**	**10 31 23.5**	**-0.3**
FINES	**FINESS Array B**	**38.69**	**338**	P		**P**	**10 31 23.8**	**0.0**
	comp=Z,3.3nm,0.6s,baz=142,slow=10,SNR=19							
	comp=Z,3.3nm,0.6s							
CLL	**Collm**	**39.18**	**318**	*i* P		**P**	**10 31 28.2**	**+0.2**
CLL				*ex*		x	10 31 32.0	
CMAR	**Chiang Mai Arr**	**41.27**	**93**	P		**P**	**10 31 46.6**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=288,slow=8.6,SNR=9.0							
	comp=Z,2.2nm,0.9s							
BNI	**Bardonecchia**	**41.80**	**307**	P		**P**	**10 31 49.7**	**-0.4**
HFS	**Hagfors**	**42.63**	**331**	P		**P**	**10 31 55.9**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=122,slow=7.9,SNR=8.5							
	comp=Z,1.2nm,0.4s							
NB2	**NORSAR Subarra**	**44.14**	**331**	P		**P**	**10 32 07.7**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=119,slow=8.6							
NOA	**NORSAR Array B**	**44.14**	**331**	P		**P**	**10 32 07.6**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=112,slow=9.5,SNR=2.7							
	comp=Z,0.7nm,0.6s							
SONM	**Songino Array**	**44.25**	**49**	P		**P**	**10 32 09.1**	**-0.7**
	comp=Z,1.0nm,0.9s,baz=257,slow=7.2,SNR=4.0							
	comp=Z,1.0nm,0.9s							
ARCES	**ARCESS Array B**	**45.02**	**346**	P		**P**	**10 32 15.1**	**-0.5**
	comp=Z,8.7nm,1.1s,baz=127,slow=5.8,SNR=4.2							
	comp=Z,8.7nm,1.1s							
NRIK	**Noril'sk**	**45.56**	**16**	P		**P**	**10 32 18.9**	**-0.8**
	comp=Z,3.3nm,0.6s,baz=219,slow=4.6,SNR=4.2							
	comp=Z,3.3nm,0.6s							
EKA	**Eskdalemuir Ar**	**49.55**	**320**	P		**P**	**10 32 50.0**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=95,slow=7.5,SNR=5.3							
	comp=Z,0.3nm,0.3s							
ESDC	**Sonseca Array**	**49.60**	**300**	P		**P**	**10 32 50.8**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=77,slow=7.6,SNR=5.4							
	comp=Z,0.7nm,0.5s							
XLT	**XiLinHaoTe**	**50.85**	**55**	*e*P		**P**	**10 33 01.8**	**+0.7**
XLT				pP		pP	10 33 06.8	-2.5
XLT				sP		sP	10 33 09.0	-3.6
XLT				PcP		**PcP**	**10 34 18.2**	**+0.6**
XLT				pmax		pmax		
	comp=Z,6.0nm,0.8s							
XLT				pmax		pmax		
	comp=Z,120nm,6.0s							
TORD	**Torodi Ar. Bea**	**51.67**	**265**	P		**P**	**10 33 07.3**	**-0.3**
	comp=Z,4.3nm,0.6s,baz=61,slow=7.7,SNR=35							
	comp=Z,4.3nm,0.6s							
TSUM	**Tsumeb**	**59.22**	**222**	LR		LR	10 58 55.7	
	comp=Z,224nm,20.4s,baz=151,slow=35							
DBIC	**Dimbokro**	**60.34**	**261**	P		**P**	**10 34 08.4**	**-1.1**
	comp=Z,2.7nm,0.6s,baz=55,slow=5.6,SNR=4.8							
	comp=Z,2.7nm,0.6s							
KSRS	**Korea Array**	**60.72**	**61**	P		**P**	**10 34 11.2**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=276,slow=6.5,SNR=4.6							
	comp=Z,1.0nm,0.7s							
BOSA	**Boshof**	**63.03**	**209**	P		**P**	**10 34 27.0**	**-0.5**
	comp=Z,2.9nm,0.9s,baz=11,slow=10,SNR=3.3							
	comp=Z,2.9nm,0.9s							
SEY	**Seymchan**	**68.76**	**29**	P		**P**	**10 35 04.5**	**+0.6**
	comp=Z,2.0nm,0.5s,baz=268,slow=11,SNR=14							
	comp=Z,2.0nm,0.5s							
MJAR	**Matsushiro Arr**	**68.86**	**59**	P		**P**	**10 35 05.0**	**0.0**
	comp=Z,0.8nm,0.6s,baz=284,slow=6.1,SNR=1.9							
	comp=Z,0.8nm,0.6s							
ILAR	**Eielson Array**	**86.05**	**9**	P		**P**	**10 36 40.0**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=322,slow=4.5,SNR=11							
	comp=Z,0.5nm,0.6s							
YKA	**Yellowknife Ar**	**89.52**	**355**	P		**P**	**10 36 57.8**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=5.5,slow=5.1,SNR=20							
	comp=Z,1.1nm,0.7s							
WB0	**Warramunga Arr**	**90.16**	**112**	P		**P**	**10 36 59.1**	**-1.7**
WRA	**Warramunga Arr**	**90.21**	**112**	P		**P**	**10 37 00.3**	**-0.8**
WRA	**Warramunga Arr**	**90.21**	**112**	P		**P**	**10 37 00.8**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=312,slow=3.9,SNR=6.9							
	comp=Z,0.5nm,0.6s							
WB2	**Warramunga Arr**	**90.22**	**112**	P		**P**	**10 37 00.9**	**-0.2**
ASAR	**Alice Springs**	**91.69**	**116**	P		**P**	**10 37 07.7**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=304,slow=4.7,SNR=14							
	comp=Z,0.6nm,0.6s							

*IDC **12** 11:05:36.1±1.4, 49°.95N×29°.17W, h0km, mb3.2/6, mbtmp3.2/6, Error ellipse: s-maj=49.5km s-min=25.2km az=31.0*

ISC 12 11:05:37.5±1.1, **49°.9N**±0°.3×**29°.2W**±0°.2, **h10**km, **n7**, σ**1**§**48**/7, **mb3.3**/5, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**20.53**	**110**	P	P	**P**	**11 10 16.3**	**+0.4**
	1.1nm,0.9s,baz=304,slow=9.1,SNR=1.6							
	1.1nm,0.9s							
TORD	**Torodi Ar. Bea**	**44.54**	**135**	P	P	**P**	**11 13 48.4**	**-1.0**
	0.5nm,0.8s,baz=337,slow=9.4,SNR=2.5							
	0.5nm,0.8s							
YKA	**Yellowknife Ar**	**45.58**	**320**	P	P	**P**	**11 13 55.2**	**-1.9**
	0.1nm,0.4s,baz=68,slow=8.7,SNR=4.3							
	0.1nm,0.4s							
PDAR	**Pinedale Array**	**53.43**	**295**	P	P	**P**	**11 14 59.0**	**+1.4**
	0.3nm,0.9s,baz=58,slow=7.5,SNR=1.6							
	0.3nm,0.9s							
KURBB	**Kurchatov Arra**	**62.41**	**43**	P	P	**P**	**11 16 00.5**	**+0.4**
	0.2nm,0.6s,baz=318,slow=6.9,SNR=1.8							
	0.2nm,0.6s							
MKAR	**Makanchi Array**	**66.91**	**44**	P	P	**P**	**11 16 29.6**	**0.0**
	0.1nm,0.6s,baz=320,slow=7.6,SNR=1.6							
	0.1nm,0.6s							
ASAR	**Alice Springs**	**150.62**	**33**	PKPbc	**PKiKP**		**11 25 31.6**	**+1.3**
	0.3nm,0.8s,baz=330,slow=2.2,SNR=2.5							

*MDD **12** 11:10:50.0±0.6, 43°.51N×9°.87W, h10km, mb_Lg3.6/9, Error ellipse: s-maj=4.8km s-min=2.8km az=123.0*
*LDG **12** 11:10:50.6±0.2, 43°.60N×9°.81W, h10km, Ml3.5/16, Error ellipse: s-maj=5.5km s-min=2.7km az=106.0*
*INMG **12** 11:10:51.7±1.4, 43°.49N×9°.88W, h12km±4km, ML3.0, Error ellipse: s-maj=5.6km s-min=3.4km az=89.0*

ISC 12 11:10:47.5±1.4, **43°.51N**±0°.05×**10°.02W**±0°.06, **h10**km, **n90**, σ**2**§**69**/137, **North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**0.95**	**126**	Pg	**Pg**		**11 11 06.5**	**+0.7**
EMAZ				Sg	**Sg**		**11 11 17.4**	**-0.7**
EMAZ				*i* Vmb_Lg			11 11 21.7	
EAGO	**Agolada(Pontev**	**1.58**	**116**	Pn	**Pn**		**11 11 16.8**	**+1.2**
EAGO				Sn	**Sn**		**11 11 31.9**	**-4.2**
EAGO				Sg	**Sb**		**11 11 36.1**	**-0.8**
EAGO				*i* Vmb_Lg			11 11 40.2	
EZAM	**Zamans**	**1.68**	**144**	Pn	**Pn**		**11 11 17.4**	**+0.5**
EZAM				Sn	**Sn**		**11 11 39.5**	**+1.0**
EZAM				Sg	**Sb**		**11 11 41.5**	**+1.9**
EZAM				*i* Vmb_Lg			11 11 44.1	
PGAV	**Gavieira, Arco**	**2.02**	**140**	*e*Pn	**Pn**		**11 11 22.0**	**+0.4**
PGAV	**Gavieira, Arco**	**2.02**	**140**	*e*Pg	**Pb**		**11 11 26.8**	**+2.5**
PGAV				*e*Sn	**Sn**		**11 11 45.9**	**-1.0**
PGAV				*e*Sg	**Sb**		**11 11 51.0**	**+1.6**
PGAV				A	A		11 11 53.8	
	137nm,0.3s							
EPON	**Pontenova**	**2.10**	**94**	Pn	**Pn**		**11 11 22.5**	**-0.2**
EPON				Sn	**Sn**		**11 11 48.1**	**-0.8**
EPON				Sg	**Sg**		**11 11 52.5**	**-2.5**
EPON				*i* Vmb_Lg			11 11 55.5	
ELOB	**Lobios**	**2.19**	**138**	Pn	**Pn**		**11 11 24.8**	**+0.8**
ELOB				Sn	**Sn**		**11 11 51.3**	**+0.1**
ELOB				Sg	**Sb**		**11 11 56.5**	**+2.0**
ELOB				*i* Vmb_Lg			11 11 59.9	
PCAB	**Cabril**	**2.33**	**140**	*e*Pn	**Pn**		**11 11 27.3**	**+1.4**
PCAB				*e*Sg	**Sb**		**11 12 01.7**	**+3.4**
PCAB				A	A		11 12 12.2	
	138nm,0.7s							
PTO	**Porto**	**2.60**	**156**	*e*Sn	**Sn**		**11 11 59.8**	**-1.3**
PVRL	**Vila Real**	**2.81**	**142**	*e*Pn	**Pn**		**11 11 34.1**	**+1.5**
PVRL				*e*Sn	**Sn**		**11 12 04.9**	**-1.7**
PVRL				*e*Sg	**Sb**		**11 12 15.8**	**+3.4**
PVRL				A	A		11 12 22.2	
	102nm,0.1s							
ECAL	**Calabor**	**2.88**	**122**	Pn	**Pn**		**11 11 33.5**	**0.0**
ECAL	**Calabor**	**2.88**	**122**	Pn	**Pn**		**11 11 33.7**	**+0.1**
ECAL				Sg	**Sb**		**11 12 17.8**	**+3.3**
PBRG	**Braganca**	**2.96**	**124**	*e*Pn	**Pn**		**11 11 34.7**	**+0.1**
PBRG				*e*Sn	**Sn**		**11 12 08.0**	**-2.2**
PBRG				*e*Sg	**Sb**		**11 12 19.3**	**+2.7**
PBRG				A	A		11 12 27.6	
	74nm,0.3s							
PVIS	**Viseu**	**3.21**	**150**	*e*Sg	**Sg**		**11 12 29.2**	**-1.4**
PVIS				A	A		11 12 34.8	
	47nm,0.5s							
MVO	**Moncorvo**	**3.23**	**136**	*e*Pn	**Pn**		**11 11 39.4**	**+1.1**
MVO				*e*Sn	**Sn**		**11 12 14.7**	**-2.1**
MVO				*e*Sg	**Sg**		**11 12 29.4**	**-1.8**
MVO				A	A		11 12 35.3	
	90nm,0.5s							
EARI	**Arriondas**	**3.51**	**92**	Pn	**Pn**		**11 11 40.5**	**-1.6**
EARI				Sn	**Sn**		**11 12 20.9**	**-2.8**
EARI				Sg	**Sb**		**11 12 36.6**	**+4.2**
MTE	**Manteigas**	**3.62**	**148**	*e*Pn	**Pn**		**11 11 44.5**	**+0.9**
MTE				*e*Sn	**Sn**		**11 12 23.8**	**-2.6**
MTE				*e*Sg	**Sg**		**11 12 42.6**	**-1.1**
MTE				A	A		11 12 52.4	
	53nm,0.5s							
PCAS	**Casmilo, Conde**	**3.64**	**161**	*e*Pn	**Pn**		**11 11 45.1**	**+1.2**
PCAS				*e*Sn	**Sn**		**11 12 24.8**	**-2.1**
PCAS				A	A		11 12 52.9	
	17nm,0.8s							
PCBR	**Castelo Branco**	**4.13**	**152**	*e*Pn	**Pn**		**11 11 51.7**	**+1.0**
PCBR				*e*Sn	**Sn**		**11 12 36.8**	**-2.3**
PCBR				*e*Sg	**Sg**		**11 12 59.2**	**-1.0**
PCBR				A	A		11 13 08.3	
	17nm,0.3s							
EPLA	**Plasencia**	**4.53**	**138**	Pn	**Pn**		**11 11 57.5**	**+1.3**
EPLA				Sn	**Sn**		**11 12 43.9**	**-5.0**
PMRV	**Marv??o**	**4.54**	**153**	*e*Pn	**Pn**		**11 11 57.3**	**+1.1**
PMRV				*e*Sn	**Sn**		**11 12 45.8**	**-3.2**
PMRV				*e*Sg	**Sg**		**11 13 12.4**	**-0.7**
PMRV				A	A		11 13 21.4	
	15nm,0.8s							
PMAFR	**Mafra**	**4.59**	**173**	*e*Pn	**Pn**		**11 11 57.8**	**+0.8**
PMAFR				*e*Sn	**Sn**		**11 12 48.2**	**-2.1**
PMAFR				A	A		11 12 49.4	
	29nm,0.6s							
PMAFR	**Mafra**	**4.59**	**173**	Pn	**Pn**		**11 11 57.7**	**+0.8**
PMAFR				Sn	**Sn**		**11 12 45.9**	**-4.4**
PMTG	**Montargil**	**4.64**	**162**	*e*Pn	**Pn**		**11 11 58.5**	**+0.9**
PMTG				*e*Sn	**Sn**		**11 12 47.6**	**-4.0**
PMTG				A	A		11 13 30.9	
	7.4nm,0.5s							
ELAN	**Lanestosa**	**4.81**	**91**	Pn	**Pn**		**11 11 59.8**	**-0.2**
ELAN				Sn	**Sn**		**11 12 50.1**	**-5.6**
PACT	**Alcochete**	**4.83**	**169**	*e*Pn	**Pn**		**11 12 01.0**	**+0.8**
PACT				*e*Sn	**Sn**		**11 12 53.4**	**-2.7**
PACT				A	A		11 12 59.4	
	28nm,0.4s							
PESTR	**Estremoz**	**4.99**	**158**	*e*Pn	**Pn**		**11 12 03.8**	**+1.3**
PESTR				*e*Sn	**Sn**		**11 12 56.5**	**-3.7**
PESTR				A	A		11 13 34.2	
	16nm,0.6s							
PESTR	**Estremoz**	**4.99**	**158**	Pn	**Pn**		**11 12 03.4**	**+0.9**
PESTR				Sn	**Sn**		**11 12 55.7**	**-4.5**
PESTR	**Estremoz**	**4.99**	**158**	P	**Pn**		**11 12 03.7**	**+1.3**
PESTR	**Estremoz**	**4.99**	**158**	S	**Sn**		**11 12 57.0**	**-3.2**
EVO	**Evora**	**5.20**	**162**	*e*Sn	**Sn**		**11 13 02.8**	**-2.6**
EVO				A	A		11 13 07.2	
	13nm,0.4s							
EVO	**Evora**	**5.20**	**162**	Pn	**Pn**		**11 12 05.8**	**+0.4**
EVO				Sn	**Sn**		**11 12 59.6**	**-5.9**
GUD	**Guadarrama**	**5.22**	**121**	Pn	**Pn**		**11 12 06.8**	**+1.0**
GUD				Sn	**Sn**		**11 13 01.3**	**-4.9**
GUD				Sg	**Sg**		**11 13 33.9**	**-1.2**
GUD				*i* Vmb_Lg			11 13 47.1	
EBAD	**Badajoz**	**5.27**	**153**	Pn	**Pn**		**11 12 07.0**	**+0.8**
EBAD	**Badajoz**	**5.27**	**153**	Pn	**Pn**		**11 12 07.1**	**+0.8**
EBAD				Sn	**Sn**		**11 13 02.1**	**-4.9**
EBAD				*i* Vmb_Lg			11 13 13.3	
PNCL	**Nicolau / Gran**	**5.51**	**168**	*e*Pn	**Pn**		**11 12 10.5**	**+0.9**
PNCL				*e*Sn	**Sn**		**11 13 08.9**	**-4.2**
PNCL				A	A		11 13 14.5	
	6.0nm,0.5s							
PNCL	**Nicolau / Gran**	**5.51**	**168**	Pn	**Pn**		**11 12 11.0**	**+1.4**
PNCL				Sn	**Sn**		**11 13 08.8**	**-4.2**
PBAR	**Barrancos**	**5.79**	**156**	*e*Pn	**Pn**		**11 12 14.7**	**+1.2**
PBAR				*e*Sn	**Sn**		**11 13 15.1**	**-4.8**
PBAR				A	A		11 14 02.2	
	9.2nm,0.5s							
PBAR	**Barrancos**	**5.79**	**156**	Pn	**Pn**		**11 12 14.0**	**+0.5**
PBAR				Sn	**Sn**		**11 13 13.6**	**-6.3**
PAB	**San Pablo**	**5.82**	**131**	Pn	**Pn**		**11 12 14.6**	**+0.7**
PAB				Sn	**Sn**		**11 13 17.1**	**-3.5**
PAB				Sg	**Sg**		**11 13 52.9**	**-1.2**
PAB				*i* Vmb_Lg			11 14 05.3	
MESJ	**Messejana**	**5.83**	**166**	*e*Pn	**Pn**		**11 12 15.1**	**+1.1**
MESJ				*e*Sn	**Sn**		**11 13 16.7**	**-4.2**
MESJ				A	A		11 13 20.3	
	5.7nm,0.4s							
PTEO	**Sao Teotonio**	**6.04**	**170**	*e*Sn	**Sn**		**11 13 22.6**	**-3.5**
PTEO				A	A		11 13 29.2	
	13nm,0.7s							
PCVE	**Castro Verde**	**6.07**	**165**	*e*Pn	**Pn**		**11 12 18.1**	**+0.8**
PCVE				*e*Sn	**Sn**		**11 13 22.7**	**-4.0**
PCVE				A	A		11 13 33.4	
	4.3nm,0.6s							
PCVE	**Castro Verde**	**6.07**	**165**	Pn	**Pn**		**11 12 18.0**	**+0.8**
PCVE				Sn	**Sn**		**11 13 21.1**	**-5.6**
EALK	**Alkurruntz**	**6.21**	**90**	Pn	**Pn**		**11 12 19.7**	**+0.4**
EALK				Sn	Sn		11 13 22.2	-8.2
EGRO	**El Granado**	**6.28**	**161**	Pn	**Pn**		**11 12 19.8**	**-0.3**
EGRO				Sn	**Sn**		**11 13 26.2**	**-5.7**
EGRO	**El Granado**	**6.28**	**161**	Pn	**Pn**		**11 12 20.5**	**+0.4**
EGRO				Sn	**Sn**		**11 13 25.8**	**-6.1**
EMIN	**Mina Concepcio**	**6.28**	**155**	Pn	**Pn**		**11 12 21.3**	**+1.2**
EMIN				Sn	**Sn**		**11 13 25.8**	**-6.2**
EMIN	**Mina Concepcio**	**6.28**	**155**	Pn	**Pn**		**11 12 20.9**	**+0.8**
EMIN				Sn	**Sn**		**11 13 26.3**	**-5.6**
MORF	**Marmelete**	**6.29**	**170**	*e*Pn	**Pn**		**11 12 21.9**	**+1.6**
MORF				*e*Sn	**Sn**		**11 13 28.6**	**-3.7**
MORF				A	A		11 13 35.8	
	11nm,0.2s							
PVAQ	**Vaqueiros**	**6.35**	**163**	*e*Pn	**Pn**		**11 12 21.9**	**+0.8**
PVAQ				*e*Sn	Sn		11 13 27.5	-6.2
PVAQ				A	A		11 13 32.4	
	3.9nm,0.2s							
PVAQ	**Vaqueiros**	**6.35**	**163**	Pn	**Pn**		**11 12 21.7**	**+0.6**
PVAQ				Sn	Sn		11 13 26.1	-7.6
PVAQ	**Vaqueiros**	**6.35**	**163**	P	**Pn**		**11 12 20.4**	**-0.7**
PVAQ	**Vaqueiros**	**6.35**	**163**	S	**Sn**		**11 13 28.6**	**-5.1**
SJPF	**Ste Jean**	**6.43**	**91**	*e*Pn	**Pn**		**11 12 21.4**	**-0.8**
SJPF				*e*Sn	Sn		11 13 27.4	-8.2
	3.5nm,0.3s							
PFVI	**Vila Bisbo**	**6.44**	**171**	*e*Pn	**Pn**		**11 12 24.0**	**+1.7**
PFVI				*e*Sn	**Sn**		**11 13 31.7**	**-4.2**
PFVI				A	A		11 13 38.0	
	12nm,0.6s							
PFVI	**Vila Bisbo**	**6.44**	**171**	Pn	**Pn**		**11 12 23.6**	**+1.3**
PFVI	**Vila Bisbo**	**6.44**	**171**	P	**Pn**		**11 12 22.2**	**-0.2**
PFVI	**Vila Bisbo**	**6.44**	**171**	S	Sn		11 13 29.4	-6.5
ECAB	**El Cabril**	**6.46**	**146**	Pn	**Pn**		**11 12 22.5**	**-0.1**
ECAB				Sn	**Sn**		**11 13 30.2**	**-6.1**
ECAB	**El Cabril**	**6.46**	**146**	Pn	**Pn**		**11 12 22.9**	**+0.3**
ECAB				Sn	**Sn**		**11 13 32.3**	**-4.1**
ECAB				Sg	**Sg

IDC 12 11:50:49.1±6.2, 6°02S×140°51E, h0km, mb3.2/1, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=228.3km s-min=36.2km az=93.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.09**	**203**	Pn	Pn	11 54 22.9	-0.8
	0.1nm,0.3s,baz=22,slow=13,SNR=8.3 1.0nm,1.0s						
ASAR	**Alice Springs**	**18.66**	**199**	P	Pn	11 55 09.4	+0.4
	0.1nm,0.3s,baz=31,slow=12,SNR=11 0.7nm,0.6s						
MKAR	**Makanchi Array**	**73.49**	**322**	P	P	12 02 23.6	-0.1
	0.1nm,0.6s,baz=134,slow=6.2,SNR=1.8 0.1nm,0.6s						

*IDC **12** 12:01:03.6±0.8, 6°03S×142°60E, h0km, mb4.1/10, mbtmp4.1/12, ML0.8/1, MS3.4/10, Error ellipse: s-maj=36.2km s-min=16.8km az=75.0*
*NEIC **12** 12:01:06.8±2.2, 6°2S±0°1×142°21E±0°08, h8km±4km, mb4.4/15, Error ellipse: s-maj=16.7km s-min=10.0km az=208.0*
ISC 12 12:01:08.5±0.6, 6°15S±0°06×142°26E±0°06, h28km, n54, σ1§85/47, mb4.2/13, MS3.1/7, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**1.35**	**310**	P	**Pn**	**12 01 31.0**	**-0.6**
PMG	**Port Moresby**	**5.83**	**124**	Pn	**Pn**	**12 02 32.7**	**-0.5**
PMG	**Port Moresby**	**5.83**	**124**	Pn	Pn	12 02 27.6	-5.6
	0.2nm,0.3s,baz=297,slow=6.8,SNR=1.3						
PMG				Sn	**Sn**	**12 03 35.6**	**-3.7**
	0.3nm,0.3s,baz=315,slow=20,SNR=1.6 8.3nm,0.8s						
COEN	**Coen**	**7.81**	**173**	Pn	**Pn**	**12 03 00.8**	**+0.4**
COEN	**Coen**	**7.81**	**173**	P	**Pn**	**12 03 04.4**	**+4.0**
FAKI	**Fak Fak**	**10.48**	**287**	Pn	**Pn**	**12 03 36.0**	**-1.1**
FAKI	**Fak Fak**	**10.48**	**287**	P	**Pn**	**12 03 37.4**	**+0.3**
MTN	**Manton Dam**	**12.83**	**238**	Pn	**Pn**	**12 04 08.5**	**-0.7**
MTN	**Manton Dam**	**12.83**	**238**	P	**Pn**	**12 04 08.1**	**-1.1**
CTA	**Charters Tower**	**14.39**	**165**	LR	LR	12 10 33.8	
	comp=Z,197nm,18.9s,baz=271,slow=40						
WB0	**Warramunga Arr**	**15.55**	**209**		**Pn**	**12 04 44.4**	**-1.6**
WB0				IAmb	IAmb	12 04 54.0	
	comp=Z,14nm,0.8s						
WR0	**Warramunga Arr**	**15.64**	**208**		**Pn**	**12 04 46.3**	**-0.9**
WR0				IAmb	IAmb	12 04 55.2	
	comp=Z,21nm,0.8s						
WRAB	**Tennant Creek**	**15.71**	**209**		**Pn**	**12 04 46.6**	**-1.5**
WRAB				IAmb	IAmb	12 05 26.3	
	comp=Z,10nm,0.8s						
WB2	**Warramunga Arr**	**15.72**	**209**	Pn	**Pn**	**12 04 47.6**	**-0.6**
WB2				IAmb	IAmb	12 05 16.3	
	comp=Z,12nm,0.9s						
WRA	**Warramunga Arr**	**15.72**	**209**	Pn	**Pn**	**12 04 46.0**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=24,slow=12,SNR=21						
WRA				Sn	**Sn**	**12 07 36.2**	**-5.5**
	comp=Z,0.2nm,0.3s,baz=28,slow=23,SNR=6.2						
WRA				Lg	Lg	12 09 25.9	
	comp=Z,0.1nm,0.3s,baz=34,slow=26,SNR=2.4						
KNRA	**Kununurra**	**16.27**	**233**		**Pn**	**12 04 53.9**	**-1.4**
KNRA				IAmb	IAmb	12 05 01.5	
	comp=Z,33nm,0.8s						
KNRA	**Kununurra**	**16.27**	**233**	P	**Pn**	**12 04 55.7**	**+0.4**
BATI	**Baumata**	**18.84**	**256**	LR	LR	12 14 21.7	
	comp=Z,151nm,18.8s,baz=98,slow=42						
AS01	**Alice Springs**	**19.16**	**204**	P	**Pn**	**12 05 31.9**	**+0.9**
	comp=Z,12nm,0.8s						
AS31	**Alice Springs**	**19.18**	**204**	P	**P**	**12 05 30.8**	**+0.6**
ASAR	**Alice Springs**	**19.18**	**204**	P	**P**	**12 05 30.9**	**+0.7**
ASAR	**Alice Springs**	**19.18**	**204**	P	**Pn**	**12 05 31.6**	**+0.3**
	comp=Z,5.8nm,0.7s,baz=31,slow=11,SNR=57						
ASAR				S	**Sn**	**12 09 00.7**	**-4.9**
	comp=Z,2.2nm,0.9s,baz=20,slow=28,SNR=5.8						
ASAR				Lg	Lg	12 11 15.2	
	comp=Z,0.1nm,0.3s,baz=18,slow=31,SNR=2.4						
ASAR				LR	LR	12 13 45.2	
	comp=Z,366nm,18.6s,baz=36,slow=39						
LUWI	**Luwuk**	**20.09**	**284**	P	Pn	12 05 42.0	-0.1
FITZ	**Fitzroy Crossi**	**20.10**	**232**	P	**P**	**12 05 41.2**	**+0.9**
EIDS	**Eidsvold**	**20.90**	**157**		**P**	**12 05 49.3**	**+0.5**
OOD	**Oodnadatta**	**22.41**	**195**	P	**P**	**12 06 08.1**	**+3.0**
KAPI	**Kappang**	**22.43**	**272**	P	**P**	**12 06 06.8**	**+1.5**
KAPI				IAmb	IAmb	12 06 08.9	
	comp=Z,21nm,1.1s						
WRKA	**Warakurna**	**23.06**	**214**	P	**P**	**12 06 13.1**	**+1.1**
LCRK	**Leigh Creek**	**24.47**	**188**	P	**P**	**12 06 27.6**	**+2.3**
MULG	**Mulgathing**	**25.22**	**197**	P	**P**	**12 06 34.8**	**+2.7**
STKA	**Stephens Creek**	**25.60**	**181**	P	**P**	**12 06 36.0**	**+0.4**
STKA	**Stephens Creek**	**25.60**	**181**	P	**P**	**12 06 36.7**	**+1.1**
	comp=Z,4.4nm,0.8s,baz=347,slow=11,SNR=7.5						
STKA				LR	LR	12 18 06.2	
	comp=Z,137nm,18.7s,baz=19,slow=40 comp=Z,4.4nm,0.8s						
LEM	**Lembang**	**34.42**	**267**	LR	LR	12 23 26.2	
	comp=Z,33nm,20.5s,baz=341,slow=39						
JOW	**Kunigami**	**35.47**	**338**	LR	LR	12 19 41.6	
MJAR	**Matsushiro Arr**	**42.63**	**355**	P	**P**	**12 09 01.2**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=193,slow=10.0,SNR=1.8 comp=Z,0.4nm,0.3s						
KSAR	**Wonju Array Be**	**45.39**	**344**	P	**P**	**12 09 26.5**	**+1.8**
KSRS	**Korea Array**	**45.39**	**344**	P	**P**	**12 09 24.6**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=159,slow=10,SNR=4.5 comp=Z,1.3nm,0.8s						
NIUE	**Niue**	**48.23**	**110**	P	**P**	**12 09 50.5**	**+3.2**
USRK	**Ussuriysk Ar.**	**50.97**	**350**	LR	LR	12 30 39.5	
	comp=Z,22nm,19.4s,baz=140,slow=35						
SONM	**Songino Array**	**62.34**	**334**	P	**P**	**12 11 28.3**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=145,slow=7.9,SNR=5.0 comp=Z,0.3nm,0.4s						
SHEM	**Shemya Is, Ala**	**64.58**	**21**	LR	LR	12 40 24.5	
	comp=Z,9.4nm,18.2s,baz=303,slow=37						
MA2	**Magadan**	**65.86**	**5**	LR	LR	12 38 27.3	
	comp=Z,14nm,21.4s,baz=34,slow=34						
MK31	**Makanchi Array**	**74.66**	**322**	P	**P**	**12 12 45.9**	**+0.4**
MK31				IAmb	IAmb	12 12 47.7	
	comp=Z,3.2nm,1.1s						
MKAR	**Makanchi Array**	**74.66**	**322**	P	**P**	**12 12 45.7**	**+0.2**
MKAR	**Makanchi Array**	**74.66**	**322**	P	**P**	**12 12 45.2**	**-0.3**
	comp=Z,2.4nm,1.0s,baz=112,slow=7.0,SNR=17 comp=Z,2.4nm,1.0s						
MAKZ	**Makanchi**	**74.86**	**322**	P	**P**	**12 12 46.6**	**0.0**
MAKZ				IAmb	IAmb	12 12 48.3	
	comp=Z,3.7nm,1.1s						
NIL	**Nilore**	**76.20**	**307**	P	**P**	**12 12 55.3**	**+0.6**
KURBB	**Kurchatov Arra**	**78.56**	**324**	P	**P**	**12 13 07.2**	**-0.2**
	comp=Z,1.6nm,1.0s,baz=114,slow=5.0,SNR=7.0 comp=Z,1.6nm,1.0s						
QSPA	**South Pole Qui**	**83.82**	**180**	P	**P**	**12 13 35.2**	**-0.1**
QSPA				IAmb	IAmb	12 13 59.7	
	comp=Z,4.2nm,1.2s						
QSPA	**South Pole Qui**	**83.82**	**180**	P	**P**	**12 13 35.3**	**-0.1**
	comp=Z,3.6nm,0.9s,baz=339,slow=2.8,SNR=7.9 comp=Z,3.6nm,0.9s						
NRIK	**Noril'sk**	**84.01**	**343**	P	**P**	**12 13 35.3**	**-0.7**
	comp=Z,2.5nm,0.7s,baz=118,slow=7.9,SNR=3.5 comp=Z,2.5nm,0.7s						
BVAR	**Borovoye Array**	**84.14**	**325**	P	**P**	**12 13 37.0**	**0.0**
	comp=Z,3.8nm,0.9s,baz=116,slow=6.6,SNR=13 comp=Z,3.8nm,0.9s						
ILAR	**Eielson Array**	**87.50**	**24**	P	**P**	**12 13 51.7**	**-1.7**
	comp=Z,1.3nm,1.0s,baz=260,slow=5.4,SNR=8.9 comp=Z,1.3nm,1.0s						
GEYT	**Alibeck**	**89.13**	**308**	LR	LR	12 57 38.9	
	comp=Z,106nm,19.9s,baz=294,slow=38						

*IDC **12** 12:14:27.3±1.1, 30°75N×87°40E, h0km, mb3.5/8, mbtmp3.5/10, ML3.6/2, MS2.8/2, Error ellipse: s-maj=37.4km s-min=19.9km az=61.0*
ISC 12 12:14:32.4±1.0, 30°8N±0°1×87°5E±0°2, h35km, n10, σ1§59/10, mb3.3/7, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.08**	**137**	Pn	**Pn**	**12 18 14.1**	**-1.8**
	0.2nm,0.3s,baz=316,slow=26,SNR=1.6						
CMAR				LR	LR	12 24 29.8	
	comp=Z,29nm,19.6s,baz=345,slow=37 0.4nm,0.3s						
MKAR	**Makanchi Array**	**16.48**	**347**	Pn	**Pn**	**12 18 20.1**	**-0.6**
	0.1nm,0.3s,baz=168,slow=11,SNR=4.3 0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**20.91**	**344**	P	**P**	**12 19 10.4**	**-1.2**
	1.3nm,0.8s,baz=160,slow=10,SNR=7.9 1.3nm,0.8s						
SONM	**Songino Array**	**22.33**	**35**	P	**P**	**12 19 28.2**	**+1.1**
	1.0nm,0.8s,baz=234,slow=12,SNR=5.9 1.0nm,0.8s						
ZALV	**Zalesovo Beam**	**23.22**	**356**	P	**P**	**12 19 36.7**	**+0.6**
	0.5nm,0.5s,baz=170,slow=8.8,SNR=5.4						
ZALV				LR	LR	12 29 05.7	
	comp=Z,24nm,18.4s,baz=152,slow=38 0.5nm,0.5s						
HFS	**Hagfors**	**55.87**	**325**	P	**P**	**12 24 05.3**	**-0.9**
	1.3nm,0.6s,baz=72,slow=9.3,SNR=1.7 1.3nm,0.6s						
NOA	**NORSAR Array B**	**57.02**	**326**	P	**P**	**12 24 13.3**	**-1.1**
	0.9nm,0.9s,baz=84,slow=6.8,SNR=2.4 0.9nm,0.9s						
WRA	**Warramunga Arr**	**67.60**	**132**	P	**P**	**12 25 28.0**	**+2.3**
	0.4nm,0.7s,baz=324,slow=6.5,SNR=1.7 0.4nm,0.7s						
ASAR	**Alice Springs**	**70.07**	**135**	P	**P**	**12 25 40.1**	**-1.0**
	0.2nm,0.6s,baz=319,slow=7.4,SNR=4.7 0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**79.85**	**279**	P	**P**	**12 26 39.4**	**+1.6**
	0.2nm,0.6s,baz=53,slow=5.0,SNR=1.3 0.2nm,0.6s						

JMA 12 12:22:25.3±0.1, 24°2N±0°2×123°8E±0°3, h16km±1km, MV0.5/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.13**	**317**	P	Pg	12 22 29.0	0.0
JKRS	**Kuro-shima**	**0.17**	**91**	P	Pg	12 22 29.4	-0.1
JKRS				eS	Sg	12 22 32.6	+0.3
HATJ	**Hateruma jima**	**0.18**	**186**	*i* P	Pg	12 22 29.6	-0.1
HATJ				eS	Sg	12 22 32.7	0.0
JIJ	**Ishigaki jima**	**0.31**	**67**	*e*P	Pg	12 22 31.9	0.0
JIJ				eS	Sg	12 22 36.0	-0.4
JISG	**Ishigakijimahi**	**0.56**	**52**	*e*P	Pg	12 22 36.2	-0.2

TAP 12 12:22:36.6, 24°33N×121°71E, h7km, ML1.9, 1C, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAHA	**Aohua**	**0.03**	**85**	*i* P	Pg	12 22 38.3	+0.4
	baz=85						
EHP	**Heping Village**	**0.03**	**123**	P	Pg	12 22 38.5	+0.5
	baz=119						
EHP				S	Sg	12 22 39.3	+0.3
	baz=119						
ENA	**Nanau**	**0.10**	**15**	⇑*i*P	Pg	12 22 39.9	+0.9
	baz=19						
ENA				*i* S	Sg	12 22 41.4	+0.8
	baz=19						
EWUT	**Wuta**	**0.13**	**27**	*i* P	Pg	12 22 40.3	+0.9
	baz=27						
EWUT				*i* S	Sg	12 22 42.2	+0.8
	baz=27						
ETL	**Fush Village**	**0.19**	**206**	P	Pg	12 22 41.6	+1.2
	baz=205						
ETL				S	Sg	12 22 44.7	+1.8
	baz=205						
NACB	**Ninganchiao**	**0.19**	**215**	P	Pg	12 22 41.5	+1.1
	baz=214						
NACB				*e*S	Sg	12 22 44.5	+1.6
	baz=214						
ETLH	**Xiulin Townshi**	**0.24**	**240**	P	Pg	12 22 42.9	+1.4
	baz=240						
ETLH				*e*S	Sg	12 22 46.6	+1.9
	baz=240						
LATG	**Datong**	**0.27**	**321**	*i* P	Pb	12 22 43.5	-0.4
	baz=320						
LATG				*e*S	Sg	12 22 47.0	+1.4
	baz=320						
NDS	**Dongshan**	**0.30**	**1**	P	Pb	12 22 44.0	-0.5
NDS				S	Sg	12 22 48.1	+1.4
TWC	**Suao**	**0.31**	**24**	P	Pb	12 22 43.6	-0.8
	baz=25						
TWC				*e*S	Sg	12 22 47.8	+1.0
	baz=25						
NNSB	**Datong**	**0.32**	**289**	P	Pb	12 22 44.7	-0.1
	baz=288						
NNSB				*e*S	Sb	12 22 48.8	-1.3
	baz=288						
NNSH	**Datong**	**0.32**	**289**	*e*S	Sb	12 22 48.8	-1.3
	baz=288						
NDT	**Datong Townshi**	**0.33**	**327**	P	Pb	12 22 44.9	0.0
	baz=326						
NDT				S	Sb	12 22 50.1	-0.3
	baz=326						
NNS	**Nan Shan**	**0.33**	**290**	*e*P	Pb	12 22 44.6	-0.3
	baz=290						
NNS				S	Sb	12 22 49.3	-1.2
	baz=290						
TWE	**Neicheng**	**0.40**	**354**	P	Pb	12 22 45.8	-0.2
	baz=356						
TWE				*e*S	Sb	12 22 50.9	-1.3
	baz=356						
LXIB	**Xiulin Townshi**	**0.41**	**222**	P	Pb	12 22 45.6	-0.7
	baz=221						
LXIB				*e*S	Sb	12 22 51.9	-0.9
	baz=221						
ETM	**Tongmen**	**0.41**	**209**	*e*P	Pg	12 22 45.3	+0.7
	baz=209						
ETM				*e*S	Sb	12 22 51.8	-0.9
	baz=209						
FUSS	**Fushou**	**0.43**	**260**	*e*P	Pb	12 22 46.8	0.0
	baz=259						
FUSS				*e*S	Sb	12 22 52.6	-1.0
	baz=259						
FUSB	**Fushanzhiwuyua**	**0.45**	**345**	P	Pb	12 22 46.8	-0.1
	baz=345						
FUSB				S	Sb	12 22 52.9	-0.9
	baz=345						
YHNB	**Yeheng**	**0.46**	**318**	P	Pb	12 22 47.4	+0.3
	baz=318						
YHNB				*e*S	Sb	12 22 54.1	-0.1
	baz=318						
NSK	**Sanguang**	**0.47**	**317**	*e*P	Pb	12 22 47.5	+0.2
	baz=317						
EOS2	**EOS2**	**0.48**	**79**	*e*P	Pb	12 22 47.5	+0.2
	baz=79						
EOS2				*e*S	Sb	12 22 55.7	+1.1
	baz=79						
NWLT	**Wulai**	**0.49**	**337**	P	Pb	12 22 47.8	+0.2
	baz=336						
NWLT				*e*S	Sb	12 22 54.1	-0.8
	baz=336						
EOS3	**EOS3**	**0.55**	**94**	*e*S	Sb	12 22 58.0	+1.3
	baz=94						
CHGB	**Renai**	**0.56**	**242**	*e*P	Pb	12 22 48.8	-0.1
	baz=241						
CHGB				*e*S	Sb	12 22 57.4	+0.3
	baz=241						
ESL	**Shilin**	**0.57**	**207**	*e*P	Pb	12 22 48.3	-0.6
	baz=205						
ESL				*e*S	Sb	12 22 56.4	-0.9
	baz=205						
OWD	**Renai**	**0.61**	**233**	*e*P	Pb	12 22 50.1	+0.3
	baz=232						
OWD				*e*S	Sb	12 22 58.8	+0.1
	baz=232						
NFF	**Wufeng Townshi**	**0.62**	**299**	*e*P	Pb	12 22 50.7	+0.8
	baz=299						
NFF				*e*S	Sb	12 22 59.1	+0.3
	baz=299						
WUSB	**Renai**	**0.64**	**239**	P	Pb	12 22 50.7	+0.6
	baz=238						
WUSB				*e*S	Sb	12 22 59.3	-0.1
	baz=238						
TIPB	**Shuangxi**	**0.65**	**9**	*e*P	Pb	12 22 50.9	+0.6
	baz=9.0						
TIPB				*e*S	Sb	12 22 59.0	-0.6
	baz=9.0						
WARBT	**Fenglin Townsh**	**0.68**	**206**	P	Pg	12 22 50.1	+0.5
	baz=206						
WARBT				*e*S	Sb	12 23 00.2	-0.2
	baz=206						
WHP	**Taichung City**	**0.70**	**266**	*e*P	Pb	12 22 52.1	+0.8
	baz=265						
WHP				*e*S	Sb	12 23 01.9	+0.8
	baz=265						
LIOB	**Emei**	**0.71**	**297**	*e*P	Pb	12 22 51.9	+0.5
	baz=296						
LIOB				*e*S	Sb	12 23 02.2	+0.8
	baz=296						
NSTT	**Nanjuang**	**0.71**	**295**	*e*S	Sb	12 23 02.0	+0.5
	baz=295						
VWDT	**VWDT**	**0.77**	**223**	*e*P	Pb	12 22 52.6	+0.2
	baz=222						
VWDT				*e*S	Sb	12 23 04.0	+0.9
	baz=222						
SXI1	**Grass Mountain**	**0.78**	**11**	*e*P	Pb	12 22 52.6	0.0
	baz=11						
SXI1				*e*S	Sb	12 23 03.2	-0.2
	baz=11						
SSLB	**Suanglung**	**0.88**	**232**	P	Pb	12 22 54.6	+0.4
	baz=232						
SSLB				*e*S	Sb	12 23 06.9	+0.7
	baz=232						
YULB	**Yu-li**	**1.00**	**202**	*e*P	Pb	12 22 56.6	+0.2
	baz=202						
YULB				*e*S	Sn	12 23 11.4	-0.2
	baz=202						

*SOME **12** 12:27:35.1, 41°23N×78°75E, h15km*
*KRNET **12** 12:27:36.9±0.1, 41°35N×78°70E, h11km, mb2.6*
*NNC **12** 12:27:36.2±1.2, 41°25N×78°69E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=8.5km s-min=5.2km az=168.0*
ISC 12 12:27:39.0±2.1, 41°32N±0°08×78°64E±0°05, h1km±14km, n43, σ1§52/71, 17C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**1.17**	**351**	⇓*i*P	**Pb**	**12 27 59.3**	**-3.0**
	baz=49						
PRZ				⇓*i*S	**Sb**	**12 28 15.7**	**-2.4**
	baz=49						
KDJ	**Kajisay**	**1.36**	**307**	⇑*i*P	**Pn**	**12 28 02.7**	**-2.7**
	baz=5.0						
KDJ				⇑*i*S	**Sn**	**12 28 21.9**	**-2.2**
	baz=5.0						
ANVS	**Anan'yevo**	**1.63**	**334**	⇑*e*P	**Pn**	**12 28 07.8**	**-1.3**
	baz=32						
ANVS				⇑*e*S	**Sn**	**12 28 29.7**	**-1.1**
	baz=32						
SATY	**Saty**	**1.74**	**354**	*e*P	**Pn**	**12 28 10.0**	**-0.6**
	14nm,0.4s						
SATY				*e*S	**Sb**	**12 28 34.9**	**+0.5**
	34nm,0.4s						
SATY	**Saty**	**1.74**	**354**	P	**Pn**	**12 28 10.0**	**-0.6**
	14nm,0.4s						
SATY				S	**Sb**	**12 28 34.9**	**+0.5**
	34nm,0.4s						
UZB	**Uzynbulak**	**1.84**	**9**	*e*P	**Pn**	**12 28 10.7**	**-1.3**
	5.7nm,0.2s						
UZB				*e*S	**Sb**	**12 28 36.1**	**-1.2**
	18nm,0.2s						
UZB	**Uzynbulak**	**1.84**	**9**	Pg	**Pn**	**12 28 10.7**	**-1.3**
	5.7nm,0.2s						
UZB				Lg	Lg	12 28 36.1	
	18nm,0.2s						
SHLS	**Shalkode**	**1.93**	**18**	*e*P	**Pb**	**12 28 15.2**	**0.0**
	15nm,0.3s						
SHLS				*e*S	**Sg**	**12 28 43.7**	**+2.6**
	38nm,0.1s						
SHLS	**Shalkode**	**1.93**	**18**	Pg	**Pg**	**12 28 15.9**	**-0.1**
	15nm,0.3s						
SHLS				Lg	Lg	12 28 45.7	
	35nm,0.3s						
NRN	**Naryn**	**1.99**	**274**	⇓*i*P	**Pn**	**12 28 14.6**	**+0.4**
	baz=73						
NRN				⇓*i*S	**Sb**	**12 28 42.6**	**+0.9**
	baz=73						
ULHL	**Ulahol**	**2.02**	**298**	⇑*i*P	**Pn**	**12 28 14.4**	**0.0**
	baz=97						
ULHL				⇑*i*S	**Sb**	**12 28 42.1**	**-0.3**
	baz=97						
PDGK	**Podgornoye**	**2.10**	**17**	Pg	**Pn**	**12 28 15.5**	**0.0**
	4.4nm,0.5s						
PDGK				Lg	Lg	12 28 44.9	
	12nm,0.5s						
PDGK	**Podgornoye**	**2.10**	**17**	⇑Pg	**Pn**	**12 28 15.1**	**-0.4**
	6.4nm,0.6s						
PDGK				⇑Lg	Lg	12 28 44.7	
	29nm,0.8s						
TNSS	**Tian-Shan**	**2.13**	**324**	*e*P	**Pn**	**12 28 17.0**	**+0.9**
	12nm,0.3s						
TNSS				*e*S	**Sb**	**12 28 47.0**	**+1.3**
	14nm,0.3s						
TNSS	**Tian-Shan**	**2.13**	**324**	Pg	**Pn**	**12 28 17.0**	**+0.9**
	12nm,0.3s						
TNSS				Lg	Lg	12 28 47.0	
	14nm,0.3s						
MDOK	**Medeo**	**2.19**	**328**	*e*P	**Pn**	**12 28 17.8**	**+1.1**
	11nm,0.4s						
MDOK				*e*S	**Sb**	**12 28 48.3**	**+1.1**
	22nm,0.5s						
MDOK	**Medeo**	**2.19**	**328**	Pg	**Pn**	**12 28 17.8**	**+1.1**
	11nm,0.4s						
MDOK				Pg	**Pb**	**12 28 18.2**	**-1.3**
	11nm,0.6s						
MDOK				Lg	Lg	12 28 48.3	
	22nm,0.5s						
MDOK				⇑Lg	Lg	12 28 49.0	
	19nm,0.6s						
KURS	**Kuram**	**2.19**	**351**	*e*P	**Pb**	**12 28 17.8**	**-1.8**
	8.8nm,0.5s						
KURS				*e*S	**Sb**	**12 28 48.3**	**+1.1**
	24nm,0.4s						
KURS	**Kuram**	**2.19**	**351**	Pg	**Pb**	**12 28 17.8**	**-1.8**
	8.8nm,0.5s						
KURS				Lg	Lg	12 28 48.3	
	24nm,0.4s						
KOTS	**Kotyrbulak**	**2.22**	**330**	*e*P	**Pb**	**12 28 18.4**	**-1.7**
	9.6nm,0.3s						
KOTS				*e*S	**Sb**	**12 28 49.3**	**+1.1**
	48nm,0.6s						
KOTS	**Kotyrbulak**	**2.22**	**330**	Pg	**Pb**	**12 28 18.4**	**-1.7**
	9.6nm,0.3s						
KOTS				Lg	Lg	12 28 49.3	
	48nm,0.6s						
BOOM	**Boomskoye usch**	**2.33**	**301**	⇑*i*P	**Pn**	**12 28 18.8**	**+0.1**
	baz=0.0						
BOOM				⇑*i*S	**Sb**	**12 28 49.6**	**-1.7**
	baz=0.0						
MTBS	**Maitube**	**2.44**	**318**	*e*P	**Pb**	**12 28 22.2**	**-1.6**
	8.6nm,0.3s						
MTBS				*e*S	**Sb**	**12 28 55.9**	**+1.4**
	24nm,0.4s						
MTBS	**Maitube**	**2.44**	**318**	Pg	**Pb**	**12 28 22.2**	**-1.6**
	8.6nm,0.3s						
MTBS				Lg	Lg	12 28 55.9	
	24nm,0.4s						
KTMS	**Ketmen**	**2.47**	**30**	*e*P	**Pn**	**12 28 21.4**	**+0.8**
	2.5nm,0.2s						
KTMS				*e*S	**Sb**	**12 28 54.9**	**-0.5**
	6.8nm,0.3s						
KTMS	**Ketmen**	**2.47**	**30**	Pg	**Pn**	**12 28 21.4**	**+0.8**
	2.5nm,0.2s						
KTMS				Lg	Lg	12 28 54.9	
	6.8nm,0.3s						
KST	**Kastek**	**2.63**	**312**	*e*P	**Pb**	**12 28 26.1**	**-0.9**
	8.7nm,0.4s						
KST				*e*S	**Sb**	**12 29 02.5**	**+2.6**
	22nm,0.6s						
KST	**Kastek**	**2.63**	**312**	Pg	**Pb**	**12 28 26.1**	**-0.9**
	8.7nm,0.4s						
KST				Lg	Lg	12 29 02.5	
	22nm,0.6s						
TKM2	**Tokmak 2**	**2.77**	**306**	⇓Pg	**Pb**	**12 28 26.9**	**-2.6**
	3.6nm,0.4s						
TKM2				⇓Lg	Lg	12 29 06.6	
	5.0nm,0.4s						
TKM2	**Tokmak 2**	**2.77**	**306**	⇓*i*P	**Pn**	**12 28 24.7**	**-0.1**
	baz=5.0						
TKM2				⇓*i*S	**Sn**	**12 29 00.1**	**+1.1**
	baz=5.0						
KTBS	**Karatob

DGS	**Degeres**	**2.87**	**313**	*e*P		**Pb**	**12 28 29.2**	**-1.9**
	11nm,0.3s							
DGS				*e*S		**Sb**	**12 29 07.7**	**+1.0**
	18nm,0.6s							
ARXS	**Arharly**	**2.95**	**349**	*e*P		**Pb**	**12 28 31.1**	**-1.4**
	2.4nm,0.2s							
ARXS				*e*S		**Sb**	**12 29 10.9**	**+1.8**
	39nm,0.5s							
KNOS	**Konyrlen**	**3.06**	**7**	Pg		**Pb**	**12 28 32.8**	**-1.6**
	4.9nm,0.2s							
KNOS				Lg		Lg	12 29 14.0	
	19nm,0.5s							
UCH	**Uchtor**	**3.22**	**288**	⇑*i*P		**Pn**	**12 28 31.6**	**+0.5**
	baz=87							
UCH				⇑*i*S		**Sn**	**12 29 11.6**	**+1.3**
	baz=87							
KRBS	**Karabastau**	**3.23**	**318**	*e*P		**Pb**	**12 28 35.5**	**-1.7**
	2.9nm,0.3s							
KRBS				*e*S		**Sb**	**12 29 19.6**	**+2.5**
	4.8nm,0.4s							
KRBS	**Karabastau**	**3.23**	**318**	Pg		**Pb**	**12 28 35.6**	**-1.7**
	2.9nm,0.3s							
KRBS				Lg		Lg	12 29 19.6	
	4.8nm,0.4s							
ARLS	**Aral**	**3.28**	**281**	⇑*e*P		**Pn**	**12 28 32.0**	**+0.2**
	baz=80							
ARLS				⇑*i*S		**Sn**	**12 29 12.7**	**+1.1**
	baz=80							
AAK	**Ala-Archa**	**3.36**	**294**	⇑*i*P		**Pn**	**12 28 33.1**	**+0.3**
	baz=94							
AAK				⇑*i*S		**Sn**	**12 29 14.6**	**+1.2**
	baz=94							
KAPS	**Kapalarasan**	**4.00**	**7**	*e*P		**Pb**	**12 28 49.5**	**-0.8**
	1.7nm,0.2s							
KAPS				*e*S		**Sb**	**12 29 42.6**	**+3.5**
	4.1nm,0.3s							
KAPS	**Kapalarasan**	**4.00**	**7**	Pg		**Pb**	**12 28 48.5**	**-1.8**
	1.5nm,0.3s							
KAPS				Lg		Lg	12 29 41.0	
	3.5nm,0.3s							

BJI ***12*** *12:35:22.0±0.0, 34°.42N×23°.14E, h18km, mb4.7/53, mB5.0/21, Ms4.5/14, Ms7 4.2/16*

IDC ***12*** *12:35:23.5±0.5, 34°.50N×23°.56E, h0km, mb4.6/31, mbtmp4.5/43, ML4.1/12, MS4.1/69, Error ellipse: s-maj=12.2km s-min=8.7km az=152.0*

MOS ***12*** *12:35:24.5±1.0, 34°.49N×23°.66E, h14km, mb5.0/46, MS4.1/21, Error ellipse: s-maj=5.3km s-min=3.0km az=77.3*

TIR ***12*** *12:35:24.8, 35°.26N×24°.21E, h0km±59km, Ml4.5*

MED_RC ***12*** *12:35:25.0±0.3, 34°.40N×23°.62E, h10km, MW4.9/24, Moment Tensor Solution. Body waves: s1,c1;Mantle waves: s24,c30; Duration: 1s1 Moment tensor: Scale 10^16Nm; Mrr 1.71±.05; Mθθ -0.21±.05; Mφφ -1.50±.04; Mrθ 2.01±.21; Mθφ 0.95±.04; Mφr -1.12±.18; Best double couple: M☐2.97000×10^16 NP1:☐s 128.00000°, ☐72.00000°, ☐72.00000°. NP2:☐s 354.00000°, ☐26.00000°, ☐134.00000°. Principal axes: T 3.0200, Plg59.0000°, Azm12.0000°; N -0.1200, Plg17.0000°, Azm133.0000°; P -2.9100, Plg25.0000°, Azm232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*

NEIC ***12*** *12:35:26.2±2.1, 34°.51N±0°.04×23°.62E±0°.06, h10km±1km, mb4.8/98 Error ellipse: s-maj=10.5km s-min=3.2km az=133.0*

GCMT ***12*** *12:35:26.2±0.3, 34°.45N±0°.03×23°.62E±0°.03, h18km, MW4.9/91, Moment Tensor Solution. s36,c43; s91,c126; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr 2.84±.14; Mθθ -1.34±.10; Mφφ -1.49±.09; Mrθ 0.66±.22; Mθφ 1.25±.06; Mφr -0.87±.21; Best double couple: M☐2.96000×10^16 NP1:☐s 139.00000°, ☐56.00000°, ☐92.00000°. NP2: ☐s 315.00000°, ☐34.00000°, ☐87.00000°. Principal axes: T 3.0490, Plg79.0000°, Azm58.0000°; N -0.1670, Plg2.0000°, Azm318.0000°; P -2.8720, Plg11.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISK ***12*** *12:35:28.1, 34°.62N×23°.85E, h18km, ML4.3/19*

BGR ***12*** *12:35:28.4±2.3, 34°.64N×24°.11E, h10km, mb4.3, Ms3.7, Error ellipse: s-maj=65.6km s-min=61.2km az=46.0*

ATH ***12*** *12:35:29.3, 34°.63N×23°.59E, h10km±2km, ML4.2/6, Error ellipse: s-maj=3.4km s-min=1.4km az=37.0*

GII ***12*** *12:35:29.2±0.5, 34°.282N±0°.003×24°.047E±0°.001, h10km, Mws4.6, confirmed*

NAO ***12*** *12:35:32.1, 35°.08N×24°.47E, h33km, mb4.2*

PDG ***12*** *12:35:32.1±0.9, 34°.43N×23°.64E, h23km±11km, ML4.9/8, Error ellipse: s-maj=4.5km s-min=2.5km az=90.0*

ISC 12 12:35:25.9±0.8, **34°.45N**±0°.03×**23°.61E**±0°.03, **h14**km±4km, **n673**, σ1**§79**/682, **mb4.8**/125, **MS4.2**/71, **43C-23D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.55**	**45**	Pg	**Pg**	**12 35 34.9**	**-1.9**
GVD	**Gavdhos**	**0.55**	**45**	P	**Pg**	**12 35 35.4**	**-1.4**
GVD				S	**Sg**	**12 35 43.5**	**-0.7**
IMMV	**Iera Moni Meta**	**1.05**	**17**	Pg	**Pb**	**12 35 45.0**	**-1.0**
IMMV	**Iera Moni Meta**	**1.05**	**17**	P	**Pb**	**12 35 43.7**	**-2.3**
IMMV				S	**Sn**	**12 36 06.5**	**+5.7**
IMMV	**Iera Moni Meta**	**1.05**	**17**	P	**Pb**	**12 35 45.7**	**-0.3**
IMMV				AML	AML	12 36 12.1	
	comp=N,51064μm,0.7s						
IMMV				AML	AML	12 36 20.8	
	comp=E,56139μm,1.0s						
RODP	**Rodopos**	**1.11**	**6**	Pg	**Pb**	**12 35 46.9**	**-0.1**
RODP	**Rodopos**	**1.11**	**6**	P	**Pb**	**12 35 45.2**	**-1.8**
RODP				S	**Sn**	**12 36 06.8**	**+4.4**
CHAN	**Chania**	**1.12**	**18**	P	**Pn**	**12 35 47.3**	**+0.1**
CHAN				S	**Sb**	**12 36 00.9**	**-0.8**
CHAN				AML	AML	12 36 14.7	
	comp=N,40841μm,0.8s						
CHAN				AML	AML	12 36 15.5	
	comp=E,43915μm,0.8s						
TMBK	**Timbaki Herakl**	**1.14**	**57**	P	**Pb**	**12 35 47.0**	**-0.4**
TMBK				S	**Sn**	**12 36 06.0**	**+3.1**
TMBK	**Timbaki Herakl**	**1.14**	**57**	P	**Pg**	**12 35 48.4**	**+0.6**
TMBK				S	**Sn**	**12 36 04.2**	**+1.4**
PRNS	**Prines Rethymn**	**1.17**	**39**	P	**Pn**	**12 35 45.5**	**-2.4**
PRNS				S	**Sn**	**12 36 09.5**	**+5.8**
IDI	**Anoyia**	**1.34**	**51**	Pn	**Pn**	**12 35 48.9**	**-1.5**
IDI	**Anoyia**	**1.34**	**51**	Pn	**Pn**	**12 35 49.8**	**-0.6**
IDI	**Anoyia**	**1.34**	**51**	P	**Pn**	**12 35 49.1**	**-1.3**
IDI				S	**Sg**	**12 36 11.4**	**+2.1**
IDI	**Anoyia**	**1.34**	**51**	Pg	**Pn**	**12 35 49.2**	**-1.3**
	comp=E,0.4nm,0.3s,baz=222,slow=17,SNR=47						
IDI				Lg	Lg	12 36 06.7	
	comp=E,1.8nm,0.3s,baz=286,slow=21,SNR=5.4						
IDI	**Anoyia**	**1.34**	**51**	P	**Pg**	**12 35 52.1**	**+0.3**
IDI				AML	AML	12 36 25.0	
	comp=N,10339μm,0.8s						
IDI				AML	AML	12 36 29.3	
	comp=E,9049μm,0.8s						
ANKY	**Antikythira Is**	**1.44**	**350**	P	**Pn**	**12 35 51.8**	**+0.2**
ANKY				S	**Sg**	**12 36 12.4**	**+0.2**
ANKY	**Antikythira Is**	**1.44**	**350**	P	**Pb**	**12 35 52.1**	**-0.4**
ANKY				S	**Sn**	**12 36 07.9**	**-2.3**
ANKY				AML	AML	12 36 32.8	
	comp=N,14697μm,1.2s						
ANKY				AML	AML	12 36 34.5	
	comp=E,12719μm,0.9s						
KSTL	**Kastelli Herak**	**1.47**	**54**	P	**Pg**	**12 35 55.1**	**+0.9**
KSTL				S	Sg	12 36 24.4	+11
KSTL	**Kastelli Herak**	**1.47**	**54**	P	**Pg**	**12 35 56.8**	**+2.6**
KSTL				AML	AML	12 36 39.3	
	comp=E,6715μm,0.8s						
KSTL				AML	AML	12 36 41.5	
	comp=N,12120μm,1.3s						
IACM	**Heraklion**	**1.47**	**54**	P	**Pg**	**12 35 54.1**	**-0.1**
IACM				S	**Sg**	**12 36 16.2**	**+2.8**
IACM	**Heraklion**	**1.47**	**54**	P	**Pb**	**12 35 53.6**	**+0.5**
FRMA	**Ierapetra Chan**	**1.84**	**72**	P	**Pg**	**12 36 00.7**	**-0.5**
FRMA				S	**Sg**	**12 36 33.0**	**+8.0**
FRMA	**Ierapetra Chan**	**1.84**	**72**	P	**Pg**	**12 36 01.1**	**-0.1**
ZKR	**Zakros**	**2.25**	**72**	Pn	**Pn**	**12 36 02.1**	**-0.6**
ZKR	**Zakros**	**2.25**	**72**	P	**Pb**	**12 36 05.0**	**-1.3**
ZKR				S	**Sg**	**12 36 37.4**	**-0.7**
ZKR	**Zakros**	**2.25**	**72**	P	**Pb**	**12 36 05.4**	**-0.9**
MHLO	**Agia Marina, M**	**2.33**	**16**	P	**Pn**	**12 36 04.9**	**+1.1**
MHLO	**Agia Marina, M**	**2.33**	**16**	P	**Pn**	**12 36 05.0**	**+1.1**
VLI	**Veliai**	**2.33**	**347**	P	**Pb**	**12 36 06.9**	**-0.8**
VLI	**Veliai**	**2.33**	**347**	P	**Pn**	**12 36 05.4**	**+1.6**
VLI				AML	AML	12 37 06.8	
	comp=E,4704μm,1.0s						
VLI				AML	AML	12 37 06.8	
	comp=N,5006μm,1.0s						
THR9	**Santorini-Faro**	**2.38**	**36**	P	**Pb**	**12 36 06.8**	**-1.8**
THR6	**Thira Island,**	**2.40**	**37**	P	**Pn**	**12 36 06.7**	**+1.9**
THR5	**Thira Island,**	**2.42**	**35**	P	**Pn**	**12 36 06.4**	**+1.2**
STAX	**Taxiarchis Har**	**2.44**	**37**	P	**Pn**	**12 36 06.1**	**+0.8**
THR3	**Thira Island,**	**2.44**	**36**	P	**Pn**	**12 36 07.2**	**+1.8**
THR8	**Santorini-Mono**	**2.48**	**38**	P	**Pn**	**12 36 06.7**	**+0.8**
PYL	**PYLOS**	**2.87**	**329**	P	**Pn**	**12 36 12.4**	**+1.0**
PYL	**PYLOS**	**2.87**	**329**	P	**Pn**	**12 36 11.6**	**+0.2**
KRND	**KRANIDI**	**2.95**	**353**	P	**Pn**	**12 36 14.3**	**+1.9**
APE	**Apeiranthos**	**3.04**	**30**	⇑P	**Pn**	**12 36 14.9**	**+1.1**
APE	**Apeiranthos**	**3.04**	**30**	Pn	**Pn**	**12 36 13.7**	**0.0**
APE	**Apeiranthos**	**3.04**	**30**	P	**Pn**	**12 36 14.2**	**+0.5**
APE	**Apeiranthos**	**3.04**	**30**	⇑P	**Pn**	**12 36 14.9**	**+1.1**
APE	**Apeiranthos**	**3.04**	**30**	P	**Pn**	**12 36 15.1**	**+1.3**
KARP	**Karpathos**	**3.12**	**68**	Pn	**Pn**	**12 36 14.4**	**-0.3**
KARP	**Karpathos**	**3.12**	**68**	Pn	**Pn**	**12 36 16.9**	**+2.2**
KARP	**Karpathos**	**3.12**	**68**	P	**Pn**	**12 36 16.9**	**+2.2**
KARP	**Karpathos**	**3.12**	**68**	P	**Pn**	**12 36 15.8**	**+1.1**
KARP	**Karpathos**	**3.12**	**68**	P	**Pn**	**12 36 17.1**	**+2.5**
ATHU	**Athens Univers**	**3.51**	**2**	P	**Pn**	**12 36 20.2**	**+0.1**
NISR	**Nisiros**	**3.59**	**52**	P	**Pn**	**12 36 23.4**	**+2.2**
PTL	**Penteli**	**3.60**	**51**	P	**Pn**	**12 36 22.7**	**+1.4**
LTK	**Loutraki**	**3.60**	**352**	P	**Pn**	**12 36 23.0**	**+1.6**
GUR	**Goura**	**3.63**	**344**	P	**Pn**	**12 36 24.0**	**+2.2**
DION	**Dionisos Attik**	**3.63**	**4**	P	**Pn**	**12 36 24.0**	**+2.3**
VILL	**Villia**	**3.71**	**356**	P	**Pn**	**12 36 22.7**	**-0.2**
KLV	**Kalavryta, Ach**	**3.77**	**342**	P	**Pn**	**12 36 25.0**	**+1.2**
DRO	**Drossia**	**3.82**	**337**	P	**Pn**	**12 36 27.0**	**+2.7**
DAT	**Datca**	**3.95**	**54**	Pn	**Pn**	**12 36 26.4**	**+0.1**
BODT	**Bodrum**	**3.98**	**48**	Pn	**Pn**	**12 36 26.5**	**-0.1**
BODT	**Bodrum**	**3.98**	**48**	P	**Pn**	**12 36 27.3**	**+0.7**
ARG	**Arkhangelos**	**4.09**	**63**	Pn	**Pn**	**12 36 28.2**	**+0.1**
ARG	**Arkhangelos**	**4.09**	**63**		**Pn**	**12 36 29.6**	**+1.5**
ARG	**Arkhangelos**	**4.09**	**63**	P	**Pn**	**12 36 29.7**	**+1.6**
ARG	**Arkhangelos**	**4.09**	**63**	P	**Pn**	**12 36 30.0**	**+1.9**
SMG	**Samos**	**4.17**	**38**	P	**Pn**	**12 36 30.5**	**+1.3**
KYMI	**Kymi, Euboea I**	**4.19**	**5**	P	**Pn**	**12 36 30.1**	**+0.6**
EFP	**Efpalio**	**4.20**	**341**	P	**Pn**	**12 36 31.8**	**+2.2**
AXAR	**Agios Charalam**	**4.38**	**350**	P	**Pn**	**12 36 33.5**	**+1.5**
MLSB	**Milas**	**4.42**	**49**	Pn	**Pn**	**12 36 32.5**	**0.0**
AGG	**Agios Georgios**	**4.68**	**348**	Pn	**Pn**	**12 36 33.8**	**+2.2**
AGG	**Agios Georgios**	**4.68**	**348**	Pn	**Pn**	**12 36 37.4**	**+1.3**
AGG	**Agios Georgios**	**4.68**	**348**	P	**Pn**	**12 36 37.4**	**+1.3**
DALY	**Dalyan (Mula)**	**4.74**	**59**	Pn	**Pn**	**12 36 37.4**	**+0.4**
BLCB	**Balcova**	**4.80**	**34**	Pn	**Pn**	**12 36 38.2**	**+0.3**
LKD2	**Lefkada island**	**4.94**	**332**	P	**Pn**	**12 36 42.6**	**+2.9**
LKD2	baz=323			S	Pg	12 37 09.8	+9.4
	baz=323						
LKD2				AMP			
	comp=N,1.2nm,0.9s,baz=323						
FETY	**Fethiye**	**4.97**	**62**	Pn	**Pn**	**12 36 39.9**	**-0.3**
SIGR	**SIGRI**	**5.08**	**20**	Pn	**Pn**	**12 36 42.8**	**+1.1**
CAME	**Cameli-Denizli**	**5.26**	**60**	Pn	**Pn**	**12 36 44.8**	**+0.5**
APMY	**Acipayam-Deniz**	**5.51**	**55**	Pn	**Pn**	**12 36 48.4**	**+0.7**
ELL	**Elmali**	**5.62**	**64**	Pn	**Pn**	**12 36 50.1**	**+0.9**
ELL	**Elmali**	**5.62**	**64**	Pn	**Pn**	**12 36 50.2**	**+1.0**
ELL	**Elmali**	**5.62**	**64**	P	**Pn**	**12 36 50.2**	**+1.0**
IGT	**Igoumenitsa**	**5.71**	**334**	P	**Pn**	**12 36 50.7**	**+0.4**
IGT	baz=326			S	**Sn**	**12 37 55.4**	**-0.3**
	baz=326						
KULA	**Kula-Manisa**	**5.75**	**44**	Pn	**Pn**	**12 36 51.7**	**+0.8**
SRN	**Sarande**	**6.14**	**333**	P	**Pn**	**12 36 56.0**	**-0.1**
SRN	baz=326			S	**Sn**	**12 38 08.2**	**+2.1**
	baz=326						
LSK	**Leskovik**	**6.17**	**338**	P	**Pn**	**12 36 58.4**	**+1.6**
LSK	baz=331			S	**Sn**	**12 38 07.8**	**+0.6**
	baz=331						
ANTB	**Antalya**	**6.23**	**65**	Pn	**Pn**	**12 36 58.8**	**+1.3**
SIMA	**Simav-Kutahya**	**6.32**	**41**	Pn	**Pn**	**12 36 59.8**	**+1.0**
SOH	**Sokhos**	**6.36**	**358**	P	**Pn**	**12 37 00.6**	**+1.3**
BCK	**Bucak**	**6.41**	**60**	Pn	**Pn**	**12 37 01.1**	**+1.1**
ISP	**Isparta**	**6.53**	**57**	*i* P	**Pn**	**12 37 01.3**	**-0.4**
KBN	**Korca**	**6.56**	**341**		**Pn**	**12 37 03.8**	**+1.8**
KBN	**Korca**	**6.56**	**341**	P	**Pn**	**12 37 03.4**	**+1.4**
KBN	baz=335			S	**Sn**	**12 38 21.1**	**+4.4**
	baz=335						
KBN	**Korca**	**6.56**	**341**	P	**Pn**	**12 37 03.8**	**+1.8**
GRG	**Griva**	**6.56**	**352**	P	**Pn**	**12 37 03.0**	**+0.9**
FNA	**Florina**	**6.57**	**345**		**Pn**	**12 37 02.9**	**+0.7**
FNA	**Florina**	**6.57**	**345**	P	**Pn**	**12 37 02.6**	**+0.5**
FNA	baz=339			S	**Sn**	**12 38 13.1**	**-3.8**
	baz=339						
FNA	**Florina**	**6.57**	**345**	P	**Pn**	**12 37 02.9**	**+0.7**
SRS	**Serrai**	**6.66**	**360**	P	**Pn**	**12 37 04.3**	**+1.0**
ALN	**Alexandroupoli**	**6.72**	**16**		**Pn**	**12 37 04.1**	**-0.1**
ALN	**Alexandroupoli**	**6.72**	**16**	P	**Pn**	**12 37 04.1**	**-0.1**
TVSB	**Tavsanli**	**6.84**	**41**	Pn	**Pn**	**12 37 07.3**	**+1.3**
RDO	**Rodhopi**	**6.86**	**12**		**Pn**	**12 37 06.6**	**+0.5**
SHUT	**Suhut-Afyon**	**6.93**	**52**	Pn	**Pn**	**12 37 08.6**	**+1.4**
OHR	**Ohrid**	**7.01**	**342**	*i* P	**Pb**	**12 37 28.1**	**+0.5**
TIP	**Timpagrande**	**7.24**	**313**	⇑P	**Pn**	**12 37 10.4**	**-1.0**
TIP	**Timpagrande**	**7.24**	**313**	Pn	**Pn**	**12 37 10.7**	**-0.8**
CEL	**Celeste**	**7.29**	**304**		**Pn**	**12 37 12.1**	**0.0**
WDD	**Wied Dalam**	**7.57**	**283**	Pn	**Pn**	**12 37 15.1**	**-0.7**
SKO	**Skopje**	**7.70**	**348**	*i* P	**Pn**	**12 37 18.4**	**+0.8**
RAFF	**Raffo Rosso**	**8.00**	**293**	Pn	**Pn**	**12 37 21.6**	**-0.2**
CSS	**Mathiatis**	**8.02**	**84**	Pn	**Pn**	**12 37 19.6**	**-2.5**
CSS	**Mathiatis**	**8.02**	**84**	P	**Pn**	**12 37 20.5**	**-1.6**
VAE	**Valguarnera**	**8.04**	**295**	Pn	**Pn**	**12 37 22.2**	**-0.2**
VAE	comp=N,9.4nm,0.3s,baz=122,slow=18,SNR=3.0			Sn	**Sn**	**12 38 51.9**	**-1.4**
VAE	baz=232,slow=11			LR	LR	12 41 29.5	
	comp=N,427nm,18.1s,baz=160,slow=46 comp=N,19nm,0.4s						
PUK	**Puka**	**8.12**	**340**		**Pn**	**12 37 23.9**	**+0.4**
PUK	**Puka**	**8.12**	**340**	P	**Pn**	**12 37 23.6**	**+0.1**
PUK	baz=335			S	**Sn**	**12 38 52.2**	**-3.0**
	baz=335						
ULC	**Ulcinj**	**8.25**	**337**	⇑*i* Pn	**Pn**	**12 37 27.3**	**+2.1**
ULC				*i* Sn	**Sn**	**12 38 54.4**	**-3.8**
CUC	**Castrocucco**	**8.32**	**314**	Pn	**Pn**	**12 37 28.4**	**+2.2**
BCI	**Bajram Curri**	**8.38**	**342**	P	**Pn**	**12 37 26.7**	**-0.2**
BCI	baz=337			S	**Sn**	**12 39 04.0**	**+2.6**
	baz=337						
DRME	**Dracevica, Mon**	**8.47**	**337**	*e*Pn	**Pn**	**12 37 26.2**	**-2.0**
DRME	**Dracevica, Mon**	**8.47**	**337**	⇑*i* Pn	**Pn**	**12 37 28.0**	**-0.2**
DRME				*i* Sn	**Sn**	**12 38 59.4**	**-4.2**
ELND	**Elena**	**8.65**	**11**	⇑P	**Pn**	**12 37 31.4**	**+0.8**
CEME	**Cevo**	**8.88**	**337**	⇓*i* Pn	**Pn**	**12 37 33.8**	**-0.1**
CEME				*i* Sn	**Sn**	**12 39 09.2**	**-4.5**
IVA	**Berane**	**8.89**	**342**	⇓*i* Pn	**Pn**	**12 37 32.8**	**-1.3**
IVA				*i* Sn	**Sn**	**12 39 09.6**	**-4.6**
KOME	**Kolasin**	**8.98**	**340**	*e*Pn	**Pn**	**12 37 34.8**	**-0.4**
KOME				*i* Sn	**Sn**	**12 39 11.7**	**-4.5**
NKME	**Niksic**	**9.07**	**338**	⇑*i* Pn	**Pn**	**12 37 38.6**	**+2.2**
NKME				*i* Sn	**Sn**	**12 39 13.6**	**-4.7**
ANTO	**Ankara**	**9.11**	**51**		**Pn**	**12 37 37.1**	**+0.1**
ANTO	**Ankara**	**9.11**	**51**	P	**Pn**	**12 37 37.1**	**+0.1**
BLKB	**Belogradchik**	**9.19**	**356**	⇑P	**Pn**	**12 37 39.2**	**+1.1**
SJES	**Sjenica**	**9.24**	**343**	*e*Pn	**Pn**	**12 37 37.5**	**-1.4**
PLE	**Pljevlja**	**9.46**	**341**	*e*Pn	**Pn**	**12 37 40.6**	**-1.2**
PLE				*i* Sn	**Sn**	**12 39 23.0**	**-5.0**
UPM	**Unac-Piva**	**9.48**	**339**	*e*Pn	**Pn**	**12 37 39.7**	**-8.5**
UPM	**Unac-Piva**	**9.48**	**339**	⇓*i* Pn	**Pn**	**12 37 43.6**	**+1.4**
UPM				*i* Sn	**Sn**	**12 39 23.7**	**-4.9**
BR131	**Keskin Array S**	**9.59**	**54**		**Pn**	**12 37 45.1**	**+1.5**
BR131	**Keskin Array S**	**9.59**	**54**	*i* P	**Pn**	**12 37 44.9**	**+1.3**
BRTR	**Keskin Array B**	**9.59**	**54**		**Pn**	**12 37 44.3**	**+0.7**
BRTR	**Keskin Array B**	**9.59**	**54**	Pn	**Pn**	**12 37 44.6**	**+1.0**
BRTR	comp=N,0.4nm,0.3s,baz=233,slow=14,SNR=36			Lg	Lg	12 40 28.5	
BRTR	comp=N,0.1nm,0.3s,baz=255,slow=31,SNR=1.0			LR	LR	12 42 28.3	
	comp=N,3μm,18.5s,baz=242,slow=44 comp=N,14nm,0.8s						
STON	**Ston**	**9.59**	**333**	*e*Pn	**Pn**	**12 37 39.2**	**-4.3**
HNTI	**Hanita**	**9.72**	**95**	P	**Pn**	**12 37 44.0**	**-1.4**
RUDO	**Rudo**	**9.73**	**341**	*e*Pn	**Pn**	**12 37 42.6**	**-2.9**
KZIT	**Kziot**	**9.75**	**108**	P	**Pn**	**12 37 42.8**	**-3.1**
KZIT	**Kziot**	**9.75**	**108**	S	**Sn**	**12 39 29.9**	**-5.3**
KZIT	**Kziot**	**9.75**	**108**	P	**Pn**	**12 37 45.0**	**-0.9**
SLTI	**Sal'it**	**9.81**	**100**	P	**Pn**	**12 37 43.9**	**-2.8**
NEVS	**Nevesinje**	**9.82**	**336**	*e*Pn	Pn	12 37 36.9	-10
MMC7	**Mount Meron ar**	**9.92**	**95**	P	**Pn**	**12 37 47.5**	**-0.7**
MMA0	**Mount Meron ar**	**9.93**	**95**	P	**Pn**	**12 37 47.1**	**-1.2**
MMA0B	**Mount Meron ar**	**9.93**	**95**	P	**Pn**	**12 37 47.8**	**-0.5**
MMAI	**Mount Meron Ar**	**9.93**	**95**	Pn	**Pn**	**12 37 45.4**	**-2.9**
MMAI	comp=N,3.2nm,0.3s,baz=294,slow=11,SNR=11			Sn	**Sn**	**12 39 37.1**	**-2.5**
	comp=N,3.5nm,0.3s,baz=255,slow=22,SNR=2.7						
AMAZ	**Amatzia**	**9.93**	**104**	P	**Pn**	**12 37 46.1**	**-2.2**
BBLS	**Lazi&#263i**	**9.95**	**342**	*e*Pn	**Pn**	**12 37 44.6**	**-4.0**
MMLI	**Mount Malkishu**	**10.07**	**98**	P	**Pn**	**12 37 49.3**	**-1.0**
GEM	**Giv'at Ha'Em**	**10.10**	**94**	S	**Sn**	**12 39 39.2**	**-4.6**
GEM	**Giv'at Ha'Em**	**10.10**	**94**	P	**Pn**	**12 37 47.9**	**-2.8**
YTIR	**Yattir**	**10.15**	**104**	P	**Pn**	**12 37 48.9**	**-2.5**
YTIR	**Yattir**	**10.15**	**104**	P	**Pn**	**12 37 50.3**	**-1.1**
YTIR	**Yattir**	**10.15**	**104**	S	**Sn**	**12 39 40.0**	**-5.1**
NATI	**Neve Ativ**	**10.16**	**93**	P	**Pn**	**12 37 49.1**	**-2.2**
NATI	**Neve Ativ**	**10.16**	**93**	P	**Pn**	**12 37 49.6**	**-1.7**
NATI	**Neve Ativ**	**10.16**	**93**	S	**Sn**	**12 39 40.4**	**-4.6**
HMDT	**Nahal Hemdat**	**10.21**	**99**	P	**Pn**	**12 37 50.0**	**-2.0**
QRNJ	**Al-Qirein**	**10.22**	**99**	P	**Pn**	**12 37 50.4**	**-1.8**
UJAP	**Al Uja**	**10.24**	**101**	P	**Pn**	**12 37 50.4**	**-2.1**
HAPS	**Han Pijesak,Bl**	**10.28**	**341**	*e*Pn	**Pn**	**12 37 49.9**	**-3.1**
DSI	**Dead Sea**	**10.29**	**103**	P	**Pn**	**12 37 50.7**	**-2.5**
DSI	**Dead Sea**	**10.29**	**103**	P	**Pn**	**12 37 51.8**	**-1.4**
DSI	**Dead Sea**	**10.29**	**103**	S	**Sn**	**12 39 43.2**	**-5.2**
BALJ	**Balqa**	**10.35**	**100**		**Pn**	**12 37 51.9**	**-2.1**
BALJ	**Balqa**	**10.35**	**100**	P	**Pn**	**12 37 51.6**	**-2.4**
KRMI	**Paran Flat**	**10.35**	**112**	P	**Pn**	**12 37 52.3**	**-1.8**
KRMI	**Paran Flat**	**10.35**	**112**	S	**Sn**	**12 39 44.0**	**-5.9**
MDBI	**Mazsada**	**10.36**	**104**	P	**Pn**	**12 37 52.8**	**-1.3**
MSBI	**Mazada**	**10.36**	**104**	P	**Pn**	**12 37 52.0**	**-2.1**
MSBI	**Mazada**	**10.36**	**104**	P	**Pn**	**12 37 52.0**	**-2.1**
MSBI	**Mazada**	**10.36**	**104**	S	**Sn**	**12 39 45.2**	**-4.8**
HERR	**Herculane**	**10.46**	**355**	⇑P	**Pn**	**12 37 56.3**	**+0.9**
PRNI	**Paran**	**10.46**	**110**	P	**Pn**	**12 37 53.0**	**-2.6**
PRNI	**Paran**	**10.46**	**110**	S	**Sn**	**12 39 47.0**	**-5.6**
PRNI	**Paran**	**10.46**	**110**	P	**Pn**	**12 37 54.1**	**-1.5**
LISJ	**El Lisan**	**10.49**	**104**	P	**Pn**	**12 37 53.3**	**-2.5**
ZFRI	**Zfri**	**10.51**	**109**	P	**Pn**	**12 37 53.9**	**-2.3**
ZFRI	**Zfri**	**10.51**	**109**	P	**Pn**	**12 37 54.6**	**-1.6**
ZFRI	**Zfri**	**10.51**	**109**	S	**Sn**	**12 39 48.4**	**-5.4**
GHAJ	**Ghor Haditha**	**10.53**	**104**		**Pn**	**12 37 55.4**	**-1.0**
GHAJ	**Ghor Haditha**	**10.53**	**104**	P	**Pn**	**12 37 54.3**	**-2.2**
GHAJ	**Ghor Haditha**	**10.53**	**104**	P	**Pn**	**12 37 55.3**	**-1.2**
TEKS	**Tekeris**	**10.56**	**344**	*e*Pn	**Pn**	**12 37 52.2**	**-4.7**
HRFI	**Mount Harif**	**10.63**	**111**	S	**Sn**	**12 39 50.8**	**-5.9**
HRFI	**Mount Harif**	**10.63**	**111**	P	**Pn**	**12 37 56.8**	**-1.1**
MBRI	**Mt Berech**	**10.65**	**113**	P	**Pn**	**12 37 55.7**	**-2.5**
MBRI	**Mt Berech**	**10.65**	**113**	P	**Pn**	**12 37 56.7**	**-1.5**
MBRI	**Mt Berech**	**10.65**	**113**	S	**Sn**	**12 39 51.7**	**-5.6**
KARJ	**KARJ**	**10.67**	**105**	P	Pn	**12 37 51.4**	**-6.9**

STHS **Stebnicka Huta** 15.06 354 *e*P P 12 39 05.7 +2.2
STHS **Stebnicka Huta** 15.06 354 *e*P P 12 39 05.6 +2.1
MOA **Molln** 15.11 335 *e*Pn Pn 12 38 59.7 +0.8
comp=Z,39nm,0.7s
MOA **Molln** 15.11 335 *e*P Pn 12 38 58.2 -0.7
comp=Z,56nm,0.7s,baz=143,slow=12
BIOA **Bad Ischl, Aus** 15.20 333 *i* Pn Pn 12 39 02.1 +2.0
comp=Z,8.7nm,0.5s
LESA **Schwarzleotal** 15.35 331 *i* Pn P 12 39 05.0 -1.9
comp=Z,52nm,0.9s
GURO **Guroymak-BITLI** 15.37 69 Pn 12 39 03.8 +1.3
SOC **Sochi** 15.47 49 *e*P Pn 12 39 01.9 -1.7
SOC *e* 12 41 54.1
SOC MLR MLR
comp=Z,522nm,14.0s
MAUC **Maruska** 15.50 346 *e*P P 12 39 11.1 +2.6
MAUC AMS AMS 12 46 50.0
comp=Z,3µm,20.4s
KRUC **Moravsky** 15.55 342 *e*PN P 12 39 07.9 -1.1
KRUC **Moravsky** 15.55 342 P Pn 12 39 06.3 +1.6
RJOB **Jochberg** 15.55 332 *e*P Pn 12 39 06.3 +1.4
comp=Z,9.9nm,0.7s,baz=143,slow=12
WTTA **Wattenberg** 15.65 328 *e*Pn P 12 39 08.6 -1.8
comp=Z,15nm,0.9s
VRAC **Vranov** 15.73 343 ⇑P Pn 12 39 06.0 -1.0
VRAC **Vranov** 15.73 343 *e*PN Pn 12 39 08.9 +1.9
VRAC **Vranov** 15.73 343 ⇑P Pn 12 39 06.0 -1.0
VRAC **Vranov** 15.73 343 Pn Pn 12 39 06.6 -0.4
comp=Z,0.5nm,0.3s,baz=184,slow=16,SNR=2.8
VRAC LR LR 12 47 15.5
comp=Z,1µm,19.7s,baz=167,slow=46
comp=Z,9.3nm,0.9s
WATA **Walderalm** 15.74 328 *e*Pn P 12 39 10.6 -0.6
comp=Z,1.8nm,0.3s
FUORN **Ofenpass-Fuorn** 15.80 324 Pn 12 39 09.9 +1.6
SQTA **Sankt Quirin** 15.81 328 *i* Pn P 12 39 11.7 -0.3
comp=Z,5.0nm,0.5s
FETA **Feichten** 15.88 326 *i* Pn P 12 39 12.4 -0.4
comp=Z,13nm,0.9s
OKC **Ostrava-Krasne** 15.89 347 *e*P P 12 39 14.0 +1.2
OKC MLR MLR
comp=Z,1µm,13.9s
OKC **Ostrava-Krasne** 15.89 347 *e*P P 12 39 14.0 +1.2
OKC AMS AMS 12 47 10.0
comp=Z,1µm,13.9s
CKRC **Cesky Krumlov** 15.93 337 *e*P P 12 39 14.4 +1.2
CKRC MLR MLR
comp=Z,800nm,20.8s
CKRC **Cesky Krumlov** 15.93 337 *e*P P 12 39 14.4 +1.2
CKRC AMS AMS 12 45 30.0
comp=Z,800nm,20.8s
MOTA **Mooosalm** 15.95 328 *i* Pn P 12 39 14.0 +0.4
comp=Z,10nm,0.7s
MORC **Moravsky Berou** 15.95 346 ⇑P Pn 12 39 09.2 -0.8
MORC **Moravsky Berou** 15.95 346 Pn Pn 12 39 09.8 -0.2
MORC **Moravsky Berou** 15.95 346 *e*PN Pn 12 39 11.5 +1.5
MORC **Moravsky Berou** 15.95 346 ⇑P Pn 12 39 09.2 -0.8
TREC **Trest** 16.00 340 AMS AMS 12 47 00.0
comp=Z,1µm,14.4s
DAVOX **Davos/Dischmat** 16.11 324 Pn Pn 12 39 11.2 -0.9
comp=Z,0.2nm,0.3s,baz=304,slow=21,SNR=3.2
comp=Z,1.1nm,0.3s
GEC2 **GERESS Array S** 16.15 336 P Pn 12 39 12.7 +0.1
GEC2 **GERESS Array S** 16.15 336 *e*P Pn 12 39 12.9 +0.3
comp=Z,19nm,0.8s,baz=143,slow=12
GERES **GERESS Array B** 16.15 336 Pn 12 39 12.9 +0.3
GERES **GERESS Array B** 16.15 336 P Pn 12 39 12.9 +0.3
GERES **GERESS Array B** 16.15 336 Pn Pn 12 39 13.1 +0.5
comp=Z,1.2nm,0.3s,baz=148,slow=11,SNR=4.0
GERES LR LR 12 46 03.8
comp=Z,483nm,21.8s,baz=144,slow=40
comp=Z,15nm,1.1s
TUE **Stuetta** 16.16 322 P P 12 39 16.2 +0.2
RETA **Reutte** 16.21 327 *i* Pn P 12 39 16.8 +0.4
comp=Z,1.8nm,0.2s
KHC **Kasperske Hory** 16.44 336 P P 12 39 19.8 +0.9
KHC IAmb IAmb 12 39 23.1
comp=Z,67nm,0.8s
KHC **Kasperske Hory** 16.44 336 *e*P Pn 12 39 17.0 +0.8
KHC MLR MLR
comp=Z,1µm,8.9s
KHC **Kasperske Hory** 16.44 336 *e*P Pn 12 39 17.0 +0.8
KHC pP P 12 39 20.3 +1.4
KHC x x 12 39 26.0
KHC AMS AMS 12 46 50.0
comp=Z,1µm,8.9s
DAVA **Damuels** 16.47 325 *i* Pn P 12 39 20.6 +1.3
comp=Z,12nm,0.6s
ZVC **Zvikov** 16.51 338 *e*P P 12 39 20.3 +0.7
ZVC AMS AMS 12 47 40.0
comp=Z,1µm,12.1s
KARS **Kars** 16.61 63 P P 12 39 21.4 +0.4
KARS **Kars** 16.61 63 P P 12 39 21.4 +0.4
KARS pmax pmax
comp=Z,186nm,1.0s
LABN **Labinsk** 16.64 47 *e*P Pn 12 39 15.7 -3.0
LABN *e*S Sn 12 42 20.3 -2.9
LABN pmax pmax
comp=Z,18nm,0.6s
UBR **Ueberruh** 16.65 327 *e*P P 12 39 22.7 +1.4
comp=Z,12nm,0.7s,baz=143,slow=12
WET **Wettzell** 16.69 335 *e*P P 12 39 22.0 +0.3
baz=143,slow=12
KIEV **Kiev** 16.74 12 P Pn 12 39 19.7 -0.2
KIEV **Kiev** 16.74 12 P Pn 12 39 19.7 -0.2
KIEV pmax pmax
comp=Z,20nm,0.7s
AKASG **Malin Array Be** 16.75 12 P Pn 12 39 19.4 -0.6
AKASG **Malin Array Be** 16.75 12 P Pn 12 39 19.5 -0.6
AKASG pmax pmax
comp=Z,24nm,0.9s
AKASG **Malin Array Be** 16.75 12 Pn Pn 12 39 18.4 -1.7
comp=Z,1.6nm,0.3s,baz=206,slow=10.0,SNR=5.1
AKASG Sn Sn 12 42 24.9 -1.0
comp=Z,0.4nm,0.3s,baz=200,slow=19,SNR=1.7
AKASG LR LR 12 45 47.8
comp=Z,561nm,18.6s,baz=195,slow=37
comp=Z,3.8nm,0.6s
AKBB **Malin Array Si** 16.75 12 Pn 12 39 19.6 -0.4
AKBB **Malin Array Si** 16.75 12 *i* P Pn 12 39 19.6 -0.4
AKBB pmax pmax
comp=Z,19nm,0.6s
GOPC **GO Pecny, Ondr** 16.76 340 *e*P P 12 39 22.4 0.0
GOPC MLR MLR
comp=Z,1µm,13.5s
GOPC **GO Pecny, Ondr** 16.76 340 *e*P P 12 39 22.4 0.0
GOPC AMS AMS 12 47 20.0
comp=Z,1µm,13.5s
DPC **Dobruska-Polom** 16.76 344 *e*P P 12 39 23.3 +0.8
DPC MLR MLR
comp=Z,1µm,17.3s
DPC **Dobruska-Polom** 16.76 344 *e*P P 12 39 23.3 +0.8
DPC AMS AMS 12 47 20.0
comp=Z,1µm,17.3s
PRU **Pruhonice** 16.89 340 *e*P P 12 39 25.3 +1.4
PRU MLR MLR
comp=Z,1µm,14.1s
PRU **Pruhonice** 16.89 340 *e*P P 12 39 25.3 +1.4
PRU AMS AMS 12 47 20.0
comp=Z,1µm,14.1s
OSTC **Ostas** 16.98 344 *e*P P 12 39 25.2 +0.4
OSTC MLR MLR
comp=Z,1µm,20.7s
OSTC **Ostas** 16.98 344 *e*P P 12 39 25.2 +0.4
OSTC AMS AMS 12 47 20.0
comp=Z,1µm,20.7s
UPC **Upice** 16.98 343 *e*P P 12 39 26.4 +1.6
UPC MLR MLR
comp=Z,1µm,18.0s
UPC **Upice** 16.98 343 *e*P P 12 39 26.4 +1.6
UPC AMS AMS 12 47 30.0
comp=Z,1µm,18.0s
PRA **Prague** 17.00 339 *e*P P 12 39 26.4 +1.4
PRA MLR MLR
comp=Z,1µm,12.2s
PRA **Prague** 17.00 339 *e*P P 12 39 26.4 +1.4
PRA AMS AMS 12 47 30.0
comp=Z,1µm,12.2s
CHVC **Chvalec** 17.05 343 AMS AMS 12 47 30.0
comp=Z,2µm,22.9s
ERBR **Yeremizino-Bor** 17.09 44 *e*P Pn 12 39 21.3 -3.1
ERBR *e*S Sn 12 42 31.3 -2.8
ERBR pmax pmax
comp=Z,10.0nm,0.5s
SENIN **Lac Senin/Sane** 17.16 319 P P 12 39 27.2 +0.1

KSP **Ksiaz** 17.23 344 *e*P P 12 39 28.4 +0.8
NEUR **Neytrino** 17.25 54 *i* P Pn 12 39 27.1 +0.5
NEUR pmax pmax
comp=Z,12nm,0.8s
PVCC **Panska Ves** 17.37 340 *e*P P 12 39 30.7 +1.5
PVCC MLR MLR
comp=Z,800nm,13.6s
PVCC **Panska Ves** 17.37 340 *e*P P 12 39 30.7 +1.5
PVCC AMS AMS 12 47 40.0
comp=Z,800nm,13.6s
ROTZ **Rotzenmuhle** 17.45 335 *e*P P 12 39 30.8 +0.7
comp=Z,5.0nm,0.8s,baz=143,slow=12
ONI **Oni** 17.50 56 Pn 12 39 29.2 -0.4
ONI **Oni** 17.50 56 P Pn 12 39 29.2 -0.4
ONI pmax pmax
comp=Z,15nm,0.9s
RICC **Richard** 17.52 340 AMS AMS 12 47 40.0
comp=Z,1µm,13.8s
KIV **Kislovodsk** 17.54 52 P Pn 12 39 30.1 +0.1
KIV IAmb IAmb 12 39 36.4
comp=Z,38nm,0.8s
KIV **Kislovodsk** 17.54 52 *e*P P 12 39 31.9 +0.8
KIV *e*S Sn 12 42 47.9 +2.8
KIV pmax pmax
comp=Z,38nm,1.0s
KIV MLR MLR
comp=Z,421nm,14.0s
KVAR **Kislovodsk Arr** 17.54 52 LR LR 12 48 02.2
comp=Z,530nm,19.1s,baz=128,slow=43
KBZ **Khabaz** 17.57 52 *c*P P 12 39 31.8 +0.4
KBZ **Khabaz** 17.57 52 P Pn 12 39 30.5 +0.1
comp=Z,0.4nm,0.3s,baz=256,slow=12,SNR=20
KBZ LR LR 12 48 19.4
comp=Z,866nm,18.5s,baz=264,slow=44
comp=Z,36nm,1.1s
MANZ **Manzenberg** 17.67 335 *e*P P 12 39 33.4 +0.9
comp=Z,4.8nm,0.8s,baz=143,slow=12
GNI **Garni** 17.73 65 *i* P Pn 12 39 31.8 -0.8
GNI pmax pmax
comp=Z,7.0nm,0.8s
GNI **Garni** 17.73 65 P P 12 39 34.1 +0.7
comp=Z,1.0nm,0.3s,baz=297,slow=11,SNR=4.3
GNI LR LR 12 48 05.3
comp=Z,729nm,21.9s,baz=273,slow=43
comp=Z,6.4nm,0.4s
GRFO **Grafenberg** 17.75 333 Pn Pn 12 39 31.5 -1.1
GRFO IAmb IAmb 12 39 43.5
comp=Z,116nm,1.5s
GRFO **Grafenberg** 17.75 333 P Pn 12 39 31.5 -1.1
GRFO pmax pmax
comp=Z,116nm,1.5s
GRF **Grafenberg Arr** 17.75 333 *e*P P 12 39 34.2 +0.8
comp=Z,88nm,1.4s,baz=143,slow=12
GRF *e*L L 12 46 55.5
comp=Z,472nm,21.5s
NKC **Novy Kostel** 17.77 336 *e*P P 12 39 36.5 +3.0
NKC MLR MLR
comp=Z,900nm,13.0s
NKC **Novy Kostel** 17.77 336 *e*P P 12 39 36.5 +3.0
NKC AMS AMS 12 47 40.0
comp=Z,900nm,13.0s
HSKC **Hora Svate Kat** 17.77 338 AMS AMS 12 48 00.0
comp=Z,1µm,8.8s
BRG **Berggiesshubel** 17.86 340 *e*P P 12 39 34.3 -0.3
BRG Amp 12 39 37.8
comp=Z,13nm,0.9s
BRG Amp 12 48 11.0
comp=N,0.7nm,15.0s
BRG Amp 12 48 15.0
comp=Z,1.1nm,10.9s
BRG Amp 12 48 24.0
comp=E,0.6nm,8.4s
BRG **Berggiesshubel** 17.86 340 *e*P P 12 39 34.2 -0.3
BRG pmax pmax
comp=Z,13nm,0.9s
BRG MLR MLR
comp=N,734nm,15.0s
BRG MLR MLR
comp=Z,1µm,10.9s
BRG MLR MLR
comp=E,619nm,8.4s
BRG **Berggiesshubel** 17.86 340 *e*P P 12 39 34.8 +0.3
comp=E,8.9nm,0.8s,baz=143,slow=12
TANN **Tannenbergstha** 17.92 336 *e*P P 12 39 36.2 +1.0
comp=E,14nm,0.8s,baz=143,slow=12
BFO **Black Forest** 17.94 325 P P 12 39 37.1 +1.6
BFO **Black Forest** 17.94 325 P P 12 39 37.1 +1.6
BFO pmax pmax
comp=Z,11nm,0.9s
BFO **Black Forest** 17.94 325 *e*P Pn 12 39 34.5 -0.5
comp=Z,6.4nm,0.8s,baz=143,slow=12
PLN **Plauen** 18.08 336 *e*P Pn 12 39 36.3 -0.3
comp=Z,20nm,1.0s,baz=143,slow=12
NAX **Nakhchivan** 18.14 69 P Pn 12 39 37.6 +0.1
GOF **Gofitskoye** 18.27 49 *c*eP P 12 39 43.1 +4.0
MOX **Moxa** 18.40 335 P Pn 12 39 42.5 +2.0
MOX **Moxa** 18.40 335 *e*P Pn 12 39 42.1 +1.6
comp=Z,29nm,1.6s,baz=143,slow=12
MOX *e*L L 12 48 51.8
comp=Z,391nm,20.8s
ECH **Echery** 18.43 323 P 12 39 40.9 0.0
ECH **Echery** 18.43 323 P P 12 39 40.9 0.0
ECH pmax pmax
comp=Z,12nm,0.9s
CLL **Collm** 18.52 339 P P 12 39 41.4 -0.4
CLL **Collm** 18.52 339 *e*P P 12 39 41.0 -0.8
CLL pmax pmax
comp=Z,27nm,1.1s
CLL **Collm** 18.52 339 *e*P P 12 39 41.0 -0.8
comp=Z,27nm,1.1s
CLL *i* sP pwP 12 39 47.5 -0.9
CLL *es*PP 12 39 57.0
CLL *i* PPP PPP 12 40 00.7
comp=Z,42nm,1.4s
CLL *e*S S 12 43 16.0 +3.3
CLL **Collm** 18.52 339 *e*P Pn 12 39 41.8 -0.1
comp=Z,26nm,1.1s,baz=143,slow=12
GANJ **Ganja** 19.02 64 P P 12 39 47.7 +0.3
CEST **Esterri de Car** 19.25 302 P P 12 39 49.7 -0.3
CEST IAmb IAmb 12 40 00.5
comp=Z,50nm,1.0s
TNS **Taunus Mts** 19.28 329 *e*P Pn 12 39 53.0 +1.8
comp=Z,22nm,0.8s,baz=143,slow=12
GROC **Groznyy** 19.33 57 *e*P Pn 12 39 52.0 +0.2
GROC *e*S S 12 43 30.7 +1.6
GROC pmax pmax
comp=Z,16nm,0.5s
RUE **Ruedersdorf** 19.35 342 *e*P Pn 12 39 52.9 +1.0
comp=Z,40nm,0.7s,baz=143,slow=12
ZKTA **Zakatala** 19.46 62 P P 12 39 52.6 +0.4
SUW **Suwalki** 19.56 359 *e*P P 12 39 52.2 -1.0
SUW **Suwalki** 19.56 359 P P 12 39 51.9 -1.2
SUW **Suwalki** 19.56 359 P P 12 39 51.9 -1.2
SUW pmax pmax
comp=Z,192nm,1.0s
SUW **Suwalki** 19.56 359 *e*P P 12 39 53.3 +0.2
MNGR **Mingechevir, A** 19.61 64 P P 12 39 54.1 +0.3
TAM **Tamanrasset** 19.64 238 P Pn 12 39 57.4 +1.6
TAM **Tamanrasset** 19.64 238 P Pn 12 39 57.4 +1.6
TAM pmax pmax
comp=Z,16nm,1.2s
GTTG **Gottingen** 19.73 334 *e*P Pn 12 39 57.7 +1.2
comp=Z,30nm,1.1s,baz=143,slow=12
SEKA **Sheki** 19.79 63 P Pn 12 39 56.8 -0.6
CLZ **Clausthal** 19.83 335 *e*P Pn 12 39 58.3 +0.6
comp=Z,13nm,0.8s,baz=143,slow=12
WLF **Walferdange** 19.90 325 Pn 12 39 58.5 -0.1
WLF IAmb IAmb 12 40 04.6
comp=Z,77nm,1.0s
WLF **Walferdange** 19.90 325 P Pn 12 39 58.5 -0.1
WLF pmax pmax
comp=Z,77nm,1.0s
WLF **Walferdange** 19.90 325 *d*P Pn 12 39 58.6 -0.1
comp=Z,50nm,1.0s
WLF **Walferdange** 19.90 325 *e*P Pn 12 39 59.6 +1.0
comp=Z,74nm,1.0s,baz=143,slow=12
FLTG **Flechtingen** 19.95 337 *e*P Pn 12 40 01.0 +1.9
comp=Z,23nm,1.1s,baz=143,slow=12
ASSE **Asse, Remlinge** 19.97 336 *e*P Pn 12 40 00.5 +1.2
comp=Z,7.6nm,0.8s,baz=143,slow=12
KASTN **Kahler Asten** 20.04 331 *e*P Pn 12 40 03.7 +3.5
comp=Z,13nm,1.0s,baz=143,slow=12
AHRW **Bad Neuenahr-A** 20.10 328 *e*P Pn 12 40 05.3 +4.3
comp=Z,14nm,0.8s,baz=143,slow=12
VSR **Storozhevoye** 20.20 29 *e*P P 12 39 58.9 -1.3
VSR pmax pmax
comp=Z,10.0nm,1.0s
MNK **Minsk** 20.27 7 *i* P P 12 39 58.2 -2.8
comp=E,10.0nm,0.9s
MNK *i* P P 12 39 58.2 -2.8
comp=N,63nm,0.9s
MNK *i* P P 12 39 58.2 -2.8
comp=Z,99nm,0.9s,baz=190
MNK *i* PP PnPn 12 40 14.4 -3.2
MNK *i* PPP PPP 12 40 21.9
MNK *i* S S 12 43 45.6 -2.2
MNK *i* S S 12 43 45.6 -2.2
MNK *i* SS SnSn 12 44 04.6 -0.9
MNK *i* SSS SSS 12 44 17.7
MNK *i* LQ LQ 12 45 57.6
MNK *i* LR LR 12 47 10.0
MNK *i* LRM MLR 12 49 00.6
comp=N,475nm,13.4s
MNK *i* LRM MLR 12 49 02.1
comp=E,621nm,13.1s
MNK *i* LRM MLR 12 49 26.6
comp=E,136nm,11.9s
MNK **Minsk** 20.27 7 *i* P P 12 39 58.1 -2.8
MNK *i* PPP PPP 12 40 21.9
MNK *i* S S 12 43 45.6 -2.2
MNK *i* SSS SSS 12 44 17.6
MNK pmax pmax
comp=N,63nm,0.9s
MNK pmax pmax
comp=E,10.0nm,0.9s
MNK pmax pmax
comp=Z,99nm,0.9s
MNK MLR MLR
comp=N,475nm,13.0s
MNK MLR MLR
comp=Z,621nm,13.0s
MNK MLR MLR
comp=E,136nm,12.0s
MAK **Makhachkala** 20.44 58 *c* iP P 12 39 57.0 -5.9
MAK *e*S S 12 43 43.4 -8.0
MAK pmax pmax
comp=Z,143nm,0.9s
MAK MLR MLR
comp=Z,154nm,13.0s
BHOU **Houvegnez** 20.45 326 *d*P Pn 12 40 07.7 +2.6
NRDL **Niedersach Rie** 20.46 336 *e*P Pn 12 40 07.2 +2.1
comp=Z,10nm,0.9s,baz=143,slow=12
BTNL **Ternell** 20.56 327 *d*P Pn 12 40 05.5 -0.8
VORR **Voronezh** 20.57 28 *e*P Pn 12 40 06.3 -0.1
VORR pmax pmax
comp=Z,70nm,0.4s
NACGM **Naroch** 20.57 5 *e*P P 12 40 02.6 -1.6
MEM **Membach** 20.63 327 *d*P Pn 12 40 06.6 -0.5
LKRN **Lenkeran, Azer** 20.63 71 P P 12 40 05.0 0.0
RCHB **Rochefort** 20.68 325 *d*P P 12 40 06.2 +0.9
BUG **Bochum--Univer** 20.69 330 *e*P Pn 12 40 08.5 +0.7
comp=Z,14nm,0.7s,baz=143,slow=12
BSTI **Sart Tilman** 20.81 326 *d*P Pn 12 40 08.9 -0.3
BCLA **Clavier** 20.82 326 *d*P Pn 12 40 09.3 -0.1
BCLA *d*PP PnPn 12 40 26.9 +1.8
BGES **Gesves** 20.90 325 *d*P P 12 40 08.8 +1.1
BGES *d*PP PnPn 12 40 28.4 +2.2
RETH **Rethem/Aller,** 20.92 335 *e*P P 12 40 08.8 +0.9
comp=Z,17nm,0.9s,baz=143,slow=12
DOU **Dourbes** 20.94 324 *d*P P 12 40 08.1 -0.1
comp=Z,39nm,1.0s
BMRD **Maredsous** 20.99 325 *d*P Pn 12 40 12.2 +0.8
PABE **Paberze** 21.06 1 P P 12 40 07.6 -1.7
PABE **Paberze** 21.06 1 *e*P P 12 40 08.1 -1.2
ISAL **Salakas** 21.19 4 *e*P P 12 40 09.9 -1.0
VRH **Novokhopyorsk** 21.28 33 *e*P P 12 40 09.1 -2.7
VRH pmax pmax
comp=Z,43nm,0.6s
BSD **Bornholm Skovb** 21.53 346 *e*P P 12 40 14.2 -0.2
BSEG **Bad Segeberg** 21.62 338 *e*P P 12 40 14.5 -0.9
comp=Z,45nm,0.9s,baz=143,slow=12
RAYN **Ar Rayn** 21.98 114 P P 12 40 20.8 +1.1
RAYN IAmb IAmb 12 40 26.8
comp=Z,27nm,1.1s
RAYN **Ar Rayn** 21.98 114 P P 12 40 20.8 +1.1
RAYN pmax pmax
comp=Z,27nm,1.1s
OBN **Obninsk** 22.54 20 ⇑*e*P P 12 40 25.5 +0.2
OBN *e* 12 40 54.8
OBN *e*S S 12 44 29.5 -2.5
OBN pmax pmax
comp=Z,51nm,1.3s
OBN MLR MLR
comp=Z,594nm,17.0s
OBN **Obninsk** 22.54 20 P P 12 40 25.2 -0.1
comp=Z,28nm,0.4s,baz=166,slow=15,SNR=6.7
comp=Z,28nm,0.4s
ESDC **Sonseca Array** 22.57 291 P P 12 40 26.7 +0.8
ESDC **Sonseca Array** 22.57 291 P P 12 40 23.9 -1.9
comp=Z,7.9nm,1.0s,baz=81,slow=10,SNR=17
ESDC LR LR 12 51 00.2
comp=Z,105nm,18.9s,baz=96,slow=42
comp=Z,7.9nm,1.0s
DEL **Delary** 23.01 346 *e*P P 12 40 30.4 +0.1
MOS **Moscow** 23.39 20 *e*P P 12 40 33.6 -0.4
MOS *e* 12 41 00.7
MOS pmax pmax
comp=Z,58nm,1.2s
MDT **Midelt** 23.52 274 LR LR 12 51 56.8
comp=Z,525nm,20.2s,baz=86,slow=42
VSU **Vasula** 24.11 4 *i* P P 12 40 38.9 -2.1
VSU pmax pmax
comp=Z,35nm,1.0s
VIKU **Vikbolandet** 24.50 351 *e*P P 12 40 43.9 -0.7
BELG **Belogornoye** 24.83 36 P P 12 40 47.3 -0.3
comp=Z,81nm,0.9s,baz=235,slow=9,SNR=22
BELG S S 12 45 11.9 +2.2
comp=Z,9.6nm,0.8s,baz=290,slow=18,SNR=2.2
comp=Z,81nm,0.9s
PBRG **Braganca** 24.89 296 *e*P P 12 40 50.0 +1.7
comp=Z,70nm,1.7s
PBAR **Barrancos** 24.92 288 *e*P P 12 40 50.4 +1.8
comp=Z,40nm,2.1s
MVO **Moncorvo** 25.03 295 *e*P P 12 40 51.0 +1.3
comp=Z,60nm,1.8s
PMRV **Marv??o** 25.20 290 *e*P P 12 40 53.5 +2.4
PESTR **Estremoz** 25.35 289 *e*P P 12 40 53.7 +1.2
comp=Z,47nm,2.1s
MTE **Manteigas** 25.36 293 *e*P P 12 40 53.8 +1.1
PVAQ **Vaqueiros** 25.48 286 *e*P P 12 40 56.8 +3.1
PVRL **Vila Real** 25.56 295 *e*P P 12 40 57.4 +3.0
PVIS **Viseu** 25.65 293 *e*P P 12 40 57.2 +2.0
PBDV **Barranco-do-Ve** 25.66 285 *e*P P 12 40 57.2 +1.9
comp=Z,63nm,1.9s
PUL **Pulkovo** 25.71 8 *c*eP P 12 40 56.3 +0.8
PUL pmax pmax
comp=Z,197nm,0.8s
MEF **Metsahovi** 25.79 1 *e*P P 12 40 54.5 -1.6
PMTG **Montargil** 25.84 290 *e*P P 12 40 59.4 +2.5
HFS **Hagfors** 26.50 349 P P 12 41 01.7 -1.0
comp=Z,25nm,0.9s,baz=150,slow=9.8,SNR=41
HFS LR LR 12 54 24.4
comp=Z,712nm,18.5s,baz=166,slow=43
comp=Z,25nm,0.9s
FINES **FINESS Array B** 27.06 3 P P 12 41 06.2 -1.5
FINES **FINESS Array B** 27.06 3 P P 12 41 06.3 -1.3
comp=Z,2.5nm,0.5s,baz=172,slow=11,SNR=12
FINES LR LR 12 52 56.0
comp=Z,979nm,20.7s,baz=180,slow=39
comp=Z,2.5nm,0.5s
FIA1 **FINESS Array S** 27.06 3 P P 12 41 08.8 +1.1
VALR **Valaam** 27.33 8 *i* P P 12 41 10.4 +0.3
VALR pmax pmax
comp=Z,34nm,0.9s
KEF **Keuruu** 27.75 1 *e*P P 12 41 15.7 +1.8
NC405 **NORSAR Array S** 27.76 348 P P 12 41 13.8 -0.1
NC405 IAmb IAmb 12 41 20.2
comp=Z,29nm,1.2s
NB2 **NORSAR Subarra** 27.78 347 P P 12 41 13.4 -0.8
comp=Z,3.5nm,0.8s,baz=156,slow=9.3
NOA **NORSAR Array B** 27.78 347 P P 12 41 11.9 -2.3
comp=Z,3.4nm,1.0s,baz=155,slow=8.9,SNR=7.9
NOA LR LR 12 54 48.4
comp=Z,520nm,18.4s,baz=160,slow=42
comp=Z,3.4nm,1.0s
EKA **Eskdalemuir Ar** 27.91 327 P P 12 41 14.6 -0.8
comp=Z,7.1nm,0.6s,baz=131,slow=7.9,SNR=20
comp=Z,7.1nm,0.6s
ESK **Eskdalemuir** 27.92 327 P P 12 41 15.6 +0.2
ESK IAmb IAmb 12 41 21.5
comp=Z,31nm,1.1s
ESK **Eskdalemuir** 27.92 327 P P 12 41 15.6 +0.2

ESK pmax pmax
comp=Z,31nm,1.1s
GEYT Alibeck 27.97 73 P **P** **12 41 13.2 -3.0**
comp=Z,2,3nm,0.6s,baz=264,slow=8.5,SNR=2.4
KLMR Klimovskoe 28.35 16 *eP* **P** **12 41 16.9 -2.3**
KLMR S **S** **12 46 08.2 +2.9**
KLMR pmax pmax
comp=Z,24nm,1.1s
KLMR MLR MLR
comp=Z,811nm,18.0s
VAF Ylistaro 28.62 359 *eP* **P** **12 41 21.6 0.0**
ATD Arta Tunnel 28.77 138 LR LR 12 52 53.6
comp=Z,10nm,18.7s,baz=358,slow=36
TOA0 Torodi Ar. Sit 29.06 228 P **P** **12 41 26.7 +0.7**
TOA0 IAmb IAmb 12 41 27.9
comp=Z,9.4nm,0.9s
TORD Torodi Ar. Bea 29.06 228 P **P** **12 41 27.1 +1.1**
TORD Torodi Ar. Bea 29.06 228 P **P** **12 41 25.0 -1.0**
comp=Z,8.2nm,0.9s,baz=42,slow=9.4,SNR=38
TORD PcP **PcP** **12 44 34.2 +0.1**
comp=Z,1.1nm,1.0s,baz=67,slow=3.7,SNR=2.1
TORD LR LR 12 54 57.6
comp=Z,360nm,18.6s,baz=44,slow=40
comp=Z,8.2nm,0.9s
KIRV Kirov 29.62 27 P **P** **12 41 30.6 +0.1**
comp=Z,8.9nm,0.5s,baz=195,slow=1.8,SNR=3.8
KIRV LR LR 12 54 24.3
comp=Z,343nm,18.8s,baz=235,slow=39
comp=Z,8.9nm,0.5s
AKTO Aktyubinsk 29.67 47 P **P** **12 41 30.3 -0.8**
comp=Z,5.7nm,0.7s,baz=251,slow=8.8,SNR=16
comp=Z,5.7nm,0.7s
UOSS Minazif 29.75 100 P **P** **12 41 31.7 -0.4**
UOSS IAmb IAmb 12 41 33.4
comp=Z,13nm,0.7s
AB31 Akbulak array 30.51 50 *eP* **P** **12 41 37.7 -0.8**
ABKAR Akbulak array 30.51 50 P **P** **12 41 38.5 0.0**
ABKAR IAmb IAmb 12 42 02.6
comp=Z,7.6nm,0.8s
ABKAR Akbulak array 30.51 50 P **P** **12 41 38.5 0.0**
ARU Arti 32.38 36 P **P** **12 41 53.8 -1.1**
ARU IAmb IAmb 12 41 56.8
comp=Z,14nm,0.7s
ARU Arti 32.38 36 *d i*P **P** **12 41 54.5 -0.4**
ARU 12 43 00.8
ARU S **S** **12 47 10.9 +2.3**
ARU SS **SnSn** **12 49 02.8 +1.8**
ARU pmax pmax
comp=Z,17nm,0.8s
ARU MLR MLR
comp=Z,320nm,17.0s
ARU Arti 32.38 36 P **P** **12 41 54.3 -0.6**
comp=Z,8.3nm,0.5s,baz=254,slow=9.9,SNR=15
ARU LR LR 12 56 49.2
comp=Z,380nm,18.5s,baz=246,slow=40
comp=Z,8.3nm,0.5s
WSAR Wadi Sarin 32.50 101 LR LR 13 00 39.8
comp=Z,347nm,18.3s,baz=324,slow=47
LODK Lodwar 32.75 158 P **P** **12 42 00.2 +1.6**
LODK IAmb IAmb 12 42 02.2
comp=Z,11nm,1.1s
SVE Sverdlovsk 33.59 37 *eP* **P** **12 42 04.8 -0.6**
SVE pmax pmax
comp=Z,39nm,0.9s
ARCES ARCESS Array B 35.15 1 P **P** **12 42 17.0 -1.9**
comp=Z,2.8nm,0.7s,baz=179,slow=7.2,SNR=8.7
ARCES PcP **PcP** **12 44 49.3 -0.5**
comp=Z,5.2nm,0.9s,baz=165,slow=3.7,SNR=1.7
ARCES LR LR 12 57 47.9
comp=Z,718nm,21.5s,baz=176,slow=38
comp=Z,2.8nm,0.7s
MBAR Mbarara 35.50 168 LR LR 12 59 04.4
comp=Z,632nm,18.2s,baz=358,slow=40
SIMJ Simiganj 36.43 70 P **P** **12 42 30.5 +0.1**
SIMJ IAmb IAmb 12 42 32.2
comp=Z,14nm,0.9s
CHGR Chuyangaron 36.54 70 P **P** **12 42 31.3 0.0**
CHGR Chuyangaron 36.54 70 P **P** **12 42 31.3 0.0**
CHGR pmax pmax
comp=Z,45nm,0.9s
KK31 Karatay Array 37.16 62 P **P** **12 42 36.6 +0.2**
KK31 IAmb IAmb 12 42 38.2
comp=Z,13nm,0.9s
KK31 Karatay Array 37.16 62 *i*P **P** **12 42 36.6 +0.2**
KKAR Karatay Array 37.16 62 P **P** **12 42 36.6 +0.2**
KKAR IAmb IAmb 12 42 38.2
comp=Z,13nm,0.9s
KKAR Karatay Array 37.16 62 P **P** **12 42 35.3 -1.2**
KKAR Karatay Array 37.16 62 P **P** **12 42 36.6 +0.2**
KKAR pmax pmax
comp=Z,13nm,0.9s
GAR Garm 37.39 69 P **P** **12 42 38.9 +0.4**
BTK Batken 37.64 67 P **P** **12 42 40.8 +0.2**
BTK Batken 37.64 67 P **P** **12 42 40.8 +0.2**
BTK pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 37.70 46 P **P** **12 42 40.6 -0.2**
BRVK Borovoye 37.70 46 *ce*P **P** **12 42 40.9 +0.1**
BRVK pmax pmax
comp=Z,12nm,1.7s
BVAR Borovoye Array 37.76 46 P **P** **12 42 40.9 -0.4**
comp=Z,3.9nm,0.9s,baz=261,slow=5.7,SNR=14
BVAR LR LR 13 00 55.1
comp=Z,150nm,20.4s,baz=267,slow=41
comp=Z,3.9nm,0.9s
DBIC Dimbokro 38.13 230 P **P** **12 42 44.6 -0.1**
DBIC IAmb IAmb 12 42 46.2
comp=Z,19nm,0.9s
DBIC Dimbokro 38.13 230 P **P** **12 42 44.7 -0.1**
DBIC pmax pmax
comp=Z,19nm,0.9s
DBIC Dimbokro 38.13 230 P **P** **12 42 44.4 -0.4**
comp=Z,23nm,1.1s,baz=28,slow=8.7,SNR=11
DBIC LR LR 12 59 36.2
comp=Z,265nm,20.6s,baz=20,slow=38
comp=Z,23nm,1.1s
TIC Toumodi 38.25 230⇑ *i*P **P** **12 42 45.2 -0.7**
comp=Z,4.8nm,0.3s
KIC Kosan Boka 38.30 230⇈ *e*P **P** **12 42 46.4 +0.2**
comp=Z,34nm,0.9s
OTUK Ortayu 38.45 54 P **P** **12 42 46.3 -0.9**
LIC Lamto 38.58 230⇈ *e*P **P** **12 42 47.8 -0.8**
comp=Z,65nm,1.0s
KIBK Kibwezi 39.03 157 P **P** **12 42 54.2 +1.8**
ARSB Arslanbob 39.13 65 P **P** **12 42 53.6 +0.4**
ARSB Arslanbob 39.13 65 P **P** **12 42 53.6 +0.4**
ARSB pmax pmax
comp=Z,5.0nm,1.0s
AAK Ala-Archa 40.12 63 P **P** **12 43 02.1 +0.7**
AAK Ala-Archa 40.12 63 *ce*P **P** **12 43 02.4 +1.0**
AAK pmax pmax
comp=Z,15nm,1.7s
JMIC Jan Mayen 40.41 344 LR LR 13 02 26.8
comp=Z,161nm,18.3s,baz=70,slow=40
BORG Borgarnes 40.57 332 LR LR 13 03 22.1
comp=Z,164nm,18.4s,baz=121,slow=41
NIL Nilore 40.80 77 P **P** **12 43 08.0 +0.9**
NIL Nilore 40.80 77 P **P** **12 43 08.0 +0.9**
NIL pmax pmax
comp=Z,42nm,0.8s
TKM2 Tokmak 2 40.90 62 *i*P **P** **12 43 07.2 -0.7**
TKM2 pmax pmax
comp=Z,7.0nm,0.8s
NRN Naryn 41.37 64 P **P** **12 43 13.0 +1.0**
NRN IAmb IAmb 12 43 14.4
comp=Z,16nm,0.9s
NRN Naryn 41.37 64 P **P** **12 43 13.0 +1.0**
NRN pmax pmax
comp=Z,16nm,0.9s
KSH Kashi 41.65 67 P **P** **12 43 12.9 -1.2**
KSH pP sP 12 43 18.7 -0.1
KSH pmax pmax
comp=Z,9.0nm,1.0s
KURBB Kurchatov Arra 42.56 50 P **P** **12 43 20.5 -0.6**
comp=Z,7.2nm,0.6s,baz=278,slow=8.6,SNR=75
KURBB PP **PP** **12 45 02.8 +3.2**
comp=Z,5.6nm,1.1s,baz=273,slow=12,SNR=5.8
KURBB LR LR 13 04 21.2
comp=Z,258nm,20.4s,baz=156,slow=41
comp=Z,7.2nm,0.6s
KURK Kurchatov 42.62 50 P **P** **12 43 21.4 -0.1**
KURK IAmb IAmb 12 43 23.6
comp=Z,15nm,1.0s
KURK Kurchatov 42.62 50 *ce*P **P** **12 43 21.5 -0.1**
KURK pmax pmax
comp=Z,12nm,0.8s
SCO Scoresbysund 43.55 340 P **P** **12 43 29.3 +0.5**
SCO IAmb IAmb 12 43 42.3
comp=Z,8.9nm,0.8s
SCO Scoresbysund 43.55 340 P **P** **12 43 29.3 +0.5**
SCO pmax pmax
comp=Z,9.0nm,0.8s
SCO Scoresbysund 43.55 340 *eP* **P** **12 43 29.5 +0.6**
SCO IAmb IAmb 12 43 30.8
comp=Z,9.2nm,1.0s
PDGK Podgornoye 43.67 61 P **P** **12 43 30.0 -0.5**
SPITS Spitsbergen Ar 43.94 358 P **P** **12 43 31.3 -0.7**
comp=Z,6.0nm,0.8s,baz=142,slow=7.3,SNR=7.8
SPITS PcP **PcP** **12 45 16.3 -1.3**
comp=Z,14nm,1.0s,baz=132,slow=2.1,SNR=2.7
SPITS LR LR 13 03 49.1
comp=Z,763nm,20.6s,baz=140,slow=39
comp=Z,6.0nm,0.8s
MAKZ Makanchi 45.01 56 P **P** **12 43 40.8 -0.2**
MAKZ IAmb IAmb 12 43 54.0
comp=Z,7.8nm,0.9s
MAKZ Makanchi 45.01 56 P **P** **12 43 40.8 -0.2**
MAKZ pmax pmax
comp=Z,8.0nm,0.9s
MK31 Makanchi Array 45.23 56 P **P** **12 43 42.2 -0.5**
MK31 IAmb IAmb 12 43 47.1
comp=Z,10nm,0.8s
MK31 Makanchi Array 45.23 56 P **P** **12 43 42.2 -0.5**
MK31 pmax pmax
comp=Z,10.0nm,0.8s
MKAR Makanchi Array 45.23 56 P **P** **12 43 41.5 -1.2**
MKAR Makanchi Array 45.23 56 *i*P **P** **12 43 42.2 -0.5**
MKAR pmax pmax
comp=Z,15nm,0.7s
MKAR Makanchi Array 45.23 56 P **P** **12 43 41.8 -0.9**
comp=Z,14nm,0.7s,baz=280,slow=5.7,SNR=96
MKAR PcP **PcP** **12 45 23.6 +1.0**
comp=Z,1.7nm,0.7s,baz=276,slow=4.8,SNR=1.6
MKAR LR LR 13 06 22.5
comp=Z,139nm,18.1s,baz=276,slow=41
comp=Z,14nm,0.7s
ZAA0 Zalesovo Array 46.41 46 P **P** **12 43 51.0 -0.9**
ZAA0 IAmb IAmb 12 44 10.6
comp=Z,5.8nm,0.7s
ZALV Zalesovo Beam 46.41 46 P **P** **12 43 50.9 -1.0**
ZALV Zalesovo Beam 46.41 46 *i*P **P** **12 43 51.0 -0.9**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV Zalesovo Beam 46.41 46 P **P** **12 43 50.7 -1.2**
comp=Z,4.0nm,0.5s,baz=270,slow=8.6,SNR=19
ZALV LR LR 13 06 08.2
comp=Z,139nm,21.6s,baz=270,slow=40
comp=Z,4.0nm,0.5s
DAG Danmarks Havn 46.46 348 *i*P **P** **12 43 50.0 -2.0**
DAG IAmb IAmb 12 43 52.9
comp=Z,3.5nm,1.0s
DGZ Jazzator, Alta 48.32 51 *i*P **P** **12 44 06.6 -0.4**
DGZ pmax pmax
comp=Z,7.0nm,0.8s
ICESG Greenland Ices 48.77 335 *eP* **P** **12 44 10.1 -0.3**
ICESG IAmb IAmb 12 44 13.0
comp=Z,11nm,1.1s
NRIK Noril'sk 49.06 25 P **P** **12 44 11.9 -0.2**
NRIK IAmb IAmb 12 44 14.6
comp=Z,12nm,1.3s
NRIK Noril'sk 49.06 25 *ce*P **P** **12 44 12.3 +0.1**
NRIK pmax pmax
comp=Z,8.0nm,1.2s
NRIK Noril'sk 49.06 25 P **P** **12 44 12.0 -0.2**
comp=Z,4.8nm,0.7s,baz=250,slow=1.3,SNR=5.8
NRIK LR LR 13 07 10.9
comp=Z,290nm,19.5s,baz=270,slow=39
comp=Z,4.8nm,0.7s
SUMG Summit 49.19 339 P **P** **12 44 13.8 +0.2**
SUMG IAmb IAmb 12 44 16.1
comp=Z,11nm,1.0s
SUMG Summit 49.19 339 P **P** **12 44 13.8 +0.2**
SUMG pmax pmax
comp=Z,11nm,1.0s
SUMG Summit 49.19 339 *i*P **P** **12 44 13.0 -0.6**
SUMG IAmb IAmb 12 44 16.4
comp=Z,9.4nm,0.9s
WMQ Urumqi 49.46 59 *eP* **P** **12 44 18.9 +3.1**
WMQ LR LR
comp=Z,240nm,20.9s
NOR Nord 49.48 353 *eP* **P** **12 44 12.7 -2.6**
NOR IAmb IAmb 12 44 13.7
comp=Z,8.7nm,1.5s
LSZ Lusaka 49.64 174 P **P** **12 44 17.7 +0.3**
LSZ Lusaka 49.64 174 P **P** **12 44 17.7 +0.3**
LSZ pmax pmax
comp=Z,4.0nm,0.7s
DY2G Dye2 50.96 331 *eP* **P** **12 44 28.3 +1.3**
DY2G IAmb IAmb 12 44 29.5
comp=Z,43nm,1.2s
SFJD Kangerlussuaq 52.70 332 LR LR 13 08 30.2
comp=Z,149nm,20.7s,baz=88,slow=38
ILULI Ilulissat 52.86 334 *eP* **P** **12 44 39.6 -1.2**
ILULI IAmb IAmb 12 44 41.6
comp=Z,12nm,1.0s
NEEM North Greenlan 53.33 345 *eP* **P** **12 44 44.2 -0.3**
NEEM IAmb IAmb 12 44 46.6
comp=Z,8.9nm,0.8s
TSUM Tsumeb 53.66 187 LR LR 13 10 41.0
comp=Z,583nm,19.8s,baz=332,slow=39
LSA Lhasa 56.48 75 P **P** **12 45 07.8 -0.4**
LSA IAmb IAmb 12 45 23.5
comp=Z,8.6nm,0.6s
LSA Lhasa 56.48 75 P **P** **12 45 07.8 -0.4**
LSA pmax pmax
comp=Z,9.0nm,0.6s
GOMU GeErMu 56.88 66 P **P** **12 45 13.4 +2.6**
GOMU pP pwP 12 45 18.4 +0.5
GOMU sP sP 12 45 19.8 +4.1
GOMU ScS ScS 12 54 55.1 -5.2
GOMU pmax pmax
comp=Z,4.0nm,0.7s
OPO Ambohidratompo 57.30 153 LR LR 13 10 00.1
comp=Z,193nm,21.9s,baz=180,slow=36
ZAK Zakamensk 58.17 48 *eP* **P** **12 45 19.3 -0.1**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
PALK Pallekele 58.92 103 LR LR 13 12 07.0
comp=Z,144nm,20.9s,baz=59,slow=37
LBTB Lobatse 59.17 178 LR LR 13 15 07.9
comp=Z,293nm,18.3s,baz=358,slow=40
GTA Gaotai 59.42 61 P **P** **12 45 28.1 -0.2**
GTA sP pwP 12 45 40.8 +5.4
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA LR LR
comp=Z,99nm,18.9s
GTA LR LR
comp=Z,140nm,17.4s
GTA LR LR
comp=Z,140nm,19.3s
FRB Frobisher Bay 60.62 329 LR LR 13 13 26.9
comp=Z,174nm,19.2s,baz=76,slow=38
SONM Songino Array 60.92 50 P **P** **12 45 38.3 -0.2**
SONM IAmb IAmb 12 45 41.9
comp=Z,6.1nm,1.2s
SONM Songino Array 60.92 50 P **P** **12 45 38.3 -0.2**
comp=Z,3.5nm,0.9s,baz=283,slow=9.3,SNR=18
SONM LR LR 13 15 38.1
comp=Z,284nm,18.7s,baz=286,slow=40
comp=Z,3.5nm,0.9s
ULN Ulaanbaatar 61.33 50 P **P** **12 45 41.0 -0.2**
ULN IAmb IAmb 12 45 54.6
comp=Z,6.2nm,0.7s
ULN Ulaanbaatar 61.33 50 *ce*P **P** **12 45 41.2 0.0**
ULN pmax pmax
comp=Z,7.0nm,1.0s
BOD Bodaibo 61.80 37 *eP* **P** **12 45 42.8 -1.2**
BOD pmax pmax
comp=Z,9.0nm,2.0s
TIXI Tiksi 62.27 20 P **P** **12 45 46.5 -0.5**
TIXI IAmb IAmb 12 45 57.9
comp=Z,6.9nm,1.0s
TIXI Tiksi 62.27 20 *ce*P **P** **12 45 46.7 -0.3**
TIXI pmax pmax
comp=Z,8.0nm,1.0s
BOSA Boshof 62.74 178 P **P** **12 45 51.9 +1.2**
comp=Z,2.0nm,0.5s,baz=355,slow=6.7,SNR=6.4
BOSA LR LR 13 16 07.1
comp=Z,337nm,19.9s,baz=9.5,slow=39
comp=Z,2.0nm,0.5s
SCHQ Schefferville 62.90 319 P **P** **12 45 51.3 -0.2**
comp=Z,7.9nm,0.9s,baz=66,slow=13,SNR=8.4
SCHQ LR LR 13 14 06.2
comp=Z,80nm,18.2s,baz=63,slow=37
comp=Z,7.9nm,0.9s
LZH Lanzhou 63.66 63 *eP* **P** **12 45 57.5 +0.5**
LZH sP pwP 12 46 04.3 +0.2
LZH pmax pmax
comp=Z,11nm,1.1s
LZH LR LR
comp=Z,170nm,16.8s
LZH LR LR
comp=Z,140nm,19.9s
LZH LR LR
comp=Z,230nm,16.1s
RES Resolute Bay 64.02 345 P **P** **12 45 59.1 +0.6**
RES IAmb IAmb 12 46 15.6
comp=Z,6.3nm,1.4s
RES Resolute Bay 64.02 345 P **P** **12 45 59.2 +0.6**
RES Resolute Bay 64.02 345 LR LR 13 15 08.3
comp=Z,80nm,20.8s,baz=23,slow=37
TNCH TengChong 64.40 76⇑ P **P** **12 46 03.0 +0.9**
TNCH pP sP 12 46 06.3 -0.6
TNCH pmax pmax
comp=Z,47nm,1.2s
CD2 Chengdu 65.84 68 P **P** **12 46 11.1 -0.1**
CD2 pmax pmax
comp=Z,20nm,0.8s
PZH PanZhiHua 66.28 73 P **P** **12 46 13.8 -0.4**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,100nm,5.4s
SUR Sutherland 66.53 183 LR LR 13 17 35.0
comp=Z,665nm,18.7s,baz=354,slow=38
HHC Hu-ho-hao-te 67.09 55 *eP* **P** **12 46 19.0 -0.1**
HHC sP pwP 12 46 28.5 +2.3
HHC *eS* **S** **12 55 11.4 -1.5**
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,60nm,3.9s
HHC LR LR
comp=Z,130nm,16.9s
HHC LR LR
comp=Z,92nm,14.1s
YAK Yakutsk 67.12 29 LR LR 13 17 58.6
comp=Z,118nm,20.9s,baz=292,slow=38
D62A Allapoint, All 67.36 312 P **P** **12 46 21.1 +0.5**
D62A IAmb IAmb 12 46 24.7
comp=Z,9.8nm,0.9s
KMI Kunming 67.73 74⇑ P **P** **12 46 24.3 +0.8**
KMI S **S** **12 55 22.4 +1.2**
KMI pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 67.75 82 P **P** **12 46 23.9 +0.4**
CHTO IAmb IAmb 12 46 27.5
comp=Z,12nm,1.4s
CHTO Chiang Mai 67.75 82 P **P** **12 46 23.9 +0.4**
CHTO pmax pmax
comp=Z,12nm,1.5s
CMAR Chiang Mai Arr 67.93 82 P **P** **12 46 24.4 -0.2**
CMAR Chiang Mai Arr 67.93 82 *i*P **P** **12 46 24.2 -0.4**
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 67.93 82 P **P** **12 46 23.9 -0.7**
comp=Z,1.6nm,0.8s,baz=301,slow=8.8,SNR=14
CMAR LR LR 13 23 21.4
comp=Z,50nm,20.1s,baz=290,slow=42
comp=Z,1.6nm,0.8s
CRAI Chiangrai 68.21 80 P **P** **12 46 26.0 -0.4**
CRAI IAmb IAmb 12 46 33.7
comp=Z,10.0nm,0.9s
XAN Xi'an 68.30 63 P **P** **12 46 26.1 -0.7**
XAN pmax pmax
comp=Z,8.0nm,0.8s
XAN LR LR
comp=Z,170nm,17.7s
XAN LR LR
comp=Z,240nm,16.0s
XAN LR LR
comp=Z,240nm,16.3s
XLT XiLinHaoTe 68.69 51 *eP* **P** **12 46 31.3 +2.1**
XLT pP pwP 12 46 36.0 -0.2
XLT sP sP 12 46 38.5 +4.5
XLT PcP **PcP** **12 46 56.7 +2.8**
XLT pmax pmax
comp=Z,9.0nm,0.9s
XLT pmax pmax
comp=Z,86nm,4.7s
RCBR Riachuelo 68.88 247 LR LR 13 18 20.1
comp=Z,130nm,18.4s,baz=56,slow=37
PHRA Phrae 68.96 82 P **P** **12 46 30.6 -0.4**
GYA Guiyang 70.18 71 P **P** **12 46 42.0 +3.4**
GYA pmax pmax
comp=Z,20nm,0.9s
ZEA Zeya 70.29 38 *eP* **P** **12 46 39.5 +0.8**
ZEA MLR MLR
comp=Z,100nm,14.0s
SLVN Son La 70.52 77 P **P** **12 46 41.1 +0.4**
SLVN IAmb IAmb 12 46 44.6
comp=Z,5.8nm,1.0s
LYN LuoYang 70.64 61 *eP* **P** **12 46 44.7 +3.5**
LYN pmax pmax
comp=Z,10.0nm,0.9s
HNS HongShan 70.86 57 *eP* **P** **12 46 41.9 -0.5**
A36M Sachs Harbour 71.63 350 P **P** **12 46 46.1 -0.4**
NBAN Anadia - AL 71.65 244 *eP* **P** **12 46 47.6 +0.1**
FCC Fort Churchill 73.71 331 P **P** **12 46 58.4 -0.7**
FCC Fort Churchill 73.71 331 P **P** **12 46 58.4 -0.7**
FCC pmax pmax
comp=Z,6.0nm,1.1s
C36M Paulatuk 73.82 349 P **P** **12 46 59.2 -0.3**
C36M IAmb IAmb 12 47 07.0
comp=Z,15nm,1.5s
BILL Bilibino 74.06 14⇈ *e*P **P** **12 47 01.6 +0.6**
BILL pmax pmax
comp=Z,24nm,2.5s
SEY Seymchan 74.69 22 *ce*P **P** **12 47 04.4 -0.4**
SEY pmax pmax
comp=Z,16nm,2.5s
SEY Seymchan 74.69 22 LR LR 13 25 03.1
comp=Z,197nm,18.2s,baz=335,slow=40
BNX BinXian 74.69 45⇓ P **P** **12 47 05.4 +0.3**
BNX pmax pmax
comp=Z,6.0nm,0.4s
BNX pmax pmax
comp=Z,69nm,3.8s
KLR Kul'dur 75.13 40 *ce*P **P** **12 47 07.4 -0.2**
KLR pmax pmax
comp=Z,6.0nm,1.0s
B22K Teshekpuk Lake 75.49 359 P **P** **12 47 09.3 +0.1**
B22K IAmb IAmb 12 47 34.4
comp=Z,8.3nm,1.1s
MDP Montagnes des 75.80 266 LR LR 13 19 31.6
comp=Z,101nm,21.1s,baz=86,slow=35
B20K Meade River 75.84 0 P **P** **12 47 10.8 -0.5**
C23K Itkillik River 75.93 358 P **P** **12 47 12.8 +1.1**
D27M Malcolm River 75.99 354 P **P** **12 47 13.2 +1.0**
INK Inuvik 76.13 351 LR LR 13 23 22.1
comp=Z,141nm,19.8s,baz=1.0,slow=38
B21K Ikpikpuk River 76.23 359 P **P** **12 47 13.9 +0.5**
B21K IAmb IAmb 12 47 31.3
comp=Z,6.4nm,0.9s
NJ2 Nanjing 76.51 60 *eP* **P** **12 47 15.9 +0.2**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
MDJ Mudanjiang 76.61 45 P **P** **12 47 14.7 -1.4**
MDJ pmax pmax
comp=Z,15nm,1.8s
MDJ pmax pmax
comp=Z,140nm,3.6s
MA2 Magadan 76.66 25 *ce*P **P** **12 47 15.3 -0.8**
MA2 pmax pmax
comp=Z,20nm,1.7s
MA2 Magadan 76.66 25 LR LR 13 24 01.3
comp=Z,118nm,21.1s,baz=304,slow=38
TOLK Toolik Lake Re 77.09 357 P **P** **12 47 18.6 +0.2**
TOLK IAmb IAmb 12 47 23.6
comp=Z,22nm,1.7s
C18K Utukok River 77.15 2 P **P** **12 47 17.9 -0.8**
YKA Yellowknife Ar 77.72 342 *i*P **P** **12 47 21.6 -0.4**
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 77.72 342 P **P** **12 47 21.2 -0.8**
comp=Z,1.6nm,0.8s,baz=34,slow=5.7,SNR=23
YKA LR LR 13 24 22.3

	comp=Z,123nm,18.3s,baz=350,slow=38							
	comp=Z,1.6nm,0.8s							
BMAR	**Burnt Mountain**	**78.04**	**355**	P		**P**	**12 47 24.6**	**+0.9**
F24K	**Squaw Lake**	**78.14**	**357**	P		**P**	**12 47 24.6**	**+0.2**
F24K				IAmb		IAmb	12 47 42.8	
	comp=Z,5.1nm,0.8s							
USRK	**Ussuriysk Ar.**	**78.24**	**44**	P		**P**	**12 47 25.0**	**-0.2**
	comp=Z,5.4nm,0.7s,baz=296,slow=4.3,SNR=7.4							
	comp=Z,5.4nm,0.7s							
MCPB	**Macapa, AP**	**78.40**	**262**	*e*P		**P**	**12 47 28.1**	**+1.5**
WRGLY	**Wrigley**	**79.17**	**345**	P		**P**	**12 47 30.7**	**+0.7**
WRGLY				IAmb		IAmb	12 47 32.3	
	comp=Z,14nm,0.9s							
G21K	**Allakaket**	**79.33**	**359**	P		**P**	**12 47 31.3**	**+0.5**
G21K				IAmb		IAmb	12 47 56.7	
	comp=Z,18nm,1.4s							
COWI	**Conover**	**79.51**	**319**	P		**P**	**12 47 31.8**	**-0.4**
COWI				IAmb		IAmb	12 47 34.2	
	comp=Z,13nm,0.9s							
FFC	**Flin Flon**	**79.65**	**331**	P		**P**	**12 47 32.2**	**-0.5**
FFC				IAmb		IAmb	12 47 34.3	
	comp=Z,6.1nm,0.9s							
FFC	**Flin Flon**	**79.65**	**331**	P		**P**	**12 47 32.2**	**-0.5**
FFC				pmax		pmax		
	comp=Z,6.0nm,0.9s							
KSAR	**Wonju Array Be**	**79.71**	**52**	P		**P**	**12 47 34.0**	**+0.6**
KSAR	**Wonju Array Be**	**79.71**	**52**	P		**P**	**12 47 34.0**	**+0.6**
KSRS	**Korea Array**	**79.72**	**52**	P		**P**	**12 47 33.0**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=301,slow=5.1,SNR=8.2							
KSRS				LR		LR	13 27 43.0	
	comp=Z,145nm,18.6s,baz=305,slow=39							
	comp=Z,2.0nm,0.7s							
ULM	**Lac du Bonnet**	**80.17**	**325**	P		**P**	**12 47 35.2**	**-0.5**
	comp=Z,8.0nm,1.2s,baz=54,slow=19,SNR=5.0							
	comp=Z,8.0nm,1.2s							
H21K	**Melozitna Rive**	**80.18**	**358**	P		**P**	**12 47 36.1**	**+0.7**
ILAR	**Eielson Array**	**80.82**	**356**	P		**P**	**12 47 39.6**	**+0.7**
	comp=Z,1.1nm,0.9s,baz=356,slow=4.0,SNR=12							
ILAR				LR		LR	13 25 57.9	
	comp=Z,89nm,20.2s,baz=336,slow=38							
	comp=Z,1.1nm,0.9s							
JANB	**Januaria**	**81.10**	**245**	*e*P		**P**	**12 47 42.5**	**+1.4**
SJMB	**Sao Joao De Ma**	**81.14**	**240**	*e*P		**P**	**12 47 41.6**	**+0.4**
HDA	**Harding Lake**	**81.19**	**356**	P		**P**	**12 47 40.5**	**-0.3**
HDA				IAmb		IAmb	12 48 14.6	
	comp=Z,14nm,1.3s							
WRH	**Wood River Hil**	**81.19**	**356**	P		**P**	**12 47 40.9**	**+0.1**
K27K	**Chicken**	**81.20**	**354**	P		**P**	**12 47 40.8**	**-0.2**
K27K				IAmb		IAmb	12 48 04.8	
	comp=Z,11nm,1.1s							
L27K	**Beaver Creek,**	**82.12**	**353**	P		**P**	**12 47 43.5**	**-2.4**
L27K				IAmb		IAmb	12 47 55.5	
	comp=Z,7.4nm,1.0s							
YSS	**Yuzh-Sakhalins**	**82.27**	**37**	*e*P		**P**	**12 47 51.5**	**+4.6**
YSS				pmax		pmax		
	comp=Z,20nm,1.0s							
YSS				pmax		pmax		
	comp=Z,200nm,6.3s							
YSS				MLR		MLR		
	comp=Z,200nm,18.0s							
PCRV	**Puerto La Cruz**	**82.89**	**277**	LR		LR	13 22 28.2	
	comp=Z,29nm,21.7s,slow=34							
L40A	**Anamosa**	**83.25**	**317**	P		**P**	**12 47 52.1**	**0.0**
T47A	**Sharon Grove**	**84.07**	**311**	P		**P**	**12 47 55.8**	**-0.6**
PETK	**Petropavlovsk-**	**84.11**	**26**	LR		LR	13 30 44.0	
	comp=Z,127nm,18.3s,baz=317,slow=40							
ASAJ	**Asahikawa**	**84.14**	**39**	LR		LR	13 29 47.0	
	comp=Z,194nm,18.6s,baz=338,slow=39							
JNU	**Nakatsue**	**84.24**	**54**	LR		LR	13 31 10.8	
	comp=Z,103nm,18.1s,baz=328,slow=40							
BDFB	**Brasilia**	**84.25**	**247**	LR		LR	13 27 32.0	
	comp=Z,177nm,18.1s,baz=76,slow=37							
DLBC	**Dease Lake**	**84.87**	**346**	LR		LR	13 27 26.7	
	comp=Z,179nm,19.6s,baz=20,slow=37							
BRLDA	**Berland Lookou**	**85.60**	**338**	P		**P**	**12 48 04.3**	**+0.4**
X48A	**Hartselle**	**85.63**	**309**	P		**P**	**12 48 03.5**	**-0.7**
CCM	**Cathedral Cave**	**85.90**	**314**	P		**P**	**12 48 06.2**	**+0.7**
CCM				IAmb		IAmb	12 48 07.5	
	comp=Z,9.8nm,0.8s							
CCM	**Cathedral Cave**	**85.90**	**314**	P		**P**	**12 48 06.2**	**+0.7**
CCM				pmax		pmax		
	comp=Z,10.0nm,0.9s							
P38A	**Dawn**	**86.19**	**316**	P		**P**	**12 48 06.3**	**-0.6**
MJAR	**Matsushiro Arr**	**86.75**	**47**	P		**P**	**12 48 10.6**	**+0.8**
	comp=Z,4.4nm,1.0s,baz=308,slow=6.5,SNR=8.1							
	comp=Z,4.4nm,1.0s							
MGMO	**Mountain Grove**	**87.11**	**314**	P		**P**	**12 48 10.9**	**-0.6**
KDAK	**Kodiak Island**	**88.06**	**358**	LR		LR	13 28 29.8	
	comp=Z,67nm,21.4s,baz=45,slow=36							
SHEM	**Shemya Is, Ala**	**89.45**	**17**	LR		LR	13 34 20.3	
	comp=Z,126nm,18.7s,baz=320,slow=40							
MIAR	**Mount Ida**	**89.64**	**313**	P		**P**	**12 48 24.2**	**+0.6**
MIAR				IAmb		IAmb	12 48 25.4	
	comp=Z,9.0nm,1.0s							
MIAR	**Mount Ida**	**89.64**	**313**	P		**P**	**12 48 24.2**	**+0.6**
MIAR				pmax		pmax		
	comp=Z,9.0nm,1.0s							
NEW	**Newport**	**90.49**	**335**	LR		LR	13 35 34.8	
	comp=Z,81nm,18.2s,baz=22,slow=40							
PDAR	**Pinedale Array**	**92.03**	**327**	P		**P**	**12 48 34.4**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=79,slow=5.7,SNR=5.1							
PDAR				LR		LR	13 31 13.3	
	comp=Z,96nm,21.9s,baz=28,slow=36							
	comp=Z,0.5nm,0.7s							
SIV	**San Ignacio**	**94.62**	**254**	LR		LR	13 34 06.7	
	comp=Z,192nm,18.2s,baz=102,slow=37							
JCJ	**Chichijima**	**95.58**	**52**	LR		LR	13 37 40.8	
	comp=Z,63nm,19.2s,baz=18,slow=39							
ELK	**Elko**	**96.12**	**330**	LR		LR	13 35 12.7	
	comp=Z,99nm,18.7s,baz=32,slow=37							
ANMO	**Albuquerque**	**96.65**	**321**	LR		LR	13 34 22.8	
	comp=Z,49nm,19.0s,baz=130,slow=37							
CPUP	**Villa Florida**	**97.56**	**243**	LR		LR	13 35 50.4	
	comp=Z,144nm,18.3s,baz=48,slow=37							
YBH	**Yreka Blue Hor**	**98.12**	**335**	LR		LR	13 36 31.7	
	comp=Z,138nm,18.8s,baz=9.5,slow=37							
JTS	**Las Juntas de**	**99.14**	**289**	LR		LR	13 34 51.4	
	comp=Z,13nm,19.1s,baz=64,slow=36							
NVAR	**Mina Array Bea**	**99.34**	**33**	P		**Pdif**	**12 49 08.2**	**0.0**
	comp=Z,0.6nm,0.9s,baz=31,slow=2.1,SNR=4.3							
NVAR				LR		LR	13 39 26.1	
	comp=Z,137nm,18.0s,baz=7.0,slow=39							
	comp=Z,0.6nm,0.9s							
WRA	**Warramunga Arr**	**117.78**	**96**	PKP		**PKPdf**	**12 54 12.3**	**0.0**
	comp=Z,0.4nm,0.6s,baz=311,slow=1.9,SNR=2.1							
ASAR	**Alice Springs**	**119.18**	**100**	PKP		**PKPdf**	**12 54 14.6**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=339,slow=1.7,SNR=11							
QSPA	**South Pole Qui**	**124.31**	**180**	PKP		**PKPdf**	**12 54 22.8**	**-0.7**
	comp=Z,3.6nm,1.0s,baz=270,slow=2.5,SNR=16							

ROM 12 12:35:25.7±0.0, 42.758N±0.002×13.217E±0.002, h11km, ML1.5/6, 1C-2D, Error ellipse: s-maj=0.2km s-min=0.2km az=28.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1214	**Arquata del Tr**	**0.01**	**281**	P	Pg	12 35 28.0	+0.2
T1214				S	Sg	12 35 29.3	+0.1
T1214				AML	AML		
	comp=E,236μm,1.1s						
T1214				AML	AML		
	comp=N,152μm,0.7s						
NRCA	**Norcia**	**0.11**	**315**	⇓P	Pg	12 35 28.9	+0.4
NRCA				S	Sg	12 35 30.9	+0.3
NRCA				AML	AML		
	comp=E,469μm,0.2s						
NRCA				AML	AML		
	comp=N,420μm,0.1s						
NRCA				AML	AML		
	comp=E,510μm,0.2s						
NRCA				AML	AML		
	comp=N,437μm,0.1s						
NRCA				AML	AML		
	comp=E,510μm,1.8s						
NRCA				AML	AML		
	comp=E,469μm,1.8s						
NRCA				AML	AML		
	comp=N,437μm,1.9s						
NRCA				AML	AML		
	comp=N,420μm,1.9s						
MTRA	**Matera**	**0.13**	**91**	⇓P	Pg	12 35 29.4	+0.5
MTRA				S	Sg	12 35 31.9	+0.7
SMA1	**SAN MARTINO**	**0.15**	**146**	P	Pg	12 35 29.8	+0.6
SMA1				S	Sg	12 35 32.6	+0.8
MC2	**Monte Cornacci**	**0.16**	**353**	P	Pg	12 35 29.8	+0.5
MC2				S	Sg	12 35 32.8	+0.8
MMO1	**Montemonaco**	**0.16**	**30**	P	Pg	12 35 29.8	+0.4
MMO1				S	Sg	12 35 32.8	+0.8
LNSS	**Leonessa**	**0.20**	**220**	P	Pg	12 35 30.6	+0.5
LNSS				S	Sg	12 35 34.1	+1.1
RM33	**Pellescritta (**	**0.25**	**180**	⇑P	Pg	12 35 31.6	+0.7
RM33				S	Sg	12 35 35.7	+1.3
T1221	**Campello sul C**	**0.29**	**291**	P	Pg	12 35 32.1	+0.4
TERO	**Teramo**	**0.32**	**115**	P	Pg	12 35 32.6	+0.5
TERO				S	Sb	12 35 37.5	-1.0

IDC 12 12:43:56.9±368.0, 64.33N×24.95E, h0km, Error ellipse: s-maj=176.6km s-min=103.2km az=154.0, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I37NO	**I37NO**	**5.39**	**335**	I	I	13 17 10.0	
	baz=149,slow=327,SNR=3.3						
I43RU	**DUBNA INFRASON**	**9.72**	**136**	I	I	13 42 00.0	
	baz=327,slow=321,SNR=1.7						
I18DK	**QAANAAQ INFRAS**	**29.38**	**334**	I	I	15 53 45.5	
	baz=63,slow=344,SNR=1.0						

IDC 12 12:54:18.6±0.9, 6.03S×142.52E, h0km, mb4.1/8, mbtmp4.1/10, ML1.5/1, MS3.6/6, Error ellipse: s-maj=38.9km s-min=21.1km az=65.0

ISC 12 12:54:20.1±0.8, 6.2S±0.1×142.4E±0.1, h10km, n16, σ0s97/12, mb4.1/8, MS3.5/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.75**	**125**	Pn	**Pn**	**12 55 46.0**	**+0.4**
	0.9nm,0.3s,baz=297,slow=4.5,SNR=3.8						
PMG				Sn	**Sn**	**12 56 51.5**	**-0.1**
	0.7nm,0.3s,baz=345,slow=13,SNR=1.7						
	9.0nm,0.6s						
CTA	**Charters Tower**	**14.36**	**165**	LR	LR	13 03 11.6	
	comp=Z,124nm,19.7s,baz=270,slow=37						
WRA	**Warramunga Arr**	**15.77**	**209**	Pn	**Pn**	**12 58 00.9**	**-1.6**
	0.4nm,0.3s,baz=29,slow=14,SNR=15						
WRA				Sn	Sn	13 00 48.8	-8.7
	0.1nm,0.3s,baz=24,slow=20,SNR=3.7						
WRA				Lg	Lg	13 02 42.2	
	baz=17,slow=27						
BATI	**Baumata**	**18.94**	**256**	LR	LR	13 08 06.6	
	comp=Z,137nm,19.2s,baz=90,slow=43						
ASAR	**Alice Springs**	**19.22**	**204**	P	**Pn**	**12 58 46.3**	**+0.8**
	2.7nm,0.7s,baz=36,slow=10,SNR=62						
ASAR				S	Sn	13 02 13.1	-8.1
	1.7nm,1.0s,baz=16,slow=28,SNR=4.1						
ASAR				Lg	Lg	13 04 30.8	
	baz=23,slow=28,SNR=1.6						
ASAR				LR	LR	13 06 59.8	
	comp=Z,412nm,18.8s,baz=28,slow=39						
STKA	**Stephens Creek**	**25.61**	**182**	LR	LR	13 11 12.8	
	comp=Z,145nm,19.2s,baz=22,slow=39						
DZM	**Mont Dzumac**	**28.14**	**127**	LR	LR	13 10 43.8	
	comp=Z,49nm,19.2s,baz=183,slow=35						
NWAO	**Narrogin (SRO)**	**35.44**	**218**	LR	LR	13 16 32.5	
	comp=Z,117nm,19.2s,baz=89,slow=37						
SONM	**Songino Array**	**62.38**	**333**	P	**P**	**13 04 43.8**	**+0.6**
	0.5nm,0.8s,baz=157,slow=4.7,SNR=2.8						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**74.72**	**322**	P	**P**	**13 05 59.8**	**-0.4**
	2.1nm,0.9s,baz=109,slow=6.8,SNR=15						
	2.1nm,0.9s						
ZALV	**Zalesovo Beam**	**76.73**	**329**	P	**P**	**13 06 11.8**	**+0.3**
	0.3nm,0.3s,baz=132,slow=2.1,SNR=2.2						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**78.62**	**324**	P	**P**	**13 06 22.6**	**+0.5**
	1.2nm,1.0s,baz=111,slow=4.2,SNR=8.8						
	1.2nm,1.0s						
QSPA	**South Pole Qui**	**83.82**	**180**	P	**P**	**13 06 50.2**	**+0.5**
	4.0nm,1.1s,baz=352,slow=16,SNR=7.3						
	4.0nm,1.1s						
NRIK	**Noril'sk**	**84.04**	**343**	P	**P**	**13 06 51.0**	**+0.5**
	2.4nm,0.5s,baz=89,slow=4.6,SNR=2.2						
	2.4nm,0.5s						
BVAR	**Borovoye Array**	**84.20**	**325**	P	**P**	**13 06 52.0**	**+0.3**
	3.3nm,0.8s,baz=110,slow=6.3,SNR=15						
	3.3nm,0.8s						
ILAR	**Eielson Array**	**87.46**	**24**	P	**P**	**13 07 05.7**	**-1.9**
	0.9nm,0.9s,baz=248,slow=4.9,SNR=7.1						
	0.9nm,0.9s						

TEH 12 13:10:01.4, 39.09N×48.83E, h26km±38km, ML3.3
AZER 12 13:10:02.8, 39.09N×48.71E, h41km, ml2.9

ISC 12 13:10:02.1±1.4, 39.09N±0.02×48.75E±0.04, h15km±11km, n53, σ1s13/83, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLBA	**Clilabad**	**0.32**	**299**	P	**Pn**	**13 10 13.0**	**+0.8**
GLBA				S	**Sn**	**13 10 20.5**	**+2.0**
LKRN	**Lenkeran, Azer**	**0.38**	**177**	P	**Pn**	**13 10 13.4**	**+0.5**
LKRN				S	**Sn**	**13 10 20.8**	**+1.0**
YRD	**Yardimli**	**0.43**	**247**	P	**Pn**	**13 10 14.1**	**+0.2**
YRD				S	**Sn**	**13 10 22.1**	**+0.5**
ASTR	**Astara**	**0.53**	**177**	P	**Pn**	**13 10 14.9**	**-0.1**
ASTR				S	**Sn**	**13 10 23.4**	**-0.2**
LRK	**Lerik**	**0.55**	**216**	P	**Pn**	**13 10 15.6**	**+0.1**
LRK				S	**Sn**	**13 10 24.8**	**+0.4**
GRMI	**Germi**	**0.72**	**248**	Pg	**Pb**	**13 10 16.8**	**+0.3**
SAAT	**Saatly**	**0.81**	**342**	P	**Pn**	**13 10 20.1**	**+1.1**
SAAT				S	**Sn**	**13 10 33.4**	**+2.6**
ALIB	**&Aumlli-Bayram**	**0.89**	**13**	S	**Sn**	**13 10 38.0**	**+5.4**
BLQ	**Beylaqan**	**1.12**	**305**	P	**Pn**	**13 10 23.2**	**0.0**
BLQ				S	**Sb**	**13 10 38.1**	**+0.6**
QRD	**Qoradiz**	**1.17**	**289**	P	**Pn**	**13 10 24.0**	**+0.1**
QRD				S	**Sb**	**13 10 39.5**	**+0.4**
KDMR	**Kurdemir**	**1.36**	**341**	Sn	**Sb**	**13 10 44.8**	**+0.4**
ZRD	**Zardab**	**1.45**	**326**	Pn	**Pb**	**13 10 28.5**	**-0.2**
ZRD				Sn	**Sg**	**13 10 48.2**	**-0.6**
GBS	**Qobustan**	**1.46**	**6**	Pg	**Pg**	**13 10 29.9**	**-0.2**
GBS				Sg	**Sg**	**13 10 50.4**	**+1.4**
ISRB	**Sarab**	**1.52**	**214**	Pg	**Pb**	**13 10 29.7**	**-0.4**
CSN1	**Caspian**	**1.54**	**170**	Pg	**Pn**	**13 10 29.0**	**0.0**
IHRS	**Heris**	**1.54**	**241**	Pg	**Pn**	**13 10 29.9**	**+0.7**
AGDM	**Agdam**	**1.63**	**309**	Pn	**Pn**	**13 10 30.2**	**0.0**
AGDM				Sn	**Sn**	**13 10 50.8**	**-0.2**
BRDA	**Brd**	**1.69**	**315**	Pn	**Pn**	**13 10 31.9**	**+0.9**
BRDA				Sg	**Sb**	**13 10 55.3**	**+1.4**
PQL	**Pirkuli**	**1.71**	**356**	Pn	**Pb**	**13 10 32.2**	**-1.0**
PQL				Sn	**Sn**	**13 10 53.4**	**+0.4**
IML	**Ismayilli**	**1.76**	**346**	Sn	**Sn**	**13 10 54.1**	**-0.1**
QBL	**Gabala**	**1.99**	**340**	Pn	**Pn**	**13 10 35.9**	**+0.7**
QBL				Sn	**Sn**	**13 11 00.2**	**+0.4**
SIZA	**Siyzn**	**1.99**	**3**	Pn	**Pn**	**13 10 36.2**	**+1.0**
SIZA				Sn	**Sb**	**13 11 01.9**	**-0.8**
MNGR	**Mingechevir, A**	**2.12**	**323**	Pn	**Pn**	**13 10 37.3**	**+0.4**
MNGR				Sn	**Sn**	**13 11 02.8**	**-0.1**
XNQ	**Khinaliq**	**2.14**	**347**	Pn	**Pn**	**13 10 37.5**	**+0.1**
XNQ				Sn	**Sn**	**13 11 03.0**	**-0.7**
ORD	**Ordubad**	**2.16**	**267**	Pn	**Pn**	**13 10 37.8**	**+0.3**
ORD				Sn	**Sn**	**13 11 03.9**	**0.0**
ITBZ	**Tabriz**	**2.21**	**248**	Pn	**Pn**	**13 10 38.6**	**+0.3**
QUBA	**Quba, Azerbaij**	**2.27**	**355**	Sn	**Sn**	**13 11 07.2**	**+0.3**
IMRD	**Marand**	**2.41**	**262**	Pn	**Pn**	**13 10 41.7**	**+0.7**
SEKA	**Sheki**	**2.43**	**331**	Pn	**Pn**	**13 10 41.2**	**-0.1**
SEKA				Sn	**Sn**	**13 11 09.7**	**-1.1**
GANJ	**Ganja**	**2.44**	**311**	Pn	**Pn**	**13 10 40.9**	**-0.4**
GANJ				Sn	**Sn**	**13 11 09.2**	**-1.6**
QSAR	**Qusar**	**2.46**	**351**	Pn	**Pn**	**13 10 42.1**	**+0.5**
QSAR				Sn	**Sn**	**13 11 11.3**	**0.0**
SBZ	**Shahbuz**	**2.50**	**278**	Pn	**Pn**	**13 10 43.4**	**+1.1**
SBZ				Sn	**Sn**	**13 11 14.1**	**+1.5**
NAX	**Nakhchivan**	**2.54**	**273**	Sn	**Sn**	**13 11 14.5**	**+1.1**
IAZR	**Azarshahr**	**2.59**	**238**	Pn	**Pn**	**13 10 44.5**	**+0.8**
VSHL	**Vashlovani**	**2.80**	**321**	P	**Pn**	**13 10 47.4**	**+1.1**
VSHL				S	**Sn**	**13 11 19.1**	**-0.7**
GDB	**GEDABAY**	**2.83**	**306**	Pn	**Pn**	**13 10 46.8**	**0.0**
GDB				Sn	**Sn**	**13 11 19.4**	**-1.3**
ZKTA	**Zakatala**	**3.02**	**328**	Pn	**Pn**	**13 10 50.3**	**+0.9**
ZKTA				Sn	**Sn**	**13 11 24.7**	**-0.7**
MAKU	**Maku**	**3.17**	**276**	Pn	**Pn**	**13 10 51.9**	**+0.3**
QZX	**Qazax, Azerbai**	**3.26**	**308**	Pn	**Pn**	**13 10 53.3**	**+0.7**
QZX				Sn	**Sn**	**13 11 30.7**	**-0.4**
LGD	**Lagodekhi**	**3.35**	**326**	P	**Pn**	**13 10 54.4**	**+0.6**
LGD				S	**Sn**	**13 11 31.4**	**-1.9**
MZPU	**Pul - Mazandar**	**3.46**	**139**	Pn	**Pn**	**13 10 54.3**	**-1.2**
DGRG	**David-gareji**	**3.50**	**313**	P	**Pn**	**13 10 57.2**	**+1.2**
IPRN	**Peran**	**4.02**	**134**	Pn	**Pn**	**13 11 02.6**	**-0.6**
CHRG	**Chargali**	**4.35**	**319**	P	**Pn**	**13 11 08.1**	**+0.3**
CHRG				S	**Sn**	**13 11 56.2**	**-2.1**
IALA	**Alasht**	**4.40**	**132**	Pn	**Pn**	**13 11 08.0**	**-0.6**
SHTL	**Shatili**	**4.49**	**324**	P	**Pn**	**13 11 10.5**	**+0.8**
SHTL				S	**Sn**	**13 11 59.8**	**-1.9**
IGLO	**Ghaloghah**	**4.78**	**121**	Pn	**Pn**	**13 11 13.0**	**-0.7**
MTEO	**Meteo**	**4.81**	**320**	P	**Pn**	**13 11 15.2**	**+0.9**
MTEO				S	**Sn**	**13 12 06.7**	**-3.2**
MRVT	**Maraveh tapeh**	**5.94**	**102**	Pn	**Pn**	**13 11 27.9**	**-1.6**
ISFR	**Sfrayin**	**7.57**	**103**	Pn	**Pn**	**13 11 51.5**	**-0.6**
IAKL	**Akhelmad**	**8.29**	**104**	Pn	**Pn**	**13 12 01.4**	**-0.7**
IPAY	**Payeh**	**8.53**	**105**	Pn	**Pn**	**13 12 04.4**	**-0.8**
IKRD	**Kardeh**	**8.81**	**102**	Pn	**Pn**	**13 12 08.8**	**-0.2**

IDC 12 13:12:20.3±1.2, 6.99S×125.24E, h535km±18km, mb3.0/9, mbtmp3.9/11, Error ellipse: s-maj=39.0km s-min=14.2km az=64.0
NEIC 12 13:12:20.4±2.0, 6.95S±0.03×125.14E±0.1, h533km±10km, mb4.3/14, Error ellipse: s-maj=20.3km s-min=2.5km az=80.0
DJA 12 13:12:23.3±0.6, 7.5S±0.5×12.5E±, h486km±8km, M4.0/11, mb4.0/7, mB4.6/1, MLv4.0/11, Mw(mB)3.8/1*

ISC 12 13:12:19.1±0.5, 6.89S±0.07×125.34E±0.09, h511km, n65, σ1s24/56, mb3.6/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.04**	**200**	P	P	13 13 33.7	+2.3
SOEI	**Soe**	**3.04**	**200**	P	P	13 13 34.3	+2.9
SOEI	**Soe**	**3.04**	**200**	P	P	13 13 33.9	+2.5
SOEI				S	**S**	**13 14 31.7**	**+1.6**
BBSI	**Bau Bau**	**3.09**	**297**	P	**P**	**13 13 31.1**	**-0.5**
MMRI	**Maumere**	**3.53**	**240**	P	P	13 13 36.7	+2.1
MMRI	**Maumere**	**3.53**	**240**	P	**P**	**13 13 33.9**	**-0.8**
BATI	**Baumata**	**3.69**	**207**	P	P	13 13 38.6	+2.8
	145nm,0.4s,baz=104,slow=8.3,SNR=53						
BATI				S	**S**	**13 14 40.7**	**+2.3**
	28nm,0.4s,baz=78,slow=19,SNR=2.5						
BATI	**Baumata**	**3.69**	**207**	P	P	13 13 38.4	+2.5
NLAI	**Namlea**	**4.03**	**26**	P	**P**	**13 13 40.7**	**+2.1**
EDFI	**Ende, Flores**	**4.06**	**243**	P	**P**	**13 13 40.0**	**+1.1**
SANI	**Sanana**	**4.85**	**8**	P	**P**	**13 13 47.4**	**+1.9**
BNDI	**Bandanaira**	**5.12**	**63**	P	P	13 13 52.7	+4.9
	188nm,1.3s,0.9nm						
BASI	**Baing, Sumba**	**5.75**	**235**	P	**P**	**13 13 54.9**	**+1.3**
	102nm,0.5s,0.5nm						
KAPI	**Kappang**	**5.86**	**288**	P	P	13 13 58.1	+3.5
SAUI	**Saumlaki**	**6.01**	**101**	P	P	13 14 03.0	+7.0
	83nm,0.8s,0.4nm						
LUWI	**Luwuk**	**6.35**	**336**	P	**P**	**13 14 02.2**	**+2.9**
LUWI	**Luwuk**	**6.35**	**336**	P	**P**	**13 14 01.3**	**+2.0**
	44nm,0.9s,1μm0.2nm						
PLAI	**Plampang**	**7.74**	**255**	P	P	13 14 15.2	+2.1
PLAI	**Plampang**	**7.74**	**255**	P	**P**	**13 14 12.6**	**-0.5**
	14nm,1.4s,0.1nm						
DRS	**Darwin Rock St**	**7.77**	**136**	P	**P**	**13 14 15.0**	**+1.6**
GTOI	**Gorontalo**	**7.83**	**343**	P	P	13 14 18.0	+3.9
	5.2nm,1.0s,0.0nm						
FAKI	**Fak Fak**	**7.93**	**61**	P	**P**	**13 14 16.1**	**+0.9**
FAKI	**Fak Fak**	**7.93**	**61**	P	**P**	**13 14 16.4**	**+1.2**
FAKI	**Fak Fak**	**7.93**	**61**	P	**P**	**13 14 15.9**	**+0.7**
MTN	**Manton Dam**	**8.22**	**136**	P	**P**	**13 14 18.9**	**+0.9**
MTN	**Manton Dam**	**8.22**	**136**	P	**P**	**13 14 19.2**	**+1.2**
SWI	**Sorong**	**8.41**	**45**	P	**P**	**13 14 20.9**	**+0.9**
TWSI	**Taliwang, Sumb**	**8.58**	**257**	P	**P**	**13 14 21.3**	**-0.5**
TOLI2	**Tolitoli**	**9.16**	**330**	P	**P**	**13 14 29.7**	**+1.8**
TOLI2	**Tolitoli**	**9.16**	**330**	P	**P**	**13 14 29.6**	**+1.8**
KNRA	**Kununurra**	**9.35**	**159**	P	**P**	**13 14 30.6**	**+0.9**
KNRA	**Kununurra**	**9.35**	**159**	P	**P**	**13 14 31.2**	**+1.4**
FITZ	**Fitzroy Crossi**	**11.14**	**179**	P	**P**	**13 14 49.5**	**+0.9**
JAGI	**Jajag, Banyuwa**	**11.20**	**261**	P	**P**	**13 14 50.2**	**+1.0**
MBWA	**Marble Bar**	**15.19**	**200**	P	**P**	**13 15 30.4**	**-0.7**
MBWA				IAmb	IAmb	13 15 35.1	
	comp=Z,9.6nm,1.1s						
WB0	**Warramunga Arr**	**15.53**	**146**	P	**P**	**13 15 33.5**	**-1.2**
WB0				IAmb	IAmb	13 15 36.9	
	comp=Z,6.1nm,0.4s						
PSA00	**Pilbara Seismi**	**15.53**	**199**	P	**P**	**13 15 34.0**	**-0.7**
PSA00				IAmb	IAmb	13 16 15.4	
	comp=

mb4.2/84, Error ellipse: s-maj=24.0km s-min=14.2km az=147.0
IDC ***12*** *13:25:41.6±5.3, 17°.87S × 178°.63W, h611km ± 67km, mb3.4/10, mbtmp4.3/11, Error ellipse: s-maj=31.5km s-min=21.7km az=127.0*

ISC 12 13:25:39.0±0.5, 17°.9S±0°.1 × 178°.50W±0°.09, h579km, n111, σ0s73/112, mb4.1/51, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.29**	**272**	**P**	**P**	**13 27 00.5**	**+2.3**
AFI	**Afiamalu**	**7.58**	**59**	**P**	**P**	**13 27 34.1**	**+0.4**
NIUE	**Niue**	**8.22**	**100**	**P**	**P**	**13 27 39.4**	**-0.3**
MARNC	**Mare, Loyalty**	**13.18**	**252**	**P**	**P**	**13 28 29.1**	**-0.7**
LIFNC	**LIFOU**	**13.76**	**256**	**P**	**P**	**13 28 34.4**	**-1.3**
PINNC	**Pines Island,**	**14.00**	**248**	**P**	**P**	**13 28 38.6**	**+0.5**
DZM	**Mont Dzumac**	**14.75**	**251**	**P**	**P**	**13 28 46.0**	**+0.4**
DZM	**Mont Dzumac**	**14.75**	**251**	**P**	**P**	**13 28 45.7**	**+0.2**
	7.0nm,0.6s,baz=90,slow=18,SNR=11						
KOUNC	**Koumac, New Ca**	**16.47**	**258**	**P**	**P**	**13 29 02.2**	**+0.5**
EIDS	**Eidsvold**	**29.19**	**250**	**P**	**P**	**13 30 54.9**	**-0.1**
ARMA	**Armidale**	**29.87**	**240**	**P**	**P**	**13 31 01.2**	**+0.3**
ARMA				IAmb	IAmb	13 31 02.4	
	comp=Z,6.1nm,0.7s						
CTAO	**Charters Tower**	**33.36**	**261**	**P**	**P**	**13 31 30.4**	**-0.2**
CAN	**Canberra**	**33.65**	**232**	**P**	**P**	**13 31 33.3**	**+0.5**
PMG	**Port Moresby**	**34.37**	**280**	**P**	**P**	**13 31 40.3**	**+1.2**
JOHN	**Johnston Islan**	**35.52**	**15**	**P**	**P**	**13 31 46.2**	**-2.2**
COEN	**Coen**	**37.02**	**270**	**P**	**P**	**13 32 01.5**	**+0.6**
TOO	**Toolangi**	**37.11**	**231**	**P**	**P**	**13 32 01.8**	**+0.3**
STKA	**Stephens Creek**	**38.56**	**241**	**P**	**P**	**13 32 13.6**	**+0.4**
STKA	**Stephens Creek**	**38.56**	**241**	**P**	**P**	**13 32 13.6**	**+0.4**
	comp=Z,7.2nm,0.6s,baz=84,slow=10,SNR=18						
	comp=Z,7.2nm,0.6s						
BBOO	**Buckleboo**	**43.34**	**241**	**P**	**P**	**13 32 50.9**	**-0.1**
KEKH	**Kekaha**	**43.69**	**26**	**P**	**P**	**13 32 53.6**	**-0.1**
HPAH	**Hawaii Prepara**	**43.83**	**32**	**P**	**P**	**13 32 55.5**	**+0.5**
WR0	**Warramunga Arr**	**44.36**	**260**	**P**	**P**	**13 32 58.1**	**-1.0**
WR0				IAmb	IAmb	13 32 58.4	
	comp=Z,17nm,1.5s						
WB0	**Warramunga Arr**	**44.52**	**260**	**P**	**P**	**13 32 59.5**	**-0.8**
WB2	**Warramunga Arr**	**44.54**	**260**	**P**	**P**	**13 32 59.6**	**-0.9**
WB2				IAmb	IAmb	13 33 00.6	
	comp=Z,6.8nm,0.5s						
WRA	**Warramunga Arr**	**44.55**	**260**	**P**	**P**	**13 32 59.7**	**-0.9**
WRA	**Warramunga Arr**	**44.55**	**260**	**P**	**P**	**13 32 59.8**	**-0.9**
	comp=Z,4.8nm,0.4s,baz=91,slow=7.7,SNR=183						
	comp=Z,4.8nm,0.4s						
AS31	**Alice Springs**	**44.71**	**254**	**P**	**P**	**13 33 01.7**	**-0.1**
AS31				IAmb	IAmb	13 33 02.3	
	comp=Z,8.9nm,0.7s						
ASAR	**Alice Springs**	**44.71**	**254**	**P**	**P**	**13 33 01.6**	**-0.2**
	comp=Z,34nm,0.6s,baz=87,slow=8.7,SNR=744						
ASAR				PcP	**PcP**	**13 34 31.1**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=103,slow=3.8,SNR=3.1						
	comp=Z,34nm,0.6s						
MTN	**Manton Dam**	**48.71**	**268**	**P**	**P**	**13 33 31.4**	**-0.6**
MTN				IAmb	IAmb	13 33 33.1	
	comp=Z,13nm,0.9s						
FORT	**Forrest**	**49.94**	**245**	**P**	**P**	**13 33 39.9**	**-0.8**
KNRA	**Kununurra**	**50.40**	**264**	**P**	**P**	**13 33 43.6**	**-0.7**
FITZ	**Fitzroy Crossi**	**52.95**	**261**	**P**	**P**	**13 34 02.5**	**0.0**
PSA00	**Pilbara Seismi**	**57.83**	**255**	**P**	**P**	**13 34 35.7**	**-0.7**
PSA00				IAmb	IAmb	13 34 36.5	
	comp=Z,8.1nm,0.7s						
MBWA	**Marble Bar**	**57.99**	**256**	**P**	**P**	**13 34 36.8**	**-0.7**
MBWA				IAmb	IAmb	13 34 37.2	
	comp=Z,21nm,1.4s						
MORW	**Morawa**	**60.41**	**246**	**P**	**P**	**13 34 52.8**	**-0.8**
MORW				IAmb	IAmb	13 35 10.4	
	comp=Z,15nm,1.4s						
GIRL	**Giralia**	**62.82**	**253**	**P**	**P**	**13 35 09.8**	**+0.5**
UGM	**Wanagama**	**69.56**	**268**	**P**	**P**	**13 35 50.8**	**-0.4**
QSPA	**South Pole Qui**	**72.16**	**180**	**P**	**P**	**13 36 05.5**	**-0.1**
QSPA	**South Pole Qui**	**72.16**	**180**	**P**	**P**	**13 36 05.5**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=52,slow=3.6,SNR=5.5						
	comp=Z,1.1nm,0.8s						
PETK	**Petropavlovsk-**	**73.64**	**345**	**P**	**P**	**13 36 14.3**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=168,slow=8.4,SNR=4.3						
	comp=Z,2.2nm,0.8s						
ESJX	**Sierra Juarez**	**77.77**	**50**	**P**	**P**	**13 36 38.2**	**+0.7**
YUH	**Yuha Desert**	**78.11**	**50**	**P**	**P**	**13 36 40.0**	**+0.9**
MDPB	**Devils Postpil**	**78.52**	**44**	**P**	**P**	**13 36 42.4**	**+0.9**
YBH	**Yreka Blue Hor**	**78.57**	**39**	**P**	**P**	**13 36 42.6**	**+1.1**
MPK	**Martis Peak**	**78.82**	**42**	**P**	**P**	**13 36 44.2**	**+1.1**
MPK				IAmb	IAmb	13 36 44.7	
	comp=Z,4.9nm,0.6s						
HUMO	**Hull Mountain**	**78.94**	**38**	**P**	**P**	**13 36 44.0**	**+0.7**
HUMO				IAmb	IAmb	13 36 49.7	
	comp=Z,6.1nm,1.3s						
PNTR	**Pine Nut**	**78.99**	**43**	**P**	**P**	**13 36 44.8**	**+0.8**
PNTR				IAmb	IAmb	13 36 45.7	
	comp=Z,4.8nm,0.8s						
L04D	**Klamath Falls**	**79.10**	**39**	**P**	**P**	**13 36 44.9**	**+0.6**
L04D				IAmb	IAmb	13 37 22.9	
	comp=Z,13nm,1.4s						
DSP	**Deep Springs**	**79.12**	**45**	**P**	**P**	**13 36 45.6**	**+1.2**
YERR	**Yerington**	**79.16**	**43**	**P**	**P**	**13 36 45.5**	**+0.7**
YERR				IAmb	IAmb	13 36 45.9	
	comp=Z,2.6nm,0.6s						
P18K	**Big Mountain,**	**79.32**	**12**	**P**	**P**	**13 36 44.4**	**-0.6**
P18K				IAmb	IAmb	13 37 25.3	
	comp=Z,7.8nm,1.1s						
NVAR	**Mina Array Bea**	**79.47**	**44**	**P**	**P**	**13 36 47.7**	**+1.2**
NVAR	**Mina Array Bea**	**79.47**	**44**	**P**	**P**	**13 36 47.3**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=222,slow=7.9,SNR=14						
	comp=Z,1.2nm,0.7s						
O18K	**Koktuh Hills**	**79.75**	**12**	**P**	**P**	**13 36 46.8**	**-0.4**
O18K				IAmb	IAmb	13 37 10.5	
	comp=Z,21nm,1.4s						
KVN	**Kaiserville**	**79.94**	**43**	**P**	**P**	**13 36 49.2**	**+0.3**
K05A	**Summer Lake**	**80.24**	**39**	**P**	**P**	**13 36 51.3**	**+0.9**
K05A				IAmb	IAmb	13 36 52.2	
	comp=Z,4.3nm,1.0s						
J05D	**Fort Rock, OR**	**80.36**	**39**	**P**	**P**	**13 36 51.8**	**+0.9**
J05D				IAmb	IAmb	13 36 52.8	
	comp=Z,4.9nm,0.7s						
H04A	**Detroit Lake**	**80.63**	**37**	**P**	**P**	**13 36 52.5**	**+0.4**
M17K	**Holitna River**	**80.80**	**10**	**P**	**P**	**13 36 53.2**	**+0.7**
M17K				IAmb	IAmb	13 37 01.8	
	comp=Z,18nm,1.4s						
K15K	**Wolf Creek Mou**	**81.04**	**8**	**P**	**P**	**13 36 54.4**	**+0.6**
K15K				IAmb	IAmb	13 37 17.3	
	comp=Z,22nm,1.4s						
L18K	**Granite Mounta**	**81.69**	**10**	**P**	**P**	**13 36 58.0**	**+0.8**
I07A	**Izee**	**81.85**	**39**	**P**	**P**	**13 36 59.1**	**+0.7**
K17K	**Iditarod**	**81.90**	**9**	**P**	**P**	**13 36 58.8**	**+0.6**
K17K				IAmb	IAmb	13 37 38.8	
	comp=Z,13nm,1.4s						
L19K	**White Mountain**	**81.98**	**11**	**P**	**P**	**13 36 59.4**	**+0.8**
L19K				IAmb	IAmb	13 37 30.6	
	comp=Z,12nm,1.4s						
J16K	**Anvik River**	**82.11**	**8**	**P**	**P**	**13 36 59.8**	**+0.5**
SUA	**Susitna One**	**82.14**	**13**	**P**	**P**	**13 36 59.0**	**-0.5**
SUA				IAmb	IAmb	13 37 09.9	
	comp=Z,3.6nm,1.0s						
X16A	**Lo Mia Camp, P**	**82.24**	**50**	**P**	**P**	**13 37 01.8**	**+1.0**
TTA	**Tatalina**	**82.47**	**10**	**P**	**P**	**13 37 01.3**	**+0.2**
TTA				IAmb	IAmb	13 37 14.7	
	comp=Z,8.9nm,1.4s						
PSUT	**Pine Spring**	**82.51**	**46**	**P**	**P**	**13 37 02.4**	**+0.3**
U15A	**North Rim**	**82.57**	**48**	**P**	**P**	**13 37 03.7**	**+1.2**
U15A				IAmb	IAmb	13 37 04.7	
	comp=Z,3.6nm,0.8s						
PMR	**Palmer**	**82.61**	**14**	**P**	**P**	**13 37 00.9**	**-0.7**
PMR				IAmb	IAmb	13 37 13.1	
	comp=Z,7.6nm,1.2s						
GHO	**Glory Hole Cre**	**82.81**	**14**	**P**	**P**	**13 37 02.7**	**-0.2**
GHO				IAmb	IAmb	13 37 06.5	
	comp=Z,16nm,1.2s						
J18K	**Innoko River**	**82.86**	**10**	**P**	**P**	**13 37 03.0**	**+0.1**
J18K				IAmb	IAmb	13 37 09.4	
	comp=Z,5.3nm,1.4s						
CUT	**Chulitna**	**83.08**	**13**	**P**	**P**	**13 37 03.6**	**-0.5**
K20K	**Telida**	**83.20**	**11**	**P**	**P**	**13 37 04.8**	**+0.1**
K20K				IAmb	IAmb	13 37 08.8	
	comp=Z,4.2nm,1.1s						
SCM	**Sheep Creek Mo**	**83.23**	**14**	**P**	**P**	**13 37 04.8**	**-0.2**
VRDI	**Verde Repeater**	**83.69**	**16**	**P**	**P**	**13 37 07.6**	**+0.2**
N25K	**Chitina, Valde**	**83.71**	**16**	**P**	**P**	**13 37 07.3**	**0.0**
GLB	**Gilahina Butte**	**83.77**	**16**	**P**	**P**	**13 37 07.5**	**-0.2**
TRF	**Thorofare Moun**	**84.01**	**12**	**P**	**P**	**13 37 08.1**	**-0.8**
TRF				IAmb	IAmb	13 37 09.0	
	comp=Z,4.9nm,0.8s						
F10A	**Beach Ranch, E**	**84.24**	**38**	**P**	**P**	**13 37 10.9**	**+0.5**
F10A				IAmb	IAmb	13 37 11.3	
	comp=Z,5.2nm,1.0s						
RND	**Reindeer**	**84.27**	**13**	**P**	**P**	**13 37 09.8**	**-0.3**
RND				IAmb	IAmb	13 37 10.4	
	comp=Z,10nm,1.1s						
DHY	**Denali Highway**	**84.30**	**14**	**P**	**P**	**13 37 09.8**	**-0.5**
DHY				IAmb	IAmb	13 37 28.9	
	comp=Z,7.1nm,1.3s						
S34M	**Telegraph Cree**	**85.06**	**23**	**P**	**P**	**13 37 15.0**	**+1.1**
S34M				IAmb	IAmb	13 37 47.9	
	comp=Z,9.6nm,1.2s						
MLY	**Manley**	**85.34**	**11**	**P**	**P**	**13 37 14.1**	**-1.1**
WRH	**Wood River Hil**	**85.37**	**13**	**P**	**P**	**13 37 14.6**	**-0.7**
WRH				IAmb	IAmb	13 37 47.8	
	comp=Z,7.3nm,1.4s						
Q32M	**Nakina River**	**85.40**	**22**	**P**	**P**	**13 37 16.4**	**+0.6**
Q32M				IAmb	IAmb	13 37 47.0	
	comp=Z,11nm,1.4s						
CCB	**Clear Creek Bu**	**85.58**	**13**	**P**	**P**	**13 37 15.4**	**-0.9**
CCB				IAmb	IAmb	13 37 15.9	
	comp=Z,6.5nm,1.3s						
IMAR	**Indian Mountai**	**85.68**	**10**	**P**	**P**	**13 37 16.5**	**-0.2**
IL31		**85.89**	**13**	**P**	**P**	**13 37 16.9**	**-0.8**
ILAR	**Eielson Array**	**85.89**	**13**	**P**	**P**	**13 37 16.7**	**-1.0**
ILAR	**Eielson Array**	**85.89**	**13**	**P**	**P**	**13 37 16.9**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=224,slow=5.1,SNR=18						
	comp=Z,0.4nm,0.4s						
TX31	**Lajitas Ar. Si**	**86.06**	**58**	**P**	**P**	**13 37 20.3**	**+0.8**
TX31				IAmb	IAmb	13 37 21.9	
	comp=Z,4.1nm,1.1s						
TXAR	**Lajitas Array**	**86.06**	**58**	**P**	**P**	**13 37 20.6**	**+1.1**
TXAR	**Lajitas Array**	**86.06**	**58**	**P**	**P**	**13 37 20.4**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=214,slow=6.4,SNR=17						
	comp=Z,1.4nm,0.7s						
J25K	**Salcha River,**	**86.09**	**14**	**P**	**P**	**13 37 18.4**	**-0.4**
J26L	**Joseph Creek**	**86.41**	**14**	**P**	**P**	**13 37 20.6**	**+0.3**
E19K	**Redstone River**	**86.53**	**8**	**P**	**P**	**13 37 20.6**	**-0.2**
M30M	**Minto, Yukon**	**86.64**	**18**	**P**	**P**	**13 37 21.5**	**+0.1**
M30M				IAmb	IAmb	13 37 58.6	
	comp=Z,6.2nm,1.3s						
BPMT	**Black Pine Rid**	**86.72**	**39**	**P**	**P**	**13 37 22.7**	**+0.3**
DAWY	**Dawson**	**87.09**	**16**	**P**	**P**	**13 37 23.4**	**-0.1**
DAWY				IAmb	IAmb	13 37 26.5	
	comp=Z,3.8nm,1.4s						
PD31	**Pinedale Array**	**87.40**	**43**	**P**	**P**	**13 37 26.0**	**+0.2**
PD31				IAmb	IAmb	13 37 31.8	
	comp=Z,3.5nm,1.5s						
PDAR	**Pinedale Array**	**87.40**	**43**	**P**	**P**	**13 37 25.9**	**+0.2**
PDAR	**Pinedale Array**	**87.40**	**43**	**P**	**P**	**13 37 25.6**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=226,slow=3.3,SNR=11						
	comp=Z,1.0nm,0.6s						
D19K	**Kuna River**	**87.40**	**7**	**P**	**P**	**13 37 25.0**	**+0.2**
D22K	**Ayikyak River**	**88.50**	**9**	**P**	**P**	**13 37 30.1**	**+0.1**
D22K				IAmb	IAmb	13 37 49.2	
	comp=Z,4.6nm,1.2s						
BMAR	**Burnt Mountain**	**88.66**	**12**	**P**	**P**	**13 37 31.0**	**+0.3**
H29M	**Whitestone**	**89.08**	**15**	**P**	**P**	**13 37 32.7**	**+0.1**
H29M				IAmb	IAmb	13 38 10.5	
	comp=Z,7.8nm,1.5s						
YKA	**Yellowknife Ar**	**94.35**	**25**	**P**	**P**	**13 37 55.4**	**-1.5**
	comp=Z,0.4nm,0.9s,baz=242,slow=4.8,SNR=4.0						
	comp=Z,0.4nm,0.9s						
BRTR	**Keskin Array B**	**144.71**	**315**	PKP	**PKPdf**	**13 44 09.9**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=90,slow=1.4,SNR=2.2						

IDC 12 13:57:46.2±2.2, 7°.92S × 129°.48E, h0km, mb3.3/1, mbtmp3.0/3, ML3.0/2, Error ellipse: s-maj=108.1km s-min=33.9km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.85**	**159**	Pn	Pn	14 00 51.1	+0.8
	0.1nm,0.3s,baz=338,slow=13,SNR=5.8						
WRA				Sn	Sn	14 03 12.9	-1.2
	0.2nm,0.3s,baz=327,slow=26,SNR=2.0						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**16.23**	**165**	Pn	Pn	14 01 34.8	-0.9
	0.1nm,0.3s,baz=346,slow=12,SNR=8.4						
ASAR				Sn	Sn	14 04 26.3	-10
	baz=324,slow=19,SNR=1.3						
	0.2nm,0.8s						
MKAR	**Makanchi Array**	**68.71**	**327**	P	P	14 08 51.7	0.0
	0.2nm,0.5s,baz=139,slow=7.3,SNR=2.0						
	0.2nm,0.5s						

IDC ***12*** *14:04:31.9±0.9, 21°.56N × 120°.14E, h0km, mb3.4/7, mbtmp3.4/7, MS2.7/4, Error ellipse: s-maj=33.3km s-min=22.1km az=80.0*
JMA ***12*** *14:04:35.5±0.2, 21°.7N±0°.9 × 12°0E±°, h66km±2km, MV3.8/19, TAIWAN REGION*
TAP ***12*** *14:04:35.0, 21°.79N × 120°.13E, h54km, ML4.0, D*

ISC 12 14:04:35.0±1.6, 21°.73N±0°.05 × 120°.09E±0°.04, h23km±11km, n126, σ1s33/183, mb3.4/6, MS2.5/3, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEN	**Hengchun**	**0.66**	**66**	*i* P	**Pb**	**14 04 48.4**	**+0.5**
HEN	baz=79			S	**Sb**	**14 04 58.5**	**+1.8**
TWK1	**Hengchun**	**0.70**	**72**	*i* P	**Pb**	**14 04 48.7**	**+0.2**
TWK1	baz=84			*i* S	**Sb**	**14 04 58.9**	**+1.1**
TWKBT	**Hengchun**	**0.71**	**73**	*i* P	**Pb**	**14 04 48.6**	**0.0**
TWKBT	baz=84			*i* S	**Sb**	**14 04 58.8**	**+0.9**
SCZT	**Fangliau**	**0.81**	**38**	P	**Pb**	**14 04 50.1**	**-0.2**
SCZT	baz=38			S	**Sb**	**14 05 01.1**	**+0.3**
KAU	**Kaohsiung**	**0.86**	**14**	*eP*	**Pb**	**14 04 51.6**	**+0.4**
KAU	baz=12			*eS*	**Sb**	**14 05 04.0**	**+1.7**
WSSB	**Gushan**	**0.92**	**10**	*eP*	**Pb**	**14 04 52.3**	**-0.1**
TAWH	baz=357 **Dawu Township**	**0.96**	**51**	*eP*	**Pb**	**14 04 52.4**	**-0.6**
TAWH	baz=41			*eS*	**Sb**	**14 05 04.7**	**-0.6**
EAST	**Anshuo**	**0.96**	**47**	*i* P	**Pb**	**14 04 52.5**	**-0.5**
EAST	baz=38			*eS*	**Sb**	**14 05 04.8**	**-0.5**
TAW	baz=38 **Tawu**	**0.98**	**50**	P	**Pn**	**14 04 52.7**	**-0.6**
TAW	baz=40			*eS*	**Sb**	**14 05 05.1**	**-0.6**
MASBT	**Mashibuluo**	**1.01**	**30**	P	**Pn**	**14 04 52.9**	**-0.9**
MASBT	baz=39			*eS*	**Sb**	**14 05 05.2**	**-1.6**
SNJT	baz=39 **Kaohsiung City**	**1.04**	**13**	*eP*	**Pn**	**14 04 53.9**	**-0.3**
SNJT	baz=1.0			*i* S	**Sb**	**14 05 07.3**	**-0.3**
SGLT	baz=1.0 **Jiouru**	**1.06**	**21**	P	**Pn**	**14 04 54.8**	**+0.3**
SGLT	baz=20			*eS*	**Sb**	**14 05 09.3**	**+1.2**
TSMG	baz=20 **Majia**	**1.10**	**28**	*eP*	**Pn**	**14 04 54.1**	**-0.9**
TSMG	baz=27			*eS*	**Sb**	**14 05 07.5**	**-1.8**
TWM1	**Shoushan**	**1.13**	**16**	*eP*	**Pn**	**14 04 55.7**	**+0.3**
ECL	baz=5.0 **Taimali**	**1.18**	**43**	*eP*	**Pn**	**14 04 55.3**	**-0.8**
ECL	baz=43			*eS*	**Sn**	**14 05 09.0**	**-2.4**
SCST	**Cishan**	**1.21**	**18**	*eP*	**Pn**	**14 04 56.4**	**-0.1**
SHHT	baz=27 **Tainan City**	**1.31**	**11**	*eP*	**Pn**	**14 04 58.7**	**+0.8**
SHHT	baz=9.0			*eS*	**Sn**	**14 05 14.6**	**0.0**
TAI1	baz=9.0 **Yung-k'ang**	**1.31**	**6**	*eS*	**Sn**	**14 05 13.4**	**-1.3**
SLGT	baz=5.0 **Liugui**	**1.36**	**22**	*eP*	**Pn**	**14 04 57.9**	**-0.7**
SLGT	baz=22			*eS*	**Sn**	**14 05 13.7**	**-2.3**
	baz=22						
CHN3	**Shinhua**	**1.36**	**11**	*eS*	**Sn**	**14 05 15.8**	**-0.2**
	baz=10.0						
LAY	**Lan-yu**	**1.39**	**77**	*eP*	**Pn**	**14 04 57.0**	**-2.1**
	baz=70						
TSCK	**Chigu Township**	**1.41**	**360**	*eS*	**Sn**	**14 05 15.2**	**-2.0**
	baz=358						
SSHA	**Shanhua**	**1.41**	**8**	*eS*	**Sn**	**14 05 16.5**	**-0.7**
	baz=6.0						
TTN	**Taitung**	**1.42**	**44**	*eP*	**Pn**	**14 04 58.9**	**-0.4**
	baz=55						
LYUB	**Lan-yu**	**1.42**	**79**	*eP*	**Pn**	**14 04 56.5**	**-2.8**
	baz=72						
TWG	**Pinlang**	**1.42**	**40**	P	**Pn**	**14 04 59.1**	**-0.3**
	baz=40						
TWG				*eS*	**Sn**	**14 05 16.0**	**-1.4**
	baz=40						
TWGBT	**Beinan**	**1.42**	**40**	P	**Pn**	**14 04 59.2**	**-0.2**
TWGBT	**Beinan**	**1.42**	**40**	*eP*	**Pn**	**14 04 59.0**	**-0.4**
	baz=40						
TWGBT				*eS*	**Sn**	**14 05 16.0**	**-1.4**
	baz=40						
SGST	**Jiashian**	**1.42**	**19**	*eP*	**Pn**	**14 04 58.1**	**-1.3**
	baz=18						
SGST				*eS*	**Sn**	**14 05 15.2**	**-2.3**
	baz=18						
SCLT	**Jiali**	**1.44**	**4**	*eS*	**Sn**	**14 05 16.6**	**-1.4**
	baz=3.0						
CHN1	**Nanshi**	**1.50**	**16**	*eP*	**Pn**	**14 05 00.0**	**-0.6**
	baz=15						
CHN1				*eS*	**Sn**	**14 05 17.5**	**-2.1**
	baz=15						
SNST	**Tainan City**	**1.53**	**14**	*eP*	**Pn**	**14 05 00.4**	**-0.6**
	baz=13						
SNST				*eS*	**Sn**	**14 05 18.0**	**-2.2**
	baz=13						
STYH	**Taoyuan**	**1.57**	**24**	*eP*	**Pn**	**14 05 00.9**	**-0.5**
	baz=12						
STYH				*eS*	**Sn**	**14 05 19.2**	**-1.8**
	baz=12						
WDGT	**Dungji**	**1.57**	**346**	P	**Pn**	**14 05 00.1**	**-1.4**
	baz=355						
WDGT				*eS*	**Sn**	**14 05 18.9**	**-2.2**
	baz=355						
TWK	**Hsinying**	**1.57**	**14**	*i* P	**Pn**	**14 05 00.9**	**-0.7**
	baz=13						
TWK				*i* S	**Sn**	**14 05 19.5**	**-1.8**
	baz=13						
WTP	**Ta-pu**	**1.58**	**18**	*eP*	**Pn**	**14 05 00.9**	**-0.8**
	baz=17						
WTP				*eS*	**Sn**	**14 05 19.6**	**-2.0**
	baz=17						
LDUT	**Ludao**	**1.59**	**54**	P	**Pn**	**14 05 00.5**	**-1.2**
	baz=54						
LDUT				*eS*	**Sn**	**14 05 19.8**	**-1.7**
	baz=54						
VCHM	**Qimei**	**1.59**	**338**	*eP*	**Pn**	**14 05 00.1**	**-1.7**
	baz=336						
VCHM				*eS*	**Sn**	**14 05 18.6**	**-3.0**
	baz=336						
CHN8	**Yiju**	**1.61**	**4**	*eS*	**Sn**	**14 05 21.2**	**-1.0**
	baz=3.0						
ICHU	**Yijhu**	**1.63**	**6**	*eS*	**Sn**	**14 05 20.9**	**-1.8**
	baz=355						
TPUB	**Ta-pu**	**1.64**	**18**	P	**Pn**	**14 05 01.6**	**-0.9**
TPUB	**Ta-pu**	**1.64**	**18**	*eP*	**Pn**	**14 05 01.5**	**-1.0**
	baz=17						
TPUB				*eS*	**Sn**	**14 05 20.5**	**-2.5**
	baz=17						
CHN4	**Tsaushan**	**1.68**	**16**	*eP*	**Pn**	**14 05 02.2**	**-0.8**
	baz=15						
CHN4				*eS*	**Sn**	**14 05 21.6**	**-2.3**
	baz=15						
ELDTW	**Lidau**	**1.69**	**30**	*eP*	**Pn**	**14 05 02.9**	**-0.3**
	baz=23						
ECS	**Chishang**	**1.72**	**37**	*eP*	**Pn**	**14 05 03.5**	**0.0**
	baz=38						
EHD	**Haiduan**	**1.75**	**36**	*eP*	**Pn**	**14 05 03.6**	**-0.3**
	baz=29						
EHD				*eS*	**Sn**	**14 05 24.0**	**-1.6**
	baz=29						
WCKO	**Fanlu**	**1.77**	**16**	*eP*	**Pn**	**14 05 03.2**	**-1.0**
	baz=15						
WCKO				*eS*	**Sn**	**14 05 23.7**	**-2.3**
	baz=15						
WSL	**Shuilin Townsh**	**1.79**	**4**	*eS*	**Sn**	**14 05 25.5**	**-1.0**
	baz=3.0						
CHKT	**Chengkung**	**1.81**	**41**	*eP*	**Pn**	**14 05 04.6**	**-0.1**
	baz=50						
CHKT				*eS*	**Sn**	**14 05 26.0**	**-0.8**
	baz=50						
PHUB	**P'eng-hu**	**1.84**	**345**	P	**Pn**	**14 05 03.6**	**-1.5**
	baz=352						
PHUB				S	**Sn**	**14 05 24.9**	**-2.8**
	baz=352						
FULB	**Fuli**	**1.84**	**37**	*eP*	**Pn**	**14 05 05.6**	**+0.4**
	baz=29						
ALS	**Alishan**	**1.89**	**20**	*eP*	**Pn**	**14 05 05.5**	**-0.7**
	baz=20						
ALS				*eS*	**Sn**	**14 05 27.5**	**-2.0**
	baz=20						
CHKH	**Chenggong**	**1.89**	**40**	*eP*	**Pn**	**14 05 06.1**	**+0.2**
	baz=40						
PNG	**Penghu**	**1.89**	**345**	*eP*	**Pn**	**14 05 04.5**	**-1.4**
	baz=353						
WSF	**Szhu**	**1.90**	**4**	*eS*	**Sn**	**14 05 27.5**	**-1.8**
	baz=3.0						
TWF1	**Yuli**	**1.96**	**35**	*eP*	**Pn**	**14 05 06.8**	**-0.1**
	baz=25						
TWF1				*eS*	**Sn**	**14 05 29.5**	**-1.4**
	baz=25						
WTK	**Tuku**	**1.97**	**8**	*eS*	**Sn**	**14 05 29.2**	**-1.7**
	baz=357						
EYUL	**Yuli**	**1.97**	**35**	*eP*	**Pn**	**14 05 07.1**	**+0.1**
	baz=35						
WDLH	**Douliu**	**1.99**	**12**	*eP*	**Pn**	**14 05 06.4**	**-0.9**
	baz=11						
WDLH				*eS*	**Sn**	**14 05 29.4**	**-2.2**
	baz=11						
WGK	**Gukeng**	**2.00**	**13**	P	**Pn**	**14 05 06.7**	**-0.7**
	ba

WUSB	**Renai**	**2.44**	**23**	*eP*	**Pn**	**14 05 13.3**	**-0.4**
	baz=13							
WUSB				*eS*	**Sn**	**14 05 40.6**	**-2.2**
	baz=13							
SHUL	**Shoufeng**	**2.46**	**33**	*eP*	**Pn**	**14 05 14.0**	**+0.3**
	baz=33							
TCU	**Taichung**	**2.47**	**13**	*eS*	**Sn**	**14 05 41.1**	**-2.1**
	baz=20							
CHGB	**Renai**	**2.53**	**23**	*eP*	**Pn**	**14 05 14.7**	**-0.2**
	baz=14							
LXIB	**Xiulin Townshi**	**2.59**	**28**	*eP*	**Pn**	**14 05 16.1**	**+0.4**
	baz=28							
LXIB				*eS*	**Sn**	**14 05 44.2**	**-2.2**
	baz=28							
WHP	**Taichung City**	**2.66**	**17**	*eP*	**Pn**	**14 05 16.8**	**+0.2**
	baz=24							
WHP				*eS*	**Sn**	**14 05 46.8**	**-1.3**
	baz=24							
TWQ1	**Liyutan**	**2.68**	**14**	*eS*	**Sn**	**14 05 47.2**	**-1.4**
	baz=13							
TDCB	**Techi**	**2.70**	**21**	*eP*	**Pn**	**14 05 17.3**	**+0.2**
	baz=21							
TWT	**Tachien**	**2.70**	**22**	*eP*	**Pn**	**14 05 17.1**	**-0.1**
	baz=21							
ETLH	**Xiulin Townshi**	**2.78**	**27**	*eP*	**Pn**	**14 05 18.5**	**+0.3**
	baz=19							
NACB	**Ninganchiao**	**2.80**	**29**	P	**Pn**	**14 05 18.8**	**+0.4**
NACB	**Ninganchiao**	**2.80**	**29**	*eP*	**Pn**	**14 05 18.6**	**+0.2**
	baz=42							
NSTT	**Nanjuang**	**3.01**	**16**	*eP*	**Pn**	**14 05 21.0**	**-0.2**
	baz=16							
NSTT				*eS*	**Sn**	**14 05 54.4**	**-2.2**
	baz=16							
LIOB	**Emei**	**3.02**	**16**	*eP*	**Pn**	**14 05 21.2**	**-0.4**
	baz=16							
NFF	**Wufeng Townshi**	**3.04**	**18**	*eP*	**Pn**	**14 05 21.8**	**0.0**
	baz=18							
NFF				*eS*	**Sn**	**14 05 55.7**	**-1.8**
	baz=18							
LATG	**Datong**	**3.09**	**25**	*eP*	**Pn**	**14 05 23.3**	**+0.8**
	baz=17							
DSXP	**Dongshan**	**3.15**	**309**	*eP*	**Pn**	**14 05 22.3**	**-0.9**
	baz=308							
YHNB	**Yeheng**	**3.16**	**22**	P	**Pn**	**14 05 24.1**	**+0.7**
YHNB	**Yeheng**	**3.16**	**22**	*eP*	**Pn**	**14 05 23.6**	**+0.2**
	baz=22							
VWUC	**VWUC**	**3.30**	**350**	*eP*	**Pn**	**14 05 24.1**	**-1.1**
	baz=349							
PTMZ	**Houxiangcun**	**3.41**	**345**	*eP*	**Pn**	**14 05 25.9**	**-0.9**
	baz=344							
JYNG	**Yonagunijimaku**	**3.78**	**44**	*eP*	**Pn**	**14 05 32.4**	**+0.6**
JYNG				*eS*	**Sn**	**14 06 14.4**	**-1.1**
YOJ	**Yonaguni jima**	**3.83**	**44**	P	**Pn**	**14 05 33.1**	**+0.6**
YOJ	**Yonaguni jima**	**3.83**	**44**	P	**Pn**	**14 05 33.0**	**+0.6**
YOJ				*eS*	**Sn**	**14 06 16.2**	**-0.6**
HATJ	**Hateruma jima**	**4.14**	**55**	P	**Pn**	**14 05 36.4**	**-0.4**
HATJ				*eS*	**Sn**	**14 06 21.6**	**-2.8**
IRIF	**Iriomote-Funau**	**4.24**	**52**	P	**Pn**	**14 05 38.1**	**-0.1**
IRIF				*eS*	**Sn**	**14 06 24.8**	**-2.2**
JKRS	**Kuro-shima**	**4.39**	**55**	P	**Pn**	**14 05 40.1**	**-0.1**
JKRS				S	**Sn**	**14 06 28.8**	**-1.9**
MATB	**Ma-tsu**	**4.40**	**358**	*eP*	**Pn**	**14 05 39.8**	**-0.6**
	baz=358							
MHZQ	**Yeshan**	**4.46**	**348**	*eP*	**Pn**	**14 05 40.5**	**-0.7**
	baz=347							
JIJ	**Ishigaki jima**	**4.56**	**54**	P	**Pn**	**14 05 42.1**	**-0.5**
JIJ				S	**Sn**	**14 06 31.7**	**-3.3**
LYJJ	**Jianjiangzhen**	**4.81**	**357**	*eP*	**Pn**	**14 05 45.5**	**-0.5**
	baz=356							
JISG	**Ishigakijimahi**	**4.82**	**53**	*eP*	**Pn**	**14 05 44.9**	**-1.2**
JISG				*eS*	**Sn**	**14 06 38.0**	**-3.2**
JTJ	**Tarama**	**5.14**	**55**	*eP*	**Pn**	**14 05 50.6**	**+0.1**
JTJ				*eS*	**Sn**	**14 06 47.4**	**-1.9**
HKPS	**Hong Kong Po S**	**5.54**	**277**	P	**Pn**	**14 05 56.0**	**-0.1**
JIRB	**Irabujima**	**5.60**	**56**	*eP*	**Pn**	**14 05 56.9**	**0.0**
JIRB				*eS*	**Sn**	**14 06 58.3**	**-2.2**
JMJ2	**Miyako jima3**	**5.68**	**57**	*eP*	**Pn**	**14 05 57.7**	**-0.2**
JMJ2				*eS*	**Sn**	**14 07 00.6**	**-1.8**
JIKM	**Ikemajima**	**5.71**	**55**	*eP*	**Pn**	**14 05 57.6**	**-0.8**
JIKM				*eS*	**Sn**	**14 07 01.1**	**-2.1**
JOGS	**Gusukube**	**5.75**	**57**	*eP*	**Pn**	**14 05 58.2**	**-0.7**
JOGS				*eS*	**Sn**	**14 07 02.0**	**-2.2**
KSRS	**Korea Array**	**17.07**	**22**	LR	LR	14 15 55.9		
	comp=Z,16nm,18.1s,baz=180,slow=40							
CMAR	**Chiang Mai Arr**	**20.12**	**264**	P	**P**	**14 09 08.2**	**+0.8**
	0.3nm,0.3s,baz=75,slow=10,SNR=2.4							
CMAR				LR	LR	14 16 43.5		
	comp=Z,22nm,21.2s,baz=95,slow=36							
	0.3nm,0.3s							
JHJ	**Hachijo jima 2**	**20.80**	**53**	LR	LR	14 16 38.0		
	comp=Z,27nm,19.8s,baz=78,slow=35							
JCJ	**Chichijima**	**20.81**	**71**	LR	LR	14 15 52.9		
	comp=Z,16nm,19.2s,baz=80,slow=33							
MKAR	**Makanchi Array**	**39.44**	**318**	P	**P**	**14 12 04.9**	**+1.5**
	0.3nm,0.5s,baz=108,slow=9.8,SNR=4.5							
	0.3nm,0.5s							
PETK	**Petropavlovsk-**	**42.46**	**33**	P	**P**	**14 12 29.7**	**+1.6**
	1.1nm,0.7s,baz=242,slow=8.0,SNR=1.7							
	1.1nm,0.7s							
WRA	**Warramunga Arr**	**43.70**	**160**	P	**P**	**14 12 37.3**	**-1.1**
	0.3nm,0.5s,baz=341,slow=8.7,SNR=5.0							
	0.3nm,0.5s							
ASAR	**Alice Springs**	**47.09**	**163**	P	**P**	**14 13 04.5**	**-0.8**
	0.3nm,0.6s,baz=344,slow=7.1,SNR=10							
ASAR				PcP	**PcP**	**14 14 36.5**	**-0.6**
	0.6nm,0.6s,baz=338,slow=2.9,SNR=7.3							
	0.3nm,0.6s							
ILAR	**Eielson Array**	**71.85**	**27**	P	**P**	**14 15 57.1**	**+1.4**
	0.2nm,0.7s,baz=297,slow=6.0,SNR=4.4							
	0.2nm,0.7s							
YKA	**Yellowknife Ar**	**85.61**	**22**	P	**P**	**14 17 12.5**	**+1.1**
	0.1nm,0.3s,baz=326,slow=4.0,SNR=3.1							
	0.1nm,0.3s							

*GII **12** 14:09:52.2±0.1,33.48N±0.01×35.799E±0.005,h0km, confirmed*
*GRAL **12** 14:09:53.6±0.3,33.47N×35.69E,h0km±18km,MD2.6*
ISC 12 14:09:45.3±2.7,**33.70N**±0.09×**36.1E**±0.1,**h0**km,**n15,**
s46/18,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCY	**Rachaya**	**0.27**	**221**	*eP*	**Pn**	**14 09 55.9**	**-0.8**
RCY				*eS*	**Sb**	**14 09 57.6**	**-0.7**
QRWL	**Qaraoun**	**0.34**	**244**	*eP*	**Pb**	**14 09 54.9**	**+0.6**
QRWL				*eS*	**Sg**	**14 09 56.0**	**-0.2**
DQRL	**Deir Qamar**	**0.40**	**271**	*eP*	**Pn**	**14 09 58.2**	**-0.2**
DQRL				*eS*	**Sb**	**14 10 01.5**	**-0.4**
SHBL	**Chebaa**	**0.43**	**216**	*eP*	**Pb**	**14 09 55.9**	**0.0**
NATI	**Neve Ativ**	**0.51**	**211**	P	**Pb**	**14 09 57.4**	**+0.3**
NATI	**Neve Ativ**	**0.51**	**211**	S	**Sg**	**14 10 02.0**	**+0.4**
GEM	**Giv'at Ha'Em**	**0.58**	**214**	P	**Pb**	**14 09 58.7**	**+0.3**
GEM	**Giv'at Ha'Em**	**0.58**	**214**	S	**Sg**	**14 10 04.1**	**0.0**
KSHT	**Keshet**	**0.74**	**196**	P	**Pn**	**14 10 03.1**	**+0.1**
KSHT	**Keshet**	**0.74**	**196**	S	**Sb**	**14 10 11.5**	**-0.4**
MMA0B	**Mount Meron ar**	**0.87**	**219**	P	**Pn**	**14 10 04.6**	**-0.2**
MMA0B	**Mount Meron ar**	**0.87**	**219**	S	**Sg**	**14 10 13.9**	**+0.7**
MMC7	**Mount Meron ar**	**0.87**	**219**	P	**Pn**	**14 10 04.6**	**-0.3**
HNTI	**Hanita**	**0.95**	**230**	P	**Pn**	**14 10 06.2**	**+0.2**
HNTI	**Hanita**	**0.95**	**230**	S	**Sg**	**14 10 16.4**	**+0.4**

IDC 12 14:19:13.8±2.8,**29.88N**×**106.19E,h0**km,**mb3.3**/3,
mbtmp3.3/3,**Error ellipse: s-maj=489.4km**
s-min=29.0km az=53.0,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**25.08**	**319**	P	P	14 24 40.0	0.0
	0.3nm,0.5s,baz=120,slow=9.4,SNR=4.7						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**56.47**	**148**	P	P	14 28 57.3	-0.4
	0.5nm,0.7s,baz=337,slow=8.0,SNR=1.8						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**59.53**	**150**	P	P	14 29 19.4	+0.2
	0.2nm,0.6s,baz=336,slow=6.3,SNR=5.3						
	0.2nm,0.6s						

*TAP **12** 14:21:02.9,24.06N×122.67E,h12km±1km,ML3.1,D*
*JMA **12** 14:21:04.5±0.1,24.1N±0.8×122.7E±0.3,h24km±1km,*
MV3.0/13,NW OFF ISHIGAKIJIMA IS
ISC 12 14:21:03.3±1.0,**24.06N**±0.03×**122.67E**±0.02,**h17**km±8km,
n92,σ**65**/118,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS4	**EOS4**	**0.33**	**281**	*eP*	**Pg**	**14 21 10.2**	**+0.3**
	baz=280						
EOS3	**EOS3**	**0.39**	**305**	*eP*	**Pb**	**14 21 11.7**	**0.0**
	baz=304						
JYNG	**Yonagunijimaku**	**0.46**	**33**	*i* P	**Pb**	**14 21 12.8**	**-0.2**
JYNG				S	**Sb**	**14 21 18.8**	**-0.8**
YOJ	**Yonaguni jima**	**0.51**	**38**	P	**Pb**	**14 21 13.6**	**-0.2**
YOJ	**Yonaguni jima**	**0.51**	**38**	P	**Pb**	**14 21 13.5**	**-0.2**
	baz=37						
YOJ				*eS*	**Sb**	**14 21 20.4**	**-0.5**
	baz=37						
YOJ	**Yonaguni jima**	**0.51**	**38**	P	**Pb**	**14 21 13.6**	**-0.2**
YOJ				S	**Sg**	**14 21 19.9**	**-0.4**
EOS2	**EOS2**	**0.54**	**312**	*eP*	**Pb**	**14 21 14.7**	**+0.5**
	baz=311						
EOS2				*eS*	**Sn**	**14 21 23.2**	**-1.4**
	baz=311						
EAHA	**Aohua**	**0.89**	**288**	*eP*	**Pb**	**14 21 20.1**	**-0.2**
	baz=287						
EWUT	**Wuta**	**0.90**	**295**	P	**Pb**	**14 21 19.9**	**-0.5**
	baz=295						
EWUT				*eS*	**Sg**	**14 21 32.5**	**-0.1**
	baz=295						
ESAO	**Su ao**	**0.91**	**304**	*eP*	**Pb**	**14 21 20.0**	**-0.6**
	baz=304						
ESAO				*eS*	**Sb**	**14 21 32.4**	**-0.1**
	baz=304						
ENA	**Nanau**	**0.92**	**294**	*eP*	**Pb**	**14 21 20.3**	**-0.5**
	baz=293						
ENA				*eS*	**Sg**	**14 21 33.4**	**0.0**
	baz=293						
TWC	**Suao**	**0.93**	**306**	P	**Pb**	**14 21 20.2**	**-0.7**
	baz=306						
ETL	**Fush Village**	**0.96**	**276**	*eP*	**Pn**	**14 21 22.1**	**+0.1**
	baz=275						
TWD	**Chiawan**	**0.98**	**271**	*eP*	**Pb**	**14 21 21.9**	**0.0**
	baz=271						
NACB	**Ninganchiao**	**0.99**	**277**	P	**Pb**	**14 21 22.3**	**+0.3**
NACB	**Ninganchiao**	**0.99**	**277**	*eP*	**Pb**	**14 21 22.2**	**+0.3**
	baz=276						
IRIF	**Iriomote-Funau**	**1.01**	**74**	*i* P	**Pb**	**14 21 22.5**	**+0.2**
IRIF				*eS*	**Sg**	**14 21 35.8**	**-0.2**
EGS		**1.03**	**319**	*eP*	**Pg**	**14 21 23.2**	**-0.1**
	baz=319						
HATJ	**Hateruma jima**	**1.04**	**90**	P	**Pb**	**14 21 22.9**	**+0.1**
HATJ				*eS*	**Sn**	**14 21 36.8**	**-0.4**
NDS	**Dongshan**	**1.04**	**303**	*eP*	**Pb**	**14 21 22.8**	**-0.1**
	baz=303						
NDS				*eS*	**Sb**	**14 21 36.5**	**+0.3**
	baz=303						
SHUL	**Shoufeng**	**1.05**	**255**	*eP*	**Pb**	**14 21 22.7**	**-0.3**
	baz=254						
ETM	**Tongmen**	**1.08**	**265**	*eP*	**Pb**	**14 21 23.2**	**-0.4**
	baz=264						
ETLH	**Xiulin Townshi**	**1.09**	**278**	P	**Pb**	**14 21 23.9**	**0.0**
	baz=277						
TWE	**Neicheng**	**1.13**	**306**	P	**Pn**	**14 21 24.1**	**-0.2**
	baz=305						
TWE				*eS*	**Sn**	**14 21 39.1**	**-0.3**
	baz=305						
TWB1	**Santiao Chiao**	**1.13**	**327**	*eP*	**Pg**	**14 21 25.3**	**+0.2**
	baz=326						
LATG	**Datong**	**1.15**	**295**	*eP*	**Pn**	**14 21 24.6**	**-0.1**
	baz=294						
LXIB	**Xiulin Townshi**	**1.15**	**268**	*eP*	**Pn**	**14 21 24.5**	**-0.3**
	baz=267						
ESL	**Shilin**	**1.16**	**258**	*eP*	**Pn**	**14 21 23.8**	**-0.9**
	baz=257						
NDT	**Datong Townshi**	**1.19**	**297**	P	**Pb**	**14 21 25.5**	**+0.2**
	baz=297						
TIPB	**Shuangxi**	**1.19**	**320**	*eP*	**Pb**	**14 21 25.7**	**+0.3**
	baz=319						
TIPB				*eS*	**Sg**	**14 21 41.2**	**-0.6**
	baz=319						
EGFH	**Guangfu**	**1.20**	**251**	*eP*	**Pn**	**14 21 25.5**	**+0.2**
	baz=250						
FUSB	**Fushanzhiwuyua**	**1.21**	**305**	P	**Pb**	**14 21 26.1**	**+0.3**
	baz=305						
FUSB				*eS*	**Sg**	**14 21 42.3**	**-0.2**
	baz=305						
WARBT	**Fenglin Townsh**	**1.22**	**254**	*eP*	**Pn**	**14 21 24.8**	**-0.9**
	baz=253						
NNSB	**Datong**	**1.23**	**288**	P	**Pb**	**14 21 26.4**	**+0.2**
	baz=287						
NNSB				*eS*	**Sg**	**14 21 43.2**	**+0.1**
	baz=287						
JKRS	**Kuro-shima**	**1.24**	**82**	P	**Pb**	**14 21 26.6**	**+0.4**
JKRS				S	**Sg**	**14 21 42.9**	**-0.4**
NNS	**Nan Shan**	**1.24**	**288**	P	**Pb**	**14 21 26.7**	**+0.4**
	baz=287						
SXI1	**Grass Mountain**	**1.26**	**325**	*eP*	**Pb**	**14 21 26.5**	**-0.1**
	baz=324						
HGSD	**Ruisui**	**1.27**	**244**	*eP*	**Pn**	**14 21 25.6**	**-0.7**
	baz=243						
NWLT	**Wulai**	**1.28**	**304**	*eP*	**Pb**	**14 21 27.4**	**+0.4**
	baz=303						
WHF	**Hehuan Shan**	**1.29**	**274**	*eP*	**Pn**	**14 21 27.1**	**+0.2**
	baz=273						
FUSS	**Fushou**	**1.32**	**278**	*eP*	**Pn**	**14 21 27.6**	**+0.5**
	baz=278						
YHNB	**Yeheng**	**1.33**	**297**	P	**Pb**	**14 21 28.4**	**+0.6**
YHNB	**Yeheng**	**1.33**	**297**	P	**Pb**	**14 21 28.2**	**+0.4**
	baz=297						
ECBN	**Changbin**	**1.34**	**237**	*eS*	**Sn**	**14 21 43.9**	**-0.8**
	baz=236						
NSK	**Sanguang**	**1.34**	**297**	*eP*	**Pb**	**14 21 28.3**	**+0.2**
	baz=297						
NSK				*eS*	**Sb**	**14 21 45.4**	**+0.3**
	baz=297						
EHY	**Hungye**	**1.35**	**246**	*eP*	**Pn**	**14 21 26.9**	**-0.5**
	baz=245						
EHY				*eS*	**Sn**	**14 21 44.5**	**-0.5**
	baz=245						
CHGB	**Renai**	**1.37**	**270**	*eP*	**Pn**	**14 21 28.1**	**+0.3**
	baz=269						
OWD	**Renai**	**1.37**	**266**	*eP*	**Pn**	**14 21 27.9**	**+0.1**
	baz=265						
TWT	**Tachien**	**1.38**	**278**	*eP*	**Pb**	**14 21 29.4**	**+0.7**
	baz=277						
JIJ	**Ishigaki jima**	**1.38**	**77**	P	**Pn**	**14 21 27.9**	**+0.2**
JIJ				S	**Sb**	**14 21 45.8**	**-0.1**
TDCB	**Techi**	**1.39**	**278**	*eP*	**Pb**	**14 21 28.9**	**0.0**
	baz=277						
TATO	**Taipei**	**1.41**	**310**	P	**Pg**	**14 21 30.5**	**0.0**
WUSB	**Renai**	**1.42**	**268**	*eP*	**Pn**	**14 21 28.8**	**+0.3**
	baz=267						
YULB	**Yu-li**	**1.42**	**242**	P	**Pn**	**14 21 28.1**	**-0.3**
YULB	**Yu-li**	**1.42**	**242**	*eP*	**Pn**	**14 21 28.0**	**-0.4**
	baz=242						
EYUL	**Yuli**	**1.43**	**240**	*eP*	**Pn**	**14 21 28.2**	**-0.3**
	baz=240						
EYUL				*eS*	**Sn**	**14 21 46.4**	**-0.5**
	baz=240						
VWDT	**VWDT**	**1.43**	**258**	*eP*	**Pn**	**14 21 28.8**	**+0.3**
	baz=257						
TWF1	**Yuli**	**1.44**	**241**	P	**Pn**	**14 21 28.6**	**-0.1**
	baz=240						
TWF1				*eS*	**Sn**	**14 21 47.2**	**0.0**
	baz=240						
YM01	**YM01**	**1.47**	**317**	*eP*	**Pg**	**14 21 31.4**	**-0.2**
	baz=317						
YM08	**YM08**	**1.49**	**319**	*eP*	**Pg**	**14 21 31.9**	**-0.1**
	baz=318						
NFF	**Wufeng Townshi**	**1.52**	**292**	*eP*	**Pb**	**14 21 31.3**	**+0.2**
	baz=291						
FULB	**Fuli**	**1.53**	**236**	*eP*	**Pn**	**14 21 30.0**	**+0.1**
	baz=235						
CHKT	**Chengkung**	**1.53**	**232**	*eP*	**Pn**	**14 21 29.9**	**0.0**
	baz=231						
ANP	**Anpu**	**1.53**	**317**	*eP*	**Pg**	**14 21 32.8**	**-0.1**
	baz=317						
TWS1	**Kuangyinshan**	**1.54**	**313**	*eP*	**Pb**	**14 21 31.8**	**+0.5**
	baz=312						
TWY	**Chenhua**	**1.55**	**321**	*eP*	**Pb**	**14 21 31.1**	**-0.5**
	baz=321						
JISG	**Ishigakijimahi**	**1.59**	**70**	P	**Pn**	**14 21 30.8**	**+0.2**
JISG				*eS*	**Sn**	**14 21 50.3**	**-0.4**
WHP	**Taichung City**	**1.59**	**278**	*eP*	**Pb**	**14 21 32.9**	**+0.6**
	baz=277						
SSLB	**Suanglung**	**1.59**	**261**	P	**Pb**	**14 21 32.1**	**-0.2**
SSLB	**Suanglung**	**1.59**	**261**	*eP*	**Pn**	**14 21 31.5**	**+0.7**
	baz=260						
WCS	**Beigang Elemen**	**1.61**	**270**	*eP*	**Pn**	**14 21 32.0**	**+1.1**
	baz=269						
LIOB	**Emei**	**1.62**	**291**	*eP*	**Pb**	**14 21 33.4**	**+0.7**
	baz=291						
EHD	**Haiduan**	**1.62**	**236**	*eP*	**Pn**	**14 21 30.6**	**-0.5**
	baz=235						
NSTT	**Nanjuang**	**1.62**	**291**	*eP*	**Pb**	**14 21 33.4**	**+0.6**
	baz=290						
SMLT	**Sun Moon Lake**	**1.63**	**264**	*eP*	**Pn**	**14 21 32.1**	**+0.8**
	baz=263						
TYC	**Yuchr**	**1.67**	**265**	*eP*	**Pn**	**14 21 32.6**	**+0.9**
	baz=264						
WHYT	**Xinyi Township**	**1.70**	**258**	*eP*	**Pn**	**14 21 33.1**	**+0.9**
	baz=257						
ELDTW	**Lidau**	**1.75**	**241**	*eP*	**Pn**	**14 21 32.4**	**-0.5**
	baz=239						
ELDTW				*eS*	**Sn**	**14 21 53.5**	**-1.4**
	baz=239						
ALS	**Alishan**	**1.79**	**253**	*eP*	**Pn**	**14 21 34.7**	**+1.0**
	baz=252						
JTJ	**Tarama**	**1.94**	**72**	*eP*	**Pn**	**14 21 36.4**	**+0.8**
JTJ				S	**Sn**	**14 22 00.6**	**+1.0**
STYH	**Taoyuan**	**1.95**	**243**	*eP*	**Pn**	**14 21 36.4**	**+0.7**
	baz=243						
STYH				*eS*	**Sn**	**14 22 01.2**	**+1.5**
	baz=243						
WCKO	**Fanlu**	**1.99**	**252**	*eP*	**Pb**	**14 21 38.5**	**-0.6**
	baz=251						
WCKO				*eS*	**Sb**	**14 22 03.7**	**0.0**
	baz=251						
TPUB	**Ta-pu**	**2.02**	**248**	P	**Pn**	**14 21 38.1**	**+1.5**
WTP	**Ta-pu**	**2.05**	**247**	*eP*	**Pn**	**14 21 38.7**	**+1.6**
	baz=246						
WTP				*eS*	**Sb**	**14 22 05.3**	**-0.1**
	baz=246						
WTK	**Tuku**	**2.12**	**260**	*eP*	**Pb**	**14 21 40.4**	**-0.9**
	baz=259						
SLGT	**Liugui**	**2.14**	**241**	*eP*	**Pn**	**14 21 39.7**	**+1.5**
	baz=240						
SNST	**Tainan City**	**2.16**	**248**	*eP*	**Pn**	**14 21 40.8**	**+2.3**
	baz=247						
SCST	**Cishan**	**2.31**	**240**	*eP*	**Pb**	**14 21 43.6**	**-1.0**
	baz=239						
MASBT	**Mashibuluo**	**2.36**	**233**	*eP*	**Pn**	**14 21 42.2**	**+0.9**
	baz=232						
TSCK	**Chigu Township**	**2.54**	**250**	*eP*	**Pn**	**14 21 45.7**	**+2.0**
	baz=248						
PHUB	**P'eng-hu**	**2.89**	**260**	*eP*	**Pn**	**14 21 50.2**	**+1.6**
	baz=259						
VWUC	**VWUC**	**3.08**	**288**	*eP*	**Pn**	**14 21 51.7**	**+0.6**
	baz=287						

*SOME **12** 14:22:57.4,41.22N×78.80E,h20km*
*NNC **12** 14:22:58.3±1.1,41.29N×78.71E,h0km,mb3.5,mpv3.2,*
Error ellipse: s-maj=7.3km s-min=5.0km az=162.0
*KRNET **12** 14:23:01.2±0.1,41.39N×78.44E,h18km,mb2.7*
ISC 12 14:22:58.3±2.1,**41.24N**±0.07×**78.48E**±0.05,**h16**km±13km,
n48,σ**49**/75,**15C-14D,Kyrgyzstan-Xinjiang border**
region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**1.24**	**357**	⇓*i* P	**Pg**	**14 23 22.3**	**0.0**
	baz=58						
PRZ				⇓*i* S	**Sg**	**14 23 37.7**	**-0.9**
	baz=58						
KDJ	**Kajisay**	**1.32**	**313**	⇑*eP*	**Pb**	**14 23 23.9**	**+1.1**
	baz=9.0						
KDJ				⇑*i* S	**Sg**	**14 23 40.3**	**-0.6**
	baz=9.0						
ANVS	**Anan'yevo**	**1.65**	**339**	⇑*i* P	**Pg**	**14 23 29.6**	**-0.6**
	baz=38						
ANVS				⇑*i* S	**Sg**	**14 23 50.5**	**-1.2**
	baz=38						
SATY	**Saty**	**1.82**	**358**	*eP*	**Pb**	**14 23 32.0**	**+0.7**
	2.7nm,0.2s						
SATY				*eS*	**Sg**	**14 23 57.1**	**+0.2**
	25nm,0.4s						
SATY	**Saty**	**1.82**	**358**	Pg	**Pb**	**14 23 31.9**	**+0.6**
	2.7nm,0.4s						
SATY				Lg	Lg	14 23 57.1	
	25nm,0.4s						
NRN	**Naryn**	**1.88**	**277**	⇑*i* P	**Pg**	**14 23 35.7**	**+1.3**
	baz=72						
NRN				⇑*i* S	**Sg**	**14 24 00.7**	**+2.0**
	baz=72						
ZHN	**Zhinishke**	**1.93**	**359**	*eP*	**Pb**	**14 23 33.7**	**+0.5**
	6.7nm,0.1s						
ZHN				*eS*	**Sg**	**14 23 59.7**	**-0.6**
	69nm,0.3s						
ZHN	**Zhinishke**	**1.93**	**359**	Pg	**Pb**	**14 23 33.7**	**+0.5**
	6.7nm,0.1s						
ZHN				Lg	Lg	14 23 59.7	
	69nm,0.3s						
UZB	**Uzynbulak**	**1.95**	**12**	*eP*	**Pn**	**14 23 32.3**	**+1.4**
	2.6nm,0.1s						
UZB				*eS*	**Sb**	**14 23 57.4**	**-0.3**
	9.4nm,0.3s						
UZB	**Uzynbulak**	**1.95**	**12**	Pg	**Pn**	**14 23 32.0**	**+1.0**
	1.6nm,0.1s						
UZB				Lg	Lg	14 23 57.3	
	9.7nm,0.4s						
ULHL	**Ulahol**	**1.95**	**302**	⇑*i* P	**Pb**	**14 23 35.7**	**+2.0**
	baz=98						
ULHL				⇑*i* S	**Sg**	**14 24 00.7**	**-0.4**
	baz=98						
TNSS	**Tian-Shan**	**2.12**	**328**	*eP*	**Pg**	**14 23 38.9**	**-0.2**
	13nm,0.3s						
TNSS				*eS*	**Sg**	**14 24 08.8**	**+2.1**
	12nm,0.7s						
TNSS	**Tian-Shan**	**2.12**	**328**	Pg	**Pg**	**14 23 38.9**	**-0.2**
	13nm,0.4s						
TNSS				Lg	Lg	14 24 08.8	
	12nm,0.7s						
MDOK	**Medeo**	**2.19**	**332**	*eP*	**Pg**	**14 23 39.7**	**-0.7**
	6.2nm,0.4s						
MDOK				*eS*	**Sg**	**14 24 10.0**	**+1.1**
	28nm,0.5s						
MDOK	**Medeo**	**2.19**	**332**	Pg	**Pg**	**14 23 39.7**	**-0.7**
	6.2nm,0.5s						
MDOK				Pg	**Pg**	**14

TKM2	**Tokmak 2**	**2.72**	**309**	⇓*i*P	**Pb**	**14 23 46.6**	**-0.2**
	baz=7.0							
TKM2				⇓*i*S	**Sb**	**14 24 19.8**	**-0.3**
	baz=7.0							
KTBS	**Karatobe**	**2.80**	**332**	*e*P	**Pb**	**14 23 50.1**	**+2.1**
	6.9nm,0.4s							
KTBS				*e*S	**Sg**	**14 24 28.0**	**-0.4**
	18nm,0.5s							
KTBS	**Karatobe**	**2.80**	**332**	Pg	**Pb**	**14 23 50.1**	**+2.1**
	4.2nm,0.7s							
KTBS				Lg	Lg	14 24 27.6		
	18nm,1.0s							
CHKK	**Chushkaly**	**2.83**	**338**	*e*P	**Pb**	**14 23 50.3**	**+1.8**
	2.9nm,0.1s							
CHKK				*e*S	**Sg**	**14 24 28.3**	**-1.1**
	36nm,0.6s							
CHKK	**Chushkaly**	**2.83**	**338**	Pg	**Pb**	**14 23 50.4**	**+1.8**
	3.2nm,0.3s							
CHKK				Lg	Lg	14 24 28.3		
	36nm,0.6s							
DGS	**Degeres**	**2.83**	**316**	*e*P	**Pg**	**14 23 51.4**	**-1.2**
	12nm,0.3s							
DGS				*e*S	**Sg**	**14 24 30.0**	**+0.6**
	17nm,0.4s							
DGS	**Degeres**	**2.83**	**316**	Pg	**Pb**	**14 23 50.9**	**+2.3**
	12nm,0.8s							
DGS				Lg	Lg	14 24 29.1		
	17nm,0.9s							
BLB	**Baldybastay**	**2.85**	**0**	Pg	**Pb**	**14 23 49.3**	**+0.3**
	6.8nm,0.2s							
BLB				Lg	Lg	14 24 26.9		
	31nm,0.8s							
KBK	**Karagaybulak**	**2.99**	**299**	⇑*i*P	**Pb**	**14 23 50.6**	**-0.7**
	baz=97							
KBK				⇑*i*S	**Sb**	**14 24 26.4**	**-1.3**
	baz=97							
ARXS	**Arharly**	**3.01**	**351**	*e*P	**Pb**	**14 23 53.1**	**+1.5**
	2.0nm,0.1s							
ARXS				*e*S	**Sg**	**14 24 33.0**	**-2.0**
	37nm,0.5s							
ARXS	**Arharly**	**3.01**	**351**	Pg	**Pb**	**14 23 53.1**	**+1.5**
	2.0nm,0.2s							
ARXS				Lg	Lg	14 24 33.0		
	37nm,0.5s							
UCH	**Uchtor**	**3.12**	**290**	⇓*i*P	**Pb**	**14 23 52.7**	**-1.1**
	baz=87							
UCH				⇓*i*S	**Sb**	**14 24 30.5**	**-1.4**
	baz=87							
KNOS	**Konyrlen**	**3.16**	**9**	Pg	**Pb**	**14 23 53.8**	**-0.4**
	5.5nm,0.4s							
KNOS				Lg	Lg	14 24 34.2		
	14nm,0.5s							
ARLS	**Aral**	**3.18**	**283**	⇑*i*P	**Pb**	**14 23 53.4**	**-1.1**
	baz=80							
ARLS				⇑*i*S	**Sb**	**14 24 31.5**	**-1.6**
	baz=80							
KRBS	**Karabastau**	**3.21**	**321**	*e*P	**Pb**	**14 23 57.6**	**+2.6**
	3.5nm,0.4s							
KRBS				*e*S	**Sg**	**14 24 41.0**	**-0.4**
	6.4nm,0.5s							
KRBS	**Karabastau**	**3.21**	**321**	Pg	**Pb**	**14 23 57.6**	**+2.6**
	3.5nm,0.4s							
KRBS				Lg	Lg	14 24 41.0		
	6.4nm,0.5s							
DJR	**Jarkent**	**3.24**	**17**	*e*P	**Pb**	**14 23 54.6**	**-0.9**
	0.6nm,0.1s							
DJR				*e*S	**Sb**	**14 24 35.5**	**+0.7**
	14nm,0.6s							
DJR	**Jarkent**	**3.24**	**17**	Pg	**Pb**	**14 23 54.6**	**-0.9**
	0.6nm,0.2s							
DJR				Lg	Lg	14 24 35.5		
	14nm,0.6s							
CHMS	**Chumysh**	**3.28**	**304**	⇓*i*P	**Pb**	**14 23 54.2**	**-2.0**
	baz=2.0							
CHMS				⇓*i*S	**Sb**	**14 24 33.1**	**-2.8**
	baz=2.0							
AAK	**Ala-Archa**	**3.28**	**296**	⇑*i*P	**Pb**	**14 23 54.6**	**-1.7**
	baz=94							
AAK				⇑*i*S	**Sb**	**14 24 33.6**	**-2.5**
	baz=94							
USP	**Ospenovka**	**3.58**	**306**	⇓*i*P	**Pb**	**14 23 58.4**	**-2.9**
	baz=4.0							
USP				⇓*i*S	**Sb**	**14 24 40.1**	**-4.4**
	baz=4.0							
MK31	**Makanchi Array**	**6.19**	**25**	⇑Lg	Lg	14 26 08.8		
	0.6nm,0.5s,baz=212,slow=26							

CATAC ***12*** *14:27:54.4±1.9, 10°.86N×87°.09W, h141km±23km, ML3.5*
UCR ***12*** *14:28:02.6±1.0, 10°.95N×86°.43W, h14km±12km, MW3.9*
ISC 12 14:28:02.0±1.6, **10°.89N**±0°.05×**86°.49W**±0°.07, **h17**km±11km, **n39**, σ**1°19/43**, **1C-2D**, **Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRUZ	**La Cruz**	**0.86**	**77**	*e*P	**Pb**	**14 28 18.7**	**+0.1**
HZTE	**Horizontes, Gu**	**0.89**	**101**	⇓*i*P	**Pg**	**14 28 18.7**	**-0.7**
HZTE				*e*S	**Sb**	**14 28 31.0**	**+0.2**
HZTE	**Horizontes, Gu**	**0.89**	**101**	*i* P	**Pn**	**14 28 22.2**	**+2.3**
HZTE				IAML		14 28 34.0	
	comp=Z,2μm,1.0s						
ELI1	**Hacienda Flor**	**0.95**	**105**	*e*P	**Pb**	**14 28 20.2**	**+0.2**
ELI1				*e*S	**Sn**	**14 28 33.5**	**-0.3**
ALIBA	**Liberia Airpor**	**0.97**	**108**	⇓*e*P	**Pn**	**14 28 22.3**	**+1.4**
ALIBA				*e*S	**Sn**	**14 28 35.8**	**+1.4**
JAPN	**Al SSO del Vol**	**1.01**	**51**	*i* P	**Pn**	**14 28 22.6**	**+1.1**
JAPN				IAML		14 28 23.2	
	comp=Z,950nm,1.0s						
DELF	**Filadelfia**	**1.02**	**115**	*e*P	**Pb**	**14 28 21.4**	**+0.2**
DELF				*e*S	**Sg**	**14 28 35.5**	**+0.4**
MORN	**Al O del Volca**	**1.05**	**51**	*i* P	**Pn**	**14 28 23.5**	**+1.4**
MORN				IAML		14 28 27.3	
	comp=Z,2μm,1.0s						
VRLE	**La Escondida,**	**1.11**	**95**	*e*P	**Pb**	**14 28 21.9**	**-0.9**
VRLE				*e*S	**Sb**	**14 28 36.0**	**-1.0**
ORTG	**Ortega, Santa**	**1.14**	**117**	*e*P	**Pb**	**14 28 23.2**	**-0.2**
ORTG				*e*S	**Sb**	**14 28 37.8**	**-0.2**
ORTG	**Ortega, Santa**	**1.14**	**117**	*i* P	**Pg**	**14 28 24.8**	**+0.7**
ORTG				IAML		14 28 39.5	
	comp=Z,390nm,1.0s						
JUD3	**Juan Diaz 3**	**1.18**	**128**	*e*P	**Pn**	**14 28 23.0**	**-0.8**
DUNO	**Dulce Nombre,**	**1.27**	**129**	*i* P	**Sb**	**14 28 37.8**	**-3.7**
NICO	**Nicoya**	**1.27**	**126**	*e*P	**Pn**	**14 28 25.2**	**+0.2**
COPN	**Copaltepe**	**1.29**	**355**	*i* P	**Pg**	**14 28 26.8**	**-0.1**
COPN				IAML		14 28 46.4	
	comp=Z,350nm,1.0s						
VMAR	**Armenia, Volca**	**1.35**	**93**	⇑*i*P	**Pn**	**14 28 26.4**	**+0.1**
VMAR				*e*S	**Sn**	**14 28 44.3**	**+0.4**
CMARA	**Lajas Hojancha**	**1.36**	**129**	*e*P	**Pn**	**14 28 25.5**	**-0.8**
INDI	**Punta indio, G**	**1.41**	**136**	*e*P	Pn	14 28 22.4	-4.5
CNGA	**Al SSO del Vol**	**1.61**	**353**	*i* P	**Pb**	**14 28 31.4**	**+0.1**
CNGN	**Cerro Negro**	**1.61**	**353**	*e*P	**Pb**	**14 28 31.6**	**+0.1**
JTS	**Las Juntas de**	**1.62**	**111**	*e*P	**Pn**	**14 28 30.2**	**+0.3**
ROCN	**Rota Cerro Neg**	**1.64**	**351**	*i* P	Pn	14 28 17.9	-12
ACON	**Acoyapa**	**1.68**	**50**	*e*P	**Pn**	**14 28 29.8**	**-0.8**
ACON	**Acoyapa**	**1.68**	**50**	*i* P	**Pn**	**14 28 30.2**	**-0.4**
ACON				IAML		14 28 37.6	
	comp=Z,250nm,1.0s						
BOAB	**BOACO BROADBAN**	**1.75**	**27**	*i* P	**Pn**	**14 28 31.8**	**+0.2**
BOAB				IAML		14 28 39.6	
	comp=Z,150nm,1.0s						
ARE1	**Arenal 1**	**1.79**	**104**	*e*P	**Pb**	**14 28 34.2**	**-0.2**
CRIN	**San Cristobal**	**1.88**	**343**	*i* P	Pn	14 28 23.9	-10
CRIN				IAML		14 29 08.9	
	comp=Z,430nm,1.0s						
LAFE	**Finca La Fe, P**	**1.89**	**125**	*e*P	**Pb**	**14 28 35.7**	**-0.4**
LAFE	**Finca La Fe, P**	**1.89**	**125**	*i* P	**Pn**	**14 28 34.6**	**+1.1**
LAFE				IAML		14 29 10.6	
	comp=Z,2.1nm,1.0s						
SOCE	**Pocosol**	**1.91**	**105**	*i* P	**Pn**	**14 28 34.6**	**+0.8**
SOCE				IAML		14 29 04.7	
	comp=Z,230nm,1.0s						
MATN	**Matagalpa**	**2.10**	**15**	*e*P	**Pn**	**14 28 37.3**	**+0.7**
CPMI	**Catarata Coope**	**2.16**	**106**	*e*P	**Pn**	**14 28 39.4**	**+2.0**
JACO	**JACO, Garabito**	**2.17**	**124**	*e*P	**Pb**	**14 28 40.8**	**-0.1**
JACO	**JACO, Garabito**	**2.17**	**124**	*i* P	**Pn**	**14 28 38.4**	**+0.9**
JACO				IAML		14 29 26.1	
	comp=Z,95nm,1.0s						
ESPN	**Las Esperanzas**	**2.51**	**59**	*i* P	**Pn**	**14 28 40.3**	**-1.7**
RIMA	**Rio Macho**	**2.81**	**113**	*e*P	**Pn**	**14 28 47.9**	**+1.4**
RIMA	**Rio Macho**	**2.81**	**113**	*i* P	**Pn**	**14 28 45.6**	**-0.9**
RIMA				IAML		14 29 33.8	
	comp=Z,61nm,1.0s						
CDM	**Cerro de Muert**	**2.99**	**116**	*e*P	**Pn**	**14 28 52.3**	**+3.1**
CDM	**Cerro de Muert**	**2.99**	**116**	*i* P	**Pn**	**14 28 48.5**	**-0.6**
CDM				IAML		14 29 56.4	
	comp=Z,49nm,1.0s						

KRNET ***12*** *14:30:03.8±0.1, 40°.07N×71°.34E, h25km, mb3.4*
ISU ***12*** *14:30:04.2, 40°.06N×71°.39E, h22km*
SOME ***12*** *14:30:05.8, 40°.15N×71°.47E, h5km*
NNC ***12*** *14:30:07.6±1.8, 40°.27N×71°.41E, h0km, mb3.9, mpv3.5,*
Error ellipse: s-maj=14.0km s-min=6.2km az=11.0
ISC 12 14:30:05.2±0.9, **40°.06N**±0°.02×**71°.38E**±0°.02, **h16**km±7km, **n71**, σ**2°36**/116, **25C-25D**, **Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMI	**Chimion**	**0.24**	**27**	P	**Pg**	**14 30 10.3**	**-0.2**
CHMI				S	**Sg**	**14 30 14.8**	**+0.7**
BTK	**Batken**	**0.43**	**270**	⇑*i*P	**Pg**	**14 30 12.2**	**-1.7**
	baz=68						
BTK				⇑*i*S	**Sg**	**14 30 18.2**	**-1.6**
	baz=68						
FRG	**Fergana**	**0.44**	**44**	P	**Pg**	**14 30 13.6**	**-0.5**
FRG				S	**Sg**	**14 30 20.4**	**+0.3**
MINT	**Mingtut**	**0.51**	**323**	P	**Pg**	**14 30 14.8**	**-0.6**
MINT				S	**Sg**	**14 30 22.6**	**+0.4**
DRK	**Karamyk**	**0.66**	**151**	⇑*i*P	**Pg**	**14 30 17.2**	**-1.0**
	baz=49						
DRK				⇑*i*S	**Sg**	**14 30 26.6**	**-0.5**
	baz=49						
NAM	**Namangan**	**0.96**	**13**	P	**Pb**	**14 30 22.5**	**-0.9**
NAM				S	**Sb**	**14 30 36.1**	**+0.2**
TSTA	**Tashata**	**0.99**	**58**	P	**Pb**	**14 30 22.8**	**-1.1**
TSTA				S	**Sb**	**14 30 36.9**	**+0.1**
ANR	**Andizhan**	**1.02**	**47**	P	**Pb**	**14 30 23.5**	**-1.0**
ANR				S	**Sb**	**14 30 38.0**	**+0.2**
CHDK	**Chadak**	**1.03**	**333**	P	**Pb**	**14 30 23.9**	**-0.8**
CHDK				S	**Sb**	**14 30 38.5**	**+0.4**
KSNS	**Kasansay**	**1.10**	**6**	P	**Pb**	**14 30 25.2**	**-0.8**
KSNS				S	**Sb**	**14 30 40.9**	**+0.7**
OHH	**Osh**	**1.17**	**66**	⇓*i*P	**Pn**	**14 30 26.0**	**-1.0**
	baz=67						
OHH				⇓*i*S	**Sb**	**14 30 41.6**	**-0.5**
	baz=67						
GAR	**Garm**	**1.34**	**218**	⇑*i*P	**Pn**	**14 30 28.3**	**-1.1**
	baz=17						
GAR				⇑*i*S	**Sn**	**14 30 45.9**	**-1.1**
	baz=17						
TRKS	**Terek-Say**	**1.48**	**353**	⇑*i*P	**Pn**	**14 30 29.5**	**-1.9**
	baz=55						
TRKS				⇑*i*S	**Sn**	**14 30 47.7**	**-2.8**
	baz=55						
SFK	**Sufi-Kurgan**	**1.63**	**91**	⇓*i*P	**Pn**	**14 30 33.8**	**+0.3**
	baz=91						
SFK				⇓*i*S	**Sn**	**14 30 55.5**	**+1.2**
	baz=91						
ARSB	**Arslanbob**	**1.75**	**43**	⇑*i*P	**Pn**	**14 30 35.0**	**-0.1**
	baz=44						
ARSB				⇑*i*S	**Sn**	**14 30 57.9**	**+0.6**
	baz=44						
ARK	**Arkit**	**1.79**	**14**	⇓*e*P	**Pn**	**14 30 35.6**	**0.0**
	baz=15						
ARK				⇓*e*S	**Sn**	**14 30 58.9**	**+0.7**
	baz=15						
CHRV	**Charvak**	**1.92**	**326**	P	**Pn**	**14 30 38.9**	**+1.6**
CHRV				S	**Sb**	**14 31 05.1**	**+1.5**
TGS	**TashGRES**	**1.96**	**315**	P	**Pb**	**14 30 40.8**	**+0.2**
TGS				S	**Sg**	**14 31 08.5**	**+0.1**
CHGR	**Chuyangaron**	**2.22**	**232**	⇑*i*P	**Pn**	**14 30 41.5**	**0.0**
	baz=31						
CHGR				⇑*i*S	**Sn**	**14 31 08.4**	**-0.2**
	baz=31						
IUG	**Iuzhnay**	**2.32**	**334**	*e*P	**Pb**	**14 30 45.9**	**-0.9**
	26nm,0.1s						
IUG				*e*S	**Sb**	**14 31 16.3**	**+1.0**
	359nm,0.3s						
IUG	**Iuzhnay**	**2.32**	**334**	Pg	**Pb**	**14 30 45.9**	**-0.9**
	26nm,0.2s						
IUG				Lg	Lg	14 31 16.3	
	359nm,0.3s						
MNAS	**Manas**	**2.57**	**19**	⇑*e*P	**Pn**	**14 30 46.4**	**+0.1**
	baz=20						
MNAS				⇑*e*S	**Sn**	**14 31 17.5**	**+0.1**
	baz=20						
BXML	**Bakhmal**	**2.60**	**263**	P	**Pb**	**14 30 51.9**	**+0.3**
BXML				S	**Sg**	**14 31 29.2**	**+0.3**
ARLS	**Aral**	**2.87**	**50**	⇓*i*P	**Pn**	**14 30 50.7**	**+0.3**
	baz=51						
ARLS				⇓*i*S	**Sn**	**14 31 24.7**	**0.0**
	baz=51						
MRKS	**Merke**	**3.02**	**27**	*e*P	**Pb**	**14 30 59.3**	**+0.6**
	20nm,0.3s						
MRKS				*e*S	**Sb**	**14 31 38.4**	**+3.0**
	86nm,0.2s						
MRKS	**Merke**	**3.02**	**27**	Pg	**Pb**	**14 30 59.3**	**+0.6**
	20nm,0.3s						
MRKS				Lg	Lg	14 31 38.4	
	86nm,0.2s						
KK31	**Karatay Array**	**3.11**	**348**	⇓Pg	**Pg**	**14 31 05.5**	**+0.7**
	2.3nm,0.3s,baz=169,slow=15,SNR=7.3						
KK31				Lg	Lg	14 31 40.3	
	18nm,0.4s,baz=1.0,slow=64,SNR=9.5						
KKAR	**Karatay Array**	**3.11**	**348**	⇓*i*P	**Pn**	**14 30 53.8**	**+0.1**
	baz=49						
KKAR				⇓*i*S	**Sn**	**14 31 29.9**	**-0.6**
	baz=49						
EKS2	**Erkin-Say**	**3.17**	**34**	P	**Pb**	**14 31 03.3**	**+2.2**
	SNR=10						
EKS2	**Erkin-Say**	**3.17**	**34**	⇑*i*P	**Pn**	**14 30 54.9**	**+0.4**
	baz=35						
EKS2				⇑*i*S	**Sn**	**14 31 31.9**	**-0.1**
	baz=35						
BRLS	**Boroldaу**	**3.19**	**339**	*e*P	**Pn**	**14 30 58.2**	**+3.5**
	4.0nm,0.2s						
BRLS				*e*S	**Sb**	**14 31 37.3**	**-2.7**
	29nm,0.3s						
BRLS	**Boroldaу**	**3.19**	**339**	Pg	**Pn**	**14 30 58.2**	**+3.5**
	4.0nm,0.2s						
BRLS				Lg	Lg	14 31 37.3	
	29nm,0.3s						
UCH	**Uchtor**	**3.21**	**46**	P	**Pn**	**14 30 57.3**	**+1.9**
	SNR=10.0						
UCH	**Uchtor**	**3.21**	**46**	⇑*i*P	**Pn**	**14 30 55.7**	**+0.3**
	baz=47						
UCH				⇑*i*S	**Sn**	**14 31 33.6**	**+0.1**
	baz=47						
AAK	**Ala-Archa**	**3.48**	**41**	P	**Pn**	**14 30 59.4**	**+0.6**
	SNR=7.0						
AAK	**Ala-Archa**	**3.48**	**41**	⇓*e*P	**Pn**	**14 30 59.5**	**+0.6**
	baz=42						
AAK				⇓*i*S	**Sn**	**14 31 39.8**	**-0.1**
	baz=42						
AGL	**Agalyk**	**3.51**	**263**	P	**Pn**	**14 31 01.8**	**+2.6**
AGL				S	**Sb**	**14 31 48.8**	**-0.6**
FRU1	**Bishkek**	**3.68**	**41**	⇓*i*P	**Pn**	**14 31 01.9**	**+0.4**
	baz=41						
FRU1				⇓*i*S	**Sn**	**14 31 44.6**	**0.0**
	baz=41						
KBK	**Karagaybulak**	**3.73**	**45**	P	**Pn**	**14 31 04.0**	**+1.6**
	SNR=6.4						
KBK	**Karagaybulak**	**3.73**	**45**	⇓*e*P	**Pn**	**14 31 02.8**	**+0.4**
	baz=45						
KBK				⇓*i*S	**Sn**	**14 31 45.6**	**-0.5**
	baz=45						
NRN	**Naryn**	**3.77**	**67**	⇓*i*P	**Pn**	**14 31 03.3**	**+0.3**
	baz=68						
NRN				⇓*i*S	**Sn**	**14 31 46.1**	**-1.1**
	baz=68						
CHMS	**Chumysh**	**3.88**	**40**	⇑Pg	**Pb**	**14 31 15.9**	**+2.7**
	6.3nm,0.7s						
CHMS				⇓Lg	Lg	14 32 05.2	
	22nm,0.5s						
CHMS	**Chumysh**	**3.88**	**40**	⇑*i*P	**Pn**	**14 31 04.5**	**+0.3**
	baz=40						
CHMS				⇑*i*S	**Sn**	**14 31 48.9**	**-0.5**
	baz=40						
USP	**Ospenovka**	**3.97**	**35**	P	**Pn**	**14 31 03.1**	**-2.4**
	SNR=6.3						
USP	**Ospenovka**	**3.97**	**35**	⇓*i*P	**Pn**	**14 31 05.9**	**+0.5**
	baz=36						
USP				⇓*i*S	**Sn**	**14 31 51.0**	**-0.7**
	baz=36						
SGDS	**Sogindy**	**4.17**	**35**	Pg	**Pb**	**14 31 20.2**	**+1.9**
	2.4nm,0.2s						
SGDS				Lg	Lg	14 32 14.1	
	12nm,0.4s						
TKM2	**Tokmak 2**	**4.27**	**47**	P	**Pn**	**14 31 10.6**	**+0.9**
	SNR=15						
TKM2	**Tokmak 2**	**4.27**	**47**	⇓Pn	**Pn**	**14 31 10.4**	**+0.7**
	4.5nm,0.3s						
TKM2				⇓Lg	Lg	14 32 17.1	
	19nm,0.7s						
TKM2	**Tokmak 2**	**4.27**	**47**	⇑*i*P	**Pn**	**14 31 10.2**	**+0.5**
	baz=47						
TKM2				⇑*i*S	**Sn**	**14 31 58.7**	**-0.6**
	baz=47						
KST	**Kastek**	**4.55**	**48**	*e*P	**Pb**	**14 31 27.6**	**+2.9**
	3.1nm,0.2s						
KST				*e*S	**Sg**	**14 32 27.1**	**-4.2**
	17nm,0.4s						
KST	**Kastek**	**4.55**	**48**	Pg	**Pb**	**14 31 27.6**	**+2.9**
	3.1nm,0.4s						
KST				Lg	Lg	14 32 27.1	
	15nm,0.3s						
DGS	**Degeres**	**4.58**	**45**	*e*P	**Pb**	**14 31 27.7**	**+2.6**
	5.9nm,0.5s						
DGS				*e*S	**Sg**	**14 32 27.4**	**-4.6**
	28nm,0.6s						
DGS	**Degeres**	**4.58**	**45**	Pg	**Pb**	**14 31 27.7**	**+2.6**
	5.9nm,0.5s						
DGS				Lg	Lg	14 32 27.4	
	28nm,0.6s						
KRBS	**Karabastau**	**4.85**	**40**	*e*P	**Pb**	**14 31 32.0**	**+2.2**
	3.0nm,0.3s						
KRBS				*e*S	**Sb**	**14 32 35.0**	**+7.1**
	8.4nm,0.3s						
KRBS	**Karabastau**	**4.85**	**40**	Pg	**Pb**	**14 31 32.0**	**+2.2**
	3.0nm,0.4s						
KRBS				Lg	Lg	14 32 35.0	
	8.4nm,0.3s						
MTBS	**Maitube**	**4.87**	**49**	*e*P	**Pb**	**14 31 33.4**	**+3.1**
	1.5nm,0.2s						
MTBS				*e*S	**Sg**	**14 32 36.7**	**-4.9**
	10nm,0.4s						
MTBS	**Maitube**	**4.87**	**49**	Pg	**Pb**	**14 31 33.3**	**+3.1**
	1.5nm,0.2s						
MTBS				Lg	Lg	14 32 36.7	
	10nm,0.4s						
TNSS	**Tian-Shan**	**5.13**	**53**	*e*P	**Pb**	**14 31 38.0**	**+3.3**
	2.1nm,0.3s						
TNSS				*e*S	**Sg**	**14 32 44.5**	**-5.3**
	3.2nm,0.2s						
TNSS	**Tian-Shan**	**5.13**	**53**	Pg	**Pb**	**14 31 38.0**	**+3.3**
	2.1nm,0.3s						
TNSS				Lg	Lg	14 32 44.5	
	3.2nm,0.4s						
MDOK	**Medeo**	**5.26**	**52**	*e*P	**Pb**	**14 31 40.1**	**+3.3**
	1.2nm,0.2s						
MDOK				*e*S	**Sg**	**14 32 48.4**	**-5.6**
	9.9nm,0.5s						
MDOK	**Medeo**	**5.26**	**52**	Pg	**Pb**	**14 31 40.2**	**+3.3**
	1.2nm,0.2s						
MDOK				Pg	**Pg**	**14 31 46.6**	**+0.8**
	2.8nm,0.5s						
MDOK				Lg	Lg	14 32 48.4	
	9.9nm,0.8s						
MDOK				⇑Lg	Lg	14 32 50.4	
	13nm,0.8s						
KOTS	**Kotyrbulak**	**5.34**	**52**	*e*P	Pb	14 31 43.1	+4.9
	4.0nm,0.4s						
KOTS				*e*S	**Sg**	**14 32 53.3**	**-3.2**
	17nm,0.4s						
KOTS	**Kotyrbulak**	**5.34**	**52**	Pg	Pb	14 31 43.1	+4.9
	4.0nm,0.4s						
KOTS				Lg	Lg	14 32 53.3	
	17nm,0.4s						
KTBS	**Karatobe**	**5.38**	**46**	*e*P	**Pb**	**14 31 42.0**	**+3.2**
	1.8nm,0.4s						
KTBS				*e*S	**Sg**	**14 32 51.8**	**-6.1**
	17nm,0.3s						
KTBS	**Karatobe**	**5.38**	**46**	Pg	**Pb**	**14 31 42.0**	**+3.2**
	1.8nm,0.4s						
KTBS				Lg	Lg	14 32 51.8	
	17nm,0.5s						
CHKK	**Chushkaly**	**5.64**	**46**	*e*P	**Pb**	**14 31 47.2**	**+3.9**
	0.7nm,0.1s						
CHKK				*e*S	**Sg**	**14 33 00.6**	**-5.6**
	11nm,0.2s						
CHKK	**Chushkaly**	**5.64**	**46**	Pg	**Pb**	**14 31 47.2**	**+3.9**
	0.7nm,0.1s						
CHKK				Lg	Lg	14 33 00.6	
	11nm,0.2s						
SATY	**Saty**	**6.06**	**58**	*e*P	**Pb**	**14 31 55.2**	**+4.7**
	0.7nm,0.2s						
SATY				*e*S	**Sg**	**14 33 14.2**	**-5.5**
	3.8nm,0.4s						
SATY	**Saty**	**6.06**	**58**	Pg	**Pb**	**14 31 55.2**	**+4.7**
	0.7nm,0.2s						
SATY				Lg	Lg	14 33 14.2	
	3.8nm,0.4s						
PDGK	**Podgornoye**	**6.89**	**59**	Pg	**Pb**	**14 32 09.3**	**+4.6**
	0.1nm,0.1s						
PDGK				Lg	Lg	14 33 38.2	
	1.8nm,0.8s						
PDGK	**Podgornoye**	**6.89**	**59**	⇑Pg	**Pg**	**14 32 16.0**	**-1.1**
	1.2nm,0.7s						
PDGK				⇓Lg	Lg	14 33 40.6	
	6.1nm,0.7s						

TRN 12 14:32:49.7, 16°.12N×60°.96W, h54km, MD3.8, East of Guadeloupe., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAGL	**Barre de l'ile**	**0.35**	**242**	*e*P	Pn	14 33 01.5	+1.8
ABD	**La Joyeuse, An**	**0.62**	**305**	*e*P	Pn	14 33 04.3	+1.7
ABD				*e*S	Sn	14 33 14.3	+2.4
TDBA	**Terre de Bas,**	**0.70**	**248**	*e*P	Pn	14 33 05.4	+1.7
ANBD	**Bethesda, Anti**	**1.21**	**320**	*e*P	Pn	14 33 12.0	+1.7
ANBD				*e*S	Sn	14 33 27.4	+1.7
SVN	**Savane Anatole**	**1.28**	**189**	*e*P	Pn	14 33 13.2	+1.8
SVN				*e*S	Sn	14 33 29.7	+2.2
ANDO	**Antigua, Disas**	**1.29**	**320**	*e*P	Pn	14 33 13.2	+1.7
ANDO				*e*S	Sn	14 33 29.7	+1.9
BAMF	**Morne Balai**	**1.30**	**188**	*e*P	Pn	14 33 13.2	+1.5
PCM	**Pelee Case Pet**	**1.31**	**191**	*e*P	Pn	14 33 13.2	+1.4
GBMF	**Grand Be**	**1.32**	**189**	*e*P	Pn	14 33 13.2	+1.2
ILAM	**Ilet Lapin Mar**	**1.34**	**176**	*e*P	Pn	14 33 13.8	+1.7
ILAM				*e*S	Sn	14 33 30.4	+1.6
PML	**Morne Lenard**	**1.34**	**189**	*e*P	Pn	14 33 13.2	+0.9
MBFL	**Flemmings, Mon**	**1.36

ASAR				S	**S**	**14 46 32.3**	**-1.4**
	0.2nm,0.6s,baz=23,slow=26,SNR=2.8						
ASAR				Lg	Lg	14 48 55.3	
	0.1nm,0.3s,baz=23,slow=30,SNR=4.5						
MKAR	**Makanchi Array**	**75.26**	**322**	P	**P**	**14 50 20.2**	**+0.3**
	0.4nm,0.4s,baz=99,slow=6.7,SNR=7.1						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**79.16**	**324**	P	**P**	**14 50 41.9**	**+0.3**
	0.3nm,0.5s,baz=101,slow=4.5,SNR=3.7						
	0.3nm,0.5s						
QSPA	**South Pole Qui**	**83.43**	**180**	P	**P**	**14 51 06.1**	**+1.9**
	2.1nm,1.1s,baz=286,slow=1.2,SNR=8.2						
	2.1nm,1.1s						
BVAR	**Borovoye Array**	**84.73**	**325**	P	**P**	**14 51 11.2**	**+0.2**
	3.1nm,0.7s,baz=108,slow=6.8,SNR=16						
	3.1nm,0.7s						
ILAR	**Eielson Array**	**87.67**	**24**	P	**P**	**14 51 22.9**	**-2.3**
	0.5nm,0.8s,baz=260,slow=5.0,SNR=5.6						
	0.5nm,0.8s						

SOME ***12*** *14:44:49.3,41.°32N×78.°65E,h10km*
KRNET ***12*** *14:44:49.0±0.1,41.°39N×78.°70E,h12km,mb2.5*
NNC ***12*** *14:44:50.4±1.1,41.°33N×78.°67E,h0km,mb3.4,mpv3.1,*
Error ellipse: s-maj=7.1km s-min=4.5km az=167.0

ISC 12 14:44:52.0±1.4,41.°41N±0.°06×78.°59E±0.°04,h10km,n53,
σ1§47/87,21C-13D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**1.08**	**352**	⇑*i*P	**Pg**	**14 45 10.5**	**-2.3**
	baz=49						
PRZ				⇑*i*S	**Sg**	**14 45 26.5**	**-0.4**
	baz=49						
KDJ	**Kajisay**	**1.28**	**305**	⇑*i*P	**Pn**	**14 45 14.6**	**-1.5**
	baz=4.0						
KDJ				⇑*i*S	**Sn**	**14 45 33.1**	**-0.3**
	baz=4.0						
ANVS	**Anan'yevo**	**1.54**	**334**	⇓*i*P	**Pn**	**14 45 19.1**	**-0.5**
	baz=31						
ANVS				⇓*i*S	**Sg**	**14 45 40.8**	**-0.6**
	baz=31						
SATY	**Saty**	**1.65**	**355**	*e*P	**Pb**	**14 45 22.5**	**-0.1**
	2.4nm,0.2s						
SATY				*e*S	**Sg**	**14 45 46.2**	**+1.0**
	10.0nm,0.2s						
SATY	**Saty**	**1.65**	**355**	P	**Pb**	**14 45 22.5**	**-0.1**
	2.4nm,0.2s						
SATY				S	**Sg**	**14 45 46.2**	**+1.0**
	10.0nm,0.2s						
ZHN	**Zhinishke**	**1.76**	**356**	*e*P	**Pb**	**14 45 24.3**	**-0.1**
	3.2nm,0.1s						
ZHN				*e*S	**Sg**	**14 45 49.3**	**+0.7**
	48nm,0.3s						
ZHN	**Zhinishke**	**1.76**	**356**	P	**Pb**	**14 45 24.3**	**-0.1**
	3.2nm,0.1s						
ZHN				S	**Sg**	**14 45 49.3**	**+0.7**
	48nm,0.3s						
UZB	**Uzynbulak**	**1.77**	**10**	*e*P	**Pb**	**14 45 23.4**	**-1.1**
	3.9nm,0.2s						
UZB				*e*S	**Sg**	**14 45 47.6**	**-1.1**
	6.6nm,0.4s						
UZB	**Uzynbulak**	**1.77**	**10**	P	**Pb**	**14 45 23.4**	**-1.1**
	3.9nm,0.2s						
UZB				S	**Sg**	**14 45 47.6**	**-1.1**
	6.6nm,0.4s						
SHLS	**Shalkode**	**1.86**	**20**	*e*P	**Pg**	**14 45 27.6**	**-0.1**
	14nm,0.2s						
SHLS				*e*S	**Sg**	**14 45 55.1**	**+3.3**
	21nm,0.2s						
SHLS	**Shalkode**	**1.86**	**20**	Pg	**Pg**	**14 45 28.2**	**+0.6**
	14nm,0.4s						
SHLS				Lg	Lg	14 45 55.7	
	21nm,0.2s						
ULHL	**Ulahol**	**1.94**	**296**	⇓*i*P	**Pb**	**14 45 26.7**	**-0.9**
	baz=96						
ULHL				⇓*i*S	**Sg**	**14 45 54.0**	**-0.5**
	baz=96						
NRN	**Naryn**	**1.95**	**272**	⇑*e*P	**Pb**	**14 45 26.7**	**-1.0**
	baz=72						
NRN				⇑*i*S	**Sg**	**14 45 54.3**	**-0.3**
	baz=72						
PDGK	**Podgornoye**	**2.03**	**19**	Pg	**Pb**	**14 45 27.8**	**-1.2**
	3.3nm,0.5s						
PDGK				Lg	Lg	14 45 55.3	
	12nm,0.5s						
PDGK	**Podgornoye**	**2.03**	**19**	⇑Pg	**Pb**	**14 45 27.9**	**-1.2**
	4.5nm,0.6s						
PDGK				⇓Lg	Lg	14 45 57.7	
	11nm,0.6s						
TNSS	**Tian-Shan**	**2.03**	**324**	*e*P	**Pb**	**14 45 29.2**	**0.0**
	6.9nm,0.2s						
TNSS				*e*S	**Sg**	**14 45 57.7**	**+0.3**
	11nm,0.5s						
TNSS	**Tian-Shan**	**2.03**	**324**	Pg	**Pb**	**14 45 29.2**	**0.0**
	6.9nm,0.2s						
TNSS				Lg	Lg	14 45 57.7	
	11nm,0.5s						
MDOK	**Medeo**	**2.09**	**327**	*e*P	**Pg**	**14 45 30.8**	**-1.3**
	4.0nm,0.4s						
MDOK				*e*S	**Sg**	**14 46 00.4**	**+1.2**
	13nm,0.7s						
MDOK	**Medeo**	**2.09**	**327**	⇓Pg	**Pb**	**14 45 30.2**	**+0.1**
	5.3nm,0.5s						
MDOK				Pg	**Pg**	**14 45 30.3**	**-1.8**
	4.0nm,0.4s						
MDOK				Lg	Lg	14 46 00.4	
	13nm,0.7s						
MDOK				⇓Lg	Lg	14 46 01.2	
	13nm,0.5s						
KURS	**Kuram**	**2.10**	**352**	*e*P	**Pg**	**14 45 30.8**	**-1.4**
	5.8nm,0.5s						
KURS				*e*S	**Sg**	**14 46 00.9**	**+1.4**
	15nm,0.5s						
KURS	**Kuram**	**2.10**	**352**	Pg	**Pg**	**14 45 31.1**	**-1.1**
	5.8nm,0.5s						
KURS				Lg	Lg	14 46 00.9	
	15nm,0.5s						
KOTS	**Kotyrbulak**	**2.13**	**329**	*e*P	**Pb**	**14 45 30.9**	**+0.2**
	5.8nm,0.2s						
KOTS				*e*S	**Sg**	**14 46 01.0**	**+0.6**
	27nm,0.5s						
KOTS	**Kotyrbulak**	**2.13**	**329**	Pg	**Pb**	**14 45 30.9**	**+0.2**
	5.8nm,0.3s						
KOTS				Lg	Lg	14 46 01.0	
	27nm,0.5s						
MTBS	**Maitube**	**2.35**	**318**	*e*P	**Pb**	**14 45 35.0**	**+0.5**
	3.3nm,0.2s						
MTBS				*e*S	**Sg**	**14 46 08.3**	**+0.8**
	11nm,0.2s						
MTBS	**Maitube**	**2.35**	**318**	Pg	**Pb**	**14 45 35.0**	**+0.5**
	3.3nm,0.3s						
MTBS				Lg	Lg	14 46 08.3	
	11nm,0.4s						
KTMS	**Ketmen**	**2.42**	**32**	*e*P	**Pb**	**14 45 34.7**	**-0.9**
KTMS				*e*S	**Sb**	**14 46 06.9**	**+1.4**
KTMS	**Ketmen**	**2.42**	**32**	Pg	**Pb**	**14 45 34.7**	**-0.9**
KTMS				Lg	Lg	14 46 06.9	
KST	**Kastek**	**2.54**	**311**	*e*P	**Pb**	**14 45 38.6**	**+0.8**
	5.1nm,0.5s						
KST				*e*S	**Sg**	**14 46 13.7**	**0.0**
	13nm,0.4s						
KST	**Kastek**	**2.54**	**311**	Pg	**Pb**	**14 45 38.6**	**+0.8**
	5.1nm,0.5s						
KST				Lg	Lg	14 46 14.3	
	13nm,0.5s						
BLB	**Baldybastay**	**2.69**	**358**	Pg	**Pb**	**14 45 40.4**	**+0.2**
	3.2nm,0.2s						
BLB				Lg	Lg	14 46 17.1	
	8.7nm,0.3s						
TKM2	**Tokmak 2**	**2.69**	**305**	⇓Pg	**Pb**	**14 45 39.8**	**-0.5**
	2.5nm,0.5s						
TKM2				⇑Lg	Lg	14 46 19.1	
	3.9nm,0.5s						
TKM2	**Tokmak 2**	**2.69**	**305**	⇑*i*P	**Pn**	**14 45 36.9**	**+1.4**
	baz=5.0						
TKM2				⇑*i*S	**Sb**	**14 46 11.5**	**-2.0**
	baz=5.0						
KTBS	**Karatobe**	**2.70**	**329**	*e*P	**Pb**	**14 45 41.2**	**+0.8**
	2.8nm,0.3s						
KTBS				*e*S	**Sg**	**14 46 18.3**	**-0.3**
	25nm,0.4s						
KTBS	**Karatobe**	**2.70**	**329**	Pg	**Pb**	**14 45 41.2**	**+0.8**
	2.8nm,0.3s						
KTBS				Lg	Lg	14 46 18.3	
	25nm,0.4s						
CHKK	**Chushkaly**	**2.71**	**335**	*e*P	**Pb**	**14 45 41.8**	**+1.2**
	2.9nm,0.3s						
CHKK				*e*S	**Sg**	**14 46 19.1**	**0.0**
	23nm,0.2s						
CHKK	**Chushkaly**	**2.71**	**335**	Pg	**Pb**	**14 45 41.8**	**+1.2**
	2.9nm,0.3s						
CHKK				Lg	Lg	14 46 19.0	
	23nm,0.5s						
DGS	**Degeres**	**2.78**	**312**	*e*P	**Pb**	**14 45 42.6**	**+0.8**
	5.0nm,0.3s						
DGS				*e*S	**Sg**	**14 46 20.8**	**-0.4**
	15nm,0.4s						
DGS	**Degeres**	**2.78**	**312**	Pg	**Pb**	**14 45 42.6**	**+0.8**
	5.1nm,0.4s						
DGS				Lg	Lg	14 46 20.3	
	15nm,0.5s						
KNOS	**Konyrlen**	**2.98**	**8**	Pg	**Pb**	**14 45 45.0**	**-0.2**
	3.4nm,0.3s						
KNOS				Lg	Lg	14 46 25.1	
	11nm,0.3s						
KBK	**Karagaybulak**	**2.99**	**296**	⇑*i*P	**Pn**	**14 45 40.8**	**+1.3**
	baz=96						
KBK				⇑*i*S	**Sb**	**14 46 18.8**	**-3.1**
	baz=96						
DJR	**Jarkent**	**3.05**	**16**	*e*P	**Pb**	**14 45 46.0**	**-0.4**
	1.0nm,0.1s						
DJR				*e*S	**Sg**	**14 46 26.5**	**-3.4**
	8.7nm,0.4s						
DJR	**Jarkent**	**3.05**	**16**	Pg	**Pb**	**14 45 46.0**	**-0.4**
	1.0nm,0.1s						
DJR				Lg	Lg	14 46 26.2	
	8.7nm,0.5s						
KRBS	**Karabastau**	**3.14**	**318**	*e*P	**Pb**	**14 45 48.3**	**+0.4**
	2.2nm,0.5s						
KRBS				*e*S	**Sg**	**14 46 30.6**	**-2.2**
	3.6nm,0.5s						
KRBS	**Karabastau**	**3.14**	**318**	Pg	**Pb**	**14 45 48.1**	**+0.2**
	2.2nm,0.5s						
KRBS				Lg	Lg	14 46 31.0	
	3.6nm,0.5s						
UCH	**Uchtor**	**3.16**	**286**	⇑*i*P	**Pn**	**14 45 43.6**	**+1.5**
	baz=86						
UCH				⇑*i*S	**Sb**	**14 46 23.3**	**-3.8**
	baz=86						
ARLS	**Aral**	**3.23**	**279**	⇑*i*P	**Pn**	**14 45 44.4**	**+1.5**
	baz=79						
ARLS				⇑*i*S	**Sn**	**14 46 24.7**	**+3.2**
	baz=79						
CHMS	**Chumysh**	**3.27**	**300**	⇑*i*P	**Pn**	**14 45 44.5**	**+1.3**
	baz=0.0						
CHMS				⇑*i*S	**Sn**	**14 46 25.4**	**+3.2**
	baz=0.0						
AAK	**Ala-Archa**	**3.29**	**293**	⇓*i*P	**Pn**	**14 45 45.3**	**+1.6**
	baz=93						
AAK				⇓*i*S	**Sn**	**14 46 26.2**	**+3.2**
	baz=93						
USP	**Ospenovka**	**3.56**	**303**	⇑*i*P	**Pn**	**14 45 48.6**	**+1.4**
	baz=2.0						
USP				⇑*i*S	**Sn**	**14 46 32.1**	**+2.8**
	baz=2.0						
EKS2	**Erkin-Say**	**3.80**	**291**	⇓*i*P	**Pn**	**14 45 52.1**	**+1.5**
	baz=91						
EKS2				⇓*i*S	**Sn**	**14 46 38.4**	**+3.0**
	baz=91						
KAPS	**Kapalarasan**	**3.91**	**8**	*e*P	**Pb**	**14 46 02.2**	**+1.1**
	1.2nm,0.2s						
KAPS				*e*S	**Sg**	**14 46 54.3**	**-3.3**
	2.9nm,0.3s						
KAPS	**Kapalarasan**	**3.91**	**8**	Pg	**Pb**	**14 46 02.2**	**+1.1**
	1.2nm,0.2s						
KAPS				Lg	Lg	14 46 53.9	
	2.9nm,0.3s						
MK31	**Makanchi Array**	**6.00**	**25**	⇑Pg	**Pg**	**14 46 45.7**	**-1.2**
	0.4nm,0.6s,baz=214,slow=13						
MK31				⇓Lg	Lg	14 47 59.5	
	0.5nm,0.6s,baz=205,slow=27						

NOU ***12*** *14:47:56.4,40.°59S×173.°51E,h177km,MLv3.5/8,Cook Strait, New Zealand*
WEL ***12*** *14:47:60.0±0.8,41.°5±5.°×17.°4E±.°,h127km±7km,M2.7/19, MLv2.7/19,Error ellipse: s-maj=0.0km s-min=0.0km az=120.7*

ISC 12 14:47:55.8±1.7,40.°60S±0.°05×173.°50E±0.°05,h165km±9km,
n70,σ1§37/78,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.38**	**122**	P	**Pn**	**14 48 19.4**	**+1.1**
DUWZ				S	**Sn**	**14 48 34.4**	**-1.2**
TKNZ	**Takaka Hill**	**0.59**	**223**	P	**Pn**	**14 48 20.1**	**+0.9**
TKNZ				P	**Pn**	**14 48 20.2**	**+0.9**
TKNZ				S	**Sn**	**14 48 35.4**	**-1.9**
TCW	**Tory Channel**	**0.85**	**136**	P	**Pn**	**14 48 22.3**	**+1.5**
TCW				S	**Sn**	**14 48 38.4**	**-1.7**
TUWZ	**Tuamarina**	**0.90**	**158**	P	**Pn**	**14 48 22.4**	**+1.3**
TUWZ				S	**Sn**	**14 48 39.2**	**-1.5**
MRNZ	**Matariki Terra**	**0.97**	**215**	P	**Pn**	**14 48 23.0**	**+1.2**
MRNZ				S	**Sn**	**14 48 40.5**	**-1.3**
KIW	**Kapiti Island**	**1.10**	**104**	P	**Pn**	**14 48 24.0**	**+1.2**
KIW				S	**Sn**	**14 48 41.2**	**-2.4**
BSWZ	**Blackbirch Sta**	**1.15**	**166**	P	**Pn**	**14 48 24.9**	**+1.7**
BSWZ				S	**Sn**	**14 48 43.7**	**-0.7**
SNZO	**South Karori**	**1.16**	**128**	P	**Pn**	**14 48 24.7**	**+1.5**
WEL	**Wellington**	**1.18**	**126**	P	**Pn**	**14 48 24.8**	**+1.4**
THZ	**Tophouse**	**1.25**	**201**	P	**Pn**	**14 48 25.5**	**+1.4**
OGWZ	**Otaki Gorge**	**1.29**	**100**	P	**Pn**	**14 48 25.9**	**+1.5**
CAW	**Cannon Point**	**1.29**	**114**	P	**Pn**	**14 48 25.8**	**+1.3**
BHW	**Baring Head**	**1.32**	**128**	P	**Pn**	**14 48 25.9**	**+1.2**
NBEZ	**Newall Road No**	**1.36**	**12**	P	**Pn**	**14 48 26.7**	**+1.6**
KHEZ	**Kahui Hut**	**1.36**	**17**	P	**Pn**	**14 48 27.3**	**+2.0**
KHEZ	**Kahui Hut**	**1.36**	**17**	P	**Pn**	**14 48 26.5**	**+1.3**
NEZ	**North Egmont**	**1.41**	**19**	P	**Pn**	**14 48 27.3**	**+1.6**
WAZ	**Wanganui**	**1.42**	**54**	P	**Pn**	**14 48 27.7**	**+2.0**
DREZ	**Durham Road**	**1.51**	**21**	P	**Pn**	**14 48 28.1**	**+1.5**
HOWZ	**Holdsworth Sta**	**1.56**	**102**	P	**Pn**	**14 48 28.4**	**+1.3**
MRZ	**Mangatainoka R**	**1.58**	**93**	P	**Pn**	**14 48 28.5**	**+1.2**
MTW	**Mount Morrison**	**1.62**	**111**	P	**Pn**	**14 48 29.0**	**+1.4**
PLWZ	**Palliser**	**1.64**	**127**	P	**Pn**	**14 48 29.3**	**+1.4**
PAWZ	**Paruwai Farm**	**1.66**	**119**	P	**Pn**	**14 48 29.4**	**+1.4**
DSZ	**Denniston Nort**	**1.72**	**228**	P	**Pn**	**14 48 30.1**	**+1.4**
VRZ	**Vera Road**	**1.76**	**34**	P	**Pn**	**14 48 30.4**	**+1.1**
KHZ	**Kahutara**	**1.81**	**179**	P	**Pn**	**14 48 31.5**	**+1.8**
KHZ	**Kahutara**	**1.81**	**179**	P	**Pn**	**14 48 31.5**	**+1.8**
TIWZ	**Tintock**	**1.82**	**96**	P	**Pn**	**14 48 31.4**	**+1.5**
TRWZ	**Traveller**	**1.84**	**116**	P	**Pn**	**14 48 31.6**	**+1.6**
TMWZ	**Te Maipa**	**1.88**	**106**	P	**Pn**	**14 48 32.0**	**+1.5**
PKVZ	**Pokaka**	**1.93**	**48**	P	**Pn**	**14 48 32.6**	**+1.5**
MTVZ	**Mangateitei**	**1.94**	**52**	P	**Pn**	**14 48 32.8**	**+1.5**
TSZ	**Takapari Road**	**1.96**	**75**	P	**Pn**	**14 48 32.6**	**+1.2**
TRVZ	**Turoa**	**2.04**	**51**	P	**Pn**	**14 48 34.1**	**+1.5**
WNVZ	**Wahianoa**	**2.05**	**52**	P	**Pn**	**14 48 33.8**	**+1.2**
FWVZ	**Far West T-bar**	**2.07**	**50**	P	**Pn**	**14 48 34.3**	**+1.4**
BFZ	**Birch Farm**	**2.09**	**93**	P	**Pn**	**14 48 34.6**	**+1.8**
BFZ	**Birch Farm**	**2.09**	**93**	P	**Pn**	**14 48 34.4**	**+1.5**
MOVZ	**Moawhango**	**2.10**	**56**	P	**Pn**	**14 48 33.9**	**+0.9**
COVZ	**Chateau Observ**	**2.10**	**49**	P	**Pn**	**14 48 34.6**	**+1.5**
NGZ	**Ngauruhoe**	**2.15**	**49**	P	**Pn**	**14 48 35.5**	**+1.8**
PNHZ	**Pukenui**	**2.18**	**73**	P	**Pn**	**14 48 35.0**	**+1.1**
WTVZ	**West Tongariro**	**2.19**	**48**	P	**Pn**	**14 48 35.1**	**+1.0**
NNVZ	**North Ngauruho**	**2.19**	**49**	P	**Pn**	**14 48 35.3**	**+1.1**
TMVZ	**Te Maari**	**2.25**	**50**	P	**Pn**	**14 48 36.3**	**+1.4**
BHHZ	**Black Hill Sta**	**2.26**	**61**	P	**Pn**	**14 48 35.7**	**+0.9**
ANWZ	**Angora Road**	**2.27**	**87**	P	**Pn**	**14 48 36.4**	**+1.5**
HIZ	**Hauiti**	**2.33**	**27**	P	**Pn**	**14 48 36.5**	**+0.8**
HIZ	**Hauiti**	**2.33**	**27**	P	**Pn**	**14 48 36.6**	**+1.0**
LTZ	**Lake Taylor**	**2.37**	**202**	P	**Pn**	**14 48 37.5**	**+1.5**
GVZ	**Greta Valley S**	**2.39**	**188**	P	**Pn**	**14 48 37.9**	**+1.6**
KRHZ	**Kereru**	**2.40**	**67**	P	**Pn**	**14 48 37.4**	**+0.9**
INZ	**Inchbonnie**	**2.62**	**215**	P	**Pn**	**14 48 40.3**	**+1.2**
PXZ	**Pawanui**	**2.63**	**79**	P	**Pn**	**14 48 38.7**	**-0.5**
KAHZ	**Kahuranaki**	**2.71**	**74**	P	**Pn**	**14 48 41.6**	**+1.4**
BKZ	**Black Stump Fm**	**2.71**	**59**	P	**Pn**	**14 48 41.1**	**+0.8**
BKZ	**Black Stump Fm**	**2.71**	**59**	P	**Pn**	**14 48 41.0**	**+0.8**
MCHZ	**McNeill Hill**	**2.71**	**66**	P	**Pn**	**14 48 41.5**	**+1.3**
OXZ	**Oxford**	**2.93**	**201**	P	**Pn**	**14 48 43.7**	**+0.9**
MQZ	**McQueen's Vall**	**3.17**	**191**	P	**Pn**	**14 48 46.1**	**+0.4**
MHCZ	**Mount Hutt**	**3.26**	**205**	P	**Pn**	**14 48 48.2**	**+1.2**
RACZ	**Rakaia**	**3.28**	**197**	P	**Pn**	**14 48 48.1**	**+0.9**
RIGZ	**Rimuhau**	**3.80**	**61**	P	**Pn**	**14 48 54.3**	**+0.5**
MWZ	**Matawai**	**3.85**	**55**	P	**Pn**	**14 48 54.8**	**+0.2**
TMZ	**Timaru**	**4.21**	**205**	P	**Pn**	**14 48 59.8**	**+0.7**
ODZ	**Otahua Downs**	**4.91**	**204**	P	**Pn**	**14 49 09.6**	**+1.4**
ODZ	**Otahua Downs**	**4.91**	**204**	P	**Pn**	**14 49 09.0**	**+0.8**
JCZ	**Jackson Bay**	**4.92**	**224**	P	**Pn**	**14 49 09.1**	**+0.6**
JCZ	**Jackson Bay**	**4.92**	**224**	P	**Pn**	**14 49 09.0**	**+0.5**

IDC ***12*** *14:59:26.9±1.0,28.°86S×178.°45W,h196km±7km,mb3.3/4, mbtmp3.8/4,Error ellipse: s-maj=35.7km s-min=22.5km az=32.0*
NEIC ***12*** *14:59:28.7±1.8,29.°4S±0.°4×178.°7W±0.°3,h188km±20km, mb4.2/10,Error ellipse: s-maj=57.2km s-min=25.6km az=209.0*

ISC 12 14:59:27.9±0.8,29.°4S±0.°1×178.°6W±0.°1,h200km,n36,
σ1§88/38,mb4.0/9,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.58**	**76**	Pn	**Pn**	**14 59 55.2**	**-0.1**
RAO	**Raoul Island**	**0.58**	**76**	P	**Pn**	**14 59 54.8**	**-0.5**
	1µm,0.4s,baz=254,slow=11,SNR=4.3						
RAO				S	**Sn**	**15 00 15.6**	**-0.8**
	569nm,0.4s,baz=319,slow=19,SNR=1.7						
NTVZ	**North Tongarir**	**10.79**	**205**	P	**P**	**15 02 03.0**	**-1.0**
TMVZ	**Te Maari**	**10.79**	**205**	P	**P**	**15 02 02.7**	**-1.4**
WTVZ	**West Tongariro**	**10.83**	**205**	P	**P**	**15 02 03.0**	**-1.5**
NNVZ	**North Ngauruho**	**10.84**	**205**	P	**P**	**15 02 02.8**	**-1.9**
NNVZ				S	**P**	**15 02 08.5**	**+3.9**
OTVZ	**Oturere**	**10.85**	**205**	P	**P**	**15 02 02.1**	**-2.6**
SNVZ	**South Ngauruho**	**10.88**	**205**	P	**P**	**15 02 01.8**	**-3.3**
SNVZ				S	**P**	**15 02 07.0**	**+1.9**
NGZ	**Ngauruhoe**	**10.88**	**205**	P	**P**	**15 02 02.0**	**-3.1**
TUVZ	**Tukino**	**10.94**	**204**	P	**Pn**	**15 02 00.6**	**+1.2**
FWVZ	**Far West T-bar**	**10.97**	**205**	P	**Pn**	**15 02 01.1**	**+1.4**
WHVZ	**Whangaehu Hut**	**10.98**	**205**	P	**P**	**15 02 04.1**	**-2.2**
TRVZ	**Turoa**	**11.01**	**205**	P	**P**	**15 02 04.0**	**-2.6**
WNVZ	**Wahianoa**	**11.02**	**204**	P	**Pn**	**15 01 59.9**	**-0.4**
MOVZ	**Moawhango**	**11.03**	**204**	P	**Pn**	**15 01 58.5**	**-1.9**
MTVZ	**Mangateitei**	**11.11**	**205**	P	**Pn**	**15 02 00.2**	**-1.2**
PXZ	**Pawanui**	**11.26**	**198**	P	P	15 02 23.1	+14
LREZ	**Lake Rotokare**	**11.59**	**208**	P	Pn	15 01 59.9	-7.6
MRZ	**Mangatainoka R**	**12.22**	**202**	P	**Pn**	**15 02 11.7**	**-3.7**
CAN	**Canberra**	**27.95**	**249**	P	**P**	**15 04 59.2**	**-0.7**
STKA	**Stephens Creek**	**34.24**	**256**	P	**P**	**15 05 56.3**	**+1.4**
	1.1nm,0.6s,baz=90,slow=6.1,SNR=2.0						
	1.1nm,0.6s						
AS31	**Alice Springs**	**42.68**	**266**	P	**P**	**15 07 03.7**	**-1.6**
ASAR	**Alice Springs**	**42.68**	**266**	P	**P**	**15 07 03.5**	**-1.8**
ASAR	**Alice Springs**	**42.68**	**266**	P	**P**	**15 07 05.4**	**+0.1**
	0.6nm,0.4s,baz=101,slow=6.6,SNR=37						
ASAR				PcP	**PcP**	**15 08 54.5**	**+1.2**
	0.2nm,0.6s,baz=120,slow=3.2,SNR=1.3						
	0.6nm,0.4s						
WR0	**Warramunga Arr**	**43.40**	**271**	P	**P**	**15 07 11.8**	**+0.8**
WR0				IAmb	IAmb	15 07 19.5	
	comp=Z,9.7nm,1.4s						
WB2	**Warramunga Arr**	**43.57**	**271**	P	**P**	**15 07 12.5**	**+0.1**
WB2				IAmb	IAmb	15 07 30.4	
	comp=Z,11nm,1.4s						
WRAB	**Tennant Creek**	**43.57**	**271**	P	**P**	**15 07 12.9**	**+0.5**
WRAB				IAmb	IAmb	15 07 19.8	
	comp=Z,8.5nm,1.3s						
WRA	**Warramunga Arr**	**43.58**	**271**	P	**P**	**15 07 12.1**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=108,slow=8.0,SNR=21						
	comp=Z,0.7nm,0.5s						
WB0	**Warramunga Arr**	**43.60**	**272**	P	**P**	**15 07 12.7**	**+0.1**
KNRA	**Kununurra**	**50.15**	**274**	P	**P**	**15 08 04.0**	**+0.7**
KNRA				IAmb	IAmb	15 08 14.5	
	comp=Z,13nm,1.1s						
CASY	**Casey**	**55.80**	**208**	P	**P**	**15 08 45.0**	**+1.2**
QSPA	**South Pole Qui**	**60.71**	**180**	P	**P**	**15 09 20.6**	**+2.6**
QSPA				IAmb	IAmb	15 09 25.9	
	comp=Z,6.7nm,1.4s						
QSPA	**South Pole Qui**	**60.71**	**180**	P	**P**	**15 09 20.8**	**+2.8**
	comp=Z,0.7nm,0.5s,baz=27,slow=4.5,SNR=16						
	comp=Z,0.7nm,0.5s						
BELA	**Belgrano 2**	**70.84**	**172**	P	**P**	**15 10 23.3**	**+1.0**
BELA				IAmb	IAmb	15 10 23.4	
	comp=Z,4.6nm,1.4s						
FINES	**FINESS Array B**	**144.04**	**340**	PKP	**PKPab**	**15 18 34.9**	**-2.0**
	comp=Z,1.2nm,0.5s,baz=22,slow=2.1,SNR=8.4						
AKASG	**Malin Array Be**	**150.21**	**323**	PKPbc	**PKPbc**	**15 18 53.0**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=51,slow=3.1,SNR=5.4						

MEX 12 15:18:39.1±2.5,16.°65N×94.°45W,h58km±45km,MD3.7,
Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NILT	**Santiago Nilte**	**0.18**	**243**	*e*P	Pn	15 18 39.5	-8.8
NILT				*e*S	Sn	15 18 41.4	-13
CMIG	**Matias Romero**	**0.60**	**317**	*i* P	Pn	15 18 46.0	-6.1
CMIG				*e*S	Sn	15 18 52.7	-9.0
UXUV	**UXUV**	**0.73**	**24**	*e*P	Pn	15 18 51.9	-1.8
UXUV				*e*S	Sn	15 19 02.6	-1.7
TGIG		**1.28**	**84**	*e*P	Pn	15 19 03.6	+2.8
TGIG				*e*S	Sn	15 19 22.9	+5.7
PCIG		**1.51**	**128**	*e*P

LVC	**Limon Verde**	**6.27**	**307**	P		**P**	**15 30 56.1**		**+0.7**
	comp=Z,14nm,0.4s,baz=128,slow=4.9,SNR=49								
LVC				S		**S**	**15 32 17.3**		**-1.7**
	comp=Z,6.8nm,0.3s,baz=205,slow=17,SNR=23								
LVC	**Limon Verde**	**6.27**	**307**	*eP*		**P**	**15 30 56.1**		**+0.7**
LVC				*eS*		**S**	**15 32 17.4**		**-1.7**
PB15	**IPOC Station P**	**6.33**	**300**	P		**P**	**15 30 56.9**		**+1.0**
AC01	**Pan de Azucar**	**6.37**	**272**	P		**P**	**15 30 56.8**		**+0.8**
PB14	**IPOC Station P**	**6.50**	**285**	P		**P**	**15 30 58.4**		**+0.9**
PB06	**IPOC Station P**	**6.69**	**305**	P		**P**	**15 30 60.0**		**+0.8**
CO01	**Juntas del Tor**	**6.75**	**238**	P		**P**	**15 31 01.8**		**+2.1**
LCO	**Las Campanas**	**6.84**	**247**	P		**P**	**15 31 01.9**		**+1.4**
PB09	**IPOC Station P**	**7.03**	**311**	P		**P**	**15 31 03.5**		**+1.1**
PB10	**IPOC Station P**	**7.05**	**294**	P		**P**	**15 31 03.3**		**+1.0**
PB05	**IPOC Station P**	**7.09**	**300**	P		**P**	**15 31 03.4**		**+0.5**
MURT	**Porto Murtinho**	**7.24**	**49**	*eP*		**P**	**15 31 04.4**		**+0.2**
PB04	**IPOC Station P**	**7.34**	**303**	P		**P**	**15 31 05.9**		**+0.6**
PB07	**IPOC Station P**	**7.52**	**308**	P		**P**	**15 31 07.7**		**+0.6**
PB01	**IPOC Station P**	**7.72**	**314**	P		**P**	**15 31 09.2**		**+0.3**
PB02	**IPOC Station P**	**7.80**	**310**	P		**P**	**15 31 10.1**		**+0.4**
ANTJ	**Antonio Joao (**	**8.19**	**58**	*eP*		**P**	**15 31 13.6**		**+0.2**
PB08	**IPOC Station P**	**8.19**	**320**	P		**P**	**15 31 14.8**		**+1.0**
CO06	**Fray Jorge**	**8.25**	**238**	P		**P**	**15 31 14.2**		**+0.4**
RODS	**Rosario do Sul**	**8.26**	**119**	*eP*		**P**	**15 31 13.5**		**-0.3**
PATCX	**Punta Patache**	**8.32**	**312**	P		**P**	**15 31 15.8**		**+1.1**
CRSM	**Crissiumal (Br**	**8.50**	**99**	*eP*		**P**	**15 31 16.2**		**-0.1**
TA01	**Diego Aracena**	**8.51**	**313**	P		**P**	**15 31 17.8**		**+1.3**
AMBA	**Amambai (Brazi**	**8.53**	**67**	*eP*		**P**	**15 31 17.2**		**+0.5**
GO01	**Chusmiza**	**8.59**	**321**	P		**P**	**15 31 18.6**		**+0.8**
BDQN	**Bodoquena, MS**	**8.66**	**47**	*eP*		**P**	**15 31 17.7**		**-0.3**
PB11	**IPOC Station P**	**8.78**	**319**	P		**P**	**15 31 19.9**		**+0.5**
MCR1	**Marechal Candi**	**8.80**	**79**	*eP*		**P**	**15 31 19.4**		**+0.1**
MT13	**San Alfonso**	**9.29**	**218**	P		**P**	**15 31 22.7**		**-1.5**
LMEL	**Las Melosas**	**9.32**	**217**	P		**P**	**15 31 25.4**		**+0.9**
AQDB	**Aquidauana**	**9.35**	**52**	P		**P**	**15 31 24.7**		**-0.2**
AQDB	**Aquidauana**	**9.35**	**52**	*eP*		**P**	**15 31 24.9**		**0.0**
FRBT	**Francisco Belt**	**9.40**	**89**	*eP*		**P**	**15 31 25.1**		**-0.2**
BO04	**La Punta**	**9.65**	**218**	P		**P**	**15 31 27.7**		**0.0**
BBSD	**Serra de San D**	**9.66**	**17**	*eP*		**P**	**15 31 28.3**		**+0.1**
CPSB	**Cacapava Do Su**	**9.67**	**116**	*eP*		**P**	**15 31 27.1**		**-0.9**
MT09	**Talagante**	**9.71**	**220**	P		**P**	**15 31 27.2**		**-1.2**
PB16	**IPOC Station P**	**9.85**	**325**	P		**P**	**15 31 32.1**		**+1.6**
MT01	**Popeta**	**9.92**	**221**	P		**P**	**15 31 29.8**		**-0.6**
PB12	**IPOC Station P**	**10.07**	**320**	P		**P**	**15 31 32.7**		**+0.4**
ITAB	**Concordia**	**10.19**	**97**	P		**P**	**15 31 31.8**		**-1.4**
BO01	**Tunca**	**10.21**	**218**	P		**P**	**15 31 33.0**		**-0.4**
BO02	**Sierra Bellavi**	**10.35**	**215**	P		**P**	**15 31 35.4**		**+0.5**
PTGB	**Pitanga**	**10.48**	**83**	*eP*		**P**	**15 31 36.0**		**-0.3**
TRCB	**Terra Rica**	**10.56**	**72**	P		**P**	**15 31 36.9**		**-0.3**
TRCB	**Terra Rica**	**10.56**	**72**	*eP*		**P**	**15 31 37.0**		**-0.2**
LPAZ	**La Paz**	**11.05**	**336**	P		**P**	**15 31 43.1**		**+0.3**
	comp=Z,0.7nm,0.3s,baz=178,slow=6.2,SNR=2.9								
GO06	**Curarrehue**	**14.63**	**205**	P		**P**	**15 32 17.7**		**-0.9**
PLCA	**Paso Flores**	**15.34**	**201**	P		**P**	**15 32 24.4**		**-1.1**
PLCA				IAmb		IAmb	15 32 59.9		
	comp=Z,10nm,1.4s								
LR05	**Currie**	**15.40**	**205**	P		**P**	**15 32 26.0**		**0.0**
SNDB	**Serra Nova Dou**	**18.48**	**41**	*eP*		**P**	**15 32 59.3**		**+4.5**
BOAV	**Boa Vista**	**28.89**	**6**	P		**P**	**15 34 26.8**		**-0.5**
BOAV				IAmb		IAmb	15 34 29.5		
	comp=Z,12nm,1.4s								
QSPA	**South Pole Qui**	**63.70**	**180**	P		**P**	**15 38 50.3**		**+0.8**
	comp=Z,1.4nm,1.0s,baz=82,slow=7.1,SNR=5.6								
	comp=Z,1.4nm,1.0s								
TOA0	**Torodi Ar. Sit**	**74.59**	**67**	P		**P**	**15 39 54.4**		**-1.0**
TOA0				IAmb		IAmb	15 39 54.6		
	comp=Z,6.4nm,1.4s								
TORD	**Torodi Ar. Bea**	**74.59**	**67**	P		**P**	**15 39 54.4**		**-0.9**
TORD	**Torodi Ar. Bea**	**74.59**	**67**	P		**P**	**15 39 54.5**		**-0.9**
	comp=Z,1.1nm,0.6s,baz=272,slow=5.4,SNR=12								
	comp=Z,1.1nm,0.6s								
EYMN	**Ely**	**78.27**	**341**	P		**P**	**15 40 15.1**		**+0.3**
EYMN				IAmb		IAmb	15 40 21.1		
	comp=Z,15nm,1.5s								
KURBB	**Kurchatov Arra**	**142.40**	**40**	PKP		**PKPdf**	**15 47 39.1**		**-2.5**
	comp=Z,0.3nm,0.3s,baz=305,slow=3.3,SNR=1.7								
ZALV	**Zalesovo Beam**	**143.99**	**32**	PKP		PKPab	15 47 43.8		-0.1
	comp=Z,0.7nm,0.5s,baz=326,slow=5.6,SNR=4.1								
MKAR	**Makanchi Array**	**146.28**	**44**	PKPbc		**PKPbc**	**15 47 50.9**		**+0.1**
	comp=Z,0.5nm,0.4s,baz=274,slow=4.4,SNR=15								

IDC ***12*** *15:33:58.9±8.5,0.°34N×122.°35E,h209km±86km,mb3.1/4, mbtmp3.6/4,Error ellipse: s-maj=137.8km s-min=16.7km az=65.0*
DJA ***12*** *15:33:58.8±0.5,0.°N±6.°×12.°2E±.°,h162km±6km,M3.7/12, mb3.8/4,MLv3.6/12*

ISC 12 15:33:56.9±0.9,0.°2N±0.°1×121.°93E±0.°07,h202km,n13, σ2.°15/16,mb3.4/4,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.33**	**2**	P		P	**Pn**	**15 34 21.7**	**-2.0**
MRSI				S		S	**Sn**	**15 34 39.0**	**-4.9**
GTOI	**Gorontalo**	**1.19**	**66**	P		P	**Pn**	**15 34 26.5**	**-1.7**
GTOI				S		S	**Sn**	**15 34 48.7**	**-3.5**
LUWI	**Luwuk**	**1.45**	**144**	P		P	**Pn**	**15 34 27.9**	**-2.4**
MPSI	**Mapaga**	**2.04**	**275**	P		P	**Pn**	**15 34 36.0**	**+0.1**
KMSI	**Cibinong**	**2.10**	**78**	P		P	**Pn**	**15 34 36.6**	**+0.1**
SANI	**Sanana**	**4.61**	**118**	P		P	**Pn**	**15 35 05.2**	**-1.2**
TNTI	**Ternate**	**5.47**	**83**	P		P	**Pn**	**15 35 18.3**	**+0.9**
	10nm,0.8s,0.1nm								
LBMI	**Labuha**	**5.63**	**98**	P		P	**Pn**	**15 35 19.3**	**-0.1**
	16nm,1.7s,0.2nm								
NLAI	**Namlea**	**6.17**	**123**	P		P	**Pn**	**15 35 27.2**	**+0.8**
	11nm,0.7s,0.1nm								
WRA	**Warramunga Arr**	**23.38**	**149**	P		P	**P**	**15 38 48.3**	**+0.7**
	0.3nm,0.3s,baz=324,slow=11,SNR=18								
	0.3nm,0.3s								
ASAR	**Alice Springs**	**26.37**	**155**	P		P	**P**	**15 39 16.7**	**+2.0**
	0.2nm,0.5s,baz=334,slow=8.2,SNR=7.4								
ASAR				PcP		PcP	**PcP**	**15 42 36.0**	**+0.9**
	0.1nm,0.4s,baz=351,slow=2.4,SNR=7.5								
	0.2nm,0.5s								
SONM	**Songino Array**	**49.38**	**346**	P		P	**P**	**15 42 26.9**	**+0.8**
	1.1nm,0.6s,baz=159,slow=9.4,SNR=5.1								
	1.1nm,0.6s								
MKAR	**Makanchi Array**	**57.93**	**329**	P		P	**P**	**15 43 29.6**	**+1.6**
	0.7nm,0.4s,baz=123,slow=8.9,SNR=16								
	0.7nm,0.4s								

IDC 12 15:37:47.0±1.2,8.°89S×157.°92E,h0km,mb3.6/4, mbtmp3.6/4,ML5.2/1,MS3.3/1,Error ellipse: s-maj=36.4km s-min=22.1km az=5.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.07**	**105**	Pn		Pn	Pn	15 38 22.8	-0.2
	843nm,0.3s,baz=286,slow=6.1,SNR=23								
HNR				Sn		Sn	Sn	15 38 50.0	+0.4
	3µm,0.3s,baz=307,slow=20,SNR=16								
WRA	**Warramunga Arr**	**25.31**	**242**	P		P	P	15 43 15.5	0.0
	0.7nm,0.6s,baz=64,slow=9.7,SNR=6.4								
	0.7nm,0.6s								
ASAR	**Alice Springs**	**27.27**	**235**	P		P	P	15 43 32.9	-0.4
	0.2nm,0.4s,baz=58,slow=10,SNR=5.5								
	0.2nm,0.4s								
USRK	**Ussuriysk Ar.**	**57.83**	**338**	LR		LR	LR	16 11 45.9	
	comp=Z,24nm,19.0s,baz=112,slow=35								
SONM	**Songino Array**	**72.50**	**326**	P		P	P	15 49 16.2	+0.5
	0.9nm,0.8s,baz=142,slow=5.1,SNR=4.0								
	0.9nm,0.8s								
MKAR	**Makanchi Array**	**86.74**	**318**	P		P	P	15 50 33.2	+0.1
	0.6nm,0.7s,baz=105,slow=5.9,SNR=5.4								
	0.6nm,0.7s								

IDC 12 15:38:36.8±5.7,6.°53S×142.°90E,h0km,mb3.9/2, mbtmp3.7/3,ML3.3/1,Error ellipse: s-maj=207.7km s-min=35.2km az=96.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.72**	**211**	Pn		Pn	Pn	15 42 16.1	-3.6
	0.1nm,0.3s,baz=31,slow=12,SNR=4.7								
ASAR	**Alice Springs**	**19.11**	**206**	P		P	P	15 43 01.3	-0.2
	0.1nm,0.3s,baz=36,slow=9.7,SNR=19								
	0.6nm,0.6s								
SONM	**Songino Array**	**62.96**	**333**	P		P	P	15 49 05.0	-0.4
	0.4nm,0.4s,baz=131,slow=6.6,SNR=1.9								
	0.4nm,0.4s								
MKAR	**Makanchi Array**	**75.34**	**322**	P		P	P	15 50 22.5	+0.3
	1.1nm,0.7s,baz=101,slow=6.9,SNR=11								
	1.1nm,0.7s								

KRNET ***12*** *16:13:56.2±0.1,39.°22N×72.°00E,h23km,mb3.4*
NNC ***12*** *16:14:00.1±4.8,39.°44N×71.°81E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=40.8km s-min=21.6km az=176.0*
SOME ***12*** *16:14:06.9,39.°53N×72.°02E,h10km*

ISC 12 16:13:57.7±1.4,39.°23N±0.°05×71.°99E±0.°03,h19km±3km, n46,σ1.°62/70,39C-14D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.29**	**329**	⇓*iP*			**Pg**	**16 14 02.8**	**-1.6**
	baz=30								
DRK				⇓*iS*			**Sg**	**16 14 07.9**	**-1.1**
	baz=30								
BTK	**Batken**	**1.23**	**313**	⇑*iP*			**Pn**	**16 14 19.1**	**-0.8**
	baz=13								
BTK				⇑*iS*			**Sb**	**16 14 35.7**	**-0.1**
	baz=13								
GAR	**Garm**	**1.32**	**260**	⇓*iP*			**Pn**	**16 14 20.5**	**-0.8**
	baz=61								
GAR				⇓*iS*			**Sn**	**16 14 38.2**	**-0.3**
	baz=61								
SFK	**Sufi-Kurgan**	**1.40**	**56**	⇑*iP*			**Pn**	**16 14 21.8**	**-0.7**
	baz=55								
SFK				⇑*iS*			**Sn**	**16 14 40.5**	**-0.1**
	baz=55								
OHH	**Osh**	**1.43**	**25**	⇑*iP*			**Pn**	**16 14 22.3**	**-0.4**
	baz=25								
OHH				⇑*iS*			**Sn**	**16 14 41.3**	**+0.3**
	baz=25								
ARSB	**Arslanbob**	**2.22**	**20**	⇑*eP*			**Pn**	**16 14 34.7**	**+1.0**
	baz=19								
ARSB				⇑*eS*			**Sn**	**16 15 02.6**	**+1.9**
	baz=19								
CHGR	**Chuyangaron**	**2.28**	**256**	⇑*iP*			**Pn**	**16 14 35.1**	**+0.7**
	baz=57								
CHGR				⇑*iS*			**Sn**	**16 15 03.5**	**+1.4**
	baz=57								
TRKS	**Terek-Say**	**2.39**	**344**	⇑*iP*			**Pn**	**16 14 35.7**	**-0.2**
	baz=44								
TRKS				⇑*iS*			**Sn**	**16 15 04.4**	**-0.3**
	baz=44								
ARK	**Arkit**	**2.56**	**360**	⇓*iP*			**Pn**	**16 14 39.2**	**+0.9**
	baz=59								
ARK				⇓*iS*			**Sn**	**16 15 10.6**	**+1.6**
	baz=59								
ARLS	**Aral**	**3.17**	**33**	⇑*iP*			**Pn**	**16 14 47.3**	**+0.6**
	baz=33								
ARLS				⇑*iS*			**Sn**	**16 15 24.7**	**+0.6**
	baz=33								
IUG	**Iuzhnay**	**3.27**	**334**	*eP*			**Pg**	**16 15 02.2**	**+1.7**
	101nm,0.4s								
IUG				*eS*			**Sg**	**16 15 42.2**	**-0.6**
	101nm,0.5s								
IUG	**Iuzhnay**	**3.27**	**334**	Pg			**Pn**	**16 14 52.2**	**+4.1**
	16nm,0.2s								
IUG				Lg			Lg	16 15 34.5	
	24nm,0.5s								
MNAS	**Manas**	**3.27**	**7**	⇑*iP*			**Pn**	**16 14 49.0**	**+0.9**
	baz=7.0								
MNAS				⇑*iS*			**Sn**	**16 15 27.4**	**+0.8**
	baz=7.0								
UCH	**Uchtor**	**3.55**	**32**	P			**Pb**	**16 14 57.1**	**-3.1**
	SNR=12								
UCH	**Uchtor**	**3.55**	**32**	⇓*eP*			**Pn**	**16 14 52.8**	**+0.6**
	baz=32								
UCH				⇓*iS*			**Sn**	**16 15 34.5**	**+0.6**
	baz=32								
MRKS	**Merke**	**3.63**	**15**	*eP*			**Pg**	**16 15 08.0**	**+0.6**
	7.8nm,0.2s								
MRKS				*eS*			**Sg**	**16 15 51.8**	**-2.5**
	22nm,0.4s								
EKS2	**Erkin-Say**	**3.68**	**21**	P			**Pb**	**16 15 01.1**	**-1.1**
	SNR=14								
EKS2	**Erkin-Say**	**3.68**	**21**	⇑*iP*			**Pn**	**16 14 54.6**	**+0.9**
	baz=21								
EKS2				⇑*iS*			**Sn**	**16 15 37.3**	**+0.6**
	baz=21								
NRN	**Naryn**	**3.77**	**53**	⇑*eP*			**Pn**	**16 14 55.5**	**+0.4**
	baz=53								
NRN				⇑*eS*			**Sn**	**16 15 38.7**	**-0.4**
	baz=53								
AAK	**Ala-Archa**	**3.89**	**28**	P			**Pb**	**16 15 02.3**	**-3.6**
	SNR=14								
AAK	**Ala-Archa**	**3.89**	**28**	⇑*iP*			**Pn**	**16 14 57.7**	**+1.0**
	baz=28								
AAK				⇑*iS*			**Sn**	**16 15 42.4**	**+0.5**
	baz=28								
KK31	**Karatay Array**	**4.03**	**344**	⇑Pn			**Pn**	**16 15 02.9**	**+4.6**
	2.3nm,0.3s,baz=155,slow=11,SNR=48								
KK31				⇓Lg			Lg	16 16 04.9	
	2.8nm,0.3s,baz=167,slow=27,SNR=5.3								
KKAR	**Karatay Array**	**4.03**	**344**	⇑*iP*			**Pn**	**16 14 59.5**	**+1.2**
	baz=44								
KKAR				⇑*iS*			**Sn**	**16 15 45.3**	**+0.3**
	baz=44								
KBK	**Karagaybulak**	**4.09**	**32**	P			Pb	16 15 05.2	-4.0
	SNR=6.8								
KBK	**Karagaybulak**	**4.09**	**32**	⇑*iP*			**Pn**	**16 15 00.2**	**+0.9**
	baz=32								
KBK				⇑*iS*			**Sn**	**16 15 47.1**	**+0.4**
	baz=32								
CHMS	**Chumysh**	**4.30**	**28**	P			Pn	16 15 07.7	+5.6
	SNR=13								
CHMS	**Chumysh**	**4.30**	**28**	⇑Pn			Pn	16 15 07.3	+5.1
	11nm,0.5s								
CHMS				⇑Sn			**Sb**	**16 16 00.1**	**-4.1**
	18nm,0.8s								
CHMS	**Chumysh**	**4.30**	**28**	⇑*iP*			**Pn**	**16 15 03.2**	**+1.1**
	baz=28								
CHMS				⇑*iS*			**Sn**	**16 15 51.7**	**-0.1**
	baz=28								
ULHL	**Ulahol**	**4.41**	**46**	⇓*iP*			**Pn**	**16 15 04.7**	**+0.9**
	baz=45								
ULHL				⇓*iS*			**Sn**	**16 15 54.7**	**-0.1**
	baz=45								
USP	**Ospenovka**	**4.45**	**24**	P			Pn	16 15 09.6	+5.4
	SNR=12								
USP	**Ospenovka**	**4.45**	**24**	⇑*iP*			**Pn**	**16 15 05.1**	**+0.9**
	baz=24								
USP				⇑*iS*			**Sn**	**16 15 55.4**	**-0.1**
	baz=24								
TKM2	**Tokmak 2**	**4.58**	**35**	P			Pn	16 15 11.4	+5.3
	SNR=7.2								
TKM2	**Tokmak 2**	**4.58**	**35**	⇓Pn			Pn	16 15 11.2	+5.0
	2.4nm,0.3s								
TKM2				⇑Pg			**Pg**	**16 15 25.4**	**-0.1**
	3.0nm,0.4s								
TKM2				⇓Lg			Lg	16 16 21.5	
	8.8nm,0.7s								
TKM2	**Tokmak 2**	**4.58**	**35**	⇑*iP*			**Pn**	**16 15 07.2**	**+1.0**
	baz=35								
TKM2				⇑*iS*			**Sn**	**16 15 58.6**	**-0.3**
	baz=35								
KST	**Kastek**	**4.84**	**37**	*eP*			**Pg**	**16 15 31.9**	**+1.4**
	3.8nm,0.3s								
KST				*eS*			**Sg**	**16 16 33.0**	**-0.3**
	17nm,0.5s								
KST	**Kastek**	**4.84**	**37**	Pg			**Pb**	**16 15 23.0**	**+1.0**
	1.1nm,0.1s								
KST				Lg			Lg	16 16 28.0	
	6.2nm,0.7s								
KDJ	**Kajisay**	**4.89**	**52**	⇑*iP*			**Pn**	**16 15 11.4**	**+1.0**
	baz=52								
KDJ				⇑*iS*			**Sn**	**16 16 05.9**	**-0.6**
	baz=52								
MTBS	**Maitube**	**5.13**	**39**	*eP*			**Pg**	**16 15 37.3**	**+1.2**
	3.1nm,0.4s								
MTBS				*eS*			**Sg**	**16 16 42.5**	**0.0**
	9.2nm,0.5s								
MTBS	**Maitube**	**5.13**	**39**	Pg			**Pb**	**16 15 27.1**	**+0.2**
	2.4nm,0.2s								
MTBS				Lg			Lg	16 16 35.1	
	3.3nm,0.5s								
KRBS	**Karabastau**	**5.25**	**31**	*eP*			**Pg**	**16 15 38.1**	**0.0**
	4.7nm,0.5s								
KRBS				*eS*			**Sg**	**16 16 43.7**	**-2.4**
	7.8nm,0.5s								
KRBS	**Karabastau**	**5.25**	**31**	Pg			**Pb**	**16 15 31.4**	**+2.6**
	1.8nm,0.5s								
KRBS				Lg			Lg	16 16 42.1	
	7.9nm,0.6s								
MDOK	**Medeo**	**5.47**	**43**	⇓Pg			**Pb**	**16 15 37.0**	**+4.3**
	7.9nm,0.7s								
MDOK				Lg			Lg	16 16 49.3	
	8.0nm,0.7s								

KTBS	**Karatobe**	**5.70**	**37**	*eP*			**Pg**	**16 15 48.4**	**+1.7**
	1.9nm,0.3s								
KTBS				*eS*			**Sg**	**16 17 01.1**	**+0.7**
	7.1nm,0.3s								
KTBS	**Karatobe**	**5.70**	**37**	Pg			**Pb**	**16 15 40.4**	**+3.9**
	4.9nm,0.7s								
KTBS				Lg			Lg	16 16 57.1	
	7.8nm,0.3s								
AB31	**Akbulak array**	**13.21**	**323**	P			**Pn**	**16 17 03.9**	**-0.3**
	0.6nm,0.4s,baz=131,slow=13,SNR=34								
AKTO	**Aktyubinsk**	**14.93**	**323**	⇑P			**Pn**	**16 17 26.6**	**-1.0**
	1.1nm,0.8s								

IDC ***12*** *16:20:23.4±1.7,55.°82N×149.°10W,h0km,mb3.4/5, mbtmp3.4/10,ML3.0/5,MS3.2/4,Error ellipse: s-maj=30.8km s-min=22.3km az=16.0*
NEIC ***12*** *16:20:23.8±1.7,55.°98N±0.°10×149.°2W±0.°1,h7km±7km, ML3.7/44,ML3.4(AEIC),Error ellipse: s-maj=13.9km s-min=9.0km az=169.0*
AEIC ***12*** *16:20:27.2±1.8,55.°90N±0.°10×149.°1W±0.°1,h8km±7km, Error ellipse: s-maj=14.4km s-min=10.1km az=168.0*

ISC 12 16:20:25.4±1.0,56.°09N±0.°08×149.°23W±0.°05,h10km, n147,σ0.°95/141,mb3.5/5,MS3.0/3,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.50**	**314**	Pn		Pn	Pn	**16 21 05.4**	**-0.7**
KDAK	**Kodiak Island**	**2.50**	**314**				**Sn**	**16 21 34.1**	**-2.6**
KDAK	**Kodiak Island**	**2.50**	**314**	S			**Sn**	**16 21 34.1**	**-2.6**
	baz=133								
KDAK	**Kodiak Island**	**2.50**	**314**	Pn			**Pn**	**16 21 05.6**	**-0.5**
	1.6nm,0.3s,baz=132,slow=5.2,SNR=32								
KDAK				Sn			**Sn**	**16 21 34.4**	**-2.2**
	4.1nm,0.3s,baz=142,slow=23,SNR=8.3								
KDAK				LR			LR	16 22 20.5	
	comp=Z,293nm,19.2s,baz=114,slow=43								
	17nm,0.8s								
OHAK	**Old Harbor**	**2.51**	**299**	Pn			**Pn**	**16 21 05.4**	**-0.9**
OHAK	**Old Harbor**	**2.51**	**299**				**Sn**	**16 21 34.5**	**-2.4**
OHAK	**Old Harbor**	**2.51**	**299**	P			**Pn**	**16 21 05.4**	**-0.9**
	baz=117								
OHAK				S			**Sn**	**16 21 34.5**	**-2.4**
	baz=117								
SYI	**Shuyak Island**	**3.06**	**327**	Pn			**Pn**	**16 21 13.4**	**-0.3**
SYI	**Shuyak Island**	**3.06**	**327**				**Sn**	**16 21 50.1**	**-0.2**
Q20K	**Shuyak Island**	**3.06**	**327**	P			**Pn**	**16 21 13.4**	**-0.3**
	baz=146								
Q20K				S			**Sn**	**16 21 50.1**	**-0.2**
	baz=146								
CNPM	**China Poot**	**3.61**	**344**				**Pn**	**16 21 20.9**	**-0.5**
CNPM	**China Poot**	**3.61**	**344**				**Sn**	**16 22 03.7**	**-0.3**
MID	**Middleton Isla**	**3.69**	**24**	Pn			**Pn**	**16 21 21.6**	**-0.8**
MID				IAML				16 22 51.0	
	comp=N,185nm,1.3s								
Q23K	**Middleton Isla**	**3.69**	**24**	Pn			**Pn**	**16 21 21.7**	**-0.6**
Q23K				IAML				16 23 40.5	
	comp=N,184nm,1.4s								
Q19K	**Cape Douglas,**	**3.71**	**322**				**Pn**	**16 21 23.3**	**+0.5**
Q19K				IAML				16 22 18.5	
	comp=N,192nm,1.0s								
Q19K	**Cape Douglas,**	**3.71**	**322**	P			**Pn**	**16 21 22.3**	**-0.5**
	baz=139								
BRSE	**Bradley Lake S**	**3.75**	**348**				**Pn**	**16 21 22.5**	**-0.8**
BRSE	**Bradley Lake S**	**3.75**	**348**	P			**Pn**	**16 21 22.5**	**-0.8**
	baz=167								
BRLK	**Bradley Lake**	**3.79**	**347**				**Pn**	**16 21 23.2**	**-0.7**
BRLK				IAML				16 22 16.0	
	comp=E,42nm,1.3s								
BRLK	**Bradley Lake**	**3.79**	**347**				**Sn**	**16 22 06.9**	**-1.6**
KAKN	**Katmai Knife C**	**3.87**	**307**				**Pn**	**16 21 25.3**	**+0.3**
SEW	**Seward**	**4.03**	**358**				**Pn**	**16 21 26.4**	**-0.6**
SEW	**Seward**	**4.03**	**358**	P			**Pn**	**16 21 26.4**	**-0.6**
	baz=178								
P23K	**Montague Islan**	**4.04**	**13**				**Pn**	**16 21 26.9**	**-0.3**
P23K							**Sn**	**16 22 12.3**	**-2.2**
P23K	**Montague Islan**	**4.04**	**13**	P			**Pn**	**16 21 26.9**	**-0.3**
	baz=194								
P23K				S			**Sn**	**16 22 12.4**	**-2.2**
	baz=194								
P19K	**Oil Pt**	**4.17**	**331**	Pn			**Pn**	**16 21 29.2**	**+0.2**
P19K				IAML				16 22

STLK	Strandline Lak	5.59	347		Pn		16 21 47.9	-0.7
MESA	MESA	5.63	40	Pn	Pn		16 21 49.2	0.0
KLU	Klutina	5.69	16		Pn		16 21 50.2	+0.3
KLU	Klutina baz=199	5.69	16	P	Pn		16 21 50.0	+0.1
GHO	Glory Hole Cre	5.70	1		Pn		16 21 50.5	+0.3
SML	Sawmill	5.76	4		Pn		16 21 51.2	+0.4
SML	Sawmill baz=185	5.76	4	P	Pn		16 21 50.5	-0.4
N18K	Kilae Creek	5.79	325		Pn		16 21 50.6	-0.6
N18K	Kilae Creek baz=140	5.79	325	P	Pn		16 21 50.6	-0.6
ISLE	Juniper Island	5.80	36	Pn	Pn		16 21 51.6	+0.1
SCM	Sheep Creek Mo	5.85	9	Pn	Pn		16 21 53.2	+1.1
VRDI	Verde Repeater	5.97	28	Pn	Pn		16 21 53.5	-0.4
SVW2	Sparrevohn	6.02	329	Pn	Pn		16 21 53.3	-1.1
SKT	Skwentna	6.03	350		Pn		16 21 54.6	+0.1
CNBA	Chernabura Isl	6.03	262		Pn		16 21 53.4	-1.1
N25K	Chitina, Valde	6.03	22		Pn		16 21 54.3	-0.3
KIAG	Kiagna River	6.04	34		Pn		16 21 54.1	-0.7
GLB	Gilahina Butte	6.06	25	Pn	Pn		16 21 55.1	0.0
TABL	Table Mountain	6.10	41	Pn	Pn		16 21 55.4	-0.3
PTPK	Patty Peak	6.21	32		Pn		16 21 56.4	-0.8
MCARA	McCarthy VSAT	6.21	29	Pn	Pn		16 21 57.9	+0.8
M24K	Tolsona, Glenn	6.24	13	Pn	Pn		16 21 58.5	+1.1
PNL	Peninsula	6.35	52		Pn		16 21 57.8	-1.2
PNL	Peninsula baz=239	6.35	52	P	Pn		16 21 57.8	-1.2
BARN	Barnard Glacie	6.36	35		Pn		16 21 59.0	-0.3
BCPM	Bancas Point	6.40	49	Pn	Pn		16 21 59.2	-0.4
CTGM	Chitina Glacie	6.40	37	Pn	Pn		16 21 58.7	-1.1
M18K	Stony River	6.41	330		Pn		16 21 59.1	-0.7
M18K	Stony River baz=145	6.41	330	P	Pn		16 21 59.1	-0.7
LOGN	Logan Glacier	6.42	39	Pn	Pn		16 21 59.3	-0.7
O29M	Mount Kennedy	7.04	49		Pn		16 22 07.6	-0.9
O29M	Mount Kennedy baz=237	7.04	49	P	Pn		16 22 07.6	-0.9
DHY	Denali Highway	7.07	7	Pn	Pn		16 22 09.3	+0.3
P29M	Windy Craggy	7.08	55		Pn		16 22 07.7	-1.3
P29M	Windy Craggy baz=244	7.08	55	P	Pn		16 22 07.7	-1.3
M16K	Timber Creek	7.09	318	Pn	Pn		16 22 08.9	-0.3
M27K	Edge Creek, AK	7.33	28	Pn	Pn		16 22 11.2	-1.3
S31K	Pelican	7.34	70	Pn	Pn		16 22 09.9	-2.6
S31K	Pelican baz=260	7.34	70	P	Pn		16 22 09.7	-2.7
RND	Reindeer	7.34	1	Pn	Pn		16 22 13.2	+0.5
TRF	Thorofare Moun	7.41	356	Pn	Pn		16 22 13.8	+0.3
CAST	Castle Rocks	7.49	350		Pn		16 22 15.3	+0.6
KTH	Kantishna Hill	7.54	354	Pn	Pn		16 22 15.4	+0.2
L16K	Owhat River	7.74	321	Pn	Pn		16 22 17.6	-0.3
HYT	Haines Junctio	7.76	47	Pn	Pn		16 22 17.7	-0.8
BCAR	Beaver Creek A	7.95	25	Pn	Pn		16 22 21.9	+1.0
BPAW	Bear Paw Mtn.	8.09	354	Pn	Pn		16 22 21.4	-1.3
J18K	Innoko River	8.30	336	Pn	Pn		16 22 26.8	+1.1
O30N	Mendenhall	8.33	50	Pn	Pn		16 22 25.6	-0.5
ISLZ	Isanotski Laza	8.36	267		Pn		16 22 24.5	-2.0
WRH	Wood River Hil	8.43	3	Pn	Pn		16 22 28.4	+0.9
NEA2	Nenana	8.53	0	Pn	Pn		16 22 29.8	+0.9
CCB	Clear Creek Bu	8.62	4	Pn	Pn		16 22 30.7	+0.8
L14K	Kuka Creek	8.75	313	Pn	Pn		16 22 32.3	+0.4
IL31		8.79	7	Pn	Pn		16 22 33.9	+1.6
ILAR	Eielson Array	8.79	7	Pn	Pn		16 22 33.9	+1.6
ILAR	Eielson Array comp=E,0.3nm,0.3s,baz=188,slow=13,SNR=14	8.79	7	Pn	Pn		16 22 33.7	+1.3
ILAR				Sn	Sn		16 24 09.9	-1.4
	comp=E,0.1nm,0.3s,baz=188,slow=26,SNR=1.5 comp=E,0.6nm,0.3s							
WHY	Whitehorse	8.81	53	Pn	Pn		16 22 32.2	-0.6
MDM	Murphy Dome	8.91	3	Pn	Pn		16 22 33.4	-0.7
P32M	Atlin	8.98	61	Pn	Pn		16 22 33.9	-1.1
L29M	L29M	9.00	34		Pn		16 22 35.8	+0.4
P33M	Teslin, Yukon	9.60	58	Pn	Pn		16 22 42.5	-1.1
M31M	Drury Creek, Y	9.76	45	Pn	Pn		16 22 46.2	+0.4
IMAR	Indian Mountai	10.16	349	Pn	Pn		16 22 50.8	-0.4
DLBC	Dease Lake comp=E,0.1nm,0.3s,baz=233,slow=15,SNR=1.4 comp=E,0.7nm,0.5s	10.66	69	Pn	Pn		16 22 57.9	-0.1
G23K	Bananza Creek	10.67	358	Pn	Pn		16 22 58.3	+0.2
FYU	Fort Yukon	10.69	9	Pn	Pn		16 22 58.9	+0.6
INK	Inuvik baz=204,slow=16,SNR=5.0 comp=E,1.8nm,0.9s	14.21	24	Pn	Pn		16 23 48.3	+2.0
YKA	Yellowknife Ar baz=262,slow=11,SNR=9.4 comp=E,1.7nm,1.1s	18.62	56	P	P		16 24 43.2	+0.5
YBH	Yreka Blue Hor comp=E,50nm,19.1s,baz=294,slow=30	22.39	119	LR	LR		16 31 28.2	
ELK	Elko comp=E,31nm,18.2s,baz=324,slow=35	26.93	110	LR	LR		16 36 07.8	
PDAR	Pinedale Array comp=E,0.1nm,0.4s,baz=276,slow=3.5,SNR=1.1 comp=E,0.1nm,0.4s	28.60	101	P	P		16 26 20.1	-1.7
FRB	Frobisher Bay comp=E,56nm,18.1s,baz=213,slow=36	38.55	45	LR	LR		16 43 27.8	
H11N2	WAKE ISLAND Hy baz=18,slow=74,SNR=3.6	48.81	240	T	T		17 21 43.2	
H11N3	WAKE ISLAND Hy baz=18,slow=74,SNR=3.5	48.82	240	T	T		17 21 44.4	
H11N1	WAKE ISLAND Hy baz=18	48.83	240	T	T		17 22 17.9	
H11S1	WAKE ISLAND Hy baz=27,slow=74	49.95	240	T	T		17 24 00.8	
H11S2	WAKE ISLAND Hy baz=27,slow=74	49.96	240	T	T		17 23 52.0	
H11S3	WAKE ISLAND Hy baz=27	49.97	240	T	T		17 23 48.6	
SONM	Songino Array comp=E,0.3nm,0.7s,baz=64,slow=6.6,SNR=2.5 comp=E,0.3nm,0.7s	58.79	310	P	P		16 30 25.5	+2.0
ZALV	Zalesovo Beam comp=E,0.5nm,0.5s,baz=57,slow=5.3,SNR=2.6 comp=E,0.5nm,0.5s	61.74	327	P	P		16 30 45.1	+1.7
NOA	NORSAR Array B comp=E,0.5nm,0.8s,baz=350,slow=6.4,SNR=1.3 comp=E,0.5nm,0.8s	62.20	11	P	P		16 30 47.5	+1.0
MKAR	Makanchi Array comp=E,0.2nm,0.7s,baz=28,slow=4.1,SNR=2.5 comp=E,0.2nm,0.7s	68.77	325	P	P		16 31 29.9	+0.7

*DSN **12** 16:37:23.5±1.5,27.49N×53.81E,h15km,ML2.5/4,Error ellipse: s-maj=29.0km s-min=8.7km az=18.0*
*TEH **12** 16:37:24.2,28.24N×57.51E,h20km±46km,ML3.2*
*OMAN **12** 16:37:28.4±0.4,27.87N×57.68E,h10km,ml2.9/11,Error ellipse: s-maj=6.5km s-min=4.1km az=228.0*

ISC 12 16:37:24.9±1.0,28.22N±0.03×57.60E±0.05,h30km,n37,
σ1s72/50,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNJ	Kahnooj	0.28	161	Pg	Pb	16 37 32.2	0.0
KBAM	BAM	1.18	39	Pg	Pn	16 37 46.6	+1.1
IBND	Bandar-abas	1.21	231	Pg	Pn	16 37 45.5	-0.3
IBND				Sg	Sb	16 38 02.6	+0.1
GENO	Geno	1.50	238	Pg	Pn	16 37 50.5	+0.5
NGRK	Negar Kerman	1.62	332	Pg	Pb	16 37 53.0	-1.3
CHMN	Cheshme madani	1.64	358	Pg	Pb	16 37 53.8	-0.9
TVBK	TV Kerman	1.91	338	Pn	Pb	16 37 58.1	-1.2
JASK	Jask - Hormozg	2.35	174	Pn	Pn	16 38 03.3	+1.8
JASK	Jask - Hormozg SNR=12	2.35	174	P	Pn	16 38 03.2	+1.7
KHGB	Koh Gabri	2.37	336	Pn	Pn	16 38 02.9	+1.0
SHME	Shamm	2.52	211	P	Pn	16 38 04.5	+0.7
SHME				S	Sn	16 38 35.7	+2.2
SHME	Shamm SNR=9.3	2.52	211	P	Pb	16 38 07.9	-1.6
SHME				S	Sn	16 38 34.9	+1.4
BANOM	Banah	2.56	207	P	Pb	16 38 08.1	-2.1
BANOM				S	Sn	16 38 35.8	+1.2
MASF	Masafi	3.11	205	P	Pn	16 38 15.1	+3.1
MASF				S	Sn	16 38 49.6	+1.4
MSFE	Esma-Masafi	3.12	205	P	Pn	16 38 10.4	-1.7
MDH	Madha	3.13	202	P	Pn	16 38 11.7	-0.5
MDH	Madha	3.13	202	P	Pn	16 38 12.0	-0.2
UMQ	Umm Al-Quwin	3.19	213	P	Pn	16 38 13.6	+0.6
UOSS	Minazif	3.49	201	P	Pn	16 38 14.8	-2.4
UOSS	Minazif	3.49	201	P	Pn	16 38 20.1	+2.9
HATD	Hatta, Dubai	3.62	202	P	Pn	16 38 22.5	+3.4
ASHO	Ashiyiah	3.78	202	P	Pn	16 38 17.5	-3.7
ASHO	Ashiyiah SNR=8.4	3.78	202	P	Pn	16 38 23.7	+2.5
FAQ	Al Faqa, Dubai	3.90	208	P	Pn	16 38 24.7	+2.0
FAQ				S	Sn	16 39 07.9	+0.3
SOHO	SOHO	4.18	194	P	Pn	16 38 25.8	-0.8
AJN	Ajban	4.33	213	P	Pn	16 38 29.4	+0.7
IKOO	Kooshah	4.37	16	Pn	Pn	16 38 31.5	+2.1
BIDO	Bidbid	4.70	174	P	Pn	16 38 32.9	-0.9
BIDO				S	Sn	16 39 27.9	+0.6
ARQ	Araqi SNR=32	4.96	192	P	Pn	16 38 39.5	+2.1
ARQ				S	Sn	16 39 34.5	+0.8
WSAR	Wadi Sarin SNR=30	5.04	169	P	Pn	16 38 39.7	+1.2
WSAR				S	Sn	16 39 33.1	-2.7
SMDO	Samad	5.15	175	P	Pn	16 38 42.1	+2.0
SMDO				S	Sn	16 39 38.1	-0.5
BSY	Bisya	5.46	184	P	Pn	16 38 46.0	+1.7
BSY				S	Sn	16 39 46.0	-0.1
WBK	Wadi Bani Khal	5.72	167	P	Pn	16 38 48.6	+0.8
JMDO	Jabal Madar	5.84	175	P	Pn	16 38 51.9	+2.4
KLNJ	Kolanjah	5.93	299	Pn	Pn	16 38 51.9	+1.0
JLN	Jalan Bani Buh	6.26	164	P	Pn	16 38 55.2	0.0
JLN				S	Sn	16 40 03.3	-2.4
MHTO	MHTO	7.21	177	P	Pn	16 39 10.6	+2.3
MHTO				S	Sn	16 40 29.1	+0.1

*NEIC **12** 16:43:47.4±1.0,56.06N±0.08×150.2W±0.1,h10km±2km,ML3.5/42,ML3.4(AEIC),Error ellipse: s-maj=14.2km s-min=10.4km az=177.0*
*AEIC **12** 16:43:49.1±1.6,55.86N±0.10×150.1W±0.1,h5km±8km,Error ellipse: s-maj=14.4km s-min=10.6km az=173.0*

ISC 12 16:43:46.4±1.9,56.0N±0.1×150.16W±0.06,h10km,n129,
σ0s80/127,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	Old Harbor	2.11	306		Sn	16 44 46.5	-1.5
OHAK	Old Harbor	2.11	306		Pn	16 44 21.8	+0.1
OHAK	Old Harbor baz=123	2.11	306	P	Pn	16 44 21.8	+0.1
OHAK				S	Sn	16 44 45.8	-2.2
KDAK	Kodiak Island baz=123	2.22	324		Pn	16 44 23.7	+0.5
KDAK					Sn	16 44 49.4	-1.2
SYI	Shuyak Island	2.87	336		Pn	16 44 32.9	+0.7
SYI					Sn	16 45 06.1	-0.6
Q20K	Shuyak Island baz=154	2.87	336	P	Pn	16 44 32.9	+0.7
Q20K				S	Sn	16 45 06.1	-0.6
Q19K	Cape Douglas, comp=N,177nm,1.1s	3.48	329	IAML		16 45 32.1	
Q19K	Cape Douglas,	3.48	329		Pn	16 44 42.0	+1.5
Q19K					Sn	16 45 23.0	+1.2
Q19K	Cape Douglas, baz=145	3.48	329	P	Pn	16 44 42.0	+1.5
Q19K				S	Sn	16 45 23.0	+1.2
CNPM	China Poot baz=145	3.57	351		Pn	16 44 41.8	0.0
CNPM				IAML		16 45 25.3	
CNPM	China Poot comp=E,32nm,1.4s	3.57	351		Sn	16 45 22.9	-1.1
CNPM	China Poot comp=N,25nm,1.5s	3.57	351	IAML		16 45 19.4	
BRSE	Bradley Lake S baz=175	3.75	355		Pn	16 44 44.1	-0.1
BRSE					Sn	16 45 27.6	-0.8
BRSE	Bradley Lake S baz=175	3.75	355	P	Pn	16 44 44.1	-0.1
BRSE				S	Sn	16 45 27.6	-0.8
BRLK	Bradley Lake	3.78	354		Pn	16 44 44.4	-0.3
BRLK					Sn	16 45 27.4	-1.8
BRLK	Bradley Lake comp=N,22nm,1.2s	3.78	354	IAML		16 45 31.0	
BRLK				IAML		16 45 32.4	
CNTC	Contact Creek comp=E,28nm,0.3s	3.85	308		Pn	16 44 45.4	-0.3
Q17K	Contact Creek baz=123	3.85	308	P	Pn	16 44 45.4	-0.3
Q23K	Middleton Isla	3.99	29		Pn	16 44 47.7	+0.2
Q23K	Middleton Isla baz=213	3.99	29	P	Pn	16 44 47.7	+0.2
MID	Middleton Isla	3.99	29		Pn	16 44 47.7	+0.3
P19K	Oil Pt	4.00	337		Sn	16 45 34.9	+0.3
P19K	Oil Pt	4.00	337	Pn	Pn	16 44 48.8	+1.0
P19K	Oil Pt comp=E,72nm,0.5s	4.00	337	IAML		16 45 37.9	
P19K				IAML		16 45 38.2	
P19K	Oil Pt comp=N,105nm,0.6s	4.00	337	S	Sn	16 45 34.9	+0.3
SEW	Seward baz=154	4.12	5		Pn	16 44 48.9	-0.4
SEW	Seward baz=186	4.12	5	P	Pn	16 44 48.8	-0.4
P23K	Montague Islan	4.25	19		Pn	16 44 51.3	+0.1
P23K	Montague Islan baz=202	4.25	19	P	Pn	16 44 51.3	+0.1
ILSW	Iliamna Southw	4.29	339	Pn	Pn	16 44 51.9	+0.2
ILSW				IAML		16 45 45.7	
ILSW	comp=N,28nm,1.2s			IAML		16 47 44.2	
P18K	Big Mountain, comp=E,22nm,1.5s	4.34	323		Pn	16 44 53.1	+0.7
P18K	Big Mountain, baz=139	4.34	323	P	Pn	16 44 53.1	+0.7
O22K	Cooper Landing	4.49	3	Pn	Pn	16 44 54.2	-0.1
O22K				IAML		16 45 34.7	
O22K	comp=E,63nm,1.4s			IAML		16 45 52.6	
SLKM	comp=N,65nm,1.1s Skilak Lake	4.51	360		Pn	16 44 54.2	-0.4
CHGN	Chignik	4.63	277		Pn	16 44 57.2	+1.0
CHGN	Chignik comp=E,36nm,1.2s	4.63	277	IAML		16 45 45.5	
CHGN				IAML		16 45 52.6	
CHGN	comp=N,38nm,0.9s Chignik baz=90	4.63	277	P	Pn	16 44 57.2	+1.0
P17K	Kvichak River	4.65	316		Pn	16 44 58.2	+1.7
P17K	Kvichak River baz=130	4.65	316	P	Pn	16 44 58.2	+1.7
O18K	Koktuh Hills	4.70	327		Pn	16 44 57.8	+0.5
O18K	Koktuh Hills comp=E,19nm,1.0s	4.70	327	IAML		16 45 52.7	
O18K				IAML		16 45 54.7	
O18K	comp=N,14nm,1.0s Koktuh Hills baz=143	4.70	327	P	Pn	16 44 57.8	+0.5
HIN	Hinchinbrook I	4.80	22		Pn	16 44 59.3	+0.6
HIN	Hinchinbrook I comp=N,61nm,1.2s	4.80	22	IAML		16 48 01.1	
KAIM	Kayak Island	4.97	36		Pn	16 45 01.4	+0.5
KAIM	Kayak Island baz=221	4.97	36	P	Pn	16 45 01.4	+0.5
RC01	Rabbit Creek A	5.09	2	Pn	Pn	16 45 03.0	+0.3
RC01				IAML		16 48 02.2	
RC01	comp=E,48nm,0.4s			IAML		16 48 04.0	
EYAK	comp=N,60nm,0.3s Cordova Ski Ar	5.11	25		Pn	16 45 03.2	+0.4
EYAK	Cordova Ski Ar baz=209	5.11	25	P	Pn	16 45 03.2	+0.4
P16K	Nushagak River	5.19	309		Pn	16 45 05.2	+1.2
P16K	Nushagak River baz=122	5.19	309	P	Pn	16 45 05.2	+1.2
RAGM	Ragged Mountai	5.25	31		Pn	16 45 05.3	+0.4
RAGM	Ragged Mountai comp=E,47nm,1.2s	5.25	31	IAML		16 46 06.2	
SUCK	Suckling Hills	5.29	37		Pn	16 45 05.9	+0.5
SUCK	Suckling Hills comp=E,58nm,1.4s	5.29	37	IAML		16 47 37.4	
SUCK				IAML		16 48 38.4	
N19K	comp=N,44nm,1.5s Bonanza Creek	5.32	336		Pn	16 45 06.2	+0.3
N19K	Bonanza Creek comp=E,8.6nm,1.4s	5.32	336	IAML		16 46 17.2	
N19K	Bonanza Creek baz=153	5.32	336	P	Pn	16 45 06.2	+0.3
HMT	Hamilton	5.34	33		Pn	16 45 07.1	+1.0
HMT	Hamilton comp=N,40nm,1.4s	5.34	33	IAML		16 46 53.0	
GOAT	Goat Mountain	5.40	30		Pn	16 45 07.8	+0.9
SUA	Susitna One	5.47	357	Pn	Pn	16 45 07.7	-0.3
KNK	Knik Glacier	5.49	9	Pn	Pn	16 45 08.2	+0.1
O16K	Kokwok River B	5.56	313	Pn	Pn	16 45 10.3	+1.3
N18K	Kilae Creek	5.57	330	Pn	Pn	16 45 09.8	+0.6
STLK	Strandline Lak	5.57	352		Pn	16 45 09.3	+0.1
DIV	Divide	5.62	22		Pn	16 45 10.8	+0.8
SNH	Sunshine Point	5.70	40	Pn	Pn	16 45 11.3	+0.3
KHIT	Khitrov Hills	5.75	37		Pn	16 45 12.4	+0.7
BMRM	Bremner River	5.76	28		Pn	16 45 12.4	+0.6
BMRM	Bremner River baz=213	5.76	28	P	Pn	16 45 12.4	+0.6
GHO	Glory Hole Cre	5.81	6	Pn	Pn	16 45 13.3	+0.7
SVW2	Sparrevohn	5.83	333	Pn	Pn	16 45 13.3	+0.5
SDPT	Sand Point	5.88	268	Pn	Pn	16 45 14.1	+0.7
WAX	Waxell Ridge	5.89	38		Pn	16 45 14.3	+0.7
SML	Sawmill	5.89	8	Pn	Pn	16 45 14.3	+0.7
KLU	Klutina	5.92	20		Pn	16 45 14.9	+0.8
KLU	Klutina baz=204	5.92	20	P	Pn	16 45 14.9	+0.8
SCM	Sheep Creek Mo	6.02	13		Pn	16 45 16.3	+0.9
SCM	Sheep Creek Mo baz=195	6.02	13	P	Pn	16 45 16.3	+0.9
SKT	Skwentna	6.03	354	Pn	Pn	16 45 15.6	+0.1
MESA	MESA	6.03	43	Pn	Pn	16 45 16.3	+0.6
M20K	Styx River	6.08	347	Pn	Pn	16 45 16.5	+0.1
ISLE	Juniper Island	6.17	39		Pn	16 45 18.3	+0.7
BAGL	Bagley Icefiel	6.18	40		Pn	16 45 18.4	+0.8
VRDI	Verde Repeater	6.29	31	Pn	Pn	16 45 19.8	+0.5
M19K	Big River Lodg	6.30	341	Pn	Pn	16 45 19.7	+0.5
N25K	Chitina, Valde	6.31	25		Pn	16 45 20.6	+1.2
N25K	Chitina, Valde baz=210	6.31	25	P	Pn	16 45 20.6	+1.2
GLB	Gilahina Butte	6.37	29		Pn	16 45 21.0	+0.8
KIAG	Kiagna River	6.40	36		Pn	16 45 21.5	+0.8
M24K	Tolsona, Glenn	6.45	17	Pn	Pn	16 45 21.8	+0.5
TABL	Table Mountain	6.50	43	Pn	Pn	16 45 22.9	+0.6
MCARA	McCarthy VSAT	6.54	32		Pn	16 45 23.1	+0.6
MCARA	McCarthy VSAT baz=218	6.54	32	P	Pn	16 45 23.1	+0.6
M17K	Holitna River	6.60	328	Pn	Pn	16 45 24.4	+1.1
L19K	White Mountain	6.64	341	Pn	Pn	16 45 24.1	+0.2
PCA	Pinnacle	6.66	48	Pn	Pn	16 45 24.5	+0.3
PINM	Pinnacle baz=237	6.66	48	P	Pn	16 45 24.5	+0.3
WASW	Wrangell South	6.69	25		Pn	16 45 25.9	+1.2
PN7A	Pavlof North-7	6.72	270		Pn	16 45 25.4	+0.4
BARN	Barnard Glacie	6.73	38		Pn	16 45 26.3	+1.0
CTGM	Chitina Glacie	6.78	39	Pn	Pn	16 45 26.4	+0.5
O14K	Tigyukauivet M	6.79	303	Pn	Pn	16 45 27.3	+1.3
LOGN	Logan Glacier	6.81	41	Pn	Pn	16 45 26.7	+0.4
PNL	Peninsula	6.81	53		Pn	16 45 27.4	+1.2
PNL	Peninsula baz=242	6.81	53	P	Pn	16 45 27.4	+1.2
M16K	Timber Creek	6.81	321	Pn	Pn	16 45 27.6	+1.4
DHY	Denali Highway	7.22	10		Pn	16 45 33.0	+1.0
DHY	Denali Highway baz=193	7.22	10	P	Pn	16 45 33.0	+1.0
RND	Reindeer	7.45	5	Pn	Pn	16 45 35.4	+0.4
L16K	Owhat River	7.48	324	Pn	Pn	16 45 36.7	+1.3
O29M	Mount Kennedy	7.48	50		Pn	16 45 36.5	+1.0
O29M	Mount Kennedy baz=240	7.48	50	P	Pn	16 45 36.6	+1.0
TTA	Tatalina	7.55	339	Pn	Pn	16 45 36.8	+0.4
P29M	Windy Craggy	7.55	56		Pn	16 45 36.7	+0.2
P29M	Windy Craggy baz=247	7.55	56	P	Pn	16 45 36.7	+0.2
KTH	Kantishna Hill	7.57	357	Pn	Pn	16 45 37.1	+0.3
S31K	Pelican	7.85	70	Pn	Pn	16 45 39.8	-0.7
S31K	Pelican baz=262	7.85	70	P	Pn	16 45 39.7	-0.7
BPAW	Bear Paw Mtn.	8.12	357		Pn	16 45 43.9	-0.3
BPAW	Bear Paw Mtn. baz=177	8.12	357	P	Pn	16 45 45.5	+1.3
MDM	Murphy Dome	9.03	5	Pn	Pn	16 45 56.8	+0.3
J26L	Joseph Creek	9.12	18	Pn	Pn	16 45 58.1	+0.2
I23K	Minto, Yukon-K	9.17	2	Pn	Pn	16 45 59.4	+0.9
I21K	Tanana	9.24	355	Pn	Pn	16 45 60.0	+0.5
P32M	Atlin	9.47	61	Pn	Pn	16 46 03.4	+0.6
H21K	Melozitna Rive	9.76	354	Pn	Pn	16 46 07.3	+0.6
P33M	Teslin, Yukon	10.08	58	Pn	Pn	16 46 11.4	+0.3

IDC 12 16:45:04.5±1.9,0.38S×126.09E,h0km,mb3.2/3,
mbtmp3.3/3,Error ellipse: s-maj=180.4km
s-min=26.1km az=65.0,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr 0.4nm,0.6s,baz=334,slow=11,SNR=2.5 0.4nm,0.6s	21.05	158	P	P	16 49 52.1	+1.8
ASAR	Alice Springs 0.2nm,0.6s,baz=356,slow=8.2,SNR=12 0.2nm,0.6s	24.36	162	P	P	16 50 23.4	-1.0
MKAR	Makanchi Array 0.4nm,0.5s,baz=110,slow=8.2,SNR=6.7 0.4nm,0.5s	60.59	327	P	P	16 55 17.1	0.0

*IDC **12** 16:47:55.3±1.5,38.33N×27.70E,h0km,mb3.7/4,mbtmp3.6/6,ML3.1/2,MS2.8/6,Error ellipse: s-maj=44.2km s-min=18.9km az=154.0*
*AFAD **12** 16:47:56.0±0.0,38.38N×27.71E,h7km±4km,MW3.7*
*THE **12** 16:47:56.6,38.34N×27.72E,h1km±1km,ML3.9/7,Error ellipse: s-maj=1.6km s-min=0.7km az=104.0*
*ISK **12** 16:47:56.3,38.41N×27.71E,h7km,ML3.8/47*
*ATH **12** 16:47:57.5,38.40N×27.64E,h10km±2km,ML3.6/18,Error ellipse: s-maj=2.8km s-min=1.0km az=207.0*

ISC 12 16:47:56.6±0.9,38.39N±0.02×27.71E±0.02,h13km±7km,
n147,σ1s25/171,mb3.5/4,MS2.9/3,12C-10D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IZMR	zmir-demi	0.32	142	P	Pg	16 48 03.0	-0.1
IZMR				P	Pg	16 48 03.0	-0.1
IZMR				S	Sg	16 48 07.0	-0.4
IZMR				S	Sb	16 48 07.1	-2.1
GOMA	Golmarmara-Man	0.36	27	Pg	Pg	16 48 03.3	-0.6
AKS	Akhisar	0.50	10	Pg	Pg	16 48 05.9	-0.6
BLCB	Balcova	0.52	270	Pg	Pg	16 48 06.9	+0.1
BLCB	Balcova	0.52	270	P	Pg	16 48 07.0	+0.1
KIRA	zmir-Kiraz	0.58	109	P	Pg	16 48 07.8	-0.1
KI

BUHA	**Balikesir, Bur**	**1.22 336**	P	**Pg**	**16 48 19.4**	**-0.6**
BUHA			S	**Sg**	**16 48 35.2**	**-0.7**
SIMA	**Simav-Kutahya**	**1.22 55**	Pn	**Pb**	**16 48 19.7**	**+0.1**
SMAA	**Simav-Kutahya**	**1.23 54**	Pn	**Pn**	**16 48 19.9**	**+0.3**
CHOS	**Chios island**	**1.30 271**	Pn	**Pg**	**16 48 21.6**	**0.0**
CHOS	**Chios island**	**1.30 271**	P	**Pn**	**16 48 20.8**	**+0.3**
CHOS			S	**Sn**	**16 48 40.0**	**+2.2**
	comp=N,3μm,0.5s					
CHOS	**Chios island**	**1.30 271**	P	**Pn**	**16 48 20.4**	**-0.1**
CHOS			S	**Sb**	**16 48 36.8**	**-0.7**
CHOS			AML	AML	16 48 42.4	
	comp=N,6260μm,0.5s					
CHOS			AML	AML	16 48 46.7	
	comp=E,7180μm,0.5s					
YKAV	**Yalikavak-Bodr**	**1.30 195**	Pn	**Pg**	**16 48 21.9**	**+0.2**
BKES	**Balkesir-Mer**	**1.36 7**	P	**Pn**	**16 48 21.2**	**-0.1**
BKES			S	**Sb**	**16 48 38.4**	**-0.8**
BODT	**Bodrum**	**1.36 193**	Pn	**Pg**	**16 48 22.4**	**-0.3**
BODT	**Bodrum**	**1.36 193**	P	**Pn**	**16 48 20.9**	**-0.4**
DST	**Dursunbey**	**1.41 30**	Pn	**Pb**	**16 48 22.9**	**+0.1**
PRK	**Paraskevi**	**1.41 308**	P	**Pn**	**16 48 22.3**	**+0.3**
PRK			S	**Sg**	**16 48 43.1**	**+1.0**
	comp=E,8μm,0.4s					
PRK	**Paraskevi**	**1.41 308**	P	**Pn**	**16 48 22.1**	**+0.1**
PRK			S	**Sb**	**16 48 39.4**	**-1.4**
PRK			AML	AML	16 48 44.2	
	comp=E,15161μm,0.3s					
PRK			AML	AML	16 48 44.6	
	comp=N,18183μm,0.5s					
KHL	**Karahalli**	**1.43 92**	Pn	**Pb**	**16 48 23.4**	**+0.2**
GEDZ	**Gediz**	**1.49 63**	Pn	**Pb**	**16 48 24.0**	**-0.2**
BLKS	**Balkesir-Sus**	**1.50 8**	P	**Pn**	**16 48 23.0**	**-0.3**
BLKS			S	**Sn**	**16 48 40.7**	**-2.1**
KLNA	**Kalymnos**	**1.54 202**	P	**Pn**	**16 48 24.5**	**+0.7**
KLNA			AML	AML	16 48 51.6	
	comp=N,2753μm,0.3s					
KLNA			AML	AML	16 48 51.7	
	comp=E,3618μm,0.3s					
APMY	**Acipayam-Deniz**	**1.56 125**	Pn	**Pn**	**16 48 24.7**	**+0.6**
BAYC	**CANAKKALE_Bayr**	**1.63 327**	P	**Pn**	**16 48 24.8**	**-0.3**
BAYC			S	**Sn**	**16 48 45.2**	**-0.6**
GPNR	**Gulpinar-Canak**	**1.63 312**	Pn	**Pn**	**16 48 25.9**	**+0.9**
KOCA	**Canakkale, Ayv**	**1.66 313**	P	**Pn**	**16 48 25.3**	**-0.1**
KOCA			S	**Sn**	**16 48 47.6**	**+1.1**
DAT	**Datca**	**1.66 184**	Pn	**Pb**	**16 48 26.8**	**-0.3**
DAT	**Datca**	**1.66 184**	P	**Pn**	**16 48 25.3**	**-0.2**
GONE	**Gonen-Balikesi**	**1.66 359**	Pn	**Pn**	**16 48 25.4**	**0.0**
SIGR	**SIGRI**	**1.67 300**	Pn	**Pn**	**16 48 26.5**	**+1.0**
SIGR	**SIGRI**	**1.67 300**	P	**Pn**	**16 48 26.0**	**+0.5**
SIGR			S	**Sb**	**16 48 49.2**	**+1.2**
	comp=E,3μm,0.6s					
SIGR	**SIGRI**	**1.67 300**	P	**Pn**	**16 48 25.5**	**0.0**
SIGR			S	**Sn**	**16 48 45.4**	**-1.3**
SIGR			AML	AML	16 48 51.6	
	comp=N,5986μm,0.6s					
SIGR			AML	AML	16 48 54.1	
	comp=E,5039μm,0.7s					
PSRA	**Psara**	**1.69 276**	P	**Pn**	**16 48 25.4**	**-0.4**
PSRA			AML	AML	16 48 53.2	
	comp=N,4748μm,0.3s					
PSRA			AML	AML	16 48 55.0	
	comp=E,4551μm,0.4s					
CANM	**Can-anakkale**	**1.70 343**	Pn	**Pn**	**16 48 26.1**	**+0.1**
TVSB	**Tavsanli**	**1.73 52**	Pn	**Pn**	**16 48 27.5**	**+0.9**
DALY	**Dalyan (Mula)**	**1.74 154**	Pn	**Pb**	**16 48 28.2**	**-0.2**
EZN	**Ezine**	**1.79 324**	Pn	**Pn**	**16 48 28.3**	**+1.0**
EZN	**Ezine**	**1.79 324**	P	**Pn**	**16 48 27.5**	**+0.2**
EZN			S	**Sg**	**16 48 53.4**	**-1.0**
	comp=E,1μm,0.5s					
NISR	**Nisiros**	**1.83 195**	P	**Pn**	**16 48 28.6**	**+0.9**
ORLT	**Orhaneli**	**1.90 29**	Pn	**Pn**	**16 48 29.7**	**+0.9**
BASM	**Basmaki-Afyon**	**1.91 103**	Pn	**Pn**	**16 48 29.6**	**+0.7**
KCTX	**Karacabey (Bur**	**1.94 15**	Pn	**Pn**	**16 48 30.2**	**+0.8**
COMU	**Canakkale**	**1.96 331**	Pn	**Pn**	**16 48 30.5**	**+0.9**
EDC	**Edincik**	**1.96 4**	Pn	**Pn**	**16 48 29.7**	**+0.1**
KRBG	**Karabiga-Canak**	**2.03 351**	Pn	**Pn**	**16 48 30.6**	**+0.1**
LPK	**Lapseki**	**2.12 340**	Pn	**Pn**	**16 48 32.4**	**+0.7**
APE	**Apeiranthos**	**2.17 233** ⇑P		**Pg**	**16 48 38.0**	**-0.2**
APE			S	**Sg**	**16 49 09.6**	**+3.3**
APE	**Apeiranthos**	**2.17 233**	P	**Pn**	**16 48 32.2**	**-0.3**
APE	**Apeiranthos**	**2.17 233**	P	**Pn**	**16 48 32.1**	**-0.3**
APE			AML	AML	16 49 11.1	
	comp=N,1060μm,0.6s					
APE			AML	AML	16 49 14.0	
	comp=E,1144μm,0.4s					
MDNY	**Mudanya-Bursa**	**2.18 24**	Pn	**Pn**	**16 48 33.7**	**+1.1**
ARG	**Arkhangelos**	**2.19 171**	P	**Pn**	**16 48 33.5**	**+0.8**
ARG			AML	AML	16 49 06.5	
	comp=N,1206μm,1.1s					
ARG			AML	AML	16 49 15.7	
	comp=E,954μm,0.9s					
MRMT	**Marmara Adasi**	**2.22 358**	Pn	**Pn**	**16 48 34.8**	**+1.6**
GELI	**Tayfur-Gelibol**	**2.23 335**	Pn	**Pn**	**16 48 34.1**	**+0.9**
SHUT	**Suhut-Afyon**	**2.24 85**	Pn	**Pn**	**16 48 34.9**	**+1.4**
GADA	**Gvkgeada**	**2.28 323**	Pn	**Pn**	**16 48 34.3**	**+0.3**
RKY	**Sarkoy-Tekirda**	**2.33 350**	Pn	**Pn**	**16 48 35.9**	**+1.1**
GEMT	**Gemlik**	**2.35 29**	Pn	**Pn**	**16 48 36.3**	**+1.4**
ARMT	**Armutlu**	**2.35 22**	Pn	**Pn**	**16 48 36.4**	**+1.4**
EFSA	**Agios Efstrati**	**2.41 299**	P	**Pn**	**16 48 37.2**	**+1.5**
EFSA			AML	AML	16 49 17.6	
	comp=N,1446μm,0.9s					
EFSA			AML	AML	16 49 25.6	
	comp=E,1340μm,1.1s					
CAVI	**Cavuskoy**	**2.46 42**	Pn	**Pn**	**16 48 37.6**	**+1.2**
ERIK	**Erikli-Kesan**	**2.46 338**	Pn	**Pn**	**16 48 37.9**	**+1.4**
LIA	**Limnos Island**	**2.48 308**	P	**Pn**	**16 48 37.5**	**+0.9**
LIA	**Limnos Island**	**2.48 308**	P	**Pn**	**16 48 37.0**	**+0.3**
LIA			AML	AML	16 49 20.3	
	comp=N,2302μm,0.5s					
LIA			AML	AML	16 49 23.8	
	comp=E,2581μm,0.6s					
ENZZ	**Sultanice-Enez**	**2.53 332**	Pn	**Pn**	**16 48 39.3**	**+1.9**
YLV	**Yalova**	**2.53 30**	Pn	**Pn**	**16 48 38.9**	**+1.4**
ADVT	**Abdulvahap**	**2.58 37**	Pn	**Pn**	**16 48 39.8**	**+1.7**
ENEZ	**Enez**	**2.64 333**	P	**Pn**	**16 48 39.8**	**+0.9**
SMTH	**Samothraki Isl**	**2.68 322**	P	**Pn**	**16 48 39.8**	**+0.3**
SMTH	**Samothraki Isl**	**2.68 322**	P	**Pn**	**16 48 39.6**	**+0.1**
SMTH			AML	AML	16 49 23.6	
	comp=N,975μm,0.6s					
SMTH			AML	AML	16 49 29.9	
	comp=E,623μm,0.7s					
KSL	**Kastellorizon**	**2.69 146**	P	**Pn**	**16 48 41.4**	**+1.9**
KSL			AML	AML	16 49 32.6	
	comp=N,358μm,0.8s					
KSL			AML	AML	16 49 32.9	
	comp=E,588μm,1.3s					
SNT5	**Nea Kammeni, S**	**2.70 224**	P	**Pb**	**16 48 42.6**	**-2.2**
THR6	**Thira Island,**	**2.74 223**	P	**Pn**	**16 48 42.3**	**+2.1**
ALN	**Alexandroupoli**	**2.82 333**	P	**Pn**	**16 48 42.5**	**+1.2**
ALN	**Alexandroupoli**	**2.82 333**	P	**Pn**	**16 48 41.2**	**-0.1**
ALN			AML	AML	16 49 27.7	
	comp=E,1700μm,0.5s					
ALN			AML	AML	16 49 28.0	
	comp=N,2930μm,0.5s					
KYMI	**Kymi, Euboea I**	**2.84 276**	P	**Pn**	**16 48 42.9**	**+1.3**
KYMI			AML	AML	16 49 37.5	
	comp=N,240μm,1.0s					
KYMI			AML	AML	16 49 40.2	
	comp=E,292μm,0.7s					
KARP	**Karpathos**	**2.87 189**	P	**Pn**	**16 48 41.9**	**-0.2**
KARP	**Karpathos**	**2.87 189**	P	**Pn**	**16 48 42.1**	**0.0**
KARP			AML	AML	16 49 40.0	
	comp=E,391μm,1.1s					
KARP			AML	AML	16 49 42.8	
	comp=N,403μm,1.0s					
DION	**Dionisos Attik**	**2.99 265**	P	**Pn**	**16 48 43.4**	**-0.3**
DION			AML	AML	16 49 38.2	
	comp=E,764μm,0.9s					
DION			AML	AML	16 49 38.8	
	comp=N,600μm,0.7s					
THAS	**Thassos island**	**3.20 315**	P	**Pn**	**16 48 46.7**	**0.0**
THAS			S	**Sn**	**16 49 21.8**	**-2.9**
RDO	**Rodhopi**	**3.22 329**	P	**Pn**	**16 48 47.6**	**+0.6**
RDO			S	**Sn**	**16 49 23.2**	**-2.0**
RDO			AML	AML	16 49 42.5	
	comp=E,399μm,0.4s					
RDO			AML	AML	16 49 46.5	
	comp=N,535μm,0.8s					
OUR	**Ouranopolis**	**3.48 305**	P	**Pn**	**16 48 50.9**	**+0.4**
OUR			AML	AML	16 49 50.5	
	comp=N,302μm,0.6s					
OUR			AML	AML	16 49 51.7	
	comp=E,303μm,0.5s					

VIL2	**Platees**	**3.50 269**	P	**Pn**	**16 48 51.1**	**+0.4**
KAVA	**Kavala**	**3.59 318**	P	**Pn**	**16 48 51.8**	**-0.1**
KDZ	**Kurdzhali**	**3.71 331**	*e*P	**Pb**	**16 49 04.9**	**+2.8**
IDI	**Anoyia**	**3.83 217**	P	**Pn**	**16 48 56.8**	**+1.4**
DIM	**Dimitrovgrad**	**4.00 337**	*e*P	**Pg**	**16 49 10.4**	**-2.9**
JMB	**Yambol**	**4.20 348**	*e*P	**Pb**	**16 49 07.6**	**-2.7**
MMB	**Musomishta**	**4.38 317**	*e*P	**Pn**	**16 49 02.4**	**-0.5**
PLD	**Plovdiv**	**4.39 330**	*e*P	**Pg**	**16 49 21.1**	**+0.5**
KNT	**Kendrikon**	**4.63 308**	P	**Pn**	**16 49 07.4**	**+1.2**
ELND	**Elena**	**4.75 344** ⇑P		**Pn**	**16 49 08.5**	**+0.6**
ELND			⇓S	**Sn**	**16 50 02.9**	**+0.1**
PRD	**Provadia**	**4.78 357**	*e*P	**Pg**	**16 49 28.0**	**-0.1**
BRTR	**Keskin Array B**	**4.81 72**	Pn	**Pn**	**16 49 10.2**	**+1.3**
	comp=E,0.2nm,0.3s,baz=259,slow=13,SNR=6.2					
BRTR			Pg	**Pb**	**16 49 23.5**	**+2.7**
	comp=E,0.3nm,0.3s,baz=248,slow=14,SNR=6.3					
BRTR			Sn	**Sn**	**16 50 07.2**	**+2.6**
	baz=260,slow=17,SNR=1.7					
BRTR			Lg	Lg	16 50 31.1	
	baz=221,slow=43					
BRTR			LR	LR	16 51 32.4	
	comp=E,56nm,18.8s,baz=302,slow=45					
	comp=E,0.6nm,0.4s					
SZH	**Strazhitsa**	**5.05 345**	*e*P	**Pg**	**16 49 33.4**	**+0.1**
VTS	**Vitosha**	**5.43 323**	*e*P	**Pn**	**16 49 20.2**	**+2.8**
VTS			*e*S	**Sn**	**16 50 20.8**	**+1.0**
MPEP	**Malo Peshtene**	**5.80 330**	*e*P	**Pn**	**16 49 25.7**	**+3.3**
NEHR	**Nehoiu**	**7.12 352** ⇑P		Pn	16 49 48.7	+8.2
BISRR	**Bisoca**	**7.20 354** ⇑P		**Pn**	**16 49 46.3**	**+4.8**
MLR	**Muntele Rosu**	**7.22 350** ⇑P		Pn	16 49 49.5	+7.5
VOIR		**7.32 345** ⇓P		**Pn**	**16 49 45.1**	**+1.8**
SPBR	**Spulber**	**7.39 355** ⇓P		Pn	16 49 53.4	+9.1
PLOR	**Plostina**	**7.50 354** ⇑P		Pn	16 49 55.5	+10
VRI	**Vrincioaia**	**7.51 355** ⇑P		Pn	16 49 55.1	+9.3
COVR	**Voineasa-Covas**	**7.54 352** ⇓P		Pn	16 49 53.6	+7.4
HERR	**Herculane**	**7.60 330** ⇓P		**Pn**	**16 49 45.7**	**-1.4**
TURR	**Turia**	**7.77 351** ⇓P		Pn	16 49 57.5	+8.1
DOPR	**Dopca**	**7.77 348** ⇓P		Pn	16 49 55.8	+6.4
MDVR	**Moldovita**	**7.81 327** ⇑P		**Pn**	**16 49 47.3**	**-2.6**
OZUR		**7.83 350** ⇓P		**Pn**	**16 49 52.9**	**+2.6**
GZR	**Gura Zlata**	**7.91 334** ⇑P		**Pn**	**16 49 48.9**	**-2.4**
TESR	**Tescani**	**8.16 355** ⇑P		Pn	16 50 00.3	+5.6
MMAI	**Mount Meron Ar**	**8.24 128**	Pn	**Pn**	**16 49 55.5**	**-0.4**
	comp=E,1.0nm,0.3s,baz=311,slow=13,SNR=7.4					
MMAI			Sn	**Sn**	**16 51 24.0**	**-4.9**
	comp=E,1.0nm,0.3s,baz=306,slow=27,SNR=3.6					
	comp=E,2.6nm,0.5s					
SURR	**Surduc**	**8.45 332** ⇑P		**Pn**	**16 49 56.7**	**-2.0**
BZS	**Buzias**	**8.53 330** ⇑P		**Pn**	**16 49 58.2**	**-1.6**
MARR	**Marisel-Cluj**	**8.95 339** ⇓P		**Pn**	**16 50 06.9**	**+1.3**
DRGR		**9.17 338** ⇓P		**Pn**	**16 50 09.4**	**+0.7**
AKASG	**Malin Array Be**	**12.36 5**	LR	LR	16 55 30.3	
	comp=E,37nm,20.7s,baz=220,slow=37					
KBZ	**Khabaz**	**12.64 60**	LR	LR	16 56 43.9	
	comp=E,28nm,19.4s,baz=332,slow=42					
HFS	**Hagfors**	**23.51 342**	LR	LR	17 02 53.4	
	comp=E,37nm,18.6s,baz=223,slow=38					
NOA	**NORSAR Array B**	**24.91 341**	LR	LR	17 05 07.4	
	comp=E,7.1nm,20.9s,baz=330,slow=41					
TORD	**Torodi Ar. Bea**	**34.13 230**	P	**P**	**16 54 41.7**	**+0.4**
	comp=E,2nm,0.4s,baz=23,slow=9.4,SNR=2.5					
	comp=E,0.2nm,0.4s					
KURBB	**Kurchatov Arra**	**37.54 54**	P	**P**	**16 55 11.0**	**+0.7**
	comp=E,0.7nm,0.2s,baz=277,slow=9.0,SNR=5.9					
	comp=E,0.7nm,0.2s					
MKAR	**Makanchi Array**	**40.34 60**	P	**P**	**16 55 34.9**	**+1.1**
	comp=E,0.6nm,0.9s,baz=294,slow=7.3,SNR=4.6					
	comp=E,0.6nm,0.9s					
ZALV	**Zalesovo Beam**	**41.32 49**	P	**P**	**16 55 43.3**	**+1.6**
	comp=E,0.4nm,0.3s,baz=289,slow=8.8,SNR=2.4					
	comp=E,0.4nm,0.3s					
TKL	**Tuckaleechee C**	**82.85 310**	LR	LR	17 38 13.5	
	comp=E,32nm,18.6s,baz=86,slow=36					

DJA 12 16:52:28.6±0.5, 8°S±4°×12°9E±°, h95km±34km, M4.0/8, mb3.8/6, MLv4.1/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.02**	**100**	P	Pn	16 53 01.2	-0.1
BNDI	**Bandanaira**	**3.16**	**11**	P	Pn	16 53 15.8	-0.6
SOEI	**Soe**	**5.39**	**247**	P	Pn	16 53 47.3	+0.6
	18nm,1.1s,0.1nm						
BATI	**Baumata**	**6.12**	**245**	P	Pn	16 53 56.3	-0.2
	17nm,1.1s,0.1nm						
SWI	**Sorong**	**7.01**	**16**	P	Pn	16 54 09.1	+0.4
LBMI	**Labuha**	**7.18**	**346**	P	Pn	16 54 10.9	-0.1
	18nm,2.0s,0.1nm						

IDC 12 17:05:01.8±1.8, 24°63N×96°53E, h0km, mb3.0/2, mbtmp2.9/3, ML2.9/1, Error ellipse: s-maj=71.4km s-min=20.0km az=73.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**6.54**	**159**	Pn	Pn	17 06 38.6	-0.7
	0.1nm,0.3s,baz=331,slow=13,SNR=2.3						
CMAR				Pg	Pb	17 07 01.6	+5.2
	0.1nm,0.3s,baz=338,slow=16,SNR=2.7						
CMAR				Lg	Lg	17 08 29.8	
	0.1nm,0.3s,baz=354,slow=23,SNR=4.1						
SONM	**Songino Array**	**24.45**	**16**	P	P	17 10 22.5	+0.1
	0.1nm,0.5s,baz=189,slow=8.5,SNR=1.3						
	0.1nm,0.5s						
MKAR	**Makanchi Array**	**24.88**	**336**	P	P	17 10 26.1	0.0
	0.5nm,0.7s,baz=145,slow=8.9,SNR=6.4						
	0.5nm,0.7s						

JMA 12 17:27:02.5±0.2, 24°2N±0°4×123°8E±0°4, h18km±1km, MV0.5/8, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.12**	**322**	P	Pg	17 27 06.2	0.0
JKRS	**Kuro-shima**	**0.18**	**91**	*i* P	Pg	17 27 07.1	0.0
JKRS				*e*S	Sb	17 27 10.6	+0.1
HATJ	**Hateruma jima**	**0.18**	**181**	*i* P	Pg	17 27 07.0	-0.2
HATJ				*e*S	Sg	17 27 10.3	0.0
JIJ	**Ishigaki jima**	**0.33**	**68**	P	Pg	17 27 09.2	-0.3
JIJ				*e*S	Sg	17 27 13.9	-0.3
JISG	**Ishigakijimahi**	**0.57**	**53**	*e*P	Pg	17 27 13.8	-0.1
JISG				*e*S	Sg	17 27 21.6	0.0
JYNG	**Yonagunijimaku**	**0.81**	**285**	*e*S	Sg	17 27 29.9	+0.7
JTJ	**Tarama**	**0.91**	**64**	*i* S	Sb	17 27 29.8	-1.7

TAP 12 17:27:39.9, 24°68N×121°73E, h10km, ML1.3, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NDS	**Dongshan**	**0.05**	**191**	P	Pg	17 27 41.9	0.0
	baz=190						
NDS				*e*S	Sg	17 27 43.1	-0.2
	baz=190						
TWE	**Neicheng**	**0.07**	**307**	P	Pg	17 27 42.0	-0.1
	baz=313						
TWE				S	Sg	17 27 43.3	-0.3
	baz=313						
TWC	**Suao**	**0.13**	**123**	P	Pg	17 27 43.0	0.0
	baz=120						
TWC				*e*S	Sg	17 27 46.4	+1.3
	baz=120						
FUSB	**Fushanzhiwuyua**	**0.15**	**302**	P	Pg	17 27 43.4	+0.1
	baz=301						
FUSB				*e*S	Sg	17 27 45.7	+0.1
	baz=301						
ESAO	**Su ao**	**0.15**	**134**	P	Pg	17 27 43.2	0.0
	baz=134						
ESAO				*e*S	Sg	17 27 45.1	-0.4
	baz=134						
NDT	**Datong Townshi**	**0.21**	**248**	*e*P	Pg	17 27 44.2	0.0
	baz=248						
NDT				*e*S	Sg	17 27 47.3	0.0
	baz=248						
NWLT	**Wulai**	**0.23**	**295**	P	Pg	17 27 44.7	+0.1
	baz=295						
NWLT				*e*S	Sg	17 27 47.6	-0.1
	baz=295						
LATG	**Datong**	**0.23**	**231**	P	Pg	17 27 44.9	+0.1
	baz=231						
LATG				*e*S	Sg	17 27 48.9	+0.9
	baz=231						
EWUT	**Wuta**	**0.24**	**169**	P	Pg	17 27 45.0	+0.2
	baz=168						
EWUT				S	Sg	17 27 48.2	+0.2
	baz=168						
ENA	**Nanau**	**0.25**	**177**	P	Pg	17 27 45.2	+0.2
	baz=175						
ENA				*e*S	Sg	17 27 48.6	+0.1
	baz=175						
TIPB	**Shuangxi**	**0.30**	**17**	P	Pg	17 27 46.0	0.0
	baz=17						
TIPB				*e*S	Sg	17 27 49.8	-0.3
	baz=17						
YHNB	**Yeheng**	**0.32**	**268**	P	Pg	17 27 46.4	+0.1
	baz=267						
YHNB				S	Sg	17 27 50.3	-0.3
	baz=267						
NSK	**Sanguang**	**0.34**	**269**	*e*P	Pg	17 27 46.6	0.0
	baz=268						
NSK				*e*S	Sg	17 27 50.5	-0.6
	baz=268						
NNS	**Nan Shan**	**0.40**	**233**	*e*S	Sg	17 27 53.6	+0.5
	baz=232						
NNSB	**Datong**	**0.40**	**231**	*e*P	Pg	17 27 47.7	-0.2
	baz=231						
NNSB				*e*S	Sg	17 27 53.5	+0.4
	baz=231						
FUSS	**Fushou**	**0.62**	**226**	*e*S	Sg	17 27 60.0	-0.1
	baz=225						

AEIC ***12*** *17:29:34.9±1.2, 52°3N±0°3×173°6W±0°2, h178km±4km, Error ellipse: s-maj=39.3km s-min=9.2km az=165.0*

NEIC 12 17:29:34.2±1.0, 52°5N±0°3×173°6W±0°1, h174km±7km, mb3.8/4, ML3.0(AEIC)**, Error ellipse: s-maj=41.0km s-min=9.1km az=166.0, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**0.39**	**232**		Pn	17 29 58.2	+0.3
KOKL	**Mount Kliuchef**	**0.41**	**243**		Pn	17 29 58.5	+0.4
KOWE	**Korovin West**	**0.42**	**250**		Pn	17 29 58.4	+0.4
ATKA	**Atka Island**	**0.48**	**230**		Pn	17 29 58.1	-0.1
ATKA					Sn	17 30 16.1	-0.4
GSMY	**Great Sitkin M**	**1.58**	**254**		Pn	17 30 06.2	-0.2
GSTD	**Great Sitkin T**	**1.63**	**255**		Pn	17 30 07.0	0.0
GSTD					Sn	17 30 31.2	-1.1
GSCK	**Great Sitkin C**	**1.65**	**253**		Pn	17 30 07.0	-0.1
ADK	**Adak**	**2.00**	**253**		Pn	17 30 10.5	-0.2
ADK					Sn	17 30 38.2	-0.9
KIWB	**Kanaga Island**	**2.28**	**255**	Pn	Pn	17 30 14.1	+0.1
CLCO	**Concord Point,**	**2.38**	**82**		Pn	17 30 15.3	+0.2
NIKH	**Nikolski High**	**2.92**	**79**		Pn	17 30 21.2	-0.4
GANE	**Gareloi Northe**	**3.26**	**260**		Pn	17 30 26.5	+0.7
MAPS	**Pakushin South**	**4.21**	**69**		Pn	17 30 37.7	-0.1
CETU	**Semis' Tuman**	**4.28**	**265**		Pn	17 30 38.2	-0.4
MNAT	**Makushin Natee**	**4.38**	**69**		Pn	17 30 40.0	+0.1
AMKA	**Amchitka**	**4.54**	**258**	Pn	Pn	17 30 42.3	+0.4
CHGN	**Chignik**	**9.63**	**61**	Pn	Pn	17 31 46.5	-2.3
CNPM	**China Poot**	**14.29**	**52**		Pn	17 32 47.4	-1.1
BRLK	**Bradley Lake**	**14.54**	**51**	Pn	Pn	17 32 51.5	-0.1
KTH	**Kantishna Hill**	**16.21**	**38**	P	P	17 33 11.7	-0.2
HDA	**Harding Lake**	**18.16**	**39**	P	P	17 33 34.0	+0.8
IL31		**18.36**	**38**	P	P	17 33 34.8	-0.5
IL31				IAmb	IAmb	17 33 59.7	
	comp=Z,9.0nm,1.5s						
H24K	**Noodor Dome**	**18.56**	**34**	P	P	17 33 38.4	+0.9
H24K				IAmb	IAmb	17 33 57.6	
	comp=Z,4.0nm,1.3s						

IDC 12 18:11:34.4±2.1, 0°70S×128°21E, h0km, mb3.3/4, mbtmp3.4/4, Error ellipse: s-maj=189.5km s-min=23.3km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.04**	**163**	P	P	18 16 07.3	-1.9
	0.3nm,0.3s,baz=342,slow=11,SNR=17						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**23.49**	**167**	P	P	18 16 47.8	+1.8
	0.1nm,0.4s,baz=337,slow=9.3,SNR=2.0						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**62.03**	**326**	P	P	18 21 56.5	-0.2
	0.4nm,0.3s,baz=130,slow=7.9,SNR=14						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**66.25**	**328**	P	P	18 22 24.6	+0.3
	0.3nm,0.4s,baz=133,slow=6.5,SNR=4.2						
	0.3nm,0.4s						

JMA 12 18:15:08.0±0.1, 24°2N±0°5×123°9E±0°5, h17km±1km, MV0.8/9, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKRS	**Kuro-shima**	**0.14**	**82**	*i* P	Pg	18 15 11.9	0.0
JKRS				*e*S	Sb	18 15 15.0	+0.1
IRIF	**Iriomote-Funau**	**0.17**	**314**	*e*S	Sg	18 15 15.2	-0.1
HATJ	**Hateruma jima**	**0.17**	**198**	*i* P	Pg	18 15 12.2	-0.1
HATJ				*e*S	Sg	18 15 15.3	0.0
JIJ	**Ishigaki jima**	**0.29**	**61**	*i* P	Pg	18 15 14.1	-0.3
JISG	**Ishigakijimahi**	**0.55**	**48**	P	Pg	18 15 18.8	-0.1
JISG				*e*S	Sb	18 15 26.8	0.0
JYNG	**Yonagunijimaku**	**0.87**	**286**	*e*S	Sg	18 15 36.7	+0.4
JTJ	**Tarama**	**0.87**	**61**	*e*S	Sn	18 15 37.4	-0.5

YHNB				*e*S		Sg	18 15 43.7	+1.2
	baz=283								
FUSB	**Fushanzhiwuyua**	**0.14**	**29**	S		Sg	18 15 44.0	+1.3
	baz=28								
NWLT	**Wulai**	**0.14**	**355**	*e*S		Sg	18 15 43.9	+1.2
	baz=355								
NSK	**Sanguang**	**0.15**	**284**	*e*P		Pg	18 15 41.8	+1.1
	baz=284								
NSK				*e*S		Sg	18 15 44.0	+1.1
	baz=284								
TWE	**Neicheng**	**0.16**	**59**	*e*P		Pg	18 15 42.2	+1.3
	baz=62								
NNS	**Nan Shan**	**0.24**	**213**	*e*P		Pg	18 15 43.1	+0.7
	baz=238								
NNS	**Nan Shan**	**0.24**	**213**	*e*P		Pg	18 15 43.3	+0.9
	baz=211								
NNSB	**Datong**	**0.24**	**210**	*e*P		Pg	18 15 43.3	+0.9
	baz=209								

TAP 12 18:16:01.2, 24.10N×121.67E, h10km, ML1.7, 1D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.07**	**252**	*i* P	Pg	18 16 04.0	+0.6
	baz=250						
TWD				*i* S	Sg	18 16 05.5	+0.5
	baz=250						
ETL	**Fush Village**	**0.07**	**324**	*i* P	Pg	18 16 04.2	+0.7
	baz=323						
NACB	**Ninganchiao**	**0.10**	**317**	⇓*i* P	Pg	18 16 04.5	+0.7
	baz=316						
NACB				*e*S	Sg	18 16 06.6	+0.9
	baz=316						
ETLH	**Xiulin Townshi**	**0.20**	**302**	*i* P	Pb	18 16 06.5	-0.5
	baz=301						
ETLH				*e*S	Sg	18 16 10.0	+1.6
	baz=301						
ETM	**Tongmen**	**0.21**	**230**	*i* P	Pg	18 16 06.3	+0.7
	baz=229						
ETM				*e*S	Sg	18 16 09.3	+0.7
	baz=229						
EAHA	**Aohua**	**0.23**	**16**	*e*P	Pg	18 16 06.8	+0.7
	baz=15						
EAHA				*e*S	Sg	18 16 10.5	+1.2
	baz=15						
LXIB	**Xiulin Townshi**	**0.25**	**251**	*e*P	Pg	18 16 07.0	+0.7
	baz=250						
LXIB				*e*S	Sg	18 16 10.9	+1.1
	baz=250						
SHUL	**Shoufeng**	**0.33**	**197**	*e*P	Pb	18 16 09.5	+0.4
	baz=197						
ENA	**Nanau**	**0.33**	**12**	P	Pb	18 16 08.7	-0.5
	baz=12						
ENA				*e*S	Sg	18 16 13.4	+1.1
	baz=12						
EWUT	**Wuta**	**0.36**	**16**	P	Pb	18 16 09.2	-0.4
	baz=16						
EWUT				*e*S	Sb	18 16 14.2	-1.1
	baz=16						
ESL	**Shilin**	**0.36**	**217**	*e*P	Pg	18 16 08.9	+0.6
	baz=215						
WHF	**Hehuan Shan**	**0.37**	**277**	*e*P	Pb	18 16 09.6	-0.5
	baz=276						
WHF				*e*S	Sb	18 16 15.1	-1.0
	baz=276						
FUSS	**Fushou**	**0.41**	**291**	*e*P	Pb	18 16 10.6	-0.2
	baz=290						
NNSB	**Datong**	**0.42**	**321**	*e*P	Pb	18 16 10.6	-0.1
	baz=321						
NNSB				*e*S	Sb	18 16 16.5	-0.6
	baz=321						
NNS	**Nan Shan**	**0.43**	**321**	*e*P	Pb	18 16 10.8	-0.1
	baz=321						
NNS				*e*S	Sb	18 16 17.1	-0.5
	baz=321						
LATG	**Datong**	**0.45**	**343**	*e*P	Pb	18 16 11.0	-0.3
	baz=343						
CHGB	**Renai**	**0.45**	**265**	*e*P	Pb	18 16 11.2	-0.2
	baz=264						
WARBT	**Fenglin Townsh**	**0.46**	**214**	*e*P	Pg	18 16 10.8	+0.6
	baz=214						
OWD	**Renai**	**0.47**	**252**	*e*P	Pb	18 16 11.4	-0.3
	baz=251						
TWT	**Tachien**	**0.47**	**289**	*e*S	Sb	18 16 19.3	+0.4
	baz=287						
EGFH	**Guangfu**	**0.48**	**207**	*e*P	Pb	18 16 11.7	-0.1
	baz=207						
WUSB	**Renai**	**0.52**	**258**	*e*P	Pb	18 16 12.5	+0.1
	baz=257						
WUSB				*e*S	Sb	18 16 20.3	+0.4
	baz=257						
NDT	**Datong Townshi**	**0.52**	**344**	*e*P	Pb	18 16 12.4	0.0
	baz=344						
NDT				*e*S	Sb	18 16 20.1	+0.1
	baz=344						
TWC	**Suao**	**0.53**	**18**	*e*S	Sb	18 16 20.3	0.0
	baz=19						
VWDT	**VWDT**	**0.59**	**234**	*e*P	Pb	18 16 13.5	-0.1
	baz=234						
TWE	**Neicheng**	**0.62**	**360**	*e*P	Pb	18 16 13.9	-0.2
	baz=1.0						
YHNB	**Yeheng**	**0.62**	**335**	*e*P	Pb	18 16 14.8	+0.5
	baz=334						
YHNB				*e*S	Sb	18 16 23.3	+0.1
	baz=334						
NSK	**Sanguang**	**0.64**	**334**	*e*P	Pb	18 16 15.1	+0.6
	baz=334						
HGSD	**Ruisui**	**0.65**	**200**	*e*P	Pb	18 16 15.2	+0.6
	baz=200						
FUSB	**Fushanzhiwuyua**	**0.66**	**354**	*e*P	Pb	18 16 15.1	+0.3
	baz=353						
EHY	**Hungye**	**0.67**	**208**	*e*P	Pb	18 16 15.0	0.0
	baz=207						
WHP	**Taichung City**	**0.68**	**285**	*e*P	Pn	18 16 16.9	-0.1
	baz=284						
NWLT	**Wulai**	**0.69**	**347**	*e*P	Pb	18 16 15.5	+0.2
	baz=347						
NWLT				*e*S	Sb	18 16 25.3	+0.4
	baz=347						
SSLB	**Suanglung**	**0.72**	**245**	*e*P	Pb	18 16 15.9	0.0
	baz=244						
YULB	**Yu-li**	**0.78**	**206**	*e*P	Pb	18 16 17.1	+0.2
	baz=205						
TIPB	**Shuangxi**	**0.88**	**9**	*e*P	Pb	18 16 18.9	+0.4
	baz=9.0						

JMA 12 18:16:11.7±0.2, 24.2N±0.4×123.8E±0.5, h16km±1km, MV1.1/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.13**	**321**	P	Pg	18 16 15.2	-0.2
IRIF				*e*S	Sb	18 16 18.6	+0.2
JKRS	**Kuro-shima**	**0.17**	**90**	P	Pg	18 16 16.1	0.0
JKRS				*e*S	Sg	18 16 19.0	+0.1
HATJ	**Hateruma jima**	**0.18**	**184**	*i* P	Pg	18 16 16.0	-0.1
JIJ	**Ishigaki jima**	**0.32**	**67**	P	Pg	18 16 18.3	-0.1
JIJ				*e*S	Sg	18 16 22.8	-0.3
JISG	**Ishigakijimahi**	**0.57**	**52**	P	Pg	18 16 22.9	0.0
JISG				*e*S	Sb	18 16 31.3	+0.1

*KRNET **12** 18:23:41.0±0.1, 41.4N×78.7E, h6km, mb2.1*
*SOME **12** 18:23:40.2, 41.2ON×78.7E, h20km*
*NNC **12** 18:23:40.9±1.6, 41.2N×78.6E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=10.9km s-min=7.2km az=162.0*
ISC 12 18:23:42.0±2.2, 41.3N±0.07×78.72E±0.05, h3km±12km, n38, σ1§26/63, 13C-7D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**1.17**	**348**	⇓*i* P	Pb	18 24 02.0	-3.0
	baz=47						
PRZ				⇓*i* S	Sb	18 24 17.6	-3.1
	baz=47						
KDJ	**Kajisay**	**1.40**	**305**	⇑*e* P	Pn	18 24 06.9	-1.7
	baz=2.0						
KDJ				⇑*i* S	Sn	18 24 25.5	-2.2
	baz=2.0						
ANVS	**Anan'yevo**	**1.65**	**332**	⇑*e* P	Pn	18 24 11.1	-0.9
	baz=30						
ANVS				⇑*e* S	Sn	18 24 32.9	-0.9
	baz=30						
SATY	**Saty**	**1.74**	**352**	*e*P	Pg	18 24 15.5	+0.2
	3.4nm,0.3s						
SATY				*e*S	Sg	18 24 41.1	+3.3
	9.7nm,0.3s						
SATY	**Saty**	**1.74**	**352**	Pg	Pg	18 24 15.5	+0.2
	3.4nm,0.3s						
SATY				S	Sg	18 24 41.3	+3.5
	6.7nm,0.2s						
UZB	**Uzynbulak**	**1.83**	**7**	*e*P	Pb	18 24 14.8	-1.3
	2.0nm,0.1s						
UZB				*e*S	Sb	18 24 40.0	+0.5
	1.3nm,0.2s						
UZB	**Uzynbulak**	**1.83**	**7**	P	Pb	18 24 14.8	-1.3
	2.0nm,0.2s						
UZB				S	Sb	18 24 40.0	+0.5
	1.3nm,0.2s						
ZHN	**Zhinishke**	**1.84**	**354**	*e*P	Pb	18 24 16.1	-0.4
	1.6nm,0.1s						
ZHN				*e*S	Sg	18 24 41.9	+0.7
	16nm,0.3s						
ZHN	**Zhinishke**	**1.84**	**354**	P	Pb	18 24 16.1	-0.4
	1.6nm,0.1s						
ZHN				S	Sg	18 24 41.9	+0.7
	16nm,0.3s						
NRN	**Naryn**	**2.05**	**274**	⇑*i* P	Pb	18 24 19.2	-0.8
	baz=71						
NRN				⇑*i* S	Sg	18 24 46.9	-0.8
	baz=71						
ULHL	**Ulahol**	**2.06**	**297**	⇑*i* P	Pb	18 24 18.4	-1.8
	baz=94						
ULHL				⇑*i* S	Sb	18 24 45.9	-0.5
	baz=94						
PDGK	**Podgornoye**	**2.07**	**16**	Pg	Pb	18 24 19.7	-0.7
	0.7nm,0.5s						
PDGK				Lg	Lg	18 24 46.7	
	2.9nm,0.5s						
PDGK	**Podgornoye**	**2.07**	**16**	⇑Pg	Pb	18 24 20.1	-0.3
	3.1nm,0.8s						
PDGK				⇑Lg	Lg	18 24 50.7	
	4.7nm,0.6s						
KPKS	**Kokpek**	**2.13**	**359**	*e*P	Pb	18 24 21.4	+0.1
	28nm,0.9s						
KPKS				*e*S	Sg	18 24 51.1	+0.7
	6.4nm,0.2s						
KPKS	**Kokpek**	**2.13**	**359**	Pg	Pb	18 24 21.4	+0.1
	28nm,0.9s						
KPKS				Lg	Lg	18 24 51.1	
	6.4nm,0.4s						
TNSS	**Tian-Shan**	**2.15**	**323**	*e*P	Pb	18 24 21.9	+0.1
	2.2nm,0.2s						
TNSS				*e*S	Sg	18 24 51.9	+0.8
	3.5nm,0.4s						
TNSS	**Tian-Shan**	**2.15**	**323**	Pg	Pb	18 24 21.8	0.0
	2.2nm,0.2s						
TNSS				Lg	Lg	18 24 51.1	
	3.5nm,0.4s						
MDOK	**Medeo**	**2.21**	**326**	*e*P	Pb	18 24 22.6	0.0
	2.1nm,0.2s						
MDOK				*e*S	Sg	18 24 53.0	+0.1
	5.8nm,0.4s						
MDOK	**Medeo**	**2.21**	**326**	Pg	Pb	18 24 22.4	-0.2
	2.8nm,0.6s						
MDOK				Pg	Pb	18 24 22.6	0.0
	2.1nm,0.2s						
MDOK				Lg	Lg	18 24 52.1	
	4.7nm,0.5s						
MDOK				Lg	Lg	18 24 52.5	
	5.1nm,0.5s						
KOTS	**Kotyrbulak**	**2.24**	**328**	*e*P	Pb	18 24 23.3	+0.1
	1.9nm,0.2s						
KOTS				*e*S	Sg	18 24 54.2	+0.2
	9.7nm,0.3s						
KOTS	**Kotyrbulak**	**2.24**	**328**	Pg	Pb	18 24 23.3	+0.1
	1.9nm,0.2s						
KOTS				Lg	Lg	18 24 54.2	
	9.7nm,0.3s						
MTBS	**Maitube**	**2.47**	**317**	*e*P	Pb	18 24 27.1	0.0
	1.6nm,0.3s						
MTBS				*e*S	Sg	18 25 00.6	-0.7
	3.7nm,0.3s						
MTBS	**Maitube**	**2.47**	**317**	Pg	Pb	18 24 27.0	0.0
	1.6nm,0.3s						
MTBS				Lg	Lg	18 25 00.7	
	3.1nm,0.3s						
KST	**Kastek**	**2.67**	**311**	*e*P	Pb	18 24 30.7	+0.3
	0.8nm,0.2s						
KST				*e*S	Sg	18 25 07.0	-0.6
	7.7nm,0.5s						
KST	**Kastek**	**2.67**	**311**	Pg	Pb	18 24 30.7	+0.3
	0.8nm,0.2s						
KST				Lg	Lg	18 25 07.0	
	7.8nm,0.7s						
TKM2	**Tokmak 2**	**2.81**	**305**	⇓Pg	Pb	18 24 32.6	-0.3
	1.2nm,0.5s						
TKM2				⇑Lg	Lg	18 25 11.5	
	1.8nm,0.4s						
TKM2	**Tokmak 2**	**2.81**	**305**	⇓*i* P	Pn	18 24 28.9	+0.9
	baz=4.0						
TKM2				⇓*i* S	Sn	18 25 03.8	+1.2
	baz=4.0						
KTBS	**Karatobe**	**2.81**	**328**	*e*P	Pb	18 24 33.0	+0.2
	1.4nm,0.3s						
KTBS				*e*S	Sg	18 25 10.8	-1.5
	8.1nm,0.2s						
KTBS	**Karatobe**	**2.81**	**328**	Pg	Pb	18 24 33.0	+0.2
	1.4nm,0.3s						
KTBS				Lg	Lg	18 25 10.8	
	8.1nm,0.3s						
DGS	**Degeres**	**2.90**	**312**	*e*P	Pb	18 24 34.2	-0.2
	1.8nm,0.4s						
DGS				*e*S	Sg	18 25 13.0	-2.1
	5.4nm,0.4s						
DGS	**Degeres**	**2.90**	**312**	Pg	Pb	18 24 33.7	-0.7
	1.8nm,0.8s						
DGS				Lg	Lg	18 25 13.0	
	5.4nm,0.6s						
KNOS	**Konyrlen**	**3.04**	**6**	Pg	Pb	18 24 36.8	-0.1
	0.7nm,0.3s						
KNOS				Lg	Lg	18 25 17.9	
	3.3nm,0.3s						
DJR	**Jarkent**	**3.10**	**14**	*e*P	Pb	18 24 37.8	0.0
	0.9nm,0.1s						
DJR				*e*S	Sg	18 25 19.3	-2.2
	5.8nm,0.4s						
DJR	**Jarkent**	**3.10**	**14**	Pg	Pb	18 24 37.8	0.0
	0.9nm,0.1s						
DJR				Lg	Lg	18 25 19.3	
	5.8nm,0.4s						
KRBS	**Karabastau**	**3.26**	**317**	*e*P	Pb	18 24 40.2	-0.3
	0.6nm,0.2s						
KRBS				*e*S	Sb	18 25 23.4	+2.7
	1.2nm,0.4s						
KRBS	**Karabastau**	**3.26**	**317**	Pg	Pb	18 24 40.2	-0.3
	0.6nm,0.3s						
KRBS				Lg	Lg	18 25 23.4	
	1.2nm,0.6s						
UCH	**Uchtor**	**3.27**	**287**	⇓*e* P	Pn	18 24 35.7	+1.1
	baz=86						
UCH				⇓*i* S	Sn	18 25 15.8	+1.6
	baz=86						
ARLS	**Aral**	**3.34**	**281**	⇑*i* P	Pn	18 24 36.6	+1.4
	baz=79						
ARLS				⇑*i* S	Sn	18 25 17.1	+1.6
	baz=79						

WEL 12 18:31:40.2±0.8, 38°S±4°×17°6E±°, h132km±10km, M2.8/12, MLv2.8/12, Error ellipse: s-maj=0.0km s-min=0.0km az=100.1, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NTVZ	**North Tongarir**	**0.62**	**184**	P	Pn	18 32 07.9	+7.5
NTVZ				S	Sn	18 32 14.4	-1.3
TWVZ	**Taurewa**	**0.63**	**202**	P	Pn	18 32 05.3	+4.8
TWVZ				S	Sn	18 32 09.8	-6.1
TMVZ	**Te Maari**	**0.63**	**182**	P	Pn	18 32 08.1	+7.6
TMVZ				S	Sn	18 32 14.2	-1.8
MRHZ	**Matea Rd**	**0.64**	**124**	P	Pn	18 32 00.7	+0.3
MRHZ				S	Sn	18 32 17.0	+1.2
WTVZ	**West Tongariro**	**0.64**	**190**	P	Pn	18 32 06.5	+5.9
NNVZ	**North Ngauruho**	**0.66**	**188**	P	Pn	18 32 06.9	+6.2
NNVZ				S	Sn	18 32 13.7	-2.6
NGZ	**Ngauruhoe**	**0.70**	**189**	P	Pn	18 32 06.6	+5.6
NGZ				S	Sn	18 32 12.4	-4.4
SNVZ	**South Ngauruho**	**0.71**	**186**	P	Pn	18 32 07.0	+5.9
SNVZ				S	Sn	18 32 13.8	-3.1
COVZ	**Chateau Observ**	**0.73**	**192**	P	Pn	18 32 05.6	+4.4
TOZ	**Tahuroa Road**	**0.77**	**346**	P	Pn	18 32 01.9	+0.6
FWVZ	**Far West T-bar**	**0.79**	**191**	P	Pn	18 32 05.7	+4.0
FWVZ				S	Sn	18 32 11.8	-6.3
TUVZ	**Tukino**	**0.79**	**185**	P	Pn	18 32 04.1	+2.4
MAVZ	**Matarangi**	**0.80**	**190**	P	Pn	18 32 06.0	+4.1
MAVZ				S	Sn	18 32 11.5	-6.9
WHVZ	**Whangaehu Hut**	**0.81**	**188**	S	Sn	18 32 11.8	-6.7
TRVZ	**Turoa**	**0.83**	**190**	P	Pn	18 32 05.7	+3.6
TRVZ				S	Sn	18 32 11.2	-7.6
WNVZ	**Wahianoa**	**0.85**	**187**	P	Pn	18 32 04.6	+2.4
WNVZ				S	Sn	18 32 12.8	-6.1
PKVZ	**Pokaka**	**0.86**	**201**	P	Pn	18 32 03.3	+1.2
PKVZ				S	Sn	18 32 06.9	-12
BKZ	**Black Stump Fm**	**0.90**	**139**	P	Pn	18 32 03.0	+0.5
BKZ				S	Sn	18 32 20.4	+1.0
MTVZ	**Mangateitei**	**0.93**	**193**	P	Pn	18 32 04.9	+2.2
MTVZ				S	Sn	18 32 09.4	-10
MTHZ	**Maungataniwha**	**0.94**	**114**	P	Pn	18 32 02.5	-0.3
MTHZ				S	Sn	18 32 19.6	-0.4
ORCS	**Ohakune Ruapeh**	**0.97**	**195**	S	Sn	18 32 07.3	-13
VRZ	**Vera Road**	**1.00**	**230**	S	Sn	18 32 11.5	-9.3
NMHZ	**Naumai**	**1.04**	**127**	P	Pn	18 32 04.5	+0.8
NMHZ				S	Sn	18 32 24.2	+2.5
BHHZ	**Black Hill Sta**	**1.04**	**166**	P	Pn	18 32 05.0	+1.3
KRHZ	**Kereru**	**1.26**	**157**	P	Pn	18 32 06.9	+1.0
WAZ	**Wanganui**	**1.40**	**204**	P	Pn	18 32 08.2	+0.9
WAZ				S	Sn	18 32 16.5	-12
MKAZ	**Moumakai**	**1.45**	**341**	P	Pn	18 32 07.8	0.0
KAHZ	**Kahuranaki**	**1.58**	**146**	P	Pn	18 32 09.7	+0.4
TSZ	**Takapari Road**	**1.58**	**174**	P	Pn	18 32 10.5	+1.1
TSZ				S	Sn	18 32 31.4	-0.3
PXZ	**Pawanui**	**1.78**	**151**	P	Pn	18 32 11.5	-0.1
PXZ				S	Sn	18 32 35.2	-0.4
DVHZ	**Dannevirke**	**1.84**	**170**	P	Pn	18 32 12.8	+0.4
PRHZ	**Porangahau**	**1.91**	**159**	P	Pn	18 32 12.4	-0.8
ANWZ	**Angora Road**	**2.06**	**164**	P	Pn	18 32 15.3	+0.4
ANWZ				S	Sn	18 32 41.3	-0.2
PRWZ	**Pori Road**	**2.08**	**175**	P	Pn	18 32 15.6	+0.4
MRZ	**Mangatainoka R**	**2.18**	**183**	P	Pn	18 32 16.9	+0.4
BFZ	**Birch Farm**	**2.23**	**170**	P	Pn	18 32 16.9	-0.2
BFZ				S	Sn	18 32 45.4	-0.1
TIWZ	**Tintock**	**2.29**	**177**	P	Pn	18 32 18.1	+0.2
TIWZ				S	Sn	18 32 47.4	+0.4
OGWZ	**Otaki Gorge**	**2.37**	**190**	P	Pn	18 32 19.4	+0.6
OGWZ				S	Sn	18 32 50.9	+2.3
HOWZ	**Holdsworth Sta**	**2.42**	**184**	P	Pn	18 32 19.4	0.0
HOWZ				S	Sn	18 32 49.7	0.0
KIW	**Kapiti Island**	**2.46**	**195**	P	Pn	18 32 20.4	+0.5
CAW	**Cannon Point**	**2.67**	**191**	P	Pn	18 32 22.7	+0.1
MTW	**Mount Morrison**	**2.68**	**184**	P	Pn	18 32 22.1	-0.6
MTW				S	Sn	18 32 55.1	-0.4
WEL	**Wellington**	**2.90**	**195**	P	Pn	18 32 25.7	+0.2
TRWZ	**Traveller**	**2.91**	**181**	P	Pn	18 32 25.1	-0.7
TRWZ				S	Sn	18 33 00.8	-0.1
TCW	**Tory Channel**	**2.95**	**202**	P	Pn	18 32 26.3	+0.2
TCW				S	Sn	18 33 03.1	+1.4
BHW	**Baring Head**	**3.00**	**193**	P	Pn	18 32 26.3	-0.5
PLWZ	**Palliser**	**3.11**	**187**	P	Pn	18 32 27.2	-1.0
PLWZ				S	Sn	18 33 05.8	+0.4
KHZ	**Kahutara**	**4.27**	**202**	P	Pn	18 32 42.7	-0.7
KHZ				S	Sn	18 33 33.1	+0.4

DJA 12 18:49:04.9±0.3, 4°S±3°×102°E±°, h10km, M4.0/9, mb4.8/1, MLv3.7/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRJI	**Kerinci**	**1.70**	**325**	P	Pn	18 49 34.9	+0.1
JMBI	**JAMBI**	**2.21**	**33**	P	Pn	18 49 42.6	+0.9
LWLI	**Liwa**	**2.22**	**133**	P	Pn	18 49 42.6	+0.7
PMBI	**Palembang**	**2.41**	**76**	P	Pn	18 49 43.7	-0.7
PPSI	**Pulau Pagai**	**2.52**	**287**	P	Pn	18 49 46.4	+0.4
KASI	**Kota Agung**	**2.88**	**134**	P	Pn	18 49 51.1	+0.2
DSRI	**Dabo**	**3.69**	**36**	P	Pn	18 49 59.6	-2.4
PBSI	**Pulau Batu**	**5.38**	**309**	P	Pn	18 50 25.6	+0.4

*IDC **12** 19:00:59.6±1.8, 1.3N×126.5E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=184.8km s-min=21.6km az=66.0*
*DJA **12** 19:01:05.1±2.4, 2°N±4°×12°7E±°, h16km±22km, M3.9/12, mb4.1/7, MLv3.8/12*
ISC 12 19:01:04.4±1.5, 1.8N±0.1×127.2E±0.1, h35km, n15, σ1§46/14, mb3.5/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.99**	**171**	P	**Pn**	**19 01 23.3**	**+1.4**
LBMI	**Labuha**	**2.39**	**173**	P	**Pn**	**19 01 43.3**	**+2.1**
KMSI	**Cibinong**	**3.43**	**250**	P	**Pn**	**19 01 56.2**	**+0.8**
SANI	**Sanana**	**3.97**	**198**	P	**Pn**	**19 02 01.8**	**-1.1**
GTOI	**Gorontalo**	**4.34**	**255**	P	**Pn**	**19 02 09.7**	**+1.8**
SWI	**Sorong**	**4.82**	**123**	P	Pn	19 02 19.1	+4.6
NLAI	**Namlea**	**4.96**	**181**	P	**Pn**	**19 02 17.2**	**+0.7**
LUWI	**Luwuk**	**5.23**	**238**	P	**Pn**	**19 02 20.6**	**+0.4**
	28nm,0.8s,0.1nm						
MRSI	**Marisa**	**5.41**	**257**	P	**Pn**	**19 02 23.1**	**+0.4**
	15nm,0.5s,0.1nm						
BBSI	**Bau Bau**	**8.55**	**213**	P	**Pn**	**19 03 06.9**	**+1.0**
	15nm,0.8s						
EDFI	**Ende, Flores**	**11.79**	**208**	P	**Pn**	**19 03 51.4**	**+1.0**
WRA	**Warramunga Arr**	**22.67**	**162**	P	**P**	**19 06 00.6**	**-2.3**
	0.5nm,0.3s,baz=339,slow=10,SNR=11						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**26.09**	**166**	P	**P**	**19 06 33.3**	**-1.8**
	0.2nm,0.4s,baz=346,slow=11,SNR=10						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**59.44**	**326**	P	**P**	**19 11 04.5**	**+0.7**
	0.2nm,0.5s,baz=121,slow=7.7,SNR=4.8						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**63.65**	**328**	P	**P**	**19 11 32.2**	**+0.2**
	0.3nm,0.5s,baz=127,slow=6.1,SNR=5.6						
	0.3nm,0.5s						

*SOME **12** 19:09:48.5, 41.27N×78.7E, h15km*
*NNC **12** 19:09:49.6±0.8, 41.29N×78.7E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=5.4km s-min=3.4km az=162.0*
*KRNET **12** 19:09:50.0±0.1, 41.38N×78.7E, h16km, mb2.9*
ISC 12 19:09:51.6±1.3, 41.39N±0.06×78.69E±0.04, h10km, n63, σ1§03/95, 20C-19D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**1.11**	**349**	⇓*e* P	**Pg**	**19 10 11.4**	**-1.6**
	baz=46						
PRZ				⇓*i* S	**Sg**	**19 10 27.0**	**-0.5**
	baz=46						
KDJ	**Kajisay**	**1.35**	**304**	⇑*e* P	**Pn**	**19 10 15.6**	**-1.1**
	baz=3.0						
KDJ				⇑*i* S	**Sb**	**19 10 34.6**	**+0.1**
	baz=3.0						
ANVS	**Anan'yevo**	**1.58**	**332**	⇑*e* P	**Pn**	**19 10 19.9**	**-0.1**
	baz=30						
ANVS				⇑*e* S	**Sb**	**19 10 41.8**	**+0.5**
	baz=30						
SATY	**Saty**	**1.68**	**353**	*e*P	**Pb**	**19 10 22.5**	**-0.2**
	4.1nm,0.1s						
SATY				*e*S	**Sg**	**19 10 46.7**	**+1.0**
	44nm,0.3s						
SATY	**Saty**	**1.68**	**353**	P	**Pb**	**19 10 22.5

32nm,0.3s
SHLS *eS* **Sg** **19 10 55.4 +4.1**
32nm,0.5s
SHLS **Shalkode** **1.86 18** Pg **Pg** **19 10 27.3 +0.1**
33nm,0.4s
SHLS Lg Lg 19 10 55.4
32nm,0.5s
ULHL **Ulahol** **2.02 296**⇑ *iP* **Pn** **19 10 26.0 +0.1**
baz=95
ULHL ⇑ *iS* **Sn** **19 10 52.5 +1.2**
baz=95
NRN **Naryn** **2.02 272**⇑ *eP* **Pn** **19 10 26.6 +0.5**
baz=72
NRN ⇑ *iS* **Sb** **19 10 53.2 -0.8**
baz=72
PDGK **Podgornoye** **2.03 17** Pg **Pb** **19 10 27.8 -0.8**
8.2nm,0.5s
PDGK Lg Lg 19 10 55.7
35nm,0.6s
PDGK **Podgornoye** **2.03 17** ⇓Pg **Pb** **19 10 28.3 -0.3**
10nm,0.5s
PDGK ⇑Lg Lg 19 10 57.7
58nm,0.7s
KPKS **Kokpek** **2.07 360** *eP* **Pb** **19 10 29.8 +0.3**
7.8nm,0.4s
KPKS *eS* **Sg** **19 10 59.1 +0.8**
40nm,0.3s
KPKS **Kokpek** **2.07 360** Pg **Pb** **19 10 29.8 +0.3**
7.8nm,0.4s
KPKS Lg Lg 19 10 59.1
40nm,0.3s
TNSS **Tian-Shan** **2.09 322** *eP* **Pb** **19 10 29.7 -0.2**
16nm,0.3s
TNSS *eS* **Sg** **19 10 59.6 +0.7**
30nm,0.4s
TNSS **Tian-Shan** **2.09 322** Pg **Pb** **19 10 29.7 -0.2**
16nm,0.3s
TNSS Lg Lg 19 10 59.6
30nm,0.6s
KURS **Kuram** **2.13 350** *eP* **Pb** **19 10 30.5 +0.2**
8.9nm,0.5s
KURS *eS* **Sg** **19 11 00.8 +0.7**
45nm,0.6s
KURS **Kuram** **2.13 350** Pg **Pb** **19 10 30.5 +0.2**
8.9nm,0.4s
KURS Lg Lg 19 11 00.8
45nm,0.6s
MDOK **Medeo** **2.15 326** *eP* **Pb** **19 10 30.5 -0.2**
16nm,0.4s
MDOK *eS* **Sg** **19 11 00.8 +0.1**
44nm,0.6s
MDOK **Medeo** **2.15 326** Pg **Pb** **19 10 30.5 -0.2**
16nm,0.4s
MDOK Pg **Pg** **19 10 30.7 -2.2**
18nm,0.6s
MDOK Lg Lg 19 11 00.8
44nm,0.6s
MDOK ⇓Lg Lg 19 11 01.0
47nm,0.6s
KOTS **Kotyrbulak** **2.18 328** *eP* **Pb** **19 10 31.2 -0.1**
15nm,0.3s
KOTS *eS* **Sg** **19 11 02.2 +0.5**
88nm,0.4s
KOTS **Kotyrbulak** **2.18 328** Pg **Pb** **19 10 31.2 -0.1**
15nm,0.5s
KOTS Lg Lg 19 11 02.2
89nm,0.6s
KNDC **Almaty** **2.23 326** ⇓Pg **Pb** **19 10 32.9 +0.9**
35nm,0.5s
KNDC ⇓Lg Lg 19 11 04.2
62nm,0.7s
KTMS **Ketmen** **2.40 30** *eP* **Pb** **19 10 34.2 -0.7**
KTMS *eS* **Sg** **19 11 07.3 -1.3**
KTMS **Ketmen** **2.40 30** Pg **Pb** **19 10 34.2 -0.7**
KTMS Lg Lg 19 11 07.3
MTBS **Maitube** **2.42 317** *eP* **Pb** **19 10 35.1 -0.1**
11nm,0.4s
MTBS *eS* **Sg** **19 11 08.7 -0.5**
50nm,0.5s
MTBS **Maitube** **2.42 317** Pg **Pb** **19 10 35.1 -0.1**
11nm,0.4s
MTBS Lg Lg 19 11 08.7
50nm,0.5s
KST **Kastek** **2.61 310** *eP* **Pb** **19 10 38.6 0.0**
9.5nm,0.4s
KST *eS* **Sg** **19 11 14.5 -1.0**
53nm,0.8s
KST **Kastek** **2.61 310** Pg **Pb** **19 10 38.6 0.0**
9.5nm,0.4s
KST Lg Lg 19 11 14.5
53nm,0.8s
BLB **Baldybastay** **2.71 357** Pg **Pb** **19 10 39.9 -0.3**
9.9nm,0.3s
BLB Lg Lg 19 11 17.0
64nm,0.7s
KTBS **Karatobe** **2.75 328** *eP* **Pb** **19 10 41.0 0.0**
10nm,0.4s
KTBS *eS* **Sg** **19 11 18.7 -1.3**
70nm,0.4s
KTBS **Karatobe** **2.75 328** Pg **Pb** **19 10 41.0 0.0**
10nm,0.4s
KTBS Lg Lg 19 11 18.7
70nm,0.4s
TKM2 **Tokmak 2** **2.76 305** ⇑Pg **Pb** **19 10 41.0 -0.2**
6.5nm,0.5s
TKM2 ⇑Lg Lg 19 11 19.5
11nm,0.5s
TKM2 **Tokmak 2** **2.76 305** ⇓ *iP* **Pn** **19 10 36.6 +0.5**
baz=4.0
TKM2 ⇓ *iS* **Sn** **19 11 10.5 +0.9**
baz=4.0
DGS **Degeres** **2.84 312** *eP* **Pb** **19 10 42.2 -0.3**
14nm,0.4s
DGS *eS* **Sb** **19 11 20.3 +2.8**
50nm,0.4s
DGS **Degeres** **2.84 312** Pg **Pb** **19 10 42.2 -0.3**
14nm,0.6s
DGS Lg Lg 19 11 20.3
50nm,0.6s
ARXS **Arharly** **2.89 348** *eP* **Pb** **19 10 43.9 +0.6**
2.7nm,0.2s
ARXS *eS* **Sg** **19 11 23.5 -1.0**
95nm,0.6s
ARXS **Arharly** **2.89 348** Pg **Pb** **19 10 43.9 +0.6**
2.7nm,0.2s
ARXS Lg Lg 19 11 23.5
95nm,0.6s
KNOS **Konyrlen** **2.99 7** Pg **Pb** **19 10 44.9 -0.1**
11nm,0.3s
KNOS Lg Lg 19 11 25.5
34nm,0.7s
DJR **Jarkent** **3.05 15** *eP* **Pb** **19 10 45.7 -0.4**
0.8nm,0.1s
DJR *eS* **Sg** **19 11 26.4 -3.1**
29nm,0.6s
DJR **Jarkent** **3.05 15** Pg **Pb** **19 10 45.7 -0.4**
0.8nm,0.1s
DJR Lg Lg 19 11 26.4
29nm,0.6s
KBK **Karagaybulak** **3.06 296** ⇓ *iP* **Pn** **19 10 40.7 +0.5**
baz=95
KBK ⇓ *iS* **Sn** **19 11 17.7 +0.7**
baz=95
KRBS **Karabastau** **3.20 317** *eP* **Pb** **19 10 48.3 -0.3**
4.5nm,0.5s
KRBS *eS* **Sg** **19 11 32.0 -2.5**
10nm,0.4s
KRBS **Karabastau** **3.20 317** Pg **Pb** **19 10 48.3 -0.3**
4.5nm,0.5s
KRBS Lg Lg 19 11 32.0
10nm,0.4s
UCH **Uchtor** **3.23 286**⇑ *iP* **Pn** **19 10 43.4 +0.6**
baz=86
UCH ⇑ *iS* **Sn** **19 11 22.0 +0.4**
baz=86
ARLS **Aral** **3.31 280**⇑ *iP* **Pn** **19 10 44.1 +0.5**
baz=80
ARLS ⇑ *iS* **Sn** **19 11 23.5 +0.5**
baz=80
CHMS **Chumysh** **3.34 300** ⇓ *iP* **Pn** **19 10 44.5 +0.6**
baz=0.0
CHMS ⇓ *iS* **Sn** **19 11 24.0 +0.4**
baz=0.0
AAK **Ala-Archa** **3.36 293** ⇓ *iP* **Pn** **19 10 45.1 +0.7**
baz=93
AAK ⇓ *iS* **Sn** **19 11 25.1 +0.7**
baz=93
USP **Ospenovka** **3.63 303**⇑ *iP* **Pn** **19 10 48.4 +0.5**
baz=2.0
USP ⇑ *iS* **Sn** **19 11 31.0 +0.2**
baz=2.0
SGDS **Sogindy** **3.64 306** Pg **Pb** **19 10 56.0 -0.1**
1.4nm,0.3s
SGDS Lg Lg 19 11 44.7
6.3nm,0.4s
EKS2 **Erkin-Say** **3.87 291** ⇓ *iP* **Pn** **19 10 52.0 +0.7**
baz=91
EKS2 ⇓ *iS* **Sn** **19 11 37.2 +0.3**
baz=91
KAPS **Kapalarasan** **3.92 7** *eP* **Pb** **19 11 02.0 +1.1**
1.9nm,0.4s
KAPS *eS* **Sg** **19 11 54.4 -3.2**
16nm,0.7s
KAPS **Kapalarasan** **3.92 7** Pg **Pb** **19 11 02.0 +1.1**
1.9nm,0.4s
SFK **Sufi-Kurgan** **4.17 252** ⇓ *iP* **Pn** **19 10 55.9 +0.3**
baz=53
SFK ⇓ *iS* **Sn** **19 11 44.5 0.0**
baz=53
MRKS **Merke** **4.29 290** *eP* **Pb** **19 11 08.9 +1.8**
2.1nm,0.5s
MRKS *eS* **Sg** **19 12 07.5 -1.7**
4.8nm,0.4s
MRKS **Merke** **4.29 290** Pg **Pb** **19 11 08.9 +1.8**
2.2nm,0.5s
KK31 **Karatay Array** **6.30 288** Pg Pb 19 11 46.3 +4.9
0.3nm,0.6s,baz=112,slow=14,SNR=8.8
KK31 ⇑Lg Lg 19 13 12.3
1.6nm,0.7s,baz=101,slow=28,SNR=5.2
OTUK **Ortayu** **8.20 329** ⇑Lg Lg 19 14 09.8
3.9nm,0.8s
KURBB **Kurchatov Arra** **9.23 359** ⇑Lg Lg 19 14 44.6
6.3nm,0.7s
KURK **Kurchatov** **9.33 360** ⇓Lg Lg 19 14 46.1
3.0nm,0.9s

AFAD ***12*** *19:10:29.9±0.0,36°.92N×27°.43E,h15km±2km,ML1.8*
ISK 12 19:10:47.8,36°.89N×29°.10E,h11km,ML1.7/6,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAME	**Cameli-Denizli**	**0.17**	**71**	Pg	Pg	19 10 51.9	+0.1
CAME				Sg	Sg	19 10 55.2	+0.7
FETY	**Fethiye**	**0.25**	**183**	Pg	Pg	19 10 53.3	+0.3
FETY				Sg	Sb	19 10 57.7	-1.0
FETY	**Fethiye**	**0.25**	**183**	P	Pb	19 10 54.0	-0.4
FETY				S	Sb	19 10 58.6	-0.1
CAEL	**Denizli, Camel**	**0.29**	**37**	P	Pg	19 10 54.1	+0.2
CAEL				S	Sb	19 11 01.8	+1.7
CAEL				*i* AML	AML	19 11 12.0	
	comp=E,58nm,1.0s						
CAEL				*i* AML	AML	19 11 21.0	
	comp=N,50nm,1.2s						
DALY	**Dalyan (Mula)**	**0.36**	**259**	Pg	Pg	19 10 55.5	+0.5
DALY				Sg	Sb	19 11 01.2	-0.7
DNZT	**Denizli-Tavas-**	**0.40**	**352**	P	Pg	19 10 56.2	+0.5
DNZT				S	Sb	19 11 03.1	+0.1
IZZE	**Mula-Seydike**	**0.46**	**167**	P	Pb	19 10 57.6	-0.3
IZZE				S	Sb	19 11 05.0	+0.2
IZZE				*i* AML	AML	19 11 19.0	
	comp=N,17nm,0.5s						
IZZE				*i* AML	AML	19 11 19.0	
	comp=E,11nm,0.3s						
GOLH	**Golhisar**	**0.51**	**47**	P	Pg	19 10 57.8	0.0
GOLH				S	Sb	19 11 06.9	+0.6
GOLH				*i* AML	AML	19 11 25.0	
	comp=E,10nm,0.6s						
TAVA	**DENIZLI_Tavas**	**0.60**	**346**	P	Pb	19 11 00.1	-0.2
TAVA				S	Sb	19 11 09.0	+0.2
APMY	**Acipayam-Deniz**	**0.61**	**16**	Pg	Pb	19 11 00.2	-0.3
ELL	**Elmalı**	**0.67**	**102**	Pg	Pb	19 11 01.2	-0.3
DNIZ	**Denizli-Tavas-**	**0.74**	**356**	P	Pb	19 11 03.3	+0.6
DNIZ				S	Sb	19 11 13.3	+0.4
DNIZ				*i* AML	AML	19 11 28.0	
	comp=E,22nm,0.4s						
DNIZ				*i* AML	AML	19 11 51.0	
	comp=N,14nm,0.7s						
ESEN	**Aydn-Nazilli**	**1.09**	**327**	P	Pn	19 11 09.1	+0.1
ESEN				S	Sn	19 11 24.0	+0.1
DAT	**Datca**	**1.23**	**263**	Pn	Pg	19 11 11.5	0.0

IDC ***12*** *19:21:51.8±3.6,10°.06S×113°.32E,h0km,mb3.3/3,*
mbtmp3.3/3,Error ellipse: s-maj=205.4km s-min=27.9km
az=46.0
DJA ***12*** *19:21:59.4±0.7,10°.S±7°×11°.4E±°,h10km,M3.4/11,*
mb3.6/1,MLv3.3/11
ISC 12 19:21:55.9±1.2,9.9S±0°.1×113°.66E±0°.08,h23km,n14,
σ1§29/14,mb3.4/3,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**1.49**	**19**	P	**Pn**	**19 22 19.2**	**-2.1**
GMJI	**Gumukmas**	**1.62**	**352**	P	**Pn**	**19 22 23.1**	**0.0**
BLJI	**Banyuglugur**	**2.13**	**358**	P	**Pb**	**19 22 32.9**	**-0.9**
ABJI	**Asem Bagus**	**2.15**	**15**	P	**Pn**	**19 22 32.9**	**+2.5**
SRBI	**Singaraja**	**2.35**	**41**	P	**Pn**	**19 22 33.5**	**+0.3**
PWJI	**Pagerwojo**	**2.61**	**315**	P	**Pb**	**19 22 41.4**	**-0.6**
KMMI	**Kalianget**	**2.83**	**6**	P	**Pn**	**19 22 41.5**	**+1.7**
TWSI	**Taliwang, Sumb**	**3.38**	**71**	P	**Pn**	**19 22 46.8**	**-0.5**
UGM	**Wanagama**	**3.67**	**302**	P	**Pb**	**19 22 59.0**	**-1.1**
PLAI	**Plampang**	**4.19**	**76**	P	**Pn**	**19 22 58.2**	**-0.3**
EDFI	**Ende, Flores**	**8.00**	**83**	P	**Pn**	**19 23 51.5**	**+0.5**
WRA	**Warramunga Arr**	**22.32**	**119**	P	**P**	**19 26 53.2**	**+1.1**
	0.5nm,0.5s,baz=301,slow=12,SNR=6.1						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**23.69**	**128**	P	**P**	**19 27 07.0**	**+0.7**
	0.7nm,0.6s,baz=303,slow=8.9,SNR=16						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**62.99**	**336**	P	**P**	**19 32 20.9**	**-0.1**
	0.2nm,0.6s,baz=151,slow=6.3,SNR=2.3						
	0.2nm,0.6s						

SDD ***12*** *19:25:48.5±1.5,18°.57N×70°.64W,h23km±10km,MD3.2,*
ML2.7,MW3.6
OSPL ***12*** *19:25:49.6±1.9,18°.49N×70°.64W,h18km±10km,ML2.4*
ISC 12 19:25:48.6±1.1,18°.52N±0°.04×70°.61W±0°.04,h34km,n13,
σ1§48/15,2C-1D,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BANI	**BANI**	**0.27**	**118**	*e*Pg	**Pn**	**19 25 54.2**	**-1.7**
BANI				IAML		19 26 00.5	
	comp=E,861nm,0.1s						
BANI				IAML		19 26 01.4	
	comp=N,1μm,0.3s						
ABDR	**Alto Bandera**	**0.29**	**357**⇓	*e*Pg	**Pn**	**19 25 53.8**	**-2.7**
ABDR			⇑	*e*Sg	**Sn**	**19 25 58.8**	**-2.4**
ABDR				IAML		19 25 59.5	
	comp=E,3μm,0.3s						
ABDR				IAML		19 26 00.5	
	comp=N,2μm,0.2s						
BAN1	**Bani Escuela**	**0.36**	**132**	*e*Sg	**Sb**	**19 26 02.4**	**-0.6**
BAN1				IAML		19 26 41.2	
	comp=N,678nm,2.8s						
LOBA2	**Hotel Casa Bon**	**0.63**	**227**	*e*Pg	**Pn**	**19 25 60.0**	**-1.1**
PODR	**Polo**	**0.73**	**241**	*e*Pg	**Pn**	**19 26 01.6**	**-1.0**
PODR				IAML		19 26 21.3	
	comp=E,206nm,0.3s						
PODR				IAML		19 26 21.4	
	comp=N,113nm,0.6s						
PODR	**Polo**	**0.73**	**241**	*i* P	**Pn**	**19 26 01.6**	**-1.0**
SDDR	**Presa de Saban**	**0.79**	**306**⇑	*e*Pg	**Pn**	**19 26 02.8**	**-0.5**
SDDR				IAML		19 26 18.7	
	comp=E,138nm,0.3s						
SDDR				IAML		19 26 20.8	
	comp=N,211nm,0.5s						
SDDR	**Presa de Saban**	**0.79**	**306**	*i* P	**Pn**	**19 26 02.9**	**-0.5**
SDDR				*e*S	**Sn**	**19 26 14.1**	**0.0**
SDDR				IAML		19 26 19.8	
	comp=Z,122nm,0.7s						
SC01	**Santiago de lo**	**0.91**	**353**	IAML		19 26 19.8	
	comp=E,795nm,0.7s						
SC01	**Santiago de lo**	**0.91**	**353**	*i* P	**Pn**	**19 26 05.5**	**+0.5**
SC01				*e*S	**Sb**	**19 26 19.2**	**+1.3**
SC01				IAML		19 26 21.9	
	comp=Z,140nm,0.5s						
REDR	**Restauracion**	**0.98**	**311**	*e*Pg	**Pb**	**19 26 08.7**	**+1.5**
REDR				IAML		19 26 29.5	
	comp=E,311nm,0.2s						
REDR				IAML		19 26 29.6	
	comp=N,158nm,0.2s						
HATOM	**Hato Mayor del**	**1.20**	**77**	*e*Pg	**Pn**	**19 26 09.4**	**+0.5**
MIDR	**Miches**	**1.55**	**72**	*e*Pg	**Pn**	**19 26 14.9**	**+1.2**
MIDR				IAML		19 26 36.5	
	comp=E,28nm,0.3s						
MIDR				IAML		19 27 08.1	
	comp=N,50nm,2.6s						

SJA ***12*** *19:26:11.6±0.9,19°.07S×69°.60W,h102km±4km,ML3.9,*
MW3.9
IDC ***12*** *19:26:13.4±1.5,19°.09S×69°.43W,h103km±13km,mb3.5/6,*
mbtmp3.9/9,Error ellipse: s-maj=29.3km s-min=8.5km
az=97.0
GUC ***12*** *19:26:13.8±0.9,19°.12S×69°.58W,h96km±7km,ML3.8*
ISC 12 19:26:12.9±0.8,19°.11S±0°.03×69°.61W±0°.05,h97km±5km,
n62,σ1§44/90,mb3.6/5,7C-7D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PX02	**IPOC Station P**	**0.57**	**285**	*e*P	**Pn**	**19 26 28.4**	**-0.7**
PX02				*i* S	**Sn**	**19 26 41.1**	**-0.1**
PX02				IAML		19 26 45.6	
	comp=N,2μm,0.3s						
PB11	**IPOC Station P**	**0.65**	**184**	*e*P	**Pn**	**19 26 30.0**	**+0.2**
PB11				*e*S	**Sn**	**19 26 43.6**	**+1.2**
PB11				IAML		19 26 45.2	
	comp=Z,3μm,0.2s						
PB11	**IPOC Station P**	**0.65**	**184**⇑	*i*P	**Pn**	**19 26 30.1**	**+0.2**
PB11				*i* S	**Sn**	**19 26 43.1**	**+0.7**
PB11	**IPOC Station P**	**0.65**	**184**⇑	*i*P	**Pn**	**19 26 30.1**	**+0.2**
PB11				*e*S	**Sn**	**19 26 43.0**	**+0.7**
PB11				IAML		19 26 44.2	
	comp=E,9μm,0.2s						
GO01	**Chusmiza**	**0.68**	**145**	*e*P	**Pn**	**19 26 30.5**	**0.0**
GO01				*e*S	**Sn**	**19 26 44.4**	**+0.8**
GO01				IAML		19 26 46.3	
	comp=Z,2μm,0.1s						
GO01	**Chusmiza**	**0.68**	**145**⇓	*i*P	**Pn**	**19 26 30.6**	**0.0**
GO01				*i* S	**Sn**	**19 26 44.0**	**+0.4**
GO01				IAML		19 26 46.1	
	comp=N,9μm,0.1s						
GO01	**Chusmiza**	**0.68**	**145**⇓	*i*P	**Pn**	**19 26 30.4**	**0.0**
GO01				*e*S	**Sn**	**19 26 44.0**	**+0.4**
GO01				IAML		19 26 46.2	
	comp=N,9μm,0.1s						
PB16	**IPOC Station P**	**0.78**	**7**	*e*P	**Pn**	**19 26 30.5**	**-1.0**
PB16				*e*S	**Sn**	**19 26 46.1**	**+0.8**
PB16				IAML		19 26 48.8	
	comp=Z,2μm,0.6s						
PB16	**IPOC Station P**	**0.78**	**7**⇓	*i*P	**Pn**	**19 26 31.4**	**-0.1**
PB16				*i* S	**Sn**	**19 26 45.4**	**+0.2**
PB16				IAML		19 26 46.8	
	comp=N,3μm,0.5s						
PB16	**IPOC Station P**	**0.78**	**7**⇓	*i*P	**Pn**	**19 26 31.4**	**-0.1**
PB16				*e*S	**Sn**	**19 26 45.1**	**-0.2**
PB16				IAML		19 26 47.8	
	comp=E,3μm,0.3s						
PB12	**IPOC Station P**	**0.84**	**306**	*e*P	**Pn**	**19 26 30.5**	**-1.0**
PB12				*e*P	**Pn**	**19 26 31.0**	**-0.5**
PB12				*e*S	**Sn**	**19 26 46.0**	**+0.6**
PB12				*e*S	**Sn**	**19 26 46.1**	**+0.6**
PB12				IAML		19 26 46.1	
	comp=Z,2μm,0.2s						
PB12	**IPOC Station P**	**0.84**	**306**⇑	*i*P	**Pn**	**19 26 31.8**	**+0.2**
PB12				*i* S	**Sn**	**19 26 46.0**	**+0.6**
PB12				IAML		19 26 47.1	
	comp=E,4μm,0.2s						
PB12	**IPOC Station P**	**0.84**	**306**⇑	*i*P	**Pn**	**19 26 31.7**	**+0.2**
PB12				*e*S	**Sn**	**19 26 45.9**	**+0.4**
PB12				IAML		19 26 47.0	
	comp=E,4μm,0.2s						
PB08	**IPOC Station P**	**1.11**	**157**	*e*P	**Pn**	**19 26 30.5**	**-4.3**
PB08				*e*P	**Pn**	**19 26 35.1**	**+0.3**
PB08				*e*S	**Sn**	**19 26 52.6**	**+1.4**
PB08				IAML		19 26 53.2	
	comp=Z,1μm,0.3s						
PB08	**IPOC Station P**	**1.11**	**157**⇓	*i*P	**Pn**	**19 26 35.3**	**+0.5**
PB08				*i* S	**Sn**	**19 26 52.1**	**+0.9**
PB08				IAML		19 26 53.4	
	comp=E,2μm,0.2s						
PB08	**IPOC Station P**	**1.11**	**157**⇓	*i*P	**Pn**	**19 26 35.3**	**+0.5**
PB08				*e*S	**Sn**	**19 26 51.9**	**+0.7**
PB08				IAML		19 26 53.4	
	comp=E,2μm,0.2s						
HMBC	**Humberstone**	**1.19**	**193**⇑	*i*P	**Pn**	**19 26 35.9**	**+0.5**
HMBC				*i* S	**Sn**	**19 26 53.2**	**+0.9**
HMBC				IAML		19 26 57.5	
	comp=N,3μm,0.2s						
HMBC	**Humberstone**	**1.19**	**193**⇑	*i*P	**Pn**	**19 26 35.8**	**+0.4**
HMBC				*e*S	**Sn**	**19 26 53.3**	**+0.9**
PX03	**IPOC Station P**	**1.29**	**181**	IAML		19 26 57.4	
	comp=N,4μm,0.3s						
PB18	**Visviri**	**1.52**	**5**⇓	*i*P	**Pn**	**19 26 41.7**	**+1.9**
PB18				*i* S	**Sn**	**19 27 03.2**	**+3.2**
PB18	**Visviri**	**1.52**	**5**	*e*P	**Pn**	**19 26 41.6**	**+1.8**
TA01	**Diego Aracena**	**1.54**	**200**	*e*P	**Pn**	**19 26 40.0**	**+0.4**
TA01				*e*S	**Sn**	**19 27 01.2**	**+1.4**
TA01				IAML		19 27 06.9	
	comp=Z,523nm,0.3s						
TA01	**Diego Aracena**	**1.54**	**200**	*e*P	**Pn**	**19 26 39.8**	**+0.2**
TA01				IAML		19 27 07.5	
	comp=N,2μm,0.5s						
TA01	**Diego Aracena**	**1.54**	**200**	*e*P	**Pn**	**19 26 39.7**	**+0.2**
PATCX	**Punta Patache**	**1.77**	**197**	*e*P	**Pn**	**19 26 42.7**	**+0.2**
PATCX				IAML		19 27 11.3	
	comp=E,1μm,0.2s						
PATCX	**Punta Patache**	**1.77**	**197**	*e*P	**Pn**	**19 26 43.3**	**+0.7**
PATCX				IAML		19 27 11.4	
	comp=E,1μm,0.2s						
PB01	**IPOC Station P**	**1.93**	**177**	*e*P	**Pn**	**19 26 45.1**	**+0.6**
PB01				*e*S	**Sn**	**19 27 10.2**	**+1.6**
PB01				IAML		19 27 17.5	
	comp=Z,860nm,0.2s						
PB01	**IPOC Station P**	**1.93**	**177**	*e*P	**Pn**	**19 26 44.8**	**+0.2**
PB01				*i* S	**Sn**	**19 27 09.7**	**+1.1**
PB01				IAML		19 27 15.4	
	comp=N,2μm,0.2s						
PB01	**IPOC Station P**	**1.93**	**177**	*e*P	**Pn**	**19 26 44.8**	**+0.2**
PB01				IAML		19 27 15.2	
	comp=N,2μm,0.2s						
PB02	**IPOC Station P**	**2.21**	**187**	*e*P	**Pn**	**19 26 48.9**	**+0.6**
PB02				*e*P	**Pn**	**19 26 49.2**	**+1.0**
PB02				*e*S	**Sn**	**19 27 17.2**	**+1.9**
PB02				IAML		19 27 26.3	
	comp=Z,2μm,0.4s						
PB02	**IPOC Station P**	**2.21**	**187**	*i* P	**Pn**	**19 26 49.2**	**+1.0**
PB02				*i* S	**Sn**	**19 27 16.8**	**+1.5**
PB02				IAML		19 27 28.7	
	comp=E,2μm,0.3s						
PB02	**IPOC Station P**	**2.21**	**187**	*e*P	**Pn**	**19 26 49.1**	**+0.8**
PB02				IAML		19 27 28.8	
	comp=E,2μm,0.5s						
PB07	**IPOC Station P**	**2.62**	**186**	*e*P	**Pn**	**19 26 54.6**	**+0.9**
PB07				*e*S	**Sn**	**19 27 24.5**	**-0.4**
PB07				IAML		19 27 34.5	
	comp=Z,742nm,0.3s						
PB07	**IPOC Station P**	**2.62**	**186**	*e*P	**Pn**	**19 26 54.4**	**+0.7**
PB07				IAML		19 27 35.6	
	comp=N,764nm,0.6s						
PB09	**IPOC Station P**	**2.69**	**173**	*e*P	**Pn**	**19 26 55.9**	**+1.2**
PB09				*e*S	Sn	19 27 16.5	-10
PB09				IAML		19 27 57.1	
	comp=Z,292nm,0.3s						
PB09	**IPOC Station P**	**2.69**	**173**	*e*P	**Pn**	**19 26 55.4**	**+0.7**
PB09				IAML		19 27 44.5	
	comp=N,411nm,0.5s						
LPAZ	**La Paz**	**3.14**	**27**	*e*P	**Pn**	**19 27 02.5**	**+1.4**
LPAZ				*e*S	Sn	19 27 13.1	-25
LPAZ	**La Paz**	**3.14**	**27**	P	**Pn**	**19 27 02.3**	**+1.2**
	comp=N,15nm,0.3s,baz=209,slow=6.5,SNR=56						
LPAZ				S	**Sn**	**19 27 37.0**	**-1.1**
	comp=N,15nm,0.7s,baz=221,slow=6.2,SNR=6.1						
LPAZ	**La Paz**	**3.14**	**27**⇑	*i*P	**Pn**	**19 27 02.5**	**+1.4**
PB04	**IPOC Station P**	**3.25**	**189**	*e*P	**Pn**	**19 27 02.8**	**+0.7**
PB04				IAML		19 28 00.0	
	comp=E,396nm,0.5s						
LVC	**Limon Verde**	**3.54**	**169**	*e*P	**Pn**	**19 27 06.8**	**+0.6**
LVC				*e*S	**Sn**	**19 27 48.9**	**+1.5**
LVC				IAML		19 28 12.8	
	comp=Z,98nm,0.7s						
LVC	**Limon Verde**	**3.54**	**169**	P	**Pn**	**19 27 06.8**	**+0.6**
	comp=Z,21nm,0.4s,baz=358,slow=9.0,SNR=26						

LVC S Sn 19 27 47.6 +0.2
comp=Z,40nm,0.3s,baz=235,slow=19,SNR=9.0
PB06 IPOC Station P 3.58 179 eP Pn 19 27 07.3 +0.8
PB06 eS Sn 19 27 40.0 -7.9
PB06 eS Sn 19 27 48.9 +1.0
PB06 IAML 19 28 01.7
comp=Z,266nm,0.3s
PB06 IPOC Station P 3.58 179 eP Pn 19 27 06.6 +0.1
PB05 IPOC Station P 3.76 188 eP Pn 19 27 09.2 +0.2
PB05 eS Sn 19 28 05.4 +13
PB05 IAML 19 28 09.4
comp=Z,126nm,0.6s
PB05 IPOC Station P 3.76 188 eP Pn 19 27 08.9 -0.1
PB15 IPOC Station P 4.08 178 eP Pn 19 27 15.1 +1.8
PB15 eS Sn 19 27 59.2 -0.9
PB15 IAML 19 28 24.3
comp=Z,483nm,0.3s
YJA Yavi 4.90 129 eP Pn 19 27 26.8 +2.1
SIV San Ignacio 8.72 70 P Pn 19 28 12.8 -3.4
comp=Z,6.5nm,0.4s,baz=261,slow=9.4,SNR=34
BDFB Brasilia 20.90 84 P P 19 30 47.7 0.0
comp=Z,2.0nm,0.4s,baz=273,slow=9.1,SNR=3.8
comp=Z,2.0nm,0.4s
PLCA Paso Flores 21.57 182 P P 19 30 56.6 +2.1
comp=Z,2.3nm,1.0s,baz=0.0,slow=7.1,SNR=1.6
comp=Z,2.3nm,1.0s
TXAR Lajitas Array 58.30 325 P P 19 35 57.4 -0.5
comp=Z,0.5nm,0.8s,baz=148,slow=7.4,SNR=4.0
comp=Z,0.5nm,0.8s
QSPA South Pole Qui 71.07 180 P P 19 37 21.0 +0.6
comp=Z,0.7nm,0.5s,baz=323,slow=2.2,SNR=9.3
comp=Z,0.7nm,0.5s
TORD Torodi Ar. Bea 77.19 71 P P 19 37 53.9 -2.8
comp=Z,0.3nm,0.4s,baz=246,slow=3.4,SNR=2.0
comp=Z,0.3nm,0.4s
YKA Yellowknife Ar 88.72 341 P P 19 38 55.0 -0.1
comp=Z,1.4nm,0.7s,baz=134,slow=4.7,SNR=22
comp=Z,1.4nm,0.7s
H11S2 WAKE ISLAND Hyl 26.89 279 T T 22 04 54.7
baz=101,slow=74,SNR=25
H11S1 WAKE ISLAND Hyl 26.89 279 T T 22 04 47.6
baz=101,slow=74,SNR=14
H11S3 WAKE ISLAND Hyl 26.91 279 T T 22 04 50.9
baz=101,slow=74,SNR=15
H11N3 WAKE ISLAND Hyl 26.91 281 T T 22 04 42.1
baz=100,slow=74,SNR=12
H11N2 WAKE ISLAND Hyl 26.92 281 T T 22 04 38.7
baz=100,slow=74,SNR=15
H11N1 WAKE ISLAND Hyl 26.92 281 T T 22 04 56.2
baz=100,slow=74,SNR=11
SONM Songino Array 151.16 6 PKPbc **PKPbc** 19 45 54.7 -0.3
comp=Z,0.9nm,0.5s,baz=310,slow=1.8,SNR=12

IDC 12 19:32:00.2±466.0, 55.20N×5.20E, h0km, Error ellipse: s-maj=196.2km s-min=143.0km az=110.0, North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**8.24**	**137**	I	I	20 23 10.0	
	baz=323,slow=324,SNR=0.6						
I37NO	**I37NO**	**15.21**	**19**	I	I	21 05 30.0	
	baz=213,slow=331,SNR=0.8						
I43RU	**DUBNA INFRASONT**	**7.91**	**72**	I	I	21 21 20.0	
	baz=277,slow=319,SNR=3.9						
I31KZ	**AKTYUBINSK INF**	**31.65**	**76**	I	I	22 41 40.0	
	baz=300,slow=336,SNR=0.8						

*IDC **12** 19:59:45.6±1.4,21.92N×143.04E,h266km±12km, mb4.0/28,mbtmp4.7/32,Error ellipse: s-maj=12.6km s-min=8.2km az=77.0*
*NEIC **12** 19:59:46.9±1.8,21.94N±0.08×143.0E±0.1,h271km±8km, mb4.6/146,Error ellipse: s-maj=17.2km s-min=11.0km az=84.0*
*JMA **12** 19:59:47.2±0.3,22.1N×14.3E,h276km±2km, IOTO ISLANDS REGION*

ISC 12 19:59:44.2±0.3, 21.91N±0.04×143.04E±0.06, h250km, n520, σ1.49/509, mb4.6/137, 1C-3D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**4.77**	**351**	P	**Pn**	**20 00 59.8**	**+2.6**
JHH2				eS	**S**	**20 01 55.6**	**+0.2**
CBIJ	**Chichi jima**	**5.22**	**352**	P	**Pn**	**20 01 04.9**	**+2.2**
CBIJ				eS	**S**	**20 02 05.9**	**+0.5**
JCJ	**Chichijima**	**5.22**	**352**		**Pn**	**20 01 04.5**	**+1.8**
JCJ	**Chichijima**	**5.22**	**352**	P	**Pn**	**20 01 05.0**	**+2.3**
JCJ	**Chichijima**	**5.22**	**352**	P	**Pn**	**20 01 00.9**	**-1.8**
	1μm,0.5s,baz=181,slow=3.1,SNR=148						
JCJ				S	**S**	**20 02 00.4**	**-5.0**
	716nm,0.4s,baz=276,slow=22,SNR=12						
JHCJ	**Hachijojimakas**	**11.49**	**346**	eP	**Pn**	**20 02 21.2**	**-0.2**
JHJ2	**Mitsune**	**11.52**	**346**		**Pn**	**20 02 21.0**	**-0.8**
JHJ2	**Mitsune**	**11.52**	**346**	P	**Pn**	**20 02 23.3**	**+1.5**
JHJ2	**Mitsune**	**11.52**	**346**	eP	**Pn**	**20 02 23.2**	**+1.4**
JHJ	**Hachijo jima 2**	**11.54**	**346**	P	**Pn**	**20 02 21.4**	**-0.6**
	64nm,0.3s,baz=88,slow=24,SNR=17						
JHJ				S	**S**	**20 04 27.0**	**-3.8**
	62nm,0.5s,baz=197,slow=20,SNR=1.6						
JMKN	**Mikurajimanish**	**12.32**	**346**	eP	**Pn**	**20 02 31.8**	**0.0**
JMYK	**Miyake Tsubota**	**12.49**	**346**	eP	**Pn**	**20 02 34.0**	**+0.2**
BSO1	**Boso 1**	**12.83**	**352**	eP	**Pn**	**20 02 39.1**	**+1.6**
TTO1	**TONANKAI O.B.S**	**12.91**	**336**	eP	**Pn**	**20 02 41.3**	**+2.5**
JSG	**Sagara**	**13.42**	**343**	P	**Pn**	**20 02 45.9**	**+0.7**
JTNC	**Tanabenakahech**	**13.56**	**333**	eP	**P**	**20 02 49.6**	**+1.5**
JIE	**Ise**	**13.63**	**337**	eP	**Pn**	**20 02 49.9**	**+2.1**
JOD2	**Odawara 2**	**13.75**	**346**	eP	**Pn**	**20 02 50.3**	**+1.0**
JOD2				eS	**S**	**20 05 15.4**	**-6.2**
JAMN	**Amaminishikomi**	**14.05**	**299**	eP	**P**	**20 02 56.3**	**+2.8**
JTO	**Tosashimizu**	**14.19**	**322**	eP	**P**	**20 02 58.3**	**+3.2**
JMN	**Monobe**	**14.28**	**327**	P	**P**	**20 02 58.7**	**+2.6**
JMN	**Monobe**	**14.28**	**327**	P	**P**	**20 02 59.5**	**+3.3**
JOW	**Kunigami**	**14.32**	**293**	P	**P**	**20 02 59.7**	**+3.2**
JOW	**Kunigami**	**14.32**	**293**	P	**Pn**	**20 02 57.8**	**+1.5**
	12nm,0.6s,baz=110,slow=16,SNR=5.9						
INU	**Inuyama**	**14.39**	**340**	P	**Pn**	**20 02 57.9**	**+0.9**
INU	**Inuyama**	**14.39**	**340**	P	**Pn**	**20 02 58.4**	**+1.3**
JRY	**Ryogami san**	**14.52**	**347**	eP	**Pn**	**20 02 59.1**	**+0.5**
JRY				eS	**S**	**20 05 32.3**	**-6.8**
JGF	**Kuroka**	**14.52**	**341**	P	**Pn**	**20 02 59.0**	**+0.3**
JGF	**Kuroka**	**14.52**	**341**	P	**Pn**	**20 02 59.6**	**+0.9**
MJAR	**Matsushiro Arr**	**15.18**	**345**	P	**P**	**20 03 06.5**	**+0.5**
	23nm,0.4s,baz=109,slow=11,SNR=130						
MJAR				S	**S**	**20 05 47.4**	**-6.2**
	2.9nm,0.5s,baz=196,slow=20,SNR=2.9						
MAJO	**Matsushiro**	**15.18**	**345**	P	**P**	**20 03 06.4**	**+0.5**
MAJO	**Matsushiro**	**15.18**	**345**	P	**P**	**20 03 06.5**	**+0.5**
MJB9	**Matsu-Tunnel**	**15.18**	**345**	P	**P**	**20 03 07.6**	**+1.6**
JSJ	**Shimokoshiki**	**15.36**	**312**	eP	**Pn**	**20 03 10.3**	**+1.6**
JKE	**Kume jima 2**	**15.47**	**290**	eP	**Pn**	**20 03 12.6**	**+2.5**
JNU	**Nakatsue**	**15.51**	**319**	P	**Pn**	**20 03 12.8**	**+2.3**
JNU	**Nakatsue**	**15.51**	**319**	P	**Pn**	**20 03 13.2**	**+2.6**
JNU	**Nakatsue**	**15.51**	**319**	P	**P**	**20 03 11.9**	**+2.1**
	22nm,0.5s,baz=95,slow=2.8,SNR=56						
JNU				S	**S**	**20 06 02.5**	**+1.9**
	22nm,0.9s,baz=219,slow=22,SNR=7.2						
JHS	**Saijyo**	**15.68**	**328**	eP	**Pn**	**20 03 14.0**	**+1.5**
JMM	**Marumori**	**16.02**	**354**	P	**P**	**20 03 17.4**	**+2.2**
JMM	**Marumori**	**16.02**	**354**	P	**P**	**20 03 17.7**	**+2.5**
JSD	**Sado**	**16.60**	**347**	P	**P**	**20 03 23.0**	**+1.5**
JSD	**Sado**	**16.60**	**347**	P	**P**	**20 03 23.2**	**+1.7**
JMK	**Ichinoseki**	**17.06**	**355**	eP	**P**	**20 03 28.5**	**+1.9**
JTU	**Tsushima**	**17.37**	**319**	eP	**Pn**	**20 03 35.0**	**+2.7**
YOJ	**Yonaguni jima**	**18.59**	**282**	P	**P**	**20 03 46.7**	**+3.5**
JTM	**Tenmabayashi**	**18.90**	**355**		**P**	**20 03 47.8**	**+1.5**
JTM	**Tenmabayashi**	**18.90**	**355**	P	**P**	**20 03 48.2**	**+1.8**
JOT	**Ohata**	**19.49**	**356**	eP	**P**	**20 03 54.5**	**+1.8**
TJN	**Taejon**	**19.84**	**320**	P	**P**	**20 03 58.2**	**+1.7**
ERM	**Erimo**	**20.05**	**0**		**P**	**20 04 01.0**	**+2.4**
ERM	**Erimo**	**20.05**	**0**	P	**P**	**20 04 01.7**	**+3.0**
JEM	**Erimo**	**20.05**	**0**	P	**P**	**20 04 01.5**	**+2.8**
YHNB	**Yeheng**	**20.09**	**282**	P	**P**	**20 03 59.2**	**-0.2**
YHNB				IAmb	IAmb	20 04 12.8	
	comp=Z,22nm,0.8s						
YHNB	**Yeheng**	**20.09**	**282**	P	**P**	**20 04 00.8**	**+1.4**
YULB	**Yu-li**	**20.12**	**278**	P	Pn	20 04 04.4	-0.4
KSRS	**Korea Array**	**20.27**	**323**	P	**P**	**20 03 59.9**	**-1.1**
	comp=Z,16nm,0.7s,baz=137,slow=10,SNR=50						
KSRS				S	**S**	**20 07 34.3**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=302,slow=17,SNR=2.0						
KSRS				ScP	**ScP**	**20 11 13.3**	**-2.6**
	comp=Z,7.2nm,1.0s,baz=134,slow=2.7,SNR=21						
	comp=Z,16nm,0.7s						
KSAR	**Wonju Array Be**	**20.28**	**323**	P	**P**	**20 04 00.4**	**-0.8**
KS19	**Wonju Array Si**	**20.33**	**323**	P	**P**	**20 04 00.2**	**-1.6**
KS19				IAmb	IAmb	20 04 04.7	
	comp=Z,18nm,0.7s						
SSLB	**Suanglung**	**20.44**	**279**	P	**P**	**20 04 03.8**	**+0.7**
SSLB				IAmb	IAmb	20 04 06.5	
	comp=Z,24nm,0.7s						
SSLB	**Suanglung**	**20.44**	**279**	P	**P**	**20 04 04.0**	**+0.9**
TPUB	**Ta-pu**	**20.73**	**278**	P	**P**	**20 04 05.3**	**-0.9**
TPUB				IAmb	IAmb	20 04 25.5	
	comp=Z,27nm,1.1s						
TPUB	**Ta-pu**	**20.73**	**278**	P	**P**	**20 04 09.0**	**+2.8**
JKA	**Kamikawa-asahi**	**22.15**	**359**	P	**P**	**20 04 21.0**	**+1.5**
ASAJ	**Asahikawa**	**22.15**	**359**	P	**P**	**20 04 20.4**	**+0.9**
	comp=Z,49nm,0.6s,baz=230,slow=9.8,SNR=43						
	comp=Z,49nm,0.6s						
NJ2	**Nanjing**	**23.75**	**300**	eP	**P**	**20 04 35.4**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
USA0B	**Ussuriysk Arra**	**24.04**	**340**	P	**P**	**20 04 37.2**	**+0.5**
USA0B				IAmb	IAmb	20 05 18.9	
	comp=Z,19nm,1.1s						
USRK	**Ussuriysk Ar.**	**24.04**	**340**	P	**P**	**20 04 37.1**	**+0.5**
USRK	**Ussuriysk Ar.**	**24.04**	**340**	P	**P**	**20 04 36.9**	**+0.3**
	comp=Z,3.4nm,0.5s,baz=148,slow=7.8,SNR=14						
	comp=Z,3.4nm,0.5s						
YSS	**Yuzh-Sakhalins**	**24.99**	**360**	P	**P**	**20 04 45.8**	**+0.6**
YSS				IAmb	IAmb	20 05 20.2	
	comp=Z,33nm,0.9s						
SWI	**Sorong**	**25.38**	**208**	P	**P**	**20 04 48.4**	**-0.7**
	comp=Z,16nm,0.8s						
CN2	**Changchun**	**26.26**	**330**	P	**P**	**20 05 02.4**	**+5.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
FAKI	**Fak Fak**	**26.84**	**204**	P	**P**	**20 05 01.5**	**-0.5**
FAKI				IAmb	IAmb	20 05 03.2	
	comp=Z,24nm,1.1s						
FAKI	**Fak Fak**	**26.84**	**204**	P	**P**	**20 05 00.7**	**-1.4**
	comp=Z,23nm,1.8s						
BNX	**BinXian**	**26.99**	**335**	⇓P	**P**	**20 05 03.9**	**+0.8**
BNX				pmax	pmax		
	comp=Z,25nm,0.8s						
BNX				pmax	pmax		
	comp=Z,78nm,3.5s						
LBMI	**Labuha**	**27.05**	**216**	P	**P**	**20 05 04.5**	**+0.5**
	comp=Z,116nm,0.7s,comp=Z,1μm						
KMSI	**Cibinong**	**28.19**	**224**	P	**P**	**20 05 14.3**	**+0.3**
	comp=Z,201nm,1.0s,comp=Z,4μm						
GTOI	**Gorontalo**	**28.77**	**225**	P	**P**	**20 05 19.3**	**+0.1**
	comp=Z,26nm,1.1s,comp=Z,216nm						
HNS	**HongShan**	**28.92**	**309**	⇓P	**P**	**20 05 21.1**	**+0.8**
HNS				pmax	pmax		
	comp=Z,21nm,1.0s						
SANI	**Sanana**	**29.06**	**217**	P	**P**	**20 05 19.7**	**-2.1**
	comp=Z,32nm,1.2s						
NLAI	**Namlea**	**29.46**	**214**	P	**P**	**20 05 25.4**	**+0.2**
	comp=Z,22nm,0.7s						
MRSI	**Marisa**	**29.61**	**227**	P	**P**	**20 05 27.4**	**+0.8**
	comp=Z,89nm,0.9s,comp=Z,834nm						
TOLI2	**Tolitoli**	**29.95**	**229**	P	**P**	**20 05 30.2**	**+0.6**
LUWI	**Luwuk**	**30.19**	**224**	P	**P**	**20 05 30.1**	**-1.6**
LUWI	**Luwuk**	**30.19**	**224**	P	**P**	**20 05 30.3**	**-1.5**
	comp=Z,77nm,1.0s						
HEH	**HeiHe**	**30.85**	**340**	eP	**P**	**20 05 36.8**	**-0.3**
HEH				pmax	pmax		
	comp=Z,37nm,1.1s						
MPSI	**Mapaga**	**31.12**	**229**	P	**P**	**20 05 40.4**	**+0.5**
	comp=Z,19nm,0.9s						
XLT	**XiLinHaoTe**	**31.28**	**321**	eP	**P**	**20 05 41.8**	**+0.7**
XLT				pP	pP	20 06 31.8	+1.6
XLT				sP	sP	20 07 00.9	+1.8
XLT				pmax	pmax		
	comp=Z,7.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,64nm,4.3s						
HHC	**Hu-ho-hao-te**	**32.59**	**313**	eP	**P**	**20 05 55.5**	**+2.9**
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,90nm,5.1s						
PEA0B	**Petropavlovsk-**	**33.11**	**16**	P	**P**	**20 05 57.4**	**+0.6**
PEA0B				IAmb	IAmb	20 06 38.7	
	comp=Z,35nm,1.4s						
PETK	**Petropavlovsk-**	**33.11**	**16**	P	**P**	**20 05 57.9**	**+1.1**
PETK	**Petropavlovsk-**	**33.11**	**16**	P	**P**	**20 05 56.9**	**+0.1**
	comp=Z,6.4nm,0.8s,baz=191,slow=4.5,SNR=6.0						
	comp=Z,6.4nm,0.8s						
BTO	**Baotou**	**33.55**	**311**	eP	**P**	**20 06 02.9**	**+2.0**
BTO				pP	**pwP**	**20 06 54.2**	**+3.6**
BTO				sP	**PP**	**20 07 23.1**	**+0.7**
BTO				PP	**PnPn**	**20 07 27.3**	**+4.3**
BTO				pmax	pmax		
	comp=Z,16nm,0.6s						
BTO				pmax	pmax		
	comp=Z,120nm,6.4s						
TTSI	**Tana Toraja**	**33.62**	**225**	P	**P**	**20 06 02.0**	**+0.4**
	comp=Z,51nm,1.0s						
BBSI	**Bau Bau**	**33.81**	**219**	P	**P**	**20 06 03.1**	**-0.1**
	comp=Z,30nm,0.9s						
BKB	**Balikpapan**	**34.38**	**231**	P	**P**	**20 06 09.5**	**+1.4**
	comp=Z,300nm,1.2s						
MTKI	**Mura Teweh, K**	**35.64**	**234**	P	**P**	**20 06 19.7**	**+0.8**
	comp=Z,95nm,0.8s						
COEN	**Coen**	**35.64**	**180**	P	**P**	**20 06 18.3**	**-0.5**
COEN				IAmb	IAmb	20 06 20.5	
	comp=Z,13nm,0.9s						
CD2	**Chengdu**	**36.15**	**293**	P	**P**	**20 06 21.3**	**-1.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MTN	**Manton Dam**	**36.46**	**200**	P	**P**	**20 06 25.2**	**-0.5**
MTN				IAmb	IAmb	20 06 25.8	
	comp=Z,45nm,1.4s						
SOEI	**Soe**	**36.46**	**212**	P	**P**	**20 06 24.6**	**-1.2**
SOEI	**Soe**	**36.46**	**212**	P	**P**	**20 06 24.5**	**-1.4**
	comp=Z,34nm,0.5s						
MMRI	**Maumere**	**36.57**	**216**	P	**P**	**20 06 25.8**	**-1.0**
MMRI	**Maumere**	**36.57**	**216**	P	**P**	**20 06 26.6**	**-0.1**
	comp=Z,76nm,0.6s,comp=Z,1μm						
LZH	**Lanzhou**	**36.82**	**301**	⇑P	**P**	**20 06 29.2**	**+0.4**
LZH				pP	pwP	20 07 27.2	+4.5
LZH				S	**S**	**20 11 53.0**	**-1.3**
LZH				pmax	pmax		
	comp=Z,25nm,1.0s						
EDFI	**Ende, Flores**	**36.97**	**217**	P	**P**	**20 06 29.4**	**-0.8**
	comp=Z,85nm,0.8s,comp=Z,999nm						
BATI	**Baumata**	**37.15**	**213**	P	**P**	**20 06 30.5**	**-1.1**
	comp=Z,90nm,0.6s						
STKI	**Sintang**	**37.65**	**239**	P	**P**	**20 06 36.7**	**+0.9**
	comp=Z,38nm,0.8s,comp=Z,11μm						
PZH	**PanZhiHua**	**37.83**	**285**	P	**P**	**20 06 37.4**	**+0.1**
PZH				S	**S**	**20 12 05.8**	**-3.8**
PZH				pmax	pmax		
	comp=Z,20nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,4.5s						
MA2	**Magadan**	**38.03**	**6**	P	**P**	**20 06 38.9**	**+0.5**
MA2				IAmb	IAmb	20 06 40.0	
	comp=Z,15nm,0.7s						
ULN	**Ulaanbaatar**	**38.72**	**321**	P	**P**	**20 06 45.0**	**+0.5**
BASI	**Baing, Sumba**	**38.79**	**217**	P	**P**	**20 06 44.0**	**-1.2**
	comp=Z,356nm,0.6s,comp=Z,3μm						
SONM	**Songino Array**	**39.09**	**320**	P	**P**	**20 06 48.0**	**+0.5**
SONM	**Songino Array**	**39.09**	**320**	P	**P**	**20 06 48.0**	**+0.5**
	comp=Z,3.8nm,0.4s,baz=126,slow=7.2,SNR=59						
SONM				ScP	**ScP**	**20 12 13.5**	**-2.7**
	comp=Z,2.3nm,0.8s,baz=130,slow=3.4,SNR=9.8						
	comp=Z,3.8nm,0.4s						
PLAI	**Plampang**	**39.33**	**222**	P	**P**	**20 06 48.7**	**-1.0**
	comp=Z,129nm,0.9s,comp=Z,2μm						
PLAI				pP	**pP**	**20 07 42.7**	**+3.0**
	comp=Z,129nm,0.9s,comp=Z,2μm						
CRAI	**Chiangrai**	**39.76**	**276**	P	**P**	**20 06 54.1**	**+0.9**
TWSI	**Taliwang, Sumb**	**39.82**	**223**	P	**P**	**20 06 52.9**	**-0.8**
	comp=Z,42nm,0.7s						
KNRA	**Kununurra**	**39.89**	**202**	P	**P**	**20 06 53.7**	**-0.5**
SRBI	**Singaraja**	**40.41**	**225**	P	**P**	**20 06 59.4**	**+0.8**
	comp=Z,23nm,1.2s						
KMMI	**Kalianget**	**40.50**	**228**	P	**P**	**20 07 01.0**	**+1.7**
	comp=Z,191nm,1.1s,comp=Z,5μm						
GTA	**Gaotai**	**40.64**	**305**	P	**P**	**20 07 00.7**	**+0.3**
GTA				PcP	**PcP**	**20 08 57.8**	**+0.7**
GTA				ScP	**ScP**	**20 12 23.6**	**+1.1**
GTA				S	**S**	**20 12 48.4**	**-2.8**
GTA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
GTA				LR	LR		
	comp=N,92nm,18.9s						
GTA				LR	LR		
	comp=E,81nm,17.8s						
GTA				LR	LR		
	comp=Z,64nm,17.1s						
ABJI	**Asem Bagus**	**40.86**	**227**	P	**P**	**20 07 03.2**	**+1.0**
	comp=Z,72nm,1.0s						
YAK	**Yakutsk**	**41.14**	**350**	P	**P**	**20 07 03.1**	**-0.8**
BLJI	**Banyuglugur**	**41.26**	**228**	P	**P**	**20 07 06.1**	**+0.7**
	comp=Z,77nm,0.7s						
CHTO	**Chiang Mai**	**41.35**	**274**	P	**P**	**20 07 06.2**	**0.0**
JAGI	**Jajag, Banyuwa**	**41.40**	**226**	P	**P**	**20 07 05.8**	**-0.9**
JAGI	**Jajag, Banyuwa**	**41.40**	**226**	P	**P**	**20 07 05.7**	**-0.9**
	comp=Z,59nm,1.2s						
CMAR	**Chiang Mai Arr**	**41.43**	**273**	P	**P**	**20 07 07.3**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=69,slow=7.2,SNR=23						
CMAR				PcP	**PcP**	**20 09 00.2**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=98,slow=0.7,SNR=5.3						
	comp=Z,3.0nm,0.7s						
WB0	**Warramunga Arr**	**42.27**	**192**	P	**P**	**20 07 13.1**	**-0.5**
WB0				IAmb	IAmb	20 07 14.3	
	comp=Z,23nm,1.1s						
WR0	**Warramunga Arr**	**42.43**	**192**	P	**P**	**20 07 14.4**	**-0.4**
WR0				IAmb	IAmb	20 07 15.8	
	comp=Z,26nm,1.2s						
WRAB	**Tennant Creek**	**42.44**	**192**	P	**P**	**20 07 14.6**	**-0.3**
WRAB				IAmb	IAmb	20 07 15.8	
	comp=Z,29nm,0.6s						
WB2	**Warramunga Arr**	**42.45**	**192**	IAmb	IAmb	20 07 15.9	
	comp=Z,27nm,0.7s						
WRA	**Warramunga Arr**	**42.45**	**192**	P	**P**	**20 07 14.6**	**-0.4**
	comp=Z,21nm,0.6s,baz=8.6,slow=7.9,SNR=84						
WRA				PcP	**PcP**	**20 09 01.8**	**-1.3**
	comp=Z,2.8nm,0.8s,baz=359,slow=3.2,SNR=2.9						
WRA				ScP	**ScP**	**20 12 28.2**	**-1.6**
	comp=Z,3.4nm,1.0s,baz=10,slow=4.7,SNR=5.7						
WRA				S	**S**	**20 13 14.4**	**-3.4**
	comp=Z,3.0nm,1.0s,baz=12,slow=14,SNR=2.5						
	comp=Z,21nm,0.6s						
PWJI	**Pagerwojo**	**42.70**	**229**	P	**P**	**20 07 17.3**	**+0.2**
	comp=Z,87nm,1.0s						
FITZ	**Fitzroy Crossi**	**43.25**	**205**	P	**P**	**20 07 21.4**	**0.0**
UGM	**Wanagama**	**43.53**	**231**	P	**P**	**20 07 23.6**	**-0.1**
GOMU	**GeErMu**	**44.06**	**300**	P	**P**	**20 07 29.9**	**+1.7**
GOMU				PcP	pP	20 08 13.1	-6.5
GOMU				pmax	pmax		
	comp=Z,39nm,0.7s						
KULM	**Kulim**	**44.19**	**254**	P	**P**	**20 07 30.2**	**+1.1**
KULM				IAmb	IAmb	20 07 30.9	
	comp=Z,20nm,0.6s						
IPM	**Ipoh**	**44.22**	**253**	IAmb	IAmb	20 07 30.6	
	comp=Z,14nm,0.8s						
KPJI	**Karang Pucung**	**44.30**	**233**	P	**P**	**20 07 29.5**	**-0.3**
	comp=Z,53nm,0.7s						
LEM	**Lembang**	**44.95**	**235**	P	**P**	**20 07 35.5**	**+0.3**
	comp=Z,47nm,1.2s						
CBJI	**Citeko**	**45.28**	**236**	P	**P**	**20 07 38.3**	**+0.8**
ASAR	**Alice Springs**	**46.16**	**192**	P	**P**	**20 07 43.9**	**-0.4**
	comp=Z,4.6nm,0.6s,baz=16,slow=12,SNR=104						
ASAR				PcP	**PcP**	**20 09 14.5**	**-1.3**
	comp=Z,2.0nm,0.8s,baz=7.0,slow=4.1,SNR=7.3						
ASAR				ScP	**ScP**	**20 12 43.4**	**-1.6**
	comp=Z,1.2nm,0.7s,baz=11,slow=3.0,SNR=6.6						
ASAR				S	**S**	**20 14 07.3**	**-3.8**
	comp=Z,1.0nm,0.8s,baz=18,slow=18,SNR=7.3						
	comp=Z,4.6nm,0.6s						
NIKH	**Nikolski High**	**47.90**	**37**	P	**P**	**20 07 57.7**	**+0.4**
	baz=249						
BILL	**Bilibino**	**48.34**	**11**	P	**P**	**20 08 00.9**	**+0.5**
BILL				IAmb	IAmb	20 08 01.9	
	comp=Z,17nm,0.7s						
MBWA	**Marble Bar**	**48.47**	**210**	P	**P**	**20 08 01.6**	**-0.4**
MBWA				IAmb	IAmb	20 08 02.9	
	comp=Z,30nm,0.8s						
PSA00	**Pilbara Seismi**	**48.78**	**209**	IAmb	IAmb	20 08 05.4	
	comp=Z,36nm,0.9s						
MARNC	**Mare, Loyalty**	**49.54**	**149**	P	**P**	**20 08 11.1**	**+1.0**
WMQ	**Urumqi**	**50.34**	**309**	⇓P	**P**	**20 08 17.4**	**+1.4**
WMQ				pmax	pmax		
	comp=Z,13nm,0.9s						
TIXI	**Tiksi**	**50.43**	**354**	P	**P**	**20 08 15.4**	**-0.7**
TIXI				IAmb	IAmb	20 08 16.3	
	comp=Z,7.6nm,0.5s						
GAMB	**Gambell**	**51.48**	**24**	P	**P**	**20 08 25.3**	**+1.3**
	baz=238						
M11K	**Mekoryuk**	**52.14**	**29**	P	**P**	**20 08 30.3**	**+1.4**
	baz=246						
SDPT	**Sand Point**	**53.32**	**36**	P	**P**	**20 08 38.2**	**+0.6**
	baz=255						
M13K	**Dall Lake**	**53.46**	**30**	P	**P**	**20 08 39.8**	**+1.3**
	baz=249						
STKA	**Stephens Creek**	**53.50**	**182**	P	**P**	**20 08 38.7**	**-0.4**
	comp=Z,3.5nm,0.6s,baz=344,slow=8.5,SNR=5.7						
	comp=Z,3.5nm,0.6s						
CHNA	**Chernabura Isl**	**53.68**	**37**	P	**P**	**20 08 41.1**	**+0.9**
	baz=256						
TNA	**Tin City**	**53.80**	**23**	P	**P**	**20 08 42.2**	**+1.3**
	baz=240,SNR=6.6						
ZAA0	**Zalesovo Array**	**53.96**	**322**	IAmb	IAmb	20 08 43.2	
	comp=Z,8.3nm,0.6s						
ZALV	**Zalesovo Beam**	**53.96**	**322**	P	**P**	**20 08 41.5**	**-0.8**
ZALV	**Zalesovo Beam**	**53.96**	**322

J16K **Anvik River** 55.71 27 IAmb IAmb 20 08 57.1
comp=Z,22nm,0.8s
J16K **Anvik River** 55.71 27 P **P** **20 08 56.3 +1.6**
baz=249,SNR=8.7
G16K **Koyuk River** 55.80 24 P **P** **20 08 56.2 +1.0**
baz=246
I17K **Unalakleet** 55.88 26 IAmb IAmb 20 08 58.3
comp=Z,17nm,0.8s
I17K **Unalakleet** 55.88 26 P **P** **20 08 57.5 +1.6**
baz=249,SNR=9.1
C16K **Lisburne Hills** 56.02 21 P **P** **20 08 57.9 +1.2**
baz=242
O17K **Koliganek Bris** 56.23 32 P **P** **20 08 59.9 +1.5**
baz=255,SNR=6.3
L17K **Donlin** 56.33 29 P **P** **20 09 01.1 +2.0**
baz=252,SNR=5.6
N17K **Nushagak Hills** 56.39 31 P **P** **20 09 01.2 +1.7**
baz=254
P17K **Kvichak River** 56.41 33 P **P** **20 09 00.7 +1.1**
baz=256
Q17K **Contact Creek** 56.48 34 P **P** **20 09 00.5 +0.2**
baz=257
G17K **Kiwalik Mounta** 56.50 25 P **P** **20 09 01.2 +1.0**
baz=248
D17K **Noatak River** 56.51 22 P **P** **20 09 01.4 +1.2**
baz=244,SNR=12
M17K **Holitna River** 56.51 30 P **P** **20 09 01.7 +1.4**
baz=254
K17K **Iditarod** 56.51 28 P **P** **20 09 02.1 +1.8**
baz=252
H17K **Granite Mounta** 56.58 25 IAmb IAmb 20 09 03.0
comp=Z,15nm,0.8s
H17K **Granite Mounta** 56.58 25 P **P** **20 09 02.2 +1.4**
baz=249,SNR=12
F17K **Baldwin Pennin** 56.64 23 P **P** **20 09 02.5 +1.4**
baz=247
C17K **DeLong Mountai** 56.82 21 P **P** **20 09 03.6 +1.2**
baz=244
N18K **Kilae Creek** 57.05 31 P **P** **20 09 05.5 +1.4**
baz=256
PRZ **Przheval'sk** 57.05 307 IAmb IAmb 20 09 07.2
comp=Z,20nm,1.4s
P18K **Big Mountain,** 57.06 32 P **P** **20 09 04.9 +0.6**
baz=257
L18K **Granite Mounta** 57.08 29 P **P** **20 09 05.6 +1.3**
baz=254
O18K **Koktuh Hills** 57.18 32 P **P** **20 09 06.4 +1.4**
baz=257,SNR=11
KURK **Kurchatov** 57.23 317 P **P** **20 09 04.8 -0.7**
E18K **Tukpahlearik C** 57.26 22 P **P** **20 09 06.9 +1.4**
baz=247,SNR=9.6
H18K **Honhosa River** 57.27 25 P **P** **20 09 06.5 +0.8**
baz=250
KURBB **Kurchatov Arra** 57.28 317 P **P** **20 09 05.7 -0.2**
comp=Z,10.0nm,0.6s,baz=92,slow=7.7,SNR=136
KURBB S **S** **20 16 38.4 -3.5**
comp=Z,0.6nm,0.8s,baz=282,slow=37,SNR=5.6
comp=Z,10.0nm,0.6s
M18K **Stony River** 57.28 30 P **P** **20 09 07.3 +1.6**
baz=255
F18K **Selawik** 57.29 24 P **P** **20 09 06.9 +1.3**
baz=248,SNR=6.1
SVW2 **Sparrevohn** 57.30 30 IAmb IAmb 20 09 08.1
comp=Z,15nm,0.6s
G18K **Tagagawik** 57.41 25 P **P** **20 09 07.4 +0.8**
baz=250
J18K **Innoko River** 57.42 28 P **P** **20 09 07.7 +1.0**
baz=253
C18K **Utukok River** 57.55 21 P **P** **20 09 08.3 +0.7**
baz=246
TTA **Tatalina** 57.58 28 P **P** **20 09 08.7 +0.9**
baz=254
OHAK **Old Harbor** 57.64 35 P **P** **20 09 08.9 +0.7**
baz=260
B18K **Kokolik River** 57.66 20 P **P** **20 09 09.5 +1.3**
baz=244
O19K **Port Alsworth** 57.69 32 P **P** **20 09 09.7 +1.1**
baz=258
GCSA **Galena City Sc** 57.74 26 P **P** **20 09 09.2 +0.4**
baz=252
N19K **Bonanza Creek** 57.75 31 P **P** **20 09 10.4 +1.4**
baz=257
NRIK **Noril'sk** 57.75 340 IAmb IAmb 20 09 09.5
comp=Z,9.9nm,0.8s
NRIK **Noril'sk** 57.75 340 P **P** **20 09 08.6 -0.3**
comp=Z,8.1nm,0.6s,baz=110,slow=8.1,SNR=15
NRIK ScP **ScP** **20 13 30.1 -4.3**
comp=Z,4.4nm,0.7s,baz=132,slow=2.4,SNR=6.5
comp=Z,8.1nm,0.6s
Q19K **Cape Douglas,** 57.76 33 P **P** **20 09 09.0 -0.2**
baz=259
L19K **White Mountain** 57.90 29 IAmb IAmb 20 09 12.7
comp=Z,18nm,1.2s
L19K **White Mountain** 57.90 29 P **P** **20 09 11.4 +1.3**
baz=256
J19K **Poorman** 58.04 27 P **P** **20 09 12.3 +1.3**
baz=254
M19K **Big River Lodg** 58.05 30 P **P** **20 09 12.4 +1.4**
baz=256
F19K **Shaleruckin Mo** 58.07 24 P **P** **20 09 11.5 +0.4**
baz=250
G19K **Purcell Mounta** 58.10 24 P **P** **20 09 12.2 +0.9**
baz=251
KDAK **Kodiak Island** 58.11 35 P **P** **20 09 12.0 +0.5**
baz=261
P19K **Oil Pt** 58.11 32 P **P** **20 09 12.4 +0.8**
baz=259
H19K **Roundabout Mou** 58.15 25 P **P** **20 09 13.1 +1.4**
baz=252
A19K **Wainwright** 58.25 19 P **P** **20 09 13.9 +1.6**
baz=245
C19K **Lookout Ridge** 58.27 21 P **P** **20 09 13.8 +1.2**
baz=247
Q20K **Shuyak Island** 58.34 34 P **P** **20 09 13.5 +0.4**
baz=260
L20K **Farewell, AK** 58.41 29 P **P** **20 09 14.8 +1.2**
baz=256
E19K **Redstone River** 58.48 23 P **P** **20 09 15.4 +1.4**
baz=250
D19K **Kuna River** 58.54 22 P **P** **20 09 15.5 +1.1**
baz=249
K20K **Telida** 58.54 28 P **P** **20 09 15.9 +1.5**
baz=256
M20K **Styx River** 58.62 30 P **P** **20 09 16.5 +1.4**
baz=258
J20K **Nowinta River** 58.72 27 P **P** **20 09 17.3 +1.7**
baz=255
I20K **Naaghedeneel** 58.74 26 P **P** **20 09 17.2 +1.5**
baz=254
H20K **Anotleneega Mo** 58.77 26 P **P** **20 09 17.2 +1.3**
baz=254
F20K **Avaraart Lake** 58.90 24 P **P** **20 09 18.1 +1.3**
baz=252
N20K **Mount Spurr** 58.91 31 P **P** **20 09 18.3 +1.2**
baz=259
KSH **Kashi** 59.00 304 P **P** **20 09 21.3 +3.1**
KSH pmax pmax
comp=Z,7.0nm,0.8s
E20K **Nigu River** 59.12 22 P **P** **20 09 19.6 +1.2**
baz=251
D20K **Etivluk River** 59.13 22 P **P** **20 09 19.5 +1.1**
baz=250
PPLA **Purkeypile** 59.27 29 P **P** **20 09 20.7 +1.1**
baz=258
BRSE **Bradley Lake S** 59.37 33 P **P** **20 09 20.4 +0.3**
baz=261
SKT **Skwentna** 59.38 30 IAmb IAmb 20 09 21.2
comp=Z,13nm,0.8s
SKT **Skwentna** 59.38 30 P **P** **20 09 20.9 +0.6**
baz=259,SNR=6.2
B20K **Meade River** 59.41 20 P **P** **20 09 21.4 +1.2**
baz=249
CAST **Castle Rocks** 59.43 28 P **P** **20 09 21.4 +0.8**
CAST IAmb IAmb 20 09 22.5
comp=Z,23nm,0.8s
CAST **Castle Rocks** 59.43 28 P **P** **20 09 21.7 +1.1**
baz=258,SNR=18
CHUM **Lake Minchumin** 59.43 28 P **P** **20 09 21.8 +1.3**
baz=257,SNR=7.0
G21K **Allakaket** 59.59 25 P **P** **20 09 22.7 +1.1**
baz=254
H21K **Melozitna Rive** 59.65 26 P **P** **20 09 23.4 +1.4**
baz=256
SUA **Susitna One** 59.65 31 IAmb IAmb 20 09 23.9
comp=Z,11nm,0.8s
SUA **Susitna One** 59.65 31 P **P** **20 09 22.9 +0.7**
baz=260
F21K **Alatna River** 59.79 24 P **P** **20 09 24.0 +1.1**
baz=254
I21K **Tanana** 59.86 26 P **P** **20 09 24.9 +1.5**
baz=257
C21K **Knifeblade Rid** 59.90 21 P **P** **20 09 24.5 +0.9**
baz=252
AAK **Ala-Archa** 59.93 307 P **P** **20 09 24.8 +0.2**
E21K **Killik River** 59.96 22 P **P** **20 09 25.8 +1.7**
baz=253
O22K **Cooper Landing** 59.99 32 P **P** **20 09 24.6 +0.3**
baz=262,SNR=5.4
M22K **Willow** 60.00 30 P **P** **20 09 24.8 +0.5**
baz=260
CUT **Chulitna** 60.04 30 P **P** **20 09 24.9 +0.2**
baz=260
BPAW **Bear Paw Mtn.** 60.05 28 P **P** **20 09 25.4 +0.7**
BPAW **Bear Paw Mtn.** 60.05 28 P **P** **20 09 25.6 +0.8**
baz=258,SNR=17
A21K **Barrow** 60.05 19 P **P** **20 09 24.8 +0.2**
baz=249
SEW **Seward** 60.07 32 P **P** **20 09 25.0 +0.2**
baz=262
RC01 **Rabbit Creek A** 60.07 31 IAmb IAmb 20 09 26.3
comp=Z,17nm,0.9s
RC01 **Rabbit Creek A** 60.07 31 P **P** **20 09 25.2 +0.3**
baz=261
B21K **Ikpikpuk River** 60.11 21 P **P** **20 09 26.1 +1.1**
baz=252
TRF **Thorofare Moun** 60.22 28 P **P** **20 09 26.3 +0.2**
baz=259,SNR=10
H22K **Ishtalitna Cre** 60.27 26 P **P** **20 09 27.6 +1.4**
baz=257,SNR=7.6
MLY **Manley** 60.34 27 IAmb IAmb 20 09 28.8
comp=Z,11nm,0.8s
MLY **Manley** 60.34 27 P **P** **20 09 27.7 +0.9**
baz=258,SNR=13
PMR **Palmer** 60.44 31 P **P** **20 09 27.3 0.0**
PMR IAmb IAmb 20 09 28.1
comp=Z,14nm,0.8s
PMR **Palmer** 60.44 31 P **P** **20 09 27.3 0.0**
baz=261
G22K **Bettles** 60.46 24 P **P** **20 09 28.7 +1.3**
baz=256
D22K **Ayikyak River** 60.54 22 P **P** **20 09 29.6 +1.6**
baz=254
GHO **Glory Hole Cre** 60.56 30 IAmb IAmb 20 09 29.6
comp=Z,20nm,0.8s
E22K **Anaktuvuk Pass** 60.65 23 P **P** **20 09 29.9 +1.2**
baz=255
B22K **Teshekpuk Lake** 60.72 20 IAmb IAmb 20 09 30.9
comp=Z,11nm,0.9s
B22K **Teshekpuk Lake** 60.72 20 P **P** **20 09 29.8 +0.7**
baz=252,SNR=5.5
KNK **Knik Glacier** 60.73 31 P **P** **20 09 29.7 +0.3**
baz=262,SNR=10
SML **Sawmill** 60.85 30 P **P** **20 09 30.6 +0.4**
baz=262,SNR=7.7
RND **Reindeer** 60.85 29 IAmb IAmb 20 09 31.9
comp=Z,6.6nm,0.6s
MCK **McKinley** 60.87 28 P **P** **20 09 30.7 +0.4**
baz=260,SNR=7.1
WAT1 **Susitna Watana** 60.90 29 P **P** **20 09 30.6 +0.1**
baz=261
I23K **Minto, Yukon-K** 60.94 27 P **P** **20 09 31.5 +0.9**
baz=259
NEA2 **Nenana** 60.96 27 IAmb IAmb 20 09 33.1
comp=Z,8.7nm,0.8s
NEA2 **Nenana** 60.96 27 P **P** **20 09 31.5 +0.6**
baz=260,SNR=10
G23K **Bananza Creek** 60.99 25 P **P** **20 09 32.4 +1.4**
baz=258
COLD **Coldfoot** 61.03 24 P **P** **20 09 32.7 +1.4**
baz=257,SNR=8.0
P23K **Montague Islan** 61.07 33 P **P** **20 09 32.6 +0.9**
baz=264
M23K **Glacier View** 61.13 30 P **P** **20 09 32.3 +0.3**
baz=263
WAT6 **Susitna Watana** 61.23 30 P **P** **20 09 33.1 +0.3**
baz=262,SNR=8.0
D23K **Nanushuk River** 61.26 22 P **P** **20 09 34.4 +1.6**
baz=256
SCM **Sheep Creek Mo** 61.32 30 P **P** **20 09 34.0 +0.6**
baz=263
WRH **Wood River Hil** 61.36 27 P **P** **20 09 33.6 +0.1**
E23K **Chandalar** 61.43 23 P **P** **20 09 35.9 +1.8**
baz=257,SNR=15
DHY **Denali Highway** 61.46 29 P **P** **20 09 35.2 +0.7**
baz=262
C23K **Itkillik River** 61.50 21 P **P** **20 09 35.5 +1.2**
baz=256
TOLK **Toolik Lake Re** 61.58 23 IAmb IAmb 20 09 37.1
comp=Z,12nm,0.8s
TOLK **Toolik Lake Re** 61.58 23 P **P** **20 09 36.2 +1.2**
baz=257,SNR=15
H24K **Noodor Dome** 61.67 26 P **P** **20 09 36.7 +1.1**
baz=260
POKR **Poker Plat Res** 61.74 27 P **P** **20 09 37.1 +1.1**
baz=261
HDA **Harding Lake** 61.84 28 IAmb IAmb 20 09 37.0
comp=Z,13nm,0.9s
HDA **Harding Lake** 61.84 28 P **P** **20 09 36.5 -0.2**
baz=262,SNR=5.8
E24K **Your Creek** 61.85 23 IAmb IAmb 20 09 39.1
comp=Z,6.2nm,0.7s
E24K **Your Creek** 61.85 23 P **P** **20 09 37.9 +1.1**
baz=258,SNR=12
M24K **Tolsona, Glenn** 61.90 30 P **P** **20 09 38.3 +1.1**
baz=264
IL31 61.91 27 IAmb IAmb 20 09 37.5
comp=Z,11nm,0.8s
ILAR **Eielson Array** 61.91 27 P **P** **20 09 36.5 -0.7**
comp=Z,9.2nm,0.8s,baz=258,slow=5.4,SNR=94
comp=Z,9.2nm,0.8s
EYAK **Cordova Ski Ar** 61.95 32 P **P** **20 09 38.5 +1.1**
baz=265
KLU **Klutina** 61.95 31 IAmb IAmb 20 09 39.2
comp=Z,11nm,0.7s
KLU **Klutina** 61.95 31 P **P** **20 09 38.2 +0.6**
baz=264
D24K **Happy Valley** 61.96 22 P **P** **20 09 38.6 +1.2**
baz=258
F24K **Squaw Lake** 61.97 24 P **P** **20 09 38.6 +1.0**
baz=259
G24K **Hadweenzic Riv** 61.98 25 P **P** **20 09 39.1 +1.5**
baz=260
C24K **Franklin Bluff** 62.12 21 P **P** **20 09 39.5 +1.0**
baz=258
K24K **Donnelly Dome** 62.27 28 P **P** **20 09 40.7 +1.1**
baz=263
PAX **Paxson** 62.31 29 P **P** **20 09 40.4 +0.4**
baz=264
HARP **HAARP** 62.40 30 P **P** **20 09 41.1 +0.6**
baz=265,SNR=6.4
BVAR **Borovoye Array** 62.42 319 P **P** **20 09 40.9 +0.1**
comp=Z,8.8nm,0.4s,baz=95,slow=8.2,SNR=50
BVAR S **S** **20 17 41.4 -5.9**
comp=Z,1.5nm,1.0s,baz=264,slow=39,SNR=4.0
comp=Z,8.8nm,0.4s
BRVK **Borovoye** 62.49 319 P **P** **20 09 41.0 -0.2**
BRVK IAmb IAmb 20 09 42.7
comp=Z,13nm,1.2s
G25K **Bearman Lake** 62.53 25 P **P** **20 09 42.1 +0.9**
baz=262
BMRM **Bremner River** 62.54 32 P **P** **20 09 42.1 +0.7**
baz=266,SNR=5.8
J25K **Salcha River,** 62.54 27 P **P** **20 09 41.1 -0.3**
baz=263
H25L **Birch Creek** 62.57 26 P **P** **20 09 42.7 +1.3**
baz=262
PRP **Porcupine Dome** 62.59 26 P **P** **20 09 42.5 +0.6**
baz=263
N25K **Chitina, Valde** 62.59 31 P **P** **20 09 42.7 +0.9**
baz=266
F25K **Christian River** 62.83 24 P **P** **20 09 44.6 +1.3**
baz=262
FYU **Fort Yukon** 62.84 25 IAmb IAmb 20 09 45.7
comp=Z,11nm,0.9s
D25K **Kavik River** 62.85 22 P **P** **20 09 44.4 +1.1**
baz=260
E25K **Arctic Village** 62.94 24 P **P** **20 09 45.7 +1.7**
baz=261,SNR=7.4
GLB **Gilahina Butte** 62.96 31 IAmb IAmb 20 09 45.8
comp=Z,8.8nm,0.8s
SCRK **Sand Creek** 63.08 28 IAmb IAmb 20 09 46.2
comp=Z,16nm,0.8s
SCRK **Sand Creek** 63.08 28 P **P** **20 09 45.0 -0.1**
baz=265,SNR=17
L26K **Log Cabin Wild** 63.28 29 IAmb IAmb 20 09 48.0
comp=Z,7.5nm,0.7s
L26K **Log Cabin Wild** 63.28 29 P **P** **20 09 47.0 +0.7**
baz=266,SNR=5.0
J26L **Joseph Creek** 63.30 28 P **P** **20 09 46.7 +0.2**
baz=265
MCARA **McCarthy VSAT** 63.33 31 IAmb IAmb 20 09 57.9
comp=Z,20nm,1.0s
MCARA **McCarthy VSAT** 63.33 31 P **P** **20 09 48.1 +1.5**
baz=267
M26K **Nabesna, AK** 63.40 30 P **P** **20 09 48.7 +1.6**
baz=267
F26K **Sheenjek River** 63.41 24 P **P** **20 09 48.9 +1.8**
baz=263,SNR=14
C26K **Camden Bay** 63.45 22 P **P** **20 09 49.1 +1.9**
baz=261
G26K **Porcupine Rive** 63.46 25 P **P** **20 09 48.8 +1.5**
baz=264
I26K **Coal Creek Min** 63.55 27 P **P** **20 09 47.8 -0.1**
baz=265
MESA **MESA** 63.81 33 P **P** **20 09 51.1 +1.1**
baz=269
K27K **Chicken** 63.92 28 P **P** **20 09 51.0 +0.7**
baz=267
M27K **Edge Creek, AK** 63.92 30 P **P** **20 09 51.7 +1.1**
baz=268
L27K **Beaver Creek,** 63.98 29 IAmb IAmb 20 09 52.5
comp=Z,5.8nm,0.8s
L27K **Beaver Creek,** 63.98 29 P **P** **20 09 51.8 +0.9**
baz=267
CTG **Chitna Glacier** 64.13 32 P **P** **20 09 52.8 +0.8**
baz=269
I27K **Kandik River** 64.22 27 P **P** **20 09 53.3 +0.9**
baz=266
G27K **Doyon Strip** 64.28 25 P **P** **20 09 53.8 +1.1**
baz=266
H27K **Steamboat Moun** 64.29 26 P **P** **20 09 54.2 +1.4**
baz=266,SNR=14
EGAK **Eagle** 64.36 27 P **P** **20 09 54.1 +0.9**
baz=267
BVCY **Beaver Creek** 64.40 30 P **P** **20 09 54.6 +1.0**
baz=268
E27K **Coleen River** 64.42 24 P **P** **20 09 54.8 +1.2**
baz=265
SIMJ **Simiganj** 64.48 303 P **P** **20 09 54.3 -0.3**
SIMJ IAmb IAmb 20 09 56.3
comp=Z,14nm,1.0s
YUK3 **Moose Creek** 64.57 31 P **P** **20 09 56.0 +1.1**
baz=269
PINM **Pinnacle** 64.66 33 P **P** **20 09 56.7 +1.4**
baz=270
D27M **Malcolm River** 64.74 22 P **P** **20 09 57.5 +1.8**
baz=265
YUK8 **Steele Glacier** 64.90 31 P **P** **20 09 58.6 +1.5**
baz=270
I28M **Miner Creek** 64.91 27 P **P** **20 09 57.7 +0.9**
baz=268
F28M **Old Crow** 65.03 24 IAmb IAmb 20 09 59.7
comp=Z,7.5nm,0.8s
F28M **Old Crow** 65.03 24 P **P** **20 09 58.9 +1.4**
baz=267,SNR=9.2
PNL **Peninsula** 65.10 33 P **P** **20 09 59.4 +1.3**
baz=271
DAWY **Dawson** 65.10 28 IAmb IAmb 20 09 59.9
comp=Z,6.2nm,0.9s
DAWY **Dawson** 65.10 28 P **P** **20 09 58.9 +0.8**
baz=269
KBL **Kabul** 65.12 299 P **P** **20 09 58.5 -0.4**
E28M **Babbage River** 65.21 23 P **P** **20 10 00.2 +1.5**
baz=267
YUK4 **Talbot Arm** 65.44 31 P **P** **20 10 02.0 +1.5**
baz=271,SNR=7.3
O29M **Mount Kennedy** 65.50 32 P **P** **20 10 02.1 +1.3**
baz=272
M29M **Somme Creek** 65.51 30 IAmb IAmb 20 10 03.2
comp=Z,15nm,1.1s
M29M **Somme Creek** 65.51 30 P **P** **20 10 02.4 +1.6**
baz=271,SNR=6.7
D28M **Stokes Point** 65.54 22 P **P** **20 10 01.8 +1.2**
baz=267
H29M **Whitestone** 65.57 26 P **P** **20 10 02.0 +1.0**
baz=269,SNR=5.6
YUK6 **Outpost Mounta** 65.58 32 P **P** **20 10 02.4 +1.0**
baz=271
J29N **Klondike Camp** 65.62 28 IAmb IAmb 20 10 29.7
comp=Z,13nm,0.3s
J29N **Klondike Camp** 65.62 28 P **P** **20 10 02.9 +1.5**
baz=270
L29M **L29M** 65.66 29 P **P** **20 10 03.3 +1.7**
baz=271
G29M **Pine Creek** 65.72 25 P **P** **20 10 03.5 +1.5**
baz=269
E29M **Blow River** 65.81 24 P **P** **20 10 04.0 +1.6**
baz=268
K29M **Barlow Dome** 65.92 29 P **P** **20 10 04.9 +1.5**
baz=271
P29M **Windy Craggy** 65.94 33 P **P** **20 10 04.9 +1.4**
baz=272
HYT **Haines Junctio** 66.01 32 IAmb IAmb 20 10 09.2
comp=Z,6.0nm,0.7s
HYT **Haines Junctio** 66.01 32 P **P** **20 10 05.7 +1.6**
baz=272
N30M **Aishikik Lake** 66.19 31 P **P** **20 10 06.2 +1.2**
baz=272
EPYK **Eagle Plains** 66.24 26 IAmb IAmb 20 10 07.1
comp=Z,14nm,1.0s
EPYK **Eagle Plains** 66.24 26 P **P** **20 10 06.2 +1.0**
baz=270,SNR=9.7
M30M **Minto, Yukon** 66.28 30 P **P** **20 10 06.9 +1.3**
baz=272
P30M **Million Dollar** 66.31 33 P **P** **20 10 07.2 +1.3**
baz=273
I30M **Mount Dempster** 66.40 27 P **P** **20 10 07.0 +0.6**
baz=271
J30M **Hart River** 66.43 28 P **P** **20 10 07.6 +1.0**
baz=272
G30M **tAoh Zraii Nji** 66.43 25 P **P** **20 10 07.6 +1.1**
baz=271
F30M **Barrier River** 66.60 24 P **P** **20 10 08.5 +1.1**
baz=271
O30N **Mendenhall** 66.70 32 P **P** **20 10 09.5 +1.2**
baz=273
S31K **Pelican** 66.82 35 P **P** **20 10 09.8 +0.8**
baz=274
SKAG **Skagway** 67.17 33 P **P** **20 10 12.2 +1.0**
baz=275
G31M **Satah River** 67.20 25 P **P** **20 10 11.9 +0.7**
baz=272,SNR=15
H31M **Peel River** 67.22 26 P **P** **20 10 12.4 +1.0**
baz=273
WHY **Whitehorse** 67.30 32 P **P** **20 10 12.7 +0.5**
baz=274
F31M **Tsiigehtchic** 67.39 25 P **P** **20 10 12.5 +0.2**
baz=273
M31M **Drury Creek, Y** 67.42 30 P **P** **20 10 13.6 +0.8**
baz=274
INK **Inuvik** 67.43 24 P **P** **20 10 12.8 +0.2**
baz=272,SNR=5.8
R32K **Eaglecrest** 67.70 34 P **P** **20 10 15.6 +1.1**
baz=276
S32K **Killisnoo** 67.75 35 P **P** **20 10 15.9 +1.1**
baz=276
FARO **Faro, Yukon** 67.91 30 P **P** **20 10 16.6 +0.8**
baz=275
P32M **Atlin** 67.98 33 P **P** **20 10 17.3 +1.0**
baz=276
N32M **Quiet Lake** 68.14 31 P **P** **20 10 17.8 +0.5**
baz=276
P33M **Teslin, Yukon** 68.36 32 P **P** **20 10 19.7 +1.0**
baz=276
U33K **Whale Pass** 68.71 37 P **P** **20 10 22.0 +1.2**
baz=278
Q32M **Nakina River** 68.79 34 P **P** **20 10 22.4 +0.9**
baz=277
CRAG **Craig** 68.80 37 P **P** **20 10 22.7 +1.4**
baz=278
MMPY **Sheldon Lake,** 68.83 30 P **P** **20 10 22.6 +1.1**
baz=277
ARU **Arti** 69.02 324 P **P** **20 10 22.1 -0.6**
ARU IAmb IAmb 20 10 23.1
comp=Z,8.8nm,0.7s
ABKAR **Akbulak array** 69.31 316 IAmb IAmb 20 10 25.0
comp=Z,8.0nm,0.6s
R33M **Jennings River** 69.40 33 P **P** **20 10 26.1 +1.0**
baz=278
S34M **Telegraph Cree** 69.53 35 P **P** **20 10 27.2 +1.4**
baz=279
A36M **Sachs Harbour** 69.89 19 IAmb IAmb 20 10 29.2
comp=Z,11nm,0.9s
A36M **Sachs Harbour** 69.89 19 P **P** **20 10 28.3 +0.6**

baz=279
DLBC Dease Lake 70.03 34 P P 20 10 30.1 +1.2
baz=280
T35M Bob Quinn 70.15 36 P P 20 10 30.7 +1.1
baz=280
TGTN Hyland Airport 70.38 31 P P 20 10 32.0 +1.0
baz=280
U35K Hyder 70.46 37 P P 20 10 32.7 +1.3
baz=280
C36M Paulatuk 70.72 22 IAmb IAmb 20 10 33.0
comp=Z,7.4nm,0.6s
C36M Paulatuk 70.72 22 P P 20 10 32.6 -0.1
baz=281
KOTAN Kotaneelee Air 72.69 32 P P 20 10 44.9 +0.2
baz=284
GEYT Alibeck 73.02 305 P P 20 10 47.9 +0.8
comp=Z,4.2nm,0.8s,baz=76,slow=9.5,SNR=10
comp=Z,4.2nm,0.8s
SPITS Spitsbergen Ar 75.60 350 P P 20 10 60.0 -1.2
comp=Z,12nm,1.1s,baz=116,slow=6.6,SNR=2.1
comp=Z,12nm,1.1s
YKA Yellowknife Ar 76.33 28 P P 20 11 05.5 0.0
comp=Z,2.7nm,0.5s,baz=292,slow=5.7,SNR=47
comp=Z,2.7nm,0.5s
RES Resolute Bay 76.90 13 IAmb IAmb 20 11 09.3
comp=Z,5.6nm,0.8s
ARCES ARCESS Array B 78.68 341 P P 20 11 18.1 -0.3
comp=Z,7.2nm,0.6s,baz=72,slow=8.0,SNR=41
comp=Z,7.2nm,0.6s
NEW Newport 80.22 42 P P 20 11 27.2 +0.1
baz=292
KBZ Khabaz 82.13 314 P P 20 11 37.5 +0.4
comp=Z,21nm,0.8s,baz=123,slow=2.7,SNR=24
comp=Z,21nm,0.8s
KIV Kislovodsk 82.18 314 P P 20 11 37.1 -0.4
KIV IAmb IAmb 20 11 40.1
comp=Z,15nm,0.8s
GNI Garni 82.21 310 P P 20 11 38.0 +0.1
GNI IAmb IAmb 20 11 40.5
comp=Z,10nm,1.1s
FINES FINESS Array B 82.93 334 P P 20 11 39.8 -1.2
comp=Z,5.4nm,0.3s,baz=64,slow=4.8,SNR=106
comp=Z,5.4nm,0.3s
NVAR Mina Array Bea 83.12 51 P P 20 11 43.2 +0.5
comp=Z,1.6nm,0.5s,baz=272,slow=5.7,SNR=7.8
comp=Z,1.6nm,0.5s
HLID Hailey 83.80 46 P P 20 11 46.4 +0.4
baz=294
CWC Cottonwood Cre 84.05 53 P P 20 11 47.7 +0.4
baz=293
ELK Elko 84.39 48 P P 20 11 49.1 0.0
MPMC Manual Prospec 84.63 53 P P 20 11 50.9 +0.5
baz=293
EDW2 Edwards Air Fo 84.71 55 P P 20 11 51.1 +0.6
baz=293
LRMC Laurel Mtn Rad 84.72 54 P P 20 11 51.1 +0.5
baz=293
BOZ Bozeman (W) 84.74 43 P P 20 11 51.2 +0.6
baz=296
EGMT Eagleton 84.81 40 P P 20 11 51.4 +0.6
baz=297
FURC Furnace Creek, 84.94 53 P P 20 11 52.2 +0.6
baz=294
CIS Catalina Islan 84.96 56 P P 20 11 52.7 +0.9
baz=293
SCI2 San Clemente I 85.03 57 P P 20 11 53.0 +0.9
baz=293
R11B Troy Canyon, C 85.11 51 P P 20 11 52.9 +0.2
baz=294
GSC Goldstone, Bar 85.44 54 P P 20 11 54.8 +0.6
baz=294
FFC Flin Flon 85.72 32 P P 20 11 55.2 +0.1
FFC IAmb IAmb 20 11 55.7
comp=Z,3.6nm,0.6s
SUMG Summit 85.75 0 IAmb IAmb 20 11 56.3
comp=Z,5.6nm,0.8s
SUMG Summit 85.75 0 *i* P P 20 11 54.0 -1.4
TUQ Turquoise Moun 86.05 53 P P 20 11 58.1 +0.8
baz=294
PSUT Pine Spring 86.28 50 P P 20 11 58.7 +0.3
DUG Dugway, Tooele 86.30 48 P P 20 11 59.1 +0.7
baz=296
PFO Pinyon Flats O 86.38 55 P P 20 11 59.5 +0.6
baz=294
TPFO Pinon Flats 86.39 55 P P 20 11 59.3 +0.4
baz=294
RLMT Red Lodge 86.44 43 P P 20 12 00.5 +1.4
RLMT IAmb IAmb 20 12 00.9
comp=Z,5.3nm,0.5s
RLMT Red Lodge 86.44 43 P P 20 12 00.1 +1.0
baz=298
GMRC Granite Mounta 86.51 54 P P 20 12 00.2 +0.7
baz=294
BELC Belle Mtn. Jos 86.58 55 P P 20 11 60.0 +0.1
baz=294
MONP2 Monument Peak 86.70 56 P P 20 12 00.9 +0.4
baz=294
IKP In-Ko-Pah, Jac 87.04 56 P P 20 12 02.6 +0.5
baz=294
BC3 Big Chuckawall 87.13 55 P P 20 12 02.8 +0.4
baz=294
IRM Iron Mountain 87.16 54 P P 20 12 02.7 +0.2
baz=295
AKASG Malin Array Be 87.26 324 P P 20 12 00.8 -1.8
comp=Z,1.3nm,0.6s,baz=51,slow=5.3,SNR=9.1
comp=Z,1.3nm,0.6s
PDAR Pinedale Array 87.34 45 P P 20 12 02.3 -1.2
comp=Z,0.3nm,0.5s,baz=277,slow=3.9,SNR=3.9
comp=Z,0.3nm,0.5s
PDMCI Parker Dam,Lak 87.85 54 P P 20 12 06.7 +1.0
baz=295
GLA Glamis 87.86 55 P P 20 12 06.6 +0.8
baz=295
RAYN Ar Rayn 87.97 294 P P 20 12 06.0 -0.5
RAYN IAmb IAmb 20 12 08.1
comp=Z,5.5nm,0.8s
HFS Hagfors 88.48 337 P P 20 12 06.2 -1.9
comp=Z,3.5nm,0.4s,baz=90,slow=3.1,SNR=45
comp=Z,3.5nm,0.4s
NB2 NORSAR Subarra 88.70 339 P P 20 12 07.8 -1.4
comp=Z,0.7nm,0.5s,baz=54,slow=5.1
NOA NORSAR Array B 88.70 339 P P 20 12 07.3 -1.9
comp=Z,1.1nm,0.6s,baz=44,slow=4.6,SNR=6.1
comp=Z,1.1nm,0.6s
WUAZ Wupatki 89.37 52 P P 20 12 13.6 +0.6
baz=297
O20A White River Ci 89.45 47 P P 20 12 13.6 +0.3
baz=299
BRTR Keskin Array B 90.10 313 P P 20 12 14.2 -2.1
comp=Z,1.2nm,0.7s,baz=113,slow=3.1,SNR=7.8
comp=Z,1.2nm,0.7s
RSSD Black Hills 90.18 42 P P 20 12 16.9 +0.2
baz=301
N23A Red Feather La 90.61 45 P P 20 12 19.5 +0.7
baz=300
MDND Maddock 90.76 37 P P 20 12 20.1 +1.0
baz=305
ISCO Idaho Springs 91.37 46 P P 20 12 22.9 +0.4
baz=300
MMAI Mount Meron Ar 92.02 307 P P 20 12 23.8 -1.5
comp=Z,1.0nm,0.6s,baz=36,slow=4.4,SNR=4.5
comp=Z,1.0nm,0.6s
OGNE Ogallala 93.12 43 P P 20 12 30.1 0.0
baz=303
T25A Trinidad 93.53 48 P P 20 12 32.1 -0.2
baz=301
WMOK Wichita Mounta 98.67 47 P Pdif 20 12 55.4 0.0
baz=304
TUL3 Leonard 100.00 45 P Pdif 20 13 00.9 -0.4
baz=306
JCT Junction City 100.30 51 P Pdif 20 13 01.7 -1.0
baz=303
HDIL Hopedale 101.08 38 P Pdif 20 13 05.7 -0.3
baz=312
WHTX Lake Whitney, 101.13 49 P Pdif 20 13 06.0 -0.3
baz=305
CCM Cathedral Cave 101.55 41 P Pdif 20 13 07.4 -0.7
baz=310
435B Jarrell 101.72 50 P Pdif 20 13 08.2 -0.8
baz=304
833A Chaparral WMA, 101.76 53 P Pdif 20 13 07.9 -1.3
baz=303
MIAR Mount Ida 102.27 45 P Pdif 20 13 10.2 -1.2
baz=308
WCI Wyandotte Cave 104.36 38 P Pdif 20 13 19.2 -1.4
baz=314
ACSO Alum Creek Sta 104.78 35 P Pdif 20 13 21.0 -1.4
baz=316
LBNH Lisbon 106.81 25 P PKiKP 20 17 39.5 -0.6
baz=326
BLA Blacksburg 108.35 35 P PKiKP 20 17 42.3 -0.9
baz=318
GOGA Godfrey 109.35 40 P PKiKP 20 17 44.3 -0.8
baz=315
QSPA South Pole Qui 111.70 180 PKiKP PKiKP 20 17 48.4 -0.1
comp=Z,2.1nm,0.5s,baz=286,slow=0.8,SNR=18
BOSA Boshof 123.87 250 PKP PKPdf 20 18 11.9 -1.2
comp=Z,3.1nm,0.8s,baz=278,slow=2.7,SNR=4.5
SNAA Sanae 126.52 193 PKP PKPdf 20 18 15.9 -1.0
comp=Z,2.7nm,0.7s,baz=201,slow=5.6,SNR=7.3
TORD Torodi Ar. Bea 128.50 309 PKP PKPdf 20 18 20.8 -1.5
comp=Z,0.8nm,0.5s,baz=32,slow=1.6,SNR=13
PLCA Paso Flores 146.00 131 PKPbc PKPdf 20 18 54.8 +1.2
comp=Z,8.2nm,0.7s,baz=245,slow=3.4,SNR=20
LPAZ La Paz 150.06 85 PKPbc PKPdf 20 19 06.9 +5.3
comp=Z,4.4nm,0.7s,baz=276,slow=2.9,SNR=13

IDC ***12*** *20:25:25.6±1.4,22°.33S×170°.22E, h0km, mb4.0/6, mbtmp4.0/7, ML3.7/1, MS3.1/3, Error ellipse: s-maj=38.3km s-min=29.5km az=177.0*
NEIC ***12*** *20:25:28.3±2.5,22°.4S±0°.1×170°.1E±0°.1, h10km±2km, mb4.3/7, Error ellipse: s-maj=22.6km s-min=16.6km az=184.0*
ISC 12 20:25:27.4±1.2, 22°.4S±0°.2×170°.2E±0°.1, h10km, n24,
σ1§18/22, mb4.1/10, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	Mare, Loyalty	2.22	295		Pn	20 26 02.7	-1.5
PINNC	Pines Island,	2.54	266		Pn	20 26 08.5	-0.2
OUENC	Ouen Island, N	3.09	270		Pn	20 26 13.5	-2.8
LIFNC	LIFOU	3.20	301	Pn	Pn	20 26 17.7	-0.1
DZM	Mont Dzumac	3.48	275		Pn	20 26 21.9	+0.1
DZM	Mont Dzumac	3.48	275	Pn	Pn	20 26 21.8	0.0
DZM	6.5nm,0.3s,baz=74,slow=19,SNR=269			Sn	Sn	20 27 04.1	+0.9
KOUNC	6.9nm,0.3s,baz=108,slow=16,SNR=8.2 50nm,0.5s Koumac, New Ca	5.81	288	Pn	Pn	20 26 54.3	+0.7
URZ	Urewera	16.85	161	LR	LR	20 34 23.3	
CTA	comp=Z,81nm,18.3s,baz=139,slow=32 Charters Tower	22.42	272	LR	LR	20 38 30.0	
STKA	comp=Z,51nm,19.9s,baz=90,slow=35 Stephens Creek	27.05	244	P	P	20 31 11.5	+1.4
STKA				IAmb	IAmb	20 31 11.7	
STKA	comp=Z,1.1nm,1.1s Stephens Creek	27.05	244	P	P	20 31 11.2	+1.2
WR0	comp=Z,2.4nm,0.8s,baz=93,slow=12,SNR=9.6 comp=Z,2.4nm,0.8s Warramunga Arr	33.28	268	P	P	20 32 04.3	-1.0
WR0				IAmb	IAmb	20 32 26.3	
ASAR	comp=Z,5.8nm,1.1s Alice Springs	33.35	261	P	P	20 32 05.7	-0.3
WB0	comp=Z,1.9nm,0.8s,baz=83,slow=9.3,SNR=21 comp=Z,1.9nm,0.8s Warramunga Arr	33.45	268	P	P	20 32 05.2	-1.6
WB2	Warramunga Arr	33.45	267	P	P	20 32 06.0	-0.9
WB2				IAmb	IAmb	20 32 48.1	
WRA	comp=Z,10nm,1.4s Warramunga Arr	33.47	267	P	P	20 32 06.0	-1.0
WRA	Warramunga Arr	33.47	267	P	P	20 32 06.0	-1.0
KNRA	comp=Z,1.2nm,0.6s,baz=97,slow=8.5,SNR=13 comp=Z,1.2nm,0.6s Kununurra	39.63	272	P	P	20 32 57.6	-2.0
KNRA				IAmb	IAmb	20 33 06.2	
FITZ	comp=Z,16nm,1.2s Fitzroy Crossi	41.90	268	P	P	20 33 18.8	+0.5
FITZ				IAmb	IAmb	20 33 20.7	
JNU	comp=Z,4.2nm,1.3s Nakatsue	66.78	325	LR	LR	21 05 22.4	
QSPA	comp=Z,8.7nm,18.2s,baz=355,slow=36 South Pole Qui	67.63	180	P	P	20 36 24.4	+0.1
CMAR	comp=Z,1.6nm,0.7s,baz=266,slow=4.0,SNR=3.1 comp=Z,1.6nm,0.7s Chiang Mai Arr	80.62	294	P	P	20 37 41.9	+1.1
SONM	comp=Z,1.0nm,0.7s,baz=135,slow=4.1,SNR=7.3 comp=Z,1.0nm,0.7s Songino Array	90.30	323	P	P	20 38 28.1	-0.4
EKA	comp=Z,0.5nm,0.9s,baz=131,slow=6.6,SNR=4.9 comp=Z,0.5nm,0.9s Eskdalemuir Ar	146.78	353	PKPbc	PKPdf	20 45 07.7	0.0
	comp=Z,0.7nm,0.6s,baz=13,slow=1.5,SNR=4.8						

IDC ***12*** *20:37:19.8±1.1,55°.70N×157°.51W, h0km, mb3.5/6, mbtmp3.5/9, ML3.6/3, Error ellipse: s-maj=26.9km s-min=20.6km az=7.0*
NEIC ***12*** *20:37:25.7±1.4,55°.79N±0°.06×156°.98W±0°.08, h34km±12km, Error ellipse: s-maj=9.9km s-min=5.4km az=151.0*
AEIC ***12*** *20:37:25.4±1.2,55°.82N±0°.04×156°.99W±0°.06, h11km±6km, ML3.4, ML3.5/50(NEIC), Error ellipse: s-maj=6.5km s-min=5.0km az=174.0*
ISC 12 20:37:22.9±1.6, 55°.81N±0°.06×156°.94W±0°.04,
h15km±10km, n217, σ1§11/210, mb3.6/6, South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHGN	Chignik	0.96	301		Pg	20 37 41.4	-0.1
CHGN	Chignik	0.96	301		Sg	20 37 53.2	-0.8
CHGN	Chignik	0.96	301	IAML		20 37 54.1	
CHGN	comp=N,3μm,0.3s			IAML		20 37 54.7	
CHGN	comp=E,2μm,0.3s Chignik	0.96	301	P	Pg	20 37 41.4	-0.1
CHGN	baz=121			S	Sg	20 37 53.2	-0.8
ANNE	baz=121 Aniakchak Nort	1.27	331		Pb	20 37 46.6	+0.1
ANNE					Sb	20 38 02.9	+0.3
ANNW	Aniakchak Nort	1.36	329		Pb	20 37 48.4	+0.3
VNSW	Veniaminof 7	1.50	281		Pn	20 37 50.4	+1.1
VNSW					Sn	20 38 08.9	+0.3
VNFG	Fog Glacier, M	1.54	289		Pn	20 37 51.2	+1.2
VNFG	Fog Glacier, M baz=107	1.54	289	P	Pn	20 37 51.2	+1.2
SII	Sitkinak Islan	1.71	63		Pn	20 37 53.6	+1.4
SII					Sn	20 38 14.4	+0.5
SII	Sitkinak Islan comp=E,648nm,0.7s	1.71	63	IAML		20 38 29.4	
SII				IAML		20 38 40.8	
SII	comp=N,594nm,0.6s Sitkinak Islan baz=246	1.71	63	P	Pn	20 37 53.6	+1.4
SII	baz=246			S	Sn	20 38 14.4	+0.5
R16K	Pilot Point	1.79	349		Pn	20 37 54.6	+1.3
R16K					Sn	20 38 16.4	+0.6
R16K	Pilot Point comp=N,523nm,0.8s	1.79	349	IAML		20 38 23.3	
R16K	Pilot Point baz=169	1.79	349	P	Pn	20 37 54.6	+1.3
R16K	baz=169			S	Sn	20 38 16.4	+0.6
CHNA	Chernabura Isl baz=55	1.81	238	P	Pn	20 37 54.7	+1.2
CNBA	Chernabura Isl	1.81	238		Pn	20 37 54.7	+1.1
PLK3	Peulik 3	1.92	11		Pn	20 37 56.8	+1.7
PLK1	Peulik 1	2.00	5		Pn	20 37 58.1	+1.9
SDPT	Sand Point	2.06	258		Pn	20 37 58.2	+1.2
SDPT					Sn	20 38 23.0	+0.6
SDPT	Sand Point comp=N,287nm,1.3s	2.06	258	IAML		20 38 28.7	
SDPT	comp=E,356nm,0.6s			IAML		20 38 30.2	
SDPT	Sand Point	2.06	258	P	Pn	20 37 58.2	+1.2
SDPT	Sand Point baz=75	2.06	258	P	Pn	20 37 58.2	+1.2
SDPT				S	Sn	20 38 23.0	+0.6
PLK5	baz=75 Peulik 5	2.19	1		Pn	20 38 00.0	+1.3
OHAK	Old Harbor	2.47	54		Pn	20 38 03.4	+0.8
OHAK	Old Harbor	2.47	54		Sn	20 38 31.4	-1.0
OHAK	Old Harbor	2.47	54	P	Pn	20 38 03.2	+0.6
OHAK	Old Harbor baz=237	2.47	54	P	Pn	20 38 03.4	+0.8
ANCK	Angle Creek	2.52	18		Pn	20 38 04.5	+1.1
ANCK					Sn	20 38 34.8	+0.9
Q17K	Contact Creek baz=194	2.52	13	P	Pn	20 38 04.5	+1.0
CNTC	Contact Creek	2.52	13		Pn	20 38 04.5	+1.0
ACHA	Angle Creek He	2.56	19		Pn	20 38 04.9	+1.0

KAKN Katmai Knife C 2.69 22 Pn 20 38 06.9 +1.1
PS1A Pavlof South-1 2.75 264 Pn 20 38 07.5 +0.9
PVV Pavlof Volcano 2.79 263 Pn 20 38 07.9 +0.9
HAG Hague Volcano 2.86 262 Pn 20 38 08.9 +0.8
Q16K King Salmon 2.88 3 Pn 20 38 09.9 +1.7
Q16K King Salmon 2.88 3 P Pn 20 38 09.9 +1.7
baz=184
PN7A Pavlof North-7 2.89 265 Pn 20 38 09.6 +1.1
KDAK Kodiak Island 3.10 49 Pn 20 38 11.9 +0.5
KDAK Kodiak Island 3.10 49 Pn Pn 20 38 11.9 +0.5
comp=E,3.3nm,0.3s,baz=204,slow=6.2,SNR=273
KDAK Sn Sn 20 38 46.4 -1.7
comp=E,10nm,0.3s,baz=65,slow=20,SNR=8.6
comp=E,8.5nm,0.3s
P16K Nushagak River 3.28 350 Pn 20 38 14.7 +1.0
P16K Nushagak River 3.28 350 P Pn 20 38 14.7 +1.0
baz=170
P17K Kvichak River 3.40 4 Pn 20 38 16.8 +1.3
P17K Kvichak River 3.40 4 P Pn 20 38 16.8 +1.3
baz=185
Q19K Cape Douglas, 3.60 28 Pn 20 38 19.2 +1.1
Q19K Cape Douglas, 3.60 28 IAML 20 39 22.1
comp=N,138nm,1.0s
Q19K IAML 20 39 28.3
comp=E,134nm,1.4s
Q19K Cape Douglas, 3.60 28 P Pn 20 38 19.2 +1.1
baz=212
P18K Big Mountain, 3.70 14 Pn Pn 20 38 20.2 +0.6
P18K Big Mountain, 3.70 14 P Pn 20 38 20.4 +0.7
baz=196
O15K Ungalikthiuk R 3.71 336 Pn 20 38 20.2 +0.5
O15K Ungalikthiuk R 3.71 336 P Pn 20 38 20.2 +0.5
baz=154
Q20K Shuyak Island 3.74 40 P Pn 20 38 20.9 +0.9
baz=224
SYI Shuyak Island 3.74 40 Pn 20 38 20.9 +0.9
SYI Shuyak Island 3.74 40 IAML 20 39 34.4
comp=E,57nm,3.3s
FALS False Pass 3.82 258 P Pn 20 38 25.0 +3.8
O16K Kokwok River B 3.84 351 Pn 20 38 22.4 +1.0
O16K Kokwok River B 3.84 351 IAML 20 39 28.5
comp=E,53nm,2.5s
O16K Kokwok River B 3.84 351 P Pn 20 38 22.4 +1.0
baz=171
O17K Koliganek Bris 3.97 359 P Pn 20 38 24.8 +1.5
baz=179
ISNN Isanotski Nort 4.03 259 Pn 20 38 25.2 +1.1
O18K Koktuh Hills 4.16 12 Pn 20 38 26.9 +1.1
O18K Koktuh Hills 4.16 12 IAML 20 39 49.9
comp=N,51nm,2.5s
O18K Koktuh Hills 4.16 12 P Pn 20 38 26.9 +1.1
baz=194
O14K Tigyukauivet M 4.16 328 Pn 20 38 26.5 +0.6
O14K Tigyukauivet M 4.16 328 IAML 20 39 22.7
comp=N,66nm,3.4s
O14K IAML 20 40 06.6
comp=E,65nm,3.2s
O14K Tigyukauivet M 4.16 328 P Pn 20 38 26.5 +0.6
baz=144
P19K Oil Pt 4.33 26 Pn Pn 20 38 28.7 +0.4
WESE West Dahl East 4.59 256 Pn 20 38 32.7 +0.9
O19K Port Alsworth 4.61 17 Pn 20 38 32.5 +0.5
O19K IAML 20 39 33.5
comp=N,53nm,0.4s
ILSW Iliamna Southw 4.64 24 Pn 20 38 33.7 +1.0
ILSW Iliamna Southw 4.64 24 IAML 20 40 01.1
comp=E,42nm,1.8s
ILSW IAML 20 41 13.9
comp=N,34nm,1.7s
N15K Kwethluk River 4.68 340 Pn 20 38 34.0 +1.1
N15K Kwethluk River 4.68 340 IAML 20 40 06.4
comp=N,56nm,2.2s
N15K Kwethluk River 4.68 340 P Pn 20 38 34.0 +1.1
baz=158
N17K Nushagak Hills 4.73 359 Pn 20 38 34.8 +1.1
N17K Nushagak Hills 4.73 359 IAML 20 39 52.8
comp=N,32nm,2.5s
N17K Nushagak Hills 4.73 359 P Pn 20 38 34.8 +1.1
baz=179
N16K Nishlik Lake 4.77 349 Pn 20 38 35.4 +1.1
N16K Nishlik Lake 4.77 349 P Pn 20 38 35.4 +1.1
baz=168
CNPM China Poot 4.82 37 IAML 20 41 36.7
comp=N,43nm,2.9s
N14K Kuskokwak Cree 4.84 330 Pn 20 38 35.7 +0.6
N14K Kuskokwak Cree 4.84 330 P Pn 20 38 35.7 +0.6
baz=147
O20K Slope Mountain 4.86 26 Pn 20 38 36.8 +1.3
O20K Slope Mountain 4.86 26 P Pn 20 38 36.8 +1.3
baz=210
N18K Kilae Creek 4.91 6 Pn 20 38 37.2 +1.0
N18K Kilae Creek 4.91 6 IAML 20 40 03.9
comp=N,38nm,3.5s
N18K IAML 20 41 20.7
comp=E,26nm,3.8s
N18K Kilae Creek 4.91 6 P Pn 20 38 37.2 +1.0
baz=187
BRLK Bradley Lake 5.12 37 IAML 20 39 43.8
comp=N,38nm,2.0s
BRSE Bradley Lake S 5.15 38 Pn 20 38 39.7 +0.3
BRSE Bradley Lake S 5.15 38 P Pn 20 38 39.7 +0.3
baz=223
RSO Redoubt South 5.16 24 Pn 20 38 41.1 +1.3
RDWB Redoubt West 5.17 23 Pn 20 38 40.7 +0.9
N19K Bonanza Creek 5.18 13 Pn 20 38 41.8 +1.8
N19K IAML 20 40 13.1
comp=E,26nm,2.5s
N19K IAML 20 40 49.2
comp=N,29nm,3.5s
NCT North Crescent 5.21 22 Pn 20 38 41.4 +1.0
M15K Kasigluk River 5.28 340 Pn 20 38 42.1 +0.9
M15K Kasigluk River 5.28 340 P Pn 20 38 42.1 +0.9
baz=157
DFR Drift River 5.29 23 Pn 20 38 42.8 +1.3
M16K Timber Creek 5.33 349 Pn 20 38 42.9 +0.9
M16K Timber Creek 5.33 349 P Pn 20 38 42.8 +0.9
baz=168
SVW2 Sparrevohn 5.35 7 Pn 20 38 43.1 +0.9
SVW2 IAML 20 40 27.2
comp=N,26nm,3.4s
SVW2 IAML 20 41 18.3
comp=E,23nm,3.9s
SVW2 Sparrevohn 5.35 7 P Pn 20 38 43.1 +0.9
AKUT Akutan 5.36 255 Pn 20 38 42.7 +0.4
M17K Holitna River 5.61 358 Pn 20 38 46.7 +1.0
M17K Holitna River 5.61 358 P Pn 20 38 46.7 +1.0
baz=177
M14K Bethel 5.61 334 Pn 20 38 46.1 +0.3
M14K Bethel 5.61 334 P Pn 20 38 46.7 +0.9
baz=150
M18K Stony River 5.72 5 Pn 20 38 48.7 +1.4
M18K Stony River 5.72 5 P Pn 20 38 48.7 +1.4
baz=187
M13K Dall Lake 5.73 326 Pn 20 38 48.5 +1.2
M13K Dall Lake 5.73 326 P Pn 20 38 48.5 +1.2
baz=141
O22K Cooper Landing 6.04 36 Pn Pn 20 38 52.7 +1.1
L16K Owhat River 6.06 348 Pn Pn 20 38 52.9 +1.0
L16K Owhat River 6.06 348 P Pn 20 38 53.0 +1.0
baz=167
M19K Big River Lodg 6.25 11 Pn 20 38 56.7 +2.1
STLK Strandline Lak 6.29 23 Pn 20 38 56.3 +1.1
L14K Kuka Creek 6.30 334 Pn 20 38 56.0 +0.7
L14K Kuka Creek 6.30 334 P Pn 20 38 56.0 +0.7
baz=149
L15K Ungalak Mounta 6.34 340 Pn 20 38 56.1 +0.3
L15K Ungalak Mounta 6.34 340 P Pn 20 38 56.1 +0.3
baz=156
L17K Donlin 6.38 354 Pn 20 38 57.1 +0.8
L17K Donlin 6.38 354 P Pn 20 38 57.1 +0.8
baz=173
M20K Styx River 6.40 16 Pn 20 38 58.8 +2.1
L18K Granite Mounta 6.43 1 Pn 20 38 57.8 +0.9
L18K Granite Mounta 6.43 1 P Pn 20 38 57.8 +0.9
baz=182
L19K White Mountain 6.48 9 Pn 20 38 59.0 +1.3
RC01 Rabbit Creek A 6.50 33 Pn 20 38 58.8 +0.8
RC01 Rabbit Creek A 6.50 33 P Pn 20 38 58.8 +0.8
baz=219
SUA Susitna One 6.52 27 Pn 20 38 59.2 +0.9
SUA Susitna One 6.52 27 P Pn 20 38 59.2 +0.9
baz=213
P23K Montague Islan 6.59 47 Pn 20 39 00.1 +1.0
P23K Montague Islan 6.59 47 P Pn 20 39 00.1 +1.0
baz=235

M11K	**Mekoryuk**	6.71	317			Pn	20 39 02.0 +1.2
M11K	**Mekoryuk** baz=129	6.71	317	P		Pn	20 39 02.0 +1.2
SKT	**Skwentna**	6.79	22	Pn		Pn	20 39 01.9 0.0
K15K	**Wolf Creek Mou**	6.92	342			Pn	20 39 05.3 +1.6
K15K	**Wolf Creek Mou** baz=158	6.92	342	P		Pn	20 39 05.3 +1.6
K17K	**Iditarod**	6.96	355			Pn	20 39 05.8 +1.5
K17K	**Iditarod** baz=174	6.96	355	P		Pn	20 39 05.8 +1.5
KNK	**Knik Glacier** baz=222	7.15	35	P		Pn	20 39 06.5 -0.3
TTA	**Tatalina**	7.16	3	Pn		Pn	20 39 07.9 +0.9
TTA	**Tatalina**	7.16	3	P		Pn	20 39 08.6 +1.6
HIN	**Hinchinbrook I**	7.18	46			Pn	20 39 07.7 +0.3
GHO	**Glory Hole Cre**	7.28	32			Pn	20 39 08.9 +0.2
CUT	**Chulitna**	7.45	25	Pn		Pn	20 39 11.7 +0.8
SML	**Sawmill**	7.48	33	Pn		Pn	20 39 10.4 -1.1
EYAK	**Cordova Ski Ar**	7.58	47	P		Pn	20 39 12.8 +0.1
J18K	**Innoko River**	7.68	1			Pn	20 39 14.6 +0.5
K20K	**Telida**	7.71	10	Pn		Pn	20 39 14.9 +0.4
J16K	**Anvik River**	7.72	348			Pn	20 39 15.3 +0.6
J16K	**Anvik River** baz=165	7.72	348	P		Pn	20 39 15.3 +0.6
J14K	**Nanvaranak Lak**	7.73	337			Pn	20 39 15.6 +0.8
J14K	**Nanvaranak Lak** baz=151	7.73	337	P		Pn	20 39 15.6 +0.8
SCM	**Sheep Creek Mo**	7.82	36			Pn	20 39 16.0 -0.2
SCM	**Sheep Creek Mo** baz=224	7.82	36	P		Pn	20 39 16.0 -0.2
KAIM	**Kayak Island**	7.84	53	Pn		Pn	20 39 18.0 +1.6
RAGM	**Ragged Mountai**	7.95	50			Pn	20 39 18.6 +0.8
CAST	**Castle Rocks**	8.01	16	Pn		Pn	20 39 19.6 +0.9
GOAT	**Goat Mountain**	8.02	48			Pn	20 39 19.2 +0.3
KLU	**Klutina** baz=230	8.08	41	P		Pn	20 39 19.6 -0.1
HMT	**Hamilton**	8.10	51	Pn		Pn	20 39 20.1 +0.2
SUCK	**Suckling Hills**	8.20	53			Pn	20 39 21.9 +0.6
J19K	**Poorman**	8.23	4			Pn	20 39 23.5 +1.8
I17K	**Unalakleet**	8.31	348			Pn	20 39 23.1 +0.3
I17K	**Unalakleet** baz=165	8.31	348	P		Pn	20 39 23.1 +0.3
KTH	**Kantishna Hill**	8.33	19	Pn		Pn	20 39 22.9 -0.3
TRF	**Thorofare Moun**	8.36	21			Pn	20 39 23.6 0.0
TRF	**Thorofare Moun** baz=207	8.36	21	P		Pn	20 39 23.6 0.0
M24K	**Tolsona, Glenn**	8.40	37	Pn		Pn	20 39 24.4 +0.3
GRIN	**Grindle Hills**	8.49	53			Pn	20 39 25.8 +0.5
J20K	**Nowinta River**	8.51	8	Pn		Pn	20 39 26.4 +0.9
N25K	**Chitina, Valde**	8.65	43			Pn	20 39 27.6 +0.1
N25K	**Chitina, Valde** baz=233	8.65	43	P		Pn	20 39 27.6 +0.1
BPAW	**Bear Paw Mtn.**	8.83	17	Pn		Pn	20 39 29.6 -0.3
GLB	**Gilahina Butte**	8.86	45			Pn	20 39 30.5 +0.1
WASW	**Wrangell South**	9.01	42			Pn	20 39 32.6 +0.1
ISLE	**Juniper Island**	9.07	52			Pn	20 39 33.7 +0.4
MCARA	**McCarthy VSAT**	9.15	47	Pn		Pn	20 39 35.8 +1.5
H16K	**Elim**	9.23	346			Pn	20 39 36.5 +1.1
H16K	**Elim** baz=161	9.23	346	P		Pn	20 39 36.5 +1.1
H17K	**Granite Mounta**	9.27	352			Pn	20 39 37.1 +1.2
H17K	**Granite Mounta** baz=170	9.27	352	P		Pn	20 39 37.1 +1.2
H18K	**Honhosa River**	9.40	356			Pn	20 39 38.8 +1.2
H18K	**Honhosa River** baz=175	9.40	356	P		Pn	20 39 38.8 +1.2
TABL	**Table Mountain**	9.55	54	Pn		Pn	20 39 41.2 +1.3
BARN	**Barnard Glacie**	9.57	50			Pn	20 39 41.0 +0.8
ANM	**Nome**	9.72	338			Pn	20 39 43.1 +1.1
ANM	**Nome** baz=151	9.72	338	P		Pn	20 39 43.1 +1.1
LOGN	**Logan Glacier**	9.76	53	Pn		Pn	20 39 44.6 +1.8
K24K	**Donnelly Dome**	9.77	30			Pn	20 39 43.7 +0.9
K24K	**Donnelly Dome** baz=220	9.77	30	P		Pn	20 39 43.7 +0.9
G15K	**Niukluk**	9.85	342			Pn	20 39 44.9 +1.1
G15K	**Niukluk** baz=156	9.85	342	P		Pn	20 39 44.9 +1.1
G16K	**Koyuk River**	9.97	347			Pn	20 39 46.6 +1.2
G16K	**Koyuk River** baz=162	9.97	347	P		Pn	20 39 46.6 +1.2
PNL	**Peninsula**	10.13	60	P		Pn	20 39 48.5 +0.7
ILAR	**Eielson Array** comp=E,0.3nm,0.3s,baz=216,slow=13,SNR=7.5 comp=E,0.3nm,0.3s	10.26	25	Pn		Pn	20 39 47.3 -2.1
BCAR	**Beaver Creek A**	10.58	40	Pn		Pn	20 39 54.1 +0.3
F15K	**North Star Dit**	10.61	342	Pn		Pn	20 39 55.4 +1.2
F17K	**Baldwin Pennin**	10.86	351	Pn		Pn	20 39 58.8 +1.1
P29M	**Windy Craggy**	10.94	62	Pn		Pn	20 39 59.6 +0.7
G23K	**Bananza Creek**	11.42	14	Pn		Pn	20 40 05.9 +0.6
E18K	**Tukpahlearik C**	11.78	353	Pn		Pn	20 40 12.2 +2.0
SIT	**Sitka**	12.02	75	P		Pn	20 40 12.3 -1.2
D19K	**Kuna River**	12.74	358	Pn		Pn	20 40 25.6 +2.3
C16K	**Lisburne Hills**	13.09	346	Pn		Pn	20 40 31.2 +3.1
INK	**Inuvik** comp=E,0.3nm,0.3s,baz=236,slow=15,SNR=7.9 comp=E,0.8nm,0.3s	16.49	31	Pn		Pn	20 41 14.5 +1.1
YKA	**Yellowknife Ar** comp=E,0.4nm,0.6s,baz=274,slow=9.8,SNR=5.8 comp=E,0.4nm,0.6s	22.36	55	P		P	20 42 20.5 +0.5
PDAR	**Pinedale Array** comp=E,1.1nm,0.7s,baz=304,slow=5.1,SNR=11 comp=E,1.1nm,0.7s	32.87	93	P		P	20 43 58.0 +1.7
TXAR	**Lajitas Array** comp=E,0.6nm,0.7s,baz=319,slow=5.5,SNR=6.4 comp=E,0.6nm,0.7s	45.81	103	P		P	20 45 45.8 +1.7
SONM	**Songino Array** comp=E,0.5nm,0.7s,baz=48,slow=7.9,SNR=3.9 comp=E,0.5nm,0.7s	55.54	306	P		P	20 46 55.4 -2.0
BVAR	**Borovoye Array** comp=E,0.8nm,0.7s,baz=28,slow=6.7,SNR=4.7 comp=E,0.8nm,0.7s	64.74	331	P		P	20 47 58.4 -1.7
MKAR	**Makanchi Array** comp=E,0.3nm,0.7s,baz=35,slow=5.2,SNR=5.5 comp=E,0.3nm,0.7s	66.34	320	P		P	20 48 08.6 -2.1
H03N2	**Juan Fernandez** baz=322	110.77	119	T		T	22 56 21.6
H03N1	**Juan Fernandez** baz=322,slow=74	110.78	119	T		T	22 56 24.4
H03N3	**Juan Fernandez** baz=322,slow=74	110.79	119	T		T	22 56 21.8
QSPA	**South Pole Qui** comp=E,1.6nm,1.0s,baz=318,slow=0.7,SNR=6.2	145.60	180	PKPbc		PKPdf	20 56 58.2 -0.8

IDC ***12*** *21:15:11.7±2.7,4°.53S×130°.32E,h0km,mb3.1/1, mbtmp3.3/3,ML3.5/2,Error ellipse: s-maj=163.4km s-min=31.6km az=70.0*

ISC 12 21:15:15.3±1.2,**5°.3S**±0°.1×**129°.5E**±0°.2,**h10**km,**n11,** σ**2s 77**/9,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	3.62	50	P		Pg	21 16 25.0	+0.3
SANI	**Sanana**	4.70	312	P		Pg	21 16 46.3	+0.8
DRS	**Darwin Rock St**	7.28	169	P		Pb	21 17 15.3	-6.5
KDU	**Kakadu**	7.97	158	P		Pn	21 17 22.4	+11
KNRA	**Kununurra** 15nm,1.8s	10.39	184	P		Pn	21 17 56.3	+12
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=349,slow=13,SNR=17	15.36	162	Pn		P	21 18 56.7	-0.3
WRA	0.2nm,0.3s,baz=338,slow=22,SNR=5.1 0.8nm,1.0s			Sn		Sn	21 21 37.9	-4.8
COEN	**Coen**	16.04	124	P		P	21 19 05.5	+0.8
QIS	**Mount Isa**	18.13	148	P		P	21 19 29.5	+1.7
ASAR	**Alice Springs** 0.2nm,0.3s,baz=344,slow=9.6,SNR=14	18.80	167	P		Pn	21 19 38.5	+2.9
ASAR	0.4nm,0.7s,baz=353,slow=19,SNR=2.7 0.8nm,0.5s			S		Sn	21 23 05.8	-0.5
WRKA	**Warakurna**	19.71	183	P		Pn	21 19 48.2	+1.7
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=114,slow=7.0,SNR=1.9 0.1nm,0.5s	66.48	327	P		P	21 26 02.4	-2.7

CATAC ***12*** *21:26:20.7±0.2,9°.45N×84°.12W,h30km±2km,ML3.3*
UCR ***12*** *21:26:21.0±0.8,9°.49N×84°.11W,h52km±2km,MW3.6*
UPA ***12*** *21:26:21.2±1.7,9°.43N×84°.18W,h43km±42km,MD3.7, ML3.7,MW3.4*

ISC 12 21:26:21.5±1.2,**9°.47N**±0°.03×**84°.11W**±0°.03,**h47**km±6km, **n68,** σ**0s 80**/100,**Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LLNJ	**Naranjito**	0.01	80	*e*P		Pn	21 26 28.7	-0.1
LLNJ				*e*S		Sn	21 26 35.1	+1.1
SVQ2	**Quepos**	0.07	233	*e*P		Pn	21 26 28.6	-0.3
RAZU	**San Marcos de**	0.20	25	*e*P		Pn	21 26 29.2	-0.6
ABE2	**San Pablo**	0.24	14	*e*P		Pn	21 26 29.5	-0.7
ACOS	**Acosta**	0.33	351	*e*P		Pn	21 26 30.3	-0.5
ACOS				*e*S		Sn	21 26 37.2	-0.2
CDM	**Cerro de Muert**	0.35	77	*e*P		Pn	21 26 30.8	-0.6
CDM				*e*S		Sn	21 26 38.5	+0.1
CDM	**Cerro de Muert**	0.35	77	*i* P		Pn	21 26 30.8	-0.6
CDM	comp=Z,5μm,1.0s			IAML			21 26 30.9	
CDM				*i* S		Sn	21 26 38.5	+0.1
REPA	**Paraso**	0.43	34	*e*P		Pn	21 26 32.2	+0.3
PEZE	**Perez Zeledon,**	0.44	102	*e*P		Pn	21 26 31.6	-0.3
PEZE	**Perez Zeledon,**	0.44	102	*i* P		Pn	21 26 31.6	-0.3
PEZE				*i* S		Sn	21 26 40.1	+0.7
PEZE	comp=Z,2μm,1.0s			IAML			21 26 41.3	
OCM	**Ochomogo**	0.45	19	*e*P		Pn	21 26 31.4	-0.7
OCM				*e*S		Sn	21 26 39.4	-0.3
OCM	**Ochomogo**	0.45	19	*i* P		Pn	21 26 31.3	-0.8
OCM				*i* S		Sn	21 26 39.4	-0.3
OCM	comp=Z,6μm,1.0s			IAML			21 26 40.1	
LUJA	**Lujan**	0.45	5	*e*P		Pn	21 26 32.7	+0.6
CORON	**Coronado**	0.51	12	*e*P		Pn	21 26 33.8	+1.0
HDC	**Heredia**	0.53	360	*e*P		Pn	21 26 32.6	-0.4
HDC	**Heredia**	0.53	360	*i* P		Pn	21 26 32.7	-0.4
HDC				*i* S		Sn	21 26 41.7	+0.4
HDC	comp=Z,2μm,1.0s			IAML			21 26 46.3	
HDC3	**Heredia 3**	0.53	0	*i* P		Pn	21 26 32.5	-0.6
HDC3				*i* S		Sn	21 26 41.7	+0.4
HDC3	comp=Z,2μm,1.0s			IAML			21 26 46.2	
PCAYA	**Pacayas**	0.53	34	*e*P		Pn	21 26 32.6	-0.6
TRB2	**Turrubares**	0.55	323	*e*P		Pn	21 26 32.8	-0.5
RAFA	**San Farael, Vo**	0.57	31	*e*P		Pn	21 26 33.2	-0.5
JACO	**JACO, Garabito**	0.57	289	*e*P		Pn	21 26 33.0	-0.4
JACO	**JACO, Garabito**	0.57	289	*i* P		Pn	21 26 32.9	-0.6
JACO				*i* S		Sn	21 26 42.9	+0.8
JACO	comp=Z,340nm,1.0s			IAML			21 26 44.9	
ICR3	**Volcano Irazu**	0.57	29	*e*P		Pn	21 26 33.4	-0.6
OCHAL	**Ojochal**	0.59	129	*i* P		Pn	21 26 33.4	-0.3
OCHAL	comp=Z,25nm,1.0s			IAML			21 26 34.4	
OCHAL				*i* S		Sn	21 26 43.0	+0.5
TCS1	**Tacares**	0.60	342	*i* P		Pn	21 26 33.7	-0.2
TCS1				*i* S		Sn	21 26 43.3	+0.5
TCS1	comp=Z,11μm,1.0s			IAML			21 26 44.9	
VTLA	**Turrialba Volc**	0.62	32	*e*P		Pn	21 26 34.0	-0.4
CVTQ	**Turrialba Volc**	0.63	33	*e*P		Pn	21 26 34.2	-0.4
VTCV	**VTCV, Calle Va**	0.63	37	*e*P		Pn	21 26 34.0	-0.5
VTCV	**VTCV, Calle Va**	0.63	37	*i* P		Pn	21 26 34.1	-0.4
VTCV				*i* S		Sn	21 26 44.0	+0.2
VTCV	comp=Z,7μm,1.0s			IAML			21 26 45.4	
VTR0	**Volcan Turrial**	0.64	33	*e*P		Pn	21 26 34.4	-0.4
VTUN	**Crater Central**	0.65	32	*i* P		Pn	21 26 34.0	-0.8
VTUN				*i* S		Sn	21 26 44.1	-0.3
VTUN	comp=Z,2μm,1.0s			IAML			21 26 48.2	
SRBA	**San Rafael, Bu**	0.78	108	*e*P		Pn	21 26 35.6	-0.7
SRBA				*e*S		Sn	21 26 46.7	-0.3
SRBA	**San Rafael, Bu**	0.78	108	*i* P		Pn	21 26 35.6	-0.7
SRBA				*i* S		Sn	21 26 46.6	-0.4
SRBA	comp=Z,3μm,1.0s			IAML			21 26 47.8	
EDPN	**Palmar Norte**	0.82	128	*e*P		Pn	21 26 36.6	-0.1
CPMI	**Catarata Coope**	0.85	342	*e*P		Pn	21 26 36.9	-0.3
CPMI	**Catarata Coope**	0.85	342	*i* P		Pn	21 26 37.0	-0.3
CPMI				*i* S		Sn	21 26 49.6	+0.8
CPMI	comp=Z,980nm,1.0s			IAML			21 26 49.6	
LAFE	**Finca La Fe, P**	0.85	293	*e*P		Pn	21 26 37.0	-0.2
LAFE	**Finca La Fe, P**	0.85	293	*i* P		Pn	21 26 36.9	-0.3
LAFE	comp=Z,1.6nm,1.0s			IAML			21 26 41.6	
LAFE				*i* S		Sn	21 26 49.8	+1.1
RIFO	**Rio Frio, Sara**	0.86	12	*e*P		Pn	21 26 37.1	-0.2
RIFO	**Rio Frio, Sara**	0.86	12	*i* P		Pn	21 26 37.1	-0.2
RIFO				*i* S		Sn	21 26 49.7	+0.9
RIFO	comp=Z,2μm,1.0s			IAML			21 26 51.0	
DRK0	**Durika**	0.88	104	*e*P		Pn	21 26 37.0	-0.6
PLAN	**Los Planes de**	0.90	152	*i* P		Pn	21 26 37.0	-0.8
PLAN				*i* S		Sn	21 26 49.9	+0.1
PLAN	comp=Z,4μm,1.0s			IAML			21 26 55.7	
BATAN	**Batan**	0.95	49	*e*P		Pn	21 26 38.4	-0.1
BATAN	comp=Z,2μm,0.1s			AMP			21 26 38.8	
BATAN	**Batan**	0.95	49	*e*P		Pn	21 26 38.4	-0.1
BATAN	**Batan**	0.95	49	*i* P		Pn	21 26 38.4	-0.1
BATAN				*i* S		Sn	21 26 52.4	+1.3
BATAN	comp=Z,1μm,1.0s			IAML			21 26 54.0	
SOCE	**Pocosol**	1.03	331	*e*P		Pn	21 26 39.8	+0.2
SOCE	**Pocosol**	1.03	331	*i* P		Pn	21 26 39.8	+0.2
SOCE				*i* S		Sn	21 26 54.5	+1.5
SOCE	comp=Z,2μm,1.0s			IAML			21 26 56.8	
POTG	**Potrero Grande**	1.06	113	*i* P		Pn	21 26 39.8	-0.3
POTG				*i* S		Sn	21 26 53.7	-0.1
POTG	comp=Z,730nm,1.0s			IAML			21 26 56.0	
JTS	**Las Juntas de**	1.16	315	*e*P		Pn	21 26 41.4	0.0
JTS				*e*S		Sn	21 26 52.7	-3.5
JTS	**Las Juntas de**	1.16	315	*e*P		Pn	21 26 41.1	-0.2
PIRO	**Carate, Puerto**	1.31	144	*e*P		Pn	21 26 42.6	-0.7
PIRO	**Carate, Puerto**	1.31	144	*i* P		Pn	21 26 43.6	+0.3
PIRO				*i* S		Sn	21 27 03.7	+4.0
PIRO	comp=Z,670nm,1.0s			IAML			21 27 05.1	
INDI	**Punta indio, G**	1.43	286	*i* P		Pn	21 26 45.0	+0.1
INDI				*i* S		Sn	21 27 01.6	-0.9
INDI	comp=Z,92nm,1.0s			IAML			21 27 12.9	
DUNO	**Dulce Nombre,**	1.49	294	*i* S		Sn	21 27 03.9	-0.2
CDITO	**Canoas**	1.52	126	*e*P		Pn	21 26 45.9	-0.3
CDITO	**Canoas**	1.52	126	*i* S		Sn	21 27 04.0	-0.7
BRU2	**Volcan**	1.56	116	*e*P		Pn	21 26 46.4	-0.4
BRU2				*e*S		Sn	21 27 06.0	+0.1
BRU2	**Volcan**	1.56	116	*i* P		Pn	21 26 46.1	-0.8
BRU2				*i* S		Sn	21 27 06.2	+0.2
BRU2	comp=Z,220nm,1.0s			IAML			21 27 08.5	
ORTG	**Ortega, Santa**	1.59	304	*i* P		Pn	21 26 46.7	-0.6
ORTG				*i* S		Sn	21 27 06.8	0.0
ORTG	comp=Z,96nm,1.0s			IAML			21 27 55.6	
BC3P	**Paso Ancho**	1.62	114	*e*P		Pn	21 26 47.6	-0.2
BC3P	comp=Z,382nm,0.1s			AMP			21 26 47.8	
SAJU	**San Juanillo,**	1.68	291	*i* P		Pn	21 26 49.1	+0.6
SAJU				*i* S		Sn	21 27 07.2	-1.7
SAJU	comp=Z,110nm,1.0s			IAML			21 27 08.8	
BCO2	**Palmira**	1.73	115	*e*P		Pn	21 26 49.0	-0.3
BCO2	comp=Z,2μm,0.1s			AMP			21 26 51.0	
BCO2				*e*S		Sn	21 27 09.9	-0.5
PTPM	**Petroterminale**	1.75	136	*e*P		Pn	21 26 48.2	-1.2
HZTE	**Horizontes, Gu**	1.91	310	*i* P		Pn	21 26 51.9	+0.3
HZTE	comp=Z,69nm,1.0s			IAML			21 27 12.1	
HZTE				*i* S		Sn	21 27 16.1	+1.6
CHGR2	**Aguacate**	2.01	105	*e*P		Pn	21 26 53.7	+0.7
ACON	**Acoyapa**	2.69	337	*i* P		Pn	21 27 02.4	+0.1
ACON	comp=Z,160nm,1.0s			IAML			21 27 10.6	
ESPN	**Las Esperanzas**	2.71	356	*i* P		Pn	21 27 02.2	-0.4
ESPN	comp=Z,67nm,1.0s			IAML			21 27 51.6	
BOAB	**BOACO BROADBAN**	3.33	333	*i* P		Pn	21 27 11.1	0.0
BOAB	comp=Z,23nm,1.0s			IAML			21 27 25.4	

IDC ***12*** *21:29:24.6±12.0,20°.08S×178°.50W,h574km±100km, mb3.2/5,mbtmp4.2/6,Error ellipse: s-maj=174.4km s-min=33.5km az=36.0*
NOU ***12*** *21:29:32.5,21°.11S×179°.10W,h620km,MLv4.3/8,Fiji Islands Region*

ISC 12 21:29:33.2±1.2,**21°.2S**±0°.1×**179°.2W**±0°.2,**h600**km,**n15,** σ**0s 98**/15,**mb3.9**/5,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	2.97	7	P		P	21 30 52.4	+0.1
MSVF	**Nonsavu**	4.32	322	P		P	21 31 02.0	+0.8
TAVE	**Taveuni**	4.52	351	P		P	21 31 02.8	+0.3
DGTI	**Dogotuki**	4.98	348	P		P	21 31 05.6	-0.5
ONTNC	**Ouen Toro**	13.39	263	P		P	21 32 25.6	-0.5
DZM	**Mont Dzumac** 3.1nm,0.4s,baz=125,slow=16,SNR=1.6	13.39	264	P		P	21 32 25.9	-0.3
URZ	**Urewera**	17.30	190	P		P	21 33 01.4	-0.9
URZ	**Urewera** 5.2nm,0.3s,baz=337,slow=5.9,SNR=10	17.30	190	P		P	21 32 60.0	-2.3
KHZ	**Kahutara**	22.02	194	P		P	21 33 44.2	-0.6
JCZ	**Jackson Bay**	24.91	201	P		P	21 34 10.9	+0.4
STKA	**Stephens Creek** 0.9nm,0.5s,baz=101,slow=16,SNR=1.6 0.9nm,0.5s	36.49	245	P		P	21 35 50.2	+0.9
ASAR	**Alice Springs** 4.1nm,0.8s,baz=96,slow=7.7,SNR=43 4.1nm,0.8s	43.28	258	P		P	21 36 43.5	-0.2
WRA	**Warramunga Arr** 1.9nm,0.3s,baz=96,slow=7.8,SNR=135 1.9nm,0.3s	43.41	263	P		P	21 36 43.6	-1.0
VNDA	**Vanda** 0.9nm,0.5s,baz=25,slow=6.2,SNR=1.5 0.9nm,0.5s	57.12	185	P		P	21 38 24.6	+1.3
QSPA	**South Pole Qui** 2.8nm,0.8s,baz=154,slow=4.2,SNR=7.8 2.8nm,0.8s	68.87	180	P		P	21 39 38.8	0.0

CATAC ***12*** *21:42:21.9±0.3,9°.51N×84°.49W,h23km±2km,ML4.7*
UCR ***12*** *21:42:22.7±1.0,9°.52N×84°.50W,h41km±2km,MW4.8, MB4.4(NEIC),Fault plane solution: NP1:φ=325.55000°, δ37.70000°,λ20.29000°.*
NEIC ***12*** *21:42:22.4±1.8,9°.46N±0°.04×84°.51W±0°.03,h40km±9km, mb4.4/41,Error ellipse: s-maj=6.1km s-min=4.0km az=204.0*
IDC ***12*** *21:42:22.3±1.1,10°.61N×84°.13W,h0km,mb4.0/9, mbtmp4.0/10,ML3.4/1,MS3.5/23,Error ellipse: s-maj=23.9km s-min=9.8km az=148.0*
UPA ***12*** *21:42:26.4±1.0,9°.53N×84°.28W,h17km±14km,MW4.9*
SNET ***12*** *21:42:32.8±0.8,9°.61N×85°.32W,h35km±704km,ML4.6*

ISC 12 21:42:21.8±0.5,**9°.52N**±0°.03×**84°.51W**±0°.02,**h35**km,**n271,** σ**1s 61**/297,**mb4.4**/29,**MS3.6**/19,**32C-45D,Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RITA	**Parrita**	0.18	89	*e*P		Pn	21 42 29.7	+1.3
RITA				*e*S		Sn	21 42 35.5	+2.6
JACO	**JACO, Garabito**	0.20	314			Pn	21 42 29.8	+1.2
JACO						Sn	21 42 35.5	+2.1
JACO	**JACO, Garabito**	0.20	314	*e*P		Pn	21 42 29.9	+1.2
JACO				*e*S		Sn	21 42 35.7	+2.3
JACO	**JACO, Garabito**	0.20	314	*i* P		Pn	21 42 29.9	+1.2
JACO				*i* S		Sn	21 42 35.0	+1.6
JACO	comp=Z,29μm,1.0s			IAML			21 42 37.4	
SVQ2	**Quepos**	0.35	104	*e*P		Pn	21 42 30.9	+0.5
SVQ2				*e*S		Sn	21 42 37.5	+1.2
TRB2	**Turrubares**	0.40	9	*e*P		Pn	21 42 31.7	+0.6
LLNJ	**Naranjito**	0.41	96	*e*P		Pn	21 42 31.8	+0.7
LLNJ				*e*S		Sn	21 42 39.2	+1.6
ACOS	**Acosta**	0.44	51	*e*P		Pn	21 42 32.3	+0.6
ABE2	**San Pablo**	0.49	68	*e*P		Pn	21 42 32.8	+0.3
ABE2				*e*S		Sn	21 42 40.7	+0.8
LAFE	**Finca La Fe, P**	0.49	306	*e*P		Pn	21 42 33.6	+1.3
LAFE	**Finca La Fe, P**	0.49	306	*i* P		Pn	21 42 33.6	+1.3
LAFE	comp=Z,220nm,1.0s			IAML			21 42 43.5	
ARZA	**Esparza**	0.49	342	*e*P		Pn	21 42 33.3	+0.8
ARZA				*e*S		Sn	21 42 41.5	+1.7
RAZU	**San Marcos de**	0.50	74	*e*P		Pn	21 42 32.9	+0.3
SANTA	**Santa Ana**	0.52	38	*e*P		Pn	21 42 33.4	+0.5
SANTA				*e*S		Sn	21 42 41.5	+0.9
LCR2	**La Lucha 2**	0.55	66			Pn	21 42 33.3	0.0
LCR2						Sn	21 42 41.4	+0.1
LCR2	**La Lucha 2**	0.55	66	*e*P		Pn	21 42 33.5	+0.2
LCR2	**La Lucha 2**	0.55	66	*i* P		Pn	21 42 33.3	+0.2
LCR2				*i* S		Sn	21 42 41.6	+0.3
BELE	**Belen**	0.56	35	*e*P		Pn	21 42 34.8	+1.5
BELE				*e*S		Sn	21 42 43.4	+2.0
TCS1	**Tacares**	0.56	22	*e*P		Pn	21 42 34.2	+0.8
SRA1	**San Ramn**	0.56	3	*e*P		Pn	21 42 34.1	+0.6
RAMO	**San Ramon**	0.57	4	*e*P		Pn	21 42 35.2	+1.7
CBL1	**Cabuya**	0.58	277	*e*P		Pn	21 42 34.2	+0.7
CBL1				*e*S		Sn	21 42 43.6	+1.8
AMPA	**Desamparados**	0.58	50	*e*P		Pn	21 42 35.0	+1.3
AMPA				*e*S		Sn	21 42 43.7	+1.6
GREC	**Grecia**	0.59	20	*e*P		Pn	21 42 34.6	+0.8
CENT	**San Jose**	0.59	46	*e*P		Pn	21 42 34.2	+0.4
SARCI	**Sarchi**	0.59	16	*e*P		Pn	21 42 34.9	+1.0
NARAN	**Naranjo de Ala**	0.59	13	*e*P		Pn	21 42 34.9	+1.0
LUJA	**Lujan**	0.59	47	*e*P		Pn	21 42 35.4	+1.5
MEXI	**Barrio Mexico**	0.59	45	*e*P		Pn	21 42 34.5	+0.6
SJS	**Escuela Geolog**	0.61	47	*e*P		Pn	21 42 34.7	+0.5
SJS3	**Mercedes San J**	0.62

SOCE IAML 21 42 39.7
comp=Z,44µm,1.0s
SOCE *i* S **Sn** **21 42 51.1 +2.1**
VTLA Turrialba Volc 0.87 56 *e* P **Pn** **21 42 38.7 +0.8**
CVTQ Turrialba Volc 0.88 57 *e* P **Pn** **21 42 38.9 +0.9**
JUNT Juntas 0.88 330 *e* P **Pn** **21 42 38.6 +0.9**
JTS Las Juntas de 0.88 331 Pn **Pn** **21 42 38.6 +0.9**
JTS Sn **Sn** **21 42 50.2 +0.8**
JTS Las Juntas de 0.88 331 *e* P **Pn** **21 42 38.8 +1.0**
JTS Las Juntas de 0.88 331 Pg **Pn** **21 42 38.7 +0.9**
comp=Z,621nm,0.3s,baz=135,slow=6.0,SNR=2486
JTS Lg Lg 21 42 51.2
comp=Z,3µm,0.3s,baz=304,slow=21,SNR=33
JTS Las Juntas de 0.88 331 *e* P **Pn** **21 42 38.6 +0.9**
VTR0 Volcan Turrial 0.89 56 *e* P **Pn** **21 42 39.2 +0.9**
VTUN Crater Central 0.89 56 *i* P **Pn** **21 42 39.4 +1.2**
VTUN *i* S **Sn** **21 42 51.1 +1.0**
VTUN IAML 21 42 58.2
comp=Z,16µm,1.0s
CVTR Volcan Turrial 0.89 56 *e* P **Pn** **21 42 39.0 +0.8**
CVTV Tajo 0.89 57 *e* P **Pn** **21 42 39.1 +0.9**
TURIB Turrialba 0.90 64 *e* P **Pn** **21 42 38.6 +0.5**
VTCV VTCV, Calle Va 0.90 59 *e* P **Pn** **21 42 39.0 +0.8**
VTCV VTCV, Calle Va 0.90 59 *i* P **Pn** **21 42 39.1 +0.9**
VTCV *i* S **Sn** **21 42 51.4 +1.3**
VTCV IAML 21 42 54.3
comp=Z,35µm,1.0s
VERB Verbena 0.91 62 *e* P **Pn** **21 42 39.1 +0.9**
VTLO VTLO 0.93 56 *e* P **Pn** **21 42 39.5 +0.8**
OCHAL Ojochal 0.95 116 *i* P **Pn** **21 42 38.9 +0.2**
OCHAL IAML 21 42 53.4
comp=Z,250nm,1.0s
ITAL Pital 0.96 14 *e* P **Pn** **21 42 40.1 +1.3**
ARE1 Arenal 1 0.96 348 Pn **Pn** **21 42 40.6 +1.9**
ARE1 Sn **Sn** **21 42 54.0 +2.8**
ARE1 Arenal 1 0.96 348 *e* P **Pn** **21 42 40.7 +1.9**
VACR Volcan Arenal 0.96 350 *e* P **Pn** **21 42 40.6 +1.7**
RVSTA Santa Teresita 0.96 62 *e* P **Pn** **21 42 39.9 +0.9**
CEDE Laguna Cedeo 0.98 349 *e* P **Pn** **21 42 41.3 +1.9**
RIFO Rio Frio, Sara 0.98 36 *i* P **Pn** **21 42 40.3 +1.2**
RIFO Rio Frio, Sara 0.98 36 *i* P **Pn** **21 42 40.4 +1.2**
RIFO IAML 21 42 55.8
comp=Z,31µm,1.0s
CMARA Lajas Hojancha 1.03 299 *e* P **Pn** **21 42 40.1 +0.3**
INDI Punta indio, G 1.04 290 *e* P **Pn** **21 42 39.9 +0.1**
INDI Punta indio, G 1.04 290 *i* P **Pn** **21 42 41.3 +1.5**
INDI IAML 21 43 04.7
comp=Z,6µm,1.0s
CNAS Canas 1.07 328 *e* P **Pn** **21 42 41.9 +1.5**
RVLA Villa Bonita 1.08 57 *e* P **Pn** **21 42 41.9 +1.4**
LCOCO El Coco 1.09 59 *e* P **Pn** **21 42 41.9 +1.2**
NICO Nicoya 1.11 304 *e* P **Pn** **21 42 41.5 +0.7**
DUNO Dulce Nombre, 1.12 300 Pn **Pn** **21 42 41.3 +0.3**
DUNO Sn **Sn** **21 42 56.0 +0.8**
DUNO Dulce Nombre, 1.12 300 *e* P **Pn** **21 42 41.3 +0.3**
DUNO Dulce Nombre, 1.12 300 *i* P **Pn** **21 42 41.5 +0.5**
DUNO IAML 21 42 57.4
comp=Z,29µm,1.0s
CARI Cariari 1.14 42 *e* P **Pn** **21 42 43.7 +2.5**
IRES Siquirres 1.15 60 *e* P **Pn** **21 42 42.9 +1.5**
PLVR Palo Verde 1.17 315 *e* P **Pn** **21 42 42.9 +1.0**
SRBA San Rafael, Bu 1.17 104 Pn **Pn** **21 42 42.2 +0.4**
SRBA San Rafael, Bu 1.17 104 *e* P **Pn** **21 42 42.4 +0.6**
SRBA San Rafael, Bu 1.17 104 *i* P **Pn** **21 42 42.4 +0.6**
SRBA IAML 21 42 59.5
comp=Z,27µm,1.0s
PLAN Los Planes de 1.18 136 *i* P **Pn** **21 42 41.6 -0.1**
PLAN IAML 21 43 00.1
comp=Z,31µm,1.0s
EDPN Palmar Norte 1.18 118 *e* P **Pn** **21 42 42.4 +0.6**
EDPN *e* S **Sn** **21 42 57.7 +1.1**
COVE Coope Vega, Sa 1.20 5 Pn **Pn** **21 42 43.5 +1.4**
COVE Coope Vega, Sa 1.20 5 *e* P **Pn** **21 42 43.6 +1.5**
COVE Coope Vega, Sa 1.20 5 *i* P **Pn** **21 42 43.6 +1.5**
COVE IAML 21 42 44.0
comp=Z,30µm,1.0s
JUD3 Juan Diaz 3 1.20 303 *e* P **Pn** **21 42 42.5 +0.4**
BURE Buenos Aires 1.21 106 *e* P **Pn** **21 42 43.0 +0.8**
ACAL Aguas Claras 1.22 335 *e* P **Pn** **21 42 44.2 +1.7**
ORTG Ortega, Santa 1.26 312 Pn **Pn** **21 42 43.9 +1.0**
ORTG Ortega, Santa 1.26 312 *e* P **Pn** **21 42 44.0 +1.0**
ORTG Ortega, Santa 1.26 312 *i* P **Pn** **21 42 44.0 +1.0**
ORTG *i* SA 21 43 01.2
ORTG IAML 21 43 02.6
comp=Z,7µm,1.0s
BATAN Batan 1.26 63 Pn **Pn** **21 42 44.4 +1.5**
BATAN Batan 1.26 63 *i* P **Pn** **21 42 44.5 +1.6**
BATAN Batan 1.26 63 *e* P **Pn** **21 42 44.4 +1.5**
BATAN Batan 1.26 63 *i* P **Pn** **21 42 44.5 +1.6**
BATAN IAML 21 43 05.9
comp=Z,25µm,1.0s
EDBA Buenos Aires 1.27 106 *e* P **Pn** **21 42 43.1 0.0**
DRK0 Durika 1.27 101 Pn **Pn** **21 42 43.8 +0.5**
DRK0 Durika 1.27 101 *e* P **Pn** **21 42 43.9 +0.6**
TAAN Batan 1.28 64 *e* P **Pn** **21 42 44.8 +1.6**
SAJU San Juanillo, 1.30 295 *i* P **Pn** **21 42 44.6 +1.1**
SAJU *i* S **Sn** **21 43 00.3 +0.6**
SAJU IAML 21 43 08.6
comp=Z,4µm,1.0s
CUI Cuipilapa 1.30 330 *e* P **Pn** **21 42 45.2 +1.7**
TRT1 Tortuguero 1.34 37 *e* P **Pn** **21 42 45.1 +1.1**
TRT1 Tortuguero 1.34 37 *i* P **Pn** **21 42 45.3 +1.3**
VERA Finca Concepci 1.37 345 *e* P **Pn** **21 42 46.0 +1.5**
VMAR Armenia, Volca 1.42 335 *e* P **Pn** **21 42 46.8 +1.7**
POTG Potrero Grande 1.45 108 *i* P **Pn** **21 42 46.4 +0.8**
POTG IAML 21 43 09.0
comp=Z,17µm,1.0s
VRLE La Escondida, 1.52 326 *e* P **Pn** **21 42 48.0 +1.4**
LCHIL Los Chiles 1.52 352 *e* P **Pn** **21 42 47.9 +1.4**
HZTE Horizontes, Gu 1.60 318 Pn **Pn** **21 42 49.5 +1.9**
HZTE Horizontes, Gu 1.60 318 *i* P **Pn** **21 42 49.0 +1.4**
HZTE *i* S **Sn** **21 43 10.3 +3.3**
HZTE IAML 21 43 14.0
comp=Z,8µm,1.0s
PIRO Carate, Puerto 1.60 134 *i* P **Pn** **21 42 49.1 +1.5**
PIRO IAML 21 43 08.4
comp=Z,14µm,1.0s
MLIR3 Monte Lirio, C 1.81 113 *e* P **Pn** **21 42 53.8 +3.2**
CDITO Canoas 1.87 120 Pn **Pn** **21 42 50.5 -0.8**
CDITO Canoas 1.87 120 *e* P **Pn** **21 42 54.8 +3.4**
CDITO Canoas 1.87 120 *i* P **Pn** **21 42 52.1 +0.8**
CDITO IAML 21 43 23.7
comp=Z,6µm,1.0s
BRU2 Volcan 1.94 112 Pn **Pn** **21 42 52.6 +0.3**
BRU2 Volcan 1.94 112 *e* P **Pn** **21 42 55.3 +2.9**
BRU2 *e* S **Sn** **21 43 17.6 +2.0**
BRU2 Volcan 1.94 112 *i* P **Pn** **21 42 53.5 +1.1**
BRU2 IAML 21 43 25.8
comp=Z,5µm,1.0s
BC3P Paso Ancho 2.00 110 *e* P **Pn** **21 42 56.3 +3.0**
CNI2 El Empalme, Bo 2.02 92 *e* P **Pn** **21 42 55.4 +2.1**
PTPM Petroterminale 2.07 129 *e* P **Pn** **21 42 57.0 +2.8**
PTPM *e* S **Sn** **21 43 20.9 +2.1**
BCO2 Palmira 2.11 112 *e* P **Pn** **21 42 57.2 +2.4**
BCO2 *e* S **Sn** **21 43 22.1 +2.1**
PTAR3 Potrerillos Ar 2.15 112 *e* P **Pn** **21 42 58.3 +3.0**
LNBQ3 Los Naranjos, 2.17 109 *e* P **Pn** **21 42 58.4 +2.9**
OMEN Al SSO del Vol 2.26 331 *i* P **Pn** **21 42 57.9 +1.2**
OMEN IAML 21 43 19.9
comp=Z,1µm,1.0s
DVD David 2.30 118 *e* P **Pn** **21 43 00.8 +3.5**
MORN Al O del Volca 2.31 331 *i* P **Pn** **21 42 58.7 +1.4**
MORN IAML 21 43 14.8
comp=Z,2µm,1.0s
PSOM3 Paja de Sombre 2.31 111 *e* P **Pn** **21 43 00.4 +2.9**
PEDE3 Pedregal, Chir 2.35 118 *e* P **Pn** **21 43 00.5 +2.5**
CHGR2 Aguacate 2.41 104 *e* P **Pn** **21 43 01.0 +2.2**
ACON Acoyapa 2.52 345 *e* P **Pn** **21 43 01.4 +1.1**
ACON Acoyapa 2.52 345 *i* P **Pn** **21 43 08.2 +7.9**
ESPN Las Esperanzas 2.67 4 Pn **Pn** **21 43 03.8 +1.5**
ESPN Las Esperanzas 2.67 4 *e* P **Pn** **21 43 03.9 +1.7**
ESPN Las Esperanzas 2.67 4 *i* P **Pn** **21 43 04.0 +1.7**
ESPN IAML 21 44 03.3
comp=Z,1µm,1.0s
BOAB BOACO BROADBAN 3.13 339 Pn **Pn** **21 43 09.2 +0.6**
BOAB BOACO BROADBAN 3.13 339 *i* P **Pn** **21 43 09.4 +0.8**
BOAB IAML 21 43 22.4
comp=Z,780nm,1.0s
COPN Copaltepe 3.34 322 *i* P **Pn** **21 43 12.9 +1.3**
COPN IAML 21 44 39.7
comp=Z,310nm,1.0s
MACN El Madrono 3.62 324 *i* P **Pn** **21 43 18.3 +2.9**

CNGN Cerro Negro 3.66 324 Pn **Pn** **21 43 15.9 -0.1**
MATN Matagalpa 3.66 338 Pn **Pn** **21 43 17.5 +1.4**
MATN Matagalpa 3.66 338 *i* P **Pn** **21 43 17.8 +1.7**
MATN IAML 21 43 31.9
comp=Z,350nm,1.0s
GMAL Guarumal, Vera 3.68 118 *e* P **Pn** **21 43 19.7 +3.5**
GMAL *e* S **Sn** **21 43 59.5 +1.1**
STIA3 Santiago, Vera 3.77 112 *e* P **Pn** **21 43 21.1 +3.6**
TEL3 Telica 3 3.80 323 *i* P **Pn** **21 43 22.7 +4.8**
CALO3 Calobre, Verag 3.82 108 *e* P **Pn** **21 43 21.1 +3.0**
LIMN Finca el Limon 3.96 333 *i* P **Pn** **21 43 21.2 +1.0**
LIMN IAML 21 43 39.0
comp=Z,410nm,1.0s
CRIN San Cristobal 4.03 322 Pn **Pn** **21 43 22.1 +1.0**
CRIN San Cristobal 4.03 322 *e* P **Pn** **21 43 24.8 +3.8**
CRIN *e* S **Sn** **21 44 06.1 -1.0**
CRIN San Cristobal 4.03 322 *i* P **Pn** **21 43 22.8 +1.7**
CRIN IAML 21 44 16.8
comp=Z,970nm,1.0s
PESE3 Pese, Herrera 4.17 112 *e* P **Pn** **21 43 26.3 +3.3**
CACAO El Cacao, Vera 4.21 121 *e* P **Pn** **21 43 26.8 +3.4**
CACAO *e* S **Sn** **21 44 12.5 +1.1**
RCPN Sur Rio San Ju 4.28 339 *i* P **Pn** **21 43 26.6 +2.1**
RCPN IAML 21 43 39.1
comp=Z,0.7nm,1.0s
CHIT3 Chitre 4.33 111 *e* P **Pn** **21 43 28.7 +3.5**
CHIT3 *e* S **Sn** **21 44 14.8 +0.2**
AZU Azuero 4.53 112 *e* P **Pn** **21 43 30.4 +2.5**
AZU *e* S **Sn** **21 44 19.9 +0.6**
BCIP Isla Barro Col 4.62 94 Pn **Pn** **21 43 29.6 +0.3**
BCIP Isla Barro Col 4.62 94 *e* P **Pn** **21 43 32.5 +3.3**
BCIP *e* S **Sn** **21 44 21.8 0.0**
PRVC Isla de Provid 4.92 39 *e* P **Pn** **21 43 37.1 +3.8**
UPA Univ. de Panam 4.94 96 *e* P **Pn** **21 43 36.4 +2.8**
PACA Pacayal 5.42 317 *e* P **Pn** **21 43 44.4 +4.1**
PACA *e* S **Sn** **21 44 40.4 -1.1**
SJTE Alcalda de S 6.00 313 *e* P **Pn** **21 43 51.9 +3.7**
SJTE *e* S **Sn** **21 44 52.5 -3.2**
PMON Piamonte 6.29 312 *e* P **Pn** **21 43 55.8 +3.6**
PMON *e* S **Sn** **21 44 59.6 -3.3**
JAYA Jayaque - finc 6.35 311 *e* P **Pn** **21 43 55.2 +2.1**
JAYA *e* S **Sn** **21 45 00.4 -4.1**
JAYA IAML 21 45 08.7
comp=Z,234nm,0.2s
UPD2 Meteti 6.49 98 *e* P **Pn** **21 43 57.8 +3.0**
SNJE San Jose 6.60 311 *e* P **Pn** **21 44 00.1 +3.5**
ROSC El Rosal 11.13 114 LR LR 21 49 36.8
comp=Z,64nm,20.5s,baz=262,slow=38
TEIG Tepich 11.25 342 LR LR 21 49 28.8
comp=Z,1µm,20.4s,slow=41
CMIG Matias Romero 12.59 308 Pn **Pn** **21 45 18.5 +0.1**
comp=Z,0.2nm,0.3s,baz=140,slow=16,SNR=2.9
comp=Z,3.3nm,0.6s
SDV Santo Domingo 13.71 92 Pn **Pn** **21 45 34.8 +0.7**
SDV Santo Domingo 13.71 92 Pn **P** **21 45 40.2 -2.1**
comp=Z,0.4nm,0.3s,baz=321,slow=7.1,SNR=4.9
SDV LR LR 21 50 46.5
comp=Z,159nm,21.9s,baz=276,slow=38
MCRA Macar, Loja 14.52 162 Pn **Pn** **21 45 42.1 -2.8**
BAUV El Baul 16.27 91 **P** **21 46 11.2 +0.7**
ATAH Atahualpa 17.63 160 LR LR 21 52 31.6
comp=Z,162nm,20.4s,baz=346,slow=33
656A Willston 19.84 5 Pn **P** **21 46 51.4 +1.7**
VBMS Vicksburg 23.27 347 P **P** **21 47 25.5 -0.8**
833A Chaparral WMA, 23.37 325 P **P** **21 47 26.0 -1.3**
833A IAmb IAmb 21 47 29.2
comp=Z,13nm,0.8s
LRAL Lakeview Retre 23.52 355 P **P** **21 47 28.8 +0.1**
LRAL IAmb IAmb 21 47 31.2
comp=Z,16nm,0.8s
Z47A Carrollton 23.80 353 P **P** **21 47 31.5 +0.1**
GOGA Godfrey 23.80 2 P **P** **21 47 31.5 +0.1**
GOGA IAmb IAmb 21 47 32.8
comp=Z,15nm,1.0s
HODGE Hodges 24.68 4 P **P** **21 47 39.9 +0.4**
HODGE IAmb IAmb 21 47 40.6
comp=Z,11nm,0.7s
DRIO Del Rio 24.90 325 P **P** **21 47 41.9 +0.4**
DRIO IAmb IAmb 21 47 44.3
comp=Z,14nm,0.8s
OXF Oxford 25.28 350 P **P** **21 47 44.2 -0.7**
WHTX Lake Whitney, 25.38 334 P **P** **21 47 42.1 -3.7**
BRDY Brady 25.51 330 P **P** **21 47 47.6 +0.5**
BRDY IAmb IAmb 21 47 49.7
comp=Z,9.5nm,0.8s
W50A Signal Mountai 25.57 358 P **P** **21 47 49.1 +1.5**
FW14 Alvarado 25.62 335 P **P** **21 47 48.1 +0.1**
TKL Tuskeechee C 26.03 1 LR LR 21 58 03.0
comp=Z,81nm,19.4s,baz=178,slow=38
SAND Sanderson 26.16 323 P **P** **21 47 52.8 -0.3**
MIAR Mount Ida 26.26 343 P **P** **21 47 53.7 -0.1**
MIAR IAmb IAmb 21 47 56.4
comp=Z,11nm,0.7s
ETMB Extrema 26.47 136 P **P** **21 47 54.8 -1.1**
ETMB IAmb IAmb 21 47 57.4
comp=Z,6.4nm,0.9s
TXAR Lajitas Array 26.66 320 P **P** **21 47 58.1 +0.5**
TXAR Lajitas Array 26.66 320 P **P** **21 47 58.5 +0.9**
comp=Z,1.9nm,0.5s,baz=146,slow=8.0,SNR=14
comp=Z,1.9nm,0.5s
TX31 Lajitas Ar. Si 26.66 320 P **P** **21 47 57.7 +0.1**
TX31 IAmb IAmb 21 48 03.1
comp=Z,2.8nm,0.6s
LCAR Lake Charles 27.11 348 P **P** **21 47 59.7 -1.8**
LCAR IAmb IAmb 21 48 01.7
comp=Z,10nm,0.9s
ALPN Alpine 27.37 322 P **P** **21 48 04.8 +0.7**
CCM Cathedral Cave 29.05 349 P **P** **21 48 18.5 -0.3**
CCM IAmb IAmb 21 48 19.6
comp=Z,6.2nm,0.7s
LPAZ La Paz 30.34 148 LR LR 22 01 11.8
comp=Z,117nm,20.9s,baz=342,slow=36
P40A Paris 30.64 349 P **P** **21 48 31.8 -1.0**
P40A IAmb IAmb 21 48 44.6
comp=Z,7.2nm,0.8s
319A Douglas 31.66 317 P **P** **21 48 42.9 +0.8**
319A IAmb IAmb 21 48 46.6
comp=Z,9.9nm,0.9s
MDP Montagnes des 31.90 96 LR LR 22 05 35.6
comp=Z,61nm,20.1s,baz=324,slow=44
ANMO Albuquerque 32.30 325 LR LR 22 05 08.7
comp=Z,31nm,18.1s,baz=227,slow=43
X16A Lo Mia Camp, P 34.97 319 P **P** **21 49 12.2 +1.3**
SADO Sadowa 35.43 7 LR LR 22 03 36.0
comp=Z,94nm,19.5s,baz=228,slow=37
SPMN Marine on St. 36.29 350 P **P** **21 49 19.4 -2.5**
SRU San Rafael Swe 37.54 326 P **P** **21 49 32.5 -0.4**
SRU IAmb IAmb 21 49 35.6
comp=Z,3.4nm,0.6s
F33A 5 Mile Ranch, 37.58 346 P **P** **21 49 30.7 -2.1**
PSUT Pine Spring 39.08 322 P **P** **21 49 46.5 +0.6**
GWY Greenwater Val 39.45 317 P **P** **21 49 49.6 +0.6**
GWY IAmb IAmb 21 49 52.8
comp=Z,2.9nm,0.6s
PDAR Pinedale Array 39.72 331 LR LR 22 10 53.5
comp=Z,25nm,18.8s,baz=128,slow=44
R11B Troy Canyon, C 40.02 321 P **P** **21 49 56.1 +2.4**
DSP Deep Springs 40.98 318 P **P** **21 50 03.5 +2.1**
ULM Lac du Bonnet 41.69 349 P **P** **21 50 04.6 -2.4**
comp=Z,6.1nm,0.8s,baz=168,slow=9.3,SNR=12
comp=Z,6.1nm,0.8s
NVAR Mina Array Bea 41.80 319 P **P** **21 50 09.5 +1.1**
NVAR Mina Array Bea 41.80 319 P **P** **21 50 09.7 +1.3**
comp=Z,1.4nm,0.6s,baz=129,slow=6.8,SNR=11
comp=Z,1.4nm,0.6s
KVN Kaiserville 42.02 320 P **P** **21 50 11.1 +1.0**
WAKR Walker 42.58 318 P **P** **21 50 15.1 +0.4**
WAKR IAmb IAmb 21 50 34.7
comp=Z,5.2nm,1.1s
HLID Hailey 42.74 328 P **P** **21 50 16.3 +0.3**
YBH Yreka Blue Hor 46.44 320 LR LR 22 11 40.5
comp=Z,53nm,18.3s,baz=146,slow=38
SCHQ Schefferville 47.33 14 P **P** **21 50 50.2 -1.8**
comp=Z,1.0nm,0.6s,baz=240,slow=8.1,SNR=1.5
SCHQ LR LR 22 10 13.9
comp=Z,90nm,18.6s,baz=216,slow=36
comp=Z,1.0nm,0.6s
NEW Newport 47.36 331 LR LR 22 14 00.7
comp=Z,54nm,18.1s,baz=182,slow=41
PLCA Paso Flores 51.63 166 P P 21 51 38.7 +14
comp=Z,2.1nm,0.8s,baz=350,slow=12,SNR=3.3
comp=Z,2.1nm,0.8s
FRB Frobisher Bay 55.33 9 LR LR 22 15 49.3
comp=Z,83nm,18.5s,baz=196,slow=37

YKAB2 New Yellowknif 57.14 344 P **P** **21 52 03.5 -1.2**
YKA Yellowknife Ar 57.20 344 P **P** **21 52 03.5 -1.6**
comp=Z,0.7nm,0.7s,baz=136,slow=7.3,SNR=14
YKA LR LR 22 20 44.6
comp=Z,29nm,18.6s,baz=293,slow=41
comp=Z,0.7nm,0.7s
SFJD Kangerlussuaq 61.78 14 LR LR 22 19 58.6
comp=Z,52nm,18.3s,baz=209,slow=37
MMPY Sheldon Lake, 62.73 338 P **P** **21 52 42.9 -0.3**
MMPY IAmb IAmb 21 53 21.8
comp=Z,4.9nm,1.4s
RES Resolute Bay 65.40 357 P **P** **21 52 59.4 -1.0**
RES Resolute Bay 65.40 357 LR LR 22 20 36.7
comp=Z,36nm,19.5s,baz=11,slow=36
I30M Mount Dempster 66.07 339 P **P** **21 53 04.5 -0.6**
I30M IAmb IAmb 21 53 26.2
comp=Z,5.8nm,1.2s
INK Inuvik 66.86 342 P **P** **21 53 09.8 -0.1**
INK IAmb IAmb 21 53 30.1
comp=Z,4.8nm,1.2s
INK Inuvik 66.86 342 P **P** **21 53 09.9 +0.1**
comp=Z,1.3nm,0.7s,baz=94,slow=5.2,SNR=5.6
comp=Z,1.3nm,0.7s
BCAR Beaver Creek A 67.10 335 P **P** **21 53 11.2 -0.5**
G29M Pine Creek 67.52 340 P **P** **21 53 14.4 +0.2**
G29M IAmb IAmb 21 53 24.9
comp=Z,4.4nm,1.1s
F28M Old Crow 68.50 340 P **P** **21 53 19.6 -0.7**
F28M IAmb IAmb 21 53 46.7
comp=Z,5.0nm,1.4s
ILAR Eielson Array 69.85 336 P **P** **21 53 27.9 -0.8**
ILAR Eielson Array 69.85 336 P **P** **21 53 28.5 -0.2**
comp=Z,0.5nm,0.6s,baz=122,slow=4.2,SNR=8.4
ILAR LR LR 22 29 13.6
comp=Z,33nm,18.1s,baz=342,slow=41
comp=Z,0.5nm,0.6s
BMAR Burnt Mountain 70.03 339 P **P** **21 53 28.3 -1.5**
KDAK Kodiak Island 70.36 328 LR LR 22 25 55.2
comp=Z,60nm,18.5s,baz=160,slow=38
E25K Arctic Village 70.66 340 P **P** **21 53 33.8 +0.2**
IMAR Indian Mountai 72.96 336 P **P** **21 53 46.9 -0.5**
ESDC Sonseca Array 76.73 51 P **P** **21 54 09.8 -0.1**
comp=Z,1.3nm,0.8s,baz=279,slow=6.5,SNR=7.6
comp=Z,1.3nm,0.8s
SPITS Spitsbergen Ar 82.97 12 LR LR 22 31 55.6
comp=Z,84nm,19.0s,baz=246,slow=36
NOA NORSAR Array B 84.51 29 LR LR 22 31 36.1
comp=Z,14nm,18.6s,baz=255,slow=35
DAVOX Davos/Dischmat 86.13 43 LR LR 22 27 59.5
comp=Z,20nm,19.8s,baz=252,slow=32
TIXI Tiksi 96.03 350 LR LR 22 40 26.3
comp=Z,22nm,21.1s,baz=17,slow=37
ASAR Alice Springs 140.73 244 PKP **PKiKP** **22 01 54.9 +3.6**
comp=Z,0.5nm,0.6s,baz=94,slow=1.9,SNR=5.0
WRA Warramunga Arr 141.12 250 PKhKP PKPpre 22 01 44.4
comp=Z,0.6nm,0.8s,baz=107,slow=2.6,SNR=5.1
WRA PKP **PKiKP** **22 01 55.6 +3.4**
comp=Z,0.5nm,0.5s,baz=47,slow=0.1,SNR=5.7

AEIC **12** *21:44:47.6±1.4,59°49N±0°03×149°74W±0°05,h10km±6km, ML3.3,ML3.4/160(NEIC),Error ellipse: s-maj=5.4km s-min=3.2km az=148.0*
NEIC **12** *21:44:47.3±1.5,59°50N±0°04×149°74W±0°04, h21km±11km,Error ellipse: s-maj=6.3km s-min=2.2km az=165.0*
IDC **12** *21:44:48.1±1.5,59°45N×149°98W,h40km±18km,mb3.4/6, mbtmp3.5/10,ML3.5/4,MS3.1/2,Error ellipse: s-maj=31.4km s-min=9.3km az=126.0*
ISC 12 21:44:46.4±1.2,59°44N±0°04×149°76W±0°03,h25km±9km, n312,σ1°04/326,mb3.7/6,Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
BRSE	**Bradley Lake S**	**0.59**	**302**			**Pb**	**21 44 58.1**	**0.0**
BRSE						**Sb**	**21 45 06.4**	**+0.4**
BRSE	**Bradley Lake S**	**0.59**	**302**	P		**Pb**	**21 44 58.1**	**0.0**
	baz=116							
BRSE				S		**Sb**	**21 45 06.4**	**+0.4**
	baz=116							
BRLK	**Bradley Lake**	**0.66**	**300**	Pg		**Pb**	**21 44 59.3**	**0.0**
BRLK				Sg		**Sb**	**21 45 08.0**	**-0.1**
SEW	**Seward**	**0.69**	**13**			**Pb**	**21 44 59.5**	**-0.3**
SEW				Sg		**Sb**	**21 45 07.0**	**-1.8**
SEW	**Seward**	**0.69**	**13**	P		**Pb**	**21 44 59.6**	**-0.1**
	baz=194							
CNPM	**China Poot**	**0.76**	**277**	Pg		**Pn**	**21 45 01.3**	**-0.2**
CNPM				Sg		**Sb**	**21 45 11.3**	**+0.5**
HOM	**Homer**	**0.98**	**284**	Pg		**Pn**	**21 45 05.2**	**+0.6**
HOM				Sg		**Sn**	**21 45 17.8**	**+0.1**
HOM	**Homer**	**0.98**	**284**	P		**Pn**	**21 45 05.4**	**+0.9**
	baz=99							
HOM				S		**Sn**	**21 45 18.8**	**+1.1**
	baz=99							
O22K	**Cooper Landing**	**1.05**	**1**			**Pn**	**21 45 04.8**	**-0.7**
O22K				Sg		**Sb**	**21 45 17.0**	**-2.1**
O22K	**Cooper Landing**	**1.05**	**1**	P		**Pn**	**21 45 05.3**	**-0.1**
	baz=181							
O22K				S		**Sb**	**21 45 17.9**	**-1.2**
	baz=181							
SLKM	**Skilak Lake**	**1.10**	**348**			**Pn**	**21 45 05.7**	**-0.5**
SLKM						**Sb**	**21 45 19.2**	**-1.5**
P23K	**Montague Islan**	**1.32**	**64**			**Pb**	**21 45 10.3**	**-0.1**
P23K	**Montague Islan**	**1.32**	**64**	P		**Pb**	**21 45 10.3**	**-0.1**
	baz=248							
CAPN	**Captain Cook N**	**1.51**	**333**	Pn		**Pn**	**21 45 11.1**	**-0.7**
O20K	**Slope Mountain**	**1.59**	**295**			**Pb**	**21 45 14.3**	**-0.7**
O20K	**Slope Mountain**	**1.59**	**295**	P		**Pb**	**21 45 14.3**	**-0.7**
	baz=111							
SYI	**Shuyak Island**	**1.59**	**240**			**Pb**	**21 45 14.0**	**-1.1**
Q20K	**Shuyak Island**	**1.59**	**240**	P		**Pb**	**21 45 14.2**	**-1.0**
	baz=56							
RC01	**Rabbit Creek A**	**1.66**	**0**	Pn		**Pn**	**21 45 13.8**	**0.0**
RC01				IAML			21 45 42.5	
	comp=N,588nm,0.4s							
RC01				IAML			21 45 42.5	
	comp=E,679nm,0.6s							
RC01	**Rabbit Creek A**	**1.66**	**0**	P		**Pn**	**21 45 14.2**	**+0.4**
	baz=180							
Q23K	**Middleton Isla**	**1.74**	**89**	Pn		**Pn**	**21 45 14.4**	**-0.5**
Q23K	**Middleton Isla**	**1.74**	**89**	S		**Sn**	**21 45 37.2**	**+0.8**
	baz=273							
MID	**Middleton Isla**	**1.75**	**89**	Pn		**Pn**	**21 45 15.1**	**+0.1**
RDT	**Redoubt**	**1.75**	**312**			**Pn**	**21 45 15.1**	**-0.1**
P19K	**Oil Pt**	**1.78**	**278**	Pn		**Pb**	**21 45 17.2**	**-1.2**
P19K	**Oil Pt**	**1.78**	**278**	P		**Pb**	**21 45 17.5**	**-0.9**
	baz=94							
P19K				S		**Sn**	**21 45 38.6**	**+1.1**
	baz=94							
ILSW	**Iliamna Southw**	**1.80**	**289**	Pn		**Pn**	**21 45 16.4**	**+0.5**
ILSW				IAML			21 45 42.5	
	comp=N,517nm,0.6s							
ILSW				IAML			21 45 45.5	
	comp=E,446nm,0.6s							
RED	**Redoubt Volcan**	**1.81**	**304**			**Pn**	**21 45 16.7**	**+0.7**
RDSO	**Redoubt South**	**1.82**	**305**			**Pn**	**21 45 16.5**	**+0.3**
RSO	**Redoubt South**	**1.82**	**306**	Pn		**Pn**	**21 45 16.8**	**+0.5**
AU22	**Augustine Moun**	**1.84**	**269**			**Pb**	**21 45 18.5**	**-0.8**
AU22						**Sn**	**21 45 39.7**	**+0.9**
DFR	**Drift River**	**1.87**	**310**			**Pn**	**21 45 17.0**	**+0.1**
RDWB	**Redoubt West**	**1.88**	**306**			**Pn**	**21 45 17.5**	**+0.6**
RDWB						**Sn**	**21 45 40.1**	**+0.2**
AUL	**Augustine Lava**	**1.88**	**270**			**Pb**	**21 45 19.0**	**-1.0**
AUL						**Sn**	**21 45 40.8**	**+1.0**
HIN	**Hinchinbrook I**	**1.90**	**58**	Pn		**Pn**	**21 45 17.3**	**+0.1**
RDJH	**Redoubt Jeurge**	**1.92**	**308**			**Pn**	**21 45 18.2**	**+0.7**
NCT	**North Crescent**	**1.95**	**307**			**Pn**	**21 45 18.6**	**+0.6**
Q19K	**Cape Douglas,**	**2.06**	**257**	Pn		**Pn**	**21 45 20.5**	**+1.1**
Q19K	**Cape Douglas,**	**2.06**	**257**	P		**Pn**	**21 45 21.0**	**+1.6**
	baz=73							
KNK	**Knik Glacier**	**2.09**	**17**	Pn		**Pn**	**21 45 19.7**	**0.0**
KNK				IAML			21 45 52.4	
	comp=E,263nm,0.9s							
KNK				IAML			21 45 52.5	
	comp=N,243nm,0.8s							
KNK	**Knik Glacier**	**2.09**	**17**	P		**Pn**	**21 45 19.8**	**0.0**
	baz=199							
SUA	**Susitna One**	**2.09**	**347**	Pn		**Pn**	**21 45 19.8**	**-0.1**
SUA	**Susitna One**	**2.09**	**347**	P		**Pn**	**21 45 20.0**	**0.0**
	baz=166							
N20K	**Mount Spurr**	**2.15**	**326**	P		**Pn**	**21 45 20.8**	**+0.1**
	baz=143							
SPCR	**Spurr Chakacha**	**2.15**	**326**			**Pn**	**21 45 20.8**	**+0.1**
SPCN	**Chakachatna No**	**

PMR Palmer 2.19 8 Pn Pn 21 45 22.2 +1.2
PMR IAML 21 46 01.3
comp=E,187nm,0.6s
PMR Palmer 2.19 8 P Pn 21 45 21.2 +0.1
baz=188
SPCP Crater Peak Br 2.19 328 Pn 21 45 21.8 +0.5
KDAK Kodiak Island 2.22 223 Pn Pn 21 45 21.9 +0.3
KDAK IAML 21 45 48.4
comp=E,208nm,0.3s
KDAK IAML 21 45 48.5
comp=E,202nm,0.3s
KDAK Kodiak Island 2.22 223 P Pn 21 45 22.3 +0.7
comp=E,5.0nm,0.3s,baz=54,slow=9.5,SNR=79
KDAK S Sn 21 45 47.3 -0.9
comp=E,56nm,0.3s,baz=309,slow=23,SNR=26
comp=E,11nm,0.4s
SPBG Spurr Blockage 2.24 326 Pn 21 45 22.4 +0.5
EYAK Cordova Ski Ar 2.30 59 Pn Pn 21 45 22.3 -0.4
EYAK Cordova Ski Ar 2.30 59 P Pn 21 45 22.7 0.0
baz=244
STLK Strandline Lak 2.31 334 Pn 21 45 23.3 +0.4
GHO Glory Hole Cre 2.38 10 Pn Pn 21 45 25.0 +1.1
GHO IAML 21 46 10.9
comp=N,327nm,0.6s
GHO IAML 21 46 11.7
comp=E,300nm,0.5s
SPNN North Nagishla 2.42 324 Pn 21 45 25.5 +0.9
O19K Port Alsworth 2.43 290 Pn Pn 21 45 26.3 +1.9
O19K Port Alsworth 2.43 290 P Pn 21 45 26.5 +2.1
baz=105
SML Sawmill 2.48 16 Pn Pn 21 45 25.8 +0.6
SML IAML 21 46 11.0
comp=E,202nm,0.9s
SML IAML 21 46 15.5
comp=N,201nm,0.9s
SML Sawmill 2.48 16 P Pn 21 45 26.5 +1.3
baz=197
M23K Glacier View 2.57 22 Pn 21 45 27.7 +1.3
M23K Glacier View 2.57 22 P Pn 21 45 27.7 +1.3
baz=204
DIV Divide 2.61 48 Pn Pn 21 45 26.9 -0.2
SCM Sheep Creek Mo 2.69 25 Pn Pn 21 45 29.1 +1.0
SCM IAML 21 46 03.1
comp=N,122nm,0.5s
SCM IAML 21 46 15.7
comp=E,152nm,0.8s
SCM Sheep Creek Mo 2.69 25 P Pn 21 45 29.5 +1.4
baz=208
SKT Skwentna 2.70 342 Pn Pn 21 45 29.1 +1.0
SKT IAML 21 46 16.4
comp=E,176nm,0.8s
SKT IAML 21 46 19.0
comp=N,152nm,0.6s
SKT Skwentna 2.70 342 P Pn 21 45 28.8 +0.6
baz=160
RAGM Ragged Mountai 2.73 67 Pn Pn 21 45 29.1 +0.4
RAGM IAML 21 46 22.1
comp=N,219nm,0.5s
RAGM IAML 21 46 37.3
comp=E,126nm,0.7s
N19K Bonanza Creek 2.74 302 Pn Pn 21 45 29.3 +0.5
N19K IAML 21 46 12.4
comp=N,119nm,0.6s
GOAT Goat Mountain 2.78 63 Pn 21 45 29.6 +0.3
P18K Big Mountain, 2.80 271 Pn Pn 21 45 31.1 +1.6
P18K IAML 21 46 20.3
comp=N,113nm,0.7s
P18K Big Mountain, 2.80 271 P Pn 21 45 31.3 +1.8
baz=86
O18K Koktuh Hills 2.80 281 Pn Pn 21 45 30.8 +1.3
O18K IAML 21 46 15.5
comp=E,109nm,0.8s
O18K IAML 21 46 16.3
comp=N,144nm,1.1s
O18K Koktuh Hills 2.80 281 P Pn 21 45 31.8 +2.2
baz=95
KLU Klutina 2.80 41 Pn Pn 21 45 30.1 +0.5
KLU IAML 21 46 16.6
comp=N,161nm,0.5s
KLU Klutina 2.80 41 P Pn 21 45 30.3 +0.6
baz=225
OHAK Old Harbor 2.90 221 Pn Pn 21 45 30.6 -0.2
OHAK IAML 21 46 02.7
comp=E,90nm,0.4s
OHAK IAML 21 46 04.0
comp=N,130nm,0.2s
OHAK Old Harbor 2.90 221 P Pn 21 45 31.0 +0.2
baz=38
HMT Hamilton 2.92 70 Pn Pn 21 45 30.8 -0.3
HMT IAML 21 46 38.8
comp=N,142nm,0.8s
M20K Styx River 2.96 327 Pn Pn 21 45 32.8 +0.9
M20K IAML 21 46 16.9
comp=E,116nm,0.7s
KAKN Katmai Knife C 2.98 250 Pn 21 45 34.5 +2.4
CUT Chulitna 2.99 355 Pn Pn 21 45 31.8 -0.3
BMRM Bremner River 3.00 57 Pn Pn 21 45 31.5 -0.8
BMRM Bremner River 3.00 57 P Pn 21 45 32.3 0.0
baz=242
SUCK Suckling Hills 3.09 76 Pn Pn 21 45 33.3 -0.2
SUCK IAML 21 46 20.9
comp=E,131nm,2.9s
SUCK IAML 21 46 36.7
comp=N,118nm,2.4s
M24K Tolsona, Glenn 3.20 32 Pn Pn 21 45 36.8 +1.6
M24K IAML 21 46 29.9
comp=N,118nm,1.0s
M24K Tolsona, Glenn 3.20 32 P Pn 21 45 36.9 +1.8
baz=215
WAT6 Susitna Watana 3.31 16 Pn 21 45 37.5 +0.8
WAT6 Susitna Watana 3.31 16 P Pn 21 45 37.5 +0.8
baz=198
N18K Kilae Creek 3.32 295 Pn Pn 21 45 37.2 +0.5
N18K IAML 21 46 39.9
comp=N,71nm,0.6s
SVW2 Sparrevohn 3.34 302 Pn Pn 21 45 37.5 +0.5
SVW2 IAML 21 46 33.2
comp=N,77nm,0.9s
SVW2 IAML 21 46 39.5
comp=E,74nm,0.7s
N25K Chitina, Valde 3.35 47 Pn Pn 21 45 37.6 +0.4
N25K IAML 21 46 17.7
comp=E,69nm,0.4s
N25K IAML 21 46 30.0
comp=N,91nm,0.8s
N25K Chitina, Valde 3.35 47 P Pn 21 45 37.5 +0.3
baz=232
GRIN Grindle Hills 3.36 73 Pn 21 45 37.9 +0.7
M19K Big River Lodg 3.37 319 Pn Pn 21 45 38.0 +0.7
KHIT Khitrov Hills 3.43 70 Pn 21 45 38.5 +0.2
WAT7 Susitna Watana 3.44 7 Pn 21 45 39.5 +1.1
WAT1 Susitna Watana 3.46 9 Pn 21 45 40.0 +1.4
WAT1 Susitna Watana 3.46 9 P Pn 21 45 40.0 +1.4
baz=190
GLB Gilahina Butte 3.57 53 Pn Pn 21 45 40.0 -0.1
GLB IAML 21 46 38.4
comp=N,80nm,0.7s
SNH Sunshine Point 3.58 75 Pn Pn 21 45 41.5 +1.2
SNH IAML 21 46 22.8
comp=E,86nm,2.6s
VRDI Verde Repeater 3.61 57 Pn Pn 21 45 40.7 -0.2
VRDI IAML 21 46 23.1
comp=N,81nm,0.5s
WAX Waxell Ridge 3.62 71 Pn Pn 21 45 41.3 +0.5
WACK Wrangell Chich 3.70 44 Pn 21 45 42.8 +0.7
WASW Wrangell South 3.71 45 Pn 21 45 42.8 +0.5
L19K White Mountain 3.72 320 Pn Pn 21 45 42.8 +0.7
L19K IAML 21 46 46.1
comp=N,51nm,0.8s
L19K IAML 21 46 48.3
comp=E,59nm,1.9s
SII Sitkinak Islan 3.72 221 Pn Pn 21 45 42.4 +0.1
SII Sitkinak Islan 3.72 221 P Pn 21 45 42.4 +0.1
baz=37
HARP HAARP 3.73 35 Pn 21 45 44.0 +1.7
HARP HAARP 3.73 35 P Pn 21 45 44.0 +1.7
baz=219
O17K Koliganek Bris 3.74 278 Pn 21 45 43.8 +1.3
O17K Koliganek Bris 3.74 278 P Pn 21 45 43.7 +1.3
baz=91
DHY Denali Highway 3.83 16 Pn Pn 21 45 45.2 +1.4
DHY Denali Highway 3.83 16 P Pn 21 45 45.0 +1.2
baz=199
MCARA McCarthy VSAT 3.87 57 Pn Pn 21 45 44.2 0.0
MCARA IAML 21 46 32.9
comp=E,86nm,0.3s
MCARA McCarthy VSAT 3.87 57 P Pn 21 45 44.8 +0.5
baz=243
N17K Nushagak Hills 3.89 290 Pn Pn 21 45 46.5 +2.0
N17K IAML 21 46 49.6
comp=N,61nm,0.7s
N17K IAML 21 46 56.4
comp=E,43nm,1.4s
ISLE Juniper Island 3.90 69 Pn Pn 21 45 44.8 0.0
ISLE IAML 21 46 32.6
comp=E,52nm,0.8s
ISLE IAML 21 47 18.2
comp=N,58nm,2.3s
KIAG Kiagna River 3.98 65 Pn 21 45 46.0 0.0
RND Reindeer 4.01 6 Pn Pn 21 45 47.2 +1.0
MESA MESA 4.01 76 Pn Pn 21 45 47.9 +1.5
MESA IAML 21 46 45.3
comp=N,74nm,2.5s
MESA IAML 21 47 05.3
comp=E,70nm,3.5s
MESA MESA 4.01 76 P Pn 21 45 48.2 +1.8
baz=263
PTPK Patty Peak 4.03 61 Pn 21 45 47.0 +0.4
TRF Thorofare Moun 4.04 357 Pn Pn 21 45 47.9 +1.2
TRF IAML 21 46 55.1
comp=N,59nm,0.6s
TRF IAML 21 47 04.7
comp=E,47nm,0.9s
TRF Thorofare Moun 4.04 357 P Pn 21 45 47.8 +1.2
baz=176
PAX Paxson 4.11 28 Pn Pn 21 45 49.1 +1.5
PAX Paxson 4.11 28 P Pn 21 45 48.9 +1.3
baz=212
CAST Castle Rocks 4.15 345 Pn Pn 21 45 49.0 +0.9
CAST Castle Rocks 4.15 345 P Pn 21 45 49.3 +1.2
baz=163
KTH Kantishna Hill 4.17 353 Pn Pn 21 45 49.6 +1.2
KTH IAML 21 46 51.0
comp=E,49nm,0.8s
KTH IAML 21 47 05.4
comp=N,61nm,0.9s
O16K Kokwok River B 4.25 276 Pn Pn 21 45 52.1 +2.7
O16K IAML 21 46 43.5
comp=E,36nm,2.6s
O16K IAML 21 46 59.2
comp=N,45nm,0.7s
M17K Holitna River 4.29 301 Pn Pn 21 45 50.3 +0.4
MCK McKinley 4.33 5 Pn Pn 21 45 51.7 +1.1
MCK McKinley 4.33 5 P Pn 21 45 52.1 +1.6
baz=186
BARN Barnard Glacie 4.35 65 Pn Pn 21 45 51.3 +0.3
L18K Granite Mounta 4.39 312 Pn Pn 21 45 51.4 0.0
L18K IAML 21 47 12.1
comp=N,49nm,2.7s
L18K IAML 21 47 12.3
comp=E,46nm,1.0s
M26K Nabesna, AK 4.44 45 Pn Pn 21 45 52.5 +0.4
K20K Telida 4.45 334 Pn Pn 21 45 52.9 +0.7
K20K IAML 21 47 11.8
comp=E,31nm,1.9s
K20K IAML 21 47 16.2
comp=N,30nm,1.1s
TABL Table Mountain 4.45 73 Pn Pn 21 45 52.8 +0.4
TABL IAML 21 46 45.9
comp=E,35nm,0.5s
TABL IAML 21 46 49.5
comp=N,44nm,1.7s
CTG Chitna Glacier 4.47 66 P Pn 21 45 53.2 +0.6
baz=254
CTGM Chitina Glacie 4.47 66 Pn Pn 21 45 52.6 -0.1
MENT Mentasta 4.57 37 Pn Pn 21 45 56.7 +2.8
MENT IAML 21 47 09.2
comp=E,41nm,0.6s
MENT IAML 21 47 13.8
comp=N,46nm,1.3s
SAMH Samovar Hills 4.59 77 Pn 21 45 56.5 +2.3
LOGN Logan Glacier 4.59 69 Pn Pn 21 45 54.6 +0.2
LOGN IAML 21 47 27.4
comp=E,25nm,3.9s
TTA Tatalina 4.63 322 Pn Pn 21 45 54.9 +0.2
TTA IAML 21 47 17.5
comp=N,32nm,1.4s
TTA IAML 21 47 24.8
comp=E,31nm,2.7s
BPAW Bear Paw Mtn. 4.72 353 Pn Pn 21 45 56.1 +0.2
BPAW Bear Paw Mtn. 4.72 353 P Pn 21 45 56.5 +0.6
baz=172
L26K Log Cabin Wild 4.75 38 Pn Pn 21 45 57.0 +0.7
L26K IAML 21 47 14.6
comp=E,24nm,0.4s
BWN Browne 4.75 2 Pn Pn 21 45 57.4 +1.1
M27K Edge Creek, AK 4.84 49 Pn Pn 21 45 57.6 0.0
M27K Edge Creek, AK 4.84 49 P Pn 21 45 58.1 +0.5
baz=237
PCA Pinnacle 4.85 78 Pn Pn 21 45 59.0 +1.3
PINM Pinnacle 4.85 78 P Pn 21 45 59.2 +1.4
baz=267
M16K Timber Creek 4.86 293 Pn Pn 21 46 00.1 +2.4
M16K IAML 21 47 21.7
comp=N,43nm,3.0s
L17K Donlin 4.98 307 Pn 21 45 59.7 +0.2
L17K Donlin 4.98 307 P Pn 21 45 59.7 +0.2
baz=119
YUK2 White River 4.98 58 Pn 21 46 00.7 +1.1
WRH Wood River Hil 5.12 8 Pn Pn 21 46 01.8 +0.5
WRH IAML 21 47 34.8
comp=E,22nm,2.1s
YUK3 Moose Creek 5.15 59 Pn 21 46 02.8 +0.9
YUK3 Moose Creek 5.15 59 P Pn 21 46 02.8 +0.9
baz=247
BCPM Bancas Point 5.16 80 Pn Pn 21 46 02.7 +0.8
HDA Harding Lake 5.16 14 Pn Pn 21 46 02.9 +0.9
HDA Harding Lake 5.16 14 P Pn 21 46 03.2 +1.2
baz=196
NEA2 Nenana 5.19 3 Pn Pn 21 46 01.9 -0.3
NEA2 IAML 21 46 59.6
comp=E,18nm,0.7s
NEA2 IAML 21 47 00.1
comp=N,20nm,2.9s
NEA2 Nenana 5.19 3 P Pn 21 46 03.0 +0.7
baz=184
J20K Nowinta River 5.19 338 Pn Pn 21 46 03.1 +0.7
J20K IAML 21 47 42.4
comp=E,23nm,2.9s
J20K IAML 21 47 43.4
comp=N,23nm,1.4s
J20K Nowinta River 5.19 338 P Pn 21 46 03.5 +1.2
baz=154
J18K Innoko River 5.24 323 Pn Pn 21 46 04.0 +0.9
J18K IAML 21 47 40.2
comp=N,17nm,2.5s
J18K IAML 21 47 40.8
comp=E,24nm,3.1s
N15K Kwethluk River 5.27 282 Pn Pn 21 46 04.7 +1.2
PNL Peninsula 5.28 83 Pn 21 46 04.5 +1.0
PNL Peninsula 5.28 83 P Pn 21 46 04.5 +1.0
baz=272
L27K Beaver Creek, 5.28 43 Pn Pn 21 46 04.6 +1.0
K17K Iditarod 5.29 312 Pn Pn 21 46 03.2 -0.5
K17K Iditarod 5.29 312 P Pn 21 46 04.5 +0.7
baz=124
YUK8 Steele Glacier 5.30 65 Pn 21 46 05.2 +1.1
YUK8 Steele Glacier 5.30 65 P Pn 21 46 05.2 +1.1
baz=254
BCAR Beaver Creek A 5.30 43 Pn Pn 21 46 04.4 +0.6
L16K Owhat River 5.31 300 Pn Pn 21 46 04.5 +0.5
L16K IAML 21 47 42.4
comp=E,32nm,1.6s
L16K Owhat River 5.31 300 P Pn 21 46 05.2 +1.3
baz=111
CCB Clear Creek Bu 5.31 9 Pn Pn 21 46 04.6 +0.6
CCB IAML 21 47 40.3
comp=E,17nm,3.1s
SCRK Sand Creek 5.32 29 Pn Pn 21 46 04.5 +0.2
SCRK IAML 21 47 40.4
comp=E,20nm,2.3s
SCRK IAML 21 48 11.0
comp=N,16nm,4.2s
SCRK Sand Creek 5.32 29 P Pn 21 46 04.8 +0.6
baz=214
J19K Poorman 5.36 331 Pn Pn 21 46 05.0 +0.4
J19K IAML 21 47 48.3
comp=E,18nm,1.5s
J19K IAML 21 48 22.6
comp=N,19nm,3.6s
J19K Poorman 5.36 331 P Pn 21 46 06.0 +1.4
baz=146
IL31 5.52 13 Pn Pn 21 46 07.6 +0.8
ILAR Eielson Array 5.52 13 Pn Pn 21 46 07.4 +0.5
ILAR Eielson Array 5.52 13 P Pn 21 46 07.6 +0.7
comp=N,0.7nm,0.3s,baz=195,slow=14,SNR=41
ILAR S Sn 21 47 10.5 +1.0
comp=N,5.4nm,0.8s,baz=196,slow=22,SNR=6.5
comp=N,2.4nm,0.5s
COLA College 5.53 8 Pn Pn 21 46 08.0 +1.0
CHGN Chignik 5.59 240 Pn 21 46 09.6 +1.8
MDM Murphy Dome 5.59 7 Pn Pn 21 46 07.8 -0.1
J25K Salcha River, 5.59 20 Pn Pn 21 46 08.2 +0.3
MLY Manley 5.63 356 Pn Pn 21 46 08.9 +0.4
MLY Manley 5.63 356 P Pn 21 46 09.0 +0.6
baz=175
O29M Mount Kennedy 5.70 76 Pn Pn 21 46 11.1 +1.6
O29M Mount Kennedy 5.70 76 P Pn 21 46 11.4 +1.9
baz=267
I23K Minto, Yukon-K 5.74 2 Pn Pn 21 46 10.3 +0.5
POKR Poker Plat Res 5.80 10 Pn Pn 21 46 11.0 +0.2
YUK4 Talbot Arm 5.83 66 P Pn 21 46 12.8 +1.4
baz=256
I21K Tanana 5.86 351 Pn Pn 21 46 11.9 +0.4
I21K Tanana 5.86 351 P Pn 21 46 12.0 +0.5
baz=169
J26L Joseph Creek 5.86 27 Pn Pn 21 46 11.8 +0.1
J26L Joseph Creek 5.86 27 P Pn 21 46 12.3 +0.7
baz=213
K27K Chicken 5.88 35 Pn Pn 21 46 12.0 +0.3
O14K Tigyukauivet M 5.89 273 Pn Pn 21 46 14.7 +2.8
YUK7 Dusty Glacier 5.94 74 Pn 21 46 14.1 +1.3
P29M Windy Craggy 6.12 83 Pn Pn 21 46 16.2 +1.1
P29M Windy Craggy 6.12 83 P Pn 21 46 16.1 +1.0
baz=274
M14K Bethel 6.25 287 Pn Pn 21 46 19.7 +2.9
M29M Somme Creek 6.28 56 Pn Pn 21 46 17.7 +0.3
M29M Somme Creek 6.28 56 P Pn 21 46 17.8 +0.5
baz=247
HYT Haines Junctio 6.28 72 Pn Pn 21 46 20.2 +2.8
H21K Melozitna Rive 6.40 349 Pn Pn 21 46 19.4 +0.4
H21K Melozitna Rive 6.40 349 P Pn 21 46 19.0 0.0
baz=166
PRP Porcupine Dome 6.41 16 Pn Pn 21 46 18.1 -1.1
PRP Porcupine Dome 6.41 16 P Pn 21 46 18.6 -0.6
baz=200
K15K Wolf Creek Mou 6.42 302 Pn Pn 21 46 19.6 +0.4
H24K Noodor Dome 6.48 7 Pn Pn 21 46 19.8 -0.3
H24K Noodor Dome 6.48 7 P Pn 21 46 20.2 +0.1
baz=188
J16K Anvik River 6.48 311 Pn Pn 21 46 20.4 +0.3
P30M Million Dollar 6.50 78 Pn Pn 21 46 22.0 +1.6
P30M Million Dollar 6.50 78 P Pn 21 46 21.5 +1.1
baz=270
N30M Aishikik Lake 6.59 67 Pn Pn 21 46 21.1 -0.5
N30M Aishikik Lake 6.59 67 P Pn 21 46 21.4 -0.2
baz=258
I26K Coal Creek Min 6.64 25 Pn Pn 21 46 22.8 +0.5
L14K Kuka Creek 6.68 292 Pn Pn 21 46 25.3 +2.5
EGAK Eagle 6.70 33 Pn Pn 21 46 23.7 +0.6
L29M L29M 6.71 52 Pn Pn 21 46 23.8 +0.6
DAWY Dawson 6.76 42 Pn Pn 21 46 23.8 -0.1
IMAR Indian Mountai 6.82 346 Pn Pn 21 46 25.0 +0.3
H19K Roundabout Mou 6.85 336 Pn Pn 21 46 25.6 +0.5
I17K Unalakleet 6.85 315 Pn Pn 21 46 25.3 +0.2
M13K Dall Lake 6.90 284 Pn Pn 21 46 29.2 +3.4
O30N Mendenhall 6.96 73 Pn Pn 21 46 27.4 +0.7
H18K Honhosa River 6.99 329 Pn Pn 21 46 27.6 +0.5
M30M Minto, Yukon 7.04 58 Pn Pn 21 46 28.4 +0.6
S31K Pelican 7.20 96 Pn Pn 21 46 29.1 -0.8
S31K Pelican 7.20 96 P Pn 21 46 30.4 +0.5
baz=288
H17K Granite Mounta 7.28 324 Pn Pn 21 46 32.1 +1.1
G23K Bananza Creek 7.30 359 Pn Pn 21 46 31.6 +0.2
G21K Allakaket 7.31 348 Pn Pn 21 46 31.2 -0.1
G21K Allakaket 7.31 348 P Pn 21 46 31.9 +0.5
baz=165
K29M Barlow Dome 7.31 48 Pn Pn 21 46 32.3 +0.8
SKAG Skagway 7.36 84 Pn Pn 21 46 32.7 +0.7
G24K Hadweenzic Riv 7.37 7 Pn Pn 21 46 33.0 +0.8
FYU Fort Yukon 7.45 14 Pn Pn 21 46 33.4 +0.1
J14K Nanvaranak Lak 7.46 302 Pn Pn 21 46 36.2 +2.8
G19K Purcell Mounta 7.52 337 Pn Pn 21 46 35.0 +0.8
G25K Bearman Lake 7.54 11 Pn 21 46 35.0 +0.5
G25K Bearman Lake 7.54 11 P Pn 21 46 35.0 +0.5
baz=194
WHY Whitehorse 7.55 74 Pn Pn 21 46 35.7 +0.9
I28M Miner Creek 7.55 33 Pn Pn 21 46 36.3 +1.4
G19K Tagagawik 7.66 332 Pn Pn 21 46 37.3 +1.1
BESE Bessie Mountai 7.71 90 Pn Pn 21 46 37.5 +0.1
R32K Eaglecrest 7.99 92 Pn Pn 21 46 41.7 +1.0
F21K Alatna River 7.99 350 Pn Pn 21 46 41.2 +0.4
M31M Drury Creek, Y 8.00 63 Pn Pn 21 46 40.4 -0.6
F20K Avaraart Lake 8.10 343 Pn Pn 21 46 42.8 +0.6
F20K Avaraart Lake 8.10 343 P Pn 21 46 43.1 +1.0
baz=158
J30M Hart River 8.14 45 Pn Pn 21 46 44.0 +1.1
F24K Squaw Lake 8.16 5 Pn Pn 21 46 44.9 +1.9
P32M Atlin 8.16 82 Pn Pn 21 46 43.3 +0.2
P32M Atlin 8.16 82 P Pn 21 46 43.9 +0.7
baz=276
S32K Killisnoo 8.20 97 P Pn 21 46 44.5 +0.9
baz=291
G27K Doyon Strip 8.25 23 Pn Pn 21 46 44.6 +0.3
F19K Shaleruckik Mo 8.26 337 Pn Pn 21 46 45.3 +0.9
G16K Koyuk River 8.35 321 Pn Pn 21 46 47.3 +1.7
BMAR Burnt Mountain 8.35 14 Pn Pn 21 46 46.0 +0.4
N32M Quiet Lake 8.46 71 Pn Pn 21 46 47.5 +0.3
N32M Quiet Lake 8.46 71 P Pn 21 46 46.8 -0.4
baz=266
FARO Faro, Yukon 8.49 64 Pn Pn 21 46 47.2 -0.4
I30M Mount Dempster 8.50 41 Pn Pn 21 46 50.4 +2.6
H29M Whitestone 8.56 33 Pn Pn 21 46 49.0 +0.5
P33M Teslin, Yukon 8.57 78 Pn Pn 21 46 48.7 -0.1
P33M Teslin, Yukon 8.57 78 P Pn 21 46 48.1 -0.6
baz=272
E24K Your Creek 8.69 3 Pn Pn 21 46 52.0 +1.6
E19K Redstone River 8.71 341 Pn Pn 21 46 50.8 +0.2
F17K Baldwin Pennin 8.75 328 Pn Pn 21 46 52.6 +1.5
E22K Anaktuvuk Pass 8.78 355 Pn Pn 21 46 52.2 +0.7
E25K Arctic Village 8.91 10 Pn Pn 21 46 53.3 -0.1
Q32M Nakina River 8.99 86 Pn Pn 21 46 55.0 +0.4
G29M Pine Creek 9.17 30 Pn Pn 21 46 58.1 +1.2
TOLK Toolik Lake Re 9.24 0 Pn Pn 21 46 58.8 +0.9
E20K Nigu River 9.29 345 Pn 21 46 59.2 +0.6
E20K Nigu River 9.29 345 P Pn 21 46 59.2 +0.6
baz=159
F15K North Star Dit 9.29 319 Pn Pn 21 46 59.5 +0.9
E18K Tukpahlearik C 9.35 333 Pn Pn 21 47 00.4 +1.0
E27K Coleen River 9.48 19 Pn Pn 21 47 02.4 +1.2
U33K Whale Pass 9.49 103 Pn Pn 21 47 00.6 -0.6
U33K Whale Pass 9.49 103 P Pn 21 47 01.0 -0.2
baz=298
MMPY Sheldon Lake, 9.52 63 Pn Pn 21 47 01.2 -0.4
D22K Ayikyak River 9.57 354 Pn Pn 21 47 02.9 +0.6
R33M Jennings River 9.58 82 Pn Pn 21 47 03.1 +0.6
R33M Jennings River 9.58 82 P Pn 21 47 03.2 +0.6
baz=279
G30M tAoh Zrail Nji 9.70 33 Pn Pn 21 47 04.0 -0.2
D19K Kuna River 9.79 342 Pn Pn 21 47 05.5 +0.1
S34M Telegraph Cree 9.82 91 Pn Pn 21 47 07.8 +2.0
G31M Satah River 10.23 36 Pn Pn 21 47 13.7 +2.3
DLBC Dease Lake 10.24 87 Pn Pn 21 47 12.6 +1.0
DLBC Dease Lake 10.24 87 P Pn 21 47 13.4 +1.8
comp=N,1.1nm,0.3s,baz=259,slow=5.9,SNR=20
comp=N,3.3nm,0.4s
E29M Blow River 10.37 25 Pn Pn 21 47 16.0 +2.8
C19K Lookout Ridge 10.58 341 Pn Pn 21 47 18.5 +2.3
C16K Lisburne Hills 11.18 329 Pn Pn 21 47 27.1 +2.8
BBB Bella Bella 14.12 111 LR LR 21 52 44.3
comp=N,56nm,18.6s,baz=248,slow=34
YKA Yellowknife Ar 17.20 65 P P 21 48 47.4 +1.4
comp=N,0.1nm,0.3s,baz=274,slow=10,SNR=2.7
comp=N,0.2nm,0.8s
NRIK Noril'sk 45.12 335 LR LR 22 13 15.3
comp=N,26nm,19.6s,baz=33,slow=38
SONM Songino Array 56.44 308 P P 21 54 25.6 -0.1
comp=N,0.3nm,0.6s,baz=52,slow=7.5,SNR=3.7
comp=N,0.3nm,0.6s
FINES FINESS Array B 59.41 2 P P 21 54 45.3 -0.8
comp=N,2.9nm,1.1s,baz=356,slow=9.1,SNR=1.4
comp=N,2.9nm,1.1s
EKA Eskdalemuir Ar 62.51 21 P P 21 55 06.9 -0.3
comp=N,0.4nm,0.5s,baz=320,slow=5.7,SNR=4.4
comp=N,0.4nm,0.5s

KURBB	**Kurchatov Arra**	**63.51**	**328**	P		**P**		**21 55 12.7**	**-1.2**
	comp=N,0.4nm,0.8s,baz=29,slow=7.4,SNR=3.6								
	comp=N,0.4nm,0.8s								
MKAR	**Makanchi Array**	**65.88**	**324**	P		**P**		**21 55 28.6**	**-0.9**
	comp=N,0.1nm,0.5s,baz=45,slow=5.2,SNR=1.7								
	comp=N,0.1nm,0.5s								
AKASG	**Malin Array Be**	**70.22**	**1**	P		**P**		**21 55 55.9**	**-0.7**
	comp=N,0.6nm,0.4s,baz=355,slow=6.1,SNR=2.8								
	comp=N,0.6nm,0.4s								

IDC 12 21:54:51.6±2.1, 0°24N×126°04E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=173.9km s-min=29.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.64**	**158**	P	P	21 59 43.2	-0.5
	1.0nm,0.6s,baz=337,slow=11,SNR=9.7						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**24.96**	**163**	P	P	22 00 17.6	+0.6
	0.3nm,0.4s,baz=342,slow=11,SNR=2.3						
	0.3nm,0.4s						
PZH	**PanZhiHua**	**35.06**	**320**	PKP	P	22 01 52.0	+5.3
MKAR	**Makanchi Array**	**60.05**	**327**	P	P	22 05 00.4	-0.1
	0.1nm,0.4s,baz=119,slow=6.7,SNR=2.1						
	0.1nm,0.4s						

NEIC 12 22:21:45.5±0.6, 19°.4S±0°.2×177°.21W±0°.09, h396km±11km, mb4.0/17, Error ellipse: s-maj=24.9km s-min=11.6km az=183.0

IDC 12 22:21:48.6±2.9, 19°.33S×177°.46W, h418km±29km, mb3.4/9, mbtmp4.1/9, Error ellipse: s-maj=27.4km s-min=12.8km az=154.0

ISC 12 22:21:46.1±0.6, 19°.5S±0°.1×177°.31W±0°.09, h400km, n44, σ0s88/47, mb3.9/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.72**	**291**		**Pn**	**22 23 04.9**	**-0.6**
NIUE	**Niue**	**6.99**	**88**		**Pn**	**22 23 27.4**	**-2.2**
PINNC	**Pines Island,**	**14.57**	**255**	P	**P**	**22 24 55.4**	**+1.4**
BFZ	**Birch Farm**	**21.86**	**193**	P	**P**	**22 26 05.8**	**-1.5**
LTZ	**Lake Taylor**	**24.86**	**198**	P	**P**	**22 26 34.0**	**-0.4**
STKA	**Stephens Creek**	**38.83**	**243**	P	**P**	**22 28 35.2**	**+0.5**
	1.1nm,0.4s,baz=81,slow=13,SNR=3.4						
	1.1nm,0.4s						
BBOO	**Buckleboo**	**43.59**	**243**	P	**P**	**22 29 12.7**	**-0.3**
BBOO				IAmb	IAmb	22 29 26.6	
	comp=Z,7.6nm,1.1s						
WR0	**Warramunga Arr**	**45.20**	**261**	P	**P**	**22 29 24.9**	**-0.7**
WR0				IAmb	IAmb	22 29 30.1	
	comp=Z,5.6nm,1.1s						
WB0	**Warramunga Arr**	**45.37**	**261**	P	**P**	**22 29 26.4**	**-0.6**
WB0				IAmb	IAmb	22 29 34.2	
	comp=Z,8.6nm,1.1s						
WB2	**Warramunga Arr**	**45.38**	**261**	P	**P**	**22 29 26.5**	**-0.6**
WB2				IAmb	IAmb	22 29 39.0	
	comp=Z,5.2nm,1.1s						
WRAB	**Tennant Creek**	**45.39**	**261**	P	**P**	**22 29 26.7**	**-0.4**
WRAB				IAmb	IAmb	22 29 28.3	
	comp=Z,7.1nm,0.9s						
AS31	**Alice Springs**	**45.39**	**256**	P	**P**	**22 29 27.3**	**+0.2**
ASAR	**Alice Springs**	**45.40**	**256**	P	**P**	**22 29 26.8**	**-0.3**
ASAR	**Alice Springs**	**45.40**	**256**	P	**P**	**22 29 27.4**	**+0.2**
	comp=Z,5.4nm,0.6s,baz=88,slow=8.4,SNR=60						
ASAR				PcP	**PcP**	**22 30 58.9**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=104,slow=3.7,SNR=3.7						
ASAR				S	**S**	**22 35 37.0**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=93,slow=15,SNR=5.8						
	comp=Z,5.4nm,0.6s						
WRA	**Warramunga Arr**	**45.40**	**261**	P	**P**	**22 29 27.0**	**-0.2**
WRA	**Warramunga Arr**	**45.40**	**261**	P	**P**	**22 29 26.9**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=98,slow=6.0,SNR=53						
WRA				PcP	**PcP**	**22 30 59.1**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=94,slow=3.2,SNR=2.8						
WRA				S	**S**	**22 35 35.9**	**-2.0**
	comp=Z,0.5nm,0.8s,baz=94,slow=12,SNR=1.8						
	comp=Z,2.0nm,0.5s						
MTN	**Manton Dam**	**49.81**	**269**	P	**P**	**22 30 00.4**	**-0.3**
MTN				IAmb	IAmb	22 30 06.3	
	comp=Z,7.0nm,1.1s						
KNRA	**Kununurra**	**51.38**	**265**	P	**P**	**22 30 12.2**	**-0.1**
KNRA				IAmb	IAmb	22 30 13.2	
	comp=Z,8.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.81**	**261**	P	**P**	**22 30 29.3**	**-0.5**
PSA00	**Pilbara Seismi**	**58.54**	**256**	P	**P**	**22 31 02.5**	**-0.3**
PSA00				IAmb	IAmb	22 31 03.4	
	comp=Z,7.8nm,0.8s						
MBWA	**Marble Bar**	**58.72**	**257**	P	**P**	**22 31 03.7**	**-0.3**
MBWA				IAmb	IAmb	22 31 21.8	
	comp=Z,7.6nm,1.1s						
QSPA	**South Pole Qui**	**70.60**	**180**	P	**P**	**22 32 19.9**	**+0.7**
QSPA	**South Pole Qui**	**70.60**	**180**	P	**P**	**22 32 20.8**	**+1.6**
	comp=Z,1.1nm,0.7s,baz=252,slow=1.4,SNR=10						
	comp=Z,1.1nm,0.7s						
SSLB	**Suanglung**	**73.95**	**303**	P	**P**	**22 32 38.4**	**-0.9**
KS19	**Wonju Array Si**	**76.61**	**318**	P	**P**	**22 32 53.5**	**-0.5**
NVAR	**Mina Array Bea**	**79.83**	**43**	P	**P**	**22 33 12.7**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=221,slow=8.8,SNR=5.7						
	comp=Z,0.9nm,0.8s						
TXAR	**Lajitas Array**	**85.95**	**57**	P	**P**	**22 33 44.8**	**+2.0**
	comp=Z,0.4nm,0.8s,baz=208,slow=7.8,SNR=3.6						
	comp=Z,0.4nm,0.8s						
ILAR	**Eielson Array**	**87.16**	**13**	P	**P**	**22 33 46.7**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=222,slow=4.8,SNR=10						
	comp=Z,0.4nm,0.4s						
PDAR	**Pinedale Array**	**87.76**	**43**	P	**P**	**22 33 52.2**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=217,slow=4.3,SNR=2.2						
	comp=Z,0.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**90.38**	**289**	P	**P**	**22 34 05.3**	**+1.6**
	comp=Z,1.9nm,0.3s,baz=106,slow=3.4,SNR=4.4						
	comp=Z,1.9nm,0.3s						
BVAR	**Borovoye Array**	**118.70**	**320**	PKP	**PKPdf**	**22 39 46.4**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=118,slow=2.3,SNR=8.5						
FINES	**FINESS Array B**	**134.96**	**344**	PKP	**PKPdf**	**22 40 18.1**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=70,slow=2.2,SNR=3.6						
EKA	**Eskdalemuir Ar**	**143.91**	**6**	PKP	PKPab	22 40 31.9	-1.0
	comp=Z,0.6nm,1.1s,baz=319,slow=2.3,SNR=5.8						
BRTR	**Keskin Array B**	**146.60**	**314**	PKPbc	**PKPdf**	**22 40 41.0**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=149,slow=3.7,SNR=4.5						
MLR	**Muntele Rosu**	**147.69**	**329**	PKPbc	**PKPbc**	**22 40 44.2**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=211,slow=5.9,SNR=9.8						
MMAI	**Mount Meron Ar**	**147.84**	**301**	PKPbc	**PKPbc**	**22 40 45.7**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=80,slow=5.2,SNR=9.2						
CONA	**Conrad Observa**	**149.65**	**342**	*i* PKP	**PKPbc**	**22 40 49.4**	**+0.1**
	comp=Z,1.5nm,0.7s						
RONA	**Rosalia, Austr**	**149.73**	**342**	*i* PKP	**PKPbc**	**22 40 49.6**	**+0.1**
	comp=Z,2.8nm,0.6s						
LESA	**Schwarzleotal**	**150.94**	**346**	*i* PKP	**PKPbc**	**22 40 52.4**	**0.0**
	comp=Z,1.4nm,0.5s						
SOKA	**Soboth**	**151.02**	**342**	*i* PKP	**PKPbc**	**22 40 52.2**	**-0.4**
	comp=Z,1.8nm,0.8s						
KBA	**Koelnbreinsper**	**151.10**	**345**	*e*PKP	**PKPbc**	**22 40 52.6**	**-0.3**
	comp=Z,3.3nm,0.6s						
WTTA	**Wattenberg**	**151.32**	**347**	*i* PKP	**PKPbc**	**22 40 53.0**	**-0.4**
	comp=Z,3.5nm,0.5s						
SQTA	**Sankt Quirin**	**151.45**	**348**	*i* PKP	**PKPbc**	**22 40 53.7**	**+0.1**
	comp=Z,9.9nm,1.8s						
ABTA	**Abfaltersbach**	**151.62**	**346**	*i* PKP	**PKPbc**	**22 40 53.2**	**-0.7**
	comp=Z,3.1nm,0.6s						

CUPWA 12 22:29:11.9±1.0, 34°.02S×117°.92E, h2km±17km, Region: WESTERN AUSTRALIA

AUST 12 22:29:10.8±1.3, 33°.99S×117°.82E, h10km, Error ellipse: s-maj=13.9km s-min=8.2km az=119.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GNOT	**Gnowangerup To**	**0.21**	**76**	P	Pg	22 29 14.6	-0.6
GNOT				S	Sg	22 29 16.2	-2.0
RKGY	**Rocky Gully**	**0.93**	**228**	P	Pn	22 29 29.6	-0.4
	baz=0.9						
RKGY				S	Sb	22 29 41.8	+0.2
	baz=0.9						
RKGY	**Rocky Gully**	**0.93**	**228**	P	Pn	22 29 29.6	-0.4
RKGY				S	Sb	22 29 41.8	+0.2
NWAO	**Narrogin (SRO)**	**1.17**	**335**	P	Pb	22 29 32.9	-0.1
	baz=1.2						
NWAO				P	Pb	22 29 32.9	-0.1
	baz=1.2						
NWAO				S	Sn	22 29 49.8	+0.6
	baz=1.2						
NWAO	**Narrogin (SRO)**	**1.17**	**335**	S	Sn	22 29 49.8	+0.6
NWAO	**Narrogin (SRO)**	**1.17**	**335**	P	Pb	22 29 32.9	-0.1
KLBR	**Kellerberrin**	**2.39**	**359**	P	Pb	22 29 52.6	-1.4
	baz=2.4						
KLBR				P	Pb	22 29 52.6	-1.4
	baz=2.4						
KLBR				S	Sn	22 30 21.3	+1.9
	baz=2.4						
KLBR				S	Sn	22 30 21.3	+1.9
	baz=2.4						
KLBR	**Kellerberrin**	**2.39**	**359**	P	Pb	22 29 52.6	-1.4
KLBR				S	Sn	22 30 21.3	+1.9
MUN	**Mundaring**	**2.42**	**325**	P	Pn	22 29 47.9	-2.5
	baz=2.4						
MUN				S	Sb	22 30 23.7	-0.7
	baz=2.4						
MUN	**Mundaring**	**2.42**	**325**	P	Pn	22 29 47.9	-2.5
MUN				S	Sb	22 30 23.7	-0.7
BLDU	**Ballidu**	**3.50**	**344**	P	Pn	22 30 05.7	+0.5
	baz=3.5						
BLDU				P	Pn	22 30 05.7	+0.5
	baz=3.5						
BLDU				S	Sn	22 30 48.2	+1.6
	baz=3.5						
BLDU				S	Sn	22 30 48.2	+1.6
	baz=3.5						
BLDU	**Ballidu**	**3.50**	**344**	P	Pn	22 30 05.7	+0.5
BLDU	**Ballidu**	**3.50**	**344**	S	Sn	22 30 48.2	+1.6
KMBL	**Kambalda**	**4.31**	**54**	P	Pn	22 30 16.4	+0.1
	baz=4.3						
KMBL				S	Sn	22 31 07.4	+0.8
	baz=4.3						
KMBL	**Kambalda**	**4.31**	**54**	P	Pn	22 30 16.4	0.0
KMBL	**Kambalda**	**4.31**	**54**	S	Sn	22 31 07.4	+0.7
MORW	**Morawa**	**5.14**	**342**	P	Pn	22 30 28.2	+0.4
	baz=5.2						
MORW				P	Pn	22 30 28.2	+0.4
	baz=5.2						
MORW				S	Sn	22 31 28.1	+0.9
	baz=5.2						
MORW				S	Sn	22 31 28.1	+0.9
	baz=5.2						
MORW	**Morawa**	**5.14**	**342**	P	Pn	22 30 28.2	+0.4
MORW	**Morawa**	**5.14**	**342**	S	Sn	22 31 28.1	+0.9
MEEK	**Meekatharra**	**7.36**	**6**	P	Pn	22 30 58.9	+0.6
	baz=7.4,SNR=4.0						
MEEK				P	Pn	22 30 58.9	+0.6
	baz=7.4,SNR=4.0						
MEEK				S	Sn	22 32 17.4	-4.6
	baz=7.4						
MEEK				S	Sn	22 32 17.4	-4.6
	baz=7.4						
MEEK	**Meekatharra**	**7.36**	**6**	P	Pn	22 30 58.9	+0.5
MEEK				S	Sn	22 32 17.4	-4.6

IDC 12 22:33:33.7±3.8, 43°.35S×74°.87W, h0km, mb3.9/3, mbtmp3.9/4, ML3.8/1, MS3.4/2, Error ellipse: s-maj=123.7km s-min=37.9km az=122.0

GUC 12 22:33:40.5±0.7, 43°.38S×74°.36W, h10km±3km, ML4.1

ISC 12 22:33:35.6±2.3, 43°.39S±0°.06×74°.58W±0°.09, h5km±12km, n16, σ1s22/20, mb3.9/3, 2C-1D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO07	**Milladeo Hill,**	**0.72**	**68**	*i*P	**Pb**	**22 33 51.0**	**+0.3**
GO07				*e*S	**Sg**	**22 33 58.8**	**0.0**
LL07	**Hotel Espejo d**	**0.98**	**56**	*i*P	**Pn**	**22 33 55.6**	**-0.3**
LL07				*e*S	**Sg**	**22 34 06.9**	**-0.1**
LL07				IAML		22 34 07.7	
	comp=N,17μm,0.7s						
LL06	**Loncomilla**	**1.36**	**31**	*e*P	**Pg**	**22 34 02.0**	**+0.3**
LL06				*e*S	**Sb**	**22 34 18.7**	**-0.7**
LL06				IAML		22 34 20.1	
	comp=E,7μm,0.4s						
AY01	**Puyuhuapi**	**1.73**	**127**	*e*P	**Pb**	**22 34 07.8**	**-0.2**
AY01				*e*S	**Sn**	**22 34 29.9**	**+0.9**
AY01				IAML		22 34 33.8	
	comp=E,4μm,0.3s						
LL01	**San Ignacio de**	**1.88**	**58**	*i*P	**Pn**	**22 34 08.6**	**+0.1**
LL01				*e*S	**Sn**	**22 34 30.6**	**-1.9**
LL02	**Futaleuf**	**2.00**	**85**	*i* P	**Pn**	**22 34 10.8**	**+0.7**
LL02				*i* S	**Sn**	**22 34 34.3**	**-1.3**
LL05	**Los Muermos**	**2.14**	**23**	*e*P	**Pb**	**22 34 15.1**	**+0.2**
LL05				*e*S	**Sg**	**22 34 43.3**	**-1.2**
PLCA	**Paso Flores**	**4.00**	**50**	Pn	**Pn**	**22 34 39.2**	**+1.5**
	comp=E,1.2nm,0.3s,baz=228,slow=14,SNR=37						
PLCA				Sn	**Sn**	**22 35 28.6**	**+3.5**
	comp=E,4.1nm,0.3s,baz=251,slow=16,SNR=3.2						
PLCA				LR	LR	22 36 20.6	
	comp=E,272nm,19.4s,baz=223,slow=40						
	comp=E,6.2nm,0.4s						
H03S1	**Juan Fernandez**	**10.11**	**339**	T	T	22 46 22.8	
	baz=160,slow=74,SNR=3.3						
H03S2	**Juan Fernandez**	**10.12**	**339**	T	T	22 46 24.8	
	baz=160,slow=74,SNR=4.8						
H03S3	**Juan Fernandez**	**10.13**	**339**	T	T	22 46 24.5	
	baz=160,slow=74,SNR=3.3						
CPUP	**Villa Florida**	**22.06**	**45**	P	**P**	**22 38 30.8**	**-0.5**
	comp=E,1.9nm,0.5s,baz=221,slow=11,SNR=3.0						
	comp=E,1.9nm,0.5s						
RCBR	**Riachuelo**	**50.56**	**54**	LR	LR	23 06 21.7	
	comp=E,60nm,18.2s,baz=242,slow=39						
BOSA	**Boshof**	**77.49**	**117**	P	**P**	**22 45 32.5**	**0.0**
	comp=E,0.7nm,0.6s,baz=212,slow=12,SNR=3.7						
	comp=E,0.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**89.21**	**71**	P	**P**	**22 46 32.4**	**-0.3**
	comp=E,0.7nm,0.9s,baz=222,slow=5.5,SNR=3.2						
	comp=E,0.7nm,0.9s						
MKAR	**Makanchi Array**	**163.33**	**70**	PKPab	**PKPab**	**22 54 29.4**	**-0.3**
	comp=E,0.5nm,0.7s,baz=268,slow=4.5,SNR=5.6						

TEH 12 22:33:52.9, 39°.26N×44°.16E, h10km±999km, ML2.7

AZER 12 22:33:55.8, 39°.37N×44°.49E, h21km, ml2.7

AFAD 12 22:33:56.6±0.0, 39°.40N×44°.50E, h7km±2km, ML2.7

ISK 12 22:33:56.8, 39°.39N×44°.45E, h6km, ML2.5/10

ISC 12 22:33:56.6±0.9, 39°.39N±0°.02×44°.49E±0°.01, h16km±6km, n49, σ1s29/86, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAKU	**Maku**	**0.15**	**103**	Pg	**Pg**	**22 34 01.1**	**+0.3**
MAKU				Sg	**Sg**	**22 34 04.3**	**+0.7**
HYR	**Heyderabad**	**0.43**	**40**	P	**Pb**	**22 34 06.2**	**+0.3**
HYR				S	**Sb**	**22 34 13.6**	**+1.4**
IGDI	**IGDIR**	**0.57**	**326**	P	**Pg**	**22 34 07.0**	**-0.9**
IGDI				*i* AML	AML	22 34 15.0	
	comp=N,644nm,0.3s						
IGDI				S	**Sg**	**22 34 15.1**	**-0.5**
IGDI				*i* AML	AML	22 34 16.0	
	comp=E,610nm,0.3s						
TASB	**TASBURUN-IGDIR**	**0.62**	**342**	Pg	**Pb**	**22 34 08.7**	**-0.5**
TASB				Sg	**Sb**	**22 34 18.7**	**+1.0**
DYDN	**Diyadin**	**0.64**	**284**	P	**Pg**	**22 34 08.4**	**-0.8**
DYDN				S	**Sb**	**22 34 18.0**	**-0.3**
GNI	**Garni**	**0.78**	**14**	Pg	**Pn**	**22 34 12.5**	**-0.6**
GNI				Sg	**Sn**	**22 34 23.8**	**-0.8**
NAX	**Nakhchivan**	**0.81**	**105**	P	**Pn**	**22 34 13.1**	**-0.3**
NAX				S	**Sn**	**22 34 25.8**	**+0.7**
VMUR	**Van-Muradiye**	**0.82**	**241**	P	**Pg**	**22 34 11.1**	**-1.4**
VMUR				Sg	**Sg**	**22 34 21.6**	**-1.8**
SBZ	**Shahbuz**	**0.82**	**89**	P	**Pn**	**22 34 13.4**	**-0.2**
SBZ				S	**Sn**	**22 34 26.6**	**+1.0**
OZAP	**Van, Ozalp-Mer**	**0.82**	**208**	P	**Pb**	**22 34 12.4**	**-0.2**
OZAP				S	**Sb**	**22 34 23.9**	**+0.3**
ERCV	**ERCIS-VAN**	**0.97**	**248**	Pg	**Pb**	**22 34 15.2**	**+0.1**
ERCV				Sg	**Sn**	**22 34 29.0**	**-0.2**
KOTA	**Agri, Merkez-K**	**1.07**	**293**	P	**Pg**	**22 34 16.2**	**-1.1**
KOTA				S	**Sn**	**22 34 31.9**	**+0.1**
IMRD	**Marand**	**1.16**	**125**	Pg	**Pn**	**22 34 18.5**	**+0.2**
IMRD				Sg	**Sn**	**22 34 36.2**	**+2.3**
VANB	**Van**	**1.17**	**228**	Pn	**Pn**	**22 34 20.2**	**+1.8**
VANB				Sn	**Sn**	**22 34 37.5**	**+3.4**
AGRB	**Hanur-Agry**	**1.17**	**280**	Pn	**Pb**	**22 34 18.1**	**-0.5**
AGRB				Sn	**Sn**	**22 34 35.2**	**+0.9**
TVAN	**Van**	**1.21**	**225**	P	**Pg**	**22 34 20.1**	**+0.3**
TVAN				S	**Sn**	**22 34 36.9**	**+1.8**
TVAN				*i* AML	AML	22 34 44.0	
	comp=E,128nm,0.5s						
ORD	**Ordubad**	**1.26**	**111**	P	**Pg**	**22 34 20.5**	**-0.3**
ORD				S	**Sn**	**22 34 39.7**	**+3.4**
DORK	**Agr/Tutak/Do**	**1.32**	**270**	P	**Pb**	**22 34 20.9**	**-0.3**
DORK				S	**Sb**	**22 34 37.6**	**-0.4**
DIGO	**Kars**	**1.33**	**320**	P	**Pg**	**22 34 21.7**	**-0.6**
DIGO				S	**Sg**	**22 34 44.0**	**+4.3**
DIGO				*i* AML	AML	22 34 47.0	
	comp=N,210nm,0.7s						
DIGO				*i* AML	AML	22 34 47.0	
	comp=E,162nm,0.7s						
ISHB	**Shabestar**	**1.41**	**141**	Pg	**Pn**	**22 34 21.2**	**-0.7**
EAK	**Akyaka**	**1.46**	**333**	P	**Pg**	**22 34 24.2**	**-0.5**
EAK				S	**Sg**	**22 34 42.8**	**-0.9**
EAK				*i* AML	AML	22 34 51.0	
	comp=E,77nm,1.1s						
ADCV	**BITLIS_Adilcev**	**1.49**	**248**	P	**Pb**	**22 34 24.1**	**+0.1**
ADCV				S	**Sg**	**22 34 43.9**	**-0.9**
MLAZ	**Malazgirt-MUS**	**1.53**	**261**	Pn	**Pg**	**22 34 24.8**	**-1.1**
AKDM	**Akdamar-Van**	**1.58**	**228**	Pn	**Pg**	**22 34 25.9**	**-1.2**
EATA	**Eleskirt**	**1.61**	**288**	P	**Pb**	**22 34 26.3**	**+0.1**
EATA				S	**Sb**	**22 34 47.0**	**+0.6**
KARS	**Kars**	**1.64**	**319**	Pn	**Pb**	**22 34 26.3**	**-0.3**
GDB	**GEDABAY**	**1.65**	**36**	Pn	**Pg**	**22 34 27.6**	**-0.6**
GDB				Sn	**Sg**	**22 34 50.5**	**+0.8**
BOZK	**Kars-Merkez-Bo**	**1.67**	**316**	P	**Pg**	**22 34 28.0**	**-0.7**
BOZK				S	**Sg**	**22 34 52.5**	**+2.1**
ITBZ	**Tabriz**	**1.74**	**131**	Pn	**Pn**	**22 34 26.9**	**+0.7**
QZX	**Qazax, Azerbai**	**1.80**	**22**	Pn	**Pg**	**22 34 29.8**	**-1.3**
QZX				Sn	**Sg**	**22 34 53.9**	**-0.5**
GANJ	**Ganja**	**1.89**	**48**	Pg	**Pg**	**22 34 31.9**	**-0.9**
GANJ				Sg	**Sg**	**22 34 57.8**	**+0.6**
SENK	**Senkaya-Erzuru**	**2.02**	**306**	Pn	**Pb**	**22 34 31.8**	**-1.2**
IAZR	**Azarshahr**	**2.07**	**145**	Pn	**Pg**	**22 34 34.7**	**-1.6**
GURO	**Guroymak-BITLI**	**2.09**	**247**	Pn	**Pb**	**22 34 33.0**	**-1.2**
KOPR	**Koprukoy-ERZUR**	**2.12**	**287**	Pn	**Pb**	**22 34 33.3**	**-1.4**
AGDM	**Agdam**	**2.14**	**70**	Pg	**Pg**	**22 34 36.8**	**-0.9**
AGDM				Sn	**Sb**	**22 35 02.3**	**+0.9**
QRD	**Qoradiz**	**2.19**	**87**	Pg	**Pb**	**22 34 35.9**	**0.0**
QRD				Sg	**Sg**	**22 35 07.9**	**+0.8**
BRDA	**Brd**	**2.25**	**66**	Sg	**Sg**	**22 35 07.8**	**-1.0**
SEKA	**Sheki**	**2.75**	**48**	Pg	**Pb**	**22 34 46.5**	**+1.0**
SEKA				Sg	**Sg**	**22 35 26.8**	**+1.7**
ZKTA	**Zakatala**	**2.77**	**35**	Pg	**Pb**	**22 34 46.1**	**+0.3**
ZKTA				Sg	**Sg**	**22 35 23.9**	**-1.7**
YRD	**Yardimli**	**2.96**	**98**	Pg	**Pb**	**22 34 49.1**	**+0.1**
YRD				Sg	**Sg**	**22 35 29.3**	**-2.2**
QBL	**Gabala**	**3.00**	**58**	Pg	**Pb**	**22 34 49.8**	**+0.2**
QBL				Sg	**Sg**	**22 35 30.7**	**-2.2**
GLBA	**Clilabad**	**3.03**	**92**	Pg	**Pb**	**22 34 50.4**	**+0.2**
GLBA				Sg	**Sg**	**22 35 31.9**	**-2.0**
LRK	**Lerik**	**3.09**	**103**	Pg	**Pb**	**22 34 51.5**	**+0.2**
LRK				Sg	**Sg**	**22 35 34.3**	**-1.6**
IML	**Ismayilli**	**3.16**	**63**	Pg	**Pb**	**22 34 51.9**	**-0.5**
IML				Sg	**Sg**	**22 35 35.2**	**-2.8**
XNQ	**Khinaliq**	**3.31**	**56**	Pg	**Pb**	**22 34 54.7**	**-0.4**
XNQ				Sg	**Sg**	**22 35 41.7**	**-1.2**
LKRN	**Lenkeran, Azer**	**3.41**	**100**	Sg	**Sg**	**22 35 44.9**	**-1.1**
PQL	**Pirkuli**	**3.44**	**65**	Pg	**Pb**	**22 34 56.9**	**-0.4**
PQL				Sg	**Sg**	**22 35 45.4**	**-1.8**
ASTR	**Astara**	**3.45**	**103**	Sg	**Sg**	**22 35 46.0**	**-1.4**

AEIC 12 22:38:45.6±1.7, 51°.47N±0°.08×176°.86W±0°.03, h30km±7km, Error ellipse: s-maj=11.1km s-min=2.1km az=175.0

NEIC 12 22:38:46.9±1.9, 51°.56N±0°.09×176°.87W±0°.04, h34km±9km, mb3.9/26, ML3.4(AEIC), Error ellipse: s-maj=13.4km s-min=2.6km az=170.0

ISC 12 22:38:45.4±1.7, 51°.46N±0°.10×176°.84W±0°.04, h30km±10km, n58, σ1s11/63, mb3.9/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIMD	**Kanaga Island**	**0.39**	**321**		**Pb**	**22 38 53.9**	**-0.2**
ADK	**Adak**	**0.44**	**13**		**Pb**	**22 38 54.8**	**0.0**
ADK				Sg	**Sn**	**22 39 01.6**	**-0.9**
KIWB	**Kanaga Island**	**0.44**	**334**		**Pb**	**22 38 54.9**	**+0.1**
KIWB				Sg	**Sb**	**22 39 01.0**	**-0.4**
KIRH	**Kanaga Island**	**0.47**	**340**		**Pb**	**22 38 55.7**	**+0.4**
KICM	**Kanaga Island**	**0.51**	**334**		**Pb**	**22 38 56.2**	**+0.2**
KICM					**Sn**	**22 39 03.9**	**-0.6**
GSCK	**Great Sitkin C**	**0.69**	**37**		**Pn**	**22 38 59.1**	**-0.1**
GSTD	**Great Sitkin T**	**0.74**	**35**		**Pn**	**22 38 59.9**	**0.0**
GSTD					**Sn**	**22 39 10.6**	**+0.5**
GSMY	**Great Sitkin M**	**0.76**	**39**		**Pn**	**22 39 00.1**	**0.0**
GSTR	**Great Sitkin T**	**0.80**	**37**		**Pn**	**22 39 00.8**	**+0.1**
TASE	**Tanaga Southea**	**0.84**	**297**		**Pn**	**22 39 00.8**	**-0.4**
TAFP	**Tanaga Falls P**	**0.84**	**302**		**Pn**	**22 39 00.5**	**-0.7**
TAFP					**Sn**	**22 39 11.9**	**-0.6**
TANO	**Tanaga North**	**0.92**	**300**		**Pn**	**22 39 02.3**	**0.0**
GAEA	**Gareloi East**

IDC ***12*** *22:44:26.9±1.6, 44˚.32N×106˚.11W, h0km, mbtmp3.2/2, ML2.9/2, Error ellipse: s-maj=58.2km s-min=9.4km az=144.0*

NEIC ***12*** *22:44:26.4±1.3, 45˚.07N±0˚.05×106˚.79W±0˚.02, h0km±1km, ML2.6/40, Error ellipse: s-maj=9.1km s-min=2.9km az=183.0*

ISC 12 22:44:27.0±1.3, **45˚.12N**±0˚.05×**106˚.81W**±0˚.06, **h0**km, **n30,** σ1§**18**/29, **Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**1.62**	**14**		**Pn**	**22 44 58.0**	**+1.0**
LAO				IAML		22 45 27.3	
	61nm,0.5s						
LAO				IAML		22 45 32.4	
	62nm,0.6s						
RLMT	**Red Lodge**	**1.74**	**271**		**Pn**	**22 44 59.8**	**+1.1**
GCMT	**Greycliff**	**2.12**	**290**	Pn	**Pn**	**22 45 04.9**	**+1.0**
RSSD	**Black Hills**	**2.22**	**116**	Pn	**Pn**	**22 45 05.6**	**+0.4**
RSSD				IAML		22 45 40.9	
	46nm,0.6s						
RSSD				IAML		22 45 42.0	
	50nm,0.5s						
YMP	**Mirror Lake Pl**	**2.41**	**262**	Pn	**Pn**	**22 45 08.1**	**+0.1**
YMP				IAML		22 46 00.1	
	comp=N,43nm,0.6s						
K22A	**Casper**	**2.48**	**175**	Pn	**Pn**	**22 45 08.4**	**-0.3**
K22A				IAML		22 45 47.7	
	comp=E,45nm,0.6s						
LKWY	**Lake**	**2.62**	**259**	Pn	**Pn**	**22 45 11.4**	**+0.7**
LKWY				IAML		22 46 12.9	
	comp=E,17nm,1.6s						
YHH	**Holmes Hill**	**2.89**	**265**	Pn	**Pb**	**22 45 18.0**	**-1.5**
FLWY	**Flagg Ranch**	**2.97**	**251**	Pn	**Pn**	**22 45 15.8**	**+0.2**
FLWY				IAML		22 46 10.5	
	comp=E,18nm,3.7s						
FLWY				IAML		22 46 38.4	
	comp=E,16nm,4.0s						
BW06	**Boulder Array**	**3.08**	**221**	Pn	**Pn**	**22 45 19.6**	**+2.5**
PD31	**Pinedale Array**	**3.08**	**221**	Pn	**Pn**	**22 45 18.5**	**+1.4**
PDAR	**Pinedale Array**	**3.08**	**221**	Pn	**Pn**	**22 45 18.5**	**+1.4**
PDAR	**Pinedale Array**	**3.08**	**221**	Pn	**Pn**	**22 45 19.1**	**+2.0**
	comp=E,2.0nm,0.3s,baz=55,slow=17,SNR=38						
PDAR				Lg	Lg	22 45 57.9	
	comp=E,2.0nm,0.3s,baz=59,slow=39,SNR=11						
	comp=E,2.4nm,0.3s						
LOHW	**Long Hollow**	**3.11**	**242**	Pn	**Pn**	**22 45 18.8**	**+1.2**
LOHW				IAML		22 47 11.2	
	comp=E,10nm,4.8s						
YHL	**Hebgen Lake**	**3.12**	**267**	Pn	**Pn**	**22 45 19.1**	**+1.5**
YHL				IAML		22 46 15.6	
	comp=N,11nm,0.6s						
YHL				IAML		22 46 32.8	
	comp=E,14nm,0.6s						
MOOW	**Moose Ponds**	**3.13**	**246**	Pn	**Pn**	**22 45 18.1**	**+0.3**
IMW	**Indian Meadow**	**3.20**	**249**	Pn	**Pn**	**22 45 19.3**	**+0.5**
IMW				IAML		22 46 15.5	
	comp=E,14nm,0.6s						
IMW				IAML		22 46 26.0	
	comp=E,16nm,0.6s						
SNOW	**Snow King Moun**	**3.28**	**241**	Pn	**Pn**	**22 45 20.7**	**+0.8**
SNOW				IAML		22 45 45.4	
	comp=E,22nm,0.4s						
SNOW				IAML		22 45 56.2	
	comp=E,20nm,0.6s						
FXWY	**Fox Creek**	**3.37**	**245**	Pn	**Pn**	**22 45 22.1**	**+1.1**
BOZ	**Bozeman (W)**	**3.43**	**280**	Pn	**Pn**	**22 45 23.1**	**+1.2**
BOZ				IAML		22 46 30.8	
	comp=E,7.3nm,3.3s						
BOZ				IAML		22 47 06.4	
	comp=E,9.1nm,4.3s						
RWWY	**Rawlins**	**3.44**	**185**	Pn	**Pn**	**22 45 23.5**	**+1.4**
RWWY				IAML		22 46 16.4	
	comp=E,19nm,3.3s						
RWWY				IAML		22 46 46.4	
	comp=E,20nm,5.0s						
EGMT	**Eagleton**	**3.55**	**326**	Pn	**Pn**	**22 45 24.5**	**+1.1**
DGMT	**Dagmar**	**3.80**	**27**	Pn	**Pn**	**22 45 28.3**	**+1.4**
HRY	**Holter Researc**	**3.85**	**296**	Pn	**Pn**	**22 45 26.8**	**-0.8**
LYMT	**Lyon Mountain**	**4.24**	**298**	Pn	**Pn**	**22 45 33.9**	**+0.8**
N23A	**Red Feather La**	**4.27**	**171**	Pn	**Pn**	**22 45 34.1**	**+0.6**
HWUT	**Hardware Ranch**	**4.93**	**226**	Pn	**Pn**	**22 45 42.9**	**+0.3**
BSUT	**Blindstream Ca**	**5.42**	**214**	Pn	**Pn**	**22 45 50.3**	**+0.9**
I10CA	**LAC DU BONNET**	**8.87**	**51**	I	I	23 41 50.0	
	baz=224,slow=330,SNR=3.2						
ULM	**Lac du Bonnet**	**8.98**	**51**	Pn	**Pn**	**22 46 37.7**	**-0.1**
	comp=E,0.2nm,0.3s,baz=243,slow=14,SNR=1.8						
ULM				Lg	Lg	22 49 06.7	
	comp=E,0.1nm,0.3s,baz=335,slow=20,SNR=1.9						
	comp=E,0.6nm,0.3s						

DJA 12 23:13:30.5±0.9, **0˚S**±4˚×**10˚0E**±˚, **h14**km±12km, **M3.6/7, mb3.8/1, MLv3.5/7, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.81**	**161**	P	Pb	23 13 46.5	+0.1
BKNI	**Bangkinang**	**0.96**	**61**	P	Pb	23 13 48.6	-0.3
SISI	**Saibi**	**1.62**	**223**	P	Pn	23 13 58.7	0.0
PBSI	**Pulau Batu**	**1.92**	**273**	P	Pn	23 14 01.8	-1.0
PPSI	**Pulau Pagai**	**2.61**	**184**	P	Pn	23 14 12.2	-0.1
GSI	**Gunungsitoli**	**2.99**	**299**	P	Pn	23 14 17.7	+0.2

ASRS ***12*** *23:19:02.1, 54˚N±1˚×8˚8E±˚, h1km±2km, MLh3.3/12, confirmed*

IDC ***12*** *23:19:05.7±1.7, 53˚.58N×87˚.88E, h0km, mb3.8/1, mbtmp3.8/5, ML3.2/4, MS3.1/3, Error ellipse: s-maj=16.1km s-min=12.9km az=51.0*

ISC 12 23:19:04.8±1.2, **53˚.61N**±0˚.03×**87˚.88E**±0˚.03, **h5**km±9km, **n25,** σ1§**89**/42, **Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALIN	**Malinovka, Kuz**	**0.41**	**243**	Pg	**Pg**	**23 19 12.9**	**+0.3**
MALIN				Sg	**Sb**	**23 19 19.5**	**-1.5**
TAIL	**Tailep, Kuzbas**	**0.44**	**249**	Pg	**Pb**	**23 19 13.8**	**-1.2**
TAIL				Sg	**Sb**	**23 19 20.7**	**-1.1**
ERU	**Erunakovo, Kuz**	**0.61**	**331**	Pg	**Pb**	**23 19 17.1**	**-0.9**
ERU				Sg	**Sg**	**23 19 25.0**	**+0.5**
KOTO	**Kotino, Kuzbas**	**0.81**	**316**	Pg	**Pg**	**23 19 20.0**	**-0.3**
KOTO				Sg	**Sg**	**23 19 29.5**	**-1.4**
TASR	**Tashtagol**	**0.85**	**180**	Pg	**Pg**	**23 19 20.5**	**-0.5**
TASR				Sg	**Sb**	**23 19 32.8**	**-0.9**
VCHU	**Verkh-Chumysh,**	**0.92**	**293**	Pg	**Pg**	**23 19 22.3**	**-0.2**
VCHU				Sg	**Sb**	**23 19 35.6**	**-0.2**
ELT	**Eltsovka**	**1.04**	**251**	Pg	**Pg**	**23 19 23.9**	**-0.9**
ELT				Sg	**Sb**	**23 19 39.0**	**-0.2**
POMOR	**Pomortsevo, Ku**	**1.13**	**316**	Pg	**Pn**	**23 19 28.6**	**+1.3**
POMOR				Sg	**Sn**	**23 19 46.4**	**+3.1**
BJR3	**Bachatsky-3 (S**	**1.19**	**302**	Pg	**Pg**	**23 19 27.0**	**-0.7**
BJR3				Sg	**Sg**	**23 19 43.0**	**-0.1**
BJR2	**Bachatsky-2, K**	**1.24**	**304**	Pg	**Pg**	**23 19 27.5**	**-1.0**
BJR2				Sg	**Sg**	**23 19 44.2**	**-0.3**
BJR1	**Bachatsky 1, K**	**1.26**	**301**	Pg	**Pg**	**23 19 27.9**	**-1.0**
BJR1				Sg	**Sb**	**23 19 45.7**	**+0.2**
VEH	**Verkhnyaya Baz**	**1.50**	**103**	Pg	**Pn**	**23 19 31.4**	**-1.0**
VEH				Sg	**Sg**	**23 19 51.4**	**-1.6**
SALR	**Pechorkino, Sa**	**1.52**	**303**	Pg	**Pn**	**23 19 32.2**	**-0.5**
SALR				Sg	**Sg**	**23 19 55.4**	**+1.8**
YALR	**Yailyu, Altay**	**1.85**	**185**	Pg	**Pb**	**23 19 38.5**	**-0.6**
YALR				Sg	**Sg**	**23 20 04.8**	**+0.7**
ZALV	**Zalesovo Beam**	**1.85**	**282**	Pg	**Pb**	**23 19 38.3**	**-0.8**
	15nm,0.3s,baz=100,slow=16,SNR=164						
ZALV				Lg	Lg	23 20 04.4	
	20nm,0.3s,baz=99,slow=24,SNR=20						
BRCR	**Berchikul'**	**2.06**	**7**	Pg	**Pn**	**23 19 40.1**	**+0.1**
BRCR				Sg	**Sb**	**23 20 07.3**	**-1.1**
BALAH	**Balakhonka, Ku**	**2.28**	**332**	Pg	**Pn**	**23 19 44.2**	**+1.1**
BALAH				Sg	**Sb**	**23 20 15.7**	**+0.8**
KURBB	**Kurchatov Arra**	**6.49**	**246**	Pn	**Pn**	**23 20 42.9**	**+2.0**
	0.6nm,0.3s,baz=62,slow=14,SNR=33						
KURBB				Sn	**Sn**	**23 21 56.1**	**+0.9**
	0.2nm,0.3s,baz=55,slow=19,SNR=5.2						
KURBB				Lg	Lg	23 22 30.0	
	0.2nm,0.3s,baz=64,slow=33,SNR=16						
	9.2nm,0.5s						
MKAR	**Makanchi Array**	**7.70**	**210**	Pn	**Pn**	**23 20 59.9**	**+2.3**
	0.9nm,0.3s,baz=32,slow=12,SNR=64						
MKAR				Sn	**Sn**	**23 22 26.0**	**+0.8**
	0.3nm,0.3s,baz=29,slow=18,SNR=2.3						
MKAR				Lg	Lg	23 23 09.0	
	0.3nm,0.3s,baz=34,slow=31,SNR=6.9						
MKAR				LR	LR	23 23 54.1	
	comp=Z,20nm,21.4s,baz=296,slow=38						
	5.8nm,0.8s						
BVAR	**Borovoye Array**	**10.48**	**274**	Pn	**Pn**	**23 21 36.7**	**+1.0**
	0.2nm,0.3s,baz=77,slow=12,SNR=32						
BVAR				Sn	**Sn**	**23 23 30.2**	**-3.1**
	0.1nm,0.3s,baz=76,slow=25,SNR=5.4						
	1.6nm,0.3s						
SONM	**Songino Array**	**13.06**	**109**	Pn	**Pn**	**23 22 13.3**	**+2.3**
	0.1nm,0.3s,baz=297,slow=13,SNR=4.9						
SONM				Lg	Lg	23 25 55.5	
	baz=287,slow=26,SNR=6.6						
	0.7nm,1.0s						
ARU	**Arti**	**16.99**	**291**	Sn	**Sn**	**23 26 03.3**	**-8.5**
	0.1nm,0.3s,baz=112,slow=20,SNR=3.1						
JCJ	**Chichijima**	**47.64**	**102**	LR	LR	23 46 55.3	
	comp=Z,49nm,21.5s,baz=110,slow=35						
ESDC	**Sonseca Array**	**60.27**	**297**	P	**P**	**23 29 14.8**	**+0.7**
	0.7nm,0.7s,baz=41,slow=7.1,SNR=5.5						
	0.7nm,0.7s						
CTA	**Charters Tower**	**88.88**	**127**	LR	LR	00 13 12.6	
	comp=Z,23nm,19.5s,baz=90,slow=36						

MEX ***12*** *23:48:12.1±1.6, 17˚.28N×96˚.30W, h5km±13km, MD4.4*

IDC ***12*** *23:48:15.9±1.2, 18˚.09N×95˚.66W, h0km, mb3.9/8, mbtmp4.0/9, ML4.1/1, MS3.4/4, Error ellipse: s-maj=50.0km s-min=10.9km az=58.0*

NEIC ***12*** *23:48:16.1±2.0, 17˚.41N±0˚.05×96˚.40W±0˚.04, h35km±2km, mb4.0/64, Md4.4/26(MEX), Error ellipse: s-maj=8.3km s-min=6.0km az=185.0*

ISC 12 23:48:10.3±1.1, **17˚.42N**±0˚.02×**96˚.36W**±0˚.02, **h2**km±8km, **n135,** σ2§**00**/176, **mb4.1**/21, **MS3.3**/4, **Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXIG	**Oaxaca**	**0.49**	**226**		**Pn**	**23 48 26.5**	**+2.0**
VHO	**Vista Hermosa**	**0.49**	**226**	*e*P	**Pg**	**23 48 20.3**	**+0.5**
VHO				*i* S	**Sg**	**23 48 26.5**	**+0.3**
NEUV	**Arroyo Zacate**	**0.61**	**61**	*i* P	**Pb**	**23 48 23.3**	**-0.3**
NEUV				*i* S	**Sb**	**23 48 31.8**	**-0.8**
TOIG	**Toxpalan**	**0.95**	**315**	*e*P	**Pg**	**23 48 28.2**	**-0.3**
TOIG	**Toxpalan**	**0.95**	**315**	*e*P	**Pg**	**23 48 28.2**	**-0.3**
TOIG				*e*S	**Sg**	**23 48 39.8**	**-1.1**
YOIG	**Yosondua**	**1.26**	**244**		**Pn**	**23 48 34.1**	**-1.0**
YOIG					**Sb**	**23 48 50.8**	**-0.9**
YOIG	**Yosondua**	**1.26**	**244**	*e*P	**Pn**	**23 48 34.1**	**-1.0**
YOIG				*e*S	**Sb**	**23 48 48.5**	**-3.3**
TXIG	**Tlaxiaco**	**1.35**	**263**	*e*P	**Pb**	**23 48 36.0**	**-0.5**
TXIG				*e*S	**Sb**	**23 48 52.3**	**-2.1**
TPIG	**Tehuac#an**	**1.38**	**316**	*i* P	**Pb**	**23 48 36.9**	**0.0**
TPIG				*e*S	**Sn**	**23 48 54.9**	**-0.7**
HLIG	**Huajuapan de L**	**1.44**	**287**	*e*P	**Pn**	**23 48 37.2**	**-0.3**
HLIG				*e*S	**Sn**	**23 48 54.9**	**-2.2**
CMIG	**Matias Romero**	**1.45**	**103**		**Pg**	**23 48 38.2**	**+0.1**
CMIG					**Sg**	**23 48 57.8**	**+0.9**
CMIG	**Matias Romero**	**1.45**	**103**	Pg	**Pg**	**23 48 38.4**	**+0.3**
	107nm,0.3s,baz=285,slow=15,SNR=331						
CMIG				Lg	Lg	23 48 57.1	
	392nm,0.3s,baz=26,slow=21,SNR=38						
CMIG	**Matias Romero**	**1.45**	**103**	*e*P	**Pg**	**23 48 38.2**	**+0.1**
CMIG				*e*S	**Sg**	**23 48 57.8**	**+0.9**
PEIG	**Puerto Escondi**	**1.60**	**208**		**Pb**	**23 48 40.4**	**-0.1**
PEIG					**Sg**	**23 49 01.9**	**+0.2**
PEIG	**Puerto Escondi**	**1.60**	**208**	*e*P	**Pb**	**23 48 40.0**	**-0.6**
PEIG				*e*S	**Sn**	**23 48 59.1**	**-1.7**
PMUV	**Sontecomapan**	**1.63**	**46**	*e*P	**Pn**	**23 48 39.2**	**-0.8**
PMUV				*e*S	**Sg**	**23 49 05.3**	**+2.7**
HUIG	**Huatulco**	**1.66**	**172**		**Pg**	**23 48 41.8**	**-0.3**
HUIG					**Sg**	**23 49 04.4**	**+0.8**
HUIG	**Huatulco**	**1.66**	**172**	*i* P	**Pg**	**23 48 41.8**	**-0.3**
HUIG				*e*S	**Sg**	**23 49 04.4**	**+0.8**
FTIG	**Fresnillo de T**	**1.76**	**286**		**Pb**	**23 48 43.1**	**-0.2**
FTIG					**Sb**	**23 49 05.1**	**-0.8**
FTIG	**Fresnillo de T**	**1.76**	**286**	*e*P	**Pb**	**23 48 43.1**	**-0.2**
FTIG				*e*S	**Sb**	**23 49 05.1**	**-0.8**
NILT	**Santiago Nilte**	**1.87**	**117**	*e*P	**Pg**	**23 48 45.6**	**-0.6**
NILT				*e*S	**Sg**	**23 49 10.1**	**-0.3**
TUIG	**Tuzandepetl**	**1.95**	**71**	*e*P	**Pb**	**23 48 45.2**	**-1.3**
PNIG	**Pinotepa**	**1.97**	**239**	*e*P	**Pb**	**23 48 45.8**	**-1.1**
PNIG				*e*S	**Sn**	**23 49 09.6**	**-0.5**
JAUV	**Jalcomulco**	**1.98**	**348**	*e*P	**Pb**	**23 48 45.6**	**-1.5**
JAUV				*e*S	**Sb**	**23 49 12.5**	**+0.2**
TLIG	**Tlapa**	**2.11**	**274**	Pn	**Pb**	**23 48 48.8**	**-0.5**
TLIG				Sn	**Sn**	**23 49 13.4**	**-0.1**
TLIG	**Tlapa**	**2.11**	**274**	*e*P	**Pb**	**23 48 49.4**	**+0.1**
TLIG				*e*S	**Sb**	**23 49 14.9**	**-1.1**
UXUV	**UXUV**	**2.12**	**92**	*e*P	**Pb**	**23 48 48.1**	**-1.3**
UXUV				*e*S	**Sb**	**23 49 13.9**	**-2.2**
MGIG	**Malinaltepec**	**2.18**	**266**	*e*P	**Pb**	**23 48 50.1**	**-0.4**
MGIG				*e*S	**Sb**	**23 49 17.7**	**-0.3**
LVIG	**Laguna Verde**	**2.29**	**359**	*e*P	**Pn**	**23 48 48.7**	**-0.4**
LVIG				*e*S	**Sb**	**23 49 20.7**	**-0.5**
CARR	**Arriaga**	**2.62**	**116**	*e*P	**Pb**	**23 48 56.1**	**-1.0**
CARR				*e*S	**Sn**	**23 49 25.4**	**-0.6**
PPM	**Popocatepetl**	**2.71**	**308**	*e*P	**Pb**	**23 49 00.2**	**+0.5**
PPM				*e*S	**Sb**	**23 49 32.9**	**-0.7**
CRIG	**Cruz Grande**	**2.73**	**256**		**Pn**	**23 48 56.4**	**+1.2**
CRIG	**Cruz Grande**	**2.73**	**256**	*e*P	**Pn**	**23 48 56.4**	**+1.2**
CRIG				*e*S	**Sn**	**23 49 30.1**	**+1.3**
AMVM	**AMECAMECA**	**2.87**	**307**	*i* P	**Pb**	**23 49 02.7**	**+0.4**
YAIG	**Yautepec**	**2.95**	**300**	*e*P	**Pb**	**23 49 01.4**	**-2.2**
YAIG				*e*S	**Sn**	**23 49 33.6**	**-0.6**
MPVM	**San Francisco**	**3.08**	**306**	*e*P	**Pb**	**23 49 04.8**	**-1.2**
MPVM				*i* S	**Sn**	**23 49 29.5**	**-8.1**
THVM	**De Xico**	**3.11**	**308**	*e*P	**Pn**	**23 48 59.6**	**-1.0**
THVM				*e*S	**Sn**	**23 49 36.6**	**-2.0**
PLIG	**Platanillo**	**3.14**	**288**	*e*P	**Pb**	**23 49 04.1**	**-2.8**
PLIG				*i* S	**Sn**	**23 49 38.0**	**-1.0**
MEIG	**Mezcala**	**3.15**	**280**	*e*P	**Pb**	**23 49 04.0**	**-2.9**
MEIG				*e*S	**Sn**	**23 49 32.9**	**-6.6**
TGIG		**3.16**	**101**	*e*P	**Pn**	**23 49 03.3**	**+2.2**
TGIG				*e*S	**Sn**	**23 49 34.7**	**-4.8**
DAIG	**Los Arroyos**	**3.17**	**263**	*e*P	**Pn**	**23 49 03.1**	**+2.0**
DAIG				*e*S	**Sn**	**23 49 38.2**	**-1.3**
TLVM	**San Miguel Top**	**3.20**	**304**	*e*P	**Pb**	**23 49 07.7**	**-0.3**
TLVM				*e*S	**Sn**	**23 49 35.8**	**-4.9**
VTVM	**Tizayuca**	**3.27**	**316**	*e*P	**Pb**	**23 49 06.3**	**-2.9**
PBVM	**Pinon**	**3.28**	**308**	*e*P	**Pb**	**23 49 08.9**	**-0.2**
PBVM				*i* S	**Sn**	**23 49 44.7**	**+2.6**
UNM	**Universidad Na**	**3.28**	**306**	Pn	**Pn**	**23 49 04.7**	**+1.7**
UNM	**Universidad Na**	**3.28**	**306**	*e*S	**Sb**	**23 49 46.0**	**-3.9**
AOVM	**Tlapan**	**3.36**	**304**	*e*P	**Pb**	**23 49 09.6**	**-1.3**
AOVM				*e*S	**Sn**	**23 49 44.6**	**-0.3**
CJVM	**Cuajimalpa**	**3.38**	**305**	*e*P	**Pg**	**23 49 13.3**	**-1.8**
CJVM				*i* S	**Sn**	**23 49 42.6**	**-2.6**
PTVM	**Pico Tres Padr**	**3.39**	**310**	*e*P	**Pb**	**23 49 10.2**	**-1.1**
PTVM				*i* S	**Sn**	**23 49 43.1**	**-2.3**
INVM	**La Marquesa**	**3.42**	**303**	*e*P	**Pn**	**23 49 06.9**	**+2.0**
INVM				*i* S	**Sn**	**23 49 42.4**	**-3.9**
PCIG		**3.46**	**119**	*e*P	**Pn**	**23 49 07.4**	**+2.3**
PCIG				*e*S	**Sb**	**23 49 49.6**	**-5.2**
ZUVM	**ZUMPANGO**	**3.52**	**313**	*e*P	**Pb**	**23 49 13.5**	**+0.1**
ZUVM				*i* S	**Sn**	**23 49 48.5**	**-0.1**
TOVM	**TOLUCA**	**3.66**	**301**	*e*P	**Pb**	**23 49 13.0**	**-2.8**
TOVM				*e*S	**Sn**	**23 49 48.0**	**-4.0**
CAIG	**El Cayaco**	**3.75**	**265**	*e*P	**Pn**	**23 49 10.6**	**+1.5**
CAIG				*e*S	**Sn**	**23 49 53.1**	**-0.8**
DEIG	**Demacu**	**3.83**	**319**	*e*P	**Pb**	**23 49 16.1**	**-2.5**
DEIG				*e*S	**Sn**	**23 49 59.7**	**+3.6**
ARIG	**Puente Sto Nin**	**3.89**	**283**	*e*P	**Pn**	**23 49 14.9**	**+3.8**
ARIG				*e*S	**Sn**	**23 49 54.4**	**-3.1**
ATVM	**ATLACOMULCO**	**4.04**	**306**	*i* P	**Pb**	**23 49 18.8**	**-3.6**
ATVM				*e*S	**Sb**	**23 50 07.3**	**-4.5**
ACIG	**Acambay**	**4.20**	**308**	*e*P	**Pb**	**23 49 21.4**	**-3.6**
CCIG	**Comitan**	**4.20**	**105**		**Pn**	**23 49 17.4**	**+1.9**
CCIG				Sn	**Sb**	**23 50 09.6**	**-6.7**
CTUV	**Llano Grande**	**4.45**	**335**	*e*P	**Pn**	**23 49 21.7**	**+2.9**
CTUV				*e*S	**Sn**	**23 50 12.6**	**+1.5**
MOIG	**Morelia**	**5.10**	**297**	Pn	**Pn**	**23 49 30.4**	**+2.5**
PETF	**Flores**	**6.23**	**94**		**Pn**	**23 49 45.1**	**+1.8**
TEIG	**Tepich**	**8.15**	**69**		**Pn**	**23 50 10.9**	**+1.3**
TXAR	**Lajitas Array**	**13.62**	**332**	Pn	**P**	**23 51 33.7**	**0.0**
	baz=157,slow=12,SNR=4.4						
SOR	**Soroa**	**13.63**	**65**	Pn	**Pn**	**23 51 25.9**	**+1.2**
BRDY	**Brady**	**14.01**	**351**	Pn	**Pn**	**23 51 31.7**	**+1.8**
ALPN	**Alpine**	**14.51**	**334**	P	**P**	**23 51 46.8**	**+3.1**
MNHN	**Monahans**	**15.03**	**338**	P	**P**	**23 51 52.0**	**+2.6**
MNHN					IAmb	IAmb	23 51 54.5
	comp=Z,10nm,1.1s						
CAMR	**Camarioca**	**15.14**	**66**	Pn	**Pn**	**23 51 45.9**	**+0.6**
CAMR					IAmb	IAmb	23 52 11.6
	comp=Z,80nm,0.9s						
PLPT	**Palo Pinto**	**15.43**	**354**	Pn	**Pn**	**23 51 50.6**	**+1.5**
VHRN	**Van Horn**	**15.45**	**331**	Pn	**Pn**	**23 51 50.5**	**+1.0**
PECS	**Pecos**	**15.47**	**335**		**Pn**	**23 51 50.1**	**+0.4**
PECS					IAmb	IAmb	23 51 58.8
	comp=Z,7.9nm,0.9s						
ODSA	**Odessa**	**15.67**	**340**		**P**	**23 51 53.8**	**-2.8**
Z41A	**Richland Creek**	**16.09**	**11**		**P**	**23 51 59.1**	**-2.0**
Z41A					IAmb	IAmb	23 52 13.1
	comp=Z,11nm,0.7s						
APMT	**Aspermont**	**16.20**	**349**		**P**	**23 52 00.0**	**-2.3**
APMT					IAmb	IAmb	23 52 05.9
	comp=Z,6.5nm,0.7s						
POST	**Post**	**16.26**	**344**	Pn	**P**	**23 52 01.2**	**-1.8**
WTFS	**Witchita Falls**	**16.39**	**354**	Pn	**P**	**23 52 02.5**	**-2.0**
GDL2	**Guadalupe Moun**	**16.40**	**335**	P	**P**	**23 52 06.0**	**+1.3**
MNTX	**Cornudas Mount**	**16.40**	**332**	Pn	**Pn**	**23 52 02.3**	**+0.7**
DKNS	**Dickens**	**16.69**	**347**		**P**	**23 52 06.0**	**-1.8**
MIAR	**Mount Ida**	**17.24**	**8**	Pn	**P**	**23 52 12.5**	**-1.3**
MIAR					IAmb	IAmb	23 52 25.7
	comp=Z,11nm,1.1s						
SMWD	**Samnorwood**	**17.95**	**350**	Pn	**P**	**23 52 20.7**	**-1.0**
SMWD					IAmb	IAmb	23 52 35.7
	comp=Z,7.5nm,0.7s						
AMTX	**Amarillo**	**18.03**	**346**	Pn	**Pn**	**23 52 21.0**	**-1.1**
121A	**Cookes Peak, D**	**18.25**	**328**	P	**P**	**23 52 25.2**	**+0.1**
OK052	**Battle Ridge R**	**18.51**	**359**	P	**Pn**	**23 52 29.7**	**+1.8**
OK052					IAmb	IAmb	23 52 38.2
	comp=Z,11nm,1.1s						
DUN6	**Lazy B Ranch**	**18.95**	**325**	P	**Pn**	**23 52 34.4**	**+0.9**
T35A	**Sooner Cattle**	**19.42**	**360**	P	**Pn**	**23 52 38.7**	**-0.3**
T35A					IAmb	IAmb	23 52 40.8
	comp=Z,8.1nm,0.7s						
ANMO	**Albuquerque**	**19.64**	**335**	P	**Pn**	**23 52 41.7**	**-0.1**
ANMO					IAmb	IAmb	23 52 47.6
	comp=Z,6.3nm,0.9s						
ANMO	**Albuquerque**	**19.64**	**335**	P	**Pn**	**23 52 41.4**	**-0.4**
ANMO					IAmb	IAmb	23 52 47.6
	comp=Z,6.4nm,0.9s						
ANMO	**Albuquerque**	**19.64**	**335**	P	**Pn**	**23 52 43.3**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=228,slow=10,SNR=24						
	comp=Z,4.5nm,0.6s						
RTBA	**Rita Blanca**	**19.77**	**345**	P	**Pn**	**23 52 42.3**	**-1.0**
RTBA					IAmb	IAmb	23 52 47.5
	comp=Z,7.0nm,0.9s						
S39A	**Bolivar**	**20.37**	**7**		Pn	23 52 48.6	-1.6
S39A					IAmb	IAmb	23 52 50.3
	comp=Z,12nm,1.1s						
214A	**Organ Pipe Nat**	**20.77**	**317**	P	Pn	23 52 54.1	-0.8
214A					IAmb	IAmb	23 52 58.8
	comp=Z,11nm,1.1s						
T25A	**Trinidad**	**20.89**	**342**	P	**P**	**23 52 54.3**	**+0.3**
T25A					IAmb	IAmb	23 53 01.0
	comp=Z,8.9nm,1.0s						
X18A	**Snowflake**	**20.93**	**327**	P	Pn	23 52 55.4	-1.6
PIX	**Pinacate**	**20.94**	**315**	P	**P**	**23 52 54.4**	**-0.1**
PIX					IAmb	IAmb	23 53 00.3
	comp=Z,8.3nm,1.1s						
R32A	**Long Quarter,**	**21.03**	**355**	P	**P**	**23 52 55.0**	**-0.4**
R32A					IAmb	IAmb	23 53 11.0
	comp=Z,6.4nm,0.7s						
X16A	**Lo Mia Camp, P**	**21.65**	**324**	P	**P**	**23 53 04.6**	**+2.4**
X16A					IAmb	IAmb	23 53 08.8
	comp=Z,6.8nm,0.8s						
MVCO	**Mesa Verde**	**22.43**	**334**	P	**P**	**23 53 12.1**	**+1.4**
MVCO					IAmb	IAmb	23 53 17.4
	comp=Z,8.0nm,0.9s						
WUAZ	**Wupatki**	**22.43**	**326**	P	**P**	**23 53 12.4**	**+1.7**
WUAZ		

LREZ				S	Sn	23 51 26.2	+0.9	
TRVZ	**Turoa**	0.51	64	P	Pb	23 51 18.8	-0.2	
TRVZ				S	Sb	23 51 26.6	+0.2	
FWVZ	**Far West T-bar**	0.54	60	P	Pb	23 51 19.1	-0.3	
FWVZ				S	Sb	23 51 27.2	+0.1	
MAVZ	**Matarangi**	0.54	62	P	Pb	23 51 19.2	-0.3	
MAVZ				S	Sb	23 51 27.0	-0.2	
WNVZ	**Wahianoa**	0.54	69	P	Pb	23 51 19.1	-0.3	
WNVZ				S	Sb	23 51 27.2	+0.2	
WHVZ	**Whangaehu Hut**	0.55	64	P	Pb	23 51 19.2	-0.4	
WHVZ				S	Sb	23 51 27.2	-0.2	
COVZ	**Chateau Observ**	0.56	55	P	Pb	23 51 19.4	-0.3	
TWVZ	**Taurewa**	0.59	40	P	Pb	23 51 19.5	-0.7	
TUVZ	**Tukino**	0.60	65	P	Pb	23 51 20.2	-0.3	
TUVZ				S	Sb	23 51 29.0	+0.3	
NGZ	**Ngauruhoe**	0.61	55	P	Pb	23 51 20.1	-0.5	
NGZ				S	Sb	23 51 29.2	+0.1	
MOVZ	**Moawhango**	0.63	79	P	Pb	23 51 20.1	-0.8	
MOVZ				S	Sb	23 51 28.7	-0.8	
SNVZ	**South Ngauruho**	0.63	58	P	Pb	23 51 20.4	-0.5	
SNVZ				S	Sb	23 51 29.7	+0.2	
WTVZ	**West Tongariro**	0.64	50	P	Pb	23 51 20.4	-0.6	
WTVZ				S	Sb	23 51 29.8	0.0	
PREZ	**Palmer Road**	0.64	286	P	Pn	23 51 21.4	0.0	
PREZ				S	Sn	23 51 32.3	+1.7	
NNVZ	**North Ngauruho**	0.65	53	P	Pb	23 51 20.6	-0.6	
NNVZ				S	Sb	23 51 30.0	0.0	
OTVZ	**Oturere**	0.66	57	P	Pb	23 51 20.9	-0.5	
OTVZ				S	Sn	23 51 30.7	-0.4	
MHEZ	**Mangahewa**	0.66	312	P	Pn	23 51 21.6	0.0	
DREZ	**Durham Road**	0.67	300	P	Pn	23 51 21.6	-0.2	
KRVZ	**Karewarewa**	0.69	51	P	Pb	23 51 21.0	-0.8	
KRVZ				S	Sb	23 51 30.5	-0.5	
ETVZ	**East Tongariro**	0.70	57	P	Pb	23 51 21.4	-0.7	
NTVZ	**North Tongariro**	0.70	53	P	Pb	23 51 21.3	-0.8	
TMVZ	**Te Maari**	0.71	55	P	Pb	23 51 21.5	-0.7	
NEZ	**North Egmont**	0.71	291	P	Pn	23 51 22.3	-0.1	
OHWZ	**Ohakea**	0.73	158	P	Pb	23 51 22.0	-0.5	
KHEZ	**Kahui Hut**	0.76	287	P	Pb	23 51 21.8	-1.3	
KHEZ	**Kahui Hut**	0.76	287	P	Pn	23 51 22.9	-0.2	
KATZ	**Kakaramea**	0.80	47	P	Pb	23 51 22.8	-0.8	
PKE	**Pukeiti**	0.82	293	P	Pn	23 51 24.0	+0.2	
NMEZ	**Namu Road**	0.84	277	P	Pn	23 51 24.0	-0.1	
BHHZ	**Black Hill Sta**	0.86	88	P	Pb	23 51 23.2	-1.4	
NBEZ	**Newall Road No**	0.88	287	P	Pn	23 51 24.8	+0.3	
RITZ	**Rihia Road**	0.89	52	P	Pb	23 51 24.6	-0.5	
RATZ	**Rangitukua**	0.91	44	P	Pb	23 51 24.5	-1.1	
TSZ	**Takapari Road**	0.94	125	P	Pb	23 51 25.2	-0.9	
HIZ	**Hauiti**	1.01	356	P	Pn	23 51 26.2	-0.2	
HIZ	**Hauiti**	1.01	356	P	Pn	23 51 26.1	-0.3	
WATZ	**Wairara**	1.02	37	P	Pn	23 51 26.2	-0.3	
PNHZ	**Pukenui**	1.04	112	P	Pn	23 51 26.1	-0.6	
POWZ	**Post Office Ro**	1.07	144	P	Pn	23 51 27.2	+0.1	
HATZ	**Hinemaiaia**	1.09	55	P	Pn	23 51 26.7	-0.7	
KRHZ	**Kereru**	1.10	97	P	Pn	23 51 27.1	-0.5	
KWHZ	**Kaweka Forest**	1.14	85	P	Pn	23 51 28.5	+0.3	
DVHZ	**Dannevirke**	1.21	130	P	Pb	23 51 30.5	0.0	
MRZ	**Mangatainoka R**	1.23	157	P	Pn	23 51 29.3	-0.1	
KUTZ	**Kaahu Road**	1.24	33	P	Pn	23 51 29.1	-0.4	
BKZ	**Black Stump Fm**	1.25	74	P	Pn	23 51 29.4	-0.3	
BKZ	**Black Stump Fm**	1.25	74	P	Pn	23 51 29.3	-0.4	
WPHZ	**Waipukurau**	1.27	116	P	Pb	23 51 31.4	-0.1	
TLZ	**Tolley Road**	1.28	21	P	Pn	23 51 29.3	-0.7	
PRWZ	**Pori Road**	1.29	143	P	Pb	23 51 31.3	-0.6	
OGWZ	**Otaki Gorge**	1.30	173	P	Pn	23 51 30.1	-0.3	
MRHZ	**Matea Rd**	1.33	59	P	Pn	23 51 30.6	-0.2	
KIW	**Kapiti Island**	1.33	181	P	Pn	23 51 30.3	-0.6	
MCHZ	**McNeill Hill**	1.35	87	P	Pn	23 51 32.7	-0.2	
WPRZ	**Whakapapatarin**	1.38	44	P	Pn	23 51 31.1	-0.4	
HOWZ	**Holdsworth Sta**	1.44	163	P	Pn	23 51 32.8	+0.5	
TIWZ	**Tintock**	1.44	151	P	Pb	23 51 33.5	-0.9	
ALRZ	**Allen Road**	1.45	49	P	Pb	23 51 36.2	+1.7	
PRHZ	**Porangahau**	1.49	120	P	Pb	23 51 34.0	-1.3	
ANWZ	**Angora Road**	1.50	129	P	Pb	23 51 34.2	-1.1	
NMHZ	**Naumai**	1.50	74	P	Pn	23 51 34.0	+0.8	
DUWZ	**D'Urville Isla**	1.50	212	P	Pn	23 51 32.9	-0.3	
KAHZ	**Kahuranaki**	1.51	101	P	Pb	23 51 34.5	-1.1	
PRRZ	**Plateau Road**	1.52	48	P	Pn	23 51 33.1	-0.3	
BFZ	**Birch Farm**	1.52	140	P	Pb	23 51 34.8	-1.1	
HRRZ	**Handcock Road**	1.54	43	P	Pb	23 51 37.2	+1.1	
PXZ	**Pawanui**	1.55	110	P	Pb	23 51 35.9	-0.5	
HSRZ	**Hossack Road**	1.57	40	P	Pb	23 51 37.5	+0.7	
CAW	**Cannon Point**	1.58	177	P	Pn	23 51 34.4	+0.1	
ARHZ	**Aropaoanui**	1.60	81	P	Pn	23 51 35.9	-1.3	
MTHZ	**Maungataniwha**	1.61	66	P	Pn	23 51 34.3	-0.4	
CKHZ	**Cape Kidnapper**	1.65	95	P	Pn	23 51 37.1	-0.9	
UTU	**Utuhina**	1.66	36	P	Pn	23 51 39.2	+1.0	
HLRZ	**Highlands Stat**	1.68	41	P	Pb	23 51 38.7	+0.3	
CPWZ	**Castlepoint**	1.68	146	P	Pb	23 51 39.1	+0.6	
MTW	**Mount Morrison**	1.68	166	P	Pn	23 51 36.5	+0.8	
NGRZ	**Ngongotaha**	1.72	35	P	Pb	23 51 38.7	-0.4	
TMWZ	**Te Maipa**	1.73	156	P	Pn	23 51 37.2	+0.8	
MUGZ	**Murupara**	1.76	54	P	Pn	23 51 37.8	+1.1	
TCW	**Tory Channel**	1.76	197	P	Pn	23 51 36.4	-0.3	
WEL	**Wellington**	1.76	185	P	Pn	23 51 37.1	+0.3	
RAHZ	**Arahi**	1.76	71	P	Pn	23 51 38.0	+1.3	
TARZ	**Mount Tarawera**	1.77	44	P	Pb	23 51 41.4	+1.4	
SNZO	**South Karori**	1.79	186	P	Pn	23 51 37.6	+0.5	
OMRZ	**Omania**	1.80	38	P	Pb	23 51 41.2	+0.6	
KARZ	**Kaharoa**	1.81	34	P	Pb	23 51 41.1	+0.4	
RTZ	**Ruatahuna**	1.82	61	P	Pn	23 51 38.0	+0.5	
WHHZ	**Waihua**	1.82	77	P	Pn	23 51 38.8	+1.2	
TOZ	**Tahuroa Road**	1.84	14	P	Pn	23 51 38.8	-0.9	
BHW	**Baring Head**	1.88	182	P	Pn	23 51 38.7	+0.4	
PAWZ	**Paruwai Farm**	1.89	169	P	Pn	23 51 40.0	+1.5	
TRWZ	**Traveller**	1.95	164	P	Pn	23 51 40.9	+1.6	
EDRZ	**Edgecumbe**	1.99	45	P	Pb	23 51 43.0	-0.7	
SNGZ	**Shannon Statio**	2.00	69	P	Pn	23 51 41.2	+1.2	
MARZ	**Manawahe**	2.04	42	P	Pb	23 51 44.5	-0.2	
TUWZ	**Tuamarina**	2.05	202	P	Pn	23 51 40.1	-0.6	
PLWZ	**Palliser**	2.06	174	P	Pn	23 51 40.4	-0.3	
TGRZ	**Tauranga**	2.06	30	P	Pb	23 51 46.0	+1.0	
NNZ	**Nelson**	2.08	215	P	Pn	23 51 41.7	+0.7	
URZ	**Urewera**	2.10	54	P	Pn	23 51 42.0	+0.6	
URZ	**Urewera**	2.10	54	P	Pn	23 51 41.5	+0.1	
TKNZ	**Takaka Hill**	2.14	225	P	Pn	23 51 42.1	+0.2	
RAGZ	**Rawiri**	2.17	63	P	Pn	23 51 44.0	+1.6	
CMWZ	**Cape Campbell**	2.29	194	P	Pn	23 51 45.6	+1.6	
WHRZ	**Whale Island**	2.30	44	P	Pb	23 51 48.3	-0.7	
MHHZ	**Mahia Peninsul**	2.32	82	P	Pn	23 51 45.3	+1.3	
RIGZ	**Rimuhau**	2.33	70	P	Pn	23 51 45.7	+1.1	
MWZ	**Matawai**	2.33	60	P	Pn	23 51 43.9	-0.7	
BSWZ	**Blackbirch Sta**	2.34	200	P	Pn	23 51 45.2	+0.6	
PRGZ	**Paritu Road**	2.35	76	P	Pn	23 51 45.0	+0.2	
MKAZ	**Moumakai**	2.42	4	P	Pn	23 51 45.1	-0.7	
AWAZ	**Awhitu Peninsu**	2.47	354	P	Pn	23 51 46.4	-0.1	
TKGZ	**Te Karaka**	2.50	65	P	Pn	23 51 48.1	+1.2	
MRNZ	**Matariki Terra**	2.51	221	P	Pn	23 51 47.3	+0.3	
ETAZ	**East Tamaki Re**	2.57	360	P	Pn	23 51 47.8	0.0	
WTAZ	**Waiatarua**	2.61	353	P	Pn	23 51 48.5	+0.2	
RUGZ	**Raukumara Rang**	2.64	55	P	Pn	23 51 49.1	+0.2	
EPAZ	**Eden Park BICE**	2.65	356	P	Pn	23 51 48.8	-0.1	
HBAZ	**Herne Bay Bore**	2.68	356	P	Pn	23 51 49.7	+0.5	
TWGZ	**Tauwhareparae**	2.72	61	P	Pn	23 51 51.3	+1.4	
THZ	**Tophouse**	2.73	214	P	Pn	23 51 50.8	+0.8	
WIAZ	**Waiheke Island**	2.73	3	P	Pn	23 51 49.8	-0.3	
CNGZ	**Carnagh Statio**	2.74	69	P	Pn	23 51 50.9	+0.8	
MBAZ	**Motutapu North**	2.75	359	P	Pn	23 51 50.1	-0.2	
RWAZ	**Riverhead Bore**	2.77	354	P	Pn	23 51 50.4	-0.1	
HAZ	**Te Kaha**	2.83	52	P	Pn	23 51 51.1	-0.3	
KUZ	**Kuaotunu**	2.84	13	P	Pn	23 51 50.4	-1.1	
KUZ	**Kuaotunu**	2.84	13	P	Pn	23 51 50.6	-1.0	
ABAZ	**Army Bay**	2.92	358	P	Pn	23 51 52.9	+0.2	
PKGZ	**Pakihiroa**	2.94	57	P	Pn	23 51 54.2	+1.2	
PUZ	**Puketiti**	2.96	62	P	Pn	23 51 53.6	+0.4	
KHZ	**Kahutara**	3.08	200	P	Pn	23 51 54.6	-0.2	
KHZ	**Kahutara**	3.08	200	P	Pn	23 51 54.6	-0.2	
WMGZ	**Waiomatatini S**	3.20	59	P	Pn	23 51 56.6	+0.2	
DSZ	**Denniston Nort**	3.27	226	P	Pn	23 51 57.1	-0.3	
MXZ	**Matakaoa Point**	3.28	54	P	Pn	23 51 59.3	+1.8	
MXZ	**Matakaoa Point**	3.28	54	P	Pn	23 51 59.3	+1.8	
GRZ	**Great Barrier**	3.29	7	P	Pn	23 51 56.9	-0.9	
WCZ	**Waipu Caves**	3.61	352	P	Pn	23 52 01.7	-0.5	
GVZ	**Greta Valley S**	3.73	202	P	Pn	23 52 03.0	-0.7	
LTZ	**Lake Taylor**	3.83	211	P	Pn	23 52 05.0	-0.2	
AMCZ	**Amberley**	4.04	205	P	Pn	23 52 07.1	-0.9	
INZ	**Inchbonnie**	4.15	219	P	Pn	23 52 09.5	0.0	
OXZ	**Oxford**	4.38	209	P	Pn	23 52 11.0	-1.8	
OUZ	**Omahuta**	4.43	345	P	Pn	23 52 13.4	0.0	
ODZ	**Otahua Downs**	6.37	209	P	Pn	23 52 38.3	-1.8	
JCZ	**Jackson Bay**	6.47	223	P	Pn	23 52 40.7	-0.8	
CTZ	**Chatham Island**	7.58	126	P	Pn	23 52 56.4	-0.3	

IDC ***13*** *00:05:22.4±1.3,34˚.37N×23˚.47E, h0km, mb3.5/7, mbtmp3.5/13, ML3.7/5, MS2.8/3, Error ellipse: s-maj=24.6km s-min=13.4km az=160.0*
THE ***13*** *00:05:27.5,34˚.61N×23˚.59E, h0km±11km, ML2.7/2, Error ellipse: s-maj=19.4km s-min=2.7km az=200.0*
ATH ***13*** *00:05:33.4,34˚.74N×23˚.78E, h41km±15km, ML3.1/5, Manual Solution by S.Liakopoulos This location: 2020/05/26 08:06:21 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 21 km; Longitude uncertainty: 15 km*
ISC 13 00:05:25.2±1.3, 34˚.49N±0˚.10×23˚.54E±0˚.06, h10km, n35, σ1°27/34, mb3.5/7, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.57**	**52**	P			**Pg**	**00 05 35.2**	**-1.1**
GVD				S			**Sb**	**00 05 44.7**	**-0.8**
	2µm,0.3s								
IMMV	**Iera Moni Meta**	**1.04**	**20**	P			**Pg**	**00 05 43.6**	**-1.5**
RODP	**Rodopos**	**1.08**	**9**	P			**Pn**	**00 05 48.5**	**+2.0**
CH01	**Chania**	**1.10**	**21**	P			**Pn**	**00 05 47.7**	**+1.1**
CHAN	**Chania**	**1.11**	**22**	P			**Pn**	**00 05 48.6**	**+1.8**
TMBK	**Timbaki Herakl**	**1.17**	**60**	P			**Pn**	**00 05 49.2**	**+1.6**
PRNS	**Prines Rethymn**	**1.18**	**42**	P			**Pn**	**00 05 48.3**	**+0.5**
IDI	**Anoyia**	**1.37**	**54**	P			**Pg**	**00 05 52.2**	**+0.7**
IDI				S			**Sn**	**00 06 09.5**	**+0.9**
	212nm,1.0s								
IDI	**Anoyia**	**1.37**	**54**	Pg			**Pn**	**00 05 50.6**	**+0.2**
	0.2nm,0.3s,baz=270,slow=17,SNR=26								
IDI				Lg			Lg	00 06 10.7	
	0.2nm,0.3s,baz=306,slow=23,SNR=5.8								
IDI	**Anoyia**	**1.37**	**54**	P			**Pg**	**00 05 52.0**	**+0.6**
ANKY	**Antikythira Is**	**1.39**	**352**	P			**Pb**	**00 05 51.7**	**+0.5**
ANKY	**Antikythira Is**	**1.39**	**352**	P			**Pg**	**00 05 51.9**	**0.0**
VLI	**Veliai**	**2.28**	**348**	P			**Pb**	**00 06 05.6**	**-0.8**
SNT5	**Nea Kammeni, S**	**2.44**	**38**	P			**Pn**	**00 06 06.3**	**+1.2**
THR3	**Thira Island,**	**2.45**	**38**	P			**Pn**	**00 06 05.8**	**+0.6**
THR3	**Thira Island,**	**2.45**	**38**	P			**Pn**	**00 06 06.4**	**+1.2**
PYL	**PYLOS**	**2.81**	**329**	P			**Pn**	**00 06 11.2**	**+1.0**
KARP	**Karpathos**	**3.15**	**69**	P			**Pn**	**00 06 17.3**	**+2.3**
KARP	**Karpathos**	**3.15**	**69**	P			**Pn**	**00 06 16.9**	**+2.0**
BRTR	**Keskin Array B**	**9.61**	**54**	Pn			**Pn**	**00 07 45.3**	**+1.6**
	0.5nm,0.8s,baz=238,slow=14,SNR=2.9								
MMAI	**Mount Meron Ar**	**9.99**	**95**	Pn			**Pn**	**00 07 45.9**	**-2.9**
	0.1nm,0.3s,baz=278,slow=15,SNR=1.6								
MMAI				Sn			**Sn**	**00 09 40.6**	**-0.3**
	baz=279,slow=19,SNR=0.8								
	0.6nm,0.4s								
MLR	**Muntele Rosu**	**11.14**	**9**	LR			LR	00 12 51.0	
	comp=Z,47nm,18.0s,baz=149,slow=40								
VRAC	**Vranov**	**15.67**	**343**	Pn			**Pn**	**00 09 06.9**	**+0.9**
	0.3nm,0.3s,baz=164,slow=7.4,SNR=4.4								
	2.0nm,0.5s								
GERES	**GERESS Array B**	**16.10**	**336**	Pn			**Pn**	**00 09 13.0**	**+1.4**
	0.1nm,0.3s,baz=144,slow=13,SNR=1.4								
	0.3nm,0.4s								
AKASG	**Malin Array Be**	**16.73**	**13**	Pn			**Pn**	**00 09 18.9**	**-0.6**
	0.4nm,0.3s,baz=205,slow=10,SNR=2.9								
	0.1nm,0.3s								
KBZ	**Khabaz**	**17.60**	**53**	P			**Pn**	**00 09 31.2**	**+0.8**
	baz=237,slow=9.7,SNR=3.9								
	1.7nm,0.9s								
ESDC	**Sonseca Array**	**22.50**	**291**	P			**P**	**00 10 24.9**	**0.0**
	0.2nm,0.6s,baz=86,slow=8.9,SNR=1.5								
	0.2nm,0.6s								
HFS	**Hagfors**	**26.45**	**349**	P			**P**	**00 11 01.4**	**-0.6**
	1.2nm,0.5s,baz=152,slow=13,SNR=1.9								
	1.2nm,0.5s								
FINES	**FINESS Array B**	**27.02**	**3**	P			**P**	**00 11 06.6**	**-0.6**
	0.8nm,0.8s,baz=163,slow=12,SNR=1.3								
	0.8nm,0.8s								
NOA	**NORSAR Array B**	**27.73**	**347**	LR			LR	00 23 38.4	
	comp=Z,9.8nm,19.1s,baz=65,slow=39								
EKA	**Eskdalemuir Ar**	**27.84**	**327**	P			**P**	**00 11 13.3**	**-1.3**
	0.4nm,0.5s,baz=128,slow=7.6,SNR=7.8								
	0.4nm,0.5s								
TORD	**Torodi Ar. Bea**	**29.04**	**228**	P			P	00 11 23.9	-1.7
	0.5nm,0.9s,baz=33,slow=9.9,SNR=4.2								
	0.5nm,0.9s								
ARU	**Arti**	**32.39**	**37**	LR			LR	00 25 14.8	
	comp=Z,20nm,18.7s,baz=224,slow=37								
KURBB	**Kurchatov Arra**	**42.58**	**50**	P			**P**	**00 13 20.9**	**-0.2**
	0.3nm,0.4s,baz=275,slow=8.5,SNR=3.2								
	0.3nm,0.4s								
MKAR	**Makanchi Array**	**45.26**	**56**	P			**P**	**00 13 42.0**	**-0.8**
	0.6nm,0.6s,baz=273,slow=6.8,SNR=10								
	0.6nm,0.6s								

SOME ***13*** *00:07:56.9,41˚.33N×78˚.77E, h0km*
NNC ***13*** *00:07:57.7±0.9,41˚.25N×78˚.75E, h0km, mb3.4, mpv2.9, Error ellipse: s-maj=6.0km s-min=3.7km az=165.0*
KRNET ***13*** *00:07:58.5±0.1,41˚.33N×78˚.74E, h4km, mb2.0*
ISC 13 00:07:59.5±2.1, 41˚.36N±0˚.07×78˚.73E±0˚.04, h0km±14km, n39, σ0°82/60, 10C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**1.15**	**348**	⇑P	e		**Pb**	**00 08 21.1**	**-1.2**
	baz=48								
PRZ				⇑S	e		**Sn**	**00 08 38.4**	**-1.1**
	baz=48								
KDJ	**Kajisay**	**1.39**	**304**	⇓P	e		**Pn**	**00 08 25.3**	**-1.0**
	baz=5.0								
KDJ				⇓S	e		**Sg**	**00 08 44.7**	**+0.5**
	baz=5.0								
ANVS	**Anan'yevo**	**1.63**	**331**	⇑P	e		**Pb**	**00 08 30.1**	**-0.4**
	baz=32								
ANVS				⇑S	e		**Sg**	**00 08 52.3**	**+0.5**
	baz=32								
SATY	**Saty**	**1.71**	**352**	eP			**Pb**	**00 08 30.9**	**-1.0**
	0.6nm,0.1s								
SATY				eS			**Sg**	**00 08 55.2**	**+0.7**
	17nm,0.1s								
SATY	**Saty**	**1.71**	**352**	Pg			**Pg**	**00 08 32.2**	**-0.1**
	3.0nm,0.3s								
SATY				Lg			Lg	00 08 58.2	
	14nm,0.3s								
UZB	**Uzunbulak**	**1.80**	**7**	eP			**Pb**	**00 08 32.7**	**-0.7**
	3.3nm,0.3s								
UZB				eS			**Sg**	**00 08 58.2**	**+1.0**
	8.3nm,0.2s								
UZB	**Uzunbulak**	**1.80**	**7**	Pg			**Pb**	**00 08 32.7**	**-0.7**
	3.3nm,0.3s								
UZB				Lg			Lg	00 08 58.2	
	8.3nm,0.2s								
ZHN	**Zhinishke**	**1.82**	**353**	eP			**Pb**	**00 08 33.5**	**-0.2**
	2.4nm,0.3s								
ZHN				eS			**Sg**	**00 08 59.6**	**+1.7**
	37nm,0.2s								
ZHN	**Zhinishke**	**1.82**	**353**	Pg			**Pb**	**00 08 33.5**	**-0.2**
	2.4nm,0.3s								
ZHN				Lg			Lg	00 08 59.6	
	37nm,0.2s								
SHLS	**Shalkode**	**1.87**	**17**	eP			**Pb**	**00 08 34.6**	**0.0**
	1.3nm,0.1s								
SHLS				eS			**Sg**	**00 09 01.6**	**+1.9**
	473nm,0.2s								
SHLS	**Shalkode**	**1.87**	**17**	Pg			**Pg**	**00 08 36.3**	**+0.9**
	8.0nm,0.3s								
SHLS				Lg			Lg	00 09 04.6	
	15nm,0.3s								
PDGK	**Podgornoye**	**2.04**	**16**	Pg			**Pb**	**00 08 36.8**	**-0.8**
	1.9nm,0.5s								
PDGK				Lg			Lg	00 09 05.4	
	6.2nm,0.7s								
PDGK	**Podgornoye**	**2.04**	**16**	⇑Pg			**Pb**	**00 08 37.1**	**-0.5**
	1.6nm,0.5s								
PDGK				⇑Lg			Lg	00 09 05.6	
	16nm,0.7s								
NRN	**Naryn**	**2.06**	**273**	⇑eP			**Pb**	**00 08 37.1**	**-0.8**
	baz=73								
NRN				⇑eS			**Sg**	**00 09 05.1**	**-0.5**
	baz=73								
KURS	**Kuram**	**2.17**	**349**	eP			**Pb**	**00 08 39.2**	**-0.4**
	1.5nm,0.2s								
KURS				eS			**Sg**	**00 09 09.4**	**+0.3**
	9.1nm,0.5s								
KURS	**Kuram**	**2.17**	**349**	Pg			**Pg**	**00 08 40.1**	**-0.9**
	4.0nm,0.5s								
KURS				Lg			Lg	00 09 11.1	
	5.5nm,0.4s								
MDOK	**Medeo**	**2.19**	**326**	eP			**Pb**	**00 08 40.1**	**0.0**
	5.4nm,0.6s								
MDOK				eS			**Sg**	**00 09 11.0**	**+1.1**
	13nm,0.5s								
MDOK	**Medeo**	**2.19**	**326**	Pg			**Pb**	**00 08 39.0**	**-1.1**
	1.7nm,0.5s								
MDOK				Pg			**Pb**	**00 08 40.1**	**0.0**
	5.4nm,0.6s								
MDOK				Lg			Lg	00 09 09.9	
	9.0nm,0.7s								
MDOK				Lg			Lg	00 09 11.0	
	13nm,0.5s								
KOTS	**Kotyrbulak**	**2.22**	**328**	eP			**Pb**	**00 08 40.6**	**0.0**
	4.3nm,0.3s								
KOTS				eS			**Sg**	**00 09 12.2**	**+1.2**
	14nm,0.6s								
KOTS	**Kotyrbulak**	**2.22**	**328**	Pg			**Pb**	**00 08 40.6**	**0.0**
	4.3nm,0.3s								
KOTS				Lg			Lg	00 09 12.2	
	14nm,0.6s								
KTMS	**Ketmen**	**2.40**	**29**	eP			**Pb**	**00 08 43.3**	**-0.4**
	56nm,0.3s								
KTMS				eS			**Sg**	**00 09 16.6**	**-0.1**
	4.5nm,0.2s								
KTMS	**Ketmen**	**2.40**	**29**	Pg			**Pb**	**00 08 43.3**	**-0.4**
	56nm,0.3s								
KTMS				Lg			Lg	00 09 16.6	
	4.5nm,0.2s								
MTBS	**Maitube**	**2.46**	**317**	eP			**Pb**	**00 08 44.9**	**+0.3**
	3.8nm,0.4s								
MTBS				eS			**Sg**	**00 09 19.2**	**+0.7**
	3.7nm,0.3s								
MTBS	**Maitube**	**2.46**	**317**	Pg			**Pb**	**00 08 44.9**	**+0.3**
	3.8nm,0.4s								
MTBS				Lg			Lg	00 09 19.2	
	3.7nm,0.3s								
KST	**Kastek**	**2.66**	**310**	eP			**Pb**	**00 08 48.1**	**+0.1**
	2.9nm,0.4s								
KST				eS			**Sg**	**00 09 24.8**	**0.0**
	9.3nm,0.7s								
KST	**Kastek**	**2.66**	**310**	Pg			**Pb**	**00 08 48.1**	**+0.1**
	2.9nm,0.4s								
KST				Lg			Lg	00 09 24.8	
	9.3nm,0.7s								
KTBS	**Karatobe**	**2.79**	**328**	eP			**Pb**	**00 08 50.4**	**+0.1**
	2.6nm,0.5s								
KTBS				eS			**Sg**	**00 09 28.9**	**-0.3**
	7.9nm,0.4s								
KTBS	**Karatobe**	**2.79**	**328**	Pg			**Pb**	**00 08 50.4**	**+0.1**
	2.6nm,0.5s								
KTBS				Lg			Lg	00 09 28.9	
	7.9nm,0.4s								
CHKK	**Chushk

ACDV eS Sn 00 09 31.5 +3.0
ACDV IAML 00 09 34.1
comp=Z,1µm,0.3s
CO02 Combarbal 1.73 293 Pn 00 09 06.2 +0.2
CO02 Sn Sn 00 09 29.3 +0.5
CO02 Combarbal 1.73 293 *eP* **Pn 00 09 06.2 +0.2**
CO02 IAML 00 09 32.1
comp=Z,4µm,0.4s
AROD Rodeo 1.74 350 *eP* **Pn 00 09 08.0 +1.7**
PEL Peldehue 1.81 226 Pn 00 09 06.5 -0.3
PEL Sn Sn 00 09 29.9 -0.5
PEL Peldehue 1.81 226 *eP* **Pn 00 09 06.5 -0.3**
PEL *eS* Sn 00 09 30.8 +0.3
PEL Peldehue 1.81 226 ⇓*iP* **Pn 00 09 06.5 -0.3**
PEL *i* S Sn 00 09 29.5 -0.9
PEL IAML 00 09 31.0
comp=N,4µm,0.7s
MT10 Hacienda Santa 1.82 220 ⇓*iP* **Pn 00 09 07.4 +0.3**
MT10 *i* S Sn 00 09 31.1 +0.4
MT10 IAML 00 09 33.5
comp=N,12µm,0.6s
AVFE Valle Fertil 1.89 50 *eP* **Pn 00 09 08.4 +0.6**
AVFE IAML 00 09 36.2
comp=Z,2µm,1.2s
MT14 Cerro Cal¡n 1.91 218 ⇓*iP* **Pn 00 09 08.4 +0.2**
MT14 *i* S Sn 00 09 32.5 -0.2
MT14 IAML 00 09 37.9
comp=N,6µm,0.8s
ROCH El Roble 1.92 235 IAML 00 09 35.4
comp=N,7µm,0.4s
ROCH ⇓*iP* **Pn 00 09 07.7 -0.7**
ROCH *eS* Sn 00 09 31.7 -1.4
ROC1 El Roble 1.93 235 *eP* **Pn 00 09 07.7 -0.7**
ROC1 *eS* Sn 00 09 32.7 -0.5
MT16 CCHEN 1.93 217 Pn 00 09 08.7 +0.3
MT16 Sn Sn 00 09 32.4 -0.7
VA06 Catapilco 1.95 249 Pn **Pn 00 09 07.3 -1.2**
MT03 Universidad Ad 1.98 216 Pn 00 09 09.3 +0.3
MT03 Universidad Ad 1.98 216 *eP* **Pn 00 09 09.0 0.0**
MT03 *eS* Sn 00 09 35.5 +1.4
MT03 IAML 00 09 38.2
comp=Z,3µm,0.6s
MT05 Renca 2.02 222 Pn **Pn 00 09 09.6 +0.1**
MT05 Renca 2.02 222 *eP* **Pn 00 09 09.4 -0.1**
MT05 *eS* Sn 00 09 35.5 +0.4
MT05 IAML 00 09 37.1
comp=Z,4µm,0.3s
MT05 Renca 2.02 222 *eP* **Pn 00 09 09.3 -0.1**
MT05 *i* S Sn 00 09 34.8 -0.3
MT05 IAML 00 09 38.2
comp=E,7µm,0.5s
MT15 Las Vizcachas 2.06 214 ⇓*iP* **Pn 00 09 09.8 -0.2**
MT15 *i* S Sn 00 09 35.6 -0.4
MT15 IAML 00 09 40.6
comp=N,6µm,0.3s
CO01 Juntas del Tor 2.08 336 Pn 00 09 12.5 +2.1
CO01 Juntas del Tor 2.08 336 *eP* **Pn 00 09 12.4 +2.1**
CO01 *eP* Pn 00 09 12.8 +2.4
CO01 *eS* Sn 00 09 41.2 +4.6
CO01 IAML 00 09 45.4
comp=Z,1µm,0.8s
MT13 San Alfonso 2.09 207 Pn 00 09 10.5 +0.1
MT13 San Alfonso 2.09 207 ⇓*iP* **Pn 00 09 10.6 +0.1**
MT13 *i* S Sn 00 09 38.0 +1.3
MT13 IAML 00 09 39.8
comp=N,2µm,0.3s
LMEL Las Melosas 2.15 204 Pn 00 09 11.5 +0.3
MT02 Curacav 2.17 231 Pn 00 09 10.6 -0.8
MT02 Curacav 2.17 231 *eP* **Pn 00 09 10.4 -1.0**
MT02 *eS* Sn 00 09 37.1 -1.4
MT02 IAML 00 09 41.7
comp=Z,1µm,0.6s
MT12 Pirque 2.19 213 ⇓*iP* **Pn 00 09 11.6 -0.1**
MT12 *i* S Sn 00 09 38.4 -0.5
MT12 IAML 00 09 45.0
comp=E,4µm,0.4s
GO04 Tololo Observa 2.23 320 Pn 00 09 12.8 +0.5
GO04 Tololo Observa 2.23 320 *eP* **Pn 00 09 12.8 +0.5**
GO04 *eS* Sn 00 09 41.6 +1.5
ACHE Chepes 2.23 72 *eP* **Pn 00 09 12.8 +0.6**
VA01 Torpederas 2.41 241 Pn 00 09 13.0 -1.4
VA01 Torpederas 2.41 241 *eP* **Pn 00 09 13.9 -0.4**
VA01 IAML 00 09 51.4
comp=Z,826nm,0.5s
BO04 La Punta 2.43 210 Pn 00 09 14.6 -0.2
MT09 Talagante 2.44 219 Pn 00 09 14.2 -0.8
MT09 Talagante 2.44 219 *eP* **Pn 00 09 14.0 -1.0**
MT09 *i* S Sn 00 09 43.4 -1.5
MT09 IAML 00 09 44.1
comp=E,4µm,0.3s
AGUA GUANDACOL 2.46 13 *eP* **Pn 00 09 16.7 +1.5**
AGUA IAML 00 09 50.0
comp=Z,2µm,0.4s
CO06 Fray Jorge 2.46 299 Pn 00 09 14.0 -1.1
MT01 Popeta 2.66 222 Pn 00 09 16.1 -1.5
MT01 Popeta 2.66 222 *eP* **Pn 00 09 16.1 -1.5**
MT01 IAML 00 09 52.4
comp=Z,662nm,0.3s
CO05 La Serena 2.67 317 Pn 00 09 17.2 -0.5
APLL PUNTA DE LOS L 2.69 57 *eP* **Pn 00 09 18.5 +0.5**
VA05 Santo Domingo 2.73 229 Pn 00 09 17.1 -1.4
RFA San Rafael 2.93 169 *eP* **Pn 00 09 20.6 -0.7**
RFA IAML 00 09 58.1
comp=Z,785nm,0.8s
BO01 Tunca 2.98 213 Pn **Pn 00 09 20.8 -1.1**
BO01 Tunca 2.98 213 *eP* **Pn 00 09 20.7 -1.2**
BO01 IAML 00 10 00.3
comp=Z,557nm,0.7s
LCO Las Campanas 3.17 334 Pn **Pn 00 09 24.9 +0.2**
LCO Las Campanas 3.17 334 *eS* **Sn 00 10 02.6 +0.5**
AC05 El Transito 3.20 342 Pn **Pn 00 09 26.0 +1.1**
BO02 Sierra Bellavi 3.21 205 Pn 00 09 24.6 -0.3
BO02 Sierra Bellavi 3.21 205 *eP* **Pn 00 09 24.5 -0.4**
BO02 IAML 00 10 08.0
comp=Z,734nm,0.7s
GO05 Huala 3.89 216 Pn **Pn 00 09 31.3 -2.7**
GO05 Huala 3.89 216 *eP* **Pn 00 09 31.2 -2.8**
AC04 Llanos de Chal 4.04 335 Pn **Pn 00 09 35.7 -0.2**
AC02 Maricunga 5.04 0 Pn **Pn 00 09 50.6 +0.8**
AC01 Pan de Azucar 5.86 347 Pn **Pn 00 09 59.2 -1.4**
BI05 Punta Hualpn 5.89 214 Pn **Pn 00 09 56.9 -4.0**
GO02 Mina Guanaco 6.71 356 Pn **Pn 00 10 11.2 -1.2**
PB14 IPOC Station P 7.32 351 Pn **Pn 00 10 18.0 -2.6**
GO06 Curarrehue 7.91 193 Pn 00 10 26.4 -1.9
PB10 IPOC Station P 8.44 351 Pn **Pn 00 10 33.0 -2.4**
TRQA Tornquist 8.50 138 Pn 00 10 35.0 -1.3
LR05 Currie 8.64 195 Pn **Pn 00 10 35.7 -2.4**
PB15 IPOC Station P 8.65 358 Pn 00 10 36.7 -1.8
PLCA Paso Flores 8.90 187 Pn **Pn 00 10 41.0 -0.7**
PLCA Paso Flores 8.90 187 P **Pn 00 10 40.2 -1.5**
comp=Z,1.1nm,0.3s,baz=353,slow=10.0,SNR=11
PB05 IPOC Station P 9.05 354 Pn 00 10 40.8 -3.1
PB06 IPOC Station P 9.15 357 Pn **Pn 00 10 43.7 -1.6**
LVC Limon Verde 9.24 1 Pn **Pn 00 10 44.0 -2.7**
LVC Limon Verde 9.24 1 P **Pn 00 10 44.3 -2.4**
comp=Z,4.2nm,0.3s,baz=160,slow=9.3,SNR=20
LVC S Sn 00 12 23.4 -5.7
comp=Z,16nm,0.4s,baz=194,slow=23,SNR=1.8
TICA Tres Isletas 9.41 57 *eP* **Pn 00 10 46.3 -2.3**
PB04 IPOC Station P 9.56 354 Pn **Pn 00 10 46.3 -4.5**
PB09 IPOC Station P 10.05 359 Pn **Pn 00 10 55.0 -2.5**
PB07 IPOC Station P 10.14 356 Pn 00 10 55.4 -3.3
PB02 IPOC Station P 10.55 356 Pn **Pn 00 11 05.0 +0.9**
PB01 IPOC Station P 10.81 358 Pn 00 11 04.0 -3.6
ITQB Itaqui 10.98 82 Pn **Pn 00 11 07.3 -2.5**
ITQB Itaqui 10.98 82 *eP* **Pn 00 11 06.7 -3.2**
PB08 IPOC Station P 11.70 360 Pn **Pn 00 11 18.4 -1.3**
CPUP Villa Florida 11.71 65 Pn **Pn 00 11 16.7 -2.8**
CPUP Villa Florida 11.71 65 P **Pn 00 11 16.2 -3.3**
comp=Z,4.1nm,0.4s,baz=251,slow=11,SNR=14
CPUP S Sn 00 13 25.8 -2.6
comp=Z,7.1nm,0.5s,baz=235,slow=11,SNR=1.4
CPUP LR LR 00 16 09.9
comp=Z,85nm,21.7s,baz=224,slow=39
RODS Rosario do Sul 12.04 86 *eP* **Pn 00 11 20.2 -3.7**
PB11 IPOC Station P 12.09 358 Pn **Pn 00 11 25.1 +0.4**
GO01 Chusmiza 12.17 360 Pn 00 11 25.9 -0.1
UNIS Unistalda (Bra 12.45 81 *eP* **Pn 00 11 26.1 -3.2**
PLTB Pedras Altas 13.21 94 Pn **Pn 00 11 35.5 -3.6**
PLTB Pedras Altas 13.21 94 *eP* **Pn 00 11 34.9 -4.2**
PB12 IPOC Station P 13.26 355 Pn **Pn 00 11 40.8 +0.8**
PB16 IPOC Station P 13.50 358 P **Pn 00 11 44.2 +0.7**

CPSB Cacapava Do Su 13.53 88 *eP* **Pn 00 11 38.8 -4.4**
CRSM Crissiumal (Br 13.83 75 *eP* **Pn 00 11 45.2 -2.0**
ALGR Alto Alegre (B 14.25 82 *eP* **Pn 00 11 51.6 -1.0**
FRBT Francisco Belt 15.25 71 *eP* **Pn 00 12 02.9 -2.4**
AMBA Amambai (Brazi 15.40 58 *eP* **Pn 00 12 06.5 -0.6**
ITAB Concordia 15.50 77 Pn 00 12 08.9 +0.5
LPAZ La Paz 15.56 4 P 00 12 11.8 +0.2
LPAZ La Paz 15.56 4 P **Pn 00 12 10.1 +0.4**
comp=Z,14nm,0.8s,baz=184,slow=7.2,SNR=46
LPAZ S S 00 15 10.6 +0.9
comp=Z,1.1nm,0.6s,baz=212,slow=20,SNR=0.9
BDQN Bodoquena, MS 15.90 47 *eP* **Pn 00 12 13.7 +0.3**
AQDB Aquidauana 16.55 50 Pn 00 12 20.5 -0.9
AQDB Aquidauana 16.55 50 *eP* **P 00 12 23.1 +1.1**
BBSD Serra de San D 16.55 30 *eP* **Pn 00 12 21.6 +0.2**
PTGB Pitanga 16.63 69 *eP* **Pn 00 12 21.5 -1.0**
GO08 Villa O'Higgin 16.76 188 Pn **Pn 00 12 21.8 -1.9**
SIV San Ignacio 17.45 27 P **Pn 00 12 32.2 -0.2**
comp=Z,40nm,1.0s,baz=190,slow=9.6,SNR=85
LDASE Londrina, Braz 18.05 67 *eP* **P 00 12 38.4 -0.1**
PTLB Pontes e Lacer 18.73 31 Pn **Pn 00 12 47.7 +0.1**
PTLB Pontes e Lacer 18.73 31 *eP* **Pn 00 12 47.2 -0.4**
PCMB Pacaembu 18.94 62 *eP* **P 00 12 48.8 +0.7**
FRTB Fartura 19.30 69 *eP* **P 00 12 52.9 +0.8**
GO09 Cerro Castillo 19.51 186 P **P 00 12 54.6 +0.5**
GO09 IAmb IAmb 00 13 07.5
comp=Z,48nm,1.4s
SALV Santo Antonio 20.07 41 *eP* **P 00 13 01.0 +0.5**
VILB Vilhena 20.56 26 P **P 00 13 05.6 -0.1**
VILB Vilhena 20.56 26 *eP* **P 00 13 05.6 -0.1**
PET01 Itanhaem-SP 20.70 74 *eP* **P 00 13 08.2 +1.1**
ITRB Iturama 20.77 59 *eP* **P 00 13 08.1 +0.1**
MG02 Cerro Sombrero 20.88 180 P **P 00 13 09.0 +0.2**
EFI East Falkland 21.38 161 P **P 00 13 14.0 -0.2**
RCLB Rio Claro- Sao 21.38 69 *eP* **P 00 13 14.5 0.0**
VAO Valinhos 21.54 71 *eP* **P 00 13 17.1 +0.8**
MG03 Isla Dawson 21.97 182 P **P 00 13 20.9 +0.6**
MG03 IAmb IAmb 00 13 36.4
comp=Z,80nm,1.4s
ETMB Extrema 22.13 8 P **P 00 13 23.3 +0.9**
ETMB IAmb IAmb 00 13 24.1
comp=Z,34nm,0.9s
ETMB Extrema 22.13 8 *eP* **P 00 13 21.9 -0.5**
ARAG Araguaiana, MT 22.55 48 *eP* **P 00 13 25.6 -1.0**
PDRB Porto dos Gac 23.20 32 *eP* **P 00 13 33.0 +0.1**
IPMB Ipameri, GO 23.43 59 *eP* **P 00 13 34.9 -0.2**
SAML Samuel 23.49 15 P **P 00 13 35.9 +0.3**
SAML Samuel 23.49 15 *eP* **P 00 13 35.6 0.0**
CLDB Colider 24.28 33 *eP* **P 00 13 42.8 +0.1**
BDFB Brasilia 25.13 55 P **P 00 13 50.5 -0.1**
BDFB IAmb IAmb 00 13 52.0
comp=Z,26nm,0.9s
BDFB Brasilia 25.13 55 P **P 00 13 50.1 -0.5**
comp=Z,21nm,0.8s,baz=225,slow=8.1,SNR=34
comp=Z,21nm,0.8s
TBTG Tabatinga, AM 27.57 358 P **P 00 14 12.7 +0.3**
NPGB Novo Progresso 27.86 30 *eP* **P 00 14 14.3 -0.7**
TEFE Tefe 28.55 9 *eP* **P 00 14 20.9 -0.1**
MCRA Macar, Loja 29.20 337 P **P 00 14 27.8 +0.8**
SDBA SAO DESIDERIO 29.53 54 *eP* **P 00 14 29.5 -0.5**
MALB Monte Alegre 33.00 28 *eP* **P 00 15 00.8 +0.4**
BOAV Boa Vista 35.06 15 P **P 00 15 17.9 -0.2**
BOAV IAmb IAmb 00 15 18.9
comp=Z,11nm,0.7s
MCPB Macapa, AP 35.27 31 *eP* **P 00 15 20.2 +0.3**
TMAB Tom-Àu,PA,Br 35.42 38 *eP* **P 00 15 21.5 +0.3**
NBAN Amdia - AL 37.60 61 *eP* **P 00 15 38.5 -1.3**
NBPB Pedra_Branca-C 38.09 53 *eP* **P 00 15 43.9 0.0**
NBLV Livramento - P 38.67 58 *eP* **P 00 15 48.5 -0.3**
NBCL Cascavel-CE 39.93 53 *eP* **P 00 15 59.2 +0.1**
RCBR Riachuelo 40.45 57 P **P 00 16 03.7 +0.1**
RCBR IAmb IAmb 00 16 07.3
comp=Z,14nm,1.1s
SDV Santo Domingo 40.57 358 P **P 00 16 04.1 -0.5**
SDV IAmb IAmb 00 16 04.9
comp=Z,7.2nm,0.7s
SDV Santo Domingo 40.57 358 *eP* **P 00 16 03.5 -1.1**
BAUV El Baul 40.61 2 P **P 00 16 04.4 -0.3**
BAUV IAmb IAmb 00 16 05.1
comp=Z,20nm,0.8s
GRGR Grenville 44.35 10 P **P 00 16 34.7 -0.3**
FDF Fort de France 46.98 11 P **P 00 16 56.1 +0.4**
BELA Belgrano 2 48.55 171 P **P 00 17 08.0 +1.0**
BELA IAmb IAmb 00 17 08.8
comp=Z,6.1nm,0.7s
GDSD La Dsirade Is 48.55 10 P **P 00 17 05.7 -2.1**
MLPR Magueyes Islan 49.61 3 P **P 00 17 16.6 +0.8**
CRPR Cabo Rojo, PR 49.65 3 P **P 00 17 16.5 +0.5**
OBIP Obispado Ponce 49.70 3 P **P 00 17 15.5 -1.0**
CELP Cerrillos 49.74 3 P **P 00 17 16.6 -0.1**
VNA3 Neumayer Olymp 50.41 159 ⇑P **P 00 17 22.1 +0.8**
comp=Z,12nm,0.7s
VNA2 Neumayer--Watz 51.03 158 ⇑P **P 00 17 26.7 +0.8**
comp=Z,17nm,0.5s,baz=287,slow=7.2
GTBY Guantanamo Bay 51.84 353 P **P 00 17 32.9 +0.5**
SNAA Sanae 52.63 159 P **P 00 17 38.5 +0.6**
SNAA IAmb IAmb 00 17 39.3
comp=Z,16nm,1.0s
SNAA Sanae 52.63 159 ⇑P **P 00 17 37.9 0.0**
comp=Z,135nm,0.4s
SNAA Sanae 52.63 159 P **P 00 17 38.1 +0.2**
comp=Z,10nm,0.8s,baz=297,slow=6.2,SNR=21
comp=Z,10nm,0.8s
TROLL Troll, Antarti 54.35 159 ⇑P **P 00 17 50.9 +0.4**
comp=Z,35nm,0.3s
TEIG Tepich 54.97 338 P **P 00 17 56.2 +0.8**
CAMR Camarioca 55.88 346 P **P 00 18 02.1 +0.3**
CAMR IAmb IAmb 00 18 17.8
comp=Z,75nm,1.1s
SOR Soroa 55.97 345 P **P 00 18 02.6 +0.1**
QSPA South Pole Qui 58.34 180 P **P 00 18 19.7 +0.7**
QSPA South Pole Qui 58.34 180 P **P 00 18 18.8 -0.2**
comp=Z,5.4nm,0.7s,baz=149,slow=6.7,SNR=6.0
QSPA pP **pP 00 18 47.8 +0.4**
comp=Z,9.9nm,1.0s,baz=162,slow=5.2,SNR=6.3
comp=Z,5.4nm,0.7s
061Z Ochoppi 58.52 348 P **P 00 18 21.1 +0.8**
352A Blakely 64.78 345 P **P 00 19 02.3 +0.1**
HBVL Hebbronville 65.03 331 P **P 00 19 05.9 +1.8**
Y60A Bolivia 66.10 352 P **P 00 19 11.3 +0.6**
GOGA Godfrey 66.34 347 P **P 00 19 12.1 -0.2**
833A Chaparral WMA, 66.44 331 P **P 00 19 14.5 +1.5**
VNDA Vanda 66.63 191 P **P 00 19 14.8 +1.1**
VNDA IAmb IAmb 00 19 16.3
comp=Z,11nm,1.3s
LRAL Lakeview Retre 66.74 344 P **P 00 19 14.9 +0.1**
LRAL IAmb IAmb 00 19 33.7
comp=Z,17nm,1.4s
X58A Rowland 66.79 351 P **P 00 19 15.7 +0.6**
JSC Jenkinsville 66.80 349 P **P 00 19 15.5 +0.3**
Y52A Lilburn 66.90 347 P **P 00 19 16.0 +0.2**
Y52A IAmb IAmb 00 19 16.7
comp=Z,11nm,0.8s
Y49A Blount Mountai 67.39 344 P **P 00 19 19.3 +0.3**
HNDO Hondo 67.46 332 P **P 00 19 20.9 +1.4**
W57A Gilead 67.46 350 P **P 00 19 19.9 +0.6**
W57A IAmb IAmb 00 19 28.1
comp=Z,23nm,1.2s
143A Socs Landing, 67.60 340 P **P 00 19 21.5 +1.3**
X51A Calhoun 67.74 346 P **P 00 19 21.4 +0.2**
BG3 Lake Jocassee 67.78 348 P **P 00 19 22.1 +0.7**
BG3 IAmb IAmb 00 19 22.6
comp=Z,14nm,0.8s
FPAL Fort Paine 67.87 345 P **P 00 19 22.7 +0.7**
FPAL IAmb IAmb 00 19 36.1
comp=Z,10nm,1.1s
V58A Windy Hill, Pi 67.98 351 P **P 00 19 23.0 +0.5**
X48A Hartselle 68.11 344 P **P 00 19 24.0 +0.6**
X48A IAmb IAmb 00 19 24.7
comp=Z,12nm,0.8s
V55A Taylorsville 68.33 349 P **P 00 19 25.3 +0.5**
V55A IAmb IAmb 00 19 26.0
comp=Z,7.1nm,0.7s
V53A Saluda 68.42 348 P **P 00 19 25.7 +0.2**
V53A IAmb IAmb 00 19 26.1
comp=Z,8.2nm,0.6s
W50A Signal Mountai 68.44 346 P **P 00 19 26.0 +0.5**
W50A IAmb IAmb 00 19 32.4
comp=Z,16nm,1.1s
JCT Junction City 68.51 332 P **P 00 19 27.5 +1.4**
JCT IAmb IAmb 00 19 28.0
comp=Z,11nm,0.8s
CPCT Cooper Cave 68.53 347 P **P 00 19 26.4 +0.4**

CPCT IAmb IAmb 00 19 26.6
comp=Z,11nm,0.8s
TKL Tuckaleechee C 68.58 347 P **P 00 19 26.4 0.0**
TKL IAmb IAmb 00 19 27.2
comp=Z,18nm,1.3s
SWET Sewanee 68.59 345 P **P 00 19 27.1 +0.6**
V52A Sevierville 68.73 347 P **P 00 19 27.2 -0.1**
OXF Oxford 68.75 342 P **P 00 19 27.5 +0.1**
BRDY Brady 68.91 333 P **P 00 19 29.3 +0.8**
SAND Sanderson 69.02 330 P **P 00 19 30.6 +1.3**
SAND IAmb IAmb 00 19 31.0
comp=Z,7.5nm,0.6s
U54A Nelsons Funny 69.08 349 P **P 00 19 29.9 +0.4**
U54A IAmb IAmb 00 19 30.5
comp=Z,23nm,1.0s
TXAR Lajitas Array 69.17 328 P **P 00 19 31.5 +1.2**
TXAR Lajitas Array 69.17 328 P **P 00 19 30.9 +0.7**
comp=Z,1.8nm,0.6s,baz=152,slow=8.5,SNR=20
TXAR pP **pP 00 20 00.8 +1.6**
comp=Z,1.1nm,0.7s,baz=148,slow=8.3,SNR=5.1
comp=Z,1.8nm,0.6s
TX31 Lajitas Ar. Si 69.17 328 P **P 00 19 30.6 +0.3**
T57A Hurt 69.18 351 P **P 00 19 30.9 +0.9**
TZTN Tazewell 69.40 348 P **P 00 19 31.0 -0.4**
TZTN IAmb IAmb 00 19 45.7
comp=Z,23nm,1.2s
OZNA Ozona 69.44 331 IAmb IAmb 00 19 33.5
comp=Z,12nm,0.7s
CLTN Cedars of Leba 69.52 345 P **P 00 19 32.6 +0.5**
CLTN IAmb IAmb 00 19 32.8
comp=Z,8.6nm,0.7s
RCRC Randolf Colleg 69.61 351 P **P 00 19 32.9 +0.2**
U49A Red Boiling Sp 69.81 346 P **P 00 19 34.4 +0.5**
WVT Waverly 69.90 344 P **P 00 19 34.7 +0.2**
PLPT Palo Pinto 70.01 334 P **P 00 19 36.0 +0.7**
PLPT IAmb IAmb 00 19 36.7
comp=Z,10nm,0.8s
Z35A Perchaven, San 70.09 335 IAmb IAmb 00 19 37.4
comp=Z,20nm,0.8s
FW03 Perrin-Whitt E 70.12 334 IAmb IAmb 00 19 37.5
comp=Z,10nm,0.8s
ABTX Abilene, Hawle 70.34 333 IAmb IAmb 00 19 39.0
comp=Z,11nm,1.0s
MNHN Monahans 70.49 330 IAmb IAmb 00 19 40.0
comp=Z,11nm,0.7s
T47A Sharon Grove 70.55 345 IAmb IAmb 00 19 38.8
comp=Z,10nm,0.8s
FCAR Ozark Folk Cen 70.79 340 IAmb IAmb 00 19 41.0
comp=Z,6.5nm,0.8s
ODSA Odessa 71.08 330 P **P 00 19 42.8 +1.0**
APMT Aspermont 71.15 333 IAmb IAmb 00 19 43.8
comp=Z,13nm,0.7s
SN07 Snyder 07 71.24 332 IAmb IAmb 00 19 44.1
comp=Z,10nm,1.2s
WCI Wyandotte Cave 71.57 346 P **P 00 19 44.4 -0.1**
WCI IAmb IAmb 00 19 45.3
comp=Z,9.0nm,0.7s
HHAR Hobbs 71.69 339 IAmb IAmb 00 19 46.6
comp=Z,11nm,1.0s
S44A Carbondale 71.73 343 IAmb IAmb 00 19 45.9
comp=Z,12nm,0.6s
SIUC Southern Illin 71.74 343 IAmb IAmb 00 19 46.3
comp=Z,32nm,1.4s
DKNS Dickens 71.76 332 IAmb IAmb 00 19 47.1
comp=Z,6.7nm,0.7s
LIC Lamto 71.78 70 ⇓*iP* **P 00 19 46.5 +0.1**
comp=Z,25nm,0.5s
MGMO Mountain Grove 72.01 341 IAmb IAmb 00 19 48.7
comp=Z,9.3nm,0.9s
TIC Toumodi 72.03 70 ⇑*eP* **P 00 19 48.6 +0.7**
comp=Z,12nm,0.4s
KIC Kosan Boka 72.09 70 ⇓*iP* **P 00 19 48.6 +0.4**
comp=Z,26nm,0.5s
DBIC Dimbokro 72.18 70 P **P 00 19 49.5 +0.7**
DBIC Dimbokro 72.18 70 P **P 00 19 49.0 +0.2**
comp=Z,25nm,0.9s,baz=216,slow=6.5,SNR=27
comp=Z,25nm,0.9s
FVM French Village 72.30 342 IAmb IAmb 00 19 50.0
comp=Z,17nm,0.8s
P49A Miami Univ. Ec 72.52 347 P **P 00 19 50.0 -0.2**
CCM Cathedral Cave 72.58 342 P **P 00 19 50.8 +0.3**
CCM IAmb IAmb 00 19 51.8
comp=Z,31nm,1.2s
P48A Milroy 72.58 347 P **P 00 19 49.9 -0.6**
O52A Adamsville 72.60 350 P **P 00 19 51.2 +0.5**
O52A IAmb IAmb 00 19 51.4
comp=Z,12nm,0.8s
SSPA Standing Stone 72.61 353 P **P 00 19 51.2 +0.5**
SMWD Samnorwood 72.77 334 P **P 00 19 52.8 +0.9**
SMWD IAmb IAmb 00 19 53.4
comp=Z,24nm,1.4s
MSTX Muleshoe 72.77 331 P **P 00 19 51.6 -0.3**
MSTX IAmb IAmb 00 19 53.9
comp=Z,14nm,0.8s
OK048 Pawnee Station 72.77 337 P **P 00 19 52.1 +0.3**
OK048 IAmb IAmb 00 19 53.2
comp=Z,13nm,0.8s
S39A Bolivar 72.81 340 P **P 00 19 51.8 -0.2**
S39A IAmb IAmb 00 19 53.3
comp=Z,27nm,1.2s
ACSO Alum Creek Sta 72.90 349 P **P 00 19 52.4 0.0**
ACSO IAmb IAmb 00 19 52.9
comp=Z,14nm,0.6s
R40A Maddies Statio 73.07 341 P **P 00 19 53.2 -0.3**
T35A Sooner Cattle 73.08 337 P **P 00 19 53.8 +0.2**
T35A IAmb IAmb 00 19 55.2
comp=Z,12nm,0.9s
AMTX Amarillo 73.13 332 P **P 00 19 54.0 0.0**
AMTX IAmb IAmb 00 19 55.7
comp=Z,17nm,1.1s
BLOK Blackwell 73.17 337 P **P 00 19 54.4 +0.3**
BLOK IAmb IAmb 00 19 55.8
comp=Z,11nm,0.7s
CROK Carrier 73.20 336 P **P 00 19 54.4 0.0**
CROK IAmb IAmb 00 19 55.6
comp=Z,14nm,0.9s
M57A Sunshine Farm, 73.23 354 P **P 00 19 54.3 -0.1**
O48B Farmland 73.30 347 P **P 00 19 54.5 -0.2**
ELIS Ellis County 73.32 335 P **P 00 19 56.0 +0.9**
ELIS IAmb IAmb 00 19 56.8
comp=Z,18nm,1.1s
KSCT Kent School, K 73.36 357 P **P 00 19 56.1 +1.0**
KSCT IAmb IAmb 00 20 03.3
comp=Z,15nm,1.2s
M55A Ridgway 73.53 352 P **P 00 19 56.6 +0.5**
M55A IAmb IAmb 00 19 57.5
comp=Z,18nm,0.9s
KAN09 Caldwell North 73.65 337 P **P 00 19 57.5 +0.6**
KAN09 IAmb IAmb 00 19 58.6
comp=Z,12nm,0.8s
SUR Sutherland 73.69 118 P **P 00 19 58.8 +1.0**
121A Cookes Peak, D 73.75 327 P **P 00 19 58.8 +1.0**
N49A Columbus Grove 73.77 348 P **P 00 19 57.8 +0.3**
SFIN Lafayette 73.80 346 P **P 00 19 57.1 -0.6**
O44A Mansfield 73.89 345 P **P 00 19 58.0 -0.2**
L59A Walton 73.92 355 P **P 00 19 59.4 +1.0**
M52A Chesterland 73.93 350 P **P 00 19 58.8 +0.4**
M52A IAmb IAmb 00 19 59.3
comp=Z,11nm,0.7s
L61B Northampton 74.05 357 P **P 00 19 59.7 +0.7**
L61B IAmb IAmb 00 20 00.5
comp=Z,13nm,0.8s
HRV Adam Dziewonsk 74.06 358 P **P 00 19 59.6 +0.4**
L56A Greenwood 74.07 353 P **P 00 19 59.7 +0.5**
L56A IAmb IAmb 00 20 00.5
comp=Z,10nm,0.7s
P40A Paris 74.17 342 P **P 00 20 00.4 +0.5**
K62A Royalston 74.24 358 P **P 00 20 01.6 +1.4**
WVNY West Valley, N 74.44 353 P **P 00 20 01.9 +0.5**
WVNY IAmb IAmb 00 20 03.0
comp=Z,11nm,0.8s
HDIL Hopedale 74.46 344 P **P 00 20 01.6 +0.1**
MAW Mawson 74.49 163 P **P 00 20 02.2 +0.8**
MAW Mawson 74.49 163 P **P 00 20 01.2 -0.3**
comp=Z,8.7nm,0.6s,baz=243,slow=6.8,SNR=6.1
comp=Z,8.7nm,0.6s
K57A Scipio Center 74.56 354 P **P 00 20 02.2 +0.2**
K57A IAmb IAmb 00 20 03.3
comp=Z,8.4nm,0.8s
P38A Dawn 74.67 341 P **P 00 20 02.7 0.0**
P38A IAmb IAmb 00 20 03.4
comp=Z,9.7nm,0.6s
LENM Lemitar 74.74 328 P **P 00 20 03.9 +0.3**
L48A N Adams 74.81 348 P **P 00 20 03.5 0.0**
L48A IAmb IAmb 00 20 03.6

comp=Z,32nm,1.3s
N41A Harden Midland 74.98 343 P **P** **00 20 04.7 +0.2**
J58A Remsen 75.10 355 P **P** **00 20 06.2 +1.0**
J58A IAmb IAmb 00 20 09.8
comp=Z,22nm,1.4s
J56A Wolcott 75.13 354 P **P** **00 20 05.8 +0.4**
J56A IAmb IAmb 00 20 06.4
comp=Z,12nm,0.7s
ANMO Albuquerque 75.17 329 P **P** **00 20 07.3 +1.3**
J57A Williamstown 75.20 355 P **P** **00 20 06.0 +0.3**
J57A IAmb IAmb 00 20 07.1
comp=Z,12nm,0.9s
HNH Hanover 75.28 358 P **P** **00 20 07.2 +1.0**
HNH IAmb IAmb 00 20 13.8
comp=Z,13nm,1.1s
I62A Tamworth 75.42 358 P **P** **00 20 08.4 +1.4**
I62A IAmb IAmb 00 20 09.9
comp=Z,26nm,1.4s
I63A Otisfield 75.59 359 P **P** **00 20 09.3 +1.4**
I63A IAmb IAmb 00 20 11.1
comp=Z,10nm,0.8s
LBNH Lisbon 75.81 358 P **P** **00 20 10.2 +1.0**
LBNH IAmb IAmb 00 20 28.9
comp=Z,15nm,1.1s
CBKS Cedar Bluff 75.89 336 P **P** **00 20 10.0 +0.2**
CBKS IAmb IAmb 00 20 11.7
comp=Z,17nm,0.9s
T25A Trinidad 76.18 332 P **P** **00 20 13.2 +1.4**
T25A IAmb IAmb 00 20 14.3
comp=Z,10nm,1.0s
EMMW East Machias 76.25 1 P **P** **00 20 13.0 +1.4**
LONY Lake Ozonia 76.31 356 P **P** **00 20 12.6 +0.6**
LONY IAmb IAmb 00 20 19.3
comp=Z,12nm,1.3s
HAL Halifax 76.33 4 P **P** **00 20 12.7 +0.6**
HAL IAmb IAmb 00 20 14.6
comp=Z,27nm,1.2s
DELO Deloro Mine 76.43 354 P **P** **00 20 12.6 -0.1**
FRNY Flat Rock 76.47 357 IAmb IAmb 00 20 14.6
comp=Z,12nm,0.9s
I49A Point Hope 76.50 350 P **P** **00 20 13.0 -0.1**
I49A IAmb IAmb 00 20 26.6
comp=Z,20nm,0.9s
GGN Saint George 76.67 2 P **P** **00 20 15.6 +1.7**
GGN IAmb IAmb 00 20 33.0
comp=Z,26nm,1.1s
WBO Williamsburg 76.73 356 IAmb IAmb 00 20 16.4
comp=Z,18nm,1.1s
G65A Princeton 76.74 1 P **P** **00 20 16.0 +1.6**
G65A IAmb IAmb 00 20 19.7
comp=Z,31nm,1.4s
G62A West of Eustis 76.75 359 P **P** **00 20 16.0 +1.5**
G62A IAmb IAmb 00 20 16.7
comp=Z,12nm,0.7s
PKME Peaks-Kenny Pk 76.79 360 P **P** **00 20 15.7 +1.1**
PKME IAmb IAmb 00 20 27.4
comp=Z,35nm,1.4s
SADO Sadowa 76.84 353 P **P** **00 20 15.3 +0.3**
SADO IAmb IAmb 00 20 15.6
comp=Z,8.5nm,0.6s
X16A Lo Mia Camp, P 77.04 325 P **P** **00 20 17.8 +1.2**
SOE Somerset East 77.05 120 P **P** **00 20 17.3 +0.5**
SDCO Great Sand Dun 77.14 331 P **P** **00 20 18.9 +1.6**
F63A Nahmakanta, Br 77.23 0 P **P** **00 20 18.5 +1.4**
F63A IAmb IAmb 00 20 19.4
comp=Z,8.4nm,0.8s
F64A Sherman 77.39 1 P **P** **00 20 19.5 +1.5**
F64A IAmb IAmb 00 20 20.2
comp=Z,10nm,0.7s
F62A Pittston Farm, 77.42 359 P **P** **00 20 19.4 +1.2**
F62A IAmb IAmb 00 20 20.4
comp=Z,31nm,1.3s
LMN Caledonia Moun 77.47 3 P **P** **00 20 19.2 +0.6**
LMN IAmb IAmb 00 20 21.1
comp=Z,17nm,1.3s
I42A Draeger Farm, 77.55 345 P **P** **00 20 19.1 +0.1**
I42A IAmb IAmb 00 20 19.9
comp=Z,19nm,1.2s
H43A Windswept, Lux 77.87 346 P **P** **00 20 20.3 -0.5**
H43A IAmb IAmb 00 20 20.4
comp=Z,13nm,0.8s
TRQ Mont Tremblant 77.90 356 P **P** **00 20 21.6 +0.7**
TRQ IAmb IAmb 00 20 22.2
comp=Z,8.4nm,0.7s
MVCO Mesa Verde 77.97 329 P **P** **00 20 22.4 +0.6**
Q24A Divide 78.04 332 P **P** **00 20 22.3 0.0**
Q24A IAmb IAmb 00 20 24.6
comp=Z,9.3nm,0.9s
E62A Clayton Lake 78.14 360 P **P** **00 20 23.7 +1.5**
E62A IAmb IAmb 00 20 24.0
comp=Z,9.8nm,0.7s
PQI Presque Isle 78.20 1 P **P** **00 20 23.2 +0.7**
PQI IAmb IAmb 00 20 28.5
comp=Z,16nm,1.3s
D62A Allapoint, All 78.61 0 P **P** **00 20 25.6 +0.8**
I37A Lemond, Waseca 78.73 342 IAmb IAmb 00 20 26.1
comp=Z,13nm,0.8s
BATG Bathurst New B 78.85 2 P **P** **00 20 26.4 +0.4**
BOSA Boshof 78.86 117 P **P** **00 20 27.3 +0.3**
BOSA IAmb IAmb 00 20 27.9
comp=Z,8.0nm,0.8s
BOSA Boshof 78.86 117 P **P** **00 20 26.9 0.0**
comp=Z,6.7nm,0.8s,baz=243,slow=4.4,SNR=12
comp=Z,6.7nm,0.8s
ISCO Idaho Springs 78.94 332 P **P** **00 20 27.2 +0.1**
PV05 Paradox Valley 78.95 329 P **P** **00 20 27.6 +0.4**
PV05 IAmb IAmb 00 20 29.2
comp=Z,12nm,1.3s
PFO Pinyon Flats O 78.96 321 P **P** **00 20 28.3 +1.2**
SMCO Snowmass 78.97 331 P **P** **00 20 28.2 +0.8**
PV17 East Wray Mesa 79.06 329 P **P** **00 20 29.0 +1.3**
U15A North Rim 79.07 326 P **P** **00 20 29.1 +1.2**
LMQ La Malbaie 79.08 359 P **P** **00 20 27.9 +0.6**
LMQ IAmb IAmb 00 20 31.3
comp=Z,16nm,1.3s
K30B Basset 79.30 338 P **P** **00 20 29.7 +0.9**
ECSD EROS Data Cent 79.34 340 P **P** **00 20 29.5 +0.7**
ECSD IAmb IAmb 00 20 30.0
comp=Z,19nm,1.0s
E43A Lone Tree Farm 79.56 348 P **P** **00 20 30.2 +0.3**
V12A Nelson 79.77 324 P **P** **00 20 31.4 0.0**
KNB Kanab 79.79 326 P **P** **00 20 32.0 +0.3**
N23A Red Feather La 80.01 333 P **P** **00 20 32.9 0.0**
PHWY Pilot Hill 80.17 333 P **P** **00 20 34.2 +0.4**
MTPU Mount Pierson 80.32 327 P **P** **00 20 35.5 +0.8**
SRU San Rafael Swe 80.43 329 P **P** **00 20 35.2 +0.1**
CCUT Cedar City 80.48 326 P **P** **00 20 36.3 +0.8**
D41A Chassel 80.52 347 P **P** **00 20 36.1 +1.0**
MSU Marysvale 80.69 327 P **P** **00 20 37.7 +1.1**
MVU Marysvale 80.70 327 P **P** **00 20 37.2 +0.6**
MVU IAmb IAmb 00 20 39.1
comp=Z,22nm,1.1s
P18A Preston Nutter 80.73 329 P **P** **00 20 36.9 +0.1**
LBTB Lobatse 80.94 114 P **P** **00 20 37.9 -0.3**
LBTB IAmb IAmb 00 20 39.1
comp=Z,8.1nm,0.6s
TOA0 Torodi Ar. Sit 81.18 69 P **P** **00 20 39.4 0.0**
TOA0 IAmb IAmb 00 20 40.5
comp=Z,15nm,0.7s
TORD Torodi Ar. Bea 81.18 69 P **P** **00 20 39.0 -0.4**
TORD IAmb IAmb 00 20 40.5
comp=Z,13nm,0.7s
TORD Torodi Ar. Bea 81.18 69 P **P** **00 20 39.6 +0.3**
comp=Z,11nm,0.7s,baz=264,slow=5.4,SNR=130
TORD pP **pP** **00 21 09.7 +0.8**
comp=Z,2.4nm,0.6s,baz=255,slow=4.3,SNR=3.1
comp=Z,11nm,0.7s
RWWY Rawlins 81.19 332 P **P** **00 20 38.9 -0.2**
RWWY IAmb IAmb 00 20 41.2
comp=Z,9.6nm,0.9s
RDMU Red Mountain 81.22 330 P **P** **00 20 39.6 +0.4**
DRLN Deer Lake 81.44 8 P **P** **00 20 40.8 +0.8**
PSUT Pine Spring 81.50 326 P **P** **00 20 41.2 +0.5**
WCT Wildcat Mounta 81.50 323 P **P** **00 20 41.2 +0.6**
MPU Maple Canyon 81.66 328 P **P** **00 20 41.1 -0.5**
K22A Casper 81.73 333 P **P** **00 20 42.5 +0.6**
K22A IAmb IAmb 00 20 44.1
comp=Z,8.7nm,0.9s
EYMN Ely 81.97 345 P **P** **00 20 42.4 -0.3**
RSSD Black Hills 82.08 335 P **P** **00 20 43.8 +0.1**
SPR3 Spring Creek 3 82.09 326 P **P** **00 20 43.6 -0.4**
CASY Casey 82.15 180 P **P** **00 20 44.5 +0.9**
CASY IAmb IAmb 00 20 45.4
comp=Z,15nm,1.0s
R11B Troy Canyon, C 82.18 325 P **P** **00 20 44.1 -0.2**
GMN Gold Mountain 82.21 323 P **P** **00 20 44.2 -0.3**
DSP Deep Springs 82.62 323 P **P** **00 20 46.1 -0.2**
B35A Bob, Littlefor 82.87 344 P **P** **00 20 46.5 -0.8**
B35A IAmb IAmb 00 20 48.2
comp=Z,7.4nm,0.6s
HWUT Hardware Ranch 82.93 329 P **P** **00 20 48.9 +0.7**
PD31 Pinedale Array 83.04 331 P **P** **00 20 49.8 +1.1**
PDAR Pinedale Array 83.04 331 P **P** **00 20 49.2 +0.5**
PDAR Pinedale Array 83.04 331 P **P** **00 20 49.0 +0.2**
comp=Z,1.4nm,0.7s,baz=131,slow=6.6,SNR=14
PDAR pP **pP** **00 21 19.0 +0.4**
comp=Z,0.7nm,0.6s,baz=131,slow=8.1,SNR=3.7
comp=Z,1.4nm,0.7s
SPUT South Promonto 83.08 329 P **P** **00 20 48.6 -0.3**
E28A Huff 83.14 339 P **P** **00 20 49.5 +0.7**
E28A IAmb IAmb 00 20 50.3
comp=Z,12nm,0.6s
HVU Hansel Valley 83.60 329 P **P** **00 20 51.2 -0.3**
NVAR Mina Array Bea 83.60 323 P **P** **00 20 52.9 +1.1**
NVAR Mina Array Bea 83.60 323 P **P** **00 20 52.2 +0.5**
comp=Z,1.4nm,0.8s,baz=168,slow=6.4,SNR=8.6
NVAR pP **pP** **00 21 22.7 +0.9**
comp=Z,0.4nm,0.5s,baz=120,slow=5.9,SNR=2.6
comp=Z,1.4nm,0.8s
ELK Elko 83.90 327 P **P** **00 20 53.4 +0.2**
MDND Maddock 83.96 340 P **P** **00 20 53.7 +0.7**
RLMT Red Lodge 84.88 333 P **P** **00 20 58.9 +0.8**
LAO LASA Array 85.08 335 P **P** **00 20 59.5 +0.8**
PAHR Pah Rah Range 85.12 323 P **P** **00 21 00.4 +1.2**
ULM Lac du Bonnet 85.14 343 P **P** **00 20 59.2 +0.3**
ULM IAmb IAmb 00 21 00.2
comp=Z,7.2nm,0.8s
ULM Lac du Bonnet 85.14 343 P **P** **00 20 58.5 -0.4**
comp=Z,6.6nm,0.8s,baz=156,slow=5.0,SNR=16
ULM pP **pP** **00 21 29.3 +0.2**
comp=Z,1.9nm,0.6s,baz=178,slow=7.8,SNR=2.7
comp=Z,6.6nm,0.8s
YHH Holmes Hill 85.24 332 P **P** **00 21 01.5 +1.6**
YHL Hebgen Lake 85.42 331 P **P** **00 21 02.3 +1.5**
HLID Hailey 85.75 329 P **P** **00 21 03.3 +0.9**
SCHQ Schefferville 86.39 1 P **P** **00 21 04.5 -0.5**
comp=Z,3.9nm,0.5s,baz=186,slow=5.0,SNR=17
comp=Z,3.9nm,0.5s
J08A Circle Bar Ran 87.44 326 P **P** **00 21 11.9 +1.4**
J08A IAmb IAmb 00 21 12.8
comp=Z,12nm,0.8s
EGMT Eagleton 87.49 334 P **P** **00 21 11.1 +0.5**
EGMT IAmb IAmb 00 21 12.6
comp=Z,4.9nm,0.8s
LYMT Lyon Mountain 87.60 332 P **P** **00 21 12.2 +0.9**
PLID Pearl Lake 87.65 329 P **P** **00 21 12.5 +0.9**
PLID IAmb IAmb 00 21 13.4
comp=Z,5.2nm,0.8s
OVMT Ovando 87.96 332 P **P** **00 21 13.8 +0.9**
K05A Summer Lake 88.13 325 P **P** **00 21 14.8 +0.9**
K05A IAmb IAmb 00 21 16.3
comp=Z,5.7nm,0.8s
FCC Fort Churchill 92.68 347 P **P** **00 21 35.1 +0.7**
ESDC Sonseca Array 93.36 45 P **P** **00 21 36.9 -1.2**
comp=Z,0.5nm,0.9s,baz=221,slow=3.8,SNR=2.1
comp=Z,0.5nm,0.9s
YKA Yellowknife Ar 100.87 340 P **Pdif** **00 22 11.1 -0.3**
comp=Z,0.5nm,0.8s,baz=140,slow=4.5,SNR=8.4
MMAI Mount Meron Ar 117.68 67 PKP **PKPdf** **00 27 08.8 -0.1**
comp=Z,0.4nm,0.4s,baz=277,slow=2.5,SNR=5.3
BRTR Keskin Array B 118.67 59 PKP **PKPdf** **00 27 10.2 -0.5**
comp=Z,1.0nm,0.7s,baz=207,slow=1.5,SNR=6.6
AKASG Malin Array Be 118.97 46 PKP **PKPdf** **00 27 09.8 -0.8**
comp=Z,0.1nm,0.2s,baz=269,slow=1.8,SNR=4.0
FINES FINESS Array B 119.88 33 PKP **PKiKP** **00 27 12.3 +0.2**
comp=Z,1.9nm,0.9s,baz=305,slow=4.9,SNR=2.1
ASAR Alice Springs 120.53 205 PKP **PKPdf** **00 27 13.2 -1.5**
comp=Z,1.0nm,0.4s,baz=136,slow=1.8,SNR=17
ASAR PKKPbc **PKKPbc** **00 37 18.9 -1.2**
comp=Z,0.3nm,0.5s,baz=346,slow=4.2,SNR=4.5
WRA Warramunga Arr 123.77 207 PKP **PKPdf** **00 27 19.9 -1.0**
comp=Z,3.7nm,0.6s,baz=164,slow=1.7,SNR=61
WRA pPKP **pPKPdf** **00 27 51.8 -1.1**
comp=Z,0.6nm,0.4s,baz=155,slow=1.6,SNR=2.3
WRA PKKPbc **PKKPbc** **00 37 07.7 -0.1**
comp=Z,0.3nm,0.5s,baz=334,slow=4.3,SNR=5.0
KBZ Khabaz 126.40 57 PKP **PKPdf** **00 27 24.8 -0.4**
comp=Z,1.5nm,0.9s,baz=270,slow=1.0,SNR=4.5
GEYT Alibeck 136.80 67 PKP **PKPdf** **00 27 42.8 -2.2**
comp=Z,1.0nm,0.5s,baz=268,slow=5.6,SNR=2.6
BVAR Borovoye Array 144.08 42 PKP PKPbc 00 27 56.6 +0.6
comp=Z,2.5nm,0.7s,baz=308,slow=2.7,SNR=16
EKS2 Erkin-Say 148.82 59 P **PKiKP** **00 28 11.3 -0.2**
SNR=17
USP Ospenovka 149.25 58 P **PKiKP** **00 28 12.1 -0.2**
SNR=18
AAK Ala-Archa 149.34 59 P **PKiKP** **00 28 12.9 +0.2**
SNR=18
UCH Uchtor 149.41 60 P **PKiKP** **00 28 13.4 +0.2**
SNR=13
CHMS Chumysh 149.47 58 P **PKiKP** **00 28 12.6 -0.1**
SNR=9.9
KURBB Kurchatov Arra 149.66 42 PKPbc **PKPbc** **00 28 12.3 +0.5**
comp=Z,7.9nm,0.8s,baz=298,slow=3.1,SNR=49
KURBB pPKPbc **pPKPbc** **00 28 43.7 +0.4**
comp=Z,5.3nm,0.8s,baz=298,slow=3.3,SNR=7.8
KBK Karagaybulak 149.67 59 P **PKiKP** **00 28 13.6 +0.3**
SNR=11
TKM2 Tokmak 2 150.10 58 P **PKPbc** **00 28 13.7 +0.3**
SNR=12
ULHL Ulahol 150.68 59 P **PKiKP** **00 28 15.3 -0.2**
SNR=5.1
KSH Kashi 150.80 65 PKPbc **PKPdf** **00 28 10.1 +0.7**
KSH sPKP 00 28 47.0
ZALV Zalesovo Beam 151.14 33 PKPbc **PKiKP** **00 28 15.6 -0.1**
comp=Z,12nm,0.7s,baz=299,slow=3.1,SNR=67
ZALV pPKPbc **pPKPbc** **00 28 47.1 +0.1**
comp=Z,14nm,0.7s,baz=294,slow=3.1,SNR=13
MKAR Makanchi Array 153.54 48 PKP **PKPdf** **00 28 13.6 +0.5**
comp=Z,0.5nm,0.8s,baz=294,slow=0.7,SNR=5.9
MKAR PKPbc **PKPbc** **00 28 20.8 -0.1**
comp=Z,2.5nm,0.7s,baz=291,slow=2.2,SNR=28
MKAR PKPab **PKPab** **00 28 32.8 -1.0**
comp=Z,4.0nm,0.6s,baz=288,slow=3.3,SNR=19
MJAR Matsushiro Arr 156.95 289 PKPab **PKPab** **00 28 48.4 -0.4**
comp=Z,1.7nm,0.5s,baz=72,slow=2.7,SNR=6.3
CMAR Chiang Mai Arr 162.84 138 PKP **PKPdf** **00 28 25.9 +0.8**
comp=Z,1.5nm,0.3s,baz=254,slow=2.1,SNR=7.1
SONM Songino Array 163.71 11 PKPab **PKPab** **00 29 17.9 0.0**
comp=Z,1.3nm,0.6s,baz=324,slow=5.0,SNR=8.4
GTA Gaotai 168.30 47 PKP **PKPdf** **00 28 30.3 +1.1**
GTA PKPab **PKPab** **00 29 39.3 +0.8**
PZH PanZhiHua 170.39 122 PKP **PKPdf** **00 28 30.1 -0.8**
HHC Hu-ho-hao-te 171.04 357 *eP* **PKPdf** **00 28 32.9 +2.1**
NJ2 Nanjing 173.21 273 *eP* **PKPdf** **00 28 32.1 +0.3**

IDC 13 00:11:22.2±2.1, 7°.29S×128°.40E, h0km, mb3.3/1, mbtmp3.3/3, ML3.3/2, MS2.6/1, Error ellipse: s-maj=128.3km s-min=33.1km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.83**	**156**	Pn		Pn	Pn	00 14 37.9	-1.8
	0.2nm,0.3s,baz=334,slow=12,SNR=18								
WRA				Sn		Sn	Sn	00 17 00.4	-14
	0.3nm,0.3s,baz=336,slow=23,SNR=8.3								
	0.5nm,0.4s								
ASAR	**Alice Springs**	**17.12**	**163**	P		P	P	00 15 24.8	-0.1
	baz=342,slow=10,SNR=2.1								
ASAR				S		Sn	Sn	00 18 23.8	-10
	0.1nm,0.3s,baz=347,slow=24,SNR=1.4								
	0.2nm,0.5s								
KSRS	**Korea Array**	**44.51**	**359**	LR		LR	LR	00 39 37.3	
	comp=Z,6.8nm,18.1s,baz=240,slow=38								
MKAR	**Makanchi Array**	**67.61**	**328**	P		P	P	00 22 20.9	0.0
	0.2nm,0.6s,baz=118,slow=5.5,SNR=4.3								
	0.2nm,0.6s								

*IDC **13** 00:59:26.3±1.0, 56°.00N×149°.84W, h0km, mb4.0/23, mbtmp4.0/27, ML3.9/4, MS3.8/54, Error ellipse: s-maj=26.3km s-min=12.6km az=23.0*
*NEIC **13** 00:59:27.2±1.7, 55°.96N±0°.07×149°.95W±0°.09, h7km±5km, mb4.2/60, ML4.5/50, ML4.3(AEIC), Error ellipse: s-maj=10.4km s-min=7.5km az=174.0*
*GCMT **13** 00:59:29.2±0.4, 55°.81N±0°.03×149°.92W±0°.04, h13km±3km, MW4.7/71, Moment Tensor Solution. s8,c11; s71,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.02±.07; $M_{\theta\theta}$-0.02±.06; $M_{\phi\phi}$0.03±.07; $M_{r\theta}$0.43±.20; $M_{r\phi}$1.25±.07; $M_{\theta\phi}$0.14±.17; Best double couple: $M_0$1.32600×10^{16} NP1:$\phi_1$90.00000°, δ86.00000°, λ19.00000°; NP2: ϕ_2=358.00000°, δ71.00000°, λ176.00000°; Principal axes: T 1.3740, Plg16.0000°, Azm316.0000°; N -0.0960, Plg71.0000°, Azm102.0000°; P -1.2780, Plg10.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*AEIC **13** 00:59:31.5±2.2, 55°.94N±0°.08×149°.87W±0°.10, h12km±4km Error ellipse: s-maj=11.2km s-min=7.8km az=183.0*
*BGR **13** 00:59:43.1, 56°.84N×152°.45W, h33km, mb4.8*
ISC 13 00:59:28.4±1.2, 55°.93N±0°.08×149°.96W±0°.05, h7km±14km, n511, σ1s92/188, mb4.3/85, MS3.8/48, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.25**	**307**	Pn		Pn	Pn	01 00 03.4	-2.6
OHAK				Sn		Sn	**Sn**	**01 00 29.1**	**-5.0**
OHAK	**Old Harbor**	**2.25**	**307**	P		Pn	Pn	01 00 03.6	-2.5
OHAK	**Old Harbor**	**2.25**	**307**	P		Pn	Pn	01 00 03.5	-2.5
	baz=123								
OHAK				S		Sn	**Sn**	**01 00 29.1**	**-5.0**
	baz=123								
KDAK	**Kodiak Island**	**2.35**	**323**	Pn		Pn	Pn	01 00 05.1	-2.4
KDAK				Sn		Sn	**Sn**	**01 00 32.0**	**-4.6**
KDAK	**Kodiak Island**	**2.35**	**323**	S		Sn	**Sn**	**01 00 32.3**	**-4.3**
	baz=141								
KDAK	**Kodiak Island**	**2.35**	**323**	Pn		Pn	Pn	01 00 04.9	-2.5
	154nm,0.3s,baz=148,slow=4.5,SNR=2971								
KDAK				Sn		Sn	**Sn**	**01 00 32.2**	**-4.3**
	83nm,0.3s,baz=324,slow=21,SNR=16								
KDAK				LR		LR	LR	01 01 17.4	
	comp=Z,3μm,19.1s,baz=188,slow=48								
	418nm,0.3s								
SII	**Sitkinak Islan**	**2.44**	**287**			Pn	Pn	01 00 06.1	-2.6
SII						Sn	**Sn**	**01 00 33.4**	**-5.4**
SII	**Sitkinak Islan**	**2.44**	**287**	IAML				01 00 42.1	
	comp=E,1μm,0.6s								
SII				IAML				01 00 46.4	
	comp=N,2μm,0.6s								
SII	**Sitkinak Islan**	**2.44**	**287**	P		Pn	Pn	01 00 06.2	-2.6
	baz=102								
Q20K	**Shuyak Island**	**3.00**	**335**	P		Pn	Pn	01 00 13.9	-2.4
	baz=152								
Q20K				S		Sn	**Sn**	**01 00 48.3**	**-4.1**
	baz=152								
SYI	**Shuyak Island**	**3.00**	**335**	Pn		Pn	Pn	01 00 14.2	-2.1
SYI				Sn		Sn	**Sn**	**01 00 48.5**	**-3.9**
Q19K	**Cape Douglas,**	**3.61**	**328**				Pn	01 00 23.1	-1.6
Q19K						Sn	**Sn**	**01 01 06.0**	**-1.5**
Q19K	**Cape Douglas,**	**3.61**	**328**	P		Pn	Pn	01 00 23.3	-1.4
	baz=145								
KAKN	**Katmai Knife C**	**3.66**	**313**				Pn	01 00 24.2	-1.3
CNPM	**China Poot**	**3.67**	**350**	Pn		Pn	Pn	01 00 22.8	-2.8
CNPM				IAML				01 01 21.8	
	comp=E,384nm,1.0s								
CNPM	**China Poot**	**3.67**	**350**				**Sn**	**01 01 04.3**	**-4.8**
KCE	**Katmai Mt Cerb**	**3.68**	**311**				**Pn**	**01 00 25.7**	**0.0**
ACHA	**Angle Creek He**	**3.72**	**310**				Pn	01 00 25.1	-1.2
ANCK	**Angle Creek**	**3.78**	**309**				Pn	01 00 25.9	-1.3
KVTA	**Katmai Vly 10**	**3.81**	**312**				Pn	01 00 26.4	-1.0
BRSE	**Bradley Lake S**	**3.85**	**354**				**Sn**	**01 01 08.0**	**-5.4**
BRSE	**Bradley Lake S**	**3.85**	**354**	P			Pn	01 00 24.9	-3.1
	baz=173								
BRSE				S			**Sn**	**01 01 08.0**	**-5.4**
	baz=173								
HOM	**Homer**	**3.85**	**347**				Pn	01 00 25.4	-2.6
HOM				IAML				01 01 23.6	
	comp=E,1μm,1.0s								
HOM				IAML				01 01 30.0	
	comp=N,1μm,1.0s								
KAHC	**Katmai Hardscr**	**3.87**	**317**	P		Pn	Pn	01 00 27.3	-1.0
	baz=132								
BRLK	**Bradley Lake**	**3.88**	**353**	Pn		Pn	Pn	01 00 25.0	-3.5
BRLK				Sn			**Sn**	**01 01 10.8**	**-3.5**
BRLK				IAML				01 01 15.8	
	comp=N,350nm,1.1s								
PLK3	**Peulik 3**	**3.89**	**300**				Pn	01 00 27.2	-1.4
AU22	**Augustine Moun**	**3.91**	**334**				Pn	01 00 27.2	-1.5
AUCH	**Augustine Cone**	**3.92**	**333**				Pn	01 00 27.6	-1.4
AUL	**Augustine Lava**	**3.94**	**333**				Pn	01 00 27.9	-1.3
CNTC	**Contact Creek**	**3.99**	**308**				Pn	01 00 28.8	-1.3
Q17K	**Contact Creek**	**3.99**	**308**	P			Pn	01 00 28.8	-1.3
	baz=123								
Q23K	**Middleton Isla**	**4.01**	**27**				Pn	01 00 27.1	-3.1
Q23K	**Middleton Isla**	**4.01**	**27**	IAML				01 01 12.5	
	comp=E,301nm,0.5s								
Q23K	**Middleton Isla**	**4.01**	**27**	P		Pn	Pn	01 00 27.1	-3.1
	baz=211								
MID	**Middleton Isla**	**4.01**	**27**				Pn	01 00 27.2	-3.0
MID	**Middleton Isla**	**4.01**	**27**	IAML				01 01 12.5	
	comp=E,292nm,0.5s								
MID	**Middleton Isla**	**4.01**	**27**	P		Pn	Pn	01 00 27.5	-2.7
KELA	**Mount Kelaz**	**4.03**	**311**				Pn	01 00 29.3	-1.2
PLK1	**Peulik 1**	**4.11**	**300**				Pn	01 00 30.2	-1.3
P19K	**Oil Pt**	**4.12**	**336**				Pn	01 00 29.7	-2.1
P19K				IAML				01 01 20.9	
	comp=N,973nm,0.5s								
P19K	**Oil Pt**	**4.12**	**336**	P		Pn	Pn	01 00 30.1	-1.8
	baz=153								
SEW	**Seward**	**4.20**	**3**				Pn	01 00 29.4	-3.3
SEW	**Seward**	**4.20**	**3**	P		Pn	Pn	01 00 29.6	-3.1
	baz=184								
P23K	**Montague Islan**	**4.30**	**17**				Pn	01 00 31.4	-2.8
P23K	**Montague Islan**	**4.30**	**17**	P		Pn	Pn	01 00 31.4	-2.8
	baz=200								
O20K	**Slope Mountain**	**4.40**	**342**				Pn	01 00 33.1	-2.5
O20K	**Slope Mountain**	**4.40**	**342**	P		Pn	Pn	01 00 33.1	-2.5
	baz=160								
ILSW	**Illamna Southw**	**4.41**	**339**				Pn	01 00 33.0	-2.8
ILSW	**Illamna Southw**	**4.41**	**339**	IAML				01 01 25.8	
	comp=N,283nm,0.4s								
ILSW				IAML				01 01 27.7	
	comp=E,336nm,0.9s								
P18K	**Big Mountain,**	**4.48**	**323**				Pn	01 00 34.5	-2.2
P18K	**Big Mountain,**	**4.48**	**323**	P		Pn	Pn	01 00 34.5	-2.2
	baz=138								
O22K	**Cooper Landing**	**4.57**	**1**				Pn	01 00 35.0	-2.8
O22K	**Cooper Landing**	**4.57**	**1**	P		Pn	Pn	01 00 35.0	-2.8
	baz=182								
ANNE	**Aniakchak Nort**	**4.61**	**286**				Pn	01 00 36.9	-1.6
CHGN	**Chignik**	**4.75**	**278**				Pn	01 00 38.8	-1.5
CHGN	**Chignik**	**4.75**	**278**	IAML				01 01 34.7	
	comp=E,265nm,0.3s								
CHGN				IAML				01 01 37.4	
	comp=N,208nm,0.6s								
CHGN	**Chignik**	**4.75**	**278**	P		Pn	Pn	01 00 38.8	-1.5
	baz=91								
RDSO	**Redoubt South**	**4.77**	**343**				Pn	01 00 37.3	-3.5
RSO	**Redoubt South**	**4.78**	**343**				Pn	01 00 38.0	-3.0
P17K	**Kvichak River**	**4.79**	**316**	P		Pn	Pn	01 00 39.7	-1.1
	baz=130								
O18K	**Koktuh Hills**	**4.83**	**327**				Pn	01 00 39.3	-2.2
O18K	**Koktuh Hills**	**4.83**	**327**	IAML				01 01 46.2	
	comp=E,171nm,0.8s								
O18K				IAML				01 01 55.4	
	comp=N,243nm,1.0s								
O18K	**Koktuh Hills**	**4.83**	**327**	P		Pn	Pn	01 00 38.8	-2.7
	baz=142								
RDT	**Redoubt**	**4.84**	**346**				Pn	01 00 38.0	-3.6
HIN	**Hinchinbrook I**	**4.84**	**21**				Pn	01 00 39.0	-2.6
HIN	**Hinchinbrook I**	**4.84**	**21**	IAML				01 01 33.0	
	comp=E,440nm,0.7s								
HIN				IAML				01 01 34.4	
	comp=N,446nm,0.4s								
O19K	**Port Alsworth**	**4.87**	**333**				Pn	01 00 39.1	-2.8
O19K	**Port Alsworth**	**4.87**	**333**	P			Pn	01 00 39.3	-2.6
	baz=150								
DFR	**Drift River**	**4.89**	**344**				Pn	01 00 39.1	-3.3
CAPN	**Captain Cook N**	**4.90**	**353**	Pn		Pn	Pn	01 00 40.0	-2.3
CAPN	**Captain Cook N**	**4.90**	**353**	P		Pn	Pn	01 00 40.8	-1.6
	baz=172								
NCT	**North Crescent**	**4.91**	**343**				Pn	01 00 39.2	-3.4
KAIM	**Kayak Island**	**4.98**	**34**				Pn	01 00 40.9	-2.6
KAIM	**Kayak Island**	**4.98**	**34**	IAML				01

baz=208
RC01 Rabbit Creek A 5.18 1 Pn 01 00 43.3 -3.0
RC01 Rabbit Creek A 5.18 1 IAML 01 01 41.5
comp=E,210nm,0.3s
RC01 IAML 01 01 44.5
comp=N,289nm,0.4s
RC01 Rabbit Creek A 5.18 1 P Pn 01 00 43.3 -3.0
baz=181
FIS Fire Island 5.23 359 Pn 01 00 44.6 -2.4
FIS Fire Island 5.23 359 IAML 01 01 49.5
comp=N,436nm,0.7s
FIS IAML 01 01 53.2
comp=E,419nm,0.7s
RAGM Ragged Mountai 5.27 30 Pn 01 00 44.9 -2.7
RAGM Ragged Mountai 5.27 30 IAML 01 01 48.2
comp=E,490nm,0.7s
SUCK Suckling Hills 5.30 36 Pn 01 00 45.5 -2.4
SUCK Suckling Hills 5.30 36 IAML 01 01 44.4
comp=N,513nm,0.4s
SUCK IAML 01 01 44.6
comp=E,360nm,0.4s
P16K Nushagak River 5.33 309 Pn 01 00 46.9 -1.5
P16K Nushagak River 5.33 309 P Pn 01 00 46.9 -1.5
baz=122
HMT Hamilton 5.35 32 Pn 01 00 46.3 -2.4
NICHA Nichawak Mount 5.36 34 Pn 01 00 46.5 -2.3
N20K Mount Spurr 5.42 348 P Pn 01 00 46.2 -3.4
baz=166
SPCR Spurr Chakacha 5.42 348 Pn 01 00 46.2 -3.4
O17K Koliganek Bris 5.42 318 Pn 01 00 47.6 -2.0
O17K Koliganek Bris 5.42 318 P Pn 01 00 47.6 -2.0
baz=132
GOAT Goat Mountain 5.42 28 Pn 01 00 47.3 -2.3
N19K Bonanza Creek 5.45 336 Pn 01 00 47.5 -2.5
N19K Bonanza Creek 5.45 336 P Pn 01 00 47.5 -2.5
baz=152
SPCG Spurr Capps Gl 5.49 350 Pn 01 00 47.6 -3.0
SPBG Spurr Blockage 5.49 348 Pn 01 00 47.8 -2.8
BGLC Bering Glacier 5.50 37 Pn 01 00 48.1 -2.5
BGLC Bering Glacier 5.50 37 P Pn 01 00 48.1 -2.5
baz=223
KNK Knik Glacier 5.56 7 Pn 01 00 48.5 -3.0
KNK Knik Glacier 5.56 7 P Pn 01 00 48.5 -3.0
baz=189
SUA Susitna One 5.57 356 Pn 01 00 49.1 -2.6
SUA Susitna One 5.57 356 P Pn 01 00 48.5 -3.2
baz=175
CNBA Chernabura Isl 5.60 263 Pn Pn 01 00 49.6 -2.5
GRIN Grindle Hills 5.61 36 Pn 01 00 50.1 -2.0
SPNN North Nagishla 5.64 346 Pn 01 00 49.7 -3.0
DIV Divide 5.66 21 Pn 01 00 50.5 -2.4
STLK Strandline Lak 5.67 351 Pn 01 00 50.1 -3.0
SNH Sunshine Point 5.70 39 Pn 01 00 51.0 -2.4
O16K Kokwok River B 5.70 314 Pn 01 00 51.8 -1.6
O16K Kokwok River B 5.70 314 P Pn 01 00 51.8 -1.6
baz=126
PMR Palmer 5.70 4 Pn Pn 01 00 51.3 -2.1
PMR Palmer 5.70 4 P Pn 01 00 51.6 -1.8
PMR Palmer 5.70 4 P Pn 01 00 51.1 -2.2
baz=185
N18K Kilae Creek 5.70 329 Pn 01 00 51.0 -2.4
N18K Kilae Creek 5.70 329 P Pn 01 00 51.0 -2.4
baz=144
KHIT Khitrov Hills 5.75 35 Pn 01 00 51.6 -2.6
BMRM Bremner River 5.78 27 Pn 01 00 52.0 -2.6
BMRM Bremner River 5.78 27 P Pn 01 00 52.0 -2.6
baz=212
M22K Willow 5.84 359 Pn 01 00 53.3 -2.1
GHO Glory Hole Cre 5.89 5 Pn 01 00 53.6 -2.5
WAX Waxell Ridge 5.89 37 Pn 01 00 54.1 -2.0
SML Sawmill 5.96 7 Pn Pn 01 00 55.2 -1.8
SML Sawmill 5.96 7 P Pn 01 00 54.8 -2.2
baz=189
SVW2 Sparrevohn 5.96 333 Pn 01 00 54.1 -2.9
SVW2 Sparrevohn 5.96 333 P Pn 01 00 54.0 -3.0
KLU Klutina 5.96 19 P Pn 01 00 55.0 -2.1
baz=202
N17K Nushagak Hills 5.99 323 Pn 01 00 55.2 -2.1
N17K Nushagak Hills 5.99 323 P Pn 01 00 55.2 -2.1
baz=137
SDPT Sand Point 5.99 269 Pn Pn 01 00 56.0 -1.3
SDPT Sand Point 5.99 269 P Pn 01 00 55.4 -1.9
SDPT Sand Point 5.99 269 P Pn 01 00 55.5 -1.8
baz=80
M23K Glacier View 6.00 10 Pn 01 00 55.5 -2.0
M23K Glacier View 6.00 10 P Pn 01 00 55.5 -2.0
baz=192
MESA MESA 6.02 42 Pn 01 00 55.8 -2.1
MESA MESA 6.02 42 P Pn 01 00 55.4 -2.5
baz=229
SCM Sheep Creek Mo 6.08 12 Pn 01 00 56.9 -1.8
SCM Sheep Creek Mo 6.08 12 P Pn 01 00 56.9 -1.8
baz=194
SKT Skwentna 6.12 353 Pn 01 00 56.2 -3.0
SKT Skwentna 6.12 353 P Pn 01 00 56.2 -3.0
baz=172
ISLE Juniper Island 6.17 37 Pn 01 00 57.5 -2.5
BAGL Bagley Icefiel 6.18 39 Pn 01 00 57.4 -2.5
M20K Styx River 6.19 346 Pn 01 00 57.3 -3.0
M20K Styx River 6.19 346 P Pn 01 00 57.3 -3.0
baz=163
O15K Ungalikthiuk R 6.23 306 Pn 01 00 59.1 -1.5
O15K Ungalikthiuk R 6.23 306 P Pn 01 00 59.1 -1.5
baz=117
VRDI Verde Repeater 6.31 30 Pn 01 00 59.5 -2.4
N25K Chitina, Valde 6.34 24 Pn 01 01 00.1 -2.1
N25K Chitina, Valde 6.34 24 P Pn 01 01 00.1 -2.1
baz=208
M18K Stony River 6.36 334 Pn 01 00 59.5 -3.0
M18K Stony River 6.36 334 P Pn 01 00 59.4 -3.0
baz=149
GLB Gilahina Butte 6.39 28 Pn 01 01 00.5 -2.5
KIAG Kiagna River 6.40 35 Pn 01 01 00.6 -2.6
M19K Big River Lodg 6.42 341 Pn 01 01 00.4 -2.9
M19K Big River Lodg 6.42 341 P Pn 01 01 00.4 -2.9
baz=157
SAMH Samovar Hills 6.44 45 **Pn 01 01 01.9 -1.8**
TABL Table Mountain 6.49 42 Pn 01 01 02.0 -2.5
M24K Tolsona, Glenn 6.50 16 **Pn 01 01 02.8 -1.6**
M24K Tolsona, Glenn 6.50 16 P **Pn 01 01 03.0 -1.4**
baz=199
CUT Chulitna 6.50 359 Pn Pn 01 01 02.1 -2.2
N16K Nishlik Lake 6.51 318 Pn 01 01 03.4 -1.2
N16K Nishlik Lake 6.51 318 P Pn 01 01 03.4 -1.2
baz=130
MCARA McCarthy VSAT 6.56 31 Pn 01 01 02.9 -2.2
PTPK Patty Peak 6.57 34 Pn 01 01 03.2 -2.3
PCA Pinnacle 6.63 47 Pn 01 01 04.0 -2.2
PINM Pinnacle 6.63 47 P Pn 01 01 04.1 -2.3
baz=235
PS1A Pavlof South-1 6.69 271 Pn 01 01 05.1 -1.9
WASW Wrangell South 6.72 24 Pn 01 01 05.5 -2.1
M17K Holitna River 6.73 328 Pn 01 01 05.5 -2.0
M17K Holitna River 6.73 328 P Pn 01 01 05.5 -2.0
baz=141
BARN Barnard Glacie 6.73 37 Pn 01 01 05.3 -2.4
WACK Wrangell Chich 6.74 23 Pn 01 01 06.0 -1.8
L19K White Mountain 6.76 340 Pn 01 01 04.9 -3.0
L19K White Mountain 6.76 340 P Pn 01 01 04.9 -3.0
baz=156
PS4A Pavlof South-4 6.76 270 Pn 01 01 05.8 -2.3
WAT6 Susitna Watana 6.77 9 Pn 01 01 06.1 -2.1
PNL Peninsula 6.77 52 Pn 01 01 05.9 -2.3
PNL Peninsula 6.77 52 P Pn 01 01 06.0 -2.2
CTGM Chitina Glacie 6.78 38 Pn 01 01 06.0 -2.4
HAG Hague Volcano 6.80 270 Pn 01 01 06.5 -2.0
LOGN Logan Glacier 6.80 40 Pn 01 01 06.1 -2.5
BCPM Bancas Point 6.81 49 Pn 01 01 06.6 -2.1
PN7A Pavlof North-7 6.83 271 Pn 01 01 07.3 -1.7
N15K Kwethluk River 6.85 312 Pn 01 01 08.2 -1.0
N15K Kwethluk River 6.85 312 P Pn 01 01 08.2 -1.0
baz=124
L20K Farewell, AK 6.87 345 Pn 01 01 06.2 -3.4
L20K Farewell, AK 6.87 345 P Pn 01 01 06.2 -3.4
baz=161
O14K Tigyukauivet M 6.93 303 Pn 01 01 09.0 -1.3
O14K Tigyukauivet M 6.93 303 P Pn 01 01 09.0 -1.3
baz=114
HARP HAARP 6.94 19 **Pn 01 01 09.0 -1.5**
WAT7 Susitna Watana 6.95 4 Pn 01 01 08.3 -2.3
M16K Timber Creek 6.95 321 Pn 01 01 09.0 -1.6
M16K Timber Creek 6.95 321 P Pn 01 01 09.0 -1.6
baz=133
WAT1 Susitna Watana 6.96 5 Pn 01 01 08.4 -2.3
baz=186
L18K Granite Mounta 7.20 334 Pn 01 01 11.0 -2.9
L18K Granite Mounta 7.20 334 P Pn 01 01 11.0 -2.9
baz=148
DHY Denali Highway 7.29 9 Pn 01 01 13.2 -2.1
DHY Denali Highway 7.29 9 P Pn 01 01 13.2 -2.1
baz=192
M15K Kasigluk River 7.40 315 Pn 01 01 15.2 -1.4
M26K Nabesna, AK 7.41 26 Pn 01 01 14.9 -2.0
M26K Nabesna, AK 7.41 26 P Pn 01 01 14.9 -2.0
baz=212
N14K Kuskokwak Cree 7.42 308 Pn 01 01 15.4 -1.5
N14K Kuskokwak Cree 7.42 308 P Pn 01 01 15.4 -1.5
baz=117
PAX Paxson 7.42 16 Pn 01 01 15.2 -1.9
PAX Paxson 7.42 16 P Pn 01 01 15.2 -1.9
baz=200
O29M Mount Kennedy 7.45 49 Pn 01 01 15.5 -2.0
O29M Mount Kennedy 7.45 49 P Pn 01 01 15.5 -2.0
baz=239
P29M Windy Craggy 7.51 55 Pn 01 01 15.6 -2.7
P29M Windy Craggy 7.51 55 P Pn 01 01 15.6 -2.7
baz=246
YUK2 White River 7.53 35 **Pn 01 01 17.0 -1.7**
TRF Thorofare Moun 7.55 359 **Pn 01 01 17.5 -1.4**
TRF Thorofare Moun 7.55 359 P Pn 01 01 16.3 -2.6
baz=178
L17K Donlin 7.56 329 Pn 01 01 16.7 -2.2
L17K Donlin 7.56 329 P Pn 01 01 17.0 -1.9
baz=142
CAST Castle Rocks 7.59 353 Pn 01 01 17.6 -1.7
CAST Castle Rocks 7.59 353 P Pn 01 01 17.2 -2.2
baz=171
L16K Owhat River 7.61 324 Pn 01 01 17.4 -2.2
M27K Edge Creek, AK 7.67 29 **Pn 01 01 18.7 -1.8**
M27K Edge Creek, AK 7.67 29 P **Pn 01 01 18.7 -1.8**
baz=216
KTH Kantishna Hill 7.67 357 Pn 01 01 18.4 -2.0
TTA Tatalina 7.67 339 P Pn 01 01 17.1 -3.4
K20K Telida 7.74 346 Pn 01 01 17.8 -3.6
K20K Telida 7.74 346 P Pn 01 01 18.0 -3.3
baz=162
S31K Pelican 7.78 69 Pn 01 01 17.6 -4.3
S31K Pelican 7.78 69 P Pn 01 01 17.6 -4.3
baz=261
MCK McKinley 7.85 3 **Pn 01 01 21.5 -1.3**
MCK McKinley 7.85 3 P Pn 01 01 21.2 -1.6
baz=184
ISLZ Isanotski Laza 7.94 267 Pn 01 01 22.1 -2.0
M14K Bethel 7.95 312 Pn 01 01 22.7 -1.5
M14K Bethel 7.95 312 P Pn 01 01 22.7 -1.5
baz=122
ISNN Isanotski Nort 7.95 268 Pn 01 01 22.6 -1.7
K17K Iditarod 8.03 331 Pn 01 01 22.8 -2.5
K17K Iditarod 8.03 331 P Pn 01 01 22.8 -2.5
baz=144
P30M Million Dollar 8.07 53 **Pn 01 01 24.9 -1.2**
P30M Million Dollar 8.07 53 P Pn 01 01 23.8 -2.2
baz=244
SSLS Shishaldin Sou 8.10 267 Pn 01 01 24.6 -1.8
HYT Haines Junctio 8.18 48 **Pn 01 01 25.6 -1.8**
HYT Haines Junctio 8.18 48 P **Pn 01 01 25.6 -1.8**
baz=239
SIT Sitka 8.18 76 Pn Pn 01 01 23.0 -4.4
BPAW Bear Paw Mtn. 8.21 357 Pn 01 01 24.6 -3.4
BPAW Bear Paw Mtn. 8.21 357 P Pn 01 01 24.6 -3.4
baz=176
L27K Beaver Creek, 8.26 27 Pn 01 01 26.2 -2.3
L27K Beaver Creek, 8.26 27 P Pn 01 01 25.9 -2.6
baz=214
BWN Browne 8.28 1 Pn **Pn 01 01 28.0 -0.7**
L15K Ungalak Mounta 8.30 319 Pn 01 01 27.3 -1.8
L15K Ungalak Mounta 8.30 319 P Pn 01 01 27.0 -2.1
baz=129
M13K Dall Lake 8.38 308 Pn 01 01 29.1 -1.1
M13K Dall Lake 8.38 308 P Pn 01 01 28.9 -1.2
baz=116
WESE West Dahl East 8.50 266 Pn 01 01 30.2 -1.7
J20K Nowinta River 8.54 348 Pn 01 01 29.6 -2.7
J20K Nowinta River 8.54 348 P Pn 01 01 28.7 -3.6
baz=164
L14K Kuka Creek 8.56 315 Pn 01 01 31.2 -1.5
L14K Kuka Creek 8.56 315 P Pn 01 01 31.2 -1.5
baz=124
J19K Poorman 8.57 343 Pn Pn 01 01 30.2 -2.6
SKAG Skagway 8.59 60 P **Pn 01 01 31.3 -1.8**
S32K Killisnoo 8.61 73 Pn Pn 01 01 30.4 -2.8
S32K Killisnoo 8.61 73 P Pn 01 01 29.5 -3.7
baz=266
BESE Bessie Mountai 8.61 66 Pn 01 01 30.8 -2.5
WRH Wood River Hil 8.62 5 Pn 01 01 31.0 -2.4
N30M Aishikik Lake 8.69 45 **Pn 01 01 32.5 -1.9**
NEA2 Nenana 8.71 3 Pn 01 01 32.3 -2.3
K15K Wolf Creek Mou 8.72 322 Pn 01 01 33.3 -1.4
R32K Eaglecrest 8.73 68 Pn **Pn 01 01 33.0 -1.9**
O30N Mendenhall 8.75 51 Pn 01 01 33.1 -2.1
M29M Somme Creek 8.79 37 **Pn 01 01 34.2 -1.8**
JIS Juneau Island 8.80 68 **Pn 01 01 34.1 -1.7**
JIS Juneau Island 8.80 68 P **Pn 01 01 33.9 -1.9**
ILAR Eielson Array 9.00 8 Pn Pn 01 01 36.5 -2.1
comp=E,1.4nm,0.3s,baz=189,slow=13,SNR=46
ILAR Sn Sn 01 03 11.6 -8.5
comp=E,4.0nm,0.3s,baz=310,slow=9.2,SNR=9.6
ILAR LR LR 01 05 14.7
comp=E,383nm,19.4s,baz=218,slow=39
COLA College 9.04 6 **Pn 01 01 38.2 -0.9**
COLA College 9.04 6 P **Pn 01 01 37.6 -1.5**
MDM Murphy Dome 9.10 5 Pn 01 01 38.1 -2.0
J16K Anvik River 9.13 328 Pn 01 01 37.9 -2.5
WHY Whitehorse 9.24 53 **Pn 01 01 40.3 -1.8**
I23K Minto, Yukon-K 9.26 2 Pn 01 01 39.9 -2.2
AKUT Akutan 9.26 265 Pn Pn 01 01 41.0 -1.2
POKR Poker Plat Res 9.30 7 Pn 01 01 40.5 -2.3
L29M L29M 9.37 35 **Pn 01 01 41.9 -1.8**
P32M Atlin 9.42 60 Pn 01 01 42.1 -2.4
U33K Whale Pass 9.43 82 Pn Pn 01 01 40.6 -3.9
M30M Minto, Yukon 9.47 40 Pn 01 01 43.0 -2.1
J14K Nanvaranak Lak 9.73 320 **Pn 01 01 48.0 -0.6**
WRAK Wrangell Islan 9.83 80 Pn **Pn 01 01 49.4 -0.7**
PRP Porcupine Dome 9.86 11 Pn 01 01 48.0 -2.5
Q32M Nakina River 10.00 65 Pn **Pn 01 01 51.6 -0.9**
H18K Honhosa River 10.13 339 Pn Pn 01 01 51.8 -2.2
H19K Roundabout Mou 10.13 344 Pn 01 01 51.7 -2.4
IMAR Indian Mountai 10.26 351 **Pn 01 01 54.4 -1.4**
MAYO Mayo, Yukon 10.44 37 Pn Pn 01 01 55.2 -3.1
S34M Telegraph Cree 10.48 71 Pn **Pn 01 01 58.5 -0.4**
FARO Faro, Yukon 10.61 47 Pn **Pn 01 02 00.1 -0.6**
I28M Miner Creek 10.72 23 **Pn 01 02 01.8 -0.5**
R33M Jennings River 10.74 63 Pn **Pn 01 02 01.2 -1.4**
G19K Purcell Mounta 10.81 344 Pn **Pn 01 02 02.1 -1.2**
G23K Bananza Creek 10.82 360 Pn Pn 01 02 01.2 -2.4
G18K Tagagawik 10.84 341 Pn 01 02 02.2 -1.7
T35M Bob Quinn 10.95 76 Pn **Pn 01 02 07.6 +2.1**
DLBC Dease Lake 11.10 69 Pn **Pn 01 02 05.5 -1.9**
comp=E,0.7nm,0.3s,baz=246,slow=8.9,SNR=7.4
DLBC Sn Sn **01 04 05.8 -5.8**
comp=E,0.6nm,0.3s,baz=246,slow=21,SNR=1.4
DLBC LR LR 01 05 36.2
comp=E,545nm,19.2s,baz=274,slow=34
comp=E,1.6nm,0.3s
G16K Koyuk River 11.25 333 Pn 01 02 08.1 -1.2
I30M Mount Dempster 11.44 30 **Pn 01 02 11.3 -0.8**
F21K Alatna River 11.46 353 Pn Pn 01 02 10.7 -1.6
F20K Avaraart Lake 11.49 349 Pn 01 02 11.1 -1.6
ANM Nome 11.53 325 **Pn 01 02 12.2 -0.9**
F19K Shaleruckik Mo 11.55 344 Pn **Pn 01 02 12.3 -1.2**
G27K Dayton Strip 11.61 17 Pn **Pn 01 02 13.9 -0.4**
MMPY Sheldon Lake, 11.64 47 Pn **Pn 01 02 14.4 -0.4**
H29M Whitestone 11.72 24 **Pn 01 02 15.6 -0.3**
BMAR Burnt Mountain 11.81 10 **Pn 01 02 15.9 -1.3**
F17K Baldwin Pennin 11.84 337 Pn Pn 01 02 15.6 -1.9
EPYK Eagle Plains 12.23 26 Pn **Pn 01 02 23.7 +0.8**
E22K Anaktuvuk Pass 12.28 357 **Pn 01 02 23.8 +0.3**
E25K Arctic Village 12.40 8 **Pn 01 02 24.4 -0.8**
H31M Peel River 12.44 31 Pn **Pn 01 02 24.5 -1.2**
E18K Tukpahlearik C 12.56 341 Pn Pn 01 02 25.9 -1.5
F28M Old Crow 12.63 18 **Pn 01 02 28.6 +0.3**
TOLK Toolik Lake Re 12.76 1 **Pn 01 02 30.2 +0.1**
E27K Coleen River 12.89 14 **Pn 01 02 30.9 -1.0**
D22K Ayikyak River 13.06 356 Pn **Pn 01 02 33.2 -1.0**
D19K Kuna River 13.15 347 **Pn 01 02 34.8 -0.6**
G31M Satah River 13.28 28 **Pn 01 02 36.1 -1.0**
BBB Bella Bella 13.35 97 LR LR 01 06 08.4
comp=E,299nm,20.6s,baz=291,slow=30
D25K Kavik River 13.54 5 Pn **Pn 01 02 39.4 -1.3**
E28M Babbage River 13.58 16 **Pn 01 02 41.3 +0.1**
E29M Blow River 13.67 19 Pn **Pn 01 02 41.8 -0.7**
F31M Tsiigehtchic 13.81 27 Pn **Pn 01 02 43.1 -1.1**
B21K Ikpikpuk River 13.90 353 Pn Pn 01 02 43.4 -2.2
C19K Lookout Ridge 13.92 346 Pn Pn 01 02 42.9 -3.0
B20K Meade River 14.49 350 Pn 01 02 50.8 -2.8
INK Inuvik 14.53 25 Pn **Pn 01 02 52.4 -1.7**
INK Inuvik 14.53 25 Pn **Pn 01 02 52.8 -1.3**
comp=E,0.2nm,0.3s,baz=208,slow=15,SNR=26
INK LR LR 01 08 44.6
comp=E,416nm,20.0s,baz=189,slow=39
comp=E,16nm,1.1s
FLDN Fort Liard 14.60 62 **Pn 01 02 53.0 -2.2**
WRGLY Wrigley 15.19 50 Pn **Pn 01 03 02.1 -0.9**
C36M Paulatuk 17.74 31 **Pn 01 03 32.9 -2.6**
HILA High Level 17.91 68 **Pn 01 03 36.4 -1.4**
YKAB2 New Yellowknif 19.05 56 P **P 01 03 49.6 -1.2**
YKA Yellowknife Ar 19.05 55 P **P 01 03 50.0 -0.9**
YKA Yellowknife Ar 19.05 55 P **P 01 03 50.1 -0.7**
comp=E,0.2nm,0.3s,baz=264,slow=10,SNR=53
YKA LR LR 01 11 01.3
comp=E,318nm,18.0s,baz=254,slow=37
comp=E,4.4nm,0.8s
A36M Sachs Harbour 19.16 23 **P 01 03 51.8 -0.2**
LTY Liberty 20.03 103 P **P 01 04 00.4 -1.3**
LTY IAmb IAmb 01 04 12.7
comp=Z,9.0nm,0.9s
B08A Colville Reser 20.13 99 P **P 01 04 01.8 -1.0**
B08A IAmb IAmb 01 04 06.1
comp=Z,9.8nm,1.1s
MXC Moxie City 20.64 104 P **P 01 04 07.2 -1.2**
MXC IAmb IAmb 01 04 11.8
comp=Z,11nm,1.2s
H04D Lebanon 20.67 112 P **P 01 04 08.3 -0.4**
H04D IAmb IAmb 01 04 23.6
comp=Z,16nm,1.1s
HOOD Mount Hood Mea 20.71 109 P **P 01 04 07.0 -2.2**
HOOD IAmb IAmb 01 04 22.2
comp=Z,9.6nm,0.8s
H04A Detroit Lake 20.85 111 P **P 01 04 08.9 -1.7**
H04A IAmb IAmb 01 04 15.2
comp=Z,13nm,1.1s
E07A Sunnyside 20.89 104 P **P 01 04 09.7 -1.4**
E07A IAmb IAmb 01 04 22.3
comp=Z,11nm,1.2s
I03D Drain, OR 20.93 115 P **P 01 04 09.7 -1.7**
G05A Wamic 20.94 109 P **P 01 04 10.4 -1.1**
C09A Chrisman Ranch 21.03 99 P **P 01 04 11.3 -1.3**
SHEM Shemya Is, Ala 21.05 276 LR LR 01 12 17.0
comp=Z,150nm,21.1s,baz=326,slow=36
D08A Wollman Farm, 21.11 102 P **P 01 04 11.1 -2.3**
D08A IAmb IAmb 01 04 16.5
comp=Z,8.8nm,1.1s
HAWA Hanford 21.17 104 P **P 01 04 12.1 -2.0**
EDM Edmonton 21.23 82 P **P 01 04 14.1 -0.5**
EDM IAmb IAmb 01 04 44.1
comp=Z,21nm,1.3s
I04A Tendick Farm, 21.34 113 P **P 01 04 15.1 -0.8**
I04A IAmb IAmb 01 04 35.2
comp=Z,13nm,1.0s
E08A Dider Farm, El 21.37 103 P **P 01 04 13.1 -3.1**
E08A IAmb IAmb 01 04 49.7
comp=Z,8.1nm,1.1s
NEW Newport 21.41 97 P **P 01 04 14.7 -2.0**
NEW Newport 21.41 97 P **P 01 04 14.7 -2.0**
comp=Z,7.3nm,1.1s,baz=297,slow=6.8,SNR=3.6
NEW LR LR 01 11 13.9
comp=Z,186nm,20.4s,baz=298,slow=33
comp=Z,7.3nm,1.1s
K02D Willamette Mer 21.49 117 P **P 01 04 15.9 -1.7**
I05D Terrebonne, OR 21.53 111 P **P 01 04 16.1 -1.8**
E09A Wood Farm, Sta 21.86 102 P **P 01 04 20.3 -1.1**
E09A IAmb IAmb 01 04 21.9
comp=Z,15nm,1.4s
G08A Pilot Rock 22.18 106 P **P 01 04 23.3 -1.7**
G08A IAmb IAmb 01 04 39.8
comp=Z,9.6nm,1.3s
I07A Izee 22.68 109 P **P 01 04 28.5 -1.8**
I07A IAmb IAmb 01 04 57.0
comp=Z,11nm,1.2s
YBH Yreka Blue Hor 22.68 117 LR LR 01 11 04.5
comp=Z,392nm,21.4s,baz=333,slow=31
F10A Beach Ranch, E 22.69 102 P **P 01 04 29.1 -1.4**
BILL Bilibino 23.26 319 P **P 01 04 33.7 -2.3**
KMRM Mail Ridge 23.34 121 P **P 01 04 36.3 -0.9**
PLID Pearl Lake 23.92 103 P **P 01 04 41.5 -1.5**
WVOR Wild Horse Val 24.27 111 P **P 01 04 44.8 -1.3**
WVOR IAmb IAmb 01 04 56.1
comp=Z,6.5nm,0.9s
LYMT Lyon Mountain 24.85 95 P **P 01 04 49.9 -1.6**
ORV Oroville 24.93 119 P **P 01 04 50.9 -1.1**
MFID Camas Ranch 25.10 105 P **P 01 04 52.4 -1.2**
MFID IAmb IAmb 01 04 55.3
comp=Z,9.2nm,1.4s
MPK Martis Peak 25.86 117 P **P 01 04 59.5 -1.3**
PAHR Pah Rah Range 25.87 116 P **P 01 04 59.0 -1.7**
PAHR IAmb IAmb 01 05 10.9
comp=Z,5.3nm,1.0s
BMN Battle Mountai 26.45 112 P **P 01 05 05.4 -0.5**
KVN Kaiserville 27.02 115 P **P 01 05 09.2 -1.9**
RYN Ryan 27.12 116 P **P 01 05 10.9 -1.2**
ELK Elko 27.26 109 P **P 01 05 12.5 -0.9**
ELK Elko 27.26 109 LR LR 01 14 01.0
comp=Z,190nm,21.1s,baz=312,slow=32
NVAR Mina Array Bea 27.39 116 P **P 01 05 12.0 -2.5**
NVAR Mina Array Bea 27.39 116 P **P 01 05 13.9 -0.6**
comp=Z,2.1nm,1.1s,baz=303,slow=7.5,SNR=7.9
NVAR LR LR 01 14 20.9
comp=Z,341nm,18.3s,baz=282,slow=33
comp=Z,2.1nm,1.1s
LHV Little Huntoon 27.42 117 P **P 01 05 13.7 -0.8**
LHV IAmb IAmb 01 05 17.3
comp=Z,4.4nm,1.0s
IMW Indian Meadow 27.47 99 P **P 01 05 13.8 -1.4**
FXWY Fox Creek 27.59 100 P **P 01 05 15.3 -1.0**
MDPB Devils Postpil 27.62 118 P **P 01 05 15.3 -1.3**
RES Resolute Bay 28.05 28 P **P 01 05 18.0 -1.8**
RES IAmb IAmb 01 05 45.2
comp=Z,6.3nm,1.2s
RES Resolute Bay 28.05 28 LR LR 01 16 56.5
comp=Z,232nm,18.7s,baz=252,slow=38
LCH Last Change Ra 28.64 117 P **P 01 05 24.1 -1.4**
LCH IAmb IAmb 01 05 36.0
comp=Z,4.5nm,1.5s
Q12A Willow Creek R 28.72 111 P **P 01 05 24.7 -1.6**
Q12A IAmb IAmb 01 05 35.0
comp=Z,4.4nm,0.8s
R11B Troy Canyon, C 28.84 113 P **P 01 05 26.0 -1.3**
R11B IAmb IAmb 01 05 36.2
comp=Z,2.6nm,0.8s
PD31 Pinedale Array 28.97 100 P **P 01 05 25.9 -2.7**
PDAR Pinedale Array 28.97 100 P **P 01 05 26.4 -2.2**
comp=Z,0.2nm,0.3s,baz=305,slow=3.2,SNR=2.7
PDAR LR LR 01 15 08.7
comp=Z,66nm,20.6s,baz=315,slow=33
comp=Z,0.2nm,0.3s
SPR3 Spring Creek 3 29.01 111 P **P 01 05 27.9 -1.2**
SPR3 IAmb IAmb 01 05 44.2
comp=Z,4.0nm,1.0s
SEY Seymchan 29.22 308 LR LR 01 18 25.0
comp=Z,437nm,18.0s,baz=35,slow=39
S11A Rachel 29.29 114 P **P 01 05 31.2 -0.1**
WCT Wildcat Mounta 29.50 116 P **P 01 05 31.1 -1.9**
WCT IAmb IAmb 01 05 35.2
comp=Z,3.4nm,1.1s
FCC Fort Churchill 29.54 61 P **P 01 05 31.8 -1.3**
PETK Petropavlovsk- 29.91 287 P **P 01 05 35.5 -1.1**
comp=Z,1.7nm,0.8s,baz=72,slow=14,SNR=2.1
PETK LR LR 01 18 36.4
comp=Z,84nm,18.7s,baz=84,slow=38
comp=Z,1.7nm,0.8s
GWY Greenwater Val 29.95 117 P **P 01 05 34.9 -2.3**
GWY IAmb IAmb 01 05 45.9
comp=Z,2.6nm,0.9s
MSU Marysvale 30.51 109 P **P 01 05 40.8 -1.4**
MA2 Magadan 30.92 302 LR LR 01 19 33.1
comp=Z,313nm,18.1s,baz=80,slow=39
LCMT Little Creek M 31.06 112 P **P 01 05 45.4 -1.6**
LCMT IAmb IAmb 01 05 49.2
comp=Z,3.9nm,1.3s
RSSD Black Hills 31.19 93 P **P 01 05 45.6 -2.6**
RSSD IAmb IAmb 01 06 07.8

V12A **Nelson** 31.22 115 P P **01 05 46.9 -1.5**
V12A IAmb IAmb 01 05 57.5
comp=Z,4.6nm,1.1s
PFO Pinyon Flats O 32.10 120 LR LR 01 16 08.0
comp=Z,232nm,20.4s,baz=331,slow=31
W13A **Hualapai Mount 32.20 115** P P **01 05 55.7 -1.5**
W13A IAmb IAmb 01 06 00.6
comp=Z,2.5nm,1.1s
ULM Lac du Bonnet 32.25 77 P P **01 05 54.4 -2.8**
comp=Z,0.7nm,0.6s,baz=4.5,slow=9.3,SNR=1.9
comp=Z,0.7nm,0.6s
X16A Lo Mia Camp, P 33.99 113 P P **01 06 11.2 -1.5**
TIXI Tiksi 35.77 328 LR LR 01 23 48.4
comp=Z,90nm,18.4s,baz=28,slow=41
ANMO Albuquerque 36.22 107 LR LR 01 20 34.6
comp=Z,80nm,18.4s,baz=50,slow=35
KULLO **Kullorsuaq 37.88 26** *eP* P **01 06 45.8 +0.4**
KULLO IAmb IAmb 01 06 46.3
comp=Z,7.2nm,0.9s
NEEM North Greenlan 38.05 21 *eP* P **01 06 46.8 -0.3**
NEEM IAmb IAmb 01 06 48.3
comp=Z,7.0nm,0.9s
FRB Frobisher Bay 38.95 44 LR LR 01 23 01.3
comp=Z,401nm,19.2s,baz=290,slow=36
YAK Yakutsk 39.34 313 LR LR 01 25 50.8
comp=Z,127nm,18.5s,baz=102,slow=40
NOR Nord 40.46 9 *eP* P **01 07 08.2 +1.3**
TXAR Lajitas Array 42.06 110 P P **01 07 19.4 -1.3**
comp=Z,0.9nm,0.9s,baz=324,slow=6.2,SNR=6.3
TXAR LR LR 01 24 01.4
comp=Z,111nm,18.2s,baz=344,slow=35
comp=Z,0.9nm,0.9s
LPIG La Paz 42.97 121 LR LR 01 22 36.4
comp=Z,134nm,19.3s,baz=350,slow=32
ASAJ Asahikawa 43.21 284 LR LR 01 25 49.2
comp=Z,33nm,19.4s,baz=164,slow=37
SUMG Summit 43.45 24 P P **01 07 30.4 -1.4**
SUMG Summit 43.45 24 *i* P P **01 07 30.0 -1.8**
SUMG IAmb IAmb 01 07 34.2
comp=Z,6.5nm,0.8s
SFJD Kangerlussuaq 43.60 34 LR LR 01 25 22.0
comp=Z,145nm,20.7s,baz=284,slow=36
DAG Danmarks Havn 44.04 14 *i* P P **01 07 34.0 -2.1**
DAG IAmb IAmb 01 07 37.5
comp=Z,11nm,1.0s
SCHQ Schefferville 44.51 55 LR LR 01 26 13.3
comp=Z,163nm,18.3s,baz=310,slow=36
SADO Sadowa 44.61 73 LR LR 01 25 08.5
comp=Z,47nm,20.8s,baz=10.0,slow=35
ICESG Greenland Ices 45.46 28 *eP* P **01 07 47.7 -0.2**
ICESG IAmb IAmb 01 07 49.8
comp=Z,6.7nm,0.8s
KLR Kul'dur 45.65 296 LR LR 01 28 20.9
comp=Z,66nm,19.0s,baz=40,slow=38
DBG Daneborg 45.78 17 *eP* P **01 07 49.1 -0.8**
DBG IAmb IAmb 01 07 50.3
comp=Z,9.0nm,0.9s
NRIK Noril'sk 48.28 336 P P **01 08 08.5 -1.0**
comp=Z,1.7nm,0.5s,baz=53,slow=7.8,SNR=4.8
NRIK LR LR 01 31 04.9
comp=Z,163nm,20.2s,baz=34,slow=39
comp=Z,1.7nm,0.5s
TKL Tuckaleechee C 48.33 86 LR LR 01 28 25.9
comp=Z,205nm,19.3s,baz=324,slow=36
H11N2 WAKE ISLAND Hy 48.38 240 T T 02 00 18.7
baz=31,slow=76,SNR=15
H11N3 WAKE ISLAND Hy 48.38 239 T T 02 00 20.0
baz=31,slow=76,SNR=16
H11N1 WAKE ISLAND Hy 48.40 240 T T 02 00 22.1
baz=31,slow=76,SNR=12
USRK Ussuriysk Ar. 48.85 291 LR LR 01 28 52.2
comp=Z,65nm,20.4s,baz=80,slow=36
H11S1 WAKE ISLAND Hy 49.52 239 T T 02 02 26.4
baz=29
H11S2 WAKE ISLAND Hy 49.53 239 T T 02 02 24.3
baz=29,slow=74
H11S3 WAKE ISLAND Hy 49.53 239 T T 02 02 25.1
baz=29,slow=74
JMIC Jan Mayen 50.46 15 LR LR 01 31 07.0
comp=Z,36nm,20.7s,baz=354,slow=38
ARCES ARCESS Array B 54.80 2 P P **01 08 56.2 -2.1**
comp=Z,3.9nm,1.1s,baz=14,slow=9.3,SNR=1.5
comp=Z,3.9nm,1.1s
CMIG Matias Romero 56.66 110 LR LR 01 32 32.3
comp=Z,86nm,19.2s,baz=356,slow=35
TEIG Tepich 57.67 102 LR LR 01 36 08.2
comp=Z,366nm,18.9s,slow=38
SONM Songino Array 58.58 310 P P **01 09 25.1 -0.5**
comp=Z,0.8nm,0.5s,baz=42,slow=5.1,SNR=11
SONM LR LR 01 37 11.0
comp=Z,172nm,18.3s,baz=37,slow=39
comp=Z,0.8nm,0.5s
HHC Hu-ho-hao-te 61.60 301 *eP* P **01 09 45.8 -0.6**
HHC sP pwP 01 09 52.0 -1.4
HHC pmax pmax
comp=Z,18nm,0.5s
HHC pmax pmax
comp=Z,83nm,5.2s
ZALV Zalesovo Beam 61.65 327 P P **01 09 45.6 -0.8**
comp=Z,1.5nm,0.6s,baz=37,slow=7.2,SNR=8.8
ZALV LR LR 01 38 16.7
comp=Z,42nm,18.4s,baz=21,slow=38
comp=Z,1.5nm,0.6s
NB2 NORSAR Subarra 62.43 10 P P **01 09 50.3 -1.3**
comp=Z,3.0nm,0.8s,baz=348,slow=6.9
NOA NORSAR Array B 62.43 10 P P **01 09 49.8 -1.7**
comp=Z,0.8nm,0.6s,baz=350,slow=6.4,SNR=3.8
NOA LR LR 01 37 26.1
comp=Z,26nm,21.3s,baz=0.0,slow=37
comp=Z,0.8nm,0.6s
FINES FINESS Array B 62.93 2 P P **01 09 52.8 -1.9**
comp=Z,1.0nm,0.6s,baz=3.2,slow=10,SNR=8.5
comp=Z,1.0nm,0.6s
HFS Hagfors 63.56 9 P P **01 09 57.5 -1.5**
comp=Z,1.6nm,0.6s,baz=40,slow=5.8,SNR=7.3
HFS LR LR 01 39 32.0
comp=Z,31nm,18.1s,baz=343,slow=38
comp=Z,1.6nm,0.6s
KIRV Kirov 64.78 349 LR LR 01 42 27.5
comp=Z,56nm,19.0s,baz=32,slow=40
ARU Arti 65.63 343 LR LR 01 42 15.6
comp=Z,53nm,18.6s,baz=16,slow=39
EKA Eskdalemuir Ar 65.84 20 P P **01 10 12.2 -1.7**
comp=Z,0.8nm,0.6s,baz=319,slow=4.8,SNR=4.9
comp=Z,0.8nm,0.6s
BVAR Borovoye Array 66.44 335 P P **01 10 16.5 -1.4**
comp=Z,1.2nm,0.5s,baz=355,slow=4.9,SNR=8.3
BVAR LR LR 01 45 53.4
comp=Z,88nm,18.2s,baz=31,slow=42
comp=Z,1.2nm,0.5s
KURBB **Kurchatov Arra 66.45 329** P P **01 10 16.3 -1.6**
comp=Z,0.6nm,0.5s,baz=29,slow=6.6,SNR=5.8
KURBB LR LR 01 44 10.7
comp=Z,112nm,18.5s,baz=163,slow=40
comp=Z,0.6nm,0.5s
JTS Las Juntas de 67.62 105 LR LR 01 41 08.3
comp=Z,47nm,18.1s,baz=3.0,slow=37
MKAR Makanchi Array 68.66 324 P P **01 10 30.5 -1.6**
comp=Z,1.3nm,0.7s,baz=43,slow=6.3,SNR=15
MKAR LR LR 01 44 44.1
comp=Z,93nm,18.6s,baz=49,slow=40
comp=Z,1.3nm,0.7s
BSEG Bad Segeberg 69.31 12 *eP* P 01 10 43.9 +8.0
comp=Z,6.4nm,0.9s,baz=351,slow=6.0
CLZ Clausthal 71.37 13 *eP* P 01 10 57.3 +8.7
comp=Z,12nm,0.9s,baz=351,slow=6.0
AKTO Aktyubinsk 71.48 342 LR LR 01 46 48.2
comp=Z,41nm,19.3s,baz=61,slow=40
GTTG Gottingen 71.61 13 *eP* P 01 10 58.2 +8.2
comp=Z,8.7nm,0.5s,baz=351,slow=6.0
KASTN Kahler Asten 71.74 14 *eP* P 01 10 59.0 +8.2
comp=Z,8.5nm,1.1s,baz=351,slow=6.0
AHRW Bad Neuenahr-A 72.19 15 *eP* P 01 11 02.0 +8.5
comp=Z,7.3nm,0.9s,baz=351,slow=6.0
CLL Collm 72.20 11 *i* P P **01 10 51.6 -1.9**
CLL *ex* x 01 10 59.0
CLL Collm 72.20 11 *eP* P 01 11 01.0 +7.5
comp=Z,4.3nm,0.8s,baz=351,slow=6.0
MODW Modelwitz 72.50 12 *eP* P 01 11 03.2 +7.9
comp=Z,5.0nm,0.8s,baz=351,slow=6.0
HKWD Heukewalde 72.59 12 *eP* P 01 11 03.9 +8.1
comp=Z,9.2nm,0.8s,baz=351,slow=6.0
FBE Freiberg 72.62 11 *eP* P 01 11 04.3 +8.2
comp=Z,6.9nm,0.8s,baz=351,slow=6.0
MOX Moxa 72.70 12 *eP* P 01 11 04.2 +7.7
comp=Z,10nm,1.0s,baz=351,slow=6.0
BRG Berggiesshubel 72.73 11 *eP* P 01 11 04.5 +7.8

BRG Amp 01 11 05.3
comp=Z,3.4nm,0.7s
BRG Berggiesshubel 72.73 11 *eP* P 01 11 04.3 +7.7
comp=Z,163nm,3.8s,baz=351,slow=6.0
HWTS Hohenwarte Tal 72.73 12 *eP* P 01 11 04.6 +7.8
comp=Z,6.3nm,0.8s,baz=351,slow=6.0
SCHF Schoenfels 72.75 12 *eP* P 01 11 04.8 +7.9
comp=Z,6.4nm,0.9s,baz=351,slow=6.0
PLN Plauen 72.92 12 *eP* P 01 11 05.6 +7.8
comp=Z,5.1nm,0.8s,baz=351,slow=6.0
WERD Werda 72.97 12 *eP* P 01 11 05.9 +7.7
comp=Z,3.7nm,0.9s,baz=351,slow=6.0
GUNZ Gunzen 73.06 12 *eP* P 01 11 06.8 +8.1
comp=Z,5.2nm,0.8s,baz=351,slow=6.0
WERN Wernitzgruen 73.14 12 *eP* P 01 11 06.8 +7.7
comp=Z,6.6nm,0.7s,baz=351,slow=6.0
NKC Novy Kostel 73.20 12 *eP* P 01 11 07.6 +8.1
comp=Z,6.4nm,0.7s,baz=351,slow=6.0
GRF Grafenberg Arr 73.58 13 *eP* P 01 11 10.1 +8.3
comp=Z,5.5nm,0.7s,baz=351,slow=6.0
ROTZ Rotzenmuhle 73.63 12 *eP* P 01 11 10.1 +8.1
comp=Z,1.7nm,0.9s,baz=351,slow=6.0
AKASG Malin Array Be 73.74 1 P P **01 11 01.1 -1.5**
comp=Z,0.9nm,0.5s,baz=358,slow=6.3,SNR=2.9
comp=Z,0.9nm,0.5s
MORC Moravsky Berou 74.15 8 *eP* P **01 11 06.8 +1.7**
VRAC Vranov 74.53 9 *eP* P **01 11 08.5 +1.2**
VRAC *e* 01 11 15.2
GERES GERESS Array B 74.71 11 P P **01 11 07.4 -1.1**
comp=Z,0.9nm,0.6s,baz=353,slow=9.4,SNR=4.0
GERES LR LR 01 47 29.2
comp=Z,22nm,19.3s,baz=279,slow=39
comp=Z,0.9nm,0.6s
KRUC Moravsky 74.76 9 *eP* P **01 11 09.4 +0.8**
KRUC *e* 01 11 15.9
AAK Ala-Archa 74.85 328 LR LR 01 46 50.1
comp=Z,99nm,18.1s,baz=29,slow=38
JAVC Velka Javorina 75.07 8 *eP* P **01 11 11.9 +1.4**
VYHS Vyhne 75.53 8 *eP* P **01 11 15.4 +2.3**
RJOB Jochberg 75.70 12 *eP* P 01 11 22.1 +8.0
comp=Z,3.9nm,0.8s,baz=351,slow=6.0
CONA Conrad Observa 75.83 10 *epP* P **01 11 14.2 -0.8**
comp=Z,4.6nm,1.2s
BIOA Bad Ischl, Aus 75.84 11 *epP* P **01 11 16.7 +1.7**
comp=Z,5.9nm,1.1s
WATA Walderalm 75.95 13 *epP* P **01 11 16.6 +0.9**
comp=Z,6.8nm,0.5s
LESA Schwarzleotal 75.99 12 *epP* P **01 11 17.4 +1.5**
comp=Z,6.2nm,1.0s
SQTA Sankt Quirin 76.01 13 *epP* P **01 11 14.6 -1.4**
comp=Z,1.4nm,0.5s
WTTA Wattenberg 76.02 13 *epP* P **01 11 15.8 -0.4**
comp=Z,5.8nm,0.8s
WTTA Wattenberg 76.02 13 *eP* P 01 11 24.2 +8.1
comp=Z,7.8nm,0.8s,baz=351,slow=6.0
FETA Feichten 76.15 13 *i* P P **01 11 14.1 -2.8**
comp=Z,3.4nm,0.7s
DAVOX Davos/Dischmat 76.27 14 LR LR 01 47 20.3
comp=Z,14nm,19.6s,baz=263,slow=38
KBA Koelnbreinsper 76.41 12 *epP* P **01 11 18.3 0.0**
comp=Z,1.2nm,0.5s
KBA Koelnbreinsper 76.41 12 *eP* P 01 11 26.3 +8.0
comp=Z,7.1nm,0.9s,baz=351,slow=6.0
ARSA Arzberg 76.47 10 *eP* P **01 11 16.4 -2.1**
comp=Z,0.5nm,0.3s
ABTA Abtaltersbach 76.64 12 *eP* P **01 11 17.3 -2.3**
comp=Z,1.1nm,0.7s
SOKA Soboth 76.99 11 *eP* P **01 11 19.2 -2.4**
comp=Z,2.1nm,0.7s
OBKA Obir 77.11 11 *epP* P **01 11 21.7 -0.5**
comp=Z,8.2nm,0.8s
OBKA Obir 77.11 11 *eP* P 01 11 30.2 +8.0
comp=Z,9.9nm,0.8s,baz=351,slow=6.0
PZH PanZhiHua 77.97 300 P P **01 11 25.9 -1.4**
PZH pmax pmax
comp=Z,10.0nm,0.2s
PZH pmax pmax
comp=Z,90nm,5.3s
KBZ Khabaz 80.12 351 P P **01 11 38.4 -0.3**
comp=Z,2.1nm,1.0s,baz=23,slow=7.7,SNR=2.6
KBZ LR LR 01 52 37.8
comp=Z,18nm,18.3s,baz=114,slow=40
comp=Z,2.1nm,1.0s
ESDC Sonseca Array 80.47 26 P P **01 11 40.1 -0.7**
comp=Z,2.5nm,0.9s,baz=330,slow=6.1,SNR=8.3
ESDC LR LR 01 47 01.0
comp=Z,66nm,19.1s,baz=312,slow=36
comp=Z,2.5nm,0.9s
GEYT Alibeck 83.50 338 P P **01 11 55.5 -1.2**
comp=Z,0.7nm,0.3s,baz=21,slow=2.0,SNR=2.1
GEYT LR LR 01 55 37.2
comp=Z,36nm,18.4s,baz=11,slow=40
comp=Z,0.7nm,0.3s
BRTR Keskin Array B 84.67 357 P P **01 11 59.6 -3.1**
comp=Z,0.5nm,0.7s,baz=0.2,slow=4.7,SNR=2.7
comp=Z,0.5nm,0.7s
CMAR Chiang Mai Arr 86.11 297 LR LR 01 55 18.3
comp=Z,45nm,18.3s,baz=135,slow=39
MDT Midelt 86.79 29 LR LR 01 51 17.8
comp=Z,32nm,19.3s,baz=320,slow=36
RPN Rapa Nui 89.67 145 LR LR 01 43 59.5
comp=Z,47nm,18.3s,baz=92,slow=30

AEIC ***13*** *01:04:12.2±1.7,56°22N±0°10×149°3W±0°1,h12km±8km, Error ellipse: s-maj=14.5km s-min=8.7km az=162.0*
NEIC 13 01:04:10.0±1.4,56°29N±0°09×149°4W±0°1,h21km±10km, ML3.4/48,ML3.2(AEIC)**,Error ellipse: s-maj=13.7km s-min=8.5km az=167.0,Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.31**	**312**		Pn	01 04 46.9	+0.2
KDAK					Sn	01 05 13.4	-1.0
OHAK	**Old Harbor**	**2.35**	**295**		Pn	01 04 46.9	-0.4
OHAK					Sn	01 05 13.4	-2.1
SII	**Sitkinak Islan**	**2.69**	**278**		Pn	01 04 51.6	-0.4
SYI	**Shuyak Island**	**2.84**	**326**		Pn	01 04 54.1	0.0
SYI					Sn	01 05 27.2	-0.4
CNPM	**China Poot**	**3.40**	**344**		Pn	01 05 01.2	-0.5
CNPM					Sn	01 05 40.6	-0.8
Q19K	**Cape Douglas,**	**3.51**	**321**	Pn	Pn	01 05 04.3	+1.0
BRSE	**Bradley Lake S**	**3.54**	**349**		Pn	01 05 03.0	-0.7
BRSE					Sn	01 05 43.0	-1.8
Q23K	**Middleton Isla**	**3.54**	**26**		Pn	01 05 02.8	-0.8
MID	**Middleton Isla**	**3.54**	**26**		Pn	01 05 02.5	-1.1
BRLK	**Bradley Lake**	**3.58**	**348**		Pn	01 05 03.2	-1.0
BRLK	**Bradley Lake**	**3.58**	**348**	IAML		01 07 06.8	
	comp=N,38nm,1.5s						
KAKN	**Katmai Kinke C**	**3.69**	**305**		Pn	01 05 07.0	+1.3
P23K	**Montague Islan**	**3.86**	**15**		Pn	01 05 06.8	-1.3
P19K	**Oil Pt**	**3.95**	**330**		Pn	01 05 09.8	+0.5
CNTC	**Contact Creek**	**4.05**	**302**		Pn	01 05 11.7	+0.9
O20K	**Slope Mountain**	**4.18**	**337**		Pn	01 05 12.4	-0.1
ILSW	**Iliamna Southw**	**4.21**	**333**		Pn	01 05 12.8	-0.1
ILSW	**Iliamna Southw**	**4.21**	**333**	IAML		01 07 21.6	
	comp=E,39nm,0.9s						
ILSW				IAML		01 07 25.0	
	comp=N,30nm,1.1s						
SLKM	**Skilak Lake**	**4.26**	**354**		Pn	01 05 12.9	-0.6
HIN	**Hinchinbrook I**	**4.39**	**19**		Pn	01 05 14.7	-0.7
HIN	**Hinchinbrook I**	**4.39**	**19**	IAML		01 06 57.3	
	comp=E,46nm,1.4s						
HIN				IAML		01 08 04.0	
	comp=N,60nm,1.5s						
P18K	**Big Mountain,**	**4.41**	**317**		Pn	01 05 15.7	0.0
KAIM	**Kayak Island**	**4.50**	**34**		Pn	01 05 16.1	-0.7
KAIM	**Kayak Island**	**4.50**	**34**	IAML		01 07 35.3	
	comp=E,64nm,1.5s						
KAIM				IAML		01 07 37.7	
	comp=N,67nm,1.3s						
RED	**Redoubt Volcan**	**4.51**	**338**		Pn	01 05 16.3	-0.8
RSO	**Redoubt South**	**4.55**	**338**	Pn	Pn	01 05 17.6	-0.1
O18K	**Koktuh Hills**	**4.73**	**322**		Pn	01 05 19.7	-0.3
O18K	**Koktuh Hills**	**4.73**	**322**	IAML		01 07 40.6	
	comp=E,18nm,1.1s						
RAGM	**Ragged Mountai**	**4.80**	**29**		Pn	01 05 20.5	-0.4
RAGM	**Ragged Mountai**	**4.80**	**29**	IAML		01 07 40.1	
	comp=E,58nm,1.5s						
RC01	**Rabbit Creek A**	**4.82**	**358**		Pn	01 05 20.8	-0.5
RC01	**Rabbit Creek A**	**4.82**	**358**	IAML		01 07 38.7	
	comp=N,26nm,0.4s						
RC01				IAML		01 07 38.8	
	comp=E,19nm,0.5s						
HMT	**Hamilton**	**4.87**	**31**	Pn	Pn	01 05 22.0	0.0
NICHA	**Nichawak Mount**	**4.88**	**34**		Pn	01 05 21.3	-0.7
GOAT	**Goat Mountain**	**4.95**	**28**		Pn	01 05 22.6	-0.4
CHGN	**Chignik**	**5.04**	**274**	Pn	Pn	01 05 24.1	-0.1
CHGN				IAML		01 07 43.9	
	comp=N,32nm,1.4s						
KNK	**Knik Glacier**	**5.16**	**5**		Pn	01 05 25.7	-0.2
KNK	**Knik Glacier**	**5.16**	**5**	IAML		01 07 55.3	
	comp=E,14nm,0.7s						
KNK				IAML		01 07 56.7	
	comp=N,16nm,0.6s						
SNH	**Sunshine Point**	**5.21**	**39**		Pn	01 05 26.1	-0.5
SUA	**Susitna One**	**5.24**	**353**		Pn	01 05 26.4	-0.7
SUA	**Susitna One**	**5.24**	**353**	IAML		01 06 10.6	
	comp=E,11nm,1.5s						
SUA				IAML		01 07 53.0	
	comp=N,10nm,1.4s						
KHIT	**Khitrov Hills**	**5.27**	**35**		Pn	01 05 26.6	-0.9
N19K	**Bonanza Creek**	**5.27**	**332**		Pn	01 05 26.9	-0.6
BMRM	**Bremner River**	**5.31**	**26**		Pn	01 05 27.6	-0.5
PMR	**Palmer**	**5.32**	**1**	Pn	Pn	01 05 28.9	+0.8
PMR				IAML		01 07 51.1	
	comp=E,12nm,1.0s						
PMR				IAML		01 07 51.1	
	comp=N,14nm,0.8s						
STLK	**Strandline Lak**	**5.38**	**347**		Pn	01 05 28.8	-0.2
WAX	**Waxell Ridge**	**5.40**	**37**		Pn	01 05 29.0	-0.3
GHO	**Glory Hole Cre**	**5.51**	**2**		Pn	01 05 30.9	+0.2
KLU	**Klutina**	**5.52**	**17**		Pn	01 05 30.7	-0.2
MESA	**MESA**	**5.53**	**42**		Pn	01 05 31.1	0.0
SML	**Sawmill**	**5.56**	**5**		Pn	01 05 31.4	-0.1
N18K	**Kilae Creek**	**5.57**	**325**		Pn	01 05 31.4	-0.2
SCM	**Sheep Creek Mo**	**5.66**	**10**		Pn	01 05 33.0	+0.1
ISLE	**Juniper Island**	**5.69**	**38**		Pn	01 05 33.0	-0.2
BAGL	**Bagley Icefiel**	**5.69**	**39**		Pn	01 05 32.9	-0.3
O16K	**Kokwok River B**	**5.71**	**309**	Pn	Pn	01 05 34.0	+0.6
SKT	**Skwentna**	**5.82**	**350**	Pn	Pn	01 05 34.9	0.0
VRDI	**Verde Repeater**	**5.83**	**29**		Pn	01 05 35.1	-0.2
N25K	**Chitina, Valde**	**5.88**	**23**	Pn	Pn	01 05 36.0	+0.2
GLB	**Gilahina Butte**	**5.92**	**27**	Pn	Pn	01 05 37.0	+0.6
TABL	**Table Mountain**	**6.00**	**43**	Pn	Pn	01 05 37.9	+0.2
M24K	**Tolsona, Glenn**	**6.06**	**14**	Pn	Pn	01 05 40.2	+1.8
MCARA	**McCarthy VSAT**	**6.08**	**30**	Pn	Pn	01 05 39.1	+0.6
BARN	**Barnard Glacie**	**6.25**	**37**	Pn	Pn	01 05 41.4	+0.3
CTGM	**Chitina Glacie**	**6.29**	**38**	Pn	Pn	01 05 41.5	-0.1
SDPT	**Sand Point**	**6.33**	**266**	Pn	Pn	01 05 42.5	+0.5
M17K	**Holitna River**	**6.62**	**324**	Pn	Pn	01 05 46.2	+0.3
N15K	**Kwethluk River**	**6.87**	**309**	Pn	Pn	01 05 50.8	+1.5
O29M	**Mount Kennedy**	**6.97**	**50**	Pn	Pn	01 05 51.1	+0.3
P29M	**Windy Craggy**	**7.04**	**57**	Pn	Pn	01 05 51.8	+0.1
RND	**Reindeer**	**7.15**	**2**	Pn	Pn	01 05 53.7	+0.5
M27K	**Edge Creek, AK**	**7.19**	**29**	Pn	Pn	01 05 55.4	+1.5
TRF	**Thorofare Moun**	**7.20**	**357**	Pn	Pn	01 05 53.9	-0.2
CAST	**Castle Rocks**	**7.28**	**350**	Pn	Pn	01 05 56.5	+1.4
KTH	**Kantishna Hill**	**7.33**	**355**	Pn	Pn	01 05 56.2	+0.5
BPAW	**Bear Paw Mtn.**	**7.88**	**355**	Pn	Pn	01 06 03.5	+0.3
R32K	**Eaglecrest**	**8.29**	**70**	Pn	Pn	01 06 08.5	-0.4
M29M	**Somme Creek**	**8.31**	**38**	Pn	Pn	01 06 10.0	+0.8
NEA2	**Nenana**	**8.34**	**1**	Pn	Pn	01 06 10.0	+0.6
CCB	**Clear Creek Bu**	**8.42**	**5**	Pn	Pn	01 06 11.2	+0.6
L14K	**Kuka Creek**	**8.56**	**312**	Pn	Pn	01 06 14.1	+1.6
J25K	**Salcha River,**	**8.58**	**12**	Pn	Pn	01 06 14.4	+1.5
MDM	**Murphy Dome**	**8.72**	**3**	Pn	Pn	01 06 15.1	+0.4
J26L	**Joseph Creek**	**8.72**	**17**	Pn	Pn	01 06 16.1	+1.3
WHY	**Whitehorse**	**8.76**	**54**	Pn	Pn	01 06 15.8	+0.4

IDC ***13*** *01:05:04.2±2.3,6°58S×147°57E,h69km±20km,mb4.3/20, mbtmp4.6/23,MS3.3/14,Error ellipse: s-maj=23.5km s-min=12.4km az=81.0*
DJA ***13*** *01:05:06.4±0.3,7°S±3°×147°E±°,h73km±4km,M5.0/28, mb5.0/28,mB5.4/6,MLv5.1/3,Mw(mB)4.8/6,MwMwp5.5/1, Mwp5.7/1*
NEIC ***13*** *01:05:06.8±1.4,6°65S±0°08×147°42E±0°09,h85km±7km, mb4.6/47,Error ellipse: s-maj=13.8km s-min=10.3km az=117.0*
ISC 13 01:05:04.3±0.4,6°64S±0°05×147°36E±0°06,h63km,n169, σ1s59/165,mb4.7/55,4D,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
PMG	**Port Moresby**	**2.75**	**184**	P	Pn	**01 05 48.3**	**+2.2**
PMG	**Port Moresby**	**2.75**	**184**	P	Pn	**01 05 48.1**	**+1.9**
	408nm,0.5s,baz=36,slow=5.1,SNR=94						
PMG				S	Sn	**01 06 20.6**	**+2.4**
	596nm,0.5s,baz=215,slow=20,SNR=7.2						
BULU	**Kimbe**	**3.14**	**70**	P	Pn	01 05 58.6	+7.2
RABL	**Rabaul**	**5.37**	**63**	Pn	Pn	**01 06 23.9**	**+1.9**
TABU	**Tabubil**	**6.25**	**282**	P	Pn	01 06 40.4	+6.3
GENI	**Genyem**	**8.22**	**299**	P	Pn	**01 07 03.4**	**+2.5**
	67nm,1.0s						
COEN	**Coen**	**8.35**	**209**	Pn	Pn	**01 07 03.9**	**+1.1**
COEN	**Coen**	**8.35**	**209**	P	Pn	**01 07 05.0**	**+2.2**
MTSU	**Mount Surprise**	**11.80**	**194**	P	Pn	**01 07 53.1**	**+3.2**
TV1H	**Townsville Har**	**12.55**	**182**	P	Pn	**01 08 02.9**	**+2.7**
CTA	**Charters Tower**	**13.41**	**184**	P	Pn	**01 08 14.8**	**+2.9**
CTA	**Charters Tower**	**13.41**	**184**	P	Pn	**01 08 13.9**	**+2.1**
	16nm,0.6s,baz=2.7,slow=7.7,SNR=25						
CTA				LR	LR	01 14 19.2	
	comp=Z,51nm,18.7s,baz=91,slow=41						
CTAO	**Charters Tower**	**13.41**	**184**	Pn	Pn	**01 08 13.7**	**+1.9**
CTAO	**Charters Tower**	**13.41**	**184**	P	Pn	**01 08 14.7**	**+2.9**
FAKI	**Fak Fak**	**15.50**	**283**	Pn	Pn	**01 08 40.1**	**+0.9**
FAKI				IAmb	IAmb	01 08 47.1	
	comp=Z,55nm,0.8s						
FAKI	**Fak Fak**	**15.50**	**283**	P	P	**01 08 44.4**	**+1.9**
QIS	**Mount Isa**	**15.74**	**208**	P	Pn	**01 08 44.4**	**+2.1**
SWI	**Sorong**	**17.05**	**289**	P	Pn	**01 08 59.6**	**+0.9**
	comp=Z,168nm,0.8s						
MTN	**Manton Dam**	**17.13**	**248**	Pn	Pn	**01 08 59.1**	**-0.6**
WB0	**Warramunga Arr**	**18.13**	**223**	P	P	**01 09 12.1**	**+0.6**
WB0				IAmb	IAmb	01 09 18.3	
	comp=Z,50nm,1.5s						
WR0	**Warramunga Arr**	**18.17**	**222**	P	P	**01 09 12.7**	**+0.7**
WR0				IAmb	IAmb	01 09 19.0	
	comp=Z,19nm,0.8s						
WB2	**Warramunga Arr**	**18.28**	**222**	P	P	**01 09 13.7**	**+0.5**
WB2				IAmb	IAmb	01 09 20.4	
	comp=Z,35nm,1.3s						
WRA	**Warramunga Arr**	**18.29**	**222**	P	P	**01 09 12.9**	**-0.3**
WRA	**Warramunga Arr**	**18.29**	**222**	P	P	**01 09 13.7**	**+0.4**
	comp=Z,8.8nm,0.5s,baz=51,slow=11,SNR=39						
WRA				S	Sn	**01 12 30.3**	**-7.3**
	comp=Z,2.3nm,0.6s,baz=56,slow=27,SNR=4.6						
EIDS	**Eidsvold**	**18.96**	**170**	P	P	**01 09 19.8**	**-0.8**
QLP	**Quilpie**	**20.05**	**188**	P	P	**01 09 34.1**	**+1.7**
KNRA	**Kununurra**	**20.32**	**242**	P	P	**01 09 35.6**	**+0.2**
KNRA				IAmb	IAmb	01 10 00.7	
	comp=Z,26nm,0.8s						
KNRA	**Kununurra**	**20.32**	**242**	P	P	**01 09 35.6**	**+0.2**
NLAI	**Namlea**	**20.46**	**279**	P	P	**01 09 38.5**	**+1.5**
	comp=Z,32nm,0.6s						
LBMI	**Labuha**	**20.69**	**286**	P	P	**01 09 41.7**	**+2.2**
	comp=Z,79nm,1.0s,comp=Z,2μm						
AS01	**Alice Springs**	**21.27**	**216**	P	P	**01 09 46.5**	**+0.8**
AS31	**Alice Springs**	**21.30**	**216**	P	P	**01 09 47.1**	**+1.1**
AS31				IAmb	IAmb	01 09 50.3	
	comp=Z,11nm,0.6s						
ASAR	**Alice Springs**	**21.30**	**216**	P	P	**01 09 46.7**	**+0.7**
ASAR	**Alice Springs**	**21.30**	**216**	P	P	**01 09 46.8**	**+0.8**
	comp=Z,20nm,0.6s,baz=52,slow=9.1,SNR=136						
ASAR				S	S	**01 13 36.0**	**-3.4**
	comp=Z,8.4nm,0.9s,baz=32,slow=22,SNR=9.4						
	comp=Z,20nm,0.6s						
SANI	**Sanana**	**21.79**	**281**	P	P	**01 09 55.0**	**+3.8**
SANI	**Sanana**	**21.79**	**281**	P	P	**01 09 51.3**	**+0.1**
	comp=Z,51nm,0.8s,comp=Z,1μm						
INKA	**Innaminka**	**21.90**	**196**	P	P	**01

FITZ				IAmb	IAmb	01 10 15.9	
	comp=Z,8.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.04**	**240**	P	**P**	**01 10 14.2**	**+0.5**
KMSI	**Cibinong**	**24.41**	**286**	P	**P**	**01 10 18.2**	**+1.1**
	comp=Z,290nm,0.6s						
BBSI	**Bau Bau**	**24.67**	**271**	P	**P**	**01 10 22.2**	**+2.6**
	comp=Z,52nm,1.0s						
CMSA	**Cobar Meteorol**	**24.82**	**183**	P	**P**	**01 10 22.0**	**+1.3**
MMRI	**Maumere**	**24.97**	**264**	P	**P**	**01 10 24.2**	**+1.9**
MMRI	**Maumere**	**24.97**	**264**	P	**P**	**01 10 23.7**	**+1.4**
	comp=Z,145nm,0.6s						
LUWI	**Luwuk**	**25.14**	**282**	P	**P**	**01 10 25.0**	**+1.1**
LUWI	**Luwuk**	**25.14**	**282**	P	**P**	**01 10 27.5**	**+3.6**
LUWI	**Luwuk**	**25.14**	**282**	P	**P**	**01 10 25.5**	**+1.6**
	comp=Z,152nm,1.1s,comp=Z,2µm						
LUWI				pP	**pP**	**01 10 39.7**	**+0.4**
	comp=Z,152nm,1.1s,comp=Z,2µm						
LCRK	**Leigh Creek**	**25.19**	**199**	P	**P**	**01 10 25.6**	**+1.5**
GTOI	**Gorontalo**	**25.35**	**286**	P	**P**	**01 10 27.5**	**+1.8**
	comp=Z,37nm,0.7s,comp=Z,354nm						
EDFI	**Ende, Flores**	**25.52**	**264**	P	**P**	**01 10 26.4**	**-1.0**
DAV	**Davao City (W)**	**25.64**	**302**	LR	LR	01 23 20.9	
	comp=Z,11nm,18.2s,baz=348,slow=42						
STKA	**Stephens Creek**	**25.68**	**191**	P	**P**	**01 10 28.8**	**+0.3**
STKA	**Stephens Creek**	**25.68**	**191**	P	**P**	**01 10 30.4**	**+1.9**
STKA	**Stephens Creek**	**25.68**	**191**	P	**P**	**01 10 28.7**	**+0.3**
	comp=Z,12nm,0.6s,baz=3.7,slow=10,SNR=26						
STKA				LR	LR	01 20 11.1	
	comp=Z,104nm,19.6s,baz=22,slow=35						
	comp=Z,12nm,0.6s						
WRKA	**Warakurna**	**25.83**	**223**	P	**P**	**01 10 30.0**	**-0.1**
MULG	**Mulgathing**	**26.63**	**206**	P	**P**	**01 10 37.9**	**+0.8**
BASI	**Baing, Sumba**	**26.72**	**261**	P	**P**	**01 10 38.6**	**+0.5**
	comp=Z,87nm,0.8s						
KAPI	**Kappang**	**27.51**	**272**	P	**P**	**01 10 45.7**	**+0.5**
KAPI				IAmb	IAmb	01 10 51.4	
	comp=Z,12nm,0.8s						
KAPI	**Kappang**	**27.51**	**272**	P	**P**	**01 10 48.6**	**+3.4**
HTT	**Hallett**	**27.78**	**195**	P	**P**	**01 10 48.7**	**+1.2**
BBOO	**Buckleboo**	**28.08**	**201**	P	**P**	**01 10 50.0**	**0.0**
BBOO				IAmb	IAmb	01 11 16.1	
	comp=Z,15nm,0.9s						
MPSI	**Mapaga**	**28.26**	**283**	P	**P**	**01 10 51.8**	**-0.1**
	comp=Z,8.9nm,0.9s						
PLAI	**Plampang**	**29.39**	**264**	P	**P**	**01 11 00.3**	**-1.6**
FORT	**Forrest**	**30.07**	**215**	P	**P**	**01 11 08.0**	**+0.2**
FORT				IAmb	IAmb	01 11 34.6	
	comp=Z,17nm,0.8s						
MBWA	**Marble Bar**	**30.37**	**239**	P	**P**	**01 11 10.5**	**-0.1**
MBWA				IAmb	IAmb	01 11 11.5	
	comp=Z,10nm,0.9s						
PSA00	**Pilbara Seismi**	**30.45**	**238**	P	**P**	**01 11 11.1**	**-0.1**
PSA00	**Pilbara Seismi**	**30.45**	**238**	P	**P**	**01 11 10.8**	**-0.4**
PSA00				IAmb	IAmb	01 11 12.1	
	comp=Z,9.6nm,0.7s						
JAGI	**Jajag, Banyuwa**	**32.96**	**265**	P	**P**	**01 11 31.2**	**-2.2**
GIRL	**Giralia**	**35.65**	**240**	P	**P**	**01 11 56.4**	**-0.2**
MORW	**Morawa**	**37.02**	**229**	P	**P**	**01 12 08.7**	**+0.6**
JOW	**Kunigami**	**38.07**	**332**	LR	LR	01 25 40.2	
	comp=Z,52nm,19.1s,baz=224,slow=32						
NWAO	**Narrogin (SRO)**	**38.30**	**223**	P	**P**	**01 12 18.8**	**-0.2**
NWAO	**Narrogin (SRO)**	**38.30**	**223**	LR	LR	01 27 18.9	
	comp=Z,132nm,19.7s,baz=222,slow=35						
URZ	**Urewera**	**41.43**	**144**	LR	LR	01 27 20.6	
	comp=Z,39nm,20.7s,baz=297,slow=32						
TCW	**Tory Channel**	**41.95**	**149**	P	**P**	**01 12 49.1**	**+0.1**
JNU	**Nakatsue**	**42.53**	**339**	LR	LR	01 30 27.1	
	comp=Z,23nm,19.5s,baz=158,slow=36						
MJAR	**Matsushiro Arr**	**43.80**	**349**	P	**P**	**01 13 02.4**	**-1.7**
	comp=Z,2.5nm,0.7s,baz=179,slow=7.4,SNR=5.2						
MJAR				LR	LR	01 30 28.1	
	comp=Z,29nm,20.1s,baz=151,slow=35						
	comp=Z,2.5nm,0.7s						
NJ2	**Nanjing**	**47.11**	**326**	*e*P	**P**	**01 13 34.2**	**+4.0**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,180nm,5.5s						
KSRS	**Korea Array**	**47.48**	**339**	P	**P**	**01 13 32.7**	**-0.3**
	comp=Z,5.9nm,0.9s,baz=155,slow=9.1,SNR=14						
KSRS				LR	LR	01 33 23.8	
	comp=Z,20nm,19.5s,baz=130,slow=36						
	comp=Z,5.9nm,0.9s						
IPM	**Ipoh**	**47.55**	**282**	P	**P**	**01 13 34.1**	**+0.1**
KULM	**Kulim**	**48.10**	**283**	P	**P**	**01 13 38.0**	**-0.3**
WHN	**Wuhan**	**48.66**	**321**	J‖P	**P**	**01 13 42.0**	**-0.2**
GSI	**Gunungsitoli**	**50.31**	**277**	P	**P**	**01 13 53.6**	**-1.5**
USRK	**Ussuriysk Ar.**	**52.48**	**346**	P	**P**	**01 14 10.7**	**-0.1**
USRK	**Ussuriysk Ar.**	**52.48**	**346**	P	**P**	**01 14 10.2**	**-0.5**
	comp=Z,3.0nm,0.6s,baz=163,slow=7.3,SNR=3.6						
	comp=Z,3.0nm,0.6s						
PHRA	**Phrae**	**52.76**	**299**	P	**P**	**01 14 13.5**	**+0.1**
CRAI	**Chiangrai**	**53.35**	**301**	P	**P**	**01 14 17.7**	**-0.1**
CRAI				IAmb	IAmb	01 14 20.4	
	comp=Z,16nm,1.0s						
HNS	**HongShan**	**53.37**	**328**	J‖P	**P**	**01 14 16.8**	**-0.7**
HNS				sP	**sP**	**01 14 40.1**	**-2.2**
HNS				*e*S	S	01 21 33.6	-11
HNS				pmax	pmax		
	comp=Z,12nm,0.9s						
HNS				LR	LR		
	comp=N,140nm,18.3s						
HNS				LR	LR		
	comp=Z,120nm,19.1s						
MDJ	**Mudanjiang**	**53.47**	**344**	P	**P**	**01 14 20.7**	**+2.6**
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,120nm,3.9s						
CMAR	**Chiang Mai Arr**	**53.87**	**298**	P	**P**	**01 14 21.5**	**0.0**
CMAR	**Chiang Mai Arr**	**53.87**	**298**	P	**P**	**01 14 22.7**	**+1.2**
	comp=Z,8.4nm,0.7s,baz=124,slow=5.9,SNR=38						
	comp=Z,8.4nm,0.7s						
CHTO	**Chiang Mai**	**54.01**	**299**	P	**P**	**01 14 23.0**	**+0.5**
CHTO				IAmb	IAmb	01 14 24.9	
	comp=Z,9.1nm,0.9s						
BJI	**Beijing**	**54.63**	**331**	P	**P**	**01 14 24.8**	**-1.9**
BJI				pmax	pmax		
	comp=Z,3.0nm,1.1s						
PZH	**PanZhiHua**	**55.13**	**309**	P	**P**	**01 14 33.8**	**+3.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.4s						
PZH				pmax	pmax		
	comp=Z,80nm,4.1s						
CD2	**Chengdu**	**55.97**	**314**	P	**P**	**01 14 37.4**	**+0.8**
CD2				pmax	pmax		
	comp=Z,20nm,0.3s						
HHC	**Hu-ho-hao-te**	**57.56**	**328**	*e*P	**P**	**01 14 50.1**	**+2.4**
HHC				PcP	**PcP**	**01 15 45.9**	**+5.4**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,180nm,5.0s						
HHC				LR	LR		
	comp=N,170nm,13.5s						
HHC				LR	LR		
	comp=E,140nm,14.9s						
HHC				LR	LR		
	comp=Z,160nm,15.3s						
LZH	**Lanzhou**	**58.93**	**319**	*e*P	P	01 15 04.2	+6.8
LZH				sP	sP	01 15 29.3	+7.2
LZH				pmax	pmax		
	comp=Z,11nm,1.0s						
PETK	**Petropavlovsk-**	**60.17**	**7**	P	**P**	**01 15 05.2**	**-0.2**
	comp=Z,2.9nm,0.9s,baz=160,slow=4.6,SNR=3.1						
PETK				LR	LR	01 37 36.7	
	comp=Z,28nm,21.5s,baz=189,slow=32						
	comp=Z,2.9nm,0.9s						
GTA	**Gaotai**	**63.46**	**320**	*e*P	**P**	**01 15 28.5**	**+0.5**
GTA				sP	pP	01 15 49.8	+4.3
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
SONM	**Songino Array**	**65.14**	**331**	P	**P**	**01 15 38.2**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=130,slow=4.6,SNR=8.6						
	comp=Z,1.4nm,0.9s						
MA2	**Magadan**	**66.06**	**2**	LR	LR	01 41 07.2	
	comp=Z,19nm,21.8s,baz=122,slow=33						
VNDA	**Vanda**	**71.25**	**177**	P	**P**	**01 16 16.4**	**0.0**
	comp=Z,3.1nm,0.7s,baz=334,slow=8.0,SNR=12						
VNDA				LR	LR	01 48 47.0	
	comp=Z,62nm,18.0s,baz=242,slow=37						
	comp=Z,3.1nm,0.7s						
MK31	**Makanchi Array**	**78.22**	**320**	P	**P**	**01 16 56.6**	**-0.7**
MKAR	**Makanchi Array**	**78.22**	**320**	P	**P**	**01 16 56.6**	**-0.6**
	comp=Z,4.3nm,0.9s,baz=103,slow=6.4,SNR=29						
	comp=Z,4.3nm,0.9s						
MAKZ	**Makanchi**	**78.42**	**320**	P	**P**	**01 16 57.5**	**-0.9**
MAKZ				IAmb	IAmb	01 16 59.2	
	comp=Z,9.9nm,1.2s						
TARG	**Taragay, Kyrgy**	**79.42**	**314**	P	**P**	**01 17 03.7**	**-0.8**
ZALV	**Zalesovo Beam**	**79.74**	**328**	P	**P**	**01 17 03.7**	**-1.7**
ZALV	**Zalesovo Beam**	**79.74**	**328**	P	**P**	**01 17 03.8**	**-1.6**
	comp=Z,7.9nm,0.6s,baz=112,slow=5.6,SNR=40						
	comp=Z,7.9nm,0.6s						
KSH	**Kashi**	**80.07**	**312**	P	**P**	**01 17 08.4**	**+0.7**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NIL	**Nilore**	**80.59**	**306**	P	**P**	**01 17 11.0**	**+0.6**
KURBB	**Kurchatov Arra**	**81.95**	**323**	P	**P**	**01 17 16.3**	**-1.0**
	comp=Z,1.7nm,0.2s,baz=110,slow=4.2,SNR=9.9						
	comp=Z,1.7nm,0.2s						
AAK	**Ala-Archa**	**82.04**	**315**	P	**P**	**01 17 17.1**	**-1.1**
QSPA	**South Pole Qui**	**83.33**	**180**	P	**P**	**01 17 23.8**	**-0.5**
QSPA				IAmb	IAmb	01 17 24.4	
	comp=Z,8.8nm,0.7s						
QSPA	**South Pole Qui**	**83.33**	**180**	P	**P**	**01 17 23.6**	**-0.7**
	comp=Z,7.3nm,0.6s,baz=24,slow=10.0,SNR=51						
	comp=Z,7.3nm,0.6s						
E19K	**Redstone River**	**83.60**	**19**	P	**P**	**01 17 25.0**	**-0.5**
E19K				IAmb	IAmb	01 17 30.0	
	comp=Z,5.9nm,1.0s						
GAR	**Garm**	**84.17**	**310**	P	**P**	**01 17 28.1**	**-1.1**
GAR				IAmb	IAmb	01 17 46.4	
	comp=Z,8.3nm,1.2s						
CHGR	**Chuyangaron**	**84.98**	**310**	P	**P**	**01 17 31.8**	**-1.5**
CHGR				IAmb	IAmb	01 17 36.0	
	comp=Z,7.5nm,0.6s						
KK31	**Karatay Array**	**84.99**	**314**		**P**	**01 17 32.2**	**-0.9**
KK31				IAmb	IAmb	01 17 33.5	
	comp=Z,3.5nm,0.9s						
KKAR	**Karatay Array**	**84.99**	**314**	P	**P**	**01 17 32.2**	**-0.8**
KKAR	**Karatay Array**	**84.99**	**314**	P	**P**	**01 17 32.3**	**-0.8**
SIMJ	**Simiganj**	**85.09**	**310**	P	**P**	**01 17 33.1**	**-0.7**
ILAR	**Eielson Array**	**85.93**	**23**	P	**P**	**01 17 34.5**	**-2.7**
	comp=Z,1.6nm,0.8s,baz=250,slow=5.0,SNR=15						
	comp=Z,1.6nm,0.8s						
NRIK	**Noril'sk**	**85.99**	**342**	P	**P**	**01 17 37.2**	**-0.2**
NRIK				IAmb	IAmb	01 17 37.9	
	comp=Z,10nm,0.7s						
NRIK	**Noril'sk**	**85.99**	**342**	P	**P**	**01 17 36.6**	**-0.8**
	comp=Z,9.6nm,0.7s,baz=113,slow=4.5,SNR=19						
	comp=Z,9.6nm,0.7s						
J25K	**Salcha River,**	**86.46**	**23**	P	**P**	**01 17 38.5**	**-1.5**
J25K				IAmb	IAmb	01 18 20.1	
	comp=Z,6.8nm,1.1s						
BVAR	**Borovoye Array**	**87.49**	**324**	P	**P**	**01 17 43.5**	**-1.7**
	comp=Z,4.3nm,0.6s,baz=106,slow=5.7,SNR=28						
	comp=Z,4.3nm,0.6s						
D25K	**Kavik River**	**88.02**	**19**	P	**P**	**01 17 47.6**	**+0.2**
D25K				IAmb	IAmb	01 17 48.2	
	comp=Z,5.4nm,1.1s						
E27K	**Coleen River**	**89.20**	**21**	P	**P**	**01 17 52.6**	**-0.3**
E27K				IAmb	IAmb	01 17 53.0	
	comp=Z,5.5nm,1.1s						
GEYT	**Alibeck**	**93.44**	**308**	P	**P**	**01 18 12.4**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=96,slow=3.0,SNR=4.4						
	comp=Z,2.2nm,0.8s						
NVAR	**Mina Array Bea**	**97.48**	**52**	P	**P**	**01 18 30.2**	**-1.8**
	comp=Z,0.4nm,0.6s,baz=250,slow=4.7,SNR=2.8						
	comp=Z,0.4nm,0.6s						
Q09A	**Carvers**	**98.37**	**52**	P	**P**	**01 18 34.9**	**-1.0**
YKA	**Yellowknife Ar**	**99.57**	**28**	P	**Pdif**	**01 18 39.2**	**-1.2**
	comp=Z,0.5nm,1.0s,baz=271,slow=4.5,SNR=5.5						
	comp=Z,0.5nm,1.0s						
PDAR	**Pinedale Array**	**104.08**	**48**	Pdiff	**Pdif**	**01 19 00.9**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=220,slow=1.2,SNR=5.9						
ARCES	**ARCESS Array B**	**106.97**	**342**	PKiKP	**PKiKP**	**01 23 21.8**	**-0.8**
	comp=Z,6.5nm,1.1s,baz=60,slow=1.4,SNR=6.6						
FINES	**FINESS Array B**	**110.40**	**334**	PKiKP	**PKiKP**	**01 23 28.8**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=63,slow=1.5,SNR=4.7						
HFS	**Hagfors**	**116.28**	**336**	PKP	**PKPdf**	**01 23 38.3**	**-2.1**
	comp=Z,1.6nm,0.9s,baz=67,slow=8.0,SNR=2.0						
NOA	**NORSAR Array B**	**116.68**	**339**	PKP	**PKPdf**	**01 23 39.2**	**-2.0**
	comp=Z,0.9nm,1.0s,baz=51,slow=2.1,SNR=2.4						
VYHS	**Vyhne**	**119.82**	**323**	*e*PKP	**PKPdf**	**01 23 47.0**	**-0.6**
RONA	**Rosalia, Austr**	**121.70**	**323**	*e*PKP	**PKPdf**	**01 23 50.4**	**-0.9**
	comp=Z,2.4nm,0.7s						
CONA	**Conrad Observa**	**121.85**	**324**	*i* PKP	**PKPdf**	**01 23 51.0**	**-0.7**
	comp=Z,2.9nm,0.8s						
GERES	**GERESS Array B**	**122.64**	**325**	PKP	**PKPdf**	**01 23 52.3**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=49,slow=2.8,SNR=6.8						
SOKA	**Soboth**	**122.95**	**323**	*e*PKP	**PKPdf**	**01 23 52.8**	**-1.0**
	comp=Z,5.2nm,1.1s						
BIOA	**Bad Ischl, Aus**	**123.27**	**324**	*i* PKP	**PKPdf**	**01 23 54.8**	**+0.6**
	comp=Z,2.7nm,0.7s						
KBA	**Koelnbreinsper**	**123.75**	**324**	*e*PKP	**PKPdf**	**01 23 54.4**	**-1.0**
	comp=Z,7.2nm,1.4s						
MYKA	**Terra Mystica**	**123.81**	**323**	*i* PKiKP	**PKPdf**	**01 23 56.2**	**+0.8**
	comp=Z,7.0nm,1.5s						
LESA	**Schwarzleotal**	**123.96**	**324**	*e*PKP	**PKPdf**	**01 23 54.7**	**-1.0**
	comp=Z,2.7nm,0.6s						
SADO	**Sadowa**	**124.59**	**39**	PKP	**PKPdf**	**01 23 55.5**	**-1.4**
	comp=Z,3.3nm,0.8s,baz=296,slow=5.2,SNR=3.6						
WATA	**Walderalm**	**124.64**	**325**	*e*PKP	**PKPdf**	**01 23 56.2**	**-0.9**
	comp=Z,1.8nm,0.5s						
WTTA	**Wattenberg**	**124.65**	**325**	*e*PKP	**PKPdf**	**01 23 56.4**	**-0.8**
	comp=Z,13nm,1.3s						
MOTA	**Moosalm**	**124.91**	**325**	*e*PKP	**PKPdf**	**01 23 56.4**	**-1.2**
	comp=Z,3.4nm,0.6s						
SQTA	**Sankt Quirin**	**124.92**	**325**	*e*PKP	**PKPdf**	**01 23 56.8**	**-0.8**
	comp=Z,3.8nm,0.8s						
FETA	**Feichten**	**125.30**	**325**	*i* PKP	**PKPdf**	**01 23 57.6**	**-0.7**
	comp=Z,5.7nm,0.9s						
BTNL	**Ternell**	**125.61**	**331**	*d*PKPdf	**PKPdf**	**01 23 59.1**	**+0.4**
DAVA	**Damuels**	**125.63**	**326**	*e*PKP	**PKPdf**	**01 23 58.1**	**-0.9**
	comp=Z,6.6nm,1.1s						
MEM	**Membach**	**125.65**	**331**	*d*PKPdf	**PKPdf**	**01 23 58.5**	**-0.2**
EKA	**Eskdalemuir Ar**	**126.04**	**340**	PKP	**PKPdf**	**01 23 58.6**	**-0.7**
	comp=Z,2.2nm,0.6s,baz=24,slow=3.2,SNR=17						
LPAZ	**La Paz**	**138.14**	**123**	PKP	**PKPdf**	**01 24 23.2**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=290,slow=3.0,SNR=5.1						
SDV	**Santo Domingo**	**142.30**	**84**	PKP	**PKPdf**	**01 24 29.7**	**-1.4**
	comp=Z,5.8nm,0.7s,baz=284,slow=6.8,SNR=8.2						
TORD	**Torodi Ar. Bea**	**145.59**	**284**	PKPbc	**PKPdf**	**01 24 36.7**	**+0.2**
	comp=Z,8.7nm,0.5s,baz=68,slow=4.2,SNR=104						
DBIC	**Dimbokro**	**152.40**	**272**	PKPbc	**PKPbc**	**01 24 54.1**	**-0.3**
	comp=Z,5.7nm,0.6s,baz=117,slow=2.9,SNR=8.5						
BDFB	**Brasilia**	**153.13**	**146**	PKPbc	**PKPbc**	**01 24 55.2**	**-0.9**
	comp=Z,8.8nm,0.8s,baz=230,slow=3.3,SNR=13						

NEIC ***13*** *01:05:21.5±1.6,55°.99N±0°.08×149°.9W±0°.1, h8km±7km, ML3.5/34, ML3.1(AEIC), Error ellipse: s-maj=11.7km s-min=8.6km az=156.0*

AEIC ***13*** *01:05:26.6±2.7,56°.01N±0°.09×150°.1W±0°.1, h1km±8km, Error ellipse: s-maj=13.9km s-min=9.5km az=158.0*

ISC 13 01:05:20.4±2.3, 56°.0N±0°.1×149°.91W±0°.06, h10km, n74, σ1s 23/80, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.27**	**306**			**Pn**	**01 05 58.4**	**+0.5**
OHAK						**Sn**	**01 06 23.6**	**-2.1**
OHAK	**Old Harbor**	**2.27**	**306**	P		**Pn**	**01 05 58.4**	**+0.5**
	baz=123							
OHAK				S		**Sn**	**01 06 23.6**	**-2.1**
	baz=123							
KDAK	**Kodiak Island**	**2.35**	**322**			**Pn**	**01 05 59.9**	**+0.9**
KDAK						**Sn**	**01 06 26.4**	**-1.6**
SII	**Sitkinak Islan**	**2.46**	**286**			**Pn**	**01 06 01.0**	**+0.4**
SII	**Sitkinak Islan**	**2.46**	**286**	P		**Pn**	**01 06 01.0**	**+0.4**
	baz=102							
SYI	**Shuyak Island**	**2.99**	**334**			**Pn**	**01 06 08.8**	**+1.0**
SYI						**Sn**	**01 06 43.3**	**-0.3**
Q20K	**Shuyak Island**	**2.99**	**334**	P		**Pn**	**01 06 08.8**	**+1.0**
	baz=154							
Q20K				S		**Sn**	**01 06 43.3**	**-0.3**
	baz=154							
Q19K	**Cape Douglas,**	**3.61**	**327**			**Pn**	**01 06 18.1**	**+1.8**
Q19K	**Cape Douglas,**	**3.61**	**327**	IAML			01 07 04.3	
	comp=N,181nm,0.7s							
Q19K	**Cape Douglas,**	**3.61**	**327**	P		**Pn**	**01 06 18.1**	**+1.8**
	baz=145							
CNPM	**China Poot**	**3.66**	**349**			**Pn**	**01 06 17.6**	**+0.6**
CNPM						**Sn**	**01 06 59.6**	**-0.5**
CNPM	**China Poot**	**3.66**	**349**	IAML			01 07 03.4	
	comp=E,38nm,1.2s							
CNPM				IAML			01 07 09.3	
	comp=N,30nm,1.1s							
KAKN	**Katmai Knife C**	**3.67**	**312**			**Pn**	**01 06 18.9**	**+1.7**
BRSE	**Bradley Lake S**	**3.83**	**354**			**Pn**	**01 06 19.9**	**+0.5**
BRSE						**Sn**	**01 07 02.8**	**-1.6**
BRSE	**Bradley Lake S**	**3.83**	**354**	P		**Pn**	**01 06 19.9**	**+0.5**
	baz=175							
BRSE				S		**Sn**	**01 07 02.8**	**-1.6**
	baz=175							
BRLK	**Bradley Lake**	**3.86**	**353**			**Pn**	**01 06 20.3**	**+0.5**
Q23K	**Middleton Isla**	**3.98**	**27**	Pn		**Pn**	**01 06 21.6**	**+0.3**
Q23K				IAML			01 08 01.3	
	comp=N,108nm,1.2s							
MID	**Middleton Isla**	**3.98**	**27**	Pn		**Pn**	**01 06 21.1**	**-0.2**
MID				IAML			01 07 31.4	
	comp=E,143nm,1.2s							
P19K	**Oil Pt**	**4.12**	**336**			**Pn**	**01 06 24.8**	**+1.5**
P19K	**Oil Pt**	**4.12**	**336**	P		**Pn**	**01 06 24.8**	**+1.5**
	baz=154							
P23K	**Montague Islan**	**4.27**	**17**			**Pn**	**01 06 26.5**	**+1.1**
P23K	**Montague Islan**	**4.27**	**17**	P		**Pn**	**01 06 26.5**	**+1.1**
	baz=201							
O20K	**Slope Mountain**	**4.39**	**342**			**Pn**	**01 06 28.1**	**+1.0**
O20K	**Slope Mountain**	**4.39**	**342**	P		**Pn**	**01 06 28.1**	**+1.0**
	baz=161							
ILSW	**Iliamna Southw**	**4.40**	**338**			**Pn**	**01 06 27.6**	**+0.3**
P18K	**Big Mountain,**	**4.48**	**323**			**Pn**	**01 06 29.6**	**+1.3**
P18K	**Big Mountain,**	**4.48**	**323**	P		**Pn**	**01 06 29.6**	**+1.3**
	baz=139							
RSO	**Redoubt South**	**4.77**	**343**	Pn		**Pn**	**01 06 33.3**	**+0.9**
CHGN	**Chignik**	**4.78**	**278**	Pn		**Pn**	**01 06 33.4**	**+1.1**
CHGN				IAML			01 07 28.2	
	comp=N,26nm,0.7s							
P17K	**Kvichak River**	**4.79**	**315**			**Pn**	**01 06 34.4**	**+1.9**
P17K	**Kvichak River**	**4.79**	**315**	P		**Pn**	**01 06 34.4**	**+1.9**
	baz=130							
HIN	**Hinchinbrook I**	**4.81**	**21**			**Pn**	**01 06 34.0**	**+1.2**
O18K	**Koktuh Hills**	**4.83**	**326**			**Pn**	**01 06 34.8**	**+1.7**
O18K	**Koktuh Hills**	**4.83**	**326**	P		**Pn**	**01 06 34.8**	**+1.7**
	baz=143							
O19K	**Port Alsworth**	**4.86**	**333**	Pn		**Pn**	**01 06 33.4**	**-0.1**
KAIM	**Kayak Island**	**4.94**	**34**			**Pn**	**01 06 36.1**	**+1.5**
KAIM	**Kayak Island**	**4.94**	**34**	P		**Pn**	**01 06 36.1**	**+1.5**
	baz=220							
SUA	**Susitna One**	**5.55**	**356**	Pn		**Pn**	**01 06 43.4**	**+0.3**
CNBA	**Chernabura Isl**	**5.64**	**262**	Pn		**Pn**	**01 06 44.8**	**+0.7**
N18K	**Kilae Creek**	**5.70**	**329**	Pn		**Pn**	**01 06 45.7**	**+0.7**
O16K	**Kokwok River B**	**5.70**	**313**	Pn		**Pn**	**01 06 46.7**	**+1.6**
WAX	**Waxell Ridge**	**5.85**	**37**	Pn		**Pn**	**01 06 47.8**	**+0.6**
SCM	**Sheep Creek Mo**	**6.05**	**12**	Pn		**Pn**	**01 06 50.0**	**+0.1**
SKT	**Skwentna**	**6.11**	**353**	Pn		**Pn**	**01 06 50.8**	**+0.2**
ISLE	**Juniper Island**	**6.14**	**37**	Pn		**Pn**	**01 06 51.0**	**-0.1**
TABL	**Table Mountain**	**6.46**	**42**	Pn		**Pn**	**01 06 55.9**	**+0.3**
M17K	**Holitna River**	**6.73**	**327**	Pn		**Pn**	**01 06 59.3**	**+0.2**
L19K	**White Mountain**	**6.75**	**340**	Pn		**Pn**	**01 07 00.2**	**+0.8**
BCPM	**Bancas Point**	**6.78**	**49**	Pn		**Pn**	**01 07 01.2**	**+1.4**
N15K	**Kwethluk River**	**6.86**	**312**	Pn		**Pn**	**01 07 03.1**	**+2.2**
O14K	**Tigyukauivet M**	**6.94**	**303**	Pn		**Pn**	**01 07 03.9**	**+1.8**
M16K	**Timber Creek**	**6.95**	**321**	Pn		**Pn**	**01 07 03.4**	**+1.2**
O29M	**Mount Kennedy**	**7.41**	**49**	Pn		**Pn**	**01 07 09.1**	**+0.5**
P29M	**Windy Craggy**	**7.47**	**55**	Pn		**Pn**	**01 07 10.1**	**+0.7**
RND	**Reindeer**	**7.50**	**4**	Pn		**Pn**	**01 07 09.8**	**+0.1**
CAST	**Castle Rocks**	**7.57**	**353**	Pn		**Pn**	**01 07 11.9**	**+1.1**
L16K	**Owhat River**	**7.61**	**323**	Pn		**Pn**	**01 07 11.9**	**+0.7**
M27K	**Edge Creek, AK**	**7.63**	**29**	Pn		**Pn**	**01 07 11.6**	**0.0**
KTH	**Kantishna Hill**	**7.64**	**357**	Pn		**Pn**	**01 07 13.5**	**+1.8**
S31K	**Pelican**	**7.74**	**69**	Pn		**Pn**	**01 07 12.9**	**-0.1**
M14K	**Bethel**	**7.96**	**312**	Pn		**Pn**	**01 07 18.2**	**+2.4**
K17K	**Iditarod**	**8.02**	**331**

ILSW	**Iliamna Southw**	**4.27**	**333**	IAML			01 09 02.8	
	comp=N,41nm,1.0s							
ILSW				IAML			01 09 10.3	
	comp=E,49nm,0.8s							
SLKM	**Skilak Lake**	**4.29**	**353**			Pn	01 08 12.4	-0.4
HIN	**Hinchinbrook I**	**4.39**	**18**			Pn	01 08 13.7	-0.3
HIN	**Hinchinbrook I**	**4.39**	**18**	IAML			01 09 11.2	
	comp=N,93nm,1.1s							
KAIM	**Kayak Island**	**4.47**	**33**			Pn	01 08 15.0	-0.2
KAIM	**Kayak Island**	**4.47**	**33**	IAML			01 09 13.0	
	comp=E,109nm,1.4s							
KAIM				IAML			01 09 20.3	
	comp=N,115nm,1.4s							
P18K	**Big Mountain,**	**4.49**	**317**	Pn		Pn	01 08 15.6	+0.2
RDSO	**Redoubt South**	**4.60**	**338**			Pn	01 08 16.5	-0.5
RSO	**Redoubt South**	**4.61**	**338**	Pn		Pn	01 08 16.7	-0.5
EYAK	**Cordova Ski Ar**	**4.67**	**22**			Pn	01 08 18.2	+0.3
RAGM	**Ragged Mountai**	**4.78**	**28**	Pn		Pn	01 08 19.6	+0.1
O18K	**Koktuh Hills**	**4.80**	**321**			Pn	01 08 19.8	+0.1
RC01	**Rabbit Creek A**	**4.85**	**357**			Pn	01 08 20.1	-0.3
RC01	**Rabbit Creek A**	**4.85**	**357**	IAML			01 09 28.3	
	comp=E,26nm,0.7s							
RC01				IAML			01 10 57.0	
	comp=N,25nm,0.5s							
HMT	**Hamilton**	**4.86**	**31**	Pn		Pn	01 08 20.6	+0.2
NICHA	**Nichawak Mount**	**4.86**	**33**			Pn	01 08 20.4	-0.1
FIS	**Fire Island**	**4.93**	**354**	Pn		Pn	01 08 23.0	+1.6
FIS				IAML			01 10 08.6	
	comp=E,56nm,1.5s							
CHGN	**Chignik**	**5.12**	**274**	Pn		Pn	01 08 24.4	+0.4
CHGN				IAML			01 09 22.8	
	comp=N,30nm,1.2s							
CHGN				IAML			01 09 35.3	
	comp=E,28nm,1.3s							
KNK	**Knik Glacier**	**5.18**	**4**			Pn	01 08 25.6	+0.6
KNK	**Knik Glacier**	**5.18**	**4**	IAML			01 09 36.1	
	comp=N,17nm,0.7s							
KNK				IAML			01 09 42.1	
	comp=E,20nm,0.7s							
DIV	**Divide**	**5.21**	**19**			Pn	01 08 25.2	-0.1
BMRM	**Bremner River**	**5.30**	**25**			Pn	01 08 27.0	+0.4
N19K	**Bonanza Creek**	**5.33**	**331**			Pn	01 08 26.7	-0.4
PMR	**Palmer**	**5.35**	**0**	Pn		Pn	01 08 27.9	+0.7
PMR				IAML			01 09 36.1	
	comp=E,16nm,1.2s							
KLU	**Klutina**	**5.52**	**17**			Pn	01 08 30.4	+0.7
GHO	**Glory Hole Cre**	**5.53**	**1**			Pn	01 08 30.7	+0.9
SML	**Sawmill**	**5.58**	**4**			Pn	01 08 31.0	+0.5
N18K	**Kilae Creek**	**5.64**	**325**			Pn	01 08 31.6	+0.3
ISLE	**Juniper Island**	**5.66**	**37**	Pn		Pn	01 08 31.6	0.0
O16K	**Kokwok River B**	**5.79**	**309**	Pn		Pn	01 08 33.5	+0.4
VRDI	**Verde Repeater**	**5.82**	**29**	Pn		Pn	01 08 33.4	-0.4
N25K	**Chitina, Valde**	**5.87**	**22**	Pn		Pn	01 08 36.0	+1.5
GLB	**Gilahina Butte**	**5.91**	**26**	Pn		Pn	01 08 34.9	0.0
CNBA	**Chernabura Isl**	**6.06**	**261**			Pn	01 08 36.7	-0.2
M24K	**Tolsona, Glenn**	**6.07**	**14**	Pn		Pn	01 08 37.2	+0.1
BARN	**Barnard Glacie**	**6.22**	**36**	Pn		Pn	01 08 40.5	+1.1
SDPT	**Sand Point**	**6.41**	**267**			Pn	01 08 41.2	-0.5
L19K	**White Mountain**	**6.60**	**336**	Pn		Pn	01 08 43.6	-0.8
P29M	**Windy Craggy**	**6.99**	**56**	Pn		Pn	01 08 49.8	+0.1
S31K	**Pelican**	**7.28**	**71**	Pn		Pn	01 08 53.5	-0.1
SIT	**Sitka**	**7.71**	**78**	Pn		Pn	01 08 58.3	-1.2
BCAR	**Beaver Creek A**	**7.79**	**26**	Pn		Pn	01 09 00.8	+0.1
S32K	**Killisnoo**	**8.12**	**75**	Pn		Pn	01 09 05.0	-0.1
K27K	**Chicken**	**8.57**	**22**	Pn		Pn	01 09 12.6	+1.3
IL31		**8.62**	**7**	Pn		Pn	01 09 10.7	-1.3
WHY	**Whitehorse**	**8.71**	**54**	Pn		Pn	01 09 12.6	-0.8
L29M	**L29M**	**8.86**	**35**	Pn		Pn	01 09 15.3	0.0
P32M	**Atlin**	**8.90**	**62**	Pn		Pn	01 09 16.2	+0.3
U33K	**Whale Pass**	**8.98**	**84**	Pn		Pn	01 09 16.5	-0.5

*NEIC **13** 01:08:42.3±1.1,56.0N±0.1×150.0W±0.1, h22km±11km, ML3.3/40, ML3.2(AEIC), Error ellipse: s-maj=15.6km s-min=7.5km az=158.0*
*AEIC **13** 01:08:44.0±1.2,55.9N±0.1×149.9W±0.1, h8km±8km, Error ellipse: s-maj=17.4km s-min=8.1km az=167.0*

ISC 13 01:08:39.2±2.3, 56.0N±0.1×149.94W±0.06, h10km, n76, σ1§27/73, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.25**	**306**		**Pn**	**01 09 16.7**	**+0.4**
OHAK					**Sn**	**01 09 42.5**	**-1.6**
OHAK	**Old Harbor**	**2.25**	**306**	P	**Pn**	**01 09 16.7**	**+0.4**
	baz=124						
OHAK				S	**Sn**	**01 09 42.5**	**-1.6**
	baz=124						
KDAK	**Kodiak Island**	**2.34**	**323**		**Pn**	**01 09 18.4**	**+0.8**
KDAK					**Sn**	**01 09 44.7**	**-1.6**
SII	**Sitkinak Islan**	**2.44**	**286**		**Pn**	**01 09 19.3**	**+0.1**
SII	**Sitkinak Islan**	**2.44**	**286**	IAML		01 09 48.6	
	comp=E,113nm,0.9s						
SII				IAML		01 10 13.1	
	comp=N,94nm,1.0s						
SII	**Sitkinak Islan**	**2.44**	**286**	P	**Pn**	**01 09 19.3**	**+0.1**
	baz=103						
SYI	**Shuyak Island**	**2.98**	**334**		**Pn**	**01 09 27.1**	**+0.7**
SYI					**Sn**	**01 10 01.3**	**-0.7**
Q20K	**Shuyak Island**	**2.98**	**334**	P	**Pn**	**01 09 27.1**	**+0.7**
	baz=152						
Q20K				S	**Sn**	**01 10 01.3**	**-0.8**
	baz=152						
Q19K	**Cape Douglas,**	**3.59**	**328**		**Pn**	**01 09 36.3**	**+1.4**
Q19K	**Cape Douglas,**	**3.59**	**328**	IAML		01 10 24.0	
	comp=N,121nm,0.8s						
Q19K	**Cape Douglas,**	**3.59**	**328**	P	**Pn**	**01 09 36.3**	**+1.4**
	baz=145						
CNPM	**China Poot**	**3.65**	**350**		**Pn**	**01 09 36.2**	**+0.6**
CNPM					**Sn**	**01 10 18.1**	**-0.6**
ANCK	**Angle Creek**	**3.77**	**309**		**Pn**	**01 09 39.0**	**+1.5**
BRSE	**Bradley Lake S**	**3.82**	**354**		**Pn**	**01 09 38.0**	**0.0**
BRSE					**Sn**	**01 10 20.8**	**-2.1**
BRSE	**Bradley Lake S**	**3.82**	**354**	P	**Pn**	**01 09 38.0**	**0.0**
	baz=173						
BRSE				S	**Sn**	**01 10 20.8**	**-2.1**
	baz=173						
BRLK	**Bradley Lake**	**3.85**	**353**		**Pn**	**01 09 38.7**	**+0.2**
BRLK	**Bradley Lake**	**3.85**	**353**	IAML		01 10 24.1	
	comp=N,26nm,1.3s						
BRLK				IAML		01 10 24.4	
	comp=E,25nm,1.5s						
Q23K	**Middleton Isla**	**3.98**	**27**		**Pn**	**01 09 40.8**	**+0.6**
Q23K	**Middleton Isla**	**3.98**	**27**	P	**Pn**	**01 09 40.8**	**+0.6**
	baz=210						
MID	**Middleton Isla**	**3.98**	**28**	Pn	**Pn**	**01 09 40.0**	**-0.2**
CNTC	**Contact Creek**	**3.98**	**308**		**Pn**	**01 09 41.7**	**+1.4**
Q17K	**Contact Creek**	**3.98**	**308**	P	**Pn**	**01 09 41.7**	**+1.4**
	baz=123						
P19K	**Oil Pt**	**4.10**	**336**		**Pn**	**01 09 43.0**	**+1.0**
P19K	**Oil Pt**	**4.10**	**336**	IAML		01 10 36.1	
	comp=N,66nm,1.2s						
P19K	**Oil Pt**	**4.10**	**336**	P	**Pn**	**01 09 43.0**	**+1.0**
	baz=153						
P23K	**Montague Islan**	**4.27**	**17**		**Pn**	**01 09 44.6**	**+0.4**
P23K	**Montague Islan**	**4.27**	**17**	P	**Pn**	**01 09 44.6**	**+0.4**
	baz=199						
O20K	**Slope Mountain**	**4.38**	**342**		**Pn**	**01 09 46.9**	**+1.2**
O20K	**Slope Mountain**	**4.38**	**342**	P	**Pn**	**01 09 46.9**	**+1.2**
	baz=160						
ILSW	**Iliamna Southw**	**4.38**	**338**		**Pn**	**01 09 47.2**	**+1.3**
ILSW	**Iliamna Southw**	**4.38**	**338**	IAML		01 10 39.0	
	comp=N,25nm,0.7s						
ILSW				IAML		01 10 40.9	
	comp=E,23nm,1.0s						
P18K	**Big Mountain,**	**4.46**	**323**		**Pn**	**01 09 47.8**	**+0.9**
P18K	**Big Mountain,**	**4.46**	**323**	P	**Pn**	**01 09 47.8**	**+0.9**
	baz=138						
CHGN	**Chignik**	**4.75**	**278**	Pn	**Pn**	**01 09 52.5**	**+1.7**
CHGN				IAML		01 10 45.7	
	comp=N,28nm,1.0s						
CHGN				IAML		01 10 53.6	
	comp=E,29nm,1.3s						
P17K	**Kvichak River**	**4.77**	**316**		**Pn**	**01 09 52.7**	**+1.6**
P17K	**Kvichak River**	**4.77**	**316**	P	**Pn**	**01 09 52.7**	**+1.6**
	baz=130						
HIN	**Hinchinbrook I**	**4.81**	**21**		**Pn**	**01 09 52.2**	**+0.6**
HIN	**Hinchinbrook I**	**4.81**	**21**	IAML		01 10 54.1	
	comp=N,56nm,1.5s						
HIN				IAML		01 12 01.5	
	comp=E,43nm,1.4s						
O18K	**Koktuh Hills**	**4.81**	**326**		**Pn**	**01 09 52.7**	**+1.0**
O18K	**Koktuh Hills**	**4.81**	**326**	IAML		01 10 49.3	
	comp=N,19nm,1.1s						
O18K				IAML		01 11 02.4	
	comp=E,15nm,1.1s						
O18K	**Koktuh Hills**	**4.81**	**326**	P	**Pn**	**01 09 52.7**	**+1.0**
	baz=142						
KAIM	**Kayak Island**	**4.95**	**34**		**Pn**	**01 09 54.2**	**+0.7**
KAIM	**Kayak Island**	**4.95**	**34**	P	**Pn**	**01 09 54.2**	**+0.7**
	baz=218						
RAGM	**Ragged Mountai**	**5.24**	**30**		**Pn**	**01 09 58.7**	**+1.1**
RAGM	**Ragged Mountai**	**5.24**	**30**	IAML		01 11 02.9	
	comp=E,33nm,1.3s						
SUCK	**Suckling Hills**	**5.27**	**36**		**Pn**	**01 09 58.9**	**+1.0**
SUCK	**Suckling Hills**	**5.27**	**36**	IAML		01 11 12.6	
	comp=E,42nm,1.5s						
SUCK				IAML		01 11 40.3	
	comp=N,37nm,1.4s						
HMT	**Hamilton**	**5.32**	**32**		**Pn**	**01 09 59.4**	**+0.8**
HMT	**Hamilton**	**5.32**	**32**	IAML		01 11 12.4	
	comp=N,37nm,1.5s						
NICHA	**Nichawak Mount**	**5.33**	**34**		**Pn**	**01 09 59.7**	**+0.9**
GOAT	**Goat Mountain**	**5.39**	**29**		**Pn**	**01 10 00.7**	**+1.0**
N19K	**Bonanza Creek**	**5.42**	**336**		**Pn**	**01 10 00.6**	**+0.5**
N19K	**Bonanza Creek**	**5.42**	**336**	IAML		01 10 51.3	
	comp=N,8.2nm,1.2s						
N19K	**Bonanza Creek**	**5.42**	**336**	P	**Pn**	**01 10 00.6**	**+0.5**
	baz=152						
SNH	**Sunshine Point**	**5.67**	**39**		**Pn**	**01 10 04.6**	**+1.2**
N18K	**Kilae Creek**	**5.68**	**329**		**Pn**	**01 10 04.5**	**+0.9**
N18K	**Kilae Creek**	**5.68**	**329**	P	**Pn**	**01 10 04.5**	**+0.9**
	baz=144						
O16K	**Kokwok River B**	**5.69**	**313**	Pn	**Pn**	**01 10 05.1**	**+1.6**
KHIT	**Khitrov Hills**	**5.72**	**35**		**Pn**	**01 10 05.0**	**+0.8**
BMRM	**Bremner River**	**5.75**	**27**		**Pn**	**01 10 05.6**	**+1.0**
BMRM	**Bremner River**	**5.75**	**27**	P	**Pn**	**01 10 05.6**	**+1.0**
	baz=211						
WAX	**Waxell Ridge**	**5.86**	**37**		**Pn**	**01 10 07.0**	**+0.9**
MESA	**MESA**	**5.99**	**42**	Pn	**Pn**	**01 10 09.8**	**+1.9**
ISLE	**Juniper Island**	**6.14**	**38**	Pn	**Pn**	**01 10 11.2**	**+1.2**
TABL	**Table Mountain**	**6.47**	**42**	Pn	**Pn**	**01 10 15.6**	**+1.1**
M17K	**Holitna River**	**6.71**	**328**	Pn	**Pn**	**01 10 18.7**	**+1.0**
BCPM	**Bancas Point**	**6.79**	**50**	Pn	**Pn**	**01 10 20.4**	**+1.6**
N15K	**Kwethluk River**	**6.84**	**312**	Pn	**Pn**	**01 10 21.9**	**+2.4**
O14K	**Tigyukauivet M**	**6.92**	**303**	Pn	**Pn**	**01 10 22.6**	**+2.0**
M16K	**Timber Creek**	**6.94**	**321**	Pn	**Pn**	**01 10 22.7**	**+1.9**
P29M	**Windy Craggy**	**7.49**	**56**	Pn	**Pn**	**01 10 29.5**	**+1.1**
L16K	**Owhat River**	**7.59**	**323**	Pn	**Pn**	**01 10 32.4**	**+2.6**
M13K	**Dall Lake**	**8.37**	**308**	Pn	**Pn**	**01 10 41.2**	**+0.9**
L14K	**Kuka Creek**	**8.55**	**314**	Pn	**Pn**	**01 10 45.3**	**+2.4**
K15K	**Wolf Creek Mou**	**8.70**	**322**	Pn	**Pn**	**01 10 47.6**	**+2.7**
J16K	**Anvik River**	**9.11**	**328**	Pn	**Pn**	**01 10 51.9**	**+1.4**

*ISK **13** 01:16:20.8, 35.33N×28.64E, h12km, ML2.5/14*
*NIC **13** 01:16:22.9, 35.35N×28.65E, h25km±3km, Ml2.8/6*
*ATH **13** 01:16:24.1, 35.42N×28.56E, h22km±6km, ML2.6/2, Error ellipse: s-maj=7.7km s-min=2.0km az=355.0*
*AFAD **13** 01:16:24.9±0.0, 35.62N×28.51E, h40km±1km, ML2.5*
*THE **13** 01:16:24.3, 35.43N×28.56E, h12km±1km, ML2.4/3, Error ellipse: s-maj=1.6km s-min=0.5km az=166.0*
*GII **13** 01:16:25.2±0.3, 34.953N±0.002×28.737E±0.001, h20km, Mws2.8, confirmed*

ISC 13 01:16:22.0±1.1, 35.36N±0.03×28.66E±0.02, h32km±12km, n111, σ1§75/136, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.96**	**333**	Pg	**Pn**	**01 16 39.9**	**+0.7**
ARG				Sg	**Sn**	**01 16 54.1**	**+2.3**
ARG	**Arkhangelos**	**0.96**	**333**	P	**Pn**	**01 16 40.3**	**+1.0**
ARG				S	**Sn**	**01 16 52.8**	**+1.0**
	352nm,0.7s						
ARG	**Arkhangelos**	**0.96**	**333**	↑P	**Pn**	**01 16 40.2**	**+1.0**
ARG				S	**Sn**	**01 16 54.5**	**+2.7**
ARG				AML	AML	01 17 02.2	
	0.7nm,0.7s						
ARG				AML	AML	01 17 06.3	
	0.6nm,0.5s						
ARG	**Arkhangelos**	**0.96**	**333**	P	**Pn**	**01 16 40.3**	**+1.0**
ARG				S	**Sn**	**01 16 52.6**	**+0.8**
ARG				AML	AML	01 17 02.5	
	comp=N,730μm,0.7s						
ARG				AML	AML	01 17 02.6	
	comp=E,680μm,0.7s						
KSL	**Kastellorizon**	**1.08**	**43**	P	**Pb**	**01 16 43.8**	**+1.6**
KSL				S	**Sn**	**01 16 58.8**	**+3.9**
	comp=E,78nm,0.5s						
KSL	**Kastellorizon**	**1.08**	**43**	P	**Pb**	**01 16 43.0**	**+0.9**
KSL				S	**Sn**	**01 16 57.9**	**+3.0**
KSL	**Kastellorizon**	**1.08**	**43**	P	**Pb**	**01 16 43.8**	**+1.6**
AKAS	**Kas**	**1.16**	**41**	P	**Pb**	**01 16 44.6**	**+1.1**
AKAS				S	**Sn**	**01 16 59.5**	**+2.6**
AKAS				*i* AML	AML	01 17 17.0	
	comp=E,109nm,0.7s						
IZZE	**Mula-Seydike**	**1.17**	**23**	P	**Pb**	**01 16 43.7**	**+0.1**
IZZE				S	**Sn**	**01 16 58.5**	**+1.6**
IZZE				*i* AML	AML	01 17 03.0	
	comp=E,106nm,0.3s						
IZZE				*i* AML	AML	01 17 04.0	
	comp=E,91nm,0.4s						
KARP	**Karpathos**	**1.24**	**279**	Pn	**Pb**	**01 16 44.4**	**-0.4**
KARP				Sn	**Sb**	**01 17 01.6**	**+1.1**
KARP	**Karpathos**	**1.24**	**279**	P	**Pb**	**01 16 44.3**	**-0.5**
KARP				S	**Sb**	**01 17 00.1**	**-0.4**
	comp=E,270nm,0.7s						
KARP	**Karpathos**	**1.24**	**279**	↑P	**Pb**	**01 16 44.5**	**-0.4**
KARP				S	**Sb**	**01 17 01.0**	**+0.5**
KARP				AML	AML	01 17 08.1	
	comp=E,0.4nm,0.5s						
KARP				AML	AML	01 17 08.4	
	comp=E,0.4nm,0.8s						
KARP	**Karpathos**	**1.24**	**279**	P	**Pb**	**01 16 44.4**	**-0.4**
KARP				S	**Sn**	**01 16 58.9**	**+0.1**
KARP				AML	AML	01 17 01.4	
	comp=E,445μm,0.5s						
KARP				AML	AML	01 17 01.9	
	comp=N,608μm,0.7s						
FETY	**Fethiye**	**1.32**	**15**	Pn	**Pb**	**01 16 45.5**	**-0.6**
FETY	**Fethiye**	**1.32**	**15**	P	**Pb**	**01 16 47.7**	**+1.6**
FETY				S	**Sb**	**01 17 02.2**	**-0.4**
TURN	**Turunc**	**1.45**	**347**	P	**Pb**	**01 16 46.8**	**-1.6**
TURN				S	**Sn**	**01 17 03.3**	**-0.6**
DALY	**Dalyan (Mula)**	**1.45**	**360**	Pn	**Pb**	**01 16 48.2**	**-0.2**
DAT	**Datca**	**1.62**	**327**	Pn	**Pb**	**01 16 50.1**	**-1.3**
DAT	**Datca**	**1.62**	**327**	P	**Pb**	**01 16 49.5**	**-1.9**
DAT	**Datca**	**1.62**	**327**	P	**Pb**	**01 16 49.3**	**-2.1**
DAT				S	**Sn**	**01 17 07.1**	**-1.3**
DAT				*i* AML	AML	01 17 19.0	
	comp=N,56nm,0.8s						
DAT				*i* AML	AML	01 17 28.0	
	comp=N,63nm,0.9s						
KNIK	**Mula-Seydike**	**1.65**	**26**	P	**Pb**	**01 16 51.2**	**-0.7**
KNIK				S	**Sn**	**01 17 08.9**	**-0.2**
CAME	**Cameli-Denizli**	**1.66**	**18**	Pn	**Pb**	**01 16 51.3**	**-0.7**
AKUM	**Antalya-Kumluc**	**1.67**	**54**	P	Pb	01 16 58.5	+6.5
AKUM				S	**Sn**	**01 17 10.3**	**+1.1**
ELL	**Elmali**	**1.71**	**36**	Pn	**Pb**	**01 16 52.0**	**-0.9**
ELL	**Elmali**	**1.71**	**36**	P	**Pb**	**01 16 52.4**	**-0.4**
CAEL	**Denizli, Camel**	**1.84**	**17**	P	**Pb**	**01 16 54.2**	**-0.8**
CAEL				S	**Sb**	**01 17 15.1**	**-2.5**
CAEL				*i* AML	AML	01 17 19.0	
	comp=N,51nm,0.7s						
CAEL				*i* AML	AML	01 17 24.0	
	comp=N,68nm,0.9s						
CAEL				*i* AML	AML	01 17 42.0	
	comp=N,52nm,0.6s						
DNZT	**Denizli-Tavas-**	**1.94**	**9**	P	**Pb**	**01 16 55.2**	**-1.5**
DNZT				S	**Sn**	**01 17 15.6**	**-0.5**
GOLH	**Golhisar**	**2.01**	**21**	P	**Pb**	**01 16 57.1**	**-0.8**
GOLH				S	**Sb**	**01 17 19.9**	**-2.6**
ZKR	**Zakros**	**2.02**	**264**	Pn	**Pn**	**01 16 55.3**	**+1.5**
ZKR	**Zakros**	**2.02**	**264**	P	**Pn**	**01 16 55.0**	**+1.2**
ZKR				S	**Sn**	**01 17 19.0**	**+1.0**
ZKR	**Zakros**	**2.02**	**264**	P	**Pn**	**01 16 55.2**	**+1.5**
BODT	**Bodrum**	**2.02**	**328**	Pn	**Pb**	**01 16 55.9**	**-2.1**
MLSB	**Milas**	**2.06**	**340**	Pn	**Pb**	**01 16 56.3**	**-2.4**
TAVA	**DENIZLI_Tavas**	**2.11**	**5**	P	**Pb**	**01 16 57.2**	**-2.4**
TAVA				S	**Sn**	**01 17 20.5**	**+0.1**
KORT	**Korkueli**	**2.13**	**39**	P	**Pn**	**01 16 57.3**	**+1.8**
KORT				S	**Sb**	**01 17 22.9**	**-3.1**
APMY	**Acipayam-Deniz**	**2.17**	**14**	Pn	**Pb**	**01 16 58.5**	**-2.1**
DNIZ	**Denizli-Tavas-**	**2.28**	**7**	P	**Pb**	**01 16 59.5**	**-3.0**
DNIZ				S	**Sn**	**01 17 25.5**	**+0.9**
DNIZ				*i* AML	AML	01 17 27.0	
	comp=N,57nm,0.3s						
DNIZ				*i* AML	AML	01 17 28.0	
	comp=N,73nm,0.3s						
INCE	**Denizli-Bozkur**	**2.46**	**17**	P	**Pb**	**01 17 02.6**	**-2.9**
INCE				S	**Sn**	**01 17 28.8**	**-0.1**
BRDR	**BURDUR-Merkez**	**2.59**	**25**	P	**Pb**	**01 17 05.0**	**-2.7**
BRDR				S	**Sn**	**01 17 30.0**	**-2.1**
SMG	**Samos**	**2.77**	**328**	P	**Pn**	**01 17 04.7**	**+0.6**
KEPZ	**Antalya-Kepez**	**2.83**	**56**	P	**Pb**	**01 17 08.9**	**-2.9**
KEPZ				S	**Sn**	**01 17 40.3**	**+2.2**
THR3	**Thira Island,**	**2.85**	**292**	P	**Pn**	**01 17 06.3**	**+1.1**
AKMS	**Akamas**	**3.03**	**95**	↑P	**Pn**	**01 17 09.9**	**+2.2**
AKMS				AML	AML	01 17 47.4	
	comp=N,0.1nm,0.2s						
AKMS				AML	AML	01 17 47.5	
	comp=N,0.2nm,0.2s						
APE	**Apeiranthos**	**3.05**	**305**	Pn	**Pn**	**01 17 08.7**	**+0.6**
IDI	**Anoyia**	**3.09**	**270**	Pn	**Pn**	**01 17 10.4**	**+1.8**
IDI	**Anoyia**	**3.09**	**270**	P	**Pn**	**01 17 09.8**	**+1.2**
ALFC	**Alefka**	**3.23**	**93**	↑P	**Pn**	**01 17 12.6**	**+2.2**
ALFC				AML	AML	01 17 50.9	
	comp=N,0.1nm,0.2s						
ALFC				AML	AML	01 17 51.3	
	comp=N,0.1nm,0.2s						
NATA	**Nata**	**3.26**	**99**	↑P	**Pn**	**01 17 13.2**	**+2.3**
NATA				AML	AML	01 17 52.5	
	comp=N,0.2nm,0.3s						
NATA				AML	AML	01 17 54.0	
	comp=N,0.1nm,0.4s						
ASGA	**Asgata**	**3.80**	**97**	P	**Pn**	**01 17 20.2**	**+1.8**
ASGA				AML	AML	01 18 06.3	
ASGA				AML	AML	01 18 09.8	
	comp=N,0.1nm,0.2s						
IMMV	**Iera Moni Meta**	**3.83**	**273**	Pn	**Pn**	**01 17 21.3**	**+2.6**
IMMV	**Iera Moni Meta**	**3.83**	**273**	P	**Pn**	**01 17 20.9**	**+2.3**
CSS	**Mathiatis**	**3.84**	**95**	P	**Pn**	**01 17 20.7**	**+1.8**
MVOU	**Mavrovouni**	**4.08**	**93**	P	**Pn**	**01 17 24.2**	**+2.0**
MMC7	**Mount Meron ar**	**6.04**	**111**	P	**Pn**	**01 17 50.6**	**+1.4**
MMC1	**Mount Meron ar**	**6.05**	**111**	P	**Pn**	**01 17 51.0**	**+1.7**
MMA0B	**Mount Meron ar**	**6.05**	**111**	S	**Sn**	**01 18 58.5**	**+0.9**
MMA0B	**Mount Meron ar**	**6.05**	**111**	P	**Pn**	**01 17 50.7**	**+1.4**
MMB1	**Mount Meron ar**	**6.06**	**111**	P	**Pn**	**01 17 51.1**	**+1.7**
GEM	**Giv'at Ha'Em**	**6.18**	**108**	P	**Pn**	**01 17 52.6**	**+1.6**
GEM	**Giv'at Ha'Em**	**6.18**	**108**	P	**Pn**	**01 17 52.8**	**+1.9**
GEM	**Giv'at Ha'Em**	**6.18**	**108**	S	**Sn**	**01 19 02.0**	**+1.5**
NATI	**Neve Ativ**	**6.21**	**108**	P	**Pn**	**01 17 53.6**	**+2.1**
NATI	**Neve Ativ**	**6.21**	**108**	S	**Sn**	**01 19 03.2**	**+1.8**
NATI	**Neve Ativ**	**6.21**	**108**	P	**Pn**	**01 17 53.6**	**+2.1**
MMLI	**Mount Malkishu**	**6.33**	**116**	S	**Sn**	**01 19 04.4**	**0.0**
MMLI	**Mount Malkishu**	**6.33**	**116**	P	**Pn**	**01 17 54.7**	**+1.6**
KSHT	**Keshet**	**6.38**	**110**	P	**Pn**	**01 17 55.5**	**+1.7**
KSHT	**Keshet**	**6.38**	**110**	S	**Sn**	**01 19 06.6**	**+1.0**
SHMJ	**Saham**	**6.45**	**112**	P	**Pn**	**01 17 55.9**	**+1.1**
AMAZ	**Amatzia**	**6.47**	**124**	P	**Pn**	**01 17 56.8**	**+1.8**
AMAZ	**Amatzia**	**6.47**	**124**	S	**Sn**	**01 19 06.5**	**-1.3**
AMAZ	**Amatzia**	**6.47**	**124**	P	**Pn**	**01 17 56.5**	**+1.5**
QRNJ	**Al-Qirein**	**6.49**	**116**	P	**Pn**	**01 17 57.1**	**+1.8**
HMDT	**Nahal Hemdat**	**6.50**	**117**	P	**Pn**	**01 17 57.5**	**+2.1**
HMDT	**Nahal Hemdat**	**6.50**	**117**	P	**Pn**	**01 17 57.6**	**+2.2**
HMDT	**Nahal Hemdat**	**6.50**	**117**	S	**Sn**	**01 19 08.4**	**0.0**
KZIT	**Kziot**	**6.55**	**131**	S	**Sn**	**01 19 07.4**	**-2.2**
KZIT	**Kziot**	**6.55**	**131**	P	**Pn**	**01 17 57.2**	**+1.1**
UJAP	**Al Uja**	**6.61**	**119**	P	**Pn**	**01 17 58.4**	**+1.5**
BALJ	**Balqa**	**6.67**	**117**	P	**Pn**	**01 17 59.5**	**+1.8**
YTIR	**Yattir**	**6.71**	**125**	P	**Pn**	**01 18 00.0**	**+1.6**
YTIR	**Yattir**	**6.71**	**125**	S	**Sn**	**01 19 12.5**	**-1.3**
YTIR	**Yattir**	**6.71**	**125**	P	**Pn**	**01 17 59.5**	**+1.1**
DSI	**Dead Sea**	**6.77**	**122**	P	**Pn**	**01 18 01.0**	**+1.9**
DSI	**Dead Sea**	**6.77**	**122**	P	**Pn**	**01 18 00.5**	**+1.4**
DSI	**Dead Sea**	**6.77**	**122**	S	**Sn**	**01 19 14.0**	**-1.0**
MSBI	**Mazada**	**6.90**	**124**	P	**Pn**	**01 18 03.2**	**+2.3**
**MSBI

QLP	**Quilpie**	**20.73**	**175**	P	**P**	**01 38 44.6**	**+1.6**
EIDS	**Eidsvold**	**21.18**	**158**	P	**P**	**01 38 49.8**	**+1.9**
OOD	**Oodnadatta**	**22.74**	**195**	P	**P**	**01 39 06.0**	**+1.4**
WRKA	**Warakurna**	**23.36**	**214**	P	**P**	**01 39 12.1**	**+1.1**
LCRK	**Leigh Creek**	**24.80**	**188**	P	**P**	**01 39 26.5**	**+2.0**
MULG	**Mulgathing**	**25.54**	**197**	P	**P**	**01 39 33.0**	**+1.8**
STKA	**Stephens Creek** comp=Z,1.9nm,0.6s,baz=9.9,slow=11,SNR=3.4 comp=Z,1.9nm,0.6s	**25.93**	**181**	P	**P**	**01 39 36.1**	**+1.3**
BBOO	**Buckleboo**	**27.48**	**191**	P	**P**	**01 39 51.2**	**+2.5**
JAGI	**Jajag, Banyuwa**	**28.05**	**263**	P	**P**	**01 39 55.5**	**+1.4**
DZM	**Mont Dzumac** comp=Z,84nm,19.6s,baz=154,slow=33	**28.38**	**127**	LR	LR	01 49 33.0	
MGCD	**Mangrove Creek**	**28.46**	**164**	P	**P**	**01 39 59.6**	**+2.1**
MARNC	**Mare, Loyalty** comp=Z,1.1nm,0.7s	**29.37**	**124**	P	**P**	**01 40 08.3**	**+2.6**
JOW	**Kunigami** comp=Z,58nm,19.4s,baz=231,slow=33	**35.19**	**338**	LR	LR	01 53 12.7	
MJAR	**Matsushiro Arr** comp=Z,2.3nm,0.8s,baz=178,slow=7.6,SNR=4.3 comp=Z,2.3nm,0.8s	**42.31**	**355**	P	**P**	**01 41 55.3**	**-1.0**
NJ2	**Nanjing**	**43.79**	**331**	*e*P	**P**	**01 42 09.5**	**+1.2**
NJ2	comp=Z,12nm,0.6s			pmax	pmax		
NJ2	comp=Z,120nm,4.2s			pmax	pmax		
KSAR	**Wonju Array Be**	**45.09**	**344**	P	**P**	**01 42 17.8**	**-0.8**
KSRS	**Korea Array** comp=Z,3.5nm,0.6s,baz=160,slow=9.0,SNR=12	**45.09**	**344**	P	**P**	**01 42 18.2**	**-0.4**
KSRS	comp=Z,23nm,20.1s,baz=165,slow=34 comp=Z,3.5nm,0.6s			LR	LR	01 59 26.8	
LYN	**LuoYang**	**49.04**	**327**	⇓P	**P**	**01 42 49.8**	**+0.2**
LYN				pP	sP	01 42 53.8	-0.4
LYN	comp=Z,28nm,0.8s			pmax	pmax		
LYN	comp=Z,220nm,5.1s			pmax	pmax		
CMAR	**Chiang Mai Arr** comp=Z,1.3nm,0.3s,baz=124,slow=6.0,SNR=8.7 comp=Z,1.3nm,0.3s	**49.09**	**300**	P	**P**	**01 42 50.6**	**+0.4**
KMI	**Kunming**	**49.25**	**310**	⇑P	**P**	**01 42 52.7**	**+1.1**
KMI	comp=Z,13nm,0.7s			pmax	pmax		
HNS	**HongShan**	**50.11**	**331**	⇑P	**P**	**01 42 57.2**	**-0.4**
HNS	comp=Z,9.0nm,0.9s			pmax	pmax		
USRK	**Ussuriysk Ar.** comp=Z,7.8nm,0.7s,baz=182,slow=10.0,SNR=11 comp=Z,7.8nm,0.7s	**50.65**	**350**	P	**P**	**01 43 01.1**	**-0.5**
XAN	**Xi'an**	**50.67**	**324**	P	**P**	**01 42 57.8**	**-4.2**
XAN	comp=Z,13nm,0.9s			pmax	pmax		
PZH	**PanZhiHua**	**50.76**	**311**	P	**P**	**01 43 03.7**	**+0.8**
PZH	comp=Z,10.0nm,0.5s			pmax	pmax		
PZH	comp=Z,110nm,6.3s			pmax	pmax		
MDJ	**Mudanjiang**	**51.49**	**348**	P	**P**	**01 43 08.1**	**+0.2**
MDJ	comp=Z,8.0nm,1.4s			pmax	pmax		
MDJ	comp=Z,120nm,4.4s			pmax	pmax		
CD2	**Chengdu**	**51.88**	**317**	P	**P**	**01 43 11.7**	**+0.5**
CD2				pP	pP	01 43 13.6	-0.9
CD2	comp=Z,20nm,0.4s			pmax	pmax		
BNX	**BinXian**	**53.03**	**347**	⇓P	**P**	**01 43 18.6**	**-0.7**
BNX	comp=Z,24nm,0.6s			pmax	pmax		
BNX	comp=Z,59nm,4.2s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**54.33**	**331**	*e*P	**P**	**01 43 28.2**	**-0.9**
HHC	comp=Z,12nm,0.6s			pmax	pmax		
HHC	comp=Z,55nm,5.0s			pmax	pmax		
LZH	**Lanzhou**	**55.11**	**322**	*e*P	**P**	**01 43 37.7**	**+2.7**
LZH				pP	sP	01 43 44.5	+4.9
LZH	comp=Z,14nm,1.0s			pmax	pmax		
KLR	**Kul'dur** comp=Z,5.8nm,0.7s,baz=189,slow=4.2,SNR=28 comp=Z,5.8nm,0.7s	**55.59**	**352**	P	**P**	**01 43 36.8**	**-1.2**
GTA	**Gaotai**	**59.69**	**323**	P	**P**	**01 44 07.2**	**0.0**
GTA				sP	sP	01 44 15.5	+3.6
GTA	comp=Z,3.0nm,1.4s			pmax	pmax		
PETK	**Petropavlovsk-**	**60.14**	**11**	P	**P**	**01 44 08.3**	**-1.5**
PETK	**Petropavlovsk-** comp=Z,17nm,1.0s,baz=166,slow=5.1,SNR=13 comp=Z,17nm,1.0s	**60.14**	**11**	P	**P**	**01 44 08.9**	**-0.9**
ULN	**Ulaanbaatar**	**61.80**	**334**	P	**P**	**01 44 19.5**	**-1.9**
ULN	comp=Z,4.5nm,0.8s			IAmb	IAmb	01 44 31.3	
SONM	**Songino Array** comp=Z,1.1nm,0.8s,baz=160,slow=8.1,SNR=8.4 comp=Z,1.1nm,0.8s	**62.06**	**333**	P	**P**	**01 44 23.1**	**-0.1**
WMQ	**Urumqi**	**69.66**	**321**	*e*P	**P**	**01 45 12.6**	**+0.4**
WMQ				pP	sP	01 45 17.4	+0.5
WMQ	comp=Z,23nm,0.7s			pmax	pmax		
WMQ	comp=Z,62nm,3.7s			pmax	pmax		
VNDA	**Vanda** comp=Z,1.5nm,0.7s,baz=327,slow=7.0,SNR=5.3 comp=Z,1.5nm,0.7s	**72.41**	**176**	P	**P**	**01 45 28.3**	**+0.1**
MK31	**Makanchi Array**	**74.43**	**322**	P	**P**	**01 45 40.0**	**-0.7**
MK31	comp=Z,4.6nm,1.0s			IAmb	IAmb	01 45 41.6	
MKAR	**Makanchi Array**	**74.43**	**322**	P	**P**	**01 45 39.5**	**-1.1**
MKAR	**Makanchi Array** comp=Z,5.8nm,0.7s,baz=101,slow=7.9,SNR=58 comp=Z,5.8nm,0.7s	**74.43**	**322**	P	**P**	**01 45 40.5**	**-0.1**
MAKZ	**Makanchi**	**74.63**	**322**	P	**P**	**01 45 41.3**	**-0.4**
MAKZ	comp=Z,11nm,1.1s			IAmb	IAmb	01 45 42.6	
KSH	**Kashi**	**75.81**	**313**	P	**P**	**01 45 50.1**	**+1.2**
KSH				sP	sP	01 45 56.3	+2.7
KSH	comp=Z,3.0nm,0.7s			pmax	pmax		
ZALV	**Zalesovo Beam** comp=Z,2.3nm,0.7s,baz=114,slow=6.1,SNR=8.8 comp=Z,2.3nm,0.7s	**76.42**	**329**	P	**P**	**01 45 50.1**	**-1.7**
KURK	**Kurchatov**	**78.31**	**324**	P	**P**	**01 46 02.1**	**-0.4**
KURK	comp=Z,5.1nm,0.9s			IAmb	IAmb	01 46 03.0	
KURBB	**Kurchatov Arra** comp=Z,3.0nm,0.9s,baz=116,slow=4.8,SNR=23 comp=Z,3.0nm,0.9s	**78.32**	**324**	P	**P**	**01 46 01.4**	**-1.2**
GAR	**Garm**	**79.83**	**311**	IAmb	IAmb	01 46 24.3	
SIMJ	comp=Z,13nm,1.1s **Simiganj**	**80.72**	**311**	P	**P**	**01 46 16.1**	**0.0**
SIMJ	comp=Z,9.2nm,1.1s			IAmb	IAmb	01 46 16.9	
KK31	**Karatay Array**	**80.84**	**315**	P	**P**	**01 46 16.1**	**-0.4**
I17K	**Unalakleet** comp=Z,9.0nm,0.8s	**81.40**	**22**	IAmb	IAmb	01 46 27.7	
F17K	**Baldwin Pennin** comp=Z,14nm,1.4s	**82.60**	**20**	IAmb	IAmb	01 46 32.9	
NRIK	**Noril'sk** comp=Z,9.2nm,1.1s	**83.70**	**343**	IAmb	IAmb	01 46 39.2	
NRIK	**Noril'sk** comp=Z,2.2nm,0.6s,baz=116,slow=5.3,SNR=6.6 comp=Z,2.2nm,0.6s	**83.70**	**343**	P	**P**	**01 46 30.2**	**-0.7**
BVAR	**Borovoye Array** comp=Z,10nm,0.8s,baz=111,slow=6.3,SNR=60 comp=Z,10nm,0.8s	**83.90**	**325**	P	**P**	**01 46 31.8**	**-0.5**
BRVK	**Borovoye**	**83.97**	**325**	P	**P**	**01 46 32.4**	**-0.2**
QSPA	**South Pole Qui**	**84.15**	**180**	P	**P**	**01 46 33.7**	**+0.2**
QSPA	comp=Z,8.6nm,1.1s			IAmb	IAmb	01 46 34.8	
QSPA	**South Pole Qui** comp=Z,6.5nm,1.0s,baz=330,slow=1.9,SNR=19 comp=Z,6.5nm,1.0s	**84.15**	**180**	P	**P**	**01 46 33.2**	**-0.3**
CAST	**Castle Rocks**	**84.56**	**24**	P	**P**	**01 46 34.0**	**-1.4**
CAST	comp=Z,6.4nm,1.0s			IAmb	IAmb	01 46 49.5	
MLY	**Manley** comp=Z,7.6nm,1.1s	**85.75**	**23**	IAmb	IAmb	01 46 40.7	
RND	**Reindeer**	**85.89**	**25**	P	**P**	**01 46 40.1**	**-2.1**
RND	comp=Z,9.2nm,0.8s			IAmb	IAmb	01 46 48.7	
DHY	**Denali Highway** comp=Z,7.4nm,0.8s	**86.40**	**25**	IAmb	IAmb	01 46 50.5	
WRH	**Wood River Hil** comp=Z,8.5nm,1.0s	**86.59**	**24**	IAmb	IAmb	01 46 44.2	
CCB	**Clear Creek Bu** comp=Z,9.2nm,0.8s	**86.77**	**24**	IAmb	IAmb	01 46 52.7	
IL31		**87.18**	**24**	Pn	**P**	**01 46 46.1**	**-2.2**
ILAR	**Eielson Array**	**87.18**	**24**	Pn	**P**	**01 46 45.7**	**-2.7**
ILAR	**Eielson Array** comp=Z,4.6nm,0.8s,baz=254,slow=5.0,SNR=38 comp=Z,4.6nm,0.8s	**87.18**	**24**	P	**P**	**01 46 45.6**	**-2.7**
E25K	**Arctic Village** comp=Z,6.0nm,1.1s	**88.79**	**21**	IAmb	IAmb	01 47 02.9	
ABKAR	**Akbulak array** comp=Z,2.7nm,0.8s	**89.39**	**320**	IAmb	IAmb	01 46 58.3	
EGAK	**Eagle** comp=Z,5.1nm,0.8s	**89.53**	**25**	IAmb	IAmb	01 47 05.9	
DAWY	**Dawson** comp=Z,7.3nm,1.1s	**90.10**	**26**	IAmb	IAmb	01 47 02.5	
NVAR	**Mina Array Bea** comp=Z,0.1nm,0.3s,baz=271,slow=6.2,SNR=2.9	**100.94**	**52**	P	**Pdif**	**01 47 50.7**	**-1.8**
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.8s,baz=271,slow=4.7,SNR=4.3	**101.18**	**27**	P	**Pdif**	**01 47 50.7**	**-1.9**
GERES	**GERESS Array B** comp=Z,0.5nm,0.4s,baz=112,slow=1.1,SNR=2.2	**119.06**	**324**	PKP	**PKPdf**	**01 52 50.3**	**-1.3**
EKA	**Eskdalemuir Ar** comp=Z,1.8nm,1.0s,baz=35,slow=3.1,SNR=4.3	**123.43**	**337**	PKP	**PKPdf**	**01 52 58.7**	**-0.9**
PLCA	**Paso Flores** comp=Z,0.7nm,0.5s,baz=244,slow=4.2,SNR=7.8	**124.73**	**150**	PKP	**PKiKP**	**01 53 03.2**	**+0.1**
ESDC	**Sonseca Array** comp=Z,0.2nm,0.7s,baz=57,slow=2.4,SNR=0.9	**134.64**	**323**	PKP	**PKPdf**	**01 53 21.9**	**+0.4**
TORD	**Torodi Ar. Bea** comp=Z,0.2nm,0.4s,baz=107,slow=36,SNR=1.4	**140.51**	**284**	PKhKP	PKPpre	01 53 22.3	
TORD	comp=Z,1.3nm,0.7s,baz=77,slow=3.2,SNR=7.4			PKP	**PKPdf**	**01 53 33.3**	**+0.4**
LPAZ	**La Paz** comp=Z,1.3nm,0.7s,baz=225,slow=4.3,SNR=6.0	**142.73**	**127**	PKhKP	PKPpre	01 53 32.8	
DBIC	**Dimbokro** comp=Z,5.0nm,0.8s,baz=81,slow=2.2,SNR=3.7	**147.35**	**273**	PKPbc	**PKPbc**	**01 53 46.8**	**-0.6**

*IDC **13** 01:41:14.9±3.1, 6°.03N×127°.48E, h63km±25km, mb3.7/13, mbtmp4.0/14, ML4.2/1, MS3.1/1, Error ellipse: s-maj=29.8km s-min=20.4km az=49.0*
*NEIC **13** 01:41:18.5±1.3, 5°.9N±0°.1×127°.03E±0°.09, h82km±9km, mb4.4/16, Error ellipse: s-maj=18.8km s-min=10.1km az=212.0*

ISC 13 01:41:14.1±0.6, 6°.00N±0°.10×127°.4E±0°.1, h52km, n32, σ1s24/34, mb4.1/21, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.09**	**301**	Pn	**Pn**	**01 41 48.0**	**+1.2**
DAV				Sn	**Sn**	**01 42 11.8**	**+0.1**
DAV	**Davao City (W)** 70nm,0.3s,baz=135,slow=10.0,SNR=6.8	**2.09**	**301**	P	**Pn**	**01 41 47.5**	**+0.7**
DAV	378nm,0.3s,baz=86,slow=16,SNR=13			S	**Sn**	**01 42 15.0**	**+3.3**
DAV	comp=Z,410nm,18.3s,baz=156,slow=53 199nm,0.3s			LR	LR	01 43 09.0	
JCJ	**Chichijima**	**25.27**	**32**	P	**P**	**01 46 38.4**	**+2.7**
JCJ	**Chichijima** 112nm,0.9s,baz=226,slow=19,SNR=6.1	**25.27**	**32**	P	**P**	**01 46 34.0**	**-1.7**
WB0	**Warramunga Arr** comp=Z,20nm,1.3s	**26.51**	**165**	P	**P**	**01 46 47.9**	**+0.9**
WB0				IAmb	IAmb	01 47 14.1	
WRA	**Warramunga Arr**	**26.67**	**165**	P	**P**	**01 46 50.0**	**+1.6**
WRA	**Warramunga Arr** comp=Z,1.5nm,0.6s,baz=341,slow=10,SNR=4.8 comp=Z,1.5nm,0.6s	**26.67**	**165**	P	**P**	**01 46 48.8**	**+0.4**
WB2	**Warramunga Arr** comp=Z,12nm,0.9s	**26.67**	**165**	P	**P**	**01 46 50.2**	**+1.8**
WB2				IAmb	IAmb	01 47 19.2	
WR0	**Warramunga Arr** comp=Z,19nm,1.3s	**26.74**	**165**	P	**P**	**01 46 49.6**	**+0.6**
WR0				IAmb	IAmb	01 46 50.4	
PSA00	**Pilbara Seismi**	**28.38**	**195**	P	**P**	**01 47 02.6**	**-1.1**
PSA00	comp=Z,12nm,1.4s			IAmb	IAmb	01 47 46.5	
CMAR	**Chiang Mai Arr** comp=Z,0.9nm,0.3s,baz=118,slow=7.2,SNR=1.0 comp=Z,0.9nm,0.3s	**30.38**	**297**	P	**P**	**01 47 20.0**	**-1.5**
EIDS	**Eidsvold** comp=Z,18nm,1.3s	**38.76**	**145**	P	**P**	**01 48 34.3**	**+0.5**
EIDS				IAmb	IAmb	01 48 48.1	
BBOO	**Buckleboo**	**39.46**	**168**	P	**P**	**01 48 39.3**	**-0.3**
SONM	**Songino Array**	**45.39**	**340**	P	**P**	**01 49 28.4**	**+0.7**
SONM	**Songino Array** comp=Z,0.2nm,0.3s,baz=156,slow=8.3,SNR=2.2 comp=Z,0.2nm,0.3s	**45.39**	**340**	P	**P**	**01 49 27.4**	**-0.2**
TAU	**Tasmania Unive**	**51.93**	**161**	P	**P**	**01 50 19.5**	**+1.7**
MK31	**Makanchi Array**	**56.10**	**324**	P	**P**	**01 50 47.0**	**-1.2**
MKAR	**Makanchi Array**	**56.10**	**324**	P	**P**	**01 50 48.3**	**+0.1**
MKAR	**Makanchi Array** comp=Z,0.8nm,0.6s,baz=114,slow=7.7,SNR=11 comp=Z,0.8nm,0.6s	**56.10**	**324**	P	**P**	**01 50 48.0**	**-0.2**
ZALV	**Zalesovo Beam** comp=Z,0.4nm,0.4s,baz=122,slow=7.0,SNR=2.4 comp=Z,0.4nm,0.4s	**58.89**	**332**	P	**P**	**01 51 07.6**	**0.0**
KURK	**Kurchatov** comp=Z,3.1nm,1.1s	**60.21**	**327**	P	**P**	**01 51 16.7**	**-0.1**
KURK				IAmb	IAmb	01 51 25.0	
KURBB	**Kurchatov Arra** comp=Z,0.9nm,0.5s,baz=129,slow=6.8,SNR=17 comp=Z,0.9nm,0.5s	**60.21**	**326**	P	**P**	**01 51 16.4**	**-0.4**
BVAR	**Bovoye Array** comp=Z,0.6nm,0.4s,baz=132,slow=8.9,SNR=6.2 comp=Z,0.6nm,0.4s	**65.80**	**326**	P	**P**	**01 51 53.9**	**0.0**
ABKAR	**Akbulak array**	**70.83**	**320**	P	**P**	**01 52 25.4**	**-0.1**
RAYN	**Ar Rayn**	**80.21**	**293**	P	**P**	**01 53 17.9**	**-1.9**
RAYN	comp=Z,2.2nm,0.8s			IAmb	IAmb	01 53 19.0	
ILAR	**Eielson Array** comp=Z,0.3nm,0.5s,baz=262,slow=5.9,SNR=2.3 comp=Z,0.3nm,0.5s	**82.78**	**26**	P	**P**	**01 53 32.9**	**+0.4**
SPITS	**Spitsbergen Ar** comp=Z,6.9nm,1.0s,baz=64,slow=3.4,SNR=1.6 comp=Z,6.9nm,1.0s	**88.40**	**349**	P	**P**	**01 54 00.1**	**0.0**
ARCES	**ARCESS Array B** comp=Z,4.1nm,1.0s,baz=82,slow=6.7,SNR=5.2 comp=Z,4.1nm,1.0s	**88.56**	**340**	P	**P**	**01 54 00.1**	**-0.9**
BRTR	**Keskin Array B** comp=Z,0.9nm,0.9s,baz=92,slow=3.7,SNR=4.1 comp=Z,0.9nm,0.9s	**89.09**	**310**	P	**P**	**01 54 04.2**	**-0.1**
FINES	**FINESS Array B** comp=Z,0.7nm,0.4s,baz=64,slow=3.2,SNR=13 comp=Z,0.7nm,0.4s	**90.16**	**332**	P	**P**	**01 54 07.6**	**-1.0**
NOA	**NORSAR Array B** comp=Z,0.4nm,0.8s,baz=67,slow=4.4,SNR=3.5 comp=Z,0.4nm,0.8s	**97.06**	**334**	P	**P**	**01 54 40.9**	**+0.4**
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,1.0s,baz=68,slow=2.4,SNR=3.6	**122.81**	**290**	PKP	**PKPdf**	**02 00 03.8**	**-1.7**

*NEIC **13** 01:44:41.2±1.8, 56°.1N±0°.1×149°.8W±0°.1, h20km±11km, ML2.9/30, ML3.0(AEIC), Error ellipse: s-maj=15.9km s-min=9.5km az=166.0*
*AEIC **13** 01:44:43.4±1.5, 56°.0N±0°.1×149°.77W±0°.08, h12km±9km, Error ellipse: s-maj=17.5km s-min=4.5km az=162.0*

ISC 13 01:44:41.2±2.4, 56°.0N±0°.1×149°.81W±0°.06, h35km, n72, σ0s95/72, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.28**	**304**		**Pn**	**01 45 16.5**	**+0.3**
OHAK					**Sn**	**01 45 42.4**	**-0.7**
OHAK	**Old Harbor** baz=121	**2.28**	**304**	P	**Pn**	**01 45 16.5**	**+0.3**
OHAK				S	**Sn**	**01 45 42.4**	**-0.7**
KDAK	**Kodiak Island**	**2.35**	**321**		**Pn**	**01 45 17.6**	**+0.4**
KDAK					**Sn**	**01 45 44.2**	**-0.6**
SII	**Sitkinak Islan**	**2.50**	**285**		**Pn**	**01 45 19.5**	**+0.1**
SII	**Sitkinak Islan** comp=E,62nm,1.5s	**2.50**	**285**	IAML		01 45 44.2	
SII	comp=N,64nm,1.4s			IAML		01 46 13.2	
SII	**Sitkinak Islan** baz=102	**2.50**	**285**	P	**Pn**	**01 45 19.5**	**+0.1**
Q20K	**Shuyak Island** baz=151	**2.97**	**333**	P	**Pn**	**01 45 26.4**	**+0.6**
Q20K				S	**Sn**	**01 46 00.3**	**+0.2**
SYI	**Shuyak Island**	**2.97**	**333**		**Pn**	**01 45 26.4**	**+0.6**
SYI	comp=E,18nm,1.4s			IAML		01 46 08.8	
SYI	**Shuyak Island**	**2.97**	**333**		**Sn**	**01 46 00.3**	**+0.2**
SYI	**Shuyak Island** comp=N,19nm,1.4s	**2.97**	**333**	IAML		01 45 55.7	
Q19K	**Cape Douglas,**	**3.60**	**326**		**Pn**	**01 45 35.3**	**+0.9**
Q19K	**Cape Douglas,** comp=N,74nm,1.2s	**3.60**	**326**	IAML		01 46 59.9	
Q19K	**Cape Douglas,** baz=143	**3.60**	**326**	P	**Pn**	**01 45 35.3**	**+0.9**
CNPM	**China Poot**	**3.62**	**348**		**Pn**	**01 45 34.6**	**-0.1**
CNPM					**Sn**	**01 46 15.3**	**-0.9**
CNPM	**China Poot** comp=N,17nm,1.1s	**3.62**	**348**	IAML		01 46 17.3	
CNPM	comp=E,21nm,1.3s			IAML		01 46 39.6	
BRSE	**Bradley Lake S**	**3.79**	**353**		**Pn**	**01 45 36.6**	**-0.4**
BRSE					**Sn**	**01 46 18.8**	**-1.5**
BRSE	**Bradley Lake S** baz=172	**3.79**	**353**	P	**Pn**	**01 45 36.6**	**-0.4**
BRSE	baz=172			S	**Sn**	**01 46 18.8**	**-1.5**
ANCK	**Angle Creek**	**3.81**	**308**		**Pn**	**01 45 38.7**	**+1.4**
BRLK	**Bradley Lake**	**3.82**	**352**		**Pn**	**01 45 37.0**	**-0.4**
CNTC	**Contact Creek**	**4.02**	**307**		**Pn**	**01 45 40.6**	**+0.4**
Q17K	**Contact Creek** baz=122	**4.02**	**307**	P	**Pn**	**01 45 40.6**	**+0.3**
P19K	**Oil Pt**	**4.10**	**335**	Pn	**Pn**	**01 45 44.2**	**+2.9**
P19K	comp=N,39nm,1.3s			IAML		01 46 26.5	
P19K	comp=E,42nm,1.5s			IAML		01 47 56.1	
P23K	**Montague Islan**	**4.21**	**17**		**Pn**	**01 45 42.7**	**0.0**
P23K	**Montague Islan** baz=198	**4.21**	**17**	P	**Pn**	**01 45 42.7**	**0.0**
O20K	**Slope Mountain**	**4.36**	**341**		**Pn**	**01 45 45.3**	**+0.4**
O20K	**Slope Mountain** baz=159	**4.36**	**341**	P	**Pn**	**01 45 45.3**	**+0.4**
ILSW	**Iliamna Southw**	**4.37**	**337**		**Pn**	**01 45 45.1**	**0.0**
ILSW	**Iliamna Southw** comp=E,17nm,1.4s	**4.37**	**337**	IAML		01 47 17.9	
ILSW	comp=N,14nm,1.4s			IAML		01 48 34.6	
P18K	**Big Mountain,**	**4.48**	**322**		**Pn**	**01 45 46.7**	**+0.2**
P18K	**Big Mountain,** comp=E,6.8nm,1.4s	**4.48**	**322**	IAML		01 46 51.8	
P18K	**Big Mountain,** baz=137	**4.48**	**322**	P	**Pn**	**01 45 46.7**	**+0.2**
HIN	**Hinchinbrook I**	**4.75**	**20**		**Pn**	**01 45 50.0**	**-0.1**
O18K	**Koktuh Hills**	**4.82**	**326**		**Pn**	**01 45 50.9**	**-0.3**
O18K	**Koktuh Hills** comp=N,6.2nm,1.4s	**4.82**	**326**	IAML		01 47 14.0	
O18K	comp=E,6.1nm,1.5s			IAML		01 48 57.5	
O18K	**Koktuh Hills** baz=141	**4.82**	**326**	P	**Pn**	**01 45 50.9**	**-0.3**
KAIM	**Kayak Island**	**4.87**	**34**		**Pn**	**01 45 51.9**	**0.0**
KAIM	**Kayak Island** baz=218	**4.87**	**34**	P	**Pn**	**01 45 51.9**	**0.0**
HMT	**Hamilton**	**5.25**	**32**		**Pn**	**01 45 57.8**	**+0.8**
NICHA	**Nichawak Mount**	**5.26**	**34**		**Pn**	**01 45 57.7**	**+0.5**
GOAT	**Goat Mountain**	**5.32**	**28**		**Pn**	**01 45 58.8**	**+0.7**
N19K	**Bonanza Creek** comp=N,6.7nm,1.5s	**5.42**	**335**	Pn	**Pn**	**01 46 00.9**	**+1.5**
N19K				IAML		01 46 42.0	
N19K	comp=E,5.6nm,1.4s			IAML		01 47 30.7	
SUA	**Susitna One**	**5.51**	**355**	Pn	**Pn**	**01 46 01.6**	**+0.9**
KHIT	**Khitrov Hills**	**5.65**	**35**		**Pn**	**01 46 02.6**	**+0.1**
BMRM	**Bremner River**	**5.68**	**27**		**Pn**	**01 46 02.8**	**-0.2**
BMRM	**Bremner River** baz=211	**5.68**	**27**	P	**Pn**	**01 46 02.8**	**-0.2**
N18K	**Kilae Creek**	**5.68**	**328**	Pn	**Pn**	**01 46 04.0**	**+1.0**
O16K	**Kokwok River B**	**5.71**	**313**	Pn	**Pn**	**01 46 04.9**	**+1.6**
WAX	**Waxell Ridge**	**5.78**	**37**		**Pn**	**01 46 04.9**	**+0.5**
GHO	**Glory Hole Cre**	**5.81**	**4**		**Pn**	**01 46 05.2**	**+0.4**
KLU	**Klutina**	**5.87**	**19**		**Pn**	**01 46 06.0**	**+0.4**
KLU	**Klutina** baz=202	**5.87**	**19**	P	**Pn**	**01 46 06.0**	**+0.4**
ISLE	**Juniper Island**	**6.07**	**37**		**Pn**	**01 46 08.9**	**+0.5**
BAGL	**Bagley Icefiel**	**6.07**	**39**		**Pn**	**01 46 08.9**	**+0.6**
M20K	**Styx River**	**6.15**	**345**	Pn	**Pn**	**01 46 10.2**	**+0.8**
N25K	**Chitina, Valde**	**6.24**	**24**	Pn	**Pn**	**01 46 12.2**	**+1.5**
O15K	**Ungalikthiuk R**	**6.26**	**305**		**Pn**	**01 46 12.1**	**+1.2**
O15K	**Ungalikthiuk R** baz=116	**6.26**	**305**	P	**Pn**	**01 46 12.1**	**+1.2**
GLB	**Gilahina Butte**	**6.29**	**27**	Pn	**Pn**	**01 46 12.8**	**+1.5**
KIAG	**Kiagna River**	**6.30**	**35**		**Pn**	**01 46 11.8**	**+0.2**
TABL	**Table Mountain**	**6.39**	**42**	Pn	**Pn**	**01 46 13.5**	**+0.6**
MCARA	**McCarthy VSAT**	**6.45**	**30**	Pn	**Pn**	**01 46 14.8**	**+1.2**
M17K	**Holitna River**	**6.72**	**327**	Pn	**Pn**	**01 46 18.3**	**+1.1**
L18K	**Granite Mounta**	**7.17**	**333**	Pn	**Pn**	**01 46 22.8**	**-0.6**
O29M	**Mount Kennedy**	**7.34**	**49**	Pn	**Pn**	**01 46 27.4**	**+1.5**
P29M	**Windy Craggy**	**7.40**	**56**	Pn	**Pn**	**01 46 26.8**	**+0.2**
K20K	**Telida**	**7.69**	**345**		**Pn**	**01 46 30.2**	**-0.3**
BPAW	**Bear Paw Mtn.**	**8.15**	**356**	Pn	**Pn**	**01 46 37.8**	**+1.0**
WRH	**Wood River Hil**	**8.55**	**5**	Pn	**Pn**	**01 46 42.9**	**+0.7**
M29M	**Somme Creek**	**8.69**	**37**	Pn	**Pn**	**01 46 45.4**	**+1.2**
CCB	**Clear Creek Bu**	**8.74**	**6**	Pn	**Pn**	**01 46 43.7**	**-1.1**
J25K	**Salcha River,**	**8.92**	**12**	Pn	**Pn**	**01 46 48.4**	**+1.0**
J26L	**Joseph Creek**	**9.07**	**17**	Pn	**Pn**	**01 46 53.1**	**+3.6**

*IDC **13** 02:03:40.6±0.7, 39°.17S×46°.24E, h0km, mb3.9/9, mbtmp4.0/9, MS3.7/6, Error ellipse: s-maj=28.4km s-min=20.4km az=32.0*

ISC 13 02:03:42.0±0.7, 39°.1S±0°.1×46°.3E±0°.2, h10km, n27, σ0s76/21, mb4.0/8, MS3.6/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	**CROZET ISLANDS** baz=325,slow=13	**8.12**	**152**	Pn	**Pn**	**02 05 39.3**	**-0.4**
H04N1	baz=328,slow=75,SNR=1204			T	T	02 14 05.9	
H04N2	**CROZET ISLANDS** baz=325,slow=13	**8.13**	**152**	Pn	**Pn**	**02 05 39.1**	**-0.8**
H04N2	baz=328,slow=75,SNR=1190			T	T	02 13 45.0	
H04N3	**CROZET ISLANDS** baz=325,slow=13	**8.13**	**152**	Pn	**Pn**	**02 05 39.3**	**-0.6**
H04N3	baz=328,slow=75,SNR=780			T	T	02 14 05.1	
H04S3	**CROZET ISLANDS** baz=326,slow=14	**8.73**	**154**	Pn	**Pn**	**02 05 48.9**	**+0.7**
H04S1	**CROZET ISLANDS** baz=326,slow=14	**8.75**	**154**	Pn	**Pn**	**02 05 48.6**	**+0.3**
H04S2	**CROZET ISLANDS** baz=326,slow=14	**8.75**	**154**	Pn	**Pn**	**02 05 48.8**	**+0.4**
BOSA	**Boshof** 4.4nm,0.8s,baz=123,slow=10,SNR=6.8	**20.31**	**295**	P	**P**	**02 08 18.5**	**+0.2**
BOSA	comp=Z,128nm,21.5s,baz=178,slow=32 4.4nm,0.8s			LR	LR	02 14 33.2	
SUR	**Sutherland** 3.8nm,1.0s,baz=17,slow=21,SNR=1.3 3.8nm,1.0s	**21.68**	**280**	P	**P**	**02 08 34.6**	**+1.4**
LBTB	**Lobatse** comp=Z,128nm,18.6s,baz=130,slow=34	**22.39**	**303**	LR	LR	02 16 25.6	
LSZ	**Lusaka** comp=Z,172nm,19.7s,baz=150,slow=34	**28.57**	**321**	LR	LR	02 19 46.6	
TSUM	**Tsumeb** comp=Z,159nm,20.6s,baz=150,slow=34	**31.75**	**300**	LR	LR	02 21 28.2	
H08S1	**Diego Garcia H** baz=213	**39.22**	**44**	T	T	02 52 52.3	
H08S2	**Diego Garcia H** baz=213	**39.23**	**44**	T	T	02 52 56.2	
H08S3	**Diego Garcia H** baz=213	**39.23**	**44**	T	T	02 53 02.1	

MKAR	Makanchi Array	91.40	24	P		P	02 16 48.3	+0.5
	0.2nm,0.6s,baz=189,slow=6.7,SNR=2.5							
	0.2nm,0.6s							
INK	Inuvik	150.76	360	PKPbc		PKPbc	02 23 33.4	0.0
	3.4nm,0.9s,baz=7.9,slow=4.8,SNR=8.6							
INK				PKPab		pPKPab	02 23 42.1	-0.8
	4.1nm,0.9s,baz=24,slow=6.4,SNR=8.2							
ILAR	Eielson Array	153.18	12	PKPbc		PKPbc	02 23 38.9	-0.2
	0.7nm,0.9s,baz=326,slow=3.6,SNR=5.9							
TXAR	Lajitas Array	153.39	258	PKPbc		PKPbc	02 23 39.5	-1.3
	0.3nm,0.6s,baz=142,slow=4.6,SNR=1.5							
TXAR				PKPab		PKPab	02 23 51.0	-1.9
	0.4nm,0.6s,baz=133,slow=5.3,SNR=3.8							
YKA	Yellowknife Ar	153.88	340	PKPbc		PKPbc	02 23 40.4	-0.2
	0.1nm,0.6s,baz=37,slow=1.8,SNR=2.4							

IDC ***13*** *02:13:41.9±1.1,55.83N×150.15W,h0km,mb3.7/11, mbtmp3.7/15,ML3.7/4,MS3.6/45,Error ellipse: s-maj=27.6km s-min=15.9km az=36.0*

NEIC ***13*** *02:13:43.3±1.4,56.00N±0.07×149.94W±0.06,h14km±5km, mb4.5/18,ML4.2/50,ML4.0(AEIC),Error ellipse: s-maj=10.7km s-min=1.9km az=152.0*

AEIC ***13*** *02:13:46.9±1.4,55.96N±0.07×149.89W±0.04,h11km±5km, Error ellipse: s-maj=11.1km s-min=1.2km az=193.0*

ISC 13 02:13:43.0±0.6,56.06N±0.07×149.93W±0.04,h10km, n430,σ0.94/394,mb4.2/19,MS3.6/43,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	Old Harbor	2.19	303		Pn	02 14 18.8	-0.6
OHAK	Old Harbor	2.19	303		Sn	02 14 44.4	-2.1
OHAK	Old Harbor	2.19	303	P	Pn	02 14 18.8	-0.6
OHAK	Old Harbor	2.19	303	P	Pn	02 14 18.8	-0.6
	baz=123						
OHAK				S	Sn	02 14 44.4	-2.1
	baz=123						
KDAK	Kodiak Island	2.26	321		Pn	02 14 20.4	+0.1
KDAK	Kodiak Island	2.26	321		Sn	02 14 46.9	-1.2
KDAK	Kodiak Island	2.26	321	S	Sn	02 14 46.9	-1.2
	baz=140						
KDAK	Kodiak Island	2.26	321	Pn	Pn	02 14 20.3	0.0
	38nm,0.3s,baz=166,slow=5.2,SNR=343						
KDAK				Sn	Sn	02 14 47.2	-1.0
	35nm,0.3s,baz=37,slow=22,SNR=23						
	85nm,0.4s						
SII	Sitkinak Islan	2.42	284		Pn	02 14 21.6	-1.1
SII					Sn	02 14 49.2	-3.1
SII	Sitkinak Islan	2.42	284	IAML		02 14 51.0	
	comp=E,951nm,0.7s						
SII				IAML		02 14 52.5	
	comp=N,894nm,0.6s						
SII	Sitkinak Islan	2.42	284	P	Pn	02 14 21.6	-1.1
	baz=102						
Q20K	Shuyak Island	2.88	333	P	Pn	02 14 29.2	+0.3
	baz=152						
Q20K				S	Sn	02 15 03.1	-0.5
	baz=152						
SYI	Shuyak Island	2.88	333		Pn	02 14 29.2	+0.3
SYI					Sn	02 15 03.1	-0.5
Q19K	Cape Douglas,	3.50	327		Pn	02 14 38.8	+1.3
Q19K	Cape Douglas,	3.50	327		Sn	02 15 19.3	+0.3
Q19K	Cape Douglas,	3.50	327	P	Pn	02 14 39.0	+1.5
	baz=144						
CNPM	China Poot	3.54	349		Pn	02 14 38.1	+0.1
CNPM					Sn	02 15 18.5	-1.5
KAKN	Katmai Knife C	3.58	311		Pn	02 14 39.5	+0.9
ACHA	Angle Creek He	3.65	308		Pn	02 14 40.2	+0.8
ANCK	Angle Creek	3.71	308		Pn	02 14 41.2	+0.8
BRSE	Bradley Lake S	3.71	354		Pn	02 14 40.2	-0.2
BRSE					Sn	02 15 23.1	-1.1
BRSE	Bradley Lake S	3.71	354	P	Pn	02 14 40.4	0.0
	baz=173						
BRSE				S	Sn	02 15 23.1	-1.1
	baz=173						
KVTA	Katmai Vly 10	3.73	311		Pn	02 14 42.1	+1.5
BRLK	Bradley Lake	3.75	353		Pn	02 14 40.9	+0.1
BRLK				IAML		02 15 26.9	
	comp=N,238nm,1.0s						
BRLK	Bradley Lake	3.75	353		Sn	02 15 23.8	-1.2
KAHC	Katmai Hardscr	3.78	315		Pn	02 14 42.8	+1.5
PLK3	Peulik 3	3.84	298		Pn	02 14 42.6	+0.5
Q23K	Middleton Isla	3.88	28		Pn	02 14 42.1	-0.4
Q23K	Middleton Isla	3.88	28	IAML		02 15 31.5	
	comp=N,235nm,2.9s						
Q23K				IAML		02 15 41.1	
	comp=E,263nm,2.5s						
Q23K	Middleton Isla	3.88	28	P	Pn	02 14 42.2	-0.4
	baz=210						
MID	Middleton Isla	3.88	28		Pn	02 14 42.4	-0.2
MID	Middleton Isla	3.88	28	IAML		02 15 31.4	
	comp=N,264nm,2.8s						
MID				IAML		02 15 42.4	
	comp=E,244nm,2.0s						
MID	Middleton Isla	3.88	28	P	Pn	02 14 42.6	0.0
CNTC	Contact Creek	3.92	307		Pn	02 14 44.1	+0.8
CNTC					Sn	02 15 28.3	-1.1
Q17K	Contact Creek	3.92	307	P	Pn	02 14 44.1	+0.8
	baz=123						
Q17K				S	Sn	02 15 28.3	-1.2
	baz=123						
KELA	Mount Kelaz	3.96	309		Pn	02 14 44.6	+0.9
P19K	Oil Pt	4.01	335		Pn	02 14 45.9	+1.5
P19K	Oil Pt	4.01	335	P	Pn	02 14 45.6	+1.2
	baz=153						
PLK1	Peulik 1	4.05	298		Pn	02 14 45.5	+0.6
SEW	Seward	4.06	3		Pn	02 14 44.4	-0.7
SEW	Seward	4.06	3	P	Pn	02 14 44.6	-0.5
	baz=184						
P23K	Montague Islan	4.17	18		Pn	02 14 46.6	0.0
P23K					Sn	02 15 32.8	-2.4
P23K	Montague Islan	4.17	18	P	Pn	02 14 46.6	0.0
	baz=199						
P23K				S	Sn	02 15 32.8	-2.4
	baz=199						
O20K	Slope Mountain	4.28	342		Pn	02 14 48.5	+0.4
O20K	Slope Mountain	4.28	342	P	Pn	02 14 48.5	+0.4
	baz=160						
ILSW	Iliamna Southw	4.29	338		Pn	02 14 48.6	+0.3
ILSW					Sn	02 15 37.7	-0.7
ILSW	Iliamna Southw	4.29	338	IAML		02 15 42.1	
	comp=E,260nm,0.8s						
ILSW				IAML		02 15 43.6	
	comp=N,170nm,0.6s						
P18K	Big Mountain,	4.38	322		Pn	02 14 49.9	+0.3
P18K					Sn	02 15 38.8	-1.9
P18K	Big Mountain,	4.38	322	P	Pn	02 14 50.0	+0.4
	baz=138						
P18K				S	Sn	02 15 38.8	-1.9
	baz=138						
O22K	Cooper Landing	4.43	1		Pn	02 14 50.7	+0.5
O22K	Cooper Landing	4.43	1	P	Pn	02 14 50.7	+0.5
	baz=181						
SLKM	Skilak Lake	4.46	358		Pn	02 14 50.2	-0.5
SLKM					Sn	02 15 40.1	-2.5
Q16K	King Salmon	4.49	309		Pn	02 14 51.9	+1.0
Q16K	King Salmon	4.49	309	P	Pn	02 14 51.9	+1.0
	baz=124						
ANNE	Aniakchak Nort	4.59	284		Pn	02 14 52.4	0.0
RED	Redoubt Volcan	4.62	342		Pn	02 14 52.7	-0.1
RSO	Redoubt South	4.66	342		Pn	02 14 53.6	+0.1
RDWB	Redoubt West	4.70	342		Pn	02 14 53.4	-0.6
RDWB					Sn	02 15 47.7	-0.8
P17K	Kvichak River	4.70	315		Pn	02 14 55.0	+1.2
P17K	Kvichak River	4.70	315	P	Pn	02 14 55.0	+1.2
	baz=130						
HIN	Hinchinbrook I	4.71	21		Pn	02 14 54.1	+0.1
HIN	Hinchinbrook I	4.71	21	IAML		02 15 47.4	
	comp=E,284nm,0.9s						
HIN				IAML		02 15 58.8	
	comp=N,196nm,0.9s						
RDT	Redoubt	4.71	345		Pn	02 14 54.5	+0.4
O18K	Koktuh Hills	4.73	326		Pn	02 14 54.5	+0.3
O18K	Koktuh Hills	4.73	326	IAML		02 15 51.2	
	comp=N,250nm,0.8s						
O18K				IAML		02 16 04.3	
	comp=E,164nm,0.8s						
O18K	Koktuh Hills	4.73	326	P	Pn	02 14 54.6	+0.3
	baz=142						
CHGN	Chignik	4.75	276		Pn	02 14 54.6	+0.1
CHGN	Chignik	4.75	276	IAML		02 15 49.6	
	comp=E,145nm,0.5s						
CHGN				IAML		02 15 53.1	
	comp=N,112nm,0.6s						
CHGN	Chignik	4.75	276	P	Pn	02 14 54.9	+0.4
	baz=91						
O19K	Port Alsworth	4.75	332		Pn	02 14 54.7	+0.1
O19K	Port Alsworth	4.75	332		Pn	02 14 55.1	+0.6
O19K				IAML		02 15 51.5	
	comp=N,644nm,0.5s						
O19K				IAML		02 15 53.5	
	comp=E,960nm,0.4s						
O19K	Port Alsworth	4.75	332	P	Pn	02 14 54.7	+0.1
	baz=149						
CAPN	Captain Cook N	4.76	353	Pn	Pn	02 14 55.6	+0.9
DFR	Drift River	4.77	343		Pn	02 14 54.5	-0.4
NCT	North Crescent	4.78	342		Pn	02 14 55.1	0.0
KAIM	Kayak Island	4.86	35		Pn	02 14 55.9	-0.1
KAIM	Kayak Island	4.86	35	IAML		02 15 56.9	
	comp=N,312nm,2.7s						
KAIM				IAML		02 16 05.2	
	comp=E,240nm,1.8s						
KAIM	Kayak Island	4.86	35	P	Pn	02 14 55.9	-0.1
	baz=219						
EYAK	Cordova Ski Ar	5.01	24		Pn	02 14 58.1	0.0
EYAK	Cordova Ski Ar	5.01	24	P	Pn	02 14 58.7	+0.6
EYAK	Cordova Ski Ar	5.01	24	P	Pn	02 14 58.1	0.0
	baz=207						
RC01	Rabbit Creek A	5.04	1		Pn	02 14 58.5	-0.1
RC01	Rabbit Creek A	5.04	1	IAML		02 15 59.5	
	comp=N,154nm,0.5s						
RC01				IAML		02 15 59.9	
	comp=E,105nm,0.7s						
RC01	Rabbit Creek A	5.04	1	P	Pn	02 14 58.5	-0.1
	baz=181						
FIS	Fire Island	5.10	358	Pn	Pn	02 14 59.8	+0.4
FIS				IAML		02 16 01.9	
	comp=E,266nm,0.8s						
FIS				IAML		02 16 06.5	
	comp=N,280nm,0.7s						
RAGM	Ragged Mountai	5.15	30		Pn	02 15 00.2	+0.2
RAGM	Ragged Mountai	5.15	30	IAML		02 16 08.9	
	comp=E,199nm,0.6s						
SUCK	Suckling Hills	5.18	37		Pn	02 15 00.9	+0.5
SUCK	Suckling Hills	5.18	37	IAML		02 16 19.6	
	comp=N,138nm,2.1s						
SUCK				IAML		02 16 23.1	
	comp=E,166nm,2.7s						
HMT	Hamilton	5.23	33		Pn	02 15 01.7	+0.5
HMT	Hamilton	5.23	33	IAML		02 16 07.9	
	comp=N,227nm,0.6s						
NICHA	Nichawak Mount	5.24	35		Pn	02 15 01.7	+0.4
P16K	Nushagak River	5.26	308		Pn	02 15 02.2	+0.6
P16K	Nushagak River	5.26	308	P	Pn	02 15 02.2	+0.6
	baz=122						
N20K	Mount Spurr	5.29	348	P	Pn	02 15 01.6	-0.4
	baz=166						
SPCR	Spurr Chakacha	5.29	348		Pn	02 15 01.6	-0.4
GOAT	Goat Mountain	5.29	29		Pn	02 15 02.5	+0.4
N19K	Bonanza Creek	5.33	335		Pn	02 15 02.7	+0.1
N19K	Bonanza Creek	5.33	335	IAML		02 16 21.7	
	comp=E,74nm,0.7s						
N19K	Bonanza Creek	5.33	335	P	Pn	02 15 02.7	+0.1
	baz=152						
O17K	Koliganek Bris	5.33	317		Pn	02 15 03.2	+0.7
O17K	Koliganek Bris	5.33	317	P	Pn	02 15 03.2	+0.7
	baz=132						
SPCP	Crater Peak Br	5.35	348		Pn	02 15 03.5	+0.7
SPCG	Spurr Capps Gl	5.36	349		Pn	02 15 03.5	+0.5
SPBG	Spurr Blockage	5.37	347		Pn	02 15 03.6	+0.5
BGLC	Bering Glacier	5.38	38		Pn	02 15 03.5	+0.3
BGLC	Bering Glacier	5.38	38	P	Pn	02 15 03.5	+0.3
	baz=223						
KNK	Knik Glacier	5.42	7		Pn	02 15 03.7	-0.1
KNK	Knik Glacier	5.42	7	P	Pn	02 15 03.7	-0.1
	baz=188						
SUA	Susitna One	5.43	356		Pn	02 15 03.6	-0.5
SUA	Susitna One	5.43	356	P	Pn	02 15 03.6	-0.5
	baz=175						
GRIN	Grindle Hills	5.49	37		Pn	02 15 05.3	+0.6
DIV	Divide	5.53	21		Pn	02 15 05.5	+0.2
STLK	Strandline Lak	5.54	350		Pn	02 15 05.7	+0.2
PMR	Palmer	5.56	4		Pn	02 15 07.2	+1.5
PMR	Palmer	5.56	4	P	Pn	02 15 07.4	+1.7
SNH	Sunshine Point	5.58	39		Pn	02 15 06.1	+0.1
N18K	Kilae Creek	5.59	328		Pn	02 15 06.5	+0.4
N18K	Kilae Creek	5.59	328	P	Pn	02 15 06.7	+0.5
	baz=144						
O16K	Kokwok River B	5.62	312		Pn	02 15 07.3	+0.8
O16K	Kokwok River B	5.62	312	P	Pn	02 15 07.3	+0.8
	baz=126						
KHIT	Khitrov Hills	5.63	36		Pn	02 15 07.0	+0.3
CHNA	Chernabura Isl	5.64	261	P	Pn	02 15 06.3	-0.4
	baz=74						
CNBA	Chernabura Isl	5.64	261		Pn	02 15 05.9	-0.8
BMRM	Bremner River	5.65	27		Pn	02 15 07.5	+0.6
BMRM	Bremner River	5.65	27	P	Pn	02 15 07.5	+0.6
	baz=211						
GHO	Glory Hole Cre	5.75	5		Pn	02 15 09.3	+0.9
WAX	Waxell Ridge	5.77	37		Pn	02 15 08.9	+0.3
SML	Sawmill	5.82	7		Pn	02 15 10.1	+0.8
SML	Sawmill	5.82	7	P	Pn	02 15 10.2	+0.8
	baz=189						
KLU	Klutina	5.83	19		Pn	02 15 10.1	+0.7
KLU	Klutina	5.83	19	P	Pn	02 15 10.1	+0.7
	baz=202						
SVW2	Sparrevohn	5.85	332		Pn	02 15 09.7	0.0
SVW2	Sparrevohn	5.85	332	P	Pn	02 15 10.0	+0.3
M23K	Glacier View	5.86	10		Pn	02 15 10.5	+0.7
M23K	Glacier View	5.86	10	P	Pn	02 15 10.5	+0.7
	baz=192						
N17K	Nushagak Hills	5.89	322		Pn	02 15 09.9	-0.3
N17K	Nushagak Hills	5.89	322	P	Pn	02 15 10.7	+0.6
	baz=137						
MESA	MESA	5.91	42		Pn	02 15 09.7	-0.9
MESA	MESA	5.91	42	P	Pn	02 15 10.9	+0.3
	baz=228						
SCM	Sheep Creek Mo	5.94	12		Pn	02 15 11.9	+0.9
SCM	Sheep Creek Mo	5.94	12	P	Pn	02 15 11.9	+0.9
	baz=194						
SKT	Skwentna	5.99	353		Pn	02 15 11.8	+0.1
SKT	Skwentna	5.99	353	P	Pn	02 15 11.8	+0.1
	baz=171						
SDPT	Sand Point	6.01	268		Pn	02 15 10.9	-0.9
SDPT	Sand Point	6.01	268	P	Pn	02 15 11.2	-0.6
SDPT	Sand Point	6.01	268	P	Pn	02 15 10.9	-0.9
	baz=80						
ISLE	Juniper Island	6.05	38		Pn	02 15 12.9	+0.3
BAGL	Bagley Icefiel	6.06	40		Pn	02 15 13.0	+0.5
M20K	Styx River	6.07	345		Pn	02 15 12.4	-0.3
M20K	Styx River	6.07	345	P	Pn	02 15 12.7	0.0
	baz=163						
O15K	Ungalikthiuk R	6.17	304		Pn	02 15 14.5	+0.5
O15K	Ungalikthiuk R	6.17	304	P	Pn	02 15 14.5	+0.5
	baz=117						
VRDI	Verde Repeater	6.18	30		Pn	02 15 14.6	+0.2
N25K	Chitina, Valde	6.21	24		Pn	02 15 15.3	+0.7
N25K	Chitina, Valde	6.21	24	P	Pn	02 15 15.3	+0.7
	baz=208						
M18K	Stony River	6.25	333		Pn	02 15 15.1	0.0
M18K	Stony River	6.25	333	P	Pn	02 15 15.1	0.0
	baz=148						
GLB	Gilahina Butte	6.26	28		Pn	02 15 15.7	+0.4
KIAG	Kiagna River	6.28	36		Pn	02 15 15.9	+0.1
M19K	Big River Lodg	6.30	340		Pn	02 15 15.9	+0.1
M19K	Big River Lodg	6.30	340	P	Pn	02 15 15.9	+0.1
	baz=157						
SAMH	Samovar Hills	6.33	46		Pn	02 15 17.2	+0.9
M24K	Tolsona, Glenn	6.36	16		Pn	02 15 17.5	+0.8
M24K	Tolsona, Glenn	6.36	16	P	Pn	02 15 17.9	+1.2
	baz=199						
CUT	Chulina	6.37	359	Pn	Pn	02 15 18.0	+1.4
TABL	Table Mountain	6.38	43		Pn	02 15 17.5	+0.4
N16K	Nishlik Lake	6.43	317		Pn	02 15 18.4	+0.8
N16K	Nishlik Lake	6.43	317	P	Pn	02 15 18.4	+0.8
	baz=130						
MCARA	McCarthy VSAT	6.43	31		Pn	02 15 18.2	+0.6
MCARA	McCarthy VSAT	6.43	31	P	Pn	02 15 18.2	+0.6
	baz=216						
PTPK	Patty Peak	6.45	34		Pn	02 15 18.6	+0.6
PCA	Pinnacle	6.53	48		Pn	02 15 19.4	+0.3
PINM	Pinnacle	6.53	48	P	Pn	02 15 19.4	+0.3
	baz=235						
WACK	Wrangell Chich	6.61	24		Pn	02 15 21.4	+1.2
BARN	Barnard Glacie	6.62	37		Pn	02 15 20.9	+0.5
M17K	Holitna River	6.63	327		Pn	02 15 20.9	+0.6
M17K	Holitna River	6.63	327	P	Pn	02 15 20.9	+0.6
	baz=141						
WAT6	Susitna Watana	6.63	9		Pn	02 15 21.2	+0.6
WAT6	Susitna Watana	6.63	9	P	Pn	02 15 21.2	+0.6
	baz=190						
L19K	White Mountain	6.64	340		Pn	02 15 20.3	-0.2
L19K	White Mountain	6.64	340	P	Pn	02 15 20.7	+0.2
	baz=156						
CTG	Chitna Glacier	6.66	39	P	Pn	02 15 21.3	+0.4
	baz=226						
CTGM	Chitina Glacie	6.66	39		Pn	02 15 21.3	+0.4
PNL	Peninsula	6.68	53		Pn	02 15 21.4	+0.4
PNL	Peninsula	6.68	53	P	Pn	02 15 21.6	+0.6
PNL	Peninsula	6.68	53	P	Pn	02 15 21.4	+0.4
	baz=241						
LOGN	Logan Glacier	6.69	41		Pn	02 15 21.5	+0.3
PS1A	Pavlof South-1	6.71	269		Pn	02 15 20.9	-0.4
BCPM	Bancas Point	6.71	50		Pn	02 15 22.2	+0.7
N15K	Kwethluk River	6.78	312		Pn	02 15 23.6	+1.2
N15K	Kwethluk River	6.78	312	P	Pn	02 15 23.6	+1.2
	baz=124						
PS4A	Pavlof South-4	6.78	269		Pn	02 15 21.6	-0.8
HARP	HAARP	6.81	19		Pn	02 15 24.2	+1.4
HARP	HAARP	6.81	19	P	Pn	02 15 24.2	+1.4
	baz=203						
HAG	Hague Volcano	6.81	269		Pn	02 15 22.0	-0.9
WAT7	Susitna Watana	6.81	4		Pn	02 15 23.6	+0.6
WAT1	Susitna Watana	6.83	5		Pn	02 15 24.1	+1.1
WAT1	Susitna Watana	6.83	5	P	Pn	02 15 24.1	+1.1
	baz=186						
PN7A	Pavlof North-7	6.85	270		Pn	02 15 22.9	-0.4
M16K	Timber Creek	6.86	320		Pn	02 15 24.5	+1.0
M16K	Timber Creek	6.86	320	P	Pn	02 15 24.5	+1.0
	baz=133						
O14K	Tigyukauivet M	6.87	302		Pn	02 15 24.5	+0.9
O14K	Tigyukauivet M	6.87	302	P	Pn	02 15 24.5	+0.9
	baz=114						
L18K	Granite Mounta	7.08	333		Pn	02 15 26.6	+0.1
L18K	Granite Mounta	7.08	333	P	Pn	02 15 26.6	+0.1
	baz=148						
DHY	Denali Highway	7.15	9		Pn	02 15 28.5	+0.9
DHY	Denali Highway	7.15	9	P	Pn	02 15 29.0	+1.3
	baz=191						
M26K	Nabesna, AK	7.28	26		Pn	02 15 30.4	+1.1
M26K	Nabesna, AK	7.28	26	P	Pn	02 15 30.4	+1.1
	baz=212						
PAX	Paxson	7.29	16		Pn	02 15 30.8	+1.4
PAX	Paxson	7.29	16	P	Pn	02 15 30.8	+1.4
	baz=200						
M15K	Kasigluk River	7.32	314		Pn	02 15 30.7	+1.0
M15K	Kasigluk River	7.32	314	P	Pn	02 15 30.7	+1.0
	baz=125						
N14K	Kuskokwak Cree	7.35	307		Pn	02 15 30.9	+0.8
N14K	Kuskokwak Cree	7.35	307	P	Pn	02 15 30.9	+0.8
	baz=117						
O29M	Mount Kennedy	7.35	50		Pn	02 15 31.0	+0.7
O29M	Mount Kennedy	7.35	50	P	Pn	02 15 31.0	+0.7
	baz=239						
RND	Reindeer	7.39	4		Pn	02 15 31.9	+1.1
TRF	Thorofare Moun	7.41	359		Pn	02 15 32.4	+1.1
TRF	Thorofare Moun	7.41	359	P	Pn	02 15 32.4	+1.1
	baz=178						
P29M	Windy Craggy	7.42	56		Pn	02 15 31.1	-0.1
P29M	Windy Craggy	7.42	56	P	Pn	02 15 31.1	-0.1
	baz=246						
YUK8	Steele Glacier	7.44	41		Pn	02 15 33.1	+1.4
YUK8	Steele Glacier	7.44	41	P	Pn	02 15 33.1	+1.4
	baz=229						
L17K	Donlin	7.46	328		Pn	02 15 32.6	+1.0
L17K	Donlin	7.46	328	P	Pn	02 15 32.6	+1.0
	baz=141						
CAST	Castle Rocks	7.46	353		Pn	02 15 33.2	+1.5
CAST	Castle Rocks	7.46	353	P	Pn	02 15 32.9	+1.2
	baz=171						
L16K	Owhat River	7.51	323		Pn	02 15 32.7	+0.2
L16K	Owhat River	7.51	323	P	Pn	02 15 32.7	+0.2
	baz=135						
KTH	Kantishna Hill	7.53	357		Pn	02 15 33.3	+0.5
M27K	Edge Creek, AK	7.54	30		Pn	02 15 34.1	+1.1
M27K	Edge Creek, AK	7.54	30	P	Pn	02 15 33.9	+0.9
	baz=216						
TTA	Tatalina	7.55	338		Pn	02 15 32.6	-0.4
TTA	Tatalina	7.55	338	P	Pn	02 15 33.0	0.0
MENT	Mentasta	7.58	22		Pn	02 15 34.4	+1.0
K20K	Telida	7.61	346		Pn	02 15 33.4	-0.4
K20K	Telida	7.61	346	P	Pn	02 15 33.4	-0.4
	baz=162						
YUK7	Dusty Glacier	7.65	49		Pn	02 15 35.6	+1.1
L26K	Log Cabin Wild	7.74	23		Pn	02 15 36.5	+1.0
L26K	Log Cabin Wild	7.74	23	P	Pn	02 15 36.5	+1.0
	baz=208						
M14K	Bethel	7.87	312		Pn	02 15 38.5	+1.1
M14K	Bethel	7.87	312	P	Pn	02 15 38.0	+0.7
	baz=122						
BVCY	Beaver Creek	7.88	32		Pn	02 15 38.6	+1.1
BVCY	Beaver Creek	7.88	32	P	Pn	02 15 38.6	+1.1
	baz=220						
K17K	Iditarod	7.92	331		Pn	02 15 38.3	+0.3
K17K	Iditarod	7.92	331	P	Pn	02 15 38.3	+0.3
	baz=144						
CHUM	Lake Minchumin	7.94	352		Pn	02 15 38.8	+0.6
CHUM	Lake Minchumin	7.94	352	P	Pn	02 15 38.8	+0.6
	baz=170						
ISLZ	Isanotski Laza	7.96	266		Pn	02 15 37.7	-1.0
P30M	Million Dollar	7.98	54		Pn	02 15 39.6	+0.7
P30M	Million Dollar	7.98	54	P	Pn	02 15 38.7	-0.2
	baz=244						
K24K	Donnelly Dome	8.04	13		Pn	02 15 40.9	+1.2
K24K	Donnelly Dome	8.04	13	P	Pn	02 15 40.9	+1.2
	baz=197						
HYT	Haines Junctio	8.07	49	Pn	Pn	02 15 41.0	+0.7
BPAW	Bear Paw Mtn.	8.08	357		Pn	02 15 40.2	-0.1
BPAW	Bear Paw Mtn.	8.08	357	P	Pn	02 15 40.2	-0.1
	baz=176						
L27K	Beaver Creek,	8.13	27		Pn	02 15 41.3	+0.4
L27K	Beaver Creek,	8.13	27	P	Pn	02 15 41.3	+0.4
	baz=214						
SIT	Sitka	8.13	77	P	Pn

J16K	**Anvik River**	**9.02**	**328**	P		**Pn**		**02 15 53.6 +0.4**
	baz=139							
J26L	**Joseph Creek**	**9.03**	**18**	Pn		**Pn**		**02 15 53.7 +0.4**
I23K	**Minto, Yukon-K**	**9.12**	**2**			**Pn**		**02 15 55.0 +0.6**
WHY	**Whitehorse**	**9.14**	**54**	Pn		**Pn**		**02 15 55.4 +0.5**
POKR	**Poker Plat Res**	**9.17**	**7**	Pn		**Pn**		**02 15 55.8 +0.6**
I21K	**Tanana**	**9.20**	**355**			**Pn**		**02 15 56.3 +0.8**
L29M	**L29M**	**9.24**	**35**	Pn		**Pn**		**02 15 57.1 +0.9**
P32M	**Atlin**	**9.34**	**61**			**Pn**		**02 15 57.7 +0.2**
P32M	**Atlin**	**9.34**	**61**	P		**Pn**		**02 15 57.7 +0.2**
	baz=254							
M30M	**Minto, Yukon**	**9.35**	**40**			**Pn**		**02 15 58.3 +0.6**
DAWY	**Dawson**	**9.59**	**29**	Pn		**Pn**		**02 16 01.5 +0.6**
H21K	**Melozitna Rive**	**9.73**	**353**	Pn		**Pn**		**02 16 02.6 -0.1**
EGAK	**Eagle**	**9.75**	**23**			**Pn**		**02 16 04.2 +1.1**
EGAK	**Eagle**	**9.75**	**23**	P		**Pn**		**02 16 02.5 -0.5**
	baz=210							
I26K	**Coal Creek Min**	**9.84**	**17**			**Pn**		**02 16 05.8 +1.4**
H24K	**Noodor Dome**	**9.86**	**5**	Pn		**Pn**		**02 16 06.1 +1.5**
P33M	**Teslin, Yukon**	**9.95**	**58**	Pn		**Pn**		**02 16 05.4 -0.4**
P33M	**Teslin, Yukon**	**9.95**	**58**	P		**Pn**		**02 16 06.1 +0.2**
	baz=252							
K29M	**Barlow Dome**	**9.96**	**33**			**Pn**		**02 16 07.1 +1.0**
H18K	**Honhosa River**	**10.01**	**339**	Pn		**Pn**		**02 16 06.5 -0.1**
M31M	**Drury Creek, Y**	**10.06**	**46**			**Pn**		**02 16 08.1 +0.8**
H17K	**Granite Mounta**	**10.16**	**335**			**Pn**		**02 16 09.1 +0.5**
J29N	**Klondike Camp**	**10.21**	**30**	Pn		**Pn**		**02 16 11.6 +2.1**
FARO	**Faro, Yukon**	**10.50**	**47**	Pn		**Pn**		**02 16 14.0 +0.6**
I28M	**Miner Creek**	**10.59**	**23**	Pn		**Pn**		**02 16 15.2 +0.5**
G21K	**Allakaket**	**10.63**	**352**	Pn		**Pn**		**02 16 16.0 +1.0**
G23K	**Bananza Creek**	**10.69**	**360**	Pn		**Pn**		**02 16 16.5 +0.6**
G24K	**Hadweenzic Riv**	**10.74**	**5**	Pn		**Pn**		**02 16 17.4 +0.7**
FYU	**Fort Yukon**	**10.77**	**10**			**Pn**		**02 16 18.0 +1.0**
J30M	**Hart River**	**10.85**	**33**	Pn		**Pn**		**02 16 18.8 +0.6**
DLBC	**Dease Lake**	**11.03**	**69**	Pn		**Pn**		**02 16 22.1 +1.4**
	comp=E,0.3nm,0.3s,baz=255,slow=16,SNR=1.8							
DLBC					LR	LR		02 19 51.6
	comp=E,408nm,19.6s,baz=280,slow=33							
	comp=E,0.8nm,0.3s							
I30M	**Mount Dempster**	**11.31**	**30**			**Pn**		**02 16 25.1 +0.6**
F21K	**Alatna River**	**11.32**	**353**	Pn		**Pn**		**02 16 24.6 0.0**
F20K	**Avaraart Lake**	**11.36**	**348**			**Pn**		**02 16 25.4 +0.4**
ANM	**Nome**	**11.43**	**325**	Pn		**Pn**		**02 16 26.9 +0.9**
MMPY	**Sheldon Lake,**	**11.54**	**48**	Pn		**Pn**		**02 16 28.8 +1.2**
H29M	**Whitestone**	**11.59**	**24**			**Pn**		**02 16 29.4 +1.1**
E19K	**Redstone River**	**11.93**	**346**	Pn		**Pn**		**02 16 33.4 +0.5**
E24K	**Your Creek**	**12.07**	**3**			**Pn**		**02 16 35.1 +0.2**
E22K	**Anaktuvuk Pass**	**12.15**	**357**	Pn		**Pn**		**02 16 37.4 +1.6**
G29M	**Pine Creek**	**12.25**	**23**			**Pn**		**02 16 38.1 +0.9**
E25K	**Arctic Village**	**12.27**	**8**	Pn		**Pn**		**02 16 39.2 +1.7**
H31M	**Peel River**	**12.32**	**31**	Pn		**Pn**		**02 16 38.4 +0.2**
E18K	**Tukpahlearik C**	**12.44**	**341**	Pn		**Pn**		**02 16 41.5 +1.7**
F28M	**Old Crow**	**12.50**	**18**			**Pn**		**02 16 42.2 +1.5**
TOK	**Toolik Lake Re**	**12.63**	**1**			**Pn**		**02 16 44.0 +1.6**
G30M	**tAoh Zrail Nji**	**12.71**	**25**	Pn		**Pn**		**02 16 45.1 +1.5**
E27K	**Coleen River**	**12.76**	**14**			**Pn**		**02 16 45.3 +1.1**
G31M	**Satah River**	**13.15**	**28**	Pn		**Pn**		**02 16 50.2 +0.7**
E28M	**Babbage River**	**13.45**	**17**			**Pn**		**02 16 54.6 +1.0**
E29M	**Blow River**	**13.54**	**19**	Pn		**Pn**		**02 16 55.7 +0.9**
F31M	**Tsiigehtchic**	**13.68**	**27**	Pn		**Pn**		**02 16 57.2 +0.5**
D27M	**Malcolm River**	**13.83**	**13**	Pn		**Pn**		**02 16 58.8 0.0**
C23K	**Itkillik River**	**13.83**	**359**	Pn		**Pn**		**02 16 57.5 -1.3**
C16K	**Lisburne Hills**	**14.14**	**336**	Pn		**Pn**		**02 17 05.8 +2.7**
INK	**Inuvik**	**14.40**	**25**	Pn		**Pn**		**02 17 05.8 -0.7**
INK	**Inuvik**	**14.40**	**25**	Pn		**Pn**		**02 17 08.6 +2.1**
	comp=E,0.1nm,0.3s,baz=206,slow=15,SNR=23							
WRGLY	**Wrigley**	**15.09**	**51**	Pn		**Pn**		**02 17 15.1 -0.8**
WRGLY				IAmb		IAmb		02 17 20.3
	comp=Z,12nm,1.1s							
YKA	**Yellowknife Ar**	**18.96**	**56**	P		**P**		**02 18 01.8 -2.2**
YKA	**Yellowknife Ar**	**18.96**	**56**	P		**Pn**		**02 18 05.6 +0.9**
	comp=Z,0.2nm,0.3s,baz=264,slow=10,SNR=42							
YKA					LR	LR		02 25 16.8
	comp=Z,296nm,18.4s,baz=286,slow=36							
	comp=Z,4.3nm,1.0s							
A36M	**Sachs Harbour**	**19.03**	**23**	P		**P**		**02 18 05.1 +0.5**
A36M						IAmb	IAmb	02 18 08.4
	comp=Z,29nm,0.9s							
SHEM	**Shemya Is, Ala**	**21.05**	**276**		LR	LR		02 26 42.8
	comp=Z,81nm,19.2s,baz=118,slow=37							
NEW	**Newport**	**21.41**	**98**		LR	LR		02 25 30.7
	comp=Z,126nm,20.0s,baz=296,slow=33							
YBH	**Yreka Blue Hor**	**22.73**	**118**		LR	LR		02 25 20.9
	comp=Z,260nm,21.2s,baz=332,slow=31							
BILL	**Bilibino**	**23.17**	**319**	P		**P**		**02 18 47.5 -1.7**
BILL						IAmb	IAmb	02 18 59.4
	comp=Z,15nm,1.4s							
ELK	**Elko**	**27.29**	**109**		LR	LR		02 28 16.4
	comp=Z,114nm,20.8s,baz=309,slow=32							
NVAR	**Mina Array Bea**	**27.43**	**117**	P		**P**		**02 19 29.7 +0.7**
	comp=Z,0.4nm,0.6s,baz=332,slow=8.7,SNR=2.7							
NVAR					LR	LR		02 28 37.3
	comp=Z,231nm,18.6s,baz=284,slow=32							
	comp=Z,0.4nm,0.6s							
TPAW	**Teton Pass**	**27.73**	**100**	P		**P**		**02 19 30.2 -1.5**
RES	**Resolute Bay**	**27.92**	**28**	P		**P**		**02 19 30.6 -2.1**
RES	**Resolute Bay**	**27.92**	**28**	LR		LR		02 31 21.7
	comp=Z,172nm,18.7s,baz=168,slow=38							
PDAR	**Pinedale Array**	**28.98**	**100**	P		**P**		**02 19 43.8 +1.1**
	comp=Z,0.2nm,0.6s,baz=317,slow=6.5,SNR=1.7							
PDAR					LR	LR		02 29 38.4
	comp=Z,49nm,21.6s,baz=306,slow=33							
	comp=Z,0.2nm,0.6s							
SEY	**Seymchan**	**29.15**	**307**		LR	LR		02 32 49.1
	comp=Z,298nm,18.4s,baz=256,slow=39							
FCC	**Fort Churchill**	**29.46**	**61**	P		**P**		**02 19 47.3 +0.8**
RDMU	**Red Mountain**	**30.46**	**103**	P		**P**		**02 19 54.7 -1.2**
RDMU						IAmb	IAmb	02 20 04.0
	comp=Z,3.1nm,0.5s							
MA2	**Magadan**	**30.87**	**301**		LR	LR		02 33 48.2
	comp=Z,181nm,18.2s,baz=84,slow=39							
PFO	**Pinyon Flats O**	**32.16**	**120**		LR	LR		02 30 24.8
	comp=Z,142nm,21.6s,baz=344,slow=31							
ULM	**Lac du Bonnet**	**32.20**	**77**		LR	LR		02 32 27.9
	comp=Z,60nm,21.1s,baz=308,slow=35							
TIXI	**Tiksi**	**35.67**	**328**		LR	LR		02 37 10.5
	comp=Z,59nm,19.5s,baz=26,slow=39							
T25A	**Trinidad**	**35.73**	**103**	P		**P**		**02 20 40.0 -1.8**
ANMO	**Albuquerque**	**36.25**	**107**	LR		LR		02 33 59.1
	comp=Z,78nm,19.0s,baz=52,slow=34							
FRB	**Frobisher Bay**	**38.84**	**45**	LR		LR		02 37 16.6
	comp=Z,318nm,19.2s,baz=344,slow=36							
AMTX	**Amarillo**	**38.88**	**102**	P		**P**		**02 21 06.1 -2.4**
AMTX						IAmb	IAmb	02 21 30.8
	comp=Z,12nm,1.4s							
YAK	**Yakutsk**	**39.26**	**313**		LR	LR		02 39 27.3
	comp=Z,83nm,18.4s,baz=104,slow=39							
I45A	**Fountain**	**41.17**	**79**	P		**P**		**02 21 26.8 -0.4**
TXAR	**Lajitas Array**	**42.09**	**110**	P		**P**		**02 21 36.4 +1.4**
	comp=Z,0.4nm,0.8s,baz=325,slow=5.5,SNR=2.8							
TXAR					LR	LR		02 38 17.6
	comp=Z,74nm,18.1s,baz=256,slow=35							
	comp=Z,0.4nm,0.8s							
CCM	**Cathedral Cave**	**42.41**	**90**	P		**P**		**02 21 36.4 -1.0**
CCM						IAmb	IAmb	02 21 53.4
	comp=Z,5.4nm,1.1s							
LPIG	**La Paz**	**43.03**	**121**		LR	LR		02 37 03.7
	comp=Z,78nm,19.9s,baz=8.0,slow=33							
ASAJ	**Asahikawa**	**43.19**	**284**		LR	LR		02 39 29.7
	comp=Z,24nm,20.2s,baz=344,slow=36							
SUMG	**Summit**	**43.32**	**24**	*i* P		**P**		**02 21 45.0 +0.2**
SFJD	**Kangerlussuaq**	**43.48**	**34**	LR		LR		02 39 48.6
	comp=Z,96nm,20.3s,baz=328,slow=36							
DAG	**Danmarks Havn**	**43.91**	**14**	*i* P		**P**		**02 21 49.0 -0.1**
SCHQ	**Schefferville**	**44.41**	**55**	LR		LR		02 40 19.7
	comp=Z,99nm,20.5s,baz=280,slow=36							
SADO	**Sadowa**	**44.56**	**73**	LR		LR		02 40 34.3
	comp=Z,43nm,18.8s,baz=327,slow=36							
KLR	**Kul'dur**	**45.60**	**296**	LR		LR		02 42 45.4
	comp=Z,50nm,18.9s,baz=26,slow=38							
O52A	**Adamsville**	**46.22**	**80**	P		**P**		**02 22 06.3 -1.6**
O52A						IAmb	IAmb	02 22 31.1
	comp=Z,16nm,1.2s							
WVNY	**West Valley, N**	**46.42**	**76**	P		**P**		**02 22 09.6 +0.1**
W50A	**Signal Mountai**	**47.78**	**88**	P		**P**		**02 22 19.1 -1.1**
W50A						IAmb	IAmb	02 22 38.0
	comp=Z,11nm,1.1s							
NRIK	**Noril'sk**	**48.16**	**336**	LR		LR		02 45 29.1
	comp=Z,129nm,19.9s,baz=36,slow=40							
TKL	**Tuckaleechee C**	**48.31**	**86**	LR		LR		02 42 41.8
	comp=Z,136nm,19.3s,baz=326,slow=36							
SCO	**Scoresbysund**	**48.41**	**21**	P		**P**		**02 22 24.7 +0.1**
SCO						IAmb	IAmb	02 22 53.4
	comp=Z,12nm,1.1s							
H11N2	**WAKE ISLAND Hy**	**48.46**	**239**	T		T		03 14 34.2
	baz=31,slow=76,SNR=5.9							
H11N3	**WAKE ISLAND Hy**	**48.47**	**239**	T		T		03 14 32.2
	baz=31,slow=76,SNR=6.2							
H11N1	**WAKE ISLAND Hy**	**48.48**	**239**	T		T		03 14 35.8
	baz=31,slow=76,SNR=5.4							
V53A	**Saluda**	**48.84**	**85**	P		**P**		**02 22 28.5 +0.2**
NRS	**Narsarsuaq**	**49.01**	**38**	P		**P**		**02 22 27.9 -1.3**
H11S1	**WAKE ISLAND Hy**	**49.60**	**239**	T		T		03 16 27.2
	baz=30,slow=76,SNR=12							
H11S2	**WAKE ISLAND Hy**	**49.62**	**239**	T		T		03 16 03.7
	baz=30,slow=76,SNR=10							
H11S3	**WAKE ISLAND Hy**	**49.62**	**239**	T		T		03 16 01.7
	baz=30,slow=76,SNR=10							
JMIC	**Jan Mayen**	**50.32**	**15**	LR		LR		02 45 21.0
	comp=Z,25nm,21.0s,baz=280,slow=38							
MJAR	**Matsushiro Arr**	**50.85**	**279**	LR		LR		02 40 50.4
	comp=Z,9.5nm,21.6s,baz=52,slow=32							
BORG	**Borgarnes**	**53.29**	**25**	LR		LR		02 46 51.5
	comp=Z,58nm,19.2s,baz=326,slow=37							
KSRS	**Korea Array**	**55.79**	**288**	LR		LR		02 47 37.5
	comp=Z,16nm,19.3s,baz=45,slow=36							
KSAR	**Wonju Array Be**	**55.81**	**288**	P		**P**		**02 23 18.7 -1.4**
CMIG	**Matias Romero**	**56.69**	**110**	LR		LR		02 46 38.6
	comp=Z,71nm,19.5s,baz=360,slow=35							
SONM	**Songino Array**	**58.51**	**310**	P		**P**		**02 23 39.6 +0.5**
	comp=Z,0.6nm,0.5s,baz=45,slow=7.8,SNR=5.5							
SONM					LR	LR		02 51 26.6
	comp=Z,111nm,18.1s,baz=37,slow=39							
	comp=Z,0.6nm,0.5s							
ZALV	**Zalesovo Beam**	**61.55**	**327**	P		**P**		**02 24 01.2 +1.5**
	comp=Z,0.5nm,0.4s,baz=355,slow=5.1,SNR=3.7							
ZALV					LR	LR		02 54 59.7
	comp=Z,52nm,18.2s,baz=30,slow=40							
	comp=Z,0.5nm,0.4s							
NOA	**NORSAR Array B**	**62.30**	**10**	LR		LR		02 52 03.0
	comp=Z,16nm,20.6s,baz=330,slow=37							
FINES	**FINESS Array B**	**62.79**	**2**	P		**P**		**02 24 11.0 +3.1**
	comp=Z,2.0nm,0.9s,baz=4.3,slow=7.6,SNR=4.3							
	comp=Z,2.0nm,0.9s							
HFS	**Hagfors**	**63.42**	**9**	P		**P**		**02 24 16.0 +3.9**
	comp=Z,1.3nm,0.8s,baz=322,slow=9.1,SNR=2.4							
HFS					LR	LR		02 53 49.8
	comp=Z,30nm,18.6s,baz=50,slow=38							
	comp=Z,1.3nm,0.8s							
ARU	**Arti**	**65.51**	**343**	LR		LR		02 56 20.4
	comp=Z,33nm,19.2s,baz=8.0,slow=39							
BVAR	**Borovoye Array**	**66.33**	**335**	P		**P**		**02 24 32.5 +1.3**
	comp=Z,1.3nm,0.8s,baz=26,slow=3.7,SNR=5.1							
	comp=Z,1.3nm,0.8s							
KURBB	**Kurchatov Arra**	**66.34**	**329**	P		**P**		**02 24 31.5 +0.2**
	comp=Z,0.3nm,0.7s,baz=36,slow=4.9,SNR=3.5							
	comp=Z,0.3nm,0.7s							
JTS	**Las Juntas de**	**67.64**	**105**	LR		LR		02 54 35.8
	comp=Z,16nm,21.6s,baz=322,slow=36							
MKAR	**Makanchi Array**	**68.56**	**324**	P		**P**		**02 24 45.4 -0.1**
MKAR	**Makanchi Array**	**68.56**	**324**	P		**P**		**02 24 46.1 +0.6**
	comp=Z,0.3nm,0.5s,baz=47,slow=8.5,SNR=3.9							
MKAR					LR	LR		02 59 09.8
	comp=Z,84nm,18.4s,baz=47,slow=40							
	comp=Z,0.3nm,0.5s							
AKTO	**Aktyubinsk**	**71.36**	**342**	LR		LR		03 00 54.1
	comp=Z,38nm,18.1s,baz=264,slow=40							
ABKAR	**Akbulak array**	**72.14**	**340**	P		**P**		**02 25 07.0 -0.2**
ABKAR	**Akbulak array**	**72.14**	**340**	P		**P**		**02 25 07.5 +0.2**
ABKAR					IAmb	IAmb		02 25 25.8
	comp=Z,5.5nm,1.4s							
AKASG	**Malin Array Be**	**73.60**	**1**	LR		LR		03 00 40.8
	comp=Z,29nm,19.2s,baz=218,slow=38							
AAK	**Ala-Archa**	**74.74**	**328**	LR		LR		03 00 42.8
	comp=Z,71nm,20.2s,baz=36,slow=38							
ESDC	**Sonseca Array**	**80.34**	**26**	P		**P**		**02 25 56.0 +1.9**
	comp=Z,1.7nm,1.0s,baz=328,slow=6.5,SNR=4.3							
ESDC					LR	LR		03 02 18.7
	comp=Z,51nm,18.6s,baz=24,slow=36							
	comp=Z,1.7nm,1.0s							
CMAR	**Chiang Mai Arr**	**86.07**	**297**	LR		LR		03 10 02.6
	comp=Z,28nm,18.2s,baz=320,slow=39							
MDP	**Montagnes des**	**89.87**	**81**	LR		LR		03 08 23.0
	comp=Z,30nm,19.1s,baz=154,slow=36							
CTA	**Charters Tower**	**92.87**	**238**	LR		LR		03 03 06.0
	comp=Z,24nm,19.1s,baz=90,slow=32							

IDC 13 02:15:34.8±4.3, 5°.79S×141°.76E, h0km, mb3.4/1, mbtmp3.4/3, ML3.3/2, MS3.2/1, Error ellipse: s-maj=138.8km s-min=31.9km az=99.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**14.87**	**163**	LR	LR	02 24 31.0	
	comp=Z,88nm,18.7s,baz=90,slow=36						
WRA	**Warramunga Arr**	**15.81**	**206**	Pn	Pn	02 19 17.5	-1.5
	0.1nm,0.3s,baz=30,slow=13,SNR=2.6						
WRA				Sn	Sn	02 22 07.9	-7.2
	0.1nm,0.3s,baz=43,slow=20,SNR=2.0						
WRA				Lg	Lg	02 23 59.8	
	0.1nm,0.3s,baz=26,slow=26,SNR=2.2						
ASAR	**Alice Springs**	**19.32**	**202**	P	P	02 20 01.8	0.0
	0.1nm,0.3s,baz=35,slow=11,SNR=3.7						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**74.07**	**322**	P	P	02 27 13.0	+0.2
	0.2nm,0.6s,baz=121,slow=4.9,SNR=2.0						
	0.2nm,0.6s						

IDC 13 02:18:09.9±3.2, 35°.00S×179°.54W, h0km, mb4.2/2, mbtmp4.1/3, ML3.8/1, MS3.5/1, Error ellipse: s-maj=75.8km s-min=46.6km az=125.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**4.22**	**219**	Pn	Pn	02 19 15.1	-0.4
	5.3nm,0.3s,baz=3.3,slow=4.9,SNR=14						
URZ				Sn	Sn	02 20 00.9	-4.7
	3.0nm,0.3s,baz=207,slow=23,SNR=5.6						
	15nm,0.3s						
DZM	**Mont Dzumac**	**17.79**	**313**	LR	LR	02 27 41.3	
	comp=Z,151nm,18.6s,baz=234,slow=32						
ASAR	**Alice Springs**	**41.80**	**273**	P	P	02 26 01.8	+0.4
	3.0nm,0.5s,baz=114,slow=8.0,SNR=27						
	3.0nm,0.5s						
WRA	**Warramunga Arr**	**43.20**	**278**	P	P	02 26 12.2	-0.6
	1.2nm,0.7s,baz=119,slow=7.7,SNR=4.7						
	1.2nm,0.7s						
H03N3	**Juan Fernandez**	**79.23**	**123**	T	T	03 58 42.4	
	baz=231,slow=74						
H03N2	**Juan Fernandez**	**79.23**	**123**	T	T	03 58 41.2	
	baz=231						
H03N1	**Juan Fernandez**	**79.25**	**123**	T	T	03 58 43.0	
	baz=231,slow=74						
FINES	**FINESS Array B**	**148.92**	**336**	PKPbc	PKPbc	02 37 58.2	-0.6
	4.0nm,1.1s,baz=41,slow=4.4,SNR=4.1						

IDC 13 02:34:05.0±1.9, 8°.82S×125°.43E, h0km, mb3.7/1, mbtmp3.4/4, ML3.1/3, Error ellipse: s-maj=36.8km s-min=30.4km az=101.0
DJA 13 02:34:08.3±0.6, 9°.5±3°×12°.5E±°, h10km, M3.6/5, mb4.1/1, MLv3.4/5

ISC 13 02:34:09.5±1.5, 9°.0S±0°.1×125°.57E±0°.09, h35km, n6, σ1°.36/8, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.49**	**239**	P	**Pn**	**02 34 33.2**	**-0.7**
BATI	**Baumata**	**2.23**	**237**	Pn	**Pn**	**02 34 43.9**	**-0.2**
	4.0nm,0.3s,baz=70,slow=6.3,SNR=2.3						
BATI				Sn	**Sn**	**02 35 10.8**	**+0.4**
	7.1nm,0.3s,baz=270,slow=23,SNR=2.3						
	16nm,0.4s						
BATI	**Baumata**	**2.23**	**237**	P	**Pn**	**02 34 43.8**	**-0.2**
WRA	**Warramunga Arr**	**13.80**	**143**	Pn	**Pn**	**02 37 24.0**	**+1.3**
	0.1nm,0.3s,baz=317,slow=12,SNR=5.4						
WRA				Sn	**Sn**	**02 39 52.5**	**-2.3**
	0.1nm,0.3s,baz=328,slow=21,SNR=1.8						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**16.63**	**152**	Pn	**P**	**02 38 03.3**	**+1.1**
	0.1nm,0.3s,baz=333,slow=14,SNR=1.8						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**67.59**	**329**	P	**P**	**02 45 02.1**	**-0.5**
	0.6nm,0.7s,baz=143,slow=6.8,SNR=4.8						
	0.6nm,0.7s						

IDC 13 02:45:37.3±1.2, 6°.25S×142°.65E, h0km, mb3.8/3, mbtmp3.7/6, ML3.7/2, MS2.9/1, Error ellipse: s-maj=31.1km s-min=22.8km az=93.0

ISC 13 02:45:38.4±1.0, 6°.49S±0°.10×142°.46E±0°.10, h10km, n7, σ2°.87/9, mb3.9/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.48**	**122**	Pn	**Pn**	**02 46 58.4**	**-1.9**
	7.5nm,0.6s,baz=260,slow=21,SNR=1.2						
PMG				Sn	**Sn**	**02 48 05.7**	**+2.2**
	0.7nm,0.3s,baz=284,slow=22,SNR=1.2						
WRA	**Warramunga Arr**	**15.52**	**210**	Pn	**Pn**	**02 49 20.0**	**+2.4**
	0.2nm,0.3s,baz=25,slow=13,SNR=7.2						
WRA				Sn	**Sn**	**02 52 07.6**	**-2.2**
	0.1nm,0.3s,baz=30,slow=24,SNR=2.5						
WRA				Lg	Lg	02 53 59.5	
	0.1nm,0.3s,baz=28,slow=26,SNR=2.1						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**18.95**	**205**	P	**Pn**	**02 50 04.6**	**+4.0**
	0.5nm,0.3s,baz=34,slow=9.9,SNR=29						
ASAR				S	**Sn**	**02 53 29.6**	**-3.4**
	0.3nm,0.3s,baz=20,slow=28,SNR=2.4						
ASAR				Lg	Lg	02 55 48.0	
	0.1nm,0.3s,baz=23,slow=30,SNR=1.5						
	1.8nm,0.6s						
MJAR	**Matsushiro Arr**	**42.99**	**355**	LR	LR	03 11 25.6	
	comp=Z,13nm,18.2s,baz=136,slow=36						
MKAR	**Makanchi Array**	**75.05**	**322**	P	**P**	**02 57 21.1**	**+0.7**
	0.4nm,0.8s,baz=116,slow=5.3,SNR=3.5						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**84.53**	**325**	P	**P**	**02 58 11.9**	**+0.1**
	1.3nm,0.8s,baz=104,slow=6.3,SNR=5.5						
	1.3nm,0.8s						
ILAR	**Eielson Array**	**87.73**	**24**	P	**P**	**02 58 25.8**	**-1.5**
	0.6nm,0.9s,baz=232,slow=5.4,SNR=5.3						
	0.6nm,0.9s						

IDC 13 02:55:59.3±1.0, 2°.27S×12°.48W, h0km, mb4.0/14, mbtmp4.0/15, ML3.7/1, MS3.5/7, Error ellipse: s-maj=46.7km s-min=17.3km az=135.0
NEIC 13 02:56:01.4±1.1, 2°.4S±0°.1×12°.10W±0°.09, h10km±1km, mb4.7/27, Error ellipse: s-maj=23.0km s-min=3.8km az=142.0

ISC 13 02:56:00.9±0.7, 2°.3S±0°.1×12°.2W±0°.1, h10km, n53, σ1°.47/45, mb4.5/25, MS3.5/6, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**5.94**	**203**	T	T	03 03 16.5	
	baz=22,slow=74,SNR=291						
H10N1	**ASCENSION HYDR**	**5.95**	**203**	T	T	03 03 16.9	
	baz=22,slow=74,SNR=340						
H10N3	**ASCENSION HYDR**	**5.96**	**203**	T	T	03 03 13.7	
	baz=22,slow=74,SNR=219						
DBIC	**Dimbokro**	**11.54**	**39**	Pn	**Pn**	**02 58 46.1**	**+0.3**
DBIC	**Dimbokro**	**11.54**	**39**	Pn	**Pn**	**02 58 46.0**	**+0.2**
	0.5nm,0.3s,baz=218,slow=7.7,SNR=7.0						
DBIC				Sn	**Sn**	**03 00 48.0**	**-6.8**
	0.5nm,0.3s,baz=261,slow=18,SNR=2.5						
DBIC				LR	LR	03 02 27.9	
	comp=Z,172nm,20.0s,baz=214,slow=33						
	5.2nm,0.8s						
MBO	**M'Bour**	**17.26**	**344**	Pn	**Pn**	**03 00 03.1**	**+0.9**
MBO				IAmb	IAmb	03 00 04.7	
	comp=Z,100nm,1.1s						
TOA0	**Torodi Ar. Sit**	**20.63**	**42**	P	**P**	**03 00 40.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**20.63**	**42**	P	**P**	**03 00 40.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**20.63**	**42**	P	**P**	**03 00 40.8**	**+0.1**
	comp=Z,6.7nm,0.7s,baz=228,slow=8.1,SNR=24						
TORD				LR	LR	03 07 43.6	
	comp=Z,106nm,20.2s,baz=170,slow=34						
	comp=Z,6.7nm,0.7s						
RCBR	**Riachuelo**	**23.92**	**261**	P	**P**	**03 01 14.6**	**-0.7**
RCBR				IAmb	IAmb	03 01

QSPA	South Pole Qui	87.77	180	P	P	03 08 50.3	+0.2
	comp=Z,3.0nm,0.9s,baz=205,slow=4.0,SNR=5.6						
	comp=Z,3.0nm,0.9s						
TXAR	Lajitas Array	92.42	299	P	P	03 09 09.8	-2.8
	comp=Z,0.4nm,0.8s,baz=111,slow=4.9,SNR=4.0						
	comp=Z,0.4nm,0.8s						

IDC ***13*** *03:03:17.4±2.2,55°.79N×149°.53W,h0km,mb3.7/4, mbtmp3.6/9,ML3.4/5,MS2.6/3,Error ellipse: s-maj=37.9km s-min=26.7km az=176.0*

NEIC ***13*** *03:03:18.9±1.3,55°.95N±0°.08×149°.68W±0°.10,h7km±5km, mb4.1/4,ML3.8/42,MS3.6(AEIC),Error ellipse: s-maj=12.3km s-min=7.5km az=166.0*

AEIC ***13*** *03:03:23.2±1.3,55°.91N±0°.09×149°.6W±0°.1,h12km±5km, Error ellipse: s-maj=13.2km s-min=8.8km az=172.0*

ISC 13 03:03:19.6±0.9,56°.02N±0°.08×149°.63W±0°.05,h10km, n290,σ0°91/282,mb4.1/6,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.36	302		Pn	03 03 57.8	-0.5
OHAK	Old Harbor	2.36	302		Sn	03 04 24.5	-2.7
OHAK	Old Harbor	2.36	302	P	Pn	03 03 57.4	-0.9
OHAK	Old Harbor	2.36	302	P	Pn	03 03 57.6	-0.6
	baz=121						
OHAK				S	Sn	03 04 24.5	-2.7
	baz=121						
KDAK	Kodiak Island	2.40	319		Pn	03 03 58.8	-0.1
KDAK					Sn	03 04 26.2	-2.1
KDAK	Kodiak Island	2.40	319	Pn	Pn	03 03 58.3	-0.5
	17nm,0.3s,baz=134,slow=6.7,SNR=612						
KDAK				Sn	Sn	03 04 26.2	-2.1
	18nm,0.3s,baz=24,slow=20,SNR=16						
KDAK				LR	LR	03 05 10.0	
	comp=Z,143nm,21.0s,baz=186,slow=43						
	55nm,0.2s						
SII	Sitkinak Islan	2.60	284		Pn	03 03 59.5	-2.1
SII					Sn	03 04 30.1	-3.1
SII	Sitkinak Islan	2.60	284	IAML		03 04 31.2	
	comp=E,480nm,0.6s						
SII				IAML		03 04 33.4	
	comp=N,251nm,0.9s						
SII	Sitkinak Islan	2.60	284	P	Pn	03 04 00.7	-1.0
	baz=102						
SYI	Shuyak Island	3.00	331		Pn	03 04 07.1	0.0
SYI	Shuyak Island	3.00	331		Sn	03 04 42.0	-1.1
Q20K	Shuyak Island	3.00	331	P	Pn	03 04 07.3	+0.1
	baz=150						
Q20K				S	Sn	03 04 42.5	-0.7
	baz=150						
CNPM	China Poot	3.62	347		Pn	03 04 15.6	-0.1
CNPM					Sn	03 04 56.8	-1.8
CNPM	China Poot	3.62	347	IAML		03 05 01.2	
	comp=N,87nm,0.5s						
CNPM				IAML		03 05 09.0	
	comp=E,88nm,2.2s						
Q19K	Cape Douglas,	3.64	325		Pn	03 04 16.6	+0.6
Q19K	Cape Douglas,	3.64	325	IAML		03 05 03.9	
	comp=N,245nm,0.7s						
Q19K				IAML		03 05 04.7	
	comp=E,295nm,0.8s						
Q19K	Cape Douglas,	3.64	325	P	Pn	03 04 16.5	+0.6
	baz=143						
KAKN	Katmai Knife C	3.74	310		Pn	03 04 18.1	+0.7
BRSE	Bradley Lake S	3.78	351		Pn	03 04 17.6	-0.3
BRSE					Sn	03 05 00.6	-1.9
BRSE	Bradley Lake S	3.78	351	P	Pn	03 04 17.6	-0.3
	baz=171						
BRSE				S	Sn	03 05 00.6	-1.9
	baz=171						
ACHA	Angle Creek He	3.81	308		Pn	03 04 18.8	+0.5
BRLK	Bradley Lake	3.82	350		Pn	03 04 17.7	-0.7
BRLK	Bradley Lake	3.82	350	IAML		03 05 06.0	
	comp=N,77nm,0.4s						
Q23K	Middleton Isla	3.85	26		Pn	03 04 18.5	-0.2
Q23K	Middleton Isla	3.85	26	IAML		03 06 18.5	
	comp=N,262nm,2.4s						
Q23K	Middleton Isla	3.85	26	P	Pn	03 04 18.5	-0.2
	baz=208						
MID	Middleton Isla	3.85	26		Pn	03 04 18.4	-0.4
MID	Middleton Isla	3.85	26	P	Pn	03 04 18.5	-0.2
KAHC	Katmai Hardscr	3.93	314		Pn	03 04 20.9	+0.9
KAHC	Katmai Hardscr	3.93	314	P	Pn	03 04 20.9	+0.9
	baz=131						
AUL	Augustine Lava	3.94	330		Pn	03 04 21.0	+0.9
PLK3	Peulik 3	4.01	297		Pn	03 04 21.6	+0.5
CNTC	Contact Creek	4.09	306		Pn	03 04 22.5	+0.4
Q17K	Contact Creek	4.09	306	P	Pn	03 04 22.5	+0.4
	baz=122						
SEW	Seward	4.10	1		Pn	03 04 21.7	-0.6
SEW	Seward	4.10	1	P	Pn	03 04 21.7	-0.6
	baz=181						
KELA	Mount Kelaz	4.12	309		Pn	03 04 22.8	+0.2
P19K	Oil Pt	4.12	334		Pn	03 04 22.9	+0.3
P19K	Oil Pt	4.12	334	IAML		03 05 14.9	
	comp=E,159nm,0.8s						
P19K				IAML		03 05 15.7	
	comp=N,152nm,0.6s						
P19K	Oil Pt	4.12	334	P	Pn	03 04 22.9	+0.3
	baz=151						
P23K	Montague Islan	4.17	16		Pn	03 04 23.0	-0.2
P23K					Sn	03 05 08.9	-2.8
P23K	Montague Islan	4.17	16	P	Pn	03 04 23.0	-0.2
	baz=197						
P23K				S	Sn	03 05 08.9	-2.8
	baz=197						
O20K	Slope Mountain	4.38	340		Pn	03 04 26.2	+0.1
O20K	Slope Mountain	4.38	340	P	Pn	03 04 26.2	+0.1
	baz=158						
ILSW	Iliamna Southw	4.40	336		Pn	03 04 26.2	-0.2
ILSW	Iliamna Southw	4.40	336	IAML		03 05 18.2	
	comp=N,58nm,0.4s						
ILSW				IAML		03 05 18.4	
	comp=E,66nm,1.0s						
O22K	Cooper Landing	4.48	359		Pn	03 04 27.7	+0.3
O22K	Cooper Landing	4.48	359	P	Pn	03 04 27.7	+0.3
	baz=179						
SLKM	Skilak Lake	4.52	356		Pn	03 04 27.5	-0.5
P18K	Big Mountain,	4.53	321		Pn	03 04 27.8	-0.3
P18K	Big Mountain,	4.53	321	P	Pn	03 04 27.8	-0.3
	baz=137						
Q16K	King Salmon	4.65	308		Pn	03 04 29.7	0.0
Q16K	King Salmon	4.65	308	P	Pn	03 04 29.7	0.0
	baz=123						
HIN	Hinchinbrook I	4.69	19		Pn	03 04 30.8	+0.4
HIN				IAML		03 05 23.7	
	comp=E,123nm,1.3s						
HIN				IAML		03 05 24.1	
	comp=N,114nm,0.5s						
RED	Redoubt Volcan	4.72	341		Pn	03 04 30.0	-0.8
RSO	Redoubt South	4.75	341		Pn	03 04 31.3	-0.1
RDT	Redoubt	4.80	343		Pn	03 04 31.0	-0.9
KAIM	Kayak Island	4.80	33		Pn	03 04 32.0	+0.2
KAIM	Kayak Island	4.80	33	P	Pn	03 04 32.0	+0.2
	baz=217						
P17K	Kvichak River	4.86	314		Pn	03 04 33.4	+0.9
P17K	Kvichak River	4.86	314	P	Pn	03 04 33.4	+0.9
	baz=129						
O18K	Koktuh Hills	4.86	325		Pn	03 04 32.6	-0.1
O18K	Koktuh Hills	4.86	325	IAML		03 05 30.3	
	comp=N,38nm,0.8s						
O18K	Koktuh Hills	4.86	325	P	Pn	03 04 32.6	-0.1
	baz=141						
DFR	Drift River	4.86	342		Pn	03 04 32.3	-0.5
O19K	Port Alsworth	4.87	331		Pn	03 04 32.2	-0.6
O19K	Port Alsworth	4.87	331	IAML		03 05 30.9	
	comp=N,115nm,0.4s						
O19K	Port Alsworth	4.87	331	P	Pn	03 04 32.2	-0.6
	baz=148						
NCT	North Crescent	4.88	340		Pn	03 04 32.1	-0.9
CHGN	Chignik	4.92	277		Pn	03 04 32.9	-0.5
CHGN	Chignik	4.92	277	IAML		03 05 29.8	
	comp=N,44nm,0.7s						
CHGN				IAML		03 05 51.5	
	comp=E,48nm,3.1s						
CHGN	Chignik	4.92	277	P	Pn	03 04 32.9	-0.5
	baz=91						
EYAK	Cordova Ski Ar	4.99	23		Pn	03 04 34.6	+0.3
EYAK	Cordova Ski Ar	4.99	23	P	Pn	03 04 34.8	+0.5
EYAK	Cordova Ski Ar	4.99	23	P	Pn	03 04 34.6	+0.3
	baz=205						
RC01	Rabbit Creek A	5.09	359		Pn	03 04 35.9	+0.1
RC01	Rabbit Creek A	5.09	359	IAML		03 05 33.9	
	comp=E,58nm,0.2s						
RC01				IAML		03 05 39.0	
	comp=N,50nm,0.5s						
RC01	Rabbit Creek A	5.09	359	P	Pn	03 04 35.9	+0.1
	baz=179						
RAGM	Ragged Mountai	5.11	29		Pn	03 04 36.5	+0.4
RAGM	Ragged Mountai	5.11	29	IAML		03 05 40.4	
	comp=E,86nm,0.4s						
SUCK	Suckling Hills	5.12	35		Pn	03 04 36.5	+0.3
SUCK	Suckling Hills	5.12	35	IAML		03 05 28.0	
	comp=E,105nm,3.3s						
HMT	Hamilton	5.18	31		Pn	03 04 37.4	+0.3
NICHA	Nichawak Mount	5.19	33		Pn	03 04 37.8	+0.7
GOAT	Goat Mountain	5.26	27		Pn	03 04 38.7	+0.5
BGLC	Bering Glacier	5.32	37		Pn	03 04 39.7	+0.8
BGLC	Bering Glacier	5.32	37	P	Pn	03 04 39.7	+0.8
	baz=221						
N20K	Mount Spurr	5.37	347	P	Pn	03 04 39.2	-0.6
	baz=164						
SPCR	Spurr Chakacha	5.37	347		Pn	03 04 39.2	-0.6
GRIN	Grindle Hills	5.43	35		Pn	03 04 40.9	+0.4
P16K	Nushagak River	5.43	307		Pn	03 04 41.0	+0.6
P16K	Nushagak River	5.43	307	P	Pn	03 04 41.0	+0.6
	baz=121						
SPCP	Crater Peak Br	5.43	347		Pn	03 04 40.1	-0.5
N19K	Bonanza Creek	5.45	334		Pn	03 04 40.2	-0.5
N19K	Bonanza Creek	5.45	334	P	Pn	03 04 40.2	-0.5
	baz=150						
KNK	Knik Glacier	5.45	6		Pn	03 04 41.1	+0.4
KNK	Knik Glacier	5.45	6	P	Pn	03 04 41.1	+0.4
	baz=187						
O17K	Koliganek Bris	5.48	316		Pn	03 04 41.2	+0.1
O17K	Koliganek Bris	5.48	316	P	Pn	03 04 41.2	+0.1
	baz=131						
SUA	Susitna One	5.50	354		Pn	03 04 41.2	-0.3
SUA	Susitna One	5.50	354	P	Pn	03 04 41.2	-0.3
	baz=174						
DIV	Divide	5.51	20		Pn	03 04 41.9	+0.3
SNH	Sunshine Point	5.51	38		Pn	03 04 41.9	+0.3
KHIT	Khitrov Hills	5.57	35		Pn	03 04 42.8	+0.2
PMR	Palmer	5.60	2	Pn	Pn	03 04 43.2	+0.5
PMR	Palmer	5.60	2	P	Pn	03 04 44.1	+1.3
SPNN	North Nagishla	5.60	345		Pn	03 04 42.5	-0.5
STLK	Strandline Lak	5.62	349		Pn	03 04 42.9	-0.3
BMRM	Bremner River	5.62	26		Pn	03 04 43.5	+0.4
BMRM	Bremner River	5.62	26	P	Pn	03 04 43.5	+0.4
	baz=210						
WAX	Waxell Ridge	5.71	36		Pn	03 04 44.5	+0.2
N18K	Kilae Creek	5.72	327		Pn	03 04 44.0	-0.5
N18K	Kilae Creek	5.72	327	P	Pn	03 04 44.0	-0.5
	baz=143						
O16K	Kokwok River B	5.77	312		Pn	03 04 45.4	+0.2
O16K	Kokwok River B	5.77	312	P	Pn	03 04 45.4	+0.2
	baz=126						
GHO	Glory Hole Cre	5.79	3		Pn	03 04 45.9	+0.5
KLU	Klutina	5.82	18		Pn	03 04 46.6	+0.7
KLU	Klutina	5.82	18	P	Pn	03 04 46.6	+0.7
	baz=201						
MESA	MESA	5.83	41		Pn	03 04 46.4	+0.2
MESA	MESA	5.83	41	P	Pn	03 04 46.4	+0.2
	baz=227						
SML	Sawmill	5.85	6		Pn	03 04 46.9	+0.6
SML	Sawmill	5.85	6	P	Pn	03 04 46.9	+0.6
	baz=187						
M23K	Glacier View	5.88	9		Pn	03 04 47.5	+0.9
M23K	Glacier View	5.88	9	P	Pn	03 04 47.5	+0.9
	baz=190						
SCM	Sheep Creek Mo	5.96	11		Pn	03 04 48.7	+0.9
SCM	Sheep Creek Mo	5.96	11	P	Pn	03 04 48.7	+0.9
	baz=192						
SVW2	Sparrevohn	5.97	331		Pn	03 04 47.4	-0.5
SVW2	Sparrevohn	5.97	331	P	Pn	03 04 47.4	-0.5
ISLE	Juniper Island	5.99	37		Pn	03 04 48.5	+0.2
BAGL	Bagley Icefiel	6.00	38		Pn	03 04 48.6	+0.4
SKT	Skwentna	6.06	351		Pn	03 04 49.0	-0.2
VRDI	Verde Repeater	6.14	29	Pn	Pn	03 04 50.9	+0.5
M20K	Styx River	6.16	344		Pn	03 04 50.4	-0.2
M20K	Styx River	6.16	344	P	Pn	03 04 50.4	-0.2
	baz=162						
SDPT	Sand Point	6.17	268	P	Pn	03 04 50.4	-0.3
N25K	Chitina, Valde	6.18	23		Pn	03 04 51.6	+0.7
N25K	Chitina, Valde	6.18	23	P	Pn	03 04 51.6	+0.7
	baz=207						
KIAG	Kiagna River	6.22	35		Pn	03 04 51.7	+0.2
GLB	Gilahina Butte	6.23	27		Pn	03 04 51.8	+0.4
SAMH	Samovar Hills	6.25	45		Pn	03 04 52.6	+0.9
TABL	Table Mountain	6.30	42		Pn	03 04 53.3	+0.6
O15K	Ungalikthiuk R	6.33	304		Pn	03 04 53.1	+0.2
O15K	Ungalikthiuk R	6.33	304	P	Pn	03 04 53.1	+0.2
	baz=116						
M24K	Tolsona, Glenn	6.36	15		Pn	03 04 54.5	+1.2
M24K	Tolsona, Glenn	6.36	15	P	Pn	03 04 54.5	+1.2
	baz=197						
M18K	Stony River	6.37	332		Pn	03 04 52.9	-0.4
M18K	Stony River	6.37	332	P	Pn	03 04 52.9	-0.4
	baz=147						
MCARA	McCarthy VSAT	6.39	30		Pn	03 04 54.0	+0.4
MCARA	McCarthy VSAT	6.39	30	P	Pn	03 04 54.0	+0.4
	baz=215						
PTPK	Patty Peak	6.39	33		Pn	03 04 54.3	+0.4
M19K	Big River Lodg	6.40	339		Pn	03 04 53.7	-0.1
M19K	Big River Lodg	6.40	339	P	Pn	03 04 53.7	-0.1
	baz=156						
CUT	Chulitna	6.42	357	Pn	Pn	03 04 56.5	+2.5
PCA	Pinnacle	6.44	47		Pn	03 04 54.5	+0.1
PINM	Pinnacle	6.44	47	P	Pn	03 04 54.5	+0.1
	baz=234						
BARN	Barnard Glacie	6.55	36		Pn	03 04 56.5	+0.4
BARN	Barnard Glacie	6.55	36		Sn	03 06 09.0	-1.8
WASW	Wrangell South	6.56	23		Pn	03 04 57.0	+0.7
PNL	Peninsula	6.57	52		Pn	03 04 56.2	0.0
PNL	Peninsula	6.57	52	P	Pn	03 04 56.6	+0.4
PNL	Peninsula	6.57	52	P	Pn	03 04 56.2	0.0
	baz=240						
N16K	Nishlik Lake	6.58	317		Pn	03 04 56.9	+0.7
N16K	Nishlik Lake	6.58	317	P	Pn	03 04 56.9	+0.7
	baz=129						
WACK	Wrangell Chich	6.58	22		Pn	03 04 57.3	+0.7
CTG	Chitna Glacier	6.59	38	P	Pn	03 04 57.0	+0.5
	baz=224						
CTGM	Chitina Glacie	6.59	38		Pn	03 04 57.2	+0.6
LOGN	Logan Glacier	6.61	40		Pn	03 04 56.9	+0.1
BCPM	Bancas Point	6.62	49		Pn	03 04 57.1	+0.3
WAT6	Susitna Watana	6.66	8		Pn	03 04 57.8	+0.4
WAT6	Susitna Watana	6.66	8	P	Pn	03 04 57.8	+0.4
	baz=189						
L19K	White Mountain	6.74	339		Pn	03 04 57.7	-0.8
L19K	White Mountain	6.74	339	P	Pn	03 04 57.7	-0.8
	baz=154						
M17K	Holitna River	6.76	326		Pn	03 04 58.9	+0.2
M17K	Holitna River	6.76	326	P	Pn	03 04 58.9	+0.2
	baz=140						
HARP	HAARP	6.80	18		Pn	03 05 00.5	+1.2
HARP	HAARP	6.80	18	P	Pn	03 05 00.5	+1.2
	baz=201						
WAT7	Susitna Watana	6.85	3		Pn	03 05 00.9	+0.8
WAT1	Susitna Watana	6.86	4		Pn	03 05 01.2	+1.1
WAT1	Susitna Watana	6.86	4	P	Pn	03 05 01.2	+1.1
	baz=185						
PS1A	Pavlof South-1	6.87	270		Pn	03 04 59.5	-0.8
N15K	Kwethluk River	6.93	311		Pn	03 05 01.8	+0.7
N15K	Kwethluk River	6.93	311	P	Pn	03 05 01.8	+0.7
	baz=123						
PS4A	Pavlof South-4	6.95	270		Pn	03 05 00.2	-1.1
HAG	Hague Volcano	6.98	269		Pn	03 05 01.0	-0.8
M16K	Timber Creek	7.00	320		Pn	03 05 02.5	+0.4
M16K	Timber Creek	7.00	320	P	Pn	03 05 02.5	+0.4
	baz=132						
O14K	Tigyukauivet M	7.04	302		Pn	03 05 02.9	+0.4
O14K	Tigyukauivet M	7.04	302	P	Pn	03 05 02.9	+0.4
	baz=113						
DHY	Denali Highway	7.17	8		Pn	03 05 05.7	+1.1
DHY	Denali Highway	7.17	8	P	Pn	03 05 05.7	+1.1
	baz=190						
M26K	Nabesna, AK	7.25	25		Pn	03 05 06.2	+0.7
M26K	Nabesna, AK	7.25	25	P	Pn	03 05 06.2	+0.7
	baz=210						
O29M	Mount Kennedy	7.25	49		Pn	03 05 06.3	+0.7
O29M	Mount Kennedy	7.25	49	P	Pn	03 05 06.3	+0.7
	baz=238						
PAX	Paxson	7.29	15		Pn	03 05 07.1	+1.0
PAX	Paxson	7.29	15	P	Pn	03 05 07.1	+1.0
	baz=198						
P29M	Windy Craggy	7.31	55		Pn	03 05 06.0	-0.2
P29M	Windy Craggy	7.31	55	P	Pn	03 05 06.0	-0.2
	baz=245						
YUK2	White River	7.36	35		Pn	03 05 08.5	+1.5
YUK8	Steele Glacier	7.37	40		Pn	03 05 08.7	+1.4
YUK8	Steele Glacier	7.37	40	P	Pn	03 05 08.7	+1.4
	baz=228						
RND	Reindeer	7.42	3		Pn	03 05 08.9	+1.0
TRF	Thorofare Moun	7.47	358	Pn	Pn	03 05 09.1	+0.5
M15K	Kasigluk River	7.47	313		Pn	03 05 08.9	+0.5
M15K	Kasigluk River	7.47	313	P	Pn	03 05 08.9	+0.5
	baz=125						
M27K	Edge Creek, AK	7.50	29		Pn	03 05 10.2	+1.2
M27K	Edge Creek, AK	7.50	29	P	Pn	03 05 10.2	+1.2
	baz=215						
N14K	Kuskokwak Cree	7.51	306		Pn	03 05 09.3	+0.3
N14K	Kuskokwak Cree	7.51	306	P	Pn	03 05 09.3	+0.3
	baz=117						
CAST	Castle Rocks	7.53	352		Pn	03 05 10.7	+1.4
CAST	Castle Rocks	7.53	352	P	Pn	03 05 10.7	+1.4
	baz=170						
YUK7	Dusty Glacier	7.56	48		Pn	03 05 11.0	+1.1
L17K	Donlin	7.58	328		Pn	03 05 10.8	+0.8
L17K	Donlin	7.58	328	P	Pn	03 05 10.8	+0.8
	baz=140						
KTH	Kantishna Hill	7.59	356	Pn	Pn	03 05 10.6	+0.4
L16K	Owhat River	7.65	322		Pn	03 05 11.1	+0.2
L16K	Owhat River	7.65	322	P	Pn	03 05 11.1	+0.2
	baz=134						
TTA	Tatalina	7.66	338	P	Pn	03 05 11.3	+0.2
YUK6	Outpost Mounta	7.69	45		Pn	03 05 13.2	+1.5
YUK6	Outpost Mounta	7.69	45	P	Pn	03 05 13.2	+1.5
	baz=234						
P30M	Million Dollar	7.87	53		Pn	03 05 14.9	+0.9
P30M	Million Dollar	7.87	53	P	Pn	03 05 14.9	+0.9
	baz=243						
SIT	Sitka	7.98	77	P	Pn	03 05 12.9	-2.5
M14K	Bethel	8.03	311		Pn	03 05 16.7	+0.7
K17K	Iditarod	8.04	330		Pn	03 05 16.1	-0.2
K17K	Iditarod	8.04	330	P	Pn	03 05 16.1	-0.2
	baz=143						
L27K	Beaver Creek,	8.10	26		Pn	03 05 18.0	+1.0
L27K	Beaver Creek,	8.10	26	P	Pn	03 05 18.0	+1.0
	baz=212						
ISLZ	Isanotski Laza	8.13	267		Pn	03 05 16.6	-0.9
BPAW	Bear Paw Mtn.	8.14	356		Pn	03 05 17.4	-0.2
BPAW	Bear Paw Mtn.	8.14	356	P	Pn	03 05 17.4	-0.2
	baz=175						
L15K	Ungalak Mounta	8.36	318		Pn	03 05 21.0	+0.4
L15K	Ungalak Mounta	8.36	318	P	Pn	03 05 21.0	+0.4
	baz=128						
SKAG	Skagway	8.39	60	P	Pn	03 05 21.6	+0.6
BESE	Bessie Mountai	8.40	66		Pn	03 05 21.3	0.0
N30M	Aishikik Lake	8.49	45		Pn	03 05 23.2	+0.6
N30M	Aishikik Lake	8.49	45	P	Pn	03 05 23.2	+0.6
	baz=235						
O30N	Mendenhall	8.55	51		Pn	03 05 23.4	+0.1
O30N	Mendenhall	8.55	51	P	Pn	03 05 23.4	+0.1
	baz=242						
JIS	Juneau Island	8.59	68	P	Pn	03 05 23.2	-0.6
M29M	Somme Creek	8.61	37	Pn	Pn	03 05 24.9	+0.8
M29M	Somme Creek	8.61	37	P	Pn	03 05 25.6	+1.4
	baz=226						
L14K	Kuka Creek	8.64	314	Pn	Pn	03 05 25.1	+0.7
CCB	Clear Creek Bu	8.71	5	Pn	Pn	03 05 26.8	+1.4
IL31		8.89	8		Pn	03 05 28.9	+1.0
ILAR	Eielson Array	8.89	8	Pn	Pn	03 05 28.1	+0.3
	comp=E,0.4nm,0.3s,baz=190,slow=13,SNR=23						
ILAR				Sn	Sn	03 07 04.1	-3.9
	comp=E,0.6nm,0.3s,baz=206,slow=14,SNR=7.1						
ILAR				LR	LR	03 09 21.7	
	comp=E,27nm,18.4s,baz=340,slow=40						
	comp=E,0.9nm,0.4s						
COLA	College	8.93	5	P	Pn	03 05 29.6	+1.2
MDM	Murphy Dome	9.00	4		Pn	03 05 30.8	+1.3
J26L	Joseph Creek	9.03	17		Pn	03 05 30.4	+0.5
L29M	L29M	9.19	35	Pn	Pn	03 05 32.9	+0.9
I21K	Tanana	9.27	354		Pn	03 05 33.7	+0.7
H21K	Melozitna Rive	9.80	352	Pn	Pn	03 05 40.8	+0.4
P33M	Teslin, Yukon	9.83	58	Pn	Pn	03 05 40.3	-0.5
K29M	Barlow Dome	9.91	33		Pn	03 05 42.8	+0.8
M31M	Drury Creek, Y	9.97	45		Pn	03 05 43.5	+0.7
G23K	Bananza Creek	10.73	359		Pn	03 05 53.8	+0.6
DLBC	Dease Lake	10.89	69	Pn	Pn	03 05 54.9	-0.5
	comp=E,0.2nm,0.3s,baz=266,slow=8.9,SNR=9.0						
	comp=E,0.9nm,0.4s						
F21K	Alatna River	11.39	352	Pn	Pn	03 06 02.9	+0.7
F20K	Avaraart Lake	11.44	348	Pn	Pn	03 06 03.2	+0.5
ANM	Nome	11.56	324	Pn	Pn	03 06 05.3	+0.9
BMAR	Burnt Mountain	11.70	10	Pn	Pn	03 06 06.9	+0.6
E24K	Your Creek	12.12	2	Pn	Pn	03 06 12.6	+0.6
H31M	Peel River	12.27	31	Pn	Pn	03 06 15.4	+1.3
E25K	Arctic Village	12.29	7	Pn	Pn	03 06 16.4	+1.9
TOLK	Toolik Lake Re	12.67	0	Pn	Pn	03 06 20.6	+0.9
G30M	tAoh Zraii Nji	12.69	25	Pn	Pn	03 06 22.2	+2.4
D22K	Ayikyak River	12.99	355	Pn	Pn	03 06 25.6	+1.7
G31M	Satah River	13.12	27	Pn	Pn	03 06 26.0	+0.3
E29M	Blow River	13.53	19	Pn	Pn	03 06 32.8	+1.5
INK	Inuvik	14.37	25	Pn	Pn	03 06 42.9	+0.2
INK	Inuvik	14.37	25	Pn	Pn	03 06 44.0	+1.3
	comp=E,0.1nm,0.3s,baz=213,slow=14,SNR=6.3						
INK				LR	LR	03 13 05.7	
	comp=E,24nm,18.0s,baz=16,slow=40						
	comp=E,1.6nm,0.8s						
YKA	Yellowknife Ar	18.85	56	P	Pn	03 07 40.1	+0.2
YKA	Yellowknife Ar	18.85	56	P	Pn	03 07 39.7	-0.1
	comp=E,0.1nm,0.

IDC ***13*** *03:07:56.0±1.0,31°.08N×80°.25E,h0km,mb3.6/8, mbtmp3.6/12,ML3.3/4,Error ellipse: s-maj=30.9km s-min=17.6km az=55.0*

ISC 13 03:07:57.6±1.0,31°.1N±0°.1×80°.3E±0°.1,h10km,n12, σ1§16/12,mb3.7/8,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**12.37**	**340**	P	**Pn**	**03 10 54.4**	**+0.5**
	0.2nm,0.3s,baz=166,slow=11,SNR=1.6 0.6nm,0.3s						
MKAR	**Makanchi Array**	**15.71**	**5**	Pn	**Pn**	**03 11 36.9**	**-2.1**
	0.1nm,0.3s,baz=181,slow=14,SNR=3.5 0.6nm,0.8s						
GEYT	**Alibeck**	**19.45**	**296**	P	**Pn**	**03 12 24.5**	**-1.0**
	0.3nm,0.3s,baz=80,slow=15,SNR=1.5 0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**19.51**	**357**	P	**P**	**03 12 24.0**	**-0.8**
	baz=185,slow=9.9,SNR=3.8 0.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**21.09**	**122**	P	**P**	**03 12 42.2**	**-0.1**
	1.4nm,0.4s,baz=314,slow=8.9,SNR=6.7 1.4nm,0.4s						
BVAR	**Borovoye Array**	**23.03**	**345**	P	**P**	**03 13 01.9**	**-0.7**
	1.3nm,0.6s,baz=151,slow=13,SNR=6.2 1.3nm,0.6s						
ZALV	**Zalesovo Beam**	**23.03**	**7**	P	**P**	**03 13 04.8**	**+2.1**
	1.8nm,0.7s,baz=192,slow=11,SNR=5.8 1.8nm,0.7s						
SONM	**Songino Array**	**25.98**	**43**	P	**P**	**03 13 30.9**	**+0.4**
	0.4nm,0.7s,baz=243,slow=9.5,SNR=1.6 0.4nm,0.7s						
FINES	**FINESS Array B**	**46.19**	**327**	P	**P**	**03 16 23.1**	**+0.9**
	0.8nm,0.8s,baz=93,slow=14,SNR=1.5 0.8nm,0.8s						
WRA	**Warramunga Arr**	**72.61**	**127**	P	**P**	**03 19 25.2**	**-0.2**
	0.8nm,0.7s,baz=321,slow=6.0,SNR=6.9 0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**73.64**	**276**	P	**P**	**03 19 31.8**	**+0.1**
	0.9nm,1.1s,baz=44,slow=6.0,SNR=2.6 0.9nm,1.1s						
ASAR	**Alice Springs**	**74.88**	**130**	P	**P**	**03 19 38.6**	**-0.1**
	0.2nm,0.5s,baz=310,slow=5.9,SNR=2.1 0.2nm,0.5s						

IDC ***13*** *03:16:07.7±1.4,71°.34N×2°.74W,h0km,mb3.3/6, mbtmp3.4/12,ML3.0/6,MS3.0/5,Error ellipse: s-maj=25.4km s-min=20.4km az=73.0*

BER ***13*** *03:16:08.6±2.9,71°.40N×3°.74W,h10km,mb(Pn)4.2, ML3.4(NAO),Confirmed Earthquake*

NAO ***13*** *03:16:09.2±4.7,71°.37N×2°.43W,ML3.4*

ISC 13 03:16:07.4±0.8,71°.45N±0°.08×3°.21W±0°.08,h10km,n56, σ1§68/58,mb3.4/6,Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBG	**Daneborg**	**5.77**	**308**	*eP*	**Pn**	**03 17 29.0**	**-3.9**
DBG				*eS*	Sn	03 18 28.3	-11
DBG	**Daneborg**	**5.77**	**308**	*i* P	**Pn**	**03 17 28.6**	**-4.3**
DBG				*i* S	Sn	03 18 27.0	-12
DBG				IAML		03 18 33.7	
	comp=Z,2.3nm,0.4s						
LOF	**Lofoten**	**6.68**	**112**	Pn	**Pn**	**03 17 45.8**	**+0.5**
LOF	**Lofoten**	**6.68**	**112**	*eP*	**Pn**	**03 17 45.2**	**-0.1**
LOF				IAML		03 19 13.1	
	comp=Z,5.8nm,1.0s						
DAG	**Danmarks Havn**	**6.79**	**329**	*eP*	**Pn**	**03 17 44.2**	**-2.7**
DAG				*eS*	Sn	03 18 49.3	-15
DAG	**Danmarks Havn**	**6.79**	**329**	*i* S	Sn	03 18 48.2	-16
DAG				*e*	**Pn**	**03 17 42.5**	**-4.4**
	baz=132,slow=16						
DAG				*i* P	**Pn**	**03 17 44.0**	**-2.9**
DAG				IAML		03 18 56.2	
	comp=Z,3.2nm,0.3s						
BJO1	**Bjornoya**	**7.17**	**55**	*eP*	**Pn**	**03 17 52.1**	**0.0**
BJO1				IAML		03 19 10.6	
	comp=Z,8.5nm,0.8s						
STEI	**Steigen**	**7.31**	**110**	*eP*	**Pn**	**03 17 54.0**	**0.0**
STEI				*eS*	**Sn**	**03 19 11.0**	**-5.8**
STEI				IAML		03 19 19.3	
	comp=Z,2.8nm,0.7s						
HSPB	**Hornsund (broa**	**7.51**	**34**	Pn	**Pn**	**03 17 56.5**	**-0.2**
HSPB	**Hornsund (broa**	**7.51**	**34**	*eP*	**Pn**	**03 17 56.7**	**0.0**
TRO	**Tromso**	**7.59**	**93**	Pn	**Pn**	**03 17 56.5**	**-1.4**
TRO	**Tromso**	**7.59**	**93**	*eP*	**Pn**	**03 17 56.2**	**-1.7**
TRO				*eS*	Sn	03 19 14.9	-8.9
TRO				IAML		03 19 23.7	
	comp=Z,2.2nm,0.8s						
FAUS	**Fauske**	**7.67**	**113**	*eP*	**Pn**	**03 17 58.7**	**-0.3**
FAUS				IAML		03 19 20.1	
	comp=Z,2.4nm,0.9s						
KONS	**Konsvik**	**7.67**	**122**	*eP*	**Pn**	**03 17 58.4**	**-0.5**
KONS				IAML		03 19 25.2	
	comp=Z,3.4nm,0.9s						
STOK	**Stokkvaagen**	**7.77**	**123**	*eP*	**Pn**	**03 18 00.4**	**+0.1**
STOK				*eS*	Sn	03 19 19.8	-8.3
STOK				IAML		03 19 26.3	
	comp=Z,3.3nm,0.7s						
BRBA	**Barentsburg A**	**8.02**	**27**	*eP*	**Pn**	**03 18 04.0**	**+0.3**
BRBB	**Barentsburg B**	**8.04**	**26**	*eP*	**Pn**	**03 18 05.2**	**+1.2**
JETT	**Jettan, Norway**	**8.10**	**92**	Pn	**Pn**	**03 18 04.2**	**-0.6**
JETT	**Jettan, Norway**	**8.10**	**92**	Pn	**Pn**	**03 18 04.2**	**-0.6**
MOR8	**Moi Rana**	**8.27**	**121**	*eP*	**Pn**	**03 18 06.9**	**-0.3**
KBS	**Kingsbay**	**8.41**	**20**	*eP*	**Pn**	**03 18 08.9**	**-0.1**
SPA0	**Spitsbergen Ar**	**8.42**	**28**	Pn	**Pn**	**03 18 09.9**	**+0.7**
	baz=207,slow=18						
SPA0	**Spitsbergen Ar**	**8.42**	**28**	Pn	**Pn**	**03 18 09.9**	**+0.7**
	baz=207,slow=18						
SPITS	**Spitsbergen Ar**	**8.42**	**28**	Pn	**Pn**	**03 18 09.9**	**+0.7**
	baz=206,slow=15 comp=Z,1.2nm,0.4s						
KIF	**Kilpisjarvi**	**8.47**	**95**	*eP*	**Pn**	**03 18 09.1**	**-0.8**
SALU	**Saltoluokta**	**8.63**	**108**	*eP*	**Pn**	**03 18 11.8**	**-0.4**
NSS	**Namsos**	**8.95**	**133**	*eP*	**Pn**	**03 18 16.6**	**+0.1**
NSS				IAML		03 19 58.1	
	comp=Z,2.3nm,0.5s						
HOPEN	**Hopen**	**9.20**	**44**	Pn	**Pn**	**03 18 22.2**	**+2.3**
HOPEN	**Hopen**	**9.20**	**44**	*eP*	**Pn**	**03 18 20.2**	**+0.3**
KTK1	**Kautokeino**	**9.24**	**93**	*eP*	**Pn**	**03 18 20.1**	**-0.4**
HEF	**Hetta**	**9.67**	**95**	*eP*	**Pn**	**03 18 25.5**	**-0.9**
ARA0	**ARCESS Array S**	**9.74**	**88**	Pn	**Pn**	**03 18 26.3**	**-1.0**
	baz=287,slow=12						
ARA0	**ARCESS Array S**	**9.74**	**88**	Pn	**Pn**	**03 18 26.3**	**-1.0**
	baz=287,slow=12						
ARCES	**ARCESS Array B**	**9.74**	**88**	Pn	**Pn**	**03 18 26.2**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=287,slow=12,SNR=22						
ARCES				LR	LR	03 21 47.7	
	comp=Z,53nm,19.8s,baz=223,slow=35 comp=Z,1.1nm,0.4s						
AKN	**Aaknes**	**10.12**	**152**	Pn	**Pn**	**03 18 34.2**	**+1.7**
AKN	**Aaknes**	**10.12**	**152**	Pn	**Pn**	**03 18 34.2**	**+1.7**
KEV	**Kevo**	**10.13**	**85**	*eP*	**Pn**	**03 18 31.7**	**-0.8**
NOR	**Nord**	**10.62**	**349**	*eP*	**Pn**	**03 18 37.8**	**-1.4**
NOA	**NORSAR Array B**	**11.91**	**144**	Pn	**Pn**	**03 18 56.5**	**-0.6**
	baz=345,slow=13,SNR=1.7						
NOA				LR	LR	03 23 23.2	
	comp=Z,90nm,18.7s,baz=335,slow=37 comp=Z,0.5nm,0.6s						
NRA0	**NORESS Array S**	**12.25**	**144**	Pn	**Pn**	**03 19 02.8**	**+1.1**
	baz=335,slow=18						
NRA0	**NORESS Array S**	**12.25**	**144**	Pn	**Pn**	**03 19 02.8**	**+1.1**
	baz=335,slow=18						
APA0	**Apatity Array**	**13.08**	**89**	Pn	**Pn**	**03 19 13.6**	**+0.6**
	baz=315,slow=14						
APA0	**Apatity Array**	**13.08**	**89**	Pn	**Pn**	**03 19 13.6**	**+0.6**
	baz=315,slow=14						
HFS	**Hagfors**	**13.23**	**141**	Pn	**Pn**	**03 19 15.9**	**+0.9**
	baz=344,slow=16						
HFS	**Hagfors**	**13.23**	**141**	Pn	**Pn**	**03 19 15.9**	**+0.9**
	baz=344,slow=16						
HFS	**Hagfors**	**13.23**	**141**	Pn	**Pn**	**03 19 15.1**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=340,slow=13,SNR=9.1						
HFS				LR	LR	03 24 14.4	
	comp=Z,72nm,20.2s,baz=330,slow=37 comp=Z,2.7nm,0.7s						
FIA0	**FINESS Array S**	**15.21**	**116**	P	**Pn**	**03 19 42.4**	**+0.6**
	baz=315,slow=14						
FIA0	**FINESS Array S**	**15.21**	**116**	P	**Pn**	**03 19 42.4**	**+0.6**
	baz=315,slow=14						
FINES	**FINESS Array B**	**15.21**	**116**	Pn	**Pn**	**03 19 40.8**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=317,slow=14,SNR=5.5						
FINES				LR	LR	03 25 00.6	
	comp=Z,90nm,18.1s,baz=339,slow=36 comp=Z,1.6nm,0.8s						
EKA	**Eskdalemuir Ar**	**16.18**	**180**	Pn	**Pn**	**03 19 54.9**	**+0.3**
	baz=360,slow=11 comp=Z,0.5nm,0.6s						
GERES	**GERESS Array B**	**24.00**	**152**	P	**P**	**03 21 23.8**	**+1.8**
	comp=Z,0.5nm,0.4s,baz=354,slow=14,SNR=1.6 comp=Z,0.5nm,0.4s						
AKASG	**Malin Array Be**	**25.45**	**127**	P	**P**	**03 21 35.9**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=333,slow=9.4,SNR=3.8						
AKASG				LR	LR	03 31 22.9	
	comp=Z,41nm,20.8s,baz=228,slow=36 comp=Z,0.3nm,0.3s						
BVAR	**Borovoye Array**	**35.94**	**81**	P	**P**	**03 23 08.2**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=336,slow=5.2,SNR=1.6 comp=Z,0.2nm,0.4s						
YKA	**Yellowknife Ar**	**38.29**	**316**	P	**P**	**03 23 30.7**	**+3.4**
	comp=Z,0.2nm,0.8s,baz=25,slow=8.9,SNR=2.1 comp=Z,0.2nm,0.8s						
KURBB	**Kurchatov Arra**	**40.57**	**76**	P	**P**	**03 23 47.4**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=336,slow=7.5,SNR=1.9 comp=Z,0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**58.35**	**174**	P	**P**	**03 26 01.7**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=358,slow=7.1,SNR=2.0 comp=Z,0.2nm,0.6s						

IDC ***13*** *03:22:24.4±0.5,59°.37N×152°.27W,h56km±4km,mb3.9/26, mbtmp4.2/31,MS3.4/33,Error ellipse: s-maj=9.7km s-min=6.7km az=93.0*

NEIC ***13*** *03:22:24.8±1.5,59°.24N±0°.03×151°.99W±0°.05,h54km±4km, Error ellipse: s-maj=4.5km s-min=3.4km az=146.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr0.61; Mθθ-1.09; Mφφ0.47; Mrθ0.79; Mθφ-0.98; Mφr3.58; Fault plane solution: M₀3.91000×10¹⁵ NP1: φs277.00000°,δ19.32000°,λ169.32000°. NP2: φs17.09000°,δ86.49000°,λ70.99000°. Principal axes: T 4.1264, Plg45.0000°, Azm268.0000°; N -0.4779, Plg19.0000°, Azm18.0000°; P -3.6485, Plg39.0000°, Azm124.0000°;*

AEIC ***13*** *03:22:25.1±1.3,59°.23N±0°.03×151°.98W±0°.05,h51km±5km, ML4.3,mb4.6/168(NEIC),ML4.5/140(NEIC), Mwr4.3/74(NEIC) Error ellipse: s-maj=4.4km s-min=3.4km az=143.0*

NEIC ***13*** *03:22:25.2,59°.24N×151°.98W,h50km*

ISC 13 03:22:24.4±0.5,59°.27N±0°.03×152°.01W±0°.03,h56km±4km, n915,σ0§95/894,mb4.5/115,MS3.4/27,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOM	**Homer**	**0.43**	**25**		**Pn**	**03 22 35.4**	**+0.1**
HOM	**Homer**	**0.43**	**25**		**Sn**	**03 22 43.9**	**+0.8**
HOM	**Homer**	**0.43**	**25**	P	**Pn**	**03 22 35.5**	**+0.3**
	baz=202,SNR=153						
HOM				S	**Sn**	**03 22 44.0**	**+0.9**
	baz=202						
CNPM	**China Poot**	**0.47**	**57**		**Pn**	**03 22 35.6**	**-0.2**
CNPM					**Sn**	**03 22 44.2**	**+0.3**
CNPM	**China Poot**	**0.47**	**57**	IAML		03 22 44.7	
	comp=E,31μm,0.3s						
CNPM				IAML		03 22 45.3	
	comp=N,43μm,0.4s						
SYI	**Shuyak Island**	**0.69**	**197**		**Pn**	**03 22 37.7**	**-0.6**
SYI				IAML		03 22 49.6	
	comp=N,12μm,0.4s						
SYI	**Shuyak Island**	**0.69**	**197**		**Sn**	**03 22 48.0**	**-0.4**
Q20K	**Shuyak Island**	**0.70**	**197**	P	**Pn**	**03 22 37.7**	**-0.6**
	baz=19,SNR=119						
Q20K				S	**Sn**	**03 22 47.9**	**-0.6**
	baz=19						
AU22	**Augustine Moun**	**0.70**	**279**		**Pn**	**03 22 38.5**	**+0.1**
AU22					**Sn**	**03 22 49.5**	**+0.9**
P19K	**Oil Pt**	**0.73**	**302**		**Pn**	**03 22 39.3**	**+0.5**
P19K					**Sn**	**03 22 50.4**	**+1.0**
P19K	**Oil Pt**	**0.73**	**302**	P	**Pn**	**03 22 39.3**	**+0.5**
	baz=123,SNR=1000						
P19K				S	**Sn**	**03 22 50.6**	**+1.2**
	baz=123						
AUL	**Augustine Lava**	**0.74**	**279**		**Pn**	**03 22 39.2**	**+0.3**
AUCH	**Augustine Cone**	**0.74**	**277**		**Pn**	**03 22 39.2**	**+0.2**
BRLK	**Bradley Lake**	**0.75**	**49**		**Pn**	**03 22 38.9**	**-0.2**
BRLK					**Sn**	**03 22 50.1**	**+0.3**
BRSE	**Bradley Lake S**	**0.80**	**53**		**Pn**	**03 22 39.7**	**0.0**
BRSE					**Sn**	**03 22 51.6**	**+0.8**
BRSE	**Bradley Lake S**	**0.80**	**53**	P	**Pn**	**03 22 39.7**	**0.0**
	baz=232,SNR=445						
BRSE				S	**Sn**	**03 22 51.4**	**+0.6**
	baz=232						
O20K	**Slope Mountain**	**0.87**	**339**		**Pn**	**03 22 41.2**	**+0.6**
O20K	**Slope Mountain**	**0.87**	**339**	P	**Pn**	**03 22 41.2**	**+0.6**
	baz=159,SNR=381						
O20K				S	**Sn**	**03 22 54.0**	**+1.4**
	baz=159						
Q19K	**Cape Douglas,**	**0.91**	**248**		**Pn**	**03 22 41.0**	**-0.1**
Q19K					**Sn**	**03 22 53.9**	**+0.4**
Q19K	**Cape Douglas,**	**0.91**	**248**	P	**Pn**	**03 22 41.1**	**-0.1**
	baz=70,SNR=617						
Q19K				S	**Sn**	**03 22 53.7**	**+0.2**
	baz=70						
ILSW	**Iliamna Southw**	**0.92**	**321**		**Pn**	**03 22 41.2**	**-0.1**
ILSW				IAML		03 22 56.6	
	comp=E,12μm,0.7s						
ILSW				IAML		03 22 56.6	
	comp=N,12μm,0.5s						
RED	**Redoubt Volcan**	**1.21**	**342**		**Pn**	**03 22 45.2**	**+0.1**
RDSO	**Redoubt South**	**1.24**	**343**		**Pn**	**03 22 45.6**	**0.0**
RSO	**Redoubt South**	**1.25**	**343**		**Pn**	**03 22 46.1**	**+0.3**
RDWB	**Redoubt West**	**1.29**	**341**		**Pn**	**03 22 46.3**	**0.0**
RDT	**Redoubt**	**1.32**	**351**		**Pn**	**03 22 46.8**	**+0.2**
RDT					**Sn**	**03 23 04.2**	**+1.0**
DFR	**Drift River**	**1.37**	**346**		**Pn**	**03 22 47.4**	**+0.1**
NCT	**North Crescent**	**1.37**	**341**		**Pn**	**03 22 47.7**	**+0.3**
RDJH	**Redoubt Jeurge**	**1.38**	**343**		**Pn**	**03 22 47.9**	**+0.4**
O19K	**Port Alsworth**	**1.49**	**309**		**Pn**	**03 22 49.1**	**+0.4**
O19K	**Port Alsworth**	**1.49**	**309**	P	**Pn**	**03 22 49.2**	**+0.4**
	baz=128						
O19K				S	**Sn**	**03 23 08.3**	**+1.1**
	baz=128						
KDAK	**Kodiak Island**	**1.53**	**192**	P	**Pn**	**03 22 48.8**	**-0.6**
	baz=12						
KDAK	**Kodiak Island**	**1.53**	**192**	P	**Pn**	**03 22 48.7**	**-0.6**
	comp=N,393nm,0.3s,baz=7.1,slow=8.1,SNR=3108						
KDAK				S	**Sn**	**03 23 09.8**	**+1.8**
	comp=N,1μm,0.6s,baz=53,slow=23,SNR=5.7						
SLKM	**Skilak Lake**	**1.53**	**35**		**Pn**	**03 22 49.7**	**+0.3**
SEW	**Seward**	**1.54**	**56**		**Pn**	**03 22 49.0**	**-0.4**
SEW	**Seward**	**1.54**	**56**	P	**Pn**	**03 22 49.1**	**-0.4**
	baz=237,SNR=135						
SEW				S	**Sn**	**03 23 08.5**	**+0.2**
	baz=237						
CAPN	**Captain Cook N**	**1.56**	**16**		**Pn**	**03 22 51.9**	**+2.2**
CAPN	**Captain Cook N**	**1.56**	**16**	P	**Pn**	**03 22 51.9**	**+2.2**
	baz=195,SNR=105						
P18K	**Big Mountain,**	**1.66**	**275**		**Pn**	**03 22 50.6**	**-0.5**
P18K	**Big Mountain,**	**1.66**	**275**	P	**Pn**	**03 22 50.6**	**-0.5**
	baz=94,SNR=316						
O22K	**Cooper Landing**	**1.67**	**43**		**Pn**	**03 22 51.1**	**-0.1**
O22K	**Cooper Landing**	**1.67**	**43**	P	**Pn**	**03 22 51.5**	**+0.2**
	baz=223,SNR=150						
KAHC	**Kathmandscr**	**1.68**	**249**		**Pn**	**03 22 51.1**	**-0.3**
O18K	**Koktuh Hills**	**1.73**	**291**	Pn	**Pn**	**03 22 52.0**	**-0.1**
O18K				IAML		03 23 16.4	
	comp=N,6μm,0.5s						
O18K				IAML		03 23 28.6	
	comp=E,5μm,0.8s						
O18K	**Koktuh Hills**	**1.73**	**291**	P	**Pn**	**03 22 52.0**	**-0.1**
	baz=109,SNR=486						
O18K				S	**Sn**	**03 23 13.3**	**+0.2**
	baz=109						
KAKN	**Katmai Knife C**	**1.87**	**240**		**Pn**	**03 22 53.9**	**-0.2**
KVTA	**Katmai Vly 10**	**1.93**	**244**		**Pn**	**03 22 55.0**	**+0.1**
N20K	**Mount Spurr**	**1.94**	**357**	P	**Pn**	**03 22 55.9**	**+0.9**
	baz=177,SNR=314						
SPCR	**Spurr Chakacha**	**1.94**	**357**		**Pn**	**03 22 55.8**	**+0.9**
KCE	**Katmai Mt Cerb**	**1.95**	**239**		**Pn**	**03 22 55.5**	**+0.3**
SPCN	**Chakachatna No**	**1.96**	**357**		**Pn**	**03 22 56.3**	**+1.1**
N19K	**Bonanza Creek**	**1.98**	**322**	Pn	**Pn**	**03 22 56.1**	**+0.6**
N19K				IAML		03 23 25.3	
	comp=E,3μm,0.7s						
N19K				IAML		03 23 29.9	
	comp=N,2μm,1.0s						
N19K	**Bonanza Creek**	**1.98**	**322**	P	**Pn**	**03 22 56.2**	**+0.6**
	baz=141,SNR=322						
SPCP	**Crater Peak Br**	**2.00**	**358**		**Pn**	**03 22 57.2**	**+1.3**
SPBG	**Spurr Blockage**	**2.00**	**355**		**Pn**	**03 22 57.2**	**+1.3**
SPCG	**Spurr Capps Gl**	**2.02**	**360**		**Pn**	**03 22 57.3**	**+1.1**
ACHA	**Angle Creek He**	**2.03**	**240**		**Pn**	**03 22 56.3**	**0.0**
FIS	**Fire Island**	**2.08**	**25**		**Pn**	**03 22 58.5**	**+1.7**
KELA	**Mount Kelaz**	**2.11**	**248**		**Pn**	**03 22 57.2**	**-0.2**
ANCK	**Angle Creek**	**2.12**	**241**		**Pn**	**03 22 57.5**	**+0.1**
SPNN	**North Nagishla**	**2.13**	**351**		**Pn**	**03 22 59.1**	**+1.4**
RC01	**Rabbit Creek A**	**2.15**	**31**	Pn	**Pn**	**03 22 58.4**	**+0.7**
RC01				IAML		03 23 31.4	
	comp=E,4μm,0.4s						
RC01				IAML		03 23 32.1	
	comp=N,3μm,0.3s						
RC01	**Rabbit Creek A**	**2.15**	**31**	P	**Pn**	**03 22 58.5**	**+0.7**
	baz=212,SNR=104						
OHAK	**Old Harbor**	**2.17**	**199**		**Pn**	**03 22 57.2**	**-0.8**
OHAK	**Old Harbor**	**2.17**	**199**	P	**Pn**	**03 22 57.1**	**-0.8**
OHAK	**Old Harbor**	**2.17**	**199**	P	**Pn**	**03 22 57.2**	**-0.8**
	baz=18,SNR=58						
STLK	**Strandline Lak**	**2.23**	**2**		**Pn**	**03 23 00.4**	**+1.4**
CNTC	**Contact Creek**	**2.26**	**245**		**Pn**	**03 22 59.2**	**-0.2**
Q17K	**Contact Creek**	**2.26**	**245**	P	**Pn**	**03 22 59.4**	**-0.1**
	baz=63						
P17K	**Kvichak River**	**2.28**	**270**		**Pn**	**03 22 59.4**	**-0.1**
P17K	**Kvichak River**	**2.28**	**270**	P	**Pn**	**03 22 59.5**	**-0.1**
	baz=87,SNR=177						
SUA	**Susitna One**	**2.28**	**15**	Pn	**Pn**	**03 23 00.6**	**+0.8**
SUA				IAML		03 23 45.8	
	comp=N,3μm,0.9s						
SUA				IAML		03 23 47.9	
	comp=E,2μm,0.9s						
SUA	**Susitna One**	**2.28**	**15**	P	**Pn**	**03 23 00.8**	**+1.0**
	baz=196,SNR=129						
N18K	**Kilae Creek**	**2.41**	**308**	Pn	**Pn**	**03 23 01.1**	**-0.2**
N18K				IAML		03 23 44.2	
	comp=E,2μm,0.8s						
N18K				IAML		03 23 52.4	
	comp=N,2μm,0.7s						
N18K	**Kilae Creek**	**2.41**	**308**	P	**Pn**	**03 23 01.5**	**+0.1**
	baz=125,SNR=73						
P23K	**Montague Islan**	**2.45**	**71**		**Pn**	**03 23 01.8**	**-0.1**
P23K	**Montague Islan**	**2.45**	**71**	P	**Pn**	**03 23 02.1**	**+0.3**
	baz=254,SNR=26						
Q16K	**King Salmon**	**2.48**	**258**		**Pn**	**03 23 02.4**	**+0.1**
Q16K	**King Salmon**	**2.48**	**258**	P	**Pn**	**03 23 02.5**	**+0.1**
	baz=75,SNR=92						
SVW2	**Sparrevohn**	**2.56**	**317**		**Pn**	**03 23 03.4**	**0.0**
SVW2				IAML		03 23 48.1	
	comp=N,1μm,0.7s						
SVW2				IAML		03 23 52.0	
	comp=E,1μm,0.5s						
SVW2	**Sparrevohn**	**2.56**	**317**	P	**Pn**	**03 23 03.6**	**+0.2**
O17K	**Koliganek Bris**	**2.64**	**283**		**Pn**	**03 23 04.5**	**0.0**
O17K	**Koliganek Bris**	**2.64**	**283**	P	**Pn**	**03 23 04.5**	**0.0**
	baz=100,SNR=108						
M22K	**Willow**	**2.66**	**20**		**Pn**	**03 23 05.7**	**+1.0**
M22K	**Willow**	**2.66**	**20**	P	**Pn**	**03 23 05.6**	**+1.0**
	baz=201,SNR=75						
M20K	**Styx River**	**2.68**	**348**		**Pn**	**03 23 06.3**	**+1.2**
M20K	**Styx River**	**2.68**	**348**	IAML		03 23 59.1	
	comp=E,1μm,1.1s						
M20K	**Styx River**	**2.68**	**348**	P	**Pn**	**03 23 06.4**	**+1.3**
	baz=167						
SKT	**Skwentna**	**2.73**	**5**		**Pn**	**03 23 06.7**	**+1.0**
SKT	**Skwentna**	**2.73**	**5**	IAML		03 23 57.0	
	comp=N,1μm,0.6s						
SKT				IAML		03 23 57.7	
	comp=E,2μm,0.8s						
SKT	**Skwentna**	**2.73**	**5**	P	**Pn**	**03 23 07.0**	**+1.3**
	baz=185,SNR=122						
PMR	**Palmer**	**2.73**	**30**	Pn	**Pn**	**03 23 05.8**	**+0.2**
PMR				IAML		03 23 47.0	
	comp=E,1μm,0.6s						
PMR	**Palmer**	**2.73**	**30**	P	**Pn**	**03 23 05.9**	**+0.2**
PLK3	**Peulik 3**	**2.75**	**236**		**Pn**	**03 23 06.2**	**+0.2**
KNK	**Knik Glacier**	**2.78**	**38**		**Pn**	**03 23 06.3**	**-0.1**
KNK	**Knik Glacier**	**2.78**	**38**	IAML		03 23 49.8	
	comp=N,2μm,0.9s						
KNK				IAML		03 23 50.3	
	comp=E,2μm,0.9s						
KNK	**Knik Glacier**	**2.78**	**38**	P	**Pn**	**03 23 06.5**	**+0.1**
	baz=220,SNR=58						
PLK1	**Peulik 1**	**2.83**	**241**		**Pn**	**03 23 07.4**	**+0.4**
PLK5	**Peulik 5**	**2.85**	**245**		**Pn**	**03 23 07.7**	**+0.4**
M19K	**Big River Lodg**	**2.89**	**337**		**Pn**	**03 23 08.8**	**+0.9**
M19K	**Big River Lodg**	**2.89**	**337**	P	**Pn**	**03 23 08.8**	**+0.9**
	baz=155						
N17K	**Nushagak Hills**	**2.90**	**298**		**Pn**	**03 23 07.8**	**-0.2**
N17K	**Nushagak Hills**	**2.90**	**298**	IAML		03 23 56.8	
	comp=N,1μm,0.8s						
N17K	**Nushagak Hills**	**2.90**	**298**	P	**Pn**	**03 23 07.9**	**-0.2**
	baz=114						
Q23K	**Middleton Isla**	**2.90**	**84**		**Pn**	**03 23 07.9**	**-0.1**
Q23K	**Middleton Isla**	**2.90**	**84**	P	**Pn**	**03 23 07.6**	**-0.4**
	baz=268						
MID	**Middleton Isla**	**2.91**	**85**	P	**Pn**	**03 23 08.0**	**-0.1**
M18K	**Stony River**	**2.92**	**321**		**Pn**	**03 23 08.8**	**+0.5**
M18K	**Stony River**	**2.92**	**321**	P	**Pn**	**03 23 08.8**	**+0.5**
	baz=198						
GHO	**Glory Hole Cre**	**2.93**	**30**		**Pn**	**03 23 08.9**	**+0.3**
GHO	**Glory Hole Cre**	**2.93**	**30**	IAML		03 23 54.8	
	comp=E,2μm,0.9s						
GHO				IAML		03 24 00.6	
	comp=N,2μm,0.5s					

KLU **Klutina** 3.75 51 Pn 03 23 19.6 -0.1
KLU **Klutina** 3.75 51 IAML 03 24 16.5
comp=E,573nm,0.8s
KLU IAML 03 24 16.6
comp=N,972nm,0.7s
KLU **Klutina** 3.75 51 P Pn 03 23 19.7 -0.1
baz=236,SNR=88
RAGM **Ragged Mountai** 3.87 70 Pn 03 23 20.8 -0.4
RAGM **Ragged Mountai** 3.87 70 IAML 03 24 41.9
comp=E,680nm,0.9s
WAT7 **Susitna Watana** 3.89 22 Pn 03 23 22.6 +1.0
GOAT **Goat Mountain** 3.89 67 Pn 03 23 21.1 -0.5
M16K **Timber Creek** 3.89 300 Pn Pn 03 23 22.2 +0.5
M16K IAML 03 24 30.4
comp=E,590nm,0.9s
M16K IAML 03 24 34.2
comp=N,552nm,0.8s
M16K **Timber Creek** 3.89 300 P Pn 03 23 22.2 +0.5
baz=114,SNR=38
KAIM **Kayak Island** 3.91 77 Pn 03 23 22.1 +0.2
KAIM **Kayak Island** 3.91 77 P Pn 03 23 22.2 +0.4
baz=263
WAT6 **Susitna Watana** 3.92 30 Pn 03 23 22.6 +0.5
WAT6 **Susitna Watana** 3.92 30 P Pn 03 23 22.6 +0.5
baz=214,SNR=81
WAT1 **Susitna Watana** 3.94 24 Pn 03 23 23.1 +0.8
WAT1 **Susitna Watana** 3.94 24 P Pn 03 23 23.1 +0.8
baz=206
O15K **Ungalikthiuk R** 4.02 272 Pn 03 23 23.9 +0.6
O15K **Ungalikthiuk R** 4.02 272 P Pn 03 23 24.1 +0.7
baz=86
M24K **Tolsona, Glenn** 4.04 43 Pn 03 23 24.1 +0.4
M24K **Tolsona, Glenn** 4.04 43 IAML 03 24 34.7
comp=N,752nm,0.8s
M24K **Tolsona, Glenn** 4.04 43 P Pn 03 23 23.9 +0.3
baz=227,SNR=23
HMT **Hamilton** 4.05 71 Pn 03 23 24.1 +0.2
HMT **Hamilton** 4.05 71 IAML 03 24 12.6
comp=N,730nm,0.5s
BMRM **Bremner River** 4.07 62 Pn 03 23 23.2 -0.9
BMRM **Bremner River** 4.07 62 P Pn 03 23 23.3 -0.9
baz=248,SNR=14
TTA **Tatalina** 4.15 334 Pn 03 23 25.9 +0.7
TTA **Tatalina** 4.15 334 IAML 03 24 44.1
comp=N,354nm,0.9s
TTA **Tatalina** 4.15 334 P Pn 03 23 26.2 +1.0
TTA **Tatalina** 4.15 334 P Pn 03 23 26.0 +0.7
baz=150,SNR=101
CAST **Castle Rocks** 4.16 360 Pn 03 23 25.7 +0.4
CAST **Castle Rocks** 4.16 360 P Pn 03 23 25.9 +0.6
baz=179,SNR=82
NICHA **Nichawak Mount** 4.18 73 Pn 03 23 25.6 +0.1
N15K **Kwethluk River** 4.19 286 Pn 03 23 26.7 +1.0
N15K **Kwethluk River** 4.19 286 IAML 03 24 42.5
comp=N,686nm,0.8s
N15K **Kwethluk River** 4.19 286 P Pn 03 23 26.8 +1.0
baz=99
K20K **Telida** 4.22 347 Pn 03 23 27.0 +1.0
K20K **Telida** 4.22 347 P Pn 03 23 27.2 +1.1
baz=165
L17K **Donlin** 4.22 316 Pn 03 23 26.2 +0.2
L17K **Donlin** 4.22 316 P Pn 03 23 26.5 +0.4
baz=130
TRF **Thorofare Moun** 4.27 10 Pn 03 23 27.8 +0.8
TRF **Thorofare Moun** 4.27 10 IAML 03 24 27.7
comp=N,542nm,0.7s
TRF IAML 03 24 52.0
comp=E,518nm,1.6s
TRF **Thorofare Moun** 4.27 10 P Pn 03 23 28.2 +1.2
baz=192,SNR=77
KTH **Kantishna Hill** 4.33 6 Pn 03 23 28.4 +0.7
KTH **Kantishna Hill** 4.33 6 IAML 03 24 26.2
comp=N,530nm,0.7s
KTH IAML 03 24 53.1
comp=E,713nm,1.0s
N25K **Chitina, Valde** 4.35 54 Pn 03 23 28.0 0.0
N25K IAML 03 24 36.4
comp=N,359nm,0.7s
N25K IAML 03 24 42.8
comp=E,306nm,0.7s
N25K **Chitina, Valde** 4.35 54 P Pn 03 23 27.7 -0.3
baz=240,SNR=20
RND **Reindeer** 4.42 19 Pn 03 23 29.6 +0.8
RND **Reindeer** 4.42 19 IAML 03 24 55.1
comp=E,292nm,0.7s
DHY **Denali Highway** 4.42 28 Pn 03 23 29.6 +0.6
DHY **Denali Highway** 4.42 28 IAML 03 24 38.5
comp=N,305nm,0.9s
DHY IAML 03 24 39.2
comp=E,294nm,0.9s
DHY **Denali Highway** 4.42 28 P Pn 03 23 29.6 +0.6
baz=212,SNR=94
L16K **Owhat River** 4.43 307 Pn Pn 03 23 29.2 +0.3
L16K IAML 03 24 48.7
comp=E,672nm,1.2s
L16K IAML 03 24 49.8
comp=N,516nm,1.0s
L16K **Owhat River** 4.43 307 P Pn 03 23 29.2 +0.3
baz=120,SNR=74
BGLC **Bering Glacier** 4.50 75 P Pn 03 23 29.9 0.0
baz=262
GRIN **Grindle Hills** 4.50 73 Pn 03 23 30.2 +0.2
CHGN **Chignik** 4.54 232 Pn 03 23 30.4 -0.2
CHGN **Chignik** 4.54 232 P Pn 03 23 30.3 -0.2
baz=47,SNR=8.4
KHIT **Khitrov Hills** 4.57 71 Pn 03 23 29.9 -1.1
HARP **HAARP** 4.59 44 Pn 03 23 31.6 +0.4
HARP **HAARP** 4.59 44 P Pn 03 23 31.7 +0.5
baz=229,SNR=16
M15K **Kasigluk River** 4.59 292 Pn 03 23 31.3 +0.1
M15K **Kasigluk River** 4.59 292 P Pn 03 23 31.4 +0.3
baz=105
GLB **Gilahina Butte** 4.61 58 Pn 03 23 30.8 -0.7
GLB **Gilahina Butte** 4.61 58 IAML 03 24 43.1
comp=N,349nm,0.8s
K17K **Iditarod** 4.62 321 Pn 03 23 31.8 +0.3
K17K **Iditarod** 4.62 321 IAML 03 24 56.3
comp=E,541nm,0.9s
K17K IAML 03 25 03.2
comp=N,491nm,0.9s
K17K **Iditarod** 4.62 321 P Pn 03 23 32.0 +0.4
baz=136,SNR=69
CHUM **Lake Minchumin** 4.63 358 P Pn 03 23 32.6 +1.0
baz=178,SNR=163
WACK **Wrangell Chich** 4.66 51 Pn 03 23 32.7 +0.4
WASW **Wrangell South** 4.69 52 Pn 03 23 32.3 -0.5
VRDI **Verde Repeater** 4.69 62 Pn 03 23 31.8 -0.9
MCK **McKinley** 4.71 17 Pn 03 23 34.0 +1.2
MCK **McKinley** 4.71 17 P Pn 03 23 33.9 +1.0
baz=199,SNR=104
SNH **Sunshine Point** 4.73 75 Pn 03 23 32.8 -0.3
SNH **Sunshine Point** 4.73 75 IAML 03 24 26.6
comp=E,318nm,0.6s
O14K **Tigyukauivet M** 4.75 274 Pn 03 23 34.1 +0.8
O14K **Tigyukauivet M** 4.75 274 IAML 03 24 30.5
comp=E,290nm,0.7s
O14K IAML 03 25 04.5
comp=N,364nm,0.9s
O14K **Tigyukauivet M** 4.75 274 P Pn 03 23 34.2 +0.8
baz=86
WAX **Waxell Ridge** 4.76 72 Pn 03 23 32.8 -0.8
J18K **Innoko River** 4.78 334 Pn Pn 03 23 34.6 +0.9
J18K **Innoko River** 4.78 334 P Pn 03 23 34.6 +0.9
baz=150,SNR=76
BPAW **Bear Paw Mtn.** 4.87 5 Pn Pn 03 23 35.8 +0.8
BPAW IAML 03 25 09.5
comp=E,203nm,1.5s
BPAW **Bear Paw Mtn.** 4.87 5 P Pn 03 23 35.7 +0.8
baz=186,SNR=50
PAX **Paxson** 4.88 38 Pn 03 23 35.3 +0.1
PAX **Paxson** 4.88 38 P Pn 03 23 35.3 +0.1
baz=223,SNR=87
CYK **Cape Yakataga** 4.89 76 Pn 03 23 35.3 0.0
MCARA **McCarthy VSAT** 4.94 61 Pn 03 23 35.4 -0.6
MCARA IAML 03 24 33.4
comp=N,432nm,0.5s
MCARA IAML 03 24 33.9
comp=E,451nm,0.4s
MCARA **McCarthy VSAT** 4.94 61 P Pn 03 23 35.4 -0.6
baz=248,SNR=12
N14K **Kuskokwak Cree** 4.96 282 Pn 03 23 37.1 +0.9
N14K **Kuskokwak Cree** 4.96 282 P Pn 03 23 37.2 +0.9
baz=94,SNR=64
J20K **Nowinta River** 5.03 349 Pn 03 23 38.2 +1.1
J20K **Nowinta River** 5.03 349 IAML 03 25 18.7
comp=N,209nm,1.0s
J20K IAML 03 25 21.6
comp=E,216nm,1.2s
J20K **Nowinta River** 5.03 349 P Pn 03 23 38.2 +1.1
baz=167
ISLE **Juniper Island** 5.04 71 Pn 03 23 36.8 -0.7
ISLE **Juniper Island** 5.04 71 IAML 03 24 34.7
comp=E,401nm,0.8s
ISLE IAML 03 24 40.2
comp=N,297nm,0.8s
J19K **Poorman** 5.04 342 Pn 03 23 38.3 +1.0
J19K **Poorman** 5.04 342 IAML 03 25 28.3
comp=E,192nm,1.2s
J19K **Poorman** 5.04 342 P Pn 03 23 38.3 +1.0
baz=158
BWN **Browne** 5.06 13 Pn 03 23 38.5 +0.9
KIAG **Kiagna River** 5.10 67 Pn 03 23 37.9 -0.5
PTPK **Patty Peak** 5.13 64 Pn 03 23 38.3 -0.4
BAGL **Bagley Icefiel** 5.14 72 Pn 03 23 39.1 +0.5
MESA **MESA** 5.17 76 Pn 03 23 39.6 +0.4
MESA IAML 03 24 37.7
comp=N,327nm,0.4s
MESA IAML 03 24 42.8
comp=E,225nm,1.2s
MESA **MESA** 5.17 76 P Pn 03 23 39.3 0.0
baz=264,SNR=14
M14K **Bethel** 5.21 291 Pn 03 23 40.0 +0.4
M14K **Bethel** 5.21 291 P Pn 03 23 40.4 +0.8
baz=103,SNR=16
L15K **Ungalak Mounta** 5.27 301 Pn 03 23 40.8 +0.3
L15K **Ungalak Mounta** 5.27 301 P Pn 03 23 40.8 +0.3
baz=113
M26K **Nabesna, AK** 5.41 51 Pn 03 23 42.5 +0.2
M26K **Nabesna, AK** 5.41 51 P Pn 03 23 42.6 +0.2
baz=238,SNR=21
K24K **Donnelly Dome** 5.43 31 Pn 03 23 44.7 +2.0
K24K **Donnelly Dome** 5.43 31 P Pn 03 23 44.6 +1.9
baz=216,SNR=80
MENT **Mentasta** 5.44 44 Pn 03 23 44.3 +1.5
BARN **Barnard Glacie** 5.47 66 Pn 03 23 43.1 -0.3
NEA2 **Nenana** 5.51 13 Pn 03 23 43.6 -0.2
NEA2 **Nenana** 5.51 13 P Pn 03 23 43.9 +0.1
baz=198,SNR=49
WRH **Wood River Hil** 5.53 18 Pn 03 23 44.0 0.0
K15K **Wolf Creek Mou** 5.56 307 Pn 03 23 45.1 +0.7
K15K **Wolf Creek Mou** 5.56 307 P Pn 03 23 45.2 +0.7
baz=119,SNR=52
CTG **Chitna Glacier** 5.60 68 P Pn 03 23 45.8 +0.7
baz=257,SNR=24
CTGM **Chitina Glacie** 5.60 68 Pn 03 23 45.0 -0.1
TABL **Table Mountain** 5.60 73 Pn 03 23 45.3 +0.1
L26K **Log Cabin Wild** 5.63 44 Pn 03 23 46.3 +0.8
I20K **Naaghedeneel** 5.66 349 Pn 03 23 47.0 +1.2
I20K **Naaghedeneel** 5.66 349 P Pn 03 23 47.0 +1.2
baz=167,SNR=16
HDA **Harding Lake** 5.68 23 Pn 03 23 46.4 +0.3
HDA **Harding Lake** 5.68 23 P Pn 03 23 46.8 +0.7
baz=207,SNR=63
L14K **Kuka Creek** 5.70 296 Pn 03 23 47.0 +0.8
L14K **Kuka Creek** 5.70 296 P Pn 03 23 47.1 +0.8
baz=107,SNR=34
LOGN **Logan Glacier** 5.73 70 Pn 03 23 46.9 0.0
CCB **Clear Creek Bu** 5.74 18 Pn Pn 03 23 47.5 +0.6
SAMH **Samovar Hills** 5.75 77 Pn 03 23 47.3 +0.2
J16K **Anvik River** 5.77 318 Pn 03 23 47.7 +0.3
J16K **Anvik River** 5.77 318 P Pn 03 23 47.7 +0.3
baz=130
MLY **Manley** 5.81 5 Pn Pn 03 23 48.0 +0.1
MLY **Manley** 5.81 5 P Pn 03 23 48.4 +0.5
baz=186,SNR=35
M13K **Dall Lake** 5.83 286 Pn 03 23 49.2 +1.1
M13K **Dall Lake** 5.83 286 P Pn 03 23 49.5 +1.4
baz=97,SNR=12
M27K **Edge Creek, AK** 5.84 54 Pn 03 23 48.6 +0.3
M27K **Edge Creek, AK** 5.84 54 P Pn 03 23 48.7 +0.3
baz=242,SNR=7.8
I21K **Tanana** 5.93 0 Pn 03 23 50.5 +1.0
I21K **Tanana** 5.93 0 P Pn 03 23 50.4 +1.0
baz=180
COLA **College** 5.95 17 Pn 03 23 50.0 +0.3
COLA **College** 5.95 17 P Pn 03 23 50.0 +0.3
COLA **College** 5.95 17 P Pn 03 23 50.4 +0.7
baz=201
GCSA **Galena City Sc** 5.95 339 Pn 03 23 50.8 +1.1
GCSA **Galena City Sc** 5.95 339 P Pn 03 23 50.9 +1.1
baz=155
MDM **Murphy Dome** 5.97 16 Pn 03 23 50.1 0.0
PCA **Pinnacle** 6.01 77 Pn 03 23 50.1 -0.5
PINM **Pinnacle** 6.01 77 P Pn 03 23 50.5 -0.1
baz=267,SNR=13
IL31 6.02 21 Pn 03 23 51.2 +0.6
ILAR **Eielson Array** 6.02 21 P Pn 03 23 50.5 -0.2
comp=E,16nm,0.5s,baz=201,slow=14,SNR=278
ILAR S Sn 03 24 56.3 -1.9
comp=E,35nm,0.7s,baz=202,slow=20,SNR=8.5
ILAR LR LR 03 26 30.9
comp=E,118nm,18.7s,baz=9.5,slow=41
I23K **Minto, Yukon-K** 6.02 11 Pn 03 23 51.0 +0.2
I23K **Minto, Yukon-K** 6.02 11 P Pn 03 23 50.9 +0.2
baz=193,SNR=61
SDPT **Sand Point** 6.04 233 Pn 03 23 50.6 -0.5
SDPT **Sand Point** 6.04 233 P Pn 03 23 50.8 -0.3
SDPT **Sand Point** 6.04 233 P Pn 03 23 50.4 -0.7
baz=46
YUK2 **White River** 6.06 61 Pn 03 23 51.3 -0.1
SCRK **Sand Creek** 6.07 36 Pn 03 23 51.3 -0.2
SCRK **Sand Creek** 6.07 36 P Pn 03 23 51.4 -0.2
baz=222,SNR=12
CHNA **Chernabura Isl** 6.08 226 P Pn 03 23 50.7 -0.8
baz=40
CNBA **Chernabura Isl** 6.09 226 Pn Pn 03 23 50.7 -0.9
J25K **Salcha River,** 6.20 27 Pn 03 23 53.3 +0.1
J25K **Salcha River,** 6.20 27 P Pn 03 23 53.4 +0.1
baz=213
I17K **Unalakleet** 6.21 322 Pn 03 23 54.0 +0.7
I17K **Unalakleet** 6.21 322 P Pn 03 23 54.1 +0.7
baz=134,SNR=38
L27K **Beaver Creek,** 6.22 48 Pn 03 23 53.5 0.0
L27K **Beaver Creek,** 6.22 48 P Pn 03 23 53.7 +0.3
baz=236,SNR=13
YUK3 **Moose Creek** 6.23 61 Pn 03 23 53.6 -0.2
YUK3 **Moose Creek** 6.23 61 P Pn 03 23 53.8 0.0
baz=251,SNR=44
BCAR **Beaver Creek A** 6.24 48 Pn Pn 03 23 54.5 +0.8
POKR **Poker Plat Res** 6.24 18 Pn 03 23 54.3 +0.6
POKR **Poker Plat Res** 6.24 18 P Pn 03 23 53.7 -0.1
baz=202,SNR=22
BVCY **Beaver Creek** 6.29 55 Pn 03 23 54.9 +0.5
BVCY **Beaver Creek** 6.29 55 P Pn 03 23 54.5 +0.1
baz=244,SNR=8.3
BCPM **Bancas Point** 6.32 79 Pn 03 23 54.8 0.0
H20K **Anotleneega Mo** 6.38 349 Pn 03 23 56.5 +0.8
H20K **Anotleneega Mo** 6.38 349 P Pn 03 23 57.0 +1.3
baz=167,SNR=24
YUK8 **Steele Glacier** 6.41 66 Pn 03 23 57.4 +1.0
YUK8 **Steele Glacier** 6.41 66 P Pn 03 23 57.2 +0.8
baz=257,SNR=40
H21K **Melozitna Rive** 6.42 357 Pn 03 23 56.6 +0.4
H21K **Melozitna Rive** 6.42 357 P Pn 03 23 56.8 +0.6
baz=176,SNR=49
PNL **Peninsula** 6.44 81 Pn 03 23 56.1 -0.4
PNL **Peninsula** 6.44 81 P Pn 03 23 55.9 -0.6
PNL **Peninsula** 6.44 81 P Pn 03 23 56.1 -0.4
baz=272,SNR=35
PS1A **Pavlof South-1** 6.53 238 Pn 03 23 57.9 +0.2
J26L **Joseph Creek** 6.58 34 Pn 03 23 58.2 -0.3
J26L **Joseph Creek** 6.58 34 P Pn 03 23 58.8 +0.2
baz=221
H18K **Honhosa River** 6.60 336 Pn 03 23 59.2 +0.5
H18K **Honhosa River** 6.60 336 P Pn 03 23 59.6 +0.9
baz=150,SNR=67
J14K **Nanvaranak Lak** 6.61 307 Pn 03 23 59.1 +0.4
J14K **Nanvaranak Lak** 6.61 307 P Pn 03 23 59.4 +0.7
baz=117,SNR=27
H19K **Roundabout Mou** 6.61 344 Pn 03 23 59.2 +0.5
H19K **Roundabout Mou** 6.61 344 P Pn 03 23 59.8 +1.1
baz=160
PS4A **Pavlof South-4** 6.63 238 Pn 03 23 58.5 -0.6
PN7A **Pavlof North-7** 6.64 239 Pn 03 23 59.7 +0.4
H22K **Ishtalitna Cre** 6.65 2 Pn 03 23 59.7 +0.3
H22K **Ishtalitna Cre** 6.65 2 P Pn 03 23 60.0 +0.6
baz=183
K27K **Chicken** 6.71 41 Pn 03 24 00.2 0.0
K27K **Chicken** 6.71 41 P Pn 03 24 00.5 +0.3
baz=229
H17K **Granite Mounta** 6.78 330 Pn 03 24 01.7 +0.6
baz=143,SNR=86
IMAR **Indian Mountai** 6.78 354 Pn Pn 03 24 02.1 +0.9
H24K **Noodor Dome** 6.86 14 Pn 03 24 02.4 +0.1
H24K **Noodor Dome** 6.86 14 P Pn 03 24 02.6 +0.4
baz=198
O29M **Mount Kennedy** 6.86 76 Pn 03 24 01.9 -0.4
O29M **Mount Kennedy** 6.86 76 P Pn 03 24 02.5 +0.2
baz=267,SNR=35
PRP **Porcupine Dome** 6.95 23 Pn Pn 03 24 03.7 +0.1
PRP **Porcupine Dome** 6.95 23 P Pn 03 24 03.9 +0.4
baz=208,SNR=53
YUK4 **Talbot Arm** 6.95 67 P Pn 03 24 05.3 +1.6
baz=258,SNR=12
YUK6 **Outpost Mounta** 7.02 70 Pn 03 24 04.9 +0.2
YUK6 **Outpost Mounta** 7.02 70 P Pn 03 24 05.3 +0.6
baz=262,SNR=18
YUK7 **Dusty Glacier** 7.09 74 Pn 03 24 06.0 +0.4
H16K **Elim** 7.22 322 Pn 03 24 08.0 +0.9
H16K **Elim** 7.22 322 P Pn 03 24 07.8 +0.7
baz=134,SNR=27
M11K **Mekoryuk** 7.24 285 Pn 03 24 08.1 +0.6
M11K **Mekoryuk** 7.24 285 P Pn 03 24 08.4 +1.0
baz=93,SNR=18
G19K **Purcell Mounta** 7.28 343 Pn 03 24 08.8 +0.8
G19K **Purcell Mounta** 7.28 343 P Pn 03 24 08.5 +0.6
baz=159,SNR=26
P29M **Windy Craggy** 7.28 81 Pn 03 24 07.4 -0.7
P29M **Windy Craggy** 7.28 81 P Pn 03 24 07.5 -0.5
baz=273
G21K **Allakaket** 7.30 355 Pn 03 24 08.8 +0.5
G21K **Allakaket** 7.30 355 P Pn 03 24 08.8 +0.5
baz=174,SNR=23
G18K **Tagagawik** 7.32 338 Pn 03 24 09.2 +0.7
G18K **Tagagawik** 7.32 338 P Pn 03 24 09.4 +0.9
baz=152,SNR=39
I26K **Coal Creek Min** 7.32 30 Pn 03 24 08.1 -0.4
I26K **Coal Creek Min** 7.32 30 P Pn 03 24 08.3 -0.2
baz=218
M29M **Somme Creek** 7.33 59 Pn 03 24 08.7 -0.2
M29M **Somme Creek** 7.33 59 P Pn 03 24 09.2 +0.4
baz=250,SNR=98
G17K **Kiwalik Mounta** 7.42 331 Pn 03 24 10.5 +0.6
G17K **Kiwalik Mounta** 7.42 331 P Pn 03 24 10.6 +0.7
baz=143
HYT **Haines Junctio** 7.42 72 Pn 03 24 10.1 0.0
HYT **Haines Junctio** 7.42 72 P Pn 03 24 10.2 +0.1
baz=264,SNR=5.0
EGAK **Eagle** 7.51 38 Pn 03 24 11.2 +0.1
EGAK **Eagle** 7.51 38 P Pn 03 24 11.0 -0.1
baz=227,SNR=10
G23K **Bananza Creek** 7.52 6 Pn 03 24 11.3 0.0
G23K **Bananza Creek** 7.52 6 P Pn 03 24 11.4 +0.2
baz=188,SNR=48
H25L **Birch Creek** 7.57 19 Pn 03 24 12.0 +0.2
H25L **Birch Creek** 7.57 19 P Pn 03 24 12.1 +0.3
baz=205
P30M **Million Dollar** 7.66 77 Pn 03 24 13.2 -0.1
P30M **Million Dollar** 7.66 77 P Pn 03 24 13.5 +0.2
baz=270
DAWY **Dawson** 7.68 46 Pn Pn 03 24 14.1 +0.6
DAWY **Dawson** 7.68 46 P Pn 03 24 13.8 +0.3
baz=237,SNR=9.4
G22K **Bettles** 7.68 1 P Pn 03 24 14.1 +0.7
baz=182
N30M **Aishikik Lake** 7.71 67 Pn 03 24 13.6 -0.4
N30M **Aishikik Lake** 7.71 67 P Pn 03 24 13.7 -0.3
baz=260,SNR=43
L29M **L29M** 7.72 54 Pn Pn 03 24 14.0 0.0
L29M **L29M** 7.72 54 P Pn 03 24 13.9 -0.1
baz=246,SNR=9.7
G24K **Hadweenzic Riv** 7.73 14 Pn 03 24 13.5 -0.7
G24K **Hadweenzic Riv** 7.73 14 P Pn 03 24 14.0 -0.2
baz=197,SNR=26
G16K **Koyuk River** 7.79 326 Pn 03 24 15.2 +0.2
G16K **Koyuk River** 7.79 326 P Pn 03 24 15.5 +0.5
baz=137
ISLZ **Isanotski Laza** 7.85 240 Pn 03 24 15.4 -0.4
FYU **Fort Yukon** 7.94 20 Pn Pn 03 24 17.5 +0.5
I27K **Kandik River** 7.96 33 Pn 03 24 17.1 -0.2
I27K **Kandik River** 7.96 33 P Pn 03 24 17.3 0.0
baz=222
G25K **Bearman Lake** 7.98 17 Pn 03 24 17.5 0.0
G25K **Bearman Lake** 7.98 17 P Pn 03 24 17.5 0.0
baz=202
F20K **Avaraart Lake** 7.98 349 Pn 03 24 18.9 +1.3
F20K **Avaraart Lake** 7.98 349 P Pn 03 24 19.0 +1.5
baz=166,SNR=24
PLBC **Pleasant Camp** 7.99 82 P Pn 03 24 17.6 -0.1
baz=275
F21K **Alatna River** 8.01 356 Pn 03 24 18.8 +0.8
F21K **Alatna River** 8.01 356 P Pn 03 24 18.7 +0.8
baz=174,SNR=22
F19K **Shaleruckik Mo** 8.02 343 Pn 03 24 18.8 +0.7
F19K **Shaleruckik Mo** 8.02 343 P Pn 03 24 19.0 +0.9
baz=158
COLD **Coldfoot** 8.03 5 Pn 03 24 18.5 +0.3
COLD **Coldfoot** 8.03 5 P Pn 03 24 18.8 +0.7
baz=186,SNR=25
G15K **Niukluk** 8.03 321 Pn 03 24 19.0 +0.7
G15K **Niukluk** 8.03 321 P Pn 03 24 19.1 +0.9
baz=130
M30M **Minto, Yukon** 8.11 59 Pn 03 24 19.3 -0.1
M30M **Minto, Yukon** 8.11 59 P Pn 03 24 19.4 0.0
baz=252,SNR=18
O30N **Mendenhall** 8.11 73 Pn 03 24 19.0 -0.4
O30N **Mendenhall** 8.11 73 P Pn 03 24 19.1 -0.3
baz=266
F18K **Selawik** 8.13 338 Pn 03 24 20.2 +0.7
F18K **Selawik** 8.13 338 P Pn 03 24 21.0 +1.4
baz=151,SNR=12
ANM **Nome** 8.23 316 Pn 03 24 22.0 +1.0
ANM **Nome** 8.23 316 P Pn 03 24 22.0 +1.0
baz=124,SNR=37
K29M **Barlow Dome** 8.29 50 Pn 03 24 22.2 +0.3
K29M **Barlow Dome** 8.29 50 P Pn 03 24 22.1 +0.3
baz=243
J29N **Klondike Camp** 8.32 46 Pn Pn 03 24 22.8 +0.5
J29N **Klondike Camp** 8.32 46 P Pn 03 24 22.2 -0.1
baz=237,SNR=19
F17K **Baldwin Pennin** 8.33 334 Pn 03 24 23.0 +0.7
F17K **Baldwin Pennin** 8.33 334 P Pn 03 24 23.1 +0.7
baz=145
S31K **Pelican** 8.34 92 Pn 03 24 20.8 -1.7
S31K **Pelican** 8.34 92 P Pn 03 24 20.7 -1.7
baz=286
I28M **Miner Creek** 8.35 37 Pn 03 24 22.7 +0.1
I28M **Miner Creek** 8.35 37 P Pn 03 24 22.8 +0.2
baz=227
H27K **Steamboat Moun** 8.46 30 Pn 03 24 23.5 -0.6
H27K **Steamboat Moun** 8.46 30 P Pn 03 24 23.9 -0.3
baz=219,SNR=24
F24K **Squaw Lake** 8.48 11 Pn 03 24 24.6 +0.2
F24K **Squaw Lake** 8.48 11 P Pn 03 24 24.7 +0.3
baz=194
SKAG **Skagway** 8.52 82 Pn Pn 03 24 24.6 -0.3
SKAG **Skagway** 8.52 82 P Pn 03 24 24.7 -0.2
SKAG **Skagway** 8.52 82 P Pn 03 24 24.3 -0.6
baz=276,SNR=6.7
E19K **Redstone River** 8.54 346 Pn 03 24 26.7 +1.5
E19K **Redstone River** 8.54 346 P Pn 03 24 26.3 +1.1
baz=162,SNR=25
G26K **Porcupine Rive** 8.55 22 Pn 03 24 25.4 +0.1
G26K **Porcupine Rive** 8.55 22 P Pn 03 24 25.4 +0.1
baz=209
F15K **North Star Dit** 8.70 323 Pn 03 24 28.3 +1.0
F15K **North Star Dit** 8.70 323 P Pn 03 24 28.2 +0.8
baz=132,SNR=14
WHY **Whitehorse** 8.70 73 Pn 03 24 27.2 -0.3
WHY **Whitehorse** 8.70 73 P Pn 03 24 27.3 -0.3
baz=268,SNR=10
F25K **Christian Rive** 8.82 16 P Pn 03 24 28.5 -0.5
baz=202,SNR=14
BMAR **Burnt Mountain** 8.83 19 Pn Pn 03 24 28.8 -0.4
E23K **Chandalar** 8.88 6 P Pn 03 24 30.5 +0.6
baz=188
E22K **Anaktuvuk Pass** 8.90 0 Pn 03 24 32.2 +2.1
E22K **Anaktuvuk Pass** 8.90 0 P Pn 03 24 31.4 +1.3
baz=181
E24K **Your Creek** 8.97 8 Pn 03 24 31.4 +0.3
E24K **Your Creek** 8.97 8 P Pn 03 24 32.0 +0.9
baz=192
E18K **Tukpahlearik C** 9.03 338 Pn 03 24 34.1 +2.2
E18K **Tukpahlearik C** 9.03 338 P Pn 03 24 33.0 +1.1
baz=151

J30M	Hart River	9.09	48		Pn		03 24 34.5	+1.7
J30M	Hart River baz=241,SNR=11	9.09	48	P	Pn		03 24 33.3	+0.4
F14K	Arctic Creek	9.09	319		Pn		03 24 34.2	+1.5
F14K	Arctic Creek baz=127	9.09	319	P	Pn		03 24 34.0	+1.3
M31M	Drury Creek, Y	9.11	64		Pn		03 24 32.1	-0.9
M31M	Drury Creek, Y baz=259,SNR=15	9.11	64	P	Pn		03 24 33.1	+0.1
AKSA	Akutan Strait	9.11	242		Pn		03 24 32.8	-0.3
R32K	Eaglecrest	9.14	89		Pn		03 24 33.5	+0.1
R32K	Eaglecrest baz=284	9.14	89	P	Pn		03 24 33.9	+0.5
F26K	Sheenjek River	9.14	19		Pn		03 24 32.6	-0.9
F26K	Sheenjek River baz=206	9.14	19	P	Pn		03 24 34.2	+0.8
E20K	Nigu River	9.21	350		Pn		03 24 36.2	+1.9
E20K	Nigu River baz=166,SNR=20	9.21	350	P	Pn		03 24 35.0	+0.7
JIS	Juneau Island	9.21	89	Pn	Pn		03 24 34.2	-0.1
JIS	Juneau Island	9.21	89	P	Pn		03 24 34.8	+0.5
AKBBA	Akutan Broad B	9.24	242		Pn		03 24 35.3	+0.5
E21K	Killik River	9.24	355		Pn		03 24 35.3	+0.5
E21K	Killik River baz=174	9.24	355	P	Pn		03 24 34.6	-0.3
E25K	Arctic Village	9.32	15	Pn	Pn		03 24 34.7	-1.2
E25K	Arctic Village baz=201,SNR=9.1	9.32	15	P	Pn		03 24 34.9	-1.0
P32M	Atlin	9.32	80		Pn		03 24 35.0	-1.0
P32M	Atlin baz=276	9.32	80	P	Pn		03 24 34.4	-1.6
S32K	Killisnoo	9.33	94		Pn		03 24 34.7	-1.4
S32K	Killisnoo baz=288	9.33	94	P	Pn		03 24 35.3	-0.8
H29M	Whitestone	9.34	36		Pn		03 24 36.3	+0.2
H29M	Whitestone baz=228	9.34	36	P	Pn		03 24 35.9	-0.3
I30M	Mount Dempster	9.40	44		Pn		03 24 38.1	+1.1
I30M	Mount Dempster baz=238	9.40	44	P	Pn		03 24 36.9	-0.1
TOLK	Toolik Lake Re	9.46	5		Pn		03 24 39.2	+1.3
TOLK	Toolik Lake Re baz=188,SNR=12	9.46	5	P	Pn		03 24 38.7	+0.9
FARO	Faro, Yukon	9.59	64	Pn	Pn		03 24 39.6	-0.1
FARO	Faro, Yukon baz=260,SNR=16	9.59	64	P	Pn		03 24 39.5	-0.1
N32M	Quiet Lake	9.60	71		Pn		03 24 39.6	-0.1
N32M	Quiet Lake baz=267	9.60	71	P	Pn		03 24 39.6	-0.1
D19K	Kuna River	9.63	346		Pn		03 24 42.0	+1.8
D19K	Kuna River baz=161,SNR=12	9.63	346	P	Pn		03 24 41.1	+0.9
D22K	Ayikyak River	9.65	359		Pn		03 24 41.9	+1.5
D22K	Ayikyak River baz=178,SNR=18	9.65	359	P	Pn		03 24 41.4	+1.0
TNA	Tin City baz=123,SNR=19	9.69	317	P	Pn		03 24 42.0	+1.2
D20K	Etivluk River baz=166	9.69	350	P	Pn		03 24 42.0	+1.1
MNAT	Makushin Natee	9.72	243		Pn		03 24 40.6	-0.8
P33M	Teslin, Yukon	9.73	76		Pn		03 24 40.8	-0.8
P33M	Teslin, Yukon baz=273,SNR=13	9.73	76	P	Pn		03 24 40.7	-0.8
D23K	Nanushuk River baz=184	9.75	3	P	Pn		03 24 42.5	+0.8
MSW	Makushin Switc	9.75	243		Pn		03 24 40.6	-1.2
D17K	Noatak River baz=145,SNR=10	9.78	334	P	Pn		03 24 43.1	+1.0
SPIA	Saint Paul Isl	9.85	266	P	Pn		03 24 44.1	+1.1
SPIA	Saint Paul Isl baz=70	9.85	266	P	Pn		03 24 43.8	+0.7
G29M	Pine Creek	9.92	34		Pn		03 24 44.8	+0.8
G29M	Pine Creek baz=226	9.92	34	P	Pn		03 24 43.9	-0.1
EPYK	Eagle Plains	9.95	38	Pn	Pn		03 24 45.8	+1.3
EPYK	Eagle Plains baz=231	9.95	38	P	Pn		03 24 44.8	+0.4
F28M	Old Crow	9.95	28	Pn	Pn		03 24 43.9	-0.6
F28M	Old Crow baz=218,SNR=9.1	9.95	28	P	Pn		03 24 44.8	+0.3
C21K	Knifeblade Rid baz=172	9.99	354	P	Pn		03 24 46.0	+1.0
D24K	Happy Valley	10.01	7		Pn		03 24 46.4	+1.1
D24K	Happy Valley baz=189	10.01	7	P	Pn		03 24 45.1	-0.2
E27K	Coleen River	10.04	23		Pn		03 24 46.4	+0.7
E27K	Coleen River baz=212	10.04	23	P	Pn		03 24 45.3	-0.5
Q32M	Nakina River	10.15	83		Pn		03 24 46.8	-0.5
Q32M	Nakina River baz=280	10.15	83	P	Pn		03 24 46.9	-0.5
C18K	Utukok River	10.22	341	Pn	Pn		03 24 49.9	+1.7
C18K	Utukok River baz=152	10.22	341	P	Pn		03 24 49.6	+1.4
D25K	Kavik River	10.37	11	Pn	Pn		03 24 51.3	+1.0
D25K	Kavik River baz=196,SNR=8.4	10.37	11	P	Pn		03 24 50.4	+0.1
C19K	Lookout Ridge	10.40	345		Pn		03 24 51.1	+0.5
C19K	Lookout Ridge baz=158	10.40	345	P	Pn		03 24 51.1	+0.5
GAMB	Gambell baz=107	10.41	304	P	Pn		03 24 51.3	+0.6
H31M	Peel River	10.43	44	Pn	Pn		03 24 51.1	+0.1
H31M	Peel River baz=239	10.43	44	P	Pn		03 24 51.3	+0.3
C17K	DeLong Mountai baz=147	10.44	337	P	Pn		03 24 51.8	+0.6
B21K	Ikpikpuk River	10.45	355		Pn		03 24 51.6	+0.4
B21K	Ikpikpuk River baz=173	10.45	355	P	Pn		03 24 52.0	+0.8
G30M	tAoh Zraii Nji	10.49	36	Pn	Pn		03 24 51.5	-0.3
G30M	tAoh Zraii Nji baz=230	10.49	36	P	Pn		03 24 51.9	+0.1
C24K	Franklin Bluff baz=189	10.58	6	P	Pn		03 24 53.7	+0.6
U33K	Whale Pass	10.58	99		Pn		03 24 50.6	-2.5
U33K	Whale Pass baz=295	10.58	99	P	Pn		03 24 51.1	-1.9
C23K	Itkillik River	10.62	3	Pn	Pn		03 24 54.1	+0.5
C23K	Itkillik River baz=184	10.62	3	P	Pn		03 24 54.4	+0.8
R33M	Jennings River	10.74	80		Pn		03 24 54.7	-0.6
R33M	Jennings River baz=278	10.74	80	P	Pn		03 24 55.0	-0.4
C16K	Lisburne Hills	10.76	333	Pn	Pn		03 24 57.2	+1.8
C16K	Lisburne Hills baz=141,SNR=17	10.76	333	P	Pn		03 24 57.0	+1.6
E28M	Babbage River	10.82	25		Pn		03 24 56.8	+0.5
E28M	Babbage River baz=216	10.82	25	P	Pn		03 24 57.2	+0.8
WRAK	Wrangell Islan baz=293	10.85	97	P	Pn		03 24 56.1	-0.6
CRAG	Craig baz=298	10.87	102	P	Pn		03 24 57.5	+0.4
B18K	Kokolik River baz=153	10.96	342	P	Pn		03 24 59.5	+1.2
S34M	Telegraph Cree	10.97	88	Pn	Pn		03 24 58.7	+0.3
S34M	Telegraph Cree baz=286	10.97	88	P	Pn		03 24 58.7	+0.3
B20K	Meade River	11.00	351	Pn	Pn		03 24 58.3	-0.3
B20K	Meade River baz=166	11.00	351	P	Pn		03 24 58.2	-0.4
E29M	Blow River	11.03	28		Pn		03 24 58.8	-0.3
E29M	Blow River baz=221	11.03	28	P	Pn		03 24 59.6	+0.4
F30M	Barrier River baz=228	11.03	34	P	Pn		03 24 59.7	+0.5
G31M	Satah River	11.06	39	Pn	Pn		03 24 58.6	-1.0
G31M	Satah River baz=234	11.06	39	P	Pn		03 24 59.3	-0.3
D27M	Malcolm River	11.07	21		Pn		03 24 59.3	-0.5
D27M	Malcolm River baz=211	11.07	21	P	Pn		03 25 00.2	+0.4
C26K	Camden Bay baz=199	11.10	13	P	Pn		03 25 00.0	-0.1
B22K	Teshekpuk Lake	11.13	358	Pn	Pn		03 25 00.2	-0.3
B22K	Teshekpuk Lake baz=176,SNR=12	11.13	358	P	Pn		03 25 00.2	-0.3
DLBC	Dease Lake baz=283	11.40	85	P	Pn		03 25 03.8	-0.6
DLBC	Dease Lake comp=E,5.7nm,0.5s,baz=266,slow=8.1,SNR=30	11.40	85	P	Pn		03 25 04.1	-0.3
DLBC	comp=E,3.2nm,0.5s,baz=140,slow=20,SNR=2.1			S	Sn		03 27 05.6	-4.5
	comp=E,119nm,19.7s,baz=285,slow=36			LR	LR		03 29 25.2	
F31M	Tsiigehtchic	11.54	37	Pn	Pn		03 25 06.6	+0.5
F31M	Tsiigehtchic baz=233	11.54	37	P	Pn		03 25 06.2	+0.2
D28M	Stokes Point baz=216	11.58	24	P	Pn		03 25 08.2	+1.6
A19K	Wainwright baz=156	11.62	345	P	Pn		03 25 07.2	+0.1
V35K	Ketchikan baz=298	11.70	101	P	Pn		03 25 07.0	-1.3
T35M	Bob Quinn baz=290	11.71	92	P	Pn		03 25 08.6	0.0
WTLY	Watson Lake, Y baz=276	11.74	76	P	Pn		03 25 08.8	-0.1
TGTN	Hyland Airport baz=269	11.93	69	P	Pn		03 25 11.4	-0.1
INK	Inuvik	12.13	34	Pn	Pn		03 25 13.9	-0.3
INK	Inuvik baz=231	12.13	34	P	Pn		03 25 13.6	-0.5
INK	Inuvik comp=E,2.5nm,0.8s,baz=218,slow=15,SNR=12	12.13	34	P	Pn		03 25 13.7	-0.5
INK	comp=E,2.4nm,0.8s,baz=162,slow=18,SNR=1.5			S	Sn		03 27 26.4	-1.3
INK	comp=E,76nm,19.1s,baz=167,slow=39			LR	LR		03 30 16.2	
KOTAN	Kotaneelee Air baz=278,SNR=6.8	14.09	74	P	Pn		03 25 41.1	+0.3
WRGLY	Wrigley	14.23	62	Pn	Pn		03 25 43.1	+0.6
WRGLY	Wrigley baz=267,SNR=10	14.23	62	P	Pn		03 25 42.5	0.0
FLDN	Fort Liard baz=278	14.36	74	P	Pn		03 25 41.9	-2.5
BBB	Bella Bella comp=E,12nm,0.9s,baz=321,slow=13,SNR=1.2	15.15	107	P	Pn		03 25 56.2	+1.5
BBB	comp=E,13nm,1.0s,baz=83,slow=19,SNR=2.0			S	Sn		03 28 37.4	-3.8
BBB	comp=E,69nm,21.6s,baz=339,slow=34			LR	LR		03 30 59.3	
C36M	Paulatuk	15.59	38	Pn	Pn		03 25 57.4	-2.7
C36M	Paulatuk baz=243	15.59	38	P	Pn		03 25 57.2	-2.9
A36M	Sachs Harbour A36M	16.63	29	Pn IAmb	Pn IAmb		03 26 12.1 03 26 53.3	-1.2
A36M	comp=Z,26nm,0.8s Sachs Harbour baz=234,SNR=14	16.63	29	P	Pn		03 26 12.2	-1.1
CBB	Campbell River	17.86	109	P	P		03 26 29.4	+0.7
HILA	High Level	17.96	77		Pn		03 26 31.0	+1.2
YKA	Yellowknife Ar comp=Z,9.6nm,0.8s,baz=277,slow=11,SNR=106	18.30	264	P	P		03 26 34.2	+0.7
YKA	comp=Z,0.4nm,0.7s,baz=282,slow=1.5,SNR=4.2			PcP	PcP		03 31 02.9	+0.2
YKA	comp=Z,141nm,20.6s,baz=334,slow=37			LR	LR		03 33 54.9	
BRLDA	Berland Lookou BRLDA	19.54	90	P IAmb	P IAmb		03 26 47.5 03 27 09.5	+0.3
SHEM	comp=Z,29nm,1.0s Shemya Is, Ala comp=Z,74nm,21.8s,baz=299,slow=35	19.88	266	LR	LR		03 33 59.1	
BILL	Bilibino	20.08	313	P	P		03 26 52.5	-0.3
NLWA	Neilton Lookou	20.40	113	P	P		03 26 57.1	+0.6
GNW	Green Mountain	20.77	111	P	P		03 27 00.9	+0.4
D05A	Enumclaw D05A	21.44	111	P IAmb	P IAmb		03 27 08.0 03 27 13.6	+0.4
LON	comp=Z,25nm,0.9s Longmire	21.84	112	P	P		03 27 12.7	+0.7
LTY	Liberty	22.03	109	P	P		03 27 14.0	0.0
EDM	Edmonton	22.07	89	P	P		03 27 14.7	+0.4
F04A	Amboy F04A	22.15	114	P IAmb	P IAmb		03 27 15.8 03 27 38.4	+0.6
G03D	comp=Z,26nm,0.9s McMinnville, O G03D	22.30	116	P IAmb	P IAmb		03 27 17.3 03 27 21.4	+0.4
MXC	comp=Z,27nm,1.0s Moxie City MXC	22.69	110	P IAmb	P IAmb		03 27 21.8 03 27 45.2	+0.7
E07A	comp=Z,13nm,0.8s Sunnyside	22.92	109	P	P		03 27 25.0	+1.6
D08A	Wollman Farm,	23.02	107	P	P		03 27 25.0	+0.6
NEW	Newport	23.09	103	P	P		03 27 26.5	+1.4
NEW	Newport baz=312,SNR=10	23.09	103	P	P		03 27 26.0	+0.8
NEW	Newport comp=Z,89nm,20.2s,baz=302,slow=35	23.09	103	LR	LR		03 35 50.8	
HAWA	Hanford HAWA	23.19	109	P IAmb	P IAmb		03 27 27.9 03 27 49.4	+1.8
H04A	comp=Z,19nm,1.4s Detroit Lake H04A	23.20	116	P IAmb	P IAmb		03 27 27.1 03 27 42.4	+0.9
E08A	comp=Z,27nm,1.0s Dider Farm, El E08A	23.35	109	P IAmb	P IAmb		03 27 28.5 03 27 51.5	+0.9
F07A	comp=Z,11nm,0.8s Phinny Hill Vi F07A	23.36	111	P IAmb	P IAmb		03 27 28.5 03 27 30.9	+0.8
I04A	comp=Z,11nm,0.7s Tendick Farm, I04A	23.78	118	P IAmb	P IAmb		03 27 33.2 03 27 55.2	+1.6
I05D	comp=Z,22nm,1.2s Terrebonne, OR I05D	23.85	115	P IAmb	P IAmb		03 27 33.2 03 27 56.9	+0.8
DBO	comp=Z,31nm,1.4s Dodson Butte DBO	23.93	120	P IAmb	P IAmb		03 27 34.5 03 27 37.1	+1.4
PINE	comp=Z,20nm,0.8s Pine Mountain PINE	24.46	115	P IAmb	P IAmb		03 27 39.6 03 27 42.1	+1.6
HUMO	comp=Z,19nm,1.0s Hull Mountain HUMO	24.47	120	P IAmb	P IAmb		03 27 39.2 03 28 03.7	+1.4
F10A	comp=Z,16nm,1.1s Beach Ranch, E	24.62	107	P	P		03 27 40.4	+1.1
J05D	Fort Rock, OR J05D	24.71	117	P IAmb	P IAmb		03 27 42.3 03 28 05.5	+2.0
I07A	comp=Z,19nm,1.1s Izee I07A	24.91	113	P IAmb	P IAmb		03 27 44.2 03 28 06.9	+2.2
YBH	comp=Z,19nm,1.1s Yreka Blue Hor YBH	25.28	121	P IAmb	P IAmb		03 27 46.0 03 28 09.9	+0.6
YBH	comp=Z,15nm,0.8s Yreka Blue Hor comp=Z,75nm,18.4s,baz=302,slow=32	25.28	121	LR	LR		03 35 55.2	
K05A	Summer Lake K05A	25.30	117	P IAmb	P IAmb		03 27 47.8 03 28 10.1	+2.1
BMO	comp=Z,18nm,1.0s Blue Mountains	25.39	109	P	P		03 27 47.7	+1.4
RES	Resolute Bay	25.66	31	P	P		03 27 48.6	+0.3
RES	Resolute Bay comp=Z,1.7nm,0.6s,baz=258,slow=12,SNR=9.2	25.66	31	P	P		03 27 48.1	-0.3
PLID	comp=Z,1.7nm,0.6s Pearl Lake	25.85	107	P	P		03 27 51.7	+1.0
J08A	Circle Bar Ran J08A	25.94	113	P IAmb	P IAmb		03 27 52.4 03 28 17.2	+1.0
OVMT	comp=Z,14nm,1.0s Ovando	25.97	101	P	P		03 27 52.3	+0.7
LYMT	Lyon Mountain	26.39	100	P	P		03 27 56.7	+1.2
SEY	Seymchan comp=Z,68nm,19.9s,baz=289,slow=39	26.40	302	LR	LR		03 39 31.7	
WVOR	Wild Horse Val	26.58	114	P	P		03 27 57.9	+0.8
EGMT	Eagleton EGMT	26.98	96	P IAmb	P IAmb		03 28 01.6 03 28 05.9	+0.9
EGMT	comp=Z,11nm,0.9s Eagleton baz=310	26.98	96	P	P		03 28 01.2	+0.5
BOZ	Bozeman (W) baz=314	27.66	102	P	P		03 28 08.1	+1.2
HLID	Hailey baz=318	27.74	108	P	P		03 28 08.7	+1.1
PETK	Petropavlovsk- comp=Z,4.1nm,0.7s,baz=70,slow=13,SNR=7.5	28.07	280	P	P		03 28 09.2	-1.1
PETK	comp=Z,39nm,21.5s,baz=82,slow=36			LR	LR		03 38 59.9	
MA2	comp=Z,4.1nm,0.7s Magadan MA2	28.34	296	P IAmb	P IAmb		03 28 12.0 03 28 13.0	-0.6
PAHR	comp=Z,22nm,0.9s Pah Rah Range	28.40	119	P	P		03 28 13.1	-0.4
YHL	Hebgen Lake	28.41	102	P	P		03 28 13.3	-0.5
MPK	Martis Peak MPK	28.45	120	P IAmb	P IAmb		03 28 14.3 03 28 17.3	+0.3
YHH	comp=Z,17nm,1.0s Holmes Hill	28.62	102	P	P		03 28 16.2	+0.6
PNTR	Pine Nut PNTR	28.81	120	P IAmb	P IAmb		03 28 18.0 03 28 39.2	+0.8
LKWY	comp=Z,16nm,0.9s Lake	29.01	102	P	P		03 28 20.2	+1.2
H17A	Grant Village baz=316	29.04	102	P	P		03 28 21.1	+1.8
YERR	Yerington	29.05	120	P	P		03 28 20.2	+0.9
RLMT	Red Lodge baz=314	29.19	100	P	P		03 28 21.5	+1.0
FLWY	Flagg Ranch FLWY	29.20	103	P IAmb	P IAmb		03 28 21.3 03 28 24.3	+0.7
IMW	comp=Z,10.0nm,0.8s Indian Meadow IMW	29.22	103	P IAmb	P IAmb		03 28 22.0 03 28 24.3	+1.1
WAKR	comp=Z,9.0nm,0.9s Walker	29.36	121	P	P		03 28 23.3	+1.3
FXWY	Fox Creek	29.36	104	P	P		03 28 22.5	+0.4
MOOW	Moose Ponds	29.42	103	P	P		03 28 23.3	+0.7
ELK	Elko	29.49	113	P	P		03 28 24.6	+1.4
ELK	Elko comp=Z,80nm,21.7s,baz=317,slow=33	29.49	113	LR	LR		03 38 44.4	
TPAW	Teton Pass	29.51	104	P	P		03 28 23.9	+0.5
KVN	Kaiserville	29.51	118	P	P		03 28 21.8	-1.6
DGMT	Dagmar baz=310	29.54	90	P	P		03 28 24.9	+1.6
LOHW	Long Hollow	29.59	103	P	P		03 28 24.5	+0.4
SNOW	Snow King Moun	29.63	104	P	P		03 28 25.8	+1.3
RYN	Ryan	29.67	119	P	P		03 28 25.6	+0.9
LAO	LASA Array baz=312	29.67	95	P	P		03 28 24.7	+0.2
NVAR	Mina Array Bea	29.93	119	P	P		03 28 28.6	+1.5
NVAR	Mina Array Bea comp=Z,4.6nm,0.9s,baz=307,slow=8.5,SNR=25	29.93	119	P	P		03 28 29.2	+2.1
NVAR	comp=Z,64nm,20.1s,baz=242,slow=32 comp=Z,4.6nm,0.9s			LR	LR		03 38 28.3	
LHV	Little Huntoon LHV	29.98	120	P IAmb	P IAmb		03 28 28.4 03 28 51.5	+1.1
NV11	comp=Z,10nm,1.0s Mina Array Sit	29.99	119	P	P		03 28 27.9	+0.3
MDPB	Devils Postpil MDPB	30.24	121	P IAmb	P IAmb		03 28 30.5 03 28 54.1	+0.6
HWUT	comp=Z,7.3nm,1.0s Hardware Ranch	30.60	107	P	P		03 28 32.9	-0.1
TPH	Tonopah	30.70	118	P	P		03 28 35.5	+1.6
BW06	Boulder Array baz=317	30.73	103	P	P		03 28 35.7	+1.5
PD31	Pinedale Array	30.73	103	P	P		03 28 35.9	+1.7
PDAR	Pinedale Array comp=Z,1.2nm,0.7s,baz=314,slow=4.6,SNR=10	30.73	103	P	P		03 28 35.7	+1.5
PDAR	comp=Z,1.6nm,0.9s,baz=337,slow=4.1,SNR=4.8			pP	pP		03 28 50.5	+2.3
PDAR	comp=Z,48nm,18.7s,baz=335,slow=34 comp=Z,1.2nm,0.7s			LR	LR		03 39 52.0	
DSP	Deep Springs	30.95	120	P	P		03 28 37.0	+1.2
TCUT	Toone Canyon TCUT	31.05	108	P IAmb	P IAmb		03 28 37.3 03 29 01.4	+0.3
DUG	comp=Z,9.7nm,0.9s Dugway, Tooele	31.08	110	P	P		03 28 38.4	+1.3
LCH	baz=321 Last Change Ra	31.21	120	P	P		03 28 39.8	+1.5
R11B	Troy Canyon, C R11B	31.23	116	P IAmb	P IAmb		03 28 38.1 03 29 02.0	-0.4
R11B	comp=Z,5.8nm,0.8s Troy Canyon, C baz=324,SNR=9.8	31.23	116	P	P		03 28 40.1	+1.5
SPR3	Spring Creek 3 SPR3	31.30	114	P IAmb	P IAmb		03 28 39.7 03 29 03.9	+0.4
GMN	comp=Z,8.7nm,0.8s Gold Mountain	31.32	119	P	P		03 28 39.7	+0.3
GRAC	Grapevine Rang GRAC	31.53	120	P IAmb	P IAmb		03 28 41.5 03 29 05.6	+0.5
GRAC	comp=Z,20nm,1.2s Grapevine Rang baz=326,SNR=7.1	31.53	120	P	P		03 28 43.5	+2.5
NLU	North Lily Min	31.62	110	P	P		03 28 42.7	+0.7
CWC	Cottonwood Cre baz=327	31.67	121	P	P		03 28 42.9	+0.5
SGV	South Grapevin	31.69	119	P	P		03 28 46.0	+3.4
S11A	Rachel	31.73	117	P	P		03 28 42.3	-0.6
VES	Vestal, Richgr baz=328	31.74	123	P	P		03 28 44.4	+1.6
BSUT	Blindstream Ca	31.81	108	P	P		03 28 43.8	-0.1
PSUT	Pine Spring PSUT	31.89	114	P IAmb	P IAmb		03 28 44.5 03 29 08.2	+0.1
WCT	comp=Z,8.2nm,0.9s Wildcat Mounta WCT	32.03	119	P IAmb	P IAmb		03 28 46.2 03 29 10.1	+0.8
ISA	comp=Z,12nm,1.2s Isabella, Lake ISA	32.16	122	P IAmb	P IAmb		03 28 47.2 03 28 49.5	+0.7
ISA	comp=Z,5.4nm,0.7s Isabella, Lake baz=328	32.16	122	P	P		03 28 48.1	+1.5
FURC	Furnace Creek, baz=326	32.19	119	P	P		03 28 48.2	+1.5
PKM	Mcpherson Peak baz=329	32.24	125	P	P		03 28 49.9	+2.5
MPMC	Manual Prospec baz=327,SNR=8.5	32.25	121	P	P		03 28 50.2	+2.6
NSP	Numbskull Pass	32.27	118	P	P		03 28 50.4	+2.8
ARVC	Arvin baz=328	32.45	123	P	P		03 28 51.5	+2.4
GWY	Greenwater Val GWY	32.51	119	P IAmb	P IAmb		03 28 50.5 03 29 13.7	+0.8
RSSD	comp=Z,14nm,1.2s Black Hills RSSD	32.55	96	P IAmb	P IAmb		03 28 51.0 03 28 52.2	+0.8
RSSD	comp=Z,7.9nm,0.7s Black Hills baz=315	32.55	96	P	P		03 28 51.5	+1.4
E28A	Huff	32.58	90	P	P		03 28 50.3	+0.1
QSM	Queen of Sheba	32.61	120	P	P		03 28 52.0	+1.5
LRMC	Laurel Mtn Rad baz=328	32.65	121	P	P		03 28 53.4	+2.4
ULM	Lac du Bonnet comp=Z,2.6nm,0.7s,baz=296,slow=11,SNR=4.6	32.69	81	P	P		03 28 51.8	+0.8
MSU	comp=Z,2.6nm,0.7s Marysvale	32.70	112	P	P		03 28 52.2	+0.7
RWWY	Rawlins RWWY	32.70	102	P IAmb	P IAmb		03 28 52.1 03 28 53.8	+0.6
Q16A	comp=Z,14nm,1.2s Castle Valley Q16A	32.87	110	P IAmb	P IAmb		03 28 54.0 03 29 16.9	+1.1
SHPR	comp=Z,10nm,1.0s Sheep Range	32.93	117	P	P		03 28 53.5	+0.1
EDW2	Edwards Air Fo baz=328	33.02	122	P	P		03 28 55.9	+1.7
SRU	San Rafael Swe SRU	33.03	109	P IAmb	P IAmb		03 28 55.3 03 29 18.1	+1.0
GSC	comp=Z,9.7nm,0.7s Goldstone, Bar GSC	33.19	121	P IAmb	P IAmb		03 28 56.4 03 29 19.7	+0.8
GSC	comp=Z,13nm,1.1s Goldstone, Bar baz=327,SNR=7.8	33.19	121	P	P		03 28 57.9	+2.3
O20A	White River Ci O20A	33.36	105	P IAmb	P IAmb		03 28 57.7 03 29 21.8	+0.6
O20A	comp=Z,11nm,0.8s White River Ci baz=320	33.36	105	P	P		03 28 58.5	+1.3
LCMT	Little Creek M	33.40	114	P	P		03 28 57.9	+0.4
TUQ	Turquoise Moun baz=327,SNR=6.2	33.47	119	P	P		03 29 00.0	+1.9
V12A	Nelson V12A	33.71	118	P IAmb	P IAmb		03 29 02.5 03 29 03.9	+2.3
BFSC	comp=Z,10nm,0.9s Mount Baldy Ra baz=329,SNR=5.8	33.72	123	P	P		03 29 02.0	+1.7
HEC	Hector,Ludlow baz=328	33.80	120	P	P		03 29 02.5	+1

baz=328,SNR=8.5
W13A **Hualapai Mount** **34.67 117** P **P** **03 29 08.9 +0.3**
W13A IAmb IAmb 03 29 11.9
comp=Z,4.6nm,0.8s
PFO **Pinyon Flats O** **34.77 122** P **P** **03 29 10.2 +0.8**
PFO IAmb IAmb 03 29 32.9
comp=Z,7.2nm,1.1s
PFO **Pinyon Flats O** **34.77 122** P **P** **03 29 11.0 +1.6**
baz=328
PFO **Pinyon Flats O** **34.77 122** LR LR 03 41 13.1
comp=Z,92nm,18.1s,baz=342,slow=32
PMD **Palm Desert** **34.77 122** P **P** **03 29 10.6 +1.3**
PMD IAmb IAmb 03 29 11.8
comp=Z,6.6nm,0.9s
TPFO **Pinon Flats** **34.78 122** P **P** **03 29 11.1 +1.6**
baz=328
IRM **Iron Mountain** **34.89 120** P **P** **03 29 12.7 +2.4**
baz=328,SNR=10.0
109C **Camp Elliot, M** **35.11 123** P **P** **03 29 13.8 +1.7**
baz=329
BC3 **Big Chuckawall** **35.17 120** P **P** **03 29 14.6 +1.8**
baz=328
PDMCI **Parker Dam,Lak** **35.22 118** P **P** **03 29 15.3 +2.3**
baz=327,SNR=6.5
NEEM **North Greenlan** **35.31 22** *i* P **P** **03 29 14.2 +0.4**
NEEM IAmb IAmb 03 29 15.8
comp=Z,15nm,0.7s
MONP2 **Monument Peak** **35.40 122** P **P** **03 29 17.2 +2.3**
baz=329,SNR=9.7
BAR **Barrett** **35.47 123** P **P** **03 29 16.0 +0.7**
BAR IAmb IAmb 03 29 39.3
comp=Z,8.8nm,1.1s
WUAZ **Wupatki** **35.49 114** P **P** **03 29 16.4 +0.8**
WUAZ IAmb IAmb 03 29 19.1
comp=Z,11nm,0.9s
WUAZ **Wupatki** **35.49 114** P **P** **03 29 17.6 +2.0**
baz=325,SNR=10.0
MVCO **Mesa Verde** **35.51 109** P **P** **03 29 17.5 +1.7**
baz=323
IKP **In-Ko-Pah, Jac** **35.74 122** P **P** **03 29 19.8 +2.2**
baz=329
CBX **Cerro Bola** **35.79 123** P **P** **03 29 18.0 -0.2**
Q24A **Divide** **35.79 103** P **P** **03 29 19.5 +1.2**
baz=320
YUH **Yuha Desert** **35.83 122** P **P** **03 29 18.7 +0.4**
YUH IAmb IAmb 03 29 21.0
comp=Z,5.7nm,0.9s
K30B **Basset** **35.84 94** P **P** **03 29 19.9 +1.5**
GLA **Glamis** **35.96 120** P **P** **03 29 21.1 +1.5**
baz=328
Y14A **Wickenburg** **36.04 117** P **P** **03 29 22.2 +2.0**
Y14A IAmb IAmb 03 29 23.5
comp=Z,7.7nm,0.8s
YAK **Yakutsk** **36.31 309** LR LR 03 45 33.4
comp=Z,58nm,19.6s,baz=50,slow=38
X16A **Lo Mia Camp, P** **36.36 115** P **P** **03 29 23.8 +0.7**
X16A IAmb IAmb 03 29 26.8
comp=Z,6.1nm,1.3s
ESJX **Sierra Juarez** **36.36 122** P **P** **03 29 23.0 -0.1**
ESJX IAmb IAmb 03 29 47.2
comp=Z,11nm,1.4s
EYMN **Ely** **36.37 81** P **P** **03 29 23.1 +0.3**
EYMN **Ely** **36.37 81** P **P** **03 29 23.3 +0.5**
baz=311,SNR=5.0
SDCO **Great Sand Dun** **36.56 105** P **P** **03 29 25.9 +1.1**
SDCO IAmb IAmb 03 29 48.5
comp=Z,7.4nm,0.8s
SDCO **Great Sand Dun** **36.56 105** P **P** **03 29 26.4 +1.6**
baz=321,SNR=6.3
W18A **Petrified Fore** **36.59 112** P **P** **03 29 27.0 +2.0**
baz=325
113A **Mohawk Valley,** **36.68 119** P **P** **03 29 26.3 +0.8**
113A IAmb IAmb 03 29 28.4
comp=Z,4.9nm,0.9s
X18A **Snowflake** **36.97 113** P **P** **03 29 28.6 +0.3**
X18A IAmb IAmb 03 29 31.7
comp=Z,7.4nm,0.9s
KSCO **Kaye Shedlock'** **37.02 101** P **P** **03 29 30.3 +1.7**
baz=320
FRB **Frobisher Bay** **37.38 47** LR LR 03 44 29.5
comp=Z,68nm,18.5s,baz=207,slow=35
BGNE **Belgrade** **37.51 94** P **P** **03 29 33.3 +0.8**
BGNE **Belgrade** **37.51 94** P **P** **03 29 33.6 +1.1**
baz=317,SNR=6.2
SPMN **Marine on St.** **37.54 85** P **P** **03 29 33.8 +1.0**
SPMN IAmb IAmb 03 29 34.6
comp=Z,13nm,0.9s
SPMN **Marine on St.** **37.54 85** P **P** **03 29 33.1 +0.4**
baz=314
T25A **Trinidad** **37.57 105** P **P** **03 29 35.2 +1.8**
baz=322
214A **Organ Pipe Nat** **37.79 119** P **P** **03 29 36.3 +1.3**
214A IAmb IAmb 03 29 38.3
comp=Z,9.2nm,0.8s
214A **Organ Pipe Nat** **37.79 119** P **P** **03 29 37.5 +2.5**
baz=328,SNR=5.9
I37A **Lemond, Waseca** **38.08 87** P **P** **03 29 37.8 +0.5**
ANMO **Albuquerque** **38.31 109** pP **03 29 56.1 +2.2**
ANMO **Albuquerque** **38.31 109** P **P** **03 29 41.2 +1.6**
ANMO IAmb IAmb 03 30 02.6
comp=Z,8.4nm,1.4s
ANMO **Albuquerque** **38.31 109** P **P** **03 29 41.2 +1.6**
baz=324
TUC **Tucson** **38.42 116** P **P** **03 29 41.2 +0.8**
TUC IAmb IAmb 03 29 43.7
comp=Z,4.9nm,0.8s
TUC **Tucson** **38.42 116** P **P** **03 29 42.5 +2.1**
baz=327
CBKS **Cedar Bluff** **38.63 98** P **P** **03 29 43.5 +1.5**
baz=320
G40A **Rib Lake** **38.84 83** P **P** **03 29 44.3 +0.6**
G40A IAmb IAmb 03 29 45.0
comp=Z,7.6nm,0.7s
121A **Cookes Peak, D** **39.64 113** P **P** **03 29 50.8 +0.1**
121A IAmb IAmb 03 30 14.9
comp=Z,8.3nm,0.8s
121A **Cookes Peak, D** **39.64 113** P **P** **03 29 52.6 +1.9**
baz=326,SNR=8.0
E43A **Lone Tree Farm** **39.70 79** P **P** **03 29 51.6 +0.7**
KSU1 **Kansas State U** **40.01 95** P **P** **03 29 54.0 +0.5**
KSU1 IAmb IAmb 03 29 54.6
comp=Z,12nm,0.8s
KSU1 **Kansas State U** **40.01 95** P **P** **03 29 54.0 +0.5**
baz=319
JFWS **Jewell Farm** **40.48 86** P **P** **03 29 57.5 +0.2**
JFWS **Jewell Farm** **40.48 86** P **P** **03 29 57.5 +0.2**
baz=316
L40A **Anamosa** **40.59 87** P **P** **03 29 58.4 +0.2**
AMTX **Amarillo** **40.71 104** P **P** **03 30 01.0 +1.6**
baz=323
SUMG **Summit** **40.85 25** *i* P **P** **03 30 01.1 +0.6**
SUMG IAmb IAmb 03 30 01.8
comp=Z,3.4nm,0.7s
MSTX **Muleshoe** **40.90 106** P **P** **03 30 02.6 +1.6**
baz=324
P38A **Dawn** **41.20 92** P **P** **03 30 03.7 +0.4**
P38A IAmb IAmb 03 30 04.3
comp=Z,8.9nm,0.6s
MNTX **Cornudas Mount** **41.47 111** P **P** **03 30 06.4 +0.8**
baz=326,SNR=6.5
GLMI **Grayling** **41.98 79** P **P** **03 30 09.9 +0.3**
baz=315
P40A **Paris** **42.03 91** P **P** **03 30 10.4 +0.3**
P40A IAmb IAmb 03 30 10.9
comp=Z,6.9nm,0.8s
L44A **Lake County Fo** **42.20 84** P **P** **03 30 11.8 +0.4**
baz=317
POST **Post** **42.25 105** P **P** **03 30 12.9 +0.9**
POST IAmb IAmb 03 30 34.8
comp=Z,10nm,0.9s
WMOK **Wichita Mounta** **42.27 101** P **P** **03 30 13.2 +1.0**
WMOK IAmb IAmb 03 30 35.0
comp=Z,7.9nm,0.9s
WMOK **Wichita Mounta** **42.27 101** P **P** **03 30 13.4 +1.2**
baz=322
VHRN **Van Horn** **42.41 111** P **P** **03 30 15.4 +2.0**
VHRN IAmb IAmb 03 30 37.7
comp=Z,8.7nm,0.8s
SN07 **Snyder 07** **42.53 105** P **P** **03 30 14.9 +0.6**
SN07 IAmb IAmb 03 30 37.0
comp=Z,5.2nm,0.7s
SPITS **Spitsbergen Ar** **42.61 4** P **P** **03 30 13.2 -1.1**
comp=Z,1.7nm,0.3s,baz=16,slow=6.2,SNR=71
comp=Z,1.7nm,0.3s
HDIL **Hopedale** **42.68 87** P **P** **03 30 15.4 +0.1**
HDIL **Hopedale** **42.68 87** P **P** **03 30 15.2 -0.1**
baz=318
R40A **Maddies Statio** **42.85 92** P **P** **03 30 16.6 -0.1**
R40A IAmb IAmb 03 30 17.2
comp=Z,9.7nm,0.8s
TUL3 **Leonard** **42.87 97** P **P** **03 30 17.2 +0.2**
baz=321
DBG **Daneborg** **42.90 17** *e*P **P** **03 30 15.6 -1.1**
U38A **Gravette** **43.18 96** P **P** **03 30 19.6 +0.2**
SGCY **Sterling City** **43.37 106** P **P** **03 30 21.8 +0.8**
SGCY IAmb IAmb 03 30 43.6
comp=Z,5.6nm,0.8s
ABTX **Abilene, Hawle** **43.53 104** P **P** **03 30 22.8 +0.5**
baz=324
HHAR **Hobbs** **43.53 95** P **P** **03 30 22.1 -0.2**
SCHQ **Schefferville** **43.54 57** P **P** **03 30 21.8 -0.3**
comp=Z,1.5nm,0.6s,baz=303,slow=9.8,SNR=2.3
SCHQ pP **pP** **03 30 37.0 +0.4**
comp=Z,1.5nm,0.6s,baz=6.4,slow=11,SNR=2.1
comp=Z,1.5nm,0.6s
CCM **Cathedral Cave** **43.55 91** P **P** **03 30 21.9 -0.5**
baz=320
SFIN **Lafayette** **43.94 86** P **P** **03 30 25.5 +0.1**
baz=318
OZNA **Ozona** **44.18 107** P **P** **03 30 28.1 +0.5**
OZNA IAmb IAmb 03 30 50.4
comp=Z,7.5nm,0.9s
TX31 **Lajitas Ar. Si** **44.25 111** P **P** **03 30 29.4 +1.2**
TXAR **Lajitas Array** **44.25 111** P **P** **03 30 30.2 +2.0**
TXAR **Lajitas Array** **44.25 111** P **P** **03 30 29.9 +1.7**
comp=Z,2.9nm,0.9s,baz=328,slow=5.9,SNR=22
TXAR pP **pP** **03 30 43.9 +1.1**
comp=Z,1.0nm,0.8s,baz=302,slow=4.5,SNR=3.5
TXAR LR LR 03 48 03.7
comp=Z,30nm,19.5s,baz=318,slow=35
comp=Z,2.9nm,0.9s
N47A **Urbana** **44.28 84** P **P** **03 30 28.2 0.0**
HEH **HeiHe** **44.61 296** *e*P **P** **03 30 28.1 -2.6**
HEH pmax pmax
comp=Z,7.0nm,0.8s
HEH pmax pmax
comp=Z,150nm,4.0s
OLIL **Olney** **44.65 88** P **P** **03 30 31.6 +0.4**
SADO **Sadowa** **44.76 75** LR LR 03 50 56.9
comp=Z,45nm,18.4s,baz=49,slow=38
PBMO **Poplar Bluff** **44.95 92** P **P** **03 30 33.6 +0.1**
PBMO IAmb IAmb 03 30 34.5
comp=Z,10nm,0.7s
O48B **Farmland** **45.02 84** P **P** **03 30 33.2 -0.9**
baz=318
MIAR **Mount Ida** **45.07 97** P **P** **03 30 34.8 +0.3**
MIAR IAmb IAmb 03 30 35.9
comp=Z,5.2nm,0.8s
MIAR **Mount Ida** **45.07 97** P **P** **03 30 34.8 +0.3**
baz=322
WHTX **Lake Whitney,** **45.13 102** P **P** **03 30 35.8 +0.7**
baz=324
JCT **Junction City** **45.19 106** P **P** **03 30 36.5 +0.9**
JCT **Junction City** **45.19 106** P **P** **03 30 36.7 +1.1**
baz=325,SNR=9.3
TREL **Terrell** **45.23 100** P **P** **03 30 36.7 +0.9**
P48A **Milroy** **45.48 85** P **P** **03 30 37.3 -0.5**
DRIO **Del Rio** **45.66 108** P **P** **03 30 39.9 +0.6**
DRIO IAmb IAmb 03 31 01.6
comp=Z,5.6nm,0.6s
P49A **Miami Univ. Ec** **45.79 84** P **P** **03 30 40.0 -0.1**
baz=319
WCI **Wyandotte Cave** **45.96 87** P **P** **03 30 41.8 +0.2**
baz=319
ACSO **Alum Creek Sta** **46.15 82** P **P** **03 30 43.3 +0.3**
baz=318
ERPA **Erie** **46.27 78** P **P** **03 30 44.5 +0.6**
baz=318
M53A **WI Miller and** **46.42 80** P **P** **03 30 45.8 +0.6**
M53A **WI Miller and** **46.42 80** P **P** **03 30 45.7 +0.6**
baz=318,SNR=6.3
USRK **Ussuriysk Ar.** **46.73 287** P **P** **03 30 45.0 -2.5**
comp=Z,0.6nm,0.4s,baz=55,slow=8.3,SNR=4.7
USRK LR LR 03 52 23.8
comp=Z,34nm,18.4s,baz=47,slow=39
comp=Z,0.6nm,0.4s
WVT **Waverly** **46.78 90** P **P** **03 30 48.4 +0.4**
baz=321
Q51A **Peebles** **46.87 84** P **P** **03 30 49.0 +0.4**
R50A **Paris** **46.93 85** P **P** **03 30 49.6 +0.4**
P52A **Corning** **47.03 82** P **P** **03 30 49.5 -0.4**
baz=319
O53A **New Philadelph** **47.03 81** P **P** **03 30 50.0 +0.1**
baz=319
833A **Chaparral WMA,** **47.16 107** P **P** **03 30 52.3 +1.3**
baz=326
OXF **Oxford** **47.23 93** P **P** **03 30 52.0 +0.5**
OXF **Oxford** **47.23 93** P **P** **03 30 51.8 +0.3**
baz=322
M55A **Ridgway** **47.36 78** P **P** **03 30 53.3 +0.8**
Q52A **Bidwell** **47.47 83** P **P** **03 30 53.0 -0.3**
L56A **Greenwood** **47.47 76** P **P** **03 30 54.4 +1.0**
O54A **Avella** **47.51 80** P **P** **03 30 54.0 +0.4**
U49A **Red Boiling Sp** **47.54 88** P **P** **03 30 54.1 +0.2**
PLAL **Pickwick Lake** **47.54 91** P **P** **03 30 54.7 +0.7**
CLTN **Cedars of Leba** **47.58 89** P **P** **03 30 55.2 +1.0**
V48A **Smith Brothers** **47.60 90** P **P** **03 30 55.1 +0.7**
T50A **Nancy** **47.63 87** P **P** **03 30 55.5 +0.9**
S51A **Beattyville** **47.79 85** P **P** **03 30 56.4 +0.6**
MCWV **Mont Chateau** **48.17 80** P **P** **03 30 59.1 +0.3**
baz=319
BINY **Binghamton** **48.21 75** P **P** **03 30 59.3 +0.3**
baz=318
SSPA **Standing Stone** **48.42 78** P **P** **03 31 01.3 +0.6**
baz=319
X48A **Hartselle** **48.48 91** P **P** **03 31 01.6 +0.4**
TZTN **Tazewell** **48.66 86** P **P** **03 31 03.0 +0.4**
baz=321
LBNH **Lisbon** **48.69 70** P **P** **03 31 03.1 +0.5**
baz=318
146A **Union** **48.88 94** P **P** **03 31 05.7 +1.4**
Z47A **Carrollton** **48.94 93** P **P** **03 31 05.5 +0.7**
FPAL **Fort Paine** **49.15 90** P **P** **03 31 06.9 +0.5**
TKL **Tuckaleechee C** **49.23 87** LR LR 03 51 11.8
comp=Z,49nm,18.2s,baz=344,slow=35
Y49A **Blount Mountai** **49.27 91** P **P** **03 31 07.8 +0.5**
MJAR **Matsushiro Arr** **49.34 275** P **P** **03 31 05.6 -2.2**
comp=Z,1.1nm,0.6s,baz=23,slow=6.6,SNR=2.9
comp=Z,1.1nm,0.6s
LRAL **Lakeview Retre** **49.62 92** P **P** **03 31 10.3 +0.4**
baz=322
L61B **Northampton** **49.65 73** P **P** **03 31 10.4 +0.4**
baz=319
V53A **Saluda** **49.71 86** P **P** **03 31 11.4 +0.8**
BLA **Blacksburg** **49.74 83** P **P** **03 31 11.5 +0.7**
baz=320
PAL **Palisades** **50.13 75** P **P** **03 31 14.3 +0.7**
baz=319
CBN **Corbin Frederi** **50.53 80** P **P** **03 31 17.2 +0.5**
baz=320
KMSC **Kings Mountain** **50.88 85** P **P** **03 31 19.9 +0.5**
baz=321
GOGA **Godfrey** **51.14 89** P **P** **03 31 21.9 +0.5**
baz=322
ARCES **ARCESS Array B** **51.47 1** P **P** **03 31 22.3 -1.1**
comp=Z,6.7nm,0.8s,baz=11,slow=6.1,SNR=25
comp=Z,6.7nm,0.8s
KSRS **Korea Array** **53.84 284** P **P** **03 31 40.4 -0.8**
comp=Z,1.4nm,0.6s,baz=51,slow=5.5,SNR=4.3
KSRS LR LR 03 53 51.9
comp=Z,12nm,21.9s,baz=65,slow=35
comp=Z,1.4nm,0.6s
SONM **Songino Array** **55.63 307** P **P** **03 31 53.7 -0.6**
comp=Z,3.0nm,0.8s,baz=45,slow=6.8,SNR=20
SONM pP **pP** **03 32 07.7 -1.5**
comp=Z,3.7nm,0.7s,baz=44,slow=6.6,SNR=13
SONM LR LR 03 56 50.1
comp=Z,60nm,20.3s,baz=36,slow=37
comp=Z,3.0nm,0.8s
JOF **Joensuu** **58.11 358** *e*P **P** **03 32 10.9 -0.5**
ZALV **Zalesovo Beam** **58.26 324** P **P** **03 32 11.9 -0.7**
ZALV **Zalesovo Beam** **58.26 324** P **P** **03 32 11.5 -1.1**
comp=Z,2.3nm,0.6s,baz=30,slow=7.1,SNR=12
ZALV pP **pP** **03 32 27.3 -0.3**
comp=Z,5.8nm,0.5s,baz=34,slow=7.2,SNR=14
comp=Z,2.3nm,0.6s
KEF **Keuruu** **58.86 2** *e*P **P** **03 32 16.2 -0.5**
HHC **Hu-ho-hao-te** **58.97 298** *e*P **P** **03 32 22.3 +4.4**
HHC sP sP 03 32 39.4 +0.2
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,92nm,4.0s
NB2 **NORSAR Subarra** **59.31 9** P **P** **03 32 19.7 -0.2**
comp=Z,0.7nm,0.7s,baz=352,slow=7.4
NOA **NORSAR Array B** **59.31 9** P **P** **03 32 19.2 -0.6**
comp=Z,1.9nm,0.9s,baz=351,slow=7.0,SNR=5.5
comp=Z,1.9nm,0.9s
TEIG **Tepich** **59.45 102** LR LR 04 00 20.0
comp=Z,199nm,18.1s,slow=38
FINES **FINESS Array B** **59.60 1** P **P** **03 32 21.4 -0.4**
comp=Z,6.8nm,0.7s,baz=7.8,slow=6.8,SNR=24
comp=Z,6.8nm,0.7s
RAF **Rauma** **59.94 4** *e*P **P** **03 32 23.5 -0.6**
HFS **Hagfors** **60.41 8** P **P** **03 32 26.6 -0.7**
comp=Z,1.1nm,0.4s,baz=20,slow=4.6,SNR=11
comp=Z,1.1nm,0.4s
AAL **Aland** **60.72 5** *e*P **P** **03 32 29.2 -0.2**
ARU **Arti** **62.10 341** LR LR 04 02 08.7
comp=Z,17nm,18.9s,baz=17,slow=38
VIKU **Vikbolandet** **62.23 7** *e*P **P** **03 32 39.8 +0.2**
BVAR **Borovoye Array** **62.95 333** P **P** **03 32 43.3 -1.2**
comp=Z,2.9nm,0.8s,baz=28,slow=7.6,SNR=12
BVAR LR LR 04 05 18.4
comp=Z,18nm,18.7s,baz=42,slow=41
comp=Z,2.9nm,0.8s
KURBB **Kurchatov Arra** **63.02 327** P **P** **03 32 43.7 -1.3**
comp=Z,0.9nm,0.6s,baz=28,slow=6.7,SNR=7.6
KURBB pP **pP** **03 32 59.5 -0.7**
comp=Z,1.6nm,0.5s,baz=29,slow=6.5,SNR=7.2
comp=Z,0.9nm,0.6s
EKA **Eskdalemuir Ar** **63.05 19** P **P** **03 32 44.7 -0.4**
comp=Z,0.8nm,0.5s,baz=331,slow=5.3,SNR=10
comp=Z,0.8nm,0.5s
DEL **Delary** **64.06 9** *e*P **P** **03 32 51.9 +0.1**
MKAR **Makanchi Array** **65.32 322** P **P** **03 32 58.8 -1.4**
comp=Z,0.6nm,0.4s,baz=37,slow=7.0,SNR=11
MKAR LR LR 04 04 29.9
comp=Z,22nm,18.1s,baz=56,slow=39
comp=Z,0.6nm,0.4s
LZH **Lanzhou** **66.33 301** *e*P P 03 32 55.5 -11
LZH sP pP 03 33 10.8 -11
LZH pmax pmax
comp=Z,18nm,0.9s
BELG **Belogornoye** **67.56 347** LR LR 04 06 39.6
comp=Z,27nm,18.0s,baz=158,slow=39
JTS **Las Juntas de** **69.55 105** LR LR 04 06 43.7
comp=Z,36nm,18.6s,baz=105,slow=38
AKASG **Malin Array Be** **70.38 359** P **P** **03 33 31.1 -0.8**
comp=Z,1.2nm,0.5s,baz=1.8,slow=5.8,SNR=9.0
comp=Z,1.2nm,0.5s
AAK **Ala-Archa** **71.44 326** LR LR 04 08 30.0
comp=Z,33nm,19.1s,baz=354,slow=39
VYHS **Vyhne** **72.33 6** *e*P **P** **03 33 45.2 +1.5**
CONA **Conrad Observa** **72.70 9** *i* P **P** **03 33 47.2 +1.2**
comp=Z,2.9nm,0.9s
LESA **Schwarzleotal** **72.92 11** *e*P **P** **03 33 48.7 +1.4**
comp=Z,0.4nm,0.3s
SQTA **Sankt Quirin** **72.97 12** *e*P **P** **03 33 48.6 +0.9**
comp=Z,11nm,1.9s
WTTA **Wattenberg** **72.98 12** *e*P **P** **03 33 48.4 +0.7**
comp=Z,7.0nm,1.3s
FETA **Feichten** **73.12 12** *e*P **P** **03 33 50.1 +1.5**
comp=Z,9.4nm,1.9s
KBA **Koelnbreinsper** **73.33 10** *i* P **P** **03 33 50.8 +0.9**
comp=Z,3.8nm,0.7s
KSH **Kashi** **73.86 323** P **P** **03 33 56.4 +3.4**
KSH pmax pmax
comp=Z,4.0nm,0.8s
SOKA **Soboth** **73.87 9** *e*P **P** **03 33 53.8 +0.9**
OBKA **Obir** **74.00 10** *i* P **P** **03 33 54.2 +0.5**
comp=Z,7.8nm,0.7s
PZH **PanZhiHua** **75.40 297** P **P** **03 34 04.5 +2.4**
PZH pmax pmax
comp=Z,10.0nm,0.4s
PZH pmax pmax
comp=Z,90nm,5.9s
KBZ **Khabaz** **76.62 349** P **P** **03 34 08.3 -0.3**
comp=Z,2.9nm,0.9s,baz=16,slow=7.4,SNR=7.0
KBZ LR LR 04 10 16.0
comp=Z,18nm,18.7s,baz=206,slow=38
comp=Z,2.9nm,0.9s
ESDC **Sonseca Array** **77.91 25** P **P** **03 34 15.1 -0.9**
comp=Z,1.0nm,0.8s,baz=338,slow=5.2,SNR=3.3
comp=Z,1.0nm,0.8s
SDV **Santo Domingo** **78.01 93** LR LR 04 11 18.4
comp=Z,22nm,19.1s,baz=312,slow=38
BRTR **Keskin Array B** **81.25 356** P **P** **03 34 33.6 -0.7**
comp=Z,1.1nm,1.0s,baz=352,slow=2.9,SNR=5.2
comp=Z,1.1nm,1.0s
CMAR **Chiang Mai Arr** **83.63 295** P **P** **03 34 45.3 -1.4**
comp=Z,1.5nm,0.3s,baz=12,slow=6.8,SNR=8.1
comp=Z,1.5nm,0.3s
MDP **Montagnes des** **90.42 79** LR LR 04 18 40.7
comp=Z,16nm,18.5s,baz=122,slow=37
CTA **Charters Tower** **93.70 236** LR LR 04 16 48.0
comp=Z,24nm,20.6s,baz=89,slow=35
QSPA **South Pole Qui** **149.07 180** PKPbc **PKPbc** **03 42 04.4 -0.2**
comp=Z,2.7nm,0.7s,baz=68,slow=5.4,SNR=18
BOSA **Boshof** **149.29 5** PKPbc **PKPbc** **03 42 07.0 +0.5**
comp=Z,1.5nm,0.6s,baz=336,slow=3.2,SNR=4.8

IDC ***13*** *03:44:25.0±1.1,5.70S×142.55E,h0km,mb3.6/5, mbtmp3.6/8,ML3.6/2,MS2.7/1,Error ellipse: s-maj=33.8km s-min=21.5km az=80.0*
ISC 13 03:44:30.0±0.8,5.98S±0.09×142.27E±0.10,h35km,n9, σ1.978/11,mb3.7/5,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.92**	**125**	Pn	**Pn**	**03 45 54.6**	**-0.5**
	6.1nm,0.5s,baz=230,slow=21,SNR=1.8						
PMG				Sn	**Sn**	**03 47 02.0**	**+0.2**
	2.9nm,0.3s,baz=162,slow=14,SNR=2.3						
WRA	**Warramunga Ar**	**15.88**	**208**	Pn	**P**	**03 48 13.6**	**-0.7**
	0.2nm,0.3s,baz=28,slow=13,SNR=7.9						
WRA				Sn	**Sn**	**03 51 03.3**	**-2.6**
	0.3nm,0.3s,baz=7.1,slow=23,SNR=5.4						
WRA				Lg	Lg	03 53 00.0	
	0.1nm,0.3s,baz=33,slow=35,SNR=1.8						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**19.34**	**204**	P	**Pn**	**03 48 56.7**	**+2.9**
	0.2nm,0.3s,baz=32,slow=10,SNR=17						
ASAR				S	**S**	**03 52 28.5**	**-1.1**
	0.5nm,0.5s,baz=20,slow=28,SNR=4.1						
	1.4nm,0.5s						
DAV	**Davao City (W)**	**21.11**	**308**	LR	LR	03 56 49.7	
	comp=Z,21nm,19.1s,baz=27,slow=35						
SONM	**Songino Array**	**62.19**	**333**	P	**P**	**03 54 48.0**	**-0.1**
	0.1nm,0.3s,baz=150,slow=6.0,SNR=1.7						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**74.53**	**322**	P	**P**	**03 56 05.6**	**+0.4**
	0.2nm,0.6s,baz=103,slow=6.5,SNR=2.1						
	0.2nm,0.6s						
QSPA	**South Pole Qui**	**83.98**	**180**	P	**P**	**03 56 58.6**	**+2.0**
	1.0nm,0.7s,baz=350,slow=6.1,SNR=6.0						
	1.0nm,0.7s						
BVAR	**Borovoye Array**	**84.01**	**325**	P	**P**	**03 56 56.9**	**+0.2**
	0.7nm,0.8s,baz=110,slow=6.3,SNR=1.9						
	0.7nm,0.8s						
ILAR	**Eielson Array**	**87.34**	**24**	P	**P**	**03 57 11.0**	**-2.1**
	0.5nm,1.0s,baz=234,slow=4.3,SNR=2.2						
	0.5nm,1.0s						

JMA ***13*** *03:51:11.0±0.1,34.0N±0.9×137.1E±0.9,h361km, MV3.1/24,SE OFF KII PENINSULA*
IDC ***13*** *03:51:11.1±1.3,33.91N×137.43E,h345km±12km,mb2.7/5, mbtmp3.4/6,Error ellipse: s-maj=35.1km s-min=19.3km az=91.0*
ISC 13 03:51:11.9±1.0,34.0N±0.1×137.18E±0.10,h350km±8km, n20,σ0.888/21,mb3.0/5,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTO2	**TONANKAI O.B.S**	**0.30**	**206**	*e*P	**Pn**	**03 51 56.4**	**+0.7**
TTO4	**TONANKAI O.B.S**	**0.30**	**89**	*e*P	**Pn**	**03 51 56.4**	**+0.9**
TTO1	**TONANKAI O.B.S**	**0.50**	**221**	*e*P	**Pn**	**03 51 56.5**	**+0.6**
JIE	**Ise**	**0.55**	**315**	P	**Pn**	**03 51 56.6**	**+0.3**
JTNC	**Tanabenakahech**	**1.32**	**262**	*e*P	**Pn**	**03 51 59.0**	**-0.2**
JWY	**Kouya**	**1.33**	**280**	P	**Pn**	**03 51 59.4**	**+0.1**
JYTA	**Yamagatataniai**	**1.63**	**347**	*e*P	**Pn**	**03 52 01.0**	**+0.2**
JWT	**Wachi**	**1.94**	**312**	*e*P	**Pn**	**03 52 02.8**	**0.0**
JOD2	**Odawara 2**	**2.01**	**51**	*e*P	**Pn**	**03 52 03.6**	**+0.3**
JAI	**Aioi**	**2.28**	**265**	*e*P	**Pn**	**03 52 05.0**	**-0.3**
JRY	**Ryogami san**	**2.46**	**35**	*e*P	**Pn**	**03 52 07.2**	**+0.5**
MJAR	**Matsushiro Arr**	**2.67**	**18**	P	**Pn**	**03 52 08.0**	**-0.3**
	20nm,0.5s,baz=188,slow=8.2,SNR=54						

MJAR				S		**S**	**03 52 52.6**	**-1.2**
	1.6nm,0.6s,baz=198,slow=16,SNR=1.2							
MAT	**Matsushiro**	**2.67**	**18**	*e*P		**Pn**	**03 52 08.2**	**-0.2**
JMN	**Monobe**	**2.76**	**265**	*e*P		**Pn**	**03 52 09.1**	**-0.2**
JHS	**Saijyo**	**3.50**	**288**	*e*P		**Pn**	**03 52 16.1**	**+0.2**
SONM	**Songino Array**	**26.85**	**310**	P		**P**	**03 56 24.4**	**+2.8**
	0.3nm,0.6s,baz=118,slow=12,SNR=1.9 0.3nm,0.6s							
WRA	**Warramunga Arr**	**53.71**	**183**	P		**P**	**03 59 57.9**	**-1.1**
	0.5nm,0.3s,baz=358,slow=7.6,SNR=10.0 0.5nm,0.3s							
ILAR	**Eielson Array**	**53.88**	**31**	P		**P**	**03 59 59.4**	**-0.3**
	0.1nm,0.6s,baz=274,slow=4.9,SNR=1.6 0.1nm,0.6s							
YKA	**Yellowknife Ar**	**68.13**	**28**	P		**P**	**04 01 34.8**	**+0.2**
	0.2nm,0.7s,baz=293,slow=6.4,SNR=3.3 0.2nm,0.7s							
FINES	**FINES Array B**	**69.85**	**331**	P		**P**	**04 01 44.8**	**-0.3**
	0.7nm,0.8s,baz=64,slow=3.2,SNR=5.5 0.7nm,0.8s							

MOS ***13*** *04:33:37.5±0.9,2.˙02N×.99˙03E,h133km,mb5.1/56,Error ellipse: s-maj=8.4km s-min=3.9km az=111.5*

DJA ***13*** *04:33:38.1±0.1,2˙1N±1˙×9˙9E±˚,h120km±2km,M5.0/55, mb5.1/55,mB5.4/18,MLv5.4/19,Mw(mB)4.8/18, MwMwp5.0/1,Mwp5.3/1*

IDC ***13*** *04:33:38.1±0.4,2˙03N×.98˙99E,h126km±2km,mb4.6/39, mbtmp4.9/41,MS3.4/16,Error ellipse: s-maj=10.4km s-min=7.0km az=59.0*

GCMT ***13*** *04:33:38.9±0.4,2˙02N±0˙02×.98˙99E±0˙02,h126km±3km, MW4.9/103,Moment Tensor Solution. s28,c29; s103,c148; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.49±.10; Mθθ-2.94±.10; Mϕϕ2.45±.12; Mrθ0.86±.07; Mθϕ-0.70±.11; Mϕr-1.26±.08; Best double couple: M☉3.20200×10¹⁶ NP1:ϕs125.00000°,δ80.00000°, λ152.00000°. NP2:ϕs221.00000°,δ62.00000°,λ12.00000°. Principal axes: T 3.2320, Plg27.0000°, Azm80.0000°; N -0.0590, Plg60.0000°, Azm287.0000°; P -3.1720, Plg12.0000°, Azm176.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***13*** *04:33:38.9±1.1,2˙00N±0˙06×.99˙00E±0˙06,h124km±5km, mb5.1/102 Error ellipse: s-maj=9.2km s-min=8.4km az=176.0*

BGR ***13*** *04:33:42.4,2˙44N×.98˙37E,h121km±2km,mb4.8*

ISC 13 04:33:38.1±0.3,1˙99N±0˙03×98˙94E±0˙03,h128km±1km**, h128km:pP-P,n600,σ1s44/678,mb5.0**/215**,31C-11D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBSI	**Sibolga**	**0.44**	**187**	P	**Pn**	**04 33 59.4**	**+2.7**
SBSI				S	**Sn**	**04 34 14.8**	**+4.1**
GSI	**Gunungsitoli**	**1.53**	**244**		**Pn**	**04 34 07.9**	**+1.5**
GSI				Sn	**Sn**	**04 34 28.5**	**+0.5**
GSI	**Gunungsitoli**	**1.53**	**244**	P	**Pn**	**04 34 07.5**	**+1.1**
GSI	**Gunungsitoli**	**1.53**	**244**	P	**Pn**	**04 34 07.7**	**+1.3**
GSI				S	**Sn**	**04 34 29.5**	**+1.6**
KCSI	**Kotacane, Aceh**	**1.92**	**322**	P	**Pn**	**04 34 11.4**	**+0.3**
KCSI				S	**Sn**	**04 34 35.7**	**-0.6**
PBSI	**Pulau Batu**	**2.13**	**198**	P	**Pn**	**04 34 14.5**	**+0.8**
PBSI				S	**Sn**	**04 34 41.4**	**+0.5**
SNSI	**Sinabang, Aceh**	**2.65**	**279**	P	**Pn**	**04 34 21.7**	**+1.6**
SNSI				S	**Sn**	**04 34 51.6**	**-0.9**
BKNI	**Bangkinang**	**2.67**	**128**		**Pn**	**04 34 21.2**	**+0.8**
BKNI	**Bangkinang**	**2.67**	**128**	P	**Pn**	**04 34 21.1**	**+0.7**
BKNI	**Bangkinang**	**2.67**	**128**	P	**Pn**	**04 34 21.2**	**+0.8**
IPM	**Ipoh**	**3.23**	**40**		**Pn**	**04 34 28.8**	**+1.1**
IPM	**Ipoh**	**3.23**	**40**	P	**Pn**	**04 34 29.0**	**+1.3**
PDSI	**Padang**	**3.26**	**152**	P	**Pn**	**04 34 28.6**	**+0.5**
SISI	**Saibi**	**3.30**	**177**	P	**Pn**	**04 34 27.3**	**-1.3**
MLSI	**Meulaboh, Aceh**	**3.40**	**312**	P	**Pn**	**04 34 30.6**	**+0.7**
KULM	**Kulim**	**3.69**	**27**	Pn	**Pn**	**04 34 34.2**	**+0.4**
LHMI	**Lhok Sumawe**	**3.79**	**328**	Pn	**Pn**	**04 34 35.8**	**+0.8**
LHMI	**Lhok Sumawe**	**3.79**	**328**	P	**Pn**	**04 34 35.9**	**+0.9**
LHMI	**Lhok Sumawe**	**3.79**	**328**	P	**Pn**	**04 34 35.8**	**+0.8**
KRJI	**Kerinci**	**4.77**	**148**	P	**Pn**	**04 34 47.1**	**-1.1**
PPSI	**Pulau Pagai**	**4.84**	**167**	P	**Pn**	**04 34 46.2**	**-2.9**
MYKOM	**Kota Tinggi**	**4.91**	**92**	Pn	**Pn**	**04 34 49.7**	**-0.3**
SKLT	**Songkhla**	**5.41**	**18**	P	**Pn**	**04 34 56.8**	**+0.1**
DSRI	**Dabo**	**6.14**	**113**	P	**Pn**	**04 35 04.6**	**-2.0**
	79nm,0.9s,4µm0.8nm						
SRIT	**Nakonsritamara**	**6.60**	**6**	Pn	**Pn**	**04 35 12.4**	**-0.2**
SRIT	**Nakonsritamara**	**6.60**	**6**	P	**Pn**	**04 35 12.5**	**-0.2**
SURA	**Surathani**	**7.16**	**5**	P	**Pn**	**04 35 20.3**	**0.0**
LHSI	**Lahat**	**7.37**	**142**	P	**Pn**	**04 35 21.8**	**-1.3**
	1µm,0.7s,12µm3.3nm						
MNAI	**Manna**	**7.47**	**148**	Pn	**Pn**	**04 35 23.2**	**-1.4**
MNAI	**Manna**	**7.47**	**148**	P	**Pn**	**04 35 23.4**	**-1.1**
MNAI	**Manna**	**7.47**	**148**	P	**Pn**	**04 35 23.0**	**-1.5**
	721nm,0.7s,9µm3.7nm						
PMBI	**Palembang**	**7.60**	**130**	P	**Pn**	**04 35 26.8**	**+0.5**
KASI	**Kota Agung**	**9.30**	**143**	P	**Pn**	**04 35 45.9**	**-3.2**
	182nm,0.5s,2µm						
DBJI	**Dramaga**	**11.52**	**137**	P	**Pn**	**04 36 15.5**	**-3.4**
	93nm,0.9s						
SKJI	**Sukabumi**	**11.73**	**140**	P	**Pn**	**04 36 19.3**	**-2.3**
	198nm,1.0s						
LEM	**Lembang**	**12.31**	**135**	LR	LR	04 42 27.6	
	comp=Z,177nm,19.6s,baz=29,slow=43						
LEM	**Lembang**	**12.31**	**135**	P	**Pn**	**04 36 25.8**	**-3.6**
	52nm,2.0s						
NAYO	**Nakonayok**	**12.47**	**11**	P	**Pn**	**04 36 31.9**	**+0.6**
STKI	**Sintang**	**12.68**	**99**	P	**Pn**	**04 36 32.1**	**-1.9**
	37nm,0.5s						
CMJI	**Cimerak**	**13.57**	**136**	P	**Pn**	**04 36 40.8**	**-4.7**
KPJI	**Karang Pucung**	**13.60**	**133**	P	**Pn**	**04 36 43.8**	**-2.2**
	67nm,0.7s						
UBPT	**Khong Chiam**	**14.69**	**26**	Pn	**Pn**	**04 37 00.5**	**+0.7**
UBPT	**Khong Chiam**	**14.69**	**26**	P	**Pn**	**04 37 00.6**	**+0.8**
UGM	**Wanagama**	**15.17**	**131**	P	**Pn**	**04 37 02.8**	**-3.0**
	130nm,1.2s						
GRJI	**Gresik**	**16.15**	**123**	P	**Pn**	**04 37 16.7**	**-1.2**
	345nm,1.0s						
PWJI	**Pagerwojo**	**16.23**	**128**	P	**Pn**	**04 37 16.8**	**-2.1**
	53nm,0.8s						
CM31	**Chiang Mai Arr**	**16.37**	**360**		**P**	**04 37 22.3**	**+1.2**
CMAR	**Chiang Mai Arr**	**16.37**	**360**	P	**P**	**04 37 21.1**	**0.0**
	50nm,0.6s,baz=189,slow=10,SNR=216						
CMAR				LR	LR	04 44 02.6	
	comp=Z,108nm,19.2s,baz=180,slow=38						
CMAR				ScP	**ScP**	**04 45 29.9**	**+1.0**
	5.1nm,0.6s,baz=217,slow=3.4,SNR=18						
PHRA	**Phrae**	**16.46**	**4**	P	**P**	**04 37 22.9**	**+0.8**
NONG	**Nongkai**	**16.50**	**14**	P	**P**	**04 37 22.7**	**+0.2**
CHTO	**Chiang Mai**	**16.72**	**360**		**Pn**	**04 37 24.9**	**0.0**
CHTO	**Chiang Mai**	**16.72**	**360**	P	**P**	**04 37 25.3**	**+0.3**
CHTO	**Chiang Mai**	**16.72**	**360**	P	**Pn**	**04 37 24.9**	**0.0**
KMMI	**Kalianget**	**17.48**	**121**	P	**Pn**	**04 37 34.7**	**+0.6**
KKM	**Kota Kinabalu**	**17.69**	**76**	P	**P**	**04 37 36.1**	**+0.3**
KKM	**Kota Kinabalu**	**17.69**	**76**	P	**Pn**	**04 37 37.6**	**+0.8**
ABJI	**Asem Bagus**	**18.09**	**123**	P	**Pn**	**04 37 40.9**	**-0.5**
	107nm,0.9s						
CRAI	**Chiangrai**	**18.18**	**4**	P	**Pn**	**04 37 42.2**	**-0.3**
BKB	**Balikpapan**	**18.24**	**100**		**P**	**04 37 41.3**	**-0.4**
BKB	**Balikpapan**	**18.24**	**100**	P	**P**	**04 37 42.1**	**+0.4**
JAGI	**Jajag, Banyuwa**	**18.38**	**125**		**P**	**04 37 43.7**	**+0.4**
JAGI	**Jajag, Banyuwa**	**18.38**	**125**	P	**Pn**	**04 37 44.9**	**0.0**
JAGI	**Jajag, Banyuwa**	**18.38**	**125**	P	**P**	**04 37 43.1**	**-0.2**
	86nm,0.8s,1µm						
PALK	**Pallekele**	**18.92**	**287**	P	**Pn**	**04 37 51.6**	**+0.3**
	21nm,0.6s,baz=200,slow=12,SNR=23						
PALK				S	**S**	**04 41 15.6**	**-2.1**
	11nm,0.5s,baz=124,slow=22,SNR=4.3						
PALK				LR	LR	04 44 25.0	
	comp=Z,85nm,19.8s,baz=206,slow=34						
SRBI	**Singaraja**	**19.06**	**122**	P	**P**	**04 37 51.4**	**+0.7**
	227nm,1.0s,2µm						
SLVN	**Son La**	**19.83**	**14**	P	**P**	**04 37 59.0**	**-0.1**
QIZ	**Qiongzhong**	**20.02**	**31**	P	**P**	**04 38 01.3**	**+0.3**
QIZ				pP	**pP**	**04 38 26.8**	**+2.6**
QIZ				sP	**sP**	**04 38 40.9**	**+0.6**
QIZ				S	**S**	**04 41 43.6**	**+4.3**
QIZ				pmax	pmax		
	comp=Z,31nm,1.2s						
QIZ				pmax	pmax		
	comp=Z,340nm,3.5s						
QIZ				LR	LR		
	comp=N,220nm,10.8s						
QIZ				LR	LR		
	comp=E,240nm,9.8s						
QIZ				LR	LR		
	comp=Z,200nm,10.1s						
MND	**Mandalay**	**20.10**	**352**	P	**P**	**04 38 01.6**	**-0.2**
MND	**Mandalay**	**20.10**	**352**	P	**P**	**04 38 01.6**	**-0.2**
TWSI	**Taliwang, Sumb**	**20.82**	**121**	P	**P**	**04 38 08.3**	**-1.3**
	33nm,0.9s						
MPSI	**Mapaga**	**21.01**	**94**	P	**P**	**04 38 10.5**	**-1.3**
	53nm,0.8s						
SAIH	**SAIHA**	**21.18**	**345**	*e*P	**P**	**04 38 13.3**	**-0.4**
TTSI	**Tana Toraja**	**21.46**	**103**	P	**P**	**04 38 15.2**	**-1.4**
	94nm,0.9s,1µm						
MDRS	**Chennai**	**21.53**	**302**	*e*P	**P**	**04 38 20.9**	**+3.6**
PLAI	**Plampang**	**21.63**	**120**	P	**P**	**04 38 18.9**	**+0.5**
PLAI	**Plampang**	**21.63**	**120**	P	**P**	**04 38 17.0**	**-1.4**
	46nm,0.8s						
BRDH	**Bariadhala**	**21.75**	**342**	P	**P**	**04 38 19.5**	**-0.1**
	176nm,0.6s,baz=91,slow=4.9,SNR=7.9 176nm,0.6s						
TOLI2	**Tolitoli**	**21.85**	**92**	P	**P**	**04 38 19.9**	**-0.8**
TOLI2	**Tolitoli**	**21.85**	**92**	P	**P**	**04 38 20.8**	**+0.1**
KAPI	**Kappang**	**21.92**	**109**	P	**P**	**04 38 21.2**	**-0.3**
KAPI	**Kappang**	**21.92**	**109**	P	**P**	**04 38 22.7**	**+1.3**
KAPI	**Kappang**	**21.92**	**109**	*i* P	**P**	**04 38 21.4**	**0.0**
KAPI				pmax	pmax		
	comp=Z,72nm,1.1s						
BKSI	**Bulukumba**	**22.37**	**109**	P	**P**	**04 38 26.6**	**+0.6**
	comp=Z,64nm,1.1s,comp=Z,980nm						
AZL	**Aizawl**	**22.45**	**345**	*e*P	**P**	**04 38 26.8**	**0.0**
TNCH	**TengChong**	**22.91**	**359**	P	**P**	**04 38 31.8**	**+0.5**
TNCH				pP	pP	04 38 57.0	+1.1
TNCH				sP	sP	04 39 13.3	+1.6
TNCH				S	**S**	**04 42 28.3**	**-3.4**
TNCH				sS	sS	04 43 10.5	-5.8
TNCH				pmax	pmax		
	comp=Z,180nm,0.9s						
TNCH				pmax	pmax		
	comp=Z,270nm,2.7s						
MRSI	**Marisa**	**23.04**	**93**	P	**P**	**04 38 32.2**	**-0.3**
	comp=Z,188nm,0.9s,comp=Z,2µm						
VJD	**Vijayawada**	**23.08**	**310**	*e*P	**P**	**04 38 35.7**	**+2.9**
IMP	**Imphal**	**23.22**	**348**	*e*P	**P**	**04 38 33.7**	**-0.4**
KMI	**Kunming**	**23.29**	**9**	||P	**P**	**04 38 37.0**	**+2.1**
KMI				pP	pP	04 39 02.6	+2.6
KMI				sP	sP	04 39 17.9	+2.0
KMI				S	**S**	**04 42 39.8**	**+2.0**
KMI				pmax	pmax		
	comp=Z,26nm,0.8s						
KMI				LR	LR		
	comp=Z,230nm,11.4s						
KMI				LR	LR		
	comp=Z,200nm,13.5s						
KMI				LR	LR		
	comp=Z,280nm,15.0s						
LUWI	**Luwuk**	**24.01**	**97**	P	**P**	**04 38 41.4**	**0.0**
LUWI	**Luwuk**	**24.01**	**97**	P	**P**	**04 38 42.2**	**+0.8**
	comp=Z,304nm,0.8s						
LUWI	**Luwuk**	**24.01**	**97**	P	**P**	**04 38 37.1**	**-4.3**
KOHI	**KOHIMA**	**24.05**	**349**	*e*P	**P**	**04 38 41.3**	**-0.4**
GTOI	**Gorontalo**	**24.10**	**93**	P	**P**	**04 38 41.1**	**-1.0**
	comp=Z,60nm,0.8s,comp=Z,448nm						
SHL	**Shillong**	**24.41**	**344**	*e*P	**P**	**04 38 45.0**	**-0.1**
PZH	**PanZhiHua**	**24.52**	**6**	P	**P**	**04 38 46.6**	**+0.6**
PZH				pP	**pP**	**04 39 14.3**	**+1.3**
PZH				sP	**sP**	**04 39 30.0**	**+1.8**
PZH				sS	**sS**	**04 43 44.5**	**-1.3**
PZH				pmax	pmax		
	comp=Z,30nm,0.6s						
PZH				pmax	pmax		
	comp=Z,130nm,6.1s						
MOKO	**MOKOCHONG**	**24.57**	**350**	*e*P	**P**	**04 38 46.0**	**-0.4**
BASI	**Baing, Sumba**	**24.72**	**120**	P	**P**	**04 38 47.5**	**-0.2**
	comp=Z,129nm,1.1s						
EDFI	**Ende, Flores**	**25.06**	**116**	P	**P**	**04 38 49.2**	**-1.8**
	comp=Z,23nm,1.3s						
KMSI	**Cibinong**	**25.07**	**93**	P	**P**	**04 38 51.3**	**+0.3**
	comp=Z,250nm,0.9s						
BOK	**Bokaro**	**25.10**	**331**	*e*P	**P**	**04 38 52.6**	**+1.6**
BOK				lAmb	lAmb	04 38 57.0	
	comp=Z,92nm,1.1s						
BOK				*i* x	**S**	**04 43 08.1**	**+1.7**
HYB	**Hyderabad**	**25.23**	**309**	*e*P	**P**	**04 38 53.2**	**+0.8**
HYB	**Hyderabad**	**25.23**	**309**	*e*P	**P**	**04 38 54.4**	**+2.0**
HYB				lAmb	lAmb	04 38 57.0	
	comp=Z,72nm,1.1s						
GYA	**Guiyang**	**25.44**	**16**	P	**P**	**04 38 55.8**	**+1.5**
GYA				pP	pP	04 39 23.3	+1.6
GYA				pmax	pmax		
	comp=Z,19nm,0.8s						
ITAN	**ITANAGAR**	**25.51**	**349**	*e*P	**P**	**04 38 55.0**	**+0.2**
ZIRO	**ZIRO**	**25.86**	**350**	*e*P	**P**	**04 38 58.2**	**+0.1**
PASG	**PASIGHAT**	**26.40**	**346**	*e*P	**P**	**04 38 59.5**	**-3.3**
PASG				lAmb	lAmb	04 39 00.7	
	comp=Z,42nm,0.4s						
DAV	**Davao City (W)**	**27.02**	**78**	LR	LR	04 51 13.1	
	comp=Z,31nm,19.1s,baz=302,slow=39						
SANI	**Sanana**	**27.33**	**98**	P	**P**	**04 39 08.5**	**-2.8**
LSA	**Lhasa**	**28.54**	**346**	P	**P**	**04 39 22.7**	**+0.3**
LSA	**Lhasa**	**28.54**	**346**	P	**P**	**04 39 22.7**	**+0.3**
LSA				pmax	pmax		
	comp=Z,89nm,0.5s						
LBMI	**Labuha**	**28.67**	**95**	P	**P**	**04 39 21.8**	**-1.5**
	comp=Z,85nm,1.1s						
KAD	**Karad**	**28.70**	**304**	*e*P	**P**	**04 39 25.6**	**+2.0**
CD2	**Chengdu**	**29.12**	**9**	P	**P**	04 39 32.8	+5.7
CD2				S	**S**	**04 44 13.4**	**+3.6**
CD2				pmax	pmax		
	comp=Z,40nm,0.6s						
CD2				LR	LR		
	comp=Z,190nm,11.9s						
CD2				LR	LR		
	comp=Z,250nm,15.3s						
CD2				LR	LR		
	comp=Z,260nm,11.0s						
ENH	**Enshi**	**29.86**	**19**	P	**P**	**04 39 31.5**	**-2.0**
SSLB	**Suanglung**	**30.39**	**43**	P	**P**	**04 39 37.3**	**-1.0**
SSLB				lAmb	lAmb	04 39 40.0	
	comp=Z,21nm,0.8s						
SSLB	**Suanglung**	**30.39**	**43**	P	**P**	**04 39 39.3**	**+0.9**
JHNI	**Jhansi**	**30.52**	**322**	*e*P	**P**	**04 39 39.8**	**+0.4**
LGTI	**Lohaghat**	**32.59**	**329**	*e*P	**P**	**04 39 58.5**	**+0.9**
PTH	**Pithoragarh**	**32.69**	**329**	*e*P	**P**	**04 39 59.8**	**+1.1**
FITZ	**Fitzroy Crossi**	**33.01**	**128**	P	**P**	**04 40 00.0**	**-1.3**
	baz=33,SNR=13						
FITZ	**Fitzroy Crossi**	**33.01**	**128**	P	**P**	**04 39 59.9**	**-1.4**
XAN	**Xi'an**	**33.22**	**15**	||P	**P**	**04 40 01.8**	**-1.3**
XAN				sP	sP	04 40 44.8	-0.9
XAN				S	**S**	**04 45 09.0**	**-4.7**
XAN				sS	sS	04 46 01.6	-1.3
XAN				pmax	pmax		
	comp=Z,50nm,0.8s						
XAN				pmax	pmax		
	comp=Z,120nm,4.8s						
XAN				LR	LR		
	comp=Z,220nm,15.3s						
XAN				LR	LR		
	comp=Z,190nm,17.3s						
XAN				LR	LR		
	comp=Z,440nm,17.0s						
XAN	**Xi'an**	**33.22**	**15**	P	**P**	**04 40 01.7**	**-1.3**
NDI	**New Delhi**	**33.68**	**324**	*e*P	**P**	**04 40 07.3**	**+0.3**
AJM	**Ajmer**	**33.73**	**318**	*e*P	**P**	**04 40 08.9**	**+1.3**
AJM				lAmb	lAmb	04 40 10.6	
	comp=Z,31nm,0.9s						
LZH	**Lanzhou**	**34.23**	**7**	*e*P	**P**	**04 40 12.0**	**+0.1**
LZH				pP	pP	04 40 41.5	+1.4
LZH				sP	sP	04 40 55.5	+0.7
LZH				ScP	**ScP**	**04 46 21.1**	**+1.9**
LZH				pmax	pmax		
	comp=Z,33nm,1.1s						
GOMU	**GeErMu**	**34.26**	**354**	P	**P**	**04 40 11.9**	**-0.4**
GOMU				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KNRA	**Kununurra**	**34.31**	**122**	P	**P**	**04 40 12.4**	**-0.2**
	baz=34,SNR=9.3						
KNRA	**Kununurra**	**34.31**	**122**	P	**P**	**04 40 12.4**	**-0.2**
KNRA				lAmb	lAmb	04 40 13.5	
	comp=Z,52nm,1.4s						
LYN	**LuoYang**	**34.77**	**20**	*e*P	**P**	**04 40 15.9**	**-0.4**
LYN				pP	pP	04 40 43.6	-0.9
LYN				sP	sP	04 40 59.4	+0.2
LYN				pmax	pmax		
	comp=Z,20nm,0.8s						
NJ2	**Nanjing**	**35.30**	**30**	*e*P	**P**	**04 40 22.1**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,130nm,4.4s						
SMLA	**Simla**	**35.55**	**327**	*e*P	**P**	**04 40 23.8**	**+0.8**
SMLA				lAmb	lAmb	04 40 25.6	
	comp=Z,72nm,0.4s						
KDU	**Kakadu**	**36.34**	**115**	P	**P**	**04 40 29.6**	**-0.4**
	baz=36,SNR=7.7						
BLDU	**Ballidu**	**36.58**	**154**	P	**P**	**04 40 32.6**	**+0.8**
	baz=37,SNR=4.9						
DHRM	**DHARAMSHALA**	**36.88**	**327**	*e*P	**P**	**04 40 35.5**	**+0.7**
DHRM				lAmb	lAmb	04 40 37.4	
	comp=Z,135nm,0.9s						
GTA	**Gaotai**	**37.26**	**1**	P	**P**	**04 40 37.5**	**-0.1**
GTA				pP	pP	04 41 07.3	+1.1
GTA				sP	sP	04 41 19.5	-1.4
GTA				ScP	**ScP**	**04 46 30.9**	**+0.8**
GTA				ScS	**ScS**	**04 50 35.9**	**-2.4**
GTA				pmax	pmax		
	comp=Z,21nm,1.2s						
THN	**Thein Dam**	**37.34**	**327**	*e*P	**P**	**04 40 38.8**	**+0.6**
THN				lAmb	lAmb	04 40 42.1	
	comp=Z,29nm,0.6s						
MUN	**Mundaring**	**37.54**	**156**	P	**P**	**04 40 41.2**	**+1.2**
	baz=38,SNR=7.8						
MUN	**Mundaring**	**37.54**	**156**	P	**P**	**04 40 41.3**	**+1.3**
KLBR	**Kellerberrin**	**37.88**	**153**	P	**P**	**04 40 43.4**	**+0.6**
	baz=38,SNR=7.0						
HNS	**HongShan**	**38.11**	**21**	||P	**P**	**04 40 45.0**	**+0.3**
HNS				pP	**pP**	**04 41 15.9**	**+2.7**
HNS				eS	**S**	**04 46 26.3**	**-1.8**
HNS				ScP	**ScP**	**04 46 33.0**	**-0.2**
HNS				ScS	**ScS**	**04 50 40.8**	**-2.1**
HNS				pmax	pmax		
	comp=Z,12nm,0.7s						
HNS				LR	LR		
	comp=Z,130nm,12.7s						
HNS				LR	LR		
	comp=Z,100nm,12.7s						
HNS				LR	LR		
	comp=Z,93nm,15.5s						
NWAO	**Narrogin (SRO)**	**38.79**	**155**	P	**P**	**04 40 51.2**	**+0.7**
	baz=39,SNR=6.7						
NWAO				P	**P**	**04 40 51.2**	**+0.7**
	baz=39,SNR=6.7						
NWAO	**Narrogin (SRO)**	**38.79**	**155**	P	**P**	**04 40 51.1**	**+0.6**
NWAO	**Narrogin (SRO)**	**38.79**	**155**	P	**P**	**04 40 51.1**	**+0.6**
NWAO				pmax	pmax		
	comp=Z,16nm,0.8s						
NWAO	**Narrogin (SRO)**	**38.79**	**155**	P	**P**	**04 40 50.8**	**+0.3**
	comp=Z,12nm,0.6s,baz=320,slow=5.5,SNR=10 comp=Z,12nm,0.6s						
NWAO	**Narrogin (SRO)**	**38.79**	**155**	P	**P**	**04 40 51.0**	**+0.6**
WRKA	**Warakurna**	**39.13**	**135**	P	**P**	**04 40 52.6**	**-0.9**
	baz=39,SNR=13						
NIL	**Nilore**	**39.62**	**325**	P	**P**	**04 40 57.9**	**+0.5**
NIL	**Nilore**	**39.62**	**325**	P	**P**	**04 40 57.9**	**+0.5**
NIL				pmax	pmax		
	comp=Z,115nm,0.7s						
NIL	**Nilore**	**39.62**	**325**	P	**P**	**04 40 57.9**	**+0.5**
KMBL	**Kambalda**	**39.70**	**149**	P	**P**	**04 40 58.1**	**+0.1**
	baz=40,SNR=6.2						
BTO	**Baotou**	**39.73**	**13**	*e*P	**P**	**04 41 02.4**	**+4.2**
BTO				pP	**pP**	**04 41 30.8**	**+3.8**
BTO				sP	**sP**	**04 41 45.3**	**+3.7**
BTO				PP	**PnPn**	**04 42 40.3**	**+3.7**
BTO				S	S	04 47 02.3	+10
BTO				sS	**sS**	**04 47 46.5**	**+3.7**
BTO				pmax	pmax		
	comp=Z,23nm,0.6s						
BTO				pmax	pmax		
	comp=Z,210nm,5.1s						
BTO				LR	LR		
	comp=Z,470nm,13.3s						
BTO				LR	LR		
	comp=Z,290nm,12.4s						
BTO				LR	LR		
	comp=Z,360nm,13.6s						
HHC	**Hu-ho-hao-te**	**40.33**	**15**	*e*P	**P**	**04 41 06.4**	**+3.2**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,51nm,3.6s						
WB0	**Warramunga Arr**	**40.96**	**124**	P	**P**	**04 41 07.2**	**-1.4**
WB0				lAmb	lAmb	04 41 10.9	
	comp=Z,34nm,0.7s						
BJT	**Baijiatuau**	**40.96**	**20**	P	**P**	**04 41 08.8**	**+0.5**
BJT				lAmb	lAmb	04 41 10.7	
	comp=Z,15nm,0.6s						
BJT	**Baijiatuau**	**40.96**	**20**	P	**P**	**04 41 09.3**	**+1.0**
BJT	**Baijiatuau**	**40.96**	**20**	P	**P**	**04 41 08.8**	**+0.5**
BJT				pmax	pmax		
	comp=Z,15nm,0.6s						
BJT	**Baijiatuau**	**40.96**	**20**	P	**P**	**04 41 09.0**	**+0.7**
BJI	**Beijing**	**40.98**	**20**	P	**P**	**04 41 08.9**	**+0.5**
BJI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BJI				pmax	pmax		
	comp=Z,48nm,5.5s						
WRA	**Warramunga Arr**	**41.00**	**124**	P	**P**	**04 41 08.0**	**-0.9**
WRA	**Warramunga Arr**	**41.00**	**124**	P	**P**	**04 41 07.6**	**-1.3**
	comp=Z,38nm,0.8s,baz=304,slow=8.9,SNR=78						
WRA				PcP	**PcP**	**04 43 06.8**	**0.0**
	comp=Z,1.8nm,0.6s,baz=314,slow=2.5,SNR=2.5						
WRA				ScP	**ScP**	**04 46 42.6**	**-2.2**
	comp=Z,4.1nm,0.9s,baz=309,slow=3.3,SNR=9.2						
WRA				S	**S**	**04 47 04.8**	**-7.0**
	comp=Z,9.6nm,1.1s,baz=296,slow=16,SNR=9.6 comp=Z,38nm,0.8s						
WRAB	**Tennant Creek**	**41.00**	**124**	*i* P

comp=Z,9.0nm,0.6s
KS19 Wonju Array Si 44.23 33 P P 04 41 34.5 -0.2
PRZ Przheval'sk 44.32 338 P P 04 41 37.2 +1.6
PRZ IAmb IAmb 04 41 38.7
comp=Z,46nm,0.8s
PRZ Przheval'sk 44.32 338 P P 04 41 37.2 +1.6
PRZ pmax pmax
comp=Z,46nm,0.8s
NRN Naryn 44.38 335 P P 04 41 37.0 +0.8
NRN Naryn 44.38 335 P P 04 41 37.0 +0.8
NRN pmax pmax
comp=Z,76nm,0.7s
SHLS Shalkode 44.52 340 eP P 04 41 37.1 0.0
SHLS pmax pmax
comp=Z,22nm,0.7s
SHLS Shalkode 44.52 340 eP P 04 41 37.1 0.0
comp=Z,22nm,0.7s,baz=340
PDGK Podgornoye 44.67 340 P P 04 41 39.3 +1.0
UZB Uzynbulak 44.67 339 eP P 04 41 39.5 +1.2
UZB pmax pmax
comp=Z,22nm,0.6s
UZB Uzynbulak 44.67 339 eP P 04 41 39.6 +1.2
comp=Z,22nm,0.6s,baz=339
DRK Karamyk 44.76 330 P P 04 41 40.4 +1.1
SATY Saty 44.81 339 eP P 04 41 40.6 +1.1
SATY pmax pmax
comp=Z,18nm,0.7s
SATY Saty 44.81 339 eP P 04 41 40.6 +1.1
comp=Z,18nm,0.7s,baz=339
ZHN Zhinishke 44.90 339 eP P 04 41 41.4 +1.3
ZHN Zhinishke 44.90 339 eP P 04 41 41.4 +1.3
baz=339
ULHL Ulahol 44.95 336 P P 04 41 41.9 +1.2
SNR=6.7
GAR Garm 45.16 328 P P 04 41 43.0 +0.8
GAR IAmb IAmb 04 41 45.5
comp=Z,66nm,1.0s
TNSS Tian-Shan 45.34 337 eP P 04 41 44.6 +0.6
TNSS Tian-Shan 45.34 337 eP P 04 41 44.6 +0.6
baz=337
MDOK Medeo 45.41 337 eP P 04 41 45.2 +1.0
MDOK Medeo 45.41 337 eP P 04 41 45.3 +1.0
baz=337
JMN Monobe 45.42 42 P P 04 41 44.2 -0.1
AAA Alma-Ata 45.50 337 eP P 04 41 45.7 +0.9
AAA Alma-Ata 45.50 337 eP P 04 41 45.8 +0.9
baz=337
CHGR Chuyangaron 45.53 327 P P 04 41 45.0 -0.2
CHGR IAmb IAmb 04 41 48.5
comp=Z,53nm,0.7s
CHGR Chuyangaron 45.53 327 P P 04 41 45.0 -0.2
CHGR pmax pmax
comp=Z,53nm,0.7s
SIMJ Simiganj 45.61 327 P P 04 41 46.6 +0.7
SIMJ IAmb IAmb 04 41 48.2
comp=Z,37nm,0.8s
SIMJ Simiganj 45.61 327 P P 04 41 46.3 +0.5
UCH Uchtor 45.66 335 P P 04 41 47.7 +1.2
SNR=66
BTK Batken 45.69 330 IAmb IAmb 04 41 49.8
comp=Z,40nm,0.7s
BTK Batken 45.69 330 P P 04 41 47.8 +1.4
QIS Mount Isa 45.70 121 P P 04 41 46.2 -0.5
baz=46,SNR=11
QIS Mount Isa 45.70 121 P P 04 41 47.8 +1.1
TKM2 Tokmak 2 45.78 336 P P 04 41 48.5 +1.3
SNR=44
TKM2 Tokmak 2 45.78 336 *i* P P 04 41 48.2 +1.0
TKM2 pmax pmax
comp=Z,23nm,0.7s
KBK Karagaybulak 45.83 335 P P 04 41 49.4 +1.9
SNR=94
AAK Ala-Archa 46.01 335 P P 04 41 50.1 +1.2
SNR=43
AAK Ala-Archa 46.01 335 P P 04 41 50.4 +1.5
AAK IAmb IAmb 04 41 52.6
comp=Z,36nm,0.7s
AAK Ala-Archa 46.01 335 *ce*P P 04 41 50.7 +1.8
AAK pmax pmax
comp=Z,30nm,0.6s
AAK Ala-Archa 46.01 335 LR LR 05 02 55.0
comp=Z,46nm,21.5s,baz=140,slow=38
AAK Ala-Archa 46.01 335 P P 04 41 50.5 +1.6
CHKK Chushkaly 46.02 338 eP P 04 41 49.4 +0.6
CHKK Chushkaly 46.02 338 eP P 04 41 49.4 +0.6
baz=338
OOD Oodnadatta 46.09 133 P P 04 41 48.5 -1.1
SONM Songino Array 46.12 7 P P 04 41 50.3 +0.6
SONM Songino Array 46.12 7 P P 04 41 50.2 +0.6
comp=Z,11nm,0.4s,baz=191,slow=9.6,SNR=62
SONM pP **pP** 04 42 18.6 -0.7
comp=Z,5.4nm,0.7s,baz=186,slow=9.8,SNR=3.0
SONM sP **sP** 04 42 33.2 -0.7
comp=Z,6.3nm,0.9s,baz=192,slow=8.3,SNR=2.3
SONM PcP **PcP** 04 43 24.0 +0.3
comp=Z,2.3nm,0.8s,baz=193,slow=3.8,SNR=2.2
SONM ScP **ScP** 04 47 04.8 -0.5
comp=Z,4.1nm,1.0s,baz=190,slow=4.3,SNR=9.8
comp=Z,11nm,0.4s
CHMS Chumysh 46.19 335 P P 04 41 51.2 +1.0
SNR=24
ULN Ulaanbaatar 46.23 8 P P 04 41 51.4 +0.9
ULN Ulaanbaatar 46.23 8 *ce*P P 04 41 51.5 +0.9
ULN pmax pmax
comp=Z,17nm,1.3s
EKS2 Erkin-Say 46.33 334 P P 04 41 53.2 +1.8
SNR=75
MULG Mulgathing 46.38 137 P P 04 41 51.1 -0.7
TDK Taldyqorghan 46.51 340 eP P 04 41 53.5 +0.9
TDK pmax pmax
comp=Z,18nm,0.8s
TDK Taldyqorghan 46.51 340 eP P 04 41 53.5 +0.9
comp=Z,18nm,0.8s,baz=340
USP Ospenovka 46.52 335 P P 04 41 53.9 +1.1
SNR=85
SGDS Sogindy 46.62 336 eP P 04 41 54.8 +1.3
SGDS pmax pmax
comp=Z,26nm,0.7s
SGDS Sogindy 46.62 336 eP P 04 41 54.9 +1.3
comp=Z,26nm,0.7s,baz=336
ZSN Zaisan 46.90 347 eP P 04 41 56.9 +1.3
ZSN pmax pmax
comp=Z,18nm,0.5s
ZSN Zaisan 46.90 347 eP P 04 41 57.0 +1.3
comp=Z,18nm,0.5s,baz=347
MK31 Makanchi Array 46.93 344 *ce*P P 04 41 56.4 +0.5
MKAR Makanchi Array 46.93 344 P P 04 41 56.5 +0.7
comp=Z,71nm,0.5s,baz=154,slow=8.0,SNR=891
MKAR ScP **ScP** 04 47 08.9 +0.4
comp=Z,0.8nm,0.8s,baz=150,slow=6.1,SNR=3.5
MKAR S **S** 04 48 37.9 +0.6
comp=Z,3.5nm,1.0s,baz=162,slow=16,SNR=9.5
comp=Z,71nm,0.5s
MAKZ Makanchi 47.03 344 P P 04 41 57.5 +0.9
MAKZ Makanchi 47.03 344 P P 04 41 57.5 +0.9
MAKZ pmax pmax
comp=Z,80nm,0.8s
MAKZ Makanchi 47.03 344 P P 04 41 57.2 +0.6
DZA Taraz 47.61 333 eP P 04 42 01.8 +0.6
DZA pmax pmax
comp=Z,26nm,0.6s
DZA Taraz 47.61 333 eP P 04 42 01.8 +0.6
comp=Z,26nm,0.6s,baz=332
IUG Iuzhnay 47.65 331 eP P 04 42 02.9 +1.2
IUG pmax pmax
comp=Z,44nm,0.7s
IUG Iuzhnay 47.65 331 eP P 04 42 02.9 +1.2
comp=Z,44nm,0.7s,baz=331
CN2 Changchun 47.83 26 eP P 04 42 02.9 +0.1
CN2 pmax pmax
comp=Z,10.0nm,0.6s
KK31 Karatay Array 48.15 332 IAmb IAmb 04 42 12.0
comp=Z,18nm,0.7s
KK31 Karatay Array 48.15 332 *i* P P 04 42 05.8 +0.4
KKAR Karatay Array 48.15 332 IAmb IAmb 04 42 12.0
comp=Z,18nm,0.7s
BTLS Baital 48.16 336 eP P 04 42 05.9 +0.5
BTLS Baital 48.16 336 eP P 04 42 06.0 +0.5
baz=336
ZAK Zakamensk 48.36 4 eP P 04 42 06.2 -0.7
ZAK pmax pmax
comp=Z,4.0nm,1.0s
BRLS Borolday 48.42 332 eP P 04 42 07.0 -0.4
BRLS Borolday 48.42 332 eP P 04 42 07.0 -0.4
baz=331
DGZ Jazzator, Alta 48.54 350 *i* P P 04 42 09.4 +1.0
DGZ pmax pmax
comp=Z,39nm,0.5s
MTSU Mount Surprise 48.93 116 P P 04 42 10.1 -1.6
baz=49,SNR=6.5
MTSU Mount Surprise 48.93 116 P P 04 42 13.1 +1.4
BBOO Buckleboo 49.27 138 P P 04 42 12.6 -1.5
baz=49,SNR=5.5
LCRK Leigh Creek 49.40 134 P P 04 42 14.5 -0.6
INKA Innaminka 49.88 129 P P 04 42 19.0 +0.2
MJAR Matsushiro Arr 49.94 42 P P 04 42 18.8 -0.3
comp=Z,2.3nm,0.6s,baz=235,slow=7.9,SNR=5.6
MJAR PcP **PcP** 04 43 37.8 +0.3
comp=Z,4.3nm,1.0s,baz=255,slow=4.9,SNR=5.2
MJAR ScP **ScP** 04 47 21.4 -0.1
comp=Z,0.9nm,0.6s,baz=207,slow=2.2,SNR=4.4
comp=Z,2.3nm,0.6s
BNX BinXian 50.21 26 ⇑P P 04 42 20.6 -0.4
BNX pmax pmax
comp=Z,12nm,0.5s
BNX pmax pmax
comp=Z,97nm,6.1s
MDJ Mudanjiang 50.34 28 P P 04 42 24.3 +2.3
MDJ pmax pmax
comp=Z,8.0nm,1.1s
MDJ pmax pmax
comp=Z,79nm,5.7s
HIA Hailar 50.35 18 P P 04 42 22.3 +0.3
SEM Semipalatinsk 50.79 345 eP P 04 42 26.6 +1.2
SEM pmax pmax
comp=Z,16nm,0.6s
SEM Semipalatinsk 50.79 345 eP P 04 42 26.7 +1.2
comp=Z,16nm,0.6s,baz=345
USA0B Ussuriysk Arra 51.21 30 *i* P P 04 42 28.2 -0.2
USRK Ussuriysk Ar. 51.21 30 P P 04 42 28.4 0.0
comp=Z,6.8nm,0.6s,baz=235,slow=6.2,SNR=28
USRK LR LR 05 04 45.8
comp=Z,43nm,21.4s,baz=198,slow=36
comp=Z,6.8nm,0.6s
CTA Charters Tower 51.31 118 ScP **ScP** 04 47 26.2 -1.5
comp=Z,5.0nm,0.8s,baz=273,slow=6.8,SNR=5.5
KURBB Kurchatov Arra 51.45 343 P P 04 42 30.2 +0.1
KURBB Kurchatov Arra 51.45 343 P P 04 42 30.9 +0.7
comp=Z,38nm,0.7s,baz=164,slow=7.1,SNR=232
KURBB ScP **ScP** 04 47 27.1 -0.5
comp=Z,1.6nm,0.8s,baz=158,slow=3.3,SNR=5.6
KURBB S **S** 04 49 40.1 -0.1
comp=Z,3.5nm,0.8s,baz=160,slow=14,SNR=12
comp=Z,38nm,0.7s
OTUK Ortayu 51.47 338 P P 04 42 31.0 +0.6
KURK Kurchatov 51.51 344 P P 04 42 31.6 +1.1
KURK Kurchatov 51.51 344 *ce*P P 04 42 31.3 +0.8
KURK pmax pmax
comp=Z,65nm,0.8s
KURK Kurchatov 51.51 344 P P 04 42 31.4 +0.8
HTT Hallett 51.57 137 P P 04 42 30.9 -0.5
baz=52,SNR=4.7
GEYT Alibeck 51.75 319 P P 04 42 33.4 +0.7
GEYT Alibeck 51.75 319 P P 04 42 33.6 +0.9
comp=Z,33nm,0.7s,baz=151,slow=6.8,SNR=20
GEYT pP **pP** 04 43 03.0 0.0
comp=Z,11nm,0.7s,baz=141,slow=9.6,SNR=2.7
GEYT sP **sP** 04 43 15.7 -1.7
comp=Z,12nm,0.8s,baz=158,slow=9.3,SNR=2.7
comp=Z,33nm,0.7s
GYA0B ALIBECK ARRAY 51.75 319 P P 04 42 33.4 +0.7
GYA0B IAmb IAmb 04 42 37.9
comp=Z,29nm,0.7s
QLP Quilpie 52.10 126 P P 04 42 35.6 +0.2
baz=52,SNR=27
QLP Quilpie 52.10 126 P P 04 42 35.9 +0.5
STKA Stephens Creek 52.61 133 P P 04 42 38.7 -0.4
baz=53,SNR=8.5
STKA Stephens Creek 52.61 133 P P 04 42 38.5 -0.6
STKA Stephens Creek 52.61 133 P P 04 42 38.8 -0.3
STKA Stephens Creek 52.61 133 P P 04 42 38.2 -0.8
comp=Z,8.6nm,0.8s,baz=318,slow=7.7,SNR=9.5
comp=Z,8.6nm,0.8s
BRZS Berezniki 52.78 339 eP P 04 42 40.6 +0.6
BRZS Berezniki 52.78 339 eP P 04 42 40.7 +0.6
baz=339
ZALV Zalesovo Beam 53.08 350 P P 04 42 42.7 +0.6
comp=Z,60nm,0.4s,baz=173,slow=6.8,SNR=294
ZALV S **S** 04 50 01.9 -0.4
comp=Z,3.2nm,0.8s,baz=155,slow=12,SNR=9.1
ZALV ScS **ScS** 04 52 15.1 -3.8
comp=Z,4.7nm,1.0s,baz=165,slow=6.2,SNR=7.6
ZALV LR LR 05 06 31.4
comp=Z,18nm,19.3s,baz=238,slow=37
comp=Z,60nm,0.4s
HEH HeiHe 53.81 22 eP P 04 42 47.8 +0.3
HEH pmax pmax
comp=Z,10.0nm,0.9s
KLR Kul'dur 54.78 26 *ce*P P 04 42 55.5 +0.9
KLR pmax pmax
comp=Z,41nm,1.7s
KLR Kul'dur 54.78 26 P P 04 42 54.9 +0.3
comp=Z,15nm,0.7s,baz=238,slow=7.7,SNR=73
comp=Z,15nm,0.7s
CMSA Cobar Meteorol 55.47 131 P P 04 42 59.9 0.0
baz=55,SNR=29
CMSA Cobar Meteorol 55.47 131 P P 04 42 59.8 -0.1
RAYN Ar Rayn 55.94 297 P P 04 43 04.7 +1.3
RAYN IAmb IAmb 04 43 05.7
comp=Z,18nm,0.8s
RAYN Ar Rayn 55.94 297 P P 04 43 04.7 +1.3
RAYN pmax pmax
comp=Z,18nm,0.8s
RAYN Ar Rayn 55.94 297 P P 04 43 04.4 +1.0
RAYN pP **pP** 04 43 33.7 -0.2
BVA0 Borovoye Array 56.10 340 *i* P P 04 43 03.8 -0.2
BVAR Borovoye Array 56.10 340 P P 04 43 04.1 +0.1
comp=Z,23nm,0.6s,baz=138,slow=9.1,SNR=140
BVAR pP **pP** 04 43 33.3 -1.3
comp=Z,5.3nm,0.6s,baz=142,slow=11,SNR=2.3
BVAR sP **sP** 04 43 46.9 -2.0
comp=Z,6.8nm,0.7s,baz=138,slow=9.0,SNR=2.2
BVAR ScP **ScP** 04 47 48.2 +0.3
comp=Z,1.1nm,0.7s,baz=142,slow=7.3,SNR=3.6
BVAR S **S** 04 50 41.5 -1.4
comp=Z,5.2nm,1.1s,baz=149,slow=21,SNR=8.3
comp=Z,23nm,0.6s
BRVK Borovoye 56.17 340 P P 04 43 04.9 +0.5
BRVK Borovoye 56.17 340 *ce*P P 04 43 04.6 +0.2
BRVK pmax pmax
comp=Z,16nm,0.6s
BRVK Borovoye 56.17 340 P P 04 43 04.5 +0.2
BRVK sP **sP** 04 43 47.4 -1.9
ZEA Zeya 56.60 20 eP P 04 43 08.6 +1.1
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=Z,10.0nm,1.1s
BOD Bodaibo 56.94 10 eP P 04 43 11.0 +1.2
BOD pmax pmax
comp=Z,36nm,1.2s
ASAJ Asahikawa 56.99 36 P P 04 43 11.2 +0.8
comp=Z,6.2nm,0.4s,baz=249,slow=17,SNR=3.5
comp=Z,6.2nm,0.4s
EIDS Eidsvold 57.30 122 P P 04 43 12.8 -0.1
baz=57,SNR=4.8
EIDS Eidsvold 57.30 122 IAmb IAmb 04 43 15.6
comp=Z,11nm,0.7s
AB31 Akbulak array 57.66 331 *i* P P 04 43 15.3 +0.3
ABKAR Akbulak array 57.66 331 IAmb IAmb 04 43 16.2
comp=Z,30nm,0.8s
GRNR Gornyy 57.98 27 eP P 04 43 17.6 +0.4
GRNR MLR MLR
comp=E,70nm,18.0s
GRNR MLR MLR
comp=N,80nm,14.0s
GRNR MLR MLR
comp=Z,100nm,15.0s
AUDCS Dubbo College 58.01 130 P P 04 43 19.3 +1.5
YSS Yuzh-Sakhalins 58.72 34 P P 04 43 22.5 0.0
YSS Yuzh-Sakhalins 58.72 34 P P 04 43 23.5 +1.1
YSS Yuzh-Sakhalins 58.72 34 *ce*P P 04 43 23.6 +1.1
YSS pmax pmax
comp=Z,101nm,1.3s
AKTO Aktyubinsk 59.38 331 P P 04 43 26.6 -0.3
AKTO Aktyubinsk 59.38 331 S S 04 51 22.4 -3.3
comp=Z,0.6nm,0.6s,baz=349,slow=16,SNR=5.8
ARMA Armidale 59.60 127 P P 04 43 28.8 -0.2
baz=60,SNR=7.5
ARMA Armidale 59.60 127 IAmb IAmb 04 43 33.9
comp=Z,20nm,0.9s
ARMA Armidale 59.60 127 P P 04 43 30.4 +1.4
CAN Canberra 59.67 133 P P 04 43 32.4 +3.1
TYV Tymovskoe 61.02 30 eP P 04 43 39.4 +1.3
TYV pmax pmax
comp=Z,8.0nm,1.0s
TYV pmax pmax
comp=Z,100nm,3.7s
GNI Garni 61.95 315 P P 04 43 45.4 +0.6
GNI IAmb IAmb 04 43 51.0
comp=Z,31nm,1.2s
GNI Garni 61.95 315 *ce*P P 04 43 45.5 +0.7
GNI pmax pmax
comp=Z,27nm,1.3s
GNI Garni 61.95 315 P P 04 43 45.9 +1.0
GROC Groznyy 62.50 319 eP P 04 43 48.7 +0.6
GROC e*PP **pP** 04 44 19.2 -0.4
GROC e*SP **sP** 04 44 33.6 -0.1
GROC eS **S** 04 52 05.4 -0.1
GROC pmax pmax
comp=Z,24nm,0.7s
SVE Sverdlovsk 62.62 337 eP P 04 43 49.3 +0.6
ARU Arti 63.16 336 P P 04 43 52.8 +0.6
ARU IAmb IAmb 04 43 53.0
comp=Z,18nm,0.9s
ARU Arti 63.16 336 *c* iP P 04 43 52.2 0.0
ARU *PP **pP** 04 44 21.5 -2.1
ARU S **S** 04 52 14.7 +1.4
ARU SS **SS** 04 56 20.3 -1.3
ARU pmax pmax
comp=Z,11nm,0.6s
ARU Arti 63.16 336 P P 04 43 52.2 0.0
comp=Z,16nm,0.4s,baz=118,slow=5.4,SNR=5.4
comp=Z,16nm,0.4s
ARU Arti 63.16 336 P P 04 43 52.3 +0.1
GURO Guroymak-BITLI 63.31 313 IAmb IAmb 04 43 56.4
comp=Z,13nm,0.8s
YAK Yakutsk 64.19 16 P P 04 43 59.2 +0.3
YAK Yakutsk 64.19 16 *c* iP P 04 43 58.6 -0.3
YAK e*PP **pP** 04 44 29.6 -0.7
YAK e 04 46 20.5
YAK eS **S** 04 52 25.8 0.0
YAK e 04 53 40.3
YAK eSS **SS** 04 56 39.4 +1.9
YAK eSSS SSS 04 59 32.8
YAK pmax pmax
comp=Z,124nm,1.9s
YAK pmax pmax
comp=N,61nm,2.0s
YAK pmax pmax
comp=E,40nm,1.5s
YAK pmax pmax
comp=Z,165nm,4.1s
YAK pmax pmax
comp=N,135nm,8.6s
YAK pmax pmax
comp=E,78nm,4.7s
YAK smax smax
comp=E,88nm,3.1s
YAK smax smax
comp=N,59nm,3.0s
YAK Yakutsk 64.19 16 P P 04 43 59.0 +0.1
NEUR Neytrino 64.58 318 *i* P P 04 44 03.7 +1.6
NEUR pmax pmax
comp=Z,6.0nm,1.1s
KBZ Khabaz 64.64 318 *ce*P P 04 44 03.0 +0.9
KBZ pmax pmax
comp=Z,20nm,0.9s
KBZ Khabaz 64.64 318 P P 04 44 03.1 +1.0
comp=Z,17nm,0.8s,baz=118,slow=6.1,SNR=51
KBZ pP **pP** 04 44 32.7 -1.0
comp=Z,11nm,0.8s,baz=144,slow=6.2,SNR=5.0
comp=Z,17nm,0.8s
KIV Kislovodsk 64.86 318 ⇑P P 04 44 04.7 +0.9
KIV Kislovodsk 64.86 318 P P 04 44 05.0 +1.2
KIV IAmb IAmb 04 44 05.4
comp=Z,17nm,0.7s
KIV Kislovodsk 64.86 318 eP P 04 44 04.4 +0.6
KIV pmax pmax
comp=Z,18nm,1.0s
KIV Kislovodsk 64.86 318 P P 04 44 04.5 +0.7
KIV pP **pP** 04 44 34.6 -0.8
BELG Belogornoye 65.80 328 *i* P P 04 44 09.0 -0.5
BELG pmax pmax
comp=Z,6.0nm,0.4s
BELG Belogornoye 65.80 328 P P 04 44 09.2 -0.2
comp=Z,36nm,0.4s,baz=327,slow=1.1,SNR=28
comp=Z,36nm,0.4s
ARPR Arapgir-MALATY 66.21 312 IAmb IAmb 04 44 45.4
comp=Z,24nm,1.1s
VSLR Vesyoloye 66.46 317 *i* P P 04 44 13.8 -0.2
VSLR pmax pmax
comp=Z,22nm,0.6s
GAZ Gaziantep 66.50 310 IAmb IAmb 04 44 16.8
comp=Z,30nm,0.8s
SOC Sochi 66.72 317 eP P 04 44 14.8 -0.8
SOC e 04 46 41.4
SOC ePPP PPP 04 48 19.2
SOC eS **S** 04 52 58.0 +0.6
SOC eSS **SS** 04 57 19.6 +2.0
SOC pmax pmax
comp=Z,45nm,0.6s
MMAI Mount Meron Ar 66.87 305 P P 04 44 19.1 +2.2
comp=Z,12nm,0.6s,baz=101,slow=7.7,SNR=26
comp=Z,12nm,0.6s
NRIK Noril'sk 67.67 356 P P 04 44 22.1 +1.1
NRIK IAmb IAmb 04 44 24.1
comp=Z,30nm,1.4s
NRIK Noril'sk 67.67 356 *ce*P P 04 44 21.5 +0.4
NRIK pmax pmax
comp=Z,20nm,1.4s
NRIK Noril'sk 67.67 356 P P 04 44 21.4 +0.4
comp=Z,4.2nm,0.3s,baz=138,slow=3.4,SNR=11
NRIK S **S** 04 53 05.6 -2.3
comp=Z,2.3nm,0.5s,baz=293,slow=21,SNR=12
comp=Z,4.2nm,0.3s
BNN Bunyan 68.00 311 P P 04 44 25.0 +1.0
SKR Severo-Kuril's 68.21 35 eP P 04 44 25.9 +1.2
SKR eS **S** 04 53 17.1 +2.3
SKR pmax pmax
comp=Z,134nm,0.9s
MBAR Mbarara 68.24 269 LR LR 05 12 13.9
comp=Z,26nm,18.8s,baz=116,slow=34
KIRV Kirov 68.34 335 P P 04 44 25.4 0.0
comp=Z,42nm,0.5s,baz=86,slow=1.0,SNR=17
KIRV S **S** 04 53 14.8 -1.3
comp=Z,2.8nm,0.5s,baz=298,slow=22,SNR=5.7
comp=Z,42nm,0.5s
VRH Novokhopyorsk 68.46 325 eP P 04 44 25.9 -0.4
VRH pmax pmax
comp=Z,115nm,0.6s
CASY Casey 68.62 175 P P 04 44 28.4 +1.4
ANN Anapa 68.68 318 eP P 04 44 25.4 -2.4
ANN e*PP **pP** 04 44 58.4 -1.2
ANN pmax pmax
comp=Z,34nm,1.1s
CSS Mathiatis 68.99 307 IAmb IAmb 04 44 31.9
comp=Z,19nm,0.8s
MA2 Magadan 69.88 25 P P 04 44 35.9 +1.0
MA2 IAmb IAmb 04 44 36.7
comp=Z,85nm,1.8s
MA2 Magadan 69.88 25 P P 04 44 35.9 +1.0
MA2 pmax pmax
comp=Z,85nm,1.8s
MA2 Magadan 69.88 25 P P 04 44 35.5 +0.5
BR131 Keskin Array S 69.88 312 P P 04 44 35.9 +0.3
BR131 IAmb IAmb 04 44 36.4
comp=Z,16nm,0.7s
BR131 Keskin Array S 69.88 312 P P 04 44 35.9 +0.3
BR131 pmax pmax
comp=Z,16nm,0.7s
BRTR Keskin Array B 69.88 312 P P 04 44 35.8 +0.3
BRTR Keskin Array B 69.88 312 P P 04 44 35.6 +0.1
comp=Z,12nm,0.6s,baz=130,slow=6.9,SNR=73
BRTR pP **pP** 04 45 05.7 -1.9
comp=Z,3.7nm,0.8s,baz=146,slow=2.4,SNR=2.9
comp=Z,12nm,0.6s
VSR Storozhevoye 69.93 325 eP P 04 44 34.1 -1.3
VSR e*SP **pP** 04 45 03.7 -3.8
VSR pmax pmax
comp=Z,40nm,0.5s
VORR Voronezh 70.08 325 eP P 04 44 36.1 -0.2
VORR pmax pmax
comp=Z,93nm,0.5s
PETK Petropavlovsk- 70.12 33 P P 04 44 36.2 -0.4
comp=Z,15nm,0.8s,baz=213,slow=5.8,SNR=20
comp=Z,15nm,0.8s
PET Petropavlovsk 70.61 34 P P 04 44 40.0 +0.5
PET Petropavlovsk 70.61 34 *ce*P P 04 44 39.9 +0.5

PET pmax pmax
comp=Z,171nm,1.7s
PET Petropavlovsk 70.61 34 P **P** **04 44 39.8 +0.3**
LPSR Galich'ya Gora 70.61 326 *e*P **P** **04 44 38.5 -1.0**
LPSR *e**SP **pP** **04 45 08.9 -2.8**
LPSR pmax pmax
comp=Z,30nm,0.7s
SIM Simferopol' 70.97 317 *e*P **P** **04 44 41.9 0.0**
SIM *e*S **S** **04 53 51.6 +4.1**
SIM pmax pmax
comp=Z,48nm,0.8s
SIM smax smax
comp=E,60nm,20.1s
LSZ Lusaka 72.01 253 P **P** **04 44 49.2 +0.4**
LSZ Lusaka 72.01 253 P **P** **04 44 49.2 +0.4**
LSZ pmax pmax
comp=Z,12nm,1.4s
ELL Elmali 72.08 308 IAmb IAmb 04 44 50.8
comp=Z,55nm,0.8s
TIXI Tiksi 72.12 10 *i*P **P** **04 44 48.1 -0.1**
TIXI pmax pmax
comp=Z,17nm,1.3s
TIXI Tiksi 72.12 10 LR LR 05 20 39.5
comp=Z,49nm,18.2s,baz=214,slow=39
SEY Seymchan 72.36 23*ce*P **P** **04 44 50.5 +0.7**
SEY pmax pmax
comp=Z,21nm,1.7s
MOS Moscow 72.56 329 *e*P **P** **04 44 49.8 -1.3**
MOS *e**PP **pP** **04 45 19.6 -3.7**
MOS *e**SP **sP** **04 45 33.0 -4.2**
MOS *e*S **S** **04 54 01.0 -4.3**
MOS pmax pmax
comp=Z,42nm,0.8s
OBN Obninsk 72.88 328⇑ *e*P **P** **04 44 53.4 +0.4**
OBN *e**PP **pP** **04 45 23.5 -1.8**
OBN *e* 04 47 36.7
OBN *e*PPP PPP 04 49 20.5
OBN *e*S **S** **04 54 03.1 -5.7**
OBN *e*SS **SS** **04 58 45.7 -6.0**
OBN pmax pmax
comp=Z,8.0nm,0.4s
KLMR Klimovskoe 73.81 334 *e*P **P** **04 44 55.0 -3.3**
KLMR *e**PP **pP** **04 45 27.4 -3.3**
KLMR *e* 04 47 40.1
KLMR pmax pmax
comp=Z,17nm,1.4s
MILM Milestii Mici 75.05 318⇓ *i*P **P** **04 45 05.0 -0.9**
comp=Z,36nm,0.6s
MILM Milestii Mici 75.05 318 *i*P **P** **04 45 05.0 -0.9**
MILM pmax pmax
comp=Z,40nm,0.6s
AKASG Malin Array Be 75.71 322 P **P** **04 45 09.3 -0.2**
comp=Z,4.7nm,0.5s,baz=88,slow=5.3,SNR=40
AKASG pP **pP** **04 45 40.1 -1.9**
comp=Z,3.8nm,0.6s,baz=88,slow=4.7,SNR=5.1
AKASG PP **PP** **04 47 55.9 -5.0**
comp=Z,4.2nm,0.7s,baz=90,slow=6.2,SNR=5.5
comp=Z,4.7nm,0.5s
AKBB Malin Array Si 75.71 322*ce*P **P** **04 45 09.8 +0.3**
KIEV Kiev 75.72 322⇑ P **P** **04 45 11.3 +1.8**
KIEV Kiev 75.72 322 P **P** **04 45 09.7 +0.1**
KIEV Kiev 75.72 322 P **P** **04 45 09.7 +0.1**
KIEV pmax pmax
comp=Z,13nm,0.8s
LBTB Lobatse 75.80 244 P **P** **04 45 11.3 +0.6**
LBTB IAmb IAmb 04 45 44.4
comp=Z,29nm,1.2s
LBTB Lobatse 75.80 244 P **P** **04 45 11.3 +0.6**
LBTB pmax pmax
comp=Z,29nm,1.3s
LBTB Lobatse 75.80 244 LR LR 05 17 35.4
comp=Z,38nm,18.0s,baz=160,slow=35
BISRR Bisoca 76.18 316⇓ P **P** **04 45 13.8 +1.3**
VRI Vrincioaia 76.23 317⇑ P **P** **04 45 14.1 +1.4**
VRI Vrincioaia 76.23 317 P **P** **04 45 14.1 +1.4**
TESR Tescani 76.42 317⇓ P **P** **04 45 14.6 +1.0**
BOSA Boshof 76.68 240 P **P** **04 45 17.1 +1.5**
comp=Z,3.9nm,0.7s,baz=98,slow=6.4,SNR=8.0
BOSA pP **pP** **04 45 47.6 0.0**
comp=Z,5.3nm,0.9s,baz=76,slow=6.1,SNR=4.7
comp=Z,3.9nm,0.7s
MLR Muntele Rosu 76.70 316⇓ P **P** **04 45 16.6 +1.1**
MLR Muntele Rosu 76.70 316 IAmb IAmb 04 45 48.7
comp=Z,38nm,1.3s
MLR Muntele Rosu 76.70 316 P **P** **04 45 16.5 +1.1**
MLR Muntele Rosu 76.70 316 LR LR 05 24 34.1
comp=Z,18nm,19.6s,baz=196,slow=40
TURR Turia 76.76 317⇑ P **P** **04 45 16.9 +1.3**
PRAR RASCA 76.87 318⇑ P **P** **04 45 17.2 +1.0**
MNK Minsk 77.46 326 *i*P **P** **04 45 18.9 -0.4**
MNK *i* 04 45 32.0
MNK *i**PP **pP** **04 45 49.2 -2.6**
MNK *i* 04 48 14.8
MNK *i*PPP PPP 04 50 02.7
MNK *i*S **S** **04 55 00.4 +0.8**
MNK *i**SS **sS** **04 55 53.1 -2.2**
MNK *i*SS **SS** **05 00 02.7 +1.6**
MNK *i*SSS SSS 05 03 27.3
MNK pmax pmax
comp=Z,32nm,0.8s
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK pmax pmax
comp=N,19nm,0.9s
MNK MLR MLR
comp=N,705nm,19.0s
MNK MLR MLR
comp=E,309nm,18.0s
MNK MLR MLR
comp=Z,69nm,19.0s
ARR Arges 77.59 316⇓ P **P** **04 45 20.8 +0.5**
BURAR Bucovina Array 77.59 318 IAmb IAmb 04 45 23.0
comp=Z,19nm,0.7s
BUR08 Bucovina Ar. S 77.61 318 IAmb IAmb 04 45 23.2
comp=Z,45nm,1.3s
VALR Valaam 77.87 333 *i*P **P** **04 45 21.8 +0.4**
VALR pmax pmax
comp=Z,19nm,0.8s
JOF Joensuu 78.19 334 *e*P **P** **04 45 24.1 +0.9**
CJR Cluj-Napoca 78.52 317⇓ P **P** **04 45 27.1 +1.7**
CJR Cluj-Napoca 78.52 317 P **P** **04 45 27.1 +1.7**
ISAL Salakas 78.69 326 *e*P **P** **04 45 28.1 +2.0**
LVV L'vov 78.77 320 *e*P **P** **04 45 29.9 +3.2**
MARR Marisel-Cluj 78.84 317⇑ P **P** **04 45 28.1 +0.8**
GZR Gura Zlata 78.88 316⇑ P **P** **04 45 28.0 +0.5**
GZR Gura Zlata 78.88 316 P **P** **04 45 27.9 +0.5**
VSU Vasula 79.06 329*ce*P **P** **04 45 29.0 +1.0**
VSU pmax pmax
comp=Z,46nm,2.5s
HERR Herculane 79.06 315⇑ P **P** **04 45 28.9 +0.6**
DRGR 79.14 317⇑ P **P** **04 45 30.3 +1.4**
DRGR 79.14 317 P **P** **04 45 30.2 +1.4**
KWP Kalwaria Pacla 79.58 320 IAmb IAmb 04 46 04.8
comp=Z,32nm,1.3s
BZS Buzias 79.72 316⇑ P **P** **04 45 32.4 +0.4**
BZS Buzias 79.72 316 P **P** **04 45 32.3 +0.4**
KOLS Kolonicke sedl 79.76 319 *e*P **P** **04 45 34.9 +2.8**
KOLS pmax pmax
comp=Z,15nm,0.8s
KOLS Kolonicke sedl 79.76 319 *e*P **P** **04 45 34.9 +2.8**
PABE Paberze 79.88 326 P **P** **04 45 33.2 +0.7**
PABE IAmb IAmb 04 46 05.4
comp=Z,68nm,1.4s
PABE Paberze 79.88 326 *e*P **P** **04 45 33.1 +0.6**
SUW Suwalki 80.05 324 *e*P **P** **04 45 33.8 +0.4**
FIA1 FINESS Array S 80.11 332 IAmb IAmb 04 45 36.4
comp=Z,26nm,0.6s
FINES FINESS Array B 80.11 332 P **P** **04 45 34.1 +0.5**
comp=Z,7.6nm,0.4s,baz=108,slow=5.8,SNR=57
FINES pP **pP** **04 46 05.5 -0.9**
comp=Z,2.5nm,0.5s,baz=116,slow=8.9,SNR=2.6
comp=Z,7.6nm,0.4s
STHS Stebnicka Huta 80.50 320 *e*P **P** **04 45 37.0 +1.0**
STHS pmax pmax
comp=Z,7.0nm,0.8s
STHS Stebnicka Huta 80.50 320 *e*P **P** **04 45 37.0 +1.0**
MEF Metsahovi 80.63 331 *e*P **P** **04 45 37.3 +0.9**
KEF Keuruu 80.84 333 *e*P **P** **04 45 38.6 +1.0**
SUR Sutherland 81.05 237 LR LR 05 12 32.8
comp=Z,56nm,22.0s,baz=140,slow=29
PBUR Paburge 81.11 326 *e*P **P** **04 45 40.3 +1.3**
PSZ Piszkesteto 81.19 318 P **P** **04 45 40.5 +0.7**
PSZ Piszkesteto 81.19 318 P **P** **04 45 40.5 +0.7**
PSZ pmax pmax
comp=Z,8.0nm,0.9s
VYHS Vyhne 81.96 319 *e*P **P** **04 45 44.6 +0.8**
VYHS pmax pmax
comp=Z,7.0nm,1.4s
VYHS Vyhne 81.96 319 *e*P **P** **04 45 44.6 +0.8**
VAF Ylistaro 82.02 333 *e*P **P** **04 45 44.3 +0.6**
RAF Rauma 82.06 331 *e*P **P** **04 45 44.1 +0.1**
SRO Srobarova 82.23 318 *e*P **P** **04 45 47.2 +2.0**
SRO pmax pmax
comp=Z,10.0nm,0.7s
SRO Srobarova 82.23 318 *e*P **P** **04 45 47.2 +2.0**
ARA0 ARCESS Array S 82.39 340 *e*P **P** **04 45 46.7 +1.1**
ARA0 IAmb IAmb 04 45 48.3
comp=Z,149nm,2.2s
ARCES ARCESS Array B 82.39 340 P **P** **04 45 45.2 -0.3**
comp=Z,6.2nm,1.0s,baz=102,slow=6.6,SNR=19
comp=Z,6.2nm,1.0s
JAVC Velka Javorina 82.76 319 *e*P **P** **04 45 49.8 +1.8**
JAVC *e* 04 46 20.6
AAL Aland 82.79 330 *e*P **P** **04 45 48.1 +0.3**
MORC Moravsky Berou 82.93 320⇑ P **P** **04 45 49.5 +0.6**
MORC Moravsky Berou 82.93 320 *e*P **P** **04 45 50.0 +1.2**
MORC *e* 04 46 21.0
MORC Moravsky Berou 82.93 320 P **P** **04 45 49.4 +0.6**
KTK1 Kautokeino 83.05 339 *e*P **P** **04 45 49.6 +0.6**
KTK1 IAmb IAmb 04 45 51.2
comp=Z,19nm,1.0s
ZST Bratislava 83.08 318 *e*P **P** **04 45 51.2 +1.6**
ZST pmax pmax
comp=Z,26nm,0.8s
ZST Bratislava 83.08 318 *e*P **P** **04 45 51.2 +1.6**
VRAC Vranov 83.50 319 *e*P **P** **04 45 53.9 +2.1**
RONA Rosalia, Austr 83.58 318 *e*P **P** **04 45 51.6 -0.7**
comp=Z,2.6nm,0.7s
KRUC Moravsky 83.61 319 *e*P **P** **04 45 53.2 +0.9**
DPC Dobruska-Polom 83.76 320 *e*P **P** **04 45 54.8 +1.7**
DPC Dobruska-Polom 83.76 320 *e*P **P** **04 45 54.8 +1.7**
CONA Conrad Observa 83.89 318 *i*P **P** **04 45 55.1 +1.2**
comp=Z,3.7nm,0.9s
UPP Uppsala 83.92 330 *e*P **P** **04 45 54.6 +1.0**
GOLS Golise 83.93 316 *i*P **P** **04 45 55.1 +1.1**
GOLS *i*pP **pP** **04 46 26.4 -0.5**
ARSA Arzberg 84.08 317 *i*P **P** **04 45 56.5 +1.8**
comp=Z,6.1nm,1.1s
JETT Jettan, Norway 84.14 340 *e*P **P** **04 45 55.0 +0.4**
JETT IAmb IAmb 04 45 57.5
comp=Z,16nm,0.5s
PERS Pernice 84.32 316 *i*P **P** **04 45 57.4 +1.4**
PERS *i*pP **pP** **04 46 28.3 -0.7**
HOPEN Hopen 84.35 347 *e*P **P** **04 45 55.9 +0.4**
HOPEN IAmb IAmb 04 45 56.8
comp=Z,12nm,0.8s
SOKA Soboth 84.38 317 *i*P **P** **04 45 57.9 +1.6**
comp=Z,8.6nm,0.8s
TRO Tromso 84.67 340 *e*P **P** **04 45 57.3 +0.1**
LJU Ljubljana 84.69 316 *e*P **P** **04 45 59.3 +1.4**
LJU *i*pP **pP** **04 46 30.4 -0.4**
OBKA Obir 84.70 316 *i*P **P** **04 45 59.1 +1.1**
comp=Z,6.2nm,1.0s
CKRC Cesky Krumlov 84.97 319 *e*P **P** **04 46 00.5 +1.3**
CKRC Cesky Krumlov 84.97 319 *e*P **P** **04 46 00.5 +1.3**
BRG Berggiesshubel 85.31 321 *e*P **P** **04 46 02.2 +1.4**
comp=Z,3.9nm,1.0s,baz=91,slow=4.9
BRG *e*pP **pP** **04 46 33.4 -0.4**
baz=91,slow=4.9
BIOA Bad Ischl, Aus 85.37 318 *e*P **P** **04 46 01.8 +0.6**
comp=Z,6.5nm,1.3s
GEC2 GERESS Array S 85.38 319 P **P** **04 46 02.2 +0.9**
GERES GERESS Array B 85.38 319 P **P** **04 46 02.5 +1.2**
comp=Z,2.6nm,0.8s,baz=90,slow=8.9,SNR=3.4
GERES pP **pP** **04 46 34.1 -0.2**
comp=Z,3.6nm,0.9s,baz=70,slow=8.7,SNR=3.7
comp=Z,2.6nm,0.8s
PRED Cave del Predi 85.38 316 P **P** **04 46 02.0 +0.6**
KHC Kasperske Hory 85.47 319*ce*P **P** **04 46 03.5 +1.8**
KHC pmax pmax
comp=Z,8.0nm,0.8s
KHC Kasperske Hory 85.47 319 *e*P **P** **04 46 02.7 +1.0**
RUE Ruedersdorf 85.48 322 *e*P **P** **04 46 03.6 +2.0**
RUE Ruedersdorf 85.48 322 *e*P **P** **04 46 03.1 +1.6**
comp=Z,35nm,0.9s,baz=91,slow=4.9
RUE *e*pP **pP** **04 46 34.3 -0.3**
baz=91,slow=4.9
DEL Delary 85.62 326 *e*P **P** **04 46 03.6 +1.4**
FAUS Fauske 85.73 337 *e*P **P** **04 46 03.0 +0.6**
FAUS IAmb IAmb 04 46 04.8
comp=Z,11nm,0.8s
STEI Steigen 85.79 338 *e*P **P** **04 46 03.4 +0.6**
STEI IAmb IAmb 04 46 05.1
comp=Z,20nm,0.8s
HFS Hagfors 85.91 330 P **P** **04 46 04.3 +0.8**
comp=Z,5.6nm,0.4s,baz=134,slow=4.2,SNR=69
HFS pP **pP** **04 46 36.3 -0.4**
comp=Z,12nm,0.7s,baz=131,slow=4.5,SNR=8.3
comp=Z,5.6nm,0.4s
CLL Collm 85.92 321 *e*P **P** **04 46 05.0 +1.2**
CLL Collm 85.92 321 *e*P **P** **04 46 05.0 +1.2**
WET Wettzell 85.93 319 *e*P **P** **04 46 05.2 +1.3**
comp=Z,3.9nm,0.9s,baz=91,slow=4.9
WET *e*pP **pP** **04 46 36.2 -0.8**
baz=91,slow=4.9
RJOB Jochberg 85.94 318 *e*P **P** **04 46 05.1 +1.1**
comp=Z,5.7nm,0.9s,baz=91,slow=4.9
MOR8 Moi Rana 85.96 336 *e*P **P** **04 46 03.8 +0.1**
MOR8 IAmb IAmb 04 46 06.2
comp=Z,10nm,0.9s
LESA Schwarzleotal 86.02 317 *e*P **P** **04 46 04.5 0.0**
comp=Z,1.8nm,0.5s
VNDA Vanda 86.25 169 P **P** **04 46 06.4 +1.5**
comp=Z,1.8nm,1.1s,baz=297,slow=2.3,SNR=1.2
comp=Z,1.8nm,1.1s
ROTZ Rotzenmuhle 86.38 320 *e*P **P** **04 46 07.9 +1.8**
comp=Z,0.8nm,0.7s,baz=91,slow=4.9
ROTZ *e*pP **pP** **04 46 38.5 -0.8**
baz=91,slow=4.9
MANZ Manzenberg 86.45 320 *e*P **P** **04 46 08.7 +2.2**
comp=Z,2.0nm,1.0s,baz=91,slow=4.9
MANZ *e*pP **pP** **04 46 39.3 -0.3**
baz=91,slow=4.9
KONS Konsvik 86.52 336 *e*P **P** **04 46 07.8 +1.5**
KONS IAmb IAmb 04 46 12.2
comp=Z,22nm,1.0s
SPA0 Spitsbergen Ar 86.54 348 *e*P **P** **04 46 06.6 +0.3**
SPA0 IAmb IAmb 04 46 09.3
comp=Z,15nm,1.0s
SPITS Spitsbergen Ar 86.54 348 P **P** **04 46 06.1 -0.2**
comp=Z,2.6nm,0.5s,baz=106,slow=9.2,SNR=20
comp=Z,2.6nm,0.5s
WTTA Wattenberg 86.72 317 *i*P **P** **04 46 07.9 -0.2**
comp=Z,10nm,1.1s
NSS Namsos 86.91 334 *e*P **P** **04 46 09.1 +0.8**
NSS IAmb IAmb 04 46 13.9
comp=Z,7.0nm,0.8s
NC602 NORSAR Array S 87.00 331 P **P** **04 46 10.1 +1.2**
NC602 IAmb IAmb 04 46 41.5
comp=Z,13nm,0.7s
NC602 NORSAR Array S 87.00 331 *e*P **P** **04 46 09.6 +0.7**
NC602 IAmb IAmb 04 46 11.1
comp=Z,7.3nm,0.8s
SQTA Sankt Quirin 87.01 317 *i*P **P** **04 46 09.8 +0.4**
comp=Z,3.9nm,0.6s
FLTG Flechtingen 87.03 322 *e*pP pP 04 46 41.3 -1.1
baz=91,slow=4.9
MOTA Moosalm 87.08 317 *i*P **P** **04 46 10.2 +0.4**
comp=Z,5.6nm,0.8s
STRU Stroemstad 87.15 329 *e*P pP 04 46 41.4 -1.5
NB2 NORSAR Subarra 87.17 331 P **P** **04 46 09.9 +0.2**
comp=Z,4.6nm,0.9s,baz=87,slow=5.6
NB2 PP **PP** **04 49 35.0 -0.1**
comp=Z,0.5nm,0.6s,baz=85,slow=8.6
NB2 NORSAR Subarra 87.17 331 P **P** **04 46 09.9 +0.2**
baz=87,slow=5.6
NOA NORSAR Array B 87.17 331 P **P** **04 46 10.3 +0.6**
comp=Z,2.9nm,0.8s,baz=93,slow=4.8,SNR=11
NOA pP **pP** **04 46 41.8 -1.3**
comp=Z,6.7nm,0.8s,baz=93,slow=4.8,SNR=14
NOA PP **PP** **04 49 33.7 -1.4**
comp=Z,1.6nm,0.9s,baz=99,slow=6.9,SNR=4.6
NOA LR LR 05 28 37.2
comp=Z,12nm,19.4s,baz=200,slow=38
comp=Z,2.9nm,0.8s
RETA Reutte 87.32 317 *i*P **P** **04 46 11.0 +0.2**
comp=Z,5.7nm,0.9s
FETA Feichten 87.34 317 *i*P **P** **04 46 12.0 +1.0**
comp=Z,6.7nm,1.1s
ASSE Asse, Remlinge 87.38 322 *e*P **P** **04 46 12.3 +1.5**
comp=Z,16nm,1.3s,baz=91,slow=4.9
ASSE *e*pP **pP** **04 46 43.3 -0.7**
baz=91,slow=4.9
ELIB Princess Elisa 87.44 198 *d*PcP **PcP** **04 46 13.8 +1.0**
comp=Z,4.5nm,0.9s
ELIB *d*pP **pP** **04 46 44.1 +0.5**
CLZ Clausthal 87.56 322 *e*P **P** **04 46 13.4 +1.6**
comp=Z,9.7nm,0.9s,baz=91,slow=4.9
CLZ *e*pP **pP** **04 46 44.7 -0.4**
baz=91,slow=4.9
BSEG Bad Segeberg 87.60 324 *e*pP pP 04 46 45.0 -0.1
comp=Z,21nm,1.0s,baz=91,slow=4.9
NRDL Niedersach Rie 87.73 322 *e*P **P** **04 46 14.4 +2.0**
comp=Z,14nm,1.0s,baz=91,slow=4.9
NRDL *e*pP **pP** **04 46 45.7 +0.1**
baz=91,slow=4.9
GTTG Gottingen 87.82 321 *e*P **P** **04 46 14.9 +2.0**
comp=Z,7.9nm,0.6s,baz=91,slow=4.9
DAVA Damuels 87.92 317 *e*P **P** **04 46 14.1 +0.4**
comp=Z,8.4nm,1.2s
RETH Rethem/Aller, 88.18 323 *e*P **P** **04 46 16.2 +1.7**
comp=Z,13nm,1.2s,baz=91,slow=4.9
RETH *e*pP **pP** **04 46 47.4 -0.5**
baz=91,slow=4.9
KEST Kesra 88.53 306 P **P** **04 46 17.2 +0.4**
KEST IAmb IAmb 04 46 51.0
comp=Z,18nm,1.1s
KEST Kesra 88.53 306 P **P** **04 46 18.0 +1.2**
comp=Z,15nm,1.0s,baz=344,slow=5.4,SNR=7.8
KEST pP **pP** **04 46 48.6 -1.4**
comp=Z,14nm,1.0s,baz=51,slow=1.6,SNR=5.1
comp=Z,15nm,1.0s
KASTN Kahler Asten 88.80 321 *e*P **P** **04 46 19.3 +1.7**
comp=Z,13nm,1.2s,baz=91,slow=4.9
KASTN *e*pP **pP** **04 46 50.5 -0.5**
baz=91,slow=4.9
TNS Taunus Mts 88.81 320 *e*P **P** **04 46 19.5 +1.7**
comp=Z,12nm,0.9s,baz=91,slow=4.9
TNS *e*pP **pP** **04 46 50.8 -0.3**
baz=91,slow=4.9
IBBN Ibbenburen 89.17 322 *e*pP pP 04 46 52.2 -0.4
baz=91,slow=4.9
BUG Bochum--Univer 89.51 321 *e*pP pP 04 46 54.0 -0.2
baz=91,slow=4.9
AHRW Bad Neuenahr-A 89.67 320 *e*pP pP 04 46 55.1 0.0
baz=91,slow=4.9
C17K DeLong Mountai 91.06 21 P **P** **04 46 29.1 +1.2**
baz=278
B18K Kokolik River 91.42 20 P **P** **04 46 31.3 +1.9**
baz=279
A19K Wainwright 91.53 20 P **P** **04 46 31.2 +1.3**
baz=280
QSPA South Pole Qui 91.92 180 P **P** **04 46 33.0 +1.1**
comp=Z,3.0nm,0.8s,baz=300,slow=6.6,SNR=15
comp=Z,3.0nm,0.8s
G17K Kiwalik Mounta 92.52 24 P **P** **04 46 35.7 +1.1**
baz=280
F18K Selawik 92.71 23 P **P** **04 46 36.5 +1.0**
baz=281
D19K Kuna River 92.89 21 P **P** **04 46 36.9 +0.6**
baz=283
H17K Granite Mounta 92.93 25 IAmb IAmb 04 49 55.6
comp=Z,16nm,1.8s
J16K Anvik River 92.94 26 P **P** **04 46 37.5 +1.0**
baz=280
D20K Etivluk River 93.38 21 P **P** **04 46 39.1 +0.5**
baz=284
E20K Nigu River 93.64 21 P **P** **04 46 40.6 +0.8**
baz=284
L16K Owhat River 93.74 28 P **P** **04 46 41.8 +1.5**
baz=281
G19K Purcell Mounta 93.82 23 IAmb IAmb 04 46 43.3
comp=Z,15nm,1.6s
B21K Ikpikpuk River 93.83 20 P **P** **04 46 41.0 +0.5**
B21K IAmb IAmb 04 47 15.0
comp=Z,19nm,1.2s
B21K Ikpikpuk River 93.83 20 P **P** **04 46 41.3 +0.7**
baz=286
C21K Knifeblade Rid 93.90 20 P **P** **04 46 41.9 +1.0**
baz=286
B22K Teshekpuk Lake 94.02 19 P **P** **04 46 42.6 +1.2**
baz=287
K17K Iditarod 94.08 27 P **P** **04 46 43.0 +1.2**
baz=282
F20K Avaraart Lake 94.12 22 P **P** **04 46 41.9 0.0**
F20K Avaraart Lake 94.12 22 P **P** **04 46 42.5 +0.6**
baz=285
H19K Roundabout Mou 94.22 24 IAmb IAmb 04 47 39.2
comp=Z,24nm,1.6s
H19K Roundabout Mou 94.22 24 P **P** **04 46 44.1 +1.7**
baz=284
N16K Nishlik Lake 94.33 29 P **P** **04 46 44.5 +1.4**
baz=282
J18K Innoko River 94.61 26 P **P** **04 46 44.7 +0.5**
baz=284
H20K Anotleneega Mo 94.86 24 P **P** **04 46 46.1 +0.7**
baz=286
F21K Alatna River 94.92 22 P **P** **04 46 45.2 -0.5**
F21K IAmb IAmb 04 47 23.2
comp=Z,12nm,1.6s
F21K Alatna River 94.92 22 P **P** **04 46 45.6 0.0**
baz=287
G21K Allakaket 95.12 23 IAmb IAmb 04 46 54.6
comp=Z,5.7nm,0.8s
G21K Allakaket 95.12 23 P **P** **04 46 47.7 +1.2**
baz=287
EKA Eskdalemuir Ar 95.25 326 P **P** **04 46 48.0 +0.6**
comp=Z,0.2nm,0.5s,baz=90,slow=5.0,SNR=2.2
EKA pP **pP** **04 47 19.6 -1.2**
comp=Z,1.5nm,0.6s,baz=95,slow=4.9,SNR=4.8
EKA PP **PP** **04 50 39.5 +0.7**
comp=Z,1.3nm,0.7s,baz=90,slow=8.2,SNR=6.4
comp=Z,0.2nm,0.5s
J20K Nowinta River 95.53 25 P **P** **04 46 50.0 +1.6**
baz=286
H21K Melozitna Rive 95.64 23 IAmb IAmb 04 46 57.4
comp=Z,16nm,1.7s
K20K Telida 95.79 26 IAmb IAmb 04 46 53.0
comp=Z,16nm,1.4s
K20K Telida 95.79 26 P **P** **04 46 50.9 +1.3**
baz=286
TORD Torodi Ar. Bea 96.61 283 P **P** **04 46 54.9 +0.5**
comp=Z,0.2nm,0.6s,baz=78,slow=7.0,SNR=1.4
comp=Z,0.2nm,0.6s
CAST Castle Rocks 96.63 25 P **P** **04 46 54.5 +1.0**
baz=288
BPAW Bear Paw Mtn. 96.87 25 IAmb IAmb 04 46 57.8
comp=Z,4.1nm,0.6s
BPAW Bear Paw Mtn. 96.87 25 P **P** **04 46 55.7 +1.1**
baz=289
MCK McKinley 97.85 25 P Pdif 04 47 00.9 +1.8
baz=291
KDAK Kodiak Island 98.08 31 LR LR 05 35 40.1
comp=Z,40nm,18.1s,baz=281,slow=38
ILAR Eielson Array 98.29 23 P Pdif 04 47 01.0 +0.1
ILAR Eielson Array 98.29 23 P Pdif 04 47 01.0 +0.1
comp=Z,0.4nm,0.8s,baz=293,slow=4.6,SNR=2.4
comp=Z,0.4nm,0.8s
YKA Yellowknife Ar 110.87 16 PKiKP **PKiKP** **04 51 55.5 -0.4**
comp=Z,0.1nm,0.7s,baz=318,slow=0.8,SNR=3.5
YKA PP **PP** **04 52 30.8 -4.0**
comp=Z,0.7nm,0.9s,baz=332,slow=6.7,SNR=5.3
YKA SKP **SKPdf** **04 55 18.1 -1.5**
comp=Z,0.3nm,0.8s,baz=317,slow=1.5,SNR=4.5
SCHQ Schefferville 122.17 350 PKP **PKPdf** **04 52 17.8 0.0**
comp=Z,1.0nm,0.5s,baz=6.4,slow=6.3,SNR=6.3
PLID Pearl Lake 123.78 29 PKPdf **PKPdf** **04 52 21.2 -0.3**
BOZ Bozeman (W) 125.42 26 P **PKiKP** **04 52 25.4 +0.5**
baz=321
ULM Lac du Bonnet 126.43 12 PKP **PKPdf** **04 52 25.6 -0.5**
comp=Z,1.8nm,0.5s,baz=4.3,slow=8.2,SNR=5.3
LAO LASA Array 126.70 21 P **PKiKP** **04 52 28.6 +1.3**
baz=328
NVAR Mina Array Bea 127.12 37 SKP **SKPdf** **04 55 51.5 -0.2**
comp=Z,1.1nm,0.7s,baz=201,slow=1.4,SNR=3.9
PDAR Pinedale Array 128.57 27 PKP **PKPdf** **04 52 30.4 -0.3**
comp=Z,0.7nm,0.6s,baz=222,slow=1.2,SNR=8.1
PDAR PP **PP** **04 54 37.0 +0.2**
comp=Z,0.6nm,0.9s,baz=48,slow=2.2,SNR=3.9
GRAC Grapevine Rang 128.62 37 P **PKiKP** **04 52 32.2 +0.8**
baz=311
R11B Troy Canyon, C 128.76 35 PKPdf **PKPdf** **04 52 30.7 -0.4**
R11B Troy Canyon, C 128.76 35 P **PKiKP** **04 52 32.3 +0.5**
baz=314
DUG Duguway, Tooele 128.96 31 P **PKiKP** **04 52 33.3 +1.2**
baz=318
SRU San Rafael Swe 130.94 30 PKPdf **PKPdf** **04 52 35.4 +0.1**
SRU San Rafael Swe 130.94 30 PKIKP **PKPdf** **04 52 35.4 +0.1**

PLCA	**Paso Flores**	**140.28**	**193**	SKPbc	**SKPbc**	**04 56 16.3**	**-0.7**
	comp=Z,4.7nm,0.9s,baz=218,slow=3.1,SNR=7.3						
SPB	**Sao Paulo**	**141.00**	**234**	*eP*	**PKPdf**	**04 52 52.0**	**-2.1**
TXAR	**Lajitas Array**	**142.07**	**33**	PKPdf	**PKPdf**	**04 52 53.0**	**-3.0**
TXAR	**Lajitas Array**	**142.07**	**33**	PKIKP	**PKPdf**	**04 52 53.0**	**-3.0**
TXAR	**Lajitas Array**	**142.07**	**33**	PKhKP	PKPpre	04 52 52.2	
	comp=Z,1.4nm,0.7s,baz=226,slow=0.9,SNR=11						
TXAR				PP	**PP**	**04 56 01.6**	**-0.2**
	comp=Z,0.6nm,0.9s,baz=318,slow=1.7,SNR=3.5						
TXAR				SKPbc	**SKPbc**	**04 56 20.8**	**-1.2**
	comp=Z,4.5nm,0.7s,baz=265,slow=0.8,SNR=24						
JCT	**Junction City**	**143.09**	**28**	PKPdf	PKPbc	04 52 55.5	+0.6
JCT	**Junction City**	**143.09**	**28**	PKIKP	PKPbc	04 52 55.5	+0.6
JCT	**Junction City** baz=328	**143.09**	**28**	P	PKPbc	04 52 55.8	+0.9
DRIO	**Del Rio**	**143.58**	**29**	PKPdf	PKPbc	04 52 56.4	+0.1
BDFB	**Brasilia**	**144.72**	**245**	PKP	**PKPdf**	**04 53 01.3**	**+0.3**
BDFB				pPKP	**pPKPdf**	**04 53 33.7**	**-1.9**
	comp=Z,6.2nm,0.6s,baz=130,slow=2.4,SNR=15						
	comp=Z,4.8nm,0.7s,baz=152,slow=6.2,SNR=3.9						
833A	**Chaparral WMA,** baz=327	**145.09**	**29**	P	**PKPdf**	**04 53 02.1**	**+0.9**
CPUP	**Villa Florida**	**146.75**	**221**	PKPab	**PKPbc**	**04 53 06.1**	**+0.2**
CPUP	**Villa Florida**	**146.75**	**221**	PKP2	**PKPbc**	**04 53 06.1**	**+0.2**
CPUP	**Villa Florida**	**146.75**	**221**	PKPbc	**PKPbc**	**04 53 05.8**	**-0.1**
	comp=Z,5.6nm,0.8s,baz=139,slow=2.8,SNR=12						
CPUP				pPKPbc	**pPKPdf**	**04 53 38.5**	**-0.3**
	comp=Z,4.6nm,0.7s,baz=110,slow=1.9,SNR=4.9						
MT01	**Popeta**	**146.99**	**195**		**PKPbc**	**04 53 07.0**	**+0.6**
LPAZ	**La Paz**	**160.92**	**221**	PKP	**PKPdf**	**04 53 25.8**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=187,slow=5.9,SNR=3.6						

NEIC ***13*** *04:37:46.8±0.9, 19°09N±0°04×155°44W±0°03, h45km±3km, Error ellipse: s-maj=6.2km s-min=3.4km az=160.0*

HVO 13 04:37:47.2±1.1, 19°03N±0°05×155°41W±0°02, h44km±3km, ML2.7/21, ML3.0/34(NEIC), Error ellipse: s-maj=7.8km s-min=2.9km az=172.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.21**	**3**		Pn	04 37 54.5	-0.6
HLP	**Hilina Pali**	**0.28**	**20**		Pn	04 37 55.1	-0.6
HLP	**Hilina Pali**	**0.28**	**20**	IAML		04 38 03.7	
	comp=E,1μm,0.7s						
HLP				IAML		04 38 07.2	
	comp=N,1μm,1.1s						
KHU	**Kahuku**	**0.29**	**318**		Pn	04 37 55.1	-0.9
KHU					Sn	04 38 00.1	-2.1
KHU	**Kahuku**	**0.29**	**318**	IAML		04 38 01.2	
	comp=N,1μm,0.5s						
KHU				IAML		04 38 01.3	
	comp=E,2μm,1.0s						
SDHHI	**Sand Hill**	**0.37**	**17**		Pn	04 37 56.3	-0.5
SDHHI	**Sand Hill**	**0.37**	**17**	IAML		04 38 03.6	
	comp=E,1μm,0.6s						
SDHHI				IAML		04 38 06.0	
	comp=N,1μm,0.5s						
RIM	**Rim**	**0.39**	**19**		Pn	04 37 55.8	-1.1
RIM	**Rim**	**0.39**	**19**	IAML		04 38 08.2	
	comp=E,925nm,0.9s						
RIM				IAML		04 38 12.7	
	comp=N,1μm,0.9s						
PUH	**Pauahi**	**0.39**	**28**		Pn	04 37 55.9	-1.0
PUH	**Pauahi**	**0.39**	**28**	IAML		04 38 03.9	
	comp=E,484nm,0.9s						
PUH				IAML		04 38 13.2	
	comp=N,532nm,1.4s						
WRMHI	**West Rim**	**0.39**	**15**		Pn	04 37 56.7	-0.3
WRMHI	**West Rim**	**0.39**	**15**	IAML		04 38 04.9	
	comp=E,2μm,0.5s						
WRMHI				IAML		04 38 11.7	
	comp=N,2μm,0.6s						
KKO	**Keanakako'i**	**0.39**	**20**		Pn	04 37 55.9	-1.1
KKO	**Keanakako'i**	**0.39**	**20**	IAML		04 38 05.8	
	comp=E,1μm,0.7s						
UWE	**Uwekahuna**	**0.40**	**16**		Pn	04 37 56.4	-0.7
BYL	**Byron's Ledge**	**0.41**	**20**		Pn	04 37 56.2	-0.9
BYL	**Byron's Ledge**	**0.41**	**20**	IAML		04 38 06.3	
	comp=E,785nm,0.8s						
BYL				IAML		04 38 09.3	
	comp=N,813nm,1.0s						
UWB	**Uwekahuna B**	**0.41**	**18**		Pn	04 37 56.6	-0.6
UWB	**Uwekahuna B**	**0.41**	**18**	IAML		04 38 01.9	
	comp=N,430nm,1.2s						
UWB				IAML		04 38 03.3	
	comp=E,320nm,1.1s						
HATHI	**Halema'uma'u T**	**0.41**	**20**		Pn	04 37 55.9	-1.4
HATHI	**Halema'uma'u T**	**0.41**	**20**	IAML		04 38 03.6	
	comp=E,1μm,1.0s						
HATHI				IAML		04 38 11.0	
	comp=N,775nm,0.9s						
KNHH	**Kane Nui o Ham**	**0.41**	**33**		Pn	04 37 56.4	-0.9
SBLHI	**Steaming Bluff**	**0.42**	**19**		Pn	04 37 56.4	-0.9
SBLHI	**Steaming Bluff**	**0.42**	**19**	IAML		04 38 04.2	
	comp=N,936nm,0.9s						
SBLHI				IAML		04 38 18.7	
	comp=E,666nm,0.6s						
STCH	**Steam Cracks**	**0.44**	**37**		Pn	04 37 57.0	-0.5
STCH	**Steam Cracks**	**0.44**	**37**	IAML		04 38 04.0	
	comp=E,527nm,0.9s						
STCH				IAML		04 38 05.1	
	comp=N,580nm,1.1s						
MLH	**Mauna Loa**	**0.46**	**3**		Pn	04 37 57.1	-0.9
MLH	**Mauna Loa**	**0.46**	**3**	IAML		04 38 03.8	
	comp=N,720nm,0.8s						
MLH				IAML		04 38 10.4	
	comp=E,527nm,0.6s						
MWH	**Moku'aweowe**	**0.49**	**339**		Pn	04 37 55.8	-2.8
MWH				IAML		04 38 03.9	
	comp=N,634nm,1.5s						
MWH				IAML		04 38 05.0	
	comp=E,786nm,0.9s						
MLOA	**Mauna Loa Obse**	**0.53**	**343**		Pn	04 37 57.1	-1.9
MLOA	**Mauna Loa Obse**	**0.53**	**343**		Sn	04 38 03.6	-3.6
MLOA	**Mauna Loa Obse**	**0.53**	**343**	IAML		04 38 04.6	
	comp=N,761nm,0.7s						
MLOA				IAML		04 38 04.8	
	comp=E,738nm,0.9s						
ALEP	**Alea Permanent**	**0.56**	**336**		Pn	04 37 58.0	-1.3
CPH	**Captain Cook**	**0.66**	**314**		Pn	04 37 59.0	-1.3
HUH	**Hualalai**	**0.77**	**328**		Sn	04 38 08.6	-3.9
HUH	**Hualalai**	**0.77**	**328**	Pn	Pn	04 37 60.0	-1.9
HUH	**Hualalai**	**0.77**	**328**	IAML		04 38 12.1	
	comp=N,734nm,1.0s						
HUH				IAML		04 38 25.9	
	comp=E,776nm,0.4s						

PGC 13 04:42:02.2±5.5, 51°26N×130°80W, h10km, MLSn2.9/18, Mw3.5/18, 210km Wsw of Bella Bella, Bc Haida Gwaii Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAIB	**Barry Inlet**	**1.44**	**336**	Pn	Pn	04 42 26.4	-2.1
BAIB					Sn	04 42 43.4	-4.2
BNB	**Barry Inlet**	**1.44**	**336**	Pn	Pn	04 42 26.4	-2.1
BNB					Sn	04 42 43.1	-4.4
HOLB	**Holberg**	**1.80**	**109**	Pn	Pn	04 42 31.4	-2.0
BBB	**Bella Bella**	**1.91**	**60**	Pn	Pn	04 42 33.2	-1.7
BBB					Sn	04 42 55.5	-3.5
DIB	**Dawson Inlet,**	**2.20**	**333**	Pn	Pn	04 42 37.4	-1.4
PHC	**Port Hardy**	**2.20**	**103**	Pn	Pn	04 42 36.4	-2.4
BNAB	**Bonilla**	**2.24**	**3**	Pn	Pn	04 42 37.9	-1.4
PACB	**Port Alice, BC**	**2.25**	**110**	Pn	Pn	04 42 37.7	-1.8
BUTB	**Butedale**	**2.31**	**38**	Pn	Pn	04 42 39.7	-0.7
BUTB	**Butedale**	**2.31**	**38**	Sn	Sn	04 43 09.2	+0.2
GRIB	**Gribbell Islan**	**2.32**	**25**	Pn	Pn	04 42 38.9	-1.6
GRIB	**Gribbell Islan**	**2.32**	**25**	Sn	Sn	04 43 06.8	-2.3
MAYB	**Maynard**	**2.46**	**109**	Pn	Pn	04 42 40.7	-1.8
HWKB	**Hawksbury Isla**	**2.55**	**23**	Pn	Pn	04 42 42.0	-1.7
HWKB	**Hawksbury Isla**	**2.55**	**23**	Sn	Sn	04 43 11.4	-3.4
GRNB	**Grenville Isla**	**2.64**	**11**	Pn	Pn	04 42 43.6	-1.4
GRNB	**Grenville Isla**	**2.64**	**11**	Sn	Sn	04 43 16.0	-1.0
GRNB				Sg	Sg	04 43 25.0	-2.1
EDB	**Eliza Dome**	**2.73**	**119**	Pn	Pn	04 42 43.8	-2.3
WOSB	**Woss**	**2.91**	**111**	Pn	Pn	04 42 47.4	-1.2
WOSB	**Woss**	**2.91**	**111**	Sn	Sn	04 43 20.4	-3.2
RUBB	**Prince Rupert**	**3.09**	**6**	Pn	Pn	04 42 50.0	-1.0
KITB	**Kitimat**	**3.12**	**24**	Pn	Pn	04 42 50.1	-1.2
NCRB	**Newcastle Ridg**	**3.13**	**104**	Pn	Pn	04 42 50.9	-0.8
NCSB	**Newcastle Ridg**	**3.13**	**104**	Pn	Pn	04 42 51.0	-0.7
GDR	**Gold River**	**3.38**	**114**	Pn	Pn	04 42 53.7	-1.4
SPLB	**Strathcona Par**	**3.56**	**111**	Pn	Pn	04 42 56.9	-0.6
CBB	**Campbell River**	**3.67**	**107**	Pn	Pn	04 42 58.2	-0.8
FSJB	**Fort St James**	**5.08**	**48**	Pn	Pn	04 43 17.3	-1.1
FSJB					Sg	04 44 42.2	-3.0

SOME ***13*** *04:46:40.8, 41°03N×69°63E, h5km*
KRNET ***13*** *04:46:42.1±0.1, 41°10N×69°66E, h17km, mb3.0*
NNC ***13*** *04:46:43.4±2.5, 40°86N×69°87E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=18.1km s-min=10.9km az=36.0*
ISU ***13*** *04:46:43.8, 40°99N×69°69E, h20km*

ISC 13 04:46:44.6±1.2, 41°07N±0°02×69°72E±0°03, h12km±10km, n28, σ1s65/49, 7C-15D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGS	**TashGRES**	**0.38**	**336**	P	**Pg**	**04 46 53.3**	**+1.0**
TGS				S	**Sb**	**04 47 00.5**	**+1.2**
CHRV	**Charvak**	**0.59**	**17**	P	**Pb**	**04 46 57.3**	**+0.3**
CHRV				S	**Sn**	**04 47 07.7**	**-0.9**
TRKS	**Terek-Say** baz=72	**1.16**	**66**	⇑*iP*	**Pb**	**04 47 04.7**	**-2.0**
TRKS				⇑*iS*	**Sb**	**04 47 20.9**	**-0.9**
	baz=72						
CHM	**Chimkent** 95nm,0.2s	**1.25**	**356**	*eP*	**Pn**	**04 47 05.7**	**-2.3**
CHM				*eS*	**Sb**	**04 47 24.3**	**+0.1**
	137nm,0.2s						
BTK	**Batken** baz=39	**1.31**	**140**	⇓*iP*	**Pn**	**04 47 07.3**	**-1.6**
BTK				⇓*iS*	**Sn**	**04 47 26.0**	**-0.3**
	baz=39						
CHMI	**Chimion**	**1.59**	**120**	P	**Pn**	**04 47 12.4**	**-0.2**
CHMI				S	**Sb**	**04 47 34.2**	**+0.3**
FRG	**Fergana**	**1.71**	**113**	P	**Pn**	**04 47 14.8**	**+0.5**
FRG				S	**Sg**	**04 47 38.2**	**-1.6**
DZI	**Dzhizak**	**1.73**	**237**	P	**Pn**	**04 47 14.2**	**-0.4**
DZI				S	**Sn**	**04 47 37.1**	**+0.5**
ARK	**Arkit** baz=67	**1.83**	**66**	⇓*iP*	**Pn**	**04 47 16.6**	**+0.5**
ARK				⇓*iS*	**Sb**	**04 47 41.7**	**+0.6**
	baz=67						
BXML	**Bakhmal**	**1.89**	**224**	P	**Pb**	**04 47 19.0**	**-0.2**
BXML				S	**Sg**	**04 47 45.4**	**-0.1**
BRLS	**Boroldaу** 2.1nm,0.7s	**1.96**	**2**	*eP*	**Pn**	**04 47 14.8**	**-2.8**
BRLS				*eS*	**Sn**	**04 47 39.2**	**-3.0**
	54nm,0.2s						
BRLS	**Boroldaу** 17nm,0.3s	**1.96**	**2**	Pg	**Pn**	**04 47 16.6**	**-1.1**
BRLS				Lg	Lg	04 47 42.6	
	58nm,0.5s						
KK31	**Karatay Array** 3.2nm,0.4s,baz=202,slow=12,SNR=45	**2.11**	**16**	⇓Pn	**Pb**	**04 47 23.6**	**+0.7**
KK31				⇑Sn	**Sg**	**04 47 53.1**	**+0.6**
	21nm,0.6s,baz=203,slow=27,SNR=20						
KKAR	**Karatay Array** baz=17	**2.11**	**16**	⇑*iP*	**Pn**	**04 47 19.7**	**-0.1**
KKAR				⇑*iS*	**Sn**	**04 47 47.1**	**+1.1**
	baz=17						
GAR	**Garm** baz=66	**2.12**	**167**	⇓*iP*	**Pn**	**04 47 20.6**	**+0.6**
GAR				⇓*iS*	**Sb**	**04 47 48.3**	**-1.1**
	baz=66						
DRK	**Karamyk** baz=34	**2.25**	**134**	⇓*eP*	**Pn**	**04 47 22.7**	**+0.8**
DRK				⇓*eS*	**Sb**	**04 47 52.3**	**-0.9**
	baz=34						
MNAS	**Manas** baz=56	**2.52**	**55**	⇓*iP*	**Pn**	**04 47 26.1**	**+0.6**
MNAS				⇓*iS*	**Sn**	**04 47 57.8**	**+1.7**
	baz=56						
MRKS	**Merke** 4.6nm,0.5s	**3.10**	**56**	*eP*	**Pb**	**04 47 39.9**	**+0.1**
MRKS				*eS*	**Sg**	**04 48 22.2**	**-2.0**
	9.7nm,0.4s						
MRKS	**Merke** 4.6nm,0.5s	**3.10**	**56**	Pg	**Pb**	**04 47 39.9**	**+0.1**
MRKS				Lg	Lg	04 48 22.3	
	9.7nm,0.4s						
EKS2	**Erkin-Say** baz=62	**3.42**	**61**	⇓*iP*	**Pn**	**04 47 38.4**	**+0.5**
EKS2				⇓*iS*	**Sn**	**04 48 19.5**	**+1.1**
	baz=62						
CHMS	**Chumysh** 0.8nm,0.3s	**4.21**	**61**	⇑Pg	**Pb**	**04 47 59.3**	**+0.6**
CHMS				⇓Lg	Lg	04 48 57.4	
	6.1nm,0.9s						
TKM2	**Tokmak 2** 0.4nm,0.4s	**4.75**	**65**	⇑Pg	**Pb**	**04 48 09.7**	**+1.8**
TKM2				⇓Lg	Lg	04 49 14.3	
	4.6nm,0.7s						
DGS	**Degeres** 3.5nm,1.1s	**4.99**	**62**	*eP*	**Pb**	**04 48 14.3**	**+2.3**
DGS				*eS*	**Sg**	**04 49 21.6**	**-3.2**
	5.9nm,1.0s						
DGS	**Degeres** 3.5nm,1.1s	**4.99**	**62**	Pg	**Pb**	**04 48 14.3**	**+2.3**
DGS				Lg	Lg	04 49 21.6	
	5.9nm,1.0s						
KST	**Kastek** 3.7nm,1.0s	**5.04**	**65**	*eP*	**Pb**	**04 48 15.6**	**+2.7**
KST				*eS*	**Sg**	**04 49 24.0**	**-2.6**
	7.8nm,0.9s						
KST	**Kastek** 3.7nm,1.0s	**5.04**	**65**	Pg	**Pb**	**04 48 15.6**	**+2.7**
KST				Lg	Lg	04 49 24.0	
	7.8nm,0.9s						
BTLS	**Baital** 0.9nm,0.4s	**5.08**	**37**	*eP*	**Pb**	**04 48 16.3**	**+3.0**
BTLS				*eS*	**Sg**	**04 49 25.1**	**-2.3**
	5.7nm,0.8s						
BTLS	**Baital** 0.9nm,0.4s	**5.08**	**37**	Pg	**Pb**	**04 48 16.3**	**+3.0**
BTLS				Lg	Lg	04 49 25.2	
	5.7nm,0.8s						

IDC ***13*** *04:51:01.4±0.7, 6°30S×142°94E, h0km, mb4.2/14, mbtmp4.3/16, ML1.9/1, MS3.6/24, Error ellipse: s-maj=27.7km s-min=15.7km az=81.0*
NEIC ***13*** *04:51:03.7±0.9, 6°4S±0°1×142°7E±0°1, h9km±5km, mb4.7/41, Error ellipse: s-maj=15.7km s-min=15.0km az=63.0*

ISC 13 04:51:03.1±0.5, 6°47S±0°07×142°70E±0°08, h10km, n80, σ1s21/66, mb4.7/33, MS3.5/20, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.30**	**124**	Pn	**Pn**	**04 52 23.3**	**+0.9**
PMG	**Port Moresby** 2.8nm,0.3s,baz=315,slow=20,SNR=2.5	**5.30**	**124**	Pn	**Pn**	**04 52 21.7**	**-0.7**
PMG				Sn	**Sn**	**04 53 21.7**	**-1.8**
	3.1nm,0.3s,baz=218,slow=15,SNR=2.0						
PMG				LR	LR	04 54 39.3	
	comp=Z,256nm,20.2s,baz=302,slow=42 10nm,0.4s						
MTN	**Manton Dam**	**13.04**	**240**	Pn	**Pn**	**04 54 08.6**	**-0.1**
CTA	**Charters Tower** 0.2nm,0.3s,baz=263,slow=21,SNR=2.3	**13.97**	**166**	Lg	Lg	04 58 30.9	
CTA				LR	LR	04 59 51.8	
	comp=Z,345nm,18.9s,baz=269,slow=38						
WB0	**Warramunga Arr**	**15.49**	**211**	Pn	**Pn**	**04 54 42.8**	**+1.0**
WR0	**Warramunga Arr**	**15.58**	**210**	Pn	**Pn**	**04 54 42.1**	**-0.9**
WR0				IAmb	IAmb	04 54 51.1	
	comp=Z,23nm,0.8s						
WB2	**Warramunga Arr**	**15.66**	**210**	Pn	**Pn**	**04 54 44.4**	**+0.3**
WRA	**Warramunga Arr**	**15.66**	**210**	Pn	**Pn**	**04 54 45.4**	**+1.3**
WRA	**Warramunga Arr**	**15.66**	**210**	Pn	**Pn**	**04 54 43.9**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=29,slow=13,SNR=16						
WRA				Sn	**Sn**	**04 57 31.3**	**-6.6**
	comp=Z,0.4nm,0.3s,baz=29,slow=22,SNR=3.4						
WRA				Lg	Lg	04 59 22.6	
	comp=Z,0.3nm,0.3s,baz=30,slow=33,SNR=5.1						
KNRA	**Kununurra**	**16.45**	**235**		**Pn**	**04 54 52.9**	**-1.3**
AS31	**Alice Springs**	**19.08**	**205**		**P**	**04 55 27.6**	**+1.6**
ASAR	**Alice Springs**	**19.08**	**205**	P	**Pn**	**04 55 27.8**	**+1.0**
ASAR	**Alice Springs**	**19.08**	**205**	P	**Pn**	**04 55 28.3**	**+1.5**
	comp=Z,18nm,0.7s,baz=30,slow=10,SNR=79						
ASAR				Lg	Lg	05 01 14.3	
	comp=Z,0.1nm,0.3s,baz=24,slow=30,SNR=3.7						
ASAR				LR	LR	05 03 38.4	
	comp=Z,864nm,18.0s,baz=32,slow=39						
BATI	**Baumata**	**19.19**	**258**	LR	LR	05 04 56.1	
	comp=Z,376nm,18.5s,baz=98,slow=43						
FITZ	**Fitzroy Crossi**	**20.26**	**234**	P	Pn	04 55 40.8	-0.1
DAV	**Davao City (W)**	**21.74**	**308**	LR	LR	05 04 34.1	
	comp=Z,60nm,20.9s,baz=179,slow=37						
STKA	**Stephens Creek**	**25.30**	**182**	P	**P**	**04 56 32.2**	**+2.2**
STKA	**Stephens Creek**	**25.30**	**182**	P	**P**	**04 56 31.0**	**+1.0**
	comp=Z,4.0nm,0.8s,baz=359,slow=12,SNR=6.3						
	comp=Z,4.0nm,0.8s						
BBOO	**Buckleboo**	**26.93**	**192**	P	**P**	**04 56 46.3**	**+1.6**
BBOO				IAmb	IAmb	04 56 52.7	
	comp=Z,18nm,1.3s						
DZM	**Mont Dzumac**	**27.68**	**126**	P	**P**	**04 56 51.5**	**-0.2**
DZM				IAmb	IAmb	04 57 31.9	
	comp=Z,30nm,1.4s						
JCJ	**Chichijima**	**33.37**	**359**	LR	LR	05 11 12.5	
	comp=Z,39nm,19.4s,baz=94,slow=36						
NWAO	**Narrogin (SRO)**	**35.41**	**219**	LR	LR	05 13 14.2	
	comp=Z,352nm,18.1s,baz=182,slow=37						
JOW	**Kunigami**	**35.93**	**338**	LR	LR	05 11 19.9	
	comp=Z,59nm,18.4s,baz=140,slow=34						
JNU	**Nakatsue**	**40.94**	**345**	LR	LR	05 11 56.2	
	comp=Z,38nm,19.8s,baz=175,slow=31						
MJAR	**Matsushiro Arr**	**42.99**	**355**	P	**P**	**04 59 02.0**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=183,slow=8.2,SNR=2.6						
MJAR				LR	LR	05 14 15.5	
	comp=Z,34nm,19.0s,baz=164,slow=32						
	comp=Z,1.1nm,0.5s						
KSRS	**Korea Array**	**45.82**	**344**	P	**P**	**04 59 24.6**	**-0.6**
	comp=Z,2.9nm,0.8s,baz=157,slow=9.8,SNR=10						
KSRS				LR	LR	05 17 05.2	
	comp=Z,27nm,20.4s,baz=130,slow=34						
	comp=Z,2.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**49.75**	**301**	P	**P**	**04 59 57.4**	**+1.2**
	comp=Z,1.8nm,0.8s,baz=121,slow=5.6,SNR=7.5						
CMAR				LR	LR	05 23 46.6	
	comp=Z,11nm,18.3s,baz=260,slow=39						
	comp=Z,1.8nm,0.8s						
USRK	**Ussuriysk Ar.**	**51.35**	**350**	P	**P**	**05 00 06.9**	**-0.9**
	comp=Z,2.4nm,0.8s,baz=184,slow=8.5,SNR=5.0						
	comp=Z,2.4nm,0.8s						
KLR	**Kul'dur**	**56.28**	**351**	LR	LR	05 20 26.3	
	comp=Z,38nm,21.8s,baz=234,slow=31						
PETK	**Petropavlovsk-**	**60.70**	**10**	P	**P**	**05 01 14.3**	**-0.3**
PETK	**Petropavlovsk-**	**60.70**	**10**	P	**P**	**05 01 12.2**	**-2.3**
	comp=Z,3.8nm,0.8s,baz=206,slow=9.9,SNR=5.4						
	comp=Z,3.8nm,0.8s						
SONM	**Songino Array**	**62.81**	**333**	P	**P**	**05 01 29.4**	**+0.3**
SONM	**Songino Array**	**62.81**	**333**	P	**P**	**05 01 28.3**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=145,slow=8.9,SNR=5.4						
SONM				LR	LR	05 28 06.7	
	comp=Z,51nm,20.1s,baz=157,slow=36						
	comp=Z,0.9nm,0.7s						
PALK	**Pallekele**	**63.33**	**281**	LR	LR	05 31 13.5	
	comp=Z,32nm,19.3s,baz=224,slow=38						
CASY	**Casey**	**63.73**	**194**	P	**P**	**05 01 35.5**	**+0.8**
SHEM	**Shemya Is, Ala**	**64.72**	**21**	LR	LR	05 24 37.4	
	comp=Z,65nm,20.5s,baz=156,slow=31						
YAK	**Yakutsk**	**69.03**	**353**	LR	LR	05 29 38.7	
	comp=Z,24nm,21.3s,baz=95,slow=34						
VNDA	**Vanda**	**71.74**	**176**	LR	LR	05 32 14.5	
	comp=Z,81nm,18.1s,baz=290,slow=34						
MKAR	**Makanchi Array**	**75.17**	**322**	P	**P**	**05 02 45.5**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=109,slow=6.4,SNR=16						
	comp=Z,1.6nm,0.8s						
ZALV	**Zalesovo Beam**	**77.17**	**329**	P	**P**	**05 02 56.1**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=134,slow=4.2,SNR=1.9						
ZALV				LR	LR	05 37 46.8	
	comp=Z,20nm,19.2s,baz=90,slow=36						
	comp=Z,0.5nm,0.4s						
M13K	**Dall Lake**	**78.87**	**24**	P	**P**	**05 03 06.8**	**+0.5**
M13K				IAmb	IAmb	05 03 07.4	
	comp=Z,7.9nm,0.9s						
KURBB	**Kurchatov Arra**	**79.07**	**324**	P	**P**	**05 03 07.2**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=116,slow=4.8,SNR=11						
	comp=Z,1.3nm,0.9s						
L14K	**Kuka Creek**	**79.67**	**24**	P	**P**	**05 03 10.9**	**+0.3**
J14K	**Nanvaranak Lak**	**80.14**	**22**	P	**P**	**05 03 14.2**	**+1.0**
K15K	**Wolf Creek Mou**	**80.66**	**23**	P	**P**	**05 03 16.1**	**+0.1**
M16K	**Timber Creek**	**81.01**	**25**	P	**P**	**05 03 18.0**	**+0.1**
M16K				IAmb	IAmb	05 03 19.9	
	comp=Z,7.5nm,0.8s						
L16K	**Owhat River**	**81.16**	**24**	P	**P**	**05 03 18.6**	**0.0**
L16K				IAmb	IAmb	05 03 19.4	
	comp=Z,6.7nm,0.9s						
F15K	**North Star Dit**	**81.52**	**19**	P	**P**	**05 03 20.0**	**-0.5**
J16K	**Anvik River**	**81.56**	**22**	P	**P**	**05 03 21.4**	**+0.6**
J16K				IAmb	IAmb	05 03 22.1	
	comp=Z,7.1nm,0.9s						
P18K	**Big Mountain,**	**81.83**	**27**	P	**P**	**05 03 22.4**	**0.0**
M17K	**Holitna River**	**81.84**	**25**	P	**P**	**05 03 22.9**	**+0.6**
G16K	**Koyuk River**	**82.11**	**20**	P	**P**	**05 03 23.7**	**+0.1**
G16K				IAmb	IAmb	05 03 24.4	
	comp=Z,5.2nm,0.9s						
N18K	**Kilae Creek**	**82.15**	**26**	P	**P**	**05 03 24.3**	**+0.3**
N18K				IAmb	IAmb	05 03 26.7	
	comp=Z,7.2nm,0.9s						
K17K	**Iditarod**	**82.15**	**24**	P	**P**	**05 03 23.7**	**-0.2**
K17K				IAmb	IAmb	05 03 26.0	
	comp=Z,7.4nm,0.9s						
L18K	**Granite Mounta**	**82.55**	**24**	P	**P**	**05 03 26.6**	**+0.6**
L18K				IAmb	IAmb	05 03 43.6	
	comp=Z,4.4nm,1.1s						
H17K	**Granite Mounta**	**82.71**	**21**	P	**P**	**05 03 27.1**	**+0.3**
H17K				IAmb	IAmb	05 03 27.8	
	comp=Z,6.8nm,0.8s						
C16K	**Lisburne Hills**	**82.87**	**17**	P	**P**	**05 03 27.6**	**+0.1**
C16K				IAmb	IAmb	05 03 29.2	

mbtmp4.1/6,ML4.5/1, Error ellipse: s-maj=58.6km s-min=25.5km az=95.0

ISC 13 04:59:35.5±1.3, 6°3S±0.2×143.0E±0.4, h10km, n7, σ1s10/7, mb3.8/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.01**	**211**	Pn	**Pn**	**05 03 19.4**	**-1.6**
	0.3nm,0.3s,baz=28,slow=13,SNR=8.4						
WRA				Sn	Sn	05 06 08.5	-10
	0.3nm,0.3s,baz=35,slow=24,SNR=2.5						
WRA				Lg	Lg	05 08 00.5	
	0.3nm,0.3s,baz=33,slow=25,SNR=4.6						
ASAR	**Alice Springs**	**19.40**	**206**	P	**Pn**	**05 04 04.2**	**+1.1**
	1.5nm,0.3s,baz=33,slow=10,SNR=32						
ASAR				Lg	Lg	05 09 52.6	
	0.2nm,0.3s,baz=25,slow=29,SNR=4.9 12nm,0.8s						
MKAR	**Makanchi Array**	**75.22**	**322**	P	**P**	**05 11 18.9**	**+0.3**
	0.8nm,0.8s,baz=106,slow=7.2,SNR=8.3 0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**79.10**	**324**	P	**P**	**05 11 40.0**	**-0.2**
	0.9nm,1.1s,baz=112,slow=4.2,SNR=2.4 0.9nm,1.1s						
QSPA	**South Pole Qui**	**83.70**	**180**	P	**P**	**05 12 05.0**	**+0.4**
	1.4nm,0.8s,baz=276,slow=0.5,SNR=5.7 1.4nm,0.8s						
BVAR	**Borovoye Array**	**84.68**	**325**	P	**P**	**05 12 10.1**	**+0.5**
	2.9nm,0.6s,baz=114,slow=7.0,SNR=15 2.9nm,0.6s						
ILAR	**Eielson Array**	**87.29**	**24**	P	**P**	**05 12 21.4**	**-0.8**
	0.4nm,0.7s,baz=244,slow=5.3,SNR=4.6 0.4nm,0.7s						

IDC 13 05:08:51.1±1.9, 3°.15S×127°.73E, h0km, mb3.9/3, mbtmp4.0/4, ML4.2/1, MS3.1/2, Error ellipse: s-maj=183.8km s-min=24.0km az=67.0
DJA 13 05:08:54.1±1.7, 3°.3S×12°.9E°, h17km±16km, M4.3/13, mb4.6/6, mB5.0/3, MLv4.2/13, Mw(mB)4.3/3
NEIC 13 05:08:56.0±1.6, 2°.73S±0°.04×128°.81E±0°.09, h46km±19km, mb4.0/10, Error ellipse: s-maj=14.0km s-min=5.0km az=72.0

ISC 13 05:08:54.7±0.8, 2°.82S±0°.07×128°.75E±0°.06, h33km, n32, σ1s52/32, mb3.9/4, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**1.70**	**256**	P	**Pb**	**05 09 25.4**	**-0.1**
BNDI	**Bandanaira**	**2.05**	**146**	P	**Pb**	**05 09 32.1**	**+0.8**
LBMI	**Labuha**	**2.50**	**330**	P	**Pn**	**05 09 32.1**	**-1.0**
SANI	**Sanana**	**2.87**	**285**	P	**Pn**	**05 09 37.3**	**-0.8**
SWI	**Sorong**	**3.17**	**52**	P	**Pn**	**05 09 40.8**	**-1.5**
FAKI	**Fak Fak**	**3.49**	**92**	Pn	**Pn**	**05 09 46.5**	**-0.3**
FAKI	**Fak Fak**	**3.49**	**92**	P	**Pn**	**05 09 46.5**	**-0.3**
TNTI	**Ternate**	**3.82**	**339**	Pn	**Pn**	**05 09 51.7**	**+0.4**
TNTI	**Ternate**	**3.82**	**339**	P	**Pn**	**05 09 49.4**	**-1.9**
KMSI	**Cibinong**	**5.84**	**305**	P	**Pn**	**05 10 16.6**	**-2.5**
	103nm,0.6s,1.3nm						
LUWI	**Luwuk**	**6.23**	**286**	Pn	**Pn**	**05 10 25.1**	**+0.6**
LUWI	**Luwuk**	**6.23**	**286**	P	**Pn**	**05 10 25.0**	**+0.6**
	54nm,0.6s,4µm0.4nm						
MRSI	**Marisa**	**7.55**	**296**	P	**Pn**	**05 10 42.5**	**-0.1**
	28nm,0.5s,819nm0.1nm						
MTN	**Manton Dam**	**10.24**	**167**		**Pn**	**05 11 21.3**	**+1.9**
DAV	**Davao City (W)**	**10.32**	**342**	LR	LR	05 15 03.8	
	comp=Z,58nm,19.1s,baz=101,slow=36						
KNRA	**Kununurra**	**12.78**	**180**	Pn	**Pn**	**05 11 55.6**	**+1.4**
FITZ	**Fitzroy Crossi**	**15.49**	**191**	Pn	**Pn**	**05 12 32.1**	**+1.2**
WB0	**Warramunga Arr**	**17.73**	**162**	Pn	**Pn**	**05 12 58.4**	**-0.8**
WB0				IAmb	IAmb	05 13 01.8	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**17.88**	**163**	Pn	**Pn**	**05 12 59.8**	**-1.2**
WRA	**Warramunga Arr**	**17.88**	**163**	P	**Pn**	**05 12 59.9**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=341,slow=12,SNR=22						
WRA				S	**Sn**	**05 16 14.5**	**-5.0**
	comp=Z,0.5nm,0.8s,baz=340,slow=21,SNR=1.8 comp=Z,3.9nm,0.7s						
WB2	**Warramunga Arr**	**17.88**	**163**	P	**Pn**	**05 13 00.7**	**-0.4**
WB2				IAmb	IAmb	05 13 04.5	
	comp=Z,17nm,1.2s						
WR0	**Warramunga Arr**	**17.95**	**162**	P	**Pn**	**05 13 01.4**	**-0.6**
WR0				IAmb	IAmb	05 13 20.6	
	comp=Z,15nm,1.3s						
COEN	**Coen**	**18.04**	**129**		**Pn**	**05 13 04.1**	**+1.1**
COEN				IAmb	IAmb	05 13 26.0	
	comp=Z,9.0nm,0.9s						
MBWA	**Marble Bar**	**20.24**	**205**	P	**P**	**05 13 28.3**	**+1.0**
PSA00	**Pilbara Seismi**	**20.56**	**204**	P	**P**	**05 13 31.3**	**+0.5**
PSA00				IAmb	IAmb	05 13 32.8	
	comp=Z,8.8nm,0.8s						
AS31	**Alice Springs**	**21.32**	**167**		**P**	**05 13 39.4**	**+0.4**
AS31				IAmb	IAmb	05 13 41.9	
	comp=Z,5.8nm,0.8s						
ASAR	**Alice Springs**	**21.32**	**167**		**P**	**05 13 39.8**	**+0.8**
ASAR	**Alice Springs**	**21.32**	**167**	P	**P**	**05 13 40.0**	**+0.9**
	comp=Z,14nm,0.7s,baz=348,slow=11,SNR=66						
ASAR				S	**S**	**05 17 31.6**	**-2.6**
	comp=Z,1.3nm,0.8s,baz=348,slow=19,SNR=4.1 comp=Z,14nm,0.7s						
CTAO	**Charters Tower**	**24.22**	**136**	P	**P**	**05 14 10.8**	**+2.2**
JCJ	**Chichijima**	**32.44**	**23**	LR	LR	05 26 02.7	
	comp=Z,57nm,20.4s,baz=96,slow=31						
MKAR	**Makanchi Array**	**64.07**	**326**	P	**P**	**05 19 25.3**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=121,slow=8.0,SNR=7.7 comp=Z,0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**68.32**	**328**	P	**P**	**05 19 52.1**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=128,slow=6.3,SNR=3.2 comp=Z,0.4nm,0.4s						

NIED 13 05:36:47.5, 35°.61N×141°.03E, h15km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-7.46; Mθθ-1.03; Mϕϕ8.49; Mrθ1.67; Mθϕ-2.58; Mϕr-0.33; Fault plane solution: M₀8.52000×10¹⁴ NP1: ϕs=332.00000°, δ49.00000°, λ-108.00000°. NP2: ϕs=179.00000°, δ44.00000°, λ-70.00000°.

JMA 13 05:36:47.5±0.2, 35°.6N±0°.5×141°.0E±0°.9, h15km±1km, MV3.6/34, NEAR CHOSHI CITY, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSMT	**Sammumatsuo**	**0.47**	**274**	P	Pg	05 36 57.2	+0.3
JSMT				S	Sb	05 37 04.4	0.0
JIHU	**Itakohorinouch**	**0.54**	**311**	*i* P	Pb	05 36 58.7	0.0
JIHU				S	Sb	05 37 06.6	+0.3
JCN	**Nagara**	**0.70**	**254**	*i* P	Pb	05 37 01.8	+0.4
JCN				S	Sn	05 37 13.2	-0.3
KTR	**Katsuura**	**0.74**	**232**	P	Pg	05 37 01.9	-0.1
KTR				S	Sg	05 37 11.2	-0.6
BSO4	**Boso 4**	**0.84**	**223**	P	Pg	05 37 04.0	+0.3
BSO3	**Boso 3**	**0.91**	**208**	*i* P	Pb	05 37 04.6	-0.2
JYT	**Yasato**	**0.92**	**312**	*i* P	Pb	05 37 04.1	-1.0
JYT				S	Sb	05 37 16.4	-0.6
BSO1	**Boso 1**	**0.96**	**183**	P	Pb	05 37 04.6	-0.9
BSO1				*e*S	Sb	05 37 17.4	-0.3
JHO	**Hitachi**	**1.06**	**340**	P	Pb	05 37 06.8	-0.9

IDC 13 05:58:48.2±3.2, 54°.39N×86°.93E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=30.1km s-min=18.3km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.32**	**251**	I	I	06 05 40.0	
	0.1nm,0.8s,baz=70,slow=341,SNR=19						
ZALV	**Zalesovo Beam**	**1.32**	**251**	Pg	Pg	05 59 11.1	-2.3
	1.5nm,0.3s,baz=66,slow=16,SNR=13						
ZALV				Lg	Lg	05 59 30.6	
	1.3nm,0.3s,baz=74,slow=26,SNR=8.6						
KURBB	**Kurchatov Arra**	**6.37**	**237**	Pn	Pn	06 00 24.6	+1.4
	0.1nm,0.3s,baz=53,slow=14,SNR=6.6 0.7nm,0.4s						
MKAR	**Makanchi Array**	**8.16**	**203**	Pn	Pn	06 00 48.7	+1.0
	0.1nm,0.3s,baz=25,slow=14,SNR=6.4 0.2nm,0.3s						

NEIC 13 06:07:02.7±2.4, 5°.2S±0°.1×151°.0E±0°.1, h133km±12km, mb4.2/12, Error ellipse: s-maj=22.0km s-min=11.3km az=130.0
IDC 13 06:07:09.5±4.3, 5°.36S×150°.49E, h194km±32km, mb3.6/6,

mbtmp4.1/7, Error ellipse: s-maj=54.7km s-min=16.6km az=93.0

ISC 13 06:07:03.0±0.7, 5°.2S±0°.1×151°.1E±0°.1, h150km, n25, σ1s20/27, mb4.0/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.50**	**46**		**Pn**	**06 07 31.3**	**-1.3**
PMG	**Port Moresby**	**5.68**	**223**		**Pn**	**06 08 25.6**	**+0.1**
PMG					**Sn**	**06 09 27.8**	**-2.1**
PMG	**Port Moresby**	**5.68**	**223**	P	**Pn**	**06 08 26.4**	**+1.0**
	37nm,0.4s,baz=30,slow=6.2,SNR=9.5						
PMG				S	**Sn**	**06 09 27.5**	**-2.4**
	69nm,0.3s,baz=166,slow=20,SNR=13						
EIDS	**Eidsvold**	**20.02**	**180**	P	Pn	06 11 26.8	-0.7
EIDS				IAmb	IAmb	06 11 59.5	
	comp=Z,21nm,1.4s						
MTN	**Manton Dam**	**21.08**	**248**	P	**P**	**06 11 36.0**	**+0.2**
MTN				IAmb	IAmb	06 11 37.7	
	comp=Z,10nm,1.0s						
WB0	**Warramunga Arr**	**21.73**	**227**	P	**P**	**06 11 41.8**	**-0.8**
WR0	**Warramunga Arr**	**21.75**	**226**	P	**P**	**06 11 43.2**	**+0.4**
WR0				IAmb	IAmb	06 11 43.6	
	comp=Z,7.8nm,1.2s						
WB2	**Warramunga Arr**	**21.88**	**227**	P	**P**	**06 11 43.4**	**-0.7**
WB2				IAmb	IAmb	06 11 44.9	
	comp=Z,8.3nm,1.1s						
WRA	**Warramunga Arr**	**21.89**	**227**	P	**P**	**06 11 43.1**	**-1.1**
WRA	**Warramunga Arr**	**21.89**	**227**	P	**P**	**06 11 41.8**	**-2.4**
	comp=Z,3.0nm,0.5s,baz=50,slow=10.0,SNR=32						
WRA				PcP	**PcP**	**06 15 38.1**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=45,slow=1.8,SNR=5.7 comp=Z,3.0nm,0.5s						
KNRA	**Kununurra**	**24.24**	**243**	P	**P**	**06 12 06.2**	**0.0**
AS31	**Alice Springs**	**24.69**	**220**	P	**P**	**06 12 11.5**	**+1.2**
ASAR	**Alice Springs**	**24.69**	**220**	P	**P**	**06 12 10.4**	**+0.1**
ASAR	**Alice Springs**	**24.69**	**220**	P	**P**	**06 12 09.3**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=55,slow=8.4,SNR=10 comp=Z,1.1nm,0.5s						
FITZ	**Fitzroy Crossi**	**27.95**	**241**	P	**P**	**06 12 38.9**	**-0.7**
FITZ				IAmb	IAmb	06 12 39.1	
	comp=Z,1.9nm,0.5s						
MBWA	**Marble Bar**	**34.27**	**240**	P	**P**	**06 13 34.2**	**-0.8**
MBWA				IAmb	IAmb	06 13 37.4	
	comp=Z,8.4nm,1.1s						
MORW	**Morawa**	**40.74**	**230**	P	**P**	**06 14 28.9**	**-0.5**
TUWZ	**Tuamarina**	**41.43**	**154**	P	**P**	**06 14 36.5**	**+1.7**
JNU	**Nakatsue**	**42.69**	**335**	P	**P**	**06 14 45.7**	**+0.6**
JNU	**Nakatsue**	**42.69**	**335**	P	**P**	**06 14 46.1**	**+1.0**
	comp=Z,16nm,0.8s,baz=112,slow=4.8,SNR=11 comp=Z,16nm,0.8s						
KSRS	**Korea Array**	**47.64**	**335**	P	**P**	**06 15 25.1**	**+1.1**
	comp=Z,1.1nm,0.5s,baz=152,slow=8.6,SNR=5.2 comp=Z,1.1nm,0.5s						
SONM	**Songino Array**	**65.79**	**329**	P	**P**	**06 17 33.1**	**+1.0**
	comp=Z,1.3nm,1.1s,baz=126,slow=7.3,SNR=3.8 comp=Z,1.3nm,1.1s						
ILAR	**Eielson Array**	**83.21**	**22**	P	**P**	**06 19 11.1**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=241,slow=5.4,SNR=7.3						
QSPA	**South Pole Qui**	**84.73**	**180**	P	**P**	**06 19 20.6**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=7.3,slow=3.9,SNR=6.3 comp=Z,0.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**148.80**	**287**	PKPbc	**PKPbc**	**06 26 32.6**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=91,slow=2.9,SNR=5.3						

IDC 13 06:10:51.5±0.8, 24°.28N×123°.64E, h0km, mb3.9/14, mbtmp3.9/16, ML3.5/2, MS3.2/9, Error ellipse: s-maj=23.3km s-min=17.0km az=62.0
NEIC 13 06:10:54.0±1.4, 24°.30N±0°.04×123°.72E±0°.05, h10km±1km, mb4.5/19, Error ellipse: s-maj=9.6km s-min=3.3km az=57.0
NIED 13 06:10:54.0, 24°.26N×123°.79E, h17km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.66; Mθθ0.28; Mϕϕ0.38; Mrθ-0.72; Mθϕ-0.82; Mϕr-0.07; Fault plane solution: M₀1.23000×10¹⁵ NP1: ϕs=104.00000°, δ68.00000°, λ-129.00000°. NP2: ϕs=350.00000°, δ44.00000°, λ-32.00000°.
JMA 13 06:10:54.0, 24°.3N×123°.8E±0°.2, h17km, MD4.4/10, MV4.0/10, NEAR ISHIGAKIJIMA ISLAND
JMA Felt III J1 at NEAR ISHIGAKIJIMA ISLAND.

ISC 13 06:10:54.2±0.8, 24°.25N±0°.04×123.75E±0°.03, h15km±4km, n89, σ0s93/76, mb4.2/25, MS3.1/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.09**	**348**	P	**Pg**	**06 10 57.3**	**-0.1**
IRIF				S	**Sg**	**06 10 59.9**	**+0.4**
IRIF	**Iriomote-Funau**	**0.09**	**348**	A	A	06 10 57.3	
	comp=E,108nm,0.3s,comp=N,91nm,1.7s						
HATJ	**Hateruma jima**	**0.20**	**165**	*i* P	**Pg**	**06 10 58.5**	**-0.4**
HATJ				S	**Sg**	**06 11 01.9**	**-0.1**
HATJ	**Hateruma jima**	**0.20**	**165**	A	A	06 10 58.5	
	comp=E,143nm,0.9s,comp=N,180nm,3.9s						
JKRS	**Kuro-shima**	**0.24**	**93**	*i* P	**Pg**	**06 10 58.9**	**-0.6**
JKRS				S	**Sg**	**06 11 02.7**	**-0.4**
JKRS	**Kuro-shima**	**0.24**	**93**	A	A	06 10 58.9	
	comp=E,162nm,1.3s,comp=N,213nm,2.1s						
JIJ	**Ishigaki jima**	**0.38**	**73**	*i* P	**Pg**	**06 11 00.9**	**-1.0**
JIJ				S	**Sg**	**06 11 06.1**	**-1.1**
JIJ	**Ishigaki jima**	**0.38**	**73**	A	A	06 11 00.9	
	comp=E,15nm,0.2s,comp=N,36nm,0.5s						
JISG	**Ishigakijimahi**	**0.61**	**57**	*i* P	**Pg**	**06 11 05.2**	**-1.1**
JISG				*e*S	**Sg**	**06 11 13.3**	**-1.1**
JISG	**Ishigakijimahi**	**0.61**	**57**	A	A	06 11 05.2	
	comp=E,86nm,0.7s,comp=N,51nm,0.4s						
YOJ	**Yonaguni jima**	**0.70**	**287**		**Pb**	**06 11 08.2**	**0.0**
YOJ	**Yonaguni jima**	**0.70**	**287**	P	**Pb**	**06 11 08.5**	**+0.3**
YOJ	**Yonaguni jima**	**0.70**	**287**	*i* P	**Pb**	**06 11 08.1**	**0.0**
YOJ				S	**Sb**	**06 11 18.2**	**+0.6**
YOJ	**Yonaguni jima**	**0.70**	**287**	A	A	06 11 08.1	
	comp=E,17nm,1.3s,comp=N,16nm,1.1s						
JYNG	**Yonagunijimaku**	**0.76**	**285**	*i* P	**Pb**	**06 11 09.2**	**+0.1**
JYNG				S	**Sb**	**06 11 19.9**	**+0.7**
JYNG	**Yonagunijimaku**	**0.76**	**285**	A	A	06 11 09.2	
	comp=E,22nm,0.8s,comp=N,19nm,0.8s						
JTJ	**Tarama**	**0.95**	**66**	P	**Pg**	**06 11 11.2**	**-1.5**
JTJ				S	**Sg**	**06 11 24.0**	**-1.1**
JTJ	**Tarama**	**0.95**	**66**	A	A	06 11 11.2	
	comp=E,26nm,1.1s,comp=N,25nm,1.4s						
JIRB	**Irabujima**	**1.42**	**66**	A	A	06 11 18.7	
	comp=E,8.0nm,2.7s,comp=N,7.0nm,1.7s						
JMJ	**Miyako jima 2**	**1.52**	**68**	P	**Pn**	**06 11 21.8**	**+1.1**
JMJ2	**Miyako jima3**	**1.52**	**71**	A	A	06 11 20.2	
	comp=E,14nm,2.4s,comp=N,11nm,0.9s						
JIKM	**Ikemajima**	**1.52**	**64**	A	A	06 11 20.2	
	comp=E,13nm,0.8s,comp=N,10.0nm,1.5s						
JOGS	**Gusukube**	**1.59**	**71**	A	A	06 11 21.4	
	comp=E,14nm,2.4s,comp=N,12nm,1.0s						
NACB	**Ninganchiao**	**1.97**	**268**		**Pn**	**06 11 27.4**	**+0.4**
NACB	**Ninganchiao**	**1.97**	**268**	P	**Pn**	**06 11 27.8**	**+0.8**
TATO	**Taipei**	**2.18**	**290**	Pn	**Pn**	**06 11 30.1**	**+0.2**
TATO	**Taipei**	**2.18**	**290**	P	**Pn**	**06 11 31.1**	**+1.2**
YHNB	**Yeheng**	**2.20**	**281**		**Pn**	**06 11 30.4**	**+0.1**
YHNB	**Yeheng**	**2.20**	**281**	P	**Pn**	**06 11 31.4**	**+1.1**
YULB	**Yu-li**	**2.40**	**250**		**Pn**	**06 11 32.7**	**-0.2**
YULB	**Yu-li**	**2.40**	**250**	P	**Pn**	**06 11 33.0**	**0.0**
SSLB	**Suanglung**	**2.60**	**260**		**Pn**	**06 11 36.5**	**+0.8**
SSLB	**Suanglung**	**2.60**	**260**	P	**Pn**	**06 11 36.8**	**+1.1**
TWGBT	**Beinan**	**2.83**	**240**	P	**Pn**	**06 11 38.9**	**0.0**
TWG	**Pinlang**	**2.84**	**240**		**Pn**	**06 11 38.3**	**-0.7**
TPUB	**Ta-pu**	**3.01**	**252**	Pn	**Pn**	**06 11 43.2**	**+1.9**
JOW	**Kunigami**	**4.83**	**57**		**Pn**	**06 12 07.8**	**+1.4**
JOW	**Kunigami**	**4.83**	**57**	Pn	**Pn**	**06 12 07.6**	**+1.3**
	comp=N,3.7nm,0.3s,baz=270,slow=20,SNR=11						
JOW				Sn	**Sn**	**06 13 05.3**	**+3.3**
	comp=N,1.9nm,0.3s,baz=125,slow=23,SNR=1.7 comp=N,4.3nm,0.3s						
JNU	**Nakatsue**	**10.83**	**34**	LR	LR	06 18 11.3	
	comp=N,93nm,18.6s,baz=192,slow=40						
KSRS	**Korea Array**	**13.64**	**14**	Pn	**Pn**	**06 14 07.8**	**+0.8**
	comp=N,0.4nm,0.3s,baz=187,slow=13,SNR=2.3						
KSRS				LR	LR	06 19 56.9	
	comp=N,105nm,19.0s,baz=210,slow=40 comp=N,0.8nm,0.5s						
CMAR	**Chiang Mai Arr**	**23.79**	**261**	LR	LR	06 24 52.5	
	comp=N,30nm,21.5s,baz=80,slow=36						
ASAJ	**Asahikawa**	**25.11**	**33**	LR	LR	06 25 07.7	
	comp=N,37nm,21.0s,baz=14,slow=34						
KLR	**Kul'dur**	**25.71**	**12**	LR	LR	06 26 44.6	
	comp=N,61nm,20.4s,baz=218,slow=37						
SONM	**Songino Array**	**27.27**	**334**	P	**P**	**06 16 38.0**	**0.0**
SONM	**Songino Array**	**27.27**	**334**	P	**P**	**06 16 37.9**	**-0.1**
	comp=N,0.5nm,0.4s,baz=154,slow=8.5,SNR=4.5 comp=N,0.5nm,0.4s						
SOEI	**Soe**	**33.80**	**179**	P	**P**	**06 17 37.2**	**+1.3**
PETK	**Petropavlovsk-**	**38.52**	**33**	LR	LR	06 34 43.6	
	comp=N,16nm,19.4s,baz=211,slow=37						
MK31	**Makanchi Array**	**39.94**	**315**	P	**P**	**06 18 26.6**	**-1.2**
MKAR	**Makanchi Array**	**39.94**	**315**	P	**P**	**06 18 25.7**	**-2.0**
MKAR	**Makanchi Array**	**39.94**	**315**	P	**P**	**06 18 26.9**	**-0.9**
	comp=N,0.6nm,0.3s,baz=97,slow=9.2,SNR=24 comp=N,0.6nm,0.3s						
MA2	**Magadan**	**40.05**	**21**	LR	LR	06 35 43.8	
	comp=N,37nm,18.4s,baz=232,slow=37						
MAKZ	**Makanchi**	**40.14**	**315**	P	**P**	**06 18 28.7**	**-0.8**
H11N1	**WAKE ISLAND Hy**	**40.15**	**88**	T	T	07 01 08.7	
	baz=280,slow=76						
H11N2	**WAKE ISLAND Hy**	**40.15**	**88**	T	T	07 01 07.3	
	baz=280,slow=76						
H11N3	**WAKE ISLAND Hy**	**40.16**	**88**	T	T	07 01 10.0	
	baz=280,slow=76						
ZALV	**Zalesovo Beam**	**41.48**	**326**	P	**P**	**06 18 40.1**	**-0.2**
ZALV	**Zalesovo Beam**	**41.48**	**326**	P	**P**	**06 18 39.3**	**-1.1**
	comp=N,0.5nm,0.4s,baz=101,slow=7.5,SNR=2.1						
ZALV				LR	LR	06 37 07.8	
	comp=N,50nm,18.6s,baz=65,slow=38 comp=N,0.5nm,0.4s						
KURK	**Kurchatov**	**43.56**	**319**	P	**P**	**06 18 55.8**	**-1.6**
KURK				IAmb	IAmb	06 18 56.8	
	comp=Z,5.0nm,1.1s						
KURBB	**Kurchatov Arra**	**43.58**	**319**	P	**P**	**06 18 56.3**	**-1.2**
	comp=Z,1.8nm,0.9s,baz=110,slow=7.9,SNR=7.1 comp=Z,1.8nm,0.9s						
WB0	**Warramunga Arr**	**44.96**	**166**	P	**P**	**06 19 09.2**	**+0.4**
WB0				IAmb	IAmb	06 19 21.1	
	comp=Z,5.9nm,1.1s						
WRA	**Warramunga Arr**	**45.12**	**166**	P	**P**	**06 19 10.3**	**+0.2**
WRA	**Warramunga Arr**	**45.12**	**166**	P	**P**	**06 19 10.0**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=347,slow=8.9,SNR=11 comp=Z,2.6nm,0.8s						
WB2	**Warramunga Arr**	**45.12**	**166**	P	**P**	**06 19 09.9**	**-0.2**
WB2				IAmb	IAmb	06 19 15.4	
	comp=Z,5.4nm,0.8s						
WR0	**Warramunga Arr**	**45.18**	**166**	P	**P**	**06 19 10.7**	**+0.1**
WR0				IAmb	IAmb	06 19 16.3	
	comp=Z,5.2nm,0.9s						
ASAR	**Alice Springs**	**48.64**	**168**	P	**P**	**06 19 38.4**	**+0.8**
ASAR	**Alice Springs**	**48.64**	**168**	P	**P**	**06 19 38.0**	**+0.3**
	comp=Z,7.0nm,0.5s,baz=350,slow=6.9,SNR=14 comp=Z,0.7nm,0.5s						
BVAR	**Borovoye Array**	**49.11**	**320**	P	**P**	**06 19 40.2**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=101,slow=7.5,SNR=3.1 comp=Z,0.6nm,0.5s						
ABKAR	**Akbulak array**	**55.07**	**314**	P	**P**	**06 20 24.9**	**-0.5**
ABKAR	**Akbulak array**	**55.07**	**314**	P	**P**	**06 20 24.9**	**-0.5**
ABKAR				IAmb	IAmb	06 20 29.4	
	comp=Z,3.7nm,1.0s						
L14K	**Kuka Creek**	**61.16**	**32**	P	**P**	**06 21 08.4**	**+0.7**
M16K	**Timber Creek**	**62.97**	**32**	P	**P**	**06 21 20.1**	**+0.2**
D19K	**Kuna River**	**63.33**	**24**	P	**P**	**06 21 22.5**	**+0.2**
D19K				IAmb	IAmb	06 21 27.1	
	comp=Z,5.8nm,1.2s						
SVW2	**Sparrevohn**	**64.60**	**32**	P	**P**	**06 21 30.5**	**-0.3**
SVW2				IAmb	IAmb	06 21 35.5	
	comp=Z,7.9nm,1.2s						
IMAR	**Indian Mountai**	**65.08**	**27**	P	**P**	**06 21 34.7**	**+1.0**
BPAW	**Bear Paw Mtn.**	**66.42**	**29**	P	**P**	**06 21 42.6**	**+0.1**
BPAW				IAmb	IAmb	06 21 46.9	
	comp=Z,3.5nm,0.9s						
SUA	**Susitna One**	**66.88**	**31**	P	**P**	**06 21 45.3**	**-0.3**
KBZ	**Khabaz**	**67.26**	**309**	P	**P**	**06 21 47.7**	**-0.5**
	comp=Z,2.2nm,0.9s,baz=90,slow=4.0,SNR=3.3 comp=Z,2.2nm,0.9s						
MDM	**Murphy Dome**	**67.48**	**27**	P	**P**	**06 21 49.4**	**+0.2**
MDM				IAmb	IAmb	06 21 50.8	
	comp=Z,9.8nm,1.2s						
ILAR	**Eielson Array**	**68.08**	**28**	P	**P**	**06 21 51.7**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=278,slow=4.7,SNR=4.9 comp=Z,0.5nm,0.8s						
BMAR	**Burnt Mountain**	**68.50**	**25**	P	**P**	**06 21 56.4**	**+0.8**
GLB	**Gilahina Butte**	**70.15**	**31**	P	**P**	**06 22 06.2**	**+0.2**
GLB				IAmb	IAmb	06 22 15.6	
	comp=Z,7.0nm,1.0s						
INK	**Inuvik**	**72.28**	**22**	P	**P**	**06 22 18.9**	**+0.4**
INK				IAmb	IAmb	06 23 01.3	
	comp=Z,4.9nm,1.5s						
FINES	**FINESS Array B**	**72.56**	**330**	P	**P**	**06 22 19.9**	**-0.5**
FINES	**FINESS Array B**	**72.56**	**330**	LR	LR	06 57 45.6	
	comp=Z,52nm,18.2s,baz=235,slow=39						
AKASG	**Malin Array Se**	**74.37**	**319**	P		**06 22 29.9**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=54,slow=7.4,SNR=4.1 comp=Z,0.6nm,0.5s						
BRTR	**Keskin Array B**	**75.01**

KBS	**Kingsbay**	**2.43**	**328**	Pn	Pn	06 14 16.5	-2.3
KBS				Pg	Pb	06 14 22.6	-0.5
KBS				Lg	Lg	06 14 53.7	
KBS	**Kingsbay**	**2.43**	**328**	P	Pn	06 14 16.2	-2.6
KBS				S	Sn	06 14 46.8	-1.4
KBS	**Kingsbay**	**2.43**	**328**	*e*P	Pn	06 14 16.3	-2.5
KBS				*e*Pg	Pb	06 14 22.2	-0.8
KBS				*e*Sg	Sb	06 14 52.9	+0.2
KBS				IAML		06 15 04.8	
	comp=Z,122nm,0.5s						
KBS	**Kingsbay**	**2.43**	**328**	*e*P	Pn	06 14 16.1	-2.7
KBS				*e*S	Sn	06 14 45.2	-3.0
BJO1	**Bjornoya**	**2.48**	**178**	Pg	Pb	06 14 24.0	+0.1
BJO1				Lg	Lg	06 14 55.3	
BJO1	**Bjornoya**	**2.48**	**178**	*e*Pg	Pb	06 14 23.5	-0.5
BJO1				*e*Sg	Sb	06 14 54.8	+0.7
BJO1				IAML		06 15 00.5	
	comp=Z,29nm,0.4s						
HAMF	**Hammerfest**	**6.50**	**165**	*e*P	Pn	06 15 12.4	-2.3
HAMF				*e*S	Sn	06 16 19.7	-8.8
HAMF				IAML		06 16 25.0	
	comp=Z,6.1nm,1.0s						
ZFI2	**Zemlya Franca-**	**6.71**	**42**	P	Pn	06 15 14.5	-3.0
ZFI2				*e*S	Sn	06 16 24.3	-9.2
	comp=Z,9.5nm,2.1s						
OMEGA	**Omega**	**6.71**	**42**	P	Pn	06 15 14.8	-2.8
OMEGA				*e*S	Sn	06 16 24.1	-9.4
	comp=Z,11nm,1.8s						
JETT	**Jettan, Norway**	**7.47**	**175**	Pn	Pn	06 15 25.1	-2.9
JETT				Sn	Sn	06 16 46.4	-5.8
JETT	**Jettan, Norway**	**7.47**	**175**	Pn	Pn	06 15 25.1	-2.9
JETT				Sn	Sn	06 16 46.4	-5.8
VADS	**Vadso**	**7.50**	**151**	P	Pn	06 15 26.9	-1.5
VADS				S	Sn	06 16 42.8	-10
VADS	**Vadso**	**7.50**	**151**	*e*P	Pn	06 15 26.1	-2.3
KEV	**Kevo**	**7.62**	**158**	Pn	Pn	06 15 27.9	-2.1
KEV				Sn	Sn	06 16 46.0	-10
KEV	**Kevo**	**7.62**	**158**	Pn	Pn	06 15 27.9	-2.1
KEV				Sn	Sn	06 16 46.0	-10
ARA0	**ARCESS Array S**	**7.72**	**162**	Pn	Pn	06 15 28.9	-2.5
	baz=349,slow=9.3						
ARA0				Sn	Sn	06 16 48.0	-10
	baz=2.7,slow=22						
ARA0	**ARCESS Array S**	**7.72**	**162**	Pn	Pn	06 15 28.9	-2.5
	baz=349,slow=9.3						
ARA0				Sn	Sn	06 16 48.0	-10
	baz=2.7,slow=22						
ARCES	**ARCESS Array B**	**7.72**	**162**	P	Pn	06 15 32.5	+1.2
ARCES				S	Sn	06 16 45.7	-13
NOR	**Nord**	**7.89**	**322**	*e*P	Pn	06 15 27.2	-6.5
KIF	**Kilpisjarvi**	**8.03**	**175**	Pn	Pn	06 15 33.8	-1.8
KIF				Sn	Sn	06 16 56.9	-9.0
KIF	**Kilpisjarvi**	**8.03**	**175**	Pn	Pn	06 15 33.8	-1.8
KIF				Sn	Sn	06 16 56.9	-9.0
PRVG	**Vayda Guba**	**8.19**	**145**	P	Pn	06 15 35.9	-1.9
PRVG				S	Sn	06 16 59.5	-10
TERR	**Teriberka**	**9.10**	**140**	P	Pn	06 15 46.2	-4.0
TERR				S	Sn	06 17 21.4	-11

IDC ***13*** *06:21:18.1±6.1,5.95S×150.92E,h64km±49km,mb3.4/6, mbtmp3.7/7,ML2.0/1,Error ellipse: s-maj=48.3km s-min=30.1km az=101.0*

ISC 13 06:21:14.9±0.9,5.9S±0.2×151.1E±0.2,h43km,n9, σ1s51/11,mb3.6/7,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.26**	**228**	P	**Pn**	**06 22 32.9**	**+1.9**
	4.1nm,0.3s,baz=39,slow=13,SNR=3.9						
PMG				S	**Sn**	**06 23 28.1**	**-2.3**
	18nm,0.5s,baz=242,slow=9.4,SNR=1.9 12nm,0.3s						
WRA	**Warramunga Arr**	**21.48**	**228**	P	**P**	**06 25 59.7**	**-0.4**
	1.0nm,0.4s,baz=52,slow=10,SNR=18						
WRA				PcP	**PcP**	**06 30 02.5**	**+0.4**
	0.3nm,0.6s,baz=39,slow=2.0,SNR=4.6 1.0nm,0.4s						
ASAR	**Alice Springs**	**24.23**	**221**	P	**P**	**06 26 28.6**	**+0.6**
	0.6nm,0.4s,baz=58,slow=8.8,SNR=14 0.6nm,0.4s						
SONM	**Songino Array**	**66.35**	**329**	P	**P**	**06 32 00.5**	**+1.0**
	0.4nm,0.7s,baz=115,slow=6.8,SNR=2.8 0.4nm,0.7s						
MKAR	**Makanchi Array**	**80.04**	**319**	P	**P**	**06 33 20.1**	**0.0**
	0.1nm,0.4s,baz=103,slow=6.4,SNR=5.1 0.1nm,0.4s						
ILAR	**Eielson Array**	**83.79**	**22**	P	**P**	**06 33 37.0**	**-2.4**
	0.2nm,0.3s,baz=254,slow=4.5,SNR=4.3						
QSPA	**South Pole Qui**	**84.09**	**180**	P	**P**	**06 33 40.8**	**-0.3**
	0.5nm,0.7s,baz=40,slow=4.9,SNR=1.1 0.5nm,0.7s						
NVAR	**Mina Array Bea**	**94.07**	**52**	P	**P**	**06 34 30.5**	**+1.1**
	0.7nm,0.7s,baz=252,slow=8.4,SNR=6.1 0.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**149.01**	**286**	PKPbc	**PKPbc**	**06 40 58.8**	**-0.7**
	2.1nm,0.4s,baz=78,slow=2.7,SNR=25						

NEIC ***13*** *06:35:41.1±1.1,19.16N±0.10×64.96W±0.06,h35km±2km, ML2.4/18,Md3.3/5(RSPR),Error ellipse: s-maj=19.2km s-min=3.1km az=330.0*

RSPR 13 06:35:44.1,19.22N×65.14W,h46km±29km,MD3.3/5, 6C-2D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.27**	**212**	*e*P	Pn	06 36 04.7	-0.7
HUMP	**Col San Antoni**	**1.27**	**212**		Pn	06 36 03.6	-1.8
GCPR	**Guaynabo City**	**1.28**	**225**	Pn	Pn	06 36 03.6	-1.9
IGPR	**InterUniversit**	**1.55**	**216**	*e*P	Pn	06 36 08.7	-0.6
IGPR	**InterUniversit**	**1.55**	**216**	*e*S	Sn	06 36 26.7	-1.5
IGPR	**InterUniversit**	**1.55**	**216**		Pn	06 36 08.7	-0.6
IGPR					Sn	06 36 26.7	-1.5
IGPR	**InterUniversit**	**1.55**	**216**	IAML		06 36 30.9	
	comp=E,42nm,0.3s						
IGPR				IAML		06 36 31.0	
	comp=N,33nm,1.0s						
AOPR	**Arecibo Observ**	**1.76**	**241**	*e*P	Pn	06 36 10.5	-1.7
AOPR	**Arecibo Observ**	**1.76**	**241**	*e*S	Sn	06 36 33.8	+0.4
AOPR	**Arecibo Observ**	**1.76**	**241**		Pn	06 36 10.5	-1.7
AOPR					Sn	06 36 33.8	+0.4
AOPR	**Arecibo Observ**	**1.76**	**241**	IAML		06 36 35.0	
	comp=N,51nm,2.3s						
CELP	**Cerrillos**	**1.78**	**230**	*e*P	Pn	06 36 10.6	-1.8
CELP	**Cerrillos**	**1.78**	**230**	*e*S	Sn	06 36 34.3	+0.5
CELP	**Cerrillos**	**1.78**	**230**		Pn	06 36 10.6	-1.8
CELP				IAML		06 36 43.1	
	comp=N,31nm,3.2s						
CELP	**Cerrillos**	**1.78**	**230**		Sn	06 36 34.3	+0.5
CELP	**Cerrillos**	**1.78**	**230**	IAML		06 36 26.2	
	comp=E,26nm,3.1s						
UUPR	**Utuado, UPR, P**	**1.78**	**237**	*e*P	Pn	06 36 10.8	-1.6
UUPR	**Utuado, UPR, P**	**1.78**	**237**	*e*S	Sn	06 36 33.4	-0.5
UUPR	**Utuado, UPR, P**	**1.78**	**237**		Pn	06 36 10.8	-1.6
UUPR					Sn	06 36 33.4	-0.5
OBIP	**Obispado Ponce**	**1.82**	**230**	*e*P	Pn	06 36 10.2	-2.7
OBIP	**Obispado Ponce**	**1.82**	**230**	*e*S	Sn	06 36 33.7	-1.1
OBIP	**Obispado Ponce**	**1.82**	**230**		Pn	06 36 10.2	-2.7
OBIP					Sn	06 36 33.7	-1.1
OBIP	**Obispado Ponce**	**1.82**	**230**	IAML		06 36 41.4	
	comp=N,36nm,3.4s						
OBIP				IAML		06 36 50.4	
	comp=E,27nm,3.3s						
MLPR	**Magueyes Islan**	**2.20**	**236**	*e*P	Pn	06 36 17.6	-0.4
MLPR	**Magueyes Islan**	**2.20**	**236**	*e*S	Sn	06 36 43.1	-1.0
MLPR	**Magueyes Islan**	**2.20**	**236**		Pn	06 36 16.2	-1.9
MLPR	**Magueyes Islan**	**2.20**	**236**		Sn	06 36 43.1	-1.0
MLPR	**Magueyes Islan**	**2.20**	**236**	IAML		06 36 54.5	
	comp=E,29nm,3.2s						
CRPR	**Cabo Rojo, PR**	**2.23**	**237**	*e*P	Pn	06 36 18.2	-0.3
CRPR	**Cabo Rojo, PR**	**2.23**	**237**	*e*S	Sn	06 36 44.0	-0.8
CRPR	**Cabo Rojo, PR**	**2.23**	**237**		Pn	06 36 18.2	-0.3
CRPR	**Cabo Rojo, PR**	**2.23**	**237**	IAML		06 36 37.4	
	comp=E,28nm,2.7s						
CRPR				IAML		06 37 31.3	
	comp=N,30nm,2.8s						
CRPR	**Cabo Rojo, PR**	**2.23**	**237**		Sn	06 36 44.0	-0.8

JMA 13 06:40:42.1±0.2,24.3N±0.3×123.8E±0.5,h16km±1km, MV1.1/7,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.10**	**328**	P	Pg	06 40 45.5	0.0
IRIF				S	Sg	06 40 47.8	+0.1
HATJ	**Hateruma jima**	**0.19**	**176**	P	Pg	06 40 46.5	-0.1
HATJ				*e*S	Sg	06 40 49.8	+0.1
JKRS	**Kuro-shima**	**0.20**	**93**	P	Pg	06 40 46.8	0.0
JKRS				S	Sb	06 40 50.5	-0.5
JIJ	**Ishigaki jima**	**0.34**	**70**	P	Pg	06 40 48.9	-0.3
JIJ				S	Sg	06 40 53.7	-0.3
JISG	**Ishigakijimahi**	**0.58**	**54**	P	Pg	06 40 53.7	+0.1
JISG				S	Sb	06 41 01.7	-0.3
JTJ	**Tarama**	**0.92**	**65**	P	Pg	06 40 59.9	0.0
JTJ				S	Sg	06 41 12.3	+0.3

TAP 13 06:41:22.8,24.40N×121.78E,h14km±1km,ML1.4,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.05**	**313**	*i* P	Pg	06 41 26.1	+0.7
	baz=318						
ENA				*e*S	Sg	06 41 27.4	+0.3
	baz=318						
EWUT	**Wuta**	**0.05**	**359**	P	Pg	06 41 26.0	+0.6
	baz=359						
EWUT				S	Sg	06 41 27.6	+0.5
	baz=359						
EAHA	**Aohua**	**0.07**	**209**	*e*P	Pg	06 41 26.2	+0.6
	baz=208						
ESAO	**Su ao**	**0.19**	**18**	*e*S	Sg	06 41 30.1	0.0
	baz=18						
TWC	**Suao**	**0.22**	**17**	*e*S	Sg	06 41 31.4	+0.4
	baz=19						
LATG	**Datong**	**0.27**	**301**	*e*P	Pb	06 41 30.0	+0.5
	baz=301						
LATG				S	Sb	06 41 34.1	+0.1
	baz=301						
NACB	**Ninganchiao**	**0.28**	**217**	*e*P	Pb	06 41 29.5	0.0
	baz=217						
NACB				S	Sb	06 41 33.9	-0.2
	baz=217						
ETLH	**Xiulin Townshi**	**0.33**	**235**	*i* P	Pb	06 41 30.6	+0.1
	baz=235						
ETLH				S	Sb	06 41 35.5	-0.2
	baz=235						
TWD	**Chiawan**	**0.35**	**208**	*e*P	Pb	06 41 30.7	-0.1
	baz=206						
NNSB	**Datong**	**0.36**	**275**	*e*S	Sb	06 41 36.8	+0.1
	baz=275						
EOS2	**EOS2**	**0.41**	**87**	S	Sb	06 41 38.5	+0.5
	baz=86						
EOS3	**EOS3**	**0.50**	**102**	*e*S	Sb	06 41 41.2	+0.7
	baz=102						

MOS ***13*** *06:46:28.8±1.1,35.77N×140.76E,h39km,mb4.9/45, MS4.2/11,Error ellipse: s-maj=7.3km s-min=4.4km az=113.6*

BJI ***13*** *06:46:28.8±0.0,35.70N×140.80E,h36km,mb4.5/66, mB4.8/39,Ms4.5/68,Ms7 4.3/64*

NIED ***13*** *06:46:30.3,35.73N×140.67E,h51km,MW5.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr-0.88; Mθθ3.12; Mϕϕ-2.23; Mrθ1.11; Mθϕ-0.62; Mϕr2.76; Fault plane solution: Mo3.99000×10¹⁶ NP1: ϕs235.00000°,δ75.00000°,λ-140.00000°. NP2: ϕs133.00000°,δ51.00000°,λ-19.00000°.*

JMA ***13*** *06:46:30.3±0.2,35.7N±0.6×140.7E±0.8,h51km±1km, MD4.9/37,MW5.0/37,NEAR CHOSHI CITY*

JMA Felt III J1 at NEAR CHOSHI CITY .

NEIC ***13*** *06:46:31.0±2.2,35.68N±0.04×140.87E±0.08,h41km±6km, mb4.9/229,Error ellipse: s-maj=10.5km s-min=5.1km az=116.0*

IDC ***13*** *06:46:32.4±1.6,35.61N×140.61E,h57km±14km,mb4.1/34, mbtmp4.4/40,MS4.1/76,Error ellipse: s-maj=13.8km s-min=9.2km az=77.0*

GCMT ***13*** *06:46:35.0±0.2,35.68N±0.01×140.74E±0.01,h45km±1km, MW5.1/123,Moment Tensor Solution. s58,c80; s123,c210; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.86±.16; Mθθ2.74±.12; Mϕϕ-4.60±.11; Mrθ1.56±.10; Mθϕ-1.83±.08; Mϕr2.76±.10; Best double couple: Mo5.06100×10¹⁶ NP1:ϕs47.00000°,δ79.00000°, λ134.00000°. NP2:ϕs149.00000°,δ45.00000°,λ16.00000°. Principal axes: T 3.9290, Plg39.0000°, Azm357.0000°; N 2.2650, Plg43.0000°, Azm216.0000°; P -6.1940, Plg21.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***13*** *06:46:42.4,35.25N×141.16E,h33km,mb5.1*

ISC 13 06:46:30.5±0.3,35.71N±0.03×140.86E±0.03,h39km±1km, h39km:pP-P,n814,σ1s84/650,mb4.8/223,MS4.2/97, 17C-15D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.34**	**258**	⇓*i*P	**Pn**	**06 46 39.2**	**+0.1**
JSMT				⇓S	**Sn**	**06 46 45.9**	**+0.4**
JSMT	**Sammumatsuo**	**0.34**	**258**	A	A	06 46 39.2	
	comp=E,688nm,1.5s,comp=N,1μm,2.3s						
JIHU	**Itakohorinouch**	**0.37**	**313**	⇓P	**Pn**	**06 46 39.9**	**+0.5**
JIHU				⇓S	**Sn**	**06 46 47.0**	**+1.1**
JIHU	**Itakohorinouch**	**0.37**	**313**	A	A	06 46 39.9	
	comp=E,418nm,6.4s,comp=N,382nm,5.1s						
JCN	**Nagara**	**0.61**	**241**	⇓*i*P	**Pn**	**06 46 42.3**	**-0.4**
JCN				⇓*e*S	**Sn**	**06 46 50.1**	**-1.3**
JCN	**Nagara**	**0.61**	**241**	A	A	06 46 42.3	
	comp=E,395nm,2.2s,comp=N,276nm,2.4s						
JHYU	**Hitachinakayam**	**0.66**	**341**	A	A	06 46 43.0	
	comp=E,112nm,2.4s,comp=N,74nm,1.5s						
JYT	**Yasato**	**0.74**	**314**	⇓*i*P	**Pn**	**06 46 43.2**	**-1.2**
JYT				⇓S	**Sn**	**06 46 52.9**	**-1.6**
JYT	**Yasato**	**0.74**	**314**	A	A	06 46 43.2	
	comp=E,64nm,0.5s,comp=N,64nm,0.3s						
JKUC	**kamogawauchiur**	**0.77**	**224**	A	A	06 46 44.0	
	comp=E,140nm,0.6s,comp=N,122nm,1.0s						
BSO4	**Boso 4**	**0.84**	**211**	*i* P	**Pn**	**06 46 45.6**	**-0.1**
TOK	**Tokyo**	**0.90**	**269**	A	A	06 46 44.8	
	comp=E,138nm,2.5s,comp=N,126nm,1.6s						
JHO	**Hitachi**	**0.93**	**345**	A	A	06 46 46.7	
	comp=E,43nm,4.0s,comp=N,32nm,4.3s						
BSO3	**Boso 3**	**0.95**	**198**	*i* P	**Pn**	**06 46 47.0**	**-0.1**
TATJ	**Tateyama 2**	**1.04**	**230**	A	A	06 46 47.5	
	comp=E,123nm,2.1s,comp=N,109nm,2.1s						
BSO1	**Boso 1**	**1.06**	**175**	P	**Pn**	**06 46 48.9**	**+0.6**
JYO	**Yokosk**	**1.09**	**244**	A	A	06 46 47.8	
	comp=E,102nm,3.0s,comp=N,128nm,2.2s						
JHU	**Hanno**	**1.29**	**277**	A	A	06 46 50.2	
	comp=E,41nm,2.5s,comp=N,32nm,2.4s						
JAG	**Ashikaga**	**1.34**	**302**	⇓*i*P	**Pn**	**06 46 50.9**	**-1.8**
JAG	**Ashikaga**	**1.34**	**302**	A	A	06 46 50.9	
	comp=E,26nm,2.8s,comp=N,36nm,3.5s						
JSGW	**Sagamiharawaka**	**1.35**	**266**	A	A	06 46 51.1	
	comp=E,29nm,2.2s,comp=N,44nm,3.0s						
ONAJ	**Iwakimizuishiy**	**1.39**	**358**	A	A	06 46 53.6	
	comp=E,25nm,2.2s,comp=N,18nm,4.5s						
JFFD	**Fukushimafurud**	**1.40**	**350**	A	A	06 46 53.4	
	comp=E,21nm,2.4s,comp=N,25nm,1.9s						
JSB	**Shiboa**	**1.46**	**329**	A	A	06 46 53.7	
	comp=E,41nm,3.2s,comp=N,64nm,3.8s						
JOD2	**Odawara 2**	**1.51**	**253**	⇓*i*P	**Pn**	**06 46 53.5**	**-1.6**
JOD2	**Odawara 2**	**1.51**	**253**	A	A	06 46 53.5	
	comp=E,40nm,2.5s,comp=N,39nm,1.7s						
JIM2	**Oshima 3**	**1.54**	**230**	A	A	06 46 54.4	
	comp=E,51nm,1.2s,comp=N,64nm,2.4s						
JRY	**Ryogami san**	**1.62**	**281**	A	A	06 46 54.9	
	comp=E,17nm,3.3s,comp=N,17nm,1.7s						
JFK	**Kawauchi**	**1.65**	**0**	A	A	06 46 57.4	
	comp=E,16nm,2.2s,comp=N,9.0nm,2.5s						
JKT	**Katashina**	**1.67**	**309**	A	A	06 46 56.1	
	comp=E,25nm,0.5s,comp=N,22nm,0.5s						
JHTM	**Izuhatsuma**	**1.69**	**244**	A	A	06 46 56.3	
	comp=E,73nm,0.8s,comp=N,63nm,1.5s						
JTHY	**Toshimahigashi**	**1.75**	**228**	A	A	06 46 57.6	
	comp=E,39nm,2.3s,comp=N,39nm,4.4s						
JFNN	**Fujinakano**	**1.85**	**254**	A	A	06 46 58.3	
	comp=E,40nm,2.1s,comp=N,45nm,6.3s						
JNIO	**Nijimaoohara**	**1.88**	**224**	A	A	06 46 59.5	
	comp=E,49nm,3.2s,comp=N,42nm,1.5s						
JOTO	**OTAMA OYAMA**	**1.89**	**347**	A	A	06 47 00.3	
	comp=E,40nm,2.7s,comp=N,35nm,3.7s						

JYN	**Shimob**	**1.90**	**264**	A	A	06 46 59.0		
	comp=E,18nm,1.7s,comp=N,25nm,6.3s							
JIZS	**Izushimoda**	**1.90**	**239**	A	A	06 46 59.4		
	comp=E,16nm,1.7s,comp=N,23nm,2.4s							
JFY	**Yanaizu**	**1.93**	**332**	A	A	06 47 00.3		
	comp=E,13nm,4.3s,comp=N,15nm,4.2s							
JSKK	**Shikinejimakit**	**1.93**	**225**	A	A	06 47 00.2		
	comp=E,24nm,1.8s,comp=N,25nm,2.8s							
JMYK	**Miyake Tsubota**	**1.97**	**214**	A	A	06 47 01.2		
	comp=E,34nm,2.2s,comp=N,32nm,1.9s							
JGK	**Kuni**	**1.99**	**296**	A	A	06 47 00.3		
	comp=E,20nm,2.6s,comp=N,24nm,5.9s							
JMST	**Minamisoumatoc**	**2.01**	**1**	A	A	06 47 02.4		
	comp=E,19nm,3.5s,comp=N,14nm,4.4s							
JKO	**Kozu shima**	**2.08**	**223**	A	A	06 47 02.4		
	comp=E,54nm,3.8s,comp=N,31nm,5.1s							
JUON	**Uonuma**	**2.08**	**316**	A	A	06 47 02.0		
	comp=E,15nm,3.3s,comp=N,13nm,8.1s							
JMKN	**Mikurajimanish**	**2.10**	**210**	A	A	06 47 03.0		
	comp=E,15nm,1.3s,comp=N,15nm,1.2s							
JMM	**Marumori**	**2.15**	**359**		**Pn**	**06 47 05.1**	**+1.3**	
JMM	**Marumori**	**2.15**	**359**	P	**Pn**	**06 47 05.3**	**+1.5**	
JMM	**Marumori**	**2.15**	**359**	A	A	06 47 04.4		
	comp=E,16nm,7.0s,comp=N,10.0nm,9.7s							
JNT	**Takato**	**2.22**	**275**	A	A	06 47 03.5		
	comp=E,11nm,4.9s,comp=N,14nm,4.1s							
SHZ3	**Shizuoka 3**	**2.26**	**254**	A	A	06 47 04.2		
	comp=E,16nm,1.9s,comp=N,45nm,1.4s							
JYAR	**Yonezawaarcadi**	**2.27**	**346**	A	A	06 47 05.6		
	comp=E,31nm,4.7s,comp=N,18nm,1.3s							
MJAR	**Matsushiro Arr**	**2.30**	**292**	P	**Pn**	**06 47 05.1**	**-0.8**	
	comp=N,60nm,0.3s,baz=99,slow=14,SNR=173							
MJAR				LR	LR	06 48 08.9		
	comp=N,9μm,19.6s,baz=94,slow=45							
MAJO	**Matsushiro**	**2.30**	**292**		**Pn**	**06 47 05.8**	**-0.1**	
MAJO	**Matsushiro**	**2.30**	**292**	P	**Pn**	**06 47 06.3**	**+0.4**	
MAJO	**Matsushiro**	**2.30**	**292**	P	**Pn**	**06 47 05.8**	**-0.1**	
MJB9	**Matsu-Tunnel**	**2.31**	**292**		**Pn**	**06 47 06.7**	**+0.7**	
JNG	**Nsakai**	**2.34**	**288**	A	A	06 47 05.2		
	comp=E,10.0nm,3.9s,comp=N,12nm,1.8s							
JSG	**Sagara**	**2.42**	**245**		**Pn**	**06 47 07.7**	**+0.1**	
JSG	**Sagara**	**2.42**	**245**	P	**Pn**	**06 47 08.9**	**+1.3**	
JSG	**Sagara**	**2.42**	**245**	A	A	06 47 06.7		
	comp=E,29nm,2.6s,comp=N,47nm,2.8s							
JNS	**Sasagawa**	**2.44**	**330**	A	A	06 47 07.5		
	comp=E,13nm,5.4s,comp=N,9.0nm,5.7s							
JNY	**Yasuok**	**2.47**	**263**	A	A	06 47 07.1		
	comp=E,13nm,1.2s,comp=N,25nm,4.2s							
JIZZ	**Izumozaki**	**2.51**	**317**	A	A	06 47 08.1		
	comp=E,35nm,3.3s,comp=N,37nm,4.3s							
JKKS	**Kakegawashinom**	**2.54**	**249**	A	A	06 47 08.3		
	comp=E,30nm,2.4s,comp=N,42nm,3.7s							
JJN	**Nakama**	**2.58**	**303**	A	A	06 47 08.8		
	comp=E,21nm,3.9s,comp=N,23nm,3.3s							
JYS	**Shirataka**	**2.58**	**346**	A	A	06 47 10.1		
	comp=E,28nm,4.1s,comp=N,19nm,1.9s							
JOU	**Okura**	**2.65**	**357**	A	A	06 47 11.5		
	comp=E,18nm,2.1s,comp=N,19nm,2.5s							
HMMJ	**Hamamatsu 2**	**2.71**	**252**	A	A	06 47 10.6		
	comp=E,7.0nm,3.2s,comp=N,10.0nm,6.8s							
JHJ2	**Mitsune**	**2.74**	**199**	Pn	**Pn**	**06 47 11.0**	**-0.8**	
JHJ2	**Mitsune**	**2.74**	**199**	P	**Pn**	**06 47 10.9**	**-1.0**	
JHJ2	**Mitsune**	**2.74**	**199**	A	A	06 47 12.5		
	comp=E,18nm,1.5s,comp=N,17nm,7.1s							
JHJ	**Hachijo jima 2**	**2.74**	**199**	P	**Pn**	**06 47 10.9**	**-1.0**	
	comp=N,850nm,0.3s,baz=95,slow=22,SNR=72							
JHJ				S	**Sn**	**06 47 42.3**	**-1.4**	
	comp=N,2μm,0.3s,baz=53,slow=17,SNR=6.2							
JHCJ	**Hachijojimakas**	**2.78**	**199**	A	A	06 47 13.1		
	comp=E,12nm,2.0s,comp=N,12nm,2.3s							
JGF	**Kuroka**	**2.85**	**269**		**Pn**	**06 47 13.6**	**0.0**	
JGF	**Kuroka**	**2.85**	**269**	P	**Pn**	**06 47 14.1**	**+0.6**	
JGF	**Kuroka**	**2.85**	**269**	A	A	06 47 12.5		
	comp=E,8.0nm,5.0s,comp=N,9.0nm,2.0s							
JOFO	**Osakifurukawao**	**2.88**	**1**	A	A	06 47 14.9		
	comp=E,84nm,2.7s,comp=N,71nm,2.6s							
JGN	**Niukaw**	**2.92**	**281**	A	A	06 47 13.4		
	comp=E,9.0nm,7.1s,comp=N,8.0nm,4.7s							
TTO5	**TONANKAI O.B.S**	**2.96**	**241**	A	A	06 47 14.4		
	comp=E,47nm,6.6s,comp=N,43nm,4.8s							
JAO	**Obara**	**2.97**	**262**	A	A	06 47 14.2		
	comp=E,8.0nm,3.2s,comp=N,14nm,3.2s							
JTT	**Ttatey**	**2.99**	**288**	A	A	06 47 14.4		
	comp=E,12nm,2.6s,comp=N,11nm,2.3s							
JYA	**Atsumi**	**3.02**	**343**	A	A	06 47 16.1		
	comp=E,21nm,2.0s,comp=N,11nm,2.4s							
JAW	**Awa shima**	**3.02**	**335**	A	A	06 47 16.0		
	comp=E,6.0nm,7.2s,comp=N,7.0nm,4.2s							
JSD	**Sado**	**3.12**	**319**		**Pn**	**06 47 18.1**	**+1.0**	
JSD	**Sado**	**3.12**	**319**	A	A	06 47 16.8		
	comp=E,8.0nm,6.6s,comp=N,5.0nm,4.8s							
INU	**Inuyama**	**3.15**	**264**		**Pn**	**06 47 17.0**	**-0.6**	
INU	**Inuyama**	**3.15**	**264**	P	**Pn**	**06 47 17.8**	**+0.2**	
TTO4	**TONANKAI O.B.S**	**3.22**	**239**	A	A	06 47 18.1		
	comp=E,19nm,2.6s,comp=N,30nm,2.5s							
JYK	**Kaneyama**	**3.22**	**353**	A	A	06 47 19.4		
	comp=E,11nm,1.9s,comp=N,8.0nm,1.4s					

KSRS Korea Array 10.55 283 P **Pn** 06 49 00.2 +1.2
comp=Z,2.1nm,0.6s,baz=108,slow=15,SNR=7.6
KSRS LR LR 06 52 53.9
comp=Z,2μm,21.8s,baz=95,slow=37
KSAR Wonju Array Be 10.58 283 Pn **Pn** 06 49 00.3 +0.8
KSAR Wonju Array Be 10.58 283 P **Pn** 06 49 00.3 +0.8
USA0B Ussuriysk Arra 10.86 324 *i* P **Pn** 06 49 04.2 +0.9
USRK Ussuriysk Ar. 10.86 324 **Pn** 06 49 02.8 -0.5
USRK Ussuriysk Ar. 10.86 324 P **Pn** 06 49 02.8 -0.5
USRK Ussuriysk Ar. 10.86 324 P **Pn** 06 49 05.8 +2.4
comp=Z,5.2nm,0.7s,baz=139,slow=13,SNR=11
USRK LR LR 06 52 57.3
comp=Z,2μm,18.6s,baz=142,slow=36
KUR Kuril'sk 10.90 27 *e*P **Pn** 06 49 04.9 +1.1
KUR *i* S **Sn** 06 50 56.9 -7.4
KUR pmax pmax
comp=Z,69nm,0.7s
KUR smax smax
comp=E,112nm,0.5s
TJN Taejon 10.95 277 *i* P **Pn** 06 49 04.8 +0.3
YSS Yuzh-Sakhalins 11.32 7 Pn **Pn** 06 49 10.1 +0.5
YSS Yuzh-Sakhalins 11.32 7 *e*P **Pn** 06 49 10.2 +0.7
YSS *e*S **Sn** 06 51 13.0 -1.6
YSS pmax pmax
comp=Z,40nm,0.9s
YSS MLR MLR
comp=Z,1μm,16.0s
YSS MLR MLR
comp=E,1μm,15.0s
MDJ Mudanjiang 12.37 319 P Pn 06 49 28.8 +4.9
MDJ pP P 06 49 30.8 -4.5
MDJ sP 06 49 34.4
MDJ PP **PnPn** 06 49 40.9 +9.1
MDJ S Sn 06 51 51.9 +11
MDJ SS **SnSn** 06 51 54.6 +2.0
MDJ PcS **PcS** 06 58 42.6 +5.4
MDJ pmax pmax
comp=E,10.0nm,1.2s
MDJ pmax pmax
comp=E,300nm,4.0s
MDJ LR LR
comp=E,1μm,18.3s
MDJ LR LR
comp=E,1μm,18.6s
MDJ LR LR
comp=E,2μm,17.8s
MDJ Mudanjiang 12.37 319 Pn **Pn** 06 49 25.8 +1.9
UGL Uglegorsk 13.38 3 *e*P **P** 06 49 49.4 +2.9
JOW Kunigami 13.93 234 P **Pn** 06 49 45.6 +0.3
comp=E,6.3nm,0.7s,baz=69,slow=13,SNR=1.8
JOW LR LR 06 55 11.9
comp=E,565nm,18.9s,baz=65,slow=38
BNX BinXian 14.28 319 ⇓P **Pn** 06 49 49.8 -0.1
BNX pP **P** 06 49 53.4 -3.1
BNX PP **PnPn** 06 50 02.8 +4.9
BNX S **Sn** 06 52 27.0 +0.1
BNX pmax pmax
comp=E,7.0nm,1.1s
BNX pmax pmax
comp=E,200nm,3.9s
BNX LR LR
comp=E,1μm,19.4s
BNX LR LR
comp=E,990nm,21.0s
BNX LR LR
comp=E,1μm,26.5s
CN2 Changchun 14.33 309 *e*P **Pn** 06 49 52.9 +2.3
CN2 *ep*P P 06 50 02.0 +4.9
CN2 *e*S **Sn** 06 52 31.3 +3.1
CN2 pmax pmax
comp=E,10.0nm,0.6s
CN2 pmax pmax
comp=E,100nm,3.0s
CN2 LR LR
comp=E,600nm,11.0s
CN2 LR LR
comp=E,400nm,11.0s
CN2 LR LR
comp=E,500nm,12.0s
SNY Shenyang 14.79 300 ⇓P **P** 06 50 01.4 -0.8
SNY S **S** 06 52 47.9 -8.7
SNY pmax pmax
comp=E,20nm,0.9s
SNY LR LR
comp=E,420nm,10.2s
SNY LR LR
comp=E,360nm,15.4s
SNY LR LR
comp=E,510nm,14.2s
KLR Kul'dur 15.07 336 *i* P **Pn** 06 49 57.6 -2.9
KLR pmax pmax
comp=Z,1.0nm,0.4s
KLR Kul'dur 15.07 336 P **Pn** 06 49 59.0 -1.5
comp=Z,1.5nm,0.5s,baz=142,slow=10,SNR=8.7
KLR LR LR 06 55 22.5
comp=Z,1μm,21.2s,baz=154,slow=35
TYV Tymovskoe 15.20 4 *e*P **P** 06 50 05.6 -1.1
TYV pmax pmax
comp=Z,100nm,3.7s
TYV pmax pmax
comp=Z,26nm,1.0s
TYV MLR MLR
comp=Z,400nm,16.0s
DL2 Dalian 15.63 287 P **P** 06 50 12.0 +0.4
DL2 S **Sn** 06 53 05.8 +5.9
DL2 pmax pmax
comp=Z,76nm,1.3s
DL2 pmax pmax
comp=Z,370nm,7.5s
DL2 LR LR
comp=Z,1μm,16.1s
DL2 LR LR
comp=Z,1μm,19.0s
DL2 LR LR
comp=Z,2μm,21.6s
SSE Sheshan 17.06 260 P **Pn** 06 50 25.5 -0.5
SSE S **Sn** 06 53 34.6 +0.1
SSE pmax pmax
comp=Z,9.0nm,0.6s
SSE pmax pmax
comp=Z,130nm,7.0s
SSE LR LR
comp=Z,410nm,13.8s
SSE LR LR
comp=Z,230nm,13.4s
SKR Severo-Kuril's 18.59 32 *e*P Pn 06 50 59.8 +15
SKR pmax pmax
comp=Z,136nm,1.0s
NJ2 Nanjing 18.63 265 *e*P **P** 06 50 44.3 -0.4
NJ2 pP **pP** 06 50 52.1 -2.4
NJ2 sP **sP** 06 50 57.6 -1.8
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,520nm,4.1s
NJ2 LR LR
comp=Z,680nm,13.2s
NJ2 LR LR
comp=Z,650nm,19.1s
NJ2 LR LR
comp=Z,830nm,20.4s
BJI Beijing 19.94 290 P **P** 06 50 57.8 -1.2
BJI sP **pP** 06 51 08.9 +0.1
BJI S **S** 06 54 34.6 -6.5
BJI PcP **PcP** 06 55 12.3 -2.2
BJI pmax pmax
comp=Z,4.0nm,0.9s
BJI pmax pmax
comp=Z,54nm,4.1s
BJI LR LR
comp=Z,260nm,19.2s
BJI LR LR
comp=Z,190nm,19.3s
BJI LR LR
comp=Z,350nm,24.0s
BJT Baijiatuau 19.94 290 P **P** 06 50 57.4 -1.7
BJT Baijiatuau 19.94 290 P **P** 06 50 57.4 -1.7
BJT pmax pmax
comp=Z,33nm,1.3s
YHNB Yeheng 20.08 242 P **P** 06 50 58.8 -2.0
YHNB IAmb IAmb 06 51 03.0
comp=Z,86nm,2.0s
ZEA Zeya 20.39 336 *e*P **P** 06 51 00.8 -3.0
ZEA *e* 06 51 20.4
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZEA MLR MLR
comp=E,200nm,15.0s
ZEA MLR MLR
comp=N,200nm,19.0s
ZEA MLR MLR
comp=Z,300nm,19.0s
XLT XiLinHaoTe 20.66 301 *e*P Pn 06 51 09.3 -0.1
XLT pP pP 06 51 15.9 -0.9
XLT S **S** 06 54 57.4 +1.7
XLT pmax pmax
comp=Z,11nm,0.9s
XLT LR LR
comp=Z,92nm,14.5s
XLT LR LR
comp=Z,660nm,19.4s
XLT LR LR
comp=Z,780nm,20.6s
PEA0B Petropavlovsk- 21.05 29 *i* P **P** 06 51 10.6 -0.4
PETK Petropavlovsk- 21.05 29 P **P** 06 51 13.8 +2.8
comp=Z,14nm,0.9s,baz=217,slow=7.4,SNR=14
PETK LR LR 07 00 11.0
comp=Z,180nm,18.6s,baz=212,slow=38
comp=Z,14nm,0.9s
HNS HongShan 21.06 282 ⇓P **P** 06 51 07.0 -4.1
HNS SS **SnSn** 06 55 26.5 +0.5
HNS pmax pmax
comp=Z,10.0nm,0.9s
HNS LR LR
comp=Z,820nm,17.5s
HNS LR LR
comp=Z,720nm,20.7s
HNS LR LR
comp=Z,850nm,18.1s
PET Petropavlovsk 21.38 30 *e*P **P** 06 51 18.1 +3.7
PET *e*S Sn 06 55 14.6 -3.7
PET pmax pmax
comp=Z,36nm,1.0s
PET MLR MLR
comp=Z,500nm,15.0s
PET MLR MLR
comp=Z,300nm,17.0s
WHN Wuhan 22.76 264 ⇑P **P** 06 51 32.8 +3.4
WHN S **S** 06 55 39.6 +4.0
WHN LR LR
comp=Z,3μm,19.9s
WHN LR LR
comp=Z,1μm,11.2s
WHN LR LR
comp=Z,3μm,18.0s
LYN LuoYang 23.22 275 ⇑P **P** 06 51 30.6 -3.5
LYN pP pP 06 51 42.3 -1.9
LYN sP sP 06 51 47.4 -1.6
LYN PP **PnPn** 06 52 04.1 +3.6
LYN S **S** 06 55 40.4 -2.9
LYN SS **SnSn** 06 56 19.3 +0.2
LYN pmax pmax
comp=Z,15nm,0.7s
LYN pmax pmax
comp=Z,230nm,4.8s
LYN LR LR
comp=Z,1μm,17.6s
LYN LR LR
comp=Z,1μm,16.5s
LYN LR LR
comp=Z,2μm,19.6s
HHC Hu-ho-hao-te 23.50 291 *e*P **P** 06 51 39.1 +2.2
HHC pP pP 06 51 46.4 -0.9
HHC sP sP 06 51 51.9 -0.1
HHC PP **PnPn** 06 52 09.1 +4.7
HHC *e*S **S** 06 55 52.8 +4.7
HHC SS **SnSn** 06 56 35.8 +10
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,61nm,5.0s
HHC LR LR
comp=Z,180nm,12.3s
HHC LR LR
comp=Z,340nm,11.3s
HHC LR LR
comp=Z,400nm,12.0s
BTO Baotou 24.66 291 *e*P **P** 06 51 48.6 +0.9
BTO pP **pP** 06 51 58.0 -0.4
BTO sP **sP** 06 52 01.9 -1.2
BTO S **S** 06 56 10.8 +4.1
BTO sS **sS** 06 56 20.0 -1.7
BTO SS **SnSn** 06 57 01.3 +6.8
BTO pmax pmax
comp=Z,15nm,0.7s
BTO pmax pmax
comp=Z,160nm,7.6s
BTO LR LR
comp=Z,1μm,19.0s
BTO LR LR
comp=Z,940nm,21.6s
BTO LR LR
comp=Z,1μm,22.7s
MA2 Magadan 24.73 12 P **P** 06 51 48.7 +0.7
MA2 IAmb IAmb 06 52 08.7
comp=Z,63nm,1.3s
MA2 Magadan 24.73 12*ce*P **P** 06 51 49.3 +1.3
MA2 pmax pmax
comp=Z,25nm,1.0s
CNSH ChangSha 24.80 260 *e*P **P** 06 51 50.5 +1.6
CNSH S **S** 06 56 13.1 +4.2
CNSH sS **sS** 06 56 24.0 -1.1
CNSH pmax pmax
comp=Z,10.0nm,0.6s
CNSH LR LR
comp=Z,420nm,19.2s
CNSH LR LR
comp=Z,560nm,13.4s
CNSH LR LR
comp=Z,940nm,16.1s
XAN Xi'an 26.20 276 P **P** 06 51 58.6 -3.0
XAN pP pP 06 52 09.4 -2.9
XAN S **S** 06 56 27.0 -4.1
XAN pmax pmax
comp=Z,14nm,0.7s
XAN pmax pmax
comp=Z,220nm,4.8s
XAN LR LR
comp=Z,720nm,16.0s
XAN LR LR
comp=Z,950nm,17.5s
XAN LR LR
comp=Z,1μm,19.4s
ENH Enshi 26.80 267 P **P** 06 52 03.8 -3.2
YAK Yakutsk 27.27 348 P **P** 06 52 10.4 -0.4
YAK Yakutsk 27.27 348 *e*P **P** 06 52 09.7 -1.1
YAK *e**PP **pP** 06 52 20.1 -1.4
YAK *e* 06 55 28.0
YAK *e*S **S** 06 56 48.3 +1.1
YAK *e**SS **sS** 06 57 03.1 -0.8
YAK *e*SS **SnSn** 06 57 58.4 +1.0
YAK pmax pmax
comp=Z,40nm,2.0s
YAK pmax pmax
comp=N,33nm,1.9s
YAK pmax pmax
comp=E,4.0nm,1.5s
YAK smax smax
comp=E,285nm,6.9s
YAK smax smax
comp=N,234nm,5.8s
YAK MLR MLR
comp=Z,580nm,29.0s
YAK MLR MLR
comp=N,526nm,24.0s
YAK MLR MLR
comp=E,470nm,23.0s
YAK Yakutsk 27.27 348 LR LR 07 02 35.0
comp=E,384nm,21.8s,baz=159,slow=35
ULN Ulaanbaatar 27.75 306 P **P** 06 52 16.2 +0.7
ULN Ulaanbaatar 27.75 306*ce*P **P** 06 52 17.0 +1.5
ULN pmax pmax
comp=Z,9.0nm,1.3s
H11N2 WAKE ISLAND Hy 27.89 118 T T 07 21 34.4
baz=309,slow=75,SNR=161
H11N1 WAKE ISLAND Hy 27.90 118 T T 07 21 30.3
baz=309,slow=75,SNR=208
H11N3 WAKE ISLAND Hy 27.91 118 T T 07 21 35.7
baz=309,slow=75,SNR=158
TGY Tagaytay City 27.99 225 LR LR 07 01 29.5
comp=Z,119nm,20.3s,baz=20,slow=32
GULI GuiLin 28.15 257 ⇑P **P** 06 52 17.1 -2.0
GULI pmax pmax
comp=Z,10.0nm,1.3s
GULI pmax pmax
comp=Z,150nm,7.6s
GULI LR LR
comp=Z,510nm,23.8s
GULI LR LR
comp=Z,200nm,21.1s
GULI LR LR
comp=Z,400nm,23.3s
SEY Seymchan 28.17 11*ce*P **P** 06 52 19.2 +0.3
SEY pmax pmax
comp=Z,11nm,1.3s
SEY Seymchan 28.17 11 LR LR 07 03 57.9
comp=Z,290nm,21.7s,baz=250,slow=37
SONM Songino Array 28.18 306 P **P** 06 52 18.2 -1.0
SONM Songino Array 28.18 306 P **P** 06 52 18.3 -1.0
SONM pmax pmax
comp=Z,5.0nm,0.7s
SONM Songino Array 28.18 306 P **P** 06 52 17.9 -1.4
comp=Z,2.3nm,0.6s,baz=102,slow=9.7,SNR=8.7
SONM LR LR 07 03 48.6
comp=Z,487nm,18.1s,baz=103,slow=37
comp=Z,2.3nm,0.6s
BOD Bodaibo 28.42 329 *e*P **P** 06 52 20.6 -0.6
BOD pmax pmax
comp=Z,14nm,2.0s
H11S3 WAKE ISLAND Hy 28.55 120 T T 07 22 15.3
baz=312,slow=76,SNR=227
H11S1 WAKE ISLAND Hy 28.55 120 T T 07 22 15.4
baz=312,slow=76,SNR=411
H11S2 WAKE ISLAND Hy 28.57 120 T T 07 22 16.7
baz=312,slow=76,SNR=272
SHEM Shemya Is, Ala 28.92 44 LR LR 07 01 36.6
comp=Z,100nm,21.1s,baz=290,slow=31
LZH Lanzhou 29.87 282 *e*P **P** 06 52 37.4 +2.9
LZH sP sP 06 52 51.3 +1.3
LZH SS **SnSn** 06 59 02.8 +1.0
LZH pmax pmax
comp=Z,17nm,1.1s
LZH LR LR
comp=Z,750nm,16.6s
LZH LR LR
comp=Z,760nm,17.6s
LZH LR LR
comp=Z,910nm,20.6s
ZAK Zakamensk 30.76 310 *e*P **P** 06 52 38.6 -3.5
ZAK pmax pmax
comp=Z,3.0nm,1.0s
CD2 Chengdu 31.25 272 P **P** 06 52 46.8 +0.2
CD2 pP pP 06 52 55.8 -1.6
CD2 sP sP 06 53 01.4 -0.6
CD2 S **S** 06 57 51.3 +0.7
CD2 sS sS 06 58 08.3 +1.7
CD2 pmax pmax
comp=Z,20nm,0.3s
CD2 pmax pmax
comp=Z,90nm,5.0s
CD2 LR LR
comp=Z,1μm,15.9s
CD2 LR LR
comp=Z,1μm,18.8s
CD2 LR LR
comp=Z,1μm,19.6s
QIZ Qiongzhong 31.99 247 P **P** 06 52 52.8 -0.3
QIZ S **S** 06 58 02.1 -0.1
QIZ pmax pmax
comp=Z,12nm,1.8s
QIZ LR LR
comp=Z,170nm,14.3s
QIZ LR LR
comp=Z,370nm,16.0s
QIZ LR LR
comp=Z,360nm,15.1s
GTA Gaotai 32.55 289 P **P** 06 52 58.4 +0.4
GTA sP pP 06 53 10.4 +1.6
GTA pmax pmax
comp=Z,4.0nm,0.8s
GTA LR LR
comp=Z,230nm,17.8s
GTA LR LR
comp=Z,410nm,19.6s
GTA LR LR
comp=Z,490nm,19.3s
KMI Kunming 34.34 263 ⇓P **P** 06 53 15.3 +1.5
KMI pmax pmax
comp=Z,13nm,0.9s
KMI LR LR
comp=Z,350nm,16.2s
KMI LR LR
comp=Z,500nm,12.5s
KMI LR LR
comp=Z,510nm,23.2s
PZH PanZhiHua 34.54 266 P **P** 06 53 16.4 +0.9
PZH pP **pP** 06 53 26.1 -0.2
PZH S **S** 06 58 39.8 -2.1
PZH pmax pmax
comp=Z,20nm,0.5s
PZH pmax pmax
comp=Z,60nm,4.5s
PZH LR LR
comp=Z,360nm,18.1s
PZH LR LR
comp=Z,540nm,20.6s
PZH LR LR
comp=Z,660nm,20.6s
BILL Bilibino 35.42 16⇑ *e*P **P** 06 53 22.0 -0.4
BILL pmax pmax
comp=Z,24nm,2.5s
TIXI Tiksi 36.55 354*ce*P **P** 06 53 29.5 -2.5
TIXI pmax pmax
comp=Z,9.0nm,1.7s
TIXI Tiksi 36.55 354 LR LR 07 09 48.6
comp=Z,131nm,18.8s,baz=174,slow=38
TIXI Tiksi 36.55 354 P **P** 06 53 33.1 +1.2
TIXI pP **pP** 06 53 43.8 +1.0
GOMU GeErMu 37.00 285 P **P** 06 53 38.4 +1.6
GOMU pP pP 06 53 42.5 -5.2
GOMU S **S** 06 59 19.0 -1.0
GOMU pmax pmax
comp=Z,5.0nm,0.6s
GOMU LR LR
comp=Z,420nm,16.9s
GOMU LR LR
comp=Z,350nm,19.3s
GOMU LR LR
comp=Z,590nm,18.6s
FAKI Fak Fak 39.27 194 P **P** 06 53 55.8 +0.3
comp=Z,31nm,0.8s
SANI Sanana 40.06 203 P **P** 06 54 01.7 -0.4
comp=Z,37nm,0.6s
CMAR Chiang Mai Arr 40.74 256 P **P** 06 54 06.5 -1.3
comp=Z,1.0nm,0.3s,baz=49,slow=8.5,SNR=1.2
CMAR LR LR 07 11 45.4
comp=Z,263nm,20.7s,baz=55,slow=37
comp=Z,1.0nm,0.3s
DGZ Jazzator, Alta 40.81 307 *i* P **P** 06 54 07.7 -0.6
DGZ pmax pmax
comp=Z,9.0nm,0.6s
WMQ Urumqi 41.05 298 *e*P **P** 06 54 11.1 +0.9
WMQ pmax pmax
comp=Z,27nm,0.9s
WMQ pmax pmax
comp=Z,120nm,4.9s
WMQ LR LR
comp=Z,610nm,16.9s
WMQ LR LR
comp=Z,530nm,23.7s
WMQ LR LR
comp=Z,340nm,22.5s
M11K Mekoryuk 41.58 37 P **P** 06 54 14.9 +0.7
baz=258
LSA Lhasa 41.90 276 P **P** 06 54 16.0 -1.7
LSA IAmb IAmb 06 54 30.8
comp=Z,19nm,1.1s
LSA Lhasa 41.90 276 P **P** 06 54 16.0 -1.7
LSA pmax pmax
comp=Z,19nm,1.1s
LSA Lhasa 41.90 276 P **P** 06 54 19.6 +1.9
LSA pP **pP** 06 54 30.4 +1.6
TNA Tin City 42.22 29 P **P** 06 54 20.5 +1.2
baz=251
FALS False Pass 42.34 45 P **P** 06 54 20.9 +0.5
baz=267
ZALV Zalesovo Beam 42.48 313 P **P** 06 54 21.0 -0.6
ZALV Zalesovo Beam 42.48 313 P **P** 06 54 20.7 -1.0
comp=Z,3.0nm,0.7s,baz=93,slow=7.4,SNR=13

ZALV LR LR 07 11 49.3
comp=Z,160nm,21.7s,baz=86,slow=36
comp=Z,3.0nm,0.7s
F14K Arctic Creek 42.83 29 P **P** 06 54 24.8 +0.6
baz=252
ANM Nome 42.95 31 IAmb IAmb 06 54 39.1
comp=Z,54nm,1.9s
ANM Nome 42.95 31 P **P** 06 54 25.6 +0.3
baz=254
M13K Dall Lake 42.98 37 P **P** 06 54 27.1 +1.6
baz=261
J14K Nanvaranak Lak 43.31 34 P **P** 06 54 29.9 +1.8
baz=258
L14K Kuka Creek 43.45 36 P **P** 06 54 30.5 +1.1
baz=260
F15K North Star Dit 43.56 29 P **P** 06 54 31.0 +0.8
baz=254
G15K Niukluk 43.62 30 P **P** 06 54 31.8 +1.1
baz=255
M14K Bethel 43.71 37 P **P** 06 54 34.1 +2.7
M14K Bethel 43.71 37 P **P** 06 54 32.2 +0.8
baz=262
L15K Ungalak Mounta 44.07 35 P **P** 06 54 35.8 +1.4
baz=261
C16K Lisburne Hills 44.08 26 IAmb IAmb 06 54 38.7
comp=Z,15nm,0.7s
C16K Lisburne Hills 44.08 26 P **P** 06 54 35.9 +1.6
baz=251
K15K Wolf Creek Mou 44.15 35 P **P** 06 54 36.3 +1.3
baz=260
NRIK Noril'sk 44.28 336 P **P** 06 54 34.5 -1.5
NRIK Noril'sk 44.28 336 *ce*P **P** 06 54 35.6 -0.3
NRIK pmax pmax
comp=Z,9.0nm,1.1s
NRIK Noril'sk 44.28 336 P **P** 06 54 35.7 -0.2
comp=Z,5.9nm,0.9s,baz=109,slow=7.8,SNR=6.2
NRIK LR LR 07 13 48.7
comp=Z,331nm,19.9s,baz=110,slow=37
comp=Z,5.9nm,0.9s
H16K Elim 44.28 31 P **P** 06 54 37.5 +1.5
baz=257
M15K Kasigluk River 44.32 37 P **P** 06 54 37.7 +1.3
baz=263
G16K Koyuk River 44.41 30 P **P** 06 54 38.4 +1.5
baz=256
MK31 Makanchi Array 44.45 303 P **P** 06 54 36.7 -1.0
MK31 IAmb IAmb 06 55 10.1
comp=Z,13nm,0.9s
MK31 Makanchi Array 44.45 303 *i*P **P** 06 54 37.2 -0.5
MKAR Makanchi Array 44.45 303 P **P** 06 54 36.2 -1.5
MKAR Makanchi Array 44.45 303 P **P** 06 54 36.8 -0.9
comp=Z,2.9nm,0.6s,baz=88,slow=9.5,SNR=35
MKAR LR LR 07 13 33.3
comp=Z,370nm,20.5s,baz=94,slow=37
comp=Z,2.9nm,0.6s
CHNA Chernabura Isl 44.55 45 P **P** 06 54 39.1 +0.9
baz=270
N15K Kwethluk River 44.56 38 IAmb IAmb 06 54 56.6
comp=Z,15nm,0.9s
N15K Kwethluk River 44.56 38 P **P** 06 54 39.4 +1.1
baz=264
MAKZ Makanchi 44.66 303 P **P** 06 54 38.6 -0.8
MAKZ IAmb IAmb 06 54 51.8
comp=Z,21nm,1.2s
MAKZ Makanchi 44.66 303 P **P** 06 54 38.6 -0.8
MAKZ pmax pmax
comp=Z,21nm,1.2s
MAKZ Makanchi 44.66 303 P **P** 06 54 38.4 -0.9
D17K Noatak River 44.72 27 P **P** 06 54 40.7 +1.3
baz=254,SNR=13
J16K Anvik River 44.73 33 P **P** 06 54 39.9 +0.3
baz=260
I17K Unalakleet 44.80 32 P **P** 06 54 40.2 +0.1
baz=260
C17K DeLong Mountai 44.91 26 P **P** 06 54 41.4 +0.4
baz=253
L16K Owhat River 45.03 36 P **P** 06 54 42.3 +0.4
baz=263
F17K Baldwin Pennin 45.09 29 IAmb IAmb 06 54 47.3
comp=Z,9.1nm,0.7s
F17K Baldwin Pennin 45.09 29 P **P** 06 54 42.6 +0.2
baz=257
KAPI Kappang 45.10 210 P **P** 06 54 42.6 -0.4
KAPI IAmb IAmb 06 54 59.4
comp=Z,14nm,0.7s
KAPI Kappang 45.10 210 P **P** 06 54 42.6 -0.4
KAPI pmax pmax
comp=Z,14nm,0.7s
G17K Kiwalik Mounta 45.12 30 P **P** 06 54 42.5 -0.2
baz=258
M16K Timber Creek 45.20 37 P **P** 06 54 44.0 +0.7
baz=264
CHGN Chignik 45.23 43 P **P** 06 54 43.7 +0.1
baz=269
BKSI Bulukumba 45.23 210 P **P** 06 54 44.9 +0.9
comp=Z,18nm,0.8s
N16K Nishlik Lake 45.24 37 P **P** 06 54 44.0 +0.3
baz=265
PMG Port Moresby 45.27 171 LR LR 07 12 26.4
comp=Z,101nm,20.8s,baz=322,slow=34
H17K Granite Mounta 45.32 31 IAmb IAmb 06 55 02.8
comp=Z,29nm,1.9s
H17K Granite Mounta 45.32 31 P **P** 06 54 44.9 +0.7
baz=259
O16K Kokwok River B 45.51 39 P **P** 06 54 46.1 +0.3
baz=266
P16K Nushagak River 45.53 39 P **P** 06 54 47.1 +1.1
baz=267
E18K Tukpahlearik C 45.56 27 P **P** 06 54 47.9 +1.8
baz=256,SNR=9.6
L17K Donlin 45.63 35 P **P** 06 54 48.5 +1.7
baz=264
B18K Kokolik River 45.65 25 P **P** 06 54 48.7 +2.0
baz=253
C18K Utukok River 45.66 26 IAmb IAmb 06 55 05.9
comp=Z,14nm,0.9s
C18K Utukok River 45.66 26 P **P** 06 54 48.7 +1.7
baz=255,SNR=16
K17K Iditarod 45.69 34 IAmb IAmb 06 55 20.1
comp=Z,16nm,0.8s
K17K Iditarod 45.69 34 P **P** 06 54 49.1 +1.9
baz=263
F18K Selawik 45.75 29 P **P** 06 54 49.7 +2.1
baz=258,SNR=7.6
M17K Holitna River 45.97 36 P **P** 06 54 50.9 +1.5
baz=265
H18K Honhosa River 46.00 31 P **P** 06 54 51.6 +1.9
baz=261
G18K Tagagawik 46.01 30 IAmb IAmb 06 55 28.7
comp=Z,13nm,1.1s
G18K Tagagawik 46.01 30 P **P** 06 54 51.4 +1.7
baz=260
N17K Nushagak Hills 46.02 37 P **P** 06 54 50.6 +0.8
baz=266
O17K Koliganek Bris 46.03 38 P **P** 06 54 51.9 +2.0
baz=267
A19K Wainwright 46.13 24 P **P** 06 54 51.9 +1.3
baz=253
Q16K King Salmon 46.22 40 P **P** 06 54 52.6 +1.2
baz=268
C19K Lookout Ridge 46.34 25 IAmb IAmb 06 55 18.2
comp=Z,25nm,1.1s
C19K Lookout Ridge 46.34 25 P **P** 06 54 54.1 +1.8
baz=256
P17K Kvichak River 46.34 39 P **P** 06 54 54.0 +1.7
baz=268
L18K Granite Mounta 46.39 35 P **P** 06 54 54.1 +1.4
baz=265
KURK Kurchatov 46.40 309 P **P** 06 54 51.5 -1.5
KURK Kurchatov 46.40 309 *i*P **P** 06 54 52.7 -0.3
KURK pmax pmax
comp=Z,20nm,1.1s
KURK Kurchatov 46.40 309 P **P** 06 54 51.7 -1.3
KURK pP **pP** 06 55 02.6 -1.5
KURK sP **sP** 06 55 07.8 -0.9
KURBB Kurchatov Arra 46.47 309 P **P** 06 54 52.2 -1.3
KURBB Kurchatov Arra 46.47 309 P **P** 06 54 52.4 -1.1
comp=Z,3.8nm,0.3s,baz=83,slow=8.8,SNR=39
KURBB LR LR 07 15 02.3
comp=Z,358nm,18.2s,baz=136,slow=37
comp=Z,3.8nm,0.3s
J18K Innoko River 46.49 33 P **P** 06 54 54.5 +0.9
baz=264
F19K Shaleruckik Mo 46.53 29 IAmb IAmb 06 55 28.4
comp=Z,31nm,1.9s
F19K Shaleruckik Mo 46.53 29 P **P** 06 54 55.1 +1.4
baz=260
Q17K Contact Creek 46.61 41 P **P** 06 54 55.7 +1.0
baz=270
N18K Kilae Creek 46.67 37 P **P** 06 54 56.4 +1.4
baz=267
G19K Purcell Mounta 46.68 30 IAmb IAmb 06 55 05.0
comp=Z,31nm,1.9s
G19K Purcell Mounta 46.68 30 P **P** 06 54 56.1 +1.1
baz=261
D19K Kuna River 46.72 26 P **P** 06 54 56.7 +1.4
baz=258,SNR=9.2
M18K Stony River 46.75 36 P **P** 06 54 57.4 +1.9
baz=267
TTA Tatalina 46.76 34 P **P** 06 54 57.3 +1.6
baz=265
SVW2 Sparrevohn 46.84 37 P **P** 06 54 58.5 +2.2
comp=Z,12nm,2.5s
E19K Redstone River 46.84 28 IAmb IAmb 06 55 01.3
comp=Z,15nm,0.7s
E19K Redstone River 46.84 28 P **P** 06 54 57.4 +1.1
baz=260
H19K Roundabout Mou 46.85 30 P **P** 06 54 58.0 +1.7
baz=262
P18K Big Mountain, 46.97 39 P **P** 06 54 58.5 +1.2
baz=269
O18K Koktuh Hills 46.98 38 P **P** 06 54 58.0 +0.6
baz=269
PDGK Podgornoye 47.01 299 P **P** 06 54 56.3 -1.7
PDGK pmax pmax
comp=Z,30nm,0.8s
J19K Poorman 47.03 33 IAmb IAmb 06 55 20.6
comp=Z,16nm,1.2s
J19K Poorman 47.03 33 P **P** 06 54 58.4 +0.7
baz=264
L19K White Mountain 47.24 35 P **P** 06 54 59.7 +0.3
baz=267
D20K Etivluk River 47.30 26 P **P** 06 55 01.2 +1.4
baz=259
F20K Avaraart Lake 47.36 28 P **P** 06 55 02.4 +2.2
baz=262
N19K Bonanza Creek 47.37 37 P **P** 06 55 01.7 +1.2
baz=268
E20K Nigu River 47.38 27 P **P** 06 55 02.1 +1.7
baz=260
O19K Port Alsworth 47.44 38 P **P** 06 55 02.9 +2.0
baz=269
H20K Anotlemeega Mo 47.50 31 P **P** 06 55 04.1 +2.8
baz=264
I20K Naaghedeneel 47.60 32 P **P** 06 55 04.8 +2.7
baz=265
K20K Telida 47.67 34 IAmb IAmb 06 55 20.4
comp=Z,7.8nm,0.8s
K20K Telida 47.67 34 P **P** 06 55 04.4 +1.7
baz=266
J20K Nowinta River 47.69 32 IAmb IAmb 06 55 16.5
comp=Z,12nm,1.1s
J20K Nowinta River 47.69 32 P **P** 06 55 04.0 +1.2
baz=266
L20K Farewell, AK 47.71 35 P **P** 06 55 04.3 +1.2
baz=267
PRZ Przheval'sk 47.98 298 P **P** 06 55 05.5 -0.1
PRZ Przheval'sk 47.98 298 P **P** 06 55 05.5 -0.1
PRZ pmax pmax
comp=Z,21nm,0.8s
IMAR Indian Mountai 48.01 30 P **P** 06 55 05.9 +0.6
C21K Knifeblade Rid 48.03 26 P **P** 06 55 07.2 +1.7
baz=261
M20K Styx River 48.04 36 P **P** 06 55 06.9 +1.2
baz=269
G21K Allakaket 48.16 29 IAmb IAmb 06 55 24.3
comp=Z,35nm,1.9s
G21K Allakaket 48.16 29 P **P** 06 55 09.5 +3.0
baz=264
B21K Ikpikpuk River 48.17 25 P **P** 06 55 09.4 +3.0
baz=260
F21K Alatna River 48.25 28 P **P** 06 55 09.5 +2.4
baz=264
H21K Melozitna Rive 48.37 31 IAmb IAmb 06 55 31.6
comp=Z,32nm,1.9s
H21K Melozitna Rive 48.37 31 P **P** 06 55 09.7 +1.6
baz=266
HNR Honiara 48.38 154 LR LR 07 15 22.5
comp=Z,1μm,19.7s,baz=331,slow=36
KDAK Kodiak Island 48.38 41 P **P** 06 55 09.7 +1.4
baz=273
KDAK Kodiak Island 48.38 41 LR LR 07 14 50.3
comp=Z,90nm,21.7s,baz=267,slow=35
CHUM Lake Minchumin 48.48 33 P **P** 06 55 11.5 +2.6
baz=268
N20K Mount Spurr 48.48 37 P **P** 06 55 11.2 +2.2
baz=270
PPLA Purkeypile 48.51 34 P **P** 06 55 11.5 +2.2
baz=269
CAST Castle Rocks 48.57 34 P **P** 06 55 11.6 +1.9
CAST IAmb IAmb 06 55 23.4
comp=Z,17nm,1.5s
CAST Castle Rocks 48.57 34 P **P** 06 55 11.6 +1.9
baz=268
I21K Tanana 48.69 31 P **P** 06 55 12.3 +1.9
baz=267
B22K Teshekpuk Lake 48.69 24 IAmb IAmb 06 55 36.0
comp=Z,19nm,1.2s
B22K Teshekpuk Lake 48.69 24 P **P** 06 55 13.3 +2.8
baz=259,SNR=7.9
D22K Ayikyak River 48.74 26 IAmb IAmb 06 55 36.2
comp=Z,14nm,0.9s
D22K Ayikyak River 48.74 26 P **P** 06 55 12.8 +1.9
baz=263
MDOK Medeo 48.78 299 P **P** 06 55 11.4 -0.4
HOM Homer 48.79 39 P **P** 06 55 12.6 +1.2
baz=272
SKT Skwentna 48.80 35 P **P** 06 55 13.1 +1.7
SKT IAmb IAmb 06 55 35.2
comp=Z,23nm,1.5s
SKT Skwentna 48.80 35 P **P** 06 55 14.1 +2.7
baz=270
E22K Anaktuvuk Pass 48.98 27 P **P** 06 55 15.6 +2.8
baz=264
G22K Bettles 48.99 29 P **P** 06 55 15.7 +2.8
baz=266
BPAW Bear Paw Mtn. 49.07 33 P **P** 06 55 15.2 +1.6
baz=269
MTN Maton Dam 49.16 193 P **P** 06 55 14.1 -0.5
comp=Z,44nm,1.1s
SUA Susitna One 49.18 36 P **P** 06 55 16.2 +1.7
baz=271
MLY Manley 49.20 31 IAmb IAmb 06 55 37.8
comp=Z,16nm,1.3s
MLY Manley 49.20 31 P **P** 06 55 16.1 +1.5
baz=268,SNR=6.1
BRSE Bradley Lake S 49.24 38 P **P** 06 55 16.1 +1.2
baz=273
PLAI Plampang 49.36 211 P **P** 06 55 15.6 -0.6
comp=Z,19nm,0.7s
TRF Thorofare Moun 49.37 34 P **P** 06 55 17.6 +1.6
baz=270
COEN Coen 49.45 177 P **P** 06 55 17.9 +1.1
comp=Z,28nm,1.1s
D23K Nanushuk River 49.47 26 P **P** 06 55 19.5 +3.0
baz=265
M22K Willow 49.47 36 P **P** 06 55 18.3 +1.8
baz=271
COLD Coldfoot 49.52 29 P **P** 06 55 19.0 +2.2
baz=267
G23K Bananza Creek 49.56 29 IAmb IAmb 06 56 44.0
comp=Z,19nm,1.6s
G23K Bananza Creek 49.56 29 P **P** 06 55 19.1 +1.8
baz=267
C23K Itkillik River 49.58 25 IAmb IAmb 06 55 43.5
comp=Z,21nm,1.2s
C23K Itkillik River 49.58 25 P **P** 06 55 18.9 +1.6
baz=264
RC01 Rabbit Creek A 49.68 37 P **P** 06 55 18.2 +0.1
RC01 Rabbit Creek A 49.68 37 P **P** 06 55 20.0 +1.8
baz=272
O22K Cooper Landing 49.72 37 P **P** 06 55 21.3 +2.9
baz=273
BOOM Boomskoye usch 49.74 299 IAmb IAmb 06 55 41.4
comp=Z,22nm,1.4s
I23K Minto, Yukon-K 49.79 31 IAmb IAmb 06 55 37.2
comp=Z,34nm,1.8s
I23K Minto, Yukon-K 49.79 31 P **P** 06 55 20.1 +1.2
baz=269
E23K Chandalar 49.79 27 P **P** 06 55 19.5 +0.4
baz=266
TOLK Toolik Lake Re 49.85 27 IAmb IAmb 06 55 41.6
comp=Z,24nm,1.6s
TOLK Toolik Lake Re 49.85 27 P **P** 06 55 20.9 +1.5
baz=266
TKM2 Tokmak 2 49.87 299 *i*P **P** 06 55 19.4 -0.8
TKM2 pmax pmax
comp=Z,20nm,0.7s
NEA2 Nenana 49.91 32 P **P** 06 55 20.9 +1.0
baz=270,SNR=6.6
PMR Palmer 49.95 36 P **P** 06 55 21.4 +1.2
baz=272
MCK McKinley 49.98 33 P **P** 06 55 21.7 +1.3
baz=271
NRN Naryn 49.98 297 IAmb IAmb 06 55 41.3
comp=Z,7.1nm,0.8s
RND Reindeer 50.02 34 P **P** 06 55 21.9 +1.1
RND IAmb IAmb 06 55 51.8
comp=Z,13nm,1.1s
RND Reindeer 50.02 34 P **P** 06 55 21.9 +1.1
RND pmax pmax
comp=Z,13nm,1.1s
D24K Happy Valley 50.15 26 IAmb IAmb 06 55 25.9
comp=Z,9.1nm,0.9s
D24K Happy Valley 50.15 26 P **P** 06 55 23.6 +2.0
baz=266
WAT1 Susitna Watana 50.17 34 P **P** 06 55 23.7 +1.8
baz=272
E24K Your Creek 50.22 27 IAmb IAmb 06 55 50.9
comp=Z,30nm,1.7s
E24K Your Creek 50.22 27 P **P** 06 55 23.7 +1.5
baz=268
C24K Franklin Bluff 50.23 25 P **P** 06 55 23.8 +1.6
baz=266
MDM Murphy Dome 50.27 32 IAmb IAmb 06 55 45.6
comp=Z,15nm,0.8s
KNK Knik Glacier 50.28 36 P **P** 06 55 24.7 +2.0
baz=273
SML Sawmill 50.32 36 P **P** 06 55 24.6 +1.5
SML IAmb IAmb 06 55 43.1
comp=Z,13nm,0.8s
SML Sawmill 50.32 36 P **P** 06 55 25.0 +1.9
baz=273
WRH Wood River Hil 50.34 32 P **P** 06 55 24.7 +1.6
H24K Noodor Dome 50.41 30 IAmb IAmb 06 55 41.6
comp=Z,6.6nm,0.8s
H24K Noodor Dome 50.41 30 P **P** 06 55 25.0 +1.3
baz=270,SNR=6.2
F24K Squaw Lake 50.43 28 P **P** 06 55 25.9 +2.1
baz=269
COLA College 50.43 32 P **P** 06 55 25.7 +1.9
baz=271
COLA College 50.43 32 P **P** 06 55 28.0 +4.2
COLA sP **sP** 06 55 43.5 +4.3
CCB Clear Creek Bu 50.46 32 IAmb IAmb 06 55 47.1
comp=Z,29nm,1.9s
KSH Kashi 50.55 295 P P 06 55 30.8 +5.6
KSH sP sP 06 55 48.0 +7.0
KSH pmax pmax
comp=Z,5.0nm,1.4s
KSH LR LR
comp=Z,410nm,17.5s
KSH LR LR
comp=Z,550nm,17.7s
KSH LR LR
comp=Z,350nm,17.9s
WAT6 Susitna Watana 50.56 35 P **P** 06 55 26.7 +1.7
baz=273
G24K Hadweenzic Riv 50.58 29 IAmb IAmb 06 55 44.2
comp=Z,12nm,1.1s
G24K Hadweenzic Riv 50.58 29 P **P** 06 55 25.9 +1.0
baz=270
POKR Poker Plat Res 50.61 31 P **P** 06 55 26.2 +1.1
baz=271,SNR=8.6
M23K Glacier View 50.61 36 P **P** 06 55 27.1 +1.9
baz=274
DHY Denali Highway 50.70 34 P **P** 06 55 28.3 +2.3
baz=273
AAK Ala-Archa 50.73 299 P **P** 06 55 26.9 +0.3
AAK IAmb IAmb 06 55 52.7
comp=Z,9.1nm,1.0s
AAK Ala-Archa 50.73 299 *ce*P **P** 06 55 25.2 -1.4
AAK pmax pmax
comp=Z,3.0nm,1.0s
AAK Ala-Archa 50.73 299 LR LR 07 18 02.8
comp=Z,499nm,20.3s,baz=77,slow=37
AAK Ala-Archa 50.73 299 P **P** 06 55 28.1 +1.5
AAK pP **pP** 06 55 38.5 +0.7
AAK sP **sP** 06 55 43.9 +1.4
SCM Sheep Creek Mo 50.80 36 P **P** 06 55 28.2 +1.5
baz=274
HDA Harding Lake 50.83 32 IAmb IAmb 06 55 48.6
comp=Z,8.4nm,0.8s
HDA Harding Lake 50.83 32 P **P** 06 55 28.8 +2.0
baz=272,SNR=5.7
IL31 50.85 32 IAmb IAmb 06 55 48.8
comp=Z,8.7nm,0.8s
ILAR Eielson Array 50.85 32 P **P** 06 55 27.9 +0.9
comp=Z,6.5nm,0.8s,baz=267,slow=5.5,SNR=45
comp=Z,6.5nm,0.8s
D25K Kavik River 51.03 26 IAmb IAmb 06 55 51.4
comp=Z,7.2nm,0.8s
D25K Kavik River 51.03 26 P **P** 06 55 29.1 +0.8
baz=268
G25K Bearman Lake 51.12 29 P **P** 06 55 30.1 +1.2
baz=271
BVA0 Borovoye Array 51.14 313 *e*P **P** 06 55 27.2 -2.1
BVAR Borovoye Array 51.14 313 P **P** 06 55 28.9 -0.4
comp=Z,2.9nm,0.5s,baz=79,slow=7.7,SNR=12
BVAR LR LR 07 18 11.0
comp=Z,209nm,18.6s,baz=74,slow=37
comp=Z,2.9nm,0.5s
BRVK Borovoye 51.19 313 P **P** 06 55 29.6 -0.2
BRVK IAmb IAmb 06 55 49.4
comp=Z,8.3nm,0.6s
BRVK Borovoye 51.19 313 *ce*P **P** 06 55 30.3 +0.6
BRVK pmax pmax
comp=Z,11nm,1.7s
BRVK Borovoye 51.19 313 P **P** 06 55 30.6 +0.9
BRVK pP **pP** 06 55 41.1 +0.1
H25L Birch Creek 51.25 30 P **P** 06 55 31.2 +1.3
baz=272
F25K Christian Rive 51.29 28 P **P** 06 55 31.4 +1.1
baz=271
E25K Arctic Village 51.31 27 P **P** 06 55 32.2 +1.8
baz=270
M24K Tolsona, Glenn 51.32 35 P **P** 06 55 33.0 +2.4
baz=274
K24K Donnelly Dome 51.38 33 P **P** 06 55 32.3 +1.3
baz=274
PRP Porcupine Dome 51.40 31 P **P** 06 55 31.6 +0.3
PRP Porcupine Dome 51.40 31 P **P** 06 55 33.5 +2.3
baz=272,SNR=5.4
KLU Klutina 51.49 36 P **P** 06 55 33.0 +1.1
baz=275
J25K Salcha River, 51.51 32 P **P** 06 55 33.7 +1.8
baz=273
C26K Camden Bay 51.55 25 P **P** 06 55 33.7 +1.6
baz=269
PAX Paxson 51.58 34 P **P** 06 55 33.4 +0.9
baz=274
EYAK Cordova Ski Ar 51.67 37 P **P** 06 55 35.5 +2.4
comp=Z,22nm,2.0s
HARP HAARP 51.77 35 P **P** 06 55 36.6 +2.7
baz=275
F26K Sheenjek River 51.86 28 P **P** 06 55 36.5 +2.0
baz=272
G26K Porcupine Rive 52.03 29 P **P** 06 55 37.2 +1.5
baz=273
SCRK Sand Creek 52.15 33 P **P** 06 55 38.0 +1.1
SCRK Sand Creek 52.15 33 P **P** 06 55 39.2 +2.3
baz=275
BMRM Bremner River 52.18 37 P **P** 06 55 39.5 +2.5
baz=277
J26L Joseph Creek 52.29 32 IAmb IAmb 06 56 17.9
comp=Z,34nm,2.0s
J26L Joseph Creek 52.29 32 P **P** 06 55 39.8 +1.9
baz=275
KNRA Kununurra 52.38 195 P **P** 06 55 37.9 -1.0
KNRA Kununurra 52.38 195 P **P** 06 55 38.5 -0.3
comp=Z,40nm,0.7s
L26K Log Cabin Wild 52.53 34 P **P** 06 55 42.4 +2.8
baz=276
LEM Lembang 52.61 223 LR LR 07 17 59.5
comp=Z,87nm,20.4s,baz=168,slow=36
GSI Gunungsitoli 52.74 239 P **P** 06 55 39.5 -2.2
GSI Gunungsitoli 52.74 239 P **P** 06 55 42.1 +0.4
comp=Z,50nm,1.0s
M26K Nabesna, AK 52.77 35 P **P** 06 55 43.6 +2.3
baz=277
E27K Coleen River 52.80 27 IAmb IAmb 06 56 16.0
comp=Z,9.2nm,1.0s
E27K Coleen River 52.80 27 P **P** 06 55 43.9 +2.4

baz=274,SNR=7.8
MCARA **McCarthy VSAT** 52.89 36 P P 06 55 44.7 +2.5
baz=278
D27M **Malcolm River** 52.96 26 IAmb IAmb 06 56 08.7
comp=Z,16nm,1.2s
D27M **Malcolm River** 52.96 26 P P 06 55 45.4 +2.7
baz=274
H27K **Steamboat Moun** 52.98 30 P P 06 55 45.5 +2.6
baz=275
K27K **Chicken** 52.99 33 IAmb IAmb 06 56 28.9
comp=Z,8.6nm,0.9s
K27K **Chicken** 52.99 33 P P 06 55 45.3 +2.4
baz=277
I27K **Kandik River** 53.01 31 P P 06 55 45.7 +2.6
baz=276
L27K **Beaver Creek,** 53.22 34 IAmb IAmb 06 56 16.4
comp=Z,7.7nm,0.8s
L27K **Beaver Creek,** 53.22 34 P P 06 55 47.2 +2.6
baz=278
BCAR **Beaver Creek A** 53.24 34 P P 06 55 48.9 +4.1
M27K **Edge Creek, AK** 53.29 35 P P 06 55 47.7 +2.4
baz=278
EGAK **Eagle** 53.29 32 P P 06 55 46.0 +0.9
EGAK **Eagle** 53.29 32 P P 06 55 47.1 +2.0
baz=277
KK31 **Karatay Array** 53.41 301 IAmb IAmb 06 56 01.2
comp=Z,12nm,0.9s
KK31 **Karatay Array** 53.41 301 *i* P P 06 55 45.5 -0.8
KKAR **Karatay Array** 53.41 301 P P 06 55 45.5 -0.8
KKAR **Karatay Array** 53.41 301 IAmb IAmb 06 56 01.2
comp=Z,12nm,0.9s
KKAR **Karatay Array** 53.41 301 P P 06 55 45.5 -0.8
F28M **Old Crow** 53.50 28 P P 06 55 48.1 +1.5
baz=276
E28M **Babbage River** 53.52 27 IAmb IAmb 06 56 12.9
comp=Z,11nm,1.1s
E28M **Babbage River** 53.52 27 P P 06 55 48.8 +2.0
baz=275
I28M **Miner Creek** 53.72 31 P P 06 55 49.8 +1.4
baz=277,SNR=7.6
D28M **Stokes Point** 53.74 26 P P 06 55 51.1 +2.8
baz=276
BVCY **Beaver Creek** 53.75 34 P P 06 55 50.7 +2.1
baz=279
CTG **Chitna Glacier** 53.76 36 P P 06 55 50.5 +1.7
baz=279
YUK3 **Moose Creek** 54.04 35 P P 06 55 51.8 +0.9
baz=280
BTK **Batken** 54.15 297 P P 06 55 53.3 +1.4
E29M **Blow River** 54.15 27 IAmb IAmb 06 56 17.6
comp=Z,16nm,0.9s
E29M **Blow River** 54.15 27 P P 06 55 52.9 +1.6
baz=277
H29M **Whitestone** 54.26 30 IAmb IAmb 06 56 11.9
comp=Z,12nm,1.1s
H29M **Whitestone** 54.26 30 P P 06 55 53.9 +1.7
baz=278
G29M **Pine Creek** 54.30 29 P P 06 55 54.5 +2.0
baz=278
J29N **Klondike Camp** 54.60 32 P P 06 55 56.3 +1.6
baz=280
M29M **Somme Creek** 54.84 34 IAmb IAmb 06 56 07.5
comp=Z,8.5nm,0.7s
M29M **Somme Creek** 54.84 34 P P 06 55 58.2 +1.6
baz=281
L29M **L29M** 54.87 33 IAmb IAmb 06 56 09.5
comp=Z,16nm,0.8s
L29M **L29M** 54.87 33 P P 06 55 58.4 +1.7
baz=281
EPYK **Eagle Plains** 54.89 29 P P 06 55 58.0 +1.2
baz=280,SNR=9.1
YUK4 **Talbot Arm** 54.97 35 P P 06 56 00.2 +2.5
baz=281
G30M **tAoh Zraii Nji** 54.99 28 P P 06 55 58.8 +1.3
baz=280
K29M **Barlow Dome** 55.00 32 IAmb IAmb 06 56 40.5
comp=Z,26nm,1.6s
K29M **Barlow Dome** 55.00 32 P P 06 55 60.0 +2.2
baz=281
F30M **Barrier River** 55.05 28 P P 06 55 59.6 +1.7
baz=279
YUK6 **Outpost Mounta** 55.19 36 P P 06 56 01.3 +2.0
baz=282
O29M **Mount Kennedy** 55.22 37 P P 06 56 01.5 +2.1
baz=282
I30M **Mount Dempster** 55.23 31 P P 06 56 01.6 +2.2
baz=281,SNR=10.0
J30M **Hart River** 55.38 31 P P 06 56 02.2 +1.8
baz=281
FITZ **Fitzroy Crossi** 55.43 198 P P 06 56 00.7 -0.4
WB0 **Warramunga Arr** 55.52 187 P P 06 56 01.2 -0.5
M30M **Minto, Yukon** 55.58 34 IAmb IAmb 06 56 44.9
comp=Z,15nm,1.3s
M30M **Minto, Yukon** 55.58 34 P P 06 56 03.5 +1.7
baz=282
HYT **Haines Junctio** 55.62 36 IAmb IAmb 06 56 14.4
comp=Z,10nm,0.8s
HYT **Haines Junctio** 55.62 36 P P 06 56 04.4 +2.1
baz=283
N30M **Aishikik Lake** 55.68 35 P P 06 56 04.1 +1.5
baz=282
WB2 **Warramunga Arr** 55.70 187 P P 06 56 02.2 -0.8
WRA **Warramunga Arr** 55.70 187 P P 06 56 02.9 -0.1
WRA **Warramunga Arr** 55.70 187 P P 06 56 02.9 -0.1
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA **Warramunga Arr** 55.70 187 P P 06 56 01.1 -1.9
comp=Z,4.6nm,0.4s,baz=2.2,slow=7.4,SNR=107
comp=Z,4.6nm,0.4s
CTA **Charters Tower** 55.73 174 LR LR 07 19 34.2
comp=Z,105nm,21.9s,baz=269,slow=36
G31M **Satah River** 55.75 28 IAmb IAmb 06 56 20.7
comp=Z,30nm,1.5s
G31M **Satah River** 55.75 28 P P 06 56 05.4 +2.5
baz=281
INK **Inuvik** 55.76 27 IAmb IAmb 06 56 30.9
comp=Z,18nm,1.4s
INK **Inuvik** 55.76 27 P P 06 56 05.0 +2.0
baz=281,SNR=6.3
INK **Inuvik** 55.76 27 LR LR 07 22 12.3
comp=Z,105nm,20.4s,baz=346,slow=38
MAYO **Mayo, Yukon** 55.76 32 P P 06 56 05.0 +1.9
baz=282
SVE **Sverdlovsk** 55.84 319 *e*P P 06 56 04.3 +0.6
F31M **Tsiigehtchic** 55.85 28 IAmb IAmb 06 56 28.4
comp=Z,16nm,1.2s
F31M **Tsiigehtchic** 55.85 28 P P 06 56 05.4 +1.8
baz=281
SIMJ **Simiganj** 55.94 296 P P 06 56 05.9 +1.0
SIMJ **Simiganj** 55.94 296 P P 06 56 07.3 +2.3
SIMJ pP pP 06 56 18.4 +2.1
H31M **Peel River** 55.95 30 P P 06 56 06.2 +1.8
baz=282
QIS **Mount Isa** 55.98 181 P P 06 56 05.5 +0.5
comp=Z,17nm,0.7s
P30M **Million Dollar** 56.05 37 P P 06 56 07.2 +2.0
baz=284
M31M **Drury Creek, Y** 56.75 34 P P 06 56 12.3 +2.1
baz=284
WHY **Whitehorse** 56.91 36 P P 06 56 13.2 +1.7
baz=285
ARU **Arti** 57.06 319 P P 06 56 11.9 -0.4
ARU **Arti** 57.06 319 *d* *i*P P 06 56 12.0 -0.4
ARU 06 57 00.4
ARU S S 07 04 07.9 +3.7
ARU SS SS 07 07 53.6 +1.0
ARU pmax pmax
comp=Z,12nm,1.0s
ARU MLR MLR
comp=Z,205nm,16.0s
ARU **Arti** 57.06 319 LR LR 07 24 12.4
comp=Z,118nm,18.1s,baz=78,slow=40
FARO **Faro, Yukon** 57.22 34 P P 06 56 15.2 +1.8
FARO IAmb IAmb 06 57 18.2
comp=Z,13nm,1.3s
FARO **Faro, Yukon** 57.22 34 P P 06 56 15.9 +2.4
baz=285
A36M **Sachs Harbour** 57.65 22 P P 06 56 18.2 +1.9
baz=286,SNR=7.3
S32K **Killisnoo** 57.95 39 P P 06 56 20.7 +2.1
baz=287
P33M **Teslin, Yukon** 58.02 36 P P 06 56 21.0 +1.8
baz=287
AB31 **Akbulak array** 58.45 311 *e*P P 06 56 20.8 -1.5
ABKAR **Akbulak array** 58.45 311 P P 06 56 21.1 -1.2
C36M **Paulatuk** 58.81 24 P P 06 56 26.2 +1.8
baz=289,SNR=6.2

AKTO **Aktyubinsk** 59.23 312 P P 06 56 28.1 +0.4
AKTO **Aktyubinsk** 59.23 312 LR LR 07 23 48.6
comp=Z,200nm,18.0s,baz=44,slow=38
AS01 **Alice Springs** 59.42 187 P P 06 56 29.0 -0.2
comp=Z,16nm,1.0s
ASAR **Alice Springs** 59.42 187 P P 06 56 29.2 0.0
ASAR **Alice Springs** 59.42 187 P P 06 56 29.2 0.0
ASAR **Alice Springs** 59.42 187 P P 06 56 28.9 -0.3
comp=Z,2.2nm,0.6s,baz=18,slow=10,SNR=49
comp=Z,2.2nm,0.6s
S34M **Telegraph Cree** 59.57 38 P P 06 56 31.9 +2.1
baz=289
TGTN **Hyland Airport** 59.72 34 P P 06 56 33.4 +2.4
baz=290
DLBC **Dease Lake** 59.94 37 P P 06 56 33.6 +1.0
baz=290
WTLY **Watson Lake, Y** 59.96 35 P P 06 56 34.1 +1.5
baz=290
MBWA **Marble Bar** 60.00 203 P P 06 56 32.2 -1.0
MBWA **Marble Bar** 60.00 203 P P 06 56 34.1 +0.9
comp=Z,18nm,0.9s
PSA00 **Pilbara Seismi** 60.35 203 P P 06 56 35.4 -0.2
PSA00 IAmb IAmb 06 57 09.6
comp=Z,8.8nm,0.8s
KIRV **Kirov** 61.03 323 *ce*P P 06 56 39.4 -0.4
KIRV **Kirov** 61.03 323 P P 06 56 39.3 -0.5
comp=Z,15nm,0.5s,baz=65,slow=1.5,SNR=3.9
KIRV LR LR 07 24 34.0
comp=Z,384nm,20.6s,baz=69,slow=37
comp=Z,15nm,0.5s
WRGLY **Wrigley** 61.21 31 P P 06 56 42.5 +1.5
WRGLY **Wrigley** 61.21 31 P P 06 56 43.0 +2.1
baz=292,SNR=5.3
ALE **Alert** 61.45 3 P P 06 56 43.8 +1.4
ALE pP pP 06 56 54.5 +0.6
WRKA **Warakurna** 61.58 193 P P 06 56 44.6 +0.7
comp=Z,22nm,0.7s
PALK **Pallekele** 61.65 258 LR LR 07 27 37.8
comp=Z,93nm,18.2s,baz=153,slow=40
SPITS **Spitsbergen Ar** 61.73 349 P P 06 56 44.6 +0.3
comp=Z,5.0nm,0.9s,baz=53,slow=7.6,SNR=1.6
SPITS LR LR 07 24 25.2
comp=Z,121nm,19.8s,baz=11,slow=37
comp=Z,5.0nm,0.9s
DZM **Mont Dzumac** 62.37 153 LR LR 07 23 47.2
comp=Z,181nm,19.7s,baz=18,slow=36
INKA **Innaminka** 63.12 180 P P 06 56 55.9 +1.9
comp=Z,38nm,0.7s
OOD **Oodnadatta** 63.36 185 P P 06 56 57.1 +1.4
comp=Z,13nm,0.7s
RES **Resolute Bay** 63.99 14 P P 06 56 59.9 +0.6
RES IAmb IAmb 06 57 12.0
comp=Z,11nm,1.1s
RES **Resolute Bay** 63.99 14 P P 06 56 59.9 +0.6
RES pmax pmax
comp=Z,11nm,1.1s
RES **Resolute Bay** 63.99 14 LR LR 07 26 38.5
comp=Z,45nm,18.6s,baz=346,slow=38
GEYT **Alibeck** 64.09 299 LR LR 07 27 22.9
comp=Z,176nm,19.4s,baz=63,slow=38
BELG **Belogornoye** 64.46 317 *i* P P 06 57 02.6 -0.2
BELG pmax pmax
comp=Z,1.0nm,0.5s
BELG **Belogornoye** 64.46 317 P P 06 57 01.8 -1.0
comp=Z,13nm,0.7s,baz=46,slow=1.2,SNR=5.4
BELG LR LR 07 27 18.5
comp=Z,234nm,18.6s,baz=341,slow=38
comp=Z,13nm,0.7s
KLMR **Klimovskoe** 64.63 328 *e*P P 06 57 00.2 -3.6
KLMR pmax pmax
comp=Z,12nm,1.3s
KLMR MLR MLR
comp=Z,266nm,15.0s
ARCES **ARCESS Array B** 65.07 339 P P 06 57 06.9 +0.4
comp=Z,4.0nm,0.8s,baz=56,slow=9.4,SNR=5.8
ARCES LR LR 07 28 43.2
comp=Z,296nm,20.0s,baz=70,slow=39
comp=Z,4.0nm,0.8s
YKA **Yellowknife Ar** 65.17 30 *i* P P 06 57 07.9 +0.6
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA **Yellowknife Ar** 65.17 30 P P 06 57 07.8 +0.6
comp=Z,1.4nm,0.8s,baz=301,slow=6.8,SNR=25
comp=Z,1.4nm,0.8s
MEEK **Meekatharra** 65.48 202 P P 06 57 10.7 +1.1
comp=Z,20nm,0.8s
LCRK **Leigh Creek** 65.86 183 P P 06 57 12.3 +0.4
MULG **Mulgathing** 65.96 186 P P 06 57 13.2 +0.6
comp=Z,21nm,0.9s
NEEM **North Greenlan** 66.87 3 *e*P P 06 57 18.8 +0.5
DAG **Danmarks Havn** 67.05 355 *i* P P 06 57 19.0 -0.1
FORT **Forrest** 67.23 192 P P 06 57 20.4 -0.3
FORT **Forrest** 67.23 192 P P 06 57 21.2 +0.5
comp=Z,61nm,0.9s
STKA **Stephens Creek** 67.24 179 P P 06 57 20.4 -0.4
comp=Z,1.6nm,0.5s,baz=6.7,slow=7.8,SNR=4.5
STKA LR LR 07 26 13.8
comp=Z,61nm,21.8s,baz=19,slow=36
comp=Z,1.6nm,0.5s
VRH **Novokhopyorsk** 68.26 318 *e*P P 06 57 25.1 -2.0
VRH pmax pmax
comp=Z,10.0nm,0.9s
OBN **Obninsk** 68.88 323 *e*P P 06 57 28.5 -2.4
OBN *e* 06 57 56.4
OBN *e* 07 00 04.5
OBN *e*SS SS 07 10 51.2 -5.7
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN MLR MLR
comp=Z,212nm,15.0s
OBN **Obninsk** 68.88 323 LR LR 07 28 58.8
comp=Z,240nm,21.0s,baz=65,slow=37
MAK **Makhachkala** 68.92 308 *e*P P 06 57 32.1 +0.7
MAK *e* 07 00 04.7
MAK *e*PPP PPP 07 01 47.4
MAK *e*S S 07 06 35.7 +2.8
MAK *e*SS SS 07 11 01.7 +3.6
MAK pmax pmax
comp=Z,200nm,1.6s
MAK MLR MLR
comp=Z,189nm,13.0s
LPSR **Galich'ya Gora** 69.03 320 *e*P P 06 57 29.8 -2.1
LPSR pmax pmax
comp=Z,10.0nm,0.9s
VSR **Storozhevoye** 69.63 319 *e*P P 06 57 34.1 -1.5
VSR pmax pmax
comp=Z,10.0nm,1.0s
FINES **FINESS Array B** 69.77 332 *i* P P 06 57 35.0 -1.3
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES **FINESS Array B** 69.77 332 P P 06 57 35.3 -1.0
comp=Z,1.5nm,0.4s,baz=51,slow=5.5,SNR=10
FINES LR LR 07 30 23.2
comp=Z,199nm,18.4s,baz=46,slow=38
comp=Z,1.5nm,0.4s
BLDU **Ballidu** 69.78 202 P P 06 57 37.0 +0.4
comp=Z,17nm,1.6s
MXC **Moxie City** 70.46 46 IAmb IAmb 06 57 44.6
comp=Z,25nm,1.7s
WSAR **Wadi Sarin** 70.78 285 LR LR 07 31 10.0
comp=Z,116nm,21.7s,baz=71,slow=38
JMIC **Jan Mayen** 71.36 350 LR LR 07 31 01.0
comp=Z,42nm,18.4s,baz=11,slow=37
NEW **Newport** 71.39 44 P P 06 57 47.0 +0.5
baz=303
NEW **Newport** 71.39 44 LR LR 07 27 18.6
comp=Z,44nm,20.1s,baz=304,slow=34
KBZ **Khabaz** 71.42 311 *ce*P P 06 57 46.2 -0.5
KBZ pmax pmax
comp=Z,12nm,1.1s
KBZ **Khabaz** 71.42 311 P P 06 57 45.9 -0.8
comp=Z,4.2nm,0.8s,baz=94,slow=8.1,SNR=9.1
KBZ LR LR 07 30 51.2
comp=Z,216nm,21.2s,baz=74,slow=37
comp=Z,4.2nm,0.8s
KVAR **Kislovodsk Arr** 71.43 311 P P 06 57 46.5 -0.3
comp=Z,1.8nm,0.3s,baz=83,slow=15,SNR=1.8
comp=Z,1.8nm,0.3s
KIV **Kislovodsk** 71.43 311 *e*P P 06 57 46.9 0.0
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,111nm,18.0s
YBH **Yreka Blue Hor** 71.51 52 LR LR 07 22 14.9
comp=Z,57nm,21.5s,baz=300,slow=30
E09A **Wood Farm, Sta** 71.75 46 IAmb IAmb 06 58 05.6
comp=Z,12nm,1.2s

NWAO **Narrogin (SRO)** 71.78 201 P P 06 57 48.5 -0.3
comp=Z,28nm,2.0s
SUMG **Summit** 72.00 360 P P 06 57 51.7 +1.5
SUMG IAmb IAmb 06 58 09.7
comp=Z,9.4nm,0.8s
SUMG **Summit** 72.00 360 P P 06 57 51.7 +1.5
SUMG pmax pmax
comp=Z,9.0nm,0.8s
SUMG **Summit** 72.00 360 *i* P P 06 57 50.0 -0.2
K05A **Summer Lake** 72.13 50 P P 06 57 51.5 +0.2
GNI **Garni** 72.14 307 P P 06 57 50.6 -0.6
comp=Z,4.8nm,0.4s,baz=41,slow=11,SNR=1.8
GNI LR LR 07 32 07.1
comp=Z,230nm,19.8s,baz=64,slow=38
comp=Z,4.8nm,0.4s
MNK **Minsk** 73.33 326 *i* P P 06 57 55.5 -2.4
MNK *i* 06 58 11.3
MNK *i* 07 00 39.1
MNK *i* PPP PPP 07 02 24.1
MNK *i* S S 07 07 23.0 -0.7
MNK *i* 07 08 01.5
MNK *i* SS SS 07 12 01.6 -3.6
MNK pmax pmax
comp=E,2.0nm,0.6s
MNK pmax pmax
comp=N,22nm,0.8s
MNK pmax pmax
comp=Z,5.0nm,0.6s
MNK MLR MLR
comp=Z,124nm,16.0s
MNK MLR MLR
comp=N,407nm,18.0s
MNK MLR MLR
comp=E,153nm,19.0s
SOC **Sochi** 73.44 312 *e*P P 06 57 55.9 -2.9
SOC *e* 07 00 42.6
SOC *e*PPP PPP 07 02 29.2
SOC *e*S S 07 07 24.1 -1.2
SOC *e*SS SS 07 12 07.6 +0.2
SOC MLR MLR
comp=Z,166nm,19.0s
MPK **Martis Peak** 74.54 53 IAmb IAmb 06 58 56.8
comp=Z,13nm,1.2s
MFID **Camas Ranch** 74.84 47 IAmb IAmb 06 59 04.6
comp=Z,20nm,1.8s
NC405 **NORSAR Array S** 75.01 337 P P 06 58 07.5 -0.1
NC405 IAmb IAmb 06 58 24.5
comp=Z,14nm,0.8s
FFC **Flin Flon** 75.06 32 P P 06 58 08.3 +0.3
FFC IAmb IAmb 06 58 43.2
comp=Z,13nm,1.3s
FFC **Flin Flon** 75.06 32 P P 06 58 08.3 +0.3
FFC pmax pmax
comp=Z,13nm,1.3s
AKASG **Malin Array Be** 75.07 322 *i* P P 06 58 07.5 -0.5
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG **Malin Array Be** 75.07 322 P P 06 58 07.6 -0.4
comp=Z,1.4nm,0.5s,baz=47,slow=5.7,SNR=13
AKASG LR LR 07 34 05.3
comp=Z,463nm,18.4s,baz=48,slow=38
comp=Z,1.4nm,0.5s
AKBB **Malin Array Si** 75.07 322 IAmb IAmb 06 58 21.8
comp=Z,22nm,1.2s
KIEV **Kiev** 75.08 322 P P 06 58 07.2 -0.9
KIEV IAmb IAmb 06 58 21.7
comp=Z,20nm,1.2s
KIEV **Kiev** 75.08 322 P P 06 58 07.2 -0.9
KIEV pmax pmax
comp=Z,20nm,1.3s
HFS **Hagfors** 75.10 336 P P 06 58 08.0 -0.1
comp=Z,1.2nm,0.4s,baz=64,slow=3.4,SNR=8.5
HFS LR LR 07 33 37.8
comp=Z,335nm,19.8s,baz=36,slow=38
comp=Z,1.2nm,0.4s
NC204 **NORSAR Array S** 75.19 338 IAmb IAmb 06 58 26.1
comp=Z,18nm,0.8s
NB201 **NORSAR Array S** 75.19 337 IAmb IAmb 06 58 26.1
comp=Z,23nm,1.0s
NB2 **NORSAR Subarra** 75.23 337 P P 06 58 08.3 -0.6
comp=Z,1.1nm,0.5s,baz=41,slow=5.9
NOA **NORSAR Array B** 75.23 337 P P 06 58 09.0 +0.1
comp=Z,3.7nm,0.8s,baz=40,slow=5.8,SNR=9.3
NOA LR LR 07 33 46.0
comp=Z,185nm,19.8s,baz=55,slow=38
comp=Z,3.7nm,0.8s
WAKR **Walker** 75.36 53 IAmb IAmb 06 58 54.4
comp=Z,38nm,1.9s
FCC **Fort Churchill** 75.38 26 IAmb IAmb 06 58 23.1
comp=Z,18nm,1.5s
RAO **Raoul Island** 75.38 143 LR LR 07 26 39.0
comp=Z,96nm,18.8s,baz=124,slow=32
EGMT **Eagleton** 75.56 41 IAmb IAmb 06 58 30.6
comp=Z,9.5nm,0.9s
EGMT **Eagleton** 75.56 41 P P 06 58 12.0 +0.9
baz=308
HLID **Hailey** 75.60 47 P P 06 58 12.6 +1.1
baz=306
KVN **Kaiserville** 75.92 52 P P 06 58 12.4 -1.0
KVN **Kaiserville** 75.92 52 P P 06 58 12.5 -1.0
KVN pmax pmax
comp=Z,10.0nm,1.2s
BOZ **Bozeman (W)** 76.00 44 P P 06 58 14.8 +1.0
baz=307
NVAR **Mina Array Bea** 76.14 53 P P 06 58 16.1 +1.4
NVAR **Mina Array Bea** 76.14 53 P P 06 58 16.5 +1.8
comp=Z,3.1nm,0.6s,baz=290,slow=5.5,SNR=26
NVAR LR LR 07 24 13.0
comp=Z,51nm,22.0s,baz=292,slow=30
comp=Z,3.1nm,0.6s
ELK **Elko** 76.74 49 P P 06 58 18.3 +0.2
ELK **Elko** 76.74 49 P P 06 58 18.3 +0.2
ELK pmax pmax
comp=Z,4.0nm,1.0s
ELK **Elko** 76.74 49 LR LR 07 26 24.8
comp=Z,38nm,20.6s,baz=311,slow=31
ARPR **Arapgir-MALATY** 76.84 309 P P 06 58 18.8 +0.2
DSP **Deep Springs** 76.96 53 IAmb IAmb 06 58 42.2
comp=Z,28nm,2.0s
VES **Vestal, Richgr** 77.09 55 P P 06 58 21.0 +1.1
baz=305
SFJD **Kangerlussuaq** 77.23 5 LR LR 07 35 24.2
comp=Z,88nm,18.2s,baz=346,slow=38
H17A **Grant Village** 77.32 44 P P 06 58 20.8 -0.6
baz=308
CWC **Cottonwood Cre** 77.42 54 P P 06 58 23.0 +1.1
baz=305
SBC **Santa Barbara** 77.47 57 P P 06 58 22.9 +0.9
baz=305
GRAC **Grapevine Rang** 77.57 53 P P 06 58 23.4 +0.8
baz=305
ISA **Isabella, Lake** 77.60 55 P P 06 58 23.8 +1.0
baz=305
MOOW **Moose Ponds** 77.62 45 IAmb IAmb 06 59 04.8
comp=Z,16nm,1.9s
TPAW **Teton Pass** 77.66 45 P P 06 58 23.6 +0.3
R11B **Troy Canyon, C** 77.93 51 IAmb IAmb 06 58 27.0
comp=Z,17nm,1.9s
R11B **Troy Canyon, C** 77.93 51 P P 06 58 26.0 +1.3
baz=306
MPMC **Manual Prospec** 78.03 54 P P 06 58 26.4 +1.0
baz=306
DGMT **Dagmar** 78.15 38 P P 06 58 27.5 +1.9
baz=311
FRB **Frobisher Bay** 78.16 13 LR LR 07 38 31.7
comp=Z,54nm,18.3s,baz=9.0,slow=40
FURC **Furnace Creek,** 78.20 54 P P 06 58 26.5 +0.5
baz=306
LAO **LASA Array** 78.27 40 P P 06 58 27.4 +1.0
baz=310
SPR3 **Spring Creek 3** 78.34 50 IAmb IAmb 06 59 16.4
comp=Z,19nm,1.8s
EDW2 **Edwards Air Fo** 78.38 55 P P 06 58 28.6 +1.5
baz=305
DUG **Dugway, Tooele** 78.56 49 P P 06 58 29.3 +1.1
baz=307
BORG **Borgarnes** 78.89 352 LR LR 07 33 16.9
comp=Z,56nm,20.6s,baz=35,slow=36
BW06 **Boulder Array** 78.91 45 P P 06 58 30.8 +0.7
baz=309
PD31 **Pinedale Array** 78.91 45 P P 06 58 30.2 0.0
PDAR **Pinedale Array** 78.91 45 P P 06 58 30.9 +0.7
PDAR LR LR 07 28 10.4
comp=Z,23nm,22.0s,baz=324,slow=32
comp=Z,1.7nm,0.6s
SHOC **Shoshone, Teco** 78.92 54 P P 06 58 30.3 +0.3

baz=306
GSC Goldstone, Bar 78.92 55 P P 06 58 31.6 +1.4
baz=306
CIS Catalina Islan 78.94 57 P P 06 58 30.6 +0.4
baz=306
BFSC Mount Baldy Ra 78.97 56 P P 06 58 32.1 +1.5
baz=306
SCI2 San Clemente I 79.10 57 P P 06 58 31.7 +0.6
baz=306
MPU Maple Canyon 79.39 48 IAmb IAmb 06 59 28.6
comp=Z,16nm,1.5s
BRTR Keskin Array B 79.39 311 P P 06 58 31.9 -0.8
BRTR Keskin Array B 79.39 311 *i* P P 06 58 34.0 +1.3
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 79.39 311 P P 06 58 33.0 +0.3
comp=Z,2.5nm,0.9s,baz=62,slow=3.4,SNR=7.2
BRTR LR LR 07 38 12.3
comp=Z,89nm,19.2s,baz=47,slow=39
comp=Z,2.5nm,0.9s
TUQ Turquoise Moun 79.42 54 P P 06 58 34.3 +1.3
baz=306
BBRC Big Bear Solar 79.45 55 P P 06 58 34.7 +1.4
baz=306
ELS Elsinore Mount 79.47 56 IAmb IAmb 06 58 36.7
comp=Z,22nm,1.6s
HEC Hector,Ludlow 79.51 55 P P 06 58 35.2 +1.8
baz=306
MURC Murrieta 79.66 56 P P 06 58 35.6 +1.5
baz=306
RAR Rarotonga 79.76 125 LR LR 07 28 50.3
comp=Z,152nm,19.2s,baz=306,slow=32
STHS Stebnicka Huta 79.78 325 *eP* P 06 58 35.2 +0.7
STHS *e* 06 58 48.7
STHS Stebnicka Huta 79.78 325 *eP* P 06 58 35.2 +0.7
STHS *e* 06 58 48.7
OJC Ojcow 79.88 326 P P 06 58 35.0 0.0
OJC Ojcow 79.88 326 P P 06 58 35.0 0.0
OJC pmax pmax
comp=Z,34nm,1.4s
GMRC Granite Mounta 79.98 54 P P 06 58 37.4 +1.3
baz=307
MLR Muntele Rosu 80.10 320 LR LR 07 36 27.1
comp=Z,410nm,20.6s,baz=49,slow=37
109C Camp Elliot, M 80.14 57 P P 06 58 38.4 +1.7
baz=306
PFO Pinyon Flats O 80.15 56 P P 06 58 38.3 +1.4
PFO IAmb IAmb 06 58 47.2
comp=Z,12nm,1.2s
PFO Pinyon Flats O 80.15 56 P P 06 58 38.3 +1.4
PFO pmax pmax
comp=Z,12nm,1.2s
PFO Pinyon Flats O 80.15 56 P P 06 58 38.5 +1.5
baz=306
PFO Pinyon Flats O 80.15 56 LR LR 07 26 32.4
comp=Z,150nm,21.2s,baz=280,slow=30
TPFO Pinon Flats 80.15 56 P P 06 58 38.5 +1.5
baz=306
BELC Belle Mtn. Jos 80.23 55 P P 06 58 38.5 +1.1
baz=306
MTPU Mount Pierson 80.26 50 IAmb IAmb 06 59 37.5
comp=Z,28nm,1.9s
RDMU Red Mountain 80.28 47 IAmb IAmb 06 59 12.5
comp=Z,10nm,1.0s
KNB Kanab 80.48 51 IAmb IAmb 06 59 00.7
comp=Z,12nm,1.1s
MONP2 Monument Peak 80.60 56 P P 06 58 40.3 +0.8
baz=306
IRM Iron Mountain 80.70 55 P P 06 58 41.0 +1.2
baz=307
K22A Casper 80.71 44 P P 06 58 40.7 +0.9
baz=310
RAYN Ar Rayn 80.74 292 P P 06 58 39.7 -0.5
RAYN Ar Rayn 80.74 292 P P 06 58 39.7 -0.5
RAYN pmax pmax
comp=Z,48nm,1.9s
BC3 Big Chuckawall 80.80 55 P P 06 58 41.7 +1.3
baz=307
MDND Maddock 80.83 36 P P 06 58 41.5 +1.3
baz=314
ULM Lac du Bonnet 80.85 33 P P 06 58 41.2 +1.1
comp=Z,2.2nm,0.6s,baz=287,slow=5.3,SNR=5.9
ULM LR LR 07 37 41.0
comp=Z,50nm,19.6s,baz=327,slow=38
comp=Z,2.2nm,0.6s
URZ Urewera 80.89 152 LR LR 07 28 54.4
comp=Z,223nm,20.2s,baz=119,slow=31
IKP In-Ko-Pah, Jac 80.95 56 P P 06 58 42.6 +1.4
baz=307
SWSC Sam W. Stewart 80.99 56 P P 06 58 42.1 +0.9
baz=307
YUH Yuha Desert 81.08 56 IAmb IAmb 06 58 45.3
comp=Z,16nm,1.4s
RSSD Black Hills 81.11 41 P P 06 58 42.6 +0.6
baz=312
U15A North Rim 81.18 51 IAmb IAmb 06 59 38.8
comp=Z,30nm,2.0s
HMU Henry Mountain 81.22 49 IAmb IAmb 06 59 00.6
comp=Z,7.5nm,0.8s
MORC Moravsky Berou 81.22 327 P P 06 58 41.5 -0.7
MORC IAmb IAmb 06 58 57.1
comp=Z,23nm,1.6s
MORC Moravsky Berou 81.22 327 *eP* P 06 58 42.1 -0.1
MORC Moravsky Berou 81.22 327 P P 06 58 41.5 -0.7
MORC pmax pmax
comp=Z,23nm,1.6s
CHVC Chvalec 81.28 328 *eP* P 06 58 58.4 +16
PDMCI Parker Dam,Lak 81.28 54 P P 06 58 44.3 +1.5
baz=307
DPC Dobruska-Polom 81.33 328 *ep*P pP 06 58 59.5 +4.8
O20A White River Ci 81.34 46 P P 06 58 44.7 +1.4
baz=310
PSZ Piszkesteto 81.47 324 P P 06 58 44.1 +0.5
PSZ IAmb IAmb 06 58 59.4
comp=Z,17nm,1.1s
PSZ Piszkesteto 81.47 324 P P 06 58 44.1 +0.5
PSZ pmax pmax
comp=Z,17nm,1.1s
GLA Glamis 81.58 55 P P 06 58 46.3 +1.9
baz=307
ASF Jabal al Asfar 81.87 304 P P 06 58 45.3 -0.8
comp=Z,1.9nm,0.6s,baz=152,slow=6.4,SNR=1.7
comp=Z,1.9nm,0.6s
BRG Berggiesshubel 81.96 329 *eP* P 06 58 58.4 +12
BRG pmax pmax
comp=Z,7.0nm,1.0s
BRG MLR MLR
comp=Z,232nm,17.1s
VRAC Vranov 81.98 327 *eP* P 06 58 46.3 +0.1
VRAC Vranov 81.98 327 LR LR 07 37 07.4
comp=Z,157nm,18.5s,baz=43,slow=37
CLL Collm 82.02 330 *i* P P 06 58 47.8 +1.5
CLL *i* *PP pP 06 58 57.5 -0.7
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL Collm 82.02 330 *i* P P 06 58 47.8 +1.5
comp=Z,7.0nm,0.8s
CLL *e*PcP PcP 06 58 53.0 +1.2
CLL *i* pP pP 06 58 58.9 +0.7
comp=Z,18nm,1.1s
CLL *i* sP sP 06 59 02.7 +0.1
CLL *i* x x 06 59 14.7
comp=Z,9.0nm,0.8s
CLL AMS AMS 07 42 00.0
comp=Z,200nm,18.1s
N23A Red Feather La 82.18 45 IAmb IAmb 06 59 04.2
comp=Z,10nm,1.1s
N23A Red Feather La 82.18 45 P P 06 58 48.5 +0.7
baz=311
AGMN Agassiz Nation 82.27 34 P P 06 58 47.8 +0.1
baz=317
WUAZ Wupatki 82.33 52 IAmb IAmb 06 59 07.7
comp=Z,10nm,1.3s
WUAZ Wupatki 82.33 52 P P 06 58 50.4 +1.9
baz=309
MODS Modra-Piesok 82.36 326 *eP* P 06 58 48.7 +0.5
MODS *e* 06 59 05.4
MODS Modra-Piesok 82.36 326 *eP* P 06 58 48.7 +0.5
MODS *e* 06 59 05.4
MMAI Mount Meron Ar 82.36 305 P P 06 58 48.0 -0.6
comp=Z,0.5nm,0.3s,baz=32,slow=8.5,SNR=1.3
MMAI LR LR 07 38 25.4
comp=Z,184nm,20.7s,baz=21,slow=38
comp=Z,0.5nm,0.3s
SMCO Snowmass 82.70 47 IAmb IAmb 06 59 26.0
comp=Z,16nm,1.6s
MVCO Mesa Verde 83.06 49 IAmb IAmb 06 59 36.6
comp=Z,29nm,1.7s
MVCO Mesa Verde 83.06 49 P P 06 58 54.2 +1.9
baz=310
ISCO Idaho Springs 83.09 45 P P 06 58 53.9 +1.3
baz=311
RONA Rosalia, Austr 83.30 326 *eP* P 06 58 51.9 -1.3
comp=Z,2.5nm,0.6s
CONA Conrad Observa 83.33 326 *i* pP pP 06 59 06.1 +0.8
comp=Z,7.3nm,1.1s
PIX Pinacate 83.40 56 IAmb IAmb 06 58 57.2
comp=Z,12nm,1.3s
KHC Kasperske Hory 83.43 328 *ce*P P 06 58 54.2 +0.4
KHC pmax pmax
comp=Z,10.0nm,1.3s
KHC Kasperske Hory 83.43 328 *ep*P pP 06 59 06.5 +0.8
214A Organ Pipe Nat 83.59 55 IAmb IAmb 06 58 57.8
comp=Z,14nm,1.3s
214A Organ Pipe Nat 83.59 55 P P 06 58 55.7 +0.8
baz=308
GERES GERESS Array B 83.59 328 P P 06 58 54.9 +0.2
comp=Z,0.9nm,0.7s,baz=92,slow=5.0,SNR=2.2
GERES LR LR 07 38 20.5
comp=Z,133nm,21.3s,baz=74,slow=37
comp=Z,0.9nm,0.7s
Q24A Divide 83.92 46 P P 06 58 57.7 +0.9
baz=312
ARSA Arzberg 83.98 326 *i* pP pP 06 59 11.0 +2.4
comp=Z,5.0nm,1.1s
GRF Grafenberg Arr 83.99 330 *eP* P 06 59 10.9 +14
comp=Z,12nm,1.0s,baz=46,slow=4.7
EKA Eskdalemuir Ar 84.22 340 P P 06 58 58.2 +0.5
comp=Z,0.3nm,0.3s,baz=32,slow=4.9,SNR=4.3
comp=Z,0.3nm,0.3s
OGNE Ogallala 84.35 43 P P 06 59 00.1 +1.3
baz=313
PPT Papete 84.45 116 LR LR 07 30 28.0
comp=Z,85nm,21.6s,baz=317,slow=31
EYMN Ely 84.49 32 P P 06 58 59.6 +0.4
baz=320
BIOA Bad Ischl, Aus 84.50 327 *ep*P pP 06 59 11.7 +0.5
comp=Z,9.2nm,1.2s
SDCO Great Sand Dun 84.52 47 IAmb IAmb 06 59 02.8
comp=Z,19nm,1.6s
SDCO Great Sand Dun 84.52 47 P P 06 58 59.9 0.0
baz=312
SOKA Soboth 84.64 326 *i* PcP PcP 06 59 01.7 -1.8
comp=Z,18nm,1.1s
TUC Tucson 84.71 54 P P 06 59 01.4 +0.7
baz=309
EIL Elat 84.72 303 LR LR 07 40 40.5
comp=Z,67nm,18.6s,baz=65,slow=38
OBKA Obir 84.98 326 *i* pP pP 06 59 15.9 +2.1
comp=Z,7.1nm,1.0s
KBA Koenbreinsper 85.09 327 *ep*P pP 06 59 16.2 +1.8
comp=Z,5.9nm,1.3s
LESA Schwarzleotal 85.12 328 *i* pP pP 06 59 16.5 +2.0
comp=Z,12nm,1.3s
MYKA Terra Mystica 85.30 327 *ep*P pP 06 59 17.6 +2.3
comp=Z,3.1nm,0.7s
KSCO Kaye Shedlock' 85.34 44 P P 06 59 04.7 +1.0
baz=313
T25A Trinidad 85.56 47 IAmb IAmb 06 59 19.5
comp=Z,9.2nm,1.0s
T25A Trinidad 85.56 47 P P 06 59 05.2 +0.2
baz=312
WTTA Wattenberg 85.70 328 *ep*P pP 06 59 18.0 +0.6
comp=Z,5.0nm,1.0s
ABTA Abfaltersbach 85.71 327 *ep*P pP 06 59 16.9 -0.5
comp=Z,2.2nm,0.7s
ANMO Albuquerque 85.78 49 P P 06 59 05.6 -0.6
ANMO Albuquerque 85.78 49 P P 06 59 05.6 -0.6
ANMO pmax pmax
comp=Z,5.0nm,1.1s
ANMO Albuquerque 85.78 49 P P 06 59 06.1 0.0
baz=311
ANMO Albuquerque 85.78 49 LR LR 07 34 27.0
comp=Z,39nm,21.5s,baz=54,slow=33
MOTA Moosalm 85.86 328 *ep*P pP 06 59 17.5 -0.7
comp=Z,10.0nm,1.6s
RETA Reutte 85.90 329 *ep*P pP 06 59 15.6 -2.7
comp=Z,13nm,1.3s
SQTA Sankt Quirin 85.91 328 *ep*P pP 06 59 15.7 -2.7
comp=Z,3.5nm,0.8s
FETA Feichten 86.27 328 *ep*P pP 06 59 16.7 -3.5
comp=Z,11nm,1.4s
DAVA Damuels 86.42 329 *i* pP pP 06 59 17.2 -3.8
comp=Z,4.6nm,0.7s
121A Cookes Peak, D 86.52 52 P P 06 59 09.9 +0.1
baz=311
SCHQ Schefferville 86.73 16 P P 06 59 11.2 +1.1
comp=Z,2.5nm,0.8s,baz=345,slow=4.1,SNR=3.2
SCHQ LR LR 07 41 14.3
comp=Z,40nm,19.3s,baz=356,slow=38
comp=Z,2.5nm,0.8s
DAVOX Davos/Dischmat 86.82 329 LR LR 07 41 23.6
comp=Z,267nm,18.2s,baz=22,slow=38
CBKS Cedar Bluff 87.10 43 P P 06 59 12.4 0.0
baz=315
SCIA State Center 88.26 37 P P 06 59 18.8 +1.0
baz=319
KSU1 Kansas State U 88.59 41 P P 06 59 19.1 -0.4
baz=317
JFWS Jewell Farm 88.92 35 P P 06 59 20.2 -0.7
baz=321
GLMI Grayling 89.87 30 P P 06 59 24.2 -1.1
baz=325
DKNS Dickens 90.01 47 IAmb IAmb 06 59 29.6
comp=Z,6.8nm,0.8s
LPIG La Paz 90.23 60 LR LR 07 40 23.6
comp=Z,35nm,18.5s,baz=303,slow=36
WMOK Wichita Mounta 90.52 45 P P 06 59 27.9 -0.7
baz=315
TX31 Lajitas Ar. Si 91.28 52 IAmb IAmb 06 59 34.7
comp=Z,9.3nm,1.4s
TXAR Lajitas Array 91.28 52 P P 06 59 33.1 +0.8
TXAR Lajitas Array 91.28 52 P P 06 59 33.1 +0.8
TXAR Lajitas Array 91.28 52 P P 06 59 33.2 +1.0
comp=Z,1.3nm,0.7s,baz=309,slow=2.4,SNR=15
TXAR LR LR 07 33 05.1
comp=Z,44nm,21.6s,baz=274,slow=30
comp=Z,1.3nm,0.7s
ABTX Abilene, Hawle 91.51 47 P P 06 59 33.0 -0.2
baz=315
VAE Valguarnera 91.86 320 LR LR 07 43 56.9
comp=Z,158nm,18.0s,baz=4.0,slow=38
SADO Sadowa 92.07 27 LR LR 07 44 22.0
comp=Z,32nm,18.1s,baz=85,slow=38
CCM Cathedral Cave 92.17 39 P P 06 59 35.7 -0.4
baz=320
BRDY Brady 92.84 48 IAmb IAmb 06 59 58.6
comp=Z,9.0nm,1.1s
JCT Junction City 92.92 49 P P 06 59 40.1 +0.3
baz=315
DRIO Del Rio 93.15 50 P P 06 59 39.7 -1.1
DRIO IAmb IAmb 06 59 43.6
comp=Z,10nm,1.3s
O48B Farmland 93.35 33 P P 06 59 41.8 +0.3
baz=324
MIAR Mount Ida 93.59 42 P P 06 59 43.0 +0.3
baz=318
833A Chaparral WMA, 94.69 50 P P 06 59 48.0 +0.1
baz=315
PKME Peaks-Kenny Pk 94.91 21 P P 06 59 49.0 +0.5
baz=336
NATX Nacogdoches 95.05 45 P P 06 59 48.6 -0.8
baz=318
WVT Waverly 95.38 38 P P 06 59 51.3 +0.4
baz=322
KEST Kesra 95.80 322 LR LR 07 46 31.8
comp=Z,140nm,19.9s,baz=324,slow=38
TKL Tuckaleechee C 97.72 35 LR LR 07 45 11.8
comp=Z,42nm,21.9s,baz=338,slow=36
ESDC Sonseca Array 98.27 333 LR LR 07 47 43.9
comp=Z,143nm,19.5s,baz=15,slow=37
TORD Torodi Ar. Bea 117.93 314 PKP PKPdf 07 05 12.8 -0.7
comp=Z,0.3nm,0.5s,baz=37,slow=2.0,SNR=2.1
QSPA South Pole Qui 125.46 180 PKP PKPdf 07 05 25.0 -1.4
comp=Z,1.6nm,0.6s,baz=260,slow=1.5,SNR=14
VNA2 Neumayer--Watz 140.93 196 ⇑PKPdf PKPdf 07 05 48.9 -6.3
comp=Z,5.5nm,0.8s,baz=291,slow=6.4
VNA3 Neumayer Olymp 141.18 195 ⇑PKPdf PKPdf 07 05 49.1 -6.6
comp=Z,8.7nm,0.8s
H03N2 Juan Fernandez 147.31 98 T T 09 50 57.7
baz=289,slow=76,SNR=62
H03N3 Juan Fernandez 147.32 98 T T 09 50 59.3
baz=289,slow=76,SNR=105
H03N1 Juan Fernandez 147.33 98 T T 09 50 56.1
baz=289,slow=76,SNR=143
LPAZ La Paz 147.74 61 PKPbc PKPbc 07 06 12.7 +0.4
comp=Z,5.8nm,0.7s,baz=317,slow=1.8,SNR=21

IDC 13 06:48:15.5±3.2, 54.41N×87.07E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=26.9km s-min=19.5km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.40	252	I	I	06 55 20.0	
	0.1nm,0.8s,baz=72,slow=339,SNR=19						
ZALV	Zalesovo Beam	1.40	252	Pg	Pn	06 48 39.6	-2.7
	1.0nm,0.3s,baz=68,slow=15,SNR=8.5						
ZALV				Lg	Lg	06 49 01.3	
	1.1nm,0.3s,baz=71,slow=26,SNR=9.5						
KURBB	Kurchatov Arra	6.45	237	Pn	Pn	06 49 51.5	-0.1
	0.1nm,0.3s,baz=53,slow=14,SNR=3.1						
KURBB				Lg	Lg	06 51 39.5	
	baz=57,slow=32,SNR=1.8						
	0.5nm,0.2s						
MKAR	Makanchi Array	8.21	204	Pn	Pn	06 50 18.3	+2.5
	0.1nm,0.3s,baz=27,slow=16,SNR=2.3						
MKAR				Lg	Lg	06 52 35.1	
	baz=21,slow=20,SNR=1.5						
	0.1nm,0.3s						

JMA ***13*** *06:54:32.7±0.1, 35.5N×0.3×140.4E±0.6, h32km±1km, MV3.6/38, KUJUKURI COAST BOSO PEN*
JMA Felt III J1 at KUJUKURI COAST BOSO PEN .
NIED ***13*** *06:54:32.7, 35.47N×140.39E, h32km, MW4.0, Moment Tension Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.72; Mθθ-0.70; Mφφ-0.02; Mrθ0.81; Mθφ-0.28; Mφr0.32; Fault plane solution: M₀1.16000×10¹⁵ NP1:φ69.00000°, δ69.00000°, λ89.00000°. NP2:φ253.00000°, δ21.00000°, λ94.00000°.*
IDC ***13*** *06:54:34.5±2.2, 35.30N×140.36E, h41km±21km, mb3.6/9, mbtmp3.8/13, ML3.3/4 Error ellipse: s-maj=25.5km s-min=10.3km az=79.0*

ISC 13 06:54:33.5±1.3, 35.41N±0.03×140.43E±0.05, h31km±9km, n35, σ1s41/34, mb4.0/10, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCN	Nagara	0.19	271	*i* P	Pn	06 54 39.0	-1.1
JCN				S	Sn	06 54 43.9	-0.4
JSMT	Sammumatsuo	0.23	4	⇓*i* P	Pn	06 54 39.2	-1.6
JSMT				⇓S	Sn	06 54 44.1	-1.3
KTR	Katsuura	0.28	200	*i* P	Pn	06 54 40.3	-1.2
JKUC	kamogawauchiur	0.32	217	*i* P	Pb	06 54 40.6	-0.7
JKUC				*e*S	Sn	06 54 46.3	-1.2
BSO4	Boso 4	0.43	190	*i* P	Pb	06 54 43.2	+0.3
BSO4				*e*X		06 54 52.8	
BSO3	Boso 3	0.61	174	*i* P	Pn	06 54 45.5	-0.3
JYT	Yasato	0.83	347	⇓*i* P	Pn	06 54 47.2	-1.9
BSO1	Boso 1	0.88	149	*i* P	Pn	06 54 48.6	-0.6
JIM2	Oshima 3	1.07	230	P	Pn	06 54 51.3	-1.1
JIM2				*e*S	Sn	06 55 05.2	-1.1
JOD2	Odawara 2	1.11	263	P	Pn	06 54 52.3	-0.5
JOD2				*e*S	Sn	06 55 05.8	-1.3
MJAR	Matsushiro Arr	2.12	303	P	Pn	06 55 07.4	+0.5
	1.4nm,0.3s,baz=104,slow=14,SNR=38						
	24nm,0.6s						
MAJO	Matsushiro	2.13	303	P	Pn	06 55 08.2	+1.3
JHJ	Hachijo jima 2	2.35	193	P	Pn	06 55 08.9	-1.0
	161nm,0.3s,baz=77,slow=7.3,SNR=34						
JHJ				S	Sn	06 55 35.5	-2.3
	915nm,0.3s,baz=166,slow=22,SNR=13						
	305nm,0.3s						
JMM	Marumori	2.46	7	P	Pn	06 55 11.4	-0.1
JGF	Kuroka	2.51	275	P	Pn	06 55 16.5	+4.3
INU	Inuyama	2.79	270	P	Pb	06 55 21.3	-1.4
JCJ	Chichijima	8.43	169	P	Pn	06 56 27.3	-6.2
	46nm,0.4s,baz=292,slow=20,SNR=9.0						
KSRS	Korea Array	10.28	285	P	Pn	06 57 01.0	+2.2
	0.4nm,0.3s,baz=98,slow=14,SNR=1.7						
	1.1nm,0.7s						
USRK	Ussuriysk Ar.	10.91	326	P	Pn	06 57 09.8	+2.4
	0.2nm,0.3s,baz=132,slow=11,SNR=1.4						
	0.9nm,0.5s						
H11N2	WAKE ISLAND Hy	28.07	117	T	T	07 29 33.1	
	baz=309,slow=75,SNR=52						
H11N1	WAKE ISLAND Hy	28.07	117	T	T	07 29 43.9	
	baz=309,slow=75,SNR=82						
H11N3	WAKE ISLAND Hy	28.08	117	T	T	07 29 39.8	
	baz=309,slow=75,SNR=52						
H11S1	WAKE ISLAND Hy	28.71	119	T	T	07 30 21.0	
	baz=311,slow=75,SNR=68						
H11S3	WAKE ISLAND Hy	28.71	119	T	T	07 30 20.9	
	baz=311,slow=75,SNR=59						
H11S2	WAKE ISLAND Hy	28.73	119	T	T	07 30 23.4	
	baz=311,slow=75,SNR=44						
ZALV	Zalesovo Beam	42.44	314	P	P	07 02 25.2	+0.1
	1.6nm,0.5s,baz=101,slow=7.7,SNR=6.6						
	1.6nm,0.5s						
MKAR	Makanchi Array	44.32	303	P	P	07 02 40.6	+0.1
	1.2nm,0.6s,baz=88,slow=9.9,SNR=12						
	1.2nm,0.6s						
NRIK	Noril'sk	44.41	336	P	P	07 02 40.9	+0.1
	0.9nm,0.4s,baz=125,slow=8.4,SNR=2.1						
	0.9nm,0.4s						
KURBB	Kurchatov Arra	46.39	309	P	P	07 02 56.3	-0.5
	2.2nm,0.2s,baz=84,slow=8.0,SNR=11						
	2.2nm,0.2s						
ILAR	Eielson Array	51.29	32	P	P	07 03 34.9	+0.7
	0.9nm,0.9s,baz=258,slow=5.1,SNR=9.3						
	0.9nm,0.9s						
WRA	Warramunga Arr	55.35	187	P	P	07 04 03.9	-0.6
	1.3nm,0.6s,baz=1.4,slow=7.6,SNR=11						
	1.3nm,0.6s						
ARU	Arti	57.05	319	P	P	07 04 15.8	-0.4
	4.5nm,0.2s,baz=79,slow=3.4,SNR=4.6						
ASAR	Alice Springs	59.08	187	P	P	07 04 30.2	-0.6
	0.4nm,0.6s,baz=11,slow=9.5,SNR=6.3						
	0.4nm,0.6s						
YKA	Yellowknife Ar	65.61	30	P	P	07 05 13.7	-0.3
	0.2nm,0.8s,baz=300,slow=7.7,SNR=3.4						
	0.2nm,0.8s						
PDAR	Pinedale Array	79.37	45	P	P	07 06 37.9	+1.2
	0.3nm,0.6s,baz=274,slow=0.9,SNR=4.5						
	0.3nm,0.6s						

FUNV ***13*** *07:10:39.5, 7.97N×71.87W, h3km, MW3.6*
RSNC ***13*** *07:10:45.2±0.0, 8.1N±5.5×7.2W±., h0km±8km, M2.3, ML2.3, MLv3.0*

ISC 13 07:10:39.6±1.3, 7.98N±0.05×71.84W±0.03, h11km±11km, n14, σ1s00/26, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	Capacho	0.48	256	*e*P	Pg	07 10 48.3	-0.8
CAPV				*e*S	Sg	07 10 54.5	-1.2
SOCV	Socops	1.02	73	*e*P	Pn	07 10 60.0	0.0
SOCV				*e*S	Sg	07 11 13.5	+0.9
PAMC	Pamplona, Colo	1.06	233	P	Pb	07 11 00.4	0.0
PAMC				S	Sb	07 11 13.7	-0.8
OCAC	Ocana	1.49	280	P	Pn	07 11 06.8	+0.3
OCAC				S	Sb	07 11 26.6	+0.2
TAMC	Tame, Arauca	1.54	178	P	Pg	07 11 10.9	+1.8
BARC	Barichara	1.92	224	P	Pb	07 11 15.1	+0.3
BARC				S	Sg	07 11 40.5	-0.9
MCQV	Machiques	2.17	342	*e*P	Pn	07 11 16.0	+0.3
MCQV				*e*S	Sn	07 11 42.8	+0.2
RUSC	La Rusia	2.41	211	P	Pb	07 11 23.7	+0.3
RUSC				S	Sg	07 11 56.0	-1.3
PTBC	PUERTO BERRIO,	2.96	241	P	Pn	07 11 26.7	0.0
PTBC				S	Sb	07 12 10.3	+1.5
CRJC	Cerrejon, Guaj	3.19	341	P	Pn	07 11 30.2	+0.3
CRJC				S	Sn	07 12 07.7	-0.3
SIQV	Siquisique	3.33	37	*e*P	Pn	07 11 31.6	0.0
SIQV				*e*S	Sn	07 12 10.8	-0.4
SJCC	San Jacinto, C	3.81	300	P	Pn	07 11 40.3	+1.9
BAUV	El Baul	3.88	75	*e*P	Pn	07 11 39.0	-0.2
BAUV				*e*S	Sn	07 12 23.5	-1.3
BENV	Beln	4.63	65	*e*P	Pn	07 11 49.3	-0.3
BENV				*e*S	Sn	07 12 41.5	-2.0

NNC ***13*** *07:12:15.5±1.3, 49.61N×81.70E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=18.1km s-min=4.8km az=53.0,*

Suspected Mining explosion.
*IDC **13** 07:12:16.2±1.3, 49.76N×81.61E, h0km, mbtmp2.5/2, ML2.1/2, Error ellipse: s-maj=18.0km s-min=9.1km az=55.0*

ISC 13 07:12:14.2±1.1, 49.52N±0.07×81.4E±0.1, h0km, n8, σ0s66/10, 3C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**2.16**	**305**	⇓Pn	**Pb**	**07 12 54.5**	**+0.3**
	0.7nm,0.4s						
KURK				⇓Sn	**Sg**	**07 13 22.9**	**-0.6**
	24nm,0.8s						
KURBB	**Kurchatov Arra**	**2.16**	**302**	Pg	**Pg**	**07 12 55.0**	**-0.5**
	0.2nm,0.3s,baz=113,slow=19,SNR=37						
KURBB				Lg	Lg	07 13 25.0	
	0.7nm,0.3s,baz=112,slow=31,SNR=9.3						
KURBB	**Kurchatov Arra**	**2.16**	**302**	⇓Pn	**Pb**	**07 12 54.6**	**+0.5**
	7.7nm,0.4s						
KURBB				⇓Sn	**Sg**	**07 13 24.5**	**+0.9**
	30nm,0.7s						
MAKZ	**Makanchi**	**2.74**	**172**	⇑Pg	**Pg**	**07 13 06.2**	**-0.5**
	0.8nm,0.4s						
MAKZ				⇑Lg	Lg	07 13 46.0	
	4.7nm,0.7s						
MK31	**Makanchi Array**	**2.79**	**168**	⇑Pg	**Pg**	**07 13 07.1**	**-0.6**
	0.4nm,0.2s,baz=353,slow=14						
MK31				⇓Lg	Lg	07 13 45.7	
	10.0nm,0.8s,baz=352,slow=25						
MKAR	**Makanchi Array**	**2.79**	**168**	Pn	**Pb**	**07 13 05.8**	**+0.8**
	0.8nm,0.3s,baz=353,slow=14,SNR=32						
MKAR				Sn	**Sg**	**07 13 43.6**	**-0.2**
	0.6nm,0.3s,baz=352,slow=25,SNR=13						
	1.4nm,0.3s						
ZALV	**Zalesovo Beam**	**4.91**	**24**	Pn	**Pn**	**07 13 29.1**	**0.0**
	0.2nm,0.3s,baz=217,slow=14,SNR=2.5						
ZALV				Lg	Lg	07 14 43.6	
	0.3nm,0.3s,baz=195,slow=27,SNR=8.7						
	0.5nm,0.5s						
I46RU	**ZALESOVO INFRA**	**4.91**	**24**	I	I	07 39 36.8	
	baz=202,slow=333,SNR=2.0						

*NEIC **13** 07:13:33.2±1.5, 55.70N±0.10×149.3W±0.1, h8km±8km, ML3.6/38, ML3.3(AEIC), Error ellipse: s-maj=14.3km s-min=9.0km az=169.0*
*AEIC **13** 07:13:37.6±1.3, 55.71N±0.05×149.2W±0.1, h6km±5km, Error ellipse: s-maj=10.6km s-min=7.3km az=112.0*

ISC 13 07:13:33.6±2.0, 55.8N±0.1×149.32W±0.07, h10km, n201, σ0s88/198, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.65**	**305**		**Pn**	**07 14 16.5**	**+0.2**
OHAK					**Sn**	**07 14 46.7**	**-1.7**
OHAK	**Old Harbor**	**2.65**	**305**	P	**Pn**	**07 14 16.4**	**+0.2**
OHAK	**Old Harbor**	**2.65**	**305**	P	**Pn**	**07 14 16.5**	**+0.2**
	baz=123						
OHAK				S	**Sn**	**07 14 46.7**	**-1.7**
	baz=123						
KDAK	**Kodiak Island**	**2.71**	**320**		**Pn**	**07 14 17.8**	**+0.6**
KDAK					**Sn**	**07 14 48.8**	**-1.2**
SII	**Sitkinak Islan**	**2.84**	**288**		**Pn**	**07 14 18.7**	**-0.3**
SII	**Sitkinak Islan**	**2.84**	**288**	IAML		07 15 06.2	
	comp=E,126nm,3.4s						
SII				IAML		07 15 44.5	
	comp=N,118nm,3.5s						
SII	**Sitkinak Islan**	**2.84**	**288**	P	**Pn**	**07 14 18.7**	**-0.3**
	baz=106						
SYI	**Shuyak Island**	**3.31**	**331**		**Pn**	**07 14 26.1**	**+0.7**
SYI					**Sn**	**07 15 05.0**	**+0.2**
Q20K	**Shuyak Island**	**3.31**	**331**	P	**Pn**	**07 14 26.1**	**+0.6**
	baz=149						
Q20K				S	**Sn**	**07 15 05.0**	**+0.2**
	baz=149						
CNPM	**China Poot**	**3.92**	**346**		**Pn**	**07 14 34.2**	**+0.4**
CNPM				IAML		07 15 41.7	
	comp=E,42nm,3.1s						
CNPM	**China Poot**	**3.92**	**346**		**Sn**	**07 15 18.6**	**-1.2**
CNPM	**China Poot**	**3.92**	**346**	IAML		07 15 01.9	
	comp=N,53nm,3.2s						
Q19K	**Cape Douglas,**	**3.95**	**325**		**Pn**	**07 14 35.4**	**+1.2**
Q19K	**Cape Douglas,**	**3.95**	**325**	IAML		07 15 23.8	
	comp=E,165nm,1.4s						
Q19K				IAML		07 15 26.5	
	comp=N,102nm,1.6s						
Q19K	**Cape Douglas,**	**3.95**	**325**	P	**Pn**	**07 14 35.4**	**+1.2**
	baz=142						
Q23K	**Middleton Isla**	**4.01**	**22**		**Pn**	**07 14 35.3**	**+0.2**
Q23K	**Middleton Isla**	**4.01**	**22**	P	**Pn**	**07 14 35.3**	**+0.2**
	baz=204						
KAKN	**Katmai Knife C**	**4.04**	**311**		**Pn**	**07 14 36.9**	**+1.3**
BRSE	**Bradley Lake S**	**4.07**	**350**		**Pn**	**07 14 35.9**	**0.0**
BRSE					**Sn**	**07 15 22.6**	**-0.9**
BRSE	**Bradley Lake S**	**4.07**	**350**	P	**Pn**	**07 14 35.9**	**0.0**
	baz=169						
BRSE				S	**Sn**	**07 15 22.6**	**-0.9**
	baz=169						
ACHA	**Angle Creek He**	**4.11**	**309**		**Pn**	**07 14 37.9**	**+1.4**
BRLK	**Bradley Lake**	**4.11**	**349**		**Pn**	**07 14 36.2**	**-0.2**
BRLK	**Bradley Lake**	**4.11**	**349**	IAML		07 16 11.9	
	comp=N,48nm,3.4s						
HOM	**Homer**	**4.11**	**343**		**Pn**	**07 14 37.3**	**+1.0**
HOM	**Homer**	**4.11**	**343**	P	**Pn**	**07 14 37.3**	**+1.0**
	baz=162						
ANCK	**Angle Creek**	**4.17**	**308**		**Pn**	**07 14 38.8**	**+1.5**
SEW	**Seward**	**4.36**	**359**		**Pn**	**07 14 39.9**	**+0.1**
SEW	**Seward**	**4.36**	**359**	P	**Pn**	**07 14 39.9**	**+0.1**
	baz=179						
P23K	**Montague Islan**	**4.37**	**13**		**Pn**	**07 14 40.1**	**0.0**
P23K	**Montague Islan**	**4.37**	**13**	P	**Pn**	**07 14 40.1**	**0.0**
	baz=194						
CNTC	**Contact Creek**	**4.38**	**308**		**Pn**	**07 14 41.1**	**+0.9**
Q17K	**Contact Creek**	**4.38**	**308**	P	**Pn**	**07 14 41.2**	**+0.9**
	baz=123						
P19K	**Oil Pt**	**4.43**	**333**		**Pn**	**07 14 41.5**	**+0.6**
P19K	**Oil Pt**	**4.43**	**333**	IAML		07 15 45.6	
	comp=N,70nm,2.3s						
P19K				IAML		07 17 31.6	
	comp=E,60nm,3.6s						
P19K	**Oil Pt**	**4.43**	**333**	P	**Pn**	**07 14 41.5**	**+0.6**
	baz=150						
PLK1	**Peulik 1**	**4.50**	**300**		**Pn**	**07 14 43.3**	**+1.5**
O20K	**Slope Mountain**	**4.68**	**339**		**Pn**	**07 14 44.6**	**+0.3**
O20K	**Slope Mountain**	**4.68**	**339**	P	**Pn**	**07 14 44.6**	**+0.3**
	baz=157						
ILSW	**Iliamna Southw**	**4.70**	**336**		**Pn**	**07 14 45.1**	**+0.4**
ILSW	**Iliamna Southw**	**4.70**	**336**	IAML		07 15 40.8	
	comp=N,25nm,0.3s						
ILSW				IAML		07 15 42.8	
	comp=E,26nm,1.9s						
O22K	**Cooper Landing**	**4.74**	**358**		**Pn**	**07 14 45.3**	**+0.2**
O22K	**Cooper Landing**	**4.74**	**358**	IAML		07 15 42.9	
	comp=E,86nm,0.4s						
O22K				IAML		07 15 47.3	
	comp=N,80nm,0.7s						
O22K	**Cooper Landing**	**4.74**	**358**	P	**Pn**	**07 14 45.3**	**+0.2**
	baz=177						
SLKM	**Skilak Lake**	**4.79**	**355**		**Pn**	**07 14 45.8**	**0.0**
P18K	**Big Mountain,**	**4.84**	**321**		**Pn**	**07 14 47.0**	**+0.6**
P18K	**Big Mountain,**	**4.84**	**321**	P	**Pn**	**07 14 47.0**	**+0.6**
	baz=137						
HIN	**Hinchinbrook I**	**4.89**	**17**		**Pn**	**07 14 47.2**	**0.0**
HIN	**Hinchinbrook I**	**4.89**	**17**	IAML		07 17 18.4	
	comp=N,70nm,2.8s						
R16K	**Pilot Point**	**4.90**	**295**		**Pn**	**07 14 48.7**	**+1.4**
R16K	**Pilot Point**	**4.90**	**295**	P	**Pn**	**07 14 48.7**	**+1.4**
	baz=109						
KAIM	**Kayak Island**	**4.93**	**30**		**Pn**	**07 14 47.8**	**+0.1**
KAIM	**Kayak Island**	**4.93**	**30**	P	**Pn**	**07 14 47.8**	**+0.1**
	baz=214						
Q16K	**King Salmon**	**4.95**	**309**		**Pn**	**07 14 49.0**	**+1.1**
Q16K	**King Salmon**	**4.95**	**309**	P	**Pn**	**07 14 49.0**	**+1.1**
	baz=124						
CHGN	**Chignik**	**5.13**	**280**	Pn	**Pn**	**07 14 50.8**	**+0.4**
CHGN				IAML		07 15 51.4	
	comp=N,39nm,0.3s						
CHGN				IAML		07 15 51.9	
	comp=E,39nm,0.3s						
P17K	**Kvichak River**	**5.16**	**315**		**Pn**	**07 14 52.1**	**+1.3**
P17K	**Kvichak River**	**5.16**	**315**	P	**Pn**	**07 14 52.1**	**+1.3**
	baz=129						
EYAK	**Cordova Ski Ar**	**5.16**	**20**		**Pn**	**07 14 51.1**	**+0.3**
EYAK	**Cordova Ski Ar**	**5.16**	**20**	P	**Pn**	**07 14 51.5**	**+0.7**
EYAK	**Cordova Ski Ar**	**5.16**	**20**	P	**Pn**	**07 14 51.2**	**+0.3**
	baz=203						
O18K	**Koktuh Hills**	**5.17**	**325**		**Pn**	**07 14 51.4**	**+0.3**
O18K	**Koktuh Hills**	**5.17**	**325**	IAML		07 16 49.6	
	comp=N,26nm,3.8s						
O18K				IAML		07 18 05.5	
	comp=E,24nm,4.7s						
O18K	**Koktuh Hills**	**5.17**	**325**	P	**Pn**	**07 14 51.4**	**+0.3**
	baz=140						
O19K	**Port Alsworth**	**5.18**	**331**				
O19K	**Port Alsworth**	**5.18**	**331**	IAML		07 15 52.8	
	comp=N,31nm,0.4s						
O19K				IAML		07 15 53.0	
	comp=E,56nm,0.4s						
O19K	**Port Alsworth**	**5.18**	**331**	P	**Pn**	**07 14 51.3**	**+0.2**
	baz=147						
NICHA	**Nichawak Mount**	**5.32**	**30**		**Pn**	**07 14 53.6**	**+0.6**
RC01	**Rabbit Creek A**	**5.35**	**358**		**Pn**	**07 14 53.8**	**+0.4**
RC01	**Rabbit Creek A**	**5.35**	**358**	P	**Pn**	**07 14 53.8**	**+0.4**
	baz=178						
GOAT	**Goat Mountain**	**5.41**	**25**		**Pn**	**07 14 54.9**	**+0.5**
BGLC	**Bering Glacier**	**5.43**	**34**		**Pn**	**07 14 54.8**	**+0.3**
BGLC	**Bering Glacier**	**5.43**	**34**	P	**Pn**	**07 14 54.8**	**+0.3**
	baz=219						
GRIN	**Grindle Hills**	**5.54**	**33**		**Pn**	**07 14 56.5**	**+0.4**
SNH	**Sunshine Point**	**5.62**	**35**		**Pn**	**07 14 57.4**	**+0.3**
N20K	**Mount Spurr**	**5.67**	**346**	P	**Pn**	**07 14 57.9**	**+0.1**
	baz=163						
SPCR	**Spurr Chakacha**	**5.67**	**346**		**Pn**	**07 14 57.9**	**+0.1**
KNK	**Knik Glacier**	**5.69**	**4**	Pn	**Pn**	**07 14 59.1**	**+0.9**
KHIT	**Khitrov Hills**	**5.69**	**32**		**Pn**	**07 14 58.1**	**-0.1**
P16K	**Nushagak River**	**5.72**	**309**		**Pn**	**07 14 59.9**	**+1.4**
P16K	**Nushagak River**	**5.72**	**309**	P	**Pn**	**07 14 59.9**	**+1.4**
	baz=122						
N19K	**Bonanza Creek**	**5.75**	**334**		**Pn**	**07 14 59.1**	**0.0**
N19K	**Bonanza Creek**	**5.75**	**334**	P	**Pn**	**07 14 59.1**	**0.0**
	baz=150						
SUA	**Susitna One**	**5.77**	**353**		**Pn**	**07 14 58.3**	**-1.0**
BMRM	**Bremner River**	**5.78**	**23**		**Pn**	**07 14 59.8**	**+0.3**
BMRM	**Bremner River**	**5.78**	**23**	P	**Pn**	**07 14 59.8**	**+0.3**
	baz=207						
O17K	**Koliganek Bris**	**5.79**	**317**		**Pn**	**07 15 00.3**	**+0.9**
O17K	**Koliganek Bris**	**5.79**	**317**	P	**Pn**	**07 15 00.3**	**+0.9**
	baz=131						
WAX	**Waxell Ridge**	**5.82**	**33**		**Pn**	**07 14 59.8**	**-0.1**
PMR	**Palmer**	**5.85**	**1**	Pn	**Pn**	**07 15 00.7**	**+0.4**
PMR	**Palmer**	**5.85**	**1**	P	**Pn**	**07 15 01.0**	**+0.7**
STLK	**Strandline Lak**	**5.91**	**348**		**Pn**	**07 15 01.4**	**+0.2**
MESA	**MESA**	**5.92**	**38**		**Pn**	**07 15 01.5**	**+0.1**
MESA	**MESA**	**5.92**	**38**	P	**Pn**	**07 15 01.5**	**+0.1**
	baz=224						
KLU	**Klutina**	**6.02**	**16**		**Pn**	**07 15 03.3**	**+0.6**
KLU	**Klutina**	**6.02**	**16**	P	**Pn**	**07 15 03.3**	**+0.6**
	baz=198						
N18K	**Kilae Creek**	**6.03**	**328**		**Pn**	**07 15 03.4**	**+0.5**
N18K	**Kilae Creek**	**6.03**	**328**	P	**Pn**	**07 15 03.3**	**+0.5**
	baz=142						
GHO	**Glory Hole Cre**	**6.04**	**2**		**Pn**	**07 15 04.3**	**+1.3**
O16K	**Kokwok River B**	**6.08**	**313**		**Pn**	**07 15 04.7**	**+1.3**
O16K	**Kokwok River B**	**6.08**	**313**	P	**Pn**	**07 15 04.7**	**+1.3**
	baz=126						
SML	**Sawmill**	**6.09**	**4**		**Pn**	**07 15 03.7**	**0.0**
SML	**Sawmill**	**6.09**	**4**	P	**Pn**	**07 15 03.7**	**0.0**
	baz=185						
BAGL	**Bagley Icefiel**	**6.10**	**36**		**Pn**	**07 15 03.2**	**-0.4**
ISLE	**Juniper Island**	**6.10**	**34**	Pn	**Pn**	**07 15 03.4**	**-0.5**
SCM	**Sheep Creek Mo**	**6.18**	**9**		**Pn**	**07 15 06.4**	**+1.5**
SVW2	**Sparrevohn**	**6.28**	**331**	Pn	**Pn**	**07 15 06.3**	**0.0**
SVW2	**Sparrevohn**	**6.28**	**331**	P	**Pn**	**07 15 06.6**	**+0.4**
VRDI	**Verde Repeater**	**6.29**	**27**		**Pn**	**07 15 06.8**	**+0.3**
SAMH	**Samovar Hills**	**6.31**	**43**		**Pn**	**07 15 07.6**	**+0.9**
KIAG	**Kiagna River**	**6.34**	**32**		**Pn**	**07 15 07.5**	**+0.3**
SKT	**Skwentna**	**6.35**	**350**		**Pn**	**07 15 04.9**	**-2.2**
SDPT	**Sand Point**	**6.35**	**271**	Pn	**Pn**	**07 15 06.8**	**-0.3**
SDPT	**Sand Point**	**6.35**	**271**	P	**Pn**	**07 15 06.9**	**-0.2**
N25K	**Chitina, Valde**	**6.36**	**21**		**Pn**	**07 15 08.0**	**+0.7**
N25K	**Chitina, Valde**	**6.36**	**21**	P	**Pn**	**07 15 08.0**	**+0.7**
	baz=205						
GLB	**Gilahina Butte**	**6.38**	**25**		**Pn**	**07 15 08.1**	**+0.4**
TABL	**Table Mountain**	**6.39**	**39**		**Pn**	**07 15 08.3**	**+0.4**
YKU2	**Yakutat**	**6.40**	**50**		**Pn**	**07 15 08.3**	**+0.5**
M20K	**Styx River**	**6.45**	**344**	Pn	**Pn**	**07 15 08.6**	**-0.1**
PCA	**Pinnacle**	**6.50**	**44**		**Pn**	**07 15 09.5**	**+0.3**
PINM	**Pinnacle**	**6.50**	**44**	P	**Pn**	**07 15 09.5**	**+0.3**
	baz=232						
PTPK	**Patty Peak**	**6.52**	**31**		**Pn**	**07 15 10.2**	**+0.5**
MCARA	**McCarthy VSAT**	**6.53**	**28**		**Pn**	**07 15 10.2**	**+0.6**
MCARA	**McCarthy VSAT**	**6.53**	**28**	P	**Pn**	**07 15 10.2**	**+0.6**
	baz=213						
M24K	**Tolsona, Glenn**	**6.57**	**13**		**Pn**	**07 15 12.4**	**+2.1**
PNL	**Peninsula**	**6.60**	**50**		**Pn**	**07 15 10.6**	**-0.1**
PNL	**Peninsula**	**6.60**	**50**	P	**Pn**	**07 15 11.3**	**+0.6**
PNL	**Peninsula**	**6.60**	**50**	P	**Pn**	**07 15 10.6**	**-0.1**
	baz=238						
O15K	**Ungalikthiuk R**	**6.62**	**305**		**Pn**	**07 15 11.9**	**+1.0**
O15K	**Ungalikthiuk R**	**6.62**	**305**	P	**Pn**	**07 15 11.9**	**+1.0**
	baz=117						
BCPM	**Bancas Point**	**6.66**	**47**		**Pn**	**07 15 11.9**	**+0.4**
BARN	**Barnard Glacie**	**6.66**	**34**		**Pn**	**07 15 12.1**	**+0.4**
M18K	**Stony River**	**6.68**	**332**		**Pn**	**07 15 11.7**	**+0.1**
M18K	**Stony River**	**6.68**	**332**	P	**Pn**	**07 15 11.7**	**+0.1**
	baz=147						
CTG	**Chitna Glacier**	**6.70**	**35**	P	**Pn**	**07 15 12.2**	**+0.2**
	baz=222						
CTGM	**Chitina Glacie**	**6.70**	**36**		**Pn**	**07 15 12.2**	**+0.1**
M19K	**Big River Lodg**	**6.70**	**339**	Pn	**Pn**	**07 15 13.7**	**+1.7**
LOGN	**Logan Glacier**	**6.71**	**37**		**Pn**	**07 15 12.3**	**+0.1**
N16K	**Nishlik Lake**	**6.88**	**317**		**Pn**	**07 15 15.8**	**+1.3**
N16K	**Nishlik Lake**	**6.88**	**317**	P	**Pn**	**07 15 15.8**	**+1.3**
	baz=138						
L19K	**White Mountain**	**7.05**	**338**		**Pn**	**07 15 16.6**	**-0.2**
L19K	**White Mountain**	**7.05**	**338**	P	**Pn**	**07 15 16.6**	**-0.2**
	baz=154						
M17K	**Holitna River**	**7.07**	**326**		**Pn**	**07 15 17.6**	**+0.6**
M17K	**Holitna River**	**7.07**	**326**	P	**Pn**	**07 15 17.6**	**+0.6**
	baz=140						
N15K	**Kwethluk River**	**7.24**	**312**		**Pn**	**07 15 20.9**	**+1.6**
N15K	**Kwethluk River**	**7.24**	**312**	P	**Pn**	**07 15 20.9**	**+1.6**
	baz=123						
O29M	**Mount Kennedy**	**7.30**	**47**		**Pn**	**07 15 20.5**	**+0.3**
O29M	**Mount Kennedy**	**7.30**	**47**	P	**Pn**	**07 15 20.5**	**+0.3**
	baz=236						
M16K	**Timber Creek**	**7.31**	**320**		**Pn**	**07 15 21.1**	**+0.8**
M16K	**Timber Creek**	**7.31**	**320**	P	**Pn**	**07 15 21.1**	**+0.8**
	baz=132						
P29M	**Windy Craggy**	**7.32**	**53**		**Pn**	**07 15 19.9**	**-0.5**
P29M	**Windy Craggy**	**7.32**	**53**	P	**Pn**	**07 15 19.9**	**-0.5**
	baz=243						
O14K	**Tigyukauivet M**	**7.33**	**303**		**Pn**	**07 15 21.9**	**+1.4**
O14K	**Tigyukauivet M**	**7.33**	**303**	P	**Pn**	**07 15 21.9**	**+1.4**
	baz=114						
DHY	**Denali Highway**	**7.41**	**7**		**Pn**	**07 15 23.7**	**+1.9**
M26K	**Nabesna, AK**	**7.41**	**23**	Pn	**Pn**	**07 15 22.6**	**+0.8**
S31K	**Pelican**	**7.51**	**68**	Pn	**Pn**	**07 15 21.0**	**-2.0**
L18K	**Granite Mounta**	**7.51**	**333**	Pn	**Pn**	**07 15 22.5**	**-0.6**
M27K	**Edge Creek, AK**	**7.64**	**27**	Pn	**Pn**	**07 15 25.7**	**+0.7**
RND	**Reindeer**	**7.68**	**2**	Pn	**Pn**	**07 15 27.9**	**+2.4**
TRF	**Thorofare Moun**	**7.73**	**357**	Pn	**Pn**	**07 15 27.6**	**+1.3**
CAST	**Castle Rocks**	**7.81**	**351**	Pn	**Pn**	**07 15 29.6**	**+2.3**
KTH	**Kantishna Hill**	**7.86**	**355**		**Pn**	**07 15 29.1**	**+1.2**
TTA	**Tatalina**	**7.96**	**337**	Pn	**Pn**	**07 15 27.6**	**-1.8**
L16K	**Owhat River**	**7.96**	**323**	Pn	**Pn**	**07 15 30.0**	**+0.7**
HYT	**Haines Junctio**	**8.03**	**46**	Pn	**Pn**	**07 15 30.8**	**+0.5**
L27K	**Beaver Creek,**	**8.26**	**24**	Pn	**Pn**	**07 15 33.5**	**+0.2**
BCAR	**Beaver Creek A**	**8.27**	**25**	Pn	**Pn**	**07 15 34.7**	**+1.2**
M14K	**Bethel**	**8.33**	**312**	Pn	**Pn**	**07 15 35.6**	**+1.3**
K17K	**Iditarod**	**8.35**	**330**	Pn	**Pn**	**07 15 34.4**	**-0.2**
SKAG	**Skagway**	**8.37**	**58**	Pn	**Pn**	**07 15 35.2**	**+0.3**
SKAG	**Skagway**	**8.37**	**58**	P	**Pn**	**07 15 35.4**	**+0.5**
BPAW	**Bear Paw Mtn.**	**8.41**	**355**	Pn	**Pn**	**07 15 36.2**	**+0.8**
JIS	**Juneau Island**	**8.53**	**67**	Pn	**Pn**	**07 15 36.3**	**-0.7**
JIS	**Juneau Island**	**8.53**	**67**	P	**Pn**	**07 15 35.8**	**-1.2**
N30M	**Aishikik Lake**	**8.56**	**43**	Pn	**Pn**	**07 15 37.9**	**+0.4**
O30N	**Mendenhall**	**8.59**	**49**	Pn	**Pn**	**07 15 38.2**	**+0.3**
M29M	**Somme Creek**	**8.72**	**35**	Pn	**Pn**	**07 15 40.1**	**+0.4**
HDA	**Harding Lake**	**8.76**	**7**	Pn	**Pn**	**07 15 42.2**	**+2.1**
M13K	**Dall Lake**	**8.77**	**308**	Pn	**Pn**	**07 15 40.9**	**+0.7**
J20K	**Nowinta River**	**8.78**	**346**	Pn	**Pn**	**07 15 41.0**	**+0.5**
L14K	**Kuka Creek**	**8.94**	**314**	Pn	**Pn**	**07 15 44.0**	**+1.3**
CCB	**Clear Creek Bu**	**8.95**	**4**	Pn	**Pn**	**07 15 44.2**	**+1.4**
K15K	**Wolf Creek Mou**	**9.08**	**321**	Pn	**Pn**	**07 15 46.3**	**+1.8**
J25K	**Salcha River,**	**9.10**	**11**	Pn	**Pn**	**07 15 45.6**	**+0.7**
P32M	**Atlin**	**9.19**	**59**	Pn	**Pn**	**07 15 45.8**	**-0.4**
J26L	**Joseph Creek**	**9.22**	**16**	Pn	**Pn**	**07 15 47.7**	**+1.1**
MDM	**Murphy Dome**	**9.25**	**3**	Pn	**Pn**	**07 15 46.8**	**-0.1**
L29M	**L29M**	**9.30**	**33**	Pn	**Pn**	**07 15 48.9**	**+1.1**
M30M	**Minto, Yukon**	**9.37**	**38**	Pn	**Pn**	**07 15 49.1**	**+0.5**
I23K	**Minto, Yukon-K**	**9.42**	**360**	Pn	**Pn**	**07 15 49.9**	**+0.6**
DAWY	**Dawson**	**9.70**	**27**	Pn	**Pn**	**07 15 53.8**	**+0.8**
Q32M	**Nakina River**	**9.75**	**64**	Pn	**Pn**	**07 15 53.7**	**-0.2**
P33M	**Teslin, Yukon**	**9.82**	**56**	Pn	**Pn**	**07 15 54.6**	**-0.2**
K29M	**Barlow Dome**	**10.04**	**31**	Pn	**Pn**	**07 15 59.1**	**+1.3**
M31M	**Drury Creek, Y**	**10.04**	**44**	Pn	**Pn**	**07 15 59.2**	**+1.5**
H21K	**Melozitna Rive**	**10.08**	**352**	Pn	**Pn**	**07 15 59.3**	**+1.1**
FARO	**Faro, Yukon**	**10.46**	**45**	Pn	**Pn**	**07 16 04.6**	**+1.0**
IMAR	**Indian Mountai**	**10.48**	**350**	Pn	**Pn**	**07 16 03.1**	**-0.6**
R33M	**Jennings River**	**10.50**	**62**	Pn	**Pn**	**07 16 03.6**	**-0.5**
J30M	**Hart River**	**10.93**	**31**	Pn	**Pn**	**07 16 11.8**	**+1.8**

*TEH **13** 07:15:29.7, 33.72N×45.74E, h8km±61km, ML2.5*
*ISN **13** 07:15:29.3±0.6, 33.68N×45.80E, h12km±2km, ML2.0*

ISC 13 07:15:30.4±1.0, 33.65N±0.05×45.81E±0.05, h19km, n10, σ0s67/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.33**	**93**	Pg	**Pb**	**07 15 37.9**	**+0.1**
ILBA				Sg	**Sb**	**07 15 43.8**	**+1.0**
IBDR	**Badra**	**0.54**	**169**	*e*Pg	**Pb**	**07 15 41.0**	**-0.2**
IBDR				*e*Sg	**Sb**	**07 15 49.0**	**+0.4**
IBDR				AML	AML	07 15 56.2	
	comp=N,72nm,0.5s						
IBDR				AML	AML	07 15 59.0	
	comp=E,75nm,0.4s						
IGHG	**Ghaleghazi**	**0.93**	**43**	Pg	**Pb**	**07 15 47.8**	**-0.3**
IDHR	**Dehrash**	**1.16**	**24**	Pg	**Pn**	**07 15 50.8**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.20**	**58**	Pg	**Pg**	**07 15 53.9**	**+0.2**
BHD	**Baghdad**	**1.25**	**253**	*e*Pg	**Pn**	**07 15 53.0**	**+0.2**
BHD				*e*Sg	**Sg**	**07 16 11.0**	**0.0**
ILIN	**Lien**	**1.59**	**37**	Pg	**Pb**	**07 15 59.5**	**+0.2**
IKFM	**Kafar-mosalman**	**1.71**	**93**	Pg	**Pg**	**07 16 02.5**	**-0.7**
IBZA	**Bozab**	**1.89**	**64**	Pn	**Pb**	**07 16 04.9**	**+0.5**
RAFI	**Al-Rafai**	**1.93**	**172**	*e*Pn	**Pb**	**07 16 04.5**	**-0.5**
RAFI				*e*Sn	**Sb**	**07 16 30.0**	**+1.3**

*NNC **13** 07:38:08.6±5.7, 53.76N×90.68E, h2km±28km, mb3.4, mpv3.1, Error ellipse: s-maj=48.9km s-min=34.3km az=29.0, Suspected Mining explosion.*
*IDC **13** 07:38:08.3±3.2, 53.78N×90.95E, h0km, mbtmp3.3/3, ML2.5/3, Error ellipse: s-maj=27.3km s-min=23.4km az=42.0*

ISC 13 07:38:10.5±4.0, 53.7N±0.1×90.6E±0.2, h0km, n9, σ1s34/13, 9C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.44**	**276**	I	I	08 04 30.0	
	0.1nm,1.0s,baz=91,slow=342,SNR=2.1						
ZAA0	**Zalesovo Array**	**3.44**	**276**	⇑Pg	**Pb**	**07 39 10.8**	**-1.5**
	0.6nm,0.5s						
ZAA0				⇑Lg	Lg	07 40 02.3	
	5.9nm,0.8s						
ZALV	**Zalesovo Beam**	**3.44**	**276**	Pn	**Pn**	**07 39 07.1**	**+1.7**
	0.2nm,0.3s,baz=92,slow=10,SNR=3.7						
ZALV				Lg	Lg	07 40 02.1	
	3.6nm,0.3s,baz=92,slow=26,SNR=8.1						
	4.2nm,0.6s						
KURK	**Kurchatov**	**7.96**	**253**	⇑Pn	**Pn**	**07 40 07.7**	**+0.3**
	0.3nm,0.4s						
KURK				⇑Sn	**Sn**	**07 41 38.2**	**+0.2**
	1.9nm,0.5s						
KURK				⇑Lg	Lg	07

	baz=208								
ESAO	**Su ao**	**0.18**	**18**	*e*S		Sg	08 18 36.7	+0.5	
	baz=17								
TWC	**Suao**	**0.21**	**16**	S		Sg	08 18 37.9	+0.8	
	baz=18								
LATG	**Datong**	**0.27**	**299**	*e*P		Pb	08 18 36.5	+0.5	
	baz=298								
LATG				*e*S		Sb	08 18 40.5	0.0	
	baz=298								
ETL	**Fush Village**	**0.29**	**211**	*e*P		Pb	08 18 35.9	-0.3	
	baz=210								
NACB	**Ninganchiao**	**0.29**	**217**	*e*S		Sb	08 18 40.2	-0.7	
	baz=216								
NDT	**Datong Townshi**	**0.32**	**308**	*e*P		Pb	08 18 37.5	+0.7	
	baz=308								
NDT				S		Sb	08 18 41.9	+0.2	
	baz=308								
ETLH	**Xiulin Townshi**	**0.34**	**235**	*e*P		Pb	08 18 37.0	-0.2	
	baz=234								
ETLH				*e*S		Sb	08 18 42.4	-0.2	
	baz=234								
NNSB	**Datong**	**0.37**	**274**	*i* S		Sb	08 18 43.3	-0.1	
	baz=273								
TWD	**Chiawan**	**0.37**	**208**	*e*P		Pb	08 18 37.3	-0.2	
	baz=207								
FUSB	**Fushanzhiwuyua**	**0.40**	**333**	*e*P		Pb	08 18 38.9	+0.8	
	baz=333								
EOS2	**EOS2**	**0.41**	**88**	*e*S		Sb	08 18 44.8	+0.5	
	baz=88								
EOS3	**EOS3**	**0.50**	**104**	*e*S		Sb	08 18 47.6	+0.7	
	baz=103								

JMA 13 08:19:07.2±0.2, 24°.2N±0°.4×123°.8E±0°.4, h15km±1km, MV1.3/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.12**	**319**	P	Pg	08 19 10.8	0.0
IRIF				*e*S	Sg	08 19 13.2	+0.1
JKRS	**Kuro-shima**	**0.18**	**92**	*i* P	Pg	08 19 11.6	0.0
JKRS				*e*S	Sg	08 19 14.9	+0.5
HATJ	**Hateruma jima**	**0.19**	**183**	P	Pg	08 19 11.6	-0.1
HATJ				*e*S	Sg	08 19 14.9	+0.2
JIJ	**Ishigaki jima**	**0.32**	**68**	P	Pg	08 19 13.7	-0.3
JIJ				*e*S	Sg	08 19 18.3	-0.3
JISG	**Ishigakijimahi**	**0.57**	**53**	P	Pg	08 19 18.6	+0.1
JISG				*e*S	Sb	08 19 26.4	-0.3
JTJ	**Tarama**	**0.90**	**64**	*e*P	Pg	08 19 24.7	-0.1
JTJ				*e*S	Sg	08 19 37.0	+0.4

IDC 13 08:24:53.4±3.1, 54°.26N×87°.11E, h0km, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=26.6km s-min=16.9km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.39**	**258**	I	I	08 32 20.0	
	0.2nm,0.7s,baz=77,slow=344,SNR=22						
ZALV	**Zalesovo Beam**	**1.39**	**258**	Pg	Pg	08 25 18.3	-1.6
	1.0nm,0.3s,baz=77,slow=15,SNR=10.0						
ZALV				Lg	Lg	08 25 37.9	
	0.6nm,0.3s,baz=72,slow=26,SNR=4.3						
KURBB	**Kurchatov Arra**	**6.38**	**239**	Pn	Pn	08 26 29.4	+0.9
	0.1nm,0.3s,baz=56,slow=14,SNR=4.5						
KURBB				Lg	Lg	08 28 16.4	
	baz=57,slow=34						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**8.08**	**204**	Pn	Pn	08 26 53.0	+1.1
	baz=24,slow=11,SNR=2.5						
MKAR				Sn	Sn	08 28 23.9	+0.1
	baz=17,slow=26,SNR=2.4						
MKAR				Lg	Lg	08 29 06.9	
	baz=23,slow=30,SNR=1.7						
	0.1nm,0.4s						

IDC 13 08:34:38.4±3.3, 54°.19N×87°.33E, h0km, mbtmp2.5/2, ML2.3/2, Error ellipse: s-maj=27.8km s-min=19.1km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.50**	**262**	I	I	08 42 30.0	
	0.1nm,0.8s,baz=80,slow=341,SNR=66						
ZALV	**Zalesovo Beam**	**1.50**	**262**	Pg	Pn	08 35 05.4	-1.1
	1.0nm,0.3s,baz=80,slow=16,SNR=8.4						
ZALV				Lg	Lg	08 35 25.9	
	0.7nm,0.3s,baz=77,slow=30,SNR=3.3						
KURBB	**Kurchatov Arra**	**6.46**	**240**	Pn	Pn	08 36 15.7	+1.1
	0.1nm,0.3s,baz=58,slow=14,SNR=4.5						
KURBB				Lg	Lg	08 38 02.8	
	baz=55,slow=31,SNR=2.8						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**8.07**	**205**	Pn	Pn	08 36 37.5	+0.7
	baz=28,slow=13,SNR=1.8						
MKAR				Lg	Lg	08 38 54.9	
	baz=23,slow=34,SNR=1.6						
	0.1nm,0.3s						

NEIC 13 08:35:18.4±1.8, 29°.16N±0°.01×97°.77W±0°.02, h5km±2km, mb_Lg2.6/27, ML2.7/6, Error ellipse: s-maj=3.2km s-min=2.9km az=234.0, Central Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
735A	**Kenedy**	**0.30**	**186**		Pg	08 35 24.1	-0.2
735A				Sg	Sb	08 35 30.5	-1.2
735A				IAML		08 35 31.3	
	comp=E,607nm,0.5s						
EF01	**Eagle Ford 01**	**0.53**	**267**		Pg	08 35 28.9	+0.2
EF01				Sg	Sb	08 35 37.6	-0.7
EF01				IAML		08 35 38.7	
	comp=E,689nm,0.4s						
EF01				IAML		08 35 43.8	
	comp=E,522nm,0.4s						
MLDN	**Muldoon**	**0.87**	**44**		Pg	08 35 34.2	-1.0
MLDN				IAML		08 35 60.0	
	comp=E,289nm,0.7s						
HNDO	**Hondo**	**1.37**	**286**		Pn	08 35 42.2	-2.0
435B	**Jarrell**	**1.63**	**6**		Pn	08 35 46.7	-1.0
435B				IAmb_Lg		08 36 12.3	
	comp=Z,40nm,0.8s						
833A	**Chaparral WMA,**	**1.65**	**240**		Pn	08 35 46.3	-1.7
JCT	**Junction City**	**2.20**	**307**	Pn	Pn	08 35 55.5	-0.2
HBVL	**Hebbronville**	**2.23**	**201**	Pn	Pn	08 35 55.4	-0.7
BRDY	**Brady**	**2.37**	**334**	Pn	Pn	08 35 57.8	-0.3
BRDY				IAmb_Lg		08 36 39.9	
	comp=Z,21nm,0.9s						
DRIO	**Del Rio**	**2.50**	**277**	Pn	Pn	08 35 59.3	-0.5
FW13	**Cleburne**	**3.19**	**5**	IAmb_Lg		08 37 07.4	
	comp=Z,16nm,1.1s						
FW07	**Weatherford**	**3.53**	**360**	IAmb_Lg		08 37 12.5	
	comp=Z,14nm,0.7s						
SAND	**Sanderson**	**3.87**	**283**	IAmb_Lg		08 37 31.6	
	comp=Z,15nm,0.8s						
FW03	**Perrin-Whitt E**	**3.88**	**356**	IAmb_Lg		08 37 26.7	
	comp=Z,11nm,0.7s						
SN05	**Snyder 5**	**4.57**	**325**	IAmb_Lg		08 37 54.6	
	comp=Z,11nm,0.8s						
APMT	**Aspermont**	**4.61**	**335**	IAmb_Lg		08 37 48.8	
	comp=Z,12nm,0.9s						
WTFS	**Witchita Falls**	**4.63**	**353**	IAmb_Lg		08 37 47.4	
	comp=Z,16nm,1.2s						
MNHN	**Monahans**	**4.83**	**298**	IAmb_Lg		08 38 05.1	
	comp=Z,9.5nm,0.8s						
POST	**Post**	**5.04**	**322**	IAmb_Lg		08 38 08.0	
	comp=Z,14nm,0.8s						
ODSA	**Odessa**	**5.07**	**307**	IAmb_Lg		08 38 06.4	
	comp=Z,11nm,1.1s						
PECS	**Pecos**	**5.71**	**294**	IAmb_Lg		08 38 36.0	
	comp=Z,7.9nm,0.7s						
AMTX	**Amarillo**	**6.60**	**331**	IAmb_Lg		08 39 03.8	
	comp=Z,10nm,0.7s						

IDC 13 08:39:18.6±0.8, 33°.71N×137°.16E, h362km±11km, mb2.8/5, mbtmp3.6/11, Error ellipse: s-maj=24.3km s-min=13.3km az=67.0

JMA 13 08:39:18.1±0.1, 34°.N±2°.2×13°.7E±°, h372km, MV2.8/38, SE OFF KII PENINSULA

ISC 13 08:39:18.7±0.9, 33°.83N±0°.08×137°.28E±0°.09, h370km±8km, n29, σ1^{s}25/36, mb3.0/5, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO3	**TONANKAI O.B.S**	**0.11**	**71**	*e*P	Pn	08 40 05.0	+0.4
TTO2	**TONANKAI O.B.S**	**0.23**	**246**	*e*P	Pn	08 40 04.5	0.0
TTO4	**TONANKAI O.B.S**	**0.28**	**50**	P	Pn	08 40 04.7	+0.2
TK02	**Tokai 2**	**0.42**	**73**	P	Pn	08 40 04.6	-0.2
TTO5	**TONANKAI O.B.S**	**0.56**	**41**	P	Pn	08 40 05.6	+0.5
JIE	**Ise**	**0.73**	**320**	P	Pn	08 40 05.5	-0.3
JKN2	**Miekihoku**	**0.93**	**296**	P	Pn	08 40 05.7	-0.7
HMMJ	**Hamamatsu 2**	**1.09**	**20**	*e*P	Pn	08 40 07.0	+0.1
JNY	**Yasuok**	**1.60**	**17**	P	Pn	08 40 09.7	+0.2
JNY				S	S	08 40 50.3	-0.1
JOD2	**Odawara 2**	**2.07**	**46**	P	Pn	08 40 13.2	+0.9
JWT	**Wachi**	**2.12**	**314**	*e*P	Pn	08 40 12.2	-0.5
JHJ	**Hachijo jima 2**	**2.21**	**108**	P	Pn	08 40 13.5	+0.1
	48nm,0.5s,baz=84,slow=18,SNR=1.9						
JHJ				S	S	08 40 57.9	+0.4
	210nm,1.2s,baz=35,slow=5.1,SNR=1.7						
JHJ2	**Mitsune**	**2.24**	**108**	*e*P	Pn	08 40 14.6	+1.0
JRY	**Ryogami san**	**2.56**	**31**	P	Pn	08 40 16.9	+1.0
JRY				*e*S	S	08 41 02.8	+0.6
JKG	**Kaga**	**2.56**	**343**	P	Pn	08 40 16.1	+0.2
MJAR	**Matsushiro Arr**	**2.81**	**15**	P	Pn	08 40 18.8	+0.8
	2.7nm,0.6s,baz=203,slow=8.2,SNR=6.1						
MJAR				S	S	08 41 06.2	+0.4
	3.3nm,0.9s,baz=16,slow=13,SNR=4.2						
JAG	**Ashikaga**	**3.15**	**34**	P	Pn	08 40 20.1	-0.7
BSO1	**Boso 1**	**3.17**	**74**	P	Pn	08 40 19.2	-1.3
BSO1				*e*S	S	08 41 09.4	-1.0
JYT	**Yasato**	**3.38**	**44**	P	Pn	08 40 22.0	-1.0
JYT				S	S	08 41 10.6	-4.3
JHO	**Hitachi**	**3.87**	**43**	P	Pn	08 40 26.8	-0.8
JHO				S	S	08 41 19.7	-3.6
JNU	**Nakatsue**	**5.39**	**264**	P	Pn	08 40 41.8	-1.8
	4.2nm,0.6s,baz=186,slow=23,SNR=4.9						
KSRS	**Korea Array**	**8.43**	**298**	P	Pn	08 41 18.5	+0.4
	0.8nm,0.4s,baz=113,slow=12,SNR=2.2						
ASAJ	**Asahikawa**	**11.07**	**20**	P	Pn	08 41 50.3	+1.1
	4.5nm,0.5s,baz=196,slow=15,SNR=4.7						
USRK	**Ussuriysk Ar.**	**11.14**	**340**	P	Pn	08 41 51.1	+1.1
	2.5nm,0.5s,baz=149,slow=10,SNR=6.1						
MKAR	**Makanchi Array**	**43.05**	**304**	P	P	08 46 44.0	+0.5
	0.1nm,0.3s,baz=88,slow=9.0,SNR=6.3						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**45.39**	**310**	P	P	08 47 01.8	+0.2
	0.4nm,0.4s,baz=92,slow=7.3,SNR=5.3						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**53.54**	**183**	P	P	08 48 02.3	-0.5
	0.9nm,0.5s,baz=358,slow=7.7,SNR=3.6						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**57.27**	**184**	P	P	08 48 28.1	-0.9
	0.1nm,0.3s,baz=358,slow=3.0,SNR=2.3						
	0.1nm,0.3s						
FINES	**FINESS Array B**	**70.04**	**332**	P	P	08 49 52.3	+1.2
	0.4nm,0.4s,baz=44,slow=5.8,SNR=6.6						
	0.4nm,0.4s						

RSNC 13 08:50:48.6±0.0, 7°.N±2°.×73°.W±°, h148km±5km, mb3.7, mB4.6, ML3.0, Mw(mB)3.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.19**	**206**	P	Pn	08 51 07.2	-1.7
BARC				S	Sn	08 51 23.0	-1.4
PAMC	**Pamplona, Colo**	**0.70**	**35**	P	Pn	08 51 10.2	-1.3
PAMC				S	Sn	08 51 27.4	-1.5
RUSC	**La Rusia**	**0.86**	**179**	P	Pn	08 51 11.2	-1.5
RUSC				S	Sn	08 51 30.3	-0.7
TAMC	**Tame, Arauca**	**1.34**	**104**	P	Pn	08 51 15.5	-0.9
TAMC				S	Sn	08 51 36.6	-1.0
PTBC	**PUERTO BERRIO,**	**1.36**	**261**	P	Pn	08 51 14.4	-2.2
PTBC				S	Sn	08 51 36.8	-1.2
SPBC	**San Pablo de B**	**1.47**	**221**	P	Pn	08 51 16.3	-1.5
SPBC				S	Sn	08 51 39.5	-0.6
OCAC	**Ocana**	**1.48**	**352**	P	Pn	08 51 15.5	-2.6
OCAC				S	Sn	08 51 37.1	-3.5
NORC	**Norcasia**	**2.12**	**236**	P	Pn	08 51 23.9	-1.2
NORC				S	Sn	08 51 52.7	-0.5
ROSC	**El Rosal**	**2.26**	**213**	P	Pn	08 51 27.3	+0.2
ROSC				S	Sn	08 51 59.5	+2.8
HELC	**Santa Helena**	**2.48**	**257**	P	Pn	08 51 29.2	-0.5
HELC				S	Sn	08 51 59.5	-1.8
VILC	**Villavicencio,**	**2.70**	**193**	P	Pn	08 51 32.4	+0.2
PTGC	**Puerto Gaitan,**	**2.72**	**159**	P	Pn	08 51 30.4	-2.0
PTGC				S	Sn	08 52 04.0	-2.2
GUY2C	**Guyana, Caldas**	**2.72**	**236**	P	Pn	08 51 31.9	-1.0
GUY2C				S	Sn	08 52 10.1	+3.2
RECRC	**Villamaria, Ca**	**2.87**	**232**	P	Pn	08 51 35.9	+1.1
RECRC				S	Sn	08 52 14.8	+4.5
LL6C	**La Loma 6 Bece**	**2.96**	**357**	P	Pn	08 51 32.1	-3.3
ANIL	**Santa Ana**	**3.21**	**226**	P	Pn	08 51 40.0	+1.1
ANIL				S	Sn	08 52 20.9	+3.1
ARGC	**Ariguani, Magd**	**3.28**	**340**	P	Pn	08 51 38.9	-0.6
ARGC				S	Sn	08 52 18.8	-0.2
ORTC	**Ortega, Tolima**	**3.55**	**217**	P	Pn	08 51 42.6	-0.4
ORTC				S	Sn	08 52 26.0	+0.8
APAC	**Apartado, Choc**	**3.63**	**288**	P	Pn	08 51 41.7	-2.3
APAC				S	Sn	08 52 26.2	-0.8
PLMC	**San Jos del P**	**3.66**	**240**	P	Pn	08 51 43.5	-1.0
PLMC				S	Sn	08 52 29.4	+1.5
SJCC	**San Jacinto, C**	**3.73**	**327**	P	Pn	08 51 42.2	-3.2
SJCC				S	Sn	08 52 24.4	-5.1
GUVC	**San Jose del G**	**4.21**	**174**	P	Pn	08 51 50.2	-1.5
CRJC	**Cerrejon, Guaj**	**4.24**	**3**	P	Pn	08 51 47.8	-4.3
CRJC				S	Sn	08 52 35.3	-6.1
YOTC	**Yotoco, Valle**	**4.25**	**230**	P	Pn	08 51 50.3	-1.9
MACC	**Macarena, Meta**	**4.64**	**189**	P	Pn	08 51 54.7	-2.7
JAMC	**Jamundi, Valle**	**5.01**	**225**	P	Pn	08 52 02.3	0.0
MALC	**Bahia Malaga**	**5.02**	**237**	P	Pn	08 52 02.3	0.0
GARC	**Garzon, Huila**	**5.13**	**208**	P	Pn	08 52 02.0	-2.0
POPC	**Popayan, Colom**	**5.50**	**221**	P	Pn	08 52 08.1	-0.8
	5.7nm,0.6s						
FLOC	**Floncia**	**5.74**	**206**	P	Pn	08 52 10.3	-1.6
BBAC	**Balboa, Cauca**	**6.26**	**221**	P	Pn	08 52 19.3	+0.2

IDC 13 08:51:44.8±1.1, 6°.20S×143°.09E, h0km, mb4.2/3, mbtmp4.2/5, ML1.6/1, Error ellipse: s-maj=41.0km s-min=25.3km az=84.0

ISC 13 08:51:46.2±0.9, 6°.3S±0°.1×143°.0E±0°.1, h10km, n7, σ1^{s}64/8, mb4.0/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.10**	**127**	Pn	Pn	08 53 04.7	+2.0
	1.5nm,0.3s,baz=4.1,slow=14,SNR=2.4						
PMG				Sn	Sn	08 53 59.7	-2.0
	0.8nm,0.3s,baz=283,slow=18,SNR=1.7						
	10.0nm,0.7s						
WRA	**Warramunga Arr**	**15.95**	**211**	Pn	Pn	08 55 29.4	-1.5
	0.3nm,0.3s,baz=33,slow=14,SNR=10						
WRA				Sn	Sn	08 58 17.4	-11
	0.2nm,0.3s,baz=21,slow=20,SNR=4.4						
WRA				Lg	Lg	09 00 14.3	
	0.2nm,0.3s,baz=26,slow=26,SNR=7.0						
ASAR	**Alice Springs**	**19.35**	**206**	P	Pn	08 56 14.1	+1.0
	7.7nm,0.8s,baz=32,slow=10.0,SNR=64						
ASAR				S	Sn	08 59 40.2	-10
	1.2nm,0.8s,baz=19,slow=26,SNR=6.5						
ASAR				Lg	Lg	09 02 01.6	
	baz=140,slow=46						
MKAR	**Makanchi Array**	**75.28**	**322**	P	P	09 03 29.9	+0.4
	0.9nm,0.7s,baz=104,slow=7.8,SNR=7.6						
	0.9nm,0.7s						
QSPA	**South Pole Qui**	**83.64**	**180**	P	P	09 04 14.9	0.0
	1.2nm,1.0s,baz=90,slow=3.0,SNR=2.1						
	1.2nm,1.0s						
BVAR	**Borovoye Array**	**84.73**	**325**	P	P	09 04 20.8	+0.3
	3.8nm,0.7s,baz=96,slow=4.3,SNR=12						
	3.8nm,0.7s						
ILAR	**Eielson Array**	**87.35**	**24**	P	P	09 04 31.9	-1.3
	0.6nm,0.8s,baz=251,slow=4.7,SNR=4.3						

IDC 13 09:09:13.6±3.2, 54°.33N×87°.40E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=25.8km s-min=17.3km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.57**	**257**	I	I	09 20 00.0	
	baz=77,slow=341,SNR=6.1						
ZALV	**Zalesovo Beam**	**1.57**	**257**	Pg	Pn	09 09 40.4	-2.3
	0.6nm,0.3s,baz=76,slow=18,SNR=7.5						
ZALV				Lg	Lg	09 10 03.8	
	1.5nm,0.3s,baz=70,slow=25,SNR=8.1						
KURBB	**Kurchatov Arra**	**6.57**	**239**	Pn	Pn	09 10 52.6	+1.2
	baz=53,slow=13,SNR=3.0						
KURBB				Lg	Lg	09 12 41.6	
	baz=53,slow=34,SNR=2.6						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**8.21**	**205**	Pn	Pn	09 11 15.2	+1.3
	0.1nm,0.3s,baz=24,slow=13,SNR=5.5						
MKAR				Sn	Sn	09 12 46.4	-1.1
	0.1nm,0.3s,baz=24,slow=26,SNR=3.9						
MKAR				Lg	Lg	09 13 35.6	
	0.1nm,0.3s,baz=30,slow=32,SNR=1.9						
	0.2nm,0.5s						

NNC 13 09:15:46.6±2.1, 53°.42N×87°.79E, h0km, mb2.7, mpv2.4, Error ellipse: s-maj=19.0km s-min=7.9km az=61.0, Suspected Mining explosion.

IDC 13 09:15:47.9±2.8, 53°.53N×87°.57E, h0km, mbtmp3.0/2, ML2.4/2, Error ellipse: s-maj=24.6km s-min=13.8km az=64.0

ISC 13 09:15:45.9±3.5, 53°.5N±0°.1×87°.8E±0°.2, h0km, n9, σ1^{s}23/12, 7C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.80**	**284**	I	I	09 25 45.0	
	baz=100,slow=342,SNR=16						
ZAA0	**Zalesovo Array**	**1.80**	**284**	⇑Pn	**Pb**	**09 16 18.9**	**-0.8**
	0.1nm,0.3s						
ZAA0				⇓Sn	**Sg**	**09 16 44.8**	**+1.0**
	6.0nm,0.9s						
ZALV	**Zalesovo Beam**	**1.80**	**284**	Pg	**Pn**	**09 16 18.4**	**+0.2**
	0.8nm,0.3s,baz=100,slow=16,SNR=8.6						
ZALV				Lg	Lg	09 16 41.1	
	1.0nm,0.3s,baz=100,slow=28,SNR=11						
KURK	**Kurchatov**	**6.31**	**247**	⇓Pn	**Pn**	**09 17 21.2**	**+1.1**
KURK				⇑Lg	Lg	09 19 06.4	
	5.3nm,0.8s						
KURBB	**Kurchatov Arra**	**6.40**	**247**	Pn	**Pn**	**09 17 23.1**	**+1.6**
	baz=61,slow=14,SNR=5.0						
KURBB				Lg	Lg	09 19 05.3	
	baz=64,slow=32,SNR=11						
	0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**6.40**	**247**	⇑Pn	**Pn**	**09 17 21.1**	**-0.4**
	0.3nm,0.3s						
KURBB				⇑Lg	Lg	09 19 06.8	
	16nm,0.9s						
MK31	**Makanchi Array**	**7.62**	**210**	⇑Pn	**Pn**	**09 17 38.2**	**0.0**
	baz=29,slow=14						
MK31				⇑Sn	**Sn**	**09 19 04.3**	**-0.8**
	0.1nm,0.5s						
MK31				⇓Lg	Lg	09 19 46.0	
	3.6nm,0.9s,baz=24,slow=31						
MKAR	**Makanchi Array**	**7.62**	**210**	Pn	**Pn**	**09 17 40.4**	**+2.3**
	0.1nm,0.3s,baz=28,slow=13,SNR=11						
MKAR				Sn	**Sn**	**09 19 04.1**	**-1.0**
	0.1nm,0.3s,baz=28,slow=27,SNR=6.8						
MKAR				Lg	Lg	09 19 47.0	
	baz=32,slow=36,SNR=10						
	0.6nm,0.5s						
MAKZ	**Makanchi**	**7.70**	**211**	⇑Pn	**Pn**	**09 17 39.6**	**+0.4**
	0.2nm,0.3s						
MAKZ				⇓Sn	**Sn**	**09 19 06.2**	**-0.9**
	0.3nm,0.5s						
MAKZ				⇓Lg	Lg	09 19 44.1	
	4.7nm,1.1s						

DJA 13 09:26:50.4±0.3, 1°.S±4°.×127°.E±°, h10km, M3.6/10, MLv3.6/10, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.72**	**73**	P	Pb	09 27 04.8	-0.3
LBMI				S	Sg	09 27 14.4	+0.6
SANI	**Sanana**	**1.45**	**215**	P	Pn	09 27 15.6	-1.1
TNTI	**Ternate**	**1.70**	**19**	P	Pn	09 27 20.3	+0.1
NLAI	**Namlea**	**2.39**	**173**	P	Pn	09 27 29.2	-0.5
LUWI	**Luwuk**	**4.04**	**267**	P	Pn	09 27 52.0	-0.4
FAKI	**Fak Fak**	**5.81**	**111**	P	Pn	09 28 17.7	+1.0

SNET 13 09:32:04.0±1.4, 13°.46N×90°.41W, h26km±5km, ML3.0
GCG 13 09:32:08.0±0.6, 13°.67N×90°.55W, h31km±5km, MD3.4

ISC 13 09:32:00.8±2.1, 13°.3N±0°.1×90°.46W±0°.06, h16km±10km, n14, σ0^{s}65/25, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.87**	**50**	*e*P	**Pn**	**09 32 18.8**	**+0.4**
NUBE				*e*S	**Sb**	**09 32 29.4**	**+0.3**
NUBE				IAML		09 32 29.9	
	comp=Z,408nm,0.2s						
CEVE	**Cerro Verde**	**0.95**	**59**	*e*P	**Pn**	**09 32 19.6**	**-0.1**
CEVE				*e*S	**Sn**	**09 32 32.7**	**-0.3**
SNJE	**San Jose**	**0.98**	**57**	*e*P	**Pn**	**09 32 21.0**	**+0.9**
SNJE				*e*S	**Sn**	**09 32 33.2**	**-0.6**
JAYA	**Jayaque - finc**	**1.03**	**72**	*e*P	**Pn**	**09 32 21.8**	**+1.0**
JAYA				*e*S	**Sn**	**09 32 34.7**	**-0.3**
JAYA				IAML		09 32 36.9	
	comp=Z,990nm,0.2s						
PCG	**Pacaya**	**1.06**	**352**	*e*S	**Sb**	**09 32 33.8**	**-0.8**
LALI	**Alcalda de L**	**1.12**	**82**	*e*P	**Pg**	**09 32 22.0**	**-0.4**
LALI				*e*S	**Sn**	**09 32 38.0**	**+1.2**
FUG	**Fuego 3**	**1.17**	**341**	*e*P	**Pg**	**09 32 23.7**	**+0.4**
FUG				*e*S	**Sb**	**09 32 36.9**	**-0.7**
UEES	**Universidad Ev**	**1.25**	**72**	*e*P	**Pg**	**09 32 25.3**	**+0.4**
UEES				*e*S	**Sg**	**09 32 40.6**	**-0.5**
NBG	**Las Nubes**	**1.25**	**5**	*e*P	**Pg**	**09 32 25.9**	**+0.9**
LOMA	**Loma Larga**	**1.29**	**76**	*e*P	**Pb**	**09 32 25.0**	**+0.2**
LOMA				*e*S	**Sg**	**09 32 42.4**	**-0.1**
SJTE	**Alcalda de S**	**1.44**	**79**	*e*P	**Pg**	**09 32 28.2**	**-0.3**
SJTE				*e*S	**Sg**	**09 32 46.7**	**-0.7**
PAVA	**Las Pavas**	**1.53**	**76**	*e*P	**Pb**	**09 32 28.3**	**-0.5**
PAVA				IAML		09 32 51.4	
	comp=Z,152nm,0.3s						
SCLA	**Alcaldia de Sa**	**1.72**	**78**	*e*P	**Pb**	**09 32 31.9**	**-0.2**
SCLA			

0.2nm,0.5s

IDC 13 09:40:18.9±3.1, 53°61N×87°93E, h0km, mbtmp2.5/2, ML2.2/2, Error ellipse: s-maj=27.1km s-min=18.1km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.87**	**282**	I	I	09 51 05.0	
	baz=96,slow=342,SNR=17						
ZALV	**Zalesovo Beam**	**1.87**	**282**	Pn	Pn	09 40 52.8	+0.5
	0.5nm,0.3s,baz=102,slow=12,SNR=13						
ZALV				Lg	Lg	09 41 18.4	
	1.0nm,0.3s,baz=101,slow=28,SNR=18						
KURBB	**Kurchatov Arra**	**6.51**	**246**	Pn	Pn	09 41 56.3	+0.3
	baz=60,slow=14,SNR=5.2						
KURBB				Lg	Lg	09 43 45.2	
	baz=59,slow=31						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**7.72**	**210**	Pn	Pn	09 42 13.7	+1.1
	0.1nm,0.3s,baz=30,slow=12,SNR=2.4						
MKAR				Lg	Lg	09 44 24.2	
	baz=30,slow=30						
	0.1nm,0.5s						

IDC 13 09:43:15.9±1.8, 4°28S×101°56E, h0km, mb4.0/9, mbtmp4.0/10, ML4.0/1, MS2.5/1, Error ellipse: s-maj=76.1km s-min=14.8km az=51.0
DJA 13 09:43:26.4±0.3, 4°S±4°×10°2E±°, h50km±6km, M4.7/14, mb4.8/7, mB5.5/1, MLv4.6/14, Mw(mB)5.0/1
NEIC 13 09:43:26.4±0.6, 4°0S±0°2×102°1E±0°1, h59km±9km, mb4.2/17, Error ellipse: s-maj=27.9km s-min=6.4km az=216.0

ISC 13 09:43:25.9±0.7, 3°92S±0°09×102°10E±0°08, h58km, n54, σ1°31/51, mb4.1/14, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.96**	**117**		**Pn**	**09 43 42.5**	**-0.9**
MNAI				Sn	**Sn**	**09 43 56.3**	**+0.1**
MNAI	**Manna**	**0.96**	**117**	P	**Pn**	**09 43 43.2**	**-0.1**
MNAI				S	**Sn**	**09 43 55.7**	**-0.5**
LHSI	**Lahat**	**1.42**	**86**	P	**Pn**	**09 43 50.2**	**+0.7**
KRJI	**Kerinci**	**1.93**	**341**	P	**Pn**	**09 43 58.6**	**+2.1**
LWLI	**Liwa**	**2.23**	**119**	P	**Pn**	**09 44 00.5**	**-0.2**
PPSI	**Pulau Pagai**	**2.38**	**299**	P	**Pn**	**09 44 03.8**	**+1.2**
JMBI	**JAMBI**	**2.75**	**34**	P	**Pn**	**09 44 08.3**	**+0.7**
KASI	**Kota Agung**	**2.87**	**124**	P	**Pn**	**09 44 08.9**	**-0.3**
PDSI	**Padang**	**3.41**	**331**	P	**Pn**	**09 44 18.2**	**+1.5**
SISI	**Saibi**	**3.96**	**311**	P	**Pn**	**09 44 25.6**	**+1.4**
DSRI	**Dabo**	**4.22**	**36**	P	**Pn**	**09 44 28.2**	**+0.4**
PBSI	**Pulau Batu**	**5.42**	**315**	P	**Pn**	**09 44 45.5**	**+1.3**
	79nm,0.8s,0.7nm						
LEM	**Lembang**	**6.20**	**118**	Pn	**Pn**	**09 44 55.1**	**0.0**
	3.1nm,0.3s,baz=310,slow=22,SNR=1.6						
LEM				Sn	**Sn**	**09 46 11.6**	**+6.8**
	3.3nm,0.3s,baz=321,slow=21,SNR=1.3						
LEM				LR	LR	09 47 08.8	
	comp=Z,41nm,21.7s,baz=62,slow=36						
	11nm,0.4s						
GSI	**Gunungsitoli**	**6.89**	**319**		**Pn**	**09 45 05.1**	**+0.7**
GSI	**Gunungsitoli**	**6.89**	**319**	P	**Pn**	**09 45 05.0**	**+0.7**
	87nm,0.5s,3µm0.4nm						
CMJI	**Cimerak**	**7.39**	**122**	P	**Pn**	**09 45 11.1**	**-0.1**
	25nm,1.0s,0.2nm						
SNSI	**Sinabang, Aceh**	**8.54**	**317**	P	**Pn**	**09 45 27.7**	**+0.8**
	80nm,0.6s						
UGM	**Wanagama**	**9.27**	**116**	Pn	**Pn**	**09 45 36.7**	**-0.2**
UGM	**Wanagama**	**9.27**	**116**	P	**Pn**	**09 45 36.8**	**-0.2**
GMJI	**Gumukmas**	**12.08**	**111**	P	**Pn**	**09 46 15.4**	**0.0**
UBPT	**Khong Chiam**	**19.37**	**10**	P	**Pn**	**09 47 47.8**	**-0.9**
UBPT				IAmb	IAmb	09 47 48.7	
	comp=Z,9.1nm,0.7s						
LUWI	**Luwuk**	**20.85**	**83**	P	**P**	**09 48 02.9**	**-0.3**
LUWI				IAmb	IAmb	09 48 12.6	
	comp=Z,16nm,0.9s						
CMAR	**Chiang Mai Arr**	**22.46**	**352**	P	**P**	**09 48 19.5**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=182,slow=8.2,SNR=5.2						
	comp=Z,1.0nm,0.3s						
FITZ	**Fitzroy Crossi**	**27.01**	**123**	P	**P**	**09 49 03.5**	**+0.9**
H08S2	**Diego Garcia H**	**29.68**	**261**	T	T	10 19 16.6	
	baz=84,slow=76						
H08S3	**Diego Garcia H**	**29.69**	**262**	T	T	10 19 18.0	
	baz=84,slow=76						
H08S1	**Diego Carcia H**	**29.70**	**261**	T	T	10 19 21.2	
	baz=84,slow=76						
WB0	**Warramunga Arr**	**35.20**	**119**	P	**P**	**09 50 12.9**	**-2.0**
WB0				IAmb	IAmb	09 50 26.2	
	comp=Z,9.2nm,1.4s						
WRA	**Warramunga Arr**	**35.22**	**120**	P	**P**	**09 50 14.4**	**-0.7**
WRA	**Warramunga Arr**	**35.22**	**120**	P	**P**	**09 50 14.1**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=301,slow=9.1,SNR=13						
	comp=Z,0.9nm,0.5s						
WB2	**Warramunga Arr**	**35.23**	**120**	P	**P**	**09 50 14.1**	**-1.0**
WR0	**Warramunga Arr**	**35.40**	**119**	P	**P**	**09 50 15.0**	**-1.6**
WR0				IAmb	IAmb	09 50 19.5	
	comp=Z,3.7nm,1.1s						
AS31	**Alice Springs**	**36.43**	**126**	P	**P**	**09 50 25.0**	**-0.4**
AS31				IAmb	IAmb	09 50 29.7	
	comp=Z,1.5nm,0.3s						
ASAR	**Alice Springs**	**36.43**	**126**	P	**P**	**09 50 24.4**	**-1.0**
ASAR	**Alice Springs**	**36.43**	**126**	P	**P**	**09 50 24.1**	**-1.3**
	comp=Z,1.3nm,0.6s,baz=301,slow=8.1,SNR=19						
	comp=Z,1.3nm,0.6s						
BBOO	**Buckleboo**	**42.82**	**136**	P	**P**	**09 51 17.6**	**-0.7**
STKA	**Stephens Creek**	**46.31**	**132**	P	**P**	**09 51 45.9**	**-0.3**
STKA	**Stephens Creek**	**46.31**	**132**	P	**P**	**09 51 45.8**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=280,slow=8.7,SNR=5.0						
	comp=Z,1.9nm,0.5s						
JMN	**Monobe**	**47.99**	**36**	P	**P**	**09 51 59.7**	**+0.4**
SONM	**Songino Array**	**51.68**	**4**	P	**P**	**09 52 27.8**	**+0.7**
SONM				IAmb	IAmb	09 52 28.1	
	comp=Z,1.1nm,0.7s						
SONM	**Songino Array**	**51.68**	**4**	P	**P**	**09 52 27.3**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=182,slow=8.7,SNR=4.2						
	comp=Z,1.4nm,0.7s						
BOOM	**Boomskoye usch**	**51.93**	**336**	P	**P**	**09 52 29.1**	**-0.1**
BOOM				IAmb	IAmb	09 52 32.9	
	comp=Z,1.6nm,0.8s						
MK31	**Makanchi Array**	**53.45**	**343**	P	**P**	**09 52 39.5**	**-0.6**
MK31				IAmb	IAmb	09 52 40.1	
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**53.45**	**343**	P	**P**	**09 52 39.5**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=154,slow=8.9,SNR=21						
	comp=Z,1.1nm,0.5s						
KK31	**Karatay Array**	**54.82**	**332**	P	**P**	**09 52 50.4**	**+0.2**
KKAR	**Karatay Array**	**54.82**	**332**	P	**P**	**09 52 50.5**	**+0.4**
KURBB	**Kurchatov Arra**	**57.99**	**343**	P	**P**	**09 53 11.6**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=163,slow=6.9,SNR=7.2						
	comp=Z,0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**59.45**	**348**	P	**P**	**09 53 21.7**	**-0.9**
	comp=Z,1.5nm,0.5s,baz=181,slow=7.2,SNR=7.4						
	comp=Z,1.5nm,0.5s						
H04N2	**CROZET ISLANDS**	**60.54**	**218**	T	T	10 58 32.2	
	baz=60,slow=75,SNR=23						
H04N1	**CROZET ISLANDS**	**60.55**	**218**	T	T	10 58 33.8	
	baz=60,slow=75,SNR=40						
H04N3	**CROZET ISLANDS**	**60.56**	**218**	T	T	10 58 38.1	
	baz=60,slow=75,SNR=46						
BVAR	**Borovoye Array**	**62.71**	**339**	P	**P**	**09 53 43.5**	**-1.3**
	comp=Z,1.0nm,0.4s,baz=139,slow=7.9,SNR=7.0						
	comp=Z,1.0nm,0.4s						
ABKAR	**Akbulak array**	**64.33**	**331**		**P**	**09 53 54.8**	**-0.7**
TXAR	**Lajitas Array**	**144.85**	**41**	PKPbc	**PKPab**	**10 02 56.0**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=285,slow=1.0,SNR=6.3						

IDC 13 09:43:51.2±3.7, 15°13N×93°39W, h0km, mb3.7/3, mbtmp3.7/6, ML3.8/2, MS3.4/9, Error ellipse: s-maj=144.9km s-min=30.8km az=40.0
MEX 13 09:43:57.8±0.7, 15°03N×94°26W, h17km±10km, MD4.3
NEIC 13 09:43:58.7±2.0, 15°02N±0°06×94°24W±0°04, h35km±9km, mb4.2/80, Md4.3/67(MEX), Error ellipse: s-maj=8.1km s-min=5.1km az=189.0

ISC 13 09:43:57.1±3.3, 14°96N±0°04×94°30W±0°03, h32km±26km, n156, σ1°89/190, mb4.2/33, MS3.4/8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.27**	**54**		**Pn**	**09 44 16.9**	**-1.8**
PCIG					**Sn**	**09 44 31.5**	**-3.2**
PCIG		**1.27**	**54**	*e*P	**Pn**	**09 44 16.9**	**-1.8**
PCIG				*e*S	**Sn**	**09 44 31.5**	**-3.2**
CARR	**Arriaga**	**1.33**	**16**	*e*P	**Pn**	**09 44 17.9**	**-1.6**
CARR				*e*S	**Sn**	**09 44 32.4**	**-3.7**
NILT	**Santiago Nilte**	**1.62**	**349**	*e*P	**Pn**	**09 44 21.8**	**-1.7**
NILT				*e*S	**Sn**	**09 44 40.0**	**-3.2**
HUIG	**Huatulco**	**1.92**	**295**		**Pn**	**09 44 26.6**	**-1.0**
HUIG					**Sn**	**09 44 46.5**	**-4.2**
HUIG	**Huatulco**	**1.92**	**295**	*e*P	**Pn**	**09 44 26.6**	**-1.0**
HUIG				*e*S	**Sn**	**09 44 46.5**	**-4.2**
THIG		**1.96**	**91**		**Pn**	**09 44 26.4**	**-1.7**
THIG					**Sn**	**09 44 49.6**	**-2.1**
THIG		**1.96**	**91**	*e*P	**Pn**	**09 44 26.4**	**-1.7**
THIG				*e*S	**Sn**	**09 44 49.6**	**-2.1**
PATR	**El Naranjo**	**2.00**	**85**	*e*P	**Pn**	**09 44 26.8**	**-2.0**
PATR				*e*S	**Sn**	**09 44 50.2**	**-2.7**
PAVE	**Pavencul**	**2.06**	**83**	*e*P	**Pn**	**09 44 28.4**	**-1.2**
PAVE				*e*S	**Sn**	**09 44 52.2**	**-2.2**
CHUJ	**Union Juarez**	**2.12**	**86**	*e*P	**Pn**	**09 44 29.1**	**-1.3**
CHUJ				*e*S	**Sn**	**09 44 53.1**	**-2.8**
TGIG		**2.13**	**32**		**Pn**	**09 44 30.1**	**-0.4**
TGIG					**Sn**	**09 44 55.0**	**-0.9**
TGIG		**2.13**	**32**	*e*P	**Pn**	**09 44 30.1**	**-0.4**
TGIG				*e*S	**Sn**	**09 44 55.0**	**-0.9**
TGBT	**Tuxtla Gutierr**	**2.15**	**33**	*e*P	**Pn**	**09 44 30.3**	**-0.3**
TGBT				*e*S	**Sn**	**09 44 56.1**	**0.0**
CMIG	**Matias Romero**	**2.19**	**345**	Pn	**Pn**	**09 44 30.6**	**-0.7**
	54nm,0.3s,baz=180,slow=13,SNR=1040						
CMIG				Sn	**Sn**	**09 44 55.6**	**-1.7**
	194nm,0.3s,baz=71,slow=20,SNR=26						
CMIG				LR	LR	09 45 30.4	
	comp=Z,344nm,21.7s,baz=206,slow=41						
	156nm,0.4s						
CMIG	**Matias Romero**	**2.19**	**345**	*e*P	**Pn**	**09 44 30.6**	**-0.7**
CMIG				*e*S	**Sn**	**09 44 55.7**	**-1.6**
UXUV	**UXUV**	**2.35**	**4**	*e*P	**Pn**	**09 44 33.7**	**+0.3**
UXUV				*e*S	**Sn**	**09 45 00.2**	**-0.9**
SMSP	**San Marcos**	**2.43**	**89**	*e*P	**Pn**	**09 44 34.0**	**-0.8**
SMSP				*e*S	**Sn**	**09 45 03.0**	**-0.7**
CCIG	**Comitan**	**2.46**	**57**		**Pn**	**09 44 36.1**	**+1.0**
CCIG	**Comitan**	**2.46**	**57**	*e*P	**Pn**	**09 44 36.1**	**+1.0**
CCIG				*e*S	**Sn**	**09 45 04.6**	**+0.5**
RTAL	**Retalhuleu**	**2.55**	**99**		**Pn**	**09 44 35.6**	**-0.7**
RTAL	**Retalhuleu**	**2.55**	**99**	*e*P	**Pn**	**09 44 34.4**	**-1.9**
RTAL				*e*S	**Sn**	**09 45 04.2**	**-2.1**
HUEH	**Huehuetenango**	**2.72**	**82**		**Pn**	**09 44 40.0**	**+1.2**
HUEH	**Huehuetenango**	**2.72**	**82**	*e*P	**Pn**	**09 44 39.5**	**+0.7**
HUEH				*e*S	**Sn**	**09 45 09.8**	**-0.9**
PEIG	**Puerto Escondi**	**2.94**	**291**		**Pn**	**09 44 41.1**	**-0.5**
PEIG	**Puerto Escondi**	**2.94**	**291**	*e*P	**Pn**	**09 44 41.1**	**-0.5**
PEIG				*e*S	Sn	09 45 07.0	-8.7
TUIG	**Tuzandepetl**	**3.06**	**358**	*e*P	**Pn**	**09 44 42.6**	**-0.6**
TUIG				*e*S	**Sn**	**09 45 17.2**	**-1.5**
NEUV	**Arroyo Zacate**	**3.09**	**332**	*e*P	**Pn**	**09 44 43.2**	**-0.5**
NEUV				*e*S	**Sn**	**09 45 17.8**	**-1.8**
OXIG	**Oaxaca**	**3.15**	**312**		**Pn**	**09 44 46.1**	**+1.5**
OXIG					**Sn**	**09 45 19.9**	**-1.3**
VHO	**Vista Hermosa**	**3.15**	**312**	*e*P	**Pn**	**09 44 46.1**	**+1.5**
VHO				*e*S	**Sn**	**09 45 19.9**	**-1.3**
PMUV	**Sontecomapan**	**3.65**	**348**	*e*P	**Pn**	**09 44 49.3**	**-2.1**
PMUV				*e*S	**Sn**	**09 45 26.3**	**-7.1**
YOIG	**Yosondua**	**3.65**	**301**		**Pn**	**09 44 53.2**	**+1.7**
YOIG	**Yosondua**	**3.65**	**301**	*e*P	**Pn**	**09 44 53.2**	**+1.7**
YOIG				*e*S	**Sn**	**09 45 32.6**	**-1.1**
PNIG	**Pinotepa**	**3.96**	**292**		**Pn**	**09 44 56.0**	**+0.4**
PNIG	**Pinotepa**	**3.96**	**292**	*e*P	**Pn**	**09 44 56.0**	**+0.4**
PNIG				*e*S	**Sn**	**09 45 35.4**	**-5.5**
TXIG	**Tlaxiaco**	**4.04**	**305**		**Pn**	**09 44 58.8**	**+1.9**
TXIG	**Tlaxiaco**	**4.04**	**305**	*e*P	**Pn**	**09 44 58.8**	**+1.9**
TXIG				*e*S	**Sn**	**09 45 36.4**	**-7.0**
TOIG	**Toxpalan**	**4.09**	**320**		**Pn**	**09 45 00.2**	**+2.7**
TOIG					**Sn**	**09 45 43.7**	**-0.7**
TOIG	**Toxpalan**	**4.09**	**320**	*e*P	**Pn**	**09 45 00.2**	**+2.7**
TOIG				*e*S	**Sn**	**09 45 43.7**	**-0.7**
HLIG	**Huajuapan de L**	**4.41**	**311**		**Pn**	**09 45 04.5**	**+2.5**
HLIG					**Sn**	**09 45 51.1**	**-1.3**
HLIG	**Huajuapan de L**	**4.41**	**311**	*e*P	**Pn**	**09 45 04.5**	**+2.5**
HLIG				*e*S	**Sn**	**09 45 51.1**	**-1.3**
TPIG	**Tehuac#an**	**4.52**	**320**		**Pn**	**09 45 05.2**	**+1.7**
TPIG					**Sn**	**09 45 53.4**	**-1.7**
TPIG	**Tehuac#an**	**4.52**	**320**	*e*P	**Pn**	**09 45 05.2**	**+1.7**
TPIG				*e*S	**Sn**	**09 45 53.4**	**-1.7**
PETF	**Flores**	**4.68**	**65**		**Pn**	**09 45 06.4**	**+0.8**
PETF	**Flores**	**4.68**	**65**	*e*P	**Pn**	**09 45 03.2**	**-2.4**
PETF				*e*S	**Sn**	**09 45 56.0**	**-2.8**
FTIG	**Fresnillo de T**	**4.70**	**309**	*e*P	**Pn**	**09 45 07.2**	**+1.2**
FTIG				*e*S	**Sn**	**09 45 57.7**	**-1.8**
MGIG	**Malinaltepec**	**4.74**	**299**		**Pn**	**09 45 08.7**	**+2.2**
MGIG	**Malinaltepec**	**4.74**	**299**	*e*P	**Pn**	**09 45 08.7**	**+2.2**
MGIG				*e*S	**Sn**	**09 45 57.3**	**-3.3**
ESQI	**Esquipulas**	**4.81**	**94**	Pn	**Pn**	**09 45 07.6**	**+0.2**
MTO3	**Montecristo**	**4.81**	**96**		**Pn**	**09 45 08.0**	**+0.5**
TLIG	**Tlapa**	**4.85**	**303**	Pn	**Pn**	**09 45 09.3**	**+1.3**
TLIG	**Tlapa**	**4.85**	**303**	*e*P	**Pn**	**09 45 10.0**	**+2.1**
TLIG				*e*S	**Sn**	**09 46 01.3**	**-1.8**
SCIG	**Sabancuy**	**4.97**	**36**	*e*P	**Pn**	**09 45 08.3**	**-1.2**
SCIG				*e*S	**Sn**	**09 46 00.3**	**-5.6**
CRIG	**Cruz Grande**	**4.98**	**291**		**Pn**	**09 45 11.3**	**+1.7**
CRIG	**Cruz Grande**	**4.98**	**291**	*e*P	**Pn**	**09 45 11.3**	**+1.7**
CRIG				*e*S	**Sn**	**09 45 59.7**	**-6.3**
JAUV	**Jalcomulco**	**4.99**	**332**	*e*P	**Pn**	**09 45 07.9**	**-1.9**
JAUV				*e*S	**Sn**	**09 46 00.3**	**-6.2**
SNET	**Serv Nac Est T**	**5.07**	**104**	Pn	**Pn**	**09 45 12.8**	**+1.8**
PPM	**Popocatepetl**	**5.81**	**315**	*e*P	**Pn**	**09 45 26.1**	**+4.6**
PPIG	**Popocatepetl**	**5.82**	**315**		**Pn**	**09 45 26.1**	**+4.5**
UNM	**Universidad Na**	**6.37**	**314**	Pn	**Pn**	**09 45 27.9**	**-1.1**
TEIG	**Tepich**	**7.77**	**47**	Pn	**Pn**	**09 45 46.7**	**-1.2**
MATN	**Matagalpa**	**8.37**	**103**		**Pn**	**09 45 56.5**	**+0.1**
BOAB	**BOACO BROADBAN**	**8.75**	**106**	Pn	**Pn**	**09 46 01.9**	**+0.4**
ORTG	**Ortega, Santa**	**9.76**	**117**	Pn	**Pn**	**09 46 15.9**	**+0.6**
JTS	**Las Juntas de**	**10.23**	**116**	Pn	Pn	09 46 09.4	-12
	0.4nm,0.3s,baz=280,slow=12,SNR=1.8						
	1.3nm,0.4s						
RIMA	**Rio Macho**	**11.42**	**116**		**Pn**	**09 46 37.9**	**-0.3**
PEZE	**Perez Zeledon,**	**11.77**	**117**	Pn	**Pn**	**09 46 42.3**	**-0.6**
SOR	**Soroa**	**13.21**	**52**	Pn	**Pn**	**09 47 03.4**	**+0.9**
833A	**Chaparral WMA,**	**14.11**	**341**		**Pn**	**09 47 13.7**	**-1.0**
HNDO	**Hondo**	**15.21**	**343**		**Pn**	**09 47 29.5**	**-0.1**
DRIO	**Del Rio**	**15.53**	**339**	Pn	**Pn**	**09 47 33.5**	**-0.3**
JCT	**Junction City**	**16.25**	**343**	Pn	**Pn**	**09 47 43.9**	**+0.9**
TXAR	**Lajitas Array**	**16.72**	**330**	P	**P**	**09 47 52.1**	**+1.0**
	1.1nm,0.8s,baz=150,slow=13,SNR=4.9						
BRDY	**Brady**	**16.81**	**346**	P	**P**	**09 47 52.8**	**+0.8**
OZNA	**Ozona**	**17.08**	**340**	P	**P**	**09 47 56.5**	**+1.5**
WHTX	**Lake Whitney,**	**17.20**	**351**	P	**Pn**	**09 47 53.8**	**-1.1**
WHTX				IAmb	IAmb	09 48 01.9	
	comp=Z,7.6nm,0.6s						
PLPT	**Palo Pinto**	**18.14**	**349**	P	**P**	**09 48 07.3**	**+0.6**
ABTX	**Abilene, Hawle**	**18.24**	**345**	P	**P**	**09 48 08.5**	**+0.7**
SN07	**Snyder 07**	**19.02**	**343**	P	**P**	**09 48 16.9**	**+0.5**
APMT	**Aspermont**	**19.03**	**345**	P	**P**	**09 48 16.3**	**-0.1**
MIAR	**Mount Ida**	**19.51**	**2**	P	**P**	**09 48 20.8**	**-0.8**
WMOK	**Wichita Mounta**	**20.10**	**349**	P	**P**	**09 48 28.0**	**-0.1**
W35A	**Tecumseh**	**20.24**	**354**	P	**P**	**09 48 29.4**	**-0.2**
W35A				IAmb	IAmb	09 48 48.5	
	comp=Z,12nm,1.2s						
FNO	**Franklin**	**20.40**	**353**	P	**P**	**09 48 31.5**	**+0.2**
MSTX	**Muleshoe**	**20.42**	**339**	P	**P**	**09 48 31.9**	**+0.2**
MSTX				IAmb	IAmb	09 48 49.8	
	comp=Z,9.0nm,1.1s						
SMWD	**Samnorwood**	**20.76**	**346**	P	**P**	**09 48 35.7**	**+0.4**
SMWD				IAmb	IAmb	09 48 42.1	
	comp=Z,6.1nm,0.7s						
AMTX	**Amarillo**	**20.92**	**343**	P	**P**	**09 48 37.5**	**+0.4**
AMTX				IAmb	IAmb	09 48 39.6	
	comp=Z,11nm,0.7s						
FCAR	**Ozark Folk Cen**	**20.93**	**5**	P	**P**	**09 48 38.0**	**+0.9**
HHAR	**Hobbs**	**21.23**	**1**	P	**P**	**09 48 42.0**	**+1.6**
319A	**Douglas**	**21.33**	**323**	P	**P**	**09 48 43.6**	**+2.0**
319A				IAmb	IAmb	09 48 45.2	
	comp=Z,8.4nm,1.0s						
121A	**Cookes Peak, D**	**21.37**	**327**	P	**P**	**09 48 44.4**	**+2.3**
121A				IAmb	IAmb	09 48 46.2	
	comp=Z,11nm,0.9s						
CROK	**Carrier**	**21.70**	**352**	P	**P**	**09 48 46.5**	**+1.0**
CROK				IAmb	IAmb	09 48 47.4	
	comp=Z,10nm,0.6s						
T35A	**Sooner Cattle**	**21.95**	**355**	P	**P**	**09 48 47.4**	**-0.6**
KAN08	**Anthony NE Sta**	**22.41**	**352**	P	**P**	**09 48 53.7**	**+0.7**
KAN12	**Harper NE Stat**	**22.49**	**352**	P	**P**	**09 48 54.4**	**+0.6**
S39A	**Bolivar**	**22.65**	**2**	P	**P**	**09 48 55.7**	**+0.1**
S39A				IAmb	IAmb	09 48 56.0	
	comp=Z,4.0nm,0.8s						
TKL	**Tuckaleechee C**	**22.66**	**23**	P	**P**	**09 48 54.6**	**-1.1**
RTBA	**Rita Blanca**	**22.68**	**342**	P	**P**	**09 48 55.2**	**-0.7**
RTBA				IAmb	IAmb	09 48 59.5	
	comp=Z,14nm,1.5s						
ANMO	**Albuquerque**	**22.71**	**333**	P	**P**	**09 48 57.5**	**+1.1**
R32A	**Long Quarter,**	**23.69**	**351**	P	**P**	**09 49 06.4**	**+0.3**
R32A				IAmb	IAmb	09 49 06.7	
	comp=Z,12nm,0.8s						
T25A	**Trinidad**	**23.85**	**340**	P	**P**	**09 49 09.0**	**+1.3**
T25A				IAmb	IAmb	09 49 13.5	
	comp=Z,4.2nm,0.8s						
SDV	**Santo Domingo**	**23.91**	**102**	LR	LR	09 57 40.1	
	comp=Z,52nm,21.7s,baz=72,slow=36						
X18A	**Snowflake**	**24.06**	**327**	P	**P**	**09 49 10.8**	**+1.1**
X18A				IAmb	IAmb	09 49 14.1	
	comp=Z,4.5nm,1.0s						
CBKS	**Cedar Bluff**	**24.24**	**350**	P	**P**	**09 49 11.9**	**+0.7**
CBKS				IAmb	IAmb	09 49 14.0	
	comp=Z,9.2nm,0.8s						
X16A	**Lo Mia Camp, P**	**24.79**	**324**	P	**P**	**09 49 16.4**	**0.0**
X16A				IAmb	IAmb	09 49 20.9	
	comp=Z,4.7nm,1.1s						
WUAZ	**Wupatki**	**25.57**	**326**	P	**P**	**09 49 25.0**	**+1.7**
WUAZ				IAmb	IAmb	09 49 28.8	
	comp=Z,4.2nm,0.9s						
PV17	**East Wray Mesa**	**26.60**	**334**	P	**P**	**09 49 34.0**	**+1.2**
PV17				IAmb	IAmb	09 49 36.1	
	comp=Z,4.0nm,1.1s						
PFO	**Pinyon Flats O**	**27.33**	**317**	LR	LR	09 59 58.2	
	comp=Z,95nm,19.9s,baz=124,slow=35						
K30B	**Basset**	**27.99**	**352**	P	**P**	**09 49 46.3**	**+1.3**
F36A	**Milaca**	**30.81**	**1**	P	**P**	**09 50 07.7**	**-2.2**
F36A				IAmb	IAmb	09 50 36.0	
	comp=Z,8.4nm,1.2s						
ELK	**Elko**	**31.50**	**329**	LR	LR	10 05 03.7	
	comp=Z,86nm,19.6s,baz=150,slow=40						
NVAR	**Mina Array Bea**	**31.54**	**322**	P	**P**	**09 50 19.2**	**+2.5**
	comp=Z,1.1nm,0.8s,baz=130,slow=9.5,SNR=9.1						
NVAR				LR	LR	10 04 50.9	
	comp=Z,83nm,20.8s,baz=66,slow=40						
	comp=Z,1.1nm,0.8s						
NNA	**Nana**	**31.87**	**146**	LR	LR	10 00 32.5	
	comp=Z,47nm,20.5s,baz=340,slow=32						
ILAM	**Ilet Lapin Mar**	**32.29**	**86**	P	**P**	**09 50 23.2**	**0.0**
B35A	**Bob, Littlefor**	**33.30**	**1**	P	**P**	**09 50 30.0**	**-1.8**
J08A	**Circle Bar Ran**	**35.05**	**329**		**P**	**09 50 49.0**	**+1.9**
PLID	**Pearl Lake**	**35.19**	**333**	P	**P**	**09 50 49.6**	**+1.1**
PLID				IAmb	IAmb	09 50 50.3	
	comp=Z,1.6nm,0.9s						
YBH	**Yreka Blue Hor**	**36.25**	**323**	LR	LR	10 07 30.8	
	comp=Z,89nm,21.2s,baz=154,slow=39						
ETMB	**Extrema**	**37.16**	**130**	P	**P**	**09 51 04.2**	**-1.1**
ETMB				IAmb	IAmb	09 51 27.1	
	comp=Z,4.7nm,1.4s						
EDM	**Edmonton**	**41.03**	**343**	P	**P**	**09 51 38.5**	**+1.2**
EDM				IAmb	IAmb	09 51 48.2	
	comp=Z,6.0nm,1.2s						
YKA	**Yellowknife Ar**	**49.60**	**348**	P	**P**	**09 52 44.8**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=154,slow=6.9,SNR=11						
	comp=Z,0.8nm,0.8s						
BERG	**Berg Lake**	**57.66**	**333**	P	**P**	**09 53 44.0**	**-0.1**
G31M	**Satah River**	**58.15**	**343**	P	**P**	**09 53 47.3**	**-0.1**
BCAR	**Beaver Creek A**	**58.27**	**337**	P	**P**	**09 53 49.4**	**+1.0**
INK	**Inuvik**	**58.90**	**344**	P	**P**	**09 53 52.8**	**+0.2**
INK				IAmb	IAmb	09 54 15.9	
	comp=Z,5.2nm,1.5s						
G29M	**Pine Cre

WEL ***13*** *09:57:20.8±0.6, 32°S×8°×18°0W×1°9, h258km±13km, M4.3/23, mB4.8/14, ML4.9/25, MLv4.8/23, Mw(mB)4.1/14, Error ellipse: s-maj=0.0km s-min=0.0km az=110.4*
NOU ***13*** *09:58:10.1, 36°44S×177°93E, h321km, MLv4.5/7, Off E. Coast of N. Island, N.Z.*

ISC 13 09:57:18.1±1.6, 32°4S±0°1×179°7W±0°2, h300km, n43, σ1s76/55, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
GLKZ	**Green Lake**	**3.45**	**26**	S		**S**	**09 59 05.1**	**-1.6**
MXZ	**Matakaoa Point**	**5.43**	**197**	P		**Pn**	**09 58 44.5**	**+3.9**
MXZ				S		**S**	**09 59 48.2**	**+1.2**
WMGZ	**Waiomatatini S**	**5.65**	**196**	P		**Pn**	**09 58 44.8**	**+1.6**
WMGZ				S		**S**	**09 59 52.4**	**+0.7**
WIZ	**White Island**	**5.75**	**206**	P		**Pn**	**09 58 47.3**	**+2.9**
HAZ	**Te Kaha**	**5.76**	**201**	P		**Pn**	**09 58 45.4**	**+1.0**
PKGZ	**Pakihiroa**	**5.80**	**198**	P		**Pn**	**09 58 46.0**	**+1.0**
PKGZ				S		**S**	**09 59 52.9**	**-2.1**
PUZ	**Puketiti**	**5.93**	**196**	P		**Pn**	**09 58 47.3**	**+0.8**
PUZ				S		**S**	**09 59 56.9**	**-0.8**
RUGZ	**Raukumara Rang**	**5.99**	**201**	P		**Pn**	**09 58 48.6**	**+1.3**
RUGZ				S		**S**	**09 59 58.0**	**-1.1**
TWGZ	**Tauwhareparae**	**6.10**	**198**	P		**Pn**	**09 58 51.8**	**+3.3**
TWGZ				S		**S**	**10 00 03.0**	**+1.6**
WCZ	**Waipu Caves**	**6.12**	**233**	P		**Pn**	**09 58 49.9**	**+1.2**
CNGZ	**Carnagh Statio**	**6.33**	**195**	P		**Pn**	**09 58 52.7**	**+1.4**
MWZ	**Matawai**	**6.37**	**200**	P		**Pn**	**09 58 51.7**	**-0.1**
MWZ				S		**S**	**10 00 06.4**	**-1.0**
TKGZ	**Te Karaka**	**6.38**	**198**	P		**Pn**	**09 58 52.1**	**+0.2**
TKGZ				S		**S**	**10 00 06.5**	**-1.0**
URZ	**Urewera**	**6.43**	**203**	P		**Pn**	**09 58 51.9**	**-0.6**
URZ				S		**S**	**10 00 06.8**	**-1.9**
RAGZ	**Rawiri**	**6.55**	**201**	P		**Pn**	**09 58 56.4**	**+2.4**
RAGZ				S		**S**	**10 00 12.5**	**+1.0**
RIGZ	**Rimuhau**	**6.65**	**198**	P		**Pn**	**09 58 58.4**	**+3.2**
RIGZ				S		**S**	**10 00 13.4**	**-0.2**
MUGZ	**Murupara**	**6.75**	**205**	P		**Pn**	**09 58 58.3**	**+2.0**
MUGZ				S		**S**	**10 00 14.3**	**-1.4**
RTZ	**Ruatahuna**	**6.80**	**203**	P		**Pn**	**09 58 58.9**	**+1.8**
RTZ				S		**S**	**10 00 16.4**	**-0.5**
HSRZ	**Hossack Road**	**6.80**	**208**	P		**Pn**	**09 59 00.7**	**+3.7**
PRGZ	**Paritu Road**	**6.83**	**196**	P		**Pn**	**09 59 00.2**	**+2.9**
SNGZ	**Shannon Statio**	**6.84**	**200**	P		**Pn**	**09 58 56.5**	**-0.9**
PRRZ	**Plateau Road**	**6.91**	**207**	P		**Pn**	**09 59 00.4**	**+2.1**
ALRZ	**Allen Road**	**6.98**	**207**	P		**Pn**	**09 59 00.8**	**+1.7**
RAHZ	**Arahi**	**7.04**	**201**	P		**Pn**	**09 59 01.0**	**+1.1**
MTHZ	**Maungataniwha**	**7.06**	**203**	P		**Pn**	**09 59 01.8**	**+1.7**
WHHZ	**Waihua**	**7.14**	**200**	P		**Pn**	**09 59 03.1**	**+2.0**
NMHZ	**Naumai**	**7.29**	**202**	P		**Pn**	**09 59 02.5**	**-0.5**
WATZ	**Wairara**	**7.35**	**210**	P		**Pn**	**09 59 05.7**	**+2.0**
BKZ	**Black Stump Fm**	**7.46**	**204**	P		**Pn**	**09 59 06.1**	**+1.1**
BKZ	**Black Stump Fm**	**7.46**	**204**	P		**Pn**	**09 59 05.8**	**+0.8**
HIZ	**Hauiti**	**7.58**	**215**	P		**Pn**	**09 59 09.8**	**+3.3**
MCHZ	**McNeill Hill**	**7.64**	**202**	P		**Pn**	**09 59 08.4**	**+1.2**
CKHZ	**Cape Kidnapper**	**7.73**	**199**	P		**Pn**	**09 59 10.4**	**+2.1**
WTVZ	**West Tongariro**	**7.75**	**209**	P		**Pn**	**09 59 09.5**	**+0.8**
NGZ	**Ngauruhoe**	**7.80**	**208**	P		**Pn**	**09 59 10.2**	**+0.9**
PXZ	**Pawanui**	**8.14**	**199**	P		**Pn**	**09 59 13.5**	**+0.3**
WPHZ	**Waipukurau**	**8.29**	**201**	P		**Pn**	**09 59 15.4**	**+0.2**
ANWZ	**Angora Road**	**8.64**	**200**	P		**Pn**	**09 59 20.1**	**+0.6**
BFZ	**Birch Farm**	**8.92**	**201**	P		**Pn**	**09 59 22.9**	**+0.1**
SNZO	**South Karori**	**9.99**	**205**	P		**Pn**	**09 59 33.9**	**-2.1**
KHZ	**Kahutara**	**11.38**	**206**	P		Pn	09 59 49.6	-3.4
	50nm,2.5s							
ODZ	**Otahua Downs**	**14.72**	**208**	P		**P**	**10 00 31.1**	**-0.9**
JCZ	**Jackson Bay**	**14.78**	**215**	P		**P**	**10 00 31.5**	**-1.2**

KRNET ***13*** *10:02:26.1±0.1, 43°66N×69°56E, mb2.9*
SOME ***13*** *10:02:27.1, 43°40N×69°41E*
NNC ***13*** *10:02:28.6±1.3, 43°60N×69°70E, h0km, mb3.5, mpv2.9, Error ellipse: s-maj=7.3km s-min=6.4km az=151.0, Suspected Mining explosion.*

ISC 13 10:02:29.6±2.1, 43°65N±0°07×69°75E±0°09, h0km, n15, σ1s22/25, 21C-1D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
BRLS	**Boroldaу**	**0.62**	**174**	P		**Pb**	**10 02 43.7**	**+0.4**
	3.8nm,0.3s							
BRLS				S		**Sn**	**10 02 56.3**	**0.0**
	11nm,0.5s							
KK31	**Karatay Array**	**0.78**	**134**	⇓P		**Pg**	**10 02 43.8**	**-0.6**
	1.9nm,0.5s,baz=314,slow=16,SNR=208							
KK31				⇑S		**Sg**	**10 02 54.5**	**-0.1**
	34nm,0.6s,baz=308,slow=31,SNR=138							
KKAR	**Karatay Array**	**0.78**	**134**	⇑*i*P		**Pg**	**10 02 43.1**	**-1.4**
	baz=28							
KKAR				⇑*i*S		**Sb**	**10 02 55.9**	**-1.2**
	baz=28							
MNAS	**Manas**	**2.33**	**119**	⇑*i*P		**Pn**	**10 03 09.9**	**+0.6**
	baz=17							
MNAS				⇑*i*S		**Sb**	**10 03 41.5**	**-0.4**
	baz=17							
TRKS	**Terek-Say**	**2.35**	**154**	⇑*i*P		**Pn**	**10 03 10.4**	**+0.8**
	baz=51							
TRKS				⇑*i*S		**Sb**	**10 03 42.6**	**+0.1**
	baz=51							
ARK	**Arkit**	**2.46**	**138**	⇑*i*P		**Pn**	**10 03 11.5**	**+0.4**
	baz=36							
ARK				⇑*i*S		**Sb**	**10 03 44.2**	**-1.6**
	baz=36							
MRKS	**Merke**	**2.70**	**108**	Pg		**Pb**	**10 03 18.3**	**-0.5**
	4.6nm,0.5s							
MRKS				Lg		Lg	10 03 55.1	
	6.2nm,0.3s							
EKS2	**Erkin-Say**	**3.11**	**107**	⇑*i*P		**Pn**	**10 03 20.6**	**+0.6**
	baz=6.0							
EKS2				⇑*i*S		**Sn**	**10 04 00.4**	**+2.5**
	baz=6.0							
BTLS	**Baital**	**3.38**	**64**	Pg		**Pg**	**10 03 33.2**	**-1.2**
	12nm,0.5s							
BTLS				Lg		Lg	10 04 21.1	
	4.5nm,0.8s							
USP	**Ospenovka**	**3.48**	**95**	⇑*i*P		**Pn**	**10 03 25.6**	**+0.6**
	baz=95							
USP				⇑*i*S		**Sn**	**10 04 09.0**	**+2.0**
	baz=95							
AAK	**Ala-Archa**	**3.62**	**105**	⇑*i*P		**Pn**	**10 03 27.5**	**+0.5**
	baz=4.0							
AAK				⇑*i*S		**Sn**	**10 04 12.6**	**+2.1**
	baz=4.0							
CHMS	**Chumysh**	**3.71**	**98**	⇑Pg		**Pb**	**10 03 34.3**	**-1.7**
	1.3nm,0.5s							
CHMS				⇑Lg		Lg	10 04 29.2	
	4.9nm,0.7s							
CHMS	**Chumysh**	**3.71**	**98**	⇑*i*P		**Pn**	**10 03 28.8**	**+0.6**
	baz=98							
CHMS				⇑*i*S		**Sn**	**10 04 14.6**	**+2.0**
	baz=98							
TKM2	**Tokmak 2**	**4.33**	**98**	⇑Pg		**Pb**	**10 03 46.2**	**-0.5**
	1.1nm,0.5s							
TKM2				⇑Lg		Lg	10 04 46.8	
	3.9nm,0.8s							
DGS	**Degeres**	**4.41**	**93**	Pg		**Pb**	**10 03 48.1**	**+0.2**
	1.8nm,0.5s							
DGS				Lg		Lg	10 04 46.5	
	6.0nm,0.8s							

IDC ***13*** *10:04:31.2±1.4, 6°40S×148°84E, h0km, mb3.9/4, mbtmp4.0/6, ML4.0/1, MS3.1/8, Error ellipse: s-maj=58.0km s-min=25.9km az=115.0*

ISC 13 10:04:36.7±2.2, 6°4S±0°2×148°7E±0°4, h50km, n24, σ1s38/15, mb3.9/4, MS3.1/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
PMG	**Port Moresby**	**3.40**	**207**	P		Pn	10 05 28.8	+1.5
PMG	**Port Moresby**	**3.40**	**207**	Pn		Pn	10 05 28.0	+0.7
	55nm,0.3s,baz=40,slow=6.5,SNR=32							
PMG				Sn		**Sn**	**10 06 05.4**	**-1.1**
	10nm,0.3s,baz=281,slow=21,SNR=3.7							
PMG				LR		LR	10 06 53.0	
	comp=Z,132nm,21.9s,baz=32,slow=41							
COEN	**Coen**	**9.32**	**215**	P		**Pn**	**10 06 48.2**	**-0.3**
CTA	**Charters Tower**	**13.86**	**190**	LR		LR	10 12 00.3	
	comp=Z,38nm,19.0s,baz=269,slow=32							
QIS	**Mount Isa**	**16.66**	**211**	P		**P**	**10 08 26.9**	**-1.7**
WRA	**Warramunga Arr**	**19.43**	**225**	P		**Pn**	**10 08 59.4**	**-1.4**
	0.5nm,0.3s,baz=52,slow=11,SNR=18							
	1.9nm,0.5s							

KNRA	**Kununurra**	**21.65**	**243**	P		**P**	**10 09 24.0**	**+0.8**
AS01	**Alice Springs**	**22.32**	**218**	P		**P**	**10 09 30.6**	**+0.3**
ASAR	**Alice Springs**	**22.34**	**218**	P		**P**	**10 09 30.8**	**+0.2**
	3.5nm,0.6s,baz=50,slow=9.3,SNR=61							
ASAR				S		**S**	**10 13 36.1**	**+2.8**
	1.4nm,0.9s,baz=38,slow=22,SNR=6.3							
	3.5nm,0.6s							
INKA	**Innaminka**	**22.58**	**199**	P		**P**	**10 09 34.5**	**+1.5**
DZM	**Mont Dzumac**	**23.17**	**134**	LR		LR	10 17 17.7	
	comp=Z,86nm,18.5s,baz=287,slow=33							
OOD	**Oodnadatta**	**24.65**	**209**	P		**P**	**10 09 54.1**	**+1.3**
BATI	**Baumata**	**25.09**	**260**	LR		LR	10 20 15.6	
	comp=Z,42nm,19.8s,baz=98,slow=38							
LCRK	**Leigh Creek**	**25.92**	**201**	P		**P**	**10 10 05.4**	**+1.1**
STKA	**Stephens Creek**	**26.25**	**194**	P		**P**	**10 10 08.0**	**+0.7**
	2.8nm,0.7s,baz=5.2,slow=11,SNR=4.9							
	2.8nm,0.7s							
WRKA	**Warakurna**	**26.97**	**224**	P		**P**	**10 10 14.8**	**+0.8**
MULG	**Mulgathing**	**27.51**	**208**	P		**P**	**10 10 19.5**	**+0.9**
JCJ	**Chichijima**	**33.85**	**349**	LR		LR	10 25 25.8	
	comp=Z,18nm,18.1s,baz=106,slow=37							
JOW	**Kunigami**	**38.49**	**330**	LR		LR	10 25 06.5	
	comp=Z,40nm,19.5s,baz=106,slow=32							
MJAR	**Matsushiro Arr**	**43.80**	**348**	LR		LR	10 28 02.1	
	comp=Z,19nm,18.1s,baz=150,slow=32							
ZALV	**Zalesovo Beam**	**80.23**	**327**	LR		LR	10 52 04.0	
	comp=Z,17nm,20.4s,baz=68,slow=36							
QSPA	**South Pole Qui**	**83.61**	**180**	P		P	10 17 01.2	+1.5
	1.4nm,0.7s,baz=311,slow=0.7,SNR=10							
	1.4nm,0.7s							
ILAR	**Eielson Array**	**85.14**	**23**	P		P	10 17 08.8	+1.5
	0.2nm,0.7s,baz=246,slow=5.4,SNR=2.0							
	0.2nm,0.7s							
TORD	**Torodi Ar. Bea**	**146.84**	**284**	PKPbc		**PKiKP**	**10 24 16.4**	**-0.8**
	1.0nm,0.6s,baz=53,slow=3.9,SNR=14							

BUT ***13*** *10:08:00.2±1.2, 46°92N±0°05×112°54W±0°06, h13km±6km, Error ellipse: s-maj=8.1km s-min=6.0km az=153.0*

NEIC 13 10:07:59.4±0.9, 46°89N±0°05×112°58W±0°04, h19km±4km, ML3.0/48, ML3.3/19(BUT), Error ellipse: s-maj=8.1km s-min=0.9km az=211.0, Montana

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
LYMT	**Lyon Mountain**	**0.21**	**69**	Pg		Pb	10 08 04.5	+0.1
OVMT	**Ovando**	**0.33**	**301**			Pb	10 08 07.2	+0.3
BPMT	**Black Pine Rid**	**0.75**	**233**			Pn	10 08 14.9	-0.3
BOZ	**Bozeman (W)**	**1.45**	**153**			Pb	10 08 26.1	+0.2
BOZ				IAML			10 08 47.2	
	173nm,0.4s							
BOZ				IAML			10 08 47.6	
	150nm,0.5s							
EGMT	**Eagleton**	**2.23**	**58**	Pn		Pn	10 08 36.5	+1.2
YHL	**Hebgen Lake**	**2.26**	**154**	Pn		Pn	10 08 36.2	+0.2
YHL				IAML			10 09 12.3	
	comp=N,80nm,0.4s							
YHL				IAML			10 09 12.6	
	comp=E,117nm,0.6s							
YHH	**Holmes Hill**	**2.43**	**150**	Pn		Pn	10 08 40.0	+1.8
YNR	**Norris Junctio**	**2.55**	**148**	Pn		Pn	10 08 42.0	+2.1
YFT	**Old Faithful**	**2.73**	**153**	Pn		Pn	10 08 43.7	+1.3
YMP	**Mirror Lake Pl**	**2.74**	**141**	Pn		Pb	10 08 45.4	-2.5
YMP				IAML			10 09 31.6	
	comp=E,39nm,0.5s							
YMP				IAML			10 09 34.9	
	comp=N,35nm,0.6s							
LKWY	**Lake**	**2.78**	**146**	Pn		Pn	10 08 44.6	+1.4
PLID	**Pearl Lake**	**2.99**	**234**	Pn		Pn	10 08 48.0	+2.0
PLID				IAML			10 09 37.8	
	comp=N,38nm,0.6s							
PLID				IAML			10 09 37.8	
	comp=N,25nm,0.4s							
FLWY	**Flagg Ranch**	**3.11**	**154**	Pn		Pn	10 08 49.0	+1.4
FLWY				IAML			10 09 47.9	
	comp=N,34nm,3.8s							
IMW	**Indian Meadow**	**3.21**	**158**	Pn		Pn	10 08 51.0	+2.0
IMW				IAML			10 09 42.9	
	comp=N,48nm,0.3s							
F10A	**Beach Ranch, E**	**3.34**	**256**	Pn		Pn	10 08 53.1	+2.4
NEW	**Newport**	**3.37**	**296**	Pn		Pn	10 08 52.7	+1.8
NEW				IAML			10 09 47.2	
	comp=N,24nm,0.6s							
NEW				IAML			10 09 50.8	
	comp=N,26nm,0.6s							
MOOW	**Moose Ponds**	**3.40**	**157**	Pn		Pn	10 08 52.9	+1.3
FXWY	**Fox Creek**	**3.43**	**161**	Pn		Pn	10 08 53.1	+1.0
LOHW	**Long Hollow**	**3.56**	**156**	Pn		Pn	10 08 55.9	+2.1
LOHW				IAML			10 09 59.9	
	comp=N,13nm,4.5s							
LOHW				IAML			10 09 60.0	
	comp=N,15nm,4.0s							
HLID	**Hailey**	**3.57**	**202**			Pn	10 08 55.6	+1.7
HLID				IAML			10 09 54.9	
	comp=N,38nm,0.3s							
HLID				IAML			10 09 56.2	
	comp=N,47nm,0.4s							
TPAW	**Teton Pass**	**3.59**	**161**	Pn		Pn	10 08 55.7	+1.4
TPAW				IAML			10 09 57.0	
	comp=N,13nm,0.7s							
TPAW				IAML			10 10 01.2	
	comp=N,19nm,0.9s							
REDW	**Red Top Meadow**	**3.74**	**160**	Pn		Pn	10 08 58.1	+1.9
E09A	**Wood Farm, Sta**	**3.85**	**266**	Pn		Pn	10 08 59.3	+1.8
E09A				IAML			10 10 06.3	
	comp=N,47nm,0.7s							
E09A				IAML			10 10 06.3	
	comp=E,27nm,0.5s							
BMO	**Blue Mountains**	**3.88**	**240**	Pn		Pn	10 08 59.1	+1.0
BMO				IAML			10 10 11.2	
	comp=E,12nm,0.8s							
C09A	**Chrisman Ranch**	**3.98**	**285**	Pn		Pn	10 09 00.9	+1.6
MFID	**Camas Ranch**	**4.17**	**215**			Pn	10 09 03.8	+1.7
HAWA	**Hanford**	**4.82**	**267**	Pn		Pn	10 09 13.3	+2.5
HAWA				IAML			10 10 44.4	
	comp=E,16nm,2.5s							
E07A	**Sunnyside**	**5.01**	**269**	Pn		Pn	10 09 15.3	+1.7
MXC	**Moxie City**	**5.31**	**269**	Pn		Pn	10 09 20.0	+2.4
MXC				IAML			10 10 59.8	
	comp=N,14nm,1.7s							
MXC				IAML			10 11 11.2	
	comp=E,14nm,4.3s							
LTY	**Liberty**	**5.54**	**277**	Pn		Pn	10 09 22.0	+1.2

IDC ***13*** *10:29:48.0±1.0, 6°25S×143°46E, h0km, mb3.8/6, mbtmp3.8/8, ML1.8/1, Error ellipse: s-maj=41.6km s-min=22.9km az=63.0*

ISC 13 10:29:53.1±0.9, 6°6S±0°1×143°2E±0°1, h35km, n9, σ1s99/11, mb3.6/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
PMG	**Port Moresby**	**4.82**	**126**	Pn		**Pn**	**10 31 01.9**	**-1.2**
	3.0nm,0.3s,baz=345,slow=6.6,SNR=7.5							
PMG				Sn		**Sn**	**10 31 58.5**	**+0.8**
	1.4nm,0.3s,baz=229,slow=20,SNR=5.6							
	7.1nm,0.3s							
WRA	**Warramunga Arr**	**15.84**	**212**	Pn		**P**	**10 33 34.2**	**-2.8**
	0.2nm,0.3s,baz=34,slow=11,SNR=6.2							
WRA				Sn		**Sn**	**10 36 26.3**	**-1.8**
	0.2nm,0.3s,baz=30,slow=23,SNR=1.6							
WRA				Lg		Lg	10 38 13.5	
	0.3nm,0.3s,baz=42,slow=31,SNR=9.2							
ASAR	**Alice Springs**	**19.21**	**207**	P		**Pn**	**10 34 18.9**	**+3.6**
	1.4nm,0.7s,baz=32,slow=11,SNR=18							
MKAR	**Makanchi Array**	**75.58**	**322**	P		**P**	**10 41 34.4**	**+0.1**
	0.4nm,0.6s,baz=100,slow=6.7,SNR=4.9							
	0.6nm,0.6s							
ZALV	**Zalesovo Beam**	**77.52**	**329**	P		**P**	**10 41 43.5**	**-1.6**
	0.2nm,0.3s,baz=131,slow=6.5,SNR=1.8							
	0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**79.46**	**324**	P		**P**	**10 41 55.5**	**-0.3**
	0.2nm,0.4s,baz=107,slow=5.0,SNR=1.7							
	0.2nm,0.4s							
QSPA	**South Pole Qui**	**83.40**	**180**	P		**P**	**10 42 18.0**	**+1.4**
	3.5nm,1.1s,baz=276,slow=4.7,SNR=3.2							
	3.5nm,1.1s							
BVAR	**Borovoye Array**	**85.03**	**325**	P		**P**	**10 42 25.4**	**+0.4**
	1.2nm,0.8s,baz=102,slow=6.5,SNR=5.4							
	1.2nm,0.8s							
ILAR	**Eielson Array**	**87.50**	**24**	P		**P**	**10 42 36.3**	**-0.6**
	0.2nm,0.8s,baz=236,slow=6.4,SNR=2.2							
	0.2nm,0.8s							

KRNET 13 10:31:07.0±0.1, 40°94N×69°24E, mb2.6, 22C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
BTK	**Batken**	**1.49**	**126**	⇑*e*P		Pn	10 31 33.8	-1.4
	baz=26							
BTK				⇑*e*S		Sg	10 31 54.7	-0.2
	baz=26							
BTK	**Batken**	**1.49**	**126**	⇑*i*P		Pn	10 31 35.2	0.0
	baz=26							
BTK				⇑*i*S		Sn	10 31 55.4	0.0
	baz=26							
TRKS	**Terek-Say**	**1.55**	**67**	⇑*e*P		Pn	10 31 34.9	-1.1
	baz=71							
TRKS				⇑*e*S		Sg	10 31 56.3	-0.4
	baz=71							
TRKS	**Terek-Say**	**1.55**	**67**	⇓*i*P		Pn	10 31 35.9	-0.1
	baz=70							
TRKS				⇓*i*S		Sn	10 31 57.2	+0.3
	baz=70							
GAR	**Garm**	**2.11**	**157**	⇑*i*P		Pb	10 31 45.6	-0.6
	baz=57							
GAR				⇑*i*S		Sb	10 32 13.5	+0.6
	baz=57							
ARK	**Arkit**	**2.22**	**66**	⇑*e*P		Pn	10 31 45.8	+0.6
	baz=67							
ARK				⇑*e*S		Sb	10 32 15.5	-0.7
	baz=67							
ARK	**Arkit**	**2.22**	**66**	⇑*i*P		Pb	10 31 47.3	-0.8
	baz=66							
ARK				⇑*i*S		Sb	10 32 16.3	+0.1
	baz=66							
CHGR	**Chuyangaron**	**2.28**	**182**	⇑*i*P		Pb	10 31 47.8	-1.4
	baz=82							
CHGR				⇑*i*S		Sb	10 32 17.6	-0.3
	baz=82							
KKAR	**Karatay Array**	**2.36**	**23**	⇑*e*P		Pn	10 31 47.2	+0.1
	baz=24							
KKAR				⇑*e*S		Sn	10 32 17.8	+1.1
	baz=24							
DRK	**Karamyk**	**2.44**	**126**	⇑*e*P		Pn	10 31 49.3	+0.9
	baz=26							
DRK				⇑*e*S		Sb	10 32 21.6	-1.2
	baz=26							
DRK	**Karamyk**	**2.44**	**126**	⇑*i*P		Pb	10 31 50.4	-1.6
	baz=26							
DRK				⇑*i*S		Sb	10 32 22.0	-0.8
	baz=26							
MNAS	**Manas**	**2.89**	**57**	⇑*e*P		Pn	10 31 55.0	+0.5
	baz=57							
MNAS				⇑*e*S		Sn	10 32 31.2	+1.2
	baz=57							

IDC 13 10:48:23.8±2.5, 7°38S×128°26E, h0km, mb3.7/1, mbtmp3.4/3, ML3.6/2, Error ellipse: s-maj=283.4km s-min=31.8km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.81**	**155**	Pn		Pn	10 51 40.3	-0.7
	0.3nm,0.3s,baz=333,slow=14,SNR=18							
WRA				Sn		Sn	10 54 03.2	-12
	0.4nm,0.3s,baz=334,slow=21,SNR=6.5							
	0.3nm,0.2s							
ASAR	**Alice Springs**	**17.08**	**162**	P		Pn	10 52 24.8	+0.6
	0.1nm,0.3s,baz=340,slow=9.6,SNR=8.7							
ASAR				S		Sn	10 55 21.9	-13
	0.3nm,0.7s,baz=348,slow=26,SNR=2.1							
	0.2nm,0.4s							
MKAR	**Makanchi Array**	**67.61**	**328**	P		P	10 59 22.5	0.0
	0.3nm,0.5s,baz=118,slow=8.3,SNR=6.1							
	0.3nm,0.5s							

LJU 13 11:00:08.1, 45°54N×13°84E, h0km, ML0.8, 1C, Suspected explosion, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SKDS	**Skadanscina**	**0.12**	**87**	⇑*i*Pg		Pg	11 00 10.8	+0.3
SKDS				*i* Sg		Sg	11 00 12.5	+0.5
SKDS				IAML			11 00 13.9	
	comp=Z,15nm,0.1s							
KNDS	**Knezji Dol**	**0.38**	**92**	*i* Pg		Pg	11 00 15.5	+0.1
KNDS				*e*Sg		Sg	11 00 20.9	+0.6
KNDS				IAML			11 00 24.4	
	comp=Z,4.3nm,0.2s							
JAVS	**Javornik**	**0.39**	**24**	*i* Pg		Pg	11 00 15.3	-0.2
JAVS				*i* Sg		Sg	11 00 21.3	+0.7
JAVS				IAML			11 00 22.2	
	comp=Z,3.9nm,0.1s							

AFAD 13 11:02:17.0±0.0, 42°01N×26°87E, h7km±2km, ML1.3, Bulgaria

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KIRK	**Kırklareli**	**0.28**	**142**	P		Pg	11 02 23.3	+0.7
KIRK				S		Sg	11 02 27.4	+1.1
KIRK				*i* AML		AML	11 02 28.0	
	comp=N,47nm,0.2s							
KIRK				*i* AML		AML	11 02 29.0	
	comp=E,56nm,0.6s							
ARMN	**Kirklareli, Me**	**0.44**	**108**	P		Pb	11 02 28.2	+1.0
ARMN				S		Sg	11 02 32.3	+0.9
ARMN				*i* AML		AML	11 02 37.0	
	comp=N,16nm,0.5s							
ARMN				*i* AML		AML	11 02 39.0	
	comp=E,17nm,0.7s							
VIZE	**Kirklareli, Vi**	**0.84**	**120**	P		Pg	11 02 33.1	-0.1
VIZE				*i* AML		AML	11 02 46.0	
	comp=E,13nm,0.8s							
VIZE				S		Sb	11 02 46.2	+0.7
VIZE				*i* AML		AML	11 02 51

comp=N,61393µm,0.2s
PYL PYLOS 0.80 125 P Pb 11 02 46.2 -1.3
PYL S Sn 11 02 58.1 +0.4
comp=N,14µm,0.7s
PYL PYLOS 0.80 125 P Pb 11 02 46.3 -1.3
PYL S Sn 11 02 58.3 +0.6
PYL AML AML 11 03 01.2
comp=N,29429µm,0.7s
PYL AML AML 11 03 02.9
comp=E,22709µm,0.4s
PSDA Pessada-Kefalo 0.80 340 P Pb 11 02 46.3 -1.2
PSDA S Sb 11 02 58.4 +0.3
PSDA Pessada-Kefalo 0.80 340 P Pb 11 02 46.4 -1.2
PSDA S Sb 11 02 58.2 +0.1
RLS Riolos of Patr 0.82 31 P Pn 11 02 46.1 -1.1
RLS S Sb 11 02 58.5 -0.1
RLS Riolos of Patr 0.82 31 P Pn 11 02 46.5 -0.7
RLS S Sb 11 02 56.4 -2.2
RLS AML AML 11 03 03.0
comp=N,12448µm,0.4s
RLS AML AML 11 03 05.4
comp=E,11786µm,0.7s
DRO Drossia 0.86 46 P Pn 11 02 46.6 -1.2
DRO S Sb 11 02 59.5 -0.3
comp=E,22µm,0.6s
DRO Drossia 0.86 46 P Pn 11 02 46.7 -1.2
DRO S Sb 11 02 57.6 -2.2
DRO AML AML 11 03 08.1
comp=E,48619µm,0.5s
DRO AML AML 11 03 10.1
comp=N,40632µm,0.7s
VLS Valsamata 0.86 342 P Pn 11 02 47.1 -0.7
VLS S Sb 11 02 59.7 -0.1
comp=N,5µm,0.4s
VLS Valsamata 0.86 342 P Pn 11 02 47.3 -0.5
VLS S Sn 11 03 00.0 +0.8
VLS AML AML 11 03 02.4
comp=N,13973µm,0.4s
VLS AML AML 11 03 04.2
comp=E,5917µm,0.4s
KLMT Kalamata 0.95 108 P Pn 11 02 49.0 0.0
KLMT S Sb 11 03 02.7 +0.3
comp=E,15µm,0.6s
KEF3 Kipouria, Keph 0.96 332 P Pn 11 02 49.3 +0.1
DMLN Damoulianata-K 0.98 334 P Pn 11 02 49.6 +0.1
DMLN S Sb 11 03 04.5 +1.2
comp=E,9µm,0.6s
DMLN Damoulianata-K 0.98 334 P Pb 11 02 50.7 +0.1
DMLN S Sb 11 03 04.8 +1.5
KEF5 Kardakata, Kep 0.99 338 P Pn 11 02 49.7 +0.1
KEF5 S Sb 11 03 05.5 +2.1
VSK1 VASILIKIADES 1.09 345 P Pn 11 02 51.9 +1.0
FSK Fiskardo 1.14 345 P Pn 11 02 52.5 +0.9
FSK S Sb 11 03 09.3 +1.7
comp=E,4µm,0.7s
FSK Fiskardo 1.14 345 P Pn 11 02 52.4 +0.8
FSK AML AML 11 03 12.3
comp=N,6869µm,0.8s
FSK AML AML 11 03 13.0
comp=E,9647µm,0.7s
UPR University Cam 1.15 36 P Pb 11 02 53.0 -0.3
KLV Kalavryta, Ach 1.19 54 P Pn 11 02 51.9 -0.5
KLV Kalavryta, Ach 1.19 54 P Pn 11 02 53.2 +0.8
KLV S Sn 11 03 07.6 +0.2
KLV AML AML 11 03 16.5
comp=N,11271µm,0.6s
KLV AML AML 11 03 21.0
comp=E,10912µm,0.6s
AST1 Astakos 1.19 6 P Pn 11 02 53.1 +0.8
GUR Goura 1.26 62 P Pn 11 02 53.1 -0.3
GUR Goura 1.26 62 P Pn 11 02 53.8 +0.3
GUR AML AML 11 03 19.4
comp=N,26801µm,0.4s
GUR AML AML 11 03 19.7
comp=E,35120µm,0.5s
EVGI Lefkada island 1.28 350 P Pn 11 02 54.4 +0.8
EVGI S Sb 11 03 14.1 +2.4
EVGI Lefkada island 1.28 350 P Pn 11 02 54.8 +1.2
ALIK Aliki, Aigiali 1.30 46 P Pb 11 02 55.2 -0.7
EFP Efpalio 1.32 36 P Pb 11 02 55.7 -0.5
EFP Efpalio 1.32 36 P Pn 11 02 55.4 +1.3
PVO Paravola 1.34 20 P Pn 11 02 55.4 +1.0
PVO S Sb 11 03 16.6 +3.1
PVO Paravola 1.34 20 P Pn 11 02 55.8 +1.3
DRAG Dragano-Lefkad 1.35 348 P Pb 11 02 56.4 -0.4
DRAG Dragano-Lefkad 1.35 348 P Pb 11 02 56.7 -0.1
NYDR Nydri-Lefkada 1.36 352 P Pn 11 02 55.5 +0.8
NYDR S Sb 11 03 16.7 +2.6
NYDR Nydri-Lefkada 1.36 352 P Pb 11 02 57.1 +0.1
LKD2 Lefkada island 1.44 352 P Pb 11 02 57.7 -0.7
baz=0.0
LKD2 S Sb 11 03 15.7 -0.8
baz=0.0
LKD2 AMP
comp=N,16nm,0.6s,baz=0.0
LKD2 Lefkada island 1.44 352 P Pn 11 02 57.1 +1.2
LKD2 S Sb 11 03 19.3 +2.9
LKD2 Lefkada island 1.44 352 P Pb 11 02 58.5 +0.1
TSLK Tsoukalades, L 1.48 352 P Pb 11 02 59.4 +0.4
TSLK S Sb 11 03 19.4 +2.0
TSLK Tsoukalades, L 1.48 352 P Pb 11 02 58.8 -0.1
THAL Thalero 1.53 63 P Pb 11 02 59.1 -0.8
THAL Thalero 1.53 63 P Pb 11 02 59.1 -0.8
EVR Evrytania 1.70 24 P Pb 11 03 02.8 0.0
EVR Evrytania 1.70 24 P Pb 11 03 01.7 -1.1
VLI Veliai 1.73 111 P Pb 11 03 02.5 -0.7
VLI Veliai 1.73 111 P Pb 11 03 02.6 -0.7
VLI AML AML 11 03 42.8
comp=N,7622µm,0.8s
VLI AML AML 11 03 42.9
comp=E,8371µm,0.8s
LOUT Loutraki 1.74 68 P Pn 11 03 01.5 +1.5
LOUT Loutraki 1.74 68 P Pn 11 03 01.4 +1.5
LTK Loutraki 1.75 67 P Pn 11 03 01.2 +1.2
KRND KRANIDI 1.77 89 P Pn 11 03 01.7 +1.4
KRND KRANIDI 1.77 89 P Pn 11 03 01.8 +1.5
MAKR Makrakomi, Fth 1.90 30 P Pb 11 03 05.1 -1.1
MAKR Makrakomi, Fth 1.90 30 P Pb 11 03 04.6 -1.6
AXAR Agios Charalam 1.96 44 P Pn 11 03 05.3 +2.3
AXAR Agios Charalam 1.96 44 P Pn 11 03 05.2 +2.2
AGG Agios Georgios 1.99 33 Pn Pb 11 03 06.1 -1.5
AGG Sn Sn 11 03 27.5 +0.2
AGG Agios Georgios 1.99 33 P Pb 11 03 06.2 -1.5
AGG Agios Georgios 1.99 33 P Pb 11 03 05.9 -1.8
VIL2 Platees 2.04 65 P Pn 11 03 05.4 +1.3
VILL Villia 2.05 66 P Pn 11 03 05.3 +1.0
IGT Igoumenitsa 2.22 348 P Pn 11 03 08.1 +1.6
baz=353
IGT S Sn 11 03 33.4 +0.6
baz=353
IGT AMP
comp=N,2.9nm,0.5s,baz=353
IGT Igoumenitsa 2.22 348 P Pn 11 03 07.9 +1.4
THL Klokotos Trika 2.36 21 P Pn 11 03 10.7 +2.3
THL Klokotos Trika 2.36 21 P Pn 11 03 10.3 +1.9
ANKY Antikythira Is 2.42 127 P Pn 11 03 11.6 +2.3
ANKY Antikythira Is 2.42 127 P Pb 11 03 12.4 -2.6
PTL Penteli 2.43 73 P Pn 11 03 12.2 +2.8
DION Dionisos Attik 2.49 72 P Pn 11 03 12.3 +2.1
DION Dionisos Attik 2.49 72 P Pn 11 03 12.2 +1.9
KEK Kerkira 2.51 340 Pn Pn 11 03 08.9 -1.6
TYRN Tyrnavos 2.56 23 P Pn 11 03 13.1 +1.9
SRN Sarande 2.62 344 P Pn 11 03 13.8 +1.8
baz=349
SRN S Sn 11 03 43.8 +1.2
baz=349
SRN AMP
comp=N,1.1nm,0.5s,baz=349
XOR Xorichti 2.68 41 P Pn 11 03 14.3 +1.4
XOR Xorichti 2.68 41 P Pn 11 03 14.7 +1.8
LSK Leskovik 2.80 355 P Pn 11 03 16.9 +2.4
RODP Rodopos 2.90 127 P Pn 11 03 18.1 +2.2
LIT Litokhoron 3.00 24 Pn Pn 11 03 18.4 +1.2
LIT Litokhoron 3.00 24 P Pn 11 03 18.4 +1.2
IMMV Iera Moni Meta 3.11 127 P Pn 11 03 20.5 +1.8
IMMV Iera Moni Meta 3.11 127 P Pn 11 03 20.0 +1.2
KBN Korca 3.26 358 Pn Pn 11 03 20.4 -0.5
KBN Korca 3.26 358 P Pn 11 03 24.1 +3.2
baz=1.0
KBN S Sn 11 04 01.3 +2.7
baz=1.0
KBN AMP
comp=N,2.8nm,1.5s,baz=1.0

KBN Korca 3.26 358 P Pn 11 03 20.4 -0.5
VLO Vlora 3.30 341 Pn Pn 11 03 19.9 -1.4
VLO Vlora 3.30 341 P Pn 11 03 20.6 -0.7
baz=344
VLO Vlora 3.30 341 P Pn 11 03 19.9 -1.4
SCTE Santa Cesarea 3.32 325 Pn Pn 11 03 21.6 0.0
SCTE Santa Cesarea 3.32 325 P Pn 11 03 21.7 0.0
baz=328
SCTE S Sn 11 03 56.8 -3.1
baz=328
SCTE Santa Cesarea 3.32 325 P Pn 11 03 23.0 +1.4
PAIG Paliouri 3.35 39 P Pn 11 03 22.8 +0.8
FNA Florina 3.44 6 Pn Pn 11 03 25.0 +1.6
FNA Florina 3.44 6 P Pn 11 03 24.9 +1.6
baz=9.0
FNA Florina 3.44 6 P Pn 11 03 24.9 +1.6
FNA Florina 3.44 6 P Pn 11 03 24.9 +1.6
APE Apeiranthos 3.69 93 ⇓P Pn 11 03 26.7 0.0
APE ⇓S Sn 11 04 08.7 -0.4
APE Apeiranthos 3.69 93 ⇓P Pn 11 03 26.7 0.0
OHR Ohrid 3.75 359 *i* P Pn 11 03 28.4 +0.8
TIP Timpagrande 3.75 300 Pn Pn 11 03 28.6 +0.9
GRG Griva 3.77 17 P Pn 11 03 28.8 +0.9
GRG Griva 3.77 17 P Pn 11 03 29.2 +1.3
IDI Anoyia 3.81 122 Pn Pn 11 03 27.8 -0.7
IDI Anoyia 3.81 122 Pn Pn 11 03 29.4 +1.0
comp=N,0.1nm,0.3s,baz=271,slow=9.5,SNR=9.4
IDI Sn Sn 11 04 11.5 -0.7
comp=N,0.3nm,0.3s,baz=65,slow=22,SNR=12
SOH Sokhos 3.94 28 P Pn 11 03 32.3 +2.1
TIR Tirane 4.07 349 ⇑P Pn 11 03 33.3 +1.4
TIR Tirane 4.07 349 Pn Pn 11 03 32.9 +1.0
TIR Tirane 4.07 349 P Pn 11 03 32.2 +0.3
baz=352
TIR S Sn 11 04 20.4 +2.1
baz=352
TIR Tirane 4.07 349 ⇑P Pn 11 03 33.3 +1.4
CEL Celeste 4.09 284 Pn Pn 11 03 33.9 +1.7
VAY Valandovo 4.16 17 *i* P Pn 11 03 34.0 +0.9
SRS Serrai 4.28 28 P Pn 11 03 36.4 +1.5
STIP Stip 4.44 12 *i* P Pn 11 03 39.5 +2.5
SKO Skopje 4.62 5 *i* P Pn 11 03 40.4 +0.8
MMB Musomishta 4.72 27 *e*P Pn 11 03 42.3 +1.4
PUK Puka 4.74 351 Pn Pn 11 03 42.2 +0.9
PUK Puka 4.74 351 P Pn 11 03 42.6 +1.3
baz=353
PUK S Sn 11 04 37.1 +2.0
baz=353
ULC Ulcinj 4.78 345 ⇓*i* Pn Pn 11 03 41.9 +0.2
ULC *i* Sn Sn 11 04 35.7 -0.2
CUC Castrocucco 4.79 305 Pn Pn 11 03 40.3 -1.5
CUC Castrocucco 4.79 305 P Pn 11 03 44.4 +2.6
KKB Krupnik 4.79 20 *e*P Pn 11 03 43.4 +1.6
DRME Dracevica, Mon 5.00 345 *e*Pn Pn 11 03 45.1 +0.3
DRME Dracevica, Mon 5.00 345 ⇓*i* Pn Pn 11 03 45.1 +0.3
DRME *i* Sn Sn 11 04 41.0 -0.4
BCI Bajram Curri 5.04 353 P Pn 11 03 47.0 +1.6
baz=355
BCI S Sn 11 04 46.3 +3.9
baz=355
BUM Brajici-Budva 5.18 343 ⇑*i* Pn Pn 11 03 47.5 +0.3
BUM *i* Sn Sn 11 04 45.2 -0.6
VAE Valguarnera 5.19 273 Pn Pn 11 03 50.9 +3.5
comp=N,1.5nm,0.3s,baz=266,slow=4.2,SNR=4.3
VAE Sn Sn 11 04 48.5 +2.4
comp=N,2.4nm,0.3s,baz=45,slow=19,SNR=1.9
comp=N,14nm,0.5s
RDO Rodhopi 5.21 42 Pn Pn 11 03 46.2 -1.3
RZN Rozhen 5.24 33 *e*S Pn 11 03 49.3 +1.2
RAFF Raffo Rosso 5.24 270 Pn 11 03 46.5 -1.5
ALN Alexandroupoli 5.32 47 Pn 11 03 48.2 -0.9
ALN Alexandroupoli 5.32 47 P Pn 11 03 48.2 -0.9
WDD Wied Dalam 5.37 255 Pn Pn 11 03 50.1 +0.3
CEME Cevo 5.41 344 ⇓*i* Pn Pn 11 03 50.2 -0.2
CEME *i* Sn Sn 11 04 49.3 -2.1
HCY Herceg Novi 5.41 341 *e*Pn Pn 11 03 48.6 -1.8
HCY Herceg Novi 5.41 341 ⇓*i* Pn Pn 11 03 49.9 -0.5
HCY *i* Sn Sn 11 04 50.6 -1.0
KDZ Kurdzhali 5.46 37 *e*S Pn 11 03 51.8 +0.7
VTS Vitosha 5.54 18 *e*P Pn 11 03 53.5 +1.2
IVA Berane 5.56 352 ⇑*i* Pn Pn 11 03 53.2 +0.7
IVA *i* Sn Sn 11 04 54.4 -0.9
KOME Kolasin 5.59 349 ⇓*i* Pn Pn 11 03 54.4 +1.5
KOME *i* Sn Sn 11 04 55.1 -0.9
NKME Niksic 5.61 345 *e*Pn Pn 11 03 54.7 +1.6
NKME *i* Sn Sn 11 04 55.6 -0.8
TREB Trebinje 5.70 341 *e*Pn Pn 11 03 53.0 -1.4
DBRK Dubrovnik 5.72 339 Sn Sn 11 04 53.9 -5.0
BRY Bratogost 5.83 342 *e*Pn Pn 11 03 54.9 -1.3
BRY Bratogost 5.83 342 ⇓*i* Pn Pn 11 03 55.8 -0.4
BRY *i* Sn Sn 11 05 00.6 -1.4
ARG Arkhangelos 5.89 99 Pn Pn 11 03 55.0 -1.9
ARG Arkhangelos 5.89 99 P Pn 11 03 55.0 -1.9
SJES Sjenica 5.94 353 *e*Pn Pn 11 03 58.0 +0.3
SGRT San Giovanni R 5.94 319 Pn Pn 11 03 58.3 +0.6
STON Ston 6.04 337 *e*Pn Pn 11 03 57.8 -1.1
STON Ston 6.04 337 *e*Pn Pn 11 03 57.3 -1.6
UPM Unac-Piva 6.04 346 *e*Pn Pn 11 03 59.3 +0.1
UPM Unac-Piva 6.04 346 ⇑*i* Pn Pn 11 03 59.2 +0.1
UPM *e*Sn Sn 11 05 06.0 -1.2
PLE Pljevlja 6.08 349 ⇓*i* Pn Pn 11 04 01.2 +1.6
PLE *i* Sn Sn 11 05 06.7 -1.4
CLTB Caltabellotta 6.14 274 Pn Pn 11 04 00.7 +0.3
LSTV Lastovo 6.22 331 *e*Pn Pn 11 04 00.4 -1.1
LSTV Sn Sn 11 05 05.9 -5.6
MPEP Malo Peshtene 6.36 19 *e*P Pn 11 04 04.9 +1.5
RUDO Rudo 6.36 350 *e*Pn Pn 11 04 03.2 -0.2
BBLS Lazi&#263i 6.60 350 *e*Pn Pn 11 04 07.3 +0.5
VALD Valchedram 6.61 16 *e*P Pn 11 04 07.2 +0.5
MAKA Makarska 6.63 334 *i* Pn Pn 11 04 07.2 +0.1
MAKA Sn Sn 11 05 16.7 -4.8
ELND Elena 6.73 33 ⇓P Pn 11 04 09.6 +1.1
RICI Ricice 6.78 336 *e*Pn Pn 11 04 08.6 -0.5
TEKS Tekeris 7.26 352 *e*Pn Pn 11 04 13.6 -2.2
MDVR Moldovita 7.44 4 ⇓P Pn 11 04 16.5 -1.8
ZIRJ Zirje 7.46 329 *e*Pn Pn 11 04 17.6 -0.9
KIJV Kijevo 7.47 334 *e*Pn Pn 11 04 18.6 -0.1
ISP Isparta 7.63 84 Pn Pn 11 04 19.7 -1.2
ISP Isparta 7.63 84 *i* P Pn 11 04 28.4 +7.4
NEF NËVSHA 7.63 37 *e*P Pn 11 04 22.6 +1.7
CAMP Campotosto 7.75 314 Pn Pn 11 04 20.5 -2.1
FRGS Fruska Gora 7.84 354 *e*Pn Pn 11 04 22.7 -1.0
A050A Klekovaca 7.85 336 *e*Pn Pn 11 04 23.5 -0.5
BORA Eskisehir 7.87 68 Pn Pn 11 04 21.9 -2.3
BLY Banja Luka 7.90 340 *e*Pn Pn 11 04 19.8 -4.8
DUGI Dugi Otok 7.98 328 *e*Pn Pn 11 04 24.9 -0.8
NRCA Norcia 8.11 315 Pn Pn 11 04 26.0 -1.4
GUAM Gualdo di Mace 8.13 317 Pn Pn 11 04 26.7 -1.0
GZR Gura Zlata 8.14 9 ⇑P Pn 11 04 28.0 +0.1
GZR Gura Zlata 8.14 9 ⇑P Pn 11 04 28.0 +0.1
A051A Mrakovica 8.22 340 *e*Pn Pn 11 04 27.5 -1.5
VIRC Vir 8.23 329 *e*Pn Pn 11 04 30.1 +1.1
BZS Buzias 8.27 3 ⇑P Pn 11 04 29.9 +0.4
BZS Buzias 8.27 3 ⇑P Pn 11 04 29.9 +0.4
NVLJ Novalja 8.53 329 *e*Pn Pn 11 04 32.6 -0.5
MDUB Mudurnu 8.59 66 Pn Pn 11 04 33.3 -0.7
VOIR 8.64 20 ⇑P Pn 11 04 36.5 +1.7
VOIR 8.64 20 ⇑P Pn 11 04 36.5 +1.7
MURB Monte Urbino 8.71 315 Pn Pn 11 04 34.2 -1.6
MOSL Moslavina 8.82 341 *e*Pn Pn 11 04 36.1 -1.0
MLR Muntele Rosu 8.95 23 ⇓P Pn 11 04 42.8 +3.7
MLR Muntele Rosu 8.95 23 Pn Pn 11 04 39.6 +0.5
MLR Muntele Rosu 8.95 23 ⇓P Pn 11 04 42.8 +3.7
MLR Muntele Rosu 8.95 23 Pn Pn 11 04 39.0 -0.1
comp=N,0.3nm,0.3s,baz=200,slow=7.0,SNR=3.4
MLR LR LR 11 09 02.7
comp=N,681nm,18.3s,baz=228,slow=45
comp=N,2.6nm,0.5s
BOJS Bojanci 9.18 334 *e*Pn Pn 11 04 42.0 -0.1
CRES Cresnjev 9.40 336 *e*Pn Pn 11 04 44.3 -0.7
MARR Marisel-Cluj 9.45 9 ⇑P Pn 11 04 46.8 +1.0
KEST Kesra 9.46 264 Pn Pn 11 04 47.6 +1.6
comp=N,0.3nm,0.3s,baz=190,slow=20,SNR=4.2
KEST LR LR 11 09 06.1
comp=N,122nm,21.9s,baz=186,slow=42
comp=N,5.4nm,0.8s
PLOR Plostina 9.50 25 ⇓P Pn 11 04 48.2 +1.7
PLOR Plostina 9.50 25 ⇓P Pn 11 04 48.2 +1.7
DRGR 9.52 7 ⇓P Pn 11 04 45.4 -1.4
DRGR 9.52 7 ⇓P Pn 11 04 45.4 -1.4
VRI Vrincioaia 9.54 25 ⇑P Pn 11 04 49.3 +2.3

VRI Vrincioaia 9.54 25 ⇑P Pn 11 04 49.3 +2.3
CEY Cerknica 9.68 332 *e*Pn Pn 11 04 49.3 +0.3
SKDS Skadanscina 9.68 330 *e*Pn Pn 11 04 45.0 -4.0
BR131 Keskin Array S 10.23 73 Pn Pn 11 04 55.0 -1.7
BR131 Keskin Array S 10.23 73 P Pn 11 04 55.0 -1.7
BRTR Keskin Array B 10.23 73 Pn Pn 11 04 54.3 -2.3
BRTR Keskin Array B 10.23 73 *i* P Pn 11 05 04.4 +7.7
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 10.23 73 Pn Pn 11 04 55.4 -1.3
comp=Z,0.1nm,0.3s,baz=259,slow=12,SNR=3.2
BRTR LR LR 11 09 16.8
comp=Z,101nm,21.7s,baz=256,slow=40
comp=Z,0.3nm,0.3s
SOKA Soboth 10.29 337 *i* Pn Pn 11 04 56.5 -0.8
comp=Z,1.4nm,0.3s
OBKA Obir 10.30 335 *e*Pn Pn 11 04 58.1 +0.6
comp=Z,0.7nm,0.3s
OBKA Obir 10.30 335 *e*Pn Pn 11 04 56.6 -0.9
PSZ Piszkesteto 10.58 356 Pn Pn 11 05 01.4 +0.1
PSZ Piszkesteto 10.58 356 P Pn 11 05 01.4 +0.1
PRED Cave del Predi 10.60 331 Pn Pn 11 04 59.6 -1.9
BURAR Bucovina Array 10.72 16 ⇓P Pn 11 05 03.4 +0.1
BURAR Bucovina Array 10.72 16 Pn Pn 11 05 04.2 +1.0
BURAR Bucovina Array 10.72 16 ⇓P Pn 11 05 03.4 +0.1
BUR08 Bucovina Ar. S 10.75 16 Pn Pn 11 05 02.7 -0.9
KBA Koelnbreinsper 11.21 332 *e*Pn Pn 11 05 10.8 +0.7
comp=Z,0.5nm,0.4s
VYHS Vyhne 11.23 353 *e*P Pn 11 05 11.2 +1.0
VYHS Vyhne 11.23 353 *e*PN Pn 11 05 11.2 +1.0
ABTA Altdaltersbach 11.27 329 *e*Pn Pn 11 05 11.5 +0.8
KOLS Kolonicke sedl 11.61 4 *e*P Pn 11 05 16.4 +1.1
KOLS Kolonicke sedl 11.61 4 *e*PN Pn 11 05 16.4 +1.1
LESA Schwarzleotal 11.75 331 *e*Pn Pn 11 05 18.3 +0.9
comp=Z,1.8nm,0.4s
FETA Feichten 12.25 325 *e*Pn Pn 11 05 25.3 +1.0
comp=Z,0.5nm,0.4s
MOTA Moosalm 12.33 327 *i* Pn Pn 11 05 26.1 +0.8
comp=Z,0.2nm,0.2s
VRAC Vranov 12.35 347 LR LR 11 10 32.3
comp=Z,37nm,19.2s,baz=184,slow=39
MMAI Mount Meron Ar 12.61 106 Pn Pn 11 05 29.0 -0.1
comp=Z,1.6nm,0.3s,baz=305,slow=18,SNR=1.7
MMAI Sn Sn 11 07 39.9 -8.5
comp=Z,1.9nm,0.3s,baz=292,slow=20,SNR=1.7
comp=Z,0.7nm,0.3s
GERES GERESS Array B 12.63 338 Pn Pn 11 05 30.6 +1.3
comp=Z,0.1nm,0.3s,baz=153,slow=15,SNR=1.8
GERES LR LR 11 11 29.2
comp=Z,125nm,21.2s,baz=58,slow=43
comp=Z,0.5nm,0.4s
KHC Kasperske Hory 12.92 338 *i* P Pn 11 05 36.8 +3.6
EIL Elat 13.98 119 Pn Pn 11 05 48.1 +0.4
comp=Z,0.8nm,0.3s,baz=239,slow=5.1,SNR=4.3
EIL Sn Sn 11 08 07.1 -15
comp=Z,2.1nm,0.3s,baz=332,slow=22,SNR=6.7
comp=Z,2.0nm,0.4s
BFO Black Forest 14.32 324 Pn Pn 11 05 50.7 -1.6
BFO Black Forest 14.32 324 P Pn 11 05 50.7 -1.6
ANN Anapa 14.48 54 *e*P Pn 11 05 56.7 +2.2
ANN *e*S Sn 11 08 34.1 +0.3
ANN pmax pmax
comp=Z,51nm,1.2s
KIEV Kiev 14.59 21 Pn Pn 11 05 54.1 -1.8
KIEV Kiev 14.59 21 P Pn 11 05 54.1 -1.8
AKASG Malin Array Be 14.60 21 *i* P Pn 11 05 55.7 -0.3
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 14.60 21 Pn Pn 11 05 53.8 -2.3
comp=Z,0.5nm,0.3s,baz=206,slow=12,SNR=5.1
AKASG LR LR 11 13 07.1
comp=Z,179nm,18.2s,baz=220,slow=44
comp=Z,2.2nm,0.8s
AKBB Malin Array Si 14.60 21 Pn Pn 11 05 54.0 -2.0
AKBB Malin Array Si 14.60 21 *ce*P Pn 11 05 56.2 +0.2
CLL Collm 15.04 341 *i* P P 11 06 08.8 +1.9
CLL pmax pmax
comp=Z,24nm,1.6s
CLL Collm 15.04 341 *i* PP P 11 06 08.8 +1.9
comp=Z,24nm,1.6s
CLL *e*(sPPP) 11 06 20.0
CLL AMS AMS 18 29 00.0
comp=Z,200nm,19.1s
SOC Sochi 15.58 61 *e*P Pn 11 06 11.4 +2.3
SOC *e* 11 09 03.8
SOC MLR MLR
comp=Z,255nm,22.0s
SUW Suwalki 16.73 5 Pn 11 06 21.8 -1.8
SUW Suwalki 16.73 5 P Pn 11 06 21.8 -1.8
SUW pmax pmax
comp=Z,75nm,0.9s
ERBR Yeremizino-Bor 16.82 54 *e*P Pn 11 06 25.7 +0.8
ERBR pmax pmax
comp=Z,33nm,0.7s
CART Cartagena 17.41 277 Pn Pn 11 06 29.1 -3.1
CART IAmb IAmb 11 06 29.9
comp=Z,52nm,1.1s
KIV Kislovodsk 17.75 61 *e*P P 11 06 39.0 +1.9
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,11nm,14.0s
MNK Minsk 17.80 13 *i* P Pn 11 06 36.0 -1.0
comp=E,5.0nm,0.7s
MNK *i* P Pn 11 06 36.0 -1.0
comp=N,42nm,0.9s
MNK *i* P Pn 11 06 36.0 -1.0
comp=Z,22nm,0.8s,baz=199
MNK *i* pP sP 11 06 53.3 +3.5
MNK *i* S Sn 11 09 52.2 -2.0
MNK *i* LR LR 11 12 53.0
MNK *i* LRM MLR 11 14 31.4
comp=E,357nm,21.8s
MNK *i* LRM MLR 11 14 31.4
comp=N,712nm,20.9s
MNK *i* LRM MLR 11 14 31.4
comp=Z,235nm,18.5s
MNK Minsk 17.80 13 *i* P Pn 11 06 35.9 -1.0
MNK *i* S Sn 11 09 52.1 -2.0
MNK pmax pmax
comp=N,42nm,0.9s
MNK pmax pmax
comp=E,5.0nm,0.7s
MNK pmax pmax
comp=Z,22nm,0.8s
MNK MLR MLR
comp=N,712nm,21.0s
MNK MLR MLR
comp=E,357nm,22.0s
MNK MLR MLR
comp=Z,235nm,19.0s
KBZ Khabaz 17.84 62 *ce*P P 11 06 40.6 +2.6
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 17.84 62 P Pn 11 06 38.0 +0.4
comp=Z,0.1nm,0.3s,baz=293,slow=4.5,SNR=8.6
KBZ LR LR 11 14 42.6
comp=Z,76nm,19.5s,baz=240,slow=42
comp=Z,4.6nm,0.9s
NACGM Naroch 18.00 11 *e*P Pn 11 06 38.7 -0.7
comp=N,2µm,1.0s
ONI Oni 18.02 66 P Pn 11 06 39.1 -0.7
ONI Oni 18.02 66 P Pn 11 06 39.1 -0.7
ONI pmax pmax
comp=Z,8.0nm,0.8s
PABE Paberze 18.27 6 P 11 06 41.2 -1.4
GNI Garni 18.77 74 *ce*P Pn 11 06 53.3 +4.2
GNI pmax pmax
comp=Z,8.0nm,1.0s
GNI Garni 18.77 74 LR LR 11 15 05.6
comp=Z,88nm,20.1s,baz=294,slow=41
VSR Storozhevoye 18.96 37 *e*P P 11 06 51.1 +0.8
VSR pmax pmax
comp=Z,8.0nm,0.6s
ESDC Sonseca Array 19.60 284 P P 11 06 57.0 -0.4
baz=79,slow=11,SNR=7.8
comp=Z,2.4nm,1.0s
LPSR Galich'ya Gora 19.77 34 *e*P P 11 06 59.3 +0.2
LPSR pmax pmax
comp=Z,30nm,1.0s
VRH Novokhopyorsk 20.23 40 *e*P P 11 07 02.0 -2.1
VRH pmax pmax
comp=Z,20nm,0.6s
OBN Obninsk 20.71 26 *ce*P P 11 07 08.1 -1.1
OBN *e*S S 11 10 51.6 -6.9
OBN pmax pmax

comp=Z,31nm,1.0s
OBN MLR MLR
comp=Z,110nm,16.0s
OBN Obninsk 20.71 26 P **P** **11 07 07.6 -1.6**
comp=Z,19nm,0.3s,baz=51,slow=16,SNR=5.2
comp=Z,19nm,0.3s
MDT Midelt 21.36 265 P **P** **11 07 16.6 0.0**
comp=Z,2.0nm,0.8s,baz=87,slow=8.1,SNR=4.7
MDT LR LR 11 15 45.2
comp=Z,71nm,18.9s,baz=56,slow=37
comp=Z,2.0nm,0.8s
VSU Vasula 21.45 8*ce*P **P** **11 07 17.0 -0.2**
VSU pmax pmax
comp=Z,65nm,1.7s
MOS Moscow 21.57 26 *e*P **P** **11 07 16.8 -1.7**
MOS pmax pmax
comp=Z,58nm,0.9s
HFS Hagfors 23.26 351 P **P** **11 07 34.9 -1.4**
comp=Z,4.9nm,0.9s,baz=182,slow=16,SNR=6.6
comp=Z,4.9nm,0.9s
BELG Belogornoye 23.98 43 *i* P **P** **11 07 42.3 -0.9**
BELG pmax pmax
comp=Z,7.0nm,0.9s
BELG Belogornoye 23.98 43 P **P** **11 07 42.1 -1.1**
comp=Z,33nm,0.7s,baz=330,slow=5.2,SNR=9.6
BELG LR LR 11 18 16.5
comp=Z,86nm,18.9s,baz=125,slow=40
EKA Eskdalemuir Ar 24.28 325 P **P** **11 07 46.9 +0.8**
comp=Z,3.8nm,0.7s,baz=127,slow=8.3,SNR=13
comp=Z,3.8nm,0.7s
FINES FINESS Array B 24.32 6 LR LR 11 18 30.6
comp=Z,224nm,18.2s,baz=195,slow=40
NC405 NORSAR Array S 24.48 349 P **P** **11 07 46.4 -1.4**
NB201 NORSAR Array S 24.48 349 P **P** **11 07 46.8 -1.0**
NB2 NORSAR Subarra 24.48 349 P **P** **11 07 48.1 +0.2**
comp=Z,3.4nm,1.0s,baz=156,slow=9.3
NOA NORSAR Array B 24.48 349 P **P** **11 07 47.8 -0.1**
comp=Z,0.8nm,0.8s,baz=152,slow=11,SNR=6.7
comp=Z,0.8nm,0.8s
NBO00 NORSAR Array S 24.54 348 P **P** **11 07 46.8 -1.6**
NBO00 IAmb IAmb 11 08 09.4
comp=Z,8.1nm,0.9s
NC303 NORSAR Array S 24.63 349 P **P** **11 07 47.9 -1.3**
NC303 IAmb IAmb 11 08 09.5
comp=Z,11nm,0.9s
KLMR Klimovskoe 26.29 21 *e*P **P** **11 08 02.6 -1.5**
KLMR pmax pmax
comp=Z,21nm,1.0s
KIRV Kirov 28.17 32*ce*P **P** **11 08 20.0 -1.0**
KIRV Kirov 28.17 32 LR LR 11 21 27.0
comp=Z,48nm,18.3s,baz=266,slow=41
GEYT Alibeck 29.33 77 LR LR 11 21 23.8
comp=Z,27nm,20.7s,baz=154,slow=39
AKTO Aktyubinsk 29.42 52 P **P** **11 08 31.5 -0.8**
comp=Z,1.3nm,0.5s,baz=279,slow=4.3,SNR=5.8
AKTO LR LR 11 22 59.7
comp=Z,26nm,18.5s,baz=204,slow=42
comp=Z,1.3nm,0.5s
TOA0 Torodi Ar. Sit 29.61 221 P **P** **11 08 33.9 -0.3**
TORD Torodi Ar. Bea 29.61 221 P **P** **11 08 34.0 -0.3**
TORD Torodi Ar. Bea 29.61 221 P **P** **11 08 35.6 +1.4**
comp=Z,1.5nm,0.7s,baz=32,slow=10,SNR=11
TORD LR LR 11 21 04.9
comp=Z,74nm,20.6s,baz=54,slow=38
comp=Z,1.5nm,0.7s
ABKAR Akbulak array 30.45 54 P **P** **11 08 40.5 -0.8**
ARU Arti 31.46 41*d* *i*P **P** **11 08 50.6 +0.4**
ARU 11 09 53.2
ARU 11 11 40.3
ARU S **S** **11 13 53.4 -2.4**
ARU SS **SnSn** **11 15 45.2 +3.5**
ARU pmax pmax
comp=Z,8.0nm,1.2s
ARU Arti 31.46 41 P **P** **11 08 49.5 -0.7**
comp=Z,2.8nm,0.3s,baz=348,slow=9.4,SNR=4.3
ARU LR LR 11 22 26.5
comp=Z,58nm,20.6s,baz=267,slow=38
comp=Z,2.8nm,0.3s
LVZ Lovozero 31.55 10 P **P** **11 08 50.4 -0.5**
LVZ Lovozero 31.55 10 P **P** **11 08 50.4 -0.5**
LVZ pmax pmax
comp=Z,57nm,1.5s
ARCES ARCESS Array B 32.33 3 P **P** **11 08 57.0 -0.7**
ARCES ARCESS Array B 32.33 3 P **P** **11 08 57.0 -0.7**
comp=Z,1.5nm,0.6s,baz=193,slow=9.9,SNR=11
ARCES LR LR 11 23 10.8
comp=Z,134nm,18.1s,baz=168,slow=39
comp=Z,1.5nm,0.6s
BRVK Borovoye 37.34 49 P **P** **11 09 40.7 -0.4**
BRVK IAmb IAmb 11 09 42.8
comp=Z,4.1nm,0.8s
BRVK Borovoye 37.34 49*ce*P **P** **11 09 41.9 +0.8**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BVAR Borovoye Array 37.40 49 P **P** **11 09 41.3 -0.3**
comp=Z,3.1nm,0.7s,baz=278,slow=5.2,SNR=13
BVAR LR LR 11 28 01.1
comp=Z,26nm,18.3s,baz=254,slow=41
comp=Z,3.1nm,0.7s
SIMJ Simiganj 37.56 73 P **P** **11 09 42.8 -0.6**
SIMJ IAmb IAmb 11 09 53.2
comp=Z,4.3nm,0.8s
CHGR Chuyangaron 37.68 73 P **P** **11 09 43.4 -0.9**
CHGR Chuyangaron 37.68 73 P **P** **11 09 43.4 -0.9**
CHGR pmax pmax
comp=Z,16nm,0.7s
KK31 Karatay Array 37.84 65 P **P** **11 09 44.7 -0.8**
KK31 IAmb IAmb 11 09 55.9
comp=Z,3.1nm,0.7s
KK31 Karatay Array 37.84 65 P **P** **11 09 44.7 -0.8**
KK31 pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 37.84 65 P **P** **11 09 45.0 -0.5**
KKAR Karatay Array 37.84 65 P **P** **11 09 45.0 -0.5**
GAR Garm 38.48 72 P **P** **11 09 51.0 -0.1**
GAR IAmb IAmb 11 10 01.4
comp=Z,9.6nm,0.7s
DBIC Dimbokro 38.52 224 P **P** **11 09 51.4 0.0**
DBIC IAmb IAmb 11 09 54.4
comp=Z,11nm,0.8s
DBIC Dimbokro 38.52 224 P **P** **11 09 51.4 0.0**
DBIC pmax pmax
comp=Z,11nm,0.9s
DBIC Dimbokro 38.52 224 P **P** **11 09 53.5 +2.1**
comp=Z,9.6nm,0.7s,baz=24,slow=8.8,SNR=10
comp=Z,9.6nm,0.7s
BTK Batken 38.62 70 P **P** **11 09 52.5 +0.3**
BTK Batken 38.62 70 P **P** **11 09 52.5 +0.3**
BTK pmax pmax
comp=Z,3.0nm,0.6s
MBAR Mbarara 38.85 164 P **P** **11 09 54.1 -0.2**
MBAR Mbarara 38.85 164 P **P** **11 09 54.1 -0.2**
MBAR pmax pmax
comp=Z,4.0nm,0.9s
ARK Arkit 39.12 67 P **P** **11 09 56.8 +0.4**
ARSB Arslanbob 39.96 68 P **P** **11 10 03.4 0.0**
ARSB Arslanbob 39.96 68 P **P** **11 10 03.4 0.0**
ARSB pmax pmax
comp=Z,1.0nm,1.0s
SPITS Spitsbergen Ar 40.97 359 P **P** **11 10 11.2 +0.1**
comp=Z,4.7nm,0.8s,baz=154,slow=12,SNR=8.7
SPITS LR LR 11 29 09.0
comp=Z,98nm,20.8s,baz=130,slow=39
comp=Z,4.7nm,0.8s
KURBB Kurchatov Arra 42.46 53 P **P** **11 10 23.0 -0.6**
comp=Z,2.0nm,0.3s,baz=282,slow=8.7,SNR=15
KURBB LR LR 11 31 55.0
comp=Z,29nm,18.4s,baz=168,slow=42
comp=Z,2.0nm,0.3s
KURK Kurchatov 42.51 53 P **P** **11 10 23.1 -1.0**
KURK IAmb IAmb 11 10 47.7
comp=Z,6.6nm,1.2s
KURK Kurchatov 42.51 53*ce*P **P** **11 10 23.8 -0.2**
KURK pmax pmax
comp=Z,6.0nm,2.5s
MK31 Makanchi Array 45.46 58 P **P** **11 10 47.2 -0.6**
MK31 Makanchi Array 45.46 58 P **P** **11 10 47.2 -0.6**
MK31 pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 45.46 58 P **P** **11 10 46.7 -1.1**
MKAR Makanchi Array 45.46 58 P **P** **11 10 47.0 -0.8**
comp=Z,1.8nm,0.7s,baz=280,slow=7.0,SNR=16
MKAR LR LR 11 32 17.6
comp=Z,34nm,19.4s,baz=240,slow=40
comp=Z,1.8nm,0.7s
ZAA0 Zalesovo Array 46.00 48 P **P** **11 10 50.9 -1.1**
ZAA0 IAmb IAmb 11 11 07.9
comp=Z,3.7nm,0.7s
ZALV Zalesovo Beam 46.00 48 P **P** **11 10 50.7 -1.2**
comp=Z,1.8nm,0.4s,baz=270,slow=9.1,SNR=12
comp=Z,1.8nm,0.4s
NRIK Noril'sk 47.38 26 *i* P **P** **11 11 02.0 -0.5**
NRIK pmax pmax
comp=Z,1.0nm,0.9s
NRIK Noril'sk 47.38 26 P **P** **11 11 02.6 +0.1**
comp=Z,1.0nm,0.4s,baz=328,slow=14,SNR=9.0
comp=Z,1.0nm,0.4s
DGZ Jazzator, Alta 48.26 53 *i* P **P** **11 11 09.9 +0.1**
DGZ pmax pmax
comp=Z,1.0nm,1.0s
SCHQ Schefferville 59.28 318 P **P** **11 12 32.7 +2.5**
comp=Z,1.9nm,0.9s,baz=159,slow=9.3,SNR=1.7
comp=Z,1.9nm,0.9s
TIXI Tiksi 60.30 20 *i* P P 11 12 30.8 -6.1
TIXI pmax pmax
comp=Z,1.0nm,1.3s
ULN Ulaanbaatar 61.12 50*ce*P **P** **11 12 40.0 -3.0**
ULN pmax pmax
comp=Z,5.0nm,2.5s
YAK Yakutsk 65.66 29*ce*P **P** **11 13 13.4 +0.8**
YAK pmax pmax
comp=Z,4.0nm,0.4s
YAK Yakutsk 65.66 29 LR LR 11 45 50.5
comp=Z,43nm,18.5s,baz=286,slow=40
BOSA Boshof 65.75 176 LR LR 11 47 36.9
comp=Z,49nm,18.3s,baz=192,slow=41
SUR Sutherland 69.38 180 LR LR 11 45 33.9
comp=Z,58nm,18.1s,baz=241,slow=37
CMAR Chiang Mai Arr 69.68 82 P **P** **11 13 39.1 +0.4**
comp=Z,0.3nm,0.4s,baz=295,slow=7.7,SNR=5.0
comp=Z,0.3nm,0.4s
BILL Bilibino 71.74 13 *i* P **P** **11 13 54.5 +4.1**
BILL pmax pmax
comp=Z,2.0nm,1.2s
B20K Meade River 72.93 359 P **P** **11 13 58.5 +1.1**
B20K IAmb IAmb 11 14 03.7
comp=Z,6.0nm,1.2s
E46A Sault Ste Mari 73.08 316 P **P** **11 13 57.8 -1.0**
E29M Blow River 73.38 352 P **P** **11 14 01.6 +1.5**
E29M IAmb IAmb 11 14 24.9
comp=Z,5.2nm,1.1s
YKA Yellowknife Ar 74.27 340 P **P** **11 14 06.5 +1.1**
comp=Z,0.2nm,0.9s,baz=40,slow=4.9,SNR=3.0
comp=Z,0.2nm,0.9s
MA2 Magadan 74.91 24 P **P** **11 14 09.2 0.0**
MA2 Magadan 74.91 24*ce*P **P** **11 14 07.8 -1.4**
MA2 pmax pmax
comp=Z,11nm,1.7s
MA2 Magadan 74.91 24 LR LR 11 51 46.1
comp=Z,66nm,18.1s,baz=348,slow=40
E19K Redstone River 75.50 359 P **P** **11 14 13.7 +1.2**
E19K IAmb IAmb 11 14 30.9
comp=Z,3.1nm,0.8s
E18K Tukpahlearik C 75.53 1 P **P** **11 14 13.1 +0.4**
E18K IAmb IAmb 11 14 30.8
comp=Z,2.5nm,0.8s
ULM Lac du Bonnet 76.55 324 P **P** **11 14 20.3 +1.6**
comp=Z,0.7nm,0.4s,baz=52,slow=20,SNR=1.9
comp=Z,0.7nm,0.4s
ILAR Eielson Array 77.75 355 P **P** **11 14 26.6 +1.3**
comp=Z,0.2nm,0.8s,baz=3.8,slow=2.7,SNR=2.3
comp=Z,0.2nm,0.8s
KSRS Korea Array 79.60 51 P **P** **11 14 35.5 -0.4**
comp=Z,1.3nm,0.8s,baz=303,slow=4.7,SNR=3.2
comp=Z,1.3nm,0.8s
PETK Petropavlovsk- 82.41 25 LR LR 11 57 37.3
comp=Z,45nm,18.4s,baz=342,slow=40
ASAJ Asahikawa 83.23 38 LR LR 11 57 18.7
comp=Z,42nm,18.2s,baz=96,slow=40
NEW Newport 86.93 333 LR LR 11 56 19.6
comp=Z,41nm,18.5s,baz=18,slow=37
ASAR Alice Springs 121.76 97 PKIKP **PKPdf** **11 21 23.0 +0.2**
ASAR Alice Springs 121.76 97 PKP **PKPdf** **11 21 23.0 +0.2**
comp=Z,0.3nm,0.8s,baz=308,slow=1.5,SNR=7.3
QSPA South Pole Qui 127.22 180 PKP **PKiKP** **11 21 33.3 +0.8**
comp=Z,1.0nm,1.0s,baz=282,slow=2.6,SNR=3.1

*THE **13** 11:19:37.9, 36.°50N ± 21.°40E, h0km ± 5km, ML3.3/3, Error ellipse: s-maj=6.1km s-min=2.0km az=208.0*
*ATH **13** 11:19:39.4, 36.°56N ± 21.°40E, h12km ± 3km, ML3.1/10, Error ellipse: s-maj=5.0km s-min=1.9km az=37.0*
*IDC **13** 11:19:50.1 ± 4.0, 37.°09N ± 21.°74E, h112km ± 91km, mb3.3/5, mbtmp3.6/5, ML1.2/1, MS2.9/3, Error ellipse: s-maj=197.4km s-min=31.4km az=33.0*

ISC 13 11:19:37.8 ± 1.7, **36.°54N** ± 0.°07 × **21.°31E** ± 0.°06, **h28**km ± 11km, **n44**, σ **1s 40**/46, **mb3.5**/5, **Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.50**	**44**	P	**Pb**	**11 19 47.8**	**-0.4**
PYL				S	**Sb**	**11 19 53.9**	**-1.4**
	7μm,0.5s						
PYL	**PYLOS**	**0.50**	**44**	P	**Pb**	**11 19 47.8**	**-0.4**
PYL				S	**Sb**	**11 19 54.3**	**-1.0**
PYL				AML	AML	11 19 54.8	
	comp=N,15473μm,0.4s						
PYL				AML	AML	11 19 55.5	
	comp=E,10762μm,0.4s						
LTHK	**Lithakia**	**1.23**	**342**	P	**Pb**	**11 20 00.8**	**+0.4**
LTHK	**Lithakia**	**1.23**	**342**	P	**Pb**	**11 20 00.9**	**+0.4**
LTHK				AML	AML	11 20 34.4	
	comp=E,1732μm,0.5s						
LTHK				AML	AML	11 20 38.8	
	comp=N,1646μm,0.5s						
VLI	**Velíai**	**1.33**	**82**	P	**Pb**	**11 20 01.8**	**-0.2**
VLI				S	**Sb**	**11 20 19.7**	**+1.1**
	comp=N,590nm,0.8s						
VLI	**Velíai**	**1.33**	**82**	P	**Pb**	**11 20 01.7**	**-0.4**
VLI				S	**Sb**	**11 20 18.8**	**+0.1**
VLI				AML	AML	11 20 27.0	
	comp=E,1319μm,0.5s						
VLI				AML	AML	11 20 29.3	
	comp=N,1097μm,0.8s						
DRO	**Drossia**	**1.45**	**13**	P	**Pb**	**11 20 05.9**	**+1.7**
DRO				S	**Sb**	**11 20 26.9**	**+4.7**
	comp=N,982nm,0.4s						
DRO	**Drossia**	**1.45**	**13**	P	**Pb**	**11 20 04.2**	**0.0**
DRO				AML	AML	11 20 34.2	
	comp=E,2492μm,0.5s						
DRO				AML	AML	11 20 38.0	
	comp=N,1515μm,0.5s						
RLS	**Riolos of Patr**	**1.52**	**5**	P	**Pb**	**11 20 05.7**	**+0.3**
RLS	**Riolos of Patr**	**1.52**	**5**	P	**Pb**	**11 20 05.2**	**-0.2**
RLS				AML	AML	11 20 44.2	
	comp=N,750μm,0.6s						
RLS				AML	AML	11 20 46.8	
	comp=E,680μm,0.9s						
GUR	**Goura**	**1.62**	**30**	P	**Pb**	**11 20 06.4**	**-0.8**
GUR	**Goura**	**1.62**	**30**	P	**Pb**	**11 20 06.3**	**-0.9**
GUR				AML	AML	11 20 44.8	
	comp=E,1988μm,0.6s						
GUR				AML	AML	11 20 46.1	
	comp=N,1640μm,0.8s						
KLV	**Kalavryta, Ach**	**1.65**	**24**	P	**Pb**	**11 20 06.8**	**-0.8**
KLV	**Kalavryta, Ach**	**1.65**	**24**	P	**Pb**	**11 20 06.8**	**-0.8**
KLV				AML	AML	11 20 39.0	
	comp=N,629μm,0.8s						
KLV				AML	AML	11 20 40.1	
	comp=E,576μm,1.3s						
PSDA	**Pessada-Kefalo**	**1.68**	**340**	P	**Pb**	**11 20 08.2**	**+0.2**
PSDA	**Pessada-Kefalo**	**1.68**	**340**	P	**Pb**	**11 20 07.8**	**-0.2**
KRND	**KRANIDI**	**1.70**	**60**	P	**Pn**	**11 20 06.4**	**+0.7**
KRND	**KRANIDI**	**1.70**	**60**	P	**Pn**	**11 20 06.3**	**+0.7**
KRND				AML	AML	11 20 35.9	
	comp=E,901μm,0.5s						
KRND				AML	AML	11 20 36.5	
	comp=N,951μm,0.7s						
VLS	**Valsamata**	**1.73**	**341**	P	**Pb**	**11 20 09.6**	**+0.6**
ANKY	**Antikythira Is**	**1.75**	**112**	P	**Pb**	**11 20 08.6**	**-0.6**
ANKY	**Antikythira Is**	**1.75**	**112**	P	**Pb**	**11 20 08.5**	**-0.7**
EFP	**Efpalío**	**1.95**	**14**	P	**Pb**	**11 20 11.9**	**-0.7**
EFP	**Efpalio**	**1.95**	**14**	P	**Pb**	**11 20 11.9**	**-0.7**
EFP				AML	AML	11 20 50.2	
	comp=E,598μm,1.3s						
EFP				AML	AML	11 20 58.4	
	comp=N,412μm,0.7s						
LTK	**Loutraki**	**1.99**	**41**	P	**Pn**	**11 20 10.6**	**+0.9**
LTK				AML	AML	11 20 53.7	
	comp=N,508μm,0.5s						
LTK				AML	AML	11 20 55.6	
	comp=E,647μm,1.1s						
PVO	**Paravola**	**2.08**	**5**	P	**Pb**	**11 20 14.6**	**-0.4**
IMMV	**Iera Moni Meta**	**2.42**	**116**	P	**Pn**	**11 20 17.5**	**+2.0**
AGG	**Agios Georgios**	**2.61**	**18**	P	**Pn**	**11 20 20.3**	**+2.1**
IDI	**Anoyia**	**3.17**	**112**	P	Pb	11 20 37.7	+4.3
	baz=318,slow=15,SNR=2.1						
IDI				S	**Sn**	**11 21 05.8**	**+3.1**
	comp=E,0.2nm,0.4s,baz=11,slow=18,SNR=2.1						
DBRK	**Dubrovnik**	**6.59**	**339**	*e*Pn	**Pn**	**11 21 12.7**	**-0.1**
STON	**Ston**	**6.91**	**337**	*e*Pn	**Pn**	**11 21 16.8**	**-0.4**
STON				Sn	Sn	11 22 28.9	-5.9
LSTV	**Lastovo**	**7.09**	**333**	*e*Pn	**Pn**	**11 21 19.7**	**0.0**
LSTV				Sn	Sn	11 22 32.3	-7.0
RICI	**Ricice**	**7.65**	**337**	*e*Pn	**Pn**	**11 21 26.1**	**-1.2**
ZIRJ	**Zirje**	**8.33**	**330**	*e*Pn	**Pn**	**11 21 36.9**	**+0.3**
KIJV	**Kijevo**	**8.35**	**335**	*e*Pn	**Pn**	**11 21 37.9**	**+1.0**
KIJV				Sn	**Sn**	**11 23 05.9**	**-4.2**
MORI	**Morici**	**8.48**	**331**	*e*Pn	**Pn**	**11 21 40.3**	**+1.6**
DUGI	**Dugi Otok**	**8.84**	**329**	*e*Pn	**Pn**	**11 21 45.0**	**+1.3**
BRTR	**Keskin Array B**	**10.22**	**68**	LR	LR	11 26 23.3	
	comp=E,42nm,18.7s,baz=358,slow=40						
HFS	**Hagfors**	**24.12**	**351**	P	**P**	**11 24 50.3**	**-0.6**
	comp=E,0.8nm,0.4s,baz=163,slow=11,SNR=4.9						
	comp=E,0.8nm,0.4s						
FINES	**FINESS Array B**	**25.11**	**5**	P	**P**	**11 24 59.0**	**-1.0**
	comp=E,0.7nm,0.5s,baz=165,slow=9.8,SNR=6.2						
	comp=E,0.7nm,0.5s						
NOA	**NORSAR Array B**	**25.35**	**349**	P	**P**	**11 25 02.1**	**0.0**
	comp=E,0.6nm,0.6s,baz=158,slow=9.1,SNR=3.4						
	comp=E,0.6nm,0.6s						
ARU	**Arti**	**31.90**	**40**	LR	LR	11 39 23.5	
	comp=E,26nm,18.8s,baz=274,slow=38						
DBIC	**Dimbokro**	**38.15**	**225**	LR	LR	11 43 59.2	
	comp=E,28nm,20.1s,baz=218,slow=37						
MKAR	**Makanchi Array**	**45.65**	**57**	P	P	11 27 54.0	-1.8
	comp=E,0.3nm,0.5s,baz=272,slow=7.8,SNR=7.9						
	comp=E,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**46.34**	**47**	P	**P**	**11 28 00.0**	**-1.0**
	comp=E,0.9nm,0.3s,baz=280,slow=8.9,SNR=3.8						
	comp=E,0.9nm,0.3s						

*NAO **13** 11:23:12.6 ± 3.8, 74.°25N × 9.°73E, ML3.2*
*BER **13** 11:23:13.8 ± 3.5, 74.°25N × 8.°73E, h10km, mb(Pn)4.0, ML3.2(NAO), Confirmed Earthquake*
*FCIAR **13** 11:23:15.0, 74.°20N × 10.°51E, h10km, station SPA0 has station magnitude of 3.14*
*DNK **13** 11:23:21.9 ± 2.9, 74.°79N × 6.°12E, h18km ± 70km, ML1.5*

ISC 13 11:23:10.0 ± 1.0, **74.°20N** ± 0.°06 × **9.°06E** ± 0.°07, **h10**km, **n34**, σ **2s 41**/50, **1C**, **Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJO1	**Bjornoya**	**2.71**	**79**	Pn	**Pn**	**11 23 55.1**	**+1.6**
BJO1				Sn	**Sn**	**11 24 24.5**	**-1.8**
BJO1	**Bjornoya**	**2.71**	**79**	*e*P	**Pn**	**11 23 55.1**	**+1.6**
BJO1				*e*S	**Sn**	**11 24 24.3**	**-2.0**
BJO1				IAML		11 24 27.8	
	comp=Z,32nm,0.2s						
HSPB	**Hornsund (broa**	**3.25**	**27**	Pn	**Pn**	**11 24 02.6**	**+1.7**
HSPB				Sn	**Sn**	**11 24 36.9**	**-2.7**
HSPB	**Hornsund (broa**	**3.25**	**27**	*e*P	**Pn**	**11 24 02.6**	**+1.7**
HSPB				*e*S	**Sn**	**11 24 37.3**	**-2.2**
HSPB				IAML		11 24 40.5	
	comp=Z,3.3nm,0.2s						
BRBA	**Barentsburg A**	**4.08**	**15**	Pn	**Pn**	**11 24 14.5**	**+2.3**
BRBA				Sn	**Sn**	**11 24 60.0**	**+0.1**
BRBA	**Barentsburg A**	**4.08**	**15**	*e*P	**Pn**	**11 24 14.3**	**+2.1**
BRBA				*e*S	**Sn**	**11 25 02.6**	**+2.7**
BRBA				IAML		11 25 05.5	
	comp=Z,7.3nm,0.5s						
BRBB	**Barentsburg B**	**4.11**	**15**	Pn	**Pn**	**11 24 15.0**	**+2.3**
BRBB				Sn	**Sn**	**11 25 00.3**	**-0.4**
BRBB	**Barentsburg B**	**4.11**	**15**	*e*P	**Pn**	**11 24 14.8**	**+2.1**
BRBB				*e*S	**Sn**	**11 25 01.6**	**+1.0**
SPA0	**Spitsbergen Ar**	**4.37**	**20**	Pn	**Pn**	**11 24 18.8**	**+2.6**
	baz=192,slow=18						
SPA0				Sn	**Sn**	**11 25 07.8**	**+0.8**
	baz=191,slow=28						
SPA0	**Spitsbergen Ar**	**4.37**	**20**	Pn	**Pn**	**11 24 18.8**	**+2.6**
	baz=192,slow=18						
SPA0				Sn	**Sn**	**11 25 07.8**	**+0.8**
	baz=191,slow=28						
SPA0				IAML		11 25 11.8	
	comp=Z,5.7nm,0.4s						
SPA0	**Spitsbergen Ar**	**4.37**	**20**	*i*P	**Pn**	**11 24 18.6**	**+2.4**
SPA0				*e*S	**Sn**	**11 25 06.4**	**-0.7**
HOPEN	**Hopen**	**4.66**	**53**	Pn	**Pn**	**11 24 22.6**	**+2.4**
HOPEN				Sn	**Sn**	**11 25 11.6**	**-2.6**
HOPEN	**Hopen**	**4.66**	**53**	*e*P	**Pn**	**11 24 22.0**	**+1.9**
HOPEN				*e*S	**Sn**	**11 25 12.2**	**-1.9**
HOPEN				IAML		11 25 15.7	
	comp=Z,18nm,0.2s						
HOPEN	**Hopen**	**4.66**	**53**	*e*P	**Pn**	**11 24 22.3**	**+2.2**
HOPEN				*e*S	**Sn**	**11 25 10.4**	**-3.8**
KBS	**Kingsbay**	**4.80**	**7**	Pn	**Pn**	**11 24 24.0**	**+1.8**
KBS				Sn	**Sn**	**11 25 17.1**	**-0.7**
KBS	**Kingsbay**	**4.80**	**7**	*e*P	**Pn**	**11 24 23.5**	**+1.3**
KBS				*e*S	**Sn**	**11 25 17.5**	**-0.2**
KBS				IAML		11 25 21.6	
	comp=Z,4.5nm,0.7s						
KBS	**Kingsbay**	**4.80**	**7**	*i*P	**Pn**	**11 24 25.8**	**+3.6**
KBS				*i*S	**Sn**	**11 25 14.7**	**-3.1**
KBS	**Kingsbay**	**4.80**	**7**	*e*P	**Pn**	**11 24 21.5**	**-0.7**
KBS				*e*S	**Sn**	**11 25 11.9**	**-5.8**
HAMF	**Hammerfest**	**5.68**	**122**	*e*S	Sn	11 25 34.6	-4.7
HAMF				IAML		11 25 38.5	
	comp=Z,4.8nm,0.5s						
JMI	**Jan Mayen**	**6.25**	**247**	*e*P	**Pn**	**11 24 45.8**	**+3.7**
JMI				IAML		11 25 58.1	
	comp=Z,32nm,0.3s						
KIF	**Kilpisjarvi**	**6.39**	**139**	Pn	**Pn**	**11 24 47.5**	**+3.5**
KIF				Sn	Sn	11 25 54.0	-2.8
KIF	**Kilpisjarvi**	**6.39**	**139**	*e*P	**Pn**	**11 24 46.6**	**+2.7**
KIF				*e*S	Sn	11 25 51.2	-5.6
KTK1	**Kautokeino**	**6.85**	**132**	*e*P	**Pn**	**11 24 54.5**	**+4.2**
KTK1				*e*S	**Sn**	**11 26 06.0**	**-2.2**
KTK1				IAML		11 26 06.2	
	comp=Z,1.7nm,0.9s						
ARA0	**ARCESS Array S**	**6.92**	**124**	Pn	**Pn**	**11 24 54.0**	**+2.7**
	baz=322,slow=11						
ARA0				Sn	Sn	11 26 05.5	-4.4
	baz=324,slow=22						
ARA0	**ARCESS Array S**	**6.92**	**124**	Pn	**Pn**	**11 24 54.0**	**+2.7**
	baz=322,slow=11						
ARA0				Sn	Sn	11 26 05.5	-4.4
	baz=324,slow=22						
ARA0				IAML		11 26 09.0	
	comp=Z,1.9nm,0.7s						
KEV	**Kevo**	**7.10**	**120**	*e*P	**Pn**	**11 24 57.1**	**+3.3**
DAG	**Danmarks Havn**	**7.37**	**303**	*e*	Pn	11 24 54.3	-3.1
	baz=108,slow=9.3						
DAG				*e*P	Pn	11 24 54.9	-2.5
DAG				*e*S	Sn	11 26 09.9	-11
DAG				IAML		11 26 12.8	
	comp=Z,1.7nm,0.3s						
DAG	**Danmarks Havn**	**7.37**	**303**	*e*	Pn	11 24 54.3	-3.1
	baz=108,slow=9.3						
DAG				*e*P	Pn	11 24 54.9	-2.5
DAG				*e*S	Sn	11 26 01.6	-19
DAG				IAML		11 26 12.8	
	comp=Z,1.7nm,0.3s						
VADS	**Vadso**	**7.42**	**113**	*e*P	**Pn**	**11 25 00.3**	**+2.2**
NOR	**Nord**	**9.05**	**336**	*e*P	**Pn**	**11 25 19.6**	**-0.7**
SCO	**Scoresbysund**	**10.03**	**264**	*i*P	**Pn**	**11 25 32.9**	**-1.0**
SCO	**Scoresbysund**	**10.03**	**264**	*i*P	**Pn**	**11 25 32.9**	**-1.0**
ZFI2	**Zemlya Franca-**	**10.38**	**34**	*e*P	**Pn**	**11 25 39.9**	**+1.4**
ZFI2				S	Sn	11 27 27.5	-7.1
OMEGA	**Omega**	**10.38**	**34**	*e*P	**Pn**	**11 25 40.3**	**+1.7**
OMEGA				S	Sn	11 27 28.1	-6.6

BER 13 11:26:56.9 ± 2.1, **74.°24N** × 9.°39E, **h10**km, **mb(Pn)3.5, Confirmed Earthquake, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJO1	**Bjornoya**	**2.62**	**80**	*e*P	Pn	11 27 37.0	-2.1
BJO1				*e*S	Sn	11 28 06.8	-4.0
BJO1				IAML		11 28 10.2	
	comp=Z,5.3nm,0.2s						
HSPB	**Hornsund (broa**	**3.17**	**26**	*e*P	Pn	11 27 44.2	-2.6
HSPB				*e*S	Sn	11 28 20.5	-4.1
HSPB				IAML		11 28 23.0	
	comp=Z,1.5nm,0.8s						
BRBA	**Barentsburg A**	**4.01**	**14**	*e*P	Pn	11 27 56.2	-2.0

BRBA				IAML		11 28 43.3		
	comp=Z,2.3nm,0.5s							
BRBB	**Barentsburg B**	**4.05**	**14**	*e*S	Pn	11 27 56.5	-2.3	
BRBB				*e*S	Sn	11 28 41.7	-4.4	
SPA0	**Spitsbergen Ar**	**4.30**	**20**	*e*P	Pn	11 28 00.5	-1.7	
SPA0				*e*S	Sn	11 28 48.2	-4.1	
SPA0				IAML		11 28 54.7		
	comp=Z,2.4nm,0.9s							
HOPEN	**Hopen**	**4.56**	**53**	*e*P	Pn	11 28 03.9	-1.9	
HOPEN				*e*S	Sn	11 28 52.5	-6.2	
HOPEN				IAML		11 28 57.1		
	comp=Z,3.5nm,0.6s							
KBS	**Kingsbay**	**4.75**	**6**	*e*P	Pn	11 28 05.3	-3.2	
KBS				*e*S	Sn	11 28 60.0	-3.5	
KBS				IAML		11 29 01.2		
	comp=Z,1.8nm,1.0s							
VADS	**Vadso**	**7.36**	**114**	*e*S	Sn	11 29 59.9	-7.6	
VADS				IAML		11 30 17.2		
	comp=Z,5.4nm,0.7s							

NNC 13 11:51:21.7±1.5,**38°.16N**×**72°.09E**,**h0**km,**mb3.8,mpv3.4, 5C,Error ellipse: s-maj=11.8km s-min=9.3km az=177.0, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.09**	**347**	P	Pn	11 52 39.5	+0.4
	2.3nm,0.3s,baz=166,slow=12,SNR=40						
KK31				⇑S	Sn	11 53 39.6	+0.9
	4.6nm,0.7s,baz=170,slow=23,SNR=8.7						
CHMS	**Chumysh**	**5.25**	**22**	⇑P	Pn	11 52 41.4	0.0
	2.9nm,0.3s						
CHMS				⇑S	Sn	11 53 44.2	+1.6
	4.9nm,0.8s						
TKM2	**Tokmak 2**	**5.46**	**28**	⇑P	Pn	11 52 44.1	-0.4
	1.2nm,0.5s						
TKM2				⇑S	Sn	11 53 49.0	+0.9
	1.4nm,0.6s						

*RSNC **13** 12:01:48.1±0.4,5°.N±2°.×8°.2W±°.,h0km,mb4.5,mB5.1, ML3.3,Mw(mB)4.5*
*UPA **13** 12:01:53.5±1.3,5°.78N×82°.40W,h0km±15km,MW4.5*
ISC 13 12:01:44.3±3.4,**5°.24N**±0°.08×**82°.66W**±0°.09,**h11**km±24km, **n44,**σ**3**°**04/52,South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACAO	**El Cacao, Vera**	**2.75**	**40**	*e*P	**Pn**	**12 02 30.3**	**+1.9**
CACAO				*e*S	**Sn**	**12 02 59.0**	**-2.7**
CACAO	**El Cacao, Vera**	**2.75**	**40**	P	**Pn**	**12 02 30.5**	**+2.1**
CACAO				S	**Sn**	**12 03 02.4**	**+0.7**
GMAL	**Guarumal, Vera**	**2.88**	**29**	*e*P	**Pn**	**12 02 32.1**	**+2.0**
GMAL				*e*S	**Sn**	**12 03 02.2**	**-2.7**
GMAL	**Guarumal, Vera**	**2.88**	**29**	P	**Pb**	**12 02 34.0**	**-1.8**
GMAL				S	**Sn**	**12 03 05.7**	**+0.8**
PTPM	**Petroterminale**	**2.96**	**356**	*e*P	**Pn**	**12 02 33.6**	**+2.4**
PTPM				*e*S	**Sn**	**12 03 05.4**	**-1.3**
DVD	**David**	**3.19**	**4**	*e*P	**Pn**	**12 02 36.8**	**+2.5**
PTAR3	**Potrerillos Ar**	**3.44**	**3**	*e*P	**Pn**	**12 02 40.8**	**+2.9**
BCO2	**Palmira**	**3.46**	**2**	*e*P	**Pn**	**12 02 41.2**	**+3.0**
BCO2				*e*S	**Sn**	**12 03 18.9**	**-0.5**
AZU	**Azuero**	**3.47**	**43**	*e*P	**Pn**	**12 02 41.5**	**+3.2**
AZU				*e*S	**Sn**	**12 03 16.2**	**-3.2**
AZU	**Azuero**	**3.47**	**43**	P	**Pn**	**12 02 41.1**	**+2.8**
AZU				S	**Sn**	**12 03 21.2**	**+1.7**
CHIT3	**Chitre**	**3.50**	**39**	*e*P	**Pn**	**12 02 41.6**	**+2.9**
BRU2	**Volcan**	**3.53**	**360**	*e*P	**Pn**	**12 02 42.3**	**+3.0**
BRU2				*e*S	**Sn**	**12 03 21.0**	**-0.2**
LNBQ3	**Los Naranjos,**	**3.54**	**4**	*e*P	**Pn**	**12 02 41.9**	**+2.6**
BC3P	**Paso Ancho**	**3.56**	**1**	*e*P	**Pn**	**12 02 42.8**	**+3.2**
PNME	**Penonome**	**3.97**	**36**	P	**Pb**	**12 02 50.3**	**-4.1**
ZANG	**Zanguenga, Cho**	**4.62**	**37**	*e*P	**Pn**	**12 02 56.0**	**+1.9**
BCIP	**Isla Barro Col**	**4.81**	**36**	*e*P	**Pn**	**12 02 59.2**	**+2.6**
BCIP				*e*S	**Sn**	**12 03 48.2**	**-4.1**
BCIP	**Isla Barro Col**	**4.81**	**36**	P	Pn	12 03 01.5	+4.9
BCIP				S	**Sn**	**12 03 56.7**	**+4.4**
UPA	**Univ. de Panam**	**4.84**	**40**	*e*P	**Pn**	**12 03 00.1**	**+3.0**
BATAN	**Batan**	**4.88**	**352**	*e*P	**Pn**	**12 03 02.2**	**+4.6**
GR1C	**Gorgona, Isla**	**5.00**	**116**	P	**Pn**	**12 03 00.7**	**+1.4**
GR1C				S	**Sn**	**12 03 53.4**	**-3.8**
PTAC	**Punta Ardita,**	**5.18**	**68**	*e*P	Pn	12 03 06.1	+4.3
PTAC	**Punta Ardita,**	**5.18**	**68**	P	Pn	12 03 05.9	+4.1
PTAC				S	**Sn**	**12 04 00.3**	**-1.4**
TUMC	**Tumaco**	**5.19**	**131**	P	**Pn**	**12 03 03.6**	**+1.7**
	87nm,1.0s						
MALC	**Bahia Malaga**	**5.45**	**103**	P	**Pn**	**12 03 09.3**	**+3.9**
JTS	**Las Juntas de**	**5.51**	**336**	*e*P	**Pn**	**12 03 09.9**	**+3.6**
JTS	**Las Juntas de**	**5.51**	**336**	P	**Pn**	**12 03 10.3**	**+4.0**
	42nm,0.9s,6μm						
JTS				S	**Sn**	**12 04 03.8**	**-6.0**
	42nm,0.9s,6μm						
UPD2	**Meteti**	**5.67**	**54**	*e*P	**Pn**	**12 03 12.1**	**+3.7**
CAPC	**Capurgana**	**6.26**	**57**	P	Pn	12 03 23.5	+6.9
PAC1	**Pacto, Paraso**	**6.27**	**142**	P	**Pn**	**12 03 19.3**	**+2.4**
BBAC	**Balboa, Cauca**	**6.28**	**120**	P	**Pn**	**12 03 19.7**	**+2.6**
	17nm,0.6s						
BBAC				S	**Sn**	**12 04 25.4**	**-3.6**
	17nm,0.6s						
JAMC	**Jamundi, Valle**	**6.30**	**108**	P	**Pn**	**12 03 21.2**	**+3.8**
	12nm,0.4s						
JAMC				S	**Sn**	**12 04 27.3**	**-2.2**
	12nm,0.4s						
PLMC	**San Jos del P**	**6.36**	**93**	P	**Pn**	**12 03 21.4**	**+3.3**
PLMC				S	**Sn**	**12 04 30.9**	**0.0**
YOTC	**Yotoco, Valle**	**6.42**	**101**	P	**Pn**	**12 03 22.2**	**+3.3**
	43nm,0.5s,818nm						
YOTC				S	**Sn**	**12 04 31.0**	**-1.3**
	43nm,0.5s,818nm						
OTAV	**Otavalo**	**6.51**	**140**	P	**Pn**	**12 03 21.8**	**+1.4**
	12nm,0.6s						
POPC	**Popayan, Colom**	**6.54**	**114**	P	**Pn**	**12 03 23.7**	**+2.9**
	14nm,0.7s						
APAC	**Apartado, Choc**	**6.60**	**66**	P	Pb	12 03 29.8	-9.3
GCUF	**Volcan Galeras**	**6.64**	**127**	P	**Pn**	**12 03 26.4**	**+4.1**
	30nm,0.5s						
DBBC	**Dabeiba**	**6.66**	**74**	P	Pn	12 03 28.0	+5.9
ACON	**Acoyapa**	**7.13**	**340**	P	**Pn**	**12 03 32.4**	**+3.8**
	26nm,0.5s,2μm						
GUY2C	**Guyana, Caldas**	**7.27**	**90**	P	Pn	12 03 36.4	+5.5
	12nm,0.7s						
ANIL	**Santa Ana**	**7.27**	**96**	P	Pn	12 03 35.7	+4.9
ORTC	**Ortega, Tolima**	**7.51**	**100**	P	Pn	12 03 39.1	+5.3
SJCC	**San Jacinto, C**	**8.74**	**58**	P	Pn	12 03 58.9	+8.1

*ISK **13** 12:11:31.2,36°.88N×29°.09E,h8km,ML2.5/12*
*AFAD **13** 12:11:32.2±0.0,36°.90N×29°.22E,h7km±3km,ML2.1*
ISC 13 12:11:31.5±1.1,**36°.90N**±0°.02×**29°.11E**±0°.02,**h3**km±10km, **n22,**σ**1**°**00/34,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAME	**Cameli-Denizli**	**0.16**	**73**	Pg	**Pg**	**12 11 35.3**	**+0.6**
CAME				Sg	**Sg**	**12 11 38.6**	**+1.7**
FETI	**Fethiye-Mugla**	**0.20**	**183**	Pg	**Pg**	**12 11 35.5**	**0.0**
FETI				Sg	**Sg**	**12 11 38.7**	**+0.6**
FETY	**Fethiye**	**0.26**	**185**	Pg	**Pg**	**12 11 36.5**	**0.0**
FETY	**Fethiye**	**0.26**	**185**	P	**Pb**	**12 11 38.5**	**-0.4**
FETY				S	**Sb**	**12 11 42.6**	**-1.2**
CAEL	**Denizli, Camel**	**0.28**	**37**	P	**Pg**	**12 11 35.2**	**-1.8**
CAEL				*i* AML	AML	12 11 46.0	
	comp=N,204nm,0.4s						
DALY	**Dalyan (Mula)**	**0.37**	**258**	Pg	**Pg**	**12 11 38.6**	**-0.1**
DALY				Sg	**Sg**	**12 11 44.3**	**+0.7**
KNIK	**Mula-Seydike**	**0.38**	**97**	P	**Pg**	**12 11 38.5**	**-0.3**
KNIK				S	**Sb**	**12 11 47.5**	**+0.3**
DNZT	**Denizli-Tavas-**	**0.39**	**350**	P	**Pg**	**12 11 40.1**	**+1.1**
DNZT				S	**Sb**	**12 11 46.7**	**-0.9**
DNZT				*i* AML	AML	12 11 48.0	
	comp=E,100nm,0.5s						
IZZE	**Mula-Seydike**	**0.47**	**168**	P	**Pb**	**12 11 41.7**	**-0.6**
IZZE				S	**Sb**	**12 11 48.3**	**-1.4**
IZZE				*i* AML	AML	12 11 51.0	
	comp=N,382nm,0.4s						
IZZE				*i* AML	AML	12 11 53.0	
	comp=E,249nm,0.4s						
GOLH	**Golhisar**	**0.50**	**47**	P	**Pg**	**12 11 40.1**	**-1.0**
GOLH				S	**Sb**	**12 11 49.9**	**-0.8**
GOLH				*i* AML	AML	12 11 53.0	
	comp=N,143nm,0.2s						
GOLH				*i* AML	AML	12 11 55.0	
	comp=E,128nm,0.4s						
TAVA	**DENIZLI_Tavas**	**0.59**	**345**	P	**Pb**	**12 11 44.2**	**-0.4**
TAVA				S	**Sg**	**12 11 50.8**	**+0.2**
APMY	**Acipayam-Deniz**	**0.60**	**15**	Pg	**Pg**	**12 11 43.6**	**+0.6**
ELL	**Elmali**	**0.66**	**103**	Pg	**Pg**	**12 11 44.5**	**+0.4**
TURN	**Turunc**	**0.70**	**260**	Pg	**Pg**	**12 11 44.8**	**-0.2**
DNIZ	**Denizli-Tavas-**	**0.73**	**356**	P	**Pb**	**12 11 46.7**	**-0.3**
DNIZ				S	**Sb**	**12 11 57.3**	**-0.1**
DNIZ				*i* AML	AML	12 12 01.0	
	comp=N,256nm,0.7s						
DNIZ				*i* AML	AML	12 12 01.0	
	comp=E,466nm,0.5s						
AKAS	**Kas**	**0.77**	**149**	Pg	**Pg**	**12 11 46.6**	**+0.3**
AKAS	**Kas**	**0.77**	**149**	P	**Pb**	**12 11 47.5**	**-0.2**
AKAS				S	**Sn**	**12 12 03.0**	**+1.4**
AKAS				*i* AML	AML	12 12 10.0	
	comp=E,99nm,0.4s						
AKAS				*i* AML	AML	12 12 12.0	
	comp=N,126nm,0.6s						
KORT	**Korkueli**	**1.00**	**84**	Pg	**Pb**	**12 11 51.1**	**-0.5**
KORT	**Korkueli**	**1.00**	**84**	P	**Pg**	**12 11 48.3**	**-2.4**
KORT				S	**Sn**	**12 12 09.6**	**+2.3**
ARG	**Arkhangelos**	**1.04**	**230**	Pg	**Pg**	**12 11 51.3**	**-0.2**
DAT	**Datca**	**1.24**	**263**	Pn	**Pg**	**12 11 54.8**	**-0.5**
BODT	**Bodrum**	**1.45**	**277**	Pn	**Pn**	**12 11 58.2**	**-0.5**

IDC 13 12:14:06.5±717.0,**52°.83N**×**33°.83E**,**h0**km,**Error ellipse: s-maj=291.0km s-min=95.0km az=32.0,Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.36**	**25**	I	I	12 41 50.0	
	0.1nm,0.5s,baz=208,slow=308,SNR=1.8						
I31KZ	**AKTYUBINSK INF**	**15.21**	**89**	I	I	13 44 10.0	
	baz=289,slow=332,SNR=2.0						
I46RU	**ZALESOVO INFRA**	**29.90**	**67**	I	I	15 17 10.0	
	baz=289,slow=345,SNR=1.9						

*IDC **13** 12:15:42.9±0.9,6°.14S×143°.07E,h0km,mb4.3/7, mbtmp4.3/9,ML1.7/1,Error ellipse: s-maj=35.8km s-min=20.6km az=61.0*
ISC 13 12:15:45.0±0.7,**6°.28S**±0°.10×**142°.9E**±0°.1,**h10**km,**n18,** σ1°**59/18,mb4.2/7,New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**4.57**	**323**	P	**Pn**	**12 16 56.7**	**+2.4**
PMG	**Port Moresby**	**5.23**	**127**	Pn	**Pn**	**12 17 04.0**	**+0.7**
	1.9nm,0.3s,baz=333,slow=4.5,SNR=6.9						
PMG				Sn	**Sn**	**12 18 03.9**	**+0.2**
	5.0nm,0.3s,baz=233,slow=19,SNR=5.7						
	11nm,0.5s						
WRA	**Warramunga Arr**	**15.94**	**211**	Pn	**Pn**	**12 19 26.9**	**-2.6**
	0.6nm,0.3s,baz=31,slow=13,SNR=13						
WRA				Sn	Sn	12 22 16.6	-10
	0.5nm,0.3s,baz=30,slow=27,SNR=0.5						
KNRA	**Kununurra**	**16.73**	**235**	P	**Pn**	**12 19 37.4**	**-2.2**
AS01	**Alice Springs**	**19.32**	**206**	P	**Pn**	**12 20 12.0**	**+0.5**
ASAR	**Alice Springs**	**19.34**	**206**	P	**Pn**	**12 20 12.4**	**+0.6**
	17nm,0.7s,baz=33,slow=9.6,SNR=159						
ASAR				S	Sn	12 23 39.1	-10
	1.3nm,0.8s,baz=20,slow=28,SNR=5.7						
QLP	**Quilpie**	**20.23**	**177**	P	Pn	12 20 24.0	+1.7
INKA	**Innaminka**	**21.45**	**185**	P	**P**	**12 20 35.9**	**+2.4**
OOD	**Oodnadatta**	**22.47**	**197**	P	**P**	**12 20 46.4**	**+1.9**
WRKA	**Warakurna**	**23.32**	**215**	P	**P**	**12 20 53.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**49.84**	**300**	P	**P**	**12 24 39.2**	**+0.5**
	0.7nm,0.3s,baz=116,slow=6.2,SNR=6.2						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**75.16**	**322**	P	**P**	**12 27 27.6**	**-0.1**
	2.1nm,0.9s,baz=100,slow=8.2,SNR=17						
	2.1nm,0.9s						
ZALV	**Zalesovo Beam**	**77.12**	**329**	P	**P**	**12 27 37.5**	**-1.0**
	1.1nm,0.7s,baz=117,slow=8.8,SNR=4.7						
	1.1nm,0.7s						
KURBB	**Kurchatov Arra**	**79.05**	**324**	P	**P**	**12 27 48.9**	**-0.5**
	0.4nm,0.2s,baz=114,slow=4.5,SNR=7.0						
	0.4nm,0.2s						
QSPA	**South Pole Qui**	**83.69**	**180**	P	**P**	**12 28 13.5**	**-0.5**
	2.1nm,0.8s,baz=233,slow=1.4,SNR=11						
	2.1nm,0.8s						
BVAR	**Borovoye Array**	**84.62**	**325**	P	**P**	**12 28 18.4**	**-0.3**
	8.7nm,0.7s,baz=103,slow=6.7,SNR=33						
	8.7nm,0.7s						
ILAR	**Eielson Array**	**87.35**	**24**	P	**P**	**12 28 30.2**	**-1.8**
	1.6nm,0.7s,baz=253,slow=4.6,SNR=18						
	1.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**141.21**	**283**	PKP	**PKiKP**	**12 35 17.6**	**-2.1**
	0.4nm,0.4s,baz=84,slow=2.5,SNR=6.1						

*CATAC **13** 12:17:04.0±0.3,12°.10N×87°.11W,h37km±4km,ML3.5*
*SNET **13** 12:17:04.1±1.5,12°.12N×87°.11W,h35km±730km,ML3.5*
ISC 13 12:17:03.8±1.2,**12°.07N**±0°.05×**87°.12W**±0°.04,**h59**km±11km, **n68,**σ**0**°**73/88,Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.53**	**78**	*i* P	**Pn**	**12 17 15.8**	**-0.2**
COPN				*i* S	**Sn**	**12 17 26.0**	**+1.1**
COPN				IAML		12 17 27.7	
	comp=Z,930nm,1.0s						
BC86	**Nagarote**	**0.57**	**71**	*i* P	**Pn**	**12 17 16.4**	**-0.1**
BC86				*i* S	**Sn**	**12 17 25.9**	**+0.1**
BC86				IAML		12 17 37.3	
	comp=Z,4μm,1.0s						
MACN	**El Madrono**	**0.58**	**48**	*i* P	**Pn**	**12 17 16.2**	**-0.5**
MACN				*i* S	**Sn**	**12 17 26.2**	**+0.1**
MACN				IAML		12 17 33.5	
	comp=Z,2μm,1.0s						
LEVN	**Ruinas Leon Vi**	**0.59**	**56**	*i* P	**Pn**	**12 17 16.5**	**-0.2**
LEVN				*i* S	**Sn**	**12 17 26.5**	**+0.4**
LEVN				IAML		12 17 37.1	
	comp=Z,2μm,1.0s						
CNGN	**Cerro Negro**	**0.59**	**44**	*e*P	Pn	12 17 15.5	-1.3
CNGN				*e*S	**Sn**	**12 17 23.1**	**-3.2**
CNGN	**Cerro Negro**	**0.59**	**44**	*i* P	Pn	12 17 15.5	-1.3
CNGN				*i* S	**Sn**	**12 17 25.6**	**-0.6**
TELN	**Telica**	**0.60**	**28**	*i* P	**Pn**	**12 17 17.0**	**+0.1**
TELN				*i* S	**Sn**	**12 17 26.7**	**+0.2**
TELN				IAML		12 17 28.1	
	comp=Z,750nm,1.0s						
HERN	**Volcan Telica**	**0.60**	**28**	*i* P	**Pn**	**12 17 16.8**	**-0.2**
HERN				*i* S	**Sn**	**12 17 27.1**	**+0.6**
HERN				IAML		12 17 27.7	
	comp=Z,8μm,1.0s						
PLRN	**Geotermica Pol**	**0.61**	**34**	*i* P	**Pn**	**12 17 17.1**	**+0.1**
PLRN				*i* S	**Sn**	**12 17 26.7**	**+0.1**
PLRN				IAML		12 17 29.4	
	comp=Z,6μm,1.0s						
CRIN	**San Cristobal**	**0.63**	**6**	*e*P	**Pn**	**12 17 17.1**	**-0.1**
CRIN	**San Cristobal**	**0.63**	**6**	*i* P	**Pn**	**12 17 17.1**	**-0.1**
CRIN				*i* S	**Sn**	**12 17 28.3**	**+1.3**
CRIN				IAML		12 17 33.4	
	comp=Z,8μm,1.0s						
MOMN	**Momotombo**	**0.66**	**60**	*i* P	**Pn**	**12 17 16.9**	**-0.7**
MOMN				*i* S	**Sn**	**12 17 27.9**	**+0.3**
MOMN				IAML		12 17 31.1	
	comp=Z,72nm,1.0s						
SAPS	**Ciudad Sandino**	**0.71**	**82**	*i* P	**Pn**	**12 17 17.5**	**-0.6**
SAPS				*i* S	**Sn**	**12 17 29.0**	**+0.5**
SAPS				IAML		12 17 33.8	
	comp=Z,2μm,1.0s						
MOM2	**El Cardon**	**0.72**	**60**	*i* P	**Pn**	**12 17 18.1**	**-0.1**
MOM2				IAML		12 17 18.3	
	comp=Z,750nm,1.0s						
MOM2				*i* S	**Sn**	**12 17 29.3**	**+0.5**
APYN	**Apoyeque**	**0.77**	**78**	*i* P	**Pn**	**12 17 18.5**	**-0.4**
APYN				*i* S	**Sn**	**12 17 30.0**	**0.0**
APYN				IAML		12 17 31.0	
	comp=Z,3μm,1.0s						
APQ2	**Apoyeque**	**0.79**	**81**	*i* P	**Pn**	**12 17 19.0**	**-0.1**
APQ2				*i* S	**Sn**	**12 17 30.9**	**+0.6**
APQ2				IAML		12 17 34.7	
	comp=Z,2μm,1.0s						
ABCN	**Banco Central**	**0.79**	**86**	*i* P	**Sn**	**12 17 29.7**	**-0.8**
CRUN	**El Crucero**	**0.81**	**96**	*i* P	Pn	12 17 25.3	+5.9
RE6B4	**Centro civico**	**0.81**	**86**	*i* P	Sn	12 17 24.8	-6.0
RB28C	**Hialeah**	**0.83**	**87**	*i* P	**Pn**	**12 17 19.5**	**-0.1**
RB28C				IAML		12 17 32.9	
	comp=Z,3μm,1.0s						
USIM	**UNAN**	**0.83**	**87**	*i* P	**Sn**	**12 17 32.0**	**+0.8**
ALLN	**Telcor Managua**	**0.83**	**84**	*i* P	Pn	12 17 14.4	-5.2
TISN	**Laguna Tiscapa**	**0.83**	**85**	*i* P	**Pn**	**12 17 19.5**	**-0.2**
TISN				IAML		12 17 32.9	
	comp=Z,150nm,1.0s						
ENAN	**Enatrel Managu**	**0.84**	**87**	*i* P	**Pn**	**12 17 20.7**	**+0.9**
R8CCA	**La Lomita**	**0.85**	**87**	*i* P	**Sn**	**12 17 29.9**	**-1.8**
R4DEC	**Barrio San Lui**	**0.86**	**85**	*i* P	**Pn**	**12 17 19.2**	**-0.7**
R4DEC				IAML		12 17 32.4	
	comp=Z,2μm,1.0s						
R0529	**La Mascota**	**0.86**	**87**	*i* P	**Pn**	**12 17 20.1**	**0.0**
R0529				IAML		12 17 34.5	
	comp=Z,2μm,1.0s						
R1628	**Naciones Unida**	**0.87**	**88**	*i* P	**Pn**	**12 17 20.6**	**+0.4**
R1628				IAML		12 17 34.3	
	comp=Z,4μm,1.0s						
R45A8	**Distro VI**	**0.88**	**85**	*i* P	**Pn**	**12 17 20.2**	**-0.1**
R45A8				IAML		12 17 33.7	
	comp=Z,3μm,1.0s						
ADRN	**Diriamba**	**0.89**	**104**	*i* P	Pn	12 17 18.9	-1.5
WILN	**Americas 2**	**0.92**	**84**	*i* P	**Pn**	**12 17 20.0**	**-0.7**
WILN				*i* S	**Sn**	**12 17 33.6**	**+0.4**
WILN				IAML		12 17 35.0	
	comp=Z,770nm,1.0s						
MAS3	**Al N del Volca**	**0.93**	**93**	*i* P	Pn	12 17 17.8	-3.1
MAS3				*i* S	**Sn**	**12 17 33.4**	**-0.1**
RB213	**Mirador 2 Volc**	**0.93**	**95**	*i* P	Pn	12 17 19.7	-1.3
RB213				IAML		12 17 35.9	
	comp=Z,2μm,1.0s						
MASN	**Masaya**	**0.95**	**95**	*i* P	**Sn**	**12 17 34.1**	**0.0**
CSGN	**Cosiguina Volc**	**0.99**	**335**	*i* P	**Pn**	**12 17 21.2**	**-0.6**
POTN	**Potosi Cosigui**	**0.99**	**338**	*i* P	**Pn**	**12 17 21.6**	**-0.2**
POTN				IAML		12 17 21.8	
	comp=Z,810nm,1.0s						
LIMN	**Finca el Limon**	**1.23**	**37**	*i* P	**Pn**	**12 17 24.6**	**-0.3**
LIMN				IAML		12 17 24.7	
	comp=Z,320nm,1.0s						
AMPH	**Amapala**	**1.31**	**336**	*e*P	**Pn**	**12 17 25.5**	**-0.5**
AMPH				*e*S	**Sn**	**12 17 42.2**	**-0.4**
CNCH	**Conchagua**	**1.38**	**330**	*e*P	**Pn**	**12 17 26.7**	**-0.4**
CNCH				*e*S	**Sn**	**12 17 44.1**	**-0.3**
CNCH	**Conchagua**	**1.38**	**330**	*i* P	**Pn**	**12 17 26.7**	**-0.4**
CNCH				IAML		12 17 26.8	
	comp=Z,2μm,1.0s						
LCND	**La Caada**	**1.44**	**329**	*e*P	**Pn**	**12 17 27.2**	**-0.4**
LCND				IAML		12 17 27.7	
	comp=Z,1μm,0.2s						
LCND	**La Caada**	**1.44**	**329**	*i* P	Pn	12 17 25.2	-2.5
LCND				*i* P	**Pn**	**12 17 27.3**	**-0.4**
LCND				IAML		12 17 27.4	
	comp=Z,1μm,1.0s						
MATN	**Matagalpa**	**1.44**	**54**	*i* P	**Pn**	**12 17 27.4**	**-0.4**
MATN				*i* S	**Sn**	**12 17 45.7**	**-0.2**
MATN				IAML		12 17 48.0	
	comp=Z,290nm,1.0s						
BOAB	**BOACO BROADBAN**	**1.47**	**75**	*i* P	Pn	12 17 27.2	-0.9
BOAB				*i* S	**Sn**	**12 17 45.8**	**-0.5**
BOAB				IAML		12 17 47.6	
	comp=Z,190nm,1.0s						
MORN	**Al O del Volca**	**1.53**	**110**	*i* P	**Pn**	**12 17 28.5**	**-0.5**
MORN				IAML		12 17 54.2	
	comp=Z,1μm,1.0s						
CONN	**Concepcion**	**1.55**	**109**	*i* P	Pn	12 17 27.5	-1.6
BLLM	**Bellamira**	**1.74**	**321**	*e*P	**Pn**	**12 17 31.5**	**-0.3**
RCPN	**Sur Rio San Ju**	**1.76**	**35**	*i* P	Pn	12 17 31.3	-0.8
RCPN				IAML		12 17 54.8	
	comp=Z,1.7nm,1.0s						
PACA	**Pacayal**	**1.82**	**320**	*e*P	**Pn**	**12 17 33.0**	**+0.1**
PACA				*e*S	**Sn**	**12 17 55.0**	**+0.1**
PACA	**Pacayal**	**1.82**	**320**	*i* P	**Pn**	**12 17 33.0**	**+0.1**
PACA				IAML		12 17 58.1	
	comp=Z,2μm,1.0s						
YUSH	**Yuscaran**	**1.89**	**8**	*e*P	**Pn**	**12 17 34.2**	**+0.3**
YUSH				*e*S	**Sn**	**12 17 56.8**	**+0.2**
ACON	**Acoyapa**	**1.91**	**93**	*i* P	**Pn**	**12 17 34.5**	**+0.5**
ACON				IAML		12 17 47.6	
	comp=Z,170nm,1.0s						
ACON				*i* S	**Sn**	**12 17 56.1**	**-0.8**
TGUH	**Tegucigalpa,Un**	**1.98**	**356**	*i* P	**Pn**	**12 17 35.2**	**+0.1**
TGUH				*i* S	**Sn**	**12 17 58.5**	**-0.4**
TGUH				IAML		12 18 01.5	
	comp=Z,290nm,1.0s						
HZTE	**Horizontes, Gu**	**2.02**	**132**	*i* P	**Pn**	**12 17 36.1**	**+0.6**
HZTE				IAML		12 18 04.2	
	comp=Z,170nm,1.0s						
PQSS	**Presa 15 de Se**	**2.08**	**318**	*i* P	**Pn**	**12 17 36.7**	**+0.3**
PQSS				IAML		12 18 05.8	
	comp=Z,120nm,1.0s						
TECO	**Alcaldia de Te**	**2.18**	**312**	*i* P	**Pn**	**12 17 37.3**	**-0.4**
TECO				*i* S	**Sn**	**12 18 02.2**	**-1.4**
TECO				IAML		12 18 31.8	
	comp=Z,130nm,1.0s						
SCLA	**Alcaldia de Sa**	**2.25**	**316**	*e*P	**Pn**	**12 17 38.8**	**0.0**
SCLA				*e*S	**Sn**	**12 18 07.2**	**+1.7**
SCLA	**Alcaldia de Sa**	**2.25**	**316**	*i

ACLC	**CERRO LA CRUZ**	**0.61**	**147**	*e*P		**Pn**	**12 27 27.1**	**+0.8**
ACLC				*e*S		**Sn**	**12 27 41.7**	**-0.3**
ACLC				IAML			12 27 42.3	
	comp=Z,4μm,0.5s							
VCA	**Vinchina**	**0.78**	**283**	*e*P		**Pn**	**12 27 28.5**	**+1.1**
VCA				*e*S		**Sn**	**12 27 45.0**	**+1.0**
VCA				IAML			12 27 48.0	
	comp=Z,2μm,0.3s							
VCA	**Vinchina**	**0.78**	**283**	⇓*i*P		**Pn**	**12 27 28.6**	**+1.2**
VCA				*i* S		**Sn**	**12 27 44.7**	**+0.7**
AGUA	**GUANDACOL**	**1.16**	**240**	*e*P		**Pn**	**12 27 31.7**	**+1.0**
AGUA				*e*S		**Sn**	**12 27 50.5**	**+0.6**
AGUA				IAML			12 27 51.5	
	comp=Z,2μm,0.2s							
CYA	**Choya**	**1.43**	**71**	*e*P		**Pn**	**12 27 34.8**	**+1.5**
CYA				*e*S		**Sn**	**12 27 55.0**	**+0.4**
CYA				IAML			12 27 55.4	
	comp=Z,529nm,0.7s							
CYA	**Choya**	**1.43**	**71**	⇓*i*P		**Pn**	**12 27 34.8**	**+1.5**
CYA				*e*S		**Sn**	**12 27 54.6**	**+0.1**
CYA				IAML			12 27 55.3	
	comp=N,736nm,0.4s							
APLL	**PUNTA DE LOS L**	**1.64**	**155**	*e*P		**Pn**	**12 27 36.6**	**+0.9**
APLL				*e*S		**Sn**	**12 27 58.3**	**-0.5**
AVFE	**Valle Fertil**	**1.75**	**183**	*e*P		**Pn**	**12 27 37.6**	**+0.6**
AVFE				*e*S		**Sn**	**12 28 00.8**	**-0.3**
AVFE				IAML			12 28 02.2	
	comp=Z,319nm,0.3s							
ACDV	**Cuesta del Vie**	**2.00**	**231**	*e*P		**Pn**	**12 27 41.4**	**+1.4**
ACDV				*e*S		**Sn**	**12 28 08.2**	**+1.8**
ACDV				IAML			12 28 08.4	
	comp=Z,483nm,0.4s							
AROD	**Rodeo**	**2.25**	**236**	*e*P		**Pn**	**12 27 44.8**	**+1.7**
AROD				*e*S		**Sn**	**12 28 14.8**	**+2.8**
ACCO	**Cerro Coronel**	**2.25**	**222**	*e*P		**Pn**	**12 27 44.1**	**+0.9**
ACCO				*e*S		**Sn**	**12 28 13.9**	**+1.7**
ACCO				IAML			12 28 14.4	
	comp=Z,488nm,0.3s							
ACHE	**Chepes**	**2.32**	**166**	*e*P		**Pn**	**12 27 45.0**	**+1.1**
DOCA	**Reserva Natura**	**2.54**	**216**	*e*P		**Pn**	**12 27 47.7**	**+0.9**
DOCA				*e*S		**Sn**	**12 28 19.0**	**+0.4**
DOCA				IAML			12 28 24.5	
	comp=Z,397nm,0.4s							
AC05	**El Transito**	**2.58**	**271**	Pn		**Pn**	**12 27 49.1**	**+2.0**
AC05				Sn		**Sn**	**12 28 20.3**	**+1.2**
AC02	**Maricunga**	**2.61**	**322**			**Pn**	**12 27 50.1**	**+2.3**
AC02	**Maricunga**	**2.61**	**322**	*e*P		**Pn**	**12 27 50.1**	**+2.3**
AC02				IAML			12 29 18.1	
	comp=Z,205nm,0.8s							
AC02	**Maricunga**	**2.61**	**322**	⇓*i*P		**Pn**	**12 27 50.2**	**+2.3**
RTLL	**Cerro Villicun**	**2.61**	**202**	*e*P		**Pn**	**12 27 47.9**	**+0.5**
RTLL				IAML			12 28 22.9	
	comp=Z,282nm,0.3s							
RTLL	**Cerro Villicun**	**2.61**	**202**	⇑*i*P		**Pn**	**12 27 48.1**	**+0.8**
CO01	**Juntas del Tor**	**2.63**	**245**			**Pn**	**12 27 50.1**	**+2.2**
CO01					Sn	**Sn**	**12 28 22.6**	**+2.1**
CO01	**Juntas del Tor**	**2.63**	**245**	*e*P		**Pn**	**12 27 50.1**	**+2.2**
CO01	**Juntas del Tor**	**2.63**	**245**	⇑*i*P		**Pn**	**12 27 50.1**	**+2.2**
CO01				*e*S		**Sn**	**12 28 22.8**	**+2.3**
CO01				IAML			12 28 23.9	
	comp=E,381nm,0.4s							
SJA	**San Juan**	**2.82**	**202**	*e*P		**Pn**	**12 27 51.4**	**+1.3**
SJA				IAML			12 28 26.8	
	comp=Z,164nm,0.1s							
GO03	**Copiap**	**2.87**	**296**			**Pn**	**12 27 51.8**	**+0.9**
GO03					Sn	**Sn**	**12 28 24.9**	**-0.8**
GO03	**Copiap**	**2.87**	**296**	*e*P		**Pn**	**12 27 52.1**	**+1.3**
GO03				*e*S		**Sn**	**12 28 25.1**	**-0.7**
GO03	**Copiap**	**2.87**	**296**	*i* P		**Pn**	**12 27 51.8**	**+0.9**
GO03				*e*S		**Sn**	**12 28 25.0**	**-0.8**
GO03				IAML			12 28 27.3	
	comp=E,452nm,0.3s							
LCO	**Las Campanas**	**2.95**	**267**	Pn		**Pn**	**12 27 52.9**	**+0.9**
LCO	**Las Campanas**	**2.95**	**267**	*e*P		**Pn**	**12 27 53.1**	**+1.1**
LCO				*e*S		**Sn**	**12 28 28.0**	**+0.2**
LCO	**Las Campanas**	**2.95**	**267**	*e*P		**Pn**	**12 27 52.6**	**+0.7**
FSA	**Cafayete**	**3.04**	**24**	*e*P		**Pn**	**12 27 55.1**	**+2.4**
AC06	**Mina Casimiro**	**3.08**	**299**			**Pn**	**12 27 54.0**	**+0.6**
AC06	**Mina Casimiro**	**3.08**	**299**	*e*P		**Pn**	**12 27 54.1**	**+0.6**
RTCV	**Cerro Valdivia**	**3.12**	**199**	*e*P		**Pn**	**12 27 54.8**	**+0.8**
RTCV				*e*S		**Sn**	**12 28 32.1**	**+0.6**
GO04	**Tololo Observa**	**3.27**	**247**			**Pn**	**12 27 57.1**	**+1.0**
GO04	**Tololo Observa**	**3.27**	**247**	*e*P		**Pn**	**12 27 57.0**	**+1.0**
GO04				*e*S		**Sn**	**12 28 36.5**	**+1.3**
RTLS	**Leoncito**	**3.34**	**210**	*e*P		**Pn**	**12 27 56.6**	**-0.4**
RTLS				IAML			12 28 38.7	
	comp=Z,227nm,0.2s							
AC04	**Llanos de Chal**	**3.36**	**281**	Pn		**Pn**	**12 27 57.3**	**+0.3**
AC04	**Llanos de Chal**	**3.36**	**281**	*e*P		**Pn**	**12 27 57.4**	**+0.4**
AC04				IAML			12 28 38.0	
	comp=Z,89nm,0.3s							
TCA	**Tanti**	**3.39**	**136**	*e*P		**Pn**	**12 27 58.1**	**+0.6**
TCA				*e*S		**Sn**	**12 28 36.1**	**-1.6**
TCA				IAML			12 28 53.0	
	comp=Z,125nm,0.8s							
CO03	**El Pedregal**	**3.49**	**236**	Pn		**Pn**	**12 27 59.4**	**+0.6**
CO03	**El Pedregal**	**3.49**	**236**	*e*P		**Pn**	**12 27 55.0**	**-3.9**
CO03				*e*P		**Pn**	**12 27 59.0**	**+0.2**
CO03				IAML			12 28 43.1	
	comp=Z,245nm,0.2s							
CO05	**La Serena**	**3.55**	**253**			**Pn**	**12 27 58.9**	**-0.6**
ASAL	**Salagasta**	**3.89**	**199**	*e*P		**Pn**	**12 28 04.7**	**+0.7**
ASAL				IAML			12 28 51.2	
	comp=Z,165nm,0.4s							
CO02	**Combarbal**	**3.91**	**233**			**Pn**	**12 28 04.4**	**0.0**
CO02	**Combarbal**	**3.91**	**233**	*e*S		**Sn**	**12 28 50.3**	**+0.3**
CO02				IAML			12 28 51.0	
	comp=Z,210nm,0.2s							
AC01	**Pan de Azucar**	**4.00**	**313**	Pn		**Pn**	**12 28 05.3**	**-0.1**
CO06	**Fray Jorge**	**4.13**	**244**			**Pn**	**12 28 06.0**	**-1.1**
ARCO	**CERRO ARCO**	**4.15**	**199**	*e*P		**Pn**	**12 28 08.5**	**+0.9**
ARCO				IAML			12 28 59.3	
	comp=Z,120nm,0.3s							
GO02	**Mina Guanaco**	**4.24**	**331**	Pn		**Pn**	**12 28 10.5**	**+1.6**
SLA	**San Lorenzo**	**4.48**	**22**	*e*P		**Pn**	**12 28 14.6**	**+2.6**
SLA				IAML			12 29 50.7	
	comp=Z,37nm,0.8s							
VA03	**San Esteban**	**4.73**	**215**			**Pn**	**12 28 15.7**	**+0.5**
VA03	**San Esteban**	**4.73**	**215**	*e*P		**Pn**	**12 28 15.9**	**+0.7**
VA03				IAML			12 29 19.7	
	comp=Z,82nm,0.5s							
VA06	**Catapilco**	**4.99**	**222**	Pn		**Pn**	**12 28 17.9**	**-0.6**
PB14	**IPOC Station P**	**5.07**	**327**	Pn		**Pn**	**12 28 21.4**	**+1.4**
PEL	**Peldehue**	**5.11**	**213**			**Pn**	**12 28 20.3**	**+0.1**
MT16	**CCHEN**	**5.27**	**210**			**Pn**	**12 28 23.0**	**+0.7**
MT03	**Universidad Ad**	**5.32**	**210**			**Pn**	**12 28 22.0**	**-1.0**
MT03	**Universidad Ad**	**5.32**	**210**	*e*P		**Pn**	**12 28 23.6**	**+0.6**
MT03				IAML			12 29 25.4	
	comp=Z,83nm,0.3s							
MT05	**Renca**	**5.34**	**212**	Pn		**Pn**	**12 28 21.1**	**-2.1**
MT02	**Curacav**	**5.42**	**216**			**Pn**	**12 28 23.6**	**-0.8**
MT13	**San Alfonso**	**5.44**	**207**			**Pn**	**12 28 25.3**	**+0.6**
LMEL	**Las Melosas**	**5.50**	**206**	Pn		**Pn**	**12 28 24.8**	**-0.7**
VA01	**Torpederas**	**5.53**	**221**	Pn		**Pn**	**12 28 24.7**	**-0.9**
MT09	**Talagante**	**5.77**	**212**			**Pn**	**12 28 27.7**	**-1.4**
BO04	**La Punta**	**5.79**	**208**			**Pn**	**12 28 28.5**	**-0.7**
MT01	**Popeta**	**5.97**	**213**			**Pn**	**12 28 29.7**	**-1.9**
VA05	**Santo Domingo**	**5.98**	**217**	Pn		**Pn**	**12 28 29.6**	**-2.2**
PB15	**IPOC Station P**	**5.99**	**341**			**Pn**	**12 28 29.8**	**-2.4**
PB10	**IPOC Station P**	**6.10**	**331**	Pn		**Pn**	**12 28 32.5**	**-1.1**
BO01	**Tunca**	**6.33**	**209**	Pn		**Pn**	**12 28 34.5**	**-2.0**
LVC	**Limon Verde**	**6.43**	**347**	P		**Pn**	**12 28 40.1**	**+1.8**
	comp=Z,5.5nm,0.3s,baz=160,slow=11,SNR=12							
LVC				S		**Sn**	**12 29 48.2**	**-2.5**
	comp=Z,6.9nm,0.3s,baz=356,slow=21,SNR=12							
PB06	**IPOC Station P**	**6.50**	**341**	Pn		**Pn**	**12 28 36.5**	**-2.5**
BO02	**Sierra Bellavi**	**6.56**	**206**			**Pn**	**12 28 38.7**	**-0.9**
PB05	**IPOC Station P**	**6.56**	**336**			**Pn**	**12 28 39.2**	**-0.6**
GO05	**Huala**	**7.23**	**212**	Pn		**Pn**	**12 28 45.4**	**-3.1**
PB09	**IPOC Station P**	**7.29**	**346**	Pn		**Pn**	**12 28 50.4**	**+0.8**
PB07	**IPOC Station P**	**7.51**	**342**	Pn		**Pn**	**12 28 51.9**	**-0.8**
PB02	**IPOC Station P**	**7.91**	**342**			**Pn**	**12 28 57.3**	**-0.5**
PB01	**IPOC Station P**	**8.07**	**346**	Pn		**Pn**	**12 28 59.9**	**-0.2**
TA01	**Diego Aracena**	**8.70**	**342**	Pn		**Pn**	**12 29 08.2**	**-0.1**
CPUP	**Villa Florida**	**9.24**	**76**	P		Pn	12 29 22.3	+6.7
	comp=Z,1.1nm,0.4s,baz=252,slow=13,SNR=2.4							
PB11	**IPOC Station P**	**9.35**	**346**	Pn		**Pn**	**12 29 16.3**	**-1.0**
GO01	**Chusmiza**	**9.36**	**349**	Pn		**Pn**	**12 29 17.1**	**-0.5**
TRQA	**Tornquist**	**10.16**	**155**	Pn		**Pn**	**12 29 28.4**	**+0.6**
PB16	**IPOC Station P**	**10.71**	**349**	Pn		**Pn**	**12 29 36.5**	**+0.7**
GO06	**Curarrehue**	**11.18**	**197**	Pn		**Pn**	**12 29 39.9**	**-1.6**
PLCA	**Paso Flores**	**12.09**	**192**	Pn		**Pn**	**12 29 52.4**	**-0.9**

LPAZ	**La Paz**	**12.58**	**356**	Pn		**Pn**	**12 29 58.7**	**-1.7**
LPAZ	**La Paz**	**12.58**	**356**	P		**Pn**	**12 30 01.6**	**+1.2**
	comp=Z,1.2nm,0.5s,baz=197,slow=6.2,SNR=4.4								
LL03	**Petrohue**	**12.88**	**197**	Pn		**Pn**	**12 30 03.0**	**-0.5**
AQDB	**Aquidauana**	**13.50**	**54**	Pn		**Pn**	**12 30 12.0**	**+0.4**
SIV	**San Ignacio**	**14.10**	**26**	P		**Pn**	**12 30 18.7**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=209,slow=13,SNR=13								
PTLB	**Pontes e Lacer**	**15.39**	**31**	P		**Pn**	**12 30 35.6**	**+0.2**
AY01	**Puyuhuapi**	**16.05**	**194**	Pn		**Pn**	**12 30 39.1**	**-4.2**
COYC	**Coyhaique**	**17.05**	**191**	P		**P**	**12 30 50.9**	**-4.2**
COYC				IAmb		IAmb	12 30 51.6		
	comp=Z,13nm,1.1s								
VILB	**Vilhena**	**17.21**	**24**	P		**P**	**12 30 57.0**	**-0.1**
ETMB	**Extrema**	**19.02**	**3**	P		**P**	**12 31 16.3**	**-0.6**
ETMB				IAmb		IAmb	12 31 22.8		
	comp=Z,4.1nm,0.7s								
SAML	**Samuel**	**20.24**	**12**	P		**P**	**12 31 31.3**	**+1.2**
SAML				IAmb		IAmb	12 31 32.6		
	comp=Z,9.1nm,0.7s								
BDFB	**Brasilia**	**22.18**	**58**	P		**P**	**12 31 49.4**	**-1.4**
QSPA	**South Pole Qui**	**61.31**	**180**	P		**P**	**12 37 06.7**	**+0.4**
QSPA				IAmb		IAmb	12 37 09.6		
	comp=Z,2.2nm,0.7s								
QSPA	**South Pole Qui**	**61.31**	**180**	P		**P**	**12 37 09.1**	**+2.7**
	comp=Z,1.9nm,0.6s,baz=191,slow=4.0,SNR=23								
	comp=Z,1.9nm,0.6s								
TORD	**Torodi Ar. Bea**	**78.64**	**68**	P		**P**	**12 38 55.3**	**+2.6**
	comp=Z,1.0nm,0.6s,baz=245,slow=3.0,SNR=7.7								
	comp=Z,1.0nm,0.6s								
ASAR	**Alice Springs**	**123.87**	**204**	PKP		**PKiKP**	**12 45 49.0**	**+0.8**	
	comp=Z,0.5nm,0.6s,baz=149,slow=1.7,SNR=14								
WRA	**Warramunga Arr**	**127.12**	**206**	PKP		**PKiKP**	**12 45 55.7**	**+1.0**	
	comp=Z,0.9nm,0.4s,baz=162,slow=1.8,SNR=18								
MKAR	**Makanchi Array**	**150.36**	**45**	PKPbc		**PKiKP**	**12 46 42.9**	**+1.7**	
	comp=Z,0.3nm,0.8s,baz=309,slow=2.6,SNR=2.9								

HEL 13 12:27:41.2±0.3, 67.80N×19.96E, h0km, ML1.5,
Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LANU	**Lannavaara**	**0.81**	**71**	PG	Pg	12 27 55.5	-1.2
LANU				SG	Sg	12 28 05.5	-1.7
KIF	**Kilpisjarvi**	**1.25**	**14**	*e*P	Pn	12 28 05.9	0.0
KIF	**Kilpisjarvi**	**1.25**	**14**	PN	Pb	12 28 05.6	0.0
KIF				MSG		12 28 20.1	
	comp=Z,3.7nm,0.2s						
KIF				SG	Sg	12 28 21.6	+0.2
PAJU	**Pajala**	**1.44**	**121**	PG	Pn	12 28 07.2	-1.4
PAJU				SG	Sg	12 28 26.1	-1.4
HEF	**Hetta**	**1.52**	**64**	*e*P	Pn	12 28 08.4	-1.2
HEF	**Hetta**	**1.52**	**64**	PG	Pn	12 28 08.2	-1.4
HEF				MSG		12 28 26.8	
	comp=Z,3.4nm,0.2s						
HEF				SG	Sg	12 28 27.5	-2.4
KLF	**Kolari**	**1.64**	**108**	SN	Pn	12 28 10.3	-1.0
KLF	**Kolari**	**1.64**	**108**	PG	Pn	12 28 10.3	-1.0
KLF				MSG		12 28 30.2	
	comp=Z,3.8nm,0.2s						
KLF				SG	Sn	12 28 31.6	-1.4
KTK1	**Kautokeino**	**1.72**	**43**	SG	Sb	12 28 35.7	-0.1
KTK1	**Kautokeino**	**1.72**	**43**	PN	Pn	12 28 12.2	-0.2
KTK1				SN	Sb	12 28 35.7	-0.1
KALU	**Kalix**	**2.37**	**144**	PG	Pn	12 28 22.8	+1.7
	baz=331						
KALU				SG	Sb	12 28 54.7	+0.5
TOF	**Tornio**	**2.44**	**133**	MSG		12 28 53.2	
	comp=Z,1.9nm,0.2s						
TOF				SG	Sb	12 28 56.5	+0.3
SGF	**Sodankyl**	**2.54**	**95**	PG	Pb	12 28 25.8	-1.8
SGF				SG	Sb	12 28 58.0	-1.3
RNF	**Rovaniemi**	**2.64**	**114**	PB	Pn	12 28 27.0	+2.0
RNF				SG	Sb	12 29 00.6	-1.7
ARA0	**ARCESS Array S**	**2.68**	**47**	PG	Pn	12 28 27.4	+1.9
RAJF	**Raja-Jooseppi**	**3.20**	**74**	PG	Pb	12 28 38.9	+0.1
RAJF				SB	Sb	12 29 15.6	-2.7
KEV	**Kevo**	**3.23**	**49**	SN	Sn	12 29 12.3	+0.2
RANF	**Ranua**	**3.23**	**120**	SG	Sb	12 29 21.0	+1.8
OBF0	**Syolatti, Pyha**	**3.74**	**150**	PG	Pb	12 28 48.8	+0.8
OLKF	**Oulanka, Finla**	**3.98**	**107**	PG	Pb	12 28 54.0	+1.9
OLKF				SG	Sb	12 29 44.8	+4.0
KU6	**Riekki**	**4.30**	**110**	PG	Pb	12 28 58.5	+1.0

*IDC **13** 13:02:60.0±0.7, 6°.31S×143°.30E, h0km, mb4.2/11, mbtmp4.2/13, ML2.0/1, Error ellipse: s-maj=30.6km s-min=17.3km az=72.0*
*NEIC **13** 13:03:02.0±1.3, 6°.35S±0°.06×143°.05E±0°.09, h10km±1km, mb4.6/33, Error ellipse: s-maj=15.3km s-min=9.3km az=282.0*

ISC 13 13:03:01.6±0.5, 6°.47S±0°.06×143°.09E±0°.07, h10km, n72, σ1s54/74, mb4.6/35, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.97**	**126**	Pn	**Pn**	**13 04 58.8**	**+0.4**
PMG	**Port Moresby**	**4.97**	**126**	P	**Pn**	**13 04 16.9**	**+0.5**
PMG	**Port Moresby**	**4.97**	**126**	Pn	**Pn**	**13 04 16.5**	**+0.1**
	3.9nm,0.3s,baz=353,slow=7.3,SNR=16						
PMG				Sn	**Sn**	**13 05 12.3**	**-1.7**
	5.9nm,0.3s,baz=253,slow=23,SNR=17						
	15nm,0.4s						
MANU	**Manus Island**	**6.13**	**44**	Pn	**Pn**	**13 04 32.1**	**-0.2**
COEN	**Coen**	**7.44**	**179**	Pn	**Pn**	**13 04 53.1**	**+2.7**
COEN	**Coen**	**7.44**	**179**	P	**Pn**	**13 04 54.3**	**+4.0**
FAKI	**Fak Fak**	**11.37**	**288**	Pn	**Pn**	**13 05 42.6**	**-1.6**
MTSU	**Mount Surprise**	**11.65**	**174**	P	**Pn**	**13 05 52.0**	**+3.9**
KDU	**Kakadu**	**12.15**	**239**	P	**Pn**	**13 05 54.4**	**-0.5**
	19nm,0.6s						
MTN	**Manton Dam**	**13.38**	**241**	Pn	**Pn**	**13 06 10.6**	**-1.1**
DRS	**Darwin Rock St**	**13.40**	**243**	P	**Pn**	**13 06 11.5**	**-0.5**
QIS	**Mount Isa**	**14.40**	**193**	P	**Pn**	**13 06 29.9**	**+4.1**
WB0	**Warramunga Arr**	**15.69**	**212**	Pn	**Pn**	**13 06 43.3**	**+0.4**
WR0	**Warramunga Arr**	**15.77**	**211**	Pn	**Pn**	**13 06 43.1**	**-0.8**
WRAB	**Tennant Creek**	**15.85**	**212**		**Pn**	**13 06 43.8**	**-1.2**
WB2	**Warramunga Arr**	**15.85**	**212**	Pn	**Pn**	**13 06 44.1**	**-1.0**
WRA	**Warramunga Arr**	**15.86**	**212**	Pn	**Pn**	**13 06 43.7**	**-1.4**
	0.2nm,0.3s,baz=36,slow=14,SNR=6.0						
WRA				Sn	Sn	13 09 30.8	-10
	0.7nm,0.3s,baz=28,slow=23,SNR=4.5						
WRA				Lg	Lg	13 11 31.3	
	0.4nm,0.3s,baz=36,slow=27,SNR=2.4						
KNRA	**Kununurra**	**16.76**	**236**	Pn	**Pn**	**13 06 55.2**	**-1.5**
KNRA				IAmb	IAmb	13 07 03.7	
	comp=Z,18nm,0.7s						
SOEI	**Soe**	**18.92**	**259**		**P**	**13 07 22.2**	**-0.6**
SOEI				IAmb	IAmb	13 07 36.4	
	comp=Z,32nm,0.8s						
AS31	**Alice Springs**	**19.24**	**206**	Pn	**Pn**	**13 07 28.8**	**+1.5**
ASAR	**Alice Springs**	**19.24**	**206**	Pn	**Pn**	**13 07 28.8**	**+1.6**
ASAR	**Alice Springs**	**19.24**	**206**	P	**Pn**	**13 07 29.2**	**+1.9**
	comp=Z,6.5nm,0.6s,baz=30,slow=11,SNR=119						
ASAR				S	**Sn**	**13 10 56.8**	**-6.3**
	comp=Z,1.5nm,0.7s,baz=17,slow=28,SNR=5.3						
FITZ	**Fitzroy Crossi**	**20.57**	**234**	P	**P**	**13 07 42.1**	**+1.3**
TOLI2	**Tolitoli**	**23.51**	**288**	P	**P**	**13 08 12.2**	**+0.2**
TOLI2				IAmb	IAmb	13 08 43.0	
	comp=Z,12nm,0.9s						
STKA	**Stephens Creek**	**25.31**	**183**	P	**P**	**13 08 30.6**	**+2.1**
	comp=Z,0.8nm,0.5s,baz=347,slow=19,SNR=1.7						
	comp=Z,0.8nm,0.5s						
LHI	**Lord Howe Isla**	**29.06**	**151**	P	**P**	**13 09 01.6**	**-0.7**
TOO	**Toolangi**	**31.03**	**176**	P	**P**	**13 09 17.3**	**-2.4**
TOO				IAmb	IAmb	13 09 42.3	
	comp=Z,17nm,1.4s						
NJ2	**Nanjing**	**44.74**	**330**	*e*P	**P**	**13 11 16.3**	**+1.0**
NJ2				pP	**sP**	**13 11 19.5**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,61nm,4.0s						
KSRS	**Korea Array**	**45.94**	**343**	P	P	13 11 30.3	+5.6
	comp=Z,1.8nm,0.8s,baz=172,slow=8.4,SNR=4.4						
CMAR	**Chiang Mai Arr**	**50.09**	**300**	P	**P**	**13 11 58.3**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=113,slow=6.1,SNR=5.1						
	comp=Z,0.7nm,0.6s						
XAN	**Xi'an**	**51.66**	**324**	P	**P**	**13 12 08.9**	**0.0**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PZH	**PanZhiHua**	**51.77**	**311**	P	**P**	**13 12 09.8**	**-0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		

	comp=Z,130nm,5.1s								
MDJ	**Mudanjiang**	**52.29**	**348**	P		**P**	**13 12 15.6**	**+2.3**	
MDJ				pmax	pmax				
	comp=Z,4.0nm,2.1s								
MDJ				pmax	pmax				
	comp=Z,73nm,3.8s								
HHC	**Hu-ho-hao-te**	**55.28**	**331**	*e*P		**P**	**13 12 37.9**	**+2.5**	
HHC				sP		sP	13 12 44.1	+4.1	
HHC				pmax	pmax				
	comp=Z,9.0nm,0.7s								
HHC				pmax	pmax				
	comp=Z,56nm,3.9s								
LZH	**Lanzhou**	**56.10**	**322**	*e*P		**P**	**13 12 40.8**	**-0.7**	
LZH				pP		sP	13 12 45.8	-0.3	
LZH				pmax	pmax				
	comp=Z,13nm,1.1s								
PEA0B	**Petropavlovsk-**	**60.63**	**10**	P		**P**	**13 13 12.2**	**-0.5**	
PETK	**Petropavlovsk-**	**60.63**	**10**	P		**P**	**13 13 11.7**	**-1.0**	
PETK	**Petropavlovsk-**	**60.63**	**10**	P		**P**	**13 13 11.8**	**-0.8**	
	comp=Z,1.8nm,0.6s,baz=159,slow=7.2,SNR=9.8								
	comp=Z,1.8nm,0.6s								
SONM	**Songino Array**	**62.99**	**333**	P		**P**	**13 13 29.9**	**+1.1**	
	comp=Z,0.7nm,0.5s,baz=167,slow=7.0,SNR=1.7								
	comp=Z,0.7nm,0.5s								
MA2	**Magadan**	**66.12**	**4**	P		**P**	**13 13 48.6**	**-0.2**	
MA2				IAmb		IAmb	13 13 58.8		
	comp=Z,7.3nm,1.2s								
YAK	**Yakutsk**	**69.09**	**353**	P		**P**	**13 14 05.7**	**-1.8**	
WMQ	**Urumqi**	**70.66**	**321**	*e*P		**P**	**13 14 19.1**	**+1.4**	
WMQ				pmax	pmax				
	comp=Z,19nm,0.7s								
MK31	**Makanchi Array**	**75.42**	**322**	P		**P**	**13 14 44.7**	**-1.1**	
MKAR	**Makanchi Array**	**75.42**	**322**	P		**P**	**13 14 44.9**	**-0.9**	
MKAR	**Makanchi Array**	**75.42**	**322**	P		**P**	**13 14 45.6**	**-0.2**	
	comp=Z,2.0nm,0.6s,baz=101,slow=7.4,SNR=28								
	comp=Z,2.0nm,0.6s								
MAKZ	**Makanchi**	**75.62**	**322**	P		**P**	**13 14 45.5**	**-1.4**	
MAKZ				IAmb		IAmb	13 14 47.6		
	comp=Z,3.3nm,0.6s								
KSH	**Kashi**	**76.83**	**313**	P		**P**	**13 14 54.3**	**+0.2**	
KSH				pmax	pmax				
	comp=Z,3.0nm,1.0s								
ZALV	**Zalesovo Beam**	**77.37**	**329**	P		**P**	**13 14 55.7**	**-0.9**	
	comp=Z,1.0nm,0.6s,baz=103,slow=6.5,SNR=5.0								
	comp=Z,1.0nm,0.6s								
O14K	**Tigyukauivet M**	**78.93**	**26**	P		**P**	**13 15 05.1**	**0.0**	
KURK	**Kurchatov**	**79.29**	**324**	P		**P**	**13 15 06.9**	**-0.4**	
KURBB	**Kurchatov Arra**	**79.31**	**324**	P		**P**	**13 15 07.0**	**-0.4**	
	comp=Z,1.2nm,0.6s,baz=115,slow=4.4,SNR=9.9								
	comp=Z,1.2nm,0.6s								
M14K	**Bethel**	**79.47**	**24**	P		**P**	**13 15 08.2**	**+0.1**	
M14K				IAmb		IAmb	13 15 46.4		
	comp=Z,5.0nm,1.1s								
L14K	**Kuka Creek**	**79.52**	**23**	P		**P**	**13 15 08.3**	**0.0**	
L14K				IAmb		IAmb	13 15 08.8		
	comp=Z,9.7nm,1.4s								
O16K	**Kokwok River B**	**80.48**	**26**	P		**P**	**13 15 13.8**	**+0.2**	
O16K				IAmb		IAmb	13 15 48.

JAR				⇓*e*S		**Sn**	13 54 46.8	**0.0**
JAR	**Ashorobuto**	**0.82**	**8**	A		A	13 54 34.7	
	comp=E,3.0nm,0.4s,comp=N,2.0nm,0.4s							
JSHD	**Hidakashinhida**	**0.85**	**265**	P		**Pn**	**13 54 35.9**	**+1.1**
JAK	**Akkeshi**	**0.94**	**57**	⇓*i*P		**Pn**	**13 54 36.2**	**+0.3**
JAK				⇓S		**Sn**	**13 54 49.8**	**+0.3**
JAK	**Akkeshi**	**0.94**	**57**	A		A	13 54 36.2	
	comp=E,6.0nm,0.3s,comp=N,7.0nm,0.7s							
JBT2	**Biratori 2**	**0.97**	**288**	*i* P		**Pn**	**13 54 36.1**	**-0.1**
JFR	**Furan**	**1.01**	**312**	*i* P		**Pn**	**13 54 36.2**	**-0.5**
AKK	**Akkeshi**	**1.05**	**59**	*i* P		**Pn**	**13 54 37.3**	**+0.1**
AKK					AMB	AMB	13 54 37.9	
	comp=N,280nm,0.2s							
AKK				*i* S		**Sn**	**13 54 51.6**	**-0.1**
AKK				A		A	13 54 52.7	
	comp=N,3μm,0.4s							
AKK				A		A	13 54 52.7	
	comp=N,640nm,0.4s							
JKHN	**Kushirohamanak**	**1.28**	**62**	⇓*i*P		**Pn**	**13 54 40.4**	**+0.3**
JKHN				⇓S		**Sn**	**13 54 56.9**	**0.0**
JNK	**Nakash**	**1.36**	**36**	⇓*i*P		**Pn**	**13 54 41.0**	**-0.2**
JNK				⇓S		**Sn**	**13 54 57.9**	**-0.9**
JAB	**Ashibetsu**	**1.44**	**315**	*e*P		**Pn**	**13 54 42.6**	**+0.4**
JTKR	**Abashiri--Toko**	**1.50**	**8**	*i* P		**Pn**	**13 54 43.1**	**+0.2**
JTKR				*e*S		**Sn**	**13 55 01.8**	**0.0**
JKK2	**Kamakawa 2**	**1.52**	**336**	*e*P		**Pn**	**13 54 43.8**	**+0.5**
JMP	**Maruseppu**	**1.53**	**353**	*e*P		**Pn**	**13 54 43.6**	**+0.2**
JMP				*e*S		**Sn**	**13 55 02.3**	**-0.4**
JEW	**Eniwo**	**1.64**	**283**	*e*P		**Pn**	**13 54 45.9**	**+1.2**
NMR	**Nemuro--Hokkai**	**1.79**	**60**	⇓*i*PN		**Pn**	**13 54 46.1**	**-0.6**
NMR				*i* S		**Sn**	**13 55 06.5**	**-2.1**
NMR	**Nemuro--Hokkai**	**1.79**	**60**	*i* P		**Pn**	**13 54 46.1**	**-0.6**
NMR				*i* S		**Sn**	**13 55 07.9**	**-0.7**
JKA	**Kamikawa-asahi**	**1.79**	**336**	*e*P		**Pn**	**13 54 47.2**	**+0.5**
ASAJ	**Asahikawa**	**1.79**	**336**	P		**Pn**	**13 54 47.1**	**+0.4**
	comp=N,9.3nm,0.4s,baz=162,slow=12,SNR=16							
ASAJ				S		**Sn**	**13 55 09.2**	**+0.4**
	comp=N,15nm,0.3s,baz=245,slow=19,SNR=9.5							
RUSJ	**Misakicho**	**2.01**	**36**	*e*PN		**Pn**	**13 54 50.5**	**+0.9**
RUSJ				*i* S		**Sn**	**13 55 16.3**	**+2.4**
YUK	**Yuzh-Kuril'sk**	**2.25**	**46**	⇑*i*PN		**Pn**	**13 54 53.5**	**+0.6**
YUK				*i* S		**Sn**	**13 55 19.9**	**+0.1**
YUK				pmax	pmax			
	comp=N,25nm,0.2s							
YUK				pmax	pmax			
	comp=Z,267nm,0.2s							
YUK				smax	smax			
	comp=N,992nm,0.4s							
YUK				smax	smax			
	comp=E,727nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**2.25**	**46**	*i* P		**Pn**	**13 54 53.6**	**+0.6**
YUK					AMB	AMB	13 54 54.1	
	comp=E,270nm,0.4s							
YUK				*e*S		**Sn**	**13 55 20.8**	**+1.0**
YUK				A		A	13 55 21.8	
	comp=E,990nm,0.5s							
YUK				A		A	13 55 21.8	
	comp=E,730nm,0.5s							
KUR	**Kuril'sk**	**4.12**	**47**	*e*PN		**Pn**	**13 55 20.7**	**+2.5**
KUR				*e*S		**Sn**	**13 56 06.5**	**+1.3**
KUR				smax	smax			
	comp=E,51nm,0.7s							
KUR				smax	smax			
	comp=N,27nm,0.2s							
KUR	**Kuril'sk**	**4.12**	**47**	*e*P		**Pn**	**13 55 19.9**	**+1.7**
KUR					AMB	AMB	13 55 22.0	
	comp=N,30nm,0.3s							
KUR				*e*S		**Sn**	**13 56 06.5**	**+1.3**
KUR				A		A	13 56 08.7	
	comp=N,100nm,0.6s							
KUR				A		A	13 56 08.7	
	comp=N,80nm,0.6s							
PETK	**Petropavlovsk-**	**14.20**	**37**	P		**Pn**	**13 57 33.8**	**-1.1**
	comp=N,2.3nm,0.8s,baz=223,slow=9.5,SNR=6.8							
SEY	**Seymchan**	**21.12**	**11**	P		**P**	**13 58 53.4**	**-2.5**
	comp=N,1.0nm,0.4s,baz=204,slow=12,SNR=6.0							
H11N2	**WAKE ISLAND Hy**	**30.02**	**132**	T		T	14 31 46.9	
	baz=326,slow=75,SNR=33							
H11N1	**WAKE ISLAND Hy**	**30.03**	**132**	T		T	14 31 54.2	
	baz=326,slow=75,SNR=24							
H11N3	**WAKE ISLAND Hy**	**30.03**	**132**	T		T	14 31 50.9	
	baz=326,slow=75,SNR=23							
H11S1	**WAKE ISLAND Hy**	**30.90**	**134**	T		T	14 32 56.4	
	baz=326,slow=76,SNR=44							
H11S3	**WAKE ISLAND Hy**	**30.91**	**134**	T		T	14 33 02.1	
	baz=326,slow=76,SNR=32							
H11S2	**WAKE ISLAND Hy**	**30.92**	**134**	T		T	14 33 03.2	
	baz=326,slow=76,SNR=23							
MKAR	**Makanchi Array**	**42.88**	**298**	P		**P**	**14 02 07.6**	**-0.8**
	comp=N,0.1nm,0.5s,baz=82,slow=11,SNR=2.4							
	comp=N,0.1nm,0.5s							
ILAR	**Eielson Array**	**44.02**	**35**	P		**P**	**14 02 19.1**	**+1.8**
	comp=N,0.6nm,0.7s,baz=273,slow=8.7,SNR=8.4							
	comp=N,0.6nm,0.7s							
YKA	**Yellowknife Ar**	**58.27**	**32**	P		**P**	**14 04 05.9**	**+2.0**
	comp=N,0.2nm,0.6s,baz=303,slow=6.6,SNR=4.4							
	comp=N,0.2nm,0.6s							
WRA	**Warramunga Arr**	**62.70**	**190**	P		**P**	**14 04 32.8**	**-1.7**
	comp=N,0.7nm,1.0s,baz=6.3,slow=6.7,SNR=1.7							
	comp=N,0.7nm,1.0s							

IDC 13 14:24:40.7±4.3, 6°25S×141°93E, h0km, mb3.0/1, mbtmp3.2/3, ML3.1/2, MS2.9/1, Error ellipse: s-maj=141.8km s-min=30.8km az=100.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.48**	**208**	Pn	Pn	14 28 18.4	-2.2
	0.1nm,0.3s,baz=24,slow=13,SNR=4.6						
WRA				Sn	Sn	14 31 08.6	-4.3
	baz=273,slow=18,SNR=2.1						
WRA				Lg	Lg	14 32 53.7	
	baz=352,slow=39,SNR=1.5						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**18.96**	**203**	P	P	14 29 03.8	0.0
	0.1nm,0.3s,baz=33,slow=9.5,SNR=12						
ASAR				S	Sn	14 32 28.3	-9.0
	0.9nm,1.0s,baz=14,slow=31,SNR=4.4						
	0.8nm,0.7s						
DAV	**Davao City (W)**	**21.01**	**309**	LR	LR	14 37 40.4	
	comp=Z,33nm,21.4s,baz=316,slow=37						
MKAR	**Makanchi Array**	**74.54**	**322**	P	P	14 36 21.8	+0.4
	baz=123,slow=5.3,SNR=1.9						

*JMA **13** 14:25:39.7±0.3, 45°N±1°×14°2E±°, h284km±2km, MV3.0/36, NW OFF HOKKAIDO*

*IDC **13** 14:25:40.4±0.8, 45°.06N×141°.59E, h276km±9km, mb2.8/5, mbtmp3.5/9, Error ellipse: s-maj=20.0km s-min=18.9km az=170.0*

*SKHL **13** 14:25:40.1±0.4, 45°.00N×141°.60E, h293km±3km, mb4.4/8, msh4.4/4*

ISC 13 14:25:40.2±0.8, 44°.99N±0°.06×141°.66E±0°.07, h280km±7km, n34, σ1°08/45, mb2.8/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRR	**Rishiri**	**0.29**	**301**	*e*P	**Pn**	**14 26 16.3**	**+0.3**
JWK2	**Keihoku**	**0.37**	**27**	*e*P	**Pn**	**14 26 16.0**	**-0.1**
JWK2				*e*S	**S**	**14 26 44.0**	**-0.7**
JSS	**Shosan**	**0.60**	**167**	*e*P	**Pn**	**14 26 17.5**	**+0.6**
JRBN	**Rebuntou**	**0.61**	**316**	P	**Pn**	**14 26 16.4**	**-0.3**
JSE	**Soyaes**	**0.66**	**92**	P	**Pn**	**14 26 17.0**	**+0.1**
JSE				*e*S	**S**	**14 26 45.5**	**-0.5**
ASAJ	**Asahikawa**	**1.10**	**142**	*e*P	**Pn**	**14 26 19.5**	**+0.6**
ASAJ	**Asahikawa**	**1.10**	**142**	P	**Pn**	**14 26 19.3**	**+0.3**
	5.0nm,0.4s,baz=282,slow=8.5,SNR=35						
ASAJ				S	**S**	**14 26 50.3**	**+0.6**
	6.3nm,0.6s,baz=94,slow=19,SNR=2.0						
JHR	**Hokuryu**	**1.25**	**178**	*e*P	**Pn**	**14 26 20.8**	**+1.0**
JKK2	**Kamakawa 2**	**1.36**	**145**	*e*P	**Pn**	**14 26 21.1**	**+0.6**
JAB	**Ashibetsu**	**1.54**	**165**	*e*P	**Pn**	**14 26 22.2**	**+0.5**
JMP	**Maruseppu**	**1.56**	**128**	*e*P	**Pn**	**14 26 22.7**	**+0.9**
JSS	**Ishikarishitsu**	**1.72**	**186**	*e*P	**Pn**	**14 26 24.1**	**+1.1**
JTKR	**Abashiri--Toko**	**1.90**	**122**	*e*P	**Pn**	**14 26 25.4**	**+1.0**
JTKR				*e*S	**S**	**14 27 00.5**	**+1.0**
YSS	**Yuzh-Sakhalins**	**2.11**	**21**	*e*P	**Pn**	**14 26 25.8**	**-0.2**
YSS				AMB	AMB	14 26 26.2	
	190nm,0.3s						
YSS				*e*S	**S**	**14 27 01.7**	**-0.8**
YSS				A	A	14 27 02.5	
	30nm,0.4s						
YSS				A	A	14 27 02.5	
	30nm,0.4s						

JEW	**Eniwo**	**2.15**	**184**	*e*P		**Pn**	**14 26 27.5**	**+0.9**
JAR	**Ashorobuto**	**2.27**	**137**	*e*P		**Pn**	**14 26 28.6**	**+1.0**
JAR				*e*S		**S**	**14 27 06.7**	**+1.4**
JCH	**Churui**	**2.67**	**152**	*e*P		**Pn**	**14 26 30.3**	**-1.1**
JCH				*e*S		**S**	**14 27 08.9**	**-3.1**
JRA	**Rausu**	**2.69**	**112**	*e*P		**Pn**	**14 26 32.9**	**+1.4**
JNBK	**Urakawa-nobuka**	**2.82**	**163**	*e*P		**Pn**	**14 26 33.4**	**+0.6**
JAK	**Akkeshi**	**2.96**	**131**	*e*P		**Pn**	**14 26 33.5**	**-0.6**
JAK				*e*S		**S**	**14 27 15.4**	**-1.7**
AKK	**Akkeshi**	**3.02**	**130**	*e*P		**Pn**	**14 26 34.5**	**-0.3**
AKK				*e*S		**S**	**14 27 16.4**	**-2.0**
YUK	**Yuzh-Kuril'sk**	**3.15**	**106**	*e*S		**S**	**14 27 21.8**	**+1.1**
YUK				A		A	14 27 22.3	
	130nm,0.9s							
YUK				A		A	14 27 22.3	
	160nm,0.9s							
JOSM	**Okushiri--Mats**	**3.31**	**209**	*e*P		**Pn**	**14 26 37.5**	**-0.3**
NMR	**Nemuro--Hokkai**	**3.34**	**118**	*e*P		**Pn**	**14 26 38.6**	**+0.5**
NMR				*e*S		**S**	**14 27 23.7**	**-0.6**
NMR				A		A	14 27 23.9	
	20nm,0.3s							
NMR				A		A	14 27 23.9	
	40nm,0.3s							
NEM2	**Nemuro 2**	**3.35**	**117**	*e*P		**Pn**	**14 26 37.1**	**-1.1**
NEM2				*e*S		**S**	**14 27 21.7**	**-2.9**
USRK	**Ussuriysk Ar.**	**6.95**	**267**	P		**Pn**	**14 27 19.9**	**-0.6**
	9.3nm,0.7s,baz=76,slow=13,SNR=10							
KLR	**Kul'dur**	**7.98**	**306**	P		**Pn**	**14 27 32.2**	**-1.0**
	1.0nm,0.6s,baz=111,slow=15,SNR=5.1							
MJAR	**Matsushiro Arr**	**8.83**	**198**	P		**Pn**	**14 27 43.7**	**-0.3**
	0.6nm,0.4s,baz=14,slow=13,SNR=2.4							
SEY	**Seymchan**	**19.00**	**15**	P		**P**	**14 29 40.9**	**-0.4**
	0.6nm,0.5s,baz=77,slow=23,SNR=6.6							
ZALV	**Zalesovo Beam**	**37.09**	**305**	P		**P**	**14 32 24.3**	**+0.6**
	0.4nm,0.4s,baz=89,slow=5.9,SNR=2.1							
	0.4nm,0.4s							
MKAR	**Makanchi Array**	**40.51**	**294**	P		**P**	**14 32 51.7**	**-0.4**
	0.3nm,0.6s,baz=81,slow=7.8,SNR=4.9							
	0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**41.63**	**301**	P		**P**	**14 33 00.9**	**-0.2**
	0.2nm,0.4s,baz=71,slow=8.6,SNR=2.9							
	0.2nm,0.4s							
ILAR	**Eielson Array**	**42.83**	**37**	P		**P**	**14 33 10.7**	**+0.1**
	0.3nm,0.6s,baz=271,slow=7.9,SNR=4.2							
	0.3nm,0.6s							
ASAR	**Alice Springs**	**68.69**	**188**	P		**P**	**14 36 14.9**	**+1.3**
	0.4nm,0.5s,baz=9.5,slow=6.8,SNR=0.9							
	0.4nm,0.5s							

*IDC **13** 14:30:29.8±0.9, 6°.09S×143°.18E, h0km, mb3.8/6, mbtmp3.9/8, ML1.3/1, Error ellipse: s-maj=41.0km s-min=22.2km az=65.0*

ISC 13 14:30:31.2±0.9, 6°.3S±0°.1×143°.0E±0°.1, h10km, n9, σ1°64/10, mb3.8/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.19**	**127**	Pn	**Pn**	**14 31 48.5**	**-0.5**
	0.7nm,0.3s,baz=321,slow=13,SNR=1.5						
PMG				Sn	**Sn**	**14 32 49.3**	**+0.3**
	1.2nm,0.3s,baz=128,slow=14,SNR=3.9						
	4.4nm,0.5s						
WRA	**Warramunga Arr**	**15.93**	**211**	Pn	**Pn**	**14 34 12.6**	**-3.1**
	0.1nm,0.3s,baz=30,slow=12,SNR=2.2						
WRA				Sn	Sn	14 37 03.0	-9.5
	0.2nm,0.3s,baz=34,slow=24,SNR=2.0						
WRA				Lg	Lg	14 38 52.7	
	baz=35,slow=28,SNR=2.5						
ASAR	**Alice Springs**	**19.34**	**206**	P	**Pn**	**14 35 00.2**	**+2.3**
	7.6nm,0.7s,baz=36,slow=8.4,SNR=98						
ASAR				S	S	14 38 26.0	-10
	0.7nm,0.9s,baz=22,slow=26,SNR=4.3						
ASAR				Lg	Lg	14 40 45.7	
	baz=22,slow=27,SNR=4.1						
MKAR	**Makanchi Array**	**75.20**	**322**	P	**P**	**14 42 14.2**	**+0.1**
	0.8nm,0.9s,baz=102,slow=6.1,SNR=6.4						
	0.8nm,0.9s						
ZALV	**Zalesovo Beam**	**77.15**	**329**	P	**P**	**14 42 23.9**	**-1.1**
	0.5nm,0.4s,baz=115,slow=10,SNR=2.3						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**79.08**	**324**	P	**P**	**14 42 36.1**	**+0.4**
	0.4nm,0.7s,baz=105,slow=4.6,SNR=3.6						
	0.4nm,0.7s						
QSPA	**South Pole Qui**	**83.67**	**180**	P	**P**	**14 43 00.9**	**+0.9**
	0.7nm,0.8s,baz=244,slow=1.9,SNR=7.7						
	0.7nm,0.8s						
BVAR	**Borovoye Array**	**84.66**	**325**	P	**P**	**14 43 06.0**	**+0.9**
	2.0nm,0.6s,baz=119,slow=8.6,SNR=12						
	2.0nm,0.6s						
ILAR	**Eielson Array**	**87.36**	**24**	P	**P**	**14 43 17.2**	**-0.9**
	0.2nm,0.7s,baz=240,slow=6.1,SNR=4.1						
	0.2nm,0.7s						

*IDC **13** 14:39:13.3±1.9, 8°.75S×125°.47E, h0km, mb3.5/1, mbtmp3.2/4, ML2.7/3, Error ellipse: s-maj=37.6km s-min=29.6km az=98.0*

*DJA **13** 14:39:17.8±2.3, 9°S±4°×12°5E±2°, h10km, M2.9/6, MLv2.9/6*

ISC 13 14:39:15.2±1.5, 8°.8S±0°.1×125°.2E±0°.1, h10km, n8, σ0°44/8, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.33**	**225**	P	**Pg**	**14 39 41.0**	**+0.1**
BATI	**Baumata**	**2.08**	**228**	Pn	**Pb**	**14 39 53.5**	**+0.5**
	1.2nm,0.3s,baz=90,slow=2.0,SNR=2.2						
BATI				Sn	**Sg**	**14 40 21.4**	**-0.6**
	4.3nm,0.3s,baz=54,slow=18,SNR=2.3						
	11nm,0.6s						
BATI	**Baumata**	**2.08**	**228**	P	**Pn**	**14 39 50.2**	**+0.1**
MMRI	**Maumere**	**2.96**	**273**	P	**Pn**	**14 40 02.0**	**-0.3**
EDFI	**Ende, Flores**	**3.49**	**271**	P	**Pn**	**14 40 09.6**	**-0.1**
WRA	**Warramunga Arr**	**14.15**	**142**	Pn	Pn	14 42 32.1	-3.8
	0.1nm,0.3s,baz=314,slow=13,SNR=2.2						
WRA				Sn	Sn	14 44 58.8	-14
	0.1nm,0.3s,baz=225,slow=43,SNR=7.5						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**16.95**	**152**	Pn	**Pn**	**14 43 12.2**	**-0.4**
	baz=319,slow=10,SNR=1.8						
ASAR				Sn	Sn	14 46 13.1	-8.2
	baz=338,slow=24,SNR=1.9						
	0.2nm,0.8s						
MKAR	**Makanchi Array**	**67.25**	**330**	P	**P**	**14 50 10.1**	**+0.1**
	0.4nm,0.7s,baz=134,slow=7.3,SNR=6.3						
	0.4nm,0.7s						

*DNK **13** 14:55:50.6±4.2, 79°.63N×3°.31E, h3km±87km, ML1.0*

*BER **13** 14:55:55.6±2.3, 79°.57N×3°.03E, h10km, mb(Pn)2.9, ML1.0(DNK), Confirmed Earthquake*

ISC 13 14:55:50.7±2.5, 79°.7N±0°.2×2°.78E±0°.05, h12km, n10, σ2°84/19, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.86**	**109**	*e*P	**Pn**	**14 56 24.2**	**+1.9**
KBS				*e*S	**Sn**	**14 56 42.8**	**-2.9**
KBS				IAML		14 56 44.8	
	comp=Z,7.7nm,0.1s						
KBS	**Kingsbay**	**1.86**	**109**	*i* P	**Pn**	**14 56 24.1**	**+1.7**
KBS				*e*S	**Sn**	**14 56 43.2**	**-2.5**
BRBB	**Barentsburg B**	**2.71**	**120**	*e*P	**Pn**	**14 56 37.9**	**+3.9**
BRBB				*e*S	**Sn**	**14 57 05.6**	**-1.1**
BRBA	**Barentsburg A**	**2.74**	**120**	*e*P	**Pn**	**14 56 38.1**	**+3.8**
BRBA				*e*S	**Sn**	**14 57 06.4**	**-0.9**
BRBA				IAML		14 57 06.8	
	comp=Z,4.2nm,0.2s						
SPA0	**Spitsbergen Ar**	**3.01**	**113**	*e*P	**Pn**	**14 56 40.8**	**+2.6**
SPA0				*e*		14 56 43.1	
SPA0				*e*S	**Sn**	**14 57 12.1**	**-2.0**
SPA0				IAML		14 57 12.5	
	comp=Z,2.8nm,0.9s						
HSPB	**Hornsund (broa**	**3.71**	**129**	*e*P	**Pn**	**14 56 50.9**	**+3.2**
HSPB				*e*S	**Sn**	**14 57 29.7**	**-1.5**
HSPB				IAML		14 57 32.9	
	comp=Z,1.7nm,1.3s						
DAG	**Danmarks Havn**	**5.23**	**247**	*i* P	Pn	14 57 07.0	-1.5
DAG				*e*S	**Sn**	**14 58 09.6**	**+1.0**
DAG				IAML		14 58 14.6	
	comp=Z,0.6nm,0.2s						
HOPEN	**Hopen**	**5.55**	**113**	*e*P	**Pn**	**14 57 14.1**	**+1.2**
HOPEN				*e*S	**Sn**	**14 58 12.1**	**-4.3**
HOPEN				IAML		14 58 14.5	
	comp=Z,2.1nm,0.2s						

DBG	**Daneborg**	**7.39**	**236**	*e*P		**Pn**	**14 57 38.4**	**+0.2**
DBG				*e*S		**Sn**	**14 58 57.9**	**-4.0**
DBG	**Daneborg**	**7.39**	**236**	*e*P		**Pn**	**14 57 38.4**	**+0.2**
DBG				*e*S		**Sn**	**14 58 57.9**	**-4.0**

*IDC **13** 14:59:50.4±1.2, 38°.74N×100°.96E, h0km, mb3.6/4, mbtmp3.5/7, ML2.6/3, Error ellipse: s-maj=71.3km s-min=18.9km az=55.0*

ISC 13 14:59:51.9±1.4, 38°.6N±0°.2×100°.5E±0°.3, h10km, n7, σ1°15/7, mb3.9/3, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.66**	**307**	Pn	**Pn**	**15 03 31.0**	**-1.6**
	baz=99,slow=13,SNR=2.7						
	0.1nm,0.4s						
ZALV	**Zalesovo Beam**	**18.70**	**330**	P	**Pn**	**15 04 10.4**	**-0.2**
	0.1nm,0.3s,baz=145,slow=10,SNR=1.6						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**19.62**	**315**	P	**Pn**	**15 04 22.5**	**+0.7**
	baz=123,slow=12,SNR=13						
	1.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**20.15**	**184**	P	**P**	**15 04 26.8**	**+0.5**
	0.5nm,0.3s,baz=7.0,slow=8.2,SNR=5.4						
	0.5nm,0.3s						
BVAR	**Borovoye Array**	**25.22**	**315**	P	**P**	**15 05 18.6**	**+0.9**
	0.5nm,0.6s,baz=108,slow=7.7,SNR=3.4						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**66.34**	**145**	P	**P**	**15 10 39.8**	**-1.1**
	0.7nm,0.6s,baz=342,slow=6.5,SNR=6.4						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**69.43**	**147**	P	**P**	**15 11 00.5**	**+0.3**
	0.6nm,0.7s,baz=337,slow=6.5,SNR=17						
	0.6nm,0.7s						

*IDC **13** 15:10:53.9±4.6, 4°.31S×151°.25E, h172km±39km, mb2.9/5, mbtmp3.5/6, Error ellipse: s-maj=74.7km s-min=30.4km az=119.0*

ISC 13 15:10:51.7±1.8, 4°.2S±0°.3×151°.3E±0°.5, h150km, n7, σ1°84/10, mb3.3/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.61**	**219**	P	**Pn**	**15 12 27.3**	**+0.6**
	5.9nm,0.4s,baz=18,slow=7.0,SNR=8.0						
PMG				S	**Sn**	**15 13 43.1**	**+2.0**
	6.2nm,0.4s,baz=233,slow=20,SNR=1.8						
WRA	**Warramunga Arr**	**22.77**	**225**	P	**P**	**15 15 40.5**	**-1.1**
	0.3nm,0.4s,baz=49,slow=9.9,SNR=9.1						
WRA				pP	**pP**	**15 16 07.4**	**-2.1**
	0.7nm,0.6s,baz=54,slow=10,SNR=1.6						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**25.63**	**219**	P	**P**	**15 16 06.3**	**-1.3**
	0.2nm,0.8s,baz=52,slow=8.8,SNR=5.3						
ASAR				pP	**pP**	**15 16 36.2**	**-2.3**
	1.6nm,0.8s,baz=57,slow=8.8,SNR=11						
	0.2nm,0.8s						
MKAR	**Makanchi Array**	**78.94**	**319**	P	**P**	**15 22 39.5**	**+0.7**
	0.3nm,0.8s,baz=108,slow=3.8,SNR=1.6						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**82.18**	**22**	P	**P**	**15 22 56.3**	**+0.7**
	0.3nm,0.9s,baz=222,slow=7.4,SNR=4.3						
	0.3nm,0.9s						
BVAR	**Borovoye Array**	**87.91**	**323**	P	**P**	**15 23 23.4**	**-1.1**
	0.5nm,0.6s,baz=86,slow=4.5,SNR=2.6						
	0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**148.75**	**288**	PKPbc	**PKPdf**	**15 30 20.6**	**+2.1**
	0.6nm,0.6s,baz=78,slow=2.5,SNR=5.0						

*NEIC **13** 15:33:29.5±0.4, 36°.46N±0°.01×98°.83W±0°.02, h5km±1km, Error ellipse: s-maj=3.8km s-min=2.4km az=294.0*

TUL 13 15:33:29.7±0.4, 36°.45N±0°.02×98°.83W±0°.03, h6km±4km, ML2.6, mb_Lg2.3/12(NEIC), ML2.7/14(NEIC), Error ellipse: s-maj=4.0km s-min=1.7km az=116.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.07**	**70**		Pg	15 33 31.8	+0.4
OK038				Sg	Sg	15 33 33.2	+0.5
OK038				IAML		15 33 33.5	
	8μm,0.2s						
U32A	**Winter Ranch,**	**0.16**	**242**		Pg	15 33 33.2	+0.3
U32A				Sg	Sg	15 33 35.7	+0.6
U32A				IAML		15 33 36.4	
	comp=N,2μm,0.1s						
OK035	**E0210 Rd and N**	**0.27**	**20**	Pg	Pg	15 33 35.4	+0.3
OK035				Sg	Sg	15 33 39.3	+0.7
OK035				IAML		15 33 39.9	
	comp=N,2μm,0.2s						
OK032	**Salt Plains WL**	**0.61**	**55**	Pg	Pg	15 33 41.3	0.0
OK032				IAML		15 33 53.6	
	comp=N,317nm,0.2s						
OK032				IAML		15 33 53.7	
	comp=N,371nm,0.2s						
ELIS	**Ellis County**	**0.62**	**231**		Pg	15 33 41.6	+0.1
ELIS				IAML		15 33 56.6	
	comp=N,576nm,0.2s						
ELIS				IAML		15 33 58.0	
	comp=E,438nm,0.2s						
CROK	**Carrier**	**0.68**	**85**	Pg	Pg	15 33 42.8	0.0
CROK				Sg	Sg	15 33 51.5	-0.1
CROK				IAML		15 34 02.0	
	comp=N,292nm,0.3s						
CSTR	**Hydro, Custer**	**0.81**	**172**		Pg	15 33 45.3	0.0
KAN14	**Manchester OK**	**0.86**	**54**		Pg	15 33 46.1	-0.1
GC02

WRA				Lg	Lg	15 55 03.9		
	0.1nm,0.3s,baz=91,slow=14,SNR=1.9							
ASAR	**Alice Springs**	**19.20**	**204**	P	**P**	**15 51 12.8**	**+1.9**
	1.1nm,0.6s,baz=34,slow=10,SNR=33							
ASAR				Lg	Lg	15 57 05.7		
	baz=144,slow=49,SNR=2.2							
STKA	**Stephens Creek**	**25.60**	**181**	P	**P**	**15 52 17.8**	**+1.7**
	2.1nm,0.9s,baz=338,slow=5.4,SNR=3.1							
	2.1nm,0.9s							
MKAR	**Makanchi Array**	**74.70**	**322**	P	**P**	**15 58 26.2**	**-0.1**
	0.2nm,0.6s,baz=109,slow=7.0,SNR=2.9							
	0.2nm,0.6s							
BVAR	**Borovoye Array**	**84.18**	**325**	P	**P**	**15 59 17.6**	**-0.2**
	1.2nm,0.8s,baz=109,slow=8.0,SNR=7.2							
	1.2nm,0.8s							

*BER **13** 15:48:46.0±3.6, 79°.64N×3°.52E, h10km, mb(Pn)3.1, ML2.3(NAO), Confirmed Earthquake*
*FCIAR **13** 15:48:49.0, 79°.80N×5°.80E, h10km, station ZFI2 has station magnitude of 3.20 station OMEGA has station magnitude of 3.30*
*DNK **13** 15:48:49.0±2.2, 79°.47N×3°.86E, h36km±20km, ML1.2*
*NAO **13** 15:48:49.4±5.3, 79°.65N×6°.22E, ML2.3*

ISC 13 15:48:43.0±1.1, 79°.63N±0°.09×3°.57E±0°.05, h10km, n24, σ2s21/44, 1C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.72**	**110**	Pn	**Pn**	**15 49 14.3**	**+1.4**
KBS				Sn	**Sn**	**15 49 33.6**	**-1.3**
KBS	**Kingsbay**	**1.72**	**110**	*e*P	**Pn**	**15 49 14.4**	**+1.5**
KBS				*e*S	**Sn**	**15 49 33.4**	**-1.5**
KBS				IAML		15 49 35.0	
	comp=Z,16nm,0.3s						
KBS	**Kingsbay**	**1.72**	**110**	*i* P	**Pn**	**15 49 14.3**	**+1.4**
KBS				*i* S	**Sn**	**15 49 32.4**	**-2.4**
KBS	**Kingsbay**	**1.72**	**110**	*e*P	**Pn**	**15 49 14.0**	**+1.1**
KBS				*e*S	**Sn**	**15 49 32.8**	**-2.0**
BRBB	**Barentsburg B**	**2.58**	**122**	Pn	**Pn**	**15 49 27.2**	**+2.5**
BRBB				Sn	**Sn**	**15 49 55.6**	**-0.4**
BRBB	**Barentsburg B**	**2.58**	**122**	*e*P	**Pn**	**15 49 27.4**	**+2.7**
BRBB				*e*S	**Sn**	**15 49 55.5**	**-0.5**
BRBA	**Barentsburg A**	**2.60**	**122**	Pn	**Pn**	**15 49 27.7**	**+2.7**
BRBA				Sn	**Sn**	**15 49 56.6**	**0.0**
BRBA	**Barentsburg A**	**2.60**	**122**	*e*P	**Pn**	**15 49 27.8**	**+2.7**
BRBA				*e*S	**Sn**	**15 49 56.3**	**-0.3**
BRBA				IAML		15 50 00.1	
	comp=Z,8.8nm,0.6s						
SPA0	**Spitsbergen Ar**	**2.87**	**114**	Pn	**Pn**	**15 49 30.8**	**+2.1**
	baz=312,slow=10						
SPA0				Sn	**Sn**	**15 50 02.5**	**-0.7**
	baz=332,slow=16						
SPA0	**Spitsbergen Ar**	**2.87**	**114**	Pn	**Pn**	**15 49 30.8**	**+2.1**
	baz=312,slow=10						
SPA0				Sn	**Sn**	**15 50 02.5**	**-0.7**
	baz=332,slow=16						
SPA0	**Spitsbergen Ar**	**2.87**	**114**	⇑ *i*P	**Pn**	**15 49 31.0**	**+2.2**
SPA0				*i* S	**Sn**	**15 50 02.2**	**-1.1**
HSPB	**Hornsund (broa**	**3.58**	**131**	Pn	**Pn**	**15 49 41.6**	**+3.1**
HSPB				Sn	**Sn**	**15 50 18.3**	**-2.5**
HSPB	**Hornsund (broa**	**3.58**	**131**	*e*P	**Pn**	**15 49 40.9**	**+2.4**
HSPB				*e*S	**Sn**	**15 50 18.5**	**-2.3**
HSPB				IAML		15 50 22.4	
	comp=Z,2.7nm,0.2s						
DAG	**Danmarks Havn**	**5.35**	**249**	*e*	**Pn**	**15 50 03.1**	**+0.3**
	baz=40,slow=14						
DAG				*i* P	**Pn**	**15 50 04.4**	**+1.6**
DAG				*i* S	**Sn**	**15 50 59.5**	**-4.9**
DAG				IAML		15 51 04.9	
	comp=Z,1.1nm,0.3s						
DAG	**Danmarks Havn**	**5.35**	**249**	*e*	**Pn**	**15 50 03.1**	**+0.3**
	baz=40,slow=14						
DAG				*i* P	**Pn**	**15 50 04.4**	**+1.6**
DAG				*i* S	**Sn**	**15 50 59.5**	**-4.9**
DAG				IAML		15 51 04.9	
	comp=Z,1.1nm,0.3s						
HOPEN	**Hopen**	**5.40**	**114**	Pn	**Pn**	**15 50 05.4**	**+1.9**
HOPEN				Sn	**Sn**	**15 51 02.0**	**-3.6**
HOPEN	**Hopen**	**5.40**	**114**	*e*P	**Pn**	**15 50 05.2**	**+1.7**
HOPEN				*e*S	**Sn**	**15 51 02.3**	**-3.3**
HOPEN				IAML		15 51 05.7	
	comp=Z,4.3nm,0.3s						
HOPEN	**Hopen**	**5.40**	**114**	*e*P	**Pn**	**15 50 05.2**	**+1.7**
HOPEN				*e*S	**Sn**	**15 51 01.8**	**-3.8**
ZFI2	**Zemlya Franca-**	**7.44**	**60**	*e*P	**Pn**	**15 50 32.6**	**+1.3**
ZFI2				*e*S	Sn	15 51 48.4	-7.2
	comp=Z,7.4nm,3.0s						
OMEGA	**Omega**	**7.46**	**60**	*e*P	**Pn**	**15 50 33.0**	**+1.4**
OMEGA				*e*S	Sn	15 51 49.0	-7.0
	comp=Z,9.0nm,2.4s						
DBG	**Daneborg**	**7.50**	**237**	*i* P	**Pn**	**15 50 33.7**	**+1.4**
DBG				*e*S	Sn	15 51 49.7	-7.4
DBG				IAML		15 51 57.9	
	comp=Z,0.7nm,0.3s						
DBG	**Daneborg**	**7.50**	**237**	*i* P	**Pn**	**15 50 33.7**	**+1.4**
DBG				*e*S	Sn	15 51 49.7	-7.4
DBG				IAML		15 51 57.9	
	comp=Z,0.7nm,0.3s						
NEEM	**North Greenlan**	**10.71**	**286**	*e*P	**Pn**	**15 51 16.4**	**0.0**
NEEM				*e*S	Sn	15 53 06.7	-10
NEEM	**North Greenlan**	**10.71**	**286**	*e*P	**Pn**	**15 51 16.4**	**0.0**
NEEM				*e*S	Sn	15 53 06.7	-10

TAP 13 15:56:57.4, 24°.83N×121°.93E, h20km, ML1.0, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.01**	**15**	*e*P	Pg	15 57 01.2	+0.4
	baz=55						
TIPB	**Shuangxi**	**0.17**	**326**	*i* P	Pg	15 57 02.4	+0.2
	baz=326						
TIPB				*i* S	Sg	15 57 05.4	0.0
	baz=326						
TWE	**Neicheng**	**0.26**	**245**	*e*P	Pg	15 57 03.8	+0.3
	baz=243						
FUSB	**Fushanzhiwuyua**	**0.32**	**257**	P	Pb	15 57 04.9	+0.5
	baz=257						
FUSB				*e*S	Sg	15 57 09.7	+0.5
	baz=257						
NWLT	**Wulai**	**0.39**	**262**	*e*P	Pb	15 57 06.5	+0.8
	baz=262						
NWLT				S	Sb	15 57 11.6	+0.2
	baz=262						
LATG	**Datong**	**0.47**	**231**	*e*P	Pg	15 57 07.3	+0.2
	baz=237						
LATG				*e*S	Sn	15 57 15.4	-1.6
	baz=237						
YHNB	**Yeheng**	**0.53**	**252**	*e*P	Pg	15 57 08.6	+0.5
	baz=258						
YHNB				*e*S	Sg	15 57 16.1	+0.8
	baz=258						
NSK	**Sanguang**	**0.54**	**254**	*e*P	Pg	15 57 08.6	+0.3
	baz=254						
NSK				*e*S	Sg	15 57 16.1	+0.3
	baz=254						
NACB	**Ninganchiao**	**0.72**	**205**	*e*S	Sn	15 57 22.2	-0.8
	baz=197						

JMA 13 15:57:12.9±0.2, 24°.2N±0°.3×123°.8E±0°.4, h15km±1km, MV0.8/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.12**	**320**	P	Pg	15 57 16.3	0.0
IRIF				*e*S	Sg	15 57 18.8	+0.2
JKRS	**Kuro-shima**	**0.18**	**92**	*i* P	Pg	15 57 17.3	+0.1
JKRS				*e*S	Sg	15 57 20.2	+0.1
HATJ	**Hateruma jima**	**0.19**	**182**	*i* P	Pg	15 57 17.2	-0.2
HATJ				*e*S	Sg	15 57 20.5	+0.2
JIJ	**Ishigaki jima**	**0.33**	**69**	P	Pg	15 57 19.4	-0.2
JIJ				*e*S	Sg	15 57 24.1	-0.1
JISG	**Ishigakijimahi**	**0.57**	**53**	P	Pg	15 57 24.2	+0.1
JTJ	**Tarama**	**0.90**	**64**	*e*S	Sg	15 57 42.8	+0.6

IDC 13 15:59:57.1±8.7, 4°.98S×142°.49E, h0km, mb2.8/2, mbtmp3.0/3, ML3.1/1, Error ellipse: s-maj=306.4km s-min=37.8km az=94.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.86**	**207**	Pn	P	16 03 55.8	-1.1
	0.1nm,0.3s,baz=29,slow=13,SNR=2.3						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**20.34**	**203**	P	P	16 04 34.5	-0.6
	0.2nm,0.9s,baz=30,slow=11,SNR=1.8						
	0.2nm,0.9s						
MKAR	**Makanchi Array**	**73.89**	**322**	P	P	16 11 34.1	+0.1
	0.3nm,0.9s,baz=100,slow=7.5,SNR=1.8						
	0.3nm,0.9s						

*IDC **13** 16:00:53.4±1.5, 49°.93N×132°.50E, h0km, mb3.3/3, mbtmp3.3/4, ML2.7/1, MS2.8/1, Error ellipse: s-maj=25.6km s-min=11.1km az=117.0*
*MOS **13** 16:00:54.6±1.7, 49°.88N×132°.24E, h16km, mb3.6/1, Error ellipse: s-maj=26.1km s-min=13.2km az=79.6*
*SKHL **13** 16:00:55.8±0.1, 49°.93N×132°.35E, h8km±2km, mb4.3/6*
ISC 13 16:00:54.6±0.8, 49°.93N±0°.04×132°.38E±0°.04, h10km, n18, σ2s59/27, mb3.3/3, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLR	**Kul'dur**	**0.81**	**211**	Pg	**Pg**	**16 01 10.7**	**+0.5**
	126nm,0.3s,baz=33,slow=16,SNR=2033						
KLR				Lg	Lg	16 01 21.9	
	314nm,0.3s,baz=312,slow=15,SNR=26						
GRNR	**Gornyy**	**2.72**	**70**	*e*P	**Pb**	**16 01 42.8**	**-0.5**
GRNR				*e*		16 02 10.1	
GRNR				pmax	pmax		
	comp=E,30nm,0.2s						
GRNR				pmax	pmax		
	comp=N,10.0nm,0.3s						
GRNR				pmax	pmax		
	comp=Z,20nm,0.3s						
GRNR				smax	smax		
	comp=E,50nm,0.3s						
GRNR				MLR	MLR		
	comp=E,200nm,16.0s						
GRNR				MLR	MLR		
	comp=N,80nm,14.0s						
GRNR				MLR	MLR		
	comp=Z,240nm,12.0s						
GRNR	**Gornyy**	**2.72**	**70**	*e*Pn	**Pn**	**16 01 40.9**	**+2.5**
GRNR				P	**Pb**	**16 01 43.7**	**+0.4**
GRNR				P	**Pg**	**16 01 44.7**	**-2.0**
GRNR				*e*Pg	Pg	16 01 46.0	-0.7
GRNR				AMB	AMB	16 01 47.1	
	comp=Z,37nm,0.3s						
GRNR				*e*Sg	**Sb**	**16 02 20.2**	**+3.5**
GRNR				A	A	16 02 26.0	
	comp=Z,345nm,0.5s						
EKMR	**Ekimchan**	**3.17**	**6**	*e*P	**Pn**	**16 01 46.4**	**+1.9**
EKMR				S	**Sb**	**16 02 32.6**	**+3.0**
EKMR	**Ekimchan**	**3.17**	**6**	*e*Pn	**Pn**	**16 01 46.3**	**+1.8**
EKMR				*e*Pg	**Pb**	**16 01 53.5**	**+2.6**
EKMR				AMB	AMB	16 01 55.9	
	comp=Z,20nm,0.4s						
EKMR				*e*Sg	**Sb**	**16 02 33.0**	**+3.4**
EKMR				A	A	16 02 34.9	
	comp=Z,145nm,0.4s						
OCTB	**Oktyabr'skiy**	**3.88**	**324**	*e*Pn	**Pn**	**16 01 56.2**	**+2.0**
OCTB				P	Pb	16 01 58.2	-4.8
OCTB				*e*Pg	**Pg**	**16 02 06.0**	**-2.8**
OCTB				AMB	AMB	16 02 07.8	
	comp=Z,24nm,0.5s						
OCTB				*e*Sg	**Sg**	**16 02 56.3**	**-2.7**
OCTB				A	A	16 02 58.4	
	comp=Z,133nm,0.4s						
ZEA	**Zeya**	**4.97**	**322**	*e*P	**Pn**	**16 02 11.1**	**+1.9**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.5s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZEA	**Zeya**	**4.97**	**322**	*e*Pn	**Pn**	**16 02 11.1**	**+1.9**
ZEA				AMB	AMB	16 02 11.8	
	comp=Z,60nm,0.6s						
ZEA				P	Pb	16 02 16.4	-5.2
ZEA				*e*Sg	**Sg**	**16 03 30.2**	**-3.8**
ZEA				A	A	16 03 33.7	
	comp=Z,135nm,0.8s						
BMKR	**Bomnak**	**5.26**	**337**	*e*Sg	**Sg**	**16 03 38.7**	**-4.6**
BMKR				A	A	16 03 41.1	
	comp=Z,89nm,0.6s						
USRK	**Ussuriysk Ar.**	**5.74**	**183**	Pn	**Pn**	**16 02 19.2**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=7.4,slow=13,SNR=3.6						
USRK				Lg	Lg	16 03 53.2	
	comp=Z,1.5nm,0.3s,baz=354,slow=26,SNR=6.0						
	comp=Z,1.9nm,0.6s						
NKL	**Nikolayevsk**	**6.10**	**55**	*e*P	**Pn**	**16 02 26.4**	**+1.7**
NKL	**Nikolayevsk**	**6.10**	**55**	*e*Pn	**Pn**	**16 02 26.4**	**+1.7**
NKL				*erx*	rx	16 02 35.3	
NKL				*e*Pg	Pb	16 02 46.6	+5.8
NKL				AMB	AMB	16 02 49.6	
	comp=Z,22nm,0.6s						
NKL				*e*Sg	**Sg**	**16 04 06.3**	**-3.9**
NKL				A	A	16 04 17.0	
	comp=Z,37nm,0.7s						
NKL				A	A	16 04 17.0	
	comp=Z,60nm,0.7s						
GRTR	**Gornotajezhnoj**	**6.22**	**182**	*e*Sg	**Sg**	**16 04 10.1**	**-4.2**
GRTR				A	A	16 04 17.2	
	comp=Z,20nm,1.0s						
MKAR	**Makanchi Array**	**32.93**	**284**	P	**P**	**16 07 29.6**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=77,slow=6.5,SNR=3.6						
	comp=Z,0.4nm,0.8s						
KURK	**Kurchatov**	**33.70**	**292**	P	**P**	**16 07 36.6**	**+1.0**
KURBB	**Kurchatov Arra**	**33.79**	**292**	P	**P**	**16 07 36.6**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=75,slow=9.7,SNR=2.9						
	comp=Z,0.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**41.23**	**233**	LR	LR	16 25 44.3	
	comp=Z,10nm,18.4s,baz=240,slow=36						
ILAR	**Eielson Array**	**42.77**	**39**	P	**P**	**16 08 51.9**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=288,slow=8.1,SNR=6.0						
	comp=Z,0.4nm,0.6s						

HEL 13 16:01:40.5±0.4, 67°.17N×20°.66E, h0km, ML1.3, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LANU	**Lannavaara**	**1.02**	**30**	PG	Pg	16 01 58.2	-1.8
LANU				SN	Sn	16 02 17.8	+0.7
KLF	**Kolari**	**1.29**	**86**	PG	Pg	16 02 03.1	-2.0
	baz=270						
KLF				MSG		16 02 19.4	
	comp=Z,1.3nm,0.2s						
KLF				SB	Sg	16 02 20.8	-1.0
HEF	**Hetta**	**1.69**	**41**	*e*P	Pn	16 02 10.2	-1.0
HEF	**Hetta**	**1.69**	**41**	PG	Pn	16 02 10.8	-0.4
HEF				MSG		16 02 30.8	
	comp=Z,1.8nm,0.2s						
HEF				SN	Sn	16 02 33.4	-0.1
KALU	**Kalix**	**1.70**	**139**	PG	Pn	16 02 11.3	-0.1
	baz=325						
TOF	**Tornio**	**1.83**	**125**	PG	Pn	16 02 11.4	-1.6
TOF				MSG		16 02 34.9	
	comp=Z,2.4nm,0.2s						
TOF				SG	Sb	16 02 37.8	-0.3
KIF	**Kilpisjarvi**	**1.84**	**2**	PG	Pb	16 02 14.2	-0.8
KIF				MSG		16 02 36.5	
	comp=Z,2.2nm,0.2s						
KIF				SG	Sn	16 02 37.7	+0.4
KTK1	**Kautokeino**	**2.09**	**26**	PG	Pb	16 02 18.3	-0.8
KTK1				SG	Sn	16 02 43.4	+0.1
RNF	**Rovaniemi**	**2.19**	**102**	PG	Pn	16 02 19.4	+1.3
RNF				SG	Sb	16 02 48.9	+0.5
SGF	**Sodankyl**	**2.29**	**80**	PG	Pb	16 02 22.1	-0.5
SGF				SG	Sb	16 02 50.8	-0.6
RANF	**Ranua**	**2.71**	**113**	SG	Sb	16 03 03.0	-0.4
KMNF	**Kaamanen**	**3.09**	**47**	PN	Pn	16 02 30.4	-0.1
VRF	**Varrio**	**3.49**	**76**	PB	Pb	16 02 40.3	-2.9

HEL 13 16:02:43.2±0.4, 69°.38N×30°.65E, h0km, ML1.2, Explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAJF	**Raja-Jooseppi**	**1.24**	**224**	*e*P	Pg	16 03 04.9	-2.0
RAJF				*e*S	Sg	16 03 21.0	-2.0
KMNF	**Kaamanen**	**1.32**	**262**	*e*P	Pg	16 03 07.0	-1.5
KMNF				*e*S	Sg	16 03 24.4	-1.2
KMNF	**Kaamanen**	**1.32**	**262**	SN	Pg	16 03 06.9	-1.6
KEV	**Kevo**	**1.34**	**288**	SB	Sg	16 03 24.9	-1.2
KEV	**Kevo**	**1.34**	**288**	*e*P	Pg	16 03 07.1	-1.7
KEV				*e*S	Sg	16 03 24.7	-1.4
KEV				MSG		16 03 26.8	
	comp=Z,2.8nm,0.2s						
VRF	**Varrio**	**1.68**	**194**	*e*P	Pn	16 03 13.1	-0.8
VRF				*e*S	Sn	16 03 35.1	-1.0
ARA0	**ARCESS Array S**	**1.82**	**277**	*e*SG	Sn	16 03 39.2	-0.3
SGF	**Sodankyl**	**2.47**	**220**	*e*S	Sn	16 03 55.8	+0.3
SGF				MSG		16 04 00.3	
	comp=Z,0.5nm,0.1s						
KTK1	**Kautokeino**	**2.67**	**266**	*e*SB	Sn	16 04 02.6	+2.1
HEF	**Hetta**	**2.71**	**252**	*e*SB	Sb	16 04 04.2	-2.1

*IDC **13** 16:08:15.1±0.9, 5°.25N×124°.02E, h0km, mb3.6/7, mbtmp3.7/9, ML4.1/2, MS2.9/8, Error ellipse: s-maj=29.3km s-min=16.8km az=75.0*
*DJA **13** 16:08:18.0±0.5, 5°.N±4°×12°.4E±°, h10km, M4.6/10, mb4.6/7, mB5.3/4, MLv4.6/10, Mw(mB)4.7/4*
*NEIC **13** 16:08:20.4±1.8, 5°.33N±0°.06×124°.13E±0°.08, h37km±9km, mb4.2/10, Error ellipse: s-maj=12.1km s-min=8.5km az=107.0*
ISC 13 16:08:19.8±0.6, 5°.21N±0°.06×124°.15E±0°.08, h35km, n49, σ1s50/44, mb3.8/13, MS2.8/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.05**	**138**	P	**Pn**	**16 08 50.4**	**-1.3**
SGSI				S	**Sn**	**16 09 13.2**	**-2.9**
DAV	**Davao City (W)**	**2.33**	**38**	Pn	**Pn**	**16 08 54.4**	**-1.3**
DAV	**Davao City (W)**	**2.33**	**38**	Pn	**Pn**	**16 08 54.7**	**-1.0**
	76nm,0.3s,baz=146,slow=2.9,SNR=15						
DAV				Sn	**Sn**	**16 09 27.6**	**+4.4**
	132nm,0.3s,baz=334,slow=20,SNR=6.7						
DAV				LR	LR	16 10 15.6	
	comp=Z,319nm,21.9s,baz=126,slow=51						
	366nm,0.6s						
KMSI	**Cibinong**	**4.61**	**182**	P	**Pn**	**16 09 28.2**	**+1.2**
GTOI	**Gorontalo**	**4.68**	**194**	P	**Pn**	**16 09 28.5**	**+0.5**
MRSI	**Marisa**	**5.19**	**205**	P	**Pn**	**16 09 36.0**	**+1.0**
	181nm,0.5s,5μm1.1nm						
TOLI2	**Tolitoli**	**5.28**	**220**		**Pn**	**16 09 35.0**	**-1.1**
TNTI	**Ternate**	**5.46**	**144**	Pn	**Pn**	**16 09 40.0**	**+1.4**
TNTI	**Ternate**	**5.46**	**144**	P	**Pn**	**16 09 39.3**	**+0.7**
	25nm,0.6s,0.2nm						
LUWI	**Luwuk**	**6.36**	**193**		**Pn**	**16 09 53.6**	**+2.6**
LUWI	**Luwuk**	**6.36**	**193**	P	**Pn**	**16 09 53.6**	**+2.6**
	202nm,0.8s,4μm0.9nm						
MPSI	**Mapaga**	**6.43**	**221**	P	**Pn**	**16 09 54.1**	**+2.0**
LBMI	**Labuha**	**6.70**	**150**	P	**Pn**	**16 09 55.9**	**+0.1**
	36nm,0.6s,1μm0.2nm						
SANI	**Sanana**	**7.44**	**166**	P	**Pn**	**16 10 05.4**	**-0.5**
	21nm,0.8s,0.1nm						
KKM	**Kota Kinabalu**	**7.94**	**276**	Pn	**Pn**	**16 10 12.8**	**0.0**
SWI	**Sorong**	**9.32**	**130**	P	**Pn**	**16 10 31.2**	**-0.5**
	16nm,0.7s						
BKB	**Balikpapan**	**9.68**	**229**	Pn	**Pn**	**16 10 35.9**	**-0.8**
KAPI	**Kappang**	**11.06**	**203**	Pn	**Pn**	**16 10 58.5**	**+2.9**
FAKI	**Fak Fak**	**11.43**	**135**	Pn	**Pn**	**16 11 01.4**	**+0.7**
BATI	**Baumata**	**15.32**	**182**	Pn	**Pn**	**16 11 52.5**	**-1.1**
	0.5nm,0.3s,baz=345,slow=2.4,SNR=1.5						
	8.2nm,1.0s						
LEM	**Lembang**	**20.37**	**234**	LR	LR	16 21 41.0	
	comp=Z,52nm,19.7s,baz=227,slow=40						
KNRA	**Kununurra**	**21.25**	**168**	P	**P**	**16 13 04.3**	**+1.3**
KNRA				IAmb	IAmb	16 13 09.0	
	comp=Z,18nm,1.2s						
JOW	**Kunigami**	**21.86**	**10**	LR	LR	16 22 30.6	
	comp=Z,25nm,19.6s,baz=32,slow=39						
FITZ	**Fitzroy Crossi**	**23.20**	**176**	P	**P**	**16 13 25.9**	**+2.1**
FITZ				IAmb	IAmb	16 13 30.9	
	comp=Z,2.8nm,0.9s						
WB0	**Warramunga Arr**	**26.79**	**158**	P	**P**	**16 13 57.1**	**+0.4**
WB0				IAmb	IAmb	16 14 38.0	
	comp=Z,9.5nm,1.4s						
WRA	**Warramunga Arr**	**26.93**	**158**	P	**P**	**16 13 59.7**	**+1.7**
WRA	**Warramunga Arr**	**26.93**	**158**	P	**P**	**16 13 58.3**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=332,slow=10,SNR=3.0						
	comp=Z,0.7nm,0.5s						
WB2	**Warramunga Arr**	**26.93**	**158**	P	**P**	**16 13 57.8**	**-0.3**
WB2				IAmb	IAmb	16 14 30.7	
	comp=Z,12nm,1.4s						
WR0	**Warramunga Arr**	**27.02**	**158**	P	**P**	**16 14 00.9**	**+2.1**
CMAR	**Chiang Mai Arr**	**27.91**	**300**	P	**P**	**16 14 05.9**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=104,slow=7.6,SNR=1.5						
	comp=Z,0.1nm,0.3s						
JNU	**Nakatsue**	**28.47**	**12**	LR	LR	16 27 16.6	
	comp=Z,14nm,18.6s,baz=215,slow=40						
AS31	**Alice Springs**	**30.24**	**162**	P	**P**	**16 14 27.7**	**+0.2**
ASAR	**Alice Springs**	**30.24**	**162**	P	**P**	**16 14 28.2**	**+0.7**
ASAR	**Alice Springs**	**30.24**	**162**	P	**P**	**16 14 28.9**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=342,slow=6.9,SNR=15						
	comp=Z,0.4nm,0.6s						
KSRS	**Korea Array**	**32.28**	**6**	LR	LR	16 28 05.7	
	comp=Z,21nm,20.9s,baz=200,slow=37						
MJAR	**Matsushiro Arr**	**33.75**	**21**	LR	LR	16 28 37.7	
	comp=Z,20nm,20.3s,baz=189,slow=36						
LSA	**Lhasa**	**39.54**	**312**	P	**P**	**16 15 47.7**	**-0.5**
LSA				IAmb	IAmb	16 15 52.3	
	comp=Z,2.4nm,0.6s						
STKA	**Stephens Creek**	**40.45**	**157**	P	**P**	**16 15 56.8**	**+1.7**
	comp=Z,1.1nm,0.4s,baz=291,slow=11,SNR=4.0						
	comp=Z,1.1nm,0.4s						
ASAJ	**Asahikawa**	**42.01**	**20**	LR	LR	16 33 07.8	
	comp=Z,17nm,21.4s,baz=140,slow=36						
KLR	**Kul'dur**	**44.34**	**7**	LR	LR	16 34 08.5	
	comp=Z,23nm,21.4s,baz=192,slow=35						
SONM	**Songino Array**	**45.12**	**343**	P	**P**	**16 16 32.8**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=170,slow=10.0,SNR=2.0						
	comp=Z,0.2nm,0.3s						
MKAR	**Makanchi Array**	**54.89**	**326**	P	**P**	**16 17 46.6**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=131,slow=8.5,SNR=7.0						
	comp=Z,0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**59.12**	**328**	P	**P**	**16 18 16.9**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=133,slow=4.3,SNR=2.6						
	comp=Z,0.2nm,0.5s						
ABKAR	**Akbulak array**	**69.39**	**321**	P	**P**	**16 19 23.0**	**-1.1**
M14K	**Bethel**	**77.63**	**29**	P	**P**	**16 20 11.9**	**-0.4**
IMAR	**Indian Mountai**	**82.05**	**24**	P	**P**	**16 20 34.9**	**-1.4**
TOLK	**Toolik Lake Re**	**83.83**	**22**	P	**P**	**16 20 45.3**

	baz=352									
ENA				*i*	S		Sg	16 15 20.8	+0.4	
	baz=352									
EWUT	**Wuta**	**0.24**	**359**	*i*	P		Pg	16 15 17.7	+0.2	
	baz=359									
EWUT					S		Sg	16 15 21.7	+0.9	
	baz=359									
ETLH	**Xiulin Townshi**	**0.28**	**271**		P		Pg	16 15 18.1	0.0	
	baz=272									
ETLH					S		Sb	16 15 23.2	-1.1	
	baz=272									
ETM	**Tongmen**	**0.35**	**229**	*i*	P		Pg	16 15 20.0	+0.5	
	baz=230									
ETM				*e*	S		Sg	16 15 25.1	+0.9	
	baz=230									
LXIB	**Xiulin Townshi**	**0.38**	**242**	*i*	P		Pg	16 15 20.1	0.0	
	baz=244									
LXIB					S		Sb	16 15 26.9	-0.4	
	baz=244									
LATG	**Datong**	**0.41**	**325**	*i*	P		Pg	16 15 20.7	+0.2	
	baz=326									
LATG					S		Sb	16 15 27.3	-0.8	
	baz=326									
TWC	**Suao**	**0.41**	**8**	*e*	P		Pg	16 15 20.9	+0.4	
	baz=9.0									
TWC				*e*	S		Sg	16 15 27.0	+1.0	
	baz=9.0									
NNSB	**Datong**	**0.43**	**302**		P		Pg	16 15 21.4	+0.5	
	baz=303									
NNSB					S		Sg	16 15 27.5	+0.8	
	baz=303									
NDS	**Dongshan**	**0.44**	**352**		P		Pg	16 15 20.7	-0.3	
	baz=352									
NDS				*i*	S		Sb	16 15 27.9	-0.9	
	baz=352									
NNS	**Nan Shan**	**0.45**	**303**	*i*	P		Pg	16 15 21.5	+0.4	
	baz=304									
NNS				*i*	S		Sg	16 15 27.6	+0.5	
	baz=304									
SHUL	**Shoufeng**	**0.46**	**206**		P		Pb	16 15 22.7	+0.2	
	baz=196									
SHUL				*e*	S		Sb	16 15 30.0	+0.7	
	baz=196									
NDT	**Datong Townshi**	**0.47**	**328**	*i*	P		Pg	16 15 22.1	+0.5	
	baz=329									
NDT				*i*	S		Sb	16 15 29.2	-0.6	
	baz=329									
WHF	**Hehuan Shan**	**0.48**	**264**	*i*	P		Pg	16 15 22.4	+0.6	
	baz=265									
WHF				*i*	S		Sg	16 15 28.8	+0.6	
	baz=265									
FUSS	**Fushou**	**0.49**	**276**	*i*	P		Pg	16 15 22.6	+0.5	
	baz=277									
FUSS				*i*	S		Sg	16 15 29.5	+0.7	
	baz=277									
TWE	**Neicheng**	**0.53**	**348**	*i*	P		Pg	16 15 23.1	+0.3	
	baz=350									
TWE				*i*	S		Sb	16 15 30.7	-0.7	
	baz=350									
CHGB	**Renai**	**0.57**	**256**	*i*	P		Pb	16 15 24.2	-0.5	
	baz=249									
CHGB					S		Sb	16 15 33.0	0.0	
	baz=249									
FUSB	**Fushanzhiwuyua**	**0.58**	**342**	*i*	P		Pg	16 15 24.2	+0.4	
	baz=342									
FUSB				*i*	S		Sg	16 15 32.3	+0.8	
	baz=342									
YHNB	**Yeheng**	**0.60**	**322**	*i*	P		Pb	16 15 24.6	-0.4	
	baz=322									
YHNB				*i*	S		Sb	16 15 32.9	-0.6	
	baz=322									
WARBT	**Fenglin Townsh**	**0.60**	**217**	*i*	P		Pg	16 15 24.3	+0.2	
	baz=226									
WARBT					S		Sb	16 15 34.5	+0.9	
	baz=226									
OWD	**Renai**	**0.61**	**246**		P		Pb	16 15 24.8	-0.4	
	baz=247									
OWD					S		Sb	16 15 33.1	-0.7	
	baz=247									
NSK	**Sanguang**	**0.61**	**321**	*i*	P		Pg	16 15 24.7	+0.4	
	baz=322									
NSK				*i*	S		Sg	16 15 33.0	+0.5	
	baz=322									
NWLT	**Wulai**	**0.63**	**336**	*i*	P		Pg	16 15 25.0	+0.4	
	baz=336									
NWLT					S		Sg	16 15 32.8	-0.2	
	baz=336									
WUSB	**Renai**	**0.64**	**251**	*i*	P		Pg	16 15 25.3	+0.3	
	baz=245									
WUSB					S		Sb	16 15 34.8	-0.1	
	baz=245									
VWDT	**VWDT**	**0.74**	**233**	*i*	P		Pb	16 15 27.1	-0.1	
	baz=234									
VWDT				*e*	S		Sg	16 15 36.8	+0.5	
	baz=234									
NFF	**Wufeng Townshi**	**0.74**	**305**	*e*	P		Pb	16 15 27.8	+0.3	
	baz=306									
NFF					S		Sg	16 15 36.6	+0.1	
	baz=306									
TIPB	**Shuangxi**	**0.77**	**3**	*i*	P		Pb	16 15 27.9	+0.1	
	baz=3.0									
TIPB					S		Sg	16 15 37.4	0.0	
	baz=3.0									
WHP	**Taichung City**	**0.77**	**276**	*e*	P		Pn	16 15 29.3	-0.1	
	baz=277									
WHP				*i*	S		Sb	16 15 38.9	+0.5	
	baz=277									
HGSD	**Ruisui**	**0.78**	**205**	*e*	P		Pb	16 15 28.6	+0.6	
	baz=194									
HGSD				*e*	S		Sn	16 15 40.3	-0.8	
	baz=194									
EHY	**Hungye**	**0.81**	**212**	*e*	P		Pb	16 15 28.5	0.0	
	baz=224									
EHY				*e*	S		Sn	16 15 40.8	-1.1	
	baz=224									
SSLB	**Suanglung**	**0.86**	**242**	*e*	P		Pb	16 15 29.3	-0.2	
	baz=252									
SSLB				*e*	S		Sb	16 15 41.8	+0.6	
	baz=252									
YULB	**Yu-li**	**0.92**	**209**	*i*	P		Pb	16 15 30.4	0.0	
	baz=221									
YULB				*e*	S		Sb	16 15 43.4	+0.7	
	baz=221									

*MEX **13** 16:25:44.3±1.0, 15°.42N×94°.87W, h25km±30km, MD4.3*
*NEIC **13** 16:25:44.8±1.4, 15°.58N±0°.06×94°.89W±0°.04, h35km±11km, mb4.2/3, Md4.3/46(MEX), Error ellipse: s-maj=9.9km s-min=3.0km az=207.0*

ISC 13 16:25:39.4±1.5, 15°.49N±0°.04×94°.86W±0°.02, h12km±11km, n44, σ1s89/78, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**1.09**	**12**	*e*P	**Pn**	**16 26 01.5**	**+1.0**
NILT				*e*S	**Sn**	**16 26 14.3**	**-1.3**
CARR	**Arriaga**	**1.18**	**50**	*i*P	**Pg**	**16 26 02.4**	**+0.2**
CARR				*i*S	**Sb**	**16 26 15.5**	**-1.6**
HUIG	**Huatulco**	**1.23**	**283**		**Pg**	**16 26 03.6**	**+0.5**
HUIG					**Sb**	**16 26 17.3**	**-1.2**
HUIG	**Huatulco**	**1.23**	**283**	*i*P	**Pg**	**16 26 03.6**	**+0.5**
HUIG				*i*S	**Sb**	**16 26 17.3**	**-1.2**
CMIG	**Matias Romero**	**1.59**	**359**		**Pg**	**16 26 09.6**	**-0.4**
CMIG					**Sb**	**16 26 28.3**	**-0.5**
CMIG	**Matias Romero**	**1.59**	**359**	*i*P	**Pg**	**16 26 09.6**	**-0.4**
CMIG				*e*S	**Sb**	**16 26 28.3**	**-0.5**
PCIG		**1.60**	**82**		**Pn**	**16 26 08.2**	**+0.7**
PCIG					**Sn**	**16 26 24.5**	**-3.5**
PCIG		**1.60**	**82**	*e*P	**Pn**	**16 26 08.2**	**+0.7**
PCIG				*e*S	**Sn**	**16 26 24.5**	**-3.5**
UXUV	**UXUV**	**1.94**	**21**	*i*P	**Pg**	**16 26 15.1**	**-1.6**
UXUV				*i*S	**Sb**	**16 26 38.0**	**-0.9**
TGIG		**2.10**	**52**		**Pb**	**16 26 16.7**	**-0.9**
TGIG					**Sn**	**16 26 41.4**	**+0.7**
TGIG		**2.10**	**52**	*e*P	**Pb**	**16 26 16.7**	**-0.9**
TGIG				*i*S	**Sn**	**16 26 41.4**	**+0.7**
TGBT	**Tuxtla Gutierr**	**2.13**	**53**		**Pb**	**16 26 17.5**	**-0.5**
TGBT					**Sb**	**16 26 42.1**	**-2.2**
TGBT	**Tuxtla Gutierr**	**2.13**	**53**	*e*P	**Pb**	**16 26 17.5**	**-0.5**
TGBT				*i*S	**Sb**	**16 26 42.1**	**-2.2**
PEIG	**Puerto Escondi**	**2.26**	**283**		**Pn**	**16 26 18.1**	**+1.4**
PEIG					**Sn**	**16 26 41.9**	**-2.6**
PEIG	**Puerto Escondi**	**2.26**	**283**	*e*P	**Pn**	**16 26 18.1**	**+1.4**
PEIG				*e*S	**Sn**	**16 26 41.9**	**-2.6**
NEUV	**Arroyo Zacate**	**2.38**	**338**	*e*P	**Pb**	**16 26 20.9**	**-1.4**
NEUV				*i*S	**Sn**	**16 26 45.3**	**-2.2**
OXIG	**Oaxaca**	**2.39**	**311**		**Pb**	**16 26 21.6**	**-0.9**
OXIG					**Sn**	**16 26 47.1**	**-0.8**
VHO	**Vista Hermosa**	**2.39**	**311**	*e*P	**Pb**	**16 26 21.6**	**-0.9**
VHO				*i*S	**Sn**	**16 26 47.1**	**-0.8**
PATR	**El Naranjo**	**2.56**	**98**	*e*P	**Pn**	**16 26 21.8**	**+0.8**
PATR				*e*S	**Sn**	**16 26 49.8**	**-2.4**
PAVE	**Pavencul**	**2.61**	**96**	*e*P	**Pn**	**16 26 22.9**	**+1.2**
PAVE				*e*S	**Sn**	**16 26 51.8**	**-1.5**
CHUJ	**Union Juarez**	**2.69**	**98**	*e*P	**Pn**	**16 26 23.4**	**+0.7**
CHUJ				*e*S	**Sn**	**16 26 53.6**	**-1.8**
CCIG	**Comitan**	**2.74**	**73**		**Pb**	**16 26 26.8**	**-1.6**
CCIG	**Comitan**	**2.74**	**73**	*e*P	**Pb**	**16 26 26.8**	**-1.6**
CCIG				*i*S	**Sn**	**16 26 57.8**	**+1.4**
YOIG	**Yosondua**	**2.91**	**298**		**Pb**	**16 26 30.2**	**-1.4**
YOIG					**Sn**	**16 27 00.5**	**-0.5**
YOIG	**Yosondua**	**2.91**	**298**	*e*P	**Pb**	**16 26 30.2**	**-1.4**
YOIG				*e*S	**Sn**	**16 27 00.5**	**-0.5**
PMUV	**Sontecomapan**	**3.04**	**355**	*e*P	**Pn**	**16 26 29.4**	**+1.8**
PMUV				*e*S	**Sn**	**16 27 04.2**	**+0.3**
PNIG	**Pinotepa**	**3.27**	**286**		**Pn**	**16 26 33.0**	**+2.5**
PNIG					**Sn**	**16 27 06.3**	**-3.0**
PNIG	**Pinotepa**	**3.27**	**286**	*e*P	**Pn**	**16 26 33.0**	**+2.5**
PNIG				*e*S	**Sn**	**16 27 06.3**	**-3.0**
TXIG	**Tlaxiaco**	**3.29**	**303**		**Pb**	**16 26 35.7**	**-2.3**
TXIG					**Sn**	**16 27 09.6**	**-0.8**
TXIG	**Tlaxiaco**	**3.29**	**303**	*e*P	**Pb**	**16 26 35.7**	**-2.3**
TXIG				*e*S	**Sn**	**16 27 09.6**	**-0.8**
TOIG	**Toxpalan**	**3.34**	**321**		**Pb**	**16 26 38.0**	**-0.7**
TOIG					**Sn**	**16 27 10.8**	**-0.4**
TOIG	**Toxpalan**	**3.34**	**321**	*e*P	**Pb**	**16 26 38.0**	**-0.7**
TOIG				*i*S	**Sn**	**16 27 10.8**	**-0.4**
HLIG	**Huajuapan de L**	**3.65**	**310**		**Pb**	**16 26 40.1**	**-4.0**
HLIG					**Sn**	**16 27 18.4**	**-0.8**
HLIG	**Huajuapan de L**	**3.65**	**310**	*e*P	**Pb**	**16 26 40.1**	**-4.0**
HLIG				*e*S	**Sn**	**16 27 18.4**	**-0.8**
FTIG	**Fresnillo de T**	**3.95**	**308**	*e*P	**Pb**	**16 26 45.2**	**-3.9**
FTIG				*e*S	**Sn**	**16 27 28.1**	**+1.8**
JAUV	**Jalcomulco**	**4.28**	**335**	*e*P	**Pn**	**16 26 46.2**	**+1.8**
JAUV				*i*S	**Sn**	**16 27 32.0**	**-2.3**
PETF	**Flores**	**5.00**	**73**		**Pn**	**16 26 57.3**	**+2.9**
PETF	**Flores**	**5.00**	**73**	*e*P	**Pn**	**16 26 55.7**	**+1.3**
PETF				*e*S	**Sn**	**16 27 48.4**	**-3.8**
TEIG	**Tepich**	**7.84**	**52**	Pn	**Pn**	**16 27 35.2**	**+1.9**
ACON	**Acoyapa**	**10.04**	**109**	Pn	**Pn**	**16 28 07.1**	**+3.5**
BRU2	**Volcan**	**13.63**	**118**	Pn	**Pn**	**16 28 56.2**	**+3.4**
AMTX	**Amarillo**	**20.26**	**344**	P	Pn	16 30 17.5	+0.7
AMTX				IAmb	IAmb	16 30 55.4	
	comp=Z,8.3nm,0.7s						
FCAR	**Ozark Folk Cen**	**20.46**	**6**	P	Pn	16 30 19.5	+0.4
FCAR				IAmb	IAmb	16 30 27.0	
	comp=Z,7.5nm,0.9s						
R40A	**Maddies Statio**	**22.82**	**5**	P	**P**	**16 30 43.3**	**+1.0**
R40A				IAmb	IAmb	16 30 44.0	
	comp=Z,19nm,1.2s						

TAP 13 16:51:26.6, 24°.25N×121°.47E, h7km±1km, ML0.8, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETLH	**Xiulin Townshi**	**0.04**	**170**	*i*P	Pg	16 51 29.1	+0.9
	baz=169						
ETLH				*i*S	Sg	16 51 30.1	+0.7
	baz=169						
NACB	**Ninganchiao**	**0.13**	**123**	*i*P	Pg	16 51 30.5	+1.0
	baz=123						
NACB				*i*S	Sg	16 51 32.4	+1.1
	baz=123						
ETL	**Fush Village**	**0.16**	**123**	*e*P	Pg	16 51 31.1	+1.1
	baz=122						
ETL				*e*S	Sg	16 51 33.2	+0.9
	baz=122						
NNSB	**Datong**	**0.20**	**335**	P	Pg	16 51 31.6	+0.9
	baz=335						
NNSB				S	Sg	16 51 34.0	+0.6
	baz=335						
TWD	**Chiawan**	**0.20**	**146**	P	Pg	16 51 31.9	+1.2
	baz=143						
TWD				*i*S	Sg	16 51 34.7	+1.3
	baz=143						
FUSS	**Fushou**	**0.21**	**270**	P	Pg	16 51 31.9	+1.0
	baz=270						
FUSS				S	Sg	16 51 35.3	+1.4
	baz=270						
NNS	**Nan Shan**	**0.21**	**334**	*e*P	Pg	16 51 32.4	+1.5
	baz=336						
NNS				S	Sg	16 51 34.8	+1.0
	baz=336						
WHF	**Hehuan Shan**	**0.22**	**242**	*i*P	Pg	16 51 32.3	+1.2
	baz=240						
WHF				S	Sg	16 51 35.2	+1.1
	baz=240						
EAHA	**Aohua**	**0.26**	**71**	*e*P	Pb	16 51 32.9	-0.7
	baz=71						
LATG	**Datong**	**0.29**	**9**	*e*P	Pb	16 51 34.0	-0.2
	baz=9.0						
HWA	**Hwalien**	**0.29**	**156**	*e*P	Pg	16 51 33.2	+0.8
	baz=154						
OWD	**Renai**	**0.40**	**223**	*e*P	Pb	16 51 35.5	-0.6
	baz=223						
YHNB	**Yeheng**	**0.43**	**348**	*e*P	Pb	16 51 36.7	+0.1
	baz=348						

TAP 13 16:51:27.3, 23°.83N×121°.45E, h12km, ML0.8, 2C, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESL	**Shilin**	**0.03**	**227⇑**	*i*P	Pg	16 51 30.2	+0.7
	baz=208						
ESL				*i*S	Sg	16 51 31.7	+0.7
	baz=208						
SHUL	**Shoufeng**	**0.11**	**114**	P	Pb	16 51 31.2	-0.2
	baz=114						
SHUL				S	Sg	16 51 33.7	+1.3
	baz=114						
WARBT	**Fenglin Townsh**	**0.13**	**209**	*i*P	Pb	16 51 31.2	-0.6
	baz=208						
WARBT				*i*S	Sg	16 51 33.5	+0.5
	baz=208						
ETM	**Tongmen**	**0.14**	**15**	*e*P	Pb	16 51 31.4	-0.5
	baz=15						
ETM				*e*S	Sg	16 51 33.5	+0.4
	baz=15						
EGFH	**Guangfu**	**0.16**	**189**	P	Pb	16 51 31.8	-0.5
	baz=188						
EGFH				S	Sg	16 51 34.5	+0.7
	baz=188						
LXIB	**Xiulin Townshi**	**0.19**	**349**	*i*P	Pb	16 51 32.5	-0.4
	baz=193						
LXIB				S	Sg	16 51 35.8	+1.1
	baz=193						
LXIB	**Xiulin Townshi**	**0.19**	**349⇑**	*i*P	Pb	16 51 32.5	-0.5
	baz=348						
LXIB				*i*S	Sg	16 51 35.8	+1.1
	baz=348						
HWA	**Hwalien**	**0.20**	**44**	*e*P	Pb	16 51 32.5	-0.4
	baz=45						
HWA				*e*S	Sg	16 51 37.2	+2.5
	baz=45						
OWD	**Renai**	**0.28**	**296**	S	Sb	16 51 39.0	-0.2
	baz=295						
VWDT	**VWDT**	**0.30**	**255**	P	Pb	16 51 34.8	+0.2
	baz=254						
VWDT				S	Sb	16 51 39.7	+0.3
	baz=254						
CHGB	**Renai**	**0.34**	**312**	*e*P	Pg	16 51 34.4	+0.1
	baz=235						
CHGB	**Renai**	**0.34**	**312**	P	Pg	16 51 34.6	+0.3
	baz=311						
CHGB				*e*S	Sb	16 51 40.6	-0.4
	baz=311						
WUSB	**Renai**	**0.35**	**297**	*e*P	Pb	16 51 36.0	+0.5
	baz=297						
WUSB				S	Sb	16 51 40.9	-0.1
	baz=297						
WHF	**Hehuan Shan**	**0.36**	**331**	*e*S	Sg	16 51 40.6	+1.0
	baz=331						
ETL	**Fush Village**	**0.36**	**25**	*e*S	Sg	16 51 40.0	+0.5
	baz=25						
NACB	**Ninganchiao**	**0.36**	**21**	*e*S	Sg	16 51 40.0	+0.4
	baz=20						
FUSS	**Fushou**	**0.46**	**335**	*e*S	Sb	16 51 43.8	-0.5
	baz=335						
YULB	**Yu-li**	**0.46**	**198**	*e*P	Pg	16 51 36.7	+0.3
	baz=198						
YULB				*e*S	Sb	16 51 44.2	0.0
	baz=198						

IDC 13 16:52:54.4±521.0, 53°.84N×3°.65E, h0km, Error ellipse: s-maj=228.9km s-min=147.4km az=103.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**8.04**	**124**	I	I	17 44 00.0	
	baz=310,slow=317,SNR=0.6						
I37NO	**I37NO**	**16.78**	**19**	I	I	18 36 40.0	
	baz=212,slow=338,SNR=1.6						
I31KZ	**AKTYUBINSK INF**	**32.88**	**73**	I	I	20 12 21.9	
	baz=298,slow=337,SNR=2.5						
I46RU	**ZALESOVO INFRA**	**45.29**	**55**	I	I	21 26 10.0	
	baz=304,slow=340,SNR=1.1						

*IDC **13** 16:53:43.2±0.7, 6°.22S×143°.60E, h0km, mb4.1/13, mbtmp4.2/15, ML2.1/1, MS3.1/5, Error ellipse: s-maj=26.9km s-min=16.7km az=77.0*
*NEIC **13** 16:53:46.8±1.9, 6°.42S±0°.05×143°.22E±0°.05, h21km±6km, mb4.7/30, Error ellipse: s-maj=10.3km s-min=4.0km az=223.0*

ISC 13 16:53:48.7±0.5, 6°.56S±0°.05×143°.25E±0°.07, h35km, n80, σ1s85/80, mb4.5/31, MS2.9/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.79**	**126**	Pn	**Pn**	**16 54 58.8**	**+0.3**
PMG	**Port Moresby**	**4.79**	**126**	Pn	**Pn**	**16 54 57.9**	**-0.5**
	5.4nm,0.3s,baz=14,slow=3.6,SNR=18						
PMG				Sn	**Sn**	**16 55 52.8**	**0.0**
	14nm,0.3s,baz=240,slow=22,SNR=12						
	11nm,0.3s						
MANU	**Manus Island**	**6.08**	**43**	Pn	**Pn**	**16 55 15.6**	**-0.6**
COEN	**Coen**	**7.35**	**181**	Pn	**Pn**	**16 55 36.3**	**+2.7**
COEN	**Coen**	**7.35**	**181**	P	**Pn**	**16 55 37.3**	**+3.6**
RABL	**Rabaul**	**9.18**	**76**		**Pn**	**16 55 57.8**	**-1.0**
FAKI	**Fak Fak**	**11.54**	**288**	Pn	**Pn**	**16 56 29.2**	**-1.9**
SAUI	**Saumlaki**	**11.94**	**262**	Pn	**Pn**	**16 56 34.7**	**-1.8**
KDU	**Kakadu**	**12.24**	**239**	P	**Pn**	**16 56 40.5**	**-0.2**
MTN	**Manton Dam**	**13.47**	**241**		**Pn**	**16 56 56.5**	**-1.0**
MTN	**Manton Dam**	**13.47**	**241**	P	**Pn**	**16 56 57.2**	**-0.3**
DRS	**Darwin Rock St**	**13.50**	**243**	P	**Pn**	**16 56 58.5**	**+0.6**
	32nm,0.7s						
CTA	**Charters Tower**	**13.76**	**168**	Lg	Lg	17 01 00.9	
	0.1nm,0.3s,baz=249,slow=17,SNR=1.8						
CTAO	**Charters Tower**	**13.76**	**168**	Pn	**Pn**	**16 57 01.4**	**0.0**
QIS	**Mount Isa**	**14.36**	**194**	P	**Pn**	**16 57 11.7**	**+2.1**
WR0	**Warramunga Arr**	**15.78**	**212**	Pn	**Pn**	**16 57 27.6**	**-0.8**
WRAB	**Tennant Creek**	**15.86**	**212**	Pn	**Pn**	**16 57 28.4**	**-1.0**
WB2	**Warramunga Arr**	**15.86**	**212**	Pn	**Pn**	**16 57 28.7**	**-0.8**
WRA	**Warramunga Arr**	**15.87**	**212**	Pn	**Pn**	**16 57 27.5**	**-2.0**
WRA	**Warramunga Arr**	**15.87**	**212**	Pn	**Pn**	**16 57 28.9**	**-0.7**
	0.9nm,0.3s,baz=31,slow=13,SNR=21						
WRA				Sn	**Sn**	**17 00 17.8**	**-6.7**
	0.4nm,0.3s,baz=139,slow=12,SNR=1.5						
WRA				Lg	Lg	17 02 17.0	
	baz=23,slow=27						
KNRA	**Kununurra**	**16.84**	**236**	P	**Pn**	**16 57 40.6**	**-1.4**
KNRA				IAmb	IAmb	16 57 42.2	
	comp=Z,28nm,0.7s						
KNRA	**Kununurra**	**16.84**	**236**	P	**Pn**	**16 57 41.3**	**-0.7**
SOEI	**Soe**	**19.05**	**259**	P	**Pn**	**16 58 10.3**	**+1.1**
SOEI				IAmb	IAmb	16 58 32.8	
	comp=Z,57nm,0.9s						
SOEI	**Soe**	**19.05**	**259**	P	**Pn**	**16 58 13.0**	**+3.7**
AS31	**Alice Springs**	**19.23**	**207**	P	**Pn**	**16 58 12.6**	**+1.4**
ASAR	**Alice Springs**	**19.24**	**207**	P	**Pn**	**16 58 12.0**	**+0.7**
ASAR	**Alice Springs**	**19.24**	**207**	P	**Pn**	**16 58 14.3**	**+3.0**
	comp=Z,10nm,0.6s,baz=32,slow=11,SNR=179						
ASAR				S	**S**	**17 01 40.1**	**-6.1**
	comp=Z,0.9nm,0.6s,baz=18,slow=27,SNR=4.2						
ASAR				LR	LR	17 05 59.7	
	comp=Z,145nm,20.0s,baz=32,slow=37						
BATI	**Baumata**	**19.71**	**258**	P	**Pn**	**16 58 19.9**	**+2.8**
	comp=Z,14nm,0.7s,baz=120,slow=5.7,SNR=5.3						
	comp=Z,14nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.65**	**235**	Pn	**P**	**16 58 27.5**	**+2.0**
OOD	**Oodnadatta**	**22.30**	**198**	P	**P**	**16 58 46.4**	**+3.2**
WRKA	**Warakurna**	**23.29**	**216**	P	**P**	**16 58 55.9**	**+2.3**
TOLI2	**Tolitoli**	**23.68**	**288**	P	**P**	**16 58 56.5**	**-1.0**
TOLI2				IAmb	IAmb	16 59 17.9	
	comp=Z,8.5nm,0.8s						
STKA	**Stephens Creek**	**25.24**	**183**	P	**P**	**16 59 11.9**	**+0.4**
STKA	**Stephens Creek**	**25.24**	**183**	P	**P**	**16 59 15.1**	**+3.7**
	comp=Z,1.7nm,0.8s,baz=13,slow=13,SNR=2.5						
STKA				LR	LR	17 10 31.8	
	comp=Z,105nm,19.2s,baz=266,slow=39						
	comp=Z,1.7nm,0.8s						
BBOO	**Buckleboo**	**26.96**	**193**	P	**P**	**16 59 27.5**	**+0.4**
BBOO				IAmb	IAmb	16 59 30.4	
	comp=Z,12nm,1.1s						
OUENC	**Ouen Island, N**	**27.68**	**127**	P	**P**	**16 59 32.2**	**-1.4**
JNU	**Nakatsue**	**41.18**	**344**	LR	LR	17 16 34.9	
	comp=Z,17nm,19.0s,baz=80,slow=34						
NJ2	**Nanjing**	**44.89**	**330**	*e*P	**P**	**17 02 00.5**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
KSRS	**Korea Array**	**46.07**	**343**	P	**P**	**17 02 07.6**	**-1.6**
	comp=Z,1.4nm,0.8s,baz=161,slow=8.0,SNR=5.1						
KSRS				LR	LR	17 19 56.3	
	comp=Z,13nm,19.4s,baz=150,slow=34						
	comp=Z,1.4nm,0.8s						
MCQ	**Macquarie Isla**	**49.45**	**168**	P	**P**	**17 02 36.9**	**+1.7**
CMAR	**Chiang Mai Arr**	**50.27**	**300**	P	**P**	**17 02 43.9**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=128,slow=5.9,SNR=2.1						
	comp=Z,0.3nm,0.7s						
ASAJ	**Asahikawa**	**50.44**	**359**	LR	LR	17 21 49.1	
	comp=Z,8.9nm,21.3s,baz=140,slow=34						
PZH	**PanZhiHua**	**51.95**	**311**	P	**P**	**17 02 56.3**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,120nm,6.1s						
MDJ	**Mudanjiang**	**52.41**	**348**	P	**P**	**17 02 59.8**	**+2.2**
MDJ				pmax	pmax		
	comp=Z,11nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,260nm,3.6s						
HHC	**Hu-ho-hao-te**	**55.43**	**331**	*e*P	**P**	**17 03 20.4**	**+0.5**
HHC				pP	pP	17 03 26.3	-4.4
HHC				pmax	pmax		
	comp=Z,9.0nm,0.5s						

SUA					IAmb	IAmb	17 06 36.0	
	comp=Z,13nm,1.4s							
NRIK	**Noril'sk**	**84.68**	**343**		P	**P**	**17 06 16.9**	**-1.6**
	comp=Z,2.4nm,0.6s,baz=101,slow=3.9,SNR=5.1							
	comp=Z,2.4nm,0.6s							
CAST	**Castle Rocks**	**84.84**	**24**		P	**P**	**17 06 18.1**	**-1.4**
CAST					IAmb	IAmb	17 06 26.9	
	comp=Z,2.4nm,1.1s							
RC01	**Rabbit Creek A**	**84.87**	**27**		P	**P**	**17 06 18.4**	**-1.2**
RC01					IAmb	IAmb	17 06 40.9	
	comp=Z,20nm,1.4s							
BVAR	**Borovoye Array**	**85.04**	**325**		P	**P**	**17 06 19.4**	**-1.2**
	comp=Z,2.8nm,0.8s,baz=93,slow=6.1,SNR=11							
	comp=Z,2.8nm,0.8s							
IMAR	**Indian Mountai**	**85.35**	**21**		P	**P**	**17 06 21.4**	**-0.5**
KTH	**Kantishna Hill**	**85.37**	**24**		P	**P**	**17 06 20.6**	**-1.6**
KTH					IAmb	IAmb	17 06 23.3	
	comp=Z,16nm,1.4s							
GHO	**Glory Hole Cre**	**85.50**	**26**		P	**P**	**17 06 22.0**	**-0.9**
TRF	**Thorofare Moun**	**85.59**	**24**		P	**P**	**17 06 22.5**	**-0.9**
TRF					IAmb	IAmb	17 06 44.0	
	comp=Z,8.4nm,1.4s							
SML	**Sawmill**	**85.77**	**26**		P	**P**	**17 06 23.3**	**-0.9**
RND	**Reindeer**	**86.16**	**25**		P	**P**	**17 06 24.4**	**-1.7**
RND					IAmb	IAmb	17 06 25.8	
	comp=Z,5.5nm,0.9s							
DHY	**Denali Highway**	**86.66**	**25**		P	**P**	**17 06 27.8**	**-0.9**
DHY					IAmb	IAmb	17 06 30.1	
	comp=Z,4.7nm,0.8s							
ILAR	**Eielson Array**	**87.47**	**24**		P	**P**	**17 06 30.7**	**-1.7**
ILAR	**Eielson Array**	**87.47**	**24**		P	**P**	**17 06 29.4**	**-3.0**
	comp=Z,1.6nm,0.9s,baz=255,slow=5.3,SNR=13							
	comp=Z,1.6nm,0.9s							
GLB	**Gilahina Butte**	**87.68**	**27**		P	**P**	**17 06 32.4**	**-1.1**
GLB					IAmb	IAmb	17 06 42.0	
	comp=Z,14nm,1.4s							
BARN	**Barnard Glacie**	**88.56**	**28**		P	**P**	**17 06 37.5**	**-0.4**
BCAR	**Beaver Creek A**	**89.06**	**26**		P	**P**	**17 06 39.9**	**-0.1**
BMAR	**Burnt Mountain**	**89.27**	**22**		P	**P**	**17 06 41.3**	**+0.4**
EGAK	**Eagle**	**89.81**	**25**		P	**P**	**17 06 43.2**	**-0.2**
EGAK					IAmb	IAmb	17 07 10.6	
	comp=Z,6.2nm,1.4s							
DBIC	**Dimbokro**	**148.32**	**272**		PKPbc	**PKiKP**	**17 13 33.5**	**-0.6**
	comp=Z,4.0nm,0.9s,baz=107,slow=20,SNR=3.4							

*SKHL **13** 16:57:58.4±0.1, 43.6°60N×146.7°70E, h39km±3km, mb4.7/4*
*JMA **13** 16:57:58.3±0.2, 43.6°N±0.7°×14.7°E±.°, h49km±2km,*
MV3.5/40, E OFF HOKKAIDO

ISC 13 16:57:57.5±1.7, **43.58N**±0.07°×**146.69E**±0.08, **h31**km±12km, **n14**, σ0.52/25, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.72**	**253**	*eP*	**Pb**	**16 58 11.6**	**+0.1**
NEM2				*eS*	**Sb**	**16 58 21.1**	**0.0**
NMR	**Nemuro--Hokkai**	**0.73**	**253**	*i* P	**Pb**	**16 58 11.6**	**-0.1**
NMR				*i* S	**Sb**	**16 58 21.5**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**0.75**	**307**	*i* P	**Pb**	**16 58 11.7**	**-0.3**
YUK				AMB	AMB	16 58 12.4	
	310nm,0.2s						
YUK				*i* S	**Sb**	**16 58 21.8**	**-0.1**
YUK				A	A	16 58 23.9	
	760nm,0.3s						
YUK				A	A	16 58 23.9	
	3μm,0.3s						
JRA	**Rausu**	**1.19**	**288**	*eP*	**Pn**	**16 58 18.2**	**+0.2**
JRA				*eS*	**Sn**	**16 58 32.7**	**-0.4**
JKHN	**Kushirohamanak**	**1.22**	**246**	*eP*	**Pn**	**16 58 18.6**	**+0.2**
JKHN				S	**Sn**	**16 58 33.8**	**-0.1**
JNSB	**Nemuroshibetsu**	**1.24**	**280**	*eP*	**Pn**	**16 58 18.9**	**+0.3**
JNK	**Nakash**	**1.43**	**271**	*eP*	**Pn**	**16 58 21.2**	**-0.1**
JNK				*eS*	**Sn**	**16 58 38.2**	**-0.9**
AKK	**Akkeshi**	**1.46**	**248**	*eP*	**Pn**	**16 58 21.7**	**0.0**
AKK				*eS*	**Sn**	**16 58 39.1**	**-0.7**
JAK	**Akkeshi**	**1.57**	**249**	*i* P	**Pn**	**16 58 23.3**	**+0.1**
JAK				S	**Sn**	**16 58 41.5**	**-0.9**
KUR	**Kuril'sk**	**1.85**	**27**	*eP*	**Pn**	**16 58 27.4**	**+0.3**
KUR				AMB	AMB	16 58 27.9	
	90nm,0.2s						
KUR				*eS*	**Sn**	**16 58 49.2**	**-0.3**
KUR				A	A	16 58 50.7	
	270nm,0.2s						
KUR				A	A	16 58 50.7	
	100nm,0.2s						
JTKR	**Abashiri--Toko**	**2.05**	**282**	P	**Pn**	**16 58 30.6**	**+0.8**
JAR	**Ashorobuto**	**2.14**	**263**	P	**Pn**	**16 58 31.8**	**+0.7**
JAR				*eS*	**Sn**	**16 58 56.9**	**+0.2**
JOB	**Onbets**	**2.19**	**253**	P	**Pn**	**16 58 32.2**	**+0.5**
JOB				*eS*	**Sn**	**16 58 57.9**	**0.0**
JMP	**Maruseppu**	**2.45**	**281**	*eP*	**Pn**	**16 58 36.5**	**+1.2**

*BEO **13** 17:15:36.5±0.3, 43.3°16N×18.0°7E, h8km±4km, ML2.4/12*
*PDG **13** 17:15:36.6±0.2, 43.1°7N×18.1°04E, h5km, ML2.5/12, Error*
ellipse: s-maj=0.3km s-min=0.4km az=0.0
*RHSSO **13** 17:15:37.3±0.2, 43.1°16N×18.1°06E, h3km±1km, ML2.5/15*
*VIE **13** 17:15:40.8±3.1, 43.1°59N×18.1°40E, h8km, mb2.4/2, ml2.2/3,*
Error ellipse: s-maj=37.8km s-min=29.6km az=9.0

ISC 13 17:15:36.9±0.9, **43.17N**±0.02°×**18.06E**±0.02, **h6**km±8km, **n66**, σ0.92/114, **16C-4D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEVS	**Nevesinje**	**0.13**	**14**	*e*Pg	**Pg**	**17 15 39.8**	**+0.1**
NEVS				*e*Sg	**Sg**	**17 15 42.3**	**+0.8**
KLINJ	**Klinje**	**0.39**	**91**	*e*Pg	**Pg**	**17 15 44.5**	**+0.1**
KLINJ				*e*Sg	**Sg**	**17 15 49.4**	**-0.1**
STON	**Ston**	**0.40**	**221**	*e*Pg	**Pg**	**17 15 44.0**	**-0.6**
STON				*e*Sg	**Sg**	**17 15 50.4**	**+0.5**
STON	**Ston**	**0.40**	**221**	*e*Pg	**Pg**	**17 15 44.2**	**-0.5**
STON				Sg	**Sg**	**17 15 50.5**	**+0.5**
STON	**Ston**	**0.40**	**221**	↓*i*Pg	**Pg**	**17 15 44.1**	**-0.6**
STON				*e*Sg	**Sg**	**17 15 50.4**	**+0.5**
BRY	**Bratogost**	**0.45**	**128**	↑*i*Pg	**Pg**	**17 15 45.0**	**-0.5**
BRY				*e*Sg	**Sg**	**17 15 51.8**	**+0.4**
BRY	**Bratogost**	**0.45**	**128**	↑*i*Pg	**Pg**	**17 15 45.0**	**-0.5**
BRY				*i* Sg	**Sg**	**17 15 52.3**	**+0.9**
TREB	**Trebinje**	**0.50**	**155**	*e*Pg	**Pg**	**17 15 46.0**	**-0.6**
TREB				*e*Sg	**Sg**	**17 15 54.0**	**+0.8**
TREB	**Trebinje**	**0.50**	**155**	*e*Pg	**Pg**	**17 15 45.8**	**-0.8**
TREB				*e*Sg	**Sg**	**17 15 53.7**	**+0.5**
DBRK	**Dubrovnik**	**0.51**	**173**	*e*Pg	**Pg**	**17 15 46.2**	**-0.6**
UPM	**Unac-Piva**	**0.62**	**87**	↑*i*Pg	**Pg**	**17 15 47.9**	**-1.0**
UPM				*e*Sg	**Sg**	**17 15 57.7**	**+0.7**
UPM	**Unac-Piva**	**0.62**	**87**	↑*i*Pg	**Pg**	**17 15 48.5**	**-0.4**
UPM				*i* Sg	**Sb**	**17 15 58.6**	**-0.7**
RICI	**Ricice**	**0.75**	**296**	*e*Pg	**Pg**	**17 15 50.4**	**-0.9**
NKME	**Niksic**	**0.77**	**122**	*e*Pg	**Pg**	**17 15 51.3**	**-0.4**
NKME				*i* Sg	**Sb**	**17 16 03.6**	**+0.1**
HCY	**Herceg Novi**	**0.79**	**156**	↑*i*Pg	**Pg**	**17 15 51.1**	**-1.0**
HCY				*e*Sg	**Sg**	**17 16 02.8**	**+0.4**
HCY	**Herceg Novi**	**0.79**	**156**	↑*i*Pg	**Pg**	**17 15 51.1**	**-1.0**
HCY				*i* Sg	**Sb**	**17 16 03.6**	**-0.5**
CEME	**Cevo**	**0.89**	**135**	↑*i*Pg	**Pg**	**17 15 53.2**	**-0.8**
CEME				*i* Sg	**Sb**	**17 16 07.0**	**+0.1**
LSTV	**Lastovo**	**0.95**	**245**	*e*Pg	**Pg**	**17 15 53.2**	**-1.9**
PLE	**Pljevlja**	**0.98**	**80**	↓*i*Pg	**Pg**	**17 15 55.2**	**-0.6**
PLE				*i* Sg	**Sn**	**17 16 11.0**	**-0.7**
RUDO	**Rudo**	**1.05**	**65**	*e*Pg	**Pg**	**17 15 55.7**	**-1.4**
RUDO				*e*Sg	**Sg**	**17 16 10.9**	**+0.1**
BUM	**Brajici-Budva**	**1.07**	**145**	↑*i*Pg	**Pg**	**17 15 56.4**	**-1.0**
BUM				*i* Sg	**Sn**	**17 16 13.4**	**-0.2**
KOME	**Kolasin**	**1.12**	**106**	↑*i*Pg	**Pg**	**17 15 57.7**	**-0.6**
KOME				*i* Sg	**Sn**	**17 16 15.4**	**+0.5**
HAPS	**Han Pijesak,BI**	**1.12**	**35**	*e*Pg	**Pg**	**17 15 57.7**	**-0.7**
HAPS				*e*Sg	**Sb**	**17 16 14.2**	**+0.6**
HAPS	**Han Pijesak,BI**	**1.12**	**35**	↑*i*Pg	**Pg**	**17 15 57.9**	**-0.5**
HAPS				*e*Sg	**Sg**	**17 16 12.9**	**0.0**
HVAR	**Hvar**	**1.18**	**271**	*e*Pg	**Pb**	**17 15 57.9**	**-1.8**
BBLS	**Lazi&#263i**	**1.20**	**54**	*e*Pg	**Pg**	**17 15 57.7**	**-2.2**
BBLS				*e*Sg	**Sg**	**17 16 14.9**	**-0.6**
BBLS	**Lazi&#263i**	**1.20**	**54**	↑*i*Pg	**Pg**	**17 15 59.4**	**-0.5**
BBLS				*e*Sg	**Sg**	**17 16 15.8**	**+0.3**
DRME	**Dracevica, Mon**	**1.29**	**140**	↓*i*Pg	**Pn**	**17 16 00.7**	**-0.7**
DRME				*e*Sg	**Sb**	**17 16 18.0**	**-0.3**
DRME	**Dracevica, Mon**	**1.29**	**140**	*e*Pg	**Pn**	**17 16 00.5**	**-0.9**
DRME				*i* Sg	**Sn**	**17 16 21.1**	**+2.1**
IVA	**Berane**	**1.38**	**102**	↓*i*Pg	**Pn**	**17 16 02.4**	**-0.4**
IVA				*i* Sg	**Sg**	**17 16 24.1**	**+2.9**
SJES	**Sjenica**	**1.40**	**86**	*e*Pg	**Pn**	**17 16 03.0**	**-0.1**
SJES				*e*Sg	**Sb**	**17 16 21.3**	**-0.4**
SJES	**Sjenica**	**1.40**	**86**	*e*Pg	**Pn**	**17 16 02.8**	**-0.3**
SJES				*e*Sg	**Sb**	**17 16 21.8**	**+0.1**
MGRS	**Mrkonjic Grad**	**1.43**	**331**	↑*i*Pg	**Pn**	**17 16 03.4**	**0.0**
MGRS				*e*Sg	**Sg**	**17 16 23.2**	**+0.3**
KIJV	**Kijevo**	**1.46**	**305**	*e*Pn	**Pn**	**17 16 03.6**	**-0.2**
ULC	**Ulcinj**	**1.49**	**144**	↑*i*Pg	**Pn**	**17 16 04.2**	**-0.1**
ULC				*i* Sg	**Sg**	**17 16 27.4**	**+2.5**
PVY	**Plav**	**1.51**	**112**	↑*i*Pg	**Pn**	**17 16 04.8**	**+0.2**
PVY				*i* Sg	**Sg**	**17 16 28.4**	**+2.9**
IVAS	**Ivanjica**	**1.58**	**75**	*e*Pg	**Pn**	**17 16 04.9**	**-0.6**
IVAS				*e*Sg	**Sn**	**17 16 26.4**	**+0.2**
DIVS	**Divibare**	**1.68**	**56**	*e*Pg	**Pn**	**17 16 06.6**	**-0.3**
DIVS				*e*Sg	**Sb**	**17 16 30.4**	**+0.7**
BLY	**Banja Luka**	**1.70**	**338**	*e*Pg	**Pn**	**17 16 07.8**	**+0.7**
BLY				*e*Sg	**Sg**	**17 16 32.4**	**+1.0**
BLY	**Banja Luka**	**1.70**	**338**	*e*Pn	**Pn**	**17 16 07.4**	**+0.3**
BLY				*e*Sn	**Sb**	**17 16 30.2**	**+0.1**
A050A	**Klekovaca**	**1.71**	**320**	↑*i*Pn	**Pn**	**17 16 07.6**	**+0.2**
A050A				*e*Sn	**Sb**	**17 16 30.5**	**-0.1**
TEKS	**Tekeris**	**1.74**	**37**	*e*Pg	**Pn**	**17 16 07.3**	**-0.3**
TEKS				*e*Sg	**Sb**	**17 16 30.8**	**-0.5**
TEKS	**Tekeris**	**1.74**	**37**	*e*Pn	**Pb**	**17 16 08.8**	**-0.4**
TEKS				*e*Sn	**Sb**	**17 16 30.8**	**-0.5**
ZIRJ	**Zirje**	**1.82**	**286**	*e*Pn	**Pn**	**17 16 09.5**	**+0.7**
MORI	**Morici**	**1.85**	**293**	*e*Pn	**Pn**	**17 16 10.1**	**+1.0**
TRUS	**Trudelj**	**2.00**	**58**	*e*Pg	**Pn**	**17 16 11.1**	**-0.1**
TRUS				*e*Sg	**Sg**	**17 16 40.8**	**-0.3**
A051A	**Mrakovica**	**2.02**	**336**	↑*i*Pn	**Pn**	**17 16 11.8**	**+0.3**
A051A				*e*Sn	**Sn**	**17 16 37.9**	**+0.8**
GRUS	**Gruza**	**2.06**	**69**	*e*Pg	**Pn**	**17 16 11.9**	**-0.1**
GRUS				*e*Sg	**Sg**	**17 16 42.6**	**-0.5**
UDBI	**Udbina**	**2.14**	**310**	*e*Pn	**Pb**	**17 16 12.0**	**+0.1**
UDBI				*e*Sg	**Sg**	**17 16 45.5**	**-0.2**
SELS	**Selova**	**2.24**	**88**	*e*Pg	**Pn**	**17 16 15.0**	**+0.5**
SELS				*e*Sg	**Sb**	**17 16 47.3**	**+1.6**
FRGS	**Fruska Gora**	**2.35**	**32**	*e*Pn	**Pn**	**17 16 13.8**	**-2.3**
FRGS				*e*Sn	**Sn**	**17 16 46.6**	**+1.4**
FRGS	**Fruska Gora**	**2.35**	**32**	*e*Pn	**Pn**	**17 16 16.9**	**+0.8**
FRGS				*e*Sn	**Sn**	**17 16 46.3**	**+1.1**
VIRC	**Vir**	**2.45**	**298**	*e*Pn	**Pn**	**17 16 19.0**	**+1.7**
NVLJ	**Novalja**	**2.69**	**302**	*e*Pn	**Pn**	**17 16 21.1**	**+0.4**
RABC	**Rab**	**2.84**	**305**	*e*Pn	**Pn**	**17 16 24.6**	**+1.9**
BOJS	**Bojanci**	**3.08**	**320**	*e*Pn	**Pn**	**17 16 27.3**	**+1.2**
BOJS				*e*Sn	**Sn**	**17 17 04.1**	**+0.9**
CRES	**Cresnjev**	**3.24**	**326**	*e*Pn	**Pn**	**17 16 29.3**	**+1.0**
CRES				*e*Sn	**Sn**	**17 17 07.6**	**+0.4**
LOBO	**Lobor**	**3.30**	**335**	*e*Pn	**Pn**	**17 16 28.6**	**-0.5**
SMRN	**Sveta Marina**	**3.37**	**305**	*e*Pn	**Pn**	**17 16 31.4**	**+1.4**
BRJN	**Brijuni**	**3.56**	**301**	*e*Pn	**Pn**	**17 16 32.7**	**+0.2**
CEY	**Cerknica**	**3.65**	**316**	*e*Pn	**Pn**	**17 16 34.6**	**+0.6**
CEY				*e*Sn	**Sn**	**17 17 17.9**	**+0.5**
SOKA	**Soboth**	**4.11**	**330**	*e*Pn	**Pn**	**17 16 41.1**	**+0.8**
	0.4nm,0.2s						
OBKA	**Obir**	**4.17**	**324**	*e*Pn	**Pn**	**17 16 42.0**	**+0.9**
	1.1nm,0.4s						
OBKA	**Obir**	**4.17**	**324**	*e*Pn	**Pn**	**17 16 41.4**	**+0.3**
ARSA	**Arzberg**	**4.45**	**337**	*e*Pn	**Pn**	**17 16 44.5**	**-0.5**
	1.0nm,0.3s						
ARSA	**Arzberg**	**4.45**	**337**	*e*Pn	**Pn**	**17 16 45.9**	**+0.9**

*DNK **13** 17:25:21.9±2.0, 79.0°06N×4.3°30E, h14km±26km, ML1.2*
*BER **13** 17:25:23.2±3.9, 79.3°35N×3.8°84E, h10km, mb(Pn)3.4,*
ML2.7(NAO), Confirmed Earthquake
*NAO **13** 17:25:23.5±5.3, 79.7°73N×6.7°3E, ML2.7*
*KOLA **13** 17:25:24.9, 79.4°45N×6.1°9E, h0km, ML2.1, Error ellipse:*
s-maj=35.7km s-min=20.6km az=30.0, Greenland
sea,Knipovich ridge, north
*FCIAR **13** 17:25:26.0, 79.4°46N×6.2°8E, h10km, station ZFI2 has*
station magnitude of 3.40 station OMEGA has station
magnitude of 3.40

ISC 13 17:25:18.9±1.6, **79.65N**±0.06°×**4.03E**±0.04, **h28**km±17km, **n28**, σ2.58/54, **2C, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.65**	**112**	Pn	**Pb**	**17 25 48.2**	**-0.2**
KBS				Sn	**Sn**	**17 26 06.9**	**+0.9**
KBS	**Kingsbay**	**1.65**	**112**	P	**Pn**	**17 25 46.9**	**+1.0**
KBS				S	**Sn**	**17 26 02.2**	**-3.8**
KBS	**Kingsbay**	**1.65**	**112**	*e*P	**Pb**	**17 25 48.2**	**-0.2**
KBS				*e*S	**Sn**	**17 26 06.9**	**+0.9**
KBS				IAML		17 26 08.8	
	comp=Z,66nm,0.1s						
KBS	**Kingsbay**	**1.65**	**112**	↑*i*P	**Pb**	**17 25 48.2**	**-0.2**
KBS				*i* S	**Sn**	**17 26 06.8**	**+0.7**
KBS	**Kingsbay**	**1.65**	**112**	*e*P	**Pb**	**17 25 47.9**	**-0.6**
KBS				*e*S	**Sn**	**17 26 03.5**	**-2.6**
BRBB	**Barentsburg B**	**2.51**	**123**	Pn	**Pb**	**17 26 01.1**	**-2.1**
BRBB				Sn	**Sn**	**17 26 29.3**	**+1.9**
BRBB	**Barentsburg B**	**2.51**	**123**	P	**Pb**	**17 26 01.0**	**-2.2**
BRBB				S	**Sn**	**17 26 27.5**	**+0.1**
BRBB	**Barentsburg B**	**2.51**	**123**	*e*P	**Pb**	**17 26 01.1**	**-2.1**
BRBB				*e*S	**Sn**	**17 26 29.4**	**+1.9**
BRBA	**Barentsburg A**	**2.54**	**124**	Pn	**Pb**	**17 26 01.6**	**-2.0**
BRBA				Sn	**Sn**	**17 26 30.4**	**+2.4**
BRBA	**Barentsburg A**	**2.54**	**124**	*e*P	**Pb**	**17 26 01.7**	**-1.9**
BRBA				*e*S	**Sn**	**17 26 30.4**	**+2.4**
BRBA				IAML		17 26 35.6	
	comp=Z,31nm,0.5s						
SPA0	**Spitsbergen Ar**	**2.80**	**116**	Pn	**Pn**	**17 26 04.9**	**+3.2**
	baz=312,slow=10						
SPA0				Sn	**Sn**	**17 26 36.1**	**+1.6**
	baz=323,slow=16						
SPA0	**Spitsbergen Ar**	**2.80**	**116**	Pn	**Pn**	**17 26 04.9**	**+3.2**
	baz=312,slow=10						
SPA0				Sn	**Sn**	**17 26 36.1**	**+1.6**
	baz=323,slow=16						
SPA0	**Spitsbergen Ar**	**2.80**	**116**	↑*i*P	**Pn**	**17 26 04.8**	**+3.2**
SPA0				*i* S	**Sn**	**17 26 33.4**	**-1.1**
SPITS	**Spitsbergen Ar**	**2.80**	**116**	P	**Pn**	**17 26 04.7**	**+2.9**
SPITS				S	**Sn**	**17 26 34.9**	**+0.3**
HSPB	**Hornsund (broa**	**3.53**	**133**	Pn	**Pn**	**17 26 15.5**	**+3.7**
HSPB				Sn	**Sn**	**17 26 52.3**	**-0.2**
HSPB	**Hornsund (broa**	**3.53**	**133**	P	**Pn**	**17 26 15.2**	**+3.5**
HSPB				S	**Sn**	**17 26 52.4**	**-0.2**
HSPB	**Hornsund (broa**	**3.53**	**133**	*e*P	**Pn**	**17 26 15.1**	**+3.3**
HSPB				*e*S	**Sn**	**17 26 52.5**	**0.0**
HSPB				IAML		17 26 56.3	
	comp=Z,11nm,0.2s						
NOR	**Nord**	**3.90**	**310**	*e*P	**Pb**	**17 26 27.0**	**+0.3**
NOR				IAML		17 27 37.9	
	comp=Z,0.6nm,0.4s						
NOR	**Nord**	**3.90**	**310**	*e*P	**Pb**	**17 26 27.0**	**+0.3**
NOR				IAML		17 27 37.9	
	comp=Z,0.6nm,0.4s						
HOPEN	**Hopen**	**5.33**	**115**	Pn	**Pn**	**17 26 38.4**	**+1.9**
HOPEN				Sn	**Sn**	**17 27 35.6**	**-1.3**
HOPEN	**Hopen**	**5.33**	**115**	*e*P	**Pn**	**17 26 38.4**	**+1.9**
HOPEN				*e*S	**Sn**	**17 27 35.7**	**-1.1**
HOPEN				IAML		17 27 38.5	
	comp=Z,16nm,0.2s						
HOPEN	**Hopen**	**5.33**	**115**	*e*P	**Pn**	**17 26 38.2**	**+1.7**
HOPEN				S	**Sn**	**17 27 32.6**	**-4.3**
DAG	**Danmarks Havn**	**5.44**	**250**	*e*	**Pn**	**17 26 37.8**	**0.0**
	baz=50,slow=14						
DAG				*i* P	**Pn**	**17 26 38.2**	**+0.4**
DAG				*e*		17 27 34.0	
DAG				IAML		17 27 39.8	
	comp=Z,1.4nm,0.3s						
DAG	**Danmarks Havn**	**5.44**	**250**	*e*	**Pn**	**17 26 37.8**	**0.0**
	baz=50,slow=14						
DAG				*i* P	**Pn**	**17 26 38.2**	**+0.4**
DAG				*e*		17 27 34.0	
DAG				IAML		17 27 39.8	
	comp=Z,1.4nm,0.3s						
ZFI2	**Zemlya Franca-**	**7.36**	**60**	*e*P	**Pn**	**17 27 06.8**	**+2.5**
ZFI2				*e*S	**Sn**	**17 28 22.7**	**-3.9**
	comp=Z,9.5nm,3.3s						
OMEGA	**Omega**	**7.38**	**60**	*e*P	**Pn**	**17 27 06.9**	**+2.5**
OMEGA				S	**Sn**	**17 28 23.3**	**-3.7**
	comp=Z,11nm,1.3s						
DBG	**Daneborg**	**7.58**	**238**	*i* P	**Pn**	**17 27 07.6**	**+0.4**
DBG				*i* S	**Sn**	**17 28 24.6**	**-7.5**
DBG				IAML		17 28 30.2	
	comp=Z,0.9nm,0.3s						
DBG	**Daneborg**	**7.58**	**238**	*i* P	**Pn**	**17 27 07.6**	**+0.4**
DBG				*i* S	**Sn**	**17 28 24.6**	**-7.5**
DBG				IAML		17 28 30.2	
	comp=Z,0.9nm,0.3s						

*GCG **13** 17:25:49.3±0.7, 13.5°52N×90.5°37W, h71km±24km, MD3.6*
*SNET **13** 17:25:49.9±1.4, 13.6°61N×90.5°25W, h63km, ML3.6*

ISC 13 17:25:47.9±1.8, **13.49N**±0.08°×**90.31W**±0.05, **h15**km±11km, **n28**, σ0.64/39, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.66**	**52**	*e*P	**Pn**	**17 26 02.4**	**-0.5**
NUBE				*e*S	**Sn**	**17 26 12.1**	**-0.9**
SLOZ	**Alcaldia de Sa**	**0.74**	**44**	*e*P	**Pn**	**17 26 03.4**	**-0.4**
SLOZ				*e*S	**Sn**	**17 26 14.6**	**-0.2**
SBLS	**San Blas**	**0.75**	**63**	*e*P	**Pn**	**17 26 03.7**	**-0.5**
RTR	**El Retiro**	**0.76**	**58**	*e*P	**Pn**	**17 26 04.1**	**-0.2**
RTR				*e*S	**Sn**	**17 26 15.5**	**-0.1**
SNJE	**San Jose**	**0.78**	**61**	*e*P	**Pn**	**17 26 04.2**	**-0.4**
SNJE				*e*S	**Sn**	**17 26 16.5**	**+0.4**
JAYA	**Jayaque - finc**	**0.85**	**79**	*e*P	**Pb**	**17 26 05.0**	**+0.5**
JAYA				*e*S	**Sn**	**17 26 17.1**	**-0.8**
PCG	**Pacaya**	**0.94**	**342**	*e*P	**Pn**	**17 26 07.2**	**+0.5**
CEDA	**San Andres**	**0.94**	**71**	*e*P	**Pg**	**17 26 06.2**	**0.0**
LALI	**Alcalda de L**	**0.96**	**90**	*e*P	**Pb**	**17 26 06.2**	**-0.1**
BOQS	**Boqueron**	**1.03**	**76**	*e*P	**Pg**	**17 26 07.8**	**-0.1**
BOQS				*e*S	**Sn**	**17 26 24.2**	**+1.9**
UEES	**Universidad Ev**	**1.07**	**78**	*e*P	**Pb**	**17 26 08.1**	**0.0**
SNET	**Serv Nac Est T**	**1.07**	**79**	*e*P	**Pb**	**17 26 08.2**	**0.0**
FUG	**Fuego 3**	**1.08**	**332**	*e*P	**Pn**	**17 26 08.5**	**-0.1**
NBG	**Las Nubes**	**1.09**	**358**	*e*P	**Pn**	**17 26 09.7**	**+0.8**
NBG				*e*S	**Sn**	**17 26 25.8**	**+2.0**
LOMA	**Loma Larga**	**1.12**	**82**	*e*P	**Pb**	**17 26 08.7**	**-0.3**
LOMA				*e*S	**Sn**	**17 26 24.9**	**+0.6**
LFU	**La Fuente**	**1.19**	**78**	*e*P	**Pb**	**17 26 10.3**	**0.0**
LFU				*e*S	**Sg**	**17 26 27.1**	**+0.6**
LFRS	**El Faro**	**1.22**	**84**	*e*P	**Pn**	**17 26 10.6**	**0.0**
LFRS				*e*S	**Sn**	**17 26 26.9**	**0.0**
SJTE	**Alcalda de S**	**1.27**	**84**	*e*P	**Pn**	**17 26 11.3**	**+0.1**
MTO3	**Montecristo**	**1.29**	**46**	*e*P	**Pb**	**17 26 11.5**	**-0.5**
PAVA	**Las Pavas**	**1.35**	**81**	*e*P	**Pn**	**17 26 12.1**	**-0.3**
COEG	**Centro de Oper**	**1.40**	**85**	*e*P	**Pn**	**17 26 12.9**	**-0.1**
SULM	**Suchitepequez,**	**1.46**	**304**	*e*P	**Pn**	**17 26 13.5**	**-0.2**
TECO	**Alcaldia de Te**	**1.49**	**88**	*e*P	**Pn**	**17 26 13.9**	**-0.2**
SCLA	**Alcaldia de Sa**	**1.55**	**82**	*e*P	**Pn**	**17 26 14.8**	**-0.2**
MRL	**Marmol**	**1.69**	**21**	*e*P	**Pb**	**17 26 17.7**	**-1.2**
STG3	**Santiaguito 3,**	**1.72**	**315**	*e*P	**Pn**	**17 26 17.4**	**-0.1**
STG3				*e*S	**Sn**	**17 26 38.8**	**-0.5**
LCND	**La Caada**	**2.36**	**94**	*e*P	**Pn**	**17 26 26.0**	**-0.2**
CNCH	**Conchagua**	**2.42**	**95**	*e*P	**Pn**	**17 26 26.6**	**-0.4**

*VAO **13** 17:35:01.6±0.3, 10.2°29S×74.8°88W, h10km, mb5.3*
*IDC **13** 17:35:01.5±2.5, 10.3°32S×75.1°2W, h23km±15km, mb4.6/24,*
mbtmp4.7/27, ML4.6/2, MS4.2/57, Error ellipse:
s-maj=16.7km s-min=10.4km az=76.0
*MOS **13** 17:35:02.4±1.2, 10.1°8S×74.9°8W, h35km, mb5.1/32, Error*
ellipse: s-maj=9.9km s-min=5.9km az=106.5
*NEIC **13** 17:35:03.9±1.6, 10.2°7S±0.0°5×74.9°9W±0.0°6, h36km±5km,*
*mb5

ROSC Lg Lg 17 42 57.5
comp=Z,4.6nm,0.3s,baz=180,slow=20,SNR=2.2
ROSC LR LR 17 45 43.8
comp=Z,362nm,20.0s,baz=228,slow=43
BBSD Serra de San D 15.56 118 *eP* **Pn 17 38 40.6 +0.2**
GO02 Mina Guanaco 15.68 162 Pn 17 38 40.4 -1.8
MACA Manacapuru-AM 15.86 65 Pn **Pn 17 38 42.5 -1.8**
MACA Manacapuru-AM 15.86 65 *eP* **Pn 17 38 42.7 -1.5**
PTLB Pontes e Lacer 16.29 110 Pn **Pn 17 38 48.1 -1.5**
PTLB IAmb IAmb 17 38 55.8
comp=Z,176nm,0.9s
PTLB Pontes e Lacer 16.29 110 *eP* **Pn 17 38 48.6 -1.1**
AC01 Pan de Azucar 16.33 166 Pn **Pn 17 38 50.5 +0.3**
AC02 Maricunga 17.38 162 P **Pn 17 39 04.6 +0.7**
AC06 Mina Casimiro 17.55 166 P **Pn 17 39 05.3 -0.2**
GO03 Copiap 17.81 166 P **Pn 17 39 08.3 -0.4**
PAYG Puerto Ayora 17.95 301 P **Pn 17 39 10.2 -0.3**
PDRB Porto dos Gac 17.98 96 *eP* **Pn 17 39 10.4 -0.4**
AC04 Llanos de Chal 18.22 169 P **P 17 39 12.7 -0.8**
CLDB Colider 18.88 94 *eP* **Pn 17 39 22.4 +0.6**
LCO Las Campanas 19.07 168 P **P 17 39 21.9 -1.4**
LCO Las Campanas 19.07 168 P **P 17 39 21.9 -1.4**
LCO pmax pmax
comp=Z,104nm,1.9s
BOAV Boa Vista 19.12 50 P **P 17 39 24.3 +0.7**
BOAV IAmb IAmb 17 39 26.2
comp=Z,83nm,0.8s
SDV Santo Domingo 19.52 13 P **P 17 39 28.3 +0.3**
SDV IAmb IAmb 17 39 36.9
comp=Z,112nm,0.8s
SDV Santo Domingo 19.52 13 P **P 17 39 29.2 +1.1**
comp=Z,11nm,0.3s,baz=211,slow=8.4,SNR=47
SDV S **Sn 17 43 09.5 +1.7**
comp=Z,10nm,0.7s,baz=47,slow=19,SNR=1.3
SDV Lg Lg 17 45 20.2
comp=Z,3.2nm,0.3s,baz=49,slow=20,SNR=2.1
SDV LR LR 17 47 59.3
comp=Z,1µm,19.4s,baz=200,slow=40
comp=Z,37nm,0.5s
SDV Santo Domingo 19.52 13 *eP* **P 17 39 28.8 +0.7**
SALV Santo Antonio 19.60 109 *eP* **P 17 39 30.0 +1.1**
NPGB Novo Progresso 19.67 82 *eP* **P 17 39 29.9 +0.3**
CO05 La Serena 19.86 170 P **P 17 39 31.8 +0.3**
CO05 IAmb IAmb 17 39 38.7
comp=Z,170nm,1.7s
BCIP Isla Barro Col 19.90 346 P **P 17 39 32.8 +0.7**
BCIP IAmb IAmb 17 39 38.2
comp=Z,296nm,1.9s
BCIP Isla Barro Col 19.90 346 P **P 17 39 32.8 +0.7**
BCIP pmax pmax
comp=Z,296nm,1.9s
ITTB Itaituba 19.97 74 *eP* **P 17 39 33.6 +0.7**
CO01 Juntas del Tor 20.14 168 P **P 17 39 35.1 +0.4**
MURT Porto Murtinho 20.16 126 *eP* **P 17 39 35.7 +0.9**
GO04 Tololo Observa 20.19 169 P **P 17 39 35.1 -0.2**
BDQN Bodoquena, MS 20.27 122 *eP* **P 17 39 37.0 +0.9**
CDITO Canoas 20.30 337 P **P 17 39 37.3 +0.9**
BAUV El Baul 20.30 20 P **P 17 39 36.6 +0.2**
BRU2 Volcan 20.43 338 P **P 17 39 38.6 +0.6**
BRU2 IAmb IAmb 17 39 51.0
comp=Z,301nm,1.6s
CO03 El Pedregal 20.86 170 P **P 17 39 42.9 +0.4**
DRK0 Durika 21.07 337 P **P 17 39 46.4 +1.4**
DRK0 IAmb IAmb 17 39 59.5
comp=Z,218nm,1.4s
SRBA San Rafael, Bu 21.09 336 P **P 17 39 46.2 +1.1**
CO02 Combarbal 21.16 170 P **P 17 39 45.8 0.0**
TICA Tres Isletas 21.16 141 *eP* **P 17 39 46.7 +1.1**
AQDB Aquidauana 21.16 121 P **P 17 39 45.9 +0.2**
AQDB Aquidauana 21.16 121 *eP* **P 17 39 46.5 +0.7**
PEZE Perez Zeledon, 21.35 336 P **P 17 39 48.8 +0.9**
ANTJ Antonio Joao (21.62 125 *eP* **P 17 39 50.6 0.0**
RIMA Rio Macho 21.77 336 P **P 17 39 53.0 +0.5**
JACO JACO, Garabito 22.01 334 P **P 17 39 55.3 +0.4**
HDC Heredia 22.09 335 P **P 17 39 57.3 +1.5**
HDC IAmb IAmb 17 40 18.5
comp=Z,200nm,1.1s
HDC Heredia 22.09 335 *eP* **P 17 39 58.5 +2.7**
MALB Monte Alegre 22.22 69 *eP* **P 17 39 58.2 +1.0**
VA06 Catapilco 22.45 172 P **P 17 40 00.1 +0.8**
VA06 IAmb IAmb 17 40 11.8
comp=Z,94nm,1.4s
SOCE Pocosol 22.64 335 P **P 17 40 02.6 +0.9**
SOCE IAmb IAmb 17 40 15.2
comp=Z,77nm,1.1s
JTS Las Juntas de 22.70 334 P **P 17 40 03.2 +0.9**
JTS Las Juntas de 22.70 334 P **P 17 40 03.2 +0.9**
JTS pmax pmax
comp=Z,53nm,1.5s
JTS Las Juntas de 22.70 334 P **P 17 40 02.3 0.0**
comp=Z,2.5nm,0.3s,baz=132,slow=15,SNR=1.9
JTS LR LR 17 49 02.2
comp=Z,177nm,21.1s,baz=146,slow=37
comp=Z,2.5nm,0.3s
ARE1 Arenal 1 22.75 335 P **P 17 40 04.0 +1.2**
DUNO Dulce Nombre, 22.75 332 P **P 17 40 03.9 +1.1**
VA03 San Esteban 22.76 170 P **P 17 40 03.9 +1.1**
VA03 IAmb IAmb 17 40 25.2
comp=Z,60nm,0.9s
PCRV Puerto La Cruz 22.77 27 P **P 17 40 04.0 +1.0**
comp=Z,34nm,0.6s,baz=185,slow=7.5,SNR=19
PCRV LR LR 17 50 08.0
comp=Z,4µm,18.0s,slow=40
comp=Z,34nm,0.6s
VA01 Torpederas 22.85 173 P **P 17 40 04.5 +0.8**
VA01 IAmb IAmb 17 40 14.2
comp=Z,78nm,1.1s
COVE Coope Vega, Sa 22.86 336 P **P 17 40 02.6 -1.2**
COVE IAmb IAmb 17 40 24.9
comp=Z,144nm,1.3s
AMBA Amambai (Brazi 22.89 126 *eP* **P 17 40 04.2 0.0**
ORTG Ortega, Santa 22.99 333 P **P 17 40 04.7 -0.7**
HATO Hato, Curacao 23.09 15 P **P 17 40 04.8 -1.5**
PEL Peldehue 23.11 171 P **P 17 40 05.9 -0.4**
PEL IAmb IAmb 17 40 09.5
comp=Z,157nm,2.0s
PEL Peldehue 23.11 171 P **P 17 40 05.9 -0.4**
PEL pmax pmax
comp=Z,157nm,2.0s
CPUP Villa Florida 23.11 136 P **P 17 40 06.3 0.0**
CPUP Villa Florida 23.11 136 P **P 17 40 07.0 +0.6**
comp=Z,19nm,0.7s,baz=321,slow=10,SNR=36
CPUP LR LR 17 51 17.2
comp=Z,400nm,21.6s,baz=317,slow=42
comp=Z,19nm,0.7s
CPUP Villa Florida 23.11 136 *eP* **P 17 40 06.7 +0.3**
MT02 Curacav 23.16 172 P **P 17 40 06.3 -0.5**
MT02 IAmb IAmb 17 40 11.0
comp=Z,201nm,2.0s
AUA1 Aruba 23.16 12 P **P 17 40 06.0 -0.9**
ARAG Araguaiana, MT 23.21 106 *eP* **P 17 40 07.8 +0.3**
SNDB Serra Nova Dou 23.31 96 *eP* **P 17 40 08.7 +0.2**
HZTE Horizontes, Gu 23.36 333 P **P 17 40 08.3 -0.6**
HZTE IAmb IAmb 17 40 24.9
comp=Z,97nm,1.1s
MT09 Talagante 23.68 172 P **P 17 40 11.3 -0.8**
MT01 Popeta 23.73 172 P **P 17 40 11.6 -0.8**
MT13 San Alfonso 23.76 170 P **P 17 40 12.2 -0.5**
MT13 IAmb IAmb 17 40 25.6
comp=Z,176nm,2.0s
LMEL Las Melosas 23.88 170 P 17 40 13.6 -0.2
BO04 La Punta 23.95 171 P **P 17 40 14.7 +0.2**
ESPN Las Esperanzas 24.16 337 P 17 40 15.6 -0.8
BO01 Tunca 24.28 172 P **P 17 40 17.2 -0.2**
ACON Acoyapa 24.30 335 P **P 17 40 17.1 -0.7**
MCR1 Marechal Candi 24.42 128 *eP* **P 17 40 20.6 +1.7**
BO02 Sierra Bellavi 24.71 172 P **P 17 40 20.2 -1.3**
TRCB Terra Rica 24.74 123 P **P 17 40 21.4 -0.4**
TRCB IAmb IAmb 17 40 25.9
comp=Z,50nm,0.6s
TRCB Terra Rica 24.74 123 *eP* **P 17 40 22.0 +0.2**
GO05 Huala 24.79 174 P **P 17 40 21.1 -1.0**
MCPB Macapa, AP 24.84 68 *eP* **P 17 40 22.9 +0.2**
BOAB BOACO BROADBAND 24.94 335 P **P 17 40 23.7 +0.2**
BOAB IAmb IAmb 17 40 44.4
comp=Z,83nm,1.3s
PCMB Pacaembu 25.41 119 *eP* **P 17 40 27.8 0.0**
CNGN Cerro Negro 25.43 333 P **P 17 40 27.4 -0.7**
ITRB Iturama 25.54 114 *eP* **P 17 40 29.7 +0.6**
ML02 Panimavida 25.59 173 P **P 17 40 29.0 -0.3**
ML02 IAmb IAmb 17 40 45.8
comp=Z,86nm,1.3s
ITQB Itaqui 25.82 141 P **P 17 40 31.2 -0.2**
ITQB IAmb IAmb 17 40 37.7
comp=Z,71nm,1.3s
ITQB Itaqui 25.82 141 *eP* **P 17 40 33.6 +2.2**
GRGR Grenville 25.90 31 P **P 17 40 31.1 -1.2**
PTGB Pitanga 26.10 126 *eP* **P 17 40 34.5 +0.4**
CRSM Crissiumal (Br 26.12 134 *eP* **P 17 40 34.7 +0.5**
PSAL Palomas, Salto 26.26 145 *eP* **P 17 40 37.3 +2.0**
LDASE Londrina, Braz 26.26 123 *eP* **P 17 40 35.9 +0.4**
UNIS Unistalda (Bra 26.41 138 *eP* **P 17 40 37.4 +0.6**
BDFB Brasilia 26.81 104 P **P 17 40 41.0 +0.3**
BDFB IAmb IAmb 17 40 42.8
comp=Z,61nm,1.0s
BDFB Brasilia 26.81 104 P **P 17 40 41.6 +0.9**
comp=Z,32nm,0.6s,baz=273,slow=9.7,SNR=42
BDFB LR LR 17 52 06.7
comp=Z,2µm,19.7s,baz=300,slow=38
comp=Z,32nm,0.6s
MDP Montagnes des 26.99 57 LR LR 17 51 57.3
comp=Z,2µm,18.9s,baz=274,slow=37
IPMB Ipameri, GO 27.05 109 *eP* **P 17 40 43.0 +0.3**
RODS Rosario do Sul 27.18 140 *eP* **P 17 40 45.6 +1.9**
ITAB Concordia 27.36 131 P **P 17 40 45.3 -0.1**
ITAB IAmb IAmb 17 41 01.3
comp=Z,164nm,1.9s
ITAB Concordia 27.36 131 *eP* **P 17 40 45.7 +0.3**
FRTB Fartura 27.53 121 *eP* **P 17 40 46.6 -0.4**
BB19B Bebedouro 27.60 116 *eP* **P 17 40 47.9 +0.3**
ALGR Alto Alegre (B 27.62 135 *eP* **P 17 40 49.0 +1.2**
TBOT Tacuaremb 27.67 143 *eP* **P 17 40 49.6 +1.6**
TMAB Tom-Au,PA,Br 27.84 75 *eP* **P 17 40 50.8 +1.0**
BBGH Gun Hill 27.85 34 P **P 17 40 49.9 +0.1**
BIM Bigot 28.23 30 P **P 17 40 51.4 -1.8**
MPOM Morne Pois Mar 28.27 30 P **P 17 40 50.8 -2.8**
MPOM IAmb IAmb 17 41 09.7
comp=Z,111nm,1.1s
MTO3 Montecristo 28.35 330 P **P 17 40 53.1 -1.4**
CPSB Capivara Do Su 28.35 138 *eP* **P 17 40 53.3 -0.9**
FDF Fort de France 28.38 29 P **P 17 40 52.4 -2.1**
FDF Fort de France 28.38 29 P **P 17 40 52.4 -2.1**
FDF pmax pmax
comp=Z,76nm,0.6s
SVN Savane Anatole 28.46 29 P **P 17 40 51.8 -3.5**
PMNB Patos De Minas 28.82 110 *eP* **P 17 40 59.0 +0.4**
RCLB Rio Claro- Sao 28.93 118 *eP* **P 17 40 59.4 0.0**
MLPR Magueyes Islan 29.13 16 P **P 17 41 00.2 -0.9**
PLTB Pedras Altas 29.14 140 P **P 17 41 00.3 -1.0**
PLTB Pedras Altas 29.14 140 *eP* **P 17 41 02.9 +1.6**
SDDR Presa de Saban 29.29 7 P **P 17 41 03.4 +0.7**
SDDR IAmb IAmb 17 41 42.7
comp=Z,48nm,0.9s
OBIP Obispado Ponce 29.32 16 P **P 17 41 02.3 -0.6**
PCDR Punta Cana, DR 29.33 13 P **P 17 41 02.6 -0.3**
PRSN Puerto Rico Se 29.34 15 P **P 17 41 03.7 +0.7**
CELP Cerrillos 29.36 16 P **P 17 41 03.5 +0.3**
GO06 Curarrehue 29.36 174 P **P 17 41 02.9 -0.3**
IGPR InterUniversit 29.39 17 P **P 17 41 02.9 -0.6**
SPB Sao Paulo 29.43 120 P **P 17 41 02.6 -1.3**
GDHS Morne Mazeau, 29.44 27 P **P 17 41 04.9 +0.9**
CNLB Canela 29.46 133 *eP* **P 17 41 04.0 -0.2**
UUPR Utuado, UPR, P 29.49 16 P **P 17 41 04.6 +0.3**
SDBA SAO DESIDERIO 29.57 97 *eP* **P 17 41 06.0 +0.8**
AOPR Arecibo Observ 29.57 16 P **P 17 41 04.6 -0.5**
AGPR Aguadilla, PR 29.59 15 P **P 17 41 05.7 +0.4**
VAO Valinhos 29.62 119 *eP* **P 17 41 05.4 -0.2**
HUMP Col San Antoni 29.64 18 P **P 17 41 04.8 -0.8**
HUMP IAmb IAmb 17 41 22.2
comp=Z,66nm,0.9s
GCPR Guaynabo City 29.73 17 P **P 17 41 05.6 -0.8**
GCPR IAmb IAmb 17 41 21.6
comp=Z,52nm,0.8s
EMPR Esperanza - Ma 29.76 16 P **P 17 41 06.6 -0.1**
LR05 Currie 29.96 175 P **P 17 41 07.9 -0.4**
LR05 IAmb IAmb 17 41 24.3
comp=Z,93nm,1.9s
JANB Januaria 30.29 102 *eP* **P 17 41 12.2 +0.5**
SMRT St. Maarten 30.50 23 P **P 17 41 12.3 -1.0**
PLCA Paso Flores 30.59 173 P **P 17 41 13.6 -0.4**
comp=Z,3.3nm,0.7s,baz=350,slow=8.2,SNR=4.8
PLCA LR LR 17 51 50.9
comp=Z,305nm,19.9s,baz=2.0,slow=33
comp=Z,3.3nm,0.7s
PLCA Paso Flores 30.59 173 *eP* **P 17 41 14.3 +0.3**
PLCA Paso Flores 30.59 173 P **P 17 41 13.9 -0.1**
PLCA pP **pP 17 41 24.4 -0.7**
BSCB Bom Sucesso 30.93 114 *eP* **P 17 41 17.2 -0.1**
DIAM Diamantina, MG 31.34 108 *eP* **P 17 41 21.2 +0.2**
VAS01 Vassouras-RJ 32.47 116 *eP* **P 17 41 31.2 +0.4**
TEIG Tepich 33.01 337 P **P 17 41 34.9 -0.4**
TEIG Tepich 33.01 337 LR LR 17 56 33.8
comp=Z,1µm,18.9s,slow=39
TEIG Tepich 33.01 337 P **P 17 41 36.5 +1.3**
TEIG pP **pP 17 41 46.7 +0.4**
TEIG sP **sP 17 41 51.4 +0.4**
DUB01 Friburgo-RJ 33.37 115 *eP* **P 17 41 38.9 +0.3**
CMIG Matias Romero 33.55 324 P **P 17 41 39.2 -0.9**
comp=Z,4.2nm,0.9s,baz=189,slow=19,SNR=1.7
CMIG LR LR 17 54 35.9
comp=Z,209nm,20.6s,baz=152,slow=35
comp=Z,4.2nm,0.9s
CAMR Camarioca 33.71 349 P **P 17 41 42.0 +0.7**
CAMR IAmb IAmb 17 42 39.9
comp=Z,233nm,1.2s
SJMB Sao Joao De Ma 33.74 108 *eP* **P 17 41 41.9 +0.1**
ALF01 Guarapari-ES 34.52 111 *eP* **P 17 41 48.5 0.0**
RIB01 Linhares ES 34.58 109 *eP* **P 17 41 49.1 0.0**
GUA01 Guaratinga, BA 34.76 104 *eP* **P 17 41 51.2 +0.6**
NBPB Pedra_Branca-C 35.37 85 *eP* **P 17 41 56.4 +0.4**
ABR01 Abrolhos, BA 35.97 106 *eP* **P 17 42 01.7 +0.6**
RPN Rapa Nui 36.43 238 LR LR 17 53 13.5
comp=Z,605nm,21.9s,baz=74,slow=30
NBCL Cascavel-CE 36.87 83 *eP* **P 17 42 09.1 +0.3**
NBLV Livramento - P 37.72 89 *eP* **P 17 42 16.2 +0.2**
NBAN Anadia - AL 38.12 93 *eP* **P 17 42 19.8 +0.4**
NBCA Caruaru-PE 38.51 90 *eP* **P 17 42 23.4 +0.7**
DWPF Disney Wildern 38.66 351 P **P 17 42 24.7 +1.1**
RCBR Riachuelo 38.93 87 P **P 17 42 26.1 -0.1**
RCBR Riachuelo 38.93 87 P **P 17 42 26.2 -0.1**
RCBR pmax pmax
comp=Z,16nm,0.8s
RCBR Riachuelo 38.93 87 LR LR 17 59 09.9
comp=Z,1µm,19.4s,baz=260,slow=37
RCBR Riachuelo 38.93 87 *eP* **P 17 42 27.0 +0.7**
RCBR Riachuelo 38.93 87 P **P 17 42 27.1 +0.7**
RCBR pP **pP 17 42 38.1 +0.7**
GO09 Cerro Castillo 40.94 177 P **P 17 42 43.5 +1.1**
GO09 IAmb IAmb 17 42 55.1
comp=Z,153nm,1.8s
HBVL Hebbronville 43.65 329 P **P 17 43 04.7 0.0**
HBVL IAmb IAmb 17 43 18.5
comp=Z,25nm,0.8s
152A Waverly Hall 43.70 348 IAmb IAmb 17 44 02.8
comp=Z,82nm,1.8s
GOGA Godfrey 44.18 350 P **P 17 43 08.2 -0.7**
GOGA Godfrey 44.18 350 P **P 17 43 08.2 -0.7**
GOGA pmax pmax
comp=Z,23nm,1.1s
LRAL Lakeview Retre 44.56 346 P **P 17 43 11.3 -0.5**
LRAL IAmb IAmb 17 43 12.9
comp=Z,39nm,1.2s
JSC Jenkinsville 44.70 353 P **P 17 43 12.8 -0.2**
JSC Jenkinsville 44.70 353 P **P 17 43 12.8 -0.2**
JSC pmax pmax
comp=Z,16nm,0.8s
HKT Hockley 44.74 334 P **P 17 43 13.0 -0.3**
HKT Hockley 44.74 334 *i* P **P 17 43 13.3 0.0**
HKT pmax pmax
comp=Z,20nm,1.3s
HKT Hockley 44.74 334 P **P 17 43 14.9 +1.6**
HKT pP **pP 17 43 25.4 +0.8**
HODGE Hodges 44.79 351 P **P 17 43 13.0 -0.7**
HODGE IAmb IAmb 17 43 27.4
comp=Z,75nm,1.5s
BIRD Birdtown, Kers 44.97 354 P **P 17 43 15.2 +0.1**
BIRD IAmb IAmb 17 43 29.0
comp=Z,28nm,1.1s
Z47A Carrollton 44.99 344 P **P 17 43 14.7 -0.6**
Z47A IAmb IAmb 17 43 27.6
comp=Z,33nm,0.9s
HNVL Huntsville, TX 45.28 335 P **P 17 43 18.3 +0.6**
HNVL IAmb IAmb 17 43 31.0
comp=Z,57nm,0.9s
PAULI Pauline 45.31 352 P **P 17 43 18.1 +0.3**
PAULI IAmb IAmb 17 43 29.6
comp=Z,21nm,0.7s
W57A Gilead 45.42 354 IAmb IAmb 17 43 30.7
comp=Z,37nm,0.8s
KMSC Kings Mountain 45.56 353 IAmb IAmb 17 43 21.6
comp=Z,27nm,0.8s
KMSC Kings Mountain 45.56 353 P **P 17 43 20.7 +0.9**
baz=171
BG3 Lake Jocassee 45.64 351 P **P 17 43 20.1 -0.3**
BG3 pP **pP 17 43 30.4 -1.4**
BG3 IAmb IAmb 17 43 37.1
comp=Z,46nm,1.3s
NATX Nacogdoches 45.84 336 P **P 17 43 22.2 +0.1**
W52A Murphy 45.90 350 P **P 17 43 22.0 -0.5**
W52A IAmb IAmb 17 43 38.8
comp=Z,58nm,1.4s
W50A Signal Mountai 46.26 348 IAmb IAmb 17 43 26.4
comp=Z,34nm,1.1s
CPCT Cooper Cave 46.35 349 P **P 17 43 26.0 -0.1**
SWET Sewanee 46.41 348 P **P 17 43 25.9 -0.6**
SWET IAmb IAmb 17 43 40.3
comp=Z,27nm,1.1s
TKL Tuckaleechee C 46.42 350 P **P 17 43 25.6 -1.1**
TKL pP **pP 17 43 35.7 -2.2**
TKL IAmb IAmb 17 43 40.8
comp=Z,18nm,0.9s
TKL Tuckaleechee C 46.42 350 LR LR 18 04 57.3
comp=Z,191nm,20.1s,baz=167,slow=39
DRIO Del Rio 46.56 329 P **P 17 43 27.9 0.0**
DRIO IAmb IAmb 17 43 40.0
comp=Z,15nm,0.7s
OXF Oxford 46.59 344 P **P 17 43 27.6 -0.3**
OXF IAmb IAmb 17 43 43.1
comp=Z,30nm,0.9s
OXF Oxford 46.59 344 P **P 17 43 27.6 -0.3**
OXF pmax pmax
comp=Z,30nm,0.9s
CCAR Cane Creek 46.75 341 P **P 17 43 29.1 -0.1**
CCAR pP **pP 17 43 39.2 -1.3**
U54A Nelsons Funny 46.98 352 IAmb IAmb 17 43 46.5
comp=Z,28nm,0.7s
WLAR White Oak Lake 46.99 339 P **P 17 43 31.1 0.0**
JCT Junction City 47.01 330 P **P 17 43 30.4 -1.0**
JCT Junction City 47.01 330 P **P 17 43 30.4 -1.0**
JCT pmax pmax
comp=Z,10.0nm,0.8s
WHTX Lake Whitney, 47.20 334 P **P 17 43 32.8 0.0**
WHTX pP **pP 17 43 43.3 -0.8**
WHTX IAmb IAmb 17 43 45.3
comp=Z,49nm,1.1s
WHTX Lake Whitney, 47.20 334 P **P 17 43 34.5 +1.8**
baz=149
BRDY Brady 47.30 332 P **P 17 43 33.5 -0.1**
BRDY pP **pP 17 43 44.0 -0.9**
FW13 Cleburne 47.50 334 P **P 17 43 35.5 +0.5**
X40A Basin Creek Fa 47.62 340 P **P 17 43 34.9 -1.1**
WVT Waverly 47.71 346 P **P 17 43 35.1 -1.5**
WVT IAmb IAmb 17 43 51.5
comp=Z,22nm,1.1s
WVT Waverly 47.71 346 P **P 17 43 35.1 -1.5**
WVT pmax pmax
comp=Z,23nm,1.2s
WVT Waverly 47.71 346 P **P 17 43 35.5 -1.1**
WVT pP **pP 17 43 46.2 -1.8**
WVT sP **sP 17 43 50.9 -1.7**
UALR University of 47.72 341 P **P 17 43 36.7 -0.1**
SAND Sanderson 47.77 328 P **P 17 43 36.4 -0.9**
S57A Dark Hollow, R 47.92 356 IAmb IAmb 17 43 59.6
comp=Z,44nm,1.1s
MIAR Mount Ida 47.93 339 P **P 17 43 37.9 -0.5**
MIAR IAmb IAmb 17 43 50.2
comp=Z,15nm,0.8s
MIAR Mount Ida 47.93 339 P **P 17 43 37.9 -0.5**
MIAR pmax pmax
comp=Z,15nm,0.8s
FW07 Weatherford 47.95 334 P **P 17 43 38.2 -0.4**
FW07 pP **pP 17 43 49.3 -0.7**
OZNA Ozona 48.03 329 IAmb IAmb 17 43 51.4
comp=Z,15nm,0.9s
TXAR Lajitas Array 48.12 326 P **P 17 43 40.4 +0.4**
TXAR **pP 17 43 50.7 -0.7**
TXAR Lajitas Array 48.12 326 P **P 17 43 40.4 +0.4**
TXAR *PP **pP 17 43 50.7 -0.7**
TXAR Lajitas Array 48.12 326 P **P 17 43 40.2 +0.1**
comp=Z,1.9nm,0.4s,baz=151,slow=8.8,SNR=53
comp=Z,1.9nm,0.4s
WHAR Wooly Hollow 48.18 341 IAmb IAmb 17 43 51.7
comp=Z,27nm,0.9s
S51A Beattyville 48.33 351 IAmb IAmb 17 43 55.4
comp=Z,31nm,0.7s
FW03 Perrin-Whitt E 48.36 334 P **P 17 43 40.5 -1.3**
FW03 **pP 17 43 53.2 +0.1**
FW03 IAmb IAmb 17 43 55.0
comp=Z,26nm,0.6s
LCAR Lake Charles 48.55 342 IAmb IAmb 17 43 59.5
comp=Z,39nm,1.3s
LPIG La Paz 48.55 315 LR LR 18 01 32.1
comp=Z,60nm,18.3s,baz=128,slow=33
X37A Clayton 48.62 337 P **P 17 43 44.0 +0.3**
FCAR Ozark Folk Cen 48.67 341 IAmb IAmb 17 43 54.5
comp=Z,17nm,0.9s
ABTX Abilene, Hawle 48.72 332 P **P 17 43 45.4 +0.8**
baz=147
LOOK Love County 48.81 335 P **P 17 43 45.7 +0.5**
LOOK **pP 17 43 56.1 -0.4**
SGCY Sterling City 48.84 330 IAmb IAmb 17 43 58.0
comp=Z,28nm,0.7s
PBMO Poplar Bluff 49.00 344 IAmb IAmb 17 44 02.6
comp=Z,19nm,0.9s
R50A Paris 49.08 350 IAmb IAmb 17 44 01.3
comp=Z,25nm,0.8s
WTFS Witchita Falls 49.15 334 IAmb IAmb 17 44 00.2
comp=Z,32nm,0.8s
MNHN Monahans 49.20 328 P **P 17 43 48.4 +0.1**
MNHN pP **pP 17 43 59.7 0.0**
MNHN IAmb IAmb 17 44 01.0
comp=Z,21nm,0.6s
R49A Shelbyville 49.23 349 IAmb IAmb 17 44 04.6
comp=Z,45nm,1.4s
WCI Wyandotte Cave 49.39 348 P **P 17 43 48.3 -1.2**
WCI IAmb IAmb 17 44 04.0
comp=Z,27nm,0.9s
WCI Wyandotte Cave 49.39 348 P **P 17 43 48.3 -1.2**
WCI pmax pmax
comp=Z,27nm,1.0s
WCI Wyandotte Cave 49.39 348 P **P 17 43 49.0 -0.5**
WCI sP **sP 17 44 03.9 -1.6**
SN05 Snyder 5 49.51 331 IAmb IAmb 17 44 04.0
comp=Z,23nm,0.8s
S44A Carbondale 49.55 345 IAmb IAmb 17 44 07.1
comp=Z,63nm,1.4s
SIUC Southern Illin 49.56 345 P **P 17 43 49.8 -1.1**
SIUC IAmb IAmb 17 44 06.9
comp=Z,44nm,1.2s
HHAR Hobbs 49.62 340 IAmb IAmb 17 44 03.0
comp=Z,22nm,0.9s
SN07 Snyder 07 49.69 331 IAmb IAmb 17 44 04.1
comp=Z,16nm,0.8s
W35A Tecumseh 49.70 336 P **P 17 43 51.7 -0.3**
W35A pP **pP 17 44 02.3 -1.0**
ODSA Odessa 49.71 329 P **P 17 43 51.6 -0.6**
PECS Pecos 49.80 327 IAmb IAmb 17 44 05.4
comp=Z,12nm,0.7s
MGMO Mountain Grove 49.88 342 IAmb IAmb 17 44 04.6
comp=Z,32nm,0.9s
U38A Gravette 49.92 340 P **P 17 43 53.0 -0.7**
U38A **pP 17 44 03.8 -1.3**
U38A IAmb IAmb 17 44 06.4
comp=Z,17nm,0.8s
TUL3 Leonard 49.95 338 P **P 17 43 55.3 +1.4**
baz=153
FNO Franklin 50.00 336 P 17 43 54.0 -0.2
P51A Williamsport 50.06 352 IAmb IAmb 17 44 06.0
comp=Z,24nm,0.8s
P52A Corning 50.09 353 P **P 17 43 54.5 -0.3**
P52A **pP 17 44 04.8 -1.5**
P52A Corning 50.09 353 P **P 17 43 54.9 +0.1**
baz=171
FVM French Village 50.13 344 IAmb IAmb 17 44 11.9
comp=Z,26nm,0.6s
OLIL Olney 50.26 347 P **P 17 43 55.1 -1.1**
OLIL IAmb IAmb 17 44 06.7
comp=Z,24nm,0.9s
BLO Bloomington 50.34 348 P **P 17 43 56.2 -0.6**
BLO Bloomington 50.34 348 P **P 17 43 56.2 -0.6**
BLO pmax pmax
comp=Z,56nm,0.6s

P49A	**Miami Univ. Ec**	**50.37**	**350**	IAmb	IAmb	17 44 10.3			
	comp=Z,34nm,0.9s								
P49A	**Miami Univ. Ec**	**50.37**	**350**	P	**P**	**17 43 56.3**	**-0.7**		
	baz=168								
OK052	**Battle Ridge R**	**50.41**	**337**	IAmb	IAmb	17 44 09.9			
	comp=Z,31nm,0.7s								
P48A	**Milroy**	**50.42**	**350**	IAmb	IAmb	17 43 57.3			
	comp=Z,22nm,0.8s								
CCM	**Cathedral Cave**	**50.42**	**343**	P	**P**	**17 43 56.3**	**-1.1**		
CCM	**Cathedral Cave**	**50.42**	**343**	P	**P**	**17 43 56.3**	**-1.1**		
CCM				pmax	pmax				
	comp=Z,13nm,0.9s								
CCM	**Cathedral Cave**	**50.42**	**343**	P	**P**	**17 43 57.3**	**0.0**		
CCM				pP	**pP**	**17 44 07.5**	**-1.3**		
CCM				sP	**sP**	**17 44 12.3**	**-1.1**		
OK033	**Mehan**	**50.50**	**337**	IAmb	IAmb	17 44 16.2			
	comp=Z,68nm,1.5s								
QUOK	**Quay**	**50.52**	**337**	P	**P**	**17 43 57.6**	**-0.7**		
QUOK				IAmb	IAmb	17 44 11.6			
	comp=Z,25nm,0.9s								
O52A	**Adamsville**	**50.53**	**353**	IAmb	IAmb	17 43 59.1			
	comp=Z,24nm,0.8s								
O53A	**New Philadelph**	**50.59**	**354**	P	**P**	**17 43 58.5**	**-0.2**		
O53A					**pP**	**17 44 08.7**	**-1.4**		
O53A				IAmb	IAmb	17 44 11.5			
	comp=Z,22nm,0.8s								
S39A	**Bolivar**	**50.71**	**341**	IAmb	IAmb	17 44 17.4			
	comp=Z,22nm,1.1s								
SSPA	**Standing Stone**	**50.72**	**357**	P	**P**	**17 44 00.7**	**+1.1**		
SSPA				pP	**pP**	**17 44 10.3**	**-0.7**		
ACSO	**Alum Creek Sta**	**50.79**	**352**	P	**P**	**17 43 59.7**	**-0.4**		
ACSO				IAmb	IAmb	17 44 15.9			
	comp=Z,40nm,0.9s								
OK048	**Pawnee Station**	**50.83**	**337**	IAmb	IAmb	17 44 02.1			
	comp=Z,33nm,0.9s								
O49A	**Covington**	**50.94**	**351**	IAmb	IAmb	17 44 16.2			
	comp=Z,40nm,1.1s								
T35A	**Sooner Cattle**	**51.11**	**338**	IAmb	IAmb	17 44 20.3			
	comp=Z,47nm,1.3s								
O48B	**Farmland**	**51.14**	**350**	P	**P**	**17 44 02.4**	**-0.4**		
	baz=167								
MSTX	**Muleshoe**	**51.31**	**330**	P	**P**	**17 44 04.1**	**-0.2**		
MSTX					**pP**	**17 44 14.3**	**-1.4**		
MSTX				IAmb	IAmb	17 44 18.3			
	comp=Z,16nm,0.7s								
MSTX	**Muleshoe**	**51.31**	**330**	P	**P**	**17 44 04.6**	**+0.3**		
	baz=144								
CROK	**Carrier**	**51.31**	**336**	IAmb	IAmb	17 44 20.2			
	comp=Z,24nm,0.7s								
ELIS	**Ellis County**	**51.52**	**335**	IAmb	IAmb	17 44 07.7			
	comp=Z,34nm,0.9s								
AMTX	**Amarillo**	**51.53**	**332**	P	**P**	**17 44 05.4**	**-0.6**		
AMTX				IAmb	IAmb	17 44 17.5			
	comp=Z,11nm,0.5s								
KAN13	**South Haven SW**	**51.56**	**337**	P	**P**	**17 44 05.3**	**-0.6**		
KAN13					**pP**	**17 44 16.7**	**-0.7**		
OK038	**West end E0370**	**51.59**	**336**	IAmb	IAmb	17 44 18.6			
	comp=Z,28nm,0.8s								
U32A	**Winter Ranch,**	**51.62**	**335**		**P**	**17 44 06.1**	**-0.3**		
U32A				IAmb	IAmb	17 44 18.5			
	comp=Z,39nm,0.8s								
SFIN	**Lafayette**	**51.62**	**348**	P	**P**	**17 44 05.7**	**-0.6**		
	baz=165								
OK032	**Salt Plains WL**	**51.66**	**336**	IAmb	IAmb	17 44 18.6			
	comp=Z,36nm,1.3s								
O44A	**Mansfield**	**51.70**	**347**	P	**P**	**17 44 05.8**	**-1.2**		
O44A					**pP**	**17 44 16.2**	**-2.2**		
O44A				IAmb	IAmb	17 44 17.5			
	comp=Z,51nm,1.1s								
OK035	**E0210 Rd and N**	**51.78**	**336**	P	**P**	**17 44 07.5**	**-0.2**		
OK035				IAmb	IAmb	17 44 21.1			
	comp=Z,41nm,0.8s								
ALLY	**Allegheny Colle**	**51.88**	**355**	P	**P**	**17 44 08.5**	**+0.2**		
P40A	**Paris**	**52.02**	**343**	IAmb	IAmb	17 44 26.0			
	comp=Z,18nm,0.7s								
BINY	**Binghamton**	**52.22**	**359**	P	**P**	**17 44 11.8**	**+1.0**		
BINY				IAmb	IAmb	17 44 12.9			
	comp=Z,40nm,0.9s								
ERPA	**Erie**	**52.33**	**355**	P	**P**	**17 44 11.2**	**-0.4**		
WVNY	**West Valley, N**	**52.52**	**357**	IAmb	IAmb	17 44 34.3			
	comp=Z,62nm,1.2s								
HRV	**Adam Dziewonsk**	**52.61**	**3**	P	**P**	**17 44 15.5**	**+1.8**		
HRV				pP	**pP**	**17 44 25.8**	**+0.7**		
HRV				sP	**sP**	**17 44 30.3**	**+0.6**		
L48A	**N Adams**	**52.67**	**351**	P	**P**	**17 44 13.3**	**-0.9**		
L48A					**pP**	**17 44 24.0**	**-1.6**		
L48A				IAmb	IAmb	17 44 26.7			
	comp=Z,31nm,0.7s								
121A	**Cookes Peak, D**	**52.84**	**325**	P	**P**	**17 44 17.5**	**+1.7**		
	baz=138								
319A	**Douglas**	**52.86**	**323**	IAmb	IAmb	17 44 28.8			
	comp=Z,20nm,0.8s								
KSU1	**Kansas State U**	**53.08**	**339**	P	**P**	**17 44 17.1**	**-0.1**		
KSU1					**pP**	**17 44 28.3**	**-0.4**		
KSU1				IAmb	IAmb	17 44 36.4			
	comp=Z,18nm,0.7s								
L42A	**Oliver, Polo**	**53.73**	**346**	IAmb	IAmb	17 44 21.8			
	comp=Z,22nm,0.8s								
ANMO	**Albuquerque**	**53.94**	**328**	P	**P**	**17 44 23.6**	**-0.3**		
ANMO				IAmb	IAmb	17 44 36.9			
	comp=Z,33nm,1.7s								
ANMO	**Albuquerque**	**53.94**	**328**	P	**P**	**17 44 23.6**	**-0.3**		
ANMO				pmax	pmax				
	comp=Z,33nm,1.7s								
ANMO	**Albuquerque**	**53.94**	**328**	P	**P**	**17 44 24.6**	**+0.8**		
ANMO				pP	**pP**	**17 44 35.3**	**0.0**		
CBKS	**Cedar Bluff**	**54.01**	**336**	IAmb	IAmb	17 44 36.7			
	comp=Z,34nm,0.8s								
L40A	**Anamosa**	**54.16**	**345**	IAmb	IAmb	17 44 25.2			
	comp=Z,41nm,1.2s								
TUC	**Tucson**	**54.42**	**322**	P	**P**	**17 44 27.1**	**-0.1**		
TUC	**Tucson**	**54.42**	**322**	P	**P**	**17 44 27.2**	**-0.1**		
TUC				pmax	pmax				
	comp=Z,6.0nm,1.0s								
TUC	**Tucson**	**54.42**	**322**	P	**P**	**17 44 28.3**	**+1.0**		
TUC				pP	**pP**	**17 44 38.5**	**-0.3**		
T25A	**Trinidad**	**54.65**	**331**	IAmb	IAmb	17 44 42.1			
	comp=Z,27nm,0.8s								
T25A	**Trinidad**	**54.65**	**331**	P	**P**	**17 44 30.0**	**+1.0**		
	baz=144								
JFWS	**Jewell Farm**	**54.73**	**346**	IAmb	IAmb	17 44 43.9			
	comp=Z,31nm,0.8s								
SADO	**Sadowa**	**54.91**	**356**	P	**P**	**17 44 29.7**	**-0.7**		
SADO				IAmb	IAmb	17 44 41.5			
	comp=Z,29nm,1.0s								
SADO	**Sadowa**	**54.91**	**356**	LR	LR	18 10 34.4			
	comp=Z,97nm,18.9s,baz=240,slow=39								
PMSA	**Palmer Station**	**54.96**	**174**	LR	LR	18 04 58.0			
	comp=Z,79nm,18.1s,baz=320,slow=33								
PMSA	**Palmer Station**	**54.96**	**174**	*e*P	**P**	**17 44 32.2**	**+1.6**		
KSCO	**Kaye Shedlock'**	**55.37**	**334**	P	**P**	**17 44 35.3**	**+1.2**		
	baz=146								
214A	**Organ Pipe Nat**	**55.42**	**321**	IAmb	IAmb	17 44 59.5			
	comp=Z,26nm,1.4s								
214A	**Organ Pipe Nat**	**55.42**	**321**	P	**P**	**17 44 35.5**	**+1.0**		
	baz=133								
MNTQ	**Montreal, Queb**	**55.52**	**1**	P	**P**	**17 44 35.5**	**+0.7**		
SDCO	**Great Sand Dun**	**55.65**	**331**	IAmb	IAmb	17 44 49.2			
	comp=Z,22nm,0.7s								
BGNE	**Belgrade**	**55.67**	**339**	P	**P**	**17 44 36.6**	**+0.5**		
	baz=152								
SFX	**San Felipe**	**56.11**	**318**	P	**P**	**17 44 39.5**	**+0.2**		
F64A	**Sherman**	**56.19**	**6**	IAmb	IAmb	17 44 42.3			
	comp=Z,44nm,0.9s								
Q24A	**Divide**	**56.46**	**332**	P	**P**	**17 44 42.6**	**+0.4**		
	baz=144								
113A	**Mohawk Valley,**	**56.56**	**321**	P	**P**	**17 44 43.2**	**+0.7**		
OGNE	**Ogallala**	**56.74**	**336**	IAmb	IAmb	17 44 56.3			
	comp=Z,25nm,0.7s								
E46A	**Sault Ste Mari**	**56.99**	**352**	P	**P**	**17 44 43.9**	**-1.4**		
E46A					**pP**	**17 44 54.6**	**-2.3**		
E46A				IAmb	IAmb	17 44 57.3			
	comp=Z,29nm,0.8s								
WUAZ	**Wupatki**	**57.05**	**325**	IAmb	IAmb	17 44 59.9			
	comp=Z,17nm,1.1s								
ECSD	**EROS Data Cent**	**57.23**	**341**	IAmb	IAmb	17 45 04.1			
	comp=Z,40nm,1.5s								
ISCO	**Idaho Springs**	**57.35**	**332**	P	**P**	**17 44 48.3**	**-0.1**		
ISCO				IAmb	IAmb	17 45 50.4			
	comp=Z,39nm,1.9s								
ISCO	**Idaho Springs**	**57.35**	**332**	P	**P**	**17 44 48.3**	**-0.1**		
ISCO				pmax	pmax				
	comp=Z,39nm,2.0s								
E43A	**Lone Tree Farm**	**57.40**	**350**	IAmb	IAmb	17 44 58.7			
	comp=Z,22nm,0.7s								
SPMN	**Marine on St.**	**57.53**	**345**	IAmb	IAmb	17 45 01.1			
	comp=Z,27nm,0.8s								
SPMN	**Marine on St.**	**57.53**	**345**	P	**P**	**17 44 48.9**	**-0.2**		
	baz=159								
PDMCI	**Parker Dam,Lak**	**57.83**	**322**	P	**P**	**17 44 52.7**	**+1.2**		
	baz=133								
BATG	**Bathurst New B**	**57.84**	**7**	P	**P**	**17 44 51.7**	**+0.4**		
BC3	**Big Chuckawall**	**58.21**	**320**	P	**P**	**17 44 55.8**	**+1.5**		
	baz=131								
F36A	**Milaca**	**58.30**	**345**	IAmb	IAmb	17 45 10.2			
	comp=Z,17nm,0.8s								
D41A	**Chassel**	**58.34**	**349**	IAmb	IAmb	17 44 55.5			
	comp=Z,29nm,0.9s								
IRM	**Iron Mountain**	**58.35**	**321**	P	**P**	**17 44 57.1**	**+2.0**		
	baz=132								
N23A	**Red Feather La**	**58.38**	**333**	P	**P**	**17 44 56.7**	**+1.2**		
	baz=144								
HMU	**Henry Mountain**	**58.46**	**327**	IAmb	IAmb	17 46 05.3			
	comp=Z,27nm,1.4s								
SUSD	**Miller**	**58.63**	**340**	P	**P**	**17 44 56.6**	**-0.3**		
	baz=152								
BELC	**Belle Mtn. Jos**	**58.77**	**320**	P	**P**	**17 44 59.3**	**+1.0**		
	baz=131								
TPFO	**Pinon Flats**	**58.81**	**320**	P	**P**	**17 44 59.8**	**+1.3**		
	baz=130								
PFO	**Pinyon Flats O**	**58.81**	**320**	P	**P**	**17 44 59.0**	**+0.5**		
PFO	**Pinyon Flats O**	**58.81**	**320**	*i* P	**P**	**17 44 59.6**	**+1.1**		
PFO				pmax	pmax				
	comp=Z,11nm,1.0s								
PFO	**Pinyon Flats O**	**58.81**	**320**	P	**P**	**17 44 59.8**	**+1.2**		
	baz=130								
PFO	**Pinyon Flats O**	**58.81**	**320**	LR	LR	18 09 04.0			
	comp=Z,84nm,21.8s,baz=132,slow=35								
PFO	**Pinyon Flats O**	**58.81**	**320**	P	**P**	**17 44 60.0**	**+1.4**		
PFO				pP	**pP**	**17 45 10.6**	**+0.4**		
O20A	**White River Ci**	**58.85**	**331**	IAmb	IAmb	17 45 11.2			
	comp=Z,18nm,1.1s								
O20A	**White River Ci**	**58.85**	**331**	P	**P**	**17 44 59.8**	**+1.0**		
	baz=141								
KNB	**Kanab**	**58.94**	**325**	IAmb	IAmb	17 45 19.7			
	comp=Z,26nm,1.4s								
PKCU	**Pink Cliffs**	**58.95**	**326**	IAmb	IAmb	17 45 17.4			
	comp=Z,25nm,1.3s								
F33A	**5 Mile Ranch,**	**59.05**	**343**	IAmb	IAmb	17 45 14.9			
	comp=Z,42nm,1.6s								
GMRC	**Granite Mounta**	**59.08**	**321**	P	**P**	**17 45 02.0**	**+1.6**		
	baz=132								
MTPU	**Mount Pierson**	**59.31**	**326**	IAmb	IAmb	17 45 19.2			
	comp=Z,26nm,1.9s								
Q16A	**Castle Valley**	**59.41**	**328**	IAmb	IAmb	17 45 26.2			
	comp=Z,19nm,1.3s								
P18A	**Preston Nutter**	**59.46**	**329**	IAmb	IAmb	17 45 30.0			
	comp=Z,26nm,1.6s								
HEC	**Hector,Ludlow**	**59.53**	**321**	P	**P**	**17 45 05.4**	**+2.0**		
	baz=131								
RWWY	**Rawlins**	**59.58**	**332**	P	**P**	**17 45 03.9**	**0.0**		
RWWY				IAmb	IAmb	17 45 21.9			
	comp=Z,47nm,1.6s								
P17A	**Butcher Ranch,**	**59.60**	**328**	IAmb	IAmb	17 45 21.7			
	comp=Z,13nm,1.0s								
TUQ	**Turquoise Moun**	**59.67**	**322**	P	**P**	**17 45 05.8**	**+1.4**		
	baz=132								
EYMN	**Ely**	**59.78**	**347**	IAmb	IAmb	17 45 18.9			
	comp=Z,13nm,0.8s								
RDMU	**Red Mountain**	**59.83**	**330**	IAmb	IAmb	17 45 18.1			
	comp=Z,22nm,0.6s								
K22A	**Casper**	**60.05**	**334**	IAmb	IAmb	17 45 24.4			
	comp=Z,42nm,1.6s								
K22A	**Casper**	**60.05**	**334**	P	**P**	**17 45 07.7**	**+0.8**		
	baz=144								
RSSD	**Black Hills**	**60.21**	**336**	P	**P**	**17 45 08.1**	**0.0**		
RSSD				IAmb	IAmb	17 45 09.9			
	comp=Z,17nm,1.1s								
RSSD	**Black Hills**	**60.21**	**336**	P	**P**	**17 45 08.1**	**0.0**		
RSSD				pmax	pmax				
	comp=Z,17nm,1.2s								
RSSD	**Black Hills**	**60.21**	**336**	P	**P**	**17 45 08.7**	**+0.6**		
BSUT	**Blindstream Ca**	**60.40**	**329**	IAmb	IAmb	17 45 28.1			
	comp=Z,12nm,0.9s								
D32A	**Dogwood Acres,**	**60.43**	**343**	P	**P**	**17 45 08.9**	**-0.4**		
B35A	**Bob, Littlefor**	**60.68**	**346**	P	**P**	**17 45 10.1**	**-0.8**		
B35A				pP	**pP**	**17 45 20.6**	**-2.0**		
B35A				IAmb	IAmb	17 45 27.1			
	comp=Z,43nm,1.6s								
WCT	**Wildcat Mounta**	**61.00**	**322**	P	**P**	**17 45 13.7**	**+0.2**		
MPMC	**Manual Prospec**	**61.04**	**321**	P	**P**	**17 45 14.7**	**+0.8**		
	baz=131								
TCUT	**Toone Canyon**	**61.16**	**329**	IAmb	IAmb	17 45 18.4			
	comp=Z,23nm,0.8s								
DUG	**Dugway, Tooele**	**61.21**	**328**	IAmb	IAmb	17 45 27.8			
	comp=Z,17nm,0.9s								
DRLN	**Deer Lake**	**61.23**	**13**	P	**P**	**17 45 15.2**	**+0.6**		
ISA	**Isabella, Lake**	**61.40**	**320**	P	**P**	**17 45 16.5**	**+0.3**		
ISA	**Isabella, Lake**	**61.40**	**320**	P	**P**	**17 45 16.5**	**+0.3**		
ISA				pmax	pmax				
	comp=Z,7.0nm,1.0s								
ISA	**Isabella, Lake**	**61.40**	**320**	P	**P**	**17 45 17.3**	**+1.1**		
	baz=130								
R11B	**Troy Canyon, C**	**61.44**	**324**	P	**P**	**17 45 17.8**	**+1.3**		
	baz=133								
Q12A	**Willow Creek R**	**61.48**	**325**	P	**P**	**17 45 16.7**	**-0.1**		
PD31	**Pinedale Array**	**61.51**	**332**	IAmb	IAmb	17 45 29.9			
	comp=Z,28nm,1.6s								
PDAR	**Pinedale Array**	**61.51**	**332**	P	**P**	**17 45 16.1**	**-0.9**		
PDAR					**pP**	**17 45 28.0**	**-0.6**		
PDAR	**Pinedale Array**	**61.51**	**332**	P	**P**	**17 45 16.8**	**-0.2**		
	comp=Z,2.7nm,0.7s,baz=144,slow=8.5,SNR=22								
PDAR				LR	LR	18 13 39.8			
	comp=Z,171nm,19.4s,baz=133,slow=38 comp=Z,2.7nm,0.7s								
HWUT	**Hardware Ranch**	**61.60**	**329**	P	**P**	**17 45 17.3**	**-0.3**		
HWUT				IAmb	IAmb	17 45 18.8			
	comp=Z,18nm,0.9s								
SPUT	**South Promonto**	**61.83**	**329**	P	**P**	**17 45 18.9**	**-0.2**		
SPUT					**pP**	**17 45 30.2**	**-0.5**		
SPUT				IAmb	IAmb	17 45 32.0			
	comp=Z,26nm,1.4s								
MDND	**Maddock**	**61.85**	**341**	P	**P**	**17 45 19.9**	**+1.1**		
	baz=152								
SMMC	**Simler**	**62.15**	**319**	P	**P**	**17 45 23.1**	**+1.9**		
	baz=128								
DSP	**Deep Springs**	**62.19**	**322**	P	**P**	**17 45 21.7**	**+0.4**		
AHID	**Auburn Hatcher**	**62.24**	**331**	IAmb	IAmb	17 45 22.9			
	comp=Z,11nm,0.8s								
MBO	**M'Bour**	**62.54**	**68**	P	**P**	**17 45 25.8**	**+1.7**		
MOOW	**Moose Ponds**	**62.82**	**332**	P	**P**	**17 45 25.5**	**-0.3**		
ELK	**Elko**	**62.90**	**327**	LR	LR	18 13 05.6			
	comp=Z,150nm,19.4s,baz=138,slow=36								
ULM	**Lac du Bonnet**	**62.97**	**345**	IAmb	IAmb	17 45 26.8			
	comp=Z,32nm,0.9s								
ULM	**Lac du Bonnet**	**62.97**	**345**	*i* P	**P**	**17 45 26.5**	**+0.2**		
ULM	**Lac du Bonnet**	**62.97**	**345**	P	**P**	**17 45 25.4**	**-0.8**		
	comp=Z,24nm,0.8s,baz=156,slow=6.7,SNR=39								
ULM				LR	LR	18 16 22.9			
	comp=Z,138nm,18.5s,baz=158,slow=39 comp=Z,24nm,0.8s								
NV11	**Mina Array Sit**	**62.99**	**323**	P	**P**	**17 45 27.3**	**+0.4**		
NV11				pP	**pP**	**17 45 38.2**	**-0.3**		
IMW	**Indian Meadow**	**63.02**	**332**	IAmb	IAmb	17 45 40.9			
	comp=Z,27nm,1.4s								
MDPB	**Devils Postpil**	**63.03**	**322**	P	**P**	**17 45 27.2**	**-0.1**		
FLWY	**Flagg Ranch**	**63.05**	**332**	IAmb	IAmb	17 45 29.2			
	comp=Z,24nm,0.9s								
NVAR	**Mina Array Bea**	**63.08**	**323**	P	**P**	**17 45 28.6**	**+1.0**		
NVAR					**pP**	**17 45 38.9**	**-0.3**		
NVAR	**Mina Array Bea**	**63.08**	**323**	P	**P**	**17 45 26.9**	**-0.7**		
	comp=Z,2.0nm,0.8s,baz=142,slow=7.2,SNR=8.2								
NVAR				LR	LR	18 12 02.9			
	comp=Z,124nm,20.3s,baz=66,slow=35 comp=Z,2.0nm,0.8s								
LAO	**LASA Array**	**63.20**	**336**	IAmb	IAmb	17 45 29.4			
	comp=Z,25nm,1.4s								
H17A	**Grant Village**	**63.24**	**332**	IAmb	IAmb	17 45 48.6			
	comp=Z,57nm,2.0s								
KVN	**Kaiserville**	**63.36**	**323**	P	**P**	**17 45 29.8**	**+0.4**		
KVN	**Kaiserville**	**63.36**	**323**	P	**P**	**17 45 29.8**	**+0.4**		
KVN				pmax	pmax				
	comp=Z,26nm,1.9s								
YFT	**Old Faithful**	**63.40**	**332**	IAmb	IAmb	17 45 44.0			
	comp=Z,14nm,0.9s								
BMN	**Battle Mountai**	**63.78**	**325**	P	**P**	**17 45 32.2**	**+0.1**		
BMN					**pP**	**17 45 43.2**	**-0.6**		
YHL	**Hebgen Lake**	**63.87**	**332**	IAmb	IAmb	17 45 35.2			
	comp=Z,33nm,0.8s								
DGMT	**Dagmar**	**63.93**	**339**	P	**P**	**17 45 32.9**	**+0.2**		
DGMT				IAmb	IAmb	17 45 34.8			
	comp=Z,20nm,0.8s								
PAHR	**Pah Rah Range**	**64.55**	**323**	IAmb	IAmb	17 45 50.2			
	comp=Z,18nm,1.2s								
MFID	**Camas Ranch**	**65.08**	**328**	P	**P**	**17 45 40.6**	**+0.1**		
MFID				IAmb	IAmb	17 45 42.6			
	comp=Z,26nm,1.1s								
SCHQ	**Schefferville**	**65.22**	**5**	IAmb	IAmb	17 45 57.9			
	comp=Z,17nm,0.8s								
SCHQ	**Schefferville**	**65.22**	**5**	P	**P**	**17 45 41.4**	**+0.4**		
	comp=Z,7.5nm,0.8s,baz=219,slow=8.2,SNR=7.9								
SCHQ				LR	LR	18 14 25.6			
	comp=Z,85nm,19.5s,baz=225,slow=36 comp=Z,7.5nm,0.8s								
EGMT	**Eagleton**	**65.70**	**335**	IAmb	IAmb	17 45 45.8			
	comp=Z,16nm,0.9s								
ORV	**Oroville**	**65.71**	**322**	IAmb	IAmb	17 45 57.8			
	comp=Z,17nm,1.0s								
BPMT	**Black Pine Rid**	**66.11**	**332**	P	**P**	**17 45 47.5**	**+0.3**		
BPMT					pP	**17 45 58.6**	**-0.4**		
K05A	**Summer Lake**	**67.36**	**325**	IAmb	IAmb	17 46 18.8			
	comp=Z,20nm,1.1s								
I07A	**Izee**	**67.48**	**327**	P	**P**	**17 45 56.0**	**+0.2**		
I07A				IAmb	IAmb	17 45 58.0			
	comp=Z,15nm,0.9s								
F10A	**Beach Ranch, E**	**67.59**	**330**	IAmb	IAmb	17 46 10.0			
	comp=Z,11nm,0.7s								
YBH	**Yreka Blue Hor**	**67.78**	**323**	LR	LR	18 15 49.2			
	comp=Z,105nm,18.7s,baz=126,slow=36								
PINE	**Pine Mountain**	**68.08**	**326**	IAmb	IAmb	17 46 14.0			
	comp=Z,18nm,1.1s								
MACI	**Morro de la Ar**	**68.25**	**54**	P	**P**	**17 46 02.1**	**+1.0**		
FFC	**Flin Flon**	**68.62**	**344**	P	**P**	**17 46 02.6**	**0.0**		
FFC				IAmb	IAmb	17 46 34.0			
	comp=Z,22nm,1.4s								
FFC	**Flin Flon**	**68.62**	**344**	P	**P**	**17 46 02.6**	**0.0**		
FFC				pmax	pmax				
	comp=Z,22nm,1.5s								
FFC	**Flin Flon**	**68.62**	**344**	P	**P**	**17 46 02.7**	**+0.1**		
FFC				pP	**pP**	**17 46 14.0**	**-0.4**		
I05D	**Terrebonne, OR**	**68.65**	**326**	IAmb	IAmb	17 46 16.8			
	comp=Z,52nm,1.6s								
NEW	**Newport**	**69.15**	**331**	LR	LR	18 18 06.4			
	comp=Z,93nm,21.8s,baz=136,slow=37								
E07A	**Sunnyside**	**69.32**	**329**	IAmb	IAmb	17 46 20.9			
	comp=Z,47nm,1.7s								
C09A	**Chrisman Ranch**	**69.38**	**330**	P	**P**	**17 46 07.2**	**-0.3**		
FCC	**Fort Churchill**	**70.52**	**350**	IAmb	IAmb	17 46 30.5			
	comp=Z,22nm,1.2s								
EDM	**Edmonton**	**71.18**	**337**	IAmb	IAmb	17 46 19.3			
	comp=Z,37nm,1.0s								
LIC	**Lamto**	**71.57**	**80**	⇑*i* P	**P**	**17 46 21.8**	**+0.3**		
	comp=Z,12nm,0.3s								
TIC	**Toumodi**	**71.67**	**79**	⇑*i* P	**P**	**17 46 22.5**	**+0.3**		
	comp=Z,6.7nm,0.3s								
DBIC	**Dimbokro**	**71.83**	**79**	P	**P**	**17 46 22.6**	**-0.5**		
DBIC	**Dimbokro**	**71.83**	**79**	P	**P**	**17 46 23.5**	**+0.4**		
	comp=Z,34nm,0.8s,baz=244,slow=5.4,SNR=31								
DBIC				LR	LR	18 16 01.5			
	comp=Z,541nm,18.8s,baz=236,slow=34 comp=Z,34nm,0.8s								
DBIC	**Dimbokro**	**71.83**	**79**	P	**P**	**17 46 23.6**	**+0.4**		
DBIC					pP	**17 46 33.8**	**-1.2**		
KIC	**Kosan Boka**	**71.88**	**80**	⇑*i* P	**P**	**17 46 23.8**	**+0.4**		
	comp=Z,65nm,0.6s								
PPT	**Papeete**	**72.38**	**255**	LR	LR	18 10 00.9			
	comp=Z,241nm,18.7s,baz=114,slow=29								
VNA3	**Neumayer Olymp**	**72.51**	**162**	⇑P	**P**	**17 46 29.4**	**+3.2**		
	comp=Z,4.4nm,0.9s								
VNA3				⇓pP	**pP**	**17 46 38.4**	**+0.3**		
	comp=Z,7.3nm,0.8s								
VNA1	**Neumayer--Stat**	**72.75**	**161**	⇑P	**P**	**17 46 31.5**	**+4.0**		
	comp=Z,13nm,0.8s								
VNA2	**Neumayer--Watz**	**73.11**	**161**	⇑P	**P**	**17 46 32.5**	**+2.8**		
	comp=Z,9.0nm,1.1s,baz=332,slow=7.0								
BRLDA	**Berland Lookou**	**73.45**	**336**	IAmb	IAmb	17 46 32.8			
	comp=Z,27nm,1.0s								
FRB	**Frobisher Bay**	**73.96**	**3**	LR	LR	18 21 02.8			
	comp=Z,117nm,19.9s,baz=186,slow=37								
IVI	**Ivigtut**	**74.32**	**13**	P	**P**	**17 46 36.9**	**+0.1**		
IVI			

TORD Torodi Ar. Bea 79.58 75 P P 17 47 07.7 +0.3
TORD IAmb IAmb 17 47 09.0
comp=Z,36nm,0.8s
TORD pP 17 47 18.3 -1.2
TORD Torodi Ar. Bea 79.58 75 P P 17 47 07.4 0.0
comp=Z,30nm,0.8s,baz=283,slow=5.6,SNR=157
TORD LR LR 18 22 16.5
comp=Z,252nm,18.1s,baz=262,slow=36
comp=Z,30nm,0.8s
PMRV Marv??o 79.72 47 eP P 17 47 09.5 +1.8
comp=Z,14nm,1.2s
PMRV Marv??o 79.72 47 eLR LR 18 12 29.1
comp=Z,284nm,22.0s
PCBR Castelo Branco 79.81 46 eP P 17 47 10.1 +1.9
comp=Z,47nm,1.4s
PCBR epP pP 17 47 20.7 +0.5
QSPA South Pole Qui 79.86 180 P P 17 47 08.2 +0.1
comp=Z,4.2nm,1.0s,baz=248,slow=0.7,SNR=17
comp=Z,4.2nm,1.0s
PVIS Viseu 79.86 45 eP P 17 47 10.0 +1.5
PVIS esP sP 17 47 25.2 +0.2
MTE Manteigas 79.98 46 eP P 17 47 10.9 +1.7
comp=Z,55nm,1.3s
MTE esP sP 17 47 26.1 +0.4
MTE Manteigas 79.98 46 eLR LR 18 13 27.5
comp=Z,302nm,22.0s
MTE Manteigas 79.98 46 IAmb IAmb 17 47 11.7
comp=Z,36nm,0.9s
PGAV Gavieira, Arco 80.09 44 eP P 17 47 11.0 +1.2
comp=Z,81nm,1.8s
PGAV Gavieira, Arco 80.09 44 eLR LR 18 13 36.4
comp=Z,183nm,20.0s
PVRL Vila Real 80.20 45 eP P 17 47 12.1 +1.8
comp=Z,40nm,1.1s
MVO Moncorvo 80.64 45 eP P 17 47 14.8 +2.1
comp=Z,71nm,1.5s
MVO Moncorvo 80.64 45 eLR LR 18 13 28.9
comp=Z,197nm,22.0s
ILULI Ilulissat 81.03 8 P P 17 47 13.9 -0.2
ILULI IAmb IAmb 17 47 15.4
comp=Z,32nm,1.2s
ILULI Ilulissat 81.03 8 P P 17 47 13.9 -0.2
ILULI pmax pmax
comp=Z,32nm,1.2s
PBRG Braganca 81.08 45 eP P 17 47 16.7 +1.7
comp=Z,32nm,1.6s
PBRG epP pP 17 47 26.2 -0.8
RAR Rarotonga 81.54 250 LR LR 18 14 53.8
comp=Z,65nm,21.4s,baz=134,slow=29
DLBC Dease Lake 81.60 334 P P 17 47 18.9 +1.4
baz=125
DLBC Dease Lake 81.60 334 LR LR 18 25 43.1
comp=Z,83nm,19.9s,baz=110,slow=37
PAB San Pablo 81.95 47 P P 17 47 20.6 +0.8
PAB IAmb IAmb 17 47 24.4
comp=Z,36nm,1.1s
PAB San Pablo 81.95 47 P P 17 47 20.6 +0.8
PAB pmax pmax
comp=Z,36nm,1.2s
WTLY Watson Lake, Y 82.08 336 P P 17 47 21.2 +1.3
baz=127
WRGLY Wrigley 82.09 340 IAmb IAmb 17 47 33.1
comp=Z,40nm,1.6s
ESDC Sonseca Array 82.28 47 P P 17 47 23.3 +1.9
ESDC IAmb IAmb 17 47 24.9
comp=Z,57nm,1.4s
ESDC pP pP 17 47 33.4 0.0
ESDC Sonseca Array 82.28 47 P P 17 47 22.9 +1.5
comp=Z,21nm,1.0s,baz=254,slow=5.9,SNR=55
ESDC LR LR 18 19 29.4
comp=Z,288nm,21.4s,baz=248,slow=32
comp=Z,21nm,1.0s
R33M Jennings River 82.55 335 IAmb IAmb 17 49 46.2
comp=Z,32nm,1.8s
R33M Jennings River 82.55 335 P P 17 47 23.9 +1.4
baz=125
TGTN Hyland Airport 82.73 337 P P 17 47 25.2 +1.9
baz=127
ELIB Princess Elisa 82.89 162 dP P 17 47 22.7 -1.4
ICESG Greenland Ices 82.94 12 i P P 17 47 24.8 +0.3
ICESG IAmb IAmb 17 47 25.3
comp=Z,23nm,0.9s
N32M Quiet Lake 84.41 336 IAmb IAmb 17 47 33.8
comp=Z,17nm,0.9s
N32M Quiet Lake 84.41 336 P P 17 47 33.1 +1.2
baz=123
MMPY Sheldon Lake, 84.51 337 P P 17 47 32.8 +0.4
MMPY Sheldon Lake, 84.51 337 P P 17 47 33.7 +1.3
baz=125
BORG Borgarnes 84.83 20 LR LR 18 23 51.2
comp=Z,114nm,20.3s,baz=234,slow=34
WHY Whitehorse 84.89 335 P P 17 47 35.7 +1.3
baz=121
FARO Faro, Yukon 85.10 336 P P 17 47 36.8 +1.4
baz=123
RES Resolute Bay 85.69 355 LR LR 18 28 33.2
comp=Z,120nm,19.3s,baz=188,slow=38
SUMG Summit 86.02 10 P P 17 47 40.1 -0.1
SUMG Summit 86.02 10 P P 17 47 40.1 -0.1
SUMG pmax pmax
comp=Z,59nm,1.2s
SUMG Summit 86.02 10 i P P 17 47 41.3 +1.2
SUMG IAmb IAmb 17 47 41.7
comp=Z,31nm,0.8s
N30M Aishikik Lake 86.22 335 IAmb IAmb 17 47 43.4
comp=Z,27nm,1.4s
N30M Aishikik Lake 86.22 335 P P 17 47 42.7 +1.7
baz=119
M30M Minto, Yukon 86.66 336 P P 17 47 43.4 +0.4
baz=120
VNDA Vanda 86.80 191 P P 17 47 44.0 +0.5
comp=Z,2.4nm,1.0s,baz=135,slow=4.6,SNR=1.8
VNDA LR LR 18 18 55.5
comp=Z,179nm,20.9s,baz=133,slow=30
comp=Z,2.4nm,1.0s
YUK4 Talbot Arm 86.83 334 P P 17 47 45.8 +1.7
baz=118
M29M Somme Creek 87.27 335 IAmb IAmb 17 47 48.2
comp=Z,18nm,1.0s
M29M Somme Creek 87.27 335 P P 17 47 47.4 +1.3
baz=118
YUK8 Steele Glacier 87.28 334 P P 17 47 47.9 +1.6
baz=117
H31M Peel River 87.40 339 IAmb IAmb 17 47 48.7
comp=Z,15nm,0.9s
H31M Peel River 87.40 339 P P 17 47 47.3 +0.8
baz=122
L29M L29M 87.45 336 IAmb IAmb 17 47 48.7
comp=Z,26nm,0.9s
L29M L29M 87.45 336 P P 17 47 48.1 +1.2
baz=118
J30M Hart River 87.48 338 IAmb IAmb 17 47 49.1
comp=Z,11nm,1.1s
J30M Hart River 87.48 338 P P 17 47 48.3 +1.3
baz=120
K29M Barlow Dome 87.57 337 P P 17 47 48.4 +0.9
baz=119
YUK3 Moose Creek 87.80 334 P P 17 47 50.3 +1.5
baz=116
I30M Mount Dempster 87.82 338 IAmb IAmb 17 47 50.5
comp=Z,13nm,0.9s
I30M Mount Dempster 87.82 338 P P 17 47 49.4 +0.7
baz=120
G31M Satah River 87.97 340 IAmb IAmb 17 47 50.5
comp=Z,16nm,0.9s
G31M Satah River 87.97 340 P P 17 47 49.5 +0.4
baz=122
F31M Tsiigehtchic 88.08 341 IAmb IAmb 17 47 51.0
comp=Z,17nm,0.9s
F31M Tsiigehtchic 88.08 341 P P 17 47 49.9 +0.2
baz=123
J29N Klondike Camp 88.13 337 P P 17 47 51.3 +1.2
baz=118
BVCY Beaver Creek 88.25 335 P P 17 47 51.9 +1.2
baz=116
EKA Eskdalemuir Ar 88.28 33 P P 17 47 51.6 +0.7
comp=Z,0.8nm,0.5s,baz=252,slow=5.0,SNR=5.6
comp=Z,0.8nm,0.5s
DAWY Dawson 88.40 337 P P 17 47 51.9 +0.6
baz=117
A36M Sachs Harbour 88.43 346 P P 17 47 51.2 0.0
A36M pP 17 48 02.5 -1.0
A36M Sachs Harbour 88.43 346 P P 17 47 51.5 +0.3
baz=131
INK Inuvik 88.48 342 IAmb IAmb 17 47 53.0
comp=Z,17nm,0.9s
INK Inuvik 88.48 342 P P 17 47 52.4 +0.9
baz=123
INK Inuvik 88.48 342 LR LR 18 31 36.8
comp=Z,203nm,18.8s,baz=176,slow=38
EPYK Eagle Plains 88.52 339 P P 17 47 52.5 +0.6
baz=120
NEEM North Greenlan 88.62 5 i P P 17 47 54.0 +1.5
NEEM IAmb IAmb 17 47 54.7
comp=Z,60nm,0.8s
M27K Edge Creek, AK 88.65 335 IAmb IAmb 17 47 54.5
comp=Z,12nm,1.1s
M27K Edge Creek, AK 88.65 335 P P 17 47 54.0 +1.2
baz=115
G30M tAoh Zraii Nji 88.66 340 IAmb IAmb 17 48 43.8
comp=Z,13nm,1.4s
G30M tAoh Zraii Nji 88.66 340 P P 17 47 53.8 +1.3
baz=120
F30M Barrier River 88.83 340 P P 17 47 54.0 +0.7
baz=121
BCAR Beaver Creek A 88.92 335 P P 17 47 54.8 +1.0
L27K Beaver Creek, 88.93 335 IAmb IAmb 17 48 10.7
comp=Z,12nm,1.1s
L27K Beaver Creek, 88.93 335 P P 17 47 54.8 +0.9
baz=115
H29M Whitestone 89.03 339 IAmb IAmb 17 48 09.6
comp=Z,11nm,0.7s
H29M Whitestone 89.03 339 P P 17 47 54.8 +0.5
baz=118
TSUM Tsumeb 89.08 109 P P 17 47 53.7 -2.0
TSUM IAmb IAmb 17 47 57.9
comp=Z,15nm,0.9s
TSUM Tsumeb 89.08 109 LR LR 18 25 58.9
comp=Z,308nm,19.1s,baz=270,slow=34
G29M Pine Creek 89.24 339 IAmb IAmb 17 47 56.5
comp=Z,16nm,0.8s
G29M Pine Creek 89.24 339 P P 17 47 55.9 +0.6
baz=119
I28M Miner Creek 89.24 338 P P 17 47 55.9 +0.5
baz=117
EGAK Eagle 89.41 337 IAmb IAmb 17 47 57.4
comp=Z,17nm,1.1s
SUR Sutherland 89.41 123 LR LR 18 25 04.0
comp=Z,198nm,21.5s,baz=268,slow=34
K27K Chicken 89.44 336 IAmb IAmb 17 47 58.5
comp=Z,23nm,1.1s
K27K Chicken 89.44 336 P P 17 47 57.8 +1.6
baz=115
E29M Blow River 89.91 341 IAmb IAmb 17 47 59.6
comp=Z,18nm,0.9s
E29M Blow River 89.91 341 P P 17 47 58.8 +0.5
baz=119
I27K Kandik River 89.94 338 P P 17 47 59.0 +0.4
baz=115
KLU Klutina 90.07 333 P P 17 47 59.0 -0.3
KLU IAmb IAmb 17 48 00.5
comp=Z,19nm,1.0s
KLU Klutina 90.07 333 P P 17 47 59.9 +0.6
baz=12
H27K Steamboat Moun 90.18 338 P P 17 47 60.0 +0.3
baz=116
SCRK Sand Creek 90.19 336 IAmb IAmb 17 49 34.4
comp=Z,31nm,1.9s
SCRK Sand Creek 90.19 336 P P 17 48 00.3 +0.4
baz=113
F28M Old Crow 90.20 340 IAmb IAmb 17 48 37.2
comp=Z,32nm,1.9s
F28M Old Crow 90.20 340 P P 17 48 00.1 +0.4
baz=117
J26L Joseph Creek 90.23 336 IAmb IAmb 17 48 12.4
comp=Z,12nm,1.1s
J26L Joseph Creek 90.23 336 P P 17 48 00.5 +0.5
baz=114
EUNU Eureka 90.38 358 IAmb IAmb 17 48 03.3
comp=Z,27nm,1.6s
I26K Coal Creek Min 90.40 337 IAmb IAmb 17 48 17.9
comp=Z,37nm,1.9s
M24K Totona, Glenn 90.40 334 P P 17 48 01.9 +1.1
baz=111
PAX Paxson 90.42 334 P P 17 48 01.2 +0.3
baz=112
G27K Doyon Strip 90.47 339 P P 17 48 01.0 0.0
G27K pP 17 48 12.3 -0.9
G27K Doyon Strip 90.47 339 P P 17 48 01.6 +0.6
baz=115
E28M Babbage River 90.55 341 IAmb IAmb 17 48 16.9
comp=Z,16nm,1.6s
E28M Babbage River 90.55 341 P P 17 48 01.3 0.0
baz=117
D28M Stokes Point 90.63 341 P P 17 48 02.4 +0.8
baz=118
J25K Salcha River, 90.99 336 P P 17 48 04.2 +0.6
baz=112
SML Sawmill 91.25 333 P P 17 48 05.4 +0.6
baz=109
WAT6 Susitna Watana 91.25 334 P P 17 48 05.3 +0.4
baz=110
D27M Malcolm River 91.30 341 IAmb IAmb 17 48 30.1
comp=Z,8.9nm,0.8s
D27M Malcolm River 91.30 341 P P 17 48 05.8 +1.0
baz=116
KEST Kesra 91.37 54 P P 17 48 06.1 +0.1
KEST IAmb IAmb 17 48 10.4
comp=Z,11nm,0.8s
KEST Kesra 91.37 54 P P 17 48 06.8 +0.8
comp=Z,10nm,0.8s,baz=295,slow=1.1,SNR=8.5
KEST LR LR 18 27 08.1
comp=Z,112nm,21.6s,baz=208,slow=34
comp=Z,10nm,0.8s
PRP Porcupine Dome 91.39 337 IAmb IAmb 17 48 24.1
comp=Z,28nm,1.9s
PRP Porcupine Dome 91.39 337 P P 17 48 06.0 +0.5
baz=112
IL31 91.66 336 P P 17 48 05.9 -0.5
IL31 pP 17 48 15.8 -2.8
ILAR Eielson Array 91.66 336 P P 17 48 06.5 0.0
comp=Z,1.1nm,0.8s,baz=154,slow=3.0,SNR=13
ILAR PP PP 17 51 46.8 +1.3
comp=Z,0.8nm,0.8s,baz=116,slow=5.6,SNR=3.9
ILAR LR LR 18 34 29.6
comp=Z,110nm,18.6s,baz=84,slow=39
comp=Z,1.1nm,0.8s
FYU Fort Yukon 91.68 338 IAmb IAmb 17 48 08.5
comp=Z,25nm,1.4s
WAT1 Susitna Watana 91.69 334 P P 17 48 07.6 +0.8
baz=109
F26K Sheenjek River 91.72 339 P P 17 48 08.2 +1.4
baz=113
H25L Birch Creek 91.78 338 P P 17 48 08.4 +1.3
baz=112
CCB Clear Creek Bu 91.99 336 P P 17 48 07.8 -0.2
CCB IAmb IAmb 17 48 09.7
comp=Z,9.1nm,1.4s
POKR Poker Plat Res 92.00 336 P P 17 48 08.6 +0.5
baz=110
RND Reindeer 92.01 334 IAmb IAmb 17 48 10.4
comp=Z,16nm,1.2s
G25K Bearman Lake 92.07 338 P P 17 48 10.0 +1.7
baz=111
KDAK Kodiak Island 92.08 328 i P P 17 48 09.7 +1.1
KDAK pmax pmax
comp=Z,24nm,1.1s
COLA College 92.08 336 i P P 17 48 08.7 +0.3
COLA pmax pmax
comp=Z,7.0nm,1.0s
F25K Christian Rive 92.21 339 P P 17 48 10.9 +1.8
baz=112
JMIC Jan Mayen 92.21 18 LR LR 18 26 02.7
comp=Z,57nm,21.8s,baz=230,slow=33
MDM Murphy Dome 92.26 336 IAmb IAmb 17 48 10.4
comp=Z,11nm,1.0s
E25K Arctic Village 92.38 339 P P 17 48 11.3 +1.5
baz=112
H24K Nodor Dome 92.42 337 IAmb IAmb 17 48 12.8
comp=Z,30nm,1.9s
H24K Noodor Dome 92.42 337 P P 17 48 11.1 +1.0
baz=110
NEA2 Nenana 92.48 335 P P 17 48 09.8 -0.5
NEA2 IAmb IAmb 17 51 46.9
comp=Z,26nm,1.8s
NEA2 Nenana 92.48 335 P P 17 48 10.8 +0.5
baz=109
G24K Hadweenzic Riv 92.56 338 P P 17 48 11.8 +1.1
baz=110
DAG Danmarks Havn 92.68 11 i P P 17 48 11.6 +0.7
SKT Skwentna 92.75 333 IAmb IAmb 17 48 24.6
comp=Z,8.6nm,0.7s
SKT Skwentna 92.75 333 P P 17 48 12.0 +0.3
baz=107
I23K Minto, Yukon-K 92.78 336 IAmb IAmb 17 48 29.2
comp=Z,36nm,2.0s
I23K Minto, Yukon-K 92.78 336 P P 17 48 12.2 +0.6
baz=108
C26K Camden Bay 92.84 341 P P 17 48 13.7 +1.9
baz=112
N20K Mount Spurr 92.84 332 P P 17 48 12.4 +0.3
baz=106
F24K Squaw Lake 92.99 338 P P 17 48 14.4 +1.7
baz=110
D25K Kavik River 93.09 340 P P 17 48 14.3 +1.2
baz=111
BPAW Bear Paw Mtn. 93.13 335 IAmb IAmb 17 48 19.6
comp=Z,8.4nm,1.1s
BPAW Bear Paw Mtn. 93.13 335 P P 17 48 13.8 +0.4
baz=107
MLY Manley 93.30 336 P P 17 48 14.1 0.0
MLY pP pP 17 48 25.4 -1.0
MLY IAmb IAmb 17 48 56.0
comp=Z,21nm,2.0s
MLY Manley 93.30 336 P P 17 48 14.6 +0.4
baz=107
E24K Your Creek 93.39 339 P P 17 48 15.4 +0.9
baz=109
CAST Castle Rocks 93.40 334 IAmb IAmb 17 48 23.9
comp=Z,11nm,1.2s
CAST Castle Rocks 93.40 334 P P 17 48 14.4 -0.2
baz=106
G23K Bananza Creek 93.52 337 P P 17 48 16.5 +1.3
baz=108
DAVOX Davos/Dischmat 93.91 43 LR LR 18 27 46.4
comp=Z,153nm,20.5s,baz=262,slow=34
BOSA Boshof 93.99 120 P P 17 48 18.1 -0.3
comp=Z,3.3nm,0.9s,baz=116,slow=8.3,SNR=3.7
BOSA LR LR 18 28 26.8
comp=Z,226nm,18.9s,baz=235,slow=34
comp=Z,3.3nm,0.9s
C24K Franklin Bluff 94.00 340 P P 17 48 17.8 +0.6
baz=109
DAVA Damuels 94.00 43 ePcP PcP 17 48 19.1 +0.7
comp=Z,16nm,1.6s
FETA Feichten 94.53 43 ePcP PcP 17 48 21.6 +0.9
comp=Z,6.7nm,1.4s
C23K Itkillik River 94.67 340 P P 17 48 21.3 +1.0
baz=107
MOTA Moosalm 94.83 43 ePcP PcP 17 48 22.7 +0.6
comp=Z,4.6nm,0.8s
SQTA Sankt Quirin 94.88 43 ePcP PcP 17 48 23.1 +0.9
comp=Z,6.4nm,0.7s
CTI Castel Tesino 94.98 44 P P 17 48 22.2 -0.2
CTI IAmb IAmb 17 48 24.5
comp=Z,19nm,1.3s
CTI Castel Tesino 94.98 44 P P 17 48 22.2 -0.2
CTI pmax pmax
comp=Z,19nm,1.3s
LBTB Lobatse 95.14 116 LR LR 18 28 31.4
comp=Z,136nm,20.4s,baz=251,slow=34
WTTA Wattenberg 95.18 43 ePcP PcP 17 48 24.7 +1.1
comp=Z,13nm,1.3s
ABTA Abfaltersbach 95.69 44 ePcP PcP 17 48 26.5 +0.7
comp=Z,18nm,1.3s
VAE Valguarnera 95.69 53 LR LR 18 31 16.3
comp=Z,161nm,18.9s,baz=314,slow=35
B22K Teshekpuk Lake 95.73 341 IAmb IAmb 17 48 37.2
comp=Z,9.3nm,1.0s
B22K Teshekpuk Lake 95.73 341 P P 17 48 25.7 +0.6
baz=104
H19K Roundabout Mou 95.75 336 P P 17 48 26.4 +1.1
baz=102
LESA Schwarzleotal 95.90 43 ePcP PcP 17 48 27.4 +0.7
comp=Z,5.1nm,1.1s
B21K Ikpikpuk River 95.96 340 IAmb IAmb 17 51 04.8
comp=Z,31nm,2.0s
B21K Ikpikpuk River 95.96 340 P P 17 48 26.7 +0.5
baz=103
KONO Kongsberg 96.05 31 i P P 17 48 28.2 +1.4
KONO pmax pmax
comp=Z,6.0nm,1.1s
KBA Koelnbreinsper 96.30 43 ePcP PcP 17 48 29.4 +0.8
comp=Z,2.5nm,0.6s
PRED Cave del Predi 96.36 44 P P 17 48 28.7 +0.1
PRED IAmb IAmb 17 48 31.0
comp=Z,15nm,1.4s
MYKA Terra Mystica 96.44 44 ePcP PcP 17 48 30.1 +1.0
comp=Z,2.5nm,0.5s
BIOA Bad Ischl, Aus 96.58 43 ePcP PcP 17 48 30.3 +0.7
comp=Z,2.1nm,0.5s
MAW Mawson 96.67 165 LR LR 18 29 57.4
comp=Z,214nm,21.5s,baz=243,slow=34
G18K Tagagawik 96.71 336 P P 17 48 30.7 +0.9
baz=100
KHC Kasperske Hory 96.74 41 ceP P 17 48 30.6 +0.3
KHC pmax pmax
comp=Z,4.0nm,1.0s
GERES GERESS Array B 96.78 42 P P 17 48 31.6 +1.1
comp=Z,1.4nm,0.7s,baz=172,slow=11,SNR=4.5
comp=Z,1.4nm,0.7s
OBKA Obir 97.04 44 eP P 17 48 32.0 +0.2
comp=Z,3.6nm,0.8s
NB2 NORSAR Subarra 97.06 29 P Pdif 17 48 32.9 +1.4
comp=Z,2.6nm,1.0s,baz=261,slow=4.6
NB2 NORSAR Subarra 97.06 29 P Pdif 17 48 32.9 +1.4
baz=261,slow=4.6
NOA NORSAR Array B 97.06 29 P Pdif 17 48 32.3 +0.8
comp=Z,1.2nm,0.7s,baz=258,slow=4.6,SNR=7.0
NOA LR LR 18 30 52.3
comp=Z,112nm,19.2s,baz=270,slow=34
comp=Z,1.2nm,0.7s
CKRC Cesky Krumlov 97.18 42 AMS AMS 18 30 10.0
comp=Z,300nm,23.9s
URZ Urewera 97.41 229 LR LR 18 24 19.5
comp=Z,108nm,19.4s,baz=130,slow=30
TREC Trest 98.00 41 AMS AMS 18 30 30.0
comp=Z,200nm,24.3s
CONA Conrad Observa 98.10 43 eP P 17 48 36.5 0.0
comp=Z,7.0nm,1.3s
HFS Hagfors 98.16 30 LR LR 18 28 42.9
comp=Z,136nm,21.8s,baz=260,slow=33
VRAC Vranov 98.72 41 LR LR 18 31 36.2
comp=Z,88nm,19.5s,baz=259,slow=34
ZST Bratislava 98.95 43 eP Pdif 17 48 43.3 +3.1
ZST Bratislava 98.95 43 ePDIFF Pdif 17 48 43.3 +3.1
MODS Modra-Piesok 99.09 42 eP Pdif 17 48 42.9 +2.1
MODS Modra-Piesok 99.09 42 ePDIFF Pdif 17 48 42.9 +2.1
LSZ Lusaka 99.80 108 LR LR 18 31 17.3
comp=Z,325nm,20.1s,baz=297,slow=34
FINES FINESS Array B 104.25 29 PP PP 17 53 21.6 -0.3
comp=Z,8.3nm,1.1s,baz=272,slow=25,SNR=3.7
MNK Minsk 105.77 36 i P Pdif 17 49 12.5 +2.2
MNK i 17 53 35.5
MNK i PPP PPP 17 55 49.5
MNK i 18 00 33.7
MNK i SS SS 18 08 33.2 +3.7
MNK i SSS SSS 18 12 32.8
MNK pmax pmax
comp=Z,6.0nm,0.8s
MNK pmax pmax
comp=N,16nm,0.9s
MNK pmax pmax
comp=E,4.0nm,0.8s
MNK MLR MLR
comp=Z,167nm,22.0s
MNK MLR MLR
comp=N,595nm,20.0s
MNK MLR MLR
comp=E,285nm,19.0s
APA Apatity 106.42 22 i P Pdif 17 49 15.3 +2.4
APA pmax pmax
comp=Z,1.0nm,1.2s
APA MLR MLR
comp=Z,400nm,20.0s
AKASG Malin Array Be 106.88 40 PP PP 17 53 37.8 -3.9
comp=Z,1.4nm,0.7s,baz=274,slow=6.0,SNR=7.5
OBN Obninsk 110.65 35 i PKIKP PKiKP 17 53 32.1 +0.1
OBN e 17 54 07.8
OBN e 18 00 09.4
OBN pmax pmax
comp=Z,4.0nm,0.5s
OBN MLR MLR
comp=Z,148nm,19.0s
BRTR Keskin Array B 110.81 51 PP PP 17 54 05.0 -5.8
comp=Z,1.3nm,0.9s,baz=227,slow=3.4,SNR=4.6
KIV Kislovodsk 116.91 46 i PKIKP PKiKP 17 53 45.3 +0.7
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR
comp=Z,22nm,22.0s
TIXI Tiksi 116.94 352 i PKIKP PKPdf 17 53 41.2 -2.5
TIXI pmax pmax

	comp=Z,2.0nm,1.1s									
KBZ	**Khabaz**		**117.11**	**46**	*i* PKIKP	**PKPdf**	17 53 42.2	**-2.6**		
KBZ					pmax	pmax				
	comp=Z,2.0nm,1.0s									
ARU	**Arti**		**121.60**	**28**	*i* PKIKP	**PKPdf**	17 53 53.0	**0.0**		
ARU					pmax	pmax				
	comp=Z,2.0nm,1.1s									
STKA	**Stephens Creek**		**125.40**	**218**	PKP	**PKPdf**	17 54 01.1	**-0.1**		
	comp=Z,0.8nm,0.5s,baz=117,slow=7.1,SNR=3.1									
ABKAR	**Akbulak array**		**126.10**	**35**	PKPdf	**PKiKP**	17 54 03.1	**+0.8**		
BRVK	**Borovoye**		**129.01**	**26***c*	*i* PKIKP	**PKPdf**	17 54 08.3	**+1.0**		
BRVK					pmax	pmax				
	comp=Z,3.0nm,1.7s									
BVAR	**Borovoye Array**		**129.08**	**26**	PKP	**PKPdf**	17 54 06.8	**-0.7**		
	comp=Z,1.8nm,0.8s,baz=318,slow=1.9,SNR=7.9									
ZALV	**Zalesovo Beam**		**133.54**	**16**	PKP	**PKPdf**	17 54 16.4	**+0.5**		
	comp=Z,3.2nm,0.6s,baz=281,slow=1.6,SNR=15									
KURK	**Kurchatov**		**134.20**	**23**		**PKPdf**	17 54 18.2	**+0.9**		
KURK	**Kurchatov**		**134.20**	**23***c*	*i* PKIKP	**PKiKP**	17 54 18.8	**+0.2**		
KURK					pmax	pmax				
	comp=Z,8.0nm,2.5s									
KURBB	**Kurchatov Arra**		**134.24**	**23**	PKP	**PKPdf**	17 54 17.9	**+0.6**		
	comp=Z,1.4nm,0.7s,baz=310,slow=2.6,SNR=14									
KLR	**Kul'dur**		**135.23**	**335***c*	*i* PKIKP	**PKiKP**	17 54 20.6	**-0.1**		
KLR					pmax	pmax				
	comp=Z,9.0nm,1.7s									
ASAR	**Alice Springs**		**136.00**	**220**		**PKPdf**	17 54 20.8	**-0.8**		
ASAR	**Alice Springs**		**136.00**	**220**	PKP	**PKPdf**	17 54 21.2	**-0.3**		
	comp=Z,2.0nm,0.8s,baz=120,slow=2.1,SNR=20									
ASAR					SKPbc	**SKPbc**	17 57 51.3	**+0.8**		
	comp=Z,0.8nm,0.7s,baz=128,slow=3.4,SNR=4.1									
HEH	**HeiHe**		**136.05**	**339**	*e*PKP	**PKPdf**	17 54 19.5	**-1.2**		
AAK	**Ala-Archa**		**138.17**	**34***c*	*i* PKIKP	**PKPdf**	17 54 26.0	**+0.9**		
AAK					pmax	pmax				
	comp=Z,3.0nm,1.3s									
WRA	**Warramunga Arr**		**138.35**	**224**	PKP	**PKPdf**	17 54 25.9	**0.0**		
	comp=Z,2.9nm,0.6s,baz=131,slow=1.9,SNR=13									
WRA					SKPbc	**SKPbc**	17 57 57.6	**+0.2**		
	comp=Z,0.8nm,0.7s,baz=128,slow=2.7,SNR=2.8									
MK31	**Makanchi Array**		**138.80**	**24***c*	*i* PKIKP	**PKPdf**	17 54 27.4	**+1.4**		
MKAR	**Makanchi Array**		**138.80**	**24**	PKP	**PKPdf**	17 54 26.4	**+0.4**		
	comp=Z,1.1nm,0.8s,baz=327,slow=1.8,SNR=7.6									
MJAR	**Matsushiro Arr**		**140.19**	**316**	PKP	**PKPdf**	17 54 28.5	**-0.3**		
	comp=Z,0.3nm,0.4s,baz=175,slow=4.4,SNR=0.9									
KSH	**Kashi**		**141.06**	**37**	PKP	**PKPdf**	17 54 27.4	**-3.0**		
CN2	**Changchun**		**142.18**	**336**	*e*PKP	**PKPdf**	17 54 32.5	**+0.4**		
SONM	**Songino Array**		**142.54**	**358**	PKhKP	PKPpre	17 54 28.2			
	comp=Z,1.6nm,0.6s,baz=338,slow=3.5,SNR=6.6									
WMQ	**Urumqi**		**143.35**	**21**	*e*PKP	PKPbc	17 54 32.3	+0.9		
JHS	**Saijyo**		**144.47**	**318**		**PKPab**	17 54 33.4	**-1.4**		
XLT	**XiLinHaoTe**		**145.14**	**346**	*e*PKPbc	**PKPbc**	17 54 37.0	**0.0**		
MBWA	**Marble Bar**		**145.58**	**205**	PKPdf	**PKPdf**	17 54 37.1	**-1.6**		
KSRS	**Korea Array**		**145.96**	**326**	PKPbc	**PKPdf**	17 54 39.0	**+0.2**		
	comp=Z,5.1nm,0.9s,baz=33,slow=2.6,SNR=17									
KSAR	**Wonju Array Be**		**145.99**	**326**	PKPdf	**PKPdf**	17 54 38.1	**-0.8**		
KSAR	**Wonju Array Be**		**145.99**	**326**	PKIKP	**PKPdf**	17 54 38.1	**-0.8**		
TJN	**Taejon**		**147.05**	**326***c*	*i* PKP2	**PKPdf**	17 54 42.2	**+1.4**		
BJI	**Beijing**		**148.73**	**343**	PKPbc	**PKPbc**	17 54 47.3	**+0.1**		
HHC	**Hu-ho-hao-te**		**149.00**	**350**	*e*PKPbc	**PKPdf**	17 54 46.5	**+2.5**		
BTO	**Baotou**		**149.46**	**352**	*e*PKPbc	**PKPbc**	17 54 49.3	**+0.1**		
BTO					PP	PP	17 58 28.8	+8.3		
GTA	**Gaotai**		**150.61**	**8**	PKPbc	**PKPbc**	17 54 52.8	**+0.7**		
GTA					PKPab	**sPKPbc**	17 55 07.3	**-1.6**		
GTA					LR	LR				
	comp=Z,74nm,18.9s									
GTA					LR	LR				
	comp=Z,74nm,20.0s									
GTA					LR	LR				
	comp=Z,140nm,19.3s									
HNS	**HongShan**		**151.61**	**344**	⇑PKPbc	**PKPbc**	17 54 54.8	**+0.6**		
HNS					LR	LR				
	comp=Z,100nm,17.5s									
HNS					LR	LR				
	comp=Z,160nm,24.5s									
GOMU	**GeErMu**		**152.58**	**18**	PKPbc	**PKPdf**	17 54 51.9	**+1.9**		
GOMU					AMB	AMB				
	comp=Z,47nm,5.3s									
LZH	**Lanzhou**		**154.28**	**2**	*e*PKPbc	**PKPdf**	17 54 55.4	**+3.2**		
NJ2	**Nanjing**		**154.82**	**331**	*e*PKPbc	**PKPdf**	17 54 51.9	**-0.9**		
XAN	**Xi'an**		**156.07**	**352**	PKP	**PKPdf**	17 54 52.5	**-2.0**		
XAN					pPKP	pPKPdf	17 55 04.0	-3.1		
CD2	**Chengdu**		**159.43**	**3**	PKP	**PKPdf**	17 54 57.3	**-1.5**		
PZH	**PanZhiHua**		**163.56**	**10**	PKP	**PKPdf**	17 55 03.8	**+0.5**		
CMAR	**Chiang Mai Arr**		**169.96**	**35**	PKP	**PKPdf**	17 55 08.0	**-0.2**		
	comp=Z,0.7nm,0.8s,baz=262,slow=1.3,SNR=6.1									
CMAR					PKPab	**PKPab**	17 56 24.3	**+1.3**		
	comp=Z,1.0nm,0.7s,baz=323,slow=6.6,SNR=7.1									
CMAR					PP	**PP**	18 00 13.0	**+0.9**		
	comp=Z,0.8nm,0.8s,baz=324,slow=4.7,SNR=4.5									

*IDC **13** 17:50:44.2±1.8,8°.65S×75°.42W, h151km±20km, mb3.4/4, mbtmp3.9/7, Error ellipse: s-maj=27.3km s-min=11.1km az=68.0*

ISC 13 17:50:43.9±0.8, 8°.64S±0°.08×75°.4W±0°.1, h150km, n9, σ0§68/11, mb3.6/4, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.31**	**297**	P		**Pn**	**17 51 35.5**	**-0.2**
	15nm,0.3s,baz=96,slow=4.0,SNR=68							
ATAH				S		**Sn**	**17 52 16.7**	**+0.9**
	123nm,0.6s,baz=36,slow=22,SNR=7.5							
NNA	**Nana**	**3.62**	**203**	P		**Pn**	**17 51 39.2**	**-0.1**
	42nm,0.3s,baz=338,slow=4.6,SNR=30							
NNA				S		**Sn**	**17 52 22.8**	**+0.5**
	123nm,0.3s,baz=156,slow=20,SNR=16							
LPAZ	**La Paz**	**10.40**	**138**	P		**Pn**	**17 53 09.7**	**-0.3**
	6.7nm,1.1s,baz=315,slow=10.0,SNR=2.0							
TXAR	**Lajitas Array**	**46.55**	**325**	P		**P**	**17 58 55.9**	**-0.8**
	0.1nm,0.4s,baz=146,slow=9.8,SNR=1.6							
	0.1nm,0.4s							
DBIC	**Dimbokro**	**71.95**	**80**	P		**P**	**18 01 52.0**	**+0.3**
	2.5nm,0.6s,baz=253,slow=7.1,SNR=5.0							
	2.5nm,0.6s							
TORD	**Torodi Ar. Bea**	**79.55**	**75**	P		**P**	**18 02 35.8**	**+0.9**
	0.5nm,0.5s,baz=263,slow=5.6,SNR=5.1							
	0.5nm,0.5s							
QSPA	**South Pole Qui**	**81.48**	**180**	P		**P**	**18 02 44.3**	**-0.1**
	0.7nm,0.6s,baz=66,slow=1.3,SNR=9.0							
	0.7nm,0.6s							
ASAR	**Alice Springs**	**136.97**	**221**	PKP		**PKPdf**	**18 09 50.2**	**+0.3**
	0.2nm,0.4s,baz=128,slow=1.8,SNR=5.6							
WRA	**Warramunga Arr**	**139.21**	**226**	PKP		**PKiKP**	**18 09 55.5**	**-0.9**
	1.4nm,1.0s,baz=124,slow=2.0,SNR=4.7							

*UPP **13** 18:00:39.1±0.1, 67°.07N×20°.94E, h0km, ML2.3, Suspected explosion*
*IDC **13** 18:00:39.9±0.9, 67°.03N×21°.15E, h0km, mbtmp3.1/4, ML1.8/3, Error ellipse: s-maj=15.2km s-min=7.8km az=113.0*

ISC 13 18:00:38.8±1.5, 67°.04N±0°.05×20°.92E±0°.04, h2km±12km, n15, σ0§99/19, Sweden

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.16**	**300**	P		**Pg**	**18 00 42.3**	**+0.5**
DUNU				S		**Sg**	**18 00 44.9**	**+1.0**
MASU	**Masugnsbyn**	**0.59**	**45**	P		**Pg**	**18 00 50.1**	**0.0**
PAJU	**Pajala**	**0.86**	**90**	P		**Pg**	**18 00 54.9**	**-0.4**
RATU	**Laukkuluspa**	**0.94**	**328**	P		**Pg**	**18 00 56.1**	**-0.6**
KUA	**Kurravaara**	**0.94**	**347**	P		**Pg**	**18 00 56.1**	**-0.7**
SALU	**Saltoluokta**	**1.00**	**291**	P		**Pg**	**18 00 57.6**	**-0.2**
LANU	**Lannavaara**	**1.09**	**22**	P		**Pg**	**18 00 58.7**	**-1.0**
KOVU	**Salmi**	**1.22**	**347**	P		**Pg**	**18 01 01.4**	**-0.8**
HEF	**Hetta**	**1.72**	**36**	*e*P		**Pn**	**18 01 09.7**	**0.0**
KIF	**Kilpisjarvi**	**1.97**	**359**	*e*P		**Pb**	**18 01 14.6**	**-0.7**
I37NO	**I37NO**	**2.22**	**338**	I		I	18 16 20.0	
	0.1nm,0.6s,baz=152,slow=327,SNR=3.1							
ARCES	**ARCESS Array B**	**3.03**	**32**	Pn		**Pn**	**18 01 28.4**	**+0.8**
	0.2nm,0.3s,baz=218,slow=14,SNR=27							
ARCES				Sn		**Sn**	**18 02 06.7**	**+2.3**
	0.6nm,0.3s,baz=212,slow=24,SNR=13							
	1.3nm,0.2s							
FINES	**FINESS Array B**	**6.05**	**156**	Pn		**Pn**	**18 02 10.0**	**+0.9**
	0.1nm,0.3s,baz=341,slow=15,SNR=8.6							
FINES				Sn		**Sn**	**18 03 19.0**	**+0.1**
	0.2nm,0.3s,baz=359,slow=23,SNR=7.3							
FINES				Lg		Lg	18 03 49.7	
	0.2nm,0.3s,baz=342,slow=29,SNR=1.7							
	2.1nm,0.9s							
NOA	**NORSAR Array B**	**7.37**	**220**	Pn		**Pn**	**18 02 27.4**	**+0.2**
	baz=27,slow=11,SNR=4.7							
NOA				Sn		**Sn**	**18 03 50.2**	**-1.1**
	baz=41,slow=20,SNR=1.0							
	1.5nm,1.2s							
HFS	**Hagfors**	**7.64**	**208**	Pn		**Pn**	**18 02 31.3**	**+0.4**
	1.3nm,0.8s,baz=20,slow=11,SNR=1.6							
HFS				Sn		**Sn**	**18 03 56.4**	**-1.5**
	0.1nm,0.3s,baz=23,slow=27,SNR=1.5							

*NAO **13** 18:03:20.0±5.4, 71°.76N×1°.41W, ML3.0*
*IDC **13** 18:03:21.6±2.6, 71°.64N×0°.80W, h0km, mb3.5/2, mbtmp3.7/7, ML2.7/4, MS3.3/7, Error ellipse: s-maj=41.7km s-min=26.2km az=100.0*
*BER **13** 18:03:21.4±2.1, 71°.75N×2°.13W, h10km, mb(Pn)4.3, ML3.0(NAO), Confirmed Earthquake*
*DNK **13** 18:03:30.0±0.4, 72°.15N×3°.71W, h34km±150km, ML1.5*

ISC 13 18:03:19.3±1.0, 71°.82N±0°.10×2°.1W±0°.1, h10km, n42, σ1§28/39, MS3.8/3, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DBG	**Daneborg**	**5.84**	**304**	*e*P		**Pn**	**18 04 45.4**	**-0.3**
DBG	**Daneborg**	**5.84**	**304**	*i* P		**Pn**	**18 04 44.9**	**-0.9**
LOF	**Lofoten**	**6.51**	**117**	Pn		**Pn**	**18 04 55.0**	**+0.1**
LOF				Sn		Sn	18 06 00.9	-8.2
LOF	**Lofoten**	**6.51**	**117**	*e*P		**Pn**	**18 04 54.2**	**-0.7**
LOF				*e*S		Sn	18 05 58.7	-10
LOF				IAML			18 06 04.6	
	comp=Z,5.1nm,0.8s							
BJO1	**Bjornoya**	**6.67**	**56**	*e*P		**Pn**	**18 04 57.5**	**+0.4**
DAG	**Danmarks Havn**	**6.67**	**326**	*e*P		**Pn**	**18 04 56.7**	**-0.4**
DAG				*e*S		Sn	18 06 03.3	-10
DAG	**Danmarks Havn**	**6.67**	**326**	*e*		**Pn**	**18 04 55.2**	**-1.9**
	baz=131,slow=18							
DAG				*i* P		**Pn**	**18 04 56.9**	**-0.2**
DAG				*e*S		Sn	18 06 01.0	-12
DAG				IAML			18 06 08.0	
	comp=Z,1.7nm,0.3s							
HSPB	**Hornsund (broa**	**7.01**	**34**	Pn		**Pn**	**18 05 02.2**	**+0.5**
HSPB	**Hornsund (broa**	**7.01**	**34**	*e*P		**Pn**	**18 05 02.2**	**+0.5**
STEI	**Steigen**	**7.12**	**115**	Pn		**Pn**	**18 05 02.0**	**-1.3**
STEI				Sn		Sn	18 06 15.8	-8.4
STEI	**Steigen**	**7.12**	**115**	*e*P		**Pn**	**18 05 01.9**	**-1.4**
STEI				*e*S		Sn	18 06 13.8	-10
STEI				IAML			18 06 17.1	
	comp=Z,4.2nm,0.7s							
TRO	**Tromso**	**7.28**	**97**	*e*P		**Pn**	**18 05 03.5**	**-2.0**
TRO				IAML			18 06 23.6	
	comp=Z,3.2nm,0.6s							
FAUS	**Fauske**	**7.51**	**118**	*e*P		**Pn**	**18 05 07.3**	**-1.3**
FAUS				*e*S		Sn	18 06 23.7	-10
FAUS				IAML			18 06 33.9	
	comp=Z,3.3nm,0.5s							
BRBA	**Barentsburg A**	**7.53**	**27**	*e*P		**Pn**	**18 05 09.5**	**+0.6**
BRBB	**Barentsburg B**	**7.56**	**26**	*e*P		**Pn**	**18 05 10.3**	**+1.1**
KONS	**Konsvik**	**7.59**	**127**	*e*P		**Pn**	**18 05 08.1**	**-1.7**
KONS				*e*S		Sn	18 06 24.9	-11
KONS				IAML			18 06 28.6	
	comp=Z,5.2nm,0.6s							
STOK	**Stokkvaagen**	**7.70**	**128**	Pn		**Pn**	**18 05 10.2**	**-1.0**
STOK				Sn		Sn	18 06 27.8	-11
STOK	**Stokkvaagen**	**7.70**	**128**	*e*P		**Pn**	**18 05 09.4**	**-1.8**
STOK				*e*S		Sn	18 06 27.9	-10
STOK				IAML			18 06 31.5	
	comp=Z,3.1nm,0.7s							
JETT	**Jettan, Norway**	**7.78**	**96**	*e*P		**Pn**	**18 05 10.5**	**-1.9**
SPA0	**Spitsbergen Ar**	**7.93**	**28**	Pn		**Pn**	**18 05 16.0**	**+1.6**
	baz=215,slow=14							
SPA0	**Spitsbergen Ar**	**7.93**	**28**	Pn		**Pn**	**18 05 16.0**	**+1.6**
	baz=215,slow=14							
SPITS	**Spitsbergen Ar**	**7.93**	**28**	Pn		**Pn**	**18 05 15.8**	**+1.4**
	comp=Z,1.0nm,0.3s,baz=204,slow=16,SNR=33							
KIF	**Kilpisjarvi**	**8.17**	**99**	*e*P		**Pn**	**18 05 16.2**	**-1.4**
MOR8	**Moi Rana**	**8.18**	**126**	*e*P		**Pn**	**18 05 17.2**	**-0.7**
MOR8				*e*S		Sn	18 06 41.7	-8.6
MOR8				IAML			18 06 48.1	
	comp=Z,4.2nm,0.6s							
KTK1	**Kautokeino**	**8.92**	**96**	*e*P		**Pn**	**18 05 26.4**	**-1.6**
NSS	**Namsos**	**8.97**	**138**	*e*P		**Pn**	**18 05 28.3**	**-0.3**
ARA0	**ARCESS Array S**	**9.38**	**91**	Pn		**Pn**	**18 05 33.1**	**-1.2**
	baz=297,slow=12							
ARA0	**ARCESS Array S**	**9.38**	**91**	Pn		**Pn**	**18 05 33.1**	**-1.2**
	baz=297,slow=12							
ARCES	**ARCESS Array B**	**9.38**	**91**	Pn		**Pn**	**18 05 32.4**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=299,slow=12,SNR=4.7							
	comp=Z,4.6nm,0.9s							
BORG	**Borgarnes**	**10.00**	**234**	LR		LR	18 09 03.0	
	comp=Z,22nm,19.1s,baz=334,slow=33							
AKN	**Aaknes**	**10.30**	**155**	Pn		**Pn**	**18 05 46.7**	**-0.2**
AKN				Sn		Sn	18 07 31.1	-11
AKN	**Aaknes**	**10.30**	**155**	Pn		**Pn**	**18 05 46.7**	**-0.2**
AKN				Sn		Sn	18 07 31.1	-11
NOA	**NORSAR Array B**	**12.02**	**147**	Pn		**Pn**	**18 06 09.6**	**-0.8**
	baz=343,slow=14,SNR=3.5							
NOA				LR		LR	18 10 33.8	
	comp=Z,113nm,19.9s,baz=335,slow=37							
	comp=Z,1.1nm,0.8s							
HFS	**Hagfors**	**13.31**	**144**	Pn		**Pn**	**18 06 27.1**	**-0.8**
	baz=342,slow=12							
HFS	**Hagfors**	**13.31**	**144**	Pn		**Pn**	**18 06 27.1**	**-0.8**
	baz=342,slow=12							
HFS	**Hagfors**	**13.31**	**144**	Pn		**Pn**	**18 06 27.4**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=345,slow=11,SNR=14							
HFS				LR		LR	18 11 23.1	
	comp=Z,121nm,18.5s,baz=342,slow=37							
	comp=Z,5.5nm,0.7s							
FINES	**FINESS Array B**	**15.07**	**119**	Pn		**Pn**	**18 06 49.8**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=316,slow=14,SNR=4.4							
FINES				LR		LR	18 12 12.0	
	comp=Z,95nm,18.2s,baz=22,slow=36							
	comp=Z,2.3nm,0.9s							
AKASG	**Malin Array Be**	**25.41**	**130**	P		**P**	**18 08 46.1**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=335,slow=9.6,SNR=3.2							
	comp=Z,0.6nm,0.6s							
BELG	**Belogornoye**	**29.00**	**105**	LR		LR	18 20 20.9	
	comp=Z,55nm,18.5s,baz=187,slow=36							
TORD	**Torodi Ar. Bea**	**58.69**	**176**	P		**P**	**18 13 19.1**	**+2.4**
	comp=Z,0.5nm,0.7s,baz=3.0,slow=9.0,SNR=2.9							
	comp=Z,0.5nm,0.7s							
PFO	**Pinyon Flats O**	**65.47**	**303**	LR		LR	18 44 50.7	
	comp=Z,58nm,18.4s,baz=76,slow=38							
MJAR	**Matsushiro Arr**	**68.39**	**34**	LR		LR	18 45 29.9	
	comp=Z,60nm,21.7s,baz=64,slow=37							

*DSN **13** 18:21:54.4±1.7, 27°.94N×55°.95E, h15km, ML2.8/7, Error ellipse: s-maj=60.0km s-min=15.9km az=84.0*
*TEH **13** 18:21:57.0, 27°.59N×56°.75E, h20km±62km, ML3.1*
*OMAN **13** 18:22:00.8±0.4, 27°.43N×57°.06E, h13km±17km, mb4.2/2, ml3.0/15, Error ellipse: s-maj=33.8km s-min=4.2km az=3.0*

ISC 13 18:21:57.1±1.2, 27°.58N±0°.04×56°.79E±0°.04, h12km±10km, n41, σ1§21/54, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.26**	**239**	Pg		**Pg**	**18 22 02.4**	**0.0**
IBND				Sg		**Sb**	**18 22 08.3**	**+0.3**
GENO	**Geno**	**0.57**	**252**	Pg		**Pg**	**18 22 07.9**	**-0.5**
KHNJ	**Kahnooj**	**0.89**	**66**	Pg		**Pg**	**18 22 14.3**	**-0.1**
SHME	**Shamm**	**1.63**	**201**	P		**Pn**	**18 22 26.1**	**+0.5**
SHME	**Shamm**	**1.63**	**201**	P		**Pg**	**18 22 27.8**	**-0.6**
	SNR=13							
SHME				S		**Sg**	**18 22 50.7**	**+1.2**
BANOM	**Banah**	**1.71**	**195**	P		**Pb**	**18 22 28.5**	**+0.1**
BANOM	**Banah**	**1.71**	**195**	P		**Pg**	**18 22 30.3**	**+0.5**
BANOM				S		**Sg**	**18 22 51.4**	**-0.6**
JASK	**Jask - Hormozg**	**1.96**	**150**	Pn		**Pn**	**18 22 31.1**	**+1.0**
JASK	**Jask - Hormozg**	**1.96**	**150**	P		**Pn**	**18 22 31.3**	**+1.1**
	SNR=8.2							
NGRK	**Negar Kerman**	**2.06**	**359**	Pn		**Pn**	**18 22 32.2**	**+0.4**
KBAM	**BAM**	**2.13**	**43**	Pn		**Pn**	**18 22 33.7**	**+1.1**
MASF	**Masafi**	**2.27**	**194**	P		**Pb**	**18 22 36.8**	**-1.3**
MSFE	**Esma-Masafi**	**2.28**	**194**	P		**Pn**	**18 22 36.5**	**+1.9**
MSFE				S		**Sb**	**18 23 07.8**	**+1.3**
MDH	**Madha**	**2.31**	**191**	P		**Pn**	**18 22 35.2**	**+0.2**
MDH	**Madha**	**2.31**	**191**	P		**Pn**	**18 22 36.1**	**+1.0**
MDH				S		**Sn**	**18 23 04.5**	**+1.1**
CHMN	**Cheshme madani**	**2.37**	**16**	Pn		**Pn**	**18 22 36.9**	**+0.8**
TVBK	**TV Kerman**	**2.40**	**359**	Pn		**Pn**	**18 22 37.1**	**+0.6**
UOSS	**Minazif**	**2.68**	**191**	P		**Pn**	**18 22 41.1**	**+1.1**
KHGB	**Koh Gabri**	**2.80**	**355**	Pn		**Pn**	**18 22 42.5**	**+0.6**
HATD	**Hatta, Dubai**	**2.81**	**192**	P		**Pn**	**18 22 44.5**	**+2.7**
HATD	**Hatta, Dubai**	**2.81**	**192**	P		**Pb**	**18 22 46.2**	**-1.0**
HATD				S		**Sb**	**18 23 19.1**	**-2.4**
ASHO	**Ashiyiah**	**2.96**	**193**	P		**Pn**	**18 22 44.9**	**+1.0**
ASHO	**Ashiyiah**	**2.96**	**193**	P		**Pn**	**18 22 45.7**	**+1.8**
FAQ	**Al Faqa, Dubai**	**3.02**	**201**	P		**Pn**	**18 22 43.9**	**-0.9**
FAQ	**Al Faqa, Dubai**	**3.02**	**201**	P		**Pn**	**18 22 46.0**	**+1.2**
	SNR=14							
FAQ				S		**Sn**	**18 23 23.5**	**+2.6**
SOHO	**SOHO**	**3.44**	**184**	P		**Pn**	**18 22 50.8**	**+0.3**
BIDO	**Bidbid**	**4.22**	**163**	P		**Pn**	**18 23 01.4**	**+0.2**
BIDO				S		**Sn**	**18 23 50.7**	**+0.3**
ARQ	**Araqi**	**4.23**	**183**	P		**Pn**	**18 23 03.1**	**+1.7**
	SNR=6.2							
IMEH	**Mehriz**	**4.24**	**334**	Pn		**Pn**	**18 23 01.8**	**+0.1**
NGCH	**Negor - Chabah**	**4.48**	**119**	P		**Pn**	**18 23 07.0**	**+2.1**
WSAR	**Wadi Sarin**	**4.63**	**159**	P		**Pn**	**18 23 07.7**	**+0.8**
	SNR=45							
WSAR				S		**Sn**	**18 23 59.6**	**-1.1**
SMDO	**Samad**	**4.64**	**165**	P		**Pn**	**18 23 08.2**	**+1.0**
SMDO				S		**Sn**	**18 24 01.1**	**0.0**
BSY	**Bisya**	**4.83**	**175**	P		**Pn**	**18 23 11.1**	**+1.5**
UMZA	**Um Al Zommool**	**5.07**	**197**	P		**Pn**	**18 23 13.1**	**+0.3**
IKOO	**Kooshah**	**5.20**	**21**	Pn		**Pn**	**18 23 16.1**	**+1.2**
WBK	**Wadi Bani Khal**	**5.33**	**158**	Pn		**Pn**	**18 23 17.2**	**+0.7**
WBK	**Wadi Bani Khal**	**5.33**	**158**	P		**Pn**	**18 23 17.5**	**+1.0**
	SNR=6.8							
WBK				S		**Sn**	**18 24 17.0**	**-0.9**
KLNJ	**Kolanjah**	**5.68**	**308**	Pn		**Pn**	**18 23 21.5**	**-0.1**
IRAM	**Ramesheh**	**5.70**	**319**	Pn		**Pn**	**18 23 21.8**	**0.0**
JLN	**Jalan Bani Buh**	**5.91**	**156**	P		**Pn**	**18 23 25.1**	**+0.6**
JLN				S		**Sn**	**18 24 30.0**	**-2.1**
MHTO	**MHTO**	**6.65**	**170**	P		**Pn**	**18 23 35.6**	**+0.9**
	SNR=7.8							
MHTO				S		**Sn**	**18 24 48.1**	**-2.3**

IDC 13 18:42:42.2±722.0, 52°.96N×33°.88E, h0km, Error ellipse: s-maj=292.5km s-min=93.1km az=32.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.24**	**26**	I		I	19 09 20.0	
	0.2nm,0.6s,baz=208,slow=309,SNR=4.6							
I31KZ	**AKTYUBINSK INF**	**15.18**	**90**	I		I	20 13 10.0	
	baz=289,slow=323,SNR=2.1							
I46RU	**ZALESOVO INFRA**	**29.82**	**67**	I		I	21 45 20.0	
	baz=290,slow=343,SNR=3.5							

*ISN **13** 18:44:13.6±0.7, 34°.68N×46°.07E, h20km±4km, ML2.8*
*TEH **13** 18:44:13.8, 34°.60N×46°.04E, h10km±50km, ML2.7*

ISC 13 18:44:14.1±1.2, 34°.61N±0°.06×46°.03E±0°.04, h10km, n10, σ0§88/14, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.31**	**73**	Pg		**Pg**	**18 44 20.3**	**0.0**
IDHR				Sg		**Sb**	**18 44 25.6**	**-1.4**
KGS1	**Ghasr-e-Shirin**	**0.38**	**254**	Pg		**Pg**	**18 44 21.7**	**+0.2**
IGHG	**Ghaleghazi**	**0.53**	**122**	Pg		**Pg**	**18 44 24.3**	**-0.1**
ILIN	**Lien**	**0.83**	**68**	Pg		**Pg**	**18 44 29.8**

	comp=Z,151nm,20.0s,baz=180,slow=35							
GERES	**GERESS Array B**	**31.83**	**59**	LR	LR	19 25 04.0		
	comp=Z,65nm,18.5s,baz=251,slow=34							
NOA	**NORSAR Array B**	**32.72**	**36**	LR	LR	19 25 01.0		
	comp=Z,59nm,19.8s,baz=255,slow=33							
JMIC	**Jan Mayen**	**33.03**	**12**	LR	LR	19 23 42.0		
	comp=Z,47nm,19.2s,baz=290,slow=30							
FRB	**Frobisher Bay**	**33.11**	**329**	LR	LR	19 24 04.8		
	comp=Z,86nm,19.3s,baz=201,slow=31							
HFS	**Hagfors**	**33.57**	**38**	LR	LR	19 25 48.5		
	comp=Z,108nm,19.4s,baz=248,slow=34							
VRAC	**Vranov**	**33.73**	**58**	LR	LR	19 26 03.4		
	comp=Z,54nm,19.3s,baz=279,slow=34							
VAE	**Valguarnera**	**34.15**	**80**	LR	LR	19 26 37.4		
	comp=Z,327nm,19.8s,baz=346,slow=34							
SADO	**Sadowa**	**36.55**	**294**	LR	LR	19 27 59.1		
	comp=Z,252nm,19.6s,baz=68,slow=34							
TORD	**Torodi Ar. Bea**	**38.23**	**125**	P	**P**	**19 14 25.2**	**+0.4**	
	1.3nm,1.1s,baz=308,slow=7.2,SNR=4.4							
TORD				LR	LR	19 29 49.2		
	comp=Z,139nm,18.2s,baz=314,slow=36							
	1.3nm,1.1s							
FINES	**FINESS Array B**	**39.77**	**38**	LR	LR	19 29 30.2		
	comp=Z,113nm,19.6s,baz=238,slow=34							
DBIC	**Dimbokro**	**39.78**	**140**	P	**P**	**19 14 39.4**	**+1.6**	
	4.1nm,1.0s,baz=310,slow=7.9,SNR=3.0							
DBIC				LR	LR	19 29 46.1		
	comp=Z,60nm,19.0s,baz=318,slow=34							
	4.1nm,1.0s							
MDP	**Montagnes des**	**40.38**	**217**	LR	LR	19 29 18.8		
	comp=Z,26nm,18.2s,baz=142,slow=33							
ARCES	**ARCESS Array B**	**41.19**	**26**	LR	LR	19 28 40.5		
	comp=Z,54nm,18.1s,baz=302,slow=32							
AKASG	**Malin Array Be**	**41.72**	**55**	P	**P**	**19 14 53.2**	**-0.2**	
	1.0nm,0.8s,baz=281,slow=8.2,SNR=5.0							
AKASG				LR	LR	19 31 55.1		
	comp=Z,117nm,18.1s,baz=256,slow=36							
	1.0nm,0.8s							
TKL	**Tuckaleechee C**	**42.54**	**282**	LR	LR	19 31 42.9		
	comp=Z,86nm,18.6s,baz=98,slow=35							
ULM	**Lac du Bonnet**	**46.55**	**306**	LR	LR	19 34 06.5		
	comp=Z,172nm,18.0s,baz=64,slow=35							
BRTR	**Keskin Array B**	**47.61**	**60**	P	**P**	**19 15 42.4**	**+1.6**	
	0.2nm,0.3s,baz=316,slow=4.0,SNR=2.5							
BRTR				LR	LR	19 36 22.4		
	comp=Z,44nm,19.9s,baz=279,slow=37							
	0.2nm,0.3s							
SDV	**Santo Domingo**	**47.83**	**241**	LR	LR	19 31 57.8		
	comp=Z,31nm,21.0s,baz=39,slow=31							
KIRV	**Kirov**	**51.62**	**41**	LR	LR	19 37 43.6		
	comp=Z,75nm,18.2s,baz=316,slow=36							
MMAI	**Mount Meron Ar**	**51.68**	**76**	P	**P**	**19 16 12.0**	**+0.1**	
	0.1nm,0.3s,baz=311,slow=11,SNR=2.0							
	0.1nm,0.3s							
BELG	**Belogornoye**	**52.48**	**49**	LR	LR	19 37 57.7		
	comp=Z,84nm,20.7s,baz=152,slow=35							
KBZ	**Khabaz**	**52.56**	**61**	LR	LR	19 38 35.1		
	comp=Z,28nm,20.5s,baz=9.5,slow=36							
EIL	**Elat**	**52.93**	**80**	LR	LR	19 41 14.9		
	comp=Z,33nm,18.2s,baz=248,slow=39							
ROSC	**El Rosal**	**53.27**	**241**	LR	LR	19 36 03.6		
	comp=Z,129nm,21.1s,baz=66,slow=33							
YKA	**Yellowknife Ar**	**53.42**	**325**	LR	LR	19 37 02.5		
	comp=Z,38nm,18.1s,baz=334,slow=34							
TEIG	**Tepich**	**53.52**	**267**	LR	LR	19 35 14.6		
	comp=Z,630nm,21.4s,slow=32							
GNI	**Garni**	**55.27**	**64**	LR	LR	19 40 45.4		
	comp=Z,21nm,20.3s,baz=277,slow=36							
ARU	**Arti**	**56.99**	**41**	LR	LR	19 40 44.6		
	comp=Z,60nm,18.8s,baz=282,slow=35							
JTS	**Las Juntas de**	**57.09**	**255**	LR	LR	19 36 57.5		
	comp=Z,75nm,21.6s,baz=15,slow=32							
BDFB	**Brasilia**	**57.82**	**201**	LR	LR	19 39 08.5		
	comp=Z,50nm,18.8s,baz=343,slow=33							
PDAR	**Pinedale Array**	**57.99**	**301**	P	**P**	**19 16 54.7**	**-2.9**	
	0.3nm,0.6s,baz=67,slow=6.9,SNR=5.9							
PDAR				LR	LR	19 41 02.3		
	comp=Z,113nm,19.7s,baz=73,slow=35							
	0.3nm,0.6s							
AKTO	**Aktyubinsk**	**59.23**	**48**	LR	LR	19 42 01.5		
	comp=Z,53nm,21.0s,baz=353,slow=35							
ANMO	**Albuquerque**	**59.53**	**292**	P	**P**	**19 17 07.1**	**-1.3**	
	0.8nm,0.5s,baz=53,slow=5.1,SNR=2.0							
ANMO				LR	LR	19 43 03.5		
	comp=Z,89nm,18.0s,baz=154,slow=36							
	0.8nm,0.5s							
NEW	**Newport**	**60.23**	**310**	LR	LR	19 41 08.0		
	comp=Z,160nm,20.9s,baz=46,slow=34							
TXAR	**Lajitas Array**	**60.34**	**285**	P	**P**	**19 17 13.2**	**-0.6**	
	0.4nm,0.5s,baz=75,slow=7.6,SNR=6.4							
TXAR				LR	LR	19 43 50.9		
	comp=Z,52nm,18.7s,baz=46,slow=37							
	0.4nm,0.5s							
CMIG	**Matias Romero**	**60.42**	**268**	LR	LR	19 40 08.1		
	comp=Z,81nm,21.7s,baz=31,slow=33							
DLBC	**Dease Lake**	**62.03**	**326**	LR	LR	19 41 30.5		
	comp=Z,52nm,19.3s,baz=46,slow=33							
ELK	**Elko**	**62.69**	**301**	LR	LR	19 44 52.5		
	comp=Z,119nm,18.3s,baz=74,slow=36							
BBB	**Bella Bella**	**64.39**	**318**	LR	LR	19 42 40.2		
	comp=Z,76nm,19.9s,baz=62,slow=33							
BVAR	**Borovoye Array**	**64.64**	**41**	P	**P**	**19 17 43.2**	**+1.1**	
	0.2nm,0.6s,baz=347,slow=5.9,SNR=1.9							
BVAR				LR	LR	19 45 16.7		
	comp=Z,61nm,18.2s,baz=286,slow=35							
	0.2nm,0.6s							
ILAR	**Eielson Array**	**64.85**	**335**	LR	LR	19 43 56.7		
	comp=Z,71nm,18.5s,baz=18,slow=34							
ATAH	**Atahualpa**	**64.91**	**236**	LR	LR	19 44 59.7		
	comp=Z,64nm,20.5s,baz=13,slow=35							
NVAR	**Mina Array Bea**	**65.92**	**301**	LR	LR	19 46 15.8		
	comp=Z,135nm,18.3s,baz=107,slow=36							
LPAZ	**La Paz**	**66.42**	**221**	LR	LR	19 43 28.6		
	comp=Z,32nm,20.6s,baz=20,slow=33							
YBH	**Yreka Blue Hor**	**66.96**	**306**	LR	LR	19 46 25.7		
	comp=Z,96nm,18.4s,baz=42,slow=35							
PFO	**Pinyon Flats O**	**67.28**	**295**	LR	LR	19 47 10.8		
	comp=Z,80nm,18.1s,baz=52,slow=36							
NNA	**Nana**	**67.72**	**231**	LR	LR	19 45 42.1		
	comp=Z,31nm,21.5s,baz=20,slow=34							
MBAR	**Mbarara**	**67.97**	**110**	LR	LR	19 49 04.6		
	comp=Z,54nm,18.1s,baz=290,slow=37							
LPIG	**La Paz**	**68.16**	**284**	LR	LR	19 47 51.0		
	comp=Z,57nm,19.4s,baz=22,slow=36							
KURBB	**Kurchatov Arra**	**70.13**	**40**	P	**P**	**19 18 17.0**	**+0.1**	
	1.0nm,0.2s,baz=313,slow=7.0,SNR=2.0							
KURBB				LR	LR	19 48 11.9		
	comp=Z,49nm,19.4s,baz=164,slow=35							
	1.0nm,0.2s							
ZALV	**Zalesovo Beam**	**70.91**	**35**	P	**P**	**19 18 22.6**	**+1.0**	
	0.2nm,0.3s,baz=282,slow=8.4,SNR=1.9							
ZALV				LR	LR	19 48 44.3		
	comp=Z,38nm,21.0s,baz=354,slow=35							
	0.2nm,0.3s							
AAK	**Ala-Archa**	**72.97**	**48**	LR	LR	19 52 01.8		
	comp=Z,50nm,19.4s,baz=326,slow=37							
TSUM	**Tsumeb**	**73.36**	**134**	LR	LR	19 49 49.3		
	comp=Z,96nm,18.1s,baz=326,slow=35							
MKAR	**Makanchi Array**	**74.52**	**41**	P	**P**	**19 18 44.0**	**+0.7**	
	0.6nm,0.9s,baz=308,slow=4.5,SNR=4.8							
MKAR				LR	LR	19 51 20.9		
	comp=Z,83nm,19.8s,baz=292,slow=36							
	0.6nm,0.9s							
LSZ	**Lusaka**	**76.72**	**123**	LR	LR	19 52 56.7		
	comp=Z,157nm,18.6s,baz=352,slow=36							
LBTB	**Lobatse**	**82.48**	**131**	LR	LR	19 54 52.6		
	comp=Z,44nm,20.7s,baz=286,slow=35							
BOSA	**Boshof**	**85.06**	**124**	LR	LR	19 55 22.6		
	comp=Z,62nm,20.2s,baz=332,slow=34							
SUR	**Sutherland**	**85.67**	**139**	LR	LR	19 52 29.6		
	comp=Z,33nm,21.6s,baz=236,slow=32							

*IDC **13** 19:23:52.1±5.6,24.°70S×179.°80E,h457km±57km, mb3.3/10,mbtmp4.1/11,Error ellipse: s-maj=35.3km s-min=17.1km az=61.0*

*NEIC **13** 19:23:54.1±1.8,24.°9S±0.°1×179.°9E±0.°2,h484km±12km, mb4.3/12,Error ellipse: s-maj=25.1km s-min=13.8km az=53.0*

ISC 13 19:23:55.5±0.8,24°84S±0.°08×179°8E±0.°2,h501km,n31, σ1°14/30,mb3.9/15,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MSVF	**Nonsavu**	**7.27**	**346**	P		**P**	**19 25 43.4**	**-1.2**
URZ	**Urewera**	**13.57**	**189**	P		**P**	**19 26 49.8**	**-0.6**
	7.2nm,0.4s,baz=11,slow=7.9,SNR=6.7							
URZ				S		**S**	**19 29 13.2**	**-1.6**
	6.0nm,0.8s,baz=87,slow=19,SNR=1.6							
BFZ	**Birch Farm**	**16.08**	**190**	P		**P**	**19 27 15.6**	**-1.1**
SNZO	**South Karori**	**16.97**	**193**	P		**P**	**19 27 24.6**	**-1.2**
THZ	**Tophouse**	**17.83**	**197**	P		**P**	**19 27 34.1**	**0.0**
CTAO	**Charters Tower**	**31.34**	**272**	P		**P**	**19 29 35.0**	**+0.5**
STKA	**Stephens Creek**	**34.24**	**249**	P		**P**	**19 29 58.5**	**-0.5**
STKA	**Stephens Creek**	**34.24**	**249**	P		**P**	**19 29 58.0**	**-0.9**
	0.4nm,0.3s,baz=86,slow=15,SNR=2.9							
	0.4nm,0.3s							
ASAR	**Alice Springs**	**41.74**	**262**	P		**P**	**19 31 00.2**	**-0.2**
	1.8nm,1.0s,baz=94,slow=8.9,SNR=8.2							
	1.8nm,1.0s							
WB2	**Warramunga Arr**	**42.19**	**267**	P		**P**	**19 31 03.5**	**-0.5**
WB2				IAmb		IAmb	19 31 05.0	
	comp=Z,13nm,1.4s							
WB0	**Warramunga Arr**	**42.20**	**267**	P		**P**	**19 31 03.4**	**-0.7**
WB0				IAmb		IAmb	19 31 04.0	
	comp=Z,6.4nm,1.1s							
WRA	**Warramunga Arr**	**42.20**	**267**	P		**P**	**19 31 02.7**	**-1.3**
	comp=Z,2.5nm,0.6s,baz=104,slow=7.9,SNR=15							
	comp=Z,2.5nm,0.6s							
KNRA	**Kununurra**	**48.54**	**271**	P		**P**	**19 31 51.2**	**-1.4**
KNRA				IAmb		IAmb	19 31 53.6	
	comp=Z,16nm,1.2s							
FITZ	**Fitzroy Crossi**	**50.62**	**266**	P		**P**	**19 32 08.4**	**+0.5**
VNDA	**Vanda**	**53.43**	**185**	P		**P**	**19 32 28.1**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=22,slow=7.4,SNR=5.6							
	comp=Z,1.0nm,0.7s							
SOEI	**Soe**	**54.78**	**276**	P		**P**	**19 32 40.1**	**+2.1**
SOEI				IAmb		IAmb	19 33 09.6	
	comp=Z,25nm,1.2s							
TOLI2	**Tolitoli**	**62.67**	**285**	P		**P**	**19 33 30.4**	**-0.7**
TOLI2				IAmb		IAmb	19 34 13.5	
	comp=Z,9.5nm,1.1s							
QSPA	**South Pole Qui**	**65.24**	**180**	P		**P**	**19 33 48.4**	**+1.6**
QSPA				IAmb		IAmb	19 33 53.1	
	comp=Z,12nm,1.5s							
QSPA	**South Pole Qui**	**65.24**	**180**	P		**P**	**19 33 48.5**	**+1.6**
	comp=Z,2.6nm,0.8s,baz=71,slow=1.0,SNR=16							
	comp=Z,2.6nm,0.8s							
MJAR	**Matsushiro Arr**	**72.59**	**326**	P		**P**	**19 34 31.0**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=141,slow=7.1,SNR=6.6							
	comp=Z,2.2nm,0.7s							
KSRS	**Korea Array**	**78.87**	**320**	P		**P**	**19 35 06.6**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=126,slow=6.2,SNR=5.5							
	comp=Z,1.0nm,0.6s							
PETK	**Petropavlovsk-**	**79.98**	**347**	P		**P**	**19 35 11.9**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=128,slow=4.4,SNR=1.7							
	comp=Z,1.3nm,0.6s							
CMAR	**Chiang Mai Arr**	**89.71**	**290**	P		**P**	**19 36 02.1**	**+1.9**
	comp=Z,0.8nm,0.8s,baz=126,slow=4.6,SNR=7.5							
	comp=Z,0.8nm,0.8s							
SEY	**Seymchan**	**90.16**	**348**	P		**P**	**19 36 01.3**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=93,slow=23,SNR=5.4							
	comp=Z,0.9nm,0.6s							
NB2	**NORSAR Subarra**	**142.99**	**351**	PKP		**PKPdf**	**19 42 28.6**	**-2.7**
	comp=Z,0.9nm,0.8s,baz=16,slow=3.1							
NOA	**NORSAR Array B**	**142.99**	**351**	PKhKP		PKPpre	19 42 24.8	
	comp=Z,1.2nm,0.8s,baz=12,slow=2.3,SNR=4.4							
HFS	**Hagfors**	**143.44**	**348**	PKP		PKPab	19 42 30.1	-0.1
	comp=Z,3.4nm,0.4s,baz=45,slow=3.5,SNR=27							
AKASG	**Malin Array Be**	**145.68**	**326**	PKPbc		**PKPbc**	**19 42 37.3**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=44,slow=4.2,SNR=7.6							
MMAI	**Mount Meron Ar**	**147.94**	**293**	PKPbc		**PKPbc**	**19 42 45.2**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=75,slow=6.1,SNR=7.3							
BRTR	**Keskin Array B**	**148.02**	**306**	PKPbc		**PKPbc**	**19 42 44.6**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=96,slow=2.7,SNR=2.3							
EKA	**Eskdalemuir Ar**	**149.46**	**3**	PKPbc		**PKPbc**	**19 42 47.2**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=357,slow=2.8,SNR=2.0							

IDC 13 19:32:21.7±549.0,56.°18N×2.°23E,h0km,Error ellipse: s-maj=229.6km s-min=175.7km az=97.0,North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I26DE	**FREYUNG INFRAS**	**10.13**	**132**	I		I	20 34 50.0	
	baz=319,slow=315,SNR=0.4							
I37NO	**I37NO**	**14.88**	**23**	I		I	21 04 50.0	
	baz=219,slow=339,SNR=0.9							
I31KZ	**AKTYUBINSK INF**	**33.05**	**76**	I		I	22 51 06.3	
	baz=305,slow=326,SNR=5.7							

*KRNET **13** 19:43:07.7±0.1,40.°02N×76.°06E,mb2.4*

*NNC **13** 19:43:24.2±1.2,40.°54N×76.°09E,h0km,mb2.9,mpv2.6, Error ellipse: s-maj=8.4km s-min=7.5km az=50.0*

SOME 13 19:43:22.8,40.°50N×76.°08E,h10km,16C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NRN	**Naryn**	**0.94**	**356**	↑*eP*		Pg	19 43 34.0	-6.9
	baz=57							
NRN				↑*eS*		Sg	19 43 53.3	+0.2
	baz=57							
ULHL	**Ulahol**	**1.75**	**4**	↑*eP*		Pn	19 43 47.5	-5.9
	baz=4.0							
ULHL				↑*eS*		Sb	19 44 16.7	-0.5
	baz=4.0							
KDJ	**Kajisay**	**1.83**	**27**	↓*eP*		Pn	19 43 48.0	-6.4
	baz=22							
KDJ				↓*iS*		Sn	19 44 17.5	-0.2
	baz=22							
ARLS	**Aral**	**1.90**	**316**	↑*eP*		Pn	19 43 48.3	-7.2
	baz=25							
ARLS				↑*eS*		Sn	19 44 17.2	-2.3
	baz=25							
SFK	**Sufi-Kurgan**	**2.03**	**257**	↑*eP*		Pn	19 43 43.7	-14
	baz=71							
SFK				↑*eS*		Sn	19 44 10.4	-13
	baz=71							
UCH	**Uchtor**	**2.09**	**326**	↓*eP*		Pn	19 43 51.4	-6.9
	baz=33							
UCH				↓*eS*		Sn	19 44 23.5	-1.2
	baz=33							
KBK	**Karagaybulak**	**2.32**	**339**	↑*eP*		Pn	19 43 54.9	-6.3
	baz=43							
KBK				↑*iS*		Sn	19 44 29.6	-0.2
	baz=43							
AAK	**Ala-Archa**	**2.45**	**331**	↑*eP*		Pn	19 43 56.4	-6.5
	baz=36							
AAK				↑*eS*		Sn	19 44 32.1	-0.9
	baz=36							
TKM2	**Tokmak 2**	**2.45**	**352**	↑*eP*		Pn	19 43 57.1	-5.9
	baz=53							
TKM2				↑*iS*		Sn	19 44 33.3	+0.2
	baz=53							
KST	**Kastek**	**2.54**	**358**	*eP*		Pb	19 44 10.0	+1.4
	3.1nm,0.4s							
KST				*eS*		Sg	19 44 44.0	-0.5
	4.0nm,0.4s							
KST	**Kastek**	**2.54**	**358**	Pg		Pb	19 44 10.0	+1.4
	3.1nm,0.4s							
KST				Lg		Lg	19 44 44.0	
	4.0nm,0.4s							
ANVS	**Anan'yevo**	**2.57**	**27**	↓*eP*		Pn	19 43 59.0	-5.7
	baz=23							
ANVS				↓*eS*		Sn	19 44 36.2	+0.1
	baz=23							
DGS	**Degeres**	**2.75**	**355**	*eP*		Pb	19 44 13.7	+1.5
	2.6nm,0.5s							
DGS				*eS*		Sg	19 44 50.4	-0.7
	3.6nm,0.4s							
DGS	**Degeres**	**2.75**	**355**	Pg		Pb	19 44 13.7	+1.5
	2.6nm,0.5s							
DGS				Lg		Lg	19 44 50.4	
	3.6nm,0.4s							
MDOK	**Medeo**	**2.76**	**15**	*eP*		Pg	19 44 14.2	-1.4
	1.1nm,0.7s							
MDOK				*eS*		Sg	19 44 51.1	-0.3
	2.1nm,0.5s							
MDOK	**Medeo**	**2.76**	**15**	Pg		Pg	19 44 14.2	-1.4
	1.1nm,0.7s							
MDOK				Lg		Lg	19 44 51.1	
	2.1nm,0.5s							
KOTS	**Kotyrbulak**	**2.84**	**15**	*eP*		Pg	19 44 16.2	-1.0
	0.9nm,0.4s							
KOTS				*eS*		Sg	19 44 54.5	+0.6
	4.4nm,0.5s							
KOTS	**Kotyrbulak**	**2.84**	**15**	Pg		Pg	19 44 16.2	-1.0
	0.9nm,0.4s							
KOTS				Lg		Lg	19 44 54.5	
	4.4nm,0.5s							
SATY	**Saty**	**3.09**	**33**	*eP*		Pg	19 44 20.0	-2.0
	1.0nm,0.8s							
SATY				*eS*		Sg	19 45 01.0	-1.1
	3.1nm,0.6s							
KRBS	**Karabastau**	**3.21**	**355**	*eP*		Pb	19 44 21.4	+1.5
	3.3nm,0.6s							
KRBS				*eS*		Sg	19 45 03.8	-2.0
	1.4nm,0.5s							
KRBS	**Karabastau**	**3.21**	**355**	Pg		Pb	19 44 21.5	+1.5
	3.3nm,0.6s							
KRBS				Lg		Lg	19 45 03.8	
	1.4nm,0.5s							
KTBS	**Karatobe**	**3.24**	**8**	*eP*		Pg	19 44 23.0	-1.9
	1.9nm,0.6s							
KTBS				*eS*		Sg	19 45 06.4	-0.4
	2.5nm,0.7s							
KTBS	**Karatobe**	**3.24**	**8**	Pg		Pg	19 44 23.0	-1.9
	1.9nm,0.6s							
KTBS				Lg		Lg	19 45 06.4	
	2.5nm,0.7s							
MNAS	**Manas**	**3.34**	**308**	↑*eP*		Pn	19 44 07.5	-7.7
	baz=14							
MNAS				↑*eS*		Sn	19 44 50.6	-4.5
	baz=14							
PDGK	**Podgornoye**	**3.80**	**41**	Pg		Pb	19 44 32.2	+2.2
	0.5nm,1.1s							
PDGK				Lg		Lg	19 45 22.5	
	0.5nm,0.6s							

WEL 13 19:46:06.6±0.9,35°S±10°×177°9E±1°3,h222km±12km, M3.9/12,ML4.0/15,MLv3.9/12,Error ellipse: s-maj=0.0km s-min=0.0km az=118.6,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	**Matakaoa Point**	**2.13**	**193**	P		Pn	19 46 48.0	0.0
MXZ				S		S	19 47 19.6	-0.7
WMGZ	**Waiomatatini S**	**2.36**	**190**	P		Pn	19 46 51.0	+0.7
WMGZ				S		S	19 47 25.9	+1.3
HAZ	**Te Kaha**	**2.44**	**202**	P		Pn	19 46 51.4	+0.2
HAZ				S		S	19 47 26.2	+0.1
PKGZ	**Pakihiroa**	**2.49**	**196**	P		Pn	19 46 51.9	+0.1
PKGZ				S		S	19 47 26.7	-0.4
PUZ	**Puketiti**	**2.63**	**192**	P		Pn	19 46 53.4	+0.1
PUZ				S		S	19 47 29.2	-0.6
RUGZ	**Raukumara Rang**	**2.67**	**202**	P		Pn	19 46 53.5	-0.3
RUGZ				S		S	19 47 31.4	+0.8
TWGZ	**Tauwhareparae**	**2.79**	**196**	P		Pn	19 46 55.9	+0.8
TWGZ				S		S	19 47 34.7	+1.8
CNGZ	**Carnagh Statio**	**3.04**	**191**	P		Pn	19 46 58.5	+0.7
MWZ	**Matawai**	**3.05**	**201**	P		Pn	19 46 58.3	+0.3
MWZ				S		S	19 47 39.1	+0.8
TKGZ	**Te Karaka**	**3.07**	**196**	P		Pn	19 46 58.4	+0.3
TKGZ				S		S	19 47 39.2	+0.7
URZ	**Urewera**	**3.12**	**207**	P		Pn	19 46 58.3	-0.4
URZ				S		S	19 47 40.8	+1.1
WIAZ	**Waiheke Island**	**3.33**	**246**	P		Pn	19 47 01.1	-0.2
MKAZ	**Moumakai**	**3.44**	**241**	P		Pn	19 47 03.1	+0.6
RAHZ	**Arahi**	**3.72**	**203**	P		Pn	19 47 05.8	0.0
RAHZ				S		S	19 47 53.1	+0.8
MTHZ	**Maungataniwha**	**3.75**	**206**	P		Pn	19 47 05.8	-0.4
WHHZ	**Waihua**	**3.82**	**200**	P		Pn	19 47 06.0	-1.0
WHHZ				S		S	19 47 55.9	+1.3
MRHZ	**Matea Rd**	**3.89**	**210**	P		Pn	19 47 07.8	-0.1
NMHZ	**Naumai**	**3.98**	**205**	P		Pn	19 47 09.2	+0.2
NMHZ				S		S	19 47 59.4	+1.4
ARHZ	**Aropaoanui**	**4.07**	**202**	P		Pn	19 47 09.8	-0.2
ARHZ				S		S	19 48 01.0	+1.1
KWHZ	**Kaweka Forest**	**4.40**	**206**	P		Pn	19 47 13.8	-0.3
KWHZ				S		S	19 48 07.9	+0.6
KRHZ	**Kereru**	**4.62**	**205**	P		Pn	19 47 15.9	-0.8
KRHZ				S		S	19 48 10.9	-1.2

*NEIC **13** 19:53:05.0±2.2,45.°16N±0.°03×106.°87W±0.°05,h0km±1km, ML3.1/66,Error ellipse: s-maj=7.5km s-min=2.6km az=131.0*

*IDC **13** 19:53:05.7±1.2,44.°87N×106.°72W,h0km,mbtmp3.5/2, ML3.4/2,Error ellipse: s-maj=55.7km s-min=8.5km az=137.0*

ISC 13 19:53:05.7±1.2,45.°18N±0.°05×106.°83W±0.°05,h0km,n45, σ1°17/44,Montana

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LAO	**LASA Array**	**1.56**	**16**	Pg		**Pn**	**19 53 35.5**	**+0.6**
LAO						**Sn**	**19 53 55.6**	**-0.3**
RLMT	**Red Lodge**	**1.72**	**269**	Pg		**Pn**	**19 53 36.7**	**-1.2**
RLMT						**Sn**	**19 53 58.7**	**-1.3**
RLMT				IAML			19 54 10.2	
	144nm,0.7s							
RSSD	**Black Hills**	**2.26**	**117**	IAML			19 54 19.6	
	97nm,1.4s							
RSSD				IAML			19 54 21.5	
	92nm,0.5s							
RSSD	**Black Hills**	**2.26**	**117**			**Pn**	**19 53 45.6**	**+1.0**
YMP	**Mirror Lake Pl**	**2.40**	**261**			**Pn**	**19 53 46.0**	**-0.6**
YMP				IAML			19 54 22.3	
	comp=N,148nm,0.8s							
YMP				IAML			19 54 29.8	
	comp=E,146nm,1.6s							
K22A	**Casper**	**2.54**	**175**			**Pn**	**19 53 49.0**	**+0.6**
LKWY	**Lake**	**2.61**	**258**			**Pn**	**19 53 51.5**	**+2.1**
LKWY				IAML			19 54 44.6	
	comp=E,104nm,1.5s							
LKWY				IAML			19 54 48.0	
	comp=E,77nm,2.1s							
YNR	**Norris Junctio**	**2.77**	**262**			**Pn**	**19 53 53.3**	**+1.7**
YNR				IAML			19 54 34.2	
	comp=N,58nm,2.4s							
H17A	**Grant Village**	**2.78**	**255**			**Pn**	**19 53 53.5**	**+1

comp=E,32nm,2.4s
AHID IAML 19 56 24.1
comp=E,38nm,4.3s
PHWY Pilot Hill 4.01 165 Pn Pn 19 54 08.0 -0.6
LYMT Lyon Mountain 4.20 297 Pn Pn 19 54 10.4 -0.8
N23A Red Feather La 4.33 171 Pn Pn 19 54 13.3 +0.2
E28A Huff 4.51 70 Pn Pn 19 54 13.5 -1.8
OVMT Ovando 4.68 296 Pn Pn 19 54 18.6 +0.9
BRIGG Briggsdale 4.96 157 Pn Pn 19 54 22.4 +0.8
HWUT Hardware Ranch 4.96 226 Pn Pn 19 54 21.9 +0.2
RDMU Red Mountain 5.03 205 Pn Pn 19 54 23.9 +1.3
O20A White River Ci 5.15 192 Pn Pn 19 54 23.1 -1.2
ISCO Idaho Springs 5.46 170 Pn Pn 19 54 28.8 +0.2
BSUT Blindstream Ca 5.47 213 Pn Pn 19 54 29.4 +0.7
SPUT South Promonto 5.64 229 Pn Pn 19 54 30.3 -0.7
SUSD Miller 5.65 95 Pn Pn 19 54 32.0 +1.0
HLID Hailey 5.67 256 Pn Pn 19 54 31.1 -0.3
P18A Preston Nutter 6.10 206 Pn Pn 19 54 36.3 -1.1
NEW Newport 7.71 297 Lg Lg 19 57 06.3
comp=E,0.1nm,0.3s,baz=81,slow=19,SNR=2.5
I10CA LAC DU BONNET 8.85 52 I I 20 44 20.0
comp=E,0.1nm,1.1s,baz=236,slow=322,SNR=11
ULM Lac du Bonnet 8.96 52 Pn **Pn 19 55 16.1 -0.1**
comp=E,0.8nm,0.3s,baz=234,slow=12,SNR=9.2
ULM Lg Lg 19 57 43.5
comp=E,0.1nm,0.3s,baz=172,slow=13,SNR=1.7
comp=E,1.6nm,0.3s

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*IDC **13** 20:11:55.1±0.8,31°51S×67°86W,h0km,mb3.7/3,*
mbtmp3.8/6,ML3.9/3,MS3.2/2,Error ellipse: s-maj=33.9km
s-min=20.6km az=96.0
*SJA **13** 20:11:56.2±0.6,31°51S×67°81W,h7km,ML4.1,MW3.9*
ISC 13 20:11:55.4±0.9,31°46S±0.02×67°77W±0.03,h5km±7km,
n52,σ1s67/72,mb3.8/3,3C,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.62**	**282**	*e*P		**Pg**		**20 12 07.1**	**-0.2**
SJA	**San Juan**	**0.68**	**264**	*e*P		**Pb**		**20 12 09.0**	**-0.8**
RTCV	**Cerro Valdivia**	**0.77**	**239**	*e*P		**Pg**		**20 12 10.2**	**+0.1**
AVFE	**Valle Fertil**	**0.84**	**19**	*e*P		**Pb**		**20 12 13.6**	**+0.9**
AVFE				*e*S		**Sg**		**20 12 17.5**	**-5.1**
ACHE	**Chepes**	**0.99**	**73**	*e*P		**Pn**		**20 12 16.5**	**+0.2**
DOCA	**Reserva Natura**	**1.23**	**294**	*e*P		**Pg**		**20 12 18.8**	**-0.3**
DOCA				*e*S		**Sg**		**20 12 34.5**	**-0.6**
DOCA				IAML				20 12 37.1	
comp=Z,3μm,0.5s									
RTLS	**Leoncito**	**1.34**	**255**	*e*P		**Pn**		**20 12 20.5**	**-0.7**
RTLS				*e*S		**Sn**		**20 12 38.9**	**-0.8**
RTLS				IAML				20 12 45.5	
comp=Z,2μm,0.7s									
ACCO	**Cerro Coronel**	**1.41**	**308**	*e*P		**Pb**		**20 12 22.4**	**-0.2**
ACCO				IAML				20 12 43.0	
comp=Z,1μm,0.7s									
ASAL	**Salagasta**	**1.44**	**218**	*e*P		**Pg**		**20 12 23.1**	**0.0**
ASAL				IAML				20 12 47.6	
comp=Z,1μm,0.5s									
APLL	**PUNTA DE LOS L**	**1.51**	**45**	*e*P		**Pn**		**20 12 21.0**	**-2.3**
ARCO	**CERRO ARCO**	**1.69**	**215**	*e*P		**Pg**		**20 12 28.3**	**+0.4**
ARCO				IAML				20 12 58.9	
comp=Z,3μm,0.4s									
ACDV	**Cuesta del Vie**	**1.73**	**318**	*e*P		**Pb**		**20 12 28.1**	**+0.3**
AAGR	**Agrelo**	**1.85**	**209**	*e*P		**Pg**		**20 12 31.1**	**+0.2**
AAGR				*e*S		**Sg**		**20 12 56.1**	**+1.2**
AAGR				IAML				20 12 58.9	
comp=Z,728nm,0.7s									
AROD	**Rodeo**	**1.95**	**311**	*e*P		Pn		20 12 13.9	-16
AGUA	**GUANDACOL**	**2.06**	**342**	*e*P		**Pb**		**20 12 34.2**	**+0.7**
AGUA				IAML				20 13 13.6	
comp=Z,924nm,0.5s									
AVIZ	**Vizcacheras**	**2.10**	**197**	*e*P		**Pg**		**20 12 35.9**	**+0.2**
ACLC	**CERRO LA CRUZ**	**2.15**	**19**	*e*P		**Pb**		**20 12 35.9**	**+0.9**
ACLC				*e*S		**Sg**		**20 13 07.2**	**+2.7**
ACLC				IAML				20 13 09.0	
comp=Z,2μm,0.7s									
CO01	**Juntas del Tor**	**2.49**	**306**	*e*P		**Pb**		**20 12 40.4**	**-0.4**
CO01				*e*S		**Sb**		**20 13 12.2**	**+0.3**
CO01				IAML				20 13 15.3	
comp=Z,573nm,0.6s									
CO01	**Juntas del Tor**	**2.49**	**306**	⇑*i*	P	**Pb**		**20 12 40.5**	**-0.4**
CO01				*e*S		**Sb**		**20 13 11.9**	**0.0**
CO03	**El Pedregal**	**2.58**	**283**	*e*P		**Pb**		**20 12 41.4**	**-0.8**
CO03				*e*S		**Sb**		**20 13 14.4**	**+0.1**
CO03				IAML				20 13 15.2	
comp=Z,2μm,1.1s									
CO03	**El Pedregal**	**2.58**	**283**	*e*P		**Pb**		**20 12 41.4**	**-0.8**
CO03				*e*S		**Sb**		**20 13 13.7**	**-0.6**
CO03				IAML				20 13 18.2	
comp=N,2μm,0.5s									
VA03	**San Esteban**	**2.69**	**240**	*e*P		**Pb**		**20 12 43.9**	**-0.4**
VA03				IAML				20 13 28.2	
comp=Z,988nm,0.6s									
VA03	**San Esteban**	**2.69**	**240**	⇑*i*	P	**Pb**		**20 12 43.8**	**-0.4**
VA03				*i*	S	**Sb**		**20 13 19.1**	**+1.5**
VA03				IAML				20 13 23.5	
comp=N,2μm,0.5s									
TCA	**Tanti**	**2.72**	**88**	*e*P		**Pb**		**20 12 43.5**	**-1.2**
TCA				*e*S		**Sg**		**20 13 24.3**	**+1.5**
TCA				IAML				20 13 29.6	
comp=Z,1μm,0.6s									
VCA	**Vinchina**	**2.74**	**352**	*e*P		**Pb**		**20 12 44.9**	**-0.3**
VCA				*e*S		**Sb**		**20 13 21.1**	**+1.9**
VCA				IAML				20 13 36.6	
comp=Z,1μm,0.6s									
CO02	**Combarbal**	**2.77**	**275**	*e*P		**Pb**		**20 12 43.7**	**-1.9**
CO02				IAML				20 13 24.2	
comp=Z,2μm,0.6s									
CO02	**Combarbal**	**2.77**	**275**	⇑*i*	P	**Pb**		**20 12 44.7**	**-0.9**
CO02				*e*S		**Sb**		**20 13 19.7**	**-0.3**
CO02				IAML				20 13 25.6	
comp=E,5μm,0.4s									
MT04	**Ro Olivares**	**2.78**	**225**	*e*P		**Pb**		**20 12 45.0**	**-0.8**
MT04				*i*	S	**Sb**		**20 13 21.6**	**+1.2**
MT04				IAML				20 13 25.4	
comp=E,720nm,0.3s									
GO04	**Tololo Observa**	**2.91**	**295**	*e*P		**Pb**		**20 12 46.7**	**-1.2**
GO04				*e*S		**Sb**		**20 13 24.9**	**+1.0**
GO04	**Tololo Observa**	**2.91**	**295**	*e*P		**Pb**		**20 12 46.3**	**-1.6**
GO04				*i*	S	**Sb**		**20 13 23.7**	**-0.1**
PEL	**Peldehue**	**2.98**	**235**	*e*P		**Pb**		**20 12 47.4**	**-1.7**
PEL	**Peldehue**	**2.98**	**235**	*e*P		**Pb**		**20 12 46.9**	**-2.2**
PEL				*i*	S	**Sb**		**20 13 25.1**	**-0.8**
PEL				IAML				20 13 35.3	
comp=E,540nm,0.5s									
MT03	**Universidad Ad**	**3.08**	**228**	*e*P		**Pb**		**20 12 49.0**	**-1.8**
MT03				*e*S		**Sg**		**20 13 33.6**	**-0.7**
MT03				IAML				20 13 34.9	
comp=Z,455nm,0.7s									
ROC1	**El Roble**	**3.14**	**240**	*e*P		**Pb**		**20 12 48.7**	**-3.2**
CO05	**La Serena**	**3.36**	**296**	*e*P		**Pn**		**20 12 51.7**	**+3.1**
CO05				*i*	S	**Sb**		**20 13 32.6**	**-4.1**
MT02	**Curacav**	**3.37**	**237**	*e*P		**Pn**		**20 12 51.5**	**+2.8**
MT02				IAML				20 13 42.9	
comp=Z,399nm,1.0s									
CYA	**Choya**	**3.46**	**30**	*e*P		**Pb**		**20 12 54.3**	**-3.0**
CYA				IAML				20 13 58.2	
comp=Z,480nm,0.8s									
LCO	**Las Campanas**	**3.52**	**313**	*e*P		**Pb**		**20 12 54.8**	**-3.6**
MT01	**Popeta**	**3.79**	**230**	*e*P		**Pn**		**20 12 56.9**	**+2.4**
MT01				IAML				20 13 57.3	
comp=Z,256nm,0.6s									
AC02	**Maricunga**	**4.76**	**345**	*e*P		**Pn**		**20 13 13.1**	**+4.7**
LVC	**Limon Verde**	**8.88**	**353**	Pn		**Pn**		**20 14 06.3**	**+1.5**
comp=Z,1.1nm,0.3s,baz=285,slow=7.1,SNR=9.3									
LVC				Sn		**Sn**		**20 15 42.8**	**-2.6**
comp=Z,0.3nm,0.3s,baz=184,slow=21,SNR=0.8									
LVC				Lg		Lg		20 16 34.7	
comp=Z,0.6nm,0.3s,baz=165,slow=22,SNR=1.8									
LVC				LR		LR		20 17 40.5	
comp=Z,94nm,19.0s,baz=211,slow=39									
comp=Z,7.4nm,0.6s									
PLCA	**Paso Flores**	**9.52**	**193**	Pn		**Pn**		**20 14 13.1**	**-0.3**
comp=Z,0.1nm,0.3s,baz=22,slow=18,SNR=1.7									
PLCA				Lg		Lg		20 16 55.5	
comp=Z,0.5nm,0.3s,baz=91,slow=20,SNR=2.3									
comp=Z,1.8nm,1.1s									
CPUP	**Villa Florida**	**10.48**	**63**	Pn		**Pn**		**20 14 26.7**	**+0.3**
comp=Z,0.7nm,0.3s,baz=243,slow=12,SNR=7.4									
CPUP				LR		LR		20 19 01.8	
comp=Z,188nm,18.4s,baz=174,slow=40									
comp=Z,2.5nm,0.5s									
LPAZ	**La Paz**	**15.11**	**359**	Pn		**P**		**20 15 35.6**	**-0.1**
comp=Z,0.6nm,0.3s,baz=170,slow=2.7,SNR=9.9									

TXAR	**Lajitas Array**	**69.43**	**327**	P		**P**		**20 23 05.2**	**+0.5**
comp=Z,0.4nm,0.7s,baz=150,slow=7.3,SNR=4.2									
comp=Z,0.4nm,0.7s									
TORD	**Torodi Ar. Bea**	**79.94**	**68**	P		**P**		**20 24 06.8**	**+0.8**
comp=Z,1.1nm,0.9s,baz=235,slow=5.1,SNR=6.3									
comp=Z,1.1nm,0.9s									
NVAR	**Mina Array Bea**	**83.97**	**322**	P		**P**		**20 24 28.1**	**+1.1**
comp=Z,0.3nm,0.4s,baz=164,slow=3.6,SNR=1.9									
comp=Z,0.3nm,0.4s									
ASAR	**Alice Springs**	**121.39**	**203**	PKP		**PKPdf**		**20 30 49.8**	**-0.8**
comp=Z,0.4nm,1.1s,baz=129,slow=1.3,SNR=1.6									
WRA	**Warramunga Arr**	**124.66**	**205**	PKP		**PKPdf**		**20 30 56.1**	**-0.8**
comp=Z,0.3nm,0.4s,baz=158,slow=1.8,SNR=9.8									
KURBB	**Kurchatov Arra**	**148.57**	**43**	PKPbc		**PKiKP**		**20 31 44.2**	**-0.5**
comp=Z,0.3nm,0.5s,baz=296,slow=3.3,SNR=4.6									
ZALV	**Zalesovo Beam**	**150.15**	**33**	PKPbc		**PKiKP**		**20 31 47.7**	**-0.1**
comp=Z,0.8nm,0.4s,baz=306,slow=3.4,SNR=4.3									
MKAR	**Makanchi Array**	**152.40**	**48**	PKPbc		**PKPbc**		**20 31 51.9**	**-0.6**
comp=Z,0.2nm,0.5s,baz=302,slow=2.2,SNR=4.5									
MKAR				PKPab		**pPKPab**		**20 32 05.0**	**+0.6**
comp=Z,0.3nm,0.6s,baz=294,slow=2.3,SNR=4.2									

IDC 13 20:16:58.3±6.4,5°93S×141°34E,h0km,mb3.5/2,
mbtmp3.3/4,ML3.1/2,Error ellipse: s-maj=245.8km
s-min=34.1km az=95.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.50**	**205**	Pn		Pn	Pn	20 20 36.9	-1.5
0.1nm,0.3s,baz=24,slow=13,SNR=5.8									
0.7nm,1.0s									
ASAR	**Alice Springs**	**19.03**	**201**	P		Pn		20 21 22.4	-0.2
0.1nm,0.3s,baz=30,slow=10,SNR=4.3									
0.5nm,0.8s									
MKAR	**Makanchi Array**	**73.92**	**322**	P		P		20 28 36.2	+0.8
0.2nm,0.6s,baz=121,slow=6.9,SNR=2.0									
0.2nm,0.6s									
BVAR	**Borovoye Array**	**83.44**	**325**	P		P		20 29 26.9	-0.7
0.3nm,0.5s,baz=116,slow=3.4,SNR=2.6									
0.3nm,0.5s									

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*IDC **13** 20:34:10.3±1.2,25°86N×143°27E,h0km,mb3.5/9,*
mbtmp3.5/9,Error ellipse: s-maj=36.1km s-min=18.3km
az=73.0
ISC 13 20:34:15.5±1.1,25°9N±0.1×143°3E±0.2,h35km,n10,
σ0s93/11,mb3.6/9,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.55**	**322**	Pn		**Pn**		**20 34 38.9**	**-1.7**
21nm,0.3s,baz=114,slow=20,SNR=45									
JCJ				Sn		**Sn**		**20 35 00.1**	**+0.6**
54nm,0.3s,baz=153,slow=16,SNR=18									
SONM	**Songino Array**	**36.26**	**317**	P		**P**		**20 41 15.8**	**+0.3**
0.3nm,0.4s,baz=105,slow=6.7,SNR=1.9									
0.3nm,0.4s									
CMAR	**Chiang Mai Arr**	**41.53**	**269**	P		**P**		**20 41 59.9**	**+0.1**
0.2nm,0.4s,baz=68,slow=7.3,SNR=1.2									
0.2nm,0.4s									
WRA	**Warramunga Arr**	**46.35**	**192**	P		**P**		**20 42 37.8**	**-0.6**
0.6nm,0.4s,baz=12,slow=8.5,SNR=12									
0.6nm,0.4s									
ASAR	**Alice Springs**	**50.06**	**191**	P		**P**		**20 43 06.8**	**-0.2**
0.2nm,0.6s,baz=23,slow=12,SNR=1.7									
0.2nm,0.6s									
MKAR	**Makanchi Array**	**51.99**	**310**	P		**P**		**20 43 22.7**	**+1.4**
0.3nm,0.9s,baz=106,slow=8.3,SNR=2.3									
0.3nm,0.9s									
KURBB	**Kurchatov Arra**	**54.58**	**315**	P		**P**		**20 43 40.5**	**+0.3**
0.2nm,0.4s,baz=92,slow=7.9,SNR=4.4									
0.2nm,0.4s									
ILAR	**Eielson Array**	**58.34**	**28**	P		**P**		**20 44 06.5**	**-0.2**
0.5nm,0.8s,baz=280,slow=5.4,SNR=3.9									
0.5nm,0.8s									
BVAR	**Borovoye Array**	**59.59**	**318**	P		**P**		**20 44 15.1**	**-0.5**
0.4nm,0.4s,baz=104,slow=6.5,SNR=4.6									
0.4nm,0.4s									
FINES	**FINESS Array B**	**79.47**	**334**	P		**P**		**20 46 19.0**	**+1.0**
0.7nm,0.5s,baz=37,slow=3.5,SNR=5.1									
0.7nm,0.5s									

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*IDC **13** 20:43:26.3±1.4,6°02S×142°66E,h0km,mb3.6/3,*
mbtmp3.8/6,ML3.9/2,Error ellipse: s-maj=33.2km
s-min=23.7km az=79.0
*NEIC **13** 20:43:29.1±2.5,6°11S±0°10×142°61E±0°09,h10km±1km,*
mb4.1/9,Error ellipse: s-maj=16.8km s-min=15.0km
az=193.0
ISC 13 20:43:31.2±0.8,6°17S±0°09×142°57E±0°07,h28km,n19,
σ1s49/22,mb3.9/4,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.57**	**126**	Pn		**Pn**	**Pn**	**20 44 52.1**	**-0.3**
PMG				Sn		**Sn**	**Sn**	**20 45 55.7**	**+0.2**
PMG	**Port Moresby**	**5.57**	**126**	Pn		**Pn**	**Pn**	**20 44 52.0**	**-0.3**
13nm,0.4s,baz=294,slow=18,SNR=9.1									
PMG				Sn		**Sn**	**Sn**	**20 45 56.2**	**+0.7**
4.0nm,0.3s,baz=280,slow=11,SNR=2.5									
COEN	**Coen**	**7.77**	**176**	Pn		**Pn**	**Pn**	**20 45 25.9**	**+3.5**
FAKI	**Fak Fak**	**10.78**	**287**	Pn		**Pn**	**Pn**	**20 46 04.8**	**+1.0**
MTN	**Manton Dam**	**13.08**	**239**	Pn		**Pn**	**Pn**	**20 46 34.4**	**-0.8**
WR0	**Warramunga Arr**	**15.78**	**209**	Pn		**Pn**	**Pn**	**20 47 10.6**	**-1.0**
WR0				IAmb		IAmb	IAmb	20 47 23.9	
comp=Z,11nm,1.4s									
WB2	**Warramunga Arr**	**15.85**	**209**	Pn		**Pn**	**Pn**	**20 47 11.9**	**-0.6**
WB2				IAmb		IAmb	IAmb	20 47 32.7	
comp=Z,11nm,1.4s									
WRA	**Warramunga Arr**	**15.86**	**210**	Pn		**Pn**	**Pn**	**20 47 11.6**	**-1.0**
comp=Z,0.3nm,0.3s,baz=32,slow=14,SNR=20									
WRA				Sn		**Sn**	**Sn**	**20 50 03.2**	**-4.5**
comp=Z,0.5nm,0.3s,baz=22,slow=24,SNR=5.5									
WRA				Lg		Lg		20 51 57.5	
comp=Z,0.1nm,0.3s,baz=36,slow=27,SNR=4.1									
comp=Z,0.7nm,0.5s									
KNRA	**Kununurra**	**16.51**	**234**			**Pn**	**Pn**	**20 47 19.6**	**-1.3**
KNRA				IAmb		IAmb	IAmb	20 47 34.1	
comp=Z,13nm,1.1s									
AS31	**Alice Springs**	**19.29**	**205**	P		**Pn**	**Pn**	**20 47 54.8**	**-0.4**
ASAR	**Alice Springs**	**19.30**	**205**	P		**Pn**	**Pn**	**20 47 55.8**	**+0.6**
ASAR	**Alice Springs**	**19.30**	**205**	P		**Pn**	**Pn**	**20 47 55.6**	**+0.3**
comp=Z,0.7nm,0.3s,baz=28,slow=12,SNR=61									
ASAR				Lg		Lg		20 53 45.0	
baz=21,slow=29,SNR=2.8									
comp=Z,5.4nm,0.7s									
FITZ	**Fitzroy Crossi**	**20.34**	**233**	P		**P**	**P**	**20 48 05.8**	**+0.3**
MKAR	**Makanchi Array**	**74.86**	**322**	P		**P**	**P**	**20 55 08.7**	**-0.6**
comp=Z,0.1nm,0.5s,baz=108,slow=7.7,SNR=1.9									
comp=Z,0.1nm,0.5s									
QSPA	**South Pole Qui**	**83.80**	**180**	P		**P**	**P**	**20 55 58.0**	**+0.1**
QSPA	**South Pole Qui**	**83.80**	**180**	P		**P**	**P**	**20 55 57.8**	**-0.1**
comp=Z,0.5nm,0.6s,baz=330,slow=6.3,SNR=1.1									
comp=Z,0.5nm,0.6s									
BVAR	**Borovoye Array**	**84.33**	**325**	P		**P**	**P**	**20 55 60.0**	**-0.6**
comp=Z,0.7nm,0.8s,baz=90,slow=4.3,SNR=3.8									
comp=Z,0.7nm,0.8s									
TOLK	**Toolik Lake Re**	**87.82**	**20**	P		**P**	**P**	**20 56 18.9**	**+1.4**
C23K	**Itkillik River**	**87.96**	**19**	P		**P**	**P**	**20 56 17.7**	**-0.4**
C23K				IAmb		IAmb	IAmb	20 56 58.5	
comp=Z,3.6nm,1.5s									

IDC 13 20:43:45.9±836.0,53°34N×3°62E,h0km,Error ellipse:
s-maj=369.6km s-min=144.8km az=119.0,North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**7.78**	**121**	I		I	I	21 29 30.0	
baz=310,slow=317,SNR=0.4									
I48TN	**KESRA INFRASON**	**17.98**	**165**	I		I	I	22 31 10.0	
baz=349,slow=319,SNR=1.6									
I43RU	**DUBNA INFRASON**	**19.44**	**66**	I		I	I	22 41 40.0	
baz=275,slow=318,SNR=2.4									

IDC 13 20:44:44.3±5.0,6°13S×141°99E,h0km,mb3.8/3,
mbtmp3.8/5,ML3.8/1,Error ellipse: s-maj=189.8km
s-min=31.6km az=96.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.62**	**208**	Pn		Pn	Pn	20 48 24.6	-1.3
0.4nm,0.4s,baz=29,slow=12,SNR=1.7									
ASAR	**Alice Springs**	**19.10**	**203**	P		Pn		20 49 09.4	-0.1
0.3nm,0.3s,baz=34,slow=10.0,SNR=6.8									
2.7nm,0.7s									

MKAR	**Makanchi Array**	**74.47**	**322**	P		P		20 56 25.0	+0.3
0.4nm,0.7s,baz=103,slow=7.3,SNR=5.0									
0.4nm,0.7s									
KURBB	**Kurchatov Arra**	**78.39**	**324**	P		P		20 56 46.1	-0.6
0.4nm,0.8s,baz=117,slow=4.0,SNR=2.1									
0.4nm,0.8s									
BVAR	**Borovoye Array**	**83.97**	**325**	P		P		20 57 16.5	+0.1
1.4nm,0.7s,baz=111,slow=6.5,SNR=8.5									
1.4nm,0.7s									

IDC 13 20:53:31.6±2.1,3°26S×140°33E,h0km,mb3.2/2,
mbtmp3.6/4,ML4.0/1,Error ellipse: s-maj=57.6km
s-min=31.4km az=75.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.12**	**132**	P		Pn	Pn	20 55 44.6	0.0
5.0nm,0.4s,baz=286,slow=20,SNR=1.6									
WRA	**Warramunga Arr**	**17.58**	**199**	P		Pn		20 57 37.9	-0.4
0.5nm,0.3s,baz=24,slow=12,SNR=25									
0.6nm,0.4s									
ASAR	**Alice Springs**	**21.21**	**196**	P		P		20 58 19.4	+0.2
1.0nm,0.7s,baz=24,slow=9.9,SNR=9.9									
1.0nm,0.7s									
MKAR	**Makanchi Array**	**71.22**	**322**	P		P		21 04 52.7	0.0
0.1nm,0.4s,baz=101,slow=7.5,SNR=1.5									
0.1nm,0.4s									

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*IDC **13** 20:56:48.1±4.6,4°65S×102°73E,h0km,mb3.4/5,*
mbtmp3.4/5,Error ellipse: s-maj=209.4km s-min=23.4km
az=54.0
*DJA **13** 20:56:53.0±0.6,5°S±4°×10°3E±°,h20km±7km,M3.7/6,*
MLv3.7/6
ISC 13 20:56:53.7±1.1,4°9S±0.1×102°68E±0.09,h44km,n14,
σ1s29/12,mb3.5/5,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.61**	**27**	P		**Pn**		**20 57 06.6**	**+0.6**
LHSI	**Lahat**	**1.36**	**38**	P		**Pn**		**20 57 17.7**	**+1.5**
LWLI	**Liwa**	**1.38**	**95**	P		**Pn**		**20 57 16.7**	**+0.1**
KASI	**Kota Agung**	**1.91**	**109**	P		**Pn**		**20 57 24.0**	**+0.2**
KASI				S		**Sn**		**20 57 47.4**	**+0.8**
BLSI	**Bandar Lampung**	**2.60**	**100**	P		**Pn**		**20 57 33.4**	**+0.2**
PPSI	**Pulau Pagai**	**3.41**	**309**	P		**Pn**		**20 57 45.6**	**+1.2**
CMAR	**Chiang Mai Arr**	**23.50**	**351**	P		**P**		**21 01 57.8**	**-2.0**
0.1nm,0.3s,baz=184,slow=9.3,SNR=1.9									
0.1nm,0.3s									
WRA	**Warramunga Arr**	**34.24**	**119**	P		**P**		**21 03 36.2**	**+0.5**
0.2nm,0.6s,baz=307,slow=2.9,SNR=1.4									
0.2nm,0.6s									
ASAR	**Alice Springs**	**35.40**	**125**	P		**P**		**21 03 47.4**	**+1.7**
0.2nm,0.3s,baz=297,slow=7.7,SNR=4.3									
0.2nm,0.3s									
MKAR	**Makanchi Array**	**54.55**	**343**	P		**P**		**21 06 16.5**	**-0.8**
0.3nm,0.5s,baz=153,slow=9.0,SNR=5.0									
0.3nm,0.5s									
H04N2	**CROZET ISLANDS**	**60.13**	**218**	T		T		22 11 26.5	
baz=62,slow=74									
H04N1	**CROZET ISLANDS**	**60.14**	**218**	T		T		22 11 27.4	
baz=62									
H04N3	**CROZET ISLANDS**	**60.15**	**218**	T		T		22 11 24.9	
baz=62,slow=74									
ZALV	**Zalesovo Beam**	**60.52**	**348**	P		**P**		**21 06 57.6**	**-1.6**
0.6nm,0.4s,baz=159,slow=6.5,SNR=3.0									
0.6nm,0.4s									

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*IPEC **13** 21:01:03.9±0.3,49°84N×18°55E,h1km,ML2.3/3,Error*
ellipse: s-maj=2.0km s-min=1.7km az=57.0
*VIE **13** 21:01:04.4±0.6,49°67N×18°48E,h0km,mb2.3/5,ml2.5/4,*
Error ellipse: s-maj=5.7km s-min=2.7km az=57.0,
Suspected Mining induced.
*PRU **13** 21:01:06.4,49°82N×18°39E,h0km,Mining Induced Event*
Csm, E=4.1e+06
ISC 13 21:01:03.2±0.8,49°81N±0.03×18°48E±0.02,h0km,n33,
σ0s77/59,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.22**	**277**	*e*PG		**Pg**		**21 01 09.4**	**+2.0**
OKC				*e*SG		**Sg**		**21 01 12.8**	**+2.5**
comp=Z,310nm,0.6s									
RAC	**Raciborz**	**0.33**	**325**	*e*PG		**Pb**		**21 01 11.3**	**-0.7**
RAC				*e*SG		**Sb**		**21 01 17.2**	**-0.7**
MORC	**Moravsky Berou**	**0.61**	**267**	*e*Pg		**Pb

KHC				*e*SG	**Sg**	**21 02 47.7**	**-0.6**
	comp=Z,18nm,0.5s								
CLL	**Collm**	**3.80**	**295**	*e*Pg	**Pg**	**21 02 16.0**	**-0.1**
CLL				*ex*	x	21 02 58.0	
CLL				*e*Sg	**Sg**	**21 03 05.0**	**-0.3**
	comp=Z,15nm,0.6s								
KBA	**Koelnbreinsper**	**4.38**	**233**	*e*Pn	**Pn**	**21 02 11.3**	**+0.2**
	comp=Z,0.6nm,0.4s								
KBA				*e*Sn	**Sn**	**21 03 03.3**	**+0.3**
	comp=Z,1.0nm,0.3s								

KRSC ***13*** *21:18:19.0±1.4,54˚.56N×162˚.23E,h48km±25km, Ml4.9, Felt [II-III] at kordon Kronoki.*
MOS ***13*** *21:18:21.4±0.9,54˚.64N×162˚.04E,h50km, mb4.4/18, MS3.4/4, Error ellipse: s-maj=7.1km s-min=4.0km az=86.7*
NEIC ***13*** *21:18:21.7±1.6,54˚.69N±0˚.08×161˚.85E±0˚.2,h35km±2km, mb4.4/35, Error ellipse: s-maj=17.1km s-min=12.4km az=125.0*
IDC ***13*** *21:18:23.6±1.8,54˚.79N×161˚.74E,h47km±18km, mb3.9/26, mbtmp4.2/30, ML4.0/4, MS3.5/41, Error ellipse: s-maj=14.8km s-min=11.4km az=142.0*
ISC 13 21:18:22.7±0.8, 54˚.61N±0˚.04×162˚.05E±0˚.03, h47km±8km, n462,σ1§26/455, mb4.3/64, MS3.5/41, 20C-2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TUMD	**Tumrok D**	**1.13**	**303**	*e*P		**Pn**	**21 18 40.7**	**-1.4**
TUMR	**Tumrok**	**1.29**	**302**	P	N	**Pn**	**21 18 43.9**	**-0.5**
TUMR	**Tumrok**	**1.29**	**302**	*e*P		**Pn**	**21 18 43.9**	**-0.5**
BZGR	**Bezymyannyi-Gr**	**1.54**	**330**	P	N	**Pn**	**21 18 47.0**	**-0.9**
BZGR	**Bezymyannyi-Gr**	**1.54**	**330**	*e*P		**Pn**	**21 18 47.0**	**-0.9**
KMNR	**Kamenistaya**	**1.55**	**319**	P	N	**Pn**	**21 18 47.5**	**-0.4**
KMNR	**Kamenistaya**	**1.55**	**319**	*e*P		**Pn**	**21 18 47.5**	**-0.4**
BZP	**Bezymyannyi-Pe**	**1.57**	**327**	*e*P		**Pn**	**21 18 47.2**	**-1.0**
ZLN	**Zelenaya**	**1.58**	**334**	P	N	**Pn**	**21 18 48.2**	**-0.1**
ZLN	**Zelenaya**	**1.58**	**334**	*e*P		**Pn**	**21 18 48.2**	**-0.1**
BZMR	**Bezymyannaya**	**1.60**	**327**	P	N	**Pn**	**21 18 48.0**	**-0.7**
BZMR	**Bezymyannaya**	**1.60**	**327**	*e*P		**Pn**	**21 18 48.0**	**-0.7**
BZWR	**Bezymyannyi-We**	**1.62**	**327**	P	N	**Pn**	**21 18 48.7**	**-0.3**
BZWR	**Bezymyannyi-We**	**1.62**	**327**	*e*P		**Pn**	**21 18 48.7**	**-0.3**
KIRR	**Kirishev**	**1.67**	**325**	P	N	**Pn**	**21 18 49.0**	**-0.5**
KIRR	**Kirishev**	**1.67**	**325**	*e*P		**Pn**	**21 18 49.0**	**-0.5**
LGNR	**Loginova**	**1.67**	**333**	P	N	**Pn**	**21 18 49.4**	**-0.3**
LGNR	**Loginova**	**1.67**	**333**	*e*P		**Pn**	**21 18 49.4**	**-0.3**
CIRR	**Tsirk**	**1.69**	**334**	P	N	**Pn**	**21 18 50.0**	**+0.2**
CIRR	**Tsirk**	**1.69**	**334**	*e*P		**Pn**	**21 18 50.0**	**+0.2**
KBG	**Krutoberegovo**	**1.69**	**12**	P	N	**Pn**	**21 18 49.0**	**-0.7**
KBG				S		**Sn**	**21 19 12.8**	**+2.6**
KBG	**Krutoberegovo**	**1.69**	**12**	*e*P		**Pn**	**21 18 49.0**	**-0.7**
KBG				*e*S		**Sn**	**21 19 12.8**	**+2.6**
KPT	**Kopyto**	**1.72**	**323**	P	N	**Pn**	**21 18 49.6**	**-0.6**
KPT	**Kopyto**	**1.72**	**323**	*e*P		**Pn**	**21 18 49.6**	**-0.6**
KRSR	**Krestovskiy**	**1.82**	**333**	P	N	**Pn**	**21 18 50.5**	**-1.1**
KRSR	**Krestovskiy**	**1.82**	**333**	*e*P		**Pn**	**21 18 50.5**	**-1.1**
KLY	**Klyuchi**	**1.89**	**336**	P	N	**Pn**	**21 18 51.9**	**-0.5**
KLY	**Klyuchi**	**1.89**	**336**	*e*P		**Pn**	**21 18 51.9**	**-0.5**
KOZ	**Kozyrevsk**	**1.91**	**320**	P	N	**Pn**	**21 18 52.8**	**0.0**
KOZ	**Kozyrevsk**	**1.91**	**320**	*e*P		**Pn**	**21 18 52.8**	**0.0**
SPN	**Mys Shipunski**	**1.93**	**219**	P	N	**Pn**	**21 18 52.5**	**-0.5**
SPN				S		**Sn**	**21 19 12.8**	**-3.3**
SPN	**Mys Shipunski**	**1.93**	**219**	*e*P		**Pn**	**21 18 52.5**	**-0.5**
SPN				*e*S		**Sn**	**21 19 12.8**	**-3.3**
BDR	**Baidarnaya**	**2.02**	**347**	P	N	**Pn**	**21 18 54.0**	**-0.4**
BDR	**Baidarnaya**	**2.02**	**347**	*e*P		**Pn**	**21 18 54.0**	**-0.4**
NLC	**Nalytchevo**	**2.15**	**229**	P	N	**Pn**	**21 18 55.0**	**-1.0**
NLC	**Nalytchevo**	**2.15**	**229**	*e*P		**Pn**	**21 18 55.0**	**-1.0**
SRDR	**Sredinnyy**	**2.17**	**323**	P	N	**Pn**	**21 18 56.0**	**-0.3**
SRDR	**Sredinnyy**	**2.17**	**323**	*e*P		**Pn**	**21 18 56.0**	**-0.3**
ESO	**Esso**	**2.33**	**306**	P	N	**Pn**	**21 18 58.8**	**+0.3**
ESO	**Esso**	**2.33**	**306**	*e*P		**Pn**	**21 18 58.8**	**+0.3**
BKI	**Bering**	**2.34**	**74**	P	N	**Pn**	**21 18 56.5**	**-2.1**
BKI				S		**Sn**	**21 19 22.0**	**-4.1**
BKI	**Bering**	**2.34**	**74**	*e*P		**Pn**	**21 18 56.5**	**-2.1**
BKI				*e*S		**Sn**	**21 19 22.0**	**-4.1**
SMAR	**Somma**	**2.35**	**236**	P	N	**Pn**	**21 18 59.2**	**+0.3**
SMAR	**Somma**	**2.35**	**236**	*e*P		**Pn**	**21 18 59.2**	**+0.3**
KRER	**Koryakskii**	**2.35**	**238**	P	N	**Pn**	**21 18 59.4**	**+0.5**
KRER	**Koryakskii**	**2.35**	**238**	*e*P		**Pn**	**21 18 59.4**	**+0.5**
KRX	**Arik**	**2.37**	**239**	P	N	**Pn**	**21 18 59.1**	**0.0**
KRX				S		**Sn**	**21 19 27.8**	**+0.8**
KRX	**Arik**	**2.37**	**239**	*e*P		**Pn**	**21 18 59.1**	**0.0**
KRX				*e*S		**Sn**	**21 19 27.8**	**+0.8**
AVH	**Avacha**	**2.38**	**237**	P	N	**Pn**	**21 18 59.6**	**+0.4**
AVH				S		**Sn**	**21 19 28.6**	**+1.5**
AVH	**Avacha**	**2.38**	**237**	*e*P		**Pn**	**21 18 59.6**	**+0.4**
AVH				*e*S		**Sn**	**21 19 28.6**	**+1.5**
KOK	**Koryaka**	**2.41**	**238**	P	N	**Pn**	**21 19 00.1**	**+0.4**
KOK				S		**Sn**	**21 19 29.4**	**+1.4**
KOK	**Koryaka**	**2.41**	**238**	*e*P		**Pn**	**21 19 00.1**	**+0.4**
KOK				*e*S		**Sn**	**21 19 29.4**	**+1.4**
DALK	**Dalny**	**2.51**	**232**	P	N	**Pn**	**21 19 00.6**	**-0.3**
DALK				S		**Sn**	**21 19 30.2**	**-0.1**
DALK	**Dalny**	**2.51**	**232**	*e*P		**Pn**	**21 19 00.6**	**-0.3**
DALK				*e*S		**Sn**	**21 19 30.2**	**-0.1**
INSR	**Institute**	**2.56**	**234**	*e*P		**Pn**	**21 19 02.2**	**+0.6**
PET	**Petropavlovsk**	**2.56**	**233**			**Pn**	**21 19 01.3**	**-0.3**
PET	**Petropavlovsk**	**2.56**	**233**	*e*PN		**Pn**	**21 19 01.6**	**-0.1**
PET				*e*S		**Sn**	**21 19 31.6**	**0.0**
PET				pmax	pmax			
	comp=Z,521nm,0.5s							
PET				smax	smax			
	comp=N,3μm,0.7s							
PET				smax	smax			
	comp=E,3μm,0.5s							
PET				MLR	MLR			
	comp=Z,900nm,14.0s							
PET				MLR	MLR			
	comp=Z,1μm,12.0s							
PET	**Petropavlovsk**	**2.56**	**233**	*e*P		**Pn**	**21 19 01.9**	**+0.2**
PET				*e*S		**Sn**	**21 19 32.1**	**+0.5**
GNL	**Ganaly**	**2.58**	**251**	P	N	**Pn**	**21 19 02.7**	**+0.6**
GNL	**Ganaly**	**2.58**	**251**	*e*P		**Pn**	**21 19 02.7**	**+0.6**
KRMR	**Karymshinskiy**	**2.93**	**234**	P	N	**Pn**	**21 19 07.6**	**+0.9**
KRMR				S		**Sn**	**21 19 41.7**	**+1.0**
KRMR	**Karymshinskiy**	**2.93**	**234**	*e*P		**Pn**	**21 19 07.6**	**+0.9**
KRMR				*e*S		**Sn**	**21 19 41.7**	**+1.0**
PEA0B	**Petropavlovsk-**	**2.98**	**242**			**Pn**	**21 19 07.3**	**-0.1**
PEA0B	**Petropavlovsk-**	**2.98**	**242**	*i* PN		**Pn**	**21 19 07.6**	**+0.1**
PETK	**Petropavlovsk-**	**2.98**	**242**			**Pn**	**21 19 06.8**	**-0.7**
PETK	**Petropavlovsk-**	**2.98**	**242**	P	N	**Pn**	**21 19 06.4**	**-1.0**
	comp=Z,30nm,0.3s,baz=68,slow=15,SNR=145							
PETK				S		**Sn**	**21 19 42.2**	**+0.2**
	comp=Z,71nm,0.4s,baz=85,slow=22,SNR=8.7							
	comp=Z,50nm,0.5s							
RUS	**Russkaya**	**3.03**	**226**	P	N	**Pn**	**21 19 08.4**	**+0.3**
RUS				S		**Sn**	**21 19 43.7**	**+0.6**
RUS	**Russkaya**	**3.03**	**226**	*e*P		**Pn**	**21 19 08.4**	**+0.3**
RUS				*e*S		**Sn**	**21 19 43.7**	**+0.6**
MTVR	**Mutnovka**	**3.14**	**229**	P	N	**Pn**	**21 19 09.8**	**+0.1**
MTVR	**Mutnovka**	**3.14**	**229**	*e*P		**Pn**	**21 19 09.8**	**+0.1**
ASAK	**Asacha**	**3.33**	**230**	P	N	**Pn**	**21 19 13.9**	**+1.6**
ASAK				S		**Sn**	**21 19 54.3**	**+3.6**
ASAK	**Asacha**	**3.33**	**230**	*e*P		**Pn**	**21 19 13.9**	**+1.6**
ASAK				*e*S		**Sn**	**21 19 54.3**	**+3.6**
APC	**Apacha**	**3.36**	**242**	P	N	**Pn**	**21 19 10.4**	**-2.1**
APC	**Apacha**	**3.36**	**242**	*e*P		**Pn**	**21 19 10.4**	**-2.1**
KDTR	**Khodutka, Kamc**	**3.68**	**222**	P	N	**Pn**	**21 19 17.3**	**+0.3**
KDTR	**Khodutka, Kamc**	**3.68**	**222**	*e*P		**Pn**	**21 19 17.3**	**+0.3**
PAU	**Pauzhetka**	**4.46**	**227**	P	N	**Pn**	**21 19 30.7**	**+3.0**
PAU	**Pauzhetka**	**4.46**	**227**	*e*P		**Pn**	**21 19 30.7**	**+3.0**
OSSR	**Ossora**	**4.69**	**6**	P	N	**Pn**	**21 19 30.4**	**-0.3**
OSSR	**Ossora**	**4.69**	**6**	*e*P		**Pn**	**21 19 30.4**	**-0.3**
SKR	**Severo-Kuril's**	**5.34**	**225**	*e*PN		**Pn**	**21 19 41.2**	**+1.5**
SKR				*e*S		**Sn**	**21 20 41.7**	**+1.9**
SKR				smax	smax			
	comp=N,774nm,0.9s							
SKR				smax	smax			
	comp=E,1μm,0.8s							
SKR				MLR	MLR			
	comp=Z,1μm,16.0s							
SKR	**Severo-Kuril's**	**5.34**	**225**	*e*P		**Pn**	**21 19 42.0**	**+2.3**
TILK	**Tilichiki**	**6.25**	**19**	PN		**Pn**	**21 19 52.4**	**+0.2**
TILK	**Tilichiki**	**6.25**	**19**	*e*P		**Pn**	**21 19 52.4**	**+0.2**
SHEM	**Shemya Is, Ala**	**7.40**	**100**	P		**Pn**	**21 20 07.2**	**-0.8**
	comp=Z,30nm,0.6s,baz=250,slow=16,SNR=1.4							
SHEM				S		**Sn**	**21 21 25.9**	**-4.6**
	comp=Z,147nm,1.1s,baz=249,slow=23,SNR=3.9							
SHEM				LR		LR	21 23 05.2	
	comp=Z,268nm,21.3s,baz=296,slow=37							
MA2	**Magadan**	**7.90**	**314**	Pn		**Pn**	**21 20 14.9**	**0.0**
MA2	**Magadan**	**7.90**	**314**	*e*PN		**Pn**	**21 20 14.7**	**-0.2**
MA2				pmax	pmax			
	comp=Z,16nm,1.0s							
MA2	**Magadan**	**7.90**	**314**	P		**Pn**	**21 20 15.7**	**+0.8**
	comp=Z,9.0nm,0.6s,baz=150,slow=11,SNR=11							
MA2				LR		LR	21 23 40.8	
	comp=Z,301nm,21.0s,baz=140,slow=42							
SEY	**Seymchan**	**9.73**	**333**	P		**Pn**	**21 20 42.5**	**+2.8**
	comp=Z,0.7nm,0.3s,baz=166,slow=23,SNR=1.9							
TYV	**Tymovskoe**	**12.33**	**260**	*e*PN		Pn	21 21 20.2	+4.8
TYV				pmax	pmax			
	comp=Z,6.0nm,0.9s							
TYV				pmax	pmax			
	comp=Z,100nm,0.1s							
BILL	**Bilibino**	**13.62**	**7**			**Pn**	**21 21 34.1**	**+1.1**
BILL	**Bilibino**	**13.62**	**7**	*e*P		**Pn**	**21 21 31.4**	**-1.5**
BILL				pmax	pmax			
	comp=Z,4.0nm,1.0s							
YSS	**Yuzh-Sakhalins**	**14.38**	**246**	*ce*P		**Pn**	**21 21 43.3**	**+0.1**
YSS				pmax	pmax			
	comp=Z,43nm,2.5s							
SPIA	**Saint Paul Isl**	**15.70**	**69**	P		**Pn**	**21 22 01.1**	**+0.7**
	baz=273							
GAMB	**Gambell**	**16.16**	**45**	P		**Pn**	**21 22 06.1**	**0.0**
	baz=248							
JKA	**Kamikawa-asahi**	**16.40**	**238**			**Pn**	**21 22 07.2**	**-2.1**
JKA				IAmb	IAmb		21 22 15.1	
	comp=Z,25nm,1.0s							
ASAJ	**Asahikawa**	**16.40**	**238**	P		**Pn**	**21 22 07.2**	**-2.1**
ASAJ				pmax	pmax			
	comp=Z,25nm,1.0s							
ASAJ	**Asahikawa**	**16.40**	**238**	P		**P**	**21 22 10.4**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=72,slow=9.6,SNR=5.4							
ASAJ				LR		LR	21 27 46.7	
	comp=Z,133nm,21.3s,baz=360,slow=34							
	comp=Z,17nm,0.8s							
ERM	**Erimo**	**17.72**	**232**	Pn		**Pn**	**21 22 22.9**	**-2.8**
ERM	**Erimo**	**17.72**	**232**	P		**Pn**	**21 22 22.9**	**-2.8**
ERM				pmax	pmax			
	comp=Z,142nm,1.4s							
YAK	**Yakutsk**	**18.39**	**307**	P		**P**	**21 22 30.2**	**-3.1**
YAK				IAmb	IAmb		21 22 35.8	
	comp=Z,37nm,0.8s							
YAK	**Yakutsk**	**18.39**	**307**	*e*P		**P**	**21 22 33.2**	**-0.1**
YAK				*e*S		**Sn**	**21 25 55.5**	**-2.4**
YAK				pmax	pmax			
	comp=Z,36nm,0.8s							
YAK				pmax	pmax			
	comp=N,7.0nm,1.3s							
YAK				pmax	pmax			
	comp=E,19nm,1.5s							
YAK				smax	smax			
	comp=E,92nm,4.2s							
YAK				smax	smax			
	comp=N,52nm,2.5s							
YAK	**Yakutsk**	**18.39**	**307**	P		**P**	**21 22 32.3**	**-1.0**
	comp=N,1.4nm,0.3s,baz=19,slow=1.3,SNR=16							
YAK				S		**Sn**	**21 25 57.6**	**-0.3**
	comp=N,4.2nm,0.3s,baz=8.1,slow=1.7,SNR=1.7							
YAK				LR		LR	21 29 53.7	
	comp=N,100nm,20.8s,baz=114,slow=38							
	comp=N,33nm,0.7s							
KLR	**Kul'dur**	**19.36**	**266**	*ce*P		**P**	**21 22 44.3**	**+0.3**
KLR				pmax	pmax			
	comp=Z,16nm,2.5s							
KLR	**Kul'dur**	**19.36**	**266**	P		**Pn**	**21 22 45.0**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=58,slow=9.7,SNR=18							
KLR				LR		LR	21 30 54.7	
	comp=Z,115nm,18.3s,baz=60,slow=39							
	comp=Z,3.7nm,0.7s							
J14K	**Nanvaranak Lak**	**19.43**	**51**	P		**P**	**21 22 45.2**	**+0.5**
	baz=262							
JTM	**Tenmabayashi**	**19.66**	**234**	P		**P**	**21 22 45.6**	**-1.8**
F15K	**North Star Dit**	**19.67**	**42**	P		**P**	**21 22 48.2**	**+0.9**
F15K	**North Star Dit**	**19.67**	**42**	P		**Pn**	**21 22 48.4**	**-0.7**
	baz=252							
L14K	**Kuka Creek**	**19.68**	**56**	P		**Pn**	**21 22 49.2**	**0.0**
	baz=266							
G15K	**Niukluk**	**19.70**	**45**	P		**Pn**	**21 22 49.0**	**-0.5**
	baz=255							
M14K	**Bethel**	**20.00**	**58**	P		Pn	21 22 52.2	-0.7
M14K	**Bethel**	**20.00**	**58**	P		Pn	21 22 53.3	+0.3
	baz=269							
N14K	**Kuskokwak Cree**	**20.13**	**60**	P		Pn	21 22 54.3	-0.2
	baz=271							
ZEA	**Zeya**	**20.27**	**282**	*e*P		Pn	21 22 59.1	+2.9
L15K	**Ungalak Mounta**	**20.27**	**55**	P		Pn	21 22 56.3	0.0
	baz=267							
K15K	**Wolf Creek Mou**	**20.30**	**53**	P		Pn	21 22 55.9	-0.7
K15K				IAmb	IAmb		21 22 57.2	
	comp=Z,12nm,0.9s							
K15K	**Wolf Creek Mou**	**20.30**	**53**	P		**P**	**21 22 55.1**	**+0.8**
	baz=265,SNR=5.4							
H16K	**Elim**	**20.36**	**46**	P		**P**	**21 22 56.0**	**+1.2**
	baz=258,SNR=6.8							
C16K	**Lisburne Hills**	**20.39**	**35**	P		**P**	**21 22 55.5**	**+0.4**
	baz=245							
G16K	**Koyuk River**	**20.50**	**44**	P		**P**	**21 22 57.0**	**+0.8**
	baz=256							
M15K	**Kasigluk River**	**20.62**	**58**	P		**P**	**21 22 59.0**	**+1.3**
	baz=270							
J16K	**Anvik River**	**20.84**	**50**	P		**P**	**21 23 01.4**	**+1.4**
	baz=263							
I17K	**Unalakleet**	**20.88**	**49**	P		**P**	**21 23 00.9**	**+0.5**
I17K				IAmb	IAmb		21 23 03.2	
	comp=Z,18nm,1.1s							
I17K	**Unalakleet**	**20.88**	**49**	P		**P**	**21 23 01.9**	**+1.5**
	baz=262,SNR=7.0							
N15K	**Kwethluk River**	**20.92**	**59**	P		**P**	**21 23 01.1**	**+0.2**
N15K				IAmb	IAmb		21 23 16.2	
	comp=Z,14nm,1.1s							
N15K	**Kwethluk River**	**20.92**	**59**	P		**P**	**21 23 02.5**	**+1.5**
	baz=272							
D17K	**Noatak River**	**20.94**	**38**	P		**P**	**21 23 02.1**	**+1.1**
	baz=249							
O15K	**Ungalikthiuk R**	**21.11**	**62**	P		**P**	**21 23 05.0**	**+2.1**
	baz=275							
C17K	**DeLong Mountai**	**21.20**	**36**	P		**P**	**21 23 04.8**	**+0.9**
	baz=247,SNR=5.9							
F17K	**Baldwin Pennin**	**21.21**	**42**	P		**P**	**21 23 05.4**	**+1.5**
	baz=254							
G17K	**Kiwalik Mounta**	**21.21**	**44**	P		**P**	**21 23 05.1**	**+1.1**
	baz=257							
L16K	**Owhat River**	**21.23**	**55**	P		**P**	**21 23 05.9**	**+1.7**
	baz=268							
SDPT	**Sand Point**	**21.35**	**73**	P		**P**	**21 23 07.2**	**+1.6**
	baz=284							
H17K	**Granite Mounta**	**21.40**	**46**	P		**P**	**21 23 06.7**	**+0.7**
	baz=260							
HEH	**HeiHe**	**21.42**	**273**	*e*P		**P**	**21 23 06.3**	**-0.1**
M16K	**Timber Creek**	**21.47**	**57**	P		**P**	**21 23 08.5**	**+1.7**
	baz=271							
N16K	**Nishlik Lake**	**21.57**	**58**	P		**P**	**21 23 09.7**	**+1.7**
	baz=272							
E18K	**Tukpahlearik C**	**21.74**	**39**	P		**P**	**21 23 11.0**	**+1.4**
	baz=253							
L17K	**Donlin**	**21.81**	**54**	P		**P**	**21 23 12.1**	**+1.7**
	baz=268							
K17K	**Iditarod**	**21.83**	**52**	P		**P**	**21 23 12.2**	**+1.5**
	baz=267							
F18K	**Selawik**	**21.87**	**42**	P		**P**	**21 23 12.2**	**+1.3**
	baz=256							
C18K	**Utukok River**	**21.94**	**36**	P		**P**	**21 23 11.8**	**-0.1**
C18K	**Utukok River**	**21.94**	**36**	P		**P**	**21 23 12.1**	**+0.3**
	baz=249,SNR=7.8							
O16K	**Kokwok River B**	**21.96**	**61**	P		**P**	**21 23 13.5**	**+1.5**
	baz=275							
CHNA	**Chernabura Isl**	**21.98**	**74**	P		**P**	**21 23 14.2**	**+2.0**
	baz=286							
USRK	**Ussuriysk Ar.**	**21.99**	**254**	LR		LR	21 31 32.3	
	comp=Z,97nm,20.5s,baz=64,slow=36							
B18K	**Kokolik River**	**22.02**	**34**	P		**P**	**21 23 12.7**	**+0.2**
	baz=247,SNR=6.2							
H18K	**Honhosa River**	**22.09**	**46**	P		**P**	**21 23 14.2**	**+0.9**
H18K	**Honhosa River**	**22.09**	**46**	P		**P**	**21 23 13.7**	**+0.4**
	baz=261							
G18K	**Tagagawik**	**22.10**	**44**	P		**P**	**21 23 14.3**	**+0.8**
	baz=259							
M17K	**Holitna River**	**22.20**	**56**	P		**P**	**21 23 15.1**	**+0.5**
	baz=271							
TIXI	**Tiksi**	**22.23**	**333**	P		**P**	**21 23 13.2**	**-1.6**
TIXI				IAmb	IAmb		21 23 20.2	
	comp=Z,7.8nm,0.8s							
TIXI	**Tiksi**	**22.23**	**333**	*ce*P		**P**	**21 23 15.2**	**+0.4**
TIXI				pmax	pmax			
	comp=Z,14nm,1.3s							
TIXI	**Tiksi**	**22.23**	**333**	P		**P**	**21 23 13.6**	**-1.2**
	comp=Z,2.3nm,0.3s,baz=131,slow=8.3,SNR=15							
TIXI				LR		LR	21 32 36.9	
	comp=Z,145nm,19.9s,baz=181,slow=39							
	comp=Z,2.3nm,0.3s							
CHGN	**Chignik**	**22.27**	**69**	P		**P**	**21 23 16.9**	**+1.5**
	baz=283							
N17K	**Nushagak Hills**	**22.35**	**58**	P		**P**	**21 23 16.6**	**+0.3**
	baz=273							
O17K	**Koliganek Bris**	**22.45**	**60**	P		**P**	**21 23 17.9**	**+0.6**
	baz=275							
L18K	**Granite Mounta**	**22.56**	**54**	P		**P**	**21 23 19.4**	**+0.9**
	baz=270							
J18K	**Innoko River**	**22.60**	**50**	P		**P**	**21 23 19.1**	**+0.2**
	baz=267							
C19K	**Lookout Ridge**	**22.65**	**35**	P		**P**	**21 23 19.7**	**+0.3**
	baz=250							
F19K	**Shaleruckik Mo**	**22.65**	**42**	P		**P**	**21 23 19.8**	**+0.4**
	baz=257							
G19K	**Purcell Mounta**	**22.78**	**43**	P		**P**	**21 23 20.9**	**+0.1**
	baz=260							
P17K	**Kvichak River**	**22.84**	**61**	P		**P**	**21 23 22.2**	**+0.7**
	baz=277							
TTA	**Tatalina**	**22.89**	**52**	P		**P**	**21 23 23.2**	**+1.1**
	baz=268							
H19K	**Roundabout Mou**	**22.94**	**45**	P		**P**	**21 23 23.0**	**+0.6**
H19K				IAmb	IAmb		21 23 24.2	
	comp=Z,14nm,1.0s							
H19K	**Roundabout Mou**	**22.94**	**45**	P		**P**	**21 23 23.3**	**+1.0**
	baz=262							
D19K	**Kuna River**	**22.96**	**37**	P		**P**	**21 23 22.9**	**+0.3**
	baz=253							
M18K	**Stony River**	**22.98**	**56**	P		**P**	**21 23 24.1**	**+1.3**
	baz=272							
N18K	**Kilae Creek**	**22.98**	**58**	P		**P**	**21 23 23.3**	**+0.4**
	baz=274							
E19K	**Redstone River**	**23.00**	**40**	P		**P**	**21 23 23.1**	**+0.1**
E19K				IAmb	IAmb		21 23 24.9	
	comp=Z,22nm,1.4s							
E19K	**Redstone River**	**23.00**	**40**	P		**P**	**21 23 23.2**	**+0.1**
	baz=257							
J19K	**Poorman**	**23.12**	**49**	P		**P**	**21 23 24.6**	**+0.3**
	baz=266							
Q17K	**Contact Creek**	**23.26**	**64**	P		**P**	**21 23 26.1**	**+0.4**
	baz=280							
O18K	**Koktuh Hills**	**23.39**	**60**	P		**P**	**21 23 26.7**	**-0.2**
	baz=276							
L19K	**White Mountain**	**23.42**	**54**	P		**P**	**21 23 27.7**	**+0.5**
	baz=271							
P18K	**Big Mountain,**	**23.43**	**61**	P		**P**	**21 23 27.5**	**+0.2**
P18K				IAmb	IAmb		21 24 04.6	
	comp=Z,21nm,1.4s							
P18K	**Big Mountain,**	**23.43**	**61**	P		**P**	**21 23 28.2**	**+0.8**
	baz=277							
F20K	**Avaraart Lake**	**23.49**	**41**	P		**P**	**21 23 27.6**	**-0.1**
	baz=259							
D20K	**Etivluk River**	**23.55**	**37**	P		**P**	**21 23 28.5**	**+0.1**
	baz=254							
H20K	**Anotleneega Mo**	**23.58**	**45**	P		**P**	**21 23 29.3**	**+0.6**
	baz=264							
E20K	**Nigu River**	**23.58**	**38**	P		**P**	**21 23 29.0**	**+0.2**
	baz=256							
B20K	**Meade River**	**23.76**	**34**	P		**P**	**21 23 30.8**	**+0.5**
	baz=251							
J20K	**Nowinta River**	**23.78**	**49**	P		**P**	**21 23 31.3**	**+0.8**
	baz=267							
K20K	**Telida**	**23.79**	**51**	P		**P**	**21 23 31.2**	**+0.6**
	baz=269							
O19K	**Port Alsworth**	**23.80**	**59**	P		**P**	**21 23 32.2**	**+1.5**
	baz=276							
L20K	**Farewell, AK**	**23.87**	**53**	P		**P**	**21 23 32.1**	**+0.7**
	baz=272							
IMAR	**Indian Mountai**	**24.10**	**44**	P		**P**	**21 23 33.7**	**+0.2**
G21K	**Allakaket**	**24.27**	**43**	P		**P**	**21 23 35.5**	**+0.6**
	baz=263							
C21K	**Knifeblade Rid**	**24.31**	**36**	P		**P**	**21 23 35.5**	**+0.2**
	baz=256							
F21K	**Alatna River**	**24.38**	**41**	P		**P**	**21 23 37.0**	**+1.0**
	baz=261							
MJB9	**Matsu-Tunnel**	**24.40**	**232**	P		**P**	**21 23 34.8**	**-1.6**
MJB9				IAmb	IAmb		21 23 46.

PRP **Porcupine Dome** 27.48 46 P P 21 24 04.7 +0.6
baz=272
E25K **Arctic Village** 27.48 40 P P 21 24 04.0 0.0
E25K **Arctic Village** 27.48 40 P P 21 24 04.9 +0.9
baz=267
J25K **Salcha River,** 27.59 48 P P 21 24 05.2 +0.2
baz=274
BMAR **Burnt Mountain** 27.83 42 P P 21 24 06.4 -0.7
C26K **Camden Bay** 27.86 36 P P 21 24 07.5 +0.2
baz=265
Q23K **Middleton Isla** 27.90 59 P P 21 24 08.9 +1.2
baz=283
F26K **Sheenjek River** 28.00 41 P P 21 24 09.6 +0.9
baz=270
G26K **Porcupine Rive** 28.14 43 P P 21 24 11.1 +1.3
baz=271
SCRK **Sand Creek** 28.25 49 P P 21 24 12.3 +1.4
baz=277
KSRS **Korea Array** 28.86 248 LR LR 21 35 24.5
comp=Z,72nm,19.8s,baz=80,slow=35
M26K **Nabesna, AK** 28.91 52 P P 21 24 18.4 +1.5
baz=280
H27K **Steamboat Moun** 29.08 44 P P 21 24 19.2 +1.0
baz=274
D27M **Malcolm River** 29.20 38 P P 21 24 20.0 +0.7
baz=270
L27K **Beaver Creek,** 29.33 51 P P 21 24 21.4 +0.9
baz=280
BCAR **Beaver Creek A** 29.35 51 P P 21 24 20.9 +0.2
M27K **Edge Creek, AK** 29.43 52 P P 21 24 22.3 +0.7
baz=281
F28M **Old Crow** 29.64 41 P P 21 24 24.1 +0.9
baz=274
E28M **Babbage River** 29.72 39 P P 21 24 24.6 +0.7
baz=272
I28M **Miner Creek** 29.80 45 P P 21 24 25.7 +0.9
baz=277
CTG **Chitna Glacier** 29.98 55 P P 21 24 27.2 +0.8
baz=284
D28M **Stokes Point** 29.99 38 P P 21 24 26.7 +0.5
baz=272
E29M **Blow River** 30.34 39 P P 21 24 29.4 +0.2
baz=274
H29M **Whitestone** 30.35 44 P P 21 24 30.7 +1.2
baz=277
G29M **Pine Creek** 30.41 42 P P 21 24 31.0 +1.0
baz=276
M29M **Somme Creek** 30.97 51 P P 21 24 36.2 +1.1
baz=283
L29M **L29M** 30.97 50 P P 21 24 36.3 +1.3
baz=283
EPYK **Eagle Plains** 30.99 43 P P 21 24 35.8 +0.7
baz=278
K29M **Barlow Dome** 31.09 48 P P 21 24 37.3 +1.1
baz=282
G30M **tAoh Zraii Nji** 31.11 42 P P 21 24 35.7 -0.5
baz=278
F30M **Barrier River** 31.20 41 P P 21 24 38.0 +1.1
baz=277
I30M **Mount Dempster** 31.32 45 P P 21 24 38.9 +0.8
baz=280
J30M **Hart River** 31.45 47 P P 21 24 40.6 +1.3
baz=282
M30M **Minto, Yukon** 31.69 51 P P 21 24 42.8 +1.5
baz=284
N30M **Aishikik Lake** 31.85 53 P P 21 24 44.4 +1.6
baz=286
G31M **Satah River** 31.88 42 P P 21 24 44.2 +1.4
baz=279
INK **Inuvik** 31.96 39 P P 21 24 45.0 +1.5
baz=278
F31M **Tsiigehtchic** 32.00 41 P P 21 24 45.1 +1.2
baz=279
O30N **Mendenhall** 32.51 54 P P 21 24 49.7 +1.2
baz=288
M31M **Drury Creek, Y** 32.87 51 P P 21 24 52.9 +1.2
baz=287
WHY **Whitehorse** 33.11 54 P P 21 24 55.4 +1.5
baz=289
SKAG **Skagway** 33.29 56 P P 21 24 56.1 +0.8
baz=290
FARO **Faro, Yukon** 33.33 50 P P 21 24 56.4 +0.7
baz=287
MMPY **Sheldon Lake,** 34.14 49 P P 21 25 03.4 +0.6
baz=288
SIT **Sitka** 34.17 60 P P 21 25 03.8 +0.9
baz=293
P33M **Teslin, Yukon** 34.22 54 P P 21 25 04.3 +0.8
baz=290
ULN **Ulaanbaatar** 34.31 282 *ce*P P 21 25 02.5 -1.9
ULN pmax pmax
comp=Z,6.0nm,2.5s
S32K **Killisnoo** 34.38 59 P P 21 25 06.0 +1.2
baz=293
SONM **Songino Array** 34.70 282 P P 21 25 05.3 -2.5
comp=Z,0.4nm,0.5s,baz=64,slow=9.8,SNR=2.3
SONM PcP PcP 21 27 41.6 +0.9
comp=Z,1.9nm,0.9s,baz=52,slow=1.8,SNR=5.5
SONM LR LR 21 40 47.9
comp=Z,76nm,18.4s,baz=68,slow=39
comp=Z,0.4nm,0.5s
Q32M **Nakina River** 34.94 56 P P 21 25 10.6 +0.8
baz=292
H11N2 **WAKE ISLAND Hy** 35.01 172 T T 22 02 21.2
baz=355,slow=76,SNR=574
H11N3 **WAKE ISLAND Hy** 35.03 172 T T 22 02 20.0
baz=355,slow=76,SNR=591
H11N1 **WAKE ISLAND Hy** 35.03 172 T T 22 02 22.5
baz=355,slow=76,SNR=582
C36M **Paulatuk** 35.14 36 P P 21 25 12.2 +1.0
baz=284
HHC **Hu-ho-hao-te** 35.83 269 *e*P P 21 25 17.8 +0.2
HHC sP sP 21 25 34.3 -1.5
HHC pmax pmax
comp=Z,12nm,0.5s
HHC LR LR
comp=N,150nm,14.3s
HHC LR LR
comp=E,120nm,12.9s
HHC LR LR
comp=Z,150nm,15.1s
S34M **Telegraph Cree** 35.90 57 P P 21 25 18.6 +0.8
baz=294
H11S1 **WAKE ISLAND Hy** 36.21 173 T T 22 03 51.2
baz=346,slow=74
H11S3 **WAKE ISLAND Hy** 36.22 173 T T 22 03 54.5
baz=346,slow=74
H11S2 **WAKE ISLAND Hy** 36.23 173 T T 22 03 54.6
baz=346,slow=74
WRGLY **Wrigley** 37.28 46 P P 21 25 30.4 +0.9
baz=293
BBB **Bella Bella** 40.15 64 LR LR 21 41 14.2
EUNU **Eureka** 40.20 15 P P 21 25 54.3 +0.5
EUNU IAmb IAmb 21 25 55.4
comp=Z,79nm,18.6s,baz=320,slow=34
comp=Z,9.1nm,0.8s
YKA **Yellowknife Ar** 41.26 44 *i*P P 21 26 03.7 +1.0
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA **Yellowknife Ar** 41.26 44 P P 21 26 03.5 +0.8
comp=Z,1.9nm,0.8s,baz=299,slow=8.4,SNR=18
comp=Z,1.9nm,0.8s
ZALV **Zalesovo Beam** 42.94 302 LR LR 21 45 54.3
comp=Z,112nm,18.5s,baz=52,slow=39
DGZ **Jazzator, Alta** 44.05 296 *i*P P 21 26 26.9 +1.3
DGZ pmax pmax
comp=Z,1.0nm,0.8s
SPITS **Spitsbergen Ar** 45.83 351 P P 21 26 39.4 +0.1
SPITS pmax pmax
comp=Z,26nm,0.9s
SPITS **Spitsbergen Ar** 45.83 351 P P 21 26 38.0 -1.2
comp=Z,7.7nm,0.8s,baz=72,slow=8.1,SNR=8.2
comp=Z,7.7nm,0.8s
NEEM **North Greenlan** 46.60 9 *e*P P 21 26 45.2 -0.4
NEEM IAmb IAmb 21 26 46.1
comp=Z,9.7nm,0.9s
WMQ **Urumqi** 47.56 289 *e*P P 21 26 56.3 +3.0
WMQ pmax pmax
comp=Z,9.0nm,0.9s
WMQ LR LR
comp=Z,110nm,22.3s
KURK **Kurchatov** 47.92 302 P P 21 26 54.5 -1.3
KURK IAmb IAmb 21 27 12.5
comp=Z,2.8nm,0.7s
KURK **Kurchatov** 47.92 302 *ce*P P 21 26 54.7 -1.2
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURBB **Kurchatov Arra** 48.02 302 P P 21 26 54.6 -2.1
comp=Z,2.2nm,0.2s,baz=54,slow=8.3,SNR=7.2
KURBB LR LR 21 48 22.1
comp=Z,55nm,19.4s,baz=168,slow=38
comp=Z,2.2nm,0.2s
NEW **Newport** 48.16 62 LR LR 21 45 44.2
comp=Z,55nm,18.4s,baz=278,slow=34
MK31 **Makanchi Array** 48.55 296 P P 21 26 59.4 -1.4
MK31 **Makanchi Array** 48.55 296 P P 21 26 59.4 -1.4
MK31 pmax pmax
comp=Z,1.0nm,0.8s
MKAR **Makanchi Array** 48.55 296 P P 21 26 59.8 -1.0
MKAR **Makanchi Array** 48.55 296 *i*P P 21 27 01.6 +0.8
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR **Makanchi Array** 48.55 296 P P 21 26 58.8 -2.0
comp=Z,0.8nm,0.6s,baz=47,slow=6.6,SNR=9.3
MKAR LR LR 21 48 20.3
comp=Z,66nm,20.5s,baz=24,slow=37
comp=Z,0.8nm,0.6s
DAG **Danmarks Havn** 48.89 0 *e*P P 21 27 02.2 -0.8
YBH **Yreka Blue Hor** 49.43 72 LR LR 21 45 34.9
comp=Z,38nm,21.0s,baz=340,slow=33
BVAR **Borovoye Array** 50.36 308 P P 21 27 12.2 -2.3
comp=Z,2.0nm,0.9s,baz=55,slow=8.4,SNR=9.0
BVAR PcP PcP 21 28 32.4 0.0
comp=Z,0.5nm,0.3s,baz=64,slow=3.0,SNR=6.2
BVAR LR LR 21 51 02.4
comp=Z,84nm,18.1s,baz=40,slow=39
comp=Z,2.0nm,0.9s
BRVK **Borovoye** 50.38 308 P P 21 27 12.7 -1.9
BRVK **Borovoye** 50.38 308 *ce*P P 21 27 13.3 -1.4
BRVK pmax pmax
comp=Z,3.0nm,1.3s
PZH **PanZhiHua** 51.74 262 P P 21 27 26.5 +1.2
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,140nm,5.9s
LVZ **Lovozero** 51.75 337 *ce*P P 21 27 25.3 +0.6
LVZ pmax pmax
comp=Z,21nm,1.3s
EGMT **Eagleton** 52.04 58 P P 21 27 28.3 +1.0
baz=313
ARCES **ARCESS Array B** 52.20 342 P P 21 27 27.3 -0.7
comp=Z,3.4nm,0.9s,baz=24,slow=9.8,SNR=2.2
comp=Z,3.4nm,0.9s
SUMG **Summit** 52.31 8 P P 21 27 28.5 -0.8
SUMG **Summit** 52.31 8 P P 21 27 28.5 -0.8
SUMG pmax pmax
comp=Z,10.0nm,1.0s
SUMG **Summit** 52.31 8 *i*P P 21 27 27.0 -2.3
SUMG IAmb IAmb 21 27 30.9
comp=Z,8.3nm,0.9s
HLID **Hailey** 52.69 65 P P 21 27 33.5 +1.3
baz=314
BOZ **Bozeman (W)** 52.74 62 P P 21 27 34.1 +1.5
baz=313
ARU **Arti** 53.06 317 P P 21 27 33.2 -1.4
ARU IAmb IAmb 21 27 35.2
comp=Z,5.6nm,0.9s
ARU **Arti** 53.06 317 *d i*P P 21 27 33.7 -0.9
ARU 21 28 42.1
ARU 21 29 30.4
ARU S S 21 35 00.5 -0.4
ARU SS SS 21 38 32.6 -7.2
ARU pmax pmax
comp=Z,8.0nm,1.1s
ARU **Arti** 53.06 317 LR LR 21 52 59.0
comp=Z,106nm,19.4s,baz=66,slow=39
WAKR **Walker** 53.47 73 P P 21 27 39.5 +1.4
WAKR IAmb IAmb 21 27 41.4
comp=Z,7.4nm,1.0s
H17A **Grant Village** 54.11 62 P P 21 27 43.7 +0.9
baz=314
NVAR **Mina Array Bea** 54.16 72 P P 21 27 45.1 +2.0
comp=Z,1.6nm,0.7s,baz=296,slow=6.6,SNR=8.7
comp=Z,1.6nm,0.7s
ELK **Elko** 54.20 68 LR LR 21 48 41.0
comp=Z,30nm,20.6s,baz=286,slow=34
RLMT **Red Lodge** 54.27 61 P P 21 27 45.0 +1.1
RLMT **Red Lodge** 54.27 61 P P 21 27 45.3 +1.4
baz=314,SNR=5.1
JMIC **Jan Mayen** 54.52 356 LR LR 21 49 58.7
comp=Z,17nm,18.6s,baz=271,slow=35
LAO **LASA Array** 54.70 57 P P 21 27 48.2 +1.5
baz=315
KIRV **Kirov** 54.86 324 LR LR 21 54 30.5
comp=Z,90nm,18.0s,baz=34,slow=40
AAK **Ala-Archa** 55.44 296 P P 21 27 50.3 -2.0
AAK IAmb IAmb 21 28 21.7
comp=Z,3.8nm,1.4s
AAK **Ala-Archa** 55.44 296 P P 21 27 50.3 -2.0
AAK pmax pmax
comp=Z,4.0nm,1.4s
AAK **Ala-Archa** 55.44 296 LR LR 21 52 38.4
comp=Z,50nm,20.6s,baz=44,slow=37
R11B **Troy Canyon, C** 55.71 71 P P 21 27 56.0 +1.7
baz=316
BW06 **Boulder Array** 55.78 63 P P 21 27 55.6 +0.8
baz=316
PD31 **Pinedale Array** 55.78 63 P P 21 27 55.9 +1.0
PD31 IAmb IAmb 21 27 57.0
comp=Z,3.8nm,1.1s
PDAR **Pinedale Array** 55.78 63 P P 21 27 55.3 +0.5
PDAR **Pinedale Array** 55.78 63 P P 21 27 56.5 +1.6
comp=Z,1.8nm,0.8s,baz=336,slow=3.3,SNR=12
comp=Z,1.8nm,0.8s
PKM **Mcpherson Peak** 55.84 76 P P 21 27 57.0 +1.7
baz=317
DUG **Dugway, Tooele** 55.90 67 P P 21 27 56.9 +1.3
DUG IAmb IAmb 21 27 58.6
comp=Z,5.8nm,1.0s
DUG **Dugway, Tooele** 55.90 67 P P 21 27 56.9 +1.3
DUG pmax pmax
comp=Z,6.0nm,1.0s
DUG **Dugway, Tooele** 55.90 67 P P 21 27 57.3 +1.7
baz=316,SNR=5.2
ISA **Isabella, Lake** 56.04 75 P P 21 27 58.2 +1.6
baz=317
SFJD **Kangerlussuaq** 56.26 15 LR LR 21 54 28.8
comp=Z,37nm,18.1s,baz=352,slow=39
MPMC **Manual Prospec** 56.30 74 P P 21 28 00.4 +1.8
baz=317
FURC **Furnace Creek,** 56.36 73 P P 21 28 00.9 +2.2
baz=317
GSC **Goldstone, Bar** 57.23 74 P P 21 28 06.9 +1.8
baz=317
DY2G **Dye2** 57.36 13 *e*P P 21 28 05.0 -0.7
BFSC **Mount Baldy Ra** 57.53 75 P P 21 28 09.5 +2.3
baz=317
FMP **Fort Macarthur** 57.56 76 P P 21 28 08.8 +1.6
baz=318
RSSD **Black Hills** 57.61 58 P P 21 28 09.3 +1.5
baz=317
TUQ **Turquoise Moun** 57.63 73 P P 21 28 09.8 +1.8
baz=317
AKTO **Aktyubinsk** 57.65 313 LR LR 21 55 28.4
comp=Z,61nm,18.4s,baz=90,slow=39
HEC **Hector,Ludlow** 57.84 74 P P 21 28 11.5 +2.2
baz=317
SCI2 **San Clemente I** 57.95 77 P P 21 28 12.1 +2.1
baz=318
GMRC **Granite Mounta** 58.25 74 P P 21 28 14.3 +2.0
baz=318
MURC **Murrieta** 58.26 76 P P 21 28 14.1 +1.8
baz=318
O20A **White River Ci** 58.37 64 P P 21 28 14.4 +1.3
baz=317
BELC **Belle Mtn. Jos** 58.64 74 P P 21 28 16.6 +1.5
baz=318
HMU **Henry Mountain** 58.64 68 P P 21 28 16.3 +1.2
PFO **Pinyon Flats O** 58.67 75 P P 21 28 16.9 +1.7
baz=318
IRM **Iron Mountain** 59.00 74 P P 21 28 19.6 +2.2
baz=318
N23A **Red Feather La** 59.00 62 P P 21 28 19.1 +1.5
baz=318
FIA1 **FINESS Array S** 59.18 337 P P 21 28 16.9 -1.2
FINES **FINESS Array B** 59.18 337 P P 21 28 17.0 -1.2
FINES **FINESS Array B** 59.18 337 *i*P P 21 28 18.2 +0.1
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES **FINESS Array B** 59.18 337 P P 21 28 17.5 -0.6
comp=Z,3.3nm,0.6s,baz=39,slow=8.0,SNR=20
FINES LR LR 22 01 16.9
comp=Z,26nm,18.5s,baz=32,slow=44
comp=Z,3.3nm,0.6s

BC3 **Big Chuckawall** 59.20 74 P P 21 28 20.4 +1.6
baz=318
MONP2 **Monument Peak** 59.22 76 P P 21 28 20.6 +1.5
baz=318
PDMCI **Parker Dam,Lak** 59.45 73 P P 21 28 22.2 +1.8
baz=318
CMAR **Chiang Mai Arr** 59.62 259 *i*P P 21 28 22.7 +0.9
CMAR pmax pmax
comp=Z,1.0nm,0.5s
CMAR **Chiang Mai Arr** 59.62 259 P P 21 28 22.5 +0.7
comp=Z,0.5nm,0.5s,baz=26,slow=7.0,SNR=5.9
comp=Z,0.5nm,0.5s
ISCO **Idaho Springs** 59.98 63 P P 21 28 25.5 +1.1
baz=318
GLA **Glamis** 60.00 74 P P 21 28 26.1 +1.8
baz=318
WUAZ **Wupatki** 60.08 70 P P 21 28 26.2 +1.2
baz=318
BELG **Belogornoye** 60.31 320 *i*P P 21 28 25.9 -0.1
BELG pmax pmax
comp=Z,2.0nm,0.9s
BELG **Belogornoye** 60.31 320 LR LR 21 57 13.0
comp=Z,116nm,18.4s,baz=134,slow=39
BORG **Borgarnes** 60.95 2 LR LR 21 54 27.3
comp=Z,30nm,20.6s,baz=326,slow=36
SDCO **Great Sand Dun** 61.57 64 P P 21 28 35.7 +0.6
baz=319
OBN **Obninsk** 61.85 328 ⇓*e*P P 21 28 34.1 -2.3
OBN *e* 21 29 15.5
OBN *e* 21 30 50.5
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,73nm,17.0s
214A **Organ Pipe Nat** 61.95 74 P P 21 28 39.3 +1.8
baz=319
NB2 **NORSAR Subarra** 62.40 344 P P 21 28 39.2 -0.9
comp=Z,1.6nm,0.7s,baz=20,slow=6.9
NOA **NORSAR Array B** 62.40 344 P P 21 28 39.2 -0.9
comp=Z,1.1nm,0.8s,baz=19,slow=6.7,SNR=7.5
NOA LR LR 21 57 10.6
comp=Z,15nm,20.1s,baz=300,slow=37
comp=Z,1.1nm,0.8s
T25A **Trinidad** 62.59 64 P P 21 28 43.3 +1.3
baz=319
HFS **Hagfors** 62.85 343 P P 21 28 42.6 -0.4
comp=Z,1.2nm,0.6s,baz=346,slow=3.8,SNR=5.9
HFS LR LR 21 56 45.8
comp=Z,22nm,21.9s,baz=50,slow=37
comp=Z,1.2nm,0.6s
ANMO **Albuquerque** 63.17 67 P P 21 28 46.8 +1.0
baz=320
ANMO **Albuquerque** 63.17 67 LR LR 21 54 22.8
comp=Z,37nm,20.9s,baz=60,slow=34
HNR **Honiara** 63.82 182 LR LR 21 52 59.6
comp=Z,17nm,19.9s,baz=26,slow=32
121A **Cookes Peak, D** 64.28 70 P P 21 28 54.0 +0.8
baz=320
MSTX **Muleshoe** 65.87 65 P P 21 29 04.6 +1.2
baz=321
GLMI **Grayling** 65.95 46 P P 21 29 04.0 +0.4
baz=324
MNTX **Cornudas Mount** 66.23 69 P P 21 29 07.1 +1.6
baz=321
WMOK **Wichita Mounta** 67.35 62 P P 21 29 13.9 +1.2
baz=322
AKASG **Malin Array Be** 67.90 330 *i*P P 21 29 14.8 -1.0
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG **Malin Array Be** 67.90 330 P P 21 29 14.5 -1.3
comp=Z,0.8nm,0.4s,baz=31,slow=5.8,SNR=8.5
AKASG LR LR 22 03 03.8
comp=Z,38nm,19.0s,baz=14,slow=40
comp=Z,0.8nm,0.4s
CCM **Cathedral Cave** 68.45 54 P P 21 29 19.7 +0.2
baz=324
ABTX **Abilene, Hawle** 68.56 64 P P 21 29 21.4 +1.1
baz=322
TXAR **Lajitas Array** 68.99 69 P P 21 29 24.6 +1.5
TXAR **Lajitas Array** 68.99 69 P P 21 29 24.7 +1.6
comp=Z,1.9nm,0.6s,baz=303,slow=4.8,SNR=23
comp=Z,1.9nm,0.6s
KIV **Kislovodsk** 69.11 318 *e*P P 21 29 25.5 +1.9
KIV pmax pmax
comp=Z,2.0nm,1.0s
KIV MLR MLR
comp=Z,24nm,17.0s
KBZ **Khabaz** 69.22 317 P P 21 29 24.4 +0.2
comp=Z,1.5nm,0.8s,baz=10,slow=11,SNR=2.7
KBZ LR LR 22 03 24.2
comp=Z,76nm,20.6s,baz=18,slow=39
comp=Z,1.5nm,0.8s
EKA **Eskdalemuir Ar** 69.75 351 P P 21 29 26.9 -0.3
comp=Z,1.1nm,0.6s,baz=19,slow=6.0,SNR=6.0
comp=Z,1.1nm,0.6s
LONY **Lake Ozonia** 70.07 39 P P 21 29 29.7 +0.3
baz=329
MIAR **Mount Ida** 70.13 58 P P 21 29 30.8 +0.9
baz=324
SORM **Soroca** 70.45 329 ⇑P P 21 29 30.6 -1.0
O53A **New Philadelph** 71.15 46 P P 21 29 36.3 +0.3
baz=327
STHS **Stebnicka Huta** 71.25 334 *e*P P 21 29 36.7 +0.2
STHS **Stebnicka Huta** 71.25 334 *e*P P 21 29 36.7 +0.2
CLL **Collm** 71.34 340 *i*P P 21 29 37.0 0.0
CLL pmax pmax
comp=Z,14nm,1.5s
CLL **Collm** 71.34 340 *i*P P 21 29 37.0 0.0
comp=Z,14nm,1.5s
CLL *e*PcP PcP 21 29 57.0 +0.5
KOLS **Kolonicke sedl** 71.43 333 *e*P P 21 29 38.4 +0.8
KOLS **Kolonicke sedl** 71.43 333 *e*P P 21 29 38.3 +0.7
GNI **Garni** 71.47 314 LR LR 22 06 04.3
comp=Z,28nm,19.0s,baz=34,slow=40
MORC **Moravsky Berou** 71.81 337 ⇑P P 21 29 40.0 +0.1
MORC **Moravsky Berou** 71.81 337 *e*P P 21 29 39.9 0.0
BURAR **Bucovina Array** 71.83 331 ⇑P P 21 29 39.3 -0.8
SSPA **Standing Stone** 72.19 44 P P 21 29 42.5 +0.2
baz=328
VRAC **Vranov** 72.46 337 *e*P P 21 29 44.9 +1.1
VRAC **Vranov** 72.46 337 LR LR 22 05 00.7
comp=Z,33nm,20.9s,baz=352,slow=39
JAVC **Velka Javorina** 72.64 336 *e*P P 21 29 46.8 +1.9
KRUC **Moravsky** 72.74 337 *e*P P 21 29 46.4 +1.0
MARR **Marisel-Cluj** 73.27 332 ⇑P P 21 29 49.3 +0.5
DRGR 73.28 332 ⇑P P 21 29 47.2 -1.6
KHC **Kasperske Hory** 73.29 339 *ce*P P 21 29 49.9 +1.2
KHC pmax pmax
comp=Z,17nm,2.5s
GERES **GERESS Array B** 73.53 339 LR LR 22 06 42.2
comp=Z,28nm,18.9s,baz=265,slow=40
MLR **Muntele Rosu** 73.55 329 ⇑P P 21 29 51.7 +1.2
TKL **Tuckaleechee C** 73.86 51 LR LR 22 04 03.7
comp=Z,68nm,18.4s,baz=332,slow=37
VOIR 73.86 330 ⇑P P 21 29 53.2 +1.1
CONA **Conrad Observa** 73.93 337 *e*P P 21 29 53.4 +0.8
comp=Z,5.0nm,1.2s
ARR **Arges** 74.04 330 ⇑P P 21 29 54.0 +0.7
RONA **Rosalia, Austr** 74.04 337 *e*P P 21 29 54.7 +1.5
comp=Z,9.9nm,2.0s
SURR **Surduc** 74.39 332 ⇑P P 21 29 54.6 -0.6
GZR **Gura Zlata** 74.55 332 ⇑P P 21 29 54.7 -1.4
BZS **Buzias** 74.66 332 ⇑P P 21 29 56.0 -0.7
KBA **Koelnbreinsper** 75.29 338 *e*P P 21 30 01.5 +1.0
comp=Z,6.1nm,1.0s
SOKA **Soboth** 75.30 337 *e*P P 21 30 01.1 +0.6
comp=Z,4.0nm,1.2s
WATA **Walderalm** 75.41 340 *e*P P 21 30 02.2 +1.0
comp=Z,3.6nm,0.9s
RETA **Reutte** 75.42 340 *e*P P 21 30 01.7 +0.5
comp=Z,6.1nm,1.2s
WTTA **Wattenberg** 75.46 340 *e*P P 21 30 02.8 +1.2
comp=Z,11nm,1.5s
OBKA **Obir** 75.56 337 *e*P P 21 30 02.9 +0.8
comp=Z,11nm,1.6s
SQTA **Sankt Quirin** 75.59 340 *e*P P 21 30 02.5 +0.3
comp=Z,7.5nm,1.3s
ABTA **Abfaltersbach** 75.78 339 *e*P P 21 30 03.6 +0.4
comp=Z,8.8nm,1.2s
BRTR **Keskin Array B** 76.17 322 *i*P P 21 30 05.6 -0.1
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR **Keskin Array B** 76.17 322 P P 21 30 05.5 -0.2
comp=Z,1.7nm,0.8s,baz=46,slow=3.1,SNR=7.6
BRTR LR LR 22 06 23.3
comp=Z,26nm,19.0s,baz=20,slow=38
comp=Z,1.7nm,0.8s

DAVOX	**Davos/Dischmat**	**76.27**	**341**	LR	LR	22 11 57.1	
	comp=Z,21nm,18.4s,baz=40,slow=42						
WRA	**Warramunga Arr**	**77.95**	**207**	P	**P**	**21 30 16.7**	**+1.1**
	comp=Z,2.5nm,0.7s,baz=20,slow=5.9,SNR=6.2						
	comp=Z,2.5nm,0.7s						
MMAI	**Mount Meron Ar**	**81.41**	**317**	P	**P**	**21 30 34.4**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=50,slow=5.6,SNR=11						
	comp=Z,2.3nm,0.7s						
AS31	**Alice Springs**	**81.62**	**206**	P	**P**	**21 30 36.6**	**+1.2**
AS31				IAmb	IAmb	21 30 37.9	
	comp=Z,1.6nm,0.6s						
ASAR	**Alice Springs**	**81.62**	**206**	P	**P**	**21 30 36.3**	**+0.9**
ASAR	**Alice Springs**	**81.62**	**206**	P	**P**	**21 30 36.8**	**+1.4**
	comp=Z,3.3nm,0.6s,baz=10,slow=4.9,SNR=7.2						
	comp=Z,3.3nm,0.6s						
PPT2	**Papeete2**	**82.86**	**134**	*e*LR	LR	21 56 27.2	
	comp=Z,63nm,26.8s						
EIL	**Elat**	**84.54**	**316**	LR	LR	22 15 21.3	
	comp=Z,31nm,18.7s,baz=71,slow=41						
ESDC	**Sonseca Array**	**85.33**	**349**	P	**P**	**21 30 54.8**	**+0.4**
	comp=Z,1.7nm,0.9s,baz=2.1,slow=4.6,SNR=9.2						
	comp=Z,1.7nm,0.9s						
STKA	**Stephens Creek**	**87.92**	**197**	P	**P**	**21 31 07.7**	**+0.9**
	comp=Z,3.3nm,0.9s,baz=259,slow=4.6,SNR=3.7						
	comp=Z,3.3nm,0.9s						
QSPA	**South Pole Qui**	**144.36**	**180**	PKP	PKPbc	21 37 50.4	-0.1
	comp=Z,4.2nm,0.9s,baz=27,slow=1.8,SNR=4.5						

IDC ***13*** *21:23:57.7±2.8, 4˚.49S×144˚.10E, h94km±26km, mb3.7/11, mbtmp4.1/13, MS3.2/6, Error ellipse: s-maj=21.4km s-min=16.5km az=67.0*

NEIC ***13*** *21:23:58.5±1.4, 4˚.52S±0˚.08×143˚.98E±0˚.10, h99km±8km, mb4.5/29, Error ellipse: s-maj=14.6km s-min=10.8km az=120.0*

ISC 13 21:23:59.4±0.5, 4˚.64S±0˚.06×143˚.95E±0˚.07, h110km, n86, σ1°65/82, mb4.4/28, 1C, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**4.28**	**53**		**Pn**	**21 24 59.7**	**-2.8**
MANU	**Manus Island**	**4.28**	**53**	P	**Pn**	**21 25 02.3**	**-0.2**
GENI	**Genyem**	**4.29**	**298**	P	**Pn**	**21 25 06.4**	**+3.7**
PMG	**Port Moresby**	**5.70**	**146**		**Pn**	**21 25 20.9**	**-0.9**
PMG	**Port Moresby**	**5.70**	**146**	P	**Pn**	**21 25 21.5**	**-0.3**
PMG	**Port Moresby**	**5.70**	**146**	P	**Pn**	**21 25 21.4**	**-0.3**
PMG	**Port Moresby**	**5.70**	**146**	P	**Pn**	**21 25 21.2**	**-0.6**
	21nm,0.3s,baz=332,slow=6.7,SNR=14						
PMG				S	**Sn**	**21 26 25.8**	**-0.2**
	50nm,0.5s,baz=305,slow=22,SNR=7.9						
PMG				LR	LR	21 28 02.9	
	comp=Z,118nm,19.7s,baz=302,slow=43						
COEN	**Coen**	**9.29**	**185**		**Pn**	**21 26 12.3**	**+1.9**
COEN	**Coen**	**9.29**	**185**	P	**Pn**	**21 26 12.5**	**+2.1**
FAKI	**Fak Fak**	**11.80**	**278**	Pn	**Pn**	**21 26 41.8**	**-2.6**
MTN	**Manton Dam**	**15.06**	**236**	Pn	**Pn**	**21 27 26.7**	**+0.1**
MTN				IAmb	IAmb	21 27 54.0	
	comp=Z,35nm,1.4s						
CTA	**Charters Tower**	**15.52**	**172**	P	**P**	**21 27 35.6**	**+1.3**
	comp=Z,6.8nm,0.6s,baz=6.8,slow=6.0,SNR=9.8						
CTA				LR	LR	21 33 17.1	
	comp=Z,56nm,19.4s,baz=269,slow=36						
CTAO	**Charters Tower**	**15.52**	**172**		**P**	**21 27 34.5**	**+0.2**
CTAO				IAmb	IAmb	21 28 13.8	
	comp=Z,25nm,1.4s						
QIS	**Mount Isa**	**16.38**	**195**	P	**P**	**21 27 45.7**	**+1.9**
WR0	**Warramunga Arr**	**17.77**	**210**	P	**P**	**21 27 59.3**	**+0.1**
WRA	**Warramunga Arr**	**17.86**	**211**	P	**P**	**21 27 59.5**	**-0.7**
WRA	**Warramunga Arr**	**17.86**	**211**	P	**Pn**	**21 28 01.0**	**0.0**
	comp=Z,2.5nm,0.5s,baz=25,slow=11,SNR=30						
WRA				S	**S**	**21 31 12.9**	**-7.1**
	comp=Z,1.6nm,0.8s,baz=30,slow=21,SNR=4.1						
WB1	**Warramunga Ar.**	**17.87**	**211**	P	**Pn**	**21 28 02.4**	**+1.3**
	comp=Z,24nm,0.9s						
KNRA	**Kununurra**	**18.52**	**233**	P	**P**	**21 28 07.0**	**-0.5**
KNRA	**Kununurra**	**18.52**	**233**	P	**Pn**	**21 28 09.6**	**+0.7**
SOEI	**Soe**	**20.17**	**254**	P	**P**	**21 28 25.0**	**-0.6**
SOEI	**Soe**	**20.17**	**254**	P	Pn	21 28 29.8	+1.4
SOEI	**Soe**	**20.17**	**254**	P	**P**	**21 28 19.8**	**-5.8**
BATI	**Baumata**	**20.86**	**253**	P	**P**	**21 28 34.5**	**+1.7**
	comp=Z,35nm,0.4s,baz=116,slow=2.6,SNR=20						
BATI	**Baumata**	**20.86**	**253**	P	**P**	**21 28 31.0**	**-1.8**
AS31	**Alice Springs**	**21.25**	**206**	P	**P**	**21 28 38.1**	**+1.1**
ASAR	**Alice Springs**	**21.25**	**206**	P	**P**	**21 28 38.6**	**+1.7**
	comp=Z,1.8nm,0.8s,baz=34,slow=8.0,SNR=16						
	comp=Z,1.8nm,0.8s						
MMRI	**Maumere**	**21.93**	**258**	P	**P**	**21 28 43.8**	**-0.4**
MMRI				IAmb	IAmb	21 29 13.3	
	comp=Z,32nm,1.0s						
FITZ	**Fitzroy Crossi**	**22.35**	**232**	P	**P**	**21 28 49.1**	**+0.5**
FITZ	**Fitzroy Crossi**	**22.35**	**232**	P	**P**	**21 28 50.6**	**+2.1**
EDFI	**Ende, Flores**	**22.48**	**258**	P	**P**	**21 28 45.6**	**-4.4**
BASI	**Baing, Sumba**	**23.82**	**255**	P	**P**	**21 29 03.5**	**+0.9**
TOLI2	**Tolitoli**	**23.85**	**283**	P	**P**	**21 29 02.0**	**-0.8**
TOLI2				IAmb	IAmb	21 29 04.0	
	comp=Z,12nm,0.6s						
OOD	**Oodnadatta**	**24.33**	**198**	P	**P**	**21 29 09.8**	**+2.8**
STKA	**Stephens Creek**	**27.18**	**184**	LR	LR	21 41 38.8	
	comp=Z,94nm,18.5s,baz=19,slow=39						
DZM	**Mont Dzumac**	**27.83**	**131**	LR	LR	21 39 11.3	
	comp=Z,71nm,19.2s,baz=338,slow=33						
MBWA	**Marble Bar**	**28.68**	**233**	P	**P**	**21 29 46.7**	**+0.5**
MBWA				IAmb	IAmb	21 29 48.3	
	comp=Z,15nm,1.2s						
PSA00	**Pilbara Seismi**	**28.81**	**232**	P	**P**	**21 29 47.8**	**+0.5**
PSA00				IAmb	IAmb	21 29 50.2	
	comp=Z,8.0nm,0.7s						
PSA00	**Pilbara Seismi**	**28.81**	**232**	P	**P**	**21 29 49.8**	**+2.5**
GIRL	**Giralia**	**33.85**	**235**	P	**P**	**21 30 32.4**	**+0.8**
MORW	**Morawa**	**35.91**	**224**	P	**P**	**21 30 49.5**	**+0.3**
YHNB	**Yeheng**	**36.49**	**324**	P	**P**	**21 30 55.1**	**+0.8**
NJ2	**Nanjing**	**43.61**	**329**	*e*P	**P**	**21 31 53.0**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KSRS	**Korea Array**	**44.46**	**342**	LR	LR	21 48 50.4	
	comp=Z,10nm,19.9s,baz=150,slow=34						
GSI	**Gunungsitoli**	**46.71**	**276**	P	**P**	**21 32 16.7**	**-1.1**
GSI				IAmb	IAmb	21 32 20.6	
	comp=Z,4.6nm,0.8s						
KMI	**Kunming**	**49.78**	**309**	⇑P	**P**	**21 32 42.6**	**+1.1**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KMI				LR	LR		
	comp=Z,140nm,16.3s						
CMAR	**Chiang Mai Arr**	**49.94**	**299**	P	**P**	**21 32 41.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**49.94**	**299**	P	**P**	**21 32 43.2**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=114,slow=6.2,SNR=8.1						
	comp=Z,0.8nm,0.6s						
MDJ	**Mudanjiang**	**50.70**	**347**	P	**P**	**21 32 48.8**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,14nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,170nm,4.1s						
XAN	**Xi'an**	**50.73**	**322**	P	**P**	**21 32 46.5**	**-1.8**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
PZH	**PanZhiHua**	**51.25**	**309**	P	**P**	**21 32 53.8**	**+1.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,90nm,4.6s						
HHC	**Hu-ho-hao-te**	**54.12**	**330**	*e*P	**P**	**21 33 14.6**	**+1.4**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,77nm,4.7s						
PETK	**Petropavlovsk-**	**58.70**	**10**	P	**P**	**21 33 44.8**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=164,slow=6.2,SNR=7.0						
	comp=Z,1.1nm,0.5s						
SONM	**Songino Array**	**61.77**	**332**	P	**P**	**21 34 05.6**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=132,slow=6.0,SNR=2.1						
	comp=Z,0.5nm,0.6s						
PPT	**Papeete**	**66.19**	**107**	LR	LR	22 02 03.4	
	comp=Z,28nm,18.7s,baz=12,slow=35						
VNDA	**Vanda**	**73.45**	**176**	P	**P**	**21 35 20.9**	**+1.5**
VNDA				IAmb	IAmb	21 35 41.3	
	comp=Z,7.4nm,1.2s						
VNDA	**Vanda**	**73.45**	**176**	P	**P**	**21 35 19.7**	**+0.4**
	comp=Z,2.7nm,1.1s,baz=1.6,slow=1.1,SNR=2.8						
	comp=Z,2.7nm,1.1s						
MK31	**Makanchi Array**	**74.54**	**321**	P	**P**	**21 35 26.1**	**-0.1**
MKAR	**Makanchi Array**	**74.54**	**321**	P	**P**	**21 35 26.2**	**-0.1**
MKAR	**Makanchi Array**	**74.54**	**321**	P	**P**	**21 35 26.3**	**0.0**
	comp=Z,0.4nm,0.5s,baz=99,slow=8.4,SNR=9.6						
	comp=Z,0.4nm,0.5s						
ZAA0	**Zalesovo Array**	**76.27**	**329**	P	**P**	**21 35 34.6**	**-1.3**
ZALV	**Zalesovo Beam**	**76.27**	**329**	P	**P**	**21 35 35.0**	**-0.9**
ZALV	**Zalesovo Beam**	**76.27**	**329**	P	**P**	**21 35 35.1**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=120,slow=6.4,SNR=6.8						
	comp=Z,1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**78.34**	**324**	P	**P**	**21 35 46.4**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=109,slow=5.2,SNR=1.7						
	comp=Z,0.2nm,0.4s						
IMAR	**Indian Mountai**	**83.32**	**21**	P	**P**	**21 36 13.1**	**-0.7**
KNK	**Knik Glacier**	**83.55**	**27**	P	**P**	**21 36 14.3**	**-0.8**
KNK				IAmb	IAmb	21 36 23.2	
	comp=Z,11nm,1.0s						
SML	**Sawmill**	**83.76**	**26**	P	**P**	**21 36 15.2**	**-0.9**
SML				IAmb	IAmb	21 36 40.5	
	comp=Z,16nm,1.3s						
BVAR	**Borovoye Array**	**83.90**	**324**	P	**P**	**21 36 16.9**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=105,slow=7.2,SNR=21						
	comp=Z,2.4nm,0.6s						
BRVK	**Borovoye**	**83.97**	**324**	P	**P**	**21 36 16.8**	**-0.5**
BRVK				IAmb	IAmb	21 36 17.8	
	comp=Z,2.4nm,0.9s						
SCM	**Sheep Creek Mo**	**84.21**	**26**	P	**P**	**21 36 18.2**	**-0.3**
DHY	**Denali Highway**	**84.64**	**25**	P	**P**	**21 36 20.2**	**-0.5**
DHY				IAmb	IAmb	21 37 01.9	
	comp=Z,5.9nm,1.2s						
WRH	**Wood River Hil**	**84.86**	**24**	P	**P**	**21 36 20.2**	**-1.3**
WRH				IAmb	IAmb	21 37 00.0	
	comp=Z,5.0nm,1.3s						
QSPA	**South Pole Qui**	**85.31**	**180**	P	**P**	**21 36 25.1**	**+1.0**
QSPA	**South Pole Qui**	**85.31**	**180**	P	**P**	**21 36 24.7**	**+0.7**
	comp=Z,6.1nm,0.6s,baz=295,slow=0.9,SNR=53						
	comp=Z,6.1nm,0.6s						
ILAR	**Eielson Array**	**85.45**	**24**	P	**P**	**21 36 23.1**	**-1.4**
	comp=Z,1.1nm,0.7s,baz=258,slow=5.3,SNR=10						
	comp=Z,1.1nm,0.7s						
BARN	**Barnard Glacie**	**86.55**	**28**	P	**P**	**21 36 30.2**	**0.0**
BARN				IAmb	IAmb	21 36 51.7	
	comp=Z,12nm,1.2s						
BCAR	**Beaver Creek A**	**87.05**	**26**	P	**P**	**21 36 32.7**	**+0.2**
BMAR	**Burnt Mountain**	**87.24**	**21**	P	**P**	**21 36 33.9**	**+0.5**
ABKAR	**Akbulak array**	**89.58**	**319**	P	**P**	**21 36 43.1**	**-1.6**
ABKAR	**Akbulak array**	**89.58**	**319**	P	**P**	**21 36 43.3**	**-1.4**
ABKAR				IAmb	IAmb	21 36 57.9	
	comp=Z,1.5nm,1.1s						
EKA	**Eskdalemuir Ar**	**122.97**	**338**	PKP	**PKPdf**	**21 42 42.1**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=14,slow=2.9,SNR=5.6						
PLCA	**Paso Flores**	**124.89**	**148**	PKP	**PKiKP**	**21 42 48.1**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=274,slow=4.1,SNR=6.6						
TORD	**Torodi Ar. Bea**	**141.81**	**285**	PKhKP	PKPpre	21 43 13.0	
	comp=Z,0.6nm,0.5s,baz=65,slow=4.5,SNR=10						
LPAZ	**La Paz**	**142.06**	**124**	PKP	**PKPdf**	**21 43 20.1**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=276,slow=4.7,SNR=3.8						
CPUP	**Villa Florida**	**142.94**	**147**	PKP	**PKPdf**	**21 43 21.9**	**+0.9**
	comp=Z,1.9nm,0.9s,baz=153,slow=1.0,SNR=3.3						
DBIC	**Dimbokro**	**148.90**	**275**	PKPbc	**PKiKP**	**21 43 36.5**	**-0.3**
	comp=Z,8.1nm,0.6s,baz=71,slow=1.3,SNR=20						

IDC ***13*** *22:11:32.0±0.7, 54˚.08S×8˚.07E, h0km, mb4.3/9, mbtmp4.3/10, MLL3.7/1, MS3.8/21, Error ellipse: s-maj=27.7km s-min=18.7km az=62.0*

NEIC ***13*** *22:11:33.5±1.1, 54˚.14S±0˚.10×8˚.10E±0˚.2, h10km±1km, mb4.7/11, Error ellipse: s-maj=25.7km s-min=17.5km az=140.0*

ISC 13 22:11:33.4±0.6, 54˚.14S±0˚.10×8˚.10E±0˚.2, h10km, n53, σ0°98/35, mb4.5/14, MS3.8/21, 3C, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TROLL	**Troll, Antarti**	**18.09**	**185**	⇑P	**Pn**	**22 15 44.8**	**+0.3**
	comp=Z,649nm,0.7s						
SNAA	**Sanae**	**18.21**	**191**	P	**Pn**	**22 15 46.3**	**+0.4**
SNAA	**Sanae**	**18.21**	**191**	⇑P	**Pn**	**22 15 46.6**	**+0.7**
	comp=Z,195nm,0.9s						
SNAA	**Sanae**	**18.21**	**191**	P	**P**	**22 15 47.1**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=26,slow=7.1,SNR=10						
SNAA				LR	LR	22 21 34.7	
	comp=Z,358nm,19.6s,baz=319,slow=33						
	comp=Z,10nm,1.0s						
VNA3	**Neumayer Olymp**	**18.82**	**198**	⇑P	**P**	**22 15 48.9**	**-4.0**
	comp=Z,7.0nm,1.0s						
SUR	**Sutherland**	**23.61**	**28**	LR	LR	22 23 35.2	
	comp=Z,247nm,21.1s,baz=182,slow=31						
BELA	**Belgrano 2**	**28.13**	**198**	P	**P**	**22 17 24.9**	**-0.1**
BELA				IAmb	IAmb	22 17 28.0	
	comp=Z,6.1nm,0.8s						
MAW	**Mawson**	**28.78**	**139**	LR	LR	22 27 54.1	
	comp=Z,92nm,18.2s,baz=218,slow=34						
LBTB	**Lobatse**	**31.93**	**31**	LR	LR	22 28 33.1	
	comp=Z,225nm,21.5s,baz=192,slow=32						
TSUM	**Tsumeb**	**35.66**	**16**	LR	LR	22 30 33.5	
	comp=Z,243nm,19.6s,baz=152,slow=32						
QSPA	**South Pole Qui**	**36.09**	**180**	P	**P**	**22 18 35.3**	**+0.2**
QSPA	**South Pole Qui**	**36.09**	**180**	P	**P**	**22 18 35.2**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=240,slow=2.8,SNR=14						
QSPA				LR	LR	22 32 27.4	
	comp=Z,216nm,21.2s,baz=232,slow=35						
	comp=Z,2.9nm,0.8s						
LSZ	**Lusaka**	**41.88**	**30**	LR	LR	22 34 31.2	
	comp=Z,219nm,20.5s,baz=174,slow=33						
USHA	**Ushuaia**	**42.30**	**237**	LR	LR	22 33 26.1	
	comp=Z,1μm,18.8s,baz=50,slow=31						
VNDA	**Vanda**	**47.60**	**173**	P	**P**	**22 20 09.3**	**+0.6**
VNDA	**Vanda**	**47.60**	**173**	P	**P**	**22 20 10.1**	**+1.4**
	comp=Z,4.6nm,0.9s,baz=243,slow=7.5,SNR=8.8						
VNDA				LR	LR	22 39 44.8	
	comp=Z,173nm,18.3s,baz=215,slow=36						
	comp=Z,4.6nm,0.9s						
PLCA	**Paso Flores**	**52.07**	**251**	LR	LR	22 39 39.4	
	comp=Z,41nm,21.7s,baz=168,slow=32						
CPUP	**Villa Florida**	**54.73**	**273**	P	**P**	**22 21 02.2**	**-0.6**
CPUP	**Villa Florida**	**54.73**	**273**	P	**P**	**22 21 02.2**	**-0.6**
	comp=Z,6.6nm,0.9s,baz=134,slow=5.8,SNR=10						
CPUP				LR	LR	22 40 42.6	
	comp=Z,33nm,21.1s,baz=116,slow=32						
	comp=Z,6.6nm,0.9s						
MBAR	**Mbarara**	**56.58**	**28**	LR	LR	22 43 28.7	
	comp=Z,188nm,20.6s,baz=181,slow=34						
BDFB	**Brasilia**	**57.73**	**289**	P	**P**	**22 21 24.7**	**+0.2**
	comp=Z,4.4nm,0.9s,baz=112,slow=11,SNR=4.6						
BDFB				LR	LR	22 41 41.7	
	comp=Z,93nm,19.5s,baz=10,slow=31						
	comp=Z,4.4nm,0.9s						
PTLB	**Pontes e Lacer**	**64.22**	**279**	P	**P**	**22 22 08.4**	**-0.1**
PTLB				IAmb	IAmb	22 22 10.1	
	comp=Z,11nm,1.3s						
LVC	**Limon Verde**	**64.37**	**266**	LR	LR	22 48 34.2	
	comp=Z,36nm,19.3s,baz=165,slow=34						
VILB	**Vilhena**	**66.83**	**280**	P	**P**	**22 22 26.4**	**+1.1**
VILB				IAmb	IAmb	22 22 39.1	
	comp=Z,9.0nm,1.1s						
TOA0	**Torodi Ar. Sit**	**67.24**	**353**	P	**P**	**22 22 27.0**	**-0.7**
TOA0				IAmb	IAmb	22 22 28.6	
	comp=Z,3.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**67.24**	**353**	P	**P**	**22 22 27.5**	**-0.2**
TORD				IAmb	IAmb	22 22 27.9	
	comp=Z,7.8nm,1.5s						
TORD	**Torodi Ar. Bea**	**67.24**	**353**	P	**P**	**22 22 27.1**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=175,slow=6.7,SNR=8.1						
TORD				LR	LR	22 47 01.6	
	comp=Z,38nm,21.6s,baz=160,slow=32						
	comp=Z,1.7nm,0.8s						
LPAZ	**La Paz**	**68.82**	**271**	P	**P**	**22 22 38.2**	**-0.4**
LPAZ				IAmb	IAmb	22 22 40.3	
	comp=Z,5.1nm,0.9s						
LPAZ	**La Paz**	**68.82**	**271**	P	**P**	**22 22 39.7**	**+1.1**
	comp=Z,3.4nm,0.8s,baz=129,slow=4.0,SNR=11						
LPAZ				LR	LR	22 50 12.3	
	comp=Z,46nm,20.0s,baz=77,slow=34						
	comp=Z,3.4nm,0.8s						
H01W2	**Cape Leeuwin H**	**70.99**	**123**	T	T	23 41 10.8	
	baz=218						
H01W3	**Cape Leeuwin H**	**71.00**	**123**	T	T	23 41 11.1	
	baz=218,SNR=3.2						
H01W1	**Cape Leeuwin H**	**71.00**	**123**	T	T	23 41 10.8	
	baz=218						
SAML	**Samuel**	**71.77**	**280**	P	**P**	**22 22 56.2**	**+0.3**
SAML				IAmb	IAmb	22 22 57.7	
	comp=Z,14nm,1.4s						
NNA	**Nana**	**77.35**	**267**	LR	LR	22 55 03.9	
	comp=Z,35nm,21.8s,baz=174,slow=34						
ATAH	**Atahualpa**	**82.13**	**269**	LR	LR	23 00 04.7	
	comp=Z,41nm,20.0s,baz=95,slow=35						
STKA	**Stephens Creek**	**85.44**	**142**	P	**P**	**22 24 11.4**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=272,slow=5.3,SNR=3.6						
	comp=Z,1.8nm,0.6s						
PALK	**Pallekele**	**85.90**	**72**	LR	LR	22 54 38.9	
	comp=Z,45nm,18.0s,baz=313,slow=30						
EIL	**Elat**	**86.67**	**23**	LR	LR	23 01 23.2	
	comp=Z,81nm,19.6s,baz=242,slow=34						
ASAR	**Alice Springs**	**89.65**	**132**	P	**P**	**22 24 30.3**	**-1.2**
ASAR	**Alice Springs**	**89.65**	**132**	P	**P**	**22 24 31.3**	**-0.2**
	comp=Z,2.2nm,1.0s,baz=209,slow=4.4,SNR=9.3						
	comp=Z,2.2nm,1.0s						
WRA	**Warramunga Arr**	**93.10**	**131**	P	**P**	**22 24 45.8**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=208,slow=5.0,SNR=2.0						
	comp=Z,0.3nm,0.7s						
ESDC	**Sonseca Array**	**94.01**	**351**	LR	LR	23 02 58.6	
	comp=Z,31nm,19.3s,baz=208,slow=33						
GNI	**Garni**	**99.10**	**28**	LR	LR	23 09 39.9	
	comp=Z,45nm,20.5s,baz=216,slow=35						
MKAR	**Makanchi Array**	**118.58**	**49**	PKP	**PKiKP**	**22 30 20.4**	**-0.1**
	comp=Z,1.4nm,1.0s,baz=222,slow=1.6,SNR=6.9						
BVAR	**Borovoye Array**	**118.68**	**38**	PKP	**PKiKP**	**22 30 21.0**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=222,slow=2.8,SNR=6.3						
ZALV	**Zalesovo Beam**	**124.97**	**45**	PKP	**PKiKP**	**22 30 32.8**	**0.0**
	comp=Z,0.4nm,0.4s,baz=182,slow=4.5,SNR=4.4						
TXAR	**Lajitas Array**	**125.69**	**272**	PKP	**PKiKP**	**22 30 35.7**	**+0.5**
	comp=Z,2.1nm,1.2s,baz=160,slow=7.7,SNR=5.0						
PDAR	**Pinedale Array**	**138.35**	**281**	PKP	**PKPdf**	**22 30 58.4**	**0.0**
	comp=Z,0.5nm,0.7s,baz=76,slow=6.3,SNR=4.4						
G08A	**Pilot Rock**	**145.31**	**277**	PKPbc	**PKPab**	**22 31 11.2**	**+0.6**
E09A	**Wood Farm, Sta**	**145.51**	**280**		**PKPdf**	**22 31 10.7**	**0.0**
TIKI	**Tiksi**	**149.62**	**33**		**PKPbc**	**22 31 21.1**	**-0.3**
YKA	**Yellowknife Ar**	**149.68**	**309**	PKPbc	**PKPbc**	**22 31 21.5**	**-0.3**
	comp=Z,5.5nm,0.8s,baz=95,slow=2.5,SNR=58						
ILAR	**Eielson Array**	**163.50**	**320**	PKPab	**PKPab**	**22 32 27.4**	**+1.0**
	comp=Z,1.0nm,1.0s,baz=46,slow=4.3,SNR=7.0						

TEH 13 22:33:24.5, 32.37N×57.42E, h5km±12km, ML3.7, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPRV	**Parvadeh(Tabas**	**0.91**	**317**	Pg	Pg	22 33 42.2	+0.3
ITEG	**Tejag**	**1.24**	**64**	Pg	Pn	22 33 49.1	+0.5
TKDS	**Koohdasht(Taba**	**1.27**	**349**	Pg	Pn	22 33 49.4	+0.5
IKOO	**Kooshah**	**1.34**	**87**	Pg	Pb	22 33 50.8	+0.5
BSRN	**Basiran**	**1.50**	**105**	Pg	Pg	22 33 53.6	+0.3
ZRDN	**Zarand Kerman**	**1.59**	**209**	Pg	Pg	22 33 55.5	+0.6
AFRZ	**Afriz**	**1.71**	**51**	Pg	Pg	22 33 57.2	-0.1
TNSJ	**Nastanj**	**1.73**	**337**	Pg	Pb	22 33 57.0	+0.1
IBAF	**Bafgh**	**1.75**	**244**	Pg	Pg	22 33 58.0	-0.2
KRM1	**Kerman Provinc**	**1.86**	**184**	Pn	Pn	22 33 59.6	+0.4
IDAH	**Dahanechah**	**2.10**	**79**	Pn	Pb	22 34 02.7	-0.5
KHGB	**Koh Gabri**	**2.14**	**202**	Pn	Pb	22 34 03.5	-0.4
NHDN	**Nehbandan**	**2.44**	**113**	Pn	Pb	22 34 07.4	-1.5
TVBK	**TV Kerman**	**2.44**	**194**	Pn	Pn	22 34 08.5	-0.5
CHMN	**Cheshme madani**	**2.50**	**178**	Pn	Pn	22 34 08.0	+1.9
ICHK	**Chekchek**	**2.56**	**268**	Pn	Pb	22 34 09.2	-1.7
IMEH	**Mehriz**	**2.58**	**249**	Pn	Pb	22 34 09.7	-1.7
SHRT	**Shahrakht**	**2.73**	**61**	Pn	Pb	22 34 11.6	-2.2
NGRK	**Negar Kerman**	**2.78**	**193**	Pn	Pb	22 34 12.8	-2.0
ISAD	**Sadrabad**	**3.20**	**263**	Pn	Pn	22 34 18.2	+2.5
ANAR	**Anarak**	**3.22**	**286**	Pn	Pn	22 34 18.0	+2.2
KBAM	**BAM**	**3.34**	**164**	Pn	Pn	22 34 19.6	+2.2
TBHD	**Torbat heydari**	**3.39**	**26**	Pn	Pn	22 34 21.1	+2.9
TBJM	**Torbat-e-JAM**	**3.77**	**39**	Pn	Pn	22 34 25.7	+2.2
ZHDN	**Zahedan**	**4.15**	**135**	Pn	Pn	22 34 31.1	+2.4
IANJ	**Anjilo**	**4.25**	**318**	Pn	Pn	22 34 32.4	+2.4
IPAY	**Payeh**	**4.28**	**17**	Pn	Pn	22 34 32.8	+2.3
IRAM	**Rameseh**	**4.31**	**264**	Pn	Pn	22 34 33.8	+2.8
IZEF	**Zefreh**	**4.33**	**278**	Pn	Pn	22 34 33.1	+1.9
IAKL	**Akhelmad**	**4.37**	**14**	Pn	Pn	22 34 34.3	+2.6
IMYA	**Miami**	**4.54**	**28**	Pn	Pn	22 34 36.2	+2.1
KRSH	**Karshahi**	**4.71**	**291**	Pn	Pn	22 34 39.0	+2.7
IKRD	**Kardeh**	**4.72**	**21**	Pn	Pn	22 34 39.2	+2.6
ISFB	**Sefidab**	**

IPM	**Ipoh**	**26.08**	**280**	P	**P**	**23 18 38.3**	**-0.4**
IPM				IAmb	IAmb	23 18 40.2	
	comp=Z,13nm,0.7s						
JOW	**Kunigami**	**26.70**	**3**	P	**P**	**23 18 44.3**	**+0.2**
	comp=Z,10.0nm,0.5s,baz=156,slow=12,SNR=2.5						
	comp=Z,10.0nm,0.5s						
CTA	**Charters Tower**	**27.64**	**137**	LR	LR	23 32 26.9	
	comp=Z,42nm,19.7s,baz=270,slow=42						
CMAR	**Chiang Mai Arr**	**32.90**	**305**	LR	LR	23 32 55.3	
	comp=Z,5.0nm,20.0s,baz=115,slow=36						
JNU	**Nakatsue**	**33.16**	**6**	LR	LR	23 35 10.2	
	comp=Z,7.0nm,18.9s,baz=43,slow=40						
BBOO	**Buckleboo**	**33.81**	**166**	P	**P**	**23 19 46.6**	**-0.3**
STKA	**Stephens Creek**	**34.69**	**157**	P	**P**	**23 19 54.6**	**+0.2**
STKA	**Stephens Creek**	**34.69**	**157**	P	**P**	**23 19 54.7**	**+0.2**
	comp=Z,1.7nm,0.3s,baz=330,slow=9.2,SNR=7.2						
	comp=Z,1.7nm,0.3s						
PZH	**PanZhiHua**	**35.69**	**320**	P	**P**	**23 20 06.3**	**+3.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.4s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
KSRS	**Korea Array**	**37.27**	**2**	P	**P**	**23 20 17.0**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=181,slow=9.5,SNR=6.6						
	comp=Z,1.4nm,0.5s						
MAJO	**Matsushiro**	**37.87**	**15**	P	**P**	**23 20 20.9**	**-0.7**
MJAR	**Matsushiro Arr**	**37.87**	**15**	P	**P**	**23 20 19.3**	**-2.3**
	comp=Z,0.9nm,0.5s,baz=197,slow=9.9,SNR=2.0						
	comp=Z,0.9nm,0.5s						
MJB9	**Matsu-Tunnel**	**37.87**	**15**	P	**P**	**23 20 21.9**	**+0.2**
MJB9				IAmb	IAmb	23 20 35.5	
	comp=Z,12nm,1.2s						
HNS	**HongShan**	**38.83**	**345**	⇑P	**P**	**23 20 30.1**	**+0.5**
HNS				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BJI	**Beijing**	**40.99**	**348**	P	**P**	**23 20 47.6**	**+0.1**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BJI				pmax	pmax		
	comp=Z,36nm,3.8s						
HHC	**Hu-ho-hao-te**	**42.92**	**343**	*e*P	**P**	**23 21 04.8**	**+1.4**
HHC				pP	pP	23 21 15.6	-0.3
HHC				sP	sP	23 21 22.3	+0.8
HHC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,38nm,4.8s						
BTO	**Baotou**	**43.17**	**341**	*e*P	P	23 21 10.8	+5.4
BTO				pP	sP	23 21 23.1	-0.5
BTO				sP	pwP	23 21 28.6	+7.5
BTO				PP	**PcP**	**23 22 54.6**	**+0.3**
BTO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BTO				pmax	pmax		
	comp=Z,300nm,5.4s						
USA0B	**Ussuriysk Arra**	**44.24**	**5**	P	**P**	**23 21 13.1**	**-0.7**
USA0B				IAmb	IAmb	23 21 43.5	
	comp=Z,9.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**44.24**	**5**	P	**P**	**23 21 12.6**	**-1.2**
USRK	**Ussuriysk Ar.**	**44.24**	**5**	P	**P**	**23 21 14.0**	**+0.2**
	comp=Z,3.2nm,0.5s,baz=185,slow=7.1,SNR=11						
	comp=Z,3.2nm,0.5s						
MDJ	**Mudanjiang**	**44.48**	**3**	P	**P**	**23 21 17.4**	**+1.6**
MDJ				pmax	pmax		
	comp=Z,25nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,300nm,3.9s						
GTA	**Gaotai**	**46.30**	**331**	P	**P**	**23 21 31.4**	**+0.9**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
HEH	**HeiHe**	**50.05**	**1**	*e*P	**P**	**23 21 56.0**	**-3.0**
ULN	**Ulaanbaatar**	**50.65**	**343**	P	**P**	**23 22 04.4**	**+0.7**
ULN				IAmb	IAmb	23 22 05.9	
	comp=Z,5.9nm,1.1s						
SONM	**Songino Array**	**50.81**	**342**	P	**P**	**23 22 04.9**	**-0.1**
SONM				IAmb	IAmb	23 22 07.0	
	comp=Z,2.8nm,0.7s						
SONM	**Songino Array**	**50.81**	**342**	P	**P**	**23 22 05.2**	**+0.2**
	comp=Z,2.7nm,0.5s,baz=157,slow=8.9,SNR=22						
	comp=Z,2.7nm,0.5s						
WMQ	**Urumqi**	**55.79**	**327**	*e*P	**P**	**23 22 42.8**	**+1.3**
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
NIL	**Nilore**	**60.24**	**309**	P	**P**	**23 23 13.3**	**+0.4**
MK31	**Makanchi Array**	**60.62**	**326**	P	**P**	**23 23 15.0**	**-0.2**
MKAR	**Makanchi Array**	**60.62**	**326**	P	**P**	**23 23 15.3**	**+0.1**
	comp=Z,4.5nm,0.4s,baz=121,slow=7.5,SNR=143						
	comp=Z,4.5nm,0.4s						
KSH	**Kashi**	**60.71**	**317**	P	**P**	**23 23 17.4**	**+1.4**
KSH				pP	pwP	23 23 31.8	-1.0
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MAKZ	**Makanchi**	**60.80**	**326**	P	**P**	**23 23 16.3**	**-0.2**
NRN	**Naryn**	**61.58**	**319**	P	**P**	**23 23 22.3**	**+0.1**
NRN				IAmb	IAmb	23 23 23.4	
	comp=Z,2.5nm,0.6s						
AAK	**Ala-Archa**	**63.14**	**319**	P	**P**	**23 23 32.9**	**+0.5**
AAK				IAmb	IAmb	23 23 34.2	
	comp=Z,6.2nm,1.5s						
ARSB	**Arslanbob**	**63.55**	**317**	P	**P**	**23 23 35.6**	**+0.5**
KBL	**Kabul**	**63.82**	**309**	P	**P**	**23 23 36.4**	**-0.7**
KBL				IAmb	IAmb	23 23 37.9	
	comp=Z,5.3nm,0.8s						
ZAA0	**Zalesovo Array**	**63.90**	**334**	P	**P**	**23 23 37.1**	**+0.2**
ZAA0				IAmb	IAmb	23 23 40.9	
	comp=Z,3.3nm,1.1s						
ZALV	**Zalesovo Beam**	**63.90**	**334**	P	**P**	**23 23 35.9**	**-1.1**
ZALV	**Zalesovo Beam**	**63.90**	**334**	P	**P**	**23 23 35.6**	**-1.3**
	comp=Z,1.1nm,0.4s,baz=130,slow=5.9,SNR=7.1						
	comp=Z,1.1nm,0.4s						
GAR	**Garm**	**64.47**	**314**	P	**P**	**23 23 41.3**	**+0.1**
BTK	**Batken**	**64.53**	**315**	P	**P**	**23 23 42.0**	**+0.5**
BTK				IAmb	IAmb	23 23 42.8	
	comp=Z,8.5nm,1.2s						
KURBB	**Kurchatov Arra**	**64.88**	**328**	P	**P**	**23 23 43.0**	**-0.4**
	comp=Z,4.0nm,0.6s,baz=129,slow=6.1,SNR=54						
	comp=Z,4.0nm,0.6s						
KURK	**Kurchatov**	**64.88**	**328**	P	**P**	**23 23 42.7**	**-0.7**
BVAR	**Borovoye Array**	**70.44**	**328**	P	**P**	**23 24 17.8**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=128,slow=9.3,SNR=15						
	comp=Z,1.8nm,0.8s						
BRVK	**Borovoye**	**70.51**	**328**	P	**P**	**23 24 18.2**	**-0.7**
TIXI	**Tiksi**	**71.53**	**1**	P	**P**	**23 24 23.8**	**-0.8**
UOSS	**Minazif**	**72.39**	**296**	P	**P**	**23 24 31.9**	**+1.1**
UOSS				IAmb	IAmb	23 25 07.4	
	comp=Z,8.5nm,1.1s						
GEYT	**Alibeck**	**73.25**	**310**	P	**P**	**23 24 36.6**	**+0.9**
	comp=Z,2.6nm,0.8s,baz=116,slow=9.8,SNR=4.5						
	comp=Z,2.6nm,0.8s						
NRIK	**Noril'sk**	**74.02**	**347**	P	**P**	**23 24 39.0**	**-0.4**
NRIK				IAmb	IAmb	23 24 42.3	
	comp=Z,5.7nm,1.4s						
NRIK	**Noril'sk**	**74.02**	**347**	P	**P**	**23 24 39.1**	**-0.4**
	comp=Z,2.3nm,0.6s,baz=130,slow=5.5,SNR=8.0						
	comp=Z,2.3nm,0.6s						
ABKAR	**Akbulak array**	**75.03**	**321**	P	**P**	**23 24 44.7**	**-1.1**
VOI	**Vohitsoka**	**80.68**	**248**	P	**P**	**23 25 17.3**	**-0.6**
K15K	**Wolf Creek Mou**	**81.56**	**27**	P	**P**	**23 25 21.6**	**+0.1**
K15K				IAmb	IAmb	23 25 42.7	
	comp=Z,12nm,1.5s						
J16K	**Anvik River**	**82.24**	**26**	P	**P**	**23 25 26.1**	**+1.0**
J16K				IAmb	IAmb	23 25 30.1	
	comp=Z,7.6nm,1.5s						
L16K	**Owhat River**	**82.34**	**27**	P	**P**	**23 25 25.8**	**+0.1**
L16K				IAmb	IAmb	23 25 51.7	
	comp=Z,8.0nm,1.4s						
M16K	**Timber Creek**	**82.41**	**28**	P	**P**	**23 25 26.9**	**+0.8**
M16K				IAmb	IAmb	23 25 58.0	
	comp=Z,7.1nm,1.4s						
F17K	**Baldwin Pennin**	**82.85**	**23**	P	**P**	**23 25 29.2**	**+1.0**
F17K				IAmb	IAmb	23 25 49.0	
	comp=Z,5.5nm,1.5s						
H17K	**Granite Mounta**	**82.97**	**24**	P	**P**	**23 25 29.4**	**+0.5**
K17K	**Iditarod**	**83.12**	**27**	P	**P**	**23 25 30.7**	**+1.0**
L18K	**Granite Mounta**	**83.74**	**27**	P	**P**	**23 25 33.5**	**+0.6**
L18K				IAmb	IAmb	23 25 44.0	
	comp=Z,7.5nm,1.4s						
G19K	**Purcell Mounta**	**84.41**	**23**	P	**P**	**23 25 36.2**	**0.0**
G19K				IAmb	IAmb	23 25 58.7	
	comp=Z,3.0nm,1.2s						
D19K	**Kuna River**	**84.56**	**21**	P	**P**	**23 25 37.3**	**+0.3**
D19K				IAmb	IAmb	23 26 11.0	
	comp=Z,4.3nm,1.2s						
QSPA	**South Pole Qui**	**89.94**	**180**	P	**P**	**23 26 03.0**	**-0.2**
	comp=Z,1.7nm,1.0s,baz=137,slow=1.3,SNR=9.2						
	comp=Z,1.7nm,1.0s						
ARCES	**ARCESS Array B**	**93.92**	**340**	P	**P**	**23 26 19.7**	**-1.7**
	comp=Z,3.1nm,0.9s,baz=74,slow=6.7,SNR=7.6						
	comp=Z,3.1nm,0.9s						
SPITS	**Spitsbergen Ar**	**94.11**	**349**	P	**P**	**23 26 20.9**	**-1.1**
	comp=Z,9.2nm,1.0s,baz=90,slow=12,SNR=6.5						
	comp=Z,9.2nm,1.0s						
TORD	**Torodi Ar. Bea**	**124.02**	**286**	PKP	**PKPdf**	**23 32 02.5**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=53,slow=1.2,SNR=4.2						

IDC ***14*** *00:36:43.8±4.0,51.11N×178.82E,h42km×33km, mb3.6/13, mbtmp3.9/14,ML4.2/2,MS2.5/4,Error ellipse: s-maj=35.0km s-min=17.8km az=174.0*
AEIC ***14*** *00:36:43.4±2.6,51.22N±0.09×178.65E±0.09,h22km±3km, Error ellipse: s-maj=13.8km s-min=5.0km az=208.0*
NEIC ***14*** *00:36:46.0±2.5,51.39N±0.07×178.75E±0.08,h40km±8km, mb3.7/70,ML3.4(AEIC), Error ellipse: s-maj=10.4km s-min=7.4km az=192.0*

ISC 14 00:36:45.8±1.7, 51.3N±0.1×178.73E±0.05, h48km±13km, n111,σ1$28/114, mb3.7/37, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSE	**Little Sitkin**	**0.62**	**351**		**Pn**	**00 36 57.4**	**-1.1**
LSPA	**Little Sitkin**	**0.64**	**352**		**Pn**	**00 36 57.7**	**-1.1**
LSPA					**Sn**	**00 37 08.7**	**+0.6**
LSNW	**Little Sitkin**	**0.66**	**349**		**Pn**	**00 36 57.7**	**-1.4**
CEPE	**Semis' Perret**	**0.86**	**41**		**Pn**	**00 37 00.9**	**-0.8**
GANO	**Gareloi North**	**1.62**	**71**		**Pn**	**00 37 11.5**	**-0.4**
GANO					**Sn**	**00 37 33.7**	**+2.0**
GANE	**Gareloi Northe**	**1.64**	**71**		**Pn**	**00 37 11.9**	**-0.2**
TASE	**Tanaga Southea**	**2.08**	**74**		**Pn**	**00 37 18.5**	**+0.2**
TAFP	**Tanaga Falls P**	**2.13**	**73**		**Pn**	**00 37 19.0**	**+0.1**
TAFP					**Sn**	**00 37 46.4**	**+2.2**
KIWB	**Kanaga Island**	**2.63**	**77**	Pn	**Pn**	**00 37 24.9**	**-0.8**
KIRH	**Kanaga Island**	**2.67**	**76**		**Pn**	**00 37 26.7**	**+0.4**
KIRH					**Sn**	**00 38 01.0**	**+3.6**
ADK	**Adak**	**2.92**	**77**		**Pn**	**00 37 29.4**	**-0.2**
ADK					**Sn**	**00 38 03.0**	**-0.4**
SHEM	**Shemya Is, Ala**	**3.19**	**298**	P	**Pn**	**00 37 33.2**	**-0.2**
	38nm,0.3s,baz=106,slow=4.4,SNR=35			S			
SHEM					**Sn**	**00 38 15.4**	**+5.3**
	68nm,0.3s,baz=276,slow=19,SNR=2.3			LR	LR		
SHEM						00 38 40.6	
	comp=Z,72nm,19.6s,baz=104,slow=35						
GSCK	**Great Sitkin C**	**3.26**	**76**		**Pn**	**00 37 34.8**	**+0.5**
GSMY	**Great Sitkin M**	**3.33**	**75**		**Pn**	**00 37 35.8**	**+0.5**
GSTR	**Great Sitkin T**	**3.33**	**75**	Pn	**Pn**	**00 37 34.6**	**-0.9**
ATKA	**Atka Island**	**4.48**	**76**	Pn	**Pn**	**00 37 50.9**	**-0.2**
PETK	**Petropavlovsk-**	**13.01**	**286**	LR	LR	00 44 31.8	
	comp=Z,19nm,19.9s,baz=71,slow=36						
O14K	**Tigyukauivet M**	**13.85**	**47**	Pn	**Pn**	**00 39 60.0**	**+0.8**
M14K	**Bethel**	**14.29**	**41**	Pn	**Pn**	**00 40 03.0**	**-2.0**
L14K	**Kuka Creek**	**14.33**	**38**	P	**P**	**00 40 10.6**	**-1.0**
N15K	**Kwethluk River**	**14.79**	**45**	P	**P**	**00 40 17.1**	**+0.4**
K15K	**Wolf Creek Mou**	**15.34**	**37**	P	**P**	**00 40 21.8**	**-1.0**
K15K				IAmb	IAmb	00 40 26.0	
	comp=Z,8.0nm,1.1s						
O16K	**Kokwok River B**	**15.47**	**49**	P	**P**	**00 40 24.2**	**0.0**
O16K				IAmb	IAmb	00 40 25.8	
	comp=Z,6.1nm,1.1s						
L16K	**Owhat River**	**15.81**	**40**	P	**Pn**	**00 40 26.7**	**+1.7**
N17K	**Nushagak Hills**	**16.25**	**46**	P	**Pn**	**00 40 31.1**	**+0.6**
N17K				IAmb	IAmb	00 40 42.4	
	comp=Z,13nm,1.4s						
N18K	**Kilae Creek**	**16.90**	**47**	Pn	**Pn**	**00 40 38.2**	**-0.5**
N18K				IAmb	IAmb	00 40 47.6	
	comp=Z,10nm,1.4s						
O18K	**Koktuh Hills**	**16.93**	**50**		**Pn**	**00 40 39.4**	**+0.3**
G16K	**Koyuk River**	**17.13**	**27**	Pn	**Pn**	**00 40 39.7**	**-1.7**
OHAK	**Old Harbor**	**17.30**	**59**	Pn	**Pn**	**00 40 41.3**	**-2.2**
KDAK	**Kodiak Island**	**17.76**	**57**	P	**Pn**	**00 40 47.4**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=318,slow=16,SNR=5.8						
	comp=Z,4.5nm,0.7s						
MA2	**Magadan**	**17.76**	**309**	LR	LR	00 47 17.3	
	comp=Z,19nm,20.0s,baz=92,slow=35						
J18K	**Innoko River**	**17.82**	**38**		**P**	**00 40 51.9**	**+1.6**
L19K	**White Mountain**	**17.96**	**43**		**P**	**00 40 51.7**	**-0.1**
L19K				IAmb	IAmb	00 41 17.5	
	comp=Z,6.4nm,1.3s						
F17K	**Baldwin Pennin**	**18.21**	**26**	P	**Pn**	**00 40 55.4**	**+0.8**
H18K	**Honhosa River**	**18.21**	**32**	P	**Pn**	**00 40 56.1**	**+1.4**
H18K				IAmb	IAmb	00 41 31.0	
	comp=Z,7.4nm,1.5s						
J19K	**Poorman**	**18.52**	**37**	P	**Pn**	**00 40 59.1**	**+0.7**
C16K	**Lisburne Hills**	**18.68**	**19**	P	**P**	**00 40 60.0**	**+0.3**
E18K	**Tukpahlearik C**	**19.10**	**25**	P	**Pn**	**00 41 06.5**	**+1.0**
J20K	**Nowinta River**	**19.17**	**37**	P	**Pn**	**00 41 06.2**	**0.0**
J20K				IAmb	IAmb	00 41 22.2	
	comp=Z,9.3nm,1.5s						
SKT	**Skwentna**	**19.33**	**45**	P	**Pn**	**00 41 08.1**	**-0.1**
F19K	**Shalaruckik Mo**	**19.48**	**28**	P	**P**	**00 41 08.8**	**+0.5**
SUA	**Susitna One**	**19.52**	**47**	P	**P**	**00 41 08.9**	**0.0**
SUA				IAmb	IAmb	00 41 43.3	
	comp=Z,4.4nm,1.1s						
CAST	**Castle Rocks**	**19.64**	**41**	P	**P**	**00 41 10.1**	**-0.1**
C18K	**Utukok River**	**19.89**	**22**	P	**P**	**00 41 13.8**	**+1.0**
C18K				IAmb	IAmb	00 41 18.5	
	comp=Z,3.1nm,0.7s						
KTH	**Kantishna Hill**	**20.17**	**41**	P	**P**	**00 41 16.4**	**+0.4**
KTH				IAmb	IAmb	00 41 23.4	
	comp=Z,5.3nm,0.9s						
F20K	**Avaraart Lake**	**20.24**	**29**	P	**P**	**00 41 18.0**	**+1.5**
TRF	**Thorofare Moun**	**20.39**	**42**	P	**P**	**00 41 17.6**	**-0.9**
TRF				IAmb	IAmb	00 41 57.7	
	comp=Z,7.3nm,1.3s						
GHO	**Glory Hole Cre**	**20.44**	**47**	P	**P**	**00 41 17.7**	**-1.2**
I21K	**Tanana**	**20.47**	**36**	P	**P**	**00 41 20.4**	**+1.3**
I21K				IAmb	IAmb	00 41 23.6	
	comp=Z,2.4nm,0.8s						
D19K	**Kuna River**	**20.53**	**24**	P	**P**	**00 41 20.9**	**+1.1**
D19K				IAmb	IAmb	00 41 24.8	
	comp=Z,3.6nm,0.8s						
KNK	**Knik Glacier**	**20.56**	**48**	P	**P**	**00 41 19.6**	**-0.6**
RND	**Reindeer**	**20.98**	**42**	P	**P**	**00 41 25.4**	**+0.7**
F21K	**Alatna River**	**21.04**	**30**	P	**P**	**00 41 26.9**	**+1.6**
F21K				IAmb	IAmb	00 41 29.9	
	comp=Z,4.4nm,0.9s						
SCM	**Sheep Creek Mo**	**21.19**	**47**	P	**P**	**00 41 25.7**	**-1.3**
I23K	**Minto, Yukon-K**	**21.44**	**38**	P	**P**	**00 41 28.2**	**-1.3**
I23K				IAmb	IAmb	00 41 40.5	
	comp=Z,6.1nm,1.5s						
DHY	**Denali Highway**	**21.51**	**44**	P	**P**	**00 41 28.9**	**-1.5**
DHY				IAmb	IAmb	00 41 35.9	
	comp=Z,3.3nm,0.8s						
WRH	**Wood River Hil**	**21.68**	**40**	P	**P**	**00 41 30.2**	**-1.9**
MDM	**Murphy Dome**	**21.81**	**39**	P	**P**	**00 41 33.3**	**-0.2**
MDM				IAmb	IAmb	00 42 10.9	
	comp=Z,3.4nm,1.2s						
B20K	**Meade River**	**21.86**	**22**	P	**P**	**00 41 33.0**	**-0.9**
B20K				IAmb	IAmb	00 41 37.2	
	comp=Z,3.7nm,1.1s						
G23K	**Bananza Creek**	**21.92**	**34**	P	**P**	**00 41 34.6**	**-0.1**
G23K				IAmb	IAmb	00 41 56.4	
	comp=Z,2.9nm,1.0s						
E22K	**Anaktuvuk Pass**	**22.09**	**29**	P	**P**	**00 41 37.4**	**+0.9**
E22K				IAmb	IAmb	00 41 48.2	
	comp=Z,3.3nm,1.1s						
HDA	**Harding Lake**	**22.12**	**41**	P	**P**	**00 41 36.4**	**-0.4**
B21K	**Ikpikpuk River**	**22.22**	**25**	P	**P**	**00 41 37.6**	**-0.3**
B21K				IAmb	IAmb	00 41 40.3	
	comp=Z,2.9nm,1.0s						
IL31		**22.27**	**40**	P	**P**	**00 41 38.8**	**+0.4**
IL31				IAmb	IAmb	00 42 04.2	
	comp=Z,5.9nm,1.4s						
ILAR	**Eielson Array**	**22.27**	**40**	P	**P**	**00 41 37.9**	**-0.6**
ILAR	**Eielson Array**	**22.27**	**40**	P	**P**	**00 41 38.7**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=227,slow=7.8,SNR=5.1						
	comp=Z,0.4nm,0.5s						
D22K	**Ayikyak River**	**22.27**	**27**	P	**P**	**00 41 39.1**	**+0.6**
H24K	**Noodor Dome**	**22.30**	**37**	P	**P**	**00 41 38.7**	**-0.1**
H24K				IAmb	IAmb	00 42 15.7	
	comp=Z,4.6nm,1.4s						
G24K	**Hadweenzic Riv**	**22.81**	**35**	P	**P**	**00 41 44.9**	**+0.8**
G24K				IAmb	IAmb	00 41 46.7	
	comp=Z,3.8nm,0.8s						
J25K	**Salcha River,**	**22.83**	**41**	P	**P**	**00 41 41.9**	**-2.6**
J25K				IAmb	IAmb	00 42 12.7	
	comp=Z,5.8nm,1.4s						
VRDI	**Verde Repeater**	**22.89**	**50**	P	**P**	**00 41 43.3**	**-2.0**
F24K	**Squaw Lake**	**23.04**	**33**	P	**P**	**00 41 47.3**	**+0.8**
F24K				IAmb	IAmb	00 41 48.2	
	comp=Z,2.0nm,0.7s						
TOLK	**Toolik Lake Re**	**23.06**	**29**	P	**P**	**00 41 47.0**	**+0.3**
SCRK	**Sand Creek**	**23.22**	**43**	P	**P**	**00 41 47.1**	**-1.4**
SCRK				IAmb	IAmb	00 41 52.2	
	comp=Z,2.3nm,1.0s						
C23K	**Itkillik River**	**23.44**	**26**	P	**P**	**00 41 50.9**	**+0.6**
C23K				IAmb	IAmb	00 42 06.5	
	comp=Z,3.9nm,1.4s						
J26L	**Joseph Creek**	**23.54**	**42**	P	**P**	**00 41 49.8**	**-1.6**
D24K	**Happy Valley**	**23.57**	**29**	P	**P**	**00 41 51.7**	**+0.1**
I26K	**Coal Creek Min**	**23.94**	**40**	P	**P**	**00 41 53.5**	**-1.6**
L27K	**Beaver Creek,**	**23.95**	**45**	P	**P**	**00 41 56.1**	**+0.8**
L27K				IAmb	IAmb	00 42 33.2	
	comp=Z,2.8nm,1.1s						
BCAR	**Beaver Creek A**	**23.97**	**45**	P	**P**	**00 41 55.2**	**-0.3**
E25K	**Arctic Village**	**24.10**	**32**	P	**P**	**00 41 55.5**	**-1.1**
E25K				IAmb	IAmb	00 42 29.5	
	comp=Z,3.7nm,1.4s						
BMAR	**Burnt Mountain**	**24.15**	**34**	P	**P**	**00 41 56.3**	**-0.7**
DAWY	**Dawson**	**25.21**	**44**	P	**P**	**00 42 08.5**	**+1.8**
I28M	**Miner Creek**	**25.28**	**40**	P	**P**	**00 42 07.3**	**0.0**
I28M				IAmb	IAmb	00 42 09.8	
	comp=Z,2.8nm,0.8s						
E27K	**Coleen River**	**25.49**	**34**	P	**P**	**00 42 09.7**	**+0.6**
F28M	**Old Crow**	**25.91**	**35**	P	**P**	**00 42 12.3**	**-0.6**
F28M				IAmb	IAmb	00 42 14.1	
	comp=Z,4.4nm,1.4s						
K29M	**Barlow Dome**	**25.99**	**44**	P	**P**	**00 42 16.9**	**+3.1**
H29M	**Whitestone**	**26.09**	**39**	P	**P**	**00 42 14.0**	**-0.6**
D27M	**Malcolm River**	**26.10**	**32**	P	**P**	**00 42 14.8**	**+0.1**
D27M				IAmb	IAmb	00 42 18.4	
	comp=Z,2.7nm,1.1s						
E28M	**Babbage River**	**26.35**	**33**	P	**P**	**00 42 17.1**	**+0.2**
G29M	**Pine Creek**	**26.39**	**37**	P	**P**	**00 42 17.4**	**+0.1**
G29M				IAmb	IAmb	00 42 41.3	
	comp=Z,2.9nm,1.2s						
J30M	**Hart River**	**26.61**	**43**	P	**P**	**00 42 20.2**	**+0.8**
J30M				IAmb	IAmb	00 42 47.1	
	comp=Z,2.6nm,1.2s						
I30M	**Mount Dempster**	**26.69**	**41**	P	**P**	**00 42 21.3**	**+1.2**
I30M				IAmb	IAmb	00 42 39.9	
	comp=Z,2.8nm,1.3s						
E29M	**Blow River**	**26.85**	**34**	P	**P**	**00 42 21.9**	**+0.5**
R32K	**Eaglecrest**	**27.35**	**57**	P	**P**	**00 42 29.0**	**+3.0**
H31M	**Peel River**	**27.62**	**40**	P	**P**	**00 42 30.5**	**+2.1**
MMPY	**Sheldon Lake,**	**28.74**	**47**	P	**P**	**00 42 37.4**	**-0.9**
MJAR	**Matsushiro Arr**	**32.25**	**259**	LR	LR	00 56 44.8	
	comp=Z,9.6nm,18.8s,baz=126,slow=37						
YKA	**Yellowknife Ar**	**36.39**	**46**	P	**P**	**00 43 45.0**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=283,slow=8.6,SNR=7.6						
	comp=Z,0.5nm,0.6s						
SONM	**Songino Array**	**45.28**	**295**	P	**P**	**00 44 59.2**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=65,slow=8.6,SNR=5.7						
	comp=Z,0.6nm,0.6s						
PDAR	**Pinedale Array**	**47.80**	**71**	P	**P**	**00 45 20.8**	**+2.4**
	comp=Z,0.6nm,0.5s,baz=337,slow=4.4,SNR=4.6						
SPITS	**Spitsbergen Ar**	**50.31**	**355**	P	**P**	**00 45 36.2**	**-0.7**
	comp=Z,12nm,1.1s,baz=54,slow=7.3,SNR=6.4						
	comp=Z,12nm,1.1s						
ZALV	**Zalesovo Beam**	**52.93**	**312**	P	**P**	**00 45 56.2**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=43,slow=8.5,SNR=2.4						
	comp=Z,0.4nm,0.4s						
ARCES	**ARCESS Array B**	**57.87**	**349**	P	**P**	**00 46 31.2**	**-0.8**
	comp=Z,3.4nm,0.9s,baz=23,slow=7.2,SNR=2.0						
	comp=Z,3.4nm,0.9s						
KURBB	**Kurchatov Arra**	**58.03**	**312**	P	**P**	**00 46 33.1**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=42,slow=6.6,SNR=8.2						
	comp=Z,1.3nm,0.5s						
MKAR	**Makanchi Array**	**58.84**	**307**	P	**P**	**00 46 38.7**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=50,slow=6.3,SNR=14						
	comp=Z,0.4nm,0.4s						
BVAR	**Borovoye Array**	**59.92**	**318**	P	**P**	**00 46 46.8**	**+0.3**
	comp=Z,2.1nm,0.6s,baz=51,slow=6.5,SNR=16						
	comp=Z,2.1nm,0.6s						
TXAR	**Lajitas Array**	**60.19**	**79**	P	**P**	**00 46 47.3**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=292,slow=4.8,SNR=2.1						
	comp=Z,0.2nm,0.5s						
FINES	**FINESS Array B**	**65.48**	**346**	P	**P**	**00 47 23.8**	**+0.5**
	comp=Z,1.6nm,1.0s,baz=60,slow=8.2,SNR=4

ILSW				IAML			00 50 30.5	
	comp=E,38nm,1.4s							
SLKM	Skilak Lake	4.91	354			Pn	00 48 04.5	+0.4
HIN	Hinchinbrook I	4.96	15	Pn		Pn	00 48 04.8	-0.1
HIN				IAML			00 49 29.2	
	comp=E,90nm,2.0s							
HIN				IAML			00 51 13.0	
	comp=N,97nm,2.6s							
KAIM	Kayak Island	4.97	29	Pn		Pn	00 48 05.3	+0.3
KAIM	Kayak Island baz=213	4.97	29	P		Pn	00 48 05.7	+0.7
P18K	Big Mountain,	4.99	321	Pn		Pn	00 48 05.8	+0.6
P18K				IAML			00 49 39.9	
	comp=E,28nm,3.6s							
P18K	Big Mountain, baz=136	4.99	321	P		Pn	00 48 06.1	+0.9
R16K	Pilot Point	5.04	296	Pn		Pn	00 48 05.9	0.0
R16K				IAML			00 50 07.5	
	comp=N,122nm,3.8s							
R16K	Pilot Point baz=109	5.04	296	P		Pn	00 48 07.2	+1.3
Q16K	King Salmon	5.09	310			Pn	00 48 08.6	+1.9
Q16K	King Salmon baz=124	5.09	310	P		Pn	00 48 08.6	+1.9
EYAK	Cordova Ski Ar	5.23	19	Pn		Pn	00 48 08.8	+0.3
EYAK	Cordova Ski Ar	5.23	19	P		Pn	00 48 09.4	+0.9
EYAK	Cordova Ski Ar baz=202	5.23	19	P		Pn	00 48 09.1	+0.6
RDT	Redoubt	5.23	342			Pn	00 48 08.9	+0.3
CHGN	Chignik	5.25	281	Pn		Pn	00 48 09.0	+0.2
CHGN				IAML			00 51 16.7	
	comp=N,61nm,0.1s							
CHGN				IAML			00 51 18.6	
	comp=E,84nm,0.1s							
SUCK	Suckling Hills	5.28	31	Pn		Pn	00 48 09.5	+0.3
RAGM	Ragged Mountai	5.31	25	Pn		Pn	00 48 09.8	+0.1
P17K	Kvichak River	5.31	315			Pn	00 48 11.5	+1.9
P17K	Kvichak River baz=129	5.31	315	P		Pn	00 48 11.5	+1.9
O18K	Koktuh Hills	5.32	325	Pn		Pn	00 48 10.3	+0.5
O18K				IAML			00 49 13.2	
	comp=N,27nm,4.6s							
O18K				IAML			00 51 33.9	
	comp=E,28nm,3.5s							
O18K	Koktuh Hills baz=140	5.32	325	P		Pn	00 48 10.7	+0.9
NICHA	Nichawak Mount	5.36	29			Pn	00 48 10.9	+0.6
HMT	Hamilton	5.37	27	Pn		Pn	00 48 10.5	+0.1
HMT				IAML			00 51 24.2	
	comp=N,107nm,2.9s							
RC01	Rabbit Creek A	5.46	357	Pn		Pn	00 48 11.7	-0.1
GOAT	Goat Mountain	5.47	23			Pn	00 48 12.4	+0.5
BERG	Berg Lake	5.56	29	Pn		Pn	00 48 12.7	-0.4
GRIM	Grindle Hills	5.58	31			Pn	00 48 13.9	+0.6
SNH	Sunshine Point	5.65	34	Pn		Pn	00 48 13.9	-0.4
KHIT	Khitrov Hills	5.73	31			Pn	00 48 15.6	+0.1
KNK	Knik Glacier	5.79	3	Pn		Pn	00 48 13.9	-2.3
KNK	Knik Glacier baz=184	5.79	3	P		Pn	00 48 17.1	+0.8
BMRM	Bremner River	5.84	22	Pn		Pn	00 48 16.8	-0.2
BMRM	Bremner River baz=206	5.84	22	P		Pn	00 48 17.5	+0.6
WAX	Waxell Ridge	5.85	32	Pn		Pn	00 48 15.9	-1.2
P16K	Nushagak River	5.87	309			Pn	00 48 19.0	+1.7
P16K	Nushagak River baz=122	5.87	309	P		Pn	00 48 19.0	+1.7
SUA	Susitna One	5.89	352	Pn		Pn	00 48 17.8	0.0
N19K	Bonanza Creek	5.90	334	Pn		Pn	00 48 17.0	-0.8
MESA	MESA	5.94	37	Pn		Pn	00 48 19.5	+1.1
O17K	Koliganek Bris	5.94	317			Pn	00 48 19.6	+1.4
O17K	Koliganek Bris baz=131	5.94	317	P		Pn	00 48 19.6	+1.4
CNBA	Chernabura Isl	6.04	266	Pn		Pn	00 48 18.2	-1.4
KLU	Klutina	6.09	15	Pn		Pn	00 48 20.6	+0.1
KLU	Klutina baz=198	6.09	15	P		Pn	00 48 21.5	+1.0
ISLE	Juniper Island	6.13	33	Pn		Pn	00 48 20.7	-0.3
GHO	Glory Hole Cre	6.14	1	Pn		Pn	00 48 22.3	+1.1
M22K	Willow	6.14	356	Pn		Pn	00 48 19.5	-1.5
N18K	Kilae Creek	6.18	327	Pn		Pn	00 48 21.0	-0.6
N18K	Kilae Creek baz=142	6.18	327	P		Pn	00 48 22.3	+0.7
SML	Sawmill	6.19	4	Pn		Pn	00 48 22.4	+0.6
SML	Sawmill baz=184	6.19	4	P		Pn	00 48 23.1	+1.3
O16K	Kokwok River B	6.23	313	Pn		Pn	00 48 23.3	+1.1
O16K	Kokwok River B baz=126	6.23	313	P		Pn	00 48 23.7	+1.5
SCM	Sheep Creek Mo	6.27	8	Pn		Pn	00 48 23.9	+1.0
SCM	Sheep Creek Mo baz=190	6.27	8	P		Pn	00 48 24.3	+1.3
VRDI	Verde Repeater	6.34	26	Pn		Pn	00 48 22.5	-1.5
KIAG	Kiagna River	6.38	31			Pn	00 48 24.8	+0.3
TABL	Table Mountain	6.41	38	Pn		Pn	00 48 25.1	+0.3
N25K	Chitina, Valde	6.42	20	Pn		Pn	00 48 25.8	+0.7
N25K	Chitina, Valde baz=204	6.42	20	P		Pn	00 48 25.9	+0.9
SVW2	Sparrevohn	6.43	331	Pn		Pn	00 48 25.1	+0.1
SVW2	Sparrevohn	6.43	331	P		Pn	00 48 25.4	+0.4
GLB	Gilahina Butte	6.44	23	Pn		Pn	00 48 24.8	-0.4
SDPT	Sand Point	6.45	272	Pn		Pn	00 48 24.5	-0.8
N17K	Nushagak Hills	6.49	322	Pn		Pn	00 48 26.2	+0.4
PCA	Pinnacle	6.50	43	Pn		Pn	00 48 25.8	-0.3
PINM	Pinnacle baz=231	6.50	43	P		Pn	00 48 26.5	+0.4
PTPK	Patty Peak	6.56	29			Pn	00 48 27.6	+0.5
MCARA	McCarthy VSAT	6.58	27	Pn		Pn	00 48 27.4	+0.4
M20K	Styx River	6.59	343	Pn		Pn	00 48 29.6	+2.3
PNL	Peninsula	6.59	48	P		Pn	00 48 28.1	+0.8
M24K	Tolsona, Glenn	6.66	12	Pn		Pn	00 48 29.6	+1.5
BCPM	Bancas Point	6.66	46	Pn		Pn	00 48 28.6	+0.5
BARN	Barnard Glacie	6.70	33	Pn		Pn	00 48 28.9	0.0
CTG	Chitna Glacier baz=221	6.72	34	P		Pn	00 48 29.7	+0.5
CTGM	Chitina Glacie	6.73	34	Pn		Pn	00 48 29.2	0.0
LOGN	Logan Glacier	6.73	36	Pn		Pn	00 48 29.2	-0.1
N16K	Nishlik Lake	7.03	317			Pn	00 48 34.8	+1.5
N16K	Nishlik Lake baz=129	7.03	317	P		Pn	00 48 34.8	+1.5
L19K	White Mountain	7.19	338	Pn		Pn	00 48 35.6	+0.2
M17K	Holitna River	7.22	326	Pn		Pn	00 48 36.2	+0.4
M17K	Holitna River baz=140	7.22	326	P		Pn	00 48 36.8	+1.0
O29M	Mount Kennedy	7.29	46	Pn		Pn	00 48 37.2	+0.2
O29M	Mount Kennedy baz=235	7.29	46	P		Pn	00 48 37.7	+0.7
P29M	Windy Craggy	7.30	52	Pn		Pn	00 48 37.3	+0.3
P29M	Windy Craggy baz=242	7.30	52	P		Pn	00 48 37.2	+0.2
N15K	Kwethluk River	7.38	312	Pn		Pn	00 48 40.3	+2.2
M16K	Timber Creek	7.46	320	Pn		Pn	00 48 40.7	+1.5
O14K	Tigyukauivet M	7.47	304	Pn		Pn	00 48 41.1	+1.9
M26K	Nabesna, AK	7.47	23	Pn		Pn	00 48 39.1	-0.3
DHY	Denali Highway	7.50	6	Pn		Pn	00 48 41.4	+1.6
YUK2	White River	7.51	32			Pn	00 48 41.4	+1.5
YUK7	Dusty Glacier	7.60	45			Pn	00 48 42.4	+1.1
L18K	Granite Mounta	7.66	332	Pn		Pn	00 48 41.4	-0.4
M27K	Edge Creek, AK	7.70	26	Pn		Pn	00 48 42.8	+0.3
YUK6	Outpost Mounta	7.76	42			Pn	00 48 45.2	+1.7
YUK6	Outpost Mounta baz=232	7.76	42	P		Pn	00 48 45.2	+1.7
RND	Reindeer	7.78	1	Pn		Pn	00 48 43.3	-0.3
TRF	Thorofare Moun	7.85	356	Pn		Pn	00 48 44.8	+0.2
YUK4	Talbot Arm baz=229	7.92	40	P		Pn	00 48 49.0	+3.4
CAST	Castle Rocks	7.94	350	Pn		Pn	00 48 46.8	+1.1
KTH	Kantishna Hill	7.98	354	Pn		Pn	00 48 44.3	-2.0
HYT	Haines Junctio	8.03	45	Pn		Pn	00 48 46.9	-0.2
L16K	Owhat River	8.11	323	Pn		Pn	00 48 48.0	-0.1
L27K	Beaver Creek,	8.31	24	Pn		Pn	00 48 51.2	+0.3
BCAR	Beaver Creek A	8.32	24	Pn		Pn	00 48 51.5	+0.5
M14K	Bethel	8.48	312	Pn		Pn	00 48 54.8	+1.7
K17K	Iditarod	8.50	330	Pn		Pn	00 48 52.7	-0.6
N30M	Aishikik Lake	8.57	42	Pn		Pn	00 48 54.9	+0.5
O30N	Mendenhall	8.58	48	Pn		Pn	00 48 55.3	+0.8
M29M	Somme Creek	8.74	35	Pn		Pn	00 48 58.0	+1.2
J20K	Nowinta River	8.91	346	Pn		Pn	00 48 58.5	-0.5
M13K	Dall Lake	8.92	308	Pn		Pn	00 48 60.0	+0.9
J19K	Poorman	8.98	341	Pn		Pn	00 49 00.6	+0.7
WHY	Whitehorse	9.05	50	Pn		Pn	00 49 01.9	+0.9
L14K	Kuka Creek	9.09	314	Pn		Pn	00 49 01.9	+0.5
K27K	Chicken	9.12	20	Pn		Pn	00 49 02.0	+0.2
K15K	Wolf Creek Mou	9.22	321	Pn		Pn	00 49 03.6	+0.3
J26L	Joseph Creek	9.30	15	Pn		Pn	00 49 05.8	+1.4
L29M	L29M	9.34	32	Pn		Pn	00 49 05.8	+0.9
M30M	Minto, Yukon	9.39	37	Pn		Pn	00 49 06.4	+0.7
J16K	Anvik River	9.61	327	Pn		Pn	00 49 09.7	+1.2
Q32M	Nakina River	9.71	63	Pn		Pn	00 49 12.3	+2.2
P33M	Teslin, Yukon	9.80	56	Pn		Pn	00 49 10.8	-0.4
M31M	Drury Creek, Y	10.04	43	Pn		Pn	00 49 15.1	+0.6
K29M	Barlow Dome	10.07	31	Pn		Pn	00 49 15.9	+0.8
I26K	Coal Creek Min	10.12	14	Pn		Pn	00 49 17.2	+1.6
H21K	Melozitna Rive	10.20	351	Pn		Pn	00 49 17.3	+0.6
I28M	Miner Creek	10.81	21	Pn		Pn	00 49 27.2	+2.2
MMPY	Sheldon Lake,	11.50	45	Pn		Pn	00 49 36.0	+1.4

IDC **14** *00:48:22.5±3.7, 55°.68N×149°.36W, h0km, mb3.2/1, mbtmp3.3/6, ML3.2/5, MS3.0/1, Error ellipse: s-maj=59.7km s-min=30.0km az=4.0*
NEIC **14** *00:48:27.5±2.0, 56°.20N±0°.09×149°.36W±0°.10, h23km±10km, ML3.4/42, ML3.2(AEIC), Error ellipse: s-maj=13.1km s-min=6.9km az=160.0*
AEIC **14** *00:48:30.6±2.1, 56°.21N±0°.08×149°.3W±0°.1, h10km±7km, Error ellipse: s-maj=11.9km s-min=8.3km az=155.0*

ISC 14 00:48:26.0±1.2, 56°.22N±0°.08×149°.43W±0°.06, h10km, n132, σ1s19/140, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDAK	Kodiak Island	2.33	314	Pn		Pn	00 49 04.7	+0.3
KDAK						Sn	00 49 31.3	-1.8
KDAK	Kodiak Island baz=131	2.33	314	P		Pn	00 49 05.3	+0.9
KDAK				S		Sn	00 49 32.1	-0.9
KDAK	Kodiak Island 1.3nm,0.3s,baz=113,slow=7.7,SNR=1.5	2.33	314	Pn		Pn	00 49 05.3	+0.9
KDAK	5.5nm,0.3s,baz=55,slow=23,SNR=8.0 5.2nm,0.3s			Sn		Sn	00 49 32.2	-0.9
OHAK	Old Harbor	2.35	297	Pn		Pn	00 49 04.5	-0.2
OHAK				Sn		Sn	00 49 31.8	-1.8
OHAK	Old Harbor baz=114	2.35	297	P		Pn	00 49 05.0	+0.4
OHAK				S		Sn	00 49 32.2	-1.4
SII	Sitkinak Islan	2.67	279	Pn		Pn	00 49 08.8	-0.2
SII				Sn		Sn	00 49 38.3	-3.0
SII				IAML			00 49 51.4	
	comp=N,116nm,1.5s							
SII				IAML			00 49 53.7	
	comp=E,124nm,1.5s							
SII	Sitkinak Islan baz=96	2.67	279	P		Pn	00 49 09.4	+0.4
SII				S		Sn	00 49 39.7	-1.7
SYI	Shuyak Island	2.89	327	Pn		Pn	00 49 12.3	+0.4
SYI				Sn		Sn	00 49 46.0	-0.7
SYI				IAML			00 49 52.8	
	comp=E,58nm,1.4s							
Q20K	Shuyak Island baz=145	2.89	327	P		Pn	00 49 11.8	-0.2
Q20K				S		Sn	00 49 46.7	0.0
CNPM	China Poot	3.46	345	Pn		Pn	00 49 18.6	-1.3
CNPM				Sn		Sn	00 49 59.8	-1.0
CNPM				IAML			00 50 09.7	
	comp=E,40nm,1.1s							
CHIR	Chirikof Islan	3.50	266	Pn		Pn	00 49 20.1	-0.3
CHIR				Sn		Sn	00 49 59.2	-2.6
CHIR				IAML			00 50 52.3	
	comp=E,47nm,1.4s							
CHIR	Chirikof Islan baz=81	3.50	266	P		Pn	00 49 21.1	+0.7
CHIR				S		Sn	00 50 00.0	-1.8
Q19K	Cape Douglas,	3.54	322	Pn		Pn	00 49 22.2	+1.1
Q19K				IAML			00 50 18.3	
	comp=N,172nm,0.9s							
Q19K	Cape Douglas, baz=138	3.54	322	P		Pn	00 49 22.3	+1.3
BRSE	Bradley Lake S	3.60	349			Pn	00 49 21.6	-0.3
BRSE						Sn	00 50 03.3	-1.2
BRSE	Bradley Lake S baz=168	3.60	349	P		Pn	00 49 21.6	-0.3
BRSE				S		Sn	00 50 03.3	-1.2
BRLK	Bradley Lake	3.64	348	Pn		Pn	00 49 22.2	-0.2
BRLK				IAML			00 50 11.0	
	comp=E,38nm,0.8s							
KAKN	Katmai Knife C	3.70	307			Pn	00 49 25.1	+1.8
ACHA	Angle Creek He	3.78	304			Pn	00 49 26.2	+1.8
AUCH	Augustine Cone	3.82	327			Pn	00 49 26.8	+1.9
AUL	Augustine Lava	3.83	328			Pn	00 49 26.4	+1.5
P23K	Montague Islan	3.94	15			Pn	00 49 25.9	-0.5
P23K	Montague Islan baz=196	3.94	15	P		Pn	00 49 25.9	-0.5
P19K	Oil Pt	4.00	331	Pn		Pn	00 49 27.9	+0.6
P19K				IAML			00 50 20.9	
	comp=E,66nm,0.5s							
P19K				IAML			00 50 23.7	
	comp=N,68nm,1.4s							
P19K	Oil Pt baz=148	4.00	331	P		Pn	00 49 28.2	+0.9
CNTC	Contact Creek	4.07	303			Pn	00 49 29.9	+1.7
Q17K	Contact Creek baz=118	4.07	303	P		Pn	00 49 29.9	+1.7
O22K	Cooper Landing	4.28	358	Pn		Pn	00 49 30.7	-0.4
O22K				IAML			00 50 31.9	
	comp=E,121nm,0.8s							
SLKM	Skilak Lake	4.33	355			Pn	00 49 31.4	-0.4
P18K	Big Mountain,	4.45	318	Pn		Pn	00 49 33.6	+0.2
P18K	Big Mountain, baz=133	4.45	318	P		Pn	00 49 33.9	+0.5
HIN	Hinchinbrook I	4.47	19	Pn		Pn	00 49 32.7	-1.0
HIN				IAML			00 50 30.0	
	comp=E,74nm,1.3s							
HIN				IAML			00 50 33.1	
	comp=N,73nm,1.5s							
RED	Redoubt Volcan	4.57	339			Pn	00 49 35.1	-0.1
KAIM	Kayak Island	4.57	33	Pn		Pn	00 49 33.2	-1.9
RSO	Redoubt South	4.61	339	Pn		Pn	00 49 35.5	-0.3
EYAK	Cordova Ski Ar	4.76	22	Pn		Pn	00 49 37.0	-0.6
EYAK	Cordova Ski Ar baz=205	4.76	22	P		Pn	00 49 37.6	-0.1
O18K	Koktuh Hills	4.77	322	Pn		Pn	00 49 38.2	+0.3
O18K				IAML			00 50 54.9	
	comp=N,25nm,1.9s							
O18K				IAML			00 50 56.4	
	comp=E,16nm,1.5s							
P17K	Kvichak River	4.80	311			Pn	00 49 40.1	+1.8
P17K	Kvichak River baz=125	4.80	311	P		Pn	00 49 40.1	+1.8
RAGM	Ragged Mountai	4.88	29	Pn		Pn	00 49 40.0	+0.7
SUCK	Suckling Hills	4.89	35	Pn		Pn	00 49 39.8	+0.3
SUCK				IAML			00 51 04.9	
	comp=E,77nm,0.9s							
SUCK				IAML			00 51 50.6	
	comp=N,62nm,1.5s							
RC01	Rabbit Creek A	4.89	358	Pn		Pn	00 49 38.8	-0.7
RC01				IAML			00 50 32.5	
	comp=E,29nm,3.7s							
RC01				IAML			00 50 53.0	
	comp=N,32nm,4.0s							
HMT	Hamilton	4.95	31	Pn		Pn	00 49 40.9	+0.5
NICHA	Nichawak Mount	4.96	33			Pn	00 49 40.5	+0.1
GOAT	Goat Mountain	5.03	27			Pn	00 49 41.6	+0.2
BERG	Berg Lake	5.16	33	Pn		Pn	00 49 42.1	-1.1
SUA	Susitna One	5.31	353	Pn		Pn	00 49 45.2	-0.2
SUA				IAML			00 51 00.9	
	comp=E,12nm,0.9s							
SUA				IAML			00 51 38.2	
	comp=N,35nm,4.2s							
N19K	Bonanza Creek	5.32	332	Pn		Pn	00 49 44.8	-0.7
N19K				IAML			00 51 16.3	
	comp=N,10.0nm,1.2s							
N19K				IAML			00 52 32.6	
	comp=E,18nm,4.4s							
KHIT	Khitrov Hills	5.34	35			Pn	00 49 45.3	-0.5
BMRM	Bremner River	5.39	26	Pn		Pn	00 49 46.5	+0.1
BMRM	Bremner River baz=210	5.39	26	P		Pn	00 49 46.5	+0.1
PMR	Palmer	5.39	2	Pn		Pn	00 49 47.0	+0.6
P16K	Nushagak River	5.40	305			Pn	00 49 47.8	+1.4
P16K	Nushagak River baz=118	5.40	305	P		Pn	00 49 47.8	+1.4
WAX	Waxell Ridge	5.48	36	Pn		Pn	00 49 47.9	+0.2
KLU	Klutina	5.59	18	Pn		Pn	00 49 48.8	-0.5
KLU	Klutina baz=200	5.59	18	P		Pn	00 49 49.2	-0.1
N18K	Kilae Creek	5.62	326	Pn		Pn	00 49 50.6	+1.2
SML	Sawmill	5.64	5	Pn		Pn	00 49 50.2	+0.4
O16K	Kokwok River B	5.73	310	Pn		Pn	00 49 52.3	+1.3
SCM	Sheep Creek Mo	5.74	10	Pn		Pn	00 49 51.4	+0.2
ISLE	Juniper Island	5.76	37	Pn		Pn	00 49 51.2	-0.4
VRDI	Verde Repeater	5.91	29	Pn		Pn	00 49 53.3	-0.4
CNBA	Chernabura Isl	5.94	261	Pn		Pn	00 49 53.9	0.0
N25K	Chitina, Valde	5.96	23	Pn		Pn	00 49 54.0	0.0
GLB	Gilahina Butte	6.00	27	Pn		Pn	00 49 54.9	+0.2
TABL	Table Mountain	6.08	42	Pn		Pn	00 49 55.6	-0.4
M24K	Tolsona, Glenn	6.14	14	Pn		Pn	00 49 57.1	+0.4
MCARA	McCarthy VSAT	6.16	30	Pn		Pn	00 49 58.0	+1.2
SDPT	Sand Point	6.29	267	Pn		Pn	00 49 59.9	+1.1
BARN	Barnard Glacie	6.32	37	Pn		Pn	00 49 59.0	-0.4
CTGM	Chitina Glacie	6.37	38	Pn		Pn	00 49 59.5	-0.4
LOGN	Logan Glacier	6.39	40	Pn		Pn	00 50 00.4	+0.2
BCPM	Bancas Point	6.40	50	Pn		Pn	00 50 00.0	-0.2
M17K	Holitna River	6.66	325	Pn		Pn	00 50 04.7	+0.9
N15K	Kwethluk River	6.89	310	Pn		Pn	00 50 08.8	+1.8
M16K	Timber Creek	6.92	318	Pn		Pn	00 50 09.0	+1.6
O14K	Tigyukauivet M	7.03	301	Pn		Pn	00 50 10.1	+1.3
P29M	Windy Craggy	7.10	56	Pn		Pn	00 50 08.4	-1.5
M27K	Edge Creek, AK	7.27	29	Pn		Pn	00 50 12.8	+0.5
TRF	Thorofare Moun	7.27	357	Pn		Pn	00 50 12.5	+0.2
S31K	Pelican	7.40	71	Pn		Pn	00 50 11.1	-2.8
TTA	Tetalina	7.51	336	Pn		Pn	00 50 15.6	0.0
K20K	Telida	7.53	344	Pn		Pn	00 50 16.5	+0.7
L16K	Owhat River	7.56	321	Pn		Pn	00 50 15.8	-0.4
BCAR	Beaver Creek A	7.88	26	Pn		Pn	00 50 18.2	-2.3
K17K	Iditarod	7.92	329	Pn		Pn	00 50 20.4	-0.7
BPAW	Bear Paw Mtn.	7.95	355	Pn		Pn	00 50 21.4	-0.1
SKAG	Skagway	8.19	61	Pn		Pn	00 50 23.0	-1.7
S32K	Killisnoo	8.24	75	Pn		Pn	00 50 22.8	-2.6
N30M	Aishikik Lake	8.27	45	Pn		Pn	00 50 25.8	-0.1
WRH	Wood River Hil	8.31	4	Pn		Pn	00 50 26.8	+0.4
HDA	Harding Lake	8.31	7	Pn		Pn	00 50 27.6	+1.2
M29M	Somme Creek	8.38	37	Pn		Pn	00 50 28.6	+1.1
CCB	Clear Creek Bu	8.50	5	Pn		Pn	00 50 30.6	+1.6
L14K	Kuka Creek	8.58	312	Pn		Pn	00 50 32.6	+2.5
J25K	Salcha River,	8.66	12	Pn		Pn	00 50 32.5	+1.3
IL31		8.67	7	Pn		Pn	00 50 32.1	+0.8
ILAR	Eielson Array	8.67	7	Pn		Pn	00 50 29.7	-1.7
ILAR	Eielson Array comp=E,0.1nm,0.3s,baz=186,slow=14,SNR=5.4	8.67	7	Pn		Pn	00 50 32.5	+1.2
ILAR				Sn		Sn	00 52 05.1	-4.0
	comp=E,0.1nm,0.3s,baz=189,slow=20,SNR=5.3 comp=E,0.6nm,0.6s							
K15K	Wolf Creek Mou	8.68	320	Pn		Pn	00 50 33.8	+2.3
MDM	Murphy Dome	8.79	3	Pn		Pn	00 50 32.2	-0.8
J26L	Joseph Creek	8.80	17	Pn		Pn	00 50 33.2	0.0
L29M	L29M	8.96	35	Pn		Pn	00 50 36.2	+0.9
I23K	Minto, Yukon-K	8.96	0	Pn		Pn	00 50 35.0	-0.3
P32M	Atlin	9.02	62	Pn		Pn	00 50 35.7	-0.5
EGAK	Eagle	9.50	22	Pn		Pn	00 50 43.5	+0.8
Q32M	Nakina River	9.61	66	Pn		Pn	00 50 43.4	-1.0
H21K	Melozitna Rive	9.61	352	Pn		Pn	00 50 45.9	+1.6
P33M	Teslin, Yukon	9.63	59	Pn		Pn	00 50 44.0	-0.6
K29M	Barlow Dome	9.68	33	Pn		Pn	00 50 45.7	+0.5
H24K	Noodor Dome	9.68	4	Pn		Pn	00 50 47.7	+2.4
M31M	Drury Creek, Y	9.75	46	Pn		Pn	00 50 46.4	+0.2
H18K	Honhosa River	9.97	338	Pn		Pn	00 50 48.9	-0.2
R33M	Jennings River	10.34	64	Pn		Pn	00 50 53.5	-0.9
DLBC	Dease Lake	10.72	70	Pn		Pn	00 50 59.7	+0.3
DLBC	Dease Lake comp=E,0.2nm,0.3s,baz=253,slow=11,SNR=6.0 comp=E,0.7nm,0.4s	10.72	70	Pn		Pn	00 50 58.5	-1.0
MMPY	Sheldon Lake,	11.23	48	Pn		Pn	00 51 05.9	-0.6
F20K	Avaraart Lake	11.27	347	Pn		Pn	00 51 07.9	+1.1
E24K	Your Creek	11.91	2	Pn		Pn	00 51 16.5	+0.8
B21K	Ikpikpuk River	13.65	352	Pn		Pn	00 51 42.2	+2.9
INK	Inuvik comp=E,0.1nm,0.3s,baz=335,slow=17,SNR=5.3 comp=E,2.2nm,0.9s	14.14	25	Pn		P	00 51 52.9	-0.8
YKA	Yellowknife Ar comp=E,0.1nm,0.3s,baz=264,slow=11,SNR=5.0 comp=E,0.4nm,0.7s	18.64	56	P		Pn	00 52 45.3	+1.5
NEW	Newport comp=E,36nm,18.9s,baz=303,slow=35	21.16	98	LR		LR	01 00 46.0	
H11N2	WAKE ISLAND Hy baz=31,slow=76,SNR=6.9	48.78	240	T		T	01 49 52.8	
H11N3	WAKE ISLAND Hy baz=31,slow=76,SNR=4.9	48.78	240	T		T	01 49 51.9	
H11N1	WAKE ISLAND Hy baz=31,slow=76,SNR=3.4	48.80	240	T		T	01 49 51.5	
H11S1	WAKE ISLAND Hy baz=30,slow=76,SNR=5.4	49.92	239	T		T	01 51 17.1	
H11S2	WAKE ISLAND Hy baz=30,slow=76,SNR=5.6	49.93	239	T		T	01 51 16.1	
H11S3	WAKE ISLAND Hy baz=30,slow=76,SNR=5.5	49.94	239	T		T	01 51 18.3	
MKAR	Makanchi Array comp=E,0.1nm,0.4s,baz=29,slow=6.6,SNR=2.1 comp=E,0.1nm,0.4s	68.60	325	P		P	00 59 29.9	+1.2

**IDC

LHMI	**Lhok Sumawe**	**4.75**	**69**	Pn	**Pn**	01 46 05.7	**+0.8**	
GSI	**Gunungsitoli**	**5.56**	**114**	Pn	**Pn**	01 46 13.8	**-2.2**	
KULM	**Kulim**	**8.32**	**78**	Pn	**Pn**	01 46 55.2	**+1.2**	
PALK	**Pallekele**	**12.29**	**288**	Pn	**Pn**	01 47 48.4	**-0.1**	
PALK	**Pallekele**	**12.29**	**288**	Pn	**Pn**	01 47 49.1	**+0.6**	
	1.3nm,0.3s,baz=208,slow=14,SNR=9.0							
PALK				Sn	Sn	01 49 52.8	-12	
	8.1nm,0.3s,baz=315,slow=4.0,SNR=16							
PALK				LR	LR	01 51 56.0		
	comp=Z,120nm,19.3s,baz=210,slow=35							
	4.9nm,0.4s							
MNAI	**Manna**	**13.09**	**127**	Pn	**Pn**	01 47 58.2	**-1.1**	
CM31	**Chiang Mai Arr**	**16.10**	**23**	P	**P**	01 48 42.4	**-0.4**	
CM31				IAmb	IAmb	01 48 44.9		
	comp=Z,14nm,1.0s							
CMAR	**Chiang Mai Arr**	**16.10**	**23**	P	**P**	01 48 42.8	**0.0**	
CMAR	**Chiang Mai Arr**	**16.10**	**23**	Pn	**Pn**	01 48 39.0	**-0.7**	
	comp=Z,1.4nm,0.3s,baz=215,slow=13,SNR=12							
CMAR				LR	LR	01 54 43.1		
	comp=Z,33nm,18.6s,baz=195,slow=37							
	comp=Z,4.8nm,0.6s							
CHTO	**Chiang Mai**	**16.43**	**22**	P	**P**	01 48 46.7	**+0.3**	
CHTO				IAmb	IAmb	01 48 48.7		
	comp=Z,7.8nm,0.7s							
PHRA	**Phrae**	**16.67**	**26**		**P**	01 48 48.9	**-0.2**	
PHRA				IAmb	IAmb	01 48 50.5		
	comp=Z,20nm,0.6s							
LEM	**Lembang**	**18.30**	**124**	LR	LR	01 56 56.1		
	comp=Z,60nm,18.2s,baz=252,slow=39							
H08S2	**Diego Garcia H**	**22.84**	**241**	T	T	02 15 32.5		
	baz=60,slow=76,SNR=22							
H08S3	**Diego Garcia H**	**22.84**	**241**	T	T	02 15 38.7		
	baz=60,slow=76,SNR=27							
H08S1	**Diego Garcia H**	**22.86**	**241**	T	T	02 15 40.4		
	baz=60,slow=76,SNR=17							
BTK	**Batken**	**41.28**	**335**	P	**P**	01 52 38.4	**0.0**	
BTK				IAmb	IAmb	01 52 55.2		
	comp=Z,4.4nm,0.8s							
KK31	**Karatay Array**	**43.95**	**337**	P	**P**	01 52 59.0	**-1.0**	
KK31				IAmb	IAmb	01 53 01.0		
	comp=Z,1.5nm,0.6s							
KKAR	**Karatay Array**	**43.95**	**337**	P	**P**	01 52 59.1	**-0.9**	
KKAR				IAmb	IAmb	01 53 01.0		
	comp=Z,1.5nm,0.6s							
MK31	**Makanchi Array**	**43.97**	**350**	P	**P**	01 53 00.1	**+0.1**	
MKAR	**Makanchi Array**	**43.97**	**350**	P	**P**	01 53 00.2	**+0.2**	
MKAR	**Makanchi Array**	**43.97**	**350**	P	**P**	01 53 00.6	**+0.5**	
	comp=Z,1.4nm,0.6s,baz=169,slow=8.7,SNR=21							
	comp=Z,1.4nm,0.6s							
SONM	**Songino Array**	**45.71**	**13**	P	**P**	01 53 15.0	**+1.0**	
	comp=Z,1.0nm,0.6s,baz=198,slow=9.4,SNR=6.6							
	comp=Z,1.0nm,0.6s							
KSRS	**Korea Array**	**46.81**	**39**	LR	LR	02 15 45.5		
	comp=Z,20nm,18.1s,baz=50,slow=40							
WRA	**Warramunga Arr**	**47.28**	**121**	P	**P**	01 53 28.3	**+1.7**	
	comp=Z,0.7nm,1.0s,baz=296,slow=8.8,SNR=1.5							
	comp=Z,0.7nm,1.0s							
KURBB	**Kurchatov Arra**	**48.35**	**348**	P	**P**	01 53 35.0	**+0.6**	
	comp=Z,1.1nm,0.7s,baz=172,slow=7.3,SNR=16							
	comp=Z,1.1nm,0.7s							
ASAR	**Alice Springs**	**48.58**	**126**	PcP	**PcP**	01 55 03.9	**+1.6**	
	comp=Z,0.5nm,0.7s,baz=316,slow=4.2,SNR=4.5							
ZAA0	**Zalesovo Array**	**50.62**	**354**	P	**P**	01 53 52.0	**+0.3**	
ZAA0				IAmb	IAmb	01 53 52.9		
	comp=Z,2.6nm,0.5s							
ZALV	**Zalesovo Beam**	**50.62**	**354**	P	**P**	01 53 51.7	**+0.1**	
ZALV	**Zalesovo Beam**	**50.62**	**354**	P	**P**	01 53 52.4	**+0.8**	
	comp=Z,2.9nm,0.5s,baz=177,slow=7.3,SNR=16							
	comp=Z,2.9nm,0.5s							
BVAR	**Borovoye Array**	**52.57**	**343**	P	**P**	01 54 06.2	**-0.1**	
	comp=Z,1.7nm,0.6s,baz=147,slow=8.8,SNR=9.7							
	comp=Z,1.7nm,0.6s							
ABKAR	**Akbulak array**	**53.28**	**334**	P	**P**	01 54 10.8	**-0.7**	
ABKAR				IAmb	IAmb	01 54 12.8		
	comp=Z,3.4nm,1.1s							
H04N2	**CROZET ISLANDS**	**61.20**	**211**	T	T	03 03 20.0		
	baz=49,slow=75,SNR=10.0							
H04N1	**CROZET ISLANDS**	**61.21**	**211**	T	T	03 03 15.0		
	baz=49,slow=75,SNR=12							
H04N3	**CROZET ISLANDS**	**61.22**	**211**	T	T	03 03 15.7		
	baz=49,slow=75,SNR=11							
BRTR	**Keskin Array B**	**64.06**	**313**	P	**P**	01 55 27.8	**+0.8**	
	comp=Z,0.5nm,0.7s,baz=135,slow=7.1,SNR=2.7							
	comp=Z,0.5nm,0.7s							
AKASG	**Malin Array Be**	**70.54**	**323**	P	**P**	01 56 06.2	**-1.5**	
	comp=Z,0.4nm,0.5s,baz=81,slow=6.9,SNR=4.2							
	comp=Z,0.4nm,0.5s							
TIXI	**Tiksi**	**71.76**	**11**	P	**P**	01 56 13.9	**-0.7**	
FINES	**FINESS Array B**	**75.76**	**333**	P	**P**	01 56 38.2	**0.0**	
	comp=Z,2.3nm,0.8s,baz=287,slow=7.2,SNR=3.6							
	comp=Z,2.3nm,0.8s							
GERES	**GERESS Array B**	**79.95**	**319**	P	**P**	01 57 01.3	**-0.7**	
GERES	**GERESS Array B**	**79.95**	**319**	P	**P**	01 57 02.9	**+0.9**	
	comp=Z,2.2nm,0.7s,baz=61,slow=8.4,SNR=6.4							
	comp=Z,2.2nm,0.7s							
HFS	**Hagfors**	**81.34**	**330**	P	**P**	01 57 09.4	**+0.3**	
	comp=Z,1.2nm,0.7s,baz=106,slow=11,SNR=1.6							
	comp=Z,1.2nm,0.7s							
QSPA	**South Pole Qui**	**93.49**	**180**	LR	LR	02 38 22.8		
	comp=Z,103nm,18.5s,baz=283,slow=34							

*JMA **14** 02:00:54.6±0.1, 39.°5N±0.°3×142.°5E±0.°7, h33km±1km, MV3.3/40, E OFF IWATE PREF*
*IDC **14** 02:00:58.4±3.0, 39.°54N×142.°26E, h75km±28km, mb3.0/5, mbtmp3.3/7, MS2.2/1, Error ellipse: s-maj=33.3km s-min=23.0km az=103.0*
ISC 14 02:00:53.4±1.0, 39.°45N±0.°04×142.°48E±0.°07, h29km, n18, σ0s96/27, mb3.4/5, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.53**	**284**	↓↓*i*	P		**Pn**	**02 01 05.4**	**+0.5**
MIYJ				↓↓	S		**Sn**	**02 01 12.9**	**0.0**
JTH	**Tanohata**	**0.68**	**316**		P		**Pn**	**02 01 07.6**	**+0.5**
JTH					*e*S		**Sn**	**02 01 16.6**	**-0.1**
OFUJ	**Ofunato**	**0.73**	**240**	↓↓*i*	P		**Pn**	**02 01 08.4**	**+0.6**
OFUJ				↓↓	S		**Sn**	**02 01 18.1**	**+0.2**
JOM	**Ohasama**	**0.92**	**272**	*i*	P		**Pb**	**02 01 11.5**	**+0.8**
JOM					*e*S		**Sn**	**02 01 23.6**	**+1.0**
JKMT	**Kesennumamotoy**	**1.01**	**231**		P		**Pb**	**02 01 12.3**	**0.0**
JKMT					S		**Sb**	**02 01 25.0**	**-0.1**
JKZ	**Kuzumaki**	**1.03**	**301**	*i*	P		**Pb**	**02 01 13.3**	**+0.6**
JKZ					S		**Sb**	**02 01 27.0**	**+1.0**
JMK	**Ichinoseki**	**1.10**	**243**		P		**Pb**	**02 01 14.2**	**+0.4**
JMK					S		**Sb**	**02 01 28.1**	**+0.4**
JANG	**Nango**	**1.18**	**321**	*i*	P		**Pb**	**02 01 14.8**	**-0.4**
JANG					*e*S		**Sb**	**02 01 30.4**	**+0.2**
JIO	**Ouri**	**1.33**	**222**		P		**Pn**	**02 01 16.8**	**+0.9**
JIO					*e*S		**Sn**	**02 01 33.0**	**+0.3**
JRG	**Rokugo**	**1.43**	**268**	*e*	P		**Pb**	**02 01 20.3**	**+0.9**
JAH	**Hinai**	**1.60**	**298**		P		**Pb**	**02 01 22.1**	**-0.1**
JAH					*e*S		**Sb**	**02 01 41.5**	**-0.5**
MJAR	**Matsushiro Arr**	**4.45**	**231**		P		Pn	02 02 04.0	+5.0
	3.7nm,0.6s,baz=39,slow=11,SNR=8.5								
MJAR					LR		LR	02 03 58.3	
	comp=Z,28nm,20.3s,baz=358,slow=41								
ASAJ	**Asahikawa**	**4.66**	**1**		P		**Pn**	**02 02 03.5**	**+1.7**
	2.8nm,0.4s,baz=237,slow=17,SNR=1.9								
SONM	**Songino Array**	**27.22**	**300**		P		**P**	**02 06 31.9**	**-2.8**
	0.3nm,0.4s,baz=82,slow=10,SNR=2.1								
	0.3nm,0.4s								
MKAR	**Makanchi Array**	**43.59**	**300**		P		**P**	**02 08 55.0**	**+0.2**
	0.1nm,0.5s,baz=82,slow=11,SNR=1.6								
	0.1nm,0.5s								
KURBB	**Kurchatov Arra**	**45.21**	**306**		P		**P**	**02 09 05.9**	**-1.7**
	0.4nm,0.5s,baz=77,slow=8.1,SNR=4.1								
	0.4nm,0.5s								
ILAR	**Eielson Array**	**47.01**	**34**		P		**P**	**02 09 22.8**	**+1.2**
	0.3nm,0.8s,baz=264,slow=7.2,SNR=2.2								
	0.3nm,0.8s								
WRA	**Warramunga Arr**	**59.57**	**189**		P		**P**	**02 10 53.6**	**-0.7**
	0.3nm,0.6s,baz=5.8,slow=7.0,SNR=4.5								
	0.3nm,0.6s								

KRSC 14 02:05:05.8±2.2, 55.°20N×166.°57E, h40km±15km, MI3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.34**	**271**		*e*P		Pn	02 05 14.8	+0.3
BKI					*e*S		Sn	02 05 21.2	+0.5
BDR	**Baidarnaya**	**3.32**	**297**		*e*P		Pn	02 05 57.8	+2.6
BDR					*e*S		Sn	02 06 37.6	+4.2
BZGR	**Bezymyannyi-Gr**	**3.42**	**285**		*e*P		Pn	02 06 00.4	+3.8
BZGR					*e*S		Sn	02 06 40.3	+4.4
BZMR	**Bezymyannaya**	**3.53**	**285**		*e*P		Pn	02 06 02.4	+4.2
BZMR					*e*S		Sn	02 06 45.6	+6.9
BZWR	**Bezymyannyi-We**	**3.53**	**285**		*e*P		Pn	02 06 02.4	+4.2
TUMD	**Tumrok D**	**3.54**	**273**		*e*P		Pn	02 06 01.6	+3.4
TUMD					*e*S		Sn	02 06 43.1	+4.4
KRSR	**Krestovskiy**	**3.55**	**289**		*e*P		Pn	02 06 00.9	+2.5
KRSR					*e*S		Sn	02 06 41.1	+2.0
KIRR	**Kirishev**	**3.62**	**285**		*e*P		Pn	02 06 02.9	+3.5
KIRR					*e*S		Sn	02 06 46.6	+5.8
KMNR	**Kamenistaya**	**3.65**	**281**		*e*P		Pn	02 06 04.0	+4.2
KMNR					*e*S		Sn	02 06 48.9	+7.3
TUMR	**Tumrok**	**3.68**	**274**		*e*P		Pn	02 06 04.6	+4.4
TUMR					*e*S		Sn	02 06 49.7	+7.3
KPT	**Kopyto**	**3.68**	**285**		*e*P		Pn	02 06 04.1	+3.9
SRDR	**Sredinnyy**	**4.03**	**289**		*e*P		Pn	02 06 08.0	+3.0
KII	**Karymskiy**	**4.30**	**257**		*e*P		Pn	02 06 13.3	+4.6
SPN	**Mys Shipunski**	**4.39**	**244**		*e*P		Pn	02 06 13.4	+3.6
SPN					*e*S		Sn	02 07 02.8	+3.2
SMAR	**Somma**	**4.95**	**250**		*e*P		Pn	02 06 22.8	+5.0
KRER	**Koryakskii**	**4.96**	**251**		*e*P		Pn	02 06 23.5	+5.5
KRER					*e*S		Sn	02 07 18.8	+4.7
AVH	**Avacha**	**4.99**	**250**		*e*P		Pn	02 06 23.6	+5.5
AVH					*e*S		Sn	02 07 20.0	+5.4
KRX	**Arik**	**5.00**	**252**		*e*P		Pn	02 06 23.2	+4.9
KRX					*e*S		Sn	02 07 19.3	+4.5
KOK	**Koryaka**	**5.03**	**251**		*e*P		Pn	02 06 23.6	+4.9
DALK	**Dalny**	**5.09**	**248**		*e*P		Pn	02 06 24.5	+5.1
DALK					*e*S		Sn	02 07 20.5	+3.7
GNL	**Ganaly**	**5.26**	**257**		*e*P		Pn	02 06 27.1	+5.2
KRMR	**Karymshinskiy**	**5.51**	**248**		*e*P		Pn	02 06 30.7	+5.4
KRMR					*e*S		Sn	02 07 33.3	+6.0
RUS	**Russkaya**	**5.52**	**243**		*e*P		Pn	02 06 29.9	+4.6
MTVR	**Mutnovka**	**5.66**	**245**		*e*P		Pn	02 06 32.0	+4.5
MTVR					*e*S		Sn	02 07 34.1	+2.9
ASAK	**Asacha**	**5.86**	**245**		*e*P		Pn	02 06 35.7	+5.5
ASAK					*e*S		Sn	02 07 40.4	+4.4
APC	**Apacha**	**5.99**	**252**		*e*P		Pn	02 06 37.5	+5.7
KDTR	**Khodutka, Kamc**	**6.10**	**240**		*e*P		Pn	02 06 37.0	+3.7
KDTR					*e*S		Sn	02 07 43.4	+1.7

IDC 14 02:14:01.8±5.9, 28.°31N×66.°88E, h0km, mb3.7/5, mbtmp3.7/5, MS3.1/2, Error ellipse: s-maj=176.9km s-min=28.0km az=139.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**15.57**	**21**		LR		LR	02 25 08.4	
	comp=Z,42nm,19.8s,baz=217,slow=43								
MKAR	**Makanchi Array**	**22.05**	**29**		P		P	02 18 58.7	+0.6
	0.9nm,0.5s,baz=215,slow=11,SNR=18								
MKAR					LR		LR	02 29 13.9	
	comp=Z,67nm,20.3s,baz=238,slow=41								
	0.9nm,0.5s								
KURBB	**Kurchatov Arra**	**23.97**	**18**		P		P	02 19 17.6	-0.2
	0.6nm,0.7s,baz=209,slow=9.6,SNR=4.4								
	0.6nm,0.7s								
BVAR	**Borovoye Array**	**24.82**	**5**		P		P	02 19 25.6	0.0
	2.6nm,0.7s,baz=172,slow=9.3,SNR=16								
	2.6nm,0.7s								
ZALV	**Zalesovo Beam**	**28.79**	**22**		P		P	02 20 00.7	-0.5
	0.8nm,0.8s,baz=212,slow=5.1,SNR=2.3								
	0.8nm,0.8s								
TORD	**Torodi Ar. Bea**	**62.16**	**270**		P		P	02 24 25.3	0.0
	1.2nm,0.8s,baz=55,slow=6.7,SNR=6.3								
	1.2nm,0.8s								

IDC 14 02:23:06.3±1.7, 0.°81N×126.°66E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=180.7km s-min=24.3km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.95**	**160**		P		P	02 28 01.1	-0.7
	0.6nm,0.5s,baz=339,slow=10,SNR=7.6								
	0.6nm,0.5s								
ASAR	**Alice Springs**	**25.33**	**164**		P		P	02 28 35.8	+0.8
	0.1nm,0.3s,baz=342,slow=12,SNR=1.5								
	0.1nm,0.3s								
MKAR	**Makanchi Array**	**59.91**	**326**		P		P	02 33 14.4	+0.2
	0.1nm,0.4s,baz=118,slow=7.8,SNR=2.0								
	0.1nm,0.4s								
ZALV	**Zalesovo Beam**	**63.15**	**334**		P		P	02 33 35.5	-0.4
	0.3nm,0.4s,baz=116,slow=9.8,SNR=1.7								
	0.3nm,0.4s								

*IDC **14** 02:37:50.4±2.0, 5.°93N×126.°09E, h46km±17km, mb3.7/10, mbtmp3.9/10, MS3.0/1, Error ellipse: s-maj=61.3km s-min=13.6km az=69.0*
ISC 14 02:37:49.1±0.8, 5.°9N±0.°2×126.°0E±0.°4, h35km, n13, σ0s95/14, mb3.8/10, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.27**	**343**		P		**Pn**	**02 38 11.3**	**+0.9**
	229nm,0.3s,baz=210,slow=15,SNR=1.1								
DAV					S		**Sn**	**02 38 26.7**	**+0.5**
	242nm,0.3s,baz=40,slow=17,SNR=1.4								
DAV					LR		LR	02 38 52.9	
	comp=Z,236nm,19.0s,baz=138,slow=50								
WRA	**Warramunga Arr**	**26.93**	**162**		P		**P**	**02 43 27.6**	**+0.3**
	0.4nm,0.4s,baz=342,slow=9.8,SNR=12								
	0.4nm,0.4s								
ASAR	**Alice Springs**	**30.35**	**165**		P		**P**	**02 43 58.1**	**+0.4**
	0.5nm,0.5s,baz=344,slow=7.1,SNR=8.0								
	0.5nm,0.5s								
STKA	**Stephens Creek**	**40.37**	**159**		P		**P**	**02 45 24.9**	**+1.1**
	1.0nm,0.5s,baz=351,slow=14,SNR=3.0								
	1.0nm,0.5s								
MKAR	**Makanchi Array**	**55.38**	**325**		P		**P**	**02 47 20.9**	**+1.1**
	0.4nm,0.4s,baz=120,slow=7.8,SNR=8.8								
MKAR					PcP		**PcP**	**02 48 20.2**	**+0.1**
	0.3nm,0.4s,baz=116,slow=4.5,SNR=2.1								
	0.4nm,0.4s								
ZALV	**Zalesovo Beam**	**58.36**	**333**		LR		LR	03 15 50.0	
	comp=Z,13nm,18.4s,baz=100,slow=39								
KURBB	**Kurchatov Arra**	**59.55**	**327**		P		**P**	**02 47 49.9**	**+0.8**
	0.4nm,0.5s,baz=128,slow=6.7,SNR=6.8								
	0.4nm,0.5s								
ILAR	**Eielson Array**	**83.54**	**26**		P		**P**	**02 50 12.3**	**-1.0**
	0.2nm,0.5s,baz=248,slow=5.5,SNR=6.5								
	0.2nm,0.5s								
BRTR	**Keskin Array B**	**88.08**	**310**		P		**P**	**02 50 34.9**	**-1.7**
	0.3nm,0.7s,baz=96,slow=4.3,SNR=2.1								
	0.3nm,0.7s								
ARCES	**ARCESS Array B**	**88.20**	**340**		P		**P**	**02 50 36.5**	**+0.1**
	2.8nm,0.9s,baz=81,slow=5.8,SNR=7.4								
	2.8nm,0.9s								
SPITS	**Spitsbergen Ar**	**88.26**	**349**		P		**P**	**02 50 36.2**	**-0.3**
	6.5nm,0.9s,baz=93,slow=8.9,SNR=6.1								
	6.5nm,0.9s								
FINES	**FINESS Array B**	**89.61**	**332**		P		**P**	**02 50 41.9**	**-1.2**
	1.3nm,0.8s,baz=85,slow=4.0,SNR=4.9								
	1.3nm,0.8s								
TORD	**Torodi Ar. Bea**	**121.50**	**289**		PKP		**PKPdf**	**02 56 39.5**	**-0.5**
	0.3nm,0.4s,baz=71,slow=1.7,SNR=7.1								

*IDC **14** 03:15:06.1±0.8, 24.°92N×98.°15E, h0km, mb3.8/12, mbtmp3.8/13, ML4.1/1, MS3.0/4, Error ellipse: s-maj=44.4km s-min=13.7km az=69.0*
*NEIC **14** 03:15:08.2±2.0, 25.°1N±0.°1×99.°00E±0.°09, h37km±9km, mb4.6/11, Error ellipse: s-maj=16.1km s-min=10.5km az=206.0*
ISC 14 03:15:05.2±0.7, 25.°27N±0.°08×99.°2E±0.°1, h10km, n38, σ1s63/34, mb4.1/18, MS3.0/4, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MND	**Mandalay**	**4.29**	**222**		Pn		**Pn**	**03 16 06.8**	**-3.9**
MOKO	**MOKOCHONG**	**4.34**	**285**		*ex*		**Pn**	**03 16 10.9**	**-0.5**
KOHI	**KOHIMA**	**4.61**	**277**		*ex*		**Pn**	**03 16 15.2**	**+0.1**
CRAI	**Chiangrai**	**5.13**	**167**		Pn		**Pn**	**03 16 21.3**	**-0.9**
ZIRO	**ZIRO**	**5.29**	**296**		*ex*		**Pn**	**03 16 23.7**	**-0.8**
SLVN	**Son La**	**5.84**	**131**		Pn		**Pn**	**03 16 32.0**	**-0.1**
SAIH	**SAIHA**	**6.31**	**245**		*ex*		**Pn**	**03 16 40.9**	**+2.3**
CHTO	**Chiang Mai**	**6.43**	**182**		Pn		**Pn**	**03 16 38.8**	**-1.3**
CM31	**Chiang Mai Arr**	**6.78**	**182**		Pn		**Pn**	**03 16 43.4**	**-1.5**
CMAR	**Chiang Mai Arr**	**6.78**	**182**		Pn		**Pn**	**03 16 42.4**	**-2.5**
CMAR	**Chiang Mai Arr**	**6.78**	**182**		Pn		**Pn**	**03 16 44.0**	**-0.9**
	1.1nm,0.3s,baz=350,slow=17,SNR=16								
CMAR					Pg		**Pb**	**03 17 05.0**	**+1.7**
	1.4nm,0.3s,baz=352,slow=18,SNR=29								
CMAR					Lg		Lg	03 18 32.9	
	5.9nm,0.3s,baz=352,slow=30,SNR=8.5								
	2.9nm,0.4s								
PHRA	**Phrae**	**6.81**	**172**		Pn		**Pn**	**03 16 43.7**	**-1.5**
SONM	**Songino Array**	**23.23**	**12**		P		P	03 20 21.8	+9.2
	0.4nm,0.5s,baz=204,slow=10,SNR=2.5								
	0.4nm,0.5s								
PALK	**Pallekele**	**25.14**	**228**		LR		LR	03 32 13.0	
	comp=Z,22nm,18.1s,baz=224,slow=42								
MK31	**Makanchi Array**	**25.35**	**332**				**P**	**03 20 33.6**	**+1.2**
MK31					IAmb		IAmb	03 20 35.5	
	comp=Z,5.7nm,0.8s								
MKAR	**Makanchi Array**	**25.35**	**332**				**P**	**03 20 33.0**	**+0.6**
MKAR	**Makanchi Array**	**25.35**	**332**		P		**P**	**03 20 34.7**	**+2.3**
	comp=Z,6.0nm,0.7s,baz=142,slow=10,SNR=62								
MKAR					LR		LR	03 31 05.3	
	comp=Z,36nm,18.8s,baz=216,slow=38								
	comp=Z,6.0nm,0.7s								
BOOM	**Boomskoye usch**	**25.71**	**318**		P		**P**	**03 20 35.3**	**-0.5**
BOOM					IAmb		IAmb	03 21 08.7	
	comp=Z,8.4nm,1.2s								
KURBB	**Kurchatov Arra**	**29.90**	**333**		P		**P**	**03 21 14.9**	**+1.9**
	comp=Z,0.7nm,0.7s,baz=142,slow=9.3,SNR=7.9								
	comp=Z,0.7nm,0.7s								
KURK	**Kurchatov**	**29.93**	**333**		P		**P**	**03 21 12.5**	**-0.9**
KURK					IAmb		IAmb	03 21 51.1	
	comp=Z,6.5nm,0.2s								
ZALV	**Zalesovo Beam**	**30.58**	**343**		P		**P**	**03 21 21.2**	**+2.2**
	comp=Z,0.7nm,0.5s,baz=182,slow=12,SNR=2.6								
	comp=Z,0.7nm,0.5s								
KLR	**Kul'dur**	**34.83**	**38**		LR		LR	03 38 23.2	
	comp=Z,37nm,18.9s,baz=136,slow=39								
BVAR	**Borovoye Array**	**35.15**	**330**		P		**P**	**03 22 00.7**	**+1.7**
	comp=Z,0.9nm,0.5s,baz=129,slow=9.1,SNR=5.4								
	comp=Z,0.9nm,0.5s								
ABKAR	**Akbulak array**	**38.73**	**319**		P		**P**	**03 22 29.4**	**-0.1**
ABKAR	**Akbulak array**	**38.73**	**319**		P		**P**	**03 22 29.5**	**+0.1**
ABKAR					IAmb		IAmb	03 22 31.3	
	comp=Z,1.3nm,0.8s								
GNI	**Garni**	**47.45**	**302**		LR		LR	03 47 57.5	
	comp=Z,21nm,20.8s,baz=50,slow=42								
WRA	**Warramunga Arr**	**56.46**	**139**		P		P	03 24 53.1	+5.6
	comp=Z,1.1nm,0.7s,baz=326,slow=7.3,SNR=4.8								
	comp=Z,1.1nm,0.7s								
WB2	**Warramunga Arr**	**56.47**	**139**		P		**P**	**03 24 45.2**	**-2.4**
WB2					IAmb		IAmb	03 24 54.7	
	comp=Z,10nm,1.0s								
WR0	**Warramunga Arr**	**56.59**	**139**		P		**P**	**03 24 48.1**	**-0.3**
WR0					IAmb		IAmb	03 24 57.9	
	comp=Z,9.7nm,0.9s								
AKASG	**Malin Array Be**	**58.34**	**315**		P		**P**	**03 24 59.9**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=76,slow=6.5,SNR=4.1								
	comp=Z,0.3nm,0.4s								
ASAR	**Alice Springs**	**59.14**	**143**		P		**P**	**03 25 09.3**	**+2.9**
	comp=Z,0.5nm,0.7s,baz=309,slow=6.3,SNR=4.7								
	comp=Z,0.5nm,0.7s								
FINES	**FINESS Array B**	**60.09**	**328**		P		**P**	**03 25 13.1**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=71,slow=13,SNR=2.2								
	comp=Z,1.5nm,0.8s								
BURAR	**Bucovina Array**	**61.20**	**312**		P		**P**	**03 25 18.2**	**-2.1**
ALN	**Alexandroupoli**	**61.58**	**304**		P		**P**	**03 25 20.7**	**-2.2**
ALN					IAmb		IAmb	03 25 48.2	
	comp=Z,12nm,1.3s								
HFS	**Hagfors**	**66.22**	**327**		P		**P**	**03 25 53.2**	**0.0**
	comp=Z,1.3nm,0.7s,baz=81,slow=8.9,SNR=2.0								
	comp=Z,1.3nm,0.7s								
ADK	**Adak**	**67.01**	**42**		P		**P**	**03 25 59.1**	**+0.8**

JMK	**Ichinoseki**	**0.36**	**286**	*i* P	**Pn**	**03 41 27.4**	**+0.1**
JMK				S	**Sn**	**03 41 35.7**	**-0.4**
JIO	**Ouri**	**0.47**	**212**	*i* P	**Pn**	**03 41 28.5**	**+0.3**
JIO				S	**Sn**	**03 41 37.5**	**-0.1**
JOM	**Ohasama**	**0.69**	**335**	*i* P	**Pn**	**03 41 30.7**	**+0.3**
JOM				S	**Sn**	**03 41 41.4**	**-0.1**
JOU	**Okura**	**0.92**	**239**	*i* P	**Pn**	**03 41 33.5**	**+0.4**
JOU				*e*S	**Sn**	**03 41 46.6**	**+0.2**
JRG	**Rokugo**	**0.97**	**304**	*i* P	**Pn**	**03 41 33.9**	**+0.2**
JRG				S	**Sn**	**03 41 47.4**	**+0.1**
JYK	**Kaneyama**	**1.02**	**274**	⇓*i* P	**Pn**	**03 41 34.4**	**+0.1**
JYK				⇓S	**Sn**	**03 41 48.5**	**+0.1**
JMM	**Marumori**	**1.20**	**215**	*i* P	**Pn**	**03 41 36.5**	**0.0**
JMM				*e*S	**Sn**	**03 41 51.9**	**-0.5**
JYS	**Shirataka**	**1.40**	**244**	*e*P	**Pn**	**03 41 39.7**	**+0.5**
JYS				*e*S	**Sn**	**03 41 58.4**	**+1.3**
JANG	**Nango**	**1.52**	**356**	P	**Pn**	**03 41 41.4**	**+0.6**
JANG				*e*S	**Sn**	**03 42 00.2**	**+0.2**
JYA	**Atsumi**	**1.55**	**261**	P	**Pn**	**03 41 41.3**	**+0.3**
JYA				*e*S	**Sn**	**03 42 00.7**	**+0.2**
JAH	**Hinai**	**1.56**	**330**	P	**Pn**	**03 41 42.0**	**+0.9**
JAH				*e*S	**Sn**	**03 42 00.5**	**-0.1**
JFK	**Kawauchi**	**1.61**	**203**	P	**Pn**	**03 41 42.3**	**+0.4**
JFK				S	**Sn**	**03 42 01.8**	**-0.2**
MJAR	**Matsushiro Arr**	**3.58**	**231**	P	**Pn**	**03 42 10.6**	**+2.1**
	3.1nm,0.5s,baz=36,slow=12,SNR=13						
H11N2	**WAKE ISLAND Hy**	**28.95**	**124**	T	T	04 17 38.8	
	baz=317,slow=75,SNR=41						
H11N1	**WAKE ISLAND Hy**	**28.96**	**124**	T	T	04 17 41.6	
	baz=317,slow=75,SNR=54						
H11N3	**WAKE ISLAND Hy**	**28.97**	**124**	T	T	04 17 41.4	
	baz=317,slow=75,SNR=35						
H11S1	**WAKE ISLAND Hy**	**29.72**	**126**	T	T	04 18 30.3	
	baz=318,slow=76,SNR=24						
H11S3	**WAKE ISLAND Hy**	**29.72**	**126**	T	T	04 18 30.9	
	baz=318,slow=76,SNR=32						
H11S2	**WAKE ISLAND Hy**	**29.74**	**126**	T	T	04 18 30.7	
	baz=318,slow=76,SNR=32						
MKAR	**Makanchi Array**	**43.35**	**301**	P	**P**	**03 49 08.4**	**-1.7**
	0.3nm,0.7s,baz=93,slow=8.7,SNR=4.0						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**45.06**	**307**	P	**P**	**03 49 23.1**	**-0.6**
	0.4nm,0.3s,baz=82,slow=8.8,SNR=8.2						
	0.4nm,0.3s						
ILAR	**Eielson Array**	**47.86**	**33**	P	**P**	**03 49 46.4**	**+0.9**
	0.2nm,0.6s,baz=269,slow=5.7,SNR=4.4						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**58.88**	**188**	P	**P**	**03 51 06.0**	**-0.6**
	0.3nm,0.4s,baz=5.8,slow=7.0,SNR=10.0						
	0.3nm,0.4s						

*JSN **14** 03:48:36.8±0.3, 17.91N×76.80W, h21km±9km, MD3.0*
*SSNC **14** 03:48:37.0±0.8, 17.94N×76.91W, h24km±3km, MD3.2, ML2.3*

ISC 14 03:48:36.3±2.7, 18.0N±0.2×76.87W±0.10, h29km±10km, n13, σ0.73/24, 1D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
STH	**Stony Hill**	**0.09**	**42**	⇓*i* P		**Pb**	**03 48 41.4**	**0.0**
STH				*i* S		**Sb**	**03 48 44.9**	**0.0**
STH	**Stony Hill**	**0.09**	**42**	*e*P		**Pb**	**03 48 41.4**	**0.0**
STH				*e*S		**Sb**	**03 48 45.4**	**+0.5**
STH				IAML			03 48 46.0	
	comp=N,49μm,0.1s							
STH				IAML			03 48 46.0	
	comp=E,65μm,0.1s							
HOJ	**Hope**	**0.12**	**93**	*i* P		**Pb**	**03 48 40.8**	**-0.8**
GWJ	**Greenwich**	**0.15**	**65**	*i* P		**Pb**	**03 48 41.7**	**-0.4**
PILO	**Pilon**	**1.96**	**345**	*e*P		**Pn**	**03 49 08.3**	**+0.7**
PILO				*e*S		**Sn**	**03 49 30.3**	**-0.9**
PILO				IAML			03 49 33.0	
	comp=N,18nm,0.2s							
PILO				IAML			03 49 33.5	
	comp=E,20nm,0.1s							
CHIV	**Chivirico**	**2.00**	**12**	*e*P		**Pn**	**03 49 08.5**	**+0.3**
CHIV				*e*S		**Sn**	**03 49 31.8**	**-0.5**
CHIV				IAML			03 49 33.9	
	comp=E,6.9nm,0.1s							
CHIV				IAML			03 49 34.0	
	comp=N,8.3nm,0.2s							
LMGC	**Las Mercedes**	**2.05**	**356**	*e*P		**Pn**	**03 49 09.3**	**+0.5**
LMGC				*e*S		**Sn**	**03 49 32.7**	**-0.7**
LMGC				IAML			03 49 36.6	
	comp=N,38nm,0.0s							
LMGC				IAML			03 49 36.8	
	comp=E,35nm,0.1s							
MARVS	**Santiago de Cu**	**2.18**	**25**	*e*P		**Pn**	**03 49 11.2**	**+0.5**
MARVS				*e*S		**Sn**	**03 49 36.5**	**-0.2**
MARVS				IAML			03 49 39.5	
	comp=N,5.3nm,0.2s							
MARVS				IAML			03 49 39.9	
	comp=E,5.3nm,0.1s							
RCC	**Rio Carpintero**	**2.27**	**29**	*e*P		**Pn**	**03 49 12.4**	**+0.6**
RCC				*e*S		**Sn**	**03 49 37.0**	**-1.9**
RCC				IAML			03 49 38.6	
	comp=N,2.0nm,0.2s							
RCC				IAML			03 49 39.6	
	comp=E,1.5nm,0.2s							
YAR	**Yar**	**2.40**	**12**	*e*P		**Pn**	**03 49 14.3**	**+0.7**
YAR				*e*S		**Sn**	**03 49 41.8**	**-0.2**
YAR				IAML			03 49 43.0	
	comp=E,4.2nm,0.2s							
YAR				IAML			03 49 43.5	
	comp=N,6.7nm,0.3s							
GTBY	**Guantanamo Bay**	**2.53**	**41**	*e*P		**Pn**	**03 49 15.9**	**+0.4**
GTBY				*e*S		**Sn**	**03 49 46.3**	**+1.0**
GTBY				IAML			03 49 47.3	
	comp=N,2.4nm,0.1s							
GTBY				IAML			03 49 47.8	
	comp=N,3.8nm,0.2s							
PINC	**Pinares de May**	**2.67**	**22**	*e*P		**Pn**	**03 49 17.6**	**+0.3**
PINC				*e*S		**Sn**	**03 49 48.9**	**+0.2**
PINC				IAML			03 49 50.5	
	comp=N,11nm,0.1s							
PINC				IAML			03 49 51.8	
	comp=E,12nm,0.1s							
SABCS	**La Quijada**	**2.77**	**32**	*e*P		**Pn**	**03 49 19.6**	**+0.8**
SABCS				*e*S		**Sn**	**03 49 50.3**	**-0.9**
SABCS				IAML			03 49 52.3	
	comp=N,7.7nm,0.7s							
SABCS				IAML			03 49 53.7	
	comp=N,5.6nm,0.4s							

IDC 14 03:56:35.0±1.3, 5.96N×124.43E, h0km, mb3.4/4, mbtmp3.4/4, MS2.8/3, Error ellipse: s-maj=83.8km s-min=26.4km az=70.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.53**	**159**	P		P	04 02 22.3	-1.3
	0.2nm,0.6s,baz=328,slow=11,SNR=1.8							
	0.2nm,0.6s							
JNU	**Nakatsue**	**27.68**	**12**	LR		LR	04 12 51.0	
	comp=Z,16nm,21.4s,baz=156,slow=35							
ASAR	**Alice Springs**	**30.87**	**163**	P		P	04 02 54.8	+1.6
	0.2nm,0.3s,baz=354,slow=7.5,SNR=2.0							
	0.2nm,0.3s							
KSRS	**Korea Array**	**31.51**	**5**	LR		LR	04 15 55.2	
	comp=Z,7.8nm,21.8s,baz=230,slow=37							
MKAR	**Makanchi Array**	**54.43**	**325**	P		P	04 06 04.5	+0.5
	0.2nm,0.4s,baz=113,slow=7.6,SNR=6.3							
	0.2nm,0.4s							
AAK	**Ala-Archa**	**57.17**	**318**	LR		LR	04 33 26.5	
	comp=Z,17nm,18.3s,baz=3.5,slow=39							
ILAR	**Eielson Array**	**84.09**	**26**	P		P	04 09 06.7	-0.8
	0.1nm,0.5s,baz=259,slow=7.3,SNR=4.5							
	0.1nm,0.5s							

*IDC **14** 04:11:34.5±1.9, 38.67N×75.44E, h0km, mb3.7/8, mbtmp3.7/11, ML3.2/3, MS2.9/1, Error ellipse: s-maj=35.4km s-min=23.0km az=155.0*
*SOME **14** 04:11:41.2, 39.10N×75.60E, h5km*
*NNC **14** 04:11:42.7±1.5, 39.12N×75.31E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=11.7km s-min=7.7km az=160.0*

ISC 14 04:11:36.1±1.1, 38.59N±0.07×75.25E±0.05, h10km, n45, σ1.35/60, mb3.8/8, 6C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.08**	**352**	Pn		**Pn**	**04 12 40.0**	**+1.2**
	2.4nm,0.3s,baz=116,slow=5.8,SNR=12							
AAK				Lg		Lg	04 13 33.1	
	2.2nm,0.3s,baz=34,slow=18,SNR=3.8							
	7.4nm,0.4s							
TKM2	**Tokmak 2**	**4.33**	**3**	⇓Pn		**Pn**	**04 12 43.1**	**+0.9**
	12nm,0.5s							
TKM2				⇑Lg		Lg	04 13 44.2	
	37nm,0.6s							
CHMS	**Chumysh**	**4.42**	**355**	⇑Pn		**Pn**	**04 12 44.6**	**+1.4**
	3.6nm,0.5s							
CHMS				⇑Pg		**Pb**	**04 12 55.7**	**+1.8**
	8.4nm,0.6s							
CHMS				⇑Lg		Lg	04 13 47.0	
	23nm,0.7s							
MRKS	**Merke**	**4.43**	**340**	*e*P		**Pb**	**04 12 56.0**	**+2.0**
	8.3nm,0.4s							
MRKS				*e*S		**Sb**	**04 13 50.0**	**+2.5**
	14nm,0.7s							
MRKS	**Merke**	**4.43**	**340**	Pg		**Pb**	**04 12 56.0**	**+2.0**
	8.3nm,0.4s							
MRKS				Lg		Lg	04 13 50.0	
	14nm,0.7s							
KST	**Kastek**	**4.48**	**7**	*e*P		**Pb**	**04 12 56.2**	**+1.3**
	7.6nm,0.5s							
KST				*e*S		**Sb**	**04 13 50.5**	**+1.4**
	83nm,0.8s							
KST	**Kastek**	**4.48**	**7**	Pg		**Pb**	**04 12 56.2**	**+1.3**
	7.6nm,0.5s							
KST				Lg		Lg	04 13 50.4	
	83nm,0.8s							
MTBS	**Maitube**	**4.62**	**11**	*e*P		**Pb**	**04 12 57.4**	**+0.1**
	4.5nm,0.2s							
MTBS				*e*S		**Sb**	**04 13 52.2**	**-0.9**
	29nm,0.4s							
MTBS	**Maitube**	**4.62**	**11**	Pg		**Pb**	**04 12 57.4**	**+0.1**
	5.3nm,0.6s							
MTBS				Lg		Lg	04 13 52.6	
	29nm,0.9s							
TNSS	**Tian-Shan**	**4.62**	**16**	*e*P		**Pb**	**04 12 57.8**	**+0.2**
	3.8nm,0.2s							
TNSS				*e*S		**Sb**	**04 13 52.8**	**-0.6**
	19nm,0.8s							
TNSS	**Tian-Shan**	**4.62**	**16**	Pg		**Pb**	**04 12 57.8**	**+0.2**
	6.4nm,0.4s							
TNSS				Lg		Lg	04 13 52.8	
	19nm,0.8s							
DGS	**Degeres**	**4.66**	**5**	*e*P		**Pb**	**04 12 58.7**	**+0.6**
	14nm,0.5s							
DGS				*e*S		**Sb**	**04 13 54.5**	**+0.2**
	29nm,0.8s							
DGS	**Degeres**	**4.66**	**5**	Pg		**Pb**	**04 12 58.7**	**+0.6**
	14nm,0.5s							
DGS				Lg		Lg	04 13 54.5	
	29nm,0.8s							
MDOK	**Medeo**	**4.77**	**16**	*e*P		**Pb**	**04 13 00.2**	**+0.4**
	7.8nm,0.3s							
MDOK				*e*S		**Sb**	**04 13 56.8**	**-0.5**
	32nm,0.6s							
MDOK	**Medeo**	**4.77**	**16**	Pg		**Pb**	**04 13 00.2**	**+0.4**
	7.8nm,0.7s							
MDOK				Lg		Lg	04 13 56.8	
	32nm,1.1s							
SATY	**Saty**	**5.06**	**27**	*e*P		**Pb**	**04 13 05.2**	**+0.3**
	8.0nm,0.3s							
SATY				*e*S		**Sb**	**04 14 05.7**	**-0.2**
	26nm,0.3s							
SATY	**Saty**	**5.06**	**27**	Pg		**Pb**	**04 13 05.2**	**+0.3**
	10.0nm,0.6s							
SATY				Lg		Lg	04 14 05.7	
	27nm,0.7s							
KRBS	**Karabastau**	**5.11**	**3**	*e*P		**Pb**	**04 13 07.0**	**+1.3**
	5.0nm,0.3s							
KRBS				*e*S		**Sb**	**04 14 08.5**	**+1.4**
	24nm,0.4s							
KRBS	**Karabastau**	**5.11**	**3**	Pg		**Pb**	**04 13 07.0**	**+1.3**
	4.7nm,0.5s							
KRBS				Lg		Lg	04 14 08.5	
	24nm,0.8s							
KTBS	**Karatobe**	**5.23**	**11**	*e*P		**Pb**	**04 13 08.8**	**+1.1**
	8.2nm,0.2s							
KTBS				*e*S		**Sb**	**04 14 11.9**	**+1.4**
	47nm,0.3s							
KTBS	**Karatobe**	**5.23**	**11**	Pg		**Pb**	**04 13 08.8**	**+1.1**
	8.0nm,0.6s							
KTBS				Lg		Lg	04 14 11.9	
	47nm,0.7s							
IUG	**Iuzhnay**	**5.34**	**313**	*e*P		**Pg**	**04 13 16.1**	**-2.3**
	48nm,0.4s							
IUG				*e*S		**Sg**	**04 14 24.4**	**-3.1**
	57nm,0.4s							
KURS	**Kuram**	**5.37**	**23**	*e*P		**Pb**	**04 13 10.2**	**+0.2**
	6.2nm,0.3s							
KURS				*e*S		**Sb**	**04 14 14.3**	**-0.2**
	15nm,0.8s							
KURS	**Kuram**	**5.37**	**23**	Pg		**Pb**	**04 13 10.2**	**+0.2**
	6.3nm,0.6s							
KURS				Lg		Lg	04 14 14.8	
	15nm,0.8s							
PDGK	**Podgornoye**	**5.72**	**33**	Pg		**Pb**	**04 13 16.4**	**+0.3**
	1.6nm,0.6s							
PDGK				Lg		Lg	04 14 24.8	
	6.0nm,0.7s							
PDGK	**Podgornoye**	**5.72**	**33**	⇑Pg		**Pb**	**04 13 18.4**	**+2.4**
	6.6nm,0.7s							
PDGK				⇓Lg		Lg	04 14 31.8	
	26nm,0.9s							
KK31	**Karatay Array**	**5.77**	**323**	Pn		**Pn**	**04 13 02.4**	**+0.6**
	0.9nm,0.3s,baz=129,slow=12,SNR=32							
KK31				Pg		**Pb**	**04 13 18.4**	**+1.7**
	1.9nm,0.4s,baz=147,slow=16,SNR=3.8							
KK31				⇓Sn		**Sn**	**04 14 06.7**	**-1.2**
	3.1nm,0.5s,baz=133,slow=24,SNR=6.7							
KK31				⇑Lg		Lg	04 14 32.0	
	4.3nm,0.5s							
ARXS	**Arharly**	**5.94**	**18**	*e*P		**Pb**	**04 13 21.9**	**+2.0**
	0.9nm,0.2s							
ARXS				*e*S		**Sb**	**04 14 34.3**	**+3.3**
	16nm,0.4s							
ARXS	**Arharly**	**5.94**	**18**	Pg		**Pb**	**04 13 21.8**	**+2.0**
	0.9nm,0.2s							
ARXS				Lg		Lg	04 14 34.3	
	17nm,0.7s							
BLB	**Baldybastay**	**6.01**	**23**	Pg		**Pb**	**04 13 21.9**	**+0.9**
	3.4nm,0.5s							
BLB				Lg		Lg	04 14 34.8	
	9.3nm,0.6s							
DJR	**Jarkent**	**6.67**	**29**	*e*P		**Pb**	**04 13 33.5**	**+1.2**
	1.6nm,0.2s							
DJR				*e*S		**Sb**	**04 14 54.2**	**+2.2**
	4.4nm,0.4s							
DJR	**Jarkent**	**6.67**	**29**	Pg		**Pb**	**04 13 33.6**	**+1.4**
	1.5nm,0.5s							
DJR				Lg		Lg	04 14 54.3	
	3.6nm,0.6s							
MKAR	**Makanchi Array**	**9.69**	**30**	Pn		**Pn**	**04 13 55.8**	**+0.1**
	0.1nm,0.3s,baz=202,slow=12,SNR=3.6							
MKAR				LR		LR	04 17 57.1	
	comp=Z,65nm,19.2s,baz=216,slow=40							
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**12.25**	**10**	Lg		Lg	04 17 57.4	
	baz=195,slow=30,SNR=4.4							
BVAR	**Borovoye Array**	**14.82**	**348**	Pn		**Pn**	**04 15 06.0**	**+0.3**
	0.1nm,0.3s,baz=150,slow=10.0,SNR=2.9							
AKTO	**Aktyubinsk**	**17.02**	**320**	Pn		**Pn**	**04 15 34.0**	**-0.1**
	0.2nm,0.3s,baz=122,slow=10,SNR=4.8							
	1.7nm,0.7s							
SONM	**Songino Array**	**24.36**	**58**	P		**P**	**04 16 53.2**	**-1.2**
	0.2nm,0.4s,baz=251,slow=9.0,SNR=1.9							
	0.2nm,0.4s							
BRTR	**Keskin Array B**	**32.08**	**285**	P		**P**	**04 18 05.3**	**+1.9**
	1.1nm,0.9s,baz=97,slow=5.3,SNR=6.2							
	1.1nm,0.9s							
FINES	**FINESS Array B**	**37.73**	**324**	P		**P**	**04 18 51.6**	**0.0**
	1.0nm,0.5s,baz=119,slow=11,SNR=13							
	1.0nm,0.5s							
ARCES	**ARCESS Array B**	**40.57**	**336**	P		**P**	**04 19 14.9**	**-0.4**
	2.3nm,0.9s,baz=107,slow=8.6,SNR=4.6							
	2.3nm,0.9s							
HFS	**Hagfors**	**43.57**	**320**	P		**P**	**04 19 39.3**	**-0.6**
	1.7nm,0.5s,baz=95,slow=11,SNR=8.2							
	1.7nm,0.5s							
NB2	**NORSAR Subarra**	**44.80**	**322**	P		**P**	**04 19 51.2**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=91,slow=7.9							
NOA	**NORSAR Array B**	**44.80**	**322**	P		**P**	**04 19 49.3**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=90,slow=8.0,SNR=4.4							
	comp=Z,0.6nm,0.6s							
TORD	**Torodi Ar. Bea**	**69.12**	**270**	P		**P**	**04 22 43.4**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=45,slow=5.4,SNR=5.0							
	comp=Z,0.4nm,0.4s							
ILAR	**Eielson Array**	**71.81**	**18**	P		**P**	**04 22 57.0**	**-1.5**
	comp=Z,0.4nm,0.9s,baz=335,slow=4.0,SNR=3.1							
	comp=Z,0.4nm,0.9s							

*NEIC **14** 04:11:36.6±1.7, 55.87N±0.09×149.2W±0.1, h7km±6km, mb3.8/2, ML3.4/36, ML3.2(AEIC), Error ellipse: s-maj=14.6km s-min=8.6km az=153.0*
*AEIC **14** 04:11:42.3±1.7, 55.93N±0.09×149.3W±0.1, h10km±6km, Error ellipse: s-maj=14.5km s-min=8.7km az=151.0*
*IDC **14** 04:11:45.3±3.0, 56.29N×148.45W, h0km, mb3.8/2, mbtmp3.4/4, ML3.1/2, MS2.3/1, Error ellipse: s-maj=56.3km s-min=37.4km az=124.0*

ISC 14 04:11:38.2±1.3, 56.00N±0.09×149.35W±0.06, h10km, n136, σ1.07/134, mb4.0/3, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.50**	**301**			**Pn**	**04 12 18.9**	**+0.1**
OHAK						**Sn**	**04 12 47.9**	**-1.4**
OHAK	**Old Harbor**	**2.50**	**301**	IAML			04 12 48.6	
	comp=N,90nm,0.4s							
OHAK	**Old Harbor**	**2.50**	**301**	P		**Pn**	**04 12 18.9**	**+0.1**
OHAK	**Old Harbor**	**2.50**	**301**	P		**Pn**	**04 12 18.9**	**+0.1**
	baz=118							
OHAK				S		**Sn**	**04 12 47.9**	**-1.4**
	baz=118							
KDAK	**Kodiak Island**	**2.52**	**317**			**Pn**	**04 12 19.6**	**+0.5**
KDAK						**Sn**	**04 12 49.1**	**-0.8**
KDAK	**Kodiak Island**	**2.52**	**317**	LR		LR	04 12 57.9	
	comp=N,54nm,20.4s,baz=173,slow=27							
SII	**Sitkinak Islan**	**2.75**	**284**			**Pn**	**04 12 22.1**	**-0.3**
SII						**Sn**	**04 12 54.4**	**-1.3**
SII	**Sitkinak Islan**	**2.75**	**284**	IAML			04 12 55.7	
	comp=E,236nm,0.8s							
SII				IAML			04 12 56.3	
	comp=N,154nm,1.3s							
SII	**Sitkinak Islan**	**2.75**	**284**	P		**Pn**	**04 12 22.1**	**-0.3**
SII	**Sitkinak Islan**	**2.75**	**284**	P		**Pn**	**04 12 22.1**	**-0.3**
	baz=100							
SII				S		**Sn**	**04 12 54.4**	**-1.3**
	baz=100							
SYI	**Shuyak Island**	**3.09**	**329**			**Pn**	**04 12 27.7**	**+0.6**
SYI	**Shuyak Island**	**3.09**	**329**			**Sn**	**04 13 04.1**	**+0.1**
SYI	**Shuyak Island**	**3.09**	**329**	IAML			04 13 03.2	
	comp=N,31nm,1.0s							
Q20K	**Shuyak Island**	**3.09**	**329**	P		**Pn**	**04 12 27.7**	**+0.6**
	baz=146							
Q20K				S		**Sn**	**04 13 04.4**	**+0.3**
	baz=146							
CHIR	**Chirikof Islan**	**3.53**	**270**			**Pn**	**04 12 32.2**	**-0.8**
CHIR						**Sn**	**04 13 11.5**	**-3.3**
CHIR	**Chirikof Islan**	**3.53**	**270**	IAML			04 13 13.4	
	comp=E,74nm,0.9s							
CHIR				IAML			04 13 15.2	
	comp=N,87nm,0.6s							
CHIR	**Chirikof Islan**	**3.53**	**270**	P		**Pn**	**04 12 32.2**	**-0.8**
	baz=85							
CHIR				S		**Sn**	**04 13 11.5**	**-3.3**
	baz=85							
CNPM	**China Poot**	**3.68**	**345**			**Pn**	**04 12 35.3**	**+0.2**
CNPM						**Sn**	**04 13 16.3**	**-2.1**
CNPM	**China Poot**	**3.68**	**345**	IAML			04 13 20.7	
	comp=E,36nm,0.9s							
Q19K	**Cape Douglas,**	**3.74**	**324**			**Pn**	**04 12 37.2**	**+1.3**
Q19K	**Cape Douglas,**	**3.74**	**324**	P		**Pn**	**04 12 37.3**	**+1.3**
	baz=140							
BRSE	**Bradley Lake S**	**3.83**	**349**			**Pn**	**04 12 37.1**	**0.0**
BRSE	**Bradley Lake S**	**3.83**	**349**	P		**Pn**	**04 12 37.1**	**0.0**
	baz=168							
BRLK	**Bradley Lake**	**3.86**	**348**	Pn		**Pn**	**04 12 37.6**	**-0.1**
BRLK				IAML			04 13 32.7	
	comp=E,27nm,1.4s							
KAKN	**Katmai Knife C**	**3.87**	**309**			**Pn**	**04 12 39.1**	**+1.4**
KCE	**Katmai Mt Cerb**	**3.89**	**308**			**Pn**	**04 12 40.1**	**+2.0**
ACHA	**Angle Creek He**	**3.94**	**307**			**Pn**	**04 12 40.0**	**+1.2**
ANCK	**Angle Creek**	**4.01**	**306**			**Pn**	**04 12 41.4**	**+1.7**
KVTA	**Katmai Vly 10**	**4.02**	**309**			**Pn**	**04 12 41.8**	**+2.0**
AUL	**Augustine Lava**	**4.04**	**329**			**Pn**	**04 12 41.2**	**+1.2**
KAHC	**Katmai Hardscr**	**4.06**	**313**			**Pn**	**04 12 42.0**	**+1.7**
KAHC	**Katmai Hardscr**	**4.06**	**313**	P		**Pn**	**04 12 42.0**	**+1.7**
	baz=128							
SEW	**Seward**	**4.12**	**359**			**Pn**	**04 12 40.6**	**-0.5**
SEW	**Seward**	**4.12**	**359**	P		**Pn**	**04 12 40.8**	**-0.2**
	baz=179							
P23K	**Montague Islan**	**4.14**	**14**			**Pn**	**04 12 41.2**	**-0.2**
P23K	**Montague Islan**	**4.14**	**14**	P		**Pn**	**04 12 41.4**	**0.0**
	baz=195							
P19K	**Oil Pt**	**4.21**	**332**			**Pn**	**04 12 43.4**	**+1.0**
P19K	**Oil Pt**	**4.21**	**332**	IAML			04 13 42.2	
	comp=E,72nm,0.5s							
P19K				IAML			04 13 42.2	
	comp=N,78nm,0.7s							
P19K	**Oil Pt**	**4.21**	**332**	P		**Pn**	**04 12 43.4**	**+1.0**
	baz=149							
CNTC	**Contact Creek**	**4.22**	**305**			**Pn**	**04 12 43.9**	**+1.3**
Q17K	**Contact Creek**	**4.22**	**305**	P		**Pn**	**04 12 43.9**	**+1.2**
	baz=120							
PLK1	**Peulik 1**	**4.37**	**297**			**Pn**	**04 12 45.6**	**+1.1**
O20K	**Slope Mountain**	**4.45**	**338**			**Pn**	**04 12 45.8**	**+0.1**
O20K	**Slope Mountain**	**4.45**	**338**	P		**Pn**	**04 12 46.0**	**+0.3**
	baz=155							
ILSW	**Iliamna Southw**	**4.47**	**335**			**Pn**	**04 12 46.0**	**-0.1**
ILSW	**Iliamna Southw**	**4.47**	**335**	IAML			04 13 39.8	
	comp=N,21nm,1.5s							
ILSW				IAML			04 13 40.5	
	comp=E,20nm,1.4s							
O22K	**Cooper Landing**	**4.50**	**358**			**Pn**	**04 12 46.4**	**0.0**
O22K	**Cooper Landing**	**4.50**	**358**	P		**Pn**	**04 12 46.8**	**+0.5**
	baz=177							
SLKM	**Skilak Lake**	**4.54**	**355**			**Pn**	**04 12 47.0**	**-0.1**
P18K	**Big Mountain,**	**4.64**	**320**			**Pn**	**04 12 48.7**	**+0.4**
P18K	**Big Mountain,**	**4.64**	**320**	P		**Pn**	**04 12 48.7**	**+0.4**
	baz=135							
HIN	**Hinchinbrook I**	**4.

SPNN	North Nagishla	5.66	343			Pn	04 13 02.7	+0.2
STLK	Strandline Lak	5.67	348			Pn	04 13 02.9	+0.5
KLU	Klutina	5.79	17			Pn	04 13 04.4	+0.3
KLU	Klutina baz=199	5.79	17	P		Pn	04 13 04.7	+0.6
GHO	Glory Hole Cre	5.79	2			Pn	04 13 04.8	+0.6
N18K	Kilae Creek	5.82	326			Pn	04 13 04.8	+0.3
SML	Sawmill	5.85	5	Pn		Pn	04 13 05.6	+0.7
SML	Sawmill baz=185	5.85	5	P		Pn	04 13 05.8	+0.8
O16K	Kolwok River B	5.90	311			Pn	04 13 06.7	+1.1
ISLE	Juniper Island	5.91	36			Pn	04 13 05.8	0.0
SCM	Sheep Creek Mo	5.95	9			Pn	04 13 07.0	+0.7
SCM	Sheep Creek Mo baz=190	5.95	9	P		Pn	04 13 07.0	+0.7
SVW2	Sparrevohn	6.06	330	Pn		Pn	04 13 07.9	+0.1
SVW2	Sparrevohn	6.06	330	P		Pn	04 13 07.9	+0.1
N17K	Nushagak Hills	6.14	321			Pn	04 13 09.2	+0.4
KIAG	Kiagna River	6.15	34			Pn	04 13 09.0	-0.2
GLB	Gilahina Butte	6.17	26			Pn	04 13 09.6	+0.2
TABL	Table Mountain	6.21	41			Pn	04 13 10.7	+0.6
SDPT	Sand Point	6.33	269	P		Pn	04 13 11.6	+0.2
M24K	Tolsona, Glenn	6.34	14	Pn		Pn	04 13 13.2	+1.5
M18K	Stony River	6.45	331			Pn	04 13 12.9	-0.2
PNL	Peninsula	6.46	51	P		Pn	04 13 14.4	+1.1
O15K	Ungalikthiuk R	6.47	304			Pn	04 13 14.4	+1.1
O15K	Ungalikthiuk R baz=115	6.47	304	P		Pn	04 13 14.4	+1.1
N16K	Nishlik Lake	6.69	316			Pn	04 13 17.8	+1.3
N16K	Nishlik Lake baz=128	6.69	316	P		Pn	04 13 17.8	+1.3
L19K	White Mountain	6.82	338	Pn		Pn	04 13 18.1	-0.1
M17K	Holitna River	6.86	325			Pn	04 13 19.3	+0.6
M17K	Holitna River baz=138	6.86	325	P		Pn	04 13 19.3	+0.6
WAT7	Susitna Watana	6.86	2			Pn	04 13 19.8	+1.0
N15K	Kwethluk River	7.06	311			Pn	04 13 23.1	+1.6
N15K	Kwethluk River baz=122	7.06	311	P		Pn	04 13 22.0	+0.6
M16K	Timber Creek	7.12	319			Pn	04 13 22.7	+0.5
M16K	Timber Creek baz=131	7.12	319	P		Pn	04 13 23.6	+1.4
PN7A	Pavlof North-7	7.17	271			Pn	04 13 23.2	+0.1
DHY	Denali Highway	7.17	7			Pn	04 13 24.0	+0.9
O14K	Tigyukauivet M	7.18	302			Pn	04 13 24.3	+1.2
O14K	Tigyukauivet M baz=112	7.18	302	P		Pn	04 13 24.6	+1.5
P29M	Windy Craggy	7.19	55			Pn	04 13 22.6	-0.7
P29M	Windy Craggy baz=244	7.19	55	P		Pn	04 13 22.6	-0.7
RND	Reindeer	7.44	2			Pn	04 13 27.8	+1.1
CAST	Castle Rocks	7.57	351			Pn	04 13 29.6	+1.1
CAST	Castle Rocks baz=168	7.57	351	P		Pn	04 13 29.6	+1.1
N14K	Kuskokwak Cree	7.64	306			Pn	04 13 31.0	+1.5
L17K	Donlin	7.68	327			Pn	04 13 30.3	+0.3
L17K	Donlin baz=139	7.68	327	P		Pn	04 13 30.5	+0.5
L16K	Owhat River	7.76	322			Pn	04 13 31.8	+0.7
L16K	Owhat River baz=133	7.76	322	P		Pn	04 13 31.8	+0.7
ILAR	Eielson Array comp=E,0.3nm,0.3s,baz=188,slow=14,SNR=16	8.88	7	Pn		Pn	04 13 46.8	+0.3
ILAR	baz=194,slow=14,SNR=0.8 comp=E,0.5nm,0.4s			Sn		Sn	04 15 21.1	-5.4
YKA	Yellowknife Ar comp=E,0.1nm,0.3s,baz=267,slow=10,SNR=3.0 comp=E,0.4nm,0.8s	18.73	55	P		Pn	04 15 58.3	+1.2
A36M	Sachs Harbour comp=Z,6.0nm,1.4s	18.96	23	P		P	04 15 58.1	-1.0
A36M				IAmb		IAmb	04 16 33.2	
ZALV	Zalesovo Beam comp=Z,0.7nm,0.4s,baz=22,slow=5.0,SNR=3.9 comp=Z,0.7nm,0.4s	61.78	327	P		P	04 22 05.8	+9.3
MK31	Makanchi Array comp=Z,1.3nm,1.2s	68.80	325	P		P	04 22 43.0	+0.7
MK31				IAmb		IAmb	04 23 02.7	
MKAR	Makanchi Array comp=Z,0.3nm,0.5s,baz=38,slow=7.3,SNR=3.4 comp=Z,0.3nm,0.5s	68.80	325	P		P	04 22 51.1	+8.9
ABKAR	Akbulak array	72.30	340	P		P	04 23 04.7	+1.2

*IDC **14** 04:18:23.5±0.9, 11°.04S×163°.47E, h0km, mb4.2/10, mbtmp4.2/12, ML4.1/2, MS3.7/34, Error ellipse: s-maj=26.1km s-min=19.9km az=128.0*
*NEIC **14** 04:18:25.4±1.5, 11°.06S±0°.10×163°.4E±0°.1, h10km±1km, mb4.6/38, Error ellipse: s-maj=20.1km s-min=13.2km az=52.0*

ISC 14 04:18:28.3±0.6, **11°.09S**±0°.08×**163°.34E**±0°.08, **h31**km, **n89**, σ1s **04/59**, **mb4.5/26**, **MS3.8/33**, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	Honiara	3.72	296	Pn		Pn	04 19 23.2	-0.5
HNR				Sn		Sn	04 20 09.1	+2.5
HNR	Honiara 1μm,0.3s,baz=246,slow=6.9,SNR=16	3.72	296	Pn		Pn	04 19 25.6	+1.9
HNR	50nm,0.3s,baz=258,slow=14,SNR=3.6			Sn		Sb	04 20 14.1	-4.0
HNR	comp=Z,30μm,19.0s,baz=122,slow=43			LR		LR	04 21 08.2	
KOUNC	Koumac, New Ca	9.45	175	Pn		Pn	04 20 41.4	-1.0
DZM	Mont Dzumac	11.31	165	Pn		Pn	04 21 06.0	-2.0
DZM	Mont Dzumac 1.7nm,0.3s,baz=31,slow=9.6,SNR=86 3.5nm,0.3s	11.31	165	Pn		Pn	04 21 07.5	-0.5
PMG	Port Moresby comp=Z,598nm,20.8s,baz=123,slow=35	16.01	275	LR		LR	04 27 51.4	
EIDS	Eidsvold	18.34	218	P		P	04 22 39.6	-0.7
EIDS	comp=Z,46nm,1.4s			IAmb		IAmb	04 22 49.0	
CTA	Charters Tower comp=Z,0.4nm,0.3s,baz=78,slow=10,SNR=2.9 comp=Z,15nm,1.1s	18.71	239	P		P	04 22 44.3	-0.2
CTAO	Charters Tower	18.71	239	P		P	04 22 44.5	0.0
CTAO	comp=Z,35nm,1.1s			IAmb		IAmb	04 22 50.6	
COEN	Coen	19.89	260	P		Pn	04 22 59.0	-0.2
COEN	comp=Z,41nm,1.1s			IAmb		IAmb	04 23 02.3	
STKA	Stephens Creek comp=Z,1.6nm,0.6s,baz=23,slow=14,SNR=4.6	28.82	221	P		P	04 24 23.5	-0.4
STKA	comp=Z,223nm,18.4s,baz=25,slow=35 comp=Z,1.6nm,0.6s			LR		LR	04 35 26.7	
WR0	Warramunga Arr	29.07	249	P		P	04 24 27.0	+0.7
WB0	Warramunga Arr	29.16	249	P		P	04 24 27.1	0.0
WB2	Warramunga Arr	29.24	249	P		P	04 24 28.0	+0.2
WRA	Warramunga Arr	29.25	249	P		P	04 24 28.9	+1.0
WRA	Warramunga Arr comp=Z,8.6nm,0.9s,baz=78,slow=8.8,SNR=25 comp=Z,8.6nm,0.9s	29.25	249	P		P	04 24 28.7	+0.8
H11S2	WAKE ISLAND Hy baz=188,slow=76,SNR=13	29.58	6	T		T	04 55 38.4	
H11S3	WAKE ISLAND Hy baz=188,slow=76,SNR=11	29.59	6	T		T	04 55 32.2	
H11S1	WAKE ISLAND Hy baz=188,slow=76,SNR=12	29.60	6	T		T	04 55 33.6	
AS31	Alice Springs	30.67	242	P		P	04 24 39.7	-0.7
ASAR	Alice Springs	30.67	242	P		P	04 24 39.0	-1.4
ASAR	Alice Springs comp=Z,6.0nm,0.9s,baz=70,slow=9.7,SNR=30	30.67	242	P		P	04 24 41.0	+0.6
ASAR	comp=Z,253nm,19.1s,baz=72,slow=35 comp=Z,6.0nm,0.9s			LR		LR	04 36 33.5	
H11N1	WAKE ISLAND Hy baz=188,slow=76,SNR=4.5	30.81	7	T		T	04 57 01.2	
H11N3	WAKE ISLAND Hy baz=188,slow=76,SNR=5.2	30.82	7	T		T	04 57 01.4	
H11N2	WAKE ISLAND Hy baz=188,slow=76,SNR=7.5	30.83	7	T		T	04 56 59.6	
BBOO	Buckleboo comp=Z,15nm,1.3s	33.10	225	P		P	04 25 02.1	+0.5
BBOO				IAmb		IAmb	04 25 40.9	
KNRA	Kununurra	33.92	258	P		P	04 25 09.1	+0.2
RAR	Rarotonga comp=Z,155nm,21.7s,baz=302,slow=30	36.75	111	LR		LR	04 37 01.3	
FITZ	Fitzroy Crossi	37.09	255	P		P	04 25 35.9	-0.2
BATI	Baumata comp=Z,145nm,21.3s,baz=112,slow=36	38.98	267	LR		LR	04 41 37.9	
PSA00	Pilbara Seismi	42.89	250	P		P	04 26 25.2	+0.9
PSA00				IAmb		IAmb	04 26 28.8	
	comp=Z,13nm,1.0s							
PSA00	Pilbara Seismi	42.89	250	P		P	04 26 23.0	-1.3
PSA00	comp=Z,7.6nm,0.8s			IAmb		IAmb	04 26 23.4	
MBWA	Marble Bar comp=Z,13nm,0.9s	42.95	251	P		P	04 26 25.2	+0.4
MBWA				IAmb		IAmb	04 26 29.6	
PPT	Papeete comp=Z,88nm,19.5s,baz=238,slow=32	45.98	104	LR		LR	04 42 32.4	
NWAO	Narrogin (SRO) comp=Z,221nm,18.8s,baz=91,slow=36	47.48	235	LR		LR	04 46 56.8	
JOW	Kunigami	50.80	319	P		P	04 27 26.0	0.0
MJAR	Matsushiro Arr comp=Z,49nm,21.4s,baz=166,slow=35	52.96	335	LR		LR	04 49 07.8	
JNU	Nakatsue comp=Z,16nm,19.4s,baz=130,slow=34	53.77	326	LR		LR	04 48 43.2	
LEM	Lembang comp=Z,46nm,21.4s,baz=180,slow=38	55.14	269	LR		LR	04 53 22.5	
ASAJ	Asahikawa comp=Z,44nm,21.5s,baz=129,slow=32	58.09	341	LR		LR	04 49 29.2	
KSRS	Korea Array comp=Z,39nm,20.7s,baz=170,slow=34	58.61	327	LR		LR	04 51 31.3	
PETK	Petropavlovsk- comp=Z,52nm,19.4s,baz=160,slow=31	64.13	356	LR		LR	04 51 39.0	
SHEM	Shemya Is, Ala comp=Z,82nm,21.7s,baz=318,slow=30	64.23	7	LR		LR	04 51 01.5	
KLR	Kul'dur comp=Z,24nm,20.2s,baz=194,slow=34	66.19	338	LR		LR	04 56 22.5	
VNDA	Vanda	66.42	180	P		P	04 29 14.8	+0.8
VNDA	comp=Z,5.3nm,1.3s			IAmb		IAmb	04 29 47.3	
VNDA	Vanda comp=Z,36nm,18.3s,baz=317,slow=32	66.42	180	LR		LR	04 54 26.6	
CMAR	Chiang Mai Arr comp=Z,0.8nm,0.3s,baz=104,slow=4.4,SNR=6.7	69.97	294	P		P	04 29 38.6	+1.2
CMAR	comp=Z,12nm,21.0s,baz=120,slow=35 comp=Z,0.8nm,0.3s			LR		LR	04 59 22.3	
SONM	Songino Array comp=Z,0.6nm,0.7s,baz=129,slow=3.9,SNR=3.7	77.32	325	P		P	04 30 20.3	+0.2
SONM	comp=Z,30nm,20.2s,baz=76,slow=35 comp=Z,0.6nm,0.7s			LR		LR	05 03 33.8	
KDAK	Kodiak Island comp=Z,53nm,19.4s,baz=244,slow=33	77.51	22	LR		LR	05 00 59.0	
M16K	Timber Creek	77.81	18	P		P	04 30 22.7	+0.4
M16K	comp=Z,8.5nm,1.2s			IAmb		IAmb	04 30 29.8	
J14K	Nanvaranak Lak	77.95	15	P		P	04 30 23.0	0.0
K15K	Wolf Creek Mou	78.10	16	P		P	04 30 24.1	+0.2
K15K	comp=Z,10nm,1.4s			IAmb		IAmb	04 31 03.3	
M17K	Holitna River comp=Z,5.1nm,1.1s	78.56	18	P		P	04 30 26.8	+0.3
M17K				IAmb		IAmb	04 30 30.9	
QSPA	South Pole Qui	78.91	180	P		P	04 30 30.4	+1.8
QSPA	South Pole Qui comp=Z,3.2nm,1.0s,baz=298,slow=3.2,SNR=5.4 comp=Z,3.2nm,1.0s	78.91	180	P		P	04 30 30.1	+1.5
SVW2	Sparrevohn	78.91	19	P		P	04 30 27.4	-1.0
SVW2	comp=Z,13nm,1.4s			IAmb		IAmb	04 30 53.5	
L18K	Granite Mounta	79.42	18	P		P	04 30 31.2	0.0
M19K	Big River Lodg	79.89	19	P		P	04 30 33.9	+0.1
M19K	comp=Z,10nm,1.4s			IAmb		IAmb	04 31 15.9	
L19K	White Mountain	79.96	19	P		P	04 30 33.7	-0.4
G19K	Purcell Mounta	82.35	15	P		P	04 30 47.0	+0.3
G19K	comp=Z,7.4nm,1.4s			IAmb		IAmb	04 31 23.8	
RND	Reindeer comp=Z,3.9nm,1.0s	82.76	20	P		P	04 30 47.5	-1.5
RND				IAmb		IAmb	04 31 13.6	
IMAR	Indian Mountai	83.12	16	P		P	04 30 50.4	-0.3
GLB	Gilahina Butte	83.27	23	P		P	04 30 51.2	-0.5
E19K	Redstone River	83.34	14	P		P	04 30 52.1	+0.2
G21K	Allakaket	83.58	16	P		P	04 30 52.8	-0.3
WRH	Wood River Hil comp=Z,2.5nm,1.0s	83.73	19	P		P	04 30 52.4	-1.5
WRH				IAmb		IAmb	04 30 54.4	
CCB	Clear Creek Bu comp=Z,4.0nm,1.4s	83.94	19	P		P	04 30 54.0	-1.0
CCB				IAmb		IAmb	04 31 29.6	
ILAR	Eielson Array comp=Z,0.8nm,0.8s,baz=238,slow=5.1,SNR=6.9	84.32	19	P		P	04 30 56.0	-0.9
ILAR	comp=Z,105nm,19.2s,baz=258,slow=32 comp=Z,0.8nm,0.8s			LR		LR	05 03 44.1	
J25K	Salcha River, comp=Z,3.5nm,1.1s	84.72	20	P		P	04 30 58.5	-0.5
J25K				IAmb		IAmb	04 31 00.7	
BCAR	Beaver Creek A	85.01	22	P		P	04 30 59.4	-1.1
D22K	Ayikyak River	85.54	15	P		P	04 31 02.4	-0.6
YBH	Yreka Blue Hor comp=Z,40nm,18.9s,baz=236,slow=31	85.62	46	LR		LR	05 02 20.6	
B21K	Ikpikpuk River	85.63	14	P		P	04 31 02.9	-0.5
BBB	Bella Bella comp=Z,34nm,19.1s,baz=232,slow=32	85.97	35	LR		LR	05 03 46.4	
EGAK	Eagle comp=Z,4.3nm,1.1s	86.25	21			P	04 31 06.0	-0.6
EGAK				IAmb		IAmb	04 31 15.0	
J05D	Fort Rock, OR comp=Z,5.3nm,1.0s	87.15	45	P		P	04 31 11.4	-0.2
J05D				IAmb		IAmb	04 31 22.9	
DLBC	Dease Lake comp=Z,102nm,19.4s,baz=295,slow=31	87.58	29	LR		LR	05 03 01.5	
NVAR	Mina Array Bea comp=Z,1.2nm,0.7s,baz=238,slow=8.3,SNR=5.3	87.87	50	P		P	04 31 15.3	0.0
NVAR	comp=Z,60nm,18.3s,baz=306,slow=31 comp=Z,1.2nm,0.7s			LR		LR	05 03 44.6	
PFO	Pinyon Flats O comp=Z,44nm,18.1s,baz=209,slow=33	88.05	55	LR		LR	05 06 08.7	
G29M	Pine Creek	88.52	20	P		P	04 31 17.7	+0.1
ELK	Elko comp=Z,36nm,19.5s,baz=257,slow=30	90.75	49	LR		LR	05 03 16.4	
NEW	Newport comp=Z,44nm,20.7s,baz=300,slow=30	91.33	41	LR		LR	05 04 49.8	
MKAR	Makanchi Array comp=Z,0.5nm,0.7s,baz=110,slow=5.8,SNR=4.9	91.95	317	P		P	04 31 33.9	-0.1
MKAR	comp=Z,20nm,21.7s,baz=46,slow=35 comp=Z,0.5nm,0.7s			LR		LR	05 12 07.4	
ZALV	Zalesovo Beam comp=Z,18nm,18.7s,baz=64,slow=37	92.22	325	LR		LR	05 14 49.6	
PDAR	Pinedale Array comp=Z,28nm,19.0s,baz=66,slow=32	95.33	48	LR		LR	05 09 41.6	
YKA	Yellowknife Ar comp=Z,0.3nm,0.7s,baz=259,slow=5.0,SNR=5.4	96.10	28	P		P	04 31 51.5	-1.1
YKA	comp=Z,66nm,19.9s,baz=51,slow=31 comp=Z,0.3nm,0.7s			LR		LR	05 07 57.4	
ANMO	Albuquerque comp=Z,36nm,18.2s,baz=116,slow=31	96.42	56	LR		LR	05 08 20.1	
AAK	Ala-Archa comp=Z,14nm,19.0s,baz=147,slow=36	96.57	312	LR		LR	05 17 06.3	
TXAR	Lajitas Array comp=Z,28nm,20.6s,baz=225,slow=30	97.93	62	LR		LR	05 07 46.7	

*SKO **14** 04:20:46.9, 41°.19N×20°.09E, h0km, ML3.2*
*PDG **14** 04:20:47.6±0.5, 41°.20N×20°.24E, h12km, ML3.2/12, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
*TIR **14** 04:20:47.0, 41°.23N×20°.28E, h16km±1km, Ml3.2*
*BEO **14** 04:20:47.7±0.5, 41°.07N×20°.19E, h7km±2km, ML3.0/19*
*THE **14** 04:20:47.7, 41°.29N×20°.34E, h0km±2km, ML2.9/10, Error ellipse: s-maj=2.8km s-min=1.1km az=351.0*

ISC 14 04:20:48.0±1.0, **41°.21N**±0°.02×**20°.24E**±0°.02, **h7**km±9km, **n121**, σ1s**33**/179, **14C-12D**, **Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TIR	Tirane	0.32	296	⇑P		Pg	04 20 54.1	-0.1
TIR	Tirane baz=292	0.32	296	P		Pg	04 20 54.2	-0.1
TIR	baz=292			S		Sb	04 20 59.9	-1.5
TIR	comp=N,6.0nm,0.2s,baz=292			AMP				
TIR	Tirane comp=N,2μm,0.4s	0.32	296	P		Pg	04 20 54.2	-0.1
TIR				S		Sb	04 21 00.4	-1.0
OHR	Ohrid	0.43	103	*e*Pg		Pg	04 20 56.6	+0.2
OHR				*e*Sg		Sb	04 21 04.0	-0.8
OHR	Ohrid	0.43	103	⇑*i*Pg		Pg	04 20 56.6	+0.2
OHR				*i* Sg		Sb	04 21 03.6	-1.2
OHR	comp=N,1μm,0.3s			*e*Lg		Lg	04 21 04.0	
OHR	comp=E,1μm,0.7s			*e*Lg		Lg	04 21 06.0	
KBN	Korca baz=147	0.72	145	P		Pg	04 21 01.1	-0.7
KBN	baz=147			S		Sb	04 21 12.5	-0.5
KBN	comp=N,4.7nm,0.6s,baz=147			AMP				
KBN	Korca comp=N,1μm,0.5s	0.72	145	P		Pg	04 21 01.3	-0.5
KBN				S		Sb	04 21 13.7	+0.7
PUK	Puka baz=341	0.87	343	P		Pg	04 21 04.6	-0.2
PUK	baz=341			S		Sb	04 21 17.7	+0.2
PUK	comp=N,5.9nm,0.2s,baz=341			AMP				
VLO	Vlora baz=219	0.94	218	P		Pn	04 21 07.0	-0.6
VLO	baz=219			S		Sn	04 21 21.8	+0.6
VLO	Vlora comp=N,1μm,0.4s	0.94	218	P		Pn	04 21 06.8	-0.8
VLO				S		Sn	04 21 23.3	+2.0
FNA	Florina baz=117	0.96	116	P		Pg	04 21 05.2	-1.2
FNA	baz=117			S		Sb	04 21 19.3	-0.7
FNA	comp=N,3.5nm,0.3s,baz=117			AMP				
FNA	Florina comp=N,2μm,0.5s	0.96	116	P		Pg	04 21 05.3	-1.2
FNA				S		Sb	04 21 19.9	0.0
FNA	Florina	0.96	116	*e*Pg		Pg	04 21 05.3	-1.2
FNA				*e*Sg		Sb	04 21 19.1	-0.8
FNA	Florina	0.96	116	⇑*i*Pg		Pg	04 21 05.2	-1.2
FNA				*i* Sg		Sn	04 21 21.3	-0.6
NEST	Nestorio comp=N,585nm,0.6s	1.00	142	P		Pg	04 21 06.6	-0.7
NEST				S		Sn	04 21 22.2	-0.9
ULC	Ulcinj	1.06	315	⇓*i*Pg		Pg	04 21 07.0	-1.4
ULC				*i* Sg		Sn	04 21 23.9	-0.6
LSK	Leskovik baz=167	1.09	166	P		Pg	04 21 07.2	-1.9
LSK	baz=167			S		Sn	04 21 24.4	-0.9
LSK	comp=N,3.4nm,0.6s,baz=167			AMP				
LSK	Leskovik comp=N,792nm,0.6s	1.09	166	P		Pg	04 21 07.1	-1.9
LSK				S		Sn	04 21 25.3	-0.1
BCI	Bajram Curri baz=353	1.16	354	P		Pg	04 21 09.5	-0.8
BCI	baz=353			S		Sg	04 21 25.2	-0.2
BCI	comp=E,2.0nm,0.4s,baz=353			AMP				
SKO	Skopje	1.18	49	*e*Pg		Pb	04 21 10.3	-0.4
SKO				*e*Sg		Sn	04 21 28.0	+0.7
SKO	Skopje	1.18	49	⇑*i*Pg		Pb	04 21 10.3	-0.4
SKO				*i* Sg		Sn	04 21 27.2	0.0
PENT	Pentalofos	1.22	146	P		Pg	04 21 10.4	-1.1
PENT				S		Sn	04 21 29.2	+0.7
DRME	Dracevica, Mon	1.26	321	*e*Pn		Pn	04 21 10.3	-1.8
DRME	Dracevica, Mon	1.26	321	⇑*i*Pg		Pn	04 21 10.5	-1.6
DRME				*i* Sg		Sn	04 21 30.9	+1.6
SRN	Sarande baz=190	1.34	188	P		Pg	04 21 14.3	+0.6
SRN	baz=190			S		Sn	04 21 32.5	+1.2
SRN	comp=E,1.1nm,0.6s,baz=190			AMP				
SRN	Sarande comp=E,252nm,0.8s	1.34	188	P		Pg	04 21 14.4	+0.6
SRN				S		Sn	04 21 34.6	+3.3
PVY	Plav	1.40	351	⇓*i*Pg		Pn	04 21 13.5	-0.7
PVY				*i* Sg		Sg	04 21 35.3	+2.3
BUM	Brajici-Budva	1.48	318	⇓*i*Pg		Pn	04 21 15.0	-0.3
BUM				*i* Sg		Sg	04 21 37.9	+2.1
KPRO	Kipourio	1.52	145	P		Pb	04 21 16.0	-0.6
KPRO	comp=E,340nm,0.6s			S		Sg	04 21 37.0	+0.2
KEK	Kerkira	1.54	193	P		Pn	04 21 14.3	-1.6
STIP	Stip	1.54	71	*i* Pn		Pg	04 21 18.1	+0.6
STIP				*i* Sn		Sg	04 21 44.2	+6.7
JAN	Janina	1.62	163	P		Pg	04 21 22.3	+3.2
GRG	Griva	1.65	98	P		Pn	04 21 17.2	-0.3
GRG	comp=E,268nm,0.7s			S		Sn	04 21 37.8	-1.2
GRG	Griva	1.65	98	*i* Pn		Pn	04 21 17.2	-0.3
GRG				*i* Sn		Sg	04 21 41.3	+0.2
CEME	Cevo	1.66	324	⇓*i*Pn		Pn	04 21 17.7	0.0
CEME				*i* Sn		Sg	04 21 42.3	+0.8
IGT	Igoumenitsa	1.68	178	P		Pb	04 21 19.1	-0.2
IGT	comp=E,325nm,0.6s			S		Sg	04 21 42.1	+0.1
IGT	Igoumenitsa	1.68	178	*i* Pn		Pb	04 21 19.1	-0.2
IVA	Berane	1.68	351	⇑*i*Pn		Pb	04 21 18.4	-1.0
IVA				*i* Sn		Sg	04 21 43.4	+1.4
KOME	Kolasin	1.73	342	⇓*i*Pn		Pb	04 21 19.1	-1.1
KOME				*i* Sn		Sg	04 21 44.1	+0.6
VAY	Valandovo	1.76	86	*e*Pn		Pn	04 21 18.4	-0.5
VAY				*e*Sn		Sb	04 21 42.4	-0.5
VAY	Valandovo	1.76	86	*i* Pn		Pb	04 21 19.8	-0.9
VAY				*i* Sn		Sg	04 21 44.3	-0.2
VAY	comp=N,171nm,1.1s			*e*Lg		Lg	04 21 44.8	
VAY	comp=E,114nm,1.1s			*e*Lg		Lg	04 21 48.0	
HCY	Herceg Novi	1.80	314	*e*Pn		Pn	04 21 19.8	+0.3
HCY	Herceg Novi	1.80	314	⇑*i*Pn		Pn	04 21 19.6	+0.1
HCY				*i* Sn		Sg	04 21 45.5	-0.3
NKME	Niksic	1.83	329	⇑*i*Pn		Pb	04 21 20.8	-1.1
NKME				*i* Sn		Sg	04 21 46.6	-0.2
PRVS	Prvonek	1.88	46	*e*Pn		Pg	04 21 23.2	-1.0
PRVS				*e*Sn		Sg	04 21 49.3	+0.7
BARS	Barje	1.98	36	*e*Pn		Pg	04 21 25.0	-1.1
BARS				*e*Sn		Sb	04 21 50.0	+0.5
BARS	Barje	1.98	36	⇑*i*Pn		Pg	04 21 25.4	-0.7
KNT	Kendrikon	2.00	91	P		Pn	04 21 22.1	-0.3
KNT				S		Sn	04 21 46.4	-1.3
KNT	Kendrikon	2.00	91	⇓*i*Pn		Pn	04 21 22.1	-0.3
KNT				*i* Sn		Sg	04 21 52.1	-0.3
KNT				*i* Sn		Sb	04 21 53.4	+3.3
SJES	Sjenica	2.06	354	*e*Pn		Pb	04 21 25.1	-0.7
SJES				*e*Sn		Sb	04 21 51.9	+0.2
SJES	Sjenica	2.06	354	*e*Pn		Pb	04 21 25.1	-0.7
TREB	Trebinje	2.06	317	*e*Pn		Pn	04 21 23.4	+0.2
BOSS	Bosilegrad	2.11	52	*e*Pn		Pn	04 21 24.1	+0.3
SELS	Selova	2.11	18	*e*Pn		Pb	04 21 25.4	-1.3
SELS				*e*Sn		Sg	04 21 54.8	-1.0
BRY	Bratogost	2.11	324	*e*Pn		Pn	04 21 24.9	+0.9
BRY	Bratogost	2.11	324	⇑*i*Pn		Pn	04 21 24.4	+0.4
BRY				*i* Sn		Sb	04 21 53.3	0.0
TYRN	Tyrnavos	2.13	134	P		Pn	04 21 24.0	-0.1
DBRK	Dubrovnik	2.14	314	*e*Pn		Pn	04 21 24.4	+0.2
THE	Thessaloniki	2.14	105	*i* Pn		Pn	04 21 24.3	+0.1
PLE	Pljevlja	2.21	344	⇓*i*Pn		Pn	04 21 25.9	+0.6
PLE				*i* Sn		Sb	04 21 56.4	+0.3
UPM	Unac-Piva	2.23	334

BBLS	**Lazi&#263i**	**2.72**	**347**	*e*Pn	**Pg**	**04 21 39.2**	**-1.0**
MATE	**Matera**	**2.74**	**259**	⇑P	**Pn**	**04 21 33.2**	**+0.7**
DIVS	**Divibare**	**2.89**	**356**	*e*Pn	**Pn**	**04 21 35.3**	**+0.7**
DIVS				*e*Sn	**Sb**	**04 22 12.7**	**-2.9**
LSTV	**Lastovo**	**2.94**	**303**	*e*Pn	**Pn**	**04 21 34.6**	**-0.7**
ZAGS	**Zajecar**	**2.99**	**29**	*e*Pn	**Pn**	**04 21 37.8**	**+2.0**
TRUS	**Trudelj**	**3.01**	**2**	*e*Pn	**Pn**	**04 21 38.2**	**+2.0**
HAPS	**Han Pijesak,BI**	**3.03**	**342**	*e*Pn	**Pn**	**04 21 38.1**	**+1.6**
MAKA	**Makarska**	**3.17**	**312**	*e*Pn	**Pn**	**04 21 38.7**	**+0.4**
RICI	**Ricice**	**3.24**	**316**	*e*Pn	**Pn**	**04 21 39.9**	**+0.5**
TIP	**Timpagrande**	**3.35**	**234**	⇑P	**Pn**	**04 21 41.2**	**+0.2**
TEKS	**Tekeris**	**3.38**	**351**	*e*Pn	**Pn**	**04 21 43.7**	**+2.5**
HVAR	**Hvar**	**3.44**	**306**	*e*Pn	**Pn**	**04 21 40.9**	**-1.2**
MDVR	**Moldovita**	**3.73**	**16**	⇓P	**Pn**	**04 21 47.6**	**+1.5**
FRGS	**Fruska Gora**	**3.96**	**356**	*e*Pn	**Pn**	**04 21 50.6**	**+1.4**
FRGS	**Fruska Gora**	**3.96**	**356**	*e*Pn	**Pn**	**04 21 51.0**	**+1.8**
KIJV	**Kijevo**	**3.98**	**316**	*e*Pn	**Pn**	**04 21 49.7**	**+0.2**
BLY	**Banja Luka**	**4.19**	**329**	*e*Pn	**Pn**	**04 21 52.3**	**-0.1**
ZIRJ	**Zirje**	**4.19**	**307**	*e*Pn	**Pn**	**04 21 52.2**	**-0.2**
A050A	**Klekovaca**	**4.26**	**321**	*e*Pn	**Pn**	**04 21 54.1**	**+0.7**
MORI	**Morici**	**4.27**	**310**	*e*Pn	**Pn**	**04 21 54.3**	**+0.7**
BZS	**Buzias**	**4.51**	**12**	⇓P	**Pn**	**04 21 58.0**	**+1.2**
A051A	**Mrakovica**	**4.52**	**328**	*e*Pn	**Pn**	**04 21 56.7**	**-0.2**
GZR	**Gura Zlata**	**4.57**	**23**	⇓P	**Pn**	**04 21 58.2**	**+0.5**
UDBI	**Udbina**	**4.67**	**317**	*e*Pn	**Pn**	**04 22 00.0**	**+1.0**
UDBI				Sn	**Sn**	**04 22 55.5**	**+2.0**
DUGI	**Dugi Otok**	**4.73**	**308**	*e*Pn	**Pn**	**04 22 00.0**	**+0.2**
SURR	**Surduc**	**4.74**	**16**	⇓P	**Pn**	**04 21 58.8**	**-1.1**
VIRC	**Vir**	**4.91**	**311**	*e*Pn	**Pn**	**04 22 02.6**	**+0.4**
NVLJ	**Novalja**	**5.18**	**312**	*e*Pn	**Pn**	**04 22 05.5**	**-0.4**
ARR	**Arges**	**5.25**	**36**	⇑P	**Pn**	**04 22 08.7**	**+1.7**
VOIR		**5.49**	**38**	⇑P	**Pn**	**04 22 12.1**	**+1.8**
BOJS	**Bojanci**	**5.62**	**321**	*i* Pn	**Pn**	**04 22 12.8**	**+0.7**
BOJS	**Bojanci**	**5.62**	**321**	*e*Pn	**Pn**	**04 22 11.6**	**-0.5**
KALN	**Kalnik**	**5.63**	**332**	*e*Pn	**Pn**	**04 22 13.2**	**+0.9**
CRES	**Cresnjev**	**5.78**	**325**	*e*Pn	**Pn**	**04 22 12.4**	**-1.8**
GBRS	**Gornja Briga**	**5.86**	**319**	*i* Pn	**Pn**	**04 22 16.3**	**+0.9**
GBRS				*e*Sn	**Sn**	**04 23 23.6**	**+0.8**
BRJN	**Brijuni**	**6.02**	**310**	*e*Pn	**Pn**	**04 22 17.2**	**-0.3**
CEY	**Cerknica**	**6.20**	**319**	*i* Pn	**Pn**	**04 22 20.6**	**+0.6**
CEY	**Cerknica**	**6.20**	**319**	*e*Pn	**Pn**	**04 22 19.6**	**-0.4**
SOKA	**Soboth** comp=E,1.1nm,0.4s	**6.63**	**327**	*i* Pn	**Pn**	**04 22 29.2**	**+3.2**
OBKA	**Obir** comp=E,0.6nm,0.3s	**6.71**	**324**	*i* Pn	**Pn**	**04 22 29.5**	**+2.5**
OBKA	**Obir**	**6.71**	**324**	*e*Pn	**Pn**	**04 22 27.3**	**+0.3**
ARSA	**Arzberg** comp=E,1.3nm,0.5s	**6.92**	**332**	*e*Pn	**Pn**	**04 22 32.4**	**+2.4**
RONA	**Rosalia, Austr** comp=E,1.0nm,0.4s	**7.07**	**338**	*e*Pn	**Pn**	**04 22 35.6**	**+3.5**
VYHS	**Vyhne**	**7.35**	**353**	*e*PN	Pb	04 22 45.9	-10
VYHS				*e*SN	**Sn**	**04 24 02.7**	**+3.3**
WTTA	**Wattenberg** comp=E,0.4nm,0.2s	**8.64**	**317**	*i* Pn	**Pn**	**04 22 55.1**	**+1.4**
WATA	**Walderalm** comp=E,1.5nm,0.2s	**8.72**	**317**	*e*Pn	**Pn**	**04 22 57.3**	**+2.6**
SQTA	**Sankt Quirin** comp=E,1.8nm,0.4s	**8.84**	**316**	*e*Pn	**Pn**	**04 22 57.8**	**+1.5**

SDD 14 04:38:49.7±2.4, 20.04N×70.26W, h34km±637km, MD2.7, ML2.4, MW2.9, 4C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABDR	**Alto Bandera**	**1.27**	**196**	⇓*e*Pg	Pn	04 39 10.8	-0.6
ABDR	comp=N,93nm,1.6s			IAML		04 39 28.5	
ABDR	comp=E,111nm,1.8s			IAML		04 39 38.1	
MCDR	**Montecristi**	**1.32**	**264**	⇓*e*Pg	Pn	04 39 12.1	+0.4
MCDR				⇓*e*Sg	Sn	04 39 25.2	-3.0
MCDR	comp=E,46nm,4.3s			IAML		04 39 27.7	
MCDR	comp=N,62nm,3.9s			IAML		04 39 41.4	
HATOM	**Hato Mayor del**	**1.50**	**146**	⇑*e*Pg	Pn	04 39 11.7	-2.5
HATOM				⇑*e*Sg	Sn	04 39 31.0	-1.6
HATOM	comp=E,38nm,3.5s			IAML		04 39 55.1	
HATOM	comp=N,32nm,1.9s			IAML		04 40 16.9	
NEDR	**Neiba UASD**	**1.90**	**215**	⇑*e*Pg	Pn	04 39 19.3	-0.3
NEDR	comp=E,25nm,2.3s			IAML		04 39 32.7	
NEDR				⇑*e*Sg	Sn	04 39 40.6	-1.8
NEDR	comp=N,58nm,4.8s			IAML		04 40 20.3	

*NEIC **14** 04:39:07.2±0.4, 19.03N±0.07×68.48W±0.04, h35km±2km, ML2.3/10, Md2.4/4(RSPR), Error ellipse: s-maj=13.2km s-min=3.6km az=205.0*

RSPR 14 04:39:07.5, 19.06N×68.48W, h36km±3km, MD2.4/4, 1C-1D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.55**	**170**	⇓*e*P	Pn	04 39 17.6	-1.3
PCDR	**Punta Cana, DR**	**0.55**	**170**	*e*S	Sn	04 39 25.6	-1.1
PCDR	**Punta Cana, DR**	**0.55**	**170**		Pn	04 39 17.6	-1.3
PCDR	**Punta Cana, DR**	**0.55**	**170**		Sn	04 39 25.6	-1.1
PCDR	**Punta Cana, DR** comp=N,136nm,2.0s	**0.55**	**170**	IAML		04 39 21.3	
CELP	**Cerrillos**	**2.05**	**118**	⇑*e*P	Pn	04 39 42.3	+2.8
CELP	**Cerrillos**	**2.05**	**118**		Pn	04 39 38.8	-0.7
CELP					Sn	04 40 03.1	-0.7
CELP	comp=E,17nm,3.4s			IAML		04 40 08.7	
CELP	comp=N,20nm,3.3s			IAML		04 40 26.6	
GCPR	**Guaynabo City**	**2.39**	**108**	Pn	Pn	04 39 43.6	-0.5
GCPR	comp=E,12nm,1.8s			IAML		04 40 16.2	
SDDR	**Presa de Saban**	**2.65**	**269**	Pn	Pn	04 39 47.5	-0.3
HUMP	**Col San Antoni**	**2.66**	**110**	Pn	Pn	04 39 47.0	-0.8
HUMP	comp=E,15nm,2.5s			IAML		04 40 33.0	
HUMP	comp=N,13nm,3.1s			IAML		04 41 32.7	

IDC 14 04:52:21.8±3.2, 15.47S×175.96E, h0km, mb3.7/4, mbtmp3.7/4, MS3.4/3, Error ellipse: s-maj=195.9km s-min=29.3km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac** comp=Z,185nm,20.5s,baz=318,slow=34	**11.15**	**232**	LR	LR	04 58 39.9	
STKA	**Stephens Creek** comp=Z,50nm,19.8s,baz=69,slow=33	**35.27**	**236**	LR	LR	05 11 52.4	
WRA	**Warramunga Arr** 0.7nm,0.8s,baz=93,slow=9.1,SNR=3.5 0.7nm,0.8s	**39.83**	**257**	P	P	04 59 56.9	-0.3
ASAR	**Alice Springs** 0.9nm,0.8s,baz=82,slow=8.9,SNR=5.9 0.9nm,0.8s	**40.34**	**252**	P	P	05 00 01.6	+0.1
NVAR	**Mina Array Bea** 1.3nm,0.8s,baz=233,slow=7.5,SNR=4.5 1.3nm,0.8s	**81.54**	**46**	P	P	05 04 42.1	+0.4
ELK	**Elko** comp=Z,25nm,19.4s,baz=42,slow=32	**84.69**	**45**	LR	LR	05 37 19.5	
ILAR	**Eielson Array** 0.3nm,0.7s,baz=212,slow=5.0,SNR=1.9 0.3nm,0.7s	**84.84**	**15**	P	P	05 04 57.4	-0.5

*IDC **14** 05:18:46.1±1.0, 0.36S×121.97E, h0km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=125.6km s-min=18.7km az=59.0*
*DJA **14** 05:18:48.3±0.3, 1.3S±3.2×120.2E±0.6, h10km, M4.1/8, MLv4.1/8*

ISC 14 05:18:47.7±0.9, 1.19S±0.08×120.52E±0.06, h10km, n13, σ1.9 06/13, mb4.0/8, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**1.64**	**338**	P	**Pn**	**05 19 16.2**	**-0.4**
TTSI	**Tana Toraja**	**1.97**	**201**	P	**Pn**	**05 19 21.4**	**+0.2**
LUWI	**Luwuk**	**2.25**	**86**	P	**Pb**	**05 19 27.6**	**-0.9**
LUWI				S	**Sb**	**05 19 56.9**	**+0.4**
GTOI	**Gorontalo**	**3.08**	**54**	P	**Pn**	**05 19 36.9**	**+0.5**
BKB	**Balikpapan**	**3.63**	**269**	P	**Pn**	**05 19 43.7**	**-0.2**
WRA	**Warramunga Arr**	**23.02**	**145**	P	**P**	**05 23 51.1**	**-2.1**
	1.1nm,0.9s,baz=321,slow=11,SNR=4.5 1.1nm,0.9s						
ASAR	**Alice Springs** 1.0nm,0.7s,baz=332,slow=9.7,SNR=10 1.0nm,0.7s	**25.84**	**151**	P	**P**	**05 24 20.8**	**+1.2**
CMAR	**Chiang Mai Arr** 0.8nm,0.3s,baz=139,slow=7.5,SNR=5.0 0.8nm,0.3s	**28.84**	**314**	P	P	05 24 51.1	+4.6
MKAR	**Makanchi Array** 0.9nm,0.7s,baz=146,slow=8.0,SNR=5.3 0.9nm,0.7s	**58.36**	**330**	P	**P**	**05 28 43.9**	**+0.6**
ZALV	**Zalesovo Beam** 0.8nm,0.6s,baz=145,slow=5.3,SNR=4.5 0.8nm,0.6s	**62.40**	**337**	P	**P**	**05 29 09.6**	**-1.1**
KURBB	**Kurchatov Arra** 1.6nm,0.2s,baz=146,slow=5.1,SNR=2.1 1.6nm,0.2s	**62.78**	**331**	P	**P**	**05 29 13.0**	**-0.2**
BVAR	**Borovoye Array** 0.9nm,0.8s,baz=128,slow=11,SNR=4.7 0.9nm,0.8s	**68.24**	**330**	P	**P**	**05 29 48.2**	**-0.4**
AKTO	**Aktyubinsk** 1.3nm,0.6s,baz=104,slow=4.2,SNR=1.9 1.3nm,0.6s	**73.78**	**324**	P	**P**	**05 30 23.7**	**+1.5**

IDC 14 05:23:57.7±3.1, 1.37S×134.60E, h0km, mb3.3/2, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=135.0km s-min=30.7km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=360,slow=12,SNR=6.3 0.3nm,0.5s	**18.46**	**181**	P	Pn	05 28 14.0	-1.1
ASAR	**Alice Springs** 0.4nm,0.5s,baz=8.1,slow=12,SNR=3.9 0.4nm,0.5s	**22.17**	**182**	P	P	05 28 56.3	+0.8
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=101,slow=7.8,SNR=3.0 0.3nm,0.7s	**66.26**	**324**	P	P	05 34 47.6	-0.1

*BER **14** 05:26:03.1±3.0, 80.51N×2.86W, h22km±23km, mb(Pn)2.8, Confirmed Earthquake*
*DNK **14** 05:26:04.0±2.0, 80.54N×2.20W, h36km±30km, ML1.0*

ISC 14 05:25:59.0±1.2, 80.49N±0.08×2.68W±0.05, h10km, n13, σ2.8 30/20, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NOR	**Nord**	**2.45**	**304**	*e*P	**Pn**	**05 26 39.7**	**+0.7**
NOR				*e*S	**Sn**	**05 27 06.9**	**-2.1**
NOR	**Nord**	**2.45**	**304**	*i* P	**Pn**	**05 26 39.8**	**+0.7**
NOR	comp=Z,0.6nm,0.4s			IAML		05 27 20.9	
KBS	**Kingsbay**	**3.05**	**114**	*e*P	**Pn**	**05 26 48.0**	**+0.7**
KBS				*e*S	**Sn**	**05 27 21.2**	**-2.5**
KBS	comp=Z,1.7nm,0.3s			IAML		05 27 25.4	
KBS	**Kingsbay**	**3.05**	**114**	*i* P	**Pn**	**05 26 48.6**	**+1.4**
KBS				*i* S	**Sn**	**05 27 19.9**	**-3.8**
BRBB	**Barentsburg B**	**3.95**	**119**	*e*P	**Pn**	**05 27 02.8**	**+3.2**
BRBB				*e*S	**Sn**	**05 27 43.7**	**-2.0**
BRBA	**Barentsburg A**	**3.98**	**119**	*e*P	**Pn**	**05 27 03.3**	**+3.4**
BRBA				*e*S	**Sn**	**05 27 44.6**	**-1.8**
BRBA	comp=Z,3.6nm,0.9s			IAML		05 27 49.0	
SPA0	**Spitsbergen Ar**	**4.21**	**114**	*e*P	**Pn**	**05 27 05.0**	**+1.8**
SPA0				*e*S	**Sn**	**05 27 50.8**	**-1.5**
SPA0	comp=Z,2.2nm,0.9s			IAML		05 27 54.0	
DAG	**Danmarks Havn**	**4.87**	**228**	*e*P	Pn	05 27 10.6	-1.6
DAG				*e*S	**Sn**	**05 28 06.0**	**-2.4**
DAG	**Danmarks Havn** baz=37,slow=16	**4.87**	**228**	*e*	**Pn**	**05 27 12.5**	**+0.3**
DAG				*i* P	Pb	05 27 14.5	-10
DAG				*i* S	**Sn**	**05 28 06.3**	**-2.2**
DAG	comp=Z,1.2nm,0.3s			IAML		05 28 11.2	
HSPB	**Hornsund (broa**	**4.97**	**125**	*e*P	**Pn**	**05 27 15.4**	**+1.8**
HOPEN	**Hopen**	**6.74**	**112**	*e*P	**Pn**	**05 27 38.6**	**+0.8**
HOPEN				*e*S	Sn	05 28 49.7	-4.7
HOPEN	comp=Z,1.9nm,0.6s			IAML		05 28 51.9	
DBG	**Daneborg**	**7.25**	**221**	*e*P	**Pn**	**05 27 47.9**	**+3.1**
NEEM	**North Greenlan**	**9.48**	**277**	*i* P	**Pn**	**05 28 16.4**	**+0.8**

IDC 14 05:37:30.7±2.5, 2.54S×139.59E, h0km, mb3.7/3, mbtmp4.1/5, ML4.3/2, Error ellipse: s-maj=77.8km s-min=25.8km az=92.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata** 3.7nm,0.3s,baz=83,slow=8.1,SNR=2.7 23nm,0.6s	**17.56**	**244**	P	Pn	05 41 36.7	-0.4
WRA	**Warramunga Arr** 0.6nm,0.3s,baz=18,slow=12,SNR=22	**18.05**	**196**	P	Pn	05 41 42.7	-0.4
WRA	1.4nm,0.9s,baz=7.3,slow=21,SNR=4.6 4.6nm,0.7s			S	Sn	05 44 53.0	-12
ASAR	**Alice Springs** 2.3nm,0.8s,baz=23,slow=10.0,SNR=23 2.3nm,0.8s	**21.72**	**194**	P	P	05 42 23.6	0.0
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=114,slow=7.4,SNR=5.8 0.5nm,0.7s	**70.19**	**322**	P	P	05 48 45.8	+0.4
BVAR	**Borovoye Array** 0.4nm,0.4s,baz=110,slow=7.8,SNR=3.1 0.4nm,0.4s	**79.67**	**325**	P	P	05 49 40.0	-0.2

IDC 14 05:45:26.9±1.6, 4.92S×127.64E, h0km, mb3.9/2, mbtmp3.9/4, ML3.9/2, Error ellipse: s-maj=131.6km s-min=26.1km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=335,slow=13,SNR=16	**16.30**	**157**	Pn	Pn	05 49 17.6	+0.2
WRA	0.4nm,0.3s,baz=340,slow=22,SNR=6.0 0.9nm,0.4s			Sn	Sn	05 52 07.2	-12
ASAR	**Alice Springs** 0.5nm,0.3s,baz=349,slow=12,SNR=23	**19.59**	**163**	P	P	05 49 56.9	0.0
ASAR	1.1nm,0.7s,baz=347,slow=21,SNR=6.8 2.8nm,0.4s			S	Sn	05 53 20.7	-18
MKAR	**Makanchi Array** 0.5nm,0.4s,baz=114,slow=7.9,SNR=16 0.5nm,0.4s	**65.21**	**327**	P	P	05 56 10.7	+0.4
KURBB	**Kurchatov Arra** 0.4nm,0.4s,baz=132,slow=5.5,SNR=1.3 0.4nm,0.4s	**69.52**	**329**	P	P	05 56 36.8	-0.7

*IDC **14** 05:49:13.9±1.0, 20.08S×67.14W, h208km±12km, mb3.5/4, mbtmp4.1/9, Error ellipse: s-maj=19.4km s-min=11.7km az=98.0*
*SCB **14** 05:49:13.6±1.4, 20.23S×67.29W, h199km±14km, ML4.1/4, MW4.1, Error ellipse: s-maj=5.0km s-min=2.8km az=0.0*
*VAO **14** 05:49:13.4±0.4, 20.17S×67.19W, h191km±8km, mb3.9*
*SJA **14** 05:49:13.2±1.5, 20.21S×67.07W, h150km, ML3.9, MW3.8*
*NEIC **14** 05:49:13.5±2.3, 20.27S±0.07×67.23W±0.09, h202km±11km, mb4.3/9, Error ellipse: s-maj=12.9km s-min=10.2km az=85.0*

ISC 14 05:49:13.5±0.6, 20.21S±0.04×67.32W±0.04, h211km±6km, n117, σ1.9 36/154, mb3.7/3, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEO	**Opoqueri**	**1.72**	**342**	Pg	**Pn**	**05 49 51.0**	**+0.2**
PB08	**IPOC Station P**	**1.73**	**272**		**Pn**	**05 49 50.9**	**+0.3**
PB08	**IPOC Station P**	**1.73**	**272**	*e*P	**Pn**	**05 49 50.9**	**+0.3**
PB08				*e*S	**S**	**05 50 20.6**	**+1.5**
PB08	**IPOC Station P**	**1.73**	**272**	*e*P	**Pn**	**05 49 50.9**	**+0.3**
PB08				*i* S	**S**	**05 50 19.3**	**+0.2**
PB08	comp=N,2μm,0.1s			IAML		05 50 23.1	
PB08	**IPOC Station P**	**1.73**	**272**	Pg	**Pn**	**05 49 50.9**	**+0.3**
GO01	**Chusmiza**	**1.84**	**287**		**Pn**	**05 49 51.9**	**0.0**
GO01	**Chusmiza**	**1.84**	**287**	*e*P	**Pn**	**05 49 52.0**	**+0.2**
GO01				*e*S	**S**	**05 50 28.9**	**+7.6**
GO01	**Chusmiza**	**1.84**	**287**	*e*P	**Pn**	**05 49 51.8**	**0.0**
GO01	**Chusmiza**	**1.84**	**287**	Pg	**Pn**	**05 49 52.0**	**0.0**
MOCB	**Mochara**	**1.88**	**124**	Pg	**Pn**	**05 49 52.1**	**-0.1**
MOCB				Sg	**S**	**05 50 20.7**	**-1.3**
MOCB	comp=N,370nm,0.4s			IAML		05 50 22.8	
PB01	**IPOC Station P**	**2.19**	**247**		**Pn**	**05 49 54.7**	**-0.3**
PB01	**IPOC Station P**	**2.19**	**247**	*e*P	**Pn**	**05 49 54.6**	**-0.3**
PB01				*e*S	**S**	**05 50 26.3**	**-0.6**
PB01	comp=Z,269nm,0.2s			IAML		05 50 29.9	
PB01	**IPOC Station P**	**2.19**	**247**	*e*P	**Pn**	**05 49 54.5**	**-0.5**
PB01				*i* S	**S**	**05 50 25.8**	**-1.1**
PB01	comp=N,832nm,0.3s			IAML		05 50 26.6	
PB01	**IPOC Station P**	**2.19**	**247**	Pg	**Pn**	**05 49 54.8**	**-0.1**
PB01				Sg	**S**	**05 50 25.9**	**-1.0**
PB01	comp=N,743nm,0.3s			IAML		05 50 26.7	
PB11	**IPOC Station P**	**2.24**	**281**		**Pn**	**05 49 55.1**	**-0.4**
PB11	**IPOC Station P**	**2.24**	**281**	*e*P	**Pn**	**05 49 55.1**	**-0.4**
PB11				*e*S	**S**	**05 50 28.0**	**+0.1**
PB11	comp=Z,223nm,0.2s			IAML		05 50 30.7	
PB11	**IPOC Station P**	**2.24**	**281**	*e*P	**Pn**	**05 49 55.0**	**-0.4**
PB11				*i* S	**S**	**05 50 26.6**	**-1.3**
PB11	comp=E,609nm,0.2s			IAML		05 50 30.6	
PB11	**IPOC Station P**	**2.24**	**281**	Pg	**Pn**	**05 49 55.2**	**-0.4**
PB11				Sg	**S**	**05 50 26.9**	**-1.0**
PB11	comp=E,545nm,0.2s			IAML		05 50 30.6	
PB09	**IPOC Station P**	**2.39**	**228**		**Pn**	**05 49 57.5**	**+0.5**
PB09	**IPOC Station P**	**2.39**	**228**	*e*P	**Pn**	**05 49 57.0**	**-0.1**
PB09				*e*S	**S**	**05 50 31.7**	**+0.9**
PB09	comp=Z,175nm,0.8s			IAML		05 50 32.4	
PB09	**IPOC Station P**	**2.39**	**228**	*e*P	**Pn**	**05 49 57.6**	**+0.5**
PB09				*i* S	**S**	**05 50 30.8**	**-0.1**
PB09	**IPOC Station P**	**2.39**	**228**	Pg	**Pn**	**05 49 57.4**	**+0.3**
HMBC	**Humberstone**	**2.41**	**268**	*e*P	**Pn**	**05 49 56.2**	**-1.1**
HMBC				*i* S	**S**	**05 50 29.0**	**-2.0**
SOET	**ToroToro**	**2.52**	**35**	Pg	**Pn**	**05 49 58.1**	**-0.7**
YJA	**Yavi**	**2.58**	**140**	*e*P	**Pn**	**05 49 59.8**	**+0.4**
YJA				*e*S	**S**	**05 50 36.1**	**+1.1**
TA02	**Huaiquique**	**2.64**	**268**		**Pn**	**05 49 59.1**	**-0.6**
TA02	**Huaiquique**	**2.64**	**268**	*e*P	**Pn**	**05 49 59.2**	**-0.5**
TA02				*e*S	**S**	**05 50 34.0**	**-1.3**
TA02	comp=Z,364nm,0.1s			IAML		05 50 34.9	
TA02	**Huaiquique**	**2.64**	**268**	*e*P	**Pn**	**05 49 59.0**	**-0.6**
TA02				*i* S	**S**	**05 50 32.7**	**-2.6**
PB02	**IPOC Station P**	**2.65**	**245**		**Pn**	**05 49 59.8**	**-0.2**
PB02	**IPOC Station P**	**2.65**	**245**	*e*P	**Pn**	**05 49 59.5**	**-0.4**
PB02				*e*S	**S**	**05 50 34.7**	**-1.1**
PB02	comp=Z,581nm,0.3s			IAML		05 50 41.6	
PB02	**IPOC Station P**	**2.65**	**245**	*e*P	**Pn**	**05 49 59.1**	**-0.8**
PB02				*i* S	**S**	**05 50 34.1**	**-1.7**
PB02	**IPOC Station P**	**2.65**	**245**	Pg	**Pn**	**05 49 59.7**	**-0.2**
PB02				Sg	**S**	**05 50 33.9**	**-1.9**
PB02	comp=Z,788nm,0.3s			IAML		05 50 34.9	
TA01	**Diego Aracena**	**2.71**	**262**		**Pn**	**05 49 59.4**	**-1.0**
TA01	**Diego Aracena**	**2.71**	**262**	*e*P	**Pn**	**05 49 59.5**	**-0.8**
TA01				*e*S	**S**	**05 50 34.3**	**-2.3**
TA01	comp=Z,179nm,0.2s			IAML		05 50 36.4	
TA01	**Diego Aracena**	**2.71**	**262**	*e*P	**Pn**	**05 49 59.4**	**-1.0**
TA01				*i* S	**S**	**05 50 33.8**	**-2.8**
PATCX	**Punta Patache**	**2.73**	**257**		**Pn**	**05 49 60.0**	**-0.7**
PATCX	**Punta Patache**	**2.73**	**257**	*e*P	**Pn**	**05 50 00.3**	**-0.4**
PATCX				*i* S	**S**	**05 50 35.1**	**-2.1**
AOVT	**TarijaAcel**	**2.78**	**119**	Pg	**Pn**	**05 50 00.9**	**-0.5**
PB16	**IPOC Station P**	**2.78**	**312**		**Pn**	**05 50 02.7**	**+0.8**
PB16	**IPOC Station P**	**2.78**	**312**	*e*P	**Pn**	**05 50 02.0**	**+0.2**
PB16				*e*S	**S**	**05 50 42.5**	**+3.3**
PB16	comp=Z,168nm,0.4s			IAML		05 50 43.4	
PB16	**IPOC Station P**	**2.78**	**312**	*e*P	**Pn**	**05 50 02.7**	**+0.8**
PB16				*i* S	**S**	**05 50 39.8**	**+0.6**
PB16	**IPOC Station P**	**2.78**	**312**	Pg	**Pn**	**05 50 02.6**	**+0.8**
LVC	**Limon Verde**	**2.81**	**212**	*e*P	**Pn**	**05 50 01.8**	**-0.2**
LVC				*e*S	**S**	**05 50 37.7**	**-1.8**
LVC	**Limon Verde** comp=Z,7.9nm,0.3s,baz=44,slow=8.8,SNR=29	**2.81**	**212**	P	**Pn**	**05 50 02.5**	**+0.5**
LVC	comp=Z,30nm,0.2s,baz=231,slow=20,SNR=21			S	**S**	**05 50 39.1**	**-0.4**
LVC	**Limon Verde**	**2.81**	**212**	*e*P	**Pn**	**05 50 01.9**	**-0.1**
LVC				*e*S	**S**	**05 50 38.4**	**-1.1**
AOEA	**Aiquile**	**2.82**	**45**	Pg	**Pn**	**05 50 01.2**	**-0.8**
AOEA	**Aiquile**	**2.82**	**45**	Pg	**Pn**	**05 50 01.4**	**-0.6**
PB07	**IPOC Station P**	**2.84**	**237**		**Pn**	**05 50 01.5**	**-0.5**
PB07	**IPOC Station P**	**2.84**	**237**	*e*P	**Pn**	**05 50 01.0**	**-0.4**
PB07				*e*S	**S**	**05 50 38.0**	**-1.5**
PB07	comp=Z,265nm,0.3s			IAML		05 50 41.9	
PB07	**IPOC Station P**	**2.84**	**237**	*e*P	**Pn**	**05 50 01.6**	**-0.4**
PB07				*i* S	**S**	**05 50 37.8**	**-1.8**
AF01	**San Pedro de A**	**2.85**	**196**		**Pn**	**05 50 03.5**	**+1.3**
PB06	**IPOC Station P**	**3.25**	**220**		**Pn**	**05 50 07.5**	**+0.7**
PB06	**IPOC Station P**	**3.25**	**220**	*e*P	**Pn**	**05 50 06.4**	**-0.4**
PB06				*e*S	**S**	**05 50 47.0**	**-1.3**
PB06	comp=Z,242nm,0.2s			IAML		05 50 47.9	
PB12	**IPOC Station P**	**3.25**	**299**		**Pn**	**05 50 05.8**	**-1.1**
PB12	**IPOC Station P**	**3.25**	**299**	*e*P	**Pn**	**05 50 05.6**	**-1.3**
PB12				*e*S	**S**	**05 50 45.6**	**-2.5**
PB12	comp=Z,254nm,0.2s			IAML		05 50 49.7	
PB12	**IPOC Station P**	**3.25**	**299**	*e*P	**Pn**	**05 50 05.4**	**-1.4**
PB12				*i* S	**S**	**05 50 45.1**	**-3.0**
SOEJ	**Jacaque**	**3.32**	**345**	Pg	**Pn**	**05 50 09.2**	**+1.1**
PB04	**IPOC Station P**	**3.38**	**231**		**Pn**	**05 50 08.3**	**-0.1**
PB04	**IPOC Station P**	**3.38**	**231**	*e*P	**Pn**	**05 50 07.6**	**-0.8**
PB04				*e*S	**S**	**05 50 48.9**	**-2.1**
PB04	comp=Z,208nm,0.1s			IAML		05 50 51.5	
BBOE	**La Paz, Chanca**	**3.44**	**349**	Pg	**Pn**	**05 50 10.5**	**+1.0**
SOTI	**

CRSM	**Crissiumal (Br**	**14.14**	**123**	*eP*	**P**	**05 52 25.8**	**-0.4**
BO01	**Tunca**	**14.52**	**193**		**Pn**	**05 52 29.2**	**-0.1**
PTGB	**Pitanga**	**14.79**	**110**	*eP*	**P**	**05 52 33.8**	**+0.3**
BO02	**Sierra Bellavi**	**14.85**	**191**	P	**Pn**	**05 52 33.8**	**+0.4**
LDASE	**Londrina, Braz**	**15.38**	**105**	*eP*	**Pn**	**05 52 39.7**	**-0.2**
ALGR	**Alto Alegre (B**	**15.55**	**126**	*eP*	**Pn**	**05 52 43.0**	**+0.9**
ITAB	**Concordia**	**15.56**	**120**	P	**Pn**	**05 52 42.1**	**+0.1**
ITAB				IAmb	IAmb	05 52 43.7	
	comp=Z,10nm,0.5s						
ITAB	**Concordia**	**15.56**	**120**	*eP*	**P**	**05 52 41.8**	**-0.1**
CPSB	**Cacapava Do Su**	**16.13**	**132**	*eP*	**P**	**05 52 48.4**	**+0.3**
FRTB	**Fartura**	**16.78**	**104**	*eP*	**P**	**05 52 55.1**	**-0.3**
PLTB	**Pedras Altas**	**16.84**	**136**	P	**P**	**05 52 56.7**	**+0.7**
SNDB	**Serra Nova Dou**	**17.43**	**64**	*eP*	**P**	**05 53 01.7**	**-0.8**
BB19B	**Bebedouro**	**17.61**	**96**	*eP*	**P**	**05 53 04.6**	**+0.2**
IPMB	**Ipameri, GO**	**18.19**	**86**	*eP*	**P**	**05 53 10.1**	**-0.8**
TRQA	**Tornquist**	**18.38**	**167**	P	**P**	**05 53 12.9**	**+0.2**
TRQA				IAmb	IAmb	05 53 46.3	
	comp=Z,9.8nm,1.2s						
BDFB	**Brasilia**	**18.92**	**79**	P	**P**	**05 53 17.9**	**-0.9**
BDFB				IAmb	IAmb	05 54 00.7	
	comp=Z,9.2nm,1.5s						
BDFB	**Brasilia**	**18.92**	**79**	P	**P**	**05 53 17.6**	**-1.2**
	comp=Z,2.0nm,0.4s,baz=235,slow=8.4,SNR=5.9						
GO06	**Curarrehue**	**19.64**	**190**	P	**P**	**05 53 27.4**	**+1.2**
GO06				IAmb	IAmb	05 53 27.9	
	comp=Z,9.1nm,0.8s						
MCRA	**Macar, Loja**	**19.98**	**320**	P	**P**	**05 53 31.1**	**+1.0**
PLCA	**Paso Flores**	**20.64**	**187**	P	**P**	**05 53 37.7**	**+0.7**
PLCA				IAmb	IAmb	05 53 40.0	
	comp=Z,15nm,1.0s						
PLCA	**Paso Flores**	**20.64**	**187**	P	**P**	**05 53 39.5**	**+2.5**
	comp=Z,8.6nm,0.8s,baz=356,slow=11,SNR=18						
	comp=Z,8.6nm,0.8s						
JANB	**Januaria**	**22.51**	**81**	*eP*	**P**	**05 53 54.2**	**-1.5**
N35A	**Tabor**	**66.22**	**337**	P	**P**	**05 59 40.5**	**+1.8**
QSPA	**South Pole Qui**	**69.98**	**180**	P	**P**	**06 00 03.7**	**+1.8**
	comp=Z,0.9nm,0.5s,baz=342,slow=3.3,SNR=12						
	comp=Z,0.9nm,0.5s						
TORD	**Torodi Ar. Bea**	**75.52**	**70**	P	**P**	**06 00 34.1**	**-1.0**
TORD	**Torodi Ar. Bea**	**75.52**	**70**	P	**P**	**06 00 34.1**	**-1.0**
	comp=Z,1.6nm,0.5s,baz=256,slow=5.4,SNR=16						
	comp=Z,1.6nm,0.5s						
YKA	**Yellowknife Ar**	**90.48**	**340**	P	**P**	**06 01 51.3**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=125,slow=3.9,SNR=6.0						
	comp=Z,0.2nm,0.4s						
WRA	**Warramunga Arr**	**134.81**	**209**	PKP	**PKiKP**	**06 08 09.3**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=162,slow=1.7,SNR=5.5						

ASIES ***14*** *06:07:47.3,22.34N×120.80E,h8km,ML3.6,Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}0.06; $M_{\theta\theta}$-0.47; $M_{\phi\phi}$0.40; $M_{r\theta}$0.52; $M_{r\phi}$-1.27; $M_{\theta\phi}$3.02; Fault plane solution: M_o3.35019×10^{21} NP1:ϕ_s10.03000°, δ89.41000°, λ66.37000°. NP2:ϕ_s278.69000°, δ23.64000°, λ178.53000°. Principal axes: T Plg40.9230°, Azm258.0030°; N Plg23.6320°, Azm10.2950°; P Plg39.8290°, Azm121.6970°;*

TAP 14 06:07:47.3,22.34N×120.80E,h8km,ML3.6,7C-9D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EAST	**Anshuo**	**0.06**	**44**	⇑	*i*	P	Pg	06 07 49.8	+0.5
	baz=50								
EAST					*i*	S	Sg	06 07 51.4	+0.7
	baz=50								
TAWH	**Dawu Township**	**0.08**	**88**	⇑	*i*	P	Pg	06 07 50.0	+0.5
	baz=88								
TAWH					*i*	S	Sg	06 07 51.9	+1.0
	baz=88								
TAW	**Tawu**	**0.09**	**77**	⇑	*i*	P	Pg	06 07 50.3	+0.7
	baz=78								
TAW					*i*	S	Sg	06 07 52.5	+1.3
	baz=78								
SLIU	**Shizi**	**0.12**	**180**	⇓	*i*	P	Pg	06 07 50.3	+0.3
	baz=183								
SLIU					*e*	S	Sg	06 07 52.2	+0.3
	baz=183								
SCZT	**Fangliau**	**0.17**	**282**	⇑	*i*	P	Pg	06 07 51.5	+0.7
	baz=282								
SCZT					*i*	S	Sg	06 07 54.4	+1.1
	baz=282								
ECL	**Taimali**	**0.29**	**29**	⇑	*i*	P	Pg	06 07 53.8	+0.6
	baz=29								
ECL					*i*	S	Sg	06 07 57.9	+0.7
	baz=29								
MASBT	**Mashibuluo**	**0.31**	**331**	⇓	*i*	P	Pg	06 07 54.3	+0.7
	baz=339								
MASBT					*i*	S	Sg	06 07 58.3	+0.5
	baz=339								
SMST	**Manzhou Townsh**	**0.32**	**174**	⇓		P	Pg	06 07 54.3	+0.7
	baz=161								
SMST						S	Sb	06 07 59.3	-1.2
	baz=161								
HEN	**Hengchun**	**0.34**	**190**		*i*	P	Pb	06 07 55.2	-0.3
	baz=189								
HEN					*i*	S	Sb	06 08 00.8	-0.3
	baz=189								
SNW	**Nanwan**	**0.38**	**187**			P	Pb	06 07 56.3	+0.1
	baz=187								
SNW						S	Sb	06 08 02.8	+0.5
	baz=187								
TWK1	**Hengchun**	**0.39**	**179**	⇓	*i*	P	Pb	06 07 56.0	-0.5
	baz=179								
TWK1					*i*	S	Sb	06 08 02.5	-0.2
	baz=179								
TSMG	**Majia**	**0.39**	**339**	⇓		P	Pg	06 07 55.6	+0.6
	baz=345								
TSMG						S	Sg	06 08 00.9	+0.6
	baz=345								
TWKBT	**Hengchun**	**0.40**	**178**	⇓		P	Pb	06 07 56.0	-0.6
	baz=179								
TWKBT						S	Sb	06 08 02.1	-0.7
	baz=179								
TWP	**Hsiaoliuchiu**	**0.41**	**271**		*eP*		Pn	06 07 58.6	-0.9
	baz=273								
SSD	**Sandimen**	**0.44**	**339**	⇓	*i*	P	Pg	06 07 56.4	+0.5
	baz=340								
SSD						S	Sg	06 08 02.1	+0.5
	baz=340								
TSPT	**Pingtung City**	**0.44**	**320**			P	Pb	06 07 57.3	0.0
	baz=330								
TSPT					*e*	S	Sb	06 08 04.2	+0.1
	baz=330								
SGLT	**Jiouru**	**0.48**	**324**		*eP*		Pg	06 07 56.7	0.0
	baz=336								
SGLT					*e*	S	Sb	06 08 06.0	+0.7
	baz=336								
KAU	**Kaohsiung**	**0.51**	**297**		*eP*		Pb	06 07 58.9	+0.4
	baz=304								
KAU					*e*	S	Sn	06 08 08.5	-1.3
	baz=304								
TTN	**Taitung**	**0.53**	**38**		*i*	P	Pb	06 07 59.4	+0.6
	baz=26								
TTN					*e*	S	Sb	06 08 07.8	+1.2
	baz=26								
TWG	**Pinlang**	**0.54**	**28**	⇑	*i*	P	Pg	06 07 58.3	+0.5
	baz=19								
TWG						S	Sg	06 08 05.5	+0.5
	baz=19								
TWGBT	**Beinan**	**0.54**	**28**	⇑		P	Pg	06 07 58.3	+0.5
	baz=19								
TWGBT					*e*	S	Sg	06 08 05.8	+0.8
	baz=19								
WSSB	**Gushan**	**0.58**	**301**			P	Pn	06 08 02.5	+0.6
	baz=310								
WSSB					*e*	S	Sn	06 08 13.2	+1.5
	baz=310								
SNJT	**Kaohsiung City**	**0.60**	**314**		*eP*		Pn	06 08 03.2	+1.1
	baz=322								
SNJT					*e*	S	Sn	06 08 13.3	+1.3
	baz=322								
TWM1	**Shoushan**	**0.60**	**324**		*i*	P	Pn	06 08 01.3	-0.8
	baz=335								
TWM1					*e*	S	Sn	06 08 11.8	-0.3
	baz=335								
SCST	**Cishan**	**0.61**	**333**			P	Pb	06 08 01.2	+0.9
	baz=342								
SCST						S	Sb	06 08 10.5	+1.4
	baz=342								
LONT	**Longtian**	**0.64**	**28**			P	Pg	06 08 00.3	+0.5
	baz=20								
LONT					*e*	S	Sb	06 08 09.7	-0.3
	baz=20								
SLGT	**Liugui**	**0.67**	**348**			P	Pg	06 08 00.7	+0.4
	baz=356								
SLGT						S	Sb	06 08 10.3	-0.5
	baz=356								
LDUT	**Ludao**	**0.70**	**61**			P	Pb	06 08 01.7	-0.1
	baz=59								
LDUT					*e*	S	Sg	06 08 10.6	+0.5
	baz=59								
LAY	**Lan-yu**	**0.76**	**113**		*eP*		Pb	06 08 02.9	+0.1
	baz=96								
LAY					*e*	S	Sg	06 08 12.2	+0.5
	baz=96								
SGST	**Jiashian**	**0.77**	**345**	⇓	*i*	P	Pg	06 08 02.2	+0.1
	baz=353								
SGST					*e*	S	Sb	06 08 14.7	+1.1
	baz=353								
SHHT	**Tainan City**	**0.80**	**329**			P	Pn	06 08 06.0	+1.1
	baz=329								
SHHT						S	Sn	06 08 20.6	+3.6
	baz=329								
LYUB	**Lan-yu**	**0.80**	**115**			P	Pg	06 08 02.4	-0.3
	baz=98								
LYUB					*e*	S	Sg	06 08 13.2	+0.1
	baz=98								
STYT	**Tauyuan**	**0.82**	**357**		*i*	P	Pb	06 08 03.6	-0.3
	baz=357								
STYT					*e*	S	Sb	06 08 15.4	+0.2
	baz=357								
STYH	**Taoyuan**	**0.83**	**358**			P	Pb	06 08 04.1	+0.1
	baz=3.0								
STYH					*e*	S	Sb	06 08 15.4	+0.1
	baz=3.0								
CHN3	**Shinhua**	**0.84**	**331**		*eP*		Pn	06 08 07.0	+1.6
	baz=332								
CHN3					*e*	S	Sn	06 08 20.9	+2.9
	baz=332								
ECS	**Chishang**	**0.85**	**27**		*eP*		Pn	06 08 05.5	-0.1
	baz=20								
ECS					*e*	S	Sb	06 08 16.8	+0.9
	baz=20								
ELDTW	**Lidau**	**0.87**	**13**	⇓	*i*	P	Pg	06 08 04.4	+0.3
	baz=19								
ELDTW					*e*	S	Sb	06 08 16.9	+0.2
	baz=19								
CHN1	**Nanshi**	**0.88**	**343**		*i*	P	Pn	06 08 06.5	+0.4
	baz=352								
CHN1					*e*	S	Sn	06 08 18.3	-0.8
	baz=352								
EHD	**Haiduan**	**0.89**	**25**			P	Pg	06 08 04.3	-0.2
	baz=23								
EHD						S	Sg	06 08 16.1	0.0
	baz=23								
CHKT	**Chengkung**	**0.92**	**34**		*eP*		Pb	06 08 05.7	+0.2
	baz=44								
CHKT					*e*	S	Sn	06 08 19.1	-0.9
	baz=44								
WTP	**Ta-pu**	**0.92**	**349**		*i*	P	Pn	06 08 06.3	-0.3
	baz=356								
WTP					*e*	S	Sn	06 08 20.9	+0.9
	baz=356								
SNST	**Tainan City**	**0.92**	**342**			P	Pn	06 08 07.2	+0.6
	baz=342								
SNST						S	Sn	06 08 21.7	+1.6
	baz=342								
TWK	**Hsinying**	**0.97**	**343**		*i*	P	Pn	06 08 07.6	+0.3
	baz=358								
TWK					*e*	S	Sn	06 08 24.2	+2.9
	baz=358								
FULB	**Fuli**	**0.97**	**28**		*i*	P	Pg	06 08 06.2	+0.2
	baz=39								
FULB					*e*	S	Sn	06 08 21.4	+0.1
	baz=39								
TPUB	**Ta-pu**	**0.97**	**351**			P	Pn	06 08 07.4	+0.1
	baz=350								
TPUB					*e*	S	Sn	06 08 22.2	+0.9
	baz=350								
CHKH	**Chenggong**	**1.01**	**33**			P	Pg	06 08 06.0	-0.9
	baz=31								
CHKH					*e*	S	Sb	06 08 21.1	+0.5
	baz=31								
CHN4	**Tsaushan**	**1.03**	**349**		*i*	P	Pn	06 08 08.8	+0.7
	baz=349								
CHN4					*e*	S	Sn	06 08 23.4	+0.7
	baz=349								
TSCK	**Chigu Township**	**1.04**	**321**			P	Pn	06 08 09.2	+1.0
	baz=322								
TSCK						S	Sn	06 08 26.0	+3.0
	baz=322								
TWF1	**Yuli**	**1.11**	**24**		*i*	P	Pb	06 08 08.8	0.0
	baz=35								
TWF1					*e*	S	Sb	06 08 23.4	0.0
	baz=35								
WCKO	**Fanlu**	**1.11**	**351**		*i*	P	Pn	06 08 10.5	+1.3
	baz=350								
WCKO					*e*	S	Sn	06 08 27.6	+2.8
	baz=350								
EYUL	**Yuli**	**1.11**	**25**			P	Pb	06 08 08.8	0.0
	baz=35								
EYUL					*e*	S	Sb	06 08 23.7	+0.2
	baz=35								
ICHU	**Yijhu**	**1.13**	**335**			P	Pn	06 08 10.8	+1.5
	baz=335								
ICHU						S	Sn	06 08 28.3	+3.2
	baz=335								
CHN8	**Yiju**	**1.14**	**332**		*eP*		Pn	06 08 10.9	+1.3
	baz=333								
CHN8					*e*	S	Sn	06 08 27.1	+1.7
	baz=333								
YULB	**Yu-li**	**1.15**	**23**		*eP*		Pg	06 08 09.2	-0.2
	baz=33								
YULB					*e*	S	Sn	06 08 25.2	-0.4
	baz=33								
ALS	**Alishan**	**1.17**	**0**		*i*	P	Pn	06 08 10.9	+0.7
	baz=360								
ALS					*e*	S	Sn	06 08 28.4	+1.9
	baz=360								
CHN5	**Tsauling**	**1.26**	**355**		*i*	P	Pg	06 08 12.8	+1.3
	baz=354								
CHN5					*e*	S	Sn	06 08 31.6	+3.1
	baz=354								
EHY	**Hungye**	**1.26**	**22**		*i*	P	Pg	06 08 11.4	-0.1
	baz=36								
EHY					*e*	S	Sn	06 08 28.9	+0.5
	baz=36								
HGSD	**Ruisui**	**1.29**	**26**		*eP*		Pg	06 08 12.7	+0.6
	baz=35								
HGSD					*e*	S	Sn	06 08 32.4	+3.4
	baz=35								
WHYT	**Xinyi Township**	**1.35**	**2**			P	Pg	06 08 14.1	+0.8
	baz=343								
WHYT						S	Sg	06 08 34.1	+3.2
	baz=343								
WDLH	**Douliu**	**1.37**	**350**		*eP*		Pg	06 08 15.4	+1.8
	baz=349								
WDLH					*e*	S	Sg	06 08 34.2	+2.9
	baz=349								
WDGT	**Dungji**	**1.40**	**311**		*i*	P	Pn	06 08 12.8	-0.4
	baz=313								
WDGT						S	Sn	06 08 31.8	+0.1
	baz=313								
WTK	**Tuku**	**1.40**	**344**		*eP*		Pn	06 08 12.3	-0.8
	baz=344								
WTK					*e*	S	Sg	06 08 35.7	+3.5
	baz=344								
VWDT	**VWDT**	**1.45**	**12**		*eP*		Pg	06 08 14.8	-0.3
	baz=14								
VWDT					*e*	S	Sb	06 08 33.3	+0.3
	baz=14								
EGFH	**Guangfu**	**1.45**	**23**			P	Pn	06 08 13.8	0.0
	baz=38								
SSLB	**Suanglung**	**1.45**	**6**			P	Pg	06 08 15.3	+0.1
	baz=3.0								
SSLB						S	Sg	06 08 36.5	+2.5
	baz=3.0								
WARBT	**Fenglin Townsh**	**1.48**	**21**		*eP*		Pg	06 08 15.5	-0.1
	baz=34								
WARBT					*e*	S	Sn	06 08 33.8	0.0
	baz=34								
WJS	**Zhushan**	**1.48**	**357**			P	Pg	06 08 17.0	+1.3
	baz=356								
WJS					*e*	S	Sg	06 08 35.9	+0.9
	baz=356								
VCHM	**Qimei**	**1.53**	**305**			P	Pn	06 08 14.9	-0.1
	baz=307								
VCHM					*e*	S	Sg	06 08 36.9	+0.2
	baz=307								
WNT	**Mingjian**	**1.54**	**356**		*eP*		Pg	06 08 17.4	+0.6
	baz=355								
WNT					*e*	S	Sg	06 08 38.3	+1.5
	baz=355								
SMLT	**Sun Moon Lake**	**1.54**	**3**		*i*	P	Pg	06 08 17.2	+0.3
	baz=2.0								
SMLT					*e*	S	Sg	06 08 40.5	+3.6
	baz=2.0								
TYC	**Yuchr**	**1.56**	**2**		*i*	P	Pg	06 08 17.2	-0.1
TYC					*i*	S	Sg	06 08 40.1	+2.6
ESL	**Shilin**	**1.58**	**22**		*eP*		Pg	06 08 17.4	-0.2
	baz=34								
ESL					*e*	S	Sb	06 08 37.3	+0.3
	baz=34								
WRL	**Guolierlin Hig**	**1.60**	**346**		*eP*		Pb	06 08 17.1	-0.1
	baz=331								
WRL					*e*	S	Sg	06 08 40.7	+1.8
	baz=331								
SHUL	**Shoufeng**	**1.61**	**26**		*eP*		Pg	06 08 18.5	+0.4
	baz=39								
SHUL					*e*	S	Sg	06 08 39.2	+0.3
	baz=39								
PHUB	**P'eng-hu**	**1.63**	**316**		*eP*		Pn	06 08 14.4	-1.9
	baz=318								
PHUB					*e*	S	Sb	06 08 38.7	+0.4
	baz=318								
OWD	**Renai**	**1.65**	**12**			P	Pg	06 08 19.2	+0.3
	baz=354								
OWD					*e*	S	Sg	06 08 42.9	+2.5
	baz=354								
WUSB	**Renai**	**1.67**	**10**			P	Pb	06 08 18.6	+0.1
	baz=351								
WUSB						S	Sg	06 08 41.5	+0.3
	baz=351								
PNG	**Penghu**	**1.68**	**317**			P	Pn	06 08 17.3	+0.3
	baz=319								
PNG					*i*	S	Sb	06 08 39.8	0.0
	baz=319								
WCS	**Beigang Elemen**	**1.71**	**3**			P	Pb	06 08 19.0	-0.1
	baz=2.0								
WCS						S	Sg	06 08 43.5	+1.0
	baz=2.0								
ETM	**Tongmen**	**1.74**	**21**		*eP*		Pb	06 08 19.7	+0.1
	baz=33								
ETM					*e*	S	Sn	06 08 41.0	+0.7
	baz=33								
CHGB	**Renai**	**1.75**	**11**			P	Pg	06 08 20.6	-0.3
	baz=354								
CHGB					*e*	S	Sg	06 08 45.0	+1.4
	baz=354								
LXIB	**Xiulin Townshi**	**1.77**	**18**			P	Pg	06 08 20.9	-0.4
	baz=32								
LXIB					*e*	S	Sg	06 08 44.6	+0.3
	baz=32								
WHF	**Hehuan Shan**	**1.85**	**13**		*i*	P	Pb	06 08 22.2	+0.6
	baz=1.0								
WHF					*i*	S	Sg	06 08 47.3	+0.5
	baz=1.0								
TDCB	**Techi**	**1.94**	**10**		*eP*		Pg	06 08 23.8	-0.7
	baz=359								
TDCB					*e*	S	Sg	06 08 48.7	-0.9
	baz=359								
WHP	**Taichung City**	**1.94**	**4**			P	Pb	06 08 23.2	+0.3
	baz=2.0								
WHP					*e*	S	Sg	06 08 50.1	+0.5
	baz=2.0								
TWT	**Tachien**	**1.94**	**10**		*eP*		Pg	06 08 24.8	+0.2
	baz=359								
TWT					*e*	S	Sg	06 08 49.0	-0.7
	baz=359								
FUSS	**Fushou**	**1.94**	**12**			P	Pg	06 08 24.6	-0.1
	baz=356								
FUSS					*e*	S	Sg	06 08 50.4	+0.5
	baz=356								
NACB	**Ninganchiao**	**1.97**	**22**		*eP*		Pn	06 08 21.9	+0.9
	baz=32								
NACB					*e*	S	Sb	06 08 47.3	-0.8
	baz=32								
TWQ1	**Liyutan**	**2.00**	**359**		*eP*		Pb	06 08 24.0	0.0
	baz=358								
TWQ1					*e*	S	Sb	06 08 50.3	+1.2
	baz=358								
NSY	**Sanyi**	**2.07**	**359**		*eP*		Pb	06 08 24.8	-0.4
	baz=357								
NSY					*e*	S	Sb	06 08 52.2	+1.2
	baz=357								
NNSB	**Datong**	**2.15**	**14**			P	Pb	06 08 26.4	-0.2
	baz=3.0								
NNSB					*e*	S	Sb	06 08 54.1	+0.7
	baz=3.0								
NNS	**Nan Shan**	**2.16**	**14**		*eP*		Pb	06 08 26.7	-0.1
	baz=354								
NNS						S	Sg	06 08 55.7	-1.0
	baz=354								
LATG	**Datong**	**2.29**	**17**		*eP*		Pb	06 08 29.7	+0.7
	baz=30								
LATG					*e*	S	Sb	06 08 58.3	+0.8
	baz=30								
NSTT	**Nanjuang**	**2.29**	**5**		*eP*		Pb	06 08 28.4	-0.5
	baz=348								
NSTT					*e*	S	Sb	06 08 56.8	-0.6
	baz=348								
NFF	**Wufeng Townshi**	**2.30**	**7**		*eP*		Pb	06 08 29.4	+0.2
	baz=350								
NFF						S	Sb	06 08 56.8	-1.0
	baz=350								
LIOB	**Emei**	**2.31**	**5**		*eP*		Pb	06 08 28.9	-0.3
	baz=348								
LIOB					*e*	S	Sb	06 08 57.1	-0.8
	baz=348								
NDT	**Datong Townshi**	**2.35**	**16**		*eP*		Pb	06 08 30.4	+0.5
	baz=31								
NDT					*e*	S	Sb	06 08 59.2	+0.2
	baz=31								
YHNB	**Yeheng**	**2.38**	**13**			P	Pb	06 08 30.1	-0.4
	baz=9.0								
YHNB					*e*	S	Sn	06 08 58.1	+1.9
	baz=9.0								
NSK	**Sanguang**	**2.38**	**12**		*i*	P	Pb	06 08 30.3	-0.2
	baz=9.0								
NSK					*e*	S	Sb	06 09 00.0	-0.2
	baz=9.0								
NWLT	**Wulai**	**2.51**	**15**			P	Pb	06 08 32.6	-0.1
	baz=358								
NWLT					*e*	S	Sb	06 09 04.6	+0.7
	baz=358								
FUSB	**Fushanzhiwuyua**	**2.52**	**17**		*eP*		Pb	06 08 33.1	+0.2
	baz=30								
FUSB					*e*	S	Sb	06 09 03.0	-1.0
	baz=30								
TIPB	**Shuangxi**	**2.79**	**20**		*i*	P	Pb	06 08 35.1	-2.3
	baz=29								
TIPB					*e*	S	Sn	06 09 08.7	+2.6
	baz=29								
SXI1	**Grass Mountain**	**2.92**	**20**		*eP*		Pb	06 08 37.9	-1.8
	baz=359								
SXI1					*e*	S	Sb	06 09 14.0	-1.5
	baz=359								
VWUC	**VWUC**	**2.92**	**335**			P	Pn	06 08 35.6	+1.6
	baz=339								
VWUC					*e*	S	Sn	06 09 11.2	+1.9
	baz=339								

IDC ***14*** *06:18:22.1±5.7,36.13N×71.35E,h181km±42km,mb3.3/7, mbtmp3.7/10,Error ellipse: s-maj=58.8km s-min=34.7km az=156.0*

ISC 14 06:18:25.5±2.1,36.5N±0.2×71.5E±0.3,h200km,n10, σ1.56/11,mb3.5/6,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.58**	**20**			P	**Pn**	**06 20 02.0**	**+1.6**
	3.6nm,0.4s,baz=181,slow=3.9,SNR=15								
AAK						S	**Sn**	**06 21 12.7**	**-2.9**
	1.4nm,0.3s,baz=315,slow=20,SNR=3.2								
MKAR	**Makanchi Array**	**13.10**	**35**			P	**P**	**06 21 26.2**	**-1.0**
	0.2nm,0.6s,baz=209,slow=15,SNR=2.7								
BVAR	**Borovoye Array**	**16.56**	**358**			P	**Pn**	**06 22 07.0**	**+0.7

NOA NORSAR Array B 44.62 323 P **P** **06 26 17.7 +0.1**
0.4nm,0.4s,baz=100,slow=7.8,SNR=2.6
0.4nm,0.4s
TORD Torodi Ar. Bea 66.08 269 P **P** **06 28 49.2 -2.1**
0.3nm,0.5s,baz=41,slow=4.6,SNR=2.6
0.3nm,0.5s
YKA Yellowknife Ar 81.25 3 P **P** **06 30 19.8 +1.1**
0.3nm,0.7s,baz=347,slow=5.2,SNR=6.1
0.3nm,0.7s

ISK ***14*** *06:29:25.1,35˚.49N×29˚.57E,h5km,ML2.6/11*
AFAD ***14*** *06:29:37.8±0.0,36˚.24N×29˚.64E,h14km±4km,ML1.9*
ISC 14 06:29:27.9±2.6,35˚.6N±0˚.1×29˚.52E±0˚.06,h8km±12km,n16,
σ0889/22,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKAS	**Kas**	**0.69**	**5**	Pg	**Pg**	**06 29 40.1**	**-1.1**
AKAS				Sg	**Sb**	**06 29 52.1**	**0.0**
AKAS	**Kas**	**0.69**	**5**	P	**Pg**	**06 29 40.8**	**-0.5**
AKAS				S	**Sn**	**06 29 54.6**	**-0.6**
DEMR	**Demre-Antalya**	**0.76**	**24**	Pg	**Pg**	**06 29 41.8**	**-0.7**
DEMR				Sg	**Sg**	**06 29 53.7**	**+1.4**
IZZE	**Mula-Seydike**	**0.92**	**345**	P	**Pg**	**06 29 44.8**	**-0.8**
IZZE				*i* AML	AML	06 29 53.0	
	comp=N,176nm,0.3s						
IZZE				*i* AML	AML	06 29 59.0	
	comp=E,143nm,0.4s						
AKUM	**Antalya-Kumluc**	**1.02**	**40**	P	**Pb**	**06 29 48.9**	**+1.0**
FETY	**Fethiye**	**1.14**	**342**	Pn	**Pb**	**06 29 49.1**	**-0.9**
FETY	**Fethiye**	**1.14**	**342**	P	**Pb**	**06 29 50.6**	**+0.5**
FETY				*i* AML	AML	06 30 00.0	
	comp=E,56nm,0.4s						
ELL	**Elmali**	**1.24**	**14**	Pn	**Pb**	**06 29 50.7**	**-1.0**
ELL				Sn	**Sn**	**06 30 09.6**	**+0.8**
KNIK	**Mula-Seydike**	**1.30**	**2**	P	**Pn**	**06 29 51.4**	**-1.2**
ARG	**Arkhangelos**	**1.32**	**301**	Pn	**Pn**	**06 29 52.8**	**+0.1**
CAME	**Cameli-Denizli**	**1.41**	**353**	Pn	**Pn**	**06 29 53.8**	**-0.3**
CAME				Sn	**Sg**	**06 30 14.8**	**+1.6**
DALY	**Dalyan (Mula)**	**1.45**	**331**	Pn	**Pn**	**06 29 54.3**	**-0.2**
KORT	**Korkueli**	**1.60**	**24**	Pn	**Pn**	**06 29 55.9**	**-0.8**
KORT				Sn	**Sb**	**06 30 18.9**	**+0.6**
APMY	**Acipayam-Deniz**	**1.93**	**355**	Pn	**Pn**	**06 30 01.4**	**+0.2**
DAT	**Datca**	**1.97**	**307**	Pn	**Pn**	**06 30 02.3**	**+0.5**
BODT	**Bodrum**	**2.34**	**311**	Pn	**Pn**	**06 30 06.8**	**0.0**

NEIC ***14*** *06:31:48.9±0.4,36˚.95N±0˚.02×97˚.39W±0˚.02,h5km±2km,*
Error ellipse: s-maj=3.4km s-min=0.6km az=219.0
TUL 14 06:31:49.5±0.5,36˚.96N±0˚.02×97˚.38W±0.02,h8km±6km,
ML2.4,mL2.5/42(NEIC),Error ellipse: s-maj=2.7km
s-min=1.2km az=214.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAN13	**South Haven SW**	**0.10**	**303**		Pg	06 31 51.6	-0.3
KAN13				Sg	Sg	06 31 53.2	-0.3
BLOK	**Blackwell**	**0.24**	**147**		Pg	06 31 54.0	-0.3
BLOK				Sg	Sg	06 31 57.4	0.0
KAN09	**Caldwell North**	**0.26**	**312**		Pg	06 31 54.6	-0.1
KAN09				Sg	Sg	06 31 58.4	+0.1
KAN17	**Caldwell West**	**0.32**	**285**		Pg	06 31 55.6	-0.3
KAN17				Sg	Sg	06 32 00.2	0.0
KAN17				IAML		06 32 00.3	
	comp=E,829nm,0.2s						
KAN01	**Argonia South**	**0.36**	**302**	Pg	Pg	06 31 56.4	-0.2
KAN01				IAML		06 32 03.1	
	comp=N,413nm,0.3s						
GC02	**Grant County #**	**0.40**	**255**	Pg	Pg	06 31 56.9	-0.4
GC02				Sg	Sg	06 32 02.3	-0.4
KAN05	**Bluff City Nor**	**0.42**	**291**		Pg	06 31 57.5	-0.3
KAN05				IAML		06 32 05.4	
	comp=N,447nm,0.1s						
KAN06	**Argonia West S**	**0.48**	**307**		Pg	06 31 58.6	-0.2
KAN06				IAML		06 32 05.5	
	comp=E,459nm,0.3s						
KAN08	**Anthony NE Sta**	**0.55**	**299**		Pg	06 31 59.8	-0.2
KAN08				IAML		06 32 07.7	
	comp=E,317nm,0.4s						
KAN08				IAML		06 32 09.0	
	comp=N,346nm,0.3s						
KAN10	**Anthony SW Sta**	**0.60**	**286**		Pg	06 32 00.7	-0.3
KAN12	**Harper NE Stat**	**0.60**	**304**		Pg	06 32 00.8	-0.3
KAN12				Sg	Sg	06 32 08.9	-0.1
OK048	**Pawnee Station**	**0.64**	**147**	Pg	Pg	06 32 01.4	-0.5
CROK	**Carrier**	**0.67**	**227**	Pg	Pg	06 32 01.8	-0.6
CROK				Sg	Sg	06 32 10.5	-0.5
CROK				IAML		06 32 12.9	
	comp=E,337nm,0.3s						
CROK				IAML		06 32 18.2	
	comp=N,319nm,0.3s						
OK032	**Salt Plains WL**	**0.69**	**257**		Pg	06 32 02.0	-0.7
OK032				IAML		06 32 11.5	
	comp=N,259nm,0.2s						
OK032				IAML		06 32 11.6	
	comp=N,296nm,0.2s						
T35A	**Sooner Cattle**	**0.69**	**93**		Pg	06 32 02.5	-0.3
QUOK	**Quay**	**0.95**	**145**	Pg	Pg	06 32 07.2	-0.6
QUOK				IAML		06 32 25.1	
	comp=E,130nm,0.3s						
QUOK				IAML		06 32 30.9	
	comp=N,114nm,0.6s						
OK052	**Battle Ridge R**	**1.07**	**154**	Pg	Pg	06 32 09.3	-0.8
OK052				IAML		06 32 28.4	
	comp=N,155nm,0.2s						
OK052				IAML		06 32 29.2	
	comp=N,123nm,0.2s						
DEOK	**Depew**	**1.32**	**147**		Pn	06 32 13.4	-0.8
DEOK				IAML		06 32 34.4	
	comp=N,86nm,0.3s						
DEOK				IAML		06 32 34.6	
	comp=E,89nm,0.6s						
U32A	**Winter Ranch,**	**1.43**	**247**		Pn	06 32 15.3	-0.4
OKCSW	**OKLAHOMA CITY**	**1.55**	**182**		Pn	06 32 17.7	+0.3
TUL3	**Leonard**	**1.65**	**129**		Pn	06 32 19.1	+0.3
W35A	**Tecumseh**	**1.85**	**167**	Pn	Pn	06 32 21.8	+0.3
WMOK	**Wichita Mounta**	**2.49**	**208**	Pn	Pn	06 32 30.7	+0.3
HHAR	**Hobbs**	**2.85**	**103**	Pn	Pn	06 32 36.2	+1.0

IDC ***14*** *06:56:35.9±0.6,6˚.28S×143˚.18E,h0km,mb4.8/18,*
mbtmp4.8/21,ML3.0/2,MS3.6/27,Error ellipse:
s-maj=27.5km s-min=12.8km az=75.0
MOS ***14*** *06:56:36.5±0.7,6˚.32S×143˚.08E,h16km,mb5.1/23,Error*
ellipse: s-maj=13.2km s-min=6.6km az=112.4
BJI ***14*** *06:56:36.1±0.0,6˚.41S×143˚.67E,h31km,mb4.8/56,*
mB5.1/27,Ms4.4/4,Ms7 4.2/3
NEIC ***14*** *06:56:37.7±2.7,6˚.38S±0˚.04×142˚.90E±0˚.07,h10km±1km,*
mb4.9/147,Error ellipse: s-maj=12.6km s-min=4.4km
az=241.0
DJA ***14*** *06:56:39.6±0.3,6˚.5S±3˚×14˚.3E±˚,h17km±2km,M5.0/36,*
mB5.2/11,mb4.9/36,MLv5.6/6,Mw(mB)4.6/11
GCMT ***14*** *06:56:40.7±0.3,6˚.36S±0˚.02×142˚.86E±0˚.04,h16km±1km,*
MW4.8/72,Moment Tensor Solution. s19,c21; s72,c92;
Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=1.85±.17;
Mθθ=-1.57±.11; Mϕϕ=-0.27±.10; Mrθ=0.21±.25; Mrϕ=0.58±.06;
*Mθϕ=-1.05±.35; Best double couple: M=2.08700×10^16^*
NP1:ϕs=133.00000°,δ58.00000°,λ114.00000°. NP2:
ϕs=273.00000°,δ39.00000°,λ57.00000°. Principal axes: T
2.2810, Plg68.0000°, Azm91.0000°; N -0.3870,
Plg20.0000°, Azm300.0000°; P -1.8930, Plg10.0000°,
Azm206.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s. Triangular
moment-rate function
ISC 14 06:56:37.6±0.3,6˚.38S±0˚.04×142˚.96E±0˚.05,h10km,n511,
σ1910/449,mb5.0/122,MS3.6/26,21C-7D,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMPI	**Merauke**	**3.29**	**231**	P	**Pn**	**06 57 30.0**	**+0.8**
JAY	**Jayapura**	**4.45**	**330**	P	**Pn**	**06 57 45.7**	**+0.4**
GENI	**Genyem**	**4.68**	**323**	P	**Pn**	**06 57 49.5**	**+1.1**
PMG	**Port Moresby**	**5.13**	**126**	P	**Pn**	**06 57 54.4**	**-0.2**
PMG	**Port Moresby**	**5.13**	**126**	*ce*P	**Pn**	**06 57 53.5**	**-1.1**
PMG				pmax	pmax		
	comp=Z,99nm,2.5s						
PMG	**Port Moresby**	**5.13**	**126**	Pn	**Pn**	**06 57 54.2**	**-0.4**
	comp=Z,5.9nm,0.3s,baz=307,slow=11,SNR=18						
PMG				Sn	**Sn**	**06 58 51.0**	**-2.9**
	comp=Z,33nm,0.3s,baz=317,slow=23,SNR=15						
	comp=Z,54nm,0.3s						
MANU	**Manus Island**	**6.16**	**46**	Pn	**Pn**	**06 58 10.9**	**+2.2**
COEN	**Coen**	**7.53**	**178**	P	**Pn**	**06 58 30.4**	**+2.8**
	baz=7.6						
COEN	**Coen**	**7.53**	**178**	Pn	**Pn**	**06 58 30.1**	**+2.6**
COEN	**Coen**	**7.53**	**178**	P	**Pn**	**06 58 29.1**	**+1.5**
RABL	**Rabaul**	**9.42**	**77**	Pn	**Pn**	**06 58 55.0**	**+1.4**
FAKI	**Fak Fak**	**11.21**	**287**	Pn	**Pn**	**06 59 16.1**	**-2.0**
FAKI	**Fak Fak**	**11.21**	**287**	P	**Pn**	**06 59 16.1**	**-2.0**
	comp=Z,62nm,1.1s,comp=Z,1um						
SAUI	**Saumlaki**	**11.68**	**261**	Pn	**Pn**	**06 59 24.1**	**-0.3**
SAUI	**Saumlaki**	**11.68**	**261**	P	**Pn**	**06 59 24.9**	**+0.5**
	comp=Z,672nm,1.0s						
MTSU	**Mount Surprise**	**11.75**	**174**	P	**Pn**	**06 59 26.8**	**+1.3**
	baz=12,SNR=4.9						
KDU	**Kakadu**	**12.09**	**238**	P	**Pn**	**06 59 30.2**	**+0.2**
	baz=12,SNR=15						
KDU	**Kakadu**	**12.09**	**238**	P	**Pn**	**06 59 30.2**	**+0.2**
SWI	**Sorong**	**12.90**	**295**	P	**Pn**	**06 59 40.8**	**-0.3**
	comp=Z,33nm,0.8s						
MTN	**Manton Dam**	**13.30**	**240**	P	**Pn**	**06 59 46.4**	**-0.3**
	baz=13,SNR=14						
MTN	**Manton Dam**	**13.30**	**240**	Pn	**Pn**	**06 59 45.6**	**-1.1**
MTN	**Manton Dam**	**13.30**	**240**	P	**Pn**	**06 59 46.7**	**0.0**
DRS	**Darwin Rock St**	**13.32**	**242**	P	**Pn**	**06 59 48.6**	**+1.6**
CTA	**Charters Tower**	**13.99**	**167**	Pn	**Pn**	**06 59 58.4**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=0.0,slow=20,SNR=3.8						
CTA				Sn	**Sn**	**07 02 33.5**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=0.0,slow=24,SNR=41						
CTA				Lg	Lg	07 03 59.6	
	comp=Z,0.3nm,0.3s,baz=90,slow=20,SNR=2.1						
	comp=Z,6.6nm,0.9s						
QIS	**Mount Isa**	**14.46**	**193**	P	**Pn**	**07 00 03.5**	**+1.0**
	baz=14,SNR=8.9						
QIS	**Mount Isa**	**14.46**	**193**	P	**Pn**	**07 00 04.3**	**+1.8**
WB0	**Warramunga Arr**	**15.69**	**211**	Pn	**Pn**	**07 00 18.2**	**-0.8**
WR0	**Warramunga Arr**	**15.78**	**210**		**Pn**	**07 00 19.1**	**-1.0**
WRAB	**Tennant Creek**	**15.85**	**211**		**Pn**	**07 00 20.4**	**-0.7**
WRAB	**Tennant Creek**	**15.85**	**211**	*ce*P	**Pn**	**07 00 20.1**	**-1.0**
WB2	**Warramunga Arr**	**15.86**	**211**	P	**Pn**	**07 00 20.1**	**-1.1**
	baz=16						
WB2	**Warramunga Arr**	**15.86**	**211**	Pn	**Pn**	**07 00 20.7**	**-0.5**
WRA	**Warramunga Arr**	**15.87**	**211**	Pn	**Pn**	**07 00 19.4**	**-1.8**
WRA	**Warramunga Arr**	**15.87**	**211**	P	**Pn**	**07 00 19.4**	**-1.8**
WRA	**Warramunga Arr**	**15.87**	**211**	Pn	**Pn**	**07 00 20.1**	**-1.1**
	comp=Z,1.4nm,0.3s,baz=28,slow=13,SNR=17						
WRA				Sn	**Sn**	**07 03 08.8**	**-8.5**
	comp=Z,0.7nm,0.3s,baz=23,slow=22,SNR=5.9						
WRA				Lg	Lg	07 05 02.0	
	comp=Z,1.0nm,0.3s,baz=19,slow=29,SNR=5.0						
WRA				LR	LR	07 07 30.9	
	comp=Z,523nm,19.8s,baz=354,slow=41						
KNRA	**Kununurra**	**16.70**	**235**	P	**Pn**	**07 00 31.0**	**-0.9**
	baz=17,SNR=12						
KNRA	**Kununurra**	**16.70**	**235**	Pn	**Pn**	**07 00 30.6**	**-1.3**
KNRA				IAmb	IAmb	07 00 37.5	
	comp=Z,91nm,0.8s						
KNRA	**Kununurra**	**16.70**	**235**	P	**Pn**	**07 00 30.9**	**-1.1**
SANI	**Sanana**	**17.46**	**284**	P	**Pn**	**07 00 41.8**	**+0.3**
	comp=Z,61nm,1.0s						
SOEI	**Soe**	**18.80**	**259**		**P**	**07 00 55.8**	**-1.9**
SOEI	**Soe**	**18.80**	**259**	P	**P**	**07 00 57.5**	**-0.2**
	comp=Z,178nm,0.9s						
AS31	**Alice Springs**	**19.26**	**206**		**Pn**	**07 01 05.3**	**+1.8**
ASAR	**Alice Springs**	**19.26**	**206**	P	**Pn**	**07 01 05.2**	**+1.7**
	comp=Z,95nm,0.8s,baz=33,slow=9.7,SNR=221						
ASAR				S	**Sn**	**07 04 32.4**	**-7.3**
	comp=Z,4.2nm,0.7s,baz=14,slow=29,SNR=4.0						
ASAR				Lg	Lg	07 06 45.9	
	comp=Z,0.3nm,0.3s,baz=44,slow=24,SNR=4.9						
ASPA	**Alice Springs**	**19.27**	**206**	P	**Pn**	**07 01 05.8**	**+2.3**
	baz=19						
QLP	**Huilpie**	**20.12**	**177**	P	Pn	07 01 15.5	+1.8
	baz=20,SNR=4.8						
EIDS	**Eidsvold**	**20.42**	**159**	P	Pn	07 01 17.9	+0.7
	baz=20,SNR=3.6						
EIDS	**Eidsvold**	**20.42**	**159**		**P**	**07 01 16.4**	**+1.3**
EIDS				IAmb	IAmb	07 01 24.0	
	comp=Z,84nm,1.1s						
FITZ	**Fitzroy Crossi**	**20.52**	**234**	P	**P**	**07 01 18.2**	**+2.1**
	baz=20,SNR=23						
FITZ	**Fitzroy Crossi**	**20.52**	**234**		**P**	**07 01 17.6**	**+1.4**
FITZ	**Fitzroy Crossi**	**20.52**	**234**	P	**P**	**07 01 18.3**	**+2.1**
LUWI	**Luwuk**	**20.82**	**284**	P	**P**	**07 01 19.4**	**-0.2**
LUWI	**Luwuk**	**20.82**	**284**	P	**P**	**07 01 20.3**	**+0.7**
	comp=Z,130nm,1.2s						
EDFI	**Ende, Flores**	**21.21**	**262**	P	**P**	**07 01 24.4**	**+0.5**
	comp=Z,49nm,1.1s,comp=Z,689nm						
INKA	**Innaminka**	**21.34**	**185**	P	**P**	**07 01 28.0**	**+3.0**
DAV	**Davao City (W)**	**21.89**	**307**	LR	LR	07 11 56.2	
	comp=Z,41nm,18.4s,baz=350,slow=42						
MRSI	**Marisa**	**22.06**	**287**	P	**P**	**07 01 32.9**	**0.0**
	comp=Z,63nm,1.1s						
OOD	**Oonadatta**	**22.39**	**197**	P	**P**	**07 01 38.6**	**+2.4**
KAPI	**Kappang**	**23.13**	**272**	P	**P**	**07 01 44.6**	**+0.4**
KAPI	**Kappang**	**23.13**	**272**	*ce*P	**P**	**07 01 44.0**	**-0.2**
KAPI				pmax	pmax		
	comp=Z,158nm,1.1s						
WRKA	**Warakurna**	**23.26**	**216**	P	**P**	**07 01 46.7**	**+1.1**
	baz=23,SNR=102						
WRKA	**Warakurna**	**23.26**	**216**	P	**P**	**07 01 46.9**	**+1.4**
TTSI	**Tana Toraja**	**23.30**	**277**	P	**P**	**07 01 46.2**	**+0.3**
	comp=Z,51nm,1.3s						
TOLI2	**Tolitoli**	**23.36**	**288**	P	**P**	**07 01 46.8**	**+0.2**
LCRK	**Leigh Creek**	**24.35**	**190**	P	**P**	**07 01 56.5**	**+0.7**
PLAI	**Plampang**	**25.08**	**263**	P	**P**	**07 02 00.8**	**-1.8**
	comp=Z,29nm,0.8s						
CMSA	**Cobar Meteorol**	**25.16**	**175**	P	**P**	**07 02 04.9**	**+1.8**
	baz=25,SNR=9.5						
MULG	**Mulgathing**	**25.20**	**198**	P	**P**	**07 02 04.5**	**+0.9**
ARMA	**Armidale**	**25.26**	**162**	P	**P**	**07 02 04.6**	**+0.3**
	baz=25						
STKA	**Stephens Creek**	**25.39**	**183**	P	**P**	**07 02 06.2**	**+0.9**
	baz=26,SNR=11						
STKA	**Stephens Creek**	**25.39**	**183**	P	**P**	**07 02 05.7**	**+0.4**
STKA	**Stephens Creek**	**25.39**	**183**	*ie*P	**P**	**07 02 05.1**	**-0.2**
STKA	**Stephens Creek**	**25.39**	**183**	P	**P**	**07 02 05.2**	**-0.1**
	comp=Z,18nm,1.0s,baz=347,slow=8.4,SNR=22						
STKA				LR	LR	07 11 41.0	
	comp=Z,264nm,19.4s,baz=0.2,slow=36						
	comp=Z,18nm,1.0s						
MBWA	**Marble Bar**	**26.86**	**235**	P	**P**	**07 02 18.2**	**-0.5**
BBOO	**Buckleboo**	**27.07**	**193**	P	**P**	**07 02 20.8**	**+0.3**
	baz=27						
BBOO	**Buckleboo**	**27.07**	**193**	P	**P**	**07 02 19.1**	**-1.3**
BBOO				IAmb	IAmb	07 02 31.6	
	comp=Z,42nm,1.4s						
BBOO	**Buckleboo**	**27.07**	**193**	P	**P**	**07 02 22.2**	**+1.8**
HTT	**Hallett**	**27.17**	**187**	P	**P**	**07 02 22.1**	**+0.7**
	baz=27,SNR=7.6						
HTT	**Hallett**	**27.17**	**187**	P	**P**	**07 02 22.3**	**+0.9**
DZM	**Mont Dzumac**	**27.52**	**127**	*e*S	**S**	**07 07 05.3**	**-0.8**
	comp=Z,96nm,26.3s						
DZM				*e*LR	LR	07 09 13.4	
	comp=Z,269nm,24.1s						
DZM	**Mont Dzumac**	**27.52**	**127**	LR	LR	07 13 08.4	
	comp=Z,142nm,20.9s,baz=5.0,slow=36						
FORT	**Forrest**	**28.01**	**208**	P	**P**	**07 02 29.0**	**+0.1**
FORT	**Forrest**	**28.01**	**208**	P	**P**	**07 02 31.8**	**+2.9**
	comp=Z,33nm,1.0s						
ARPS	**Mount Arapiles**	**30.26**	**182**	P	**P**	**07 02 49.6**	**+0.8**
	baz=30						
KPJI	**Karang Pucung**	**33.79**	**266**	P	**P**	**07 03 20.7**	**+0.5**
	comp=Z,43nm,1.0s						
CMJI	**Cimerak**	**34.27**	**266**	P	**P**	**07 03 23.3**	**-1.0**
	comp=Z,70nm,1.1s						
CMJI				pP	**pP**	**07 03 27.8**	**+0.2**
	comp=Z,70nm,1.1s						
NWAO	**Narrogin (SRO)**	**35.63**	**219**	LR	LR	07 19 13.8	
	comp=Z,197nm,18.3s,baz=110,slow=38						
JOW	**Kunigami**	**35.95**	**337**	LR	LR	07 16 34.7	
	comp=Z,123nm,18.8s,baz=14,slow=33						
XMIS	**Christmas Isla**	**37.11**	**261**	P	**P**	**07 03 49.6**	**+0.9**
DSRI	**Dabo**	**38.74**	**277**	P	**P**	**07 04 03.7**	**+1.2**
JHJ	**Hachijo jima 2**	**39.40**	**356**	LR	LR	07 18 22.2	
	comp=Z,67nm,18.5s,baz=73,slow=33						
JNU	**Nakatsue**	**40.93**	**344**	P	**P**	**07 04 19.5**	**-0.9**
MJAR	**Matsushiro Arr**	**42.93**	**354**	P	**P**	**07 04 35.2**	**-1.6**
	comp=Z,3.3nm,1.0s,baz=162,slow=8.8,SNR=4.5						
MJAR				LR	LR	07 21 04.3	
	comp=Z,28nm,22.0s,baz=175,slow=34						
	comp=Z,3.3nm,1.0s						
NNZ	**Nelson**	**44.02**	**147**	P	**P**	**07 04 43.5**	**-2.0**
URZ	**Urewera**	**44.31**	**141**	LR	LR	07 25 50.9	
	comp=Z,113nm,18.6s,baz=130,slow=40						
RTZ	**Ruatahuna**	**44.44**	**141**	P	**P**	**07 04 49.1**	**+0.1**
RTZ				IAmb	IAmb	07 04 52.0	
	comp=Z,19nm,0.8s						
BKZ	**Black Stump Fm**	**44.48**	**142**	P	**P**	**07 04 50.9**	**+1.6**
BKZ				IAmb	IAmb	07 04 60.0	
	comp=Z,16nm,0.9s						
NJ2	**Nanjing**	**44.60**	**330**	*e*P	**P**	**07 04 52.3**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,120nm,4.6s						
GULI	**GuiLin**	**44.68**	**316**	⇑P	**P**	**07 04 52.8**	**+1.9**
GULI				pmax	pmax		
	comp=Z,20nm,1.1s						
KSAR	**Wonju Array Be**	**45.81**	**343**	P	**P**	**07 04 59.1**	**-0.7**
KSAR	**Wonju Array Be**	**45.81**	**343**	P	**P**	**07 04 59.1**	**-0.7**
KSRS	**Korea Array**	**45.81**	**343**	P	**P**	**07 05 00.1**	**+0.3**
	comp=Z,5.2nm,1.0s,baz=160,slow=9.2,SNR=18						
KSRS				PcP	**PcP**	**07 06 38.5**	**+1.4**
	comp=Z,1.1nm,0.6s,baz=129,slow=1.8,SNR=4.1						
	comp=Z,5.2nm,1.0s						
WHN	**Wuhan**	**45.82**	**325**	P	**P**	**07 05 01.6**	**+1.7**
GYA	**Guiyang**	**48.00**	**314**	P	**P**	**07 05 18.9**	**+1.7**
GYA				pmax	pmax		
	comp=Z,19nm,1.3s						
PHRA	**Phrae**	**48.85**	**301**	P	**P**	**07 05 24.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**49.93**	**300**	P	**P**	**07 05 32.1**	**0.0**
CMAR	**Chiang Mai Arr**	**49.93**	**300**	P	**P**	**07 05 33.1**	**+1.1**
	comp=Z,2.0nm,0.3s,baz=125,slow=6.2,SNR=17						
	comp=Z,2.0nm,0.3s						
KMI	**Kunming**	**50.11**	**310**	⇑P	**P**	**07 05 35.4**	**+1.8**
KMI				pmax	pmax		
	comp=Z,24nm,0.9s						
ASAJ	**Asahikawa**	**50.27**	**360**	LR	LR	07 25 37.1	
	comp=Z,8.2nm,22.0s,baz=160,slow=35						
HNS	**HongShan**	**50.92**	**331**	*e*P	P	07 05 33.1	-6.1
SNY	**Shenyang**	**51.15**	**341**	⇓P	P	07 05 28.3	-12
SNY				pmax	pmax		
	comp=Z,55nm,2.1s						
USA0B	**Ussuriysk Arra**	**51.31**	**350**	P	**P**	**07 05 42.1**	**+0.1**
USA0B				IAmb	IAmb	07 05 47.4	
	comp=Z,27nm,1.4s						
USA0B	**Ussuriysk Arra**	**51.31**	**350**	P	**P**	**07 05 42.1**	**+0.1**
USRK	**Ussuriysk Ar.**	**51.31**	**350**	P	**P**	**07 05 42.4**	**+0.4**
USRK	**Ussuriysk Ar.**	**51.31**	**350**	P	**P**	**07 05 42.1**	**+0.1**
	comp=Z,5.1nm,0.9s,baz=162,slow=9.0,SNR=7.9						
USRK				LR	LR	07 26 27.3	
	comp=Z,20nm,18.6s,baz=174,slow=35						
	comp=Z,5.1nm,0.9s						
XAN	**Xi'an**	**51.51**	**324**	P	**P**	**07 05 44.0**	**+0.2**
XAN				pP	sP	07 05 50.1	+1.8
XAN				pmax	pmax		
	comp=Z,25nm,1.3s						
XAN				pmax	pmax		
	comp=Z,190nm,4.1s						
PZH	**PanZhiHua**	**51.62**	**311**	P	**P**	**07 05 46.8**	**+2.0**
PZH				pmax	pmax		
	comp=Z,20nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,5.3s						
BJI	**Beijing**	**52.38**	**334**	P	**P**	**07 05 49.8**	**-0.3**
BJI				pP	**sP**	**07 05 58.5**	**+3.9**
BJI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BJI				pmax	pmax		
	comp=Z,44nm,5.2s						
CD2	**Chengdu**	**52.73**	**317**	P	**P**	**07 05 53.8**	**+0.9**
CD2				pP	sP	07 06 03.0	+5.5
CD2				pmax	pmax		
	comp=Z,30nm,0.7s						
YSS	**Yuzh-Sakhalins**	**53.10**	**360**	*e*P	**P**	**07 05 52.2**	**-3.1**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BNX	**BinXian**	**53.72**	**347**	⇑P	**P**	**07 05 58.9**	**-0.9**
BNX				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BNX				pmax	pmax		
	comp=Z,130nm,4.1s						
HHC	**Hu-ho-hao-te**	**55.14**	**331**	*e*P	**P**	**07 06 13.5**	**+3.1**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,73nm,5.7s						
BTO	**Baotou**	**55.70**	**330**	*e*P	**P**	**07 06 15.9**	**+1.4**
BTO				pP	sP	07 06 28.6	+10
BTO				sP	pP	07 06 34.0	+16
BTO				pmax	pmax		
	comp=Z,19nm,1.0s						
BTO				pmax	pmax		
	comp=Z,170nm,6.5s						
LZH	**Lanzhou**	**55.95**	**322**	*e*P	**P**	**07 06 18.0**	**+1.5**
LZH				pP	sP	07 06 27.0	+5.9
LZH				sP	pP	07 06 33.8	+14
LZH				pmax	pmax		
	comp=Z,27nm,1.1s						
KLR	**Kul'dur**	**56.24**	**351**	⇑*e*P	**P**	**07 06 16.8**	**-1.2**
KLR				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KLR	**Kul'dur**	**56.24**	**351**	LR	LR	07 27 13.6	
	comp=Z,30nm,21.3s,baz=168,slow=33						
RAR	**Rarotonga**	**57.24**	**

FALS False Pass 75.48 29 P P 07 08 21.6 -0.2
baz=236
SHLS Shalkode 75.57 317 eP P 07 08 21.4 -1.4
SHLS pmax pmax
comp=Z,13nm,1.1s
SHLS Shalkode 75.57 317 eP P 07 08 21.5 -1.4
comp=Z,13nm,1.1s,baz=318
UZB Uzynbulak 75.86 317 eP P 07 08 24.7 +0.2
UZB pmax pmax
comp=Z,13nm,1.0s
UZB Uzynbulak 75.86 317 eP P 07 08 24.7 +0.2
comp=Z,13nm,1.0s,baz=317
PRZ Przheval'sk 76.03 316 P 07 08 28.2 +2.6
BILL Bilibino 76.06 9 P P 07 08 24.5 -0.5
BILL Bilibino 76.06 9 eP P 07 08 24.8 -0.1
BILL pmax pmax
comp=Z,12nm,1.7s
SATY Saty 76.24 317 eP P 07 08 26.9 +0.2
SATY pmax pmax
comp=Z,11nm,1.2s
SATY Saty 76.24 317 eP P 07 08 27.0 +0.2
comp=Z,11nm,1.2s,baz=317
ZHN Zhinishke 76.26 317 eP P 07 08 27.0 +0.2
ZHN Zhinishke 76.26 317 eP P 07 08 27.1 +0.2
baz=317
KSH Kashi 76.67 313 P P 07 08 31.4 +2.2
KSH pmax pmax
comp=Z,15nm,0.9s
NIL Nilore 76.90 307 P P 07 08 28.5 -2.0
NIL Nilore 76.90 307 P P 07 08 28.5 -2.0
TDK Taldyqorghan 76.99 319 eP P 07 08 31.1 +0.4
TDK pmax pmax
comp=Z,13nm,0.8s
TDK Taldyqorghan 76.99 319 eP P 07 08 31.1 +0.4
comp=Z,13nm,0.8s,baz=319
MDOK Medeo 77.20 317 eP P 07 08 32.2 +0.1
MDOK Medeo 77.20 317 eP P 07 08 32.2 +0.1
baz=317
TNSS Tian-Shan 77.22 317 eP P 07 08 32.8 +0.2
TNSS Tian-Shan 77.22 317 eP P 07 08 32.8 +0.2
baz=317
ZAA0 Zalesovo Array 77.23 329 P P 07 08 30.2 -1.7
ZALV Zalesovo Beam 77.23 329 P P 07 08 31.0 -0.9
ZALV Zalesovo Beam 77.23 329 P P 07 08 31.6 -0.2
comp=Z,6.4nm,0.9s,baz=104,slow=6.3,SNR=16
ZALV LR LR 07 45 37.3
comp=Z,22nm,18.8s,baz=53,slow=38
comp=Z,6.4nm,0.9s
AAA Alma-Ata 77.31 317 eP P 07 08 32.9 +0.2
AAA pmax pmax
comp=Z,10.0nm,0.7s
AAA Alma-Ata 77.31 317 eP P 07 08 32.9 +0.2
comp=Z,9.6nm,0.7s,baz=317
CHKK Chushkaly 77.50 317 eP P 07 08 33.1 -0.5
CHKK Chushkaly 77.50 317 eP P 07 08 33.1 -0.5
baz=317
M11K Mekoryuk 77.53 23 P P 07 08 34.1 +0.8
baz=232
GAMB Gambell 77.79 19 P P 07 08 34.1 -0.6
baz=226
TKM2 Tokmak 2 78.11 316 P P 07 08 37.9 +0.6
SNR=6.0
TIXI Tiksi 78.43 355↓ eP P 07 08 36.5 -1.7
TIXI pmax pmax
comp=Z,4.0nm,1.3s
UCH Uchtor 78.62 315 P P 07 08 41.6 +1.1
SNR=16
M13K Dall Lake 78.69 24 P P 07 08 40.5 +0.7
baz=235
CHMS Chumysh 78.72 316 P P 07 08 41.3 +0.8
SNR=5.1
AAK Ala-Archa 78.78 316 P P 07 08 42.0 +1.0
SNR=8.2
AAK Ala-Archa 78.78 316 P P 07 08 40.9 0.0
AAK Ala-Archa 78.78 316↓ eP P 07 08 41.9 +1.0
AAK pmax pmax
comp=Z,15nm,1.7s
AAK Ala-Archa 78.78 316 P P 07 08 41.7 +0.8
comp=Z,10nm,1.2s,baz=116,slow=5.0,SNR=10
comp=Z,10nm,1.2s
O14K Tigyukauivet M 78.91 26 P P 07 08 41.6 +0.5
baz=237
SGDS Sogindy 78.95 316 eP P 07 08 41.4 -0.3
SGDS Sogindy 78.95 316 eP P 07 08 41.5 -0.3
baz=316
USP Ospenovka 78.98 316 P P 07 08 42.5 +0.6
SNR=15
N14K Kuskokwak Cree 79.10 25 P P 07 08 42.6 +0.6
baz=236
KURK Kurchatov 79.14 324 P P 07 08 41.8 -0.7
KURK Kurchatov 79.14 324 c iP P 07 08 42.4 -0.1
KURK pmax pmax
comp=Z,25nm,1.0s
KURBB Kurchatov Arra 79.16 324 P P 07 08 42.8 +0.1
comp=Z,11nm,0.9s,baz=115,slow=4.7,SNR=66
comp=Z,11nm,0.9s
EKS2 Erkin-Say 79.28 315 P P 07 08 45.0 +1.4
SNR=6.8
M14K Bethel 79.44 24 P P 07 08 44.6 +0.7
baz=236
O15K Ungalikthiuk R 79.49 26 P P 07 08 44.6 +0.4
baz=238
L14K Kuka Creek 79.49 23 IAmb IAmb 07 08 45.5
comp=Z,20nm,1.1s
L14K Kuka Creek 79.49 23 P P 07 08 44.4 +0.3
baz=235
BTLS Baital 79.89 318 c iP P 07 08 47.0 +0.3
BTLS pmax pmax
comp=Z,10.0nm,1.0s
BTLS Baital 79.89 318 ⇑ iP P 07 08 47.1 +0.3
comp=Z,10nm,1.0s,baz=318
N15K Kwethluk River 79.90 25 IAmb IAmb 07 08 47.8
comp=Z,18nm,1.1s
N15K Kwethluk River 79.90 25 P P 07 08 46.9 +0.5
baz=238
M15K Kasigluk River 79.94 25 P P 07 08 47.1 +0.5
baz=237
J14K Nanvaranak Lak 79.97 22 IAmb IAmb 07 08 49.3
comp=Z,26nm,1.5s
J14K Nanvaranak Lak 79.97 22 P P 07 08 47.3 +0.5
baz=234
L15K Ungalak Mounta 80.15 24 P P 07 08 47.7 0.0
baz=236
TNA Tin City 80.20 19 P P 07 08 48.0 +0.1
baz=230
P16K Nushagak River 80.23 27 P P 07 08 48.3 +0.1
baz=240
MAW Mawson 80.35 203 LR LR 07 40 03.2
comp=Z,93nm,20.5s,baz=90,slow=32
ANM Nome 80.41 20 P P 07 08 47.7 -1.5
ANM Nome 80.41 20 P P 07 08 49.5 +0.3
baz=232
O16K Kokwok River B 80.46 26 P P 07 08 48.5 -1.0
O16K IAmb IAmb 07 08 51.2
comp=Z,20nm,1.2s
O16K Kokwok River B 80.46 26 P P 07 08 49.9 +0.5
baz=240
K15K Wolf Creek Mou 80.48 23 IAmb IAmb 07 08 51.0
comp=Z,18nm,1.1s
K15K Wolf Creek Mou 80.48 23 P P 07 08 49.9 +0.4
baz=236
N16K Nishlik Lake 80.62 25 P P 07 08 50.6 +0.2
baz=239
Q16K King Salmon 80.66 27 P P 07 08 50.8 +0.3
baz=241
F14K Arctic Creek 80.66 19 P P 07 08 50.8 +0.4
baz=231
Q17K Contact Creek 80.81 28 P P 07 08 51.3 -0.2
baz=242
M16K Timber Creek 80.83 25 IAmb IAmb 07 08 52.8
comp=Z,18nm,1.1s
M16K Timber Creek 80.83 25 P P 07 08 51.8 +0.4
baz=239,SNR=6.0
L16K Owhat River 80.98 24 IAmb IAmb 07 08 53.3
comp=Z,12nm,1.1s
L16K Owhat River 80.98 24 P P 07 08 52.3 +0.1
baz=238
O17K Koliganek Bris 80.99 26 P P 07 08 52.2 -0.1
baz=240,SNR=9.0
DZA Taraz 81.06 315 eP P 07 08 53.2 0.0
DZA pmax pmax
comp=Z,7.0nm,0.5s
DZA Taraz 81.06 315 eP P 07 08 53.2 0.0
comp=Z,6.8nm,0.5s,baz=315
G15K Niukluk 81.13 20 P P 07 08 53.0 +0.1
baz=233
N17K Nushagak Hills 81.33 26 IAmb IAmb 07 08 55.7
comp=Z,17nm,1.2s
N17K Nushagak Hills 81.33 26 P P 07 08 54.1 0.0
baz=240
F15K North Star Dit 81.35 19 IAmb IAmb 07 08 55.5
comp=Z,14nm,1.2s
F15K North Star Dit 81.35 19 P P 07 08 54.2 +0.1
baz=233
J16K Anvik River 81.39 22 IAmb IAmb 07 08 56.7
comp=Z,22nm,1.4s
J16K Anvik River 81.39 22 P P 07 08 54.3 -0.1
baz=237
CHGR Chuyangaron 81.47 311 P P 07 08 55.5 0.0
H16K Elim 81.54 21 P P 07 08 55.9 +0.8
baz=235
SIMJ Simiganj 81.58 310 P P 07 08 55.7 -0.4
OHAK Old Harbor 81.58 30 P P 07 08 55.8 +0.3
baz=244
P18K Big Mountain, 81.64 27 P P 07 08 55.6 -0.3
baz=242
M17K Holitna River 81.66 25 IAmb IAmb 07 08 57.6
comp=Z,16nm,1.1s
M17K Holitna River 81.66 25 P P 07 08 56.5 +0.6
baz=240
L17K Donlin 81.67 24 P P 07 08 56.5 +0.6
baz=239
I17K Unalakleet 81.68 22 IAmb IAmb 07 08 57.7
comp=Z,17nm,1.1s
I17K Unalakleet 81.68 22 P P 07 08 56.3 +0.5
baz=237
KK31 Karatay Array 81.70 315 IAmb IAmb 07 08 58.0
comp=Z,20nm,1.4s
KKAR Karatay Array 81.70 315 IAmb IAmb 07 08 58.0
comp=Z,20nm,1.4s
O18K Koktuh Hills 81.87 27 P P 07 08 57.5 +0.5
baz=242
G16K Koyuk River 81.94 20 IAmb IAmb 07 08 58.5
comp=Z,13nm,1.1s
G16K Koyuk River 81.94 20 P P 07 08 57.7 +0.5
baz=235
N18K Kilae Creek 81.96 26 P P 07 08 57.8 +0.3
baz=242
K17K Iditarod 81.97 23 P P 07 08 57.9 +0.4
baz=239
BRLS Borolday 82.16 315 eP P 07 08 59.1 +0.2
BRLS Borolday 82.16 315 eP P 07 08 59.1 +0.2
baz=315
Q19K Cape Douglas, 82.16 28 P P 07 08 58.4 -0.2
baz=244
KDAK Kodiak Island 82.17 29 P P 07 08 58.9 +0.3
baz=245
KDAK Kodiak Island 82.17 29 LR LR 07 38 22.9
comp=Z,60nm,20.8s,baz=261,slow=31
SVW2 Sparrevohn 82.29 26 IAmb IAmb 07 09 01.9
comp=Z,9.7nm,1.0s
L18K Granite Mounta 82.37 24 IAmb IAmb 07 09 07.1
comp=Z,12nm,1.2s
L18K Granite Mounta 82.37 24 P P 07 09 00.0 +0.4
baz=241
M18K Stony River 82.38 25 P P 07 09 00.1 +0.5
baz=242
BRZS Berezniki 82.41 322 eP P 07 08 59.9 -0.1
BRZS pmax pmax
comp=Z,6.0nm,0.9s
BRZS Berezniki 82.41 322 eP P 07 08 60.0 -0.1
comp=Z,6.4nm,0.9s,baz=322
O19K Port Alsworth 82.42 27 P P 07 09 00.5 +0.6
baz=243
H17K Granite Mounta 82.54 21 IAmb IAmb 07 09 01.8
comp=Z,11nm,1.0s
H17K Granite Mounta 82.54 21 P P 07 09 00.6 +0.2
baz=237
G17K Kiwalik Mounta 82.59 20 P P 07 09 00.9 +0.3
baz=237
N19K Bonanza Creek 82.63 26 P P 07 09 00.9 -0.2
baz=243
P19K Oil Pt 82.67 27 P P 07 09 00.8 -0.4
baz=244
C16K Lisburne Hills 82.71 17 IAmb IAmb 07 09 10.0
comp=Z,7.9nm,1.0s
C16K Lisburne Hills 82.71 17 P P 07 09 00.9 -0.3
baz=232
F17K Baldwin Pennin 82.91 20 IAmb IAmb 07 09 09.8
comp=Z,12nm,1.1s
F17K Baldwin Pennin 82.91 20 P P 07 09 02.2 0.0
baz=236
J18K Innoko River 82.97 23 IAmb IAmb 07 09 03.5
comp=Z,14nm,1.4s
J18K Innoko River 82.97 23 P P 07 09 02.7 0.0
baz=240
TTA Tatalina 82.99 24 P P 07 09 03.0 +0.1
TTA IAmb IAmb 07 09 04.0
comp=Z,10.0nm,1.3s
TTA Tatalina 82.99 24 P P 07 09 02.9 0.0
baz=241
D17K Noatak River 83.05 18 P P 07 09 03.4 +0.4
baz=234
L19K White Mountain 83.11 25 IAmb IAmb 07 09 04.7
comp=Z,14nm,1.2s
L19K White Mountain 83.11 25 P P 07 09 03.5 +0.1
baz=242,SNR=6.3
M19K Big River Lodg 83.17 25 P P 07 09 03.4 -0.4
baz=243
H18K Honhosa River 83.21 21 P P 07 09 04.1 +0.2
baz=239
C17K DeLong Mountai 83.47 17 P P 07 09 05.5 +0.2
baz=234
G18K Tagagawik 83.50 21 P P 07 09 04.8 -0.5
G18K Tagagawik 83.50 21 P P 07 09 05.2 -0.1
baz=238
F18K Selawik 83.53 20 P P 07 09 05.7 +0.2
baz=237
QSPA South Pole Qui 83.59 180 P P 07 09 06.0 0.0
QSPA South Pole Qui 83.59 180 P P 07 09 06.1 0.0
comp=Z,11nm,0.9s,baz=294,slow=1.2,SNR=28
QSPA LR LR 07 46 53.7
comp=Z,57nm,19.5s,baz=357,slow=36
comp=Z,11nm,0.9s
L20K Farewell, AK 83.65 25 P P 07 09 06.2 0.0
baz=243,SNR=6.5
J19K Poorman 83.66 23 P P 07 09 06.4 +0.2
baz=241,SNR=6.1
E18K Tukpahlearik C 83.67 19 IAmb IAmb 07 09 07.4
comp=Z,10nm,1.0s
E18K Tukpahlearik C 83.67 19 P P 07 09 06.4 +0.2
baz=236
M20K Styx River 83.70 25 P P 07 09 06.5 -0.1
baz=244,SNR=6.6
N20K Mount Spurr 83.80 26 P P 07 09 06.8 -0.3
baz=245
BRSE Bradley Lake S 83.85 28 P P 07 09 06.6 -0.7
baz=246
K20K Telida 83.97 24 P P 07 09 08.1 +0.2
baz=243,SNR=6.2
CAPN Captain Cook N 84.08 27 P P 07 09 08.5 +0.1
baz=246
H19K Roundabout Mou 84.09 21 P P 07 09 07.9 -0.5
baz=240
C18K Utukok River 84.17 18 IAmb IAmb 07 09 10.3
comp=Z,13nm,1.3s
C18K Utukok River 84.17 18 P P 07 09 08.1 -0.8
baz=236
G19K Purcell Mounta 84.17 21 P P 07 09 08.5 -0.3
baz=240
F19K Shaleruckik Mo 84.29 20 IAmb IAmb 07 09 10.0
comp=Z,8.7nm,1.2s
F19K Shaleruckik Mo 84.29 20 P P 07 09 09.0 -0.3
baz=239
J20K Nowinta River 84.32 23 P P 07 09 09.6 +0.1
baz=243
B18K Kokolik River 84.40 17 P P 07 09 10.2 +0.3
baz=235
SKT Skwentna 84.42 26 P P 07 09 09.7 -0.4
baz=245
NRIK Noril'sk 84.43 343 c iP P 07 09 09.6 -0.5
NRIK pmax pmax
comp=Z,22nm,1.0s
NRIK Noril'sk 84.43 343 P P 07 09 09.5 -0.5
comp=Z,13nm,0.8s,baz=118,slow=5.0,SNR=22
NRIK LR LR 07 47 55.7
comp=Z,30nm,18.7s,baz=3.0,slow=36
comp=Z,13nm,0.8s
I20K Naaghedeneel 84.48 22 P P 07 09 10.3 0.0
baz=242
SUA Susitna One 84.55 26 P P 07 09 10.6 -0.4
baz=246
SEW Seward 84.59 28 P P 07 09 09.9 -1.1
baz=247
H20K Anotleneega Mo 84.65 22 P P 07 09 11.0 -0.2
baz=242
BVAR Borovoye Array 84.73 325 P P 07 09 12.5 +0.6
comp=Z,38nm,0.8s,baz=104,slow=6.3,SNR=155
comp=Z,38nm,0.8s
E19K Redstone River 84.79 20 P P 07 09 11.7 -0.2
baz=240
CAST Castle Rocks 84.80 24 P P 07 09 10.6 -1.5
CAST IAmb IAmb 07 09 12.2
comp=Z,8.4nm,1.0s
CAST Castle Rocks 84.80 24 P P 07 09 11.6 -0.5
baz=245,SNR=5.5
BRVK Borovoye 84.80 325 P P 07 09 12.4 +0.1
BRVK Borovoye 84.80 325 c iP P 07 09 12.4 +0.1
BRVK pmax pmax
comp=Z,43nm,1.0s
RC01 Rabbit Creek A 84.85 27 P P 07 09 11.6 -0.7
RC01 Rabbit Creek A 84.85 27 P P 07 09 11.8 -0.5
baz=247
CHUM Lake Minchumin 84.91 24 P P 07 09 12.4 -0.2
baz=244,SNR=17
C19K Lookout Ridge 84.91 18 P P 07 09 12.8 +0.2
baz=237
M22K Willow 84.94 26 P P 07 09 11.7 -1.0
baz=247
D19K Kuna River 85.04 18 P P 07 09 12.9 -0.3
baz=239
F20K Avaraart Lake 85.10 20 IAmb IAmb 07 09 20.7
comp=Z,7.3nm,1.0s
F20K Avaraart Lake 85.10 20 P P 07 09 13.3 -0.2
baz=241
IMAR Indian Mountai 85.29 22 P P 07 09 13.6 -0.8
PMR Palmer 85.31 26 P P 07 09 13.8 -0.8
baz=248
KTH Kantishna Hill 85.33 24 IAmb IAmb 07 09 20.4
comp=Z,10nm,1.1s
H21K Melozitna Rive 85.50 22 P P 07 09 15.3 -0.2
baz=244
BPAW Bear Paw Mtn. 85.53 24 P P 07 09 14.4 -1.4
BPAW Bear Paw Mtn. 85.53 24 P P 07 09 15.2 -0.5
baz=246
E20K Nigu River 85.53 19 P P 07 09 16.1 +0.4
baz=240
KNK Knik Glacier 85.54 27 P P 07 09 15.3 -0.5
baz=248
TRF Thorofare Moun 85.55 24 P P 07 09 14.6 -1.4
baz=246
I21K Tanana 85.60 23 IAmb IAmb 07 09 25.1
comp=Z,12nm,1.2s
I21K Tanana 85.60 23 P P 07 09 15.9 0.0
baz=245,SNR=6.0
G21K Allakaket 85.62 21 P P 07 09 15.7 -0.4
baz=243
D20K Etivluk River 85.62 19 P P 07 09 16.1 0.0
baz=240
SML Sawmill 85.75 26 P P 07 09 15.8 -1.1
SML Sawmill 85.75 26 P P 07 09 16.3 -0.6
baz=248
Q23K Middleton Isla 85.81 29 P P 07 09 16.7 -0.4
baz=250
F21K Alatna River 85.95 20 P P 07 09 17.3 -0.5
baz=243
M23K Glacier View 86.01 26 P P 07 09 18.0 -0.2
baz=249
MLY Manley 86.01 23 IAmb IAmb 07 09 18.7
comp=Z,12nm,1.0s
MLY Manley 86.01 23 P P 07 09 18.0 -0.2
baz=246,SNR=10
WAT1 Susitna Watana 86.03 25 P P 07 09 17.6 -0.6
baz=248
RND Reindeer 86.13 25 P P 07 09 17.2 -1.5
H22K Ishtalitna Cre 86.13 22 P P 07 09 18.6 -0.1
baz=245,SNR=5.5
SCM Sheep Creek Mo 86.20 26 P P 07 09 19.1 0.0
baz=249
MCK McKinley 86.22 24 P P 07 09 18.1 -1.0
baz=248,SNR=8.0
WAT6 Susitna Watana 86.29 26 P P 07 09 18.9 -0.8
baz=249
E21K Killik River 86.35 19 P P 07 09 18.8 -0.8
baz=243
C21K Knifeblade Rid 86.42 19 P P 07 09 20.2 +0.2
baz=242
NEA2 Nenana 86.49 24 P P 07 09 19.5 -0.9
baz=247
G22K Bettles 86.52 21 P P 07 09 20.0 -0.5
baz=245
I23K Minto, Yukon-K 86.59 23 IAmb IAmb 07 09 21.4
comp=Z,13nm,1.4s
I23K Minto, Yukon-K 86.59 23 P P 07 09 20.4 -0.5
baz=247
DHY Denali Highway 86.62 25 IAmb IAmb 07 09 21.6
comp=Z,9.8nm,0.9s
DHY Denali Highway 86.62 25 P P 07 09 20.6 -0.7
baz=249
B21K Ikpikpuk River 86.69 18 IAmb IAmb 07 09 29.6
comp=Z,9.3nm,1.1s
B21K Ikpikpuk River 86.69 18 P P 07 09 21.1 -0.2
baz=242,SNR=9.2
KLU Klutina 86.71 27 P P 07 09 21.3 -0.4
baz=250
M24K Tolsona, Glenn 86.81 26 P P 07 09 21.7 -0.4
baz=250
E22K Anaktuvuk Pass 86.93 20 IAmb IAmb 07 09 24.8
comp=Z,7.7nm,1.1s
E22K Anaktuvuk Pass 86.93 20 P P 07 09 22.6 0.0
baz=245
A21K Barrow 86.93 16 P P 07 09 22.4 0.0
baz=240
G23K Bananza Creek 86.97 22 IAmb IAmb 07 09 29.4
comp=Z,5.7nm,0.8s
G23K Bananza Creek 86.97 22 P P 07 09 22.9 +0.1
baz=246,SNR=6.3
D22K Ayikyak River 86.97 19 P P 07 09 23.6 +0.9
baz=244
CCB Clear Creek Bu 87.02 24 P P 07 09 21.2 -1.8
COLA College 87.08 24↓ eP P 07 09 22.0 -1.3
COLA pmax pmax
comp=Z,15nm,1.1s
COLA College 87.08 24 P P 07 09 22.4 -0.8
baz=248
COLD Coldfoot 87.11 21 P P 07 09 23.5 +0.1
baz=246,SNR=5.6
BMRM Bremner River 87.14 28 P P 07 09 23.6 -0.2
baz=252
HDA Harding Lake 87.28 24 P P 07 09 24.6 +0.3
baz=249
POKR Poker Plat Res 87.34 23 P P 07 09 24.1 -0.5
baz=249
N25K Chitina, Valde 87.35 27 P P 07 09 24.9 +0.1
baz=252
HARP HAARP 87.35 26 P P 07 09 24.5 -0.2
baz=251
B22K Teshekpuk Lake 87.39 18 P P 07 09 24.7 0.0
baz=243
PAX Paxson 87.40 26 P P 07 09 24.4 -0.7
baz=251
H24K Noodor Dome 87.43 23 P P 07 09 24.8 -0.2
baz=248
IL31 87.43 24 P P 07 09 22.5 -2.5
IL31 IAmb IAmb 07 09 24.0
comp=Z,8.6nm,0.9s
ILAR Eielson Array 87.43 24 P P 07 09 22.6 -2.4
ILAR Eielson Array 87.43 24 P P 07 09 23.3 -1.7
comp=Z,5.5nm,0.9s,baz=257,slow=5.2,SNR=48
ILAR LR LR 07 47 44.5
comp=Z,22nm,19.5s,baz=262,slow=35
comp=Z,5.5nm,0.9s
K24K Donnelly Dome 87.55 25 P P 07 09 25.4 -0.2
baz=250
E23K Chandalar 87.65 20 P P 07 09 26.8 +0.7
baz=247
D23K Nanushuk River 87.66 19 P P 07 09 26.9 +0.9
baz=246,SNR=20
TOLK Toolik Lake Re 87.89 20 P P 07 09 27.6 +0.4
baz=247,SNR=11
G24K Hadweenzic Riv 87.90 22 P P 07 09 27.6 +0.4
baz=249,SNR=8.8
J25K Salcha River, 87.99 24 P P 07 09 27.3 -0.5
baz=251
C23K Itkillik River 88.04 19 P P 07 09 28.0 +0.2
baz=246,SNR=24
E24K Your Creek 88.05 20 P P 07 09 27.7 -0.3
baz=248,SNR=5.1
F24K Squaw Lake 88.05 21 P P 07 09 28.3 +0.4
baz=248
MENT Mentasta 88.15 26 P P 07 09 28.0 -0.5
MENT IAmb IAmb 07 09 28.7
comp=Z,5.8nm,1.0s

MESA	**MESA** baz=254	**88.16**	**29**	P		**P**	**07 09 27.9**	**-0.9**
PRP	**Porcupine Dome** baz=251	**88.23**	**23**	P		**P**	**07 09 26.9**	**-2.1**
L26K	**Log Cabin Wild** comp=Z,12nm,1.4s	**88.34**	**26**	IAmb		IAmb	07 09 39.5	
L26K	**Log Cabin Wild** baz=253	**88.34**	**26**	P		**P**	**07 09 28.8**	**-0.6**
D24K	**Happy Valley** baz=247,SNR=24	**88.34**	**19**	P		**P**	**07 09 29.9**	**+0.6**
SCRK	**Sand Creek** baz=252	**88.36**	**25**	P		**P**	**07 09 29.2**	**-0.4**
H25L	**Birch Creek** baz=250	**88.37**	**23**	P		**P**	**07 09 29.4**	**0.0**
G25K	**Bearman Lake** baz=250	**88.43**	**22**	P		**P**	**07 09 30.0**	**+0.3**
BARN	**Barnard Glacie**	**88.54**	**28**	P		**P**	**07 09 30.3**	**-0.3**
C24K	**Franklin Bluff** baz=248,SNR=7.8	**88.60**	**19**	P		**P**	**07 09 30.6**	**+0.1**
CTG	**Chitna Glacier** baz=254	**88.66**	**28**	P		**P**	**07 09 30.7**	**-0.4**
J26L	**Joseph Creek** baz=252,SNR=7.8	**88.69**	**25**	P		**P**	**07 09 31.2**	**+0.1**
M27K	**Edge Creek, AK** baz=254,SNR=5.2	**88.80**	**27**	P		**P**	**07 09 32.0**	**+0.2**
F25K	**Christian Rive** baz=250,SNR=9.0	**88.88**	**21**	P		**P**	**07 09 32.8**	**+0.9**
PINM	**Pinnacle** baz=255	**88.96**	**29**	P		**P**	**07 09 31.8**	**-0.7**
L27K	**Beaver Creek,** comp=Z,10nm,1.1s	**89.02**	**26**	IAmb		IAmb	07 09 33.7	
L27K	**Beaver Creek,** baz=254	**89.02**	**26**	P		**P**	**07 09 32.5**	**-0.1**
BCAR	**Beaver Creek A**	**89.03**	**26**	P		**P**	**07 09 31.9**	**-0.8**
E25K	**Arctic Village**	**89.08**	**21**	P		**P**	**07 09 33.2**	**+0.4**
E25K	**Arctic Village** baz=250,SNR=7.6	**89.08**	**21**	P		**P**	**07 09 33.2**	**+0.4**
I26K	**Coal Creek Min** baz=253	**89.10**	**24**	P		**P**	**07 09 32.4**	**-0.6**
K27K	**Chicken** baz=254	**89.18**	**25**	P		**P**	**07 09 33.8**	**+0.5**
BMAR	**Burnt Mountain**	**89.21**	**22**	P		**P**	**07 09 33.0**	**-0.5**
D25K	**Kavik River** comp=Z,9.4nm,1.1s	**89.22**	**20**	IAmb		IAmb	07 09 41.6	
D25K	**Kavik River** baz=250	**89.22**	**20**	P		**P**	**07 09 34.0**	**+0.6**
BVCY	**Beaver Creek** baz=255	**89.27**	**27**	P		**P**	**07 09 34.0**	**+0.2**
PNL	**Peninsula** baz=256	**89.27**	**30**	P		**P**	**07 09 33.1**	**-0.8**
YUK3	**Moose Creek** baz=255	**89.29**	**28**	P		**P**	**07 09 33.8**	**-0.3**
G26K	**Porcupine Rive** baz=252,SNR=20	**89.36**	**22**	P		**P**	**07 09 34.5**	**+0.5**
F26K	**Sheenjek River** baz=252,SNR=21	**89.46**	**21**	P		**P**	**07 09 35.2**	**+0.6**
YUK8	**Steele Glacier** baz=256	**89.48**	**28**	P		**P**	**07 09 35.0**	**-0.1**
EGAK	**Eagle** comp=Z,6.4nm,0.9s	**89.77**	**25**	IAmb		IAmb	07 09 36.6	
EGAK	**Eagle** baz=254	**89.77**	**25**	P		**P**	**07 09 35.8**	**-0.3**
I27K	**Kandik River** baz=254	**89.81**	**24**	P		**P**	**07 09 36.1**	**-0.2**
O29M	**Mount Kennedy** baz=257	**89.82**	**29**	P		**P**	**07 09 35.4**	**-1.1**
C26K	**Camden Bay** baz=251	**89.90**	**19**	P		**P**	**07 09 37.1**	**+0.6**
H27K	**Steamboat Moun** baz=254,SNR=13	**90.01**	**23**	P		**P**	**07 09 37.4**	**+0.2**
YUK4	**Talbot Arm** baz=257	**90.02**	**28**	P		**P**	**07 09 37.4**	**-0.2**
YUK6	**Outpost Mounta** baz=257	**90.07**	**29**	P		**P**	**07 09 37.4**	**-0.4**
P29M	**Windy Craggy** baz=258	**90.08**	**30**	P		**P**	**07 09 37.0**	**-0.7**
ABKAR	**Akbulak array**	**90.24**	**319**	P		**P**	**07 09 37.6**	**-1.0**
ABKAR	**Akbulak array** comp=Z,5.9nm,0.9s	**90.24**	**319**	IAmb		IAmb	07 09 38.4	
DAWY	**Dawson**	**90.33**	**25**	P		**P**	**07 09 38.1**	**-0.6**
DAWY	comp=Z,8.3nm,1.0s			IAmb		IAmb	07 09 39.8	
DAWY	**Dawson** baz=256	**90.33**	**25**	P		**P**	**07 09 39.1**	**+0.3**
M29M	**Somme Creek** comp=Z,9.3nm,1.1s	**90.36**	**27**	IAmb		IAmb	07 09 46.0	
M29M	**Somme Creek** baz=257	**90.36**	**27**	P		**P**	**07 09 38.7**	**-0.3**
I28M	**Miner Creek** comp=Z,8.4nm,1.2s	**90.44**	**24**	IAmb		IAmb	07 09 46.8	
I28M	**Miner Creek** baz=256	**90.44**	**24**	P		**P**	**07 09 39.3**	**-0.1**
HYT	**Haines Junctio** baz=258	**90.45**	**29**	P		**P**	**07 09 39.6**	**+0.2**
E27K	**Coleen River** baz=254	**90.52**	**21**	P		**P**	**07 09 39.2**	**-0.4**
P30M	**Million Dollar** baz=258	**90.57**	**30**	P		**P**	**07 09 39.1**	**-0.8**
L29M	**L29M** baz=257,SNR=8.2	**90.66**	**27**	P		**P**	**07 09 40.9**	**+0.6**
N30M	**Aishikik Lake** comp=Z,5.3nm,0.9s	**90.78**	**28**	IAmb		IAmb	07 09 47.4	
N30M	**Aishikik Lake** baz=258	**90.78**	**28**	P		**P**	**07 09 41.3**	**+0.3**
J29N	**Klondike Camp** comp=Z,6.7nm,1.1s	**90.92**	**25**	IAmb		IAmb	07 09 42.8	
J29N	**Klondike Camp** baz=257	**90.92**	**25**	P		**P**	**07 09 42.1**	**+0.6**
F28M	**Old Crow** baz=256	**91.00**	**22**	P		**P**	**07 09 42.0**	**+0.2**
D27M	**Malcolm River** baz=255	**91.03**	**20**	P		**P**	**07 09 41.7**	**-0.2**
K29M	**Barlow Dome** comp=Z,8.5nm,0.9s	**91.08**	**26**	IAmb		IAmb	07 09 43.4	
K29M	**Barlow Dome** baz=258	**91.08**	**26**	P		**P**	**07 09 42.3**	**0.0**
O30N	**Mendenhall** comp=Z,3.7nm,0.7s	**91.12**	**29**	IAmb		IAmb	07 09 44.8	
O30N	**Mendenhall** baz=259	**91.12**	**29**	P		**P**	**07 09 42.7**	**+0.2**
M30M	**Minto, Yukon** baz=258	**91.14**	**27**	P		**P**	**07 09 42.5**	**-0.1**
SKAG	**Skagway** baz=260	**91.25**	**30**	P		**P**	**07 09 42.1**	**-0.9**
E28M	**Babbage River** baz=256	**91.37**	**21**	P		**P**	**07 09 44.1**	**+0.7**
G29M	**Pine Creek** baz=257	**91.54**	**23**	P		**P**	**07 09 43.9**	**-0.4**
AKTO	**Aktyubinsk** comp=Z,3.0nm,0.9s,baz=67,slow=2.6,SNR=7.0 comp=Z,3.0nm,0.9s	**91.66**	**320**	P		**P**	**07 09 43.6**	**-1.6**
WHY	**Whitehorse** baz=260	**91.68**	**29**	P		**P**	**07 09 45.0**	**-0.2**
J30M	**Hart River** comp=Z,6.3nm,1.2s	**91.74**	**25**	IAmb		IAmb	07 09 51.6	
J30M	**Hart River** baz=259	**91.74**	**25**	P		**P**	**07 09 45.6**	**+0.2**
I30M	**Mount Dempster** comp=Z,6.8nm,1.1s	**91.85**	**25**	IAmb		IAmb	07 09 46.5	
I30M	**Mount Dempster** baz=259	**91.85**	**25**	P		**P**	**07 09 45.7**	**-0.2**
EPYK	**Eagle Plains** baz=259	**91.93**	**23**	P		**P**	**07 09 45.6**	**-0.6**
ARU	**Arti**	**92.17**	**326**	*c iP*		**P**	**07 09 46.0**	**-1.4**
ARU							07 13 26.5	
ARU				S		**SKSac**	**07 20 19.2**	**-1.4**
ARU				SS		**SS**	**07 26 54.6**	**-5.2**
ARU	comp=Z,10.0nm,1.0s			pmax		pmax		
ARU	**Arti** comp=Z,4.2nm,0.2s,baz=114,slow=2.6,SNR=7.1 comp=Z,4.2nm,0.2s	**92.17**	**326**	P		**P**	**07 09 46.0**	**-1.4**
G30M	**tAoh Zraii Nji** baz=259	**92.25**	**23**	P		**P**	**07 09 47.9**	**+0.3**
F30M	**Barrier River** baz=260	**92.53**	**22**	P		**P**	**07 09 49.1**	**+0.3**
V35K	**Ketchikan** baz=263	**92.60**	**35**	P		**P**	**07 09 48.6**	**-0.8**
FARO	**Faro, Yukon** baz=262	**92.66**	**28**	P		**P**	**07 09 49.5**	**-0.1**
ELIB	**Princess Elisa**	**92.76**	**196**	*d*P		**P**	**07 09 50.7**	**+0.6**
H31M	**Peel River** baz=261	**92.78**	**24**	P		**P**	**07 09 49.7**	**-0.4**
G31M	**Satah River** baz=261	**92.99**	**23**	P		**P**	**07 09 51.0**	**+0.1**
F31M	**Tsiigehtchic** baz=261	**93.28**	**23**	P		**P**	**07 09 52.2**	**-0.1**
INK	**Inuvik**	**93.49**	**22**	LR		LR	07 51 51.0	
	comp=Z,41nm,18.7s,baz=184,slow=36							
DLBC	**Dease Lake** comp=Z,43nm,19.1s,baz=182,slow=33	**93.83**	**32**	LR		LR	07 47 41.7	
BBB	**Bella Bella** comp=Z,46nm,18.9s,baz=226,slow=32	**94.33**	**38**	LR		LR	07 46 39.9	
WTLY	**Watson Lake, Y** baz=265	**94.61**	**30**	P		**P**	**07 09 58.3**	**-0.3**
TGTN	**Hyland Airport** baz=266	**94.97**	**29**	P		**P**	**07 09 59.8**	**-0.4**
YBH	**Yreka Blue Hor** comp=Z,107nm,20.0s,baz=282,slow=31	**97.44**	**49**	LR		LR	07 47 19.6	
BELG	**Belogornoye**	**98.27**	**322**	*de*P		**P**	**07 10 14.2**	**-1.1**
BELG	comp=Z,2.0nm,0.9s				pmax	pmax		
NVAR	**Mina Array Bea** comp=Z,0.7nm,0.7s,baz=252,slow=5.2,SNR=2.7	**100.78**	**52**	P		**Pdif**	**07 10 29.0**	**+1.8**
LRMC	**Laurel Mtn Rad** baz=270	**101.29**	**55**	P		**Pdif**	**07 10 28.4**	**-1.0**
BMO	**Blue Mountains**	**101.37**	**46**	Pdif		**Pdif**	**07 10 29.2**	**-0.3**
MPMC	**Manual Prospec** baz=270	**101.44**	**55**	P		**Pdif**	**07 10 29.8**	**-0.4**
HEC	**Hector,Ludlow** baz=271	**102.40**	**56**	P		**Pdif**	**07 10 34.6**	**+0.3**
RLMT	**Red Lodge** baz=278	**107.03**	**45**	P		**PKiKP**	**07 15 03.6**	**-0.8**
TXAR	**Lajitas Array** comp=Z,0.8nm,0.8s,baz=123,slow=4.4,SNR=6.0	**113.46**	**61**	PKKPab		PKKPab	07 26 09.1	+0.9
HDIL	**Hogedale** baz=292	**122.35**	**45**	P		**PKPdf**	**07 15 32.7**	**-0.8**
SSPA	**Standing Stone** baz=302	**130.08**	**41**	P		**PKPdf**	**07 15 47.4**	**-0.9**
MCRA	**Macar, Loja**	**135.84**	**103**	PKPdf		**PKPdf**	**07 15 58.7**	**-1.3**
TORD	**Torodi Ar. Bea** comp=Z,1.7nm,1.0s,baz=61,slow=4.6,SNR=6.3	**141.28**	**283**	PKhKP		PKPpre	07 16 04.3	
TORD	comp=Z,3.2nm,0.9s,baz=56,slow=2.9,SNR=10			PKP		**PKiKP**	**07 16 11.8**	**-0.6**
LPAZ	**La Paz** comp=Z,2.2nm,0.9s,baz=180,slow=8.1,SNR=3.0	**141.87**	**127**	PKhKP		PKPpre	07 16 06.6	
SDV	**Santo Domingo**	**146.62**	**84**			**PKPdf**	**07 16 17.6**	**-1.8**
KIC	**Kosan Boka** comp=Z,81nm,1.1s	**147.90**	**272**	⇑*i*PKP1		**PKPbc**	**07 16 24.8**	**+0.5**
DBIC	**Dimbokro**	**148.03**	**272**	PKPab		**PKPbc**	**07 16 25.0**	**+0.4**
DBIC	**Dimbokro** comp=Z,26nm,1.0s,baz=92,slow=3.6,SNR=18	**148.03**	**272**	PKPbc		**PKPbc**	**07 16 25.1**	**+0.6**
LIC	**Lamto** comp=Z,114nm,1.0s	**148.18**	**272**	⇑*i*PKP1		**PKPbc**	**07 16 25.6**	**+0.6**
TIC	**Tounodi** comp=Z,8.0nm,0.3s	**148.19**	**272**	⇑*i*PKP1		**PKPbc**	**07 16 25.6**	**+0.6**
PTLB	**Pontes e Lacer**	**149.18**	**135**			**PKPdf**	**07 16 22.9**	**-0.4**
BDFB	**Brasilia** comp=Z,3.1nm,0.9s,baz=197,slow=7.9,SNR=4.4	**155.57**	**154**	PKPab		**PKPab**	**07 16 57.8**	**-0.8**

*JMA **14** 07:04:47.4±0.0,23.5°N±0.1°×121.8°E±0.2,h29km, TAIWAN REGION*
*TAP **14** 07:04:48.6,23.51°N×121.76°E,h30km,ML2.9,D*
ISC 14 07:04:47.7±1.0,23.51N±0.02°×121.78E±0.03,h30km±8km, n61,σ0°45/103,6D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HGSD	**Ruisui** baz=267	**0.33**	**267**	⇓*i*P		**Pb**	**07 04 55.6**	**0.0**
HGSD				*i* S		**Sb**	**07 05 00.8**	**-0.1**
SHUL	**Shoufeng** baz=327	**0.34**	**324**	*i* P		**Pn**	**07 04 56.4**	**-0.3**
SHUL				*i* S		**Sn**	**07 05 02.5**	**-0.2**
ECBN	**Changbin** baz=229	**0.36**	**238**	*i* P		**Pn**	**07 04 56.4**	**-0.5**
ECBN				*i* S		**Sb**	**07 05 02.1**	**+0.4**
EGFH	**Guangfu** baz=305	**0.36**	**296**	P		**Pb**	**07 04 56.2**	**+0.1**
EGFH				S		**Sn**	**07 05 02.9**	**-0.2**
EHYH	**Wanrong** baz=268	**0.40**	**268**	*i* P		**Pn**	**07 04 57.1**	**-0.4**
EHYH				S		**Sn**	**07 05 03.9**	**-0.2**
WARBT	**Fenglin Townsh** baz=305	**0.42**	**300**	*i* P		**Pb**	**07 04 57.0**	**+0.1**
WARBT				*i* S		**Sb**	**07 05 03.2**	**0.0**
EHY	**Hungye** baz=270	**0.42**	**270**	⇓*i*P		**Pb**	**07 04 57.3**	**+0.3**
EHY				*i* S		**Sb**	**07 05 04.0**	**+0.7**
ESL	**Shilin** baz=316	**0.44**	**313**	⇓*i*P		**Pb**	**07 04 57.2**	**-0.1**
ESL				*i* S		**Sb**	**07 05 03.4**	**-0.3**
EYUL	**Yuli** baz=249	**0.46**	**249**	P		**Pn**	**07 04 57.9**	**-0.4**
EYUL				*e*S		**Sn**	**07 05 05.0**	**-0.4**
YULB	**Yu-li** baz=269	**0.46**	**256**	*i* P		**Pb**	**07 04 57.8**	**+0.2**
YULB				*i* S		**Sn**	**07 05 05.2**	**-0.4**
TWF1	**Yuli** baz=250	**0.47**	**251**	*i* P		**Pb**	**07 04 57.9**	**+0.2**
TWF1				*i* S		**Sb**	**07 05 05.3**	**+0.7**
CHKH	**Chenggong** baz=218	**0.48**	**229**	*e*P		**Pb**	**07 04 57.9**	**+0.1**
HWA	**Hwalien** baz=344	**0.49**	**341**	*e*P		**Pn**	**07 04 58.8**	**0.0**
HWA				S		**Sn**	**07 05 06.9**	**+0.5**
ETM	**Tongmen** baz=337	**0.53**	**330**	P		**Pb**	**07 04 58.5**	**-0.1**
ETM				S		**Sb**	**07 05 06.4**	**+0.3**
FULB	**Fuli** baz=224	**0.55**	**236**	P		**Pn**	**07 04 59.1**	**-0.5**
FULB				S		**Sn**	**07 05 07.7**	**0.0**
CHKT	**Chengkung** baz=211	**0.56**	**223**	P		**Pb**	**07 04 58.5**	**-0.6**
TWD	**Chiawan** baz=346	**0.59**	**343**	*i* P		**Pb**	**07 04 59.5**	**-0.2**
TWD				*i* S		**Sb**	**07 05 08.0**	**+0.1**
LXIB	**Xiulin Townshi** baz=328	**0.61**	**326**	⇓*i*P		**Pn**	**07 04 60.0**	**-0.6**
LXIB				*i* S		**Sb**	**07 05 08.3**	**-0.3**
VWDT	**VWDT** baz=293	**0.64**	**293**	P		**Pb**	**07 05 00.9**	**+0.4**
VWDT				S		**Sb**	**07 05 09.6**	**+0.5**
EHD	**Haiduan** baz=226	**0.64**	**236**	P		**Pn**	**07 05 00.2**	**-0.7**
EHD				S		**Sb**	**07 05 08.8**	**-0.3**
ETL	**Fush Village** baz=349	**0.66**	**347**	*e*P		**Pn**	**07 05 00.7**	**-0.5**
ETL				*e*S		**Sb**	**07 05 09.8**	**-0.1**
NACB	**Ninganchiao** baz=355	**0.68**	**345**	⇓*i*P		**Pn**	**07 05 00.8**	**-0.6**
NACB				S		**Sb**	**07 05 10.0**	**-0.4**
OWD	**Renai** baz=310	**0.71**	**309**	*i* P		**Pn**	**07 05 01.7**	**-0.2**
OWD				*i* S		**Sb**	**07 05 10.9**	**-0.4**
ELDTW	**Lidau** baz=244	**0.77**	**246**	P		**Pn**	**07 05 02.0**	**-0.8**
WUSB	**Renai** baz=309	**0.78**	**308**	P		**Pb**	**07 05 02.9**	**0.0**
WUSB				S		**Sn**	**07 05 12.2**	**-1.3**
CHGB	**Renai** baz=316	**0.78**	**315**	⇓*i*P		**Pb**	**07 05 03.0**	**0.0**
CHGB				*i* S		**Sn**	**07 05 13.4**	**-0.4**
WHF	**Hehuan Shan** baz=325	**0.79**	**323**	*i* P		**Pn**	**07 05 03.1**	**-0.2**
WHF				*i* S		**Sn**	**07 05 13.9**	**-0.4**
SSLB	**Suanglung** baz=291	**0.81**	**290**	*e*P		**Pn**	**07 05 03.1**	**-0.1**
SSLB				*e*S		**Sn**	**07 05 13.5**	**-0.7**
WHYT	**Xinyi Township** baz=277	**0.87**	**282**	*e*P		**Pb**	**07 05 04.6**	**+0.1**
WHYT				*e*S		**Sn**	**07 05 15.8**	**0.0**
LDUT	**Ludao** baz=198	**0.88**	**199**	*e*P		**Pn**	**07 05 02.9**	**-1.2**
FUSS	**Fushou** baz=327	**0.89**	**326**	P		**Pb**	**07 05 04.7**	**-0.1**
FUSS				S		**Sn**	**07 05 16.5**	**+0.1**
SMLT	**Sun Moon Lake** baz=301	**0.89**	**295**	*i* P		**Pb**	**07 05 04.8**	**0.0**
SMLT				S		**Sn**	**07 05 16.3**	**0.0**
ALS	**Alishan** baz=270	**0.90**	**270**	*i* P		**Pb**	**07 05 05.1**	**+0.1**
ALS				S		**Sn**	**07 05 17.0**	**+0.2**
TWT	**Tachien** baz=323	**0.93**	**323**	P		**Pb**	**07 05 05.8**	**+0.4**
TWT				*i* S		**Sn**	**07 05 17.5**	**+0.2**
EWUT	**Wuta** baz=10.0	**0.93**	**360**	*e*S		**Sb**	**07 05 17.1**	**-0.3**
TDCB	**Techi** baz=323	**0.94**	**322**	P		**Pb**	**07 05 06.0**	**+0.4**
TDCB				S		**Sn**	**07 05 17.6**	**+0.1**
TYC	**Yuchr** baz=296	**0.94**	**295**	P		**Pb**	**07 05 05.3**	**-0.1**
TYC				*i* S		**Sb**	**07 05 17.8**	**+0.3**
WCS	**Beigang Elemen** baz=310	**0.97**	**304**	*e*P		**Pb**	**07 05 06.0**	**0.0**
WCS				*e*S		**Sn**	**07 05 18.4**	**+0.4**
NNSB	**Datong** baz=339	**0.99**	**338**	P		**Pn**	**07 05 05.5**	**-0.2**
NNSB				S		**Sn**	**07 05 17.9**	**-0.8**
NNS	**Nan Shan** baz=339	**1.00**	**338**	S		**Sn**	**07 05 18.9**	**-0.2**
CHN5	**Tsauling** baz=274	**1.02**	**275**	P		**Pb**	**07 05 06.9**	**0.0**
LATG	**Datong** baz=336	**1.05**	**347**	*e*P		**Pb**	**07 05 07.5**	**+0.1**
LATG				*e*S		**Sn**	**07 05 20.1**	**-0.2**
TPUB	**Ta-pu** baz=259	**1.08**	**259**	*e*P		**Pb**	**07 05 08.4**	**+0.5**
TPUB				*e*S		**Sb**	**07 05 22.8**	**+1.2**
WHP	**Taichung City** baz=322	**1.08**	**315**	*e*P		**Pb**	**07 05 08.8**	**+0.9**
WHP				*e*S		**Sn**	**07 05 21.5**	**+0.4**
WCKO	**Fanlu** baz=265	**1.08**	**267**	*e*P		**Pb**	**07 05 08.8**	**+0.9**
CHN4	**Tsaushan** baz=251	**1.10**	**262**	*e*P		**Pb**	**07 05 08.5**	**+0.3**
WTP	**Ta-pu** baz=256	**1.11**	**257**	*e*P		**Pb**	**07 05 08.9**	**+0.6**
WTP				*e*S		**Sb**	**07 05 23.6**	**+1.2**
NDT	**Datong Townshi** baz=348	**1.12**	**347**	*e*P		**Pb**	**07 05 08.5**	**0.0**
SLGT	**Liugui** baz=236	**1.17**	**244**	*e*P		**Pb**	**07 05 09.5**	**+0.2**
CHN1	**Nanshi** baz=253	**1.20**	**255**	*e*P		**Pb**	**07 05 10.9**	**+1.1**
YHNB	**Yeheng** baz=343	**1.21**	**342**	*e*P		**Pn**	**07 05 09.1**	**+0.3**
TWK	**Hsinying** baz=257	**1.22**	**259**	*e*P		**Pb**	**07 05 10.6**	**+0.5**
NSK	**Sanguang** baz=343	**1.23**	**342**	*e*P		**Pb**	**07 05 10.2**	**-0.2**
NFF	**Wufeng Townshi** baz=333	**1.27**	**332**	*e*P		**Pn**	**07 05 09.8**	**+0.2**
NWLT	**Wulai** baz=350	**1.29**	**349**	*e*P		**Pb**	**07 05 11.3**	**-0.1**
NSTT	**Nanjuang** baz=329	**1.33**	**328**	*e*P		**Pb**	**07 05 12.3**	**+0.3**
JYNG	**Yonagunijimaku**	**1.42**	**48**	P		**Pn**	**07 05 11.2**	**-0.3**
JYNG				S		**Sn**	**07 05 28.5**	**-0.6**
YOJ	**Yonaguni jima**	**1.47**	**50**	*e*S		**Sn**	**07 05 30.3**	**-0.2**
HATJ	**Hateruma jima**	**1.93**	**73**	P		**Pn**	**07 05 18.7**	**+0.1**
HATJ				S		**Sn**	**07 05 41.9**	**+0.1**
JKRS	**Kuro-shima**	**2.16**	**70**	P		**Pn**	**07 05 21.9**	**+0.1**
JKRS				S		**Sn**	**07 05 48.1**	**+0.6**
JIJ	**Ishigaki jima**	**2.32**	**68**	*e*P		**Pn**	**07 05 24.5**	**+0.6**
JIJ				S		**Sn**	**07 05 51.5**	**+0.1**

*NNC **14** 07:11:45.1±0.5,50.00N×78.74E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=6.3km s-min=2.2km az=85.0, Suspected Mining explosion.*
*IDC **14** 07:11:46.5±0.7,50.03N×78.72E,h0km,mbtmp3.2/4, ML2.8/4, Error ellipse: s-maj=10.8km s-min=5.8km az=69.0*
ISC 14 07:11:46.5±0.8,50.11N±0.04×78.79E±0.05,h0km,n29, σ1°60/45,25C-9D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.51**	**340**	⇑P		**Pg**	**07 11 56.9**	**+0.7**
KUR07				⇑S		**Sb**	**07 12 06.2**	**-0.1**
KUR14	**Kurchatov Arra**	**0.52**	**346**	⇓P		**Pg**	**07 11 57.1**	**+0.6**
KUR14				⇓S		**Sb**	**07 12 06.8**	**0.0**
KUR06	**Kurchatov Arra**	**0.53**	**341**	⇑P		**Pg**	**07 11 57.2**	**+0.6**
KUR06				⇑S		**Sb**	**07 12 06.6**	**-0.2**
KUR15	**Kurchatov Arra**	**0.53**	**344**	⇑P		**Pg**	**07 11 57.2**	**+0.5**
KUR15				⇑S		**Sb**	**07 12 06.9**	**-0.1**
KURBB	**Kurchatov Arra** 6.7nm,0.3s,baz=166,slow=16,SNR=186	**0.54**	**342**	Pg		**Pg**	**07 11 57.6**	**+0.7**
KURBB	4.9nm,0.3s,baz=166,slow=32,SNR=13			Lg		Lg	07 12 06.7	
KURBB	**Kurchatov Arra** 47nm,0.3s	**0.54**	**342**	⇓P		**Pg**	**07 11 57.3**	**+0.4**
KURBB	150nm,0.6s			⇑S		**Sb**	**07 12 06.9**	**-0.4**
KUR16	**Kurchatov Arra**	**0.55**	**340**	⇓P		**Pg**	**07 11 57.8**	**+0.7**
KUR16				⇑S		**Sb**	**07 12 07.5**	**-0.1**
KUR05	**Kurchatov Arra**	**0.56**	**343**	⇑P		**Pg**	**07 11 57.8**	**+0.5**
KUR05				⇑S		**Sb**	**07 12 07.1**	**-0.7**
KUR17	**Kurchatov Arra**	**0.56**	**339**	⇑P		**Pg**	**07 11 57.8**	**+0.4**
KUR17				⇑S		**Sb**	**07 12 07.7**	**-0.2**
KUR04	**Kurchatov Arra**	**0.58**	**344**	⇑P		**Pg**	**07 11 58.2**	**+0.6**
KUR04				⇑S		**Sb**	**07 12 07.9**	**-0.4**
KURK	**Kurchatov** 22nm,0.4s	**0.62**	**350**	⇑P		**Pg**	**07 11 58.8**	**+0.4**
KURK	32nm,0.8s			⇑S		**Sb**	**07 12 09.1**	**-0.4**
MAKZ	**Makanchi** 2.2nm,0.6s	**3.92**	**146**	⇓Pg		**Pb**	**07 12 55.0**	**-1.5**
MAKZ	14nm,0.6s			⇓Lg		Lg	07 13 44.9	
BRZS	**Berezniki** 8.6nm,0.3s	**3.94**	**271**	Pg		**Pb**	**07 12 57.0**	**+0.1**
BRZS	7.4nm,0.7s			Lg		Lg	07 13 46.7	
MK31	**Makanchi Array** 0.3nm,0.2s,baz=323,slow=10.0,SNR=62	**4.05**	**144**	⇑Pn		**Pn**	**07 12 49.7**	**-0.1**
MK31	0.7nm,0.2s,baz=348,slow=14,SNR=26			⇓Pg		**Pb**	**07 12 58.8**	**+0.1**
MK31	11nm,0.5s,baz=332,slow=28,SNR=16			⇑Lg		Lg	07 13 52.5	
MKAR	**Makanchi Array** 0.8nm,0.3s,baz=331,slow=12,SNR=50	**4.05**	**144**	Pn		**Pn**	**07 12 49.8**	**0.0**
MKAR	1.7nm,0.3s,baz=329,slow=13,SNR=15			Pg		**Pb**	**07 12 57.4**	**-1.4**
MKAR	2.3nm,0.3s,baz=329,slow=27,SNR=5.4			Lg		Lg	07 13 50.0	
OTUK	**Ortayu** 1.1nm,0.2s	**4.62**	**249**	Pg		**Pb**	**07 13 09.1**	**+0.6**
OTUK	3.9nm,0.3s			Lg		Lg	07 14 07.9	
OTUK	**Ortayu** 1.9nm,0.2s	**4.62**	**249**	⇑Pn		**Pn**	**07 12 56.4**	**-1.2**
OTUK	1.3nm,0.5s			⇓Pg		**Pb**	**07 13 08.2**	**-0.3**
OTUK	7.1nm,0.6s			⇑Lg		Lg	07 14 07.5	
I46RU	**ZALESOVO INFRA** baz=225,slow=328,SNR=2.5	**5.35**	**42**	I		I	07 42 45.0	
ZALV	**Zalesovo Beam** 1.9nm,0.3s,baz=230,slow=14,SNR=14	**5.35**	**42**	Pn		**Pn**	**07 13 10.1**	**+2.5**

	3.2nm,0.3s						
ARXS	**Arharly**	**5.93**	**187**	Pg	**Pb**	**07 13 33.1**	**+2.3**
	1.4nm,0.2s						
ARXS				Lg	Lg	07 14 48.3	
	9.7nm,0.5s						
BTLS	**Baital**	**6.00**	**214**	Pg	**Pb**	**07 13 34.4**	**+2.5**
	1.1nm,0.4s						
BTLS				Lg	Lg	07 14 50.1	
	2.1nm,0.8s						
BVA0	**Borovoye Array**	**6.00**	**302**	⇑Pn	**Pn**	**07 13 19.1**	**+2.7**
	3.3nm,1.1s,baz=111,slow=14,SNR=5.1						
BVA0				⇑Sn	**Sn**	**07 14 25.0**	**-0.8**
	0.8nm,0.3s,baz=110,slow=22,SNR=2.7						
BVA0				⇓Lg	Lg	07 14 58.1	
	2.7nm,0.6s,baz=114,slow=26,SNR=4.5						
BVAR	**Borovoye Array**	**6.00**	**302**	Pn	**Pn**	**07 13 16.0**	**-0.5**
	0.1nm,0.3s,baz=120,slow=14,SNR=6.7						
BVAR				Sn	**Sn**	**07 14 25.2**	**-0.6**
	0.1nm,0.3s,baz=118,slow=18,SNR=4.0						
BVAR				Lg	Lg	07 14 53.2	
	0.1nm,0.3s,baz=120,slow=29,SNR=3.5						
	0.6nm,0.3s						
BLB	**Baldybastay**	**6.02**	**182**	Pg	**Pb**	**07 13 35.1**	**+2.8**
	4.1nm,0.2s						
BLB				Lg	Lg	07 14 51.6	
	11nm,0.6s						
BRVK	**Borovoye**	**6.07**	**302**	⇑Pn	**Pn**	**07 13 18.5**	**+1.1**
	1.1nm,0.5s						
BRVK				⇑Sn	**Sn**	**07 14 25.4**	**-2.2**
	1.7nm,0.5s						
BRVK				⇑Lg	Lg	07 14 57.9	
	2.7nm,0.5s						
KTBS	**Karatobe**	**6.56**	**194**	Pg	**Pb**	**07 13 45.0**	**+3.6**
	0.8nm,0.4s						
KTBS				Lg	Lg	07 15 08.6	
	7.1nm,0.7s						
KRBS	**Karabastau**	**6.76**	**200**	Pg	**Pb**	**07 13 47.7**	**+2.9**
	0.9nm,0.4s						
KRBS				Lg	Lg	07 15 13.3	
	4.0nm,0.5s						
DGS	**Degeres**	**7.17**	**198**	Pg	**Pb**	**07 13 54.6**	**+2.6**
	3.6nm,0.5s						
DGS				Lg	Lg	07 15 25.2	
	12nm,0.4s						
AAK	**Ala-Archa**	**8.04**	**203**	Pn	**Pn**	**07 13 43.8**	**-0.8**
	0.4nm,0.3s,baz=112,slow=5.7,SNR=4.8						
AAK				Sn	**Sn**	**07 15 10.9**	**-5.3**
	0.1nm,0.3s,baz=353,slow=19,SNR=1.3						
AAK				Lg	Lg	07 15 57.9	
	0.2nm,0.3s,baz=294,slow=21,SNR=5.5						
	0.7nm,0.3s						

*IDC **14** 07:37:43.6±1.2,58°.82N×125°.44E,h0km,mb3.7/5, mbtmp3.7/5,Error ellipse: s-maj=31.3km s-min=30.2km az=160.0*

ISC 14 07:37:48.8±1.2,58°.8N±0°.2×125°.6E±0°.2,h35km,n6, σ2s02/6,mb3.6/6,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**22.84**	**276**	P		**P**	**07 42 51.5**	**+2.9**
	0.9nm,0.5s,baz=48,slow=8.6,SNR=2.6							
MKAR	**Makanchi Array**	**28.30**	**264**	P		**P**	**07 43 37.1**	**-1.7**
	0.2nm,0.6s,baz=56,slow=8.8,SNR=2.4							
	0.2nm,0.6s							
ILAR	**Eielson Array**	**38.60**	**43**	P		**P**	**07 45 08.1**	**+0.2**
	0.5nm,0.6s,baz=292,slow=6.4,SNR=14							
	0.5nm,0.6s							
FINES	**FINESS Array B**	**44.96**	**318**	P		**P**	**07 45 59.5**	**-0.4**
	2.0nm,0.5s,baz=38,slow=7.0,SNR=12							
	2.0nm,0.5s							
NOA	**NORSAR Array B**	**50.10**	**325**	P		**P**	**07 46 39.2**	**-0.6**
	0.3nm,0.4s,baz=40,slow=7.6,SNR=2.8							
	0.3nm,0.4s							
WRA	**Warramunga Arr**	**78.81**	**172**	P		**P**	**07 49 48.3**	**+0.6**
	0.4nm,0.5s,baz=352,slow=6.4,SNR=5.6							
	0.4nm,0.5s							

*NOU **14** 07:47:34.5,42°.52S×173°.79E,h2km,MLv4.5/11,South Island, New Zealand*

*WEL **14** 07:47:35.8,42°.37S×173°.53E,h13km,ML3.8,Mw3.8, Moment Tensor Solution. s4 Moment tensor: Mrr12.12; Mθθ37.73; Mϕϕ-49.85; Mrθ30.74; Mθϕ33.11; Mϕr3.78; Fault plane solution: NP1:ϕs158.00000°,δ65.00000°, λ18.00000°. NP2:ϕs60.00000°,δ74.00000°,λ154.00000°. Principal axes: T 66.0200, Plg30.0000°, Azm17.0000°; N -4.4700, Plg60.0000°, Azm210.0000°; P -61.5500, Plg6.0000°, Azm110.0000°; SOUTH ISLAND*

*WEL **14** 07:47:35.6±0.2,42°.5±2°×17°.4E±°,h14km±2km,M3.8/22, ML4.0/22,MLv3.8/22 Error ellipse: s-maj=0.0km s-min=0.0km az=125.2*

ISC 14 07:47:35.8±0.8,42°.38S±0°.02×173°.53E±0°.02,h16km±5km, n156,σ1s40/169,South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.04**	**170**	P		**Pg**	**07 47 38.7**	**-0.1**
KHZ	**Kahutara**	**0.04**	**170**	P		**Pg**	**07 47 38.7**	**-0.1**
KHZ				S		**Sg**	**07 47 40.8**	**+0.1**
KIKS	**Kaikoura**	**0.12**	**113**	P		**Pb**	**07 47 40.5**	**+0.8**
KIKS				S		**Sb**	**07 47 44.3**	**+1.9**
MOLW	**Molesworth Sta**	**0.35**	**325**	P		**Pg**	**07 47 42.0**	**-1.2**
MOLW				S		**Sg**	**07 47 46.4**	**-1.9**
WTMC	**Te Mara Farm W**	**0.43**	**236**	P		**Pb**	**07 47 44.8**	**-0.1**
WTMC				S		**Sb**	**07 47 51.6**	**+0.4**
CECS	**Cheviot Emerge**	**0.47**	**203**	P		**Pb**	**07 47 46.5**	**+0.7**
HSES	**Hanmer Springs**	**0.54**	**254**	P		**Pg**	**07 47 45.9**	**-0.6**
KEKS	**Kekerengu Vall**	**0.54**	**39**	P		**Pb**	**07 47 47.2**	**+0.3**
CULC	**Culverden Airl**	**0.66**	**234**	P		**Pg**	**07 47 48.0**	**-0.8**
GVZ	**Greta Valley S**	**0.69**	**212**	P		**Pn**	**07 47 50.6**	**-0.4**
GVZ				S		**Sn**	**07 48 01.7**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.71**	**21**	P		**Pg**	**07 47 49.9**	**+0.1**
BSWZ				S		**Sb**	**07 48 00.0**	**+0.7**
WDFS	**Ward Fire Stat**	**0.71**	**40**	P		**Pn**	**07 47 50.8**	**-0.4**
SCAC	**Scargill**	**0.72**	**219**	P		**Pg**	**07 47 49.3**	**-0.6**
SCAC				S		**Sb**	**07 48 00.5**	**+1.0**
WVFS	**Wairau Valley**	**0.77**	**350**	P		**Pg**	**07 47 48.9**	**-1.9**
WVFS				S		**Sg**	**07 47 58.9**	**-2.1**
THZ	**Tophouse**	**0.77**	**323**	P		**Pg**	**07 47 50.0**	**-0.9**
THZ				S		**Sg**	**07 47 59.9**	**-1.2**
CMWZ	**Cape Campbell**	**0.81**	**39**	P		**Pn**	**07 47 52.8**	**+0.3**
TUWZ	**Tuamarina**	**1.00**	**18**	P		**Pb**	**07 47 54.8**	**+0.1**
LTZ	**Lake Taylor**	**1.01**	**246**	P		**Pb**	**07 47 54.2**	**-0.7**
AMCZ	**Amberley**	**1.03**	**219**	P		**Pn**	**07 47 56.2**	**+0.7**
MRNZ	**Matariki Terra**	**1.14**	**329**	P		**Pb**	**07 47 56.6**	**-0.4**
MRNZ				S		**Sn**	**07 48 12.8**	**+0.6**
NNZ	**Nelson**	**1.17**	**354**	P		**Pn**	**07 47 57.0**	**-0.4**
TCW	**Tory Channel**	**1.29**	**26**	P		**Pn**	**07 47 59.3**	**+0.1**
SNZO	**South Karori**	**1.38**	**40**	P		**Pn**	**07 48 00.6**	**+0.2**
BHW	**Baring Head**	**1.39**	**46**	P		**Pn**	**07 48 00.5**	**0.0**
TKNZ	**Takaka Hill**	**1.41**	**342**	P		**Pb**	**07 48 01.6**	**-0.2**
WEL	**Wellington**	**1.43**	**41**	P		**Pn**	**07 48 01.3**	**+0.3**
DSZ	**Denniston Nort**	**1.43**	**296**	P		**Pb**	**07 47 01.8**	**-0.3**
DSZ				S		**Sg**	**07 48 21.1**	**-1.0**
OXZ	**Oxford**	**1.45**	**229**	P		**Pn**	**07 48 00.7**	**-0.7**
MQZ	**McQueen's Vall**	**1.47**	**206**	P		**Pn**	**07 48 00.7**	**-0.9**
MQZ				S		**Sn**	**07 48 20.2**	**-0.4**
PLWZ	**Palliser**	**1.52**	**58**	P		**Pn**	**07 48 01.9**	**-0.5**
AKCZ	**Akaroa Harbour**	**1.56**	**197**	P		**Pn**	**07 48 02.4**	**-0.5**
AKCZ				S		**Sn**	**07 48 23.2**	**+0.4**
INZ	**Inchbonnie**	**1.58**	**257**	P		**Pn**	**07 48 03.4**	**+0.3**
DUWZ	**D'Urville Isla**	**1.60**	**11**	P		**Pn**	**07 48 03.9**	**+0.5**
RACZ	**Rakaia**	**1.69**	**217**	P		**Pn**	**07 48 04.4**	**-0.2**
CAW	**Cannon Point**	**1.71**	**43**	P		**Pn**	**07 48 04.9**	**-0.1**
PAWZ	**Paruwai Farm**	**1.73**	**56**	P		**Pn**	**07 48 04.6**	**-0.6**
KIW	**Kapiti Island**	**1.83**	**35**	P		**Pn**	**07 48 06.9**	**+0.3**
MHCZ	**Mount Hutt**	**1.84**	**231**	P		**Pn**	**07 48 06.0**	**-0.8**
TRWZ	**Traveller**	**1.89**	**59**	P		**Pn**	**07 48 06.5**	**-0.8**
MTW	**Mount Morrison**	**1.91**	**51**	P		**Pn**	**07 48 07.0**	**-0.7**
OGWZ	**Otaki Gorge**	**1.99**	**39**	P		**Pn**	**07 48 08.7**	**0.0**
WACZ	**Wakanui South**	**1.99**	**218**	P		**Pn**	**07 48 08.5**	**-0.3**
HOWZ	**Holdsworth Sta**	**2.10**	**46**	P		**Pn**	**07 48 09.6**	**-0.6**
WVZ	**Waitaha Valley**	**2.17**	**250**	P		**Pn**	**07 48 11.9**	**+0.7**
TMWZ	**Te Maipa**	**2.18**	**55**	P		**Pn**	**07 48 10.4**	**-0.9**
MRZ	**Mangatainoka R**	**2.31**	**43**	P		**Pn**	**07 48 12.5**	**-0.6**
ARCZ	**Arundel**	**2.33**	**227**	P		**Pn**	**07 48 12.8**	**-0.7**
TIWZ	**Tintock**	**2.38**	**49**	P		**Pn**	**07 48 13.9**	**-0.3**
GCSZ	**Gaunt Creek Bo**	**2.54**	**247**	P		**Pn**	**07 48 17.3**	**+1.1**
OHWZ	**Ohakea**	**2.55**	**32**	P		**Pn**	**07 48 17.8**	**+1.4**
PRWZ	**Pori Road**	**2.58**	**46**	P		**Pn**	**07 48 16.0**	**-0.9**
POWZ	**Post Office Ro**	**2.60**	**41**	P		**Pn**	**07 48 16.5**	**-0.7**
BFZ	**Birch Farm**	**2.65**	**51**	P		**Pn**	**07 48 16.5**	**-1.4**
TMZ	**Timaru**	**2.72**	**222**	P		**Pn**	**07 48 18.7**	**-0.1**
WAZ	**Wanganui**	**2.84**	**23**	P		**Pn**	**07 48 22.6**	**+2.1**
DVHZ	**Dannevirke**	**2.87**	**45**	P		**Pn**	**07 48 19.5**	**-1.5**
ANWZ	**Angora Road**	**2.93**	**50**	P		**Pn**	**07 48 20.8**	**-0.9**
TSZ	**Takapari Road**	**2.96**	**39**	P		**Pn**	**07 48 21.2**	**-0.9**
FOZ	**Fox Glacier**	**2.96**	**246**	P		**Pn**	**07 48 23.4**	**+1.3**
NMEZ	**Namu Road**	**2.97**	**5**	P		**Pb**	**07 48 25.5**	**-2.8**
LREZ	**Lake Rotokare**	**2.99**	**13**	P		**Pn**	**07 48 25.4**	**+2.9**
PREZ	**Palmer Road**	**3.07**	**9**	P		**Pn**	**07 48 26.6**	**+3.0**
KHEZ	**Kahui Hut**	**3.10**	**7**	P		**Pn**	**07 48 27.2**	**+3.1**
KHEZ	**Kahui Hut**	**3.10**	**7**	P		**Pn**	**07 48 26.5**	**+2.3**
NBEZ	**Newall Road No**	**3.12**	**5**	P		**Pn**	**07 48 26.8**	**+2.6**
NEZ	**North Egmont**	**3.13**	**8**	P		**Pn**	**07 48 27.0**	**+2.5**
PRHZ	**Porangahau**	**3.15**	**49**	P		**Pn**	**07 48 24.4**	**-0.3**
LBZ	**Lake Benmore**	**3.16**	**229**	P		**Pn**	**07 48 24.7**	**-0.2**
PNHZ	**Pukenui**	**3.18**	**40**	P		**Pn**	**07 48 24.0**	**-1.2**
WPHZ	**Waipukurau**	**3.19**	**44**	P		**Pb**	**07 48 29.3**	**-2.7**
PKE	**Pukeiti**	**3.20**	**6**	P		**Pn**	**07 48 27.9**	**+2.4**
DREZ	**Durham Road**	**3.23**	**9**	P		**Pn**	**07 48 28.1**	**+2.3**
MTVZ	**Mangateitei**	**3.33**	**27**	P		**Pn**	**07 48 30.6**	**+3.3**
PKVZ	**Pokaka**	**3.38**	**25**	P		**Pn**	**07 48 29.1**	**+1.2**
VRZ	**Vera Road**	**3.38**	**16**	P		**Pn**	**07 48 29.8**	**+1.9**
ODZ	**Otahua Downs**	**3.39**	**217**	P		**Pn**	**07 48 27.1**	**-0.8**
ODZ	**Otahua Downs**	**3.39**	**217**	P		**Pn**	**07 48 27.1**	**-0.8**
MOVZ	**Moawhango**	**3.41**	**30**	P		**Pn**	**07 48 28.5**	**+0.1**
WNVZ	**Wahianoa**	**3.43**	**28**	P		**Pn**	**07 48 29.5**	**+0.8**
TRVZ	**Turoa**	**3.44**	**27**	P		**Pn**	**07 48 29.8**	**+1.0**
PXZ	**Pawanui**	**3.44**	**48**	P		**Pn**	**07 48 30.5**	**+1.9**
WHVZ	**Whangaehu Hut**	**3.46**	**27**	P		**Pn**	**07 48 30.2**	**+1.0**
BHHZ	**Black Hill Sta**	**3.47**	**34**	P		**Pn**	**07 48 28.8**	**-0.3**
MAVZ	**Matarangi**	**3.47**	**27**	P		**Pb**	**07 48 32.0**	**-3.7**
KRHZ	**Kereru**	**3.48**	**39**	P		**Pn**	**07 48 27.8**	**-1.4**
FWVZ	**Far West T-bar**	**3.48**	**27**	P		**Pn**	**07 48 30.5**	**+1.1**
TUVZ	**Tukino**	**3.50**	**28**	P		**Pn**	**07 48 30.3**	**+0.6**
COVZ	**Chateau Observ**	**3.52**	**26**	P		**Pn**	**07 48 30.8**	**+0.9**
NGZ	**Ngauruhoe**	**3.56**	**27**	P		**Pn**	**07 48 31.3**	**+0.8**
SNVZ	**South Ngauruho**	**3.57**	**27**	P		**Pn**	**07 48 31.8**	**+1.1**
OTVZ	**Oturere**	**3.60**	**27**	P		**Pn**	**07 48 31.6**	**+0.6**
TWVZ	**Taurewa**	**3.61**	**24**	P		**Pn**	**07 48 31.8**	**+0.7**
NNVZ	**North Ngauruho**	**3.61**	**27**	P		**Pn**	**07 48 31.9**	**+0.7**
KAHZ	**Kahuranaki**	**3.61**	**46**	P		**Pn**	**07 48 29.5**	**-1.7**
WTVZ	**West Tongariro**	**3.62**	**26**	P		**Pn**	**07 48 31.9**	**+0.7**
ETVZ	**East Tongariro**	**3.64**	**28**	P		**Pn**	**07 48 32.1**	**+0.6**
KRVZ	**Karewarewa**	**3.65**	**27**	P		**Pn**	**07 48 32.5**	**+0.7**
TMVZ	**Te Maari**	**3.65**	**28**	P		**Pn**	**07 48 32.3**	**+0.6**
NTVZ	**North Tongarir**	**3.66**	**27**	P		**Pn**	**07 48 32.6**	**+0.7**
KWHZ	**Kaweka Forest**	**3.68**	**38**	P		**Pn**	**07 48 30.5**	**-1.5**
KATZ	**Kakaramea**	**3.78**	**27**	P		**Pn**	**07 48 43.7**	**+1.5**
MCHZ	**McNeill Hill**	**3.79**	**40**	P		**Pn**	**07 48 32.1**	**-1.4**
MCHZ	**McNeill Hill**	**3.79**	**40**	P		**Pg**	**07 48 46.4**	**-2.0**
RITZ	**Rihia Road**	**3.83**	**28**	P		**Pb**	**07 48 45.2**	**+2.2**
JCZ	**Jackson Bay**	**3.86**	**242**	P		**Pn**	**07 48 36.6**	**+2.1**
JCZ	**Jackson Bay**	**3.86**	**242**	P		**Pn**	**07 48 34.8**	**+0.2**
RATZ	**Rangitukua**	**3.90**	**27**	P		**Pb**	**07 48 43.5**	**-0.7**
BKZ	**Black Stump Fm**	**3.92**	**36**	P		**Pn**	**07 48 36.1**	**+0.8**
BKZ	**Black Stump Fm**	**3.92**	**36**	P		**Pn**	**07 48 35.8**	**+0.5**
HATZ	**Hinemaiaia**	**3.99**	**30**	P		**Pb**	**07 48 47.4**	**+1.7**
HIZ	**Hauiti**	**3.99**	**15**	P		**Pn**	**07 48 38.0**	**+1.7**
HIZ	**Hauiti**	**3.99**	**15**	P		**Pn**	**07 48 38.0**	**+1.7**
WATZ	**Wairara**	**4.03**	**25**	P		**Pb**	**07 48 47.8**	**+1.3**
ARHZ	**Aropaoanui**	**4.07**	**41**	P		**Pg**	**07 48 54.2**	**+0.4**
NMHZ	**Naumai**	**4.12**	**38**	P		**Pn**	**07 48 37.1**	**-0.9**
EAZ	**Earnscleugh**	**4.18**	**226**	P		**Pn**	**07 48 38.4**	**-0.5**
KUTZ	**Kaahu Road**	**4.26**	**25**	P		**Pb**	**07 48 51.7**	**+1.4**
TLZ	**Tolley Road**	**4.33**	**21**	P		**Pn**	**07 48 42.2**	**+1.3**
MTNZ	**Mangatanaiwha**	**4.33**	**37**	P		**Pn**	**07 48 39.7**	**-1.2**
WHHZ	**Waihua**	**4.33**	**42**	P		**Pg**	**07 48 58.5**	**-0.3**
ALRZ	**Allen Road**	**4.37**	**30**	P		**Pb**	**07 48 54.1**	**+1.8**
RAHZ	**Arahi**	**4.39**	**39**	P		**Pn**	**07 48 43.4**	**+1.6**
PRRZ	**Plateau Road**	**4.45**	**30**	P		**Pb**	**07 48 55.4**	**+1.9**
GRRZ	**Galatos Road**	**4.48**	**27**	P		**Pb**	**07 48 56.5**	**+2.5**
HRRZ	**Handcock Road**	**4.50**	**29**	P		**Pb**	**07 48 56.4**	**+1.9**
TUZ	**Tuapeka**	**4.54**	**217**	P		**Pn**	**07 48 44.0**	**+0.2**
HSRZ	**Hossack Road**	**4.56**	**28**	P		**Pb**	**07 48 59.2**	**+3.8**
RTZ	**Ruatahuna**	**4.59**	**36**	P		**Pg**	**07 49 01.1**	**-2.6**
MUGZ	**Murupara**	**4.62**	**33**	P		**Pb**	**07 48 59.4**	**+3.0**
SNGZ	**Shannon Statio**	**4.62**	**40**	P		**Pg**	**07 49 04.4**	**+0.2**
RRRZ	**Republican Roa**	**4.63**	**30**	P		**Pb**	**07 48 59.2**	**+2.5**
TARZ	**Mount Tarawera**	**4.72**	**30**	P		**Pb**	**07 49 01.3**	**+3.1**
NGRZ	**Ngongotaha**	**4.73**	**26**	P		**Pb**	**07 48 59.4**	**+1.1**
PRGZ	**Paritu Road**	**4.78**	**45**	P		**Pn**	**07 48 45.5**	**-1.7**
RAGZ	**Rawiri**	**4.88**	**39**	P		**Pn**	**07 48 47.0**	**-1.6**
TOZ	**Tahuroa Road**	**4.88**	**19**	P		**Pn**	**07 48 49.1**	**+0.6**
URZ	**Urewera**	**4.94**	**35**	P		**Pn**	**07 48 48.5**	**-0.8**
URZ	**Urewera**	**4.94**	**35**	P		**Pn**	**07 48 48.1**	**-1.2**
TKGZ	**Te Karaka**	**5.13**	**41**	P		**Pn**	**07 48 50.2**	**-1.7**
SYZ	**Scrubby Hill**	**5.21**	**216**	P		**Pn**	**07 48 54.4**	**+1.4**
AWAZ	**Awhitu Peninsu**	**5.38**	**10**	P		**Pn**	**07 48 56.9**	**+1.6**
TWGZ	**Tauwhareparae**	**5.40**	**41**	P		**Pn**	**07 48 55.2**	**-0.5**
MKAZ	**Moumakai**	**5.42**	**14**	P		**Pn**	**07 48 56.5**	**+0.7**
RUGZ	**Raukumara Rang**	**5.43**	**37**	P		**Pn**	**07 48 54.7**	**-1.5**
WTAZ	**Waiatarua**	**5.50**	**9**	P		**Pn**	**07 48 59.1**	**+2.1**
ETAZ	**East Tamaki Re**	**5.52**	**12**	P		**Pn**	**07 48 58.8**	**+1.5**
EPAZ	**Eden Park BICE**	**5.58**	**10**	P		**Pn**	**07 48 59.6**	**+1.6**
HAZ	**Te Kaha**	**5.65**	**37**	P		**Pn**	**07 48 57.9**	**-1.1**
RVAZ	**Riverhead Bore**	**5.66**	**9**	P		**Pn**	**07 49 00.7**	**+1.5**
MBAZ	**Motutapu North**	**5.70**	**11**	P		**Pn**	**07 49 01.5**	**+1.8**
WIAZ	**Waiheke Island**	**5.71**	**13**	P		**Pn**	**07 49 01.2**	**+1.2**
ABAZ	**Army Bay**	**5.86**	**10**	P		**Pn**	**07 49 03.5**	**+1.6**
KUZ	**Kuaotunu**	**5.88**	**17**	P		**Pn**	**07 49 02.5**	**+0.4**
KUZ	**Kuaotunu**	**5.88**	**17**	P		**Pn**	**07 49 02.3**	**+0.2**
OUZ	**Omahuta**	**7.15**	**0**	P		**Pn**	**07 49 21.3**	**+1.7**
OUZ	**Omahuta**	**7.15**	**0**	P		**Pn**	**07 49 21.6**	**+2.0**

IDC 14 07:53:14.8±379.0,64°.67N×23°.22E,h0km,Error ellipse: s-maj=153.5km s-min=94.4km az=161.0,Finland

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
I37NO	**I37NO**	**4.78**	**340**	I	I		08 23 20.0	
	baz=155,slow=335,SNR=2.5							
I43RU	**DUBNA INFRASON**	**10.49**	**133**	I	I		08 56 10.0	
	baz=324,slow=328,SNR=1.4							
I18DK	**QAANAAQ INFRAS**	**28.73**	**333**	I	I		11 05 03.5	
	baz=64,slow=342,SNR=0.9							

ISC 14 07:53:45.3±1.1,49°.09N±0°.06×18°.63E±0°.06,h10km,n4, σ0s48/8,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
LANS	**Liptovska Anna**	**0.56**	**83**	*e*PG		**Pb**	**07 53 56.8**	**-0.4**
LANS				*e*SG		**Sb**	**07 54 05.4**	**+0.2**
VYHS	**Vyhne**	**0.61**	**167**	*e*PG		**Pb**	**07 53 57.7**	**-0.4**
VYHS				*e*SG		**Sg**	**07 54 05.6**	**+0.5**
JAVC	**Velka Javorina**	**0.67**	**251**	*e*PG		**Pg**	**07 53 58.6**	**+0.3**
JAVC				*e*SG		**Sn**	**07 54 10.9**	**-0.6**
MORC	**Moravsky Berou**	**0.99**	**315**	*e*PG		**Pg**	**07 54 04.5**	**+0.1**
MORC				*e*SG		**Sn**	**07 54 19.7**	**+0.3**

*TIR **14** 08:20:49.9,41°.89N×20°.21E,h19km±1km,Ml2.9*

*RHSSO **14** 08:20:50.2±0.7,41°.82N×20°.24E,h3km±2km,ML2.8/11*

*SKO **14** 08:20:51.6,41°.93N×20°.16E,h12km, ML2.6*

*PDG **14** 08:20:51.5±0.3,41°.88N×20°.10E,h10km,ML2.8/12,Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*

*BEO **14** 08:20:51.5±0.2,41°.89N×20°.20E,h15km±3km, ML2.4/9*

ISC 14 08:20:51.2±0.9,41°.89N±0°.02×20°.17E±0°.02,h12km±8km, n70,σ0s91/120,9C-5D,Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PUK	**Puka**	**0.26**	**307**	P		**Pg**	**08 20 56.4**	**-0.3**
	baz=304							
PUK				S		**Sg**	**08 21 01.4**	**+1.0**
	baz=304							
PUK				AMP				
	comp=E,8.1nm,0.2s,baz=304							
BCI	**Bajram Curri**	**0.49**	**351**	P		**Pg**	**08 21 00.5**	**-0.3**
	baz=348							
BCI				S		**Sg**	**08 21 07.7**	**+0.4**
	baz=348							
BCI				AMP				
	comp=E,3.9nm,0.2s,baz=348							
TIR	**Tirane**	**0.59**	**203**	P		**Pg**	**08 21 02.2**	**-0.4**
	baz=206							
TIR				S		**Sg**	**08 21 11.3**	**+0.9**
	baz=206							
TIR	**Tirane**	**0.59**	**203**	P		**Pg**	**08 21 02.3**	**-0.4**
TIR	**Tirane**	**0.59**	**203**	*e*Pg		**Pg**	**08 21 02.1**	**-0.6**
TIR				*e*Sg		**Sg**	**08 21 11.2**	**+0.8**
ULC	**Ulcinj**	**0.70**	**277**	⇓*i*Pg		**Pg**	**08 21 03.9**	**-0.8**
ULC				*i* Sg		**Sg**	**08 21 13.7**	**-0.3**
ULC	**Ulcinj**	**0.70**	**277**	*i* Pg		**Pg**	**08 21 04.0**	**-0.8**
PVY	**Plav**	**0.72**	**347**	⇑*i*Pg		**Pg**	**08 21 04.8**	**-0.5**
PVY				*i* Sg		**Sb**	**08 21 16.2**	**+0.3**
DRME	**Dracevica, Mon**	**0.80**	**292**	*e*Pg		**Pg**	**08 21 05.5**	**-1.1**
DRME				*e*Sg		**Sb**	**08 21 18.9**	**+1.1**
DRME	**Dracevica, Mon**	**0.80**	**292**	⇑*i*Pg		**Pg**	**08 21 05.2**	**-1.4**
DRME				*e*Sg		**Sg**	**08 21 17.8**	**+0.7**
DRME	**Dracevica, Mon**	**0.80**	**292**	⇓*i*Pg		**Pg**	**08 21 05.5**	**-1.1**
DRME				*i* Sg		**Sg**	**08 21 17.0**	**-0.1**
OHR	**Ohrid**	**0.91**	**149**	*e*Pg		**Pb**	**08 21 07.7**	**-1.0**
OHR				*e*Sg		**Sb**	**08 21 21.4**	**+0.4**
OHR	**Ohrid**	**0.91**	**149**	*i* Pg		**Pg**	**08 21 08.0**	**-0.8**
OHR				*i* Sg		**Sn**	**08 21 22.5**	**-0.4**
OHR				*e*Lg		Lg	08 21 22.9	
	comp=E,94nm,0.4s							
OHR				*e*Lg		Lg	08 21 24.3	
	comp=N,128nm,0.3s							
SKO	**Skopje**	**0.95**	**84**	*e*Pg		**Pg**	**08 21 08.9**	**-0.6**
SKO				*e*Sg		**Sg**	**08 21 21.4**	**-0.5**
SKO	**Skopje**	**0.95**	**84**	*i* Pg		**Pg**	**08 21 09.1**	**-0.4**
SKO				*i* Sg		**Sb**	**08 21 22.0**	**-0.2**
IVA	**Berane**	**1.01**	**348**	⇑*i*Pg		**Pb**	**08 21 10.1**	**-0.6**
IVA				*i* Sg		**Sn**	**08 21 25.3**	**-0.2**
BUM	**Brajici-Budva**	**1.04**	**294**	⇓*i*Pg		**Pb**	**08 21 10.3**	**-0.9**
BUM				*i* Sg		**Sb**	**08 21 25.4**	**+0.6**
KOME	**Kolasin**	**1.08**	**333**	⇑*i*Pg		**Pb**	**08 21 11.0**	**-0.9**
KOME				*i* Sg		**Sn**	**08 21 27.6**	**+0.3**
CEME	**Cevo**	**1.14**	**306**	⇑*i*Pg		**Pb**	**08 21 11.6**	**-1.4**
CEME				*i* Sg		**Sn**	**08 21 29.1**	**+0.3**
NKME	**Niksic**	**1.26**	**315**	⇓*i*Pg		**Pn**	**08 21 14.3**	**-0.5**
NKME				*i* Sg		**Sg**	**08 21 33.2**	**+1.3**
KBN	**Korca**	**1.34**	**160**	P		**Pn**	**08 21 14.8**	**-1.2**
	baz=160							
KBN				S		**Sg**	**08 21 34.4**	**-0.1**
	baz=160							
KBN	**Korca**	**1.34**	**160**	P		**Pg**	**08 21 17.8**	**+0.7**
HCY	**Herceg Novi**	**1.37**	**295**	⇑*i*Pg		**Pn**	**08 21 15.5**	**-0.7**
HCY				*e*Sg		**Sg**	**08 21 36

WIN Windhoek 3.55 139 Pn 08 33 43.0 +1.4
WIN Sn **Sn 08 34 23.3 -0.6**
WIN Windhoek 3.55 139 *i* P **Pn 08 33 39.9 -1.8**
WIN Windhoek 3.55 139 ⇑*i* P **Pn 08 33 43.8 +2.1**
WIN ⇑*i* S **Sn 08 34 27.1 +3.2**
WIN Windhoek 3.55 139 *i* P **Pn 08 33 39.9 -1.8**
AUSN Aus 6.92 167 *i* P **Pn 08 34 28.8 +0.9**
AUSN *i* S Sb 08 36 00.8 -8.7
AUSN Aus 6.92 167 ⇑*i* P **Pn 08 34 30.4 +2.4**
AUSN ⇑*i* S Sn 08 35 21.7 -25
AUSN IAML 08 36 38.7
comp=Z,157nm,0.4s
AUSN Aus 6.92 167 *i* P **Pn 08 34 28.8 +0.9**
AUSN *i* S Sb 08 36 00.8 -8.7
ARMS Ukamas 9.38 151 *i* P **Pn 08 35 01.6 0.0**
ARMS Ukamas 9.38 151 ⇑*i* P **Pn 08 35 02.7 +1.1**
ARMS *i* S Sn 08 37 16.9 +30
ARMS IAML 08 37 55.8
comp=Z,95nm,0.3s
ARMS Ukamas 9.38 151 *i* P **Pn 08 35 01.6 0.0**
KOMG Komaggas 10.21 166 *eP* **Pn 08 35 15.1 +2.2**
KOMG *eS* **Sn 08 37 02.0 -5.5**
KOMG IAML 08 38 12.5
comp=Z,156nm,0.6s
UPI Upington 10.40 145 *eP* **Pn 08 35 15.3 -0.4**
LBTB Lobatse 11.39 119 Pn **Pn 08 35 25.5 -3.7**
LBTB Lobatse 11.39 119 *i* P Pn 08 35 23.1 -6.1
LBTB Lobatse 11.39 119 *eP* **Pn 08 35 28.1 -1.1**
LBTB IAML 08 38 43.9
comp=Z,84nm,0.6s
LBTB Lobatse 11.39 119 Pn **Pn 08 35 28.6 -0.6**
comp=Z,1.1nm,0.3s,baz=293,slow=12,SNR=10
LBTB Sn **Sn 08 37 45.4 +8.7**
comp=Z,4.4nm,0.3s,baz=311,slow=11,SNR=4.2
LBTB Lg Lg 08 38 39.1
comp=Z,8.3nm,0.3s,baz=26,slow=20,SNR=5.6
LBTB LR LR 08 40 00.1
comp=Z,278nm,19.5s,baz=290,slow=37
LBTB Lobatse 11.39 119 *i* P Pn 08 35 23.1 -6.1
MTLB Matlabas, Limp 12.23 111 *eP* **Pn 08 35 40.0 -0.6**
SWZ Schweizer 12.24 128 *eP* **Pn 08 35 40.8 -0.1**
CVNA Calvinia 12.45 159 *eP* **Pn 08 35 46.0 +2.3**
LEPH Lephalale, Lim 12.89 110 *eP* **Pn 08 35 48.2 -1.6**
BOSA Boshof 13.04 134 Pn 08 35 50.3 -1.4
BLWY Bulawayo 13.19 93 *i* P Pn 08 35 47.0 -6.9
BLWY *i* S **Sn 08 38 28.6 +7.7**
BLWY Bulawayo 13.19 93 *i* P Pn 08 35 49.1 -4.8
BLWY *i* S **Sn 08 38 18.8 -2.1**
BLWY Bulawayo 13.19 93 *i* P Pn 08 35 47.0 -6.9
BLWY *i* S **Sn 08 38 28.6 +7.7**
BLWY Bulawayo 13.19 93 *i* P Pn 08 35 49.1 -4.8
BLWY *i* S **Sn 08 38 18.8 -2.1**
HRAO HartRAO 13.47 119 *eP* **Pn 08 35 57.2 -0.5**
SUR Sutherland 13.63 157 Pn **Pn 08 35 59.7 -0.3**
SUR Sutherland 13.63 157 *eP* **Pn 08 36 03.3 +3.4**
SUR Sutherland 13.63 157 Pn **Pn 08 36 01.5 +1.6**
comp=Z,1.2nm,0.3s,baz=321,slow=10.0,SNR=16
SUR Sn **S 08 38 50.1 -4.7**
comp=Z,1.4nm,0.3s,baz=121,slow=15,SNR=4.4
SUR Lg Lg 08 39 51.8
comp=Z,4.8nm,0.3s,baz=233,slow=22,SNR=13
comp=Z,7.1nm,0.6s
PRYS Parys 13.66 123 *eP* **Pn 08 35 59.6 -0.6**
LSZ Lusaka 13.76 73 Pn **Pn 08 35 57.0 -4.6**
LSZ Lusaka 13.76 73 *i* P Pn 08 35 48.7 -13
LSZ Lusaka 13.76 73 Pn **Pn 08 35 57.6 -4.1**
comp=Z,2.0nm,0.3s,baz=245,slow=12,SNR=9.3
LSZ Sn Sn 08 38 25.2 -10
comp=Z,2.9nm,0.3s,baz=203,slow=21,SNR=6.0
LSZ Lg Lg 08 40 01.9
comp=Z,4.9nm,0.3s,baz=355,slow=24,SNR=5.5
LSZ LR LR 08 41 32.5
comp=Z,285nm,20.9s,baz=252,slow=38
LSZ Lusaka 13.76 73 *i* P Pn 08 35 48.7 -13
RUST Rust De Winter 13.94 115 *eP* **Pn 08 36 03.4 -0.6**
BRAK Brakfontein 14.00 149 *eP* **Pn 08 36 03.7 -1.1**
GRAN Grantham 14.11 153 *eP* **P 08 36 12.4 -1.6**
MERW Merweville 14.17 155 *eP* **Pn 08 36 07.9 +0.8**
BFON Badsfontein, M 14.41 147 *eP* **Pn 08 36 12.4 +1.9**
MUSN Musina, Limpop 14.46 102 *eP* **Pn 08 36 08.7 -2.4**
HVD Gariep Dam 14.53 139 *eP* **Pn 08 36 10.5 -1.7**
SNKL Senekal, Frees 14.65 127 *eP* **Pn 08 36 12.8 -1.0**
ROOI Rooidraai Farm 14.90 149 *eP* **P 08 36 20.6 -2.3**
GRAF Camdeboo Natio 15.20 146 *eP* **Pn 08 36 23.6 +2.5**
HOED Hoedspruit, Li 15.80 110 *eP* **Pn 08 36 27.7 -1.4**
MOPA Mopani 16.04 106 *eP* **Pn 08 36 32.1 0.0**
CHIPN CHIPINGE 16.98 94 *i* P **Pn 08 36 40.9 -3.3**
CHIPN CHIPINGE 16.98 94 *i* P **Pn 08 36 40.9 -3.3**
GRHM Grahamstown, E 16.98 144 Pn **Pn 08 36 44.4 +0.4**
KSTD Kokstad 17.06 132 *eP* **P 08 36 48.9 +1.9**
PMBG Pietermaritzbu 17.34 127 *eP* **P 08 36 51.7 +1.7**
SHEL Horse Pasture 19.73 278 P **P 08 37 14.4 -1.8**
SHEL IAmb IAmb 08 37 42.1
comp=Z,43nm,0.8s
MBAR Mbarara 24.86 41 P **P 08 38 09.4 +0.1**
MBAR IAmb IAmb 08 38 13.2
comp=Z,12nm,1.1s
MBAR Mbarara 24.86 41 LR LR 08 48 28.0
comp=Z,161nm,19.9s,baz=204,slow=38
KIBK Kibwezi 28.81 56 P **P 08 38 44.9 +0.1**
ABPO Ambohimpanom 30.77 94 P **P 08 39 00.5 -1.9**
ABPO IAmb IAmb 08 39 13.8
comp=Z,19nm,1.4s
KIC Kosan Boka 32.28 322 ⇓*i* P **P 08 39 14.7 -0.7**
comp=Z,14nm,0.6s
LIC Lamto 32.34 321 ⇑*i* P **P 08 39 14.5 -1.4**
comp=Z,5.1nm,0.4s
DBIC Dimbokro 32.59 322 P **P 08 39 16.9 -1.3**
DBIC Dimbokro 32.59 322 P **P 08 39 16.9 -1.3**
comp=Z,3.9nm,0.6s,baz=153,slow=12,SNR=6.1
DBIC LR LR 08 50 21.3
comp=Z,70nm,19.4s,baz=174,slow=33
comp=Z,3.9nm,0.6s
TIC Toumodi 32.67 322 ⇑*i* P **P 08 39 16.6 -2.2**
comp=Z,4.4nm,0.3s
TOA0 Torodi Ar. Sit 35.19 338 P **P 08 39 39.6 -1.1**
TOA0 IAmb IAmb 08 39 43.0
comp=Z,4.7nm,0.7s
TORD Torodi Ar. Bea 35.19 338 P **P 08 39 39.8 -1.0**
TORD Torodi Ar. Bea 35.19 338 P **P 08 39 40.2 -0.5**
comp=Z,4.3nm,0.7s,baz=155,slow=8.2,SNR=27
TORD PcP **PcP 08 42 12.1 +0.1**
comp=Z,1.8nm,0.7s,baz=137,slow=1.1,SNR=5.1
comp=Z,4.3nm,0.7s
RCBR Riachuelo 50.95 279 P **P 08 41 47.7 -0.8**
RCBR IAmb IAmb 08 41 50.0
comp=Z,20nm,1.0s
ELIB Princess Elisa 52.31 177 *dP* **P 08 41 58.4 +0.5**
comp=Z,4.2nm,1.0s
TROLL Troll, Antarti 52.59 185 ⇑P **P 08 42 00.5 +0.5**
comp=Z,70nm,0.4s
RAYN Ar Rayn 52.64 36 P **P 08 42 00.8 -0.1**
VNA2 Neumayer--Watz 52.68 189 ⇑P **P 08 42 01.7 +1.3**
comp=Z,4.3nm,0.7s,baz=43,slow=11
SNAA Sanae 52.78 187 P **P 08 42 01.8 +0.6**
SNAA Sanae 52.78 187 ⇑P **P 08 42 01.9 +0.6**
comp=Z,67nm,0.6s
SNAA Sanae 52.78 187 P **P 08 42 02.8 +1.6**
comp=Z,3.3nm,0.8s,baz=19,slow=6.8,SNR=6.3
comp=Z,3.3nm,0.8s
KEST Kesra 55.54 355 P **P 08 42 22.4 +0.6**
comp=Z,4.6nm,0.9s,baz=208,slow=22,SNR=2.9
comp=Z,4.6nm,0.9s
MAW Mawson 56.47 160 P **P 08 42 29.5 +1.5**
MAW Mawson 56.47 160 P **P 08 42 30.5 +2.5**
comp=Z,4.4nm,0.6s,baz=318,slow=12,SNR=1.4
comp=Z,4.4nm,0.6s
TIP Timpagrande 58.79 2 P **P 08 42 44.4 -0.3**
SFS San Fernando 59.40 341 P **P 08 42 49.5 +0.7**
BDFB Brasilia 59.47 263 P **P 08 42 49.3 -0.7**
BDFB IAmb IAmb 08 42 50.6
comp=Z,5.5nm,1.0s
BDFB Brasilia 59.47 263 P **P 08 42 50.3 +0.3**
comp=Z,5.0nm,1.0s,baz=95,slow=8.6,SNR=5.5
comp=Z,5.0nm,1.0s
KEK Kerkira 59.49 5 P **P 08 42 50.4 +0.9**
PAB San Pablo 61.72 343 P **P 08 43 05.4 +0.6**
PAB IAmb IAmb 08 43 06.4
comp=Z,5.9nm,0.7s
ESDC Sonseca Array 61.73 344 P **P 08 43 05.2 +0.3**
ESDC IAmb IAmb 08 43 07.4
comp=Z,6.3nm,1.2s
ESDC Sonseca Array 61.73 344 P **P 08 43 05.1 +0.3**
comp=Z,3.8nm,1.0s,baz=163,slow=5.6,SNR=11
comp=Z,3.8nm,1.0s
BRTR Keskin Array B 61.92 17 P **P 08 43 06.0 -0.2**
BRTR Keskin Array B 61.92 17 P **P 08 43 06.2 0.0**
comp=Z,0.9nm,0.7s,baz=202,slow=9.7,SNR=3.9
comp=Z,0.9nm,0.7s
MDUB Mudurnu 62.01 14 P **P 08 43 07.3 +0.5**
PESTR Estremoz 62.03 341 P 08 43 07.1 +0.3
NRCA Norcia 62.42 359 P **P 08 43 09.1 -0.3**
NRCA IAmb IAmb 08 43 35.5
comp=Z,13nm,1.3s
BELA Belgrano 2 62.58 190 P **P 08 43 10.7 +0.6**
BELA IAmb IAmb 08 43 13.1
comp=Z,3.2nm,0.7s
CEST Esterri de Car 63.38 349 P **P 08 43 15.4 -0.5**
CEST IAmb IAmb 08 43 19.2
comp=Z,6.6nm,0.8s
MTE Manteigas 63.42 341 P **P 08 43 15.8 -0.4**
GNI Garni 66.02 25 LR LR 09 12 49.0
comp=Z,41nm,19.4s,baz=214,slow=36
PRED Cave del Predi 66.02 359 P **P 08 43 32.9 -0.1**
PRED IAmb IAmb 08 43 34.6
comp=Z,7.0nm,0.9s
TUE Stuetta 66.22 356 P **P 08 43 33.3 -1.1**
TUE IAmb IAmb 08 43 39.0
comp=Z,3.2nm,0.8s
SOKA Soboth 66.25 0 *eP* **P 08 43 35.5 +1.0**
comp=Z,3.8nm,0.9s
SENIN Lac Senin/Sane 66.27 355 P **P 08 43 34.1 -0.7**
FUORN Ofenpass-Fuorn 66.31 357 P **P 08 43 34.6 -0.5**
FUORN IAmb IAmb 08 43 37.7
comp=Z,7.3nm,0.8s
ABTA Abfaltersbach 66.35 358 *eP* **P 08 43 35.7 +0.5**
comp=Z,2.4nm,0.6s
KBA Koelnbreinsper 66.66 359 *eP* **P 08 43 37.8 +0.6**
comp=Z,11nm,0.8s
FETA Feichten 66.69 357 *eP* **P 08 43 37.4 +0.1**
comp=Z,9.3nm,1.2s
SQTA Sankt Quirin 66.86 358 *eP* **P 08 43 38.5 +0.1**
comp=Z,9.8nm,0.7s
WTTA Wattenberg 66.89 358 *eP* **P 08 43 38.9 +0.2**
comp=Z,6nm,0.7s
MOTA Moosalm 66.99 357 *eP* **P 08 43 38.9 -0.4**
comp=Z,4.6nm,0.7s
LESA Schwarzleotal 67.02 359 *eP* **P 08 43 38.9 -0.4**
comp=Z,6.9nm,0.7s
RETA Reutte 67.15 357 *eP* **P 08 43 40.7 +0.5**
comp=Z,6.5nm,0.6s
BIOA Bad Ischl, Aus 67.27 359 *eP* **P 08 43 40.4 -0.5**
comp=Z,8.1nm,0.8s
MOA Molln 67.43 360 *eP* **P 08 43 42.2 +0.4**
comp=Z,13nm,0.7s
CONA Conrad Observa 67.51 1 *eP* **P 08 43 42.8 +0.3**
comp=Z,4.7nm,1.0s
TRQA Tornquist 67.65 236 P **P 08 43 43.4 -0.3**
TRQA IAmb IAmb 08 44 07.6
comp=Z,18nm,1.3s
ECH Echery 68.12 355 P **P 08 43 46.1 -0.1**
ECH IAmb IAmb 08 43 46.7
comp=Z,8.5nm,1.1s
GEC2 GERESS Array S 68.43 359 P **P 08 43 48.0 -0.3**
GEC2 IAmb IAmb 08 43 50.4
comp=Z,5.0nm,1.0s
GERES GERESS Array B 68.43 359 P **P 08 43 47.5 -0.7**
GERES GERESS Array B 68.43 359 P **P 08 43 48.2 0.0**
comp=Z,2.9nm,0.7s,baz=174,slow=1.0,SNR=10
comp=Z,2.9nm,0.7s
KBZ Khabaz 68.43 22 P **P 08 43 49.5 +1.3**
comp=Z,6.5nm,1.0s,baz=195,slow=4.2,SNR=6.8
comp=Z,6.5nm,1.0s
PTLB Pontes e Lacer 69.88 260 P **P 08 43 58.4 +0.6**
PTLB IAmb IAmb 08 43 59.5
comp=Z,4.3nm,0.8s
QSPA South Pole Qui 70.28 180 P **P 08 44 00.4 +0.7**
QSPA IAmb IAmb 08 44 03.4
comp=Z,9.5nm,0.8s
QSPA South Pole Qui 70.28 180 P **P 08 44 01.0 +1.4**
comp=Z,9.9nm,0.8s,baz=236,slow=5.6,SNR=16
comp=Z,9.9nm,0.8s
PALK Palekele 70.41 74 LR LR 09 12 36.7
comp=Z,37nm,18.1s,baz=356,slow=34
CLL Collm 70.90 359 *eP* **P 08 44 03.0 -0.3**
AKASG Malin Array Be 71.46 10 P **P 08 44 06.2 -0.5**
comp=Z,2.1nm,0.6s,baz=195,slow=6.3,SNR=6.4
comp=Z,2.1nm,0.6s
SIV San Ignacio 71.52 259 LR LR 09 11 46.9
comp=Z,89nm,19.2s,baz=108,slow=33
VILB Vilhena 71.57 263 P **P 08 44 08.8 +0.6**
VILB IAmb IAmb 08 44 10.6
comp=Z,9.8nm,0.8s
SAML Samuel 75.56 266 P **P 08 44 31.8 +0.1**
SAML IAmb IAmb 08 44 33.1
comp=Z,8.9nm,1.1s
AC02 Maricunga 75.88 246 P **P 08 44 33.1 -0.9**
AC02 IAmb IAmb 08 44 39.1
comp=Z,5.8nm,1.1s
CO01 Juntas del Tor 75.88 243 P **P 08 44 33.3 -0.4**
CO01 IAmb IAmb 08 44 36.1
comp=Z,5.3nm,0.9s
CO02 Combarbal 76.32 242 P **P 08 44 36.4 +0.4**
AC05 El Transito 76.33 244 P **P 08 44 36.8 +0.7**
ESK Eskdalemuir 76.42 350 P **P 08 44 36.3 +0.7**
EKA Eskdalemuir Ar 76.43 350 P **P 08 44 36.0 +0.2**
comp=Z,3.2nm,0.6s,baz=166,slow=7.3,SNR=8.8
comp=Z,3.2nm,0.6s
EKB Eskdalemuir 76.44 350 P **P 08 44 36.5 +0.7**
EKB IAmb IAmb 08 44 36.5
comp=Z,7.2nm,0.7s
BOAV Boa Vista 76.84 277 P **P 08 44 39.7 +0.7**
BOAV IAmb IAmb 08 45 05.8
comp=Z,8.2nm,1.3s
AC01 Pan de Azucar 77.33 247 P **P 08 44 42.1 +0.4**
SIMJ Simiganj 77.40 41 P **P 08 44 42.8 +1.1**
PB08 IPOC Station P 77.74 253 P **P 08 44 43.5 -0.9**
PB08 IAmb IAmb 08 45 01.8
comp=Z,3.5nm,0.8s
GO01 Chusmiza 77.91 253 P **P 08 44 45.1 -0.5**
GO01 IAmb IAmb 08 44 49.0
comp=Z,8.4nm,1.1s
LPAZ La Paz 77.94 257 P **P 08 44 44.7 -1.2**
LPAZ La Paz 77.94 257 P **P 08 44 45.4 -0.5**
comp=Z,3.2nm,0.8s,baz=106,slow=4.1,SNR=6.5
LPAZ LR LR 09 16 28.1
comp=Z,37nm,18.9s,baz=55,slow=34
comp=Z,3.2nm,0.8s
ETMB Extrema 78.13 264 P **P 08 44 45.9 -0.3**
ETMB IAmb IAmb 08 44 47.2
comp=Z,5.5nm,0.8s
PB11 IPOC Station P 78.30 253 P **P 08 44 47.3 -0.1**
PB11 IAmb IAmb 08 44 53.9
comp=Z,15nm,1.2s
PB16 IPOC Station P 78.59 255 P **P 08 44 49.4 0.0**
HFS Hagfors 79.74 360 P **P 08 44 54.3 +0.3**
comp=Z,1.9nm,0.8s,baz=176,slow=5.8,SNR=2.2
comp=Z,1.9nm,0.8s
ABKAR Akbulak array 79.76 28 P **P 08 44 53.8 -0.5**
ABKAR Akbulak array 79.76 28 P **P 08 44 53.6 -0.8**
ABKAR IAmb IAmb 08 45 00.5
comp=Z,2.2nm,1.2s
NOA NORSAR Array B 80.69 358 P **P 08 44 59.3 +0.1**
comp=Z,1.7nm,1.0s,baz=183,slow=5.4,SNR=5.8
comp=Z,1.7nm,1.0s
VNDA Vanda 80.92 173 P **P 08 45 00.9 +0.6**
VNDA IAmb IAmb 08 45 15.3
comp=Z,7.7nm,1.4s
VNDA Vanda 80.92 173 P **P 08 45 01.8 +1.5**
comp=Z,2.3nm,0.7s,baz=207,slow=4.5,SNR=8.2
comp=Z,2.3nm,0.7s
KK31 Karatay Array 81.04 38 P **P 08 45 02.0 +0.6**
KKAR Karatay Array 81.04 38 P **P 08 45 01.7 +0.3**
FINES FINESS Array B 81.58 6 P **P 08 45 04.0 +0.2**
FINES FINESS Array B 81.58 6 P **P 08 45 04.8 +1.1**
comp=Z,3.2nm,0.6s,baz=170,slow=9.9,SNR=10
comp=Z,3.2nm,0.6s
FIA1 FINESS Array S 81.58 6 P **P 08 45 04.4 +0.7**
ILAM Ilet Lapin Mar 81.78 289 P **P 08 45 05.8 -0.1**
KSH Kashi 82.29 43 P **P 08 45 08.5 +0.2**
KSH pmax pmax
comp=Z,6.0nm,0.7s
TBTG Tabatinga, AM 83.41 268 P **P 08 45 14.4 -0.1**
TARG Taragay, Kyrgy 84.66 42 P **P 08 45 20.8 0.0**
TARG IAmb IAmb 08 45 23.2
comp=Z,7.4nm,0.9s
BVAR Borovoye Array 87.14 30 P **P 08 45 34.2 +1.9**
comp=Z,1.5nm,0.7s,baz=230,slow=41,SNR=4.6
comp=Z,1.5nm,0.7s
KURBB Kurchatov Arra 89.86 35 P **P 08 45 46.4 +1.2**
comp=Z,1.1nm,1.0s,baz=245,slow=6.0,SNR=4.1
comp=Z,1.1nm,1.0s
MKAR Makanchi Array 90.03 39 P **P 08 45 48.8 +2.6**
comp=Z,0.4nm,0.7s,baz=235,slow=5.1,SNR=3.8
comp=Z,0.4nm,0.7s
LEM Lembang 90.55 97 LR LR 09 22 28.6
comp=Z,54nm,19.3s,baz=224,slow=33
CMAR Chiang Mai Arr 91.07 71 P **P 08 45 53.1 +1.5**
comp=Z,0.8nm,0.3s,baz=251,slow=5.6,SNR=4.6
CMAR LR LR 09 24 56.0
comp=Z,21nm,19.9s,baz=245,slow=34
comp=Z,0.8nm,0.3s
WMQ Urumqi 92.04 44 *eP* **P 08 45 55.9 +0.3**
WMQ pmax pmax
comp=Z,15nm,0.9s
TXAR Lajitas Array 123.62 293 PKP **PKiKP 08 51 45.3 +0.3**
comp=Z,0.6nm,0.7s,baz=131,slow=3.1,SNR=6.7
C36M Paulatuk 124.53 343 P **PKiKP 08 51 46.9 +1.5**
baz=49
YKA Yellowknife Ar 125.14 334 PKP **PKPdf 08 51 46.5 +0.1**
comp=Z,1.0nm,0.7s,baz=45,slow=1.8,SNR=8.5
N23A Red Feather La 125.65 307 P **PKiKP 08 51 49.3 +0.3**
baz=86
D28M Stokes Point 127.93 348 P **PKiKP 08 51 52.8 +0.6**
baz=32
PDAR Pinedale Array 128.15 309 PKP **PKPdf 08 51 53.2 0.0**
comp=Z,1.5nm,0.7s,baz=113,slow=4.1,SNR=15
BW06 Boulder Array 128.15 309 P **PKPdf 08 51 53.4 +0.2**
baz=82
C23K Itkillik River 129.25 353 P **PKiKP 08 51 55.8 +1.0**
baz=18
D24K Happy Valley 129.69 352 P **PKiKP 08 51 57.2 +1.4**
baz=20
TUC Tucson 129.87 296 P **PKiKP 08 51 58.4 +1.0**
baz=90
D23K Nanushuk River 130.09 353 P **PKiKP 08 51 58.6 +2.0**
baz=18
F26K Sheenjek River 130.34 350 P **PKiKP 08 51 58.6 +1.4**
baz=26
E18K Tukpahlearik C 132.38 357 P **PKiKP 08 52 01.8 +0.6**
baz=6.0
ILAR Eielson Array 133.47 349 PKP **PKPdf 08 52 02.4 +0.1**
comp=Z,0.6nm,0.7s,baz=352,slow=2.6,SNR=3.0
MLY Manley 133.84 351 P **PKiKP 08 52 04.6 +0.3**
baz=19
NVAR Mina Array Bea 135.42 305 PKP **PKiKP 08 52 08.8 +0.2**
comp=Z,0.7nm,0.8s,baz=77,slow=4.1,SNR=3.9

IDC ***14*** *08:35:06.2±2.0,56˚06N×149˚44W,h0km,mb3.5/2, mbtmp3.5/7,ML3.2/5,MS3.0/6,Error ellipse: s-maj=36.4km s-min=23.7km az=28.0*
NEIC ***14*** *08:35:08.7±1.4,56˚31N±0˚08×149˚4W±0˚1,h21km±10km, ML3.6/60,ML3.5(AEIC),Error ellipse: s-maj=13.5km s-min=7.6km az=150.0*
AEIC ***14*** *08:35:10.9±1.8,56˚21N±0˚04×149˚4W±0˚1,h10km±7km, Error ellipse: s-maj=9.7km s-min=5.0km az=108.0*
ISC 14 08:35:07.6±1.0,56˚31N±0˚07×149˚42W±0˚05,h10km, n239,σ0=80/227,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.27**	**312**			**Pn**	**08 35 45.2**	**+0.1**
KDAK						**Sn**	**08 36 11.8**	**-1.4**
KDAK	**Kodiak Island**	**2.27**	**312**	Pn		**Pn**	**08 35 45.3**	**+0.1**
	4.5nm,0.3s,baz=134,slow=6.0,SNR=114							
KDAK				Sn		**Sn**	**08 36 10.9**	**-2.3**
	9.1nm,0.3s,baz=217,slow=18,SNR=4.4							
KDAK				LR		LR	08 36 55.3	
	comp=Z,120nm,20.3s,baz=152,slow=45							
	9.5nm,0.3s							
OHAK	**Old Harbor**	**2.32**	**295**	Pn		**Pn**	**08 35 45.7**	**-0.1**
OHAK	**Old Harbor**	**2.32**	**295**			**Sn**	**08 36 11.9**	**-2.3**
OHAK	**Old Harbor**	**2.32**	**295**	P		**Pn**	**08 35 45.1**	**-0.6**
OHAK	**Old Harbor**	**2.32**	**295**	P		**Pn**	**08 35 45.3**	**-0.5**
	baz=113							
OHAK				S		**Sn**	**08 36 12.3**	**-2.0**
	baz=113							
SII	**Sitkinak Islan**	**2.66**	**277**			**Pn**	**08 35 50.8**	**+0.4**
SII						**Sn**	**08 36 19.0**	**-3.7**
SII	**Sitkinak Islan**	**2.66**	**277**	IAML			08 36 37.2	
	comp=E,157nm,0.8s							
SII	**Sitkinak Islan**	**2.66**	**277**	P		**Pn**	**08 35 50.8**	**+0.4**
SII	**Sitkinak Islan**	**2.66**	**277**	P		**Pn**	**08 35 51.1**	**+0.7**
	baz=95							
SII				S		**Sn**	**08 36 20.9**	**-1.8**
	baz=95							
SYI	**Shuyak Island**	**2.81**	**326**			**Pn**	**08 35 52.4**	**-0.1**
SYI						**Sn**	**08 36 25.6**	**-0.9**
Q20K	**Shuyak Island**	**2.81**	**326**	P		**Pn**	**08 35 52.4**	**-0.1**
	baz=144							
Q20K				S		**Sn**	**08 36 26.6**	**+0.2**
	baz=144							
CNPM	**China Poot**	**3.37**	**344**			**Pn**	**08 35 59.7**	**-0.5**
CNPM						**Sn**	**08 36 39.8**	**-0.5**
CNPM	**China Poot**	**3.37**	**344**	IAML			08 37 00.1	
	comp=E,70nm,1.4s							
Q19K	**Cape Douglas,**	**3.47**	**321**			**Pn**	**08 36 02.3**	**+0.6**
Q19K	**Cape Douglas,**	**3.47**	**321**	P		**Pn**	**08 36 02.3**	**+0.6**
	baz=138							
CHIR	**Chirikof Islan**	**3.51**	**265**			**Pn**	**08 36 01.6**	**-0.6**
CHIR	**Chirikof Islan**	**3.51**	**265**	IAML			08 36 58.9	
	comp=N,87nm,1.5s							
CHIR	**Chirikof Islan**	**3.51**	**265**	P		**Pn**	**08 36 02.2**	**0.0**
	baz=81							
BRSE	**Bradley Lake S**	**3.52**	**349**			**Pn**	**08 36 01.5**	**-0.8**
BRSE	**Bradley Lake S**	**3.52**	**349**	P		**Pn**	**08 36 01.5**	**-0.8**
	baz=168							
Q23K	**Middleton Isla**	**3.54**	**26**			**Pn**	**08 36 01.3**	**-1.2**
Q23K	**Middleton Isla**	**3.54**	**26**	IAML			08 37 25.9	
	comp=E,200nm,1.3s							
Q23K				IAML			08 37 42.5	
	comp=N,161nm,1.5s							
MID	**Middleton Isla**	**3.54**	**26**			**Pn**	**08 36 01.2**	**-1.3**
MID	**Middleton Isla**	**3.54**	**26**	IAML			08 37 25.9	
	comp=E,196nm,1.3s							
MID				IAML			08 37 45.5	
	comp=N,144nm,1.4s							
MID	**Middleton Isla**	**3.54**	**26**	P		**Pn**	**08 36 02.1**	**-0.4**
BRLK	**Bradley Lake**	**3.55**	**348**	Pn		**Pn**	**08 36 02.3**	**-0.5**
BRLK	**Bradley Lake**	**3.55**	**348**			**Sn**	**08 36 43.2**	**-1.6**
HOM	**Homer**	**3.56**	**342**			**Pn**	**08 36 03.6**	**+0.7**
HOM				IAML			08 36 56.5	
	comp=N,200nm,1.0s							
HOM				IAML			08 37 16.3	
	comp=E,215nm,1.3s							
KAKN	**Katmai Knife C**	**3.65**	**305**			**Sn**	**08 36 46.9**	**-0.5**
ACHA	**Angle Creek He**	**3.73**	**303**			**Pn**	**08 36 06.2**	**+1.0**
AUCH	**Augustine Cone**	**3.74**	**327**			**Pn**	**08 36 06.0**	**+0.6**
ANCK	**Angle Creek**	**3.80**	**302**			**Pn**	**08 36 07.5**	**+1.2**
SEW	**Seward**	**3.81**	**360**			**Pn**	**08 36 05.3**	**-0.9**
SEW	**Seward**	**3.81**	**360**	P		**Pn**	**08 36 05.3**	**-0.9**
	baz=179							
KAHC	**Katmai Hardscr**	**3.82**	**310**			**Pn**	**08 36 08.0**	**+1.4**
KAHC	**Katmai Hardscr**	**3.82**	**310**	P		**Pn**	**08 36 08.0**	**+1.4**
	baz=126							
P23K	**Montague Islan**	**3.85**	**15**			**Pn**	**08 36 05.7**	**-1.2**
P23K	**Montague Islan**	**3.85**	**15**	P		**Pn**	**08 36 06.5**	**-0.4**
	baz=196							
P19K	**Oil Pt**	**3.92**	**330**			**Pn**	**08 36 07.6**	**-0.2**
P19K	**Oil Pt**	**3.92**	**330**	IAML			08 37 00.4	
	comp=N,146nm,0.6s							
P19K				IAML			08 37 01.6	
	comp=E,150nm,0.7s							
P19K	**Oil Pt**	**3.92**	**330**	P		**Pn**	**08 36 08.4**	**+0.6**
	baz=147							
Q17K	**Contact Creek**	**4.02**	**302**	P		**Pn**	**08 36 10.4**	**+1.2**
	baz=117							
KELA	**Mount Kelaz**	**4.03**	**305**			**Pn**	**08 36 11.0**	**+1.6**
O20K	**Slope Mountain**	**4.15**	**337**			**Pn**	**08 36 11.0**	**0.0**
O20K	**Slope Mountain**	**4.15**	**337**	P		**Pn**	**08 36 11.0**	**0.0**
	baz=154							
ILSW	**Illiamna Southw**	**4.18**	**333**			**Pn**	**08 36 11.1**	**-0.4**
ILSW	**Illiamna Southw**	**4.18**	**333**	IAML			08 37 06.4	
	comp=E,72nm,0.8s							
ILSW				IAML			08 37 07.8	
	comp=N,59nm,0.9s							
O22K	**Cooper Landing**	**4.19**	**358**			**Pn**	**08 36 10.7**	**-0.7**
O22K	**Cooper Landing**	**4.19**	**358**	P		**Pn**	**08 36 11.3**	**-0.1**
	baz=177							
SLKM	**Skilak Lake**	**4.24**	**355**			**Pn**	**08 36 11.2**	**-1.0**
P18K	**Big Mountain,**	**4.38**	**317**			**Pn**	**08 36 13.9**	**-0.2**
P18K	**Big Mountain,**	**4.38**	**317**	P		**Pn**	**08 36 14.5**	**+0.3**
	baz=133							
HIN	**Hinchinbrook I**	**4.38**	**19**			**Pn**	**08 36 13.3**	**-0.8**
HIN	**Hinchinbrook I**	**4.38**	**19**	IAML			08 37 11.2	

	comp=E,117nm,0.8s							
RED	Redoubt Volcan	4.49	338			Pn	08 36 14.6	-1.0
KAIM	Kayak Island	4.50	34			Pn	08 36 15.2	-0.4
KAIM	Kayak Island	4.50	34	P		Pn	08 36 15.7	0.0
	baz=217							
RSO	Redoubt South	4.52	339			Pn	08 36 16.7	+0.5
RDT	Redoubt	4.56	341			Pn	08 36 15.8	-0.8
RDWB	Redoubt West	4.56	338			Pn	08 36 16.2	-0.5
CAPN	Captain Cook N	4.57	349			Pn	08 36 17.2	+0.6
CAPN	Captain Cook N	4.57	349	P		Pn	08 36 17.2	+0.6
	baz=168							
Q16K	King Salmon	4.57	304			Pn	08 36 17.7	+1.0
Q16K	King Salmon	4.57	304	P		Pn	08 36 17.7	+1.0
	baz=119							
DFR	Drift River	4.63	340			Pn	08 36 17.8	+0.3
NCT	North Crescent	4.65	338			Pn	08 36 17.2	-0.7
EYAK	Cordova Ski Ar	4.67	23			Pn	08 36 17.6	-0.4
EYAK	Cordova Ski Ar	4.67	23	P		Pn	08 36 17.9	-0.2
EYAK	Cordova Ski Ar	4.67	23	P		Pn	08 36 17.7	-0.4
	baz=205							
O19K	Port Alsworth	4.68	328			Pn	08 36 17.6	-0.5
O19K	Port Alsworth	4.68	328		IAML		08 37 35.1	
	comp=N,106nm,0.5s							
O19K	Port Alsworth	4.68	328	P		Pn	08 36 17.8	-0.4
	baz=144							
O18K	Koktuh Hills	4.70	322		Pn	Pn	08 36 18.7	+0.2
O18K					IAML		08 37 13.6	
	comp=N,39nm,1.2s							
O18K					IAML		08 37 36.0	
	comp=E,34nm,0.8s							
O18K	Koktuh Hills	4.70	322	P		Pn	08 36 18.7	+0.2
	baz=137							
P17K	Kvichak River	4.74	311	P		Pn	08 36 20.3	+1.2
	baz=125							
RC01	Rabbit Creek A	4.80	358			Pn	08 36 19.1	-0.8
RC01	Rabbit Creek A	4.80	358		IAML		08 37 18.7	
	comp=N,39nm,0.5s							
RC01					IAML		08 37 20.7	
	comp=E,42nm,0.7s							
RC01	Rabbit Creek A	4.80	358	P		Pn	08 36 19.3	-0.5
	baz=178							
SUCK	Suckling Hills	4.81	36	Pn		Pn	08 36 20.1	0.0
SUCK					IAML		08 37 14.5	
	comp=N,94nm,1.2s							
FIS	Fire Island	4.87	355		IAML		08 37 35.8	
	comp=N,98nm,1.4s							
FIS					IAML		08 38 06.6	
	comp=E,80nm,1.5s							
HMT	Hamilton	4.87	32			Pn	08 36 20.8	-0.1
NICHA	Nichawak Mount	4.88	34			Pn	08 36 20.7	-0.3
GOAT	Goat Mountain	4.95	28			Pn	08 36 21.6	-0.3
CHGN	Chignik	5.01	274			Pn	08 36 23.4	+0.7
CHGN					IAML		08 37 39.6	
	comp=N,34nm,0.6s							
CHGN					IAML		08 37 44.2	
	comp=E,46nm,0.9s							
BERG	Berg Lake	5.08	34			Pn	08 36 23.1	-0.7
N20K	Mount Spurr	5.12	345	P		Pn	08 36 23.9	-0.4
	baz=162							
SPCR	Spurr Chakacha	5.12	345			Pn	08 36 23.8	-0.5
GRIN	Grindle Hills	5.12	36			Pn	08 36 24.1	-0.2
KNK	Knik Glacier	5.15	5			Pn	08 36 24.6	-0.1
KNK	Knik Glacier	5.15	5		IAML		08 37 40.6	
	comp=N,24nm,1.0s							
KNK					IAML		08 37 41.7	
	comp=E,32nm,0.7s							
KNK	Knik Glacier	5.15	5	P		Pn	08 36 24.6	-0.1
	baz=186							
SPCP	Crater Peak Br	5.17	345			Pn	08 36 25.0	-0.1
DIV	Divide	5.20	20			Pn	08 36 25.0	-0.4
SUA	Susitna One	5.22	353	Pn		Pn	08 36 25.3	-0.4
SUA					IAML		08 37 37.3	
	comp=E,23nm,0.9s							
SUA					IAML		08 37 44.0	
	comp=N,20nm,0.8s							
SUA	Susitna One	5.22	353	P		Pn	08 36 25.3	-0.4
	baz=172							
N19K	Bonanza Creek	5.24	332			Pn	08 36 25.4	-0.5
N19K	Bonanza Creek	5.24	332	P		Pn	08 36 25.4	-0.5
	baz=148							
KHIT	Khitrov Hills	5.27	36			Pn	08 36 25.6	-0.8
PMR	Palmer	5.30	2			Pn	08 36 26.3	-0.4
PMR	Palmer	5.30	2		IAML		08 37 34.5	
	comp=E,19nm,1.2s							
PMR					IAML		08 37 53.5	
	comp=N,22nm,1.5s							
PMR	Palmer	5.30	2	P		Pn	08 36 26.7	0.0
PMR	Palmer	5.30	2	P		Pn	08 36 26.3	-0.4
	baz=181							
BMRM	Bremner River	5.31	26			Pn	08 36 26.5	-0.3
BMRM	Bremner River	5.31	26	P		Pn	08 36 26.6	-0.3
	baz=210							
P16K	Nushagak River	5.35	304			Pn	08 36 28.2	+0.9
P16K	Nushagak River	5.35	304	P		Pn	08 36 28.2	+0.9
	baz=117							
SPNN	North Nagishla	5.35	343			Pn	08 36 27.4	-0.2
O17K	Koliganek Bris	5.36	314			Pn	08 36 28.2	+0.7
O17K	Koliganek Bris	5.36	314	P		Pn	08 36 28.2	+0.7
	baz=127							
STLK	Strandline Lak	5.36	348			Pn	08 36 27.2	-0.3
WAX	Waxell Ridge	5.40	37			Pn	08 36 28.3	+0.1
GHO	Glory Hole Cre	5.49	2			Pn	08 36 29.8	+0.4
KLU	Klutina	5.51	18			Pn	08 36 29.3	-0.3
KLU	Klutina	5.51	18	P		Pn	08 36 29.5	-0.2
	baz=200							
N18K	Kilae Creek	5.54	325			Pn	08 36 29.4	-0.7
N18K	Kilae Creek	5.54	325	P		Pn	08 36 29.8	-0.3
	baz=140							
SML	Sawmill	5.55	5			Pn	08 36 30.2	0.0
SML	Sawmill	5.55	5	P		Pn	08 36 30.4	+0.2
	baz=186							
SCM	Sheep Creek Mo	5.65	10			Pn	08 36 31.8	+0.2
SCM	Sheep Creek Mo	5.65	10	P		Pn	08 36 32.1	+0.6
	baz=191							
O16K	Kokwok River B	5.67	309			Pn	08 36 32.6	+0.8
O16K	Kokwok River B	5.67	309	P		Pn	08 36 32.6	+0.8
	baz=122							
ISLE	Juniper Island	5.69	38			Pn	08 36 31.8	-0.4
BAGL	Bagley Icefiel	5.70	40			Pn	08 36 32.0	-0.1
SVW2	Sparrevohn	5.78	329	Pn		Pn	08 36 32.7	-0.6
SVW2	Sparrevohn	5.78	329	P		Pn	08 36 32.6	-0.7
SKT	Skwentna	5.79	350	Pn		Pn	08 36 34.3	+0.8
VRDI	Verde Repeater	5.83	30	Pn		Pn	08 36 33.7	-0.5
N25K	Chitina, Valde	5.87	23			Pn	08 36 34.6	0.0
N25K	Chitina, Valde	5.87	23	P		Pn	08 36 34.6	0.0
	baz=207							
N17K	Nushagak Hills	5.88	319			Pn	08 36 34.6	0.0
N17K	Nushagak Hills	5.88	319	P		Pn	08 36 34.8	+0.1
	baz=133							
M20K	Styx River	5.91	343			Pn	08 36 35.1	0.0
GLB	Gilahina Butte	5.91	27			Pn	08 36 34.8	-0.4
KIAG	Kiagna River	5.92	36			Pn	08 36 34.9	-0.5
CNBA	Chernabura Isl	5.96	260	Pn		Pn	08 36 35.5	-0.3
TABL	Table Mountain	6.01	43			Pn	08 36 36.0	-0.6
M24K	Tolsona, Glenn	6.05	15			Pn	08 36 37.7	+0.6
M24K	Tolsona, Glenn	6.05	15	P		Pn	08 36 37.7	+0.6
	baz=197							
MCARA	McCarthy VSAT	6.08	30			Pn	08 36 37.3	-0.1
MCARA	McCarthy VSAT	6.08	30	P		Pn	08 36 37.3	-0.1
	baz=215							
PTPK	Patty Peak	6.09	34			Pn	08 36 37.5	-0.2
PCA	Pinnacle	6.16	48			Pn	08 36 38.7	+0.2
PINM	Pinnacle	6.16	48	P		Pn	08 36 38.7	+0.2
	baz=235							
M18K	Stony River	6.17	330			Pn	08 36 37.8	-0.7
M18K	Stony River	6.17	330	P		Pn	08 36 38.0	-0.6
	baz=145							
M19K	Big River Lodg	6.17	338			Pn	08 36 38.0	-0.7
BARN	Barnard Glacie	6.25	37			Pn	08 36 39.3	-0.7
O15K	Ungalikthiuk R	6.27	302			Pn	08 36 40.7	+0.7
O15K	Ungalikthiuk R	6.27	302	P		Pn	08 36 40.7	+0.7
	baz=113							
CTG	Chitna Glacier	6.29	39	P		Pn	08 36 40.2	-0.2
	baz=225							
CTGM	Chitina Glacie	6.29	39			Pn	08 36 39.9	-0.7
SDPT	Sand Point	6.30	266	P		Pn	08 36 41.0	+0.5
PNL	Peninsula	6.31	54			Pn	08 36 40.0	-0.6
PNL	Peninsula	6.31	54	P		Pn	08 36 39.8	-0.8
PNL	Peninsula	6.31	54	P		Pn	08 36 40.0	-0.6
	baz=241							
LOGN	Logan Glacier	6.32	41			Pn	08 36 40.5	-0.3
BCPM	Bancas Point	6.34	51			Pn	08 36 40.7	-0.4
WAT6	Susitna Watana	6.35	7			Pn	08 36 41.3	0.0
WAT6	Susitna Watana	6.35	7	P		Pn	08 36 41.3	0.0
	baz=188							
HARP	HAARP	6.49	18			Pn	08 36 43.7	+0.6
HARP	HAARP	6.49	18	P		Pn	08 36 43.7	+0.6
	baz=201							
L19K	White Mountain	6.52	337			Pn	08 36 42.5	-1.0
WAT7	Susitna Watana	6.55	2			Pn	08 36 44.2	+0.2
WAT1	Susitna Watana	6.56	4			Pn	08 36 44.5	+0.5
WAT1	Susitna Watana	6.56	4	P		Pn	08 36 44.9	+0.9
	baz=184							
M17K	Holitna River	6.58	324			Pn	08 36 44.2	-0.1
M16K	Timber Creek	6.86	318			Pn	08 36 48.9	+0.8
DHY	Denali Highway	6.87	8			Pn	08 36 48.7	+0.3
DHY	Denali Highway	6.87	8	P		Pn	08 36 48.7	+0.3
	baz=189							
M26K	Nabesna, AK	6.94	26			Pn	08 36 49.4	+0.2
O29M	Mount Kennedy	6.98	50			Pn	08 36 49.9	+0.1
PAX	Paxson	6.98	15			Pn	08 36 50.0	+0.1
PAX	Paxson	6.98	15	P		Pn	08 36 50.0	+0.1
	baz=198							
L18K	Granite Mounta	7.00	331	Pn		Pn	08 36 49.3	-0.7
P29M	Windy Craggy	7.05	57			Pn	08 36 49.6	-1.2
YUK2	White River	7.05	35			Pn	08 36 50.6	-0.2
PS4A	Pavlof South-4	7.07	267			Pn	08 36 50.9	-0.1
YUK8	Steele Glacier	7.07	41			Pn	08 36 52.0	+0.7
YUK8	Steele Glacier	7.07	41	P		Pn	08 36 51.9	+0.7
	baz=229							
RND	Reindeer	7.13	2			Pn	08 36 51.9	0.0
PN7A	Pavlof North-7	7.13	268			Pn	08 36 52.3	+0.4
YUK3	Moose Creek	7.17	36	P		Pn	08 36 53.4	+0.8
	baz=224							
TRF	Thorofare Moun	7.18	357	Pn		Pn	08 36 53.1	+0.4
M27K	Edge Creek, AK	7.19	29			Pn	08 36 52.8	0.0
M27K	Edge Creek, AK	7.19	29	P		Pn	08 36 52.8	0.0
	baz=215							
YUK7	Dusty Glacier	7.28	50			Pn	08 36 54.2	+0.2
KTH	Kantishna Hill	7.31	355			Pn	08 36 54.5	+0.1
YUK6	Outpost Mounta	7.41	47	P		Pn	08 36 56.2	+0.4
	baz=235							
TTA	Tatalina	7.43	336	Pn		Pn	08 36 55.0	-1.0
K20K	Telida	7.45	344			Pn	08 36 56.3	+0.1
K24K	Donnelly Dome	7.74	12			Pn	08 37 00.6	+0.4
K24K	Donnelly Dome	7.74	12	P		Pn	08 37 00.6	+0.4
	baz=195							
SIT	Sitka	7.80	79	P		Pn	08 36 58.1	-2.9
K17K	Iditarod	7.85	329	Pn		Pn	08 37 01.1	-0.6
BPAW	Bear Paw Mtn.	7.86	355	Pn		Pn	08 37 01.3	-0.5
BWN	Browne	7.89	360	Pn		Pn	08 37 03.4	+1.2
J18K	Innoko River	8.06	336	Pn		Pn	08 37 03.6	-0.9
FALS	False Pass	8.06	265			Pn	08 37 04.8	+0.3
FALS	False Pass	8.06	265	P		Pn	08 37 05.4	+0.8
FALS	False Pass	8.06	265	P		Pn	08 37 04.8	+0.3
	baz=74							
SKAG	Skagway	8.15	61	P		Pn	08 37 04.8	-0.9
SCRK	Sand Creek	8.16	17			Pn	08 37 07.2	+1.2
WRH	Wood River Hil	8.22	4	Pn		Pn	08 37 06.7	0.0
ISLZ	Isanotski Laza	8.26	265			Pn	08 37 07.1	-0.3
M29M	Somme Creek	8.31	38			Pn	08 37 08.0	-0.1
M29M	Somme Creek	8.31	38	P		Pn	08 37 08.0	-0.1
	baz=227							
NEA2	Nenana	8.32	1			Pn	08 37 08.7	+0.6
NEA2	Nenana	8.32	1	P		Pn	08 37 08.7	+0.6
	baz=181							
SSLS	Shishaldin Sou	8.43	265			Pn	08 37 09.8	+0.1
IL31		8.58	7			Pn	08 37 12.1	+0.4
ILAR	Eielson Array	8.58	7	Pn		Pn	08 37 12.8	+1.0
ILAR	Eielson Array	8.58	7	Pn		Pn	08 37 13.1	+1.4
	comp=N,0.2nm,0.3s,baz=189,slow=13,SNR=16							
ILAR					Sn	Sn	08 38 45.3	-3.2
	comp=N,0.2nm,0.3s,baz=183,slow=17,SNR=2.0							
ILAR					LR	LR	08 40 42.3	
	comp=N,139nm,20.4s,baz=98,slow=38							
	comp=N,1.7nm,0.9s							
COLA	College	8.63	4	P		Pn	08 37 14.0	+1.7
WHY	Whitehorse	8.77	54			Pn	08 37 14.6	+0.1
I23K	Minto, Yukon-K	8.87	0			Pn	08 37 16.3	+0.6
I23K	Minto, Yukon-K	8.87	0	P		Pn	08 37 16.3	+0.6
	baz=180							
P32M	Atlin	8.97	62			Pn	08 37 16.2	-1.0
P33M	Teslin, Yukon	9.58	59			Pn	08 37 24.3	-1.1
UNV	Unalaska Valle	10.10	263	P		Pn	08 37 31.8	-0.7
R33M	Jennings River	10.30	65			Pn	08 37 34.8	-0.7
G23K	Bananza Creek	10.45	359			Pn	08 37 37.5	+0.2
DLBC	Dease Lake	10.68	70	Pn		Pn	08 37 41.0	+0.4
	comp=N,0.3nm,0.3s,baz=267,slow=5.8,SNR=8.8							
DLBC					LR	LR	08 41 14.3	
	comp=N,90nm,20.1s,baz=286,slow=34							
	comp=N,1.9nm,0.7s							
F21K	Alatna River	11.12	352			Pn	08 37 47.0	+0.6
F20K	Avaraart Lake	11.18	347			Pn	08 37 47.8	+0.6
E24K	Your Creek	11.82	2			Pn	08 37 56.2	+0.1
BBB	Bella Bella	13.11	99	LR		LR	08 42 10.6	
	comp=N,52nm,18.0s,baz=232,slow=32							
INK	Inuvik	14.06	25	Pn		Pn	08 38 28.7	+2.2
	comp=N,0.1nm,0.3s,baz=214,slow=11,SNR=6.3							
INK					LR	LR	08 44 55.4	
	comp=N,27nm,18.1s,baz=178,slow=41							
	comp=N,1.6nm,0.9s							
YKA	Yellowknife Ar	18.59	56	P		Pn	08 39 26.7	+1.9
	baz=264,slow=11,SNR=7.4							
	comp=N,0.9nm,1.1s							
NEW	Newport	21.17	99	LR		LR	08 46 24.3	
	comp=N,101nm,18.8s,baz=290,slow=32							
NVAR	Mina Array Bea	27.29	118	P		P	08 40 52.1	-0.3
	comp=N,0.2nm,0.3s,baz=320,slow=8.2,SNR=2.2							
	comp=N,0.2nm,0.3s							
H11N2	WAKE ISLAND Hy	48.83	240	T		T	09 37 13.8	
	baz=29,slow=76							
H11N3	WAKE ISLAND Hy	48.83	240	T		T	09 37 10.9	
	baz=29,slow=76							
H11N1	WAKE ISLAND Hy	48.84	240	T		T	09 37 17.2	
	baz=29,slow=76							
H11S1	WAKE ISLAND Hy	49.97	239	T		T	09 38 39.2	
	baz=29,slow=76,SNR=8.3							
H11S2	WAKE ISLAND Hy	49.98	239	T		T	09 38 38.8	
	baz=29,slow=76,SNR=7.2							
H11S3	WAKE ISLAND Hy	49.99	239	T		T	09 38 39.4	
	baz=29,slow=76,SNR=6.3							
MKAR	Makanchi Array	68.53	325	P		P	08 46 11.0	+1.1
	comp=N,0.2nm,0.4s,baz=18,slow=5.7,SNR=4.4							
	comp=N,0.2nm,0.4s							

NEIC ***14*** *08:45:27.6±1.8,56°.4N±0°.1×149°.53W±0°.09,h20km±11km, ML3.5/24,ML3.1(AEIC),Error ellipse: s-maj=18.6km s-min=4.2km az=160.0*

AEIC 14 08:45:28.3±2.2,56°.2N±0°.1×149°.4W±0°.1,h10km±9km, Error ellipse: s-maj=19.7km s-min=8.0km az=171.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.37	313		Pn	08 46 02.7	-4.5
KDAK	Kodiak Island	2.37	313		Sn	08 46 28.8	-7.4
OHAK	Old Harbor	2.39	297		Pn	08 46 02.5	-5.0
OHAK					Sn	08 46 29.2	-7.6
OHAK	Old Harbor	2.39	297	IAML		08 47 21.9	
	comp=N,228nm,0.9s						
SYI	Shuyak Island	2.91	327		Pn	08 46 10.1	-4.6
SYI					Sn	08 46 42.8	-6.8
CNPM	China Poot	3.48	344		Pn	08 46 17.3	-5.1
CNPM					Sn	08 46 56.9	-6.7
CNPM	China Poot	3.48	344	IAML		08 48 05.7	
	comp=E,99nm,1.1s						
Q19K	Cape Douglas,	3.57	322		Pn	08 46 20.4	-3.4
BRSE	Bradley Lake S	3.62	349		Pn	08 46 19.2	-5.2
BRSE					Sn	08 46 58.5	-8.7
BRLK	Bradley Lake	3.66	348		Pn	08 46 19.7	-5.3
BRLK					Sn	08 47 00.9	-7.2
BRLK	Bradley Lake	3.66	348	IAML		08 47 13.2	
	comp=N,75nm,0.6s						
BRLK				IAML		08 47 57.8	
	comp=E,83nm,0.5s						
KAKN	Katmai Knife C	3.74	306		Pn	08 46 22.5	-3.5
SEW	Seward	3.91	359		Pn	08 46 22.2	-6.2
CNTC	Contact Creek	4.10	303		Pn	08 46 27.5	-3.5
O20K	Slope Mountain	4.25	337		Pn	08 46 28.6	-4.5
ILSW	Iliamna Southw	4.28	334		Pn	08 46 28.6	-5.0
SLKM	Skilak Lake	4.34	354		Pn	08 46 29.0	-5.3
HIN	Hinchinbrook I	4.46	19		Pn	08 46 30.9	-5.1
HIN					Sn	08 47 22.1	-5.9
P18K	Big Mountain,	4.48	318		Pn	08 46 32.1	-4.0
RDT	Redoubt	4.66	341		Pn	08 46 33.4	-5.3
EYAK	Cordova Ski Ar	4.75	22		Pn	08 46 35.4	-4.5
P17K	Kvichak River	4.83	311		Pn	08 46 37.5	-3.5
GOAT	Goat Mountain	5.02	27		Pn	08 46 39.3	-4.4
KNK	Knik Glacier	5.24	5		Pn	08 46 42.8	-3.9
SNH	Sunshine Point	5.27	38	Pn	Pn	08 46 44.9	-2.2
PMR	Palmer	5.40	1	Pn	Pn	08 46 45.0	-3.8
PMR				IAML		08 48 37.9	
	comp=N,21nm,0.8s						
PMR				IAML		08 49 02.1	
	comp=E,22nm,1.0s						
GHO	Glory Hole Cre	5.59	2	Pn	Pn	08 46 47.9	-3.6
KLU	Klutina	5.59	17	Pn	Pn	08 46 47.9	-3.7

IDC ***14*** *08:46:15.7±2.1,56°.14N×149°.39W,h0km,mb3.8/5, mbtmp3.8/10,ML3.3/5,MS3.4/31,Error ellipse: s-maj=37.3km s-min=25.3km az=173.0*

NEIC ***14*** *08:46:17.3±1.5,56°.24N±0°.09×149°.5W±0°.1,h20km±9km, ML3.7/56,ML3.6(AEIC),Error ellipse: s-maj=13.5km s-min=8.4km az=150.0*

AEIC ***14*** *08:46:19.4±2.3,56°.17N±0°.09×149°.3W±0°.1,h12km±7km, Error ellipse: s-maj=13.0km s-min=8.5km az=158.0*

ISC 14 08:46:17.1±1.0,56°.28N±0°.08×149°.48W±0°.06,h10km, n267,σ1s24/232,mb3.8/5,MS3.4/25,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.27	313		Pn	08 46 54.5	0.0
KDAK					Sn	08 47 21.1	-1.3
KDAK	Kodiak Island	2.27	313	IAML		08 47 22.9	
	135nm,0.6s						
KDAK				IAML		08 47 30.5	
	154nm,0.8s						
KDAK	Kodiak Island	2.27	313	Pn	Pn	08 46 53.6	-0.9
	5.3nm,0.3s,baz=153,slow=13,SNR=28						
KDAK				Sn	Sn	08 47 20.6	-1.9
	10nm,0.3s,baz=170,slow=15,SNR=5.9						
KDAK				LR	LR	08 48 04.2	
	comp=Z,264nm,18.9s,baz=153,slow=45						
	13nm,0.3s						
OHAK	Old Harbor	2.30	296	Pn	Pn	08 46 54.0	-0.9
OHAK	Old Harbor	2.30	296		Sn	08 47 21.1	-2.1
OHAK	Old Harbor	2.30	296	P	Pn	08 46 54.1	-0.9
OHAK	Old Harbor	2.30	296	P	Pn	08 46 53.8	-1.2
	baz=114						
OHAK				S	Sn	08 47 21.1	-2.1
	baz=114						
SII	Sitkinak Islan	2.63	278		Pn	08 46 58.5	-1.0
SII					Sn	08 47 28.7	-2.7
SII	Sitkinak Islan	2.63	278	IAML		08 47 33.0	
	comp=E,236nm,1.0s						
SII				IAML		08 47 34.8	
	comp=N,335nm,0.9s						
SII	Sitkinak Islan	2.63	278	P	Pn	08 46 59.4	-0.1
SII	Sitkinak Islan	2.63	278	P	Pn	08 46 58.5	-1.0
	baz=96						
SII				S	Sn	08 47 28.7	-2.7
	baz=96						
SYI	Shuyak Island	2.81	327		Pn	08 47 01.3	-0.7
SYI					Sn	08 47 34.1	-1.8
SYI	Shuyak Island	2.81	327	IAML		08 47 38.2	
	comp=E,122nm,0.7s						
SYI				IAML		08 47 44.6	
	comp=N,89nm,0.8s						
Q20K	Shuyak Island	2.81	327	P	Pn	08 47 01.3	-0.7
	baz=144						
Q20K				S	Sn	08 47 34.1	-1.9
	baz=144						
CNPM	China Poot	3.38	345	Pn	Pn	08 47 09.3	-0.7
CNPM	China Poot	3.38	345		Sn	08 47 48.9	-1.2
Q19K	Cape Douglas,	3.47	322		Pn	08 47 11.6	+0.4
Q19K					Sn	08 47 51.7	-0.6
Q19K	Cape Douglas,	3.47	322	IAML		08 48 02.4	
	comp=N,531nm,0.7s						
Q19K				IAML		08 48 06.8	
	comp=E,906nm,0.9s						
Q19K	Cape Douglas,	3.47	322	P	Pn	08 47 11.5	+0.4
	baz=138						
Q19K				S	Sn	08 47 51.7	-0.6
	baz=138						
CHIR	Chirikof Islan	3.47	265		Pn	08 47 10.2	-1.0
CHIR					Sn	08 47 49.3	-2.9
CHIR	Chirikof Islan	3.47	265	IAML		08 48 03.7	
	comp=E,110nm,1.2s						
CHIR	Chirikof Islan	3.47	265	P	Pn	08 47 10.2	-1.0
	baz=82						
CHIR				S	Sn	08 47 49.3	-2.9
	baz=82						
BRSE	Bradley Lake S	3.53	350		Pn	08 47 10.5	-1.5
BRSE	Bradley Lake S	3.53	350	P	Pn	08 47 10.5	-1.5
	baz=167						
BRLK	Bradley Lake	3.57	349		Pn	08 47 10.9	-1.6
Q23K	Middleton Isla	3.57	27		Pn	08 47 10.0	-2.5
Q23K	Middleton Isla	3.57	27	IAML		08 47 50.4	
	comp=N,164nm,1.4s						
Q23K				IAML		08 48 36.1	
	comp=E,150nm,1.4s						
Q23K	Middleton Isla	3.57	27	P	Pn	08 47 10.0	-2.5
	baz=207						
MID	Middleton Isla	3.57	27		Pn	08 47 10.1	-2.4
MID	Middleton Isla	3.57	27	IAML		08 47 56.1	
	comp=E,150nm,1.5s						
MID				IAML		08 47 57.0	
	comp=N,166nm,1.2s						
MID	Middleton Isla	3.57	27	P	Pn	08 47 10.9	-1.6
HOM	Homer	3.58	342		Pn	08 47 12.2	-0.3
HOM	Homer	3.58	342	IAML		08 48 29.3	
	comp=N,259nm,0.9s						
HOM	Homer	3.58	342	P	Pn	08 47 12.2	-0.3
	baz=159						
KAKN	Katmai Knife C	3.64	306		Pn	08 47 13.7	+0.2

baz=144
O18K **Koktuh Hills** 4.70 322 Pn 08 47 27.6 -0.4
O18K **Koktuh Hills** 4.70 322 IAML 08 48 26.7
comp=N,86nm,0.8s
O18K IAML 08 48 40.4
comp=E,47nm,0.9s
O18K **Koktuh Hills** 4.70 322 P Pn 08 47 27.8 -0.2
baz=137
EYAK **Cordova Ski Ar** 4.71 23 P Pn 08 47 26.7 -1.3
EYAK **Cordova Ski Ar** 4.71 23 P Pn 08 47 26.6 -1.5
baz=205
P17K **Kvichak River** 4.73 311 P Pn 08 47 28.8 +0.4
baz=125
RC01 **Rabbit Creek A** 4.82 359 Pn 08 47 28.3 -1.4
RC01 **Rabbit Creek A** 4.82 359 IAML 08 48 32.6
comp=N,50nm,1.1s
RC01 IAML 08 48 45.2
comp=E,56nm,0.9s
RC01 **Rabbit Creek A** 4.82 359 P Pn 08 47 28.3 -1.4
baz=177
RAGM **Ragged Mountai** 4.83 30 Pn 08 47 26.8 -3.1
FIS **Fire Island** 4.89 356 Pn 08 47 30.2 -0.4
FIS **Fire Island** 4.89 356 IAML 08 48 42.5
comp=E,85nm,0.9s
FIS IAML 08 48 53.3
comp=N,92nm,1.0s
CHGN **Chignik** 4.97 274 Pn Pn 08 47 32.4 +0.6
CHGN IAML 08 49 53.5
comp=N,73nm,0.1s
CHGN IAML 08 49 53.7
comp=E,67nm,0.1s
GOAT **Goat Mountain** 4.98 28 Pn 08 47 30.7 -1.2
BERG **Berg Lake** 5.12 34 Pn 08 47 32.5 -1.3
BERG IAML 08 48 42.3
comp=N,93nm,1.1s
N20K **Mount Spurr** 5.13 345 P Pn 08 47 33.1 -0.9
baz=162
SPCR **Spurr Chakacha** 5.13 345 Pn 08 47 33.1 -0.9
GRIN **Grindle Hills** 5.16 36 Pn 08 47 32.9 -1.5
KNK **Knik Glacier** 5.17 5 Pn 08 47 33.4 -1.1
KNK **Knik Glacier** 5.17 5 IAML 08 48 58.1
comp=N,30nm,1.1s
KNK IAML 08 48 59.2
comp=E,35nm,1.1s
KNK **Knik Glacier** 5.17 5 P Pn 08 47 33.7 -0.8
baz=185
DIV **Divide** 5.23 20 Pn 08 47 34.0 -1.4
SUA **Susitna One** 5.24 353 Pn Pn 08 47 34.2 -1.3
SUA IAML 08 49 05.7
comp=N,28nm,0.9s
SUA IAML 08 49 21.6
comp=E,34nm,1.5s
SUA **Susitna One** 5.24 353 P Pn 08 47 34.4 -1.1
baz=171
N19K **Bonanza Creek** 5.24 332 Pn 08 47 34.6 -0.9
N19K **Bonanza Creek** 5.24 332 IAML 08 48 50.9
comp=N,34nm,1.0s
N19K IAML 08 49 06.1
comp=E,30nm,1.4s
N19K **Bonanza Creek** 5.24 332 P Pn 08 47 34.6 -0.9
baz=148
KHIT **Khitrov Hills** 5.31 36 Pn 08 47 34.9 -1.5
PMR **Palmer** 5.33 2 Pn 08 47 35.7 -0.9
PMR **Palmer** 5.33 2 P Pn 08 47 36.2 -0.4
PMR **Palmer** 5.33 2 P Pn 08 47 35.7 -0.9
baz=181
P16K **Nushagak River** 5.33 305 Pn 08 47 36.8 +0.2
P16K **Nushagak River** 5.33 305 P Pn 08 47 36.8 +0.2
baz=118
BMRM **Bremner River** 5.34 26 P Pn 08 47 35.5 -1.4
baz=209
O17K **Koliganek Bris** 5.35 314 Pn 08 47 36.7 -0.1
O17K **Koliganek Bris** 5.35 314 P Pn 08 47 36.7 -0.1
baz=128
SPNN **North Nagishla** 5.37 343 Pn 08 47 36.3 -1.0
STLK **Strandline Lak** 5.37 348 Pn 08 47 35.9 -1.4
WAX **Waxell Ridge** 5.44 37 Pn 08 47 37.0 -1.3
GHO **Glory Hole Cre** 5.51 3 Pn 08 47 38.7 -0.5
BARK **Barkley Ridge** 5.53 39 Pn 08 47 38.1 -1.4
KLU **Klutina** 5.54 18 Pn 08 47 38.3 -1.3
KLU **Klutina** 5.54 18 P Pn 08 47 38.3 -1.3
baz=200
SML **Sawmill** 5.57 6 Pn 08 47 39.5 -0.5
SML **Sawmill** 5.57 6 P Pn 08 47 39.5 -0.5
baz=186
MESA **MESA** 5.58 42 Pn 08 47 38.1 -2.0
MESA **MESA** 5.58 42 P Pn 08 47 38.1 -2.0
baz=227
O16K **Kokwok River B** 5.66 309 Pn 08 47 41.1 -0.1
O16K **Kokwok River B** 5.66 309 P Pn 08 47 41.1 -0.1
baz=122
SCM **Sheep Creek Mo** 5.68 10 Pn 08 47 41.0 -0.5
SCM **Sheep Creek Mo** 5.68 10 P Pn 08 47 41.0 -0.5
baz=191
ISLE **Juniper Island** 5.73 38 Pn 08 47 41.4 -0.9
BAGL **Bagley Icefiel** 5.74 40 Pn 08 47 41.2 -0.9
SVW2 **Sparrevohn** 5.78 329 Pn Pn 08 47 41.9 -0.9
SVW2 **Sparrevohn** 5.78 329 P Pn 08 47 42.1 -0.7
SKT **Skwentna** 5.81 350 Pn 08 47 42.6 -0.6
SKT **Skwentna** 5.81 350 P Pn 08 47 42.6 -0.6
baz=168
VRDI **Verde Repeater** 5.87 30 Pn Pn 08 47 42.7 -1.5
N25K **Chitina, Valde** 5.91 23 Pn 08 47 43.3 -1.3
N25K **Chitina, Valde** 5.91 23 P Pn 08 47 43.3 -1.3
baz=206
M20K **Styx River** 5.92 343 Pn 08 47 43.9 -0.9
KIAG **Kiagna River** 5.96 36 Pn 08 47 44.0 -1.5
M24K **Tolsona, Glenn** 6.08 15 Pn 08 47 46.9 -0.1
M24K **Tolsona, Glenn** 6.08 15 P Pn 08 47 46.9 -0.1
baz=196
MCARA **McCarthy VSAT** 6.12 31 Pn 08 47 46.3 -1.1
MCARA **McCarthy VSAT** 6.12 31 P Pn 08 47 46.3 -1.1
baz=215
PTPK **Patty Peak** 6.12 34 Pn 08 47 46.2 -1.5
M18K **Stony River** 6.17 330 Pn 08 47 46.9 -1.2
M18K **Stony River** 6.17 330 P Pn 08 47 46.9 -1.2
baz=145
M19K **Big River Lodg** 6.18 338 Pn 08 47 47.9 -0.4
PCA **Pinnacle** 6.20 48 Pn 08 47 46.8 -1.8
PINM **Pinnacle** 6.20 48 P Pn 08 47 46.8 -1.9
baz=234
SDPT **Sand Point** 6.27 266 Pn Pn 08 47 48.7 -0.8
SDPT **Sand Point** 6.27 266 P Pn 08 47 49.9 +0.4
BARN **Barnard Glacie** 6.29 37 Pn 08 47 48.7 -1.3
CTG **Chitna Glacier** 6.33 39 P Pn 08 47 48.9 -1.6
baz=224
CTGM **Chitina Glacie** 6.33 39 Pn 08 47 48.9 -1.7
PNL **Peninsula** 6.35 54 Pn 08 47 48.4 -2.2
PNL **Peninsula** 6.35 54 P Pn 08 47 49.8 -0.8
PNL **Peninsula** 6.35 54 P Pn 08 47 48.4 -2.2
baz=241
LOGN **Logan Glacier** 6.36 41 Pn 08 47 50.3 -0.6
WAT6 **Susitna Watana** 6.38 7 P Pn 08 47 50.8 -0.4
baz=188
BCPM **Bancas Point** 6.38 51 Pn 08 47 49.2 -1.9
HARP **HAARP** 6.52 18 Pn 08 47 52.5 -0.5
HARP **HAARP** 6.52 18 P Pn 08 47 52.5 -0.5
baz=201
WAT7 **Susitna Watana** 6.58 3 Pn 08 47 53.7 -0.2
WAT1 **Susitna Watana** 6.58 4 P Pn 08 47 54.0 +0.1
baz=184
DHY **Denali Highway** 6.90 8 Pn 08 47 57.9 -0.4
DHY **Denali Highway** 6.90 8 P Pn 08 47 57.9 -0.4
baz=189
O14K **Tigyukauivet M** 6.97 300 Pn 08 47 59.6 +0.6
O14K **Tigyukauivet M** 6.97 300 P Pn 08 47 59.7 +0.6
baz=111
M26K **Nabesna, AK** 6.97 26 Pn 08 47 59.0 -0.2
PAX **Paxson** 7.01 15 Pn 08 47 58.9 -0.8
PAX **Paxson** 7.01 15 P Pn 08 47 58.9 -0.8
baz=198
O29M **Mount Kennedy** 7.02 50 Pn 08 47 57.8 -2.1
O29M **Mount Kennedy** 7.02 50 P Pn 08 47 57.8 -2.1
baz=238
PS4A **Pavlof South-4** 7.04 267 Pn 08 47 59.6 -0.5
YUK2 **White River** 7.09 35 Pn 08 47 59.2 -1.6
PN7A **Pavlof North-7** 7.10 268 Pn 08 48 00.8 -0.1
RND **Reindeer** 7.15 2 Pn 08 48 02.0 +0.3
TRF **Thorofare Moun** 7.20 357 Pn 08 48 02.5 0.0
TRF **Thorofare Moun** 7.20 357 P Pn 08 48 02.5 0.0
baz=176
M27K **Edge Creek, AK** 7.22 29 Pn 08 48 01.2 -1.6
M27K **Edge Creek, AK** 7.22 29 P Pn 08 48 01.2 -1.6
baz=215
CAST **Castle Rocks** 7.28 351 Pn 08 48 03.4 0.0
baz=168
MENT **Mentasta** 7.29 21 Pn 08 48 03.5 0.0
YUK7 **Dusty Glacier** 7.32 50 Pn 08 48 02.0 -2.1
TTA **Tatalina** 7.44 336 Pn Pn 08 48 05.0 -0.6
TTA **Tatalina** 7.44 336 P Pn 08 48 05.0 -0.6
YUK6 **Outpost Mounta** 7.45 47 Pn 08 48 03.8 -2.1
YUK6 **Outpost Mounta** 7.45 47 P Pn 08 48 03.8 -2.1
baz=235
MCK **McKinley** 7.48 2 Pn 08 48 06.4 +0.2
MCK **McKinley** 7.48 2 P Pn 08 48 06.4 +0.2
baz=182
L16K **Owhat River** 7.49 321 Pn 08 48 05.9 -0.3
L16K **Owhat River** 7.49 321 P Pn 08 48 05.9 -0.3
baz=132
YUK4 **Talbot Arm** 7.57 43 P Pn 08 48 07.6 +0.1
baz=231
L27K **Beaver Creek,** 7.82 26 Pn 08 48 10.8 -0.1
BPAW **Bear Paw Mtn.** 7.88 355 Pn 08 48 10.8 -0.8
BPAW **Bear Paw Mtn.** 7.88 355 P Pn 08 48 10.8 -0.8
baz=173
FALS **False Pass** 8.03 266 Pn 08 48 13.1 -0.5
FALS **False Pass** 8.03 266 P Pn 08 48 14.0 +0.4
FALS **False Pass** 8.03 266 P Pn 08 48 13.1 -0.5
baz=75
SKAG **Skagway** 8.19 61 Pn Pn 08 48 15.2 -0.6
SKAG **Skagway** 8.19 61 P Pn 08 48 14.9 -0.9
BESE **Bessie Mountai** 8.22 68 Pn 08 48 13.6 -2.7
NEA2 **Nenana** 8.34 1 Pn 08 48 18.0 +0.1
NEA2 **Nenana** 8.34 1 P Pn 08 48 18.0 +0.1
baz=181
M29M **Somme Creek** 8.35 38 Pn 08 48 16.9 -1.2
M29M **Somme Creek** 8.35 38 P Pn 08 48 17.0 -1.2
baz=226
R32K **Eaglecrest** 8.35 70 Pn 08 48 16.7 -1.4
SSLS **Shishaldin Sou** 8.39 265 Pn 08 48 18.1 -0.6
JIS **Juneau Island** 8.42 70 P Pn 08 48 18.3 -0.7
IL31 8.61 7 Pn 08 48 20.6 -1.0
ILAR **Eielson Array** 8.61 7 Pn Pn 08 48 21.4 -0.3
comp=E,0.2nm,0.3s,baz=188,slow=13,SNR=16
ILAR Sn Sn 08 49 53.9 -4.8
comp=E,0.1nm,0.3s,baz=193,slow=19,SNR=2.6
ILAR LR LR 08 51 50.4
comp=E,282nm,20.4s,baz=130,slow=38
comp=E,1.5nm,0.6s
COLA **College** 8.66 5 Pn 08 48 22.7 +0.5
MDM **Murphy Dome** 8.73 4 Pn 08 48 22.7 -0.6
WESE **West Dahl East** 8.79 264 Pn 08 48 23.6 -0.5
MLY **Manley** 8.80 357 P Pn 08 48 23.6 -0.6
baz=175
WHY **Whitehorse** 8.81 54 Pn 08 48 24.7 +0.2
I23K **Minto, Yukon-K** 8.90 0 P Pn 08 48 25.8 +0.3
baz=180
I21K **Tanana** 9.01 353 P Pn 08 48 27.1 0.0
baz=170
P32M **Atlin** 9.02 62 Pn 08 48 24.6 -2.6
P32M **Atlin** 9.02 62 P Pn 08 48 24.6 -2.6
baz=254
DAWY **Dawson** 9.27 29 Pn Pn 08 48 30.1 -0.6
EGAK **Eagle** 9.45 22 Pn Pn 08 48 33.7 +0.6
H21K **Melozitna Rive** 9.54 352 Pn 08 48 33.9 -0.5
H21K **Melozitna Rive** 9.54 352 P Pn 08 48 33.9 -0.5
baz=168
UNV **Unalaska Valle** 10.06 263 P Pn 08 48 41.9 +0.4
R33M **Jennings River** 10.35 65 Pn 08 48 43.7 -1.8
DLBC **Dease Lake** 10.72 70 Pn Pn 08 48 49.7 -0.9
comp=E,0.4nm,0.3s,baz=268,slow=9.4,SNR=9.2
DLBC LR LR 08 52 23.7
comp=E,297nm,18.9s,baz=290,slow=34
comp=E,1.5nm,0.4s
F20K **Avaraart Lake** 11.20 347 Pn 08 48 56.5 -0.4
F24K **Squaw Lake** 11.30 3 Pn Pn 08 48 58.9 +0.5
E19K **Redstone River** 11.78 345 Pn 08 49 05.2 +0.3
E25K **Arctic Village** 12.02 7 Pn Pn 08 49 08.9 +0.7
TOLK **Toolik Lake Re** 12.40 360 Pn Pn 08 49 15.7 +2.2
BBB **Bella Bella** 13.14 99 LR LR 08 53 13.5
comp=E,282nm,18.6s,baz=246,slow=32
INK **Inuvik** 14.09 25 Pn Pn 08 49 37.9 +1.4
comp=E,0.1nm,0.3s,baz=224,slow=12,SNR=8.1
INK LR LR 08 55 23.4
comp=E,101nm,18.6s,baz=14,slow=39
comp=E,3.3nm,1.0s
YKA **Yellowknife Ar** 18.63 56 P Pn 08 50 35.2 +0.5
baz=266,slow=11,SNR=14
YKA LR LR 08 57 29.9
comp=E,144nm,18.9s,baz=290,slow=36
comp=E,3.3nm,1.1s
NEW **Newport** 21.20 99 LR LR 08 58 08.8
comp=E,84nm,20.2s,baz=275,slow=34
SHEM **Shemya Is, Ala** 21.28 276 LR LR 09 00 13.6
comp=E,48nm,18.3s,baz=280,slow=39
YBH **Yreka Blue Hor** 22.61 119 LR LR 08 57 51.5
comp=E,87nm,19.8s,baz=324,slow=31
ELK **Elko** 27.13 110 LR LR 09 00 21.5
comp=E,121nm,18.1s,baz=295,slow=31
PDAR **Pinedale Array** 28.78 101 LR LR 09 02 05.9
comp=E,53nm,18.2s,baz=83,slow=33
PETK **Petropavlovsk-** 30.07 287 LR LR 09 05 40.5
comp=E,33nm,18.4s,baz=85,slow=39
MA2 **Magadan** 30.96 301 LR LR 09 04 50.8
comp=E,52nm,21.7s,baz=94,slow=36
ULM **Lac du Bonnet** 31.91 78 LR LR 09 05 10.5
comp=E,151nm,19.4s,baz=336,slow=36
FRB **Frobisher Bay** 38.51 45 LR LR 09 08 35.5
comp=E,71nm,18.2s,baz=136,slow=35
YAK **Yakutsk** 39.30 313 LR LR 09 09 21.4
comp=E,47nm,18.7s,baz=106,slow=35
TXAR **Lajitas Array** 41.93 110 LR LR 09 10 25.9
comp=E,47nm,18.1s,baz=348,slow=35
ASAJ **Asahikawa** 43.38 284 LR LR 09 11 33.6
comp=E,41nm,20.0s,baz=30,slow=35
KLR **Kul'dur** 45.73 296 LR LR 09 16 02.5
comp=E,36nm,18.2s,baz=68,slow=39
TKL **Tuckaleechee C** 48.05 86 LR LR 09 14 37.9
comp=E,168nm,18.3s,baz=353,slow=36
H11N2 **WAKE ISLAND Hy** 48.78 240 T T 09 47 39.4
baz=30,slow=76,SNR=19
H11N3 **WAKE ISLAND Hy** 48.79 240 T T 09 47 39.9
baz=30,slow=76,SNR=17
H11N1 **WAKE ISLAND Hy** 48.80 240 T T 09 47 40.6
baz=30,slow=76,SNR=16
H11S1 **WAKE ISLAND Hy** 49.93 239 T T 09 49 42.8
baz=29,SNR=28
H11S2 **WAKE ISLAND Hy** 49.94 239 T T 09 49 44.9
baz=29,slow=74,SNR=17
H11S3 **WAKE ISLAND Hy** 49.95 239 T T 09 49 44.9
baz=29,slow=74,SNR=19
MJAR **Matsushiro Arr** 51.05 279 LR LR 09 16 33.4
comp=E,18nm,20.8s,baz=46,slow=36
JHJ **Hachijo jima 2** 52.71 275 LR LR 09 17 39.2
comp=E,17nm,19.9s,baz=286,slow=36
ARCES **ARCESS Array B** 54.43 2 P P 08 55 43.8 0.0
comp=E,2.9nm,0.8s,baz=357,slow=15,SNR=2.2
comp=E,2.9nm,0.8s
KSRS **Korea Array** 55.95 288 LR LR 09 18 39.6
comp=E,11nm,21.5s,baz=100,slow=35
JNU **Nakatsue** 57.62 282 LR LR 09 20 03.8
comp=E,16nm,21.7s,baz=49,slow=35
NOA **NORSAR Array B** 62.03 10 LR LR 09 26 14.4
comp=E,9.8nm,18.0s,baz=290,slow=39
FINES **FINESS Array B** 62.56 2 P P 08 56 41.9 +1.4
comp=E,1.3nm,0.7s,baz=355,slow=9.6,SNR=5.6
comp=E,1.3nm,0.7s
ARU **Arti** 65.37 343 LR LR 09 26 17.0
comp=E,35nm,21.6s,baz=158,slow=37
KURBB **Kurchatov Arra** 66.28 329 P P 08 57 04.6 -0.4
comp=E,0.2nm,0.4s,baz=30,slow=6.5,SNR=2.1
comp=E,0.2nm,0.4s
JTS **Las Juntas de** 67.46 106 LR LR 09 29 40.2
comp=E,61nm,18.1s,baz=91,slow=39
MKAR **Makanchi Array** 68.53 325 P P 08 57 21.3 +1.9
comp=E,0.3nm,0.4s,baz=33,slow=6.9,SNR=8.0
comp=E,0.3nm,0.4s
AKASG **Malin Array Be** 73.38 1 P P 08 57 50.8 +2.1
comp=E,0.2nm,0.3s,baz=356,slow=5.4,SNR=4.2
AKASG LR LR 09 32 55.1
comp=E,18nm,19.8s,baz=321,slow=38
comp=E,0.2nm,0.3s
VRAC **Vranov** 74.14 9 LR LR 09 34 53.2
comp=E,20nm,18.1s,baz=312,slow=39
GNI **Garni** 83.18 349 LR LR 09 39 50.0
comp=E,18nm,19.0s,baz=262,slow=39
GEYT **Alibeck** 83.26 338 LR LR 09 41 38.3
comp=E,19nm,18.1s,baz=13,slow=40

NEIC ***14*** *08:50:46.4±1.4,56°28N±0°08×149°44W±0°10, h23km±10km, ML3.8/62, ML3.5(AEIC), Error ellipse: s-maj=13.4km s-min=4.6km az=150.0*
AEIC ***14*** *08:50:50.9±1.8,56°38N±0°08×149°4W±0°1, h12km±7km, Error ellipse: s-maj=13.4km s-min=6.8km az=145.0*
ISC 14 08:50:44.2±1.4,**56°26N**±0°08×**149°41W**±0°06,**h10**km,
n208, σ0**98**/200**, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.31**	**313**		**Pn**	**08 51 22.6**	**+0.3**
KDAK	**Kodiak Island**	**2.31**	**313**		**Sn**	**08 51 49.6**	**-1.0**
KDAK	**Kodiak Island**	**2.31**	**313**	IAML		08 51 50.0	
	65nm,0.6s						
KDAK				IAML		08 52 00.2	
	54nm,0.7s						
KDAK	**Kodiak Island**	**2.31**	**313**	P	**Pn**	**08 51 22.6**	**+0.3**
	baz=129						
OHAK	**Old Harbor**	**2.34**	**296**		**Pn**	**08 51 22.6**	**-0.1**
OHAK					**Sn**	**08 51 48.2**	**-3.3**
OHAK	**Old Harbor**	**2.34**	**296**	P	**Pn**	**08 51 22.6**	**-0.1**
	baz=112						
OHAK				S	**Sn**	**08 51 49.7**	**-1.8**
	baz=112						
SII	**Sitkinak Islan**	**2.67**	**278**		**Pn**	**08 51 27.6**	**+0.3**
SII					**Sn**	**08 51 58.6**	**-1.0**
SII	**Sitkinak Islan**	**2.67**	**278**	P	**Pn**	**08 51 27.2**	**0.0**
SII	**Sitkinak Islan**	**2.67**	**278**	P	**Pn**	**08 51 27.5**	**+0.3**
	baz=94						
SII				S	**Sn**	**08 51 59.6**	**0.0**
	baz=94						
SYI	**Shuyak Island**	**2.85**	**327**		**Pn**	**08 51 30.2**	**+0.5**
SYI					**Sn**	**08 52 02.2**	**-1.8**
Q20K	**Shuyak Island**	**2.85**	**327**	P	**Pn**	**08 51 30.2**	**+0.5**
	baz=143						
Q20K				S	**Sn**	**08 52 03.5**	**-0.6**
	baz=143						
CNPM	**China Poot**	**3.41**	**344**		**Pn**	**08 51 37.9**	**+0.4**
Q19K	**Cape Douglas,**	**3.51**	**321**		**Pn**	**08 51 39.7**	**+0.9**
Q19K					**Sn**	**08 52 19.3**	**-1.1**
Q19K	**Cape Douglas,**	**3.51**	**321**	IAML		08 52 27.2	
	comp=N,250nm,0.7s						
Q19K				IAML		08 52 31.3	
	comp=E,294nm,0.8s						
Q19K	**Cape Douglas,**	**3.51**	**321**	P	**Pn**	**08 51 39.7**	**+0.9**
	baz=137						
Q19K				S	**Sn**	**08 52 19.3**	**-1.1**
	baz=137						
CHIR	**Chirikof Islan**	**3.51**	**265**		**Pn**	**08 51 38.6**	**-0.2**
CHIR	**Chirikof Islan**	**3.51**	**265**	P	**Pn**	**08 51 38.8**	**0.0**
	baz=80						
BRSE	**Bradley Lake S**	**3.56**	**349**		**Pn**	**08 51 39.4**	**-0.1**
BRSE	**Bradley Lake S**	**3.56**	**349**	P	**Pn**	**08 51 39.4**	**-0.1**
	baz=167						
Q23K	**Middleton Isla**	**3.57**	**26**		**Pn**	**08 51 39.2**	**-0.4**
Q23K	**Middleton Isla**	**3.57**	**26**	IAML		08 52 30.2	
	comp=E,121nm,1.2s						
Q23K				IAML		08 52 43.9	
	comp=N,140nm,1.1s						
Q23K	**Middleton Isla**	**3.57**	**26**	P	**Pn**	**08 51 39.2**	**-0.4**
	baz=208						
MID	**Middleton Isla**	**3.57**	**26**		**Pn**	**08 51 39.2**	**-0.4**
MID	**Middleton Isla**	**3.57**	**26**	IAML		08 52 43.8	
	comp=E,163nm,1.2s						
MID				IAML		08 53 28.5	
	comp=N,121nm,1.2s						
MID	**Middleton Isla**	**3.57**	**26**	P	**Pn**	**08 51 39.5**	**-0.1**
BRLK	**Bradley Lake**	**3.60**	**348**		**Pn**	**08 51 40.2**	**+0.2**
BRLK				IAML		08 52 27.8	
	comp=N,339nm,0.3s						
HOM	**Homer**	**3.61**	**342**		**Pn**	**08 51 40.7**	**+0.6**
HOM	**Homer**	**3.61**	**342**	P	**Pn**	**08 51 41.1**	**+1.0**
	baz=159						
ACHA	**Angle Creek He**	**3.76**	**304**		**Pn**	**08 51 43.9**	**+1.6**
AUCH	**Augustine Cone**	**3.78**	**327**		**Pn**	**08 51 44.7**	**+2.1**
SEW	**Seward**	**3.85**	**360**		**Pn**	**08 51 43.0**	**-0.4**
SEW	**Seward**	**3.85**	**360**	P	**Pn**	**08 51 43.0**	**-0.4**
	baz=179						
KAHC	**Katmai Hardscr**	**3.85**	**311**		**Pn**	**08 51 44.9**	**+1.3**
KAHC	**Katmai Hardscr**	**3.85**	**311**	P	**Pn**	**08 51 44.9**	**+1.3**
	baz=125						
P23K	**Montague Islan**	**3.89**	**15**	P	**Pn**	**08 51 43.9**	**-0.1**
	baz=196						
P19K	**Oil Pt**	**3.96**	**331**		**Pn**	**08 51 46.6**	**+1.6**
P19K	**Oil Pt**	**3.96**	**331**	IAML		08 52 37.9	
	comp=E,197nm,0.5s						
P19K				IAML		08 52 38.0	
	comp=N,222nm,0.4s						
P19K	**Oil Pt**	**3.96**	**331**	P	**Pn**	**08 51 46.6**	**+1.6**
	baz=147						
CNTC	**Contact Creek**	**4.05**	**302**		**Pn**	**08 51 47.6**	**+1.4**
Q17K	**Contact Creek**	**4.05**	**302**	P	**Pn**	**08 51 47.6**	**+1.4**
	baz=116						
O20K	**Slope Mountain**	**4.19**	**337**		**Pn**	**08 51 48.7**	**+0.6**
O20K	**Slope Mountain**	**4.19**	**337**	P	**Pn**	**08 51 49.1**	**+1.0**
	baz=154						
ILSW	**Iliamna Southw**	**4.22**	**334**	Pn	**Pn**	**08 51 49.5**	**+0.8**
ILSW				IAML		08 52 35.5	
	comp=N,82nm,0.2s						
ILSW				IAML		08 52 44.8	
	comp=E,57nm,0.6s						
O22K	**Cooper Landing**	**4.23**	**358**		**Pn**	**08 51 49.5**	**+0.8**
O22K	**Cooper Landing**	**4.23**	**358**	P	**Pn**	**08 51 49.5**	**+0.8**
	baz=177						
P18K	**Big Mountain,**	**4.42**	**318**		**Pn**	**08 51 51.9**	**+0.6**
P18K	**Big Mountain,**	**4.42**	**318**	P	**Pn**	**08 51 51.9**	**+0.6**
	baz=132						
HIN	**Hinchinbrook I**	**4.42**	**19**		**Pn**	**08 51 51.3**	**0.0**
HIN	**Hinchinbrook I**	**4.42**	**19**	IAML		08 52 42.2	
	comp=N,122nm,0.5s						
HIN				IAML		08 52 46.5	
	comp=E,86nm,0.7s						
KAIM	**Kayak Island**	**4.53**	**34**		**Pn**	**08 51 53.0**	**+0.2**
KAIM	**Kayak Island**	**4.53**	**34**	IAML		08 52 49.1	
	comp=E,129nm,1.1s						
KAIM				IAML		08 52 49.8	
	comp=N,168nm,1.1s						
KAIM	**Kayak Island**	**4.53**	**34**	P	**Pn**	**08 51 53.1**	**+0.4**
	baz=217						
RSO	**Redoubt South**	**4.56**	**339**		**Pn**	**08 51 53.1**	**-0.3**
Q16K	**King Salmon**	**4.60**	**305**		**Pn**	**08 51 54.9**	**+1.3**
Q16K	**King Salmon**	**4.60**	**305**	P	**Pn**	**08 51 55.4**	**+1.7**
	baz=118						
CAPN	**Captain Cook N**	**4.61**	**349**	Pn	**Pn**	**08 51 56.2**	**+2.4**
EYAK	**Cordova Ski Ar**	**4.71**	**23**		**Pn**	**08 51 55.5**	**+0.3**
EYAK	**Cordova Ski Ar**	**4.71**	**23**	P	**Pn**	**08 51 55.7**	**+0.5**
EYAK	**Cordova Ski Ar**	**4.71**	**23**	P	**Pn**	**08 51 55.5**	**+0.3**
	baz=205						
O19K	**Port Alsworth**	**4.72**	**329**		**Pn**	**08 51 55.5**	**+0.2**
O19K	**Port Alsworth**	**4.72**	**329**	IAML		08 52 55.7	
	comp=E,149nm,0.5s						
O19K	**Port Alsworth**	**4.72**	**329**	P	**Pn**	**08 51 55.5**	**+0.2**
	baz=144						
O18K	**Koktuh Hills**	**4.74**	**322**		**Pn**	**08 51 56.2**	**+0.5**
O18K	**Koktuh Hills**	**4.74**	**322**	IAML		08 53 05.4	
	comp=N,30nm,0.7s						
O18K	**Koktuh Hills**	**4.74**	**322**	P	**Pn**	**08 51 56.2**	**+0.5**
	baz=136						
P17K	**Kvichak River**	**4.78**	**311**	P	**Pn**	**08 51 57.7**	**+1.5**
	baz=124						
RAGM	**Ragged Mountai**	**4.83**	**29**		**Pn**	**08 51 57.5**	**+0.6**
RAGM	**Ragged Mountai**	**4.83**	**29**	IAML		08 53 02.1	
	comp=E,112nm,1.0s						
RC01	**Rabbit Creek A**	**4.84**	**358**		**Pn**	**08 51 57.4**	**+0.3**
RC01				IAML		08 52 58.8	
	comp=N,42nm,0.4s						
RC01				IAML		08 53 04.3	
	comp=E,44nm,0.5s						
RC01	**Rabbit Creek A**	**4.84**	**358**	P	**Pn**	**08 51 57.2**	**+0.1**
	baz=177						
HMT	**Hamilton**	**4.90**	**31**		**Pn**	**08 51 58.7**	**+0.8**
NICHA	**Nichawak Mount**	**4.91**	**34**		**Pn**	**08 51 58.6**	**+0.6**
FIS	**Fire Island**	**4.91**	**355**		**Pn**	**08 51 58.8**	**+0.8**
FIS				IAML		08 52 59.0	
	comp=N,82nm,0.6s						
FIS				IAML		08 53 13.3	
	comp=E,94nm,1.2s						
GOAT	**Goat Mountain**	**4.98**	**28**		**Pn**	**08 51 59.6**	**+0.6**
CHGN	**Chignik**	**5.02**	**274**	IAML		08 54 26.3	
	comp=N,86nm,0.1s						
CHGN				IAML		08 54 26.5	
	comp=E,88nm,0.1s						
BERG	**Berg Lake**	**5.12**	**34**		**Pn**	**08 52 01.0**	**+0.1**
GRIN	**Grindle Hills**	**5.15**	**36**		**Pn**	**08 52 01.5**	**+0.1**
N20K	**Mount Spurr**	**5.16**	**345**	P	**Pn**	**08 52 01.2**	**-0.3**

	baz=162						
SPCR	Spurr Chakacha	5.16	345			Pn	08 52 01.2 -0.3
KNK	Knik Glacier	5.19	5			Pn	08 52 02.0 +0.2
KNK	Knik Glacier	5.19	5	IAML			08 53 12.9
	comp=E,32nm,0.8s						
KNK				IAML			08 53 16.1
	comp=N,24nm,0.6s						
KNK	Knik Glacier	5.19	5	P		Pn	08 52 02.0 +0.2
	baz=185						
SPCP	Crater Peak Br	5.22	345			Pn	08 52 03.0 +0.7
SPCG	Spurr Capps Gl	5.22	346			Pn	08 52 02.8 +0.4
DIV	Divide	5.24	20			Pn	08 52 03.0 +0.4
SNH	Sunshine Point	5.24	39			Pn	08 52 03.0 +0.4
SNH	Sunshine Point	5.24	39	IAML			08 53 07.7
	comp=N,54nm,1.2s						
SNH				IAML			08 53 14.7
	comp=E,57nm,1.1s						
SUA	Susitna One	5.26	353			Pn	08 52 03.3 +0.4
SUA	Susitna One	5.26	353	IAML			08 53 18.5
	comp=N,20nm,0.7s						
SUA	Susitna One	5.26	353	P		Pn	08 52 03.3 +0.4
	baz=171						
N19K	Bonanza Creek	5.28	332			Pn	08 52 03.2 0.0
N19K	Bonanza Creek	5.28	332	IAML			08 52 58.8
	comp=N,34nm,0.5s						
N19K	Bonanza Creek	5.28	332	P		Pn	08 52 03.2 0.0
	baz=147						
BMRM	Bremner River	5.34	26	P		Pn	08 52 04.5 +0.5
	baz=210						
PMR	Palmer	5.35	1			Pn	08 52 04.4 +0.5
PMR	Palmer	5.35	1	IAML			08 53 13.8
	comp=E,18nm,0.8s						
PMR				IAML			08 53 19.7
	comp=N,19nm,0.6s						
PMR	Palmer	5.35	1	P		Pn	08 52 05.3 +1.4
PMR	Palmer	5.35	1	P		Pn	08 52 04.4 +0.5
	baz=181						
P16K	Nushagak River	5.38	305			Pn	08 52 05.5 +1.1
P16K	Nushagak River	5.38	305	P		Pn	08 52 05.5 +1.1
	baz=117						
WAX	Waxell Ridge	5.43	37			Pn	08 52 05.4 +0.1
BARK	Barkley Ridge	5.52	38			Pn	08 52 07.0 +0.6
GHO	Glory Hole Cre	5.53	2			Pn	08 52 07.7 +1.1
KLU	Klutina	5.55	18			Pn	08 52 07.5 +0.7
KLU	Klutina	5.55	18	P		Pn	08 52 07.5 +0.7
	baz=200						
N18K	Kilae Creek	5.58	325			Pn	08 52 08.2 +1.0
N18K	Kilae Creek	5.58	325	P		Pn	08 52 08.2 +1.0
	baz=139						
SML	Sawmill	5.59	5			Pn	08 52 08.3 +0.9
SML	Sawmill	5.59	5	P		Pn	08 52 08.3 +0.9
	baz=186						
M23K	Glacier View	5.61	8	P		Pn	08 52 08.8 +1.1
	baz=189						
SCM	Sheep Creek Mo	5.69	10			Pn	08 52 10.0 +1.2
SCM	Sheep Creek Mo	5.69	10	P		Pn	08 52 10.0 +1.2
	baz=191						
O16K	Kokwok River B	5.70	309			Pn	08 52 10.4 +1.5
O16K	Kokwok River B	5.70	309	P		Pn	08 52 10.4 +1.5
	baz=122						
ISLE	Juniper Island	5.72	38			Pn	08 52 09.8 +0.6
BAGL	Bagley Icefiel	5.72	39			Pn	08 52 09.8 +0.6
SVW2	Sparrevohn	5.82	329	Pn		Pn	08 52 10.8 +0.4
SVW2	Sparrevohn	5.82	329	P		Pn	08 52 10.8 +0.4
SKT	Skwentna	5.84	350	Pn		Pn	08 52 13.1 +2.4
VRDI	Verde Repeater	5.86	29			Pn	08 52 12.0 +0.7
N25K	Chitina, Valde	5.91	23			Pn	08 52 12.3 +0.5
N25K	Chitina, Valde	5.91	23	P		Pn	08 52 12.3 +0.5
	baz=207						
GLB	Gilahina Butte	5.95	27			Pn	08 52 12.7 +0.4
M20K	Styx River	5.95	343	Pn		Pn	08 52 12.7 +0.3
SAMH	Samovar Hills	5.99	46			Pn	08 52 13.7 +0.9
TABL	Table Mountain	6.04	43			Pn	08 52 14.3 +0.6
M24K	Tolsona, Glenn	6.09	14			Pn	08 52 15.3 +1.1
M24K	Tolsona, Glenn	6.09	14	P		Pn	08 52 15.3 +1.1
	baz=197						
MCARA	McCarthy VSAT	6.11	30			Pn	08 52 15.1 +0.7
MCARA	McCarthy VSAT	6.11	30	P		Pn	08 52 15.1 +0.7
	baz=215						
PCA	Pinnacle	6.18	48			Pn	08 52 15.9 +0.4
PINM	Pinnacle	6.18	48	P		Pn	08 52 15.9 +0.4
	baz=235						
M18K	Stony River	6.21	330			Pn	08 52 15.7 -0.1
M18K	Stony River	6.21	330	P		Pn	08 52 15.6 -0.1
	baz=144						
M19K	Big River Lodg	6.21	338			Pn	08 52 16.2 +0.3
M19K	Big River Lodg	6.21	338	P		Pn	08 52 16.2 +0.3
	baz=153						
O15K	Ungalikthiuk R	6.30	302			Pn	08 52 18.5 +1.5
O15K	Ungalikthiuk R	6.30	302	P		Pn	08 52 18.5 +1.5
	baz=113						
WACK	Wrangell Chich	6.31	22			Pn	08 52 18.2 +0.8
SDPT	Sand Point	6.31	266			Pn	08 52 18.3 +1.2
SDPT	Sand Point	6.31	266	P		Pn	08 52 18.4 +1.2
SDPT	Sand Point	6.31	266	P		Pn	08 52 18.3 +1.2
	baz=77						
CTG	Chitna Glacier	6.32	38	P		Pn	08 52 17.9 +0.4
	baz=225						
CTGM	Chitina Glacie	6.32	38			Pn	08 52 17.9 +0.4
PNL	Peninsula	6.33	53			Pn	08 52 17.7 +0.3
PNL	Peninsula	6.33	53	P		Pn	08 52 18.4 +0.9
PNL	Peninsula	6.33	53	P		Pn	08 52 17.7 +0.3
	baz=241						
LOGN	Logan Glacier	6.34	40			Pn	08 52 18.4 +0.6
WAT6	Susitna Watana	6.39	7			Pn	08 52 19.1 +0.6
WAT6	Susitna Watana	6.39	7	P		Pn	08 52 19.1 +0.6
	baz=188						
HARP	HAARP	6.53	18			Pn	08 52 21.1 +0.9
HARP	HAARP	6.53	18	P		Pn	08 52 21.1 +0.9
	baz=201						
L19K	White Mountain	6.56	337			Pn	08 52 21.0 +0.3
L19K	White Mountain	6.56	337	P		Pn	08 52 21.0 +0.3
	baz=152						
WAT7	Susitna Watana	6.60	2			Pn	08 52 21.9 +0.6
WAT1	Susitna Watana	6.60	3	P		Pn	08 52 22.2 +1.0
	baz=184						
M17K	Holitna River	6.62	324			Pn	08 52 22.2 +0.7
M17K	Holitna River	6.62	324	P		Pn	08 52 22.2 +0.7
	baz=137						
N15K	Kwethluk River	6.86	309			Pn	08 52 26.3 +1.5
N15K	Kwethluk River	6.86	309	P		Pn	08 52 26.3 +1.5
	baz=120						
DHY	Denali Highway	6.91	8			Pn	08 52 26.3 +0.7
DHY	Denali Highway	6.91	8	P		Pn	08 52 26.3 +0.7
	baz=189						
M26K	Nabesna, AK	6.97	25			Pn	08 52 27.2 +0.8
M26K	Nabesna, AK	6.97	25	P		Pn	08 52 27.2 +0.8
	baz=210						
PS1A	Pavlof South-1	7.00	268			Pn	08 52 27.8 +1.2
PAX	Paxson	7.02	15			Pn	08 52 28.1 +1.2
PAX	Paxson	7.02	15	P		Pn	08 52 28.1 +1.2
	baz=198						
PVV	Pavlof Volcano	7.03	268			Pn	08 52 27.9 +0.8
P29M	Windy Craggy	7.07	57			Pn	08 52 28.1 +0.4
P29M	Windy Craggy	7.07	57	P		Pn	08 52 28.1 +0.4
	baz=246						
PS4A	Pavlof South-4	7.08	268			Pn	08 52 28.6 +0.9
HAG	Hague Volcano	7.11	268			Pn	08 52 29.4 +1.2
PN7A	Pavlof North-7	7.14	269			Pn	08 52 29.5 +0.9
RND	Reindeer	7.17	2			Pn	08 52 30.4 +1.3
M27K	Edge Creek, AK	7.22	29			Pn	08 52 30.4 +0.6
M27K	Edge Creek, AK	7.22	29	P		Pn	08 52 30.4 +0.6
	baz=215						
TRF	Thorofare Moun	7.22	357			Pn	08 52 31.0 +1.1
TRF	Thorofare Moun	7.22	357	P		Pn	08 52 31.0 +1.1
	baz=176						
MENT	Mentasta	7.29	21			Pn	08 52 32.4 +1.8
CAST	Castle Rocks	7.30	350	Pn		Pn	08 52 30.5 -0.3
S31K	Pelican	7.38	71			Pn	08 52 30.5 -1.3
L26K	Log Cabin Wild	7.44	22			Pn	08 52 34.3 +1.6
N14K	Kuskokwak Cree	7.46	304			Pn	08 52 34.9 +1.9
N14K	Kuskokwak Cree	7.46	304	P		Pn	08 52 34.9 +1.9
	baz=114						
SIT	Sitka	7.80	78	P		Pn	08 52 35.6 -2.1
L27K	Beaver Creek,	7.82	26			Pn	08 52 38.7 +0.8
L27K	Beaver Creek,	7.82	26	P		Pn	08 52 38.7 +0.8
	baz=212						
BCAR	Beaver Creek A	7.83	26	Pn		Pn	08 52 39.5 +1.4
BPAW	Bear Paw Mtn.	7.90	355			Pn	08 52 39.8 +0.7
BPAW	Bear Paw Mtn.	7.90	355	P		Pn	08 52 39.8 +0.7
	baz=173						
FALS	False Pass	8.07	266			Pn	08 52 42.3 +1.0
FALS	False Pass	8.07	266	P		Pn	08 52 43.0 +1.7
FALS	False Pass	8.07	266	P		Pn	08 52 42.3 +1.0
	baz=74						
SKAG	Skagway	8.16	61	Pn		Pn	08 52 43.6 +1.1
SKAG	Skagway	8.16	61	P		Pn	08 52 43.5 +0.9
N30M	Aishikik Lake	8.23	46			Pn	08 52 44.1 +0.4
N30M	Aishikik Lake	8.23	46	P		Pn	08 52 44.1 +0.4
	baz=236						
ISNN	Isanotski Nort	8.27	266			Pn	08 52 45.4 +1.3
M29M	Somme Creek	8.34	38			Pn	08 52 45.7 +0.6
M29M	Somme Creek	8.34	38	P		Pn	08 52 45.7 +0.6
	baz=227						
NEA2	Nenana	8.36	1			Pn	08 52 46.7 +1.4
NEA2	Nenana	8.36	1	P		Pn	08 52 46.7 +1.4
	baz=181						
SSLS	Shishaldin Sou	8.43	265			Pn	08 52 47.5 +1.2
CCB	Clear Creek Bu	8.45	5			Pn	08 52 47.3 +0.8
IL31		8.63	7			Pn	08 52 50.4 +1.6
COLA	College	8.67	4	P		Pn	08 52 52.2 +2.7
WHY	Whitehorse	8.79	54			Pn	08 52 53.1 +1.7
UNV	Unalaska Valle	10.10	263	P		Pn	08 53 09.0 -0.1

NNC ***14*** *08:57:35.3±2.1,51°.93N×75°.57E,h0km,mb3.2,mpv2.8, Error ellipse: s-maj=29.8km s-min=12.4km az=24.0, Suspected Mining explosion.*

IDC ***14*** *08:57:38.6±1.0,51°.76N×75°.45E,h0km,mbtmp2.5/4, ML1.8/4, Error ellipse: s-maj=28.4km s-min=7.9km az=30.0*

ISC 14 08:57:35.8±1.0,51°.59N±0°.07×75°.07E±0°.06,h0km,n12, σ0s71/12,7C-3D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	2.39	113	Pn	Pn	Pn	08 58 16.1	0.0
	0.3nm,0.3s,baz=304,slow=18,SNR=17							
KURBB				Sn	Sn	Sn	08 58 46.1	0.0
	0.2nm,0.3s,baz=305,slow=31,SNR=5.3							
	1.0nm,0.4s							
KURBB	Kurchatov Arra	2.39	113	↑Pg	Pb	Pb	08 58 18.4	-1.2
	4.8nm,0.8s							
KURBB				↑Lg	Lg	Lg	08 58 46.3	
	28nm,0.7s							
KURK	Kurchatov	2.40	110	↑Pg	Pn	Pn	08 58 16.8	+0.5
	6.0nm,1.1s							
KURK				↓Lg	Lg	Lg	08 58 45.3	
	16nm,1.0s							
BVA0	Borovoye Array	3.21	298	Pg	Pg	Pg	08 58 37.4	0.0
	2.1nm,0.8s,baz=108,slow=15,SNR=5.0							
BVA0				↑Lg	Lg	Lg	08 59 22.2	
	8.3nm,0.8s,baz=101,slow=27,SNR=5.3							
BVAR	Borovoye Array	3.21	298	Pn	Pb	Pb	08 58 32.8	-0.9
	baz=136,slow=9.4,SNR=2.0							
BVAR				Pg	Pg	Pg	08 58 37.8	+0.5
	0.1nm,0.3s,baz=106,slow=15,SNR=6.8							
BVAR				Lg	Lg	Lg	08 59 22.8	
	0.2nm,0.3s,baz=112,slow=27,SNR=9.4							
	1.1nm,0.5s							
BRVK	Borovoye	3.28	298	↑Lg	Lg	Lg	08 59 24.4	
	3.8nm,0.6s							
OTUK	Ortayu	3.79	209	↓Pg	Pg	Pg	08 58 48.6	+0.3
	4.0nm,1.4s							
OTUK				↑Lg	Lg	Lg	08 59 48.5	
	3.3nm,0.6s							
I46RU	ZALESOVO INFRA	6.37	64	I	I	I	09 32 30.0	
	baz=251,slow=339,SNR=8.1							
ZALV	Zalesovo Beam	6.37	64	Pn	Pn	Pn	08 59 11.5	+0.7
	0.1nm,0.3s,baz=260,slow=13,SNR=4.4							
	1.0nm,0.5s							
MK31	Makanchi Array	6.74	133	↓Sn	Sn	Sn	09 00 33.8	+0.4
	0.4nm,0.5s							
MK31				↑Lg	Lg	Lg	09 01 13.7	
	1.8nm,0.6s,baz=322,slow=31,SNR=5.2							
MKAR	Makanchi Array	6.74	133	Pn	Pn	Pn	08 59 16.1	+0.2
	baz=322,slow=13,SNR=2.4							
MKAR				Sn	Sn	Sn	09 00 34.5	+1.1
	0.1nm,0.3s,baz=304,slow=24,SNR=3.7							
MKAR				Lg	Lg	Lg	09 01 05.6	
	0.2nm,0.3s,baz=322,slow=30,SNR=8.0							
	0.2nm,0.5s							
AAK	Ala-Archa	8.97	183	Lg	Lg	Lg	09 02 27.1	
	0.2nm,0.3s,baz=68,slow=18,SNR=2.1							

NEIC ***14*** *09:01:06.0±1.1,56°.34N±0°.10×149°.4W±0°.1,h21km±10km, ML3.4/42,ML3.4(AEIC),Error ellipse: s-maj=14.4km s-min=8.3km az=163.0*

AEIC 14 09:01:08.2±1.4,56°.30N±0°.08×149°.4W±0°.1,h3km±7km, Error ellipse: s-maj=12.4km s-min=8.5km az=156.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.31	311			Pn	09 01 42.0	-5.0
KDAK	Kodiak Island	2.31	311			Sn	09 02 08.5	-7.4
KDAK	Kodiak Island	2.31	311	P		Pn	09 01 41.8	-5.2
	baz=129							
OHAK	Old Harbor	2.36	295			Pn	09 01 42.0	-5.7
OHAK	Old Harbor	2.36	295	P		Pn	09 01 41.8	-5.9
OHAK	Old Harbor	2.36	295	P		Pn	09 01 41.7	-5.9
	baz=112							
OHAK				S		Sn	09 02 08.2	-8.8
	baz=112							
SII	Sitkinak Islan	2.70	278	Pn		Pn	09 01 47.8	-4.5
SII				IAML			09 02 35.4	
	comp=E,70nm,1.4s							
SII				IAML			09 02 55.2	
	comp=N,74nm,1.8s							
SII	Sitkinak Islan	2.70	278	P		Pn	09 01 46.7	-5.7
SII	Sitkinak Islan	2.70	278	P		Pn	09 01 48.1	-4.3
	baz=94							
SII				S		Sn	09 02 19.5	-6.0
	baz=94							
Q20K	Shuyak Island	2.84	326	P		Pn	09 01 49.5	-4.8
	baz=143							
Q20K				S		Sn	09 02 22.6	-6.4
	baz=143							
SYI	Shuyak Island	2.84	326			Pn	09 01 49.4	-4.9
CNPM	China Poot	3.39	344			Pn	09 01 56.9	-5.0
CNPM				IAML			09 02 43.6	
	comp=E,31nm,1.9s							
Q19K	Cape Douglas,	3.50	321	P		Pn	09 01 59.0	-4.5
	baz=137							
Q23K	Middleton Isla	3.52	26	Pn		Pn	09 01 58.6	-5.1
Q23K				IAML			09 04 09.2	
	comp=N,206nm,1.8s							
MID	Middleton Isla	3.53	26	Pn		Pn	09 01 58.6	-5.1
MID				IAML			09 03 42.7	
	comp=N,222nm,1.5s							
MID				IAML			09 04 09.1	
	comp=E,220nm,1.9s							
BRSE	Bradley Lake S	3.53	349			Pn	09 01 58.8	-5.1
BRSE						Sn	09 02 38.4	-7.7
BRSE	Bradley Lake S	3.53	349	P		Pn	09 01 58.7	-5.1
	baz=167							
BRSE				S		Sn	09 02 38.4	-7.7
	baz=167							
CHIR	Chirikof Islan	3.55	265	Pn		Pn	09 01 58.4	-5.7
CHIR				IAML			09 02 29.4	
	comp=E,68nm,2.0s							
CHIR				IAML			09 02 43.3	
	comp=N,50nm,1.8s							
BRLK	Bradley Lake	3.57	347			Pn	09 01 59.0	-5.4
BRLK				IAML			09 02 42.7	
	comp=E,27nm,1.6s							
HOM	Homer	3.58	341	Pn		Pn	09 01 59.7	-4.8
HOM				IAML			09 02 46.7	
	comp=N,79nm,2.0s							
HOM				IAML			09 03 08.5	
	comp=E,74nm,1.9s							
KAKN	Katmai Knife C	3.69	305			Pn	09 02 02.0	-4.0
ACHA	Angle Creek He	3.77	303			Pn	09 02 03.6	-3.6
SEW	Seward	3.82	359			Pn	09 02 02.5	-5.2
SEW	Seward	3.82	359	P		Pn	09 02 02.4	-5.3
	baz=179							
ANCK	Angle Creek	3.84	302			Pn	09 02 03.9	-4.3
P23K	Montague Islan	3.85	15			Pn	09 02 03.2	-5.0
P23K	Montague Islan	3.85	15	P		Pn	09 02 03.2	-5.0
	baz=196							
Q17K	Contact Creek	4.06	302	P		Pn	09 02 07.3	-3.8
	baz=116							
O20K	Slope Mountain	4.17	337			Pn	09 02 08.1	-4.6
O20K	Slope Mountain	4.17	337	P		Pn	09 02 08.1	-4.6
	baz=154							
O22K	Cooper Landing	4.20	357			Pn	09 02 08.7	-4.3
O22K	Cooper Landing	4.20	357	P		Pn	09 02 08.8	-4.2
	baz=177							
ILSW	Iliamna Southw	4.21	333			Pn	09 02 08.5	-4.7
ILSW				IAML			09 03 03.3	
	comp=E,26nm,1.8s							
ILSW				IAML			09 04 47.4	
	comp=N,23nm,0.9s							
SLKM	Skilak Lake	4.25	354			Pn	09 02 08.6	-5.1
HIN	Hinchinbrook I	4.38	19			Pn	09 02 10.7	-4.8
HIN				IAML			09 04 38.4	
	comp=E,94nm,0.6s							
P18K	Big Mountain,	4.41	317			Pn	09 02 10.9	-5.1
P18K	Big Mountain,	4.41	317	P		Pn	09 02 11.0	-4.9
	baz=132							
KAIM	Kayak Island	4.48	34			Pn	09 02 12.2	-4.7
KAIM				IAML			09 04 47.2	
	comp=E,88nm,2.0s							
KAIM	Kayak Island	4.48	34	P		Pn	09 02 12.4	-4.4
	baz=218							
RDSO	Redoubt South	4.53	338			Pn	09 02 12.5	-5.2
RSO	Redoubt South	4.54	338	Pn		Pn	09 02 12.2	-5.7
RDT	Redoubt	4.58	341			Pn	09 02 13.0	-5.3
Q16K	King Salmon	4.61	304			Pn	09 02 13.5	-5.1
Q16K	King Salmon	4.61	304	P		Pn	09 02 13.5	-5.1
	baz=118							
EYAK	Cordova Ski Ar	4.66	22			Pn	09 02 14.8	-4.5
EYAK	Cordova Ski Ar	4.66	22	P		Pn	09 02 14.8	-4.5
EYAK	Cordova Ski Ar	4.66	22	P		Pn	09 02 14.7	-4.7
	baz=206							
O19K	Port Alsworth	4.71	328	Pn		Pn	09 02 14.4	-5.5
O19K				IAML			09 05 15.8	
	comp=N,91nm,0.6s							
O18K	Koktuh Hills	4.73	321	Pn		Pn	09 02 15.2	-5.1
O18K				IAML			09 05 02.8	
	comp=N,14nm,0.8s							
O18K				IAML			09 05 05.2	
	comp=E,12nm,1.6s							
P17K	Kvichak River	4.78	310	P		Pn	09 02 17.0	-3.9
	baz=124							
RC01	Rabbit Creek A	4.81	358	P		Pn	09 02 16.5	-4.9
	baz=177							
HMT	Hamilton	4.86	31	Pn		Pn	09 02 17.6	-4.5
HMT				IAML			09 05 30.9	
	comp=N,76nm,1.6s							
NICHA	Nichawak Mount	4.87	34			Pn	09 02 17.9	-4.3
GOAT	Goat Mountain	4.93	28			Pn	09 02 18.9	-4.3
BERG	Berg Lake	5.07	34	Pn		Pn	09 02 20.3	-4.7
GRIN	Grindle Hills	5.11	36			Pn	09 02 21.6	-3.9
N20K	Mount Spurr	5.13	344	P		Pn	09 02 20.2	-5.7
	baz=162							
SPCR	Spurr Chakacha	5.14	344			Pn	09 02 20.2	-5.8
KNK	Knik Glacier	5.15	5	P		Pn	09 02 21.1	-5.0
	baz=186							
DIV	Divide	5.19	20			Pn	09 02 22.2	-4.5
N19K	Bonanza Creek	5.26	331			Pn	09 02 22.5	-5.2
N19K				IAML			09 05 22.6	
	comp=E,36nm,0.7s							
N19K				IAML			09 05 23.3	
	comp=N,38nm,1.0s							
N19K	Bonanza Creek	5.26	331	P		Pn	09 02 22.2	-5.5
	baz=147							
BMRM	Bremner River	5.30	26			Pn	09 02 23.6	-4.5
BMRM	Bremner River	5.30	26	P		Pn	09 02 23.7	-4.4
	baz=210							
STLK	Strandline Lak	5.37	347			Pn	09 02 24.1	-5.0
P16K	Nushagak River	5.38	304			Pn	09 02 25.3	-3.9
P16K	Nushagak River	5.38	304	P		Pn	09 02 25.3	-3.9
	baz=117							
WAX	Waxell Ridge	5.39	37	Pn		Pn	09 02 24.6	-4.8
KLU	Klutina	5.50	17			Pn	09 02 26.7	-4.3
KLU	Klutina	5.50	17	P		Pn	09 02 26.6	-4.3
	baz=200							
SML	Sawmill	5.55	5	P		Pn	09 02 27.1	-4.5
	baz=186							
N18K	Kilae Creek	5.57	325	Pn		Pn	09 02 27.0	-4.8
SCM	Sheep Creek Mo	5.65	10	P		Pn	09 02 28.6	-4.4
	baz=192							
ISLE	Juniper Island	5.67	38	Pn		Pn	09 02 28.5	-4.8
BAGL	Bagley Icefiel	5.68	39			Pn	09 02 29.0	-4.2
O16K	Kokwok River B	5.71	309			Pn	09 02 29.6	-4.1
O16K	Kokwok River B	5.71	309	P		Pn	09 02 29.4	-4.3
	baz=122							
SVW2	Sparrevohn	5.80	329	Pn		Pn	09 02 29.7	-5.4
SVW2	Sparrevohn	5.80	329	P		Pn	09 02 30.0	-5.0
VRDI	Verde Repeater	5.82	29	Pn		Pn	09 02 30.2	-5.2
N25K	Chitina, Valde	5.86	23			Pn	09 02 31.9	-4.0
N25K	Chitina, Valde	5.86	23	P		Pn	09 02 31.5	-4.4
	baz=207							
GLB	Gilahina Butte	5.90	27	Pn		Pn	09 02 31.7	-4.7
KIAG	Kiagna River	5.90	35			Pn	09 02 32.6	-4.0
N17K	Nushagak Hills	5.91	319	Pn		Pn	09 02 31.8	-4.6
SAMH	Samovar Hills	5.94	46			Pn	09 02 33.2	-3.4
TABL	Table Mountain	5.99	43			Pn	09 02 34.4	-3.4
MCARA	McCarthy VSAT	6.06	30			Pn	09 02 34.8	-3.8
MCARA	McCarthy VSAT	6.06	30	P		Pn	09 02 34.5	-4.1
	baz=216							
PTPK	Patty Peak	6.07	33			Pn	09 02 34.7	-4.2
BARN	Barnard Glacie	6.23	37	Pn		Pn	09 02 36.5	-4.6
CTGM	Chitina Glacie	6.28	39	Pn		Pn	09 02 37.1	-4.6
PNL	Peninsula	6.28	53	P		Pn	09 02 37.4	-4.2
LOGN	Logan Glacier	6.30	40	Pn		Pn	09 02 37.2	-4.8
BCPM	Bancas Point	6.32	51	Pn		Pn	09 02 37.9	-4.2
SDPT	Sand Point	6.34	266	Pn		Pn	09 02 37.3	-5.1
SDPT	Sand Point	6.34	266	P		Pn	09 02 37.4	-5.0
M17K	Holitna River	6.61	324	Pn		Pn	09 02 40.2	-5.9
N15K	Kwethluk River	6.87	309	Pn		Pn	09 02 45.9	-3.7
M26K	Nabesna, AK	6.93	25	Pn		Pn	09 02 47.5	-3.0
O29M	Mount Kennedy	6.95	50	Pn		Pn	09 02 47.4	-3.5
P29M	Windy Craggy	7.02	57			Pn	09 02 47.7	-4.0
M27K	Edge Creek, AK	7.17	29	Pn		Pn	09 02 50.2	-3.8
L16K	Owhat River	7.53	320	Pn		Pn	09 02 52.7	-6.0
BCAR	Beaver Creek A	7.79	26	Pn		Pn	09 02 57.8	-4.4
K17K	Iditarod	7.88	328	Pn		Pn	09 02 57.7	-5.8
FALS	False Pass	8.10	266

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KECS	**Kecovo**	**0.19**	**244**	Pg	Pg	09 25 25.5	+0.4
KECS				Lg	Lg	09 25 28.4	
KECS				Lg	Lg	09 25 30.0	
KECS	**Kecovo**	**0.19**	**244**	*e*Pg	Pg	09 25 25.5	+0.4
KECS				*e*Sg	Sg	09 25 29.7	+2.1
CRVS	**Cervenica-Dubn**	**0.58**	**55**	Pg	Pg	09 25 32.2	-0.2
CRVS	**Cervenica-Dubn**	**0.58**	**55**	*e*Pg	Pg	09 25 32.1	-0.4
CRVS				*e*Sg	Sg	09 25 39.4	-0.5
PSZ	**Piszkesteto**	**0.87**	**221**	Pg	Pb	09 25 39.2	-0.2
PSZ				Lg	Lg	09 25 52.7	
NIE	**Niedzica**	**0.90**	**341**	Pn	Pn	09 25 41.2	-0.1
LANS	**Liptovska Anna**	**1.02**	**305**	Pg	Pg	09 25 41.2	+0.2
A336A	**Medovarce**	**1.21**	**255**	Lg	Lg	09 26 03.9	
VYHS	**Vyhne**	**1.27**	**267**	Pn	Pg	09 25 46.0	+0.2
VYHS				Sn	Sn	09 26 04.6	+0.3
VYHS	**Vyhne**	**1.27**	**267**	*e*Pg	Pb	09 25 46.3	+0.1
VYHS				*e*Sg	Sn	09 26 04.4	+0.2
A332A	**Rudnianska**	**1.53**	**280**	Lg	Lg	09 26 12.7	
A331A	**Zubak**	**1.77**	**290**	Pn	Pn	09 25 52.5	-0.7

IDC 14 09:25:52.8±4.9, 52°30N×35°09E, h0km, mbtmp3.8/2, ML2.3/3, Error ellipse: s-maj=64.5km s-min=18.7km az=125.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**4.00**	**249**	Pn	Pn	09 26 54.3	-1.0
	0.6nm,0.3s,baz=53,slow=15,SNR=2.2						
AKASG				Sn	Sn	09 27 40.6	-2.3
	0.8nm,0.3s,baz=58,slow=8.9,SNR=2.5						
I43RU	**DUBNA INFRASON**	**4.60**	**15**	I	I	09 51 05.0	
	0.1nm,1.0s,baz=196,slow=326,SNR=39						
FINES	**FINESS Array B**	**10.40**	**335**	Pn	Pn	09 28 18.4	-4.5
	0.1nm,0.3s,baz=148,slow=13,SNR=1.1 2.7nm,1.0s						
I31KZ	**AKTYUBINSK INF**	**14.45**	**88**	I	I	10 50 50.0	
	0.1nm,0.8s,baz=288,slow=320,SNR=4.3						
ARCES	**ARCESS Array B**	**17.87**	**349**	P	Pn	09 30 01.7	-0.8
	baz=157,slow=12,SNR=1.3 3.0nm,1.1s						

*NOU **14** 09:42:03.2, 37°.71S×177°.40E, h112km, ML3.7/8, Off E. Coast of N. Island, N.Z.*
*WEL **14** 09:42:07.1±0.7, 38°.5S±5°×17°.7E±°, h64km±6km, M3.3/18, ML3.6/18, MLv3.3/18, Error ellipse: s-maj=0.0km s-min=0.0km az=168.3*
ISC 14 09:42:05.2±1.6, 37.72S±0.04×177.26E±0.04, h90km±8km, n129, σ1$40/135, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.20**	**345**	P	**Pn**	**09 42 17.8**	**-0.3**
WSRZ	**White Island S**	**0.21**	**343**	P	**Pn**	**09 42 19.2**	**+1.0**
WSRZ				S	**Sn**	**09 42 28.6**	**+0.7**
WHRZ	**Whale Island**	**0.26**	**239**	P	**Pn**	**09 42 18.8**	**+0.3**
OPCS	**Opotiki Colleg**	**0.29**	**175**	P	**Pn**	**09 42 17.4**	**-1.1**
OPCS				S	**Sn**	**09 42 27.1**	**-1.4**
WKHS	**Whakatane High**	**0.32**	**222**	P	**Pn**	**09 42 17.5**	**-1.2**
WKHS				S	**Sn**	**09 42 27.6**	**-1.1**
RUGZ	**Raukumara Rang**	**0.41**	**126**	P	**Pn**	**09 42 19.2**	**-0.3**
RUGZ				S	**Sn**	**09 42 30.1**	**0.0**
HAZ	**Te Kaha**	**0.42**	**95**	P	**Pn**	**09 42 19.5**	**+0.3**
HAZ				S	**Sn**	**09 42 30.3**	**+0.5**
MWFS	**Matata Watchor**	**0.49**	**253**	P	**Pn**	**09 42 18.3**	**-1.5**
MARZ	**Manawahe**	**0.53**	**240**	P	**Pn**	**09 42 20.3**	**+0.2**
URZ	**Urewera**	**0.55**	**192**	P	**Pn**	**09 42 20.6**	**+0.3**
URZ	**Urewera**	**0.55**	**192**	P	**Pn**	**09 42 20.6**	**+0.3**
URZ				S	**Sn**	**09 42 31.6**	**0.0**
EDRZ	**Edgecumbe**	**0.56**	**227**	P	**Pn**	**09 42 20.6**	**+0.1**
MWZ	**Matawai**	**0.65**	**161**	P	**Pn**	**09 42 21.9**	**+0.6**
MWZ				S	**Sn**	**09 42 36.1**	**+2.9**
PKGZ	**Pakihiroa**	**0.67**	**105**	P	**Pn**	**09 42 22.1**	**+0.7**
TWGZ	**Tauwhareparae**	**0.73**	**129**	P	**Pn**	**09 42 23.5**	**+1.5**
LIRZ	**Lichensteins R**	**0.75**	**248**	P	**Pn**	**09 42 22.7**	**+0.5**
RAGZ	**Rawiri**	**0.78**	**171**	P	**Pn**	**09 42 23.6**	**+1.0**
TARZ	**Mount Tarawera**	**0.78**	**289**	P	**Pn**	**09 42 23.3**	**+0.7**
TGZ	**Tauranga**	**0.79**	**269**	P	**Pn**	**09 42 22.5**	**0.0**
OMRZ	**Omania**	**0.80**	**241**	P	**Pn**	**09 42 22.8**	**+0.1**
MUGZ	**Murupara**	**0.85**	**207**	P	**Pn**	**09 42 23.7**	**+0.5**
MXZ	**Matakaoa Point**	**0.85**	**80**	P	**Pn**	**09 42 24.0**	**+0.8**
MXZ	**Matakaoa Point**	**0.85**	**80**	P	**Pn**	**09 42 23.8**	**+0.7**
RRRZ	**Republican Roa**	**0.85**	**223**	P	**Pn**	**09 42 23.8**	**+0.6**
KARZ	**Kaharoa**	**0.85**	**249**	P	**Pn**	**09 42 23.6**	**+0.3**
TKGZ	**Te Karaka**	**0.85**	**147**	P	**Pn**	**09 42 24.4**	**+1.1**
PUZ	**Puketiti**	**0.86**	**114**	P	**Pn**	**09 42 24.1**	**+0.8**
HLRZ	**Highlands Stat**	**0.89**	**233**	P	**Pn**	**09 42 24.5**	**+0.8**
RTZ	**Ruatahuna**	**0.92**	**194**	P	**Pn**	**09 42 24.6**	**+0.6**
WMGZ	**Waiomatatini S**	**0.92**	**96**	P	**Pn**	**09 42 25.0**	**+1.0**
HSRZ	**Hossack Road**	**0.99**	**233**	P	**Pn**	**09 42 26.1**	**+1.3**
HRRZ	**Handcock Road**	**1.02**	**229**	P	**Pn**	**09 42 25.9**	**+0.8**
PRRZ	**Plateau Road**	**1.03**	**221**	P	**Pn**	**09 42 25.9**	**+0.7**
KMRZ	**Kaimai**	**1.05**	**263**	P	**Pn**	**09 42 25.7**	**+0.2**
RIGZ	**Rimuhau**	**1.06**	**158**	P	**Pn**	**09 42 26.7**	**+1.1**
SNGZ	**Shannon Statio**	**1.06**	**177**	P	**Pn**	**09 42 26.7**	**+1.1**
CNGZ	**Carnagh Statio**	**1.07**	**136**	P	**Pn**	**09 42 26.9**	**+1.2**
ALRZ	**Allen Road**	**1.11**	**220**	P	**Pn**	**09 42 26.9**	**+0.8**
WPRZ	**Whakapapatarin**	**1.18**	**227**	P	**Pn**	**09 42 28.0**	**+1.0**
MTHZ	**Maungataniwha**	**1.18**	**196**	P	**Pn**	**09 42 27.0**	**0.0**
RAHZ	**Arahi**	**1.20**	**186**	P	**Pn**	**09 42 28.6**	**+1.4**
MRHZ	**Matea Rd**	**1.29**	**211**	P	**Pn**	**09 42 29.1**	**+0.7**
PRGZ	**Paritu Road**	**1.30**	**158**	P	**Pn**	**09 42 29.3**	**+0.9**
WHHZ	**Waihua**	**1.35**	**181**	P	**Pn**	**09 42 30.2**	**+1.1**
KUTZ	**Kaahu Road**	**1.37**	**235**	P	**Pn**	**09 42 30.3**	**+1.1**
TOZ	**Tahuroa Road**	**1.39**	**269**	P	**Pn**	**09 42 29.8**	**+0.3**
WHTZ	**Whakaora**	**1.39**	**227**	P	**Pn**	**09 42 32.6**	**+3.0**
NMHZ	**Naumai**	**1.42**	**194**	P	**Pn**	**09 42 31.7**	**+1.8**
TLZ	**Tolley Road**	**1.49**	**245**	P	**Pn**	**09 42 31.4**	**+0.6**
MHGZ	**Mahia Peninsul**	**1.52**	**161**	P	**Pn**	**09 42 31.9**	**+0.7**
ARHZ	**Aropaoanui**	**1.55**	**188**	P	**Pn**	**09 42 32.5**	**+0.9**
WATZ	**Wairara**	**1.55**	**230**	P	**Pn**	**09 42 33.5**	**+1.9**
BKZ	**Black Stump Fm**	**1.56**	**202**	P	**Pn**	**09 42 33.1**	**+1.3**
BKZ	**Black Stump Fm**	**1.56**	**202**	P	**Pn**	**09 42 32.6**	**+0.9**
KUZ	**Kuaotunu**	**1.57**	**308**	P	**Pn**	**09 42 31.1**	**-0.6**
KUZ	**Kuaotunu**	**1.57**	**308**	P	**Pn**	**09 42 31.1**	**-0.6**
RATZ	**Rangitukua**	**1.64**	**225**	P	**Pn**	**09 42 34.0**	**+1.3**
RITZ	**Rihia Road**	**1.67**	**221**	P	**Pn**	**09 42 34.8**	**+1.8**
MCHZ	**McNeill Hill**	**1.77**	**194**	P	**Pn**	**09 42 35.4**	**+0.9**
MKAZ	**Moumakai**	**1.78**	**290**	P	**Pn**	**09 42 34.7**	**+0.2**
KWHZ	**Kaweka Forest**	**1.82**	**201**	P	**Pn**	**09 42 35.7**	**+0.6**
TMVZ	**Te Maari**	**1.85**	**221**	P	**Pn**	**09 42 36.9**	**+1.4**
NTVZ	**North Tongarir**	**1.85**	**222**	P	**Pn**	**09 42 37.3**	**+1.8**
ETVZ	**East Tongariro**	**1.86**	**220**	P	**Pn**	**09 42 37.1**	**+1.4**
KRVZ	**Karewarewa**	**1.87**	**222**	P	**Pn**	**09 42 37.5**	**+1.7**
OTVZ	**Oturere**	**1.91**	**220**	P	**Pn**	**09 42 37.8**	**+1.5**
NNVZ	**North Ngauruho**	**1.91**	**222**	P	**Pn**	**09 42 38.1**	**+1.8**
WTVZ	**West Tongariro**	**1.91**	**223**	P	**Pn**	**09 42 38.0**	**+1.7**
WIAZ	**Waiheke Island**	**1.93**	**298**	P	**Pn**	**09 42 36.7**	**+0.3**
SNVZ	**South Ngauruho**	**1.94**	**220**	P	**Pn**	**09 42 38.2**	**+1.6**
CKHZ	**Cape Kidnapper**	**1.94**	**184**	P	**Pn**	**09 42 36.5**	**0.0**
NGZ	**Ngauruhoe**	**1.95**	**221**	P	**Pn**	**09 42 38.6**	**+1.8**
TWVZ	**Taurewa**	**1.96**	**226**	P	**Pn**	**09 42 38.4**	**+1.5**
TUVZ	**Tukino**	**1.99**	**219**	P	**Pn**	**09 42 38.6**	**+1.3**
BHHZ	**Black Hill Sta**	**2.00**	**208**	P	**Pn**	**09 42 38.0**	**+0.6**
COVZ	**Chateau Observ**	**2.00**	**222**	P	**Pn**	**09 42 38.9**	**+1.5**
ETAZ	**East Tamaki Re**	**2.01**	**292**	P	**Pn**	**09 42 38.3**	**+0.8**
FWVZ	**Far West T-bar**	**2.03**	**221**	P	**Pn**	**09 42 39.4**	**+1.3**
WHVZ	**Whangaehu Hut**	**2.04**	**220**	P	**Pn**	**09 42 39.2**	**+1.2**
MAVZ	**Matarangi**	**2.04**	**220**	P	**Pn**	**09 42 39.4**	**+1.3**
KRHZ	**Kereru**	**2.04**	**200**	P	**Pn**	**09 42 37.8**	**-0.1**
HIZ	**Hauiti**	**2.05**	**247**	P	**Pn**	**09 42 39.3**	**+1.3**
HIZ	**Hauiti**	**2.05**	**247**	P	**Pn**	**09 42 39.2**	**+1.1**
MOVZ	**Moawhango**	**2.06**	**215**	P	**Pn**	**09 42 38.7**	**+0.5**
GRZ	**Great Barrier**	**2.06**	**315**	P	**Pn**	**09 42 37.8**	**-0.3**
WNVZ	**Wahianoa**	**2.06**	**219**	P	**Pn**	**09 42 39.4**	**+1.0**
TRVZ	**Turoa**	**2.07**	**220**	P	**Pn**	**09 42 39.6**	**+1.2**
KAHZ	**Kahuranaki**	**2.09**	**188**	P	**Pn**	**09 42 38.7**	**+0.1**
MBAZ	**Motutapu North**	**2.11**	**296**	P	**Pn**	**09 42 39.6**	**+0.8**
PKVZ	**Pokaka**	**2.17**	**223**	P	**Pn**	**09 42 41.0**	**+1.4**
MTVZ	**Mangateitei**	**2.17**	**220**	P	**Pn**	**09 42 40.7**	**+1.1**
PXZ	**Pawanui**	**2.33**	**187**	P	**Pn**	**09 42 41.0**	**-0.6**
RVAZ	**Riverhead Bore**	**2.34**	**293**	P	**Pn**	**09 42 42.2**	**+0.4**
PNHZ	**Pukenui**	**2.34**	**200**	P	**Pn**	**09 42 41.2**	**-0.7**
VRZ	**Vera Road**	**2.41**	**234**	P	**Pn**	**09 42 44.5**	**+1.7**
WPHZ	**Waipukurau**	**2.42**	**195**	P	**Pn**	**09 42 42.3**	**-0.7**
TSZ	**Takapari Road**	**2.54**	**203**	P	**Pn**	**09 42 44.4**	**-0.2**
TSZ	**Takapari Road**	**2.54**	**203**	P	Pn	09 42 35.8	-8.8
PRHZ	**Porangahau**	**2.59**	**191**	P	**Pn**	**09 42 44.0**	**-1.1**
WAZ	**Wanganui**	**2.70**	**220**	P	**Pn**	**09 42 47.6**	**+1.0**
DVHZ	**Dannevirke**	**2.71**	**198**	P	**Pn**	**09 42 45.7**	**-1.1**
ANWZ	**Angora Road**	**2.80**	**192**	P	**Pn**	**09 42 47.1**	**-0.9**
DREZ	**Durham Road**	**2.81**	**238**	P	**Pn**	**09 42 50.5**	**+2.4**
LREZ	**Lake Rotokare**	**2.83**	**231**	P	**Pn**	**09 42 50.4**	**+2.0**
OHWZ	**Ohakea**	**2.91**	**211**	P	**Pn**	**09 42 53.1**	**+3.7**
POWZ	**Post Office Ro**	**2.91**	**203**	P	**Pn**	**09 42 49.2**	**-0.2**
NEZ	**North Egmont**	**2.92**	**237**	P	**Pn**	**09 42 52.3**	**+2.6**
PKE	**Pukeiti**	**2.96**	**239**	P	**Pn**	**09 42 53.1**	**+3.0**
KHEZ	**Kahui Hut**	**2.99**	**237**	P	**Pn**	**09 42 51.4**	**+0.8**
KHEZ	**Kahui Hut**	**2.99**	**237**	P	**Pn**	**09 42 53.2**	**+2.6**
PRWZ	**Pori Road**	**3.00**	**199**	P	**Pn**	**09 42 50.0**	**-0.7**
BFZ	**Birch Farm**	**3.06**	**195**	P	**Pn**	**09 42 50.1**	**-1.4**
BFZ	**Birch Farm**	**3.06**	**195**	P	**Pn**	**09 42 50.0**	**-1.5**
NBEZ	**Newall Road No**	**3.08**	**239**	P	**Pn**	**09 42 54.0**	**+2.3**
MRZ	**Mangatainoka R**	**3.21**	**203**	P	**Pn**	**09 42 51.7**	**-1.9**
TIWZ	**Tintock**	**3.23**	**199**	P	**Pn**	**09 42 52.5**	**-1.3**
HOWZ	**Holdsworth Sta**	**3.45**	**203**	P	**Pn**	**09 42 54.6**	**-2.1**
OGWZ	**Otaki Gorge**	**3.49**	**207**	P	**Pn**	**09 42 55.7**	**-1.6**
TMWZ	**Te Maipa**	**3.54**	**197**	P	**Pn**	**09 42 55.7**	**-2.3**
KIW	**Kapiti Island**	**3.63**	**209**	P	**Pn**	**09 42 57.3**	**-1.8**
MTW	**Mount Morrison**	**3.69**	**201**	P	**Pn**	**09 42 57.5**	**-2.5**
CAW	**Cannon Point**	**3.78**	**206**	P	**Pn**	**09 42 59.0**	**-2.2**
TRWZ	**Traveller**	**3.87**	**198**	P	**Pn**	**09 42 60.0**	**-2.4**
PAWZ	**Paruwai Farm**	**3.92**	**201**	P	**Pn**	**09 43 00.3**	**-2.8**
DUWZ	**D'Urville Isla**	**4.02**	**219**	P	**Pn**	**09 43 02.3**	**-2.2**
WEL	**Wellington**	**4.04**	**208**	P	**Pn**	**09 43 02.4**	**-2.3**
SNZO	**South Karori**	**4.09**	**208**	P	**Pn**	**09 43 03.2**	**-2.2**
PLWZ	**Palliser**	**4.14**	**201**	P	**Pn**	**09 43 03.0**	**-3.1**
TCW	**Tory Channel**	**4.18**	**213**	P	**Pn**	**09 43 04.2**	**-2.3**

*NNC **14** 09:57:50.9±1.1, 41°.27N×73°.02E, h0km, mb3.0, mpv2.5, Error ellipse: s-maj=8.6km s-min=4.1km az=177.0*
*SOME **14** 09:57:50.7, 41°.28N×73°.07E, h5km*
*ISU **14** 09:57:55.8, 40°.93N×73°.16E, h8km*
ISC 14 09:57:51.1±1.0, 41°.29N±0.05×73°.15E±0.04, h10km, n15, σ1$17/23, 3C-1D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSTA	**Tashata**	**0.87**	**216**	P	**Pn**	**09 58 08.7**	**-0.8**
TSTA				S	**Sg**	**09 58 18.4**	**-0.9**
MRKS	**Merke**	**1.46**	**2**	P	**Pg**	**09 58 18.8**	**-0.2**
MRKS				S	**Sg**	**09 58 39.2**	**+1.2**
CHMI	**Chimion**	**1.60**	**231**	P	**Pg**	**09 58 22.8**	**+1.0**
CHMI				S	**Sg**	**09 58 42.5**	**0.0**
TKM2	**Tokmak 2**	**2.45**	**47**	⇓Pg	**Pg**	**09 58 37.7**	**-0.3**
	1.8nm,0.6s						
TKM2				⇑Lg	Lg	09 59 11.0	
	1.4nm,0.5s						
KK31	**Karatay Array**	**2.67**	**314**	⇑Pg	**Pb**	**09 58 37.7**	**-1.3**
	0.8nm,0.5s,baz=128,slow=16,SNR=4.0						
KK31				⇑Lg	Lg	09 59 13.4	
	6.1nm,0.5s,baz=133,slow=27,SNR=18						
KST	**Kastek**	**2.73**	**49**	*e*P	**Pb**	**09 58 41.7**	**+1.6**
	1.4nm,0.1s						
KST				*e*S	**Sg**	**09 59 18.3**	**-0.5**
	7.1nm,0.3s						
KST	**Kastek**	**2.73**	**49**	Pg	**Pb**	**09 58 41.7**	**+1.6**
	2.1nm,0.4s						
KST				Lg	Lg	09 59 18.3	
	7.4nm,0.6s						
DGS	**Degeres**	**2.76**	**44**	*e*P	**Pg**	**09 58 43.2**	**-0.7**
	1.2nm,0.2s						
DGS				*e*S	**Sg**	**09 59 20.9**	**+1.2**
	5.6nm,0.2s						
DGS	**Degeres**	**2.76**	**44**	Pg	**Pg**	**09 58 43.2**	**-0.7**
	1.2nm,0.4s						
DGS				Lg	Lg	09 59 20.9	
	4.2nm,0.4s						
BRLS	**Borolday**	**3.01**	**306**	*e*P	**Pb**	**09 58 44.9**	**0.0**
	1.3nm,0.2s						
BRLS				*e*S	**Sb**	**09 59 23.6**	**+1.8**
	4.9nm,0.2s						
BRLS	**Borolday**	**3.01**	**306**	Pg	**Pb**	**09 58 44.5**	**-0.3**
	0.8nm,0.6s						
BRLS				Lg	Lg	09 59 23.5	
	4.0nm,0.4s						
KRBS	**Karabastau**	**3.05**	**37**	*e*P	**Pg**	**09 58 48.2**	**-1.3**
	0.8nm,0.2s						
KRBS				*e*S	**Sg**	**09 59 29.4**	**+0.4**
	2.4nm,0.3s						
KRBS	**Karabastau**	**3.05**	**37**	Pg	**Pg**	**09 58 48.2**	**-1.3**
	1.0nm,0.7s						
KRBS				Lg	Lg	09 59 29.4	
	2.4nm,0.5s						
KTBS	**Karatobe**	**3.56**	**46**	*e*P	**Pg**	**09 58 57.5**	**-1.8**
	0.3nm,0.1s						
KTBS				*e*S	**Sg**	**09 59 45.3**	**-0.2**
	3.3nm,0.2s						
KTBS	**Karatobe**	**3.56**	**46**	Pg	**Pg**	**09 58 57.5**	**-1.8**
	0.3nm,0.1s						
KTBS				Lg	Lg	09 59 45.3	
	3.5nm,0.6s						

*IDC **14** 10:12:37.9±0.7, 6°.15S×143°.42E, h0km, mb4.3/11, mbtmp4.4/13, ML2.2/1, MS3.5/10, Error ellipse: s-maj=32.4km s-min=16.6km az=73.0*
*NEIC **14** 10:12:40.3±1.4, 6°.145S±0°.08×143°.25E±0°.07, h10km±1km, mb4.7/63, Error ellipse: s-maj=14.5km s-min=9.8km az=146.0*
*DJA **14** 10:12:42.1±1.7, 6°.5S±3°×14°.3E±°, h13km±13km, M5.0/14, mb4.8/14, mB5.2/3, MLv5.1/4, Mw(mB)4.6/3, MwMwp4.8/1, Mwp5.1/1*
ISC 14 10:12:39.8±0.5, 6°.33S±0°.05×143°.23E±0°.06, h10km, n120, σ1$62/93, mb4.7/54, MS3.3/8, 2C-1D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**2.26**	**298**	P	**Pn**	**10 13 17.8**	**+0.5**
MMPI	**Merauke**	**3.53**	**233**	P	**Pn**	**10 13 35.7**	**+0.9**
MMPI				S	**Sn**	**10 14 16.6**	**0.0**
GENI	**Genyem**	**4.80**	**320**	P	**Pn**	**10 13 54.0**	**+1.7**
GENI	**Genyem**	**4.80**	**320**	P	**Pn**	**10 13 53.2**	**+0.9**
PMG	**Port Moresby**	**4.95**	**128**		**Pn**	**10 13 53.3**	**-0.9**
PMG	**Port Moresby**	**4.95**	**128**	P	**Pn**	**10 13 57.2**	**+2.9**
PMG	**Port Moresby**	**4.95**	**128**	P	**Pn**	**10 13 57.0**	**+2.7**
PMG	**Port Moresby**	**4.95**	**128**	Pn	**Pn**	**10 13 54.7**	**+0.4**
	6.0nm,0.3s,baz=3.8,slow=5.1,SNR=15						
PMG				Sn	**Sn**	**10 14 51.3**	**-0.3**
	4.5nm,0.3s,baz=27,slow=9.0,SNR=1.9						
PMG				LR	LR	10 15 49.1	
	comp=Z,372nm,21.7s,baz=319,slow=39 39nm,0.5s						
COEN	**Coen**	**7.58**	**180**		**Pn**	**10 14 32.9**	**+2.4**
FAKI	**Fak Fak**	**11.46**	**287**	Pn	**Pn**	**10 15 21.9**	**-1.7**
KDU	**Kakadu**	**12.35**	**238**	P	**Pn**	**10 15 35.0**	**-0.8**
MTN	**Manton Dam**	**13.57**	**241**	Pn	**Pn**	**10 15 50.7**	**-1.8**
MTN	**Manton Dam**	**13.57**	**241**	P	**Pn**	**10 15 51.9**	**-0.6**
DRS	**Darwin Rock St**	**13.59**	**243**	P	**Pn**	**10 15 53.7**	**+0.9**
QIS	**Mount Isa**	**14.57**	**194**	P	**Pn**	**10 16 08.5**	**+2.2**
WB0	**Warramunga Arr**	**15.88**	**212**		**Pn**	**10 16 22.2**	**-1.4**
WR0	**Warramunga Arr**	**15.96**	**211**	Pn	**Pn**	**10 16 23.3**	**-1.4**
WRAB	**Tennant Creek**	**16.04**	**212**		**Pn**	**10 16 24.8**	**-0.9**
WB2	**Warramunga Arr**	**16.05**	**212**	Pn	**Pn**	**10 16 25.0**	**-0.8**
WRA	**Warramunga Arr**	**16.05**	**212**	Pn	**Pn**	**10 16 24.9**	**-0.9**
WRA	**Warramunga Arr**	**16.05**	**212**	Pn	**Pn**	**10 16 24.0**	**-1.8**
	0.7nm,0.3s,baz=34,slow=13,SNR=22						
WRA				Sn	**Sn**	**10 19 18.2**	**-5.8**
	0.5nm,0.3s,baz=28,slow=22,SNR=4.6						
WRA				Lg	Lg	10 21 06.1	
	baz=35,slow=26						
KNRA	**Kununurra**	**16.96**	**236**	Pn	**Pn**	**10 16 35.6**	**-1.8**
KNRA				IAmb	IAmb	10 16 45.8	
	comp=Z,36nm,0.7s						
KNRA	**Kununurra**	**16.96**	**236**	P	**Pn**	**10 16 36.4**	**-0.9**
SANI	**Sanana**	**17.71**	**283**	P	**P**	**10 16 49.3**	**+1.7**
SANI	**Sanana**	**17.71**	**283**	P	**P**	**10 16 47.7**	**+0.1**
	comp=Z,22nm,0.8s						
SOEI	**Soe**	**19.08**	**258**	P	**P**	**10 17 02.6**	**-0.3**
SOEI	**Soe**	**19.08**	**258**	P	**Pn**	**10 17 05.1**	**+1.5**
SOEI	**Soe**	**19.08**	**258**	P	**P**	**10 17 03.0**	**+0.1**
	comp=Z,108nm,1.0s						
AS01	**Alice Springs**	**19.41**	**206**	P	**Pn**	**10 17 08.8**	**+1.3**
AS31	**Alice Springs**	**19.43**	**207**	P	**Pn**	**10 17 09.9**	**+2.2**
ASAR	**Alice Springs**	**19.43**	**207**	P	**Pn**	**10 17 09.9**	**+2.1**
ASAR	**Alice Springs**	**19.43**	**207**	P	**Pn**	**10 17 08.8**	**+1.1**
	comp=Z,20nm,0.6s,baz=33,slow=9.9,SNR=156						
ASAR				S	**Sn**	**10 20 42.0**	**-3.9**
	comp=Z,1.8nm,0.8s,baz=18,slow=29,SNR=3.9						
ASAR				Lg	Lg	10 22 54.9	
	comp=Z,0.1nm,0.3s,baz=49,slow=24,SNR=2.4						
BATI	**Baumata**	**19.74**	**257**	LR	LR	10 26 48.5	
	comp=Z,173nm,19.4s,baz=106,slow=43						
QLP	**Quilpie**	**20.16**	**177**	P	Pn	10 17 17.6	+1.3
FITZ	**Fitzroy Crossi**	**20.77**	**234**	P	**P**	**10 17 22.7**	**+1.6**
FITZ	**Fitzroy Crossi**	**20.77**	**234**	P	**P**	**10 17 22.9**	**+1.8**
LUWI	**Luwuk**	**21.07**	**284**	P	**P**	**10 17 24.9**	**+0.4**
LUWI	**Luwuk**	**21.07**	**284**	P	**P**	**10 17 27.4**	**+2.9**
LUWI	**Luwuk**	**21.07**	**284**	P	**P**	**10 17 25.1**	**+0.6**
	comp=Z,72nm,0.9s,comp=Z,1μm						
GTOI	**Gorontalo**	**21.34**	**288**	P	**P**	**10 17 28.5**	**+1.2**
	comp=Z,27nm,0.7s,comp=Z,266nm						
INKA	**Innaminka**	**21.43**	**186**	P	**P**	**10 17 30.8**	**+2.7**
OOD	**Oodnadatta**	**22.52**	**198**	P	**P**	**10 17 42.5**	**+2.7**
KAPI	**Kappang**	**23.40**	**272**	P	**P**	**10 17 49.7**	**+0.6**
KAPI	**Kappang**	**23.40**	**272**	P	**P**	**10 17 51.1**	**+2.0**
WRKA	**Warakurna**	**23.47**	**216**	P	**P**	**10 17 50.7**	**+1.0**
TOLI2	**Tolitoli**	**23.60**	**287**	P	**P**	**10 17 50.6**	**-0.4**
TOLI2				IAmb	IAmb	10 18 01.1	
	comp=Z,22nm,0.8s						
TOLI2	**Tolitoli**	**23.60**	**287**	P	**P**	**10 17 51.3**	**+0.2**
LCRK	**Leigh Creek**	**24.45**	**191**	P	**P**	**10 18 00.7**	**+1.8**
MULG	**Mulgathing**	**25.34**	**199**	P	**P**	**10 18 08.7**	**+1.7**
STKA	**Stephens Creek**	**25.46**	**183**	P	**P**	**10 18 11.1**	**+3.0**
STKA	**Stephens Creek**	**25.46**	**183**	P	**P**	**10 18 09.6**	**+1.4**
	comp=Z,1.4nm,0.7s,baz=337,slow=6.2,SNR=3.1						
STKA				LR	LR	10 30 45.2	
	comp=Z,98nm,19.3s,baz=336,slow=42 comp=Z,1.4nm,0.7s						
LEM	**Lembang**	**35.38**	**267**	LR	LR	10 36 26.9	
	comp=Z,63nm,21.0s,baz=106,slow=40						
NWAO	**Narrogin (SRO)**	**35.84**	**219**	LR	LR	10 34 31.5	
	comp=Z,118nm,18.0s,baz=70,slow=36						
JOW	**Kunigami**	**36.01**	**337**	LR	LR	10 32 22.7	
	comp=Z,53nm,21.0s,baz=144,slow=33						
URZ	**Urewera**	**44.18**	**141**	LR	LR	10 36 39.9	
	comp=Z,109nm,21.0s,baz=301,slow=33						
NJ2	**Nanjing**	**44.69**	**330**	*e*P	**P**	**10 20 53.3**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KSRS	**Korea Array**	**45.84**	**343**	P	**P**	**10 21 00.8**	**-1.3**
	comp=Z,2.9nm,1.0s,baz=163,slow=10.0,SNR=9.4 comp=Z,2.9nm,1.0s						
WHN	**Wuhan**	**45.93**	**325**	P	**P**	**10 21 01.3**	**-1.7**
TIA	**Tai'an**	**48.90**	**332**	*e*P	**P**	**10 21 23.6**	**-2.4**
TIA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
LYN	**LuoYang**	**49.97**	**327**	*e*P	**P**	**10 21 38.5**

D22K	**Ayikyak River**	**86.83**	**19**	IAmb	IAmb	10 25 47.9		
	comp=Z,4.3nm,1.0s							
CCB	**Clear Creek Bu**	**86.86**	**24**	P	**P**	**10 25 23.9**	**-0.5**	
CCB				IAmb	IAmb	10 25 25.9		
	comp=Z,5.2nm,1.0s							
IL31		**87.27**	**24**	IAmb	IAmb	10 25 34.2		
	comp=Z,2.7nm,0.8s							
ILAR	**Eielson Array**	**87.27**	**24**	P	**P**	**10 25 24.1**	**-2.4**	
	comp=Z,2.5nm,0.9s,baz=248,slow=5.9,SNR=16							
	comp=Z,2.5nm,0.9s							
J25K	**Salcha River,**	**87.83**	**24**	IAmb	IAmb	10 25 32.8		
	comp=Z,4.1nm,1.0s							
F24K	**Squaw Lake**	**87.90**	**21**	IAmb	IAmb	10 25 32.6		
	comp=Z,4.3nm,0.9s							
J26L	**Joseph Creek**	**88.53**	**24**	IAmb	IAmb	10 25 35.0		
	comp=Z,3.8nm,1.0s							
K27K	**Chicken**	**89.01**	**25**	IAmb	IAmb	10 25 38.0		
	comp=Z,5.9nm,1.1s							
ABKAR	**Akbulak array**	**90.38**	**319**	P	**P**	**10 25 39.9**	**-1.5**	
ELIB	**Princess Elisa**	**92.89**	**196**	*d*P	**P**	**10 25 51.7**	**-1.2**	
	comp=Z,3.3nm,1.2s							
DBIC	**Dimbokro**	**148.29**	**272**	PKPbc	**PKPbc**	**10 32 27.8**	**+0.4**	
	comp=Z,5.1nm,0.6s,baz=113,slow=1.6,SNR=8.7							

NIED ***14*** *10:14:34.1, 41.˚77N×146.˚48E, h26km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.78; $M_{\theta\theta}$1.28; $M_{\phi\phi}$0.50; $M_{r\theta}$-0.26; $M_{\theta\phi}$0.63; $M_{r\phi}$0.37; Fault plane solution: $M_0$1.76000×10^{14} NP1:ϕ_s73.00000°, δ47.00000°, λ-73.00000°. NP2:ϕ_s229.00000°, δ46.00000°, λ-108.00000°.*

JMA 14 10:14:34.1±0.2, 41.˚8N±0.˚7×146.˚5E±0.˚9, h26km, MV4.1/35, FAR SE OFF HOKKAIDO, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKHN	**Kushirohamanak**	**1.63**	**324**	*e*P	Pn	10 15 02.2	+1.1
JKHN				*e*S	Sb	10 15 22.6	-1.1
NEM2	**Nemuro 2**	**1.68**	**341**	*e*P	Pn	10 15 02.8	+1.0
NEM2				*e*S	Sn	10 15 23.4	+1.0
JAK	**Akkeshi**	**1.80**	**313**	*e*P	Pn	10 15 04.5	+1.1
JAK				*e*S	Sn	10 15 26.7	+1.3
JNK	**Nakash**	**2.23**	**325**	*e*P	Pn	10 15 09.9	+0.6
JNK				*e*S	Sn	10 15 35.6	-0.4
JOB	**Onbets**	**2.26**	**301**	*e*P	Pn	10 15 11.2	+1.4
JOB				*e*S	Sn	10 15 38.4	+1.5
JRA	**Rausu**	**2.38**	**336**	*e*P	Pn	10 15 12.6	+1.2
JRA				*e*S	Sn	10 15 40.9	+1.1
JCH	**Churui**	**2.47**	**291**	*e*P	Pn	10 15 13.9	+1.3
JCH				*e*S	Sn	10 15 41.6	-0.3
JEM	**Erimo**	**2.49**	**277**	*e*P	Pn	10 15 15.1	+2.1
JAR	**Ashorobuto**	**2.52**	**308**	*e*P	Pn	10 15 14.0	+0.7
JAR				*e*S	Sn	10 15 42.9	-0.2
JNBK	**Urakawa-nobuka**	**2.82**	**282**	*e*P	Pn	10 15 18.7	+1.2
JNBK				*e*S	Sn	10 15 52.5	+1.8
JTKR	**Abashiri--Toko**	**2.90**	**320**	*e*P	Pn	10 15 20.4	+1.9
JTKR				*e*S	Sn	10 15 54.3	+1.8
JFR	**Furan**	**3.19**	**297**	*e*P	Pn	10 15 24.2	+1.6
JFR				*e*S	Sn	10 15 59.3	-0.5
JMP	**Maruseppu**	**3.20**	**315**	*e*P	Pn	10 15 24.4	+1.6
JMP				*e*S	Sn	10 16 02.8	+2.8
JBT2	**Biratori 2**	**3.22**	**290**	*e*P	Pn	10 15 23.4	+0.5
ASAJ	**Asahikawa**	**3.69**	**311**	*e*P	Pn	10 15 31.8	+2.3
ASAJ				*e*S	Sn	10 16 13.5	+1.5

KOLA ***14*** *10:17:22.1, 64.˚57N×31.˚12E, h0km, ML2.1, Error ellipse: s-maj=26.2km s-min=13.2km az=160.0, Karelia*
HEL ***14*** *10:17:23.1±0.1, 64.˚70N×30.˚58E, h0km, ML1.8, Suspected explosion*
IDC ***14*** *10:17:25.0±2.1, 64.˚66N×30.˚42E, h0km, mbtmp3.1/3, ML1.8/3, Error ellipse: s-maj=31.3km s-min=8.4km az=103.0*

ISC 14 10:17:21.6±0.8, 64.˚66N±0.˚02×30.˚51E±0.˚04, h0km, n40, σ1s68/66, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RMF	**Romuvaara**	**0.51**	**210**	PG	**Pb**	**10 17 33.1**	**-0.3**
	baz=32						
RMF				SG	**Sg**	**10 17 37.7**	**-0.3**
RMF				MSG		10 17 41.0	
	comp=Z,23nm,0.2s						
KU6	**Riekki**	**1.39**	**350**	PG	**Pn**	**10 17 47.5**	**-0.7**
KU6				MSG		10 18 04.3	
	comp=Z,10nm,0.2s						
KU6				SB	**Sg**	**10 18 06.0**	**-0.3**
MSF	**Maaselka**	**1.40**	**334**	PG	**Pg**	**10 17 47.8**	**-0.5**
	baz=155						
MSF				SB	**Sg**	**10 18 06.1**	**-0.3**
OLKF	**Oulanka, Finla**	**1.73**	**345**	PG	**Pn**	**10 17 53.7**	**+0.9**
OLKF				MSG		10 18 13.9	
	comp=Z,6.7nm,0.2s						
OLKF				SN	**Sb**	**10 18 16.9**	**+0.5**
NIF	**Nilsia**	**1.75**	**224**	PG	**Pg**	**10 17 55.3**	**+0.3**
JOF	**Joensuu**	**1.79**	**168**	PB	**Pn**	**10 17 54.5**	**+0.9**
JOF				SN	**Sg**	**10 18 19.2**	**+0.7**
OUL	**Oulu**	**2.01**	**284**	PG	**Pg**	**10 17 59.5**	**-0.6**
OUL				SG	**Sg**	**10 18 25.6**	**-0.5**
RANF	**Ranua**	**2.07**	**313**	PG	**Pb**	**10 17 59.8**	**-0.1**
	baz=128						
RANF				SG	**Sg**	**10 18 27.0**	**-0.9**
OBF4	**Vikkela, Lumij**	**2.32**	**276**	PG	**Pg**	**10 18 04.8**	**-1.2**
	baz=92						
OBF4				MSG		10 18 32.5	
	comp=Z,5.9nm,0.2s						
OBF4				SG	**Sg**	**10 18 36.7**	**+0.6**
OUF	**Merijarvi**	**2.52**	**266**	PG	**Pb**	**10 18 07.7**	**+0.2**
OUF				MSG		10 18 38.2	
	comp=Z,6.3nm,0.2s						
OUF				SG	**Sg**	**10 18 41.0**	**-1.3**
RNF	**Rovaniemi**	**2.70**	**318**	PB	**Pb**	**10 18 08.8**	**-1.9**
RNF				SG	**Sb**	**10 18 45.4**	**+1.1**
SUF	**Sumiainen**	**2.75**	**227**	PG	**Pb**	**10 18 12.3**	**+0.7**
SUF				MSG		10 18 45.5	
	comp=Z,2.3nm,0.2s						
TOF	**Tornio**	**2.96**	**302**	PG	**Pb**	**10 18 15.3**	**+0.3**
TOF				MSG		10 18 50.2	
	comp=Z,1.8nm,0.2s						
TOF				SB	**Sb**	**10 18 50.3**	**-1.3**
VRF	**Varrio**	**3.12**	**354**	PN	**Pn**	**10 18 13.7**	**+1.8**
	baz=175						
VRF				MSG		10 18 53.8	
	comp=Z,2.4nm,0.2s						
VRF				SG	**Sb**	**10 18 59.5**	**+3.1**
APA0	**Apatity Array**	**3.12**	**18**	P	**Pn**	**10 18 13.2**	**+1.3**
APA0				S	**Sn**	**10 18 48.9**	**-1.0**
KAF	**Kangasniemi**	**3.18**	**218**	SG	**Sg**	**10 19 02.8**	**-0.9**
SGF	**Sodankyl**	**3.23**	**332**	SG	**Sb**	**10 18 58.8**	**-0.7**
KALU	**Kalix**	**3.24**	**295**	PG	**Pg**	**10 18 22.4**	**-1.1**
KALU				SG	**Sg**	**10 19 02.1**	**-3.4**
RUF	**Ruokolahti**	**3.33**	**193**	PG	**Pb**	**10 18 22.2**	**+0.9**
KEF	**Keuruu**	**3.56**	**228**	PB	**Pb**	**10 18 22.3**	**-3.1**
KEF				SB	**Sb**	**10 19 10.0**	**+0.9**
KLF	**Kolari**	**3.72**	**317**	PB	**Pn**	**10 18 24.2**	**+4.1**
FIA0	**FINESS Array S**	**3.81**	**214**	PB	**Pb**	**10 18 29.2**	**-0.3**
FIA0				SG	**Sg**	**10 19 22.1**	**-1.7**
FINES	**FINESS Array B**	**3.81**	**214**	Pn	**Pn**	**10 18 23.5**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=33,slow=13,SNR=1.8						
FINES				Pg	**Pg**	**10 18 32.4**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=34,slow=16,SNR=7.0						
FINES				Sn	**Sn**	**10 19 10.7**	**+3.9**
	comp=Z,0.2nm,0.3s,baz=26,slow=19,SNR=4.2						
FINES				Lg	Lg	10 19 21.6	
	comp=Z,0.8nm,0.3s,baz=33,slow=30,SNR=8.3						
	comp=Z,1.5nm,0.9s						
VAF	**Ylistaro**	**3.83**	**248**	PG	**Pg**	**10 18 32.4**	**-2.5**
	baz=66						
PAJU	**Pajala**	**3.85**	**311**	PG	**Pb**	**10 18 30.8**	**+0.4**
RAJF	**Raja-Jooseppi**	**3.93**	**348**	PN	**Pn**	**10 18 24.3**	**+1.2**
RAJF				SN	**Sn**	**10 19 09.8**	**0.0**
BURU	**Burvik**	**3.93**	**273**	PB	**Pb**	**10 18 31.1**	**-0.5**
UMAU	**Umeaa**	**4.36**	**264**	PN	**Pn**	**10 18 31.4**	**+2.5**
VJF	**Virojoki**	**4.36**	**200**	PB	**Pb**	**10 18 39.0**	**+0.1**
VJF				SG	**Sg**	**10 19 38.6**	**-2.8**
HEF	**Hetta**	**4.65**	**327**	PB	**Pb**	**10 18 42.0**	**-1.9**
HEF				SG	**Sb**	**10 19 44.7**	**+4.4**
PVF	**Pernaja**	**4.66**	**210**	PB	**Pb**	**10 18 43.9**	**-0.1**
PVF				SG	**Sg**	**10 19 48.2**	**-2.8**
KMNF	**Kaamanen**	**4.71**	**345**	PN	**Pn**	**10 18 34.7**	**+0.9**
KMNF				SN	**Sn**	**10 19 26.6**	**-2.4**
TERR	**Teriberka**	**4.90**	**20**	S	**Sn**	**10 19 30.7**	**-3.0**
PRVG	**Vayda Guba**	**5.15**	**7**	P	**Pn**	**10 18 41.2**	**+1.5**
PRVG				S	**Sn**	**10 19 38.7**	**-1.1**
ARCES	**ARCESS Array B**	**5.27**	**340**	P	**Pn**	**10 18 42.2**	**+0.8**
ARCES				S	**Sn**	**10 19 43.0**	**+0.3**
ARCES	**ARCESS Array B**	**5.27**	**340**	Pn	**Pn**	**10 18 42.1**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=150,slow=12,SNR=29						
ARCES				Sn	**Sn**	**10 19 42.4**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=159,slow=22,SNR=1.6						
ARCES				Lg	Lg	10 20 03.6	
	comp=Z,0.2nm,0.3s,baz=137,slow=38,SNR=2.5						
	comp=Z,1.7nm,0.8s						
VADS	**Vadso**	**5.50**	**356**	P	**Pn**	**10 18 45.1**	**+0.5**
VADS				S	**Sn**	**10 19 48.6**	**+0.2**
I37NO	**I37NO**	**6.44**	**319**	I	I	11 00 40.0	
	baz=123,slow=327,SNR=1.7						
FAUS	**Fauske**	**6.77**	**301**	S	**Sn**	**10 20 21.5**	**+1.9**
HFS	**Hagfors**	**9.02**	**248**	Pn	**Pn**	**10 19 32.3**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=54,slow=15,SNR=1.7						
HFS				Lg	Lg	10 22 04.6	
	comp=Z,0.1nm,0.3s,baz=47,slow=32,SNR=1.8						
	comp=Z,2.6nm,1.0s						

TAP 14 10:21:52.6, 24.˚37N×121.˚64E, h15km±1km, ML1.4, 2C-2D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EAHA	**Aohua**	**0.10**	**113**	⇓*e*P	Pg	10 21 55.2	-0.6
	baz=113						
EAHA				*e*S	Sg	10 21 57.0	-1.0
	baz=113						
ENA	**Nanau**	**0.11**	**56**	P	Pb	10 21 56.2	-0.2
	baz=58						
ENA				S	Sb	10 21 58.7	-0.1
	baz=58						
EWUT	**Wuta**	**0.15**	**58**	*i* P	Pg	10 21 56.3	-0.2
	baz=57						
EWUT				S	Sg	10 21 58.9	-0.2
	baz=57						
NACB	**Ninganchiao**	**0.20**	**193**	*e*P	Pb	10 21 57.6	-0.3
	baz=192						
NACB				*e*S	Sb	10 22 00.9	-0.5
	baz=192						
ETL	**Fush Village**	**0.21**	**185**	*i* P	Pg	10 21 57.3	-0.1
	baz=184						
ETL				S	Sg	10 22 01.1	+0.4
	baz=184						
ETLH	**Xiulin Townshi**	**0.22**	**223**	*i* P	Pg	10 21 57.5	-0.1
	baz=222						
NNSB	**Datong**	**0.24**	**285**	⇑P	Pg	10 21 58.1	+0.1
	baz=128						
NNSB				S	Sg	10 22 01.8	-0.1
	baz=128						
NNSB	**Datong**	**0.24**	**285**	⇓P	Pg	10 21 58.1	0.0
	baz=284						
NNSB				S	Sg	10 22 01.7	-0.1
	baz=284						
NNS	**Nan Shan**	**0.26**	**287**	S	Sg	10 22 01.8	-0.4
	baz=139						
NNS	**Nan Shan**	**0.26**	**287**	*e*P	Pg	10 21 58.5	+0.2
	baz=286						
NNS				*i* S	Sg	10 22 01.9	-0.3
	baz=286						
NDT	**Datong Townshi**	**0.26**	**333**	⇑*i*P	Pg	10 21 58.3	0.0
	baz=96						
NDT				S	Sg	10 22 02.3	+0.1
	baz=96						
NDT	**Datong Townshi**	**0.26**	**333**	P	Pg	10 21 58.4	+0.1
	baz=333						
NDT				S	Sg	10 22 02.2	-0.1
	baz=333						
TWD	**Chiawan**	**0.29**	**189**	P	Pg	10 21 58.4	-0.3
	baz=186						
TWD				S	Sg	10 22 02.6	-0.3
	baz=186						
FUSS	**Fushou**	**0.38**	**252**	P	Pg	10 22 00.6	+0.1
	baz=173						
FUSS				*e*S	Sg	10 22 05.2	-0.7
	baz=173						
FUSS	**Fushou**	**0.38**	**252**	P	Pg	10 22 00.1	-0.4
	baz=251						
FUSS				*e*S	Sg	10 22 05.3	-0.6
	baz=251						
FUSB	**Fushanzhiwuyua**	**0.39**	**353**	*e*P	Pg	10 21 59.6	-1.0
	baz=81						
FUSB				*e*S	Sg	10 22 06.3	+0.2
	baz=81						
FUSB	**Fushanzhiwuyua**	**0.39**	**353**	*e*P	Pg	10 22 00.0	-0.6
	baz=352						
FUSB				*i* S	Sg	10 22 06.2	+0.1
	baz=352						

TAP 14 10:21:52.0, 24.˚63N×121.˚20E, h7km, ML1.0, 3C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NFF	**Wufeng Townshi**	**0.07**	**271**	⇑*i*P	Pg	10 21 54.4	+0.5
	baz=271						
NFF				S	Sg	10 21 55.9	+0.6
	baz=271						
NSK	**Sanguang**	**0.15**	**73**	P	Pg	10 21 55.8	+0.6
	baz=83						
NSK				*i* S	Sg	10 21 58.4	+1.0
	baz=83						
YHNB	**Yeheng**	**0.17**	**76**	*e*P	Pg	10 21 55.9	+0.5
	baz=76						
YHNB				S	Sg	10 21 58.5	+0.7
	baz=76						
LIOB	**Emei**	**0.17**	**275**	P	Pg	10 21 56.5	+1.1
	baz=262						
LIOB				S	Sg	10 21 59.4	+1.7
	baz=262						
NSTT	**Nanjuang**	**0.18**	**270**	⇑*i*P	Pg	10 21 56.5	+0.9
	baz=270						
NSTT				S	Sg	10 21 59.7	+1.6
	baz=270						
LATG	**Datong**	**0.31**	**107**	⇑*e*P	Pb	10 21 59.2	-0.8
	baz=108						
LATG				S	Sg	10 22 03.6	+1.2
	baz=108						
NWLT	**Wulai**	**0.31**	**62**	*i* P	Pg	10 21 58.5	+0.3
	baz=62						
NWLT				S	Sg	10 22 02.7	+0.4
	baz=62						
WHP	**Taichung City**	**0.42**	**213**	P	Pb	10 22 01.4	-0.4
	baz=213						
WHP				S	Sb	10 22 07.7	-0.7
	baz=213						
WHF	**Hehuan Shan**	**0.49**	**173**	*e*P	Pb	10 22 03.6	+0.4
	baz=172						
WHF				S	Sg	10 22 09.2	+1.3
	baz=172						
ETLH	**Xiulin Townshi**	**0.49**	**148**	P	Pb	10 22 02.9	-0.2
	baz=140						
ETLH				*e*S	Sg	10 22 09.1	+1.1
	baz=140						

NAO ***14*** *10:24:46.1, 46.˚20N×26.˚95E, h33km, mb4.2*
MED_RC ***14*** *10:24:48.0±0.2, 45.˚74N×26.˚69E, h132km±3km, MW4.5/26, Moment Tensor Solution.Mantle waves: s26,c31; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}5.48±.31; $M_{\theta\theta}$-5.74±.44; $M_{\phi\phi}$0.26±.34; $M_{r\theta}$-4.29±.28; $M_{\theta\phi}$2.20±.37; $M_{r\phi}$-1.65±.24; Best double couple: $M_0$7.58000×10^{15} NP1:ϕ_s266.00000°, δ64.00000°, λ67.00000°. NP2:ϕ_s130.00000°, δ34.00000°, λ129.00000°. Principal axes: T 7.6400, Plg63.0000°, Azm138.0000°; N -0.1300, Plg20.0000°, Azm276.0000°; P -7.5200, Plg16.0000°, Azm12.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
PDG ***14*** *10:24:48.6±0.5, 45.˚66N×26.˚50E, h139km±1km, ML4.4/11 Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*
SIGU ***14*** *10:24:48.7, 45.˚71N×26.˚57E, h143km*
MOS ***14*** *10:24:48.4±0.9, 45.˚72N×26.˚56E, h140km, mb4.5/18, Error ellipse: s-maj=4.7km s-min=3.7km az=104.2*
BUC ***14*** *10:24:49.4±0.2, 45.˚68N×26.˚59E, h137km±1km, ml4.6/81, Error ellipse: s-maj=1.4km s-min=1.1km az=21.0*
CFUSG ***14*** *10:24:49.4, 45.˚61N×26.˚68E, h147km, mb3.7/7, Romania Magtype MSH 3.9 from 6 stations*
NEIC ***14*** *10:24:49.5±1.6, 45.˚69N±0.˚04×26.˚59E±0.˚04, h141km±4km, mb4.5/50, Mwr4.7/22(BUC), Error ellipse: s-maj=6.9km s-min=3.1km az=155.0*
MOLD ***14*** *10:24:49.2, 45.˚76N×26.˚39E, h120km, MB4.2, Mb4.3*
IDC ***14*** *10:24:49.3±0.3, 45.˚70N×26.˚38E, h136km±2km, mb3.9/20, mbtmp4.3/32, MS3.1/10, Error ellipse: s-maj=10.3km s-min=7.7km az=154.0*
BGR ***14*** *10:24:50.3±0.6, 45.˚12N×26.˚31E, h140km, ML4.5, Error ellipse: s-maj=62.3km s-min=13.3km az=26.0*
BEO ***14*** *10:24:50.7±1.5, 45.˚60N×26.˚66E, h80km, ML4.6/23*
SOF ***14*** *10:24:54.2, 45.˚22N±0.˚02×26.˚38E±0.˚02, h20km±10km, MD5.0/14*
PRU ***14*** *10:25:11.7, 46.˚52N×24.˚16E, h0km, ML4.5*

ISC 14 10:24:49.3±0.4, 45.˚67N±0.˚02×26.˚51E±0.˚02, h140km±3km, h140km:pP-P, n662, σ1s77/826, mb4.5/60, 110C-109D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BISRR	**Bisoca**	**0.18**	**129**	⇑P	**Pn**	**10 25 09.0**	**+0.5**
SPBR	**Spulber**	**0.19**	**64**	⇑P	**Pn**	**10 25 08.7**	**+0.2**
SPBR				⇑S	**Sn**	**10 25 22.6**	**-0.4**
PLOR	**Plostina**	**0.21**	**28**	⇑P	**Pn**	**10 25 08.2**	**-0.3**
PLOR				⇑S	**Sn**	**10 25 22.7**	**-0.4**
PLOR	**Plostina**	**0.21**	**28**	P	**Pn**	**10 25 08.1**	**-0.4**
VRI	**Vrincioaia**	**0.25**	**38**	⇑P	**Pn**	**10 25 08.4**	**-0.1**
VRI				⇓S	**Sn**	**10 25 23.0**	**-0.2**
VRI	**Vrincioaia**	**0.25**	**38**	P	**Pn**	**10 25 08.3**	**-0.3**
COVR	**Voineasa-Covas**	**0.28**	**311**	⇑P	**Pn**	**10 25 08.5**	**-0.2**
COVR				⇓S	**Sn**	**10 25 22.8**	**-0.6**
COVR	**Voineasa-Covas**	**0.28**	**311**		**Pn**	**10 25 08.4**	**-0.2**
NEHR	**Nehoiu**	**0.28**	**212**	⇓P	**Pn**	**10 25 09.1**	**+0.4**
NEHR				⇓S	**Sn**	**10 25 24.4**	**+1.1**
NEHR	**Nehoiu**	**0.28**	**212**		**Pn**	**10 25 09.1**	**+0.4**
NEHR					**Sn**	**10 25 24.4**	**+1.1**
ODBI	**Odobesti**	**0.40**	**75**	⇑P	**Pn**	**10 25 09.8**	**+0.8**
ODBI				⇑S	**Sn**	**10 25 25.3**	**+1.3**
ODBI	**Odobesti**	**0.40**	**75**		**Pn**	**10 25 09.6**	**+0.6**
ODBI					**Sn**	**10 25 25.4**	**+1.3**
MLR	**Muntele Rosu**	**0.43**	**246**	⇑P	**Pn**	**10 25 09.8**	**+0.4**
MLR				⇑S	**Sn**	**10 25 25.3**	**+0.7**
MLR	**Muntele Rosu**	**0.43**	**246**		**Pn**	**10 25 10.1**	**+0.7**
MLR				Sn	**Sn**	**10 25 24.7**	**+0.1**
MLR	**Muntele Rosu**	**0.43**	**246**	P	**Pn**	**10 25 09.8**	**+0.4**
	2µm,0.3s,baz=341,slow=6.2,SNR=2976						
MLR				S	**Sn**	**10 25 24.6**	**+0.1**
	21µm,0.4s,baz=229,slow=20,SNR=52						
MLR	**Muntele Rosu**	**0.43**	**246**	*e*P	**Pn**	**10 25 10.1**	**+0.7**
GRER		**0.44**	**131**		**Pn**	**10 25 10.4**	**+1.2**
PANC	**Panciu**	**0.49**	**65**	⇑P	**Pn**	**10 25 09.5**	**0.0**
PANC				⇓S	**Sn**	**10 25 25.2**	**+0.3**
PANC	**Panciu**	**0.49**	**65**		**Pn**	**10 25 09.5**	**0.0**
TURR	**Turia**	**0.52**	**319**	⇑P	**Pn**	**10 25 09.7**	**0.0**
TURR				⇑S	**Sn**	**10 25 25.0**	**-0.3**
ISR	**Istrita**	**0.55**	**177**	⇓P	**Pn**	**10 25 10.4**	**+0.4**
ISR				⇑S	**Sn**	**10 25 26.1**	**+0.6**
ISR	**Istrita**	**0.55**	**177**	P	**Pn**	**10 25 10.3**	**+0.4**
OZUR		**0.66**	**311**	⇑P	**Pn**	**10 25 10.0**	**-0.3**
OZUR				⇓S	**Sn**	**10 25 26.4**	**-0.3**
BOSR	**Bodos**	**0.72**	**305**	⇑P	**Pn**	**10 25 10.9**	**0.0**
BOSR				⇑S	**Sn**	**10 25 27.5**	**+0.1**
GHRR		**0.74**	**58**	⇑P	**Pn**	**10 25 11.0**	**0.0**
GHRR				⇑S	**Sn**	**10 25 27.3**	**-0.3**
TUDR		**0.82**	**95**	⇑P	**Pn**	**10 25 11.2**	**-0.4**
TUDR				⇑S	**Sn**	**10 25 28.1**	**-0.5**
TUDR		**0.82**	**95**		**Pn**	**10 25 11.2**	**-0.4**
TUDR					**Sn**	**10 25 28.1**	**-0.5**
PLAR	**PLOIESTI**	**0.82**	**204**	⇑P	**Pn**	**10 25 12.6**	**+0.9**
PLAR				⇑S	**Sn**	**10 25 30.6**	**+2.0**
PLAR	**PLOIESTI**	**0.82**	**204**		**Pn**	**10 25 12.6**	**+0.9**
DOPR	**Dopca**	**0.84**	**292**	⇑P	**Pn**	**10 25 12.0**	**+0.2**
DOPR				⇓S	**Sn**	**10 25 29.2**	**+0.2**
TESR	**Tescani**	**0.85**	**7**	⇑P	**Pn**	**10 25 11.2**	**-0.7**
TESR				⇑S	**Sn**	**10 25 27.3**	**-1.9**
SLCR	**Slobozia Conac**	**0.89**	**94**	⇑P	**Pn**	**10 25 12.0**	**-0.2**
IZVR	**Izvoarele**	**0.89**	**97**	⇑P	**Pn**	**10 25 11.6**	**-0.6**
IZVR				⇓S	**Sn**	**10 25 28.4**	**-1.2**
IZVR	**Izvoarele**	**0.89**	**97**		**Pn**	**10 25 11.7**	**-0.6**
IZVR					**Sn**	**10 25 28.4**	**-1.2**
SCHL	**Schela**	**0.94**	**100**	⇑P	**Pn**	**10 25 12.4**	**-0.2**
SCHL				⇑S	**Sn**	**10 25 29.5**	**-0.8**
SCHL	**Schela**	**0.94**	**100**		**Pn**	**10 25 12.4**	**-0.2**
SCHL					**Sn**	**10 25 29.5**	**-0.8**
VARL	**Varlezi**	**0.97**	**75**	⇑P	**Pn**	**10 25 12.4**	**-0.4**
VARL				⇑S	**Sn**	**10 25 29.5**	**-1.2**
VARL	**Varlezi**	**0.97**	**75**		**Pn**	**10 25 12.4**	**-0.4**
BIR	**Birlad**	**0.99**	**52**	⇓P	**Pn**	**10 25 12.7**	**-0.4**
BIR				⇑S	**Sn**	**10 25 29.3**	**-1.8**
BIR	**Birlad**	**0.99**	**52**		**Pn**	**10 25 12.7**	**-0.4**
BIR	**Birlad**	**0.99**	**52**	P	**Pn**	**10 25 12.6**	**-0.4**
SULR		**1.00**	**190**	⇓P	**Pn**	**10 25 13.9**	**+0.7**
SCTR	**Scanteiesti**	**1.04**	**89**	⇑P	**Pn**	**10 25 13.5**	**-0.1**
SCTR				⇓S	**Sn**	**10 25 31.0**	**-0.9**
SCTR	**Scanteiesti**	**1.04**	**89**		**Pn**	**10 25 13.5**	**-0.1**
VOIR		**1.05**	**258**	⇑P	**Pn**	**10 25 13.9**	**+0.2**
VOIR				⇓S	**Sn**	**10 25 32.1**	**-0.2**
VOIR		**1.05**	**258**	P	**Pn**	**10 25 13.9**	**+0.2**
TATR	**Tatarca**	**1.09**	**93**	⇑P	**Pn**	**10 25 13.8**	**-0.1**
TATR				⇓S	**Sn**	**10 25 31.6**	**-1.0**
TATR	**Tatarca**	**1.09**	**93**		**Pn**	**10 25 13.8**	**-0.1**
MTUR	**Matau**	**1.11**	**247**	⇓P	**Pn**	**10 25 15.0**	**+0.7**
MTUR	**Matau**	**1.11**	**247**		**Pn**	**10 25 15.0**	**+0.7**
MTUR	**Matau**	**1.11**	**247**	P	**Pn**	**10 25 14.9**	**+0.7**
GISR	**Galati**	**1.11**	**101**	⇑P	**Pn**	**10 25 13.9**	**-0.2**
GISR				⇑S	**Sn**	**10 25 32.2**	**-0.9**
GISR	**Galati**	**1.11**	**101**		**Pn**	**10 25

MDB Medias 1.56 289 Pn 10 25 19.2 +0.4
MDB Medias 1.56 289 P Pn 10 25 19.1 +0.4
TLBR Topalu 1.56 135 ⇓P Pn 10 25 18.7 -0.1
TLBR ⇓S Sn 10 25 40.2 -1.1
TLBR Topalu 1.56 135 Pn 10 25 18.7 -0.1
HUMR Humele 1.57 224 ⇓P Pn 10 25 19.2 +0.3
HUMR ⇑S Sn 10 25 41.8 +0.3
TPGR Topolog 1.57 120 ⇓P Pn 10 25 18.4 -0.6
TPGR ⇑S Sn 10 25 39.8 -1.8
TPGR Topolog 1.57 120 Pn 10 25 18.4 -0.6
TGMR Targu Mures 1.63 303 ⇑P Pn 10 25 20.3 +0.7
TGMR Targu Mures 1.63 303 Pn 10 25 20.3 +0.7
RMVG GOVORA 1.69 249 ⇑S Sn 10 25 45.9 +2.0
IAS Iasi 1.69 25 ⇓P Pn 10 25 19.8 -0.5
IAS Iasi 1.69 25 P Pn 10 25 19.7 -0.5
TLCR 1.69 106 ⇓P Pn 10 25 20.0 -0.3
TLCR ⇑S Sn 10 25 42.1 -1.8
TLCR 1.69 106 Pn 10 25 20.0 -0.3
TLCR Sn 10 25 42.1 -1.8
TLCR 1.69 106 P Pn 10 25 19.9 -0.3
PRAR RASCA 1.71 354 ⇑P Pn 10 25 20.6 +0.2
PRAR RASCA 1.71 354 Pn 10 25 20.6 +0.2
CVDA Cernavoda 1.72 140 ⇓P Pn 10 25 20.8 +0.3
CVDA ⇓S Sn 10 25 43.3 -1.2
CVDA Cernavoda 1.72 140 Pn 10 25 20.9 +0.3
ICOR Ion Corvin 1.80 149 ⇓P Pn 10 25 21.9 +0.4
ICOR ⇑S Sn 10 25 44.9 -1.2
TIRR Tirgusor 1.81 131 ⇓P Pn 10 25 21.4 -0.2
TIRR ⇑S Sn 10 25 44.8 -1.5
TIRR Tirgusor 1.81 131 Pn 10 25 21.1 -0.5
TIRR Sn Sn 10 25 44.3 -2.0
TIRR Tirgusor 1.81 131 Pn 10 25 21.4 -0.2
TIRR Sn 10 25 44.8 -1.5
TIRR Tirgusor 1.81 131 P Pn 10 25 21.3 -0.2
TIRR Tirgusor 1.81 131 eP Pn 10 25 21.5 -0.2
LOT Lotru 1.94 265 ⇓P Pn 10 25 24.0 +0.8
LOT ⇓S Sn 10 25 50.9 +1.8
MFTR Murfatlar 2.02 137 ⇓P Pn 10 25 23.9 -0.1
MFTR ⇑S Sn 10 25 49.2 -1.5
MFTR Murfatlar 2.02 137 Pn 10 25 23.9 -0.1
MFTR Sn 10 25 49.1 -1.5
MILM Milestii Mici 2.03 51 ⇓P Pn 10 25 23.5 -0.7
MILM Milestii Mici 2.03 51 eP Pn 10 25 23.5 -0.7
MILM eS Sn 10 25 47.6 -3.4
MILM pmax pmax
comp=Z,720nm,0.1s
MILM smax smax
comp=N,5μm,0.2s
MILM smax smax
comp=E,3μm,0.2s
MILM Milestii Mici 2.03 51 eP Pn 10 25 23.5 -0.7
comp=E,41μm,0.1s
MILM eS Sn 10 25 47.6 -3.4
comp=E,97μm,0.2s
MILM Milestii Mici 2.03 51 P Pn 10 25 23.4 -0.7
MILM eP Pn 10 25 23.5 -0.7
MILM eS Sn 10 25 47.6 -3.4
ARCR ARCALIA 2.06 314 ⇑P Pn 10 25 24.6 +0.1
ARCR ARCALIA 2.06 314 Pn 10 25 24.6 +0.1
KIS Kishinev 2.08 49 eP Pn 10 25 23.5 -1.3
comp=E,720nm,0.1s
KIS eS Sn 10 25 47.6 -4.5
comp=E,5μm,0.2s
KIS Kishinev 2.08 49 ⇓P Pn 10 25 24.2 -0.6
KIS Kishinev 2.08 49 Pn 10 25 24.1 -0.6
KIS Kishinev 2.08 49 eP Pn 10 25 24.2 -0.6
KIS iS Sn 10 25 49.3 -2.8
KIS pmax pmax
comp=Z,450nm,0.1s
KIS smax smax
comp=N,10μm,0.5s
KIS smax smax
comp=E,9μm,0.5s
KIS Kishinev 2.08 49 eP Pn 10 25 24.2 -0.6
comp=E,20μm,0.1s
KIS iS Sn 10 25 49.3 -2.8
comp=E,117μm,0.5s
KIS Kishinev 2.08 49 eP Pn 10 25 24.2 -0.6
KIS iS Sn 10 25 49.3 -2.8
RAZG Razgrad 2.10 180 ⇓P Pn 10 25 25.2 +0.2
RAZG ⇓S Sn 10 25 51.4 -1.1
RAZG Razgrad 2.10 180 Pn 10 25 25.2 +0.2
BURAR Bucovina Array 2.14 336 ⇑P Pn 10 25 26.8 +1.1
BURAR ⇓S Sn 10 25 54.9 +1.3
BURAR Bucovina Array 2.14 336 Pn Pn 10 25 26.2 +0.6
BURAR Bucovina Array 2.14 336 P Pn 10 25 26.7 +1.1
TSCT Constanta Port 2.14 134 ⇓P Pn 10 25 25.7 +0.2
TSCT ⇓S Sn 10 25 51.9 -1.5
TSCT Constanta Port 2.14 134 Pn 10 25 25.7 +0.2
ZIMR 2.17 202 ⇓P Pn 10 25 26.1 +0.3
ZIMR ⇑S Sn 10 25 53.4 -0.5
ZIMR 2.17 202 Pn 10 25 26.1 +0.3
ZIMR 2.17 202 P Pn 10 25 26.1 +0.3
BUR08 Bucovina Ar. S 2.17 336 Pn Pn 10 25 26.8 +0.7
EFOR EFORIE 2.19 136 ⇓P Pn 10 25 26.5 +0.4
EFOR ⇑S Sn 10 25 52.9 -1.4
CJR Cluj-Napoca 2.28 298 ⇑P Pn 10 25 27.5 +0.2
CJR Cluj-Napoca 2.28 298 P Pn 10 25 27.4 +0.2
PSN Preselentsi 2.34 150 ⇓iP Pn 10 25 28.2 +0.3
PSN S Sn 10 25 54.8 -2.8
MANR Mangalia 2.37 141 ⇓P Pn 10 25 28.5 +0.1
MANR ⇑S Sn 10 25 56.8 -1.5
TSMN Mangalia Port- 2.38 141 ⇑P Pn 10 25 28.7 +0.2
TSMN ⇓S Sn 10 25 57.6 -1.0
TSMN Mangalia Port- 2.38 141 Pn 10 25 28.7 +0.2
SZH Strazhitsa 2.43 189 ⇓iP Pn 10 25 29.5 +0.4
SZH S Sn 10 25 55.9 -3.8
NEF NEVSHA 2.46 167 i P Pn 10 25 29.5 0.0
NEF S Sn 10 25 56.7 -3.7
PURM Purcari 2.50 69 ⇓P Pn 10 25 29.2 -0.6
PURM ⇓S Sn 10 25 59.0 -2.1
PURM Purcari 2.50 69 Pn 10 25 29.2 -0.6
PURM Purcari 2.50 69 i P Pn 10 25 29.3 -0.6
comp=E,35μm,0.2s
PURM iS Sn 10 25 58.5 -2.6
comp=E,86μm,0.4s
DEV Deva 2.53 276 ⇑P Pn 10 25 31.4 +1.0
DEV ⇑S Sn 10 26 03.0 +1.1
DEV Deva 2.53 276 P Pn 10 25 31.3 +1.0
SRE Strehaia 2.54 248 P Pn 10 25 30.8 +0.3
DRBR Darabani 2.54 2 ⇓P Pn 10 25 29.9 -0.5
DRBR Darabani 2.54 2 Pn 10 25 29.9 -0.5
PRD Provadia 2.59 165 i P Pn 10 25 31.3 +0.3
PRD S Sn 10 25 58.6 -4.5
GZR Gura Zlata 2.63 265 ⇑P Pn 10 25 32.6 +0.8
GZR Gura Zlata 2.63 265 ePn Pn 10 25 32.5 +0.8
GZR eSn Sn 10 25 58.2 -6.1
ROIA ROIAK 2.65 166 i P Pn 10 25 32.5 +0.7
CHRU Chernivtsi 2.66 352 i P Pn 10 25 31.9 -0.1
CHRU Pm 10 25 32.7
CHRU ⇓iS Sn 10 26 04.2 -0.7
CHRU Sm 10 26 04.6
AVR AVREN 2.68 161 i P Pn 10 25 32.7 +0.5
PVL Pavlikeni 2.71 201 i P Pn 10 25 33.1 +0.4
PVL S Sn 10 26 04.1 -2.0
ELND Elena 2.77 190 ⇓P Pn 10 25 33.9 +0.5
ELND Elena 2.77 190 Pn 10 25 33.9 +0.5
SORM Soroca 2.78 26 ⇓P Pn 10 25 32.2 -1.1
SORM Soroca 2.78 26 Pn 10 25 32.2 -1.1
SORM Soroca 2.78 26 P Pn 10 25 32.2 -1.1
SORM Soroca 2.78 26 i P Pn 10 25 32.0 -1.4
comp=E,50μm,0.1s
SORM iS Sn 10 26 02.0 -5.4
comp=E,62μm,0.6s
SORM Soroca 2.78 26 P Pn 10 25 32.2 -1.1
KSV Kosov 2.83 340 ⇑iP Pn 10 25 33.8 -0.3
KSV Pm 10 25 34.4
KSV iS Sn 10 26 08.7 +0.1
KSV Sm 10 26 12.4
RAKU Rahkiv 2.86 327 ⇓iP Pn 10 25 34.2 -0.2
RAKU ⇑iS Sn 10 26 09.9 +0.6
DRGR 2.87 295 ⇑P Pn 10 25 34.2 -0.4
DRGR 2.87 295 P Pn 10 25 34.2 -0.4
DRGR 2.87 295 ePn Pn 10 25 34.4 -0.2
RMGR Halanga-Turnu 2.88 251 ⇓P Pn 10 25 35.1 +0.4
RMGR Halanga-Turnu 2.88 251 Pn 10 25 35.1 +0.4
BMR Baia Mare 2.89 315 ⇑P Pn 10 25 35.3 +0.5
BMR ⇑S Sn 10 26 10.0 +0.1
BMR Baia Mare 2.89 315 P Pn 10 25 35.2 +0.5
PUNG Punghina 2.89 243 ⇓P Pn 10 25 34.7 -0.2
PUNG Punghina 2.89 243 ePn Pn 10 25 34.5 -0.4
PUNG eSn Sn 10 26 02.7 -7.3
NSLU Nyzhne Selyshc 2.90 332 ⇓iP Pn 10 25 40.2 +5.3
NSLU Pm 10 25 41.7
NSLU iS Sn 10 26 20.0 +10
NSLU Sm 10 26 31.1
KMPD K-Podol'skiy 2.90 359 ⇑iP Pn 10 25 34.3 -0.6
KMPD iS Sn 10 26 09.7 -0.5
VALD Valchedram 2.95 229 i P Pn 10 25 35.7 +0.1
NDNU Novodnistrovsk 2.99 11 ⇓iP Pn 10 25 35.4 -0.7
NDNU Pm 10 25 35.9
NDNU ⇓iS Sn 10 26 08.6 -3.7
NDNU Sm 10 26 11.7
HERR Herculane 2.99 256 ⇓P Pn 10 25 36.2 0.0
MPEP Malo Peshtene 3.04 222 i P Pn 10 25 37.2 +0.4
MPEP S Sn 10 26 11.1 -2.4
SURR Surduc 3.07 273 ⇑P Pn 10 25 37.9 +0.8
SURR Surduc 3.07 273 Pn 10 25 37.9 +0.8
JMB Yambol 3.17 180 ⇓iP Pn 10 25 39.0 +0.5
STNU Starunia 3.34 337 ⇑iP Pn 10 25 41.3 +0.7
STNU iS Sn 10 26 20.9 +0.5
KORU Korolevo 3.40 318 ⇓iP Pn 10 25 41.7 +0.3
KORU iS Sn 10 26 22.9 +1.2
BZS Buzias 3.43 271 ⇑P Pn 10 25 42.3 +0.4
BZS Buzias 3.43 271 P Pn 10 25 42.2 +0.4
BZS Buzias 3.43 271 ePn Pn 10 25 42.2 +0.4
BZS eSn Sn 10 26 17.1 -5.3
SIRR Siria 3.43 282 ⇑P Pn 10 25 42.4 +0.5
SIRR Siria 3.43 282 ePn Pn 10 25 41.8 -0.1
TRSU Trosnyk 3.44 316 eP Pn 10 25 42.1 +0.2
TRSU Pm 10 25 43.8
TRSU iS Sn 10 26 23.7 +1.1
TRSU Sm 10 26 37.6
MDVR Moldovita 3.50 257 ⇓P Pn 10 25 42.9 +0.1
MDVR Moldovita 3.50 257 ePn Pn 10 25 42.9 +0.1
MDVR eSn Sn 10 26 19.0 -5.2
MEZ Mezhgor'ye 3.51 325 ⇑iP Pn 10 25 44.0 +1.2
MEZ iS Sn 10 26 25.0 +0.7
HORU Horodok 3.55 359 ⇑iP Pn 10 25 42.9 -0.5
HORU Pm 10 25 43.7
HORU iS Sn 10 26 24.4 -0.9
HORU Sm 10 26 25.7
ZAGS Zajecar 3.56 240 ePn Pn 10 25 42.7 -0.9
ZAGS eSn Sn 10 26 18.8 -6.7
PGB Panagyurishte 3.57 209 ⇓iP Pn 10 25 44.3 +0.6
PGB S Sn 10 26 23.2 -2.6
BRIU Brid 3.58 320 i P Pn 10 25 44.3 +0.5
BRIU eS Sn 10 26 27.7 +1.7
KUBS Kucevo 3.65 252 ePn Pn 10 25 43.6 -1.0
KUBS eSn Sn 10 26 21.2 -6.3
ZAPS Zavoj 3.66 231 ePn Pn 10 25 44.4 -0.5
ZAPS eSn Sn 10 26 20.9 -7.0
DIM Dimitrovgrad 3.68 191 ⇓iP Pn 10 25 45.0 -0.1
BERU Beregovo 3.69 316 ⇓iP Pn 10 25 45.5 +0.4
BERU Pm 10 25 47.1
BERU iS Sn 10 26 29.5 +1.1
BERU Sm 10 26 45.8
PLD Plovdiv 3.74 200 ⇓iP Pn 10 25 45.6 -0.3
BANR Banloc 3.79 268 ePn Pn 10 25 46.8 +0.4
BANR eSn Sn 10 26 23.5 -7.2
EDRB Edirne 3.82 177 P Pn 10 25 47.3 +0.3
MUKU Mukachevo 3.82 318 ⇑iP Pn 10 25 47.3 +0.5
MUKU Pm 10 25 48.0
MUKU iS Sn 10 26 32.7 +1.2
MUKU Sm 10 26 37.2
VTS Vitosha 3.85 219 ⇓iP Pn 10 25 48.0 +0.5
MORS Morshin 3.90 334 ⇓iP Pn 10 25 48.7 +0.8
MORS iS Sn 10 26 34.3 +1.0
BOVS Bovan 3.98 241 ⇓P Pn 10 25 48.7 -0.3
BOVS Bovan 3.98 241 Pn 10 25 48.7 -0.3
BOVS Bovan 3.98 241 ePn Pn 10 25 48.6 -0.4
BOVS eSn Sn 10 26 29.2 -6.2
SVIS Svilajnac 4.01 251 ePn Pn 10 25 49.9 +0.6
SVIS eSn Sn 10 26 28.0 -7.9
HOLU Holmets 4.01 317 ⇑iP Pn 10 25 49.6 +0.2
HOLU iS Sn 10 26 37.2 +1.1
KDZ Kurdzhali 4.12 192 ⇓iP Pn 10 25 50.9 0.0
UZH Uzhgorod 4.13 317 ⇑iP Pn 10 25 51.6 +0.7
UZH Pm 10 25 52.2
UZH iS Sn 10 26 39.9 +1.1
UZH Sm 10 26 51.6
SHIU Shidnytsya 4.15 330 ⇑iP Pn 10 25 52.3 +1.1
SHIU Pm 10 25 53.6
SHIU iS Sn 10 26 40.3 +0.9
SHIU Sm 10 26 46.9
RZN Rozhen 4.17 199 ⇓iP Pn 10 25 52.3 +0.6
TARU Tarkhankut 4.25 92 ⇓iP Pn 10 25 52.4 -0.1
TARU Pm 10 25 52.6
comp=Z,80nm,0.2s
TARU eS Sn 10 26 40.5 -1.0
TARU Sm 10 26 41.0
comp=N,28nm,0.2s
BOSS Bosilegrad 4.29 224 ePn Pn 10 25 53.9 +0.7
BOSS eSn Sn 10 26 35.4 -7.4
KOLS Kolonicke sedl 4.36 320 eP Pn 10 25 55.1 +1.1
KOLS Kolonicke sedl 4.36 320 ePn Pn 10 25 55.1 +1.1
BARS Barje 4.41 231 ePn Pn 10 25 55.1 +0.4
BARS eSn Sn 10 26 37.4 -8.2
LVV L'vov 4.48 339 eP Pn 10 25 55.7 +0.2
LVV eS Sn 10 26 46.9 -0.2
LVV pmax pmax
comp=Z,180nm,0.7s
LVV smax smax
comp=N,650nm,1.8s
LVV smax smax
comp=E,2μm,2.0s
LVV L'vov 4.48 339 i P Pn 10 25 55.9 +0.4
LVV Pm 10 25 56.9
LVV iS Sn 10 26 47.7 +0.6
LVV Sm 10 26 59.0
PRVS Prvonek 4.49 227 ePn Pn 10 25 56.4 +0.6
PRVS eSn Sn 10 26 38.0 -9.4
GRUS Gruza 4.49 249 ePn Pn 10 25 56.0 +0.3
GRUS eSn Sn 10 26 39.7 -7.7
KKB Krupnik 4.54 214 ⇓iP Pn 10 25 56.9 +0.5
TRUS Trudelj 4.56 254 ePn Pn 10 25 57.0 +0.3
SELS Selova 4.57 240 ePn Pn 10 25 56.8 0.0
RDO Rodhopi 4.57 189 Pn Pn 10 25 56.9 +0.1
RDO Rodhopi 4.57 189 P Pn 10 25 56.7 -0.1
MMB Musomishta 4.58 207 ⇓iP Pn 10 25 57.2 +0.2
CRVS Cervenica-Dubn 4.72 315 eP Pn 10 25 59.3 +0.5
CRVS Cervenica-Dubn 4.72 315 ePn Pn 10 25 59.3 +0.5
NVR Nevrokopi 4.72 205 P Pn 10 26 00.2 +1.3
KWP Kalwaria Pacla 4.73 328 eP Pn 10 26 00.2 +1.4
KWP Kalwaria Pacla 4.73 328 Pn 10 25 59.7 +0.8
KWP Kalwaria Pacla 4.73 328 P Pn 10 25 59.7 +0.8
FRGS Fruska Gora 4.74 266 ePn Pn 10 26 00.3 +1.2
FRGS eSn Sn 10 26 46.7 -6.7
FRGS Fruska Gora 4.74 266 ePn Pn 10 25 59.7 +0.6
ALN Alexandroupoli 4.78 184 Pn Pn 10 25 59.7 +0.1
ALN Alexandroupoli 4.78 184 P Pn 10 25 59.4 -0.2
ALN Alexandroupoli 4.78 184 P Pn 10 25 59.7 +0.1
DIVS Divibare 4.89 254 ePn Pn 10 26 00.8 -0.3
DIVS eSn Sn 10 26 49.6 -7.4
KAVA Kavala 4.89 198 P Pn 10 26 01.1 +0.1
ENEZ Enez 4.93 183 P Pn 10 26 00.5 -1.1
ISK Istanbul-Kandi 4.96 157 P Pn 10 26 01.6 -0.4
KECS Kecovo 4.99 307 eP Pn 10 26 02.8 +0.5
KECS Kecovo 4.99 307 ePn Pn 10 26 02.8 +0.5
IVAS Ivanjica 4.99 248 ePn Pn 10 26 02.1 -0.4
IVAS eSn Sn 10 26 53.0 -6.5
SRS Serrai 5.02 206 P Pn 10 26 02.8 0.0
STIP Stip 5.05 220 i Pn Pn 10 26 01.3 -2.0
STIP i Sn Sn 10 26 58.3 -2.6
TEKS Tekeris 5.06 260 ePn Pn 10 26 03.0 -0.4
TEKS Tekeris 5.06 260 ePn Pn 10 26 03.3 -0.1
PSZ Piszkesteto 5.07 299 Pn Pn 10 26 03.0 -0.5
PSZ Piszkesteto 5.07 299 P Pn 10 26 03.0 -0.5
PSZ Piszkesteto 5.07 299 eP Pn 10 26 03.0 -0.5
STHS Stebnicka Huta 5.17 318 eP Pn 10 26 05.7 +0.9
STHS Stebnicka Huta 5.17 318 ePn Pn 10 26 05.7 +0.9
KOKK Kokkinochori, 5.18 202 P Pn 10 26 04.7 -0.2
SEV Sevastopol' 5.19 100 ⇑iP Pn 10 26 04.5 -0.5
SEV Pm 10 26 05.2
comp=Z,24nm,0.1s
SEV eS Sn 10 27 02.7 -1.4
SEV Sm 10 27 03.9
comp=N,80nm,0.7s
SEV Sm 10 27 03.9
comp=E,60nm,0.5s
SKO Skopje 5.20 227 i Pn Pn 10 26 06.3 +1.1
KNT Kendrikon 5.21 212 P Pn 10 26 05.8 +0.4
THAS Thassos island 5.22 195 P Pn 10 26 04.7 -0.8
SMTH Samothraki Isl 5.24 188 P Pn 10 26 05.2 -0.6
SJES Sjenica 5.26 245 ePn Pn 10 26 06.4 +0.3
SJES eSn Sn 10 26 58.8 -7.0
SJES Sjenica 5.26 245 ePn Pn 10 26 06.2 +0.1
KIEV Kiev 5.35 19 Pn Pn 10 26 05.8 -1.2
KIEV Kiev 5.35 19 P Pn 10 26 05.6 -1.5
AKASG Malin Array Be 5.36 19 Pn 10 26 05.4 -1.8
AKASG Malin Array Be 5.36 19 i P Pn 10 26 03.9 -3.3
AKASG pmax pmax
comp=Z,107nm,0.3s
AKASG Malin Array Be 5.36 19 P Pn 10 26 06.2 -1.0
comp=Z,56nm,0.3s,baz=204,slow=12,SNR=220
AKASG S Sn 10 27 03.2 -4.8
comp=Z,91nm,0.5s,baz=202,slow=21,SNR=9.3
AKBB Malin Array Si 5.36 19 Pn 10 26 05.8 -1.4
AKBB Malin Array Si 5.36 19 d iP Pn 10 26 05.6 -1.6
SOH Sokhos 5.36 207 P Pn 10 26 07.8 +0.4
BBLS Lazi&#263i 5.37 253 ePn Pn 10 26 07.9 +0.4
BBLS eSn Sn 10 27 02.1 -6.3
BBLS Lazi&#263i 5.37 253 ePn Pn 10 26 07.5 0.0
SIM Simferopol' 5.42 95 eP Pn 10 26 07.2 -0.8
SIM eS Sn 10 27 06.6 -2.9
SIM Simferopol' 5.42 95 eP Pn 10 26 07.2 -0.8
SIM Pm 10 26 11.4
comp=Z,67nm,0.3s
SIM eS Sn 10 27 06.6 -2.9
SIM Sm 10 27 07.6
comp=N,276nm,0.8s
SIM Sm 10 27 07.6
comp=E,109nm,0.7s
RUDO Rudo 5.49 251 ePn Pn 10 26 08.5 -0.5
IVA Berane 5.51 242 ⇓iPn Pn 10 26 09.8 +0.4
IVA i Sn Sn 10 27 10.7 -1.1
YAL Yalta 5.54 100 eP Pn 10 26 09.4 -0.3
YAL eS Sn 10 27 11.3 -1.2
YAL Yalta 5.54 100 eP Pn 10 26 09.4 -0.3
YAL Pm 10 26 09.6
comp=Z,18nm,0.2s
YAL eS Sn 10 27 11.3 -1.2
YAL Sm 10 27 12.6
comp=N,9.0nm,0.4s
YAL Sm 10 27 12.6
comp=E,35nm,0.4s
YAL Yalta 5.54 100 eP Pn 10 26 09.4 -0.3
YAL eS Sn 10 27 11.3 -1.2
GRG Griva 5.58 214 P Pn 10 26 10.2 -0.1
HAPS Han Pijesak,Bl 5.60 256 ePn Pn 10 26 10.7 +0.1
PLE Pljevlja 5.60 248 ⇓iPn Pn 10 26 11.6 +1.0
PLE i Sn Sn 10 27 12.3 -1.8
PVY Plav 5.62 239 ⇑iPn Pn 10 26 12.5 +1.5
NIE Niedzica 5.63 314 eP Pn 10 26 12.6 +1.7
OUR Ouranopolis 5.64 200 P Pn 10 26 10.5 -0.6
HORT Hortiatis 5.64 207 P Pn 10 26 11.4 +0.2
THE Thessaloniki 5.66 208 P Pn 10 26 11.4 +0.1
ALU Alushta 5.67 97 eP Pn 10 26 09.8 -1.6
ALU eS Sn 10 27 13.2 -2.3
ALU Alushta 5.67 97 eP Pn 10 26 09.8 -1.6
ALU Pm 10 26 10.6
comp=Z,33nm,0.5s
ALU x x 10 27 13.2
ALU Sm 10 27 14.4
comp=N,44nm,0.5s
ALU Sm 10 27 14.5
comp=E,34nm,0.5s
ALU Alushta 5.67 97 eP Pn 10 26 09.8 -1.6
ALU eS Sn 10 27 13.2 -2.3
KOME Kolasin 5.75 243 ⇓iPn Pn 10 26 13.1 +0.4
KOME i Sn Sn 10 27 16.2 -1.5
EZN Ezine 5.84 181 P Pn 10 26 13.9 +0.2
LIA Limnos Island 5.84 190 P Pn 10 26 13.2 -0.6
VYHS Vyhne 5.95 301 eP Pn 10 26 15.4 +0.2
VYHS Vyhne 5.95 301 eP Pn 10 26 15.2 0.0
VYHS Vyhne 5.95 301 ePn Pn 10 26 15.4 +0.2
UPM Unac-Piva 5.97 248 ePn Pn 10 26 16.2 +0.5
UPM Unac-Piva 5.97 248 ⇑iPn Pn 10 26 16.7 +1.0
UPM i Sn Sn 10 27 21.9 -1.2
PUK Puka 6.00 235 Pn Pn 10 26 16.9 +0.9
SRO Srobarova 6.03 294 eP Pn 10 26 16.9 +0.7
SRO Srobarova 6.03 294 eP Pn 10 26 16.9 +0.7
SUDU Sudak 6.04 94 eP Pn 10 26 14.3 -2.1
SUDU eS Sn 10 27 20.8 -3.7
SUDU Sudak 6.04 94 eP Pn 10 26 14.3 -2.1
SUDU Pm 10 26 15.7
comp=Z,76nm,0.6s
SUDU eS Sn 10 27 20.8 -3.7
SUDU Sm 10 27 24.6
comp=N,337nm,0.5s
SUDU Sm 10 27 24.7
comp=E,94nm,0.7s
SUDU Sudak 6.04 94 eP Pn 10 26 14.3 -2.1
SUDU eS Sn 10 27 20.8 -3.7
PAIG Paliouri 6.10 201 P Pn 10 26 16.4 -0.8
FNA Florina 6.15 219 Pn 10 26 18.6 +0.6
FNA Florina 6.15 219 P Pn 10 26 18.4 +0.4
FNA Florina 6.15 219 P Pn 10 26 18.6 +0.6
NKME Niksic 6.15 245 ⇓iPn Pn 10 26 18.7 +0.7
NKME i Sn Sn 10 27 25.8 -1.4
OHR Ohrid 6.16 224 i Pn Pn 10 26 19.7 +1.6
MDUB Mudurnu 6.22 145 Pn 10 26 18.7 -0.3
CEME Cevo 6.29 243 ⇑iPn Pn 10 26 20.3 +0.5
CEME i Sn Sn 10 27 29.2 -1.3
LIT Litokhoron 6.29 209 Pn Pn 10 26 19.2 -0.7
LIT Litokhoron 6.29 209 P Pn 10 26 19.3 -0.6
LIT Litokhoron 6.29 209 P Pn 10 26 19.2 -0.7
FEO Feodosiya 6.30 93 eP Pn 10 26 19.8 0.0
FEO Feodosiya 6.30 93 eP Pn 10 26 19.8 0.0
FEO Pm 10 26 22.1
comp=Z,21nm,0.2s
FEO Feodosiya 6.30 93 eP Pn 10 26 19.8 0.0
DRME Dracevica, Mon 6.33 239 ePn Pn 10 26 22.2 +1.9
DRME Dracevica, Mon 6.33 239 ⇑iPn Pn 10 26 22.2 +1.9
DRME i Sn Sn 10 27 29.5 -1.8
BRY Bratogost 6.35 247 ePn Pn 10 26 21.9 +1.2
BRY Bratogost 6.35 247 ⇓iPn Pn 10 26 21.9 +1.2
BRY i Sn Sn 10 27 30.5 -1.6
PRK Paraskevi 6.42 182 P Pn 10 26 22.1 +0.6
ULC Ulcinj 6.42 237 ⇑iPn Pn 10 26 23.0 +1.4
ULC i Sn Sn 10 27 32.4 -1.3
BUM Brajici-Budva 6.44 241 ⇓iPn Pn 10 26 23.1 +1.3
BUM i Sn Sn 10 27 33.0 -1.1
NEVS Nevesinje 6.46 252 ePn Pn 10 26 23.3 +1.2
SIGR SIGRI 6.47 184 P Pn 10 26 21.6 -0.5
TIR Tirane 6.47 231 Pn Pn 10 26 23.5 +1.2
TIR Tirane 6.47 231 P Pn 10 26 23.5 +1.2
KBN Korca 6.55 222 Pn 10 26 24.8 +1.5
KBN Korca 6.55 222 P Pn 10 26 24.9 +1.6
KBN Korca 6.55 222 P Pn 10 26 24.8 +1.5
TREB Trebinje 6.56 246 ePn Pn 10 26 25.7 +2.3
HCY Herceg Novi 6.61 244 ePn Pn 10 26 25.5 +1.5
HCY Herceg Novi 6.61 244 ⇓iPn Pn 10 26 25.3 +1.3
HCY i Sn Sn 10 27 37.0 -1.1
BLY Banja Luka 6.65 265 ePn Pn 10 26 25.2 +0.7
XOR Xorichti 6.75 202 P Pn 10 26 25.4 -0.6
A051A Mrakovica 6.80 268 ePn Pn 10 26 27.8 +1.2
NEO Neokhori 6.80 202 P Pn 10 26 26.1 -0.6
JAVC Velka Javorina 6.81 301 ePN Pn 10 26 27.3 +0.6
SMOL Smolenice 6.82 298 eP Pn 10 26 27.2 +0.4
KPRO Kipourio 6.84 215 P Pn 10 26 28.7 +1.4
MODS Modra-Piesok 6.87 297 eP Pn 10 26 28.2 +0.8
MODS Modra-Piesok 6.87 297 eP Pn 10 26 28.2 +0.8
STON Ston 6.91 249 ePn Pn 10 26 30.2 +2.2
ZST Bratislava 6.92 295 eP Pn 10 26 28.4 +0.3
ZST Bratislava 6.92 295 eP Pn 10 26 28.4 +0.3
THL Klokotos Trika 6.94 210 P Pn 10 26 28.6 +0.2
MAUC Maruska 6.94 305 eP Pn 10 26 29.3 +0.8
LSK Leskovik 7.01 220 P Pn 10 26 31.8 +2.3
A050A Klekovaca 7.16 264 ePn Pn 10 26 32.5 +1.0
KOGS Kog 7.18 280 i Pn Pn 10 26 33.0 +1.4
KOGS e 10 26 39.3
BEL Belsk 7.24 331 eP Pn 10 26 32.8 +0.4
KYMI Kymi, Euboea I 7.25 195 P Pn 10 26 32.0 -0.7
CHOS Chios island 7.28 183 P Pn 10 26 33.0 -0.1
MORC Moravsky Berou 7.31 307 Pn 10 26 33.6 +0.2
MORC Moravsky Berou 7.31 307 ePN Pn 10 26 32.8 -0.6
MORC Moravsky Berou 7.31 307 P Pn 10 26 33.6 +0.2
RONA Rosalia, Austr 7.31 290 ePn Pn 10 26 34.2 +0.8
comp=Z,16nm,0.8s,SNR=8.1
AGG Agios Georgios 7.32 206 Pn 10 26 33.9 +0.2
AGG Agios Georgios 7.32 206 P Pn 10 26 33.6 -0.1

AGG	Agios Georgios	7.32	206		P		Pn	10 26 33.9	+0.2
KULA	Kula-Manisa	7.32	167		P		Pn	10 26 33.1	-0.6
MAKR	Makrakomi, Fth	7.39	207		P		Pn	10 26 35.0	+0.4
AXAR	Agios Charalam	7.46	204		P		Pn	10 26 35.5	0.0
EVR	Evrytania	7.59	209		P		Pn	10 26 38.3	+1.0
GCIS	Gornji Cirnik	7.61	275	*i*	Pn		Pn	10 26 38.9	+1.4
IGT	Igoumenitsa	7.63	219		P		Pn	10 26 39.6	+1.8
VRAC	Vranov	7.64	302	*e*	PN		Pn	10 26 37.4	-0.4
VRAC	Vranov	7.64	302		P		Pn	10 26 37.5	-0.2
	comp=Z,18nm,0.8s,baz=114,slow=13,SNR=17								
VRAC					LR		LR	10 30 07.2	
	comp=Z,77nm,18.4s,baz=195,slow=42								
CONA	Conrad Observa	7.65	291	*e*	Pn		Pn	10 26 38.6	+0.6
	comp=Z,12nm,1.0s,SNR=7.1								
KRUC	Moravsky	7.66	300	*e*	PN		Pn	10 26 38.4	+0.4
GROS	Grobnik	7.70	280	*i*	Pn		Pn	10 26 39.4	+0.8
GROS				*e*				10 26 47.4	
KEK	Kerkira	7.73	222		Pn		Pn	10 26 37.0	-2.0
CRES	Cresnjev	7.73	275	*e*	Pn		Pn	10 26 40.1	+1.0
ARSA	Arzberg	7.75	286	*e*	Pn		Pn	10 26 40.5	+1.2
	comp=Z,10nm,0.9s								
ARSA	Arzberg	7.75	286	*e*	P		Pn	10 26 40.5	+1.2
ANN	Anapa	7.76	92	*e*	P		Pn	10 26 43.9	+4.5
DION	Dionisos Attik	7.82	195		P		Pn	10 26 42.2	+1.9
ANX	Ano Chora	7.84	207		P		Pn	10 26 41.0	+0.3
VILL	Villia	7.86	199		P		Pn	10 26 40.6	-0.3
BOJS	Bojanci	7.90	273	*e*	Pn		Pn	10 26 42.9	+1.6
BR131	Keskin Array S	7.92	136					10 26 41.0	-0.9
BR131	Keskin Array S	7.92	136	*d*	iP		Pn	10 26 41.2	-0.6
BRTR	Keskin Array B	7.92	136		Pn		Pn	10 26 40.3	-1.5
BRTR	Keskin Array B	7.92	136		P		Pn	10 26 41.5	-0.4
	comp=Z,2.7nm,0.7s,baz=324,slow=11,SNR=16								
PVO	Paravola	7.95	209		P		Pn	10 26 44.8	+2.7
EFP	Efpalio	8.00	207		P		Pn	10 26 42.5	-0.2
SOKA	Soboth	8.03	281	*e*	Pn		Pn	10 26 44.4	+1.2
	comp=Z,4.9nm,0.6s,SNR=6.6								
KLV	Kalavryta, Ach	8.28	205		P		Pn	10 26 47.3	+0.8
DPC	Dobruska-Polom	8.28	308	*e*	P		Pn	10 26 48.4	+2.0
DPC	Dobruska-Polom	8.28	308	*e*	P		Pn	10 26 48.4	+2.0
OBKA	Obir	8.36	280	*e*	Pn		Pn	10 26 49.2	+1.7
	comp=Z,12nm,1.2s								
OBKA	Obir	8.36	280	*e*	Pn		Pn	10 26 47.3	-0.2
ISP	Isparta	8.39	158	*d*	iP		Pn	10 26 48.9	+0.9
CEY	Cerknica	8.46	275	*e*	Pn		Pn	10 26 48.3	-0.5
CRNS	Crni Vrh	8.56	277	*i*	Pn		Pn	10 26 51.7	+1.6
SUW	Suwalki	8.63	347	*e*	P		Pn	10 26 49.0	-2.0
SUW	Suwalki	8.63	347					10 26 48.7	-2.2
SUW	Suwalki	8.63	347		P		Pn	10 26 48.7	-2.2
MOA	Molln	8.68	289	*e*	Pn		Pn	10 26 52.8	+0.9
	comp=Z,6.1nm,0.4s								
MOA	Molln	8.68	289	*e*	P		Pn	10 26 53.0	+1.2
CKRC	Cesky Krumlov	8.88	295	*e*	P		Pn	10 26 55.8	+1.4
CKRC	Cesky Krumlov	8.88	295	*e*	P		Pn	10 26 55.8	+1.4
MNK	Minsk	8.89	5	*i*	P		Pn	10 26 50.1	-4.4
	comp=E,7.0nm,0.9s								
MNK					*i* P		Pn	10 26 50.1	-4.4
	comp=N,93nm,0.8s								
MNK					*i* P		Pn	10 26 50.1	-4.4
	comp=Z,111nm,0.9s,baz=186								
MNK					*i* pP			10 27 11.2	
MNK					*i* S		Sn	10 28 26.8	-6.2
MNK					*i* LRM		MLR	10 30 07.4	
	comp=N,79nm,15.4s								
MNK					*i* LRM		MLR	10 30 10.7	
	comp=E,23nm,13.7s								
MNK					*i* LRM		MLR	10 30 16.6	
	comp=Z,41nm,15.3s								
MNK	Minsk	8.89	5	*i*	P		Pn	10 26 50.1	-4.4
MNK					*i* S		Sn	10 28 26.7	-6.2
MNK					pmax		pmax		
	comp=N,93nm,0.9s								
MNK					pmax		pmax		
	comp=Z,111nm,0.9s								
MNK					pmax		pmax		
	comp=E,7.0nm,0.9s								
MNK					MLR		MLR		
	comp=N,79nm,15.0s								
MNK					MLR		MLR		
	comp=E,23nm,14.0s								
MNK					MLR		MLR		
	comp=Z,41nm,15.0s								
SABO	M.te Sabotino	9.02	277				Pn	10 26 57.3	+1.0
PRED	Cave del Predi	9.04	280				Pn	10 26 56.6	+0.1
BIOA	Bad Ischl, Aus	9.08	288	*e*	Pn		Pn	10 26 59.4	+2.3
	comp=Z,6.0nm,0.9s								
KBA	Koelnbreinsper	9.21	284	*e*	Pn		Pn	10 27 00.4	+1.4
	comp=Z,13nm,1.1s								
NACGM	Naroch	9.25	1	⇑	*i* P		Pn	10 26 56.5	-2.8
	comp=Z,75nm,0.9s,baz=181								
GEC2	GERESS Array S	9.27	295	*e*	P		Pn	10 27 00.4	+0.7
GERES	GERESS Array B	9.27	295		P		Pn	10 27 00.2	+0.5
	comp=Z,4.2nm,0.7s,baz=99,slow=14,SNR=14								
GERES					LR		LR	10 30 57.2	
	comp=Z,74nm,21.9s,baz=83,slow=40								
KHC	Kasperske Hory	9.43	296				Pn	10 27 01.2	-0.5
KHC	Kasperske Hory	9.43	296	⇓	*e* P		Pn	10 27 03.1	+1.4
KHC					pmax		pmax		
	comp=Z,56nm,2.5s								
KHC	Kasperske Hory	9.43	296	*e*	P		Pn	10 27 03.6	+1.9
CUC	Castrocucco	9.68	238				Pn	10 27 06.2	+1.0
TIP	Timpagrande	9.69	231				Pn	10 27 05.8	+0.5
LESA	Schwarzleotal	9.69	285	*e*	Pn		Pn	10 27 07.7	+2.4
	comp=Z,5.2nm,0.9s								
ABTA	Abfaltersbach	9.77	281	*e*	Pn		Pn	10 27 09.2	+2.8
	comp=Z,5.8nm,1.0s								
INTR	Introdacqua	9.81	253				Pn	10 27 06.7	-0.3
KLNR	Kaliningrad	9.81	338	*de*	P		Pn	10 27 05.3	-1.5
KLNR					pmax		pmax		
	comp=Z,172nm,0.9s								
CAMP	Campotosto	9.93	256				Pn	10 27 08.6	+0.1
PABE	Paberze	9.98	352				Pn	10 27 05.9	-3.1
NRCA	Norcia	10.02	258				Pn	10 27 10.1	+0.4
VSR	Storozhevoye	10.07	52	*e*	P		Pn	10 27 08.7	-1.6
VSR				*e*	S		Sn	10 28 54.1	-7.4
VSR					pmax		pmax		
	comp=Z,60nm,0.4s								
VSR					smax		smax		
	comp=N,130nm,0.6s								
VORR	Voronezh	10.32	50	*e*	P		Pn	10 27 11.8	-1.8
VORR					pmax		pmax		
	comp=Z,82nm,0.4s								
WTTA	Wattenberg	10.39	284	*e*	Pn		Pn	10 27 17.2	+2.6
	comp=Z,19nm,1.8s								
WATA	Walderalm	10.43	285	*e*	Pn		Pn	10 27 19.3	+4.0
	comp=Z,10.0nm,1.1s								
IDI	Anoyia	10.44	187		Pn		Pn	10 27 15.2	-0.1
IDI	Anoyia	10.44	187		P		Pn	10 27 15.5	+0.2
	comp=Z,0.4nm,1.0s,baz=359,slow=7.4,SNR=3.3								
NKC	Novy Kostel	10.48	301	*e*	P		Pn	10 27 18.5	+2.8
WERN	Wernitzgruen	10.54	301	*e*	P		Pn	10 27 19.3	+2.8
CLL	Collm	10.59	307	*e*	P		Pn	10 27 14.0	-3.1
CLL	Collm	10.59	307	*e*	P		Pn	10 27 14.0	-3.1
CLL					AMS		AMS	11 42 00.0	
	comp=Z,100nm,18.0s								
MANZ	Manzenberg	10.60	299	*e*	P		Pn	10 27 19.2	+1.9
	comp=Z,2.5nm,1.0s								
SQTA	Sankt Quirin	10.67	284	*e*	Pn		Pn	10 27 21.7	+3.3
	comp=Z,22nm,1.8s								
LPSR	Galich'ya Gora	10.69	45	*e*	P		Pn	10 27 14.4	-4.0
LPSR				*e*	S		Sn	10 29 06.7	-10
LPSR					pmax		pmax		
	comp=Z,40nm,0.6s								
LPSR					smax		smax		
	comp=E,120nm,1.4s								
CEL	Celeste	10.82	231		Pn		Pn	10 27 19.9	-0.5
FETA	Feichten	10.99	283	*e*	Pn		Pn	10 27 26.5	+3.8
	comp=E,10nm,1.2s								
OBN	Obninsk	11.42	30				Pn	10 27 25.2	-2.9
OBN	Obninsk	11.42	30	*i*	P		Pn	10 27 23.8	-4.2
OBN					pmax		pmax		
	comp=Z,68nm,1.1s								
OBN	Obninsk	11.42	30		P		Pn	10 27 23.9	-4.2
	comp=Z,115nm,0.3s,baz=46,slow=1.4,SNR=9.2								
VRH	Novokhopyorsk	11.52	56	*e*	P		Pn	10 27 25.4	-4.0
VRH				*e*	S		Sn	10 29 26.2	-10
VRH					pmax		pmax		
	comp=Z,30nm,0.6s								
VRH					smax		smax		
	comp=E,140nm,0.8s								
DAVOX	Davos/Dischmat	11.57	281		LR		LR	10 33 13.4	
	comp=E,77nm,18.1s,baz=70,slow=44								
DAVA	Damuels	11.58	284	*e*	Pn		P	10 27 34.4	-3.8
	comp=E,4.6nm,0.6s								
KIV	Kislovodsk	11.62	93	*e*	P		Pn	10 27 30.2	-0.7
KIV				*e*	S		Sn	10 29 39.3	+0.1
KIV					pmax		pmax		
	comp=Z,12nm,1.0s								
GOF	Gofitskoye	11.65	87	*ce*	P		Pn	10 27 30.9	-0.3
NEUR	Neytrino	11.82	96	⇓	*e* P		Pn	10 27 33.9	+0.3
NEUR					pmax		pmax		
	comp=Z,6.0nm,1.3s								
KBZ	Khabaz	11.83	94	⇑	*e* P		Pn	10 27 34.0	+0.5
KBZ	Khabaz	11.83	94		P		Pn	10 27 33.0	-0.5
	comp=Z,17nm,0.5s,baz=228,slow=2.1,SNR=5.0								
BSD	Bornholm Skovb	11.99	326	*e*	P		Pn	10 27 32.9	-2.7
SLIT	Slitere, Latvi	12.26	349	*e*	P		Pn	10 27 34.7	-4.2
MOS	Moscow	12.29	31	*e*	P		Pn	10 27 34.7	-4.6
MOS				*e*	S		Sn	10 29 42.6	-12
MOS					pmax		pmax		
	comp=Z,90nm,0.6s								
BLEU	Blekinge	12.58	332	*e*	P		Pn	10 27 40.1	-3.1
CLTB	Caltabellotta	12.80	236		P		P	10 27 51.0	-0.7
VSU	Vasula	12.82	1	*de*	P		Pn	10 27 42.9	-3.3
VSU					pmax		pmax		
	comp=Z,42nm,0.7s								
BSEG	Bad Segeberg	13.31	314	*e*	P		P	10 27 57.8	+0.6
SENIN	Lac Senin/Sane	13.37	280				P	10 27 59.2	+1.0
DEL	Delary	13.39	328	*i*	P		Pn	10 27 50.0	-3.6
DEL	Delary	13.39	328	*e*	P		Pn	10 27 50.1	-3.5
BJUU	Bjuv	13.43	326	*e*	P		Pn	10 27 52.4	-1.6
VIKU	Vikbolandet	14.18	339	*e*	P		Pn	10 28 00.3	-3.3
MMAI	Mount Meron Ar	14.37	148		P		P	10 28 08.4	-0.8
	comp=Z,7.8nm,1.0s,baz=336,slow=10.0,SNR=6.3								
GNI	Garni	14.45	106	*de*	P		P	10 28 10.7	+0.6
GNI					pmax		pmax		
	comp=Z,62nm,1.7s								
GNI	Garni	14.45	106		P		P	10 28 10.4	+0.3
	comp=Z,17nm,0.9s,baz=229,slow=6.0,SNR=6.8								
MEF	Metsahovi	14.63	356	*e*	P		Pn	10 28 05.6	-3.7
BORU	Boras	14.67	330	*i*	P		P	10 28 12.0	-0.2
ONAU	Onsala	14.80	328	*i*	P		P	10 28 13.4	-0.3
UPP	Uppsala	15.18	343	*e*	P		Pn	10 28 13.5	-2.5
BELG	Belogornoye	15.37	56	*ce*	P		Pn	10 28 15.6	-2.9
BELG	Belogornoye	15.37	56		P		Pn	10 28 15.8	-2.6
	comp=Z,35nm,0.5s,baz=298,slow=1.0,SNR=31								
BELG					S		Sn	10 30 55.8	-13
	comp=Z,8.3nm,0.6s,baz=302,slow=19,SNR=2.1								
RAF	Rauma	15.64	351	*e*	P		Pn	10 28 17.4	-4.3
ASF	Jabal al Asfar	15.69	146		P		P	10 28 24.2	+0.3
	comp=Z,3.5nm,0.5s,baz=331,slow=2.7,SNR=9.0								
FINES	FINESS Array B	15.81	359		P		Pn	10 28 18.9	-5.0
FINES	FINESS Array B	15.81	359		P		Pn	10 28 19.2	-4.6
	comp=Z,7.7nm,0.4s,baz=168,slow=14,SNR=40								
FINES					S		Sn	10 31 03.3	-16
	comp=Z,5.0nm,0.6s,baz=193,slow=24,SNR=2.6								
FINES					LR		LR	10 35 27.7	
	comp=Z,55nm,19.0s,baz=228,slow=40								
FIA1	FINESS Array S	15.81	359		P		Pn	10 28 19.3	-4.6
VALR	Valaam	15.93	8	*i*	P		Pn	10 28 21.0	-4.3
STRU	Stroemstad	16.28	331	*e*	P		P	10 28 29.8	-0.2
HFS	Hagfors	16.38	337		P		Pn	10 28 28.3	-2.5
	comp=Z,16nm,0.6s,baz=126,slow=15,SNR=28								
HFS					LR		LR	10 36 16.8	
	comp=Z,58nm,19.2s,baz=161,slow=42								
KEF	Keuruu	16.56	357	*e*	P		Pn	10 28 29.8	-3.3
HOMB	Homborsund	16.73	325	*e*	P		Pn	10 28 35.9	+0.9
HOMB					IAmb		IAmb	10 28 36.6	
	comp=Z,64nm,1.0s								
KLMR	Klimovskoe	17.04	22	*c*	iP		P	10 28 35.0	-3.3
KLMR				*e*				10 31 33.4	
KLMR					pmax		pmax		
	comp=Z,71nm,0.9s								
OSL	Oslo	17.11	332	*e*	P		Pn	10 28 39.5	-0.2
OSL					IAmb		IAmb	10 28 39.6	
	comp=Z,35nm,0.8s								
KONO	Kongsberg	17.28	330		P		P	10 28 39.8	-1.2
KONO					IAmb		IAmb	10 28 42.2	
	comp=Z,57nm,1.4s								
KONO	Kongsberg	17.28	330	*ce*	P		P	10 28 38.5	-2.5
KONO					pmax		pmax		
	comp=Z,26nm,1.0s								
KONO	Kongsberg	17.28	330	*e*	P		P	10 28 41.0	0.0
EIL	Elat	17.29	155		P		Pn	10 28 43.7	+1.5
	comp=Z,8.4nm,0.8s,baz=329,slow=8.3,SNR=7.0								
SNART	Snartemo	17.30	324		IAmb		IAmb	10 28 40.9	
	comp=Z,493nm,2.2s								
SNART					*e* P		Pn	10 28 42.0	0.0
NC602	NORSAR Array S	17.48	335		P		P	10 28 42.3	-1.0
NC602					IAmb		IAmb	10 28 44.3	
	comp=Z,17nm,0.7s								
NC602	NORSAR Array S	17.48	335	*e*	P		P	10 28 42.3	-1.0
JOF	Joensuu	17.51	7	*e*	P		P	10 28 40.1	-3.3
VAF	Ylistaro	17.55	354	*e*	P		P	10 28 42.5	-1.4
NC405	NORSAR Array S	17.74	336		P		P	10 28 45.4	-0.7
NC405					IAmb		IAmb	10 28 47.4	
	comp=Z,42nm,1.2s								
NAO01	NORSAR Array S	17.77	334		P		P	10 28 45.7	-0.7
NB201	NORSAR Array S	17.81	335		IAmb		IAmb	10 28 48.2	
	comp=Z,43nm,1.1s								
NB2	NORSAR Subarra	17.82	335		P		P	10 28 45.8	-1.3
	comp=Z,8.3nm,0.8s,baz=141,slow=12								
NB2	NORSAR Subarra	17.82	335		P		P	10 28 45.8	-1.3
	baz=141,slow=12								
NOA	NORSAR Array B	17.82	335		P		P	10 28 46.4	-0.7
	comp=Z,12nm,0.6s,baz=144,slow=9.9,SNR=46								
NOA					LR		LR	10 37 18.0	
	comp=Z,53nm,18.9s,baz=150,slow=42								
NC303	NORSAR Array S	17.93	336		P		P	10 28 47.5	-0.7
NC303					IAmb		IAmb	10 28 49.7	
	comp=Z,27nm,1.1s								
NC204	NORSAR Array S	18.15	335		P		P	10 28 50.2	-0.3
NC204					IAmb		IAmb	10 28 53.3	
	comp=Z,22nm,0.9s								
BLS5	Blasjo	18.29	326	*e*	P		P	10 28 52.7	+0.6
BLS5					IAmb		IAmb	10 28 54.8	
	comp=Z,27nm,1.2s								
SKAR	Skarslia	18.48	331	*e*	P		P	10 28 54.6	+0.4
SKAR					IAmb		IAmb	10 29 03.5	
	comp=Z,16nm,0.8s								
ODD1	Odda	18.54	327	*e*	P		P	10 28 55.2	+0.3
ODD1					IAmb		IAmb	10 28 56.5	
	comp=Z,22nm,0.8s								
KIRV	Kirov	18.98	39	*d*	iP		P	10 28 59.2	-0.4
KIRV	Kirov	18.98	39		P		P	10 28 59.6	0.0
	comp=Z,43nm,0.6s,baz=242,slow=7.1,SNR=12								
DOMB	Dombas	19.25	335	*e*	P		P	10 29 02.9	+0.3
DOMB					IAmb		IAmb	10 29 05.3	
	comp=Z,29nm,1.1s								
BER	Bergen	19.34	327	*e*	P		P	10 29 04.5	+1.0
BER					IAmb		IAmb	10 29 05.0	
	comp=Z,57nm,0.7s								
ASK	Askoy	19.46	327	*e*	P		P	10 29 05.6	+0.8
ASK					IAmb		IAmb	10 29 06.1	
	comp=Z,29nm,0.8s								
HYA	Hoyanger	19.55	330	*e*	P		P	10 29 06.6	+0.9
HYA					IAmb		IAmb	10 29 07.4	
	comp=Z,76nm,0.8s								
TBLU	Trondheim	19.88	338	*e*	P		P	10 29 10.3	+1.0
TBLU					IAmb		IAmb	10 29 12.5	
	comp=Z,54nm,1.4s								
SUE	Sulen	20.00	328	*e*	P		P	10 29 10.9	+0.4
SUE					IAmb		IAmb	10 29 11.5	
	comp=Z,37nm,0.7s								
AKN	Aaknes	20.00	333	*e*	P		P	10 29 11.1	+0.5
MOL	Molde	20.12	334	*e*	P		P	10 29 12.5	+0.7
FOO	Floro	20.25	330	*e*	P		P	10 29 13.6	+0.3
NSS	Namsos	20.56	342	*e*	P		P	10 29 16.1	-0.4
NSS					IAmb		IAmb	10 29 16.4	
	comp=Z,47nm,0.7s								
EKA	Eskdalemuir Ar	21.05	308		P		P	10 29 21.6	-0.3
	comp=Z,3.1nm,0.7s,baz=94,slow=11,SNR=8.6								
	comp=Z,3.1nm,0.7s								
AKTO	Aktyubinsk	21.50	66		P		P	10 29 27.6	+0.7
	comp=Z,3.3nm,0.4s,baz=258,slow=8.5,SNR=11								
	comp=Z,3.3nm,0.4s								
MOR8	Moi Rana	21.56	347	*e*	P		P	10 29 27.9	+0.6
MOR8					IAmb		IAmb	10 29 28.2	
	comp=Z,25nm,1.1s								
STOK	Stokkvaagen	21.95	345	*e*	P		P	10 29 31.7	+0.4
KONS	Konsvik	22.08	346	*e*	P		P	10 29 32.2	-0.4
APA	Apatity	22.26	7	⇓	*i* P		P	10 29 36.3	+1.9
APA					*i* *PP		sP	10 30 14.0	-3.7
APA					*i*			10 30 24.0	
APA					*i* S		S	10 33 32.0	+3.1
APA					pmax		pmax		
	comp=Z,104nm,0.8s								
APA					MLR		MLR		
	comp=Z,300nm,11.0s								
FAUS	Fauske	22.56	349	*e*	P		P	10 29 37.4	+0.1
FAUS					IAmb		IAmb	10 29 38.5	
	comp=Z,8.8nm,0.8s								
ARU	Arti	22.64	50		P		P	10 29 37.5	-0.6
ARU					IAmb		IAmb	10 30 05.4	
	comp=Z,11nm,0.6s								
ARU	Arti	22.64	50	*c*	iP		P	10 29 37.7	-0.5
ARU					*PP		pP	10 30 04.3	0.0
ARU								10 30 09.9	
ARU					S		S	10 33 36.6	+1.3
ARU					SS		SnSn	10 34 29.4	+7.5
ARU					pmax		pmax		
	comp=Z,12nm,1.1s								
ARU	Arti	22.64	50		P		P	10 29 37.9	-0.3
	comp=Z,11nm,0.4s,baz=251,slow=9.2,SNR=11								
ARU					pP		pP	10 30 04.1	-0.2
	comp=Z,7.8nm,0.3s,baz=277,slow=3.3,SNR=2.4								
	comp=Z,11nm,0.4s								
LVZ	Lovozero	22.69	8		P		P	10 29 38.4	-0.3
LVZ	Lovozero	22.69	8	⇓	*e* P		P	10 29 37.8	-0.8
LVZ					pmax		pmax		
	comp=Z,14nm,0.6s								
ABKAR	Akbulak array	22.78	69		P		P	10 29 39.5	-0.1
STEI	Steigen	23.08	349	*e*	P		P	10 29 43.0	+0.9
STEI					IAmb		IAmb	10 29 50.4	
	comp=Z,18nm,0.9s								
ESDC	Sonseca Array	23.10	266		P		P	10 29 42.4	-0.4
ESDC	Sonseca Array	23.10	266		P		P	10 29 42.0	-0.8
	comp=Z,2.7nm,0.8s,baz=58,slow=9.0,SNR=12								
	comp=Z,2.7nm,0.8s								
KBD	Kabd	23.43	127		P		P	10 29 48.0	+2.3
KTK1	Kautokeino	23.47	357	*e*	P		P	10 29 46.0	+0.2
KTK1					IAmb		IAmb	10 29 47.2	
	comp=Z,34nm,1.1s								
ARA0	ARCESS Array S	23.94	359	*e*	P		P	10 29 50.1	0.0
ARA0					IAmb		IAmb	10 29 55.3	
	comp=Z,98nm,2.0s								
ARCES	ARCESS Array B	23.94	359		P		P	10 29 50.1	+0.1
ARCES					IAmb		IAmb	10 30 00.9	
	comp=Z,24nm,1.0s								
ARCES	ARCESS Array B	23.94	359		P		P	10 29 50.1	+0.1
ARCES					pmax		pmax		
	comp=Z,24nm,1.0s								
ARCES	ARCESS Array B	23.94	359		P		P	10 29 49.9	-0.2
	comp=Z,5.1nm,0.5s,baz=174,slow=9.7,SNR=48								
	comp=Z,5.1nm,0.5s								
JETT	Jettan, Norway	24.15	355	*e*	P		P	10 29 52.1	+0.1
VADS	Vadso	24.57	2	*e*	P		P	10 29 56.4	+0.7
GEYT	Alibeck	24.68	97		P		P	10 29 59.8	+2.6
	comp=Z,16nm,0.7s,baz=303,slow=8.1,SNR=25								
	comp=Z,16nm,0.7s								
HAMF	Hammerfest	25.09	358	*e*	P		P	10 30 00.5	+0.1
RAYN	Ar Rayn	26.93	139		P		P	10 30 17.3	-0.2
RAYN					IAmb		IAmb	10 30 20.6	
	comp=Z,7.9nm,0.8s								
RAYN	Ar Rayn	26.93	139		P		P	10 30 17.3	-0.2
RAYN					pmax		pmax		
	comp=Z,8.0nm,0.9s								
RAYN	Ar Rayn	26.93	139		P		P	10 30 19.8	+2.3
SMRA	Abu-Samra	28.62	129		P		P	10 30 33.9	+1.5
BRVK	Borovoye	29.07	59		P		P	10 30 37.7	+1.5
BRVK	Borovoye	29.07	59	⇓	*e* P		P	10 30 37.2	+1.0
BRVK					*i* *PP		pP	10 31 06.4	+0.3
BRVK					pmax		pmax		
	comp=Z,3.0nm,0.5s								
BVAR	Borovoye Array	29.14	59		P		P	10 30 38.3	+1.5
	comp=Z,1.5nm,0.6s,baz=278,slow=7.9,SNR=7.6								
BVAR					pP		pP	10 31 06.7	0.0
	comp=Z,1.3nm,0.6s,baz=273,slow=12,SNR=4.3								
	comp=Z,1.5nm,0.6s								
JMIC	Jan Mayen	30.48	338		LR		LR	10 43 52.6	
	comp=Z,37nm,20.0s,baz=114,slow=38								
SHME	Shamm	30.72	119		P		P	10 30 51.8	+0.8
MASF	Masafi	31.23	120		P		P	10 30 56.0	+0.4
KK31	Karatay Array	31.26	79		P		P	10 30 57.1	+1.5
KK31					IAmb		IAmb	10 30 57.9	
	comp=Z,5.4nm,0.6s								
KK31	Karatay Array	31.26	79		P		P	10 30 57.1	+1.5
KK31					pmax		pmax		
	comp=Z,5.0nm,0.6s								
KKAR	Karatay Array	31.26

TORD					IAmb	IAmb	10 32 01.3		
	comp=Z,4.8nm,0.7s								
TORD	**Torodi Ar. Bea**	**38.63**	**221**		P	**P**	**10 31 60.0**	**+1.0**	
	comp=Z,14nm,0.7s,baz=28,slow=9.4,SNR=61								
TORD					PcP	**PcP**	**10 34 08.1**	**-0.3**	
	comp=Z,2.2nm,0.7s,baz=16,slow=2.9,SNR=6.2								
	comp=Z,14nm,0.7s								
DGZ	**Jazzator, Alta**	**40.23**	**61**	*de*	P	**P**	**10 32 13.7**	**+1.6**	
DGZ					pmax	pmax			
	comp=Z,5.0nm,0.7s								
WMQ	**Urumqi**	**42.56**	**70**	*e*	P	**P**	**10 32 30.8**	**-0.3**	
WMQ					pmax	pmax			
	comp=Z,13nm,0.8s								
LODK	**Lodwar**	**42.78**	**167**		P	**P**	**10 32 34.4**	**+1.4**	
LODK	**Lodwar**	**42.78**	**167**		P	**P**	**10 32 34.8**	**+1.7**	
MBAR	**Mbarara**	**46.22**	**174**		P	**P**	**10 33 00.5**	**0.0**	
MBAR					IAmb	IAmb	10 33 02.3		
	comp=Z,12nm,1.1s								
MBAR	**Mbarara**	**46.22**	**174**	⇑	*e*P	**P**	**10 33 01.3**	**+0.8**	
MBAR					pmax	pmax			
	comp=Z,7.0nm,0.9s								
MBAR	**Mbarara**	**46.22**	**174**		LR	LR	10 55 51.7		
	comp=Z,44nm,19.1s,baz=9.0,slow=40								
MBAR	**Mbarara**	**46.22**	**174**		P	**P**	**10 33 01.3**	**+0.8**	
DBIC	**Dimbokro**	**47.39**	**225**		P	**P**	**10 33 09.1**	**-0.2**	
DBIC	**Dimbokro**	**47.39**	**225**		P	**P**	**10 33 09.2**	**-0.2**	
	comp=Z,15nm,0.3s,baz=22,slow=5.9,SNR=61								
	comp=Z,15nm,0.3s								
TIC	**Toumodi**	**47.49**	**225**	⇑	*i*PKP1	**P**	**10 33 10.4**	**+0.2**	
	comp=Z,7.2nm,0.3s								
KIC	**Kosan Boka**	**47.60**	**224**	⇑	*e*PKP1	**P**	**10 33 10.8**	**-0.2**	
	comp=Z,27nm,0.5s								
LIC	**Lamto**	**47.85**	**225**	⇓	*e*PKP1	**P**	**10 33 11.6**	**-1.4**	
	comp=Z,22nm,0.2s								
TIXI	**Tiksi**	**51.05**	**23**	⇑	*e*P	**P**	**10 33 38.2**	**+1.7**	
TIXI					pmax	pmax			
	comp=Z,1.0nm,1.1s								
SONM	**Songino Array**	**52.43**	**57**		P	**P**	**10 33 48.9**	**+1.6**	
	comp=Z,4.1nm,0.8s,baz=293,slow=8.6,SNR=15								
SONM					pP	**pP**	**10 34 19.1**	**-0.6**	
	comp=Z,1.1nm,0.7s,baz=295,slow=8.8,SNR=3.5								
	comp=Z,4.1nm,0.8s								
ULN	**Ulaanbaatar**	**52.80**	**57**	⇑	*e*P	**P**	**10 33 51.2**	**+1.2**	
ULN					pmax	pmax			
	comp=Z,7.0nm,2.5s								
LZH	**Lanzhou**	**57.14**	**70**		*e*P	**P**	**10 34 23.3**	**+1.9**	
LZH					pP	pP	10 34 57.1	+2.8	
LZH					pmax	pmax			
	comp=Z,13nm,1.2s								
HHC	**Hu-ho-hao-te**	**59.31**	**62**		*e*P	**P**	**10 34 35.8**	**-0.5**	
HHC					pmax	pmax			
	comp=Z,10.0nm,0.7s								
HHC					pmax	pmax			
	comp=Z,82nm,4.8s								
PALK	**Pallekele**	**60.22**	**112**		P	**P**	**10 34 43.3**	**+0.6**	
PALK	**Pallekele**	**60.22**	**112**		P	**P**	**10 34 43.3**	**+0.6**	
PALK					pmax	pmax			
	comp=Z,24nm,1.0s								
A36M	**Sachs Harbour**	**60.97**	**350**		P	**P**	**10 34 47.9**	**+1.0**	
A36M					IAmb	IAmb	10 34 48.5		
	comp=Z,6.2nm,0.7s								
PZH	**PanZhiHua**	**61.54**	**80**		P	**P**	**10 34 52.4**	**+0.7**	
PZH					pmax	pmax			
	comp=Z,10.0nm,0.3s								
PZH					pmax	pmax			
	comp=Z,180nm,7.4s								
HEH	**HeiHe**	**62.52**	**45**		*e*P	**P**	**10 34 55.6**	**-2.1**	
KMI	**Kunming**	**63.11**	**81**	⇓	P	**P**	**10 35 03.6**	**+1.3**	
KMI					pmax	pmax			
	comp=Z,10.0nm,0.8s								
C36M	**Paulatuk**	**63.27**	**349**		P	**P**	**10 35 03.0**	**+0.7**	
C36M					IAmb	IAmb	10 35 03.2		
	comp=Z,4.2nm,0.5s								
CHTO	**Chiang Mai**	**64.60**	**89**		P	**P**	**10 35 11.5**	**-0.3**	
CHTO					IAmb	IAmb	10 35 13.4		
	comp=Z,7.5nm,0.8s								
CHTO	**Chiang Mai**	**64.60**	**89**		P	**P**	**10 35 11.5**	**-0.3**	
CHTO					pmax	pmax			
	comp=Z,8.0nm,0.9s								
CRAI	**Chiangrai**	**64.66**	**87**		P	**P**	**10 35 11.6**	**-0.5**	
CRAI					IAmb	IAmb	10 35 14.1		
	comp=Z,15nm,1.5s								
CM31	**Chiang Mai Arr**	**64.84**	**89**		P	**P**	**10 35 13.1**	**-0.2**	
CM31					IAmb	IAmb	10 35 15.0		
	comp=Z,9.3nm,0.9s								
CMAR	**Chiang Mai Arr**	**64.84**	**89**		P	**P**	**10 35 13.1**	**-0.2**	
CMAR	**Chiang Mai Arr**	**64.84**	**89**	*i*	P	**P**	**10 35 14.1**	**+0.7**	
CMAR					pmax	pmax			
	comp=Z,5.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**64.84**	**89**		P	**P**	**10 35 14.1**	**+0.7**	
	comp=Z,3.9nm,0.7s,baz=305,slow=7.5,SNR=33								
	comp=Z,3.9nm,0.7s								
KLR	**Kul'dur**	**65.32**	**44**	⇓	*e*P	**P**	**10 35 16.4**	**+0.4**	
KLR					pmax	pmax			
	comp=Z,8.0nm,2.5s								
F31M	**Tsiigehtchic**	**66.23**	**352**		P	**P**	**10 35 21.6**	**+0.1**	
F31M					IAmb	IAmb	10 35 22.5		
	comp=Z,4.6nm,0.6s								
YKA	**Yellowknife Ar**	**67.79**	**342**		P	**P**	**10 35 30.9**	**-0.6**	
	comp=Z,0.5nm,0.6s,baz=109,slow=6.8,SNR=8.1								
YKA					pP	**pP**	**10 36 06.3**	**+0.5**	
	comp=Z,0.4nm,0.7s,baz=23,slow=6.1,SNR=3.5								
	comp=Z,0.5nm,0.6s								
USRK	**Ussuriysk Ar.**	**68.86**	**48**		P	**P**	**10 35 38.7**	**+0.3**	
	comp=Z,0.9nm,0.5s,baz=287,slow=5.7,SNR=7.1								
	comp=Z,0.9nm,0.5s								
NJ2	**Nanjing**	**69.38**	**65**		*e*P	**P**	**10 35 41.8**	**0.0**	
NJ2					pmax	pmax			
	comp=Z,8.0nm,0.5s								
NJ2					pmax	pmax			
	comp=Z,160nm,3.6s								
ILAR	**Eielson Array**	**69.78**	**357**		P	**P**	**10 35 45.0**	**+1.2**	
	comp=Z,0.3nm,0.8s,baz=23,slow=1.0,SNR=4.5								
	comp=Z,0.3nm,0.8s								
LBTB	**Lobatse**	**70.34**	**181**		P	**P**	**10 35 48.2**	**+0.5**	
LBTB					IAmb	IAmb	10 35 49.3		
	comp=Z,4.9nm,0.7s								
LBTB	**Lobatse**	**70.34**	**181**		P	**P**	**10 35 48.2**	**+0.5**	
LBTB					pmax	pmax			
	comp=Z,5.0nm,0.7s								
KSRS	**Korea Array**	**71.26**	**55**		P	**P**	**10 35 53.2**	**0.0**	
	comp=Z,1.0nm,0.5s,baz=316,slow=7.0,SNR=6.0								
	comp=Z,1.0nm,0.5s								
PDAR	**Pinedale Array**	**83.66**	**329**		P	**P**	**10 37 01.9**	**-0.4**	
	comp=Z,0.4nm,0.8s,baz=69,slow=4.9,SNR=2.8								
	comp=Z,0.4nm,0.8s								
BMO	**Blue Mountains**	**84.34**	**335**		IAmb	IAmb	10 37 06.5		
	comp=Z,4.4nm,0.8s								
ASAR	**Alice Springs**	**118.48**	**96**		PKP	**PKPdf**	**10 43 19.6**	**-0.7**	
	comp=Z,0.4nm,0.5s,baz=309,slow=1.5,SNR=6.3								
PLCA	**Paso Flores**	**121.93**	**243**		PKP	**PKiKP**	**10 43 26.9**	**+0.3**	
	comp=Z,4.6nm,1.1s,baz=0.0,slow=3.0,SNR=3.0								
QSPA	**South Pole Qui**	**135.51**	**180**		PKP	**PKPdf**	**10 43 49.4**	**-2.1**	
	comp=Z,1.3nm,0.5s,baz=301,slow=2.1,SNR=29								

DNK 14 10:30:07.0±0.4, 56.80N×12.65E, h0km, ML1.3 (UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FABU	**Falkenberg**	**0.21**	**10**	P	Pg	10 30 11.0	0.0
FABU				S	Sg	10 30 13.8	0.0
ONAU	**Onsala**	**0.72**	**327**	P	Pg	10 30 20.4	-0.4
DEL	**Delary**	**0.75**	**115**	P	Pg	10 30 20.4	-0.8
DEL				S	Sg	10 30 30.9	-0.1
DEL	**Delary**	**0.75**	**115**	*e*S	Pg	10 30 20.8	-0.5
BJUU	**Bjuv**	**0.75**	**164**	P	Pg	10 30 21.0	-0.4
BJUU	**Bjuv**	**0.75**	**164**	*e*S	Pg	10 30 20.9	-0.5
GNOU	**Gnosjoe**	**0.78**	**50**	P	Pg	10 30 21.4	-0.6
BORU	**Boraas**	**0.84**	**4**	P	Pg	10 30 22.3	-0.9
LUNU	**Lund**	**1.25**	**159**	P	Pg	10 30 29.8	-1.1
VXJU	**Vaexsjoe**	**1.26**	**83**	P	Pg	10 30 30.0	-1.1
TJOU	**Tjoern**	**1.36**	**336**	P	Pg	10 30 31.6	-1.4

*UCR **14** 10:30:31.5±1.3, 9.43N×83.85W, h69km±2km, MW3.7*
*UPA **14** 10:30:32.4±2.2, 9.45N×83.83W, h66km±36km, MW3.5*
*CATAC **14** 10:30:32.1±0.3, 9.42N×83.85W, h51km±3km, ML3.6*
ISC 14 10:30:32.7±1.2, 9.43N±0.03×83.84W±0.03, h60km±5km, n120, σ1§15/199, 11C-21D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZELE	**Perez Zeledon**	**0.14**	**111**	⇓ *i*P	**Pn**	**10 30 41.8**	**-0.1**
ZELE				*e*S	**Sn**	**10 30 49.6**	**+1.0**
CDM	**Cerro de Muert**	**0.15**	**32**	⇓ *i*P	**Pn**	**10 30 41.8**	**-0.6**
CDM				*e*S	**Sn**	**10 30 49.7**	**+0.2**
CDM	**Cerro de Muert**	**0.15**	**32**	*i* P	**Pn**	**10 30 41.8**	**-0.6**
CDM				IAML		10 30 42.0	
	comp=Z,2μm,1.0s						
CDM				*i* S	**Sn**	**10 30 49.7**	**+0.2**
PEZE	**Perez Zeledon,**	**0.17**	**105**	⇓ *i*P	**Pn**	**10 30 41.7**	**-0.3**
PEZE				*e*S	**Sn**	**10 30 49.4**	**+0.6**
PEZE	**Perez Zeledon,**	**0.17**	**105**	*i* P	**Pn**	**10 30 41.6**	**-0.5**
PEZE				*i* S	**Sn**	**10 30 49.3**	**+0.5**
PEZE				IAML		10 30 53.0	
	comp=Z,4μm,1.0s						
LLNJ	**Naranjito**	**0.26**	**281**	⇓ *e*P	**Pn**	**10 30 42.3**	**-0.2**
LLNJ				*e*S	**Sn**	**10 30 50.9**	**+1.3**
RAZU	**San Marcos de**	**0.29**	**323**	⇓ *e*P	**Pn**	**10 30 42.2**	**-0.8**
RAZU				*e*S	**Sn**	**10 30 50.6**	**+0.3**
SVQ2	**Quepos**	**0.32**	**271**	*e*P	**Pn**	**10 30 42.2**	**-0.7**
RIMA	**Rio Macho**	**0.34**	**357**	⇓ *i*P	**Pn**	**10 30 42.6**	**-0.8**
RIMA				*e*S	**Sn**	**10 30 51.0**	**0.0**
RIMA	**Rio Macho**	**0.34**	**357**	*i* P	**Pn**	**10 30 42.5**	**-0.8**
RIMA				*i* S	**Sn**	**10 30 50.9**	**-0.1**
RIMA				IAML		10 30 51.9	
	comp=Z,8μm,1.0s						
ABE2	**San Pablo**	**0.35**	**323**	⇓ *i*P	**Pn**	**10 30 42.6**	**-0.8**
ABE2				*e*S	**Sn**	**10 30 51.3**	**+0.1**
LCR2	**La Lucha 2**	**0.35**	**333**	⇓ *i*P	**Pn**	**10 30 42.6**	**-0.9**
LCR2				*e*S	**Sn**	**10 30 51.0**	**-0.2**
LCR2	**La Lucha 2**	**0.35**	**333**	*i* P	**Pn**	**10 30 42.5**	**-0.9**
LCR2				*i* S	**Sn**	**10 30 50.9**	**-0.3**
LCR2				IAML		10 30 51.6	
	comp=Z,4μm,1.0s						
OCHAL	**Ojochal**	**0.38**	**149**	*i* P	**Pn**	**10 30 43.0**	**-0.5**
OCHAL				*i* S	**Sn**	**10 30 52.2**	**+0.9**
OCHAL				IAML		10 30 53.3	
	comp=Z,3μm,1.0s						
REPA	**Paraso**	**0.40**	**356**	⇓ *i*P	**Pn**	**10 30 44.2**	**+0.4**
REPA				*e*S	**Sn**	**10 30 53.0**	**+1.1**
TAGO	**Cartago**	**0.44**	**350**	*e*P	**Pn**	**10 30 43.7**	**-0.6**
TAGO				*e*S	**Sn**	**10 30 53.0**	**+0.4**
VINA	**Juan Vinas**	**0.48**	**12**	*e*P	**Pn**	**10 30 43.7**	**-0.9**
VINA				*e*S	**Sn**	**10 30 53.9**	**+0.8**
OCM	**Ochomogo**	**0.48**	**346**	⇓ *e*P	**Pn**	**10 30 43.8**	**-0.8**
OCM				*e*S	**Sn**	**10 30 53.0**	**-0.4**
OCM	**Ochomogo**	**0.48**	**346**	*i* P	**Pn**	**10 30 43.8**	**-0.8**
OCM				*i* S	**Sn**	**10 30 52.8**	**-0.5**
OCM				IAML		10 30 54.2	
	comp=Z,6μm,1.0s						
ACOS	**Acosta**	**0.48**	**319**	⇓ *i*P	**Pn**	**10 30 43.9**	**-0.8**
ACOS				*e*S	**Sn**	**10 30 53.0**	**-0.3**
PCAYA	**Pacayas**	**0.49**	**4**	*e*P	**Pn**	**10 30 44.1**	**-0.6**
PCAYA				*e*S	**Sn**	**10 30 53.6**	**0.0**
RITA	**Parrita**	**0.49**	**281**	*e*P	**Pn**	**10 30 44.9**	**+0.4**
RITA				*e*S	**Sn**	**10 30 55.4**	**+2.3**
TRIO	**Tres Rios**	**0.50**	**343**	⇓ *i*P	**Pn**	**10 30 44.2**	**-0.6**
TRIO				*e*S	**Sn**	**10 30 53.7**	**+0.2**
TURIB	**Turrialba**	**0.50**	**18**	⇓ *e*P	**Pn**	**10 30 44.0**	**-0.7**
TURIB				*e*S	**Sn**	**10 30 53.3**	**-0.2**
AMPA	**Desamparados**	**0.51**	**335**	⇑ *e*P	**Pn**	**10 30 45.2**	**+0.3**
AMPA				*e*S	**Sn**	**10 30 54.9**	**+1.0**
RAFA	**San Farael, Vo**	**0.53**	**3**	*e*P	**Pn**	**10 30 44.6**	**-0.7**
VERB	**Verbena**	**0.54**	**16**	*e*P	**Pn**	**10 30 44.8**	**-0.3**
VERB				*e*S	**Sn**	**10 30 55.6**	**+1.4**
LUJA	**Lujan**	**0.55**	**336**	*e*P	**Pn**	**10 30 45.7**	**+0.4**
LUJA				*e*S	**Sn**	**10 30 55.7**	**+1.2**
ICR3	**Volcano Irazu**	**0.55**	**1**	*e*P	**Pn**	**10 30 44.9**	**-0.8**
ICR3				*e*S	**Sn**	**10 30 55.2**	**+0.3**
SJS3	**Mercedes San J**	**0.55**	**338**	*e*P	**Pn**	**10 30 45.0**	**-0.4**
SJS3				*e*S	**Sn**	**10 30 54.9**	**+0.3**
SJS	**Escuela Geolog**	**0.55**	**338**	*e*P	**Pn**	**10 30 44.8**	**-0.5**
SJS				*e*S	**Sn**	**10 30 55.0**	**+0.5**
CENT	**San Jose**	**0.55**	**335**	*e*P	**Pn**	**10 30 44.9**	**-0.5**
CENT				*e*S	**Sn**	**10 30 54.8**	**+0.2**
VICA	**Volcano Irazu**	**0.56**	**360**	*e*P	**Pn**	**10 30 45.0**	**-0.7**
VICA				*e*S	**Sn**	**10 30 55.9**	**+0.8**
BURE	**Buenos Aires**	**0.56**	**117**	*e*P	**Pn**	**10 30 44.6**	**-0.7**
BURE				*e*S	**Sn**	**10 30 54.4**	**-0.1**
LUPE	**Guadalupe**	**0.56**	**338**	*e*P	**Pn**	**10 30 45.9**	**+0.4**
LUPE				*e*S	**Sn**	**10 30 56.1**	**+1.4**
MEXI	**Barrio Mexico**	**0.56**	**335**	*e*P	**Pn**	**10 30 45.1**	**-0.4**
MEXI				*e*S	**Sn**	**10 30 55.2**	**+0.4**
VTCV	**VTCV, Calle Va**	**0.56**	**12**	*e*P	**Pn**	**10 30 45.0**	**-0.6**
VTCV	**VTCV, Calle Va**	**0.56**	**12**	*i* P	**Pn**	**10 30 44.9**	**-0.6**
VTCV				*i* S	**Sn**	**10 30 55.6**	**+0.7**
VTCV				IAML		10 30 56.5	
	comp=Z,3μm,1.0s						
CORON	**Coronado**	**0.57**	**344**	⇓ *e*P	**Pn**	**10 30 46.2**	**+0.6**
CORON				*e*S	**Sn**	**10 30 56.9**	**+2.0**
VTRT	**Volcan Turrial**	**0.57**	**5**	⇓ *e*P	**Pn**	**10 30 45.2**	**-0.6**
VTLA	**Turrialba Volc**	**0.58**	**7**	⇓ *e*P	**Pn**	**10 30 45.3**	**-0.6**
CVTQ	**Turrialba Volc**	**0.58**	**7**	⇓ *e*P	**Pn**	**10 30 45.4**	**-0.5**
CVTQ				*e*S	**Sn**	**10 30 55.9**	**+0.4**
RVSTA	**Santa Teresita**	**0.58**	**19**	*e*P	**Pn**	**10 30 45.3**	**-0.3**
RVSTA				*e*S	**Sn**	**10 30 55.6**	**+0.5**
CVTV	**Tajo**	**0.58**	**9**	⇓ *e*P	**Pn**	**10 30 45.5**	**-0.4**
CVTV				*e*S	**Sn**	**10 30 56.0**	**+0.5**
VTR0	**Volcan Turrial**	**0.59**	**8**	*e*P	**Pn**	**10 30 45.5**	**-0.6**
CVTR	**Volcan Turrial**	**0.60**	**8**	⇑ *e*P	**Pn**	**10 30 45.7**	**-0.4**
CVTR				*e*S	**Sn**	**10 30 56.6**	**+0.7**
EDPN	**Palmar Norte**	**0.60**	**140**	*e*P	**Pn**	**10 30 45.0**	**-0.7**
VTUN	**Crater Central**	**0.60**	**8**	*i* P	**Pn**	**10 30 45.2**	**-1.0**
VTUN				IAML		10 30 59.7	
	comp=Z,2μm,1.0s						
CVIMO	**Finca Echandi**	**0.60**	**351**	*e*P	**Pn**	**10 30 45.6**	**-0.5**
CVIMO				*e*S	**Sn**	**10 30 56.6**	**+0.9**
DOMI	**Santo Domingo**	**0.60**	**336**	*e*P	**Pn**	**10 30 45.4**	**-0.6**
SANTA	**Santa Ana**	**0.61**	**326**	*e*P	**Pn**	**10 30 45.2**	**-0.7**
DRK0	**Durika**	**0.61**	**105**	⇑ *e*P	**Pn**	**10 30 45.3**	**-0.7**
DRK0				*e*S	**Sn**	**10 30 55.9**	**+0.1**
VTLO	**VTLO**	**0.62**	**11**	*e*P	**Pn**	**10 30 45.5**	**-0.8**
HDC	**Heredia**	**0.63**	**335**	*e*P	**Pn**	**10 30 45.5**	**-0.7**
HDC				*e*S	**Sn**	**10 30 56.4**	**+0.3**
HDC3	**Heredia 3**	**0.63**	**335**	*e*P	**Pn**	**10 30 45.6**	**-0.7**
HDC3				*e*S	**Sn**	**10 30 56.4**	**+0.3**
HDC3	**Heredia 3**	**0.63**	**335**	*i* P	**Pn**	**10 30 45.7**	**-0.5**
HDC3				*i* S	**Sn**	**10 30 56.2**	**+0.1**
HDC3				IAML		10 31 01.2	
	comp=Z,2μm,1.0s						
BELE	**Belen**	**0.64**	**328**	*e*P	**Pn**	**10 30 46.8**	**+0.5**
BELE				*e*S	**Sn**	**10 30 57.4**	**+1.1**
LCOCO	**El Coco**	**0.71**	**23**	⇓ *e*P	**Pn**	**10 30 47.1**	**0.0**
LCOCO				*e*S	**Sn**	**10 30 59.1**	**+1.5**
RVLA	**Villa Bonita**	**0.72**	**20**	*e*P	**Pn**	**10 30 47.3**	**+0.1**
RVLA				*e*S	**Sn**	**10 30 59.2**	**+1.3**
IRES	**Siquirres**	**0.74**	**27**	*e*P	**Pn**	**10 30 47.6**	**+0.1**
TCS1	**Tacares**	**0.76**	**324**	*e*P	**Pn**	**10 30 47.1**	**-0.7**
TCS1	**Tacares**	**0.76**	**324**	*i* P	**Pn**	**10 30 47.2**	**-0.6**
TCS1				IAML		10 31 01.2	
	comp=Z,18μm,1.0s						
PLAN	**Los Planes de**	**0.77**	**168**	*i* P	**Pn**	**10 30 46.8**	**-1.0**
PLAN				*i* S	**Sn**	**10 31 01.0**	**+2.2**
PLAN				IAML		10 31 03.1	
	comp=Z,8μm,1.0s						
TRB2	**Turrubares**	**0.77**	**309**	*e*P	**Pn**	**10 30 46.5**	**-1.3**
EDP2	**Potrero Grande**	**0.77**	**122**	*e*P	**Pn**	**10 30 47.6**	**-0.3**
POTG	**Potrero Grande**	**0.81**	**117**	*e*P	**Pn**	**10 30 47.2**	**-1.1**
POTG	**Potrero Grande**	**0.81**	**117**	*i* P	**Pn**	**10 30 47.3**	**-1.0**
POTG				*i* S	**Sn**	**10 31 00.3**	**+0.5**
POTG				IAML		10 31 04.1	
	comp=Z,3μm,1.0s						
BATAN	**Batan**	**0.81**	**35**	⇑ *i*P	**Pn**	**10 30 48.3**	**0.0**
BATAN				*e*S	**Sn**	**10 31 00.4**	**+0.7**
BATAN	**Batan**	**0.81**	**35**	⇑ *i*P	**Pn**	**10 30 48.2**	**0.0**
BATAN				*e*S	**Sn**	**10 31 01.1**	**+1.4**
BATAN	**Batan**	**0.81**	**35**	*i* P	**Pn**	**10 30 48.2**	**0.0**
BATAN				*i* S	**Sn**	**10 31 01.4**	**+1.6**
BATAN				IAML		10 31 03.7	
	comp=Z,2μm,1.0s						
TAAN	**Batan**	**0.82**	**37**	*e*P	**Pn**	**10 30 48.4**	**0.0**
SARCI	**Sarchi**	**0.82**	**323**	*e*P	**Pn**	**10 30 48.2**	**-0.4**
JACO	**JACO, Garabito**	**0.84**	**286**	⇓ *i*P	**Pn**	**10 30 47.5**	**-1.2**
JACO				*e*S	**Sn**	**10 30 59.8**	**-0.6**
JACO	**JACO, Garabito**	**0.84**	**286**	*i* P	**Pn**	**10 30 47.4**	**-1.2**
JACO				*i* S	**Sn**	**10 31 00.0**	**-0.4**
JACO				IAML		10 31 02.6	
	comp=Z,1μm,1.0s						
VPS6	**Volcano Poas**	**0.85**	**333**	*e*P	**Pn**	**10 30 48.8**	**-0.3**
VPS6				*e*S	**Sn**	**10 31 01.4**	**+0.2**
RAMO	**San Ramon**	**0.90**	**317**	*e*P	**Pn**	**10 30 49.8**	**+0.2**
SRA1	**San Ramn**	**0.91**	**316**	*e*P	**Pn**	**10 30 48.8**	**-0.8**
ZARE	**Zarcero**	**0.93**	**324**	*e*P	**Pn**	**10 30 49.9**	**-0.1**
ZARE				*e*S	**Sn**	**10 31 03.6**	**+0.9**
CARI	**Cariari**	**0.94**	**6**	*e*P	**Pn**	**10 30 50.9**	**+1.0**
CARI				*e*S	**Sn**	**10 31 05.4**	**+2.8**
ARZA	**Esparza**	**0.99**	**305**	*e*P	**Pn**	**10 30 49.8**	**-0.8**
CPMI	**Catarata Coope**	**1.00**	**328**	⇑ *e*P	**Pn**	**10 30 50.4**	**-0.5**
CPMI	**Catarata Coope**	**1.00**	**328**	*i* P	**Pn**	**10 30 50.3**	**-0.7**
CPMI				*i* S	**Sn**	**10 31 04.6**	**+0.1**
CPMI				IAML		10 31 08.0	
	comp=Z,2μm,1.0s						
EDAD	**Golfito**	**1.02**	**139**	*e*P	**Pn**	**10 30 49.3**	**-1.7**
JIME	**Puerto Jimenez**	**1.02**	**150**	*e*P	**Pn**	**10 30 51.0**	**0.0**
PTJ1	**Puerto Jimnez**	**1.03**	**149**	*e*P	**Pn**	**10 30 51.6**	**+0.5**
PTJ1				*e*S	**Sn**	**10 31 08.4**	**+3.5**
FITO	**Golfito**	**1.05**	**139**	*e*P	**Pn**	**10 30 49.8**	**-1.5**
VITO	**San Vito**	**1.05**	**125**	*e*P	**Pn**	**10 30 50.8**	**-0.7**
ITAL	**Pital**	**1.10**	**338**	⇑ *i*P	**Pn**	**10 30 51.8**	**-0.3**
LAFE	**Finca La Fe, P**	**1.12**	**290**	*e*P	**Pn**	**10 30 53.3**	**+1.1**
LAFE	**Finca La Fe, P**	**1.12**	**290**	*i* P	**Pn**	**10 30 51.1**	**-1.2**
LAFE				IAML		10 31 11.3	
	comp=Z,10.0nm,1.0s						
PIRO	**Carate, Puerto**	**1.13**	**154**	*e*P	**Pn**	**10 30 51.7**	**-0.8**
PIRO	**Carate, Puerto**	**1.13**	**154**	*i* P	**Pn**	**10 30 48.3**	**-4.2**
PIRO				*i* S	**Sn**	**10 31 09.6**	**+2.4**
PIRO				IAML		10 31 13.7	
	comp=Z,3μm,1.0s						
MLIR3	**Monte Lirio, C**	**1.19**	**122**	*e*P	**Pn**	**10 30 52.6**	**-0.6**
MLIR3				*e*S	**Sn**	**10 31 10.0**	**+1.4**
SOCE	**Pocosol**	**1.22**	**321**	⇑ *e*P	**Pn**	**10 30 53.5**	**-0.2**
SOCE				*e*S	**Sn**	**10 31 10.7**	**+1.4**
SOCE	**Pocosol**	**1.22**	**321**	*i* P	**Pn**	**10 30 53.4**	**-0.2**
SOCE				*i* S	**Sn**	**10 31 10.7**	**+1.4**
SOCE				IAML		10 31 13.8	
	comp=Z,5μm,1.0s						
CBL1	**Cabuya**	**1.24**	**278**	*e*P	**Pn**	**10 30 51.6**	**-2.3**
CDITO	**Canoas**	**1.28**	**131**	*e*S	**Sn**	**10 31 09.2**	**-1.4**
CDITO	**Canoas**	**1.28**	**131**	*e*P	**Pn**	**10 30 53.0**	**-1.4**
BRU2	**Volcan**	**1.30**	**119**	*e*P	**Pn**	**10 30 54.1**	**-0.8**
BRU2				*e*S	**Sn**	**10 31 11.3**	**0.0**
BRU2	**Volcan**	**1.30**	**119**	*e*P	**Pn**	**10 30 54.0**	**-0.8**
BRU2				*e*S	**Sn**	**10 31 11.4**	**0.0**
BRU2	**Volcan**	**1.30**	**119**	*i* P	**Pn**	**10 30 53.9**	**-0.9**
BRU2				*i* S	**Sn**	**10 31 11.0**	**-0.4**
BRU2				IAML		10 31 13.9	
	comp=Z,870nm,1.0s						
MTEVE	**Monteverde**	**1.31**	**313**	⇑ *i*P	**Pn**	**10 30 55.6**	**+0.5**
VACR	**Volcan Arenal**	**1.33**	**322**	⇑ *e*P	**Pn**	**10 30 54.9**	**-0.2**
CNI2	**El Empalme, Bo**	**1.35**	**90**	*e*P	**Pn**	**10 30 54.9**	**-0.5**
CNI2				*e*S	**Sn**	**10 31 09.4**	**-3.0**
JTS	**Las Juntas de**	**1.39**	**308**	*e*P	**Pn**	**10 30 55.0**	**-1.0**
JTS				*e*S	**Sn**	**10 31 12.7**	**-0.7**
COVE	**Coope Vega, Sa**	**1.40**	**337**	*i* P	**Pn**	**10

AMKA	Amchitka	3.77	266	Pn		Pn	10 43 22.5	+0.4
NIKH	Nikolski High	3.78	69			Sn	10 44 05.6	+0.3
NIKH	Nikolski High	3.78	69	Pn		Pn	10 43 22.4	+0.2
NIKH	Nikolski High	3.78	69	P		Pn	10 43 22.9	+0.8
NIKH	Nikolski High baz=251	3.78	69	P		Pn	10 43 23.0	+0.8
LSPA	Little Sitkin	4.18	275			Pn	10 43 28.3	+0.7
LSSE	Little Sitkin	4.18	275			Pn	10 43 28.6	+0.9
LSNW	Little Sitkin	4.21	275			Pn	10 43 28.7	+0.5
OKNC	Okmok New Cone	4.35	64			Pn	10 43 31.5	+1.5
OKER	Okmok East Rim	4.39	65			Pn	10 43 31.5	+0.9
MAPS	Pakushin South	5.13	63			Pn	10 43 41.5	+0.8
MGOD	Makushin Gods	5.16	64			Pn	10 43 41.6	+0.4
MSW	Makushin Switc	5.25	63			Pn	10 43 43.1	+0.7
MNAT	Makushin Natee	5.30	63			Pn	10 43 43.8	+0.9
UNV	Unalaska Valle	5.39	64	Pn		Pn	10 43 45.0	+0.9
UNV	Unalaska Valle	5.39	64	P		Pn	10 43 45.0	+0.9
P08K	Saint George I	5.71	30			Pn	10 43 50.4	+1.8
P08K	Saint George I baz=213	5.71	30	P		Pn	10 43 50.0	+1.5
ZRO	Akutan Zero	5.76	63			Pn	10 43 50.7	+1.4
AKBBA	Akutan Broad B	5.79	63			Pn	10 43 51.1	+1.4
AKUT	Akutan	5.89	63	Pn		Pn	10 43 52.3	+1.2
AKSA	Akutan Strait	5.93	63			Pn	10 43 52.6	+1.0
SPIA	Saint Paul Isl	6.01	24	Pn		Pn	10 43 54.6	+2.0
SPIA	Saint Paul Isl	6.01	24	P		Pn	10 43 54.9	+2.3
SPIA	Saint Paul Isl baz=207	6.01	24	P		Pn	10 43 54.8	+2.3
WEBT	Westdahl Beart	6.61	61			Pn	10 44 02.3	+1.4
SHEM	Shemya Is, Ala comp=E,32nm,0.9s,baz=107,slow=19,SNR=1.1	6.95	282	P		Pn	10 44 05.5	0.0
SHEM				LR		LR	10 47 02.4	
	comp=E,83nm,18.3s,baz=51,slow=40							
FALS	False Pass	7.43	61	Pn		Pn	10 44 12.4	+0.4
FALS	False Pass	7.43	61	P		Pn	10 44 11.3	-0.7
SDPT	Sand Point	9.19	61	Pn		Pn	10 44 35.3	-0.8
SDPT	Sand Point	9.19	61	P		Pn	10 44 35.4	-0.7
SDPT	Sand Point baz=252	9.19	61	P		Pn	10 44 37.0	+0.9
CNBA	Chernabura Isl	9.55	65	Pn		Pn	10 44 39.2	-1.7
M11K	Mekoryuk baz=212,SNR=9.7	9.85	25	P		Pn	10 44 47.7	+2.7
O14K	Tigyukauivet M baz=231	10.67	40	P		Pn	10 44 58.0	+1.7
M13K	Dall Lake baz=221	10.72	32	P		Pn	10 44 59.4	+2.5
N14K	Kuskokwak Cree baz=227	10.95	37	P		Pn	10 45 02.5	+2.5
O15K	Ungalikthiuk R baz=234	11.22	43	P		Pn	10 45 06.3	+2.5
M14K	Bethel	11.43	33	Pn		Pn	10 45 08.5	+1.9
L14K	Kuka Creek baz=220	11.64	30	P		Pn	10 45 12.1	+2.7
N15K	Kwethluk River baz=230	11.71	38	P		Pn	10 45 12.4	+1.9
M15K	Kasigluk River baz=227	11.84	35	P		Pn	10 45 14.2	+2.0
P16K	Nushagak River baz=239	11.94	46	P		Pn	10 45 15.5	+2.0
CHIR	Chirikof Islan	11.97	63	Pn		Pn	10 45 13.6	-0.5
GAMB	Gambell	12.15	6	Pn		Pn	10 45 17.8	+1.5
GAMB	Gambell baz=189	12.15	6	P		Pn	10 45 18.2	+1.9
O16K	Kokwok River B	12.19	43	Pn		Pn	10 45 19.3	+2.4
O16K	Kokwok River B baz=237	12.19	43	P		Pn	10 45 17.9	+1.0
L15K	Ungalak Mounta baz=222	12.27	31	P		Pn	10 45 20.6	+2.6
Q16K	King Salmon baz=243	12.38	49	P		Pn	10 45 20.9	+1.3
N16K	Nishlik Lake baz=232	12.42	39	P		Pn	10 45 21.4	+1.3
J14K	Nanvaranak Lak baz=213	12.53	24	P		Pn	10 45 22.9	+1.4
Q17K	Contact Creek baz=246	12.57	52	P		Pn	10 45 22.5	+0.1
M16K	Timber Creek baz=230	12.69	37	P		Pn	10 45 24.7	+0.9
O17K	Koliganek Bris baz=238	12.71	44	P		Pn	10 45 24.9	+0.8
P17K	Kvichak River baz=242	12.72	47	P		Pn	10 45 23.8	-0.4
K15K	Wolf Creek Mou baz=220	12.72	29	P		Pn	10 45 26.9	+2.7
L16K	Owhat River	12.96	34	Pn		P	10 45 31.7	-3.9
L16K	Owhat River baz=226	12.96	34	P		Pn	10 45 28.6	+1.2
N17K	Nushagak Hills baz=235	13.08	41	P		Pn	10 45 29.4	+0.3
P18K	Big Mountain,	13.36	48	Pn		Pn	10 45 33.9	+1.0
P18K	Big Mountain, baz=243	13.36	48	P		Pn	10 45 32.4	-0.4
M17K	Holitna River baz=232	13.50	38	P		Pn	10 45 34.5	-0.2
OHAK	Old Harbor	13.56	58			Pn	10 45 32.3	-3.1
OHAK	Old Harbor	13.56	58	P		Pn	10 45 36.2	+0.7
OHAK	Old Harbor baz=255	13.56	58	P		Pn	10 45 33.5	-2.0
O18K	Koktuh Hills	13.58	46	Pn		Pn	10 45 37.0	+1.1
O18K	Koktuh Hills baz=242	13.58	46	P		Pn	10 45 36.9	+1.1
L17K	Donlin baz=228	13.66	34	P		Pn	10 45 37.4	+0.6
N18K	Kilae Creek baz=237	13.70	42	P		Pn	10 45 38.5	+1.0
ANM	Nome	13.72	17	Pn		Pn	10 45 39.8	+2.2
ANM	Nome baz=205,SNR=6.7	13.72	17	P		Pn	10 45 39.8	+2.2
J16K	Anvik River baz=219	13.76	28	P		Pn	10 45 40.1	+1.9
Q19K	Cape Douglas,	13.91	51			P	10 45 45.3	-0.9
Q19K	Cape Douglas, baz=248	13.91	51	P		Pn	10 45 41.0	+0.7
SVW2	Sparrevohn	14.06	41			Pn	10 45 43.4	+1.3
SVW2	Sparrevohn	14.06	41	P		Pn	10 45 44.3	+2.2
K17K	Iditarod baz=226	14.06	32	P		Pn	10 45 42.2	+0.1
KDAK	Kodiak Island	14.07	56	Pn		Pn	10 45 40.8	-1.4
KDAK	Kodiak Island baz=254	14.07	56	P		Pn	10 45 42.1	-0.2
KDAK	Kodiak Island comp=E,5.1nm,0.4s,baz=250,slow=7.5,SNR=7.6	14.07	56	P		Pn	10 45 40.7	-1.6
KDAK				LR		LR	10 51 25.6	
	comp=E,120nm,19.7s,baz=247,slow=38							
O19K	Port Alsworth baz=242	14.13	45	P		Pn	10 45 43.2	+0.2
M18K	Stony River baz=235	14.18	39	P		Pn	10 45 44.3	+0.7
I17K	Unalakleet baz=218	14.21	26	P		Pn	10 45 44.9	+0.9
TNA	Tin City baz=197,SNR=5.5	14.26	11	P		Pn	10 45 45.2	+0.5
L18K	Granite Mounta baz=231	14.29	36	P		Pn	10 45 45.9	+0.8
G15K	Niukluk baz=207	14.36	18	P		Pn	10 45 47.3	+1.3
N19K	Bonanza Creek baz=240	14.36	43	P		Pn	10 45 46.9	+0.7
P19K	Oil Pt baz=246	14.39	48	P		Pn	10 45 47.1	+0.6
F14K	Arctic Creek baz=201	14.40	14	P		Pn	10 45 47.8	+1.2
Q20K	Shuyak Island baz=251	14.41	53	P		Pn	10 45 47.2	+0.4
SYI	Shuyak Island	14.42	53	Pn		Pn	10 45 44.6	-2.1
H16K	Elim baz=212	14.44	22	P		Pn	10 45 47.7	+0.7
O20K	Slope Mountain baz=245	14.85	47	P		Pn	10 45 53.7	+1.3
F15K	North Star Dit baz=205	14.89	16	P		Pn	10 45 54.6	+1.8
L19K	White Mountain baz=234,SNR=11	14.96	38	P		Pn	10 45 54.9	+1.1
M19K	Big River Lodg baz=236	14.98	39	P		Pn	10 45 55.1	+1.0
TTA	Tatalina	14.98	35			P	10 45 56.1	-2.0
TTA	Tatalina	14.98	35	P		P	10 45 57.9	-0.3
TTA	Tatalina baz=230	14.98	35	P		Pn	10 45 55.0	+0.8
G16K	Koyuk River baz=211	15.06	20	P		P	10 45 56.8	-2.0
J18K	Innoko River baz=227,SNR=5.6	15.10	32	P		Pn	10 45 57.1	+1.6
HOM	Homer comp=Z,79nm,1.2s	15.14	50	Pn		Pn	10 45 56.4	+0.3
HOM				IAmb		IAmb	10 46 05.9	
HOM	Homer baz=248	15.14	50	P		Pn	10 45 56.8	+0.7
H17K	Granite Mounta baz=217	15.25	24	P		P	10 45 59.0	-2.0
CNPM	China Poot comp=Z,47nm,1.3s	15.29	50	IAmb		IAmb	10 46 00.7	
M20K	Styx River baz=238	15.47	41	P		Pn	10 46 01.4	+1.0
L20K	Farewell, AK baz=235,SNR=7.0	15.50	38	P		Pn	10 46 02.0	+1.3
N20K	Mount Spurr baz=242	15.52	44	P		Pn	10 46 01.9	+0.9
G17K	Kiwalik Mounta baz=214	15.53	22	P		Pn	10 46 02.2	+1.1
BRLK	Bradley Lake comp=Z,24nm,1.2s	15.54	50			Pn	10 45 59.6	-1.6
BRLK				IAmb		IAmb	10 46 05.4	
BRSE	Bradley Lake S baz=249	15.60	50	P		Pn	10 46 01.6	-0.3
CAPN	Captain Cook N baz=245	15.80	46	P		Pn	10 46 04.8	+0.4
J19K	Poorman baz=228,SNR=6.1	15.82	32	P		P	10 46 06.1	-1.2
H18K	Honhosa River baz=220,SNR=7.6	15.83	26	P		P	10 46 06.8	-0.7
K20K	Telida baz=232	15.94	35	P		P	10 46 07.4	-1.3
SKT	Skwentna	16.18	42			Pn	10 46 05.9	-3.4
SKT	Skwentna baz=241	16.18	42	P		Pn	10 46 09.7	+0.4
F17K	Baldwin Pennin baz=211	16.19	20	P		P	10 46 10.7	-0.7
SUA	Susitna One	16.27	44			Pn	10 46 10.7	+0.1
SUA	Susitna One baz=244	16.27	44	P		Pn	10 46 10.7	+0.1
SEW	Seward baz=250	16.33	49	P		Pn	10 46 10.5	-0.7
O22K	Cooper Landing comp=Z,35nm,0.8s	16.34	48			Pn	10 46 09.6	-1.6
O22K				IAmb		IAmb	10 46 34.9	
G18K	Tagagawik baz=217	16.34	24	P		Pn	10 46 11.8	+0.5
FIS	Fire Island comp=Z,28nm,1.1s	16.37	45	Pn		Pn	10 46 12.0	+0.4
FIS				IAmb		IAmb	10 46 15.1	
PPLA	Purkeypile baz=257	16.38	38	P		Pn	10 46 12.3	+0.3
J20K	Nowinta River baz=230	16.43	33	P		P	10 46 13.4	-0.6
RC01	Rabbit Creek A	16.56	46	Pn		Pn	10 46 13.7	-0.4
RC01	Rabbit Creek A baz=246	16.56	46	P		Pn	10 46 14.5	+0.5
H19K	Roundabout Mou baz=222	16.64	27	P		P	10 46 16.2	-0.2
M22K	Willow baz=244	16.67	44	P		Pn	10 46 15.6	+0.3
F18K	Selawik baz=214	16.67	21	P		P	10 46 17.0	+0.3
CAST	Castle Rocks	16.71	37	P		P	10 46 17.8	+0.6
CAST	Castle Rocks baz=236,SNR=5.2	16.71	37	P		P	10 46 16.9	-0.3
I20K	Naaghedeneel baz=228	16.72	31	P		P	10 46 17.4	+0.1
PETK	Petropavlovsk- comp=Z,2.4nm,0.8s,baz=86,slow=15,SNR=10	16.85	285	P		P	10 46 18.2	-0.6
CHUM	Lake Minchumin baz=234	16.89	35	P		P	10 46 18.7	-0.4
CUT	Chulitna comp=Z,33nm,1.3s	16.90	41			Pn	10 46 17.2	-1.0
CUT				IAmb		IAmb	10 46 41.3	
CUT	Chulitna baz=242	16.90	41	P		P	10 46 18.6	-0.7
G19K	Purcell Mounta baz=220	16.93	25	P		P	10 46 20.0	+0.4
D17K	Noatak River baz=205	16.96	15	P		P	10 46 20.4	+0.5
PMR	Palmer	17.03	45			Pn	10 46 19.6	-0.2
PMR	Palmer baz=246	17.03	45	P		P	10 46 20.1	-0.5
H20K	Anotleneega Mo baz=226	17.07	29	P		P	10 46 21.4	+0.2
E18K	Tukpahlearik C baz=211	17.17	19	P		P	10 46 22.6	+0.4
C16K	Lisburne Hills baz=200	17.17	12	P		P	10 46 22.1	0.0
GHO	Glory Hole Cre comp=Z,11nm,0.5s	17.19	44			Pn	10 46 20.8	-1.1
GHO				IAmb		IAmb	10 46 23.1	
KTH	Kantishna Hill comp=Z,14nm,0.7s	17.22	38	P		P	10 46 23.4	+0.5
KTH				IAmb		IAmb	10 46 26.2	
KNK	Knik Glacier comp=Z,13nm,0.6s	17.25	46	P		Pn	10 46 21.1	-1.6
KNK				IAmb		IAmb	10 46 22.7	
KNK	Knik Glacier baz=247,SNR=6.1	17.25	46	P		Pn	10 46 22.1	-0.5
F19K	Shaleuckik Mo baz=217,SNR=11	17.30	23	P		P	10 46 24.7	+1.1
TRF	Thorofare Moun	17.41	38	P		P	10 46 25.3	+0.3
TRF	Thorofare Moun baz=239	17.41	38	P		P	10 46 25.4	+0.4
SML	Sawmill	17.46	45	P		Pn	10 46 24.0	-1.3
SML	Sawmill baz=246	17.46	45	P		Pn	10 46 24.6	-0.7
BPAW	Bear Paw Mtn.	17.49	36	P		P	10 46 27.1	+1.3
BPAW	Bear Paw Mtn. baz=236,SNR=8.4	17.49	36	P		P	10 46 26.6	+0.8
C17K	DeLong Mountai baz=204	17.66	14	P		P	10 46 29.0	+1.3
M23K	Glacier View baz=247,SNR=6.7	17.72	45	P		Pn	10 46 27.1	-1.3
I21K	Tanana baz=232,SNR=11	17.78	32	P		Pn	10 46 30.3	+1.2
WAT1	Susitna Watana baz=243	17.80	41	P		P	10 46 28.0	-1.2
H21K	Melozitna Rive baz=229,SNR=7.6	17.82	30	P		Pn	10 46 31.1	+1.6
SCM	Sheep Creek Mo comp=Z,17nm,0.4s	17.91	45	IAmb		IAmb	10 46 31.9	
SCM	Sheep Creek Mo baz=248	17.91	45	P		P	10 46 29.7	-0.9
E19K	Redstone River comp=Z,8.5nm,0.5s	17.93	22	IAmb		IAmb	10 46 34.1	
E19K	Redstone River baz=217,SNR=16	17.93	22	P		Pn	10 46 32.9	+2.2
F20K	Avaraart Lake baz=221	17.98	24	P		Pn	10 46 32.4	+1.1
WAT6	Susitna Watana baz=245	18.03	43	P		P	10 46 30.9	-1.0
MCK	McKinley baz=240,SNR=8.4	18.07	39	P		Pn	10 46 32.2	-0.4
MLY	Manley baz=234	18.11	34	P		Pn	10 46 33.5	+0.4
C18K	Utuk River baz=208	18.14	16	P		Pn	10 46 34.7	+1.3
G21K	Allakaket baz=226	18.19	28	P		Pn	10 46 34.3	+0.3
EYAK	Cordova Ski Ar baz=254	18.22	50	P		P	10 46 33.1	-0.7
DHY	Denali Highway baz=244	18.39	41	P		P	10 46 35.7	-0.2
KLU	Klutina comp=Z,10.0nm,0.5s	18.42	47	IAmb		IAmb	10 46 38.6	
KLU	Klutina baz=251,SNR=5.9	18.42	47	P		P	10 46 35.3	-0.8
H22K	Ishtalitna Cre baz=231	18.43	31	P		Pn	10 46 37.0	+0.2
NEA2	Nenana baz=238,SNR=7.1	18.46	36	P		P	10 46 36.3	-0.2
M24K	Tolsona, Glenn comp=Z,17nm,0.5s	18.52	45	IAmb		IAmb	10 46 42.1	
M24K	Tolsona, Glenn baz=249	18.52	45	P		Pn	10 46 37.6	-0.5
D19K	Kuna River baz=214	18.58	19	P		Pn	10 46 39.1	+0.3
I23K	Minto, Yukon-K baz=236,SNR=15	18.66	34	P		Pn	10 46 40.0	+0.4
B18K	Kokolik River baz=206,SNR=7.8	18.68	14	P		Pn	10 46 40.5	+0.6
F21K	Alatna River baz=224,SNR=10	18.70	26	P		Pn	10 46 40.9	+0.8
BILL	Bilibino	18.76	338	P		Pn	10 46 40.0	-0.7
WRH	Wood River Hil	18.76	37	P		P	10 46 39.0	-0.7
E20K	Nigu River baz=218,SNR=22	18.80	22	P		Pn	10 46 42.2	+0.8
C19K	Lookout Ridge baz=210	18.82	17	P		Pn	10 46 41.2	-0.4
BMRM	Bremner River baz=254	18.88	49	P		P	10 46 40.7	-0.4
CCB	Clear Creek Bu	18.96	37	P		P	10 46 40.6	-1.2
CCB	comp=Z,8.6nm,0.5s			IAmb		IAmb	10 46 43.9	
MDM	Murphy Dome	18.96	36	P		P	10 46 41.9	0.0
MDM	comp=Z,7.4nm,0.5s			IAmb		IAmb	10 46 46.2	
G22K	Bettles baz=228	19.05	28	P		Pn	10 46 43.5	-0.8
COLA	College	19.06	36	P		Pn	10 46 46.0	+1.7
COLA	College baz=239	19.06	36	P		P	10 46 42.7	-0.2
N25K	Chitina, Valde baz=252	19.06	47	P		P	10 46 42.4	-0.7
HARP	HAARP baz=249,SNR=5.1	19.07	45	P		P	10 46 42.8	-0.4
D20K	Etivluk River baz=216,SNR=13	19.08	20	P		Pn	10 46 44.2	-0.5
PAX	Paxson baz=247	19.14	43	P		P	10 46 44.4	+0.4
HDA	Harding Lake	19.16	38	P		P	10 46 44.0	-0.2
HDA	comp=Z,26nm,0.6s			IAmb		IAmb	10 46 45.7	
HDA	Harding Lake baz=242,SNR=33	19.16	38	P		P	10 46 44.2	+0.1
POKR	Poker Plat Res baz=239	19.33	36	P		Pn	10 46 46.8	-0.9
K24K	Donnelly Dome baz=245,SNR=11	19.35	40	P		P	10 46 45.8	-0.4
IL31		19.36	37	P		P	10 46 45.3	-0.9
IL31	comp=Z,10nm,0.6s			IAmb		IAmb	10 46 47.8	
ILAR	Eielson Array	19.36	37	P		P	10 46 44.8	-1.5
ILAR	Eielson Array comp=Z,7.8nm,0.6s,baz=223,slow=9.5,SNR=97	19.36	37	P		P	10 46 46.1	-0.2
ILAR				PcP		PcP	10 51 04.8	-0.5
	comp=Z,0.2nm,0.3s,baz=248,slow=2.4,SNR=4.2							
ILAR				ScP		ScP	10 54 37.0	+2.0
	comp=Z,0.2nm,0.5s,baz=270,slow=3.0,SNR=5.0							
G23K	Bananza Creek baz=231,SNR=10	19.37	30	P		Pn	10 46 47.7	-0.4
VRDI	Verde Repeater	19.48	49	P		P	10 46 46.2	-1.7
H24K	Noodor Dome	19.56	34	P		Pn	10 46 49.5	-0.8
H24K	Noodor Dome baz=237,SNR=16	19.56	34	P		Pn	10 46 49.4	-1.0
WAX	Waxell Ridge	19.59	51	P		P	10 46 48.7	-0.2
WAX	comp=Z,20nm,1.1s			IAmb		IAmb	10 46 57.0	
COLD	Coldfoot baz=230,SNR=7.3	19.64	29	P		P	10 46 49.9	+0.6
E22K	Anaktuvuk Pass	19.80	25	P		Pn	10 46 52.0	-1.1
E22K	Anaktuvuk Pass baz=225,SNR=9.6	19.80	25	P		Pn	10 46 52.0	-1.1
C21K	Knifeblade Rid baz=218,SNR=8.3	19.83	21	P		P	10 46 52.1	+0.8
J25K	Salcha River, comp=Z,32nm,0.6s	19.86	38	IAmb		IAmb	10 46 53.0	
J25K	Salcha River, baz=243	19.86	38	P		P	10 46 51.2	-0.6
M26K	Nabesna, AK baz=252,SNR=8.3	20.02	46	P		Pn	10 46 54.9	-0.9
L26K	Log Cabin Wild	20.07	44	P		P	10 46 53.6	-0.4
L26K	comp=Z,6.5nm,0.5s			IAmb		IAmb	10 47 01.2	
L26K	Log Cabin Wild baz=250,SNR=6.7	20.07	44	P		P	10 46 54.2	+0.2
D22K	Ayikyak River baz=222,SNR=6.4	20.11	23	P		Pn	10 46 55.5	-1.3
SCRK	Sand Creek	20.15	41	P		P	10 46 53.9	-1.0
SCRK	Sand Creek baz=247,SNR=54	20.15	41	P		P	10 46 54.0	-1.0
G24K	Hadweenzic Riv baz=235	20.18	32	P		P	10 46 55.8	+0.7
PRP	Porcupine Dome	20.23	36	P		P	10 46 55.5	-0.3
PRP	Porcupine Dome baz=241	20.23	36	P		P	10 46 56.2	+0.3
B21K	Ikpikpuk River comp=Z,17nm,1.0s	20.24	20	IAmb		IAmb	10 47 00.1	
B21K	Ikpikpuk River baz=218	20.24	20	P		P	10 46 56.5	+0.8
BARN	Barnard Glacie	20.29	50	P		P	10 46 55.5	-1.1
BARN	comp=Z,17nm,1.4s			IAmb		IAmb	10 47 34.0	
E23K	Chandalar baz=229	20.35	27	P		P	10 46 58.0	+0.9
TABL	Table Mountain	20.42	52	P		P	10 46 59.1	+1.1
TABL	comp=Z,31nm,0.7s			IAmb		IAmb	10 47 17.5	
CTG	Chitna Glacier baz=258	20.42	50	P		P	10 46 57.9	0.0
CTGM	Chitina Glacie	20.43	50	P		P	10 46 56.9	-1.1
CTGM	comp=Z,25nm,1.4s			IAmb		IAmb	10 47 34.8	
H25L	Birch Creek baz=239	20.50	34	P		P	10 46 59.3	+0.7
M27K	Edge Creek, AK baz=254	20.51	46	P		P	10 46 59.3	+0.4
F24K	Squaw Lake baz=233,SNR=18	20.52	30	P		Pn	10 47 00.3	-1.3
J26L	Joseph Creek baz=246,SNR=56	20.52	40	P		P	10 46 58.4	-0.6
D23K	Nanushuk River baz=226	20.68	25	P		Pn	10 47 01.8	-1.7
E24K	Your Creek comp=Z,13nm,1.1s	20.69	28	IAmb		IAmb	10 47 02.8	
E24K	Your Creek baz=231	20.69	28	P		P	10 47 01.7	+1.0
SEY	Seymchan comp=Z,2.4nm,0.8s,baz=78,slow=20,SNR=3.0	20.72	315	P		P	10 47 01.9	+0.9
	comp=Z,2.4nm,0.8s							
L27K	Beaver Creek,	20.74	44	P		P	10 47 01.3	0.0
L27K	Beaver Creek, baz=252	20.74	44	P		P	10 47 01.2	0.0
TOLK	Toolik Lake Re	20.75	26	P		P	10 47 02.6	+1.2
TOLK	comp=Z,14nm,0.7s			IAmb		IAmb	10 47 05.2	
TOLK	Toolik Lake Re baz=228,SNR=18	20.75	26	P		P	10 47 02.3	+1.0
BCAR	Beaver Creek A	20.76	44	P		P	10 47 00.9	-0.5
MA2	Magadan comp=Z,2.3nm,0.5s,baz=99,slow=18,SNR=1.8	20.78	306	P		Pn	10 47 05.6	+0.9
MA2				LR		LR	10 54 25.9	
	comp=Z,54nm,19.4s,baz=74,slow=35							
FYU	Fort Yukon	20.86	34	P		P	10 47 02.9	+0.5
FYU	comp=Z,20nm,1.4s			IAmb		IAmb	10 47 21.1	
K27K	Chicken comp=Z,8.8nm,0.6s	20.95	42	IAmb		IAmb	10 47 04.9	
K27K	Chicken baz=249	20.95	42	P		P	10 47 03.7	+0.3
BVCY	Beaver Creek baz=255,SNR=6.7	20.98	46	P		P	10 47 04.9	+1.0
YUK3	Moose Creek baz=257	21.01	48	P		P	10 47 03.2	-1.2
I26K	Coal Creek Min baz=245	21.02	38	P		P	10 47 04.2	0.0
B22K	Teshekpuk Lake baz=219	21.06	20	P		P	10 47 04.8	+0.3
PNL	Peninsula	21.18	54	P		P	10 47 07.2	+1.3
A21K	Barrow baz=212	21.25	16	P		P	10 47 06.9	+0.3
F25K	Christian River baz=236	21.27	31	P		P	10 47 07.4	+0.5
D24K	Happy Valley comp=Z,15nm,0.7s	21.30	25	IAmb		IAmb	10 47 10.2	
D24K	Happy Valley baz=228	21.30	25	P		P	10 47 07.8	+0.7
C23K	Itkillik River comp=Z,13nm,0.6s	21.32	23	IAmb		IAmb	10 47 09.1	
C23K	Itkillik River baz=224	21.32	23	P		P	10 47 07.8	+0.5
G26K	Porcupine Rive baz=240	21.55	33	P		P	10 47 09.9	+0.1
EGAK	Eagle	21.59	40	P		P	10 47 09.9	-0.4
EGAK	comp=Z,17nm,0.7s			IAmb		IAmb	10 47 11.3	
EGAK	Eagle baz=249,SNR=23	21.59	40	P		P	10 47 09.9	-0.4
E25K	Arctic Village	21.59	30	P		P	10 47 11.2	+0.9
E25K	Arctic Village baz=235,SNR=6.6	21.59	30	P		P	10 47 10.7	+0.3
C24K	Franklin Bluff baz=227	21.71	24	P		P	10 47 12.0	+0.5
I27K	Kandik River baz=246,SNR=6.1	21.73	38	P		P	10 47 11.8	0.0
F26K	Sheenjek River	21.81	31	P		P	10 47 12.6	0.0

baz=238
H27K **Steamboat Moun** 22.02 36 P P 10 47 13.5 -1.4
baz=245
M29M **Somme Creek** 22.07 47 P P 10 47 15.3 -0.3
baz=258
D25K **Kavik River** 22.07 27 P P 10 47 15.3 -0.2
baz=232
DAWY **Dawson** 22.08 43 P P 10 47 15.3 -0.2
DAWY **Dawson** 22.08 43 P P 10 47 15.3 -0.2
baz=252,SNR=7.2
HYT **Haines Junctio** 22.25 51 P P 10 47 16.8 -0.7
HYT **Haines Junctio** 22.25 51 P P 10 47 16.9 -0.7
baz=262
I28M **Miner Creek** 22.31 39 IAmb IAmb 10 47 19.0
comp=Z,6.8nm,0.6s
I28M **Miner Creek** 22.31 39 P P 10 47 17.1 -1.0
baz=249
L29M **L29M** 22.37 45 P P 10 47 18.2 -0.6
baz=256
J29N **Klondike Camp** 22.68 42 P P 10 47 22.0 -0.1
J29N IAmb IAmb 10 47 43.8
comp=Z,5.1nm,0.7s
J29N **Klondike Camp** 22.68 42 P P 10 47 21.3 -0.8
baz=253
K29M **Barlow Dome** 22.81 44 IAmb IAmb 10 47 24.6
comp=Z,8.4nm,0.7s
K29M **Barlow Dome** 22.81 44 P P 10 47 22.7 -0.8
baz=255
C26K **Camden Bay** 22.85 26 P P 10 47 23.8 +0.2
baz=232,SNR=15
E27K **Coleen River** 22.89 32 P P 10 47 23.9 -0.3
baz=240
O30N **Mendenhall** 22.93 52 P P 10 47 23.9 -0.8
H29M **Whitestone** 23.19 38 P P 10 47 25.7 -1.4
baz=249
F28M **Old Crow** 23.20 34 P P 10 47 26.7 -0.5
F28M **Old Crow** 23.20 34 P P 10 47 26.6 -0.5
baz=244
SKAG **Skagway** 23.23 55 P P 10 47 29.4 +2.0
J30M **Hart River** 23.50 42 P P 10 47 28.9 -1.2
baz=255
G29M **Pine Creek** 23.57 36 P P 10 47 29.9 -0.8
baz=248
D27M **Malcolm River** 23.62 30 P P 10 47 30.8 -0.2
baz=239
I30M **Mount Dempster** 23.66 41 IAmb IAmb 10 47 32.1
comp=Z,4nm,0.6s
I30M **Mount Dempster** 23.66 41 P P 10 47 30.4 -1.2
baz=254
E28M **Babbage River** 23.76 32 P P 10 47 32.1 -0.2
baz=242
EPYK **Eagle Plains** 23.87 38 P P 10 47 32.8 -0.6
EPYK **Eagle Plains** 23.87 38 P P 10 47 32.7 -0.6
baz=251
M31M **Drury Creek, Y** 23.91 48 P P 10 47 33.1 -0.6
M31M **Drury Creek, Y** 23.91 48 P P 10 47 33.5 -0.1
baz=262
E29M **Blow River** 24.21 33 IAmb IAmb 10 47 39.3
comp=Z,8.7nm,0.9s
E29M **Blow River** 24.21 33 P P 10 47 37.1 +0.8
baz=245
FARO **Faro, Yukon** 24.39 49 P P 10 47 38.6 +0.5
FARO **Faro, Yukon** 24.39 49 P P 10 47 37.7 -0.4
baz=263
H31M **Peel River** 24.63 40 IAmb IAmb 10 47 41.8
comp=Z,10nm,1.0s
H31M **Peel River** 24.63 40 P P 10 47 40.2 0.0
baz=255
F30M **Barrier River** 24.64 35 P P 10 47 40.2 0.0
baz=249
CRAG **Craig** 24.66 65 P P 10 47 39.3 -1.2
CRAG IAmb IAmb 10 47 43.2
comp=Z,47nm,1.2s
CRAG **Craig** 24.66 65 P P 10 47 41.0 +0.5
baz=278
Q32M **Nakina River** 24.80 56 P P 10 47 41.3 -0.7
baz=272
WRAK **Wrangell Islan** 24.96 62 P P 10 47 42.8 -0.4
baz=277
G31M **Satah River** 24.97 37 P P 10 47 42.4 -0.8
G31M **Satah River** 24.97 37 P P 10 47 43.1 -0.2
baz=252
F31M **Tsiigehtchic** 25.33 36 P P 10 47 45.7 -0.7
baz=252
R33M **Jennings River** 25.45 55 P P 10 47 48.6 +0.7
baz=272
S34M **Telegraph Cree** 25.46 59 P P 10 47 48.6 +0.8
baz=275
V35K **Ketchikan** 25.53 65 P P 10 47 48.9 +0.5
baz=280
INK **Inuvik** 25.68 34 P P 10 47 49.3 -0.4
INK **Inuvik** 25.68 34 P P 10 47 49.6 0.0
baz=250
C36M **Paulatuk** 29.27 34 P P 10 48 21.6 -0.1
baz=259
A36M **Sachs Harbour** 29.51 29 P P 10 48 24.0 +0.2
A36M **Sachs Harbour** 29.51 29 P P 10 48 24.0 +0.2
baz=253
YKA **Yellowknife Ar** 33.09 47 P P 10 48 53.5 -1.9
comp=Z,0.1nm,0.3s,baz=274,slow=9.2,SNR=9.9
YKA PcP PcP 10 51 38.2 +1.2
comp=Z,0.5nm,0.4s,baz=288,slow=3.3,SNR=16
comp=Z,0.1nm,0.3s
GNW **Green Mountain** 33.25 76 P P 10 48 59.2 +2.3
GNW IAmb IAmb 10 49 00.0
comp=Z,8.3nm,0.8s
KLR **Kul'dur** 33.53 287 P P 10 48 58.4 -0.9
comp=Z,0.6nm,0.4s,baz=75,slow=8.7,SNR=4.4
comp=Z,0.6nm,0.4s
D05A **Enumclaw** 33.92 76 P P 10 49 03.6 +0.8
LON **Longmire** 34.24 77 P P 10 49 07.3 +1.7
LON IAmb IAmb 10 49 08.2
comp=Z,4.2nm,0.6s
KEBM **Edson Butte** 34.66 85 P P 10 49 11.2 +2.0
LTY **Liberty** 34.69 76 P P 10 49 10.9 +1.4
LTY IAmb IAmb 10 49 19.9
comp=Z,6.7nm,1.1s
H04D **Lebanon** 34.77 81 P P 10 49 12.4 +2.2
B08A **Colville Reser** 34.98 73 P P 10 49 13.0 +1.1
B08A IAmb IAmb 10 49 14.4
comp=Z,9.4nm,0.7s
H04A **Detroit Lake** 35.03 80 P P 10 49 14.1 +1.6
H04A IAmb IAmb 10 49 15.1
comp=Z,12nm,0.8s
H11N2 **WAKE ISLAND Hy** 35.08 211 T T 11 26 10.9
baz=18,slow=76,SNR=295
H11N3 **WAKE ISLAND Hy** 35.09 211 T T 11 26 10.2
baz=18,slow=76,SNR=223
H11N1 **WAKE ISLAND Hy** 35.10 211 T T 11 26 12.1
baz=18,slow=76,SNR=259
DBO **Dodson Butte** 35.20 83 P P 10 49 16.3 +2.4
DBO IAmb IAmb 10 49 19.9
comp=Z,25nm,1.5s
G05A **Wamic** 35.27 79 P P 10 49 16.5 +1.9
G05A IAmb IAmb 10 49 55.5
comp=Z,12nm,1.1s
I04A **Tendick Farm,** 35.35 82 P P 10 49 17.0 +1.7
I04A IAmb IAmb 10 49 17.6
comp=Z,9.1nm,0.7s
JSD **Sado** 35.40 266 P P 10 49 14.4 -1.2
G06A **Carlson Farm,** 35.69 79 P P 10 49 19.7 +1.5
G06A IAmb IAmb 10 49 31.7
comp=Z,3.4nm,1.1s
USRK **Ussuriysk Ar.** 35.77 279 P P 10 49 17.9 -0.9
comp=Z,1.1nm,0.6s,baz=64,slow=9.0,SNR=4.2
USRK PcP PcP 10 51 45.6 +0.5
comp=Z,1.2nm,0.8s,baz=75,slow=4.5,SNR=5.0
comp=Z,1.1nm,0.6s
HAWA **Hanford** 35.79 76 P P 10 49 20.7 +1.9
D08A **Wollman Farm,** 35.83 75 IAmb IAmb 10 49 21.3
comp=Z,12nm,0.8s
E08A **Dider Farm, El** 36.02 76 IAmb IAmb 10 49 22.7
comp=Z,5.2nm,0.6s
PINE **Pine Mountain** 36.26 81 P P 10 49 25.1 +2.0
PINE IAmb IAmb 10 49 26.4
comp=Z,14nm,1.2s
L04D **Klamath Falls** 36.27 84 P P 10 49 25.2 +2.0
H11S1 **WAKE ISLAND Hy** 36.28 211 T T 11 28 18.7
baz=20,slow=76,SNR=409
H11S2 **WAKE ISLAND Hy** 36.30 211 T T 11 28 21.9
baz=20,slow=76,SNR=258
H11S3 **WAKE ISLAND Hy** 36.30 211 T T 11 28 22.0
baz=20,slow=76,SNR=177
NEW **Newport** 36.34 72 IAmb IAmb 10 49 25.5
comp=Z,14nm,0.9s
NEW **Newport** 36.34 72 P P 10 49 24.9 +1.3
baz=298,SNR=13

J05D **Fort Rock, OR** 36.35 82 P P 10 49 26.4 +2.5
J05D IAmb IAmb 10 49 26.6
comp=Z,9.4nm,0.5s
G08A **Pilot Rock** 36.69 78 IAmb IAmb 10 49 28.8
comp=Z,11nm,1.5s
K05A **Summer Lake** 36.86 82 P P 10 49 31.1 +2.8
K05A IAmb IAmb 10 49 31.5
comp=Z,11nm,0.8s
I07A **Izee** 36.98 80 IAmb IAmb 10 49 31.7
comp=Z,7.2nm,0.6s
MDJ **Mudanjiang** 37.02 281 P P 10 49 29.5 +0.1
MDJ pP pP 10 49 45.8 0.0
F10A **Beach Ranch, E** 37.38 76 IAmb IAmb 10 49 48.6
comp=Z,4.1nm,0.8s
BMO **Blue Mountains** 37.91 77 IAmb IAmb 10 49 38.9
comp=Z,2.5nm,0.7s
J08A **Circle Bar Ran** 38.00 80 IAmb IAmb 10 49 40.3
comp=Z,8.8nm,0.7s
WVOR **Wild Horse Val** 38.41 81 P P 10 49 42.4 +1.1
WVOR IAmb IAmb 10 49 43.8
comp=Z,14nm,0.9s
PLID **Pearl Lake** 38.58 76 IAmb IAmb 10 49 44.4
comp=Z,6.1nm,1.4s
MFID **Camas Ranch** 39.58 78 IAmb IAmb 10 49 53.1
comp=Z,4.0nm,0.7s
HLID **Hailey** 40.36 77 IAmb IAmb 10 49 59.9
comp=Z,5.9nm,0.9s
HLID **Hailey** 40.36 77 P P 10 49 58.4 +0.8
baz=303,SNR=7.9
BMN **Battle Mountai** 40.43 83 IAmb IAmb 10 50 00.4
comp=Z,6.6nm,0.7s
EGMT **Eagleton** 40.76 69 IAmb IAmb 10 50 03.8
comp=Z,5.6nm,0.6s
EGMT **Eagleton** 40.76 69 P P 10 50 00.3 -0.4
baz=300
BOZ **Bozeman (W)** 40.93 73 IAmb IAmb 10 50 03.9
comp=Z,12nm,0.8s
BOZ **Bozeman (W)** 40.93 73 P P 10 50 03.2 +1.0
baz=302,SNR=17
NVAR **Mina Array Bea** 40.96 86 P P 10 50 04.6 +2.0
comp=Z,2.8nm,0.7s,baz=293,slow=8.3,SNR=22
comp=Z,2.8nm,0.7s
ELK **Elko** 41.47 81 P P 10 50 08.3 +1.5
ELK IAmb IAmb 10 50 09.0
comp=Z,9.2nm,0.7s
YHL **Hebgen Lake** 41.60 74 IAmb IAmb 10 50 10.4
comp=Z,28nm,1.5s
DSP **Deep Springs** 41.83 87 P P 10 50 12.1 +2.7
DSP IAmb IAmb 10 50 12.4
comp=Z,4.4nm,1.0s
TPH **Tonopah** 41.85 86 IAmb IAmb 10 50 12.2
comp=Z,20nm,0.9s
YNR **Norris Junctio** 41.97 73 IAmb IAmb 10 50 13.4
comp=Z,13nm,0.9s
YFT **Old Faithful** 42.02 74 IAmb IAmb 10 50 14.3
comp=Z,7.1nm,0.9s
VES **Vesal, Richgr** 42.10 90 P P 10 50 12.1 +0.4
baz=310
KSRS **Korea Array** 42.19 273 P P 10 50 14.2 +1.9
comp=Z,1.3nm,0.8s,baz=51,slow=9.9,SNR=4.6
comp=Z,1.3nm,0.8s
H17A **Grant Village** 42.21 74 IAmb IAmb 10 50 16.1
comp=Z,19nm,1.3s
H17A **Grant Village** 42.21 74 P P 10 50 15.0 +2.2
baz=304,SNR=11
LKWY **Lake** 42.22 73 IAmb IAmb 10 50 16.0
comp=Z,12nm,0.8s
IMW **Indian Meadow** 42.27 75 IAmb IAmb 10 50 15.7
comp=Z,6.8nm,0.8s
FLWY **Flagg Ranch** 42.31 74 IAmb IAmb 10 50 16.2
comp=Z,9.3nm,1.0s
HVU **Hansel Valley** 42.37 78 IAmb IAmb 10 50 16.2
comp=Z,9.6nm,0.6s
RLMT **Red Lodge** 42.58 72 IAmb IAmb 10 50 18.5
comp=Z,14nm,0.8s
RLMT **Red Lodge** 42.58 72 P P 10 50 17.1 +1.3
baz=303,SNR=14
R11B **Troy Canyon, C** 42.70 84 P P 10 50 17.3 +0.6
R11B IAmb IAmb 10 50 18.7
comp=Z,4.1nm,0.8s
R11B **Troy Canyon, C** 42.70 84 P P 10 50 17.9 +1.1
baz=308,SNR=9.0
BGU **Big Grassy Mou** 42.71 79 P P 10 50 18.5 +1.7
BGU IAmb IAmb 10 50 19.1
comp=Z,7.9nm,1.2s
Q12A **Willow Creek R** 42.74 83 IAmb IAmb 10 50 20.0
comp=Z,8.6nm,1.0s
MPMC **Manual Prospec** 42.96 88 P P 10 50 19.7 +0.8
baz=310
FURC **Furnace Creek,** 43.08 87 P P 10 50 20.8 +1.2
baz=310
HWUT **Hardware Ranch** 43.20 78 IAmb IAmb 10 50 24.0
comp=Z,5.2nm,0.8s
DUG **Dugway, Tooele** 43.28 80 P P 10 50 22.8 +1.4
DUG IAmb IAmb 10 50 23.6
comp=Z,27nm,1.2s
DUG **Dugway, Tooele** 43.28 80 P P 10 50 22.9 +1.5
baz=307,SNR=17
LAO **LASA Array** 43.51 68 IAmb IAmb 10 50 24.9
comp=Z,10nm,0.6s
LAO **LASA Array** 43.51 68 P P 10 50 24.2 +1.2
baz=303
CTU **Camp Tracy** 43.63 79 IAmb IAmb 10 50 26.1
comp=Z,11nm,0.9s
PSUT **Pine Spring** 43.65 83 IAmb IAmb 10 50 26.4
comp=Z,6.5nm,0.7s
DGMT **Dagmar** 43.71 65 P P 10 50 24.7 +0.1
baz=302
BW06 **Boulder Array** 43.74 75 P P 10 50 25.9 +0.7
baz=305,SNR=28
PD31 **Pinedale Array** 43.74 75 IAmb IAmb 10 50 27.0
comp=Z,15nm,0.8s
PDAR **Pinedale Array** 43.74 75 P P 10 50 26.1 +0.9
comp=Z,16nm,0.7s,baz=306,slow=3.9,SNR=140
PDAR PcP PcP 10 52 10.9 0.0
comp=Z,0.5nm,0.4s,baz=85,slow=1.1,SNR=5.0
GSC **Goldstone, Bar** 43.87 89 IAmb IAmb 10 50 28.1
comp=Z,5.3nm,1.1s
GSC **Goldstone, Bar** 43.87 89 P P 10 50 27.0 +0.9
baz=310,SNR=5.7
NLU **North Lily Min** 43.88 80 P P 10 50 27.7 +1.4
NLU IAmb IAmb 10 50 28.3
comp=Z,7.7nm,0.8s
BFSC **Mount Baldy Ra** 44.03 90 P P 10 50 28.0 +0.5
baz=311
MPU **Maple Canyon** 44.11 80 IAmb IAmb 10 50 30.1
comp=Z,7.6nm,0.6s
BSUT **Blindstream Ca** 44.33 78 IAmb IAmb 10 50 33.0
comp=Z,5.4nm,0.6s
HEC **Hector,Ludlow** 44.47 89 P P 10 50 31.4 +0.6
baz=311
GMRC **Granite Mounta** 44.92 88 P P 10 50 34.4 -0.1
baz=311
LCMT **Little Creek M** 44.98 84 IAmb IAmb 10 50 37.5
comp=Z,3.3nm,0.8s
P17A **Butcher Ranch,** 44.99 80 IAmb IAmb 10 50 37.2
comp=Z,11nm,0.6s
Q16A **Castle Valley** 45.06 81 IAmb IAmb 10 50 38.0
comp=Z,25nm,1.4s
P18A **Preston Nutter** 45.19 79 IAmb IAmb 10 50 39.1
comp=Z,9.4nm,0.8s
TPFO **Pinon Flats** 45.20 90 P P 10 50 36.5 -0.3
baz=312
KNB **Kanab** 45.24 84 P P 10 50 38.2 +1.1
KNB IAmb IAmb 10 50 39.5
comp=Z,4.4nm,0.9s
SRU **San Rafael Swe** 45.34 80 IAmb IAmb 10 50 40.4
comp=Z,12nm,0.6s
K22A **Casper** 45.62 73 IAmb IAmb 10 50 41.3
comp=Z,9.2nm,0.7s
K22A **Casper** 45.62 73 P P 10 50 40.5 +0.5
baz=306,SNR=5.4
MONP2 **Monument Peak** 45.70 91 P P 10 50 40.8 0.0
baz=312
RWWY **Rawlins** 45.78 75 IAmb IAmb 10 50 44.2
comp=Z,8.1nm,0.8s
SWSC **Sam W. Stewart** 46.05 90 P P 10 50 43.8 +0.5
baz=312
O20A **White River Ci** 46.10 77 P P 10 50 44.9 +1.0
baz=308,SNR=24
PDMCI **Parker Dam,Lak** 46.18 88 P P 10 50 45.0 +0.7
baz=311
RSSD **Black Hills** 46.23 70 P P 10 50 45.4 +0.5
RSSD IAmb IAmb 10 50 45.8
comp=Z,4.7nm,0.6s
RSSD **Black Hills** 46.23 70 P P 10 50 45.3 +0.5
baz=306
GLA **Glamis** 46.58 89 P P 10 50 47.7 +0.1

baz=312
MDND **Maddock** 46.62 64 P P 10 50 48.2 +0.6
baz=304
PV21 **Cone Mtn., Par** 46.63 79 P P 10 50 48.8 +0.7
PV21 IAmb IAmb 10 50 49.4
comp=Z,7.3nm,0.7s
PV23 **Carpenter Ridg** 46.68 80 P P 10 50 49.3 +0.8
PV23 IAmb IAmb 10 50 55.5
comp=Z,7.8nm,0.6s
E28A **Huff** 46.74 66 IAmb IAmb 10 50 49.9
comp=Z,13nm,0.8s
N23A **Red Feather La** 47.02 75 IAmb IAmb 10 50 53.8
comp=Z,9.4nm,1.0s
N23A **Red Feather La** 47.02 75 P P 10 50 52.5 +1.3
baz=308,SNR=7.6
WUAZ **Wupatki** 47.10 84 IAmb IAmb 10 50 54.0
comp=Z,7.2nm,0.9s
WUAZ **Wupatki** 47.10 84 P P 10 50 52.8 +1.2
baz=311,SNR=5.4
ULM **Lac du Bonnet** 47.31 59 P P 10 50 52.5 -0.4
comp=Z,1.9nm,0.4s,baz=302,slow=9.0,SNR=7.5
comp=Z,1.9nm,0.4s
SMCO **Snowmass** 47.46 77 IAmb IAmb 10 50 56.1
comp=Z,3.9nm,0.6s
MVCO **Mesa Verde** 47.78 81 IAmb IAmb 10 50 59.5
comp=Z,5.7nm,1.1s
MVCO **Mesa Verde** 47.78 81 P P 10 50 57.9 +0.9
baz=310,SNR=7.1
ISCO **Idaho Springs** 47.90 76 IAmb IAmb 10 51 01.4
comp=Z,6.9nm,1.3s
ISCO **Idaho Springs** 47.90 76 P P 10 50 58.0 0.0
baz=308,SNR=5.3
W18A **Petrified Fore** 48.37 84 IAmb IAmb 10 51 03.7
comp=Z,6.3nm,0.9s
W18A **Petrified Fore** 48.37 84 P P 10 51 01.5 0.0
baz=311
AGMN **Agassiz Nation** 48.43 61 IAmb IAmb 10 51 02.0
comp=Z,4.1nm,0.7s
AGMN **Agassiz Nation** 48.43 61 P P 10 51 00.7 -0.9
baz=305
214A **Organ Pipe Nat** 48.58 89 P P 10 51 03.7 +0.7
baz=313
Q24A **Divide** 48.70 76 IAmb IAmb 10 51 36.7
comp=Z,6.5nm,1.5s
Q24A **Divide** 48.70 76 P P 10 51 05.2 +0.9
baz=309
SONM **Songino Array** 48.74 298 PcP PcP 10 52 29.2 +1.0
comp=Z,0.7nm,0.6s,baz=58,slow=3.8,SNR=3.7
SUSD **Miller** 48.98 67 P P 10 51 06.4 +0.5
baz=307
SDCO **Great Sand Dun** 49.26 78 IAmb IAmb 10 51 10.6
comp=Z,4.7nm,0.7s
SDCO **Great Sand Dun** 49.26 78 P P 10 51 09.8 +1.3
baz=310,SNR=10.0
OGNE **Ogallala** 49.33 72 P P 10 51 09.5 +0.8
baz=308
TUC **Tucson** 49.59 87 P P 10 51 12.1 +1.2
TUC IAmb IAmb 10 51 12.7
comp=Z,4.4nm,1.1s
TUC **Tucson** 49.59 87 P P 10 51 11.9 +1.1
baz=313
HHC **Hu-ho-hao-te** 50.03 288 eP P 10 51 11.5 -2.5
HHC pP pP 10 51 31.3 +0.2
HHC PP PP 10 53 08.8 -0.5
HHC S S 10 58 10.4 -9.5
HHC sS sS 10 58 45.8 -2.9
HHC ScS ScS 11 00 44.8 -14
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,140nm,4.5s
HHC LR LR
comp=N,440nm,16.1s
HHC LR LR
comp=E,330nm,15.3s
HHC LR LR
comp=Z,320nm,14.5s
SPITS **Spitsbergen Ar** 50.14 357 P P 10 51 14.1 -0.2
comp=Z,17nm,1.2s,baz=51,slow=5.8,SNR=6.3
comp=Z,17nm,1.2s
KSCO **Kaye Shedlock'** 50.19 75 P P 10 51 17.1 +1.7
baz=310
T25A **Trinidad** 50.32 78 P P 10 51 17.8 +1.4
baz=310,SNR=8.0
ANMO **Albuquerque** 50.50 81 P P 10 51 18.9 +1.1
baz=312
ECSD **EROS Data Cent** 50.75 66 IAmb IAmb 10 51 19.2
comp=Z,6.4nm,0.7s
EYMN **Ely** 50.99 59 P P 10 51 21.7 +0.6
baz=307
121A **Cookes Peak, D** 51.30 85 P P 10 51 24.1 +0.3
baz=313
BGNE **Belgrade** 51.32 70 P P 10 51 23.9 +0.3
baz=309
SPMN **Marine on St.** 51.96 63 P P 10 51 27.8 -0.5
baz=308
CBKS **Cedar Bluff** 52.04 73 P P 10 51 30.2 +1.1
baz=310
MNTX **Cornudas Mount** 53.36 84 P P 10 51 40.0 +1.2
baz=314,SNR=5.7
MSTX **Muleshoe** 53.41 80 IAmb IAmb 10 51 41.5
comp=Z,14nm,1.0s
MSTX **Muleshoe** 53.41 80 P P 10 51 40.0 +0.6
baz=313
AMTX **Amarillo** 53.47 78 P P 10 51 39.9 +0.2
baz=312
KSU1 **Kansas State U** 53.70 71 P P 10 51 41.5 +0.2
baz=311
SCIA **State Center** 53.84 66 P P 10 51 42.6 +0.4
baz=310
VHRN **Van Horn** 54.23 84 IAmb IAmb 10 51 47.3
comp=Z,3.8nm,0.9s
DKNS **Dickens** 54.75 79 IAmb IAmb 10 51 50.5
comp=Z,8.3nm,0.6s
JFWS **Jewell Farm** 54.85 63 P P 10 51 49.1 -0.4
baz=311
SN07 **Snyder 07** 55.16 79 IAmb IAmb 10 51 53.2
comp=Z,4.7nm,0.7s
T35A **Sooner Cattle** 55.21 73 IAmb IAmb 10 51 52.9
comp=Z,8.9nm,0.8s
OK048 **Pawnee Station** 55.29 74 IAmb IAmb 10 51 54.1
comp=Z,9.0nm,1.0s
WMOK **Wichita Mounta** 55.32 76 IAmb IAmb 10 51 54.6
comp=Z,8.3nm,0.9s
WMOK **Wichita Mounta** 55.32 76 P P 10 51 53.6 +0.6
baz=313,SNR=9.5
ALPN **Alpine** 55.35 84 IAmb IAmb 10 51 54.6
comp=Z,3.6nm,0.8s
OK033 **Mehan** 55.54 74 IAmb IAmb 10 51 55.5
comp=Z,9.1nm,0.7s
SGCY **Sterling City** 55.83 80 P P 10 51 57.3 +0.5
DEOK **Depew** 55.94 74 P P 10 51 57.7 +0.3
DEOK IAmb IAmb 10 51 58.6
comp=Z,13nm,0.9s
TX31 **Lajitas Ar. Si** 56.06 84 IAmb IAmb 10 51 59.9
comp=Z,4.0nm,0.9s
TXAR **Lajitas Array** 56.06 84 P P 10 51 59.2 +0.7
comp=Z,3.4nm,0.8s,baz=295,slow=5.0,SNR=41
TXAR PcP PcP 10 52 56.2 +0.2
comp=Z,0.5nm,0.6s,baz=279,slow=1.7,SNR=2.4
comp=Z,3.4nm,0.8s
WTFS **Witchita Falls** 56.17 77 IAmb IAmb 10 52 00.5
comp=Z,9.4nm,0.8s
ABTX **Abilene, Hawle** 56.24 79 IAmb IAmb 10 52 01.4
comp=Z,13nm,1.1s
ABTX **Abilene, Hawle** 56.24 79 P P 10 52 00.6 +0.9
baz=314
TUL3 **Leonard** 56.32 73 P P 10 52 00.7 +0.6
baz=313
OZNA **Ozona** 56.52 81 IAmb IAmb 10 52 02.6
comp=Z,6.3nm,0.7s
S39A **Bolivar** 56.57 70 IAmb IAmb 10 52 01.1
comp=Z,5.2nm,0.8s
L44A **Lake County Fo** 56.63 63 P P 10 52 02.4 +0.2
baz=312
GLMI **Grayling** 56.64 58 P P 10 52 02.3 -0.1
baz=312
U38A **Gravette** 56.79 72 IAmb IAmb 10 52 03.8
comp=Z,6.4nm,0.8s
HDIL **Hopedale** 56.95 65 P P 10 52 04.0 -0.5
baz=312
HHAR **Hobbs** 57.16 72 IAmb IAmb 10 52 07.5
comp=Z,6.5nm,1.0s
CCM **Cathedral Cave** 57.53 68 P P 10 52 07.8 -0.9
CCM IAmb IAmb 10 52 08.7
comp=Z,13nm,1.1s
CCM **Cathedral Cave** 57.53 68 P P 10 52 07.6 -1.0
baz=313

MGMO	Mountain Grove	57.55	70	P		P		10 52 07.8 -1.1
BRDY	Brady	57.56	79	IAmb		IAmb		10 52 10.1
	comp=Z,4.3nm,0.9s							
LZH	Lanzhou	57.71	289	*e*P		P		10 52 09.8 -0.4
LZH				pP		pP		10 52 29.3 +1.7
LZH				pmax		pmax		
	comp=Z,14nm,1.0s							
DRIO	Del Rio	57.88	82	IAmb		IAmb		10 52 11.5
	comp=Z,3.5nm,0.7s							
WHTX	Lake Whitney,	58.01	78	P		P		10 52 13.1 +1.0
	baz=314,SNR=11							
SFIN	Lafayette	58.30	64	P		P		10 52 14.3 +0.3
	baz=313							
MIAR	Mount Ida	58.57	73	P		P		10 52 16.4 +0.4
	baz=314,SNR=7.8							
CGM3	Cape Girardeau	58.96	68	IAmb		IAmb		10 52 18.5
	comp=Z,5.6nm,0.6s							
833A	Chaparral WMA,	59.41	82	P		P		10 52 22.1 +0.2
	baz=316							
O48B	Farmland	59.46	63	P		P		10 52 22.1 0.0
	baz=314							
P49A	Miami Univ. Ec	60.20	63	P		P		10 52 26.9 -0.3
	baz=314							
WCI	Wyandotte Cave	60.23	65	P		P		10 52 27.2 -0.2
WCI	Wyandotte Cave	60.23	65	P		P		10 52 27.4 0.0
	baz=314							
DELO	Deloro Mine	60.48	55	P		P		10 52 29.4 +0.4
KURK	Kurchatov	60.57	316	P		P		10 52 29.8 +0.3
KURK				IAmb		IAmb		10 52 54.3
	comp=Z,1.5nm,0.8s							
T47A	Sharon Grove	60.64	67	P		P		10 52 30.4 +0.2
ACSO	Alum Creek Sta	60.67	61	P		P		10 52 30.4 0.0
	baz=314							
KURBB	Kurchatov Arra	60.68	316	P		P		10 52 30.6 +0.4
	comp=Z,0.8nm,0.4s,baz=45,slow=6.5,SNR=9.6							
	comp=Z,0.8nm,0.4s							
WVT	Waverly	60.83	68	P		P		10 52 31.9 +0.5
WVT				IAmb		IAmb		10 52 32.3
	comp=Z,9.9nm,1.0s							
WVT	Waverly	60.83	68	P		P		10 52 32.1 +0.6
	baz=315							
OXF	Oxford	61.05	70	P		P		10 52 33.5 +0.5
	baz=315,SNR=6.2							
P52A	Corning	61.55	61	P		P		10 52 36.4 0.0
	baz=315							
O53A	New Philadelph	61.62	60	P		P		10 52 36.5 -0.3
	baz=315							
MKAR	Makanchi Array	61.77	311	P		P		10 52 37.1 -0.6
	comp=Z,0.2nm,0.3s,baz=44,slow=6.5,SNR=7.4							
	comp=Z,0.2nm,0.3s							
LONY	Lake Ozonia	61.93	53	P		P		10 52 38.5 -0.3
	baz=316							
L56A	Greenwood	62.21	57	P		P		10 52 41.4 +0.6
BVAR	Borovoye Array	62.21	322	P		P		10 52 40.5 -0.1
	comp=Z,1.0nm,0.4s,baz=50,slow=6.4,SNR=9.1							
	comp=Z,1.0nm,0.4s							
TZTN	Tazewell	62.97	65	P		P		10 52 44.5 -1.4
	baz=316							
BINY	Binghamton	62.97	56	P		P		10 52 45.5 -0.3
	baz=316							
SSPA	Standing Stone	63.11	58	P		P		10 52 45.8 -0.9
	baz=316							
LRAL	Lakeview Retre	63.51	70	P		P		10 52 48.7 -0.8
	baz=316							
BLA	Blacksburg	64.23	62	P		P		10 52 53.7 -0.4
	baz=316							
BG3	Lake Jocassee	64.43	65	IAmb		IAmb		10 52 56.6
	comp=Z,13nm,0.8s							
KMSC	Kings Mountain	65.22	64	P		P		10 53 01.0 +0.4
	baz=317							
GOGA	Godfrey	65.28	67	P		P		10 53 00.6 -0.3
	baz=317							
FINES	FINESS Array B	65.93	349	P		P		10 53 05.6 +0.9
	comp=Z,1.3nm,0.7s,baz=4.2,slow=5.7,SNR=4.3							
	comp=Z,1.3nm,0.7s							
NOA	NORSAR Array B	67.45	357	P		P		10 53 13.5 -1.0
	comp=Z,0.6nm,0.7s,baz=5.5,slow=6.6,SNR=2.5							
	comp=Z,0.6nm,0.7s							
HFS	Hagfors	68.25	355	P		P		10 53 18.3 -1.2
	comp=Z,1.7nm,0.4s,baz=318,slow=2.0,SNR=12							
	comp=Z,1.7nm,0.4s							
CHTO	Chiang Mai	73.23	279			P		10 53 48.0 -2.4
CHTO				IAmb		IAmb		10 53 58.8
	comp=Z,6.1nm,0.9s							
CM31	Chiang Mai Arr	73.50	279	P		P		10 53 49.7 -2.3
CM31				IAmb		IAmb		10 54 22.6
	comp=Z,7.2nm,0.9s							
CMAR	Chiang Mai Arr	73.50	279			P		10 53 49.3 -2.7
WRA	Warramunga Arr	84.11	227	P		P		10 54 49.9 0.0
	comp=Z,0.8nm,0.5s,baz=33,slow=5.8,SNR=20							
	comp=Z,0.8nm,0.5s							
ASAR	Alice Springs	87.55	226	P		P		10 55 07.5 +0.7
	comp=Z,2.0nm,0.7s,baz=26,slow=5.0,SNR=27							
	comp=Z,2.0nm,0.7s							
TORD	Torodi Ar. Bea	115.28	4	PKP		PKiKP		11 00 59.6 -0.8
	comp=Z,0.6nm,0.5s,baz=358,slow=2.9,SNR=6.8							
H03N2	Juan Fernandez	118.81	108	T		T		13 11 59.2
	baz=317,slow=77,SNR=23							
H03N1	Juan Fernandez	118.82	108	T		T		13 11 59.1
	baz=317,slow=77,SNR=31							
H03N3	Juan Fernandez	118.82	108	T		T		13 11 58.2
	baz=317,slow=77,SNR=25							
DBIC	Dimbokro	121.14	12	PKP		PKPdf		11 01 10.6 -1.1
	comp=Z,1.5nm,0.5s,baz=198,slow=0.6,SNR=3.6							

ASIES **14** *10:48:43.0,24.˚15N×121.˚84E,h8km,ML4.3,Mw4.5, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}1.26; $M_{\theta\theta}$-2.12; $M_{\phi\phi}$0.82; $M_{r\theta}$4.91; $M_{r\phi}$-1.77; $M_{\theta\phi}$-2.16; Fault plane solution: $M_0$5.94102×10^{22} NP1: ϕ_s107.67000°,δ84.12000°,λ113.33000°. NP2: ϕ_s211.04000°,δ24.02000°,λ14.58000°. Principal axes: T Plg45.9170°, Azm41.4110°; N Plg23.2000°, Azm285.1450°; P Plg34.9890°, Azm177.6880°;*

TAP **14** *10:48:43.0,24.˚15N×121.˚84E,h8km,ML4.3,C*

NEIC **14** *10:48:43.3±1.1,24.˚12N±0.˚03×121.˚84E±0.˚02,h10km±1km, mb4.4/20,Error ellipse: s-maj=5.0km s-min=2.9km az=334.0*

IDC **14** *10:48:43.0±0.8,24.˚01N×121.˚81E,h0km,mb3.8/19, mbtmp3.8/21,ML3.2/2,MS3.8/42,Error ellipse: s-maj=21.9km s-min=16.0km az=69.0*

BJI **14** *10:48:44.1±0.0,24.˚10N×121.˚99E,h5km,mb4.2/29, mB4.6/13,ML4.5/10,Ms4.6/40,Ms7 4.5/33*

NIED **14** *10:48:44.1,24.˚12N×121.˚77E,h10km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.05; $M_{\theta\theta}$-2.24; $M_{\phi\phi}$1.18; $M_{r\theta}$2.07; $M_{\theta\phi}$0.55; $M_{r\phi}$3.67; Fault plane solution: $M_0$4.46000×10^{15} NP1:ϕ_s43.00000°, δ86.00000°,λ67.00000°. NP2:ϕ_s303.00000°,δ23.00000°, λ169.00000°.*

JMA **14** *10:48:44.1±0.1,24.˚1N±0.˚3×121.˚8E±0.˚4,h10km±1km, MD4.9/19,MV4.5/19,TAIWAN REGION*

MOS **14** *10:48:44.2±1.3,24.˚04N×121.˚74E,h22km,mb4.5/19,Error ellipse: s-maj=10.5km s-min=7.0km az=100.7*

ISC 14 10:48:44.1±1.0,24.˚14N±0.˚02×121.˚82E±0.˚02,h2km±6km, n367,σ1s81/330,mb4.1/45,MS3.9/44,29C-45D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EHP	Heping Village	0.18	336	⇓P		Pg	10 48 47.3	-0.3
	baz=330							
EHP				S		Sg	10 48 51.0	+1.0
	baz=330							
ETL	Fush Village	0.18	275	⇓*i*P		Pg	10 48 47.6	-0.1
	baz=275							
ETL				*e*S		Sg	10 48 51.7	+1.6
	baz=275							
EAHA	Aohua	0.20	337	⇓*i*P		Pg	10 48 47.6	-0.3
	baz=333							
NACB	Ninganchiao	0.21	278			Pg	10 48 48.0	-0.2
NACB	Ninganchiao	0.21	278	P		Pg	10 48 48.0	-0.2
NACB	Ninganchiao	0.21	278	⇓*i*P		Pg	10 48 48.0	-0.2
	baz=284							
TWD	Chiawan	0.22	253	⇑*i*P		Pg	10 48 48.3	0.0
	baz=265							
HWA	Hwalien	0.26	230	P		Pg	10 48 49.9	+0.8
	baz=246							
ENA	Nanau	0.29	345	⇓*i*P		Pg	10 48 49.3	-0.4
	baz=331							
EWUT	Wuta	0.30	352	⇓*i*P		Pg	10 48 49.6	-0.3
	baz=337							
ETLH	Xiulin Townshi	0.32	281	P		Pg	10 48 50.1	-0.2
	baz=282							
LXIB	Xiulin Townshi	0.39	252	⇑*i*P		Pg	10 48 51.5	-0.2
	baz=267							
SHUL	Shoufeng	0.43	214	⇑*e*P		Pg	10 48 54.1	+1.8
	baz=220							
SHUL				S		Sg	10 48 59.4	+1.6
	baz=220							
ESAO	Su ao	0.43	2	⇓*i*P		Pg	10 48 52.0	-0.4
	baz=348							
ESAO				*e*S		Sg	10 48 57.7	-0.3
	baz=348							
EOS4	EOS4	0.45	93	*e*P		Pg	10 48 54.2	+1.5
	baz=101							
EOS2	EOS2	0.46	54	*e*P		Pg	10 48 53.9	+1.0
	baz=56							
TWC	Suao	0.46	3	⇓*i*P		Pg	10 48 52.6	-0.4
	baz=347							
TWC				*e*S		Sg	10 48 59.0	-0.1
	baz=347							
EOS3	EOS3	0.47	72	*e*P		Pg	10 48 54.5	+1.4
	baz=69							
LATG	Datong	0.47	325	⇓*i*P		Pg	10 48 53.0	-0.3
	baz=320							
LATG				S		Sg	10 49 00.3	+0.9
	baz=320							
ESL	Shilin	0.48	227	⇑P		Pg	10 48 53.5	+0.1
	baz=230							
NNSB	Datong	0.49	305	⇓*i*P		Pg	10 48 53.4	-0.2
	baz=305							
NNSH	Datong	0.49	305	⇓*i*P		Pg	10 48 53.4	-0.2
	baz=304							
NDS	Dongshan	0.50	349	⇓*i*P		Pg	10 48 53.4	-0.2
	baz=341							
NDS				*e*S		Sg	10 48 59.1	-1.0
	baz=341							
NNS	Nan Shan	0.51	306	⇓*i*P		Pg	10 48 53.6	-0.3
	baz=305							
WHF	Hehuan Shan	0.51	270	P		Pg	10 48 53.9	0.0
	baz=272							
WHF				*e*S		Sg	10 49 01.0	+0.5
	baz=272							
NDT	Datong Townshi	0.54	328	⇓*i*P		Pg	10 48 54.3	-0.1
	baz=323							
NDT				S		Sg	10 49 02.1	+0.7
	baz=323							
FUSS	Fushou	0.54	281	⇓*i*P		Pg	10 48 54.6	+0.2
	baz=283							
WARBT	Fenglin Townsh	0.58	223	⇑*i*P		Pg	10 48 55.3	+0.1
	baz=226							
TWE	Neicheng	0.59	346	⇓*i*P		Pg	10 48 55.3	-0.2
	baz=344							
EGFH	Guangfu	0.60	218	P		Pg	10 48 56.1	+0.5
	baz=220							
CHGB	Renai	0.60	262	⇑*i*P		Pg	10 48 55.7	+0.1
	baz=263							
TWT	Tachien	0.60	281	P		Pg	10 48 56.0	+0.3
	baz=288							
TDCB	Techi	0.62	280	⇓*i*P		Pg	10 48 56.1	+0.2
	baz=288							
OWD	Renai	0.62	252	⇑P		Pg	10 48 55.9	-0.1
	baz=261							
ILA	Ilan	0.62	354	*e*P		Pg	10 48 55.3	-0.8
	baz=341							
FUSB	Fushanzhiwuyua	0.65	341	⇓*i*P		Pg	10 48 56.5	-0.1
	baz=328							
WUSB	Renai	0.66	257	⇑*i*P		Pg	10 48 56.9	+0.1
	baz=259							
YHNB	Yeheng	0.66	322			Pg	10 48 56.9	0.0
YHNB	Yeheng	0.66	322	P		Pg	10 48 56.9	0.0
YHNB	Yeheng	0.66	322	⇓*i*P		Pg	10 48 56.8	0.0
	baz=326							
NSK	Sanguang	0.68	321	⇓*i*P		Pg	10 48 57.0	-0.1
	baz=319							
NWLT	Wulai	0.69	335	⇓P		Pg	10 48 57.3	-0.1
	baz=332							
EGS		0.70	8	⇓*i*P		Pg	10 48 57.4	-0.2
	baz=4.0							
VWDT	VWDT	0.73	238	⇑*i*P		Pg	10 48 58.4	+0.2
	baz=249							
HGSD	Ruisui	0.74	209	P		Pg	10 48 58.7	+0.3
	baz=212							
EHYH	Wanrong	0.78	214	*e*P		Pg	10 48 59.2	+0.1
	baz=230							
EHY	Hungye	0.78	216	P		Pg	10 48 58.6	-0.5
	baz=232							
WPL	Puli Township	0.80	261	*e*P		Pg	10 48 59.8	+0.3
	baz=263							
NFF	Wufeng Townshi	0.81	307	⇓P		Pg	10 48 59.6	+0.1
	baz=306							
WHP	Taichung City	0.81	280	⇓*i*P		Pg	10 49 00.1	+0.5
	baz=280							
TIPB	Shuangxi	0.82	0	P		Pg	10 48 59.4	-0.5
	baz=2.0							
DPDB	Guoxing	0.83	263	*e*P		Pg	10 48 59.9	-0.1
	baz=265							
WCS	Beigang Elemen	0.84	264	*e*P		Pg	10 49 00.2	0.0
	baz=266							
TWA	Mucha	0.86	345	P		Pg	10 49 00.5	-0.1
	baz=333							
SSLB	Suanglung	0.87	246			Pg	10 49 00.3	-0.5
SSLB	Suanglung	0.87	246	P		Pg	10 49 01.4	+0.6
SSLB	Suanglung	0.87	246	⇑*i*P		Pg	10 49 00.7	-0.2
	baz=235							
TWB1	Santiao Chiao	0.87	10	*e*P		Pg	10 49 00.2	-0.6
	baz=356							
TATO	Taipei	0.88	340			Pg	10 49 00.7	-0.3
TATO	Taipei	0.88	340	P		Pg	10 49 01.0	0.0
TATO	Taipei	0.88	340	⇓*i*P		Pg	10 49 00.7	-0.3
	baz=336							
SMLT	Sun Moon Lake	0.88	253	⇑P		Pg	10 49 01.2	+0.1
	baz=254							
LIOB	Emei	0.89	304	⇓*i*P		Pg	10 49 01.7	+0.5
	baz=304							
YULB	Yu-li	0.89	213			Pg	10 49 00.0	-1.1
YULB	Yu-li	0.89	213	P		Pg	10 49 01.2	0.0
YULB	Yu-li	0.89	213	⇓P		Pg	10 49 00.2	-1.0
	baz=228							
ECBN	Changbin	0.89	203	*e*P		Pg	10 49 01.2	0.0
	baz=206							
NJD	Zhudong	0.89	311	*e*P		Pg	10 49 01.8	+0.6
	baz=317							
NSTT	Nanjuang	0.89	303	⇓*i*P		Pg	10 49 01.5	+0.3
	baz=303							
TYC	Yuchr	0.92	255	⇑P		Pg	10 49 01.5	-0.2
	baz=257							
EYUL	Yuli	0.92	210	*e*P		Pg	10 49 02.8	+1.1
	baz=225							
NHY	Taipei	0.92	346	*e*P		Pg	10 49 01.4	-0.4
	baz=333							
NWF	Wu-fen Shan	0.92	358	⇓P		Pg	10 49 01.6	-0.2
	baz=344							
TWF1	Yuli	0.92	212	*e*P		Pg	10 49 01.1	-0.7
	baz=226							
WFSB	Wu-fen Shan	0.92	358	⇓*i*P		Pg	10 49 01.7	-0.1
	baz=344							
TAP	Taipei	0.94	342	*e*P		Pg	10 49 01.9	-0.2
	baz=331							
SXI1	Grass Mountain	0.95	3	⇓P		Pg	10 49 02.1	-0.2
	baz=3.0							
HSN1	Hsinchu	0.97	311	*e*P		Pg	10 49 03.3	+0.6
	baz=310							
NTY	Taoyuan	0.98	331	*e*P		Pg	10 49 02.6	-0.3
	baz=328							
TWQ1	Liyutan	0.98	282	*e*P		Pg	10 49 03.6	+0.7
	baz=284							
WHYT	Xinyi Township	0.99	244	*e*P		Pg	10 49 03.5	+0.3
	baz=236							
SBCB	Hsinchu	1.00	310	⇓*e*P		Pg	10 49 04.1	+0.8
	baz=309							
TNOU	National Taiwa	1.00	357	*e*P		Pg	10 49 03.1	-0.3
	baz=352							
NCUH	Zhongli	1.00	325	*e*P		Pg	10 49 04.0	+0.6
	baz=317							
NCU	National Centr	1.01	325	*e*P		Pg	10 49 04.2	+0.7
	baz=317							
NSY	Sanyi	1.01	286	⇓*e*P		Pg	10 49 04.4	+1.0
	baz=287							
HSN	Hsinchu	1.02	310	*e*P		Pg	10 49 04.0	+0.4
	baz=312							
NMLH	Miaoli	1.02	293	*e*P		Pg	10 49 04.0	+0.3
	baz=300							
TWS1	Kuangyinshan	1.02	339	*e*P		Pg	10 49 04.0	+0.3
	baz=326							
YM01	YM01	1.02	347	⇓*i*P		Pg	10 49 03.6	-0.1
	baz=342							
CHKH	Chenggong	1.03	203	*e*P		Pg	10 49 03.1	-0.6
	baz=195							
WWF	Wufeng	1.03	265	*e*P		Pb	10 49 05.1	+0.4
	baz=267							
TCU	Taichung	1.05	270	*e*P		Pn	10 49 05.7	0.0
	baz=273							
WJS	Zhushan	1.05	252	*e*P		Pg	10 49 05.3	+1.0
	baz=255							
FULB	Fuli	1.06	207	*e*P		Pg	10 49 03.9	-0.5
	baz=200							
YM08	YM08	1.06	348	⇓P		Pg	10 49 04.1	-0.4
	baz=328							
NWRT	Kuosheng	1.06	352	*e*P		Pg	10 49 04.3	-0.2
	baz=336							
JYNG	Yonagunijimaku	1.07	73	P		Pg	10 49 05.1	+0.5
JYNG				S		Sb	10 49 19.7	0.0
JYNG	Yonagunijimaku	1.07	73	A		A	10 49 05.1	
	comp=E,32nm,2.8s,comp=N,46nm,5.3s							
NTST	Danshui	1.07	342	*e*P		Pg	10 49 04.5	-0.2
	baz=337							
WNT1	Nantou City	1.07	258	*e*P		Pg	10 49 04.6	-0.1
	baz=260							
ANP	Anpu	1.07	345	⇓P		Pg	10 49 04.3	-0.4
	baz=340							
WNT	Mingjian	1.07	256	*e*P		Pg	10 49 05.3	+0.6
	baz=259							
WDJ	Dajia District	1.10	281	*e*P		Pn	10 49 06.5	0.0
	baz=283							
NHW	Xinwu Township	1.11	321	*e*P		Pb	10 49 05.6	-0.5
	baz=318							
CHKT	Chengkung	1.12	202	*e*P		Pb	10 49 05.1	-1.1
	baz=185							
ALS	Alishan	1.13	236	⇓P		Pg	10 49 05.8	+0.1
	baz=239							
YOJ	Yonaguni jima	1.13	73	Pn		Pb	10 49 05.7	-0.6
YOJ	Yonaguni jima	1.13	73	P		Pb	10 49 06.5	+0.2
YOJ	Yonaguni jima	1.13	73	P		Pb	10 49 05.7	-0.6
YOJ	Yonaguni jima	1.13	73	P		Pb	10 49 05.9	-0.4
	baz=76							
YOJ	Yonaguni jima	1.13	73	P		Pb	10 49 06.3	-0.1
YOJ				S		Sb	10 49 21.1	-0.3
EHD	Haiduan	1.14	210	*e*P		Pb	10 49 06.0	-0.5
	baz=214							
TWY	Chenhua	1.15	350	*e*P		Pb	10 49 05.4	-1.2
	baz=329							
WYL	Yuanlin Townsh	1.15	261	*e*P		Pn	10 49 07.3	+0.2
	baz=265							
WCHH	Zhanghua	1.16	267	*e*P		Pn	10 49 08.1	+0.8
	baz=270							
CHN5	Tsauling	1.18	243	*e*P		Pb	10 49 07.4	+0.2
	baz=247							
ECS	Chishang	1.18	208	*e*P		Pb	10 49 06.5	-0.8
	baz=228							
ELDTW	Lidau	1.20	218	*e*P		Pb	10 49 05.3	-2.4
	baz=221							
WGK	Gukeng	1.24	249	*e*P		Pn	10 49 08.2	-0.2
	baz=253							
WDLH	Douliu	1.26	249	*e*P		Pn	10 49 08.8	+0.1
	baz=253							
WCKO	Fanlu	1.32	238	*e*P		Pn	10 49 09.7	+0.2
	baz=242							
WRL	Guolierlin Hig	1.34	260	*e*P		Pn	10 49 09.8	0.0
	baz=264							
RLNB	Erlin	1.36	260	*e*P		Pn	10 49 10.1	0.0
	baz=264							
STYH	Taoyuan	1.36	225	*e*P		Pn	10 49 09.1	-1.1
	baz=213							
CHN4	Tsaushan	1.38	235	⇓P		Pn	10 49 10.1	-0.2
	baz=239							
CHN2	Minshiung	1.38	244	*e*P		Pn	10 49 10.4	+0.1
	baz=248							
TPUB	Ta-pu	1.38	233	Pn		Pn	10 49 10.0	-0.4
TPUB	Ta-pu	1.38	233	P		Pn	10 49 10.5	+0.1
TPUB	Ta-pu	1.38	233	⇓*i*P		Pn	10 49 09.9	-0.4
	baz=218							
STYT	Tauyuan	1.38	225	⇓P		Pn	10 49 09.2	-1.2
	baz=213							
LONT	Longtian	1.39	207	*e*P		Pn	10 49 08.1	-2.4
	baz=211							
WTK	Tuku	1.39	251	*e*P		Pn	10 49 10.4	0.0
	baz=256							
WTP	Ta-pu	1.42	231	⇓P		Pn	10 49 10.6	-0.4
	baz=236							
TWGBT	Beinan	1.49	207	P		Pn	10 49 10.8	-1.0
TWGBT	Beinan	1.49	207	*e*P		Pn	10 49 09.2	-2.6
	baz=211							
TWG	Pinlang	1.49	208			Pn	10 49 09.9	-2.0
TWG	Pinlang	1.49	208	*e*P		Pn	10 49 09.1	-2.8
	baz=211							
PCYT	Pengchaiyu	1.50	9	*e*P		Pn	10 49 11.4	-0.5
	baz=359							
LDUT	Ludao	1.50	193	*e*P		Pn	10 49 09.6	-2.4
	baz=178							
TWK	Hsinying	1.50	235	P		Pn	10 49 12.2	+0.1
	baz=239							
CHN1	Nanshi	1.52	231	⇑P		Pn	10 49 12.8	+0.4
	baz=236							
SNST	Tainan City	1.52	233	P		Pn	10 49 12.1	-0.2
	baz=238							
WSF	Szhu	1.55	251	*e*P		Pn	10 49 12.7	0.0
	baz=256							
SGST	Jiashian	1.55	227	P		Pn	10 49 11.8	-1.0
	baz=216							
SLGT	Liugui	1.57	224	*e*P		Pn	10 49 12.6	-0.5
	baz=214							
ICHU	Yijhu	1.61	241	*e*P		Pb	10 49 14.5	-0.1
	baz=246							
CHN8	Yiju	1.68	242	*e*P		Pn	10 49 14.1	-0.3
	baz=247							
CHN3	Shinhua	1.71	232	*e*P		Pb	10 49 16.4	+0.2
	baz=237							
ECL	Taimali	1.73	208	*e*P		Pn	10 49 12.8	-2.4
	baz=211							
SCST	Cishan	1.75	225	*e*P		Pb	10 49 16.6	-0.3
	baz=229							
IRIF	Iriomote-Funau	1.75	83	P		Pn	10 49 14.8	-0.7
IRIF				*e*S		Sn	10 49 37.5	-0.8
IRIF	Iriomote-Funau	1.75	83	A		A	10 49 14.8	
	comp=E,26nm,6.0s,comp=N,24nm,4.5s							
SHHT	Tainan City	1.75	231	*e*P		Pb	10 49 18.0	+1.0
	baz=236							
SSD	Sandimen	1.77	218	*e*P		Pn	10 49 16.1	+0.4
	baz=223							
TSMG	Majia	1.79	217	*e*P		Pn	10 49 16.2	+0.2
	baz=210							
HATJ	Hateruma jima	1.81	92	P		Pn	10 49 16.3	0.0
HATJ				S		Sn	10 49 40.1	+0.2
HATJ	Hateruma jima	1.81	92	A		A	10 49 16.3	
	comp=E,50nm,3.0s,comp=N,55nm,5.3s							
TWM1	Shoushan	1.84	225	*e*P		Pb	10 49 18.6	+0.1
	baz=230							
MASBT	Mashibuluo	1.88	216	*e*P		Pn	10 49 17.6	+0.4
	baz=220							
TSCK	Chigu Township	1.88	238	*e*P		Pn	10 49 17.2	0.0
	baz=243							
EAST	Anshuo	1.97	207	*e*P		Pn	10 49 17.5	-1.0
	baz=197							
TAWH	Dawu Township	1.99	206	*e*P		Pn	10 49 19.8	+1.0
	baz=209							
JKRS	Kuro-shima	2.00	87

baz=189
VCHM Qimei 2.38 247 *e*P **Pn 10 49 25.6 +1.4**
baz=236
PTMZ Houxiangcun 2.62 290 *e*P **Pn 10 49 26.4 -1.0**
baz=295
MATB Ma-tsu 2.62 320 *e*P **Pn 10 49 26.5 -1.0**
baz=318
JTJ Tarama 2.67 79 *e*P **Pn 10 49 27.4 -0.8**
JTJ *e*S **Sn 10 50 01.2 +0.2**
JTJ Tarama 2.67 79 A A 10 49 27.4
comp=E,13nm,3.0s,comp=N,15nm,2.6s
LYJJ Jianjiangzhen 3.04 323 *e*P **Pn 10 49 32.1 -1.1**
baz=321
QZH Quanzhou 3.05 286 Pn **Pn 10 49 33.8 +0.5**
QZH Sn **Sn 10 50 11.0 +0.6**
QZH smax smax
comp=N,740nm,1.3s
QZH smax smax
comp=N,680nm,1.1s
QZH LR LR
comp=N,4μm,7.0s
QZH LR LR
comp=N,2μm,6.7s
QZH LR LR
comp=N,5μm,8.3s
KNM Kinmen 3.10 276 *e*P **Pn 10 49 35.0 +0.9**
baz=281
JIRB Irabujima 3.13 77 P **Pn 10 49 35.5 +1.1**
JIRB *e*S **Sn 10 50 13.3 +1.0**
XPSS Dashiqiu 3.14 332 *e*P **Pn 10 49 33.7 -0.9**
baz=328
KNMB Chin-men Tao 3.15 277 **Pn 10 49 34.0 -0.7**
KNMB Chin-men Tao 3.15 277 *e*P **Pn 10 49 34.3 -0.4**
baz=282
MHZQ Yeshan 3.19 308 *e*P **Pn 10 49 34.2 -1.1**
baz=310
JIKM Ikemajima 3.21 75 *e*P **Pn 10 49 36.5 +1.0**
JIKM S **Sn 10 50 15.3 +0.9**
JIKM Ikemajima 3.21 75 A A 10 49 36.5
comp=E,13nm,6.2s,comp=N,11nm,4.8s
JMJ Miyako jima 2 3.23 77 P **Pn 10 49 37.7 +1.9**
JMJ Miyako jima 2 3.23 77 *e*P **Pn 10 49 36.2 +0.4**
baz=81
JMJ2 Miyako jima3 3.25 79 *e*P **Pn 10 49 37.1 +1.1**
JMJ2 *e*S **Sn 10 50 16.2 +0.9**
JMJ2 Miyako jima3 3.25 79 A A 10 49 37.1
comp=E,18nm,3.8s,comp=N,21nm,6.0s
JOGS Gusukube 3.32 79 *e*P **Pn 10 49 38.4 +1.3**
JOGS *e*S **Sn 10 50 18.5 +1.4**
JOGS Gusukube 3.32 79 A A 10 49 38.4
comp=E,16nm,4.9s,comp=N,25nm,5.0s
AXDP Jialang 3.59 283 *e*P **Pn 10 49 40.6 -0.1**
baz=289
ZPLA Ao Xicun 3.73 268 *e*P **Pn 10 49 42.1 -0.5**
baz=275
DSXP Dongshan 4.05 265 *e*P **Pn 10 49 46.4 -0.7**
baz=272
SXFK Yanhouchang 4.40 302 *e*P **Pn 10 49 51.4 -0.5**
baz=305
JOW Kunigami 6.41 64 Pn **Pn 10 50 18.1 -1.5**
JOW Kunigami 6.41 64 P **Pn 10 50 18.9 -0.7**
JOW Kunigami 6.41 64 *e*P **Pn 10 50 19.4 -0.2**
baz=66
JOW Kunigami 6.41 64 Pn **Pn 10 50 18.7 -0.9**
comp=N,2.4nm,0.3s,baz=173,slow=27,SNR=11
comp=N,15nm,0.5s
SSE Sheshan 6.95 355 Pn **Pn 10 50 28.8 +1.9**
SSE Sn **Sn 10 51 49.3 +2.8**
SSE smax smax
comp=N,42nm,0.9s
SSE smax smax
comp=N,46nm,0.9s
SSE LR LR
comp=N,2μm,11.3s
SSE LR LR
comp=N,450nm,12.2s
GZH Guangzhou 7.85 264 Pn Pn 10 50 33.8 -5.5
GZH Sn **Sn 10 52 03.1 -5.6**
GZH smax smax
comp=N,240nm,1.1s
GZH smax smax
comp=N,180nm,1.0s
NJ2 Nanjing 8.30 342 *e*P **Pg 10 51 22.1 -1.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 Nanjing 8.30 342 *e*P **Pn 10 50 47.8 +2.3**
NJ2 S **Sn 10 52 23.8 +4.0**
NJ2 pmax pmax
comp=Z,31nm,0.6s
NJ2 smax smax
comp=Z,140nm,0.8s
NJ2 smax smax
comp=Z,140nm,0.9s
NJ2 LR LR
comp=Z,2μm,9.9s
NJ2 LR LR
comp=Z,2μm,5.4s
NJ2 LR LR
comp=Z,2μm,10.4s
CNSH ChangSha 8.94 299 ⇓P **Pn 10 50 54.4 +0.1**
CNSH S **Sn 10 52 36.5 +0.9**
CNSH smax smax
comp=Z,440nm,1.7s
CNSH smax smax
comp=Z,280nm,1.2s
CNSH LR LR
comp=Z,2μm,9.0s
CNSH LR LR
comp=Z,2μm,6.9s
WHN Wuhan 9.21 315 P **Pn 10 51 01.6 +3.7**
WHN S **Sn 10 52 44.8 +2.7**
WHN LR LR
comp=Z,9μm,11.0s
WHN LR LR
comp=Z,10μm,8.3s
WHN LR LR
comp=Z,13μm,8.6s
TGY Tagaytay City 10.02 185 LR LR 10 55 51.2
comp=Z,267nm,18.9s,baz=106,slow=43
GULI GuiLin 10.48 279 *e*P **Pn 10 51 19.3 +3.9**
GULI S **Sn 10 53 13.8 +0.4**
GULI pmax pmax
comp=Z,10.0nm,1.0s
GULI pmax pmax
comp=Z,170nm,4.3s
GULI LR LR
comp=Z,3μm,8.9s
GULI LR LR
comp=Z,4μm,8.4s
JNU Nakatsue 11.96 40 Pn Pn 10 51 42.7 +7.0
comp=Z,0.2nm,0.3s,baz=169,slow=2.3,SNR=5.7
JNU LR LR 10 57 12.7
comp=Z,178nm,19.4s,baz=222,slow=42
QIZ Qiongzhong 12.25 248 P **Pn 10 51 39.1 -0.6**
QIZ S **Sn 10 54 02.3 +5.4**
QIZ LR LR
comp=Z,800nm,12.6s
QIZ LR LR
comp=Z,370nm,9.3s
QIZ LR LR
comp=Z,700nm,10.9s
ENH Enshi 12.56 302 Pn **Pn 10 51 42.5 -1.3**
TIA Tai'an 12.69 342 *e*P Pn 10 51 40.3 -5.3
TIA S Sn 10 53 50.3 -17
TIA pmax pmax
comp=Z,2.0nm,0.4s
TIA pmax pmax
comp=Z,29nm,2.7s
TIA LR LR
comp=N,660nm,10.1s
TIA LR LR
comp=E,430nm,8.6s
TIA LR LR
comp=Z,1μm,10.1s
TJN Taejon 13.10 20 *e*P **Pn 10 51 51.6 +0.5**
KSAR Wonju Array Be 14.24 20 **Pn 10 52 04.4 -2.3**
KSAR Wonju Array Be 14.24 20 P **Pn 10 52 04.4 -2.3**
KSRS Korea Array 14.26 20 Pn **P 10 52 14.9 +0.4**
comp=Z,0.5nm,0.3s,baz=199,slow=11,SNR=22
KSRS LR LR 10 58 32.8
comp=Z,792nm,18.4s,baz=195,slow=41
KS19 Wonju Array Si 14.29 20 Pn **Pn 10 52 06.4 -1.0**
HNS HongShan 14.55 337 *e*P **P 10 52 15.5 -2.2**
HNS PP **PnPn 10 52 28.6 +10**
HNS *e*S Sn 10 55 01.5 +8.6
HNS LR LR
comp=Z,2μm,11.9s
HNS LR LR
comp=Z,740nm,10.0s
XAN Xi'an 14.97 314 pmax pmax
comp=Z,14nm,1.1s
XAN Xi'an 14.97 314 P P 10 52 31.3 +8.8
XAN Xi'an 14.97 314 pP P 10 52 34.8 +12
XAN Xi'an 14.97 314 S S 10 55 30.8 +9.4
XAN Xi'an 14.97 314 LR LR
comp=Z,3μm,10.3s
XAN Xi'an 14.97 314 LR LR
comp=E,3μm,10.8s
XAN Xi'an 14.97 314 LR LR
comp=N,2μm,10.3s
BJT Baijiatuau 16.53 345 Pn **Pn 10 52 34.6 -2.4**
BJT Baijiatuau 16.53 345 P **Pn 10 52 34.6 -2.4**
BJT pmax pmax
comp=Z,5.0nm,0.9s
SLVN Son La 16.77 264 Pn **Pn 10 52 37.8 -2.4**
DAV Davao City (W) 17.36 167 LR LR 10 59 01.9
comp=Z,374nm,20.1s,baz=359,slow=36
KMI Kunming 17.38 277 ⇑P **P 10 52 56.4 +6.9**
KMI pmax pmax
comp=Z,9.0nm,0.8s
KMI LR LR
comp=Z,700nm,8.2s
KMI LR LR
comp=Z,3μm,9.3s
SNY Shenyang 17.70 4 ⇑P **P 10 52 57.5 +4.9**
SNY pmax pmax
comp=Z,250nm,6.9s
SNY LR LR
comp=Z,370nm,11.3s
SNY LR LR
comp=Z,240nm,11.3s
SNY LR LR
comp=Z,510nm,10.0s
JHJ Hachijo jima 2 18.11 56 LR LR 11 00 19.3
comp=Z,208nm,18.5s,baz=130,slow=38
PZH PanZhiHua 18.31 282 pmax pmax
comp=Z,10.0nm,0.5s
PZH PanZhiHua 18.31 282 P **P 10 53 00.3 +0.7**
PZH S **S 10 56 33.8 +4.0**
PZH pmax pmax
comp=Z,10.0nm,0.4s
PZH pmax pmax
comp=Z,150nm,6.7s
PZH LR LR
comp=Z,410nm,9.6s
PZH LR LR
comp=Z,530nm,9.2s
PZH LR LR
comp=Z,620nm,11.8s
PZH PanZhiHua 18.31 282 P **P 10 53 03.8 +4.2**
PZH PanZhiHua 18.31 282 pmax pmax
comp=Z,150nm,6.1s
MAJO Matsushiro 18.75 45 *e*P **Pn 10 53 05.7 +1.1**
MJAR Matsushiro Ar 18.75 45 P **Pn 10 53 06.2 +1.6**
baz=217,slow=5.9,SNR=1.3
MJAR LR LR 11 01 20.6
comp=Z,222nm,18.7s,baz=231,slow=40
comp=Z,0.5nm,0.6s
KKM Kota Kinabalu 18.79 198 P **P 10 53 01.8 -3.1**
KKM IAmb IAmb 10 53 24.5
comp=Z,44nm,1.5s
LZH Lanzhou 19.55 312 *e*P **Pn 10 53 16.6 +2.1**
LZH PP PnPn 10 53 38.6 +11
LZH SS **SnSn 10 57 17.8 +9.1**
LZH pmax pmax
comp=Z,18nm,1.1s
LZH LR LR
comp=Z,860nm,10.3s
LZH LR LR
comp=Z,2μm,10.4s
LZH LR LR
comp=Z,2μm,10.7s
CN2 Changchun 19.83 8 *e*P **Pn 10 53 19.0 +1.4**
CN2 *e*S **S 10 56 57.0 -3.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,1μm,12.0s
CN2 LR LR
comp=Z,600nm,12.0s
CN2 LR LR
comp=Z,1μm,12.0s
XLT XiLinHaoTe 20.26 348 pmax pmax
comp=Z,19nm,1.5s
XLT XiLinHaoTe 20.26 348 *e*P Pn 10 53 30.0 +7.2
XLT XiLinHaoTe 20.26 348 S Sn 10 57 21.0 +10
XLT XiLinHaoTe 20.26 348 sS sS 10 57 27.1 +18
XLT XiLinHaoTe 20.26 348 SS SnSn 10 57 40.8 +15
XLT XiLinHaoTe 20.26 348 LR LR
comp=Z,730nm,13.8s
XLT XiLinHaoTe 20.26 348 LR LR
comp=E,320nm,13.9s
XLT XiLinHaoTe 20.26 348 LR LR
comp=N,61nm,14.7s
XLT XiLinHaoTe 20.26 348 pmax pmax
comp=Z,120nm,4.1s
PHRA Phrae 20.88 259 P **P 10 53 24.6 -3.0**
TNCH TengChong 21.21 277 *e*P **P 10 53 31.6 +0.2**
TNCH S **S 10 57 23.3 -4.8**
TNCH pmax pmax
comp=Z,120nm,5.2s
TNCH LR LR
comp=Z,660nm,10.1s
TNCH LR LR
comp=Z,1μm,9.8s
TNCH LR LR
comp=Z,2μm,10.0s
USA0B Ussuriysk Arra 21.67 20 P **P 10 53 33.6 -2.3**
USA0B IAmb IAmb 10 53 53.6
comp=Z,6.7nm,0.9s
USA0B Ussuriysk Arra 21.67 20 ⇑*i*P **P 10 53 38.0 +2.1**
USRK Ussuriysk Ar. 21.67 20 P **P 10 53 38.4 +2.5**
comp=Z,1.6nm,0.6s,baz=202,slow=7.8,SNR=9.7
USRK LR LR 11 02 16.6
comp=Z,217nm,18.9s,baz=191,slow=37
comp=Z,1.6nm,0.6s
CHTO Chiang Mai 21.93 260 pmax pmax
comp=Z,6.0nm,0.9s
BNX BinXian 22.02 10 ⇑P **P 10 53 40.3 +0.7**
BNX pmax pmax
comp=Z,5.0nm,1.3s
BNX pmax pmax
comp=Z,180nm,6.1s
CMAR Chiang Mai Arr 22.04 260 *ce*P **P 10 53 46.2 +6.0**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 22.04 260 P **P 10 53 43.2 +3.0**
comp=Z,1.2nm,0.4s,baz=52,slow=7.4,SNR=8.0
CMAR LR LR 11 02 59.0
comp=Z,145nm,19.3s,baz=80,slow=39
GTA Gaotai 24.03 315 P **P 10 54 06.4 +5.8**
GTA pmax pmax
comp=Z,4.0nm,1.4s
GTA LR LR
comp=Z,310nm,15.6s
GTA LR LR
comp=Z,220nm,16.0s
GTA LR LR
comp=Z,220nm,14.5s
LUWI Luwuk 25.05 178 P **P 10 54 15.3 +5.4**
comp=Z,55nm,1.1s
KSM Kuching 25.14 208 P **P 10 54 08.0 -2.8**
GOMU GeErMu 26.17 304 P **P 10 54 24.8 +4.4**
GOMU pP pwP 10 54 30.3 +10
GOMU sP sP 10 54 33.0 +12
GOMU S S 10 59 03.6 +10
GOMU pmax pmax
comp=Z,3.0nm,0.5s
GOMU LR LR
comp=Z,340nm,10.2s
GOMU LR LR
comp=Z,250nm,9.6s
GOMU LR LR
comp=Z,320nm,10.5s
ASAJ Asahikawa 26.18 35 LR LR 11 05 38.1
comp=Z,460nm,18.3s,baz=248,slow=39
KLR Kul'dur 26.23 15 ⇓*i*P **P 10 54 20.3 0.0**
KLR pmax pmax
comp=Z,1.0nm,0.6s
KLR Kul'dur 26.23 15 P **P 10 54 20.4 0.0**
comp=Z,1.5nm,0.6s,baz=227,slow=3.5,SNR=7.1
comp=Z,1.5nm,0.6s
ULN Ulaanbaatar 26.42 337 P **P 10 54 20.1 -2.2**
ULN IAmb IAmb 10 54 33.0
comp=Z,6.6nm,0.8s
ULN Ulaanbaatar 26.42 337 ⇑*i*P **P 10 54 22.0 -0.3**
ULN pmax pmax
comp=Z,6.0nm,1.0s
SONM Songino Array 26.63 336 P **P 10 54 22.7 -1.5**
SONM IAmb IAmb 10 54 35.8
comp=Z,6.4nm,0.9s
SONM Songino Array 26.63 336 P **P 10 54 23.6 -0.5**
comp=Z,2.2nm,0.9s,baz=153,slow=10,SNR=14
SONM LR LR 11 06 29.2
comp=Z,316nm,21.4s,baz=150,slow=40
comp=Z,2.2nm,0.9s
LSA Lhasa 27.86 288 P **P 10 54 32.0 -3.6**
LSA IAmb IAmb 10 54 53.4
comp=Z,5.5nm,0.6s
LSA Lhasa 27.86 288 P **P 10 54 32.1 -3.6**
LSA pmax pmax
comp=Z,6.0nm,0.6s
YSS Yuzh-Sakhalins 28.26 31 *e*P P 10 54 50.4 +12
YSS pmax pmax
comp=Z,10.0nm,1.4s
YSS MLR MLR
comp=Z,300nm,17.0s
ZEA Zeya 29.84 6 *e*P P 10 54 58.0 +5.5
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZEA MLR MLR
comp=N,600nm,14.0s
ZEA MLR MLR
comp=Z,700nm,16.0s
BATI Baumata 34.19 177 LR LR 11 11 06.1
comp=Z,71nm,18.4s,baz=16,slow=39
DGZ Jazzator, Alta 36.98 322 ⇑*i*P **P 10 55 55.6 +0.6**
DGZ pmax pmax
comp=Z,2.0nm,1.0s
MTN Manton Dam 37.87 165 P **P 10 55 59.3 -3.3**
MTN IAmb IAmb 10 56 14.9
comp=Z,9.2nm,0.8s
YAK Yakutsk 38.25 6 ⇑*i*P **P 10 56 04.7 -0.6**
YAK pmax pmax
comp=Z,5.0nm,0.5s
YAK Yakutsk 38.25 6 LR LR 11 12 31.5
comp=Z,152nm,19.4s,baz=164,slow=37
MK31 Makanchi Array 38.77 316 P **P 10 56 08.1 -1.9**
MK31 Makanchi Array 38.77 316 *e*P **P 10 56 09.3 -0.7**
MKAR Makanchi Array 38.77 316 *e*P **P 10 56 12.5 +2.5**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 38.77 316 P **P 10 56 09.4 -0.6**
comp=Z,1.3nm,0.6s,baz=100,slow=10,SNR=15
MKAR LR LR 11 12 00.2
comp=Z,84nm,18.1s,baz=84,slow=36
comp=Z,1.3nm,0.6s
MAKZ Makanchi 38.98 316 P **P 10 56 09.3 -2.4**
MAKZ IAmb IAmb 10 56 20.3
comp=Z,5.7nm,1.1s
MAKZ Makanchi 38.98 316 P **P 10 56 09.3 -2.4**
MAKZ pmax pmax
comp=Z,6.0nm,1.1s
PEA0B Petropavlovsk- 39.58 34 *ce*P **P 10 56 15.6 -1.0**
ZAA0 Zalesovo Array 40.60 327 P **P 10 56 22.4 -2.7**
ZAA0 IAmb IAmb 10 56 35.3
comp=Z,5.9nm,0.9s
ZALV Zalesovo Beam 40.60 327 P **P 10 56 24.2 -0.9**
comp=Z,1.4nm,0.6s,baz=112,slow=6.7,SNR=2.7
ZALV LR LR 11 14 17.8
comp=Z,134nm,19.8s,baz=112,slow=38
comp=Z,1.4nm,0.6s
MA2 Magadan 40.80 22 LR LR 11 14 54.6
comp=Z,242nm,18.4s,baz=219,slow=38
PMG Port Moresby 41.52 140 ⇑*i*P **P 10 56 37.2 +4.1**
PMG pmax pmax
comp=Z,54nm,1.4s
PMG Port Moresby 41.52 140 LR LR 11 10 33.8
comp=Z,54nm,22.0s,baz=290,slow=32
NRN Naryn 41.68 306 P **P 10 56 31.4 -3.2**
NRN IAmb IAmb 10 56 53.1
comp=Z,5.6nm,1.0s
NRN Naryn 41.68 306 P **P 10 56 31.4 -3.2**
NRN pmax pmax
comp=Z,6.0nm,1.0s
H11N1 WAKE ISLAND Hy 41.91 87 T T 11 41 46.6
baz=283,slow=74,SNR=10.0
H11N2 WAKE ISLAND Hy 41.91 87 T T 11 41 50.0
baz=283,slow=74,SNR=13
H11N3 WAKE ISLAND Hy 41.92 87 T T 11 41 47.9
baz=283,slow=74,SNR=11
H11S3 WAKE ISLAND Hy 42.04 89 T T 11 41 51.6
baz=278,SNR=29
H11S1 WAKE ISLAND Hy 42.04 89 T T 11 41 50.2
baz=278,slow=74,SNR=18
H11S2 WAKE ISLAND Hy 42.05 89 T T 11 41 50.5
baz=278,slow=74,SNR=16
KURK Kurchatov 42.50 320 ⇓*i*P **P 10 56 42.9 +2.2**
KURK pmax pmax
comp=Z,7.0nm,1.4s
KURBB Kurchatov Arra 42.52 320 P **P 10 56 39.2 -1.6**
comp=Z,1.6nm,1.1s,baz=116,slow=6.3,SNR=3.5
comp=Z,1.6nm,1.1s
AAK Ala-Archa 42.99 307 *i* P **P 10 56 44.1 -1.0**
AAK pmax pmax
comp=Z,1.0nm,1.0s
AAK Ala-Archa 42.99 307 LR LR 11 15 14.3
comp=Z,99nm,20.2s,baz=91,slow=37
SEY Seymchan 43.82 20 LR LR 11 17 28.8
comp=Z,198nm,18.3s,baz=228,slow=39
WRA Warramunga Arr 45.48 163 P **P 10 57 02.0 -2.9**
comp=Z,0.4nm,0.5s,baz=344,slow=8.6,SNR=5.2
comp=Z,0.4nm,0.5s
KBL Kabul 46.71 295 P **P 10 57 13.2 -1.6**
KBL Kabul 46.71 295 P **P 10 57 13.2 -1.6**
KBL pmax pmax
comp=Z,9.0nm,1.1s
TIXI Tiksi 47.70 3 P **P 10 57 18.6 -3.1**
TIXI Tiksi 47.70 3 ⇑*i*P **P 10 57 22.6 +0.9**
TIXI pmax pmax
comp=Z,15nm,1.6s
TIXI Tiksi 47.70 3 P **P 10 57 22.8 +1.1**
comp=Z,4.3nm,0.7s,baz=184,slow=2.7,SNR=11
TIXI LR LR 11 19 59.8
comp=Z,518nm,18.3s,baz=198,slow=39
comp=Z,4.3nm,0.7s
BVAR Borovoye Array 48.07 321 P **P 10 57 24.9 -0.1**
comp=Z,1.1nm,0.6s,baz=82,slow=10,SNR=4.7
BVAR LR LR 11 17 32.6
comp=Z,52nm,21.6s,baz=90,slow=36
comp=Z,1.1nm,0.6s
BRVK Borovoye 48.15 321 P **P 10 57 23.1 -2.4**
BRVK IAmb IAmb 10 57 35.9
comp=Z,7.2nm,1.1s
BRVK Borovoye 48.15 321 ⇓*i*P **P 10 57 24.2 -1.3**
BRVK pmax pmax
comp=Z,5.0nm,1.3s
SHEM Shemya Is, Ala 48.48 40 LR LR 11 20 06.0
comp=Z,48nm,18.9s,baz=313,slow=39
AS31 Alice Springs 48.95 165 P **P 10 57 28.2 -3.8**
ASAR Alice Springs 48.95 165 P **P 10 57 28.3 -3.7**
ASAR Alice Springs 48.95 165 P **P 10 57 30.6 -1.3**
comp=Z,0.6nm,0.8s,baz=345,slow=7.7,SNR=3.8
ASAR LR LR 11 17 53.9
comp=Z,55nm,19.9s,baz=12,slow=36
comp=Z,0.6nm,0.8s
NRIK Noril'sk 49.59 345 P **P 10 57 33.4 -3.0**
NRIK IAmb IAmb 10 57 45.5
comp=Z,5.7nm,0.9s
NRIK Noril'sk 49.59 345 ⇑*i*P **P 10 57 37.7 +1.4**
NRIK pmax pmax
comp=Z,5.0nm,1.1s
NRIK Noril'sk 49.59 345 P **P 10 57 36.9 +0.6**
comp=Z,0.7nm,0.3s,baz=122,slow=6.0,SNR=2.5
NRIK LR LR 11 19 55.1
comp=Z,119nm,20.4s,baz=156,slow=38
comp=Z,0.7nm,0.3s
ABKAR Akbulak array 53.89 314 P **P 10 58 06.2 -2.5**
GEYT Alibeck 55.32 300 P **P 10 58 19.9 +0.5**
comp=Z,0.9nm,0.4s,baz=147,slow=6.0,SNR=1.8
GEYT LR LR 11 24 42.7
comp=Z,80nm,18.5s,baz=120,slow=39
comp=Z,0.9nm,0.4s
ARU Arti 55.49 323 P P 10 58 12.3 -8.0
ARU Arti 55.49 323 LR LR 11 22 40.7
comp=Z,80nm,21.1s,baz=176,slow=37
STKA Stephens Creek 58.83 160 P **P 10 58 43.5 -0.5**
comp=Z,1.1nm,0.7s,baz=0.0,slow=14,SNR=1.5

	comp=Z,1.1nm,0.7s							
KIRV	**Kirov**	**60.59 325**	*ce*	P		P	10 59 04.2	+8.3
KIRV	**Kirov**	**60.59 325**		LR		LR	11 26 42.7	
	comp=Z,96nm,18.1s,baz=101,slow=38							
BELG	**Belogornoye**	**61.72 318**	*i*	P		**P**	**10 59 03.8**	**+0.1**
BELG				pmax		pmax		
	comp=Z,1.0nm,0.9s							
BELG	**Belogornoye**	**61.72 318**		LR		LR	11 26 51.6	
	comp=Z,92nm,19.6s,baz=133,slow=37							
GNI	**Garni**	**65.31 305**		LR		LR	11 31 11.2	
	comp=Z,28nm,18.5s,baz=54,slow=39							
B21K	**Ikpikpuk River**	**65.36 23**		P		**P**	**10 59 25.8**	**-1.8**
KLMR	**Klimovskoe**	**65.51 328**	*e*	P		**P**	**10 59 29.0**	**+0.4**
KLMR				pmax		pmax		
	comp=Z,27nm,1.4s							
KBZ	**Khabaz**	**65.96 309**		LR		LR	11 29 49.6	
	comp=Z,53nm,19.5s,baz=48,slow=37							
KIV	**Kislovodsk**	**66.07 309**	*e*	P		**P**	**10 59 30.6**	**-2.1**
KIV				pmax		pmax		
	comp=Z,6.0nm,1.1s							
KIV				MLR		MLR		
	comp=Z,42nm,17.0s							
OBN	**Obninsk**	**67.89 322**	*i*	P		**P**	**10 59 41.8**	**-2.1**
OBN			*i*				11 02 11.6	
OBN				pmax		pmax		
	comp=Z,5.0nm,0.8s							
OBN				MLR		MLR		
	comp=Z,63nm,17.0s							
ILAR	**Eielson Array**	**68.98 27**		P		**P**	**10 59 49.1**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=291,slow=6.2,SNR=2.1							
ILAR				LR		LR	11 32 39.5	
	comp=Z,55nm,18.4s,baz=92,slow=38							
	comp=Z,0.2nm,0.6s							
SPITS	**Spitsbergen Ar**	**69.65 348**		LR		LR	11 34 17.7	
	comp=Z,83nm,19.1s,baz=28,slow=39							
ARCES	**ARCESS Array B**	**69.79 338**		LR		LR	11 36 00.5	
	comp=Z,49nm,18.2s,baz=80,slow=41							
FINES	**FINESS Array B**	**71.77 330**	*i*	P		**P**	**11 00 12.1**	**+4.4**
FINES				pmax		pmax		
	comp=Z,3.0nm,0.9s							
FINES	**FINESS Array B**	**71.77 330**		P		**P**	**11 00 08.7**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=72,slow=6.2,SNR=5.0							
FINES				LR		LR	11 34 33.1	
	comp=Z,121nm,18.2s,baz=50,slow=38							
	comp=Z,0.8nm,0.7s							
AKASG	**Malin Array Be**	**73.29 318**		P		**P**	**11 00 17.9**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=58,slow=6.4,SNR=2.3							
AKASG				LR		LR	11 33 06.3	
	comp=Z,53nm,18.9s,baz=52,slow=36							
	comp=Z,0.2nm,0.4s							
ASF	**Jabal al Asfar**	**73.50 298**		LR		LR	11 36 26.5	
	comp=Z,32nm,19.9s,baz=69,slow=39							
BRTR	**Keskin Array B**	**73.67 307**	*ce*	P		P	11 00 24.6	+5.0
BRTR				pmax		pmax		
	comp=Z,2.0nm,1.0s							
BRTR	**Keskin Array B**	**73.67 307**		P		**P**	**11 00 18.6**	**-1.1**
	comp=Z,0.6nm,0.9s,baz=97,slow=12,SNR=2.3							
	comp=Z,0.6nm,0.9s							
HFS	**Hagfors**	**77.89 331**		LR		LR	11 38 22.0	
	comp=Z,225nm,18.0s,baz=59,slow=38							
NOA	**NORSAR Array B**	**78.53 332**		P		**P**	**11 00 48.5**	**+1.7**
	comp=Z,0.6nm,0.7s,baz=60,slow=5.3,SNR=2.2							
NOA				LR		LR	11 38 30.4	
	comp=Z,68nm,19.5s,baz=270,slow=38							
	comp=Z,0.6nm,0.7s							
RES	**Resolute Bay**	**78.61 9**		LR		LR	11 39 19.5	
	comp=Z,93nm,19.3s,baz=26,slow=39							
JMIC	**Jan Mayen**	**79.02 345**		LR		LR	11 40 14.5	
	comp=Z,84nm,18.1s,baz=65,slow=39							
YKA	**Yellowknife Ar**	**82.78 23**	*ce*	P		**P**	**11 01 07.8**	**-1.6**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.5s							
YKA	**Yellowknife Ar**	**82.78 23**		P		**P**	**11 01 08.1**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=313,slow=5.2,SNR=7.8							
	comp=Z,0.7nm,0.5s							
DAVOX	**Davos/Dischmat**	**86.51 320**		LR		LR	11 42 40.3	
	comp=Z,95nm,18.6s,baz=75,slow=37							
BORG	**Borgarnes**	**86.91 345**		LR		LR	11 43 08.8	
	comp=Z,69nm,19.7s,baz=356,slow=38							
ESK	**Eskdalemuir**	**88.05 332**	*i*	P		**P**	**11 01 36.2**	**+0.3**
SFJD	**Kangerlussuaq**	**88.96 357**		LR		LR	11 42 53.3	
	comp=Z,104nm,18.2s,baz=200,slow=36							
PPT2	**Papeete2**	**95.79 107**	*e*	LR		LR	11 33 15.3	
PPT2	comp=Z,67nm,24.2s		*e*	LR		LR	11 33 25.6	
	comp=Z,144nm,25.8s							
NVAR	**Mina Array Bea**	**96.06 43**		P		**P**	**11 02 17.3**	**+3.6**
	comp=Z,0.3nm,0.6s,baz=292,slow=8.3,SNR=2.0							
TBI	**Tubuai**	**98.13 112**	*e*	LR		LR	11 34 07.0	
	comp=Z,305nm,35.2s							
TBI			*e*	LR		LR	11 34 23.6	
	comp=Z,1μm,28.2s							

*ASIES **14** 10:48:47.0,24.16N×121.90E,h8km,ML4.6,Mw4.5, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; Mrr-5.80; Mθθ0.60; Mϕϕ5.19; Mrθ0.94; Mθϕ-1.79; Mϕr-0.87; Fault plane solution: M05.94075×10^{22} NP1: ϕs335.24000°,δ50.78000°,λ-97.37000°. NP2: ϕs166.80000°,δ39.80000°,λ-81.07000°. Principal axes: T Plg5.5160°, Azm70.4690°; N Plg5.7020°, Azm339.9160°; P Plg82.0540°, Azm204.2420°;*

TAP 14 10:48:47.0,24.16N×121.90E,h8km±1km,ML4.6,D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.21**	**316**	*e*	P		Pg	10 48 51.6	+0.3
	baz=318								
EHP				*e*	S		Sg	10 48 55.5	+1.3
	baz=318								
EAHA	**Aohua**	**0.23**	**319**	*e*	P		Pg	10 48 52.0	+0.5
	baz=320								
ETL	**Fush Village**	**0.25**	**270**	*e*	P		Pg	10 48 52.4	+0.2
	baz=279								
NACB	**Ninganchiao**	**0.28**	**273**	*e*	P		Pg	10 48 53.1	+0.5
	baz=271								
NACB					S		Sb	10 48 57.9	-1.3
	baz=271								
TWD	**Chiawan**	**0.29**	**254**		P		Pg	10 48 53.2	+0.4
	baz=263								
TWD				*e*	S		Sg	10 48 57.9	+1.2
	baz=263								
ENA	**Nanau**	**0.30**	**331**		P		Pg	10 48 53.9	+0.8
	baz=334								
ENA				*e*	S		Sb	10 48 59.1	-0.9
	baz=334								
ENA	**Nanau**	**0.30**	**331**		S		Sg	10 48 53.7	-3.4
	baz=331								
EWUT	**Wuta**	**0.31**	**339**	*e*	P		Pb	10 48 54.2	-0.6
	baz=340								
EWUT	**Wuta**	**0.31**	**339**		S		Sg	10 48 54.2	-3.0
	baz=337								
HWA	**Hwalien**	**0.33**	**236**	*e*	P		Pb	10 48 55.7	+0.6
	baz=233								
ETLH	**Xiulin Townshi**	**0.39**	**277**	*e*	P		Pg	10 48 55.1	+0.5
	baz=287								
ESAO	**Su ao**	**0.42**	**353**	*e*	P		Pb	10 48 56.4	-0.3
	baz=348								
TWC	**Suao**	**0.45**	**354**	*e*	P		Pb	10 48 56.9	-0.3
	baz=351								
LXIB	**Xiulin Townshi**	**0.47**	**253**	*e*	P		Pg	10 48 56.8	+0.7
	baz=265								
SHUL	**Shoufeng**	**0.48**	**220**	*e*	P		Pb	10 48 58.7	+1.0
	baz=216								
NDS	**Dongshan**	**0.50**	**340**	*e*	P		Pb	10 48 58.1	-0.1
	baz=349								
LATG	**Datong**	**0.51**	**318**	*e*	P		Pb	10 48 57.9	-0.3
	baz=319								
NNSB	**Datong**	**0.54**	**300**	*e*	P		Pb	10 48 59.0	+0.1
	baz=299								
ESL	**Shilin**	**0.55**	**231**		P		Pb	10 48 58.8	-0.1
	baz=238								
ESL					S		Sb	10 49 08.2	+1.3
	baz=238								
NNS	**Nan Shan**	**0.56**	**300**	*e*	P		Pg	10 48 58.3	+0.4
	baz=300								
NDT	**Datong Townshi**	**0.57**	**321**	*e*	P		Pb	10 48 59.2	0.0
	baz=322								
WHF	**Hehuan Shan**	**0.58**	**269**	*e*	P		Pb	10 48 59.1	-0.6
	baz=280								
TWE	**Neicheng**	**0.60**	**339**	*e*	P		Pb	10 48 59.5	-0.2
	baz=342								
FUSS	**Fushou**	**0.61**	**278**	*e*	P		Pb	10 49 00.2	+0.1
	baz=288								
WARBT	**Fenglin Townsh**	**0.64**	**227**		P		Pb	10 49 00.3	-0.2
	baz=236								
WARBT					S		Sb	10 49 10.7	+1.0
	baz=236								
FUSB	**Fushanzhiwuyua**	**0.66**	**335**	*i*	P		Pb	10 49 01.0	+0.1
	baz=324								
TWT	**Tachien**	**0.67**	**278**	*e*	P		Pb	10 49 01.5	+0.4
	baz=286								
CHGB	**Renai**	**0.67**	**262**	*e*	P		Pb	10 49 01.2	+0.1
	baz=260								
TDCB	**Techi**	**0.69**	**278**	*e*	P		Pb	10 49 01.7	+0.3
	baz=286								
OWD	**Renai**	**0.69**	**253**	*e*	P		Pb	10 49 01.8	+0.3
	baz=260								
YHNB	**Yeheng**	**0.70**	**317**	*e*	P		Pb	10 49 01.4	-0.1
	baz=317								
NSK	**Sanguang**	**0.71**	**316**	*e*	P		Pb	10 49 01.6	-0.2
	baz=317								
NWLT	**Wulai**	**0.71**	**330**	*e*	P		Pb	10 49 01.7	-0.1
	baz=330								
WUSB	**Renai**	**0.73**	**257**	*e*	P		Pb	10 49 02.4	+0.2
	baz=254								
WUSB					S		Sb	10 49 13.1	+0.7
	baz=254								
HGSD	**Ruisui**	**0.80**	**213**	*e*	P		Pn	10 49 04.0	-0.5
	baz=209								
HGSD				*e*	S		Sn	10 49 17.7	+1.1
	baz=209								
VWDT	**VWDT**	**0.80**	**240**		P		Pb	10 49 03.2	0.0
	baz=246								
VWDT				*e*	S		Sb	10 49 15.2	+0.9
	baz=246								
EHYH	**Wanrong**	**0.83**	**218**	*e*	P		Pb	10 49 04.1	+0.3
	baz=228								
EHY	**Hungye**	**0.84**	**219**	*e*	P		Pb	10 49 04.0	+0.2
	baz=215								
NFF	**Wufeng Townshi**	**0.85**	**304**	*e*	P		Pg	10 49 03.6	+0.1
	baz=303								
WCS	**Beigang Elemen**	**0.91**	**264**	*e*	P		Pb	10 49 05.2	+0.2
	baz=261								
SSLB	**Suanglung**	**0.94**	**247**	*e*	P		Pb	10 49 05.5	-0.1
	baz=253								
SSLB					S		Sb	10 49 19.0	+0.7
	baz=253								
YULB	**Yu-li**	**0.94**	**216**	*e*	P		Pb	10 49 05.7	0.0
	baz=225								
SMLT	**Sun Moon Lake**	**0.96**	**253**	*e*	P		Pb	10 49 06.1	+0.2
	baz=249								
SMLT					S		Sn	10 49 20.4	-0.4
	baz=249								
TWF1	**Yuli**	**0.97**	**215**	*e*	P		Pn	10 49 07.0	0.0
	baz=227								
TNOU	**National Taiwa**	**0.99**	**353**	*e*	P		Pg	10 49 05.4	-0.7
	baz=348								
NCU	**National Centr**	**1.04**	**321**	*e*	P		Pn	10 49 08.7	+0.8
	baz=320								
TWQ1	**Liyutan**	**1.05**	**281**	*e*	P		Pn	10 49 09.8	+1.8
	baz=279								
CHKH	**Chenggong**	**1.07**	**206**	*e*	P		Pn	10 49 08.2	-0.1
	baz=185								
NSY	**Sanyi**	**1.07**	**284**	*e*	P		Pn	10 49 10.3	+2.0
	baz=282								
NMLH	**Miaoli**	**1.08**	**291**	*e*	P		Pn	10 49 11.5	+3.1
	baz=299								
TCU	**Taichung**	**1.12**	**270**	*e*	P		Pn	10 49 11.9	+2.9
	baz=267								
WJS	**Zhushan**	**1.12**	**253**	*e*	P		Pn	10 49 10.1	+1.0
	baz=249								
WNT	**Mingjian**	**1.15**	**256**	*e*	P		Pn	10 49 10.9	+1.5
	baz=251								
CHKT	**Chengkung**	**1.16**	**205**	*e*	P		Pn	10 49 10.3	+0.7
	baz=182								
WDJ	**Dajia District**	**1.17**	**280**	*e*	P		Pn	10 49 12.0	+2.4
	baz=277								
EHD	**Haiduan**	**1.19**	**212**	*e*	P		Pn	10 49 11.5	+1.5
	baz=223								
ALS	**Alishan**	**1.19**	**237**	*e*	P		Pn	10 49 10.6	+0.3
	baz=231								
ELDTW	**Lidau**	**1.26**	**220**	*e*	P		Pn	10 49 10.7	-0.3
	baz=214								
WCKO	**Fanlu**	**1.39**	**239**	*e*	P		Pg	10 49 15.4	+1.8
	baz=231								
WCKO				*e*	S		Sg	10 49 34.7	+3.0
	baz=231								
STYH	**Taoyuan**	**1.43**	**227**	*e*	P		Pg	10 49 14.2	-0.2
	baz=207								
CHN4	**Tsaushan**	**1.44**	**236**	*e*	P		Pg	10 49 15.7	+1.0
	baz=212								
STYT	**Tauyuan**	**1.44**	**227**	*e*	P		Pg	10 49 14.7	-0.1
	baz=207								
TPUB	**Ta-pu**	**1.45**	**234**	*e*	P		Pb	10 49 13.9	-0.3
	baz=211								
CHN2	**Minshiung**	**1.45**	**245**	*e*	P		Pg	10 49 16.3	+1.5
	baz=239								
WTK	**Tuku**	**1.46**	**252**	*e*	P		Pg	10 49 16.6	+1.5
	baz=246								
TWGBT	**Beinan**	**1.53**	**210**	*e*	P		Pn	10 49 14.0	-0.7
	baz=188								
TWG	**Pinlang**	**1.53**	**210**	*e*	P		Pn	10 49 14.0	-0.8
	baz=188								
TWK	**Hsinying**	**1.57**	**236**	*e*	P		Pg	10 49 17.9	+0.7
	baz=228								
CHN1	**Nanshi**	**1.59**	**233**	*e*	P		Pg	10 49 18.3	+0.8
	baz=226								
SNST	**Tainan City**	**1.59**	**234**	*e*	P		Pg	10 49 17.9	+0.3
	baz=227								
SGST	**Jiashian**	**1.62**	**229**	*e*	P		Pb	10 49 16.9	-0.2
	baz=207								
WSF	**Szhu**	**1.62**	**252**	*e*	P		Pg	10 49 18.3	+0.1
	baz=246								
ICHU	**Yijhu**	**1.69**	**242**	*e*	P		Pg	10 49 19.2	-0.2
	baz=235								
PHUB	**P'eng-hu**	**2.23**	**254**	*e*	P		Pn	10 49 24.9	+0.7
	baz=248								
VWUC	**VWUC**	**2.38**	**291**	*e*	P		Pn	10 49 27.1	+0.7
	baz=288								
VCHM	**Qimei**	**2.46**	**248**	*e*	P		Pn	10 49 29.0	+1.6
	baz=242								
MATB	**Ma-tsu**	**2.66**	**319**	*e*	P		Pn	10 49 30.8	+0.6
	baz=314								
PTMZ	**Houxiangcun**	**2.68**	**290**	*e*	P		Pn	10 49 31.6	+1.1
	baz=288								
KNMB	**Chin-men Tao**	**3.22**	**276**	*e*	P		Pn	10 49 38.8	+0.9
	baz=275								
AXDP	**Jialang**	**3.66**	**282**	*e*	P		Pn	10 49 45.2	+1.4
	baz=283								
ZPLA	**Ao Xicun**	**3.80**	**267**	*e*	P		Pn	10 49 46.8	+0.9
	baz=266								
DSXP	**Dongshan**	**4.12**	**265**	*e*	P		Pn	10 49 50.9	+0.7
	baz=262								

*JMA **14** 10:57:03.8±0.2,24.5N±0.6×122.1E±0.3,h71km±2km, TAIWAN REGION*

*TAP **14** 10:57:03.8,24.53N×122.10E,h71km±1km,ML2.7,B*

ISC 14 10:57:03.9±1.3,24.54N±0.04×122.13E±0.02,h73km±7km, n65,σ0.971/113,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.15**	**142**		P		**Pn**	**10 57 16.4**	**+1.9**
	baz=131								
EOS2					S		**Sn**	**10 57 23.1**	**+0.9**
	baz=131								
ESAO	**Su ao**	**0.26**	**278**	*e*	P		**Pn**	**10 57 15.2**	**+0.1**
	baz=282								
ESAO				*e*	S		**Sn**	**10 57 22.7**	**-0.6**
	baz=282								
TWC	**Suao**	**0.26**	**285**	*i*	P		**Pn**	**10 57 14.8**	**-0.3**
	baz=290								
TWC					S		**Sn**	**10 57 22.4**	**-1.0**
	baz=290								
EOS3	**EOS3**	**0.31**	**146**		P		**Pn**	**10 57 15.8**	**+0.5**
	baz=140								
EOS3				*i*	S		**Sn**	**10 57 24.4**	**+0.8**
	baz=140								
EWUT	**Wuta**	**0.33**	**253**	*i*	P		**Pn**	**10 57 15.5**	**0.0**
	baz=254								
EWUT					S		**Sn**	**10 57 24.6**	**+0.4**
	baz=254								
ENA	**Nanau**	**0.37**	**252**	*i*	P		**Pn**	**10 57 15.8**	**-0.1**
	baz=252								
ENA				*i*	S		**Sn**	**10 57 24.6**	**-0.1**
	baz=252								
NDS	**Dongshan**	**0.39**	**284**		P		**Pn**	**10 57 16.1**	**+0.1**
	baz=287								
NDS					S		**Sn**	**10 57 24.9**	**0.0**
	baz=287								
EAHA	**Aohua**	**0.41**	**239**	*i*	P		**Pn**	**10 57 16.1**	**-0.1**
	baz=239								
EAHA					S		**Sn**	**10 57 25.7**	**+0.5**
	baz=239								
EOS4	**EOS4**	**0.45**	**157**		P		**Pn**	**10 57 17.3**	**+1.2**
	baz=153								
EOS4				*i*	S		**Sn**	**10 57 24.9**	**-0.2**
	baz=153								
TWE	**Neicheng**	**0.46**	**293**	*i*	P		**Pn**	**10 57 16.7**	**+0.2**
	baz=296								
TWE					S		**Sn**	**10 57 25.9**	**0.0**
	baz=296								
TWB1	**Santiao Chiao**	**0.48**	**345**	*e*	S		**Sn**	**10 57 24.8**	**-1.4**
	baz=348								
TIPB	**Shuangxi**	**0.51**	**327**	*e*	P		**Pn**	**10 57 17.1**	**0.0**
	baz=330								
TIPB				*e*	S		**Sn**	**10 57 25.6**	**-1.2**
	baz=330								
FUSB	**Fushanzhiwuyua**	**0.54**	**294**	*i*	P		**Pn**	**10 57 17.5**	**+0.1**
	baz=296								
FUSB				*i*	S		**Sn**	**10 57 26.9**	**-0.4**
	baz=296								
LATG	**Datong**	**0.55**	**269**	*i*	P		**Pn**	**10 57 17.2**	**-0.3**
	baz=271								
LATG				*i*	S		**Sn**	**10 57 27.8**	**+0.2**
	baz=271								
NDT	**Datong Townshi**	**0.56**	**276**		P		**Pn**	**10 57 17.7**	**+0.1**
	baz=278								
NDT					S		**Sn**	**10 57 27.7**	**0.0**
	baz=278								
SXI1	**Grass Mountain**	**0.60**	**337**	*e*	S		**Sn**	**10 57 27.4**	**-1.0**
	baz=340								
ETL	**Fush Village**	**0.60**	**231**		P		**Pn**	**10 57 17.4**	**-0.6**
	baz=229								
ETL					S		**Sn**	**10 57 27.4**	**-0.9**
	baz=229								
NACB	**Ninganchiao**	**0.61**	**233**	*i*	P		**Pn**	**10 57 17.8**	**-0.2**
	baz=232								
NACB					S		**Sn**	**10 57 28.0**	**-0.4**
	baz=232								
NWF	**Wu-fen Shan**	**0.61**	**329**	*e*	S		**Sn**	**10 57 27.5**	**-1.2**
	baz=331								
NWLT	**Wulai**	**0.61**	**293**	*e*	P		**Pn**	**10 57 18.4**	**+0.3**
	baz=294								
NWLT				*e*	S		**Sn**	**10 57 28.9**	**+0.3**
	baz=294								
TWD	**Chiawan**	**0.67**	**227**		P		**Pn**	**10 57 18.1**	**-0.6**
	baz=225								
TWD					S		**Sn**	**10 57 29.3**	**-0.2**
	baz=225								
ETLH	**Xiulin Townshi**	**0.68**	**241**		P		**Pn**	**10 57 18.4**	**-0.4**
	baz=240								
ETLH					S		**Sn**	**10 57 29.7**	**-0.2**
	baz=240								
NNSB	**Datong**	**0.69**	**261**	*i*	P		**Pn**	**10 57 19.0**	**0.0**
	baz=261								
NNSB					S		**Sn**	**10 57 29.5**	**-0.7**
	baz=261								
NNS	**Nan Shan**	**0.69**	**262**	*i*	P		**Pn**	**10 57 19.0**	**-0.1**
	baz=262								
NNS					S		**Sn**	**10 57 29.9**	**-0.4**
	baz=262								
YHNB	**Yeheng**	**0.70**	**281**	*i*	P		**Pn**	**10 57 19.1**	**+0.1**
	baz=282								
YHNB				*i*	S		**Sn**	**10 57 29.9**	**-0.3**
	baz=282								
NSK	**Sanguang**	**0.71**	**281**		P		**Pn**	**10 57 19.0**	**-0.2**
	baz=282								
NSK				*i*	S		**Sn**	**10 57 30.1**	**-0.5**
	baz=282								
JYNG	**Yonagunijimaku**	**0.75**	**97**		P		**Pn**	**10 57 19.5**	**0.0**
JYNG				*e*	S		**Sn**	**10 57 31.0**	**-0.1**
YM01	**YM01**	**0.79**	**320**	*e*	S		**Sn**	**10 57 31.0**	**-1.0**
	baz=322								
YM08	**YM08**	**0.81**	**323**	*e*	P		**Pn**	**10 57 20.8**	**+0.5**
	baz=324								
YOJ	**Yonaguni jima**	**0.81**	**95**		P		**Pn**	**10 57 20.2**	**0.0**
	baz=93								
YOJ					S		**Sn**	**10 57 32.1**	**-0.2**
	baz=93								
YOJ	**Yonaguni jima**	**0.81**	**95**		P		**Pn**	**10 57 20.1**	**-0.1**
YOJ					S		**Sn**	**10 57 32.0**	**-0.3**
LXIB	**Xiulin Townshi**	**0.83**	**232**		P		**Pn**	**10 57 19.8**	**-0.9**
	baz=231								
LXIB					S		**Sn**	**10 57 32.4**	**-0.7**
	baz=231								
FUSS	**Fushou**	**0.86**	**250**	*e*	P		**Pn**	**10 57 21.1**	**0.0**
	baz=250								
FUSS				*e*	S		**Sn**	**10 57 33.8**	**0.0**
	baz=250								
WHF	**Hehuan Shan**	**0.88**	**244**		P		**Pn**	**10 57 21.0**	**-0.5**
	baz=243								
WHF					S		**Sn**	**10 57 33.5**	**-1.0**
	baz=243								
SHUL	**Shoufeng**	**0.91**	**215**	*e*	P		**Pn**	**10 57 21.2**	**-0.3**
	baz=213								
SHUL				*e*	S		**Sn**	**10 57 34.9**	**+0.4**
	baz=213								
TWT	**Tachien**	**0.91**	**252**		P		**Pn**	**10 57 22.2**	**+0.5**
	baz=252								
TWT					S		**Sn**	**10 57 35.4**	**+0.5**
	baz=252								
NFF	**Wufeng Townshi**	**0.92**	**276**	*e*	P		**Pn**	**10 57 22.5**	**+0.8**
	baz=276								
NFF					S		**Sn**	**10 57 35.1**	**+0.2**
	baz=276								
TDCB	**Techi**	**0.93**	**252**		P		**Pn**	**10 57 22.1**	**+0.3**
	baz=252								
TDCB					S		**Sn**	**10 57 34.1**	**-1.0**
	baz=252								
ESL	**Shilin**	**0.96**	**221**		P		**Pn**	**10 57 20.9**	**-1.2**
	baz=220								
ESL					S		**Sn**	**10 57 33.8**	**-1.8**
	baz=220								
CHGB	**Renai**	**0.99**	**241**		P		**Pn**	**10 57 22.9**	**+0.3**
	baz=241								
CHGB					S		**Sn**	**10 57 36.2**	**-0.4**
	baz=241								
LIOB	**Emei**	**1.02**	**276**	*e*	P		**Pn**	**10 57 22.8**	**+0.1**
	baz=276								
LIOB				*e*	S		**Sn**	**10 57 37.4**	**+0.5**
	baz=276								
NSTT	**Nanjuang**	**1.03**	**275**		P		**Pn**	**10 57 23.7**	**+0.8**
	baz=275								
NSTT					S		**Sn**	**10 57 37.4**	**+0.3**
	baz=275								
OWD	**Renai**	**1.05**	**236**	*e*	P		**Pn**	**10 57 23.3**	**0.0**
	baz=236								
OWD				*e*	S		**Sn**	**10 57 37.6**	**-0.1**
	baz=236								
WARBT	**Fenglin Townsh**	**1.06**	**220**		P		**Pn**	**10 57 22.1**	**-1.3**
	baz=219								
WUSB	**Renai**	**1.07**	**240**		P		**Pn**	**10 57 24.0**	**+0.4**
	baz=239								
WUSB					S		**Sn**	**10 57 38.0**	**-0.2**
	baz=239								
WHP	**Taichung City**	**1.11**	**257**		P		**Pn**	**10 57 25.4**	**+1.4**
	baz=256								
WHP					S		**Sn**	**10 57 39.9**	**+0.9**
	baz=256								
VWDT

HATJ	**Hateruma jima**	**1.60**	**107**	*e*P	**Pn**	**10 57 30.7**	**+0.4**
HATJ				*e*S	**Sn**	**10 57 50.2**	**-0.1**
ELDTW	**Lidau**	**1.69**	**217**	*e*P	**Pn**	**10 57 31.0**	**-0.5**
	baz=216						
JKRS	**Kuro-shima**	**1.74**	**100**	P	**Pn**	**10 57 32.7**	**+0.6**
JKRS				S	**Sn**	**10 57 53.8**	**+0.2**
WCKO	**Fanlu**	**1.77**	**232**	*e*P	**Pn**	**10 57 33.0**	**+0.4**
	baz=231						
JIJ	**Ishigaki jima**	**1.84**	**95**	*e*P	**Pn**	**10 57 33.0**	**-0.5**
JIJ				*e*S	**Sn**	**10 57 55.2**	**-0.8**
TPUB	**Ta-pu**	**1.84**	**228**	*e*P	**Pn**	**10 57 34.1**	**+0.5**
	baz=227						
JISG	**Ishigakijimahi**	**1.99**	**88**	P	**Pn**	**10 57 35.6**	**+0.2**
JISG				S	**Sn**	**10 57 59.8**	**+0.3**

ASIES ***14*** *11:04:58.4,24.˙16N×121.˙81E,h7km,ML4.0,Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_n3.03; $M_{\theta\theta}$-2.25; $M_{\phi\phi}$0.94; $M_{r\theta}$4.36; $M_{r\phi}$-1.08; $M_{r r}$-0.91; Fault plane solution: M_o5.34789×10^{21} NP1:ϕ_s97.20000°, δ75.44000°, λ106.31000°. NP2:ϕ_s227.87000°, δ21.73000°, λ42.77000°. Principal axes: T Plg56.5780°, Azm28.3270°; N Plg15.7700°, Azm272.9910°; P Plg28.6260°, Azm174.1240°;*

TAP ***14*** *11:04:58.4,24.˙16N×121.˙81E,h7km,ML4.0,C*

JMA ***14*** *11:04:59.2±0.1,24.˙1N±0.˙4×121.˙8E±0.˙7,h10km±1km, MD4.1/14,MV3.7/14,TAIWAN REGION*

IDC ***14*** *11:05:03.4±4.3,23.˙98N×122.˙06E,h55km±44km,mb3.4/7, mbtmp3.7/8,ML3.0/1,MS3.0/4,Error ellipse: s-maj=56.5km s-min=27.3km az=163.0*

ISC 14 11:04:58.9±1.0,**24.˙16N**±0.˙01×**121.˙83E**±0.˙02,**h6**km±7km, **n187**,σ1§**16**/338,**mb3.6**/7,**6C-22D**,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.17**	**333**	⇓	P		**Pg**	**11 05 02.3**	**0.0**
	baz=338								
EHP					S		**Sg**	**11 05 05.5**	**+0.8**
	baz=338								
ETL	**Fush Village**	**0.19**	**271**		P		**Pg**	**11 05 02.6**	**0.0**
ETL	baz=272				*e*S		**Sg**	**11 05 06.3**	**+1.2**
	baz=272								
EAHA	**Aohua**	**0.19**	**335**	⇓	P		**Pg**	**11 05 02.7**	**0.0**
EAHA	baz=336				S		**Sg**	**11 05 05.6**	**+0.3**
	baz=336								
NACB	**Ninganchiao**	**0.21**	**275**		P		**Pg**	**11 05 03.0**	**-0.1**
NACB	**Ninganchiao**	**0.21**	**275**	⇑	P		**Pg**	**11 05 02.8**	**-0.3**
	baz=277								
NACB					*e*S		**Sg**	**11 05 05.8**	**-0.2**
	baz=277								
TWD	**Chiawan**	**0.23**	**251**	⇑	*i*P		**Pg**	**11 05 03.2**	**-0.1**
	baz=262								
TWD					S		**Sg**	**11 05 07.8**	**+1.5**
	baz=262								
HWA	**Hwalien**	**0.27**	**229**		*i* P		**Pb**	**11 05 05.7**	**-0.4**
	baz=243								
HWA					*e*S		**Sb**	**11 05 11.1**	**0.0**
	baz=243								
ENA	**Nanau**	**0.28**	**344**	⇓	*i*P		**Pg**	**11 05 04.4**	**0.0**
	baz=342								
ENA					*i* S		**Sg**	**11 05 08.9**	**+0.7**
	baz=342								
EWUT	**Wuta**	**0.29**	**351**	⇓	P		**Pg**	**11 05 04.7**	**+0.1**
	baz=350								
EWUT					S		**Sg**	**11 05 09.4**	**+0.9**
	baz=350								
ETLH	**Xiulin Townshi**	**0.32**	**279**		P		**Pg**	**11 05 05.1**	**-0.1**
	baz=275								
ETLH					S		**Sg**	**11 05 09.6**	**+0.1**
	baz=275								
LXIB	**Xiulin Townshi**	**0.40**	**251**	⇑	P		**Pg**	**11 05 06.4**	**-0.3**
	baz=253								
LXIB					S		**Sb**	**11 05 13.8**	**-1.2**
	baz=253								
ESAO	**Su ao**	**0.42**	**2**	⇓	P		**Pg**	**11 05 07.1**	**+0.1**
	baz=352								
ESAO					S		**Sg**	**11 05 12.8**	**+0.3**
	baz=352								
SHUL	**Shoufeng**	**0.44**	**214**	⇓	P		**Pb**	**11 05 08.8**	**-0.3**
	baz=217								
SHUL					S		**Sb**	**11 05 17.3**	**+1.4**
	baz=217								
TWC	**Suao**	**0.45**	**2**	⇓	*i*P		**Pg**	**11 05 07.8**	**+0.2**
	baz=354								
TWC					*i* S		**Sg**	**11 05 14.3**	**+0.7**
	baz=354								
LATG	**Datong**	**0.47**	**324**	⇓	P		**Pg**	**11 05 07.9**	**0.0**
	baz=323								
LATG					*i* S		**Sb**	**11 05 14.8**	**-2.1**
	baz=323								
NDS	**Dongshan**	**0.49**	**348**		P		**Pg**	**11 05 08.4**	**+0.1**
	baz=344								
NDS					S		**Sb**	**11 05 15.5**	**-1.8**
	baz=344								
NNSB	**Datong**	**0.49**	**304**	⇓	P		**Pg**	**11 05 08.3**	**0.0**
	baz=305								
NNSB					S		**Sg**	**11 05 15.0**	**+0.2**
	baz=305								
NNSH	**Datong**	**0.49**	**304**	⇓	P		**Pg**	**11 05 08.4**	**0.0**
	baz=304								
NNSH					S		**Sg**	**11 05 15.0**	**+0.3**
	baz=304								
ESL	**Shilin**	**0.50**	**227**		*i* P		**Pb**	**11 05 08.5**	**-1.5**
	baz=238								
ESL					S		**Sb**	**11 05 17.4**	**-0.1**
	baz=238								
NNS	**Nan Shan**	**0.50**	**304**	⇓	*i*P		**Pg**	**11 05 08.6**	**0.0**
	baz=305								
NNS					*i* S		**Sg**	**11 05 15.4**	**+0.2**
	baz=305								
WHF	**Hehuan Shan**	**0.52**	**269**		*i* P		**Pb**	**11 05 09.0**	**-1.6**
	baz=272								
WHF					*i* S		**Sb**	**11 05 16.3**	**-2.2**
	baz=272								
NDT	**Datong Townshi**	**0.53**	**327**	⇓	P		**Pb**	**11 05 09.3**	**-1.3**
	baz=326								
NDT					S		**Sb**	**11 05 17.4**	**-1.1**
	baz=326								
FUSS	**Fushou**	**0.54**	**280**		P		**Pb**	**11 05 09.6**	**-1.4**
	baz=282								
FUSS					S		**Sb**	**11 05 17.6**	**-1.6**
	baz=282								
TWE	**Neicheng**	**0.58**	**345**	⇓	*i*P		**Pb**	**11 05 10.3**	**-1.2**
	baz=345								
TWE					*i* S		**Sb**	**11 05 18.6**	**-1.4**
	baz=345								
WARBT	**Fenglin Townsh**	**0.59**	**223**		P		**Pb**	**11 05 10.4**	**-1.3**
	baz=235								
WARBT					*e*S		**Sb**	**11 05 20.1**	**-0.3**
	baz=235								
TWT	**Tachien**	**0.60**	**279**		*i* P		**Pb**	**11 05 11.6**	**-0.4**
	baz=280								
TWT					*e*S		**Sb**	**11 05 19.8**	**-1.0**
	baz=280								
CHGB	**Renai**	**0.61**	**261**	⇑	P		**Pb**	**11 05 10.6**	**-1.5**
	baz=263								
CHGB					S		**Sb**	**11 05 21.1**	**+0.2**
	baz=263								
EGFH	**Guangfu**	**0.61**	**217**		P		**Pb**	**11 05 11.1**	**-0.8**
	baz=239								
EGFH					*e*S		**Sn**	**11 05 22.2**	**-2.0**
	baz=239								
ILA	**Ilan**	**0.61**	**353**		*i* P		**Pb**	**11 05 11.6**	**-0.4**
	baz=344								
ILA					*i* S		**Sb**	**11 05 21.3**	**+0.3**
	baz=344								
TDCB	**Techi**	**0.62**	**279**		P		**Pb**	**11 05 11.2**	**-1.0**
	baz=280								
TDCB					S		**Sb**	**11 05 19.6**	**-1.7**
	baz=280								
OWD	**Renai**	**0.63**	**252**		P		**Pb**	**11 05 11.5**	**-0.9**
	baz=263								
OWD					*e*S		**Sb**	**11 05 21.5**	**0.0**
	baz=263								
FUSB	**Fushanzhiwuyua**	**0.64**	**340**	⇓	P		**Pb**	**11 05 11.4**	**-1.1**
	baz=338								
FUSB					S		**Sb**	**11 05 20.7**	**-1.1**
	baz=338								
YHNB	**Yeheng**	**0.66**	**321**		P		**Pb**	**11 05 11.9**	**-1.0**
YHNB	**Yeheng**	**0.66**	**321**	⇓	P		**Pb**	**11 05 11.8**	**-1.0**
	baz=312								
YHNB					S		**Sb**	**11 05 21.5**	**-0.8**
	baz=312								
WUSB	**Renai**	**0.67**	**256**		P		**Pb**	**11 05 12.0**	**-1.1**
	baz=258								
WUSB					*e*S		**Sb**	**11 05 21.7**	**-0.9**
	baz=258								
NSK	**Sanguang**	**0.67**	**320**	⇓	*i*P		**Pb**	**11 05 12.1**	**-1.0**
	baz=320								
NSK					*i* S		**Sb**	**11 05 21.8**	**-0.9**
	baz=320								
NWLT	**Wulai**	**0.69**	**334**	⇓	P		**Pb**	**11 05 12.3**	**-1.0**
	baz=333								
NWLT					S		**Sb**	**11 05 21.6**	**-1.5**
	baz=333								
EGS		**0.69**	**8**	*i*	P		**Pb**	**11 05 12.8**	**-0.6**
	baz=5.0								
EGS					*e*S		**Sb**	**11 05 22.1**	**-1.1**
	baz=5.0								
VWDT	**VWDT**	**0.74**	**238**		P		**Pb**	**11 05 13.5**	**-0.7**
	baz=249								
VWDT					*e*S		**Sb**	**11 05 23.9**	**-0.7**
	baz=249								
HGSD	**Ruisui**	**0.76**	**209**		P		**Pb**	**11 05 14.2**	**-0.3**
	baz=213								
HGSD					*e*S		**Sn**	**11 05 26.8**	**-1.1**
	baz=213								
EHYH	**Wanrong**	**0.79**	**214**		P		**Pb**	**11 05 14.4**	**-0.6**
	baz=231								
EHYH					*e*S		**Sb**	**11 05 26.4**	**+0.3**
	baz=231								
EHY	**Hungye**	**0.80**	**216**		*i* P		**Pg**	**11 05 13.8**	**-0.3**
	baz=232								
EHY					*e*S		**Sn**	**11 05 26.8**	**-2.1**
	baz=232								
NFF	**Wufeng Townshi**	**0.80**	**306**	⇓	P		**Pb**	**11 05 14.7**	**-0.6**
	baz=314								
NFF					S		**Sb**	**11 05 25.9**	**-0.6**
	baz=314								
WPL	**Puli Township**	**0.81**	**260**		P		**Pb**	**11 05 14.9**	**-0.5**
	baz=263								
WPL					*e*S		**Sb**	**11 05 25.3**	**-1.3**
	baz=263								
TIPB	**Shuangxi**	**0.81**	**360**		*i* P		**Pb**	**11 05 14.8**	**-0.6**
	baz=355								
TIPB					S		**Sb**	**11 05 25.8**	**-1.0**
	baz=355								
WHP	**Taichung City**	**0.81**	**279**		P		**Pb**	**11 05 15.1**	**-0.4**
	baz=281								
WHP					S		**Sn**	**11 05 27.2**	**-2.2**
	baz=281								
DPDB	**Guoxing**	**0.83**	**262**		P		**Pb**	**11 05 15.3**	**-0.5**
	baz=265								
DPDB					*e*S		**Sb**	**11 05 26.9**	**-0.5**
	baz=265								
WCS	**Beigang Elemen**	**0.84**	**264**		P		**Pb**	**11 05 15.4**	**-0.6**
	baz=257								
WCS					*e*S		**Sb**	**11 05 26.4**	**-1.2**
	baz=257								
NHDH	**Xindian Distri**	**0.85**	**341**		P		**Pb**	**11 05 15.4**	**-0.7**
	baz=338								
NHDH					*e*S		**Sb**	**11 05 27.7**	**-0.1**
	baz=338								
TWB1	**Santiao Chiao**	**0.86**	**10**		*i* P		**Pb**	**11 05 16.2**	**-0.1**
	baz=5.0								
TWB1					*e*S		**Sb**	**11 05 28.5**	**+0.4**
	baz=5.0								
TATO	**Taipei**	**0.87**	**339**		P		**Pb**	**11 05 16.3**	**-0.2**
TATO	**Taipei**	**0.87**	**339**	⇓	P		**Pb**	**11 05 15.9**	**-0.5**
	baz=336								
TATO					S		**Sb**	**11 05 27.5**	**-0.9**
	baz=336								
SSLB	**Suanglung**	**0.88**	**246**		P		**Pb**	**11 05 15.8**	**-0.8**
SSLB	**Suanglung**	**0.88**	**246**		P		**Pb**	**11 05 15.6**	**-1.0**
	baz=259								
SSLB					S		**Sn**	**11 05 28.9**	**-2.1**
	baz=259								
LIOB	**Emei**	**0.89**	**304**		*i* P		**Pn**	**11 05 16.6**	**-1.3**
	baz=304								
LIOB					*i* S		**Sn**	**11 05 29.4**	**-1.8**
	baz=304								
NSTT	**Nanjuang**	**0.89**	**302**		*i* P		**Pb**	**11 05 16.5**	**-0.3**
	baz=303								
NSTT					*i* S		**Sb**	**11 05 28.7**	**-0.2**
	baz=303								
SMLT	**Sun Moon Lake**	**0.89**	**253**		*i* P		**Pb**	**11 05 16.1**	**-0.7**
	baz=255								
SMLT					S		**Sb**	**11 05 28.8**	**-0.3**
	baz=255								
YULB	**Yu-li**	**0.90**	**213**		P		**Pg**	**11 05 15.7**	**-0.5**
YULB	**Yu-li**	**0.90**	**213**		P		**Pb**	**11 05 15.9**	**-1.1**
	baz=218								
YULB					*e*S		**Sb**	**11 05 29.4**	**+0.2**
	baz=218								
ECBN	**Changbin**	**0.90**	**203**		P		**Pb**	**11 05 16.5**	**-0.5**
	baz=189								
ECBN					*e*S		**Sn**	**11 05 31.5**	**0.0**
	baz=189								
NWF	**Wu-fen Shan**	**0.91**	**357**		*i* P		**Pb**	**11 05 17.0**	**-0.2**
	baz=345								
NWF					S		**Sb**	**11 05 29.6**	**-0.1**
	baz=345								
WFSB	**Wu-fen Shan**	**0.91**	**357**		P		**Pb**	**11 05 16.9**	**-0.2**
	baz=345								
WFSB					S		**Sb**	**11 05 29.8**	**+0.2**
	baz=345								
TYC	**Yuchr**	**0.92**	**254**		*i* P		**Pb**	**11 05 16.7**	**-0.6**
	baz=258								
TYC					*e*S		**Sb**	**11 05 29.5**	**-0.3**
	baz=258								
TAP	**Taipei**	**0.93**	**342**		*e*P		**Pn**	**11 05 18.9**	**+0.4**
	baz=338								
TAP					*i* S		**Sb**	**11 05 29.9**	**-0.1**
	baz=338								
EYUL	**Yuli**	**0.93**	**210**		P		**Pn**	**11 05 17.9**	**-0.6**
	baz=232								
EYUL					*e*S		**Sn**	**11 05 31.4**	**-0.7**
	baz=232								
SXI1	**Grass Mountain**	**0.94**	**3**		P		**Pb**	**11 05 17.3**	**-0.3**
	baz=357								
SXI1					*e*S		**Sn**	**11 05 31.6**	**-0.9**
	baz=357								
TWF1	**Yuli**	**0.94**	**211**		*i* P		**Pb**	**11 05 16.9**	**-0.7**
	baz=232								
TWF1					*e*S		**Sn**	**11 05 31.8**	**-0.5**
	baz=232								
HSN1	**Hsinchu**	**0.96**	**310**		P		**Pn**	**11 05 19.2**	**+0.2**
	baz=310								
HSN1					*e*S		**Sn**	**11 05 31.6**	**-1.5**
	baz=310								
NTY	**Taoyuan**	**0.97**	**330**		*e*P		**Pn**	**11 05 19.3**	**+0.3**
	baz=328								
NTY					*e*S		**Sn**	**11 05 31.8**	**-1.4**
	baz=328								
TWQ1	**Liyutan**	**0.98**	**281**		*i* P		**Pn**	**11 05 19.3**	**0.0**
	baz=284								
TWQ1					S		**Sn**	**11 05 32.0**	**-1.5**
	baz=284								
TNOU	**National Taiwa**	**0.99**	**357**		P		**Pn**	**11 05 18.3**	**-1.0**
	baz=345								
TNOU					*e*S		**Sg**	**11 05 30.7**	**-0.1**
	baz=345								
SBCB	**Hsinchu**	**1.00**	**310**		P		**Pn**	**11 05 19.5**	**0.0**
	baz=310								
SBCB					*e*S		**Sn**	**11 05 34.1**	**+0.2**
	baz=310								
NCUH	**Zhongli**	**1.00**	**324**		P		**Pn**	**11 05 19.5**	**0.0**
	baz=322								
NCUH					S		**Sn**	**11 05 34.8**	**+0.8**
	baz=322								
NCU	**National Centr**	**1.00**	**324**		*i* P		**Pn**	**11 05 19.3**	**-0.2**
	baz=312								
NCU					*i* S		**Sn**	**11 05 32.9**	**-1.1**
	baz=312								
WHYT	**Xinyi Township**	**1.00**	**243**		P		**Pn**	**11 05 18.9**	**-0.7**
	baz=255								
WHYT					*e*S		**Sn**	**11 05 33.4**	**-0.7**
	baz=255								
NSY	**Sanyi**	**1.01**	**285**		*i* P		**Pn**	**11 05 19.4**	**-0.2**
	baz=287								
NSY					*e*S		**Sn**	**11 05 34.0**	**-0.1**
	baz=287								
TWS1	**Kuangyinshan**	**1.01**	**338**		*i* P		**Pn**	**11 05 19.3**	**-0.4**
	baz=335								
TWS1					S		**Sn**	**11 05 33.0**	**-1.2**
	baz=335								
HSN	**Hsinchu**	**1.01**	**310**	⇑	*i*P		**Pn**	**11 05 19.8**	**+0.2**
	baz=302								
HSN					*i* S		**Sn**	**11 05 33.4**	**-0.9**
	baz=302								
YM01	**YM01**	**1.01**	**347**		P		**Pn**	**11 05 18.9**	**-0.9**
	baz=330								
YM01					S		**Sn**	**11 05 33.3**	**-1.1**
	baz=330								
NMLH	**Miaoli**	**1.02**	**292**		P		**Pn**	**11 05 20.2**	**+0.5**
	baz=293								
NMLH					S		**Sn**	**11 05 34.4**	**0.0**
	baz=293								
CHKH	**Chenggong**	**1.04**	**203**		P		**Pg**	**11 05 18.3**	**-0.5**
	baz=188								
CHKH					S		**Sn**	**11 05 34.9**	**0.0**
	baz=188								
WWF	**Wufeng**	**1.04**	**264**		P		**Pn**	**11 05 21.0**	**+1.0**
	baz=261								
WWF					*e*S		**Sn**	**11 05 35.0**	**+0.1**
	baz=261								
YM08	**YM08**	**1.05**	**348**		P		**Pn**	**11 05 20.0**	**-0.2**
	baz=333								
YM08					*e*S		**Sn**	**11 05 34.4**	**-0.9**
	baz=333								
TCU	**Taichung**	**1.05**	**270**		*i* P		**Pn**	**11 05 20.4**	**+0.2**
	baz=273								
TCU					S		**Sn**	**11 05 35.4**	**+0.1**
	baz=273								
NWRT	**Kuosheng**	**1.05**	**352**		*e*P		**Pn**	**11 05 21.1**	**+0.9**
	baz=339								
NWRT					*e*S		**Sn**	**11 05 33.9**	**-1.3**
	baz=339								
WJS	**Zhushan**	**1.06**	**252**		P		**Pn**	**11 05 20.5**	**+0.2**
	baz=256								
WJS					S		**Sn**	**11 05 35.6**	**+0.2**
	baz=256								
JYNG	**Yonagunijimaku**	**1.06**	**74**		P		**Pn**	**11 05 20.0**	**-0.3**
JYNG	**Yonagunijimaku**	**1.06**	**74**		A		A	11 05 20.0	
	comp=E,5.0nm,8.3s,comp=N,5.0nm,5.2s								
NTST	**Danshui**	**1.06**	**341**		P		**Pn**	**11 05 20.4**	**0.0**
	baz=337								
NTST					*e*S		**Sn**	**11 05 35.7**	**+0.2**
	baz=337								
ANP	**Anpu**	**1.06**	**345**		*i* P		**Pn**	**11 05 19.7**	**-0.8**
	baz=341								
ANP					*e*S		**Sn**	**11 05 34.9**	**-0.8**
	baz=341								
FULB	**Fuli**	**1.07**	**207**		*i* P		**Pb**	**11 05 19.4**	**-0.5**
	baz=230								
FULB					*e*S		**Sn**	**11 05 36.0**	**+0.3**
	baz=230								
WNT1	**Nantou City**	**1.08**	**257**		P		**Pn**	**11 05 21.7**	**+1.1**
	baz=256								
WNT1					*e*S		**Sn**	**11 05 37.2**	**+1.3**
	baz=256								
WNT	**Mingjian**	**1.08**	**255**		*i* P		**Pn**	**11 05 20.7**	**+0.1**
	baz=259								
WNT					*i* S		**Sn**	**11 05 36.3**	**+0.3**
	baz=259								
WDJ	**Dajia District**	**1.10**	**280**		P		**Pn**	**11 05 22.2**	**+1.3**
	baz=283								
WDJ					*e*S		**Sn**	**11 05 37.6**	**+1.1**
	baz=283								
NHW	**Xinwu Township**	**1.11**	**320**		*e*P		**Pn**	**11 05 21.3**	**+0.4**
	baz=319								
NHW					*e*S		**Sn**	**11 05 36.5**	**0.0**
	baz=319								
YOJ	**Yonaguni jima**	**1.12**	**74**		P		**Pn**	**11 05 21.6**	**+0.5**
YOJ	**Yonaguni jima**	**1.12**	**74**		P		**Pn**	**11 05 21.4**	**+0.3**
	baz=68								
YOJ					*e*S		**Sn**	**11 05 39.4**	**+2.5**
	baz=68								
YOJ	**Yonaguni jima**	**1.12**	**74**		P		**Pn**	**11 05 21.8**	**+0.7**
YOJ					*e*S		**Sn**	**11 05 38.3**	**+1.4**
YOJ	**Yonaguni jima**	**1.12**	**74**		A		A	11 05 21.8	
	comp=E,5.0nm,4.0s,comp=N,4.0nm,2.5s								
TWY	**Chenhua**	**1.14**	**349**		*i* P		**Pn**	**11 05 21.2**	**-0.1**
	baz=335								
TWY					S		**Sn**	**11 05 37.4**	**+0.1**
	baz=335								
ALS	**Alishan**	**1.14**	**236**		*i* P		**Pn**	**11 05 20.8**	**-0.8**
	baz=230								
ALS					*e*S		**Sn**	**11 05 37.4**	**-0.3**
	baz=230								
NSM	**Shimen**	**1.15**	**349**		*e*P		**Pn**	**11 05 21.8**	**+0.2**
	baz=334								
NSM					*e*S		**Sn**	**11 05 38.1**	**+0.5**
	baz=334								
EHD	**Haiduan**	**1.15**	**210**		P		**Pb**	**11 05 20.4**	**-0.8**
	baz=216								
EHD					*e*S		**Sn**	**11 05 37.9**	**+0.2**
	baz=216								
WYL	**Yuanlin Townsh**	**1.16**	**261**		*e*P		**Pn**	**11 05 23.3**	**+1.7**
	baz=265								
WYL					*e*S		**Sn**	**11 05 39.2**	**+1.4**
	baz=265								
WCHH	**Zhanghua**	**1.16**	**267**		*e*P		**Pn**	**11 05 23.5**	**+1.8**
	baz=270								
WCHH					*e*S		**Sn**	**11 05 39.0**	**+1.0**
	baz=270								
CHN5	**Tsauling**	**1.19**	**242**	⇓	*i*P		**Pn**	**11 05 22.2**	**0.0**
	baz=249								
CHN5					S		**Sn**	**11 05 40.8**	**+2.1**
	baz=249								
ECS	**Chishang**	**1.19**	**208**		P		**Pn**	**11 05 21.6**	**-0.6**
	baz=226								
ECS					*e*S		**Sn**	**11 05 40.5**	**+1.8**
	baz=226								
ELDTW	**Lidau**	**1.22**	**218**		*i* P		**Pg**	**11 05 20.7**	**-1.5**
	baz=211								
ELDTW					*e*S		**Sb**	**11 05 37.5**	**-0.9**
	baz=211								
WDLH	**Douliu**	**1.27**	**249**		P		**Pg**	**11 05 25.4**	**+2.2**
	baz=255								
WDLH					*e*S		**Sn**	**11 05 42.9**	**+2.3**
	baz=255								
WCKO	**Fanlu**	**1.33**	**238**		P		**Pg**	**11 05 24.8**	**+0.4**
	baz=245								
WCKO					S		**Sn**	**11 05 43.5**	**+1.5**
	baz=245								
WRL	**Guolierlin Hig**	**1.35**	**260**		P		**Pg**	**11 05 25.4**	**+0.6**
	baz=266								
WRL					S		**Sn**	**11 05 45.8**	**+3.2**
	baz=266								
RLNB	**Erlin**	**1.37**	**259**		P		**Pg**	**11 05 26.0**	**+0.9**
	baz=266								
RLNB					*e*S		**Sg**	**11 05 45.1**	**+2.2**
	baz=266								
STYH	**Taoyuan**	**1.38**	**225**	⇓	P		**Pn**	**11 05 23.9**	**-0.8**
	baz=219								
STYH					S		**Sg**	**11 05 44.2**	**+1.1**
	baz=219								
CHN2	**Minshiung**	**1.39**	**244**		P		**Pg**	**11 05 26.2**	**+0.8**
	baz=251								
CHN2					S		**Sg**	**11 05 46.3**	**+2.8**
	baz=251								
TPUB	**Ta-pu**	**1.39**	**233**		P		**Pg**	**11 05 25.1**	**-0.4**
TPUB	**Ta-pu**	**1.39**	**233**	⇓	P		**Pg**	**11 05 24.8**	**-0.8**
	baz=239								
TPUB					*e*S		**Sg**	**11 05 45.0**	**+1.5**
	baz=239								
STYT	**Tauyuan**	**1.39**	**225**		*i* P		**Pb**	**11 05 24.4**	**-0.9**
	baz=218								
STYT					S		**Sg**	**11 05 45.6**	**+2.0**
	baz=218								
WTK	**Tuku**	**1.40**	**251**		P		**Pg**	**11 05 25.7**	**0.0**
	baz=257								
WTK					S		**Sg**	**11 05 46.3**	**+2.5**
	baz=257								
LONT	**Longtian**	**1.40**	**207**		P		**Pn**	**11 05 24.2**	**-0.7**
	baz=214								
LONT					*e*S		**Sg**	**11 05 44.4**	**+0.5**
	baz=214								
WTP	**Ta-pu**	**1.44**	**231**	⇑	*i*P		**Pg

LDUT	**Ludao**	**1.51 193**	P	**Pn**	**11 05 23.9**	**-2.6**
	baz=187					
LDUT			S	**Sn**	**11 05 45.3**	**-1.3**
	baz=187					
TWK	**Hsinying**	**1.51 235**	*i* P	**Pg**	**11 05 27.3**	**-0.6**
	baz=242					
TWK			S	**Sg**	**11 05 49.5**	**+2.0**
	baz=242					
CHN1	**Nanshi**	**1.53 231**	*i* P	**Pg**	**11 05 27.8**	**-0.5**
	baz=239					
CHN1			*i* S	**Sg**	**11 05 50.3**	**+2.1**
	baz=239					
SNST	**Tainan City**	**1.54 233**	P	**Pg**	**11 05 27.6**	**-0.7**
	baz=241					
SNST			S	**Sg**	**11 05 50.0**	**+1.7**
	baz=241					
WSF	**Szhu**	**1.56 251**	*i* P	**Pb**	**11 05 27.0**	**-1.1**
	baz=258					
WSF			S	**Sg**	**11 05 51.1**	**+2.1**
	baz=258					
SGST	**Jiashian**	**1.56 227**	*i* P	**Pn**	**11 05 26.9**	**-0.3**
	baz=234					
SGST			*i* S	**Sg**	**11 05 51.7**	**+2.5**
	baz=234					
SLGT	**Liugui**	**1.58 223**	P	**Pb**	**11 05 28.0**	**-0.6**
	baz=231					
SLGT			S	**Sg**	**11 05 51.7**	**+1.9**
	baz=231					
WSL	**Shuilin Townsh**	**1.59 247**	P	**Pg**	**11 05 29.8**	**+0.4**
	baz=255					
WSL			S	**Sg**	**11 05 52.2**	**+2.0**
	baz=255					
ICHU	**Yijhu**	**1.62 241**	P	**Pg**	**11 05 29.3**	**-0.8**
	baz=250					
ICHU			*e*S	**Sg**	**11 05 52.8**	**+1.7**
	baz=250					
CHN8	**Yiju**	**1.69 242**	P	**Pg**	**11 05 31.0**	**-0.2**
	baz=250					
CHN8			*e*S	**Sg**	**11 05 54.1**	**+1.0**
	baz=250					
CHN3	**Shinhua**	**1.72 232**	*e*P	**Pg**	**11 05 31.8**	**-0.1**
	baz=241					
CHN3			*e*S	**Sg**	**11 05 56.8**	**+2.6**
	baz=241					
IRIF	**Iriomote-Funau**	**1.75 84**	P	**Pb**	**11 05 30.2**	**-1.1**
IRIF	**Iriomote-Funau**	**1.75 84**	A	A	11 05 30.2	
	comp=E,3.0nm,3.5s,comp=N,3.0nm,10.7s					
ECL	**Taimali**	**1.75 208**	P	**Pb**	**11 05 30.0**	**-1.4**
	baz=214					
ECL			*e*S	**Sb**	**11 05 52.1**	**-1.5**
	baz=214					
SCST	**Cishan**	**1.76 224**	P	**Pb**	**11 05 31.2**	**-0.3**
	baz=233					
SCST			S	**Sg**	**11 05 56.6**	**+1.1**
	baz=233					
SHHT	**Tainan City**	**1.77 231**	P	**Pg**	**11 05 33.1**	**+0.4**
	baz=256					
SHHT			*e*S	**Sg**	**11 05 59.1**	**+3.5**
	baz=256					
TSMG	**Majia**	**1.81 217**	P	**Pn**	**11 05 30.1**	**-0.4**
	baz=227					
TSMG			S	**Sg**	**11 05 56.1**	**-0.8**
	baz=227					
HATJ	**Hateruma jima**	**1.81 93**	A	A	11 05 31.8	
	comp=E,5.0nm,3.4s,comp=N,6.0nm,4.5s					
TWM1	**Shoushan**	**1.85 225**	P	**Pb**	**11 05 32.0**	**-1.2**
	baz=227					
TWM1			*e*S	**Sg**	**11 05 59.5**	**+1.1**
	baz=227					
TSCK	**Chigu Township**	**1.89 238**	P	**Pn**	**11 05 31.5**	**-0.1**
	baz=247					
TSCK			S	**Sg**	**11 05 59.2**	**-0.3**
	baz=247					
MASBT	**Mashibuluo**	**1.89 216**	P	**Pb**	**11 05 32.7**	**-1.1**
	baz=225					
MASBT			S	**Sg**	**11 05 59.3**	**-0.3**
	baz=225					
EAST	**Anshuo**	**1.98 207**	P	**Pn**	**11 05 31.6**	**-1.4**
	baz=215					
EAST			*e*S	**Sb**	**11 05 58.5**	**-1.8**
	baz=215					
TAW	**Tawu**	**1.98 206**	*e*P	**Pb**	**11 05 33.7**	**-1.7**
	baz=214					
TAW			*e*S	**Sn**	**11 05 57.9**	**-0.3**
	baz=214					
JKRS	**Kuro-shima**	**1.99 87**	P	**Pb**	**11 05 34.7**	**-0.8**
JKRS			*e*S	**Sb**	**11 06 01.3**	**+0.7**
TAWH	**Dawu Township**	**2.00 206**	P	**Pb**	**11 05 33.8**	**-1.9**
	baz=214					
TAWH			*e*S	**Sn**	**11 05 58.9**	**+0.2**
	baz=214					
SCZT	**Fangliau**	**2.09 212**	*i* P	**Pb**	**11 05 35.9**	**-1.4**
	baz=222					
SCZT			S	**Sg**	**11 06 04.3**	**-1.9**
	baz=222					
JIJ	**Ishigaki jima**	**2.12 84**	P	**Pn**	**11 05 34.8**	**-0.1**
LAY	**Lan-yu**	**2.12 187**	*e*P	**Pn**	**11 05 32.6**	**-2.3**
	baz=196					
LAY			*e*S	**Sn**	**11 06 00.0**	**-1.6**
	baz=196					
SLIU	**Shizi**	**2.15 206**	*e*P	**Pb**	**11 05 37.2**	**-1.1**
	baz=214					
SLIU			*e*S	**Sb**	**11 06 04.5**	**-0.7**
	baz=214					
PNG	**Penghu**	**2.16 255**	*i* P	**Pn**	**11 05 35.9**	**+0.4**
	baz=263					
PNG			*i* S	**Sb**	**11 06 05.7**	**+0.1**
	baz=263					
PHUB	**P'eng-hu**	**2.16 253**	P	**Pn**	**11 05 36.0**	**+0.6**
	baz=261					
PHUB			S	**Sb**	**11 06 04.2**	**-1.3**
	baz=261					
WDGT	**Dungji**	**2.18 246**	*i* P	**Pn**	**11 05 35.7**	**0.0**
	baz=255					
WDGT			S	**Sb**	**11 06 04.7**	**-1.3**
	baz=255					
JISG	**Ishigakijimahi**	**2.30 79**	P	**Pn**	**11 05 38.1**	**+0.7**
VWUC	**VWUC**	**2.32 292**	P	**Pn**	**11 05 38.1**	**+0.4**
	baz=295					
VWUC			S	**Sb**	**11 06 07.5**	**-2.6**
	baz=295					
HEN	**Hengchun**	**2.36 205**	*e*P	**Pn**	**11 05 39.0**	**+0.8**
	baz=200					
HEN			*e*S	**Sb**	**11 06 10.7**	**-0.6**
	baz=200					
VCHM	**Qimei**	**2.39 247**	P	**Pn**	**11 05 39.4**	**+0.7**
	baz=239					
VCHM			S	**Sb**	**11 06 10.9**	**-1.3**
	baz=239					
TWKBT	**Hengchun**	**2.39 203**	*e*P	**Pn**	**11 05 38.8**	**+0.2**
	baz=214					
TWKBT			*e*S	**Sb**	**11 06 10.5**	**-1.7**
	baz=214					
TWK1	**Hengchun**	**2.40 203**	P	**Pn**	**11 05 39.8**	**+1.2**
	baz=214					
TWK1			*e*S	**Sb**	**11 06 09.8**	**-2.5**
	baz=214					
PTMZ	**Houxiangcun**	**2.62 290**	*i* P	**Pn**	**11 05 41.6**	**-0.2**
	baz=293					
PTMZ			*i* S	**Sn**	**11 06 14.3**	**+0.5**
	baz=293					
MATB	**Ma-tsu**	**2.62 320**	P	**Pn**	**11 05 41.4**	**-0.4**
	baz=319					
MATB			*e*S	**Sn**	**11 06 14.4**	**+0.5**
	baz=319					
JTJ	**Tarama**	**2.66 79**	*e*P	**Pn**	**11 05 44.2**	**+1.9**
LYJJ	**Jianjiangzhen**	**3.03 322**	P	**Pn**	**11 05 47.3**	**-0.1**
	baz=321					
LYJJ			*e*S	**Sb**	**11 06 26.6**	**-4.0**
	baz=321					
KNM	**Kinmen**	**3.11 276**	P	**Pb**	**11 05 51.5**	**-3.1**
	baz=281					
KNM			*e*S	**Sb**	**11 06 31.9**	**-0.9**
	baz=281					
XPSS	**Dashiqiu**	**3.13 332**	P	**Pn**	**11 05 48.9**	**0.0**
	baz=329					
XPSS			S	**Sn**	**11 06 27.4**	**+0.8**
	baz=329					
KNMB	**Chin-men Tao**	**3.15 276**	P	**Pn**	**11 05 49.4**	**+0.3**
	baz=282					
KNMB			*e*S	**Sn**	**11 06 29.2**	**+2.1**
	baz=282					
MHZQ	**Yeshan**	**3.19 308**	P	**Pn**	**11 05 49.5**	**-0.1**
	baz=309					
MHZQ			*e*S	**Sb**	**11 06 30.6**	**-4.5**
	baz=309					
AXDP	**Jialang**	**3.59 283**	P	**Pn**	**11 05 54.9**	**-0.3**
	baz=287					
AXDP			*e*S	**Sn**	**11 06 39.7**	**+1.8**
	baz=287					
ZPLA	**Ao Xicun**	**3.74 267**	P	**Pn**	**11 05 57.6**	**+0.5**
	baz=276					
ZPLA			*e*S	**Sn**	**11 06 41.6**	**+0.1**
	baz=276					
DSXP	**Dongshan**	**4.05 265**	P	**Pn**	**11 06 02.8**	**+1.3**
	baz=274					
DSXP			S	**Sn**	**11 06 50.4**	**+1.1**
	baz=274					
SXFK	**Yanhouchang**	**4.40 301**	P	**Pn**	**11 06 07.0**	**+0.8**
	baz=303					
SXFK			*e*S	**Sn**	**11 07 00.7**	**+2.8**
	baz=303					
JOW	**Kunigami**	**6.41 64**	P	**Pn**	**11 06 33.9**	**0.0**
	comp=N,0.7nm,0.3s,baz=131,slow=11,SNR=2.1 comp=N,12nm,0.8s					
JNU	**Nakatsue**	**11.95 40**	LR	LR	11 12 38.4	
	comp=N,54nm,20.1s,baz=214,slow=38					
KSRS	**Korea Array**	**14.25 20**	P	**P**	**11 08 29.4**	**+0.8**
	comp=N,4.0nm,0.7s,baz=200,slow=11,SNR=16					
KSRS			LR	LR	11 14 25.5	
	comp=N,70nm,19.4s,baz=195,slow=39					
CMAR	**Chiang Mai Arr**	**22.05 260**	P	**P**	**11 09 55.5**	**+1.0**
	comp=N,0.3nm,0.2s,baz=68,slow=8.9,SNR=5.4 comp=N,0.3nm,0.2s					
ASAJ	**Asahikawa**	**26.17 35**	LR	LR	11 20 31.4	
	comp=N,22nm,20.4s,baz=278,slow=35					
KLR	**Kul'dur**	**26.21 15**	LR	LR	11 22 17.1	
	comp=N,71nm,19.3s,baz=216,slow=39					
SONM	**Songino Array**	**26.63 336**	P	**P**	**11 10 38.8**	**+0.5**
	comp=N,1.7nm,1.0s,baz=155,slow=8.3,SNR=6.0 comp=N,1.7nm,1.0s					
MKAR	**Makanchi Array**	**38.77 316**	P	**P**	**11 12 24.7**	**+0.5**
	comp=N,0.6nm,0.8s,baz=113,slow=9.7,SNR=5.2 comp=N,0.6nm,0.8s					
ZALV	**Zalesovo Beam**	**40.59 327**	P	**P**	**11 12 39.5**	**+0.3**
	comp=N,0.8nm,0.5s,baz=107,slow=7.7,SNR=1.7 comp=N,0.8nm,0.5s					
KURBB	**Kurchatov Arra**	**42.51 320**	P	**P**	**11 12 54.1**	**-0.9**
	comp=N,0.6nm,1.0s,baz=108,slow=6.0,SNR=2.5 comp=N,0.6nm,1.0s					
BVAR	**Borovoye Array**	**48.07 321**	P	**P**	**11 13 40.8**	**+1.7**
	comp=N,0.7nm,0.5s,baz=120,slow=10,SNR=2.3 comp=N,0.7nm,0.5s					
YKA	**Yellowknife Ar**	**82.77 23**	P	**P**	**11 17 21.6**	**-2.0**
	comp=N,0.3nm,0.7s,baz=311,slow=5.3,SNR=8.7 comp=N,0.3nm,0.7s					

*IDC **14** 11:05:17.6±1.0, 6.°12S×142.°95E, h0km, mb4.0/6, mbtmp4.1/8, ML1.4/1, MS4.0/2, Error ellipse: s-maj=35.1km s-min=24.1km az=57.0*

ISC 14 11:05:19.6±0.8, 6.°0S±0.°1×143.°00E±0.°10, h10km, n18, σ1°49/15, mb3.9/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
TABU	**Tabubil**	**1.90**	**292**	P		**Pn**	**11 05 51.9**	**-0.2**
GENI	**Genyem**	**4.39**	**320**	P		Pn	11 06 31.4	+5.0
PMG	**Port Moresby**	**5.35**	**130**	Pn		**Pn**	**11 06 38.0**	**-1.4**
	0.9nm,0.3s,baz=235,slow=9.3,SNR=1.7							
PMG				Sn		**Sn**	**11 07 42.6**	**+1.5**
	6.6nm,0.3s,baz=242,slow=23,SNR=7.9 8.4nm,0.5s							
WRA	**Warramunga Arr**	**16.23**	**210**	Pn		Pn	11 09 00.8	-7.0
	0.8nm,0.3s,baz=28,slow=14,SNR=25							
WRA				Sn		Sn	11 11 50.0	-18
	0.5nm,0.3s,baz=27,slow=23,SNR=5.0							
WRA				Lg		Lg	11 13 39.1	
	baz=30,slow=28							
WB1	**Warramunga Ar.**	**16.24**	**210**	P		**Pn**	**11 09 08.0**	**0.0**
	12nm,1.0s							
HNR	**Honiara**	**17.14**	**103**	LR		LR	11 15 24.7	
	comp=Z,913nm,20.2s,baz=298,slow=35							
ASAR	**Alice Springs**	**19.64**	**206**	P		**P**	**11 09 45.9**	**-2.7**
	22nm,0.7s,baz=32,slow=10,SNR=116							
ASAR				S		S	11 13 15.0	-15
	1.4nm,0.7s,baz=15,slow=28,SNR=5.0							
ASAR				Lg		Lg	11 15 28.5	
	baz=9.8,slow=28							
QLP	**Quilpie**	**20.52**	**177**	P		**P**	**11 09 59.5**	**+1.4**
INKA	**Innaminka**	**21.74**	**185**	P		**P**	**11 10 14.5**	**+3.2**
OOD	**Oodnadatta**	**22.78**	**197**	P		**P**	**11 10 23.0**	**+0.7**
URZ	**Urewera**	**44.59**	**141**	LR		LR	11 30 43.2	
	comp=Z,90nm,18.7s,baz=136,slow=34							
CMAR	**Chiang Mai Arr**	**49.77**	**300**	P		**P**	**11 14 12.8**	**0.0**
	0.7nm,0.5s,baz=119,slow=5.8,SNR=6.7 0.7nm,0.5s							
USRK	**Ussuriysk Ar.**	**50.93**	**350**	P		**P**	**11 14 20.6**	**-0.5**
	1.1nm,0.7s,baz=201,slow=6.2,SNR=2.1 1.1nm,0.7s							
MKAR	**Makanchi Array**	**74.98**	**322**	P		**P**	**11 17 02.2**	**+1.0**
	1.1nm,0.9s,baz=106,slow=7.7,SNR=7.0 1.1nm,0.9s							
KURBB	**Kurchatov Arra**	**78.86**	**324**	P		**P**	**11 17 23.2**	**+0.3**
	0.7nm,0.9s,baz=112,slow=4.3,SNR=5.6 0.7nm,0.9s							
BVAR	**Borovoye Array**	**84.43**	**325**	P		**P**	**11 17 52.3**	**0.0**
	5.1nm,0.8s,baz=110,slow=6.5,SNR=21 5.1nm,0.8s							
ILAR	**Eielson Array**	**87.05**	**24**	P		**P**	**11 18 05.5**	**+0.3**
	0.7nm,0.6s,baz=253,slow=4.5,SNR=25 0.7nm,0.6s							
DBIC	**Dimbokro**	**148.04**	**273**	PKPbc		**PKPbc**	**11 25 05.6**	**-0.9**
	2.8nm,0.7s,baz=93,slow=0.8,SNR=1.5							

*AFAD **14** 11:10:37.5±0.0, 38.°88N×26.°14E, h7km±4km, ML2.0*
*THE **14** 11:10:38.8, 38.°87N×26.°10E, h2km±6km, ML2.3/5, Error ellipse: s-maj=6.1km s-min=0.5km az=82.0*
*ISK **14** 11:10:38.0, 38.°89N×26.°17E, h5km, ML2.5/9*
*ATH **14** 11:10:39.4, 38.°88N×26.°08E, h12km±1km, ML2.3/5, Error ellipse: s-maj=2.0km s-min=1.0km az=277.0*

ISC 14 11:10:38.4±0.9, 38.°89N±0.°02×26.°18E±0.°03, h15km±8km, n30, σ0°54/50, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KARB	**zmir-Karabur**	**0.29**	**141**	P		**Pg**	**11 10 44.6**	**+0.1**
KARB				S		**Sg**	**11 10 48.8**	**+0.1**
KARB				*i*	AML	AML	11 10 49.0	
	comp=N,496nm,0.2s							
KARB				*i*	AML	AML	11 10 50.0	
	comp=E,307nm,0.2s							
PRK	**Paraskevi**	**0.36**	**11**	P		**Pg**	**11 10 46.1**	**+0.2**
PRK				S		**Sb**	**11 10 52.4**	**+0.4**
	1µm,0.4s							
PRK	**Paraskevi**	**0.36**	**11**	P		**Pb**	**11 10 46.2**	**-0.3**
PRK				S		**Sb**	**11 10 52.9**	**+0.9**
PRK					AML	AML	11 10 53.5	
	comp=N,2896µm,0.4s							
PRK					AML	AML	11 10 53.6	
	comp=E,3036µm,0.5s							
SIGR	**SIGRI**	**0.41**	**322**	Pg		**Pg**	**11 10 46.5**	**-0.2**
SIGR				Sg		**Sg**	**11 10 52.4**	**+0.1**
SIGR	**SIGRI**	**0.41**	**322**	P		**Pg**	**11 10 46.5**	**-0.2**
SIGR				S		**Sg**	**11 10 52.3**	**0.0**
	comp=E,545nm,0.5s							
SIGR	**SIGRI**	**0.41**	**322**	P		**Pg**	**11 10 46.6**	**-0.1**
SIGR				S		**Sg**	**11 10 52.4**	**+0.1**
SIGR					AML	AML	11 10 52.9	
	comp=E,1363µm,0.5s							
SIGR					AML	AML	11 10 54.6	
	comp=N,802µm,0.6s							
FOCM	**Foa**	**0.46**	**112**	Pg		**Pg**	**11 10 47.5**	**-0.1**
CHOS	**Chios island**	**0.51**	**191**	Pg		**Pg**	**11 10 48.3**	**-0.2**
CHOS	**Chios island**	**0.51**	**191**	P		**Pg**	**11 10 48.3**	**-0.2**
CHOS				S		**Sg**	**11 10 54.7**	**-0.7**
	comp=N,190nm,0.5s							
CHOS	**Chios island**	**0.51**	**191**	P		**Pg**	**11 10 48.3**	**-0.2**
CHOS				S		**Sg**	**11 10 55.7**	**+0.3**
CHOS					AML	AML	11 11 02.4	
	comp=E,331µm,0.2s							
CHOS					AML	AML	11 11 02.4	
	comp=N,286µm,0.3s							
AYVA	**Ayvalik**	**0.58**	**43**	P		**Pg**	**11 10 49.1**	**-0.7**
AYVA				S		**Sb**	**11 10 57.4**	**-0.7**
AYVA				*i*	AML	AML	11 11 00.0	
	comp=N,76nm,0.3s							
AYVA				*i*	AML	AML	11 11 03.0	
	comp=N,75nm,0.3s							
IZMD	**zmir-Dikili-**	**0.59**	**80**	P		**Pg**	**11 10 49.0**	**-1.1**
IZMD				S		**Sb**	**11 10 59.1**	**+0.5**
IZMD				*i*	AML	AML	11 11 03.0	
	comp=N,23nm,0.6s							
IZMD				*i*	AML	AML	11 11 03.0	
	comp=N,15nm,0.8s							
DKL	**Dikili**	**0.59**	**72**	Pg		**Pb**	**11 10 50.3**	**-0.1**
PSRA	**Psara**	**0.59**	**235**	P		**Pg**	**11 10 49.6**	**-0.5**
PSRA				S		**Sg**	**11 10 57.5**	**-0.5**
URLA	**Izmir**	**0.62**	**148**	Pg		**Pg**	**11 10 50.6**	**0.0**
URLA	**Izmir**	**0.62**	**148**	P		**Pg**	**11 10 50.0**	**-0.5**
URLA				S		**Sg**	**11 10 58.2**	**-0.5**
URLA				*i*	AML	AML	11 11 03.0	
	comp=N,117nm,0.6s							
URLA				*i*	AML	AML	11 11 03.0	
	comp=N,127nm,0.4s							
ZEYE	**Izmir, Urla-Ze**	**0.69**	**159**	P		**Pg**	**11 10 50.9**	**-1.1**
ZEYE				S		**Sg**	**11 11 00.7**	**-0.5**
ZEYE				*i*	AML	AML	11 11 04.0	
	comp=N,114nm,0.7s							
ZEYE				*i*	AML	AML	11 11 06.0	
	comp=N,124nm,0.3s							
ZEDA	**zmir-Bergama**	**0.70**	**83**	P		**Pb**	**11 10 52.3**	**0.0**
ZEDA				S		**Sb**	**11 11 01.7**	**-0.1**
ZEDA				*i*	AML	AML	11 11 06.0	
	comp=N,45nm,0.3s							
ZEDA				*i*	AML	AML	11 11 08.0	
	comp=N,49nm,0.5s							
BLCB	**Balcova**	**0.84**	**126**	Pg		**Pn**	**11 10 55.8**	**+0.2**
BLCB	**Balcova**	**0.84**	**126**	P		**Pn**	**11 10 56.0**	**+0.4**
EZN	**Ezine**	**0.94**	**7**	Pg		**Pg**	**11 10 56.5**	**-0.2**
EZN				Sg		**Sn**	**11 11 09.6**	**-0.6**
COMU	**Canakkale**	**1.23**	**10**	Pn		**Pg**	**11 11 01.7**	**-0.4**
LIA	**Limnos Island**	**1.27**	**323**	P		**Pb**	**11 11 02.2**	**+0.2**
LIA				S		**Sg**	**11 11 19.9**	**+0.4**
	comp=N,165nm,0.4s							
LIA	**Limnos Island**	**1.27**	**323**	P		**Pn**	**11 11 02.0**	**+0.4**
LIA				S		**Sb**	**11 11 16.9**	**-1.3**
LIA					AML	AML	11 11 22.1	
	comp=E,399µm,0.5s							
LIA					AML	AML	11 11 22.8	
	comp=N,255µm,0.3s							
SMG	**Samos**	**1.29**	**156**	P		**Pg**	**11 11 03.2**	**0.0**
SMG				S		**Sg**	**11 11 21.4**	**+1.5**
	comp=N,95nm,0.2s							
SMG	**Samos**	**1.29**	**156**	P		**Pg**	**11 11 03.1**	**-0.1**
SMG				S		**Sg**	**11 11 20.4**	**+0.4**
SMG					AML	AML	11 11 23.4	
	comp=N,187µm,0.6s							
SMG					AML	AML	11 11 23.8	
	comp=E,189µm,0.3s							
CANM	**Can-anakkale**	**1.31**	**31**	Pn		**Pg**	**11 11 03.2**	**-0.4**
GCAM	**G?zelcaml?**	**1.45**	**145**	Pn		**Pb**	**11 11 05.2**	**+0.2**
GCAM				Sn		**Sg**	**11 11 25.3**	**+0.3**
SMTH	**Samothraki Isl**	**1.66**	**343**	P		**Pn**	**11 11 07.4**	**+0.5**
ALN	**Alexandroupoli**	**2.01**	**357**	P		**Pn**	**11 11 12.5**	**+0.8**

*TAP **14** 11:15:03.8, 24.°15N×121.°85E, h7km, ML3.2, C*
*JMA **14** 11:15:05.0±0.1, 24.°1N±0.°3×121.°8E±0.°5, h8km±1km, MV2.8/15, TAIWAN REGION*

ISC 14 11:15:05.4±0.9, 24.°15N±0.°01×121.°82E±0.°02, h7km±7km, n121, σ0°98/226, 5C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
EHP	**Heping Village**	**0.17**	**337**	*e*P		**Pg**	**11 15 08.3**	**-0.6**
	baz=325							
EHP				*e*S		**Sg**	**11 15 11.3**	**-0.1**
	baz=325							
ETL	**Fush Village**	**0.18**	**273**	*e*P		**Pg**	**11 15 08.4**	**-0.5**
	baz=283							
ETL				S		**Sg**	**11 15 12.3**	**+0.9**
	baz=283							
EAHA	**Aohua**	**0.19**	**339**	⇑P		**Pg**	**11 15 08.5**	**-0.7**
	baz=315							
EAHA				S		**Sg**	**11 15 12.4**	**+0.5**
	baz=315							
NACB	**Ninganchiao**	**0.20**	**277**	⇓*i*P		**Pg**	**11 15 08.8**	**-0.7**
	baz=276							
NACB				S		**Sg**	**11 15 12.9**	**+0.7**
	baz=276							
TWD	**Chiawan**	**0.21**	**251**	*e*P		**Pg**	**11 15 09.2**	**-0.4**
	baz=265							
TWD				*i* S		**Sg**	**11 15 13.9**	**+1.5**
	baz=265							
HWA	**Hwalien**	**0.26**	**228**	*e*P		**Pg**	**11 15 11.4**	**+0.9**
	baz=248							
HWA				*e*S		**Sg**	**11 15 16.2**	**+2.3**
	baz=248							
ENA	**Nanau**	**0.29**	**346**	⇓*i*P		**Pg**	**11 15 10.2**	**-0.8**
	baz=329							
ENA				S		**Sg**	**11 15 15.2**	**+0.3**
	baz=329							
EWUT	**Wuta**	**0.30**	**353**	⇓*e*P		**Pg**	**11 15 10.6**	**-0.6**
	baz=335							
EWUT				*i* S		**Sg**	**11 15 15.3**	**+0.1**
	baz=335							
ETLH	**Xiulin Townshi**	**0.31**	**281**	*e*P		**Pg**	**11 15 10.7**	**-0.8**
	baz=279							
ETLH				*e*S		**Sg**	**11 15 16.6**	**+1.0**
	baz=279							
LXIB	**Xiulin Townshi**	**0.39**	**251**	⇑*e*P		**Pg**	**11 15 12.3**	**-0.7**
	baz=255							
LXIB				S		**Sb**	**11 15 21.0**	**0.0**
	baz=255							
ESAO	**Su ao**	**0.43**	**3**	*i* P		**Pg**	**11 15 12.8**	**-0.9**
	baz=348							
ESAO				S		**Sg**	**11 15 19.7**	**+0.4**
	baz=348							
SHUL	**Shoufeng**	**0.43**	**213**	⇓P		**Pb**	**11 15 14.4**	**-0.9**
	baz=215							
SHUL				*e*S		**Sb**	**11 15 24.4**	**+2.4**
	baz=215							
TWC	**Suao**	**0.46**	**4**	⇓*i*P		**Pg**	**11 15 13.6**	**-0.7**
	baz=350							
TWC				S		**Sg**	**11 15 20.8**	**+0.4**
	baz=350							
LATG	**Datong**	**0.47**	**326**	*e*P		**Pg**	**11 15 13.8**	**-0.6**
	baz=317							
LATG				*e*S		**Sg**	**11 15 20.7**	**+0.1**
	baz=317							
ESL	**Shilin**	**0.48**	**226**	*e*P		**Pg**	**11 15 14.3**	**-0.5**
	baz=244							
ESL				*e*S		**Sb**	**11 15 23.2**	**-0.3**
	baz=244							
NNSB	**Datong**	**0.48**	**305**	⇓*e*P		**Pg**	**11 15 14.2**	**-0.6**
	baz=301							
NNSB				*e*S		**Sg**	**11 15 20.9**	**-0.3**
	baz=301							
NDS	**Dongshan**	**0.49**	**349**	P		**Pg**	**11 15 14.5**	**-0.4**
	baz=338							
NDS				S		**Sg**	**11 15 21.9**	**+0.6**
	baz=338							
NNS	**Nan Shan**	**0.50**	**306**	*e*P		**Pg**	**11 15 14.5**	**-0.6**
	baz=301							
NNS				*e*S		**Sg**	**11 15 21.6**	**+0.1**
	baz=301							
WHF	**Hehuan Shan**	**0.50**	**270**	*e*P		**Pg**	**11 15 14.8**	**-0.3**
	baz=271							
WHF				S		**Sb**	**11 15 23.1**	**-1.5**
	baz=271							
NDT	**Datong Townshi**	**0.53**	**329**	*i* P		**Pg**	**11 15 15.2**	**-0.4**
	baz=311							
NDT				*e*S		**Sg**	**11 15 23.7**	**+1.1**
	baz=311							
FUSS	**Fushou**	**0.53**	**281**	*i* P		**Pg**	**11 15 15.6**	**-0.1**
	baz=281							
FUSS				S		**Sb**	**11 15 23.9**	**-1.3**
	baz=281							
WARBT	**Fenglin Townsh**	**0.58**	**223**	⇓P		**Pg**	**11 15 16.3**	**-0.3**
	baz=238							
WARBT				*e*S		**Sb**	**11 15 27.3**	**+0.9**
	baz=238							
TWE	**Neicheng**	**0.59**	**347**	*e*P		**Pg**	**11 15 16.2**	**-0.5**
	baz=342							
TWE				*e*S		**Sg**	**11 15 25.4**	**+1.0**
	baz=342							
CHGB	**Renai**	**0.59**

TDCB				*e*S	**Sb**	**11 15 26.3**	**-1.1**
	baz=288							
OWD	**Renai**	**0.62**	**252**	*e*P	**Pg**	**11 15 16.9**	**-0.4**
OWD	baz=262			*e*S	**Sb**	**11 15 27.8**	**+0.2**
	baz=262							
FUSB	**Fushanzhiwuyua**	**0.64**	**341**	*i* P	**Pg**	**11 15 17.4**	**-0.4**
FUSB	baz=324			S	**Sg**	**11 15 26.7**	**+0.5**
	baz=324							
YHNB	**Yeheng**	**0.66**	**322**	*e*P	**Pg**	**11 15 17.8**	**-0.3**
YHNB	baz=318			*e*S	**Sg**	**11 15 27.3**	**+0.7**
	baz=318							
WUSB	**Renai**	**0.66**	**256**	*e*P	**Pg**	**11 15 17.8**	**-0.3**
WUSB	baz=257			*e*S	**Sb**	**11 15 29.4**	**+0.6**
	baz=257							
NSK	**Sanguang**	**0.67**	**322**	*e*P	**Pg**	**11 15 18.0**	**-0.4**
NSK	baz=318			*e*S	**Sb**	**11 15 28.3**	**-0.8**
	baz=318							
NWLT	**Wulai**	**0.69**	**336**	*e*P	**Pg**	**11 15 18.2**	**-0.4**
NWLT	baz=330			S	**Sg**	**11 15 28.1**	**+0.5**
	baz=330							
EGS		**0.70**	**9**	*e*P	**Pg**	**11 15 18.8**	**-0.1**
EGS	baz=7.0			*e*S	**Sg**	**11 15 29.0**	**+0.9**
	baz=7.0							
VWDT	**VWDT**	**0.73**	**238**	P	**Pb**	**11 15 19.6**	**-0.9**
VWDT	baz=250			*e*S	**Sn**	**11 15 32.0**	**-1.6**
	baz=250							
HGSD	**Ruisui**	**0.75**	**209**⇓	*i* P	**Pb**	**11 15 19.9**	**-0.8**
EHYH	baz=208 **Wanrong**	**0.78**	**214**	*e*P	**Pb**	**11 15 20.5**	**-0.9**
EHY	baz=229 **Hungye**	**0.78**	**215**⇓	*e*P	**Pg**	**11 15 19.6**	**-0.9**
EHY	baz=231			*e*S	**Sn**	**11 15 34.1**	**-0.9**
	baz=231							
NFF	**Wufeng Townshi**	**0.80**	**307**	*e*P	**Pg**	**11 15 20.7**	**0.0**
NFF	baz=303			*e*S	**Sb**	**11 15 32.9**	**+0.1**
	baz=303							
WHP	**Taichung City**	**0.80**	**279**	*e*P	**Pb**	**11 15 21.6**	**-0.2**
WHP	baz=279			*e*S	**Sn**	**11 15 34.2**	**-1.4**
	baz=279							
TIPB	**Shuangxi**	**0.82**	**1**	*e*P	**Pg**	**11 15 20.7**	**-0.5**
TIPB	baz=344			*e*S	**Sg**	**11 15 32.6**	**+0.7**
	baz=344							
WCS	**Beigang Elemen**	**0.83**	**264**⇑	*e*P	**Pb**	**11 15 21.7**	**-0.5**
WCS	baz=266			*e*S	**Sb**	**11 15 34.0**	**+0.3**
	baz=266							
SSLB	**Suanglung**	**0.87**	**246**	*e*P	**Pg**	**11 15 21.4**	**-0.6**
SSLB	baz=259			*e*S	**Sb**	**11 15 35.1**	**+0.4**
	baz=259							
TWB1	**Santiao Chiao**	**0.87**	**10**	*e*P	**Pb**	**11 15 22.7**	**-0.2**
TWB1	baz=351			*e*S	**Sg**	**11 15 34.3**	**+0.8**
	baz=351							
SMLT	**Sun Moon Lake**	**0.88**	**253**	P	**Pg**	**11 15 22.2**	**-0.1**
SMLT	baz=256			*e*S	**Sn**	**11 15 36.9**	**-0.5**
	baz=256							
LIOB	**Emei**	**0.88**	**304**	*e*P	**Pb**	**11 15 22.7**	**-0.4**
LIOB	baz=301			S	**Sb**	**11 15 34.9**	**-0.2**
	baz=301							
NSTT	**Nanjuang**	**0.88**	**303**	P	**Pg**	**11 15 22.6**	**+0.1**
NSTT	baz=300			S	**Sb**	**11 15 34.6**	**-0.6**
	baz=300							
YULB	**Yu-li**	**0.89**	**212**	P	**Pg**	**11 15 21.3**	**-1.2**
YULB	baz=213			*e*S	**Sn**	**11 15 36.6**	**-0.9**
	baz=213							
ECBN	**Changbin**	**0.89**	**202**	*e*P	**Pb**	**11 15 22.8**	**-0.5**
ECBN	baz=177			*i* S	**Sn**	**11 15 36.3**	**-1.4**
	baz=177							
TYC	**Yuchr**	**0.91**	**255**	*e*P	**Pb**	**11 15 23.0**	**-0.6**
TYC	baz=258			*e*S	**Sn**	**11 15 36.9**	**-1.1**
	baz=258							
EYUL	**Yuli**	**0.92**	**210**	*e*P	**Pb**	**11 15 23.2**	**-0.5**
EYUL	baz=231			S	**Sn**	**11 15 37.4**	**-0.8**
	baz=231							
NWF	**Wu-fen Shan**	**0.92**	**358**	*e*P	**Pg**	**11 15 21.7**	**-1.4**
NWF	baz=341			*e*S	**Sb**	**11 15 36.5**	**+0.2**
	baz=341							
WFSB	**Wu-fen Shan**	**0.92**	**358**	*e*P	**Pg**	**11 15 21.7**	**-1.4**
WFSB	baz=343			*e*S	**Sb**	**11 15 36.5**	**+0.3**
	baz=343							
TWF1	**Yuli**	**0.92**	**211**	*e*P	**Pb**	**11 15 23.0**	**-0.8**
TWF1	baz=232			*e*S	**Sn**	**11 15 38.3**	**-0.1**
	baz=232							
SXI1	**Grass Mountain**	**0.94**	**3**	*e*P	**Pg**	**11 15 23.1**	**-0.5**
SXI1	baz=356			*i* S	**Sb**	**11 15 37.3**	**+0.4**
	baz=356							
TWQ1	**Liyutan**	**0.97**	**282**	*e*P	**Pn**	**11 15 26.1**	**+0.6**
WHYT	baz=283 **Xinyi Township**	**0.99**	**243**	*e*P	**Pb**	**11 15 24.9**	**-0.1**
WHYT	baz=255			*e*S	**Sn**	**11 15 39.7**	**-0.4**
	baz=255							
NCUH	**Zhongli**	**1.00**	**325**	*e*P	**Pb**	**11 15 25.0**	**-0.1**
NCUH	baz=307			*e*S	**Sb**	**11 15 38.6**	**+0.2**
	baz=307							
NCU	**National Centr**	**1.00**	**325**	*e*P	**Pg**	**11 15 23.3**	**-1.3**
NCU	baz=308			*e*S	**Sg**	**11 15 37.6**	**+0.1**
	baz=308							
NSY	**Sanyi**	**1.00**	**286**	P	**Pb**	**11 15 25.0**	**-0.1**
NSY	baz=285			*e*S	**Sn**	**11 15 41.5**	**+1.2**
	baz=285							
TNOU	**National Taiwa**	**1.00**	**358**	*e*P	**Pg**	**11 15 24.5**	**-0.1**
TNOU	baz=343			*e*S	**Sg**	**11 15 38.1**	**+0.5**
	baz=343							
NMLH	**Miaoli**	**1.01**	**293**	*e*P	**Pn**	**11 15 27.1**	**+1.0**
NMLH	baz=291			S	**Sn**	**11 15 40.1**	**-0.5**
	baz=291							
TWS1	**Kuangyinshan**	**1.01**	**339**	*e*P	**Pg**	**11 15 23.8**	**-1.1**
TWS1	baz=330			*e*S	**Sn**	**11 15 41.1**	**+0.4**
	baz=330							
YM01	**YM01**	**1.02**	**347**	P	**Pg**	**11 15 25.0**	**0.0**
YM01	baz=325			*i* S	**Sb**	**11 15 39.2**	**+0.2**
	baz=325							
CHKH	**Chenggong**	**1.03**	**202**	*e*P	**Pb**	**11 15 25.1**	**-0.5**
CHKH	baz=178			*e*S	**Sn**	**11 15 40.7**	**-0.2**
	baz=178							
TCU	**Taichung**	**1.04**	**270**	P	**Pn**	**11 15 26.7**	**+0.2**
TCU	baz=266			*e*S	**Sn**	**11 15 41.5**	**+0.2**
	baz=266							
WJS	**Zhushan**	**1.05**	**252**	*e*P	**Pn**	**11 15 26.6**	**0.0**
WJS	baz=256			*e*S	**Sn**	**11 15 42.7**	**+1.2**
	baz=256							
YM08	**YM08**	**1.05**	**349**	*i* P	**Pg**	**11 15 25.5**	**-0.1**
YM08	baz=326			*e*S	**Sg**	**11 15 39.9**	**+0.5**
	baz=326							
FULB	**Fuli**	**1.06**	**207**	*e*P	**Pg**	**11 15 25.0**	**-0.8**
FULB	baz=227			*e*S	**Sn**	**11 15 41.7**	**-0.1**
	baz=227							
ANP	**Anpu**	**1.07**	**345**	P	**Pg**	**11 15 25.7**	**-0.2**
ANP	baz=336			*e*S	**Sb**	**11 15 41.2**	**+0.6**
	baz=336							
WNT	**Mingjian**	**1.07**	**256**⇑	P	**Pn**	**11 15 26.9**	**0.0**
WNT	baz=246			*e*S	**Sn**	**11 15 43.8**	**+1.8**
	baz=246							
JYNG	**Yonagunijimaku**	**1.07**	**73**	*e*P	**Pb**	**11 15 26.5**	**+0.1**
JYNG				*e*S	**Sb**	**11 15 41.1**	**+0.5**
ALS	**Alishan**	**1.12**	**236**	P	**Pg**	**11 15 26.7**	**-0.3**
	baz=241							
CHKT	**Chengkung**	**1.12**	**202**	*e*P	**Pg**	**11 15 26.4**	**-0.6**
CHKT	baz=178			*e*S	**Sn**	**11 15 44.0**	**+0.7**
	baz=178							
YOJ	**Yonaguni jima**	**1.13**	**74**	*e*P	**Pg**	**11 15 27.0**	**-0.2**
	baz=67							
YOJ	**Yonaguni jima**	**1.13**	**74**	*e*P	**Pn**	**11 15 27.7**	**-0.1**
YOJ				*e*S	**Sn**	**11 15 44.0**	**+0.4**
EHD	**Haiduan**	**1.14**	**209**	*i* P	**Pg**	**11 15 26.4**	**-1.0**
EHD	baz=226			*e*S	**Sn**	**11 15 44.6**	**+0.8**
	baz=226							
CHN5	**Tsauling**	**1.18**	**242**⇑	*i* P	**Pn**	**11 15 28.4**	**0.0**
	baz=235							
CHN5				*e*S	**Sn**	**11 15 48.0**	**+3.2**
	baz=235							
ELDTW	**Lidau**	**1.20**	**218**	*e*P	**Pg**	**11 15 26.3**	**-2.2**
ELDTW	baz=199			*e*S	**Sn**	**11 15 44.7**	**-0.8**
	baz=199							
WGK	**Gukeng**	**1.24**	**248**	*e*P	**Pn**	**11 15 28.9**	**-0.2**
	baz=255							
WGK				*e*S	**Sn**	**11 15 49.6**	**+3.5**
	baz=255							
WDLH	**Douliu**	**1.25**	**249**	*e*P	**Pn**	**11 15 31.2**	**+1.7**
WDLH	baz=256			*e*S	**Sn**	**11 15 49.7**	**+3.1**
	baz=256							
WCKO	**Fanlu**	**1.31**	**238**	*e*P	**Pg**	**11 15 30.7**	**+0.1**
WCKO	baz=245			*e*S	**Sn**	**11 15 51.9**	**+3.8**
	baz=245							
WRL	**Guolierlin Hig**	**1.34**	**260**	*i* P	**Pg**	**11 15 31.1**	**0.0**
WRL	baz=265			*i* S	**Sn**	**11 15 51.5**	**+2.8**
	baz=265							
STYH	**Taoyuan**	**1.36**	**225**	*i* P	**Pn**	**11 15 30.4**	**-0.5**
STYH	baz=214			S	**Sn**	**11 15 50.1**	**+0.9**
	baz=214							
CHN4	**Tsaushan**	**1.37**	**235**	P	**Pg**	**11 15 31.6**	**-0.2**
CHN4	baz=228			*e*S	**Sn**	**11 15 53.0**	**+3.5**
	baz=228							
TPUB	**Ta-pu**	**1.38**	**232**	*e*P	**Pb**	**11 15 31.1**	**-0.4**
TPUB	baz=240			*e*S	**Sn**	**11 15 51.7**	**+2.1**
	baz=240							
WTK	**Tuku**	**1.38**	**251**	P	**Pg**	**11 15 32.2**	**+0.3**
WTK	baz=258			*e*S	**Sn**	**11 15 51.6**	**+1.8**
	baz=258							
LONT	**Longtian**	**1.39**	**207**	*e*P	**Pn**	**11 15 30.2**	**-1.0**
	baz=203							
WTP	**Ta-pu**	**1.42**	**231**	P	**Pg**	**11 15 32.2**	**-0.4**
	baz=238							
WTP				*e*S	**Sn**	**11 15 50.2**	**-0.6**
	baz=238							
TWGBT	**Beinan**	**1.49**	**207**	*e*P	**Pn**	**11 15 29.0**	**-3.6**
	baz=203							
TWGBT				*e*S	**Sb**	**11 15 51.9**	**-0.6**
	baz=203							
TWK	**Hsinying**	**1.50**	**234**	*e*P	**Pb**	**11 15 33.2**	**-0.5**
	baz=243							
TWK				*e*S	**Sg**	**11 15 53.5**	**-0.2**
	baz=243							
LDUT	**Ludao**	**1.50**	**192**	*e*P	**Pn**	**11 15 30.9**	**-2.0**
	baz=174							
CHN1	**Nanshi**	**1.52**	**231**	*i* P	**Pg**	**11 15 33.8**	**-0.8**
	baz=240							
CHN1				*e*S	**Sg**	**11 15 54.9**	**+0.6**
	baz=240							
SNST	**Tainan City**	**1.52**	**233**	*i* P	**Pg**	**11 15 34.0**	**-0.6**
	baz=242							
SNST				*e*S	**Sg**	**11 15 58.1**	**+3.7**
	baz=242							
WSF	**Szhu**	**1.54**	**251**	*e*P	**Pg**	**11 15 34.7**	**-0.4**
	baz=257							
SLGT	**Liugui**	**1.57**	**223**	*e*P	**Pn**	**11 15 33.6**	**-0.2**
	baz=234							
SLGT				*e*S	**Sg**	**11 15 57.7**	**+1.7**
	baz=234							
ICHU	**Yijhu**	**1.61**	**241**	*e*P	**Pg**	**11 15 36.2**	**-0.1**
	baz=248							
ECL	**Taimali**	**1.74**	**207**	*e*P	**Pb**	**11 15 37.2**	**-0.4**
	baz=187							
SCST	**Cishan**	**1.75**	**224**	*e*P	**Pb**	**11 15 37.3**	**-0.5**
	baz=232							
IRIF	**Iriomote-Funau**	**1.76**	**84**	P	**Pn**	**11 15 36.8**	**+0.4**
IRIF				*e*S	**Sn**	**11 15 59.8**	**+0.8**
TSMG	**Majia**	**1.79**	**217**	*e*P	**Pb**	**11 15 38.0**	**-0.7**
	baz=202							
HATJ	**Hateruma jima**	**1.82**	**92**	P	**Pn**	**11 15 37.8**	**+0.6**
HATJ				*e*S	**Sb**	**11 16 02.1**	**0.0**
TSCK	**Chigu Township**	**1.87**	**238**	*e*P	**Pn**	**11 15 37.9**	**0.0**
	baz=249							
TSCK				*e*S	**Sg**	**11 16 04.6**	**-1.1**
	baz=249							
MASBT	**Mashibuluo**	**1.88**	**216**	*e*P	**Pn**	**11 15 38.1**	**+0.1**
	baz=227							
MASBT				*e*S	**Sg**	**11 16 05.1**	**-0.6**
	baz=227							
JKRS	**Kuro-shima**	**2.00**	**87**	*e*P	**Pn**	**11 15 40.4**	**+0.7**
JKRS				*e*S	**Sb**	**11 16 06.7**	**-0.7**
JIJ	**Ishigaki jima**	**2.13**	**84**	*e*P	**Pn**	**11 15 41.4**	**-0.1**
JIJ				*e*S	**Sn**	**11 16 08.6**	**+0.3**
PNG	**Penghu**	**2.15**	**255**	*e*P	**Pn**	**11 15 42.3**	**+0.6**
	baz=263							
PNG				*e*S	**Sb**	**11 16 11.7**	**+0.1**
	baz=263							
PHUB	**P'eng-hu**	**2.15**	**253**	*i* P	**Pn**	**11 15 41.8**	**+0.1**
	baz=262							
PHUB				S	**Sb**	**11 16 10.8**	**-0.7**
	baz=262							
WDGT	**Dungji**	**2.17**	**246**	*e*P	**Pn**	**11 15 41.9**	**0.0**
	baz=256							
WDGT				*e*S	**Sb**	**11 16 11.6**	**-0.4**
	baz=256							
VWUC	**VWUC**	**2.31**	**292**	*e*P	**Pn**	**11 15 43.5**	**-0.4**
	baz=292							
VWUC				*e*S	**Sn**	**11 16 12.9**	**+0.2**
	baz=292							
JISG	**Ishigakijimahi**	**2.32**	**79**	P	**Pn**	**11 15 43.6**	**-0.4**
JISG				*e*S	**Sn**	**11 16 12.9**	**+0.1**
VCHM	**Qimei**	**2.38**	**247**	*e*P	**Pn**	**11 15 45.2**	**+0.3**
	baz=255							
PTMZ	**Houxiangcun**	**2.61**	**290**	*e*P	**Pn**	**11 15 47.6**	**-0.4**
	baz=292							
PTMZ				*e*S	**Sn**	**11 16 20.2**	**+0.2**
	baz=292							
MATB	**Ma-tsu**	**2.62**	**320**	*e*P	**Pn**	**11 15 47.5**	**-0.6**
	baz=312							
MATB				*e*S	**Sn**	**11 16 19.5**	**-0.8**
	baz=312							
JTJ	**Tarama**	**2.68**	**79**	*e*P	**Pn**	**11 15 49.9**	**+1.0**
JTJ				*e*S	**Sn**	**11 16 23.6**	**+1.9**
LYJJ	**Jianjiangzhen**	**3.03**	**323**	*e*P	**Pn**	**11 15 53.2**	**-0.6**
	baz=318							
XPSS	**Dashiqiu**	**3.13**	**332**	*e*P	**Pn**	**11 15 55.4**	**+0.2**
	baz=323							
KNMB	**Chin-men Tao**	**3.14**	**276**	*e*P	**Pn**	**11 15 55.3**	**-0.1**
	baz=282							
KNMB				*e*S	**Sn**	**11 16 32.6**	**-0.5**
	baz=282							
MHZQ	**Yeshan**	**3.19**	**308**	*e*P	**Pn**	**11 15 55.6**	**-0.3**
	baz=309							
AXDP	**Jialang**	**3.58**	**283**	*e*P	**Pn**	**11 16 01.3**	**-0.1**
	baz=287							
AXDP				*e*S	**Sn**	**11 16 43.1**	**-0.9**
	baz=287							
ZPLA	**Ao Xicun**	**3.72**	**267**	*e*P	**Pn**	**11 16 03.6**	**+0.2**
	baz=276							
ZPLA				*e*S	**Sn**	**11 16 47.2**	**-0.3**
	baz=276							

*IDC **14** 11:16:54.8±7.0,9°.36N×126°.19E,h82$^{km}_{\pm 65}$,mb3.6/14, mbtmp3.9/14,MS2.8/3,Error ellipse: s-maj=29.0km s-min=16.5km az=73.0*

*NEIC **14** 11:16:54.3±1.1,9°.33N±0°.08×126°.1E±0°.1,h66$^{km}_{\pm 8}$, mb4.1/32,Error ellipse: s-maj=21.3km s-min=11.8km az=78.0*

ISC 14 11:16:53.8±0.5,9°.34N±0°.07×126°.1E±0°.2,h67^{km},n62,
σ0^{s}82/54,mb4.1/29,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.31**	**193**	Pn	**Pn**	**11 17 29.4**	**-0.2**
LUWI	**Luwuk**	**10.83**	**198**	Pn	**Pn**	**11 19 26.4**	**+0.3**
JAGI	**Jajag, Banyuwa**	**21.32**	**214**	P	**P**	**11 21 33.6**	**-1.7**
MTN	**Manton Dam**	**22.60**	**167**	P	**P**	**11 21 48.8**	**-0.3**
KNRA	**Kununurra**	**24.99**	**174**	P	**P**	**11 22 12.3**	**+0.8**
KNRA				IAmb	IAmb	11 22 23.7	
	comp=Z,7.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**27.27**	**181**	P	**P**	**11 22 32.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**27.83**	**292**	P	**P**	**11 22 39.0**	**+1.9**
	comp=Z,0.7nm,0.3s,baz=126,slow=10,SNR=1.6						
CMAR				LR	LR	11 34 43.5	
	comp=Z,22nm,18.4s,baz=175,slow=38 comp=Z,0.7nm,0.3s						
KSRS	**Korea Array**	**28.04**	**3**	P	**P**	**11 22 37.3**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=186,slow=11,SNR=4.5						
KSRS				LR	LR	11 36 08.8	
	comp=Z,11nm,18.1s,baz=0.0,slow=41 comp=Z,0.9nm,0.6s						
MJAR	**Matsushiro Arr**	**29.23**	**20**	LR	LR	11 34 28.8	
	comp=Z,17nm,19.4s,baz=291,slow=36						
WB0	**Warramunga Arr**	**30.06**	**164**	P	**P**	**11 22 55.1**	**-1.7**
WB0				IAmb	IAmb	11 23 10.3	
	comp=Z,3.7nm,1.1s						
WRA	**Warramunga Arr**	**30.21**	**164**	P	**P**	**11 22 57.2**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=344,slow=8.0,SNR=8.6 comp=Z,0.2nm,0.4s						
WB2	**Warramunga Arr**	**30.21**	**164**	P	**P**	**11 22 57.4**	**-0.8**
WB2				IAmb	IAmb	11 23 10.5	
	comp=Z,3.2nm,1.0s						
WR0	**Warramunga Arr**	**30.28**	**164**	P	**P**	**11 22 58.2**	**-0.5**
WR0				IAmb	IAmb	11 23 06.4	
	comp=Z,3.3nm,1.1s						
ASAR	**Alice Springs**	**33.68**	**167**	P	**P**	**11 23 28.4**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=356,slow=6.6,SNR=7.0 comp=Z,0.3nm,0.3s						
USRK	**Ussuriysk Ar.**	**35.11**	**7**	P	**P**	**11 23 40.1**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=216,slow=9.4,SNR=4.0 comp=Z,1.4nm,0.7s						
FORT	**Forrest**	**39.93**	**177**	P	**P**	**11 24 23.0**	**+1.4**
H11S3	**WAKE ISLAND Hy**	**40.36**	**72**	T	T	12 07 17.6	
	baz=262,slow=75,SNR=29						
H11S1	**WAKE ISLAND Hy**	**40.38**	**72**	T	T	12 07 20.0	
	baz=262,slow=75,SNR=30						
H11S2	**WAKE ISLAND Hy**	**40.38**	**72**	T	T	12 07 21.6	
	baz=262,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**40.72**	**71**	T	T	12 07 48.4	
	baz=266,slow=75,SNR=36						
H11N2	**WAKE ISLAND Hy**	**40.73**	**71**	T	T	12 07 47.5	
	baz=266,slow=75,SNR=37						
H11N3	**WAKE ISLAND Hy**	**40.74**	**71**	T	T	12 07 52.8	
	baz=266,slow=75,SNR=38						
BBOO	**Buckleboo**	**42.98**	**168**	P	**P**	**11 24 47.4**	**+0.9**
PEA0B	**Petropavlovsk-**	**50.55**	**24**	P	**P**	**11 25 45.8**	**+0.4**
PETK	**Petropavlovsk-**	**50.55**	**24**	P	**P**	**11 25 46.1**	**+0.7**
PETK	**Petropavlovsk-**	**50.55**	**24**	P	**P**	**11 25 45.9**	**+0.5**
	comp=Z,1.3nm,0.4s,baz=198,slow=4.6,SNR=1.8 comp=Z,1.3nm,0.4s						
MK31	**Makanchi Array**	**52.66**	**323**	P	**P**	**11 26 01.2**	**0.0**
MKAR	**Makanchi Array**	**52.66**	**323**	P	**P**	**11 26 01.0**	**-0.3**
MKAR	**Makanchi Array**	**52.66**	**323**	P	**P**	**11 26 00.8**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=123,slow=7.1,SNR=20 comp=Z,0.9nm,0.5s						
MAKZ	**Makanchi**	**52.85**	**323**	P	**P**	**11 26 02.4**	**-0.3**
MAKZ				IAmb	IAmb	11 26 02.8	
	comp=Z,1.1nm,0.6s						
KURK	**Kurchatov**	**56.73**	**326**	P	**P**	**11 26 30.4**	**-0.2**
KURK				IAmb	IAmb	11 26 30.5	
	comp=Z,2.2nm,1.1s						
KURBB	**Kurchatov Arra**	**56.74**	**326**	P	**P**	**11 26 30.1**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=124,slow=7.5,SNR=13 comp=Z,0.7nm,0.4s						
GAR	**Garm**	**57.75**	**310**	P	**P**	**11 26 38.4**	**+0.1**
KKAR	**Karatay Array**	**58.78**	**315**	P	**P**	**11 26 45.0**	**-0.2**
KKAR				IAmb	IAmb	11 26 45.3	
	comp=Z,1.1nm,0.6s						
TIXI	**Tiksi**	**62.28**	**1**	P	**P**	**11 27 08.4**	**0.0**
BVAR	**Borovoye Array**	**62.33**	**326**	P	**P**	**11 27 07.8**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=116,slow=6.8,SNR=3.8 comp=Z,0.6nm,0.5s						
NRIK	**Noril'sk**	**64.87**	**346**	P	**P**	**11 27 26.3**	**+0.8**
NRIK				IAmb	IAmb	11 27 26.4	
	comp=Z,1.6nm,0.5s						
ABKAR	**Akbulak array**	**67.46**	**320**	P	**P**	**11 27 42.6**	**+0.1**
ABKAR				IAmb	IAmb	11 27 54.4	
	comp=Z,2.9nm,1.1s						
L14K	**Kuka Creek**	**72.88**	**29**	P	**P**	**11 28 16.5**	**+1.1**
L14K				IAmb	IAmb	11 28 33.6	
	comp=Z,2.9nm,1.1s						
K15K	**Wolf Creek Mou**	**73.61**	**28**	P	**P**	**11 28 21.1**	**+1.4**
K15K				IAmb	IAmb	11 28 41.6	
	comp=Z,3.6nm,1.1s						
E18K	**Tukpahlearik C**	**75.04**	**23**	P	**P**	**11 28 29.3**	**+1.3**
C18K	**Utukok River**	**75.08**	**21**	P	**P**	**11 28 28.8**	**+0.6**
D19K	**Kuna River**	**76.16**	**22**	P	**P**	**11 28 35.0**	**+0.6**
D19K				IAmb	IAmb	11 28 45.3	
	comp=Z,2.3nm,1.1s						
O18K	**Koktuh Hills**	**76.31**	**31**	P	**P**	**11 28 35.9**	**+0.6**
H19K	**Roundabout Mou**	**76.36**	**25**	P	**P**	**11 28 36.0**	**+0.5**
IMAR	**Indian Mountai**	**77.52**	**24**	P	**P**	**11 28 42.5**	**+0.5**
B21K	**Ikpikpuk River**	**77.57**	**21**	P	**P**	**11 28 43.4**	**+1.1**
B21K				IAmb	IAmb	11 29 07.0	
	comp=Z,3.9nm,1.1s						
MLY	**Manley**	**78.71**	**25**	P	**P**	**11 28 49.2**	**+0.5**
C23K	**Itkillik River**	**78.98**	**21**	P	**P**	**11 28 50.7**	**+0.7**
C23K				IAmb	IAmb	11 28 51.1	
	comp=Z,2.3nm,0.7s						
ILAR	**Eielson Array**	**80.35**	**26**	P	**P**	**11 28 56.1**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=229,slow=4.0,SNR=13 comp=Z,0.3nm,0.5s						
G29M	**Pine Creek**	**83.79**	**23**	P	**P**	**11 29 16.6**	**+1.0**
SPB1	**Spitsbergen Ar**	**84.89**	**349**	P	**P**	**11 29 20.8**	**-0.1**
SPITS	**Spitsbergen Ar**	**84.89**	**349**	P	**P**	**11 29 20.2**	**-0.7**
	comp=Z,3.0nm,0.7s,baz=93,slow=5.8,SNR=4.5 comp=Z,3.0nm,0.7s						
ARCES	**ARCESS Array B**	**85.00**	**340**	P	**P**	**11 29 21.8**	**+0.2**
ARCES	**ARCESS Array B**	**85.00**	**340**	P	**P**	**11 29 21.1**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=74,slow=6.3,SNR=15 comp=Z,1.6nm,0.5s						
INK	**Inuvik**	**85.21**	**22**	P	**P**	**11 29 23.1**	**+0.5**
INK				IAmb	IAmb	11 29 26.6	
	comp=Z,1.7nm,1.1s						
FINES	**FINESS Array B**	**86.62**	**332**	P	**P**	**11 29 29.6**	**-0.1**
FINES	**FINESS Array B**	**86.62**	**332**	P	**P**	**11 29 29.0**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=72,slow=8.2,SNR=5.5 comp=Z,0.6nm,0.5s						
C36M	**Paulatuk**	**88.17**	**20**	P	**P**	**11 29 36.7**	**-0.3**
VNDA	**Vanda**	**89.03**	**173**	LR	LR	12 10 02.3	
	comp=Z,85nm,18.2s,baz=10.0,slow=36						
YKA	**Yellowknife Ar**	**94.67**	**24**	P	**P**	**11 30 07.0**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=304,slow=5.3,SNR=4.9 comp=Z,0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**120.44**	**291**	PKP	**PKPdf**	**11 35 38.3**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=67,slow=3.8,SNR=4.4						

*IDC **14** 11:27:30.4±0.7,6°.33S×143°.69E,h0^{km},mb4.4/15, mbtmp4.4/15,ML5.1/1,MS4.0/9,Error ellipse: s-maj=35.1km s-min=14.4km az=84.0*

*NEIC **14** 11:27:33.3±1.9,6°.35S±0°.07×143°.29E±0°.07,h10$^{km}_{\pm 1}$, mb4.8/114,Error ellipse: s-maj=12.6km s-min=11.9km az=248.0*

*DJA **14** 11:

16nm,0.3s,baz=44,slow=17,SNR=6.3
JAY Jayapura 4.75 325 P **Pn** **11 28 46.3 +0.8**
JAY S **Sn** **11 29 43.4 +4.0**
GENI Genyem 5.01 320 P **Pn** **11 28 50.2 +1.1**
GENI Genyem 5.01 320 P **Pn** **11 28 51.8 +2.7**
341nm,0.6s,5µm3.8nm
GENI S **Sn** **11 29 48.9 +3.0**
341nm,0.6s,5µm3.8nm
MANU Manus Island 5.90 42 **Pn** **11 29 01.5 +0.2**
COEN Coen 7.46 182 Pn **Pn** **11 29 24.7 +2.0**
COEN Coen 7.46 182 P **Pn** **11 29 23.5 +0.8**
RABL Rabaul 9.00 76 Pn **Pn** **11 29 45.2 +1.3**
MTSU Mount Surprise 11.64 176 P **Pn** **11 30 21.2 +1.1**
FAKI Fak Fak 11.66 287 Pn **Pn** **11 30 17.7 -2.6**
FAKI Fak Fak 11.66 287 P **Pn** **11 30 19.9 -0.4**
SAUI Saumlaki 12.11 262 Pn **Pn** **11 30 22.8 -3.6**
KDU Kakadu 12.43 239 P **Pn** **11 30 29.4 -1.4**
MTN Manton Dam 13.66 241 Pn **Pn** **11 30 45.9 -1.7**
MTN Manton Dam 13.66 241 P **Pn** **11 30 46.0 -1.7**
DRS Darwin Rock St 13.69 243 P **Pn** **11 30 47.7 -0.3**
QIS Mount Isa 14.50 194 P **Pn** **11 31 00.0 +0.9**
WB0 Warramunga Arr 15.87 213 Pn **Pn** **11 31 16.1 -1.1**
WR0 Warramunga Arr 15.95 212 **Pn** **11 31 17.0 -1.2**
WRAB Tennant Creek 16.03 212 **Pn** **11 31 17.9 -1.3**
WB2 Warramunga Arr 16.04 212 Pn **Pn** **11 31 17.9 -1.4**
WRA Warramunga Arr 16.04 212 Pn **Pn** **11 31 17.2 -2.1**
WRA Warramunga Arr 16.04 212 Pn **Pn** **11 31 17.7 -1.7**
1.0nm,0.3s,baz=31,slow=13,SNR=25
WRA Sn **Sn** **11 34 08.3 -8.0**
1.0nm,0.3s,baz=32,slow=22,SNR=5.1
WRA Lg Lg 11 36 02.1
1.1nm,0.3s,baz=19,slow=23,SNR=5.1
WRA LR LR 11 38 15.6
comp=Z,790nm,18.6s,baz=35,slow=40
HNR Honiara 16.64 101 Pn **Pn** **11 31 28.0 +0.9**
HNR Honiara 16.64 101 Pn **P** **11 31 29.7 +0.6**
55nm,0.3s,baz=174,slow=5.6,SNR=8.0
KNRA Kununurra 17.03 236 Pn **Pn** **11 31 30.2 -1.8**
KNRA IAmb IAmb 11 31 46.3
comp=Z,51nm,0.6s
SANI Sanana 17.91 283 P **P** **11 31 45.2 +2.0**
comp=Z,39nm,0.8s
AS31 Alice Springs 19.40 207 P **Pn** **11 32 02.9 +2.1**
AS31 IAmb IAmb 11 32 03.9
comp=Z,30nm,0.7s
ASAR Alice Springs 19.40 207 P **Pn** **11 32 03.0 +2.2**
ASAR Alice Springs 19.40 207 P **Pn** **11 32 02.6 +1.7**
comp=Z,5.3nm,0.3s,baz=34,slow=10.0,SNR=401
ASAR S **S** **11 35 33.2 -3.9**
comp=Z,2.6nm,0.5s,baz=20,slow=27,SNR=4.2
ASAR Lg Lg 11 37 39.7
comp=Z,0.3nm,0.3s,baz=16,slow=30,SNR=4.2
ASAR LR LR 11 40 11.3
comp=Z,580nm,18.9s,baz=38,slow=39
BATI Baumata 19.89 258 LR LR 11 41 58.9
comp=Z,511nm,18.8s,baz=86,slow=43
EIDS Eidsvold 20.19 160 P Pn 11 32 10.8 +0.7
EIDS IAmb IAmb 11 32 20.7
comp=Z,61nm,1.3s
FITZ Fitzroy Crossi 20.84 235 P **P** **11 32 15.8 +0.6**
LUWI Luwuk 21.27 284 P **P** **11 32 19.1 -0.8**
LUWI IAmb IAmb 11 32 42.5
comp=Z,48nm,0.9s
LUWI Luwuk 21.27 284 P **P** **11 32 22.9 +3.0**
comp=Z,64nm,1.0s,comp=Z,2µm
GTOI Gorontalo 21.54 288 P **P** **11 32 26.9 +4.1**
comp=Z,27nm,0.7s,comp=Z,306nm
MRSI Marisa 22.50 287 P **P** **11 32 36.0 +2.9**
comp=Z,28nm,1.1s
TOLI2 Tolitoli 23.80 288 P **P** **11 32 45.8 -0.4**
TOLI2 IAmb IAmb 11 32 53.6
comp=Z,20nm,0.8s
KOUNC **Koumac, New Ca 24.62 127** P **P** **11 32 53.8 +0.2**
ARMA Armidale 25.06 163 P **P** **11 32 59.0 +1.4**
ARMA IAmb IAmb 11 33 00.7
comp=Z,17nm,1.0s
STKA Stephens Creek 25.35 184 P **P** **11 33 00.0 -0.1**
STKA Stephens Creek 25.35 184 P **P** **11 32 59.1 -1.0**
comp=Z,6.3nm,0.8s,baz=349,slow=8.4,SNR=12
comp=Z,6.3nm,0.8s
BBOO Buckleboo 27.10 194 P **P** **11 33 16.5 +0.5**
DZM Mont Dzumac 27.13 127 P **P** **11 33 16.8 +0.4**
DZM IAmb IAmb 11 33 27.6
comp=Z,40nm,1.4s
DZM Mont Dzumac 27.13 127 *e*LR LR 11 40 11.6
comp=Z,195nm,22.1s
FORT Forrest 28.16 209 P **P** **11 33 25.8 +0.3**
CAN Canberra 29.19 171 P **P** **11 33 37.2 +2.6**
CAN IAmb IAmb 11 34 02.7
comp=Z,29nm,1.5s
NWAO Narrogin (SRO) 35.86 219 LR LR 11 50 10.0
comp=Z,461nm,18.1s,baz=290,slow=38
JHJ Hachijo jima 2 39.51 355 LR LR 11 48 43.6
comp=Z,150nm,20.2s,baz=270,slow=32
MJAR Matsushiro Arr 43.05 354 P **P** **11 35 29.5 -3.3**
comp=Z,0.9nm,0.6s,baz=170,slow=7.4,SNR=2.3
comp=Z,0.9nm,0.6s
MRNZ Matariki Terra 43.51 148 P **P** **11 35 38.7 +2.2**
IPM Ipoh 43.68 283 P **P** **11 35 37.9 -0.3**
RTZ Ruatahuna 44.11 142 P **P** **11 35 43.2 +1.8**
NJ2 Nanjing 44.88 330 *e*P **P** **11 35 48.5 +1.0**
NJ2 pmax pmax
comp=Z,7.0nm,0.7s
KSAR Wonju Array Be 46.01 343 P **P** **11 35 55.1 -1.3**
KSRS Korea Array 46.01 343 P **P** **11 35 55.7 -0.7**
comp=Z,6.9nm,0.9s,baz=162,slow=9.4,SNR=14
comp=Z,6.9nm,0.9s
KS19 Wonju Array Si 46.07 343 P **P** **11 35 55.8 -1.0**
KS19 IAmb IAmb 11 35 59.9
comp=Z,12nm,1.1s
WHN Wuhan 46.13 324 P **P** **11 36 01.5 +4.0**
JTM Tenmabayashi 47.06 358 P **P** **11 36 02.8 -1.7**
LYN LuoYang 50.17 326 *e*P **P** **11 36 30.9 +2.3**
LYN pmax pmax
comp=Z,13nm,0.7s
CMAR Chiang Mai Arr 50.35 300 P **P** **11 36 30.9 +0.6**
comp=Z,0.8nm,0.4s,baz=117,slow=6.7,SNR=6.4
comp=Z,0.8nm,0.4s
KMI Kunming 50.50 310 ⇑P P 11 36 36.1 +4.6
KMI pmax pmax
comp=Z,10.0nm,1.1s
HNS HongShan 51.20 331 *e*P **P** **11 36 36.3 0.0**
USRK Ussuriysk Ar. 51.46 350 P **P** **11 36 37.1 -1.0**
USRK Ussuriysk Ar. 51.46 350 P **P** **11 36 37.2 -0.9**
comp=Z,5.3nm,0.8s,baz=175,slow=6.8,SNR=13
USRK LR LR 11 56 35.9
comp=Z,58nm,21.8s,baz=209,slow=34
comp=Z,5.3nm,0.8s
USA0B Ussuriysk Arra 51.46 350 P **P** **11 36 37.4 -0.8**
USA0B IAmb IAmb 11 37 02.4
comp=Z,10nm,1.1s
XAN Xi'an 51.83 323 P **P** **11 36 44.3 +3.1**
XAN pmax pmax
comp=Z,11nm,1.3s
PZH PanZhiHua 52.00 311 P **P** **11 36 44.3 +1.6**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,130nm,5.8s
MDJ Mudanjiang 52.34 348 P **P** **11 36 46.6 +1.9**
MDJ pmax pmax
comp=Z,8.0nm,1.2s
MDJ pmax pmax
comp=Z,130nm,4.3s
CN2 Changchun 52.59 344 *e*P **P** **11 36 47.5 +0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
BNX BinXian 53.90 346 ⇓P **P** **11 36 55.4 -0.7**
BNX pmax pmax
comp=Z,9.0nm,1.1s
BNX pmax pmax
comp=Z,150nm,4.0s
HHC Hu-ho-hao-te 55.41 331 *e*P **P** **11 37 10.5 +3.1**
HHC pmax pmax
comp=Z,34nm,0.6s
HHC pmax pmax
comp=Z,100nm,4.5s
BTO Baotou 55.99 330 *e*P **P** **11 37 15.0 +3.5**
BTO pP **pP** **11 37 19.8 -2.6**
BTO sP **sP** **11 37 21.9 -4.8**
BTO pmax pmax
comp=Z,19nm,1.1s
BTO pmax pmax
comp=Z,140nm,6.2s
LZH Lanzhou 56.28 322 *e*P **P** **11 37 13.3 -0.5**
LZH pP pP 11 37 18.0 -6.7
LZH pmax pmax
comp=Z,13nm,1.1s
HEH HeiHe 58.16 348 *e*P **P** **11 37 22.0 -4.5**
PEA0B Petropavlovsk- 60.56 10 P **P** **11 37 42.8 -0.3**
PETK Petropavlovsk- 60.56 10 P **P** **11 37 42.7 -0.4**
PETK Petropavlovsk- 60.56 10 P **P** **11 37 41.9 -1.2**
comp=Z,3.4nm,0.7s,baz=155,slow=6.7,SNR=11
comp=Z,3.4nm,0.7s
GTA Gaotai 60.86 322 *e*P **P** **11 37 46.3 +0.7**
GTA pP pP 11 37 49.3 -7.3
GTA sP sP 11 37 53.1 -7.7
GTA pmax pmax
comp=Z,2.0nm,1.0s
ULN Ulaanbaatar 62.85 333 P **P** **11 37 56.6 -2.2**
SONM Songino Array 63.12 333 P **P** **11 38 00.9 +0.3**
comp=Z,1.3nm,0.7s,baz=162,slow=6.2,SNR=8.2
comp=Z,1.3nm,0.7s
PALK Pallekele 64.02 281 LR LR 12 07 19.9
comp=Z,31nm,21.6s,baz=129,slow=37
PPT2 Papeete2 66.19 106 *e*SS SS 11 51 29.3 +4.6
comp=Z,121nm,24.8s
PPT2 *e*LQ LQ 11 55 29.5
comp=Z,669nm,25.8s
PPT2 *e*LR LR 11 57 05.8
comp=Z,978nm,28.8s
PPT2 *e*LR LR 11 57 12.2
comp=Z,624nm,36.2s
TBI Tubuai 66.49 113 *e*SS SS 11 51 29.2 +0.3
comp=Z,732nm,34.0s
TBI *e*LQ LQ 11 55 39.4
comp=Z,4µm,30.5s
TBI *e*LR LR 11 57 05.9
comp=Z,3µm,45.8s
VNDA Vanda 71.70 176 P **P** **11 38 55.6 +1.4**
VNDA IAmb IAmb 11 39 15.7
comp=Z,10nm,1.2s
VNDA Vanda 71.70 176 P **P** **11 38 54.4 +0.1**
comp=Z,2.5nm,0.8s,baz=330,slow=6.8,SNR=5.8
comp=Z,2.5nm,0.8s
SBA Scott Base 72.40 175 P **P** **11 39 01.4 +3.0**
MK31 Makanchi Array 75.60 322 P **P** **11 39 17.4 -0.3**
MKAR Makanchi Array 75.60 322 P **P** **11 39 17.7 0.0**
comp=Z,3.6nm,0.8s,baz=110,slow=6.5,SNR=32
comp=Z,3.6nm,0.8s
MAKZ Makanchi 75.80 322 P **P** **11 39 18.6 -0.2**
MAKZ IAmb IAmb 11 39 30.4
comp=Z,6.8nm,0.8s
KSH Kashi 77.04 313 P **P** **11 39 28.0 +1.8**
KSH pmax pmax
comp=Z,6.0nm,0.8s
NIL Nilore 77.30 306 P **P** **11 39 25.8 -1.8**
ZAA0 Zalesovo Array 77.52 329 P **P** **11 39 26.8 -1.6**
ZALV Zalesovo Beam 77.52 329 P **P** **11 39 27.7 -0.6**
ZALV Zalesovo Beam 77.52 329 P **P** **11 39 27.2 -1.1**
comp=Z,1.6nm,0.6s,baz=94,slow=4.9,SNR=7.0
comp=Z,1.6nm,0.6s
BOOM Boomskoye usch 78.08 316 P **P** **11 39 32.3 +0.3**
BOOM IAmb IAmb 11 39 40.0
comp=Z,5.2nm,0.7s
TIXI Tiksi 78.53 355 P **P** **11 39 34.1 +0.6**
TIXI IAmb IAmb 11 39 35.9
comp=Z,7.1nm,0.8s
AAK Ala-Archa 79.14 315 P **P** **11 39 37.5 -0.3**
M14K Bethel 79.33 24 P **P** **11 39 38.0 -0.1**
M14K IAmb IAmb 11 39 39.2
comp=Z,20nm,1.4s
KURK Kurchatov 79.46 324 P **P** **11 39 38.4 -0.7**
KURBB Kurchatov Arra 79.47 324 P **P** **11 39 38.6 -0.5**
comp=Z,1.6nm,0.8s,baz=115,slow=4.0,SNR=16
comp=Z,1.6nm,0.8s
L16K Owhat River 80.86 24 P **P** **11 39 46.4 0.0**
BTK Batken 80.99 312 P **P** **11 39 46.9 -0.8**
F15K North Star Dit 81.27 19 IAmb IAmb 11 39 49.1
comp=Z,8.8nm,1.2s
M17K Holitna River 81.53 25 IAmb IAmb 11 39 58.3
comp=Z,9.3nm,1.0s
K17K Iditarod 81.86 23 IAmb IAmb 11 39 53.0
comp=Z,7.0nm,0.8s
SIMJ Simiganj 81.97 310 P **P** **11 39 52.3 -0.7**
SIMJ IAmb IAmb 11 40 00.6
comp=Z,8.1nm,0.9s
KK31 Karatay Array 82.07 315 P **P** **11 39 52.9 -0.3**
KKAR Karatay Array 82.07 315 P **P** **11 39 52.6 -0.6**
H17K Granite Mounta 82.44 21 IAmb IAmb 11 39 55.9
comp=Z,5.0nm,0.8s
N19K Bonanza Creek 82.50 26 IAmb IAmb 11 39 55.9
comp=Z,8.4nm,1.0s
F17K Baldwin Pennin 82.83 19 IAmb IAmb 11 40 05.7
comp=Z,5.3nm,0.9s
L19K White Mountain 82.98 25 IAmb IAmb 11 39 58.6
comp=Z,8.2nm,1.1s
G18K Tagagawik 83.41 21 IAmb IAmb 11 40 00.2
comp=Z,5.0nm,0.9s
QSPA South Pole Qui 83.52 180 P **P** **11 40 01.0 +0.5**
QSPA South Pole Qui 83.52 180 P **P** **11 40 00.8 +0.3**
comp=Z,18nm,0.9s,baz=336,slow=1.1,SNR=69
QSPA LR LR 12 17 21.7
comp=Z,228nm,19.1s,baz=44,slow=36
comp=Z,18nm,0.9s
J19K Poorman 83.55 23 IAmb IAmb 11 40 02.8
comp=Z,5.4nm,1.1s
M20K Styx River 83.57 25 IAmb IAmb 11 40 04.5
comp=Z,8.0nm,1.1s
E18K Tukpahlearik C 83.59 19 IAmb IAmb 11 40 04.3
comp=Z,3.9nm,0.8s
K20K Telida 83.86 24 IAmb IAmb 11 40 03.2
comp=Z,6.7nm,1.0s
H19K Roundabout Mou 84.00 21 IAmb IAmb 11 40 03.7
comp=Z,5.6nm,0.9s
G19K Purcell Mounta 84.08 21 IAmb IAmb 11 40 04.3
comp=Z,9.0nm,1.1s
C18K Utukok River 84.10 18 P **P** **11 40 03.5 +0.2**
J20K Nowinta River 84.21 23 IAmb IAmb 11 40 05.0
comp=Z,6.0nm,0.9s
NRIK Noril'sk 84.63 343 P **P** **11 40 05.1 -0.8**
comp=Z,5.8nm,0.8s,baz=106,slow=4.2,SNR=8.2
comp=Z,5.8nm,0.8s
CAST Castle Rocks 84.68 24 P **P** **11 40 05.4 -0.8**
CAST IAmb IAmb 11 40 25.9
comp=Z,10.0nm,1.3s
E19K Redstone River 84.71 19 IAmb IAmb 11 40 07.2
comp=Z,6.2nm,0.8s
RC01 Rabbit Creek A 84.71 27 IAmb IAmb 11 40 07.6
comp=Z,7.4nm,0.8s
C19K Lookout Ridge 84.84 18 IAmb IAmb 11 40 08.8
comp=Z,8.6nm,0.9s
BVAR Borovoye Array 85.05 325 P **P** **11 40 08.4 +0.1**
comp=Z,6.9nm,0.8s,baz=110,slow=6.9,SNR=28
comp=Z,6.9nm,0.8s
BRVK Borovoye 85.12 325 P **P** **11 40 08.3 -0.4**
BRVK IAmb IAmb 11 40 18.0
comp=Z,7.3nm,0.8s
IMAR Indian Mountai 85.20 21 P **P** **11 40 08.2 -0.6**
I21K Tanana 85.49 22 IAmb IAmb 11 40 11.2
comp=Z,8.3nm,1.1s
MLY Manley 85.90 23 P **P** **11 40 11.9 -0.5**
RND Reindeer 86.00 25 P **P** **11 40 11.8 -1.1**
NEA2 Nenana 86.38 24 IAmb IAmb 11 40 14.3
comp=Z,9.4nm,1.3s
WRH Wood River Hil 86.72 24 IAmb IAmb 11 40 17.7
comp=Z,13nm,1.4s
E22K Anaktuvuk Pass 86.84 20 IAmb IAmb 11 40 18.4
comp=Z,3.9nm,0.7s
G23K Bananza Creek 86.87 21 IAmb IAmb 11 40 17.9
comp=Z,4.0nm,0.8s
CCB Clear Creek Bu 86.90 24 IAmb IAmb 11 40 16.4
comp=Z,10nm,1.2s
IL31 86.92 24 IAmb IAmb 11 40 18.1
comp=Z,5.3nm,0.8s
ILAR Eielson Array 87.32 24 P **P** **11 40 17.6 -1.6**
comp=Z,3.1nm,0.8s,baz=256,slow=4.0,SNR=38
comp=Z,3.1nm,0.8s
G24K Hadweenzic Riv 87.80 22 IAmb IAmb 11 40 22.5
comp=Z,6.3nm,1.1s
TOLK Toolik Lake Re 87.81 20 IAmb IAmb 11 40 22.9
comp=Z,4.6nm,0.8s
E24K Your Creek 87.96 20 IAmb IAmb 11 40 23.2
comp=Z,4.0nm,1.0s
MENT Mentasta 88.02 26 IAmb IAmb 11 40 23.5
comp=Z,3.3nm,0.7s
J26L Joseph Creek 88.57 24 IAmb IAmb 11 40 26.0
comp=Z,3.5nm,0.8s
L27K Beaver Creek, 88.88 26 IAmb IAmb 11 40 27.6
comp=Z,3.8nm,0.8s
E25K Arctic Village 88.99 21 IAmb IAmb 11 40 28.2
comp=Z,3.3nm,0.8s
K27K Chicken 89.05 25 IAmb IAmb 11 40 28.9
comp=Z,6.7nm,0.9s
D25K Kavik River 89.14 20 IAmb IAmb 11 40 36.6
comp=Z,7.7nm,1.3s
EGAK Eagle 89.65 25 IAmb IAmb 11 40 37.9
comp=Z,7.8nm,1.2s
DAWY Dawson 90.20 25 P **P** **11 40 33.2 +0.3**
DAWY IAmb IAmb 11 40 33.8
comp=Z,4.9nm,0.8s
M29M Somme Creek 90.22 27 IAmb IAmb 11 40 33.9
comp=Z,3.8nm,0.7s
I28M Miner Creek 90.32 24 IAmb IAmb 11 40 34.3
comp=Z,14nm,1.5s
ABKAR **Akbulak array 90.59 319** P **P** **11 40 32.4 -2.6**
K29M Barlow Dome 90.95 26 IAmb IAmb 11 40 37.5
comp=Z,6.3nm,0.8s
ELIB Princess Elisa 92.81 196 *d*P **P** **11 40 45.9 +0.8**
comp=Z,4.9nm,1.1s
BBB Bella Bella 94.11 38 LR LR 12 18 01.3
comp=Z,53nm,18.8s,baz=324,slow=32
TXAR Lajitas Array 113.11 61 PKiKP **PKiKP** **11 46 10.1 -0.8**
comp=Z,0.2nm,0.7s,baz=298,slow=1.9,SNR=3.7
TXAR PKKPab **PKKPab** **11 57 05.2 +0.6**
comp=Z,0.6nm,0.9s,baz=111,slow=4.1,SNR=6.0
PLCA Paso Flores 123.63 149 PKP **PKiKP** **11 46 31.4 +0.4**
comp=Z,3.1nm,0.8s,baz=40,slow=1.7,SNR=6.6
LPAZ La Paz 141.47 126 PKhKP PKPpre 11 47 01.8
comp=Z,1.8nm,0.9s,baz=236,slow=3.6,SNR=3.9
CPUP Villa Florida 141.70 149 PKP **PKPdf** **11 47 05.8 +0.9**
comp=Z,1.2nm,0.5s,baz=149,slow=1.7,SNR=7.0
TORD Torodi Ar. Bea 141.73 283 PKhKP PKPpre 11 46 59.7
comp=Z,0.7nm,0.4s,baz=57,slow=5.3,SNR=0.7
TORD PKP **PKPdf** **11 47 05.5 +0.3**
comp=Z,0.7nm,0.3s,baz=53,slow=3.2,SNR=0.8
KIC Kosan Boka 148.35 272 ⇑*i*PKP1 **PKPbc** **11 47 20.6 +0.5**
comp=Z,14nm,0.7s
DBIC Dimbokro 148.47 272 PKPbc **PKPbc** **11 47 20.9 +0.5**
comp=Z,15nm,0.8s,baz=91,slow=3.2,SNR=20
LIC Lamto 148.63 271 ⇑*i*PKP1 **PKPbc** **11 47 21.2 +0.3**
comp=Z,40nm,0.7s
TIC Toumodi 148.63 272 ⇑*i*PKP1 **PKPbc** **11 47 21.3 +0.4**
comp=Z,5.6nm,0.2s

MOS ***14*** *11:46:28.3±0.8,20.31S×176.11W,h145km,mb5.1/29, Error ellipse: s-maj=8.6km s-min=7.7km az=91.7*
BJI ***14*** *11:46:29.9±0.0,20.13S×175.88W,h163km,mb5.1/48, mB5.3/26*
NEIC ***14*** *11:46:29.3±1.6,20.38S±0.07×176.06W±0.08, h138km±4km,mb5.1/339,Error ellipse: s-maj=12.1km s-min=10.0km az=127.0*
NOU ***14*** *11:46:35.9,20.50S×175.84W,h210km,ML5.1/113, Tonga Islands*
IDC ***14*** *11:46:36.6±0.4,20.39S×176.19W,h207km±3km,mb4.6/28, mbtmp5.1/30,Error ellipse: s-maj=10.4km s-min=9.0km az=100.0*
BGR ***14*** *11:46:37.8,20.57S×175.87W,h218km±4km*
GCMT ***14*** *11:46:38.3±0.1,20.56S±0.01×175.76W±0.01, h209km,MW5.4/142,Moment Tensor Solution. s122,c203; s142,c258; Duration: 152 Moment tensor: Scale 1017Nm; Mrr=0.17±.02; Mθθ0.70±.02; Mϕϕ-0.52±.02; Mrθ-0.94±.02; Mθϕ0.18±.02; Mϕr-0.99±.02; Best double couple: Mo1.51000×1017 NP1:ϕs43.00000°,δ86.00000°, λ-114.00000°. NP2:ϕs305.00000°,δ25.00000°, λ-10.00000°. Principal axes: T 1.5500, Plg36.0000°, Azm155.0000°; N -0.0790, Plg24.0000°, Azm45.0000°; P -1.4700, Plg44.0000°, Azm290.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 11:46:36.1±0.3,20.55S±0.04×175.91W±0.04, h209km±2km,h209km:pP-P,n1329,σ1§30/1332,**mb5.1**/255, **82C-52D,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAVE	**Taveuni**	**5.38**	**315**	P	**Pn**	**11 47 54.3**	**-1.3**
NIUE	**Niue**	**5.82**	**76**	P	**Pn**	**11 47 57.5**	**-3.7**
baz=5.8							
NIUE				S	S	11 48 58.8	-10
baz=5.8							
NIUE	**Niue**	**5.82**	**76**	Pn	**Pn**	**11 47 57.5**	**-3.7**
NIUE				Sn	**S**	**11 49 00.1**	**-8.2**
NIUE	**Niue**	**5.82**	**76**	P	**Pn**	**11 47 58.8**	**-2.4**
DGTI	**Dogotuki**	**5.91**	**315**	P	**Pn**	**11 48 00.7**	**-1.7**
MSVF	**Nonsavu**	**6.36**	**295**	P	**Pn**	**11 48 08.9**	**+0.7**
YSA	**Yasawairara**	**7.27**	**301**	P	**Pn**	**11 48 20.1**	**+0.2**
AFI	**Afiamalu**	**7.69**	**32**	Pn	Pn	11 48 16.9	-8.5
AFI	**Afiamalu**	**7.69**	**32**	P	**Pn**	**11 48 22.5**	**-3.0**
AFI	**Afiamalu**	**7.69**	**32**	P	Pn	11 48 16.9	-8.6
RAO	**Raoul Island**	**8.85**	**191**		**Pn**	**11 48 36.3**	**-4.0**
RAO	**Raoul Island**	**8.85**	**191**	P	**Pn**	**11 48 36.3**	**-4.0**
RAO	**Raoul Island**	**8.85**	**191**	P	**Pn**	**11 48 37.3**	**-3.0**
552nm,0.2s,baz=54,slow=21,SNR=12							
RAO				S	**S**	**11 50 13.8**	**-6.1**
4µm,0.5s,baz=85,slow=22,SNR=16							
GLKZ	**Green Lake**	**8.86**	**191**	P	**Pn**	**11 48 37.8**	**-2.7**
GLKZ				S	**S**	**11 50 15.2**	**-5.0**
FUNA	**Funafuti**	**12.86**	**338**	Pn	Pn	11 49 25.0	-6.5
MARNC	**Mare, Loyalty**	**15.03**	**264**	Pn	**Pn**	**11 49 53.0**	**-5.3**
MARNC	**Mare, Loyalty**	**15.03**	**264**	P	**P**	**11 50 00.2**	**+1.5**
RAR	**Rarotonga**	**15.10**	**95**		**Pn**	**11 49 58.5**	**-0.6**
RAR	**Rarotonga**	**15.10**	**95**	P	**P**	**11 49 59.1**	**-0.4**
RAR	**Rarotonga**	**15.10**	**95**	P	**Pn**	**11 49 58.5**	**-0.6**
RAR	**Rarotonga**	**15.10**	**95**	P	**P**	**11 50 01.7**	**+2.2**
39nm,0.8s,baz=242,slow=8.6,SNR=7.6							
RAR				S	**S**	**11 52 45.3**	**-1.1**
88nm,1.1s,baz=78,slow=20,SNR=2.0							
PINNC	**Pines Island,**	**15.62**	**259**	P	**P**	**11 50 01.0**	**-4.2**
PINNC	**Pines Island,**	**15.62**	**259**	P	**Pn**	**11 50 08.0**	**+2.6**
OUENC	**Ouen Island, N**	**16.16**	**260**	P	**Pn**	**11 50 13.5**	**+1.6**
OUENC	**Ouen Island, N**	**16.16**	**260**	P	**P**	**11 50 13.4**	**+1.4**
DZM	**Mont Dzumac**	**16.52**	**262**	P	**Pn**	**11 50 17.4**	**+1.1**
DZM	**Mont Dzumac**	**16.52**	**262**	P	**Pn**	**11 50 18.0**	**+1.7**
DZM	**Mont Dzumac**	**16.52**	**262**	P	**Pn**	**11 50 17.1**	**+0.8**
184nm,0.6s,baz=87,slow=18,SNR=81							
DZM				S	**S**	**11 53 19.4**	**+1.8**
57nm,1.1s,baz=175,slow=15,SNR=4.8							
ONTNC	**Ouen Toro**	**16.52**	**261**	P	**Pn**	**11 50 17.2**	**+1.0**
NOUC	**Port Laguerre**	**16.65**	**261**	P	**Pn**	**11 50 18.7**	**+0.9**
OUZ	**Omahuta**	**17.29**	**210**	P	**Pn**	**11 50 24.8**	**-0.4**
GRZ	**Great Barrier**	**17.37**	**204**	P	**Pn**	**11 50 25.8**	**-0.3**
WCZ	**Waipu Caves**	**17.55**	**207**	P	**Pn**	**11 50 28.0**	**-0.3**
MXZ	**Matakaoa Point**	**17.68**	**195**	P	**P**	**11 50 27.5**	**-0.3**
MXZ	**Matakaoa Point**	**17.68**	**195**	P	**P**	**11 50 28.7**	**+1.0**
MXZ	**Matakaoa Point**	**17.68**	**195**	P	**P**	**11 50 25.1**	**-2.6**
KUZ	**Kuaotunu**	**17.71**	**203**	P	**Pn**	**11 50 29.9**	**-0.3**
KUZ	**Kuaotunu**	**17.71**	**203**	P	**Pn**	**11 50 29.9**	**-0.3**
WMGZ	**Waiomatatini S**	**17.90**	**195**	P	**P**	**11 50 25.8**	**-4.2**
ABAZ	**Army Bay**	**17.92**	**205**	P	**Pn**	**11 50 32.8**	**+0.2**
WIAZ	**Waiheke Island**	**17.98**	**204**	P	**Pn**	**11 50 33.0**	**-0.3**
HAZ	**Te Kaha**	**18.00**	**196**	P	**P**	**11 50 28.6**	**-2.6**
MBAZ	**Motutapu North**	**18.04**	**204**	P	**Pn**	**11 50 33.5**	**-0.5**
PKGZ	**Pakihiroa**	**18.05**	**196**	P	**P**	**11 50 27.0**	**-4.7**
RVAZ	**Riverhead Bore**	**18.17**	**205**	P	**Pn**	**11 50 35.5**	**-0.1**
HBAZ	**Herne Bay Bore**	**18.18**	**205**	P	**Pn**	**11 50 35.8**	**+0.2**
ETAZ	**East Tamaki Re**	**18.19**	**204**	P	**Pn**	**11 50 35.3**	**-0.5**
EPAZ	**Eden Park BICE**	**18.20**	**205**	P	**Pn**	**11 50 35.9**	**0.0**
RUGZ	**Raukumara Rang**	**18.22**	**196**	P	**P**	**11 50 32.0**	**-1.7**
MKAZ	**Moumakai**	**18.24**	**203**	P	**Pn**	**11 50 35.3**	**-1.0**
WTAZ	**Waiatarua**	**18.31**	**205**	P	**Pn**	**11 50 36.4**	**-0.8**
AWAZ	**Awhitu Peninsu**	**18.40**	**205**	P	**Pn**	**11 50 37.7**	**-0.5**
KOUNC	**Koumac, New Ca**	**18.55**	**267**	P	**P**	**11 50 37.9**	**+0.6**
KOUNC	**Koumac, New Ca**	**18.55**	**267**	P	**Pn**	**11 50 37.3**	**+0.6**
URZ	**Urewera**	**18.65**	**197**	P	**P**	**11 50 39.3**	**+1.0**
URZ	**Urewera**	**18.65**	**197**	P	**P**	**11 50 38.1**	**-0.2**
325nm,0.6s,baz=32,slow=2.6,SNR=99							
URZ				S	**S**	**11 53 52.0**	**-7.6**
134nm,0.4s,baz=347,slow=23,SNR=13							
TOZ	**Tahuroa Road**	**18.68**	**202**	P	**P**	**11 50 38.0**	**-0.4**
RTZ	**Ruatahuna**	**19.02**	**197**	P	**P**	**11 50 40.7**	**-1.7**
HIZ	**Hauiti**	**19.60**	**202**	P	**P**	**11 50 47.2**	**-1.2**
HIZ	**Hauiti**	**19.60**	**202**	P	**P**	**11 50 49.5**	**+1.1**
BKZ	**Black Stump Fm**	**19.67**	**198**	P	**P**	**11 50 46.6**	**-2.7**
BKZ	**Black Stump Fm**	**19.67**	**198**	P	**P**	**11 50 47.6**	**-1.7**
DREZ	**Durham Road**	**20.43**	**202**	P	Pn	11 51 02.0	-0.7
PKE	**Pukeiti**	**20.52**	**203**	P	**P**	**11 51 00.9**	**+2.6**
NEZ	**North Egmont**	**20.54**	**203**	P	**P**	**11 51 00.1**	**+1.5**
PREZ	**Palmer Road**	**20.59**	**202**	P	**P**	**11 51 00.8**	**+1.7**
KHEZ	**Kahui Hut**	**20.59**	**203**	P	**P**	**11 51 01.4**	**+2.3**
NBEZ	**Newall Road No**	**20.62**	**203**	P	Pn	11 51 02.5	-2.5

NMEZ	**Namu Road**	**20.75**	**203**	P	Pn	11 51 07.3	+0.8		
BFZ	**Birch Farm**	**21.15**	**197**	P	**P**	**11 51 02.4**	**-2.6**		
BFZ	**Birch Farm**	**21.15**	**197**	P	**P**	**11 51 05.8**	**+0.9**		
MRZ	**Mangatainoka R**	**21.32**	**198**	P	**P**	**11 51 03.9**	**-2.8**		
DUWZ	**D'Urville Isla**	**21.97**	**201**	P	**P**	**11 51 11.0**	**-2.1**		
DUWZ				S	**S**	**11 54 58.7**	**-1.7**		
SNZO	**South Karori**	**22.18**	**199**	P	**P**	**11 51 14.2**	**-0.8**		
SNZO				IAmb	IAmb	11 51 16.5			
	comp=Z,96nm,0.8s								
BHW	**Baring Head**	**22.22**	**199**	P	**P**	**11 51 13.7**	**-1.7**		
BHW				IAmb	IAmb	11 51 21.9			
	comp=Z,75nm,0.7s								
BHW	**Baring Head**	**22.22**	**199**	P	**P**	**11 51 14.1**	**-1.3**		
BHW				S	**S**	**11 55 03.9**	**-0.3**		
TCW	**Tory Channel**	**22.22**	**200**	P	**P**	**11 51 13.2**	**-2.2**		
TCW	**Tory Channel**	**22.22**	**200**	P	**P**	**11 51 13.5**	**-1.9**		
TCW				S	**S**	**11 55 04.1**	**-0.2**		
PLWZ	**Palliser**	**22.25**	**198**	P	**P**	**11 51 14.0**	**-1.8**		
TKNZ	**Takaka Hill**	**22.51**	**202**	P	**P**	**11 51 16.0**	**-2.1**		
TKNZ	**Takaka Hill**	**22.51**	**202**	P	**P**	**11 51 18.0**	**-0.1**		
TKNZ				S	**S**	**11 55 12.5**	**+3.5**		
NNZ	**Nelson**	**22.52**	**201**	P	**P**	**11 51 16.4**	**-1.8**		
NNZ				IAmb	IAmb	11 51 22.3			
	comp=Z,85nm,0.6s								
NNZ	**Nelson**	**22.52**	**201**	P	**P**	**11 51 16.9**	**-1.3**		
NNZ				S	**S**	**11 55 12.2**	**+3.0**		
TUWZ	**Tuamarina**	**22.53**	**200**	P	**P**	**11 51 16.8**	**-1.4**		
TUWZ	**Tuamarina**	**22.53**	**200**	P	**P**	**11 51 16.8**	**-1.4**		
TUWZ				S	**S**	**11 55 11.8**	**+2.5**		
CMWZ	**Cape Campbell**	**22.73**	**199**	P	**P**	**11 51 21.2**	**+1.2**		
CMWZ				S	**S**	**11 55 16.7**	**+4.1**		
BSWZ	**Blackbirch Sta**	**22.80**	**200**	P	**P**	**11 51 21.0**	**+0.3**		
BSWZ	**Blackbirch Sta**	**22.80**	**200**	P	**P**	**11 51 21.1**	**+0.3**		
BSWZ				S	**S**	**11 55 17.6**	**+3.8**		
MRNZ	**Matariki Terra**	**22.90**	**202**	P	**P**	**11 51 20.3**	**-1.3**		
MRNZ	**Matariki Terra**	**22.90**	**202**	P	**P**	**11 51 20.5**	**-1.2**		
MRNZ				S	**S**	**11 55 20.0**	**+4.6**		
THZ	**Tophouse**	**23.17**	**202**	P	**P**	**11 51 23.9**	**-0.3**		
THZ				IAmb	IAmb	11 51 31.2			
	comp=Z,103nm,0.7s								
THZ	**Tophouse**	**23.17**	**202**	P	**P**	**11 51 23.2**	**-1.0**		
THZ				S	**S**	**11 55 21.0**	**+1.2**		
KHZ	**Kahutara**	**23.55**	**200**	P	**P**	**11 51 26.9**	**-0.5**		
KHZ	**Kahutara**	**23.55**	**200**	P	**P**	**11 51 26.8**	**-0.6**		
DSZ	**Denniston Nort**	**23.55**	**203**	P	**P**	**11 51 28.2**	**+0.7**		
GVZ	**Greta Valley S**	**24.20**	**200**	P	**P**	**11 51 33.2**	**-0.2**		
GVZ	**Greta Valley S**	**24.20**	**200**	P	**P**	**11 51 33.6**	**+0.2**		
LTZ	**Lake Taylor**	**24.29**	**202**	P	**P**	**11 51 35.7**	**+1.4**		
AMCZ	**Amberley**	**24.52**	**200**	P	**P**	**11 51 39.1**	**+2.8**		
INZ	**Inchbonnie**	**24.53**	**203**	P	**P**	**11 51 36.6**	**+0.2**		
INZ	**Inchbonnie**	**24.53**	**203**	P	**P**	**11 51 36.9**	**+0.5**		
OXZ	**Oxford**	**24.85**	**201**	P	**P**	**11 51 39.1**	**-0.2**		
OXZ	**Oxford**	**24.85**	**201**	P	**P**	**11 51 39.0**	**-0.2**		
AKCZ	**Akaroa Harbour**	**25.06**	**199**	P	**P**	**11 51 44.3**	**+3.2**		
WVZ	**Waitaha Valley**	**25.10**	**204**	P	**P**	**11 51 41.9**	**+0.4**		
RACZ	**Rakaia**	**25.17**	**201**	P	**P**	**11 51 44.6**	**+2.5**		
HNR	**Honiara**	**25.77**	**292**	P	**P**	**11 51 46.8**	**-1.1**		
HNR	**Honiara**	**25.77**	**292**	P	**P**	**11 51 49.2**	**+1.3**		
HNR	**Honiara**	**25.77**	**292**	P	**P**	**11 51 46.7**	**-1.2**		
	comp=Z,1µm,0.8s,baz=245,slow=9.3,SNR=9.5								
LBZ	**Lake Benmore**	**26.43**	**203**	IAmb	IAmb	11 51 58.8			
	comp=Z,81nm,1.1s								
JCZ	**Jackson Bay**	**26.70**	**205**	P	**P**	**11 51 58.1**	**+2.1**		
ODZ	**Otahua Downs**	**26.84**	**201**	IAmb	IAmb	11 52 14.2			
	comp=Z,89nm,1.4s								
ODZ	**Otahua Downs**	**26.84**	**201**	P	**P**	**11 51 58.2**	**+1.1**		
WKZ	**Wanaka**	**27.24**	**204**	P	**P**	**11 52 00.4**	**-0.3**		
MLZ	**Mavora Lakes**	**28.04**	**204**	P	**P**	**11 52 07.7**	**-0.1**		
MLZ				IAmb	IAmb	11 52 09.2			
	comp=Z,60nm,1.0s								
WHZ	**Wether Hill Ro**	**28.54**	**204**	P	**P**	**11 52 12.5**	**+0.3**		
EIDS	**Eidsvold**	**30.72**	**255**	P	**P**	**11 52 31.2**	**-0.5**		
	baz=31,SNR=8.4								
EIDS	**Eidsvold**	**30.72**	**255**	P	**P**	**11 52 30.9**	**-0.8**		
EIDS				IAmb	IAmb	11 52 32.1			
	comp=Z,77nm,1.1s								
EIDS	**Eidsvold**	**30.72**	**255**	P	**P**	**11 52 31.0**	**-0.7**		
ARMA	**Armidale**	**30.81**	**245**	P	**P**	**11 52 32.3**	**-0.2**		
	baz=31,SNR=16								
ARMA	**Armidale**	**30.81**	**245**	P	**P**	**11 52 32.0**	**-0.6**		
ARMA				IAmb	IAmb	11 52 33.7			
	comp=Z,44nm,1.2s								
ARMA	**Armidale**	**30.81**	**245**	P	**P**	**11 52 32.8**	**+0.2**		
MGCD	**Mangrove Creek**	**31.87**	**240**	P	**P**	**11 52 41.2**	**-0.5**		
	baz=32,SNR=7.2								
AULRC	**Lightning Ridg**	**33.79**	**248**	P	**P**	**11 52 58.8**	**+0.4**		
CNB	**Canberra Magne**	**33.83**	**237**	P	**P**	**11 52 58.3**	**-0.5**		
	baz=34,SNR=15								
CNB	**Canberra Magne**	**33.83**	**237**	P	**P**	**11 52 58.9**	**+0.2**		
CAN	**Canberra**	**34.12**	**237**	P	**P**	**11 53 00.6**	**-0.6**		
CAN				IAmb	IAmb	11 53 01.7			
	comp=Z,19nm,0.6s								
CAN	**Canberra**	**34.12**	**237**	P	**P**	**11 53 01.3**	**+0.1**		
CAN	**Canberra**	**34.12**	**237**	P	**P**	**11 53 00.6**	**-0.6**		
CAN				pmax	pmax				
	comp=Z,19nm,0.6s								
CAN	**Canberra**	**34.12**	**237**	P	**P**	**11 53 00.2**	**-1.0**		
YNG	**Young**	**34.33**	**239**	P	**P**	**11 53 02.6**	**-0.4**		
	baz=34,SNR=7.2								
AUAYR	**Ayr State High**	**34.42**	**265**	P	**P**	**11 53 04.0**	**+0.1**		
MILA	**Mila**	**34.52**	**234**	P	**P**	**11 53 04.6**	**+0.1**		
	baz=34,SNR=3.7								
TV1H	**Townsville Har**	**35.04**	**266**	P	**P**	**11 53 08.6**	**-0.6**		
RABL	**Rabaul**	**35.05**	**293**	P	**P**	**11 53 07.1**	**-2.3**		
CTAO	**Charters Tower**	**35.43**	**264**	P	**P**	**11 53 12.1**	**-0.5**		
CTAO	**Charters Tower**	**35.43**	**264**	P	**P**	**11 53 12.4**	**-0.2**		
CTAO	**Charters Tower**	**35.43**	**264**	P	**P**	**11 53 12.1**	**-0.5**		
CTAO				pmax	pmax				
	comp=Z,150nm,0.8s								
CTAO	**Charters Tower**	**35.43**	**264**	P	**P**	**11 53 11.4**	**-1.2**		
CTAO				pP	pP	11 53 41.7	-13		
CTAO				sP	**pwP**	**11 53 56.1**	**-2.4**		
CTAO				ScP	**ScP**	**11 59 07.0**	**+3.5**		
CMSA	**Cobar Meteorol**	**36.03**	**244**	P	**P**	**11 53 16.1**	**-1.4**		
	baz=36,SNR=52								
CMSA	**Cobar Meteorol**	**36.03**	**244**	P	**P**	**11 53 16.8**	**-0.7**		
QLP	**Quilpie**	**36.91**	**253**	P	**P**	**11 53 23.9**	**-1.2**		
	baz=37,SNR=7.2								
QLP	**Quilpie**	**36.91**	**253**	P	**P**	**11 53 25.4**	**+0.4**		
KAVG	**Kavieng**	**37.04**	**294**	P	**P**	**11 53 25.2**	**-1.0**		
PMG	**Port Moresby**	**37.27**	**282**	P	**P**	**11 53 26.5**	**-1.6**		
PMG	**Port Moresby**	**37.27**	**282**	P	**P**	**11 53 27.6**	**-0.6**		
PMG	**Port Moresby**	**37.27**	**282**	P	**P**	**11 53 27.5**	**-0.6**		
PMG	**Port Moresby**	**37.27**	**282**	*d iP*	**P**	**11 53 26.8**	**-1.3**		
PMG				pmax	pmax				
	comp=Z,258nm,1.0s								
PMG	**Port Moresby**	**37.27**	**282**	P	**P**	**11 53 27.4**	**-0.7**		
	comp=Z,170nm,0.9s,baz=97,slow=5.8,SNR=37								
	comp=Z,170nm,0.9s								
PMG	**Port Moresby**	**37.27**	**282**	P	**P**	**11 53 26.9**	**-1.2**		
TOO	**Toolangi**	**37.46**	**235**	P	**P**	**11 53 28.3**	**-1.1**		
	baz=38,SNR=26								
TOO	**Toolangi**	**37.46**	**235**	P	**P**	**11 53 28.4**	**-1.1**		
TOO				IAmb	IAmb	11 53 30.7			
	comp=Z,33nm,1.1s								
TOO	**Toolangi**	**37.46**	**235**	P	**P**	**11 53 28.8**	**-0.7**		
TOO	**Toolangi**	**37.46**	**235**	P	**P**	**11 53 28.4**	**-1.1**		
TOO				pmax	pmax				
	comp=Z,33nm,1.1s								
MTSU	**Mount Surprise**	**37.55**	**267**	P	**P**	**11 53 29.1**	**-1.3**		
	baz=38,SNR=117								
MTSU	**Mount Surprise**	**37.55**	**267**	P	**P**	**11 53 30.7**	**+0.2**		
BRAT	**Ballarat**	**38.65**	**235**	P	**P**	**11 53 39.5**	**+0.2**		
STKA	**Stephens Creek**	**39.53**	**245**	P	**P**	**11 53 45.5**	**-1.3**		
	baz=40,SNR=27								
STKA	**Stephens Creek**	**39.53**	**245**	P	**P**	**11 53 45.6**	**-1.2**		
STKA	**Stephens Creek**	**39.53**	**245**	P	**P**	**11 53 45.9**	**-0.9**		
STKA	**Stephens Creek**	**39.53**	**245**	P	**P**	**11 53 45.3**	**-1.5**		
	comp=Z,15nm,0.7s,baz=96,slow=10,SNR=30								
STKA				PcP	**PcP**	**11 55 50.9**	**+0.9**		
	comp=Z,11nm,0.6s,baz=88,slow=4.5,SNR=5.5								
	comp=Z,15nm,0.7s								
COEN	**Coen**	**39.54**	**273**	P	**P**	**11 53 45.8**	**-1.2**		
	baz=40,SNR=90								
COEN	**Coen**	**39.54**	**273**	P	**P**	**11 53 45.9**	**-1.2**		
COEN	**Coen**	**39.54**	**273**	P	**P**	**11 53 46.0**	**-1.1**		
INKA	**Innaminka**	**40.04**	**251**	P	**P**	**11 53 52.2**	**+1.2**		
ARPS	**Mount Arapiles**	**40.10**	**237**	P	**P**	**11 53 50.6**	**-0.7**		
	baz=40,SNR=7.1								
ARPS	**Mount Arapiles**	**40.10**	**237**	P	**P**	**11 53 51.1**	**-0.2**		
MANU	**Manus Island**	**40.27**	**292**	P	**P**	**11 53 52.5**	**-0.5**		
MANU	**Manus Island**	**40.27**	**292**	P	**P**	**11 53 52.9**	**-0.1**		
QIS	**Mount Isa**	**41.55**	**262**	P	**P**	**11 54 02.1**	**-1.4**		
	baz=42,SNR=12								
QIS	**Mount Isa**	**41.55**	**262**	P	**P**	**11 54 02.5**	**-1.0**		
HTT	**Hallett**	**41.94**	**243**	P	**P**	**11 54 05.3**	**-1.2**		
	baz=42,SNR=18								
HTT	**Hallett**	**41.94**	**243**	P	**P**	**11 54 06.5**	**0.0**		
LCRK	**Leigh Creek**	**42.32**	**247**	P	**P**	**11 54 08.6**	**-0.9**		
WHYH	**Whyalla**	**43.03**	**243**	P	**P**	**11 54 15.9**	**+0.7**		
BBOO	**Buckleboo**	**44.28**	**244**	P	**P**	**11 54 23.6**	**-1.6**		
	baz=44,SNR=58								
BBOO	**Buckleboo**	**44.28**	**244**	P	**P**	**11 54 23.9**	**-1.3**		
BBOO				IAmb	IAmb	11 54 26.8			
	comp=Z,45nm,1.1s								
BBOO	**Buckleboo**	**44.28**	**244**	P	**P**	**11 54 25.8**	**+0.6**		
OOD	**Oodnadatta**	**44.52**	**251**	P	**P**	**11 54 27.7**	**+0.6**		
KIP	**Kipapa**	**45.23**	**24**[1]	*eP*	**P**	**11 54 32.0**	**-0.7**		
KIP				pmax	pmax				
	comp=Z,100nm,1.3s								
MULG	**Mulgathing**	**45.91**	**247**	P	**P**	**11 54 36.4**	**-1.6**		
WR0	**Warramunga Arr**	**46.34**	**262**	P	**P**	**11 54 39.7**	**-1.9**		
WR0				IAmb	IAmb	11 54 41.6			
	comp=Z,98nm,1.4s								
AS01	**Alice Springs**	**46.37**	**256**	P	**P**	**11 54 40.6**	**-1.2**		
GENI	**Genyem**	**46.37**	**287**	P	**P**	**11 54 42.3**	**+0.5**		
GENI	**Genyem**	**46.37**	**287**	P	**P**	**11 54 41.4**	**-0.4**		
	comp=Z,467nm,1.6s,comp=Z,6µm								
AS31	**Alice Springs**	**46.41**	**256**	P	**P**	**11 54 40.9**	**-1.2**		
AS31				IAmb	IAmb	11 54 42.7			
	comp=Z,26nm,0.8s								
ASAR	**Alice Springs**	**46.41**	**256**	P	**P**	**11 54 41.0**	**-1.1**		
ASAR	**Alice Springs**	**46.41**	**256**	P	**P**	**11 54 40.0**	**-2.2**		
	comp=Z,94nm,0.8s,baz=89,slow=8.2,SNR=415								
ASAR				PcP	**PcP**	**11 56 13.2**	**-0.3**		
	comp=Z,11nm,0.7s,baz=99,slow=4.4,SNR=5.7								
ASAR				ScP	**ScP**	**11 59 48.6**	**+1.8**		
	comp=Z,4.3nm,0.9s,baz=98,slow=4.0,SNR=7.7								
ASAR				S	**S**	**12 01 09.2**	**-4.8**		
	comp=Z,2.9nm,0.9s,baz=93,slow=17,SNR=8.4								
	comp=Z,94nm,0.8s								
WB0	**Warramunga Arr**	**46.51**	**262**	P	**P**	**11 54 41.0**	**-1.9**		
WB2	**Warramunga Arr**	**46.52**	**262**	P	**P**	**11 54 41.3**	**-1.6**		
WRAB	**Tennant Creek**	**46.52**	**262**	P	**P**	**11 54 41.6**	**-1.4**		
WRAB	**Tennant Creek**	**46.52**	**262**	P	**P**	**11 54 41.6**	**-1.4**		
WRAB				pmax	pmax				
	comp=Z,85nm,1.0s								
WRA	**Warramunga Arr**	**46.53**	**262**	P	**P**	**11 54 41.2**	**-1.9**		
WRA	**Warramunga Arr**	**46.53**	**262**	P	**P**	**11 54 41.2**	**-1.9**		
WRA				pmax	pmax				
	comp=Z,8.0nm,1.0s								
WRA	**Warramunga Arr**	**46.53**	**262**	P	**P**	**11 54 41.1**	**-1.9**		
	comp=Z,63nm,0.9s,baz=96,slow=7.7,SNR=428								
WRA				S	**S**	**12 01 09.6**	**-6.1**		
	comp=Z,1.4nm,0.9s,baz=101,slow=14,SNR=8.1								
	comp=Z,63nm,0.9s								
KDU	**Kakadu**	**49.91**	**271**	P	**P**	**11 55 06.7**	**-2.1**		
	baz=50,SNR=106								
KDU	**Kakadu**	**49.91**	**271**	P	**P**	**11 55 07.1**	**-1.7**		
FORT	**Forrest**	**51.07**	**247**	P	**P**	**11 55 15.7**	**-1.7**		
	baz=51,SNR=19								
FORT	**Forrest**	**51.07**	**247**	P	**P**	**11 55 16.0**	**-1.4**		
FORT	**Forrest**	**51.07**	**247**	P	**P**	**11 55 18.1**	**+0.7**		
MTN	**Manton Dam**	**51.12**	**270**	P	**P**	**11 55 15.7**	**-2.2**		
	baz=51,SNR=88								
MTN	**Manton Dam**	**51.12**	**270**	P	**P**	**11 55 16.4**	**-1.5**		
MTN	**Manton Dam**	**51.12**	**270**	P	**P**	**11 55 16.8**	**-1.1**		
WRKA	**Warkurna**	**51.34**	**254**	P	**P**	**11 55 17.1**	**-2.3**		
	baz=51,SNR=144								
WRKA	**Warakurna**	**51.34**	**254**	P	**P**	**11 55 17.8**	**-1.7**		
DRS	**Darwin Rock St**	**51.46**	**270**	P	**P**	**11 55 19.5**	**-0.9**		
KNRA	**Kununurra**	**52.61**	**266**	P	**P**	**11 55 27.5**	**-1.3**		
	baz=53,SNR=108								
KNRA	**Kununurra**	**52.61**	**266**	P	**P**	**11 55 27.9**	**-1.0**		
KNRA	**Kununurra**	**52.61**	**266**	P	**P**	**11 55 28.8**	**-0.1**		
FAKI	**Fak Fak**	**53.42**	**282**	P	**P**	**11 55 34.0**	**-0.9**		
FAKI	**Fak Fak**	**53.42**	**282**	P	**P**	**11 55 36.3**	**+1.4**		
FAKI	**Fak Fak**	**53.42**	**282**	P	**P**	**11 55 34.6**	**-0.3**		
	comp=Z,98nm,1.3s								
DRV	**Dumont d'Urvil**	**53.97**	**200**	P	**P**	**11 55 39.4**	**+1.5**		
DRV				sP	**pwP**	**11 56 28.6**	**+1.7**		
FITZ	**Fitzroy Crossi**	**54.96**	**262**	P	**P**	**11 55 44.6**	**-1.3**		
	baz=55,SNR=24								
FITZ	**Fitzroy Crossi**	**54.96**	**262**	P	**P**	**11 55 45.2**	**-0.7**		
FITZ				IAmb	IAmb	11 55 47.0			
	comp=Z,34nm,1.5s								
FITZ	**Fitzroy Crossi**	**54.96**	**262**	P	**P**	**11 55 45.4**	**-0.5**		
SWI	**Sorong**	**55.16**	**284**	P	**P**	**11 55 46.9**	**-0.4**		
	comp=Z,346nm,0.9s,comp=Z,3µm								
NLAI	**Namlea**	**58.04**	**279**	P	**P**	**11 56 08.9**	**+1.2**		
	comp=Z,87nm,1.9s								
VNDA	**Vanda**	**58.04**	**186**	P	**P**	**11 56 10.1**	**+3.4**		
VNDA				IAmb	IAmb	11 56 10.9			
	comp=Z,39nm,1.1s								
VNDA	**Vanda**	**58.04**	**186**	P	**P**	**11 56 10.1**	**+3.4**		
VNDA				pmax	pmax				
	comp=Z,39nm,1.1s								
VNDA	**Vanda**	**58.04**	**186**	P	**P**	**11 56 09.8**	**+3.1**		
	comp=Z,26nm,1.1s,baz=3.9,slow=7.5,SNR=21								
	comp=Z,26nm,1.1s								
VNDA	**Vanda**	**58.04**	**186**	P	**P**	**11 56 09.8**	**+3.1**		
VNDA				sP	**pwP**	**11 56 57.6**	**+1.9**		
SOEI	**Soe**	**58.46**	**271**	P	**P**	**11 56 09.9**	**-0.8**		
SOEI	**Soe**	**58.46**	**271**	P	**P**	**11 56 12.5**	**+1.8**		
SOEI	**Soe**	**58.46**	**271**	P	**P**	**11 56 11.3**	**+0.6**		
	comp=Z,196nm,0.8s,comp=Z,2µm								
LBMI	**Labuha**	**58.68**	**282**	P	**P**	**11 56 12.4**	**+0.3**		
	comp=Z,140nm,1.0s,comp=Z,2µm								
BATI	**Baumata**	**58.89**	**270**	P	**P**	**11 56 13.2**	**-0.4**		
	comp=Z,117nm,0.9s,comp=Z,2µm								
TNTI	**Ternate**	**59.37**	**284**	P	**P**	**11 56 15.4**	**-1.4**		
TNTI	**Ternate**	**59.37**	**284**	P	**P**	**11 56 15.9**	**-0.9**		
TNTI	**Ternate**	**59.37**	**284**	P	**P**	**11 56 16.3**	**-0.5**		
	comp=Z,130nm,1.1s,comp=Z,2µm								
SANI	**Sanana**	**59.52**	**280**	P	**P**	**11 56 16.5**	**-1.3**		
SANI	**Sanana**	**59.52**	**280**	P	**P**	**11 56 17.3**	**-0.5**		
	comp=Z,118nm,0.9s,comp=Z,1µm								
PSA00	**Pilbara Seismi**	**59.56**	**256**	P	**P**	**11 56 16.2**	**-1.8**		
PSA00				IAmb	IAmb	11 56 17.4			
	comp=Z,37nm,1.2s								
PSA00	**Pilbara Seismi**	**59.56**	**256**	P	**P**	**11 56 16.6**	**-1.5**		
MEEK	**Meekatharra**	**59.75**	**251**	P	**P**	**11 56 17.5**	**-1.9**		
	baz=60,SNR=6.7								
MBWA	**Marble Bar**	**59.75**	**257**	P	**P**	**11 56 17.5**	**-1.9**		
MBWA				IAmb	IAmb	11 56 18.7			
	comp=Z,44nm,1.2s								
MBWA	**Marble Bar**	**59.75**	**257**	P	**P**	**11 56 17.5**	**-1.9**		
MBWA	**Marble Bar**	**59.75**	**257**	P	**P**	**11 56 17.4**	**-1.9**		
MBWA				sP	**pP**	**11 57 07.5**	**+1.2**		
KLBR	**Kellerberrin**	**59.81**	**245**	P	**P**	**11 56 18.3**	**-1.3**		
	baz=60,SNR=13								
KLBR	**Kellerberrin**	**59.81**	**245**	P	**P**	**11 56 17.3**	**-2.3**		
NWAO	**Narrogin (SRO)**	**60.10**	**243**	P	**P**	**11 56 20.3**	**-1.3**		
	baz=60,SNR=6.2								
NWAO				P	**P**	**11 56 20.3**	**-1.3**		
	baz=60,SNR=6.2								
NWAO	**Narrogin (SRO)**	**60.10**	**243**	P	**P**	**11 56 23.0**	**+1.5**		
NWAO	**Narrogin (SRO)**	**60.10**	**243**	P	**P**	**11 56 20.6**	**-0.9**		
	comp=Z,15nm,0.8s,baz=114,slow=7.9,SNR=10.0								
	comp=Z,15nm,0.8s								
NWAO	**Narrogin (SRO)**	**60.10**	**243**	P	**P**	**11 56 22.8**	**+1.2**		
BLDU	**Ballidu**	**60.82**	**246**	P	**P**	**11 56 24.8**	**-1.7**		
	baz=61,SNR=11								
MUN	**Mundaring**	**61.07**	**244**	P	**P**	**11 56 26.1**	**-2.0**		
	baz=61,SNR=4.8								
EDFI	**Ende, Flores**	**61.19**	**271**	P	**P**	**11 56 28.1**	**-1.2**		
	comp=Z,67nm,0.9s,comp=Z,705nm								
MORW	**Morawa**	**61.62**	**247**	P	**P**	**11 56 30.5**	**-1.4**		
	baz=62,SNR=4.4								
MORW	**Morawa**	**61.62**	**247**	P	**P**	**11 56 30.4**	**-1.4**		
MORW				IAmb	IAmb	11 56 34.6			
	comp=Z,14nm,1.0s								
MORW	**Morawa**	**61.62**	**247**	P	**P**	**11 56 30.6**	**-1.3**		
BASI	**Baing, Sumba**	**61.78**	**269**	P	**P**	**11 56 32.1**	**-1.0**		
	comp=Z,166nm,1.7s								
KMSI	**Cibinong**	**62.39**	**282**	P	**P**	**11 56 36.4**	**-0.7**		
	comp=Z,125nm,0.8s,comp=Z,3µm								
LUWI	**Luwuk**	**62.87**	**280**	P	**P**	**11 56 39.1**	**-1.2**		
LUWI	**Luwuk**	**62.87**	**280**	P	**P**	**11 56 40.5**	**+0.2**		
LUWI	**Luwuk**	**62.87**	**280**	P	**P**	**11 56 40.0**	**-0.3**		
	comp=Z,102nm,1.0s,comp=Z,1µm								
CCD	**Concordia, Ant**	**62.91**	**195**	P	**P**	**11 56 42.2**	**+2.1**		
CCD				sP	**pwP**	**11 57 31.2**	**+0.7**		
MRSI	**Marisa**	**64.22**	**281**	P	**P**	**11 56 48.8**	**-0.4**		
	comp=Z,21nm,1.0s								
GIRL	**Giralia**	**64.42**	**254**	P	**P**	**11 56 48.9**	**-1.5**		
	baz=64,SNR=5.0								
GIRL	**Giralia**	**64.42**	**254**	P	**P**	**11 56 50.2**	**-0.2**		
CASY	**Casey**	**64.76**	**205**	P	**P**	**11 56 53.7**	**+1.9**		
CASY				sP	**pwP**	**11 57 43.2**	**+0.8**		
PLAI	**Plampang**	**64.83**	**270**	P	**P**	**11 56 52.8**	**-0.4**		
PLAI	**Plampang**	**64.83**	**270**	P	**P**	**11 56 51.7**	**-1.5**		
	comp=Z,90nm,1.1s,comp=Z,965nm								
TOLI2	**Tolitoli**	**65.53**	**281**	P	**P**	**11 56 55.6**	**-2.0**		
TOLI2				IAmb	IAmb	11 56 58.9			
	comp=Z,18nm,0.8s								
TOLI2	**Tolitoli**	**65.53**	**281**	P	**P**	**11 56 57.6**	**-0.1**		
TWSI	**Taliwang, Sumb**	**65.70**	**270**	P	**P**	**11 56 57.4**	**-1.3**		
	comp=Z,70nm,1.2s,comp=Z,960nm								
MPSI	**Mapaga**	**66.05**	**280**	P	**P**	**11 57 00.0**	**-0.9**		
	comp=Z,38nm,0.9s,comp=Z,664nm								
SRBI	**Singaraja**	**67.47**	**270**	P	**P**	**11 57 09.1**	**-0.8**		
	comp=Z,46nm,1.0s								
JHJ	**Hachijo jima 2**	**68.10**	**321**	P	**P**	**11 57 11.2**	**-2.2**		
	comp=Z,37nm,0.3s,baz=237,slow=16,SNR=10								
	comp=Z,37nm,0.3s								
JAGI	**Jajag, Banyuwa**	**68.34**	**269**	P	**P**	**11 57 13.0**	**-2.3**		
JAGI	**Jajag, Banyuwa**	**68.34**	**269**	P	**P**	**11 57 13.5**	**-1.9**		
JAGI	**Jajag, Banyuwa**	**68.34**	**269**	P	**P**	**11 57 14.2**	**-1.2**		
	comp=Z,69nm,1.0s								
ABJI	**Asem Bagus**	**68.48**	**270**	P	**P**	**11 57 16.1**	**-0.1**		
	comp=Z,62nm,1.0s								
GMJI	**Gumukmas**	**69.07**	**269**	P	**P**	**11 57 18.9**	**-0.9**		
	comp=Z,30nm,0.9s								
BLJI	**Banyuglugur**	**69.10**	**269**	P	**P**	**11 57 19.9**	**-0.1**		
	comp=Z,67nm,0.6s								
QSPA	**South Pole Qui**	**69.52**	**180**	P	**P**	**11 57 23.5**	**+1.6**		
QSPA	**South Pole Qui**	**69.52**	**180**	P	**P**	**11 57 24.1**	**+2.1**		
	comp=Z,59nm,0.9s,baz=33,slow=1.6,SNR=105								
QSPA				pP	**pwP**	**11 58 12.5**	**-0.3**		
	comp=Z,50nm,1.1s,baz=43,slow=4.1,SNR=4.8								
	comp=Z,59nm,0.9s								
QSPA	**South Pole Qui**	**69.52**	**180**	P	**P**	**11 57 24.0**	**+2.1**		
QSPA				sP	**pwP**	**11 58 12.5**	**-0.3**		
PWJI	**Pagerwojo**	**70.69**	**268**	P	**P**	**11 57 29.6**	**-0.1**		
	comp=Z,45nm,1.1s								
JMM	**Marumori**	**70.94**	**325**	P	**P**	**11 57 29.4**	**-1.2**		
JMM				IAmb	IAmb	12 00 03.

MURC	Murrieta	77.64	47	P		P		11 58 09.9	+0.4		
	baz=235,SNR=5.5										
VES	Vestal, Richgr	77.69	44	P		P		11 58 10.7	+1.1		
	baz=234,SNR=8.2										
BFSC	Mount Baldy Ra	77.70	46	P		P		11 58 10.6	+0.7		
	baz=235,SNR=5.8										
MONP2	Monument Peak	77.78	48	P		P		11 58 11.4	+0.9		
	baz=236,SNR=10										
EDW2	Edwards Air Fo	77.84	45	P		P		11 58 11.9	+1.3		
	baz=234,SNR=16										
IKP	In-Ko-Pah, Jac	77.86	48	P		P		11 58 12.3	+1.5		
	baz=236,SNR=6.7										
TJN	Taejon	77.94	316⇑	*e*P		P		11 58 11.7	+0.7		
PPBI	Pangkal Pinang	77.97	272	P		P		11 58 11.6	-0.1		
CHGN	Chignik	77.97	10	P		P		11 58 11.6	+0.9		
	baz=197										
ISA	Isabella, Lake	77.98	45	P		P		11 58 12.2	+0.8		
ISA				IAmb		IAmb		11 58 14.1			
	comp=Z,35nm,1.1s										
ISA	Isabella, Lake	77.98	45	P		P		11 58 12.2	+0.8		
ISA				pmax		pmax					
	comp=Z,35nm,1.2s										
ISA	Isabella, Lake	77.98	45	P		P		11 58 12.2	+0.8		
	baz=234,SNR=13										
YUH	Yuha Desert	77.99	48	P		P		11 58 13.1	+1.7		
CHIR	Chirikof Islan	78.00	12	P		P		11 58 10.3	-0.6		
	baz=200										
QZH	Quanzhou	78.08	302⇓	*i*P		P		11 58 11.5	-0.6		
PFO	Pinyon Flats O	78.16	47	P		P		11 58 13.1	+0.6		
PFO	Pinyon Flats O	78.16	47⇑	*e*P		P		11 58 11.7	-0.8		
PFO				pmax		pmax					
	comp=Z,17nm,1.0s										
PFO	Pinyon Flats O	78.16	47	P		P		11 58 13.2	+0.8		
	baz=236										
TPFO	Pinon Flats	78.16	47	P		P		11 58 13.9	+1.4		
	baz=236,SNR=5.0										
KSRS	Korea Array	78.23	318	P		P		11 58 12.7	+0.1		
	comp=Z,12nm,1.2s,baz=139,slow=5.9,SNR=20										
	comp=Z,12nm,1.2s										
SWSC	Sam W. Stewart	78.24	48	P		P		11 58 13.9	+1.2		
	baz=236										
KSAR	Wonju Array Be	78.25	317	P		P		11 58 12.1	-0.6		
KSAR	Wonju Array Be	78.25	317	P		P		11 58 12.1	-0.6		
KASI	Kota Agung	78.36	268	P		P		11 58 12.3	-1.5		
	comp=Z,72nm,0.9s										
AFDM	Forest Hills D	78.39	41	P		P		11 58 13.9	+0.5		
ORV	Oroville	78.44	40	P		P		11 58 13.9	+0.2		
ORV	Oroville	78.44	40	P		P		11 58 14.0	+0.2		
ORV				pmax		pmax					
	comp=Z,15nm,1.2s										
BELC	Belle Mtn. Jos	78.69	47	P		P		11 58 16.7	+1.3		
	baz=236										
CWC	Cottonwood Cre	78.70	44	P		P		11 58 16.7	+1.3		
	baz=234										
MPMC	Manual Prospec	78.86	45	P		P		11 58 17.7	+1.3		
	baz=235,SNR=19										
BC3	Big Chuckawall	78.88	48	P		P		11 58 18.2	+1.8		
	baz=236										
GSC	Goldstone, Bar	78.88	46	P		P		11 58 17.5	+1.2		
	baz=235,SNR=9.9										
MLAC	Mammoth, Mammo	78.91	43	P		P		11 58 17.7	+1.1		
	baz=233										
HEC	Hector,Ludlow	78.93	46	P		P		11 58 17.1	+0.5		
	baz=236,SNR=10										
LWLI	Liwa	78.94	269	P		P		11 58 23.2	+6.0		
TIN	Tinemaha, Big	78.96	44	P		P		11 58 17.8	+1.1		
	baz=234										
SII	Sitkinak Islan	78.97	12	P		P		11 58 16.1	0.0		
	baz=201										
GLA	Glamis	78.98	48	P		P		11 58 18.3	+1.4		
	baz=237										
INCN	Inchon	79.07	317	P		P		11 58 16.5	-0.7		
INCN				IAmb		IAmb		11 58 17.9			
	comp=Z,54nm,1.3s										
INCN	Inchon	79.07	317	P		P		11 58 17.3	+0.1		
INCN	Inchon	79.07	317	P		P		11 58 16.5	-0.7		
INCN				pmax		pmax					
	comp=Z,53nm,1.3s										
YBH	Yreka Blue Hor	79.12	38	P		P		11 58 19.1	+1.7		
YBH	Yreka Blue Hor	79.12	38	P		P		11 58 19.1	+1.7		
YBH				pmax		pmax					
	comp=Z,12nm,1.0s										
QSM	Queen of Sheba	79.22	45	IAmb		IAmb		11 58 20.5			
	comp=Z,33nm,1.4s										
BELA	Belgrano 2	79.25	172	P		P		11 58 18.6	+1.0		
BELA				IAmb		IAmb		11 58 19.9			
	comp=Z,42nm,1.0s										
GMRC	Granite Mounta	79.36	47	P		P		11 58 20.1	+1.1		
	baz=236,SNR=10										
IRM	Iron Mountain	79.37	47	P		P		11 58 20.5	+1.6		
	baz=236,SNR=14										
GRAC	Grapevine Rang	79.49	44	P		P		11 58 20.4	+0.9		
	baz=234										
FURC	Furnace Creek,	79.51	45	P		P		11 58 20.3	+0.8		
	baz=235										
MSHR	Mys Shultsa	79.52	323⇑	*e*P		P		11 58 19.9	+0.5		
MSHR				pmax		pmax					
	comp=Z,68nm,1.7s										
TUQ	Turquoise Moun	79.55	46	P		P		11 58 21.0	+1.0		
	baz=236,SNR=8.6										
SHOC	Shoshone, Teco	79.58	45	P		P		11 58 20.8	+0.8		
	baz=235										
NVAR	Mina Array Bea	79.73	42	P		P		11 58 22.3	+1.3		
	comp=Z,8.3nm,0.9s,baz=225,slow=8.9,SNR=32										
NVAR				pP		pP		11 59 11.3	+0.6		
	comp=Z,1.6nm,0.8s,baz=229,slow=8.2,SNR=1.5										
	comp=Z,8.3nm,0.9s										
PSTR	Posyet	79.76	323	*de*P		P		11 58 21.4	+0.7		
OHAK	Old Harbor	79.76	12	P		P		11 58 20.5	+0.1		
OHAK				IAmb		IAmb		11 58 21.5			
	comp=Z,32nm,0.9s										
OHAK	Old Harbor	79.76	12	P		P		11 58 20.8	+0.4		
OHAK	Old Harbor	79.76	12	P		P		11 58 20.4	0.0		
	baz=202										
214A	Organ Pipe Nat	79.83	50	P		P		11 58 22.9	+1.5		
	baz=238										
TYV	Tymovskoe	79.90	335	*e*P		P		11 58 21.2	-0.1		
TYV				*e*S		S		12 08 10.3	+3.3		
TYV				pmax		pmax					
	comp=Z,200nm,2.4s										
TYV				pmax		pmax					
	comp=Z,23nm,1.5s										
TYV				smax		smax					
	comp=N,200nm,5.7s										
TYV				smax		smax					
	comp=E,100nm,5.7s										
DSRI	Dabo	80.01	273	P		P		11 58 25.2	+2.4		
USA0B	Ussuriysk Arra	80.12	325	P		P		11 58 22.8	+0.2		
USA0B				IAmb		IAmb		11 58 23.9			
	comp=Z,41nm,1.4s										
USA0B	Ussuriysk Arra	80.12	325	P		P		11 58 22.8	+0.2		
USA0B				pmax		pmax					
	comp=Z,41nm,1.4s										
USRK	Ussuriysk Ar.	80.12	325	P		P		11 58 22.6	0.0		
USRK	Ussuriysk Ar.	80.12	325	P		P		11 58 22.6	0.0		
USRK	Ussuriysk Ar.	80.12	325	P		P		11 58 23.3	+0.7		
	comp=Z,8.1nm,1.0s,baz=124,slow=5.1,SNR=13										
	comp=Z,8.1nm,1.0s										
PDMCI	Parker Dam,Lak	80.14	48	P		P		11 58 24.7	+1.7		
	baz=237,SNR=14										
Q17K	Contact Creek	80.26	11	P		P		11 58 22.3	-1.0		
	baz=199,SNR=18										
O14K	Tigyukauivet M	80.42	8	P		P		11 58 22.9	-0.9		
	baz=194										
KDAK	Kodiak Island	80.43	12	P		P		11 58 24.1	+0.2		
KDAK				IAmb		IAmb		11 58 32.3			
	comp=Z,78nm,1.3s										
KDAK	Kodiak Island	80.43	12	P		P		11 58 24.1	+0.2		
KDAK				pmax		pmax					
	comp=Z,78nm,1.3s										
KDAK	Kodiak Island	80.43	12	P		P		11 58 22.5	-1.5		
	baz=202										
Q16K	King Salmon	80.52	10	P		P		11 58 23.7	-0.8		
	baz=198,SNR=10										
O15K	Ungalikthiuk R	80.53	8	P		P		11 58 23.8	-0.7		
	baz=195										
P16K	Nushagak River	80.65	9	P		P		11 58 24.3	-0.8		
	baz=197,SNR=13										
K05A	Summer Lake	80.79	38	IAmb		IAmb		11 58 29.1			
	comp=Z,33nm,1.0s										
S11A	Rachel	80.92	44	IAmb		IAmb		11 58 29.8			
	comp=Z,40nm,1.5s										
J05D	Fort Rock, OR	80.95	37	P		P		11 58 28.4	+1.1		
J05D				IAmb		IAmb		11 58 29.8			
	comp=Z,32nm,1.0s										
N14K	Kuskokwak Cree	81.02	7	P		P		11 58 26.8	-0.2		
	baz=194										
M11K	Mekoryuk	81.03	5	P		P		11 58 27.6	+0.6		
	baz=189										
P17K	Kvichak River	81.05	10	P		P		11 58 26.4	-0.8		
	baz=199,SNR=12										
O16K	Kokwok River B	81.18	9	IAmb		IAmb		11 58 28.0			
	comp=Z,32nm,1.0s										
O16K	Kokwok River B	81.18	9	P		P		11 58 26.3	-1.6		
	baz=197,SNR=12										
Q20K	Shuyak Island	81.23	12	P		P		11 58 27.3	-0.9		
	baz=202										
Q19K	Cape Douglas,	81.29	11	P		P		11 58 28.0	-0.5		
	baz=201,SNR=5.7										
M13K	Dall Lake	81.32	6	P		P		11 58 28.3	-0.2		
	baz=192										
R11B	Troy Canyon, C	81.42	44	P		P		11 58 29.8	-0.2		
	baz=236										
NJ2	Nanjing	81.43	309	*e*P		P		11 58 31.4	+1.5		
NJ2				pmax		pmax					
	comp=Z,27nm,0.6s										
PINE	Pine Mountain	81.44	37	IAmb		IAmb		11 58 32.6			
	comp=Z,36nm,1.0s										
P18K	Big Mountain,	81.44	11	IAmb		IAmb		11 58 29.9			
	comp=Z,46nm,0.9s										
P18K	Big Mountain,	81.44	11	P		P		11 58 28.2	-1.1		
	baz=200,SNR=20										
N15K	Kwethluk River	81.45	8	IAmb		IAmb		11 58 30.9			
	comp=Z,71nm,1.6s										
N15K	Kwethluk River	81.45	8	P		P		11 58 29.0	-0.4		
	baz=195										
TUC	Tucson	81.48	51	P		P		11 58 30.9	+0.6		
	baz=239										
MYKOM	Kota Tinggi	81.49	275	IAmb		IAmb		11 58 31.3			
	comp=Z,37nm,1.0s										
O17K	Koliganek Bris	81.50	9	P		P		11 58 29.0	-0.6		
	baz=198,SNR=10										
I05D	Terrebonne, OR	81.56	36	IAmb		IAmb		11 58 48.1			
	comp=Z,72nm,2.0s										
MDJ	Mudanjiang	81.70	324	P		P		11 58 31.1	+0.1		
MDJ				pP		pP		11 59 12.5	-8.4		
MDJ				sP		pwP		11 59 28.4	+4.6		
MDJ				S		S		12 08 29.8	+4.0		
MDJ				sS		pS		12 09 32.9	+5.4		
MDJ				pmax		pmax					
	comp=Z,40nm,1.1s										
MDJ				pmax		pmax					
	comp=Z,280nm,3.5s										
MDJ	Mudanjiang	81.70	324	P		P		11 58 30.6	-0.4		
MDJ				IAmb		IAmb		11 58 32.3			
	comp=Z,36nm,1.0s										
MDJ	Mudanjiang	81.70	324	P		P		11 58 32.0	+1.0		
M14K	Bethel	81.80	7	P		P		11 58 31.1	0.0		
M14K				IAmb		IAmb		11 58 32.8			
	comp=Z,51nm,1.1s										
M14K	Bethel	81.80	7	P		P		11 58 30.5	-0.6		
	baz=193,SNR=10.0										
O18K	Koktuh Hills	81.88	10	IAmb		IAmb		11 58 32.5			
	comp=Z,57nm,1.0s										
O18K	Koktuh Hills	81.88	10	P		P		11 58 30.7	-1.0		
	baz=200,SNR=20										
M15K	Kasigluk River	81.89	7	P		P		11 58 31.5	-0.1		
	baz=194										
N16K	Nishlik Lake	81.93	8	P		P		11 58 31.8	-0.1		
	baz=196										
F04A	Amboy	82.00	35	IAmb		IAmb		11 58 34.6			
	comp=Z,67nm,1.5s										
HOOD	Mount Hood Mea	82.02	35	IAmb		IAmb		11 58 34.8			
	comp=Z,35nm,1.2s										
P19K	Oil Pt	82.04	11	P		P		11 58 31.9	-0.5		
	baz=202										
X16A	Lo Mia Camp, P	82.09	49	IAmb		IAmb		11 58 36.8			
	comp=Z,23nm,0.9s										
MAW	Mawson	82.17	199	P		P		11 58 35.0	+1.9		
MAW	Mawson	82.17	199	P		P		11 58 35.0	+1.9		
MAW				pmax		pmax					
	comp=Z,33nm,1.9s										
MAW	Mawson	82.17	199	P		P		11 58 34.3	+1.2		
	comp=Z,40nm,1.1s,baz=96,slow=18,SNR=6.1										
	comp=Z,40nm,1.1s										
N17K	Nushagak Hills	82.21	9	P		P		11 58 32.7	-0.6		
	baz=198										
L14K	Kuka Creek	82.30	6	IAmb		IAmb		11 58 35.5			
	comp=Z,45nm,1.1s										
L14K	Kuka Creek	82.30	6	P		P		11 58 33.9	+0.2		
	baz=193										
Q12A	Willow Creek R	82.30	43	IAmb		IAmb		11 58 37.0			
	comp=Z,39nm,1.5s										
HOM	Homer	82.35	12	P		P		11 58 32.7	-1.3		
	baz=203										
O19K	Port Alsworth	82.36	11	P		P		11 58 33.4	-0.6		
	baz=200,SNR=27										
M16K	Timber Creek	82.43	8	P		P		11 58 34.5	+0.1		
	baz=196										
G06A	Carlson Farm,	82.52	36	IAmb		IAmb		11 58 37.5			
	comp=Z,41nm,1.3s										
N18K	Kilae Creek	82.55	10	P		P		11 58 34.6	-0.5		
	baz=199										
O20K	Slope Mountain	82.56	12	P		P		11 58 34.6	-0.6		
	baz=202,SNR=5.2										
U15A	North Rim	82.56	47	IAmb		IAmb		11 58 39.3			
	comp=Z,24nm,0.9s										
BRLK	Bradley Lake	82.60	12	IAmb		IAmb		11 58 36.3			
	comp=Z,52nm,1.0s										
BRSE	Bradley Lake S	82.61	13	P		P		11 58 34.5	-0.9		
	baz=204,SNR=6.5										
QIZ	Qiongzhong	82.67	293	P		P		11 58 34.4	-2.2		
QIZ				pP		pP		11 59 14.3	-12		
QIZ				S		S		12 08 38.0	+1.2		
QIZ				sS		pS		12 09 47.8	+9.1		
QIZ				LR		LR					
	comp=Z,170nm,11.8s										
QIZ				LR		LR					
	comp=Z,140nm,12.3s										
QIZ				LR		LR					
	comp=Z,120nm,15.7s										
WUAZ	Wupatki	82.71	48	IAmb		IAmb		11 58 39.8			
	comp=Z,28nm,1.1s										
WUAZ	Wupatki	82.71	48	P		P		11 58 38.5	+1.9		
	baz=239,SNR=16										
L15K	Ungalak Mounta	82.75	7	P		P		11 58 35.9	-0.1		
	baz=194										
LON	Longmire	82.85	34	IAmb		IAmb		11 58 38.8			
	comp=Z,62nm,1.9s										
GNW	Green Mountain	82.85	33	IAmb		IAmb		11 58 39.1			
	comp=Z,29nm,1.3s										
N19K	Bonanza Creek	82.91	10	IAmb		IAmb		11 58 37.4			
	comp=Z,27nm,1.1s										
N19K	Bonanza Creek	82.91	10	P		P		11 58 36.1	-1.0		
	baz=200										
SVW2	Sparrevohn	83.00	10	P		P		11 58 36.9	-0.5		
M17K	Holitna River	83.01	9	IAmb		IAmb		11 58 39.5			
	comp=Z,45nm,1.1s										
M17K	Holitna River	83.01	9	P		P		11 58 38.5	+1.1		
	baz=198										
L16K	Owhat River	83.03	8	P		P		11 58 38.0	+0.5		
	baz=196,SNR=39										
PKCU	Pink Cliffs	83.08	46	IAmb		IAmb		11 58 42.5			
	comp=Z,60nm,1.1s										
SEW	Seward	83.21	13	P		P		11 58 37.6	-0.8		
	baz=205										
M18K	Stony River	83.33	10	P		P		11 58 37.9	-1.2		
	baz=199,SNR=8.6										
K15K	Wolf Creek Mou	83.35	7	P		P		11 58 39.8	+0.7		
	baz=194										
CAPN	Captain Cook N	83.47	12	P		P		11 58 40.6	+0.9		
	baz=203										
G08A	Pilot Rock	83.48	37	IAmb		IAmb		11 58 42.5			
	comp=Z,32nm,1.1s										
O22K	Cooper Landing	83.50	13	IAmb		IAmb		11 58 45.4			
	comp=Z,46nm,0.9s										
O22K	Cooper Landing	83.50	13	P		P		11 58 40.3	+0.5		
	baz=205										
SNY	Shenyang	83.52	319	⇑P		P		11 58 40.3	-0.1		
SNY				sP		pwP		11 59 35.6	+2.2		
SNY				S		S		12 08 39.8	-4.5		
SNY				pmax		pmax					
	comp=Z,17nm,1.4s										
SNY				pmax		pmax					
	comp=Z,280nm,5.5s										
CN2	Changchun	83.55	322	*e*P		P		11 58 39.5	-1.0		
CN2				pmax		pmax					
	comp=Z,10.0nm,0.6s										
P23K	Montague Islan	83.56	14	P		P		11 58 39.7	-0.5		
	baz=207										
KLR	Kul'dur	83.58	329	*de*P		P		11 58 39.8	-0.8		
KLR				pmax		pmax					
	comp=Z,23nm,1.7s										
KLR	Kul'dur	83.58	329	P		P		11 58 40.8	+0.2		
	comp=Z,5.6nm,1.1s,baz=129,slow=4.7,SNR=9.6										
	comp=Z,5.6nm,1.1s										
L17K	Donlin	83.59	8	P		P		11 58 41.1	+0.8		
	baz=197										
J14K	Nanvaranak Lak	83.59	6	P		P		11 58 40.3	0.0		
	baz=192										
BNX	BinXian	83.61	324⇑	P		P		11 58 40.3	-0.5		
BNX				pmax		pmax					
	comp=Z,35nm,1.1s										
BNX				pmax		pmax					
	comp=Z,220nm,5.8s										
W18A	Petrified Fore	83.66	49	P		P		11 58 42.1	+0.5		
	baz=240										
N20K	Mount Spurr	83.67	11	P		P		11 58 40.2	-0.7		
	baz=202,SNR=13										
E07A	Sunnyside	83.77	35	IAmb		IAmb		11 58 44.0			
	comp=Z,32nm,1.0s										
LTY	Liberty	83.77	34	IAmb		IAmb		11 58 43.0			
	comp=Z,23nm,1.2s										
121A	Cookes Peak, D	83.79	52	P		P		11 58 43.3	+1.0		
	baz=241										
121A	Cookes Peak, D	83.79	52	P		P		11 58 44.8	+2.5		
	baz=241										
HAWA	Hanford	83.84	35	IAmb		IAmb		11 58 44.3			
	comp=Z,34nm,1.1s										
L18K	Granite Mounta	83.90	9	IAmb		IAmb		11 58 43.8			
	comp=Z,49nm,1.1s										
L18K	Granite Mounta	83.90	9	P		P		11 58 42.4	+0.5		
	baz=198										
M19K	Big River Lodg	83.95	10	P		P		11 58 41.7	-0.5		
	baz=200										
RC01	Rabbit Creek A	84.05	12	IAmb		IAmb		11 58 43.6			
	comp=Z,58nm,1.1s										
RC01	Rabbit Creek A	84.05	12	P		P		11 58 41.8	-0.8		
	baz=205,SNR=15										
WHN	Wuhan	84.06	306⇑	*i*P		P		11 58 43.0	-0.4		
WHN				pmax		pmax					
	comp=Z,100nm,1.2s										
GAMB	Gambell	84.11	2	P		P		11 58 43.5	+0.6		
	baz=184,SNR=10										
HIN	Hinchinbrook I	84.12	14	IAmb		IAmb		11 58 43.9			
	comp=Z,44nm,0.9s										
L19K	White Mountain	84.14	10	P		P		11 58 42.9	-0.2		
	baz=200,SNR=10										
M20K	Styx River	84.14	11	P		P		11 58 42.2	-1.1		
	baz=202										
BMO	Blue Mountains	84.15	38	IAmb		IAmb		11 58 45.7			
	comp=Z,46nm,1.9s										
K17K	Iditarod	84.15	8	IAmb		IAmb		11 58 45.0			
	comp=Z,68nm,1.4s										
K17K	Iditarod	84.15	8	P		P		11 58 43.5	+0.4		
	baz=197,SNR=11										
SUA	Susitna One	84.19	12	IAmb		IAmb		11 58 44.5			
	comp=Z,36nm,0.8s										
SUA	Susitna One	84.19	12	P		P		11 58 42.8	-0.8		
	baz=204,SNR=30										
KAIM	Kayak Island	84.20	15	P		P		11 58 43.2	-0.3		
	baz=210										
DUG	Dugway, Tooele	84.23	43	P		P		11 58 43.5	-0.8		
	baz=237,SNR=5.7										
H03S2	Juan Fernandez	84.34	124	T		T		13 31 31.0			
	baz=247,slow=74,SNR=34										
H03S1	Juan Fernandez	84.36	124	T		T		13 31 29.9			
	baz=247,slow=74,SNR=34										
H03S3	Juan Fernandez	84.36	124	T		T		13 31 28.6			
	baz=247,slow=74,SNR=24										
MA2	Magadan	84.37	344	P		P		11 58 43.7	-0.6		
MA2				IAmb		IAmb		11 58 44.3			
	comp=Z,26nm,0.9s										
MA2	Magadan	84.37	344	P		P		11 58 43.8	-0.6		
MA2	Magadan	84.37	344⇑	*e*P		P		11 58 43.6	-0.7		
MA2				pmax		pmax					
	comp=Z,38nm,1.7s										
MA2	Magadan	84.37	344	P		P		11 58 43.7	-0.6		
	comp=Z,15nm,0.7s,baz=130,slow=6.1,SNR=13										
	comp=Z,15nm,0.7s										
J16K	Anvik River	84.42	7	IAmb		IAmb		11 58 46.3			
	comp=Z,43nm,0.8s										
J16K	Anvik River	84.42	7	P		P		11 58 44.2	-0.3		
	baz=195										
EYAK	Cordova Ski Ar	84.43	14	P		P		11 58 44.4	-0.2		
EYAK	Cordova Ski Ar	84.43	14	P		P		11 58 43.8	-0.8		
	baz=208,SNR=5.5										
V35K	Ketchikan	84.44	24	P		P		11 58 44.0	-0.7		
	baz=221										
H03N2	Juan Fernandez	84.48	124	T		T		13 31 34.5			
	baz=250,slow=72,SNR=163										
H03N3	Juan Fernandez	84.48	124	T		T		13 31 35.0			
	baz=250,slow=72,SNR=113										
U33K	Whale Pass	84.48	22	P		P		11 58 45.6	+0.7		
	baz=220										
H03N1	Juan Fernandez	84.49	124	T		T		13 31 34.4			
	baz=250,slow=72,SNR=94										
SKT	Skwentna	84.52	11	P		P		11 58 43.8	-1.2		
	baz=203,SNR=7.8										
L20K	Farewell, AK	84.58	10	P		P		11 58 44.6	-0.8		
	baz=201,SNR=13										
M22K	Willow	84.58	12	P		P		11 58 44.1	-1.1		
	baz=204,SNR=16										
D08A	Wollman Farm,	84.58	35	IAmb		IAmb		11 58 48.0			
	comp=Z,21nm,0.9s										
KNK	Knik Glacier	84.60	13	IAmb		IAmb		11 58 46.4			
	comp=Z,34nm,0.9s				

baz=207,SNR=13
KLU **Klutina** 85.22 14 lAmb lAmb 11 58 49.7
comp=Z,34nm,1.2s
KLU **Klutina** 85.22 14 P **P** **11 58 48.6 0.0**
baz=208,SNR=7.2
ANM **Nome** 85.23 5 P **P** **11 58 48.5 0.0**
baz=190
PPLA **Purkeypile** 85.25 11 P **P** **11 58 46.8 -2.1**
baz=202
ISLE **Juniper Island** 85.31 16 lAmb lAmb 11 58 51.0
comp=Z,44nm,0.9s
PNL **Peninsula** 85.32 18 P **P** **11 58 48.5 -0.6**
baz=214
K20K **Telida** 85.37 10 P **P** **11 58 49.2 -0.1**
baz=201
TX31 **Lajitas Ar. Si** 85.44 57 lAmb lAmb 11 58 53.5
comp=Z,22nm,1.1s
TX31 **Lajitas Ar. Si** 85.44 57 P **P** **11 58 51.9 +1.4**
baz=244
TXAR **Lajitas Array** 85.44 57 P **P** **11 58 52.4 +1.9**
comp=Z,10nm,0.9s,baz=212,slow=6.8,SNR=81
TXAR pP **pP** **11 59 40.8 -0.2**
comp=Z,1.8nm,1.0s,baz=235,slow=4.4,SNR=1.5
TXAR PKKPbc **PKKPbc** **12 16 54.4 +0.2**
comp=Z,0.3nm,0.8s,baz=102,slow=2.7,SNR=4.6
comp=Z,10nm,0.9s
MVCO **Mesa Verde** 85.57 48 P **P** **11 58 51.2 0.0**
baz=240
H16K **Elim** 85.57 6 P **P** **11 58 50.1 0.0**
baz=193,SNR=38
VRDI **Verde Repeater** 85.57 15 lAmb lAmb 11 58 51.8
comp=Z,51nm,1.1s
N25K **Chitina, Valde** 85.63 14 P **P** **11 58 50.5 -0.2**
baz=209,SNR=22
GLB **Gilahina Butte** 85.67 15 lAmb lAmb 11 58 52.0
comp=Z,34nm,0.8s
M24K **Tolsona, Glenn** 85.71 14 P **P** **11 58 50.1 -0.9**
baz=208,SNR=14
KULM **Kulim** 85.72 277 lAmb lAmb 11 58 52.9
comp=Z,24nm,0.9s
J19K **Poorman** 85.74 9 P **P** **11 58 51.1 0.0**
baz=199,SNR=21
CAST **Castle Rocks** 85.75 10 lAmb lAmb 11 58 50.8
comp=Z,39nm,1.0s
CAST **Castle Rocks** 85.75 10 P **P** **11 58 49.5 -1.6**
baz=202,SNR=32
G15K **Niukluk** 85.76 5 P **P** **11 58 50.9 -0.2**
baz=191
P29M **Windy Craggy** 85.77 18 P **P** **11 58 50.9 -0.5**
baz=216
WAT6 **Susitna Watana** 85.81 13 P **P** **11 58 51.1 -0.5**
baz=206,SNR=38
MCARA **McCarthy VSAT** 85.81 15 lAmb lAmb 11 58 52.9
comp=Z,48nm,1.1s
MCARA **McCarthy VSAT** 85.81 15 P **P** **11 58 51.5 0.0**
baz=211,SNR=9.3
LOGN **Logan Glacier** 85.85 16 lAmb lAmb 11 58 53.2
comp=Z,38nm,1.0s
WAT1 **Susitna Watana** 85.87 12 P **P** **11 58 50.9 -0.8**
baz=206
CTG **Chitna Glacier** 85.88 16 P **P** **11 58 51.7 -0.2**
baz=212,SNR=11
CTGM **Chitina Glacie** 85.88 16 lAmb lAmb 11 58 53.4
comp=Z,32nm,0.8s
LL02 **Futaleuf** 85.90 135 P **P** **11 58 54.5 +2.0**
LL02 lAmb lAmb 11 58 56.1
comp=Z,31nm,1.0s
ANMO **Albuquerque** 85.92 50 P **P** **11 58 53.6 +0.7**
ANMO **Albuquerque** 85.92 50 P **P** **11 58 53.6 +0.7**
ANMO pmax pmax
comp=Z,19nm,1.3s
ANMO **Albuquerque** 85.92 50 P **P** **11 58 52.9 0.0**
baz=242
ANMO **Albuquerque** 85.92 50 P **P** **11 58 54.1 +1.3**
baz=242
ALPN **Alpine** 85.92 56 lAmb lAmb 11 58 55.5
comp=Z,16nm,0.8s
TNA **Tin City** 86.06 3 P **P** **11 58 52.2 -0.3**
baz=188,SNR=15
F14K **Arctic Creek** 86.07 4 P **P** **11 58 51.8 -0.8**
baz=189
O29M **Mount Kennedy** 86.08 18 P **P** **11 58 52.6 -0.4**
baz=215
KTH **Kantishna Hill** 86.08 11 P **P** **11 58 52.0 -0.8**
KTH lAmb lAmb 11 58 52.8
comp=Z,38nm,1.0s
H17K **Granite Mounta** 86.10 7 lAmb lAmb 11 58 53.9
comp=Z,24nm,1.1s
H17K **Granite Mounta** 86.10 7 P **P** **11 58 51.6 -1.2**
baz=195
TRF **Thorofare Moun** 86.10 11 P **P** **11 58 52.1 -1.0**
baz=204,SNR=46
J20K **Nowinta River** 86.13 9 P **P** **11 58 52.3 -0.6**
baz=200,SNR=39
CHUM **Lake Minchumin** 86.15 10 P **P** **11 58 52.0 -1.0**
baz=202,SNR=25
T35M **Bob Quinn** 86.18 23 P **P** **11 58 53.7 +0.3**
baz=222
HARP **HAARP** 86.20 14 P **P** **11 58 54.1 +0.7**
baz=209,SNR=7.7
NEW **Newport** 86.28 35 P **P** **11 58 53.2 -0.9**
baz=234
GCSA **Galena City Sc** 86.28 8 P **P** **11 58 53.9 +0.3**
baz=198
G16K **Koyuk River** 86.30 6 P **P** **11 58 53.5 -0.2**
baz=193
DHY **Denali Highway** 86.33 13 P **P** **11 58 54.2 0.0**
DHY lAmb lAmb 11 58 55.0
comp=Z,29nm,1.1s
DHY **Denali Highway** 86.33 13 P **P** **11 58 53.9 -0.3**
baz=207,SNR=9.9
SKAG **Skagway** 86.36 19 lAmb lAmb 11 58 56.7
comp=Z,59nm,1.4s
SKAG **Skagway** 86.36 19 P **P** **11 58 55.1 +1.0**
SKAG **Skagway** 86.36 19 P **P** **11 58 54.0 -0.2**
baz=218
HEH **HeiHe** 86.39 327 eP **P** **11 58 54.3 -0.2**
HEH sP **pwP** **11 59 51.3 +3.1**
HEH S **S** **12 09 11.9 -0.3**
HEH sS **pS** **12 10 22.6 +7.2**
HEH pmax pmax
comp=Z,21nm,1.4s
HEH pmax pmax
comp=Z,110nm,4.9s
P30M **Million Dollar** 86.40 18 P **P** **11 58 54.6 +0.2**
baz=216
F15K **North Star Dit** 86.42 5 P **P** **11 58 53.5 -0.8**
baz=191
H18K **Honhosa River** 86.49 7 P **P** **11 58 53.7 -1.0**
baz=197
S34M **Telegraph Cree** 86.56 22 lAmb lAmb 11 58 57.5
comp=Z,34nm,1.1s
S34M **Telegraph Cree** 86.56 22 P **P** **11 58 55.3 +0.1**
baz=222,SNR=7.9
YUK8 **Steele Glacier** 86.56 17 P **P** **11 58 55.9 +0.5**
baz=214,SNR=11
G17K **Kiwalik Mounta** 86.57 6 P **P** **11 58 54.5 -0.5**
baz=194
BPAW **Bear Paw Mtn.** 86.58 11 lAmb lAmb 11 58 55.0
comp=Z,24nm,1.2s
BPAW **Bear Paw Mtn.** 86.58 11 P **P** **11 58 55.5 +0.3**
baz=204,SNR=11
MCK **McKinley** 86.61 12 P **P** **11 58 55.0 -0.3**
baz=205,SNR=32
PAX **Paxson** 86.63 13 P **P** **11 58 55.1 -0.4**
baz=209,SNR=12
I20K **Naaghedeneel** 86.67 9 P **P** **11 58 55.3 -0.1**
baz=200
YUK6 **Outpost Mounta** 86.67 17 P **P** **11 58 55.4 -0.5**
baz=215
M26K **Nabesna, AK** 86.70 15 P **P** **11 58 55.2 -0.6**
baz=211
YUK3 **Moose Creek** 86.79 16 P **P** **11 58 55.9 -0.6**
baz=213,SNR=26
ELIB **Princess Elisa** 86.81 186 dP **P** **11 58 57.9 +1.3**
comp=Z,22nm,0.9s
ELIB dx x 11 59 04.1
ELIB dx x 11 59 48.2
HYT **Haines Junctio** 86.81 18 P **P** **11 58 56.8 +0.3**
HYT lAmb lAmb 11 58 58.4
comp=Z,29nm,1.1s
HYT **Haines Junctio** 86.81 18 P **P** **11 58 56.6 +0.1**
baz=216,SNR=8.6
SEY **Seymchan** 86.88 346⇑ eP **P** **11 58 56.0 -0.6**
SEY pmax pmax
comp=Z,98nm,1.3s
YUK4 **Talbot Arm** 86.92 17 P **P** **11 58 57.7 +0.6**
baz=215
M27K **Edge Creek, AK** 86.93 15 P **P** **11 58 57.4 +0.3**
baz=212
Q32M **Nakina River** 86.96 21 P **P** **11 58 58.1 +0.8**
baz=220
P32M **Atlin** 86.97 20 lAmb lAmb 11 58 59.2
comp=Z,16nm,1.1s
P32M **Atlin** 86.97 20 P **P** **11 58 57.8 +0.6**
baz=219
MENT **Mentasta** 87.00 14 lAmb lAmb 11 58 58.7
comp=Z,32nm,1.0s
MENT **Mentasta** 87.00 14 P **P** **11 58 58.4 +1.2**
HNS **HongShan** 87.03 312 ⇓P **P** **11 58 57.6 -0.3**
HNS pmax pmax
comp=Z,22nm,1.2s
H19K **Roundabout Mou** 87.09 8 P **P** **11 58 57.9 +0.4**
baz=198
L26K **Log Cabin Wild** 87.16 14 lAmb lAmb 11 58 59.5
comp=Z,26nm,1.0s
L26K **Log Cabin Wild** 87.16 14 P **P** **11 58 58.6 +0.6**
baz=210,SNR=19
G18K **Tagagawik** 87.17 7 P **P** **11 58 57.8 -0.1**
baz=196
O30N **Mendenhall** 87.18 18 lAmb lAmb 11 59 00.1
comp=Z,41nm,1.2s
O30N **Mendenhall** 87.18 18 P **P** **11 58 58.8 +0.6**
baz=217,SNR=9.1
GSI **Gunungsitoli** 87.19 272 P **P** **11 58 59.9 +0.6**
GSI **Gunungsitoli** 87.19 272 P **P** **11 58 59.8 +0.5**
comp=Z,34nm,1.0s,comp=Z,3um
O20A **White River Ci** 87.19 45 P **P** **11 58 59.0 +0.1**
O20A **White River Ci** 87.19 45 P **P** **11 58 58.3 -0.6**
baz=240,SNR=5.4
BVCY **Beaver Creek** 87.23 16 P **P** **11 58 58.8 +0.4**
baz=213,SNR=13
H20K **Anotleneega Mo** 87.27 9 P **P** **11 58 58.8 +0.3**
baz=200
SNOW **Snow King Moun** 87.28 41 lAmb lAmb 11 59 00.9
comp=Z,39nm,1.9s
K24K **Donnelly Dome** 87.30 13 P **P** **11 58 58.1 -0.6**
baz=208
BJT **Baijiatuan** 87.31 315 P **P** **11 58 58.8 -0.4**
BJT lAmb lAmb 11 59 01.1
comp=Z,19nm,1.2s
BJT **Baijiatuan** 87.31 315 P **P** **11 58 59.2 0.0**
BJT **Baijiatuan** 87.31 315 P **P** **11 58 58.8 -0.4**
BJT pmax pmax
comp=Z,19nm,1.2s
LYN **LuoYang** 87.31 308 ⇑P **P** **11 58 59.8 +0.4**
LYN SKS **SKSac** **12 09 10.0 +3.0**
LYN S **S** **12 09 23.9 +2.1**
LYN sS sS 12 10 39.4 -11
LYN pmax pmax
comp=Z,78nm,1.0s
LYN pmax pmax
comp=Z,450nm,5.1s
DLBC **Dease Lake** 87.34 22 lAmb lAmb 11 59 00.4
comp=Z,21nm,1.3s
DLBC **Dease Lake** 87.34 22 P **P** **11 58 59.0 0.0**
baz=222
NEA2 **Nenana** 87.37 11 P **P** **11 58 57.7 -1.2**
baz=205,SNR=6.9
I21K **Tanana** 87.41 10 lAmb lAmb 11 59 00.0
comp=Z,39nm,1.0s
I21K **Tanana** 87.41 10 P **P** **11 58 58.4 -0.7**
baz=202,SNR=41
F17K **Baldwin Pennin** 87.43 6 P **P** **11 58 58.8 -0.3**
baz=194
N30M **Aishikik Lake** 87.44 18 P **P** **11 58 59.2 -0.2**
baz=216
WHY **Whitehorse** 87.45 19 lAmb lAmb 11 59 00.8
comp=Z,24nm,1.4s
WHY **Whitehorse** 87.45 19 P **P** **11 59 00.2 +0.7**
baz=218
MLY **Manley** 87.47 10 lAmb lAmb 11 58 59.7
comp=Z,32nm,1.1s
MLY **Manley** 87.47 10 P **P** **11 58 58.5 -1.0**
baz=204,SNR=26
L27K **Beaver Creek,** 87.54 15 lAmb lAmb 11 59 01.4
comp=Z,19nm,1.0s
L27K **Beaver Creek,** 87.54 15 P **P** **11 58 59.7 -0.2**
baz=212,SNR=15
G19K **Purcell Mounta** 87.59 8 P **P** **11 58 59.4 -0.6**
baz=198
HDA **Harding Lake** 87.61 12 lAmb lAmb 11 59 02.0
comp=Z,46nm,1.3s
HDA **Harding Lake** 87.61 12 P **P** **11 58 59.5 -0.6**
baz=207,SNR=17
BW06 **Boulder Array** 87.67 42 P **P** **11 59 00.7 -0.5**
baz=239
PDAR **Pinedale Array** 87.67 42 P **P** **11 59 01.5 +0.3**
comp=Z,1.6nm,0.8s,baz=242,slow=3.6,SNR=14
PDAR pP **pwP** **11 59 54.7 +0.2**
comp=Z,2.0nm,1.0s,baz=209,slow=2.7,SNR=3.5
PDAR PKKP **PKKPbc** **12 16 47.8 -1.9**
comp=Z,0.3nm,0.6s,baz=82,slow=3.8,SNR=3.8
comp=Z,1.6nm,0.8s
TROLL **Troll, Antarti** 87.67 180 ⇓P **P** **11 59 01.7 +1.1**
comp=Z,284nm,0.8s
TROLL sP **pwP** **11 59 57.8 +3.8**
comp=Z,241nm,0.7s
ENH **Enshi** 87.70 303 P **P** **11 59 00.8 -0.5**
ENH **Enshi** 87.70 303 P **P** **11 59 01.2 -0.1**
H21K **Melozitna Rive** 87.72 9 P **P** **11 59 00.8 +0.2**
baz=202
R33M **Jennings River** 87.73 21 P **P** **11 58 59.9 -1.0**
baz=222
F18K **Selawik** 87.74 6 P **P** **11 59 00.3 -0.3**
baz=195,SNR=7.3
P33M **Teslin, Yukon** 87.74 20 P **P** **11 59 00.7 -0.2**
baz=220
PLCA **Paso Flores** 87.81 133 P **P** **11 59 04.6 +2.7**
comp=Z,5.6nm,1.0s,baz=201,slow=4.3,SNR=5.3
comp=Z,5.6nm,1.0s
I23K **Minto, Yukon-K** 87.82 11 lAmb lAmb 11 59 01.6
comp=Z,41nm,1.4s
I23K **Minto, Yukon-K** 87.82 11 P **P** **11 59 00.2 -0.9**
baz=205,SNR=14
SCRK **Sand Creek** 87.84 13 lAmb lAmb 11 59 02.7
comp=Z,19nm,1.0s
SCRK **Sand Creek** 87.84 13 P **P** **11 58 59.6 -1.7**
baz=210,SNR=18
COLA **College** 87.85 12 P **P** **11 59 00.6 -0.5**
COLA **College** 87.85 12 P **P** **11 59 01.7 +0.6**
COLA **College** 87.85 12 dr iP **P** **11 59 00.3 -0.8**
COLA pmax pmax
comp=Z,42nm,1.0s
COLA **College** 87.85 12 P **P** **11 59 00.3 -0.8**
baz=206
MDM **Murphy Dome** 87.86 11 P **P** **11 59 00.6 -0.7**
SRIT **Nakonsritamara** 87.87 280 P **P** **11 59 03.4 +1.0**
M29M **Somme Creek** 87.87 16 P **P** **11 59 01.4 -0.1**
baz=215,SNR=16
H17A **Grant Village** 87.88 41 P **P** **11 59 02.1 0.0**
baz=239
BOZ **Bozeman (W)** 87.88 39 lAmb lAmb 11 59 04.4
comp=Z,16nm,1.2s
BOZ **Bozeman (W)** 87.88 39 P **P** **11 59 02.6 +0.6**
baz=238,SNR=9.9
DRIO **Del Rio** 87.88 58 lAmb lAmb 11 59 59.3
comp=Z,17nm,1.2s
SNAA **Sanae** 87.90 178 ⇓P **P** **11 59 02.7 +1.0**
SNAA ⇓sP **pwP** **11 59 58.8 +3.8**
comp=Z,91nm,1.1s
SNAA **Sanae** 87.90 178 P **P** **11 59 02.8 +1.2**
comp=Z,6.7nm,0.8s,baz=203,slow=8.5,SNR=13
SNAA pP **pwP** **11 59 53.9 -1.1**
comp=Z,3.5nm,1.0s,baz=225,slow=8.6,SNR=2.4
comp=Z,6.7nm,0.8s
SDCO **Great Sand Dun** 87.92 48 P **P** **11 59 02.9 +0.4**
SDCO **Great Sand Dun** 87.92 48 P **P** **11 59 03.3 +0.8**
baz=242
SDCO **Great Sand Dun** 87.92 48 P **P** **11 59 03.4 +0.8**
baz=242
ILAR **Eielson Array** 87.94 12 P **P** **11 59 01.2 -0.4**
comp=Z,9.6nm,0.8s,baz=215,slow=5.0,SNR=77
ILAR PKKP **PKKPbc** **12 16 48.5 -1.3**
comp=Z,0.3nm,0.6s,baz=89,slow=1.7,SNR=4.6
comp=Z,9.6nm,0.8s
VNA3 **Neumayer Olymp** 87.95 176 ⇓P **P** **11 59 03.0 +1.1**
comp=Z,11nm,0.6s
SURA **Surathani** 88.05 280 P **P** **11 59 04.1 +0.8**
J25K **Salcha River,** 88.11 13 P **P** **11 59 02.1 -0.4**
baz=209
POKR **Poker Plat Res** 88.15 12 P **P** **11 59 01.5 -1.1**
baz=207,SNR=13
H22K **Ishtalitna Cre** 88.17 10 P **P** **11 59 01.8 -0.9**
baz=203
F19K **Shaleruckik Mo** 88.17 7 P **P** **11 59 02.0 -0.6**
baz=197
MSTX **Muleshoe** 88.17 53 lAmb lAmb 11 59 05.6
comp=Z,12nm,0.9s
MSTX **Muleshoe** 88.17 53 P **P** **11 59 04.7 +1.1**
baz=244
MSTX **Muleshoe** 88.17 53 P **P** **11 59 04.8 +1.2**
baz=244
K27K **Chicken** 88.31 14 P **P** **11 59 04.0 +0.6**
baz=212
GYA **Guiyang** 88.38 299 P **P** **11 59 04.8 0.0**
GYA pmax pmax
comp=Z,16nm,0.6s
N32M **Quiet Lake** 88.39 19 P **P** **11 59 04.0 +0.2**
baz=220
J26L **Joseph Creek** 88.39 13 P **P** **11 59 04.2 +0.3**
baz=210
T25A **Trinidad** 88.40 49 P **P** **11 59 05.4 +0.6**
baz=243
VNA2 **Neumayer--Watz** 88.42 176 ⇓P **P** **11 59 05.0 +1.0**
comp=Z,15nm,0.6s,baz=180,slow=3.8
VNA2 ⇓sP **pwP** **12 00 02.0 +4.6**
comp=Z,11nm,0.7s,baz=184,slow=3.0
G21K **Allakaket** 88.42 9 P **P** **11 59 03.5 -0.3**
baz=201
M30M **Minto, Yukon** 88.43 17 lAmb lAmb 11 59 05.6
comp=Z,34nm,1.1s
M30M **Minto, Yukon** 88.43 17 P **P** **11 59 04.0 -0.1**
baz=216,SNR=16
E18K **Tukpahlearik C** 88.44 6 P **P** **11 59 03.6 -0.3**
baz=194
D17K **Noatak River** 88.50 5 P **P** **11 59 04.0 -0.1**
baz=192,SNR=6.1
L29M **L29M** 88.51 16 P **P** **11 59 04.5 +0.1**
baz=215,SNR=53
F20K **Avaraart Lake** 88.63 8 P **P** **11 59 04.3 -0.4**
baz=199
VNA1 **Neumayer--Stat** 88.63 176 ⇓P **P** **11 59 06.8 +1.8**
comp=Z,30nm,0.9s
ZEA **Zeya** 88.64 330 eP **P** **11 59 04.9 -0.2**
ZEA pmax pmax
comp=Z,20nm,1.2s
SLVN **Son La** 88.70 293 lAmb lAmb 11 59 08.8
comp=Z,19nm,1.4s
H24K **Noodor Dome** 88.71 11 P **P** **11 59 05.2 -0.1**
baz=206,SNR=5.3
POST **Post** 88.74 54 lAmb lAmb 11 59 07.9
comp=Z,12nm,0.7s
TIY **Taiyuan** 88.78 311 eP **P** **11 59 06.8 +0.5**
ISCO **Idaho Springs** 88.80 47 P **P** **11 59 06.8 +0.1**
baz=242
M31M **Drury Creek, Y** 88.81 18 lAmb lAmb 11 59 07.0
comp=Z,17nm,1.2s
M31M **Drury Creek, Y** 88.81 18 P **P** **11 59 06.2 +0.4**
baz=219,SNR=6.6
E19K **Redstone River** 88.83 7 P **P** **11 59 06.0 +0.2**
baz=198
PRP **Porcupine Dome** 88.87 12 lAmb lAmb 11 59 07.1
comp=Z,54nm,1.5s
PRP **Porcupine Dome** 88.87 12 P **P** **11 59 05.8 -0.4**
baz=208,SNR=17
C16K **Lisburne Hills** 88.91 4 P **P** **11 59 05.4 -0.7**
baz=190
DAWY **Dawson** 88.98 15 P **P** **11 59 07.2 +0.6**
DAWY **Dawson** 88.98 15 P **P** **11 59 07.1 +0.5**
baz=214,SNR=35
WTLY **Watson Lake, Y** 89.01 22 lAmb lAmb 11 59 09.7
comp=Z,23nm,1.3s
WTLY **Watson Lake, Y** 89.01 22 P **P** **11 59 07.7 +1.0**
baz=224,SNR=5.7
RLMT **Red Lodge** 89.05 41 P **P** **11 59 08.2 +0.6**
baz=240,SNR=5.4
F21K **Alatna River** 89.09 9 P **P** **11 59 06.8 -0.1**
baz=201
N23A **Red Feather La** 89.09 45 P **P** **11 59 07.7 -0.3**
baz=242
G22K **Bettles** 89.10 9 P **P** **11 59 07.1 +0.1**
baz=203
G23K **Bananza Creek** 89.14 10 lAmb lAmb 11 59 08.5
comp=Z,14nm,1.0s
G23K **Bananza Creek** 89.14 10 P **P** **11 59 07.1 -0.2**
baz=204,SNR=12
FARO **Faro, Yukon** 89.14 18 lAmb lAmb 11 59 08.8
comp=Z,50nm,1.8s
FARO **Faro, Yukon** 89.14 18 P **P** **11 59 07.5 +0.2**
baz=220,SNR=5.6
EGAK **Eagle** 89.16 14 P **P** **11 59 07.0 -0.3**
baz=212,SNR=29
I26K **Coal Creek Min** 89.17 13 P **P** **11 59 07.4 0.0**
baz=211
C17K **DeLong Mountai** 89.25 5 P **P** **11 59 07.3 -0.4**
baz=192
K29M **Barlow Dome** 89.27 16 P **P** **11 59 07.6 -0.4**
baz=216,SNR=31
XLT **XiLinHaoTe** 89.28 318⇑ iP **P** **11 59 08.3 -0.2**
XLT sS sS 12 10 57.1 -12
XLT pmax pmax
comp=Z,18nm,1.1s
XLT pmax pmax
comp=Z,140nm,7.2s
XLT LR LR
comp=Z,350nm,20.1s
RTBA **Rita Blanca** 89.29 51 lAmb lAmb 11 59 10.1
comp=Z,16nm,1.2s
BILL **Bilibino** 89.30 353 P **P** **11 59 07.5 -0.4**
BILL lAmb lAmb 11 59 16.6
comp=Z,28nm,1.7s
BILL **Bilibino** 89.30 353 eP **P** **11 59 07.5 -0.4**
BILL pmax pmax
comp=Z,28nm,2.5s
AMTX **Amarillo** 89.39 52 P **P** **11 59 09.3 +0.1**
baz=244
H25L **Birch Creek** 89.48 12 P **P** **11 59 07.5 -1.2**
baz=208
MAYO **Mayo, Yukon** 89.50 17 P **P** **11 59 09.4 +0.4**
baz=217,SNR=13
K22A **Casper** 89.55 44 P **P** **11 59 09.4 -0.6**
baz=241
G24K **Hadweenzic Riv** 89.56 11 P **P** **11 59 08.2 -1.0**
baz=207
COLD **Coldfoot** 89.58 10 P **P** **11 59 09.5 +0.2**
baz=204,SNR=20
C18K **Utukok River** 89.59 5 P **P** **11 59 09.0 -0.3**
baz=194
J29N **Klondike Camp** 89.59 15 lAmb lAmb 11 59 11.6
comp=Z,42nm,0.8s
J29N **Klondike Camp** 89.59 15 P **P** **11 59 09.5 0.0**
baz=215,SNR=30
E20K **Nigu River** 89.72 7 P **P** **11 59 10.2 +0.2**
baz=199
XAN **Xi'an** 89.73 307 P **P** **11 59 10.3 -0.5**
XAN S **S** **12 09 48.0 +3.4**
XAN pmax pmax
comp=Z,66nm,1.0s
XAN pmax pmax
comp=Z,350nm,5.2s
D19K **Kuna River** 89.73 6 lAmb lAmb 11 59 11.0
comp=Z,31nm,0.9s
D19K **Kuna River** 89.73 6 P **P** **11 59 09.5 -0.5**
baz=197
I27K **Kandik River** 89.76 14 P **P** **11 59 10.7 +0.5**
baz=212
FYU **Fort Yukon** 89.86 12 lAmb lAmb 11 59 12.1
comp=Z,11nm,0.9s
G25K **Bearman Lake** 89.87 11 P **P** **11 59 10.4 -0.2**
baz=208
APMT **Aspermont** 89.89 54 lAmb lAmb 11 59 13.4
comp=Z,17nm,0.9s
ABTX **Abilene, Hawle** 89.97 55 lAmb lAmb 11 59 14.0
comp=Z,15nm,0.9s
ABTX **Abilene, Hawle** 89.97 55 P **P** **11 59 11.2 -0.7**
baz=246
ABTX **Abilene, Hawle** 89.97 55 P **P** **11 59 12.7 +0.7**
baz=246
I28M **Miner Creek** 90.01 14 P **P** **11 59 11.6 +0.2**
baz=214
D20K **Etivluk River** 90.11 7 P **P** **11 59 11.7 -0.1**
baz=198
E21K **Killik River** 90.17 8 P **P** **11 59 11.5 -0.5**
baz=201
J30M **Hart River** 90.17 16 lAmb lAmb 11 59 13.9
comp=Z,24nm,1.1s
J30M **Hart River** 90.17 16 P **P** **11 59 12.6 +0.4**
baz=217
C19K **Lookout Ridge** 90.18 6 P **P** **11 59 12.1 0.0**
baz=195
E22K **Anaktuvuk Pass** 90.18 9 P **P** **11 59 11.8 -0.3**
baz=203,SNR=47

TGTN **Hyland Airport** 90.21 21 P P 11 59 13.0 +0.6
baz=224,SNR=16
F24K **Squaw Lake** 90.23 10 IAmb IAmb 11 59 13.9
comp=Z,14nm,0.8s
F24K **Squaw Lake** 90.23 10 P P 11 59 12.4 +0.1
baz=206,SNR=18
B18K **Kokolik River** 90.23 5 P P 11 59 12.0 -0.2
baz=193
EGMT **Eagleton** 90.25 38 P P 11 59 12.5 -0.5
baz=239
H27K **Steamboat Moun** 90.32 13 P P 11 59 13.7 +0.9
baz=212,SNR=25
E23K **Chandalar** 90.44 10 P P 11 59 13.2 -0.1
baz=205
G26K **Porcupine Rive** 90.47 12 P P 11 59 13.5 +0.1
baz=210
SMWD **Samnorwood** 90.55 53 IAmb IAmb 12 01 02.2
comp=Z,16nm,1.2s
E24K **Your Creek** 90.63 10 P P 11 59 14.4 +0.2
baz=206
I30M **Mount Dempster** 90.68 16 P P 11 59 14.6 0.0
baz=217
F25K **Christian Rive** 90.69 11 P P 11 59 15.2 +0.7
baz=208,SNR=12
KOTAN **Kotaneelee Air** 90.71 23 P P 11 59 15.7 +1.1
baz=228,SNR=7.7
C21K **Knifeblade Rid** 90.74 7 P P 11 59 15.2 +0.5
baz=200
D22K **Ayikyak River** 90.75 8 P P 11 59 15.4 +0.7
baz=202
HHC **Hu-ho-hao-te** 90.80 314 *e*P P 11 59 14.3 -1.4
HHC pmax pmax
comp=Z,24nm,0.7s
HHC pmax pmax
comp=Z,130nm,4.3s
435B **Jarrell** 90.83 57 P P 11 59 15.5 -0.4
baz=247
TOLK **Toolik Lake Re** 90.97 9 IAmb IAmb 11 59 17.1
comp=Z,26nm,1.2s
TOLK **Toolik Lake Re** 90.97 9 P P 11 59 16.0 +0.3
baz=205,SNR=12
FLDN **Fort Liard** 91.00 23 IAmb IAmb 11 59 18.2
comp=Z,23nm,1.0s
FLDN **Fort Liard** 91.00 23 P P 11 59 16.7 +0.8
baz=228,SNR=5.4
H29M **Whitestone** 91.01 14 P P 11 59 16.2 +0.3
baz=215,SNR=29
F26K **Sheenjek River** 91.05 12 P P 11 59 17.0 +0.8
baz=210,SNR=12
PLPT **Palo Pinto** 91.07 55 IAmb IAmb 11 59 19.1
comp=Z,21nm,0.9s
EDM **Edmonton** 91.10 32 IAmb IAmb 11 59 18.2
comp=Z,32nm,1.3s
D23K **Nanushuk River** 91.11 9 P P 11 59 17.0 +0.6
baz=204
KMI **Kunming** 91.12 296 ||P P 11 59 16.9 -0.8
KMI SKS SKSac 12 09 26.0 -4.2
KMI S ScS 12 09 59.6 -1.0
KMI pmax pmax
comp=Z,26nm,1.5s
KMI pmax pmax
comp=Z,140nm,3.1s
E25K **Arctic Village** 91.17 11 IAmb IAmb 11 59 18.4
comp=Z,19nm,1.1s
E25K **Arctic Village** 91.17 11 P P 11 59 17.2 +0.5
baz=208,SNR=18
B21K **Ikpikpuk River** 91.20 7 P P 11 59 16.7 0.0
baz=200
B20K **Meade River** 91.29 6 P P 11 59 17.1 0.0
baz=198
FW03 **Perrin-Whitt E** 91.35 55 IAmb IAmb 11 59 20.4
comp=Z,20nm,0.8s
CRAI **Chiangrai** 91.36 291 IAmb IAmb 11 59 19.8
comp=Z,25nm,1.4s
WHTX **Lake Whitney,** 91.41 56 P P 11 59 19.2 +0.7
baz=247
WMOK **Wichita Mounta** 91.49 53 P P 11 59 19.0 +0.1
baz=246
EPYK **Eagle Plains** 91.52 15 P P 11 59 18.1 -0.2
baz=216,SNR=22
D24K **Happy Valley** 91.56 9 IAmb IAmb 11 59 19.9
comp=Z,20nm,1.1s
D24K **Happy Valley** 91.56 9 P P 11 59 18.6 +0.2
baz=205
H31M **Peel River** 91.66 16 IAmb IAmb 11 59 19.9
comp=Z,30nm,1.4s
H31M **Peel River** 91.66 16 P P 11 59 19.2 +0.2
baz=219,SNR=8.5
G29M **Pine Creek** 91.66 14 P P 11 59 19.3 +0.4
baz=215
LAO **LASA Array** 91.67 40 IAmb IAmb 11 59 22.3
comp=Z,24nm,0.9s
LAO **LASA Array** 91.67 40 P P 11 59 19.9 +0.4
baz=242,SNR=11
LAO **LASA Array** 91.67 40 P P 11 59 21.3 +1.8
baz=242
BTO **Baotou** 91.74 313 *e*P P 11 59 20.8 +0.7
BTO pP pP 12 00 01.3 -10
BTO sP **pwP** **12 00 18.5 +4.6**
BTO pmax pmax
comp=Z,23nm,1.1s
BTO pmax pmax
comp=Z,580nm,5.8s
F28M **Old Crow** 91.84 13 IAmb IAmb 11 59 21.2
comp=Z,19nm,0.8s
F28M **Old Crow** 91.84 13 P P 11 59 19.8 0.0
baz=214,SNR=25
RSSD **Black Hills** 91.84 43 P P 11 59 20.7 +0.1
RSSD IAmb IAmb 11 59 22.2
comp=Z,22nm,1.0s
RSSD **Black Hills** 91.84 43 P P 11 59 20.7 +0.1
RSSD pmax pmax
comp=Z,22nm,1.0s
RSSD **Black Hills** 91.84 43 P P 11 59 20.0 -0.5
baz=243
RSSD **Black Hills** 91.84 43 P P 11 59 20.9 +0.4
baz=243
HKT **Hockley** 91.90 59↑ *e*P P 11 59 21.3 +0.5
HKT pmax pmax
comp=Z,5.0nm,1.1s
C23K **Itkillik River** 91.92 9 P P 11 59 20.0 0.0
baz=204
E27K **Coleen River** 91.97 12 P P 11 59 20.5 +0.1
baz=212
CM31 **Chiang Mai Arr** 91.98 289 IAmb IAmb 11 59 23.1
comp=Z,24nm,1.1s
CMAR **Chiang Mai Arr** 91.98 289 P P 11 59 20.9 -0.6
CMAR **Chiang Mai Arr** 91.98 289 P P 11 59 22.3 +0.8
comp=Z,10nm,0.9s,baz=119,slow=2.7,SNR=76
CMAR PP PP 12 03 06.7 +2.3
comp=Z,2.2nm,0.9s,baz=124,slow=5.7,SNR=5.5
comp=Z,10nm,0.9s
U32A **Winter Ranch,** 91.99 52 IAmb IAmb 11 59 23.3
comp=Z,27nm,1.1s
B22K **Teshekpuk Lake** 92.02 7 P P 11 59 20.7 +0.2
baz=201
C24K **Franklin Bluff** 92.09 9 P P 11 59 20.9 +0.1
baz=206,SNR=18
Z35A **Perchaven, San** 92.09 55 P P 11 59 22.9 +1.2
baz=247
D25K **Kavik River** 92.10 10 P P 11 59 20.2 -0.8
baz=208
CHTO **Chiang Mai** 92.11 289 P P 11 59 21.6 -0.4
CHTO IAmb IAmb 11 59 23.2
comp=Z,19nm,0.9s
CHTO **Chiang Mai** 92.11 289 P P 11 59 22.3 +0.2
CHTO **Chiang Mai** 92.11 289 P P 11 59 21.7 -0.4
CHTO pmax pmax
comp=Z,19nm,1.0s
G30M **tAoh Zraii Nji** 92.13 15 P P 11 59 20.9 -0.2
baz=217
PZH **PanZhiHua** 92.47 297 P P 11 59 23.8 0.0
PZH S S 12 10 12.4 +2.6
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,180nm,5.1s
G31M **Satah River** 92.56 15 P P 11 59 23.4 +0.4
G31M **Satah River** 92.56 15 P P 11 59 23.5 +0.5
baz=219,SNR=28
A21K **Barrow** 92.60 6 P P 11 59 22.6 -0.5
baz=198
237A **Washetta, Mont** 92.70 57 P P 11 59 26.2 +1.6
baz=248
E28M **Babbage River** 92.74 13 P P 11 59 23.9 0.0
baz=214
F30M **Barrier River** 92.74 14 P P 11 59 23.8 -0.1
baz=217

C26K **Camden Bay** 92.87 10 P P 11 59 24.6 +0.2
baz=209,SNR=16
E29M **Blow River** 92.90 13 P P 11 59 24.4 -0.2
baz=216
YAK **Yakutsk** 92.90 337 *e*P P 11 59 23.5 -1.2
YAK *e* 12 03 04.6
YAK *e*S SKSac 12 09 45.5 +7.6
YAK *e*SS SS 12 16 36.5 +5.2
YAK pmax pmax
comp=Z,33nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK pmax pmax
comp=Z,149nm,4.0s
YAK pmax pmax
comp=N,49nm,3.4s
YAK pmax pmax
comp=E,146nm,4.9s
YAK smax smax
comp=E,131nm,4.8s
YAK smax smax
comp=N,99nm,3.5s
D27M **Malcolm River** 92.99 12 P P 11 59 25.2 +0.1
baz=213
WRGLY **Wrigley** 93.01 21 P P 11 59 25.5 +0.3
baz=226
R32A **Long Quarter,** 93.03 50 IAmb IAmb 11 59 27.9
comp=Z,15nm,0.8s
R32A **Long Quarter,** 93.03 50 P P 11 59 27.6 +1.6
baz=246
F31M **Tsiigehtchic** 93.09 15 P P 11 59 25.5 +0.1
baz=219,SNR=43
D28M **Stokes Point** 93.50 12 P P 11 59 27.6 +0.3
baz=215
DGMT **Dagmar** 93.71 39 P P 11 59 29.7 +0.9
baz=243,SNR=5.2
DGMT **Dagmar** 93.71 39 P P 11 59 30.2 +1.3
baz=243
INK **Inuvik** 93.82 15 P P 11 59 28.4 -0.4
baz=219,SNR=27
K30B **Basset** 94.12 46 P P 11 59 32.3 +1.4
baz=246
LZH **Lanzhou** 94.36 307 *e*P P 11 59 32.6 +0.3
LZH SKS SKSac 12 09 44.9 -2.6
LZH S ScS 12 10 30.6 +3.6
LZH sS pS 12 11 41.8 +10
LZH pmax pmax
comp=Z,22nm,1.1s
JTS **Las Juntas de** 94.44 81↑ *e*P P 11 59 31.7 -1.2
JTS pmax pmax
comp=Z,5.0nm,1.1s
YKA **Yellowknife Ar** 95.75 24 P P 11 59 37.9 +0.2
comp=Z,2.6nm,0.9s,baz=241,slow=4.3,SNR=36
YKA pP **pP** 12 00 28.1 -0.5
comp=Z,0.6nm,0.9s,baz=246,slow=4.0,SNR=1.9
comp=Z,2.6nm,0.8s
ECSD **EROS Data Cent** 96.56 46 IAmb IAmb 11 59 43.6
comp=Z,17nm,1.3s
ULN **Ulaanbaatar** 96.69 319|| *e*P P 11 59 40.8 -1.8
ULN pmax pmax
comp=Z,8.0nm,1.7s
C36M **Paulatuk** 96.94 16 IAmb IAmb 11 59 43.7
comp=Z,5.8nm,1.1s
C36M **Paulatuk** 96.94 16 P P 11 59 43.0 +0.1
baz=228
SONM **Songino Array** 97.08 318 P P 11 59 43.0 -1.3
comp=Z,0.7nm,0.8s,baz=131,slow=3.6,SNR=7.2
SONM PP PP 12 03 37.6 -5.9
comp=Z,0.3nm,0.4s,baz=120,slow=10,SNR=3.6
comp=Z,0.7nm,0.8s
A36M **Sachs Harbour** 98.44 14 P Pdif 11 59 49.6 0.0
baz=227,SNR=26
GTA **Gaotai** 98.53 309 P Pdif 11 59 51.4 +0.4
GTA PP PP 12 03 52.9 -1.8
GTA pmax pmax
comp=Z,3.0nm,0.7s
TIXI **Tiksi** 99.31 345↑ *e*P **Pdif** 11 59 52.6 -0.9
TIXI pmax pmax
comp=Z,7.0nm,1.0s
ULM **Lac du Bonnet** 99.41 40|| *e*P **Pdif** 11 59 55.3 +0.8
ULM **Lac du Bonnet** 99.41 40 P **Pdif** 11 59 54.4 -0.1
comp=Z,1.7nm,0.7s,baz=203,slow=8.5,SNR=2.9
comp=Z,1.7nm,0.7s
ZSN **Zaisan** 110.99 314 *i* PKIKP **PKiKP** 12 04 43.5 -0.9
ZSN **Zaisan** 110.99 314 *e*PKiKP **PKiKP** 12 04 43.5 -0.9
baz=314
ZAA0 **Zalesovo Array** 111.76 321 PKiKP **PKiKP** 12 04 45.0 -0.5
ZALV **Zalesovo Beam** 111.76 321 PKiKP **PKiKP** 12 04 44.7 -0.9
comp=Z,4.3nm,0.7s,baz=160,slow=1.5,SNR=22
MK31 **Makanchi Array** 112.66 313 *c* iPKIKP **PKiKP** 12 04 46.9 -0.7
MKAR **Makanchi Array** 112.66 313 PKiKP **PKiKP** 12 04 46.5 -1.0
comp=Z,3.7nm,0.5s,baz=158,slow=0.9,SNR=45
MKAR PKKPbc **PKKPbc** 12 15 38.2 +0.3
comp=Z,0.5nm,0.7s,baz=287,slow=4.5,SNR=5.5
SHLS **Shalkode** 114.27 309 *i* PKIKP PKPdf 12 04 49.4 -1.5
SHLS **Shalkode** 114.27 309 *e*PKiKP PKPdf 12 04 49.5 -1.4
baz=309
UZB **Uzunbulak** 114.59 309 *i* PKIKP PKPdf 12 04 50.6 -0.9
UZB **Uzunbulak** 114.59 309 *e*PKiKP PKPdf 12 04 50.7 -0.9
baz=309
ZHN **Zhinishke** 115.02 309 *i* PKIKP **PKiKP** 12 04 51.4 -0.9
ZHN **Zhinishke** 115.02 309 *e*PKiKP **PKiKP** 12 04 51.4 -0.9
baz=309
SATY **Saty** 115.03 309 *i* PKIKP **PKiKP** 12 04 51.5 -0.8
SATY **Saty** 115.03 309 *e*PKiKP **PKiKP** 12 04 51.6 -0.8
baz=309
TDK **Taldyqorghan** 115.19 311 *i* PKIKP **PKPdf** 12 04 51.6 -0.9
TDK **Taldyqorghan** 115.19 311 *e*PKiKP **PKPdf** 12 04 51.6 -0.9
baz=311
KURK **Kurchatov** 115.36 317 **PKPdf** 12 04 52.1 -0.4
KURK **Kurchatov** 115.36 317 *c* iPKIKP **PKPdf** 12 04 51.9 -0.6
KURK pmax pmax
comp=Z,10.0nm,1.0s
KURBB **Kurchatov Arra** 115.41 317 PKP **PKPdf** 12 04 51.9 -0.7
comp=Z,6.4nm,0.7s,baz=96,slow=1.9,SNR=70
KURBB pPKP **pPKiKP** 12 05 45.7 -0.2
comp=Z,1.2nm,0.7s,baz=94,slow=1.9,SNR=2.0
KURBB PKKPbc **PKKPbc** 12 15 28.7 +0.2
comp=Z,0.8nm,0.9s,baz=272,slow=5.1,SNR=4.1
MDOK **Medeo** 116.03 309 *i* PKIKP **PKPdf** 12 04 53.3 -1.0
MDOK **Medeo** 116.03 309 *e*PKiKP **PKPdf** 12 04 53.3 -1.0
baz=309
TNSS **Tian-Shan** 116.09 309 *i* PKIKP **PKPdf** 12 04 53.4 -1.4
TNSS **Tian-Shan** 116.09 309 *e*PKiKP **PKPdf** 12 04 53.4 -1.4
baz=309
CHKK **Chushkaly** 116.12 310 *i* PKIKP **PKPdf** 12 04 53.2 -1.1
CHKK **Chushkaly** 116.12 310 *e*PKiKP **PKPdf** 12 04 53.2 -1.1
310
AAA **Alma-Ata** 116.13 309 *i* PKIKP **PKPdf** 12 04 53.5 -0.9
AAA **Alma-Ata** 116.13 309 *e*PKiKP **PKPdf** 12 04 53.5 -0.9
baz=309
KSH **Kashi** 116.53 305 PKP **PKiKP** 12 04 56.3 +0.9
NRN **Naryn** 116.67 307 **PKiKP** 12 04 56.0 +0.2
NRN **Naryn** 116.67 307 PKIKP **PKiKP** 12 04 56.0 +0.2
BOOM **Boomskoye usch** 116.79 308 **PKiKP** 12 04 56.2 +0.3
BOOM **Boomskoye usch** 116.79 308 PKIKP **PKiKP** 12 04 56.2 +0.3
TKM2 **Tokmak 2** 117.08 309 P **PKPdf** 12 04 56.0 -0.4
SNR=10
NEEM **North Greenlan** 117.23 12 *i* P **PKiKP** 12 04 56.0 +0.1
SCHQ **Schefferville** 117.50 38 PKKPbc PKKPbc 12 15 20.3 -1.1
comp=Z,2.0nm,0.6s,baz=117,slow=2.3,SNR=3.9
KBK **Karagaybulak** 117.54 308 P **PKPdf** 12 04 57.1 -0.1
SNR=6.8
CHMS **Chumysh** 117.70 309 P **PKPdf** 12 04 57.1 -0.3
SNR=6.1
SGDS **Sogindy** 117.81 309 *i* PKIKP **PKPdf** 12 04 56.7 -0.9
SGDS **Sogindy** 117.81 309 *e*PKiKP **PKPdf** 12 04 56.7 -0.9
baz=309
UCH **Uchtor** 117.83 308 P **PKiKP** 12 04 58.5 +0.3
SNR=12
AAK **Ala-Archa** 117.87 308 P **PKPdf** 12 04 57.7 -0.2
SNR=6.0
AAK **Ala-Archa** 117.87 308 **PKPdf** 12 04 57.5 -0.4
AAK **Ala-Archa** 117.87 308 *d* iPKIKP **PKPdf** 12 04 56.9 -1.0
AAK pmax pmax
comp=Z,6.0nm,1.3s
USP **Ospenovka** 117.89 309 P **PKPdf** 12 04 57.5 -0.2
SNR=14
BTLS **Baital** 118.28 311 *i* PKIKP **PKPdf** 12 04 57.8 -0.6
BTLS **Baital** 118.28 311 *e*PKiKP **PKPdf** 12 04 57.9 -0.6
baz=311
BRZS **Berezniki** 119.17 317 *i* PKIKP **PKPdf** 12 04 58.7 -1.2
BRZS **Berezniki** 119.17 317 *e*PKiKP **PKPdf** 12 04 58.7 -1.2
baz=317

NUUG **Nuugaatsiaq** 119.48 18 *i* P **PKPdf** 12 04 59.4 -0.5
DZA **Taraz** 120.20 308 *i* PKIKP **PKPdf** 12 05 01.7 -0.5
DZA **Taraz** 120.20 308 *e*PKiKP **PKPdf** 12 05 01.8 -0.5
baz=308
BVAR **Borovoye Array** 120.38 320 PKP **PKPdf** 12 05 00.9 -1.2
comp=Z,9.5nm,0.5s,baz=94,slow=1.9,SNR=58
BVAR pPKP **pPKPdf** 12 05 56.2 +0.8
comp=Z,2.7nm,0.7s,baz=15,slow=1.3,SNR=2.6
BRVK **Borovoye** 120.44 320 *i* **PKPdf** 12 05 02.0 -0.3
BRVK **Borovoye** 120.44 320 *c* iPKIKP **PKPdf** 12 05 01.8 -0.5
BRVK pmax pmax
comp=Z,14nm,1.0s
BTK **Batken** 120.52 305 **PKPdf** 12 05 02.9 -0.1
BTK **Batken** 120.52 305 PKIKP **PKPdf** 12 05 02.9 -0.1
KK31 **Karatay Array** 120.81 309 **PKPdf** 12 05 03.2 -0.1
KK31 **Karatay Array** 120.81 309 PKIKP **PKPdf** 12 05 03.2 -0.1
KKAR **Karatay Array** 120.81 309 **PKPdf** 12 05 03.1 -0.3
KKAR **Karatay Array** 120.81 309 PKIKP **PKPdf** 12 05 03.1 -0.3
BRLS **Borolday** 121.30 309 *i* PKIKP **PKPdf** 12 05 03.8 -0.5
BRLS **Borolday** 121.30 309 *e*PKiKP **PKPdf** 12 05 03.8 -0.5
baz=308
KBS **Kingsbay** 121.46 358 *e*PKPdf **PKiKP** 12 05 04.1 +0.4
CHM **Chimkent** 121.48 308 *i* PKIKP **PKPdf** 12 05 04.0 -0.6
CHM **Chimkent** 121.48 308 *e*PKiKP **PKPdf** 12 05 04.0 -0.6
baz=308
KBL **Kabul** 121.63 299 **PKiKP** 12 05 05.8 +0.2
KBL **Kabul** 121.63 299 PKIKP **PKiKP** 12 05 05.8 +0.2
SIMJ **Simiganj** 121.88 303 **PKPdf** 12 05 05.5 -0.2
SPA0 **Spitsbergen Ar** 122.02 357 *e*PKPdf **PKPdf** 12 05 04.5 -0.2
SPITS **Spitsbergen Ar** 122.02 357 PKP **PKPdf** 12 05 04.5 -0.2
comp=Z,9.8nm,0.7s,baz=91,slow=4.2,SNR=19
DAG **Danmarks Havn** 122.59 6 *i* P **PKPdf** 12 05 05.0 -0.8
SUMG **Summit** 122.73 14 PKPdf **PKiKP** 12 05 07.3 +0.4
SUMG **Summit** 122.73 14 PKIKP **PKiKP** 12 05 07.3 +0.4
SUMG **Summit** 122.73 14 *i* P **PKiKP** 12 05 07.0 +0.1
HOPEN **Hopen** 123.00 354 *e*PKPdf **PKiKP** 12 05 06.7 -0.1
HSPB **Hornsund (broa** 123.22 357 *e*P **PKiKP** 12 05 07.0 -0.2
DY2G **Dye2** 124.03 22 *i* P **PKPdf** 12 05 08.6 -0.5
ICESG **Greenland Ices** 124.66 18 *i* P **PKPdf** 12 05 10.0 -0.4
ARU **Arti** 126.35 326 **PKPdf** 12 05 13.5 +0.1
ARU **Arti** 126.35 326 *i* PKIKP **PKPdf** 12 05 12.8 -0.7
ARU 12 07 09.0
ARU 12 12 08.5
ARU SS SS 12 23 54.7 -3.6
ARU **Arti** 126.35 326 PKP **PKPdf** 12 05 13.3 -0.2
comp=Z,12nm,0.6s,baz=36,slow=0.9,SNR=20
ABKAR **Akbulak array** 127.47 317 **PKPdf** 12 05 15.9 +0.1
AKTO **Aktyubinsk** 128.40 319 PKP **PKiKP** 12 05 18.8 +0.5
comp=Z,7.4nm,0.7s,baz=85,slow=2.5,SNR=20
HAMF **Hammerfest** 128.56 352 *e*PKPdf **PKPdf** 12 05 16.4 -0.9
ARA0 **ARCESS Array S** 129.31 350 *e*PKPdf **PKPdf** 12 05 18.9 +0.1
ARCES **ARCESS Array B** 129.31 350 **PKiKP** 12 05 19.1 -0.5
ARCES **ARCESS Array B** 129.31 350 PKP **PKPdf** 12 05 18.8 0.0
comp=Z,4.8nm,0.6s,baz=20,slow=1.5,SNR=39
KIRV **Kirov** 129.97 331 *c* iPKIKP **PKPdf** 12 05 20.3 0.0
KIRV **Kirov** 129.97 331 PKP **PKPdf** 12 05 20.4 +0.1
comp=Z,7.4nm,0.4s,baz=50,slow=3.1,SNR=8.2
JETT **Jettan, Norway** 130.00 353 *e*PKPdf **PKPdf** 12 05 20.0 -0.1
TRO **Tromso** 130.09 353 *e*PKPdf **PKiKP** 12 05 20.9 -0.1
KTK1 **Kautokeino** 130.13 351 *e*PKPdf **PKPdf** 12 05 19.6 -0.8
GEYT **Alibeck** 130.46 303 **PKPdf** 12 05 22.4 +0.4
GEYT **Alibeck** 130.46 303 PKP **PKPdf** 12 05 22.2 +0.2
comp=Z,9.7nm,0.7s,baz=207,slow=1.7,SNR=16
GEYT SKPab **SKPab** 12 08 27.4 +1.4
comp=Z,3.8nm,0.9s,baz=252,slow=2.9,SNR=5.4
GYA0B **ALIBECK ARRAY** 130.46 303 **PKPdf** 12 05 22.4 +0.4
STEI **Steigen** 132.11 354 *e*PKPdf **PKPdf** 12 05 24.3 +0.2
FAUS **Fauske** 132.64 354 *e*PKPdf **PKiKP** 12 05 26.1 -0.1
KONS **Konsvik** 133.69 355 *e*PKPdf **PKPdf** 12 05 27.5 +0.3
JOF **Joensuu** 133.76 343 *e*P **PKPdf** 12 05 24.6 -2.8
BELG **Belogornoye** 133.80 324 PKP **PKiKP** 12 05 28.4 -0.6
comp=Z,38nm,0.9s,baz=141,slow=3.7,SNR=9.1
STOK **Stokkvaagen** 133.87 355 *e*PKPdf **PKiKP** 12 05 28.1 -0.7
KEF **Keuruu** 136.00 346 *e*P **PKPdf** 12 05 26.8 -4.8
FINES **FINESS Array B** 136.35 345 PKhKP PKPpre 12 05 21.7
comp=Z,1.3nm,0.5s,baz=64,slow=4.8,SNR=7.2
FINES PKP **PKPdf** 12 05 31.3 -0.9
comp=Z,3.5nm,0.6s,baz=21,slow=2.0,SNR=9.1
VRH **Novokhopyorsk** 137.58 325 *e*PKIKP **PKPdf** 12 05 33.8 -1.0
VRH pmax pmax
comp=Z,10.0nm,0.6s
OBN **Obninsk** 137.72 333 *i* PKIKP **PKPdf** 12 05 35.5 +0.6
OBN pmax pmax
comp=Z,13nm,1.1s
LPSR **Galich'ya Gora** 138.22 328 *e*PKIKP **PKPdf** 12 05 33.1 -2.8
LPSR pmax pmax
comp=Z,20nm,1.2s
VORR **Voronezh** 138.62 327 *e*PKIKP **PKPdf** 12 05 34.7 -2.0
VORR pmax pmax
comp=Z,80nm,0.5s
VSR **Storozhevoye** 138.91 327 *e*PKIKP **PKPdf** 12 05 35.9 -1.4
VSR pmax pmax
comp=Z,20nm,1.4s
NB2 **NORSAR Subarra** 139.24 355 PKP PKPdf 12 05 27.9 -10
comp=Z,2.2nm,0.8s,baz=16,slow=3.2
NOA **NORSAR Array B** 139.24 355 PKhKP PKPpre 12 05 27.5
comp=Z,3.3nm,0.8s,baz=22,slow=3.9,SNR=9.1
NOA PKP **PKPdf** 12 05 37.4 -0.2
comp=Z,3.9nm,0.9s,baz=18,slow=4.2,SNR=7.5
NC602 **NORSAR Array S** 139.51 354 *e* PKPdf 12 05 28.7 -9.4
HFS **Hagfors** 139.87 353 PKhKP PKPpre 12 05 30.2
comp=Z,4.5nm,0.5s,baz=64,slow=3.4,SNR=14
HFS PKP **PKPdf** 12 05 39.1 +0.3
comp=Z,4.1nm,0.7s,baz=79,slow=3.1,SNR=5.5
KBZ **Khabaz** 140.33 315 PKhKP PKPpre 12 05 36.9
comp=Z,3.9nm,0.9s,baz=17,slow=2.3,SNR=3.8
KIV **Kislovodsk** 140.38 315 *i* PKIKP **PKiKP** 12 05 42.4 -0.5
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,58nm,24.0s
MNK **Minsk** 141.59 338 *c* iPKHKP PKPpre 12 05 37.6
PABE **Paberze** 142.03 342 *e*P **PKPdf** 12 05 38.6 -4.1
DEL **Delary** 143.40 351 *e*P PKPbc 12 05 43.1 +0.2
SUW **Suwalki** 143.55 341 *e*PKP PKPbc 12 05 43.5 0.0
SUW **Suwalki** 143.55 341 *e*P PKPbc 12 05 43.8 +0.4
MUD **Monsted U'grnd** 143.95 355 *i* P PKPbc 12 05 44.6 +0.2
AKASG **Malin Array Be** 143.98 333 PKhKP PKPpre 12 05 43.5
comp=Z,36nm,0.7s,baz=41,slow=4.5,SNR=167
AKASG SKP 12 09 07.1
comp=Z,5.3nm,1.0s,baz=38,slow=2.4,SNR=5.8
AKBB **Malin Array Si** 143.98 333 *i* PKIKP PKPab 12 05 43.6 -0.6
KIEV **Kiev** 143.99 333 ||P PKPab 12 05 44.0 -0.3
KIEV **Kiev** 143.99 333 || PKIKP PKPab 12 05 44.0 -0.3
BSD **Bornholm Skovb** 144.53 349 *i* P **PKPab** 12 05 46.0 -0.1
BSD **Bornholm Skovb** 144.53 349 *e*P **PKPab** 12 05 46.1 -0.1
EKA **Eskdalemuir Ar** 144.84 7 PKP PKPbc 12 05 46.9 -0.4
comp=Z,38nm,0.8s,baz=332,slow=3.0,SNR=43
ESK **Eskdalemuir** 144.85 7 **PKPab** 12 05 47.3 -0.1
ESK **Eskdalemuir** 144.85 7 PKIKP **PKPab** 12 05 47.3 -0.1
SSRD **Sdr. Stenderup** 144.88 355 *i* P PKPbc 12 05 47.1 -0.2
SSRD IAmb IAmb 12 05 48.0
comp=Z,125nm,0.7s
SIM **Simferopol'** 145.27 321 *i* PKIKP **PKPab** 12 05 49.4 +0.1
SIM pmax pmax
comp=Z,200nm,0.9s
ARPR **Arapgir-MALATY** 145.29 310 *e*P **PKPab** 12 05 49.9 +0.1
RSDY **Resadiye-TOKAT** 145.48 312 *e*P **PKPbc** 12 05 49.9 +0.1
GKP **Gorka Klasztor** 145.81 346 *e*PKP **PKPab** 12 05 50.8 -0.2
GKP **Gorka Klasztor** 145.81 346 *e*P **PKPdf** 12 05 47.7 -1.7
SVSK **Karacayir** 145.91 312 *e*P **PKPbc** 12 05 51.3 +0.2
KVT **Kavak** 146.05 314 *e*P **PKPbc** 12 05 51.3 -0.2
DARE **Darende-Malaty** 146.10 309 *e*P **PKPbc** 12 05 52.2 +0.3
BEL **Belsk** 146.16 341 *e*PKP **PKPab** 12 05 52.4 -0.1
SORM **Soroca** 146.24 330 ||P **PKPbc** 12 05 51.8 0.0
SORM **Soroca** 146.24 330 ||PKP2 **PKPbc** 12 05 51.8 0.0
HLG **Helgeland** 146.30 356 *e*PKPbc **PKPab** 12 05 52.6 -0.3
baz=12,slow=2.5
BSEG **Bad Segeberg** 146.33 353 *e*PKPbc **PKPab** 12 05 52.5 -0.5
baz=12,slow=2.5
LVV **L'vov** 146.77 336 *e*PKIKP **PKPdf** 12 05 50.4 -0.8
GAZ **Gaziantep** 146.81 307 *e*P **PKPdf** 12 05 52.1 +0.3
MILM **Milestii Mici** 146.89 328 ||P **PKPbc** 12 05 53.7 +0.1
MILM **Milestii Mici** 146.89 328 ||PKP2 **PKPbc** 12 05 53.7 +0.1
KMRS **Kahramanmaras** 146.92 308 *e*P **PKPbc** 12 05 53.3 -0.9
SARI **SarD1z-Kayseri** 146.93 310 *e*P **PKPbc** 12 05 53.7 -0.6
GORT1 **Trebel** 147.14 352 *e*PKPbc **PKPbc** 12 05 54.3 +0.2
baz=12,slow=2.5
BNN **Bunyan** 147.16 311 *e*P **PKPbc** 12 05 54.1 -0.8
RUE **Ruedersdorf** 147.25 349 *e*P **PKPdf** 12 05 51.4 -0.4
RUE **Ruedersdorf** 147.25 349 *e*PKPbc **PKPbc** 12 05 55.1 +0.6
baz=12,slow=2.5
KWP **Kalwaria Pacla** 147.41 337 *e*PKP **PKPbc** 12 05 55.9 +0.9

CORM	Corum	147.42 314	eP		PKPbc	12 05 55.7	+0.2
LEOM	Leova	147.48 328	⇑P		PKPbc	12 05 55.3	+0.1
LEOM	Leova	147.48 328	⇑PKP2		PKPbc	12 05 55.3	+0.1
RETH	Rethem/Aller,	147.61 354	ePKPbc		PKPbc	12 05 55.9	+0.5
	baz=12,slow=2.5						
KOZT	Kozan	147.72 308	eP		PKPbc	12 05 54.9	-1.4
NRDL	Niedersach Rie	147.78 353	ePKPbc		PKPbc	12 05 56.1	+0.3
	baz=12,slow=2.5						
NRDL			ePKPab		PKPab	12 05 58.7	-0.1
	baz=11,slow=4.2						
FLTG	Flechtingen	147.80 352	ePKPdf		PKPdf	12 05 53.1	+0.4
	baz=2.8,slow=1.6						
FLTG			ePKPbc		PKPbc	12 05 56.4	+0.4
	baz=12,slow=2.5						
FLTG			ePKPab		PKPab	12 05 58.5	-0.4
	baz=11,slow=4.2						
FLTG			epPKPbc		pPKPab	12 06 52.0	+1.6
	baz=13,slow=2.5						
TAHT	Tahtakopru-Hat	147.86 306	eP		PKPbc	12 05 56.6	-0.1
VLDR	Vladesti	148.00 328	⇑P		PKiKP	12 05 57.7	-0.7
BURAR	Bucovina Array	148.04 333	⇑P		PKiKP	12 05 57.8	-0.7
ASSE	Asse, Remlinge	148.06 352	ePKPbc		PKPbc	12 05 56.9	+0.3
	baz=12,slow=2.5						
ASSE			ePKPab		PKPab	12 06 00.2	+0.3
	baz=11,slow=4.2						
TLCR		148.07 326	⇑P		PKPbc	12 05 57.4	+0.5
TLCR		148.07 326	⇑PKP2		PKPbc	12 05 57.4	+0.5
STHS	Stebnicka Huta	148.11 339	ePKP2		PKPbc	12 05 56.8	-0.1
STHS	Stebnicka Huta	148.11 339	ePKP		PKPbc	12 05 56.8	-0.1
STHS			e			12 06 01.1	
KOLS	Kolonicke sedl	148.15 337	ePKP2		PKiKP	12 05 58.6	0.0
KOLS	Kolonicke sedl	148.15 337	ePKP		PKiKP	12 05 58.6	0.0
SCTR	Scanteiesti	148.16 327	⇓P		PKiKP	12 05 57.8	-0.9
IBBN	Ibbenburen	148.18 356	ePKPbc		PKPbc	12 05 57.3	+0.3
	baz=12,slow=2.5						
IBBN			ePKPab		PKPab	12 06 00.6	+0.2
	baz=11,slow=4.2						
GHRR		148.18 328	⇑P		PKPbc	12 05 57.6	+0.5
TESR	Tescani	148.22 330	⇑P		PKPbc	12 05 57.5	+0.2
CMRD	Camardi-Nigde	148.26 309	eP		PKPbc	12 05 58.0	+0.2
BR131	Keskin Array S	148.31 314	eP		PKPbc	12 05 57.5	-0.4
BRTR	Keskin Array B	148.31 314	PKPbc		PKPbc	12 05 57.9	-0.1
	comp=Z,28nm,0.7s,baz=136,slow=3.7,SNR=95						
BRTR			pPKPbc		pPKPbc	12 06 51.6	+0.9
	comp=Z,3.5nm,0.8s,baz=98,slow=2.9,SNR=1.9						
SLCR	Slobozia Conac	148.33 328	⇑P		PKiKP	12 05 58.5	-0.5
KARA	Karaisali	148.38 308	eP		PKPbc	12 05 57.6	-0.4
CLZ	Clausthal	148.39 353	ePKPbc		PKiKP	12 05 58.3	-0.8
	baz=12,slow=2.5						
CLZ			ePKPab		PKPab	12 06 01.7	+0.3
	baz=11,slow=4.2						
CLZ			epPKPbc		pPKPab	12 06 53.7	+0.8
	baz=13,slow=2.5						
NIE	Niedzica	148.42 340	ePKP		PKiKP	12 05 58.9	-0.3
KAMT	Kaman	148.43 313	eP		PKPbc	12 05 57.3	-0.9
CFR	Carcaliu	148.43 327	⇑P		PKPbc	12 05 58.4	+0.6
CFR	Carcaliu	148.43 327	⇑PKP2		PKPbc	12 05 58.4	+0.6
CRVS	Cervenica-Dubn	148.47 338	ePKP2		PKiKP	12 05 58.7	-0.6
CRVS	Cervenica-Dubn	148.47 338	ePKP		PKiKP	12 05 58.7	-0.6
CRVS			e			12 06 02.4	
TPGR	Topolog	148.50 326	⇑P		PKiKP	12 05 58.7	-0.8
CLL	Collm	148.52 349	i PKP2		PKPbc	12 05 58.0	+0.2
CLL			pmax		pmax		
	comp=Z,79nm,0.9s						
CLL			pmax		pmax		
	comp=Z,52nm,1.0s						
CLL	Collm	148.52 349	i PKPbc		PKPbc	12 05 58.0	+0.2
	comp=Z,79nm,0.9s						
CLL			i PKPab		PKPab	12 06 01.2	-0.6
	comp=Z,52nm,1.0s						
CLL			esPKPab		pPKPab	12 06 54.0	+0.7
CLL			eSKPbc		SKiKP	12 09 24.0	+8.5
CLL	Collm	148.52 349	ePKPbc		PKPbc	12 05 58.4	+0.6
	baz=12,slow=2.5						
GULA	Gulagac	148.52 311	eP		PKPbc	12 05 57.3	-1.2
OSTC	Ostas	148.56 345	ePKIKP		PKPdf	12 05 54.6	+0.5
OSTC			e			12 05 59.4	
OSTC	Ostas	148.56 345	ePKPDF		PKPdf	12 05 54.6	+0.5
OSTC		⇑	ePKP		PKiKP	12 05 59.4	0.0
VRI	Vrincioaia	148.65 329	⇑P		PKPbc	12 05 58.8	+0.4
VRI	Vrincioaia	148.65 329	⇑PKP2		PKPbc	12 05 58.8	+0.4
UPC	Upice	148.65 345	ePKP2		PKiKP	12 05 59.0	-0.6
UPC	Upice	148.65 345	⇑ePKP		PKiKP	12 05 59.0	-0.6
PLOR	Plostina	148.70 329	⇑P		PKPbc	12 05 58.8	+0.2
PLOR	Plostina	148.70 329	⇑PKP2		PKPbc	12 05 58.8	+0.2
OKC	Ostrava-Krasne	148.71 342	ePKP2		PKiKP	12 05 59.4	-0.3
OKC	Ostrava-Krasne	148.71 342	⇑ePKP		PKiKP	12 05 59.4	-0.3
BMR	Baia Mare	148.71 334	⇓P		PKiKP	12 05 59.3	-0.5
BMR	Baia Mare	148.71 334	⇓PKP2		PKiKP	12 05 59.3	-0.5
SERE	Sereflikochisa	148.72 312	eP		PKPbc	12 05 58.5	-0.5
DPC	Dobruska-Polom	148.72 345	ePKP2		PKiKP	12 05 59.3	-0.5
DPC	Dobruska-Polom	148.72 345	⇑ePKP		PKiKP	12 05 59.3	-0.5
GTTG	Gottingen	148.72 353	ePKPbc		PKPbc	12 05 58.8	+0.4
	baz=12,slow=2.5						
GTTG			ePKPab		PKPab	12 06 02.6	-0.1
	baz=11,slow=4.2						
BRG	Berggiesshubel	148.76 348	P		PKPab	12 06 08.0	+5.1
BRG			Amp			12 06 09.3	
	comp=Z,7.6nm,0.7s						
BRG	Berggiesshubel	148.76 348	PKP2		PKPab	12 06 03.2	+0.4
BRG			pmax		pmax		
	comp=Z,32nm,0.9s						
BRG	Berggiesshubel	148.76 348	ePKPbc		PKiKP	12 05 59.1	-0.7
	baz=12,slow=2.5						
BRG			ePKPab		PKPab	12 06 03.2	+0.4
	baz=11,slow=4.2						
BRG			epPKPbc		pPKPab	12 06 54.5	+0.2
	baz=13,slow=2.5						
TIRR	Tirgusor	148.77 325	⇑P		PKPbc	12 05 59.1	+0.4
TIRR	Tirgusor	148.77 325	eP		PKiKP	12 05 59.4	-0.6
TIRR	Tirgusor	148.77 325	⇑PKP2		PKPbc	12 05 59.1	+0.4
ANTO	Ankara	148.81 314	⇓P		PKPbc	12 05 58.5	-0.6
ANTO	Ankara	148.81 314	eP		PKPbc	12 05 57.6	-1.5
ANTO	Ankara	148.81 314	⇓PKP2		PKPbc	12 05 58.5	-0.6
NEUB	Neuenburg	148.81 351	ePKPdf		PKPdf	12 05 55.1	+0.7
	baz=2.8,slow=1.6						
NEUB			ePKPbc		PKiKP	12 05 59.2	-0.7
	baz=12,slow=2.5						
AFSR	Afar-Bala (An	148.83 314	eP		PKPbc	12 05 58.5	-0.7
TURR	Turia	148.85 330	⇑P		PKiKP	12 06 00.2	0.0
KRLC	Kraliky	148.86 344	ePKP2		PKiKP	12 05 59.8	-0.3
KRLC	Kraliky	148.86 344	⇑ePKP		PKiKP	12 05 59.8	-0.3
HARR	Harsova	148.87 326	⇑P		PKiKP	12 05 59.7	-0.5
HARR	Harsova	148.87 326	⇑PKP2		PKiKP	12 05 59.7	-0.5
TLBR	Topalu	148.91 326	⇓P		PKiKP	12 05 60.0	-0.3
OZUR		148.93 330	⇑P		PKiKP	12 06 00.1	-0.3
MORC	Moravsky Berou	148.93 343	⇑P		PKiKP	12 05 59.8	-0.5
MORC	Moravsky Berou	148.93 343			PKPdf	12 05 55.4	+0.6
MORC			PKPbc		PKiKP	12 06 00.5	+0.2
MORC			PKPab		PKPab	12 06 04.6	+0.9
MORC	Moravsky Berou	148.93 343	ePKP		PKPbc	12 05 59.1	+0.1
MORC	Moravsky Berou	148.93 343	PKP2		PKPab	12 06 04.6	+0.9
MORC						13 05 55.4	
MFTR	Murfatlar	148.95 325	⇑P		PKiKP	12 05 60.0	-0.4
BODR	Bodos	149.00 330	⇑P		PKiKP	12 06 00.0	-0.5
RICC	Richard	149.04 348	⇑ePKP		PKiKP	12 06 00.4	0.0
KULU	Kulu	149.06 313	eP		PKPbc	12 06 00.2	+0.4
BUG	Bochum--Univer	149.07 356	ePKPbc		PKPbc	12 05 59.5	+0.3
	baz=12,slow=2.5						
BUG			ePKPab		PKPab	12 06 04.2	+0.1
	baz=11,slow=4.2						
MANR	Mangalia	149.10 324	⇑P		PKiKP	12 06 01.8	+1.2
HSKC	Hora Svate Kat	149.11 348	⇑ePKP		PKiKP	12 06 00.0	-0.6
KECS	Kecovo	149.17 339	ePKP2		PKiKP	12 06 00.6	-0.2
KECS	Kecovo	149.17 339	ePKP		PKiKP	12 06 00.5	-0.2
KECS			e			12 06 06.0	
NEHR	Nehoiu	149.18 329	⇓P		PKiKP	12 06 00.6	-0.3
DOPR	Dopca	149.21 330	⇓P		PKiKP	12 06 00.6	-0.3
KASTN	Kahler Asten	149.22 355	ePKPbc		PKiKP	12 06 00.2	-0.6
	baz=12,slow=2.5						
KASTN			epPKPbc		pPKPab	12 06 55.2	-1.0
	baz=13,slow=2.5						
MAUC	Maruska	149.23 342	⇑ePKP		PKiKP	12 06 01.0	+0.1
MAUC			ePKPAB		PKPab	12 06 06.0	+1.1
YUVA	Yuva-Kibriscik	149.27 316	eP		PKPbc	12 06 00.3	0.0
MLR	Muntele Rosu	149.30 329	⇑P		PKPbc	12 06 00.4	+0.2
MLR	Muntele Rosu	149.30 329	eP		PKPbc	12 06 00.1	-0.1
MLR	Muntele Rosu	149.30 329	⇑PKP2		PKPbc	12 06 00.4	+0.2
KIZK	Mersin	149.35 308	eP		PKPbc	12 05 59.5	-0.9
CHBY	Cihanbeyli	149.36 312	eP		PKPbc	12 05 58.4	-2.1
MOX	Moxa	149.38 351	ePKPbc		PKPbc	12 06 00.2	+0.2
	baz=12,slow=2.5						
MOX			epPKPbc		pPKPab	12 06 56.2	-0.6
	baz=13,slow=2.5						
CJR	Cluj-Napoca	149.43 333	⇓P		PKiKP	12 06 01.6	+0.2
CJR	Cluj-Napoca	149.43 333	⇓PKP2		PKiKP	12 06 01.6	+0.2
UBBA	Unterbreizbach	149.44 353	ePKPbc		PKPbc	12 06 00.3	+0.3
	baz=12,slow=2.5						
UBBA			ePKPab		PKPab	12 06 05.1	-0.4
	baz=11,slow=4.2						
PLN	Plauen	149.45 350	ePKPdf		PKPdf	12 05 56.1	+0.6
	baz=2.8,slow=1.6						
PLN			ePKPbc		PKiKP	12 06 00.7	-0.5
	baz=12,slow=2.5						
PLN			epPKPbc		pPKPab	12 06 56.7	-0.4
	baz=13,slow=2.5						
KALB	Balgarevo	149.46 324	⇑P		PKiKP	12 06 01.7	+0.3
TANN	Tannenbergstha	149.47 349	ePKPdf		PKPdf	12 05 56.0	+0.4
	baz=2.8,slow=1.6						
TANN			ePKPbc		PKiKP	12 06 00.8	-0.5
	baz=12,slow=2.5						
TANN			ePKPab		PKPab	12 06 05.7	-0.2
	baz=11,slow=4.2						
PRU	Pruhonice	149.47 347	ePKP2		PKiKP	12 06 00.8	-0.5
PRU	Pruhonice	149.47 347	⇑ePKP		PKiKP	12 06 00.8	-0.5
GOPC	GO Pecny, Ondr	149.49 346	ePKP2		PKiKP	12 06 01.3	-0.1
GOPC	GO Pecny, Ondr	149.49 346	⇑ePKP		PKiKP	12 06 01.3	-0.1
MMAI	Mount Meron Ar	149.53 301	PKPbc		PKiKP	12 06 01.6	-0.5
	comp=Z,45nm,0.7s,baz=62,slow=3.9,SNR=54						
MMAI			pPKPbc		pPKPab	12 06 56.4	-1.9
	comp=Z,1.4nm,0.3s,baz=46,slow=2.4,SNR=2.5						
MDUB	Mudurnu	149.54 317	eP		PKPbc	12 06 00.5	-0.4
SILI	Silifke-Mersin	149.56 308	eP		PKPbc	12 06 01.1	+0.2
VRAC	Vranov	149.62 344	⇑P		PKiKP	12 06 01.7	+0.1
VRAC	Vranov	149.62 344	ePKP		PKPbc	12 06 01.0	+0.3
VRAC	Vranov	149.62 344	⇑PKP2		PKiKP	12 06 01.7	+0.1
NKC	Novy Kostel	149.65 349	ePKP2		PKPbc	12 06 01.0	+0.3
NKC	Novy Kostel	149.65 349	⇑ePKP		PKPbc	12 06 01.0	+0.3
MMLI	Mount Malkishu	149.68 299	eP		PKiKP	12 06 02.2	-0.1
VYHS	Vyhne	149.70 340	ePKP2		PKiKP	12 06 01.6	-0.2
VYHS	Vyhne	149.70 340	ePKP		PKiKP	12 06 01.6	-0.2
VYHS			e			12 06 07.6	
VYHS			e			12 06 58.1	
JAVC	Velka Javorina	149.73 342	ePKP		PKiKP	12 06 02.2	+0.3
DRGR		149.74 334	⇑P		PKiKP	12 06 01.5	-0.5
DRGR		149.74 334	eP		PKPbc	12 06 01.1	0.0
DRGR		149.74 334	⇑PKP2		PKiKP	12 06 01.5	-0.5
UJAP	Al Uja	149.76 298	eP		PKPbc	12 06 01.4	-0.1
VOIR		149.76 330	⇑P		PKiKP	12 06 01.7	-0.5
VOIR		149.76 330	⇑PKP2		PKiKP	12 06 01.7	-0.5
IKL	Isikli	149.79 307	eP		PKPbc	12 06 00.7	-0.8
PSZ	Piszkesteto	149.86 339			PKiKP	12 06 02.3	+0.1
PSZ			PKPab		PKPab	12 06 09.3	+1.7
PSZ	Piszkesteto	149.86 339	PKP2		PKiKP	12 06 02.3	+0.1
SVRH	Sivrihisar-ESK	149.87 315	eP		PKPbc	12 06 00.8	-0.9
KRUC	Moravsky	149.89 344	ePKP		PKPbc	12 06 01.4	+0.1
LADK	Ladik-KÖNYA	149.90 312	eP		PKPbc	12 06 00.3	-1.6
TREC	Trest	149.91 345	ePKP2		PKiKP	12 06 02.2	0.0
TREC	Trest	149.91 345	⇑ePKP		PKiKP	12 06 02.2	0.0
KIZT	Kizilcal	149.91 313	eP		PKPbc	12 06 00.5	-1.4
AKKU	Akkuyu-Mersin	149.92 307	eP		PKPbc	12 06 00.4	-1.4
MANZ	Manzenberg	149.94 350	ePKPdf		PKPdf	12 05 56.8	+0.4
	baz=2.8,slow=1.6						
MANZ			ePKPbc		PKiKP	12 06 02.4	+0.1
	baz=12,slow=2.5						
MANZ			epPKPbc		pPKPab	12 06 57.1	-2.1
	baz=13,slow=2.5						
MEM	Membach	149.97 358	dPKPbc		PKPbc	12 06 01.2	-0.2
MEM			dPKiKP		PKiKP	12 06 02.0	-0.2
AHRW	Bad Neuenahr-A	149.98 356	ePKPbc		PKiKP	12 06 02.2	-0.1
	baz=12,slow=2.5						
BTNL	Ternell	149.98 357	dPKiKP		PKiKP	12 06 02.1	-0.2
BTNL			dPKP		PKPab	12 06 08.0	+0.1
GULT	Gulveren	150.00 317	eP		PKPbc	12 06 01.9	-0.1
BSTI	Sart Tilman	150.01 358	dPKiKP		PKiKP	12 06 02.4	0.0
ARR	Arges	150.01 330	⇓P		PKiKP	12 06 02.6	-0.1
KONT	Konya--Tatoy	150.02 311	eP		PKPbc	12 06 01.2	-0.9
SMOL	Smolenice	150.11 342	ePKP2		PKiKP	12 06 03.2	+0.5
ROTZ	Rotzenmuhle	150.14 349	ePKPbc		PKPbc	12 06 02.1	+0.2
	baz=12,slow=2.5						
ROTZ			epPKPbc		pPKPbc	12 06 57.3	+2.4
	baz=13,slow=2.5						
SRCK	Saricakaya, Es	150.14 316	eP		PKPbc	12 06 01.2	-1.0
PRD	Provadia	150.18 324	eP		PKPbc	12 06 01.3	-0.9
BCLA	Clavier	150.18 358	dPKiKP		PKiKP	12 06 02.4	-0.3
BCLA			dPKP		PKPab	12 06 08.2	-0.5
NEF	NEVSHA	150.18 325	eP		PKiKP	12 06 02.6	-0.4
TNS	Taunus Mts	150.19 354	ePKPbc		PKiKP	12 06 02.5	-0.4
	baz=12,slow=2.5						
TNS			ePKPab		PKPab	12 06 08.7	-0.2
	baz=11,slow=4.2						
TNS			epPKPbc		pPKPab	12 06 58.1	-2.1
	baz=13,slow=2.5						
CIFT	Cifteler, Eski	150.22 315	eP		PKPbc	12 06 01.7	-0.8
BGES	Gesves	150.22 359	dPKP		PKPab	12 06 08.5	-0.4
BHOU	Houvegnez	150.22 358	dPKiKP		PKiKP	12 06 03.1	+0.3
BHOU			dPKP		PKPab	12 06 09.8	+0.9
LFK	Lefkose	150.27 306	eP		PKPbc	12 06 01.9	-0.9
MODS	Modra-Piesok	150.28 342	ePKP2		PKiKP	12 06 03.5	+0.5
MODS	Modra-Piesok	150.28 342	ePKP		PKiKP	12 06 03.5	+0.5
MODS			e			12 06 10.5	
BMRD	Maredsous	150.31 359	dPKiKP		PKiKP	12 06 02.6	-0.3
BMRD			dPKP		PKPab	12 06 09.2	0.0
HDMB	Hadim	150.37 310	eP		PKPbc	12 06 02.3	-0.9
GRF	Grafenberg Arr	150.37 351	ePKPbc		PKiKP	12 06 03.3	+0.1
	baz=12,slow=2.5						
GRF			ePKPab		PKPab	12 06 09.9	+0.3
	baz=11,slow=4.2						
GRFO	Grafenberg	150.37 351			PKiKP	12 06 03.5	+0.3
GRFO			PKPab		PKPab	12 06 10.2	+0.6
GRFO	Grafenberg	150.37 351	PKiKP		PKiKP	12 06 03.5	+0.3
DEV	Deva	150.38 333	⇓P		PKiKP	12 06 03.1	-0.2
DEV	Deva	150.38 333	⇓PKiKP		PKiKP	12 06 03.1	-0.2
RCHB	Rochefort	150.44 359	dPKiKP		PKiKP	12 06 03.1	-0.2
KLYT	Kilyos	150.44 320	eP		PKPbc	12 06 01.3	-1.6
HUMR	Humele	150.47 329	⇑P		PKPbc	12 06 02.7	-0.2
KHC	Kasperske Hory	150.49 347			PKPdf	12 05 57.3	0.0
KHC			PKPbc		PKiKP	12 06 03.4	0.0
KHC			PKPab		PKPab	12 06 11.2	+1.1
KHC	Kasperske Hory	150.49 347	ePKIKP		PKPdf	12 05 57.9	+0.6
KHC	Kasperske Hory	150.49 347	ePKPDF		PKPdf	12 05 57.9	+0.6
KHC		⇑	ePKP		PKiKP	12 06 03.3	-0.2
KHC			ePKPAB		PKPab	12 06 10.5	+0.4
KHC			ex		x	12 06 57.0	
ADVT	Abdulvahap	150.49 318	eP		PKPbc	12 06 02.4	-0.6
DOU	Dourbes	150.51 359	dPKiKP		PKiKP	12 06 03.4	0.0
CSS	Mathiatis	150.54 305	eP		PKPbc	12 06 02.3	-1.1
CSS	Mathiatis	150.54 305			PKPbc	12 06 03.5	+0.2
KAVV	Kandilli-Istan	150.55 320	eP		PKPbc	12 06 02.2	-0.9
CAVI	Cavuskoy	150.56 317	eP		PKPbc	12 06 01.8	-1.4
SIRR	Siria	150.59 335	⇑P		PKiKP	12 06 03.9	+0.2
WET	Wettzell	150.62 348	ePKPbc		PKiKP	12 06 03.7	0.0
	baz=12,slow=2.5						
WET			ePKPab		PKPab	12 06 11.0	+0.4
	baz=11,slow=4.2						
CKRC	Cesky Krumlov	150.63 346	ePKIKP		PKPbc	12 06 03.3	+0.2
CKRC	Cesky Krumlov	150.63 346	⇑ePKP		PKPbc	12 06 03.3	+0.2
SEYD	Seydisehir-KON	150.64 311	eP		PKiKP	12 06 03.9	-0.4
YLV	Yalova	150.64 318	eP		PKiKP	12 06 04.9	+0.8
BGKT	Bogazkoy	150.65 320	eP		PKPbc	12 06 03.4	0.0
EIL	Elat	150.69 294	eP		PKPbc	12 06 03.1	-0.8
GEC2	GERESS Array S	150.73 347			PKiKP	12 06 04.0	-0.1
GEC2			PKPab		PKPab	12 06 11.7	+0.5
GEC2	GERESS Array S	150.73 347	ePKPbc		PKPbc	12 06 03.6	+0.1
	baz=12,slow=2.5						
GEC2			epPKPbc		pPKPab	12 06 59.6	-2.9
	baz=13,slow=2.5						
GERES	GERESS Array B	150.73 347	PKPdf		PKPdf	12 05 57.4	-0.3
GERES			PKPbc		PKiKP	12 06 04.0	-0.1
GERES			PKPab		PKPab	12 06 11.2	0.0
GERES	GERESS Array B	150.73 347	PKIKP		PKPdf	12 05 57.4	-0.3
GERES						12 06 11.2	
GERES	GERESS Array B	150.73 347	PKP		PKPdf	12 05 58.3	+0.6
	comp=Z,2.2nm,0.8s,baz=0.0,slow=6.7,SNR=7.1						
GERES			PKPbc		PKiKP	12 06 04.0	-0.1
	comp=Z,26nm,0.7s,baz=27,slow=4.5,SNR=79						
GERES			pPKPbc		pPKPbc	12 06 56.9	+0.3
	comp=Z,10nm,1.0s,baz=70,slow=4.7,SNR=3.3						
GAZI	Gazipasa	150.80 308	eP		PKPbc	12 06 03.2	-0.7
SURR	Surduc	150.82 334	⇑P		PKiKP	12 06 04.0	-0.2
GZR	Gura Zlata	150.83 332	⇑P		PKPbc	12 06 03.5	-0.3
GZR	Gura Zlata	150.83 332	⇑PKIKP		PKPbc	12 06 03.5	-0.3
GEMT	Gemlik	150.84 318	eP		PKPbc	12 06 03.1	-0.7
SZH	Strazhitsa	150.87 326	eP		PKPbc	12 06 03.6	-0.3
WLF	Walferdange	150.90 357			PKiKP	12 06 04.9	+0.7
WLF	Walferdange	150.90 357	PKIKP		PKiKP	12 06 04.9	+0.7
WLF	Walferdange	150.90 357	dPKiKP		PKiKP	12 06 04.6	+0.3
WLF			dPKP		PKPab	12 06 10.3	-1.4
WLF	Walferdange	150.90 357	ePKPbc		PKiKP	12 06 04.5	+0.3
	baz=12,slow=2.5						
WLF			epPKPbc		pPKPab	12 07 00.3	-2.7
	baz=13,slow=2.5						
SLVT	Silivri	150.96 321	eP		PKPbc	12 06 03.9	-0.2
ARMT	Armutlu	150.96 319	eP		PKPbc	12 06 04.1	-0.1
SHUT	Suhut-Afyon	150.97 314	eP		PKPbc	12 06 04.3	-0.1
MDNY	Mudanya-Bursa	151.06 319	eP		PKPbc	12 06 03.8	-0.6
CONA	Conrad Observa	151.08 344	i PKP		PKiKP	12 06 04.5	-0.3
	comp=Z,20nm,0.6s,SNR=16						
CONA			ePKP		PKPab	12 06 13.2	+0.6
	comp=Z,55nm,0.9s						
CONA			i sPKP			12 07 00.3	
	comp=Z,33nm,1.7s						
JMB	Yambol	151.11 324	eP		PKPbc	12 06 04.5	+0.1
BZS	Buzias	151.14 334	eP		PKPdf	12 06 01.2	+2.9
RONA	Rosalia, Austr	151.17 343	i PKP		PKPbc	12 06 04.7	-0.3
	comp=Z,21nm,0.5s,SNR=14						
RONA			ePKP		PKPab	12 06 13.7	+0.8
	comp=Z,74nm,0.9s						
RONA			esPKP			12 06 60.0	
	comp=Z,19nm,0.9s						
TVSB	Tavsanli	151.22 316	eP		PKPbc	12 06 04.9	0.0
ISP	Isparta	151.36 313	eP		PKPbc	12 06 04.4	-0.9
HERR	Herculane	151.39 332	⇑P		PKiKP	12 06 05.3	0.0
KCTX	Karacabey (Bur	151.45 319	eP		PKPbc	12 06 04.6	-0.7
MOA	Molln	151.55 346	i PKP		PKPbc	12 06 05.3	0.0
	comp=Z,8.5nm,0.6s						
MOA			ePKP		PKPab	12 06 14.7	+0.2
	comp=Z,40nm,1.4s						
BASM	Basmaki-Afyon	151.63 313	eP		PKPbc	12 06 05.3	-0.6
EDC	Edincik	151.70 319	eP		PKPbc	12 06 04.4	-1.5
MRMT	Marmara Adasi	151.71 320	eP		PKPbc	12 06 05.3	-0.6
SIMA	Simav-Kutahya	151.73 316	eP		PKPbc	12 06 05.4	-0.7
MDVR	Moldovita	151.77 333	⇑P		PKiKP	12 06 06.3	0.0
ARSA	Arzberg	151.79 343	ePKP		PKPab	12 06 15.5	0.0
	comp=Z,24nm,0.9s						
ARSA			esPKP			12 07 01.4	
	comp=Z,5.4nm,0.9s						
VALD	Valchedram	151.84 329	eP		PKiKP	12 06 06.1	-0.2
BIOA	Bad Ischl, Aus	151.84 346	i PKP		PKPbc	12 06 05.7	-0.2
	comp=Z,13nm,0.8s						
BIOA			ePKP		PKPab	12 06 16.3	+0.5
	comp=Z,47nm,1.0s						
BIOA			esPKP			12 07 01.4	
	comp=Z,19nm,1.3s						
FUR	Furstenfeldbru	151.84 350	ePKPbc		PKiKP	12 06 06.3	+0.1
	baz=12,slow=2.5						
FUR			ePKPab		PKPab	12 06 16.2	+0.5
	baz=11,slow=4.2						
KORT	Korkueli	151.88 311	eP		PKPbc	12 06 06.1	-0.4
MPEP	Malo Peshtene	151.94 329	eP		PKiKP	12 06 06.5	-0.1
RJOB	Jochberg	151.98 347	ePKPbc		PKiKP	12 06 06.5	-0.1
	baz=12,slow=2.5						
RJOB			ePKPab		PKPab	12 06 17.2	+0.9
	baz=11,slow=4.2						
RJOB			epPKPbc		pPKPbc	12 07 03.0

TURN	**Turunc**	**153.46**	**313**	*eP*		**PKiKP**	**12 06 10.2**	**+0.3**
SABO	**M.te Sabotino**	**153.46**	**345**	PKPdf		**PKPdf**	**12 06 01.3**	**-0.5**
SABO				PKPbc		**PKiKP**	**12 06 09.8**	**+0.1**
SABO				PKPab		**PKPab**	**12 06 22.1**	**-0.6**
MLSB	**Milas**	**153.50**	**314**	*eP*		**PKPbc**	**12 06 09.9**	**-0.1**
HORT	**Hortiatis**	**154.27**	**325**	*eP*		**PKPdf**	**12 06 01.4**	**-1.8**
FNA	**Florina**	**155.03**	**328**	*eP*		PKPdf	12 06 12.6	+8.4
ESDC	**Sonseca Array**	**159.72**	**18**	PKPab		**PKPab**	**12 06 50.4**	**+0.6**
ESDC	**Sonseca Array**	**159.72**	**18**	PKP		**PKPdf**	**12 06 10.8**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=332,slow=2.8,SNR=5.6							
ESDC				PKPab		**PKPab**	**12 06 50.1**	**+0.3**
	comp=Z,9.1nm,1.0s,baz=324,slow=3.8,SNR=20							
LIC	**Lamto**	**163.24**	**147**	⇑*iP*		**PKPdf**	**12 06 14.5**	**+0.1**
	comp=Z,24nm,0.8s							
KIC	**Kosan Boka**	**163.50**	**148**	⇑*iP*		**PKPdf**	**12 06 14.8**	**+0.1**
	comp=Z,14nm,0.7s							
TIC	**Toumodi**	**163.60**	**146**	⇑*iP*		**PKPdf**	**12 06 12.8**	**-2.0**
	comp=Z,3.0nm,0.2s							
DBIC	**Dimbokro**	**163.70**	**147**	PKP		**PKPdf**	**12 06 14.9**	**+0.1**
	comp=Z,5.3nm,0.8s,baz=110,slow=1.6,SNR=7.8							
KEST	**Kesra**	**164.19**	**344**	PKPab		**PKPab**	**12 07 09.8**	**+0.3**
KEST	**Kesra**	**164.19**	**344**	PKPab		**PKPab**	**12 07 09.2**	**-0.3**
	comp=Z,12nm,0.8s,baz=171,slow=2.2,SNR=8.9							
TORD	**Torodi Ar. Bea**	**172.29**	**162**	PKP		**PKPdf**	**12 06 20.1**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=21,slow=2.0,SNR=13							
TORD				pPKP		**pPKPdf**	**12 07 15.7**	**+1.3**
	comp=Z,1.0nm,0.9s,baz=264,slow=1.4,SNR=2.5							
TORD				PKPab		**PKPab**	**12 07 47.6**	**+2.0**
	comp=Z,3.1nm,0.8s,baz=164,slow=3.5,SNR=11							
TORD				pPKPab		**pPKPab**	**12 08 38.4**	**+1.3**
	comp=Z,2.2nm,0.8s,baz=184,slow=1.8,SNR=3.3							
TORD				PP		**PP**	**12 11 41.1**	**+5.3**
	comp=Z,2.0nm,1.1s,baz=164,slow=4.9,SNR=4.8							

*IDC **14** 12:26:46.9±6.3, 35°.80N×71°.25E, h74^{km}±50^{km}, mb3.4/5, mbtmp3.7/8, ML3.4/3, Error ellipse: s-maj=63.8km s-min=37.5km az=145.0*

*NNC **14** 12:26:57.6±3.9, 36°.97N×69°.94E, h0^{km}, mb4.2, mpv4.0, Error ellipse: s-maj=36.9km s-min=27.7km az=118.0*

ISC 14 12:26:54.6±1.4, 36°.6N±0°.1×70.7E±0°.1, h100^{km}, n11, σ2^{s}21/15, mb3.8/4, 2C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KK31	**Karatay Array**	**6.52**	**359**	⇓P		**Pn**	**12 28 29.7**	**+1.8**
	3.5nm,0.2s,baz=176,slow=12,SNR=72							
KK31				⇑S		**Sn**	**12 29 41.5**	**+0.9**
	5.5nm,0.5s,baz=180,slow=20,SNR=11							
AAK	**Ala-Archa**	**6.71**	**25**	P		**Pn**	**12 28 31.8**	**+1.2**
	1.5nm,0.3s,baz=204,slow=7.4,SNR=12							
AAK				S		**Sn**	**12 29 45.2**	**-0.4**
	3.2nm,0.6s,baz=180,slow=20,SNR=1.1							
	2.8nm,0.3s							
MKAR	**Makanchi Array**	**13.36**	**37**	P		**Pn**	**12 29 58.2**	**-1.8**
	baz=230,slow=11,SNR=1.9							
	0.1nm,0.5s							
AB31	**Akbulak array**	**14.91**	**332**	P		**Pn**	**12 30 20.5**	**+0.6**
	1.2nm,0.3s,baz=142,slow=10.0,SNR=107							
AB31				⇓S		**Sn**	**12 32 59.4**	**-4.8**
	0.8nm,0.5s,baz=150,slow=24,SNR=5.8							
AKTO	**Aktyubinsk**	**16.60**	**330**	P		**P**	**12 30 43.9**	**+2.0**
	0.3nm,0.3s,baz=156,slow=13,SNR=11							
	2.4nm,0.5s							
AKTO	**Aktyubinsk**	**16.60**	**330**	⇓P		**P**	**12 30 42.9**	**+1.1**
	2.8nm,0.8s							
AKTO				⇑S		**Sn**	**12 33 44.3**	**-0.8**
	1.4nm,0.8s							
ZALV	**Zalesovo Beam**	**19.93**	**25**	P		**P**	**12 31 17.1**	**-1.1**
	1.0nm,0.5s,baz=222,slow=12,SNR=6.0							
	1.0nm,0.5s							
FINES	**FINESS Array B**	**37.29**	**326**	P		**P**	**12 33 59.0**	**+2.5**
	3.1nm,0.9s,baz=143,slow=14,SNR=3.2							
	3.1nm,0.9s							
ARCES	**ARCESS Array B**	**40.98**	**338**	P		**P**	**12 34 29.8**	**+2.6**
	1.1nm,0.7s,baz=116,slow=7.8,SNR=6.4							
	1.1nm,0.7s							
TORD	**Torodi Ar. Bea**	**65.50**	**268**	P		**P**	**12 37 25.1**	**-2.4**
	0.6nm,0.5s,baz=48,slow=6.3,SNR=7.1							
	0.6nm,0.5s							
YKA	**Yellowknife Ar**	**81.17**	**3**	P		**P**	**12 38 58.3**	**-0.4**
	0.1nm,0.6s,baz=349,slow=5.8,SNR=2.7							
	0.1nm,0.6s							

*IGQ **14** 12:41:37±1.4, 1°.5±6°×9°.1W±°, h6^{km}*

*IDC **14** 12:41:38.1±4.1, 1°.08S×91°.05W, h0^{km}, mb3.8/7, mbtmp3.8/7, MS3.5/8, Error ellipse: s-maj=86.8km s-min=20.9km az=172.0*

*NEIC **14** 12:41:40.7±2.2, 1°.0S±0°.2×90°.87W±0°.09, h15^{km}±5^{km}, mb4.4/12, Error ellipse: s-maj=25.6km s-min=5.7km az=150.0*

ISC 14 12:41:39.8±0.8, 0°.88S±0°.07×91°.05W±0°.05, h10^{km}, n32, σ1^{s}91/28, mb4.3/14, MS3.6/5, Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VCH1	**Volcn Chico**	**0.10**	**332**	P		**Pg**	**12 41 40.0**	**-2.6**
VCH1				S		**Sg**	**12 41 41.0**	**-3.6**
PVIL	**Puerto Villami**	**0.12**	**127**	P		**Pg**	**12 41 41.0**	**-1.6**
PVIL				S		**Sg**	**12 41 43.0**	**-1.6**
FER2	**Fernandina2, P**	**0.55**	**318**	P		**Pg**	**12 41 49.0**	**-1.4**
I20EC	**Galapagos**	**0.73**	**68**	Pg		**Pg**	**12 41 53.7**	**-0.2**
	baz=266,slow=34							
I20EC				I		I	12 47 00.0	
	baz=250,slow=313,SNR=0.6							
PAYG	**Puerto Ayora**	**0.79**	**75**			**Pg**	**12 41 54.6**	**-0.4**
PAYG				Sg		**Sg**	**12 42 00.9**	**-4.4**
PAYG	**Puerto Ayora**	**0.79**	**75**	P		**Pg**	**12 41 54.0**	**-1.0**
JTS	**Las Juntas de**	**12.64**	**29**	LR		LR	12 48 33.0	
	comp=Z,45nm,20.4s,baz=108,slow=32							
ATAH	**Atahualpa**	**14.06**	**117**	LR		LR	12 49 28.2	
	comp=Z,170nm,18.6s,baz=288,slow=34							
NNA	**Nana**	**17.90**	**129**	P		**Pn**	**12 45 45.3**	**-3.9**
NNA	**Nana**	**17.90**	**129**	LR		LR	12 51 31.9	
	comp=Z,78nm,18.5s,baz=307,slow=33							
SDV	**Santo Domingo**	**22.53**	**64**	P		**P**	**12 46 42.2**	**+1.9**
	3.1nm,0.7s,baz=259,slow=4.5,SNR=4.8							
	3.1nm,0.7s							
PCRV	**Puerto La Cruz**	**28.48**	**67**	LR		LR	12 59 08.8	
	comp=Z,111nm,18.5s,slow=37							
TXAR	**Lajitas Array**	**32.37**	**339**	P		**P**	**12 48 12.1**	**+2.3**
	0.3nm,0.6s,baz=163,slow=9.4,SNR=4.3							
TXAR				LR		LR	12 59 34.7	
	comp=Z,90nm,18.2s,baz=44,slow=33							
	0.3nm,0.6s							
ANMO	**Albuquerque**	**38.45**	**339**	LR		LR	13 04 01.4	
	comp=Z,80nm,18.1s,baz=159,slow=35							
MDP	**Montagnes des**	**38.82**	**81**	LR		LR	13 04 51.4	
	comp=Z,168nm,18.4s,baz=81,slow=36							
ISCO	**Idaho Springs**	**42.62**	**343**	P		**P**	**12 49 36.8**	**0.0**
PLCA	**Paso Flores**	**43.81**	**157**	LR		LR	13 04 34.0	
	comp=Z,96nm,18.8s,baz=162,slow=32							
NVAR	**Mina Array Bea**	**46.47**	**330**	P		**P**	**12 50 09.5**	**+2.1**
	1.1nm,0.7s,baz=154,slow=8.7,SNR=8.1							
	1.1nm,0.7s							
PDAR	**Pinedale Array**	**46.53**	**341**	P		**P**	**12 50 08.8**	**+0.9**
	0.4nm,0.7s,baz=152,slow=9.7,SNR=5.4							
	0.4nm,0.7s							
TPAW	**Teton Pass**	**47.64**	**340**	P		**P**	**12 50 16.3**	**-0.2**
TPAW				IAmb		IAmb	12 50 18.2	
	comp=Z,3.6nm,0.8s							
SCHQ	**Schefferville**	**58.99**	**16**	P		**P**	**12 51 40.1**	**+0.6**
	comp=Z,4.8nm,1.0s,baz=203,slow=13,SNR=1.5							
	comp=Z,4.8nm,1.0s							
YKA	**Yellowknife Ar**	**65.66**	**348**	P		**P**	**12 52 24.6**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=148,slow=5.6,SNR=8.6							
	comp=Z,0.5nm,0.7s							
K27K	**Chicken**	**74.74**	**339**	P		**P**	**12 53 21.5**	**+1.8**
K27K				IAmb		IAmb	12 53 22.6	
	comp=Z,3.2nm,0.8s							
G29M	**Pine Creek**	**75.22**	**343**	P		**P**	**12 53 23.5**	**+1.1**
J26L	**Joseph Creek**	**75.54**	**339**	P		**P**	**12 53 25.4**	**+1.0**
J26L				IAmb		IAmb	12 53 26.9	
	comp=Z,3.3nm,0.8s							
F28M	**Old Crow**	**76.22**	**343**	P		**P**	**12 53 28.9**	**+0.8**
F28M				IAmb		IAmb	12 53 31.4	
	comp=Z,2.5nm,0.7s							
IL31		**76.89**	**339**	P		**P**	**12 53 31.8**	**-0.1**
IL31				IAmb		IAmb	12 53 33.5	
	comp=Z,1.9nm,0.7s							
ILAR	**Eielson Array**	**76.89**	**339**	P		**P**	**12 53 32.6**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=137,slow=4.7,SNR=37							
	comp=Z,1.3nm,0.7s							
H24K	**Noodor Dome**	**77.80**	**339**	P		**P**	**12 53 37.9**	**+0.8**
H24K				IAmb		IAmb	12 53 38.7	
	comp=Z,4.5nm,1.0s							
D19K	**Kuna River**	**82.56**	**340**	P		**P**	**12 54 03.5**	**+0.8**
D19K				IAmb		IAmb	12 54 08.6	
	comp=Z,3.6nm,1.4s							
F17K	**Baldwin Pennin**	**82.98**	**338**	P		**P**	**12 54 05.8**	**+0.9**
C16K	**Lisburne Hills**	**85.03**	**339**	P		**P**	**12 54 17.6**	**+2.3**

*IDC **14** 12:43:24.4±1.9, 2°.17S×128°.36E, h0^{km}, mb3.4/3, mbtmp3.6/4, ML3.7/1, MS3.0/2, Error ellipse: s-maj=152.1km s-min=23.4km az=68.0*

*DJA **14** 12:43:28.0±0.5, 3°.5±5°.1×127°.7E±°, h10^{km}, M3.9/6, mb4.3/1, MLv3.7/6*

ISC 14 12:43:27.0±1.0, 2°.77S±0°.08×126°.8E±0°.1, h10^{km}, n10, σ0^{s}98/8, mb3.5/3, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NLAI	**Namlea**	**0.54**	**151**	P		**Pn**	**12 43 41.0**	**+0.2**
SANI	**Sanana**	**1.11**	**310**	P		**Pg**	**12 43 47.4**	**-1.0**
LBMI	**Labuha**	**2.21**	**17**	P		**Pn**	**12 44 03.9**	**0.0**
FAKI	**Fak Fak**	**5.41**	**92**	P		**Pn**	**12 44 47.4**	**-0.4**
BATI	**Baumata**	**8.04**	**203**	LR		LR	12 49 45.3	
	comp=Z,44nm,19.3s,baz=0.5,slow=41							
WRA	**Warramunga Arr**	**18.58**	**157**	P		**Pn**	**12 47 44.2**	**-0.4**
	0.3nm,0.3s,baz=341,slow=11,SNR=16							
	3.0nm,0.7s							
ASAR	**Alice Springs**	**21.88**	**162**	P		**P**	**12 48 19.9**	**-0.4**
	0.7nm,0.3s,baz=341,slow=11,SNR=18							
	0.7nm,0.3s							
CTA	**Charters Tower**	**25.61**	**134**	LR		LR	13 01 46.3	
	comp=Z,58nm,18.1s,baz=178,slow=44							
MKAR	**Makanchi Array**	**62.98**	**327**	P		**P**	**12 53 55.7**	**+1.6**
	0.5nm,0.8s,baz=124,slow=7.7,SNR=3.7							
	0.5nm,0.8s							
KURBB	**Kurchatov Arra**	**67.28**	**329**	P		**P**	**12 54 22.7**	**+0.9**
	0.2nm,0.6s,baz=132,slow=5.0,SNR=4.7							
	0.2nm,0.6s							

*LDG **14** 12:46:55.6±0.1, 43°.17N×0°.68W, h15^{km}, Md3.6/2, Ml3.7/39, Error ellipse: s-maj=1.3km s-min=1.3km az=61.0*

*STR **14** 12:46:55.4±0.3, 43°.N±3°.×±°, h22^{km}±2^{km}, MLv3.8/42, Error ellipse: s-maj=0.0km s-min=0.0km az=39.9, confirmed*

*INMG **14** 12:46:56.5±1.7, 43°.15N×0°.68W, h18^{km}±3^{km}, ML3.2, Error ellipse: s-maj=2.7km s-min=2.6km az=151.0*

*MDD **14** 12:46:56.4±0.1, 43°.15N×0°.65W, h12^{km}, mb_Lg3.8/42, Error ellipse: s-maj=1.2km s-min=1.0km az=154.0*

*SFS **14** 12:46:57.2, 43°.17N×0°.68W, h22^{km}, mb4.1/12, ML4.0/25, ML4.4/18, MLv3.8/25*

ISC 14 12:46:54.6±0.8, 43°.22N±0°.02×0°.60W±0°.02, h23^{km}±6^{km}, n202, σ2^{s}49/332, 1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ATE	**Arette**	**0.16**	**209**	Pg		**Pb**	**12 46 58.9**	**-0.7**
ATE				Sg		**Sb**	**12 47 01.3**	**-1.7**
URDF	**Urds**	**0.21**	**1**	Pg		**Pb**	**12 47 03.0**	**+2.7**
URDF				Sg		**Sb**	**12 47 07.9**	**+3.8**
ETSF	**Etsaut**	**0.33**	**175**	*e*Pg		**Pb**	**12 47 01.1**	**-0.9**
ETSF				*e*Sg		**Sb**	**12 47 04.7**	**-2.2**
	22μm,0.3s							
PYLO	**Lourdes**	**0.42**	**107**	Pg		**Pn**	**12 47 04.4**	**-0.9**
PYLO				Sg		**Sn**	**12 47 11.4**	**-0.9**
CANF	**Canfranc**	**0.46**	**173**	Pg		**Pb**	**12 47 03.2**	**-1.0**
CANF				Sg		**Sb**	**12 47 08.3**	**-2.4**
SJPF	**Ste Jean**	**0.47**	**257**	*e*Pg		**Pb**	**12 47 03.8**	**-0.5**
SJPF				*e*Sg		**Sb**	**12 47 09.6**	**-1.3**
	3μm,0.2s							
OSSF	**Osses**	**0.49**	**274**	Pg		**Pb**	**12 47 04.1**	**-0.5**
OSSF				Sg		**Sb**	**12 47 09.9**	**-1.4**
VIEF	**Viey**	**0.57**	**127**	Pg		**Pn**	**12 47 06.4**	**-1.0**
VIEF				Sg		**Sb**	**12 47 14.3**	**+0.6**
TERF	**Tercis-les-Bai**	**0.59**	**321**	Pg		**Pn**	**12 47 08.2**	**+0.6**
EORO	**Oroz-Betelu**	**0.62**	**238**	Pg		**Pb**	**12 47 06.6**	**-0.2**
EORO				Sg		**Sb**	**12 47 13.7**	**-1.5**
EORO				*i* Vmb_Lg			12 47 18.1	
EALK	**Alkurruntz**	**0.67**	**270**	Pg		**Pb**	**12 47 07.0**	**-0.7**
EALK				Sg		**Sb**	**12 47 14.4**	**-2.1**
EALK				*i* Vmb_Lg			12 47 16.3	
EALK	**Alkurruntz**	**0.67**	**270**	Pg		**Pb**	**12 47 07.0**	**-0.7**
EPF	**Esparros**	**0.71**	**105**	*e*Pg		**Pn**	**12 47 09.5**	**+0.2**
EPF				*e*Sg		**Sn**	**12 47 19.2**	**-0.4**
	989nm,0.3s							
ECHI	**Chisagues Biel**	**0.81**	**134**	⇓Pg		**Pn**	**12 47 10.5**	**-0.2**
ECHI				Sg		**Sb**	**12 47 20.1**	**-0.4**
ECHI	**Chisagues Biel**	**0.81**	**134**	Pg		**Pn**	**12 47 10.5**	**-0.2**
EARA	**Aranguren**	**0.85**	**238**	Pg		**Pn**	**12 47 10.6**	**-0.6**
EARA				Sg		**Sb**	**12 47 20.4**	**-1.3**
EARA				*i* Vmb_Lg			12 47 28.2	
MLS	**Moulis**	**1.27**	**101**	Pn		**Pb**	**12 47 18.3**	**+0.5**
MLS				Sn		**Sb**	**12 47 35.3**	**+1.6**
SALF	**Salau**	**1.39**	**109**	Pn		**Pb**	**12 47 19.4**	**-0.6**
SALF				Sn		**Sb**	**12 47 38.4**	**+1.1**
ESAC	**San Caprasio**	**1.50**	**176**	Pn		**Pn**	**12 47 20.0**	**-0.2**
ESAC				Sg		**Sn**	**12 47 39.1**	**0.0**
PAND	**Andorre**	**1.72**	**113**	Pn		**Pb**	**12 47 24.4**	**-1.4**
PAND				Sn		**Sb**	**12 47 45.8**	**-1.2**
MONQ	**Montcuq**	**1.73**	**48**	Pn		**Pb**	**12 47 26.1**	**+0.4**
MONQ				Sn		**Sb**	**12 47 48.5**	**+1.5**
LRVF	**chteau la Riv**	**1.74**	**7**	Pn		**Pb**	**12 47 25.2**	**-0.6**
DUNF	**Dun**	**1.77**	**96**	Pn		**Pb**	**12 47 25.2**	**-1.2**
DUNF				Sn		**Sb**	**12 47 47.9**	**-0.3**
LFF	**La Frestale**	**1.97**	**29**	*e*Pn		**Pb**	**12 47 28.1**	**-1.7**
LFF	**La Frestale**	**1.97**	**29**	*e*Pg		**Pb**	**12 47 33.2**	**+3.4**
LFF				*e*Sn		**Sn**	**12 47 51.3**	**+0.8**
LFF				*e*Sg		**Sb**	**12 48 00.0**	**+6.2**
	186nm,0.3s							
FNEB	**Nbias**	**2.01**	**98**	Pn		**Pb**	**12 47 28.4**	**-2.0**
FNEB				Sn		**Sb**	**12 47 53.2**	**-1.8**
EMIR	**Miracle**	**2.04**	**129**	Pn		**Pb**	**12 47 29.9**	**-1.1**
EMIR				Pg		Pn	12 47 33.1	+5.5
EMIR				Sg		**Sb**	**12 47 59.2**	**+3.2**
EMIR				*i* Vmb_Lg			12 48 03.4	
CARF	**Carcanieres**	**2.05**	**103**	Pn		**Pb**	**12 47 29.5**	**-1.6**
CARF				Sn		**Sb**	**12 47 54.2**	**-2.0**
ELAN	**Lanestosa**	**2.07**	**271**	Pg		**Pb**	**12 47 30.9**	**-0.7**
ELAN				Sg		**Sb**	**12 47 57.5**	**+0.6**
VALC	**Valcebollere**	**2.12**	**112**	Pn		**Pn**	**12 47 29.9**	**+1.2**
VALC				Sn		**Sn**	**12 47 55.2**	**+0.8**
EPOB	**Poblet**	**2.24**	**146**	Pn		**Pn**	**12 47 31.6**	**+1.2**
EPOB				Pg		**Pb**	**12 47 35.8**	**+1.3**
EPOB				Sg		**Sb**	**12 48 03.5**	**+1.6**
EPOB				*i* Vmb_Lg			12 48 05.8	
ERTA	**Horta de San J**	**2.37**	**163**	Pn		**Pn**	**12 47 32.8**	**+0.7**
ERTA				Pg		**Pb**	**12 47 37.4**	**+0.8**
ERTA				Sg		**Sb**	**12 48 07.1**	**+1.8**
FILF	**Fillols**	**2.41**	**105**	Pn		**Pn**	**12 47 33.0**	**+0.2**
FILF				Sn		**Sn**	**12 48 00.4**	**-1.2**
CAF	**Calviac**	**2.56**	**47**	*e*Pn		**Pn**	**12 47 35.7**	**+0.9**
CAF				*e*Sn		**Sn**	**12 48 05.3**	**0.0**
CAF				*e*Sg		**Sb**	**12 48 18.3**	**+7.3**
	92nm,0.2s							
RJF	**Les Rejaudoux**	**2.58**	**35**	*e*Pn		**Pn**	**12 47 35.5**	**+0.6**
RJF	**Les Rejaudoux**	**2.58**	**35**	*e*Pg		Pb	12 47 44.9	+4.8
RJF				*e*Sn		**Sn**	**12 48 05.5**	**0.0**
RJF				*e*Sg		**Sb**	**12 48 18.3**	**+7.0**
	115nm,0.3s							
SJAF	**Saint Jean de**	**2.66**	**105**	Pn		**Pn**	**12 47 37.9**	**+1.8**
SJAF				Sn		**Sn**	**12 48 08.2**	**+0.6**
EJON	**La Jonquera**	**2.68**	**106**	Pn		**Pb**	**12 47 39.7**	**-2.1**
EJON				Pg		Pn	12 47 44.3	+8.0
EJON				Sg		**Sb**	**12 48 19.9**	**+5.7**
EJON	**La Jonquera**	**2.68**	**106**	Pn		**Pb**	**12 47 40.6**	**-1.3**
EJON				Pg		Pn	12 47 44.5	+8.2
EJON				Sg		**Sb**	**12 48 20.0**	**+5.7**
EJON				*i* Vmb_Lg			12 48 22.1	
CLAF	**Gruissan**	**2.70**	**91**	Pn		**Pn**	**12 47 38.1**	**+1.5**
CLAF				Sn		**Sn**	**12 48 10.1**	**+1.7**
E0901	**Celadas (Terue**	**2.77**	**188**	Pn		**Pn**	**12 47 39.0**	**+1.3**
E0901				Pg		**Pb**	**12 47 45.0**	**+1.5**
E0901				Sn		**Sn**	**12 48 09.2**	**-1.2**
E0901				Sg		**Sb**	**12 48 19.6**	**+2.6**
E0901				*i* Vmb_Lg			12 48 29.6	
EMOS	**Mosqueruela**	**2.86**	**178**	Pn		**Pn**	**12 47 39.6**	**+0.7**
EMOS				Pg		**Pb**	**12 47 46.7**	**+1.7**
EMOS				Sn		**Sn**	**12 48 11.9**	**-0.8**
EMOS				Sg		**Sb**	**12 48 21.0**	**+1.4**
EMOS				*i* Vmb_Lg			12 48 29.9	
CHIF	**Chize**	**2.91**	**3**	Pn		**Pn**	**12 47 41.9**	**+2.4**
FRNF	**Fournols**	**3.13**	**45**	Pn		**Pn**	**12 47 45.4**	**+2.8**
LASF	**Ste Croix**	**3.34**	**74**	*e*Pn		**Pn**	**12 47 46.3**	**+0.8**
LASF				*e*Sn		**Sn**	**12 48 23.4**	**-1.1**
LASF				*e*Sg		Sb	12 48 42.4	+9.0
	133nm,0.4s							
VERF	**Verneugheol**	**3.35**	**40**	Pn		**Pn**	**12 47 48.8**	**+3.2**
VERF				S		**Sn**	**12 48 23.7**	**-1.0**
VERF				Sn		**Sb**	**12 48 27.8**	**-5.9**
EARI	**Arriondas**	**3.37**	**273**	Pn		**Pn**	**12 47 46.3**	**+0.4**
EARI				Sn		**Sn**	**12 48 26.1**	**+0.9**
MFF	**Saint Martin d**	**3.39**	**5**	*e*Pn		**Pn**	**12 47 47.0**	**+0.8**
MFF	**Saint Martin d**	**3.39**	**5**	*e*Pg		Pb	12 47 59.4	+5.3
MFF				*e*Sn		**Sn**	**12 48 24.8**	**-0.9**
MFF				*e*Sg		Sb	12 48 43.6	+8.7
	53nm,0.2s							
MFF	**Saint Martin d**	**3.39**	**5**	Pn		**Pn**	**12 47 48.8**	**+2.7**
LBL	**Lubilhac**	**3.42**	**53**	Pn		**Pn**	**12 47 49.4**	**+2.9**
LBL				S		**Sn**	**12 48 24.4**	**-1.9**
LBL				Sn		**Sb**	**12 48 28.9**	**-6.7**
ECOL	**Islas Columbre**	**3.46**	**163**	Pn		**Pn**	**12 47 48.0**	**+1.0**
ECOL				Pg		**Pb**	**12 47 56.9**	**+1.8**
ECOL				Sg		**Sb**	**12 48 40.8**	**+4.1**
ECHE	**Chera**	**3.64**	**185**	Pn		**Pn**	**12 47 50.2**	**+0.6**
ECHE				Pg		Pb	**12 47 59.3**	**+1.0**
ECHE				Sg		**Sb**	**12 48 43.2**	**+1.2**
ECHE	**Chera**	**3.64**	**185**	Pn		**Pn**	**12 47 50.2**	**+0.6**
ECHE				Sg		**Sb**	**12 48 44.5**	**+2.5**
ECHE				*i* Vmb_Lg			12 48 55.1	
TCF	**Toulx Ste Croi**	**3.66**	**32**	*e*Pn		**Pn**	**12 47 49.9**	**+0.1**
TCF	**Toulx Ste Croi**	**3.66**	**32**	*e*Pg		Pb	12 48 04.9	+6.3
TCF				*e*Sn		**Sn**	**12 48 31.8**	**-0.5**
TCF				*e*Sg		Sb	12 48 52.9	+10
	56nm,0.2s							
GUD	**Guadarrama**	**3.70**	**227**	Pn		**Pn**	**12 47 51.9**	**+1.4**
GUD				Sn		**Sn**	**12 48 32.8**	**-0.6**
COLF	**Collangettes**	**3.84**	**52**	Pn		**Pn**	**12 47 54.8**	**+2.5**
EVIV	**Cofrentes, Val**	**3.97**	**186**	Pn		**Pn**	**12 47 54.5**	**+0.4**
EVIV				Pg		**Pb**	**12 48 04.9**	**+1.0**
EVIV				Sg		**Sb**	**12 48 56.4**	**+4.8**
EVIV				*i* Vmb_Lg			12 49 03.4	
BGF	**Bois d'Agland**	**4.13**	**35**	*e*Pn		**Pn**	**12 47 56.4**	**+0.1**
BGF	**Bois d'Agland**	**4.13**	**35**	*e*Pg		Pb	12 48 13.6	+6.9
BGF				*e*Sn		**Sn**	**12 48 43.3**	**-0.7**
BGF				*e*Sg		Sb	12 49 07.3	+11
	288nm,0.5s							
VIVF	**Saint-Julien-l**	**4.13**	**65**	*e*Pn		**Pn**	**12 47 56.7**	**+0.3**
VIVF	**Saint-Julien-l**	**4.13**	**65**	*e*Pg		Pb	12 48 13.1	+6.4
VIVF				*e*Sn		**Sn**	**12 48 42.6**	**-1.4**
VIVF				*e*Sg		Sb	12 49 07.5	+11
	10nm,0.2s							
SSB	**Saint Sauveur**	**4.22**	**59**	Pn		**Pn**	**12 48 00.2**	**+2.6**
SSB				Sn		**Sn**	**12 48 47.9**	**+1.7**
ETOS	**Mallorca**	**4.30**	**142**	Sn		**Sn**	**12 48 46.6**	**-1.4**
ETOS				Pn		**Pn**	**12 47 59.3**	**+0.7**
ETOS	**Mallorca**	**4.30**	**142**	Pn		**Pn**	**12 47 60.0**	**+1.4**
ETOS				Sn		**Sn**	**12 48 48.2**	**+0.2**
ESDC	**Sonseca Array**	**4.36**	**217**	Pn		**Pn**	**12 47 59.0**	**+0.2**
ESDC				Sn		**Sn**	**12 48 47.9**	**-1.5**
ESDC				Sg		**Sb**	**12 49 08.2**	**+5.6**
ESDC				*i* Vmb_Lg			12 49 13.1	
EIBI	**Ibiza**	**4.44**	**160**	Pn		**Pn**	**12 48 01.1**	**+

MVO					A	A	12 49 39.5	
	44nm,0.7s							
CLF	**Chambon-Foret**	**5.20**	**22**	Sn	**Sn**	**12 49 09.9**	**-0.3**	
CLF				Sg	Sb	12 49 43.9	+17	
SGMF	**Saint Gilles**	**5.22**	**345**	*e*Pn	**Pn**	**12 48 12.1**	**+0.9**	
SGMF	**Saint Gilles**	**5.22**	**345**	*e*Pg	Pb	12 48 33.3	+8.2	
SGMF				*e*Sn	**Sn**	**12 49 08.5**	**-2.0**	
SGMF				*e*Sg	Sb	12 49 40.9	+14	
	14nm,0.3s							
SALSA	**La sagne**	**5.34**	**80**	Pn	**Pn**	**12 48 15.2**	**+2.2**	
LDF	**La Druitiere**	**5.38**	**3**	*e*Pn	**Pn**	**12 48 14.2**	**+0.8**	
LDF	**La Druitiere**	**5.38**	**3**	*e*Pg	Pb	12 48 35.9	+8.0	
LDF				*e*Sn	**Sn**	**12 49 11.8**	**-2.8**	
LDF				*e*Sg	Sb	12 49 45.9	+14	
	59nm,0.6s							
EMUR	**La Murta**	**5.40**	**185**	Pn	**Pn**	**12 48 13.9**	**+0.2**	
EMUR	**La Murta**	**5.40**	**185**	Pn	**Pn**	**12 48 14.5**	**+0.8**	
EMUR				Sn	**Sn**	**12 49 12.2**	**-2.9**	
EMUR				Sg	**Sb**	**12 49 39.4**	**+6.9**	
EMUR				*i* Vmb_Lg		12 49 53.6		
EZAR	**Zarzadilla de**	**5.41**	**189**	Pn	**Pn**	**12 48 15.5**	**+1.6**	
EZAR				Sn	**Sn**	**12 49 12.3**	**-3.2**	
EZAR				Sg	**Sb**	**12 49 40.8**	**+7.9**	
EZAR				*i* Vmb_Lg		12 49 55.2		
ENAUX	**Enaux**	**5.42**	**78**	Pn	**Pn**	**12 48 16.2**	**+2.1**	
ROSF	**Rostrenen**	**5.45**	**341**	*e*Pn	**Pn**	**12 48 14.4**	**+0.1**	
ROSF				*e*Sn	**Sn**	**12 49 12.9**	**-3.3**	
ROSF				*e*Sg	Sb	12 49 48.1	+14	
	21nm,0.3s							
ROSF	**Rostrenen**	**5.45**	**341**	Pn	**Pn**	**12 48 16.2**	**+1.9**	
JAUF	**Jausiers**	**5.45**	**75**	Pn	**Pn**	**12 48 17.0**	**+2.4**	
CALF	**Calern**	**5.50**	**82**	Pn	**Pn**	**12 48 17.6**	**+2.5**	
SURF	**Saint Ours**	**5.50**	**74**	Pn	**Pn**	**12 48 17.3**	**+2.0**	
EAGO	**Agolada(Pontev**	**5.51**	**268**	Pn	**Pn**	**12 48 15.9**	**+0.7**	
EAGO				Sn	**Sn**	**12 49 16.9**	**-1.0**	
EAGO				*i* Vmb_Lg		12 50 07.1		
MBDF	**Montbardon**	**5.53**	**72**	*e*Pn	**Pn**	**12 48 17.1**	**+1.5**	
MBDF				*e*Sn	**Sn**	**12 49 15.2**	**-3.2**	
	4.7nm,0.4s							
FLN	**La Foliniere**	**5.54**	**1**	*e*Pn	**Pn**	**12 48 15.8**	**+0.2**	
FLN	**La Foliniere**	**5.54**	**1**	*e*Pg	Pb	12 48 38.9	+8.3	
FLN				*e*Sn	**Sn**	**12 49 15.9**	**-2.7**	
FLN				*e*Sg	Sb	12 49 50.3	+14	
	14nm,0.3s							
BNI	**Bardonecchia**	**5.55**	**68**	Pn	**Pn**	**12 48 19.4**	**+3.5**	
BNI				Sn	**Sn**	**12 49 19.6**	**+0.7**	
ISO	**Isola**	**5.63**	**78**	Pn	**Pn**	**12 48 19.2**	**+2.3**	
PVRL	**Vila Real**	**5.63**	**252**	*e*Pn	**Pn**	**12 48 17.8**	**+0.9**	
PVRL				*e*Sn	**Sn**	**12 49 17.9**	**-3.0**	
PVRL				*e*Sg	**Sb**	**12 49 46.5**	**+7.3**	
PVRL				A	A	12 49 57.6		
	25nm,0.6s							
CART	**Cartagena**	**5.64**	**183**	Pn	**Pn**	**12 48 17.5**	**+0.5**	
ELOB	**Lobios**	**5.68**	**259**	Sn	**Sn**	**12 49 21.6**	**-0.5**	
ELOB				Sg	Sb	12 49 50.5	+10	
PCAB	**Cabril**	**5.70**	**257**	*e*Pn	**Pn**	**12 48 18.9**	**+1.0**	
PCAB				*e*Sn	**Sn**	**12 49 21.9**	**-0.7**	
PCAB				A	A	12 49 50.5		
	18nm,0.4s							
PZZ	**Stroppo**	**5.72**	**74**	Pn	**Pn**	**12 48 20.7**	**+2.4**	
RSL	**Roselend**	**5.73**	**62**	Pn	**Pn**	**12 48 20.3**	**+2.0**	
EQES	**Quesada**	**5.73**	**200**	Pn	**Pn**	**12 48 19.1**	**+0.7**	
EQES				Sg	**Sb**	**12 49 49.4**	**+7.1**	
EQES				*i* Vmb_Lg		12 50 06.3		
SPIF	**crte de Spivo**	**5.75**	**79**	Pn	**Pn**	**12 48 20.4**	**+1.8**	
PGAV	**Gavieira, Arco**	**5.80**	**260**	*e*Sn	**Sn**	**12 49 24.7**	**-0.5**	
PGAV				A	A	12 50 01.1		
	12nm,0.5s							
CABF	**La Chapelle**	**5.83**	**52**	*e*Pn	**Pn**	**12 48 21.1**	**+1.4**	
CABF	**La Chapelle**	**5.83**	**52**	*e*Pg	Pb	12 48 45.2	+10	
CABF				*e*Sn	**Sn**	**12 49 24.0**	**-1.8**	
CABF				*e*Sg	Sb	12 50 01.0	+16	
	12nm,0.4s							
SBF	**Sospel**	**5.87**	**81**	*e*Pn	**Pn**	**12 48 21.1**	**+0.8**	
SBF				*e*Sn	**Sn**	**12 49 24.1**	**-2.8**	
	11nm,0.5s							
SBF				*e*Sg	Sb	12 50 01.5	+15	
	11nm,0.3s							
EADA	**Adamuz**	**5.89**	**212**	Sn	**Sn**	**12 49 22.8**	**-4.3**	
EADA				Pn	**Pn**	**12 48 20.3**	**-0.1**	
EADA	**Adamuz**	**5.89**	**212**	Pn	**Pn**	**12 48 21.6**	**+1.2**	
EADA				Sn	**Sn**	**12 49 21.5**	**-5.7**	
EADA				Sg	Sb	12 49 59.0	+12	
EADA				*i* Vmb_Lg		12 50 09.5		
MTE	**Manteigas**	**5.91**	**244**	*e*Sg	**Sb**	**12 49 54.2**	**+7.0**	
MTE				A	A	12 50 04.9		
	29nm,0.7s							
SAOF	**Saorge**	**5.97**	**80**	Pn	**Pn**	**12 48 23.5**	**+2.0**	
PVIS	**Viseu**	**5.99**	**248**	*e*Pn	**Pn**	**12 48 23.4**	**+1.5**	
PVIS				*e*Sn	**Sn**	**12 49 28.6**	**-1.1**	
PVIS				A	A	12 50 14.5		
	16nm,0.6s							
JSA	**Saint Aubin**	**6.07**	**350**	Pn	**Pn**	**12 48 23.3**	**+0.5**	
JSA				Sn	**Sn**	**12 49 26.9**	**-4.5**	
PCBR	**Castelo Branco**	**6.17**	**239**	*e*Pn	**Pn**	**12 48 24.8**	**+0.5**	
PCBR				*e*Sn	**Sn**	**12 49 30.6**	**-3.5**	
PCBR				*e*Sg	Sb	12 50 04.9	+10	
PCBR				A	A	12 50 15.3		
	12nm,0.6s							
ECAB	**El Cabril**	**6.32**	**217**	Sn	**Sn**	**12 49 32.6**	**-5.1**	
ECAB				Pn	**Pn**	**12 48 26.6**	**+0.3**	
ECAB	**El Cabril**	**6.32**	**217**	Pn	**Pn**	**12 48 26.6**	**+0.3**	
ECAB				Sn	**Sn**	**12 49 33.5**	**-4.2**	
ECAB				Sg	Sb	12 50 14.8	+16	
ECAB				*i* Vmb_Lg		12 50 25.9		
SFTF	**Sexfontaines**	**6.35**	**36**	*e*Pn	**Pn**	**12 48 27.9**	**+1.1**	
SFTF				*e*Sn	**Sn**	**12 49 36.0**	**-2.6**	
SFTF				*e*Sg	Sb	12 50 16.1	+16	
	18nm,0.4s							
ENIJ	**Nijar**	**6.37**	**192**	Pn	**Pn**	**12 48 27.9**	**+0.9**	
PMRV	**Marv??o**	**6.37**	**236**	*e*Pn	**Pn**	**12 48 27.4**	**+0.4**	
PMRV				*e*Sn	**Sn**	**12 49 35.0**	**-4.0**	
PMRV				A	A	12 50 17.3		
	14nm,0.6s							
EQTA	**Presa de Quent**	**6.39**	**201**	Sn	**Sn**	**12 49 35.8**	**-3.9**	
EQTA				Pn	**Pn**	**12 48 28.8**	**+1.4**	
EQUE	**Quentar**	**6.39**	**201**	Pn	**Pn**	**12 48 29.5**	**+2.0**	
EQUE				Sn	**Sn**	**12 49 37.2**	**-2.5**	
EQUE				Sg	Sb	12 50 13.1	+12	
EQUE				*i* Vmb_Lg		12 50 26.0		
SENIN	**Lac Senin/Sane**	**6.43**	**58**	Pn	**Pn**	**12 48 31.0**	**+2.9**	
SENIN				Sn	**Sn**	**12 49 41.5**	**+0.6**	
SENIN				Sg	Sb	12 50 23.3	+21	
EBER	**Berja**	**6.56**	**196**	Pn	**Pn**	**12 48 30.5**	**+0.7**	
EBER	**Berja**	**6.56**	**196**	Pn	**Pn**	**12 48 32.5**	**+2.7**	
EBER				Sn	**Sn**	**12 49 42.4**	**-1.5**	
EBER				Sg	Sb	12 50 18.3	+12	
MEZF	**Maizieres J'vi**	**6.59**	**35**	*e*Pn	**Pn**	**12 48 30.7**	**+0.7**	
MEZF	**Maizieres J'vi**	**6.59**	**35**	*e*Pg	Pb	12 48 58.5	+10	
MEZF				*e*Sn	**Sn**	**12 49 41.7**	**-2.6**	
MEZF				*e*Sg	Sb	12 50 24.2	+18	
	35nm,0.5s							
EBAD	**Badajoz**	**6.59**	**230**	Sn	**Sn**	**12 49 40.1**	**-4.4**	
EGOR	**Sierra Gorda,**	**6.67**	**205**	Pn	**Pn**	**12 48 32.7**	**+1.4**	
EGOR	**Sierra Gorda,**	**6.67**	**205**	Pn	**Pn**	**12 48 33.5**	**+2.2**	
EGOR				Sn	**Sn**	**12 49 45.9**	**-0.8**	
EGOR				*i* Vmb_Lg		12 50 37.4		
ELGU	**Los Guajares,**	**6.76**	**201**	Pn	**Pn**	**12 48 33.5**	**+1.0**	
ELGU	**Los Guajares,**	**6.76**	**201**	Pn	**Pn**	**12 48 34.2**	**+1.8**	
ELGU				Sn	**Sn**	**12 49 49.4**	**+0.7**	
ELGU				Sg	Sb	12 50 31.6	+20	
ELGU				*i* Vmb_Lg		12 50 46.2		
HAU	**Haudompre**	**6.82**	**43**	*e*Pn	**Pn**	**12 48 34.8**	**+1.5**	
HAU	**Haudompre**	**6.82**	**43**	*e*Pg	Pb	12 49 03.8	+11	
HAU				*e*Sg	Sb	12 50 31.6	+18	
	6.6nm,0.3s							
PESTR	**Estremoz**	**6.85**	**233**	*e*Pn	**Pn**	**12 48 33.8**	**+0.2**	
PESTR				*e*Sn	**Sn**	**12 49 46.1**	**-4.7**	
PESTR				A	A	12 50 46.8		
	9.2nm,0.7s							
PESTR	**Estremoz**	**6.85**	**233**	Pn	**Pn**	**12 48 33.6**	**0.0**	
PAGF	**Fort de Pagny**	**6.92**	**37**	*e*Sg	Sb	12 50 35.2	+19	
	29nm,0.5s							
HINF	**Hinteralfeld**	**6.96**	**46**	*e*Pn	**Pn**	**12 48 36.1**	**+0.9**	
HINF				*e*Sn	**Sn**	**12 49 51.3**	**-2.3**	
HINF				*e*Sg	Sb	12 50 35.9	+18	
	2.5nm,0.2s							
FIESA	**Fiescheralp**	**6.97**	**60**	Pn	**Pn**	**12 48 39.1**	**+3.5**	
PBAR	**Barrancos**	**7.03**	**226**	*e*Pn	**Pn**	**12 48 36.5**	**+0.5**	
PBAR				*e*Sn	**Sn**	**12 49 51.3**	**-3.9**	
PBAR				A	A	12 50 53.3		
	12nm,0.9s							
PBAR	**Barrancos**	**7.03**	**226**	Sn	**Sn**	**12 49 49.8**	**-5.4**	
PBAR				Pn	**Pn**	**12 48 36.2**	**+0.1**	
PGF	**Pioggiola**	**7.08**	**92**	*e*Pn	**Pn**	**12 48 36.4**	**-0.5**	
PGF				*e*Sn	**Sn**	**12 49 52.3**	**-4.4**	
	10nm,0.3s							
PMTG	**Montargil**	**7.10**	**237**	*e*Pn	**Pn**	**12 48 37.6**	**+0.6**	
PMTG				*e*Sn	**Sn**	**12 49 53.3**	**-3.6**	
PMTG				*e*Sg	Sb	12 50 36.6	+15	
PMTG				A	A	12 50 55.2		
	12nm,0.5s							
PSBE	**So Bento**	**7.19**	**242**	*e*Pn	**Pn**	**12 48 39.8**	**+1.4**	
EVO	**Evora**	**7.32**	**233**	*e*Pn	**Pn**	**12 48 40.3**	**+0.3**	
EVO	**Evora**	**7.32**	**233**	Pn	**Pn**	**12 48 39.7**	**-0.3**	
CDF	**Champ du Feu**	**7.56**	**44**	*e*Sg	Sb	12 50 55.6	+21	
	6.6nm,0.3s							
DYA	**Yadsworthy**	**7.57**	**344**	Pn	**Pn**	**12 48 43.6**	**+0.2**	
DYA				Sn	**Sn**	**12 50 01.4**	**-7.0**	
CCA1	**Carnmenellis**	**7.66**	**337**	Pn	**Pn**	**12 48 46.6**	**+1.9**	
CCA1				Sn	**Sn**	**12 50 07.3**	**-3.3**	
EJIF	**Jimena Fronter**	**7.73**	**211**	Pn	**Pn**	**12 48 48.0**	**+2.3**	
EJIF				Sn	**Sn**	**12 50 15.2**	**+2.7**	
EGRO	**El Granado**	**7.74**	**225**	Pn	**Pn**	**12 48 45.6**	**-0.2**	
EGRO	**El Granado**	**7.74**	**225**	Pn	**Pn**	**12 48 45.7**	**-0.2**	
EGRO				Sn	**Sn**	**12 50 08.8**	**-3.9**	
EGRO				*i* Vmb_Lg		12 51 11.3		
DOU	**Dourbes**	**7.75**	**26**	Pn	**Pn**	**12 48 47.1**	**+1.3**	
DOU				Sn	**Sn**	**12 50 13.4**	**+0.6**	
PMAFR	**Mafra**	**7.82**	**240**	Pn	**Pn**	**12 48 47.6**	**+0.7**	
GIVF	**Givet**	**7.82**	**27**	*e*Pn	**Pn**	**12 48 47.6**	**+0.7**	
GIVF	**Givet**	**7.82**	**27**	*e*Pg	Pb	12 49 21.3	+12	
GIVF				*e*Sn	**Sn**	**12 50 11.6**	**-3.1**	
	9.9nm,0.4s							
PNCL	**Nicolau / Gran**	**7.90**	**232**	*e*Pn	**Pn**	**12 48 48.7**	**+0.7**	
PNCL				*e*Sn	**Sn**	**12 50 12.2**	**-4.4**	
PNCL	**Nicolau / Gran**	**7.90**	**232**	Sn	**Sn**	**12 50 11.7**	**-4.9**	
PNCL				Pn	**Pn**	**12 48 48.5**	**+0.5**	
PVAQ	**Vaqueiros**	**7.96**	**225**	*e*Pn	**Pn**	**12 48 48.5**	**-0.3**	
PVAQ				*e*Sn	**Sn**	**12 50 12.2**	**-5.9**	
PVAQ				A	A	12 50 19.5		
	5.9nm,0.7s							
PVAQ	**Vaqueiros**	**7.96**	**225**	Pn	**Pn**	**12 48 48.2**	**-0.7**	
PVAQ				Sn	**Sn**	**12 50 11.5**	**-6.7**	
PCVE	**Castro Verde**	**7.96**	**228**	Sn	**Sn**	**12 50 13.2**	**-4.9**	
PCVE				Pn	**Pn**	**12 48 48.5**	**-0.3**	
HTL	**Hartland**	**8.21**	**343**	Pn	**Pn**	**12 48 52.9**	**+0.6**	
HTL				Sn	**Sn**	**12 50 23.8**	**-0.5**	
VSL	**Villasalto**	**8.37**	**113**	Pn	**Pn**	**12 48 57.2**	**+2.6**	
VSL				Sn	**Sn**	**12 50 30.6**	**+2.2**	
MORF	**Marmelete**	**8.53**	**229**	*e*Pn	**Pn**	**12 48 56.5**	**-0.3**	
MCH1	**Michaelchurch**	**8.93**	**350**	Pn	**Pn**	**12 49 01.4**	**-0.7**	
MCH1				Sn	**Sn**	**12 50 38.6**	**-3.2**	

*KRNET **14** 12:54:48.6±0.1, 43.66N×69.64E, mb3.0*
*SOME **14** 12:54:49.4, 43.42N×69.47E*
*NNC **14** 12:54:50.8±1.5, 43.75N×69.94E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=8.8km s-min=6.1km az=113.0, Suspected Mining explosion.*

ISC 14 12:54:48.2±1.8, 43.65N±0.06×69.49E±0.09, h0km, n18, σ1§12/27, 10C-9D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.67**	**158**	*e*P		**Pn**	**12 55 05.6**	**+0.6**
	baz=73							
BRLS				*e*S		**Sn**	**12 55 17.5**	**+1.4**
	baz=73							
KK31	**Karatay Array**	**0.92**	**126**	⇑P		**Pg**	**12 55 05.2**	**-0.7**
	2.1nm,0.3s,baz=325,slow=18,SNR=142							
KK31				S		**Sg**	**12 55 16.6**	**-1.2**
	18nm,0.4s,baz=331,slow=30,SNR=104							
KKAR	**Karatay Array**	**0.92**	**126**	⇓*e*P		**Pg**	**12 55 04.6**	**-1.3**
	baz=31							
KKAR				⇓*e*S		**Sg**	**12 55 16.7**	**-1.1**
	baz=31							
TRKS	**Terek-Say**	**2.44**	**150**	⇑*e*P		**Pb**	**12 55 32.2**	**-0.9**
	baz=52							
TRKS				⇑*e*S		**Sb**	**12 56 04.3**	**+0.5**
	baz=52							
MNAS	**Manas**	**2.49**	**117**	⇓*e*P		**Pn**	**12 55 30.8**	**+0.6**
	baz=18							
MNAS				⇓*e*S		**Sn**	**12 56 02.0**	**+0.6**
	baz=18							
ARK	**Arkit**	**2.59**	**135**	⇑*e*P		**Pn**	**12 55 32.7**	**+1.1**
	baz=36							
ARK				⇑*e*S		**Sn**	**12 56 05.3**	**+1.4**
	baz=36							
MRKS	**Merke**	**2.88**	**107**	Pg		**Pb**	**12 55 40.2**	**-0.3**
	5.9nm,0.6s							
MRKS				Lg		Lg	12 56 17.1	
	11nm,0.5s							
EKS2	**Erkin-Say**	**3.29**	**106**	⇑*e*P		**Pn**	**12 55 41.5**	**+0.4**
	baz=7.0							
EKS2				⇑*e*S		**Sn**	**12 56 20.6**	**-0.4**
	baz=7.0							
AAK	**Ala-Archa**	**3.80**	**104**	⇑*e*P		**Pn**	**12 55 48.5**	**+0.3**
	baz=4.0							
AAK				⇑*e*S		**Sn**	**12 56 32.8**	**-0.8**
	baz=4.0							
CHMS	**Chumysh**	**3.89**	**98**	⇑Pg		**Pb**	**12 55 56.9**	**-0.9**
	4.0nm,0.6s							
CHMS				⇓Lg		Lg	12 56 46.9	
	6.1nm,0.9s							
UCH	**Uchtor**	**3.95**	**109**	⇓*e*P		**Pn**	**12 55 51.0**	**+0.5**
	baz=10.0							
UCH				⇓*e*S		**Sn**	**12 56 37.0**	**-0.8**
	baz=10.0							
KRBS	**Karabastau**	**4.49**	**87**	Pg		**Pb**	**12 56 07.7**	**-0.2**
	5.8nm,0.5s							
KRBS				Lg		Lg	12 57 04.2	
	3.0nm,0.3s							
TKM2	**Tokmak 2**	**4.52**	**97**	⇓Pg		**Pb**	**12 56 08.6**	**+0.1**
	3.1nm,0.7s							
TKM2				⇓Lg		Lg	12 57 04.2	
	2.0nm,0.3s							
DGS	**Degeres**	**4.59**	**93**	Pg		**Pb**	**12 56 10.5**	**+0.8**
	4.1nm,0.7s							
DGS				Lg		Lg	12 57 09.8	
	8.3nm,0.9s							
KST	**Kastek**	**4.76**	**95**	Pg		**Pb**	**12 56 14.6**	**+2.0**
	2.9nm,0.6s							
KST				Lg		Lg	12 57 15.8	
	8.1nm,0.7s							
OTUK	**Ortayu**	**5.01**	**22**	Pg		**Pb**	**12 56 16.3**	**-0.5**
	0.6nm,0.5s							
OTUK				Lg		Lg	12 57 19.5	
	1.8nm,0.5s							
KTBS	**Karatobe**	**5.22**	**87**	Pg		**Pb**	**12 56 23.0**	**+2.7**
	4.4nm,0.6s							
KTBS				Lg		Lg	12 57 30.8	
	5.8nm,0.7s							
TNSS	**Tian-Shan**	**5.47**	**94**	Pg		**Pb**	**12 56 26.7**	**+1.8**
	1.6nm,0.5s							
TNSS				Lg		Lg	12 57 36.7	
	2.7nm,0.5s							

*IDC **14** 12:58:13.8±0.9, 15.29S×178.19W, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=47.1km s-min=24.8km az=132.0*

ISC 14 12:58:19.2±1.0, 15.3S±0.3×178.2W±0.3, h35km, n6, σ1§33/6, mb3.9/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.72**	**252**	P		**P**	**13 06 38.0**	**+0.6**
	1.7nm,0.5s,baz=84,slow=8.6,SNR=57							
	1.7nm,0.5s							
QSPA	**South Pole Qui**	**74.78**	**180**	P		**P**	**13 09 55.1**	**-0.6**
	2.2nm,0.7s,baz=325,slow=1.0,SNR=14							
	2.2nm,0.7s							
NVAR	**Mina Array Bea**	**77.41**	**44**	P		**P**	**13 10 12.6**	**+1.4**
	0.7nm,0.7s,baz=223,slow=7.9,SNR=6.6							
	0.7nm,0.7s							
ILAR	**Eielson Array**	**83.28**	**13**	P		**P**	**13 10 40.5**	**-1.4**
	1.2nm,0.8s,baz=226,slow=5.3,SNR=9.5							
	1.2nm,0.8s							
TXAR	**Lajitas Array**	**84.45**	**58**	P		**P**	**13 10 49.5**	**+0.7**
	0.4nm,0.8s,baz=190,slow=2.7,SNR=3.9							
	0.4nm,0.8s							
PDAR	**Pinedale Array**	**85.33**	**43**	P		**P**	**13 10 52.6**	**-0.5**
	0.3nm,0.6s,baz=214,slow=2.8,SNR=4.8							
	0.3nm,0.6s							

*ASIES **14** 13:03:39.1, 24.15N×121.83E, h6km, ML4.2, Mw3.9, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; Mrr0.50; Mθθ-1.02; Mφφ0.12; Mrθ0.27; Mrφ-0.04; Mθφ-0.44; Fault plane solution: $M_0$0.95950×10^{22} NP1: φs116.74000°, δ62.35000°, λ125.75000°. NP2: φs239.55000°, δ44.04000°, λ41.89000°. Principal axes: T Plg56.7740°, Azm75.6720°; N Plg31.1640°, Azm278.2610°; P Plg10.3750°, Azm181.9030°;*
*TAP **14** 13:03:39.1, 24.15N×121.83E, h6km, ML4.2, C*
*JMA **14** 13:03:40.1±0.1, 24.1N±0.4×121.8E±0.6, h9km±1km, MV4.0/19, TAIWAN REGION*
*NIED **14** 13:03:40.1, 24.11N×121.78E, h9km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; Mrr0.08; Mθθ-1.08; Mφφ0.99; Mrθ-0.97; Mrφ-0.07; Mθφ-0.71; Fault plane solution: $M_0$1.58000×10^{15} NP1: φs227.00000°, δ89.00000°, λ49.00000°. NP2: φs135.00000°, δ41.00000°, λ178.00000°.*
*IDC **14** 13:03:45.3±2.9, 24.10N×121.93E, h46km±29km, mb3.5/9, mbtmp3.8/12, ML3.3/3, MS3.5/10 Error ellipse: s-maj=24.5km s-min=18.9km az=70.0*

ISC 14 13:03:40.3±1.0, 24.14N±0.01×121.84E±0.02, h4km±7km, n196, σ1§11/329, mb3.8/10, MS3.4/8, 3C-29D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.19**	**332**	P		**Pg**	**13 03 43.5**	**-0.5**
	baz=330							
EHP				S		**Sg**	**13 03 46.8**	**+0.3**
	baz=330							
ETL	**Fush Village**	**0.20**	**274**	P		**Pg**	**13 03 43.6**	**-0.6**
	baz=286							
ETL				*e*S		**Sg**	**13 03 47.6**	**+0.8**
	baz=286							
EAHA	**Aohua**	**0.20**	**334**	⇓P		**Pg**	**13 03 43.8**	**-0.6**
	baz=330							
EAHA				S		**Sg**	**13 03 47.1**	**+0.1**
	baz=330							
NACB	**Ninganchiao**	**0.23**	**278**	P		**Pg**	**13 03 44.0**	**-0.7**
NACB	**Ninganchiao**	**0.23**	**278**	⇑P		**Pg**	**13 03 43.9**	**-0.7**
	baz=279							
NACB				S		**Sg**	**13 03 47.5**	**-0.2**
	baz=279							
TWD	**Chiawan**	**0.23**	**254**	⇑*i*P		**Pg**	**13 03 44.2**	**-0.6**
	baz=265							
TWD				*e*S		**Sg**	**13 03 48.1**	**+0.3**
	baz=265							
HWA	**Hwalien**	**0.27**	**232**	*i* P		**Pb**	**13 03 46.6**	**-1.2**
	baz=247							
HWA				*e*S		**Sb**	**13 03 51.3**	**-1.4**
	baz=247							
ENA	**Nanau**	**0.30**	**342**	⇓*i*P		**Pg**	**13 03 45.5**	**-0.6**
	baz=341							
ENA				*i* S		**Sg**	**13 03 50.0**	**+0.1**
	baz=341							
EWUT	**Wuta**	**0.30**	**350**	⇓P		**Pg**	**13 03 45.8**	**-0.4**
	baz=338							
EWUT				*i* S		**Sg**	**13 03 50.7**	**+0.5**
	baz=338							
ETLH	**Xiulin Townshi**	**0.33**	**281**	⇑P		**Pg**	**13 03 46.1**	**-0.7**
	baz=281							
ETLH				S		**Sg**	**13 03 50.9**	**-0.2**
	baz=281							
LXIB	**Xiulin Townshi**	**0.41**	**253**	P		**Pg**	**13 03 47.6**	**-0.6**
	baz=255							
LXIB				S		**Sb**	**13 03 54.8**	**-2.0**
	baz=255							
ESAO	**Su ao**	**0.43**	**1**	P		**Pg**	**13 03 48.2**	**-0.4**
	baz=349							
ESAO				S		**Sg**	**13 03 54.5**	**+0.3**
	baz=349							
SHUL	**Shoufeng**	**0.44**	**215**	P		**Pb**	**13 03 49.9**	**-0.7**
	baz=220							
SHUL				*e*S		**Sb**	**13 03 57.3**	**-0.1**
	baz=220							
TWC	**Suao**	**0.46**	**1**	⇓*i*P		**Pg**	**13 03 48.8**	**-0.4**
	baz=350							
TWC				*i* S		**Sg**	**13 03 55.5**	**+0.3**
	baz=350							
LATG	**Datong**	**0.48**	**324**	⇓P		**Pg**	**13 03 49.0**	**-0.6**
	baz=321							
LATG				*e*S		**Sg**	**13 03 56.4**	**+0.5**
	baz=321							
ESL	**Shilin**	**0.50**	**229**	*i* P		**Pg**	**13 03 49.6**	**-0.3**
	baz=243							
ESL				S		**Sb**	**13 03 58.3**	**-0.9**
	baz=243							
NDS	**Dongshan**	**0.50**	**347**	⇓P		**Pg**	**13 03 49.6**	**-0.4**
	baz=341							
NDS				S		**Sg**	**13 03 57.1**	**+0.7**
	baz=341							
NNSB	**Datong**	**0.50**	**304**	⇓P		**Pg**	**13 03 49.5**	**-0.6**
	baz=304							
NNSB				S		**Sg**	**13 03 56.3**	**-0.3**
	baz=304							
NNSH	**Datong**	**0.50**	**304**	P		**Pg**	**13 03 49.5**	**-0.5**
	baz=303							
NNSH				S		**Sg**	**13 03 56.6**	**0.0**
	baz=303							
NNS	**Nan Shan**	**0.52**	**305**	*i* P		**Pg**	**13 03 49.7**	**-0.6**
	baz=304							
NNS				*i* S		**Sg**	**

NWLT					S		Sg	13 04 03.1	+0.2
	baz=331								
EGS		0.70	7	*i*	P		Pg	13 03 53.9	+0.1
	baz=3.0								
EGS					*e*S		Sb	13 04 03.5	-1.6
	baz=3.0								
NTC	**Toucheng**	0.71	359		*e*P		Pb	13 03 54.3	-0.9
	baz=342								
NTC					S		Sb	13 04 05.2	-0.1
	baz=342								
VWDT	**VWDT**	0.75	239	⇓	P		Pg	13 03 54.7	0.0
	baz=252								
VWDT					*e*S		Sb	13 04 06.9	+0.5
	baz=252								
HGSD	**Ruisui**	0.75	210	⇓	P		Pb	13 03 55.1	-0.8
	baz=214								
HGSD					*e*S		Sn	13 04 07.4	-2.1
	baz=214								
EHYH	**Wanrong**	0.79	215		P		Pg	13 03 55.1	-0.3
	baz=234								
EHYH					*e*S		Sb	13 04 08.0	+0.3
	baz=234								
EHY	**Hungye**	0.79	217	⇓	*i*P		Pg	13 03 54.8	-0.8
	baz=234								
EHY					*e*S		Sb	13 04 07.7	0.0
	baz=234								
NFF	**Wufeng Townshi**	0.82	307	⇓	P		Pg	13 03 55.8	-0.3
	baz=306								
NFF					S		Sb	13 04 08.5	0.0
	baz=306								
WPL	**Puli Township**	0.82	261		P		Pb	13 03 56.4	-0.7
	baz=263								
WPL					S		Sb	13 04 08.6	+0.2
	baz=263								
TIPB	**Shuangxi**	0.82	359	*i*	P		Pg	13 03 55.9	-0.2
	baz=342								
TIPB					S		Sb	13 04 07.5	-1.2
	baz=342								
WHP	**Taichung City**	0.83	279		P		Pg	13 03 56.2	0.0
	baz=281								
WHP					S		Sb	13 04 08.1	-0.7
	baz=281								
DPDB	**Guoxing**	0.84	263		P		Pg	13 03 56.5	0.0
	baz=265								
DPDB					S		Sb	13 04 08.1	-1.1
	baz=265								
WCS	**Beigang Elemen**	0.85	264	⇓	P		Pb	13 03 56.8	-0.8
	baz=267								
WCS					S		Sb	13 04 08.2	-1.2
	baz=267								
TWA	**Mucha**	0.86	344	⇓	*i*P		Pg	13 03 56.7	-0.2
	baz=328								
TWA					*i* S		Sb	13 04 09.9	+0.1
	baz=328								
TWB1	**Santiao Chiao**	0.87	9	*i*	P		Pg	13 03 57.0	0.0
	baz=354								
TWB1					*e*S		Sb	13 04 08.8	-1.2
	baz=354								
SSLB	**Suanglung**	0.88	246		P		Pg	13 03 56.9	-0.4
SSLB	**Suanglung**	0.88	246		P		Pg	13 03 56.8	-0.5
	baz=260								
SSLB					S		Sb	13 04 09.8	-0.6
	baz=260								
TATO	**Taipei**	0.89	339		P		Pb	13 03 57.5	-0.8
TATO	**Taipei**	0.89	339	⇓	P		Pg	13 03 57.1	-0.2
	baz=334								
TATO					S		Sb	13 04 09.3	-1.2
	baz=334								
SMLT	**Sun Moon Lake**	0.90	253	*i*	P		Pg	13 03 57.3	-0.3
	baz=256								
SMLT					S		Sb	13 04 11.0	+0.2
	baz=256								
ECBN	**Changbin**	0.90	203		P		Pg	13 03 57.5	0.0
	baz=189								
ECBN					*e*S		Sn	13 04 12.1	-1.0
	baz=189								
YULB	**Yu-li**	0.90	214		P		Pg	13 03 56.6	-0.9
YULB	**Yu-li**	0.90	214		P		Pg	13 03 56.4	-1.2
	baz=232								
YULB					*e*S		Sb	13 04 11.0	+0.2
	baz=232								
LIOB	**Emei**	0.90	304	*i*	P		Pb	13 03 57.9	-0.6
	baz=303								
LIOB					*i* S		Sb	13 04 10.2	-0.7
	baz=303								
NJD	**Zhudong**	0.90	311		P		Pn	13 03 58.5	-1.3
	baz=309								
NJD					*e*S		Sn	13 04 11.3	-2.0
	baz=309								
NSTT	**Nanjuang**	0.91	303	⇓	*i*P		Pb	13 03 57.8	-0.8
	baz=302								
NSTT					S		Sn	13 04 11.1	-2.2
	baz=302								
NHY	**Taipei**	0.92	345	*e*	P		Pb	13 03 58.1	-0.7
	baz=339								
NHY					*e*S		Sn	13 04 12.7	-1.1
	baz=339								
NWF	**Wu-fen Shan**	0.92	357	⇓	*i*P		Pb	13 03 58.0	-0.9
	baz=341								
NWF					*i* S		Sb	13 04 10.7	-0.9
	baz=341								
WFSB	**Wu-fen Shan**	0.92	357	⇓	P		Pg	13 03 58.0	-0.1
	baz=341								
WFSB					S		Sb	13 04 10.7	-0.8
	baz=341								
EYUL	**Yuli**	0.93	211		P		Pb	13 03 58.6	-0.3
	baz=234								
EYUL					*e*S		Sb	13 04 11.1	-0.4
	baz=234								
TYC	**Yuchr**	0.93	255	*i*	P		Pg	13 03 57.8	-0.4
	baz=258								
TYC					S		Sb	13 04 10.9	-0.8
	baz=258								
TWF1	**Yuli**	0.93	212	*i*	P		Pg	13 03 57.1	-1.1
	baz=234								
TWF1					*e*S		Sb	13 04 11.3	-0.4
	baz=234								
TAP	**Taipei**	0.94	341		P		Pg	13 03 57.9	-0.5
	baz=336								
TAP					S		Sb	13 04 11.9	-0.1
	baz=336								
SXI1	**Grass Mountain**	0.95	2	⇓	P		Pg	13 03 58.0	-0.5
	baz=347								
SXI1					*e*S		Sb	13 04 12.1	-0.1
	baz=347								
HSN1	**Hsinchu**	0.98	310		P		Pn	13 03 59.9	-0.9
	baz=309								
HSN1					*e*S		Sn	13 04 13.2	-1.9
	baz=309								
NTY	**Taoyuan**	0.98	330	*e*	P		Pb	13 03 59.3	-0.6
	baz=326								
NTY					S		Sb	13 04 13.0	-0.3
	baz=326								
TWQ1	**Liyutan**	0.99	282	*i*	P		Pn	13 04 00.0	-1.0
	baz=284								
TWQ1					*e*S		Sb	13 04 13.3	-0.2
	baz=284								
TNOU	**National Taiwa**	1.00	357		P		Pg	13 03 59.3	-0.2
	baz=343								
TNOU					*e*S		Sg	13 04 12.5	-0.1
	baz=343								
WHYT	**Xinyi Township**	1.01	244	⇓	P		Pb	13 03 59.6	-0.7
	baz=257								
WHYT					S		Sn	13 04 14.9	-1.0
	baz=257								
SBCB	**Hsinchu**	1.01	310	⇓	P		Pn	13 04 00.6	-0.7
	baz=308								
SBCB					*e*S		Sn	13 04 14.8	-1.1
	baz=308								
NCUH	**Zhongli**	1.01	324		P		Pn	13 04 00.4	-0.9
	baz=321								
NCUH					S		Sn	13 04 16.1	+0.1
	baz=321								
NCU	**National Centr**	1.01	324	*i*	P		Pn	13 04 00.6	-0.7
	baz=321								
NCU					S		Sn	13 04 15.2	-0.8
	baz=321								
NSY	**Sanyi**	1.02	286	*i*	P		Pn	13 04 01.0	-0.4
	baz=287								
NSY					*e*S		Sn	13 04 14.7	-1.5
	baz=287								
TWS1	**Kuangyinshan**	1.03	338	*i*	P		Pn	13 04 00.4	-1.1
	baz=333								
TWS1					*e*S		Sn	13 04 14.6	-1.8
	baz=333								
YM01	**YM01**	1.03	346	⇓	P		Pb	13 04 00.0	-0.7
	baz=340								
YM01					*e*S		Sb	13 04 13.8	-0.8
	baz=340								
HSN	**Hsinchu**	1.03	310	*i*	P		Pn	13 04 00.8	-0.7
	baz=310								
HSN					*e*S		Sn	13 04 14.9	-1.4
	baz=310								
CHKH	**Chenggong**	1.03	203		P		Pg	13 03 59.5	-0.6
	baz=186								
CHKH					*e*S		Sn	13 04 16.1	-0.3
	baz=186								
NMLH	**Miaoli**	1.03	292		P		Pn	13 04 01.3	-0.2
	baz=293								
NMLH					S		Sn	13 04 17.0	+0.5
	baz=293								
WWF	**Wufeng**	1.05	265		P		Pn	13 04 01.8	0.0
	baz=262								
WWF					*e*S		Sn	13 04 16.1	-0.7
	baz=262								
JYNG	**Yonagunijimaku**	1.05	73		P		Pn	13 04 01.4	-0.5
JYNG					S		Sn	13 04 16.4	-0.5
JYNG	**Yonagunijimaku**	1.05	73		A		A	13 04 01.4	
	comp=E,9.0nm,2.0s,comp=N,10.0nm,3.5s								
TCU	**Taichung**	1.06	270	*i*	P		Pn	13 04 01.7	-0.3
	baz=273								
TCU					*i* S		Sn	13 04 17.2	0.0
	baz=273								
YM08	**YM08**	1.06	348		P		Pg	13 04 00.2	-0.5
	baz=341								
YM08					*e*S		Sb	13 04 15.0	-0.6
	baz=341								
FULB	**Fuli**	1.07	208	*i*	P		Pg	13 04 00.2	-0.6
	baz=231								
FULB					*e*S		Sn	13 04 17.6	+0.2
	baz=231								
NWRT	**Kuosheng**	1.07	351	*e*	P		Pn	13 04 01.0	-1.0
	baz=335								
NWRT					*e*S		Sb	13 04 14.9	-0.7
	baz=335								
WJS	**Zhushan**	1.07	253		P		Pn	13 04 01.4	-0.6
	baz=256								
WJS					S		Sn	13 04 16.0	-1.3
	baz=256								
NTST	**Danshui**	1.08	341		P		Pn	13 04 01.7	-0.5
	baz=335								
NTST					*e*S		Sn	13 04 16.5	-1.0
	baz=335								
ANP	**Anpu**	1.08	344	⇓	*i*P		Pg	13 04 00.8	-0.2
	baz=338								
ANP					*e*S		Sn	13 04 16.5	-1.2
	baz=338								
WNT1	**Nantou City**	1.09	258		P		Pn	13 04 02.3	0.0
	baz=261								
WNT1					*e*S		Sn	13 04 18.0	+0.3
	baz=261								
WNT	**Mingjian**	1.09	256	⇓	*i*P		Pn	13 04 01.8	-0.5
	baz=259								
WNT					S		Sn	13 04 17.4	-0.5
	baz=259								
WDJ	**Dajia District**	1.11	281		P		Pn	13 04 02.8	+0.1
	baz=283								
WDJ					S		Sn	13 04 17.8	-0.6
	baz=283								
YOJ	**Yonaguni jima**	1.11	73		P		Pn	13 04 02.5	-0.2
YOJ	**Yonaguni jima**	1.11	73		P		Pn	13 04 02.3	-0.4
	baz=67								
YOJ					*e*S		Sn	13 04 19.0	+0.5
	baz=67								
YOJ	**Yonaguni jima**	1.11	73		P		Pn	13 04 02.4	-0.2
NHW	**Xinwu Township**	1.12	320		P		Pn	13 04 02.8	0.0
	baz=317								
NHW					S		Sn	13 04 17.9	-0.7
	baz=317								
CHKT	**Chengkung**	1.13	203	*i*	P		Pg	13 04 01.0	-0.9
	baz=187								
CHKT					*e*S		Sg	13 04 16.5	0.0
	baz=187								
ALS	**Alishan**	1.14	237	*i*	P		Pg	13 04 01.8	-0.4
	baz=241								
ALS					*i* S		Sn	13 04 18.9	-0.5
	baz=241								
TWY	**Chenhua**	1.15	349	*i*	P		Pn	13 04 02.3	-0.8
	baz=334								
TWY					*e*S		Sn	13 04 17.7	-1.6
	baz=334								
EHD	**Haiduan**	1.15	210		P		Pb	13 04 01.1	-1.6
	baz=231								
EHD					*e*S		Sb	13 04 17.2	-0.8
	baz=231								
NSM	**Shimen**	1.16	349	*e*	P		Pn	13 04 03.1	-0.2
	baz=342								
WYL	**Yuanlin Townsh**	1.17	261	*e*	P		Pn	13 04 03.6	+0.3
	baz=280								
WYL					S		Sn	13 04 21.2	+1.5
	baz=280								
WCHH	**Zhanghua**	1.17	267		P		Pn	13 04 03.8	+0.3
	baz=271								
WCHH					*e*S		Sn	13 04 20.7	+0.9
	baz=271								
ECS	**Chishang**	1.19	209		P		Pb	13 04 02.3	-1.1
	baz=230								
ECS					*e*S		Sn	13 04 20.0	-0.3
	baz=230								
ELDTW	**Lidau**	1.21	219	*i*	P		Pb	13 04 01.6	-2.3
	baz=211								
ELDTW					*e*S		Sg	13 04 19.2	-0.1
	baz=211								
WGK	**Gukeng**	1.25	249	*i*	P		Pg	13 04 04.6	+0.2
	baz=255								
WGK					*e*S		Sn	13 04 23.3	+1.4
	baz=255								
WDLH	**Douliu**	1.27	249		P		Pg	13 04 05.1	+0.4
	baz=255								
WDLH					S		Sn	13 04 23.7	+1.4
	baz=255								
WCKO	**Fanlu**	1.33	238		P		Pg	13 04 05.7	-0.1
	baz=245								
WCKO					S		Sg	13 04 25.0	+1.9
	baz=245								
WRL	**Guolierlin Hig**	1.36	260		P		Pg	13 04 06.1	-0.3
	baz=267								
WRL					S		Sg	13 04 25.7	+1.7
	baz=267								
STYH	**Taoyuan**	1.38	225		P		Pn	13 04 05.2	-1.0
	baz=218								
STYH					S		Sg	13 04 25.6	+1.0
	baz=218								
RLNB	**Erlin**	1.38	260		P		Pg	13 04 07.0	+0.2
	baz=266								
RLNB					S		Sg	13 04 27.4	+2.9
	baz=266								
CHN4	**Tsaushan**	1.39	236	*i*	P		Pg	13 04 06.6	-0.3
	baz=242								
CHN4					*e*S		Sg	13 04 27.5	+2.6
	baz=242								
CHN2	**Minshiung**	1.39	244	*e*	P		Pg	13 04 07.1	+0.1
	baz=252								
CHN2					*e*S		Sg	13 04 26.5	+1.5
	baz=252								
TPUB	**Ta-pu**	1.39	233		P		Pb	13 04 06.1	-0.8
	baz=239								
TPUB					*e*S		Sg	13 04 26.2	+1.2
	baz=239								
STYT	**Tauyuan**	1.39	226	*i*	P		Pn	13 04 05.6	-0.9
	baz=219								
STYT					*i* S		Sg	13 04 26.6	+1.5
	baz=219								
LONT	**Longtian**	1.39	208		P		Pn	13 04 04.0	-2.5
	baz=227								
LONT					*e*S		Sg	13 04 25.3	+0.2
	baz=227								
WTK	**Tuku**	1.40	251		P		Pg	13 04 07.1	-0.2
	baz=258								
WTK					S		Sg	13 04 28.2	+2.8
	baz=258								
WTP	**Ta-pu**	1.44	232	*i*	P		Pb	13 04 07.0	-0.6
	baz=238								
WTP					*e*S		Sg	13 04 27.8	+1.3
	baz=238								
CHY	**Chiayi**	1.45	244	*e*	P		Pg	13 04 07.7	-0.3
	baz=261								
CHY					*e*S		Sg	13 04 28.2	+1.3
	baz=261								
WTCT	**Ta-ch'eng**	1.45	259		P		Pg	13 04 08.0	-0.1
	baz=266								
WTCT					*i* S		Sg	13 04 29.6	+2.6
	baz=266								
TWGBT	**Beinan**	1.49	208		P		Pn	13 04 05.1	-2.8
TWGBT	**Beinan**	1.49	208		P		Pn	13 04 04.8	-3.1
	baz=216								
TWGBT					*e*S		Sg	13 04 27.8	-0.5
	baz=216								
PCYT	**Pengchaiyu**	1.49	8	*i*	P		Pn	13 04 06.3	-1.6
	baz=353								
PCYT					S		Sg	13 04 30.1	+1.7
	baz=353								
TWG	**Pinlang**	1.49	208	*i*	P		Pn	13 04 05.1	-2.8
	baz=216								
TWG					*e*S		Sg	13 04 27.8	-0.6
	baz=216								
LDUT	**Ludao**	1.50	193		P		Pn	13 04 05.2	-2.8
	baz=181								
LDUT					*e*S		Sn	13 04 25.7	-2.4
	baz=181								
TWK	**Hsinying**	1.52	235	*i*	P		Pb	13 04 08.5	-0.5
	baz=227								
TWK					*i* S		Sg	13 04 30.4	+1.3
	baz=227								
TTN	**Taitung**	1.52	205	*e*	P		Pb	13 04 08.1	-1.0
	baz=193								
TTN					*e*S		Sg	13 04 29.2	-0.1
	baz=193								
CHN1	**Nanshi**	1.54	232	*i*	P		Pb	13 04 08.8	-0.6
	baz=239								
CHN1					*e*S		Sg	13 04 31.6	+1.9
	baz=239								
SNST	**Tainan City**	1.54	233		P		Pb	13 04 09.1	-0.3
	baz=241								
SNST					*e*S		Sg	13 04 31.1	+1.4
	baz=241								
WSF	**Szhu**	1.56	252	*i*	P		Pg	13 04 09.6	-0.7
	baz=259								
WSF					*i* S		Sg	13 04 33.0	+2.4
	baz=259								
SGST	**Jiashian**	1.56	228	*i*	P		Pn	13 04 08.1	-0.8
	baz=235								
SGST					*i* S		Sg	13 04 33.6	+3.0
	baz=235								
SLGT	**Liugui**	1.58	224		P		Pb	13 04 09.2	-1.0
	baz=232								
SLGT					S		Sg	13 04 32.1	+0.9
	baz=232								
WSL	**Shuilin Townsh**	1.60	248		P		Pb	13 04 10.1	-0.3
	baz=255								
WSL					S		Sg	13 04 34.5	+2.8
	baz=255								
ICHU	**Yijhu**	1.63	242		P		Pb	13 04 09.8	-1.1
	baz=250								
ICHU					S		Sg	13 04 34.3	+1.6
	baz=250								
CHN8	**Yiju**	1.69	242	*i*	P		Pb	13 04 11.0	-1.0
	baz=250								
CHN8					S		Sg	13 04 35.9	+1.3
	baz=250								
CHN3	**Shinhua**	1.72	232		P		Pg	13 04 13.2	-0.1
	baz=241								
CHN3					S		Sg	13 04 38.1	+2.5
	baz=241								
IRIF	**Iriomote-Funau**	1.74	83		P		Pn	13 04 11.3	+0.1
SSHA	**Shanhua**	1.74	235	*e*	P		Pg	13 04 13.1	-0.6
	baz=245								
SSHA					*e*S		Sg	13 04 38.8	+2.5
	baz=245								
ECL	**Taimali**	1.74	208	*i*	P		Pn	13 04 10.6	-0.7
	baz=215								
ECL					*e*S		Sn	13 04 32.7	-1.2
	baz=215								
SCST	**Cishan**	1.76	225		P		Pb	13 04 12.2	-1.0
	baz=235								
SCST					S		Sg	13 04 39.3	+2.5
	baz=235								
SHHT	**Tainan City**	1.77	231		P		Pb	13 04 13.1	-0.2
	baz=257								
SHHT					*e*S		Sg	13 04 40.1	+3.0
	baz=257								
SCLT	**Jiali**	1.79	238	*e*	P		Pb	13 04 12.7	-0.9
	baz=246								
SCLT					*e*S		Sg	13 04 38.3	+0.4
	baz=246								
HATJ	**Hateruma jima**	1.80	92		P		Pb	13 04 12.8	-1.0
HATJ					S		Sb	13 04 36.2	-0.5
TSMG	**Majia**	1.80	218		P		Pn	13 04 11.9	-0.2
	baz=228								
TSMG					S		Sg	13 04 39.3	+1.0
	baz=228								
TWM1	**Shoushan**	1.85	225	*i*	P		Pb	13 04 14.4	-0.3
	baz=232								
MASBT	**Mashibuluo**	1.89	216		P		Pn	13 04 12.6	-0.7
	baz=226								
MASBT					S		Sg	13 04 40.3	-0.6
	baz=226								
TSCK	**Chigu Township**	1.89	239		P		Pn	13 04 13.2	-0.1
	baz=249								
TSCK					S		Sb	13 04 39.5	+0.2
	baz=249								
JKRS	**Kuro-shima**	1.98	87		P		Pn	13 04 15.1	+0.5
JKRS					S		Sb	13 04 41.1	-0.9
SCZT	**Fangliau**	2.09	213		P		Pn	13 04 16.0	-0.1
	baz=223								
SCZT					*e*S		Sb	13 04 45.5	+0.4
	baz=223								
LAY	**Lan-yu**	2.11	187		P		Pn	13 04 13.5	-2.9
	baz=188								
LAY					S		Sn	13 04 41.0	-2.1
	baz=188								
JIJ	**Ishigaki jima**	2.11	84		P		Pn	13 04 15.9	-0.5
JIJ					*e*S		Sb	13 04 44.4	-1.4
JIJ	**Ishigaki jima**	2.11	84		A		A	13 04 15.9	
	comp=E,2.0nm,8.1s,comp=N,3.0nm,8.0s								
PHUB	**P'eng-hu**	2.17	254		P		Pn	13 04 17.4	+0.2
	baz=263								
PHUB					*e*S		Sb	13 04 47.0	-0.4
	baz=263								
PNG	**Penghu**	2.17	255	*i*	P		Pn	13 04 17.1	-0.1
	baz=265								
PNG					*i* S		Sb	13 04 47.6	+0.3
	baz=265								
WDGT	**Dungji**	2.18	247	*i*	P		Pn	13 04 17.3	-0.1
	baz=256								
WDGT					S		Sb	13 04 46.6	-1.2
	baz=256								
JISG	**Ishigakijimahi**	2.30	78		P		Pn	13 04 18.7	-0.2
VWUC	**VWUC**	2.33	292		P		Pn	13 04 18.8	-0.7
	baz=295								
VWUC					*e*S		Sb	13 04 49.5	-2.6
	baz=295								
JTJ	**Tarama**	2.66	79	*e*	P		Pn	13 04 25.2	+1.3
JIRB	**Irabujima**	3.11	77	*e*	P		Pn	13 04 31.4	+1.2
JIRB					*e*S		Sn	13 05 09.1	+1.3
JIKM	**Ikemajima**	3.20	75		P		Pn	13 04 33.0	+1.6
JMJ	**Miyako jima 2**	3.22	77		P		Pn	13 04 32.2	+0.6
JMJ2	**Miyako jima3**	3.23	79	*e*	P		Pn	13 04 33.0	+1.1
JOGS	**Gusukube**	3.31	79		P		Pn	13 04 34.1	+1.2
JOW	**Kunigami**	6.40	64		P		Pn	13 05 15.4	0.0
JOW	**Kunigami**	6.40	64		P		Pn	13 05 15.2	-0.2
	comp=N,1.7nm,0.3s,baz=133,slow=21,SNR=7.8 comp=N,5.3nm,0.3s								
JNU	**Nakatsue**	11.95	40		P		Pn	13 06 33.6	+2.0
	comp=N,0.1nm,0.3s,baz=180,slow=6.1,SNR=2.0 comp=N,8.1nm,1.0s								
KSRS	**Korea Array**	14.25	20		P		Pn	13 07 05.8	+2.8
	comp=N,0.1nm,0.3s,baz=196,slow=12,SNR=7.1								
KSRS					LR		LR	13 13 15.5	
	comp=N,144nm,18.9s,baz=195,slow=40 comp=N,1.6nm,0.8s								
JHJ	**Hachijo jima 2**	18.09	56		LR		LR	13 15 11.8	
	comp=N,57nm,18.1s,baz=301,slow=38								
USRK	**Ussuriysk Ar.**	21.66	20		P		P	13 08 36.6	+4.8
	comp=N,2.0nm,0.8s,baz=245,slow=6.5,SNR=4.7								
CMAR	**Chiang Mai Arr**	22.06	260		P		P	13 08 37.2	+1.0
	comp=N,0.4nm,0.3s,baz=75,slow=7.9,SNR=1.9 comp=N,0.4nm,0.3s								
ASAJ	**Asahikawa**	26.18	35		LR		LR	13 20 38.5	
	comp=N,94nm,18.2s,baz=214,slow=39								
KLR	**Kul'dur**	26.22	15		LR		LR	13 20 21.7	
	comp=N,80nm,19.6s,baz=206,slow=38								
SONM	**Songino Array**	26.64	336		P		P	13 09 19.7	-0.4
	comp=N,2.4nm,1.0s,baz=159,slow=10,SNR=11								
SONM					LR		LR	13 21 02.6	
	comp=N,90nm,18.2s,baz=84,slow=39 comp=N,

MA2	**Magadan**	**40.80**	**22**	LR	LR	13 29 27.8	
	comp=N,67nm,19.0s,baz=33,slow=38						
H11N1	**WAKE ISLAND Hy**	**41.89**	**87**	T	T	13 56 33.8	
	baz=283						
H11N2	**WAKE ISLAND Hy**	**41.89**	**87**	T	T	13 56 33.1	
	baz=283,slow=74,SNR=3.4						
H11N3	**WAKE ISLAND Hy**	**41.91**	**87**	T	T	13 56 33.5	
	baz=283,slow=74,SNR=3.7						
H11S3	**WAKE ISLAND Hy**	**42.02**	**89**	T	T	13 56 39.4	
	baz=284,slow=74,SNR=6.2						
H11S1	**WAKE ISLAND Hy**	**42.03**	**89**	T	T	13 56 40.2	
	baz=284,slow=74,SNR=3.3						
H11S2	**WAKE ISLAND Hy**	**42.04**	**89**	T	T	13 56 40.9	
	baz=284						
KURBB	**Kurchatov Arra**	**42.52**	**320**	P	**P**	**13 11 37.4**	**+0.6**
	comp=N,0.8nm,0.2s,baz=116,slow=7.2,SNR=5.2						
	comp=N,0.8nm,0.2s						
WRA	**Warramunga Arr**	**45.48**	**163**	P	**P**	**13 11 58.8**	**-2.1**
	comp=N,0.8nm,0.8s,baz=343,slow=8.7,SNR=2.7						
	comp=N,0.8nm,0.8s						
TIXI	**Tiksi**	**47.70**	**3**	LR	LR	13 34 42.3	
	comp=N,70nm,20.1s,baz=201,slow=39						
ASAR	**Alice Springs**	**48.95**	**165**	P	**P**	**13 12 27.0**	**-0.9**
	comp=N,0.7nm,0.7s,baz=338,slow=6.9,SNR=6.4						
	comp=N,0.7nm,0.7s						
ILAR	**Eielson Array**	**68.97**	**27**	P	**P**	**13 14 46.5**	**+0.1**
	comp=N,0.2nm,0.6s,baz=270,slow=5.2,SNR=5.5						
	comp=N,0.2nm,0.6s						
BRTR	**Keskin Array B**	**73.68**	**307**	P	**P**	**13 15 15.9**	**+0.3**
	comp=N,0.7nm,0.8s,baz=115,slow=8.3,SNR=3.6						
	comp=N,0.7nm,0.8s						
HFS	**Hagfors**	**77.89**	**331**	LR	LR	13 52 52.9	
	comp=N,55nm,19.4s,baz=278,slow=38						
YKA	**Yellowknife Ar**	**82.77**	**23**	P	**P**	**13 16 03.5**	**-1.8**
	comp=N,0.9nm,0.8s,baz=314,slow=5.1,SNR=16						
	comp=N,0.9nm,0.8s						

*IDC **14** 13:08:02.0±2.5,38°.73N×70°.74E, h0km, mb4.0/7, mbtmp4.0/14, ML3.2/7, Error ellipse: s-maj=40.0km s-min=15.9km az=166.0*
*KRNET **14** 13:08:04.6±0.1,39°.05N×70°.81E, mb3.7*
*NNC **14** 13:08:07.1±2.9,39°.17N×70°.37E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=26.3km s-min=13.1km az=172.0*

ISC 14 13:08:05.0±1.9,39°.15N±0°.07×70°.74E±0°.05,h2km±10km, n46,σ2≥69/69,mb3.8/6,29C-21D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.88**	**68**	⇓*i*P	**Pg**	**13 08 21.6**	**-0.3**
DRK	baz=60			⇓*i*S	**Sg**	13 08 34.2	+0.8
BTK	**Batken**	**0.91**	**4**	⇓*i*P	**Pg**	**13 08 24.0**	**+1.6**
BTK	baz=0.0			⇓*i*S	**Sn**	**13 08 38.0**	**-0.6**
OHH	**Osh**	**2.09**	**48**	⇑*i*P	**Pb**	**13 08 43.2**	**-0.4**
OHH	baz=45			⇑*i*S	**Sb**	**13 09 11.3**	**+1.3**
SFK	**Sufi-Kurgan**	**2.30**	**67**	⇓*i*P	**Pb**	**13 08 45.8**	**-1.5**
SFK	baz=64			⇓*i*S	**Sb**	**13 09 15.8**	**-0.5**
TRKS	**Terek-Say**	**2.40**	**7**	⇑*i*P	**Pn**	**13 08 47.5**	**+2.1**
TRKS	baz=6.0			⇑*i*S	**Sb**	**13 09 19.2**	**+0.2**
ARSB	**Arslanbob**	**2.77**	**38**	⇓*i*P	**Pb**	**13 08 53.0**	**-2.2**
ARSB	baz=35			⇓*i*S	**Sb**	**13 09 28.2**	**-1.4**
ARK	**Arkit**	**2.80**	**19**	⇑*i*P	**Pb**	**13 08 54.0**	**-1.9**
ARK	baz=17			⇑*i*S	**Sb**	**13 09 29.9**	**-0.8**
MNAS	**Manas**	**3.59**	**21**	⇑*i*P	**Pn**	**13 09 05.0**	**+3.2**
MNAS	baz=20			⇑*i*S	**Sn**	**13 09 49.0**	**+4.1**
ARLS	**Aral**	**3.84**	**44**	⇑*i*P	**Pn**	**13 09 07.9**	**+2.6**
ARLS	baz=43			⇑*i*S	**Sn**	**13 09 54.0**	**+2.9**
KK31	**Karatay Array**	**3.95**	**358**	Pn	**Pn**	**13 09 10.6**	**+3.9**
	8.7nm,0.3s,baz=184,slow=16,SNR=66						
KK31				⇑Lg	Lg	13 10 12.4	
	30nm,0.6s,baz=177,slow=30,SNR=5.6						
EKS2	**Erkin-Say**	**4.19**	**32**	P	**Pn**	**13 09 14.5**	**+4.4**
	SNR=24						
EKS2	**Erkin-Say**	**4.19**	**32**	⇑*i*P	**Pn**	**13 09 13.1**	**+3.0**
	baz=31						
EKS2				⇑*i*S	**Sn**	**13 10 03.0**	**+3.3**
	baz=31						
UCH	**Uchtor**	**4.20**	**42**	P	**Pb**	**13 09 15.9**	**-4.0**
	SNR=18						
UCH	**Uchtor**	**4.20**	**42**	⇑*i*P	**Pn**	**13 09 12.9**	**+2.4**
	baz=40						
UCH				⇑*i*S	**Sn**	**13 10 02.8**	**+2.4**
	baz=40						
AAK	**Ala-Archa**	**4.50**	**38**	P	Pn	13 09 19.6	+5.3
	SNR=12						
AAK	**Ala-Archa**	**4.50**	**38**	Pn	**Pn**	**13 09 18.9**	**+4.7**
	4.0nm,0.3s,baz=186,slow=6.2,SNR=42						
AAK				Sn	**Sb**	**13 10 14.3**	**-5.1**
	3.9nm,0.3s,baz=323,slow=19,SNR=12						
	18nm,0.5s						
AAK	**Ala-Archa**	**4.50**	**38**	⇑*i*P	**Pn**	**13 09 16.9**	**+2.6**
	baz=37						
AAK				⇑*i*S	**Sn**	**13 10 09.8**	**+2.6**
	baz=37						
NRN	**Naryn**	**4.62**	**59**	⇑*i*P	**Pn**	**13 09 17.8**	**+1.7**
	baz=57						
NRN				⇑*i*S	**Sn**	**13 10 11.6**	**+1.1**
	baz=57						
FRU1	**Bishkek**	**4.69**	**38**	⇓*i*P	**Pn**	**13 09 19.9**	**+3.0**
	baz=36						
FRU1				⇓*i*S	**Sn**	**13 10 14.6**	**+2.7**
	baz=36						
KBK	**Karagaybulak**	**4.74**	**41**	P	Pn	13 09 23.0	+5.5
	SNR=21						
KBK	**Karagaybulak**	**4.74**	**41**	⇑*i*P	**Pn**	**13 09 20.2**	**+2.6**
	baz=40						
KBK				⇑*i*S	**Sn**	**13 10 15.6**	**+2.5**
	baz=40						
CHMS	**Chumysh**	**4.89**	**37**	P	**Pn**	**13 09 24.4**	**+4.7**
	SNR=18						
CHMS	**Chumysh**	**4.89**	**37**	⇓Pn	**Pn**	**13 09 23.7**	**+4.1**
	21nm,0.7s						
CHMS				⇑Sn	**Sb**	**13 10 25.1**	**-5.6**
	95nm,0.9s						
CHMS				⇓Lg	Lg	13 10 45.0	
	26nm,0.7s						
CHMS	**Chumysh**	**4.89**	**37**	⇑*i*P	**Pn**	**13 09 22.3**	**+2.7**
	baz=36						
CHMS				⇑*i*S	**Sn**	**13 10 19.1**	**+2.3**
	baz=36						
USP	**Ospenovka**	**4.99**	**33**	P	**Pn**	**13 09 25.2**	**+4.2**
	SNR=15						
BOOM	**Boomskoye usch**	**5.16**	**48**	⇓*i*P	**Pn**	**13 09 26.0**	**+2.5**
	baz=47						
BOOM				⇓*i*S	**Sn**	**13 10 25.5**	**+1.8**
	baz=47						
ULHL	**Ulahol**	**5.20**	**52**	⇓*i*P	**Pn**	**13 09 26.3**	**+2.3**
	baz=51						
ULHL				⇓*i*S	**Sn**	**13 10 26.1**	**+1.5**
	baz=51						
TKM2	**Tokmak 2**	**5.26**	**43**	P	Pn	13 09 29.6	+4.9
	SNR=13						
TKM2	**Tokmak 2**	**5.26**	**43**	⇓Pn	**Pn**	**13 09 28.4**	**+3.6**
	9.8nm,0.5s						
TKM2				⇓Sn	**Sb**	**13 10 34.6**	**-6.8**
	28nm,0.6s						
TKM2				⇑Lg	Lg	13 10 57.0	
	25nm,0.8s						
TKM2	**Tokmak 2**	**5.26**	**43**	⇓*i*P	**Pn**	**13 09 27.5**	**+2.7**
	baz=42						
TKM2				⇓*i*S	**Sn**	**13 10 27.7**	**+1.6**
	baz=42						
KDJ	**Kajisay**	**5.73**	**57**	⇑*i*P	**Pn**	**13 09 33.5**	**+2.3**
	baz=56						
KDJ				⇑*i*S	**Sn**	**13 10 38.4**	**+0.8**
	baz=56						
MKAR	**Makanchi Array**	**11.39**	**44**	Pn	**Pn**	**13 10 51.5**	**+2.8**
	0.1nm,0.3s,baz=229,slow=14,SNR=14						
MKAR				Lg	Lg	13 14 02.5	
	0.1nm,0.3s,baz=234,slow=24,SNR=3.0						
	1.0nm,0.7s						
AB31	**Akbulak array**	**12.72**	**326**	Pn	**Pn**	**13 11 05.8**	**-0.9**
	2.9nm,0.5s,baz=145,slow=11,SNR=92						
AB31				⇓Sn	**Sn**	**13 13 25.3**	**-3.6**
	9.8nm,0.9s,baz=154,slow=23,SNR=6.5						
KURBB	**Kurchatov Arra**	**12.72**	**23**	Pn	**Pn**	**13 11 06.6**	**-0.2**
	baz=217,slow=13,SNR=9.2						
KURBB				Lg	Lg	13 14 46.5	
	baz=250,slow=11,SNR=4.1						
	0.6nm,0.2s						
BVAR	**Borovoye Array**	**13.88**	**359**	Pn	**Pn**	**13 11 23.3**	**+0.7**
	baz=165,slow=12,SNR=5.8						
	0.7nm,0.4s						
AKTO	**Aktyubinsk**	**14.43**	**326**	Pn	**Pn**	**13 11 30.4**	**+0.3**
	0.6nm,0.3s,baz=136,slow=11,SNR=8.7						
AKTO				Sn	**Sn**	**13 14 09.2**	**-1.5**
	0.4nm,0.3s,baz=176,slow=21,SNR=7.6						
	2.4nm,0.3s						
AKTO	**Aktyubinsk**	**14.43**	**326**	⇑Pn	**Pn**	**13 11 29.6**	**-0.6**
	4.3nm,0.7s						
AKTO				⇑Sn	**Sn**	**13 14 08.5**	**-2.2**
	7.4nm,1.2s						
ZALV	**Zalesovo Beam**	**17.63**	**28**	P	**P**	**13 12 12.8**	**+0.2**
	0.6nm,0.3s,baz=223,slow=12,SNR=14						
	2.7nm,0.5s						
ARU	**Arti**	**19.08**	**339**	P	**Pn**	**13 12 29.1**	**-0.1**
	1.0nm,0.3s,baz=94,slow=16,SNR=4.7						
	2.2nm,0.3s						
BELG	**Belogornoye**	**20.75**	**317**	P	**P**	**13 12 45.5**	**-1.3**
	12nm,0.8s,baz=132,slow=2.5,SNR=7.8						
	12nm,0.8s						
FINES	**FINESS Array B**	**35.20**	**324**	P	**P**	**13 15 00.3**	**+0.2**
	1.3nm,0.6s,baz=118,slow=9.5,SNR=7.4						
	1.3nm,0.6s						
ARCES	**ARCESS Array B**	**38.63**	**336**	P	**P**	**13 15 29.4**	**+0.1**
	4.9nm,1.0s,baz=93,slow=6.2,SNR=4.8						
	4.9nm,1.0s						
HFS	**Hagfors**	**40.88**	**320**	P	**P**	**13 15 47.8**	**-0.3**
	3.2nm,0.4s,baz=103,slow=11,SNR=25						
	3.2nm,0.4s						
NOA	**NORSAR Array B**	**42.17**	**321**	P	**P**	**13 15 58.4**	**-0.3**
	1.0nm,0.7s,baz=97,slow=7.7,SNR=3.1						
	1.0nm,0.7s						
ILAR	**Eielson Array**	**72.29**	**16**	P	**P**	**13 19 33.2**	**+1.7**
	0.2nm,0.9s,baz=4.3,slow=3.6,SNR=4.1						
	0.2nm,0.9s						
YKA	**Yellowknife Ar**	**78.61**	**3**	P	**P**	**13 20 07.1**	**-0.7**
	0.4nm,0.7s,baz=350,slow=6.1,SNR=7.5						
	0.4nm,0.7s						

IDC 14 13:13:27.5±9.2,5°.07S×150°.79E,h61km±66km,mb2.8/3, mbtmp3.2/4,ML1.3/1,Error ellipse: s-maj=111.7km s-min=41.0km az=104.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.62**	**220**	P	Pn	13 14 48.3	-0.2
	0.6nm,0.3s,baz=223,slow=12,SNR=1.9						
PMG				S	Sn	13 15 52.5	+0.8
	13nm,1.0s,baz=330,slow=17,SNR=3.3						
	3.9nm,0.4s						
WRA	**Warramunga Arr**	**21.80**	**226**	P	P	13 18 14.3	-0.3
	0.3nm,0.4s,baz=52,slow=9.9,SNR=5.2						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**24.64**	**220**	P	P	13 18 42.9	+0.3
	0.2nm,0.4s,baz=51,slow=9.0,SNR=16						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**79.22**	**319**	P	P	13 25 26.1	-0.1
	0.1nm,0.4s,baz=91,slow=5.8,SNR=2.3						
	0.1nm,0.4s						

*NEIC **14** 13:37:23.5±1.2,5°.08N±0°.07×127°.40E±0°.08, h129km±7km, mb4.4/33, Error ellipse: s-maj=14.2km s-min=6.7km az=48.0*
*DJA **14** 13:37:24.0±0.6,5°.N±5°×12°.7E±°, h74km±10km, M4.8/15, mB5.2/10, mb4.7/15, MLv5.1/13, Mw(mB)4.6/10*
*IDC **14** 13:37:25.4±7.2,5°.07N×127°.52E, h153km±71km, mb3.9/16, mbtmp4.4/16, MS4.1/2, Error ellipse: s-maj=23.7km s-min=12.1km az=71.0*

ISC 14 13:37:25.0±0.4,5°.04N±0°.05×127°.30E±0°.07,h150km,n103, σ1≥31/103,mb4.3/32,2C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.22**	**233**	P	**Pn**	**13 38 01.1**	**-1.7**
SGSI				S	**Sn**	**13 38 27.5**	**-4.3**
DAV	**Davao City (W)**	**2.65**	**320**	Pn	**Pn**	**13 38 05.6**	**-2.4**
TNTI	**Ternate**	**4.24**	**179**	Pn	**Pn**	**13 38 27.1**	**-1.3**
TNTI	**Ternate**	**4.24**	**179**	P	**Pn**	**13 38 28.3**	**-0.2**
KMSI	**Cibinong**	**5.54**	**217**	P	**Pn**	**13 38 45.9**	**+0.3**
	900nm,0.8s,7μm3.0nm						
LBMI	**Labuha**	**5.64**	**178**	P	**Pn**	**13 38 47.5**	**+0.4**
	74nm,0.7s,2μm0.8nm						
GTOI	**Gorontalo**	**6.12**	**225**	P	**Pn**	**13 38 53.4**	**0.0**
	132nm,1.0s,2μm0.5nm						
MRSI	**Marisa**	**7.01**	**230**	P	**Pn**	**13 39 06.4**	**+1.1**
	554nm,0.7s,5μm1.7nm						
SWI	**Sorong**	**7.07**	**146**	P	**Pn**	**13 39 03.9**	**-2.2**
	48nm,0.9s,0.5nm						
SANI	**Sanana**	**7.16**	**191**	P	**Pn**	**13 39 04.0**	**-3.3**
SANI	**Sanana**	**7.16**	**191**	P	**Pn**	**13 39 03.6**	**-3.7**
	26nm,0.6s,1μm0.3nm						
LUWI	**Luwuk**	**7.55**	**217**	Pn	**Pn**	**13 39 13.0**	**+0.5**
LUWI	**Luwuk**	**7.55**	**217**	P	**Pn**	**13 39 12.5**	**0.0**
LUWI	**Luwuk**	**7.55**	**217**	P	**Pn**	**13 39 12.0**	**-0.5**
	241nm,0.9s,3μm0.9nm						
TOLI2	**Tolitoli**	**7.59**	**239**	Pn	**Pn**	**13 39 12.4**	**-0.6**
TOLI2	**Tolitoli**	**7.59**	**239**	P	**Pn**	**13 39 12.3**	**-0.7**
NLAI	**Namlea**	**8.23**	**181**	P	**Pn**	**13 39 20.1**	**-1.4**
	28nm,0.9s,7μm						
MPSI	**Mapaga**	**8.74**	**238**	P	**Pn**	**13 39 29.0**	**+0.6**
	22nm,1.0s,491nm						
FAKI	**Fak Fak**	**9.32**	**148**	Pn	**Pn**	**13 39 33.9**	**-2.3**
FAKI	**Fak Fak**	**9.32**	**148**	P	**Pn**	**13 39 34.9**	**-1.3**
	53nm,1.1s						
TTSI	**Tana Toraja**	**10.97**	**223**	P	**Pn**	**13 39 58.5**	**+0.5**
	27nm,0.8s,1μm						
KKM	**Kota Kinabalu**	**11.08**	**276**	Pn	**Pn**	**13 39 57.8**	**-1.7**
BKB	**Balikpapan**	**12.13**	**239**	Pn	**Pn**	**13 40 14.2**	**+1.1**
SAUI	**Saumlaki**	**13.54**	**163**	Pn	**Pn**	**13 40 30.4**	**-0.8**
MMRI	**Maumere**	**14.49**	**200**	Pn	**Pn**	**13 40 43.0**	**-0.2**
EDFI	**Ende, Flores**	**14.80**	**202**	P	**P**	**13 40 51.4**	**+2.2**
	27nm,1.1s						
SOEI	**Soe**	**15.01**	**192**	Pn	**Pn**	**13 40 48.9**	**-0.9**
SOEI				IAmb	IAmb	13 41 16.6	
	comp=Z,23nm,0.9s						
PLAI	**Plampang**	**16.73**	**215**	P	**Pn**	**13 41 14.4**	**+3.6**
PLAI	**Plampang**	**16.73**	**215**	P	**Pn**	**13 41 14.4**	**+3.6**
	comp=Z,30nm,0.7s						
TWSI	**Taliwang, Sumb**	**17.18**	**217**	P	**Pn**	**13 41 20.1**	**+3.9**
KSM	**Kuching**	**17.33**	**259**	P	**P**	**13 41 17.4**	**+0.2**
KSM				IAmb	IAmb	13 41 20.3	
	comp=Z,19nm,0.7s						
DRS	**Darwin Rock St**	**17.72**	**168**	P	**P**	**13 41 21.2**	**-0.2**
MTN	**Manton Dam**	**18.17**	**168**	P	**P**	**13 41 26.1**	**-0.2**
MTN				IAmb	IAmb	13 41 58.3	
	comp=Z,30nm,1.4s						
MTN	**Manton Dam**	**18.17**	**168**	P	**P**	**13 41 26.9**	**+0.6**
KDU	**Kakadu**	**18.35**	**164**	P	**P**	**13 41 27.6**	**-0.6**
JAGI	**Jajag, Banyuwa**	**18.76**	**224**	P	**P**	**13 41 31.0**	**-1.8**
JAGI				IAmb	IAmb	13 41 41.9	
	comp=Z,24nm,0.9s						
YULB	**Yu-li**	**19.14**	**343**	P	**P**	**13 41 35.4**	**-1.5**
YULB				IAmb	IAmb	13 42 00.1	
	comp=Z,33nm,1.5s						
YULB	**Yu-li**	**19.14**	**343**	P	**P**	**13 41 35.9**	**-0.9**
TPUB	**Ta-pu**	**19.26**	**341**	P	**P**	**13 41 37.0**	**-1.1**
TPUB				IAmb	IAmb	13 42 10.9	
	comp=Z,24nm,1.2s						
TPUB	**Ta-pu**	**19.26**	**341**	P	**P**	**13 41 37.6**	**-0.5**
NACB	**Ninganchiao**	**19.80**	**344**	P	**P**	**13 41 41.3**	**-2.6**
YHNB	**Yeheng**	**20.33**	**344**	P	**P**	**13 41 50.1**	**+0.4**
KNRA	**Kununurra**	**20.63**	**176**	P	**P**	**13 41 52.1**	**-0.8**
KNRA	**Kununurra**	**20.63**	**176**	P	**P**	**13 41 53.5**	**+0.6**
FITZ	**Fitzroy Crossi**	**23.05**	**184**	P	**P**	**13 42 18.3**	**+0.9**
COEN	**Coen**	**24.58**	**140**	P	**P**	**13 42 30.6**	**-0.8**
WB0	**Warramunga Arr**	**25.62**	**164**	P	**P**	**13 42 39.4**	**-1.3**
WRA	**Warramunga Arr**	**25.77**	**165**	P	**P**	**13 42 40.7**	**-1.5**
WRA	**Warramunga Arr**	**25.77**	**165**	P	**P**	**13 42 41.5**	**-0.6**
	comp=Z,4.6nm,0.5s,baz=349,slow=9.9,SNR=45						
	comp=Z,4.6nm,0.5s						
WHN	**Wuhan**	**28.15**	**336**	P	**P**	**13 43 04.9**	**+1.7**
WHN				pmax	pmax		
	comp=Z,38nm,0.8s						
QIS	**Mount Isa**	**28.16**	**155**	P	**P**	**13 43 03.5**	**0.0**
MTSU	**Mount Surprise**	**28.50**	**144**	P	**P**	**13 43 06.4**	**-0.1**
AS31	**Alice Springs**	**29.25**	**168**	P	**P**	**13 43 13.0**	**-0.2**
ASAR	**Alice Springs**	**29.25**	**168**	P	**P**	**13 43 13.5**	**+0.4**
ASAR	**Alice Springs**	**29.25**	**168**	P	**P**	**13 43 12.8**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=349,slow=7.3,SNR=45						
	comp=Z,1.5nm,0.5s						
AS01	**Alice Springs**	**29.26**	**167**	P	**P**	**13 43 13.2**	**0.0**
WRKA	**Warakurna**	**29.91**	**178**	P	**P**	**13 43 19.7**	**+0.7**
CRAI	**Chiangrai**	**30.23**	**302**	P	**P**	**13 43 22.6**	**+0.8**
CRAI				IAmb	IAmb	13 43 26.9	
	comp=Z,4.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**30.73**	**298**	P	**P**	**13 43 27.9**	**+1.6**
	comp=Z,1.1nm,0.4s,baz=122,slow=7.3,SNR=12						
CMAR				LR	LR	13 56 54.4	
	comp=Z,13nm,19.6s,baz=165,slow=38						
	comp=Z,1.1nm,0.4s						
KSRS	**Korea Array**	**32.27**	**1**	P	**P**	**13 43 39.4**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=178,slow=10,SNR=12						
	comp=Z,3.0nm,0.8s						
XAN	**Xi'an**	**33.52**	**332**	P	**P**	**13 43 50.6**	**+0.1**
XAN				pmax	pmax		
	comp=Z,25nm,1.0s						
OOD	**Oodnadatta**	**33.63**	**167**	P	**P**	**13 43 51.5**	**+0.1**
HNS	**HongShan**	**34.20**	**342**	⇑P	**P**	**13 43 57.0**	**+0.8**
HNS				pmax	pmax		
	comp=Z,18nm,0.9s						
HNR	**Honiara**	**35.57**	**114**	LR	LR	13 57 39.9	
	comp=Z,1μm,20.0s,baz=233,slow=34						
BJT	**Baijiatuau**	**36.24**	**345**	P	**P**	**13 44 13.5**	**-0.1**
BJT				IAmb	IAmb	13 44 15.0	
	comp=Z,7.0nm,0.8s						
BBOO	**Buckleboo**	**38.55**	**168**	P	**P**	**13 44 33.5**	**+0.3**
STKA	**Stephens Creek**	**39.16**	**161**	P	**P**	**13 44 37.8**	**-0.4**
STKA	**Stephens Creek**	**39.16**	**161**	P	**P**	**13 44 38.4**	**+0.2**
	comp=Z,6.6nm,0.5s,baz=339,slow=9.1,SNR=19						
STKA				LR	LR	14 04 17.3	
	comp=Z,59nm,20.7s,baz=285,slow=41						
	comp=Z,6.6nm,0.5s						
USRK	**Ussuriysk Ar.**	**39.22**	**5**	P	**P**	**13 44 37.1**	**-1.5**
	comp=Z,2.5nm,0.8s,baz=199,slow=9.9,SNR=3.9						
	comp=Z,2.5nm,0.8s						
BNX	**BinXian**	**40.54**	**0**	⇑P	**P**	**13 44 49.3**	**-0.2**
BNX				pmax	pmax		
	comp=Z,5.0nm,1.5s						
BNX				pmax	pmax		
	comp=Z,100nm,5.6s						
JKA	**Kamikawa-asahi**	**41.18**	**17**	P	**P**	**13 44 55.0**	**+0.3**
GTA	**Gaotai**	**42.28**	**328**	P	**P**	**13 45 04.9**	**+0.9**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
SONM	**Songino Array**	**46.25**	**341**	P	**P**	**13 45 35.6**	**+0.2**
	comp=Z,2.3nm,0.9s,baz=161,slow=8.7,SNR=11						
	comp=Z,2.3nm,0.9s						
DZM	**Mont Dzumac**	**46.84**	**127**	P	**P**	**13 45 38.8**	**-1.5**
PEA0B	**Petropavlovsk-**	**54.01**	**22**	P	**P**	**13 46 33.5**	**-0.1**
PETK	**Petropavlovsk-**	**54.01**	**22**	P	**P**	**13 46 33.2**	**-0.4**
PETK	**Petropavlovsk-**	**54.01**	**22**	P	**P**	**13 46 33.4**	**-0.2**
	comp=Z,8.1nm,0.8s,baz=184,slow=4.8,SNR=22						
	comp=Z,8.1nm,0.8s						
PET	**Petropavlovsk**	**54.31**	**23**	P	**P**	**13 46 36.2**	**+0.5**
MK31	**Makanchi Array**	**56.82**	**325**	P	**P**	**13 46 54.5**	**+0.7**
MK31				IAmb	IAmb	13 46 55.6	
	comp=Z,3.7nm,0.8s						
MKAR	**Makanchi Array**	**56.82**	**325**	P	**P**	**13 46 54.2**	**+0.4**
MKAR	**Makanchi Array**	**56.82**	**325**	P	**P**	**13 46 55.1**	**+1.3**
	comp=Z,4.6nm,0.6s,baz=122,slow=8.2,SNR=62						
	comp=Z,4.6nm,0.6s						
MAKZ	**Makanchi**	**57.01**	**324**	P	**P**	**13 46 55.7**	**+0.5**
MAKZ				IAmb	IAmb	13 46 56.9	
	comp=Z,5.5nm,0.8s						
KSH	**Kashi**	**57.53**	**314**	P	**P**	**13 47 00.9**	**+1.8**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ZALV	**Zalesovo Beam**	**59.69**	**332**	P	**P**	**13 47 13.2**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=106,slow=9.4,SNR=5.9						
	comp=Z,0.8nm,0.5s						
KURK	**Kurchatov**	**60.95**	**327**	P	**P**	**13 47 22.6**	**+0.4**
KURBB	**Kurchatov Arra**	**60.96**	**327**	P	**P**	**13 47 23.1**	**+0.9**
	comp=Z,4.6nm,0.7s,baz=125,slow=5.9,SNR=37						
	comp=Z,4.6nm,0.7s						
TIXI	**Tiksi**	**66.53**	**1**	P	**P**	**13 47 57.7**	**-0.7**
TIXI				IAmb	IAmb	13 47 58.1	
	comp=Z,2.9nm,0.8s						
BVAR	**Borovoye Array**	**66.54**	**327**	P	**P**	**13 47 59.2**	**+0.4**
	comp=Z,4.4nm,0.7s,baz=116,slow=6.8,SNR=20						
	comp=Z,4.4nm,0.7s						
BRVK	**Borovoye**	**66.61**	**327**	P	**P**	**13 47 59.8**	**+0.6**
BRVK				IAmb	IAmb	13 48 00.6	
	comp=Z,5.3nm,0.8s						
NRIK	**Noril'sk**	**69.30**	**346**	P	**P**	**13 48 15.6**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=126,slow=6.1,SNR=3.6						
	comp=Z,3.0nm,0.7s						
GEYT	**Alibeck**	**70.53**	**308**	P	**P**	**13 48 25.1**	**+1.2**
	comp=Z,2.9nm,0.7s,baz=80,slow=1.7,SNR=5.3						
	comp=Z,2.9nm,0.7s						
ABKAR	**Akbulak array**	**71.51**	**320**	P	**P**	**13 48 29.5**	**0.0**
E19K	**Redstone River**	**79.81**	**22**	P	**P**	**13 49 17.9**	**+1.5**
E19K				IAmb	IAmb	13 49 18.1	
	comp=Z,5.5nm,1.1s						
M19K	**Big River Lodg**	**80.07**	**28**	P	**P**	**13 49 17.6**	**-0.3**
M19K				IAmb	IAmb	13 49 23.2	
	comp=Z,7.4nm,1.4s						
IMAR	**Indian Mountai**	**80.92**	**24**	P	**P**	**13 49 22.4**	**0

WRA				Sn		Sn	13 51 40.0	-13
	comp=Z,0.3nm,0.3s,baz=31,slow=24,SNR=1.8							
WRA				Lg		Lg	13 53 35.4	
	comp=Z,0.4nm,0.3s,baz=29,slow=29,SNR=3.5							
KNRA	**Kununurra**	**16.92 235**				**Pn**	**13 49 05.5**	**-2.4**
KNRA				IAmb		IAmb	13 49 07.3	
	comp=Z,51nm,0.7s							
KNRA	**Kununurra**	**16.92 235**		P		**Pn**	**13 49 06.7**	**-1.1**
SOEI	**Soe**	**19.03 258**		P		**P**	**13 49 33.0**	**0.0**
AS01	**Alice Springs**	**19.40 206**		P		**Pn**	**13 49 39.8**	**+1.6**
	comp=Z,16nm,1.0s							
AS31	**Alice Springs**	**19.42 206**				**Pn**	**13 49 38.1**	**-0.3**
ASAR	**Alice Springs**	**19.42 206**		P		**Pn**	**13 49 38.9**	**+0.5**
	comp=Z,8.3nm,0.7s,baz=31,slow=9.3,SNR=78							
ASAR				S		S	13 53 03.1	-12
	comp=Z,0.9nm,0.6s,baz=17,slow=28,SNR=1.9							
ASAR				Lg		Lg	13 55 20.6	
	comp=Z,0.1nm,0.3s,baz=15,slow=30,SNR=2.1							
BATI	**Baumata**	**19.69 257**		P		**Pn**	**13 49 42.5**	**+0.8**
	comp=Z,12nm,0.4s,baz=131,slow=19,SNR=2.0							
QLP	**Quilpie**	**20.18 177**		P		**P**	**13 49 46.7**	**+1.4**
FITZ	**Fitzroy Crossi**	**20.73 234**				**P**	**13 49 52.3**	**+1.0**
FITZ	**Fitzroy Crossi**	**20.73 234**		P		Pn	13 49 53.1	-0.8
MMRI	**Maumere**	**20.89 262**		P		**P**	**13 49 53.0**	**-0.1**
KAPI	**Kappang**	**23.34 272**		P		**P**	**13 50 19.3**	**+0.2**
WRKA	**Warakurna**	**23.44 216**		P		**P**	**13 50 21.2**	**+1.2**
TOLI2	**Tolitoli**	**23.54 288**		P		**P**	**13 50 20.0**	**-1.1**
TOLI2				IAmb		IAmb	13 50 22.1	
	comp=Z,8.7nm,0.8s							
STKA	**Stephens Creek**	**25.47 183**		P		**P**	**13 50 39.6**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=20,slow=14,SNR=1.6							
	comp=Z,1.0nm,0.7s							
LEM	**Lembang**	**35.32 267**		LR		LR	14 09 49.0	
	comp=Z,55nm,18.2s,baz=43,slow=42							
JNU	**Nakatsue**	**40.92 344**		LR		LR	14 06 51.9	
	comp=Z,51nm,19.0s,baz=304,slow=32							
URZ	**Urewera**	**44.23 141**		LR		LR	14 11 46.2	
	comp=Z,83nm,18.4s,baz=302,slow=36							
KSRS	**Korea Array**	**45.81 343**		LR		LR	14 10 05.9	
	comp=Z,16nm,21.9s,baz=155,slow=33							
CMAR	**Chiang Mai Arr**	**50.08 300**		P		**P**	**13 54 05.2**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=111,slow=4.9,SNR=5.5							
CMAR				LR		LR	14 18 58.6	
	comp=Z,12nm,18.4s,baz=100,slow=40							
	comp=Z,0.4nm,0.3s							
MK31	**Makanchi Array**	**75.35 322**		P		**P**	**13 56 53.1**	**-0.5**
MK31				IAmb		IAmb	13 57 07.2	
	comp=Z,2.5nm,1.2s							
MKAR	**Makanchi Array**	**75.35 322**		P		**P**	**13 56 54.1**	**+0.5**
MKAR	**Makanchi Array**	**75.35 322**		P		**P**	**13 56 54.8**	**+1.1**
	comp=Z,1.2nm,0.9s,baz=107,slow=7.1,SNR=8.0							
	comp=Z,1.2nm,0.9s							
MAKZ	**Makanchi**	**75.55 322**		P		**P**	**13 56 54.5**	**-0.2**
MAKZ				IAmb		IAmb	13 57 07.6	
	comp=Z,2.4nm,0.9s							
KURBB	**Kurchatov Arra**	**79.23 324**		P		**P**	**13 57 15.6**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=108,slow=4.3,SNR=0.9							
	comp=Z,0.2nm,0.3s							
QSPA	**South Pole Qui**	**83.65 180**		P		**P**	**13 57 38.6**	**0.0**
QSPA				IAmb		IAmb	13 57 50.3	
	comp=Z,4.2nm,1.1s							
QSPA	**South Pole Qui**	**83.65 180**		P		**P**	**13 57 39.2**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=79,slow=1.3,SNR=8.2							
	comp=Z,0.8nm,0.6s							
ILAR	**Eielson Array**	**87.28 24**		P		**P**	**13 57 57.9**	**+1.5**
	comp=Z,0.3nm,0.9s,baz=243,slow=4.0,SNR=2.3							
	comp=Z,0.3nm,0.9s							
ABKAR	**Akbulak array**	**90.33 319**		P		**P**	**13 58 10.9**	**-0.2**

*ASIES **14** 13:47:51.4,24.7°N×121.7°83E,h6km,ML3.7,Mw3.5, Moment Tensor Solution. Moment tensor: Scale 10²¹Nm; Mrr1.67; Mθθ-1.94; Mφφ0.27; Mrθ0.89; Mθφ-0.38; Mrφ0.02; Fault plane solution: M₀2.06034×10²¹ NP1:φ₀84.94000°, δ57.97000°, λ95.17000°. NP2:φ₀255.26000°, δ32.40000°, λ81.81000°. Principal axes: T Plg76.4220°, Azm10.6690°; N Plg4.3780°, Azm262.1890°; P Plg12.8270°, Azm171.1900°;*

*TAP **14** 13:47:51.4,24.7°N×121.7°83E,h6km,ML3.7,C*

*JMA **14** 13:47:52.2±0.1,24.7°N±0.3°×121.8°E±0.5,h11km±1km, MV3.3/15,TAIWAN REGION*

ISC 14 13:47:51.9±1.0,24.7°N±0.02°×121.85°E±0.02,h6km±8km, n125,σ0°95/162,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
EHP	**Heping Village**	**0.17**	**325**	*i* P		**Pg**	**13 47 55.3**	**-0.1**
	baz=329							
EHP				*i* S		**Sg**	**13 47 58.5**	**+0.7**
	baz=329							
EAHA	**Aohua**	**0.19**	**328**	*i* P		**Pg**	**13 47 55.7**	**0.0**
	baz=329							
EAHA				*i* S		**Sg**	**13 47 59.1**	**+0.8**
	baz=329							
ETL	**Fush Village**	**0.21**	**268**	*e*P		**Pg**	**13 47 55.8**	**-0.2**
	baz=281							
ETL				*e*S		**Sg**	**13 47 59.2**	**+0.4**
	baz=281							
NACB	**Ninganchiao**	**0.23**	**271**	P		**Pg**	**13 47 56.3**	**-0.2**
NACB	**Ninganchiao**	**0.23**	**271**	P		**Pg**	**13 47 56.1**	**-0.4**
	baz=275							
NACB				*e*S		**Sg**	**13 47 59.9**	**+0.3**
	baz=275							
TWD	**Chiawan**	**0.25**	**249**	P		**Pg**	**13 47 56.6**	**-0.1**
	baz=258							
ENA	**Nanau**	**0.28**	**339**	*i* P		**Pg**	**13 47 57.3**	**0.0**
	baz=337							
ENA				*i* S		**Sg**	**13 48 01.6**	**+0.6**
	baz=337							
EWUT	**Wuta**	**0.28**	**347**	P		**Pg**	**13 47 57.6**	**+0.2**
	baz=335							
EWUT				*e*S		**Sg**	**13 48 02.1**	**+0.9**
	baz=335							
HWA	**Hwalien**	**0.29**	**230**	*e*P		**Pb**	**13 47 59.2**	**-0.3**
	baz=245							
ETLH	**Xiulin Townshi**	**0.34**	**277**	*e*P		**Pg**	**13 47 58.2**	**-0.3**
	baz=280							
ESAO	**Su ao**	**0.41**	**359**	*i* P		**Pg**	**13 47 60.0**	**+0.2**
	baz=348							
ESAO				*e*S		**Sb**	**13 48 06.2**	**-1.7**
	baz=348							
LXIB	**Xiulin Townshi**	**0.42**	**250**	*e*P		**Pg**	**13 47 59.9**	**-0.3**
	baz=267							
EOS2	**EOS2**	**0.43**	**54**	*e*P		**Pb**	**13 48 02.2**	**+0.4**
	baz=42							
EOS4	**EOS4**	**0.43**	**96**	*e*P		**Pn**	**13 48 03.8**	**-0.5**
	baz=95							
TWC	**Suao**	**0.44**	**360**	*e*P		**Pg**	**13 48 00.5**	**+0.1**
	baz=351							
EOS3	**EOS3**	**0.44**	**74**	*e*P		**Pn**	**13 48 03.3**	**-1.3**
	baz=70							
SHUL	**Shoufeng**	**0.46**	**215**	P		**Pb**	**13 48 02.1**	**-0.2**
	baz=218							
LATG	**Datong**	**0.47**	**321**	P		**Pg**	**13 48 00.9**	**-0.1**
	baz=321							
NDS	**Dongshan**	**0.48**	**345**	P		**Pb**	**13 48 01.4**	**-1.3**
	baz=342							
NNSB	**Datong**	**0.50**	**301**	P		**Pg**	**13 48 01.4**	**-0.1**
	baz=303							
NNS	**Nan Shan**	**0.51**	**302**	P		**Pg**	**13 48 01.6**	**-0.2**
	baz=304							
ESL	**Shilin**	**0.52**	**227**	*e*P		**Pg**	**13 48 01.9**	**0.0**
	baz=242							
NDT	**Datong Townshi**	**0.53**	**325**	*i* P		**Pb**	**13 48 02.3**	**-1.3**
	baz=322							
NDT				*e*S		**Sb**	**13 48 10.6**	**-0.9**
	baz=322							
WHF	**Hehuan Shan**	**0.53**	**268**	P		**Pg**	**13 48 02.0**	**-0.2**
	baz=271							
WHF				*e*S		**Sg**	**13 48 09.5**	**+0.2**
	baz=271							
FUSS	**Fushou**	**0.56**	**278**	*i* P		**Pb**	**13 48 02.7**	**-1.5**
	baz=282							
TWE	**Neicheng**	**0.57**	**343**	*i* P		**Pb**	**13 48 03.2**	**-1.1**
	baz=340							
WARBT	**Fenglin Townsh**	**0.62**	**223**	P		**Pb**	**13 48 03.9**	**-1.1**
	baz=236							
WARBT				*e*S		**Sb**	**13 48 14.7**	**+0.7**
	baz=236							
TWT	**Tachien**	**0.62**	**278**	*e*P		**Pb**	**13 48 04.6**	**-0.6**
	baz=280							
CHGB	**Renai**	**0.63**	**260**	P		**Pb**	**13 48 04.0**	**-1.3**
	baz=263							
EGFH	**Guangfu**	**0.63**	**218**	*e*P		**Pb**	**13 48 04.7**	**-0.5**
	baz=221							
FUSB	**Fushanzhiwuyua**	**0.64**	**338**	P		**Pb**	**13 48 04.4**	**-1.0**
	baz=325							
TDCB	**Techi**	**0.64**	**278**	*e*P		**Pb**	**13 48 04.2**	**-1.2**
	baz=279							
TDCB				*e*S		**Sb**	**13 48 12.7**	**-1.9**
	baz=279							
YHNB	**Yeheng**	**0.66**	**319**	P		**Pb**	**13 48 05.0**	**-0.8**
YHNB	**Yeheng**	**0.66**	**319**	P		**Pb**	**13 48 04.8**	**-1.1**
	baz=319							
NSK	**Sanguang**	**0.68**	**319**	P		**Pb**	**13 48 05.0**	**-1.1**
	baz=318							
NSK				*e*S		**Sb**	**13 48 14.2**	**-1.5**
	baz=318							
EGS		**0.68**	**6**	*e*P		**Pb**	**13 48 05.6**	**-0.5**
	baz=3.0							
NWLT	**Wulai**	**0.68**	**333**	*i* P		**Pb**	**13 48 05.3**	**-0.9**
	baz=330							
NWLT				*i* S		**Sb**	**13 48 14.3**	**-1.6**
	baz=330							
WUSB	**Renai**	**0.69**	**255**	P		**Pb**	**13 48 05.2**	**-1.2**
	baz=258							
VWDT	**VWDT**	**0.77**	**238**	P		**Pb**	**13 48 07.3**	**-0.3**
	baz=249							
HGSD	**Ruisui**	**0.78**	**210**	P		**Pn**	**13 48 08.0**	**-1.3**
	baz=214							
TIPB	**Shuangxi**	**0.80**	**358**	*e*P		**Pb**	**13 48 07.6**	**-0.6**
	baz=3.0							
NFF	**Wufeng Townshi**	**0.81**	**305**	P		**Pb**	**13 48 07.8**	**-0.6**
	baz=314							
EHY	**Hungye**	**0.82**	**216**	*e*P		**Pg**	**13 48 07.2**	**-0.4**
	baz=220							
WHP	**Taichung City**	**0.83**	**278**	P		**Pb**	**13 48 08.3**	**-0.4**
	baz=280							
WHP				S		**Sb**	**13 48 19.6**	**-0.7**
	baz=280							
TWB1	**Santiao Chiao**	**0.85**	**9**	*e*P		**Pb**	**13 48 08.7**	**-0.2**
	baz=355							
WCS	**Beigang Elemen**	**0.86**	**263**	P		**Pb**	**13 48 08.7**	**-0.5**
	baz=267							
TATO	**Taipei**	**0.87**	**338**	P		**Pb**	**13 48 09.2**	**-0.1**
LIOB	**Emei**	**0.90**	**302**	P		**Pn**	**13 48 09.9**	**-1.1**
	baz=304							
NSTT	**Nanjuang**	**0.90**	**301**	*i* P		**Pb**	**13 48 09.8**	**-0.1**
	baz=303							
NWF	**Wu-fen Shan**	**0.90**	**356**	P		**Pb**	**13 48 09.9**	**0.0**
	baz=343							
WFSB	**Wu-fen Shan**	**0.90**	**356**	*e*P		**Pb**	**13 48 09.9**	**+0.1**
	baz=343							
SSLB	**Suanglung**	**0.90**	**245**	P		**Pb**	**13 48 09.3**	**-0.6**
SSLB	**Suanglung**	**0.90**	**245**	P		**Pb**	**13 48 09.0**	**-0.9**
	baz=262							
SMLT	**Sun Moon Lake**	**0.91**	**252**	*e*P		**Pb**	**13 48 09.7**	**-0.4**
	baz=256							
SMLT				*e*S		**Sn**	**13 48 24.5**	**-0.3**
	baz=256							
SXI1	**Grass Mountain**	**0.92**	**1**	*e*P		**Pb**	**13 48 10.3**	**0.0**
	baz=342							
YULB	**Yu-li**	**0.92**	**213**	P		**Pb**	**13 48 09.4**	**-0.9**
YULB	**Yu-li**	**0.92**	**213**	*e*P		**Pg**	**13 48 08.9**	**-0.7**
	baz=230							
TYC	**Yuchr**	**0.94**	**254**	*e*P		**Pb**	**13 48 10.2**	**-0.4**
	baz=258							
EYUL	**Yuli**	**0.95**	**211**	*e*P		**Pb**	**13 48 10.4**	**-0.3**
	baz=236							
TWF1	**Yuli**	**0.96**	**212**	*e*P		**Pb**	**13 48 10.0**	**-0.8**
	baz=229							
TNOU	**National Taiwa**	**0.98**	**356**	P		**Pn**	**13 48 11.3**	**-0.8**
	baz=351							
TWQ1	**Liyutan**	**1.00**	**281**	*e*P		**Pn**	**13 48 12.0**	**-0.4**
	baz=284							
NCUH	**Zhongli**	**1.00**	**323**	*e*P		**Pn**	**13 48 12.4**	**0.0**
	baz=321							
SBCB	**Hsinchu**	**1.00**	**308**	*e*P		**Pn**	**13 48 12.4**	**0.0**
	baz=309							
YM01	**YM01**	**1.01**	**345**	P		**Pn**	**13 48 12.0**	**-0.5**
	baz=340							
TWS1	**Kuangyinshan**	**1.01**	**337**	*e*P		**Pn**	**13 48 12.4**	**-0.1**
	baz=325							
WHYT	**Xinyi Township**	**1.03**	**243**	*e*P		**Pn**	**13 48 12.0**	**-0.8**
	baz=257							
NMLH	**Miaoli**	**1.03**	**291**	*e*P		**Pn**	**13 48 14.0**	**+1.1**
	baz=300							
JYNG	**Yonagunijimaku**	**1.04**	**74**	P		**Pn**	**13 48 12.9**	**0.0**
JYNG				*e*S		**Sn**	**13 48 27.4**	**-0.3**
YM08	**YM08**	**1.04**	**347**	*e*P		**Pn**	**13 48 12.4**	**-0.6**
	baz=341							
ANP	**Anpu**	**1.06**	**344**	*e*P		**Pn**	**13 48 12.8**	**-0.5**
	baz=339							
CHKH	**Chenggong**	**1.06**	**203**	*e*P		**Pn**	**13 48 13.0**	**-0.1**
	baz=191							
WJS	**Zhushan**	**1.08**	**252**	*e*P		**Pn**	**13 48 13.7**	**+0.1**
	baz=256							
WJS				*e*S		**Sn**	**13 48 30.3**	**+1.5**
	baz=256							
FULB	**Fuli**	**1.09**	**208**	*e*P		**Pb**	**13 48 12.8**	**-0.3**
	baz=232							
YOJ	**Yonaguni jima**	**1.10**	**74**	P		**Pn**	**13 48 14.2**	**+0.4**
YOJ	**Yonaguni jima**	**1.10**	**74**	*e*P		**Pn**	**13 48 14.1**	**+0.4**
	baz=61							
YOJ	**Yonaguni jima**	**1.10**	**74**	P		**Pn**	**13 48 14.2**	**+0.4**
YOJ				*e*S		**Sn**	**13 48 29.5**	**+0.3**
WNT	**Mingjian**	**1.10**	**255**	*e*P		**Pn**	**13 48 14.3**	**+0.5**
	baz=260							
TWY	**Chenhua**	**1.13**	**348**	*e*P		**Pn**	**13 48 14.2**	**+0.1**
	baz=342							
CHKT	**Chengkung**	**1.15**	**203**	*e*P		**Pn**	**13 48 13.8**	**-0.7**
	baz=192							
CHKT				*e*S		**Sn**	**13 48 31.9**	**+1.4**
	baz=192							
ALS	**Alishan**	**1.16**	**236**	P		**Pn**	**13 48 14.1**	**-0.8**
	baz=242							
ALS				*e*S		**Sn**	**13 48 30.5**	**-0.6**
	baz=242							
EHD	**Haiduan**	**1.17**	**210**	*e*P		**Pg**	**13 48 13.8**	**-0.6**
	baz=217							
CHN5	**Tsauling**	**1.21**	**242**	*e*P		**Pn**	**13 48 15.6**	**+0.2**
	baz=250							
ELDTW	**Lidau**	**1.24**	**218**	*e*P		**Pg**	**13 48 14.5**	**-1.1**
	baz=210							
WGK	**Gukeng**	**1.27**	**248**	*e*P		**Pg**	**13 48 17.2**	**+0.9**
	baz=256							
WDLH	**Douliu**	**1.29**	**249**	*e*P		**Pg**	**13 48 17.3**	**+0.7**
	baz=256							
WCKO	**Fanlu**	**1.35**	**238**	*e*P		**Pg**	**13 48 18.0**	**+0.2**
	baz=246							
WCKO				*e*S		**Sn**	**13 48 38.3**	**+2.9**
	baz=246							
WRL	**Guolierlin Hig**	**1.37**	**259**	*e*P		**Pg**	**13 48 18.6**	**+0.4**
	baz=267							
STYH	**Taoyuan**	**1.40**	**225**	*e*P		**Pb**	**13 48 17.6**	**-0.7**
	baz=215							
CHN4	**Tsaushan**	**1.41**	**235**	*e*P		**Pg**	**13 48 18.8**	**-0.1**
	baz=230							
CHN4				*e*S		**Sg**	**13 48 40.2**	**+3.0**
	baz=230							
TPUB	**Ta-pu**	**1.41**	**233**	P		**Pg**	**13 48 18.8**	**-0.2**
TPUB	**Ta-pu**	**1.41**	**233**	*e*P		**Pg**	**13 48 18.5**	**-0.5**
	baz=241							
LONT	**Longtian**	**1.42**	**208**	*e*P		**Pn**	**13 48 16.9**	**-1.3**
	baz=215							
WTK	**Tuku**	**1.42**	**251**	*e*P		**Pg**	**13 48 19.4**	**+0.3**
	baz=258							
WTK				*e*S		**Sg**	**13 48 39.7**	**+2.1**
	baz=258							
WTP	**Ta-pu**	**1.46**	**231**	*e*P		**Pg**	**13 48 19.4**	**-0.4**
	baz=239							
PCYT	**Pengchaiyu**	**1.47**	**8**	*e*P		**Pg**	**13 48 19.7**	**-0.3**
	baz=356							
LDUT	**Ludao**	**1.53**	**193**	*e*P		**Pn**	**13 48 17.0**	**-2.6**
	baz=183							
CHN1	**Nanshi**	**1.56**	**231**	*e*P		**Pg**	**13 48 21.2**	**-0.5**
	baz=241							
CHN1				*e*S		**Sg**	**13 48 44.0**	**+2.1**
	baz=241							
SNST	**Tainan City**	**1.56**	**233**	*e*P		**Pg**	**13 48 21.6**	**-0.2**
	baz=243							
SNST				*e*S		**Sg**	**13 48 43.9**	**+2.0**
	baz=243							
WSF	**Szhu**	**1.58**	**251**	*e*P		**Pb**	**13 48 20.8**	**-0.7**
	baz=259							
WSF				*e*S		**Sg**	**13 48 44.2**	**+1.5**
	baz=259							
SGST	**Jiashian**	**1.59**	**227**	*e*P		**Pb**	**13 48 20.6**	**-0.9**
	baz=235							
SGST				*e*S		**Sg**	**13 48 44.1**	**+1.2**
	baz=235							
SLGT	**Liugui**	**1.61**	**224**	*e*P		**Pb**	**13 48 21.6**	**-0.3**
	baz=220							
SLGT				*e*S		**Sg**	**13 48 45.4**	**+1.9**
	baz=220							
ICHU	**Yijhu**	**1.65**	**241**	*e*P		**Pb**	**13 48 22.2**	**-0.4**
	baz=251							
CHN8	**Yiju**	**1.71**	**242**	*e*P		**Pb**	**13 48 22.6**	**-1.1**
	baz=252							
CHN8				*e*S		**Sg**	**13 48 48.3**	**+1.5**
	baz=252							
IRIF	**Iriomote-Funau**	**1.73**	**84**	P		**Pb**	**13 48 23.4**	**-0.5**
IRIF				S		**Sb**	**13 48 45.9**	**+0.1**
SCST	**Cishan**	**1.78**	**225**	*e*P		**Pb**	**13 48 24.6**	**-0.4**
	baz=237							
SCST				*e*S		**Sg**	**13 48 51.5**	**+2.3**
	baz=237							
HATJ	**Hateruma jima**	**1.79**	**93**	P		**Pb**	**13 48 24.5**	**-0.5**
HATJ				S		**Sb**	**13 48 47.7**	**0.0**
SCLT	**Jiali**	**1.81**	**237**	*e*S		**Sg**	**13 48 50.7**	**+0.6**
	baz=248							
TWM1	**Shoushan**	**1.87**	**225**	*e*P		**Pb**	**13 48 25.9**	**-0.5**
	baz=235							
MASBT	**Mashibuluo**	**1.91**	**216**	*e*P		**Pn**	**13 48 25.2**	**+0.3**
	baz=210							
TSCK	**Chigu Township**	**1.91**	**238**	*e*P		**Pb**	**13 48 25.3**	**-1.7**
	baz=250							
TSCK				*e*S		**Sg**	**13 48 51.6**	**-1.6**
	baz=250							
JKRS	**Kuro-shima**	**1.97**	**88**	P		**Pb**	**13 48 27.2**	**-0.9**
JKRS				S		**Sb**	**13 48 52.8**	**-0.2**
EAST	**Anshuo**	**2.00**	**208**	*e*P		**Pb**	**13 48 27.2**	**-1.5**
	baz=201							
JIJ	**Ishigaki jima**	**2.10**	**84**	P		**Pn**	**13 48 27.9**	**+0.3**
JIJ				*e*S		**Sn**	**13 48 54.4**	**+0.4**
SCZT	**Fangliau**	**2.12**	**213**	*e*P		**Pb**	**13 48 29.1**	**-1.4**
	baz=221							
LAY	**Lan-yu**	**2.14**	**187**	*e*P		**Pn**	**13 48 26.3**	**-1.8**
	baz=192							
SLIU	**Shizi**	**2.17**	**207**	*e*P		**Pn**	**13 48 29.1**	**+0.6**
	baz=200							
PNG	**Penghu**	**2.18**	**255**	*e*P		**Pn**	**13 48 29.4**	**+0.8**
	baz=265							
PNG				*e*S		**Sb**	**13 48 58.5**	**-0.5**
	baz=265							
PHUB	**P'eng-hu**	**2.19**	**253**	*e*P		**Pn**	**13 48 29.4**	**+0.7**
	baz=265							
WDGT	**Dungji**	**2.20**	**246**	*e*P		**Pn**	**13 48 29.5**	**+0.6**
	baz=258							
JISG	**Ishigakijimahi**	**2.28**	**79**	P		**Pn**	**13 48 30.7**	**+0.6**
VWUC	**VWUC**	**2.33**	**291**	*e*P		**Pn**	**13 48 30.7**	**0.0**
	baz=297							
MATB	**Ma-tsu**	**2.62**	**319**	*e*P		**Pn**	**13 48 35.5**	**+0.8**
	baz=319							
PTMZ	**Houxiangcun**	**2.63**	**290**	*e*P		**Pn**	**13 48 35.0**	**+0.2**
	baz=297							
JTJ	**Tarama**	**2.64**	**79**	*e*P		**Pb**	**13 48 37.1**	**-2.4**
JTJ				S		**Sn**	**13 49 09.2**	**+1.9**

*IDC **14** 13:50:11.5±11.0,3.4°41S×126.6°60E,h0km,mb3.8/5, mbtmp3.8/5,Error ellipse: s-maj=343.3km s-min=151.5km az=107.0*

*DJA **14** 13:52:04.7±3.5,2.1°N±30.1°×12.3°3E±1.1°,h492km±29km,M3.5/8, mb3.8/3,mB4.5/1,MLv3.3/8,Mw(mB)3.7/1*

ISC 14 13:51:56.4±1.1,3.3°N±0.1°×121.9°E±0.2,h500km,n12, σ1°68/9,mb3.3/6,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
GTOI	**Gorontalo**	**2.85**	**157**	P		**P**	**13 53 07.3**	**+0.8**
KMSI	**Cibinong**	**3.40**	**142**	P		**P**	**13 53 11.9**	**+1.6**
MPSI	**Mapaga**	**3.54**	**214**	P		**P**	13 53 16.6	+5.4
LUWI	**Luwuk**	**4.38**	**168**	P		**P**	**13 53 15.3**	**-2.7**
TTSI	**Tana Toraja**	**6.61**	**198**	P		**P**	**13 53 40.3**	**+1.5**
	21nm,0.6s,0.1nm							
SANI	**Sanana**	**6.69**	**142**	P		P	13 53 35.5	-4.1
	16nm,0.8s,1µm0.2nm							
SONM	**Songino Array**	**46.35**	**346**	P		**P**	**13 59 37.4**	**+0.5**
	0.5nm,0.5s,baz=161,slow=9.2,SNR=3.8							
	0.5nm,0.5s							
MKAR	**Makanchi Array**	**55.26**	**328**	P		**P**	**14 00 42.7**	**+0.8**
	0.7nm,0.3s,baz=122,slow=8.4,SNR=18							
	0.7nm,0.3s							
ZALV	**Zalesovo Beam**	**58.89**	**335**	P		**P**	**14 01 05.3**	**-1.2**
	0.5nm,0.3s,baz=152,slow=7.0,SNR=2.2							
	0.5nm,0.3s							
KURBB	**Kurchatov Arra**	**59.59**	**330**	P		**P**	**14 01 10.5**	**-0.8**
	0.4nm,0.3s,baz=130,slow=6.1,SNR=6.1							
	0.4nm,0.3s							
BVAR	**Borovoye Array**	**65.12**	**329**	P		**P**	**14 01 46.3**	**-0.9**
	0.4nm,0.5s,baz=128,slow=9.3,SNR=2.0							
	0.4nm,0.5s							
BELG	**Belogornoye**	**77.83**	**323**	P		P	14 02 53.0	-8.6
	7.3nm,0.4s,baz=89,slow=1.9,SNR=6.9							

*IDC **14** 13:52:52.1±4.4,20.6°68S×178.2°12W,h532km±48km, mb3.2/12,mbtmp4.2/13,Error ellipse: s-maj=23.4km s-min=19.4km az=65.0*

ISC 14 13:52:52.1±0.8,20.7°S±0.2°×178.2°W±0.1,h534km,n19, σ1°34/21,mb3.7/12,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
URZ	**Urewera**	**17.97**	**192**	P		**P**	**13 56 28.8**	**-1.5**
	10.0nm,0.4s,baz=344,slow=2.3,SNR=18							
CTA	**Charters Tower**	**33.30**	**265**	P		**P**	**13 58 46.9**	**+1.0**
	2.1nm,0.4s,baz=90,slow=12,SNR=1.9							
	2.1nm,0.4s							
STKA	**Stephens Creek**	**37.55**	**244**	P		**P**	**13 59 21.5**	**+0.5**
	1.8nm,0.8s,baz=108,slow=13,SNR=2.0							
	1.8nm,0.8s							
ASAR	**Alice Springs**	**44.31**	**257**	P		**P**	**14 00 15.5**	**+0.6**
	1.9nm,0.6s,baz=95,slow=7.6,SNR=19							
ASAR	

1.3nm,0.1s
KRUC Moravsky 0.88 36 *e*PG Pg 13 55 10.2 -0.4
VRAC Vranov 1.16 34 *e*PG Pg 13 55 15.3 -0.5

TIR ***14*** *13:55:46.5, 41°.20N×20°.29E, h1km±1km, Ml3.0*
SKO ***14*** *13:55:47.4, 41°.12N×20°.25E, h20km, ML2.7*
PDG ***14*** *13:55:48.8±0.4, 41°.20N×20°.24E, h1km±1km, ML3.2/12, Error ellipse: s-maj=0.6km s-min=1.0km az=0.0*
BEO ***14*** *13:55:48.2±0.5, 41°.10N×20°.19E, h2km±2km, ML2.8/14*
THE ***14*** *13:55:48.1, 41°.24N×20°.29E, h0km±2km, ML2.6/6, Error ellipse: s-maj=2.3km s-min=0.9km az=20.0*

ISC 14 13:55:48.3±1.0,**41°.19N**±0°.02×**20°.22E**±0°.02,**h7**km±9km, **n87**,σ1§**23**/129,**6C-6D**,**Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.31**	**300**	P	**Pg**	**13 55 54.2**	**-0.2**
	baz=296						
TIR				S	**Sb**	**13 56 00.4**	**-1.1**
	baz=296						
TIR				AMP			
	comp=E,7.1nm,0.2s,baz=296						
TIR	**Tirane**	**0.31**	**300**	P	**Pg**	**13 55 54.2**	**-0.2**
TIR				S	**Sb**	**13 56 00.3**	**-1.3**
	comp=E,2μm,0.4s						
TIR	**Tirane**	**0.31**	**300**	*e*Pg	**Pg**	**13 55 54.4**	**0.0**
TIR				*e*Sg	**Sb**	**13 56 00.3**	**-1.3**
OHR	**Ohrid**	**0.44**	**100**	*e*Pg	**Pg**	**13 55 56.2**	**-0.7**
OHR				*e*Sg	**Sg**	**13 56 03.7**	**+1.0**
OHR	**Ohrid**	**0.44**	**100**	*i* Pg	**Pg**	**13 55 56.6**	**-0.3**
OHR				*i* Sg	**Sg**	**13 56 03.1**	**+0.4**
OHR				*e*Lg	Lg	13 56 03.7	
	comp=N,748nm,0.6s						
OHR				*e*Lg	Lg	13 56 05.8	
	comp=E,729nm,0.5s						
KBN	**Korca**	**0.71**	**143**	P	**Pg**	**13 56 01.0**	**-1.0**
	baz=146						
KBN				S	**Sg**	**13 56 11.2**	**0.0**
	baz=146						
KBN				AMP			
	comp=N,2.8nm,0.6s,baz=146						
KBN	**Korca**	**0.71**	**143**	P	**Pg**	**13 56 01.2**	**-0.8**
KBN				S	**Sb**	**13 56 12.7**	**-0.5**
	comp=N,592nm,0.5s						
PUK	**Puka**	**0.88**	**344**	P	**Pg**	**13 56 04.5**	**-0.8**
	baz=341						
PUK				S	**Sb**	**13 56 18.9**	**+0.8**
	baz=341						
PUK				AMP			
	comp=N,5.5nm,0.2s,baz=341						
FNA	**Florina**	**0.96**	**115**	P	**Pg**	**13 56 05.3**	**-1.5**
	baz=116						
FNA				S	**Sg**	**13 56 19.5**	**+0.2**
	baz=116						
FNA	**Florina**	**0.96**	**115**	P	**Pg**	**13 56 05.4**	**-1.5**
FNA				S	**Sg**	**13 56 19.6**	**+0.2**
	comp=N,1μm,0.5s						
FNA	**Florina**	**0.96**	**115**	*e*Pg	**Pg**	**13 56 05.3**	**-1.5**
FNA				*e*Sg	**Sg**	**13 56 19.6**	**+0.2**
FNA	**Florina**	**0.96**	**115**	*i* Pg	**Pg**	**13 56 05.4**	**-1.5**
FNA				*i* Sg	**Sg**	**13 56 19.8**	**+0.5**
NEST	**Nestorio**	**1.00**	**141**	P	**Pg**	**13 56 06.9**	**-0.6**
NEST				S	**Sb**	**13 56 21.6**	**+0.2**
	comp=N,395nm,0.6s						
ULC	**Ulcinj**	**1.06**	**317** ⇓	*i* Pg	**Pg**	**13 56 07.5**	**-1.2**
ULC				*i* Sg	**Sb**	**13 56 23.9**	**+0.6**
ULC	**Ulcinj**	**1.06**	**317**	*i* Pg	**Pg**	**13 56 07.5**	**-1.2**
LSK	**Leskovik**	**1.08**	**164**	P	**Pg**	**13 56 07.5**	**-1.5**
	baz=167						
LSK				S	**Sn**	**13 56 25.3**	**0.0**
	baz=167						
LSK				AMP			
	comp=E,1.6nm,0.4s,baz=167						
LSK	**Leskovik**	**1.08**	**164**	P	**Pg**	**13 56 08.2**	**-0.8**
BCI	**Bajram Curri**	**1.18**	**354**	P	**Pg**	**13 56 09.7**	**-1.2**
	baz=352						
BCI				S	**Sn**	**13 56 27.9**	**+0.3**
	baz=352						
BCI				AMP			
	comp=E,1.7nm,0.4s,baz=352						
SKO	**Skopje**	**1.20**	**49**	*e*Pg	**Pg**	**13 56 09.9**	**-1.4**
SKO				*e*Sg	**Sn**	**13 56 27.7**	**-0.5**
SKO	**Skopje**	**1.20**	**49**	*i* Pg	**Pg**	**13 56 10.1**	**-1.2**
SKO				*i* Sg	**Sg**	**13 56 26.8**	**-0.1**
PENT	**Pentalofos**	**1.22**	**145**	P	**Pg**	**13 56 11.0**	**-0.6**
DRME	**Dracevica, Mon**	**1.26**	**322**	*e*Pn	**Pn**	**13 56 10.8**	**-1.7**
DRME	**Dracevica, Mon**	**1.26**	**322** ⇑	*i* Pg	**Pn**	**13 56 10.7**	**-1.7**
DRME				*i* Sg	**Sn**	**13 56 30.1**	**+0.4**
SRN	**Sarande**	**1.32**	**187**	P	**Pn**	**13 56 13.4**	**+0.1**
	baz=190						
SRN				S	**Sn**	**13 56 32.9**	**+1.7**
	baz=190						
SRN	**Sarande**	**1.32**	**187**	P	**Pg**	**13 56 14.1**	**+0.4**
SRN				S	**Sn**	**13 56 33.9**	**+2.8**
	comp=E,175nm,0.9s						
PVY	**Plav**	**1.41**	**352** ⇑	*i* Pg	**Pn**	**13 56 13.6**	**-1.1**
PVY				*i* Sg	**Sg**	**13 56 35.2**	**+1.4**
BUM	**Brajici-Budva**	**1.49**	**318** ⇑	*i* Pg	**Pn**	**13 56 15.2**	**-0.4**
BUM				*i* Sg	**Sg**	**13 56 38.0**	**+1.8**
KPRO	**Kipourio**	**1.51**	**145**	P	**Pn**	**13 56 14.7**	**-1.2**
KPRO				S	**Sg**	**13 56 37.8**	**+0.9**
STIP	**Stip**	**1.56**	**71**	*i* Pn	**Pg**	**13 56 18.4**	**+0.2**
STIP				*i* Sn	**Sg**	**13 56 43.9**	**+5.5**
IGT	**Igoumenitsa**	**1.66**	**177**	P	**Pb**	**13 56 19.2**	**-0.1**
	baz=178						
IGT				S	**Sg**	**13 56 45.2**	**+3.5**
	baz=178						
GRG	**Griva**	**1.66**	**97**	P	**Pn**	**13 56 17.4**	**-0.6**
GRG				S	**Sb**	**13 56 40.7**	**+0.2**
	comp=E,195nm,0.7s						
GRG	**Griva**	**1.66**	**97**	*i* Pn	**Pn**	**13 56 17.4**	**-0.6**
CEME	**Cevo**	**1.67**	**325** ⇓	*i* Pn	**Pn**	**13 56 18.4**	**+0.3**
CEME				*i* Sn	**Sg**	**13 56 43.7**	**+1.8**
IVA	**Berane**	**1.69**	**352** ⇓	*i* Pn	**Pn**	**13 56 19.0**	**+0.5**
IVA				*i* Sn	**Sg**	**13 56 44.3**	**+1.5**
KOME	**Kolasin**	**1.74**	**343** ⇓	*i* Pn	**Pn**	**13 56 19.5**	**+0.4**
KOME				*i* Sn	**Sg**	**13 56 45.4**	**+1.2**
VAY	**Valandovo**	**1.77**	**85**	*e*Sn	**Pg**	**13 56 21.3**	**-1.0**
VAY	**Valandovo**	**1.77**	**85**	*e*Pn	**Sn**	**13 56 42.3**	**0.0**
VAY	**Valandovo**	**1.77**	**85**	*i* Pn	**Pn**	**13 56 19.9**	**+0.4**
VAY				*i* Sn	**Sb**	**13 56 44.2**	**+0.6**
VAY				*e*Lg	Lg	13 56 44.7	
	comp=N,121nm,1.1s						
VAY				*e*Lg	Lg	13 56 48.0	
	comp=E,52nm,0.7s						
HCY	**Herceg Novi**	**1.80**	**315**	*e*Pn	**Pn**	**13 56 20.5**	**+0.7**
HCY	**Herceg Novi**	**1.80**	**315** ⇑	*i* Pn	**Pn**	**13 56 20.8**	**+1.0**
HCY				*i* Sn	**Sg**	**13 56 47.1**	**+0.9**
NKME	**Niksic**	**1.84**	**329** ⇓	*i* Pn	**Pn**	**13 56 21.3**	**+0.9**
NKME				*i* Sn	**Sg**	**13 56 47.8**	**+0.5**
PRVS	**Prvonek**	**1.91**	**46**	*e*Pn	**Pb**	**13 56 23.2**	**-0.3**
PRVS				*e*Sn	**Sg**	**13 56 49.3**	**-0.3**
BARS	**Barje**	**2.01**	**36**	*e*Pn	**Pb**	**13 56 24.8**	**-0.4**
BARS				*e*Sn	**Sb**	**13 56 50.5**	**0.0**
BARS	**Barje**	**2.01**	**36**	*i* Pn	**Pb**	**13 56 25.3**	**+0.1**
KNT	**Kendrikon**	**2.02**	**90**	*i* Pn	**Pn**	**13 56 21.7**	**-1.1**
TREB	**Trebinje**	**2.07**	**318**	*e*Pn	**Pn**	**13 56 24.1**	**+0.6**
SJES	**Sjenica**	**2.08**	**355**	*e*Pn	**Pn**	**13 56 25.1**	**+1.4**
SJES				*e*Sn	**Sb**	**13 56 53.8**	**+1.3**
SJES	**Sjenica**	**2.08**	**355**	*e*Pn	**Pb**	**13 56 26.8**	**+0.4**
BRY	**Bratogost**	**2.12**	**324**	*e*Pn	**Pn**	**13 56 25.3**	**+0.9**
BRY	**Bratogost**	**2.12**	**324** ⇑	*i* Pn	**Pn**	**13 56 25.6**	**+1.2**
BRY				*i* Sn	**Sb**	**13 56 54.9**	**+1.2**
BOSS	**Bosilegrad**	**2.13**	**52**	*e*Pn	**Pb**	**13 56 27.1**	**-0.2**
SELS	**Selova**	**2.13**	**18**	*e*Pn	**Pn**	**13 56 25.2**	**+0.8**
SELS				*e*Sn	**Sb**	**13 56 54.5**	**+0.5**
DBRK	**Dubrovnik**	**2.14**	**314**	*e*Pn	**Pn**	**13 56 24.5**	**0.0**
PLE	**Pljevlja**	**2.22**	**344** ⇓	*i* Pn	**Pn**	**13 56 27.2**	**+1.4**
PLE				*i* Sn	**Sb**	**13 56 57.5**	**+0.8**
UPM	**Unac-Piva**	**2.23**	**334**	*e*Pn	**Pn**	**13 56 27.6**	**+1.6**
UPM	**Unac-Piva**	**2.23**	**334** ⇑	*i* Pn	**Pn**	**13 56 27.1**	**+1.1**
UPM				*i* Sn	**Sb**	**13 56 57.4**	**+0.3**
KKB	**Krupnik**	**2.28**	**73**	*i* Pn	**Pn**	**13 56 25.9**	**-0.5**
IVAS	**Ivanjica**	**2.38**	**359**	*e*Pn	**Pn**	**13 56 28.0**	**+0.1**
IVAS				*e*Sn	**Sb**	**13 57 01.4**	**+0.1**
RUDO	**Rudo**	**2.50**	**346**	*e*Pn	**Pn**	**13 56 27.9**	**-1.6**
STON	**Ston**	**2.52**	**313**	*e*Pn	**Pn**	**13 56 30.6**	**+0.9**
STON	**Ston**	**2.52**	**313**	*e*Pn	**Pn**	**13 56 29.5**	**-0.2**
NEVS	**Nevesinje**	**2.63**	**324**	*e*Pn	**Pn**	**13 56 33.6**	**+2.3**
GRUS	**Gruza**	**2.72**	**8**	*e*Pn	**Pn**	**13 56 32.7**	**+0.2**
BBLS	**Lazi&#263i**	**2.74**	**348**	*e*Pn	**Pn**	**13 56 33.7**	**+0.9**
BBLS				*e*Sn	**Sb**	**13 57 10.0**	**-1.5**
BBLS	**Lazi&#263i**	**2.74**	**348**	*e*Pn	**Pn**	**13 56 34.1**	**+1.3**
ZAPS	**Zavoj**	**2.74**	**40**	*e*Pn	**Pn**	**13 56 35.0**	**+2.2**
DIVS	**Divibare**	**2.91**	**357**	*e*Pn	**Pn**	**13 56 35.7**	**+0.5**
LSTV	**Lastovo**	**2.94**	**303**	*e*Pn	**Pn**	**13 56 35.2**	**-0.3**
ZAGS	**Zajecar**	**3.01**	**29**	*e*Pn	**Pn**	**13 56 38.0**	**+1.5**
TRUS	**Trudelj**	**3.03**	**2**	*e*Pn	**Pn**	**13 56 38.7**	**+1.9**
HAPS	**Han Pijesak,Bl**	**3.04**	**342**	*e*Pn	**Pn**	**13 56 38.1**	**+1.1**
MAKA	**Makarska**	**3.17**	**312**	*e*Pn	**Pn**	**13 56 38.6**	**-0.1**
RICI	**Ricice**	**3.25**	**316**	*e*Pn	**Pn**	**13 56 39.8**	**0.0**
TEKS	**Tekeris**	**3.39**	**352**	*e*Pn	**Pn**	**13 56 42.6**	**+0.8**
TEKS	**Tekeris**	**3.39**	**352**	*e*Pn	**Pn**	**13 56 43.8**	**+2.0**
HVAR	**Hvar**	**3.44**	**307**	*e*Pn	**Pn**	**13 56 41.9**	**-0.4**
FRGS	**Fruska Gora**	**3.97**	**356**	*e*Pn	**Pn**	**13 56 47.2**	**-2.5**
KIJV	**Kijevo**	**3.98**	**316**	*e*Pn	**Pn**	**13 56 49.8**	**0.0**
ZIRJ	**Zirje**	**4.19**	**307**	*e*Pn	**Pn**	**13 56 52.1**	**-0.6**
BLY	**Banja Luka**	**4.20**	**329**	*e*Pn	**Pb**	**13 56 58.6**	**-3.9**
A050A	**Klekovaca**	**4.26**	**322**	*e*Pn	**Pn**	**13 56 54.6**	**+0.8**
A051A	**Mrakovica**	**4.52**	**329**	*e*Pn	**Pn**	**13 56 58.3**	**+1.0**
DUGI	**Dugi Otok**	**4.73**	**308**	*e*Pn	**Pn**	**13 57 00.1**	**0.0**
BOJS	**Bojanci**	**5.63**	**322**	*e*Pn	**Pn**	**13 57 10.2**	**-2.2**
CRES	**Cresnjev**	**5.78**	**325**	*e*Pn	**Pn**	**13 57 14.0**	**-0.6**
CEY	**Cerknica**	**6.20**	**319**	*e*Pn	**Pn**	**13 57 19.8**	**-0.5**
OBKA	**Obir**	**6.71**	**324**	*e*Pn	**Pn**	**13 57 26.9**	**-0.5**

IDC ***14*** *14:13:47.4±0.9, 12°.54N×48°.42E, h0km, mb4.1/22, mbtmp4.1/24, ML3.9/2, MS3.7/33, Error ellipse: s-maj=21.1km s-min=14.9km az=8.0*
NEIC ***14*** *14:13:49.4±1.9, 12°.62N±0°.09×48°.21E±0°.09, h10km±1km, mb4.4/28, Error ellipse: s-maj=15.6km s-min=14.8km az=128.0*

ISC 14 14:13:48.7±0.6,**12°.57N**±0°.08×**48°.31E**±0°.07,**h10**km,**n80**, σ1§**12**/62,**mb4.3**/38,**MS3.7**/32,**Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**5.45**	**260**	Pn	**Pn**	**14 15 09.0**	**-1.1**
ATD	**Arta Tunnel**	**5.45**	**260**	Pn	**Pn**	**14 15 10.3**	**+0.3**
	3.1nm,0.3s,baz=52,slow=12,SNR=63						
ATD				Sn	**Sn**	**14 16 14.5**	**+1.6**
	baz=60,slow=23,SNR=1.1						
ATD				LR	LR	14 16 45.7	
	comp=Z,18nm,19.9s,baz=65,slow=32 7.0nm,0.3s						
RAYN	**Ar Rayn**	**11.22**	**347**	Pn	**Pn**	**14 16 27.1**	**-2.2**
UOSS	**Minazif**	**14.39**	**30**	Pn	**Pn**	**14 17 11.9**	**-0.9**
WSAR	**Wadi Sarin**	**14.45**	**41**	Pn	**Pn**	**14 17 12.2**	**-1.3**
	0.6nm,0.3s,baz=249,slow=12,SNR=6.8						
WSAR				LR	LR	14 22 36.0	
	comp=Z,280nm,21.3s,baz=238,slow=37 4.2nm,0.6s						
KIBK	**Kibwezi**	**17.98**	**215**	P	**Pn**	**14 17 56.2**	**-2.9**
MSEY	**Mahe Island**	**18.55**	**157**	P	**Pn**	**14 18 06.4**	**+0.4**
EIL	**Elat**	**21.06**	**326**	P	**P**	**14 18 34.7**	**+1.6**
	3.2nm,0.7s,baz=45,slow=5.7,SNR=3.7						
EIL				LR	LR	14 25 30.7	
	comp=Z,217nm,19.5s,baz=72,slow=33 3.2nm,0.7s						
MBAR	**Mbarara**	**21.80**	**234**	LR	LR	14 26 26.6	
	comp=Z,65nm,18.9s,baz=18,slow=35						
ASF	**Jabal al Asfar**	**22.15**	**334**	P	**P**	**14 18 46.4**	**+1.4**
	4.4nm,0.8s,baz=153,slow=4.3,SNR=7.0						
ASF				LR	LR	14 27 19.2	
	comp=Z,242nm,19.4s,baz=153,slow=36 4.4nm,0.8s						
MMAI	**Mount Meron Ar**	**23.53**	**332**	LR	LR	14 28 34.6	
	comp=Z,255nm,18.6s,baz=74,slow=38						
HRA	**Herat**	**25.14**	**28**	P	**P**	**14 19 13.6**	**-0.8**
HRA				IAmb	IAmb	14 19 19.1	
	comp=Z,12nm,1.1s						
GEYT	**Alibeck**	**26.73**	**17**	P	**P**	**14 19 28.6**	**0.0**
GEYT				IAmb	IAmb	14 19 33.2	
	comp=Z,8.9nm,0.8s						
GEYT	**Alibeck**	**26.73**	**17**	P	**P**	**14 19 29.1**	**+0.6**
	comp=Z,7.8nm,0.8s,baz=168,slow=10,SNR=11						
GEYT				LR	LR	14 32 00.3	
	comp=Z,315nm,18.1s,baz=201,slow=41 7.8nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**26.73**	**17**	P	**P**	**14 19 26.8**	**-1.8**
GYA0B				IAmb	IAmb	14 19 33.2	
	comp=Z,7.7nm,0.8s						
GNI	**Garni**	**27.65**	**354**	LR	LR	14 32 04.3	
	comp=Z,351nm,20.4s,baz=182,slow=40						
BRTR	**Keskin Array B**	**30.00**	**337**	P	**P**	**14 19 59.2**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=162,slow=6.9,SNR=2.5 comp=Z,0.7nm,0.8s						
OPO	**Ambohidratompo**	**30.96**	**182**	LR	LR	14 32 18.7	
	comp=Z,124nm,18.1s,baz=174,slow=36						
KBZ	**Khabaz**	**31.40**	**352**	LR	LR	14 34 25.5	
	comp=Z,208nm,18.0s,baz=178,slow=39						
SIMJ	**Simiganj**	**31.83**	**32**	P	**P**	**14 20 13.0**	**-1.0**
SIMJ				IAmb	IAmb	14 20 16.3	
	comp=Z,5.1nm,0.8s						
PALK	**Pallekele**	**32.32**	**96**	LR	LR	14 30 18.6	
	comp=Z,56nm,21.2s,baz=7.2,slow=31						
BTK	**Batken**	**33.81**	**32**	P	**P**	**14 20 31.4**	**+0.1**
DRK	**Karamyk**	**33.91**	**34**	P	**P**	**14 20 32.6**	**+0.3**
LSZ	**Lusaka**	**34.09**	**216**	LR	LR	14 35 24.7	
	comp=Z,166nm,18.2s,baz=66,slow=38						
ARSB	**Arslanbob**	**35.86**	**32**	P	**P**	**14 20 49.6**	**+0.7**
KSH	**Kashi**	**36.30**	**37**	P	**P**	**14 20 53.5**	**+0.8**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NRN	**Naryn**	**37.57**	**35**	P	**P**	**14 21 04.3**	**+0.5**
NRN				IAmb	IAmb	14 21 11.2	
	comp=Z,6.7nm,0.8s						
AAK	**Ala-Archa**	**37.58**	**32**	P	**P**	**14 21 04.3**	**+0.7**
AAK	**Ala-Archa**	**37.58**	**32**	LR	LR	14 39 06.7	
	comp=Z,81nm,20.5s,baz=248,slow=40						
ABKAR	**Akbulak array**	**37.82**	**12**	P	**P**	**14 21 04.6**	**-0.8**
BOOM	**Boomskoye usch**	**38.25**	**34**	P	**P**	**14 21 10.0**	**+0.7**
BOOM				IAmb	IAmb	14 21 16.1	
	comp=Z,4.7nm,0.7s						
TARG	**Taragay, Kyrgy**	**38.79**	**36**	P	**P**	**14 21 14.7**	**+0.6**
TARG				IAmb	IAmb	14 21 25.0	
	comp=Z,7.5nm,1.0s						
BURAR	**Bucovina Array**	**39.93**	**336**	P	**P**	**14 21 21.9**	**-1.4**
KIEV	**Kiev**	**41.10**	**342**	P	**P**	**14 21 32.1**	**-0.5**
KIEV				IAmb	IAmb	14 21 38.4	
	comp=Z,7.8nm,0.8s						
AKASG	**Malin Array Be**	**41.10**	**342**	P	**P**	**14 21 34.4**	**+1.7**
	comp=Z,3.3nm,0.8s,baz=155,slow=7.6,SNR=11						
AKASG				LR	LR	14 40 04.6	
	comp=Z,60nm,18.5s,baz=167,slow=38 comp=Z,3.3nm,0.8s						
AKBB	**Malin Array Si**	**41.10**	**342**	P	**P**	**14 21 32.7**	**0.0**
TAM	**Tamanrasset**	**41.88**	**290**	P	**P**	**14 21 37.4**	**-2.4**
KEST	**Kesra**	**41.98**	**310**	LR	LR	14 38 26.2	
	comp=Z,49nm,20.0s,baz=244,slow=35						
TSUM	**Tsumeb**	**43.74**	**224**	LR	LR	14 41 05.7	
	comp=Z,68nm,21.6s,baz=122,slow=37						
BVAR	**Borovoye Array**	**44.04**	**19**	P	**P**	**14 21 56.3**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=201,slow=7.9,SNR=8.1						
BVAR				LR	LR	14 43 15.7	
	comp=Z,112nm,18.6s,baz=210,slow=40 comp=Z,2.6nm,0.8s						
MAKZ	**Makanchi**	**44.33**	**33**	P	**P**	**14 21 59.6**	**+0.5**
MAKZ				IAmb	IAmb	14 22 05.0	
	comp=Z,5.4nm,0.8s						
ARU	**Arti**	**44.48**	**8**	P	**P**	**14 22 00.3**	**+0.3**
ARU				IAmb	IAmb	14 22 06.0	
	comp=Z,4.4nm,0.8s						
ARU	**Arti**	**44.48**	**8**	LR	LR	14 43 55.2	
	comp=Z,106nm,18.3s,baz=212,slow=41						
MK31	**Makanchi Array**	**44.49**	**33**	P	**P**	**14 21 59.3**	**-1.0**
MK31				IAmb	IAmb	14 22 06.2	
	comp=Z,5.6nm,0.8s						
MKAR	**Makanchi Array**	**44.49**	**33**	P	**P**	**14 21 59.5**	**-0.8**
	comp=Z,3.2nm,0.8s,baz=228,slow=6.6,SNR=26						
MKAR				LR	LR	14 42 48.6	
	comp=Z,34nm,20.6s,baz=244,slow=39 comp=Z,3.2nm,0.8s						
KURBB	**Kurchatov Arra**	**45.25**	**27**	P	**P**	**14 22 05.9**	**-0.4**
	comp=Z,3.7nm,0.9s,baz=227,slow=8.2,SNR=13						
KURBB				LR	LR	14 43 51.4	
	comp=Z,70nm,19.5s,baz=164,slow=40 comp=Z,3.7nm,0.9s						
KURK	**Kurchatov**	**45.35**	**27**	P	**P**	**14 22 07.1**	**0.0**
KURK				IAmb	IAmb	14 22 11.9	
	comp=Z,5.8nm,1.0s						
TOA0	**Torodi Ar. Sit**	**45.40**	**276**	P	**P**	**14 22 07.4**	**-0.7**
TOA0				IAmb	IAmb	14 22 08.7	
	comp=Z,3.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**45.40**	**276**	P	**P**	**14 22 08.2**	**+0.2**
	comp=Z,2.4nm,0.6s,baz=83,slow=8.1,SNR=17 comp=Z,2.4nm,0.6s						
NACGM	**Naroch**	**45.49**	**343**	*e*P	**P**	**14 22 08.0**	**-0.1**
	comp=Z,8.0nm,1.1s,baz=150						
GERES	**GERESS Array B**	**46.12**	**329**	P	**P**	**14 22 12.8**	**-0.6**
GERES	**GERESS Array B**	**46.12**	**329**	P	**P**	**14 22 14.4**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=114,slow=6.6,SNR=4.6 comp=Z,1.5nm,0.8s						
KHC	**Kasperske Hory**	**46.37**	**329**	*e*P	**P**	**14 22 17.5**	**+2.3**
CM31	**Chiang Mai Arr**	**49.01**	**76**	P	**P**	**14 22 37.3**	**+1.1**
CMAR	**Chiang Mai Arr**	**49.01**	**76**	P	**P**	**14 22 36.9**	**+0.7**
CMAR	**Chiang Mai Arr**	**49.01**	**76**	P	**P**	**14 22 35.8**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=272,slow=8.6,SNR=24						
CMAR				PcP	**PcP**	**14 24 02.1**	**+2.0**
	comp=Z,1.0nm,0.7s,baz=269,slow=5.0,SNR=4.4						
CMAR				LR	LR	14 44 16.8	
	comp=Z,17nm,18.4s,baz=240,slow=37 comp=Z,3.0nm,0.8s						
ZAA0	**Zalesovo Array**	**50.34**	**27**	P	**P**	**14 22 44.5**	**-1.2**
ZAA0				IAmb	IAmb	14 22 50.2	
	comp=Z,3.9nm,0.8s						
ZALV	**Zalesovo Beam**	**50.34**	**27**	P	**P**	**14 22 44.4**	**-1.3**
ZALV	**Zalesovo Beam**	**50.34**	**27**	P	**P**	**14 22 44.2**	**-1.4**
	comp=Z,2.2nm,0.6s,baz=227,slow=7.7,SNR=11						
ZALV				LR	LR	14 45 40.5	
	comp=Z,37nm,20.9s,baz=255,slow=38 comp=Z,2.2nm,0.6s						
FINES	**FINESS Array B**	**51.40**	**347**	P	**P**	**14 22 53.7**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=133,slow=7.8,SNR=8.1 comp=Z,3.3nm,0.8s						
SUR	**Sutherland**	**51.86**	**210**	LR	LR	14 45 32.4	
	comp=Z,112nm,18.4s,baz=16,slow=37						
ESDC	**Sonseca Array**	**53.23**	**310**	P	**P**	**14 23 09.5**	**+1.8**
	comp=Z,1.8nm,1.0s,baz=99,slow=8.1,SNR=5.3 comp=Z,1.8nm,1.0s						
HFS	**Hagfors**	**53.89**	**339**	P	**P**	**14 23 12.8**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=146,slow=10,SNR=1.8						
HFS				LR	LR	14 49 30.1	
	comp=Z,74nm,18.4s,baz=188,slow=40 comp=Z,0.9nm,0.5s						
NOA	**NORSAR Array B**	**55.40**	**339**	P	**P**	**14 23 23.4**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=134,slow=7.1,SNR=4.1						
NOA				LR	LR	14 50 06.5	
	comp=Z,50nm,19.1s,baz=315,slow=39 comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**58.74**	**351**	P	**P**	**14 23 46.3**	**-0.3**
	comp=Z,2.8nm,0.7s,baz=30,slow=7.6,SNR=11 comp=Z,2.8nm,0.7s						
SONM	**Songino Array**	**59.50**	**42**	P	**P**	**14 23 51.9**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=242,slow=5.9,SNR=8.2						
SONM				LR	LR	14 53 34.9	
	comp=Z,30nm,18.2s,baz=275,slow=40 comp=Z,1.3nm,0.9s						
BTO	**Baotou**	**60.49**	**50**	*e*P	P	14 23 53.4	-5.9
BTO				pP	pP	14 23 57.9	-3.8
BTO				sP	sP	14 24 00.5	-2.1
BTO				pmax	pmax		
	comp=Z,30nm,0.7s						
BTO				pmax	pmax		
	comp=Z,240nm,4.3s						
NRIK	**Noril'sk**	**61.93**	**15**	LR	LR	14 55 55.9	
	comp=Z,151nm,18.7s,baz=285,slow=41						
WHN	**Wuhan**	**63.16**	**62**	P	**P**	**14 24 19.1**	**+1.8**
SPITS	**Spitsbergen Ar**	**67.52**	**353**	P	**P**	**14 24 44.9**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=114,slow=10,SNR=4.7						
SPITS				LR	LR	14 57 13.1	
	comp=Z,53nm,18.1s,baz=212,slow=39 comp=Z,2.0nm,0.6s						
JMIC	**Jan Mayen**	**67.70**	**343**	LR	LR	14 55 13.5	
	comp=Z,25nm,18.8s,baz=97,slow=37						
KSRS	**Korea Array**	**74.27**	**54**	P	**P**	**14 25 26.6**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=274,slow=6.4,SNR=5.1 comp=Z,1.4nm,0.7s						
YAK	**Yakutsk**	**74.94**	**29**	LR	LR	15 01 23.4	
	comp=Z,48nm,20.3s,baz=275,slow=38						
TIXI	**Tiksi**	**75.18**	**19**	LR	LR	15 04 04.7	
	comp=Z,60nm,18.5s,baz=16,slow=40						
KLR	**Kul'dur**	**76.33**	**42**	LR	LR	15 04 37.4	
	comp=Z,42nm,18.2s,baz=318,slow=40						
WRA	**Warramunga Arr**	**90.55**	**110**	P

comp=Z,6.7nm,0.8s
CMAR Chiang Mai Arr 31.21 305 P **P** 14 32 23.1 -0.4
comp=Z,0.5nm,0.7s,baz=130,slow=8.4,SNR=1.8
CMAR PcP **PcP** 14 35 18.6 +0.7
comp=Z,0.6nm,0.3s,baz=191,slow=2.2,SNR=6.0
comp=Z,0.5nm,0.7s
FORT Forrest 32.09 176 P **P** 14 32 31.0 -0.1
BBOO Buckleboo 35.43 165 P **P** 14 32 60.0 0.0
JGF Kuroka 35.71 16 P **P** 14 33 01.5 -1.0
KSRS Korea Array 35.93 3 P **P** 14 33 04.8 +0.6
comp=Z,2.1nm,0.8s,baz=184,slow=11,SNR=12
comp=Z,2.1nm,0.8s
STKA Stephens Creek 36.39 157 P **P** 14 33 08.3 0.0
STKA Stephens Creek 36.39 157 P **P** 14 33 07.7 -0.6
comp=Z,7.2nm,0.8s,baz=336,slow=8.4,SNR=15
comp=Z,7.2nm,0.8s
MJAR Matsushiro Arr 36.84 17 P **P** 14 33 11.9 -0.1
comp=Z,4.7nm,1.0s,baz=188,slow=8.8,SNR=6.8
comp=Z,4.7nm,1.0s
JMM Marumori 38.86 19 P **P** 14 33 28.7 -0.3
ARMA Armidale 40.18 144 P **P** 14 33 40.6 +0.2
ARMA IAmb IAmb 14 33 58.9
comp=Z,25nm,1.5s
CAN Canberra 42.56 151 P **P** 14 34 00.9 +1.1
CAN IAmb IAmb 14 34 36.8
comp=Z,29nm,1.3s
USRK Ussuriysk Ar. 42.98 7 P **P** 14 34 03.5 +0.7
USRK Ussuriysk Ar. 42.98 7 P **P** 14 34 04.1 +1.2
comp=Z,4.0nm,0.6s,baz=186,slow=7.0,SNR=14
comp=Z,4.0nm,0.6s
MDJ Mudanjiang 43.16 4 P **P** 14 34 04.4 0.0
MDJ IAmb IAmb 14 34 06.9
comp=Z,14nm,1.0s
BNX BinXian 44.17 2 ⇓P **P** 14 34 12.6 +0.1
BNX pmax pmax
comp=Z,6.0nm,0.9s
BNX pmax pmax
comp=Z,120nm,4.7s
JKA Kamikawa-asahi 45.11 17 P **P** 14 34 19.3 -0.7
JKA IAmb IAmb 14 34 39.1
comp=Z,17nm,1.2s
HEH HeiHe 48.69 1 *e*P **P** 14 34 48.3 +0.5
HEH pmax pmax
comp=Z,18nm,0.9s
PETK Petropavlovsk- 57.97 22 P **P** 14 35 57.0 +0.9
PETK Petropavlovsk- 57.97 22 P **P** 14 35 57.6 +1.5
comp=Z,4.1nm,0.8s,baz=192,slow=8.4,SNR=4.5
comp=Z,4.1nm,0.8s
MK31 Makanchi Array 58.86 327 P **P** 14 36 01.0 -1.5
MKAR Makanchi Array 58.86 327 P **P** 14 36 00.9 -1.6
MKAR Makanchi Array 58.86 327 P **P** 14 36 01.0 -1.4
comp=Z,0.8nm,0.4s,baz=119,slow=7.8,SNR=17
MKAR PcP **PcP** 14 36 51.0 -0.6
comp=Z,1.1nm,0.7s,baz=128,slow=4.1,SNR=5.0
comp=Z,0.8nm,0.4s
KSH Kashi 58.95 316 P P 14 36 09.0 +5.7
KSH pmax pmax
comp=Z,3.0nm,1.7s
MAKZ Makanchi 59.04 326 P **P** 14 36 02.4 -1.3
MAKZ IAmb IAmb 14 36 21.3
comp=Z,5.0nm,1.4s
YAK Yakutsk 60.55 2 P **P** 14 36 13.6 -0.1
TUWZ Tuamarina 61.05 140 P **P** 14 36 18.4 +0.9
MA2 Magadan 61.20 14 P **P** 14 36 18.6 +0.4
KURBB Kurchatov Arra 63.12 328 P **P** 14 36 29.6 -1.7
comp=Z,1.4nm,0.6s,baz=128,slow=6.4,SNR=16
comp=Z,1.4nm,0.6s
KURK Kurchatov 63.13 329 P **P** 14 36 29.5 -1.8
KURK IAmb IAmb 14 36 53.7
comp=Z,3.4nm,0.9s
BVAR Borovoye Array 68.68 328 P **P** 14 37 05.8 -1.2
comp=Z,0.7nm,0.6s,baz=123,slow=5.3,SNR=4.4
comp=Z,0.7nm,0.6s
TIXI Tiksi 70.16 1 P **P** 14 37 15.2 -0.6
TIXI IAmb IAmb 14 37 16.1
comp=Z,4.4nm,0.7s
ATKA Atka Island 71.00 34 P **P** 14 37 21.2 0.0
NRIK Noril'sk 72.42 347 P **P** 14 37 29.4 -0.1
comp=Z,4.3nm,0.5s,baz=141,slow=5.2,SNR=8.3
comp=Z,4.3nm,0.5s
AKTO Aktyubinsk 74.81 322 P **P** 14 37 42.7 -1.2
comp=Z,1.3nm,0.5s,baz=106,slow=5.2,SNR=3.4
comp=Z,1.3nm,0.5s
SDPT Sand Point 79.70 34 P **P** 14 38 11.7 +0.5
ANM Nome 79.80 24 P **P** 14 38 12.6 +1.1
L14K Kuka Creek 80.03 28 P **P** 14 38 14.4 +1.6
L14K IAmb IAmb 14 38 16.8
comp=Z,10nm,0.8s
M14K Bethel 80.22 28 P **P** 14 38 15.1 +1.3
K15K Wolf Creek Mou 80.81 27 P **P** 14 38 19.1 +2.1
K15K IAmb IAmb 14 38 20.8
comp=Z,9.3nm,0.9s
C16K Lisburne Hills 81.02 21 P **P** 14 38 19.2 +1.2
C16K IAmb IAmb 14 38 20.9
comp=Z,4.8nm,0.9s
MAW Mawson 81.22 200 P **P** 14 38 19.1 +0.1
G16K Koyuk River 81.28 24 P **P** 14 38 21.4 +1.9
G16K IAmb IAmb 14 38 22.6
comp=Z,4.3nm,0.8s
VNDA Vanda 81.28 173 P **P** 14 38 20.0 +0.8
VNDA IAmb IAmb 14 38 32.0
comp=Z,20nm,1.3s
VNDA Vanda 81.28 173 P **P** 14 38 19.4 +0.2
comp=Z,1.3nm,0.7s,baz=301,slow=7.2,SNR=5.1
comp=Z,1.3nm,0.7s
J16K Anvik River 81.47 26 P **P** 14 38 21.6 +1.0
J16K IAmb IAmb 14 38 24.4
comp=Z,5.9nm,0.8s
J18K Innoko River 83.22 26 P **P** 14 38 31.1 +1.4
J18K IAmb IAmb 14 38 32.7
comp=Z,10nm,0.8s
G19K Purcell Mounta 83.57 24 P **P** 14 38 33.2 +1.8
D19K Kuna River 83.66 21 P **P** 14 38 33.4 +1.5
F20K Avaraart Lake 84.27 23 P **P** 14 38 36.4 +1.4
F20K IAmb IAmb 14 38 47.7
comp=Z,6.2nm,1.1s
B20K Meade River 84.30 20 P **P** 14 38 36.6 +1.5
B20K IAmb IAmb 14 38 38.4
comp=Z,12nm,0.9s
CAST Castle Rocks 85.27 27 P **P** 14 38 41.8 +1.7
CAST IAmb IAmb 14 38 54.7
comp=Z,7.8nm,1.5s
B22K Teshekpuk Lake 85.62 20 P **P** 14 38 43.2 +1.5
SUA Susitna One 85.70 29 P **P** 14 38 43.4 +1.0
SUA IAmb IAmb 14 38 58.7
comp=Z,3.3nm,0.9s
I23K Minto, Yukon-K 86.61 25 P **P** 14 38 47.9 +1.3
I23K IAmb IAmb 14 38 48.6
comp=Z,4.0nm,0.9s
ILAR Eielson Array 87.64 25 P **P** 14 38 50.9 -0.8
comp=Z,0.7nm,0.5s,baz=244,slow=4.9,SNR=12
comp=Z,0.7nm,0.5s
QSPA South Pole Qui 91.33 180 P P 14 39 09.1 0.0
QSPA South Pole Qui 91.33 180 P **P** 14 39 09.4 +0.3
comp=Z,1.9nm,1.0s,baz=290,slow=2.8,SNR=2.1
comp=Z,1.9nm,1.0s
ARCES ARCESS Array B 92.24 340 P **P** 14 39 12.5 -0.6
comp=Z,4.8nm,1.0s,baz=90,slow=6.1,SNR=5.1
comp=Z,4.8nm,1.0s
FINES FINESS Array B 93.35 332 P **P** 14 39 17.8 -0.5
comp=Z,2.5nm,0.9s,baz=77,slow=6.3,SNR=3.4
comp=Z,2.5nm,0.9s
YKA Yellowknife Ar 102.04 24 P **Pdif** 14 39 57.6 +0.1
comp=Z,0.4nm,0.8s,baz=301,slow=5.1,SNR=5.2
TORD Torodi Ar. Bea 122.58 286 PKP **PKPdf** 14 44 59.7 -0.4
comp=Z,2.8nm,0.7s,baz=50,slow=3.2,SNR=19
TXAR Lajitas Array 123.85 53 PKP **PKiKP** 14 45 03.1 +0.5
comp=Z,0.3nm,0.6s,baz=90,slow=1.3,SNR=4.6
DBIC Dimbokro 129.96 280 PKP **PKPdf** 14 45 14.4 +0.2
comp=Z,2.6nm,0.7s,baz=123,slow=3.2,SNR=3.6

*DJA **14** 14:30:14.8±1.0,4.7°N×10.°×12.°8E±.°, h96km±3.2km, M4.2/11, mb4.0/6, mbB4.8/2, MLv4.2/11, Mw(mB)4.1/2*
*IDC **14** 14:30:54.5±3.0, 10.°50N×126.°35E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=262.9km s-min=22.5km az=66.0*
ISC 14 14:30:18.8±1.1, 3.°1N±0.°1×127.°82E±0.°10, h100km, n11, σ2≥20/12, mb3.6/3, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.35**	**284**	P		P	Pn	14 30 52.0	-4.0
SGSI				S			**Sn**	**14 31 21.1**	**-3.4**
TNTI	**Ternate**	**2.38**	**191**	P			**Pn**	**14 30 58.6**	**+2.2**
LBMI	**Labuha**	**3.75**	**185**	P			**Pn**	**14 31 17.7**	**+3.0**
SWI	**Sorong**	**5.25**	**139**	P			**Pn**	**14 31 34.2**	**-0.8**
SWI	19nm,1.0s,0.1nm			S			**Sn**	**14 32 31.2**	**-3.0**
GTOI	**Gorontalo**	**5.40**	**243**	P			**Pn**	**14 31 37.8**	**+0.7**
	6.4nm,0.6s,0.0nm								
SANI	**Sanana**	**5.46**	**200**	P			**Pn**	**14 31 37.5**	**-0.3**
	17nm,0.9s,0.1nm								
MRSI	**Marisa**	**6.44**	**246**	P			**Pn**	**14 31 52.5**	**+1.4**
	136nm,0.6s,1μm0.4nm								
FAKI	**Fak Fak**	**7.46**	**144**	P			**Pn**	**14 32 04.6**	**-0.5**
MKAR	**Makanchi Array**	**58.67**	**325**	P			**P**	**14 40 05.4**	**-0.4**
	0.3nm,0.5s,baz=112,slow=9.1,SNR=4.3								
	0.3nm,0.5s								
KURBB	**Kurchatov Arra**	**62.83**	**327**	P			**P**	**14 40 34.5**	**+0.6**
	0.6nm,0.7s,baz=123,slow=6.4,SNR=4.5								
	0.6nm,0.7s								
BVAR	**Borovoye Array**	**68.42**	**327**	P			**P**	**14 41 12.1**	**+2.3**
	0.7nm,0.6s,baz=104,slow=11,SNR=3.8								
	0.7nm,0.6s								

ISC 14 14:32:17.5±3.7, 26.°6N±0.°1×111.°2W±0.°3, h10km, n3, σ0≥97/6, 3C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NE77	**Loreto B.C.S**	**0.63**	**195**	⇑*i*P			**Pg**	**14 32 30.7**	**+1.0**
NE77				*e*S			**Sg**	**14 32 37.8**	**-0.2**
NE77				IAML				14 32 38.2	
	comp=N,383nm,0.2s								
NE77				⇑*e*				14 32 38.4	
NE77				IAML				14 32 38.4	
	comp=E,512nm,0.3s								
UAGRB	**Rancho Ultima**	**1.06**	**184**	⇓*e*P			**Pg**	**14 32 38.1**	**+0.2**
UAGRB				*e*S			**Sg**	**14 32 50.6**	**-1.2**
SRIG	**Santa Rosalia**	**1.17**	**306**	*e*P			**Pb**	**14 32 39.8**	**0.0**
SRIG				*e*S			**Sb**	**14 32 54.5**	**-0.5**
SRIG				IAML				14 32 55.9	
	comp=N,195nm,0.3s								
SRIG				⇑*e*				14 32 55.9	

IDC 14 14:33:19.3±389.0, 65.°47N×45.°32E, h0km, Error ellipse: s-maj=203.5km s-min=100.1km az=38.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**16.48**	**150**	I		I		16 13 00.0	
	baz=338,slow=328,SNR=0.8								
I46RU	**ZALESOVO INFRA**	**22.57**	**102**	I		I		16 49 41.0	
	baz=318,slow=326,SNR=2.7								
I18DK	**QAANAAQ INFRAS**	**31.92**	**338**	I		I		17 45 50.0	
	baz=43,slow=349,SNR=1.9								
I53US	**FAIRBANKS INFR**	**49.60**	**7**	I		I		19 41 00.0	
	baz=347,slow=330,SNR=0.9								

ISC 14 14:34:15.4±3.7, 26.°6N±0.°1×111.°2W±0.°3, h10km, n3, σ0≥45/7, 2C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NE77	**Loreto B.C.S**	**0.62**	**194**	*e*P			**Pg**	**14 34 27.9**	**+0.5**
NE77				*e*S			**Sg**	**14 34 35.5**	**0.0**
NE77				IAML				14 34 36.1	
	comp=E,233nm,0.3s								
NE77				⇑*e*				14 34 36.1	
UAGRB	**Rancho Ultima**	**1.05**	**183**	*e*P			**Pg**	**14 34 35.9**	**+0.2**
UAGRB				*e*S			**Sg**	**14 34 48.7**	**-0.7**
SRIG	**Santa Rosalia**	**1.17**	**307**	*e*P			**Pb**	**14 34 37.6**	**0.0**
SRIG				*e*S			**Sb**	**14 34 52.7**	**-0.1**
SRIG				*i* S			**Sb**	**14 34 52.7**	**-0.1**
SRIG				IAML				14 34 53.5	
	comp=N,98nm,0.3s								
SRIG				⇑*e*				14 34 53.5	

*IDC **14** 15:02:42.2±1.0, 6.°13S×142.°59E, h0km, mb3.9/5, mbtmp4.0/7, ML1.8/1, Error ellipse: s-maj=37.0km s-min=21.9km az=70.0*
ISC 14 15:02:43.7±0.9, 6.°2S±0.°1×142.°5E±0.°1, h10km, n8, σ1≥15/10, mb3.8/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.62**	**124**	Pn			**Pn**	**15 04 07.5**	**0.0**
	1.8nm,0.3s,baz=294,slow=12,SNR=8.7								
PMG				Sn			**Sn**	**15 05 12.1**	**-0.1**
	1.6nm,0.3s,baz=140,slow=23,SNR=5.8								
	6.5nm,0.4s								
WRA	**Warramunga Arr**	**15.73**	**209**	Pn			**Pn**	**15 06 24.2**	**-1.4**
	0.3nm,0.3s,baz=30,slow=14,SNR=8.0								
WRA				Sn			**Sn**	**15 09 19.3**	**-0.9**
	0.1nm,0.3s,baz=28,slow=23,SNR=2.5								
WRA				Lg		Lg		15 10 58.3	
	0.1nm,0.3s,baz=30,slow=27,SNR=2.2								
ASAR	**Alice Springs**	**19.18**	**205**	P			**Pn**	**15 07 09.4**	**+0.9**
	7.1nm,0.7s,baz=32,slow=9.9,SNR=103								
ASAR				Lg		Lg		15 12 47.9	
	baz=32,slow=30								
STKA	**Stephens Creek**	**25.51**	**182**	P			**P**	**15 08 14.1**	**+1.6**
	1.4nm,0.9s,baz=350,slow=7.2,SNR=3.6								
	1.4nm,0.9s								
MKAR	**Makanchi Array**	**74.85**	**322**	P			**P**	**15 14 25.1**	**+0.5**
	0.8nm,0.9s,baz=101,slow=6.3,SNR=5.4								
	0.8nm,0.9s								
QSPA	**South Pole Qui**	**83.72**	**180**	P			**P**	**15 15 12.8**	**-0.1**
	1.6nm,0.9s,baz=238,slow=2.0,SNR=5.2								
	1.6nm,0.9s								
BVAR	**Borovoye Array**	**84.33**	**325**	P			**P**	**15 15 16.6**	**+0.7**
	1.6nm,0.8s,baz=121,slow=7.0,SNR=7.5								
	1.6nm,0.8s								
ILAR	**Eielson Array**	**87.51**	**24**	P			**P**	**15 15 29.9**	**-1.6**
	0.4nm,0.7s,baz=256,slow=3.6,SNR=5.5								
	0.4nm,0.7s								

*GII **14** 15:12:53.7±0.3, 33.°491N±0.°002×35.°715E±0.°001, h0km, Md1.0/4, confirmed*
*GRAL **14** 15:12:55.1±0.3, 33.°47N×35.°68E, h0km±25km, MD2.5*
ISC 14 15:12:55.1±1.1, 33.°48N±0.°03×35.°69E±0.°05, h0km, n21, σ0≥64/23, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
QRWL	**Qaraoun**	**0.07**	**355**	*e*P			**Pg**	**15 12 56.5**	**+0.1**
RCY	**Rachaya**	**0.12**	**83**	*e*P			**Pg**	**15 12 57.5**	**0.0**
SHBL	**Chebaa**	**0.14**	**161**	*e*P			**Pg**	**15 12 57.5**	**-0.3**
SHBL				*e*S			**Sg**	**15 12 59.2**	**-0.4**
NATI	**Neve Ativ**	**0.22**	**170**	S			**Sg**	**15 13 03.2**	**+1.0**
NATI	**Neve Ativ**	**0.22**	**170**	P			**Pg**	**15 12 59.0**	**-0.4**
DQRL	**Deir Qamar**	**0.24**	**336**	*e*P			**Pg**	**15 12 59.8**	**0.0**
DQRL				*e*S			**Sg**	**15 13 03.0**	**0.0**
GEM	**Giv'at Ha'Em**	**0.27**	**185**	S			**Sg**	**15 13 05.4**	**+1.6**
GEM	**Giv'at Ha'Em**	**0.27**	**185**	P			**Pg**	**15 13 00.2**	**-0.1**
BHL	**Bhannes**	**0.42**	**356**	*e*P			**Pg**	**15 13 02.9**	**-0.3**
KSHT	**Keshet**	**0.51**	**168**	S			**Sb**	**15 13 13.8**	**-1.2**
KSHT	**Keshet**	**0.51**	**168**	P			**Pg**	**15 13 05.1**	**+0.3**
MMA0B	**Mount Meron ar**	**0.52**	**207**	P			**Pg**	**15 13 04.9**	**-0.2**
MMA0B	**Mount Meron ar**	**0.52**	**207**	S			**Sb**	**15 13 14.3**	**-1.0**
HNTI	**Hanita**	**0.59**	**227**	S			**Sb**	**15 13 16.7**	**-0.4**
OFRI	**`Ofer**	**1.04**	**215**	P			**Pg**	**15 13 15.0**	**-0.1**
OFRI	**`Ofer**	**1.04**	**215**	S			**Sb**	**15 13 30.8**	**+0.6**
MMLI	**Mount Malkishu**	**1.06**	**192**	P			**Pg**	**15 13 15.3**	**-0.2**
MMLI	**Mount Malkishu**	**1.06**	**192**	S			**Sb**	**15 13 31.0**	**0.0**
HMDT	**Nahal Hemdat**	**1.23**	**186**	P			**Pg**	**15 13 17.9**	**-0.8**
HMDT	**Nahal Hemdat**	**1.23**	**186**	S			**Sb**	**15 13 36.5**	**+0.7**
SLTI	**Sal'it**	**1.35**	**204**	S			**Sn**	**15 13 39.9**	**0.0**

*PRE **14** 15:54:58.1±0.9, 26.°40S×27.°41E, h2km, ML3.4*
*NEIC **14** 15:55:00.6±1.6, 26.°40S±0.°04×27.°55E±0.°08, h5km±1km, mb4.5/13, Error ellipse: s-maj=12.4km s-min=6.0km az=88.0*
*IDC **14** 15:55:00.4±0.7, 26.°36S×27.°45E, h0km, mb4.1/11, mbtmp4.2/15, ML3.6/3, Error ellipse: s-maj=24.2km s-min=16.1km az=73.0*
ISC 14 15:54:59.1±1.3, 26.°41S±0.°03×27.°42E±0.°03, h0km±8km, n62, σ2≥02/89, mb4.4/14, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.52**	**186**	*e*P			**Pg**	**15 55 08.5**	**-0.7**
PRYS				*e*S			**Sg**	**15 55 16.4**	**+0.5**
PRYS				IAML				15 55 24.3	
	comp=Z,3μm,0.6s								
HRAO	**HartRAO**	**0.57**	**25**	*e*P			**Pg**	**15 55 08.9**	**-1.1**
HRAO				*e*S			**Sg**	**15 55 16.9**	**-0.4**
HRAO				IAML				15 55 23.4	
	comp=Z,3μm,0.8s								
KSR	**Koster**	**0.72**	**319**	*e*P			**Pg**	**15 55 12.1**	**-1.0**
KSR				*e*S			**Sg**	**15 55 22.4**	**-0.1**
KSR				IAML				15 55 30.6	
	comp=Z,5μm,0.9s								
SWZ	**Schweizer**	**2.02**	**247**	*e*P			**Pn**	**15 55 34.0**	**-0.6**
SWZ				*e*S			**Sn**	**15 55 59.4**	**-1.2**
SWZ				IAML				15 56 15.6	
	comp=Z,165nm,0.5s								
LBTB	**Lobatse**	**2.15**	**310**	*e*P			**Pn**	**15 55 36.1**	**-0.2**
LBTB				*e*S			**Sn**	**15 56 02.6**	**-1.2**
LBTB				IAML				15 56 09.2	
	comp=Z,902nm,0.4s								
LBTB	**Lobatse**	**2.15**	**310**	Pn			**Pb**	**15 55 38.5**	**-0.5**
	comp=Z,99nm,0.3s,baz=124,slow=16,SNR=1152								
LBTB				Sn			**Sb**	**15 56 07.2**	**+0.9**
	comp=Z,408nm,0.3s,baz=20,slow=17,SNR=43								
	comp=Z,464nm,0.4s								
CRLN	**Carolina, Mapu**	**2.37**	**81**	*e*P			**Pn**	**15 55 39.4**	**0.0**
CRLN				*e*S			**Sn**	**15 56 08.4**	**-1.0**
CRLN				IAML				15 56 22.5	
	comp=Z,82nm,0.7s								
LEPH	**Lephalale, Lim**	**2.56**	**8**	*e*P			**Pn**	**15 55 41.3**	**-0.7**
LEPH				*e*S			**Sn**	**15 56 12.7**	**-1.1**
LEPH				IAML				15 56 18.9	
	comp=Z,217nm,0.5s								
NWCL	**Newcastle**	**2.57**	**122**	*e*P			**Pn**	**15 55 42.2**	**+0.1**
NWCL				*e*S			**Sn**	**15 56 13.3**	**-0.9**
NWCL				IAML				15 56 21.0	
	comp=Z,134nm,0.4s								
BOSA	**Boshof**	**2.92**	**221**	Pn			**Pn**	**15 55 48.6**	**+1.6**
BOSA	**Boshof**	**2.92**	**221**	Lg		Lg		15 56 29.9	
	baz=319,slow=19								
PILG	**Pilgrimsrest,**	**3.31**	**64**	*e*P			**Pn**	**15 55 51.7**	**-0.7**
PILG				*e*S			**Sn**	**15 56 31.5**	**-1.1**
PILG				IAML				15 56 47.8	
	comp=Z,280nm,0.6s								
HOED	**Hoedspruit, Li**	**3.75**	**59**	*e*P			**Pn**	**15 55 58.4**	**+0.1**
HOED				*e*S			**Sn**	**15 56 41.9**	**-1.1**
HOED				IAML				15 56 57.5	
	comp=Z,112nm,0.5s								
POGA	**Pongola**	**3.94**	**105**	Pn			**Pn**	**15 55 59.3**	**-1.6**
PMBG	**Pietermaritzbu**	**4.13**	**139**	*e*P			**Pn**	**15 56 03.8**	**+0.3**
PMBG				*e*S			**Sn**	**15 56 51.3**	**-1.2**
PMBG				IAML				15 57 09.4	
	comp=Z,86nm,0.5s								
KSTD	**Kokstad**	**4.51**	**159**	*e*P			**Pn**	**15 56 09.0**	**+0.1**
KSTD				*e*S			**Sn**	**15 56 59.8**	**-2.3**
KSTD				IAML				15 57 26.4	
	comp=Z,48nm,0.6s								
TEMBE	**Tembe Elephant**	**4.52**	**99**	*e*P			**Pn**	**15 56 08.0**	**-0.8**
TEMBE				*e*S			**Sn**	**15 56 59.4**	**-2.7**
MOPA	**Mopani**	**4.62**	**52**	*e*P			**Pn**	**15 56 09.6**	**-0.6**
MOPA				*e*S			**Sn**	**15 57 01.9**	**-2.6**
MOPA				IAML				15 57 25.2	
	comp=Z,232nm,0.4s								
MUSN	**Musina, Limpop**	**4.67**	**29**	*e*P			**Pn**	**15 56 10.4**	**-0.4**
MUSN				*e*S			**Sn**	**15 57 03.9**	**-1.8**
MUSN				IAML				15 57 24.9	
	comp=Z,140nm,0.4s								
UPI	**Upington**	**5.82**	**249**	*e*P			**Pn**	**15 56 26.8**	**+0.1**
UPI				*e*S			**Sn**	**15 57 30.4**	**-3.9**
UPI				IAML				15 58 10.2	
	comp=Z,64nm,0.6s								
BFON	**Badsfontein, M**	**6.29**	**210**	*e*P			**Pn**	**15 56 33.4**	**+0.2**
BFON				*e*S			**Sn**	**15 57 42.2**	**-3.6**
BFON				IAML				15 58 29.4	
	comp=Z,82nm,0.6s								
GRAF	**Camdeboo Natio**	**6.39**	**203**	*e*P			**Pn**	**15 56 34.1**	**-0.4**
GRAF				*e*S			**Sn**	**15 57 44.4**	**-3.8**
GRAF				IAML				15 58 25.9	
	comp=Z,64nm,0.5s								
BRAK	**Brakfontein**	**6.66**	**215**	*e*P			**Pn**	**15 56 38.1**	**-0.2**
BRAK				*e*S			**Sn**	**15 57 51.2**	**-3.8**
BRAK				IAML				15 58 34.9	
	comp=Z,78nm,0.6s								
GRHM	**Grahamstown, E**	**6.91**	**187**	Pn			**Pn**	**15 56 41.8**	**+0.1**
GRHM	**Grahamstown, E**	**6.91**	**187**	*e*P			**Pn**	**15 56 41.1**	**-0.5**
GRHM				*e*S			**Sn**	**15 57 56.7**	**-4.3**
GRHM				IAML				15 58 45.4	
	comp=Z,23nm,0.7s								
ROOI	**Rooidraai Farm**	**6.94**	**208**	*e*P			**Pn**	**15 56 42.2**	**0.0**
ROOI				*e*S			**Sn**	**15 57 57.9**	**-4.0**
ROOI				IAML				15 58 45.7	
	comp=Z,63nm,0.5s								
GRAN	**Grantham**	**7.45**	**217**	*e*P			**Pn**	**15 56 49.4**	**+0.3**
GRAN				*e*S			**Sn**	**15 58 09.5**	**-4.8**
GRAN				IAML				15 59 12.3	
	comp=Z,34nm,0.5s								
FRAZ	**Fraserburg**	**7.61**	**222**	*e*P			**Pn**	**15 56 51.7**	**+0.3**
FRAZ				*e*S			**Sn**	**15 58 13.3**	**-5.1**
FRAZ				IAML				15 59 11.7	
	comp=Z,35nm,0.5s								
SUR	**Sutherland**	**8.28**	**223**	*e*P			**Pn**	**15 57 00.2**	**-0.5**
SUR				*e*S			**Sn**	**15 58 30.3**	**-4.8**
SUR				IAML				15 59 37.6	
	comp=Z,54nm,0.6s								
SUR	**Sutherland**	**8.28**	**223**	Pn			**Pn**	**15 57 02.0**	**+1.3**
	comp=Z,2.6nm,0.3s,baz=46,slow=15,SNR=32								
SUR				Sn			**Sn**	**15 58 32.0**	**-3.1**
	comp=Z,1.4nm,0.3s,baz=326,slow=21,SNR=2.7								
SUR				Lg		Lg		15 59 15.6	
	comp=Z,3.3nm,0.3s,baz=129,slow=23,SNR=5.2								
	comp=Z,19nm,0.7s								
KOMG	**Komaggas**	**9.40**	**247**	*e*P			**Pn**	**15 57 15.2**	**-0.6**
KOMG				*e*S			**Sn**	**15 58 55.5**	**-6.8**
KOMG				IAML				15 59 55.3	
	comp=Z,28nm,0.6s								
WIN	**Windhoek**	**10.14**	**290**	Pn			**Pn**	**15 57 27.4**	**+1.2**
LSZ	**Lusaka**	**11.10**	**4**	Pn			**Pn**	**15 57 38.0**	**-1.3**
LSZ	**Lusaka**	**11.10**	**4**	Pn			**Pn**	**15 57 38.2**	**-1.0**
	comp=Z,6.2nm,0.3s,baz=184,slow=13,SNR=9.9								
LSZ				Sn			**Sn**	**15 59 37.4**	**-6.8**
	comp=Z,1.1nm,0.3s,baz=72,slow=20,SNR=2.2								
LSZ				Lg		Lg		16 00 44.5	
	comp=Z,0.8nm,0.3s,baz=180,slow=20,SNR=2.2								
TSUM	**Tsumeb**	**11.56**	**306**	Pn			**Pn**	**15 57 45.1**	**-0.5**
TSUM	**Tsumeb**	**11.56**	**306**	Pn			**Pn**	**15 57 45.8**	**+0.2**
	comp=Z,3.0nm,0.3s,baz=126,slow=11,SNR=38								
TSUM				Sn			**Sn**	**15 59 53.9**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=221,slow=23,SNR=3.0								
TSUM				Lg		Lg		16 01 03.5	
	comp=Z,0.9nm,0.3s,baz=68,slow=20,SNR=4.6								
	comp=Z,13nm,0.5s								
ASCN	**Ascension**	**43.69**	**287**	P			**P**	**16 03 06.6**	**+0.5**
DBIC	**Dimbokro**	**45.40**	**312**	P			**P**	**16 03 20.3**	**+0.6**
DBIC				IAmb		IAmb	

BURAR	Bucovina Array	73.70	358	P	P	16 06 36.4 +1.7
TRQA	Tornquist	73.80	235	P	P	16 06 36.8 +1.1
TUE	Stuetta	74.36	347	P	P	16 06 39.9 +1.2
TUE				IAmb	IAmb	16 07 02.0
	comp=Z,13nm,1.5s					
AKASG	Malin Array Be	76.78	1	P	P	16 06 53.2 +1.0
	comp=Z,0.8nm,0.5s,baz=183,slow=5.3,SNR=3.6 comp=Z,0.8nm,0.5s					
ABKAR	Akbulak array	80.72	21	P	P	16 07 14.2 +0.3
BVAR	Borovoye Array	87.48	24	P	P	16 07 49.7 +1.5
	comp=Z,0.6nm,0.7s,baz=228,slow=3.6,SNR=4.1 comp=Z,0.6nm,0.7s					
FINES	FINESS Array B	87.54	359	P	P	16 07 49.3 +1.0
	comp=Z,2.6nm,0.9s,baz=147,slow=4.5,SNR=4.5 comp=Z,2.6nm,0.9s					
MK31	Makanchi Array	88.10	34	P	P	16 07 51.7 +0.2
MKAR	Makanchi Array	88.10	34	P	P	16 07 52.3 +0.9
	comp=Z,1.0nm,0.6s,baz=228,slow=4.4,SNR=12 comp=Z,1.0nm,0.6s					
KURBB	Kurchatov Arra	88.99	30	P	P	16 07 56.4 +0.9
	comp=Z,0.5nm,0.8s,baz=229,slow=6.2,SNR=5.0 comp=Z,0.5nm,0.8s					
ASAR	Alice Springs	93.25	118	P	P	16 08 17.7 +1.5
	comp=Z,0.3nm,0.8s,baz=237,slow=3.6,SNR=4.1 comp=Z,0.3nm,0.8s					
YKA	Yellowknife Ar	136.06	336	PKhKP	PKPpre	16 14 18.6
	comp=Z,0.3nm,0.8s,baz=42,slow=2.5,SNR=3.9					
NVAR	Mina Array Bea	148.85	301	PKPbc	PKPab	16 14 51.6 -1.4
	comp=Z,0.7nm,0.6s,baz=55,slow=4.9,SNR=6.6					

*JMA **14** 16:03:55.4±0.2,44˚N±1˚×14˚8E±˚, h32km, MV3.6/25, E OFF HOKKAIDO*
*SKHL **14** 16:03:55.7±0.2,43˚.80N×147˚.90E, h41km±2km, mb4.5/3*
ISC 14 16:03:51.2±3.7, **43˚.8N**±0˚.1×**147˚.9E**±0˚.2, **h6**km±25km, **n15, σ1°48/26, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KUR	Kuril'sk	1.44	358	eP		Pn		16 04 18.9	+1.0
KUR				AMB		AMB		16 04 19.1	
	80nm,0.2s								
KUR				i S		Sg		16 04 36.1	-1.5
KUR				A		A		16 04 39.2	
	320nm,0.3s								
KUR				A		A		16 04 39.2	
	340nm,0.3s								
YUK	Yuzh-Kuril'sk	1.52	280	i P		Pn		16 04 19.8	+0.9
YUK				AMB		AMB		16 04 20.3	
	110nm,0.2s								
YUK				i S		Sn		16 04 38.1	-0.9
YUK				A		A		16 04 41.9	
	470nm,0.4s								
YUK				A		A		16 04 41.9	
	470nm,0.4s								
NEM2	Nemuro 2	1.65	256	eP		Pn		16 04 21.6	+0.9
NEM2				eS		Sn		16 04 40.6	-1.6
NMR	Nemuro--Hokkai	1.66	256	i P		Pn		16 04 21.6	+0.8
NMR				i S		Sn		16 04 41.0	-1.5
JRA	Rausu	2.04	275	eP		Pn		16 04 27.7	+1.6
JRA				eS		Sn		16 04 51.6	-0.3
JNSB	Nemuroshibetsu	2.12	271	P		Pn		16 04 28.9	+1.7
JNSB				eS		Sn		16 04 54.0	+0.1
JKHN	Kushirohamanak	2.14	252	eP		Pn		16 04 28.7	+1.2
JKHN				eS		Sn		16 04 53.1	-1.2
JNK	Nakash	2.34	266	eP		Pn		16 04 31.3	+1.1
AKK	Akkeshi	2.38	252	eP		Pn		16 04 31.9	+1.1
AKK				eS		Sn		16 04 59.0	-1.4
JAK	Akkeshi	2.49	253	eP		Pn		16 04 33.2	+1.0
JAK				eS		Sn		16 05 01.5	-1.5
JTKR	Abashiri--Toko	2.92	275	eP		Pn		16 04 40.3	+2.1
JAR	Ashorobuto	3.07	262	eP		Pn		16 04 42.3	+2.1
JAR				eS		Sn		16 05 17.1	-0.2
JOB	Onbets	3.12	255	eP		Pn		16 04 42.3	+1.4
JMP	Maruseppu	3.32	275	eP		Pn		16 04 45.7	+2.0
JCH	Churui	3.55	252	eP		Pn		16 04 48.1	+1.3
JCH				eS		Sn		16 05 26.9	-2.1

IDC 14 16:07:27.6±791.0, **53˚.18N×33˚.34E, h0**km, **Error ellipse: s-maj=318.3km s-min=85.4km az=35.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
I43RU	DUBNA INFRASON	4.19	31	I		I		16 34 30.0	
	baz=214,slow=333,SNR=2.9								
I31KZ	AKTYUBINSK INF	15.51	90	I		I		17 40 10.0	
	baz=290,slow=321,SNR=1.9								
I46RU	ZALESOVO INFRA	30.03	68	I		I		19 10 20.0	
	baz=290,slow=327,SNR=0.7								

*NIED **14** 16:18:07.6,26˚.31N×129˚.72E, h46km, MW3.7, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}=2.08; $M_{\theta\theta}$=0.72; $M_{\phi\phi}$=1.37; $M_{r\theta}$=0.25; $M_{\theta\phi}$=1.00; $M_{r\phi}$=-3.39; Fault plane solution: M_0=3.97000×10^{14} NP1:ϕ_s=10.00000°, δ=75.00000°, λ=-103.00000°. NP2:ϕ_s=232.00000°, δ=19.00000°, λ=-50.00000°.*
JMA 14 16:18:07.6±0.1, **26˚.3N**±0˚.8×**129˚.7E**±0˚.5, **h46**km, **MV3.5/20, NEAR MINAMI-DAITOJIMA IS, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
JYRO	Yoronjima	1.34	303	i P		Pn		16 18 30.5	+0.6
JYRO				S		Sn		16 18 45.5	-0.9
JOW	Kunigami	1.39	292	i P		Pn		16 18 31.4	+0.8
JOW				S		Sn		16 18 47.3	-0.5
JMZ	Minamidaito 2	1.44	109	i P		Pn		16 18 31.6	+0.4
JMZ				eS		Sn		16 18 48.6	-0.4
JKDJ	Kitadaitoujima	1.47	104	P		Pn		16 18 32.2	+0.7
JKDJ				S		Sn		16 18 49.9	+0.3
JOKE	Okinoerabujima	1.47	316	i P		Pn		16 18 32.5	+0.9
JOKE				S		Sn		16 18 50.1	+0.5
JNTH	Nagotoyohara	1.53	278	i P		Pn		16 18 33.0	+0.5
JNTH				S		Sn		16 18 50.6	-0.6
JTK	Tokunoshima	1.62	335	P		Pn		16 18 34.7	+1.0
JTK				S		Sn		16 18 53.8	+0.3
JIH	Iheya	1.73	295	i P		Pn		16 18 36.3	+1.2
JIH				S		Sn		16 18 55.9	0.0
JJT3	Tamagusuku3	1.74	265	P		Pn		16 18 36.6	+1.2
JJT3				S		Sn		16 18 57.4	+0.9
JAMN	Amaminishikomi	1.99	346	P		Pn		16 18 39.7	+1.0
JAMN				eS		Sn		16 19 02.6	+0.2
JZK	Kikaishima	2.01	6	S		Sn		16 19 04.6	+1.6
JAM	Amami Oshima	2.10	357	P		Pn		16 18 41.0	+0.8
JAGN	Aguni-jima	2.24	278	P		Pn		16 18 43.4	+1.3
JAGN				S		Sn		16 19 08.5	0.0
JKE	Kume jima 2	2.63	271	P		Pn		16 18 48.1	+0.5
JTAJ	Takarajima	2.87	351	eP		Pn		16 18 51.8	+0.9
JTAJ				S		Sn		16 19 22.9	-1.3
JNN	Nakanoshima	3.52	2	S		Sn		16 19 39.4	-0.8

*IDC **14** 16:23:41.8±2.5, 7˚.87S×119˚.27E, h0km, mb3.2/2, mbtmp3.2/3, ML3.0/1, MS2.6/1, Error ellipse: s-maj=228.4km s-min=27.8km az=52.0*
*DJA **14** 16:24:05.4±1.1, 8˚S±6˚×12˚0E±˚, h177km±18km, M3.2/6, MLv3.2/6*
ISC 14 16:24:03.3±1.1, **8˚.03S**±0˚.09×**119˚.74E**±0˚.07, **h184**km, **n10, σ1°97/10, Flores region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
EDFI	Ende, Flores	2.06	110	P		Pn		16 24 42.8	+1.4
PLAI	Plampang	2.10	248	P		Pn		16 24 43.3	+1.5
PLAI				S		Sn		16 25 13.0	+1.4
BASI	Baing, Sumba	2.33	159	P		Pn		16 24 45.1	+0.8
BKSI	Bulukumba	2.72	8	P		Pn		16 24 50.8	+2.0
TWSI	Taliwang, Sumb	2.92	256	P		Pn		16 24 52.6	+1.4
BATI	Baumata	4.43	119	LR		LR		16 27 40.5	
	comp=Z,65nm,18.1s,baz=306,slow=48								
BATI	Baumata	4.43	119	P		Pn		16 25 12.6	+2.4
WRA	Warramunga Arr	18.44	131	P		P		16 28 03.9	-1.3
	0.1nm,0.3s,baz=307,slow=12,SNR=1.6 0.3nm,0.7s								
ASAR	Alice Springs	20.64	140	P		P		16 28 27.9	-1.0
	0.3nm,0.4s,baz=316,slow=9.0,SNR=18 0.3nm,0.4s								
MKAR	Makanchi Array	63.94	332	P		P		16 34 14.3	-2.4
	0.3nm,0.6s,baz=143,slow=6.8,SNR=4.5 0.3nm,0.6s								

DJA 14 16:52:49.8±1.2, **2˚S**±3˚×**12˚8E**±˚, **h36**km±24km, **M3.8**/13, **mb4.1**/4, **MLv3.7**/13, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
LBMI	Labuha	1.39	335	P		Pn		16 53 12.9	+0.2
LBMI				S		Sn		16 53 34.2	+4.3
NLAI	Namlea	1.65	217	P		Pn		16 53 16.8	+0.6
NLAI				S		Sn		16 53 36.7	+0.5
SANI	Sanana	2.10	266	P		Pn		16 53 21.4	-1.1
SANI				S		Sn		16 53 46.0	-1.5
SWI	Sorong	3.33	72	P		Pn		16 53 39.4	0.0
SWI				S		Sn		16 54 18.4	+0.6
FAKI	Fak Fak	4.27	104	P		Pn		16 53 50.7	-1.7
LUWI	Luwuk	5.39	279	P		Pn		16 54 06.7	-0.9
	11nm,0.5s,0.1nm								
MRSI	Marisa	6.59	291	P		Pn		16 54 23.7	-0.5

*ANF **14** 16:54:57.9±0.6, 36˚.97N×90˚.38W, h3km, ML2.3/5, Error ellipse: s-maj=8.1km s-min=3.4km az=110.0*
*SLM **14** 16:54:58.8±0.6, 36˚.97N±0˚.01×90˚.42W±0˚.01, h2km±3km, Md2.7/16, ML2.5/28(NEIC), Error ellipse: s-maj=1.7km s-min=1.3km az=47.0*
*NEIC **14** 16:54:58.7±0.6, 36˚.980N±0˚.010×90˚.40W±0˚.01, h3km±2km, Error ellipse: s-maj=1.7km s-min=0.6km az=218.0*
ISC 14 16:54:58.1±1.0, **36˚.98N**±0˚.02×**90˚.40W**±0˚.02, **h10**km±10km, **n51, σ0°65/74, New Madrid region, Missouri**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PBMO	Poplar Bluff	0.20	187	P		g		16 55 02.3	-0.1
PBMO				S		g		16 55 04.8	-0.4
PBMO	Poplar Bluff	0.20	187	P		g		16 55 02.5	+0.1
	baz=3.5								
PBMO				S		g		16 55 05.0	-0.2
	baz=3.5								
BRNM	Bernie	0.41	129			g		16 55 06.3	+0.2
BRNM						g		16 55 11.8	+0.2
GUAMO	Guam	0.46	102			g		16 55 07.2	+0.2
BETM	Bethany	0.46	144			g		16 55 07.1	+0.1
BETM						g		16 55 13.3	+0.2
MLDM	Malden	0.52	133			g		16 55 08.5	+0.2
MLDM						g		16 55 15.6	+0.4
COKM	Charter Oak	0.60	117			g		16 55 09.9	+0.1
COKM						g		16 55 18.2	+0.5
PARMO	Parma	0.61	121	P		g		16 55 09.7	-0.2
PARMO				S		g		16 55 17.6	-0.2
PARMO				IAML				16 55 18.4	
	comp=N,248nm,1.3s								
PARMO				IAML				16 55 18.5	
	comp=E,139nm,0.1s								
TOPM	Tallapoosa	0.61	138			g		16 55 10.0	0.0
TOPM						g		16 55 18.5	+0.5
CGM3	Cape Girardeau	0.67	62	P		g		16 55 11.0	-0.1
CGM3				S		g		16 55 19.5	-0.3
CGM3				IAML				16 55 20.7	
	comp=N,156nm,0.2s								
MATM	Matthews	0.67	108			g		16 55 10.9	-0.2
KEWM	Kewanee	0.70	114			g		16 55 11.7	-0.1
KEWM						g		16 55 21.1	+0.2
MARMO	Marston	0.74	127			g		16 55 22.5	+0.5
DWDM	Dogwood	0.75	104			g		16 55 12.4	-0.1
PGVM	Portageville	0.75	134			g		16 55 12.6	0.0
PGVM						g		16 55 22.8	+0.5
WADM	Wardell	0.78	142			g		16 55 13.1	-0.1
WADM						g		16 55 23.9	+0.5
HENM	Henderson Moun	0.79	109			g		16 55 13.1	-0.2
PENMO	Penman	0.81	130			g		16 55 13.8	-0.1
POBM	Portage Bay	0.82	134			g		16 55 13.9	-0.1
CHRM	Charleston	0.84	99			g		16 55 14.2	-0.1
PPLM	Point Pleasant	0.87	131			g		16 55 14.8	-0.1
BRGM	Braggadocio	0.89	151			g		16 55 14.8	-0.4
WYBT	Wynnburg	0.96	131			g		16 55 16.5	-0.1
PEBM	Pemiscott Bayo	0.97	153	P		g		16 55 16.2	-0.6
PEBM				S		g		16 55 28.9	-0.4
PEBM				IAML				16 55 30.0	
	comp=E,167nm,1.3s								
PEBM				IAML				16 55 38.3	
	comp=N,137nm,1.3s								
FVM	French Village	1.00	359	P		g		16 55 17.2	-0.2
FVM				S		g		16 55 30.2	-0.2
FVM	French Village	1.00	359	P		g		16 55 17.2	-0.2
	baz=179								
FVM				S		g		16 55 30.4	0.0
	baz=179								
CHNM	Channel	1.01	158			g		16 55 17.1	-0.4
HICK	Hickman	1.04	115	P		g		16 55 17.7	-0.4
HICK				S		g		16 55 31.3	-0.2
HICK				IAML				16 55 46.7	
	comp=N,130nm,1.2s								
GNAR	Gosnell	1.06	163	P		g		16 55 18.2	-0.3
GNAR				S		g		16 55 32.7	+0.4
GNAR				IAML				16 55 52.8	
	comp=N,133nm,4.3s								
LCAR	Lake Charles	1.10	214	P		g		16 55 18.4	-0.8
LCAR				S		g		16 55 32.4	-1.0
LCAR	Lake Charles	1.10	214	S		g		16 55 32.6	-0.8
	baz=33								
GLAT	Glass	1.14	128	P		g		16 55 19.3	-0.8
GLAT				IAML				16 55 34.7	
	comp=N,135nm,3.0s								
GLAT				S		g		16 55 34.8	-0.1
LNXT	Lenox	1.14	140	P		g		16 55 20.0	-0.1
LNXT				S		g		16 55 34.7	-0.2
S44A	Carbondale	1.15	52	P		g		16 55 19.9	-0.4
S44A				S		g		16 55 34.7	-0.6
S44A				IAML				16 55 35.7	
	comp=N,84nm,0.2s								
S44A				IAML				16 55 35.7	
	comp=E,84nm,0.2s								
S44A	Carbondale	1.15	52	S		g		16 55 34.6	-0.6
	baz=232								
SIUC	Southern Illin	1.19	52	P		g		16 55 20.1	-0.9
SIUC				S		g		16 55 35.0	-1.4
SIUC				IAML				16 55 36.6	
	comp=N,110nm,0.1s								
SIUC				IAML				16 55 36.7	
	comp=E,105nm,0.2s								
CCM	Cathedral Cave	1.27	328	P		g		16 55 21.8	-0.7
CCM				S		g		16 55 38.8	-0.1
CCM				IAML				16 55 40.1	
	comp=E,94nm,0.1s								
CCM				IAML				16 55 40.4	
	comp=E,52nm,0.1s								
CCM	Cathedral Cave	1.27	328	P		g		16 55 21.9	-0.5
	baz=148								
HALT	Halls	1.37	141			n		16 55 22.7	-0.6
MGMO	Mountain Grove	1.51	277			n		16 55 26.4	+1.2
MGMO	Mountain Grove	1.51	277			n		16 55 25.5	+0.2
FCAR	Ozark Folk Cen	1.77	232	Pn		n		16 55 29.4	+0.6
R40A	Maddies Statio	1.98	312	Pn		n		16 55 31.5	-0.2
R40A	Maddies Statio	1.98	312	P		n		16 55 34.0	+2.3
	baz=131								
U40A	Yellville	2.07	253	P		n		16 55 34.9	+1.8
	baz=72								
U40A				P		n		16 55 34.9	+1.8
	baz=72								
Q44A	Meyer Farm, Va	2.21	29	S		b		16 56 06.7	+1.2
	baz=210								
WVT	Waverly	2.24	112	Pn		n		16 55 34.4	-0.8
WHAR	Wooly Hollow	2.28	223	Pn		n		16 55 35.2	-0.6
S39A	Bolivar	2.44	288	Pn		n		16 55 37.9	-0.2
MIAR	Mount Ida	3.55	228	Pn		n		16 55 52.0	-1.3
154A	Montrose	7.41	124			n		16 56 42.1	-4.3

TAP 14 17:08:09.4, 24˚.22N×121˚.87E, h5km, **ML1.1, D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
EAHA	Aohua	0.16	314	P		Pg		17 08 13.6	+0.9
	baz=314								
EAHA				S		Sg		17 08 16.6	+1.8
	baz=314								
ENA	Nanau	0.24	332	P		Pg		17 08 15.1	+1.0
	baz=332								
ENA				S		Sg		17 08 19.3	+2.0
	baz=332								
EWUT	Wuta	0.24	341	P		Pg		17 08 15.4	+1.3
	baz=340								
EWUT				S		Sg		17 08 19.5	+2.1
	baz=340								
NACB	Ninganchiao	0.25	261	eP		Pg		17 08 14.5	+0.2
	baz=260								
NACB				eS		Sb		17 08 20.0	-1.1
	baz=260								
ETLH	Xiulin Townshi	0.35	269	eP		Pg		17 08 16.9	+0.7
	baz=268								
ETLH				eS		Sg		17 08 21.8	+0.9
	baz=268								
LATG	Datong	0.45	316	eP		Pb		17 08 19.2	-0.6
	baz=315								
LATG				eS		Sb		17 08 26.6	-0.2
	baz=315								
LXIB	Xiulin Townshi	0.46	245	eP		Pb		17 08 19.6	-0.4
	baz=244								
LXIB				S		Sb		17 08 27.2	+0.1
	baz=244								
NNSB	Datong	0.49	296	eP		Pb		17 08 20.4	-0.2
	baz=295								
NNSB				eS		Sb		17 08 28.3	+0.2
	baz=295								
NDT	Datong Townshi	0.50	320	eP		Pb		17 08 20.7	0.0
	baz=320								
NDT				eS		Sb		17 08 29.1	+0.7
	baz=320								
FUSS	Fushou	0.57	273	eP		Pg		17 08 21.1	+0.7
	baz=273								
FUSS				eS		Sb		17 08 31.1	+0.6
	baz=273								
FUSB	Fushanzhiwuyua	0.60	335	eP		Pb		17 08 22.2	-0.2
	baz=334								
FUSB				eS		Sb		17 08 32.0	+0.8
	baz=334								
YHNB	Yeheng	0.64	315	eP		Pb		17 08 23.0	-0.1
	baz=315								
YHNB				eS		Sb		17 08 32.7	+0.4
	baz=315								
NSK	Sanguang	0.65	315	eP		Pg		17 08 22.6	+0.6
	baz=314								
NSK				eS		Sb		17 08 32.7	-0.1
	baz=314								

JMA 14 17:08:10.6±0.2, **24˚.2N**±0˚.6×**123˚.8E**±0˚.6, **h16**km±1km, **MV0.9/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
IRIF	Iriomote-Funau	0.14	314	eS		Sg		17 08 17.1	0.0
JKRS	Kuro-shima	0.15	89	i P		Pg		17 08 14.7	0.0
JKRS				eS		Sb		17 08 17.9	-0.1
HATJ	Hateruma jima	0.18	190	P		Pg		17 08 14.9	-0.2
HATJ				S		Sg		17 08 18.3	+0.2
JIJ	Ishigaki jima	0.30	65	P		Pg		17 08 16.9	-0.2
JIJ				eS		Sg		17 08 21.2	-0.3
JISG	Ishigakijimahi	0.55	51	eS		Sb		17 08 29.8	+0.2

*IDC **14** 17:15:49.3±2.4, 1˚.13N×96˚.02E, h0km, mb3.7/7, mbtmp3.7/8, ML4.0/1, MS2.5/1, Error ellipse: s-maj=97.7km s-min=20.6km az=58.0*
*DJA **14** 17:15:49.4±1.2, 1˚N±5˚×9˚6E±1˚.3, h10km, M4.6/12, mB5.5/4, mb5.1/5, MLv4.2/12, Mw(mB)5.0/4*
*NEIC **14** 17:15:51.2±1.0, 1˚.16N±0˚.09×96˚.06E±0˚.1, h10km±1km, mb4.1/7, Error ellipse: s-maj=21.9km s-min=10.0km az=231.0*
ISC 14 17:15:50.7±1.1, **1˚.17N**±0˚.06×**95˚.99E**±0˚.09, **h10**km, **n35, σ1°93/34, mb4.0/11, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
SNSI	Sinabang, Aceh	1.27	15	P		Pn		17 16 13.6	-1.0
SNSI				S		Sb		17 16 31.5	+0.3
GSI	Gunungsitoli	1.59	85	Pn		Pb		17 16 20.1	-0.1
GSI	Gunungsitoli	1.59	85	P		Pb		17 16 20.2	-0.1
GSI				S		Sn		17 16 40.5	+0.9
PBSI	Pulau Batu	2.59	118	P		Pn		17 16 33.8	+1.0
PBSI				S		Sn		17 17 03.7	-0.7
KCSI	Kotacane, Aceh	2.93	37	P		Pn		17 16 38.3	+0.8
MLSI	Meulaboh, Aceh	3.10	8	P		Pn		17 16 39.2	-0.5
SISI	Saibi	3.97	129	P		Pn		17 16 51.9	+0.2
SISI				S		Sn		17 17 35.4	-3.0
LHMI	Lhok Sumawe	4.14	13	Pn		Pn		17 16 54.4	+0.4
LHMI	Lhok Sumawe	4.14	13	P		Pn		17 16 54.5	+0.4
PDSI	Padang	4.93	115	P		Pn		17 17 06.3	+1.4
PDSI				S		Sn		17 18 03.3	+1.2
PPSI	Pulau Pagai	5.61	134	P		Pn		17 17 14.0	-0.2
	82nm,0.5s,0.3nm								
KULM	Kulim	6.19	49	Pn		Pn		17 17 22.3	0.0
KRJI	Kerinci	6.36	121	P		Pn		17 17 26.6	+1.9
	201nm,0.4s,4µm1.2nm								
MYKOM	Kota Tinggi	7.88	85	Pn		Pn		17 17 43.1	-2.3
MNAI	Manna	8.87	128	Pn		Pn		17 17 59.3	+0.3
CMAR	Chiang Mai Arr	17.42	9	P		Pn		17 19 54.3	+0.2
	0.2nm,0.3s,baz=197,slow=12,SNR=6.0								
CMAR				LR		LR		17 26 08.5	
	comp=Z,16nm,19.0s,baz=150,slow=36 0.6nm,0.5s								
H08S2	Diego Garcia H	25.02	249	T		T		17 48 47.3	
	baz=69,slow=75,SNR=5.7								
H08S3	Diego Garcia H	25.02	249	T		T		17 49 04.7	
	baz=69,slow=75,SNR=5.5								
H08S1	Diego Garcia H	25.04	249	T		T		17 48 43.4	
	baz=69,slow=75,SNR=8.2								
WB0	Warramunga Arr	43.03	121	P		P		17 23 50.2	-0.7
WB0				IAmb		IAmb		17 24 17.5	
	comp=Z,9.9nm,1.4s								
WRA	Warramunga Arr	43.05	121	P		P		17 23 50.7	-0.4
	comp=Z,0.6nm,1.0s,baz=300,slow=8.9,SNR=2.1 comp=Z,0.6nm,1.0s								
WB2	Warramunga Arr	43.06	121	P		P		17 23 49.9	-1.3
WR0	Warramunga Arr	43.23	121	P		P		17 23 52.5	-0.1
WR0				IAmb		IAmb		17 24 34.2	
	comp=Z,6.6nm,1.4s								
ASAR	Alice Springs	44.35	126	P		P		17 24 01.1	-0.5
	comp=Z,0.6nm,0.7s,baz=298,slow=7.8,SNR=12 comp=Z,0.6nm,0.7s								
AS31	Alice Springs	44.35	126	P		P		17 24 00.9	-0.6
MK31	Makanchi Array	46.99	347	P		P		17 24 22.3	+0.2
MK31				IAmb		IAmb		17 24 31.6	
	comp=Z,1.3nm,0.8s								
MKAR	Makanchi Array	46.99	347	P		P		17 24 22.2	+0.1
	comp=Z,0.8nm,0.7s,baz=153,slow=7.6,SNR=12 comp=Z,0.8nm,0.7s								
SONM	Songino Array	47.35	10	P		P		17 24 25.3	+0.4
	comp=Z,0.3nm,0.5s,baz=188,slow=8.7,SNR=2.7 comp=Z,0.3nm,0.5s								
KURBB	Kurchatov Arra	51.45	346	P		P		17 24 57.6	+1.5
	comp=Z,0.8nm,0.2s,baz=164,slow=5.8,SNR=1.8 comp=Z,0.8nm,0.2s								
ZAA0	Zalesovo Array	53.40	352	P		P		17 25 09.7	-0.8
ZAA0				IAmb		IAmb		17 25 51.4	
	comp=Z,1.8nm,0.9s								
ZALV	Zalesovo Beam	53.40	352	P		P		17 25 10.5	0.0
	comp=Z,0.8nm,0.4s,baz=172,slow

CERR				Sg	Sg	17 25 51.9	+3.1
DJO	**Djoy, Khakassi**	**4.64**	**291**	Pn	Pn	17 24 34.7	+1.5
DJO				Pg	Pg	17 24 52.9	+1.1
DJO				Sg	Sg	17 25 54.3	+2.5
TEL	**Teeli**	**5.13**	**270**	Pn	Pb	17 24 47.4	-5.4
TEL				Pg	Pg	17 24 59.7	-1.4
TEL				Sg	Sg	17 26 08.6	+1.1
VEH	**Verkhnyaya Baz**	**5.30**	**295**	Pn	Pb	17 24 50.5	-5.3
VEH				Pg	Pg	17 25 02.1	-2.3
VEH				Sg	Sg	17 26 20.3	+7.3
GZLN	**Zheleznogorsk**	**5.76**	**334**	Pg	Pg	17 25 11.5	-1.8
GZLN				Sg	Sg	17 26 31.4	+3.5

*NEIC **14** 17:24:38.4±1.5,60.°77N±0.°02×152.°85W±0.°07,h10km±7km, Error ellipse: s-maj=5.2km s-min=2.2km az=102.0*
*AEIC **14** 17:24:38.2±1.6,60.°77N±0.°02×152.°89W±0.°07,h5km±6km, ML3.5,ML3.8/172(NEIC), Error ellipse: s-maj=4.9km s-min=2.0km az=103.0*

ISC 14 17:24:38.4±0.9,60.77N±0.02×152.89W±0.02,h11km±7km, n262,σ1§24/249,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RDJH	**Redoubt Jeurge**	**0.18**	**167**		**Pg**	**17 24 44.8**	**+2.3**
DFR	**Drift River**	**0.20**	**151**		**Pg**	**17 24 42.3**	**-0.4**
DFR					**Sg**	**17 24 45.4**	**-0.4**
NCT	**North Crescent**	**0.21**	**186**		**Pg**	**17 24 42.4**	**-0.5**
NCT					**Sg**	**17 24 45.5**	**-0.5**
RDWB	**Redoubt West**	**0.28**	**175**		**Pg**	**17 24 43.8**	**-0.4**
RDWB					**Sg**	**17 24 47.8**	**-0.3**
RDT	**Redoubt**	**0.31**	**129**		**Pg**	**17 24 44.1**	**-0.5**
RDT					**Sg**	**17 24 48.6**	**-0.2**
RSO	**Redoubt South**	**0.31**	**168**		**Pg**	**17 24 44.3**	**-0.5**
RDSO	**Redoubt South**	**0.32**	**167**		**Pg**	**17 24 44.5**	**-0.5**
RDSO					**Sg**	**17 24 48.8**	**-0.5**
RED	**Redoubt Volcan**	**0.35**	**171**		**Pg**	**17 24 44.9**	**-0.6**
RED					**Sg**	**17 24 49.9**	**-0.3**
N20K	**Mount Spurr** baz=218	**0.55**	**37**	P	**Pg**	**17 24 48.3**	**-0.8**
SPCR	**Spurr Chakacha**	**0.55**	**37**		**Pg**	**17 24 48.4**	**-0.6**
SPCR					**Sg**	**17 24 55.6**	**-0.7**
SPBG	**Spurr Blockage**	**0.56**	**27**		**Pg**	**17 24 48.7**	**-0.5**
SPBG					**Sg**	**17 24 56.2**	**-0.4**
SPCN	**Chakachatna No**	**0.57**	**36**		**Pg**	**17 24 49.1**	**-0.4**
SPCN					**Sg**	**17 24 57.2**	**+0.1**
SPNN	**North Nagishla**	**0.61**	**9**		**Pg**	**17 24 49.5**	**-0.8**
SPNN					**Sg**	**17 24 57.6**	**-0.8**
SPCP	**Crater Peak Br**	**0.61**	**35**		**Pg**	**17 24 49.9**	**-0.5**
SPCG	**Spurr Capps Gl**	**0.68**	**38**		**Pg**	**17 24 50.9**	**-0.6**
SPCG					**Sg**	**17 25 00.2**	**-0.2**
O20K	**Slope Mountain**	**0.70**	**169**		**Pg**	**17 24 51.6**	**-0.3**
O20K	**Slope Mountain** baz=350	**0.70**	**169**	P	**Pg**	**17 24 51.6**	**-0.3**
N19K	**Bonanza Creek**	**0.79**	**274**		**Pg**	**17 24 52.6**	**-1.0**
N19K	comp=N,4μm,0.4s			IAML		17 25 09.3	
N19K	comp=E,3μm,0.3s			IAML		17 25 09.8	
N19K	**Bonanza Creek** baz=92	**0.79**	**274**	P	**Pg**	**17 24 52.5**	**-1.0**
ILSW	**Iliamna Southw**	**0.80**	**189**		**Pg**	**17 24 52.5**	**-1.3**
CAPN	**Captain Cook N**	**0.85**	**89**		**Pb**	**17 24 55.6**	**+0.5**
CAPN	**Captain Cook N** baz=271	**0.85**	**89**	P	**Pb**	**17 24 55.7**	**+0.6**
STLK	**Strandline Lak**	**0.90**	**34**		**Pg**	**17 24 54.5**	**-1.1**
O19K	**Port Alsworth**	**0.91**	**232**		**Pg**	**17 24 54.6**	**-1.4**
O19K	**Port Alsworth** baz=50	**0.91**	**232**	P	**Pg**	**17 24 54.8**	**-1.2**
M20K	**Styx River**	**1.13**	**354**		**Pg**	**17 24 58.8**	**-1.2**
M20K	**Styx River** comp=E,2μm,0.6s	**1.13**	**354**	IAML		17 25 14.2	
M20K	**Styx River** baz=174	**1.13**	**354**	P	**Pg**	**17 24 58.9**	**-1.1**
P19K	**Oil Pt**	**1.13**	**189**		**Pg**	**17 24 59.1**	**-1.1**
P19K	comp=E,1μm,0.6s			IAML		17 25 16.2	
P19K	**Oil Pt** baz=8.6	**1.13**	**189**	P	**Pg**	**17 24 59.2**	**-0.9**
SUA	**Susitna One**	**1.25**	**55**	Pn	**Pb**	**17 25 00.8**	**-1.2**
SUA	comp=E,1μm,0.7s			IAML		17 25 18.4	
SUA	**Susitna One** baz=237	**1.25**	**55**	P	**Pb**	**17 25 00.7**	**-1.4**
HOM	**Homer**	**1.27**	**150**		**Pn**	**17 25 01.3**	**-0.7**
HOM	comp=N,2μm,0.4s			IAML		17 25 22.6	
HOM	**Homer**	**1.27**	**150**		**Sg**	**17 25 19.2**	**-0.1**
HOM	**Homer** baz=332	**1.27**	**150**	P	**Pn**	**17 25 01.8**	**-0.2**
HOM	baz=332			S	**Sn**	**17 25 19.7**	**+0.6**
SLKM	**Skilak Lake**	**1.34**	**100**		**Sb**	**17 25 19.9**	**-0.7**
FIS	**Fire Island** comp=N,2μm,0.9s	**1.35**	**73**	IAML		17 25 27.3	
SVW2	**Sparrevohn**	**1.36**	**285**	Pn	**Pn**	**17 25 03.2**	**0.0**
SKT	**Skwentna**	**1.38**	**28**		**Pn**	**17 25 03.0**	**-0.6**
SKT	**Skwentna**	**1.38**	**28**		**Sb**	**17 25 22.0**	**+0.2**
SKT	**Skwentna** baz=209	**1.38**	**28**	P	**Pn**	**17 25 03.2**	**-0.3**
SKT	baz=209			S	**Sb**	**17 25 22.0**	**+0.2**
BRLK	**Bradley Lake**	**1.42**	**134**		**Pn**	**17 25 03.0**	**-1.1**
BRLK	comp=N,1μm,0.5s			IAML		17 25 23.9	
BRLK	comp=E,1μm,0.6s			IAML		17 25 24.4	
BRLK	**Bradley Lake**	**1.42**	**134**		**Sb**	**17 25 22.1**	**-0.7**
AU22	**Augustine Moun**	**1.42**	**190**		**Pn**	**17 25 04.4**	**+0.4**
AUCH	**Augustine Cone**	**1.44**	**191**		**Pn**	**17 25 04.7**	**+0.3**
O18K	**Koktuh Hills**	**1.48**	**233**		**Pn**	**17 25 05.0**	**+0.2**
O18K	**Koktuh Hills** comp=E,891nm,0.5s	**1.48**	**233**	IAML		17 25 27.4	
O18K	comp=N,1μm,1.1s			IAML		17 25 27.8	
O18K	**Koktuh Hills** baz=50	**1.48**	**233**	P	**Pn**	**17 25 05.0**	**+0.2**
N18K	**Kilae Creek**	**1.48**	**268**	Pn	**Pn**	**17 25 04.7**	**-0.2**
N18K	comp=E,1μm,0.6s			IAML		17 25 26.3	
N18K	comp=N,1μm,0.8s			IAML		17 25 28.3	
N18K	**Kilae Creek** baz=85	**1.48**	**268**	P	**Pn**	**17 25 05.0**	**+0.1**
BRSE	**Bradley Lake S** baz=315	**1.48**	**133**	P	**Pn**	**17 25 04.5**	**-0.5**
CNPM	**China Poot**	**1.49**	**146**		**Pn**	**17 25 04.2**	**-0.9**
CNPM	comp=E,1μm,0.3s			IAML		17 25 26.0	
RC01	**Rabbit Creek A**	**1.57**	**77**		**Pn**	**17 25 05.7**	**-0.5**
RC01	comp=N,941nm,0.5s			IAML		17 25 27.0	
RC01	comp=E,837nm,0.2s			IAML		17 25 27.7	
RC01	**Rabbit Creek A**	**1.57**	**77**		**Sn**	**17 25 26.3**	**-0.1**
RC01	**Rabbit Creek A** baz=260	**1.57**	**77**	P	**Pn**	**17 25 05.7**	**-0.5**
RC01	baz=260			S	**Sn**	**17 25 26.3**	**-0.1**
O22K	**Cooper Landing**	**1.58**	**99**		**Pn**	**17 25 06.0**	**-0.3**
O22K	**Cooper Landing** baz=282	**1.58**	**99**	P	**Pn**	**17 25 06.1**	**-0.3**
M18K	**Stony River**	**1.60**	**298**		**Pn**	**17 25 06.8**	**+0.2**
M22K	**Willow**	**1.66**	**52**		**Pn**	**17 25 07.0**	**-0.4**
M22K	**Willow** baz=235	**1.66**	**52**	P	**Pn**	**17 25 07.0**	**-0.4**
L19K	**White Mountain**	**1.71**	**327**	Pn	**Pn**	**17 25 08.5**	**+0.5**
L19K	comp=E,815nm,0.4s			IAML		17 25 36.3	
L19K	comp=N,823nm,0.6s			IAML		17 25 36.7	
L19K	**White Mountain** baz=145	**1.71**	**327**	P	**Pn**	**17 25 08.6**	**+0.5**
L20K	**Farewell, AK**	**1.78**	**345**		**Pn**	**17 25 09.8**	**+0.7**
L20K	**Farewell, AK** baz=164	**1.78**	**345**	P	**Pn**	**17 25 09.8**	**+0.7**
P18K	**Big Mountain,**	**1.81**	**221**		**Pn**	**17 25 09.5**	**+0.1**
P18K	comp=E,706nm,0.5s			IAML		17 25 34.5	
P18K	comp=N,562nm,0.5s			IAML		17 25 37.0	
P18K	**Big Mountain,**	**1.81**	**221**		**Sb**	**17 25 34.2**	**0.0**
P18K	**Big Mountain,** baz=39	**1.81**	**221**	P	**Pn**	**17 25 09.6**	**+0.1**
P18K	baz=39			S	**Sb**	**17 25 34.2**	**0.0**
SEW	**Seward**	**1.83**	**110**		**Pn**	**17 25 09.7**	**+0.1**
SEW	**Seward** baz=293	**1.83**	**110**	P	**Pn**	**17 25 09.7**	**+0.1**
Q19K	**Cape Douglas,**	**1.88**	**192**		**Pn**	**17 25 11.3**	**+0.8**
Q19K	**Cape Douglas,** baz=11	**1.88**	**192**	P	**Pn**	**17 25 11.5**	**+1.1**
PMR	**Palmer**	**2.00**	**64**		**Pn**	**17 25 11.9**	**-0.1**
PMR	**Palmer** baz=247	**2.00**	**64**	P	**Pn**	**17 25 12.3**	**+0.3**
CUT	**Chulitna**	**2.07**	**36**		**Pn**	**17 25 14.2**	**+1.3**
CUT	**Chulitna**	**2.07**	**36**		**Sb**	**17 25 43.0**	**+1.5**
CUT	**Chulitna** baz=219	**2.07**	**36**	P	**Pb**	**17 25 14.8**	**-1.1**
CUT	baz=219			S	**Sb**	**17 25 42.9**	**+1.5**
N17K	**Nushagak Hills**	**2.13**	**265**	Pn	**Pn**	**17 25 14.1**	**+0.2**
N17K	comp=N,793nm,0.7s			IAML		17 25 48.5	
N17K	comp=E,624nm,0.6s			IAML		17 25 48.7	
N17K	**Nushagak Hills** baz=81	**2.13**	**265**	P	**Pn**	**17 25 14.1**	**+0.2**
PPLA	**Purkeypile**	**2.16**	**8**		**Pb**	**17 25 16.3**	**-1.3**
PPLA	**Purkeypile** baz=189	**2.16**	**8**	P	**Pb**	**17 25 16.3**	**-1.3**
GHO	**Glory Hole Cre**	**2.16**	**60**		**Pn**	**17 25 15.4**	**+1.0**
SYI	**Shuyak Island**	**2.18**	**173**		**Pn**	**17 25 15.3**	**+0.9**
SYI	comp=E,593nm,0.8s			IAML		17 25 45.3	
SYI	comp=N,392nm,0.6s			IAML		17 25 46.6	
Q20K	**Shuyak Island** baz=354	**2.18**	**173**	P	**Pn**	**17 25 15.7**	**+1.2**
KNK	**Knik Glacier**	**2.25**	**71**		**Pn**	**17 25 17.1**	**+1.6**
KNK	**Knik Glacier** comp=E,580nm,0.6s	**2.25**	**71**	IAML		17 25 49.9	
KNK	comp=N,693nm,0.4s			IAML		17 25 50.3	
KNK	**Knik Glacier** baz=255	**2.25**	**71**	P	**Pb**	**17 25 17.6**	**-1.3**
M17K	**Holitna River**	**2.30**	**288**		**Sn**	**17 25 45.8**	**+1.3**
M17K	**Holitna River** comp=N,907nm,0.4s	**2.30**	**288**	IAML		17 25 52.8	
M17K	comp=E,1μm,0.8s			IAML		17 25 56.0	
M17K	**Holitna River** baz=104	**2.30**	**288**	P	**Pn**	**17 25 16.9**	**+0.7**
M17K	baz=104			S	**Sn**	**17 25 45.8**	**+1.3**
O17K	**Koliganek Bris**	**2.32**	**246**		**Pn**	**17 25 16.8**	**+0.3**
O17K	**Koliganek Bris** baz=62	**2.32**	**246**	P	**Pn**	**17 25 17.1**	**+0.6**
L18K	**Granite Mounta**	**2.33**	**310**		**Pn**	**17 25 17.1**	**+0.4**
L18K	**Granite Mounta** comp=N,531nm,0.8s	**2.33**	**310**	IAML		17 25 52.1	
KAHC	**Katmai Hardscr**	**2.38**	**208**		**Pn**	**17 25 17.9**	**+0.6**
KAHC	**Katmai Hardscr** baz=26	**2.38**	**208**	P	**Pn**	**17 25 17.9**	**+0.6**
P17K	**Kvichak River**	**2.38**	**230**		**Pn**	**17 25 18.0**	**+0.8**
P17K	**Kvichak River** baz=47	**2.38**	**230**	P	**Pn**	**17 25 18.0**	**+0.8**
SML	**Sawmill**	**2.43**	**63**		**Pn**	**17 25 19.5**	**+1.5**
SML	**Sawmill** comp=E,423nm,1.0s	**2.43**	**63**	IAML		17 25 53.9	
SML	comp=N,435nm,1.2s			IAML		17 25 54.6	
SML	**Sawmill** baz=247	**2.43**	**63**	P	**Pn**	**17 25 19.5**	**+1.5**
TTA	**Tatalina**	**2.63**	**327**	Pn	**Pn**	**17 25 21.2**	**+0.5**
TTA	comp=E,294nm,0.6s			IAML		17 26 00.7	
TTA	**Tatalina** baz=144	**2.63**	**327**	P	**Pn**	**17 25 21.3**	**+0.5**
K20K	**Telida**	**2.66**	**348**		**Pn**	**17 25 21.9**	**+0.8**
K20K	**Telida** comp=E,391nm,0.8s	**2.66**	**348**	IAML		17 26 03.9	
K20K	comp=N,353nm,0.5s			IAML		17 26 05.2	
CAST	**Castle Rocks**	**2.69**	**8**		**Pn**	**17 25 23.1**	**+1.6**
CAST	**Castle Rocks** baz=188	**2.69**	**8**	P	**Pn**	**17 25 23.5**	**+2.0**
KVTA	**Katmai Vly 10**	**2.69**	**208**		**Pn**	**17 25 22.8**	**+1.3**
M23K	**Glacier View**	**2.70**	**65**		**Pn**	**17 25 23.8**	**+2.2**
KELA	**Mount Kelaz**	**2.75**	**213**		**Pn**	**17 25 23.8**	**+1.4**
KCE	**Katmai Mt Cerb**	**2.79**	**206**		**Pn**	**17 25 24.9**	**+1.9**
WAT7	**Susitna Watana**	**2.82**	**41**		**Pn**	**17 25 25.7**	**+2.3**
P23K	**Montague Islan**	**2.83**	**103**		**Pn**	**17 25 24.7**	**+1.3**
P23K	**Montague Islan** baz=288	**2.83**	**103**	P	**Pn**	**17 25 24.7**	**+1.3**
ACHA	**Angle Creek He**	**2.85**	**207**		**Pn**	**17 25 24.7**	**+0.9**
O16K	**Kokwok River B**	**2.85**	**248**		**Pn**	**17 25 24.1**	**+0.3**
SCM	**Sheep Creek Mo**	**2.89**	**66**		**Pn**	**17 25 26.4**	**+2.1**
SCM	**Sheep Creek Mo** comp=N,305nm,1.0s	**2.89**	**66**	IAML		17 26 09.6	
SCM	comp=E,314nm,0.9s			IAML		17 26 11.9	
SCM	**Sheep Creek Mo** baz=251	**2.89**	**66**	P	**Pn**	**17 25 26.4**	**+2.1**
ANCK	**Angle Creek**	**2.90**	**208**		**Pn**	**17 25 25.5**	**+1.1**
N16K	**Nishlik Lake**	**2.92**	**267**		**Pn**	**17 25 25.1**	**+0.5**
CNTC	**Contact Creek**	**2.94**	**213**		**Pn**	**17 25 25.6**	**+0.6**
L17K	**Donlin**	**2.94**	**300**		**Pn**	**17 25 25.1**	**+0.1**
KTH	**Kantishna Hill**	**2.94**	**17**		**Pn**	**17 25 27.1**	**+2.0**
KTH	**Kantishna Hill** comp=N,211nm,0.9s	**2.94**	**17**	IAML		17 26 30.9	
TRF	**Thorofare Moun**	**2.96**	**23**	Pn	**Pn**	**17 25 26.3**	**+0.9**
TRF	comp=N,268nm,0.8s			IAML		17 26 12.5	
TRF	comp=E,230nm,0.7s			IAML		17 26 16.1	
TRF	**Thorofare Moun** baz=206	**2.96**	**23**	P	**Pn**	**17 25 27.1**	**+1.8**
M16K	**Timber Creek**	**2.98**	**278**	Pn	**Pn**	**17 25 25.4**	**-0.1**
M16K	comp=E,353nm,0.7s			IAML		17 26 15.9	
M16K	comp=N,271nm,1.1s			IAML		17 26 20.1	
M16K	**Timber Creek** baz=92	**2.98**	**278**	P	**Pn**	**17 25 26.1**	**+0.6**
KDAK	**Kodiak Island**	**3.00**	**177**		**Pn**	**17 25 27.9**	**+2.2**
KDAK	**Kodiak Island**	**3.00**	**177**	Pn	**Pn**	**17 25 26.9**	**+1.2**
KDAK	comp=N,95nm,1.4s			IAML		17 26 21.1	
KDAK	comp=N,158nm,1.0s			IAML		17 26 22.0	
WAT6	**Susitna Watana**	**3.06**	**51**		**Pn**	**17 25 29.2**	**+2.5**
WAT6	**Susitna Watana** baz=236	**3.06**	**51**	P	**Pn**	**17 25 29.2**	**+2.5**
P16K	**Nushagak River** baz=54	**3.10**	**238**	P	**Pn**	**17 25 28.0**	**+0.8**
HIN	**Hinchinbrook I**	**3.17**	**94**		**Pn**	**17 25 28.4**	**+0.2**
HIN	**Hinchinbrook I** comp=N,199nm,1.0s	**3.17**	**94**	IAML		17 26 20.9	
HIN	comp=E,187nm,1.0s			IAML		17 26 20.9	
K17K	**Iditarod**	**3.23**	**310**		**Pn**	**17 25 29.5**	**+0.6**
K17K	**Iditarod** comp=E,317nm,0.9s	**3.23**	**310**	IAML		17 26 25.7	
K17K	comp=N,214nm,0.9s			IAML		17 26 29.6	
J18K	**Innoko River**	**3.25**	**328**	Pn	**Pn**	**17 25 29.8**	**+0.6**
J18K	**Innoko River** baz=145	**3.25**	**328**	P	**Pn**	**17 25 30.6**	**+1.3**
RND	**Reindeer**	**3.26**	**34**		**Pn**	**17 25 31.3**	**+1.9**
RND	**Reindeer** comp=N,275nm,1.0s	**3.26**	**34**	IAML		17 26 26.4	
RND	comp=E,202nm,0.8s			IAML		17 26 28.8	
L16K	**Owhat River**	**3.32**	**289**	Pn	**Pn**	**17 25 30.0**	**-0.2**
L16K	comp=E,154nm,1.0s			IAML		17 26 26.3	
L16K	comp=N,188nm,0.6s			IAML		17 26 26.4	
L16K	**Owhat River** baz=104	**3.32**	**289**	P	**Pn**	**17 25 30.7**	**+0.5**
KLU	**Klutina**	**3.46**	**75**		**Pn**	**17 25 33.7**	**+1.6**
KLU	**Klutina** comp=N,134nm,0.6s	**3.46**	**75**	IAML		17 26 27.3	
KLU	**Klutina** baz=261	**3.46**	**75**	P	**Pn**	**17 25 33.8**	**+1.7**
BPAW	**Bear Paw Mtn.**	**3.46**	**14**		**Pn**	**17 25 33.8**	**+1.7**
BPAW	**Bear Paw Mtn.** baz=196	**3.46**	**14**	P	**Pn**	**17 25 34.1**	**+1.9**
J20K	**Nowinta River**	**3.47**	**351**	Pn	**Pn**	**17 25 32.8**	**+0.5**
J20K	comp=N,201nm,0.7s			IAML		17 26 28.2	
J20K	comp=E,197nm,0.5s			IAML		17 26 28.2	
J20K	**Nowinta River** baz=170	**3.47**	**351**	P	**Pn**	**17 25 33.0**	**+0.7**
J19K	**Poorman**	**3.48**	**340**	Pn	**Pn**	**17 25 33.0**	**+0.6**
J19K	comp=N,201nm,0.7s			IAML		17 26 34.2	
J19K	comp=E,237nm,0.8s			IAML		17 26 35.1	
J19K	**Poorman** baz=157	**3.48**	**340**	P	**Pn**	**17 25 33.1**	**+0.7**
DHY	**Denali Highway**	**3.49**	**46**		**Pn**	**17 25 33.6**	**+1.0**
DHY	comp=E,162nm,0.9s			IAML		17 26 28.9	
DHY	comp=N,135nm,0.9s			IAML		17 26 32.6	
M24K	**Tolsona, Glenn**	**3.49**	**64**		**Pn**	**17 25 35.1**	**+2.5**
M24K	**Tolsona, Glenn** comp=N,256nm,1.3s	**3.49**	**64**	IAML		17 26 33.3	
M24K	**Tolsona, Glenn** baz=250	**3.49**	**64**	P	**Pn**	**17 25 35.1**	**+2.5**
MCK	**McKinley**	**3.50**	**30**		**Pn**	**17 25 34.7**	**+2.0**
MCK	**McKinley** baz=214	**3.50**	**30**	P	**Pn**	**17 25 34.7**	**+2.0**
OHAK	**Old Harbor**	**3.56**	**184**		**Pn**	**17 25 35.0**	**+1.6**
OHAK	**Old Harbor** baz=3.2	**3.56**	**184**	P	**Pn**	**17 25 34.8**	**+1.4**
N15K	**Kwethluk River**	**3.62**	**264**		**Pn**	**17 25 35.2**	**+0.9**
N15K	**Kwethluk River** baz=77	**3.62**	**264**	P	**Pn**	**17 25 35.4**	**+1.1**
BWN	**Browne**	**3.77**	**23**	Pn	**Pn**	**17 25 37.5**	**+1.1**
M15K	**Kasigluk River**	**3.83**	**272**		**Pn**	**17 25 37.5**	**+0.4**
O15K	**Ungalikthiuk R**	**3.83**	**248**		**Pn**	**17 25 38.0**	**+0.8**
GOAT	**Goat Mountain**	**4.02**	**89**		**Pn**	**17 25 40.1**	**+0.3**
HARP	**HAARP**	**4.04**	**63**		**Pn**	**17 25 42.5**	**+2.4**
HARP	**HAARP** baz=250	**4.04**	**63**	P	**Pn**	**17 25 42.5**	**+2.4**
N25K	**Chitina, Valde**	**4.10**	**75**		**Pn**	**17 25 42.3**	**+1.4**
N25K	comp=N,82nm,0.8s			IAML		17 26 47.8	
N25K	**Chitina, Valde** baz=262	**4.10**	**75**	P	**Pn**	**17 25 42.6**	**+1.7**
I20K	**Naaghedeneel**	**4.11**	**350**		**Pn**	**17 25 41.8**	**+0.8**
NEA2	**Nenana**	**4.22**	**23**		**Pn**	**17 25 41.8**	**-0.8**
SII	**Sitkinak Islan**	**4.27**	**190**		**Pn**	**17 25 44.5**	**+1.2**
SII	comp=N,122nm,2.9s			IAML		17 26 14.5	
SII	comp=E,115nm,2.8s			IAML		17 27 31.1	
HMT	**Hamilton**	**4.28**	**92**	Pn	**Pn**	**17 25 42.2**	**-1.2**
HMT	comp=N,102nm,1.4s			IAML		17 27 03.6	
WACK	**Wrangell Chich**	**4.29**	**70**		**Pn**	**17 25 45.9**	**+2.1**
WRH	**Wood River Hil**	**4.33**	**29**		**Pn**	**17 25 46.1**	**+2.1**
MLY	**Manley**	**4.39**	**12**		**Pn**	**17 25 45.8**	**+0.9**
MLY	**Manley** baz=194	**4.39**	**12**	P	**Pn**	**17 25 47.6**	**+2.7**
K15K	**Wolf Creek Mou**	**4.41**	**294**		**Pn**	**17 25 46.0**	**+0.8**
K15K	**Wolf Creek Mou** comp=N,66nm,0.7s	**4.41**	**294**	IAML		17 27 07.7	
K15K	comp=E,71nm,0.7s			IAML		17 27 07.7	
J16K	**Anvik River**	**4.42**	**308**		**Pn**	**17 25 46.2**	**+0.8**
J16K	**Anvik River** comp=E,66nm,1.0s	**4.42**	**308**	IAML		17 27 05.4	
J16K	comp=N,75nm,0.9s			IAML		17 27 05.8	
J16K	**Anvik River** baz=121	**4.42**	**308**	P	**Pn**	**17 25 46.8**	**+1.5**
M14K	**Bethel**	**4.45**	**274**		**Pn**	**17 25 46.6**	**+1.0**
M14K	**Bethel** baz=86	**4.45**	**274**	P	**Pn**	**17 25 47.0**	**+1.3**
N14K	**Kuskokwak Cree** baz=75	**4.45**	**263**	P	**Pn**	**17 25 47.0**	**+1.3**
GLB	**Gilahina Butte**	**4.46**	**77**		**Pn**	**17 25 46.6**	**+0.8**
GLB	**Gilahina Butte** comp=N,70nm,0.9s	**4.46**	**77**	IAML		17 27 01.4	
O14K	**Tigyukauivet M**	**4.47**	**254**		**Pn**	**17 25 46.6**	**+0.7**
O14K	**Tigyukauivet M** comp=E,108nm,0.8s	**4.47**	**254**	IAML		17 27 07.2	
CCB	**Clear Creek Bu**	**4.54**	**29**		**Pn**	**17 25 49.0**	**+2.1**
CCB	**Clear Creek Bu** comp=E,71nm,1.0s	**4.54**	**29**	IAML		17 27 08.7	
BERG	**Berg Lake**	**4.55**	**91**	Pn	**Pn**	**17 25 46.6**	**-0.4**
BERG	comp=N,82nm,0.8s			IAML		17 27 07.3	
HDA	**Harding Lake**	**4.57**	**34**		**Pn**	**17 25 47.6**	**+0.2**
HDA	comp=N,100nm,0.7s			IAML		17 27 04.2	
HDA	comp=E,76nm,0.7s			IAML		17 27 08.4	
VRDI	**Verde Repeater**	**4.62**	**80**		**Pn**	**17 25 49.0**	**+0.9**
I23K	**Minto, Yukon-K**	**4.68**	**19**		**Pn**	**17 25 50.0**	**+1.1**
I23K	**Minto, Yukon-K** comp=N,60nm,0.8s	**4.68**	**19**	IAML		17 27 06.7	
I23K	**Minto, Yukon-K** baz=202	**4.68**	**19**	P	**Pn**	**17 25 50.0**	**+1.1**
MDM	**Murphy Dome**	**4.72**	**25**		**Pn**	**17 25 50.6**	**+1.2**
MDM	**Murphy Dome** comp=E,56nm,0.8s	**4.72**	**25**	IAML		17 27 12.0	
COLA	**College**	**4.72**	**27**		**Pn**	**17 25 48.7**	**-0.7**
L14K	**Kuka Creek**	**4.80**	**281**		**Pn**	**17 25 51.0**	**+0.6**
I17K	**Unalakleet**	**4.80**	**314**		**Pn**	**17 25 50.6**	**+0.2**
I17K	**Unalakleet** baz=127	**4.80**	**314**	P	**Pn**	**17 25 50.6**	**+0.2**
MCARA	**McCarthy VSAT**	**4.83**	**78**		**Pn**	**17 25 50.5**	**-0.4**
MCARA	comp=N,78nm,1.1s			IAML		17 27 16.6	
MCARA	comp=E,78nm,0.9s			IAML		17 27 20.9	
MENT	**Mentasta**	**4.86**	**59**		**Pn**	**17 25 51.8**	**+0.5**
MENT	comp=E,90nm,1.2s			IAML		17 27 22.5	
IL31		**4.87**	**32**		**Pn**	**17 25 53.0**	**+1.5**
ILAR	**Eielson Array**	**4.87**	**32**	Pn	**Pn**	**17 25 53.1**	**+1.6**
H21K	**Melozitna Rive**	**4.91**	**0**		**Pn**	**17 25 52.8**	**+0.8**
H21K	**Melozitna Rive** comp=E,82nm,0.9s	**4.91**	**0**	IAML		17 27 15.6	
H21K	comp=N,48nm,1.1s			IAML		17 27 19.5	
WAX	**Waxell Ridge**	**4.96**	**89**		**Pn**	**17 25 52.9**	**+0.2**
WAX	**Waxell Ridge** comp=E,48nm,1.4s	**4.96**	**89**	IAML		17 27 33.2	
M26K	**Nabesna, AK**	**5.00**	**67**		**Pn**	**17 25 55.7**	**+2.4**
POKR	**Poker Plat Res**	**5.03**	**27**		**Pn**	**17 25 55.4**	**+1.8**
POKR	**Poker Plat Res** comp=N,46nm,1.0s	**5.03**	**27**	IAML		17 27 24.5	
POKR	comp=E,47nm,0.9s			IAML		17 27 27.1	
POKR	**Poker Plat Res** baz=212	**5.03**	**27**	P	**Pn**	**17 25 55.4**	**+1.8**
H19K	**Roundabout Mou**	**5.04**	**343**		**Pn**	**17 25 55.0**	**+1.2**
H19K	**Roundabout Mou** comp=E,74nm,1.9s	**5.04**	**343**	IAML		17 27 24.0	
H19K	**Roundabout Mou** baz=160	**5.04**	**343**	P	**Pn**	**17 25 55.0**	**+1.2**
H18K	**Honhosa River** comp=E,57nm,0.8s	**5.06**	**333**	IAML		17 27 19.2	
H18K	**Honhosa River** baz=148	**5.06**	**333**	P	**Pn**	**17 25 55.4**	**+1.3**
PTPK	**Patty Peak**	**5.09**	**81**		**Pn**	**17 25 55.7**	**+1.0**
KIAG	**Kiagna River**	**5.15**	**84**		**Pn**	**17 25 55.9**	**+0.4**
M13K	**Dall Lake**	**5.17**	**271**		**Pn**	**17 25 57.1**	**+1.5**
M13K	**Dall Lake** baz=81	**5.17**	**271**	P	**Pn**	**17 25 57.1**	**+1.5**
J25K	**Salcha River,**	**5.18**	**39**		**Pn**	**17 25 58.5**	**+2.7**
J25K	**Salcha River,** comp=N,43nm,0.8s	**5.18**	**39**	IAML		17 27 21.4	
J25K	comp

H16K	**Elim**	**5.79**	**316**		**Pn**	**17 26 05.3**	**+1.2**
H16K	**Elim**	**5.79**	**316**	P	**Pn**	**17 26 05.3**	**+1.2**
	baz=128						
PRP	**Porcupine Dome**	**5.82**	**32**		**Pn**	**17 26 05.7**	**+1.1**
PRP	**Porcupine Dome**	**5.82**	**32**	P	**Pn**	**17 26 06.0**	**+1.5**
	baz=218						
YUK2	**White River**	**5.90**	**75**		**Pn**	**17 26 07.4**	**+1.7**
YUK3	**Moose Creek**	**6.08**	**75**		**Pn**	**17 26 09.9**	**+1.7**
YUK3	**Moose Creek**	**6.08**	**75**	P	**Pn**	**17 26 09.9**	**+1.7**
	baz=266						
G23K	**Bananza Creek**	**6.10**	**11**		**Pn**	**17 26 10.1**	**+1.8**
G23K	**Bananza Creek**	**6.10**	**11**	P	**Pn**	**17 26 10.1**	**+1.8**
	baz=193						
G16K	**Koyuk River**	**6.32**	**321**		**Pn**	**17 26 12.1**	**+0.7**
G24K	**Hadweenzic Riv**	**6.42**	**20**		**Pn**	**17 26 14.8**	**+2.1**
G24K	**Hadweenzic Riv**	**6.42**	**20**	P	**Pn**	**17 26 14.8**	**+2.1**
	baz=204						
F20K	**Avaraart Lake**	**6.43**	**350**		**Pn**	**17 26 14.3**	**+1.5**
F21K	**Alatna River**	**6.49**	**358**		**Pn**	**17 26 14.4**	**+0.7**
M11K	**Mekoryuk**	**6.57**	**272**	P	**Pn**	**17 26 16.4**	**+1.7**
	baz=81						
COLD	**Coldfoot**	**6.59**	**9**		**Pn**	**17 26 17.2**	**+2.2**
COLD	**Coldfoot**	**6.59**	**9**	P	**Pn**	**17 26 17.2**	**+2.2**
	baz=192						
M29M	**Somme Creek**	**7.08**	**70**		**Pn**	**17 26 23.8**	**+1.9**
M29M	**Somme Creek**	**7.08**	**70**	P	**Pn**	**17 26 23.8**	**+1.9**
	baz=263						
PN7A	**Pavlof North-7**	**7.20**	**226**		**Pn**	**17 26 25.0**	**+1.5**
F15K	**North Star Dit**	**7.26**	**318**	P	**Pn**	**17 26 25.9**	**+1.7**
	baz=128						
H27K	**Steamboat Moun**	**7.47**	**38**		**Pn**	**17 26 29.2**	**+2.1**
H27K	**Steamboat Moun**	**7.47**	**38**	P	**Pn**	**17 26 29.2**	**+2.1**
	baz=228						
TNA	**Tin City**	**8.32**	**312**		**Pn**	**17 26 40.3**	**+1.6**
TNA	**Tin City**	**8.32**	**312**	P	**Pn**	**17 26 40.3**	**+1.6**
	baz=118						
F28M	**Old Crow**	**8.89**	**34**		**Pn**	**17 26 48.4**	**+1.8**
F28M	**Old Crow**	**8.89**	**34**	P	**Pn**	**17 26 48.4**	**+1.8**
	baz=226						

*SOME **14** 17:25:19.9, 40.15N×77.25E, h5km*
*NNC **14** 17:25:20.8±1.0, 40.16N×77.18E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=6.7km s-min=5.5km az=1.0*
*KRNET **14** 17:25:22.2±0.1, 40.00N×77.25E, mb2.9*

ISC 14 17:25:17.8±2.5, 39.9N±0.1×77.21E±0.05, h5km±14km, n53, σ1§27/79, 16C-12D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**1.79**	**329**	⇑*e*P	**Pn**	**17 25 50.6**	**+1.0**
	baz=26						
NRN				⇑*e*S	**Sn**	**17 26 11.5**	**-1.3**
	baz=26						
TARG	**Taragay, Kyrgy**	**1.88**	**14**	⇓*e*P	**Pn**	**17 25 51.4**	**+0.4**
	baz=13						
TARG				⇓*e*S	**Sn**	**17 26 12.8**	**-2.5**
	baz=13						
KDJ	**Kajisay**	**2.23**	**359**	⇑*e*P	**Pn**	**17 25 56.3**	**+0.8**
	baz=59						
KDJ				⇑*e*S	**Sn**	**17 26 21.4**	**-2.1**
	baz=59						
ULHL	**Ulahol**	**2.45**	**343**	P	**Pb**	**17 26 02.4**	**-0.2**
	SNR=19						
ULHL	**Ulahol**	**2.45**	**343**	⇓*e*P	**Pn**	**17 25 59.7**	**+1.0**
	baz=42						
ULHL				⇓*e*S	**Sn**	**17 26 27.4**	**-1.8**
	baz=42						
PRZ	**Przheval'sk**	**2.73**	**19**	⇓*e*P	**Pn**	**17 26 03.6**	**+1.1**
	baz=19						
PRZ				⇓*e*S	**Sn**	**17 26 34.0**	**-1.9**
	baz=19						
ANVS	**Anan'yevo**	**2.90**	**7**	⇑*e*P	**Pn**	**17 26 05.8**	**+1.0**
	baz=6.0						
ANVS				⇑*e*S	**Sn**	**17 26 37.6**	**-2.5**
	baz=6.0						
ARLS	**Aral**	**2.94**	**313**	⇓*e*P	**Pn**	**17 26 06.9**	**+1.6**
	baz=11						
ARLS				⇓*e*S	**Sn**	**17 26 39.9**	**-1.1**
	baz=11						
UCH	**Uchtor**	**3.09**	**320**	P	**Pb**	**17 26 12.1**	**-1.5**
	SNR=8.9						
UCH	**Uchtor**	**3.09**	**320**	⇑*e*P	**Pn**	**17 26 09.7**	**+2.0**
	baz=18						
UCH				⇑*e*S	**Sn**	**17 26 43.8**	**-1.4**
	baz=18						
TNSS	**Tian-Shan**	**3.14**	**356**	*e*P	**Pb**	**17 26 14.2**	**-0.2**
	8.9nm,0.4s						
TNSS				*e*S	**Sb**	**17 26 53.1**	**+0.1**
	11nm,0.5s						
TNSS	**Tian-Shan**	**3.14**	**356**	Pg	**Pb**	**17 26 14.2**	**-0.2**
	8.9nm,0.4s						
TNSS				Lg	Lg	17 26 53.1	
	11nm,0.5s						
KBK	**Karagaybulak**	**3.24**	**329**	P	**Pb**	**17 26 17.1**	**+1.2**
	SNR=13						
KBK	**Karagaybulak**	**3.24**	**329**	⇓*e*P	**Pn**	**17 26 11.1**	**+1.7**
	baz=28						
KBK				⇓*e*S	**Sn**	**17 26 46.6**	**-1.9**
	baz=28						
TKM2	**Tokmak 2**	**3.25**	**339**	P	**Pb**	**17 26 13.9**	**-2.2**
	SNR=5.4						
TKM2	**Tokmak 2**	**3.25**	**339**	⇑Pg	**Pn**	**17 26 13.6**	**+3.9**
	2.9nm,0.5s						
TKM2				⇓Lg	Lg	17 26 56.2	
	8.1nm,0.5s						
TKM2	**Tokmak 2**	**3.25**	**339**	⇑*e*P	**Pn**	**17 26 11.0**	**+1.3**
	baz=37						
TKM2				⇑*e*S	**Sn**	**17 26 46.8**	**-2.0**
	baz=37						
MDOK	**Medeo**	**3.26**	**358**	*e*P	**Pb**	**17 26 16.2**	**0.0**
	5.8nm,0.5s						
MDOK				*e*S	**Sb**	**17 26 56.8**	**+0.5**
	42nm,0.7s						
MDOK	**Medeo**	**3.26**	**358**	Pg	**Pb**	**17 26 16.3**	**+0.1**
	5.8nm,0.5s						
MDOK				Lg	Lg	17 26 56.8	
	42nm,0.7s						
KST	**Kastek**	**3.28**	**344**	*e*P	**Pb**	**17 26 16.7**	**+0.2**
	3.4nm,0.2s						
KST				*e*S	**Sb**	**17 26 57.6**	**+0.9**
	17nm,0.3s						
KST	**Kastek**	**3.28**	**344**	Pg	**Pb**	**17 26 16.6**	**+0.2**
	3.7nm,0.6s						
KST				Lg	Lg	17 26 57.6	
	17nm,0.8s						
MTBS	**Maitube**	**3.28**	**350**	*e*P	**Pb**	**17 26 16.7**	**+0.2**
	8.6nm,0.4s						
MTBS				*e*S	**Sb**	**17 26 57.5**	**+0.8**
	8.8nm,0.5s						
MTBS	**Maitube**	**3.28**	**350**	Pg	**Pb**	**17 26 16.7**	**+0.2**
	8.8nm,0.4s						
MTBS				Lg	Lg	17 26 57.5	
	8.8nm,0.5s						
SATY	**Saty**	**3.28**	**15**	*e*P	**Pb**	**17 26 16.6**	**0.0**
	7.2nm,0.5s						
SATY				*e*S	**Sb**	**17 26 57.3**	**+0.5**
	16nm,0.5s						
SATY	**Saty**	**3.28**	**15**	Pg	**Pb**	**17 26 16.6**	**0.0**
	7.6nm,0.9s						
SATY				Lg	Lg	17 26 57.3	
	16nm,0.5s						
KOTS	**Kotyrbulak**	**3.33**	**359**	*e*P	**Pb**	**17 26 17.8**	**+0.4**
	8.1nm,0.3s						
KOTS				*e*S	**Sb**	**17 26 59.4**	**+1.1**
	75nm,0.8s						
KOTS	**Kotyrbulak**	**3.33**	**359**	Pg	**Pb**	**17 26 17.7**	**+0.3**
	8.1nm,0.3s						
KOTS				Lg	Lg	17 26 59.4	
	75nm,0.8s						
ZHN	**Zhinishke**	**3.39**	**15**	*e*P	**Pb**	**17 26 18.7**	**+0.2**
	3.4nm,0.2s						
ZHN				*e*S	**Sb**	**17 27 00.9**	**+0.9**
	20nm,0.4s						
ZHN	**Zhinishke**	**3.39**	**15**	Pg	**Pb**	**17 26 18.6**	**+0.2**
	1.5nm,0.2s						
ZHN				Lg	Lg	17 27 00.9	
	20nm,0.4s						
AAK	**Ala-Archa**	**3.42**	**324**	P	**Pb**	**17 26 16.7**	**-2.2**
	SNR=9.2						
AAK	**Ala-Archa**	**3.42**	**324**	⇑*e*P	**Pn**	**17 26 13.8**	**+1.9**
	baz=23						
AAK				⇑*e*S	**Sn**	**17 26 51.5**	**-1.3**
	baz=23						
DGS	**Degeres**	**3.51**	**343**	*e*P	**Pb**	**17 26 21.1**	**+0.7**
	7.2nm,0.5s						
DGS				*e*S	**Sb**	**17 27 05.1**	**+1.8**
	14nm,0.7s						
DGS	**Degeres**	**3.51**	**343**	Pg	**Pb**	**17 26 21.1**	**+0.7**
	7.2nm,0.5s						
DGS				Lg	Lg	17 27 05.1	
	14nm,0.7s						
UZB	**Uzynbulak**	**3.52**	**22**	*e*P	**Pb**	**17 26 20.6**	**0.0**
	2.4nm,0.2s						
UZB				*e*S	**Sb**	**17 27 04.3**	**+0.7**
	7.9nm,0.7s						
UZB	**Uzynbulak**	**3.52**	**22**	Pg	**Pb**	**17 26 20.6**	**0.0**
	2.4nm,0.2s						
UZB				Lg	Lg	17 27 04.3	
	7.9nm,0.7s						
CHMS	**Chumysh**	**3.60**	**330**	P	**Pb**	**17 26 21.5**	**-0.6**
	SNR=7.2						
CHMS	**Chumysh**	**3.60**	**330**	⇑Pg	**Pb**	**17 26 21.1**	**-0.9**
	6.6nm,0.5s						
CHMS				⇑Lg	Lg	17 27 08.3	
	6.4nm,0.7s						
KURS	**Kuram**	**3.65**	**11**	*e*P	**Pb**	**17 26 23.1**	**+0.2**
	6.5nm,0.5s						
KURS				*e*S	**Sb**	**17 27 08.5**	**+1.0**
	10nm,1.2s						
KURS	**Kuram**	**3.65**	**11**	Pg	**Pb**	**17 26 22.9**	**0.0**
	6.5nm,0.5s						
KURS				Lg	Lg	17 27 08.5	
	10nm,1.2s						
SHLS	**Shalkode**	**3.67**	**27**	*e*P	**Pg**	**17 26 26.9**	**-1.1**
	2.2nm,0.3s						
SHLS				*e*S	**Sg**	**17 27 15.3**	**-0.2**
	8.3nm,0.2s						
SHLS	**Shalkode**	**3.67**	**27**	Pg	**Pg**	**17 26 26.9**	**-1.1**
	2.2nm,0.3s						
SHLS				Lg	Lg	17 27 15.4	
	9.0nm,0.6s						
PDGK	**Podgornoye**	**3.83**	**26**	Pg	**Pb**	**17 26 25.6**	**-0.2**
	2.2nm,0.6s						
PDGK				Lg	Lg	17 27 12.6	
	5.2nm,0.8s						
PDGK	**Podgornoye**	**3.83**	**26**	⇓Pg	**Pb**	**17 26 26.2**	**+0.3**
	3.8nm,0.7s						
PDGK				⇑Lg	Lg	17 27 13.8	
	12nm,0.7s						
KTBS	**Karatobe**	**3.83**	**354**	*e*P	**Pb**	**17 26 25.8**	**-0.1**
	3.4nm,0.3s						
KTBS				*e*S	**Sb**	**17 27 13.2**	**+0.7**
	21nm,0.6s						
KTBS	**Karatobe**	**3.83**	**354**	Pg	**Pb**	**17 26 25.8**	**-0.1**
	3.4nm,0.3s						
KTBS				Lg	Lg	17 27 13.2	
	21nm,0.6s						
CHKK	**Chushkaly**	**3.95**	**358**	*e*P	**Pb**	**17 26 28.6**	**+0.6**
	7.0nm,0.4s						
CHKK				*e*S	**Sb**	**17 27 18.1**	**+2.0**
	12nm,0.7s						
CHKK	**Chushkaly**	**3.95**	**358**	Pg	**Pb**	**17 26 28.6**	**+0.6**
	7.0nm,0.4s						
CHKK				Lg	Lg	17 27 18.1	
	12nm,0.7s						
KRBS	**Karabastau**	**3.96**	**344**	*e*P	**Pb**	**17 26 28.4**	**+0.3**
	4.1nm,0.5s						
KRBS				*e*S	**Sb**	**17 27 17.6**	**+1.3**
	5.9nm,1.0s						
KRBS	**Karabastau**	**3.96**	**344**	Pg	**Pb**	**17 26 28.2**	**0.0**
	4.1nm,0.5s						
KRBS				Lg	Lg	17 27 17.6	
	5.9nm,1.0s						
BLB	**Baldybastay**	**4.30**	**12**	Pg	**Pb**	**17 26 34.4**	**+0.5**
	1.8nm,0.1s						
BLB				Lg	Lg	17 27 28.1	
	8.8nm,0.6s						
ARXS	**Arharly**	**4.33**	**6**	*e*P	**Pb**	**17 26 35.5**	**+1.1**
	4.8nm,0.9s						
ARXS				*e*S	**Sb**	**17 27 30.1**	**+3.1**
	8.1nm,0.4s						
ARXS	**Arharly**	**4.33**	**6**	Pg	**Pb**	**17 26 35.5**	**+1.1**
	4.8nm,0.9s						
ARXS				Lg	Lg	17 27 30.1	
	8.1nm,0.4s						
KNOS	**Konyrlen**	**4.69**	**18**	Pg	**Pb**	**17 26 41.9**	**+1.3**
	3.6nm,0.5s						
KNOS				Lg	Lg	17 27 40.8	
	3.1nm,0.8s						

IDC 14 17:38:05.4±2.2, 1.09N×126.69E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=186.4km s-min=27.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.21**	**161**	P	P	17 43 03.7	0.0
	0.5nm,0.3s,baz=339,slow=11,SNR=19						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**25.59**	**165**	P	P	17 43 36.5	0.0
	0.5nm,0.5s,baz=348,slow=13,SNR=18						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**59.70**	**326**	P	P	17 48 11.8	0.0
	0.2nm,0.6s,baz=118,slow=8.8,SNR=3.5						
	0.2nm,0.6s						

*IDC **14** 17:40:31.4±6.2, 21.76S×178.38W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=171.7km s-min=99.3km az=142.0*
*NEIC **14** 17:41:18.4±2.2, 23.7S±0.1×179.0W±0.1, h401km±5km, mb4.3/21, Error ellipse: s-maj=19.8km s-min=17.5km az=188.0*

ISC 14 17:41:18.9±0.8, 23.64S±0.10×179.1W±0.1, h417km, n32, σ1§37/33, mb4.2/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.46**	**335**		**P**	**17 42 56.1**	**-1.0**
MSVF				Sn	**S**	**17 44 16.1**	**-1.4**
NIUE	**Niue**	**9.66**	**64**	Pn	P	17 43 38.2	+5.6
NIUE				Sn	**S**	**17 45 23.4**	**+0.5**
PLWZ	**Palliser**	**18.49**	**193**	P	**P**	**17 45 05.1**	**-2.8**
NNZ	**Nelson**	**18.63**	**198**	P	**P**	**17 45 06.8**	**-2.3**
MRNZ	**Matariki Terra**	**18.98**	**199**	P	**P**	**17 45 12.2**	**-0.5**
THZ	**Tophouse**	**19.27**	**198**	P	**P**	**17 45 16.2**	**+0.8**
THZ				IAmb	IAmb	17 45 51.3	
	comp=Z,17nm,1.1s						
DSZ	**Denniston Nort**	**19.59**	**201**	P	**P**	**17 45 17.4**	**-1.1**
KHZ	**Kahutara**	**19.70**	**196**	P	**P**	**17 45 16.1**	**-3.2**
GVZ	**Greta Valley S**	**20.35**	**197**	P	**P**	**17 45 24.3**	**-1.0**
LTZ	**Lake Taylor**	**20.39**	**199**	P	**P**	**17 45 22.8**	**-3.0**
LTZ				IAmb	IAmb	17 45 24.1	
	comp=Z,25nm,1.1s						
INZ	**Inchbonnie**	**20.59**	**200**	P	**P**	**17 45 26.5**	**-1.0**
INZ				IAmb	IAmb	17 45 33.9	
	comp=Z,19nm,1.0s						
CTAO	**Charters Tower**	**32.32**	**269**	P	**P**	**17 47 12.8**	**+1.0**
CTAO				IAmb	IAmb	17 47 30.1	
	comp=Z,14nm,1.2s						
STKA	**Stephens Creek**	**35.60**	**248**	P	**P**	**17 47 40.1**	**+0.7**
STKA	**Stephens Creek**	**35.60**	**248**	P	**P**	**17 47 41.2**	**+1.8**
	comp=Z,1.0nm,0.5s,baz=100,slow=12,SNR=6.0						
	comp=Z,1.0nm,0.5s						
COEN	**Coen**	**36.91**	**278**	P	**P**	**17 47 49.8**	**-0.7**
COEN				IAmb	IAmb	17 48 14.2	
	comp=Z,17nm,1.2s						
BBOO	**Buckleboo**	**40.32**	**247**	P	**P**	**17 48 18.6**	**+0.3**
BBOO				IAmb	IAmb	17 48 46.1	
	comp=Z,13nm,1.4s						
AS31	**Alice Springs**	**42.91**	**260**	P	**P**	**17 48 39.3**	**+0.1**
ASAR	**Alice Springs**	**42.91**	**260**	P	**P**	**17 48 39.7**	**+0.6**
ASAR	**Alice Springs**	**42.91**	**260**	P	**P**	**17 48 40.0**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=94,slow=7.7,SNR=43						
	comp=Z,0.5nm,0.3s						
WB2	**Warramunga Arr**	**43.25**	**266**	P	**P**	**17 48 42.3**	**+0.4**
WB0	**Warramunga Arr**	**43.26**	**266**	P	**P**	**17 48 42.4**	**+0.5**
WRA	**Warramunga Arr**	**43.26**	**266**	P	**P**	**17 48 41.5**	**-0.5**
WRA	**Warramunga Arr**	**43.26**	**266**	P	**P**	**17 48 42.5**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=95,slow=8.2,SNR=44						
	comp=Z,0.8nm,0.6s						
FORT	**Forrest**	**47.19**	**249**	P	**P**	**17 49 12.4**	**+0.2**
FORT				IAmb	IAmb	17 49 13.0	
	comp=Z,12nm,0.8s						
MTN	**Manton Dam**	**48.27**	**274**	P	**P**	**17 49 20.2**	**-0.4**
MTN				IAmb	IAmb	17 49 36.5	
	comp=Z,26nm,1.2s						
KNRA	**Kununurra**	**49.53**	**269**	P	**P**	**17 49 30.7**	**+0.8**
KNRA				IAmb	IAmb	17 50 03.7	
	comp=Z,16nm,1.2s						
SOEI	**Soe**	**55.66**	**274**	P	**P**	**17 50 15.3**	**+0.9**
MORW	**Morawa**	**57.75**	**250**	P	**P**	**17 50 28.3**	**-0.3**
MORW				IAmb	IAmb	17 50 41.8	
	comp=Z,13nm,1.4s						
Q12A	**Willow Creek R**	**86.56**	**45**	P	**P**	**17 53 16.7**	**+0.1**
Q12A				IAmb	IAmb	17 53 27.2	
	comp=Z,8.3nm,1.3s						
HFS	**Hagfors**	**142.45**	**350**		**PKPdf**	**18 00 02.1**	**-0.4**
HFS	**Hagfors**	**142.45**	**350**	PKP	**PKPdf**	**18 00 02.1**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=1,slow=2.9,SNR=7.2						
CLL	**Collm**	**150.84**	**344**	*e*PKPbc	**PKiKP**	**18 00 26.0**	**+2.7**

ROM 14 17:55:56.3±0.1, 42.551N±0.002×13.000E±0.002, h13km, ML1.6/22, 2C-2D, Error ellipse: s-maj=0.2km s-min=0.0km az=4.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNSS	**Leonessa**	**0.06**	**30**	P	Pg	**17 55 59.2**	**+0.2**
LNSS				S	Sg	17 56 01.2	+0.2
LNSS				AML	AML		
	comp=E,1105μm,0.2s						
LNSS				AML	AML		
	comp=N,1515μm,0.6s						
RM33	**Pellescritta (**	**0.16**	**105**	⇓P	Pg	17 56 00.6	+0.4
RM33				S	Sg	17 56 03.6	+0.6
RM33				AML	AML		
	comp=E,240μm,0.6s						
RM33				AML	AML		
	comp=N,199μm,0.9s						
RM33				AML	AML		
	comp=N,199μm,1.1s						
RM33				AML	AML		
	comp=E,240μm,1.4s						
ARRO	**Arrone**	**0.18**	**279**	P	Pg	17 56 00.8	+0.4
ARRO				S	Sg	17 56 04.0	+0.8
ARRO				AML	AML		
	comp=E,141μm,0.2s						
ARRO				AML	AML		
	comp=N,145μm,0.2s						
T1247	**Pizzolo (AQ)**	**0.25**	**116**	P	Pg	17 56 01.9	+0.3
T1214	**Arquata del Tr**	**0.26**	**36**	P	Pg	17 56 02.0	+0.2
T1214				S	Sg	17 56 06.5	+0.9
SMA1	**SAN MARTINO**	**0.26**	**72**	⇑P	Pg	17 56 02.3	+0.5
SMA1				S	Sb	17 56 06.6	-0.8
SMA1				AML	AML		
	comp=E,324μm,1.2s						
SMA1				AML	AML		
	comp=N,495μm,0.3s						
SMA1				AML	AML		
	comp=N,495μm,1.7s						
SMA1				AML	AML		
	comp=E,324μm,0.8s						
NRCA	**Norcia**	**0.29**	**17**	⇓P	Pg	17 56 02.6	+0.1
NRCA				S	Sg	17 56 07.3	+0.7
NRCA				AML	AML		
	comp=N,174μm,0.5s						
NRCA				AML	AML		
	comp=E,206μm,0.1s						
FIAM	**Fiamignano**	**0.30**	**163**	P	Pg	17 56 02.8	+0.4
FIAM				S	Sb	17 56 07.5	-0.9
FIAM				AML	AML		
	comp=E,85μm,0.1s						
FIAM				AML	AML		
	comp=N,115μm,1.1s						
FIAM				AML	AML		
	comp=N,115μm,0.9s						
CAMP	**Campotosto**	**0.30**	**93**	P	Pg	17 56 02.9	+0.3
CESX	**Cesi**	**0.32**	**281**	P	Pg	17 56 02.9	+0.2
CESX				S	Sb	17 56 08.1	-0.8
CESX				AML	AML		
	comp=E,39μm,0.4s						
CESX				AML	AML		
	comp=N,61μm,0.1s						
CESX				AML	AML		
	comp=E,39μm,1.6s						
T1221	**Campello sul C**	**0.33**	**340**	P	Pg	17 56 03.3	+0.2
T1221				S	Sb	17 56 08.5	-0.8
MC2	**Monte Cornacci**	**0.39**	**21**	P	Pg	17 56 04.4	+0.2
MC2				S	Sb	17 56 10.7	-0.4
MMO1	**Montemonaco**	**0.42**	**35**	P	Pg	17 56 04.8	+0.1
TERO	**Teramo**	**0.45**	**81**	⇑P	Pg	17 56 05.2	-0.1
TERO				S	Sg	17 56 11.8	+0.4
TERO				AML	AML		
	comp=E,126μm,0.2s						
TERO				AML	AML		
	comp=N,146μm,0.7s						
TERO				AML	AML		
	comp=N,146μm,1.3s						
CERT	**Cerreto**	**0.60**	**181**	P	Pb	17 56 08.6	-0.1

ROM 14 17:56:32.6±0.0, 43.009N±0.002×12.999E±0.004, h8km, ML2.3/66, 2C-8D, Error ellipse: s-maj=0.3km s-min=0.2km az=57.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FEMA	**Monte Fema**	**0.06**	**142**	P	Pg	17 56 34.6	+0.1
FEMA				S	Sg	17 56 36.1	+0.1
FEMA				AML	AML		
	comp=N,11300μm,0.2s						
FEMA				AML	AML		
	comp=E,14400μm,0.8s						
CESI	**CESI - Serrava**	**0.07**	**267**	⇑P	Pg	17 56 35.1	+0.5
CESI				S	Sg	17 56 36.7	+0.6
CESI				AML	AML		
	comp=E,9020μm,0.7s						
CESI				AML	AML		
	comp=N,11350μm,0.3s						
SEF1	**Sefro**	**0.14**	**345**	P	Pg	17 56 36.4	+0.7
SEF1				S	Sg	17 56 39.0	+1.2
MC2	**Monte Cornacci**	**0.17**	**124**	⇓P	Pg	17 56 36.8	+0.6
MC2				S	Sg	17 56 40.4	+1.6
CSP1	**Cessapalombo**	**0.17**	**61**	⇓P	Pg	17 56 36.8	+0.6
CSP1				S	Sg	17 56 39.9	+1.2
CSP1				AML	AML		
	comp=N,950μm,0.4s						
CSP1				AML	AML		
	comp=N,950μm,0.4s						
CSP1				AML	AML		
	comp=N,950μm,0.4s						
CSP1				AML	AML		
	comp=E,1990μm,0.4s						
CSP1				AML	AML		
	comp=N,950μm,1.6s						
FIU1	**Fiuminata**	**0.19**	**345**	P	Pg	17 56 36.7	+0.2
FIU1				S	Sg	17 56 40.2	+1.1
T1221	**Campello sul C**	**0.19**	**217**	AML	AML		
	comp=E,1024μm,1.3s						
T1221				AML	AML		
	comp=E,1024μm,1.3s						
T1221				AML	AML		
	comp=N,1146μm,1.1s						
T1221				AML	AML		
	comp=E,1075μm,1.3s						
T1221				AML	AML		
	comp=N,1184μm,1.1s						
T1221				AML	AML		
	comp=E,1075μm,1.4s						
T1221				AML	AML		
	comp=N,1146μm,1.2s						
T1221				AML	AML		
	comp=N,1184μm,1.2s						
T1221				AML	AML		
	comp=E,1024μm,0.7s						
T1221				AML	AML		
	comp=E,1075μm,0.6s						
NRCA	**Norcia**	**0.20**	**154**	⇓P	Pg	17 56 37.2	+0.6
NRCA				S	Sg	17 56 40.9	+1.6
NRCA				AML	AML		
	comp=N,4560μm,0.2s						
NRCA				AML	AML		
	comp=N,4565μm,0.2s						
NRCA				AML	AML		
	comp=E,5025μm,0.2s						
NRCA				AML	AML		
	comp=N,4835μm,0.2s						
NRCA				AML	AML		
	comp=N,4565μm,1.8s						
NRCA				AML	AML		
	comp=E,4735μm,0.2s						
NRCA				AML	AML		
	comp=N,4835μm,1.8s						
PF6	**Pievefavera**	**0.20**	**45**	P	Pg	17 56 37.1	+0.4
PF6				S	Sg	17 56 40.4	+0.9

PF6					AML	AML		
	comp=N,514μm,1.4s							
PF6					AML	AML		
	comp=E,1505μm,0.2s							
PF6					AML	AML		
	comp=N,514μm,1.4s							
MDAR	**Monte D'Aria**	**0.21**	**30**		P	Pg	17 56 37.5	+0.6
MDAR					S	Sg	17 56 41.1	+1.2
GAG1	**Gagliole**	**0.23**	**12**		P	Pg	17 56 38.2	+0.9
GAG1					S	Sg	17 56 42.4	+1.8
SNTG	**Esanatoglia**	**0.25**	**350**		P	Pg	17 56 38.2	+0.6
SNTG					S	Sg	17 56 42.9	+1.8
SNTG					AML	AML		
	comp=N,362μm,1.0s							
SNTG					AML	AML		
	comp=E,465μm,0.4s							
SNTG					AML	AML		
	comp=N,362μm,1.0s							
SNTG					AML	AML		
	comp=N,380μm,0.4s							
SNTG					AML	AML		
	comp=E,446μm,0.6s							
GUMA	**Gualdo di Mace**	**0.25**	**78**	⇓	P	Pb	17 56 38.6	-0.9
GUMA					S	Sb	17 56 43.3	-0.7
GUMA					AML	AML		
	comp=N,6925μm,0.3s							
GUMA					AML	AML		
	comp=E,5290μm,0.3s							
GUMA					AML	AML		
	comp=E,9900μm,0.2s							
GUMA					AML	AML		
	comp=N,4120μm,0.3s							
SSM1	**San Severino M**	**0.26**	**31**		P	Pg	17 56 38.5	+0.7
SSM1					S	Sb	17 56 42.8	-1.3
MMO1	**Montemonaco**	**0.26**	**114**	⇓	P	Pg	17 56 38.4	+0.5
MMO1					S	Sb	17 56 43.0	-1.4
T1214	**Arquata del Tr**	**0.29**	**148**		AML	AML		
	comp=N,845μm,0.2s							
T1214					AML	AML		
	comp=E,892μm,0.1s							
T1214					AML	AML		
	comp=E,892μm,1.9s							
ATCC	**AVT- Casa Cast**	**0.32**	**304**		P	Pg	17 56 39.7	+0.8
ATCC					S	Sb	17 56 45.3	-0.6
ATCC					AML	AML		
	comp=N,579μm,0.3s							
ATCC					AML	AML		
	comp=E,766μm,0.7s							
FOSV	**Fossato di Vic**	**0.34**	**329**		P	Pg	17 56 39.9	+0.7
FOSV					S	Sb	17 56 45.6	-0.8
FOSV					AML	AML		
	comp=E,274μm,0.4s							
FOSV					AML	AML		
	comp=N,564μm,0.3s							
MF5	**Montefalcone A**	**0.34**	**93**	⇓	P	Pb	17 56 40.3	-0.7
MF5					S	Sb	17 56 46.2	-0.4
MF5					AML	AML		
	comp=E,603μm,0.6s							
MF5					AML	AML		
	comp=N,648μm,0.6s							
MF5					AML	AML		
	comp=E,603μm,1.4s							
MTRA	**Matera**	**0.39**	**131**	⇓	P	Pg	17 56 40.6	+0.4
MTRA					S	Sb	17 56 47.2	-0.7
MTRA					AML	AML		
	comp=E,652μm,1.0s							
MTRA					AML	AML		
	comp=E,637μm,1.6s							
MTRA					AML	AML		
	comp=N,1200μm,0.5s							
MTRA					AML	AML		
	comp=E,652μm,1.0s							
MTRA					AML	AML		
	comp=E,637μm,1.6s							
MTRA					AML	AML		
	comp=N,1195μm,0.5s							
MTRA					AML	AML		
	comp=N,1135μm,0.5s							
MTRA					AML	AML		
	comp=E,652μm,1.0s							
MTRA					AML	AML		
	comp=E,637μm,0.4s							
CING	**Cingoli**	**0.39**	**21**		P	Pg	17 56 40.8	+0.5
CING					S	Sb	17 56 47.5	-0.6
CING					AML	AML		
	comp=N,611μm,0.3s							
CING					AML	AML		
	comp=E,612μm,0.3s							
LNSS	**Leonessa**	**0.41**	**176**		P	Pg	17 56 41.1	+0.5
LNSS					S	Sb	17 56 47.9	-0.6
LNSS					AML	AML		
	comp=E,1112μm,0.3s							
LNSS					AML	AML		
	comp=N,776μm,0.2s							
MURB	**Monte Urbino**	**0.43**	**306**		P	Pg	17 56 41.7	+0.7
MURB					S	Sb	17 56 49.3	+0.1
MURB					AML	AML		
	comp=E,568μm,1.2s							
MURB					AML	AML		
	comp=N,838μm,0.4s							
SMA1	**SAN MARTINO**	**0.45**	**147**	⇓	P	Pg	17 56 41.8	+0.3
SMA1					S	Sb	17 56 49.4	-0.5
SMA1					AML	AML		
	comp=E,725μm,0.7s							
SMA1					AML	AML		
	comp=N,754μm,0.4s							
SMA1					AML	AML		
	comp=E,725μm,1.3s							
SSFR	**Montelago di S**	**0.46**	**340**		P	Pg	17 56 42.0	+0.5
SSFR					S	Sb	17 56 49.3	-0.6
SSFR					AML	AML		
	comp=N,616μm,0.9s							
SSFR					AML	AML		
	comp=E,695μm,0.2s							
SSFR					AML	AML		
	comp=N,610μm,0.8s							
SSFR					AML	AML		
	comp=E,835μm,0.6s							
ARRO	**Arrone**	**0.46**	**202**		P	Pg	17 56 42.2	+0.6
ARRO					S	Sb	17 56 49.8	-0.2
ARRO					AML	AML		
	comp=N,330μm,0.2s							
ARRO					AML	AML		
	comp=E,466μm,0.8s							
ARVD	**Arcevia**	**0.49**	**355**		P	Pg	17 56 42.6	+0.4
ARVD					S	Sb	17 56 50.9	0.0
ARVD					AML	AML		
	comp=E,214μm,1.2s							
ARVD					AML	AML		
	comp=N,117μm,0.2s							
CESX	**Cesi**	**0.50**	**218**	⇑	P	Pg	17 56 42.9	+0.5
CESX					S	Sb	17 56 51.0	-0.2
CESX					AML	AML		
	comp=N,334μm,0.3s							
CESX					AML	AML		
	comp=E,408μm,0.2s							
OFFI	**Offida**	**0.51**	**98**		AML	AML		
	comp=E,312μm,0.5s							
OFFI					AML	AML		
	comp=E,312μm,1.5s							
OFFI					AML	AML		
	comp=N,452μm,0.6s							
RM33	**Pellescritta (**	**0.52**	**162**		P	Pg	17 56 43.0	+0.3
RM33					S	Sb	17 56 51.5	-0.4
RM33					AML	AML		
	comp=N,282μm,0.3s							
RM33					AML	AML		
	comp=E,342μm,1.3s							
RM33					AML	AML		
	comp=E,342μm,0.7s							
FRON	**Frontone**	**0.55**	**339**		P	Pg	17 56 43.5	+0.2
FRON					S	Sb	17 56 52.7	+0.1
FRON					AML	AML		
	comp=E,216μm,0.2s							
FRON					AML	AML		
	comp=N,235μm,1.3s							
CAMP	**Campotosto**	**0.56**	**147**		P	Pg	17 56 43.5	+0.1
CAMP					S	Sb	17 56 52.6	-0.4
CAMP					AML	AML		
	comp=E,242μm,0.5s							
CAMP					AML	AML		
	comp=E,242μm,1.5s							
CAMP					AML	AML		
	comp=N,140μm,0.2s							
ATVO	**AVT- Monte Val**	**0.57**	**311**		P	Pg	17 56 44.1	+0.4
ATVO					S	Sb	17 56 53.2	-0.1
ATVO					AML	AML		
	comp=N,115μm,0.4s							
ATVO					AML	AML		
	comp=N,115μm,0.4s							
ATVO					AML	AML		
	comp=E,122μm,1.0s							
TERO	**Teramo**	**0.59**	**131**		P	Pg	17 56 44.1	+0.1
TERO					S	Sb	17 56 53.6	-0.1
TERO					AML	AML		
	comp=E,314μm,0.9s							
TERO					AML	AML		
	comp=N,326μm,1.4s							
TERO					AML	AML		
	comp=E,314μm,1.1s							
TERO					AML	AML		
	comp=N,326μm,0.6s							
ATPI	**Pietralunga -**	**0.62**	**316**		P	Pb	17 56 45.2	-0.6
ATPI					AML	AML		
	comp=E,97μm,0.7s							
ATPI					AML	AML		
	comp=E,97μm,0.7s							
ATPI					AML	AML		
	comp=N,75μm,1.2s							
PIEI	**Pieia**	**0.63**	**327**		P	Pg	17 56 44.9	+0.2
PIEI					AML	AML		
	comp=E,124μm,1.4s							
PIEI					AML	AML		
	comp=N,81μm,0.5s							
PIEI					AML	AML		
	comp=E,124μm,0.6s							
PIEI					AML	AML		
	comp=N,81μm,1.5s							
NARO	**Abbazia di Nar**	**0.68**	**333**		P	Pg	17 56 45.9	+0.2
NARO					AML	AML		
	comp=E,74μm,1.5s							
NARO					AML	AML		
	comp=N,58μm,1.4s							
NARO					AML	AML		
	comp=E,74μm,0.5s							
FIAM	**Fiamignano**	**0.75**	**173**		P	Pg	17 56 46.9	-0.1
FIAM					AML	AML		
	comp=E,142μm,1.4s							
FIAM					AML	AML		
	comp=N,140μm,0.3s							
FIAM					AML	AML		
	comp=E,142μm,0.6s							
SACS	**San Casciano d**	**0.82**	**259**		P	Pb	17 56 49.0	-0.1
SACS					AML	AML		
	comp=E,75μm,1.2s							
SACS					AML	AML		
	comp=N,61μm,0.5s							
T0110	**Collepietro**	**0.97**	**143**		AML	AML		
	comp=N,148μm,0.5s							
T0110					AML	AML		
	comp=E,158μm,0.5s							

BYKL ***14*** *18:14:40.8±0.5, 48.˚44N×101.˚43E*
MOS ***14*** *18:14:41.2±1.2, 48.˚45N×101.˚41E, h16km, mb4.0/7, Error ellipse: s-maj=7.7km s-min=6.0km az=63.4*
IDC ***14*** *18:14:42.0±0.6, 48.˚44N×101.˚55E, h0km, mb3.8/12, mbtmp3.7/18, ML2.7/4, MS3.2/10, Error ellipse: s-maj=18.1km s-min=10.0km az=14.0*
NEIC ***14*** *18:14:42.8±2.2, 48.˚4N±0.˚1×101.˚4E±0.˚1, h10km±1km, mb4.2/34, Error ellipse: s-maj=20.0km s-min=13.2km az=184.0*

ISC 14 18:14:43.4±0.4, 48.˚40N±0.˚03×101.˚39E±0.˚03, h10km, n129, σ2.2s3/174, mb4.1/29, MS3.2/6, 10C-7D, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAK	**Zakamensk**	**2.33**	**31**	⇓*i*Pg	**Pn**	**18 15 20.7**	**-1.2**
ZAK				*e*		18 15 22.4	
ZAK				Pmax		18 15 22.7	
	638nm,0.4s						
ZAK				*e*Sg	**Sn**	**18 15 51.5**	**+0.8**
ZAK				Smax		18 15 55.5	
	5μm,1.0s						
ZAK	**Zakamensk**	**2.33**	**31**	*e*PN	**Pn**	**18 15 20.6**	**-1.3**
ZAK				*e*		18 15 52.4	
ZAK				pmax	pmax		
	comp=Z,636nm,0.4s						
ZAK				smax	smax		
	comp=E,5μm,0.7s						
MOY	**Mondy**	**3.28**	**356**	⇓*i*Pn	**Pn**	**18 15 34.2**	**-0.7**
MOY				*e*Pg	Pb	18 15 38.7	-3.0
MOY				Pmax		18 15 40.0	
	comp=E,582nm,0.7s						
MOY				*e*Sn	**Sn**	**18 16 10.1**	**-3.9**
MOY				*e*Sg	**Sb**	**18 16 21.9**	**+0.2**
MOY				Smax		18 16 24.0	
	comp=E,4μm,0.8s						
MOY				*e*SgSg	**Sg**	**18 16 32.1**	**+3.5**
MOY	**Mondy**	**3.28**	**356**	⇓*i*Pn	**Pn**	**18 15 34.1**	**-0.8**
MOY				*e*		18 15 38.7	
MOY				*e*		18 16 21.8	
MOY				pmax	pmax		
	comp=Z,580nm,0.6s						
MOY				smax	smax		
	comp=E,4μm,0.9s						
SONM	**Songino Array**	**3.40**	**98**	Pn	**Pn**	**18 15 35.0**	**-1.6**
SONM	**Songino Array**	**3.40**	**98**	Pn	**Pn**	**18 15 35.2**	**-1.5**
	comp=E,32nm,0.3s,baz=282,slow=14,SNR=188						
SONM				Pg	**Pb**	**18 15 42.1**	**-1.7**
	comp=E,44nm,0.3s,baz=282,slow=18,SNR=26						
SONM				Lg	Lg	18 16 26.6	
	comp=E,200nm,0.3s,baz=285,slow=32,SNR=18						
SONM				LR	LR	18 17 03.3	
	comp=E,139nm,18.9s,baz=298,slow=43						
ARS	**Arshan**	**3.58**	**10**	*e*Pn	**Pn**	**18 15 38.3**	**-0.8**
ARS				*e*Pg	**Pb**	**18 15 45.2**	**-1.7**
ARS				*e*PgPg	**PnPn**	**18 15 47.6**	**+1.1**
ARS				max		18 15 52.5	
	comp=E,244nm,0.6s						
ARS				*e*Sn	**Sn**	**18 16 17.3**	**-4.2**
ARS				*e*Sg	**Sb**	**18 16 30.7**	**+0.3**
ARS				Smax		18 16 49.8	
	comp=E,4μm,1.1s						
ARS				*e*SgSg	Sg	18 16 54.2	+16
ARS	**Arshan**	**3.58**	**10**	⇓*i*PN	**Pn**	**18 15 38.3**	**-0.8**
ARS				*e*		18 15 44.7	
ARS				*e*		18 16 29.7	
ARS				pmax	pmax		
	comp=Z,172nm,0.7s						
ARS				smax	smax		
	comp=E,3μm,0.9s						
TLY	**Talaya**	**3.59**	**23**	*e*Pn	**Pn**	**18 15 37.8**	**-1.3**
TLY				*e*Pg	**Pb**	**18 15 44.2**	**-2.7**
TLY				Pmax		18 15 44.8	
	comp=E,260nm,0.5s						
TLY				*e*Sg	**Sb**	**18 16 30.3**	**-0.2**
TLY				*e*		18 16 40.2	
TLY				max		18 16 41.5	
	comp=E,2μm,1.2s						
TLY	**Talaya**	**3.59**	**23**	*e*PN	**Pn**	**18 15 37.7**	**-1.3**
ULN	**Ulaanbaatar**	**3.83**	**96**		**Pn**	**18 15 40.2**	**-2.4**
ULN	**Ulaanbaatar**	**3.83**	**96**	*e*Pn	**Pn**	**18 15 41.2**	**-1.4**
ULN				*e*Pg	**Pb**	**18 15 50.1**	**-1.1**
ULN				*e*Sg	**Sb**	**18 16 40.0**	**+2.3**
ULN	**Ulaanbaatar**	**3.83**	**96**	*d*iPN	**Pn**	**18 15 40.9**	**-1.7**
IVK	**Ivanovka**	**3.92**	**29**	*e*Pn	**Pn**	**18 15 42.6**	**-1.0**
IVK				*e*Pg	**Pb**	**18 15 50.2**	**-2.4**
IVK				Pmax		18 15 54.1	
	comp=E,95nm,0.6s						
IVK				*e*		18 16 07.5	
IVK				*e*Sg	**Sb**	**18 16 41.3**	**+1.3**
IVK				Smax		18 16 49.8	
	comp=E,703nm,1.1s						
IVK				*e*		18 16 59.5	
LSTR	**Listvyanka**	**4.12**	**31**	*e*Pn	**Pn**	**18 15 45.0**	**-1.3**
LSTR				*e*Pg	**Pb**	**18 15 53.6**	**-2.3**
LSTR				*e*PgPg	**PnPn**	**18 15 55.3**	**+1.6**
LSTR				max		18 15 58.1	
	comp=E,143nm,0.7s						
LSTR				*e*		18 16 17.7	
LSTR				*e*Sg	**Sb**	**18 16 47.1**	**+1.5**
LSTR				Smax		18 16 54.6	
	comp=E,706nm,1.0s						
LSTR				*e*		18 17 04.7	
LSTR	**Listvyanka**	**4.12**	**31**	*e*PN	**Pn**	**18 15 44.7**	**-1.6**
LSTR				*e*		18 15 53.4	
LSTR				*e*		18 16 46.5	
LSTR				pmax	pmax		
	comp=Z,136nm,0.7s						
LSTR				smax	smax		
	comp=E,702nm,0.7s						
ORL	**Orlik**	**4.26**	**347**	*e*Pn	**Pn**	**18 15 47.8**	**-0.6**
ORL				*e*Pg	Pb	18 15 56.3	-2.2
ORL				Pmax		18 16 01.1	
	comp=E,106nm,0.8s						
ORL				*e*Sg	**Sb**	**18 16 52.3**	**+2.3**
ORL				*e*		18 17 01.5	
ORL				max		18 17 03.6	
	comp=E,601nm,1.2s						
IRK	**Irkutsk**	**4.26**	**25**	*e*Pg	**Pb**	**18 15 55.8**	**-2.6**
IRK				*e*		18 15 58.9	
IRK				max		18 16 00.1	
	comp=E,268nm,0.4s						
IRK				*e*Sg	**Sb**	**18 16 51.4**	**+1.5**
IRK				Smax		18 17 00.3	
	comp=E,4μm,1.1s						
IRK	**Irkutsk**	**4.26**	**25**	*e*PN	**Pn**	**18 15 46.7**	**-1.7**
IRK				*e*		18 15 55.8	
IRK				*e*		18 16 51.6	
IRK				pmax	pmax		
	comp=Z,222nm,0.4s						
IRK				smax	smax		
	comp=N,4μm,1.1s						
BGT	**Bolshoye Golou**	**4.47**	**34**	*e*Pn	**Pn**	**18 15 48.4**	**-2.7**
BGT				*e*Pg	**Pb**	**18 15 59.5**	**-2.4**
BGT				*e*PgPg	**PnPn**	**18 16 00.5**	**+2.0**
BGT				max		18 16 04.5	
	comp=N,129nm,0.6s						
BGT				*e*		18 16 27.6	
BGT				*e*Sg	**Sb**	**18 16 58.9**	**+3.2**
BGT				Smax		18 17 08.3	
	comp=N,810nm,0.7s						
BGT				*e*		18 17 12.6	
VBR	**Suhoy Ruchey**	**4.52**	**39**	*e*Pg	**Pb**	**18 16 01.1**	**-1.7**
VBR				*e*		18 16 08.6	
VBR				*e*Sg	**Sb**	**18 16 59.9**	**+2.7**
VBR				*e*		18 17 20.0	
HRMR	**Khuramsha**	**4.83**	**46**	⇑*i*Pn	**Pn**	**18 15 54.3**	**-1.8**
HRMR				*e*Pg	**Pb**	**18 16 05.9**	**-2.1**
HRMR				Pmax		18 16 07.4	
	comp=N,532nm,0.7s						
HRMR				*e*Sn	**Sn**	**18 16 48.7**	**-3.3**
HRMR				*e*Sg	**Sb**	**18 17 10.5**	**+4.4**
HRMR				Smax		18 17 18.1	
	comp=N,5μm,1.0s						
HRMR				*e*		18 17 24.5	
KAB	**Kabansk**	**4.97**	**41**	*e*Pn	**Pn**	**18 15 56.4**	**-1.7**
KAB				*e*Pg	**Pb**	**18 16 09.9**	**-0.6**
KAB				Pmax		18 16 11.5	
	comp=N,481nm,1.2s						
KAB				*e*Sn	**Sn**	**18 16 50.3**	**-5.3**
KAB				*e*Sg	**Sb**	**18 17 14.1**	**+3.8**
KAB				*e*		18 17 33.1	
KAB				max		18 17 42.4	
	comp=N,4μm,1.0s						
FFNB	**Fofonovo**	**5.02**	**41**	*e*Pg	**Pb**	**18 16 09.8**	**-1.5**
FFNB				*e*Sg	**Sb**	**18 17 15.1**	**+3.4**
UUDB	**Ulan-Yde**	**5.32**	**47**	*e*Pn	**Pn**	**18 16 01.4**	**-1.5**
UUDB				*e*Pg	**Pb**	**18 16 14.3**	**-2.1**
UUDB				Pmax		18 16 16.1	
	comp=N,224nm,0.7s						
UUDB				*e*		18 16 19.2	
UUDB				*e*Sn	**Sn**	**18 17 00.2**	**-4.0**
UUDB				*e*Sg	**Sb**	**18 17 25.0**	**+4.7**
UUDB				Smax		18 17 31.8	
	comp=N,1μm,1.4s						
TRG	**Tyrgan**	**5.38**	**34**	*e*Pn	**Pn**	**18 16 02.4**	**-1.4**
TRG				*e*Pg	**Pb**	**18 16 16.2**	**-1.3**
TRG				Pmax		18 16 18.0	
	comp=N,51nm,0.6s						
TRG				*e*		18 16 20.8	
TRG				*e*Sn	**Sn**	**18 17 01.6**	**-4.2**
TRG				*e*Sg	**Sb**	**18 17 26.4**	**+4.2**
TRG				Smax		18 17 30.6	
	comp=N,519nm,1.0s						
TRG	**Tyrgan**	**5.38**	**34**	*e*PN	Pn	18 16 00.7	-3.1
TRG				*e*		18 16 16.7	
TRG				*e*S	**Sn**	**18 17 02.3**	**-3.5**
TRG				*e*		18 17 26.9	
TRG				pmax	pmax		
	comp=Z,53nm,0.4s						
TRG				smax	smax		
	comp=E,496nm,0.8s						
KZLR	**Kyzyl**	**5.55**	**309**	*e*Pn	**Pn**	**18 16 06.0**	**-0.1**
KZLR				*e*Pg	**Pb**	**18 16 21.4**	**+1.0**
KZLR				*e*Sg	**Sb**	**18 17 33.3**	**+6.2**
KZLR				*e*		18 17 58.1	
KELR	**Kotokel**	**6.10**	**42**	*e*Pn	**Pn**	**18 16 11.3**	**-2.2**
KELR				*e*Pg	**Pb**	**18 16 28.8**	**-0.8**
KELR				*e*		18 16 38.7	
KELR				*e*		18 17 21.0	
KELR				*e*Sg	**Sb**	**18 17 48.3**	**+5.7**
GORB	**Goryachinsk**	**6.34**	**41**	⇓*i*Pn	**Pn**	**18 16 15.5**	**-1.4**
GORB				*e*Pg	**Pb**	**18 16 33.2**	**-0.6**
GORB				*e*Sg	**Sb**	**18 17 55.6**	**+5.9**
OGRR	**Ongureny**	**6.54**	**34**	⇑*i*Pn	**Pn**	**18 16 18.8**	**-0.9**
OGRR				*e*Pg	**Pb**	**18 16 38.0**	**+0.8**
OGRR				Pmax		18 16 45.0	
	comp=E,41nm,0.7s						
OGRR				*e*Sg	**Sb**	**18 18 01.9**	**+6.4**
OGRR				Smax		18 18 13.0	
	comp=E,287nm,0.9s						
OGRR	**Ongureny**	**6.54**	**34**	*e*PN	**Pn**	**18 16 18.5**	**-1.2**
OGRR				*e*		18 16 39.0	
OGRR				*e*		18 18 03.0	
OGRR				pmax	pmax		
	comp=Z,47nm,1.2s						
OGRR				smax	smax		
	comp=E,385nm,1.2s						
ARDR	**Aradan**	**6.58**	**312**	*e*Pg	**Pb**	**18 16 39.5**	**+1.7**
ARDR				*e*Sg	**Sb**	**18 18 04.8**	**+8.4**
ARDR				*e*		18 18 13.2	
MXMB	**Maximikha**	**6.74**	**41**	*e*Pn	Pn	18 16 17.6	-4.7
MXMB				*e*Pg	**Pb**	**18 16 40.5**	**0.0**
MXMB				*e*		18 16 42.8	
MXMB				*e*Sn	**Sn**	**18 17 32.6**	**-6.4**
MXMB				*e*Sg	**Sb**	**18 18 08.2**	**+7.3**
MXMB				*e*		18 18 20.2	
KPC	**Khapcheranga**	**7.34**	**76**	*e*Pn	**Pn**	**18 16 27.5**	**-3.1**
KPC				*e*Pg	**Pb**	**18 16 52.7**	**+1.9**
KPC				Pmax		18 16 57.2	
	comp=E,28nm,0.7s						
KPC				*e*		18 17 41.7	
KPC				*e*Sg	**Sb**	**18 18 26.8**	**+8.4**
KPC				Smax		18 18 46.0	
	comp=E,608nm,1.6s						
KPC	**Khapcheranga**	**7.34**	**76**	*e*PN	**Pn**	**18 16 27.5**	**-3.1**
KPC				*e*		18 16 50.9	
KPC				*e*		18 18 26.9	
KPC				pmax	pmax		
	comp=Z,28nm,0.7s						
KPC				smax	smax		
	comp=N,609nm,1.7s						
SYVR	**Suvo**	**7.56**	**43**	*e*Pn	**Pn**	**18 16 31.9**	**-1.6**
SYVR				*e*Pg	**Pb**	**18 16 54.7**	**+0.2**
SYVR				Pmax		18 16 56.3	
	comp=N,58nm,1.0s						
SYVR				*e*Sn	**Sn**	**18 17 53.8**	**-5.4**
SYVR				*e*Sg	**Sb**	**18 18 32.5**	**+8.0**
SYVR				Smax		18 18 54.0	
	comp=N,345nm,1.4s						
SYVR	**Suvo**	**7.56**	**43**	*e*PN	**Pn**	**18 16 32.2**	**-1.3**
SYVR				*e*		18 16 54.7	
SYVR				*e*		18 18 32.5	
SYVR				pmax	pmax		
	comp=Z,49nm,0.7s						
SYVR				smax	smax		
	comp=N,354nm,1.4s						
CIT	**Chita**	**8.60**	**61**	*e*PG	Pg	18 17 12.9	-15
CIT				*e*		18 19 08.3	
CIT				pmax	pmax		
	comp=Z,53nm,0.6s						
CIT				smax	smax		
	comp=N,363nm,1.7s						
YLYR	**Ulyunkhan**	**8.88**	**39**	*e*Pn	**Pn**	**18 16 50.5**	**-1.2**
YLYR				*e*Pg	Pg	18 17 18.8	-14
YLYR				Pmax		18 17 30.5	
	comp=N,23nm,1.3s						
YLYR				*e*Sn	Sn	18 18 23.1	-8.6
YLYR				*e*Sg	Sg	18 19 13.3	-15
YLYR				Smax		18 19 33.0	
	comp=N,173nm,1.1s						

YLYR					*e*			18 19 54.2		
comp=Z,2.1nm,0.4s										
YLYR	**Ulyunkhan**	**8.88**	**39**	*e*	PN	**Pn**	**18 16 50.4**	**-1.2**		
YLYR					*e*			18 17 17.1		
NIZB	**Nizh Angarsk**	**8.92**	**31**	*e*	Pn	**Pn**	**18 16 50.2**	**-2.0**		
NIZB					*e*	Pg	Pg	18 17 19.7	-14	
NIZB						Pmax		18 17 53.2		
comp=N,19nm,0.9s										
NIZB					*e*			18 18 51.2		
NIZB					*e*	Sg	Sg	18 19 14.8	-15	
NIZB						Smax		18 19 27.5		
comp=N,358nm,1.4s										
GTA	**Gaotai**	**9.06**	**188**		P	**Pn**	**18 16 55.8**	**+1.5**		
GTA						sP		18 17 05.0		
GTA						pmax	pmax			
comp=Z,2.0nm,0.9s										
GTA						LR	LR			
comp=N,310nm,8.0s										
GTA						LR	LR			
comp=E,520nm,8.0s										
GTA						LR	LR			
comp=Z,270nm,9.5s										
KRAR	**Krasnoyarsk**	**9.23**	**329**	*i*	P	**Pn**	**18 16 56.0**	**-0.5**		
DGZ	**Jazzator, Alta**	**9.26**	**283**⇑	*e*	P	Pn	18 16 55.0	-2.0		
UKT	**Uakit**	**10.35**	**42**	*e*	Pn	**Pn**	**18 17 09.5**	**-2.4**		
UKT					*e*	Pg		18 17 47.0		
UKT						Pmax		18 17 55.0		
comp=Z,12nm,1.4s										
UKT					*e*	Sg	Sn	18 19 59.5	+52	
UKT						Smax		18 20 19.6		
comp=Z,205nm,1.4s										
WMQ	**Urumqi**	**10.55**	**249**	*e*	P	Pn	18 17 20.0	+5.4		
WMQ						smax	smax			
comp=N,57nm,1.7s										
WMQ						smax	smax			
comp=E,72nm,1.1s										
ZALV	**Zalesovo Beam**	**11.78**	**304**		Pn	**Pn**	**18 17 33.0**	**+1.7**		
baz=100,slow=16,SNR=1.2										
ZALV						Sn	**Sn**	**18 19 47.0**	**+4.4**	
comp=E,0.2nm,0.3s,baz=106,slow=21,SNR=2.3										
ZALV						Lg	Lg	18 20 47.5		
comp=E,0.2nm,0.3s,baz=123,slow=25,SNR=6.5										
comp=E,0.2nm,0.3s										
NLYR	**Nelyaty**	**11.89**	**42**	*e*	Pn	**Pn**	**18 17 30.9**	**-2.0**		
NLYR					*e*	Pg		18 18 15.2		
NLYR						Pmax		18 18 28.8		
comp=E,26nm,2.3s										
NLYR					*e*			18 20 26.8		
NLYR					*e*	Sg		18 20 48.0		
NLYR						Smax		18 21 18.9		
comp=E,241nm,1.1s										
NLYR					*e*			18 21 34.9		
HIA	**Hailar**	**12.13**	**79**	*e*	Sg			18 20 54.9		
MK31	**Makanchi Array**	**12.99**	**270**		Pn	**Pn**	**18 17 47.4**	**-0.6**		
MK31	**Makanchi Array**	**12.99**	**270**⇑	*e*	P	Pn	18 17 46.3	-1.6		
MKAR	**Makanchi Array**	**12.99**	**270**		Pn	**Pn**	**18 17 47.8**	**-0.2**		
MKAR	**Makanchi Array**	**12.99**	**270**	*i*	P	**Pn**	**18 17 49.5**	**+1.6**		
MKAR	**Makanchi Array**	**12.99**	**270**		Pn	**Pn**	**18 17 49.1**	**+1.1**		
baz=95,slow=14,SNR=5.2										
MKAR						Lg	Lg	18 21 29.2		
comp=E,0.3nm,0.3s,baz=80,slow=27,SNR=12										
MKAR						LR	LR	18 22 51.0		
comp=E,104nm,20.7s,baz=82,slow=37										
comp=E,0.4nm,0.7s										
GOMU	**GeErMu**	**13.12**	**204**		P	**Pn**	**18 17 51.8**	**+1.7**		
GOMU						pP	P	18 17 58.5	-1.9	
GOMU						sP		18 18 00.8		
GOMU						S	Sn	18 19 49.8	-26	
GOMU						sS	S	18 19 57.8	-44	
GOMU						pmax	pmax			
comp=Z,6.0nm,1.1s										
GOMU						LR	LR			
comp=N,250nm,7.3s										
GOMU						LR	LR			
comp=E,280nm,7.7s										
GOMU						LR	LR			
comp=Z,220nm,7.6s										
MAKZ	**Makanchi**	**13.20**	**270**		Pn	**Pn**	**18 17 51.2**	**+0.4**		
MAKZ	**Makanchi**	**13.20**	**270**		P	**Pn**	**18 17 51.2**	**+0.4**		
HNS	**HongShan**	**14.68**	**134**	*e*	P	**P**	**18 18 19.6**	**+2.3**		
HNS					*e*	S	Sn	18 21 03.4	+10	
HNS						LR	LR			
comp=N,220nm,10.4s										
HNS						LR	LR			
comp=E,240nm,10.0s										
HNS						LR	LR			
comp=Z,220nm,9.6s										
KURK	**Kurchatov**	**14.95**	**287**		Pn	**Pn**	**18 18 13.4**	**-1.1**		
KURK	**Kurchatov**	**14.95**	**287**⇑	*e*	P	Pn	18 18 10.3	-4.2		
KURBB	**Kurchatov Arra**	**15.00**	**287**		Pn	**Pn**	**18 18 16.5**	**+1.2**		
baz=87,slow=11,SNR=14										
KURBB						Lg	Lg	18 22 34.3		
baz=90,slow=32,SNR=8.5										
comp=Z,0.7nm,0.6s										
TIA	**Tai'an**	**16.81**	**131**	*e*	P	**P**	**18 18 42.9**	**+2.0**		
TIA						S	**Sn**	**18 21 49.8**	**+4.4**	
TIA						pmax	pmax			
comp=Z,2.0nm,0.6s										
TIA						pmax	pmax			
comp=Z,26nm,3.4s										
TIA						LR	LR			
comp=N,150nm,13.4s										
TIA						LR	LR			
comp=E,47nm,12.9s										
TIA						LR	LR			
comp=Z,70nm,13.7s										
PRZ	**Przheval'sk**	**17.15**	**258**			**Pn**	**18 18 43.5**	**+0.3**		
PRZ						IAmb	IAmb	18 18 48.9		
comp=Z,13nm,0.8s										
PRZ	**Przheval'sk**	**17.15**	**258**		P	**Pn**	**18 18 43.5**	**+0.3**		
PRZ						pmax	pmax			
comp=Z,13nm,0.8s										
TARG	**Taragay, Kyrgy**	**17.91**	**257**			**Pn**	**18 18 52.1**	**-0.7**		
TARG	**Taragay, Kyrgy**	**17.91**	**257**		P	**Pn**	**18 18 52.1**	**-0.7**		
TARG						pmax	pmax			
comp=Z,11nm,1.4s										
NRN	**Naryn**	**19.23**	**258**		P	**P**	**18 19 07.7**	**-0.2**		
NRN	**Naryn**	**19.23**	**258**		P	**P**	**18 19 07.7**	**-0.2**		
NRN						pmax	pmax			
comp=Z,2.0nm,0.8s										
AAK	**Ala-Archa**	**19.65**	**263**		P	**P**	**18 19 13.9**	**+1.6**		
AAK	**Ala-Archa**	**19.65**	**263**⇑	*e*	P	**P**	**18 19 09.9**	**-2.5**		
AAK						pmax	pmax			
comp=Z,5.0nm,0.7s										
AAK	**Ala-Archa**	**19.65**	**263**		P	**P**	**18 19 14.7**	**+2.3**		
comp=Z,3.7nm,0.6s,baz=86,slow=4.6,SNR=25										
AAK						Lg	Lg	18 25 06.7		
comp=Z,0.3nm,0.3s,baz=162,slow=22,SNR=1.7										
AAK						LR	LR	18 27 05.9		
comp=Z,52nm,18.3s,baz=38,slow=38										
KLR	**Kul'dur**	**19.95**	**76**⇑	*e*	P	**P**	**18 19 12.6**	**-2.8**		
KLR						pmax	pmax			
comp=Z,5.0nm,1.3s										
KLR	**Kul'dur**	**19.95**	**76**		P	**P**	**18 19 15.2**	**-0.2**		
baz=242,slow=15,SNR=2.0										
KLR						Lg	Lg	18 25 12.1		
baz=208,slow=17,SNR=5.7										
KLR						LR	LR	18 27 38.8		
comp=Z,87nm,19.9s,baz=248,slow=39										
comp=Z,0.6nm,0.5s										
BVAR	**Borovoye Array**	**20.07**	**295**		P	**P**	**18 19 17.1**	**+0.4**		
comp=Z,2.6nm,0.8s,baz=96,slow=9.1,SNR=11										
BVAR						LR	LR	18 26 32.1		
comp=Z,41nm,18.7s,baz=89,slow=35										
comp=Z,2.6nm,0.8s										
BRVK	**Borovoye**	**20.14**	**295**		P	**P**	**18 19 15.5**	**-1.9**		
BRVK	**Borovoye**	**20.14**	**295**⇑	*e*	P	**P**	**18 19 16.6**	**-0.8**		
BRVK						pmax	pmax			
comp=Z,5.0nm,0.9s										
YAK	**Yakutsk**	**20.90**	**39**		LR	LR	18 26 35.1			
comp=Z,38nm,20.3s,baz=294,slow=34										
ARSB	**Arslanbob**	**21.26**	**261**		P	**P**	**18 19 28.2**	**-1.6**		
ARSB	**Arslanbob**	**21.26**	**261**		P	**P**	**18 19 28.2**	**-1.6**		
ARSB						pmax	pmax			
comp=Z,6.0nm,1.5s										
USA0B	**Ussuriysk Arra**	**21.48**	**90**⇑	*e*	P	**P**	**18 19 30.5**	**-1.4**		
USRK	**Ussuriysk Ar.**	**21.48**	**90**		P	**P**	**18 19 32.0**	**+0.1**		
comp=Z,1.2nm,0.6s,baz=280,slow=11,SNR=5.7										
comp=Z,1.2nm,0.6s										
NRIK	**Noril'sk**	**22.07**	**347**		P	**P**	**18 19 36.7**	**-1.4**		
NRIK						IAmb	IAmb	18 19 40.4		
comp=Z,12nm,1.4s										
NRIK	**Noril'sk**	**22.07**	**347**⇑	*e*	P	**P**	**18 19 36.2**	**-1.9**		
NRIK						pmax	pmax			
comp=Z,4.0nm,1.1s										
NRIK	**Noril'sk**	**22.07**	**347**		P	**P**	**18 19 37.3**	**-0.8**		
comp=Z,2.1nm,0.4s,baz=142,slow=14,SNR=4.6										
comp=Z,2.1nm,0.4s										
KK31	**Karatay Array**	**22.10**	**268**		P	**P**	**18 19 36.6**	**-2.0**		
KK31	**Karatay Array**	**22.10**	**268**		P	**P**	**18 19 36.6**	**-2.0**		
KK31						pmax	pmax			
comp=Z,4.0nm,1.0s										
KKAR	**Karatay Array**	**22.10**	**268**		P	**P**	**18 19 35.8**	**-2.8**		
KKAR	**Karatay Array**	**22.10**	**268**		P	**P**	**18 19 35.8**	**-2.8**		
KKAR						pmax	pmax			
comp=Z,4.0nm,1.0s										
KSRS	**Korea Array**	**22.19**	**110**		P	**P**	**18 19 40.2**	**+0.6**		
comp=Z,1.6nm,0.9s,baz=322,slow=7.6,SNR=4.4										
comp=Z,1.6nm,0.9s										
DRK	**Karamyk**	**22.98**	**258**		P	**P**	**18 19 46.8**	**-1.6**		
DRK						IAmb	IAmb	18 19 56.9		
comp=Z,9.6nm,0.8s										
KMI	**Kunming**	**23.26**	**177**	⇓	P	**P**	**18 19 57.1**	**+5.9**		
KMI						pmax	pmax			
comp=Z,9.0nm,1.1s										
BTK	**Batken**	**23.32**	**260**		P	**P**	**18 19 49.8**	**-1.8**		
BTK						IAmb	IAmb	18 20 21.2		
comp=Z,5.8nm,1.0s										
BTK	**Batken**	**23.32**	**260**		P	**P**	**18 19 49.8**	**-1.8**		
BTK						pmax	pmax			
comp=Z,6.0nm,1.0s										
GAR	**Garm**	**24.21**	**259**		P	**P**	**18 19 59.2**	**-1.0**		
CHGR	**Chuyangaron**	**25.15**	**259**		P	**P**	**18 20 07.8**	**-0.9**		
CHGR	**Chuyangaron**	**25.15**	**259**		P	**P**	**18 20 07.8**	**-0.9**		
CHGR						pmax	pmax			
comp=Z,15nm,0.7s										
SIMJ	**Simiganj**	**25.25**	**259**		P	**P**	**18 20 10.0**	**+0.4**		
SIMJ						IAmb	IAmb	18 20 13.3		
comp=Z,6.6nm,0.8s										
NIL	**Nilore**	**25.66**	**245**		P	**P**	**18 20 13.1**	**-0.1**		
NIL	**Nilore**	**25.66**	**245**		P	**P**	**18 20 13.1**	**-0.1**		
NIL						pmax	pmax			
comp=Z,16nm,0.8s										
TIXI	**Tiksi**	**26.56**	**19**		P	**P**	**18 20 18.9**	**-2.1**		
TIXI						IAmb	IAmb	18 20 23.3		
comp=Z,3.2nm,1.1s										
TIXI	**Tiksi**	**26.56**	**19**		P	**P**	**18 20 18.9**	**-2.1**		
TIXI						pmax	pmax			
comp=Z,3.0nm,1.2s										
ABKAR	**Akbulak array**	**27.06**	**288**		P	**P**	**18 20 23.6**	**-2.1**		
ASAJ	**Asahikawa**	**28.56**	**83**		LR	LR	18 33 00.3			
comp=Z,84nm,18.4s,baz=7.5,slow=39										
CM31	**Chiang Mai Arr**	**29.94**	**185**		P	**P**	**18 20 50.4**	**-1.2**		
CM31						IAmb	IAmb	18 20 53.2		
comp=Z,2.5nm,0.7s										
CMAR	**Chiang Mai Arr**	**29.94**	**185**		P	**P**	**18 20 51.9**	**+0.3**		
CMAR	**Chiang Mai Arr**	**29.94**	**185**		P	**P**	**18 20 51.9**	**+0.3**		
CMAR	**Chiang Mai Arr**	**29.94**	**185**		P	**P**	**18 20 52.3**	**+0.7**		
comp=Z,2.2nm,0.8s,baz=355,slow=9.0,SNR=18										
CMAR						LR	LR	18 34 01.8		
comp=Z,43nm,18.0s,baz=290,slow=39										
comp=Z,2.2nm,0.8s										
MA2	**Magadan**	**30.39**	**50**		LR	LR	18 33 54.7			
comp=Z,72nm,18.6s,baz=348,slow=38										
WSAR	**Wadi Sarin**	**42.05**	**249**		LR	LR	18 43 26.2			
comp=Z,72nm,19.2s,baz=254,slow=41										
BRTR	**Keskin Array B**	**47.99**	**286**		P	**P**	**18 23 23.3**	**+0.8**		
comp=Z,0.6nm,0.8s,baz=66,slow=9.6,SNR=3.9										
comp=Z,0.6nm,0.8s										
HFS	**Hagfors**	**48.78**	**318**		P	**P**	**18 23 28.3**	**+0.2**		
comp=Z,2.3nm,0.7s,baz=74,slow=6.3,SNR=4.7										
comp=Z,2.3nm,0.7s										
BUR08	**Bucovina Ar. S**	**48.94**	**299**		P	**P**	**18 23 30.5**	**+0.9**		
BUR08						IAmb	IAmb	18 23 31.9		
comp=Z,3.0nm,1.0s										
BURAR	**Bucovina Array**	**48.94**	**299**		P	**P**	**18 23 28.4**	**-1.2**		
BURAR						IAmb	IAmb	18 23 32.1		
comp=Z,1.7nm,0.9s										
B20K	**Meade River**	**49.11**	**26**		P	**P**	**18 23 29.3**	**-1.2**		
NB2	**NORSAR Subarra**	**49.43**	**320**		P	**P**	**18 23 33.0**	**-0.1**		
comp=Z,5.5nm,1.1s,baz=61,slow=7.9										
NOA	**NORSAR Array B**	**49.43**	**320**		P	**P**	**18 23 33.2**	**+0.1**		
comp=Z,1.2nm,0.7s,baz=60,slow=7.6,SNR=5.4										
comp=Z,1.2nm,0.7s										
D19K	**Kuna River**	**49.59**	**28**		P	**P**	**18 23 33.9**	**-0.3**		
D19K						IAmb	IAmb	18 23 35.6		
comp=Z,4.0nm,0.8s										
E19K	**Redstone River**	**50.41**	**29**		P	**P**	**18 23 40.0**	**-0.5**		
E19K						IAmb	IAmb	18 23 42.0		
comp=Z,4.7nm,1.1s										
F19K	**Shaleruckik Mo**	**50.56**	**30**		P	**P**	**18 23 40.3**	**-1.2**		
F19K						IAmb	IAmb	18 23 41.6		
comp=Z,7.6nm,1.4s										
F21K	**Alatna River**	**51.75**	**29**		P	**P**	**18 23 50.6**	**+0.1**		
F21K						IAmb	IAmb	18 23 55.0		
comp=Z,4.6nm,1.3s										
E28M	**Babbage River**	**54.92**	**23**		P	**P**	**18 24 13.9**	**+0.2**		
E28M						IAmb	IAmb	18 24 14.8		
comp=Z,3.0nm,1.0s										
ILAR	**Eielson Array**	**55.39**	**29**		P	**P**	**18 24 16.7**	**-0.5**		
comp=Z,1.2nm,0.8s,baz=302,slow=3.5,SNR=13										
comp=Z,1.2nm,0.8s										
E29M	**Blow River**	**55.49**	**23**		P	**P**	**18 24 17.1**	**-0.8**		
SUA	**Susitna One**	**56.23**	**33**		P	**P**	**18 24 23.5**	**+0.1**		
YKA	**Yellowknife Ar**	**65.79**	**17**		P	**P**	**18 25 27.8**	**-0.3**		
comp=Z,1.2nm,0.9s,baz=333,slow=6.9,SNR=12										
comp=Z,1.2nm,0.9s										
WRA	**Warramunga Arr**	**74.14**	**148**		P	**P**	**18 26 19.2**	**-0.7**		
comp=Z,0.8nm,0.7s,baz=346,slow=6.7,SNR=2.3										
comp=Z,0.8nm,0.7s										
ASAR	**Alice Springs**	**77.43**	**150**		P	**P**	**18 26 38.2**	**-0.4**		
comp=Z,0.6nm,0.8s,baz=347,slow=6.6,SNR=5.7										
comp=Z,0.6nm,0.8s										
LPAZ	**La Paz**	**146.84**	**341**		PKPbc	**PKPdf**	**18 34 25.6**	**+0.7**		
comp=Z,1.6nm,0.8s,baz=322,slow=0.5,SNR=5.8										

*JMA **14** 18:35:36.0±0.2,32.2°N±1.1°×136.4E±0.8,h471km±1km, MV3.7/37,SHIKOKU BASIN*

*NIED **14** 18:35:36.0,32.27N×136.35E,h471km,MW4.3,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-1.67; Mθθ2.01; Mφφ-0.34; Mrθ-0.65; Mθφ-0.64; Mφr-2.28; Fault plane solution: M0.85000×10¹⁵ NP1: φs72.00000°,δ58.00000°,λ-137.00000°. NP2: φs315.00000°,δ54.00000°,λ-41.00000°.*

*IDC **14** 18:35:36.5±0.6,32.23N×136.29E,h465km±6km,mb3.2/21, mbtmp4.1/29 Error ellipse: s-maj=10.4km s-min=9.6km az=87.0*

ISC 14 18:35:35.8±0.6,32.18N±0.07×136.39E±0.05,h464km±5km, n66,σ1ᵍ20/91,mb3.6/21,Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWKM	**Wakayamakushim**	**1.37**	**337**	P	**P**	**18 36 35.4**	**+0.8**
JWKM				S	**S**	**18 37 22.3**	**-0.1**
TTO1	**TONANKAI O.B.S**	**1.47**	**13**	P	**P**	**18 36 36.5**	**+1.9**
JTNC	**Tanabenakahech**	**1.76**	**338**	P	**P**	**18 36 37.1**	**+0.8**
JTNC				S	**S**	**18 37 25.3**	**-0.3**
TK02	**Tokai 2**	**2.10**	**33**	P	**P**	**18 36 39.4**	**+1.7**
JWY	**Kouya**	**2.14**	**342**	P	**P**	**18 36 39.4**	**+1.0**
JWY				S	**S**	**18 37 28.7**	**-0.6**
JIE	**Ise**	**2.22**	**7**	P	**P**	**18 36 39.8**	**+1.1**
JIE				S	**S**	**18 37 30.0**	**+0.1**
JAI	**Aioi**	**2.29**	**315**	P	**P**	**18 36 40.2**	**+1.0**
JAI				S	**S**	**18 37 30.1**	**-0.5**
JMN	**Monobe**	**2.61**	**307**	P	**P**	**18 36 42.4**	**+1.2**
JMN	**Monobe**	**2.61**	**307**	P	**P**	**18 36 42.5**	**+1.2**
JMN				S	**S**	**18 37 35.0**	**+0.5**
JAOM	**Aogashimamukai**	**2.87**	**84**	P	**P**	**18 36 44.1**	**+1.1**
JSG	**Sagara**	**2.90**	**31**	P	**P**	**18 36 44.8**	**+1.7**
JHJ	**Hachijo jima 2**	**3.01**	**71**	P	**P**	**18 36 45.1**	**+1.1**
120nm,0.3s,baz=270,slow=20,SNR=55							
JHJ				S	**S**	**18 37 42.8**	**+3.4**
45nm,0.4s,baz=56,slow=23,SNR=1.3							
JHJ2	**Mitsune**	**3.04**	**71**	P	**P**	**18 36 45.3**	**+1.2**
JHJ2	**Mitsune**	**3.04**	**71**	*eP*	**P**	**18 36 45.8**	**+1.7**
JTO	**Tosashimizu**	**3.10**	**283**	P	**P**	**18 36 45.7**	**+1.0**
JTO				S	**S**	**18 37 40.5**	**-0.2**
JWT	**Wachi**	**3.20**	**345**	P	**P**	**18 36 46.0**	**+0.7**
JWT				S	**S**	**18 37 40.6**	**-1.3**
INU	**Inuyama**	**3.20**	**9**	P	**P**	**18 36 46.1**	**+0.8**
JYTA	**Yamagatataniai**	**3.41**	**5**	P	**P**	**18 36 47.7**	**+0.7**
JYTA				S	**S**	**18 37 43.7**	**-1.2**
JGF	**Kuroka**	**3.50**	**13**	P	**P**	**18 36 48.2**	**+0.5**
JNA	**Nagahama**	**3.56**	**294**	P	**P**	**18 36 49.3**	**+1.1**
JOD2	**Odawara 2**	**3.81**	**35**	P	**P**	**18 36 50.8**	**+0.6**
JOD2				S	**S**	**18 37 51.6**	**+0.8**
JHS	**Saijyo**	**3.92**	**317**	P	**P**	**18 36 51.6**	**+0.5**
JHS				S	**S**	**18 37 51.9**	**-0.5**
JRY	**Ryogami san**	**4.36**	**28**	P	**P**	**18 36 55.3**	**+0.4**
JRY				S	**S**	**18 37 57.7**	**-1.7**
BSO1	**Boso 1**	**4.56**	**56**	P	**P**	**18 36 54.7**	**-1.4**
BSO1				S	**S**	**18 37 58.8**	**-2.9**
MJAR	**Matsushiro Arr**	**4.60**	**19**	P	**P**	**18 36 57.5**	**+0.4**
30nm,0.7s,baz=199,slow=9.9,SNR=75							
MJAR				S	**S**	**18 38 02.5**	**-0.9**
12nm,0.7s,baz=322,slow=22,SNR=9.2							
MAJO	**Matsushiro**	**4.60**	**19**	P	**P**	**18 36 57.5**	**+0.4**
JNU	**Nakatsue**	**4.74**	**283**	P	**P**	**18 36 59.2**	**+0.7**
JNU	**Nakatsue**	**4.74**	**283**	P	**P**	**18 36 59.1**	**+0.7**
31nm,0.6s,baz=41,slow=3.2,SNR=79							
JNU				S	**S**	**18 38 05.4**	**-0.5**
17nm,0.8s,baz=230,slow=20,SNR=5.5							
JOI	**OKI**	**4.85**	**328**	P	**P**	**18 36 59.5**	**+0.2**
JTU	**Tsushima**	**6.30**	**294**	P	**P**	**18 37 14.1**	**+0.5**
JTU	**Tsushima**	**6.30**	**294**	P	**P**	**18 37 13.9**	**+0.3**
CBIJ	**Chichi jima**	**7.15**	**134**	*eP*	**P**	**18 37 20.5**	**-2.0**
CBIJ				*eS*	**S**	**18 38 44.5**	**-5.5**
JCJ	**Chichijima**	**7.15**	**134**	P	**P**	**18 37 21.0**	**-1.6**
JCJ	**Chichijima**	**7.15**	**134**	P	P	18 37 16.1	-6.4
88nm,0.3s,baz=110,slow=8.6,SNR=42							
JCJ				S	S	18 38 40.4	-10
258nm,0.5s,baz=245,slow=23,SNR=17							
JAMN	**Amaminishikomi**	**7.37**	**240**	*eP*	**P**	**18 37 25.8**	**+0.9**
TJN	**Taejon**	**8.56**	**302**	P	**P**	**18 37 37.7**	**+0.4**
KSRS	**Korea Array**	**8.72**	**309**	P	**P**	**18 37 39.5**	**+0.6**
15nm,0.5s,baz=124,slow=9.3,SNR=99							
JOW	**Kunigami**	**8.85**	**235**	P	**P**	**18 37 41.2**	**+0.6**
26nm,0.6s,baz=77,slow=11,SNR=11							
JEM	**Erimo**	**11.20**	**27**	P	**P**	**18 38 07.1**	**+1.4**
USRK	**Ussuriysk Ar.**	**12.48**	**345**	P	**P**	**18 38 19.4**	**-0.1**
25nm,0.6s,baz=156,slow=9.7,SNR=88							
ASAJ	**Asahikawa**	**12.87**	**20**	P	**P**	**18 38 24.3**	**+0.6**
5.5nm,0.4s,baz=215,slow=13,SNR=24							
ASAJ				S	**S**	**18 40 40.4**	**-1.9**
21nm,0.9s,baz=65,slow=28,SNR=11							
YOJ	**Yonaguni jima**	**14.06**	**240**	P	**P**	**18 38 35.0**	**-1.8**
YHNB	**Yeheng**	**15.17**	**244**	P	**P**	**18 38 46.7**	**-2.0**
KLR	**Kul'dur**	**17.38**	**350**	P	**P**	**18 39 10.0**	**-1.4**
12nm,0.6s,baz=183,slow=5.9,SNR=42							
PETK	**Petropavlovsk-**	**25.95**	**30**	P	**P**	**18 40 31.0**	**+1.5**
3.4nm,0.8s,baz=113,slow=4.5,SNR=28							
3.4nm,0.8s							
SONM	**Songjin Array**	**27.56**	**313**	P	**P**	**18 40 44.2**	**+0.2**
0.6nm,0.6s,baz=128,slow=8.5,SNR=6.0							
SONM				PcP	**PcP**	**18 43 47.7**	**+0.4**
0.3nm,0.3s,baz=132,slow=1.3,SNR=5.8							
SONM				ScP	**ScP**	**18 46 43.0**	**-0.5**
0.5nm,0.7s,baz=114,slow=2.8,SNR=3.9							
0.6nm,0.6s							
CMAR	**Chiang Mai Arr**	**36.31**	**257**	P	**P**	**18 41 59.0**	**-0.1**
1.6nm,0.5s,baz=50,slow=7.5,SNR=18							
1.6nm,0.5s							
ZALV	**Zalesovo Beam**	**42.34**	**317**	P	**P**	**18 42 47.2**	**-0.4**
0.5nm,0.3s,baz=80,slow=8.3,SNR=4.3							
ZALV				PcP	**PcP**	**18 44 30.1**	**-0.5**
1.1nm,0.5s,baz=111,slow=3.7,SNR=5.8							
0.5nm,0.3s							
MKAR	**Makanchi Array**	**43.38**	**306**	P	**P**	**18 42 55.8**	**-0.1**
1.7nm,0.7s,baz=91,slow=10.0,SNR=25							
MKAR				PcP	**PcP**	**18 44 34.1**	**-0.3**
0.3nm,0.3s,baz=82,slow=4.3,SNR=8.2							
MKAR				ScP	**ScP**	**18 47 40.1**	**-0.9**
0.3nm,0.5s,baz=76,slow=5.7,SNR=5.7							
1.7nm,0.7s							
KURBB	**Kurchatov Arra**	**45.89**	**311**	P	**P**	**18 43 14.9**	**-0.3**
0.7nm,0.4s,baz=92,slow=9.1,SNR=11							
KURBB				PcP	**PcP**	**18 44 42.6**	**-0.4**
0.3nm,0.4s,baz=88,slow=3.8,SNR=5.2							
0.7nm,0.4s							
AAK	**Ala-Archa**	**49.27**	**301**	P	**P**	**18 43 41.0**	**-0.1**
0.5nm,0.3s,baz=108,slow=6.4,SNR=4.8							
AAK				PcP	**PcP**	**18 44 55.5**	**-0.2**
1.0nm,0.7s,baz=107,slow=2.3,SNR=3.8							
0.5nm,0.3s							
BVAR	**Borovoye Array**	**50.89**	**315**	P	**P**	**18 43 52.7**	**+0.1**
0.8nm,0.3s,baz=98,slow=8.8,SN

MKAR	**Makanchi Array**	**13.30**	**37**	P		**Pn**	**18 48 11.0**	**+0.6**
	2.4nm,0.8s,baz=216,slow=9.9,SNR=17							
KURBB	**Kurchatov Arra**	**15.08**	**19**	P		**Pn**	**18 48 31.5**	**-0.6**
	1.3nm,0.8s,baz=209,slow=11,SNR=8.3							
BVAR	**Borovoye Array**	**16.42**	**359**	P		**Pn**	**18 48 49.5**	**+1.1**
	1.3nm,0.4s,baz=162,slow=8.8,SNR=8.2							
AKTO	**Aktyubinsk**	**16.61**	**330**	P		**Pn**	**18 48 51.5**	**+0.9**
	0.7nm,0.3s,baz=118,slow=5.9,SNR=2.8							
AKTO				S		**S**	**18 51 55.0**	**+2.1**
	0.7nm,0.6s,baz=240,slow=21,SNR=1.5							
ZALV	**Zalesovo Beam**	**19.89**	**25**	P		**P**	**18 49 25.5**	**+0.4**
	3.1nm,0.4s,baz=222,slow=11,SNR=23							
	3.1nm,0.4s							
SONM	**Songino Array**	**28.41**	**56**	P		**P**	**18 50 45.9**	**+0.7**
	0.6nm,0.7s,baz=257,slow=9.4,SNR=4.7							
	0.6nm,0.7s							
NRIK	**Noril'sk**	**34.05**	**11**	P		**P**	**18 51 35.5**	**+1.5**
	2.7nm,0.7s,baz=210,slow=7.7,SNR=5.2							
	2.7nm,0.7s							
FINES	**FINESS Array B**	**37.30**	**326**	P		**P**	**18 52 03.2**	**+1.5**
	1.0nm,0.8s,baz=101,slow=7.2,SNR=1.4							
	1.0nm,0.8s							
ARCES	**ARCESS Array B**	**40.98**	**338**	P		**P**	**18 52 33.1**	**+1.0**
	1.7nm,0.7s,baz=106,slow=8.9,SNR=6.7							
	1.7nm,0.7s							
HFS	**Hagfors**	**42.88**	**322**	P		**P**	**18 52 47.8**	**+0.2**
	0.8nm,0.6s,baz=108,slow=18,SNR=1.6							
	0.8nm,0.6s							
JNU	**Nakatsue**	**48.73**	**75**	LR		LR	19 16 06.0	
	comp=Z,36nm,18.2s,baz=122,slow=38							
YKA	**Yellowknife Ar**	**81.15**	**3**	P		**P**	**18 57 02.7**	**+0.8**
	0.3nm,0.5s,baz=348,slow=5.8,SNR=7.2							
	0.3nm,0.5s							
WRA	**Warramunga Arr**	**82.19**	**122**	P		**P**	**18 57 05.9**	**-2.1**
	0.7nm,0.6s,baz=322,slow=4.8,SNR=7.8							
	0.7nm,0.6s							
ASAR	**Alice Springs**	**84.45**	**125**	P		**P**	**18 57 17.8**	**-1.7**
	0.6nm,0.5s,baz=314,slow=4.7,SNR=24							
	0.6nm,0.5s							

*ISK **14** 18:59:26.6,38.87N×26.15E,h6km,ML2.6/10*
*AFAD **14** 18:59:26.6±0.0,38.89N×26.16E,h7km±3km,ML2.2*
*ATH **14** 18:59:27.8,38.87N×26.15E,h7km±1km,ML2.3/5,Error ellipse: s-maj=2.3km s-min=1.0km az=104.0*
ISC 14 18:59:26.9±1.0,38.87N±0.02×26.16E±0.03,h13km±9km,
n33,σ0°62/50,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KARB	**zmir-Karabur**	**0.28**	**136**	P		**Pb**	**18 59 33.7**	**-0.1**
KARB				S		**Sg**	**18 59 36.9**	**+0.2**
KARB				*i* AML		AML	18 59 38.0	
	comp=N,398nm,0.4s							
PRK	**Paraskevi**	**0.39**	**13**	P		**Pg**	**18 59 34.9**	**+0.2**
PRK				S		**Sb**	**18 59 41.1**	**-0.5**
PRK				AML		AML	18 59 42.2	
	comp=N,2278μm,0.4s							
PRK				AML		AML	18 59 42.3	
	comp=E,3001μm,0.5s							
SIGR	**SIGRI**	**0.42**	**325**	Pg		**Pg**	**18 59 35.3**	**0.0**
SIGR				Sg		**Sg**	**18 59 41.2**	**+0.2**
SIGR	**SIGRI**	**0.42**	**325**	P		**Pg**	**18 59 35.3**	**0.0**
SIGR				S		**Sg**	**18 59 41.1**	**+0.2**
SIGR				AML		AML	18 59 41.6	
	comp=E,1954μm,0.5s							
SIGR				AML		AML	18 59 44.0	
	comp=N,999μm,0.5s							
FOCM	**Foa**	**0.47**	**109**	Pg		**Pg**	**18 59 36.4**	**+0.2**
FOCM				Sg		**Sg**	**18 59 43.3**	**+0.9**
CHOS	**Chios island**	**0.49**	**190**	P		**Pb**	**18 59 37.1**	**-0.2**
CHOS				S		**Sb**	**18 59 44.4**	**0.0**
CHOS				AML		AML	18 59 50.8	
	comp=E,557μm,0.3s							
CHOS				AML		AML	18 59 51.2	
	comp=N,364μm,0.5s							
CAND	**Candarli**	**0.51**	**80**	Pg		**Pg**	**18 59 36.9**	**0.0**
PSRA	**Psara**	**0.57**	**236**	P		**Pb**	**18 59 38.4**	**-0.3**
PSRA				S		**Sb**	**18 59 46.3**	**-0.4**
GPNR	**Gulpinar-Canak**	**0.59**	**358**	Pg		**Pg**	**18 59 38.3**	**-0.1**
AYVA	**Ayvalik**	**0.60**	**43**	P		**Pg**	**18 59 37.9**	**-0.8**
AYVA				S		**Sg**	**18 59 46.6**	**-0.1**
IZMD	**zmir-Dikili-**	**0.61**	**79**	P		**Pg**	**18 59 38.6**	**-0.2**
URLA	**Izmir**	**0.61**	**146**	Pg		**Pb**	**18 59 39.2**	**-0.2**
URLA	**Izmir**	**0.61**	**146**	P		**Pb**	**18 59 39.2**	**-0.2**
DKL	**Dikili**	**0.61**	**70**	Pg		**Pg**	**18 59 39.1**	**+0.2**
DKL				Sg		**Sb**	**18 59 48.4**	**+0.4**
KOCA	**Canakkale, Ayv**	**0.64**	**358**	P		**Pg**	**18 59 38.2**	**-1.1**
ZEYE	**Izmir, Urla-Ze**	**0.68**	**157**	P		**Pg**	**18 59 40.0**	**-0.2**
ZEDA	**zmir-Bergama**	**0.72**	**82**	P		**Pg**	**18 59 40.9**	**0.0**
BLCB	**Balcova**	**0.84**	**125**	Pg		**Pb**	**18 59 43.3**	**0.0**
BAYC	**CANAKKALE_Bayr**	**0.92**	**19**	P		**Pb**	**18 59 44.6**	**-0.2**
BAYC				S		**Sb**	**18 59 57.2**	**+0.3**
BUHA	**Balikesir, Bur**	**0.95**	**48**	P		**Pg**	**18 59 44.9**	**-0.4**
BUHA				S		**Sg**	**18 59 57.5**	**-0.2**
BUHA				*i* AML		AML	19 00 10.0	
	comp=N,71nm,1.1s							
EZN	**Ezine**	**0.97**	**7**	Pg		**Pb**	**18 59 45.7**	**+0.2**
BOZC	**Bozcaada**	**0.98**	**355**	P		**Pg**	**18 59 45.3**	**-0.5**
BOZC				S		**Sg**	**18 59 58.0**	**-0.6**
BOZC				*i* AML		AML	19 00 01.0	
	comp=N,68nm,0.2s							
CNKL	**anakkale-Mer**	**1.21**	**8**	P		**Pg**	**18 59 48.8**	**-1.4**
CNKL				P		**Pn**	**18 59 50.8**	**+1.3**
CNKL				S		**Sb**	**19 00 05.6**	**+0.4**
COMU	**Canakkale**	**1.25**	**11**	Pn		**Pg**	**18 59 51.1**	**0.0**
SMG	**Samos**	**1.27**	**155**	P		**Pn**	**18 59 50.3**	**0.0**
SMG				AML		AML	19 00 12.7	
	comp=N,144μm,0.7s							
SMG				AML		AML	19 00 15.5	
	comp=E,182μm,0.4s							
LIA	**Limnos Island**	**1.28**	**324**	P		**Pn**	**18 59 50.8**	**+0.3**
LIA				S		**Sn**	**19 00 08.5**	**+1.0**
LIA				AML		AML	19 00 10.8	
	comp=E,429μm,0.4s							
LIA				AML		AML	19 00 11.6	
	comp=N,317μm,0.3s							
GOAD	**anakkale-G¶**	**1.31**	**351**	P		**Pn**	**18 59 48.8**	**-2.1**
GOAD				S		**Sb**	**19 00 08.4**	**+0.4**
STEP	**BALIKESIR_Sava**	**1.31**	**67**	P		**Pn**	**18 59 49.7**	**-1.3**
STEP				S		**Sb**	**19 00 08.4**	**+0.2**
CANM	**Can-anakkale**	**1.34**	**31**	Pn		**Pg**	**18 59 52.6**	**0.0**
BKES	**Balkesir-Mer**	**1.62**	**57**	P		**Pb**	**18 59 56.4**	**-0.3**
SMTH	**Samothraki Isl**	**1.68**	**343**	P		**Pn**	**18 59 56.7**	**+0.7**
KIRA	**zmir-Kiraz**	**1.88**	**110**	P		**Pg**	**19 00 02.3**	**-0.7**
ALN	**Alexandroupoli**	**2.03**	**357**	P		**Pn**	**19 00 01.8**	**+1.0**

IDC 14 19:01:48.5±808.0,54.08N×1.40E,h0km,Error ellipse:
s-maj=368.4km s-min=145.1km az=115.0,North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I26DE	**FREYUNG INFRAS**	**9.29**	**119**	I		I	19 58 00.0	
	baz=307,slow=324,SNR=0.8							
I48TN	**KESRA INFRASON**	**19.09**	**160**	I		I	20 55 10.0	
	baz=348,slow=328,SNR=1.1							
I43RU	**DUBNA INFRASON**	**20.36**	**68**	I		I	21 07 20.0	
	baz=277,slow=322,SNR=1.8							
I31KZ	**AKTYUBINSK INF**	**34.08**	**72**	I		I	22 28 19.2	
	baz=304,slow=326,SNR=4.8							

IDC 14 19:26:16.3±2.4,2.12S×127.67E,h0km,mb3.3/2,
mbtmp3.3/3,ML3.3/1,MS3.1/1,Error ellipse:
s-maj=187.6km s-min=28.3km az=67.0,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**18.87**	**160**	P		P	19 30 37.9	-0.4
	0.1nm,0.3s,baz=342,slow=13,SNR=4.7							
	0.6nm,0.7s							
LEM	**Lembang**	**20.53**	**256**	LR		LR	19 40 51.8	
	comp=Z,45nm,18.7s,baz=216,slow=43							
ASAR	**Alice Springs**	**22.25**	**165**	P		P	19 31 15.7	+0.6
	0.6nm,0.3s,baz=345,slow=12,SNR=17							
	0.6nm,0.3s							
MKAR	**Makanchi Array**	**62.90**	**327**	P		P	19 36 44.1	-0.4
	0.1nm,0.7s,baz=116,slow=5.8,SNR=1.9							
	0.1nm,0.7s							

*IDC **14** 19:34:00.5±9.8,23.74S×179.91E,h513km±108km,*
mb3.4/5,mbtmp4.3/5,Error ellipse: s-maj=94.2km
s-min=47.2km az=164.0

*NEIC **14** 19:34:00.3±1.3,23.9S±0.2×179.8W±0.1,h532km±11km,*
mb4.3/18,Error ellipse: s-maj=26.7km s-min=13.0km
az=196.0
ISC 14 19:33:59.3±0.6,23.8S±0.1×179.99W±0.08,h518km,n30,
σ1s68/32,mb4.3/15,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**5.75**	**162**	P		**P**	**19 35 33.1**	**-0.9**
RAO				S		**S**	**19 36 54.6**	**+3.0**
NIUE	**Niue**	**10.48**	**65**	P		**P**	**19 36 21.5**	**-0.4**
NIUE				S		**S**	**19 38 21.8**	**+2.5**
ARMA	**Armidale**	**26.07**	**249**	P		**P**	**19 38 52.0**	**+0.6**
ARMA				IAmb		IAmb	19 39 33.7	
	comp=Z,22nm,1.5s							
EIDS	**Eidsvold**	**26.33**	**261**	P		**P**	**19 38 54.4**	**+0.7**
CTA	**Charters Tower**	**31.48**	**270**	P		**P**	**19 39 39.9**	**+1.3**
	comp=Z,10nm,0.4s,baz=90,slow=11,SNR=36							
	comp=Z,10nm,0.4s							
CTAO	**Charters Tower**	**31.48**	**270**	P		**P**	**19 39 39.8**	**+1.3**
TOO	**Toolangi**	**32.52**	**237**	P		**P**	**19 39 47.5**	**+0.4**
TOO				IAmb		IAmb	19 40 06.3	
	comp=Z,8.5nm,1.1s							
PMG	**Port Moresby**	**34.46**	**289**	P		**P**	**19 40 04.7**	**+0.8**
STKA	**Stephens Creek**	**34.77**	**248**	P		**P**	**19 40 07.3**	**+1.1**
STKA	**Stephens Creek**	**34.77**	**248**	P		**P**	**19 40 07.3**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=82,slow=8.6,SNR=5.5							
	comp=Z,0.6nm,0.3s							
BBOO	**Buckleboo**	**39.49**	**247**	P		**P**	**19 40 44.9**	**-0.2**
BBOO				IAmb		IAmb	19 40 57.1	
	comp=Z,17nm,1.4s							
AS31	**Alice Springs**	**42.06**	**260**	P		**P**	**19 41 06.0**	**+0.4**
ASAR	**Alice Springs**	**42.06**	**260**	P		**P**	**19 41 06.2**	**+0.5**
	comp=Z,2.8nm,0.5s,baz=96,slow=7.6,SNR=25							
	comp=Z,2.8nm,0.5s							
WB2	**Warramunga Arr**	**42.41**	**266**	P		**P**	**19 41 07.9**	**-0.5**
WB2				IAmb		IAmb	19 41 09.0	
	comp=Z,5.5nm,0.7s							
WB0	**Warramunga Arr**	**42.41**	**266**	P		**P**	**19 41 08.2**	**-0.3**
WB0				IAmb		IAmb	19 41 08.9	
	comp=Z,6.7nm,0.7s							
WRA	**Warramunga Arr**	**42.42**	**266**	P		**P**	**19 41 07.5**	**-1.0**
WRA	**Warramunga Arr**	**42.42**	**266**	P		**P**	**19 41 08.5**	**0.0**
	comp=Z,3.9nm,0.4s,baz=103,slow=8.2,SNR=56							
	comp=Z,3.9nm,0.4s							
FORT	**Forrest**	**46.36**	**249**	P		**P**	**19 41 38.6**	**-0.2**
FORT				IAmb		IAmb	19 41 39.8	
	comp=Z,11nm,0.6s							
KNRA	**Kununurra**	**48.69**	**270**	P		**P**	**19 41 57.0**	**+0.5**
KNRA				IAmb		IAmb	19 42 36.6	
	comp=Z,24nm,1.2s							
FITZ	**Fitzroy Crossi**	**50.84**	**266**	P		**P**	**19 42 13.0**	**+0.8**
SOEI	**Soe**	**54.84**	**275**	P		**P**	**19 42 41.7**	**+0.7**
SOEI				IAmb		IAmb	19 43 10.9	
	comp=Z,48nm,1.5s							
MBWA	**Marble Bar**	**55.40**	**260**	P		**P**	**19 42 43.9**	**-0.9**
MBWA				IAmb		IAmb	19 43 25.0	
	comp=Z,8.0nm,1.2s							
MORW	**Morawa**	**56.92**	**250**	P		**P**	**19 42 55.4**	**+0.2**
MORW				IAmb		IAmb	19 43 18.8	
	comp=Z,13nm,1.4s							
PMSA	**Palmer Station**	**79.01**	**157**	P		**P**	**19 45 07.9**	**-1.1**
TXAR	**Lajitas Array**	**90.37**	**58**	P		**P**	**19 46 07.0**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=223,slow=8.6,SNR=4.3							
	comp=Z,0.3nm,0.7s							
ASCN	**Ascension**	**145.49**	**154**	PKPdf		**PKPdf**	**19 52 36.0**	**-3.2**
BRTR	**Keskin Array B**	**147.51**	**307**	PKPdf		**PKPdf**	**19 52 37.5**	**-4.5**
BALJ	**Balqa**	**147.56**	**293**	PKPdf		**PKPdf**	**19 52 37.9**	**-4.3**
MMAI	**Mount Meron Ar**	**147.66**	**295**	PKPbc		**PKPbc**	**19 52 47.1**	**+1.3**
	comp=Z,1.0nm,0.5s,baz=85,slow=3.2,SNR=3.9							
RGN	**Rugen**	**147.70**	**345**	PKPdf		**PKPdf**	**19 52 40.7**	**-0.8**

*IDC **14** 19:35:31.5±1.3,6.23S×142.70E,h0km,mb3.7/3,*
mbtmp3.7/6,ML3.6/1,Error ellipse: s-maj=37.4km
s-min=23.4km az=101.0
ISC 14 19:35:32.5±0.8,6.21S±0.10×142.78E±0.09,h10km,n14,
σ1s35/15,mb3.8/3,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GENI	**Genyem**	**4.44**	**324**	P		**Pn**	**19 36 38.6**	**-1.4**
PMG	**Port Moresby**	**5.38**	**127**	P		**Pn**	**19 36 53.6**	**+0.7**
PMG	**Port Moresby**	**5.38**	**127**	Pn		**Pn**	**19 36 53.5**	**+0.6**
	6.2nm,0.5s,baz=288,slow=9.6,SNR=5.6							
PMG				Sn		**Sn**	**19 37 52.8**	**-2.1**
	2.0nm,0.3s,baz=259,slow=18,SNR=6.2							
KDU	**Kakadu**	**12.04**	**237**	P		**Pn**	**19 38 22.9**	**-1.4**
WRA	**Warramunga Arr**	**15.93**	**210**	Pn		**Pn**	**19 39 15.0**	**-2.0**
	0.3nm,0.3s,baz=27,slow=13,SNR=7.9							
WRA				Lg		Lg	19 43 54.2	
	0.1nm,0.3s,baz=30,slow=30,SNR=3.2							
	0.5nm,0.6s							
KNRA	**Kununurra**	**16.66**	**234**	P		**Pn**	**19 39 25.6**	**-0.8**
AS01	**Alice Springs**	**19.33**	**205**	P		**Pn**	**19 40 00.0**	**+0.8**
	6.0nm,0.7s							
ASAR	**Alice Springs**	**19.35**	**205**	P		**P**	**19 39 59.0**	**+0.6**
	2.3nm,0.5s,baz=31,slow=11,SNR=46							
ASAR				Lg		Lg	19 45 43.1	
	baz=15,slow=29,SNR=3.0							
OOD	**Oodnadatta**	**22.50**	**197**	P		**P**	**19 40 34.7**	**+2.3**
WRKA	**Warakurna**	**23.31**	**215**	P		**P**	**19 40 41.2**	**+0.3**
MULG	**Mulgathing**	**25.32**	**198**	P		**P**	**19 40 59.3**	**-0.2**
MKAR	**Makanchi Array**	**75.02**	**322**	P		**P**	**19 47 15.0**	**+0.5**
	0.2nm,0.7s,baz=107,slow=7.7,SNR=1.7							
	0.2nm,0.7s							
BVAR	**Borovoye Array**	**84.49**	**325**	P		**P**	**19 48 06.8**	**+1.2**
	1.1nm,0.8s,baz=104,slow=4.7,SNR=6.7							
	1.1nm,0.8s							
ILAR	**Eielson Array**	**87.34**	**24**	P		**P**	**19 48 19.4**	**0.0**
	0.4nm,0.6s,baz=253,slow=5.4,SNR=4.6							
	0.4nm,0.6s							

*SDD **14** 19:44:45.2±2.2,19.46N×70.11W,h15km±56km,MD3.3,*
ML2.9,MW3.2
*OSPL **14** 19:44:45.7±2.0,19.58N×70.07W,h2km±7km,ML2.7*
ISC 14 19:44:45.4±1.1,19.43N±0.04×70.12W±0.03,h9km±10km,
n29,σ1s17/34,7C-7D,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LONA1	**Toro Cenizo, N**	**0.25**	**101**	*i* P		**Pg**	**19 44 49.9**	**-0.4**
LONA1				*e*S		**Sg**	**19 44 54.7**	**+1.0**
LONA1				IAML			19 44 55.8	
	comp=Z,2μm,0.6s							
NADR	**Nagua**	**0.26**	**106**	↓*e*Pg		**Pg**	**19 44 50.4**	**-0.3**
NADR				IAML			19 44 56.1	
	comp=N,6μm,0.3s							
NADR	**Nagua**	**0.26**	**106**	↑*e*Pg		**Pg**	**19 44 50.2**	**-0.3**
NADR				*e*Sg		**Sg**	**19 44 55.4**	**+1.3**
NADR				IAML			19 44 55.8	
	comp=E,4μm,0.6s							
NADR				IAML			19 44 56.1	
	comp=N,6μm,0.3s							
SC01	**Santiago de lo**	**0.57**	**270**	↑*e*Pg		**Pg**	**19 44 55.8**	**-0.7**
SC01				IAML			19 45 10.7	
	comp=N,463nm,0.2s							
SC01	**Santiago de lo**	**0.57**	**270**	*e*Pg		**Pg**	**19 44 57.2**	**+0.8**
SC01				IAML			19 45 10.7	
	comp=N,463nm,0.2s							
SC01				IAML			19 45 13.2	
	comp=E,463nm,0.8s							
SC01	**Santiago de lo**	**0.57**	**270**	*i* P		**Pb**	**19 44 57.9**	**+0.2**
SC01				*e*S		**Sb**	**19 45 06.8**	**+0.9**
SC01				IAML			19 45 10.8	
	comp=Z,328nm,0.3s							
SMDR	**Samana, DR**	**0.89**	**99**	↓*e*Pg		**Pg**	**19 45 00.7**	**-1.8**
SMDR				IAML			19 45 21.3	
	comp=N,151nm,0.5s							
SMDR	**Samana, DR**	**0.89**	**99**	↓*e*Sg		**Sg**	**19 45 14.4**	**+0.2**
SMDR				IAML			19 45 19.5	
	comp=E,151nm,0.8s							
SMDR				IAML			19 45 21.5	
	comp=N,155nm,1.0s							
LUDR	**Luperon**	**0.91**	**301**	↑*e*Pg		**Pg**	**19 45 01.7**	**-1.2**
LUDR				IAML			19 45 18.4	
	comp=N,755nm,0.3s							
LUDR	**Luperon**	**0.91**	**301**	*e*Pg		**Pg**	**19 45 01.9**	**-1.0**
LUDR				IAML			19 45 18.4	
	comp=N,755nm,0.3s							
MADR	**Mao Valverde**	**0.94**	**279**	IAML			19 45 23.3	
	comp=E,504nm,0.4s							
MADR				IAML			19 45 24.3	
	comp=N,609nm,0.8s							
SDD	**Santo Domingo**	**0.98**	**168**	↓*e*Pg		**Pg**	**19 45 02.4**	**-1.9**
SDD				IAML			19 45 24.1	
	comp=N,61nm,2.0s							
BANI	**BANI**	**1.05**	**192**	↓*e*Pg		**Pg**	**19 45 04.7**	**-1.0**
BANI				IAML			19 45 21.5	
	comp=N,770nm,0.1s							
BANI	**BANI**	**1.05**	**192**	*e*Pg		**Pg**	**19 45 04.0**	**-1.7**
BANI				↑*e*Sg		**Sg**	**19 45 18.7**	**-0.7**
BANI				IAML			19 45 21.3	
	comp=E,620nm,0.1s							
BANI				IAML			19 45 21.5	
	comp=N,770nm,0.1s							
SDDR	**Presa de Saban**	**1.19**	**248**	↓*e*Pg		**Pn**	**19 45 06.4**	**-2.0**
SDDR				IAML			19 45 29.9	
	comp=N,93nm,0.3s							
SDDR	**Presa de Saban**	**1.19**	**248**	*e*Pg		**Pn**	**19 45 06.3**	**-2.0**
SDDR				*e*Sg		**Sb**	**19 45 23.1**	**-0.6**
SDDR				IAML			19 45 26.6	
	comp=E,87nm,0.7s							
SDDR				IAML			19 45 29.9	
	comp=N,93nm,0.3s							
SDDR	**Presa de Saban**	**1.19**	**248**	*i* P		**Pn**	**19 45 07.2**	**-1.0**
SDDR				IAML			19 45 25.9	
	comp=Z,66nm,0.6s							
REDR	**Restauracion**	**1.23**	**258**	↑*e*Pg		**Pn**	**19 45 09.2**	**+0.4**
REDR				IAML			19 45 32.0	
	comp=N,344nm,0.1s							
REDR	**Restauracion**	**1.23**	**258**	IAML			19 45 31.4	
	comp=E,681nm,0.2s							
REDR				IAML			19 45 32.0	
	comp=N,344nm,0.1s							
LODA1	**ITESIL, Dajabo**	**1.50**	**275**	*e*S		**Sn**	**19 45 31.8**	**-0.4**
MCDR	**Montecristi**	**1.52**	**288**	↑*e*Pg		**Pn**	**19 45 12.0**	**-0.8**
MCDR				IAML			19 45 37.9	
	comp=N,186nm,0.3s							
MCDR	**Montecristi**	**1.52**	**288**	*e*Pg		**Pn**	**19 45 12.1**	**-0.6**
MCDR				IAML			19 45 34.8	
	comp=E,118nm,0.2s							
MCDR				IAML			19 45 37.9	
	comp=N,186nm,0.3s							
PODR	**Polo**	**1.67**	**221**	↓*e*Pg		**Pn**	**19 45 15.5**	**+0.5**
PODR				IAML			19 45 47.7	
	comp=N,57nm,0.3s							
PODR	**Polo**	**1.67**	**221**	*e*Pg		**Pn**	**19 45 15.8**	**+0.7**
PODR				IAML			19 45 42.6	
	comp=E,92nm,0.3s							
PODR				IAML			19 45 47.7	
	comp=N,57nm,0.3s							
PODR	**Polo**	**1.67**	**221**	*i* P		**Pn**	**19 45 15.8**	**+0.7**
PCDR	**Punta Cana, DR**	**1.88**	**119**	*e*Pg		**Pn**	**19 45 17.8**	**+0.1**
PCDR				IAML			19 45 48.6	
	comp=N,192nm,1.1s							
PCDR				IAML			19 45 50.9	
	comp=E,86nm,0.5s							
PCDR	**Punta Cana, DR**	**1.88**	**119**	*i* P		**Pn**	**19 45 17.8**	**+0.1**
PCDR				*e*S		**Sn**	**19 45 41.8**	**+0.2**
PCDR				IAML			19 45 53.9	
	comp=Z,158nm,1.8s							
JIDR	**Jimani**	**1.88**	**241**	↑*e*Pg		**Pn**	**19 45 19.2**	**+1.4**
JIDR				IAML			19 45 46.5	
	comp=N,141nm,0.7s							
JIDR				IAML			19 45 46.7	
	comp=E,122nm,0.3s							
LOPE2	**Hotel El Peder**	**2.07**	**228**	*i* P		**Pn**	**19 45 21.8**	**+1.3**
LOPE2				*e*S		**Sn**	**19 45 48.9**	**+2.5**

IDC 14 19:44:47.7±1.6,1.91N×124.88E,h0km,mb3.5/4,
mbtmp3.5/4,Error ellipse: s-maj=177.9km
s-min=21.4km az=64.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**23.61**	**157**	P		P	19 50 00.3	-0.4
	0.9nm,0.3s,baz=336,slow=10,SNR=24							
	0.9nm,0.3s							
ASAR	**Alice Springs**	**26.89**	**161**	P		P	19 50 31.0	+0.4
	0.5nm,0.5s,baz=340,slow=7.3,SNR=21							
	0.5nm,0.5s							
MKAR	**Makanchi Array**	**58.02**	**327**	P		P	19 54 42.4	-0.1
	0.1nm,0.3s,baz=122,slow=7.7,SNR=5.5							
	0.1nm,0.3s							
KURBB	**Kurchatov Arra**	**62.30**	**329**	P		P	19 55 11.6	-0.1
	0.2nm,0.6s,baz=137,slow=5.8,SNR=2.2							
	0.2nm,0.6s							

*NEIC **14** 20:05:06.4±1.4,43.82N±0.05×105.33W±0.07,h0km±1km,*
ML3.3/85,Error ellipse: s-maj=9.1km s-min=8.6km
az=75.0
*IDC **14** 20:05:07.9±1.2,43.95N×105.68W,h0km,mb3.7/1,*
mbtmp3.4/7,ML3.3/6,MS3.3/1,Error ellipse: s-maj=24.6km
s-min=7.4km az=147.0
ISC 14 20:05:06.9±0.8,43.79N±0.05×105.31W±0.04,h0km,n50,
σ1s33/39,Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RSSD	**Black Hills**	**0.98**	**69**	Pg		**Pg**	**20 05 26.8**	**+1.1**
K22A	**Casper**	**1.44**	**219**			**Pg**	**20 05 33.5**	**-1.0**
K22A				IAML			20 05 59.0	
	comp=N,449nm,0.3s							
K22A				IAML			20 06 00.4	
	comp=E,425nm,0.3s							
PHWY	**Pilot Hill**	**2.48**	**183**			**Pn**	**20 05 49.1**	**+0.3**
PHWY				IAML			20 06 29.3	
	comp=E,133nm,0.6s							
**RWW

comp=E,29nm,1.2s
AHID IAML 20 07 40.5
comp=E,32nm,1.1s
RDMU Red Mountain 4.51 226 Pb 20 06 29.0 +1.9
RDMU IAML 20 07 34.8
comp=E,41nm,1.2s
RDMU IAML 20 07 38.9
comp=N,29nm,1.0s
SUSD Miller 4.62 80 Pb 20 06 28.9 +0.1
DGMT Dagmar 4.75 9 Pn Pn 20 06 20.1 +0.3
SMCO Snowmass 4.77 196 IAML 20 07 46.5
comp=N,27nm,1.1s
SMCO IAML 20 07 55.8
comp=N,28nm,1.2s
BOZ Bozeman (W) 4.86 294 IAML 20 07 40.5
comp=N,20nm,1.1s
BOZ IAML 20 07 41.2
comp=N,26nm,2.4s
HWUT Hardware Ranch 5.10 247 Pn Pn 20 06 25.9 +1.2
KSCO Kaye Shedlock' 5.18 156 Pn 20 06 26.9 +1.1
BSUT Blindstream Ca 5.19 233 IAML 20 08 04.3
comp=N,16nm,2.2s
BSUT IAML 20 08 31.5
comp=E,19nm,4.4s
EGMT Eagleton 5.25 325 Pn Pn 20 06 28.1 +1.4
MDND Maddock 5.69 42 Pn 20 06 33.5 +0.8
ECSD EROS Data Cent 6.30 87 Pn Pn 20 06 42.0 +1.0
CBKS Cedar Bluff 6.50 138 Pg Pg 20 07 09.6 -1.8
F33A 5 Mile Ranch, 6.73 69 Pn Pn 20 06 50.1 +3.1
ELK Elko 7.97 251 Pn Pn **20 07 04.7 +0.5**
comp=E,0.2nm,0.3s,baz=69,slow=17,SNR=3.0
comp=E,0.6nm,0.3s
I10CA LAC DU BONNET 9.02 41 I I 21 00 10.0
baz=223,slow=328,SNR=3.0
ULM Lac du Bonnet 9.12 42 Pn Pn **20 07 19.8 0.0**
comp=E,1.6nm,0.3s,baz=231,slow=13,SNR=13
ULM Sn Sn **20 09 01.8 -1.3**
comp=E,0.1nm,0.3s,baz=204,slow=8.0,SNR=2.5
ULM Lg Lg 20 09 49.6
comp=E,0.7nm,0.3s,baz=135,slow=21,SNR=2.0
comp=E,3.4nm,0.3s
NEW Newport 9.36 303 Pn Pn 20 07 16.9 -6.1
comp=E,0.2nm,0.3s,baz=114,slow=10.0,SNR=2.0
NEW Lg Lg 20 09 50.5
comp=E,0.1nm,0.3s,baz=106,slow=11,SNR=2.5
comp=E,1.2nm,0.5s
NVAR Mina Array Bea 11.16 246 Pn Pn **20 07 47.5 -0.4**
comp=E,0.1nm,0.3s,baz=65,slow=11,SNR=2.0
comp=E,0.6nm,0.6s
TXAR Lajitas Array 14.48 174 Lg Lg 20 12 37.2
baz=352,slow=34
BBB Bella Bella 17.37 307 LR LR 20 17 07.0
comp=E,86nm,18.9s,baz=178,slow=42
YKA Yellowknife Ar 19.52 347 P P **20 09 32.8 -2.6**
comp=E,0.1nm,0.3s,baz=156,slow=11,SNR=5.6
comp=E,0.2nm,0.5s
MKAR Makanchi Array 89.56 355 P P **20 18 06.1 0.0**
comp=E,0.3nm,0.6s,baz=24,slow=4.3,SNR=4.4
comp=E,0.3nm,0.6s

IDC ***14*** *20:14:35.9±1.2,22.˚63S×179.˚59W,h571km±13km, mb3.9/10,mbtmp4.9/13, Error ellipse: s-maj=19.2km s-min=10.7km az=168.0*
NEIC ***14*** *20:14:36.0±2.0,22.˚7S±0.˚1×179.˚5W±0.˚1,h567km±5km, mb4.7/84, Error ellipse: s-maj=21.1km s-min=12.4km az=160.0*
BGR ***14*** *20:14:45.6,20.˚08S×179.˚51E,h600km*
ISC 14 20:14:36.3±0.4, 22.˚70S±0.˚07×179.˚52W±0.˚07, h579km, n171, σ1s 07/158, mb4.7/67, 1C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.44**	**335**	P	**P**	**20 16 11.2**	**-0.6**
RAO	**Raoul Island**	**6.68**	**168**	P	**P**	**20 16 21.5**	**-0.8**
RAO	**Raoul Island**	**6.68**	**168**	P	**P**	**20 16 21.4**	**-1.0**
	286nm,0.3s,baz=22,slow=22,SNR=10						
RAO				S	**S**	**20 17 49.0**	**-0.2**
	148nm,0.3s,baz=239,slow=23,SNR=6.3						
NIUE	**Niue**	**9.66**	**70**	P	**P**	**20 16 50.3**	**-1.1**
	baz=9.5,SNR=5.4						
NIUE	**Niue**	**9.66**	**70**	P	**P**	**20 16 48.3**	**-3.1**
MARNC	**Mare, Loyalty**	**11.61**	**274**	P	**P**	**20 17 09.5**	**-1.5**
PINNC	**Pines Island,**	**12.04**	**268**	P	**P**	**20 17 15.3**	**0.0**
LIFNC	**LIFOU**	**12.46**	**276**	P	**P**	**20 17 18.4**	**-1.3**
DZM	**Mont Dzumac**	**13.00**	**270**	P	**P**	**20 17 25.5**	**+0.1**
DZM	**Mont Dzumac**	**13.00**	**270**	P	**P**	**20 17 24.9**	**-0.5**
	12nm,0.6s,baz=92,slow=18,SNR=11						
KOUNC	**Koumac, New Ca**	**15.21**	**275**	P	**P**	**20 17 46.7**	**-0.5**
KOUNC				IAmb	IAmb	20 17 52.4	
	comp=Z,30nm,0.9s						
TOZ	**Tahuroa Road**	**15.58**	**195**	P	**P**	**20 17 51.6**	**+1.1**
TOZ				IAmb	IAmb	20 17 53.8	
	comp=Z,12nm,0.8s						
URZ	**Urewera**	**15.78**	**190**	P	**P**	**20 17 51.7**	**-0.7**
	comp=Z,13nm,0.7s,baz=89,slow=3.4,SNR=7.0						
URZ				S	**S**	**20 20 30.1**	**-2.2**
	comp=Z,9.1nm,0.8s,baz=282,slow=17,SNR=1.6						
BFZ	**Birch Farm**	**18.28**	**190**	P	**P**	**20 18 13.6**	**-1.6**
MRZ	**Mangatainoka R**	**18.38**	**192**	P	**P**	**20 18 15.2**	**-0.9**
MRZ				IAmb	IAmb	20 18 25.9	
	comp=Z,26nm,1.2s						
THZ	**Tophouse**	**20.04**	**197**	P	**P**	**20 18 30.7**	**-0.5**
THZ				IAmb	IAmb	20 18 57.9	
	comp=Z,28nm,1.3s						
DSZ	**Denniston Nort**	**20.34**	**199**	P	**P**	**20 18 34.6**	**+0.7**
GVZ	**Greta Valley S**	**21.14**	**195**	P	**P**	**20 18 39.2**	**-1.8**
LTZ	**Lake Taylor**	**21.16**	**197**	P	**P**	**20 18 38.2**	**-3.2**
LTZ				IAmb	IAmb	20 19 12.0	
	comp=Z,18nm,1.1s						
INZ	**Inchbonnie**	**21.34**	**199**	P	**P**	**20 18 39.6**	**-3.2**
INZ				IAmb	IAmb	20 18 54.0	
	comp=Z,31nm,1.2s						
MLZ	**Mavora Lakes**	**24.77**	**201**	P	**P**	**20 19 12.9**	**-0.4**
MLZ				IAmb	IAmb	20 19 53.0	
	comp=Z,40nm,1.3s						
WHZ	**Wether Hill Ro**	**25.29**	**201**	P	**P**	**20 19 18.7**	**+0.9**
WHZ				IAmb	IAmb	20 19 32.3	
	comp=Z,33nm,1.4s						
ARMA	**Armidale**	**26.88**	**247**	P	**P**	**20 19 34.0**	**+1.8**
	baz=27,SNR=16						
ARMA	**Armidale**	**26.88**	**247**	P	**P**	**20 19 33.5**	**+1.3**
ARMA				IAmb	IAmb	20 19 34.4	
	comp=Z,13nm,0.6s						
EIDS	**Eidsvold**	**26.96**	**258**	P	**P**	**20 19 33.6**	**+0.8**
	baz=27,SNR=6.1						
EIDS	**Eidsvold**	**26.96**	**258**	P	**P**	**20 19 32.9**	**0.0**
EIDS				IAmb	IAmb	20 19 34.0	
	comp=Z,18nm,0.7s						
MGCD	**Mangrove Creek**	**27.89**	**242**	P	**P**	**20 19 43.0**	**+2.1**
	baz=28,SNR=14						
CNB	**Canberra Magne**	**29.85**	**238**	P	**P**	**20 19 59.8**	**+1.9**
	baz=30,SNR=15						
CAN	**Canberra**	**30.14**	**238**	P	**P**	**20 20 01.5**	**+1.1**
YNG	**Young**	**30.35**	**240**	P	**P**	**20 20 03.7**	**+1.5**
	baz=30,SNR=5.4						
MILA	**Mila**	**30.54**	**235**	P	**P**	**20 20 05.2**	**+1.4**
	baz=31,SNR=3.1						
CTA	**Charters Tower**	**31.94**	**268**	P	**P**	**20 20 16.3**	**+0.4**
	comp=Z,42nm,0.6s,baz=90,slow=9.6,SNR=61						
	comp=Z,42nm,0.6s						
CTAO	**Charters Tower**	**31.94**	**268**	P	**P**	**20 20 16.1**	**+0.2**
CMSA	**Cobar Meteorol**	**32.09**	**247**	P	**P**	**20 20 17.9**	**+1.0**
	baz=32,SNR=22						
QLP	**Quilpie**	**33.10**	**256**	P	**P**	**20 20 26.2**	**+0.6**
	baz=33,SNR=12						
TOO	**Toolangi**	**33.48**	**236**	P	**P**	**20 20 30.0**	**+1.3**
	baz=34,SNR=18						
TOO	**Toolangi**	**33.48**	**236**	P	**P**	**20 20 29.6**	**+0.9**
TOO				IAmb	IAmb	20 20 30.7	
	comp=Z,22nm,0.8s						
MTSU	**Mount Surprise**	**34.14**	**271**	P	**P**	**20 20 34.7**	**+0.3**
	baz=34,SNR=13						
PMG	**Port Moresby**	**34.54**	**287**	P	**P**	**20 20 37.4**	**-0.4**
PMG	**Port Moresby**	**34.54**	**287**	P	**P**	**20 20 37.5**	**-0.3**
	comp=Z,56nm,0.9s,baz=99,slow=6.0,SNR=18						
	comp=Z,56nm,0.9s						
STKA	**Stephens Creek**	**35.59**	**247**	P	**P**	**20 20 46.9**	**+0.5**
	baz=36,SNR=36						
STKA	**Stephens Creek**	**35.59**	**247**	P	**P**	**20 20 46.8**	**+0.5**
STKA	**Stephens Creek**	**35.59**	**247**	P	**P**	**20 20 46.4**	**+0.1**
	comp=Z,17nm,0.6s,baz=86,slow=10,SNR=61						
	comp=Z,17nm,0.6s						
ARPS	**Mount Arapiles**	**36.12**	**238**	P	**P**	**20 20 51.3**	**+0.8**
	baz=36,SNR=7.5						
COEN	**Coen**	**36.38**	**277**	P	**P**	**20 20 53.2**	**+0.2**
	baz=36,SNR=8.9						
COEN	**Coen**	**36.38**	**277**	P	**P**	**20 20 53.2**	**+0.2**
COEN				IAmb	IAmb	20 20 54.4	
	comp=Z,35nm,1.2s						
QIS	**Mount Isa**	**37.98**	**265**	P	**P**	**20 21 05.6**	**-0.4**
	baz=38,SNR=5.1						
HTT	**Hallett**	**37.98**	**244**	P	**P**	**20 21 06.4**	**+0.5**
	baz=38,SNR=14						
BBOO	**Buckleboo**	**40.33**	**246**	P	**P**	**20 21 24.8**	**+0.1**
	baz=40,SNR=22						
BBOO	**Buckleboo**	**40.33**	**246**	P	**P**	**20 21 24.6**	**-0.2**
BBOO				IAmb	IAmb	20 21 25.7	
	comp=Z,20nm,0.9s						
MMPI	**Merauke**	**40.98**	**284**	P	**P**	**20 21 26.4**	**-3.7**
	comp=Z,190nm,0.7s,comp=Z,6μm						
ASAR	**Alice Springs**	**42.68**	**259**	P	**P**	**20 21 43.5**	**0.0**
	comp=Z,31nm,0.8s,baz=93,slow=8.1,SNR=286						
ASAR				ScP	**ScP**	**20 26 21.1**	**+3.0**
	comp=Z,0.7nm,0.8s,baz=92,slow=3.9,SNR=2.8						
ASAR				S	**S**	**20 27 24.3**	**-1.5**
	comp=Z,1.2nm,0.9s,baz=101,slow=15,SNR=6.5						
	comp=Z,31nm,0.8s						
ASPA	**Alice Springs**	**42.68**	**259**	P	**P**	**20 21 43.3**	**-0.1**
	baz=43						
WR0	**Warramunga Arr**	**42.76**	**265**	IAmb	IAmb	20 21 44.2	
	comp=Z,11nm,0.7s						
WB2	**Warramunga Arr**	**42.93**	**265**	P	**P**	**20 21 44.6**	**-0.8**
	baz=43						
WB2	**Warramunga Arr**	**42.93**	**265**	P	**P**	**20 21 44.8**	**-0.6**
WRA	**Warramunga Arr**	**42.95**	**265**	P	**P**	**20 21 44.9**	**-0.6**
	comp=Z,23nm,0.7s,baz=97,slow=8.2,SNR=554						
WRA				ScP	**ScP**	**20 26 22.0**	**+2.8**
	comp=Z,3.1nm,0.9s,baz=98,slow=4.1,SNR=6.4						
WRA				S	**S**	**20 27 26.1**	**-3.5**
	comp=Z,0.8nm,0.9s,baz=117,slow=18,SNR=2.4						
	comp=Z,23nm,0.7s						
GENI	**Genyem**	**43.89**	**291**	P	**P**	**20 21 52.4**	**-0.4**
	comp=Z,33nm,1.0s						
KDU	**Kakadu**	**46.64**	**274**	P	**P**	**20 22 13.1**	**-0.7**
	baz=47,SNR=34						
WRKA	**Warakurna**	**47.54**	**256**	P	**P**	**20 22 20.5**	**0.0**
	baz=48,SNR=54						
MTN	**Manton Dam**	**47.82**	**273**	P	**P**	**20 22 21.8**	**-0.9**
	baz=48,SNR=9.0						
MTN	**Manton Dam**	**47.82**	**273**	IAmb	IAmb	20 22 22.4	
	comp=Z,27nm,0.8s						
KNRA	**Kununurra**	**49.15**	**269**	P	**P**	**20 22 32.3**	**-0.1**
	baz=49,SNR=16						
FITZ	**Fitzroy Crossi**	**51.37**	**264**	P	**P**	**20 22 48.9**	**+0.2**
	baz=51,SNR=23						
SWI	**Sorong**	**52.50**	**287**	P	**P**	**20 22 56.3**	**-0.4**
	comp=Z,132nm,0.8s,comp=Z,960nm						
SOEI	**Soe**	**55.20**	**274**	P	**P**	**20 23 16.7**	**+0.8**
	comp=Z,69nm,1.0s						
BATI	**Banimata**	**55.59**	**273**	P	**P**	**20 23 19.3**	**+0.7**
	comp=Z,29nm,0.7s						
KLBR	**Kellerberrin**	**55.87**	**246**	P	**P**	**20 23 20.2**	**+0.1**
	baz=56,SNR=6.7						
LBMI	**Labuha**	**55.93**	**285**	P	**P**	**20 23 20.6**	**-0.2**
	comp=Z,44nm,1.7s						
MBWA	**Marble Bar**	**56.02**	**259**	P	**P**	**20 23 20.9**	**-0.6**
MBWA				IAmb	IAmb	20 23 21.9	
	comp=Z,18nm,0.8s						
NWAO	**Narrogin (SRO)**	**56.14**	**245**	P	**P**	**20 23 22.3**	**+0.3**
SANI	**Sanana**	**56.66**	**283**	P	**P**	**20 23 25.0**	**-0.8**
	comp=Z,16nm,1.1s						
BLDU	**Ballidu**	**56.89**	**247**	P	**P**	**20 23 26.9**	**-0.4**
	baz=57,SNR=9.7						
MORW	**Morawa**	**57.71**	**249**	P	**P**	**20 23 32.9**	**+0.1**
	baz=58,SNR=4.7						
MORW	**Morawa**	**57.71**	**249**	P	**P**	**20 23 32.7**	**-0.1**
EDFI	**Ende, Flores**	**57.93**	**274**	P	**P**	**20 23 34.1**	**-0.5**
	comp=Z,30nm,0.8s						
BBSI	**Bau Bau**	**58.35**	**278**	P	**P**	**20 23 37.7**	**+0.4**
	comp=Z,64nm,1.0s						
BASI	**Baing, Sumba**	**58.44**	**272**	P	**P**	**20 23 38.4**	**+0.5**
	comp=Z,87nm,1.4s						
GIRL	**Giralia**	**60.63**	**256**	P	**P**	**20 23 53.3**	**+0.9**
BKSI	**Bulukumba**	**60.65**	**277**	P	**P**	**20 23 51.9**	**-0.7**
	comp=Z,22nm,0.8s						
MRSI	**Marisa**	**61.40**	**284**	P	**P**	**20 23 57.0**	**-0.5**
	comp=Z,9.0nm,1.3s						
PLAI	**Plampang**	**61.51**	**272**	P	**P**	**20 23 57.6**	**-0.6**
	comp=Z,39nm,1.0s						
TWSI	**Taliwang, Sumb**	**62.37**	**272**	P	**P**	**20 24 03.4**	**-0.4**
	comp=Z,16nm,0.8s						
TOLI2	**Tolitoli**	**62.72**	**284**	P	**P**	**20 24 05.1**	**-0.9**
TOLI2				IAmb	IAmb	20 24 07.7	
	comp=Z,12nm,0.7s						
MPSI	**Mapaga**	**63.17**	**283**	P	**P**	**20 24 08.3**	**-0.7**
	comp=Z,20nm,1.0s						
SRBI	**Singaraja**	**64.14**	**272**	P	**P**	**20 24 14.9**	**-0.2**
JAGI	**Jajag, Banyuwa**	**64.98**	**271**	P	**P**	**20 24 19.1**	**-1.4**
	comp=Z,17nm,1.2s						
PWJI	**Pagerwojo**	**67.31**	**271**	P	**P**	**20 24 34.2**	**-0.7**
QSPA	**South Pole Qui**	**67.38**	**180**	P	**P**	**20 24 36.6**	**+2.1**
	comp=Z,1.4nm,1.1s,baz=114,slow=20,SNR=1.6						
NJ2	**Nanjing**	**80.21**	**311**	*e*P	**P**	**20 25 49.4**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CMB	**Columbia Colle**	**82.03**	**43**	P	**P**	**20 25 57.2**	**+0.5**
PNTR	**Pine Nut**	**83.15**	**43**	P	**P**	**20 26 03.6**	**+1.0**
PNTR				IAmb	IAmb	20 26 04.5	
	comp=Z,17nm,0.8s						
NVAR	**Mina Array Bea**	**83.58**	**44**	P	**P**	**20 26 05.0**	**+0.3**
	comp=Z,3.9nm,0.9s,baz=223,slow=8.5,SNR=15						
	comp=Z,3.9nm,0.9s						
N15K	**Kwethluk River**	**84.08**	**10**	IAmb	IAmb	20 26 07.9	
	comp=Z,27nm,0.9s						
O18K	**Koktuh Hills**	**84.63**	**12**	IAmb	IAmb	20 26 09.5	
	comp=Z,17nm,0.8s						
J05D	**Fort Rock, OR**	**84.70**	**39**	P	**P**	**20 26 11.3**	**+1.3**
J05D				IAmb	IAmb	20 26 12.2	
	comp=Z,16nm,1.2s						
319A	**Douglas**	**86.08**	**54**	IAmb	IAmb	20 26 28.7	
	comp=Z,19nm,0.8s						
L19K	**White Mountain**	**86.86**	**11**	IAmb	IAmb	20 26 20.6	
	comp=Z,7.9nm,0.8s						
SUA	**Susitna One**	**87.01**	**13**	IAmb	IAmb	20 26 20.7	
	comp=Z,11nm,0.6s						
G08A	**Pilot Rock**	**87.21**	**38**	IAmb	IAmb	20 26 23.7	
	comp=Z,11nm,1.1s						
SKT	**Skwentna**	**87.31**	**13**	IAmb	IAmb	20 26 21.6	
	comp=Z,12nm,1.2s						
E07A	**Sunnyside**	**87.47**	**37**	IAmb	IAmb	20 26 24.9	
	comp=Z,16nm,1.2s						
HAWA	**Hanford**	**87.55**	**37**	IAmb	IAmb	20 26 25.3	
	comp=Z,9.5nm,0.9s						
J18K	**Innoko River**	**87.73**	**10**	IAmb	IAmb	20 26 24.4	
	comp=Z,8.1nm,0.9s						
MFID	**Camas Ranch**	**87.97**	**41**	IAmb	IAmb	20 26 27.2	
	comp=Z,9.9nm,1.1s						
D08A	**Wollman Farm,**	**88.28**	**37**	IAmb	IAmb	20 26 28.0	
	comp=Z,5.8nm,0.9s						
CAST	**Castle Rocks**	**88.51**	**12**	IAmb	IAmb	20 26 27.0	
	comp=Z,8.3nm,0.7s						
F10A	**Beach Ranch, E**	**88.60**	**38**	IAmb	IAmb	20 26 29.5	
	comp=Z,7.3nm,0.9s						
KTH	**Kantishna Hill**	**88.85**	**12**	P	**P**	**20 26 27.7**	**-1.3**
KTH				IAmb	IAmb	20 26 28.9	
	comp=Z,5.9nm,0.8s						
TRF	**Thorofare Moun**	**88.89**	**13**	IAmb	IAmb	20 26 29.5	
	comp=Z,11nm,0.7s						
HLID	**Hailey**	**88.90**	**41**	IAmb	IAmb	20 26 31.9	
	comp=Z,4.8nm,1.0s						
VHRN	**Van Horn**	**89.05**	**56**	P	**P**	**20 26 31.8**	**+0.9**
SRU	**San Rafael Swe**	**89.06**	**47**	P	**P**	**20 26 30.2**	**-0.5**
SRU				IAmb	IAmb	20 26 32.3	
	comp=Z,8.6nm,0.9s						
RND	**Reindeer**	**89.15**	**13**	P	**P**	**20 26 29.5**	**-0.9**
RND				IAmb	IAmb	20 26 30.7	
	comp=Z,9.3nm,0.9s						
TXAR	**Lajitas Array**	**89.42**	**58**	P	**P**	**20 26 34.1**	**+1.6**
	comp=Z,2.9nm,0.8s,baz=217,slow=6.1,SNR=21						
	comp=Z,2.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**89.53**	**290**	P	**P**	**20 26 34.2**	**+1.1**
CMAR	**Chiang Mai Arr**	**89.53**	**290**	P	**P**	**20 26 34.4**	**+1.2**
	comp=Z,2.0nm,0.8s,baz=130,slow=3.3,SNR=20						
	comp=Z,2.0nm,0.8s						
BSUT	**Blindstream Ca**	**89.62**	**45**	P	**P**	**20 26 34.2**	**+0.7**
BSUT				IAmb	IAmb	20 26 35.4	
	comp=Z,9.8nm,0.9s						
CHTO	**Chiang Mai**	**89.67**	**290**	P	**P**	**20 26 33.4**	**-0.4**
ANMO	**Albuquerque**	**89.87**	**52**	P	**P**	**20 26 34.7**	**+0.1**
HHC	**Hu-ho-hao-te**	**89.89**	**315**	*e*P	**P**	**20 26 38.1**	**+3.7**
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						
HHC				pmax	pmax		
	comp=Z,120nm,6.1s						
PZH	**PanZhiHua**	**90.50**	**298**	P	**P**	**20 26 38.8**	**+1.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,120nm,5.7s						
ILAR	**Eielson Array**	**90.76**	**13**	P	**P**	**20 26 36.5**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=225,slow=4.6,SNR=8.0						
	comp=Z,0.8nm,0.7s						
SAND	**Sanderson**	**90.90**	**58**	IAmb	IAmb	20 26 41.7	
	comp=Z,7.4nm,1.3s						
PDAR	**Pinedale Array**	**91.52**	**44**	P	**P**	**20 26 41.8**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=211,slow=3.3,SNR=14						
	comp=Z,1.9nm,0.8s						
DRIO	**Del Rio**	**91.86**	**59**	IAmb	IAmb	20 26 45.1	
	comp=Z,9.7nm,0.8s						
KURBB	**Kurchatov Arra**	**114.68**	**317**	PKP	PKPdf	20 32 09.9	-1.3
	comp=Z,0.2nm,0.4s,baz=108,slow=1.7,SNR=5.7						
BVAR	**Borovoye Array**	**119.83**	**319**	PKP	**PKPdf**	**20 32 20.4**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=165,slow=1.5,SNR=9.6						
SPITS	**Spitsbergen Ar**	**123.96**	**356**	PKP	**PKPdf**	**20 32 27.4**	**-1.1**
	comp=Z,1.8nm,0.6s,baz=98,slow=8.9,SNR=6.0						
FINES	**FINESS Array B**	**137.45**	**342**	PKP	**PKPdf**	**20 32 53.7**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=48,slow=2.1,SNR=5.7						
FINES				SKPbc	**SKPbc**	**20 35 34.0**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=57,slow=5.1,SNR=4.0						
NB2	**NORSAR Subarra**	**140.96**	**352**	PKP	PKPpre	20 32 54.5	
	comp=Z,0.2nm,0.5s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**140.96**	**352**	PKhKP	PKPpre	20 32 54.9	
	comp=Z,0.8nm,0.7s,baz=14,slow=4.5,SNR=3.9						
HFS	**Hagfors**	**141.46**	**349**	PKhKP	PKPpre	20 32 56.3	
	comp=Z,1.5nm,0.3s,baz=85,slow=3.1,SNR=21						
AKASG	**Malin Array Be**	**144.19**	**328**	PKP	PKPbc	20 33 05.5	-0.9
	comp=Z,3.6nm,0.5s,baz=44,slow=4.1,SNR=19						
SUW	**Suwalki**	**144.34**	**337**		PKPbc	20 33 05.6	-1.1
BRTR	**Keskin Array B**	**147.19**	**309**	PKPbc	**PKPbc**	**20 33 15.2**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=139,slow=4.6,SNR=7.4						
EKA	**Eskdalemuir Ar**	**147.30**	**4**	PKPbc	PKPbc	**20 33 14.1**	**-1.0**
	comp=Z,1.3nm,0.4s,baz=356,slow=2.7,SNR=12						
MMAI	**Mount Meron Ar**	**147.59**	**296**	PKPbc	**PKPbc**	**20 33 17.2**	**+0.5**
	comp=Z,2.0nm,0.4s,baz=72,slow=6.2,SNR=9.2						
BSEG	**Bad Segeberg**	**147.93**	**349**	*e*PKPbc	**PKPbc**	**20 33 16.9**	**+0.1**
	baz=20,slow=2.5						
BUR08	**Bucovina Ar. S**	**148.20**	**328**		**PKPbc**	**20 33 17.3**	**-0.5**
BURAR	**Bucovina Array**	**148.21**	**327**	PKPbc	**PKPbc**	**20 33 17.2**	**-0.6**
KOLS	**Kolonicke sedl**	**148.64**	**332**	*e*PKP	**PKiKP**	**20 33 19.7**	**0.0**
STHS	**Stebnicka Huta**	**148.70**	**334**	*e*PKP	**PKPbc**	**20 33 18.8**	**0.0**
FLTG	**Flechtingen**	**149.28**	**347**	*e*PKPbc	**PKPbc**	**20 33 19.7**	**-0.4**
	baz=20,slow=2.5						
NRDL	**Niedersach Rie**	**149.35**	**348**	*e*PKPbc	**PKiKP**	**20 33 20.5**	**-0.4**
	baz=20,slow=2.5						
MORC	**Moravsky Berou**	**149.82**	**338**	*e*PKP	**PKPbc**	**20 33 21.7**	**+0.2**
CLL	**Collm**	**149.83**	**344**		**PKPbc**	**20 33 20.7**	**-0.7**
CLL	**Collm**	**149.83**	**344**	⇑*i*PKPbc	**PKPbc**	**20 33 21.4**	**0.0**
	comp=Z,18nm,1.0s						
CLL				⇓*i*PKPab	**PKPab**	**20 33 29.2**	**-0.3**
CLL	**Collm**	**149.83**	**344**	*e*PKPbc	**PKPbc**	**20 33 21.4**	**0.0**
	baz=20,slow=2.5						
CLL				*e*PKPab	**PKPab**	**20 33 29.1**	**-0.3**
	baz=19,slow=4.6						
CLZ	**Clausthal**	**149.92**	**348**	*e*PKPbc	**PKiKP**	**20 33 22.0**	**-0.3**
	baz=20,slow=2.5						
BRG	**Berggiesshubel**	**149.98**	**343**	*i* PKP	**PKiKP**	**20 33 22.1**	**-0.4**
BRG				Amp		20 33 22.6	
	comp=Z,7.4nm,0.6s						
BRG	**Berggiesshubel**	**149.98**	**343**	P	**PKPab**	**20 33 30.4**	**+0.3**
BRG				Amp		20 33 32.1	
	comp=Z,4.1nm,0.7s						
BRG	**Berggiesshubel**	**149.98**	**343**	*e*PKPbc	**PKiKP**	**20 33 22.0**	**-0.4**
	baz=20,slow=2.5						
BRG				*e*PKPab	**PKPab**	**20 33 30.2**	**+0.1**
	baz=19,slow=4.6						
CHRS	**Christianenhau**	**150.05**	**347**	*e*PKPbc	**PKPbc**	**20 33 22.1**	**+0.1**
	baz=20,slow=2.5						
FBE	**Freiberg**	**150.09**	**344**	*e*PKPbc	**PKPbc**	**20 33 22.2**	**+0.2**
	baz=20,slow=2.5						
NEUB	**Neuenburg**	**150.22**	**346**	*e*PKPbc	**PKiKP**	**20 33 22.9**	**+0.1**
	baz=20,slow=2.5						
MODW	**Modelwitz**	**150.30**	**345**	*e*PKPbc	**PKPbc**	**20 33 22.7**	**+0.1**
	baz=20,slow=2.5						
VYHS	**Vyhne**	**150.40**	**335**	*e*PKP	**PKPbc**	**20 33 22.9**	**0.0**
HKWD	**Heukewalde**	**150.45**	**345**	*e*PKPbc	**PKPbc**	**20 33 23.0**	**+0.1**
	baz=20,slow=2.5						
JAVC	**Velka Javorina**	**150.54**	**337**	*e*PKP	**PKiKP**	**20 33 24.5**	**+0.8**
SCHF	**Schoenfels**	**150.56**	**344**	*e*PKPab	**PKPab**	**20 33 32.7**	**+0.1**
	baz=19,slow=4.6						
GRZ1	**Mausoleum Wald**	**150.59**	**345**	*e*PKPbc	**PKPbc**	**20 33 23.3**	**+0.1**
	baz=20,slow=2.5						
GRZ1				*e*PKPab	**PKPab**	**20 33 32.8**	**+0.2**
	baz=19,slow=4.6						
TANN	**Tannenbergstha**	**150.79**	**344**	*e*PKPbc	**PKiKP**	**20 33 24.0**	**-0.1**
	baz=20,slow=2.5						
PLN	**Plauen**	**150.80**	**345**	*e

ϕ_B=275.49000°, δ52.05000°, λ112.89000°. NP2: ϕ_B=61.02000°, δ43.41000°, λ63.49000°. Principal axes: T Plg71.5360°, Azm245.7770°; N Plg17.8630°, Azm80.9380°; P Plg4.5220°, Azm349.4780°;

ISC 14 20:31:53.6±1.2, 24°24'N±0'.03×122°.99E±0'.02, h42km±7km, n147, σ1§45/255, 2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
JYNG	**Yonagunijimaku**	**0.21**	**350**	*i* P	**Pn**	**20**	**32**	**01.0**	**-0.2**
JYNG				S	**Sn**	**20**	**32**	**06.4**	**-0.1**
YOJ	**Yonaguni jima**	**0.22**	**6**	P	**Pn**	**20**	**32**	**01.2**	**-0.1**
YOJ	**Yonaguni jima**	**0.22**	**6**	P	**Pn**	**20**	**32**	**01.1**	**-0.1**
YOJ	**Yonaguni jima**	**0.22**	**6**	⇓*i* P	**Pn**	**20**	**32**	**01.1**	**-0.1**
	baz=16								
YOJ				*i* S	**Sn**	**20**	**32**	**06.5**	**-0.1**
	baz=16								
YOJ	**Yonaguni jima**	**0.22**	**6**	*i* P	**Pn**	**20**	**32**	**01.2**	**-0.1**
YOJ				S	**Sn**	**20**	**32**	**06.5**	**-0.1**
EOS3	**EOS3**	**0.61**	**274**	*i* P	**Pn**	**20**	**32**	**05.8**	**0.0**
	baz=272								
EOS3				S	**Sn**	**20**	**32**	**14.8**	**+0.4**
	baz=272								
EOS4	**EOS4**	**0.62**	**259**	*i* P	**Pn**	**20**	**32**	**06.6**	**+0.9**
	baz=252								
EOS4				*i* S	**Sn**	**20**	**32**	**16.1**	**+1.7**
	baz=252								
IRIF	**Iriomote-Funau**	**0.69**	**82**	*i* P	**Pn**	**20**	**32**	**06.9**	**0.0**
IRIF				S	**Sn**	**20**	**32**	**17.3**	**+0.9**
EOS2	**EOS2**	**0.71**	**285**	⇓*i* P	**Pn**	**20**	**32**	**06.8**	**-0.3**
	baz=280								
EOS2				*i* S	**Sn**	**20**	**32**	**16.9**	**+0.1**
	baz=280								
HATJ	**Hateruma jima**	**0.77**	**104**	P	**Pn**	**20**	**32**	**08.5**	**+0.5**
JKRS	**Kuro-shima**	**0.94**	**90**	P	**Pn**	**20**	**32**	**11.0**	**+0.7**
JKRS				S	**Sn**	**20**	**32**	**23.8**	**+1.3**
JIJ	**Ishigaki jima**	**1.06**	**83**	P	**Pn**	**20**	**32**	**11.9**	**-0.2**
JIJ				S	**Sn**	**20**	**32**	**25.0**	**-0.6**
ESAO	**Su ao**	**1.09**	**288**	P	**Pn**	**20**	**32**	**11.8**	**-0.7**
	baz=293								
ESAO				S	**Sn**	**20**	**32**	**24.9**	**-1.5**
	baz=293								
TWC	**Suao**	**1.10**	**290**	*i* P	**Pn**	**20**	**32**	**11.4**	**-1.1**
	baz=285								
TWC				S	**Sn**	**20**	**32**	**24.7**	**-1.8**
	baz=285								
EWUT	**Wuta**	**1.12**	**281**	P	**Pn**	**20**	**32**	**12.2**	**-0.6**
	baz=285								
EWUT				S	**Sn**	**20**	**32**	**25.8**	**-1.2**
	baz=285								
EGS		**1.13**	**302**	P	**Pn**	**20**	**32**	**12.0**	**-0.9**
	baz=298								
EAHA	**Aohua**	**1.14**	**275**	P	**Pn**	**20**	**32**	**13.3**	**+0.2**
	baz=279								
EAHA				S	**Sn**	**20**	**32**	**28.2**	**+0.7**
	baz=279								
ENA	**Nanau**	**1.15**	**280**	*i* P	**Pn**	**20**	**32**	**12.7**	**-0.5**
	baz=284								
ENA				S	**Sn**	**20**	**32**	**27.1**	**-0.7**
	baz=284								
TWB1	**Santiao Chiao**	**1.19**	**310**	P	**Pn**	**20**	**32**	**12.8**	**-0.9**
	baz=316								
TWB1				S	**Sn**	**20**	**32**	**26.2**	**-2.4**
	baz=316								
NDS	**Dongshan**	**1.22**	**289**	P	**Pn**	**20**	**32**	**13.8**	**-0.5**
	baz=293								
NDS				S	**Sn**	**20**	**32**	**28.2**	**-1.3**
	baz=293								
ETL	**Fush Village**	**1.25**	**266**	P	**Pn**	**20**	**32**	**14.5**	**-0.1**
	baz=248								
ETL				S	**Sn**	**20**	**32**	**29.7**	**-0.5**
	baz=248								
JISG	**Ishigakijimahi**	**1.26**	**74**	*i* P	**Pn**	**20**	**32**	**14.5**	**-0.2**
JISG				S	**Sn**	**20**	**32**	**29.8**	**-0.6**
NACB	**Ninganchiao**	**1.27**	**267**	P	**Pn**	**20**	**32**	**14.8**	**-0.1**
NACB	**Ninganchiao**	**1.27**	**267**	P	**Pn**	**20**	**32**	**14.7**	**-0.1**
NACB	**Ninganchiao**	**1.27**	**267**	P	**Pn**	**20**	**32**	**14.8**	**-0.1**
	baz=263								
NACB				S	**Sn**	**20**	**32**	**30.9**	**+0.2**
	baz=263								
TWD	**Chiawan**	**1.28**	**263**	P	**Pn**	**20**	**32**	**14.6**	**-0.4**
	baz=245								
TWD				S	**Sn**	**20**	**32**	**30.1**	**-0.9**
	baz=245								
TIPB	**Shuangxi**	**1.28**	**305**	*i* P	**Pn**	**20**	**32**	**14.3**	**-0.8**
	baz=311								
TIPB				*i* S	**Sn**	**20**	**32**	**29.6**	**-1.5**
	baz=311								
TWE	**Neicheng**	**1.29**	**292**	P	**Pn**	**20**	**32**	**14.7**	**-0.4**
	baz=288								
TWE				S	**Sn**	**20**	**32**	**29.8**	**-1.5**
	baz=288								
SXI1	**Grass Mountain**	**1.32**	**310**	*i* P	**Pn**	**20**	**32**	**14.9**	**-0.8**
	baz=316								
SXI1				S	**Sn**	**20**	**32**	**30.7**	**-1.4**
	baz=316								
LATG	**Datong**	**1.36**	**283**	P	**Pn**	**20**	**32**	**16.1**	**-0.2**
	baz=279								
NWF	**Wu-fen Shan**	**1.37**	**307**	P	**Pn**	**20**	**32**	**15.7**	**-0.7**
	baz=304								
NWF				S	**Sn**	**20**	**32**	**31.2**	**-2.2**
	baz=304								
WFSB	**Wu-fen Shan**	**1.37**	**307**	P	**Pn**	**20**	**32**	**15.6**	**-0.7**
	baz=304								
WFSB				S	**Sn**	**20**	**32**	**31.6**	**-1.7**
	baz=304								
ETLH	**Xiulin Townshi**	**1.37**	**269**	P	**Pn**	**20**	**32**	**16.6**	**+0.2**
	baz=265								
ETLH				S	**Sn**	**20**	**32**	**34.1**	**+0.7**
	baz=265								
FUSB	**Fushanzhiwuyua**	**1.37**	**292**	P	**Pn**	**20**	**32**	**15.7**	**-0.7**
	baz=298								
FUSB				S	**Sn**	**20**	**32**	**31.8**	**-1.6**
	baz=298								
SHUL	**Shoufeng**	**1.38**	**251**	P	**Pn**	**20**	**32**	**16.5**	**+0.1**
	baz=247								
SHUL				S	**Sn**	**20**	**32**	**33.8**	**+0.5**
	baz=247								
NDT	**Datong Townshi**	**1.39**	**285**	P	**Pn**	**20**	**32**	**17.1**	**+0.5**
	baz=288								
NDT				S	**Sn**	**20**	**32**	**34.7**	**+1.0**
	baz=288								
TNOU	**National Taiwa**	**1.43**	**310**	P	**Pn**	**20**	**32**	**16.1**	**-1.0**
	baz=297								
TNOU				S	**Sn**	**20**	**32**	**32.7**	**-1.8**
	baz=297								
LXIB	**Xiulin Townshi**	**1.45**	**262**	P	**Pn**	**20**	**32**	**17.2**	**-0.3**
	baz=246								
LXIB				S	**Sn**	**20**	**32**	**34.3**	**-1.2**
	baz=246								
NWLT	**Wulai**	**1.45**	**292**	P	**Pn**	**20**	**32**	**17.1**	**-0.3**
	baz=289								
NWLT				S	**Sn**	**20**	**32**	**34.6**	**-0.7**
	baz=289								
TWA	**Mucha**	**1.47**	**300**	*e*P	**Pn**	**20**	**32**	**17.1**	**-0.5**
	baz=307								
TWA				*e*S	**Sn**	**20**	**32**	**34.2**	**-1.5**
	baz=307								
NNSB	**Datong**	**1.47**	**278**	P	**Pn**	**20**	**32**	**18.1**	**+0.3**
	baz=274								
NNSB				S	**Sn**	**20**	**32**	**37.1**	**+1.2**
	baz=274								
NNSH	**Datong**	**1.47**	**278**	P	**Pn**	**20**	**32**	**18.8**	**+1.0**
	baz=274								
NNSH				S	**Sn**	**20**	**32**	**37.0**	**+1.0**
	baz=274								
ESL	**Shilin**	**1.48**	**254**	P	**Pn**	**20**	**32**	**17.0**	**-0.8**
	baz=249								
ESL				S	**Sn**	**20**	**32**	**34.8**	**-1.2**
	baz=249								
NNS	**Nan Shan**	**1.48**	**278**	P	**Pn**	**20**	**32**	**18.3**	**+0.4**
	baz=274								
NNS				S	**Sn**	**20**	**32**	**37.6**	**+1.5**
	baz=274								
YHNB	**Yeheng**	**1.53**	**287**	P	**Pn**	**20**	**32**	**19.3**	**+0.8**
YHNB	**Yeheng**	**1.53**	**287**	P	**Pn**	**20**	**32**	**18.8**	**+0.3**
	baz=292								
YHNB				S	**Sn**	**20**	**32**	**37.9**	**+0.7**
	baz=292								
NSK	**Sanguang**	**1.54**	**287**	P	**Pn**	**20**	**32**	**18.6**	**-0.1**
	baz=292								
NSK				S	**Sn**	**20**	**32**	**38.0**	**+0.4**
	baz=292								
TATO	**Taipei**	**1.55**	**299**	P	**Pn**	**20**	**32**	**19.1**	**+0.4**
TATO	**Taipei**	**1.55**	**299**	P	**Pn**	**20**	**32**	**18.1**	**-0.6**
	baz=296								
TATO				S	**Sn**	**20**	**32**	**35.8**	**-1.8**
	baz=296								
WARBT	**Fenglin Townsh**	**1.55**	**251**	P	**Pn**	**20**	**32**	**17.9**	**-0.9**
	baz=247								
WARBT				S	**Sn**	**20**	**32**	**36.6**	**-1.1**
	baz=247								
YM01	**YM01**	**1.57**	**305**	P	**Pn**	**20**	**32**	**18.3**	**-0.7**
	baz=303								
YM01				S	**Sn**	**20**	**32**	**36.5**	**-1.8**
	baz=303								
WHF	**Hehuan Shan**	**1.57**	**267**	P	**Pn**	**20**	**32**	**19.7**	**+0.2**
	baz=251								
WHF				S	**Sn**	**20**	**32**	**39.0**	**+0.2**
	baz=251								
YM08	**YM08**	**1.58**	**307**	P	**Pn**	**20**	**32**	**17.8**	**-1.3**
	baz=304								
FUSS	**Fushou**	**1.59**	**271**	P	**Pn**	**20**	**32**	**19.9**	**+0.4**
	baz=267								
HGSD	**Ruisui**	**1.61**	**243**	P	**Pn**	**20**	**32**	**18.8**	**-0.8**
	baz=239								
HGSD				S	**Sn**	**20**	**32**	**37.6**	**-1.5**
	baz=239								
PCYT	**Pengchaiyu**	**1.61**	**329**	*e*P	**Pn**	**20**	**32**	**19.1**	**-0.5**
	baz=318								
JTJ	**Tarama**	**1.61**	**75**	P	**Pn**	**20**	**32**	**20.0**	**+0.4**
JTJ				S	**Sn**	**20**	**32**	**39.6**	**+0.4**
TWY	**Chenhua**	**1.63**	**310**	P	**Pn**	**20**	**32**	**19.5**	**-0.3**
	baz=299								
TWY				S	**Sn**	**20**	**32**	**38.8**	**-0.8**
	baz=299								
TWT	**Tachien**	**1.65**	**271**	P	**Pn**	**20**	**32**	**21.6**	**+1.3**
	baz=267								
TWT				S	**Sn**	**20**	**32**	**42.4**	**+2.0**
	baz=267								
CHGB	**Renai**	**1.66**	**264**	P	**Pn**	**20**	**32**	**20.6**	**+0.1**
	baz=249								
CHGB				S	**Sn**	**20**	**32**	**40.6**	**-0.1**
	baz=249								
TDCB	**Techi**	**1.67**	**271**	P	**Pn**	**20**	**32**	**21.5**	**+1.0**
	baz=267								
TDCB				S	**Sn**	**20**	**32**	**41.0**	**+0.2**
	baz=267								
EHYH	**Wanrong**	**1.68**	**244**	P	**Pn**	**20**	**32**	**20.2**	**-0.3**
	baz=240								
EHYH				S	**Sn**	**20**	**32**	**40.3**	**-0.5**
	baz=240								
OWD	**Renai**	**1.68**	**261**	P	**Pn**	**20**	**32**	**20.7**	**+0.1**
	baz=257								
OWD				S	**Sn**	**20**	**32**	**40.9**	**-0.1**
	baz=257								
ECBN	**Changbin**	**1.68**	**237**	P	**Pn**	**20**	**32**	**20.0**	**-0.5**
	baz=223								
ECBN				S	**Sn**	**20**	**32**	**39.3**	**-1.5**
	baz=223								
EHY	**Hungye**	**1.69**	**245**	P	**Pn**	**20**	**32**	**20.0**	**-0.6**
	baz=253								
EHY				S	**Sn**	**20**	**32**	**40.4**	**-0.7**
	baz=253								
WUSB	**Renai**	**1.72**	**262**	P	**Pn**	**20**	**32**	**21.5**	**+0.2**
	baz=259								
WUSB				S	**Sn**	**20**	**32**	**41.7**	**-0.4**
	baz=259								
NFF	**Wufeng Townshi**	**1.75**	**283**	P	**Pn**	**20**	**32**	**23.9**	**+2.4**
	baz=280								
NFF				S	**Sn**	**20**	**32**	**45.4**	**+2.8**
	baz=280								
VWDT	**VWDT**	**1.75**	**254**	P	**Pn**	**20**	**32**	**22.0**	**+0.5**
	baz=241								
VWDT				S	**Sn**	**20**	**32**	**42.7**	**0.0**
	baz=241								
YULB	**Yu-li**	**1.76**	**242**	P	**Pn**	**20**	**32**	**21.4**	**-0.3**
YULB	**Yu-li**	**1.76**	**242**	P	**Pn**	**20**	**32**	**21.6**	**-0.1**
YULB	**Yu-li**	**1.76**	**242**	P	**Pn**	**20**	**32**	**21.1**	**-0.5**
	baz=252								
YULB				S	**Sn**	**20**	**32**	**41.5**	**-1.4**
	baz=252								
EYUL	**Yuli**	**1.77**	**240**	P	**Pn**	**20**	**32**	**21.6**	**-0.1**
	baz=236								
EYUL				S	**Sn**	**20**	**32**	**43.1**	**+0.1**
	baz=236								
TWF1	**Yuli**	**1.78**	**241**	P	**Pn**	**20**	**32**	**21.8**	**-0.1**
	baz=237								
TWF1				S	**Sn**	**20**	**32**	**42.9**	**-0.5**
	baz=237								
CHKH	**Chenggong**	**1.79**	**235**	P	**Pn**	**20**	**32**	**20.8**	**-1.3**
	baz=222								
CHKH				S	**Sn**	**20**	**32**	**40.8**	**-2.8**
	baz=222								
NJD	**Zhudong**	**1.80**	**286**	*e*P	**Pn**	**20**	**32**	**24.7**	**+2.6**
	baz=283								
NJD				*e*S	**Sn**	**20**	**32**	**46.0**	**+2.3**
	baz=283								
LIOB	**Emei**	**1.84**	**283**	P	**Pn**	**20**	**32**	**24.5**	**+1.7**
	baz=280								
NSTT	**Nanjuang**	**1.85**	**283**	P	**Pn**	**20**	**32**	**24.1**	**+1.3**
	baz=291								
NSTT				S	**Sn**	**20**	**32**	**47.1**	**+2.1**
	baz=291								
WHP	**Taichung City**	**1.86**	**272**	P	**Pn**	**20**	**32**	**24.8**	**+1.7**
	baz=258								
WHP				S	**Sn**	**20**	**32**	**47.5**	**+2.1**
	baz=258								
FULB	**Fuli**	**1.86**	**237**	P	**Pn**	**20**	**32**	**22.2**	**-0.9**
	baz=222								
FULB				S	**Sn**	**20**	**32**	**44.5**	**-1.0**
	baz=222								
WPL	**Puli Township**	**1.87**	**263**	*e*P	**Pn**	**20**	**32**	**24.6**	**+1.5**
	baz=250								
WPL				S	**Sn**	**20**	**32**	**46.2**	**+0.7**
	baz=250								
CHKT	**Chengkung**	**1.87**	**233**	P	**Pn**	**20**	**32**	**22.2**	**-0.9**
	baz=219								
CHKT				S	**Sn**	**20**	**32**	**42.8**	**-2.8**
	baz=219								
DPDB	**Guoxing**	**1.89**	**264**	P	**Pn**	**20**	**32**	**24.2**	**+0.7**
	baz=252								
DPDB				S	**Sn**	**20**	**32**	**49.1**	**+2.9**
	baz=252								
WCS	**Beigang Elemen**	**1.90**	**265**	P	**Pn**	**20**	**32**	**26.0**	**+2.4**
	baz=253								
WCS				S	**Sn**	**20**	**32**	**47.9**	**+1.5**
	baz=253								
SSLB	**Suanglung**	**1.91**	**257**	P	**Pn**	**20**	**32**	**24.0**	**+0.2**
SSLB	**Suanglung**	**1.91**	**257**	P	**Pn**	**20**	**32**	**24.3**	**+0.6**
SSLB	**Suanglung**	**1.91**	**257**	P	**Pn**	**20**	**32**	**23.9**	**+0.2**
	baz=253								
SSLB				S	**Sn**	**20**	**32**	**45.7**	**-0.9**
	baz=253								
SMLT	**Sun Moon Lake**	**1.94**	**260**	P	**Pn**	**20**	**32**	**25.0**	**+0.8**
	baz=247								
SMLT				S	**Sn**	**20**	**32**	**48.6**	**+1.2**
	baz=247								
EHD	**Haiduan**	**1.96**	**237**	P	**Pn**	**20**	**32**	**23.9**	**-0.4**
	baz=224								
EHD				S	**Sn**	**20**	**32**	**46.3**	**-1.5**
	baz=224								
TYC	**Yuchr**	**1.97**	**261**	P	**Pn**	**20**	**32**	**25.2**	**+0.7**
	baz=248								
TYC				S	**Sn**	**20**	**32**	**49.1**	**+1.1**
	baz=248								
ECS	**Chishang**	**1.98**	**235**	P	**Pn**	**20**	**32**	**24.9**	**+0.2**
	baz=223								
ECS				S	**Sn**	**20**	**32**	**48.4**	**+0.1**
	baz=223								
TWQ1	**Liyutan**	**2.02**	**273**	P	**Pn**	**20**	**32**	**26.9**	**+1.7**
	baz=270								
TWQ1				S	**Sn**	**20**	**32**	**50.6**	**+1.3**
	baz=270								
NMLH	**Miaoli**	**2.02**	**279**	S	**Sn**	**20**	**32**	**52.0**	**+2.7**
	baz=276								
WHYT	**Xinyi Township**	**2.02**	**255**	P	**Pn**	**20**	**32**	**26.2**	**+0.9**
	baz=243								
WHYT				S	**Sn**	**20**	**32**	**51.8**	**+2.4**
	baz=243								
NSY	**Sanyi**	**2.04**	**275**	*e*P	**Pn**	**20**	**32**	**25.8**	**+0.4**
	baz=273								
ELDTW	**Lidau**	**2.09**	**240**	P	**Pn**	**20**	**32**	**25.6**	**-0.6**
	baz=237								
ELDTW				S	**Sn**	**20**	**32**	**49.7**	**-1.3**
	baz=237								
LDUT	**Ludao**	**2.09**	**222**	P	**Pn**	**20**	**32**	**25.0**	**-1.2**
	baz=211								
LDUT				S	**Sn**	**20**	**32**	**48.4**	**-2.6**
	baz=211								
WWF	**Wufeng**	**2.10**	**265**	P	**Pn**	**20**	**32**	**28.1**	**+1.9**
	baz=262								
WWF				S	**Sn**	**20**	**32**	**54.6**	**+3.4**
	baz=262								
WJS	**Zhushan**	**2.10**	**259**	P	**Pn**	**20**	**32**	**28.9**	**+2.5**
	baz=248								
WJS				S	**Sn**	**20**	**32**	**55.3**	**+3.9**
	baz=248								
TCU	**Taichung**	**2.11**	**268**	P	**Pn**	**20**	**32**	**27.5**	**+1.1**
	baz=278								
TCU				S	**Sn**	**20**	**32**	**54.2**	**+2.7**
	baz=278								
ALS	**Alishan**	**2.12**	**250**	P	**Pn**	**20**	**32**	**27.7**	**+0.8**
	baz=247								
ALS				S	**Sn**	**20**	**32**	**52.5**	**+0.2**
	baz=247								
WNT1	**Nantou City**	**2.13**	**261**	P	**Pn**	**20**	**32**	**29.1**	**+2.3**
	baz=247								
WNT1				S	**Sn**	**20**	**32**	**54.9**	**+2.9**
	baz=247								
WNT	**Mingjian**	**2.13**	**261**	P	**Pn**	**20**	**32**	**28.8**	**+2.0**
	baz=246								
WNT				S	**Sn**	**20**	**32**	**54.3**	**+2.3**
	baz=246								
LONT	**Longtian**	**2.16**	**232**	P	**Pn**	**20**	**32**	**26.8**	**-0.4**
	baz=221								
LONT				S	**Sn**	**20**	**32**	**51.0**	**-1.7**
	baz=221								
JMJ	**Miyako jima 2**	**2.18**	**74**	*i* P	**Pn**	**20**	**32**	**28.2**	**+0.8**
	baz=77								
JMJ				*i* S	**Sn**	**20**	**32**	**55.6**	**+2.5**
	baz=77								
WCHH	**Zhanghua**	**2.22**	**266**	S	**Sn**	**20**	**32**	**57.9**	**+3.7**
	baz=276								
TWGBT	**Beinan**	**2.25**	**231**	P	**Pn**	**20**	**32**	**28.5**	**+0.1**
TWGBT	**Beinan**	**2.25**	**231**	P	**Pn**	**20**	**32**	**28.3**	**-0.1**
	baz=240								
TWGBT				*e*S	**Sn**	**20**	**32**	**52.6**	**-2.3**
	baz=240								
TWG	**Pinlang**	**2.25**	**232**	P	**Pn**	**20**	**32**	**27.9**	**-0.6**
	baz=240								
TWG				S	**Sn**	**20**	**32**	**52.8**	**-2.2**
	baz=240								
WGK	**Gukeng**	**2.28**	**256**	P	**Pn**	**20**	**32**	**31.7**	**+2.9**
	baz=243								
WGK				S	**Sn**	**20**	**33**	**00.5**	**+4.7**
	baz=243								
STYH	**Taoyuan**	**2.29**	**243**	P	**Pn**	**20**	**32**	**29.0**	**+0.1**
	baz=232								
STYH				S	**Sn**	**20**	**32**	**56.9**	**+1.1**
	baz=232								
WCKO	**Fanlu**	**2.32**	**250**	P	**Pn**	**20**	**32**	**31.5**	**+2.2**
	baz=239								
WCKO				S	**Sn**	**20**	**32**	**59.7**	**+3.0**
	baz=239								
TPUB	**Ta-pu**	**2.35**	**247**	P	**Pn**	**20**	**32**	**32.2**	**+2.4**
TPUB	**Ta-pu**	**2.35**	**247**	P	**Pn**	**20**	**32**	**32.0**	**+2.2**
TPUB	**Ta-pu**	**2.35**	**247**	P	**Pn**	**20**	**32**	**31.6**	**+1.8**
	baz=244								
TPUB				S	**Sn**	**20**	**32**	**59.3**	**+1.8**
	baz=244								
CHN4	**Tsaushan**	**2.36**	**248**	P	**Pn**	**20**	**32**	**31.9**	**+1.9**
	baz=246								
CHN4				S	**Sn**	**20**	**33**	**00.4**	**+2.7**
	baz=246								
WTP	**Ta-pu**	**2.39**	**246**	P	**Pn**	**20**	**32**	**32.2**	**+1.9**
	baz=243								
WTP				S	**Sn**	**20**	**33**	**00.8**	**+2.4**
	baz=243								
WRL	**Guolierlin Hig**	**2.41**	**262**	P	**Pn**	**20**	**32**	**32.0**	**+1.5**
	baz=260								
WRL				S	**Sn**	**20**	**33**	**00.3**	**+1.5**
	baz=260								
RLNB	**Erlin**	**2.42**	**262**	P	**Pn**	**20**	**32**	**32.4**	**+1.6**
	baz=260								
RLNB				S	**Sn**	**20**	**33**	**01.5**	**+2.3**
	baz=260								
WTK	**Tuku**	**2.44**	**257**	P	**Pn**	**20**	**32**	**33.2**	**+2.3**
	baz=245								
WTK				S	**Sn**	**20**	**33**	**02.6**	**+3.1**
	baz=245								
SLGT	**Liugui**	**2.48**	**240**	P	**Pn**	**20**	**32**	**33.2**	**+1.7**
	baz=230								
SLGT				S	**Sn**	**20**	**33**	**02.5**	**+1.9**
	baz=230								
ECL	**Taimali**	**2.48**	**229**	P	**Pn**	**20**	**32**	**30.7**	**-0.9**
	baz=236								
ECL				S	**Sn**	**20**	**32**	**58.6**	**-2.0**
	baz=236								
CHN1	**Nanshi**	**2.48**	**245**	P	**Pn**	**20**	**32**	**33.6**	**+2.0**
	baz=243								
CHN1				S	**Sn**	**20**	**33**	**02.9**	**+2.2**
	baz=243								
TWK	**Hsinying**	**2.48**	**248**	P	**Pn**	**20**	**32**	**33.6**	**+2.0**
	baz=244								
TWK				S	**Sn**	**20**	**33**	**02.5**	**+1.7**
	baz=244								
SGST	**Jiashian**	**2.49**	**243**	P	**Pn**	**20**	**32**	**32.2**	**+0.6**
	baz=240								
SGST				S	**Sn**	**20**	**33**	**02.2**	**+1.5**
	baz=240								
SNST	**Tainan City**	**2.50**	**246**	P	**Pn**	**20**	**32**	**33.8**	**+2.1**
	baz=244								
SNST				S	**Sn**	**20**	**33**	**03.5**	**+2.5**
	baz=244								
LAY	**Lan-yu**	**2.56**	**211**	P	**Pn**	**20**	**32**	**31.0**	**-1.6**
	baz=209								
LAY				S	**Sn**	**20**	**32**	**59.2**	**-3.4**
	baz=209								
LYUB	**Lan-yu**	**2.58**	**210**	P	**Pn**	**20**	**32**	**31.3**	**-1.6**
	baz=208								
LYUB				S	**Sn**	**20**	**32**	**59.4**	**-3.5**
	baz=208								
WSF	**Szhu**	**2.60**	**257**	P	**Pn**	**20**	**32**	**34.3**	**+1.2**
	baz=268								
WSF				S	**Sn**	**20**	**33**	**06.0**	**+2.5**
	baz=268								
EAST	**Anshuo**	**2.70**	**227**	P	**Pn**	**20**	**32**	**34.1**	**-0.5**
	baz=225								
MASBT	**Mashibuluo**	**2.70**	**234**	P	**Pn**	**20**	**32**	**35.1**	**+0.5**
	baz=223								
MASBT				S	**Sn**	**20**	**33**	**08.3**	**+2.2**
	baz=223								
SCZT	**Fangliau**	**2.86**	**230**	P	**Pn**	**20**	**32**	**37.7**	**+0.9**
	baz=222								
HEN	**Hengchun**	**3.04**	**223**	P	**Pn**	**20**	**32**	**40.4**	**+1.2**
	baz=221								
HEN				S	**Sn**	**20**	**33**	**14.1**	**-0.3**
	baz=221								
TWKBT	**Hengchun**	**3.04**	**222**	P	**Pn**	**20**	**32**	**39.2**	**0.0**
	baz=213								
WDGT	**Dungji**	**3.20**	**253**	P	**Pn**	**20**	**32**	**42.3**	**+0.9**
	baz=251								
PHUB	**P'eng-hu**	**3.21**	**258**	S	**Sn**	**20**	**33**	**17.5**	**-1.0**
	baz=255								
PNG	**Penghu**	**3.21**	**259**	P	**Pn**	**20**	**32**	**41.8**	**+0.3**
	baz=257								
VWUC	**VWUC**	**3.30**	**284**	P	**Pn**	**20**	**32**	**42.6**	**-0.2**
	baz=282								
VWUC				S	**Sn**	**20**	**33**	**18.6**	**-2.3**
	baz=282								
MATB	**Ma-tsu**	**3.35**	**305**	P	**Pn**	**20**	**32**

DZM S **S** **20 38 08.0 -1.8**
9.8nm,0.4s,baz=189,slow=23,SNR=1.7
WRA **Warramunga Arr 33.26 263** P **P** **20 42 30.0 -1.0**
2.9nm,1.0s,baz=96,slow=8.3,SNR=6.1
2.9nm,1.0s
ASAR **Alice Springs 33.48 257** P **P** **20 42 33.4 +0.5**
1.7nm,0.5s,baz=81,slow=9.1,SNR=40
1.7nm,0.5s
CMAR **Chiang Mai Arr 79.06 294** P **P** **20 47 55.1 +1.2**
0.3nm,0.3s,baz=110,slow=3.9,SNR=2.1
0.3nm,0.3s
SONM **Songino Array 87.78 323** P **P** **20 48 37.6 -0.1**
1.0nm,0.9s,baz=142,slow=7.3,SNR=4.0
1.0nm,0.9s
ILAR **Eielson Array 90.45 17** P **P** **20 48 48.4 -1.1**
0.4nm,0.8s,baz=228,slow=6.2,SNR=3.0
0.4nm,0.8s

NEIC ***14*** *20:40:55.9±1.3,38˚.28N±0˚.07×141˚.9E±0˚.1, h41km±7km, mb4.5/35, Error ellipse: s-maj=13.3km s-min=7.9km az=126.0*
IDC ***14*** *20:40:56.1±1.5,38˚.31N×142˚.01E, h50km±13km, mb3.9/21, mbtmp4.2/27, ML3.6/6, MS3.3/19, Error ellipse: s-maj=16.6km s-min=9.3km az=104.0*
NIED ***14*** *20:40:56.1, 38˚.30N×141˚.89E, h46km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.62; Mθθ-0.05; Mφφ-1.57; Mrθ0.72; Mrφ0.61; Mθφ2.28; Fault plane solution: M₀2.93000×10¹⁵ NP1:φs18.00000°, δ72.00000°, λ89.00000°. NP2:φs201.00000°, δ18.00000°, λ93.00000°.*
JMA ***14*** *20:40:56.1±0.1, 38˚.3N±0˚.3×141˚.9E±0˚.6, h46km, MD4.2/40, MV4.7/40, E OFF MIYAGI PREF*
JMA Felt III J1 at E OFF MIYAGI PREF .
BGR ***14*** *20:40:59.9, 39˚.81N×143˚.64E, h33km, mb4.6*
ISC 14 20:40:55.7±1.2, 38˚29N±0˚.05×141˚95E±0˚.08, h46km±8km, n154, σ1§15/131, mb4.4/53, MS3.5/12, 3C-20D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JIKH	**Ishinomakikobu**	**0.38**	**273**	⇓*i*	P	**Pn**	**20 41 05.2**	**-0.1**
JIKH				⇓	S	**Sn**	**20 41 11.4**	**-0.7**
JIKH	**Ishinomakikobu**	**0.38**	**273**	A		A	20 41 05.2	
	comp=E,53nm,0.4s,comp=N,29nm,0.2s							
JIO	**Ouri**	**0.50**	**289**	⇓*i*	P	**Pn**	**20 41 06.5**	**-0.2**
JIO				⇓	S	**Sn**	**20 41 13.7**	**-0.8**
JIO	**Ouri**	**0.50**	**289**	A		A	20 41 06.5	
	comp=E,24nm,0.9s,comp=N,18nm,1.2s							
JKMT	**Kesennumamotoy**	**0.64**	**325**	⇓*i*	P	**Pn**	**20 41 08.5**	**0.0**
JKMT				⇓	S	**Sn**	**20 41 17.0**	**-0.7**
JKMT	**Kesennumamotoy**	**0.64**	**325**	A		A	20 41 08.5	
	comp=E,25nm,1.3s,comp=N,10.0nm,1.9s							
OFUJ	**Ofunato**	**0.82**	**345**	⇓*i*	P	**Pn**	**20 41 10.9**	**0.0**
OFUJ				⇓	S	**Sn**	**20 41 21.1**	**-0.8**
OFUJ	**Ofunato**	**0.82**	**345**	A		A	20 41 10.9	
	comp=E,18nm,0.3s,comp=N,14nm,0.2s							
JOFO	**Osakifurukawao**	**0.87**	**291**	A		A	20 41 11.4	
	comp=E,29nm,3.2s,comp=N,28nm,2.5s							
JMK	**Ichinoseki**	**0.87**	**319**	⇓*i*	P	**Pn**	**20 41 11.8**	**+0.1**
JMK				⇓	eS	**Sn**	**20 41 22.9**	**-0.3**
JMK	**Ichinoseki**	**0.87**	**319**	A		A	20 41 11.8	
	comp=E,10.0nm,0.7s,comp=N,17nm,0.6s							
JMM	**Marumori**	**1.00**	**245**			**Pn**	**20 41 12.8**	**-0.6**
JMM	**Marumori**	**1.00**	**245**	P		**Pn**	**20 41 12.8**	**-0.6**
JMM	**Marumori**	**1.00**	**245**	⇓*i*	P	**Pn**	**20 41 12.8**	**-0.6**
JMM				⇓	S	**Sn**	**20 41 24.5**	**-1.9**
JMM	**Marumori**	**1.00**	**245**	A		A	20 41 12.8	
	comp=E,5.0nm,0.6s,comp=N,8.0nm,3.1s							
JMST	**Minamisoumatoc**	**1.01**	**236**	A		A	20 41 13.8	
	comp=E,13nm,0.3s,comp=N,16nm,0.3s							
JOU	**Okura**	**1.01**	**275**	⇓*i*	P	**Pn**	**20 41 13.6**	**0.0**
JOU				⇓	S	**Sn**	**20 41 26.4**	**-0.2**
JOU	**Okura**	**1.01**	**275**	A		A	20 41 13.6	
	comp=E,14nm,0.6s,comp=N,11nm,0.5s							
JFK	**Kawauchi**	**1.25**	**223**	⇓*i*	P	**Pn**	**20 41 16.4**	**-0.5**
JFK				⇓	S	**Sn**	**20 41 31.5**	**-1.1**
JFK	**Kawauchi**	**1.25**	**223**	A		A	20 41 16.4	
	comp=E,3.0nm,3.7s,comp=N,6.0nm,3.7s							
JOM	**Ohasama**	**1.29**	**337**	⇓*i*	P	**Pn**	**20 41 17.6**	**+0.4**
JOM				⇓	S	**Sn**	**20 41 33.9**	**+0.5**
JOM	**Ohasama**	**1.29**	**337**	A		A	20 41 17.6	
	comp=E,9.0nm,0.2s,comp=N,6.0nm,0.3s							
JYK	**Kaneyama**	**1.39**	**297**	⇓*i*	P	**Pn**	**20 41 18.8**	**+0.1**
JYK	**Kaneyama**	**1.39**	**297**	A		A	20 41 18.8	
	comp=E,4.0nm,2.4s,comp=N,4.0nm,6.2s							
JOTO	**OTAMA OYAMA**	**1.47**	**241**	*i* P		**Pn**	**20 41 19.9**	**+0.1**
JYAR	**Yonezawaarcadi**	**1.47**	**256**	A		A	20 41 20.2	
	comp=E,10.0nm,1.1s,comp=N,12nm,1.2s							
JYS	**Shirataka**	**1.48**	**268**	*i* P		**Pn**	**20 41 20.1**	**+0.1**
JYS	**Shirataka**	**1.48**	**268**	A		A	20 41 20.1	
	comp=E,7.0nm,3.3s,comp=N,6.0nm,2.8s							
ONAJ	**Iwakimizuishiy**	**1.50**	**218**	A		A	20 41 20.9	
	comp=E,8.0nm,0.3s,comp=N,6.0nm,0.3s							
JRG	**Rokugo**	**1.51**	**318**	⇓*i*	P	**Pn**	**20 41 20.6**	**+0.4**
JRG	**Rokugo**	**1.51**	**318**	A		A	20 41 20.6	
	comp=E,6.0nm,3.6s,comp=N,5.0nm,2.1s							
JSZI	**Iwateshizukuis**	**1.64**	**332**	A		A	20 41 22.8	
	comp=E,5.0nm,2.8s,comp=N,10.0nm,4.6s							
JTH	**Tanohata**	**1.65**	**358**	A		A	20 41 23.1	
	comp=E,3.0nm,0.9s,comp=N,4.0nm,0.9s							
JYYZ	**Yamagatayuza**	**1.74**	**295**	A		A	20 41 23.9	
	comp=E,8.0nm,3.4s,comp=N,9.0nm,2.0s							
JYA	**Asumi**	**1.78**	**280**	A		A	20 41 24.5	
	comp=E,9.0nm,1.6s,comp=N,9.0nm,1.0s							
JYW	**Yuwa**	**1.84**	**313**	A		A	20 41 25.5	
	comp=E,11nm,0.8s,comp=N,9.0nm,1.1s							
JKEN	**Kujiedanarisaw**	**1.92**	**355**	A		A	20 41 27.0	
	comp=E,10.0nm,0.4s,comp=N,14nm,0.6s							
JSB	**Shiboa**	**2.08**	**231**	A		A	20 41 29.1	
	comp=E,5.0nm,4.7s,comp=N,6.0nm,1.5s							
JAH	**Hinai**	**2.15**	**332**	A		A	20 41 30.1	
	comp=E,5.0nm,2.0s,comp=N,3.0nm,3.8s							
JTM	**Tenmabayashi**	**2.58**	**345**			**Pn**	**20 41 35.0**	**0.0**
JTM	**Tenmabayashi**	**2.58**	**345**	P		**Pn**	**20 41 36.1**	**+1.1**
JSD	**Sado**	**2.92**	**266**			**Pn**	**20 41 39.3**	**-0.3**
MJAR	**Matsushiro Arr**	**3.45**	**241**	P		**Pn**	**20 41 48.0**	**+1.0**
	comp=N,0.9nm,0.3s,baz=114,slow=15,SNR=43							
MJAR				S		**Sn**	**20 42 30.4**	**+3.8**
	comp=N,14nm,0.5s,baz=75,slow=26,SNR=6.4							
MJAR				LR		LR	20 43 32.3	
	comp=N,445nm,18.8s,baz=68,slow=45 comp=N,10nm,0.3s							
MAJO	**Matsushiro**	**3.45**	**241**	Pn		**Pn**	**20 41 48.0**	**+1.0**
MAJO	**Matsushiro**	**3.45**	**241**	P		**Pn**	**20 41 48.8**	**+1.8**
MJB9	**Matsu-Tunnel**	**3.45**	**241**	Pn		**Pn**	**20 41 49.3**	**+2.3**
ERM	**Erimo**	**3.83**	**14**	Pn		**Pn**	**20 41 52.7**	**+0.5**
ERM	**Erimo**	**3.83**	**14**	P		**Pn**	**20 41 52.7**	**+0.5**
JEM	**Erimo**	**3.83**	**14**	P		**Pn**	**20 41 52.8**	**+0.6**
JGF	**Kuroka**	**4.55**	**235**	Pn		**Pn**	**20 42 02.8**	**+0.7**
JGF	**Kuroka**	**4.55**	**235**	P		**Pn**	**20 42 05.0**	**+2.9**
INU	**Inuyama**	**4.92**	**235**	Pn		**Pn**	**20 42 09.1**	**+1.9**
INU	**Inuyama**	**4.92**	**235**	P		**Pn**	**20 42 10.1**	**+2.9**
JHJ2	**Mitsune**	**5.45**	**199**	Pn		**Pn**	**20 42 14.6**	**+0.2**
JHJ2	**Mitsune**	**5.45**	**199**	P		**Pn**	**20 42 14.8**	**+0.4**
JHJ	**Hachijo jima 2**	**5.45**	**199**	P		**Pn**	**20 42 14.5**	**0.0**
	comp=N,23nm,0.3s,baz=340,slow=20,SNR=18							
JHJ				S		**Sn**	**20 43 15.0**	**-0.9**
	comp=N,65nm,0.3s,baz=119,slow=23,SNR=6.9 comp=N,44nm,0.3s							
ASAJ	**Asahikawa**	**5.84**	**5**	P		**Pn**	**20 42 20.1**	**+0.3**
	comp=N,3.5nm,0.3s,baz=211,slow=12,SNR=33							
ASAJ				S		**Sn**	**20 43 24.9**	**-0.4**
	comp=N,16nm,0.4s,baz=49,slow=30,SNR=2.2							
ASAJ				LR		LR	20 43 57.3	
	comp=N,53nm,21.2s,baz=170,slow=31 comp=N,8.7nm,0.3s							
JKA	**Kamikawa-asahi**	**5.84**	**5**	Pn		**Pn**	**20 42 19.6**	**-0.1**
JMN	**Monobe**	**7.96**	**238**	P		**Pn**	**20 42 49.8**	**+0.9**
USA0B	**Ussuriysk Arra**	**9.54**	**311**	Pn		**Pn**	**20 43 11.4**	**+1.0**
USRK	**Ussuriysk Ar.**	**9.54**	**311**	Pn		**Pn**	**20 43 11.3**	**+0.9**
USRK	**Ussuriysk Ar.**	**9.54**	**311**	P		**Pn**	**20 43 11.5**	**+1.1**
	comp=N,0.9nm,0.3s,baz=121,slow=14,SNR=38							
USRK				LR		LR	20 46 40.2	
	comp=N,135nm,19.3s,baz=158,slow=36 comp=N,16nm,0.7s							
JNU	**Nakatsue**	**10.37**	**244**	P		**Pn**	**20 43 23.8**	**+2.0**
	comp=N,0.3nm,0.3s,baz=59,slow=9.2,SNR=5.1							
JNU				LR		LR	20 47 42.4	
	comp=N,263nm,19.8s,baz=44,slow=39 comp=N,6.2nm,0.8s							
KSRS	**Korea Array**	**11.12**	**270**	P		**Pn**	**20 43 36.2**	**+4.2**
	comp=N,1.2nm,0.3s,baz=84,slow=14,SNR=4.9							
KSRS				LR		LR	20 47 28.3	
	comp=N,138nm,20.7s,baz=80,slow=35							
JCJ	**Chichijima**	**11.17**	**179**	P		Pn	20 43 26.1	-6.6
	comp=N,46nm,0.7s,baz=304,slow=20,SNR=11							
JCJ				S		Sn	20 45 20.1	-16
	comp=N,55nm,0.8s,baz=337,slow=18,SNR=1.4							
MDJ	**Mudanjiang**	**11.21**	**308**			**Pn**	**20 43 34.9**	**+1.6**
BNX	**BinXian**	**13.11**	**309**	⇑P		**Pn**	**20 44 01.3**	**+2.1**
BNX				pmax		pmax		
	comp=Z,3.0nm,0.8s							
BNX				pmax		pmax		
	comp=Z,100nm,5.5s							
KLR	**Kul'dur**	**13.17**	**329**	P		**Pn**	**20 43 59.9**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=127,slow=12,SNR=4.1							
KLR				LR		LR	20 48 58.4	
	comp=Z,139nm,19.4s,baz=148,slow=37 comp=Z,1.3nm,0.9s							
HEH	**HeiHe**	**15.82**	**324**	*e*P		**Pn**	**20 44 35.5**	**+0.3**
PETK	**Petropavlovsk-**	**18.39**	**31**	LR		LR	20 51 50.8	
	comp=Z,62nm,20.2s,baz=207,slow=36							
TIA	**Tai'an**	**19.86**	**272**	*e*P		**P**	**20 45 21.5**	**-1.4**
TIA				pmax		pmax		
	comp=Z,4.0nm,0.7s							
MA2	**Magadan**	**22.04**	**12**	P		**P**	**20 45 48.1**	**+2.0**
MA2	**Magadan**	**22.04**	**12**	LR		LR	20 55 44.9	
	comp=Z,39nm,18.7s,baz=52,slow=40							
LYN	**LuoYang**	**23.96**	**270**	⇑P		**P**	**20 46 05.8**	**0.0**
LYN				pmax		pmax		
	comp=Z,35nm,1.0s							
YAK	**Yakutsk**	**24.94**	**346**	P		**P**	**20 46 12.4**	**-2.0**
YAK				IAmb		IAmb	20 46 17.7	
	comp=Z,13nm,0.8s							
XAN	**Xi'an**	**26.91**	**271**	P		**P**	**20 46 30.3**	**-2.3**
XAN				pmax		pmax		
	comp=Z,9.0nm,0.6s							
ULN	**Ulaanbaatar**	**27.02**	**302**	P		**P**	**20 46 33.9**	**+0.3**
SONM	**Songino Array**	**27.46**	**302**	P		**P**	**20 46 37.0**	**-0.5**
SONM	**Songino Array**	**27.46**	**302**	P		**P**	**20 46 36.3**	**-1.1**
	comp=Z,1.8nm,1.0s,baz=102,slow=8.5,SNR=9.1							
SONM				PcP		**PcP**	**20 49 55.3**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=90,slow=1.9,SNR=2.8							
SONM				LR		LR	20 58 05.5	
	comp=Z,57nm,18.0s,baz=85,slow=37 comp=Z,1.8nm,1.0s							
ENH	**Enshi**	**27.88**	**263**	P		**P**	**20 46 39.6**	**-1.7**
H11N2	**WAKE ISLAND Hy**	**28.46**	**123**	T		T	21 17 00.4	
	baz=316,slow=76,SNR=2283							
H11N1	**WAKE ISLAND Hy**	**28.47**	**124**	T		T	21 17 01.1	
	baz=316,slow=76,SNR=2641							
H11N3	**WAKE ISLAND Hy**	**28.48**	**123**	T		T	21 17 01.8	
	baz=316,slow=76,SNR=2394							
H11S1	**WAKE ISLAND Hy**	**29.21**	**126**	T		T	21 17 59.3	
	baz=318,slow=76,SNR=1260							
H11S3	**WAKE ISLAND Hy**	**29.22**	**126**	T		T	21 17 56.5	
	baz=318,slow=76,SNR=1351							
H11S2	**WAKE ISLAND Hy**	**29.23**	**126**	T		T	21 18 00.5	
	baz=318,slow=76,SNR=873							
LZH	**Lanzhou**	**30.29**	**278**	*e*P		**P**	**20 47 02.9**	**+0.1**
LZH				pP		pP	20 47 09.3	-5.6
LZH				pmax		pmax		
	comp=Z,18nm,1.4s							
GTA	**Gaotai**	**32.62**	**285**	P		**P**	**20 47 23.5**	**+0.3**
GTA				pmax		pmax		
	comp=Z,2.0nm,1.1s							
KMI	**Kunming**	**35.58**	**260**	⇑P		**P**	**20 47 49.5**	**+0.4**
KMI				pP		pP	20 48 01.4	+0.1
KMI				pmax		pmax		
	comp=Z,8.0nm,0.8s							
GOMU	**GeErMu**	**37.26**	**282**	P		**P**	**20 48 03.4**	**-0.1**
GOMU				pP		pP	20 48 08.6	-7.2
GOMU				sP		sP	20 48 11.4	-10
GOMU				pmax		pmax		
	comp=Z,8.0nm,0.7s							
TNCH	**TengChong**	**38.91**	**263**	P		**P**	**20 48 17.6**	**+0.3**
TNCH				pP		pP	20 48 32.0	+2.4
TNCH				pmax		pmax		
	comp=Z,7.0nm,0.9s							
CRAI	**Chiangrai**	**40.10**	**255**			**P**	**20 48 27.1**	**+0.1**
CRAI				IAmb		IAmb	20 48 30.7	
	comp=Z,4.9nm,0.7s							
ZAA0	**Zalesovo Array**	**41.39**	**311**	IAmb		IAmb	20 48 38.0	
	comp=Z,4.9nm,0.8s							
ZALV	**Zalesovo Beam**	**41.39**	**311**	P		**P**	**20 48 37.1**	**-0.2**
	comp=Z,4.1nm,0.5s,baz=83,slow=7.4,SNR=18							
ZALV				PcP		**PcP**	**20 50 34.4**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=106,slow=3.1,SNR=3.6							
ZALV				LR		LR	21 06 30.2	
	comp=Z,44nm,19.8s,baz=57,slow=37 comp=Z,4.1nm,0.5s							
CMAR	**Chiang Mai Arr**	**42.23**	**254**	P		**P**	**20 48 43.5**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=51,slow=4.4,SNR=6.5							
CMAR				PcP		**PcP**	**20 50 38.6**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=343,slow=2.8,SNR=4.1							
CMAR				LR		LR	21 06 11.8	
	comp=Z,15nm,18.1s,baz=90,slow=36 comp=Z,0.5nm,0.3s							
NRIK	**Noril'sk**	**42.31**	**335**	LR		LR	21 07 24.4	
	comp=Z,93nm,18.9s,baz=74,slow=38							
LSA	**Lhasa**	**42.53**	**274**	P		**P**	**20 48 47.1**	**-0.2**
MKAR	**Makanchi Array**	**43.82**	**301**	P		**P**	**20 48 57.0**	**-0.1**
	comp=Z,4.2nm,0.8s,baz=86,slow=9.4,SNR=43							
MKAR				LR		LR	21 08 03.8	
	comp=Z,39nm,18.2s,baz=62,slow=37 comp=Z,4.2nm,0.8s							
MAKZ	**Makanchi**	**44.03**	**301**	P		**P**	**20 48 58.5**	**-0.2**
MAKZ				IAmb		IAmb	20 49 00.5	
	comp=Z,5.0nm,0.8s							
B21K	**Ikpikpuk River**	**45.47**	**26**	P		**P**	**20 49 11.6**	**+1.7**
B21K				IAmb		IAmb	20 49 12.7	
	comp=Z,5.1nm,0.9s							
KURK	**Kurchatov**	**45.50**	**307**	P		**P**	**20 49 10.1**	**-0.3**
KURBB	**Kurchatov Arra**	**45.57**	**307**	P		**P**	**20 49 10.7**	**-0.2**
	comp=Z,13nm,0.8s,baz=82,slow=8.2,SNR=102 comp=Z,13nm,0.8s							
C23K	**Itkillik River**	**46.88**	**26**	P		**P**	**20 49 22.8**	**+1.8**
C23K				IAmb		IAmb	20 49 23.5	
	comp=Z,3.9nm,1.0s							
ILAR	**Eielson Array**	**48.21**	**33**	P		**P**	**20 49 32.2**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=263,slow=5.7,SNR=5.3 comp=Z,0.4nm,0.6s							
TARG	**Taragay, Kyrgy**	**48.23**	**295**	IAmb		IAmb	20 49 34.3	
	comp=Z,3.8nm,0.7s							
BVAR	**Borovoye Array**	**50.05**	**312**	P		**P**	**20 49 45.3**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=69,slow=8.1,SNR=5.6							
BVAR				PcP		**PcP**	**20 51 05.1**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=72,slow=0.5,SNR=5.8							
BVAR				LR		LR	21 11 52.4	
	comp=Z,38nm,18.6s,baz=9.7,slow=37 comp=Z,1.3nm,0.6s							
AAK	**Ala-Archa**	**50.27**	**298**	LR		LR	21 11 50.6	
	comp=Z,54nm,18.3s,baz=84,slow=37							
KSH	**Kashi**	**50.29**	**293**	P		**P**	**20 49 52.0**	**+4.2**
SIMJ	**Simiganj**	**55.62**	**295**	P		**P**	**20 50 27.1**	**0.0**
SIMJ				IAmb		IAmb	20 50 34.4	
	comp=Z,3.5nm,0.8s							
ARU	**Arti**	**55.70**	**318**	P		**P**	**20 50 26.8**	**-0.4**
ARU	**Arti**	**55.70**	**318**	LR		LR	21 16 28.9	
	comp=Z,60nm,18.5s,baz=152,slow=38							
KBL	**Kabul**	**57.37**	**290**	P		**P**	**20 50 39.0**	**-0.6**
KBL				IAmb		IAmb	20 50 40.7	
	comp=Z,9.5nm,1.1s							
ABKAR	**Akbulak array**	**57.46**	**310**	P		**P**	**20 50 39.1**	**-0.7**
ABKAR	**Akbulak array**	**57.46**	**310**	P		**P**	**20 50 39.2**	**-0.6**
ABKAR				IAmb		IAmb	20 50 39.9	
	comp=Z,3.0nm,0.9s							
WRA	**Warramunga Arr**	**58.36**	**188**	P		**P**	**20 50 45.7**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=7.8,slow=7.7,SNR=20 comp=Z,1.7nm,0.7s							
ASAR	**Alice Springs**	**62.09**	**188**	P		**P**	**20 51 12.2**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=12,slow=6.7,SNR=12 comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**62.51**	**31**	P		**P**	**20 51 14.6**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=301,slow=6.9,SNR=5.0 comp=Z,0.4nm,0.8s							
ARCES	**ARCESS Array B**	**62.97**	**339**	P		**P**	**20 51 16.8**	**-0.4**
	comp=Z,4.2nm,0.8s,baz=65,slow=6.9,SNR=15 comp=Z,4.2nm,0.8s							
GEYT	**Alibeck**	**63.60**	**299**	P		**P**	**20 51 22.0**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=77,slow=6.2,SNR=3.0 comp=Z,2.1nm,0.8s							
FINES	**FINESS Array B**	**67.90**	**332**	P		**P**	**20 51 48.7**	**-0.4**
	comp=Z,5.3nm,0.8s,baz=48,slow=8.5,SNR=14 comp=Z,5.3nm,0.8s							
KIV	**Kislovodsk**	**70.40**	**311**	P		**P**	**20 52 04.8**	**-0.3**
KBZ	**Khabaz**	**70.41**	**311**	P		**P**	**20 52 05.7**	**+0.8**
	comp=Z,3.5nm,0.8s,baz=50,slow=4.7,SNR=5.2 comp=Z,3.5nm,0.8s							
HFS	**Hagfors**	**73.12**	**336**	P		**P**	**20 52 21.0**	**+0.1**
	comp=Z,5.8nm,0.8s,baz=43,slow=6.9,SNR=22							
HFS				LR		LR	21 26 11.8	
	comp=Z,23nm,19.7s,baz=300,slow=37 comp=Z,5.8nm,0.8s							
NB2	**NORSAR Subarra**	**73.19**	**337**	P		**P**	**20 52 21.5**	**+0.1**
	comp=Z,7.1nm,0.9s,baz=36,slow=6.2							
NOA	**NORSAR Array B**	**73.19**	**337**	P		**P**	**20 52 21.6**	**+0.1**
	comp=Z,3.6nm,0.8s,baz=38,slow=5.9,SNR=16							
NOA				LR		LR	21 27 05.8	
	comp=Z,27nm,21.5s,baz=310,slow=38 comp=Z,3.6nm,0.8s							
AKASG	**Malin Array Be**	**73.56**	**322**	P		**P**	**20 52 23.5**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=46,slow=5.7,SNR=18 comp=Z,0.7nm,0.3s							
AKBB	**Malin Array Si**	**73.56**	**322**	P		**P**	**20 52 23.0**	**-0.7**
AKBB				IAmb		IAmb	20 52 24.4	
	comp=Z,6.6nm,0.8s							
KIEV	**Kiev**	**73.58**	**322**	P		**P**	**20 52 23.4**	**-0.4**
KIEV				IAmb		IAmb	20 52 24.4	
	comp=Z,5.9nm,0.8s							
LAO	**LASA Array**	**75.75**	**41**	P		**P**	**20 52 33.5**	**-3.1**
ARPR	**Arapgir-MALATY**	**75.91**	**309**	P		**P**	**20 52 37.8**	**+0.1**
BUR08	**Bucovina Ar. S**	**77.58**	**322**	P		**P**	**20 52 47.2**	**+0.3**
BUR08				IAmb		IAmb	20 52 48.3	
	comp=Z,3.0nm,0.8s							
BURAR	**Bucovina Array**	**77.59**	**322**	P		**P**	**20 52 47.0**	**0.0**
BURAR				IAmb		IAmb	20 52 48.6	
	comp=Z,3.0nm,0.9s							
PFO	**Pinyon Flats O**	**77.99**	**57**	P		**P**	**20 52 49.9**	**+0.4**
PFO				IAmb		IAmb	20 53 05.3	
	comp=Z,7.3nm,1.1s							
BRTR	**Keskin Array B**	**78.33**	**312**	P		**P**	**20 52 51.5**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=54,slow=5.6,SNR=4.3 comp=Z,0.4nm,0.4s							
MLR	**Muntele Rosu**	**78.70**	**320**	LR		LR	21 29 44.0	
	comp=Z,34nm,18.5s,baz=238,slow=37							
MORC	**Moravsky Berou**	**79.54**	**327**	*e*P		**P**	**20 52 57.8**	**+0.2**
VYHS	**Vyhne**	**79.93**	**326**	*e*P		**P**	**20 53 00.9**	**+1.2**
CLL	**Collm**	**80.22**	**330**	*i* P		**P**	**20 53 01.3**	**+0.1**
	comp=Z,6.0nm,1.0s							
VRAC	**Vranov**	**80.30**	**327**	*e*P		**P**	**20 53 01.5**	**-0.2**
KRUC	**Moravsky**	**80.57**	**327**	*e*P		**P**	**20 53 03.5**	**+0.4**
RAYN	**Ar Rayn**	**80.57**	**292**	P		**P**	**20 53 03.2**	**-0.4**
RAYN				IAmb		IAmb	20 53 04.5	
	comp=Z,3.2nm,0.8s							
MODS	**Modra-Piesok**	**80.71**	**326**	*e*P		**P**	**20 53 05.7**	**+1.8**
MMAI	**Mount Meron Ar**	**81.58**	**305**	P		**P**	**20 53 09.2**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=35,slow=3.1,SNR=6.4 comp=Z,2.8nm,0.7s							
RONA	**Rosalia, Austr**	**81.65**	**326**	*e*PcP		**P**	**20 53 10.2**	**+1.3**
	comp=Z,4.3nm,0.9s							
CONA	**Conrad Observa**	**81.66**	**327**	*i* PcP		**P**	**20 53 10.5**	**+1.4**
	comp=Z,4.6nm,1.1s							
GERES	**GERESS Array B**	**81.87**	**328**	P		**P**	**20 53 10.3**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=38,slow=6.8,SNR=4.5 comp=Z,0.6nm,0.4s							
BALJ	**Balqa**	**82.03**	**305**	P		**P**	**20 53 11.0**	**-0.2**
BALJ				IAmb		IAmb	20 53 12.7	
	comp=Z,9.7nm,0.8s							
GRF	**Grafenberg Arr**	**82.19**	**330**	*e*P		**P**	**20 53 12.7**	**+1.0**
	comp=Z,4.4nm,0.9s,baz=37,slow=4.5							
ARSA	**Arzberg**	**82.33**	**326**	*e*P		**P**	**20 53 12.0**	**-0.6**
	comp=Z,3.6nm,1.2s							
SOKA	**Soboth**	**82.99**	**326**	*e*PcP		**P**	**20 53 16.5**	**+0.5**
	comp=Z,6.5nm,1.0s							
LESA	**Schwarzleotal**	**83.41**	**328**	*e*PcP		**P**	**20 53 18.9**	**+0.7**
	comp=Z,4.0nm,0.8s							
MYKA	**Terra Mystica**	**83.62**	**327**	*e*P		**P**	**20 53 17.4**	**-1.9**
	comp=Z,1.3nm,0.5s							
FETA	**Feichten**	**84.53**	**329**	*e*PcP		**P**	**20 53 24.9**	**+0.9**
	comp=Z,1.7nm,0.6s							
TXAR	**Lajitas Array**	**89.02**	**53**	P		**P**	**20 53 46.7**	**+0.6**

VNDA	**Vanda**	**44.81**	**186**	LR	LR	21 21 57.0	
	comp=Z,38nm,18.8s,baz=294,slow=33						
KNRA	**Kununurra**	**50.62**	**277**	P	**P**	**21 06 19.5**	**-0.8**
JOHN	**Johnston Islan**	**50.85**	**11**	P	**P**	**21 06 23.0**	**+1.2**
FITZ	**Fitzroy Crossi**	**52.01**	**273**	P	**P**	**21 06 29.7**	**-1.1**
QSPA	**South Pole Qui**	**56.45**	**180**	P	**P**	**21 07 04.9**	**+2.3**
QSPA				IAmb	IAmb	21 07 17.4	
	comp=Z,5.2nm,1.0s						
BATI	**Baumata**	**57.72**	**280**	LR	LR	21 33 31.3	
	comp=Z,65nm,18.3s,baz=242,slow=38						
LEM	**Lembang**	**72.84**	**273**	LR	LR	21 43 10.7	
	comp=Z,37nm,18.2s,baz=118,slow=38						
LPIG	**La Paz**	**86.61**	**58**	LR	LR	21 42 39.2	
	comp=Z,74nm,18.4s,baz=37,slow=31						
NNA	**Nana**	**92.92**	**106**	LR	LR	21 44 44.8	
	comp=Z,66nm,18.3s,baz=210,slow=31						
TXAR	**Lajitas Array**	**94.50**	**58**	LR	LR	21 45 41.0	
	comp=Z,48nm,20.0s,baz=56,slow=31						
CPUP	**Villa Florida**	**98.27**	**129**	LR	LR	21 51 52.3	
	comp=Z,98nm,18.4s,baz=14,slow=33						
MKAR	**Makanchi Array**	**119.52**	**309**	PKP	**PKPdf**	**21 16 09.3**	**-1.2**
	comp=Z,0.5nm,0.9s,baz=59,slow=3.9,SNR=4.2						
ZALV	**Zalesovo Beam**	**120.17**	**317**	PKP	**PKiKP**	**21 16 10.6**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=134,slow=4.2,SNR=2.3						
KURBB	**Kurchatov Arra**	**123.00**	**312**	PKP	**PKiKP**	**21 16 16.1**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=99,slow=2.0,SNR=9.8						
BVAR	**Borovoye Array**	**128.41**	**314**	PKP	**PKiKP**	**21 16 27.1**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=127,slow=3.8,SNR=8.0						
FINES	**FINESS Array B**	**148.04**	**338**	PKPbc	**PKPbc**	**21 17 04.6**	**-1.2**
	comp=Z,3.0nm,0.8s,baz=42,slow=4.6,SNR=14						
MMAI	**Mount Meron Ar**	**151.74**	**278**	PKPbc	**PKiKP**	**21 17 16.9**	**+0.6**
	comp=Z,2.1nm,0.5s,baz=75,slow=4.4,SNR=7.8						
HFS	**Hagfors**	**152.34**	**347**	PKPbc	**PKiKP**	**21 17 17.3**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=73,slow=5.0,SNR=2.3						
BRTR	**Keskin Array B**	**153.63**	**293**	PKPbc	**PKPbc**	**21 17 18.6**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=97,slow=3.3,SNR=4.7						
TORD	**Torodi Ar. Bea**	**159.57**	**181**	PKP	**PKPdf**	**21 17 22.5**	**+2.1**
	comp=Z,0.7nm,1.0s,baz=83,slow=3.3,SNR=3.2						

*IDC **14** 21:10:34.2±1.1, 64°.95N×16°.91W, h0km, mb3.4/5, mbtmp3.5/7, ML3.3/2, Error ellipse: s-maj=31.2km s-min=17.5km az=6.0*
*REY **14** 21:10:34.2, 65°.02N×16°.67W, h4km*
ISC 14 21:10:33.9±0.8, 65°.03N±0°.01×16°.74W±0°.02, h7km±5km, n59, σ1§13/100, mb3.4/5, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IASK	**Askja**	**0.05**	**59**	P	**Pg**	**21 10 35.3**	**-0.1**
	baz=18						
IASK				S	**Sg**	**21 10 36.0**	**-0.5**
	baz=18						
THOR	**Thorvaldshraun**	**0.10**	**163**	S	**Sg**	**21 10 38.1**	**+0.4**
THOR	baz=182			P	**Pg**	**21 10 36.4**	**+0.3**
	baz=182						
IMKO	**Mokollar**	**0.18**	**106**	P	**Pg**	**21 10 37.5**	**0.0**
IMKO	baz=108			S	**Sg**	**21 10 39.8**	**-0.1**
	baz=108						
IURH	**Urdarhals**	**0.27**	**220**	P	**Pg**	**21 10 39.9**	**+0.7**
IURH	baz=225			S	**Sg**	**21 10 44.0**	**+1.2**
	baz=225						
IKRE	**Kreppuhraun**	**0.29**	**148**	P	**Pg**	**21 10 39.5**	**0.0**
IKRE	baz=153			S	**Sg**	**21 10 43.6**	**+0.2**
	baz=153						
ISVA	**Svartarkot**	**0.38**	**325**	P	**Pg**	**21 10 41.7**	**+0.5**
ISVA	baz=322			S	**Sb**	**21 10 47.5**	**-1.5**
	baz=322						
IVSH	**V-Sauoahnukur**	**0.49**	**117**	P	**Pg**	**21 10 42.7**	**-0.6**
IVSH	baz=118			S	**Sg**	**21 10 49.1**	**-0.5**
	baz=118						
IADA	**Aoalbol**	**0.50**	**90**	P	**Pg**	**21 10 42.7**	**-0.7**
IADA	baz=90			S	**Sg**	**21 10 49.1**	**-0.8**
	baz=90						
IKIS	**Kista**	**0.50**	**225**	P	**Pg**	**21 10 43.6**	**+0.2**
IKIS	baz=228			S	**Sb**	**21 10 50.8**	**-1.8**
	baz=228						
IMEL	**Melhnausar**	**0.55**	**4**	P	**Pg**	**21 10 44.4**	**+0.1**
IMEL	baz=0.6			S	**Sg**	**21 10 52.1**	**+0.7**
	baz=0.6						
IVON	**Vonarskard**	**0.56**	**231**	P	**Pg**	**21 10 44.6**	**-0.1**
IVON	baz=233			S	**Sb**	**21 10 52.7**	**-1.6**
	baz=233						
IDJK	**Dyngjujokull**	**0.57**	**202**	P	**Pg**	**21 10 44.8**	**0.0**
IDJK	baz=205			S	**Sg**	**21 10 52.9**	**+0.7**
	baz=205						
IREN	**Reynihlio**	**0.63**	**354**	P	**Pg**	**21 10 45.6**	**-0.3**
IREN	baz=351			S	**Sg**	**21 10 54.3**	**+0.3**
	baz=351						
IGRF	**Grimsfjall**	**0.66**	**200**	P	**Pg**	**21 10 46.3**	**-0.3**
IGRF	baz=203			S	**Sg**	**21 10 55.6**	**+0.3**
	baz=203						
IGRS	**Grimsstaoir**	**0.67**	**23**	P	**Pg**	**21 10 46.1**	**-0.5**
IGRS	baz=20			S	**Sg**	**21 10 55.4**	**+0.1**
	baz=20						
IKVO	**Krokottuvotn**	**0.69**	**355**	P	**Pg**	**21 10 46.7**	**-0.4**
IKVO	baz=353			S	**Sg**	**21 10 56.4**	**+0.2**
	baz=353						
IGHA	**Grjothals**	**0.82**	**2**	P	**Pg**	**21 10 48.8**	**-0.8**
IGHA	baz=0.2			S	**Sg**	**21 11 00.1**	**-0.1**
	baz=0.2						
IHUS	**Husbondi**	**0.83**	**209**	P	**Pg**	**21 10 49.4**	**-0.5**
IHUS	baz=211			S	**Sg**	**21 11 00.9**	**+0.3**
	baz=211						
ISKI	**Skildingahlsh**	**0.85**	**352**	P	**Pg**	**21 10 49.3**	**-0.9**
ISKI	baz=350			S	**Sg**	**21 11 01.0**	**-0.3**
	baz=350						
IKSK	**Karasker**	**0.88**	**172**	S	**Sg**	**21 11 00.7**	**-1.3**
IKSK	baz=174			P	**Pg**	**21 10 49.0**	**-1.7**
	baz=174						
IDIM	**Dimmadalss**	**0.94**	**355**	P	**Pg**	**21 10 50.7**	**-1.2**
IDIM	baz=354			S	**Sg**	**21 11 03.8**	**-0.3**
	baz=354						
IJOK	**Jokulheimar**	**0.96**	**222**	P	**Pg**	**21 10 51.4**	**-0.9**
IJOK	baz=224			S	**Sg**	**21 11 04.6**	**0.0**
	baz=224						
IGRA	**Granastaoir**	**0.96**	**339**	P	**Pg**	**21 10 51.1**	**-1.1**
IGRA	baz=338			S	**Sg**	**21 11 04.0**	**-0.6**
	baz=338						
IHAE	**Haedir**	**1.01**	**186**	P	**Pg**	**21 10 51.6**	**-1.6**
IHAE	baz=188			S	**Sg**	**21 11 04.9**	**-1.4**
	baz=188						
IKVI	**Kvisker**	**1.06**	**173**	P	**Pg**	**21 10 52.0**	**-2.1**
IKVI	baz=174			S	**Sg**	**21 11 05.9**	**-1.9**
	baz=174						
IGIL	**Gilhagi**	**1.07**	**9**	S	**Sg**	**21 11 07.1**	**-1.0**
IGIL	baz=7.0			P	**Pg**	**21 10 52.8**	**-1.5**
	baz=7.0						
IFAL	**Falljokull**	**1.07**	**182**	P	**Pg**	**21 10 52.7**	**-1.7**
IFAL	baz=184			S	**Sg**	**21 11 07.4**	**-1.0**
	baz=184						
IHED	**Heoinshofoi**	**1.08**	**348**	P	**Pg**	**21 10 52.9**	**-1.7**
IHED	baz=346			S	**Sg**	**21 11 07.6**	**-1.1**
	baz=346						
IIEY	**Innrieyrar**	**1.11**	**213**	P	**Pg**	**21 10 53.8**	**-1.4**
IIEY	baz=215			S	**Sg**	**21 11 08.7**	**-0.8**
	baz=215						
IHLA	**Hella**	**1.15**	**324**	P	**Pb**	**21 10 54.4**	**-1.6**
IHLA	baz=323			S	**Sb**	**21 11 10.2**	**-0.9**
IFAG	**Fagurholsmyri**	**1.16**	**178**	P	**Pb**	**21 10 54.0**	**-2.1**
	baz=180						
IFAG				S	**Sb**	**21 11 09.7**	**-1.7**
	baz=180						
IKAL	**Kalfafell**	**1.16**	**201**	P	**Pb**	**21 10 54.3**	**-1.9**
IKAL	baz=203			S	**Sb**	**21 11 09.7**	**-1.7**
	baz=203						
IBRE	**Brettingsstaoi**	**1.20**	**337**	P	**Pb**	**21 10 54.8**	**-2.1**
	baz=336						
IBRE				S	**Sb**	**21 11 11.0**	**-1.7**
	baz=336						
ISTE	**Stelbrattur**	**1.24**	**263**	P	**Pb**	**21 10 56.1**	**-1.5**
	baz=264						
ISTE				S	**Sn**	**21 11 13.4**	**-1.3**
	baz=264						
ILEI	**Leirhofn**	**1.39**	**4**	P	**Pn**	**21 10 57.9**	**-1.7**
	baz=3.0						
ILEI				S	**Sb**	**21 11 16.7**	**-1.3**
	baz=3.0						
ISIG	**Siglufjorour**	**1.43**	**322**	S	**Sn**	**21 11 17.9**	**-1.4**
	baz=321						
ISIG				P	**Pn**	**21 10 58.6**	**-1.6**
	baz=321						
ISNB	**Snabyli**	**1.54**	**213**	P	**Pn**	**21 11 00.8**	**-0.8**
	baz=214						
ISNB				S	**Sn**	**21 11 21.2**	**-0.6**
	baz=214						
IHES	**Hestalda**	**1.57**	**232**	P	**Pn**	**21 11 01.6**	**-0.6**
	baz=233						
ISLY	**Slysaalda**	**1.59**	**222**	P	**Pn**	**21 11 01.6**	**-0.8**
	baz=222						
IGRI	**Grimsey**	**1.61**	**342**	P	**Pn**	**21 11 00.9**	**-1.7**
	baz=341						
IGRI				S	**Sn**	**21 11 22.2**	**-1.5**
	baz=341						
IFED	**Fedgar**	**1.62**	**233**	P	**Pn**	**21 11 02.4**	**-0.6**
	baz=234						
IRJU	**Rjupnafell**	**1.65**	**212**	P	**Pn**	**21 11 02.6**	**-0.5**
	baz=213						
IGYG	**Gygjarholskot**	**1.67**	**245**	P	**Pn**	**21 11 02.7**	**-0.9**
	baz=246						
IGYG				S	**Sb**	**21 11 25.1**	**-1.0**
	baz=246						
IHAU	**Haukadalur**	**1.75**	**234**	P	**Pn**	**21 11 04.2**	**-0.4**
	baz=235						
IHVO	**Lagu-Hvolar**	**1.77**	**212**	P	**Pn**	**21 11 04.6**	**-0.3**
	baz=213						
IHRN	**Hraun**	**1.78**	**309**	P	**Pn**	**21 11 04.0**	**-1.0**
	baz=309						
IHRN				S	**Sn**	**21 11 27.3**	**-0.5**
	baz=309						
ISAU	**Saurbar**	**1.90**	**238**	P	**Pn**	**21 11 05.7**	**-0.9**
	baz=239						
BORG	**Borgarnes**	**1.98**	**264**	Pn	**Pn**	**21 11 07.6**	**-0.1**
	22nm,0.3s,baz=85,slow=6.0,SNR=65						
BORG				Sn	**Sb**	**21 11 33.5**	**-1.4**
	6.7nm,0.3s,baz=49,slow=19,SNR=5.7						
IASB	**`sbjarnarst**	**1.98**	**264**	P	**Pn**	**21 11 07.1**	**-0.6**
	baz=264						
IASM	**Asmuli**	**2.06**	**236**	P	**Pn**	**21 11 08.4**	**-0.5**
	baz=237						
SCO	**Scoresbysund**	**5.82**	**343**	*i* P	**Pn**	**21 12 01.9**	**+1.4**
SOEG	**Soedalen**	**6.63**	**305**	*e*P	**Pn**	**21 12 12.3**	**+0.7**
EKA	**Eskdalemuir Ar**	**11.81**	**139**	Pn	**Pn**	**21 13 24.0**	**+1.5**
	baz=327,slow=13						
	3.3nm,0.8s						
FINES	**FINESS Array B**	**19.32**	**81**	P	**Pn**	**21 15 01.7**	**+1.4**
	0.1nm,0.3s,baz=297,slow=9.2,SNR=6.2						
	2.5nm,0.9s						
BRTR	**Keskin Array B**	**38.27**	**106**	P	**P**	**21 17 56.2**	**+1.6**
	0.7nm,0.8s,baz=312,slow=7.8,SNR=4.4						
	0.7nm,0.8s						
YKA	**Yellowknife Ar**	**39.20**	**313**	P	**P**	**21 18 03.5**	**+1.5**
	0.4nm,0.9s,baz=44,slow=8.7,SNR=5.8						
	0.4nm,0.9s						
KURBB	**Kurchatov Arra**	**47.69**	**59**	P	**P**	**21 19 12.5**	**+1.9**
	0.3nm,0.7s,baz=331,slow=7.4,SNR=2.4						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**52.26**	**59**	P	**P**	**21 19 47.1**	**+1.7**
	0.3nm,0.8s,baz=310,slow=7.4,SNR=3.9						
	0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**53.35**	**157**	P	**P**	**21 19 54.6**	**+1.0**
	0.4nm,0.8s,baz=342,slow=9.1,SNR=1.9						
	0.4nm,0.8s						

IDC 14 21:12:13.2±2.0, 6°.04S×142°.00E, h0km, mb3.3/2, mbtmp3.5/4, ML3.5/2, Error ellipse: s-maj=92.6km s-min=32.0km az=106.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.70**	**208**	Pn	Pn	21 15 54.7	-1.3
	0.1nm,0.3s,baz=30,slow=13,SNR=9.4						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**19.18**	**203**	P	P	21 16 39.0	+0.4
	0.3nm,0.3s,baz=31,slow=10,SNR=33						
	4.4nm,0.8s						
MKAR	**Makanchi Array**	**74.41**	**322**	P	P	21 23 53.4	+0.1
	0.2nm,0.6s,baz=99,slow=8.9,SNR=1.4						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**87.50**	**24**	P	P	21 25 02.6	0.0
	0.2nm,0.8s,baz=244,slow=3.9,SNR=1.6						
	0.2nm,0.8s						

IDC 14 21:13:52.3±859.0, 53°.35N×2°.66E, h0km, Error ellipse: s-maj=375.2km s-min=148.4km az=118.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**8.29**	**118**	I	I	22 03 00.0	
	baz=306,slow=323,SNR=1.4						
I48TN	**KESRA INFRASON**	**18.16**	**162**	I	I	23 02 50.0	
	baz=348,slow=325,SNR=1.1						
I43RU	**DUBNA INFRASON**	**19.96**	**66**	I	I	23 13 30.0	
	baz=276,slow=322,SNR=1.2						

*IDC **14** 21:27:21.4±1.6, 26°.11N×142°.66E, h0km, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=55.7km s-min=16.1km az=80.0*
ISC 14 21:27:26.4±1.7, 26°.1N±0°.1×142°.7E±0°.4, h36km, n12, σ1§71/10, mb3.9/8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.08**	**333**	Pn	**Pn**	**21 27 42.1**	**-2.9**
	78nm,0.3s,baz=342,slow=24,SNR=50						
JCJ				Sn	**Sn**	**21 28 00.1**	**+1.5**
	102nm,0.3s,baz=279,slow=23,SNR=26						
H11N2	**WAKE ISLAND Hy**	**23.12**	**101**	T	T	21 56 11.0	
	baz=291,slow=74,SNR=16						
H11N1	**WAKE ISLAND Hy**	**23.13**	**101**	T	T	21 56 15.5	
	baz=291,slow=74,SNR=11						
H11N3	**WAKE ISLAND Hy**	**23.14**	**101**	T	T	21 56 16.6	
	baz=291,slow=74,SNR=16						
KLR	**Kul'dur**	**24.59**	**343**	P	**P**	**21 32 45.1**	**+2.1**
	1.9nm,0.6s,baz=155,slow=6.8,SNR=11						
	1.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**41.08**	**268**	P	**P**	**21 35 08.1**	**+1.2**
	0.5nm,0.6s,baz=77,slow=5.7,SNR=6.3						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**46.52**	**191**	P	**P**	**21 35 49.9**	**-0.6**
	1.7nm,0.5s,baz=10,slow=8.6,SNR=30						
	1.7nm,0.5s						
ASAR	**Alice Springs**	**50.24**	**191**	P	**P**	**21 36 18.8**	**-0.4**
	0.3nm,0.7s,baz=16,slow=9.0,SNR=3.0						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**51.47**	**310**	P	**P**	**21 36 26.8**	**-1.4**
	0.3nm,0.8s,baz=90,slow=7.2,SNR=3.4						
	0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**54.06**	**315**	P	**P**	**21 36 46.6**	**-0.7**
	0.6nm,0.4s,baz=92,slow=8.2,SNR=10.0						
	0.6nm,0.4s						
BVAR	**Borovoye Array**	**59.08**	**318**	P	**P**	**21 37 23.5**	**+0.6**
	1.0nm,0.5s,baz=92,slow=6.4,SNR=12						
	1.0nm,0.5s						
FINES	**FINESS Array B**	**79.02**	**334**	P	**P**	**21 39 27.4**	**+1.0**
	0.9nm,0.4s,baz=71,slow=5.2,SNR=17						
	0.9nm,0.4s						

*IDC **14** 22:39:15.4±0.7, 6°.27S×142°.97E, h0km, mb4.2/14, mbtmp4.2/16, ML1.8/1, MS3.6/12, Error ellipse: s-maj=29.9km s-min=14.7km az=78.0*

*NEIC **14** 22:39:16.6±1.6, 6°.40S±0°.10×142°.73E±0°.05, h10km±1km, mb4.4/24, Error ellipse: s-maj=17.1km s-min=7.9km az=189.0*
ISC 14 22:39:16.5±0.5, 6°.50S±0°.06×142°.69E±0°.07, h10km, n55, σ1§50/53, mb4.3/23, MS3.6/9, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.29**	**123**	Pn	**Pn**	**22 40 35.3**	**-0.3**
PMG				Sn	**Sn**	**22 41 35.4**	**-1.2**
PMG	**Port Moresby**	**5.29**	**123**	Pn	**Pn**	**22 40 35.0**	**-0.5**
	2.3nm,0.3s,baz=297,slow=5.3,SNR=2.9						
PMG				Sn	**Sn**	**22 41 34.9**	**-1.7**
	2.9nm,0.3s,baz=224,slow=21,SNR=2.1						
	11nm,0.4s						
FAKI	**Fak Fak**	**11.00**	**288**	Pn	**Pn**	**22 41 53.2**	**-0.8**
MTN	**Manton Dam**	**13.02**	**240**	Pn	**Pn**	**22 42 22.4**	**+0.7**
CTA	**Charters Tower**	**13.94**	**166**	Lg	Lg	22 46 40.7	
	0.1nm,0.3s,baz=270,slow=15,SNR=2.2						
CTA				LR	LR	22 47 45.2	
	comp=Z,151nm,20.6s,baz=355,slow=36						
WB0	**Warramunga Arr**	**15.46**	**211**		**Pn**	**22 42 55.7**	**+0.9**
WRA	**Warramunga Arr**	**15.63**	**210**		**Pn**	**22 42 56.7**	**-0.3**
WRA	**Warramunga Arr**	**15.63**	**210**	Pn	**Pn**	**22 42 56.3**	**-0.7**
	0.5nm,0.3s,baz=31,slow=14,SNR=22						
WRA				Sn	**Sn**	**22 45 47.0**	**-3.4**
	0.2nm,0.3s,baz=28,slow=23,SNR=5.3						
WRA				Lg	Lg	22 47 33.8	
	0.3nm,0.3s,baz=37,slow=27,SNR=6.2						
KNRA	**Kununurra**	**16.42**	**235**		**Pn**	**22 43 06.5**	**-0.7**
KNRA				IAmb	IAmb	22 43 24.8	
	comp=Z,27nm,1.1s						
AS31	**Alice Springs**	**19.04**	**205**	P	**Pn**	**22 43 40.8**	**+1.0**
ASAR	**Alice Springs**	**19.04**	**205**	P	**Pn**	**22 43 43.2**	**+3.4**
	comp=Z,17nm,0.7s,baz=32,slow=9.9,SNR=134						
ASAR				S	**Sn**	**22 47 08.4**	**-4.8**
	comp=Z,3.0nm,1.0s,baz=40,slow=18,SNR=6.3						
ASAR				Lg	Lg	22 49 29.7	
	comp=Z,0.1nm,0.3s,baz=23,slow=30,SNR=5.0						
ASAR				LR	LR	22 51 43.6	
	comp=Z,592nm,18.1s,baz=22,slow=39						
BATI	**Baumata**	**19.18**	**258**	LR	LR	22 53 10.5	
	comp=Z,132nm,18.8s,baz=84,slow=43						
FITZ	**Fitzroy Crossi**	**20.23**	**234**	P	**P**	**22 43 53.8**	**+1.9**
MMRI	**Maumere**	**20.38**	**263**	P	**P**	**22 43 53.5**	**-0.2**
MMRI				IAmb	IAmb	22 44 02.6	
	comp=Z,22nm,0.7s						
LUWI	**Luwuk**	**20.59**	**284**	P	**P**	**22 43 54.2**	**-1.7**
LUWI				IAmb	IAmb	22 44 01.2	
	comp=Z,17nm,0.8s						
TOLI2	**Tolitoli**	**23.14**	**288**	P	**P**	**22 44 22.4**	**-0.7**
TOLI2				IAmb	IAmb	22 44 27.2	
	comp=Z,11nm,1.0s						
STKA	**Stephens Creek**	**25.27**	**182**	P	**P**	**22 44 43.0**	**-0.1**
STKA	**Stephens Creek**	**25.27**	**182**	P	**P**	**22 44 45.1**	**+2.1**
	comp=Z,6.0nm,0.9s,baz=351,slow=9.3,SNR=11						
STKA				LR	LR	22 55 05.7	
	comp=Z,169nm,19.9s,baz=19,slow=37						
	comp=Z,6.0nm,0.9s						
BBOO	**Buckleboo**	**26.90**	**192**	P	**P**	**22 44 58.3**	**+0.5**
BBOO				IAmb	IAmb	22 45 19.3	
	comp=Z,7.1nm,0.9s						
NWAO	**Narrogin (SRO)**	**35.37**	**219**	LR	LR	23 01 37.8	
	comp=Z,157nm,20.2s,baz=18,slow=38						
JNU	**Nakatsue**	**40.97**	**345**	LR	LR	23 02 54.1	
	comp=Z,30nm,18.6s,baz=4.0,slow=35						
MJAR	**Matsushiro Arr**	**43.02**	**355**	P	**P**	**22 47 14.3**	**-2.0**
	comp=Z,2.0nm,0.9s,baz=187,slow=9.4,SNR=4.2						
	comp=Z,2.0nm,0.9s						
KSRS	**Korea Array**	**45.85**	**344**	P	**P**	**22 47 38.5**	**-0.4**
	comp=Z,2.6nm,0.9s,baz=157,slow=10,SNR=7.1						
KSRS				LR	LR	23 03 49.6	
	comp=Z,12nm,21.0s,baz=155,slow=32						
	comp=Z,2.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**49.76**	**301**	P	**P**	**22 48 09.6**	**0.0**
CMAR	**Chiang Mai Arr**	**49.76**	**301**	P	**P**	**22 48 10.5**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=126,slow=5.9,SNR=8.6						
	comp=Z,1.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**51.38**	**350**	P	**P**	**22 48 20.6**	**-0.8**
USRK	**Ussuriysk Ar.**	**51.38**	**350**	P	**P**	**22 48 20.3**	**-1.1**
	comp=Z,3.2nm,0.9s,baz=171,slow=12,SNR=5.2						
	comp=Z,3.2nm,0.9s						
PZH	**PanZhiHua**	**51.49**	**311**	P	**P**	**22 48 25.0**	**+2.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,130nm,5.8s						
HHC	**Hu-ho-hao-te**	**55.11**	**331**	*e*P	**P**	**22 48 50.8**	**+1.7**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,77nm,5.3s						
PETK	**Petropavlovsk-**	**60.73**	**10**	LR	LR	23 15 09.2	
	comp=Z,20nm,20.0s,baz=339,slow=36						
ULN	**Ulaanbaatar**	**62.57**	**334**	P	**P**	**22 49 41.1**	**+0.2**
ULN				IAmb	IAmb	22 49 42.9	
	comp=Z,2.3nm,0.8s						
SONM	**Songino Array**	**62.84**	**333**	P	**P**	**22 49 42.6**	**-0.1**
SONM				IAmb	IAmb	22 49 49.7	
	comp=Z,2.6nm,1.4s						
SONM	**Songino Array**	**62.84**	**333**	P	**P**	**22 49 43.5**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=157,slow=7.2,SNR=4.7						
	comp=Z,0.7nm,0.8s						
SHEM	**Shemya Is, Ala**	**64.76**	**21**	LR	LR	23 16 11.3	
	comp=Z,23nm,19.0s,baz=311,slow=34						
WMQ	**Urumqi**	**70.43**	**321**	*e*P	**P**	**22 50 30.8**	**-0.4**
WMQ				pmax	pmax		
	comp=Z,10.0nm,2.2s						
VNDA	**Vanda**	**71.70**	**176**	P	**P**	**22 50 41.1**	**+2.8**
VNDA				IAmb	IAmb	22 50 52.0	
	comp=Z,2.9nm,1.0s						
VNDA	**Vanda**	**71.70**	**176**	P	**P**	**22 50 41.5**	**+3.3**
	comp=Z,2.5nm,1.0s,baz=41,slow=9.3,SNR=1.7						
VNDA				LR	LR	23 20 08.6	
	comp=Z,47nm,18.1s,baz=231,slow=34						
	comp=Z,2.5nm,1.0s						
MK31	**Makanchi Array**	**75.20**	**322**	P	**P**	**22 50 59.5**	**+0.1**
MK31				IAmb	IAmb	22 51 06.6	
	comp=Z,4.1nm,1.3s						
MKAR	**Makanchi Array**	**75.20**	**322**	P	**P**	**22 50 59.0**	**-0.3**
MKAR	**Makanchi Array**	**75.20**	**322**	P	**P**	**22 51 00.5**	**+1.1**
	comp=Z,1.6nm,0.9s,baz=124,slow=5.9,SNR=15						
	comp=Z,1.6nm,0.9s						
ZALV	**Zalesovo Beam**	**77.19**	**329**	P	**P**	**22 51 10.0**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=145,slow=5.3,SNR=2.4						
	comp=Z,0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**79.09**	**324**	P	**P**	**22 51 21.4**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=116,slow=5.1,SNR=8.4						
	comp=Z,1.1nm,0.9s						
L16K	**Owhat River**	**81.19**	**24**	P	**P**	**22 51 32.3**	**+0.1**
QSPA	**South Pole Qui**	**83.47**	**180**	P	**P**	**22 51 45.5**	**+1.2**
QSPA	**South Pole Qui**	**83.47**	**180**	P	**P**	**22 51 45.1**	**+0.7**
	comp=Z,1.9nm,1.0s,baz=258,slow=5.4,SNR=2.8						
QSPA				LR	LR	23 29 04.0	
	comp=Z,99nm,18.6s,baz=294,slow=36						
	comp=

ISC 14 23:29:39.8±1.2, 26°.7N±0°.1×109°.0E±0°.1, h10km, n23, σ0§73/23, mb3.8/12, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENH	**Enshi**	**3.60**	**6**		**Pn**	**23 30 35.6**	**-0.2**
SLVN	**Son La**	**7.09**	**223**	Pn	**Pn**	**23 31 23.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**12.40**	**231**	Pn	**Pn**	**23 32 36.5**	**0.0**
	0.7nm,0.3s,baz=39,slow=12,SNR=5.7						
CMAR				LR	LR	23 38 02.5	
	comp=Z,16nm,19.1s,baz=210,slow=41						
	0.4nm,0.3s						
LSA	**Lhasa**	**16.06**	**285**		**Pn**	**23 33 27.0**	**+0.7**
LSA				IAmb	IAmb	23 33 33.1	
	comp=Z,11nm,0.8s						
KSRS	**Korea Array**	**19.24**	**51**	P	**Pn**	**23 34 06.0**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=242,slow=11,SNR=2.2						
KSRS				LR	LR	23 42 40.7	
	comp=Z,12nm,21.0s,baz=25,slow=41						
	comp=Z,0.8nm,0.5s						
ULN	**Ulaanbaatar**	**21.21**	**356**	P	**P**	**23 34 25.0**	**-0.8**
SONM	**Songino Array**	**21.22**	**355**	P	**P**	**23 34 25.8**	**-0.1**
SONM	**Songino Array**	**21.22**	**355**	P	**P**	**23 34 26.0**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=173,slow=11,SNR=19						
	comp=Z,2.5nm,0.8s						
MKAR	**Makanchi Array**	**29.14**	**321**	P	**P**	**23 35 40.1**	**-0.9**
MKAR	**Makanchi Array**	**29.14**	**321**	P	**P**	**23 35 41.2**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=111,slow=12,SNR=2.4						
	comp=Z,0.2nm,0.5s						
MAKZ	**Makanchi**	**29.33**	**320**	P	**P**	**23 35 42.0**	**-0.6**
MAKZ				IAmb	IAmb	23 35 47.3	
	comp=Z,3.6nm,1.4s						
ZALV	**Zalesovo Beam**	**32.59**	**333**	P	**P**	**23 36 10.1**	**-1.3**
	comp=Z,2.0nm,0.9s,baz=119,slow=8.4,SNR=6.0						
	comp=Z,2.0nm,0.9s						
KURBB	**Kurchatov Arra**	**33.36**	**324**	P	**P**	**23 36 17.1**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=127,slow=8.9,SNR=7.5						
	comp=Z,0.6nm,0.5s						
KURK	**Kurchatov**	**33.36**	**324**	P	**P**	**23 36 19.4**	**+1.3**
BVAR	**Borovoye Array**	**38.93**	**323**	P	**P**	**23 37 06.5**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=131,slow=9.8,SNR=5.7						
	comp=Z,0.4nm,0.4s						
BRVK	**Borovoye**	**39.00**	**323**		**P**	**23 37 05.1**	**-1.2**
BRVK				IAmb	IAmb	23 37 29.5	
	comp=Z,2.3nm,1.2s						
ABKAR	**Akbulak array**	**43.85**	**314**	P	**P**	**23 37 46.0**	**-0.1**
ABKAR				IAmb	IAmb	23 37 53.3	
	comp=Z,4.8nm,1.4s						
ABKAR	**Akbulak array**	**43.85**	**314**	P	**P**	**23 37 46.4**	**+0.3**
GEYT	**Alibeck**	**44.00**	**298**	P	**P**	**23 37 48.0**	**+0.4**
	comp=Z,4.1nm,0.9s,baz=140,slow=5.3,SNR=6.1						
	comp=Z,4.1nm,0.9s						
NRIK	**Noril'sk**	**44.52**	**349**	P	**P**	**23 37 51.5**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=151,slow=13,SNR=2.4						
	comp=Z,0.8nm,0.5s						
L14K	**Kuka Creek**	**66.16**	**32**	P	**P**	**23 40 27.8**	**+0.5**
L14K				IAmb	IAmb	23 40 48.9	
	comp=Z,1.2nm,0.8s						
B20K	**Meade River**	**66.49**	**22**	P	**P**	**23 40 29.4**	**+0.2**
YKA	**Yellowknife Ar**	**84.56**	**19**	P	**P**	**23 42 12.4**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=324,slow=5.5,SNR=5.2						
	comp=Z,0.3nm,0.7s						

IDC 14 23:38:43.1±1.0, 13°.18N×50°.97E, h0km, mb4.1/18, mbtmp4.0/20, ML3.3/2, MS3.5/40, Error ellipse: s-maj=21.9km s-min=17.2km az=2.0
NEIC 14 23:38:43.9±1.8, 13°.1N±0°.1×51°.0E±0°.1, h10km±1km, mb4.3/27, Error ellipse: s-maj=18.7km s-min=15.1km az=138.0
OMAN 14 23:38:48.5±1.6, 13°.90N×50°.72E, h10km, mb3.7/7, ml3.8/3, ms3.4/2, Error ellipse: s-maj=41.7km s-min=10.0km az=121.0

ISC 14 23:38:44.0±0.6, 13°.29N±0°.08×50°.91E±0°.08, h10km, n89, σ1§56/69, mb4.3/32, MS3.5/38, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABTO	**Aybut**	**4.65**	**29**	P	**Pn**	**23 39 53.0**	**-1.4**
	SNR=31						
ABTO				S	**Sn**	**23 40 43.9**	**-4.6**
RBK	**Rabkut**	**5.25**	**37**	P	**Pn**	**23 40 02.2**	**-0.6**
	SNR=8.8						
WHFO	**Wadi Hawf**	**5.36**	**31**	P	**Pn**	**23 40 03.0**	**-1.2**
	SNR=20						
WHFO				S	**Sn**	**23 41 01.3**	**-4.8**
DMTO	**DMTO**	**5.87**	**41**	P	**Pn**	**23 40 11.0**	**-0.2**
	SNR=22						
DMTO				S	**Sn**	**23 41 18.3**	**-0.3**
DOK	**Doka**	**6.13**	**30**	P	**Pn**	**23 40 13.8**	**-1.0**
	SNR=6.5						
DOK				S	**Sn**	**23 41 20.7**	**-4.4**
SHAO	**Shalim**	**6.54**	**43**	P	**Pn**	**23 40 20.2**	**-0.1**
	SNR=13						
ATD	**Arta Tunnel**	**8.07**	**258**	Pn	**Pn**	**23 40 41.5**	**+0.1**
ATD	**Arta Tunnel**	**8.07**	**258**	Pn	**Pn**	**23 40 42.4**	**+1.0**
	0.3nm,0.3s,baz=50,slow=1.9,SNR=47						
ATD				LR	LR	23 43 04.5	
	comp=Z,33nm,19.1s,baz=60,slow=32						
	1.0nm,0.2s						
BSY	**Bisya**	**11.14**	**32**	P	**Pn**	**23 41 21.8**	**-1.6**
ARQ	**Araqi**	**11.32**	**27**	P	**Pn**	**23 41 25.6**	**-0.4**
ARQ				P	**Pn**	**23 41 25.6**	**-0.4**
JMDO	**Jabal Madar**	**11.33**	**36**	P	**Pn**	**23 41 26.8**	**+0.7**
RAYN	**Ar Rayn**	**11.39**	**334**		**Pn**	**23 41 24.6**	**-2.4**
ALNE	**Al Ain**	**11.64**	**22**	P	**Pn**	**23 41 29.9**	**-0.5**
SOHO	**SOHO**	**12.03**	**25**	P	**Pn**	**23 41 34.3**	**-1.3**
WSAR	**Wadi Sarin**	**12.31**	**35**	Pn	**Pn**	**23 41 41.4**	**+1.9**
	0.2nm,0.3s,baz=251,slow=11,SNR=4.3						
WSAR				LR	LR	23 46 16.0	
	comp=Z,476nm,18.2s,baz=231,slow=37						
	1.9nm,0.6s						
LODK	**Lodwar**	**18.23**	**239**	P	**Pn**	**23 42 55.5**	**-1.9**
KIBK	**Kibwezi**	**20.10**	**220**	P	**P**	**23 43 16.0**	**-2.2**
EIL	**Elat**	**22.01**	**320**	LR	LR	23 51 11.7	
	comp=Z,64nm,19.6s,baz=69,slow=34						
ASF	**Jabal al Asfar**	**22.76**	**328**	LR	LR	23 52 40.6	
	comp=Z,72nm,18.6s,baz=152,slow=37						
HRA	**Herat**	**23.38**	**24**	P	**P**	**23 43 54.5**	**+1.3**
HRA				IAmb	IAmb	23 44 02.4	
	comp=Z,15nm,1.4s						
GEYT	**Alibeck**	**25.36**	**13**	P	**P**	**23 44 12.4**	**+1.1**
	comp=Z,8.3nm,1.0s,baz=203,slow=6.4,SNR=9.4						
	comp=Z,8.3nm,1.0s						
GURO	**Guroymak-BITLI**	**26.36**	**344**	P	**P**	**23 44 21.0**	**+0.4**
KBL	**Kabul**	**26.79**	**35**	P	**P**	**23 44 24.4**	**-0.1**
KBL				IAmb	IAmb	23 44 33.8	
	comp=Z,7.1nm,1.1s						
GNI	**Garni**	**27.30**	**350**	P	**P**	**23 44 30.6**	**+1.6**
GNI				IAmb	IAmb	23 44 35.2	
	comp=Z,9.5nm,0.9s						
GNI	**Garni**	**27.30**	**350**	LR	LR	23 57 39.5	
	comp=Z,155nm,18.6s,baz=173,slow=41						
PALK	**Pallekele**	**29.90**	**99**	LR	LR	23 54 02.3	
	comp=Z,44nm,21.8s,baz=33,slow=31						
SIMJ	**Simiganj**	**29.93**	**29**	P	**P**	**23 44 52.2**	**-0.3**
SIMJ				IAmb	IAmb	23 45 04.0	
	comp=Z,7.1nm,1.2s						
BRTR	**Keskin Array B**	**30.41**	**333**	P	**P**	**23 44 57.2**	**+0.4**
BRTR	**Keskin Array B**	**30.41**	**333**	P	**P**	**23 44 58.5**	**+1.7**
	comp=Z,0.9nm,1.0s,baz=152,slow=8.2,SNR=4.8						
BRTR				LR	LR	23 59 54.2	
	comp=Z,44nm,18.4s,baz=147,slow=42						
	comp=Z,0.9nm,1.0s						
BR231	**Keskin MP Arra**	**30.89**	**332**	P	**P**	**23 45 00.5**	**-0.5**
BR231				IAmb	IAmb	23 45 06.6	
	comp=Z,7.2nm,0.8s						
ANTO	**Ankara**	**30.91**	**332**	P	**P**	**23 45 01.6**	**+0.6**
KBZ	**Khabaz**	**31.10**	**349**	P	**P**	**23 45 04.7**	**+2.1**
	comp=Z,3.9nm,0.8s,baz=175,slow=9.6,SNR=6.6						
KBZ				LR	LR	23 59 54.9	
	comp=Z,146nm,19.9s,baz=160,slow=41						
	comp=Z,3.9nm,0.8s						
KIV	**Kislovodsk**	**31.36**	**349**	P	**P**	**23 45 06.5**	**+1.5**
KK31	**Karatay Array**	**34.18**	**26**	P	**P**	**23 45 30.6**	**+1.0**
KK31				IAmb	IAmb	23 45 40.2	
	comp=Z,3.6nm,1.2s						
AAK	**Ala-Archa**	**35.65**	**30**	P	**P**	**23 45 42.0**	**-0.4**
AAK				IAmb	IAmb	23 45 47.2	
	comp=Z,3.1nm,1.1s						
AAK	**Ala-Archa**	**35.65**	**30**	LR	LR	00 02 20.7	
	comp=Z,84nm,19.7s,baz=242,slow=40						
LSZ	**Lusaka**	**36.21**	**219**	LR	LR	00 01 38.4	
	comp=Z,104nm,18.4s,baz=72,slow=38						
ABKAR	**Akbulak array**	**36.63**	**10**	P	**P**	**23 45 52.4**	**+1.9**
ABKAR				IAmb	IAmb	23 46 02.3	
	comp=Z,4.6nm,1.1s						
ABKAR	**Akbulak array**	**36.63**	**10**	P	**P**	**23 45 52.2**	**+1.7**
AKTO	**Aktyubinsk**	**37.49**	**7**	P	**P**	**23 45 59.4**	**+1.6**
	comp=Z,1.4nm,0.6s,baz=194,slow=8.0,SNR=4.1						
AKTO				LR	LR	00 04 41.2	
	comp=Z,136nm,19.2s,baz=170,slow=41						
	comp=Z,1.4nm,0.6s						
MLR	**Muntele Rosu**	**38.45**	**331**	LR	LR	00 03 18.0	
	comp=Z,53nm,18.2s,baz=122,slow=38						
BELG	**Belogornoye**	**39.09**	**357**	LR	LR	00 06 09.8	
	comp=Z,78nm,20.4s,baz=173,slow=42						
AKASG	**Malin Array Be**	**41.27**	**339**	P	**P**	**23 46 31.1**	**+1.7**
	comp=Z,1.7nm,0.8s,baz=150,slow=7.7,SNR=9.1						
AKASG				LR	LR	00 06 13.3	
	comp=Z,30nm,18.2s,baz=228,slow=40						
	comp=Z,1.7nm,0.8s						
MAKZ	**Makanchi**	**42.37**	**32**	P	**P**	**23 46 38.7**	**+0.2**
MK31	**Makanchi Array**	**42.52**	**32**	P	**P**	**23 46 39.2**	**-0.5**
MKAR	**Makanchi Array**	**42.52**	**32**	P	**P**	**23 46 40.8**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=221,slow=8.9,SNR=21						
MKAR				LR	LR	00 06 32.6	
	comp=Z,62nm,19.1s,baz=236,slow=39						
	comp=Z,0.8nm,0.5s						
BRVK	**Borovoye**	**42.57**	**17**	P	**P**	**23 46 40.0**	**0.0**
BRVK				IAmb	IAmb	23 46 54.7	
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**42.57**	**17**	P	**P**	**23 46 41.3**	**+1.3**
	comp=Z,1.4nm,0.7s,baz=197,slow=4.6,SNR=8.6						
BVAR				LR	LR	00 06 44.5	
	comp=Z,66nm,21.7s,baz=209,slow=39						
	comp=Z,1.4nm,0.7s						
ARU	**Arti**	**43.45**	**6**	LR	LR	00 08 08.6	
	comp=Z,62nm,18.9s,baz=152,slow=40						
KURBB	**Kurchatov Arra**	**43.48**	**25**	P	**P**	**23 46 48.6**	**+1.2**
	comp=Z,1.4nm,1.0s,baz=229,slow=7.7,SNR=10						
KURBB				LR	LR	00 06 48.7	
	comp=Z,48nm,21.1s,baz=180,slow=39						
	comp=Z,1.4nm,1.0s						
KEST	**Kesra**	**43.49**	**308**	LR	LR	00 05 21.1	
	comp=Z,79nm,19.0s,baz=251,slow=37						
TAM	**Tamanrasset**	**44.03**	**289**	P	**P**	**23 46 53.0**	**+0.6**
TAM				IAmb	IAmb	23 46 55.2	
	comp=Z,3.1nm,0.9s						
KIRV	**Kirov**	**45.22**	**359**	LR	LR	00 10 12.5	
	comp=Z,62nm,19.5s,baz=173,slow=42						
LBTB	**Lobatse**	**45.38**	**213**	LR	LR	00 05 17.6	
	comp=Z,112nm,18.8s,baz=51,slow=35						
TSUM	**Tsumeb**	**46.05**	**226**	LR	LR	00 06 53.8	
	comp=Z,120nm,18.2s,baz=45,slow=37						
CMAR	**Chiang Mai Arr**	**46.38**	**77**	P	**P**	**23 47 09.7**	**-1.3**
CMAR	**Chiang Mai Arr**	**46.38**	**77**	P	**P**	**23 47 11.6**	**+0.5**
	comp=Z,4.2nm,0.8s,baz=276,slow=9.0,SNR=24						
CMAR				LR	LR	00 07 31.4	
	comp=Z,11nm,18.1s,baz=270,slow=37						
	comp=Z,4.2nm,0.8s						
TOA0	**Torodi Ar. Sit**	**47.85**	**276**	P	**P**	**23 47 21.7**	**-0.8**
TOA0				IAmb	IAmb	23 47 31.0	
	comp=Z,3.9nm,1.1s						
TORD	**Torodi Ar. Bea**	**47.85**	**276**	P	**P**	**23 47 22.1**	**-0.4**
TORD				IAmb	IAmb	23 47 30.4	
	comp=Z,4.1nm,1.2s						
TORD	**Torodi Ar. Bea**	**47.85**	**276**	P	**P**	**23 47 23.9**	**+1.3**
	comp=Z,2.1nm,0.8s,baz=80,slow=8.6,SNR=15						
TORD				LR	LR	00 07 20.6	
	comp=Z,60nm,18.7s,baz=185,slow=36						
	comp=Z,2.1nm,0.8s						
BRG	**Berggiesshubel**	**47.97**	**329**	*e*P	P	23 47 32.8	+10
BRG				Amp		23 47 33.8	
	comp=Z,3.6nm,1.1s						
BOSA	**Boshof**	**48.49**	**211**	P	**P**	**23 47 24.4**	**-2.9**
BOSA	**Boshof**	**48.49**	**211**	LR	LR	00 09 21.8	
	comp=Z,47nm,21.1s,baz=28,slow=38						
ZALV	**Zalesovo Beam**	**48.56**	**26**	P	**P**	**23 47 27.4**	**0.0**
	comp=Z,2.1nm,0.8s,baz=235,slow=9.3,SNR=8.9						
ZALV				LR	LR	00 10 58.8	
	comp=Z,41nm,18.9s,baz=243,slow=40						
	comp=Z,2.1nm,0.8s						
PZH	**PanZhiHua**	**49.28**	**66**	P	**P**	**23 47 34.8**	**+1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.4s						
PZH				pmax	pmax		
	comp=Z,120nm,5.5s						
FINES	**FINESS Array B**	**51.33**	**345**	P	**P**	**23 47 50.0**	**+1.7**
FINES	**FINESS Array B**	**51.33**	**345**	P	**P**	**23 47 49.2**	**+0.9**
	comp=Z,2.6nm,1.0s,baz=157,slow=10,SNR=5.2						
FINES				LR	LR	00 13 42.4	
	comp=Z,38nm,18.4s,baz=149,slow=41						
	comp=Z,2.6nm,1.0s						
LZH	**Lanzhou**	**52.46**	**55**	*e*P	**P**	**23 47 57.0**	**-0.4**
LZH				sP	pwP	23 48 04.8	+1.3
LZH				pmax	pmax		
	comp=Z,11nm,1.1s						
SUR	**Sutherland**	**53.78**	**212**	LR	LR	00 13 08.0	
	comp=Z,74nm,19.3s,baz=38,slow=38						
HFS	**Hagfors**	**54.14**	**338**	P	**P**	**23 48 10.8**	**+1.7**
	comp=Z,1.9nm,0.8s,baz=133,slow=10.0,SNR=2.7						
HFS				LR	LR	00 15 37.9	
	comp=Z,31nm,19.2s,baz=250,slow=41						
	comp=Z,1.9nm,0.8s						
ESBB	**Sonseca Array**	**54.72**	**309**	P	**P**	**23 48 13.0**	**-0.8**
ESDC	**Sonseca Array**	**54.72**	**309**	P	**P**	**23 48 15.1**	**+1.3**
	comp=Z,2.2nm,0.7s,baz=96,slow=6.5,SNR=7.5						
	comp=Z,1.2nm,0.7s						
NOA	**NORSAR Array B**	**55.66**	**338**	LR	LR	00 15 58.3	
	comp=Z,25nm,18.9s,baz=285,slow=40						
SONM	**Songino Array**	**57.28**	**41**	P	**P**	**23 48 34.0**	**+1.9**
	comp=Z,1.4nm,0.8s,baz=248,slow=8.0,SNR=11						
SONM				LR	LR	00 15 48.9	
	comp=Z,32nm,21.8s,baz=306,slow=39						
	comp=Z,1.4nm,0.8s						
ARCES	**ARCESS Array B**	**58.46**	**350**	LR	LR	00 16 31.0	
	comp=Z,72nm,21.7s,baz=210,slow=39						
HHC	**Hu-ho-hao-te**	**59.28**	**50**	*e*P	**P**	**23 48 47.8**	**+1.6**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,5.3s						
NRIK	**Noril'sk**	**60.61**	**14**	P	**P**	**23 48 55.3**	**+0.7**
NRIK				IAmb	IAmb	23 49 12.2	
	comp=Z,2.5nm,0.9s						
NRIK	**Noril'sk**	**60.61**	**14**	P	**P**	**23 48 55.4**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=207,slow=5.5,SNR=4.2						
NRIK				LR	LR	00 18 35.9	
	comp=Z,74nm,18.9s,baz=212,slow=39						
	comp=Z,1.5nm,0.8s						
TIXI	**Tiksi**	**73.68**	**19**	LR	LR	00 25 35.4	
	comp=Z,48nm,21.5s,baz=341,slow=38						
KLR	**Kul'dur**	**74.09**	**42**	LR	LR	00 27 14.5	
	comp=Z,34nm,18.1s,baz=344,slow=39						
ASAJ	**Asahikawa**	**82.08**	**47**	LR	LR	00 29 28.7	
	comp=Z,24nm,21.8s,baz=334,slow=37						
MA2	**Magadan**	**83.58**	**30**	LR	LR	00 29 47.1	
	comp=Z,34nm,18.1s,baz=349,slow=37						
JCJ	**Chichijima**	**85.17**	**63**	LR	LR	00 31 18.9	
	comp=Z,48nm,19.0s,baz=108,slow=37						
WRA	**Warramunga Arr**	**88.43**	**111**	P	**P**	**23 51 35.8**	**-1.3**
WRA	**Warramunga Arr**	**88.43**	**111**	P	**P**	**23 51 37.2**	**+0.1**
	comp=Z,2.2nm,1.0s,baz=297,slow=3.9,SNR=9.4						
	comp=Z,2.7nm,1.0s						
WB2	**Warramunga Arr**	**88.44**	**111**	P	**P**	**23 51 36.1**	**-1.0**
ASAR	**Alice Springs**	**88.98**	**114**	P	**P**	**23 51 39.5**	**-0.1**
	comp=Z,1.8nm,1.0s,baz=288,slow=5.1,SNR=11						
	comp=Z,1.8nm,1.0s						
PETK	**Petropavlovsk-**	**89.27**	**35**	LR	LR	00 33 16.9	
	comp=Z,32nm,20.3s,baz=25,slow=37						
INK	**Inuvik**	**98.56**	**2**	LR	LR	00 45 34.8	
	comp=Z,48nm,19.3s,baz=206,slow=41						

ISN 14 23:45:30.3±1.1, 33°.76N×45°.57E, h7km±6km, ML3.1
TEH 14 23:45:32.2, 33°.79N×45°.70E, h1°1km±23km, ML3.0

ISC 14 23:45:31.7±0.9, 33.77N±0°.03×45.60E±0°.04, h10km, n18, σ1§04/24, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.53**	**106**	Pg	**Pg**	**23 45 41.4**	**-0.5**
IBDR	**Badra**	**0.71**	**157**	*e*Pg	**Pg**	**23 45 45.0**	**-0.4**
IBDR				*e*Sg	**Sg**	**23 45 54.0**	**-0.8**
KGS1	**Ghasr-e-Shirin**	**0.74**	**359**	Pg	**Pb**	**23 45 45.8**	**-0.8**
KGS1				Sg	**Sb**	**23 45 57.4**	**+0.7**
IGHG	**Ghaleghazi**	**0.98**	**55**	Pg	**Pg**	**23 45 50.0**	**-0.6**
BHD	**Baghdad**	**1.13**	**244**	*e*Pn	**Pn**	**23 45 54.0**	**+0.4**
BHD				*e*Sn	**Sn**	**23 46 11.0**	**+1.8**
BHD				AML	AML	23 46 16.9	
	comp=E,250nm,0.6s						
IDHR	**Dehrash**	**1.14**	**35**	Pg	**Pb**	**23 45 52.4**	**-1.2**
KCHF	**Cheshme Sefid,**	**1.30**	**67**	Pg	**Pn**	**23 45 55.8**	**-0.3**
ILIN	**Lien**	**1.61**	**44**	Pg	**Pg**	**23 46 02.0**	**-0.6**
ILIN				Sg	**Sg**	**23 46 24.0**	**+0.5**
IKFM	**Kafar-mosalman**	**1.89**	**97**	Pg	**Pb**	**23 46 05.5**	**-0.8**
IKRK	**Kirkuk**	**1.93**	**328**	*e*Pn	**Pn**	**23 46 05.0**	**+0.4**
IKRK				*e*Sn	**Sb**	**23 46 31.0**	**-0.1**
IBZA	**Bozab**	**2.00**	**69**	Pn	**Pb**	**23 46 07.0**	**-1.4**
RAFI	**Al-Rafai**	**2.09**	**168**	*e*Pn	**Pn**	**23 46 07.0**	**+0.3**
RAFI				*e*Sn	**Sb**	**23 46 35.0**	**-0.5**
IDOB	**Doab**	**2.15**	**89**	Pn	**Pn**	**23 46 08.9**	**+1.1**
SDS1	**Sardasht. Az.**	**2.38**	**358**	Pn	**Pb**	**23 46 13.5**	**-1.2**
HSAM	**Samen**	**2.54**	**79**	Pn	**Pn**	**23 46 13.9**	**+0.7**
HAGD	**Aghdareh**	**3.12**	**69**	Pn	**Pn**	**23 46 22.3**	**+1.3**
IKLH	**Kolahrood**	**5.01**	**93**	Pn	**Pn**	**23 46 49.0**	**+1.8**
IRAM	**Ramesheh**	**6.04**	**107**	Pn	**Pn**	**23 47 03.2**	**+2.0**

ISN 14 23:52:25.4±1.0, 32°.59N×47°.87E, h9km±18km, ML3.3
TEH 14 23:52:27.9, 32°.64N×47°.96E, h17km±19km, ML3.3

ISC 14 23:52:28.4±0.9, 32°.59N±0°.04×47°.90E±0°.03, h15km, n30, σ0§94/35, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.93**	**357**	Pg	**Pb**	**23 52 44.7**	**-1.5**
IDOB	**Doab**	**1.21**	**11**	Pg	**Pn**	**23 52 50.0**	**-1.0**
AHWZ	**Ahwaz**	**1.41**	**153**	Pg	**Pg**	**23 52 54.0**	**-0.6**
AHWZ				Sg	**Sg**	**23 53 15.3**	**+1.5**
HSAM	**Samen**	**1.72**	**20**	Pg	**Pb**	**23 52 58.7**	**-1.1**
IBDR	**Badra**	**1.74**	**288**	*e*Pn	**Pn**	**23 52 58.0**	**0.0**
IBDR				*e*Sn	**Sb**	**23 53 22.0**	**+0.4**
RAFI	**Al-Rafai**	**1.75**	**241**	*e*Pn	**Pb**	**23 52 59.0**	**-1.1**
RAFI				*e*Sn	**Sg**	**23 53 23.0**	**-1.6**
ILBA	**Ilam Banvizeh**	**1.75**	**306**	Pg	**Pn**	**23 52 58.8**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.83**	**337**	Pn	**Pb**	**23 53 01.6**	**0.0**
IBZA	**Bozab**	**1.87**	**359**	Pn	**Pn**	**23 53 00.9**	**+0.8**
IGHG	**Ghaleghazi**	**2.06**	**328**	Pn	**Pb**	**23 53 04.0**	**-1.7**
JHBN	**Jahan bin**	**2.37**	**98**	Pn	**Pn**	**23 53 07.5**	**+0.6**
HAGD	**Aghdareh**	**2.45**	**25**	Pn	**Pn**	**23 53 08.7**	**+0.6**
IDHR	**Dehrash**	**2.45**	**329**	Pn	**Pn**	**23 53 08.3**	**+0.3**
IPIR	**Pirpir**	**2.52**	**87**	Pn	**Pn**	**23 53 10.1**	**+1.0**
ZNGN	**Zangian**	**2.54**	**100**	Pn	**Pn**	**23 53 10.1**	**+0.7**
KGS1	**Ghasr-e-Shirin**	**2.71**	**315**	Pn	**Pn**	**23 53 13.0**	**+1.6**
IBRJ	**Brojen**	**2.93**	**103**	Pn	**Pn**	**23 53 15.0**	**+0.4**
BHD	**Baghdad**	**3.04**	**284**	*e*Pn	**Pn**	**23 53 18.9**	**+0.1**
BHD				*e*Sn	**Sn**	**23 53 54.0**	**+2.0**
BHD				AML	AML	23 54 15.7	
	comp=E,142nm,0.4s						
IRAZ	**Razeghan**	**3.27**	**30**	Pn	**Pn**	**23 53 20.0**	**+0.6**
IQOM	**Qom**	**3.46**	**49**	Pn	**Pn**	**23 53 22.3**	**+0.3**
IGAR	**Gharneh**	**3.50**	**92**	Pn	**Pn**	**23 53 23.1**	**+0.6**
KLNJ	**Kolanjah**	**3.52**	**116**	Pn	**Pn**	**23 53 22.7**	**-0.1**
IZEF	**Zefreh**	**3.74**	**84**	Pn	**Pn**	**23 53 26.5**	**+0.7**
KRSH	**Karshahi**	**3.80**	**68**	Pn	**Pn**	**23 53 26.9**	**+0.3**
IRAM	**Ramesheh**	**3.88**	**100**	Pn	**Pn**	**23 53 27.7**	**+0.1**
ISFB	**Sefidab**	**4.03**	**63**	Pn	**Pn**	**23 53 29.6**	**0.0**
IKRK	**Kirkuk**	**4.07**	**314**	*e*Pn	**Pn**	**23 53 31.0**	**+0.9**
IKRK				*e*Sn	**Sn**	**23 54 19.0**	**+1.4**
IDMV	**Damavand**	**4.54**	**48**	Pn	**Pn**	**23 53 36.9**	**+0.1**
ANAR	**Anarak**	**4.94**	**82**	Pn	**Pn**	**23 53 42.1**	**0.0**
ICHK	**Chekchek**	**5.51**	**92**	Pn	**Pn**	**23 53 50.2**	**+0.1**

NEIC 14 23:53:00.9±2.4, 48°.33N±0°.02×122°.73W±0°.03, h21km±4km, Error ellipse: s-maj=3.1km s-min=2.9km az=126.0
SEA 14 23:53:01.7±2.3, 48°.33N±0°.01×122°.70W±0°.02, h16km±3km, ML2.6/16, ML2.7/37(NEIC), Error ellipse: s-maj=2.3km s-min=1.5km az=71.0
PGC 14 23:53:01.8±0.4, 48°.31N×122°.73W, h14km, ML2.6, ML2.4/27, 49km east of Victoria, Bc Washington
PNSN 14 23:53:01.7, 48°.33N×122°.70W, h16km, MD2.6, Fault plane solution: NP1:φ=25.00000°, δ=80.00000°, λ=80.00000°.

ISC 14 23:53:01.1±0.9, 48°.32N±0°.01×122°.75W±0°.01, h18km±3km, n118, σ1§14/169, Washington

| Code | Station Name | Δ° | AZ° | Phase ID | | Time | Res |
|---|---|---|---

OBC	**Olympics--Boni**	**0.93**	**253**	P	**Pb**	**23 53 18.4**	**-0.4**
C05A	**Tolt Reservoir**	**0.95**	**131**	P	**Pb**	**23 53 18.1**	**-0.9**
C05A				S	**Sb**	**23 53 30.4**	**-0.9**
P403	**Sandy Floe Qua**	**0.96**	**255**		**Pb**	**23 53 18.7**	**-0.6**
HNBB	**Haney**	**0.97**	**7**		**Pb**	**23 53 18.6**	**-0.9**
HNBB	**Haney**	**0.97**	**7**	P	**Pb**	**23 53 18.6**	**-0.9**
HNBB				S	**Sb**	**23 53 31.1**	**-0.9**
B926	**Mesachie Lake**	**1.04**	**299**	P	**Pb**	**23 53 19.6**	**-1.1**
B926				S	**Sb**	**23 53 32.8**	**-1.1**
CLRS	**Cowichan Lake**	**1.04**	**299**	Pn	**Pb**	**23 53 19.6**	**-1.1**
CLRS				Sn	**Sb**	**23 53 33.1**	**-0.9**
CLRS	**Cowichan Lake**	**1.04**	**299**	P	**Pb**	**23 53 19.6**	**-1.1**
CLRS				S	**Sb**	**23 53 32.9**	**-1.1**
GPW	**Glacier Peak**	**1.10**	**100**	P	**Pb**	**23 53 20.8**	**-0.9**
GPW				S	**Sb**	**23 53 35.4**	**-0.4**
PTRF	**Port Renfrew**	**1.13**	**282**	P	**Pb**	**23 53 20.5**	**-1.6**
PTRF				S	**Sb**	**23 53 34.8**	**-1.6**
BIB	**Bowen Island**	**1.15**	**342**		**Pn**	**23 53 21.6**	**-0.6**
BIB	**Bowen Island**	**1.15**	**342**	P	**Pn**	**23 53 21.7**	**-0.6**
BIB				S	**Sb**	**23 53 36.6**	**-0.3**
PFB	**Port Renfrew**	**1.15**	**283**	P	**Pn**	**23 53 21.1**	**-1.2**
PFB				S	**Sb**	**23 53 35.9**	**-1.2**
NLWA	**Neilton Lookou**	**1.20**	**219**		**Pn**	**23 53 23.6**	**+0.6**
NLLB	**Nanaimo Lost L**	**1.22**	**318**		**Pn**	**23 53 22.5**	**-0.8**
NLLB	**Nanaimo Lost L**	**1.22**	**318**	P	**Pn**	**23 53 22.4**	**-0.8**
NLLB				S	**Sb**	**23 53 38.1**	**-1.0**
D05A	**Enumclaw**	**1.25**	**155**		**Pn**	**23 53 23.1**	**-0.5**
D05A				IAML		23 53 40.2	
	comp=N,96nm,0.8s						
D05A	**Enumclaw**	**1.25**	**155**	P	**Pn**	**23 53 23.1**	**-0.5**
D05A				S	**Sb**	**23 53 38.4**	**-1.3**
OCP	**Olym-Cheeka Pk**	**1.25**	**270**	P	**Pn**	**23 53 22.9**	**-0.9**
OCP				S	**Sb**	**23 53 39.0**	**-1.0**
WPB	**Watts Point**	**1.37**	**347**	P	**Pn**	**23 53 24.9**	**-0.4**
WPB				S	**Sn**	**23 53 42.3**	**-0.8**
CPW	**Capitol Peak**	**1.37**	**191**	P	**Pn**	**23 53 24.9**	**-0.5**
HOPB	**Hope**	**1.38**	**39**		**Pn**	**23 53 26.2**	**+0.7**
HOPB	**Hope**	**1.38**	**39**	P	**Pn**	**23 53 25.9**	**+0.4**
HOPB				S	**Sn**	**23 53 43.0**	**-0.4**
SHB	**Sechelt**	**1.48**	**330**	P	**Pn**	**23 53 26.6**	**-0.3**
SHB				S	**Sn**	**23 53 45.6**	**-0.2**
B927	**Port Alberni**	**1.63**	**304**		**Pn**	**23 53 29.1**	**+0.2**
B927	**Port Alberni**	**1.63**	**304**	P	**Pn**	**23 53 29.1**	**+0.2**
B927				S	**Sn**	**23 53 49.4**	**0.0**
B928	**Bamfield**	**1.66**	**289**	P	**Pn**	**23 53 29.3**	**0.0**
B928				S	**Sn**	**23 53 50.5**	**+0.3**
BFSB	**Bamfield**	**1.67**	**289**	P	**Pn**	**23 53 29.6**	**+0.2**
BFSB				S	**Sn**	**23 53 51.1**	**+0.9**
LON	**Longmire**	**1.70**	**158**		**Pn**	**23 53 29.9**	**0.0**
LON	**Longmire**	**1.70**	**158**	P	**Pn**	**23 53 29.9**	**0.0**
LON				S	**Sn**	**23 53 51.0**	**-0.1**
LTY	**Liberty**	**1.76**	**126**		**Pn**	**23 53 31.3**	**+0.6**
LTY				IAML		23 53 59.0	
	comp=E,58nm,0.5s						
LTY	**Liberty**	**1.76**	**126**	P	**Pn**	**23 53 31.5**	**+0.7**
LTY				S	**Sn**	**23 53 53.8**	**+1.1**
ETW	**Entiat**	**1.78**	**113**		**Pn**	**23 53 32.0**	**+0.9**
WSLR	**Whistler**	**1.81**	**357**	P	**Pn**	**23 53 32.2**	**+0.7**
WSLR				S	**Sn**	**23 53 55.2**	**+1.2**
E03A	**Lebam**	**1.86**	**198**	Pn	**Pn**	**23 53 33.0**	**+1.0**
E03A				IAML		23 54 10.6	
	comp=E,59nm,2.5s						
E03A				IAML		23 54 41.9	
	comp=N,48nm,3.1s						
E03A	**Lebam**	**1.86**	**198**	P	**Pn**	**23 53 33.2**	**+1.2**
E03A				S	**Sn**	**23 53 56.7**	**+1.7**
BMW	**Boistfort Moun**	**1.88**	**190**		**Pn**	**23 53 33.8**	**+1.5**
CBSW	**Chelan Butte S**	**1.89**	**105**		**Pb**	**23 53 35.1**	**-0.1**
OZB	**Mount Ozzard**	**1.93**	**290**	Pn	**Pn**	**23 53 34.0**	**+1.0**
OZB				IAML		23 54 06.4	
	comp=N,83nm,1.4s						
OZB				IAML		23 54 12.3	
	comp=E,64nm,2.1s						
OZB	**Mount Ozzard**	**1.93**	**290**	P	**Pn**	**23 53 34.4**	**+1.4**
OZB				S	**Sn**	**23 53 58.9**	**+2.1**
B012	**Ucluelet**	**1.95**	**289**	S	**Sn**	**23 53 58.1**	**+0.9**
RADR	**Rader Ridge**	**2.03**	**201**	Pn	**Pn**	**23 53 34.9**	**+0.5**
RADR				IAML		23 54 12.7	
	comp=N,73nm,3.8s						
SHW	**Mount Saint He**	**2.16**	**170**		**Pn**	**23 53 38.5**	**+2.2**
SWF2	**Southwest Flan**	**2.17**	**170**		**Pn**	**23 53 38.3**	**+1.8**
JLK	**June Lake**	**2.21**	**169**		**Pn**	**23 53 38.9**	**+1.9**
PNT	**Penticton**	**2.30**	**63**	P	**Pn**	**23 53 39.0**	**+0.9**
LLLB	**Lillooet**	**2.36**	**14**	P	**Pn**	**23 53 40.1**	**+1.1**
LLLB	**Lillooet**	**2.36**	**14**	S	**Sn**	**23 54 09.3**	**+1.8**
F04A	**Amboy**	**2.40**	**174**	Pn	**Pn**	**23 53 40.7**	**+1.2**
F04A				IAML		23 54 13.5	
	comp=N,53nm,0.5s						
F04A				IAML		23 54 13.6	
	comp=E,51nm,0.4s						
MXC	**Moxie City**	**2.41**	**135**		**Pn**	**23 53 41.6**	**+1.9**
MXC				IAML		23 54 14.9	
	comp=N,28nm,0.5s						
MXC				IAML		23 54 16.6	
	comp=E,34nm,0.7s						
CBB	**Campbell River**	**2.42**	**316**	Pn	**Pn**	**23 53 41.1**	**+1.3**
CBB				IAML		23 54 35.6	
	comp=N,22nm,3.6s						
CBB				IAML		23 54 37.7	
	comp=E,30nm,4.2s						
CBB	**Campbell River**	**2.42**	**316**	P	**Pn**	**23 53 41.3**	**+1.5**
CBB	**Campbell River**	**2.42**	**316**	S	**Sn**	**23 54 12.4**	**+3.3**
SPLB	**Strathcona Par**	**2.47**	**311**	P	**Pn**	**23 53 42.4**	**+1.9**
GDR	**Gold River**	**2.61**	**305**	P	**Pn**	**23 53 45.4**	**+3.1**
GDR	**Gold River**	**2.61**	**305**	S	**Sb**	**23 54 18.3**	**-0.6**
E07A	**Sunnyside**	**2.64**	**131**		**Pn**	**23 53 43.2**	**+0.3**
NCRB	**Newcastle Ridg**	**3.00**	**315**	P	**Pn**	**23 53 50.8**	**+2.9**
NCSB	**Newcastle Ridg**	**3.00**	**315**	P	**Pn**	**23 53 50.7**	**+2.8**
NCSB	**Newcastle Ridg**	**3.00**	**315**	S	**Sn**	**23 54 27.7**	**+4.2**
C09A	**Chrisman Ranch**	**3.05**	**98**		**Pn**	**23 53 48.8**	**+0.4**
C09A	**Chrisman Ranch**	**3.05**	**98**	Sg	**Sb**	**23 54 33.7**	**+2.1**
WOSB	**Woss**	**3.11**	**308**	P	**Pn**	**23 53 52.6**	**+3.3**
WOSB	**Woss**	**3.11**	**308**	S	**Sb**	**23 54 31.9**	**-1.5**
MAYB	**Maynard**	**3.56**	**307**	P	**Pn**	**23 53 59.9**	**+4.3**
H04A	**Detroit Lake**	**3.66**	**174**	Pn	**Pn**	**23 53 57.8**	**+0.9**
H04A				IAML		23 56 01.9	
	comp=N,16nm,4.6s						
NEW	**Newport**	**3.76**	**89**	Pn	**Pn**	**23 53 58.8**	**+0.6**
NEW				IAML		23 55 14.1	
	comp=N,10nm,4.3s						
NEW				IAML		23 56 10.6	
	comp=N,15nm,5.0s						
F10A	**Beach Ranch, E**	**4.44**	**120**	Pn	**Pn**	**23 54 08.9**	**+1.3**
PLID	**Pearl Lake**	**5.66**	**122**	Pn	**Pn**	**23 54 26.1**	**+1.6**

NEIC ***14*** *23:59:18.8±2.4, 27.70S±0.08×67.3W±0.2, h109km±14km, mb4.2/4, Error ellipse: s-maj=20.3km s-min=10.9km az=96.0*

IDC ***14*** *23:59:23.0±7.4, 27.50S×67.17W, h144km±43km, mb3.8/1, mbtmp3.9/3, Error ellipse: s-maj=104.9km s-min=25.9km az=37.0*

ISC 14 23:59:20.3±0.8, 27.66S±0.07×67.61W±0.09, h150km, n37, σ1§31/39, mb4.1/3, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AC02	**Maricunga**	**1.59**	**301**		**Pn**	**23 59 52.0**	**+0.7**
AC02				Sn	**Sn**	**00 00 16.2**	**+1.2**
GO03	**Copiap**	**2.33**	**271**		**Pn**	**00 00 00.1**	**+0.7**
AC06	**Mina Casimiro**	**2.46**	**277**		**Pn**	**00 00 01.0**	**+0.1**
AC05	**El Transito**	**2.63**	**243**		**Pn**	**00 00 04.6**	**+1.4**
LCO	**Las Campanas**	**3.04**	**243**		**Pn**	**00 00 09.3**	**+0.9**
GO02	**Mina Guanaco**	**3.06**	**324**		**Pn**	**00 00 09.1**	**+0.3**
AC01	**Pan de Azucar**	**3.07**	**299**	Pn	**Pn**	**00 00 08.7**	**+0.1**
AC04	**Llanos de Chal**	**3.11**	**259**		**Pn**	**00 00 09.3**	**+0.2**
CO01	**Juntas del Tor**	**3.17**	**223**		**Pn**	**00 00 12.3**	**+2.2**
GO04	**Tololo Observa**	**3.75**	**227**		**Pn**	**00 00 17.9**	**+0.3**
CO05	**La Serena**	**3.90**	**234**	Pn	**Pn**	**00 00 19.0**	**-0.2**
PB14	**IPOC Station P**	**3.93**	**320**	Pn	**Pn**	**00 00 20.0**	**0.0**
CO03	**El Pedregal**	**4.15**	**220**		**Pn**	**00 00 23.3**	**+0.6**
CO02	**Combarbal**	**4.60**	**219**		**Pn**	**00 00 28.4**	**-0.2**
CO06	**Fray Jorge**	**4.62**	**229**	Pn	**Pn**	**00 00 27.4**	**-1.3**
PB15	**IPOC Station P**	**4.75**	**339**		**Pn**	**00 00 29.7**	**-0.9**
LVC	**Limon Verde**	**5.17**	**347**	P	**Pn**	**00 00 36.9**	**+0.6**
	5.5nm,0.2s,baz=153,slow=7.7,SNR=30						
LVC				S	**Sn**	**00 01 37.7**	**+2.0**
	3.6nm,0.4s,baz=288,slow=20,SNR=3.9						
PB06	**IPOC Station P**	**5.25**	**340**		**Pn**	**00 00 37.2**	**-0.1**
PB05	**IPOC Station P**	**5.33**	**333**	Pn	**Pn**	**00 00 37.1**	**-1.3**
VA06	**Catapilco**	**5.83**	**212**	Pn	**Pn**	**00 00 43.2**	**-1.5**
PB09	**IPOC Station P**	**6.03**	**345**	Pn	**Pn**	**00 00 47.3**	**-0.3**
PB07	**IPOC Station P**	**6.26**	**340**	Pn	**Pn**	**00 00 48.8**	**-1.9**
MT02	**Curacav**	**6.35**	**208**	Pn	**Pn**	**00 00 50.1**	**-1.6**
LMEL	**Las Melosas**	**6.55**	**199**	Pn	**Pn**	**00 00 54.9**	**+0.3**
PB02	**IPOC Station P**	**6.65**	**341**	Pn	**Pn**	**00 00 54.2**	**-1.7**
MT01	**Popeta**	**6.93**	**206**	Pn	**Pn**	**00 00 57.0**	**-2.3**
BO02	**Sierra Bellavi**	**7.61**	**200**	Pn	**Pn**	**00 01 06.6**	**-1.9**
PB11	**IPOC Station P**	**8.09**	**346**	Pn	**Pn**	**00 01 11.9**	**-3.2**
CPUP	**Villa Florida**	**9.26**	**84**	P	**Pn**	**00 01 28.9**	**-1.6**
	0.8nm,0.4s,baz=266,slow=15,SNR=3.2						
DBIC	**Dimbokro**	**69.51**	**71**	P	**P**	**00 10 12.6**	**-0.5**
TOA0	**Torodi Ar. Sit**	**78.41**	**68**	P	**P**	**00 11 05.9**	**+1.1**
TOA0				IAmb	IAmb	00 11 06.3	
	comp=Z,2.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**78.41**	**68**	P	**P**	**00 11 05.7**	**+0.9**
TORD	**Torodi Ar. Bea**	**78.41**	**68**	P	**P**	**00 11 05.2**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=256,slow=5.8,SNR=18						
	comp=Z,1.6nm,0.6s						
BOSA	**Boshof**	**79.57**	**117**	P	**P**	**00 11 12.6**	**+1.5**
BOSA				IAmb	IAmb	00 11 14.8	
	comp=Z,5.0nm,1.2s						
KURBB	**Kurchatov Arra**	**145.61**	**39**	PKPbc	**PKiKP**	**00 18 42.9**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=298,slow=3.2,SNR=2.9						
ZALV	**Zalesovo Beam**	**146.85**	**30**	PKPbc	**PKiKP**	**00 18 46.6**	**-0.4**
	comp=Z,1.4nm,0.4s,baz=313,slow=3.2,SNR=8.8						
MKAR	**Makanchi Array**	**149.63**	**43**	PKPbc	**PKiKP**	**00 18 54.0**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=307,slow=2.3,SNR=8.8						

BER ***15*** *00:22:06.7±2.7, 82.85N×5.17W, h10km, mb(Pn)3.5, Confirmed Earthquake*

ISC 15 00:22:04.5±3.7, 82.7N±0.3×5.04W±0.06, h10km, n8, σ1§66/13, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NOR	**Nord**	**1.96**	**240**	*eP*	**Pb**	**00 22 40.7**	**+0.5**
NOR				*eS*	**Sn**	**00 23 00.9**	**-1.3**
NOR	**Nord**	**1.96**	**240**	*i* P	**Pg**	**00 22 42.0**	**0.0**
NOR				*eS*	**Sn**	**00 23 00.6**	**-1.7**
KBS	**Kingsbay**	**4.67**	**136**	*eP*	**Pn**	**00 23 15.2**	**+0.4**
KBS				*eS*	**Sn**	**00 24 09.2**	**+0.2**
KBS				IAML		00 24 11.4	
	comp=Z,3.5nm,0.4s						
BRBB	**Barentsburg B**	**5.62**	**136**	*eP*	**Pn**	**00 23 28.3**	**+0.5**
BRBB				*eS*	**Sn**	**00 24 30.7**	**-1.6**
BRBA	**Barentsburg A**	**5.65**	**136**	*eP*	**Pn**	**00 23 31.4**	**+3.1**
SPA0	**Spitsbergen Ar**	**5.74**	**131**	*eP*	**Pn**	**00 23 30.4**	**+0.8**
SPA0				*eS*	**Sn**	**00 24 33.0**	**-2.4**
SPA0				IAML		00 24 48.9	
	comp=Z,2.9nm,0.9s						
HSPB	**Hornsund (broa**	**6.74**	**137**	*eP*	**Pn**	**00 23 44.9**	**+1.7**
HOPEN	**Hopen**	**8.11**	**124**	*eP*	**Pn**	**00 24 01.1**	**-0.9**
HOPEN				*eS*	Sn	00 25 25.2	-8.2
HOPEN				IAML		00 25 30.8	
	comp=Z,2.1nm,1.2s						

NEIC ***15*** *00:27:33.5±1.6, 23.7S±0.1×180.0W±0.1, h538km±6km, mb4.4/22, Error ellipse: s-maj=21.0km s-min=15.7km az=128.0*

IDC ***15*** *00:27:35.7±3.2, 23.65S×179.91E, h564km±34km, mb3.6/7, mbtmp4.5/8, Error ellipse: s-maj=23.2km s-min=18.8km az=8.0*

ISC 15 00:27:31.8±0.7, 23.66S±0.08×179.9W±0.1, h532km, n52, σ1§12/54, mb4.3/19, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.20**	**342**	P	**P**	**00 29 13.6**	**+2.0**
MARNC	**Mare, Loyalty**	**11.36**	**279**	P	**P**	**00 30 04.0**	**+0.3**
PINNC	**Pines Island,**	**11.69**	**273**	P	**P**	**00 30 09.1**	**+2.0**
URZ	**Urewera**	**14.78**	**189**	P	**P**	**00 30 40.6**	**+1.6**
	3.1nm,0.6s,baz=358,slow=22,SNR=2.0						
URZ				S	**S**	**00 33 11.5**	**-1.9**
	3.8nm,0.7s,baz=272,slow=22,SNR=1.6						
RTZ	**Ruatahuna**	**15.15**	**189**	P	**P**	**00 30 44.3**	**+1.3**
TCW	**Tory Channel**	**18.17**	**194**	P	**P**	**00 31 13.2**	**+1.3**
EIDS	**Eidsvold**	**26.44**	**260**	P	**P**	**00 32 27.2**	**+1.0**
EIDS				IAmb	IAmb	00 32 51.3	
	comp=Z,31nm,1.4s						
CTAO	**Charters Tower**	**31.57**	**270**	P	**P**	**00 33 11.9**	**+1.0**
STKA	**Stephens Creek**	**34.90**	**248**	P	**P**	**00 33 39.5**	**+0.6**
STKA	**Stephens Creek**	**34.90**	**248**	P	**P**	**00 33 39.9**	**+1.0**
	comp=Z,2.8nm,0.6s,baz=86,slow=10,SNR=6.2						
	comp=Z,2.8nm,0.6s						
COEN	**Coen**	**36.17**	**279**	P	**P**	**00 33 49.6**	**0.0**
COEN				IAmb	IAmb	00 33 53.0	
	comp=Z,18nm,1.5s						
BBOO	**Buckleboo**	**39.62**	**247**	P	**P**	**00 34 17.3**	**-0.3**
BBOO				IAmb	IAmb	00 34 41.4	
	comp=Z,19nm,1.4s						
AS31	**Alice Springs**	**42.16**	**260**	P	**P**	**00 34 37.9**	**0.0**
ASAR	**Alice Springs**	**42.17**	**260**	P	**P**	**00 34 38.2**	**+0.3**
	comp=Z,5.2nm,0.5s,baz=100,slow=7.1,SNR=52						
ASAR				PcP	**PcP**	**00 36 20.1**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=88,slow=4.7,SNR=2.3						
	comp=Z,5.2nm,0.5s						
WR0	**Warramunga Arr**	**42.33**	**266**	P	**P**	**00 34 38.8**	**-0.4**
WR0				IAmb	IAmb	00 34 39.2	
	comp=Z,4.6nm,0.6s						
WB2	**Warramunga Arr**	**42.50**	**266**	P	**P**	**00 34 40.2**	**-0.5**
WB2				IAmb	IAmb	00 34 41.1	
	comp=Z,8.7nm,0.8s						
WRA	**Warramunga Arr**	**42.52**	**266**	P	**P**	**00 34 40.3**	**-0.4**
WRA	**Warramunga Arr**	**42.52**	**266**	P	**P**	**00 34 40.5**	**-0.2**
	comp=Z,7.9nm,0.5s,baz=90,slow=5.8,SNR=165						
WRA				PcP	**PcP**	**00 36 21.3**	**0.0**
	comp=Z,0.6nm,0.6s,baz=103,slow=3.2,SNR=3.4						
WRA				S	**S**	**00 40 21.5**	**-3.2**
	comp=Z,0.4nm,0.7s,baz=100,slow=19,SNR=3.7						
	comp=Z,7.9nm,0.5s						
FORT	**Forrest**	**46.48**	**249**	P	**P**	**00 35 10.7**	**-0.4**
KNRA	**Kununurra**	**48.78**	**270**	P	**P**	**00 35 28.4**	**-0.1**
KNRA				IAmb	IAmb	00 35 29.4	
	comp=Z,18nm,1.1s						
FITZ	**Fitzroy Crossi**	**50.94**	**265**	P	**P**	**00 35 44.3**	**-0.1**
MBWA	**Marble Bar**	**55.51**	**260**	P	**P**	**00 36 16.2**	**-0.6**
MBWA				IAmb	IAmb	00 36 17.2	
	comp=Z,9.7nm,0.9s						
MORW	**Morawa**	**57.04**	**250**	P	**P**	**00 36 26.9**	**-0.5**
MORW				IAmb	IAmb	00 36 27.7	
	comp=Z,8.2nm,0.7s						
TOLI2	**Tolitoli**	**62.61**	**284**	P	**P**	**00 37 03.3**	**-1.3**
TOLI2				IAmb	IAmb	00 37 06.1	
	comp=Z,7.2nm,0.6s						
QSPA	**South Pole Qui**	**66.42**	**180**	P	**P**	**00 37 29.5**	**+1.5**
QSPA	**South Pole Qui**	**66.42**	**180**	P	**P**	**00 37 29.7**	**+1.8**
	comp=Z,3.5nm,0.9s,baz=327,slow=1.1,SNR=12						
	comp=Z,3.5nm,0.9s						
UGM	**Wanagama**	**68.19**	**271**	P	**P**	**00 37 38.8**	**-0.8**
PEA0B	**Petropavlovsk-**	**78.89**	**346**	P	**P**	**00 38 40.1**	**+0.6**
PETK	**Petropavlovsk-**	**78.89**	**346**	P	**P**	**00 38 40.1**	**+0.6**
PETK	**Petropavlovsk-**	**78.89**	**346**	P	**P**	**00 38 39.7**	**+0.1**
	comp=Z,6.1nm,1.0s,baz=126,slow=7.3,SNR=2.7						
	comp=Z,6.1nm,1.0s						
USRK	**Ussuriysk Ar.**	**80.61**	**327**	P	**P**	**00 38 49.9**	**+1.1**
	comp=Z,0.8nm,0.4s,baz=164,slow=6.4,SNR=2.8						
	comp=Z,0.8nm,0.4s						
N15K	**Kwethluk River**	**85.08**	**10**	P	**P**	**00 39 11.5**	**+0.6**
N15K				IAmb	IAmb	00 39 32.5	
	comp=Z,14nm,1.4s						
P18K	**Big Mountain,**	**85.21**	**12**	P	**P**	**00 39 10.5**	**-1.1**
P18K				IAmb	IAmb	00 39 13.0	
	comp=Z,9.3nm,1.2s						
O18K	**Koktuh Hills**	**85.64**	**12**	P	**P**	**00 39 13.2**	**-0.4**
O18K				IAmb	IAmb	00 39 29.3	
	comp=Z,14nm,1.3s						
CMAR	**Chiang Mai Arr**	**89.53**	**290**	P	**P**	**00 39 34.9**	**+2.1**
	comp=Z,1.2nm,0.3s,baz=126,slow=4.6,SNR=6.7						
	comp=Z,1.2nm,0.3s						
MKAR	**Makanchi Array**	**112.06**	**313**	PKiKP	**PKiKP**	**00 45 05.5**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=153,slow=0.3,SNR=5.9						
KURBB	**Kurchatov Arra**	**115.13**	**316**	PKP	**PKiKP**	**00 45 11.3**	**-1.0**
	comp=Z,0.1nm,0.4s,baz=82,slow=2.3,SNR=5.3						
BVAR	**Borovoye Array**	**120.32**	**319**	PKP	**PKiKP**	**00 45 21.6**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=103,slow=1.7,SNR=12						
ARCES	**ARCESS Array B**	**131.67**	**348**	PKP	**PKPdf**	**00 45 42.8**	**-0.6**
	comp=Z,2.1nm,0.8s,baz=46,slow=3.5,SNR=6.3						
FINES	**FINESS Array B**	**138.25**	**342**	PKhKP	PKPpre	00 45 43.0	
	comp=Z,1.6nm,0.9s,baz=330,slow=5.3,SNR=1.7						
FINES				PKP	**PKiKP**	**00 45 56.1**	**-2.0**
	comp=Z,0.7nm,0.6s,baz=57,slow=4.7,SNR=6.4						
NOA	**NORSAR Array B**	**141.86**	**351**	PKhKP	PKPpre	00 45 58.0	
	comp=Z,0.4nm,0.8s,baz=353,slow=1.7,SNR=1.2						
HFS	**Hagfors**	**142.33**	**349**	PKhKP	PKPpre	00 45 59.4	
	comp=Z,3.5nm,0.4s,baz=58,slow=3.8,SNR=46						
AKASG	**Malin Array Be**	**144.82**	**328**	PKP	**PKPab**	**00 46 07.6**	**-1.5**
	comp=Z,1.2nm,0.3s,baz=42,slow=4.0,SNR=15						
BRTR	**Keskin Array B**	**147.50**	**308**	PKPbc	**PKPbc**	**00 46 16.1**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=125,slow=2.1,SNR=7.7						
MMAI	**Mount Meron Ar**	**147.69**	**295**	PKPbc	**PKiKP**	**00 46 18.0**	**-0.5**
	comp=Z,4.4nm,0.5s,baz=74,slow=7.0,SNR=29						
EKA	**Eskdalemuir Ar**	**148.27**	**4**	PKPbc	**PKiKP**	**00 46 17.4**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=347,slow=2.9,SNR=7.4						
KWP	**Kalwaria Pacla**	**148.60**	**331**	PKPbc	**PKiKP**	**00 46 19.1**	**-0.7**
BUR08	**Bucovina Ar. S**	**148.81**	**326**	PKPbc	**PKiKP**	**00 46 20.2**	**-0.2**
CSS	**Mathiatis**	**149.05**	**299**	PKPbc	**PKiKP**	**00 46 19.9**	**-1.3**
CLL	**Collm**	**150.65**	**343**	PKPbc	**PKiKP**	**00 46 22.8**	**-1.1**
ELL	**Elmali**	**151.25**	**304**	PKPbc	**PKiKP**	**00 46 25.1**	**-0.7**
RDO	**Rodhopi**	**152.49**	**315**	PKPbc	**PKiKP**	**00 46 27.2**	**-0.8**

IDC 15 00:39:11.5±9.3, 6.32S×141.97E, h0km, mb3.4/1, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=331.2km s-min=38.5km az=95.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.44**	**208**	Pn	Pn	00 42 50.4	-0.4
	0.2nm,0.3s,baz=29,slow=12,SNR=8.3						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**18.91**	**203**	P	P	00 43 34.2	+0.3
	0.2nm,0.3s,baz=31,slow=12,SNR=3.4						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**74.62**	**322**	P	P	00 50 52.7	0.0
	0.3nm,0.8s,baz=101,slow=7.5,SNR=1.7						
	0.3nm,0.8s						

IDC ***15*** *00:40:26.8±1.1, 6.17S×143.66E, h0km, mb3.8/4, mbtmp3.9/6, ML2.1/1, MS2.8/1, Error ellipse: s-maj=37.3km s-min=22.8km az=73.0*

ISC 15 00:40:32.0±0.9, 6.3S±0.1×143.5E±0.1, h35km, n7, σ1§52/8, mb3.8/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.77**	**130**	Pn	**Pn**	**00 41 41.0**	**-0.4**
	5.8nm,0.3s,baz=226,slow=9.6,SNR=3.7						
PMG				Sn	**Sn**	**00 42 36.2**	**+0.6**
	1.1nm,0.3s,baz=27,slow=21,SNR=1.5						
PMG				LR	LR	00 44 06.4	
	comp=Z,115nm,19.4s,baz=288,slow=46						
	12nm,0.3s						
WRA	**Warramunga Arr**	**16.20**	**212**	Pn	**Pn**	**00 44 14.8**	**-2.3**
	0.1nm,0.3s,baz=30,slow=13,SNR=1.5						
WRA				Sn	Sn	00 47 06.8	-8.9
	0.3nm,0.3s,baz=27,slow=23,SNR=5.0						
WRA				Lg	Lg	00 49 02.5	
	0.2nm,0.3s,baz=35,slow=28,SNR=4.9						
ASAR	**Alice Springs**	**19.56**	**207**	P	**P**	**00 44 58.7**	**+1.8**
	2.3nm,0.7s,baz=34,slow=10,SNR=11						
ASAR				Lg	Lg	00 50 55.4	
	0.1nm,0.3s,baz=32,slow=34,SNR=4.5						
MKAR	**Makanchi Array**	**75.53**	**322**	P	**P**	**00 52 13.9**	**+0.9**
	0.5nm,0.6s,baz=101,slow=7.2,SNR=7.6						
	0.5nm,0.6s						
QSPA	**South Pole Qui**	**83.66**	**180**	P	**P**	**00 52 57.5**	**+0.6**
	1.1nm,0.9s,baz=0.0,slow=14,SNR=13						
	1.1nm,0.9s						
BVAR	**Borovoye Array**	**84.97**	**325**	P	**P**	**00 53 03.9**	**+0.2**
	0.9n

s-maj=40.0km s-min=14.9km az=53.0
DJA ***15*** *00:50:48.3±2.8,4°S±9°×10°E±1°,0,h32km±48km,M4.5/6, MLv4.5/6*
NEIC ***15*** *00:50:48.2±1.2,4°.2S±0°.1×100°.48E±0°.10,h10km±1km, mb4.5/23,Error ellipse: s-maj=22.0km s-min=8.6km az=222.0*

ISC 15 00:50:50.0±0.7,4°20S±0°.09×100°47E±0°.08,h27km,n68, σ1♀30/57,mb4.5/28,MS2.8/3,1C-1D,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PPSI	**Pulau Pagai**	**1.50**	**342**	P		**Pn**	**00 51 13.9**	**-1.2**
PPSI				S		**Sn**	**00 51 32.8**	**-1.0**
MNAI	**Manna**	**2.49**	**94**	Pn		**Pn**	**00 51 28.3**	**-0.4**
MNAI	**Manna**	**2.49**	**94**	P		**Pn**	**00 51 28.8**	**+0.1**
LHSI	**Lahat**	**3.07**	**83**	P		**Pb**	**00 51 43.2**	**-0.7**
SISI	**Saibi**	**3.17**	**334**	P		**Pn**	**00 51 35.8**	**-2.3**
LWLI	**Liwa**	**3.67**	**103**	P		**Pn**	**00 51 45.3**	**+0.2**
KASI	**Kota Agung**	**4.23**	**108**	P		**Pn**	**00 51 51.9**	**-0.7**
BKNI	**Bangkinang**	**4.53**	**7**	Pn		**Pn**	**00 51 54.7**	**-2.1**
GSI	**Gunungsitoli**	**6.18**	**332**	Pn		**Pn**	**00 52 18.9**	**-0.6**
LEM	**Lembang**	**7.58**	**110**	Pn		**Pn**	**00 52 39.7**	**+0.8**
	4.8nm,0.3s,baz=277,slow=17,SNR=5.0							
LEM				Sn		**Sn**	**00 54 03.6**	**-0.5**
	7.5nm,0.3s,baz=266,slow=21,SNR=1.2							
	33nm,0.7s							
UGM	**Wanagama**	**10.66**	**111**	Pn		**Pn**	**00 53 19.5**	**-1.6**
JAGI	**Jajag, Banyuwa**	**14.25**	**108**	Pn		**Pn**	**00 54 08.0**	**-2.1**
UBPT	**Khong Chiam**	**19.98**	**14**	P		**P**	**00 55 19.9**	**-0.6**
PHRA	**Phrae**	**22.56**	**359**	P		**P**	**00 55 46.9**	**-1.3**
CM31	**Chiang Mai Arr**	**22.56**	**356**	P		**P**	**00 55 46.9**	**-1.4**
CMAR	**Chiang Mai Arr**	**22.56**	**356**	P		**P**	**00 55 47.6**	**-0.7**
	2.0nm,0.6s,baz=186,slow=9.0,SNR=10.0							
CMAR				LR		LR	01 05 06.5	
	comp=Z,22nm,21.0s,baz=190,slow=38							
	2.0nm,0.6s							
PALK	**Pallekele**	**22.78**	**300**	LR		LR	01 02 20.2	
	comp=Z,32nm,19.7s,baz=227,slow=31							
CRAI	**Chiangrai**	**24.28**	**360**	P		**P**	**00 56 04.5**	**-0.7**
CRAI				IAmb		IAmb	00 56 15.2	
	comp=Z,8.7nm,0.8s							
QIZ	**Qiongzhong**	**24.86**	**22**	P		**P**	**00 56 11.0**	**+0.5**
QIZ				S		**S**	**01 00 34.8**	**+2.8**
QIZ				LR		LR		
	comp=N,150nm,12.6s							
QIZ				LR		LR		
	comp=E,270nm,14.3s							
QIZ				LR		LR		
	comp=Z,170nm,13.5s							
H08S2	**Diego Garcia H**	**28.03**	**262**	T		T	01 26 05.1	
	baz=84,slow=75							
H08S3	**Diego Garcia H**	**28.04**	**262**	T		T	01 27 03.0	
	baz=84							
H08S1	**Diego Carcia H**	**28.05**	**262**	T		T	01 25 50.8	
	baz=84,slow=75							
PZH	**PanZhiHua**	**30.55**	**2**	P		**P**	**00 57 04.8**	**+3.3**
PZH				pmax		pmax		
	comp=Z,7.0nm,0.8s							
PZH				pmax		pmax		
	comp=Z,100nm,5.1s							
H01W3	**Cape Leeuwin H**	**33.06**	**159**	T		T	01 32 35.6	
	baz=337,slow=76,SNR=14							
H01W2	**Cape Leeuwin H**	**33.07**	**159**	T		T	01 32 37.0	
	baz=337,slow=76,SNR=10							
H01W1	**Cape Leeuwin H**	**33.07**	**159**	T		T	01 32 36.6	
	baz=337,slow=76,SNR=10							
ENH	**Enshi**	**35.35**	**14**			**P**	**00 57 43.5**	**+0.2**
ENH				IAmb		IAmb	00 58 13.0	
	comp=Z,17nm,1.3s							
WRA	**Warramunga Arr**	**36.52**	**118**	P		**P**	**00 57 52.4**	**-1.1**
WRA	**Warramunga Arr**	**36.52**	**118**	P		**P**	**00 57 53.3**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=292,slow=9.3,SNR=11							
	comp=Z,2.6nm,0.8s							
WB2	**Warramunga Arr**	**36.53**	**118**	P		**P**	**00 57 53.3**	**-0.3**
WB2				IAmb		IAmb	00 57 54.5	
	comp=Z,4.5nm,0.8s							
WR0	**Warramunga Arr**	**36.70**	**118**	P		**P**	**00 57 54.9**	**-0.2**
WR0				IAmb		IAmb	00 58 05.5	
	comp=Z,7.1nm,0.9s							
WHN	**Wuhan**	**37.01**	**20**	⇓P		P	00 58 04.8	+7.4
ASAR	**Alice Springs**	**37.61**	**124**	P		**P**	**00 58 03.0**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=295,slow=8.0,SNR=7.2							
	comp=Z,1.4nm,0.8s							
XAN	**Xi'an**	**38.86**	**11**	P		**P**	**00 58 13.4**	**+0.3**
XAN				pmax		pmax		
	comp=Z,11nm,0.7s							
NJ2	**Nanjing**	**40.07**	**25**	*eP*		**P**	**00 58 25.0**	**+1.9**
NJ2				pmax		pmax		
	comp=Z,14nm,0.5s							
LYN	**LuoYang**	**40.17**	**15**	*eP*		**P**	**00 58 28.0**	**+4.1**
LYN				pmax		pmax		
	comp=Z,30nm,0.9s							
HHC	**Hu-ho-hao-te**	**45.97**	**12**	*eP*		**P**	**00 59 12.8**	**+1.9**
HHC				pmax		pmax		
	comp=Z,13nm,0.6s							
HHC				pmax		pmax		
	comp=Z,160nm,4.4s							
STKA	**Stephens Creek**	**47.36**	**130**	P		**P**	**00 59 22.1**	**+0.2**
STKA	**Stephens Creek**	**47.36**	**130**	P		**P**	**00 59 22.5**	**+0.6**
	comp=Z,4.4nm,0.7s,baz=311,slow=10,SNR=9.4							
	comp=Z,4.4nm,0.7s							
KSRS	**Korea Array**	**48.68**	**29**	P		**P**	**00 59 31.7**	**-0.2**
	comp=Z,2.6nm,1.0s,baz=214,slow=7.9,SNR=3.5							
	comp=Z,2.6nm,1.0s							
DRK	**Karamyk**	**50.86**	**331**	P		**P**	**00 59 48.6**	**-0.3**
SONM	**Songino Array**	**52.08**	**5**	P		**P**	**00 59 58.0**	**+0.4**
SONM				IAmb		IAmb	01 00 07.8	
	comp=Z,4.1nm,0.8s							
SONM	**Songino Array**	**52.08**	**5**	P		**P**	**00 59 59.1**	**+1.5**
	comp=Z,2.5nm,0.5s,baz=184,slow=8.7,SNR=26							
	comp=Z,2.5nm,0.5s							
ULN	**Ulaanbaatar**	**52.17**	**6**	P		**P**	**00 59 58.0**	**-0.3**
MKAR	**Makanchi Array**	**53.26**	**344**	P		**P**	**01 00 07.0**	**+0.7**
	comp=Z,2.7nm,0.8s,baz=154,slow=8.7,SNR=32							
	comp=Z,2.7nm,0.8s							
MAKZ	**Makanchi**	**53.36**	**344**	P		**P**	**01 00 07.3**	**+0.4**
MAKZ				IAmb		IAmb	01 00 16.2	
	comp=Z,8.1nm,1.4s							
MJAR	**Matsushiro Arr**	**53.70**	**38**	P		**P**	**01 00 09.1**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=232,slow=7.5,SNR=1.6							
	comp=Z,0.6nm,0.3s							
BNX	**BinXian**	**55.20**	**23**	⇑P		**P**	**01 00 21.6**	**+1.2**
BNX				pmax		pmax		
	comp=Z,9.0nm,1.8s							
BNX				pmax		pmax		
	comp=Z,94nm,4.6s							
USA0B	**Ussuriysk Arra**	**55.88**	**27**	P		**P**	**01 00 24.7**	**-0.6**
USA0B				IAmb		IAmb	01 00 35.2	
	comp=Z,8.4nm,0.9s							
USRK	**Ussuriysk Ar.**	**55.88**	**27**	P		**P**	**01 00 25.3**	**0.0**
USRK	**Ussuriysk Ar.**	**55.88**	**27**	P		**P**	**01 00 25.9**	**+0.6**
	comp=Z,6.0nm,0.7s,baz=223,slow=7.2,SNR=18							
	comp=Z,6.0nm,0.7s							
KURBB	**Kurchatov Arra**	**57.78**	**344**	P		**P**	**01 00 38.6**	**0.0**
	comp=Z,0.8nm,0.8s,baz=169,slow=5.9,SNR=9.6							
	comp=Z,0.8nm,0.8s							
KURK	**Kurchatov**	**57.84**	**344**			**P**	**01 00 39.6**	**+0.5**
KURK				IAmb		IAmb	01 00 48.2	
	comp=Z,4.8nm,0.9s							
H04N2	**CROZET ISLANDS**	**59.33**	**217**	T		T	02 05 01.7	
	baz=59,slow=75,SNR=40							
H04N1	**CROZET ISLANDS**	**59.34**	**217**	T		T	02 05 05.5	
	baz=59,slow=75,SNR=133							
H04N3	**CROZET ISLANDS**	**59.35**	**217**	T		T	02 05 03.7	
	baz=59,slow=75,SNR=101							
ZAA0	**Zalesovo Array**	**59.40**	**349**	P		**P**	**01 00 50.2**	**+0.3**
ZALV	**Zalesovo Beam**	**59.40**	**349**	P		**P**	**01 00 49.9**	**-0.1**
	comp=Z,4.3nm,0.8s,baz=178,slow=4.5,SNR=17							
	comp=Z,4.3nm,0.8s							
H04S1	**CROZET ISLANDS**	**59.60**	**217**	T		T	02 06 04.4	
	baz=61							
H04S3	**CROZET ISLANDS**	**59.61**	**217**	T		T	02 06 02.3	
	baz=61							
H04S2	**CROZET ISLANDS**	**59.62**	**217**	T		T	02 05 58.9	
	baz=61							
BVAR	**Borovoye Array**	**62.40**	**340**	P		**P**	**01 01 09.8**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=133,slow=8.7,SNR=7.0							
	comp=Z,1.0nm,0.8s							
ABKAR	**Akbulak array**	**63.78**	**332**	P		**P**	**01 01 19.1**	**-0.5**
ABKAR				IAmb		IAmb	01 01 28.1	
	comp=Z,4.8nm,0.7s							
BRTR	**Keskin Array B**	**75.14**	**313**	P		**P**	**01 02 28.4**	**-1.9**
BRTR	**Keskin Array B**	**75.14**	**313**	P		**P**	**01 02 29.1**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=150,slow=5.3,SNR=4.3							
	comp=Z,0.5nm,0.7s							
KOLS	**Kolonicke sedl**	**85.42**	**320**	*eP*		**P**	**01 03 28.0**	**+2.9**
QSPA	**South Pole Qui**	**85.78**	**180**			**P**	**01 03 26.6**	**-0.1**
QSPA				IAmb		IAmb	01 03 35.8	
	comp=Z,4.8nm,1.3s							
TXAR	**Lajitas Array**	**146.12**	**40**	PKPbc		**PKPbc**	**01 10 28.9**	**+0.4**
	comp=Z,1.8nm,0.9s,baz=213,slow=1.8,SNR=13							

IDC 15 00:52:43.2±5.6,21°.35S×174°.74W,h0km,mb4.0/3, mbtmp4.0/3,MS3.6/3,Error ellipse: s-maj=189.3km s-min=42.2km az=135.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**17.50**	**264**	LR		LR	01 01 56.5	
	comp=Z,453nm,20.2s,baz=52,slow=32							
PPT	**Papeete**	**24.01**	**85**	LR		LR	01 05 45.1	
	comp=Z,78nm,20.6s,baz=174,slow=33							
CTA	**Charters Tower**	**36.45**	**265**	LR		LR	01 12 15.5	
	comp=Z,93nm,19.2s,baz=170,slow=32							
ASAR	**Alice Springs**	**47.30**	**257**	P		P	01 01 19.9	+1.0
	1.1nm,0.6s,baz=87,slow=8.3,SNR=8.9							
	1.1nm,0.6s							
WRA	**Warramunga Arr**	**47.51**	**262**	P		P	01 01 18.8	-1.7
	0.6nm,0.8s,baz=95,slow=6.8,SNR=1.9							
	0.6nm,0.8s							
PETK	**Petropavlovsk-**	**77.91**	**343**	P		P	01 04 43.2	+0.6
	2.6nm,0.6s,baz=116,slow=6.6,SNR=6.3							
	2.6nm,0.6s							
BRTR	**Keskin Array B**	**149.65**	**314**	PKPbc		PKPbc	01 12 33.9	-1.3
	1.1nm,0.9s,baz=54,slow=2.5,SNR=4.6							

IDC 15 00:52:49.9±11.0,4°.06S×128°.59E,h294km±118km, mb3.1/2,mbtmp4.0/3,Error ellipse: s-maj=137.1km s-min=25.2km az=53.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BATI	**Baumata**	**7.82**	**218**	P		Pn	00 54 41.2	-0.1
	192nm,0.4s,baz=99,slow=3.6,SNR=36							
BATI				S		S	00 55 51.0	-21
	16nm,0.4s,baz=24,slow=20,SNR=1.0							
WRA	**Warramunga Arr**	**16.75**	**161**	P		P	00 56 26.5	0.0
	4.7nm,0.5s,baz=340,slow=10,SNR=48							
WRA				S		S	00 59 19.4	-7.1
	0.5nm,0.5s,baz=342,slow=18,SNR=1.3							
ASAR	**Alice Springs**	**20.16**	**166**	P		P	00 57 03.0	0.0
	4.6nm,0.6s,baz=344,slow=11,SNR=34							
	4.6nm,0.6s							
MKAR	**Makanchi Array**	**65.01**	**327**	P		P	01 02 59.0	0.0
	0.3nm,0.7s,baz=111,slow=6.3,SNR=2.4							
	0.3nm,0.7s							

GCMT ***15*** *01:14:25.0±0.4,17°.97S±0°.03×176°.41W±0°.03,h16km±2km, MW4.9/77,Moment Tensor Solution. s13,c14; s77,c90; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.09±.14; Mθθ-2.07±.13; Mφφ1.98±.12; Mrθ-0.55±.41; Mθφ-0.26±.12; Mφr1.66±.50; Best double couple: M₀2.60100×10¹⁶ NP1:φs47.00000°,δ80.00000°,λ147.00000°. NP2: φs47.00000°,δ57.00000°,λ12.00000°. Principal axes: T 2.9960, Plg31.0000°, Azm263.0000°; N -0.7870, Plg55.0000°, Azm115.0000°; P -2.2050, Plg15.0000°, Azm3.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 15 01:14:09.6±8.3,17°.70S×175°.68W,h0km,mb3.8/3, mbtmp3.8/3,MS4.0/4 Error ellipse: s-maj=371.8km s-min=39.1km az=142.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**11.68**	**190**	LR		LR	01 20 45.7	
	comp=Z,1μm,20.1s,baz=1.0,slow=34							
URZ	**Urewera**	**21.43**	**196**	LR		LR	01 26 39.4	
	comp=Z,671nm,18.6s,baz=120,slow=35							
PPT	**Papeete**	**24.88**	**94**	LR		LR	01 27 10.8	
	comp=Z,232nm,19.9s,baz=230,slow=31							
WRA	**Warramunga Arr**	**47.22**	**259**	P		P	01 22 44.1	-0.6
	0.9nm,0.8s,baz=96,slow=7.3,SNR=7.0							
	0.9nm,0.8s							
ASAR	**Alice Springs**	**47.34**	**254**	P		P	01 22 45.5	-0.1
	2.2nm,0.7s,baz=89,slow=8.2,SNR=11							
	2.2nm,0.7s							
ILAR	**Eielson Array**	**85.13**	**12**	P		P	01 26 46.1	-1.0
	0.3nm,0.9s,baz=218,slow=5.7,SNR=1.8							
	0.3nm,0.9s							
NNA	**Nana**	**94.65**	**104**	LR		LR	02 00 34.2	
	comp=Z,45nm,20.1s,baz=236,slow=29							
BRTR	**Keskin Array B**	**146.44**	**317**	PKPbc		PKPab	01 33 54.0	0.0
	0.3nm,0.9s,baz=64,slow=3.4,SNR=2.0							

CNRM ***15*** *01:14:28.8,36°.67N×7°.26W,h30km*
SFS ***15*** *01:14:32.9,36°.73N×7°.46W,h44km,ML2.5/10,ML2.7/9, MLv1.9/10*
MDD ***15*** *01:14:33.5±0.9,36°.76N×7°.44W,h28km±9km,mb_Lg2.4/6, Error ellipse: s-maj=8.9km s-min=3.6km az=22.0*
INMG ***15*** *01:14:33.4±1.3,36°.75N×7°.46W,h25km±5km,ML1.7,Error ellipse: s-maj=3.8km s-min=2.9km az=39.0*
IGIL ***15*** *01:14:33.0,36°.75N×7°.52W,h15km,ML1.1*

ISC 15 01:14:30.9±1.4,36°.68N±0°.04×7°.44W±0°.03,h34km±3km, n41,σ1♀24/68,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PBDV	**Barranco-do-Ve**	**0.69**	**325**	*eP*		**Pb**	**01 14 45.1**	**+0.5**
PBDV				*eS*		**Sb**	**01 14 53.5**	**-0.4**
PBDV	**Barranco-do-Ve**	**0.69**	**325**	Pg		**Pb**	**01 14 45.1**	**+0.5**
PBDV				Sg		**Sb**	**01 14 53.6**	**-0.4**
PVAQ	**Vaqueiros**	**0.76**	**343**	*eP*		**Pb**	**01 14 46.1**	**+0.4**
PVAQ				*eS*		**Sb**	**01 14 55.2**	**-0.6**
PVAQ				A		A	01 14 56.0	
	20nm,0.1s							
PVAQ	**Vaqueiros**	**0.76**	**343**	Pg		**Pb**	**01 14 46.1**	**+0.4**
PVAQ				Sg		**Sb**	**01 14 55.2**	**-0.6**
PVAQ	**Vaqueiros**	**0.76**	**343**	P		**Pb**	**01 14 44.6**	**-1.2**
EGRO	**El Granado**	**0.86**	**358**	Sn		**Sb**	**01 14 57.6**	**-0.9**
EGRO				Pn		**Pb**	**01 14 47.7**	**+0.3**
EGRO	**El Granado**	**0.86**	**358**	P		**Pb**	**01 14 47.6**	**+0.3**
EGRO				S		**Sb**	**01 14 57.8**	**-0.8**
EGRO				*i* Vmb_Lg			01 14 58.9	
PCVE	**Castro Verde**	**1.07**	**333**	*eP*		**Pn**	**01 14 50.6**	**+1.1**
PCVE				*eS*		**Sn**	**01 15 03.3**	**+0.2**
PCVE				A		A	01 15 03.5	
	7.5nm,0.5s							
PCVE	**Castro Verde**	**1.07**	**333**	Pg		**Pn**	**01 14 50.5**	**+1.1**
PCVE				Sg		**Sn**	**01 15 03.0**	**-0.2**
MORF	**Marmelete**	**1.16**	**303**	*eP*		**Pn**	**01 14 51.5**	**+0.8**
MORF				*eS*		**Sn**	**01 15 05.2**	**-0.2**
MORF	**Marmelete**	**1.16**	**303**	*eP*		**Pn**	**01 14 51.6**	**+0.8**
PFVI	**Vila Bisbo**	**1.20**	**293**	*eS*		**Sn**	**01 15 06.2**	**-0.3**
ESPR	**Espera**	**1.28**	**81**	Pn		**Pn**	**01 14 54.0**	**+1.6**
ESPR				Sn		**Sn**	**01 15 10.0**	**+1.6**
ESPR	**Espera**	**1.28**	**81**	P		**Pn**	**01 14 54.4**	**+2.0**
ESPR				S		**Sn**	**01 15 09.8**	**+1.3**
ESPR				*i* Vmb_Lg			01 15 11.2	
MESJ	**Messejana**	**1.32**	**332**	*eP*		**Pn**	**01 14 54.0**	**+1.1**
MESJ				*eS*		**Sn**	**01 15 09.1**	**-0.2**
MESJ	**Messejana**	**1.32**	**332**	*eP*		**Pn**	**01 14 54.0**	**+1.1**
MESJ				*eS*		**Sn**	**01 15 09.1**	**-0.2**
MESJ				IAML			01 15 10.3	
	comp=N,2.9nm,0.1s							
PTEO	**Sao Teotonio**	**1.34**	**311**	*eP*		**Pn**	**01 14 54.5**	**+1.2**
PTEO				*eS*		**Sn**	**01 15 10.2**	**+0.2**
PBEJ	**Beja**	**1.39**	**346**	*eS*		**Sn**	**01 15 10.6**	**-0.5**
PBEJ				A		A	01 15 14.3	
	comp=N,4.6nm,0.8s							
PBAR	**Barrancos**	**1.53**	**12**	*eP*		**Pn**	**01 14 56.9**	**+1.1**
PBAR				*eS*		**Sn**	**01 15 14.1**	**-0.4**
PBAR				A		A	01 15 19.6	
	comp=N,3.0nm,0.4s							
PBAR	**Barrancos**	**1.53**	**12**	Pn		**Pn**	**01 14 56.9**	**+1.1**
PBAR				Sn		**Sn**	**01 15 14.0**	**-0.4**
PNCL	**Nicolau / Gran**	**1.68**	**329**	*eP*		**Pn**	**01 14 59.9**	**+2.1**
PNCL				*eS*		**Sn**	**01 15 17.8**	**-0.3**
PNCL	**Nicolau / Gran**	**1.68**	**329**	Pn		**Pn**	**01 14 59.4**	**+1.6**
PNCL				Sn		**Sn**	**01 15 16.8**	**-1.3**
EVO	**Evora**	**1.91**	**346**	*eS*		**Sn**	**01 15 22.7**	**-1.2**
EVO				A		A	01 15 35.4	
	comp=N,2.4nm,0.4s							
EVO	**Evora**	**1.91**	**346**	Sn		**Sn**	**01 15 22.1**	**-1.7**
EVO				Pn		**Pn**	**01 15 01.2**	**+0.2**
EBAD	**Badajoz**	**2.10**	**9**	P		**Pn**	**01 15 05.2**	**+1.6**
EBAD				S		**Sn**	**01 15 28.3**	**-0.3**
EBAD				*i* Vmb_Lg			01 15 42.7	
ECAB	**El Cabril**	**2.13**	**48**	Pn		**Pn**	**01 15 05.0**	**+0.9**
ECAB				Sn		**Sn**	**01 15 27.5**	**-1.8**
ECAB	**El Cabril**	**2.13**	**48**	P		**Pn**	**01 15 04.8**	**+0.8**
ECAB				S		**Sn**	**01 15 27.8**	**-1.6**
ECAB				*i* Vmb_Lg			01 15 32.0	
PESTR	**Estremoz**	**2.19**	**357**	*eS*		**Sn**	**01 15 29.9**	**-1.0**
PESTR	**Estremoz**	**2.19**	**357**	P		**Pn**	**01 15 03.5**	**-1.4**
PESTR	**Estremoz**	**2.19**	**357**	S		**Sn**	**01 15 30.7**	**-0.2**
PMTG	**Montargil**	**2.47**	**346**	*eP*		**Pn**	**01 15 10.0**	**+1.3**
PMTG				*eS*		**Sn**	**01 15 37.0**	**-0.7**
EADA	**Adamuz**	**2.72**	**56**	P		**Pn**	**01 15 13.8**	**+1.6**
EADA				S		**Sn**	**01 15 43.2**	**-0.8**
EADA				*i* Vmb_Lg			01 15 47.4	
PMRV	**Marv??o**	**2.75**	**1**	*eP*		**Pn**	**01 15 12.9**	**+0.3**
PMRV				*eS*		**Sn**	**01 15 43.9**	**-0.7**
PCBR	**Castelo Branco**	**3.16**	**359**	*eP*		**Pn**	**01 15 19.4**	**+1.2**
PCBR				*eS*		**Sn**	**01 15 53.9**	**-0.8**
EQES	**Quesada**	**3.66**	**71**	P		**Pn**	**01 15 26.8**	**+1.6**
EQES				S		**Sn**	**01 16 06.9**	**-0.3**
EQES				*i* Vmb_Lg			01 16 11.5	
MD31	**MD31**	**4.39**	**149**	P		Pn	01 15 33.5	-1.8
MD31	**MD31**	**4.39**	**149**	S		**Sn**	**01 16 21.5**	**-3.8**
MDT	**Midelt**	**4.50**	**148**	P		Pn	01 15 34.6	-2.2
MDT	**Midelt**	**4.50**	**148**	S		**Sn**	**01 16 26.7**	**-1.3**
ETOB	**Tobarra**	**5.07**	**65**	Pn		**Pn**	**01 15 44.9**	**+0.3**
ETOB				Sn		**Sn**	**01 16 39.2**	**-2.7**
TIO	**Tiouine**	**5.74**	**178**	Pn		**Pn**	**01 15 55.7**	**+1.9**
TIO				Sn		**Sn**	**01 16 55.8**	**-2.8**

DJA ***15*** *01:19:32.9±0.2,10°S±3°×11°9E±°,h96km±12km,M4.6/17, mb4.5/11,mB5.2/6,MLv4.6/17,Mw(mB)4.5/6*
IDC ***15*** *01:19:35.8±6.9,9°.36S×119°.50E,h100km±64km,mb3.6/4, mbtmp3.9/6,ML4.4/3,MS3.2/2,Error ellipse: s-maj=60.8km s-min=26.0km az=69.0*

ISC 15 01:19:34.5±0.6,9°.75S±0°.06×119°.26E±0°.06,h100km,n51, σ2♀31/47,mb4.1/6,Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BASI	**Baing, Sumba**	**1.38**	**110**	P		**Pn**	**01 19 58.0**	**-1.3**
PLAI	**Plampang**	**1.73**	**302**	P		**Pn**	**01 20 01.3**	**-2.3**
PLAI	**Plampang**	**1.73**	**302**	P		**Pn**	**01 20 01.1**	**-2.5**
TWSI	**Taliwang, Sumb**	**2.55**	**293**	P		**Pn**	**01 20 12.8**	**-1.5**
EDFI	**Ende, Flores**	**2.60**	**68**	P		**Pn**	**01 20 13.1**	**-1.9**
MMRI	**Maumere**	**3.14**	**70**	P		**Pn**	**01 20 21.3**	**-0.9**
MMRI	**Maumere**	**3.14**	**70**	P		**Pn**	**01 20 21.5**	**-0.7**
SRBI	**Singaraja**	**4.33**	**292**	P		**Pn**	**01 20 35.6**	**-2.5**
BATI	**Baumata**	**4.36**	**96**	P		**Pn**	**01 20 38.8**	**+0.1**
	148nm,0.3s,baz=295,slow=3.8,SNR=53							
BATI				S		**Sn**	**01 21 25.8**	**-2.6**
	110nm,0.3s,baz=315,slow=7.1,SNR=13							
BATI	**Baumata**	**4.36**	**96**	P		**Pn**	**01 20 38.6**	**0.0**
BKSI	**Bulukumba**	**4.48**	**11**	P		**Pn**	**01 20 38.4**	**-1.9**
KAPI	**Kappang**	**4.73**	**6**	P		**Pn**	**01 20 42.2**	**-1.5**
SOEI	**Soe**	**4.94**	**90**	P		**Pn**	**01 20 44.7**	**-1.8**
SOEI	**Soe**	**4.94**	**90**	P		**Pn**	**01 20 46.8**	**+0.3**
JAGI	**Jajag, Banyuwa**	**5.20**	**284**	P		**Pn**	**01 20 46.8**	**-3.2**
JAGI	**Jajag, Banyuwa**	**5.20**	**284**	P		**Pn**	**01 20 46.8**	**-3.2**
	143nm,0.7s,2μm0.6nm							
ABJI	**Asem Bagus**	**5.33**	**291**	P		**Pn**	**01 20 48.6**	**-3.2**
	38nm,0.5s,0.3nm							
BBSI	**Bau Bau**	**5.36**	**38**	P		**Pn**	**01 20 51.1**	**-1.1**
	67nm,1.1s,2μm0.2nm							
GMJI	**Gumukmas**	**5.93**	**284**	P		**Pn**	**01 20 56.9**	**-3.0**
	47nm,0.8s,899nm							
KBKI	**Kotabaru**	**7.11**	**334**	P		**Pn**	**01 21 13.8**	**-2.1**
PWJI	**Pagerwojo**	**7.56**	**283**	P		**Pn**	**01 21 20.4**	**-1.7**
	15nm,0.5s,757nm							
UGM	**Wanagama**	**8.82**	**281**	P		**Pn**	**01 21 40.0**	**+0.7**
UGM	**Wanagama**	**8.82**	**281**	P		**Pn**	**01 21 37.1**	**-2.2**
	49nm,1.2s							
FITZ	**Fitzroy Crossi**	**10.35**	**144**	P		**Pn**	**01 21 58.7**	**-1.3**
KNRA	**Kununurra**	**10.98**	**123**	P		**Pn**	**01 22 07.3**	**-1.3**
MBWA	**Marble Bar**	**11.35**	**178**	P		**Pn**	**01 22 12.3**	**-1.3**
PSA00	**Pilbara Seismi**	**11.77**	**177**	P		**Pn**	**01 22 17.4**	**-1.7**
KDU	**Kakadu**	**13.29**	**104**	P		**Pn**	**01 22 38.3**	**-0.9**
GIRL	**

ISC 15 01:26:22.2±0.4, 11°00'S±0'06×165°94E±0'07, h61km, n145, σ1°15/132, mb4.5/51, 2D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.10**	**284**	P	**Pn**	**01 27 50.0**	**+0.2**
	4µm,0.4s,baz=140,slow=7.9,SNR=11						
HNR				S	**Sn**	**01 28 55.8**	**-2.5**
	1µm,0.5s,baz=149,slow=18,SNR=0.8						
KOUNC	**Koumac, New Ca**	**9.63**	**189**	Pn	**Pn**	**01 28 39.6**	**+1.6**
KOUNC					**Sn**	**01 30 20.5**	**-4.2**
KOUNC	**Koumac, New Ca**	**9.63**	**189**	P	**Pn**	**01 28 40.0**	**+2.0**
LIFNC	**LIFOU**	**9.80**	**173**	Pn	**Pn**	**01 28 41.1**	**+0.7**
LIFNC	**LIFOU**	**9.80**	**173**	P	**Pn**	**01 28 42.1**	**+1.7**
MARNC	**Mare, Loyalty**	**10.61**	**169**	Pn	**Pn**	**01 28 52.7**	**+1.3**
DZM	**Mont Dzumac**	**11.02**	**178**		**Pn**	**01 28 58.6**	**+1.5**
DZM	**Mont Dzumac**	**11.02**	**178**	P	**Pn**	**01 28 58.7**	**+1.5**
DZM	**Mont Dzumac**	**11.02**	**178**	P	**Pn**	**01 28 58.0**	**+0.8**
	2.9nm,0.3s,baz=303,slow=18,SNR=39						
DZM				S	**Sn**	**01 30 56.0**	**-2.9**
	3.5nm,0.4s,baz=82,slow=18,SNR=1.3						
DZM				LR	LR	01 31 51.8	
	comp=Z,260nm,20.1s,baz=53,slow=30						
	8.1nm,0.3s						
NOUC	**Port Laguerre**	**11.04**	**178**	P	**Pn**	**01 28 59.8**	**+2.4**
ONTNC	**Ouen Toro**	**11.25**	**178**	P	**Pn**	**01 29 02.3**	**+2.0**
OUENC	**Ouen Island, N**	**11.38**	**176**	Pn	**Pn**	**01 29 04.4**	**+2.4**
PINNC	**Pines Island,**	**11.63**	**173**	Pn	**Pn**	**01 29 07.5**	**+2.1**
MSVF	**Nonsavu**	**13.50**	**121**	Pn	**Pn**	**01 29 33.1**	**+2.1**
TARA	**Tarawa**	**14.10**	**30**	Pn	**Pn**	**01 29 38.0**	**-1.0**
EIDS	**Eidsvold**	**20.06**	**223**	P	Pn	01 30 52.6	-0.2
EIDS				IAmb	IAmb	01 31 19.0	
	comp=Z,31nm,1.2s						
CTA	**Charters Tower**	**20.99**	**242**	P	**P**	**01 31 01.1**	**+0.5**
	comp=Z,2.3nm,0.6s,baz=89,slow=7.4,SNR=1.8						
CTA				LR	LR	01 37 59.8	
	comp=Z,419nm,19.6s,baz=140,slow=33						
	comp=Z,2.3nm,0.6s						
CTAO	**Charters Tower**	**20.99**	**242**	P	Pn	01 31 03.3	-0.6
CTAO				IAmb	IAmb	01 31 20.8	
	comp=Z,36nm,1.2s						
COEN	**Coen**	**22.42**	**260**	P	**P**	**01 31 15.9**	**-0.2**
OMRZ	**Omania**	**28.56**	**163**	P	**P**	**01 32 15.5**	**+3.1**
RTZ	**Ruatahuna**	**29.21**	**162**	P	**P**	**01 32 18.2**	**0.0**
PKVZ	**Pokaka**	**29.39**	**165**	P	P	01 32 11.6	-8.1
MTHZ	**Maungataniwha**	**29.39**	**162**	P	**P**	**01 32 20.8**	**+1.1**
MAVZ	**Matarangi**	**29.42**	**165**	P	P	01 32 10.6	-10
TRVZ	**Turoa**	**29.45**	**165**	P	P	01 32 10.0	-10
SNGZ	**Shannon Statio**	**29.48**	**162**	P	**P**	**01 32 20.9**	**+0.4**
RAHZ	**Arahi**	**29.52**	**162**	P	**P**	**01 32 21.4**	**+0.6**
BKZ	**Black Stump Fm**	**29.58**	**163**	P	**P**	**01 32 21.2**	**-0.2**
BKZ	**Black Stump Fm**	**29.58**	**163**	P	**P**	**01 32 21.8**	**+0.4**
BHHZ	**Black Hill Sta**	**29.77**	**164**	P	**P**	**01 32 23.5**	**+0.4**
KRHZ	**Kereru**	**29.99**	**164**	P	**P**	**01 32 24.9**	**-0.1**
PNHZ	**Pukenui**	**30.20**	**164**	P	**P**	**01 32 27.4**	**+0.5**
TSZ	**Takapari Road**	**30.27**	**165**	P	**P**	**01 32 25.9**	**-1.6**
KAHZ	**Kahuranaki**	**30.27**	**163**	P	**P**	**01 32 27.7**	**+0.2**
PXZ	**Pawanui**	**30.49**	**163**	P	**P**	**01 32 29.6**	**+0.2**
STKA	**Stephens Creek**	**30.61**	**224**	P	**P**	**01 32 30.7**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=32,slow=11,SNR=2.2						
STKA				LR	LR	01 44 34.7	
	comp=Z,420nm,18.7s,baz=40,slow=36						
	comp=Z,0.7nm,0.3s						
MRNZ	**Matariki Terra**	**30.87**	**170**	P	**P**	**01 32 33.2**	**+0.5**
BFZ	**Birch Farm**	**30.93**	**165**	P	**P**	**01 32 32.8**	**-0.5**
BFZ	**Birch Farm**	**30.93**	**165**	P	**P**	**01 32 32.7**	**-0.5**
THZ	**Tophouse**	**31.25**	**170**	P	**P**	**01 32 37.5**	**+1.4**
PLWZ	**Palliser**	**31.53**	**167**	P	**P**	**01 32 37.5**	**-1.0**
WB0	**Warramunga Arr**	**31.59**	**250**	P	**P**	**01 32 39.2**	**-0.2**
WB0				IAmb	IAmb	01 32 52.9	
	comp=Z,8.3nm,0.8s						
WB2	**Warramunga Arr**	**31.67**	**250**	P	**P**	**01 32 39.9**	**-0.2**
WB2				IAmb	IAmb	01 32 53.1	
	comp=Z,6.4nm,0.9s						
WRA	**Warramunga Arr**	**31.68**	**250**	P	**P**	**01 32 40.5**	**+0.3**
WRA	**Warramunga Arr**	**31.68**	**250**	P	**P**	**01 32 40.2**	**0.0**
	comp=Z,2.5nm,0.6s,baz=82,slow=9.0,SNR=25						
WRA				PcP	**PcP**	**01 35 31.2**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=73,slow=2.9,SNR=4.7						
	comp=Z,2.5nm,0.6s						
KHZ	**Kahutara**	**31.99**	**169**	P	**P**	**01 32 42.7**	**+0.2**
LTZ	**Lake Taylor**	**32.14**	**171**	P	**P**	**01 32 44.5**	**+0.6**
FOZ	**Fox Glacier**	**32.58**	**175**	P	**P**	**01 32 49.3**	**+1.6**
OXZ	**Oxford**	**32.64**	**172**	P	**P**	**01 32 49.8**	**+1.6**
ASAR	**Alice Springs**	**32.98**	**243**	P	**P**	**01 32 51.2**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=72,slow=9.2,SNR=9.2						
ASAR				PcP	**PcP**	**01 35 34.4**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=50,slow=3.1,SNR=5.3						
ASAR				LR	LR	01 45 26.3	
	comp=Z,336nm,19.1s,baz=89,slow=35						
	comp=Z,1.0nm,0.6s						
MQZ	**McQueen's Vall**	**33.10**	**171**	P	**P**	**01 32 52.8**	**+0.6**
LBZ	**Lake Benmore**	**33.46**	**174**	P	**P**	**01 32 55.8**	**+0.3**
BBOO	**Buckleboo**	**35.00**	**227**	P	**P**	**01 33 09.6**	**+0.7**
BBOO				IAmb	IAmb	01 33 27.0	
	comp=Z,8.4nm,0.8s						
KNRA	**Kununurra**	**36.44**	**259**	P	**P**	**01 33 22.3**	**+0.8**
FITZ	**Fitzroy Crossi**	**39.58**	**255**	P	**P**	**01 33 48.0**	**+0.1**
MBWA	**Marble Bar**	**45.39**	**251**	P	**P**	**01 34 35.8**	**+0.7**
MBWA				IAmb	IAmb	01 34 37.4	
	comp=Z,7.5nm,0.9s						
NWAO	**Narrogin (SRO)**	**49.65**	**236**	LR	LR	01 56 07.0	
	comp=Z,507nm,19.7s,baz=56,slow=36						
MJAR	**Matsushiro Arr**	**54.02**	**332**	LR	LR	01 56 09.1	
	comp=Z,39nm,21.1s,baz=142,slow=33						
JNU	**Nakatsue**	**55.16**	**324**	LR	LR	01 55 35.4	
	comp=Z,47nm,21.8s,baz=142,slow=32						
JKA	**Kamikawa-asahi**	**56.82**	**341**	P	**P**	**01 36 15.2**	**+1.0**
KSRS	**Korea Array**	**59.95**	**326**	P	**P**	**01 36 22.4**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=139,slow=7.5,SNR=2.3						
	comp=Z,0.7nm,0.5s						
NJ2	**Nanjing**	**62.12**	**315**	*e*P	**P**	**01 36 39.3**	**+2.2**
NJ2				pP	**pP**	**01 36 54.3**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**63.00**	**333**	P	**P**	**01 36 42.6**	**0.0**
USRK	**Ussuriysk Ar.**	**63.00**	**333**	P	**P**	**01 36 43.0**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=132,slow=6.0,SNR=7.5						
	comp=Z,2.8nm,0.7s						
BNX	**BinXian**	**66.27**	**332**	||P	**P**	**01 37 05.8**	**+1.9**
BNX				pmax	pmax		
	comp=Z,8.0nm,1.9s						
BNX				pmax	pmax		
	comp=Z,150nm,4.8s						
CASY	**Casey**	**66.49**	**201**	P	**P**	**01 37 04.0**	**-1.0**
KLR	**Kul'dur**	**67.09**	**336**	P	**P**	**01 37 07.9**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=112,slow=1.7,SNR=5.4						
	comp=Z,1.4nm,0.6s						
MA2	**Magadan**	**71.39**	**352**	LR	LR	02 03 39.7	
	comp=Z,100nm,21.9s,baz=140,slow=31						
HHC	**Hu-ho-hao-te**	**71.92**	**320**	*e*P	**P**	**01 37 42.1**	**+2.8**
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				pmax	pmax		
	comp=Z,64nm,6.4s						
HHC				LR	LR		
	comp=N,120nm,16.6s						
HHC				LR	LR		
	comp=E,130nm,16.8s						
HHC				LR	LR		
	comp=Z,120nm,16.4s						
CMAR	**Chiang Mai Arr**	**72.27**	**293**	P	**P**	**01 37 41.6**	**0.0**
	comp=Z,0.7nm,0.3s,baz=112,slow=4.1,SNR=5.6						
	comp=Z,0.7nm,0.3s						
PZH	**PanZhiHua**	**72.61**	**302**	P	**P**	**01 37 46.3**	**+2.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
KDAK	**Kodiak Island**	**76.47**	**21**	LR	LR	02 05 36.0	
	comp=Z,84nm,19.1s,baz=214,slow=31						
K15K	**Wolf Creek Mou**	**77.33**	**15**	P	**P**	**01 38 09.2**	**-0.7**
YAK	**Yakutsk**	**78.11**	**343**	LR	LR	02 13 37.0	
	comp=Z,53nm,18.2s,baz=108,slow=36						
SONM	**Songino Array**	**78.75**	**324**	P	**P**	**01 38 17.7**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=126,slow=6.4,SNR=5.3						
	comp=Z,0.6nm,0.6s						
QSPA	**South Pole Qui**	**79.00**	**180**	P	**P**	**01 38 19.2**	**-0.2**
QSPA				IAmb	IAmb	01 38 41.3	
	comp=Z,11nm,1.4s						
QSPA	**South Pole Qui**	**79.00**	**180**	P	**P**	**01 38 19.3**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=360,slow=0.8,SNR=20						
	comp=Z,2.9nm,0.7s						
TTA	**Tatalina**	**79.33**	**17**	P	**P**	**01 38 20.7**	**-0.4**
TTA				IAmb	IAmb	01 38 56.8	
	comp=Z,5.6nm,1.3s						
M20K	**Styx River**	**79.37**	**18**	P	**P**	**01 38 20.6**	**-0.8**
RPN	**Rapa Nui**	**80.42**	**116**	LR	LR	02 06 06.5	
	comp=Z,72nm,21.7s,baz=268,slow=30						
CAST	**Castle Rocks**	**80.85**	**18**	P	**P**	**01 38 29.2**	**0.0**
CAST				IAmb	IAmb	01 38 53.8	
	comp=Z,5.5nm,1.3s						
F17K	**Baldwin Pennin**	**80.91**	**13**	P	**P**	**01 38 29.4**	**+0.1**
F17K				IAmb	IAmb	01 38 30.5	
	comp=Z,4.2nm,0.8s						
E18K	**Tukpahlearik C**	**81.87**	**12**	P	**P**	**01 38 34.5**	**0.0**
F19K	**Shaleruckik Mo**	**82.01**	**14**	P	**P**	**01 38 35.2**	**0.0**
F19K				IAmb	IAmb	01 38 58.3	
	comp=Z,6.0nm,1.3s						
N25K	**Chitina, Valde**	**82.04**	**22**	P	**P**	**01 38 35.1**	**-0.5**
N25K				IAmb	IAmb	01 39 13.7	
	comp=Z,7.5nm,1.1s						
VRDI	**Verde Repeater**	**82.21**	**22**	P	**P**	**01 38 35.3**	**-1.4**
H21K	**Melozitna Rive**	**82.33**	**16**	P	**P**	**01 38 36.6**	**-0.3**
MLY	**Manley**	**82.44**	**17**	P	**P**	**01 38 36.7**	**-0.9**
MCARA	**McCarthy VSAT**	**82.47**	**22**	P	**P**	**01 38 37.2**	**-0.6**
MCARA				IAmb	IAmb	01 38 49.0	
	comp=Z,10nm,1.1s						
E19K	**Redstone River**	**82.64**	**13**	P	**P**	**01 38 38.3**	**-0.2**
E19K				IAmb	IAmb	01 38 41.9	
	comp=Z,5.0nm,0.7s						
C18K	**Utukok River**	**82.79**	**12**	P	**P**	**01 38 38.6**	**-0.7**
C18K				IAmb	IAmb	01 38 39.9	
	comp=Z,8.6nm,1.2s						
CTGM	**Chitina Glacie**	**82.84**	**23**	P	**P**	**01 38 39.6**	**-0.3**
I23K	**Minto, Yukon-K**	**82.93**	**17**	P	**P**	**01 38 39.7**	**-0.3**
CCB	**Clear Creek Bu**	**83.04**	**18**	P	**P**	**01 38 39.8**	**-0.8**
MDM	**Murphy Dome**	**83.13**	**18**	P	**P**	**01 38 40.5**	**-0.6**
MDM				IAmb	IAmb	01 39 03.3	
	comp=Z,4.5nm,1.0s						
M26K	**Nabesna, AK**	**83.13**	**21**	P	**P**	**01 38 40.8**	**-0.4**
M26K				IAmb	IAmb	01 38 41.8	
	comp=Z,3.3nm,0.8s						
HDA	**Harding Lake**	**83.14**	**19**	P	**P**	**01 38 40.9**	**-0.3**
HDA				IAmb	IAmb	01 38 42.2	
	comp=Z,5.5nm,0.7s						
D19K	**Kuna River**	**83.29**	**13**	P	**P**	**01 38 41.2**	**-0.7**
D19K				IAmb	IAmb	01 38 42.6	
	comp=Z,4.5nm,0.8s						
F21K	**Alatna River**	**83.35**	**15**	P	**P**	**01 38 41.3**	**-0.9**
L26K	**Log Cabin Wild**	**83.41**	**21**	P	**P**	**01 38 42.4**	**-0.2**
L26K				IAmb	IAmb	01 38 46.0	
	comp=Z,11nm,1.5s						
IL31		**83.41**	**18**	P	**P**	**01 38 42.0**	**-0.5**
ILAR	**Eielson Array**	**83.41**	**18**	P	**P**	**01 38 41.5**	**-1.1**
	comp=Z,1.8nm,0.6s,baz=238,slow=5.1,SNR=60						
	comp=Z,1.8nm,0.6s						
C19K	**Lookout Ridge**	**83.49**	**12**	P	**P**	**01 38 42.8**	**-0.2**
C19K				IAmb	IAmb	01 38 45.4	
	comp=Z,3.6nm,0.8s						
M27K	**Edge Creek, AK**	**83.51**	**22**	P	**P**	**01 38 41.8**	**-1.5**
M27K				IAmb	IAmb	01 38 44.7	
	comp=Z,5.0nm,0.9s						
J25K	**Salcha River,**	**83.78**	**19**	P	**P**	**01 38 43.4**	**-1.2**
J25K				IAmb	IAmb	01 38 44.8	
	comp=Z,3.3nm,0.7s						
SCRK	**Sand Creek**	**83.81**	**20**	P	**P**	**01 38 44.4**	**-0.4**
SCRK				IAmb	IAmb	01 39 07.8	
	comp=Z,4.6nm,1.2s						
G23K	**Bananza Creek**	**83.88**	**16**	P	**P**	**01 38 44.4**	**-0.6**
L27K	**Beaver Creek,**	**83.97**	**21**	P	**P**	**01 38 45.1**	**-0.4**
PRP	**Porcupine Dome**	**84.34**	**18**	P	**P**	**01 38 47.4**	**0.0**
BBB	**Bella Bella**	**84.43**	**34**	LR	LR	02 07 52.4	
	comp=Z,102nm,21.6s,baz=222,slow=30						
E22K	**Anaktuvuk Pass**	**84.47**	**15**	P	**P**	**01 38 47.2**	**-0.7**
E22K				IAmb	IAmb	01 39 11.8	
	comp=Z,4.9nm,1.4s						
K27K	**Chicken**	**84.49**	**20**	P	**P**	**01 38 47.7**	**-0.3**
K27K				IAmb	IAmb	01 39 21.0	
	comp=Z,7.1nm,1.4s						
B20K	**Meade River**	**84.72**	**12**	P	**P**	**01 38 48.5**	**-0.6**
B20K				IAmb	IAmb	01 38 52.1	
	comp=Z,4.2nm,0.7s						
D22K	**Ayikyak River**	**84.82**	**14**	P	**P**	**01 38 49.8**	**+0.2**
D22K				IAmb	IAmb	01 38 51.0	
	comp=Z,3.2nm,0.8s						
MAW	**Mawson**	**84.83**	**202**	P	**P**	**01 38 50.4**	**+0.6**
MAW				IAmb	IAmb	01 39 04.2	
	comp=Z,6.4nm,1.4s						
I26K	**Coal Creek Min**	**84.95**	**19**	P	**P**	**01 38 49.8**	**-0.5**
I26K				IAmb	IAmb	01 39 05.8	
	comp=Z,5.7nm,1.2s						
B21K	**Ikpikpuk River**	**84.95**	**13**	P	**P**	**01 38 50.4**	**+0.2**
B21K				IAmb	IAmb	01 38 52.2	
	comp=Z,6.1nm,0.8s						
F24K	**Squaw Lake**	**85.04**	**16**	P	**P**	**01 38 51.2**	**+0.4**
EGAK	**Eagle**	**85.27**	**20**	P	**P**	**01 38 51.5**	**-0.4**
EGAK				IAmb	IAmb	01 39 17.1	
	comp=Z,12nm,1.4s						
NVAR	**Mina Array Bea**	**85.85**	**50**	P	**P**	**01 38 54.8**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=256,slow=7.3,SNR=2.9						
NVAR				LR	LR	02 10 01.8	
	comp=Z,110nm,18.7s,baz=268,slow=30						
	comp=Z,0.7nm,0.7s						
PFO	**Pinyon Flats O**	**85.90**	**55**	LR	LR	02 09 19.3	
	comp=Z,64nm,20.0s,baz=248,slow=30						
I28M	**Miner Creek**	**86.09**	**20**	P	**P**	**01 38 55.3**	**-0.8**
D25K	**Kavik River**	**86.70**	**15**	P	**P**	**01 38 59.0**	**0.0**
D25K				IAmb	IAmb	01 39 26.7	
	comp=Z,3.8nm,1.3s						
ELK	**Elko**	**88.78**	**48**	LR	LR	02 11 00.5	
	comp=Z,60nm,21.3s,baz=300,slow=30						
WMQ	**Urumqi**	**89.20**	**315**	||P	**P**	**01 39 13.1**	**+1.6**
WMQ				pmax	pmax		
	comp=Z,44nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,140nm,4.3s						
WMQ				LR	LR		
	comp=Z,82nm,24.1s						
INK	**Inuvik**	**89.80**	**19**	LR	LR	02 11 37.8	
	comp=Z,128nm,21.8s,baz=184,slow=30						
PDAR	**Pinedale Array**	**93.38**	**47**	P	**P**	**01 39 31.4**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=294,slow=4.5,SNR=2.0						
	comp=Z,0.2nm,0.5s						
MK31	**Makanchi Array**	**93.62**	**317**	P	**P**	**01 39 32.0**	**+0.1**
MK31				IAmb	IAmb	01 39 46.2	
	comp=Z,2.8nm,1.2s						
MKAR	**Makanchi Array**	**93.62**	**317**	P	**P**	**01 39 31.2**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=91,slow=6.6,SNR=19						
	comp=Z,1.5nm,0.7s						
YKA	**Yellowknife Ar**	**94.85**	**27**	P	**P**	**01 39 34.8**	**-2.3**
	comp=Z,0.4nm,0.7s,baz=262,slow=4.6,SNR=5.7						
YKA				LR	LR	02 17 30.1	
	comp=Z,136nm,18.6s,baz=328,slow=32						
	comp=Z,0.4nm,0.7s						
TXAR	**Lajitas Array**	**95.64**	**61**	P	**P**	**01 39 41.4**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=197,slow=3.9,SNR=4.1						
TXAR				LR	LR	02 17 45.9	
	comp=Z,75nm,18.2s,baz=252,slow=32						
	comp=Z,0.3nm,0.7s						
NRIK	**Noril'sk**	**96.15**	**340**	LR	LR	02 22 04.3	
	comp=Z,49nm,19.6s,baz=96,slow=35						
KURBB	**Kurchatov Arra**	**96.77**	**320**	LR	LR	02 22 06.9	
	comp=Z,53nm,21.8s,baz=174,slow=35						
SNAA	**Sanae**	**97.17**	**184**	LR	LR	02 23 39.0	
	comp=Z,122nm,18.1s,baz=124,slow=35						
ARCES	**ARCESS Array B**	**116.34**	**346**	PKP	**PKPdf**	**01 44 56.6**	**-1.7**
	comp=Z,1.7nm,0.6s,baz=66,slow=1.7,SNR=10						
LPAZ	**La Paz**	**120.03**	**116**	PKP	**PKPdf**	**01 45 06.3**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=300,slow=8.1,SNR=2.0						
FINES	**FINESS Array B**	**121.80**	**339**	PKP	**PKPdf**	**01 45 06.8**	**-2.2**
	comp=Z,2.0nm,0.9s,baz=277,slow=1.5,SNR=4.5						
CPUP	**Villa Florida**	**123.91**	**132**	PKP	**PKPdf**	**01 45 13.8**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=67,slow=2.0,SNR=3.9						
NB2	**NORSAR Subarra**	**126.71**	**345**	PKPdf	**PKPdf**	**01 45 17.3**	**-1.2**
	comp=Z,2.1nm,1.0s,baz=39,slow=1.9						
NOA	**NORSAR Array B**	**126.71**	**345**	PKP	**PKPdf**	**01 45 16.4**	**-2.1**
	comp=Z,0.7nm,0.7s,baz=34,slow=2.0,SNR=4.2						
GERES	**GERESS Array B**	**135.75**	**334**	PKP	**PKPdf**	**01 45 36.5**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=64,slow=4.5,SNR=2.4						
BDFB	**Brasilia**	**137.21**	**128**	PKP	**PKPdf**	**01 45 39.4**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=111,slow=4.7,SNR=3.0						
KEST	**Kesra**	**147.50**	**323**	PKPbc	**PKPbc**	**01 45 59.6**	**-0.4**
	comp=Z,5.9nm,0.6s,baz=303,slow=1.8,SNR=13						
ESDC	**Sonseca Array**	**150.07**	**344**	PKPbc	**PKPbc**	**01 46 05.8**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=12,slow=5.1,SNR=7.8						
TORD	**Torodi Ar. Bea**	**164.45**	**279**	PKP	**PKPdf**	**01 46 19.2**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=83,slow=1.3,SNR=5.4						

IDC 15 01:34:55.8±6.2, 16°76S×177°61W, h0km, mb3.6/3, mbtmp3.6/3, MS4.3/2, Error ellipse: s-maj=299.2km s-min=39.5km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**12.44**	**181**	LR	LR	01 41 20.3	
	comp=Z,1µm,19.4s,baz=354,slow=31						
URZ	**Urewera**	**21.92**	**191**	LR	LR	01 47 15.2	
	comp=Z,769nm,19.4s,baz=117,slow=34						
WRA	**Warramunga Arr**	**45.60**	**258**	P	P	01 43 17.3	-0.9
	0.9nm,0.9s,baz=97,slow=8.3,SNR=4.4						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**45.85**	**253**	P	P	01 43 20.5	+0.4
	1.1nm,0.6s,baz=87,slow=8.0,SNR=9.8						
	1.1nm,0.6s						
ILAR	**Eielson Array**	**84.60**	**13**	P	P	01 47 30.4	-0.2
	0.2nm,0.8s,baz=208,slow=5.1,SNR=1.8						
	0.2nm,0.8s						
BRTR	**Keskin Array B**	**144.50**	**316**	PKP	PKPdf	01 54 34.5	-0.1
	0.9nm,0.8s,baz=74,slow=2.2,SNR=5.5						

IDC 15 01:36:31.2±5.8, 17°33S×177°57W, h0km, mb3.7/3, mbtmp3.7/3, MS3.9/11, Error ellipse: s-maj=277.8km s-min=42.1km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**35.16**	**278**	LR	LR	01 55 45.6	
	comp=Z,204nm,19.0s,baz=104,slow=33						
WRA	**Warramunga Arr**	**45.52**	**259**	P	P	01 44 51.9	-1.0
	0.7nm,0.9s,baz=95,slow=6.6,SNR=1.9						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**45.72**	**254**	P	P	01 44 55.1	+0.6
	1.3nm,0.6s,baz=89,slow=8.5,SNR=2.4						
	1.3nm,0.6s						
BATI	**Baumata**	**57.34**	**269**	LR	LR	02 10 17.3	
	comp=Z,162nm,20.1s,baz=132,slow=35						
NWAO	**Narrogin (SRO)**	**60.18**	**242**	LR	LR	02 10 18.5	
	comp=Z,75nm,20.7s,baz=94,slow=34						
MJAR	**Matsushiro Arr**	**67.93**	**323**	LR	LR	02 10 16.5	
	comp=Z,43nm,21.4s,baz=130,slow=30						
LEM	**Lembang**	**73.53**	**268**	LR	LR	02 20 45.8	
	comp=Z,62nm,20.7s,baz=334,slow=36						
KDAK	**Kodiak Island**	**77.66**	**13**	LR	LR	02 17 55.3	
	comp=Z,88nm,18.9s,baz=210,slow=32						
MAW	**Mawson**	**84.67**	**200**	LR	LR	02 25 42.6	
	comp=Z,35nm,18.1s,baz=111,slow=35						
DLBC	**Dease Lake**	**84.99**	**23**	LR	LR	02 17 30.4	
	comp=Z,111nm,21.8s,baz=269,slow=29						
ILAR	**Eielson Array**	**85.15**	**13**	P	P	01 49 08.8	-0.1
	0.4nm,0.9s,baz=190,slow=4.6,SNR=2.6						
	0.4nm,0.9s						
TIXI	**Tiksi**	**95.81**	**345**	LR	LR	02 29 58.6	
	comp=Z,83nm,19.7s,baz=184,slow=34						
ATAH	**Atahualpa**	**96.58**	**100**	LR	LR	02 25 03.6	
	comp=Z,125nm,21.6s,baz=248,slow=30						
LVC	**Limon Verde**	**99.75**	**117**	LR	LR	02 25 31.3	
	comp=Z,50nm,20.6s,baz=272,slow=30						
BRTR	**Keskin Array B**	**144.93**	**316**	PKP	PKPdf	01 56 10.6	-0.3
	0.4nm,0.8s,baz=86,slow=3.0,SNR=2.3						

IDC 15 01:39:40.3±0.9, 17°91S×176°69W, h0km, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=36.1km s-min=23.8km az=142.0

ISC 15 01:39:45.7±0.9, 17°9S±0°2×176°7W±0°2, h35km, n9, σ0°82/9, mb3.8/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.22**	**259**	P	**P**	**01 48 06.7**	**-1.0**
	1.0nm,0.7s,baz=95,slow=6.4,SNR=13						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**46.34**	**254**	P	**P**	**01 48 08.6**	**-0.2**
	3.8nm,0.7s,baz=89,slow=8.3,SNR=24						
	3.8nm,0.7s						
MJAR	**Matsushiro Arr**	**68.88**	**322**	P	**P**	**01 50 47.8**	**+0.8**
	0.8nm,0.3s,baz=163,slow=8.5,SNR=1.8						
	0.8nm,0.3s						
QSPA	**South P

DATC	**Datca-Mugla**	**1.32**	**31**	Pn		**Pg**	**01 40 58.7**	**+0.2**
THR8	**Santorini-Mono**	**1.34**	**306**	P		**Pg**	**01 40 58.4**	**-0.3**
THR8	**Santorini-Mono**	**1.34**	**306**	P		**Pg**	**01 40 58.5**	**-0.3**
KLNA	**Kalymnos**	**1.34**	**5**	P		**Pb**	**01 40 57.7**	**0.0**
THR6	**Thira Island,**	**1.36**	**303**	P		**Pg**	**01 40 58.8**	**-0.4**
THR6	**Thira Island,**	**1.36**	**303**	P		**Pg**	**01 40 58.7**	**-0.5**
THR3	**Thira Island,**	**1.39**	**305**	P		**Pb**	**01 40 59.0**	**+0.4**
THR3	**Thira Island,**	**1.39**	**305**	P		**Pb**	**01 40 58.9**	**+0.4**
CMBO	**Columbo, Santo**	**1.42**	**307**	P		**Pb**	**01 40 59.2**	**+0.1**
CMBO				S		**Sg**	**01 41 19.1**	**+0.3**
CMBO	**Columbo, Santo**	**1.42**	**307**	P		**Pn**	**01 40 59.0**	**+0.8**
CMBO				S		**Sg**	**01 41 18.0**	**-0.8**
CMBO				AML	AML		01 41 21.1	
	comp=E,5831µm,0.7s							
CMBO				AML	AML		01 41 25.7	
	comp=N,5649µm,0.5s							
IACM	**Heraklion**	**1.46**	**258**	P		**Pb**	**01 41 00.9**	**+1.1**
IACM				S		**Sb**	**01 41 19.4**	**+1.3**
KSTL	**Kastelli Herak**	**1.46**	**258**	P		**Pn**	**01 40 58.1**	**-0.6**
KSTL				S		**Sn**	**01 41 14.8**	**-2.8**
	comp=N,402nm,0.7s							
KSTL	**Kastelli Herak**	**1.46**	**258**	P		**Pn**	**01 40 58.2**	**-0.6**
KSTL				S		**Sn**	**01 41 15.2**	**-2.4**
KSTL				AML	AML		01 41 17.4	
	comp=N,3068µm,0.6s							
KSTL				AML	AML		01 41 17.9	
	comp=E,1676µm,0.9s							
BODT	**Bodrum**	**1.49**	**15**	Pn		**Pg**	**01 41 00.9**	**-0.7**
BDRM	**Kayabasi**	**1.53**	**19**	P		**Pg**	**01 41 03.2**	**+0.9**
BDRM				S		**Sg**	**01 41 20.8**	**-1.4**
IDI	**Anoyia**	**1.61**	**259**	Pn		**Pb**	**01 41 02.8**	**+0.4**
IDI				Sn		**Sb**	**01 41 24.3**	**+1.8**
IDI	**Anoyia**	**1.61**	**259**	P		**Pn**	**01 41 02.1**	**+1.3**
IDI				S		**Sb**	**01 41 23.8**	**+1.3**
IDI				AML	AML		01 41 26.3	
	comp=N,2018µm,0.5s							
IDI				AML	AML		01 41 26.5	
	comp=E,803µm,0.3s							
TURN	**Turunc**	**1.63**	**45**	Pn		**Pb**	**01 41 03.3**	**+0.6**
TURN	**Turunc**	**1.63**	**45**	P		**Pn**	**01 41 01.5**	**+0.4**
TURN				S		**Sn**	**01 41 21.1**	**-0.6**
TURN				*i* AML	AML		01 41 28.0	
	comp=E,137nm,0.6s							
TURN				*i* AML	AML		01 41 31.0	
	comp=E,131nm,0.6s							
TMBK	**Timbaki Herakl**	**1.76**	**252**	P		**Pn**	**01 41 04.6**	**+1.7**
TMBK				S		**Sn**	**01 41 27.0**	**+2.0**
APE	**Apeiranthos**	**1.78**	**325**	Pn		**Pb**	**01 41 04.9**	**-0.3**
APE				Sn		**Sb**	**01 41 27.6**	**+0.2**
APE	**Apeiranthos**	**1.78**	**325**	P		**Pn**	**01 41 04.7**	**-0.5**
MLSB	**Milas**	**1.84**	**25**	Pn		**Pb**	**01 41 05.8**	**-0.5**
MLSB				Sn		**Sb**	**01 41 29.6**	**+0.5**
DALY	**Dalyan (Mula)**	**1.91**	**51**	Pn		**Pb**	**01 41 07.2**	**-0.2**
DALY				Sn		**Sb**	**01 41 31.9**	**+0.9**
MULA	**Mugla, Merkez-**	**2.03**	**36**	P		**Pb**	**01 41 10.1**	**+0.5**
SMG	**Samos**	**2.08**	**0**	P		**Pn**	**01 41 08.8**	**+1.5**
FETY	**Fethiye**	**2.10**	**61**	Pn		**Pb**	**01 41 10.1**	**-0.6**
GCAM	**G?zelcaml?**	**2.10**	**9**	Pn		**Pb**	**01 41 09.9**	**-0.8**
GCAM	**G?zelcaml?**	**2.10**	**9**	P		**Pb**	**01 41 10.9**	**+0.2**
IZZE	**Mula-Seydike**	**2.12**	**67**	P		**Pb**	**01 41 10.7**	**-0.3**
IZZE				*i* AML	AML		01 41 50.0	
	comp=E,150nm,0.3s							
CHAN	**Chania**	**2.26**	**268**	P		**Pn**	**01 41 10.8**	**+1.1**
IMMV	**Iera Moni Meta**	**2.32**	**267**	Pn		**Pn**	**01 41 12.6**	**+2.1**
IMMV	**Iera Moni Meta**	**2.32**	**267**	P		**Pn**	**01 41 12.2**	**+1.6**
AKAS	**Kas**	**2.34**	**74**	Pn		**Pn**	**01 41 13.6**	**+2.6**
GVD	**Gavdhos**	**2.37**	**251**	Pn		**Pn**	**01 41 13.4**	**+2.2**
GVD	**Gavdhos**	**2.37**	**251**	P		**Pb**	**01 41 14.3**	**-0.9**
CAME	**Cameli-Denizli**	**2.40**	**56**	Pn		**Pn**	**01 41 13.9**	**+2.0**
DGB	**zmir**	**2.42**	**1**	P		**Pn**	**01 41 12.6**	**+0.6**
DGB				S		**Sg**	**01 41 50.4**	**-0.5**
DNZT	**Denizli-Tavas-**	**2.43**	**47**	P		**Pb**	**01 41 17.2**	**+0.8**
DNZT				S		**Sb**	**01 41 44.7**	**-1.5**
DNZT				*i* AML	AML		01 41 48.0	
	comp=E,68nm,0.7s							
ESEN	**Aydn-Nazilli**	**2.50**	**29**	P		**Pn**	**01 41 14.8**	**+1.8**
ESEN				S		**Sn**	**01 41 42.3**	**-0.8**
TAVA	**DENIZLI_Tavas**	**2.50**	**42**	P		**Pb**	**01 41 16.3**	**-1.2**
TAVA				*i* AML	AML		01 41 49.0	
	comp=E,58nm,0.4s							
CAEL	**Denizli, Camel**	**2.52**	**53**	P		**Pn**	**01 41 11.7**	**-1.7**
CAEL				*i* AML	AML		01 42 04.0	
	comp=E,286nm,0.8s							
KNIK	**Mula-Seydike**	**2.54**	**61**	P		**Pn**	**01 41 15.9**	**+2.2**
APMY	**Acipayam-Deniz**	**2.72**	**47**	Pn		**Pn**	**01 41 18.6**	**+2.4**
ELL	**Elmali**	**2.74**	**65**	Pn		**Pn**	**01 41 19.5**	**+3.0**
CHOS	**Chios island**	**2.83**	**348**	P		**Pn**	**01 41 18.3**	**+0.7**
KIRA	**zmir-Kiraz**	**2.87**	**26**	P		**Pn**	**01 41 19.2**	**+1.1**
VLI	**Veliai**	**3.32**	**290**	P		**Pn**	**01 41 25.8**	**+1.4**
BRTR	**Keskin Array B**	**6.79**	**51**	Pn		**Pn**	**01 42 14.7**	**+2.6**
	comp=E,0.1nm,0.3s,baz=224,slow=14,SNR=4.8							
BRTR				Sn		**Sn**	**01 43 27.9**	**-1.2**
	baz=217,slow=24,SNR=1.4							
	comp=E,0.8nm,0.9s							
MMC7	**Mount Meron ar**	**7.55**	**108**	P		**Pn**	**01 42 23.3**	**+0.7**
MMC1	**Mount Meron ar**	**7.56**	**108**	P		**Pn**	**01 42 22.9**	**+0.2**
MMC1				S		**Sn**	**01 43 46.6**	**-1.5**
MMA0B	**Mount Meron ar**	**7.56**	**108**	S		**Sn**	**01 43 48.1**	**-0.2**
MMA0B	**Mount Meron ar**	**7.56**	**108**	P		**Pn**	**01 42 23.4**	**+0.7**
MMAI	**Mount Meron Ar**	**7.56**	**108**	Pn		**Pn**	**01 42 23.0**	**+0.2**
	comp=E,1.1nm,0.3s,baz=307,slow=12,SNR=15							
MMAI				Sn		**Sn**	**01 43 43.8**	**-4.5**
	comp=E,3.2nm,0.3s,baz=308,slow=26,SNR=11							
	comp=E,0.7nm,0.3s							
MMB1	**Mount Meron ar**	**7.57**	**108**	P		**Pn**	**01 42 23.1**	**+0.3**
SLTI	**Sal'it**	**7.62**	**114**	P		**Pn**	**01 42 24.4**	**+0.9**
GEM	**Giv'at Ha'Em**	**7.70**	**106**	P		**Pn**	**01 42 24.9**	**+0.4**
GEM	**Giv'at Ha'Em**	**7.70**	**106**	S		**Sn**	**01 43 50.4**	**-1.0**
GEM	**Giv'at Ha'Em**	**7.70**	**106**	P		**Pn**	**01 42 25.2**	**+0.7**
NATI	**Neve Ativ**	**7.74**	**105**	S		**Sn**	**01 43 52.0**	**-0.3**
NATI	**Neve Ativ**	**7.74**	**105**	P		**Pn**	**01 42 25.6**	**+0.6**
AMAZ	**Amatzia**	**7.89**	**119**	P		**Pn**	**01 42 28.0**	**+0.8**
AMAZ	**Amatzia**	**7.89**	**119**	S		**Sn**	**01 43 54.6**	**-1.6**
AMAZ	**Amatzia**	**7.89**	**119**	P		**Pn**	**01 42 27.5**	**+0.3**
KSHT	**Keshet**	**7.89**	**107**	P		**Pn**	**01 42 27.9**	**+0.6**
KSHT	**Keshet**	**7.89**	**107**	S		**Sn**	**01 43 56.2**	**-0.1**
KZIT	**Kziot**	**7.90**	**124**	S		**Sn**	**01 43 54.8**	**-1.6**
KZIT	**Kziot**	**7.90**	**124**	P		**Pn**	**01 42 27.2**	**-0.1**
SHMJ	**Saham**	**7.96**	**109**	P		**Pn**	**01 42 28.9**	**+0.8**
HMDT	**Nahal Hemdat**	**7.98**	**112**	P		**Pn**	**01 42 28.6**	**+0.2**
HMDT	**Nahal Hemdat**	**7.98**	**112**	S		**Sn**	**01 43 57.5**	**-0.9**
HMDT	**Nahal Hemdat**	**7.98**	**112**	P		**Pn**	**01 42 28.9**	**+0.6**
YTIR	**Yattir**	**8.13**	**119**	P		**Pn**	**01 42 31.1**	**+0.6**
YTIR	**Yattir**	**8.13**	**119**	S		**Sn**	**01 44 00.5**	**-1.7**
YTIR	**Yattir**	**8.13**	**119**	P		**Pn**	**01 42 31.1**	**+0.6**
DSI	**Dead Sea**	**8.21**	**117**	P		**Pn**	**01 42 31.8**	**+0.3**
DSI	**Dead Sea**	**8.21**	**117**	S		**Sn**	**01 44 02.6**	**-1.4**
DSI	**Dead Sea**	**8.21**	**117**	P		**Pn**	**01 42 31.9**	**+0.5**
MSBI	**Mazada**	**8.33**	**119**	P		**Pn**	**01 42 33.2**	**+0.1**
MSBI	**Mazada**	**8.33**	**119**	S		**Sn**	**01 44 05.4**	**-1.4**
KRMI	**Paran Flat**	**8.62**	**127**	P		**Pn**	**01 42 37.8**	**+0.6**
KRMI	**Paran Flat**	**8.62**	**127**	P		**Pn**	**01 42 37.3**	**0.0**
PRNI	**Paran**	**8.65**	**125**	P		**Pn**	**01 42 39.4**	**+1.7**
PRNI	**Paran**	**8.65**	**125**	S		**Sn**	**01 44 11.6**	**-3.4**
PRNI	**Paran**	**8.65**	**125**	P		**Pn**	**01 42 37.6**	**0.0**
HRFI	**Mount Harif**	**8.88**	**127**	P		**Pn**	**01 42 41.3**	**+0.6**
HRFI	**Mount Harif**	**8.88**	**127**	S		**Sn**	**01 44 18.4**	**-2.2**
HRFI	**Mount Harif**	**8.88**	**127**	P		**Pn**	**01 42 40.4**	**-0.4**
MBRI	**Mt Berech**	**8.96**	**128**	P		**Pn**	**01 42 43.0**	**+1.1**
MBRI	**Mt Berech**	**8.96**	**128**	P		**Pn**	**01 42 42.2**	**+0.3**
MBRI	**Mt Berech**	**8.96**	**128**	S		**Sn**	**01 44 20.5**	**-2.1**
EIL	**Elat**	**9.07**	**129**	S		**Sn**	**01 44 22.6**	**-2.5**
EIL	**Elat**	**9.07**	**129**	P		**Pn**	**01 42 42.9**	**-0.4**
AKASG	**Malin Array Be**	**15.17**	**6**	Pn		**P**	**01 44 10.0**	**-1.5**
	comp=E,0.3nm,0.3s,baz=193,slow=11,SNR=4.1							
	comp=E,0.4nm,0.5s							
ESDC	**Sonseca Array**	**24.64**	**289**	P		**P**	**01 45 53.1**	**+0.2**
	comp=E,0.6nm,0.7s,baz=84,slow=12,SNR=1.9							
	comp=E,0.6nm,0.7s							
TORD	**Torodi Ar. Bea**	**31.83**	**232**	P		**P**	**01 46 55.1**	**-2.2**
	comp=E,0.4nm,0.6s,baz=34,slow=9.1,SNR=6.8							
	comp=E,0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**39.78**	**51**	P		**P**	**01 48 07.0**	**+2.0**
	comp=E,0.7nm,0.2s,baz=272,slow=7.1,SNR=1.7							
	comp=E,0.7nm,0.2s							
MKAR	**Makanchi Array**	**42.39**	**57**	P		**P**	**01 48 27.1**	**+0.5**
	comp=E,0.4nm,0.6s,baz=268,slow=4.7,SNR=4.5							
	comp=E,0.4nm,0.6s							
PALK	**Pallekele**	**56.68**	**106**	LR		LR	02 18 05.2	
	comp=E,54nm,18.0s,baz=248,slow=40							
USRK	**Ussuriysk Ar.**	**75.55**	**46**	P		**P**	**01 52 17.8**	**+0.9**
	comp=E,0.7nm,0.7s,baz=131,slow=8.8,SNR=4.3							
	comp=E,0.7nm,0.7s							

2018 MAR

IDC ***15*** *01:58:23.0±0.7,83°.55N×3°.30W, h0km, mb3.6/15, mbtmp3.6/17, ML3.4/2, MS3.7/21, Error ellipse: s-maj=23.9km s-min=13.3km az=29.0*

NEIC ***15*** *01:58:24.4±1.4, 83°.2N±0°.1×5°.1W±0°.9, h10km±2km, mb4.2/21, Error ellipse: s-maj=23.2km s-min=14.6km az=38.0*

DNK ***15*** *01:58:24.9±2.5, 83°.58N×3°.32W, h20km±43km, ML1.8*

BER ***15*** *01:58:25.1±4.0, 83°.53N×3°.26W, h10km, mb(Pn)3.9, ML3.9(NAO), Confirmed Earthquake*

FCIAR ***15*** *01:58:27.9, 83°.42N×0°.22E, h10km, station OMEGA has station magnitude of 3.80 station LSH has station magnitude of 4.73 station KLMR has station magnitude of 4.72*

KOLA ***15*** *01:58:29.6, 83°.42N×0°.85W, h0km, ML1.7, Arctic Ocean, Gakkel ridge*

ISC 15 01:58:24.3±0.5, 83°.35N±0°.06×3°.07W±0°.05, h10km, n97, σ2s52/111, mb4.0/26, MS3.6/19, 1C, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NOR	**Nord**	**2.50**	**232**	Pn	**Pn**	**01 59 05.8**	**+0.9**
NOR				Lg	Lg	01 59 35.0	
NOR	**Nord**	**2.50**	**232**	*i* P	**Pn**	**01 59 06.0**	**+1.1**
NOR				*i* S	**Sn**	**01 59 35.0**	**-0.4**
NOR				IAML		01 59 38.9	
	comp=E,7.0nm,0.4s						
NOR	**Nord**	**2.50**	**232**	*i* P	**Pn**	**01 59 06.0**	**+1.1**
NOR				*i* S	**Sn**	**01 59 35.0**	**-0.4**
NOR				IAML		01 59 38.9	
	comp=E,7.0nm,0.4s						
KBS	**Kingsbay**	**4.99**	**145**	Pn	**Pn**	**01 59 40.7**	**+1.6**
KBS				Sn	**Sn**	**02 00 34.1**	**-2.6**
KBS	**Kingsbay**	**4.99**	**145**	Pn	**Pn**	**01 59 40.4**	**+1.4**
KBS					**Sn**	**02 00 35.4**	**-1.3**
KBS	**Kingsbay**	**4.99**	**145**	P	**Pn**	**01 59 40.4**	**+1.4**
KBS				S	**Sn**	**02 00 32.8**	**-3.9**
KBS	**Kingsbay**	**4.99**	**145**	*e*P	**Pn**	**01 59 40.4**	**+1.4**
KBS				*e*S	**Sn**	**02 00 33.3**	**-3.3**
KBS				IAML		02 00 36.8	
	comp=Z,33nm,0.6s						
KBS	**Kingsbay**	**4.99**	**145**	*i* P	**Pn**	**01 59 40.5**	**+1.5**
KBS				*i*		02 00 33.1	
KBS	**Kingsbay**	**4.99**	**145**	*e*P	**Pn**	**01 59 40.0**	**+0.9**
KBS				*e*S	**Sn**	**02 00 34.5**	**-2.2**
BRBB	**Barentsburg B**	**5.93**	**143**	Pn	**Pn**	**01 59 53.5**	**+1.5**
BRBB				Sn	**Sn**	**02 00 56.8**	**-3.1**
BRBB	**Barentsburg B**	**5.93**	**143**	P	**Pn**	**01 59 53.5**	**+1.5**
BRBB				S	**Sn**	**02 00 57.0**	**-2.9**
BRBB	**Barentsburg B**	**5.93**	**143**	*e*P	**Pn**	**01 59 53.3**	**+1.4**
BRBB				*e*S	**Sn**	**02 00 57.2**	**-2.6**
BRBA	**Barentsburg A**	**5.97**	**143**	Pn	**Pn**	**01 59 54.3**	**+1.9**
BRBA				Sn	**Sn**	**02 00 57.3**	**-3.3**
BRBA	**Barentsburg A**	**5.97**	**143**	*e*P	**Pn**	**01 59 53.9**	**+1.4**
BRBA				*e*S	**Sn**	**02 00 57.7**	**-3.0**
BRBA				IAML		02 01 05.0	
	comp=Z,9.9nm,0.4s						
SPA0	**Spitsbergen Ar**	**6.01**	**139**	Pn	**Pn**	**01 59 54.4**	**+1.3**
	baz=318,slow=12						
SPA0				Sn	**Sn**	**02 00 58.5**	**-3.3**
	baz=330,slow=37						
SPA0	**Spitsbergen Ar**	**6.01**	**139**	Pn	**Pn**	**01 59 54.4**	**+1.3**
	baz=318,slow=12						
SPA0				Sn	**Sn**	**02 00 58.5**	**-3.3**
	baz=330,slow=37						
SPA0	**Spitsbergen Ar**	**6.01**	**139**	*e*P	**Pn**	**01 59 54.0**	**+0.9**
SPA0				*e*S	**Sn**	**02 00 58.1**	**-3.7**
SPITS	**Spitsbergen Ar**	**6.01**	**139**	P	**Pn**	**01 59 54.0**	**+0.9**
SPITS				S	**Sn**	**02 00 58.3**	**-3.5**
SPITS	**Spitsbergen Ar**	**6.01**	**139**	Pn	**Pn**	**01 59 53.6**	**+0.6**
	baz=358,slow=10.0						
SPITS				Sn	**Sn**	**02 00 56.7**	**-5.1**
	baz=11,slow=18						
	comp=Z,2.4nm,0.4s						
SPB2	**Spitsbergen Ar**	**6.02**	**139**		**Pn**	**01 59 54.6**	**+1.4**
HSPB	**Hornsund (broa**	**7.07**	**144**	Pn	**Pn**	**02 00 10.0**	**+2.5**
HSPB				Sn	**Sn**	**02 01 25.9**	**-1.8**
HSPB	**Hornsund (broa**	**7.07**	**144**	P	**Pn**	**02 00 10.3**	**+2.9**
HSPB				S	**Sn**	**02 01 26.1**	**-1.6**
HSPB	**Hornsund (broa**	**7.07**	**144**	*e*P	**Pn**	**02 00 09.7**	**+2.2**
HSPB				*e*S	**Sn**	**02 01 23.4**	**-4.2**
HSPB				IAML		02 01 31.4	
	comp=Z,5.0nm,0.7s						
DAG	**Danmarks Havn**	**7.10**	**210**	*e*	**Pn**	**02 00 07.3**	**-0.6**
	baz=27,slow=14						
DAG				*i* P	**Pn**	**02 00 08.7**	**+0.8**
DAG				*i* S	**Sn**	**02 01 26.1**	**-2.3**
DAG				IAML		02 01 34.1	
	comp=Z,2.6nm,0.3s						
DAG	**Danmarks Havn**	**7.10**	**210**	*e*	**Pn**	**02 00 07.3**	**-0.6**
	baz=27,slow=14						
DAG				*i* P	**Pn**	**02 00 08.7**	**+0.8**
DAG				*i* S	**Sn**	**02 01 26.1**	**-2.3**
DAG				IAML		02 01 34.1	
	comp=Z,2.6nm,0.3s						
OMEGA	**Omega**	**7.22**	**84**	*e*P	**Pn**	**02 00 07.8**	**-1.8**
OMEGA				*e*S	Sn	02 01 21.1	-10
	comp=Z,26nm,0.3s						
HOPEN	**Hopen**	**8.28**	**130**	Pn	**Pn**	**02 00 24.9**	**+0.7**
HOPEN				Sn	**Sn**	**02 01 49.6**	**-8.0**
HOPEN	**Hopen**	**8.28**	**130**	*e*P	**Pn**	**02 00 24.0**	**-0.2**
HOPEN				*e*S	**Sn**	**02 01 49.8**	**-7.8**
HOPEN				IAML		02 01 56.3	
	comp=Z,3.7nm,0.7s						
HOPEN	**Hopen**	**8.28**	**130**	*e*P	**Pn**	**02 00 23.9**	**-0.3**
HOPEN				*e*S	**Sn**	**02 01 49.2**	**-8.4**
NEEM	**North Greenlan**	**9.53**	**259**	*i* P	**Pn**	**02 00 38.3**	**-3.2**
NEEM				*i* S	Sn	02 02 17.7	-11
NEEM				IAML		02 02 22.7	
	comp=Z,4.5nm,0.4s						
NEEM	**North Greenlan**	**9.53**	**259**	*i* P	**Pn**	**02 00 38.3**	**-3.2**
NEEM				*i* S	Sn	02 02 17.7	-11
NEEM				IAML		02 02 22.7	
	comp=Z,4.5nm,0.4s						
DBG	**Daneborg**	**9.60**	**209**	Pn	**Pn**	**02 00 41.7**	**-0.5**
DBG				Sn	**Sn**	**02 02 23.1**	**-6.8**
DBG	**Daneborg**	**9.60**	**209**	P	**Pn**	**02 00 41.5**	**-0.7**
DBG				*i*		02 02 25.4	
DBG				IAML		02 02 31.8	
	comp=Z,1.4nm,0.4s						
DBG	**Daneborg**	**9.60**	**209**	*i* P	**Pn**	**02 00 41.5**	**-0.7**
DBG				*i*		02 02 25.4	
DBG				IAML		02 02 31.8	
	comp=Z,1.4nm,0.4s						
SUMG	**Summit**	**12.67**	**233**		**Pn**	**02 01 21.6**	**-2.8**
SUMG	**Summit**	**12.67**	**233**	*e*P	**Pn**	**02 01 23.1**	**-1.3**
SUMG	**Summit**	**12.67**	**233**	*e*P	**Pn**	**02 01 23.1**	**-1.3**
SCO	**Scoresbysund**	**13.47**	**208**	*e*P	**Pn**	**02 01 39.1**	**+4.0**
SCO	**Scoresbysund**	**13.47**	**208**	*e*P	**Pn**	**02 01 39.1**	**+4.0**
UPNV	**Upernavik**	**14.31**	**254**	*e*P	Pn	02 01 40.4	-6.1
UPNV	**Upernavik**	**14.31**	**254**	*e*P	Pn	02 01 40.4	-6.1
ARCES	**ARCESS Array B**	**15.04**	**140**	Pn	**Pn**	**02 01 56.7**	**+0.2**
ARCES				IAmb	IAmb	02 02 25.8	
	comp=Z,20nm,1.4s						
ARCES	**ARCESS Array B**	**15.04**	**140**	Pn	**Pn**	**02 01 57.2**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=346,slow=10,SNR=3.0						
ARCES				LR	LR	02 07 36.1	
	comp=Z,242nm,19.6s,baz=325,slow=36						
	comp=Z,5.9nm,0.9s						
RES	**Resolute Bay**	**16.96**	**294**	Pn	**Pn**	**02 02 14.8**	**-6.3**
	comp=Z,0.1nm,0.3s,baz=36,slow=12,SNR=6.5						
RES				LR	LR	02 09 00.1	
	comp=Z,223nm,20.0s,baz=22,slow=38						
LSH	**Leshukonskoye**	**21.42**	**118**	P	**P**	**02 03 10.4**	**-1.4**
	comp=Z,84nm,3.6s						
NRIK	**Noril'sk**	**21.86**	**72**	P	**P**	**02 03 18.7**	**+2.2**
NRIK	**Noril'sk**	**21.86**	**72**	P	**P**	**02 03 16.4**	**-0.1**
	comp=Z,3.7nm,0.5s,baz=14,slow=7.9,SNR=8.6						
	comp=Z,3.7nm,0.5s						
A36M	**Sachs Harbour**	**22.39**	**316**	P	**P**	**02 03 23.5**	**+1.4**
A36M				IAmb	IAmb	02 03 26.8	
	comp=Z,11nm,1.0s						
NOA	**NORSAR Array B**	**22.69**	**162**	LR	LR	02 10 50.7	
	comp=Z,41nm,22.0s,baz=5.0,slow=33						
FINES	**FINESS Array B**	**23.09**	**143**	P	**P**	**02 03 31.8**	**+2.2**
	comp=Z,2.2nm,0.9s,baz=335,slow=9.5,SNR=2.7						
FINES				LR	LR	02 12 34.6	
	comp=Z,155nm,18.4s,baz=12,slow=37						
	comp=Z,2.2nm,0.9s						
TIXI	**Tiksi**	**23.45**	**36**	P	**P**	**02 03 36.2**	**+3.0**
TIXI				IAmb	IAmb	02 03 39.5	
	comp=Z,9.1nm,1.4s						

HFS	**Hagfors**	**23.70**	**159**	LR		LR	02 11 33.3	
	comp=Z,86nm,19.8s,baz=352,slow=33							
KLMR	**Klimovskoe**	**24.76**	**128**	*e*P		**P**	**02 03 45.4**	**-0.1**
	comp=Z,20nm,1.1s							
B22K	**Teshekpuk Lake**	**25.80**	**337**	P		**P**	**02 03 54.8**	**0.0**
D27M	**Malcolm River**	**26.22**	**327**	P		**P**	**02 03 58.7**	**0.0**
D25K	**Kavik River**	**26.46**	**332**	P		**P**	**02 04 00.5**	**-0.4**
D25K					IAmb	IAmb	02 04 01.1	
	comp=Z,3.6nm,0.9s							
E29M	**Blow River**	**26.86**	**324**	P		**P**	**02 04 05.2**	**+0.7**
C19K	**Lookout Ridge**	**27.29**	**342**	P		**P**	**02 04 10.7**	**+2.4**
C19K					IAmb	IAmb	02 04 15.2	
	comp=Z,7.8nm,1.4s							
E25K	**Arctic Village**	**27.61**	**331**	P		**P**	**02 04 11.0**	**-0.2**
E25K					IAmb	IAmb	02 04 18.3	
	comp=Z,3.8nm,1.1s							
G31M	**Satah River**	**28.05**	**321**	P		**P**	**02 04 13.9**	**-1.1**
G31M					IAmb	IAmb	02 04 39.0	
	comp=Z,7.0nm,1.4s							
G29M	**Pine Creek**	**28.33**	**324**	P		**P**	**02 04 16.8**	**-0.8**
H29M	**Whitestone**	**29.04**	**324**	P		**P**	**02 04 23.4**	**-0.5**
H29M					IAmb	IAmb	02 04 37.6	
	comp=Z,4.4nm,1.2s							
I30M	**Mount Dempster**	**29.89**	**322**	P		**P**	**02 04 30.5**	**-1.0**
I28M	**Miner Creek**	**29.91**	**325**	P		**P**	**02 04 31.1**	**-0.6**
I28M					IAmb	IAmb	02 05 05.7	
	comp=Z,4.4nm,1.5s							
J30M	**Hart River**	**30.52**	**322**	P		**P**	**02 04 35.8**	**-1.4**
YKA	**Yellowknife Ar**	**30.71**	**302**	P		**P**	**02 04 37.1**	**-1.6**
	comp=Z,0.1nm,0.6s,baz=40,slow=6.9,SNR=2.3							
YKA				PcP		**PcP**	**02 07 34.6**	**-1.3**
	comp=Z,0.2nm,0.7s,baz=0.0,slow=3.1,SNR=3.0							
	comp=Z,0.1nm,0.6s							
ILAR	**Eielson Array**	**31.01**	**331**	P		**P**	**02 04 40.9**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=1.0,slow=9.8,SNR=5.9							
	comp=Z,0.4nm,0.8s							
ARU	**Arti**	**31.07**	**109**	LR		LR	02 19 43.3	
	comp=Z,130nm,18.2s,baz=143,slow=41							
M27K	**Edge Creek, AK**	**33.11**	**326**	P		**P**		
M27K					IAmb	IAmb	02 05 04.2	
	comp=Z,6.5nm,1.4s							
VRAC	**Vranov**	**34.64**	**157**	LR		LR	02 18 14.2	
	comp=Z,52nm,21.2s,baz=344,slow=34							
M16K	**Timber Creek**	**35.34**	**340**	P		**P**	**02 05 19.4**	**+0.3**
BVAR	**Borovoye Array**	**35.75**	**98**	P		**P**	**02 05 23.7**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=325,slow=9.5,SNR=2.9							
	comp=Z,0.5nm,0.7s							
ZALV	**Zalesovo Beam**	**36.52**	**83**	P		**P**	**02 05 28.8**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=358,slow=8.9,SNR=5.1							
ZALV				PcP		**PcP**	**02 07 52.2**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=331,slow=7.2,SNR=2.4							
ZALV				LR		LR	02 23 57.9	
	comp=Z,82nm,18.0s,baz=29,slow=42							
	comp=Z,1.1nm,0.7s							
ABKAR	**Akbulak array**	**38.28**	**110**	P		**P**	**02 05 46.3**	**+2.1**
BNI	**Bardonecchia**	**38.56**	**169**	P	

	comp=Z,3.9nm,0.4s							
ASAR	**Alice Springs**	**32.94**	**251**	P	**P**	**02 13 52.9**	**-0.8**
	comp=Z,6.4nm,0.5s,baz=78,slow=8.9,SNR=88							
ASAR				PcP	**PcP**	**02 16 33.3**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=86,slow=2.3,SNR=4.8							
	comp=Z,6.4nm,0.5s							
BBOO	**Buckleboo**	**33.43**	**234**	P	**P**	**02 13 58.1**	**+0.4**
BBOO				IAmb	IAmb	02 13 58.7		
	comp=Z,7.0nm,0.5s							
MTN	**Manton Dam**	**35.83**	**270**	P	**P**	**02 14 17.5**	**-1.0**
KNRA	**Kununurra**	**37.73**	**265**	P	**P**	**02 14 33.3**	**-1.3**
KNRA				IAmb	IAmb	02 14 34.1		
	comp=Z,18nm,1.1s							
FORT	**Forrest**	**39.31**	**241**	P	**P**	**02 14 47.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**40.51**	**261**	P	**P**	**02 14 57.1**	**-0.5**
PSA00	**Pilbara Seismi**	**45.81**	**255**	P	**P**	**02 15 40.3**	**+0.2**
PSA00	**Pilbara Seismi**	**45.81**	**255**	P	**P**	**02 15 40.4**	**+0.3**
PSA00				IAmb	IAmb	02 16 04.0		
	comp=Z,8.2nm,1.1s							
MBWA	**Marble Bar**	**45.93**	**256**	P	**P**	**02 15 40.9**	**-0.2**
MBWA				IAmb	IAmb	02 15 41.4		
	comp=Z,10nm,1.1s							
NWAO	**Narrogin (SRO)**	**48.76**	**240**	P	**P**	**02 16 02.5**	**-0.2**
NWAO				IAmb	IAmb	02 16 03.3		
	comp=Z,13nm,1.1s							
NWAO	**Narrogin (SRO)**	**48.76**	**240**	P	**P**	**02 16 02.0**	**-0.7**
	comp=Z,7.1nm,0.8s,baz=173,slow=10,SNR=2.7							
	comp=Z,7.1nm,0.8s							
MORW	**Morawa**	**49.40**	**245**	P	**P**	**02 16 07.5**	**-0.2**
MORW				IAmb	IAmb	02 16 41.4		
	comp=Z,21nm,1.5s							
VNDA	**Vanda**	**61.67**	**182**	P	**P**	**02 17 36.1**	**+1.8**
VNDA				IAmb	IAmb	02 18 13.5		
	comp=Z,6.8nm,1.4s							
USRK	**Ussuriysk Ar.**	**68.29**	**333**	P	**P**	**02 18 17.9**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=186,slow=17,SNR=4.1							
	comp=Z,1.9nm,0.8s							
QSPA	**South Pole Qui**	**74.09**	**180**	P	**P**	**02 18 52.6**	**+0.5**
QSPA	**South Pole Qui**	**74.09**	**180**	P	**P**	**02 18 52.5**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=206,slow=1.2,SNR=16							
	comp=Z,1.8nm,0.7s							
CMAR	**Chiang Mai Arr**	**76.10**	**294**	P	**P**	**02 19 05.0**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=139,slow=4.0,SNR=4.8							
	comp=Z,1.0nm,0.3s							
BRLK	**Bradley Lake**	**82.45**	**20**	P	**P**	**02 19 37.6**	**-0.2**
SONM	**Songino Array**	**83.90**	**323**	P	**P**	**02 19 45.5**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=108,slow=4.8,SNR=5.1							
	comp=Z,1.0nm,0.9s							
PMR	**Palmer**	**84.41**	**19**	P	**P**	**02 19 48.4**	**+0.7**
KNK	**Knik Glacier**	**84.48**	**19**	P	**P**	**02 19 48.4**	**+0.2**
ARCES	**ARCESS Array B**	**121.60**	**345**	PKP	**PKPdf**	**02 26 05.5**	**-2.1**
	comp=Z,3.6nm,1.1s,baz=45,slow=1.4,SNR=5.0							

*NNC **15** 02:14:13.6±1.8,48.74N×84.85E,h0km,mb3.4,mpv3.3, Error ellipse: s-maj=14.3km s-min=6.1km az=69.0*
*ASRS **15** 02:14:14.9±0.2,49.2°×8.5E±°,h10km,MLh3.1/10,Error ellipse: s-maj=5.0km s-min=2.5km az=134.1,confirmed*
*SOME **15** 02:14:14.3,48.58N×84.53E,h0km*

ISC 15 02:14:14.7±0.7,48.60N±0.03×84.49E±0.04,h10km,n29, σ1§88/50,5C-3D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan**	**1.17**	**167**	*e*P	**Pn**	**02 14 38.0**	**+0.8**
	23nm,0.2s						
ZSN				*e*S	**Sn**	**02 14 54.9**	**+1.6**
	54nm,0.2s						
ZSN	**Zaisan**	**1.17**	**167**	P	**Pn**	**02 14 38.0**	**+0.8**
	23nm,0.2s						
ZSN				S	**Sn**	**02 14 54.9**	**+1.6**
	54nm,0.2s						
DGZ	**Jazzator, Alta**	**2.23**	**59**	Pg	**Pn**	**02 14 53.0**	**+1.2**
DGZ				Sg	**Sn**	**02 15 19.4**	**-0.1**
MK31	**Makanchi Array**	**2.34**	**220**	Pn	**Pb**	**02 14 57.6**	**+0.6**
	1.0nm,0.2s,baz=39,slow=16,SNR=230						
MK31				⇑Sn	**Sg**	**02 15 30.7**	**+1.0**
	1.5nm,0.2s,baz=40,slow=29,SNR=10						
MKAR	**Makanchi Array**	**2.34**	**220**	Pg	**Pg**	**02 14 59.2**	**-0.3**
MKAR				Sg	**Sg**	**02 15 30.3**	**+0.5**
UKR	**Ust'-Kan**	**2.35**	**4**	Pn	**Pn**	**02 14 54.7**	**+1.2**
UKR				Pg	**Pb**	**02 14 57.8**	**+0.6**
UKR				Sg	**Sb**	**02 15 25.9**	**-0.5**
MAKZ	**Makanchi**	**2.47**	**224**	⇑Pn	**Pb**	**02 14 58.8**	**-0.4**
	1.0nm,0.3s						
MAKZ				⇓Sn	**Sg**	**02 15 34.5**	**+0.5**
	4.5nm,0.3s						
MAKZ	**Makanchi**	**2.47**	**224**	Pg	**Pg**	**02 15 01.2**	**-0.8**
MAKZ				Sg	**Sg**	**02 15 34.4**	**+0.5**
CHBI	**Chibit, Altay**	**2.61**	**48**	Pn	**Pn**	**02 14 57.9**	**+0.8**
CHBI				Pg	**Pb**	**02 15 02.0**	**+0.3**
CHBI				Sg	**Sn**	**02 15 29.5**	**+0.6**
AKAR	**Aktash**	**2.67**	**49**	Pn	**Pn**	**02 14 59.4**	**+1.5**
AKAR				Pg	**Pb**	**02 15 02.7**	**-0.1**
AKAR				Sg	**Sn**	**02 15 32.3**	**+1.9**
ELDR	**Elanda**	**2.82**	**21**	Pg	**Pb**	**02 15 05.5**	**+0.3**
ELDR				Sg	**Sb**	**02 15 38.0**	**-1.8**
CUR	**Chagan-Uzun**	**2.94**	**58**	Pn	**Pn**	**02 15 02.6**	**+1.0**
CUR				Pg	**Pb**	**02 15 06.8**	**-0.4**
CUR				Sg	**Sb**	**02 15 40.4**	**-2.8**
ULGR	**Ulagan, Altay**	**3.04**	**47**	Pg	**Pb**	**02 15 10.8**	**+1.9**
ULGR				Sg	**Sn**	**02 15 42.4**	**+3.0**
SEM	**Semipalatinsk**	**3.31**	**305**	*e*P	**Pg**	**02 15 17.8**	**-0.3**
	4.3nm,0.1s						
SEM				*e*S	**Sg**	**02 16 01.9**	**+1.0**
	17nm,0.1s						
SEM	**Semipalatinsk**	**3.31**	**305**	Pg	**Pg**	**02 15 18.0**	**-0.1**
	4.3nm,0.1s						
SEM				Lg	Lg	02 16 03.4	
	29nm,0.1s						
ARTR	**Artybash**	**3.67**	**28**	Pg	**Pb**	**02 15 21.1**	**+1.4**
ARTR				Sg	**Sb**	**02 16 05.0**	**+0.8**
YALR	**Yailyu, Altay**	**3.76**	**31**	Pg	**Pb**	**02 15 22.7**	**+1.6**
YALR				Sg	**Sb**	**02 16 07.7**	**+1.0**
KURK	**Kurchatov**	**4.36**	**301**	⇑Pg	**Pg**	**02 15 35.4**	**-2.8**
	1.1nm,0.5s						
KURK				⇑Sn	**Sn**	**02 16 15.1**	**+3.2**
	4.0nm,0.5s						
KURK				⇓Lg	Lg	02 16 35.5	
	20nm,0.6s						
KURK	**Kurchatov**	**4.36**	**301**	Sg	**Sg**	**02 16 32.8**	**-2.0**
TASR	**Tashtagol**	**4.69**	**26**	Sg	**Sb**	**02 16 37.6**	**+4.0**
ELT	**Eltsovka**	**4.80**	**13**	Sg	**Sg**	**02 16 43.5**	**-5.3**
KAPS	**Kapalarasan**	**4.83**	**229**	*e*P	**Pg**	**02 15 45.4**	**-1.8**
	1.4nm,0.2s						
KAPS				*e*S	**Sg**	**02 16 50.4**	**+0.7**
	2.0nm,0.2s						
KNOS	**Konyrlen**	**5.60**	**223**	Pg	**Pg**	**02 16 00.0**	**-2.0**
	2.0nm,0.2s						
KNOS				Lg	Lg	02 17 15.4	
	1.5nm,0.3s						
PDGK	**Podgornoye**	**6.32**	**215**	Pg	**Pg**	**02 16 13.1**	**-2.5**
	0.9nm,0.6s						
PDGK				Lg	Lg	02 17 37.9	
	1.6nm,0.8s						
PDGK	**Podgornoye**	**6.32**	**215**	⇑Lg	Lg	02 17 43.8	
	5.4nm,1.1s						
KTBS	**Karatobe**	**7.29**	**231**	*e*P	**Pg**	**02 16 31.1**	**-3.3**
	0.9nm,0.3s						
KTBS				*e*S	**Sg**	**02 18 08.6**	**-0.1**
	2.1nm,0.7s						
KTBS	**Karatobe**	**7.29**	**231**	Pg	**Pg**	**02 16 31.1**	**-3.3**
	0.9nm,0.4s						
KTBS				Lg	Lg	02 18 08.6	
	2.1nm,0.7s						
OTUK	**Ortayu**	**8.09**	**272**	Pg	**Pg**	**02 16 46.1**	**-3.5**
	0.4nm,0.5s						
OTUK				Lg	Lg	02 18 34.5	
	1.7nm,0.5s						
OTUK	**Ortayu**	**8.09**	**272**	⇓Lg	Lg	02 18 36.5	
	9.2nm,1.5s						

*JMA **15** 02:20:14.2±0.1,23.0N±1.0×12.1E±°,h39km±2km, MV3.3/14,TAIWAN REGION*
*TAP **15** 02:20:14.7,22.98N×121.28E,h40km,ML3.7,C*

ISC 15 02:20:15.0±1.2,22.96N±0.02×121.38E±0.02,h35km,n111, σ1§17/174,8C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHKT	**Chengkung**	**0.14**	**356**	*i* P	**Pn**	**02 20 21.6**	**+0.2**
	baz=46						
CHKT				*i* S	**Sn**	**02 20 26.8**	**+1.1**
	baz=46						
ECS	**Chishang**	**0.20**	**313**	P	**Pn**	**02 20 21.6**	**-0.3**
	baz=344						
ECS				*i* S	**Sn**	**02 20 27.4**	**+0.8**
	baz=344						
LONT	**Longtian**	**0.23**	**257**	*e*P	**Pn**	**02 20 21.5**	**-0.7**
	baz=238						
LONT				*e*S	**Sn**	**02 20 26.4**	**-0.7**
	baz=238						
CHKH	**Chenggong**	**0.23**	**4**	*i* P	**Pn**	**02 20 22.2**	**0.0**
	baz=28						
CHKH				*i* S	**Sn**	**02 20 27.8**	**+0.7**
	baz=28						
EHD	**Haiduan**	**0.25**	**320**	*i* P	**Pn**	**02 20 21.5**	**-0.9**
	baz=340						
EHD				*i* S	**Sn**	**02 20 26.3**	**-1.1**
	baz=340						
FULB	**Fuli**	**0.25**	**342**	*i* P	**Pn**	**02 20 22.4**	**-0.1**
	baz=1.0						
FULB				*i* S	**Sn**	**02 20 28.1**	**+0.6**
	baz=1.0						
TTN	**Taitung**	**0.29**	**226**	*i* P	**Pn**	**02 20 23.0**	**+0.1**
	baz=205						
TTN				*i* S	**Sn**	**02 20 29.7**	**+1.5**
	baz=205						
LDUT	**Ludao**	**0.29**	**163**	*i* P	**Pn**	**02 20 23.2**	**+0.3**
	baz=145						
LDUT				*i* S	**Sn**	**02 20 29.8**	**+1.6**
	baz=145						
TWGBT	**Beinan**	**0.31**	**243**	⇑*i*P	**Pn**	**02 20 22.0**	**-1.0**
	baz=226						
TWGBT				*i* S	**Sn**	**02 20 27.4**	**-1.2**
	baz=226						
TWG	**Pinlang**	**0.31**	**244**	⇑*i*P	**Pn**	**02 20 22.0**	**-1.1**
	baz=226						
TWG				*i* S	**Sn**	**02 20 27.5**	**-1.2**
	baz=226						
ECBN	**Changbin**	**0.36**	**11**	P	**Pn**	**02 20 23.9**	**+0.1**
	baz=36						
ECBN				S	**Sn**	**02 20 30.9**	**+1.1**
	baz=36						
EYUL	**Yuli**	**0.39**	**352**	*e*P	**Pn**	**02 20 23.2**	**-1.0**
	baz=2.0						
EYUL				*e*S	**Sn**	**02 20 32.3**	**+1.8**
	baz=2.0						
TWF1	**Yuli**	**0.40**	**349**	⇑*i*P	**Pn**	**02 20 23.1**	**-1.2**
	baz=360						
TWF1				*i* S	**Sn**	**02 20 29.4**	**-1.3**
	baz=360						
ELDTW	**Lidau**	**0.40**	**305**	*i* P	**Pn**	**02 20 23.3**	**-1.1**
	baz=312						
ELDTW				*i* S	**Sn**	**02 20 28.8**	**-2.1**
	baz=312						
YULB	**Yu-li**	**0.44**	**350**	⇑*i*P	**Pn**	**02 20 23.5**	**-1.4**
	baz=359						
YULB				S	**Sn**	**02 20 29.5**	**-2.1**
	baz=359						
ECL	**Taimali**	**0.53**	**227**	⇑*i*P	**Pn**	**02 20 24.4**	**-1.8**
	baz=213						
ECL				*i* S	**Sn**	**02 20 31.7**	**-2.1**
	baz=213						
HGSD	**Ruisui**	**0.53**	**5**	*i* P	**Pn**	**02 20 25.4**	**-0.8**
	baz=25						
HGSD				S	**Sn**	**02 20 33.8**	**-0.2**
	baz=25						
EHYH	**Wanrong**	**0.54**	**357**	*i* P	**Pn**	**02 20 24.9**	**-1.3**
	baz=8.0						
EHYH				S	**Sn**	**02 20 32.0**	**-2.0**
	baz=8.0						
STYH	**Taoyuan**	**0.59**	**291**	P	**Pn**	**02 20 26.1**	**-0.9**
	baz=289						
STYH				S	**Sn**	**02 20 34.8**	**-0.6**
	baz=289						
SLGT	**Liugui**	**0.67**	**273**	P	**Pn**	**02 20 28.0**	**-0.1**
	baz=278						
SLGT				S	**Sn**	**02 20 36.7**	**-0.7**
	baz=278						
EGFH	**Guangfu**	**0.71**	**4**	*e*P	**Pn**	**02 20 26.6**	**-2.0**
	baz=13						
TSMG	**Majia**	**0.72**	**250**	P	**Pn**	**02 20 27.7**	**-1.0**
	baz=243						
TSMG				S	**Sn**	**02 20 36.8**	**-1.7**
	baz=243						
SGST	**Jiashian**	**0.74**	**280**	*i* P	**Pn**	**02 20 27.9**	**-1.2**
	baz=285						
SGST				*i* S	**Sn**	**02 20 38.1**	**-1.0**
	baz=285						
TAW	**Tawu**	**0.74**	**217**	*i* P	**Pn**	**02 20 27.9**	**-1.2**
	baz=204						
EAST	**Anshuo**	**0.75**	**221**	*i* P	**Pn**	**02 20 27.7**	**-1.5**
	baz=208						
WARBT	**Fenglin Townsh**	**0.76**	**1**	P	**Pn**	**02 20 27.4**	**-1.9**
	baz=18						
WARBT				S	**Sn**	**02 20 36.4**	**-3.1**
	baz=18						
WTP	**Ta-pu**	**0.76**	**292**	*i* P	**Pn**	**02 20 29.4**	**0.0**
	baz=293						
WTP				*i* S	**Sn**	**02 20 39.7**	**+0.1**
	baz=293						
ALS	**Alishan**	**0.76**	**316**	*i* P	**Pn**	**02 20 29.4**	**-0.2**
	baz=322						
ALS				*i* S	**Sn**	**02 20 39.6**	**-0.4**
	baz=322						
TAWH	**Dawu Township**	**0.76**	**216**	*e*P	**Pn**	**02 20 27.7**	**-1.6**
	baz=205						
MASBT	**Mashibuluo**	**0.77**	**244**	*i* P	**Pn**	**02 20 28.7**	**-0.7**
	baz=237						
MASBT				*i* S	**Sn**	**02 20 38.6**	**-1.1**
	baz=237						
TPUB	**Ta-pu**	**0.77**	**297**	⇓*i*P	**Pn**	**02 20 29.1**	**-0.3**
	baz=298						
TPUB				*i* S	**Sn**	**02 20 40.0**	**+0.2**
	baz=298						
CHN1	**Nanshi**	**0.81**	**286**	*i* P	**Pn**	**02 20 30.0**	**0.0**
	baz=286						
CHN1				*i* S	**Sn**	**02 20 41.5**	**+0.6**
	baz=286						
SCST	**Cishan**	**0.82**	**265**	*e*P	**Pn**	**02 20 30.6**	**+0.5**
	baz=262						
SCST				*e*S	**Sn**	**02 20 42.6**	**+1.6**
	baz=262						
CHN4	**Tsaushan**	**0.82**	**299**	*i* P	**Pn**	**02 20 30.2**	**+0.1**
	baz=300						
CHN4				*i* S	**Sn**	**02 20 41.6**	**+0.6**
	baz=300						
VWDT	**VWDT**	**0.82**	**345**	*i* P	**Pn**	**02 20 29.5**	**-0.6**
	baz=360						
VWDT				S	**Sn**	**02 20 39.8**	**-1.2**
	baz=360						
SHUL	**Shoufeng**	**0.84**	**12**	P	**Pn**	**02 20 30.0**	**-0.5**
	baz=20						
SHUL				S	**Sn**	**02 20 41.4**	**-0.2**
	baz=20						
SNST	**Tainan City**	**0.85**	**288**	P	**Pn**	**02 20 30.4**	**-0.1**
	baz=288						
SNST				S	**Sn**	**02 20 42.1**	**+0.3**
	baz=288						
ESL	**Shilin**	**0.85**	**3**	*i* P	**Pn**	**02 20 28.8**	**-1.8**
	baz=20						
ESL				S	**Sn**	**02 20 38.6**	**-3.3**
	baz=20						
WCKO	**Fanlu**	**0.86**	**304**	*e*P	**Pn**	**02 20 30.7**	**0.0**
	baz=307						
WCKO				*i* S	**Sn**	**02 20 42.5**	**+0.5**
	baz=307						
TWK	**Hsinying**	**0.87**	**291**	*i* P	**Pn**	**02 20 30.8**	**-0.1**
	baz=291						
TWK				*i* S	**Sn**	**02 20 43.0**	**+0.5**
	baz=291						
WHYT	**Xinyi Township**	**0.88**	**327**	*e*P	**Pn**	**02 20 29.3**	**-1.6**
	baz=332						
WHYT				S	**Sn**	**02 20 41.4**	**-1.2**
	baz=332						
TWM1	**Shoushan**	**0.89**	**262**	P	**Pn**	**02 20 32.6**	**+1.5**
	baz=258						
CHN5	**Tsauling**	**0.91**	**315**	*i* P	**Pn**	**02 20 31.5**	**+0.1**
	baz=319						
CHN5				*i* S	**Sn**	**02 20 44.4**	**+1.2**
	baz=319						
SCZT	**Fangliau**	**0.91**	**230**	*e*P	**Pn**	**02 20 30.5**	**-0.8**
	baz=218						
SLIU	**Shizi**	**0.91**	**216**	*e*P	**Pn**	**02 20 29.6**	**-1.7**
	baz=201						
SSLB	**Suanglung**	**0.91**	**335**	*i* P	**Pn**	**02 20 30.9**	**-0.5**
	baz=334						
SSLB				*i* S	**Sn**	**02 20 42.0**	**-1.3**
	baz=334						
LAY	**Lan-yu**	**0.93**	**170**	*e*P	**Pn**	**02 20 31.0**	**-0.6**
	baz=156						
CHN3	**Shinhua**	**0.94**	**277**	*e*S	**Sn**	**02 20 47.1**	**+3.2**
	baz=276						
SHHT	**Tainan City**	**0.95**	**274**	P	**Pn**	**02 20 34.0**	**+2.1**
	baz=272						
SHHT				*e*S	**Sn**	**02 20 47.5**	**+3.2**
	baz=272						
LYUB	**Lan-yu**	**0.97**	**169**	*e*P	**Pn**	**02 20 30.2**	**-1.9**
	baz=155						
OWD	**Renai**	**1.01**	**350**	P	**Pn**	**02 20 32.1**	**-0.8**
	baz=7.0						
SMLT	**Sun Moon Lake**	**1.02**	**335**	*i* P	**Pn**	**02 20 33.1**	**+0.1**
	baz=341						
SMLT				*i* S	**Sn**	**02 20 46.2**	**+0.1**
	baz=341						
HWA	**Hwalien**	**1.04**	**12**	*e*P	**Pn**	**02 20 33.2**	**+0.1**
	baz=20						
WGK	**Gukeng**	**1.04**	**314**	*i* P	**Pn**	**02 20 33.4**	**+0.2**
	baz=306						
WGK				*i* S	**Sn**	**02 20 47.5**	**+1.0**
	baz=306						
WJS	**Zhushan**	**1.05**	**325**	P	**Pn**	**02 20 34.5**	**+1.3**
	baz=330						
WJS				S	**Sn**	**02 20 47.3**	**+0.7**
	baz=330						
TYC	**Yuchr**	**1.06**	**333**	⇑*i*P	**Pn**	**02 20 33.8**	**+0.5**
	baz=340						
TYC				*i* S	**Sn**	**02 20 47.5**	**+0.7**
	baz=340						
WUSB	**Renai**	**1.06**	**347**	⇑*i*P	**Pn**	**02 20 33.1**	**-0.4**
	baz=4.0						
LXIB	**Xiulin Townshi**	**1.06**	**2**	⇑*i*P	**Pn**	**02 20 31.8**	**-1.8**
	baz=20						
WDLH	**Douliu**	**1.06**	**314**	*e*P	**Pn**	**02 20 33.8**	**+0.4**
	baz=305						
WDLH				*e*S	**Sn**	**02 20 48.1**	**+1.1**
	baz=305						
WSSB	**Gushan**	**1.08**	**253**	*e*P	**Pn**	**02 20 34.8**	**+1.2**
	baz=249						
ICHU	**Yijhu**	**1.09**	**292**	P	**Pn**	**02 20 33.8**	**0.0**
	baz=292						
ICHU				*e*S	**Sn**	**02 20 47.5**	**-0.1**
	baz=292						
CHGB	**Renai**	**1.11**	**350**	*i* P	**Pn**	**02 20 33.7**	**-0.7**
	baz=6.0						
WNT	**Mingjian**	**1.12**	**325**	P	**Pn**	**02 20 35.4**	**+1.3**
	baz=331						
WNT				S	**Sn**	**02 20 49.6**	**+1.2**
	baz=331						
TWD	**Chiawan**	**1.14**	**10**	P	**Pn**	**02 20 32.9**	**-1.5**
	baz=18						
TWD				S	**Sn**	**02 20 47.9**	**-0.9**
	baz=18						
TWK1	**Hengchun**	**1.14**	**208**	*e*P	**Pn**	**02 20 36.0**	**+1.5**
	baz=193						
TWKBT	**Hengchun**	**1.14**	**207**	*e*P	**Pn**	**02 20 33.7**	**-0.8**
	baz=193						
CHN8	**Yiju**	**1.14**	**290**	*i* P	**Pn**	**02 20 34.3**	**-0.2**
	baz=290						
CHN8				*i* S	**Sn**	**02 20 49.5**	**+0.6**
	baz=290						
WTK	**Tuku**	**1.16**	**309**	*e*P	**Pn**	**02 20 33.9**	**-0.9**
	baz=311						
WTK				*e*S	**Sn**	**02 20 49.0**	**-0.4**
	baz=311						
WCS	**Beigang Elemen**	**1.18**	**339**	P	**Pn**	**02 20 35.5**	**+0.5**
	baz=345						
WCS				*e*S	**Sn**	**02 20 50.9**	**+1.1**
	baz=345						
WHF	**Hehuan Shan**	**1.19**	**355**	P	**Pn**	**02 20 34.9**	**-0.7**
	baz=12						
WHF				S	**Sn**	**02 20 48.9**	**-1.8**
	baz=12						
TSCK	**Chigu Township**	**1.20**	**279**	*e*P	**Pn**	**02 20 35.3**	**-0.1**
	baz=278						
ETL	**Fush Village**	**1.22**	**11**	*e*P	**Pn**	**02 20 34.2**	**-1.4**
	baz=18						
ETL				*e*S	**Sn**	**02 20 50.6**	**-0.3**
	baz=18						
NACB	**Ninganchiao**	**1.23**	**9**	*e*P	**Pn**	**02 20 33.8**	**-1.9**
	baz=17						
NACB				*e*S	**Sn**	**02 20 49.1**	**-2.0**
	baz=17						
ETLH	**Xiulin Townshi**	**1.25**	**4**	*e*P	**Pn**	**02 20 34.5**	**-1.6**
	baz=21						
ETLH				*e*S	**Sn**	**02 20 49.5**	**-2.2**
	baz=21						
FUSS	**Fushou**	**1.29**	**355**	*e*P	**Pn**	**02 20 36.3**	**-0.5**
	baz=8.0						
TWT	**Tachien**	**1.30**	**352**	P	**Pn**	**02 20 36.1**	**-0.8**
	baz=358						
TDCB	**Techi**	**1.30**	**351**	*e*P	**Pn**	**02 20 38.1**	**+1.1**
	baz=358						
WCHH	**Zhanghua**	**1.35**	**326**	*e*P	**Pn**	**02 20 37.9**	**+0.6**
	baz=330						
TCU	**Taichung**	**1.35**	**332**	*e*P	**Pn**	**02 20 38.7**	**+1.4**
	baz=337						
TCU				*e*S	**Sn**	**02 20 54.8**	**+0.8**
	baz=337						
WHP	**Taichung City**	**1.37**	**343**	*e*P	**Pn**	**02 20 38.8**	**+1.0**
	baz=349						
WHP				*e*S	**Sn**	**02 20 57.2**	**+2.4**
	baz=349						
EAHA	**Aohua**	**1.41**	**14**	*e*P	**Pn**	**02 20 36.9**	**-1.3**
	baz=29						
EOS4	**EOS4**	**1.45**	**37**	*e*P	**Pn**	**02 20 38.5**	**+0.2**
	baz=43						
NNSB	**Datong**	**1.46**	**0**	*e*P	**Pn**	**02 20 38.2**	**-0.9**
	baz=19						
NNS	**Nan Shan**	**1.48**	**360**	*e*P	**Pn**	**02 20 41.4**	**+2.1**
	baz=19						
TWQ1	**Liyutan**	**1.49**	**338**	*e*P	**Pn**	**02 20 40.7**	**+1.4**
	baz=344						
ENA	**Nanau**	**1.50**	**13**	*e*P	**Pn**	**02 20 38.1**	**-1.3**
	baz=21						
NSY	**Sanyi**	**1.56**	**339**	*e*P	**Pn**	**02 20 41.3**	**+1.0**
	baz=345						
LATG	**Datong**	**1.58**	**5**	*e*P	**Pn**	**02 20 39.6**	**-1.0**
	baz=23						
EOS3	**EOS3**	**1.58**	**33**	*e*P	**Pn**	**02 20 40.7**	**+0.3**
	baz=38						
WDGT	**Dungji**	**1.61**	**281**	*e*P	**Pn**	**02 20 39.7**	**-1.2**
	baz=279						
NDT	**Datong Townshi**	**1.64**	**4**	*e*P	**Pn**	**02 20 40.8**	**-0.6**
	baz=21						
EOS2	**EOS2**	**1.65**	**28**	*e*P	**Pn**	**02 20 42.0**	**+0.6**
	baz=42						
NMLH	**Miaoli**	**1.66**	**341**	*e*P	**Pn**	**02 20 43.1**	**+1.4**
	baz=347						
NFF	**Wufeng Townshi**	**1.68**	**352**	*e*P	**Pn**	**02 20 42.6**	**+0.6**
	baz=4.0						
TWC	**Suao**	**1.70**	**15**	*e*P	**Pn**	**02 20 42.9**	**+0.7**
	baz=23						
YHNB	**Yeheng**	**1.71**	**360**	*e*P	**Pn**	**02 20 42.6**	**+0.2**
	baz=20						
NSK	**Sanguang**	**1.71**	**359**	*e*P	**Pn**	**02 20 42.5**	**+0.1**
	baz=20						
LIOB	**Emei**	**1.71**	**349**	*e*P	**Pn**	**02 20 43.2**	**+0.8**
	baz=356						
TWE	**Neicheng**	**1.78**	**9**	*e*P	**Pn**	**02 20 42.8**	**-0.5**
	baz=26						
PNG	**Penghu**	**1.78**	**290**	*e*P	**Pn**	**02 20 42.2**	**-1.1**
	baz=277						
FUSB	**Fushanzhiwuyua**	**1.81**

IDC ***15*** *02:26:04.7±0.5, 24°.36N×93°.63E, h54km±4km, mb3.6/17, mbtmp3.8/19, MS3.2/4, Error ellipse: s-maj=11.2km s-min=7.8km az=116.0*
NEIC ***15*** *02:26:05.6±1.4, 24°.42N±0°.06×93°.57E±0°.06, h56km±8km, mb4.5/28, Error ellipse: s-maj=8.6km s-min=7.4km az=185.0*

ISC 15 02:26:04.7±0.5, 24°.42N±0°.04×93°.51E±0°.04, h49km±4km, h49km:pP-P, n82, σ1°.62/97, mb4.2/33, MS3.1/3, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IMP	**Imphal**	**0.57**	**44**	*e*Pg		**Pn**	**02 26 16.8**	**-0.1**
IMP				*i* Sg		**Sn**	**02 26 25.5**	**-0.1**
KOHI	**KOHIMA**	**1.40**	**23**	*e*P		**Pn**	**02 26 28.4**	**+0.4**
KOHI				*e*S		**Sn**	**02 26 46.9**	**+1.4**
SHL	**Shillong**	**1.86**	**308**	*e*P		**Pn**	**02 26 34.9**	**+0.5**
SHL				*i* x		x	02 26 46.9	
SHL				*e*S		**Sn**	**02 26 57.5**	**+0.6**
SAIH	**SAIHA**	**1.98**	**194**	*e*P		**Pn**	**02 26 36.4**	**+0.5**
MOKO	**MOKOCHONG**	**2.10**	**25**	*e*P		**Pn**	**02 26 36.1**	**-1.4**
BRDH	**Bariadhala**	**2.44**	**225**	P		**Pn**	**02 26 43.0**	**+1.0**
	54nm,0.4s,baz=90,slow=19,SNR=1.4							
BRDH				S		**Sn**	**02 27 12.6**	**+1.9**
	939nm,0.4s,baz=270,slow=20,SNR=17							
ZIRO	**ZIRO**	**3.11**	**6**	*e*P		**Pn**	**02 26 50.3**	**-1.1**
ZIRO				*i* x		x	02 27 00.1	
MND	**Mandalay**	**3.39**	**134**	Pn		**Pn**	**02 26 53.8**	**-1.3**
PASG	**PASIGHAT**	**3.54**	**336**	*e*P		**Pn**	**02 27 01.7**	**+4.6**
TNCH	**TengChong**	**4.60**	**81**	Pn		**Pn**	**02 27 12.3**	**+0.5**
TNCH				Pg			02 27 35.1	
TNCH				Sn		**Sn**	**02 28 09.3**	**+5.3**
TNCH				Sg			02 28 35.5	
TNCH				smax		smax		
	comp=N,270nm,0.8s							
TNCH				smax		smax		
	comp=E,240nm,0.4s							
LSA	**Lhasa**	**5.66**	**339**	Pn		**Pn**	**02 27 27.4**	**+0.7**
BOK	**Bokaro**	**6.99**	**266**	*e*P		**Pn**	**02 27 45.3**	**+0.7**
BOK				*e*S		**Sn**	**02 28 59.0**	**-3.7**
CRAI	**Chiangrai**	**7.60**	**122**	Pn		**Pn**	**02 27 53.4**	**+0.4**
PZH	**PanZhiHua**	**7.72**	**73**	P		**Pn**	**02 27 56.6**	**+1.9**
PZH				pmax		pmax		
	comp=Z,6.0nm,0.8s							
PZH				pmax		pmax		
	comp=Z,100nm,5.1s							
CM31	**Chiang Mai Arr**	**7.80**	**139**	Pn		**Pn**	**02 27 56.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**7.80**	**139**	Pn		**Pn**	**02 27 55.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**7.80**	**139**	P		**Pn**	**02 27 55.1**	**-0.5**
	comp=Z,1.8nm,0.4s,baz=314,slow=13,SNR=6.0							
CMAR				Lg		Lg	02 29 54.0	
	comp=Z,1.0nm,0.3s,baz=308,slow=30,SNR=5.8							
CMAR				LR		LR	02 30 42.9	
	comp=Z,72nm,21.7s,baz=315,slow=36							
GOMU	**GeErMu**	**11.79**	**5**	P		**Pn**	**02 28 48.8**	**-1.7**
GOMU				pP			02 28 54.0	
GOMU				sP			02 28 55.5	
GOMU				pmax		pmax		
	comp=Z,28nm,0.7s							
LZH	**Lanzhou**	**14.65**	**35**	*e*P		**P**	**02 29 33.8**	**-0.5**
LZH				pP		Pn	02 29 41.6	+13
LZH				pmax		pmax		
	comp=Z,18nm,1.6s							
GTA	**Gaotai**	**15.87**	**18**	P		**P**	**02 29 47.5**	**-0.3**
GTA				pP		pP	02 29 59.8	+0.6
GTA				sP		sP	02 30 05.1	-0.5
GTA				pmax		pmax		
	comp=Z,5.0nm,1.2s							
SMLA	**Simla**	**15.93**	**298**	*e*P		**Pn**	**02 29 41.7**	**-3.7**
SMLA				IAmb		IAmb	02 29 47.3	
	comp=Z,7.8nm,0.7s							
SMLA				*i* sP		sP	02 30 15.2	+9.2
SMLA				*e*S		Sn	02 32 28.1	-13
XAN	**Xi'an**	**16.50**	**51**	P		**Pn**	**02 29 51.8**	**-1.0**
XAN				pP		P	02 30 00.0	+5.2
XAN				pmax		pmax		
	comp=Z,6.0nm,0.7s							
XAN	**Xi'an**	**16.50**	**51**	Pn		**Pn**	**02 29 52.6**	**-0.2**
XAN				IAmb		IAmb	02 30 27.0	
	comp=Z,18nm,0.9s							
DHRM	**DHARAMSHALA**	**17.03**	**301**	*e*P		**Pn**	**02 29 57.8**	**-1.8**
DHRM				IAmb		IAmb	02 30 01.2	
	comp=Z,12nm,0.7s							
DHRM				*ex*		x	02 32 56.8	
LHMI	**Lhok Sumawe**	**19.37**	**170**	P		**P**	**02 30 26.3**	**-0.1**
NIL	**Nilore**	**19.93**	**302**	P		**P**	**02 30 33.3**	**+0.9**
NIL				IAmb		IAmb	02 30 34.2	
	comp=Z,17nm,0.7s							
WMQ	**Urumqi**	**19.93**	**348**	*e*P		**Pn**	**02 30 35.1**	**+0.7**
WMQ				pmax		pmax		
	comp=Z,21nm,0.7s							
KSH	**Kashi**	**21.11**	**320**	P		**P**	**02 30 48.3**	**+3.1**
BTO	**Baotou**	**21.26**	**37**	*e*P		**P**	**02 30 49.4**	**+2.6**
BTO				pP		**pP**	**02 30 56.3**	**-2.3**
BTO				sP		**sP**	**02 30 59.9**	**-5.0**
BTO				PP		**PnPn**	**02 31 13.3**	**+5.3**
BTO				pmax		pmax		
	comp=Z,26nm,0.8s							
BTO				pmax		pmax		
	comp=Z,250nm,4.9s							
TARG	**Taragay, Kyrgy**	**21.64**	**327**	P		**P**	**02 30 50.4**	**-0.9**
TARG				IAmb		IAmb	02 31 16.4	
	comp=Z,21nm,1.0s							
HHC	**Hu-ho-hao-te**	**22.28**	**38**	*e*P		**P**	**02 30 58.8**	**+1.0**
HHC				pmax		pmax		
	comp=Z,8.0nm,0.7s							
HHC				pmax		pmax		
	comp=Z,100nm,4.7s							
GSI	**Gunungsitoli**	**23.32**	**170**	P		**P**	**02 31 10.4**	**+1.9**
KBL	**Kabul**	**23.51**	**301**	P		**P**	**02 31 08.9**	**-1.7**
KBL				IAmb		IAmb	02 31 39.5	
	comp=Z,13nm,1.1s							
AAK	**Ala-Archa**	**24.02**	**324**	P		**P**	**02 31 17.1**	**+2.0**
AAK				IAmb		IAmb	02 31 58.6	
	comp=Z,11nm,1.3s							
AAK	**Ala-Archa**	**24.02**	**324**	P		**P**	**02 31 15.6**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=217,slow=10,SNR=2.4							
	comp=Z,0.9nm,0.6s							
MK31	**Makanchi Array**	**24.07**	**341**	P		**P**	**02 31 15.1**	**-0.2**
MKAR	**Makanchi Array**	**24.07**	**341**	P		**P**	**02 31 15.0**	**-0.3**
MKAR	**Makanchi Array**	**24.07**	**341**	P		**P**	**02 31 15.7**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=163,slow=8.9,SNR=28							
MKAR				pP		**pP**	**02 31 29.7**	**+1.6**
	comp=Z,3.0nm,0.5s,baz=158,slow=10,SNR=9.8							
MKAR				LR		LR	02 42 29.0	
	comp=Z,48nm,18.1s,baz=34,slow=41							
	comp=Z,2.0nm,0.6s							
MAKZ	**Makanchi**	**24.17**	**340**	P		**P**	**02 31 15.3**	**-1.0**
BTK	**Batken**	**24.63**	**315**	P		**P**	**02 31 21.2**	**+0.6**
BTK				IAmb		IAmb	02 31 52.7	
	comp=Z,27nm,1.1s							
CHGR	**Chuyangaron**	**25.05**	**310**	P		**P**	**02 31 23.8**	**-0.6**
CHGR				IAmb		IAmb	02 31 56.8	
	comp=Z,20nm,1.0s							
SIMJ	**Simiganj**	**25.15**	**310**	P		**P**	**02 31 24.4**	**-1.0**
SIMJ				IAmb		IAmb	02 32 02.8	
	comp=Z,7.5nm,0.9s							
SONM	**Songino Array**	**25.51**	**20**	P		**P**	**02 31 28.6**	**0.0**
SONM	**Songino Array**	**25.51**	**20**	P		**P**	**02 31 28.9**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=198,slow=9.5,SNR=20							
SONM				pP		**pP**	**02 31 43.6**	**+2.2**
	comp=Z,3.2nm,0.7s,baz=202,slow=11,SNR=9.9							
	comp=Z,2.1nm,0.7s							
ULN	**Ulaanbaatar**	**25.75**	**21**	P		**P**	**02 31 30.4**	**-0.3**
KK31	**Karatay Array**	**26.55**	**320**	P		**P**	**02 31 37.4**	**-0.6**
KURBB	**Kurchatov Arra**	**28.62**	**340**	P		**P**	**02 31 56.5**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=150,slow=9.1,SNR=11							
KURBB				pP		**pP**	**02 32 10.4**	**+1.2**
	comp=Z,2.4nm,1.0s,baz=154,slow=8.3,SNR=7.6							
	comp=Z,1.6nm,0.8s							
KURK	**Kurchatov**	**28.67**	**340**	P		**P**	**02 31 57.0**	**+0.3**
ZALV	**Zalesovo Beam**	**30.20**	**350**	P		**P**	**02 32 10.3**	**+0.1**
ZALV	**Zalesovo Beam**	**30.20**	**350**	P		**P**	**02 32 11.1**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=174,slow=7.7,SNR=10							
ZALV				pP		**pP**	**02 32 23.3**	**+0.1**
	comp=Z,1.8nm,0.5s,baz=172,slow=7.2,SNR=4.9							
	comp=Z,1.9nm,0.6s							
KSRS	**Korea Array**	**32.07**	**58**	LR		LR	02 46 54.4	
	comp=Z,39nm,18.4s,baz=30,slow=39							
BVAR	**Borovoye Array**	**33.48**	**335**	P		**P**	**02 32 38.7**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=136,slow=11,SNR=7.2							
BVAR				pP		**pP**	**02 32 53.4**	**+1.3**
	comp=Z,0.8nm,0.4s,baz=142,slow=11,SNR=4.7							
	comp=Z,1.0nm,0.5s							
BRVK	**Borovoye**	**33.55**	**334**	P		**P**	**02 32 38.6**	**-1.1**
ABKAR	**Akbulak array**	**36.07**	**322**	P		**P**	**02 33 02.3**	**+0.8**
ABKAR				IAmb		IAmb	02 33 29.9	
	comp=Z,3.0nm,0.8s							
ABKAR	**Akbulak array**	**36.07**	**322**	P		**P**	**02 33 01.4**	**0.0**
HEH	**HeiHe**	**36.78**	**37**	*e*P		**P**	**02 33 08.0**	**+0.5**
BRTR	**Keskin Array B**	**52.08**	**302**	P		**P**	**02 35 10.0**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=66,slow=7.1,SNR=1.3							
	comp=Z,0.2nm,0.5s							
AKASG	**Malin Array Be**	**55.33**	**316**	P		**P**	**02 35 32.0**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=78,slow=7.5,SNR=2.1							
AKASG				pP		**pP**	**02 35 48.7**	**+1.6**
	comp=Z,1.9nm,0.6s,baz=79,slow=6.7,SNR=6.2							
	comp=Z,0.3nm,0.4s							
MLR	**Muntele Rosu**	**57.52**	**310**	P		**P**	**02 35 50.9**	**+1.7**
MLR				IAmb		IAmb	02 36 26.5	
	comp=Z,7.4nm,1.1s							
FINES	**FINESS Array B**	**58.09**	**328**	P		**P**	**02 35 52.6**	**-0.1**
	comp=Z,1.9nm,1.1s,baz=92,slow=9.9,SNR=1.6							
FINES				pP		**pP**	**02 36 07.4**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=94,slow=5.7,SNR=3.0							
	comp=Z,1.9nm,1.1s							
WB0	**Warramunga Arr**	**59.28**	**134**	P		**P**	**02 35 59.8**	**-1.7**
WB0				IAmb		IAmb	02 36 18.8	
	comp=Z,7.0nm,1.2s							
WRA	**Warramunga Arr**	**59.37**	**134**	P		**P**	**02 36 00.3**	**-1.9**
	comp=Z,1.5nm,0.7s,baz=323,slow=7.2,SNR=30							
WRA				pP		**pP**	**02 36 14.4**	**-1.8**
	comp=Z,2.3nm,0.8s,baz=321,slow=7.4,SNR=7.7							
	comp=Z,1.5nm,0.7s							
WB2	**Warramunga Arr**	**59.38**	**134**	P		**P**	**02 36 00.6**	**-1.6**
WB2				IAmb		IAmb	02 36 18.7	
	comp=Z,5.1nm,0.9s							
NWAO	**Narrogin (SRO)**	**61.35**	**157**	LR		LR	03 05 43.5	
	comp=Z,49nm,18.1s,baz=214,slow=39							
COEN	**Coen**	**61.69**	**123**	P		**P**	**02 36 16.6**	**-1.5**
ASAR	**Alice Springs**	**61.81**	**138**	P		**P**	**02 36 17.4**	**-1.3**
	comp=Z,0.8nm,0.4s,baz=320,slow=7.0,SNR=20							
ASAR				pP		**pP**	**02 36 31.9**	**-0.9**
	comp=Z,2.1nm,0.8s,baz=321,slow=6.3,SNR=7.7							
	comp=Z,0.8nm,0.4s							
SPITS	**Spitsbergen Ar**	**63.63**	**347**	P		**P**	**02 36 29.8**	**-0.4**
	comp=Z,5.9nm,0.8s,baz=100,slow=9.5,SNR=4.9							
	comp=Z,5.9nm,0.8s							
SPA3	**Spitsbergen Ar**	**63.63**	**347**	P		**P**	**02 36 30.4**	**+0.3**
SPB4	**Spitsbergen Ar**	**63.64**	**347**	P		**P**	**02 36 31.0**	**+0.8**
RONA	**Rosalia, Austr**	**63.93**	**313**	*e*P		pP	02 36 49.4	+2.7
	comp=Z,0.3nm,0.2s							
HFS	**Hagfors**	**64.11**	**327**	P		**P**	**02 36 33.6**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=101,slow=6.2,SNR=1.9							
HFS				pP		**pP**	**02 36 48.4**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=105,slow=12,SNR=2.5							
	comp=Z,1.1nm,0.7s							
SOKA	**Soboth**	**64.94**	**312**	*e*P		pP	02 36 58.3	+4.9
	comp=Z,0.3nm,0.3s							
NB2	**NORSAR Subarra**	**65.25**	**328**	P		pP	02 36 53.4	-1.7
	comp=Z,3.1nm,0.9s,baz=84,slow=6.5							
NOA	**NORSAR Array B**	**65.25**	**328**	P		**P**	**02 36 40.7**	**-0.3**
	comp=Z,0.8nm,1.1s,baz=86,slow=3.9,SNR=1.2							
NOA				pP		**pP**	**02 36 55.4**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=89,slow=6.1,SNR=2.2							
	comp=Z,0.8nm,1.1s							
OBKA	**Obir**	**65.30**	**312**	*e*P		pP	02 37 00.9	+5.2
	comp=Z,0.6nm,0.5s							
GERES	**GERESS Array B**	**65.47**	**314**	P		**P**	**02 36 42.1**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=68,slow=8.5,SNR=2.7							
GERES				pP		**pP**	**02 36 57.6**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=65,slow=7.8,SNR=5.2							
	comp=Z,0.8nm,0.7s							
LESA	**Schwarzleotal**	**66.39**	**313**	*i* P		pP	02 37 06.1	+3.3
	comp=Z,0.7nm,0.3s							
MOTA	**Moosalm**	**67.46**	**313**	*e*P		pP	02 37 13.9	+4.3
RETA	**Reutte**	**67.66**	**313**	*e*P		pP	02 37 14.6	+3.8
	comp=Z,0.7nm,0.3s							
ILAR	**Eielson Array**	**79.72**	**22**	P		**P**	**02 38 07.6**	**+0.6**
	comp=Z,0.3nm,0.9s,baz=294,slow=4.8,SNR=3.0							
ILAR				pP		**pP**	**02 38 20.4**	**-1.1**
	comp=Z,0.5nm,0.9s,baz=306,slow=4.8,SNR=4.0							
	comp=Z,0.3nm,0.9s							
TORD	**Torodi Ar. Bea**	**86.28**	**283**	P		**P**	**02 38 42.1**	**+0.3**
	comp=Z,0.4nm,0.9s,baz=56,slow=5.4,SNR=1.9							
TORD				pP		**pP**	**02 38 58.1**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=59,slow=4.0,SNR=3.9							
	comp=Z,0.4nm,0.9s							
TXAR	**Lajitas Array**	**124.06**	**18**	PKP		**PKiKP**	**02 44 59.9**	**+1.3**
	comp=Z,0.1nm,0.7s,baz=203,slow=1.9,SNR=1.4							
TXAR				pPKP		**pPKPdf**	**02 45 14.7**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=318,slow=1.2,SNR=3.1							

CATAC ***15*** *02:31:16.2±0.8, 8°.25N×82°.91W, h13km±2km, ML3.0*
UPA ***15*** *02:31:18.1±1.1, 8°.35N×82°.89W, h32km±6km, ML3.2*

ISC 15 02:31:18.1±1.0, 8°.34N±0°.04×82°.90W±0°.03, h31km±7km, n25, σ0°.93/42, 3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PTPM	**Petroterminale**	**0.14**	**171**	*i* P		**Pb**	**02 31 23.4**	**-0.4**
PTPM				AMP			02 31 23.7	
	comp=Z,3μm,0.1s							
PTPM				*e*S		**Sb**	**02 31 28.7**	**+1.0**
CDITO	**Canoas**	**0.23**	**7**	*e*P		**Pb**	**02 31 24.2**	**-0.6**
CDITO				*e*S		**Sb**	**02 31 29.2**	**-0.2**
CDITO	**Canoas**	**0.23**	**7**	*i* P		**Pb**	**02 31 23.2**	**-1.6**
CDITO				*i* S		**Sn**	**02 31 30.0**	**-0.1**
CDITO				IAML			02 31 33.2	
	comp=Z,950nm,1.0s							
LIMO3	**Limones**	**0.24**	**171**	*e*P		**Pb**	**02 31 24.6**	**-0.3**
LIMO3				*e*S		**Sb**	**02 31 30.9**	**+1.4**
PIRO	**Carate, Puerto**	**0.44**	**278**	*i* P		**Pb**	**02 31 25.5**	**-2.1**
PIRO				*i* S		**Sn**	**02 31 34.4**	**-0.7**
PIRO				IAML			02 31 38.9	
	comp=Z,990nm,1.0s							
DVD	**David**	**0.46**	**78**	*e*P		**Pb**	**02 31 27.5**	**-0.4**
DVD				AMP			02 31 27.5	
	comp=Z,2μm,0.1s							
DVD				*e*S		**Sn**	**02 31 34.9**	**-0.7**
MLIR3	**Monte Lirio, C**	**0.46**	**10**	*e*P		**Pn**	**02 31 28.2**	**-0.4**
MLIR3				*e*S		**Sb**	**02 31 34.9**	**+0.2**
PEDE3	**Pedregal, Chir**	**0.47**	**85**	*e*P		**Pb**	**02 31 27.5**	**-0.7**
PEDE3				*e*S		**Sb**	**02 31 34.5**	**-0.5**
LOCO3	**Loma Colorada,**	**0.48**	**82**	*e*P		**Pb**	**02 31 27.8**	**-0.5**
LOCO3				*e*S		**Sb**	**02 31 34.9**	**-0.4**
BRU2	**Volcan**	**0.50**	**25**	*i* P		**Pb**	**02 31 28.4**	**-0.2**
BRU2				AMP			02 31 28.8	
	comp=Z,1μm,0.2s							
BRU2				*e*S		**Sn**	**02 31 37.3**	**+0.4**
BRU2	**Volcan**	**0.50**	**25**	*i* P		**Pb**	**02 31 28.2**	**-0.4**
BRU2				IAML			02 31 40.4	
	comp=Z,530nm,1.0s							
BCO2	**Palmira**	**0.53**	**44**	*i* P		**Pb**	**02 31 28.8**	**-0.4**
BCO2				*e*S		**Sn**	**02 31 37.5**	**-0.1**
LNBQ3	**Los Naranjos,**	**0.64**	**45**	*e*P		**Pb**	**02 31 30.0**	**-1.0**
LNBQ3				*e*S		**Sb**	**02 31 39.0**	**-0.7**
POTG	**Potrero Grande**	**0.74**	**343**	*i* P		**Pb**	**02 31 32.1**	**-0.5**
POTG				*i* S		**Sn**	**02 31 43.5**	**+0.7**
POTG				IAML			02 31 47.3	
	comp=Z,950nm,1.0s							
PLAN	**Los Planes de**	**0.84**	**293**	*i* P		**Pb**	**02 31 32.8**	**-1.4**
PLAN				*i* S		**Sb**	**02 31 44.6**	**-0.6**
PLAN				IAML			02 31 47.4	
	comp=Z,1μm,1.0s							
CHGR2	**Aguacate**	**0.95**	**51**	*e*P		**Pb**	**02 31 34.6**	**-1.6**
CHGR2				*e*S		**Sb**	**02 31 47.6**	**-0.9**
CNI2	**El Empalme, Bo**	**1.16**	**21**	*e*P		**Pb**	**02 31 39.8**	**+0.2**
CNI2				*e*S		**Sb**	**02 31 55.4**	**+1.2**
PEZE	**Perez Zeledon,**	**1.29**	**324**	*i* P		**Pb**	**02 31 40.9**	**-0.9**
PEZE				*i* S		**Sb**	**02 31 59.6**	**+1.5**
PEZE				IAML			02 32 01.7	
	comp=Z,130nm,1.0s							
CDM	**Cerro de Muert**	**1.48**	**325**	*i* P		Pn	**02 31 43.3**	**+0.3**
CDM				IAML			02 31 45.6	
	comp=Z,65nm,1.0s							
CDM				*i* S		**Sn**	**02 32 02.9**	**+1.4**
RIMA	**Rio Macho**	**1.71**	**326**	*i* P		**Pn**	**02 31 46.8**	**+0.9**
RIMA				IAML			02 31 49.7	
	comp=Z,60nm,1.0s							
VTCV	**VTCV, Calle Va**	**1.82**	**334**	*i* P		**Pn**	**02 31 49.1**	**+1.5**
VTCV				IAML			02 32 16.6	
	comp=Z,190nm,1.0s							
JACO	**JACO, Garabito**	**2.18**	**307**	*i* P		**Pn**	**02 31 52.3**	**+0.1**
JACO				IAML			02 31 58.5	
	comp=Z,39nm,1.0s							
SOCE	**Pocosol**	**2.65**	**320**	*i* P		**Pn**	**02 31 59.7**	**+1.0**
SOCE				IAML			02 32 03.5	
	comp=Z,110nm,1.0s							
SAJU	**San Juanillo,**	**3.26**	**302**	*i* P		**Pn**	**02 32 07.7**	**+0.6**
SAJU				IAML			02 33 09.1	
	comp=Z,67nm,1.0s							
SMSP	**San Marcos**	**10.91**	**308**	*i* P		Pn	02 34 00.9	+8.4

SSNC ***15*** *02:32:22.5±0.9, 17°.96N×73°.40W, h14km±6km, MD3.7, ML2.9*
SDD ***15*** *02:32:22.3±2.4, 18°.37N×73°.44W, h23km±101km, MD3.7, ML3.3, MW3.6*
NEIC ***15*** *02:32:23.9±0.7, 18°.42N±0°.09×73°.31W±0°.03, h10km±1km, ML3.2/10, Error ellipse: s-maj=15.2km s-min=4.7km az=180.0*
OSPL ***15*** *02:32:24.6±2.4, 18°.32N×73°.35W, h0km±10km, ML3.0*

ISC 15 02:32:23.9±1.8, 18°.50N±0°.05×73°.26W±0°.04, h14km±13km, n50, σ1°.29/68, 15C-6D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PAPH	**Port-au-Prince**	**0.91**	**89**	Pg		**Pb**	**02 32 41.4**	**-0.1**
PAPH				Sg		**Sn**	**02 32 55.3**	**+0.1**
PAPH	**Port-au-Prince**	**0.91**	**89**	↑*e*Pg		**Pb**	**02 32 41.7**	**+0.3**
PAPH				↑*e*Sg		**Sn**	**02 32 55.7**	**+0.6**
PAPH				IAML			02 32 59.7	
	comp=E,1μm,0.2s							
PAPH				IAML			02 33 02.0	
	comp=N,1μm,0.3s							
PAPH	**Port-au-Prince**	**0.91**	**89**	*e*P		**Pb**	**02 32 41.7**	**+0.3**
PAPH				*e*S		**Sg**	**02 32 54.7**	**+1.2**
PAPH	**Port-au-Prince**	**0.91**	**89**	*i* P		**Pb**	**02 32 41.7**	**+0.3**
PAPH				*e*S		**Sn**	**02 32 55.8**	**+0.6**
PAPH				IAML			02 32 56.3	
	comp=Z,330nm,0.4s							
JIDR	**Jimani**	**1.34**	**90**	↓*e*Pg		**Pn**	**02 32 48.7**	**+0.6**
JIDR				↑*e*Sg		**Sg**	**02 33 08.8**	**+1.7**
JIDR				IAML			02 33 15.4	
	comp=N,413nm,0.8s							
JIDR				IAML			02 33 15.4	
	comp=N,391nm,0.8s							
LOPE2	**Hotel El Peder**	**1.51**	**108**	↑*e*Pg		**Pn**	**02 32 50.5**	**0.0**
LOPE2				↑*e*Sg		**Sn**	**02 33 11.3**	**+1.2**
LOPE2				IAML			02 33 13.0	
	comp=E,135nm,1.2s							
LOPE2				IAML			02 33 15.1	
	comp=N,127nm,1.1s							
LOPE2	**Hotel El Peder**	**1.51**	**108**	*i* P		**Pn**	**02 32 50.6**	**0.0**
LOPE2				*e*S		**Sn**	**02 33 10.7**	**+0.7**
LOPE2				IAML			02 33 14.9	
	comp=Z,236nm,0.5s							
NEDR	**Neiba UASD**	**1.75**	**90**	IAML			02 33 25.0	
	comp=E,246nm,0.7s							
LODA1	**ITESIL, Dajabo**	**1.80**	**55**	IAML			02 33 31.9	
	comp=N,2μm,4.2s							
LODA1	**ITESIL, Dajabo**	**1.80**	**55**	*i* P		**Pb**	**02 32 57.5**	**+0.9**
REDR	**Restauracion**	**1.89**	**69**	↓*e*Pg		Pn	**02 32 52.6**	**-3.0**
REDR				IAML			02 33 16.6	
	comp=E,408nm,0.6s							
REDR				IAML			02 33 23.3	
	comp=N,122nm,0.5s							
MASC	**Masc**	**1.90**	**331**	*e*P		**Pn**	**02 32 57.4**	**+1.6**
MASC	**Masc**	**1.90**	**331**	*i* P		**Pn**	**02 32 57.4**	**+1.6**
MASC				*e*S		**Sb**	**02 33 21.6**	**-0.3**
MASC				IAML			02 33 27.1	
	comp=Z,50nm,0.7s							
PODR	**Polo**	**1.91**	**100**	↓*e*Pg		**Pn**	**02 32 58.2**	**+2.1**
PODR				IAML			02 33 33.2	
	comp=N,287nm,0.6s							
PODR				IAML			02 33 33.3	
	comp=N,297nm,0.6s							
PODR	**Polo**	**1.91**	**100**	*i* P		**Pn**	**02 32 58.2**	**+2.1**
SDDR	**Presa de Saban**	**1.93**	**75**	Pn		**Pb**	**02 32 59.3**	**+0.5**
SDDR				IAML			02 33 28.4	
	comp=N,223nm,0.5s							
SDDR				IAML			02 33 28.6	
	comp=N,200nm,0.5s							
SDDR	**Presa de Saban**	**1.93**	**75**	↑*e*Pg		**Pb**	**02 32 59.6**	**+0.7**
SDDR				↑*e*Sg		**Sg**	**02 33 25.9**	**0.0**
SDDR				IAML			02 33 28.3	
	comp=N,200nm,0.3s							
SDDR				IAML			02 33 28.4	
	comp=E,181nm,0.5s							
SDDR	**Presa de Saban**	**1.93**	**75**	↓*e*P		**Pb**	**02 32 59.4**	**+0.6**
SDDR				*e*S		**Sg**	**02 33 25.3**	**-

LMGC				IAML		02 34 06.0		
	comp=N,8.9nm,0.3s							
LMGC				IAML		02 34 06.6		
	comp=E,8.8nm,0.2s							
AGPR	**Aguadilla, PR**	**5.84**	**89**	Pn	**Pn**	**02 33 50.9**	**+0.9**	
CRPR	**Cabo Rojo, PR**	**5.87**	**94**	Pn	**Pn**	**02 33 50.5**	**+0.1**	
MLPR	**Magueyes Islan**	**5.93**	**94**	Pn	**Pn**	**02 33 52.0**	**+0.7**	
UUPR	**Utuado, UPR, P**	**6.21**	**91**	Pn	**Pn**	**02 33 57.4**	**+2.2**	
OBIP	**Obispado Ponce**	**6.34**	**93**	Pn	**Pn**	**02 33 57.6**	**+0.7**	
CELP	**Cerrillos**	**6.36**	**93**	Pn	**Pn**	**02 33 58.4**	**+1.1**	
HUMP	**Col San Antoni**	**7.05**	**92**	Pn	**Pn**	**02 34 06.4**	**-0.3**	
BAUV	**El Baul**	**10.77**	**151**	Pn	**Pn**	**02 34 57.8**	**+0.1**	
BCIP	**Isla Barro Col**	**11.26**	**215**	Pn	**Pn**	**02 35 03.2**	**-1.3**	

IDC ***15*** *02:32:56.4±1.0, 10°.09N×125°.91E, h0km, mb3.8/11, mbtmp3.8/11, Error ellipse: s-maj=48.1km s-min=20.6km az=66.0*

NEIC ***15*** *02:33:01.6±1.4, 10°.6N±0°.1×126°.21E±0°.08, h10km±1km, mb4.3/25, Error ellipse: s-maj=20.2km s-min=9.3km az=36.0*

ISC 15 02:33:01.5±5.2, 10°.53N±0°.06×126°.57E±0°.07, h18km±26km, n56, σ1s74/62, mb4.2/24, 6C-7D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.30**	**235**	*eP*	**Pn**	**02 33 23.3**	**-1.4**
SCPH				*eS*	**Sn**	**02 33 39.5**	**-2.1**
PLP	**Palo**	**1.68**	**292**	*eP*	**Pn**	**02 33 29.2**	**-0.8**
PLP				*eS*	**Sn**	**02 33 50.4**	**-0.7**
TABP	**Talibon, Bohol**	**2.24**	**259**	*eP*	**Pn**	**02 33 37.1**	**-0.6**
TABP				*eS*	**Sn**	**02 34 05.2**	**+0.3**
BIPH	**Bislig**	**2.34**	**185**	*eP*	**Pn**	**02 33 38.4**	**-0.7**
BIPH				*eS*	**Sn**	**02 34 05.1**	**-2.3**
LLP	**Lapu-Lapu**	**2.57**	**265**	*eP*	Pn	02 33 39.1	-3.1
LLP				*eS*	**Sn**	**02 34 14.2**	**+1.3**
CDOP	**Cateel, Davao**	**2.73**	**183**	*eP*	**Pn**	**02 33 45.4**	**+0.9**
CGP	**Cagayan de Oro**	**2.77**	**222**	*eP*	**Pn**	**02 33 47.1**	**+2.2**
CGP				*eS*	**Sn**	**02 34 15.6**	**-2.4**
TBP	**Tagbilaran**	**2.79**	**253**	*eP*	**Pn**	**02 33 46.0**	**+0.7**
TBP				*eS*	**Sn**	**02 34 21.3**	**+2.8**
LSIP	**Lazi, Siquijor**	**3.21**	**245**	*eP*	**Pn**	**02 33 53.4**	**+2.4**
LSIP				*eS*	**Sn**	**02 34 28.4**	**-0.4**
DAV	**Davao City (W)**	**3.58**	**196**	Pn	**Pn**	**02 33 57.0**	**+0.9**
DCPH	**Dipolog City**	**3.71**	**239**	*eP*	**Pn**	**02 33 60.0**	**+2.0**
KCP	**Kidapawan**	**3.79**	**203**	*eP*	**Pn**	**02 33 56.4**	**-2.7**
KCP				*i* S	**Sn**	**02 34 44.5**	**+1.1**
RCP	**Roxas**	**3.89**	**286**	*eP*	**Pn**	**02 34 00.9**	**+0.5**
CNOP	**Candoni, Negro**	**3.93**	**260**	*eP*	**Pn**	**02 34 01.0**	**+0.1**
PAGZ	**Pagadian**	**4.12**	**230**	*eP*	Pn	02 33 58.3	-5.3
QVP	**Quezon City--P**	**6.78**	**307**	*iP*	**Pb**	**02 34 58.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**27.85**	**290**	P	P	02 38 42.1	-8.1
	1.6nm,0.3s,baz=117,slow=9.2,SNR=1.7 1.6nm,0.3s						
WRA	**Warramunga Arr**	**31.24**	**166**	P	P	02 39 15.2	-5.1
	0.2nm,0.8s,baz=345,slow=8.9,SNR=0.9 0.2nm,0.8s						
ASAR	**Alice Springs**	**34.74**	**168**	P	**P**	**02 39 47.0**	**-3.9**
	0.1nm,0.5s,baz=349,slow=7.0,SNR=1.4 0.1nm,0.5s						
SONM	**Songino Array**	**40.88**	**339**	P	**P**	**02 40 42.4**	**-0.2**
	0.5nm,0.8s,baz=163,slow=10,SNR=3.2 0.5nm,0.8s						
FORT	**Forrest**	**41.10**	**178**	P	**P**	**02 40 45.9**	**+1.5**
BBOO	**Buckleboo**	**44.04**	**168**	P	**P**	**02 41 10.1**	**+1.8**
TOO	**Toolangi**	**51.03**	**161**	P	**P**	**02 42 04.8**	**+2.1**
MK31	**Makanchi Array**	**52.00**	**323**	P	**P**	**02 42 09.3**	**-0.5**
MKAR	**Makanchi Array**	**52.00**	**323**	P	**P**	**02 42 09.0**	**-0.8**
MKAR	**Makanchi Array**	**52.00**	**323**	P	**P**	**02 42 07.3**	**-2.5**
	1.5nm,0.8s,baz=124,slow=7.9,SNR=16						
MKAR				PcP	**PcP**	**02 43 19.9**	**-2.2**
	0.7nm,0.8s,baz=107,slow=4.8,SNR=3.8 1.5nm,0.8s						
ZALV	**Zalesovo Beam**	**54.54**	**331**	P	**P**	**02 42 27.9**	**-0.4**
ZALV	**Zalesovo Beam**	**54.54**	**331**	P	**P**	**02 42 26.4**	**-1.9**
	1.7nm,0.7s,baz=114,slow=7.2,SNR=7.5 1.7nm,0.7s						
KURK	**Kurchatov**	**56.02**	**325**		**P**	**02 42 38.5**	**-0.5**
KURK				IAmb	IAmb	02 42 39.1	
	comp=Z,2.2nm,0.8s						
KURBB	**Kurchatov Arra**	**56.02**	**325**	P	**P**	**02 42 37.7**	**-1.4**
	comp=Z,0.8nm,0.4s,baz=127,slow=6.8,SNR=10 comp=Z,0.8nm,0.4s						
BVAR	**Borovoye Array**	**61.62**	**325**	P	**P**	**02 43 16.3**	**-1.7**
	comp=Z,0.7nm,0.5s,baz=126,slow=7.4,SNR=3.6 comp=Z,0.7nm,0.5s						
ABKAR	**Akbulak array**	**66.87**	**319**	P	**P**	**02 43 50.6**	**-1.8**
ABKAR	**Akbulak array**	**66.87**	**319**	P	**P**	**02 43 51.1**	**-1.4**
ABKAR				IAmb	IAmb	02 44 06.5	
	comp=Z,1.9nm,1.2s						
BKZ	**Black Stump Fm**	**67.80**	**140**	P	**P**	**02 44 01.1**	**+2.6**
E18K	**Tukpahlearik C**	**73.76**	**23**	P	**P**	**02 44 35.8**	**+1.5**
C18K	**Utukok River**	**73.81**	**21**	P	**P**	**02 44 35.4**	**+0.7**
D19K	**Kuna River**	**74.89**	**22**	P	**P**	**02 44 42.5**	**+1.5**
D19K				IAmb	IAmb	02 45 01.1	
	comp=Z,2.9nm,1.2s						
O18K	**Koktuh Hills**	**75.05**	**31**	P	**P**	**02 44 44.8**	**+2.8**
E19K	**Redstone River**	**75.05**	**23**	P	**P**	**02 44 41.5**	**-0.3**
E19K				IAmb	IAmb	02 45 17.7	
	comp=Z,4.5nm,1.4s						
B20K	**Meade River**	**75.48**	**20**	P	**P**	**02 44 46.3**	**+2.1**
B20K				IAmb	IAmb	02 45 14.7	
	comp=Z,3.8nm,1.5s						
B21K	**Ikpikpuk River**	**76.30**	**21**	P	**P**	**02 44 50.6**	**+1.7**
B21K				IAmb	IAmb	02 44 51.6	
	comp=Z,4.7nm,1.4s						
B22K	**Teshekpuk Lake**	**76.78**	**20**	P	**P**	**02 44 54.1**	**+2.5**
B22K				IAmb	IAmb	02 45 34.4	
	comp=Z,6.1nm,1.4s						
C23K	**Itkillik River**	**77.70**	**21**	P	**P**	**02 44 58.3**	**+1.5**
C23K				IAmb	IAmb	02 45 02.4	
	comp=Z,3.1nm,0.9s						
I23K	**Minto, Yukon-K**	**78.02**	**25**	P	**P**	**02 45 00.8**	**+2.2**
I23K				IAmb	IAmb	02 45 44.0	
	comp=Z,3.4nm,1.4s						
TOLK	**Toolik Lake Re**	**78.02**	**22**	P	**P**	**02 44 59.7**	**+1.0**
TOLK				IAmb	IAmb	02 45 31.3	
	comp=Z,4.1nm,1.4s						
F24K	**Squaw Lake**	**78.64**	**23**	P	**P**	**02 45 04.6**	**+2.5**
ILAR	**Eielson Array**	**79.08**	**26**	P	**P**	**02 45 05.1**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=255,slow=5.1,SNR=4.3 comp=Z,0.2nm,0.7s						
D25K	**Kavik River**	**79.18**	**21**	P	**P**	**02 45 06.5**	**+1.4**
F28M	**Old Crow**	**81.70**	**23**	P	**P**	**02 45 19.7**	**+1.1**
F28M				IAmb	IAmb	02 45 37.2	
	comp=Z,2.9nm,1.2s						
I28M	**Miner Creek**	**81.96**	**25**	P	**P**	**02 45 22.7**	**+2.6**
I28M				IAmb	IAmb	02 45 39.4	
	comp=Z,5.6nm,1.4s						
G29M	**Pine Creek**	**82.51**	**23**	P	**P**	**02 45 24.9**	**+2.0**
G29M				IAmb	IAmb	02 46 04.5	
	comp=Z,3.0nm,1.2s						
ARCES	**ARCESS Array B**	**84.05**	**340**	P	**P**	**02 45 30.7**	**0.0**
ARCES	**ARCESS Array B**	**84.05**	**340**	P	**P**	**02 45 29.2**	**-1.5**
	comp=Z,1.7nm,0.6s,baz=89,slow=6.6,SNR=7.5 comp=Z,1.7nm,0.6s						
H31M	**Peel River**	**84.18**	**24**	P	**P**	**02 45 33.5**	**+2.0**
H31M				IAmb	IAmb	02 46 12.7	
	comp=Z,5.1nm,1.4s						
FINES	**FINESS Array B**	**85.80**	**332**	P	**P**	**02 45 38.8**	**-0.8**
FINES	**FINESS Array B**	**85.80**	**332**	P	**P**	**02 45 38.5**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=93,slow=4.9,SNR=7.3 comp=Z,0.4nm,0.3s						

IDC ***15*** *02:35:59.0±0.7, 3°.44S×68°.24E, h0km, mb4.1/19, mbtmp4.1/19, MS3.9/32, Error ellipse: s-maj=20.3km s-min=16.4km az=37.0*

NEIC ***15*** *02:36:01.4±1.1, 3°.41S±0°.09×68°.29E±0°.05, h11km±4km, mb4.7/27, Error ellipse: s-maj=12.9km s-min=7.2km az=187.0*

GCMT ***15*** *02:36:03.4±0.3, 3°.56S±0°.03×68°.37E±0°.04, h14km±1km, MW4.8/80, Moment Tensor Solution. s17,c19; s80,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.61±.14; $M_{\theta\theta}$1.33±.09; $M_{\phi\phi}$0.27±.08; $M_{r\theta}$-0.31±.20; $M_{\theta\phi}$-0.64±.06; $M_{\phi r}$-0.67±.25; Best double couple: M_o1.76500×10^{16} NP1:ϕ_s315.00000°,δ49.00000°,λ-61.00000°. NP2: ϕ_s95.00000°,δ49.00000°,λ-119.00000°. Principal axes: T 1.6290, Plg0.0000°, Azm25.0000°; N 0.2680, Plg21.0000°, Azm115.0000°; P -1.9000, Plg69.0000°,*

Azm295.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 15 02:36:01.0±0.4, 3°.42S±0°.08×68°.27E±0°.09, h12km, n89, σ0s70/62, mb4.3/34, MS3.9/31, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**5.75**	**134**	Pn	**Pn**	**02 37 26.4**	**+0.1**
H08S3	**Diego Garcia H**	**5.92**	**135**	T	T	02 43 34.4	
	baz=308,slow=74,SNR=15						
H08S1	**Diego Garcia H**	**5.93**	**135**	T	T	02 43 36.7	
	baz=308,slow=74,SNR=18						
H08S2	**Diego Garcia H**	**5.94**	**135**	T	T	02 43 33.8	
	baz=308,slow=74,SNR=16						
KAAM	**Kaadhehdhoo**	**6.11**	**51**	Pn	**Pn**	**02 37 30.9**	**-0.3**
PALK	**Pallekele**	**16.33**	**49**	LR	LR	02 44 42.8	
	comp=Z,838nm,20.4s,baz=333,slow=32						
WSAR	**Wadi Sarin**	**28.11**	**341**	LR	LR	02 51 09.9	
	comp=Z,222nm,18.7s,baz=165,slow=32						
CMAR	**Chiang Mai Arr**	**37.22**	**53**	P	**P**	**02 43 14.0**	**+1.4**
CMAR	**Chiang Mai Arr**	**37.22**	**53**	P	**P**	**02 43 13.7**	**+1.1**
	1.0nm,0.4s,baz=244,slow=9.2,SNR=12						
CMAR				LR	LR	02 56 32.4	
	comp=Z,125nm,21.7s,baz=240,slow=33 1.0nm,0.4s						
MBAR	**Mbarara**	**37.61**	**273**	LR	LR	02 56 42.7	
	comp=Z,50nm,19.6s,baz=76,slow=33						
LEM	**Lembang**	**39.33**	**97**	LR	LR	02 55 47.6	
	comp=Z,101nm,19.7s,baz=222,slow=30						
LSZ	**Lusaka**	**41.18**	**251**	LR	LR	02 58 33.3	
	comp=Z,224nm,18.0s,baz=92,slow=33						
NRN	**Naryn**	**45.19**	**8**	P	**P**	**02 44 17.5**	**-0.8**
NRN				IAmb	IAmb	02 44 34.6	
	comp=Z,7.2nm,1.4s						
AAK	**Ala-Archa**	**46.19**	**6**	P	**P**	**02 44 27.2**	**+1.3**
AAK				IAmb	IAmb	02 44 33.9	
	comp=Z,6.0nm,1.2s						
AAK	**Ala-Archa**	**46.19**	**6**	P	**P**	**02 44 27.0**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=164,slow=7.8,SNR=4.0						
AAK				LR	LR	03 03 31.4	
	comp=Z,114nm,21.9s,baz=196,slow=36 comp=Z,1.4nm,0.6s						
ASF	**Jabal al Asfar**	**46.26**	**322**	LR	LR	03 02 24.2	
	comp=Z,66nm,21.4s,baz=156,slow=34						
LBTB	**Lobatse**	**46.31**	**238**	LR	LR	03 02 20.0	
	comp=Z,270nm,18.4s,baz=70,slow=34						
BOSA	**Boshof**	**47.94**	**234**	P	**P**	**02 44 39.7**	**-0.1**
BOSA				IAmb	IAmb	02 45 03.4	
	comp=Z,17nm,1.5s						
BOSA	**Boshof**	**47.94**	**234**	P	**P**	**02 44 40.0**	**+0.2**
	comp=Z,3.1nm,0.7s,baz=56,slow=4.9,SNR=5.6 comp=Z,3.1nm,0.7s						
GNI	**Garni**	**48.43**	**336**	LR	LR	03 04 53.4	
	comp=Z,67nm,20.4s,baz=130,slow=36						
MK31	**Makanchi Array**	**51.51**	**12**	P	**P**	**02 45 06.2**	**-0.4**
MKAR	**Makanchi Array**	**51.51**	**12**	P	**P**	**02 45 06.0**	**-0.5**
MKAR	**Makanchi Array**	**51.51**	**12**	P	**P**	**02 45 06.3**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=197,slow=7.6,SNR=15 comp=Z,1.4nm,0.7s						
TSUM	**Tsumeb**	**51.90**	**248**	LR	LR	03 04 37.5	
	comp=Z,95nm,18.2s,baz=120,slow=33						
KBZ	**Khabaz**	**52.19**	**337**	P	**P**	**02 45 12.1**	**+0.5**
	comp=Z,4.3nm,0.8s,baz=170,slow=5.9,SNR=8.7 comp=Z,4.3nm,0.8s						
SUR	**Sutherland**	**52.94**	**231**	LR	LR	03 04 11.2	
	comp=Z,260nm,21.6s,baz=66,slow=32						
ABKAR	**Akbulak array**	**52.95**	**353**	P	**P**	**02 45 17.0**	**-0.2**
ABKAR	**Akbulak array**	**52.95**	**353**	P	**P**	**02 45 17.1**	**-0.1**
ABKAR				IAmb	IAmb	02 45 23.9	
	comp=Z,6.8nm,1.4s						
BRTR	**Keskin Array B**	**53.43**	**327**	P	**P**	**02 45 21.6**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=140,slow=11,SNR=6.1 comp=Z,0.8nm,0.8s						
AKTO	**Aktubinsk**	**54.36**	**352**	LR	LR	03 09 17.0	
	comp=Z,49nm,19.1s,baz=163,slow=37						
KURBB	**Kurchatov Arra**	**54.55**	**8**	P	**P**	**02 45 28.6**	**-0.2**
	comp=Z,1.9nm,1.0s,baz=206,slow=7.7,SNR=11						
KURBB				PcP	**PcP**	**02 46 32.5**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=208,slow=3.8,SNR=5.1 comp=Z,1.9nm,1.0s						
KURK	**Kurchatov**	**54.65**	**8**	P	**P**	**02 45 30.0**	**+0.4**
KURK				IAmb	IAmb	02 45 31.0	
	comp=Z,5.1nm,1.1s						
BVAR	**Borovoye Array**	**56.26**	**2**	PcP	**PcP**	**02 46 36.8**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=160,slow=5.4,SNR=3.6						
BELG	**Belogornoye**	**58.29**	**345**	LR	LR	03 11 27.8	
	comp=Z,86nm,20.0s,baz=160,slow=36						
ZAA0	**Zalesovo Array**	**58.81**	**11**	P	**P**	**02 45 59.1**	**0.0**
ZAA0				IAmb	IAmb	02 45 60.0	
	comp=Z,5.2nm,0.8s						
ZALV	**Zalesovo Beam**	**58.81**	**11**	P	**P**	**02 45 59.0**	**-0.1**
ZALV	**Zalesovo Beam**	**58.81**	**11**	P	**P**	**02 45 58.8**	**-0.3**
	comp=Z,4.6nm,0.6s,baz=201,slow=7.5,SNR=22						
ZALV				LR	LR	03 10 45.0	
	comp=Z,94nm,19.8s,baz=237,slow=36 comp=Z,4.6nm,0.6s						
ARU	**Arti**	**60.17**	**354**	LR	LR	03 12 17.5	
	comp=Z,52nm,20.0s,baz=186,slow=36						
SONM	**Songino Array**	**60.97**	**28**	P	**P**	**02 46 15.2**	**+0.9**
SONM				IAmb	IAmb	02 46 16.9	
	comp=Z,10nm,1.3s						
SONM	**Songino Array**	**60.97**	**28**	P	**P**	**02 46 15.1**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=223,slow=5.7,SNR=18						
SONM				LR	LR	03 12 30.1	
	comp=Z,410nm,20.4s,baz=231,slow=36 comp=Z,2.0nm,0.7s						
MLR	**Muntele Rosu**	**61.51**	**327**	P	**P**	**02 46 18.2**	**+0.3**
MLR				IAmb	IAmb	02 46 20.8	
	comp=Z,14nm,1.5s						
BURAR	**Bucovina Array**	**63.26**	**329**	P	**P**	**02 46 30.5**	**+0.9**
AKASG	**Malin Array Be**	**63.43**	**333**	P	**P**	**02 46 29.5**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=120,slow=6.0,SNR=6.2 comp=Z,0.2nm,0.3s						
KIRV	**Kirov**	**63.62**	**349**	LR	LR	03 15 37.4	
	comp=Z,46nm,18.8s,baz=170,slow=37						
MAW	**Mawson**	**64.18**	**182**	LR	LR	03 06 56.9	
	comp=Z,304nm,21.8s,baz=1.0,slow=29						
ASAR	**Alice Springs**	**66.34**	**114**	P	**P**	**02 46 50.3**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=283,slow=6.4,SNR=12 comp=Z,1.2nm,0.8s						
WRA	**Warramunga Arr**	**66.36**	**110**	P	**P**	**02 46 50.3**	**0.0**
WRA	**Warramunga Arr**	**66.36**	**110**	P	**P**	**02 46 50.3**	**0.0**
	comp=Z,1.4nm,0.7s,baz=285,slow=6.1,SNR=16 comp=Z,1.4nm,0.7s						
WB2	**Warramunga Arr**	**66.37**	**110**	P	**P**	**02 46 49.6**	**-0.7**
WB0	**Warramunga Arr**	**66.39**	**110**	P	**P**	**02 46 49.6**	**-0.9**
WR0	**Warramunga Arr**	**66.55**	**110**	P	**P**	**02 46 51.3**	**-0.2**
WR0				IAmb	IAmb	02 47 00.8	
	comp=Z,9.8nm,1.3s						
TORD	**Torodi Ar. Bea**	**68.09**	**286**	P	**P**	**02 47 02.4**	**+1.1**
TORD	**Torodi Ar. Bea**	**68.09**	**286**	P	**P**	**02 47 01.7**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=119,slow=4.4,SNR=1.7 comp=Z,0.2nm,0.5s						
KSRS	**Korea Array**	**68.56**	**48**	P	**P**	**02 47 04.5**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=270,slow=5.6,SNR=2.1						
KSRS				LR	LR	03 17 51.3	
	comp=Z,100nm,19.6s,baz=235,slow=37 comp=Z,0.9nm,0.5s						
KBA	**Koelnbreinsper**	**69.58**	**323**	P	**P**	**02 47 09.1**	**-1.1**
	comp=Z,5.7nm,1.6s						
ABTA	**Abfaltersbach**	**69.92**	**323**	*eP*	**P**	**02 47 11.8**	**-0.4**
	comp=Z,1.3nm,0.6s						
SQTA	**Sankt Quirin**	**70.93**	**323**	*eP*	**P**	**02 47 18.0**	**-0.4**
	comp=Z,0.6nm,0.3s						
MOTA	**Moosalm**	**71.05**	**323**	*eP*	**P**	**02 47 19.3**	**+0.1**
	comp=Z,1.2nm,0.6s						
DAVA	**Damuels**	**71.77**	**322**	*eP*	**P**	**02 47 23.4**	**-0.1**
	comp=Z,4.9nm,0.7s						
FINES	**FINESS Array B**	**72.33**	**340**	LR	LR	03 19 50.6	
	comp=Z,43nm,21.0s,baz=106,slow=36						
SENIN	**Lac Senin/Sane**	**72.98**	**321**	P	**P**	**02 47 30.2**	**-0.7**
SHEL	**Horse Pasture**	**73.70**	**254**	P	**P**	**02 47 34.9**	**-0.6**
NRIK	**Noril'sk**	**73.80**	**7**	LR	LR	03 20 40.7	
	comp=Z,70nm,19.3s,baz=168,slow=36						
USRK	**Ussuriysk Ar.**	**73.93**	**42**	P	**P**	**02 47 35.5**	**-0.7**
USRK	**Ussuriysk Ar.**	**73.93**	**42**	P	**P**	**02 47 35.4**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=259,slow=7.4,SNR=2.8						
USRK				LR	LR	03 22 45.0	
	comp=Z,42nm,19.6s,baz=235,slow=38 comp=Z,0.9nm,0.6s						
STKA	**Stephens Creek**	**74.05**	**122**	P	**P**	**02 47 37.2**	**-0.1**
STKA	**Stephens Creek**	**74.05**	**122**	P	**P**	**02 47 37.1**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=294,slow=7.6,SNR=4.4 comp=Z,1.6nm,0.7s						
KLR	**Kul'dur**	**75.67**	**37**	LR	LR	03 24 17.7	
	comp=Z,62nm,18.0s,baz=300,slow=38						
MJAR	**Matsushiro Arr**	**76.07**	**51**	P	**P**	**02 47 49.2**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=235,slow=5.8,SNR=1.8						
MJAR				LR	LR	03 23 44.3	
	comp=Z,37nm,18.1s,baz=244,slow=38 comp=Z,0.8nm,0.4s						
HFS	**Hagfors**	**76.21**	**335**	P	**P**	**02 47 48.6**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=57,slow=11,SNR=4.0 comp=Z,1.8nm,0.7s						
CTAO	**Charters Tower**	**77.55**	**110**	P	**P**	**02 47 56.9**	**-0.6**
CTAO				IAmb	IAmb	02 48 05.4	
	comp=Z,10nm,1.2s						
ESDC	**Sonseca Array**	**78.61**	**311**	P	**P**	**02 48 03.6**	**+0.6**
ESDC	**Sonseca Array**	**78.61**	**311**	P	**P**	**02 48 03.1**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=85,slow=5.2,SNR=11 comp=Z,2.4nm,0.9s						
YAK	**Yakutsk**	**80.04**	**25**	LR	LR	03 24 21.3	
	comp=Z,170nm,20.3s,baz=277,slow=36						
SNAA	**Sanae**	**80.89**	**198**	P	**P**	**02 48 15.0**	**+0.3**
SNAA				IAmb	IAmb	02 48 25.9	
	comp=Z,14nm,1.3s						
SNAA	**Sanae**	**80.89**	**198**	LR	LR	03 18 47.6	
	comp=Z,99nm,18.3s,baz=56,slow=32						
ASAJ	**Asahikawa**	**81.19**	**45**	LR	LR	03 25 33.9	
	comp=Z,33nm,20.0s,baz=172,slow=37						
EIDS	**Eidsvold**	**82.06**	**115**	P	**P**	**02 48 20.4**	**-1.4**
TIXI	**Tiksi**	**84.31**	**16**	P	**P**	**02 48 33.1**	**+0.7**
TIXI				IAmb	IAmb	02 48 33.6	
	comp=Z,5.1nm,0.8s						
TIXI	**Tiksi**	**84.31**	**16**	LR	LR	03 27 03.8	
	comp=Z,98nm,20.0s,baz=214,slow=36						
SPITS	**Spitsbergen Ar**	**86.04**	**351**	LR	LR	03 30 09.5	
	comp=Z,40nm,19.9s,baz=134,slow=38						
QSPA	**South Pole Qui**	**86.59**	**180**	P	**P**	**02 48 44.9**	**+0.7**
VNDA	**Vanda**	**87.47**	**167**	P	**P**	**02 48 48.3**	**+0.3**
VNDA				IAmb	IAmb	02 49 27.1	
	comp=Z,6.3nm,1.4s						
MA2	**Magadan**	**89.12**	**30**	LR	LR	03 30 55.8	
	comp=Z,56nm,18.5s,baz=268,slow=37						
PETK	**Petropavlovsk-**	**92.36**	**37**	LR	LR	03 33 11.7	
	comp=Z,71nm,19.8s,baz=183,slow=37						
YKA	**Yellowknife Ar**	**121.02**	**2**	PKP	**PKPdf**	**02 54 52.1**	**-1.2**
	comp=Z,0.1nm,0.6s,baz=343,slow=2.3,SNR=4.7						
PDAR	**Pinedale Array**	**140.77**	**357**	PKP	**PKPdf**	**02 55 30.4**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=137,slow=1.3,SNR=3.9						
NVAR	**Mina Array Bea**	**144.64**	**9**	PKP	**PKPdf**	**02 55 38.5**	**0.0**
	comp=Z,1.0nm,0.6s,baz=359,slow=3.2,SNR=11						
TXAR	**Lajitas Array**	**153.11**	**344**	PKPbc	**PKiKP**	**02 55 59.9**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=166,slow=1.7,SNR=11						

WEL 15 02:43:52.2±0.6, 33°S±9°×18°0W±1°9, h152km±17km, M4.1/22, mB4.7/16, ML4.9/26, MLv4.6/22, Mw(mB)3.9/16, Error ellipse: s-maj=0.0km s-min=0.0km az=113.9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.72**	**23**	S	Sn	02 45 30.6	-2.2
HAZ	**Te Kaha**	**5.48**	**203**	P	Pn	02 45 15.6	+3.7
HAZ				S	Sn	02 46 18.8	+4.5
URZ	**Urewera**	**6.16**	**205**	P	Pn	02 45 22.6	+1.6
URZ				S	Sn	02 46 31.0	+0.4
RAGZ	**Rawiri**	**6.27**	**202**	P	Pn	02 45 24.3	+1.7
MUGZ	**Murupara**	**6.48**	**206**	P	Pn	02 45 26.7	+1.5
MUGZ				S	Sn	02 46 39.9	+1.7
RTZ	**Ruatahuna**	**6.53**	**205**	P	Pn	02 45 27.3	+1.3
RTZ				S	Sn	02 46 40.5	+1.1
SNGZ	**Shannon Statio**	**6.56**	**202**	P	Pn	02 45 27.2	+0.9
SNGZ				S	Sn	02 46 40.3	+0.2
PRRZ	**Plateau Road**	**6.64**	**209**	P	Pn	02 45 28.8	+1.3
ALRZ	**Allen Road**	**6.72**	**209**	P	Pn	02 45 30.0	+1.5
MHGZ	**Mahia Peninsul**	**6.75**	**197**	P	Pn	02 45 31.6	+2.8
RAHZ	**Arahi**	**6.76**	**203**	P	Pn	02 45 30.4	+1.3
RAHZ				S	Sn	02 46 44.3	-0.6
MTHZ	**Maungataniwha**	**6.79**	**204**	P	Pn	02 45 30.7	+1.3
NMHZ	**Naumai**	**7.02**	**204**	P	Pn	02 45 33.6	+1.1
NMHZ				S	Sn	02 46 51.4	+0.2
ARHZ	**Aropaoanui**	**7.11**	**202**	P	Pn	02 45 34.0	+0.4
ARHZ				S	Sn	02 46 53.8	+0.7
BKZ	**Black Stump Fm**	**7.19**	**205**	P	Pn	02 45 33.6	-1.2
BKZ				S	Sn	02 46 54.6

IDC 15 02:53:14.2±1.7,3°.31S×68°.38E,h0km,mb3.8/7, mbtmp3.8/7,MS3.4/4,Error ellipse: s-maj=46.9km s-min=34.6km az=45.0

ISC 15 02:53:16.1±1.7,3.3S±0°.3×68.4E±0°.2,h12km,n14,σ0°79/8, mb3.9/7,MS3.3/3,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S3	Diego Garcia H	5.91	137	T	T	03 00 50.2	
	baz=309,slow=74,SNR=4.5						
H08S1	Diego Garcia H	5.92	137	T	T	03 00 50.9	
	baz=309,slow=74,SNR=6.9						
H08S2	Diego Garcia H	5.93	137	T	T	03 00 49.1	
	baz=309,slow=74,SNR=4.9						
PALK	Pallekele	16.18	49	LR	LR	03 01 57.1	
	comp=Z,166nm,18.8s,baz=340,slow=32						
WSAR	Wadi Sarin	28.06	341	LR	LR	03 08 25.1	
	comp=Z,65nm,18.2s,baz=168,slow=32						
CMAR	Chiang Mai Arr	37.07	53	P	P	03 00 27.2	+0.6
	1.2nm,0.2s,baz=243,slow=10.0,SNR=1.8						
CMAR				LR	LR	03 13 58.3	
	comp=Z,26nm,19.9s,baz=120,slow=34						
	1.2nm,0.2s						
MKAR	Makanchi Array	51.39	12	P	P	03 02 20.4	-0.4
	0.3nm,0.7s,baz=210,slow=9.6,SNR=4.7						
	0.3nm,0.7s						
KURBB	Kurchatov Arra	54.44	8	P	P	03 02 43.7	+0.5
	0.3nm,0.2s,baz=199,slow=7.5,SNR=1.9						
	0.3nm,0.2s						
ZALV	Zalesovo Beam	58.70	11	P	P	03 03 12.1	-1.4
	0.8nm,0.6s,baz=206,slow=6.6,SNR=4.9						
	0.8nm,0.6s						
SONM	Songino Array	60.83	28	P	P	03 03 28.4	-0.1
	1.3nm,1.1s,baz=224,slow=6.0,SNR=2.9						
	1.3nm,1.1s						
OBN	Obninsk	63.88	340	LR	LR	03 34 12.4	
	comp=Z,60nm,18.6s,baz=183,slow=38						
WRA	Warramunga Arr	66.28	110	P	P	03 04 04.7	-0.3
	0.6nm,0.7s,baz=284,slow=5.9,SNR=5.1						
	0.6nm,0.7s						
ESDC	Sonseca Array	78.64	311	P	P	03 05 18.5	+0.1
	1.2nm,1.0s,baz=104,slow=5.4,SNR=3.0						
	1.2nm,1.0s						
TXAR	Lajitas Array	153.05	345	PKPbc	PKiKP	03 13 15.2	+0.5
	0.1nm,0.5s,baz=56,slow=2.3,SNR=2.5						

IDC 15 03:04:28.0±1.9,6°.25S×142°.70E,h0km,mb3.4/2, mbtmp3.3/4,ML3.2/2,Error ellipse: s-maj=66.6km s-min=27.8km az=109.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	15.85	210	Pn	Pn	03 08 11.5	-1.3
	0.1nm,0.3s,baz=31,slow=12,SNR=6.1						
WRA				Sn	Sn	03 10 57.8	-11
	0.2nm,0.3s,baz=27,slow=21,SNR=2.1						
WRA				Lg	Lg	03 12 49.6	
	baz=31,slow=26						
	0.3nm,0.6s						
ASAR	Alice Springs	19.27	205	P	Pn	03 08 55.4	0.0
	0.1nm,0.3s,baz=31,slow=10.0,SNR=7.9						
	0.4nm,0.6s						
MKAR	Makanchi Array	75.00	322	P	P	03 16 12.4	+0.9
	0.3nm,0.8s,baz=132,slow=4.1,SNR=2.3						
	0.3nm,0.8s						
ILAR	Eielson Array	87.41	24	P	P	03 17 15.8	-1.2
	0.4nm,1.0s,baz=248,slow=4.8,SNR=2.6						
	0.4nm,1.0s						

IDC 15 03:09:12.5±1.8,23°.34S×114°.85W,h0km,mb3.4/4, mbtmp3.4/4,MS3.7/4,Error ellipse: s-maj=113.3km s-min=46.9km az=109.0

ISC 15 03:09:13.0±1.8,23°.5S±0°.4×115°.0W±0°.8,h10km,n22, σ0°60/9,mb3.5/4,MS3.7/3,Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	Rapa Nui	6.23	126	LR	LR	03 12 35.4	
	comp=Z,397nm,18.0s,baz=355,slow=32						
H03N2	Juan Fernandez	33.03	116	T	T	03 50 37.3	
	baz=283,slow=75,SNR=7.0						
H03N3	Juan Fernandez	33.04	116	T	T	03 50 38.4	
	baz=283,slow=75,SNR=13						
H03N1	Juan Fernandez	33.05	116	T	T	03 50 40.1	
	baz=283,slow=75,SNR=14						
PLCA	Paso Flores	40.87	126	LR	LR	03 29 33.0	
	comp=Z,100nm,19.8s,baz=188,slow=30						
CMIG	Matias Romero	44.87	28	LR	LR	03 31 37.3	
	comp=Z,72nm,21.4s,baz=164,slow=30						
PMSA	Palmer Station	52.66	155	LR	LR	03 36 25.6	
	comp=Z,94nm,18.8s,baz=60,slow=31						
TXAR	Lajitas Array	53.65	12	P	P	03 18 35.1	+0.2
	0.4nm,0.9s,baz=183,slow=3.3,SNR=11						
	0.4nm,0.9s						
NVAR	Mina Array Bea	61.70	357	P	P	03 19 31.9	+0.3
	0.4nm,0.7s,baz=186,slow=7.7,SNR=4.0						
	0.4nm,0.7s						
PDAR	Pinedale Array	66.14	4	P	P	03 19 59.7	-1.1
	0.2nm,0.5s,baz=192,slow=8.0,SNR=1.8						
	0.2nm,0.5s						
YKA	Yellowknife Ar	85.71	0	P	P	03 21 52.1	+0.5
	0.2nm,0.6s,baz=198,slow=3.9,SNR=3.9						
	0.2nm,0.6s						
H11S2	WAKE ISLAND Hy	87.08	291	T	T	04 58 20.1	
	baz=116,slow=75,SNR=21						
H11S1	WAKE ISLAND Hy	87.09	291	T	T	04 58 22.4	
	baz=116,slow=75,SNR=16						
H11S3	WAKE ISLAND Hy	87.09	291	T	T	04 58 19.0	
	baz=116,slow=75,SNR=17						
H11N3	WAKE ISLAND Hy	87.44	293	T	T	04 58 41.5	
	baz=117,slow=74,SNR=6.7						
H11N1	WAKE ISLAND Hy	87.45	293	T	T	04 58 48.0	
	baz=117						
H11N2	WAKE ISLAND Hy	87.45	293	T	T	04 58 44.9	
	baz=117,slow=74,SNR=13						
CMAR	Chiang Mai Arr	148.00	267	PKPbc	PKiKP	03 29 01.4	+0.1
	0.7nm,0.3s,baz=90,slow=3.4,SNR=1.2						
BRTR	Keskin Array B	148.95	51	PKPbc	PKPbc	03 29 02.0	+0.4
	0.7nm,0.8s,baz=260,slow=2.5,SNR=3.7						
BVAR	Borovoye Array	150.25	353	PKPbc	PKPbc	03 29 04.0	-0.2
	0.3nm,0.4s,baz=0.0,slow=2.2,SNR=1.9						
KURBB	Kurchatov Arra	150.97	342	PKPbc	PKiKP	03 29 06.6	+0.2
	0.2nm,0.4s,baz=34,slow=2.5,SNR=1.9						
MKAR	Makanchi Array	152.95	333	PKPbc	PKPbc	03 29 09.9	-0.6
	0.3nm,0.7s,baz=87,slow=3.2,SNR=3.6						

IDC 15 03:10:34.4±2.2,0°.77N×125°.33E,h0km,mb3.0/3, mbtmp3.0/3,MS3.2/1,Error ellipse: s-maj=196.3km s-min=29.5km az=64.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEM	Lembang	19.22	247	LR	LR	03 23 50.8	
	comp=Z,62nm,19.2s,baz=260,slow=41						
WRA	Warramunga Arr	22.40	157	P	P	03 15 34.6	-0.1
	0.3nm,0.6s,baz=336,slow=10,SNR=1.5						
	0.3nm,0.6s						
ASAR	Alice Springs	25.68	162	P	P	03 16 06.3	-0.1
	0.2nm,0.8s,baz=346,slow=11,SNR=1.6						
	0.2nm,0.8s						
MKAR	Makanchi Array	59.22	327	P	P	03 20 37.6	0.0
	0.1nm,0.3s,baz=111,slow=7.9,SNR=1.6						
	0.1nm,0.3s						

IDC 15 03:12:14.9±1.4,3°.59S×68°.01E,h0km,mb3.9/9, mbtmp3.9/9,MS3.6/16,Error ellipse: s-maj=41.8km s-min=23.5km az=49.0

ISC 15 03:12:17.5±1.6,3°.6S±0°.3×68°.0E±0°.2,h15km,n23, σ0°54/11,mb4.1/9,MS3.6/15,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	Pallekele	16.61	50	LR	LR	03 20 59.2	
	comp=Z,327nm,20.3s,baz=341,slow=32						
WSAR	Wadi Sarin	28.18	341	LR	LR	03 27 34.9	
	comp=Z,65nm,18.4s,baz=178,slow=33						
CMAR	Chiang Mai Arr	37.50	53	P	P	03 19 31.4	+0.3
	1.7nm,0.3s,baz=245,slow=8.7,SNR=9.5						
CMAR				LR	LR	03 33 47.6	
	comp=Z,35nm,18.1s,baz=240,slow=34						
	1.7nm,0.3s						
LSZ	Lusaka	40.90	251	LR	LR	03 34 40.2	
	comp=Z,120nm,18.0s,baz=66,slow=33						
LBTB	Lobatse	46.02	238	LR	LR	03 37 45.2	
	comp=Z,88nm,18.4s,baz=72,slow=33						
ASF	Jabal al Asfar	46.23	323	LR	LR	03 38 07.6	
	comp=Z,46nm,18.1s,baz=135,slow=34						
AAK	Ala-Archa	46.36	7	LR	LR	03 39 57.0	
	comp=Z,38nm,18.6s,baz=189,slow=36						
TSUM	Tsumeb	51.62	248	LR	LR	03 40 50.0	
	comp=Z,52nm,19.3s,baz=146,slow=33						
MKAR	Makanchi Array	51.71	12	P	P	03 21 23.3	-0.8
	0.5nm,0.8s,baz=202,slow=9.2,SNR=5.3						
	0.5nm,0.8s						
SUR	Sutherland	52.66	231	LR	LR	03 40 27.5	
	comp=Z,128nm,20.3s,baz=80,slow=32						
BRTR	Keskin Array B	53.43	327	P	P	03 21 37.6	+0.5
	1.1nm,1.1s,baz=164,slow=14,SNR=4.6						
	1.1nm,1.1s						
AKTO	Aktyubinsk	54.48	352	LR	LR	03 44 39.1	
	comp=Z,20nm,18.9s,baz=122,slow=36						
KURBB	Kurchatov Arra	54.73	8	P	P	03 21 46.1	-0.1
	1.9nm,1.0s,baz=205,slow=7.5,SNR=7.9						
KURBB				LR	LR	03 43 40.9	
	comp=Z,64nm,20.1s,baz=170,slow=34						
	1.9nm,1.0s						
BVAR	Borovoye Array	56.42	2	LR	LR	03 45 48.2	
	comp=Z,31nm,20.6s,baz=197,slow=36						
ZALV	Zalesovo Beam	59.01	11	P	P	03 22 15.8	-0.7
	0.8nm,0.4s,baz=220,slow=8.9,SNR=7.8						
ZALV				LR	LR	03 46 50.7	
	comp=Z,42nm,20.3s,baz=234,slow=35						
	0.8nm,0.4s						
SONM	Songino Array	61.21	28	P	P	03 22 32.4	+0.5
	4.8nm,1.1s,baz=220,slow=6.8,SNR=22						
SONM				LR	LR	03 48 46.3	
	comp=Z,194nm,19.7s,baz=238,slow=36						
	4.8nm,1.1s						
AKASG	Malin Array Be	63.45	334	P	P	03 22 46.2	-0.5
	0.2nm,0.3s,baz=152,slow=6.0,SNR=4.0						
	0.2nm,0.3s						
MAW	Mawson	64.02	182	LR	LR	03 43 25.9	
	comp=Z,145nm,22.0s,baz=76,slow=29						
ASAR	Alice Springs	66.50	114	P	P	03 23 07.2	0.0
	0.6nm,0.8s,baz=278,slow=4.9,SNR=4.6						
	0.6nm,0.8s						
WRA	Warramunga Arr	66.53	110	P	P	03 23 07.1	-0.4
	2.6nm,1.1s,baz=285,slow=6.3,SNR=6.8						
	2.6nm,1.1s						
KSRS	Korea Array	68.84	48	LR	LR	03 54 35.9	
	comp=Z,36nm,18.3s,baz=125,slow=37						
NVAR	Mina Array Bea	144.82	9	PKP	PKPab	03 31 53.9	+0.3
	0.7nm,0.9s,baz=332,slow=3.1,SNR=5.7						
TXAR	Lajitas Array	153.19	344	PKPbc	PKPbc	03 32 16.0	+0.3
	0.7nm,1.0s,baz=309,slow=0.8,SNR=4.8						

IDC 15 03:15:20.8±2.1,5°.55S×142°.58E,h0km,mb3.4/1, mbtmp3.2/3,ML2.9/2,MS3.3/2,Error ellipse: s-maj=321.0km s-min=35.5km az=115.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	5.94	130	LR	LR	03 19 51.5	
	comp=Z,81nm,20.2s,baz=160,slow=46						
WRA	Warramunga Arr	16.40	209	Pn	Pn	03 19 10.6	-1.9
	baz=33,slow=12,SNR=1.5						
	0.2nm,0.7s						
ASAR	Alice Springs	19.86	204	P	Pn	03 19 54.5	-0.7
	baz=33,slow=11,SNR=6.5						
	0.8nm,0.9s						
RAR	Rarotonga	57.88	111	LR	LR	03 44 42.9	
	comp=Z,82nm,21.3s,baz=287,slow=30						
ILAR	Eielson Array	86.83	24	P	P	03 28 06.8	-0.1
	0.1nm,0.5s,baz=260,slow=5.4,SNR=1.4						
	0.1nm,0.5s						

CATAC 15 03:16:04.8±0.5,8°.46N×83°.17W,h10km,ML3.3
UCR 15 03:16:05.4±0.9,8°.43N×83°.32W,h9km±3km,MW3.7
UPA 15 03:16:06.8±2.1,8°.50N×83°.22W,h1km±9km,MD3.8, MW4.0

ISC 15 03:16:06.7±1.0,8°.56N±0°.03×83°.25W±0°.02,h3km±9km,n45, σ1°54/67,2C-10D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIME	Puerto Jimenez	0.08	254	eP	Pg	03 16 08.2	-0.1
JIME				eS	Sg	03 16 10.7	+1.3
PIRO	Carate, Puerto	0.18	209	iP	Pg	03 16 08.7	-1.5
PIRO				iS	Sg	03 16 11.3	-1.2
PIRO				IAML		03 16 13.6	
	comp=Z,15μm,1.0s						
CDITO	Canoas	0.37	88	↓iP	Pg	03 16 14.5	+0.7
CDITO				eS	Sb	03 16 22.0	-0.1
CDITO	Canoas	0.37	88	iP	Pg	03 16 14.6	+0.7
CDITO				iS	Sg	03 16 18.2	-0.5
CDITO				IAML		03 16 27.8	
	comp=Z,1μm,1.0s						
PLAN	Los Planes de	0.44	284	iP	Pg	03 16 14.8	-0.4
PLAN				iS	Sg	03 16 22.0	+1.1
PLAN				IAML		03 16 23.2	
	comp=Z,3μm,1.0s						
EDPN	Palmar Norte	0.45	333	eP	Pg	03 16 15.3	0.0
EDPN				eS	Sg	03 16 23.5	+2.3
MLIR3	Monte Lirio, C	0.48	61	↓iP	Pb	03 16 17.3	-0.5
MLIR3				iS	Sb	03 16 27.0	+1.7
PTPM	Petroterminale	0.51	134	↓iP	Pb	03 16 17.6	-0.6
PTPM				eS	Sb	03 16 27.6	+1.5
PTPM				iS	Sg	03 16 29.0	+5.9
LIMO3	Limones	0.59	140	eP	Pb	03 16 18.8	-0.9
BRU2	Volcan	0.60	67	↓iP	Pg	03 16 19.0	+0.8
BRU2				eS	Sb	03 16 29.6	+0.8
BRU2	Volcan	0.60	67	iS	Sg	03 16 19.1	-6.9
OCHAL	Ojochal	0.66	324	iP	Pg	03 16 19.5	+0.1
OCHAL				IAML		03 16 34.3	
	comp=Z,530nm,1.0s						
BC3P	Paso Ancho	0.68	68	↓iP	Pg	03 16 20.2	+0.4
BC3P				eS	Sb	03 16 32.5	+1.3
BCO2	Palmira	0.73	78	↓iP	Pg	03 16 21.1	+0.4
BCO2				eS	Sb	03 16 33.0	+0.4
PTAR3	Potrerillos Ar	0.76	80	↓iP	Pg	03 16 21.5	+0.3
PTAR3				eS	Sb	03 16 33.9	+0.6
DVD	David	0.80	99	eP	Pg	03 16 21.7	-0.3
DVD				eS	Sg	03 16 32.3	-0.1
LNBQ3	Los Naranjos,	0.83	74	↑eP	Pg	03 16 23.2	+0.6
LNBQ3				eS	Sn	03 16 37.9	-0.3
LOCO3	Loma Colorada,	0.83	100	eP	Pg	03 16 21.3	-1.5
LOCO3				eS	Sn	03 16 38.9	+0.8
PEDE3	Pedregal, Chir	0.84	102	↓eP	Pg	03 16 22.9	+0.1
PEDE3				eS	Sb	03 16 35.0	-0.4
PEZE	Perez Zeledon,	0.92	333	eP	Pg	03 16 23.7	-0.7
PEZE	Perez Zeledon,	0.92	333	iP	Pg	03 16 24.4	0.0
PEZE				IAML		03 16 24.8	
	comp=Z,660nm,1.0s						
CDM	Cerro de Muert	1.11	333	iP	Pg	03 16 27.6	-0.4
CDM				IAML		03 16 46.6	
	comp=Z,270nm,1.0s						
CNI2	El Empalme, Bo	1.15	42	↑eP	Pg	03 16 28.6	-0.2
CNI2				iS	Sb	03 16 45.5	+0.9
CHGR2	Aguacate	1.15	71	↓eP	Pg	03 16 28.0	-0.9
CHGR2				eS	Sb	03 16 45.6	+1.0
RIMA	Rio Macho	1.34	333	eP	Pn	03 16 30.5	-2.1
RIMA	Rio Macho	1.34	333	iP	Pn	03 16 30.8	-1.7
RIMA				IAML		03 16 53.2	
	comp=Z,130nm,1.0s						
ABE2	San Pablo	1.39	325	eP	Pn	03 16 32.2	-1.0
VERB	Verbena	1.44	342	eP	Pn	03 16 33.3	-0.6
VTCV	VTCV, Calle Va	1.49	342	iP	Pn	03 16 33.7	-0.9
VTCV				IAML		03 16 59.7	
	comp=Z,370nm,1.0s						
RAFA	San Farael, Vo	1.50	338	eP	Pn	03 16 34.0	-0.8
OCM	Ochomogo	1.50	332	iP	Pn	03 16 33.5	-1.2
OCM				IAML		03 17 01.0	
	comp=Z,200nm,1.0s						
BATAN	Batan	1.53	355	iP	Pn	03 16 34.6	-0.4
BATAN				iS	Sn	03 16 56.7	+1.3
BATAN	Batan	1.53	355	iP	Pn	03 16 34.9	0.0
BATAN				IAML		03 16 58.1	
	comp=Z,760nm,1.0s						
VICA	Volcano Irazu	1.53	337	eP	Pn	03 16 34.4	-1.0
HDC	Heredia	1.67	329	eP	Pn	03 16 36.5	-0.4
JACO	JACO, Garabito	1.77	308	eP	Pn	03 16 36.1	-2.1
JACO	JACO, Garabito	1.77	308	iP	Pn	03 16 36.2	-2.1
JACO				IAML		03 17 11.4	
	comp=Z,81nm,1.0s						
CPMI	Catarata Coope	2.04	327	iP	Pn	03 16 42.2	0.0
CPMI				IAML		03 17 13.5	
	comp=Z,120nm,1.0s						
GMAL	Guarumal, Vera	2.15	112	eP	Pn	03 16 42.4	-1.0
GMAL				iS	Sb	03 17 12.2	-1.1
SOCE	Pocosol	2.26	323	iP	Pn	03 16 45.7	+0.7
SOCE				IAML		03 16 47.2	
	comp=Z,230nm,1.0s						
JTS	Las Juntas de	2.41	316	↓eP	Pn	03 16 47.8	+0.8
JTS				iS	Sn	03 17 16.3	-0.7
CACAO	El Cacao, Vera	2.66	117	eP	Pn	03 16 51.5	+1.1
ORTG	Ortega, Santa	2.82	310	iP	Pn	03 16 53.5	+0.7
ORTG				IAML		03 17 00.9	
	comp=Z,65nm,1.0s						
HZTE	Horizontes, Gu	3.15	313	iP	Pn	03 17 00.2	+2.9
HZTE				IAML		03 17 11.7	
	comp=Z,92nm,1.0s						
BCIP	Isla Barro Col	3.42	80	eP	Pn	03 17 01.1	+0.1

IDC 15 03:20:21.9±2.4,14°.78S×179°.77W,h0km,mb3.8/5, mbtmp3.8/5,MS3.5/5,Error ellipse: s-maj=139.1km s-min=26.0km az=143.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	14.95	239	LR	LR	03 28 21.0	
	comp=Z,81nm,20.0s,baz=232,slow=32						
RAR	Rarotonga	20.06	112	LR	LR	03 31 47.5	
	comp=Z,69nm,18.0s,baz=297,slow=34						
PMG	Port Moresby	32.75	276	LR	LR	03 38 14.4	
	comp=Z,92nm,21.9s,baz=72,slow=33						
CTA	Charters Tower	32.80	256	LR	LR	03 38 17.8	
	comp=Z,76nm,18.7s,baz=116,slow=33						
STKA	Stephens Creek	39.10	237	P	P	03 27 50.6	-0.5
	1.7nm,0.7s,baz=63,slow=9.1,SNR=3.2						
	1.7nm,0.7s						
WRA	Warramunga Arr	44.00	257	P	P	03 28 31.2	-0.3
	0.7nm,1.1s,baz=91,slow=7.9,SNR=2.6						
	0.7nm,1.1s						
ASAR	Alice Springs	44.47	251	P	P	03 28 35.5	+0.2
	2.7nm,1.1s,baz=83,slow=8.0,SNR=11						
	2.7nm,1.1s						
NVAR	Mina Array Bea	78.11	45	P	P	03 32 23.3	+0.1
	0.9nm,1.0s,baz=235,slow=7.4,SNR=2.8						
	0.9nm,1.0s						
ILAR	Eielson Array	83.16	14	P	P	03 32 49.4	0.0
	1.3nm,1.1s,baz=232,slow=6.1,SNR=6.2						
	1.3nm,1.1s						
INK	Inuvik	89.23	16	LR	LR	04 07 46.5	
	comp=Z,63nm,19.2s,baz=178,slow=32						

IDC 15 03:24:33.6±2.0,14°.90S×179°.51W,h0km,mb3.6/4, mbtmp3.6/4,Error ellipse: s-maj=131.5km s-min=32.1km az=150.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	44.67	251	P	P	03 32 48.4	-0.2
	0.5nm,0.6s,baz=82,slow=8.7,SNR=6.6						
	0.5nm,0.6s						
NVAR	Mina Array Bea	78.02	45	P	P	03 36 33.6	-0.8
	0.4nm,0.8s,baz=225,slow=8.7,SNR=3.1						
	0.4nm,0.8s						
ILAR	Eielson Array	83.21	13	P	P	03 37 01.8	+0.3
	0.9nm,1.0s,baz=204,slow=5.3,SNR=5.7						
	0.9nm,1.0s						
TXAR	Lajitas Array	85.30	58	P	P	03 37 13.5	+0.5
	0.4nm,0.8s,baz=216,slow=6.2,SNR=4.6						
	0.4nm,0.8s						

IDC 15 03:34:46.6±4.4,3°.07S×131°.27E,h0km,mb3.2/2, mbtmp3.2/3,ML2.6/1,Error ellipse: s-maj=298.1km s-min=31.5km az=72.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	17.04	170	P	Pn	03 38 47.1	+0.7
	baz=351,slow=12,SNR=1.9						
	0.4nm,1.0s						
ASAR	Alice Springs	20.64	173	P	P	03 39 27.6	-0.4
	0.4nm,0.5s,baz=350,slow=11,SNR=5.5						
	0.4nm,0.5s						
MKAR	Makanchi Array	65.69	325	P	P	03 45 33.1	0.0
	0.4nm,0.9s,baz=116,slow=6.6,SNR=1.4						
	0.4nm,0.9s						

IDC 15 03:36:22.3±4.2,14°.97S×179°.22W,h0km,mb3.7/4, mbtmp3.7/4,MS3.7/10,Error ellipse: s-maj=192.8km s-min=33.6km az=138.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	23.42	187	LR	LR	03 48 32.8	
	comp=Z,320nm,20.0s,baz=120,slow=31						
CTA	Charters Tower	33.27	256	LR	LR	03 55 22.7	
	comp=Z,114nm,21.1s,baz=18,slow=34						
STKA	Stephens Creek	39.44	238	P	P	03 43 54.9	+0.6
	1.2nm,0.7s,baz=51,slow=7.0,SNR=2.8						
	1.2nm,0.7s						
WRA	Warramunga Arr	44.47	257	P	P	03 44 34.8	-0.8
	1.7nm,1.1s,baz=90,slow=8.3,SNR=5.6						
	1.7nm,1.1s						
ASAR	Alice Springs	44.91	251	P	P	03 44 39.1	0.0
	1.1nm,0.7s,baz=88,slow=8.3,SNR=14						
	1.1nm,0.7s						
SHEM	Shemya Is, Ala	67.67	356	LR	LR	04 15 22.3	
	comp=Z,50nm,18.1s,baz=132,slow=35						
ASAJ	Asahikawa	68.34	331	LR	LR	04 12 30.6	
	comp=Z,93nm,22.0s,baz=152,slow=32						
PETK	Petropavlovsk-	70.66	345	LR	LR	04 17 22.3	
	comp=Z,25nm,18.6s,baz=123,slow=35						
KLR	Kul'dur	77.20	329	LR	LR	04 18 35.8	
	comp=Z,58nm,20.8s,baz=294,slow=33						
ILAR	Eielson Array	83.22	13	P	P	03 48 50.2	0.0
	0.2nm,0.6s,baz=222,slow=5.5,SNR=5.0						
	0.2nm,0.6s						
CMIG	Matias Romero	89.07	72	LR	LR	04 23 04.0	
	comp=Z,30nm,18.3s,baz=153,slow=32						
TIXI	Tiksi	93.14	346	LR	LR	04 27 04.2	
	comp=Z,49nm,21.9s,baz=124,slow=33						
ATAH	Atahualpa	98.54	100	LR	LR	04 27 02.0	
	comp=Z,34nm,18.4s,baz=230,slow=31						
NNA	Nana	98.61	105	LR	LR	04 24 47.6	
	comp=Z,26nm,19.4s,baz=352,slow=30						
BRTR	Keskin Array B	142.14	317	PKP	PKPdf	03 55 56.5	-0.5
	0.5nm,0.8s,baz=29,slow=3.3,SNR=2.4						

IDC 15 03:37:12.8±1.7,28°.78N×130°.01E,h0km,mb3.7/8, mbtmp3.7/10,ML3.0/2,MS4.1/2,Error ellipse: s-maj=44.6km s-min=19.7km az=98.0
JMA 15 03:37:18.0±0.2,28°.7N±0°.8×13°.0E±°,h53km,MV3.0/18, NEAR AMAMI-OSHIMA ISLAND

**ISC 15 03:37:18.9±1.0,28°.71

ZALV	**Zalesovo Beam**	**41.33**	**321**	P		**P**	**03 44 58.7**	**-1.0**
	0.8nm,0.5s,baz=104,slow=10,SNR=2.5							
	0.8nm,0.5s							
KURBB	**Kurchatov Arra**	**44.25**	**314**	P		**P**	**03 45 23.7**	**+0.3**
	0.3nm,0.4s,baz=103,slow=7.9,SNR=5.4							
	0.3nm,0.4s							
HNR	**Honiara**	**47.64**	**138**	LR		LR	04 03 05.3	
	comp=Z,811nm,19.8s,baz=352,slow=32							
WRA	**Warramunga Arr**	**48.54**	**175**	P		**P**	**03 45 57.9**	**+0.5**
	0.8nm,1.1s,baz=4.9,slow=6.3,SNR=1.8							
	0.8nm,1.1s							
BVAR	**Borovoye Array**	**49.56**	**317**	P		**P**	**03 46 05.5**	**+0.6**
	1.0nm,0.5s,baz=96,slow=9.1,SNR=6.1							
	1.0nm,0.5s							
ARU	**Arti**	**56.49**	**321**	LR		LR	04 13 20.3	
	comp=Z,41nm,18.2s,baz=215,slow=38							
FINES	**FINESS Array B**	**71.52**	**331**	P		**P**	**03 48 34.4**	**0.0**
	3.9nm,1.1s,baz=57,slow=6.8,SNR=4.1							
	3.9nm,1.1s							
AKASG	**Malin Array Be**	**74.72**	**320**	P		**P**	**03 48 52.4**	**-1.1**
	0.2nm,0.3s,baz=76,slow=3.9,SNR=1.3							
	0.2nm,0.3s							
BRTR	**Keskin Array B**	**76.81**	**308**	P		**P**	**03 49 06.9**	**+1.0**
	0.6nm,0.6s,baz=90,slow=6.2,SNR=5.5							
	0.6nm,0.6s							

*GCMT **15** 03:45:45.6±0.4,14.01S±0.02×169.64E±0.02,h36km±1km, MW5.0/67,Moment Tensor Solution. s25,c26; s67,c80; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.17±.23; Mθθ1.22±.17; Mφφ-1.39±.17; Mrθ0.66±.15; Mθφ3.85±.12; Mφr-0.82±.17; Best double couple: M=4.18600×10¹⁶ NP1:φs279.00000°,δ82.00000°,λ-10.00000°. NP2: φs10.00000°,δ80.00000°,λ-171.00000°. Principal axes: T 3.9810, Plg1.0000°, Azm324.0000°; N 0.4130, Plg77.0000°, Azm58.0000°; P -4.3920, Plg13.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **15** 03:45:46.1±1.2,13.67S×169.70E,h0km,mb4.0/8, mbtmp4.0/9,ML4.2/1,MS3.8/23 Error ellipse: s-maj=45.9km s-min=20.7km az=131.0*

*NEIC **15** 03:45:51.6±1.6,13.80S±0.02×169.7E±0.1,h36km±9km, mb4.6/15,Error ellipse: s-maj=15.7km s-min=2.4km az=92.0*

ISC 15 03:45:51.1±0.6,13.80S±0.10×169.7E±0.1,h35km,n44, σ1900/28,mb4.5/17,MS3.8/20,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.79**	**200**	Pn		**Pn**	**03 47 55.6**	**-0.3**
	2.5nm,0.3s,baz=312,slow=20,SNR=22							
DZM				LR		LR	03 51 04.7	
	comp=Z,560nm,18.4s,baz=32,slow=36							
	9.4nm,0.5s							
MSVF	**Nonsavu**	**8.92**	**117**			**Pn**	**03 47 57.6**	**-0.1**
OUENC	**Ouen Island, N**	**9.00**	**197**	Pn		**Pn**	**03 47 58.6**	**0.0**
HNR	**Honiara**	**10.51**	**293**	LR		LR	03 52 01.9	
	comp=Z,5μm,20.8s,baz=138,slow=36							
RAO	**Raoul Island**	**19.18**	**145**	LR		LR	03 55 52.2	
	comp=Z,270nm,20.1s,baz=144,slow=31							
PMG	**Port Moresby**	**22.52**	**279**	LR		LR	03 58 21.3	
	comp=Z,243nm,18.3s,baz=40,slow=34							
ARMA	**Armidale**	**23.49**	**222**	P		**P**	**03 50 58.3**	**+0.4**
ARMA				IAmb		IAmb	03 51 01.0	
	comp=Z,21nm,1.2s							
URZ	**Urewera**	**25.23**	**166**	LR		LR	03 58 58.4	
	comp=Z,110nm,19.2s,baz=121,slow=31							
LTZ	**Lake Taylor**	**28.96**	**176**	P		**P**	**03 51 46.8**	**-0.5**
LTZ				IAmb		IAmb	03 51 47.4	
	comp=Z,13nm,1.0s							
RAR	**Rarotonga**	**29.98**	**109**	LR		LR	04 01 09.9	
	comp=Z,83nm,21.1s,baz=247,slow=31							
STKA	**Stephens Creek**	**31.40**	**230**	P		**P**	**03 52 09.1**	**+0.1**
STKA	**Stephens Creek**	**31.40**	**230**	P		**P**	**03 52 10.2**	**+1.2**
	comp=Z,8.8nm,0.9s,baz=34,slow=5.5,SNR=12							
STKA				LR		LR	04 03 24.5	
	comp=Z,106nm,21.0s,baz=34,slow=34							
	comp=Z,8.8nm,0.9s							
WR0	**Warramunga Arr**	**34.17**	**255**	P		**P**	**03 52 33.6**	**+0.3**
WR0				IAmb		IAmb	03 53 09.6	
	comp=Z,13nm,1.5s							
WB0	**Warramunga Arr**	**34.29**	**255**	P		**P**	**03 52 33.1**	**-1.3**
WB0				IAmb		IAmb	03 52 49.9	
	comp=Z,13nm,1.4s							
WB2	**Warramunga Arr**	**34.34**	**255**	P		**P**	**03 52 33.6**	**-1.2**
WB2				IAmb		IAmb	03 53 05.2	
	comp=Z,6.2nm,1.1s							
WRA	**Warramunga Arr**	**34.35**	**255**	P		**P**	**03 52 34.2**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=85,slow=8.3,SNR=6.1							
WRA				PcP		**PcP**	**03 55 11.8**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=85,slow=3.7,SNR=2.0							
	comp=Z,1.1nm,0.8s							
ASAR	**Alice Springs**	**35.22**	**248**	P		**P**	**03 52 42.4**	**0.0**
	comp=Z,7.4nm,1.0s,baz=82,slow=8.7,SNR=36							
	comp=Z,7.4nm,1.0s							
BBOO	**Buckleboo**	**36.02**	**233**	P		**P**	**03 52 48.7**	**-0.5**
NWAO	**Narrogin (SRO)**	**51.26**	**239**	LR		LR	04 16 11.2	
	comp=Z,174nm,18.3s,baz=74,slow=36							
MJAR	**Matsushiro Arr**	**58.23**	**330**	P		**P**	**03 55 41.6**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=150,slow=12,SNR=2.3							
MJAR				LR		LR	04 17 18.9	
	comp=Z,32nm,21.3s,baz=153,slow=33							
	comp=Z,0.7nm,0.3s							
JNU	**Nakatsue**	**59.59**	**322**	LR		LR	04 19 12.5	
	comp=Z,20nm,19.4s,baz=108,slow=34							
RPN	**Rapa Nui**	**75.89**	**115**	LR		LR	04 23 06.2	
	comp=Z,49nm,20.3s,baz=275,slow=30							
QSPA	**South Pole Qui**	**76.22**	**180**	P		**P**	**03 57 36.8**	**+0.9**
M16K	**Timber Creek**	**78.63**	**15**	P		**P**	**03 57 50.6**	**+1.5**
K15K	**Wolf Creek Mou**	**79.13**	**13**	P		**P**	**03 57 52.8**	**+1.0**
K15K				IAmb		IAmb	03 58 27.1	
	comp=Z,14nm,1.4s							
CAST	**Castle Rocks**	**82.43**	**16**	P		**P**	**03 58 09.8**	**+0.4**
CAST				IAmb		IAmb	03 58 16.3	
	comp=Z,3.2nm,0.8s							
KLU	**Klutina**	**82.81**	**20**	P		**P**	**03 58 09.3**	**-2.2**
F17K	**Baldwin Pennin**	**82.86**	**11**	P		**P**	**03 58 11.8**	**+0.2**
YBH	**Yreka Blue Hor**	**83.10**	**44**	LR		LR	04 27 46.4	
	comp=Z,42nm,20.0s,baz=266,slow=30							
SONM	**Songino Array**	**83.18**	**323**	P		**P**	**03 58 14.8**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=146,slow=8.4,SNR=2.2							
	comp=Z,0.2nm,0.3s							
ISA	**Isabella, Lake**	**83.72**	**51**	P		**P**	**03 58 16.4**	**-0.5**
ISA				IAmb		IAmb	03 58 54.8	
	comp=Z,5.1nm,1.2s							
F19K	**Shaleruckik Mo**	**83.89**	**12**	P		**P**	**03 58 18.0**	**+1.2**
WRH	**Wood River Hil**	**84.36**	**17**	P		**P**	**03 58 18.9**	**-0.4**
WRH				IAmb		IAmb	03 58 59.8	
	comp=Z,6.1nm,1.4s							
PFO	**Pinyon Flats O**	**84.53**	**54**	LR		LR	04 29 10.2	
	comp=Z,96nm,18.5s,baz=244,slow=31							
BBB	**Bella Bella**	**84.69**	**33**	LR		LR	04 28 13.6	
	comp=Z,44nm,21.4s,baz=226,slow=30							
NVAR	**Mina Array Bea**	**84.88**	**49**	LR		LR	04 27 14.8	
	comp=Z,62nm,21.5s,baz=242,slow=29							
ILAR	**Eielson Array**	**84.93**	**17**	P		**P**	**03 58 22.1**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=238,slow=4.9,SNR=12							
ILAR				LR		LR	04 31 01.3	
	comp=Z,61nm,19.1s,baz=236,slow=32							
	comp=Z,0.7nm,0.7s							
LPIG	**La Paz**	**86.66**	**64**	LR		LR	04 33 57.3	
	comp=Z,23nm,18.8s,baz=12,slow=33							
ELK	**Elko**	**87.92**	**47**	LR		LR	04 33 14.8	
	comp=Z,57nm,18.7s,baz=268,slow=32							
INK	**Inuvik**	**91.26**	**18**	LR		LR	04 33 09.1	
	comp=Z,52nm,21.3s,baz=168,slow=31							
PDAR	**Pinedale Array**	**92.58**	**47**	LR		LR	04 38 19.9	
	comp=Z,48nm,18.1s,baz=270,slow=34							
ANMO	**Albuquerque**	**92.83**	**55**	LR		LR	04 32 21.1	
	comp=Z,58nm,20.3s,baz=342,slow=30							
TXAR	**Lajitas Array**	**93.75**	**61**	P		**P**	**03 59 06.4**	**+1.4**
	comp=Z,0.2nm,0.8s,baz=231,slow=10.0,SNR=2.3							
TXAR				LR		LR	04 37 26.2	
	comp=Z,26nm,19.2s,baz=21,slow=33							
	comp=Z,0.2nm,0.8s							
YKA	**Yellowknife Ar**	**95.64**	**27**	P		**P**	**03 59 10.8**	**-1.9**
	comp=Z,0.3nm,0.7s,baz=258,slow=4.5,SNR=5.4							
YKA				LR		LR	04 35 54.1	
	comp=Z,32nm,20.8s,baz=296,slow=32							
	comp=Z,0.3nm,0.7s							

*JMA **15** 04:03:16.9±0.3,24.1N×122.3E±0.5,h20km±4km, MD3.7/13,MV3.6/13,TAIWAN REGION*

*TAP **15** 04:03:17.4,23.99N×122.29E,h22km,ML3.7,C*

*ASIES **15** 04:03:17.4,23.99N×122.29E,h22km,ML3.7,Mw3.7, Moment Tensor Solution. Moment tensor: Scale 10²¹Nm; Mrr1.55; Mθθ-0.52; Mφφ-0.07; Mrθ4.13; Mθφ0.33; Mφr1.87; Fault plane solution: M=4.69396×10²¹ NP1:φs67.25000°, δ84.48000°,λ85.00000°. NP2:φs289.57000°,δ7.44000°, λ132.08000°. Principal axes: T Plg50.2740°, Azm331.7140°; N Plg4.9780°, Azm67.7310°; P Plg39.2860°, Azm161.8170°;*

*IDC **15** 04:03:21.9±7.7,24.01N×122.18E,h72km±73km,mb3.5/7, mbtmp3.7/8,ML3.2/1 Error ellipse: s-maj=47.5km s-min=23.1km az=61.0*

ISC 15 04:03:16.0±0.9,23.91N±0.02×122.33E±0.02,h27km±6km, n147,σ0°93/234,mb3.7/7,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.21**	**356**	*i* P		**Pb**	**04 03 21.7**	**+0.1**
	baz=10.0							
EOS4				*i* S		**Sb**	**04 03 25.0**	**-0.4**
	baz=10.0							
EOS3	**EOS3**	**0.37**	**358**	⇓*i* P		**Pn**	**04 03 24.6**	**-1.0**
	baz=349							
EOS3				*i* S		**Sb**	**04 03 30.1**	**+0.5**
	baz=349							
EOS2	**EOS2**	**0.51**	**350**	*i* P		**Pn**	**04 03 27.2**	**-0.3**
	baz=340							
EOS2				*i* S		**Sb**	**04 03 34.3**	**+0.8**
	baz=340							
HWA	**Hwalien**	**0.67**	**276**	P		**Pn**	**04 03 30.0**	**+0.3**
	baz=254							
HWA				*e*S		**Sb**	**04 03 39.0**	**+0.9**
	baz=254							
EAHA	**Aohua**	**0.68**	**307**	P		**Pn**	**04 03 30.2**	**+0.2**
	baz=303							
EAHA				S		**Sn**	**04 03 39.7**	**0.0**
	baz=303							
ETL	**Fush Village**	**0.69**	**291**	P		**Pn**	**04 03 30.0**	**-0.1**
	baz=269							
ETL				S		**Sb**	**04 03 39.8**	**+1.0**
	baz=269							
TWD	**Chiawan**	**0.69**	**284**	P		**Pb**	**04 03 29.6**	**+0.1**
	baz=278							
TWD				S		**Sb**	**04 03 38.7**	**0.0**
	baz=278							
SHUL	**Shoufeng**	**0.72**	**260**	*e*P		**Pn**	**04 03 30.7**	**+0.3**
	baz=253							
SHUL				*e*S		**Sn**	**04 03 41.2**	**+0.6**
	baz=253							
NACB	**Ninganchiao**	**0.72**	**291**	P		**Pb**	**04 03 30.0**	**0.0**
NACB	**Ninganchiao**	**0.72**	**291**	P		**Pb**	**04 03 30.0**	**0.0**
	baz=272							
NACB				S		**Sb**	**04 03 40.1**	**+0.5**
	baz=272							
EWUT	**Wuta**	**0.73**	**316**	P		**Pb**	**04 03 29.8**	**-0.4**
	baz=324							
EWUT				S		**Sb**	**04 03 40.2**	**+0.4**
	baz=324							
ENA	**Nanau**	**0.75**	**314**	*e*P		**Pb**	**04 03 30.1**	**-0.3**
	baz=322							
ENA				*e*S		**Sb**	**04 03 41.1**	**+0.8**
	baz=322							
ETM	**Tongmen**	**0.77**	**274**	*i* P		**Pb**	**04 03 30.8**	**0.0**
	baz=257							
ETM				S		**Sb**	**04 03 41.1**	**+0.1**
	baz=257							
JYNG	**Yonagunijimaku**	**0.77**	**46**	P		**Pn**	**04 03 31.6**	**+0.4**
JYNG				*e*S		**Sn**	**04 03 41.2**	**-0.7**
JYNG	**Yonagunijimaku**	**0.77**	**46**	A		A	04 03 31.6	
	comp=E,5.0nm,1.2s,comp=N,7.0nm,2.5s							
ESAO	**Su ao**	**0.80**	**326**	P		**Pn**	**04 03 30.7**	**-0.9**
	baz=332							
ESAO				*e*S		**Sb**	**04 03 40.0**	**-1.7**
	baz=332							
TWC	**Suao**	**0.82**	**328**	*i* P		**Pn**	**04 03 31.1**	**-0.8**
	baz=334							
TWC				*e*S		**Sb**	**04 03 40.1**	**-2.3**
	baz=334							
YOJ	**Yonaguni jima**	**0.82**	**48**	P		**Pn**	**04 03 33.1**	**+1.1**
YOJ	**Yonaguni jima**	**0.82**	**48**	*e*P		**Pn**	**04 03 33.0**	**+1.1**
	baz=64							
YOJ				*e*S		**Sn**	**04 03 42.6**	**-0.6**
	baz=64							
YOJ	**Yonaguni jima**	**0.82**	**48**	P		**Pn**	**04 03 33.0**	**+1.1**
YOJ				*e*S		**Sn**	**04 03 42.7**	**-0.6**
YOJ	**Yonaguni jima**	**0.82**	**48**	A		A	04 03 33.0	
	comp=E,4.0nm,4.2s,comp=N,3.0nm,1.1s							
ESL	**Shilin**	**0.83**	**263**	*e*P		**Pn**	**04 03 31.5**	**-0.5**
	baz=247							
ESL				*e*S		**Sb**	**04 03 42.3**	**-0.3**
	baz=247							
ETLH	**Xiulin Townshi**	**0.83**	**291**	P		**Pb**	**04 03 31.9**	**0.0**
	baz=273							
ETLH				*e*S		**Sb**	**04 03 43.4**	**+0.6**
	baz=273							
LXIB	**Xiulin Townshi**	**0.85**	**277**	*i* P		**Pb**	**04 03 32.2**	**-0.1**
	baz=262							
LXIB				S		**Sb**	**04 03 43.6**	**+0.3**
	baz=262							
WARBT	**Fenglin Townsh**	**0.89**	**258**	*e*P		**Pb**	**04 03 32.6**	**-0.2**
	baz=242							
NDS	**Dongshan**	**0.91**	**322**	*e*P		**Pb**	**04 03 33.3**	**+0.1**
	baz=327							
NDS				*e*S		**Sn**	**04 03 44.8**	**-0.7**
	baz=327							
HGSD	**Ruisui**	**0.93**	**244**	P		**Pb**	**04 03 33.7**	**+0.2**
	baz=238							
HGSD				*e*S		**Sb**	**04 03 45.9**	**+0.3**
	baz=238							
LATG	**Datong**	**0.96**	**310**	*e*P		**Pb**	**04 03 34.1**	**0.0**
	baz=307							
EGS		**1.00**	**339**	*e*P		**Pb**	**04 03 34.4**	**-0.3**
	baz=338							
EGS				*e*S		**Sb**	**04 03 48.7**	**+1.3**
	baz=338							
EHYH	**Wanrong**	**1.00**	**246**	*e*P		**Pb**	**04 03 34.9**	**+0.2**
	baz=241							
EHYH				*e*S		**Sb**	**04 03 48.1**	**+0.7**
	baz=241							
ECBN	**Changbin**	**1.00**	**234**	*e*P		**Pb**	**04 03 35.1**	**+0.3**
	baz=230							
ECBN				*e*S		**Sb**	**04 03 47.9**	**+0.3**
	baz=230							
WHF	**Hehuan Shan**	**1.00**	**284**	P		**Pb**	**04 03 34.8**	**-0.2**
	baz=279							
WHF				S		**Sn**	**04 03 47.8**	**-0.5**
	baz=279							
NNSB	**Datong**	**1.01**	**301**	P		**Pb**	**04 03 34.9**	**0.0**
	baz=284							
NNSB				S		**Sn**	**04 03 47.8**	**-0.2**
	baz=284							
TWE	**Neicheng**	**1.01**	**323**	*e*P		**Pb**	**04 03 35.3**	**+0.4**
	baz=329							
TWE				*e*S		**Sb**	**04 03 49.5**	**+1.8**
	baz=329							
EHY	**Hungye**	**1.01**	**247**	P		**Pb**	**04 03 35.0**	**+0.1**
	baz=242							
EHY				*e*S		**Sb**	**04 03 47.9**	**0.0**
	baz=242							
NDT	**Datong Townshi**	**1.02**	**313**	*i* P		**Pb**	**04 03 35.3**	**+0.3**
	baz=309							
NDT				S		**Sn**	**04 03 47.7**	**-0.3**
	baz=309							
NNS	**Nan Shan**	**1.02**	**301**	P		**Pb**	**04 03 35.2**	**+0.1**
	baz=284							
NNS				*e*S		**Sn**	**04 03 48.6**	**+0.3**
	baz=284							
FUSS	**Fushou**	**1.05**	**289**	P		**Pb**	**04 03 35.7**	**0.0**
	baz=284							
FUSS				*e*S		**Sn**	**04 03 49.7**	**+0.5**
	baz=284							
OWD	**Renai**	**1.06**	**272**	P		**Pb**	**04 03 35.6**	**-0.2**
	baz=268							
OWD				*e*S		**Sn**	**04 03 48.9**	**-0.4**
	baz=268							
CHGB	**Renai**	**1.07**	**278**	*i* P		**Pb**	**04 03 35.9**	**-0.2**
	baz=261							
CHGB				S		**Sn**	**04 03 49.4**	**-0.2**
	baz=261							
YULB	**Yu-li**	**1.08**	**242**	P		**Pb**	**04 03 36.2**	**+0.1**
YULB	**Yu-li**	**1.08**	**242**	*i* P		**Pb**	**04 03 36.2**	**+0.1**
	baz=254							
YULB				S		**Sb**	**04 03 50.0**	**+0.2**
	baz=254							
FUSB	**Fushanzhiwuyua**	**1.08**	**321**	*i* P		**Pb**	**04 03 36.4**	**+0.2**
	baz=319							
FUSB				S		**Sn**	**04 03 50.3**	**+0.5**
	baz=319							
EYUL	**Yuli**	**1.09**	**239**	P		**Pb**	**04 03 36.3**	**+0.1**
	baz=235							
EYUL				*e*S		**Sb**	**04 03 50.6**	**+0.6**
	baz=235							
TWF1	**Yuli**	**1.10**	**240**	P		**Pb**	**04 03 36.5**	**0.0**
	baz=235							
TWF1				*e*S		**Sb**	**04 03 51.1**	**+0.7**
	baz=235							
VWDT	**VWDT**	**1.10**	**262**	P		**Pb**	**04 03 36.6**	**+0.1**
	baz=258							
VWDT				*e*S		**Sn**	**04 03 50.1**	**0.0**
	baz=258							
TWT	**Tachien**	**1.11**	**288**	P		**Pb**	**04 03 37.1**	**+0.4**
	baz=273							
TWT				*e*S		**Sn**	**04 03 51.1**	**+0.5**
	baz=273							
WUSB	**Renai**	**1.12**	**274**	P		**Pb**	**04 03 36.6**	**-0.2**
	baz=270							
WUSB				*e*S		**Sn**	**04 03 50.8**	**+0.2**
	baz=270							
CHKH	**Chenggong**	**1.12**	**230**	*e*P		**Pb**	**04 03 36.2**	**-0.6**
	baz=214							
CHKH				*e*S		**Sn**	**04 03 49.7**	**-0.8**
	baz=214							
TDCB	**Techi**	**1.13**	**288**	P		**Pb**	**04 03 36.9**	**0.0**
	baz=273							
TDCB				*e*S		**Sn**	**04 03 51.6**	**+0.7**
	baz=273							
TWB1	**Santiao Chiao**	**1.14**	**344**	P		**Pb**	**04 03 36.9**	**-0.1**
	baz=344							
NWLT	**Wulai**	**1.15**	**319**	P		**Pb**	**04 03 37.1**	**-0.1**
	baz=316							
NWLT				*e*S		**Sb**	**04 03 52.4**	**+0.7**
	baz=316							
TIPB	**Shuangxi**	**1.15**	**336**	P		**Pb**	**04 03 37.4**	**+0.1**
	baz=335							
TIPB				*e*S		**Sn**	**04 03 51.5**	**+0.1**
	baz=335							
YHNB	**Yeheng**	**1.15**	**311**	P		**Pb**	**04 03 37.2**	**-0.2**
	baz=308							
NSK	**Sanguang**	**1.17**	**311**	P		**Pb**	**04 03 37.4**	**-0.2**
	baz=295							
NSK				*e*S		**Sn**	**04 03 51.5**	**-0.4**
	baz=295							
FULB	**Fuli**	**1.19**	**234**	*e*P		**Pb**	**04 03 37.2**	**-0.7**
	baz=229							
CHKT	**Chengkung**	**1.20**	**228**	*e*S		**Sn**	**04 03 52.2**	**-0.4**
	baz=213							
SXI1	**Grass Mountain**	**1.25**	**341**	*i* P		**Pb**	**04 03 38.4**	**-0.6**
	baz=339							
SXI1				*e*S		**Sn**	**04 03 54.4**	**+0.5**
	baz=339							
WFSB	**Wu-fen Shan**	**1.26**	**337**	P		**Pb**	**04 03 38.9**	**-0.2**
	baz=335							
WFSB				S		**Sb**	**04 03 54.8**	**0.0**
	baz=335							
SSLB	**Suanglung**	**1.27**	**265**	P		**Pb**	**04 03 39.2**	**-0.1**
SSLB	**Suanglung**	**1.27**	**265**	*e*P		**Pb**	**04 03 38.4**	**-0.9**
	baz=261							
EHD	**Haiduan**	**1.28**	**234**	P		**Pb**	**04 03 38.8**	**-0.7**
	baz=219							
EHD				*e*S		**Sn**	**04 03 54.4**	**-0.2**
	baz=219							
DPDB	**Guoxing**	**1.29**	**276**	P		**Pb**	**04 03 39.6**	**-0.1**
	baz=272							
TATO	**Taipei**	**1.31**	**324**	P		**Pb**	**04 03 40.4**	**+0.5**
WCS	**Beigang Elemen**	**1.31**	**277**	*e*P		**Pb**	**04 03 39.6**	**-0.3**
	baz=273							
SMLT	**Sun Moon Lake**	**1.31**	**269**	*e*P		**Pb**	**04 03 39.8**	**-0.3**
	baz=254							
WHP	**Taichung City**	**1.32**	**286**	*e*P		**Pb**	**04 03 40.6**	**+0.5**
	baz=271							
NFF	**Wufeng Townshi**	**1.32**	**303**	*e*P		**Pb**	**04 03 40.0**	**-0.2**
	baz=300							
TNOU	**National Taiwa**	**1.33**	**338**	*e*P		**Pn**	**04 03 38.7**	**-0.2**
	baz=351							
IRIF	**Iriomote-Funau**	**1.34**	**71**	P		**Pb**	**04 03 42.0**	**+1.5**
IRIF						S	**Sb**	**04 03 59.1**	**+1.8**
TYC	**Yuchr**	**1.35**	**270**	*e*P		**Pb**	**04 03 40.2**	**-0.5**
	baz=266							
HATJ	**Hateruma jima**	**1.35**	**84**	*e*P		**Pb**	**04 03 41.4**	**+0.7**
HATJ				*e*S		**Sb**	**04 03 58.9**	**+1.3**
WHYT	**Xinyi Township**	**1.37**	**261**	*e*P		**Pb**	**04 03 41.2**	**+0.1**
	baz=249							
WHYT				*e*S		**Sb**	**04 03 59.5**	**+1.3**
	baz=249							
ELDTW	**Lidau**	**1.41**	**239**	P		**Pb**	**04 03 40.3**	**-1.4**
	baz=236							
ELDTW				S		**Sn**	**04 03 57.4**	**-0.3**
	baz=236							
LIOB	**Emei**	**1.41**	**302**	P		**Pb**	**04 03 42.1**	**+0.5**
	baz=298							
LIOB				*e*S		**Sb**	**04 03 59.4**	**+0.2**
	baz=298							
NSTT	**Nanjuang**	**1.41**	**301**	P		**Pb**	**04 03 42.0**	**+0.3**
	baz=285							
NSTT				*e*S		**Sb**	**04 03 59.5**	**+0.3**
	baz=285							
YM01	**YM01**	**1.41**	**331**	*e*P		**Pb**	**04 03 41.1**	**-0.6**
	baz=328							
YM01				*e*S		**Sb**	**04 03 59.5**	**+0.1**
	baz=328							
TWS1	**Kuangyinshan**	**1.45**	**325**	*e*P		**Pb**	**04 03 41.9**	**-0.5**
	baz=335							
TWS1				*e*S		**Sb**	**04 04 00.7**	**+0.3**
	baz=335							
ALS	**Alishan**	**1.46**	**254**	P		**Pb**	**04 03 42.6**	**-0.1**
	baz=251							
LDUT	**Ludao**	**1.47**	**213**	*e*P		**Pb**	**04 03 41.0**	**-1.6**
	baz=211							
LDUT				*e*S		**Sn**	**04 03 57.6**	**-1.5**
	baz=211							
WJS	**Zhushan**	**1.47**	**267**	*e*P		**Pb**	**04 03 44.0**	**+1.2**
	baz=263							
WJS				*e*S		**Sb**	**04 04 05.3**	**+4.2**
	baz=263							
NCUH	**Zhongli**	**1.48**	**315**	P		**Pb**	**04 03 42.4**	**-0.5**
	baz=313							
NTST	**Danshui**	**1.48**	**327**	*e*P		**Pb**	**04 03 42.4**	**-0.5**
	baz=343							
TWQ1	**Liyutan**	**1.49**	**287**	P		**Pb**	**04 03 43.4**	**+0.4**
	baz=284							
TWQ1				*e*S		**Sb**	**04 04 02.3**	**+0.8**
	baz=284							
LONT	**Longtian**	**1.49**	**228**	P		**Pn**	**04 03 41.3**	**+0.2**
	baz=217							
LONT				*e*S		**Sb**	**04 04 00.6**	**-1.0**
	baz=217							
SBCB	**Hsinchu**	**1.51**	**306**	P		**Pb**	**04 03 43.7**	**+0.3**
	baz

	baz=251								
WDLH	**Douliu**	**1.66**	**263**	*e*P		**Pb**	**04 03 47.0**	**+1.1**
	baz=260								
WDLH				*e*S		**Sb**	**04 04 09.0**	**+2.6**
	baz=260								
TPUB	**Ta-pu**	**1.68**	**249**	P		**Pb**	**04 03 46.2**	**0.0**
TPUB	**Ta-pu**	**1.68**	**249**	P		**Pb**	**04 03 46.3**	**0.0**
	baz=246								
TPUB				*e*S		**Sb**	**04 04 07.7**	**+0.7**
	baz=246								
CHN4	**Tsaushan**	**1.69**	**251**	P		**Pb**	**04 03 47.1**	**+0.6**
	baz=248								
CHN4				*e*S		**Sb**	**04 04 09.2**	**+1.9**
	baz=248								
JIJ	**Ishigaki jima**	**1.71**	**74**	P		**Pb**	**04 03 46.6**	**-0.2**
JIJ				*e*S		**Sb**	**04 04 09.0**	**+1.1**
WTP	**Ta-pu**	**1.71**	**248**	*e*P		**Pb**	**04 03 46.9**	**+0.1**
	baz=245								
WTP				*e*S		**Sb**	**04 04 08.9**	**+0.9**
	baz=245								
PCYT	**Pengchaiyu**	**1.73**	**352**	*e*P		**Pn**	**04 03 44.0**	**-0.3**
	baz=352								
WRL	**Guolierlin Hig**	**1.79**	**270**	P		**Pb**	**04 03 47.9**	**-0.2**
	baz=267								
WRL				*e*S		**Sb**	**04 04 10.2**	**+0.1**
	baz=267								
WTK	**Tuku**	**1.80**	**263**	*e*P		**Pb**	**04 03 48.0**	**-0.2**
	baz=260								
WTK				*e*S		**Sb**	**04 04 11.8**	**+1.5**
	baz=260								
SLGT	**Liugui**	**1.80**	**240**	*e*P		**Pb**	**04 03 48.3**	**0.0**
	baz=228								
SLGT				*e*S		**Sb**	**04 04 10.5**	**+0.1**
	baz=228								
SGST	**Jiashian**	**1.81**	**243**	*e*P		**Pb**	**04 03 48.3**	**-0.1**
	baz=229								
SGST				*e*S		**Sb**	**04 04 11.1**	**+0.4**
	baz=229								
CHN1	**Nanshi**	**1.81**	**247**	*e*P		**Pb**	**04 03 49.7**	**+1.2**
	baz=244								
CHN1				*e*S		**Sb**	**04 04 11.8**	**+1.1**
	baz=244								
TWK	**Hsinying**	**1.81**	**250**	*e*P		**Pb**	**04 03 48.4**	**-0.1**
	baz=247								
TWK				*e*S		**Sb**	**04 04 11.3**	**+0.4**
	baz=247								
SNST	**Tainan City**	**1.82**	**248**	*e*P		**Pb**	**04 03 49.3**	**+0.7**
	baz=246								
SNST				*e*S		**Sb**	**04 04 12.0**	**+0.9**
	baz=246								
JISG	**Ishigakijimahi**	**1.93**	**69**	*e*S		**Sb**	**04 04 13.3**	**-0.7**
ICHU	**Yijhu**	**1.96**	**254**	*e*P		**Pb**	**04 03 50.2**	**-0.8**
	baz=252								
ICHU				*e*S		**Sb**	**04 04 14.9**	**-0.3**
	baz=252								
TSMG	**Majia**	**1.96**	**233**	*e*P		**Pb**	**04 03 50.1**	**-0.9**
	baz=221								
SCST	**Cishan**	**1.98**	**239**	*e*P		**Pb**	**04 03 51.6**	**+0.3**
	baz=227								
LAY	**Lan-yu**	**2.00**	**201**	*e*P		**Pn**	**04 03 48.6**	**+0.5**
	baz=200								
LYUB	**Lan-yu**	**2.02**	**200**	*e*P		**Pn**	**04 03 48.3**	**-0.1**
	baz=199								
SHHT	**Tainan City**	**2.03**	**244**	*e*S		**Sb**	**04 04 19.0**	**+2.0**
	baz=243								
MASBT	**Mashibuluo**	**2.03**	**231**	*e*P		**Pn**	**04 03 49.1**	**+0.6**
	baz=219								
EAST	**Anshuo**	**2.05**	**222**	*e*P		**Pb**	**04 03 50.1**	**-2.4**
	baz=220								
SCZT	**Fangliau**	**2.20**	**226**	*e*P		**Pb**	**04 03 55.1**	**0.0**
	baz=218								
SCZT				*e*S		**Sb**	**04 04 21.7**	**-0.3**
	baz=218								
SLIU	**Shizi**	**2.20**	**220**	*e*P		**Pn**	**04 03 51.4**	**+0.5**
	baz=218								
TWKBT	**Hengchun**	**2.41**	**216**	*e*P		**Pb**	**04 03 56.9**	**-1.9**
	baz=214								
TWK1	**Hengchun**	**2.41**	**216**	*e*P		**Pb**	**04 03 56.5**	**-2.3**
	baz=214								
WDGT	**Dungji**	**2.54**	**256**	*e*P		**Pn**	**04 03 57.5**	**+2.1**
	baz=242								
WDGT				*e*S		**Sn**	**04 04 27.4**	**+1.9**
	baz=242								
PHUB	**P'eng-hu**	**2.56**	**262**	P		**Pn**	**04 03 57.7**	**+1.9**
	baz=259								
PHUB				*e*S		**Sn**	**04 04 28.1**	**+1.9**
	baz=259								
PNG	**Penghu**	**2.57**	**263**	P		**Pn**	**04 03 57.6**	**+1.7**
	baz=260								
PNG				S		**Sn**	**04 04 28.3**	**+2.0**
	baz=260								
VCHM	**Qimei**	**2.76**	**256**	*e*P		**Pn**	**04 04 00.6**	**+2.1**
	baz=254								
VCHM				S		**Sn**	**04 04 33.1**	**+2.2**
	baz=254								
VWUC	**VWUC**	**2.84**	**293**	*e*P		**Pn**	**04 04 00.1**	**+0.5**
	baz=290								
MATB	**Ma-tsu**	**3.11**	**316**	*e*P		**Pn**	**04 04 03.1**	**-0.3**
	baz=313								
PTMZ	**Houxiangcun**	**3.14**	**292**	*e*P		**Pn**	**04 04 04.3**	**+0.6**
	baz=289								
LYJJ	**Jianjiangzhen**	**3.51**	**319**	*e*P		**Pn**	**04 04 08.9**	**0.0**
	baz=316								
XPSS	**Dashiqiu**	**3.58**	**328**	*e*P		**Pn**	**04 04 10.0**	**+0.2**
	baz=336								
KNM	**Kinmen**	**3.60**	**279**	*e*P		**Pn**	**04 04 12.5**	**+2.4**
	baz=276								
KNMB	**Chin-men Tao**	**3.65**	**279**	*e*P		**Pn**	**04 04 11.3**	**+0.6**
	baz=276								
KNMB				*e*S		**Sn**	**04 04 52.3**	**-0.6**
	baz=276								
MHZQ	**Yeshan**	**3.71**	**307**	*e*P		**Pn**	**04 04 11.9**	**+0.4**
	baz=304								
AXDP	**Jialang**	**4.10**	**285**	*e*P		**Pn**	**04 04 17.6**	**+0.7**
	baz=282								
ZPLA	**Ao Xicun**	**4.20**	**271**	*e*P		**Pn**	**04 04 19.2**	**+0.9**
	baz=269								
SXFK	**Yanhouchang**	**4.92**	**301**	*e*P		**Pn**	**04 04 28.5**	**+0.3**
	baz=298								
KSRS	**Korea Array**	**14.32**	**18**	P		**P**	**04 06 40.8**	**-3.0**
	comp=N,0.1nm,0.3s,baz=198,slow=11,SNR=2.6								
	comp=N,0.8nm,0.5s								
SONM	**Songino Array**	**27.03**	**336**	P		**P**	**04 08 56.3**	**+0.2**
	comp=N,3.9nm,0.7s,baz=149,slow=9.7,SNR=20								
	comp=N,3.9nm,0.7s								
MKAR	**Makanchi Array**	**39.26**	**316**	P		**P**	**04 10 41.3**	**-1.1**
	comp=N,0.4nm,0.4s,baz=107,slow=8.8,SNR=9.4								
	comp=N,0.4nm,0.4s								
ZALV	**Zalesovo Beam**	**41.05**	**327**	P		**P**	**04 10 56.3**	**-0.7**
	comp=N,1.2nm,0.4s,baz=125,slow=7.8,SNR=6.3								
	comp=N,1.2nm,0.4s								
KURBB	**Kurchatov Arra**	**42.99**	**320**	P		**P**	**04 11 12.8**	**-0.1**
	comp=N,0.6nm,0.9s,baz=115,slow=9.5,SNR=5.1								
	comp=N,0.6nm,0.9s								
WRA	**Warramunga Arr**	**45.13**	**164**	P		**P**	**04 11 32.3**	**+1.9**
	comp=N,0.8nm,0.9s,baz=343,slow=9.0,SNR=5.0								
	comp=N,0.8nm,0.9s								
BRTR	**Keskin Array B**	**74.18**	**307**	P		**P**	**04 14 51.0**	**+0.3**
	comp=N,0.9nm,0.9s,baz=103,slow=5.3,SNR=4.9								
	comp=N,0.9nm,0.9s								
YKA	**Yellowknife Ar**	**82.81**	**23**	P		**P**	**04 15 37.5**	**-0.1**
	comp=N,0.2nm,0.7s,baz=311,slow=5.1,SNR=4.8								
	comp=N,0.2nm,0.7s								

IDC ***15*** *04:13:56.3±1.9, 18.˚66S×71.˚73W, h0km, mb3.4/2, mbtmp3.5/4, ML3.6/2, MS2.4/1, Error ellipse: s-maj=37.5km s-min=19.6km az=70.0*

GUC ***15*** *04:14:06.2±0.8, 18.˚67S×70.˚93W, h30km±4km, ML3.3*

ISC 15 04:14:05.1±2.3, 18.˚70S±0.˚05×71.˚0W±0.˚1, h24km±15km, n30, σ1°56/35, 5C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
PB12	**IPOC Station P**	**0.64**	**82**	⇑*i*	P	**Pb**	**04 14 16.8**		**-0.9**
PB12				*i*	S	**Sb**	**04 14 24.9**		**-1.3**
PB16	**IPOC Station P**	**1.46**	**76**	⇓*e*	P	**Pn**	**04 14 29.5**		**-0.9**
PB16				*e*	S	**Sb**	**04 14 49.4**		**-0.9**
PB16				IAML			04 14 58.8		
	comp=N,461nm,0.4s								
PB11	**IPOC Station P**	**1.65**	**130**	⇑*i*	P	**Pn**	**04 14 34.2**		**+1.6**
PB11				*i*	S	**Sn**	**04 14 54.0**		**+0.9**
PB11				IAML			04 15 01.6		
	comp=N,673nm,0.4s								
TA02	**Huaiquique**	**1.76**	**153**	⇓*e*	P	**Pn**	**04 14 35.5**		**+1.4**
TA02				*e*	S	**Sn**	**04 14 56.3**		**+0.5**
TA02				IAML			04 15 08.8		
	comp=N,520nm,0.2s								

PB18	**Visviri**	**1.82**	**53**	*e*P		**Pn**	**04 14 35.3**	**0.0**	
PB18				*e*S		**Sb**	**04 14 58.8**	**-1.8**	
PB18				IAML			04 15 09.0		
	comp=E,1μm,0.5s								
HMBC	**Humberstone**	**1.88**	**147**	*e*P		**Pn**	**04 14 37.0**	**+1.1**	
HMBC				*i*	S	**Sn**	**04 15 00.1**	**+1.1**	
HMBC				IAML			04 15 15.1		
	comp=N,532nm,0.1s								
GO01	**Chusmiza**	**1.96**	**120**	*e*P		**Pb**	**04 14 39.1**	**-1.2**	
TA01	**Diego Aracena**	**2.01**	**158**	⇓*e*P		**Pn**	**04 14 38.4**	**+0.9**	
TA01				*e*S		**Sn**	**04 15 02.4**	**+0.6**	
TA01				IAML			04 15 20.7		
	comp=N,258nm,0.3s								
PX03	**IPOC Station P**	**2.13**	**143**	*e*P		**Pn**	**04 14 39.7**	**+0.5**	
PX03				*e*S		**Sn**	**04 15 06.3**	**+1.3**	
PX03				IAML			04 15 15.2		
	comp=N,293nm,0.3s								
PATCX	**Punta Patache**	**2.25**	**160**	*e*P		**Pn**	**04 14 41.5**	**+0.6**	
PB08	**IPOC Station P**	**2.25**	**130**	*e*P		**Pn**	**04 14 43.0**	**+1.8**	
PB08				*i*	S	**Sb**	**04 15 13.3**	**+0.3**	
PB08				IAML			04 15 22.4		
	comp=E,212nm,0.5s								
PB01	**IPOC Station P**	**2.73**	**149**	⇑*e*P		**Pn**	**04 14 48.4**	**+0.9**	
PB01				*i*	S	**Sn**	**04 15 21.0**	**+1.3**	
PB02	**IPOC Station P**	**2.80**	**159**	*e*P		**Pn**	**04 14 49.3**	**+0.8**	
PB02				*i*	S	**Sn**	**04 15 22.4**	**+0.7**	
PB07	**IPOC Station P**	**3.18**	**161**	*e*P		**Pn**	**04 14 54.2**	**+0.4**	
LPAZ	**La Paz**	**3.64**	**49**	Pn		**Pn**	**04 15 03.4**	**+2.9**	
	comp=E,1.2nm,0.3s,baz=228,slow=9.3,SNR=18								
LPAZ				Pg		**Pb**	**04 15 11.8**	**+2.6**	
	comp=E,1.2nm,0.3s,baz=230,slow=11,SNR=17								
	comp=E,2.5nm,0.3s								
PB04	**IPOC Station P**	**3.70**	**168**	⇑*e*P		**Pn**	**04 15 00.2**	**-0.7**	
PB04				*i*	S	**Sn**	**04 15 41.5**	**-2.4**	
PB06	**IPOC Station P**	**4.20**	**162**	*e*P		**Pn**	**04 15 07.5**	**-0.3**	
PB06				*i*	S	**Sn**	**04 15 53.3**	**-2.9**	
LVC	**Limon Verde**	**4.35**	**154**	Pn		**Pn**	**04 15 10.5**	**+0.5**	
	comp=E,5.5nm,0.3s,baz=327,slow=9.0,SNR=56								
LVC				Pg		**Pb**	**04 15 23.1**	**+2.0**	
	comp=E,4.5nm,0.3s,baz=323,slow=7.6,SNR=16								
LVC				Sn		**Sn**	**04 16 03.2**	**+3.0**	
	comp=E,3.2nm,0.3s,baz=328,slow=13,SNR=2.0								
LVC				Lg		Lg	04 16 27.3		
	comp=E,4.3nm,0.3s,baz=175,slow=15,SNR=5.5								
	comp=E,10nm,0.2s								
H03N1	**Juan Fernandez**	**16.30**	**204**	T		T	04 35 40.8		
	baz=26,slow=73,SNR=30								
H03N2	**Juan Fernandez**	**16.31**	**204**	T		T	04 35 42.1		
	baz=26,slow=73,SNR=18								
H03N3	**Juan Fernandez**	**16.32**	**204**	T		T	04 35 41.8		
	baz=26,slow=73,SNR=26								
APG	**El Apazote**	**38.59**	**329**	LR		LR	04 37 34.1		
	comp=E,5.0nm,18.5s,baz=55,slow=37								
TORD	**Torodi Ar. Bea**	**78.31**	**72**	P		**P**	**04 26 01.7**	**-2.0**	
	comp=E,0.2nm,0.6s,baz=265,slow=5.6,SNR=1.8								
	comp=E,0.2nm,0.6s								
YKA	**Yellowknife Ar**	**87.92**	**341**	P		P	04 26 46.3	-6.0	
	comp=E,0.2nm,0.5s,baz=140,slow=5.4,SNR=5.6								
	comp=E,0.2nm,0.5s								
H11S2	**WAKE ISLAND Hyl**	**25.53**	**280**	T		T	06 50 44.2		
	baz=100,slow=75,SNR=9.6								
H11S1	**WAKE ISLAND Hyl**	**25.54**	**280**	T		T	06 50 48.1		
	baz=100,slow=75,SNR=14								
H11N3	**WAKE ISLAND Hyl**	**25.55**	**281**	T		T	06 50 46.9		
	baz=99								
H11S3	**WAKE ISLAND Hyl**	**25.55**	**280**	T		T	06 50 48.9		
	baz=100,slow=75,SNR=12								
H11N2	**WAKE ISLAND Hyl**	**25.56**	**281**	T		T	06 50 50.6		
	baz=99								
H11N1	**WAKE ISLAND Hyl**	**25.56**	**281**	T		T	06 50 48.9		
	baz=99								

MOS ***15*** *04:28:44.7±0.8, 0.˚85N×125.˚15E, h43km, mb5.1/41, MS4.0/4, Error ellipse: s-maj=9.7km s-min=4.8km az=111.8*

BJI ***15*** *04:28:45.4±0.0, 0.˚48N×125.˚59E, h80km, mb4.8/51, mB5.1/30, Ms4.3/15, Ms7 4.1/18*

NEIC ***15*** *04:28:48.6±1.6, 0.˚88N±0.˚07×125.˚37E±0.˚02, h56km±6km, mb5.0/145, Error ellipse: s-maj=10.8km s-min=2.0km az=183.0*

IDC ***15*** *04:28:48.5±1.7, 0.˚86N×125.˚12E, h61km±14km, mb4.6/33, mbtmp4.9/34, MS3.6/34, Error ellipse: s-maj=16.6km s-min=8.6km az=81.0*

GCMT ***15*** *04:28:49.6±0.3, 1.˚08N±0.˚02×125.˚29E±0.˚02, h61km±2km, MW4.9/73, Moment Tensor Solution. s36,c40; s73,c94; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr~1.79±.17; Mθθ3.15±.11; Mϕϕ~1.36±.15; Mrθ0.88±.08; Mrϕ~0.53±.12; Mθr~0.95±.10; Best double couple: M◎2.99100×10^16 NP1:ϕs306.00000°, δ65.00000°, λ-51.00000°. NP2: ϕs64.00000°, δ46.00000°, λ-143.00000°. Principal axes: T 3.4040, Plg11.0000°, Azm9.0000°; N -0.8270, Plg35.0000°, Azm106.0000°; P -2.5770, Plg53.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***15*** *04:28:50.1±0.2, 1.˚N±2.˚×12.˚5E±.˚, h69km±2km, M5.0/57, mb5.2/57, mB5.5/31, MLv5.2/18, Mw(mB)4.9/31, MwMwp4.6/1, Mwp5.0/1*

ISC 15 04:28:48.9±0.5, 0.˚83N±0.˚03×125.˚37E±0.˚04, h66km±4km, n597, σ1°57/596, mb5.0/158, 30C-39D, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
KMSI	**Cibinong**	**1.41**	**260**	P		**Pn**	**04 29 13.3**		**+0.7**
KMSI				S		**Sn**	**04 29 32.4**		**+2.0**
TNTI	**Ternate**	**2.00**	**92**	Pn		**Pn**	**04 29 20.1**		**-0.3**
TNTI				Sn		**Sn**	**04 29 43.8**		**-0.6**
TNTI	**Ternate**	**2.00**	**92**	P		**Pn**	**04 29 20.5**		**+0.1**
TNTI	**Ternate**	**2.00**	**92**	P		**Pn**	**04 29 20.7**		**+0.3**
GTOI	**Gorontalo**	**2.37**	**265**	P		**Pn**	**04 29 28.0**		**+2.5**
GTOI				S		**Sn**	**04 29 59.3**		**+5.8**
LBMI	**Labuha**	**2.58**	**124**	P		**Pn**	**04 29 28.3**		**0.0**
SGSI	**Sangihe**	**2.85**	**3**	P		**Pn**	**04 29 32.8**		**+0.8**
SANI	**Sanana**	**2.92**	**168**	P		**Pn**	**04 29 31.5**		**-1.5**
SANI	**Sanana**	**2.92**	**168**	P		**Pn**	**04 29 31.3**		**-1.7**
SANI				S		**Sn**	**04 30 03.2**		**-3.8**
LUWI	**Luwuk**	**3.19**	**235**	Pn		**Pn**	**04 29 37.3**		**+0.6**
LUWI	**Luwuk**	**3.19**	**235**	P		**Pn**	**04 29 38.9**		**+2.2**
LUWI	**Luwuk**	**3.19**	**235**	P		**Pn**	**04 29 37.4**		**+0.7**
MRSI	**Marisa**	**3.45**	**264**	P		**Pn**	**04 29 42.5**		**+2.3**
NLAI	**Namlea**	**4.39**	**157**	P		**Pn**	**04 29 52.4**		**-0.7**
TOLI2	**Tolitoli**	**4.60**	**274**	Pn		**Pn**	**04 29 55.3**		**-0.6**
TOLI2	**Tolitoli**	**4.60**	**274**	P		**Pn**	**04 29 56.2**		**+0.3**
GSPH	**General Santos**	**5.24**	**355**	⇓*i*P		**Pn**	**04 30 06.2**		**+1.3**
GSPH				*e*S		Sn	04 31 15.4		+11
MPSI	**Mapaga**	**5.50**	**265**	P		**Pn**	**04 30 11.6**		**+3.4**
	469nm,0.7s,4μm1.6nm								
SWI	**Sorong**	**6.12**	**106**	P		**Pn**	**04 30 19.2**		**+2.4**
	59nm,0.7s,0.2nm								
KCP	**Kidapawan**	**6.15**	**357**	⇑*i*P		**Pn**	**04 30 19.7**		**+2.4**
TTSI	**Tana Toraja**	**6.75**	**235**	P		**Pn**	**04 30 27.5**		**+2.1**
	402nm,0.6s,4μm2μm3.5nm								
BBSI	**Bau Bau**	**6.87**	**204**	P		**Pn**	**04 30 30.3**		**+3.3**
	204nm,0.8s,2μm0.7nm								
ZCP	**Zamboanga City**	**6.90**	**332**	⇑*e*P		**Pn**	**04 30 29.1**		**+1.7**
ZCP				*e*S		**Sn**	**04 31 43.5**		**-1.1**
CDOP	**Cateel, Davao**	**6.99**	**9**	⇑*e*P		**Pn**	**04 30 29.8**		**+1.1**
CDOP				*e*S		**Sn**	**04 31 47.7**		**+0.8**
PAGZ	**Pagadian**	**7.25**	**344**	⇑*e*P		**Pn**	**04 30 33.0**		**+0.7**
BIPH	**Bislig**	**7.38**	**8**	⇓*i*P		**Pn**	**04 30 33.7**		**-0.3**
BIPH				*e*S		**Sn**	**04 31 50.6**		**-5.7**
TASP	**Talacogon, Agu**	**7.59**	**3**	*e*P		**Pn**	**04 30 38.8**		**+1.9**
CGP	**Cagayan de Oro**	**7.61**	**355**	⇓*e*P		**Pn**	**04 30 40.3**		**+3.1**
FAKI	**Fak Fak**	**7.82**	**118**	P		**Pn**	**04 30 40.4**		**+0.4**
	80nm,1.3s,0.3nm								
DCPH	**Dipolog City**	**7.96**	**345**	⇑*e*P		**Pn**	**04 30 44.6**		**+2.6**
BKSI	**Bulukumba**	**8.05**	**221**	P		**Pn**	**04 30 45.4**		**+2.2**
	152nm,0.6s,2μm								
KAPI	**Kappang**	**8.07**	**224**	Pn		**Pn**	**04 30 43.5**		**0.0**
KAPI	**Kappang**	**8.07**	**224**	P		**Pn**	**04 30 44.0**		**+0.5**
KAPI	**Kappang**	**8.07**	**224**	*de*P		**Pn**	**04 30 46.0**		**+2.5**
BKB	**Balikpapan**	**8.72**	**256**	Pn		**Pn**	**04 30 51.4**		**-1.0**
BKB	**Balikpapan**	**8.72**	**256**	P		**Pn**	**04 30 55.1**		**+2.7**
	356nm,0.8s,3μm								
GHBP	**Garcia Hernand**	**8.81**	**353**	⇑*e*P		**Pn**	**04 30 55.6**		**+2.0**
SCPH	**Surigao**	**8.90**	**1**	⇑*e*P		**Pn**	**04 30 58.9**		**+4.1**
TBP	**Tagbilaran**	**8.94**	**350**	*e*P		**Pn**	**04 30 56.6**		**+1.3**
MSLP	**Maasin**	**9.26**	**357**	*e*P		**Pn**	**04 30 59.9**		**+0.1**

TABP	**Talibon, Bohol**	**9.26**	**354**	⇑*e*P		**Pn**	**04 31 01.5**		**+1.7**
PLP	**Palo**	**10.28**	**358**	⇓*e*P		**Pn**	**04 31 15.7**		**+2.0**
KKM	**Kota Kinabalu**	**10.51**	**300**	Pn		**Pn**	**04 31 15.1**		**-1.8**
SOEI	**Soe**	**10.57**	**186**	Pn		**Pn**	**04 31 16.5**		**-1.2**
SOEI	**Soe**	**10.57**	**186**	P		**Pn**	**04 31 19.8**		**+2.0**
	384nm,1.1s,3μm								
MTKI	**Muara Teweh, K**	**10.62**	**261**	P		**Pn**	**04 31 20.8**		**+2.4**
	100nm,0.6s,10μm								
RCP	**Roxas**	**10.98**	**346**	⇑*e*P		Pn	04 31 27.8		+4.6
BATI	**Baumata**	**11.09**	**189**	P		Pn	04 31 30.1		+5.2
	256nm,0.8s,baz=5.7,slow=0.5,SNR=31								
BATI				LR		LR	04 36 55.2		
	comp=Z,152nm,21.9s,baz=7.0,slow=44								
BATI	**Baumata**	**11.09**	**189**	P		Pn	04 31 30.4		+5.6
	302nm,1.0s,2μm								
BBKI	**Banjar Baru**	**11.35**	**248**	P		**Pn**	**04 31 32.5**		**+4.1**
	66nm,0.5s								
PLAI	**Plampang**	**12.22**	**218**	P		**Pn**	**04 31 40.7**		**+0.5**
PLAI	**Plampang**	**12.22**	**218**	P		**Pn**	**04 31 43.2**		**+3.0**
	82nm,1.1s,1μm								
TWSI	**Taliwang, Sumb**	**12.72**	**222**	P		**Pn**	**04 31 48.5**		**+1.5**
	90nm,1.1s,854nm								
SRBI	**Singaraja**	**13.45**	**229**	P		**P**	**04 32 00.7**		**-3.3**
	138nm,0.9s,1μm								
LQP	**Lukban**	**13.73**	**344**	⇓*e*P		**P**	**04 32 05.0**		**-2.4**
KMMI	**Kalianget**	**13.81**	**235**	P		**P**	**04 32 04.8**		**-3.2**
	742nm,0.8s,8μm								
TGY	**Tagaytay City**	**13.90**	**342**	LR		LR	04 38 16.7		
	comp=Z,428nm,21.2s,baz=138,slow=41								
STKI	**Sintang**	**13.91**	**267**	P		**Pn**	**04 32 05.8**		**+2.7**
	46nm,0.7s								
ABJI	**Asem Bagus**	**14.03**	**232**	P		**P**	**04 32 07.9**		**-2.5**
	92nm,1.2s								
DRS	**Darwin Rock St**	**14.27**	**158**	P		**Pn**	**04 32 09.0**		**+1.3**
	155nm,0.8s								
JAGI	**Jajag, Banyuwa**	**14.50**	**230**	Pn		**Pn**	**04 32 10.8**		**0.0**
JAGI	**Jajag, Banyuwa**	**14.50**	**230**	P		**P**	**04 32 13.7**		**-2.0**
JAGI	**Jajag, Banyuwa**	**14.50**	**230**	P		**Pn**	**04 32 12.9**		**+2.1**
	148nm,1.1s,2μm								
BLJI	**Banyuglugur**	**14.51**	**234**	P		**Pn**	**04 32 12.4**		**+1.5**
	215nm,0.6s,3μm								
MTN	**Manton Dam**	**14.73**	**157**	P		**Pn**	**04 32 13.1**		**-0.7**
	baz=15,SNR=22								
MTN	**Manton Dam**	**14.73**	**157**	Pn		**Pn**	**04 32 12.7**		**-1.2**
MTN	**Manton Dam**	**14.73**	**157**	P		**Pn**	**04 32 13.0**		**-0.8**
GMJI	**Gumukmas**	**14.94**	**233**	P		**P**	**04 32 19.8**		**-0.7**
KSM	**Kuching**	**15.07**	**273**	Pn		**Pn**	**04 32 16.6**		**-1.6**
KDU	**Kakadu**	**15.16**	**153**	P		**Pn**	**04 32 17.2**		**-2.1**
	baz=15,SNR=7.6								
GENI	**Genyem**	**15.18**	**103**	P		**Pn**	**04 32 20.7**		**+1.2**
	60nm,0.6s								
NGJI	**Ngawi**	**16.09**	**239**	P		**P**	**04 32 33.6**		**+0.3**
	124nm,1.0s								
UWJI	**Ujung Watu**	**16.10**	**243**	P		**P**	**04 32 35.8**		**+2.4**
	189nm,1.0s								
PWJI	**Pagerwojo**	**16.13**	**237**	P		**P**	**04 32 33.5**		**-0.3**
	180nm,0.8s,2μm								
KNRA	**Kununurra**	**16.74**	**169**	P		**Pn**	**04 32 39.1**		**-0.1**
	baz=17,SNR=17								
KNRA	**Kununurra**	**16.74**	**169**	Pn		**Pn**	**04 32 39.1**		**-0.1**
KNRA	**Kununurra**	**16.74**	**169**	P		**P**	**04 32 41.3**		**+0.8**
SMRI	**Semarang**	**16.83**	**242**			**Pn**	**04 32 40.5**		**+0.2**
SMRI				IAmb		IAmb	04 32 43.1		
	comp=Z,163nm,0.9s								
SMRI	**Semarang**	**16.83**	**242**	P		**P**	**04 32 42.1**		**+0.6**
	comp=Z,185nm,0.9s								
UGM	**Wanagama**	**17.16**	**239**	P		**Pn**	**04 32 44.1**		**-0.5**
UGM				IAmb		IAmb	04 32 54.9		
	comp=Z,68nm,0.7s								
UGM	**Wanagama**	**17.16**	**239**	P		**P**	**04 32 45.3**		**0.0**
UGM	**Wanagama**	**17.16**	**239**	P		**P**	**04 32 48.3**		**+3.0**
	comp=Z,96nm,1.2s								
KPJI	**Karang Pucung**	**18.29**	**243**	P		**Pn**	**04 32 58.2**		**-0.1**
	comp=

ASAR PcP **PcP** **04 37 43.1 +0.9**
comp=Z,9.3nm,0.5s,baz=347,slow=2.2,SNR=15
ASAR S **S** **04 38 37.3 -0.4**
comp=Z,1.9nm,0.7s,baz=352,slow=19,SNR=5.1
ASAR ScP **ScP** **04 41 17.5 +1.3**
comp=Z,1.7nm,0.8s,baz=341,slow=1.7,SNR=6.2
comp=Z,42nm,0.8s
ASPA Alice Springs **25.72 162** P **P** **04 34 14.0 +0.6**
baz=26
GIRL Giralia **25.73 204** P **P** **04 34 14.1 +0.8**
baz=26,SNR=7.3
GIRL Giralia **25.73 204** P **P** **04 34 13.9 +0.6**
GIRL Giralia **25.73 204** P **P** **04 34 14.0 +0.6**
comp=Z,138nm,1.0s
AS01 Alice Springs **25.73 162** P **P** **04 34 13.6 +0.2**
comp=Z,88nm,1.0s
WRKA Warakurna **25.86 174** P **P** **04 34 15.0 +0.4**
baz=26,SNR=76
WRKA Warakurna **25.86 174** P **P** **04 34 15.1 +0.5**
JOW Kunigami **26.01 6** P **P** **04 34 16.0 +0.1**
JOW Kunigami **26.01 6** P **P** **04 34 17.8 +1.9**
JOW Kunigami **26.01 6** LR LR 04 44 26.5
comp=Z,168nm,21.6s,baz=112,slow=36
MTSU Mount Surprise **26.50 136** P **P** **04 34 20.7 +0.2**
baz=26,SNR=12
SRIT Nakonsritamara **26.80 288** P **P** **04 34 22.6 -0.5**
KCSI Kotacane, Aceh **27.71 276** P **P** **04 34 30.7 -0.6**
comp=Z,50nm,0.6s
MEEK Meekatharra **28.07 193** P **P** **04 34 34.1 -0.3**
baz=28,SNR=21
MEEK Meekatharra **28.07 193** P **P** **04 34 34.9 +0.5**
CTA Charters Tower **29.17 137** LR LR 04 47 01.4
comp=Z,65nm,21.9s,baz=183,slow=37
OOD Oodnadatta **30.13 162** P **P** **04 34 53.4 +0.8**
JCJ Chichijima **30.71 30** P **P** **04 34 59.4 +1.6**
comp=Z,158nm,1.1s
JCJ Chichijima **30.71 30** LR LR 04 49 30.7
comp=Z,25nm,18.6s,baz=125,slow=40
MORW Morawa **31.04 196** P **P** **04 35 00.5 -0.1**
baz=31,SNR=8.7
MORW Morawa **31.04 196** P **P** **04 35 00.8 +0.1**
MORW IAmb IAmb 04 35 01.7
comp=Z,46nm,1.3s
MORW Morawa **31.04 196** P **P** **04 35 02.0 +1.4**
GYA Guiyang **31.20 326** *eP* **P** **04 35 05.3 +3.0**
GYA S **S** **04 40 08.3 +4.2**
GYA pmax pmax
comp=Z,19nm,0.8s
GYA pmax pmax
comp=Z,190nm,5.9s
GYA LR LR
comp=Z,220nm,16.0s
CMAR Chiang Mai Arr **31.31 306** P **P** **04 35 02.6 -0.6**
comp=Z,3.1nm,0.7s,baz=127,slow=7.6,SNR=5.8
CMAR PcP **PcP** **04 37 57.4 +1.2**
comp=Z,5.2nm,0.3s,baz=183,slow=1.5,SNR=5.8
CMAR ScP **ScP** **04 41 33.8 +0.1**
comp=Z,1.6nm,0.3s,baz=146,slow=2.1,SNR=7.8
CMAR LR LR 04 48 24.5
comp=Z,52nm,19.6s,baz=120,slow=38
comp=Z,3.1nm,0.7s
FORT Forrest **31.53 176** P **P** **04 35 05.1 +0.2**
baz=32,SNR=41
FORT Forrest **31.53 176** P **P** **04 35 05.2 +0.2**
FORT Forrest **31.53 176** P **P** **04 35 07.0 +2.0**
NJ2 Nanjing **31.66 349** *eP* **P** **04 35 06.6 +0.5**
NJ2 pP **pP** **04 35 20.3 -1.3**
NJ2 pmax pmax
comp=Z,12nm,0.6s
INKA Innaminka **32.01 154** P **P** **04 35 10.8 +1.6**
MULG Mulgathing **32.02 166** P **P** **04 35 10.1 +0.8**
KMBL Kambalda **32.19 186** P **P** **04 35 10.7 0.0**
baz=32,SNR=22
KMBL Kambalda **32.19 186** P **P** **04 35 12.1 +1.4**
BLDU Ballidu **32.34 194** P **P** **04 35 11.9 -0.1**
baz=32,SNR=22
BLDU Ballidu **32.34 194** P **P** **04 35 12.3 +0.3**
JNU Nakatsue **32.54 9** P **P** **04 35 13.6 -0.2**
JNU IAmb IAmb 04 35 15.7
comp=Z,20nm,0.9s
JNU Nakatsue **32.54 9** P **P** **04 35 15.0 +1.2**
JNU Nakatsue **32.54 9** P **P** **04 35 14.4 +0.5**
comp=Z,15nm,0.7s,baz=153,slow=3.2,SNR=6.7
JNU LR LR 04 49 47.8
comp=Z,45nm,19.5s,baz=191,slow=39
comp=Z,15nm,0.7s
QLP Quilpie **32.76 148** P **P** **04 35 15.6 -0.2**
baz=33,SNR=4.7
ENH Enshi **32.95 334** P **P** **04 35 17.2 -0.3**
ENH IAmb IAmb 04 35 18.0
comp=Z,16nm,0.6s
ENH Enshi **32.95 334** P **P** **04 35 17.0 -0.4**
KLBR Kellerberrin **33.04 192** P **P** **04 35 18.1 0.0**
baz=33,SNR=34
KLBR Kellerberrin **33.04 192** P **P** **04 35 18.8 +0.6**
LCRK Leigh Creek **33.42 160** P **P** **04 35 22.2 +0.7**
JMN Monobe **33.69 13** P **P** **04 35 23.7 -0.1**
JMN Monobe **33.69 13** P **P** **04 35 24.9 +1.1**
MUN Mundaring **33.76 194** P **P** **04 35 24.4 0.0**
baz=34,SNR=4.1
MUN Mundaring **33.76 194** P **P** **04 35 25.1 +0.7**
PZH PanZhiHua **34.18 320** P **P** **04 35 30.8 +2.5**
PZH pmax pmax
comp=Z,7.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.3s
NWAO Narrogin (SRO) **34.44 192** P **P** **04 35 30.5 +0.2**
baz=35,SNR=12
NWAO P **P** **04 35 30.5 +0.2**
baz=35,SNR=12
NWAO Narrogin (SRO) **34.44 192** P **P** **04 35 30.4 +0.2**
NWAO Narrogin (SRO) **34.44 192** P **P** **04 35 30.2 -0.1**
NWAO Narrogin (SRO) **34.44 192** P **P** **04 35 30.4 +0.2**
NWAO pmax pmax
comp=Z,55nm,1.3s
NWAO Narrogin (SRO) **34.44 192** LR LR 04 51 27.6
comp=Z,83nm,20.5s,baz=320,slow=40
NWAO Narrogin (SRO) **34.44 192** P **P** **04 35 30.5 +0.2**
JHJ Hachijo jima 2 **34.87 21** P **P** **04 35 34.8 +0.9**
comp=Z,122nm,1.0s,baz=231,slow=20,SNR=2.3
comp=Z,122nm,1.0s
BBOO Buckleboo **34.94 164** P **P** **04 35 35.0 +0.4**
baz=35,SNR=28
BBOO Buckleboo **34.94 164** P **P** **04 35 35.1 +0.4**
BBOO Buckleboo **34.94 164** P **P** **04 35 35.1 +0.4**
GD1S Gladstone Soft **35.06 136** P **P** **04 35 37.1 +1.4**
RMQ Roma **35.30 142** P **P** **04 35 37.2 -0.7**
baz=35
TJN Taejon **35.42 3**⇑ *eP* **P** **04 35 39.0 +0.3**
WHYH Whyalla **35.59 162** P **P** **04 35 40.5 +0.3**
comp=Z,83nm,0.6s
LYN LuoYang **35.66 342** *eP* **P** **04 35 41.3 +0.6**
LYN pmax pmax
comp=Z,11nm,0.7s
LYN pmax pmax
comp=Z,130nm,4.5s
LYN LR LR
comp=Z,200nm,14.1s
LYN LR LR
comp=Z,220nm,13.1s
LYN LR LR
comp=Z,400nm,23.4s
STKA Stephens Creek **35.97 156** P **P** **04 35 43.9 +0.4**
baz=36,SNR=24
STKA Stephens Creek **35.97 156** P **P** **04 35 44.0 +0.5**
STKA Stephens Creek **35.97 156** P **P** **04 35 44.3 +0.8**
STKA Stephens Creek **35.97 156** *d iP* **P** **04 35 44.0 +0.5**
STKA Stephens Creek **35.97 156** P **P** **04 35 44.2 +0.7**
comp=Z,21nm,0.7s,baz=326,slow=9.0,SNR=45
STKA PcP **PcP** **04 38 10.1 +1.0**
comp=Z,1.6nm,0.4s,baz=300,slow=1.5,SNR=3.8
STKA LR LR 04 51 54.2
comp=Z,67nm,18.2s,baz=9.7,slow=38
comp=Z,21nm,0.7s
EIDS Eidsvold **36.01 138** P **P** **04 35 43.3 -0.6**
baz=36,SNR=4.0
INU Inuyama **36.02 16** P **P** **04 35 44.0 +0.2**
INU Inuyama **36.02 16** P **P** **04 35 44.7 +0.8**
INU Inuyama **36.02 16** P **P** **04 35 44.2 +0.3**
RKGY Rocky Gully **36.12 192** P **P** **04 35 45.7 +1.0**
baz=36,SNR=13
RKGY Rocky Gully **36.12 192** P **P** **04 35 46.4 +1.7**
JGF Kuroka **36.35 17** P **P** **04 35 46.7 -0.1**
JGF Kuroka **36.35 17** P **P** **04 35 47.4 +0.6**
HTT Hallett **36.39 161** P **P** **04 35 47.6 +0.6**
baz=36,SNR=10

HTT Hallett **36.39 161** P **P** **04 35 48.6 +1.5**
XAN Xi'an **36.46 337** P **P** **04 35 43.6 -4.1**
XAN pmax pmax
comp=Z,7.0nm,1.1s
XAN LR LR
comp=Z,320nm,21.5s
XAN LR LR
comp=Z,300nm,22.2s
XAN LR LR
comp=Z,460nm,21.5s
KSRS Korea Array **36.52 3** P **P** **04 35 48.5 +0.4**
comp=Z,12nm,0.6s,baz=179,slow=9.8,SNR=46
KSRS ScP **ScP** **04 41 51.9 +0.2**
comp=Z,1.6nm,0.7s,baz=172,slow=3.0,SNR=3.6
KSRS LR LR 04 52 06.3
comp=Z,66nm,20.0s,baz=190,slow=38
comp=Z,12nm,0.6s
MAJO Matsushiro **37.48 17** P **P** **04 35 55.9 -0.4**
MAJO Matsushiro **37.48 17** P **P** **04 35 56.4 +0.1**
MAJO Matsushiro **37.48 17** *c iP* **P** **04 35 55.5 -0.8**
MAJO pmax pmax
comp=Z,30nm,0.9s
MAJO Matsushiro **37.48 17** P **P** **04 35 55.7 -0.5**
MJAR Matsushiro Arr **37.48 17** P **P** **04 35 55.6 -0.7**
comp=Z,26nm,0.8s,baz=197,slow=8.4,SNR=50
comp=Z,26nm,0.8s
MJB9 Matsu-Tunnel **37.48 17** P **P** **04 35 56.2 -0.1**
CMSA Cobar Meteorol **37.52 151** P **P** **04 35 57.3 +0.7**
baz=38,SNR=10
CMSA Cobar Meteorol **37.52 151** P **P** **04 35 58.0 +1.4**
JMM Marumori **39.50 19** P **P** **04 36 13.2 0.0**
JMM Marumori **39.50 19** P **P** **04 36 14.7 +1.5**
ARMA Armidale **39.88 143** P **P** **04 36 17.8 +1.2**
baz=40,SNR=12
ARMA Armidale **39.88 143** P **P** **04 36 17.9 +1.4**
ARMA Armidale **39.88 143** P **P** **04 36 18.2 +1.6**
BJT Baijiatuau **39.90 349** P **P** **04 36 16.0 -0.5**
BJT Baijiatuau **39.90 349** P **P** **04 36 16.8 +0.3**
comp=Z,11nm,0.9s
BJT Baijiatuau **39.90 349** P **P** **04 36 16.0 -0.5**
BJT pmax pmax
comp=Z,8.0nm,0.7s
BJT Baijiatuau **39.90 349** P **P** **04 36 15.7 -0.7**
BJI Beijing **39.92 349** P **P** **04 36 15.6 -1.0**
BJI pmax pmax
comp=Z,5.0nm,0.5s
LZH Lanzhou **40.38 333** *eP* **P** **04 36 17.5 -3.2**
LZH pmax pmax
comp=Z,19nm,1.6s
LZH LR LR
comp=Z,200nm,17.9s
LZH LR LR
comp=Z,130nm,15.8s
LZH LR LR
comp=Z,250nm,19.6s
ARPS Mount Arapiles **40.41 159** P **P** **04 36 22.0 +1.2**
baz=40,SNR=26
ARPS Mount Arapiles **40.41 159** P **P** **04 36 22.3 +1.6**
YNG Young **41.08 150** P **P** **04 36 27.8 +1.4**
baz=41,SNR=7.4
MGCD Mangrove Creek **41.64 147** P **P** **04 36 33.3 +2.4**
comp=Z,22nm,0.8s
HHC Hu-ho-hao-te **41.76 344** *eP* **P** **04 36 32.4 +0.5**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,74nm,5.5s
HHC LR LR
comp=Z,190nm,19.1s
HHC LR LR
comp=Z,140nm,19.1s
HHC LR LR
comp=Z,200nm,19.1s
MSHR Mys Shultsa **41.89 6***de*P **P** **04 36 33.9 +1.1**
MSHR pmax pmax
comp=Z,21nm,0.8s
PSTR Posyet **41.92 6**⇑ *e*P **P** **04 36 30.2 -2.8**
CAN Canberra **42.19 151** P **P** **04 36 37.3 +1.9**
JTM Tenmabayashi **42.25 18** P **P** **04 36 35.9 +0.1**
TOO Toolangi **42.50 156** P **P** **04 36 39.8 +1.9**
baz=43,SNR=8.3
TOO Toolangi **42.50 156** P **P** **04 36 39.1 +1.2**
TOO IAmb IAmb 04 36 41.1
comp=Z,25nm,1.0s
TOO Toolangi **42.50 156** P **P** **04 36 40.3 +2.4**
TOO Toolangi **42.50 156** P **P** **04 36 39.1 +1.2**
TOO pmax pmax
comp=Z,25nm,1.0s
VLA Vladivostok **42.51 7** *eP* **P** **04 36 38.7 +0.9**
VLA pmax pmax
comp=Z,36nm,0.8s
CN2 Changchun **42.79 0** *eP* **P** **04 36 41.5 +1.4**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
USA0B Ussuriysk Arra **43.59 7** P **P** **04 36 46.6 +0.1**
USA0B IAmb IAmb 04 36 48.1
comp=Z,48nm,1.3s
USA0B Ussuriysk Arra **43.59 7** P **P** **04 36 46.6 +0.1**
USA0B pmax pmax
comp=Z,48nm,1.3s
USRK Ussuriysk Ar. **43.59 7** P **P** **04 36 46.8 +0.3**
USRK Ussuriysk Ar. **43.59 7** P **P** **04 36 46.8 +0.3**
USRK Ussuriysk Ar. **43.59 7** P **P** **04 36 46.9 +0.4**
comp=Z,14nm,0.6s,baz=189,slow=7.0,SNR=50
comp=Z,14nm,0.6s
XLT XiLinHaoTe **43.68 350** *eP* **P** **04 36 44.6 -2.8**
XLT pmax pmax
comp=Z,8.0nm,0.9s
XLT pmax pmax
comp=Z,160nm,5.0s
MDJ Mudanjiang **43.77 4** P **P** **04 36 48.4 +0.5**
MDJ PcP **PP** **04 38 31.8 +0.8**
MDJ PP **PcP** **04 38 32.8 -0.9**
MDJ PcS **PcS** **04 42 24.9 -1.6**
MDJ S **S** **04 43 18.8 +5.1**
MDJ pmax pmax
comp=Z,25nm,1.0s
MDJ pmax pmax
comp=Z,190nm,3.8s
MDJ Mudanjiang **43.77 4** P **P** **04 36 48.1 +0.2**
MDJ IAmb IAmb 04 36 50.6
comp=Z,33nm,0.7s
MDJ Mudanjiang **43.77 4** P **P** **04 36 50.7 +2.8**
MDJ Mudanjiang **43.77 4** P **P** **04 36 48.8 +0.8**
BNX BinXian **44.76 2** ⇓P **P** **04 36 55.8 -0.1**
BNX pmax pmax
comp=Z,32nm,1.0s
BNX pmax pmax
comp=Z,170nm,5.1s
GTA Gaotai **44.94 332** P **P** **04 36 57.8 +0.2**
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA LR LR
comp=Z,95nm,17.1s
GTA LR LR
comp=Z,190nm,17.8s
GTA LR LR
comp=Z,220nm,19.6s
PALK Pallekele **44.99 279** LR LR 04 57 09.6
comp=Z,122nm,20.0s,baz=205,slow=38
GOMU GeErMu **45.18 325** P **P** **04 37 02.6 +2.7**
GOMU pmax pmax
comp=Z,3.0nm,0.8s
ASAJ Asahikawa **45.75 17** P **P** **04 37 04.0 +0.3**
ASAJ pmax pmax
comp=Z,88nm,1.5s
ASAJ Asahikawa **45.75 17** P **P** **04 37 04.4 +0.7**
comp=Z,18nm,0.7s,baz=198,slow=9.6,SNR=8.8
ASAJ LR LR 04 55 21.3
comp=Z,54nm,21.6s,baz=192,slow=35
comp=Z,18nm,0.7s
JKA Kamikawa-asahi **45.75 17** P **P** **04 37 04.0 +0.3**
NOUC Port Laguerre **45.95 122** P **P** **04 37 06.5 +0.8**
comp=Z,22nm,1.1s
NOUC Port Laguerre **45.95 122** P **P** **04 37 06.5 +0.8**
DZM Mont Dzumac **46.06 122** P **P** **04 37 08.7 +2.0**
GLAD Gladstone **46.42 156** P **P** **04 37 10.4 +1.3**
comp=Z,25nm,1.0s
YSS Yuzh-Sakhalins **48.39 16** *eP* **P** **04 37 24.3 +0.1**
YSS *eS* **S** **04 44 20.0 +0.1**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,100nm,15.0s
HIA Hailar **48.50 355** P **P** **04 37 24.4 -0.7**
HIA IAmb IAmb 04 37 26.6
comp=Z,8.7nm,0.8s
HIA Hailar **48.50 355***de*P **P** **04 37 24.4 -0.7**
HIA pmax pmax
comp=Z,10.0nm,1.0s
KLR Kul'dur **48.53 6***de*P **P** **04 37 25.5 +0.2**
KLR pmax pmax
comp=Z,13nm,0.7s
KLR Kul'dur **48.53 6** P **P** **04 37 25.2 -0.1**
comp=Z,14nm,0.4s,baz=193,slow=7.2,SNR=66
KLR PKiKP **PKiKP** **04 45 39.9 -0.1**
comp=Z,0.8nm,0.6s,baz=298,slow=7.9,SNR=1.8
comp=Z,14nm,0.4s
HYB Hyderabad **48.89 292** *eP* **P** **04 37 28.4 -0.3**
HEH HeiHe **49.27 2** *eP* **P** **04 37 31.1 +0.1**
HEH pmax pmax
comp=Z,50nm,0.6s
HEH pmax pmax
comp=Z,140nm,5.3s
ULN Ulaanbaatar **49.48 344** P **P** **04 37 32.0 -0.8**
ULN Ulaanbaatar **49.48 344**⇓ *eP* **P** **04 37 32.2 -0.6**
ULN pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array **49.64 343** P **P** **04 37 33.0 -0.9**
comp=Z,1.4nm,0.6s,baz=165,slow=8.5,SNR=8.0
SONM PcP **PcP** **04 38 54.9 +0.3**
comp=Z,2.1nm,0.7s,baz=166,slow=4.9,SNR=3.8
SONM LR LR 05 00 26.4
comp=Z,73nm,20.9s,baz=146,slow=38
comp=Z,1.4nm,0.6s
GRNR Gornyy **50.64 9**⇓ *iP* **P** **04 37 41.5 +0.2**
GRNR pmax pmax
comp=N,10.0nm,0.8s
GRNR pmax pmax
comp=Z,20nm,0.9s
GRNR MLR MLR
comp=E,280nm,18.0s
GRNR MLR MLR
comp=N,80nm,14.0s
GRNR MLR MLR
comp=Z,100nm,14.0s
TYV Tymovskoe **51.97 14** *eP* **P** **04 37 52.8 +1.6**
TYV pmax pmax
comp=Z,100nm,3.2s
TYV pmax pmax
comp=Z,4.0nm,0.9s
ZEA Zeya **52.76 1** *eP* **P** **04 37 57.2 +0.2**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
DGAR Diego Garcia **53.41 260**⇓ *eP* **P** **04 37 59.4 -3.2**
DGAR pmax pmax
comp=Z,204nm,1.3s
BOD Bodaibo **57.54 353** *eP* **P** **04 38 31.2 -0.2**
BOD pmax pmax
comp=Z,21nm,1.2s
ZSN Zaisan **58.23 329** *eP* **P** **04 38 35.2 -1.3**
ZSN Zaisan **58.23 329** *eP* **P** **04 38 35.3 -1.3**
baz=329
DGZ Jazzator, Alta **58.47 332**⇑ *eP* **P** **04 38 38.5 +0.2**
DGZ pmax pmax
comp=Z,4.0nm,0.9s
PETK Petropavlovsk- **58.61 22** P **P** **04 38 40.4 +1.3**
comp=Z,11nm,0.8s,baz=184,slow=5.7,SNR=17
PETK LR LR 05 03 34.5
comp=Z,27nm,21.1s,baz=206,slow=36
comp=Z,11nm,0.8s
SHLS Shalkode **58.74 322** *eP* **P** **04 38 37.7 -2.6**
SHLS Shalkode **58.74 322** *eP* **P** **04 38 37.8 -2.6**
baz=322
UZB Uzynbulak **59.01 322** *eP* **P** **04 38 41.4 -0.8**
UZB Uzynbulak **59.01 322** *eP* **P** **04 38 41.4 -0.8**
baz=322
MK31 Makanchi Array **59.19 327** P **P** **04 38 42.1 -1.2**
MK31 Makanchi Array **59.19 327** *d iP* **P** **04 38 42.2 -1.0**
MKAR Makanchi Array **59.19 327** P **P** **04 38 42.4 -0.9**
comp=Z,4.6nm,0.4s,baz=128,slow=7.6,SNR=151
MKAR PcP **PcP** **04 39 30.8 -0.3**
comp=Z,4.0nm,0.7s,baz=123,slow=3.3,SNR=5.5
MKAR PKiKP **PKiKP** **04 45 50.8 -1.4**
comp=Z,0.3nm,0.5s,baz=147,slow=2.9,SNR=2.9
MKAR S **S** **04 46 42.1 -4.0**
comp=Z,0.2nm,0.5s,baz=134,slow=14,SNR=1.2
MKAR LR LR 05 04 24.4
comp=Z,112nm,21.1s,baz=72,slow=36
comp=Z,4.6nm,0.4s
SATY Saty **59.34 321** *eP* **P** **04 38 43.1 -1.3**
SATY pmax pmax
comp=Z,5.0nm,1.0s
SATY Saty **59.34 321** *eP* **P** **04 38 43.2 -1.3**
comp=Z,4.8nm,1.0s,baz=322
MAKZ Makanchi **59.37 327** P **P** **04 38 43.8 -0.7**
MAKZ IAmb IAmb 04 38 44.1
comp=Z,7.1nm,0.5s
MAKZ Makanchi **59.37 327** P **P** **04 38 43.8 -0.7**
MAKZ pmax pmax
comp=Z,7.0nm,0.5s
MAKZ Makanchi **59.37 327** P **P** **04 38 43.6 -0.8**
ZHN Zhinishke **59.38 322** *eP* **P** **04 38 44.0 -0.7**
ZHN Zhinishke **59.38 322** *eP* **P** **04 38 44.1 -0.7**
baz=322
NRN Naryn **60.07 319** P **P** **04 38 49.1 -0.6**
NRN Naryn **60.07 319** P **P** **04 38 49.1 -0.6**
NRN pmax pmax
comp=Z,4.0nm,0.8s
MDOK Medeo **60.25 321** *eP* **P** **04 38 50.0 -0.7**
MDOK Medeo **60.25 321** *eP* **P** **04 38 50.0 -0.7**
baz=321
TNSS Tian-Shan **60.25 321** *eP* **P** **04 38 49.9 -1.1**
TNSS Tian-Shan **60.25 321** *eP* **P** **04 38 50.0 -1.1**
baz=321
TDK Taldyqorghan **60.38 323** *eP* **P** **04 38 50.2 -1.2**
TDK pmax pmax
comp=Z,6.0nm,0.5s
TDK Taldyqorghan **60.38 323** *eP* **P** **04 38 50.2 -1.2**
comp=Z,5.6nm,0.5s,baz=323
TUWZ Tuamarina **60.78 140** P **P** **04 38 54.7 +0.5**
YAK Yakutsk **61.14 2** *eP* **P** **04 38 56.0 -0.1**
YAK *e**PP **pwP** **04 39 16.6 +1.1**
YAK *e* 04 41 09.4
YAK *eS* **S** **04 47 08.9 -1.4**
YAK *e**SS **sS** **04 47 39.8 +0.8**
YAK pmax pmax
comp=Z,68nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=N,15nm,1.0s
YAK pmax pmax
comp=Z,13nm,0.4s
YAK smax smax
comp=E,128nm,2.0s
YAK smax smax
comp=N,91nm,1.8s
YAK Yakutsk **61.14 2** LR LR 05 07 11.5
comp=N,52nm,19.9s,baz=111,slow=38
BKZ Black Stump Fm **61.39 136** P **P** **04 38 58.8 +0.4**
BKZ IAmb IAmb 04 38 59.2
comp=Z,9.4nm,0.6s
RTZ Ruatahuna **61.47 136** P **P** **04 38 59.4 +0.4**
AAK Ala-Archa **61.63 319** P **P** **04 38 59.5 -0.5**
AAK IAmb IAmb 04 39 42.4
comp=Z,5.6nm,0.7s
AAK Ala-Archa **61.63 319**⇑ *eP* **P** **04 38 59.3 -0.8**
AAK pmax pmax
comp=Z,5.0nm,0.9s
AAK Ala-Archa **61.63 319** LR LR 05 07 43.1
comp=Z,84nm,22.0s,baz=110,slow=38
AAK Ala-Archa **61.63 319** P **P** **04 38 59.9 -0.2**
MA2 Magadan **61.83 14** P **P** **04 39 01.5 +0.6**
MA2 IAmb IAmb 04 39 03.2
comp=Z,16nm,0.8s
MA2 Magadan **61.83 14***de*P **P** **04 39 02.5 +1.6**
MA2 pmax pmax
comp=Z,20nm,1.0s
MA2 Magadan **61.83 14** P **P** **04 39 01.7 +0.8**
comp=Z,13nm,0.6s,baz=196,slow=8.4,SNR=9.8
MA2 LR LR 05 08 13.2
comp=Z,11nm,18.9s,baz=199,slow=38
comp=Z,13nm,0.6s
MA2 Magadan **61.83 14** P **P** **04 39 02.6 +1.6**
ARSB Arslanbob **62.03 318** P **P** **04 39 01.4 -1.4**
ARSB Arslanbob **62.03 318** P **P** **04 39 01.4 -1.4**
ARSB pmax pmax
comp=Z,7.0nm,1.7s
KBL Kabul **62.24 309** P **P** **04 39 03.1 -1.3**
KBL IAmb IAmb 04 39 05.3
comp=Z,9.7nm,0.6s

KBL Kabul 62.24 309 P P 04 39 03.1 -1.3
KBL pmax pmax
comp=Z,10.0nm,0.6s
ZALV Zalesovo Beam 62.57 334 P P 04 39 04.2 -1.7
ZALV Zalesovo Beam 62.57 334 P P 04 39 04.2 -1.7
ZALV Zalesovo Beam 62.57 334 P P 04 39 04.0 -2.0
comp=Z,1.9nm,0.3s,baz=133,slow=7.1,SNR=9.1
ZALV LR LR 05 08 04.4
comp=Z,67nm,20.3s,baz=119,slow=38
ZALV PKP2bc 05 08 15.8
comp=Z,0.7nm,0.7s,baz=256,slow=4.4,SNR=3.8
comp=Z,1.9nm,0.3s
GAR Garm 62.92 314 P P 04 39 07.5 -1.3
GAR IAmb IAmb 04 39 10.2
comp=Z,14nm,0.7s
BTLS Baital 63.06 322 *e*P P 04 39 08.0 -1.4
BTLS Baital 63.06 322 *e*P P 04 39 08.0 -1.4
baz=322
KURBB Kurchatov Arra 63.47 329 P P 04 39 10.6 -1.4
comp=Z,8.7nm,0.7s,baz=127,slow=6.4,SNR=36
comp=Z,8.7nm,0.7s
KURK Kurchatov 63.48 329 P P 04 39 11.1 -1.0
KURK Kurchatov 63.48 329 P P 04 39 11.1 -1.0
KURK pmax pmax
comp=Z,15nm,0.5s
KURK Kurchatov 63.48 329 P P 04 39 11.0 -1.0
CHGR Chuyangaron 63.62 313 P P 04 39 12.2 -1.2
CHGR IAmb IAmb 04 39 52.6
comp=Z,13nm,0.7s
CHGR Chuyangaron 63.62 313 P P 04 39 12.2 -1.2
CHGR pmax pmax
comp=Z,13nm,0.7s
SIMJ Simiganj 63.73 313 P P 04 39 13.0 -1.1
SIMJ Simiganj 63.73 313 P P 04 39 13.1 -1.1
DZA Taraz 63.82 318 *e*P P 04 39 14.4 -0.1
DZA Taraz 63.82 318 *e*P P 04 39 14.4 -0.1
baz=318
KK31 Karatay Array 64.45 318 P P 04 39 17.6 -1.0
KK31 Karatay Array 64.45 318 P P 04 39 17.6 -1.0
KK31 pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 64.45 318 P P 04 39 17.5 -1.1
KKAR Karatay Array 64.45 318 P P 04 39 17.5 -1.1
KKAR pmax pmax
comp=Z,3.0nm,0.7s
BRLS Borolday 64.87 318 *e*P P 04 39 20.1 -1.3
BRLS Borolday 64.87 318 *e*P P 04 39 20.2 -1.3
baz=318
SEY Seymchan 65.15 13‖ *e*P P 04 39 24.5 +1.8
SEY pmax pmax
comp=Z,13nm,1.0s
BRZS Berezniki 66.29 326 *e*P P 04 39 29.1 -1.3
BRZS Berezniki 66.29 326 *e*P P 04 39 29.2 -1.2
baz=326
CASY Casey 67.79 186 P P 04 39 40.4 +0.9
DRV Dumont d'Urvil 68.14 174 P P 04 39 42.1 +0.4
BVAR Borovoye Array 69.02 328 P P 04 39 46.0 -1.5
comp=Z,2.1nm,0.3s,baz=133,slow=8.5,SNR=18
comp=Z,2.1nm,0.3s
BRVK Borovoye 69.10 328 P P 04 39 47.3 -0.7
BRVK Borovoye 69.10 328 *d i*P P 04 39 46.9 -1.0
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 69.10 328 P P 04 39 46.9 -1.0
TIXI Tiksi 70.75 1 P P 04 39 57.3 -0.4
TIXI IAmb IAmb 04 39 58.7
comp=Z,15nm,1.1s
TIXI Tiksi 70.75 1‖ *e*P P 04 39 57.5 -0.2
TIXI pmax pmax
comp=Z,14nm,1.3s
TIXI Tiksi 70.75 1 LR LR 05 13 25.9
comp=Z,24nm,20.8s,baz=202,slow=38
TIXI Tiksi 70.75 1 P P 04 39 58.0 +0.3
GEYT Alibeck 71.67 310 P P 04 40 02.3 -1.8
comp=Z,2.3nm,0.7s,baz=134,slow=6.4,SNR=4.4
comp=Z,2.3nm,0.7s
NRIK Noril'sk 72.92 347 P P 04 40 09.9 -0.8
NRIK IAmb IAmb 04 40 12.0
comp=Z,13nm,0.7s
NRIK Noril'sk 72.92 347 *de*P P 04 40 10.7 -0.1
NRIK pmax pmax
comp=Z,13nm,0.7s
NRIK Noril'sk 72.92 347 P P 04 40 10.5 -0.2
comp=Z,12nm,0.6s,baz=125,slow=5.9,SNR=21
NRIK LR LR 05 14 47.6
comp=Z,72nm,21.0s,baz=149,slow=38
comp=Z,12nm,0.6s
ABKAR Akbulak array 73.55 322 P P 04 40 13.2 -1.6
ABKAR Akbulak array 73.55 322 P P 04 40 13.3 -1.6
AKTO Aktyubinsk 75.10 322 LR LR 05 15 08.8
comp=Z,107nm,20.9s,baz=199,slow=37
SVE Sverdlovsk 75.73 329 *e*P P 04 40 26.4 -0.9
SVE pmax pmax
comp=Z,16nm,0.7s
RAR Rarotonga 76.20 112 LR LR 05 16 48.3
comp=Z,20nm,18.1s,baz=221,slow=38
ARU Arti 76.67 328 P P 04 40 31.6 -1.1
ARU IAmb IAmb 04 40 33.1
comp=Z,7.3nm,0.6s
ARU Arti 76.67 328 *d i*P P 04 40 31.2 -1.5
ARU S S 04 50 14.6 +0.5
ARU pmax pmax
comp=Z,7.0nm,0.7s
ARU Arti 76.67 328 LR LR 05 17 32.8
comp=Z,29nm,19.2s,baz=175,slow=38
VOI Vohitsoka 79.71 248 P P 04 40 48.5 -1.9
VOI Vohitsoka 79.71 248 P P 04 40 50.5 +0.1
TNA Tin City 79.77 23 P P 04 40 51.9 +2.2
baz=249
SDPT Sand Point 80.35 34 P P 04 40 54.6 +1.7
baz=257
F14K Arctic Creek 80.37 23 P P 04 40 55.9 +3.0
baz=250
RAYN Ar Rayn 80.38 294 P P 04 40 52.5 -1.4
RAYN Ar Rayn 80.38 294 P P 04 40 52.5 -1.4
RAYN pmax pmax
comp=Z,8.0nm,0.9s
ANM Nome 80.45 24 P P 04 40 53.2 -0.1
ANM Nome 80.45 24 P P 04 40 53.2 -0.1
ANM pmax pmax
comp=Z,16nm,1.6s
ANM Nome 80.45 24 P P 04 40 56.1 +2.7
baz=252
MAW Mawson 80.58 200 P P 04 40 53.6 -0.3
comp=Z,16nm,0.9s,baz=76,slow=11,SNR=6.8
MAW LR LR 05 15 32.1
comp=Z,86nm,19.4s,baz=72,slow=35
comp=Z,16nm,0.9s
L14K Kuka Creek 80.68 28 P P 04 40 54.6 0.0
L14K IAmb IAmb 04 41 09.5
comp=Z,13nm,1.0s
L14K Kuka Creek 80.68 28 P P 04 40 57.1 +2.5
baz=254
VNDA Vanda 80.74 172 P P 04 40 55.5 +0.9
VNDA IAmb IAmb 04 40 56.4
comp=Z,14nm,0.8s
VNDA Vanda 80.74 172 P P 04 40 55.5 +0.9
VNDA pmax pmax
comp=Z,14nm,0.8s
VNDA Vanda 80.74 172 P P 04 40 55.0 +0.3
comp=Z,13nm,0.7s,baz=318,slow=6.8,SNR=45
comp=Z,13nm,0.7s
M14K Bethel 80.87 28 P P 04 40 56.5 +0.9
M14K Bethel 80.87 28 P P 04 40 58.3 +2.7
baz=255
F15K North Star Dit 81.10 23 P P 04 40 57.6 +0.8
F15K North Star Dit 81.10 23 P P 04 40 59.2 +2.4
baz=252
G15K Niukluk 81.13 24 P P 04 40 59.2 +2.3
baz=253
L15K Ungalak Mounta 81.32 27 P P 04 41 00.2 +2.1
baz=256
M15K Kasigluk River 81.46 29 P P 04 41 01.3 +2.6
baz=256
K15K Wolf Creek Mou 81.46 27 P P 04 41 00.1 +1.4
K15K IAmb IAmb 04 41 14.1
comp=Z,12nm,0.9s
K15K Wolf Creek Mou 81.46 27 P P 04 41 01.5 +2.8
baz=255
C16K Lisburne Hills 81.67 21 P P 04 41 00.6 +0.9
C16K IAmb IAmb 04 41 20.8
comp=Z,12nm,1.0s
C16K Lisburne Hills 81.67 21 P P 04 41 02.2 +2.5
baz=251
H16K Elim 81.77 25 P P 04 41 02.5 +2.2
baz=254

BELG Belogornoye 81.87 323 *ce*P P 04 41 00.3 -0.8
BELG pmax pmax
comp=Z,5.0nm,0.9s
BELG Belogornoye 81.87 323 LR LR 05 19 02.0
comp=Z,46nm,20.9s,baz=9.9,slow=37
G16K Koyuk River 81.93 24 P P 04 41 02.7 +1.6
G16K Koyuk River 81.93 24 P P 04 41 03.3 +2.1
baz=254
KIRV Kirov 81.99 329 *ce*P P 04 41 01.9 +0.3
KIRV Kirov 81.99 329 LR LR 05 21 41.6
comp=Z,67nm,19.1s,baz=100,slow=39
J16K Anvik River 82.12 26 P P 04 41 03.2 +1.0
J16K IAmb IAmb 04 41 17.6
comp=Z,10nm,0.9s
J16K Anvik River 82.12 26 P P 04 41 05.1 +2.9
baz=256
I17K Unalakleet 82.22 25 P P 04 41 02.3 -0.4
I17K IAmb IAmb 04 41 18.9
comp=Z,17nm,1.1s
I17K Unalakleet 82.22 25 P P 04 41 06.3 +3.6
baz=256
L16K Owhat River 82.26 28 P P 04 41 03.0 0.0
L16K IAmb IAmb 04 41 08.1
comp=Z,17nm,1.3s
L16K Owhat River 82.26 28 P P 04 41 05.5 +2.6
baz=257
D17K Noatak River 82.30 21 P P 04 41 06.0 +3.0
baz=253
GNI Garni 82.30 310 LR LR 05 24 53.1
comp=Z,21nm,18.2s,baz=80,slow=41
N16K Nishlik Lake 82.33 29 P P 04 41 06.6 +3.2
baz=258
M16K Timber Creek 82.36 28 P P 04 41 04.4 +0.9
M16K IAmb IAmb 04 41 19.9
comp=Z,47nm,1.8s
M16K Timber Creek 82.36 28 P P 04 41 06.4 +2.9
baz=258
P16K Nushagak River 82.43 30 P P 04 41 07.2 +3.3
baz=258
O16K Kokwok River B 82.49 30 P P 04 41 06.8 +2.6
baz=259
C17K DeLong Mountai 82.49 21 P P 04 41 06.5 +2.5
baz=253
G17K Kiwalik Mounta 82.64 24 P P 04 41 07.5 +2.6
baz=256
F17K Baldwin Pennin 82.64 23 P P 04 41 05.3 +0.5
F17K IAmb IAmb 04 41 57.7
comp=Z,25nm,1.5s
F17K Baldwin Pennin 82.64 23 P P 04 41 07.9 +3.1
baz=255
H17K Granite Mounta 82.81 24 P P 04 41 07.3 +1.5
H17K IAmb IAmb 04 41 21.1
comp=Z,15nm,0.8s
H17K Granite Mounta 82.81 24 P P 04 41 08.7 +3.0
baz=256
L17K Donlin 82.90 27 P P 04 41 09.7 +3.4
baz=258
K17K Iditarod 83.02 27 P P 04 41 09.9 +3.0
baz=258
E18K Tukpahlearik C 83.14 22 IAmb IAmb 04 41 22.7
comp=Z,17nm,0.8s
E18K Tukpahlearik C 83.14 22 P P 04 41 10.3 +2.9
baz=256
M17K Holitna River 83.15 28 IAmb IAmb 04 41 23.6
comp=Z,11nm,1.0s
M17K Holitna River 83.15 28 P P 04 41 11.1 +3.4
baz=259
B18K Kolik River 83.22 20 P P 04 41 10.7 +2.9
baz=254
C18K Utukok River 83.24 21 IAmb IAmb 04 41 12.8
comp=Z,20nm,1.4s
C18K Utukok River 83.24 21 P P 04 41 10.3 +2.3
baz=255
F18K Selawik 83.30 23 P P 04 41 10.6 +2.4
baz=256
H18K Honhosa River 83.50 24 IAmb IAmb 04 41 24.1
comp=Z,11nm,0.8s
H18K Honhosa River 83.50 24 P P 04 41 11.7 +2.3
baz=258
G18K Tagagawik 83.54 24 P P 04 41 11.7 +2.1
baz=258
L18K Granite Mounta 83.65 27 IAmb IAmb 04 41 25.8
comp=Z,12nm,0.8s
L18K Granite Mounta 83.65 27 P P 04 41 13.0 +2.8
baz=260
J18K Inko River 83.87 26 P P 04 41 13.8 +2.5
baz=260
C19K Lookout Ridge 83.92 20 P P 04 41 14.6 +3.1
baz=256
M18K Stony River 83.93 28 P P 04 41 14.6 +3.0
baz=261
KBZ Khabaz 83.98 314‖ *e*P P 04 41 12.2 0.0
KBZ pmax pmax
comp=Z,5.0nm,1.0s
KBZ Khabaz 83.98 314 P P 04 41 11.2 -1.0
comp=Z,3.3nm,0.7s,baz=104,slow=8.3,SNR=7.2
comp=Z,3.3nm,0.7s
SVW2 Sparrevohn 83.98 29 IAmb IAmb 04 41 26.8
comp=Z,9.5nm,0.9s
NEUR Neytrino 84.09 313‖ *e*P P 04 41 14.7 +1.6
NEUR pmax pmax
comp=Z,4.0nm,1.0s
KIV Kislovodsk 84.16 314 *e*P P 04 41 11.7 -1.6
KIV pmax pmax
comp=Z,9.0nm,1.1s
G19K Purcell Mounta 84.22 24 P P 04 41 15.5 +2.6
baz=259
GURO Guroymak-BITLI 84.27 308 IAmb IAmb 04 41 15.3
comp=Z,12nm,0.7s
D19K Kuna River 84.30 21 IAmb IAmb 04 41 28.3
comp=Z,15nm,0.7s
D19K Kuna River 84.30 21 P P 04 41 15.7 +2.2
baz=258
H19K Roundabout Mou 84.36 24 IAmb IAmb 04 41 29.3
comp=Z,13nm,0.8s
H19K Roundabout Mou 84.36 24 P P 04 41 16.1 +2.5
baz=260
E19K Redstone River 84.42 22 IAmb IAmb 04 41 29.6
comp=Z,17nm,0.9s
E19K Redstone River 84.42 22 P P 04 41 16.6 +2.6
baz=259
N19K Bonanza Creek 84.47 29 IAmb IAmb 04 41 29.4
comp=Z,17nm,1.0s
N19K Bonanza Creek 84.47 29 P P 04 41 17.0 +2.5
baz=262
L19K White Mountain 84.50 28 P P 04 41 15.9 +1.4
L19K IAmb IAmb 04 41 30.1
comp=Z,11nm,1.1s
B20K Meade River 84.95 20 IAmb IAmb 04 41 38.0
comp=Z,14nm,0.8s
B20K Meade River 84.95 20 P P 04 41 19.2 +2.7
baz=258
E20K Nigu River 84.95 21 P P 04 41 18.8 +2.1
baz=260
H20K Anotleneega Mo 85.00 24 P P 04 41 19.0 +2.1
baz=261
KDAK Kodiak Island 85.05 32 LR LR 05 13 04.6
comp=Z,62nm,21.5s,baz=265,slow=31
J20K Nowinta River 85.11 26 P P 04 41 18.3 +0.8
J20K Nowinta River 85.11 26 P P 04 41 20.0 +2.5
baz=262
VRH Novokhopyorsk 85.37 321 *e*P P 04 41 18.2 -0.8
VRH pmax pmax
comp=Z,32nm,0.6s
C21K Knifeblade Rid 85.61 21 P P 04 41 22.4 +2.5
baz=261
B21K Ikpikpuk River 85.75 20 IAmb IAmb 04 41 53.9
comp=Z,8.2nm,0.8s
B21K Ikpikpuk River 85.75 20 P P 04 41 22.9 +2.4
baz=261
CHUM Lake Minchumin 85.87 26 P P 04 41 24.0 +2.7
baz=264
H21K Melozitna Rive 85.87 24 P P 04 41 23.5 +2.3
baz=263
CAST Castle Rocks 85.92 27 IAmb IAmb 04 42 29.0
comp=Z,19nm,1.8s
CAST Castle Rocks 85.92 27 P P 04 41 23.7 +2.1
baz=264
VSLR Vesyoloye 86.05 313‖ *e*P P 04 41 21.7 -0.9
VSLR pmax pmax
comp=Z,33nm,1.2s
B22K Teshekpuk Lake 86.26 20 IAmb IAmb 04 41 38.6
comp=Z,9.4nm,0.6s
B22K Teshekpuk Lake 86.26 20 P P 04 41 24.9 +1.8
baz=262
SOC Sochi 86.28 313 *e*P P 04 41 21.8 -1.9
SOC *e* 04 44 42.5
SOC *e*S **SKSac** 04 51 42.8 -1.7
SOC *e*SS **SS** 04 57 33.4 -1.1
SOC *e*SSS SSS 05 01 03.7
SOC pmax pmax
comp=Z,10.0nm,0.5s
SUA Susitna One 86.35 29 P P 04 41 25.4 +1.6
baz=265
G22K Bettles 86.54 23 P P 04 41 25.8 +1.3
baz=264
E22K Anaktuvuk Pass 86.55 22 IAmb IAmb 04 42 13.4
comp=Z,14nm,1.5s
E22K Anaktuvuk Pass 86.55 22 P P 04 41 26.6 +2.0
baz=264
MLY Manley 86.67 25 IAmb IAmb 04 41 38.6
comp=Z,20nm,1.6s
MLY Manley 86.67 25 P P 04 41 26.4 +1.2
baz=265
VORR Voronezh 86.97 322 *e*P P 04 41 26.6 -0.3
VORR pmax pmax
comp=Z,114nm,0.5s
VSR Storozhevoye 86.98 321 *e*P P 04 41 23.7 -3.3
VSR pmax pmax
comp=Z,10.0nm,0.9s
COLD Coldfoot 87.08 23 P P 04 41 29.0 +1.9
baz=265
G23K Bananza Creek 87.11 23 IAmb IAmb 04 41 42.4
comp=Z,8.8nm,1.1s
G23K Bananza Creek 87.11 23 P P 04 41 29.1 +1.8
baz=265
C23K Itkillik River 87.16 20 P P 04 41 29.0 +1.5
baz=265
LPSR Galich'ya Gora 87.18 322 *e*P P 04 41 25.7 -2.2
LPSR pmax pmax
comp=Z,30nm,0.9s
KLMR Klimovskoe 87.26 331 *e*P P 04 41 24.0 -4.1
KLMR pmax pmax
comp=Z,13nm,0.6s
I23K Minto, Yukon-K 87.26 25 IAmb IAmb 04 41 42.0
comp=Z,5.0nm,0.7s
I23K Minto, Yukon-K 87.26 25 P P 04 41 29.6 +1.5
baz=266
KIBK Kibwezi 87.36 268 P P 04 41 30.3 +0.6
E23K Chandalar 87.37 22 P P 04 41 30.5 +1.9
baz=266
TOLK Toolik Lake Re 87.43 21 P P 04 41 30.4 +1.6
baz=266
D24K Happy Valley 87.73 21 IAmb IAmb 04 41 45.3
comp=Z,6.4nm,0.8s
C24K Franklin Bluff 87.81 20 P P 04 41 32.1 +1.6
baz=266
ANN Anapa 87.96 315 *e*P P 04 41 29.7 -2.1
ANN pmax pmax
comp=Z,79nm,0.9s
F24K Squaw Lake 87.99 23 P P 04 41 31.9 +0.4
GAZ Gaziantep 88.04 307 P P 04 41 32.3 -0.2
HDA Harding Lake 88.25 26 P P 04 41 32.9 +0.1
baz=268
ILAR Eielson Array 88.29 25 P P 04 41 32.2 -0.8
comp=Z,0.6nm,0.5s,baz=249,slow=4.8,SNR=18
ILAR PP PP 04 45 03.1 +2.2
comp=Z,1.2nm,1.0s,baz=269,slow=7.2,SNR=3.8
ILAR PKKPbc **PKKPbc** 04 59 17.4 -1.7
comp=Z,0.7nm,0.9s,baz=75,slow=1.9,SNR=5.2
ILAR LR LR 05 29 36.6
comp=Z,10nm,18.2s,baz=76,slow=41
comp=Z,0.6nm,0.5s
D25K Kavik River 88.61 21 IAmb IAmb 04 41 50.1
comp=Z,3.9nm,1.7s
D25K Kavik River 88.61 21 P P 04 41 35.7 +1.2
baz=269
OBN Obninsk 88.64 325 *c i*P P 04 41 33.7 -1.1
OBN *e*S **SKSac** 04 51 57.9 -0.4
OBN pmax pmax
comp=Z,25nm,0.8s
OBN MLR MLR
comp=Z,62nm,20.0s
K24K Donnelly Dome 88.75 26 P P 04 41 36.1 +0.9
baz=269
H25L Birch Creek 88.77 24 P P 04 41 37.6 +2.4
baz=269
F25K Christian Rive 88.85 23 P P 04 41 37.4 +1.7
baz=269
E25K Arctic Village 88.89 22 P P 04 41 37.7 +2.0
baz=270
J25K Salcha River, 88.94 26 P P 04 41 36.3 +0.1
baz=270
F26K Sheenjek River 89.43 22 P P 04 41 39.9 +1.6
baz=271
MMAI Mount Meron Ar 89.53 303 P P 04 41 39.4 -0.2
comp=Z,5.0nm,0.6s,baz=90,slow=7.5,SNR=12
comp=Z,5.0nm,0.6s
J26L Joseph Creek 89.72 26 P P 04 41 40.7 +0.9
baz=271
LODK Lodwar 89.96 273 P P 04 41 41.7 -0.3
LODK IAmb IAmb 04 41 43.7
comp=Z,16nm,1.4s
SIM Simferopol' 90.31 315 *e*P P 04 41 41.9 -1.0
SIM pmax pmax
comp=Z,33nm,0.9s
E27K Coleen River 90.37 22 P P 04 41 44.4 +1.7
baz=273
K27K Chicken 90.39 26 P P 04 41 43.8 +1.0
K27K IAmb IAmb 04 41 57.6
comp=Z,6.4nm,0.9s
I27K Kandik River 90.50 25 P P 04 41 44.9 +1.5
baz=273
EGAK Eagle 90.75 25 P P 04 41 45.9 +1.4
baz=274
QSPA South Pole Qui 90.75 180 P P 04 41 45.7 +1.1
QSPA IAmb IAmb 04 42 35.7
comp=Z,16nm,1.4s
QSPA South Pole Qui 90.75 180 P P 04 41 44.8 +0.2
comp=Z,5.6nm,0.7s,baz=328,slow=4.1,SNR=36
comp=Z,5.6nm,0.7s
BR131 Keskin Array S 90.81 310 IAmb IAmb 04 41 46.1
comp=Z,6.6nm,1.1s
BR131 Keskin Array S 90.81 310 *ce*P P 04 41 44.2 -1.3
BRTR Keskin Array B 90.81 310 P P 04 41 44.0 -1.5
comp=Z,2.5nm,0.9s,baz=114,slow=3.8,SNR=14
comp=Z,2.5nm,0.9s
CTG Chitna Glacier 90.89 29 P P 04 41 47.5 +2.1
baz=273
F28M Old Crow 91.06 22 IAmb IAmb 04 42 00.3
comp=Z,4.8nm,1.0s
F28M Old Crow 91.06 22 P P 04 41 47.2 +1.3
baz=275
E28M Babbage River 91.10 21 P P 04 41 46.9 +0.8
E28M Babbage River 91.10 21 P P 04 41 47.3 +1.2
baz=275
I28M Miner Creek 91.21 25 P P 04 41 47.3 +0.5
I28M IAmb IAmb 04 42 01.0
comp=Z,4.4nm,0.8s
G29M Pine Creek 91.85 23 P P 04 41 50.0 +0.4
G29M IAmb IAmb 04 42 03.5
comp=Z,8.6nm,1.0s
G29M Pine Creek 91.85 23 P P 04 41 50.7 +1.2
baz=276
L29M L29M 92.22 27 IAmb IAmb 04 42 12.1
comp=Z,6.9nm,0.9s
EPYK Eagle Plains 92.43 24 P P 04 41 54.0 +1.8
baz=278
ARCES ARCESS Array B 92.69 340 P P 04 41 52.2 -1.1
comp=Z,4.6nm,0.8s,baz=81,slow=5.8,SNR=14
comp=Z,4.6nm,0.8s
SPITS Spitsbergen Ar 93.05 349 P P 04 41 53.9 -1.0
comp=Z,9.2nm,0.8s,baz=98,slow=6.0,SNR=10
SPITS LR LR 05 30 53.7
comp=Z,38nm,18.8s,baz=38,slow=40
comp=Z,9.2nm,0.8s
AKASG Malin Array Be 93.27 321 P P 04 41 55.0 -1.5
AKASG Malin Array Be 93.27 321 P P 04 41 55.0 -1.5
comp=Z,3.8nm,0.6s,baz=72,slow=4.2,SNR=13
comp=Z,3.8nm,0.6s
AKBB Malin Array Si 93.27 321‖ *e*P P 04 41 54.9 -1.5
G31M Satah River 93.31 23 P P 04 41 56.8 +0.5
G31M IAmb IAmb 04 42 15.4
comp=Z,11nm,1.2s
G31M Satah River 93.31 23 P P 04 41 56.9 +0.7
baz=280
INK Inuvik 93.34 21 P P 04 41 57.2 +0.8
baz=281
MNK Minsk 93.69 325 *i* P P 04 41 57.8 -0.5
MNK *i* *PP **pP** 04 42 12.4 -3.5
MNK *i* S **SKSac** 04 52 27.5 +0.3
MNK *i* *SS **SKKSac** 04 52 53.7 +6.4
MNK *i* SSS SSS 05 03 03.4
MNK pmax pmax

comp=E,10.0nm,1.0s
MNK pmax pmax
comp=Z,36nm,0.9s
MNK pmax pmax
comp=N,14nm,0.8s
MNK MLR MLR
comp=N,2μm,23.0s
MNK MLR MLR
comp=Z,153nm,20.0s
MNK MLR MLR
comp=E,288nm,19.0s
FINES FINESS Array B 93.73 332 *i* P **P 04 41 57.0 -1.3**
FINES pmax pmax
comp=Z,1.0nm,0.7s
FINES FINESS Array B 93.73 332 P **P 04 41 56.9 -1.3**
comp=Z,1.2nm,90,slow=5.6,SNR=12
comp=Z,1.2nm,0.5s
WHY Whitehorse 94.07 29 IAmb IAmb 04 42 19.9
comp=Z,5.6nm,0.9s
WHY Whitehorse 94.07 29 P **P 04 42 01.8 +1.7**
baz=279
SORM Soroca 94.08 318 ⇑P **P 04 41 59.2 -1.1**
SORM Soroca 94.08 318 ⇑P **P 04 41 59.2 -1.1**
TPGR Topolog 94.36 315 ⇑P **P 04 42 00.7 -0.9**
TIRR Tirgusor 94.40 315 ⇓P **P 04 42 00.5 -1.3**
TIRR Tirgusor 94.40 315 ⇓P **P 04 42 00.5 -1.3**
KALB Balgarevo 94.50 313 ⇑P **P 04 42 00.2 -2.1**
CFR Carcaliu 94.53 315 ⇑P **P 04 42 01.6 -0.7**
CFR Carcaliu 94.53 315 ⇑P **P 04 42 01.6 -0.7**
FARO Faro, Yukon 94.53 27 P **P 04 42 03.8 +1.8**
baz=280
N32M Quiet Lake 94.85 28 P **P 04 42 05.4 +1.9**
baz=281
TESR Tescani 95.42 317 ⇑P **P 04 42 05.8 -0.6**
VRI Vrincioaia 95.44 316 ⇓P **P 04 42 06.1 -0.4**
VRI Vrincioaia 95.44 316 ⇓P **P 04 42 06.1 -0.4**
MLR Muntele Rosu 96.03 316 ⇓P **P 04 42 09.1 -0.3**
MLR Muntele Rosu 96.03 316 IAmb IAmb 04 42 09.5
comp=Z,5.3nm,0.7s
MLR Muntele Rosu 96.03 316 ⇓P **P 04 42 09.1 -0.3**
BURAR Bucovina Array 96.24 318 ⇓P **P 04 42 10.1 -0.1**
BURAR Bucovina Array 96.24 318 ⇓P **P 04 42 10.1 -0.1**
ELND Elena 96.40 313 ⇑P **P 04 42 10.0 -1.0**
DLBC Dease Lake 96.92 31 LR LR 05 20 25.5
comp=Z,27nm,21.5s,baz=252,slow=32
ARR Arges 96.96 316 ⇑P **P 04 42 12.7 -0.8**
WTLY Watson Lake, Y 97.14 29 P Pdif 04 42 15.7 +1.7
baz=284
LSZ Lusaka 97.15 255 P **P 04 42 14.1 -1.0**
LSZ Lusaka 97.15 255 P **P 04 42 14.1 -1.0**
LSZ pmax pmax
comp=Z,9.0nm,0.8s
KOLS Kolonicke sedl 97.97 320 *e*P **P 04 42 17.9 0.0**
KOLS Kolonicke sedl 97.97 320 *e*PDIFF **P 04 42 17.9 0.0**
DRGR 98.06 317 ⇓P **P 04 42 17.9 -0.6**
DRGR 98.06 317 ⇓P **P 04 42 17.9 -0.6**
CRVS Cervenica-Dubn 98.50 320 *e*P Pdif 04 42 20.6 +0.3
CRVS Cervenica-Dubn 98.50 320 *e*PDIFF Pdif 04 42 20.6 +0.3
HERR Herculane 98.59 316 ⇓P **P 04 42 20.0 -0.7**
MDVR Moldovita 99.10 316 ⇑P **Pdif 04 42 22.5 -0.6**
BOSA Boshof 99.28 241 P **Pdif 04 42 24.2 -0.1**
comp=Z,1.6nm,0.7s,baz=80,slow=4.1,SNR=4.0
comp=Z,1.6nm,0.7s
HFS Hagfors 99.93 332 P **Pdif 04 42 24.9 -1.5**
comp=Z,1.1nm,0.5s,baz=48,slow=2.1,SNR=8.1
comp=Z,1.1nm,0.5s
VYHS Vyhne 100.29 320 *e*P **Pdif 04 42 27.9 -0.4**
VYHS Vyhne 100.29 320 *e*PDIFF **Pdif 04 42 27.9 -0.4**
NOA NORSAR Array B 100.76 333 P **Pdif 04 42 28.3 -1.9**
comp=Z,0.9nm,0.9s,baz=75,slow=4.1,SNR=2.7
MORC Moravsky Berou 100.81 321 ⇓P **Pdif 04 42 30.8 +0.2**
MORC Moravsky Berou 100.81 321 ⇓P **Pdif 04 42 30.8 +0.2**
YKA Yellowknife Ar 102.69 24 P **Pdif 04 42 39.9 +1.3**
comp=Z,0.1nm,0.6s,baz=298,slow=4.7,SNR=2.7
YKA PP **PP 04 46 51.2 -1.1**
comp=Z,0.8nm,1.1s,baz=298,slow=6.6,SNR=4.1
YKA PKKPbc **PKKPbc 04 58 37.5 -2.7**
comp=Z,0.4nm,0.7s,baz=116,slow=2.4,SNR=9.7
GERES GERESS Array B 103.48 321 Pdiff **Pdif 04 42 42.0 -0.6**
comp=Z,0.2nm,0.3s,baz=274,slow=34,SNR=2.3
NVAR Mina Array Bea 109.84 48 PKKPab PKKPab 04 58 28.9 +0.2
comp=Z,0.9nm,0.7s,baz=138,slow=4.7,SNR=8.0
EGMT Eagleton 111.91 36 P **PKiKP 04 47 18.0 +1.2**
baz=298
PDAR Pinedale Array 114.42 41 PKKPbc PKKPbc 04 58 01.1 -1.5
comp=Z,0.5nm,0.5s,baz=117,slow=5.2,SNR=5.6
PDAR PKKPab **PKKPab 04 58 07.8 -0.6**
comp=Z,2.9nm,0.8s,baz=119,slow=5.9,SNR=14
ULM Lac du Bonnet 118.14 29 PKP **PKPdf 04 47 27.7 -0.9**
comp=Z,0.7nm,0.5s,baz=326,slow=2.1,SNR=6.4
ULM PKKPbc **PKKPbc 04 57 47.6 -2.0**
comp=Z,1.7nm,0.5s,baz=28,slow=2.6,SNR=4.6
TORD Torodi Ar. Bea 122.47 286 PKP **PKPdf 04 47 37.5 -0.4**
comp=Z,4.3nm,0.7s,baz=89,slow=2.0,SNR=28
TORD PKKPab **PKKPab 04 57 33.8 +0.8**
comp=Z,0.4nm,0.6s,baz=250,slow=2.5,SNR=5.0
SCHQ Schefferville 123.62 8 PKP **PKiKP 04 47 40.0 +0.7**
comp=Z,4.2nm,0.8s,baz=340,slow=3.4,SNR=6.2
TXAR Lajitas Array 124.43 53 PKP **PKiKP 04 47 42.6 +0.9**
comp=Z,0.6nm,0.8s,baz=217,slow=0.9,SNR=7.8
TXAR PKKPbc **PKKPab 04 57 24.3 -0.5**
comp=Z,0.2nm,0.6s,baz=128,slow=6.3,SNR=4.0
DBIC Dimbokro 129.78 279 PKP **PKiKP 04 47 52.7 0.0**
comp=Z,4.2nm,0.8s,baz=126,slow=8.2,SNR=3.6
PLCA Paso Flores 137.73 162 PKP **PKiKP 04 48 07.9 -0.3**
comp=Z,2.6nm,0.7s,baz=212,slow=2.4,SNR=7.0
CPUP Villa Florida 154.51 174 PKP **PKPdf 04 48 35.4 +0.9**
comp=Z,2.1nm,0.8s,baz=163,slow=4.9,SNR=5.1
CPUP PKPbc **PKiKP 04 48 43.5 +0.5**
comp=Z,3.5nm,0.8s,baz=208,slow=2.5,SNR=6.6
CPUP PKPab **PKPab 04 48 57.7 +0.4**
comp=Z,3.5nm,0.6s,baz=167,slow=4.7,SNR=5.6
LPAZ La Paz 159.67 140 PKP **PKPdf 04 48 43.2 +1.1**
comp=Z,3.3nm,0.9s,baz=268,slow=4.0,SNR=8.2
LPAZ PKPab **PKPab 04 49 20.7 0.0**
comp=Z,1.4nm,0.5s,baz=219,slow=6.0,SNR=3.6
RCBR Riachuelo 160.66 255 PKPab **PKPab 04 49 23.7 -0.9**
comp=Z,7.9nm,1.0s,baz=123,slow=6.8,SNR=4.1
BDFB Brasilia 163.90 204 PKPab **PKPab 04 49 38.9 +0.4**
comp=Z,3.0nm,0.7s,baz=117,slow=2.3,SNR=5.0

*HEL **15** 04:31:06.8±0.2, 67°.81N×20°.16E, h0km, ML1.7, Suspected explosion*
*UPP **15** 04:31:06.6±0.0, 67°.83N×20°.20E, h0km, ML2.2, Confirmed Induced event*
*IDC **15** 04:31:07.1±1.1, 67°.84N×20°.49E, h0km, mbtmp3.0/4, ML1.9/4, Error ellipse: s-maj=18.5km s-min=7.0km az=121.0*
ISC 15 04:31:07.1±0.8, **67°.82N**±0°.02×**20°.23E**±0°.03, **h0km, n32, σ1°02/50, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**17**	P	**Pg**	**04 31 09.4**	**-0.4**
KUA				S	**Sg**	**04 31 11.4**	**-0.3**
RATU	**Laukkuluspa**	**0.24**	**272**	P	**Pg**	**04 31 11.2**	**-0.4**
KOVU	**Salmi**	**0.41**	**357**	P	**Pg**	**04 31 14.2**	**-0.7**
LANU	**Lannavaara**	**0.71**	**70**	P	**Pg**	**04 31 20.0**	**-0.6**
LANU	**Lannavaara**	**0.71**	**70**	PG	**Pg**	**04 31 19.9**	**-0.7**
LANU				SG	**Sg**	**04 31 29.7**	**-0.1**
DUNU	**Dundret**	**0.71**	**169**	P	**Pg**	**04 31 20.1**	**-0.5**
MASU	**Masugnsbyn**	**0.77**	**117**	P	**Pg**	**04 31 21.3**	**-0.4**
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	**Pg**	**04 31 29.9**	**-0.4**
KIF	**Kilpisjarvi**	**1.21**	**10**	PG	**Pg**	**04 31 29.4**	**-0.9**
KIF				MSG		04 31 44.9	
	comp=Z,8.8nm,0.2s						
KIF				SG	**Sg**	**04 31 45.9**	**0.0**
PAJU	**Pajala**	**1.37**	**124**	P	**Pg**	**04 31 32.0**	**-1.3**
PAJU	**Pajala**	**1.37**	**124**	PG	**Pg**	**04 31 31.5**	**-1.8**
PAJU				SB	**Sg**	**04 31 50.5**	**-0.4**
HEF	**Hetta**	**1.42**	**64**	*e*P	**Pn**	**04 31 32.8**	**-1.3**
HEF	**Hetta**	**1.42**	**64**	PG	**Pn**	**04 31 32.5**	**-1.6**
	baz=250						
HEF				MSG		04 31 50.4	
	comp=Z,5.9nm,0.2s						
HEF				SG	**Sg**	**04 31 51.6**	**-1.0**
KTK1	**Kautokeino**	**1.64**	**41**	PG	**Pn**	**04 31 36.4**	**-0.7**
KTK1				SN	**Sg**	**04 31 59.7**	**+0.1**
TRO	**Tromso**	**1.89**	**346**	PG	**Pn**	**04 31 40.2**	**-0.3**
TRO				SN	**Sb**	**04 32 06.2**	**-0.1**
KALU	**Kalix**	**2.32**	**146**	PG	**Pn**	**04 31 47.2**	**+0.8**
KALU				SG	**Sb**	**04 32 17.8**	**-1.1**
TOF	**Tornio**	**2.38**	**135**	PG	**Pn**	**04 31 48.4**	**+1.2**
	baz=317						
TOF				MSG		04 32 17.5	
	comp=Z,3.8nm,0.2s						
TOF				SG	**Sb**	**04 32 20.6**	**+0.1**
SGF	**Sodankyl**	**2.44**	**96**	PB	**Pn**	**04 31 48.8**	**+0.7**
SGF				SB	**Sn**	**04 32 19.9**	**+1.3**
RNF	**Rovaniemi**	**2.56**	**116**	PB	**Pn**	**04 31 51.2**	**+1.5**
RNF				SB	**Sb**	**04 32 24.2**	**-1.5**
ARA0	**ARCESS Array S**	**2.59**	**46**	PN	**Pn**	**04 31 50.2**	**0.0**
	baz=228						
ARA0				SB	**Sb**	**04 32 25.4**	**-1.2**
ARCES	**ARCESS Array B**	**2.59**	**46**	Pn	**Pn**	**04 31 50.2**	**0.0**
	comp=Z,0.3nm,0.3s,baz=228,slow=15,SNR=37						
ARCES				Lg	Lg	04 32 24.8	
	comp=Z,0.8nm,0.3s,baz=226,slow=24,SNR=11						
	comp=Z,0.7nm,0.3s						
KMNF	**Kaamanen**	**2.83**	**59**	PN	**Pn**	**04 31 53.5**	**+0.1**
KMNF				SB	**Sn**	**04 32 30.1**	**+1.8**
RAJF	**Raja-Jooseppi**	**3.10**	**74**	PB	**Pn**	**04 31 59.6**	**+2.5**
RAJF				SG	**Sb**	**04 32 40.5**	**-0.7**
KEV	**Kevo**	**3.14**	**49**	PN	**Pn**	**04 31 58.4**	**+0.7**
KEV				SN	**Sn**	**04 32 36.7**	**+0.8**
RANF	**Ranua**	**3.16**	**122**	PG	**Pb**	**04 32 04.6**	**+0.7**
	baz=305						
RANF				SG	**Sb**	**04 32 43.0**	**+0.1**
BURU	**Burvik**	**3.28**	**171**	PB	**Pn**	**04 32 01.2**	**+1.6**
VRF	**Varrio**	**3.57**	**87**	PG	**Pb**	**04 32 11.8**	**+0.9**
VRF				SB	**Sb**	**04 32 53.6**	**-1.1**
OLKF	**Oulanka, Finla**	**3.89**	**108**	PN	**Pn**	**04 32 09.8**	**+1.7**
KU6	**Riekki**	**4.21**	**111**	PG	**Pb**	**04 32 22.6**	**+0.7**
FINES	**FINESS Array B**	**6.87**	**156**	Pn	**Pn**	**04 32 49.3**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=342,slow=13,SNR=2.3						
FINES				Sn	**Sn**	**04 34 06.9**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=344,slow=25,SNR=0.9						
FINES				Lg	Lg	04 34 41.9	
	comp=Z,0.2nm,0.3s,baz=347,slow=25,SNR=5.6						
	comp=Z,2.4nm,1.1s						
NOA	**NORSAR Array B**	**7.83**	**214**	Pn	**Pn**	**04 33 01.0**	**-1.1**
	baz=12,slow=13,SNR=1.2						
NOA				Pg	Pb	04 33 17.7	-5.8
	baz=9.7,slow=17,SNR=1.4						
NOA				Lg	Lg	04 35 14.4	
	baz=224,slow=27,SNR=2.2						
	comp=Z,0.5nm,0.9s						
HFS	**Hagfors**	**8.22**	**203**	Pn	**Pn**	**04 33 06.4**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=16,slow=13,SNR=2.5						
HFS				Pg	Pb	04 33 22.9	-7.3
	comp=Z,0.3nm,0.3s,baz=44,slow=15,SNR=1.8						
HFS				Lg	Lg	04 35 25.9	
	comp=Z,0.1nm,0.3s,baz=18,slow=28,SNR=2.5						
	comp=Z,2.5nm,0.9s						

*NOU **15** 04:51:04.4, 13°.38S×167°.63E, h183km, mb4.6/24, Vanuatu Islands*
*IDC **15** 04:51:05.8±1.8, 13°.63S×167°.12E, h157km±15km, mb4.2/21, mbtmp4.6/22, MS3.1/1, Error ellipse: s-maj=16.0km s-min=11.1km az=101.0*
*NEIC **15** 04:51:10.2±1.5, 13°.8S±0°.1×167°.3E±0°.1, h199km±9km, mb4.5/53, Error ellipse: s-maj=23.3km s-min=16.1km az=134.0*
ISC 15 04:51:10.2±0.4, **13°.73S**±0°.06×**167°.10E**±0°.07, **h200km, n141, σ1§34/151, mb4.5/52, 1C-1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**7.00**	**179**	Pn	**Pn**	**04 52 48.5**	**-2.0**
LIFNC	**LIFOU**	**7.00**	**179**	P	**Pn**	**04 52 48.7**	**-1.8**
KOUNC	**Koumac, New Ca**	**7.29**	**201**	Pn	**Pn**	**04 52 54.4**	**+0.1**
KOUNC	**Koumac, New Ca**	**7.29**	**201**	P	**Pn**	**04 52 54.6**	**+0.3**
MARNC	**Mare, Loyalty**	**7.75**	**174**	Pn	**Pn**	**04 52 58.9**	**-1.4**
HNR	**Honiara**	**8.21**	**301**	P	**Pn**	**04 53 02.3**	**-4.0**
	1μm,0.3s,baz=148,slow=6.3,SNR=2.0						
HNR				S	**Sn**	**04 54 32.8**	**-6.0**
	953nm,0.3s,baz=114,slow=14,SNR=1.8						
DZM	**Mont Dzumac**	**8.31**	**184**	Pn	**Pn**	**04 53 07.1**	**-0.6**
DZM	**Mont Dzumac**	**8.31**	**184**	P	**Pn**	**04 53 08.0**	**+0.3**
DZM	**Mont Dzumac**	**8.31**	**184**	P	**Pn**	**04 53 06.3**	**-1.4**
	14nm,0.6s,baz=348,slow=18,SNR=19						
DZM				S	**Sn**	**04 54 40.0**	**-1.3**
	9.4nm,0.4s,baz=292,slow=23,SNR=2.5						
NOUC	**Port Laguerre**	**8.36**	**185**	P	**Pn**	**04 53 07.6**	**-0.5**
OUENC	**Ouen Island, N**	**8.64**	**182**	Pn	**Pn**	**04 53 11.5**	**-0.3**
OUENC	**Ouen Island, N**	**8.64**	**182**	P	**Pn**	**04 53 11.9**	**+0.1**
PINNC	**Pines Island,**	**8.84**	**178**	Pn	**Pn**	**04 53 14.5**	**+0.1**
MSVF	**Nonsavu**	**11.27**	**112**	P	**P**	**04 53 47.6**	**-4.2**
EIDS	**Eidsvold**	**19.00**	**230**	P	**Pn**	**04 55 18.4**	**-1.7**
EIDS				IAmb	IAmb	04 55 50.4	
	comp=Z,43nm,1.4s						
CTA	**Charters Tower**	**20.91**	**250**	P	**P**	**04 55 37.3**	**-0.2**
	comp=Z,3.6nm,0.6s,baz=90,slow=10,SNR=5.9						
CTA				LR	LR	05 03 12.7	
	comp=Z,51nm,18.1s,baz=3.0,slow=35						
	comp=Z,3.6nm,0.6s						
CTAO	**Charters Tower**	**20.91**	**250**	P	**P**	**04 55 37.8**	**+0.4**
ARMA	**Armidale**	**21.89**	**218**	P	**P**	**04 55 48.9**	**+1.3**
ARMA				IAmb	IAmb	04 56 30.4	
	comp=Z,14nm,1.2s						
COEN	**Coen**	**23.23**	**267**	P	**P**	**04 56 01.1**	**+1.2**
COEN				IAmb	IAmb	04 56 01.9	
	comp=Z,8.3nm,0.8s						
COEN	**Coen**	**23.23**	**267**	P	**P**	**04 56 01.3**	**+1.4**
STKA	**Stephens Creek**	**29.52**	**228**	P	**P**	**04 56 57.5**	**+1.5**
STKA	**Stephens Creek**	**29.52**	**228**	P	**P**	**04 56 57.6**	**+1.5**
STKA	**Stephens Creek**	**29.52**	**228**	P	**P**	**04 56 56.9**	**+0.8**
	comp=Z,9.8nm,0.4s,baz=47,slow=9.1,SNR=30						
STKA				PcP	**PcP**	**04 59 56.9**	**+0.6**
	comp=Z,2.4nm,0.5s,baz=78,slow=3.0,SNR=5.7						
STKA				ScP	**ScP**	**05 03 25.1**	**+5.8**
	comp=Z,2.3nm,0.6s,baz=36,slow=1.5,SNR=6.4						
	comp=Z,9.8nm,0.4s						
LCRK	**Leigh Creek**	**31.38**	**233**	P	**P**	**04 57 12.8**	**+0.4**
	comp=Z,10nm,0.8s						
WR0	**Warramunga Arr**	**31.73**	**254**	P	**P**	**04 57 14.7**	**-1.0**
WR0				IAmb	IAmb	04 57 37.5	
	comp=Z,14nm,1.4s						
WB0	**Warramunga Arr**	**31.85**	**255**	P	**P**	**04 57 15.7**	**-1.0**
WB0				IAmb	IAmb	04 57 18.2	
	comp=Z,5.1nm,0.6s						
WB2	**Warramunga Arr**	**31.91**	**254**	P	**P**	**04 57 16.5**	**-0.7**
WB2				IAmb	IAmb	04 57 27.9	
	comp=Z,12nm,1.2s						
WRA	**Warramunga Arr**	**31.92**	**254**	P	**P**	**04 57 16.4**	**-1.0**
	comp=Z,2.5nm,0.5s,baz=86,slow=9.4,SNR=36						
WRA				PcP	**PcP**	**05 00 03.5**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=85,slow=3.1,SNR=11						
WRA				ScP	**ScP**	**05 03 33.3**	**+5.8**
	comp=Z,4.5nm,1.0s,baz=84,slow=3.5,SNR=14						
	comp=Z,2.5nm,0.5s						
HTT	**Hallett**	**32.25**	**228**	P	**P**	**04 57 21.5**	**+1.4**
ASAR	**Alice Springs**	**32.89**	**248**	P	**P**	**04 57 24.9**	**-0.9**
	comp=Z,3.7nm,0.5s,baz=73,slow=9.2,SNR=61						
ASAR				PcP	**PcP**	**05 00 05.8**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=86,slow=2.8,SNR=9.4						
	comp=Z,3.7nm,0.5s						
BBOO	**Buckleboo**	**34.07**	**231**	P	**P**	**04 57 36.5**	**+0.7**
BBOO	**Buckleboo**	**34.07**	**231**	P	**P**	**04 57 36.7**	**+0.9**
MULG	**Mulgathing**	**34.61**	**236**	P	**P**	**04 57 40.4**	**-0.1**
MTN	**Manton Dam**	**35.00**	**267**	P	**P**	**04 57 44.2**	**+0.3**
KNRA	**Kununurra**	**37.10**	**262**	P	**P**	**04 58 01.4**	**-0.4**
KNRA				IAmb	IAmb	04 58 03.4	
	comp=Z,15nm,0.8s						
KNRA	**Kununurra**	**37.10**	**262**	P	**P**	**04 58 01.4**	**-0.4**
FORT	**Forrest**	**39.67**	**238**	P	**P**	**04 58 23.3**	**+0.2**
FORT	**Forrest**	**39.67**	**238**	P	**P**	**04 58 24.5**	**+1.5**
FITZ	**Fitzroy Crossi**	**40.05**	**258**	P	**P**	**04 58 26.0**	**-0.2**
KMBL	**Kambalda**	**44.95**	**239**	P	**P**	**04 59 06.1**	**+0.5**
PSA00	**Pilbara Seismi**	**45.56**	**253**	P	**P**	**04 59 11.2**	**+0.7**
PSA00	**Pilbara Seismi**	**45.56**	**253**	P	**P**	**04 59 11.5**	**+1.0**
MBWA	**Marble Bar**	**45.66**	**254**	P	**P**	**04 59 12.4**	**+1.1**
MBWA				IAmb	IAmb	04 59 12.8	
	comp=Z,11nm,0.6s						
MBWA	**Marble Bar**	**45.66**	**254**	P	**P**	**04 59 12.1**	**+0.8**
MEEK	**Meekatharra**	**47.02**	**246**	P	**P**	**04 59 22.2**	**+0.3**
PLAI	**Plampang**	**48.55**	**270**	P	**P**	**04 59 32.9**	**-0.9**
NWAO	**Narrogin (SRO)**	**49.12**	**238**	P	**P**	**04 59 37.5**	**-0.4**
NWAO				IAmb	IAmb	05 00 12.9	
	comp=Z,21nm,1.1s						
NWAO	**Narrogin (SRO)**	**49.12**	**238**	P	**P**	**04 59 37.3**	**-0.6**
	comp=Z,27nm,2.2s						
GIRL	**Giralia**	**50.78**	**252**	P	**P**	**04 59 51.9**	**+1.5**
GIRL	**Giralia**	**50.78**	**252**	P	**P**	**04 59 50.8**	**+0.3**
KKM	**Kota Kinabalu**	**54.20**	**288**	P	**P**	**05 00 16.3**	**+0.5**
KKM				IAmb	IAmb	05 00 21.6	
	comp=Z,12nm,0.6s						
JOW	**Kunigami**	**55.21**	**317**	P	**P**	**05 00 23.8**	**+1.1**
JGF	**Kuroka**	**56.57**	**331**	P	**P**	**05 00 31.5**	**-0.7**
JGF				IAmb	IAmb	05 00 32.1	
	comp=Z,5.2nm,0.6s						
JMN	**Monobe**	**56.83**	**327**	P	**P**	**05 00 34.5**	**+0.4**
MJAR	**Matsushiro Arr**	**56.95**	**332**	P	**P**	**05 00 33.7**	**-1.1**
	comp=Z,3.7nm,0.5s,baz=177,slow=7.0,SNR=13						
	comp=Z,3.7nm,0.5s						
MAJO	**Matsushiro**	**56.95**	**332**	P	**P**	**05 00 34.2**	**-0.6**
MJB9	**Matsu-Tunnel**	**56.96**	**332**	P	**P**	**05 00 35.1**	**+0.2**
ERM	**Erimo**	**59.70**	**339**	P	**P**	**05 00 54.9**	**+1.2**
JKA	**Kamikawa-asahi**	**61.76**	**340**	P	**P**	**05 01 08.5**	**+1.0**
NJ2	**Nanjing**	**64.85**	**316**	*e*P	**P**	**05 01 31.1**	**+3.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USA0B	**Ussuriysk Arra**	**65.93**	**333**	P	**P**	**05 01 35.9**	**+1.1**
USA0B				IAmb	IAmb	05 01 36.1	
	comp=Z,18nm,1.3s						
USRK	**Ussuriysk Ar.**	**65.93**	**333**	P	**P**	**05 01 35.7**	**+1.0**
USRK	**Ussuriysk Ar.**	**65.93**	**333**	P	**P**	**05 01 35.6**	**+0.9**
	comp=Z,3.1nm,0.6s,baz=123,slow=6.4,SNR=8.7						
	comp=Z,3.1nm,0.6s						
PEA0B	**Petropavlovsk-**	**67.06**	**354**	P	**P**	**05 01 42.3**	**+0.6**
PETK	**Petropavlovsk-**	**67.06**	**354**	P	**P**	**05 01 42.6**	**+0.9**
PETK	**Petropavlovsk-**	**67.06**	**354**	P	**P**	**05 01 41.9**	**+0.1**
	comp=Z,10nm,0.8s,baz=150,slow=6.8,SNR=7.7						
	comp=Z,10nm,0.8s						
BJI	**Beijing**	**71.39**	**321**	P	**P**	**05 02 09.3**	**+0.7**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TIY	**Taiyuan**	**72.42**	**317**	*e*P	**P**	**05 02 16.6**	**+1.7**
TIY				pmax	pmax		
	comp=Z,23nm,0.5s						
HEH	**HeiHe**	**72.59**	**335**	*e*P	**P**	**05 02 15.6**	**+0.1**
XAN	**Xi'an**	**72.90**	**312**	P	**P**	**05 02 18.1**	**+0.3**
XAN				pmax	pmax		
	comp=Z,21nm,0.6s						
KMI	**Kunming**	**73.65**	**302**	⇓P	**P**	**05 02 23.6**	**+1.1**
KMI				pmax	pmax		
	comp=Z,18nm,0.8s						
CRAI	**Chiangrai**	**73.77**	**296**	P	**P**	**05 02 23.7**	**+0.6**
CRAI				IAmb	IAmb	05 02 25.0	
	comp=Z,5.9nm,0.6s						
MA2	**Magadan**	**74.25**	**351**	P	**P**	**05 02 24.6**	**-0.3**
	comp=Z,2.7nm,0.3s,baz=156,slow=6.9,SNR=4.5						
	comp=Z,2.7nm,0.3s						
CM31	**Chiang Mai Arr**	**74.40**	**294**	P	**P**	**05 02 26.3**	**-0.4**
CM31				IAmb	IAmb	05 02 29.0	
	comp=Z,9.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**74.40**	**294**	P	**P**	**05 02 26.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**74.40**	**294**	P	**P**	**05 02 27.6**	**+0.8**
	comp=Z,5.8nm,0.7s,baz=129,slow=4.7,SNR=24						
	comp=Z,5.8nm,0.7s						
HHC	**Hu-ho-hao-te**	**74.73**	**320**	*e*P	**P**	**05 02 29.5**	**+1.2**
HHC				pmax	pmax		
	comp=Z,17nm,0.7s						
HHC				pmax	pmax		
	comp=Z,66nm,5.1s						
PZH	**PanZhiHua**	**75.03**	**303**	P	**P**	**05 02 32.6**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
QSPA	**South Pole Qui**	**76.29**	**180**	P	**P**	**05 02 37.5**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=348,slow=0.7,SNR=19						
	comp=Z,1.8nm,0.5s						
SEY	**Seymchan**	**77.28**	**353**	P	**P**	**05 02 41.9**	**-0.2**
	comp=Z,10nm,0.8s,baz=158,slow=6.1,SNR=26						
	comp=Z,10nm,0.8s						
LZH	**Lanzhou**	**77.53**	**312**	⇑P	**P**	**05 02 45.5**	**+1.2**
LZH				sP	PcP	05 03 08.6	+15
LZH				pmax	pmax		
	comp=Z,19nm,1.5s						
OHAK	**Old Harbor**	**77.92**	**21**	P	**P**	**05 02 45.7**	**0.0**
OHAK				IAmb	IAmb	05 02 46.9	
	comp=Z,8.6nm,0.8s						
M14K	**Bethel**	**78.24**	**15**	P	**P**	**05 02 47.6**	**+0.3**
M14K				IAmb	IAmb	05 02 48.9	
	comp=Z,6.3nm,0.7s						
KDAK	**Kodiak Island**	**78.60**	**21**	P	**P**	**05 02 49.4**	**0.0**
	comp=Z,2.6nm,0.6s,baz=249,slow=6.4,SNR=4.8						
	comp=Z,2.6nm,0.6s						
P18K	**Big Mountain,**	**78.99**	**19**	P	**P**	**05 02 50.9**	**-0.8**
Q19K	**Cape Douglas,**	**79.13**	**20**	P	**P**	**05 02 51.9**	**-0.5**
L16K	**Owhat River**	**79.69**	**15**	P	**P**	**05 02 55.2**	**0.0**
ILSW	**Iliamna Southw**	**80.11**	**19**	P	**P**	**05 02 57.2**	**-0.6**
ILSW				IAmb	IAmb	05 03 01.2	
	comp=Z,11nm,1.0s						
BRLK	**Bradley Lake**	**80.68**	**20**	P	**P**	**05 03 00.4**	**-0.3**
ANM	**Nome**	**80.83**	**12**	P	**P**	**05 03 01.5**	**+0.2**
ULN	**Ulaanbaatar**	**81.24**	**324**	P	**P**	**05 03 04.4**	**+0.4**
ULN				IAmb	IAmb	05 03 05.5	
	comp=Z,7.6nm,0.7s						
BILL	**Bilibino**	**81.55**	**360**	P	**P**	**05 03 05.6**	**+0.6**
BILL				IAmb	IAmb	05 03 06.1	
	comp=Z,14nm,0.8s						
SONM	**Songino Array**	**81.60**	**324**	P	**P**	**05 03 06.3**	**+0.4**
SONM	**Songino Array**	**81.60**	**324**	P	**P**	**05 03 05.9**	**0.0**
	comp=Z,2.3nm,0.5s,baz=107,slow=2.7,SNR=16						
	comp=Z,2.3nm,0.5s						
TTA	**Tatalina**	**81.62**	**

comp=Z,0.9nm,0.4s,baz=116,slow=6.8,SNR=9.7
AKASG **Malin Array Be 129.82 326** PKP **PKiKP 05 09 55.6 -0.9**
comp=Z,1.4nm,0.5s,baz=45,slow=2.9,SNR=8.5
BRTR **Keskin Array B 131.74 311** PKP **PKiKP 05 10 00.2 -0.8**
comp=Z,0.7nm,0.4s,baz=62,slow=6.7,SNR=6.9
RONA **Rosalia, Austr 138.33 330** *e*PKiKP **PKiKP 05 10 14.9 +1.0**
comp=Z,2.7nm,0.5s
CONA **Conrad Observa 138.38 331** *e*PKiKP **PKiKP 05 10 12.8 -1.3**
comp=Z,1.1nm,0.5s
GERES **GERESS Array B 138.69 333** PKP **PKiKP 05 10 13.7 -1.0**
comp=Z,0.4nm,0.5s,baz=64,slow=3.1,SNR=4.7
SOKA **Soboth 139.66 330** *e*PKiKP **PKiKP 05 10 16.6 -0.1**
comp=Z,4.1nm,1.3s
KBA **Koelnbreinsper 140.17 332** *e*PKP **PKPdf 05 10 14.7 -0.7**
comp=Z,0.2nm,0.2s
LESA **Schwarzleotal 140.21 333** *e*PKP **PKPdf 05 10 14.7 -0.7**
comp=Z,1.4nm,0.4s
WATA **Walderalm 140.76 334** *i* PKP **PKPdf 05 10 15.1 -1.3**
comp=Z,3.4nm,0.6s
WTTA **Wattenberg 140.79 333** *e*PKP **PKPdf 05 10 15.5 -1.0**
comp=Z,4.1nm,1.1s
ABTA **Abfaltersbach 140.79 332** *e*PKP **PKPdf 05 10 15.2 -1.2**
comp=Z,1.8nm,0.7s
MOTA **Moosalm 140.96 334** *e*PKP **PKPdf 05 10 14.9 -1.9**
comp=Z,3.1nm,0.8s
SQTA **Sankt Quirin 141.01 334** *i* PKP **PKPdf 05 10 15.2 -1.6**
comp=Z,3.3nm,0.7s
FUORN **Ofenpass-Fuorn 141.88 334** PKPdf **PKPdf 05 10 15.2 -3.4**
ZCCA **Zocca 143.31 331** PKPdf **PKPdf 05 10 20.4 -0.5**
BNI **Bardonecchia 144.63 336** PKPdf **PKiKP 05 10 23.6 -3.5**
KEST **Kesra 150.34 322** PKPbc **PKiKP 05 10 38.9 -0.1**
comp=Z,14nm,0.6s,baz=121,slow=0.4,SNR=28
ESDC **Sonseca Array 152.99 345** PKPbc **PKiKP 05 10 44.6 +0.2**
comp=Z,1.0nm,0.5s,baz=3.2,slow=4.1,SNR=11
ESDC PKPab **PKPab 05 10 56.8 +0.6**
comp=Z,2.4nm,0.8s,baz=12,slow=5.1,SNR=6.7
TORD **Torodi Ar. Bea 165.79 269** PKP **PKPdf 05 10 52.2 +0.2**
comp=Z,1.9nm,0.9s,baz=66,slow=0.8,SNR=11
TORD PKPab **PKPab 05 11 53.1 +0.5**
comp=Z,0.5nm,0.4s,baz=86,slow=4.9,SNR=6.9

*IDC **15** 04:51:32.0±4.4, 31°.42N×80°.70E, h55km±42km, mb3.4/10, mbtmp3.8/14, ML3.5/4, Error ellipse: s-maj=25.8km s-min=17.3km az=31.0*
ISC 15 04:51:29.9±0.9, 31°.4N±0°.1×80°.7E±0°.1, h35km, n15, σ1§00/16, mb3.8/9, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSH	**Kashi**	**8.93**	**336**	P		**Pn**	**04 53 36.3**	**-0.2**
KSH				pP			04 53 41.8	
KSH				S		**Sn**	**04 55 14.3**	**-1.6**
KSH				pmax		pmax		
	comp=Z,7.0nm,0.7s							
AAK	**Ala-Archa**	**12.22**	**338**	P		**Pn**	**04 54 23.8**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=150,slow=11,SNR=2.8							
	comp=Z,3.3nm,0.9s							
MKAR	**Makanchi Array**	**15.40**	**4**	P		**Pn**	**04 55 04.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=181,slow=13,SNR=9.0							
	comp=Z,1.3nm,0.8s							
KURBB	**Kurchatov Arra**	**19.25**	**356**	P		**P**	**04 55 51.0**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=182,slow=11,SNR=20							
	comp=Z,2.5nm,0.8s							
GEYT	**Alibeck**	**19.62**	**295**	P		**Pn**	**04 55 56.5**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=104,slow=12,SNR=5.8							
	comp=Z,4.3nm,0.9s							
CMAR	**Chiang Mai Arr**	**20.98**	**124**	P		**P**	**04 56 10.1**	**0.0**
	comp=Z,2.6nm,0.7s,baz=314,slow=9.3,SNR=16							
	comp=Z,2.6nm,0.7s							
ZALV	**Zalesovo Beam**	**22.71**	**6**	P		**P**	**04 56 28.7**	**+0.3**
	comp=Z,5.4nm,0.9s,baz=195,slow=11,SNR=15							
	comp=Z,5.4nm,0.9s							
BVAR	**Borovoye Array**	**22.84**	**344**	P		**P**	**04 56 29.7**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=150,slow=12,SNR=12							
	comp=Z,2.4nm,0.6s							
SONM	**Songino Array**	**25.55**	**43**	P		**P**	**04 56 56.8**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=233,slow=8.9,SNR=5.9							
	comp=Z,0.4nm,0.6s							
BRTR	**Keskin Array B**	**38.76**	**296**	P		**P**	**04 58 52.1**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=96,slow=7.4,SNR=5.0							
	comp=Z,0.6nm,0.8s							
USRK	**Ussuriysk Ar.**	**41.88**	**57**	P		**P**	**04 59 16.8**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=258,slow=7.9,SNR=3.6							
	comp=Z,1.2nm,0.6s							
WRA	**Warramunga Arr**	**72.52**	**127**	P		**P**	**05 02 52.6**	**-0.9**
	comp=Z,1.5nm,0.9s,baz=320,slow=6.0,SNR=9.1							
	comp=Z,1.5nm,0.9s							
TORD	**Torodi Ar. Bea**	**73.94**	**276**	P		**P**	**05 03 02.0**	**0.0**
	comp=Z,0.4nm,0.8s,baz=45,slow=6.4,SNR=2.6							
	comp=Z,0.4nm,0.8s							
ASAR	**Alice Springs**	**74.82**	**130**	P		**P**	**05 03 06.8**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=309,slow=5.7,SNR=4.8							
	comp=Z,0.3nm,0.3s							
YKA	**Yellowknife Ar**	**85.61**	**7**	P		**P**	**05 04 03.0**	**-1.4**
	comp=Z,0.1nm,0.5s,baz=352,slow=5.1,SNR=2.3							
	comp=Z,0.1nm,0.5s							

*IDC **15** 05:05:03.7±1.1, 17°.08S×71°.35W, h0km, mb3.9/2, mbtmp4.1/6, ML3.9/4, MS2.7/2, Error ellipse: s-maj=35.0km s-min=18.3km az=3.0*
*NEIC **15** 05:05:10.1±2.0, 17°.27S±0°.04×71°.16W±0°.07, h62km±19km, mb4.2/4, Error ellipse: s-maj=11.6km s-min=3.1km az=118.0*
ISC 15 05:05:06.7±0.6, 17°.27S±0°.05×71°.31W±0°.06, h26km, n65, σ1§64/63, mb4.1/4, 2C-1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**1.63**	**145**			**Pb**	**05 05 35.6**	**-0.5**
PB12				Sn		**Sb**	**05 05 55.5**	**-0.8**
PB18	**Visviri**	**1.77**	**100**	⇓ *i*P		**Pn**	**05 05 37.4**	**+1.2**
PX02	**IPOC Station P**	**1.98**	**148**	⇑ *e*P		**Pn**	**05 05 39.8**	**+1.1**
PB16	**IPOC Station P**	**2.01**	**122**			**Pn**	**05 05 40.5**	**+1.0**
PB16				Sn		**Sn**	**05 06 05.2**	**+1.0**
PB11	**IPOC Station P**	**2.93**	**148**	Pn		**Pn**	**05 05 53.2**	**+1.5**
PB11	**IPOC Station P**	**2.93**	**148**	*e*P		**Pn**	**05 05 53.5**	**+1.7**
PB11				IAML			05 06 47.4	
	comp=N,670nm,0.1s							
GO01	**Chusmiza**	**3.11**	**140**			**Pn**	**05 05 56.8**	**+2.1**
GO01	**Chusmiza**	**3.11**	**140**	*e*P		**Pn**	**05 05 56.6**	**+2.0**
TA02	**Huaiquique**	**3.18**	**160**			**Pn**	**05 05 57.2**	**+2.1**
LPAZ	**La Paz**	**3.19**	**73**	Pn		**Pn**	**05 05 56.9**	**+1.1**
LPAZ	**La Paz**	**3.19**	**73**	Pn		**Pn**	**05 05 57.4**	**+1.6**
	comp=N,4.1nm,0.3s,baz=255,slow=10,SNR=51							
LPAZ				Sn		**Sn**	**05 06 30.8**	**-2.6**
	comp=N,4.8nm,0.3s,baz=298,slow=3.6,SNR=4.8							
LPAZ				Lg		Lg	05 06 43.6	
	comp=N,1.6nm,0.3s,baz=181,slow=16,SNR=1.5							
LPAZ				LR		LR	05 07 05.4	
	comp=N,66nm,21.0s,baz=247,slow=38							
	comp=N,8.6nm,0.3s							
HMBC	**Humberstone**	**3.28**	**156**	*e*P		**Pn**	**05 05 58.3**	**+1.8**
TA01	**Diego Aracena**	**3.44**	**162**	Pn		**Pn**	**05 06 01.2**	**+2.5**
PB08	**IPOC Station P**	**3.51**	**145**			**Pn**	**05 06 01.9**	**+2.0**
PB08	**IPOC Station P**	**3.51**	**145**	*e*P		**Pn**	**05 06 02.8**	**+2.9**
PATCX	**Punta Patache**	**3.69**	**163**			**Pn**	**05 06 04.2**	**+2.0**
PB01	**IPOC Station P**	**4.12**	**156**			**Pn**	**05 06 10.0**	**+1.7**
PB01	**IPOC Station P**	**4.12**	**156**	*e*P		**Pn**	**05 06 09.9**	**+1.7**
PB02	**IPOC Station P**	**4.24**	**162**			**Pn**	**05 06 12.0**	**+2.2**
PB02	**IPOC Station P**	**4.24**	**162**	*e*P		**Pn**	**05 06 12.0**	**+2.2**
PB07	**IPOC Station P**	**4.63**	**163**			**Pn**	**05 06 17.2**	**+2.0**
PB07	**IPOC Station P**	**4.63**	**163**	*e*P		**Pn**	**05 06 17.3**	**+2.2**
PB07				*i* S		**Sn**	**05 07 08.7**	**+0.6**
PB09	**IPOC Station P**	**4.90**	**157**			**Pn**	**05 06 20.5**	**+1.5**
PB09	**IPOC Station P**	**4.90**	**157**	⇑ *e*P		**Pn**	**05 06 21.6**	**+2.7**
PB04	**IPOC Station P**	**5.15**	**168**			**Pn**	**05 06 24.2**	**+1.8**
PB06	**IPOC Station P**	**5.64**	**164**			**Pn**	**05 06 30.0**	**+0.9**
PB05	**IPOC Station P**	**5.65**	**170**	Pn		**Pn**	**05 06 29.7**	**+0.6**
LVC	**Limon Verde**	**5.77**	**157**	Pn		**Pn**	**05 06 31.5**	**+0.5**
LVC	**Limon Verde**	**5.77**	**157**	Pn		**Pn**	**05 06 33.4**	**+2.4**
	comp=N,4.5nm,0.3s,baz=334,slow=11,SNR=76							
LVC				Sn		**Sn**	**05 07 36.8**	**+0.3**
	comp=N,4.5nm,0.3s,baz=21,slow=22,SNR=1.9							
	comp=N,9.9nm,0.3s							
PB15	**IPOC Station P**	**6.15**	**164**			**Pn**	**05 06 37.0**	**+0.8**
PB10	**IPOC Station P**	**6.25**	**174**	Pn		**Pn**	**05 06 39.1**	**+1.8**
PB14	**IPOC Station P**	**7.36**	**174**	Pn		**Pn**	**05 06 53.5**	**+0.6**
NNA	**Nana**	**7.50**	**314**	Pn		**Pn**	**05 06 53.3**	**-1.3**
	comp=N,0.7nm,0.3s,baz=348,slow=20,SNR=1.3							
NNA				Sn		**Sn**	**05 08 19.7**	**+0.7**
	comp=N,1.8nm,0.3s,baz=80,slow=22,SNR=1.5							
	comp=N,1.9nm,0.3s							
GO02	**Mina Guanaco**	**8.01**	**169**	Pn		**Pn**	**05 07 03.1**	**+1.4**
ETMB	**Extrema**	**8.91**	**34**	Pn		**Pn**	**05 07 13.3**	**-0.6**
CZSB	**Cruzeiro do Su**	**9.58**	**352**	Pn		**Pn**	**05 07 26.4**	**+3.3**
AC02	**Maricunga**	**9.73**	**168**	Pn		**Pn**	**05 07 26.6**	**+1.1**
SIV	**San Ignacio**	**9.89**	**84**	Pn		**Pn**	**05 07 26.1**	**-1.2**
	comp=N,0.8nm,0.3s,baz=265,slow=10.0,SNR=93							
SIV				Sn		**Sn**	**05 09 20.1**	**+2.4**
	baz=180,slow=22,SNR=1.3							
SIV				LR		LR	05 11 53.2	
	comp=N,78nm,21.1s,baz=92,slow=41							
	comp=N,26nm,0.4s							
AC06	**Mina Casimiro**	**10.07**	**175**	Pn		**Pn**	**05 07 30.6**	**+0.8**
GO03	**Copiap**	**10.32**	**175**	Pn		**Pn**	**05 07 32.4**	**-0.8**
AC04	**Llanos de Chal**	**10.88**	**179**	Pn		**Pn**	**05 07 41.9**	**+1.1**
SAML	**Samuel**	**11.44**	**45**	Pn		**Pn**	**05 07 49.7**	**+1.1**
AC05	**El Transito**	**11.55**	**175**	Pn		**Pn**	**05 07 50.1**	**+0.1**
VILB	**Vilhena**	**11.55**	**70**	Pn		**Pn**	**05 07 50.6**	**+0.5**
PTLB	**Pontes e Lacer**	**11.82**	**83**	Pn		**Pn**	**05 07 51.6**	**-2.2**
AQDB	**Aquidauana**	**15.11**	**105**			**Pn**	**05 08 36.2**	**-2.4**
MCRA	**Macar, Loja**	**15.37**	**326**	Pn		**P**	**05 08 44.8**	**-1.8**
H03N1	**Juan Fernandez**	**17.49**	**202**	T		T	05 26 53.5	
	baz=25,slow=73,SNR=272							
H03N2	**Juan Fernandez**	**17.50**	**202**	T		T	05 27 17.1	
	baz=25,slow=73,SNR=708							
H03N3	**Juan Fernandez**	**17.51**	**202**	T		T	05 26 52.3	
	baz=25,slow=73,SNR=820							
PLTB	**Pedras Altas**	**21.58**	**135**	P		**P**	**05 09 53.4**	**-1.1**
PLTB				IAmb		IAmb	05 09 58.8	
	comp=Z,20nm,1.5s							
TRQA	**Tornquist**	**22.27**	**160**	P		**P**	**05 10 02.1**	**+0.3**
BDFB	**Brasilia**	**22.39**	**89**	P		**P**	**05 10 01.7**	**-1.8**
BDFB				IAmb		IAmb	05 10 22.0	
	comp=Z,11nm,1.5s							
TORD	**Torodi Ar. Bea**	**78.15**	**72**	P		**P**	**05 17 06.8**	**+2.5**
	comp=Z,1.3nm,0.5s,baz=261,slow=5.2,SNR=12							
	comp=Z,1.3nm,0.5s							
YKA	**Yellowknife Ar**	**86.48**	**341**	P		**P**	**05 17 46.1**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=135,slow=5.2,SNR=8.3							
	comp=Z,0.2nm,0.4s							
H11N3	**WAKE ISLAND Hyd**	**24.97**	**282**	T		T	07 41 04.6	
	baz=99,slow=75,SNR=21							
H11N2	**WAKE ISLAND Hyd**	**24.98**	**282**	T		T	07 40 58.3	
	baz=99,slow=75,SNR=20							
H11N1	**WAKE ISLAND Hyd**	**24.98**	**282**	T		T	07 41 06.3	
	baz=99,slow=75,SNR=20							
H11S2	**WAKE ISLAND Hyd**	**24.99**	**281**	T		T	07 41 10.4	
	baz=99,slow=75,SNR=19							
H11S1	**WAKE ISLAND Hyd**	**24.99**	**281**	T		T	07 41 04.7	
	baz=99,slow=75,SNR=21							
H11S3	**WAKE ISLAND Hyd**	**25.00**	**281**	T		T	07 41 11.6	
	baz=99,slow=75,SNR=23							
WRA	**Warramunga Arr**	**135.26**	**215**	PKP		**PKPdf**	**05 24 24.8**	**-0.2**
	comp=Z,0.5nm,1.0s,baz=151,slow=1.8,SNR=2.1							
ZALV	**Zalesovo Beam**	**138.98**	**21**	PKP		**PKPdf**	**05 24 30.6**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=299,slow=3.0,SNR=2.4							
USRK	**Ussuriysk Ar.**	**146.74**	**329**	PKPbc		**PKPbc**	**05 24 46.8**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=18,slow=6.7,SNR=4.1							
SONM	**Songino Array**	**149.46**	**3**	PKPbc		**PKPbc**	**05 24 53.4**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=340,slow=2.2,SNR=7.6							

IDC 15 05:07:05.6±2.0, 5°.91S×143°.17E, h0km, mb3.6/2, mbtmp3.7/4, ML3.0/2, Error ellipse: s-maj=86.0km s-min=27.6km az=110.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.38**	**211**	Pn		Pn	05 10 55.3	-1.8
WRA	baz=32,slow=13,SNR=2.5			Lg		Lg	05 15 45.3	
	baz=80,slow=26,SNR=1.5							
	0.7nm,0.8s							
ASAR	**Alice Springs**	**19.78**	**206**	P		Pn	05 11 38.4	-0.6
	0.2nm,0.3s,baz=36,slow=9.7,SNR=32							
	4.2nm,0.8s							
MKAR	**Makanchi Array**	**75.03**	**322**	P		P	05 18 49.4	+0.2
	0.6nm,0.9s,baz=116,slow=6.6,SNR=2.1							
	0.9nm,0.9s							
ILAR	**Eielson Array**	**86.92**	**24**	P		P	05 19 52.0	-0.2
	0.5nm,1.1s,baz=231,slow=5.7,SNR=2.2							
	0.5nm,1.1s							

*IDC **15** 05:15:20.9±1.7, 1°.90S×14°.46W, h0km, mb4.0/13, mbtmp4.0/14, ML4.4/1, MS3.9/48, Error ellipse: s-maj=77.8km s-min=16.6km az=140.0*
*NEIC **15** 05:15:23.8±1.4, 1°.52S±0°.07×14°.7W±0°.1, h10km±1km, mb4.7/20, Error ellipse: s-maj=19.0km s-min=10.7km az=101.0*
*GCMT **15** 05:15:27.8±0.3, 1°.02S±0°.02×14°.87W±0°.01, h23km±1km, MW4.9/115, Moment Tensor Solution. s35,c38; s115,c155; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.29±.14; $M_{\theta\theta}$1.21±.11; $M_{\phi\phi}$-0.92±.10; $M_{r\theta}$-0.31±.15; $M_{\theta\phi}$-2.56±.09; $M_{\phi r}$0.96±.17; Best double couple: M_o2.94900×10^{16} NP1,φ s168.00000°, δ89.00000°, λ-20.00000°. NP2:φ s259.00000°, δ70.00000°, λ-179.00000°. Principal axes: T 3.1060, Plg13.0000°, Azm215.0000°; N -0.3190, Plg70.0000°, Azm346.0000°; P -2.7920, Plg15.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 15 05:15:23.9±0.5, 1°.61S±0°.09×14°.78W±0°.09, h11km, n98, σ1§44/51, mb4.5/30, MS4.0/47, 3C, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**6.18**	**177**	T		T	05 23 50.3	
	baz=360,slow=74							
H10N3	**ASCENSION HYDR**	**6.20**	**177**	T		T	05 23 53.5	
	baz=360,slow=74							
H10N1	**ASCENSION HYDR**	**6.20**	**177**	T		T	05 23 53.2	
	baz=360,slow=74							
ASCN	**Ascension**	**6.30**	**176**	Pn		**Pn**	**05 16 57.6**	**+0.9**
LIC	**Lamto**	**12.46**	**51**	⇑ *i*P		Pn	05 18 17.6	-3.8
	9.9nm,0.2s							
TIC	**Toumodi**	**12.73**	**50**	⇑ *i*P		Pn	05 18 20.6	-4.5
	12nm,0.2s							
KIC	**Kosan Boka**	**12.77**	**52**	⇑ *i*P		Pn	05 18 20.4	-5.2
DBIC	**Dimbokro**	**12.87**	**50**			Pn	05 18 22.4	-4.6
DBIC	**Dimbokro**	**12.87**	**50**	Pn		Pn	05 18 22.8	-4.2
	1.9nm,0.3s,baz=242,slow=13,SNR=25							
DBIC				Sn		Sn	05 20 36.4	-14
	1.8nm,0.3s,baz=277,slow=8.6,SNR=2.1							
DBIC				LR		LR	05 22 22.8	
	comp=Z,699nm,19.2s,baz=204,slow=33							
	5.2nm,0.4s							
MBO	**M'Bour**	**16.04**	**352**			**Pn**	**05 19 12.3**	**+2.7**
MBO				IAmb		IAmb	05 19 24.1	
	comp=Z,71nm,1.1s							
RCBR	**Riachuelo**	**21.49**	**258**	LR		LR	05 27 51.0	
	comp=Z,170nm,18.3s,baz=66,slow=34							
TOA0	**Torodi Ar. Sit**	**21.96**	**48**	P		**P**	**05 20 15.3**	**-2.6**
TORD	**Torodi Ar. Bea**	**21.96**	**48**	P		**P**	**05 20 15.2**	**-2.7**
TORD	**Torodi Ar. Bea**	**21.96**	**48**	P		**P**	**05 20 14.9**	**-3.0**
	comp=Z,5.7nm,0.5s,baz=235,slow=10,SNR=64							
TORD				S		S	05 24 12.3	-8.1
	comp=Z,1.5nm,0.6s,baz=255,slow=21,SNR=3.9							
TORD				LR		LR	05 27 47.4	
	comp=Z,596nm,19.2s,baz=219,slow=34							
	comp=Z,5.7nm,0.5s							
NBAN	**Anadia - AL**	**22.82**	**249**	*e*P		**P**	**05 20 26.1**	**-1.1**
NBLA	**Lagarto - SE**	**24.67**	**247**	*e*P		**P**	**05 20 43.8**	**-1.3**
GUA01	**Guaratinga, BA**	**28.78**	**237**	*e*P		**P**	**05 21 22.5**	**+0.4**
SDBA	**SAO DESIDERIO**	**31.72**	**249**	*e*P		**P**	**05 21 47.9**	**-0.3**
MDT	**Midelt**	**35.56**	**15**	LR		LR	05 36 01.8	
	comp=Z,154nm,19.4s,baz=217,slow=35							
BDFB	**Brasilia**	**35.61**	**245**	P		**P**	**05 22 21.8**	**-0.4**
	comp=Z,6.8nm,1.1s,baz=47,slow=9.0,SNR=5.5							
BDFB				LR		LR	05 34 29.8	
	comp=Z,118nm,21.8s,baz=136,slow=32							
	comp=Z,6.8nm,1.1s							
TSUM	**Tsumeb**	**36.19**	**121**	LR		LR	05 34 25.2	
	comp=Z,142nm,21.2s,baz=293,slow=32							
MDP	**Montagnes des**	**38.41**	**280**	LR		LR	05 35 39.6	
	comp=Z,207nm,18.3s,baz=116,slow=31							
ARAG	**Araguaiana, MT**	**39.10**	**247**	*e*P		**P**	**05 22 52.1**	**+0.5**
NPGB	**Novo Progresso**	**40.80**	**261**	*e*P		**P**	**05 23 04.7**	**-1.1**
ITTB	**Itaituba**	**40.99**	**265**	*e*P		**P**	**05 23 06.4**	**-1.0**
TATN	**Tataouine**	**41.58**	**33**	P		**P**	**05 23 11.0**	**-1.0**
TATN				IAmb		IAmb	05 23 25.9	
	comp=Z,8.7nm,0.6s							
ESDC	**Sonseca Array**	**42.26**	**12**	LR		LR	05 41 23.6	
	comp=Z,153nm,18.5s,baz=192,slow=37							
KEST	**Kesra**	**43.44**	**29**	LR		LR	05 41 14.0	
	comp=Z,178nm,20.5s,baz=179,slow=36							
LSZ	**Lusaka**	**44.50**	**110**	P		P	05 23 32.3	-3.7
LBTB	**Lobatse**	**45.36**	**124**	LR		LR	05 41 05.6	
	comp=Z,84nm,19.7s,baz=231,slow=34							
MBAR	**Mbarara**	**45.52**	**89**	LR		LR	05 41 10.2	
	comp=Z,263nm,18.9s,baz=248,slow=34							
BOAV	**Boa Vista**	**45.91**	**275**	P		**P**	**05 23 46.9**	**-0.2**
BOAV				IAmb		IAmb	05 23 48.4	
	comp=Z,7.5nm,0.9s							
BOSA	**Boshof**	**46.67**	**129**	P		**P**	**05 23 54.4**	**+1.4**
BOSA				IAmb		IAmb	05 24 09.7	
	comp=Z,8.5nm,1.1s							
BOSA	**Boshof**	**46.67**	**129**	P		**P**	**05 23 53.7**	**+0.7**
	comp=Z,2.6nm,0.5s,baz=303,slow=8.5,SNR=10							
BBSD	**Serra de San D**	**47.62**	**248**	*e*P		**P**	**05 24 01.3**	**+0.8**
CPUP	**Villa Florida**	**47.69**	**235**	P		**P**	**05 24 00.9**	**0.0**
	comp=Z,2.7nm,0.9s,baz=118,slow=8.9,SNR=3.8							
CPUP				LR		LR	05 41 18.6	
	comp=Z,118nm,21.9s,baz=74,slow=33							
	comp=Z,2.7nm,0.9s							
SIV	**San Ignacio**	**47.78**	**250**	LR		LR	05 43 41.3	
	comp=Z,176nm,18.1s,baz=106,slow=35							
SAML	**Samuel**	**48.70**	**260**	P		**P**	**05 24 09.3**	**+0.4**
SAML				IAmb		IAmb	05 24 10.0	
	comp=Z,7.7nm,0.9s							
SAML	**Samuel**	**48.70**	**260**	*e*P		**P**	**05 24 08.7**	**-0.3**
TIP	**Timpagrande**	**49.86**	**32**	P		**P**	**05 24 16.1**	**-1.3**
TIP				IAmb		IAmb	05 24 20.7	
	comp=Z,6.5nm,0.9s							
ETMB	**Extrema**	**51.77**	**259**	P		**P**	**05 24 31.9**	**-0.2**
ETMB				IAmb		IAmb	05 24 32.7	
	comp=Z,9.4nm,1.0s							
ETMB	**Extrema**	**51.77**	**259**	*e*P		**P**	**05 24 31.6**	**-0.5**
DAVOX	**Davos/Dischmat**	**52.84**	**21**	LR		LR	05 46 55.3	
	comp=Z,122nm,19.1s,baz=257,slow=36							
DAVA	**Damuels**	**53.27**	**21**	*e*P		**P**	**05 24 45.6**	**+2.7**
	comp=Z,9.6nm,0.8s							
FETA	**Feichten**	**53.35**	**22**	*e*P		**P**	**05 24 45.3**	**+1.8**
	comp=Z,6.4nm,1.4s							
SQTA	**Sankt Quirin**	**53.70**	**22**	*e*P		**P**	**05 24 47.9**	**+2.0**
	comp=Z,3.3nm,0.6s							
RETA	**Reutte**	**53.76**	**21**	*e*P		**P**	**05 24 48.6**	**+2.2**
	comp=Z,7.5nm,1.4s							
MOTA	**Moosalm**	**53.76**	**22**	*e*P		**P**	**05 24 49.0**	**+2.5**
	comp=Z,4.9nm,0.7s							
WTTA	**Wattenberg**	**53.89**	**22**	P		**P**	**05 24 50.1**	**+2.6**
	comp=Z,8.9nm,1.3s							
WATA	**Walderalm**	**53.93**	**22**	*e*P		**P**	**05 24 50.4**	**+2.6**
	comp=Z,3.8nm,0.6s							
LPAZ	**La Paz**	**54.49**	**251**	P		**P**	**05 24 53.0**	**0.0**
LPAZ	**La Paz**	**54.49**	**251**	P		**P**	**05 24 52.5**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=103,slow=5.9,SNR=5.8							
LPAZ				LR		LR	05 46 56.3	
	comp=Z,132nm,20.3s,baz=84,slow=35							
	comp=Z,1.5nm,0.7s							
UUPR	**Utuado, UPR, P**	**54.77**	**294**	P		**P**	**05 24 54.2**	**+0.1**
TBTG	**Tabatinga, AM**	**55.11**	**266**	P		**P**	**05 24 55.5**	**-1.3**
TBTG				IAmb		IAmb	05 25 16.9	
	comp=Z,9.5nm,0.9s							
GRFO	**Grafenberg**	**55.79**	**20**	P		**P**	**05 24 59.5**	**-1.5**
GRFO				IAmb		IAmb	05 25 10.2	
	comp=Z,10nm,1.0s							
GERES	**GERESS Array B**	**55.98**	**22**	P		**P**	**05 25 00.7**	**-1.8**
GERES	**GERESS Array B**	**55.98**	**22**	P		**P**	**05 25 01.8**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=198,slow=6.2,SNR=4.0							
GERES				LR		LR	05 48 35.2	
	comp=Z,120nm,21.9s,baz=244,slow=36							
	comp=Z,0.8nm,0.6s							
CONA	**Conrad Observa**	**56.10**	**24**	*e*P		**P**	**05 25 05.2**	**+1.9**
	comp=Z,1.1nm,0.7s							
LVC	**Limon Verde**	**56.50**	**244**	LR		LR	05 50 43.6	
	comp=Z,44nm,18.4s,baz=86,slow=38							
SDV	**Santo Domingo**	**56.62**	**282**	LR		LR	05 47 44.0	
	comp=Z,45nm,19.5s,baz=108,slow=34							
EIL	**Elat**	**56.73**	**53**	LR		LR	05 50 33.9	
	comp=Z,226nm,18.1s,baz=247,slow=37							
PB07	**IPOC Station P**	**57.18**	**245**	P		**P**	**05 25 11.3**	**-0.3**
VRAC	**Vranov**	**57.48**	**24**	LR		LR	05 51 54.2	
	comp=Z,93nm,18.1s,baz=228,slow=38							
EKA	**Eskdalemuir Ar**	**57.55**	**8**	P		**P**	**05 25

FUNV ***15*** *05:21:15.7, 9.98N × 71.67W, h5km, MW3.5*
ISC 15 05:21:14.3±0.8, 10.04N±0.04 × 71.58W±0.02, h10km, n20, σ1s48/36, Lake Maracaibo

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MCQV	**Machiques**	**0.94**	**271**	*eP*		**Pg**	**05 21 31.8**	**-0.6**
MCQV				*eS*		**Sg**	**05 21 43.8**	**-0.8**
SDV	**Santo Domingo**	**1.48**	**141**	P		**Pn**	**05 21 41.2**	**0.0**
SDV				S		**Sg**	**05 22 01.0**	**-1.0**
CRJC	**Cerrejon, Guaj**	**1.61**	**307**	P		**Pn**	**05 21 42.7**	**-0.2**
CRJC				S		**Sb**	**05 22 04.8**	**+0.2**
SIQV	**Siquisique**	**1.85**	**71**	*eS*		**Sg**	**05 22 13.4**	**-0.4**
SOCV	**Socops**	**1.89**	**158**	*eP*		**Pb**	**05 21 47.8**	**-1.0**
SOCV				*eS*		**Sb**	**05 22 11.4**	**-1.1**
LL7C	**La Loma 7 Curu**	**1.96**	**249**	P		**Pn**	**05 21 48.0**	**+0.4**
LL7C				S		**Sb**	**05 22 13.6**	**-0.9**
SANV	**Sanarito**	**2.09**	**105**	*eP*		**Pb**	**05 21 51.7**	**-0.6**
SANV				*eS*		**Sb**	**05 22 18.6**	**+0.2**
CAPV	**Capacho**	**2.28**	**199**	*eP*		**Pn**	**05 21 52.4**	**+0.1**
CAPV				*eS*		**Sn**	**05 22 19.6**	**-0.9**
TEPV	**Terepaima**	**2.36**	**92**	*eP*		**Pb**	**05 21 55.7**	**-1.2**
TEPV				*eS*		**Sb**	**05 22 24.8**	**-1.3**
OCAC	**Ocana**	**2.48**	**224**	P		**Pn**	**05 21 56.1**	**+1.2**
OCAC				S		**Sb**	**05 22 27.7**	**-2.0**
AGCC	**Aguachica**	**2.49**	**233**	P		**Pb**	**05 21 56.9**	**-2.3**
AGCC				S		**Sb**	**05 22 30.1**	**+0.1**
ARGC	**Ariguani, Magd**	**2.63**	**266**	P		**Pb**	**05 22 00.3**	**-1.3**
ARGC				S		**Sb**	**05 22 35.2**	**+1.3**
EZNC	**La Esperanza**	**2.95**	**216**	P		**Pb**	**05 22 05.9**	**-1.1**
EZNC				S		**Sb**	**05 22 43.6**	**+0.5**
VMM09	**Lebrija**	**3.35**	**210**	P		**Pn**	**05 22 08.4**	**+1.5**
VMM09				S		**Sn**	**05 22 49.8**	**+3.0**
SJCC	**San Jacinto, C**	**3.55**	**268**	P		**Pn**	**05 22 10.9**	**+1.4**
BAUV	**El Baul**	**3.66**	**107**	*eP*		**Pn**	**05 22 12.7**	**+1.7**
BAUV				*eS*		**Sn**	**05 22 54.9**	**+0.6**
BENV	**Beln**	**3.92**	**91**	*eP*		**Pn**	**05 22 16.8**	**+2.1**
BENV				*eS*		**Sn**	**05 23 01.8**	**+0.8**
RUSC	**La Rusia**	**4.38**	**200**	P		**Pn**	**05 22 21.8**	**+0.4**
RUSC				S		**Sn**	**05 23 15.0**	**+2.3**
PTBC	**PUERTO BERRIO,**	**4.49**	**219**	P		**Pn**	**05 22 25.6**	**+3.1**
HELC	**Santa Helena**	**5.47**	**226**	P		**Pn**	**05 22 39.4**	**+3.2**

IDC ***15*** *05:24:04.3±3.6, 5.13N±95.94E, h12km±21km, mb4.2/21, mbtmp4.2/23, ML3.6/1, MS3.6/16, Error ellipse: s-maj=24.6km s-min=13.7km az=49.0*
NEIC ***15*** *05:24:05.8±1.6, 5.33N±0.07 × 96.22E±0.02, h15km±4km, mb4.5/50, Error ellipse: s-maj=9.9km s-min=2.0km az=188.0*
DJA ***15*** *05:24:10.1±1.3, 5˚N±11˚ × 9˚7E±1˚2, h10km±6km, M4.5/7, MLv4.5/7*
ISC 15 05:24:06.8±0.4, 5.16N±0.04 × 96.23E±0.04, h29km, n122, σ1s90/120, mb4.5/49, MS3.7/17, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**0.72**	**85**	Pg		**Pb**	**05 24 20.2**	**-0.5**
LHMI	**Lhok Sumawe**	**0.72**	**85**	P		**Pb**	**05 24 20.4**	**-0.3**
LHMI				S		**Sb**	**05 24 26.4**	**-3.9**
MLSI	**Meulaboh, Aceh**	**0.91**	**169**	P		**Pb**	**05 24 24.1**	**+0.2**
KCSI	**Kotacane, Aceh**	**2.24**	**137**	P		**Pb**	**05 24 44.0**	**-2.6**
SNSI	**Sinabang, Aceh**	**2.74**	**178**	P		**Pb**	**05 24 51.4**	**-3.7**
GSI	**Gunungsitoli**	**4.06**	**161**			**Pn**	**05 25 09.3**	**+2.3**
GSI	**Gunungsitoli**	**4.06**	**161**	P		**Pn**	**05 25 05.1**	**-1.9**
KULM	**Kulim**	**4.40**	**88**	Pn		**Pn**	**05 25 12.6**	**+0.9**
SRIT	**Nakonsritamara**	**4.78**	**44**			**Pn**	**05 25 16.8**	**0.0**
IPM	**Ipoh**	**4.83**	**98**	Pn		**Pn**	**05 25 18.7**	**+1.2**
BKNI	**Bangkinang**	**6.79**	**135**	Pn		**Pn**	**05 25 46.8**	**+2.3**
MNAI	**Manna**	**11.60**	**145**	Pn		**Pn**	**05 26 52.1**	**+1.5**
CM31	**Chiang Mai Arr**	**13.48**	**11**	Pn		**Pn**	**05 27 14.3**	**-1.9**
CMAR	**Chiang Mai Arr**	**13.48**	**11**	Pn		**Pn**	**05 27 12.0**	**-4.2**
CMAR	**Chiang Mai Arr**	**13.48**	**11**	Pn		**Pn**	**05 27 16.9**	**+0.8**
	0.6nm,0.3s,baz=204,slow=13,SNR=7.9							
CMAR				Lg		Lg	05 31 13.6	
	baz=181,slow=32							
PHRA	**Phrae**	**13.82**	**16**	Pn		**Pn**	**05 27 17.1**	**-3.7**
CRAI	**Chiangrai**	**15.51**	**15**	Pn		**Pn**	**05 27 40.5**	**-3.1**
PALK	**Pallekele**	**15.58**	**279**	Pn		**Pn**	**05 27 39.7**	**-4.9**
	0.3nm,0.3s,baz=215,slow=17,SNR=3.0							
PALK				LR		LR	05 33 14.6	
	comp=Z,98nm,19.8s,baz=194,slow=36							
	0.7nm,0.3s							
LEM	**Lembang**	**16.46**	**136**	LR		LR	05 34 32.5	
	comp=Z,284nm,18.3s,baz=213,slow=38							
AZL	**Aizawl**	**18.78**	**350**	*eP*		**Pn**	**05 28 26.4**	**+1.8**
QIZ	**Qiongzhong**	**19.14**	**43**	P		**Pn**	**05 28 28.3**	**-0.5**
QIZ				sP		**pP**	**05 28 36.0**	**+0.4**
QIZ				S		**Sn**	**05 32 02.6**	**0.0**
QIZ				sS		**sS**	**05 32 09.8**	**-6.1**
QIZ				LR	LR			
	comp=N,480nm,16.0s							
QIZ				LR	LR			
	comp=E,440nm,17.7s							
QIZ				LR	LR			
	comp=Z,220nm,11.8s							
IMP	**Imphal**	**19.68**	**354**	*eP*		**Pn**	**05 28 36.2**	**+0.9**
TNCH	**TengChong**	**19.88**	**6**	*eP*		**Pn**	**05 28 37.8**	**0.0**
TNCH				S		**S**	**05 32 15.8**	**-2.7**
TNCH				pmax	pmax			
	comp=Z,59nm,0.4s							
TNCH				pmax	pmax			
	comp=Z,140nm,4.1s							
TNCH				LR	LR			
	comp=N,370nm,8.4s							
TNCH				LR	LR			
	comp=E,380nm,8.6s							
TNCH				LR	LR			
	comp=Z,250nm,17.3s							
KOHI	**KOHIMA**	**20.54**	**355**	*eP*		Pn	05 28 44.9	-0.7
SHL	**Shillong**	**20.71**	**349**	*eP*		**P**	**05 28 45.8**	**+0.7**
SHL				IAmb		IAmb	05 28 59.1	
	comp=Z,17nm,0.8s							
MOKO	**MOKOCHONG**	**21.11**	**356**	*eP*		**P**	**05 28 51.4**	**+2.1**
HYB	**Hyderabad**	**21.16**	**307**	*eP*		**P**	**05 28 51.4**	**+1.5**
HYB				IAmb		IAmb	05 28 55.2	
	comp=Z,14nm,0.9s							
PZH	**PanZhiHua**	**21.87**	**13**	P		**P**	**05 28 58.4**	**+0.9**
PZH				pmax	pmax			
	comp=Z,6.0nm,0.7s							
PZH				pmax	pmax			
	comp=Z,100nm,4.4s							
TOLI2	**Tolitoli**	**24.84**	**99**	P		**P**	**05 29 25.2**	**-1.7**
TOLI2				IAmb		IAmb	05 29 32.3	
	comp=Z,13nm,1.3s							
LSA	**Lhasa**	**24.88**	**349**	P		**P**	**05 29 25.7**	**-1.9**
KAPI	**Kappang**	**25.57**	**113**	P		**P**	**05 29 33.8**	**+0.2**
KAPI				IAmb		IAmb	05 29 39.9	
	comp=Z,24nm,1.1s							
DGAR	**Diego Garcia**	**26.81**	**242**	P		**P**	**05 29 45.0**	**+0.2**
H08S2	**Diego Garcia H**	**26.88**	**242**	T		T	05 56 57.1	
	baz=61,slow=75,SNR=7.5							
H08S3	**Diego Garcia H**	**26.88**	**242**	T		T	05 56 56.7	
	baz=61,slow=75,SNR=65							
H08S1	**Diego Garcia H**	**26.90**	**242**	T		T	05 56 56.3	
	baz=61,slow=75,SNR=63							
LUWI	**Luwuk**	**27.22**	**102**	P		**P**	**05 29 48.6**	**+0.2**
WHN	**Wuhan**	**30.47**	**32**	P		**P**	**05 30 20.9**	**+3.7**
GOMU	**GeErMu**	**30.91**	**358**	P		**P**	**05 30 24.1**	**+2.6**
GOMU				pP		pP	05 30 28.8	-1.2
GOMU				sP		sP	05 30 32.8	-0.7
XAN	**Xi'an**	**31.06**	**21**	P		**P**	**05 30 23.3**	**+0.9**
XAN				pmax	pmax			
	comp=Z,13nm,0.7s							
NJ2	**Nanjing**	**34.12**	**36**	*eP*		**P**	**05 30 49.8**	**+0.6**
NJ2				pmax	pmax			
	comp=Z,8.0nm,0.5s							
GTA	**Gaotai**	**34.25**	**5**	P		**P**	**05 30 51.9**	**+1.5**
GTA				pP		pP	05 30 57.0	-1.9
GTA				sP		sP	05 31 00.6	-1.8
GTA				pmax	pmax			
	comp=Z,28nm,1.1s							
GTA				LR	LR			
	comp=N,130nm,18.2s							
GTA				LR	LR			
	comp=E,220nm,19.6s							
GTA				LR	LR			
	comp=Z,120nm,18.9s							
FITZ	**Fitzroy Crossi**	**37.09**	**129**	P		**P**	**05 31 15.6**	**+0.7**
BTO	**Baotou**	**37.40**	**17**	*eP*		**P**	**05 31 20.4**	**+3.0**
BTO				pP		**pP**	**05 31 24.8**	**-1.1**
BTO				sP		**sP**	**05 31 27.3**	**-2.1**
BTO				PP		**PnPn**	**05 32 48.6**	**+4.8**
BTO				S		**S**	**05 37 11.5**	**+7.6**
BTO				sS		**sS**	**05 37 17.3**	**-0.5**
BTO				SS		**SnSn**	**05 39 42.3**	**+0.2**
BTO				pmax	pmax			
	comp=Z,45nm,0.5s							
BTO				pmax	pmax			
	comp=Z,140nm,4.1s							
BTO				LR	LR			
	comp=N,830nm,15.2s							
BTO				LR	LR			
	comp=E,760nm,14.0s							
BTO				LR	LR			
	comp=Z,800nm,15.0s							
HHC	**Hu-ho-hao-te**	**38.10**	**19**	*eP*		**P**	**05 31 24.6**	**+1.3**
HHC				pmax	pmax			
	comp=Z,9.0nm,0.7s							
HHC				pmax	pmax			
	comp=Z,110nm,5.9s							
HHC				LR	LR			
	comp=N,290nm,13.8s							
HHC				LR	LR			
	comp=E,180nm,14.5s							
HHC				LR	LR			
	comp=Z,240nm,14.5s							
MTN	**Manton Dam**	**39.02**	**118**	P		**P**	**05 31 32.5**	**+1.3**
MTN				IAmb		IAmb	05 31 55.3	
	comp=Z,32nm,1.5s							
DRK	**Karamyk**	**40.68**	**331**	P		**P**	**05 31 43.8**	**-1.2**
BOOM	**Boomskoye usch**	**41.31**	**337**	P		**P**	**05 31 49.4**	**-0.6**
BOOM				IAmb		IAmb	05 31 57.7	
	comp=Z,8.9nm,1.0s							
CHGR	**Chuyangaron**	**41.41**	**327**	IAmb		IAmb	05 31 50.2	
	comp=Z,7.6nm,0.7s							
SIMJ	**Simiganj**	**41.49**	**327**	P		**P**	**05 31 50.2**	**-1.4**
SIMJ				IAmb		IAmb	05 31 51.0	
	comp=Z,6.8nm,0.9s							
AAK	**Ala-Archa**	**42.01**	**336**	P		**P**	**05 31 55.0**	**-0.8**
AAK	**Ala-Archa**	**42.01**	**336**	LR		LR	05 51 47.9	
	comp=Z,56nm,18.5s,baz=159,slow=40							
JNU	**Nakatsue**	**42.59**	**45**	LR		LR	05 51 54.0	
	comp=Z,45nm,19.2s,baz=214,slow=39							
UOSS	**Minazif**	**43.13**	**301**	P		**P**	**05 32 04.8**	**-0.1**
UOSS				IAmb		IAmb	05 32 24.8	
	comp=Z,13nm,1.1s							
MK31	**Makanchi Array**	**43.19**	**346**	P		**P**	**05 32 04.7**	**-0.4**
MKAR	**Makanchi Array**	**43.19**	**346**	P		**P**	**05 32 05.2**	**+0.1**
MKAR	**Makanchi Array**	**43.19**	**346**	P		**P**	**05 32 05.5**	**+0.4**
	comp=Z,3.4nm,0.9s,baz=158,slow=7.8,SNR=22							
	comp=Z,3.4nm,0.9s							
MAKZ	**Makanchi**	**43.28**	**346**	P		**P**	**05 32 05.5**	**-0.3**
SONM	**Songino Array**	**43.40**	**10**	P		**P**	**05 32 07.6**	**+0.7**
SONM				IAmb		IAmb	05 32 09.6	
	comp=Z,12nm,0.8s							
SONM	**Songino Array**	**43.40**	**10**	P		**P**	**05 32 08.3**	**+1.3**
	comp=Z,10nm,0.8s,baz=188,slow=9.2,SNR=74							
SONM				LR		LR	05 51 51.7	
	comp=Z,123nm,18.9s,baz=221,slow=38							
	comp=Z,10nm,0.8s							
ULN	**Ulaanbaatar**	**43.55**	**11**	P		**P**	**05 32 08.1**	**0.0**
ULN				IAmb		IAmb	05 32 10.7	
	comp=Z,6.9nm,0.7s							
KK31	**Karatay Array**	**44.11**	**333**	P		**P**	**05 32 12.2**	**-0.4**
KKAR	**Karatay Array**	**44.11**	**333**	P		**P**	**05 32 12.3**	**-0.3**
WRA	**Warramunga Arr**	**45.01**	**125**	P		**P**	**05 32 20.7**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=302,slow=9.1,SNR=20							
WRA				PcP		**PP**	**05 34 03.1**	**-2.6**
	comp=Z,0.6nm,0.8s,baz=314,slow=2.7,SNR=1.5							
WRA				ScP		**ScP**	**05 37 52.6**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=322,slow=3.3,SNR=2.9							
	comp=Z,1.8nm,0.7s							
WR0	**Warramunga Arr**	**45.18**	**125**	P		**P**	**05 32 22.7**	**+1.2**
WR0				IAmb		IAmb	05 32 27.1	
	comp=Z,13nm,1.4s							
ASAR	**Alice Springs**	**46.59**	**130**	P		**P**	**05 32 33.6**	**+1.0**
	comp=Z,4.8nm,0.6s,baz=307,slow=7.7,SNR=38							
ASAR				PcP		**PcP**	**05 34 07.0**	**+0.5**
	comp=Z,1.0nm,1.0s,baz=320,slow=4.1,SNR=1.8							
ASAR				ScP		**ScP**	**05 38 02.6**	**+4.4**
	comp=Z,0.2nm,0.3s,baz=298,slow=2.0,SNR=2.4							
ASAR				LR		LR	05 53 43.1	
	comp=Z,76nm,21.0s,baz=314,slow=38							
	comp=Z,4.8nm,0.6s							
FORT	**Forrest**	**46.94**	**142**	P		**P**	**05 32 35.4**	**+0.3**
GEYT	**Alibeck**	**47.59**	**319**	P		**P**	**05 32 39.3**	**-0.9**
GEYT				IAmb		IAmb	05 32 41.0	
	comp=Z,6.2nm,1.1s							
GEYT	**Alibeck**	**47.59**	**319**	P		**P**	**05 32 39.6**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=142,slow=7.5,SNR=5.5							
	comp=Z,2.8nm,0.6s							
GYA0B	**ALIBECK ARRAY**	**47.59**	**319**	P		**P**	**05 32 38.8**	**-1.4**
GYA0B				IAmb		IAmb	05 32 47.1	
	comp=Z,4.5nm,0.8s							
KURBB	**Kurchatov Arra**	**47.68**	**345**	P		**P**	**05 32 40.4**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=161,slow=7.3,SNR=5.7							
KURBB				PcP		**PcP**	**05 34 09.7**	**0.0**
	comp=Z,0.3nm,0.5s,baz=149,slow=2.3,SNR=5.4							
	comp=Z,0.4nm,0.4s							
KURK	**Kurchatov**	**47.74**	**345**	P		**P**	**05 32 40.2**	**-0.9**
MDJ	**Mudanjiang**	**48.95**	**31**	P		**P**	**05 32 52.9**	**+2.4**
MDJ				pmax	pmax			
	comp=Z,11nm,1.8s							
MDJ				pmax	pmax			
	comp=Z,220nm,4.9s							
MJAR	**Matsushiro Arr**	**49.51**	**45**	LR		LR	05 55 34.1	
	comp=Z,75nm,18.3s,baz=234,slow=38							
ZAA0	**Zalesovo Array**	**49.52**	**351**	P		**P**	**05 32 54.5**	**-0.2**
ZAA0				IAmb		IAmb	05 32 56.5	
	comp=Z,6.6nm,1.2s							
ZALV	**Zalesovo Beam**	**49.52**	**351**	P		**P**	**05 32 54.2**	**-0.5**
ZALV	**Zalesovo Beam**	**49.52**	**351**	P		**P**	**05 32 54.6**	**-0.1**
	comp=Z,1.8nm,0.5s,baz=173,slow=7.8,SNR=10							
ZALV				PcP		**PcP**	**05 34 14.4**	**-1.9**
	comp=Z,1.8nm,0.7s,baz=158,slow=4.7,SNR=2.4							
	comp=Z,1.8nm,0.5s							
USRK	**Ussuriysk Ar.**	**49.95**	**33**	P		**P**	**05 32 57.9**	**-0.2**
USRK	**Ussuriysk Ar.**	**49.95**	**33**	LR		LR	05 57 36.8	
	comp=Z,67nm,18.1s,baz=244,slow=40							
HEH	**HeiHe**	**52.01**	**25**	*eP*		**P**	**05 33 14.5**	**+1.0**
HEH				pmax	pmax			
	comp=Z,7.0nm,1.1s							
RAYN	**Ar Rayn**	**52.11**	**296**	P		**P**	**05 33 14.7**	**-0.1**
RAYN				IAmb		IAmb	05 33 16.4	
	comp=Z,7.9nm,0.9s							
BVAR	**Borovoye Array**	**52.22**	**341**	P		**P**	**05 33 14.1**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=140,slow=7.7,SNR=5.3							
	comp=Z,1.1nm,0.7s							
BRVK	**Borovoye**	**52.28**	**340**	P		**P**	**05 33 15.7**	**+0.3**
BRVK				IAmb		IAmb	05 33 16.9	
	comp=Z,8.1nm,1.5s							
KLR	**Kul'dur**	**53.21**	**28**	P		**P**	**05 33 24.7**	**+2.3**
	comp=Z,7.2nm,1.0s,baz=269,slow=5.7,SNR=13							
KLR				LR		LR	05 57 04.0	
	comp=Z,40nm,19.0s,baz=320,slow=37							
	comp=Z,7.2nm,1.0s							
BBOO	**Buckleboo**	**53.42**	**138**	P		**P**	**05 33 25.8**	**+1.6**
BBOO				IAmb		IAmb	05 33 33.3	
	comp=Z,9.2nm,1.1s							
ABKAR	**Akbulak array**	**53.59**	**331**	P		**P**	**05 33 24.0**	**-1.2**
CTA	**Charters Tower**	**55.18**	**119**	LR		LR	06 02 08.2	
	comp=Z,50nm,19.4s,baz=186,slow=41							
ASAJ	**Asahikawa**	**56.15**	**39**	LR		LR	05 59 08.6	
	comp=Z,40nm,18.0s,baz=54,slow=37							
STKA	**Stephens Creek**	**56.74**	**134**	P		**P**	**05 33 49.7**	**+1.5**
STKA	**Stephens Creek**	**56.74**	**134**	P		**P**	**05 33 50.6**	**+2.3**
	comp=Z,1.3nm,0.5s,baz=320,slow=10,SNR=4.4							
STKA				LR		LR	06 00 20.4	
	comp=Z,54nm,19.5s,baz=212,slow=38							
	comp=Z,1.3nm,0.5s							
KIBK	**Kibwezi**	**58.60**	**264**	P		**P**	**05 34 02.5**	**+0.7**
KIBK				IAmb		IAmb	05 34 05.1	
	comp=Z,4.6nm,1.0s							
LODK	**Lodwar**	**60.71**	**271**	P		**P**	**05 34 16.5**	**+0.3**
LODK				IAmb		IAmb	05 34 20.8	
	comp=Z,3.7nm,1.1s							
GAZ	**Gaziantep**	**62.40**	**309**	P		**P**	**05 34 27.3**	**0.0**
MMAI	**Mount Meron Ar**	**62.85**	**304**	P		**P**	**05 34 30.4**	**0.0**
	comp=Z,3.3nm,0.7s,baz=92,slow=2.5,SNR=4.4							
	comp=Z,3.3nm,0.7s							
H04N2	**CROZET ISLANDS**	**64.53**	**213**	T		T	06 44 03.9	
	baz=50,slow=75,SNR=50							
H04N1	**CROZET ISLANDS**	**64.54**	**213**	T		T	06 44 03.3	
	baz=50,slow=75,SNR=40							
H04N3	**CROZET ISLANDS**	**64.55**	**213**	T		T	06 44 02.3	
	baz=50,slow=75,SNR=55							
BR131	**Keskin Array S**	**65.77**	**311**	P		**P**	**05 34 47.9**	**-1.6**
BR131				IAmb		IAmb	05 34 48.4	
	comp=Z,1.8nm,0.7s							
BRTR	**Keskin Array B**	**65.77**	**311**	P		**P**	**05 34 48.0**	**-1.5**
BRTR	**Keskin Array B**	**65.77**	**311**	P		**P**	**05 34 47.4**	**-2.1**
	comp=Z,1.4nm,0.6s,baz=127,slow=7.0,SNR=7.3							
	comp=Z,1.4nm,0.6s							
MA2	**Magadan**	**68.22**	**27**	LR		LR	06 08 43.4	
	comp=Z,50nm,19.0s,baz=286,slow=39							
LSZ	**Lusaka**	**70.37**	**252**	LR		LR	06 03 18.8	
	comp=Z,44nm,18.6s,baz=167,slow=34							
SEY	**Seymchan**	**70.53**	**24**	LR		LR	06 08 54.4	
	comp=Z,60nm,18.6s,baz=69,slow=38							
TIRR	**Tirgusor**	**70.63**	**315**	P		**P**	**05 35 18.6**	**-1.1**
AKASG	**Malin Array Be**	**71.56**	**322**	P		**P**	**05 35 22.7**	**-2.5**
	comp=Z,0.5nm,0.5s,baz=86,slow=5.4,SNR=8.9							
	comp=Z,0.5nm,0.5s							
BURAR	**Bucovina Array**	**73.44**	**318**	P		**P**	**05 35 36.5**	**-0.1**
AGG	**Agios Georgios**	**74.27**	**309**	P		**P**	**05 35 39.3**	**-2.2**
AGG				IAmb		IAmb	05 35 52.8	
	comp=Z,4.0nm,1.0s							
LBTB	**Lobatse**	**74.81**	**242**	P		**P**	**05 35 48.0**	**+2.9**
LBTB				IAmb		IAmb	05 35 48.2	
	comp=Z,6.2nm,0.8s							
FIA1	**FINESS Array S**	**76.06**	**332**	P		**P**	**05 35 50.4**	**-1.0**
FINES	**FINESS Array B**	**76.06**	**332**	P		**P**	**05 35 50.4**	**-1.0**
FINES	**FINESS Array B**	**76.06**	**332**	P		**P**	**05 35 49.9**	**-1.5**
	comp=Z,2.1nm,0.7s,baz=102,slow=5.2,SNR=11							
	comp=Z,2.1nm,0.7s							
ARCES	**ARCESS Array B**	**78.50**	**340**	P		**P**	**05 36 04.8**	**-0.2**
ARCES	**ARCESS Array B**	**78.50**	**340**	P		**P**	**05 36 04.0**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=96,slow=6.0,SNR=9.1							
	comp=Z,1.5nm,0.6s							
GERES	**GERESS Array B**	**81.22**	**318**	P		**P**	**05 36 19.9**	**-0.3**
GERES	**GERESS Array B**	**81.22**	**318**	P		**P**	**05 36 19.3**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=64,slow=9.1,SNR=4.4							
	comp=Z,1.0nm,0.5s							
PRED	**Cave del Predi**	**81.23**	**316**	P		**P**	**05 36 19.9**	**-0.3**
PRED				IAmb		IAmb	05 36 20.1	
	comp=Z,4.3nm,0.8s							
HFS	**Hagfors**	**81.83**	**330**	P		**P**	**05 36 21.3**	**-1.8**
	comp=Z,1.9nm,0.8s,baz=134,slow=6.3,SNR=4.7							
	comp=Z,1.9nm,0.8s							
SPITS	**Spitsbergen Ar**	**82.90**	**348**	P		**P**	**05 36 27.5**	**-0.9**
	comp=Z,7.0nm,1.0s,baz=102,slow=10,SNR=5.7							
	comp=Z,7.0nm,1.0s							
NOA	**NORSAR Array B**	**83.10**	**331**	LR		LR	06 18 32.3	
	comp=Z,40nm,18.6s,baz=105,slow=39							
NC204	**NORSAR Array S**	**83.32**	**331**	P		**P**	**05 36 30.0**	**-0.8**
KEST	**Kesra**	**84.49**	**305**	P		**P**	**05 36 37.8**	**+0.3**
	comp=Z,7.4nm,0.9s,baz=6.3,slow=9.2,SNR=6.7							
	comp=Z,7.4nm,0.9s							
TORD	**Torodi Ar. Bea**	**93.24**	**283**	P		**P**	**05 37 20.0**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=90,slow=3.3,SNR=11							
	comp=Z,1.6nm,0.7s							
ESDC	**Sonseca Array**	**94.54**	**310**	P		**P**	**05 37 24.8**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=50,slow=4.4,SNR=6.9							
	comp=Z,1.0nm,0.8s							

IDC 15 05:27:52.6±2.5, 2.25S × 134.12E, h0km, mb3.8/3, mbtmp3.8/4, ML3.5/1, MS3.1/1, Error ellipse: s-maj=123.9km s-min=25.3km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.59**	**179**	P		Pn	05 31 58.9	-0.4
	0.2nm,0.3s,baz=358,slow=11,SNR=17							
	0.8nm,0.5s							
ASAR	**Alice Springs**	**21.29**	**181**	P		P	05 32 41.2	+0.1
	4.7nm,0.8s,baz=6.3,slow=12,SNR=19							
	4.7nm,0.8s							
CTA	**Charters Tower**	**21.33**	**147**	LR		LR	05 41 33.0	
	comp=Z,48nm,18.3s,baz=16,slow=38							
MKAR	**Makanchi Array**	**66.67**	**324**	P		P	05 38 45.6	+0.2
	0.7nm,0.5s,baz=110,slow=8.0,SNR=9.5							
	0.7nm,0.5s							
KURBB	**Kurchatov Arra**	**70.75**	**326**	P		P	05 39 10.4	-0.3
	0.3nm,0.5s,baz=113,slow=4.9,SNR=2.5							
	0.3nm,0.5s							

KEA ***15*** *05:30:18.6, 37.33N × 123.00E, h18km, ML3.0/2*
ISC 15 05:30:14.7±2.8, 37.2N±0.2 × 122.83E±0.09, h10km, n4, σ0s40/7, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DL2	**Dalian**	**1.97**	**331**	Pg		**Pn**	**05 30 48.4**	**+0.3**
DL2				Sg		**Sn**	**05 31 12.3**	**-0.6**
DL2				smax	smax			
	comp=N,140nm,0.5s							
DL2				smax	smax			

MEX 15 05:50:15.2±0.3, 16°26N×98°01W, h9km±4km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.17**	**320**	*i* P	Pg	05 50 18.4	-0.4
PNIG				*i* S	Sg	05 50 21.1	-0.2
YOIG	**Yosondua**	**0.74**	**37**	*e*P	Pg	05 50 28.1	-1.5
YOIG	**Yosondua**	**0.74**	**37**	*e*P	Pg	05 50 28.1	-1.5
YOIG				*e*S	Sg	05 50 38.0	-1.3
PEIG	**Puerto Escondi**	**0.87**	**107**	*e*P	Pg	05 50 26.3	-5.7
PEIG				*e*S	Sg	05 50 43.7	+0.3
TXIG	**Tlaxiaco**	**1.01**	**13**	*e*P	Pg	05 50 32.3	-2.5
TXIG				*e*S	Sg	05 50 44.9	-3.1
MGIG	**Malinaltepec**	**1.14**	**329**	*e*P	Pg	05 50 33.6	-3.5
MGIG				*i* S	Sg	05 50 47.5	-4.4
CRIG	**Cruz Grande**	**1.17**	**294**	*e*P	Pb	05 50 33.9	-3.8
CRIG				*e*S	Sb	05 50 48.5	-4.5
FTIG	**Fresnillo de T**	**1.64**	**356**	*e*P	Pn	05 50 41.7	-2.6

IDC 15 05:50:32.0±2.7, 5°04N×96°37E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=116.6km s-min=24.7km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**42.18**	**336**	P	P	05 58 26.8	0.0
	0.9nm,0.4s,baz=149,slow=14,SNR=1.8 0.9nm,0.4s						
MKAR	**Makanchi Array**	**43.34**	**346**	P	P	05 58 35.7	-0.3
	0.5nm,1.0s,baz=160,slow=7.7,SNR=2.3 0.5nm,1.0s						
SONM	**Songino Array**	**43.50**	**10**	P	P	05 58 37.2	-0.1
	0.6nm,0.5s,baz=187,slow=9.0,SNR=5.3 0.6nm,0.5s						
WRA	**Warramunga Arr**	**44.83**	**125**	P	P	05 58 48.0	-0.3
	0.4nm,1.0s,baz=303,slow=9.3,SNR=2.3 0.4nm,1.0s						
ASAR	**Alice Springs**	**46.41**	**130**	P	P	05 59 00.9	+0.1
	0.9nm,0.8s,baz=301,slow=7.2,SNR=2.0 0.9nm,0.8s						
H04N2	**CROZET ISLANDS**	**64.50**	**213**	T	T	07 11 11.6	
	baz=49						
H04N1	**CROZET ISLANDS**	**64.51**	**213**	T	T	07 11 16.7	
	baz=49						
H04N3	**CROZET ISLANDS**	**64.52**	**213**	T	T	07 11 23.9	
	baz=49						

IDC 15 06:01:00.1±0.8, 29°56N×104°91E, h0km, mb3.8/13, mbtmp3.8/15, ML3.9/2, MS3.4/1, Error ellipse: s-maj=24.5km s-min=15.7km az=55.0
NEIC 15 06:01:06.6±1.9, 29°62N±0°05×104°84E±0°10, h40km±7km, mb4.1/9, Error ellipse: s-maj=13.5km s-min=4.9km az=114.0

ISC 15 06:01:05.4±0.6, 29°56N±0°08×104°86E±0°08, h35km, n32, σ1§03/31, mb3.8/16, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**4.08**	**79**		**Pn**	**06 02 06.9**	**+1.6**
KMI	**Kunming**	**4.81**	**204**	Pn	**Pn**	**06 02 16.3**	**+0.8**
XAN	**Xi'an**	**5.65**	**37**	Pn	**Pn**	**06 02 25.9**	**-0.9**
SLVN	**Son La**	**8.24**	**186**	Pn	**Pn**	**06 03 03.5**	**+1.0**
QIZ	**Qiongzhong**	**11.43**	**155**	Pn	**Pn**	**06 03 47.8**	**+1.7**
LSA	**Lhasa**	**11.93**	**274**	Pn	**Pn**	**06 03 53.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**12.30**	**207**	Pn	**Pn**	**06 03 56.0**	**-2.1**
	0.5nm,0.3s,baz=23,slow=12,SNR=1.4 2.7nm,0.3s						
TATO	**Taipei**	**15.47**	**103**	Pn	**P**	**06 04 42.6**	**-2.5**
TATO				IAmb	IAmb	06 05 10.4	
	comp=Z,26nm,0.9s						
SONM	**Songino Array**	**18.28**	**3**	P	**Pn**	**06 05 15.8**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=164,slow=9.5,SNR=2.7 comp=Z,0.6nm,0.6s						
KSRS	**Korea Array**	**20.75**	**62**	P	**P**	**06 05 42.6**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=249,slow=10,SNR=4.3 comp=Z,1.8nm,0.7s						
MK31	**Makanchi Array**	**24.57**	**321**	P	**P**	**06 06 21.7**	**-0.3**
MKAR	**Makanchi Array**	**24.57**	**321**	P	**P**	**06 06 22.1**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=121,slow=12,SNR=19 comp=Z,1.7nm,0.6s						
MAKZ	**Makanchi**	**24.76**	**320**	P	**P**	**06 06 24.6**	**+1.0**
MAKZ				IAmb	IAmb	06 06 25.9	
	comp=Z,2.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**26.01**	**48**	P	**P**	**06 06 34.1**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=299,slow=3.8,SNR=4.4 comp=Z,1.7nm,0.6s						
BOOM	**Boomskoye usch**	**26.57**	**307**	P	**P**	**06 06 41.6**	**+1.3**
BOOM				IAmb	IAmb	06 06 44.7	
	comp=Z,4.1nm,0.6s						
ZALV	**Zalesovo Beam**	**28.39**	**335**	P	**P**	**06 06 57.1**	**+0.9**
ZALV	**Zalesovo Beam**	**28.39**	**335**	P	**P**	**06 06 56.0**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=128,slow=9.6,SNR=4.4 comp=Z,1.4nm,0.6s						
KURBB	**Kurchatov Arra**	**28.86**	**324**	P	**P**	**06 07 00.3**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=129,slow=9.7,SNR=7.0 comp=Z,1.2nm,0.5s						
BVAR	**Borovoye Array**	**34.40**	**323**	P	**P**	**06 07 50.2**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=117,slow=8.6,SNR=2.9 comp=Z,0.8nm,0.6s						
KIRV	**Kirov**	**47.39**	**324**	LR	LR	06 30 28.8	
	comp=Z,42nm,19.8s,baz=29,slow=37						
WRA	**Warramunga Arr**	**56.83**	**146**	P	**P**	**06 10 46.4**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=355,slow=6.7,SNR=39 comp=Z,3.1nm,0.7s						
WB2	**Warramunga Arr**	**56.84**	**146**	P	**P**	**06 10 46.8**	**+0.2**
WR0	**Warramunga Arr**	**56.95**	**146**	P	**P**	**06 10 47.6**	**+0.3**
BRTR	**Keskin Array B**	**58.08**	**301**	P	**P**	**06 10 56.4**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=98,slow=4.4,SNR=2.0 comp=Z,0.5nm,0.6s						
AKASG	**Malin Array Be**	**58.91**	**314**	P	**P**	**06 11 00.3**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=68,slow=6.7,SNR=3.3 comp=Z,0.3nm,0.4s						
FINES	**FINESS Array B**	**59.21**	**327**	P	**P**	**06 11 02.6**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=101,slow=9.9,SNR=11 comp=Z,0.8nm,0.4s						
ASAR	**Alice Springs**	**59.84**	**149**	P	**P**	**06 11 07.5**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=324,slow=6.5,SNR=12 comp=Z,1.2nm,0.6s						
D19K	**Kuna River**	**65.36**	**24**	P	**P**	**06 11 44.4**	**+0.6**
D19K				IAmb	IAmb	06 11 44.9	
	comp=Z,1.8nm,0.8s						
M13K	**Dall Lake**	**65.63**	**33**	P	**P**	**06 11 46.8**	**+1.3**
E24K	**Your Creek**	**68.83**	**23**	P	**P**	**06 12 06.8**	**+0.9**
E24K				IAmb	IAmb	06 12 09.3	
	comp=Z,1.2nm,0.8s						
ILAR	**Eielson Array**	**70.94**	**26**	P	**P**	**06 12 17.8**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=292,slow=3.7,SNR=3.2 comp=Z,0.3nm,0.8s						
YKA	**Yellowknife Ar**	**82.97**	**17**	P	**P**	**06 13 26.6**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=328,slow=5.2,SNR=6.9 comp=Z,0.3nm,0.8s						

NNC 15 06:12:49.4±2.6, 37°76N×70°37E, h0km, mb3.9, mpv3.4, 2C, Error ellipse: s-maj=39.0km s-min=15.4km az=109.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.33**	**1**	⇑P	Pn	06 14 10.6	+0.3
	1.1nm,0.2s,baz=182,slow=14,SNR=7.1						
KK31				S	Sn	06 15 14.1	+1.6
	1.2nm,0.3s,baz=176,slow=18,SNR=8.3						
AB31	**Akbulak array**	**13.74**	**330**	P	Pn	06 16 05.3	0.0
	0.7nm,0.5s,baz=140,slow=13,SNR=18						
AKTO	**Aktyubinsk**	**15.44**	**329**	⇑P	Pn	06 16 28.9	+0.5
	2.7nm,0.8s						

IDC 15 06:26:37.2±21.0, 50°56S×161°44E, h0km, mb3.8/3, mbtmp4.0/4, ML3.8/1, MS3.4/2, Error ellipse: s-maj=437.6km s-min=49.2km az=172.0, North of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.59**	**48**	Pn	Pn	06 30 31.3	+0.2
	0.3nm,0.3s,baz=253,slow=16,SNR=5.2						
URZ				LR	LR	06 37 22.3	
	comp=Z,90nm,19.0s,baz=307,slow=39 7.8nm,0.7s						
STKA	**Stephens Creek**	**23.77**	**314**	P	P	06 31 51.7	+0.4
	1.3nm,0.6s,baz=140,slow=16,SNR=4.7						
	1.3nm,0.6s						
VNDA	**Vanda**	**27.07**	**180**	LR	LR	06 40 00.1	
	comp=Z,94nm,19.1s,baz=352,slow=30						
ASAR	**Alice Springs**	**34.31**	**311**	P	P	06 33 25.8	+0.4
	1.2nm,0.7s,baz=146,slow=8.5,SNR=23 1.2nm,0.7s						
WRA	**Warramunga Arr**	**37.31**	**315**	P	P	06 33 50.1	-1.0
	1.5nm,0.7s,baz=148,slow=8.2,SNR=5.6 1.5nm,0.7s						
H01W1	**Cape Leeuwin H**	**37.42**	**276**	T	T	07 13 46.0	
	baz=130,slow=76,SNR=184						
H01W2	**Cape Leeuwin H**	**37.42**	**276**	T	T	07 13 49.2	
	baz=130,slow=76,SNR=181						
H01W3	**Cape Leeuwin H**	**37.43**	**276**	T	T	07 13 47.6	
	baz=130,slow=76,SNR=185						
H04S2	**CROZET ISLANDS**	**65.56**	**225**	T	T	07 49 21.7	
	baz=139						
H04S1	**CROZET ISLANDS**	**65.56**	**225**	T	T	07 49 18.6	
	baz=139						
H04S3	**CROZET ISLANDS**	**65.58**	**225**	T	T	07 49 13.8	
	baz=139						

PGC 15 06:27:54.5±0.3, 49°24N×125°42W, h46km, ML2.7/36, 33km Nne of Ucluelet, Bc Vancouver Island, Canada Region
NEIC 15 06:27:55.2±1.3, 49°25N±0°03×125°39W±0°05, h34km±5km, ML2.8/41, ML2.7(OTT), ML2.8/17(SEA), Error ellipse: s-maj=4.8km s-min=4.0km az=105.0
SEA 15 06:27:58.2±2.5, 49°30N±0°04×125°35W±0°04, h5km±2km, Error ellipse: s-maj=7.1km s-min=3.4km az=215.0

ISC 15 06:27:54.6±1.4, 49°23N±0°02×125°48W±0°02, h36km±1km, n133, σ1§05/161, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZB	**Mount Ozzard**	**0.27**	**181**		**Pn**	**06 28 03.0**	**+0.3**
OZB					**Sn**	**06 28 08.7**	**-0.9**
OZB	**Mount Ozzard**	**0.27**	**181**	P	**Pn**	**06 28 03.0**	**+0.3**
OZB				S	**Sn**	**06 28 08.8**	**-0.9**
B012	**Ucluelet**	**0.31**	**187**		**Pn**	**06 28 03.3**	**+0.7**
B012					**Sn**	**06 28 09.3**	**+0.1**
B012	**Ucluelet**	**0.31**	**187**	P	**Pn**	**06 28 03.4**	**+0.7**
B012				S	**Sn**	**06 28 09.4**	**+0.1**
B927	**Port Alberni**	**0.44**	**91**		**Pn**	**06 28 04.1**	**-0.1**
B927	**Port Alberni**	**0.44**	**91**	P	**Pn**	**06 28 04.2**	**-0.1**
B927				S	**Sn**	**06 28 11.1**	**0.0**
B928	**Bamfield**	**0.46**	**150**		**Pn**	**06 28 04.6**	**+0.2**
B928					**Sn**	**06 28 11.7**	**+0.3**
B928	**Bamfield**	**0.46**	**150**	P	**Pn**	**06 28 04.7**	**+0.2**
B928				S	**Sn**	**06 28 11.9**	**+0.5**
BFSB	**Bamfield**	**0.46**	**150**		**Pn**	**06 28 04.7**	**+0.2**
BFSB					**Sn**	**06 28 11.8**	**+0.4**
BFSB	**Bamfield**	**0.46**	**150**	P	**Pn**	**06 28 04.7**	**+0.2**
BFSB				S	**Sn**	**06 28 11.8**	**+0.4**
GDR	**Gold River**	**0.66**	**327**	P	**Pn**	**06 28 07.8**	**+0.4**
GDR				S	**Sn**	**06 28 17.1**	**+0.6**
SPLB	**Strathcona Par**	**0.67**	**351**		**Pn**	**06 28 07.7**	**+0.1**
SPLB	**Strathcona Par**	**0.67**	**351**	P	**Pn**	**06 28 07.8**	**+0.1**
SPLB				S	**Sn**	**06 28 17.1**	**+0.1**
ETB	**Estevan Point**	**0.70**	**283**		**Pn**	**06 28 08.9**	**+0.9**
ETB	**Estevan Point**	**0.70**	**283**	P	**Pn**	**06 28 08.5**	**+0.5**
CBB	**Campbell River**	**0.81**	**5**		**Pn**	**06 28 09.4**	**0.0**
CBB				IAML		06 28 21.5	
	comp=E,752nm,0.5s						
CBB				IAML		06 28 21.6	
	comp=N,561nm,0.5s						
CBB	**Campbell River**	**0.81**	**5**	P	**Pn**	**06 28 09.4**	**0.0**
CBB				S	**Sn**	**06 28 20.3**	**0.0**
NCBC	**Barkley Canyon**	**0.92**	**210**		**Pn**	**06 28 11.4**	**+0.5**
NCBC					**Sn**	**06 28 25.0**	**+2.1**
NCBC	**Barkley Canyon**	**0.92**	**210**	P	**Pn**	**06 28 11.4**	**+0.5**
NCBC				S	**Sn**	**06 28 24.6**	**+1.7**
PFB	**Port Renfrew**	**0.95**	**133**	P	**Pn**	**06 28 11.1**	**-0.3**
PFB				S	**Sn**	**06 28 23.1**	**-0.7**
B926	**Mesachie Lake**	**0.98**	**114**		**Pn**	**06 28 11.4**	**-0.4**
B926	**Mesachie Lake**	**0.98**	**114**	P	**Pn**	**06 28 11.4**	**-0.4**
CLRS	**Cowichan Lake**	**0.98**	**114**		**Pn**	**06 28 11.2**	**-0.5**
CLRS				IAML		06 28 28.6	
	comp=N,141nm,0.7s						
CLRS	**Cowichan Lake**	**0.98**	**114**	P	**Pn**	**06 28 11.3**	**-0.5**
NLLB	**Nanaimo Lost L**	**0.98**	**89**		**Pn**	**06 28 11.6**	**-0.2**
NLLB	**Nanaimo Lost L**	**0.98**	**89**	P	**Pn**	**06 28 11.6**	**-0.2**
NLLB				S	**Sn**	**06 28 24.4**	**-0.1**
PTRF	**Port Renfrew**	**0.98**	**134**		**Pn**	**06 28 11.4**	**-0.4**
PTRF	**Port Renfrew**	**0.98**	**134**	P	**Pn**	**06 28 11.4**	**-0.4**
NC89	**ODP889**	**1.06**	**239**	P	**Pn**	**06 28 12.9**	**+0.3**
NC89				S	**Sn**	**06 28 27.7**	**+1.6**
OCP	**Olym-Cheeka Pk**	**1.09**	**148**		**Pn**	**06 28 13.4**	**+0.1**
OCP	**Olym-Cheeka Pk**	**1.09**	**148**	P	**Pn**	**06 28 13.4**	**+0.1**
SHB	**Sechelt**	**1.11**	**70**		**Pn**	**06 28 13.1**	**-0.6**
SHB	**Sechelt**	**1.11**	**70**	P	**Pn**	**06 28 13.3**	**-0.4**
SHB				S	**Sn**	**06 28 26.6**	**-1.3**
WOSB	**Woss**	**1.17**	**323**		**Pn**	**06 28 15.0**	**+0.5**
WOSB	**Woss**	**1.17**	**323**	P	**Pn**	**06 28 15.0**	**+0.5**
WOSB				S	**Sn**	**06 28 29.6**	**+0.4**
NCRB	**Newcastle Ridg**	**1.23**	**343**		**Pn**	**06 28 15.8**	**+0.5**
NCRB	**Newcastle Ridg**	**1.23**	**343**	P	**Pn**	**06 28 15.9**	**+0.5**
NCSB	**Newcastle Ridg**	**1.23**	**343**	P	**Pn**	**06 28 15.9**	**+0.5**
NCSB				S	**Sn**	**06 28 31.2**	**+0.4**
EDB	**Eliza Dome**	**1.25**	**302**	P	**Pn**	**06 28 15.7**	**+0.3**
EDB				S	**Sn**	**06 28 30.7**	**-0.2**
SYMB	**Survey Mountai**	**1.30**	**120**	P	**Pn**	**06 28 16.1**	**-0.1**
GOBB	**Galiano Island**	**1.33**	**101**		**Pn**	**06 28 20.1**	**+3.5**
GOBB	**Galiano Island**	**1.33**	**101**	P	**Pn**	**06 28 16.8**	**+0.2**
C03A	**Quillayute Air**	**1.42**	**154**	Pn	**Pn**	**06 28 18.6**	**+0.8**
C03A				IAML		06 28 49.0	
	comp=N,142nm,1.7s						
C03A				IAML		06 28 51.0	
	comp=E,114nm,1.9s						
BIB	**Bowen Island**	**1.44**	**82**		**Pn**	**06 28 17.5**	**-0.5**
BIB	**Bowen Island**	**1.44**	**82**	P	**Pn**	**06 28 17.6**	**-0.5**
BIB				S	**Sn**	**06 28 37.9**	**+2.3**
B010	**North Saanich**	**1.46**	**113**	P	**Pn**	**06 28 18.0**	**-0.4**
PGC	**Sidney**	**1.46**	**113**	Pn	**Pn**	**06 28 17.9**	**-0.5**
PGC				IAML		06 28 35.3	
	comp=E,71nm,0.4s						
PGC				IAML		06 28 44.5	
	comp=N,90nm,0.5s						
PGC	**Sidney**	**1.46**	**113**	P	**Pn**	**06 28 18.1**	**-0.3**
PGC				S	**Sn**	**06 28 34.5**	**-1.7**
B009	**North Saanich**	**1.46**	**113**	P	**Pn**	**06 28 18.0**	**-0.3**
B011	**North Saanich**	**1.46**	**113**	P	**Pn**	**06 28 17.8**	**-0.6**
PA01	**PA01 North**	**1.46**	**112**	P	**Pn**	**06 28 17.9**	**-0.5**
OBC	**Olympics--Boni**	**1.52**	**141**	P	**Pn**	**06 28 19.5**	**+0.2**
WPB	**Watts Point**	**1.54**	**73**		**Pn**	**06 28 19.3**	**-0.2**
WPB	**Watts Point**	**1.54**	**73**	P	**Pn**	**06 28 19.3**	**-0.2**
SNB	**Saturna Island**	**1.59**	**106**	P	**Pn**	**06 28 20.3**	**+0.1**
MAYB	**Maynard**	**1.60**	**318**		**Pn**	**06 28 21.1**	**+0.6**
MAYB	**Maynard**	**1.60**	**318**	P	**Pn**	**06 28 21.1**	**+0.6**
STW	**Striped Peak**	**1.61**	**131**	P	**Pn**	**06 28 20.2**	**-0.3**
VGZ	**Gonzales**	**1.64**	**119**	P	**Pn**	**06 28 20.2**	**-0.7**
B04A	**Port Angeles**	**1.76**	**131**		**Pn**	**06 28 23.0**	**+0.5**
B04A	**Port Angeles**	**1.76**	**131**		**Pn**	**06 28 23.2**	**+0.7**
PACB	**Port Alice, BC**	**1.77**	**314**		**Pn**	**06 28 23.5**	**+0.7**
PACB	**Port Alice, BC**	**1.77**	**314**	P	**Pn**	**06 28 23.4**	**+0.7**
PACB				S	**Sn**	**06 28 43.8**	**-0.2**
MCW	**Mount Constitu**	**1.83**	**106**	P	**Pn**	**06 28 23.4**	**-0.1**
OSD	**Olympics--Snow**	**1.84**	**139**	P	**Pn**	**06 28 23.7**	**-0.1**
WSLR	**Whistler**	**1.89**	**61**	P	**Pn**	**06 28 24.7**	**+0.3**
WSLR				S	**Sn**	**06 28 46.9**	**-0.1**
HNBB	**Haney**	**1.91**	**87**		**Pn**	**06 28 25.2**	**+0.6**
HNBB	**Haney**	**1.91**	**87**	P	**Pn**	**06 28 24.3**	**-0.2**
HNBB				S	**Sn**	**06 28 46.3**	**-1.0**
PHC	**Port Hardy**	**1.94**	**320**		**Pn**	**06 28 26.0**	**+1.0**
PHC	**Port Hardy**	**1.94**	**320**	P	**Pn**	**06 28 25.7**	**+0.7**
PHC				S	**Sn**	**06 28 47.8**	**-0.3**
NC27	**ODP1027**	**2.11**	**227**	P	**Pn**	**06 28 25.6**	**-1.3**
NLWA	**Neilton Lookou**	**2.13**	**149**	Pn	**Pn**	**06 28 27.5**	**-0.1**
HOLB	**Holberg**	**2.22**	**311**		**Pn**	**06 28 29.4**	**+0.5**
HOLB				IAML		06 29 07.3	
	comp=E,62nm,1.1s						
HOLB				IAML		06 29 10.2	
	comp=N,58nm,0.8s						
HOLB	**Holberg**	**2.22**	**311**	P	**Pn**	**06 28 29.3**	**+0.5**
HOLB				S	**Sn**	**06 28 54.0**	**-1.0**
B013	**Quilcene**	**2.22**	**129**		**Pn**	**06 28 29.4**	**+0.6**
HDW	**Hoodsport**	**2.26**	**133**		**Pn**	**06 28 30.1**	**+0.6**
HDW	**Hoodsport**	**2.26**	**133**	P	**Pn**	**06 28 29.9**	**+0.4**
MBW	**Mount Baker**	**2.40**	**99**		**Pn**	**06 28 32.6**	**+1.2**
MBW	**Mount Baker**	**2.40**	**99**	P	**Pn**	**06 28 32.5**	**+1.0**
WISH	**Wishkah**	**2.40**	**151**	Pn	**Pn**	**06 28 31.6**	**+0.3**
WISH				IAML		06 29 22.7	
	comp=N,57nm,1.9s						
WISH				IAML		06 29 25.5	
	comp=E,46nm,1.8s						
WISH	**Wishkah**	**2.40**	**151**	P	**Pn**	**06 28 31.6**	**+0.3**
WISH				S	**Sn**	**06 28 59.0**	**-0.4**
GNW	**Green Mountain**	**2.43**	**132**		**Pn**	**06 28 32.3**	**+0.5**
GNW	**Green Mountain**	**2.43**	**132**	P	**Pn**	**06 28 32.2**	**+0.5**
JCW	**Jim Creek**	**2.57**	**112**	P	**Pn**	**06 28 34.9**	**+1.2**
HOPB	**Hope**	**2.66**	**85**	P	**Pn**	**06 28 35.6**	**+0.7**
HOPB	**Hope**	**2.66**	**85**	S	**Sn**	**06 29 04.6**	**-1.3**
NCHR	**NEPTUNE Canada**	**2.70**	**244**	P	**Pn**	**06 28 34.0**	**-1.1**
NCHR	**NEPTUNE Canada**	**2.70**	**244**	S	**Sn**	**06 29 04.1**	**-2.2**
KEMF	**NEPTUNE Canada**	**2.72**	**243**	P	**Pn**	**06 28 34.3**	**-1.1**
KEMF	**NEPTUNE Canada**	**2.72**	**243**	S	**Sn**	**06 29 04.1**	**-2.8**
RPW	**Rockport**	**2.74**	**105**	P	**Pn**	**06 28 37.3**	**+1.4**
KEMO	**NEPTUNE Canada**	**2.74**	**243**	P	**Pn**	**06 28 34.6**	**-1.1**
KEMO	**NEPTUNE Canada**	**2.74**	**243**	S	**Sn**	**06 29 04.5**	**-2.8**
E03A	**Lebam**	**2.98**	**154**	Pn	**Pn**	**06 28 39.4**	**+0.2**
E03A				IAML		06 29 19.7	
	comp=E,34nm,2.0s						
E03A				IAML		06 30 27.4	
	comp=N,30nm,1.9s						
E03A	**Lebam**	**2.98**	**154**	P	**Pn**	**06 28 39.4**	**+0.2**
E03A	**Lebam**	**2.98**	**154**	S	**Sn**	**06 29 11.4**	**-2.2**
RADR	**Rader Ridge**	**3.03**	**157**	Pn	**Pn**	**06 28 40.8**	**+0.8**
RATT	**Rattlesnake La**	**3.05**	**125**		**Pn**	**06 28 42.1**	**+1.8**
D05A	**Enumclaw**	**3.10**	**130**	Pn	**Pn**	**06 28 42.1**	**+1.2**
D05A				IAML		06 29 27.9	
	comp=E,14nm,1.9s						
OBSR	**Observation Ro**	**3.39**	**132**		**Pn**	**06 28 46.9**	**+1.7**
BBB	**Bella Bella**	**3.40**	**332**	Pn	**Pn**	**06 28 45.0**	**+0.1**
BBB				IAML		06 29 45.5	
	comp=N,23nm,1.4s						
BBB				IAML		06 30 12.5	
	comp=E,22nm,1.8s						
BBB	**Bella Bella**	**3.40**	**332**	P	**Pn**	**06 28 45.1**	**+0.1**
BBB	**Bella Bella**	**3.40**	**332**	S	**Sn**	**06 29 22.5**	**-1.4**
REMR	**Mount Rainier-**	**3.43**	**133**		**Pn**	**06 28 47.0**	**+1.4**
LON	**Longmire**	**3.50**	**134**		**Pn**	**06 28 47.6**	**+1.2**
LON	**Longmire**	**3.50**	**134**	P	**Pn**	**06 28 47.4**	**+0.9**
LON	**Longmire**	**3.50**	**134**	S	**Sn**	**06 29 25.0**	**-1.6**
ERK	**Elk Rock**	**3.61**	**143**		**Pn**	**06 28 49.2**	**+1.1**
B201	**Coldwater, Mou**	**3.64**	**142**		**Pn**	**06 28 50.1**	**+1.7**
JRO	**Jston Ridge Ob**	**3.69**	**142**		**Pn**	**06 28 50.8**	**+1.7**
STD	**Studebaker Rid**	**3.71**	**142**		**Pn**	**06 28 51.5**	**+2.1**
SOSW	**Source of Smit**	**3.74**	**142**		**Pn**	**06 28 51.9**	**+2.0**
VALT	**Mount Saint He**	**3.75**	**142**		**Pn**	**06 28 53.0**	**+3.1**
LTY	**Liberty**	**3.77**	**120**	Pn	**Pn**	**06 28 51.3**	**+1.1**
LTY				IAML		06 29 59.3	
	comp=E,8.8nm,1.6s						
LTY	**Liberty**	**3.77**	**120**	P	**Pn**	**06 28 51.4**	**+1.1**
LTY	**Liberty**	**3.77**	**120**	S	**Sn**	**06 29 32.9**	**-0.6**
PNT	**Penticton**	**3.84**	**86**	P	**Pn**	**06 28 51.2**	**+0.1**
F04A	**Amboy**	**3.90**	**147**	Pn	**Pn**	**06 28 53.8**	**+1.9**
F04A				IAML		06 30 39.6	
	comp=N,12nm,1.5s						
F04A				IAML		06 30 51.7	
	comp=E,12nm,1.9s						
ASR	**Mount Adams--S**	**4.05**	**138**		**Pn**	**06 28 56.8**	**+2.7**
HEBO	**Mount Hebo**	**4.19**	**163**	Pn	**Pn**	**06 28 55.8**	**-0.1**
BUTB	**Butedale**	**4.27**	**335**	P	**Pn**	**06 28 57.5**	**+0.4**
BUTB	**Butedale**	**4.27**	**335**	S	**Sn**	**06 29 44.6**	**-1.1**
G03D	**McMinnville, O**	**4.29**	**159**	Pn	**Pn**	**06 28 58.4**	**+1.1**
TDH	**Tom, Dick, Har**	**4.67**	**146**		**Pn**	**06 29 05.0**	**+2.3**
GRIB	**Gribbell Islan**	**4.71**	**332**	P	**Pn**	**06 29 03.5**	**+0.4**
H04D	**Lebanon**	**5.07**	**157**	Pn	**Pn**	**06 29 10.3**	**+2.3**
H04A	**Detroit Lake**	**5.08**	**152**	Pn	**Pn**	**06 29 09.5**	**+1.4**
H04A				IAML		06 30 10.1	
	comp=E,7.8nm,1.3s						
H04A				IAML		06 31 33.5	
	comp=N,8.0nm,1.8s						
BNB	**Barry Inlet**	**5.19**	**313**	P	**Pn**	**06 29 09.8**	**+0.1**
BAIB	**Barry Inlet**	**5.19**	**313**	P	**Pn**	**06 29 09.8**	**+0.1**
FSJB	**Fort St James**	**5.29**	**8**	P	**Pn**	**06 29 11.9**	**+0.9**
GRNB	**Grenville Isla**	**5.40**	**331**	P	**Pn**	**06 29 13.8**	**+1.3**
PINE	**Pine Mountain**	**6.28**	**148**	Pn	**Pn**	**06 29 27.6**	**+2.8**
DBO	**Dodson Butte**	**6.30**	**165**	Pn	Pn	06 29 29.4	+4.4

DJA 15 06:39:27.4±0.6, 9°S±5°×12°5E±°, h11km±4km, M3.6/10, mb3.9/5, MLv3.5/10, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.87**	**227**	P	Pg	06 39 37.9	-6.3

mbtmp5.1/28,MS3.7/16 Error ellipse: s-maj=10.5km s-min=8.8km az=150.0

NOU ***15*** *06:48:22.8,21˚.51S×170˚.37E,h135km,mb5.2/110, Southeast of Loyalty Islands*

MOS ***15*** *06:48:22.6±1.5,21˚.50S×170˚.22E,h148km,mb5.2/20, Error ellipse: s-maj=10.6km s-min=8.5km az=117.1*

BJI ***15*** *06:48:22.6±0.0,20˚.89S×170˚.42E,h134km,mb4.9/54, mB5.0/26*

GCMT ***15*** *06:48:24.0±0.2,21˚.60S±0˚.01×170˚.21E±0˚.02,h134km±2km, MW5.1/118,Moment Tensor Solution. s61,c75; s118,c168; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.68±.14; $M_{\theta\theta}$1.65±.17; $M_{\phi\phi}$-0.96±.16; $M_{r\theta}$4.59±.11; $M_{\theta\phi}$4.47±.18; $M_{\phi r}$0.06±.10; Best double couple: M_o6.52100×10^{16} NP1:ϕ_s275.00000°,δ87.00000°, λ-45.00000°. NP2:ϕ_s8.00000°,δ45.00000°,λ-176.00000°. Principal axes: T 6.9670, Plg28.0000°, Azm330.0000°; N -0.8870, Plg45.0000°, Azm92.0000°; P -6.0740, Plg32.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 06:48:21.2±0.3,21˚.59S±0˚.04×170˚.47E±0˚.04,h136km±2km, h136km:pP-P,n961,σ0≤99/918,mb5.1/142,90C-24D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
MARNC	**Mare, Loyalty**	**2.27**	**272**			**Pn**	**06**	**48 57.2**	**-1.6**
MARNC				Sn		**Sn**	**06**	**49 25.2**	**-2.5**
MARNC	**Mare, Loyalty**	**2.27**	**272**	P		**Pn**	**06**	**48 58.1**	**-0.7**
PINNC	**Pines Island,**	**2.98**	**249**			**Pn**	**06**	**49 06.4**	**-1.4**
PINNC				Sn		**Sn**	**06**	**49 41.9**	**-1.9**
PINNC	**Pines Island,**	**2.98**	**249**	P		**Pn**	**06**	**49 07.9**	**+0.1**
LIFNC	**LIFOU**	**3.12**	**284**			**Pn**	**06**	**49 08.5**	**-1.1**
LIFNC	**LIFOU**	**3.12**	**284**	P		**Pn**	**06**	**49 08.7**	**-0.9**
OUENC	**Ouen Island, N**	**3.47**	**256**			**Pn**	**06**	**49 13.4**	**-0.6**
OUENC	**Ouen Island, N**	**3.47**	**256**	P		**Pn**	**06**	**49 13.9**	**-0.2**
DZM	**Mont Dzumac**	**3.77**	**262**	P		**Pn**	**06**	**49 18.2**	**0.0**
DZM	**Mont Dzumac**	**3.77**	**262**	P		**Pn**	**06**	**49 17.8**	**-0.4**
	76nm,0.3s,baz=130,slow=9.2,SNR=195								
DZM				S		**Sn**	**06**	**50 02.3**	**0.0**
	514nm,0.6s,baz=167,slow=21,SNR=10								
DZM				LR		LR	06	50 36.6	
	comp=Z,432nm,18.6s,baz=159,slow=36								
ONTNC	**Ouen Toro**	**3.80**	**258**	P		**Pn**	**06**	**49 18.4**	**0.0**
NOUC	**Port Laguerre**	**3.91**	**262**	P		**Pn**	**06**	**49 19.9**	**+0.1**
KOUNC	**Koumac, New Ca**	**5.87**	**279**			**Pn**	**06**	**49 47.5**	**+1.5**
KOUNC	**Koumac, New Ca**	**5.87**	**279**	P		**Pn**	**06**	**49 47.2**	**+1.2**
NFK	**Norfolk Island**	**7.77**	**197**	P		**Pn**	**06**	**50 13.0**	**+1.5**
	baz=8.0,SNR=36								
NFK	**Norfolk Island**	**7.77**	**197**	P		**Pn**	**06**	**50 13.5**	**+2.0**
MSVF	**Nonsavu**	**8.11**	**63**	P		**Pn**	**06**	**50 16.5**	**+0.4**
MSVF	**Nonsavu**	**8.11**	**63**	P		**Pn**	**06**	**50 19.5**	**+3.3**
MSVF	**Nonsavu**	**8.11**	**63**	*i* P		**Pn**	**06**	**50 19.2**	**+3.0**
DGTI	**Dogotuki**	**10.22**	**61**	P		**Pn**	**06**	**50 47.7**	**+3.2**
OUZ	**Omahuta**	**13.86**	**169**	P		**P**	**06**	**51 34.1**	**-1.5**
FUNA	**Funafuti**	**15.47**	**34**			**Pn**	**06**	**51 51.1**	**-1.1**
HNR	**Honiara**	**15.77**	**318**			**Pn**	**06**	**51 55.2**	**-0.7**
HNR	**Honiara**	**15.77**	**318**	P		**P**	**06**	**51 56.5**	**-0.5**
HNR	**Honiara**	**15.77**	**318**	P		**Pn**	**06**	**51 55.2**	**-0.7**
HNR	**Honiara**	**15.77**	**318**	P		**P**	**06**	**51 56.5**	**-0.5**
	6μm,0.6s,baz=179,slow=4.3,SNR=8.1								
HNR				LR		LR	06	57 47.4	
	comp=Z,1μm,19.0s,baz=156,slow=36								
KUZ	**Kuaotunu**	**15.78**	**164**	P		**P**	**06**	**51 58.8**	**+1.9**
KUZ	**Kuaotunu**	**15.78**	**164**	P		**P**	**06**	**51 58.2**	**+1.3**
MKAZ	**Moumakai**	**15.99**	**166**	P		**P**	**06**	**52 00.7**	**+1.4**
TOZ	**Tahuroa Road**	**16.67**	**166**	P		**P**	**06**	**52 07.7**	**+1.0**
HIZ	**Hauiti**	**17.29**	**168**	P		**Pn**	**06**	**52 14.8**	**+0.6**
HIZ	**Hauiti**	**17.29**	**168**	P		**Pn**	**06**	**52 17.4**	**+3.2**
HAZ	**Te Kaha**	**17.31**	**160**	P		**Pn**	**06**	**52 17.2**	**+2.8**
RUGZ	**Raukumara Rang**	**17.47**	**161**	P		**Pn**	**06**	**52 18.1**	**+1.6**
PKGZ	**Pakihiroa**	**17.52**	**160**	P		**Pn**	**06**	**52 19.2**	**+2.1**
URZ	**Urewera**	**17.57**	**162**	P		**Pn**	**06**	**52 17.7**	**+0.1**
	54nm,0.6s,baz=63,slow=4.8,SNR=46								
URZ				LR		LR	06	57 45.7	
	comp=Z,331nm,18.5s,baz=109,slow=32								
URZ	**Urewera**	**17.57**	**162**	P		**Pn**	**06**	**52 19.3**	**+1.7**
PUZ	**Puketiti**	**17.75**	**159**	P		**P**	**06**	**52 17.5**	**-1.2**
TWGZ	**Tauwhareparae**	**17.76**	**160**	P		**Pn**	**06**	**52 21.9**	**+2.0**
RTZ	**Ruatahuna**	**17.87**	**163**			**Pn**	**06**	**52 22.1**	**+0.8**
MRHZ	**Matea Rd**	**17.93**	**165**	P		**Pn**	**06**	**52 24.4**	**+2.4**
CNGZ	**Carnagh Statio**	**18.11**	**160**	P		**Pn**	**06**	**52 24.8**	**+0.8**
EIDS	**Eidsvold**	**18.18**	**254**	P		**Pn**	**06**	**52 25.9**	**+0.9**
	baz=18,SNR=12								
EIDS	**Eidsvold**	**18.18**	**254**			**P**	**06**	**52 23.3**	**-0.2**
EIDS	**Eidsvold**	**18.18**	**254**	P		**Pn**	**06**	**52 25.9**	**+0.9**
BKZ	**Black Stump Fm**	**18.27**	**165**			**P**	**06**	**52 24.9**	**+0.5**
BKZ	**Black Stump Fm**	**18.27**	**165**	P		**Pn**	**06**	**52 26.8**	**+0.9**
RK1H	**Rockhampton Ha**	**18.55**	**261**	P		**Pn**	**06**	**52 29.8**	**+0.5**
ARMA	**Armidale**	**19.06**	**239**	P		**Pn**	**06**	**52 36.0**	**+0.6**
	baz=19,SNR=21								
ARMA	**Armidale**	**19.06**	**239**	P		**P**	**06**	**52 33.4**	**+0.2**
ARMA	**Armidale**	**19.06**	**239**	P		**Pn**	**06**	**52 36.0**	**+0.6**
QRZ	**Quartz Range**	**19.26**	**175**	P		**P**	**06**	**52 35.5**	**+0.4**
QRZ	**Quartz Range**	**19.26**	**175**	P		**Pn**	**06**	**52 38.5**	**+1.0**
TKNZ	**Takaka Hill**	**19.50**	**174**	P		**P**	**06**	**52 38.1**	**+0.4**
MRZ	**Mangatainoka R**	**19.50**	**168**	P		**P**	**06**	**52 38.7**	**+1.0**
BFZ	**Birch Farm**	**19.66**	**167**	P		**P**	**06**	**52 39.8**	**+0.4**
BFZ	**Birch Farm**	**19.66**	**167**	P		**P**	**06**	**52 40.6**	**+1.2**
NTLH	**Newcastle Hard**	**20.10**	**232**	P		Pn	06	52 46.5	-0.9
THZ	**Tophouse**	**20.22**	**175**	P		Pn	06	52 47.4	-1.4
PLWZ	**Palliser**	**20.33**	**170**	P		**P**	**06**	**52 46.9**	**+0.3**
MGCD	**Mangrove Creek**	**20.69**	**232**	P		Pn	06	52 52.8	-1.5
	baz=21,SNR=6.1								
MGCD	**Mangrove Creek**	**20.69**	**232**	P		**P**	**06**	**52 52.1**	**+1.6**
KHZ	**Kahutara**	**20.93**	**174**	P		**P**	**06**	**52 53.6**	**+0.6**
SYDH	**Sydney Hard Ro**	**21.23**	**231**	P		**P**	**06**	**52 58.7**	**+2.4**
AULRC	**Lightning Ridg**	**21.73**	**244**	P		**P**	**06**	**53 03.0**	**+1.3**
AUDCS	**Dubbo College**	**22.13**	**237**	P		**P**	**06**	**53 07.8**	**+1.9**
AUUHS	**Ulladulla High**	**22.24**	**228**	P		**P**	**06**	**53 08.9**	**+2.0**
TV1H	**Townsville Har**	**22.30**	**272**	P		**P**	**06**	**53 08.9**	**+1.2**
JCZ	**Jackson Bay**	**22.47**	**183**	P		**P**	**06**	**53 12.2**	**+3.0**
CTA	**Charters Tower**	**22.68**	**269**	P		**P**	**06**	**53 12.7**	**+1.4**
CTA	**Charters Tower**	**22.68**	**269**	LR		LR	07	01 08.2	
	comp=Z,151nm,18.3s,baz=5.0,slow=34								
CTAO	**Charters Tower**	**22.68**	**269**	P		**P**	**06**	**53 11.9**	**+0.5**
CTAO	**Charters Tower**	**22.68**	**269**	P		**P**	**06**	**53 12.6**	**+1.2**
CTAO	**Charters Tower**	**22.68**	**269**	P		**P**	**06**	**53 11.9**	**+0.5**
TARA	**Tarawa**	**22.93**	**6**	P		**P**	**06**	**53 13.0**	**-0.7**
CNB	**Canberra Magne**	**22.99**	**229**	P		**P**	**06**	**53 15.7**	**+1.5**
	baz=23,SNR=72								
CNB	**Canberra Magne**	**22.99**	**229**	P		**P**	**06**	**53 15.9**	**+1.7**
YNG	**Young**	**23.19**	**232**	P		**P**	**06**	**53 17.7**	**+1.8**
	baz=23,SNR=30								
YNG	**Young**	**23.19**	**232**	P		**P**	**06**	**53 17.8**	**+1.8**
CAN	**Canberra**	**23.25**	**229**	P		**P**	**06**	**53 17.1**	**+0.5**
CAN	**Canberra**	**23.25**	**229**	P		**P**	**06**	**53 18.2**	**+1.6**
CAN	**Canberra**	**23.25**	**229**	P		**P**	**06**	**53 17.1**	**+0.5**
MILA	**Mila**	**24.06**	**225**	P		**P**	**06**	**53 25.4**	**+1.4**
	baz=24,SNR=5.2								
MILA	**Mila**	**24.06**	**225**	P		**P**	**06**	**53 25.2**	**+1.2**
CMSA	**Cobar Meteorol**	**24.23**	**241**	P		**P**	**06**	**53 26.4**	**+1.0**
	baz=24,SNR=112								
CMSA	**Cobar Meteorol**	**24.23**	**241**	P		**P**	**06**	**53 26.8**	**+1.4**
QLP	**Quilpie**	**24.44**	**253**	P		**P**	**06**	**53 28.2**	**+0.7**
	baz=25,SNR=24								
QLP	**Quilpie**	**24.44**	**253**	P		**P**	**06**	**53 29.8**	**+2.4**
RABL	**Rabaul**	**24.80**	**312**	P		**P**	**06**	**53 29.2**	**-1.5**
RABL				IAmb		IAmb	06	53 48.0	
	comp=Z,96nm,0.8s								
MTSU	**Mount Surprise**	**24.83**	**273**	P		**P**	**06**	**53 32.4**	**+1.4**
	baz=25,SNR=27								
MTSU	**Mount Surprise**	**24.83**	**273**	P		**P**	**06**	**53 32.5**	**+1.5**
SYZ	**Scrubby Hill**	**24.91**	**182**	P		**P**	**06**	**53 35.4**	**+4.0**
PMG	**Port Moresby**	**25.48**	**295**	P		**P**	**06**	**53 36.6**	**-0.3**
PMG				IAmb		IAmb	06	53 38.2	
	comp=Z,93nm,0.8s								
PMG	**Port Moresby**	**25.48**	**295**	P		**P**	**06**	**53 38.0**	**+1.2**
PMG	**Port Moresby**	**25.48**	**295**	P		**P**	**06**	**53 38.1**	**+1.2**
PMG	**Port Moresby**	**25.48**	**295**	*ce*P		**P**	**06**	**53 34.5**	**-2.4**
PMG				pmax		pmax			
	comp=Z,78nm,0.6s								
PMG	**Port Moresby**	**25.48**	**295**	P		**P**	**06**	**53 36.8**	**0.0**
	comp=Z,78nm,0.7s,baz=111,slow=5.7,SNR=29								
	comp=Z,78nm,0.7s								
TOO	**Toolangi**	**26.82**	**228**	P		**P**	**06**	**53 49.6**	**+0.8**
	baz=27,SNR=6.2								
TOO	**Toolangi**	**26.82**	**228**	P		**P**	**06**	**53 48.3**	**-0.5**
TOO				IAmb		IAmb	06	53 52.2	
	comp=Z,163nm,1.8s								
TOO	**Toolangi**	**26.82**	**228**	P		**P**	**06**	**53 50.5**	**+1.7**
TOO	**Toolangi**	**26.82**	**228**	P		**P**	**06**	**53 48.3**	**-0.5**
TOO				pmax		pmax			
	comp=Z,163nm,1.8s								
KAVG	**Kavieng**	**26.89**	**312**	P		**P**	**06**	**53 49.5**	**-0.1**
COEN	**Coen**	**27.05**	**282**	P		**P**	**06**	**53 51.9**	**+0.9**
	baz=27,SNR=20								
COEN	**Coen**	**27.05**	**282**	P		**P**	**06**	**53 50.2**	**-0.8**
COEN	**Coen**	**27.05**	**282**	P		**P**	**06**	**53 52.7**	**+1.6**
GLAD	**Gladstone**	**27.11**	**215**	P		**P**	**06**	**53 52.7**	**+1.4**
INKA	**Innaminka**	**27.66**	**251**	P		**P**	**06**	**53 57.4**	**+1.0**
STKA	**Stephens Creek**	**27.67**	**242**	P		**P**	**06**	**53 57.5**	**+1.0**
	baz=28,SNR=20								
STKA	**Stephens Creek**	**27.67**	**242**	P		**P**	**06**	**53 57.3**	**+0.8**
STKA	**Stephens Creek**	**27.67**	**242**	P		**P**	**06**	**53 57.5**	**+1.0**
STKA	**Stephens Creek**	**27.67**	**242**	*d* iP		**P**	**06**	**53 52.3**	**-4.2**
STKA	**Stephens Creek**	**27.67**	**242**	P		**P**	**06**	**53 56.5**	**0.0**
	comp=Z,27nm,0.8s,baz=80,slow=10,SNR=58								
STKA				ScP		**ScP**	**07**	**00 39.7**	**+1.3**
	comp=Z,6.5nm,1.0s,baz=75,slow=3.9,SNR=6.7								
	comp=Z,27nm,0.8s								
RAR	**Rarotonga**	**27.69**	**95**	LR		LR	07	02 32.3	
	comp=Z,46nm,21.3s,baz=260,slow=31								
BRAT	**Ballarat**	**27.90**	**229**	P		**P**	**06**	**54 00.5**	**+2.1**
MOO	**Moorlands**	**28.50**	**218**	P		**P**	**06**	**54 05.3**	**+1.6**
	baz=29,SNR=5.3								
MOO	**Moorlands**	**28.50**	**218**	P		**P**	**06**	**54 04.0**	**+0.3**
QIS	**Mount Isa**	**28.80**	**266**	P		**P**	**06**	**54 07.1**	**+0.5**
	baz=29,SNR=4.2								
QIS	**Mount Isa**	**28.80**	**266**	P		**P**	**06**	**54 07.2**	**+0.5**
ARPS	**Mount Arapiles**	**29.08**	**232**	P		**P**	**06**	**54 09.9**	**+1.1**
	baz=29,SNR=20								
ARPS	**Mount Arapiles**	**29.08**	**232**	P		**P**	**06**	**54 09.7**	**+0.8**
MANU	**Manus Island**	**29.72**	**308**	P		**P**	**06**	**54 14.8**	**0.0**
LCRK	**Leigh Creek**	**30.21**	**246**	P		**P**	**06**	**54 19.9**	**+0.9**
HTT	**Hallett**	**30.25**	**240**	P		**P**	**06**	**54 20.0**	**+0.7**
	baz=30,SNR=32								
HTT	**Hallett**	**30.25**	**240**	P		**P**	**06**	**54 20.6**	**+1.3**
WHYH	**Whyalla**	**31.25**	**242**	P		**P**	**06**	**54 29.0**	**+0.9**
OOD	**Oodnadatta**	**32.13**	**252**	P		**P**	**06**	**54 37.8**	**+2.0**
BBOO	**Buckleboo**	**32.45**	**242**	P		**P**	**06**	**54 38.9**	**+0.3**
	baz=33,SNR=16								
BBOO	**Buckleboo**	**32.45**	**242**	P		**P**	**06**	**54 38.3**	**-0.3**
BBOO				IAmb		IAmb	06	54 40.0	
	comp=Z,63nm,1.0s								
BBOO	**Buckleboo**	**32.45**	**242**	P		**P**	**06**	**54 39.2**	**+0.6**
WR0	**Warramunga Arr**	**33.59**	**266**	P		**P**	**06**	**54 48.5**	**-0.2**
AS01	**Alice Springs**	**33.72**	**259**	P		**P**	**06**	**54 49.9**	**+0.1**
MULG	**Mulgathing**	**33.75**	**248**	P		**P**	**06**	**54 50.2**	**+0.2**
WB0	**Warramunga Arr**	**33.76**	**266**	P		**P**	**06**	**54 49.8**	**-0.3**
WB0				IAmb		IAmb	06	54 51.3	
	comp=Z,39nm,1.5s								
ASAR	**Alice Springs**	**33.76**	**259**	P		**P**	**06**	**54 49.6**	**-0.5**
	comp=Z,8.7nm,0.8s,baz=86,slow=8.8,SNR=75								
ASAR				PcP		**PcP**	**06**	**57 26.8**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=90,slow=4.6,SNR=2.4								
ASAR				S		**S**	**07**	**00 01.8**	**-2.2**
	comp=Z,1.9nm,1.0s,baz=92,slow=15,SNR=6.3								
ASAR				ScP		**ScP**	**07**	**01 00.7**	**+2.0**
	comp=Z,2.5nm,0.9s,baz=106,slow=3.5,SNR=9.9								
ASAR				LR		LR	07	07 57.1	
	comp=Z,83nm,18.3s,baz=102,slow=35								
	comp=Z,8.7nm,0.8s								
ASPA	**Alice Springs**	**33.76**	**259**	P		**P**	**06**	**54 50.0**	**-0.2**
	baz=34								
WB2	**Warramunga Arr**	**33.77**	**266**	P		**P**	**06**	**54 49.8**	**-0.4**
	baz=34								
WB2	**Warramunga Arr**	**33.77**	**266**	P		**P**	**06**	**54 49.9**	**-0.4**
WRAB	**Tennant Creek**	**33.77**	**266**	P		**P**	**06**	**54 49.8**	**-0.4**
WRAB	**Tennant Creek**	**33.77**	**266**	*i* P		**P**	**06**	**54 48.8**	**-1.4**
WRAB				pmax		pmax			
	comp=Z,17nm,1.4s								
WRA	**Warramunga Arr**	**33.78**	**266**	P		**P**	**06**	**54 50.1**	**-0.2**
WRA	**Warramunga Arr**	**33.78**	**266**	P		**P**	**06**	**54 49.6**	**-0.7**
	comp=Z,4.4nm,0.6s,baz=99,slow=6.6,SNR=44								
WRA				PcP		**PcP**	**06**	**57 26.5**	**-0.1**
	comp=Z,1.4nm,0.9s,baz=96,slow=2.5,SNR=2.2								
WRA				S		**S**	**07**	**00 01.7**	**-2.5**
	comp=Z,1.0nm,1.0s,baz=99,slow=20,SNR=1.2								
WRA				ScP		**ScP**	**07**	**01 00.4**	**+1.6**
	comp=Z,2.9nm,1.1s,baz=87,slow=4.4,SNR=5.5								
	comp=Z,4.4nm,0.6s								
GENI	**Genyem**	**35.00**	**298**	P		**P**	**06**	**55 01.7**	**+0.9**
GENI	**Genyem**	**35.00**	**298**	P		**P**	**06**	**55 00.0**	**-0.8**
	comp=Z,169nm,1.6s								
TBI	**Tubuai**	**36.99**	**100**	*e*LR		LR	07	05 29.6	
	comp=Z,890nm,28.2s								
KDU	**Kakadu**	**37.29**	**277**	P		**P**	**06**	**55 20.0**	**-0.3**
	baz=37,SNR=3.5								
PPT2	**Papeete2**	**37.78**	**91**	*e*S		**S**	**07**	**01 02.5**	**-2.9**
	comp=Z,34nm,27.0s								
PPT2				*e*LQ		LQ	07	04 11.4	
	comp=Z,600nm,25.0s								
PPT2				*e*LR		LR	07	05 44.7	
	comp=Z,197nm,31.2s								
PPT2				*e*LR		LR	07	05 51.6	
	comp=Z,134nm,34.2s								
MTN	**Manton Dam**	**38.48**	**276**	P		**P**	**06**	**55 30.0**	**-0.3**
	baz=39,SNR=12								
MTN	**Manton Dam**	**38.48**	**276**	P		**P**	**06**	**55 30.4**	**0.0**
MTN				IAmb		IAmb	06	55 30.7	
	comp=Z,24nm,0.7s								
WRKA	**Warakurna**	**38.77**	**257**	P		**P**	**06**	**55 32.6**	**-0.1**
	baz=39,SNR=22								
WRKA	**Warakurna**	**38.77**	**257**	P		**P**	**06**	**55 32.9**	**+0.1**
FORT	**Forrest**	**38.95**	**247**	P		**P**	**06**	**55 34.0**	**-0.1**
	baz=39,SNR=21								
FORT	**Forrest**	**38.95**	**247**	P		**P**	**06**	**55 34.0**	**-0.1**
FORT	**Forrest**	**38.95**	**247**	P		**P**	**06**	**55 35.7**	**+1.6**
KNRA	**Kununurra**	**39.87**	**271**	P		**P**	**06**	**55 41.7**	**-0.1**
	baz=40,SNR=4.2								
KNRA	**Kununurra**	**39.87**	**271**	P		**P**	**06**	**55 41.6**	**-0.1**
WAKE	**Wake Island**	**40.79**	**354**	P		**P**	**06**	**55 50.0**	**+0.7**
FAKI	**Fak Fak**	**41.52**	**291**	P		**P**	**06**	**55 55.4**	**0.0**
FAKI				IAmb		IAmb	06	56 02.3	
	comp=Z,107nm,1.3s								
FITZ	**Fitzroy Crossi**	**42.21**	**267**	P		**P**	**06**	**56 01.4**	**+0.4**
	baz=42,SNR=7.2								
FITZ	**Fitzroy Crossi**	**42.21**	**267**	P		**P**	**06**	**56 02.0**	**+1.1**
SWI	**Sorong**	**43.41**	**293**	P		**P**	**06**	**56 10.9**	**+0.2**
	comp=Z,91nm,0.8s								
KMBL	**Kambalda**	**44.27**	**247**	P		**P**	**06**	**56 17.1**	**-0.4**
	baz=44,SNR=9.7								
KMBL	**Kambalda**	**44.27**	**247**	P		**P**	**06**	**56 17.5**	**+0.1**
PSA00	**Pilbara Seismi**	**46.90**	**260**	P		**P**	**06**	**56 38.1**	**-0.1**
PSA00	**Pilbara Seismi**	**46.90**	**260**	P		**P**	**06**	**56 38.3**	**+0.1**
MBWA	**Marble Bar**	**47.08**	**261**	P		**P**	**06**	**56 41.1**	**+0.5**
MBWA	**Marble Bar**	**47.08**	**261**	P		**P**	**06**	**56 40.8**	**+1.2**
MBWA	**Marble Bar**	**47.08**	**261**	P		**P**	**06**	**56 39.4**	**-0.2**
MEEK	**Meekatharra**	**47.34**	**253**	P		**P**	**06**	**56 41.2**	**-0.5**
	baz=48,SNR=14								
MEEK	**Meekatharra**	**47.34**	**253**	P		**P**	**06**	**56 41.8**	**+0.2**
SANI	**Sanana**	**47.42**	**288**	P		**P**	**06**	**56 43.5**	**+1.2**
SANI	**Sanana**	**47.42**	**288**	P		**P**	**06**	**56 42.1**	**-0.2**
	comp=Z,99nm,0.9s								
KLBR	**Kellerberrin**	**47.79**	**246**	P		**P**	**06**	**56 44.8**	**-0.2**
	baz=48,SNR=24								
KLBR	**Kellerberrin**	**47.79**	**246**	P		**P**	**06**	**56 45.5**	**+0.5**
NWAO	**Narrogin (SRO)**	**48.21**	**245**	P		**P**	**06**	**56 48.0**	**-0.2**
	baz=48,SNR=21								
NWAO				P		**P**	**06**	**56 48.0**	**-0.2**
	baz=48,SNR=21								
NWAO	**Narrogin (SRO)**	**48.21**	**245**	P		**P**	**06**	**56 48.0**	**-0.2**
NWAO	**Narrogin (SRO)**	**48.21**	**245**	P		**P**	**06**	**56 48.2**	**0.0**
NWAO	**Narrogin (SRO)**	**48.21**	**245**	P		**P**	**06**	**56 48.0**	**-0.2**
NWAO				pmax		pmax			
	comp=Z,62nm,0.7s								
NWAO	**Narrogin (SRO)**	**48.21**	**245**	LR		LR	07	15 06.3	
	comp=Z,103nm,22.0s,baz=227,slow=33								
NWAO	**Narrogin (SRO)**	**48.21**	**245**	P		**P**	**06**	**56 47.9**	**-0.3**
EDFI	**Ende, Flores**	**48.59**	**277**	P		**P**	**06**	**56 52.5**	**+1.1**
	comp=Z,9.1nm,1.3s								
BLDU	**Ballidu**	**48.73**	**248**	P		**P**	**06**	**56 51.6**	**-0.6**
	baz=49,SNR=16								
BLDU	**Ballidu**	**48.73**	**248**	P		**P**	**06**	**56 52.1**	**-0.1**
DRV	**Dumont d'Urvil**	**49.07**	**196**	P		**P**	**06**	**56 53.9**	**-0.3**
MUN	**Mundaring**	**49.10**	**246**	P		**P**	**06**	**56 55.4**	**+0.4**
MORW	**Morawa**	**49.40**	**250**	P		**P**	**06**	**56 57.4**	**+0.1**
	baz=50,SNR=8.7								
MORW	**Morawa**	**49.40**	**250**	P		**P**	**06**	**56 57.5**	**+0.1**
MORW				IAmb		IAmb	06	56 58.1	
	comp=Z,47nm,1.0s								
MORW	**Morawa**	**49.40**	**250**	P		**P**	**06**	**56 57.5**	**+0.1**
LUWI	**Luwuk**	**50.74**	**287**	P		**P**	**06**	**57 07.6**	**+0.1**
LUWI	**Luwuk**	**50.74**	**287**	P		**P**	**06**	**57 07.9**	**+0.3**
LUWI	**Luwuk**	**50.74**	**287**	P		**P**	**06**	**57 07.8**	**+0.2**
	comp=Z,38nm,0.9s,comp=Z,4μm								
GTOI	**Gorontalo**	**51.30**	**289**	P		**P**	**06**	**57 12.7**	**+0.9**
	comp=Z,27nm,1.2s,comp=Z,251nm								
KAPI	**Kappang**	**51.77**	**281**	P		**P**	**06**	**57 15.2**	**-0.1**
KAPI				IAmb		IAmb	06	57 17.3	
	comp=Z,27nm,1.1s								
KAPI	**Kappang**	**51.77**	**281**	P		**P**	**06**	**57 15.7**	**+0.4**
KAPI	**Kappang**	**51.77**	**281**	*i* P		**P**	**06**	**57 13.9**	**-1.4**
KAPI				pmax		pmax			
	comp=Z,28nm,1.1s								
TOLI2	**Tolitoli**	**53.49**	**288**	P		**P**	**06**	**57 28.0**	**+0.1**
TOLI2				IAmb		IAmb	06	57 28.9	
	comp=Z,37nm,0.9s								
TOLI2	**Tolitoli**	**53.49**	**288**	P		**P**	**06**	**57 29.2**	**+1.3**
MPSI	**Mapaga**	**53.92**	**287**	P		**P**	**06**	**57 30.7**	**-0.4**
JCJ	**Chichijima**	**55.60**	**329**	P		**P**	**06**	**57 42.9**	**0.0**
VNDA	**Vanda**	**56.14**	**182**	P		**P**	**06**	**57 46.9**	**+0.9**
VNDA				IAmb		IAmb	06	57 47.9	
	comp=Z,53nm,1.9s								
VNDA	**Vanda**	**56.14**	**182**	P		**P**	**06**	**57 46.9**	**+0.9**
VNDA				pmax		pmax			
	comp=Z,53nm,1.9s								
VNDA	**Vanda**	**56.14**	**182**	P		**P**	**06**	**57 46.4**	**+0.3**
	comp=Z,5.8nm,0.8s,baz=359,slow=7.9,SNR=11								
VNDA				LR		LR	07	18 36.4	
	comp=Z,61nm,18.2s,baz=338,slow=32								
	comp=Z,5.8nm,0.8s								
VNDA	**Vanda**	**56.14**	**182**	P		**P**	**06**	**57 46.3**	**+0.3**
VNDA				sP		**sP**	**06**	**58 28.0**	**-3.2**
VNDA				PcP		**PcP**	**06**	**58 43.0**	**+0.7**
SBA	**Scott Base**	**56.34**	**181**	P		**P**	**06**	**57 49.5**	**+2.0**
SBA	**Scott Base**	**56.34**	**181**	P		**P**	**06**	**57 49.5**	**+2.0**
SBA				pmax		pmax			
	comp=Z,58nm,1.0s								
SBA	**Scott Base**	**56.34**	**181**	P		**P**	**06**	**57 48.8**	**+1.3**
SBA				pP		**pP**	**06**	**58 19.1**	**+0.9**
CCD	**Concordia, Ant**	**58.87**	**193**	P		**P**	**06**	**58 05.4**	**-0.2**
CCD				pP		**pP**	**06**	**58 35.4**	**-0.9**
KKM	**Kota Kinabalu**	**59.84**	**291**	P		**P**	**06**	**58 12.9**	**0.0**
JHJ	**Hachijo jima 2**	**61.79**	**331**	P		**P**	**06**	**58 26.7**	**+1.1**
	comp=Z,86nm,0.7s,baz=222,slow=14,SNR=2.6								
	comp=Z,86nm,0.7s								
KSM	**Kuching**	**63.03**	**283**	P		**P**	**06**	**58 34.9**	**+0.7**
KSM				IAmb		IAmb	06	58 35.8	
	comp=Z,24nm,0.7s

TYV pmax pmax
comp=Z,100nm,2.0s
TYV pmax pmax
comp=Z,24nm,1.2s
NIKH Nikolski High 76.39 13 P **P** **06 59 55.1 0.0**
NIKH Nikolski High 76.39 13 P **P** **06 59 56.1 +0.9**
NIKH Nikolski High 76.39 13 P **P** **06 59 55.2 0.0**
baz=200
TIA Tai'an 76.46 318 ⇑P **P** **06 59 56.3 +0.3**
TIA pmax pmax
comp=Z,23nm,0.9s
TIA LR LR
comp=Z,260nm,29.4s
TIA LR LR
comp=Z,360nm,23.5s
TIA LR LR
comp=Z,320nm,29.9s
MAW Mawson 76.70 202 P **P** **06 59 57.9 +1.0**
MAW Mawson 76.70 202 P **P** **06 59 57.9 +1.0**
MAW pmax pmax
comp=Z,5.0nm,1.1s
MAW Mawson 76.70 202 P **P** **06 59 57.4 +0.5**
comp=Z,10nm,0.7s,baz=115,slow=19,SNR=3.6
comp=Z,10nm,0.7s
NONG Nongkai 76.79 296 P **P** **06 59 59.7 +1.5**
CN2 Changchun 77.06 328 *e*P **P** **07 00 01.8 +2.6**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
BNX BinXian 77.58 331 ⇓P **P** **07 00 02.0 -0.1**
BNX pmax pmax
comp=Z,18nm,0.7s
BNX pmax pmax
comp=Z,100nm,3.8s
UNV Unalaska Valle 77.71 14 P **P** **07 00 02.8 +0.3**
UNV Unalaska Valle 77.71 14 P **P** **07 00 02.7 +0.2**
baz=202
GRNR Gornyy 78.05 339 ⇑*i*P **P** **07 00 05.9 +1.4**
GRNR pmax pmax
comp=Z,20nm,1.1s
ENH Enshi 78.05 309 P **P** **07 00 04.8 -0.3**
ENH IAmb IAmb 07 00 06.3
comp=Z,42nm,1.1s
ENH Enshi 78.05 309 P **P** **07 00 05.5 +0.4**
GYA Guiyang 78.10 305 *e*P **P** **07 00 06.1 +0.5**
GYA S **S** **07 09 46.5 -2.4**
GYA pmax pmax
comp=Z,28nm,0.6s
GYA pmax pmax
comp=Z,150nm,3.6s
GYA LR LR
comp=Z,880nm,18.3s
GYA LR LR
comp=Z,1µm,13.0s
GYA LR LR
comp=Z,1µm,16.3s
AKUT Akutan 78.14 14 P **P** **07 00 04.5 -0.4**
LYN LuoYang 78.43 314 ⇑P **P** **07 00 08.0 +1.0**
LYN pmax pmax
comp=Z,51nm,1.2s
KLR Kul'dur 78.48 335 *ce*P **P** **07 00 06.6 -0.3**
KLR pmax pmax
comp=Z,27nm,1.7s
KLR Kul'dur 78.48 335 P **P** **07 00 07.6 +0.7**
comp=Z,7.8nm,0.9s,baz=149,slow=6.9,SNR=14
comp=Z,7.8nm,0.9s
SRDT SRDT 78.56 290 P **P** **07 00 09.4 +1.3**
HNS HongShan 78.71 318 ⇑P **P** **07 00 09.3 +0.8**
HNS S **S** **07 09 56.4 +1.7**
HNS pmax pmax
comp=Z,19nm,1.2s
HNS LR LR
comp=Z,300nm,23.1s
HNS LR LR
comp=Z,910nm,23.5s
HNS LR LR
comp=Z,700nm,19.8s
FALS False Pass 79.35 15 P **P** **07 00 11.6 +0.1**
baz=205
PHRA Phrae 79.44 295 P **P** **07 00 12.3 -0.5**
BJT Baijiatuau 79.47 321 P **P** **07 00 12.7 +0.2**
BJT Baijiatuau 79.47 321 P **P** **07 00 13.6 +1.0**
BJT Baijiatuau 79.47 321 P **P** **07 00 12.7 +0.2**
BJT pmax pmax
comp=Z,25nm,1.3s
BJI Beijing 79.48 321 P **P** **07 00 12.9 +0.3**
BJI pmax pmax
comp=Z,7.0nm,1.1s
BELA Belgrano 2 79.67 175 P **P** **07 00 12.4 -0.7**
BELA IAmb IAmb 07 00 13.5
comp=Z,52nm,0.8s
P08K Saint George I 79.69 11 P **P** **07 00 13.9 +0.6**
baz=199
CRAI Chiangrai 80.11 296 IAmb IAmb 07 00 19.1
comp=Z,44nm,1.6s
SPIA Saint Paul Isl 80.12 11 P **P** **07 00 16.1 +0.6**
baz=198
CHNA Chernabura Isl 80.31 17 P **P** **07 00 17.5 +0.8**
baz=208
KMI Kunming 80.49 302 ⇑P **P** **07 00 20.4 +1.7**
KMI S **S** **07 10 15.6 +1.2**
KMI pmax pmax
comp=Z,28nm,0.9s
CMAR Chiang Mai Arr 80.52 294 P **P** **07 00 20.0 +1.3**
CMAR Chiang Mai Arr 80.52 294 P **P** **07 00 20.2 +1.5**
comp=Z,7.9nm,0.7s,baz=136,slow=4.1,SNR=45
comp=Z,7.9nm,0.7s
SDPT Sand Point 80.54 16 P **P** **07 00 17.8 -0.1**
baz=207
XAN Xi'an 80.54 312 ⇑P **P** **07 00 19.3 +0.8**
XAN pmax pmax
comp=Z,42nm,1.1s
HEH HeiHe 81.02 334 *e*P **P** **07 00 20.3 -0.3**
HEH pmax pmax
comp=Z,13nm,1.3s
CHGN Chignik 81.93 17 IAmb IAmb 07 00 25.8
comp=Z,26nm,0.7s
CHGN Chignik 81.93 17 P **P** **07 00 25.7 +0.5**
baz=209
PZH PanZhiHua 81.94 303 P **P** **07 00 28.6 +2.4**
PZH pmax pmax
comp=Z,7.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,4.8s
CHIR Chirikof Islan 82.30 19 P **P** **07 00 27.7 +0.5**
baz=212
MA2 Magadan 82.47 350 P **P** **07 00 27.7 -0.3**
MA2 Magadan 82.47 350 *ce*P **P** **07 00 27.3 -0.7**
MA2 pmax pmax
comp=Z,18nm,1.7s
HHC Hu-ho-hao-te 82.75 319 *e*P **P** **07 00 31.0 +1.0**
HHC pmax pmax
comp=Z,22nm,0.7s
HHC pmax pmax
comp=Z,120nm,4.2s
R16K Pilot Point 83.26 17 P **P** **07 00 32.8 +0.7**
baz=210
SII Sitkinak Islan 83.36 19 P **P** **07 00 34.0 +1.3**
baz=213
BTO Baotou 83.55 318 *e*P **P** **07 00 36.1 +1.9**
BTO pP **pwP** **07 01 11.5 +0.9**
BTO sP **sP** **07 01 26.8 +4.9**
BTO PP **PP** **07 03 52.6 +3.8**
BTO S **SKSac** **07 10 44.0 -0.1**
BTO pmax pmax
comp=Z,15nm,0.5s
BTO pmax pmax
comp=Z,150nm,5.2s
BTO LR LR
comp=Z,1µm,19.2s
BTO LR LR
comp=Z,2µm,21.0s
BTO LR LR
comp=Z,1µm,24.1s
ZEA Zeya 83.76 336 *e*P **P** **07 00 35.6 +0.8**
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=Z,20nm,0.7s
O14K Tigyukauivet M 83.84 14 P **P** **07 00 36.2 +1.2**
baz=206
M11K Mekoryuk 83.86 11 P **P** **07 00 36.4 +1.3**
baz=202
ELIB Princess Elisa 84.04 190 *d*P **P** **07 00 35.8 -0.4**
comp=Z,23nm,1.0s
O15K Ungalikthiuk R 84.11 15 P **P** **07 00 36.4 0.0**
baz=208

OHAK Old Harbor 84.18 19 IAmb IAmb 07 01 38.3
comp=Z,50nm,1.0s
OHAK Old Harbor 84.18 19 P **P** **07 00 38.2 +1.4**
OHAK Old Harbor 84.18 19 P **P** **07 00 37.1 +0.3**
baz=214,SNR=6.6
Q17K Contact Creek 84.32 17 P **P** **07 00 37.5 -0.1**
baz=211,SNR=16
N14K Kuskokwak Cree 84.35 14 P **P** **07 00 37.9 +0.4**
baz=206
P16K Nushagak River 84.43 16 P **P** **07 00 38.6 +0.6**
baz=209
M13K Dall Lake 84.44 13 P **P** **07 00 39.1 +1.1**
baz=204
MND Mandalay 84.46 296 P **P** **07 00 40.4 +1.4**
Q16K King Salmon 84.47 17 P **P** **07 00 38.3 +0.1**
baz=210
KDAK Kodiak Island 84.86 19 P **P** **07 00 40.2 0.0**
baz=214
KDAK Kodiak Island 84.86 19 P **P** **07 00 40.5 +0.3**
comp=Z,9.7nm,0.7s,baz=202,slow=5.4,SNR=7.0
comp=Z,9.7nm,0.7s
O16K Kokwok River B 84.89 15 P **P** **07 00 40.1 -0.2**
baz=209
N15K Kwethluk River 84.93 14 P **P** **07 00 41.1 +0.6**
baz=207
P17K Kvichak River 84.97 16 P **P** **07 00 41.0 +0.3**
baz=211
M14K Bethel 85.04 13 P **P** **07 00 42.3 +1.3**
M14K IAmb IAmb 07 00 42.7
comp=Z,34nm,0.8s
M14K Bethel 85.04 13 P **P** **07 00 41.4 +0.4**
baz=206,SNR=14
LZH Lanzhou 85.15 312 *e*P **P** **07 00 43.8 +1.4**
LZH pP pwP 07 01 18.4 -1.0
LZH S **SKSac** **07 10 52.5 -2.2**
LZH pmax pmax
comp=Z,39nm,1.3s
LZH LR LR
comp=Z,510nm,13.1s
LZH LR LR
comp=Z,630nm,14.1s
LZH LR LR
comp=Z,470nm,13.1s
M15K Kasigluk River 85.26 14 P **P** **07 00 42.7 +0.5**
baz=207
O17K Koliganek Bris 85.30 16 P **P** **07 00 42.8 +0.5**
baz=210
L14K Kuka Creek 85.42 13 P **P** **07 00 43.2 +0.3**
baz=205
SEY Seymchan 85.44 352 *ce*P **P** **07 00 43.2 +0.2**
SEY pmax pmax
comp=Z,57nm,1.7s
SEY Seymchan 85.44 352 P **P** **07 00 42.6 -0.4**
comp=Z,18nm,0.9s,baz=155,slow=5.8,SNR=45
comp=Z,18nm,0.9s
P18K Big Mountain, 85.46 17 IAmb IAmb 07 01 21.0
comp=Z,59nm,1.2s
P18K Big Mountain, 85.46 17 P **P** **07 00 43.3 +0.1**
baz=212,SNR=13
N16K Nishlik Lake 85.50 15 P **P** **07 00 43.9 +0.5**
baz=209
Q19K Cape Douglas, 85.51 18 P **P** **07 00 43.8 +0.3**
baz=213
Q20K Shuyak Island 85.60 18 P **P** **07 00 44.2 +0.3**
baz=214
O18K Kodiak Hills 85.86 17 P **P** **07 00 45.2 0.0**
baz=212
N17K Nushagak Hills 85.93 15 P **P** **07 00 46.4 +0.9**
baz=210
M16K Timber Creek 85.94 14 IAmb IAmb 07 01 25.0
comp=Z,50nm,1.2s
M16K Timber Creek 85.94 14 P **P** **07 00 46.5 +1.0**
baz=208
L15K Ungalak Mounta 85.97 13 P **P** **07 00 46.4 +0.8**
baz=206
GAMB Gambell 86.22 8 P **P** **07 00 47.4 +0.6**
baz=197
P19K Oil Pt 86.23 18 P **P** **07 00 48.0 +1.0**
baz=214
TROLL Troll, Antarti 86.28 184 ⇓P **P** **07 00 47.0 -0.4**
comp=Z,2µm,0.7s
TROLL ⇑pP **pP** **07 01 20.3 -0.7**
comp=Z,397nm,0.8s
O19K Port Alsworth 86.39 17 P **P** **07 00 48.0 +0.4**
baz=213
N18K Kilae Creek 86.39 16 P **P** **07 00 48.3 +0.6**
baz=211
SCZ2 Santa Cruz Isl 86.43 51 P **P** **07 00 48.5 -0.1**
baz=241
L16K Owhat River 86.44 14 P **P** **07 00 47.9 0.0**
L16K IAmb IAmb 07 01 27.0
comp=Z,18nm,1.1s
L16K Owhat River 86.44 14 P **P** **07 00 48.5 +0.5**
baz=208,SNR=9.3
K15K Wolf Creek Mou 86.52 13 IAmb IAmb 07 01 27.8
comp=Z,43nm,1.1s
K15K Wolf Creek Mou 86.52 13 P **P** **07 00 48.9 +0.6**
baz=206
J14K Nanvaranak Lak 86.54 12 P **P** **07 00 49.2 +0.9**
baz=204
M17K Holitna River 86.63 15 IAmb IAmb 07 01 29.1
comp=Z,16nm,0.9s
M17K Holitna River 86.63 15 P **P** **07 00 49.9 +1.0**
baz=210
NVL N'lazarevskaya 86.68 187 *e*P **P** **07 00 46.1 -3.1**
NVL pmax pmax
comp=Z,32nm,0.9s
HOM Homer 86.69 18 P **P** **07 00 50.2 +1.0**
baz=215
O20K Slope Mountain 86.76 18 P **P** **07 00 50.4 +0.7**
baz=214
N19K Bonanza Creek 86.87 16 P **P** **07 00 50.4 +0.2**
baz=212
SNAA Sanae 86.87 182 P **P** **07 00 49.7 -0.6**
SNAA IAmb IAmb 07 00 50.6
comp=Z,32nm,1.0s
SNAA Sanae 86.87 182 *i* P **P** **07 00 49.1 -1.1**
SNAA pmax pmax
comp=Z,28nm,0.8s
SNAA Sanae 86.87 182 ⇓P **P** **07 00 49.6 -0.6**
comp=Z,600nm,1.0s
SNAA ⇑pP **pP** **07 01 24.8 +1.0**
SNAA comp=Z,85nm,0.7s ⇑PKiKP **PKiKP** **07 05 56.7 +1.7**
comp=Z,65nm,0.3s
SNAA Sanae 86.87 182 P **P** **07 00 49.5 -0.7**
comp=Z,20nm,0.8s,baz=205,slow=5.6,SNR=21
SNAA pP **pP** **07 01 25.2 +1.4**
comp=Z,7.7nm,1.0s,baz=157,slow=20,SNR=2.0
comp=Z,20nm,0.8s
L17K Donlin 87.08 14 P **P** **07 00 51.1 +0.1**
baz=209
M18K Stony River 87.10 15 P **P** **07 00 51.9 +0.8**
baz=211
VNA3 Neumayer Olymp 87.42 180 ⇓P **P** **07 00 51.7 -1.1**
comp=Z,68nm,0.8s
VNA3 ⇑pP **pP** **07 01 22.9 -3.5**
comp=Z,5.8nm,0.8s
VNA3 ⇑PKiKP **PKiKP** **07 05 51.5 -4.4**
comp=Z,0.8nm,0.2s
L18K Granite Mounta 87.52 15 P **P** **07 00 53.8 +0.6**
baz=210
K17K Iditarod 87.59 14 P **P** **07 00 54.2 +0.8**
baz=209
J16K Anvik River 87.60 13 P **P** **07 00 54.2 +0.7**
baz=207
VES Vestal, Richgr 87.72 50 P **P** **07 00 54.5 -0.2**
baz=241
VNA2 Neumayer--Watz 87.72 181 ⇓P **P** **07 00 53.8 -0.5**
comp=Z,75nm,0.6s,baz=173,slow=4.8
VNA2 ⇑pP **pP** **07 01 24.4 -3.5**
comp=Z,9.0nm,0.9s,baz=142,slow=9.1
VNA2 ⇑PKiKP **PKiKP** **07 05 57.0 +0.6**
comp=Z,0.3nm,0.2s,baz=218,slow=0.3
109C Camp Elliot, M 87.78 53 P **P** **07 00 54.7 -0.3**
baz=243
M19K Big River Lodg 87.82 16 P **P** **07 00 54.8 +0.3**
baz=212
ANM Nome 87.89 10 P **P** **07 00 55.3 +0.4**
baz=202
AFDM Forest Hills D 87.92 47 P **P** **07 00 56.0 +0.4**
L19K White Mountain 87.94 15 P **P** **07 00 55.7 +0.6**
baz=212
BFSC Mount Baldy Ra 87.99 52 P **P** **07 00 55.1 -1.1**
baz=242
TKX Tecate 88.00 54 IAmb IAmb 07 01 02.3
comp=Z,18nm,0.5s
VNA1 Neumayer--Stat 88.01 180 ⇓P **P** **07 00 55.3 -0.2**
comp=Z,57nm,1.0s
VNA1 ⇑pP **pP** **07 01 29.4 +0.2**
comp=Z,20nm,0.9s
VNA1 ⇑PKiKP **PKiKP** **07 05 56.6 -0.2**
comp=Z,0.3nm,0.2s
MURC Murrieta 88.04 53 P **P** **07 00 56.3 0.0**
baz=242
EDW2 Edwards Air Fo 88.05 51 P **P** **07 00 56.3 -0.1**
baz=242
ISA Isabella, Lake 88.07 50 P **P** **07 00 56.8 +0.3**
baz=242
I17K Unalakleet 88.12 12 P **P** **07 00 57.0 +1.0**
baz=207
Q23K Middleton Isla 88.14 20 P **P** **07 00 57.1 +1.0**
baz=220
YBH Yreka Blue Hor 88.19 44 LR LR 07 31 27.9
comp=Z,45nm,21.7s,baz=288,slow=29
P23K Montague Islan 88.24 20 P **P** **07 00 57.6 +1.0**
baz=219
TTA Tatalina 88.30 15 P **P** **07 00 57.8 +0.9**
baz=211
TNA Tin City 88.43 9 P **P** **07 00 58.6 +1.3**
baz=200
H16K Elim 88.50 11 P **P** **07 00 58.5 +0.8**
baz=205,SNR=7.1
G15K Niukluk 88.51 11 P **P** **07 00 58.8 +1.0**
baz=204
F14K Arctic Creek 88.59 9 P **P** **07 00 59.0 +0.9**
baz=202
PFO Pinyon Flats O 88.59 53 P **P** **07 00 58.9 -0.1**
baz=243
PFO Pinyon Flats O 88.59 53 LR LR 07 33 38.4
comp=Z,39nm,18.1s,baz=171,slow=31
TPFO Pinon Flats 88.59 53 P **P** **07 00 58.9 -0.1**
baz=243
J18K Innoko River 88.60 14 P **P** **07 00 58.6 +0.4**
baz=210
CWC Cottonwood Cre 88.71 50 P **P** **07 00 58.8 -0.8**
baz=242
MLAC Mammoth, Mammo 88.75 49 P **P** **07 00 59.8 0.0**
baz=241
MPMC Manual Prospec 88.96 50 P **P** **07 01 00.9 0.0**
baz=242
F15K North Star Dit 89.07 10 P **P** **07 01 01.2 +0.8**
baz=203
G16K Koyuk River 89.17 11 P **P** **07 01 01.1 +0.2**
baz=205
H17K Granite Mounta 89.22 12 P **P** **07 01 01.3 +0.2**
baz=207
J19K Poorman 89.30 14 P **P** **07 01 01.9 +0.4**
baz=211
LPIG La Paz 89.40 64 LR LR 07 36 58.8
comp=Z,22nm,18.3s,baz=210,slow=33
BILL Bilibino 89.42 358 P **P** **07 01 01.9 0.0**
BILL IAmb IAmb 07 01 03.2
comp=Z,27nm,1.0s
BILL Bilibino 89.42 358 ⇑*e*P **P** **07 01 02.0 0.0**
BILL pmax pmax
comp=Z,32nm,1.1s
ULN Ulaanbaatar 89.43 323 P **P** **07 01 02.2 -0.4**
ULN IAmb IAmb 07 01 04.3
comp=Z,33nm,1.3s
ULN Ulaanbaatar 89.43 323 *c i*P **P** **07 01 02.0 -0.7**
ULN pmax pmax
comp=Z,29nm,1.3s
YAK Yakutsk 89.45 342 P **P** **07 01 01.8 -0.4**
YAK IAmb IAmb 07 01 02.7
comp=Z,28nm,0.8s
YAK Yakutsk 89.45 342 *e*P **P** **07 01 02.4 +0.2**
YAK *e*S **SKSac** **07 11 16.7 -2.5**
YAK *e* 07 11 42.0
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=Z,11nm,0.5s
YAK smax smax
comp=E,39nm,1.6s
YAK smax smax
comp=N,46nm,1.4s
YAK Yakutsk 89.45 342 P **P** **07 01 02.1 -0.1**
comp=N,22nm,0.5s,baz=75,slow=3.1,SNR=6.0
comp=N,22nm,0.5s
NVAR Mina Array Bea 89.49 48 P **P** **07 01 03.9 +0.5**
comp=N,3.6nm,0.9s,baz=222,slow=8.7,SNR=18
NVAR pP **pP** **07 01 37.7 +0.4**
comp=N,4.3nm,1.1s,baz=233,slow=7.8,SNR=3.8
NVAR LR LR 07 32 04.7
comp=N,41nm,22.0s,baz=270,slow=29
comp=N,3.6nm,0.9s
GTA Gaotai 89.57 313 P **P** **07 01 04.3 +0.8**
GTA pmax pmax
comp=N,10.0nm,1.2s
GTA LR LR
comp=N,460nm,21.4s
GTA LR LR
comp=N,360nm,20.7s
GTA LR LR
comp=N,640nm,19.6s
G17K Kiwalik Mounta 89.58 12 P **P** **07 01 03.1 +0.3**
baz=207
FURC Furnace Creek, 89.60 50 P **P** **07 01 03.4 -0.1**
baz=243
H18K Honhosa River 89.72 13 P **P** **07 01 03.8 +0.4**
baz=209
SONM Songino Array 89.78 323 P **P** **07 01 04.4 +0.1**
SONM IAmb IAmb 07 01 05.7
comp=Z,19nm,1.0s
SONM Songino Array 89.78 323 P **P** **07 01 04.4 +0.1**
SONM pmax pmax
comp=Z,19nm,1.0s
SONM Songino Array 89.78 323 P **P** **07 01 04.6 +0.3**
comp=Z,16nm,0.9s,baz=138,slow=4.8,SNR=55
comp=Z,16nm,0.9s
KLU Klutina 89.86 19 P **P** **07 01 03.9 -0.4**
baz=220
BMRM Bremner River 89.88 20 P **P** **07 01 04.4 +0.1**
baz=221
J05D Fort Rock, OR 89.92 43 P **P** **07 01 05.3 +0.2**
J05D IAmb IAmb 07 01 45.3
comp=Z,22nm,1.3s
TPH Tonopah 90.08 49 IAmb IAmb 07 01 07.6
comp=Z,46nm,1.3s
TRF Thorofare Moun 90.16 17 P **P** **07 01 05.5 -0.2**
baz=216
MESA MESA 90.17 22 P **P** **07 01 05.6 -0.3**
baz=223
I20K Naaghedeneel 90.25 14 P **P** **07 01 06.3 +0.4**
baz=212
M24K Tolsona, Glenn 90.26 19 P **P** **07 01 06.0 -0.1**
baz=220
G18K Tagagawik 90.31 12 IAmb IAmb 07 01 07.4
comp=Z,23nm,1.7s
G18K Tagagawik 90.31 12 P **P** **07 01 06.3 +0.1**
baz=209
F17K Baldwin Pennin 90.32 11 IAmb IAmb 07 01 07.6
comp=Z,9.5nm,0.8s
F17K Baldwin Pennin 90.32 11 P **P** **07 01 06.6 +0.4**
baz=206,SNR=7.3
PINE Pine Mountain 90.36 42 P **P** **07 01 08.3 +1.2**
PINE IAmb IAmb 07 01 42.6
comp=Z,19nm,1.4s
N25K Chitina, Valde 90.36 20 P **P** **07 01 06.8 +0.2**
baz=221
H19K Roundabout Mou 90.44 13 IAmb IAmb 07 01 15.1
comp=Z,22nm,1.8s
H19K Roundabout Mou 90.44 13 P **P** **07 01 07.0 +0.3**
baz=211
PDMCI Parker Dam,Lak 90.62 53 P **P** **07 01 09.3 +0.9**
baz=244
DHY Denali Highway 90.66 18 IAmb IAmb 07 03 27.8
comp=Z,11nm,0.7s
MCARA McCarthy VSAT 90.70 20 P **P** **07 01 08.1 +0.1**
baz=222,SNR=8.5
PINM Pinnacle 90.71 22 P **P** **07 01 08.2 -0.1**
baz=225
PNL Peninsula 90.71 23 P **P** **07 01 08.1 -0.1**
baz=226
S31K Pelican 90.74 25 P **P** **07 01 08.4 +0.1**
baz=228
F18K Selawik 90.75 11 P **P** **07 01 08.6 +0.4**
baz=208
H20K Anotleneega Mo 90.75 14 P **P** **07 01 08.5 +0.2**
baz=212
MCK McKinley 90.75 17 P **P** **07 01 07.8 -0.5**

baz=217
HARP HAARP 90.79 19 P P 07 01 08.6 0.0
baz=221
BBB Bella Bella 90.81 33 LR LR 07 34 31.4
comp=Z,41nm,20.2s,baz=224,slow=30
U33K Whale Pass 90.84 28 P P 07 01 08.6 -0.2
baz=231
G19K Purcell Mounta 90.84 13 IAmb IAmb 07 01 09.8
comp=Z,33nm,1.8s
G19K Purcell Mounta 90.84 13 P P 07 01 08.6 -0.1
baz=210
CTG Chitna Glacier 90.95 21 P P 07 01 09.0 -0.5
baz=224,SNR=9.2
CTGM Chitina Glacie 90.95 21 IAmb IAmb 07 03 02.3
comp=Z,21nm,0.8s
D17K Noatak River 91.15 10 P P 07 01 10.0 0.0
baz=205
I21K Tanana 91.15 15 P P 07 01 10.3 +0.2
baz=215
P29M Windy Craggy 91.29 24 P P 07 01 10.9 0.0
baz=227
F19K Shaleruckik Mo 91.31 12 IAmb IAmb 07 01 12.0
comp=Z,12nm,1.4s
F19K Shaleruckik Mo 91.31 12 P P 07 01 10.7 0.0
baz=209
E18K Tukpahlearik C 91.31 11 IAmb IAmb 07 01 12.5
comp=Z,14nm,1.3s
E18K Tukpahlearik C 91.31 11 P P 07 01 10.9 +0.2
baz=207
MLY Manley 91.33 15 P P 07 01 11.0 0.0
baz=216
C16K Lisburne Hills 91.34 9 P P 07 01 11.1 +0.2
baz=202
H21K Melozitna Rive 91.36 14 P P 07 01 10.9 -0.1
baz=214
WRAK Wrangell Islan 91.36 28 P P 07 01 11.5 +0.2
baz=232
NEA2 Nenana 91.41 16 P P 07 01 11.3 0.0
baz=217
M26K Nabesna, AK 91.46 20 P P 07 01 11.8 +0.1
baz=223
MENT Mentasta 91.64 19 P P 07 01 12.6 +0.2
K24K Donnelly Dome 91.69 18 P P 07 01 13.2 +0.6
baz=220
YUK8 Steele Glacier 91.72 22 P P 07 01 13.6 +0.4
baz=225,SNR=17
CCB Clear Creek Bu 91.78 17 IAmb IAmb 07 03 58.3
comp=Z,5.6nm,0.6s
M27K Edge Creek, AK 91.79 20 IAmb IAmb 07 01 14.1
comp=Z,14nm,1.1s
M27K Edge Creek, AK 91.79 20 P P 07 01 13.8 +0.5
baz=224
L26K Log Cabin Wild 91.82 19 P P 07 01 13.5 +0.3
baz=222,SNR=8.3
HDA Harding Lake 91.83 17 P P 07 01 13.5 +0.2
baz=219
YUK3 Moose Creek 91.83 21 P P 07 01 13.3 -0.3
baz=225,SNR=16
C17K DeLong Mountai 91.84 9 P P 07 01 13.4 +0.1
baz=204
H22K Ishtalitna Cre 91.89 15 P P 07 01 13.7 +0.2
baz=215
F20K Avaraaart Lake 91.90 13 P P 07 01 14.1 +0.6
baz=211
P30M Million Dollar 91.92 23 P P 07 01 13.5 -0.3
baz=228
G21K Allakaket 91.92 14 IAmb IAmb 07 01 53.1
comp=Z,14nm,1.6s
G21K Allakaket 91.92 14 P P 07 01 13.6 0.0
baz=213
COLA College 91.95 17 P P 07 01 12.4 -1.3
COLA IAmb IAmb 07 04 04.2
comp=Z,11nm,0.5s
COLA College 91.95 17 P P 07 01 13.7 0.0
COLA College 91.95 17 *i* P P 07 01 12.4 -1.3
COLA pmax pmax
comp=Z,40nm,3.0s
COLA College 91.95 17 P P 07 01 13.9 +0.2
baz=218
E19K Redstone River 91.96 12 P P 07 01 14.6 +0.8
E19K IAmb IAmb 07 01 15.8
comp=Z,20nm,0.8s
E19K Redstone River 91.96 12 P P 07 01 14.0 +0.2
baz=210,SNR=37
YUK6 Outpost Mounta 91.97 22 P P 07 01 14.2 -0.1
baz=226
U35K Hyder 92.09 29 P P 07 01 14.6 0.0
baz=233
SKAG Skagway 92.09 24 P P 07 01 14.9 +0.4
baz=229
ILAR Eielson Array 92.12 17 P P 07 01 12.2 -2.4
ILAR Eielson Array 92.12 17 P P 07 01 12.2 -2.4
ILAR Eielson Array 92.12 17 P P 07 01 13.0 -1.6
comp=Z,3.5nm,0.7s,baz=235,slow=5.8,SNR=31
comp=Z,3.5nm,0.7s
YUK4 Talbot Arm 92.15 22 P P 07 01 15.5 +0.5
baz=226
BVCY Beaver Creek 92.16 20 P P 07 01 15.2 +0.4
baz=224,SNR=7.0
HYT Haines Junctio 92.19 23 IAmb IAmb 07 01 53.9
comp=Z,13nm,1.2s
HYT Haines Junctio 92.19 23 P P 07 01 15.2 0.0
baz=227
POKR Poker Plat Res 92.25 16 P P 07 01 15.0 -0.2
baz=219
C18K Utukok River 92.31 10 P P 07 01 15.7 +0.3
baz=206
L27K Beaver Creek, 92.31 20 P P 07 01 15.4 -0.2
baz=224
BCAR Beaver Creek A 92.33 20 P P 07 01 14.9 -0.8
SCRK Sand Creek 92.33 18 P P 07 01 15.1 -0.7
SCRK IAmb IAmb 07 01 16.2
comp=Z,9.2nm,0.9s
SCRK Sand Creek 92.33 18 P P 07 01 15.5 -0.3
baz=222,SNR=11
TUC Tucson 92.34 56 P P 07 01 15.8 -0.7
baz=246
J25K Salcha River, 92.42 17 IAmb IAmb 07 01 16.2
comp=Z,5.5nm,0.7s
J25K Salcha River, 92.42 17 P P 07 01 15.8 -0.3
baz=220
F21K Alatna River 92.52 13 P P 07 01 16.3 -0.1
baz=213
T35M Bob Quinn 92.62 28 P P 07 01 17.0 -0.1
baz=233
ELK Elko 92.66 47 LR LR 07 34 56.4
comp=Z,45nm,21.6s,baz=271,slow=30
O30N Mendenhall 92.67 23 IAmb IAmb 07 01 55.5
comp=Z,13nm,1.2s
O30N Mendenhall 92.67 23 P P 07 01 17.3 0.0
baz=228
H24K Noodor Dome 92.70 16 P P 07 01 17.8 +0.4
baz=218
G22K Bettles 92.70 14 P P 07 01 17.3 +0.1
baz=215
D19K Kuna River 92.70 11 IAmb IAmb 07 01 18.5
comp=Z,15nm,0.8s
D19K Kuna River 92.70 11 P P 07 01 17.5 +0.3
baz=209,SNR=19
N30M Aishikik Lake 92.77 22 P P 07 01 17.7 0.0
baz=226
P32M Atlin 92.80 25 P P 07 01 17.9 -0.1
baz=230
S34M Telegraph Cree 92.81 27 P P 07 01 17.8 -0.1
baz=233
J26L Joseph Creek 92.85 18 IAmb IAmb 07 01 19.5
comp=Z,10nm,0.8s
J26L Joseph Creek 92.85 18 P P 07 01 18.0 -0.1
baz=222
E20K Nigu River 92.85 12 P P 07 01 18.1 +0.1
baz=211,SNR=51
B18K Kokolik River 92.86 10 P P 07 01 18.6 +0.7
baz=206
G23K Bananza Creek 92.87 15 IAmb IAmb 07 04 32.2
comp=Z,26nm,1.9s
G23K Bananza Creek 92.87 15 P P 07 01 18.9 +0.8
baz=216
U15A North Rim 92.89 52 IAmb IAmb 07 01 55.4
comp=Z,12nm,1.3s
K27K Chicken 92.94 19 IAmb IAmb 07 01 20.1
comp=Z,11nm,0.9s
K27K Chicken 92.94 19 P P 07 01 18.8 +0.4
baz=223
M29M Somme Creek 92.97 21 IAmb IAmb 07 03 49.9
comp=Z,8.9nm,0.9s
M29M Somme Creek 92.97 21 P P 07 01 19.2 +0.5
baz=226
Q32M Nakina River 92.98 26 P P 07 01 18.9 -0.1
baz=232
C19K Lookout Ridge 92.99 10 IAmb IAmb 07 01 19.7
comp=Z,7.9nm,0.7s
C19K Lookout Ridge 92.99 10 P P 07 01 19.4 +0.8
baz=208
WHY Whitehorse 93.05 24 P P 07 01 19.3 +0.2
baz=230
PRP Porcupine Dome 93.07 17 P P 07 01 19.4 +0.3
baz=220
D20K Etivluk River 93.17 11 P P 07 01 19.6 +0.2
baz=210
COLD Coldfoot 93.25 14 P P 07 01 19.9 +0.1
baz=216,SNR=9.7
E21K Killik River 93.44 12 IAmb IAmb 07 01 21.8
comp=Z,14nm,0.9s
E21K Killik River 93.44 12 P P 07 01 20.6 -0.1
baz=213
G24K Hadweenzic Riv 93.48 15 P P 07 01 20.7 -0.1
baz=219
L29M L29M 93.54 21 IAmb IAmb 07 02 00.3
comp=Z,25nm,1.4s
L29M L29M 93.54 21 P P 07 01 21.5 +0.2
baz=227
P33M Teslin, Yukon 93.55 25 P P 07 01 21.2 -0.2
baz=231
H25L Birch Creek 93.57 16 P P 07 01 21.3 +0.1
baz=220
I26K Coal Creek Min 93.57 18 IAmb IAmb 07 01 22.1
comp=Z,12nm,0.9s
I26K Coal Creek Min 93.57 18 P P 07 01 21.2 0.0
baz=222,SNR=14
DLBC Dease Lake 93.59 27 P P 07 01 21.6 0.0
baz=234
DLBC Dease Lake 93.59 27 P P 07 01 21.0 -0.6
comp=Z,3.2nm,1.0s,baz=252,slow=7.2,SNR=5.3
DLBC pP **pwP** 07 01 58.6 -0.2
comp=Z,5.1nm,1.1s,baz=190,slow=5.0,SNR=6.0
comp=Z,3.2nm,1.0s
M30M Minto, Yukon 93.63 22 IAmb IAmb 07 02 00.4
comp=Z,18nm,1.2s
M30M Minto, Yukon 93.63 22 P P 07 01 21.5 -0.2
baz=228,SNR=8.9
E22K Anaktuvuk Pass 93.63 13 IAmb IAmb 07 01 24.2
comp=Z,38nm,1.9s
E22K Anaktuvuk Pass 93.63 13 P P 07 01 21.6 0.0
baz=215
EGAK Eagle 93.76 19 P P 07 01 22.0 -0.1
baz=224,SNR=18
R33M Jennings River 93.78 26 P P 07 01 22.3 -0.2
baz=233
DAWY Dawson 93.80 20 IAmb IAmb 07 01 23.4
comp=Z,8.8nm,1.0s
DAWY Dawson 93.80 20 P P 07 01 22.5 +0.1
baz=226,SNR=8.9
G25K Bearman Lake 93.88 16 P P 07 01 22.8 +0.2
baz=220
C21K Knifeblade Rid 93.89 12 P P 07 01 23.4 +0.7
baz=212
F24K Squaw Lake 94.02 15 IAmb IAmb 07 01 24.7
comp=Z,7.3nm,0.8s
F24K Squaw Lake 94.02 15 P P 07 01 23.9 +0.5
baz=218,SNR=14
N32M Quiet Lake 94.04 24 P P 07 01 24.3 +0.7
baz=231
E23K Chandalar 94.05 14 P P 07 01 24.0 +0.4
baz=217
D22K Ayikyak River 94.07 13 P P 07 01 24.2 +0.7
baz=214
B20K Meade River 94.19 11 IAmb IAmb 07 01 25.3
comp=Z,9.6nm,0.7s
B20K Meade River 94.19 11 P P 07 01 24.3 +0.3
baz=210
I27K Kandik River 94.22 18 P P 07 01 24.2 -0.1
baz=224
M31M Drury Creek, Y 94.23 23 P P 07 01 24.5 +0.2
baz=230
K29M Barlow Dome 94.24 21 IAmb IAmb 07 02 02.1
comp=Z,39nm,1.9s
K29M Barlow Dome 94.24 21 P P 07 01 24.6 +0.1
baz=227
B21K Ikpikpuk River 94.32 12 IAmb IAmb 07 01 26.1
comp=Z,12nm,0.8s
B21K Ikpikpuk River 94.32 12 P P 07 01 25.0 +0.4
baz=212
E24K Your Creek 94.32 14 P P 07 01 24.6 -0.1
baz=218
J29N Klondike Camp 94.44 20 IAmb IAmb 07 02 04.6
comp=Z,14nm,1.4s
J29N Klondike Camp 94.44 20 P P 07 01 25.6 +0.2
baz=227,SNR=5.5
TOLK Toolik Lake Re 94.53 14 P P 07 01 25.9 +0.2
baz=217
D23K Nanushuk River 94.56 13 P P 07 01 26.3 +0.6
baz=216
I28M Miner Creek 94.60 19 IAmb IAmb 07 01 26.4
comp=Z,6.6nm,0.7s
I28M Miner Creek 94.60 19 P P 07 01 25.7 -0.5
baz=225
MAYO Mayo, Yukon 94.62 21 P P 07 01 26.5 +0.4
baz=229
G26K Porcupine Rive 94.62 16 P P 07 01 26.3 +0.3
baz=222
FARO Faro, Yukon 94.62 23 P P 07 01 26.2 0.0
baz=231
F25K Christian Rive 94.63 15 P P 07 01 26.3 +0.1
baz=220
H27K Steamboat Moun 94.70 18 P P 07 01 26.4 -0.1
baz=224
BMAR Burnt Mountain 94.77 16 P P 07 01 27.2 +0.4
E25K Arctic Village 95.05 15 P P 07 01 28.7 +0.6
baz=220,SNR=5.0
F26K Sheenjek River 95.08 16 P P 07 01 28.3 +0.1
baz=222
G27K Doyon Strip 95.09 17 P P 07 01 28.4 +0.1
baz=224
WTLY Watson Lake, Y 95.09 26 P P 07 01 28.5 +0.1
baz=235
D24K Happy Valley 95.11 14 IAmb IAmb 07 01 29.6
comp=Z,6.1nm,0.8s
D24K Happy Valley 95.11 14 P P 07 01 28.4 +0.2
baz=218
J30M Hart River 95.12 20 P P 07 01 28.2 -0.4
baz=228
B22K Teshekpuk Lake 95.15 12 IAmb IAmb 07 01 29.8
comp=Z,18nm,1.2s
B22K Teshekpuk Lake 95.15 12 P P 07 01 28.6 +0.3
baz=214
C23K Itkillik River 95.28 13 IAmb IAmb 07 01 30.6
comp=Z,15nm,1.0s
C23K Itkillik River 95.28 13 P P 07 01 29.2 +0.2
baz=216
A21K Barrow 95.43 10 P P 07 01 29.6 0.0
baz=211
I30M Mount Dempster 95.54 20 IAmb IAmb 07 01 31.1
comp=Z,7.1nm,0.9s
I30M Mount Dempster 95.54 20 P P 07 01 30.0 -0.4
baz=229
C24K Franklin Bluff 95.58 13 P P 07 01 30.9 +0.5
baz=218,SNR=9.0
H29M Whitestone 95.61 19 IAmb IAmb 07 01 31.1
comp=Z,9.7nm,1.1s
H29M Whitestone 95.61 19 P P 07 01 30.5 -0.1
baz=227
D25K Kavik River 95.78 14 P P 07 01 31.3 -0.1
baz=220
MVCO Mesa Verde 95.99 52 P P 07 01 32.0 -1.3
baz=248
Y22D IRIS PASSCAL I 96.00 56 P P 07 01 33.3 -0.1
baz=248
Y22F Passcal Instru 96.00 56 P P 07 01 33.0 -0.3
baz=248
E27K Coleen River 96.10 16 IAmb IAmb 07 01 34.0
comp=Z,5.9nm,0.8s
E27K Coleen River 96.10 16 P P 07 01 33.1 +0.3
baz=224
F28M Old Crow 96.15 17 IAmb IAmb 07 02 11.4
comp=Z,8.5nm,1.4s
F28M Old Crow 96.15 17 P P 07 01 33.0 -0.1
baz=226,SNR=5.5
G29M Pine Creek 96.18 18 IAmb IAmb 07 01 34.1
comp=Z,7.4nm,0.8s
G29M Pine Creek 96.18 18 P P 07 01 33.5 +0.3
baz=227
EPYK Eagle Plains 96.20 19 IAmb IAmb 07 01 33.3
comp=Z,8.3nm,0.7s
EPYK Eagle Plains 96.20 19 P P 07 01 33.2 -0.1
baz=228
MNTX Cornudas Mount 96.34 59 P P 07 01 33.6 -1.1
baz=249
H31M Peel River 96.56 20 P P 07 01 34.5 -0.4
baz=230
C26K Camden Bay 96.57 14 P P 07 01 35.8 +1.0
baz=221,SNR=11
G30M tAoh Zraii Nji 96.75 19 P P 07 01 35.8 0.0
baz=229
TXAR Lajitas Array 96.87 61 PKKPbc PKKPbc 07 18 18.5 -0.4
comp=Z,0.1nm,0.4s,baz=120,slow=4.6,SNR=5.0
TXAR LR LR 07 36 48.3
comp=Z,28nm,19.1s,baz=277,slow=30
E28M Babbage River 96.94 16 P P 07 01 36.8 +0.2
baz=226,SNR=20
D27M Malcolm River 97.02 16 IAmb IAmb 07 01 38.3
comp=Z,4.5nm,0.9s
D27M Malcolm River 97.02 16 P Pdif 07 01 37.2 +0.1
baz=225
KOTAN Kotaneelee Air 97.08 27 P P 07 01 36.9 -0.5
baz=239
E29M Blow River 97.22 17 IAmb IAmb 07 02 22.2
comp=Z,8.2nm,1.5s
E29M Blow River 97.22 17 P Pdif 07 01 38.0 +0.1
baz=227
O20A White River Ci 97.28 50 P P 07 01 37.9 -1.2
baz=248
F30M Barrier River 97.30 18 P P 07 01 38.0 -0.2
baz=229
G31M Satah River 97.30 19 IAmb IAmb 07 01 39.0
comp=Z,10nm,1.1s
G31M Satah River 97.30 19 P P 07 01 37.9 -0.3
baz=230
D28M Stokes Point 97.65 16 P P 07 01 39.6 -0.1
baz=227
ML02 Panimavida 98.27 134 P P 07 01 42.5 -1.0
INK Inuvik 98.40 18 P P 07 01 42.7 -0.4
INK IAmb IAmb 07 01 42.8
comp=Z,6.2nm,1.1s
INK Inuvik 98.40 18 P P 07 01 42.7 -0.4
INK pmax pmax
comp=Z,6.0nm,1.2s
INK Inuvik 98.40 18 P P 07 01 42.7 -0.4
baz=231
INK Inuvik 98.40 18 P P 07 01 41.9 -1.2
comp=Z,2.5nm,0.9s,baz=233,slow=5.5,SNR=9.4
INK PKKPbc **PKKPbc** 07 18 13.2 -2.9
comp=Z,0.6nm,0.6s,baz=355,slow=4.8,SNR=6.0
comp=Z,2.5nm,0.9s
RLMT Red Lodge 98.45 45 P P 07 01 43.2 -1.0
baz=248
WMQ Urumqi 99.65 313 *e*P **Pdif** 07 01 52.5 +3.1
WMQ LR LR
comp=Z,680nm,16.5s
WMQ LR LR
comp=Z,380nm,17.5s
WMQ LR LR
comp=Z,260nm,17.5s
C36M Paulatuk 101.82 19 P Pdif 07 01 57.9 -0.4
baz=240
YKA Yellowknife Ar 102.22 27 P Pdif 07 02 00.7 +0.5
comp=Z,0.8nm,0.8s,baz=258,slow=4.7,SNR=9.2
YKA pP **pPdif** 07 02 35.4 +1.1
comp=Z,0.6nm,0.9s,baz=259,slow=4.8,SNR=2.9
A36M Sachs Harbour 102.83 17 P Pdif 07 02 02.6 -0.1
baz=239
MKAR Makanchi Array 104.21 315 Pdiff Pdif 07 02 08.7 -0.8
comp=Z,0.6nm,0.6s,baz=10,slow=41,SNR=2.3
MKAR PKiKP **PKiKP** 07 06 25.7 0.0
comp=Z,1.4nm,1.0s,baz=123,slow=4.0,SNR=4.1
MKAR PKKPbc **PKKPbc** 07 17 55.5 -2.9
comp=Z,0.3nm,0.5s,baz=264,slow=3.3,SNR=3.8
ZALV Zalesovo Beam 104.67 322 Pdiff Pdif 07 02 10.2 -1.1
comp=Z,0.6nm,0.6s,baz=179,slow=7.2,SNR=1.4
BGNE Belgrade 104.94 51 P PKiKP 07 06 27.1 -0.2
baz=254
KURBB Kurchatov Arra 107.58 318 PKiKP PKiKP 07 06 31.6 -0.2
comp=Z,1.0nm,0.9s,baz=98,slow=2.9,SNR=4.9
KURBB PP **PP** 07 06 51.9 -2.3
comp=Z,5.2nm,1.0s,baz=106,slow=6.7,SNR=5.7
BVAR Borovoye Array 112.95 320 PKiKP PKiKP 07 06 41.4 -0.4
comp=Z,1.1nm,0.5s,baz=64,slow=3.4,SNR=5.0
ARU Arti 119.81 324 PKPdf PKiKP 07 06 55.1 +0.1
ARU Arti 119.81 324 PKP PKPdf 07 06 54.1 -0.8
comp=Z,4.3nm,0.4s,baz=32,slow=2.1,SNR=7.4
AKTO Aktyubinsk 120.57 317 PKP PKPdf 07 06 55.5 -1.0
comp=Z,2.5nm,0.5s,baz=104,slow=4.2,SNR=8.5
NEEM North Greenlan 120.62 10 *i* P PKPdf 07 06 55.8 -0.5
SPA0 Spitsbergen Ar 122.04 354 *e*PKPdf PKPdf 07 06 58.3 -0.4
SPITS Spitsbergen Ar 122.04 354 PKP PKPdf 07 06 57.9 -0.8
comp=Z,5.1nm,0.5s,baz=9.5,slow=4.4,SNR=19
UPNV Upernavik 122.66 15 *i* P PKPdf 07 06 59.4 -0.6
NUUG Nuugaatsiaq 124.14 15 *e*P PKPdf 07 07 02.1 -0.7
DAG Danmarks Havn 124.58 3 *i* P PKPdf 07 07 02.0 -1.6
ILULI Ilulissat 126.17 17 PKPdf 07 07 06.8 0.0
ILULI Ilulissat 126.17 17 PKIKP PKPdf 07 07 06.8 0.0
ILULI Ilulissat 126.17 17 *e*P PKPdf 07 07 06.1 -0.6
SUMG Summit 126.46 10 PKPdf PKiKP 07 07 08.1 -0.1
SUMG Summit 126.46 10 PKIKP PKiKP 07 07 08.1 -0.1
SUMG Summit 126.46 10 *i* P PKPdf 07 07 07.0 -0.2
BELG Belogornoye 126.76 320 PKP PKPdf 07 07 08.3 0.0
comp=Z,28nm,0.9s,baz=22,slow=5.4,SNR=8.4
APA Apatity 126.82 341 ||*i* PKHKP PKPpre 07 06 57.1
APA pmax pmax
comp=Z,9.0nm,0.8s
APA MLR MLR
comp=Z,500nm,21.0s
DBG Daneborg 126.93 4 *i* P PKPdf 07 07 07.4 -0.7
BDFB Brasilia 127.15 131 PKP PKPdf 07 07 09.8 -0.6
comp=Z,1.3nm,0.7s,baz=210,slow=8.1,SNR=3.1
HUMP Col San Antoni 127.16 83 *e*PKPdf PKPdf 07 07 09.8 -0.4
HAMF Hammerfest 127.19 347 *e*PKPdf PKPdf 07 07 08.0 -0.7
ARA0 ARCESS Array S 127.62 345 *e*PKPdf PKPdf 07 07 09.2 -0.3
ARCES ARCESS Array B 127.62 345 PKP PKPdf 07 07 09.2 -0.4
comp=Z,3.5nm,0.4s,baz=58,slow=2.2,SNR=53
KLMR Klimovskoe 128.14 332 *e*PKIKP PKPdf 07 07 07.9 -2.8
KLMR *e* 07 07 45.5
KLMR pmax pmax
comp=Z,18nm,1.5s
KTK1 Kautokeino 128.55 346 *e*PKPdf PKPdf 07 07 10.8 -0.5
ICESG Greenland Ices 129.08 13 *e*P PKPdf 07 07 11.9 -0.9
DY2G Dye2 129.38 18 *e*P PKPdf 07 07 12.9 -0.4
JOF Joensuu 130.35 337 *e*P PKPdf 07 07 14.2 -0.6
STEI Steigen 131.16 348 *e*PKPdf PKPdf 07 07 15.6 -0.6
KBZ Khabaz 131.56 310 PKP PKPdf 07 07 15.4 -2.4
comp=Z,2.3nm,0.8s,baz=98,slow=7.1,SNR=3.2
FAUS Fauske 131.61 347 *e*PKPdf PKPdf 07 07 15.3 -1.9
KIV Kislovodsk 131.67 310 *e*PKIKP PKPdf 07 07 16.7 -1.4
KIV pmax pmax
comp=Z,7.0nm,1.0s
OBN Obninsk 132.08 326 *e*PKIKP PKPdf 07 07 17.8 -0.6
OBN *e* 07 09 40.2
OBN pmax pmax
comp=Z,4.0nm,0.8s
IVI Ivigtut 132.22 24 *e*P PKPdf 07 07 17.9 -0.5
MOR8 Moi Rana 132.82 347 *e*PKPdf PKPdf 07 07 19.1 -0.4
KEF Keurruu 133.11 339 *e*P PKPdf 07 07 19.1 -1.1
FINES FINESS Array B 133.19 337 PKP PKPdf 07 07 18.2 -2.0
comp=Z,3.2nm,0.5s,baz=68,slow=2.7,SNR=8.0
FINES SKPbc **SKPbc** 07 10 35.4 -0.4
comp=Z,16nm,0.9s,baz=85,slow=4.0,SNR=27
VAF Ylistaro 133.20 341 *e*P PKPdf 07 07 20.1 -0.1
NRS Narsarsuaq 133.28 23 *e*P PKPdf 07 07 19.2 -1.2
SOC Sochi 133.85 310 *i* PKIKP PKPdf 07 07 21.4 -0.7
SOC *e* 07 09 50.8
SOC *e*PPP PPP 07 12 45.1
SOC *e* 07 14 18.6
SOC *e*PS **PS** 07 20 08.0 -6.7
SOC *e*SS SS 07 27 25.9 -4.3
SOC *e*SSS SSS 07 32 32.2
MEF Metsahovi 134.63 337 *e*P PKPpre 07 07 20.0
AAL Aland 136.19 339 *e*P PKPdf 07 07 24.0 -1.9
ISAL Salakas 136.94 331 *e*P PKPpre 07 07 19.9
NACGM Naroch 137.03 330 *e*PKP PKPdf 07 07 27.8 +0.1
comp=Z,19nm,0.9s,baz=54
PABE Paberze 137.93 332 *e*P PKPpre 07 07 22.4
NB2 NORSAR Subarra 138.00 345 PKPdf PKPpre 07 07 18.0
comp=Z,2.5nm,1.0s,baz=31,slow=1.9
NB2 SKPa 07 10 50.1
comp=Z,1.2nm,0.7s,baz=25,slow=2.9
NB2 NORSAR Subarra 138.00 345 *e* PKPpre 07 07 18.0
baz=31,slow=1.9
NOA NORSAR Array B 138.00 345 PKhKP PKPpre 07 07 24.4
comp=Z,0.7nm,0.6s,baz=256,slow=3.0,SNR=4.1
NOA SKPbc **SKPbc** 07 10 49.7 -1.2
comp=Z,3.1nm,1.0s,baz=18,slow=4.3,SNR=4.5
AKASG Malin Array Be 138.06 323 PKhKP PKPpre 07 07 25.8
comp=Z,1.6nm,0.5s,baz=50,slow=2.1,SNR=4.3
AKASG SKPbc **SKPbc** 07 10 51.3 0.0

	comp=Z,1.4nm,0.6s,baz=46,slow=2.9,SNR=10						
HFS	**Hagfors**	**138.14 343**	PKhKP	PKPpre	07 07 18.8		
	comp=Z,2.9nm,0.8s,baz=169,slow=0.8,SNR=3.2						
HFS			SKPbc	**SKPbc**	**07 10 50.2**	**-1.0**	
	comp=Z,4.8nm,0.8s,baz=13,slow=1.9,SNR=4.9						
NC602	**NORSAR Array S**	**138.19 345**	*e*	PKPpre	07 07 19.7		
BRTR	**Keskin Array B**	**139.14 306**	PKhKP	PKPpre	07 07 23.8		
	comp=Z,0.5nm,0.7s,baz=112,slow=5.7,SNR=2.1						
DEL	**Delary**	**141.11 339**	*eP*	PKPpre	07 07 30.4		
TPGR	**Topolog**	**141.18 316**	⇑P	**PKPdf**	**07 07 32.3**	**-3.3**	
CFR	**Carcaliu**	**141.23 316**	⇑P	**PKiKP**	**07 07 39.8**	**+1.4**	
CFR	**Carcaliu**	**141.23 316**	⇑PKiKP	**PKiKP**	**07 07 39.8**	**+1.4**	
KALB	**Balgarevo**	**141.75 314**	⇑P	**PKiKP**	**07 07 38.4**	**-1.2**	
VRI	**Vrincioaia**	**141.82 318**	⇑P	**PKiKP**	**07 07 39.1**	**-0.6**	
VRI	**Vrincioaia**	**141.82 318**	⇑PKiKP	**PKiKP**	**07 07 39.1**	**-0.6**	
BURAR	**Bucovina Array**	**141.88 321**	⇑P	**PKPdf**	**07 07 35.3**	**-1.6**	
BURAR	**Bucovina Array**	**141.88 321**	⇑PKiKP	**PKPdf**	**07 07 35.3**	**-1.6**	
TURR	**Turia**	**142.17 319**	⇑P	**PKPdf**	**07 07 34.3**	**-3.1**	
MLR	**Muntele Rosu**	**142.48 318**	⇑P	**PKPdf**	**07 07 34.6**	**-3.5**	
MLR	**Muntele Rosu**	**142.48 318**	⇑PKiKP	**PKPdf**	**07 07 34.6**	**-3.5**	
MLR	**Muntele Rosu**	**142.48 318**	PKhKP	PKPpre	07 07 34.5		
	comp=Z,3.7nm,0.6s,baz=13,slow=1.7,SNR=7.8						
DOPR	**Dopca**	**142.60 319**	⇑P	**PKPdf**	**07 07 35.7**	**-2.4**	
KOLS	**Kolonicke sedl**	**142.81 325**	*e*PKiKP	**PKPdf**	**07 07 36.4**	**-2.0**	
KOLS	**Kolonicke sedl**	**142.81 325**	*e*PKP	**PKPdf**	**07 07 36.4**	**-2.0**	
VOIR		**143.06 318**	⇑P	PKPbc	07 07 36.4	+0.1	
VOIR		**143.06 318**	⇑PKiKP	PKPbc	07 07 36.4	+0.1	
CRVS	**Cervenica-Dubn**	**143.26 325**	*e*PKiKP	**PKiKP**	**07 07 41.7**	**-0.8**	
CRVS	**Cervenica-Dubn**	**143.26 325**	*e*PKP	**PKiKP**	**07 07 41.7**	**-0.8**	
CJR	**Cluj-Napoca**	**143.30 321**	⇑P	PKPbc	07 07 37.8	+1.0	
CJR	**Cluj-Napoca**	**143.30 321**	⇑PKiKP	PKPbc	07 07 37.8	+1.0	
ARR	**Arges**	**143.35 318**	⇑P	PKPbc	07 07 37.2	+0.2	
ELND	**Elena**	**143.65 314**	⇑P	PKPbc	07 07 38.0	+0.1	
DRGR		**143.77 322**	⇑P	PKPbc	07 07 38.3	+0.1	
DRGR		**143.77 322**	⇑PKiKP	PKPbc	07 07 38.3	+0.1	
LOT	**Lotru**	**143.84 319**	⇑P	PKPab	07 07 36.8	-1.0	
KECS	**Kecovo**	**144.02 325**	*e*PKiKP	**PKPdf**	**07 07 39.7**	**-0.8**	
KECS	**Kecovo**	**144.02 325**	*e*PKP	**PKPdf**	**07 07 39.7**	**-0.8**	
DEV	**Deva**	**144.14 320**	⇑P	**PKPdf**	**07 07 40.3**	**-0.5**	
DEV	**Deva**	**144.14 320**	⇑PKiKP	**PKPdf**	**07 07 40.3**	**-0.5**	
RUE	**Ruedersdorf**	**144.31 335**	*e*PKPbc	PKPbc	07 07 40.0	+0.6	
	baz=35,slow=2.8						
OKC	**Ostrava-Krasne**	**144.33 329**	*e*PKiKP	PKPbc	07 07 40.3	+0.6	
OKC	**Ostrava-Krasne**	**144.33 329**	*e*PKP	PKPbc	07 07 40.3	+0.6	
BSEG	**Bad Segeberg**	**144.35 340**	*e*PKPbc	PKPbc	07 07 39.8	+0.2	
	baz=35,slow=2.8						
GZR	**Gura Zlata**	**144.47 320**	⇑P	PKPbc	07 07 40.5	+0.1	
GZR	**Gura Zlata**	**144.47 320**	⇑PKHKP	PKPbc	07 07 40.5	+0.1	
RDO	**Rodhopi**	**144.59 312**	PKPdf	**PKPab**	**07 07 40.2**	**-0.4**	
MORC	**Moravsky Berou**	**144.66 329**	⇑P	PKPbc	07 07 41.1	+0.3	
MORC	**Moravsky Berou**	**144.66 329**	*e*PKP	PKPbc	07 07 41.0	+0.2	
MORC			*e*		07 11 09.3		
MORC	**Moravsky Berou**	**144.66 329**	⇑PKiKP	PKPbc	07 07 41.1	+0.3	
SIRR	**Siria**	**144.66 322**	⇑P	**PKPdf**	**07 07 41.7**	**0.0**	
PSZ	**Piszkesteto**	**144.68 325**	⇓P	**PKPdf**	**07 07 41.5**	**-0.3**	
PSZ	**Piszkesteto**	**144.68 325**	PKPdf	**PKPdf**	**07 07 41.7**	**-0.1**	
PSZ	**Piszkesteto**	**144.68 325**	⇓PKiKP	**PKPdf**	**07 07 41.5**	**-0.3**	
OSTC	**Ostas**	**144.73 331**	*e*PKiKP	**PKPdf**	**07 07 41.8**	**+0.1**	
OSTC	**Ostas**	**144.73 331**	*e*PKP	**PKPdf**	**07 07 41.8**	**+0.1**	
PLD	**Plovdiv**	**144.73 313**	P	**PKPdf**	**07 07 41.6**	**-0.3**	
CHVC	**Chvalec**	**144.78 331**	*e*PKiKP	**PKPdf**	**07 07 41.8**	**0.0**	
CHVC	**Chvalec**	**144.78 331**	*e*PKP	**PKPdf**	**07 07 41.8**	**0.0**	
GORT1	**Trebel**	**144.81 338**	*e*PKPbc	**PKPdf**	**07 07 41.7**	**+0.1**	
	baz=35,slow=2.8						
KRLC	**Kraliky**	**144.81 330**	*e*PKiKP	**PKPdf**	**07 07 41.8**	**-0.1**	
KRLC	**Kraliky**	**144.81 330**	*e*PKP	**PKPdf**	**07 07 41.8**	**-0.1**	
DPC	**Dobruska-Polom**	**144.83 331**	*e*PKiKP	**PKPdf**	**07 07 42.2**	**+0.3**	
DPC	**Dobruska-Polom**	**144.83 331**	*e*PKP	**PKPdf**	**07 07 42.2**	**+0.3**	
BSZH	**Besenyszg**	**144.86 324**	⇑P	**PKPdf**	**07 07 42.5**	**+0.6**	
UPC	**Upice**	**144.86 331**	*e*PKiKP	**PKPdf**	**07 07 42.1**	**+0.2**	
UPC	**Upice**	**144.86 331**	*e*PKP	**PKPdf**	**07 07 42.1**	**+0.2**	
MPEP	**Malo Peshtene**	**144.87 316**	P	**PKPdf**	**07 07 42.3**	**+0.2**	
VYHS	**Vyhne**	**144.87 327**	*e*PKiKP	**PKPdf**	**07 07 42.2**	**+0.2**	
VYHS	**Vyhne**	**144.87 327**	*e*PKP	**PKPdf**	**07 07 42.2**	**+0.2**	
VALD	**Valchedram**	**144.91 317**	P	**PKPdf**	**07 07 42.9**	**+0.7**	
RZN	**Rozhen**	**144.93 313**	P	**PKPdf**	**07 07 42.4**	**-0.1**	
HERR	**Herculane**	**144.96 319**	⇑P	**PKPdf**	**07 07 42.2**	**0.0**	
PGB	**Panagyurishte**	**144.96 314**	P	**PKPdf**	**07 07 42.5**	**+0.1**	
INVG	**Invergeldie, C**	**144.97 355**	*eP*	PKPbc	07 07 40.8	-0.6	
BZS	**Buzias**	**145.05 321**	⇑P	**PKPdf**	**07 07 42.5**	**+0.1**	
BZS	**Buzias**	**145.05 321**	⇑PKiKP	**PKPdf**	**07 07 42.5**	**+0.1**	
KARP	**Karpathos**	**145.12 302**		**PKPbc**	**07 07 42.4**	**-0.3**	
AMBH	**Ambrzfalva**	**145.15 322**	⇑P	**PKPab**	**07 07 43.4**	**+0.9**	
JAVC	**Velka Javorina**	**145.22 328**	*e*PKP	**PKPab**	**07 07 44.2**	**+1.4**	
JAVC			*e*		07 11 11.2		
LAWE	**Loch Awe, Argy**	**145.24 356**	*eP*	**PKPbc**	**07 07 41.8**	**-0.5**	
FLTG	**Flechtingen**	**145.37 337**	*e*PKPbc	**PKPab**	**07 07 43.1**	**-0.1**	
	baz=35,slow=2.8						
MDVR	**Moldovita**	**145.44 319**	⇑P	**PKPab**	**07 07 43.8**	**+0.1**	
VRAC	**Vranov**	**145.44 329**	⇑P	**PKPab**	**07 07 43.4**	**-0.2**	
VRAC	**Vranov**	**145.44 329**	*e*PKP	**PKPab**	**07 07 43.8**	**+0.3**	
VRAC			*e*		07 11 11.1		
VRAC	**Vranov**	**145.44 329**	PKPbc	**PKPab**	**07 07 43.4**	**-0.2**	
	comp=Z,70nm,0.9s,baz=49,slow=2.7,SNR=40						
PVCC	**Panska Ves**	**145.47 333**	*e*PKP2	**PKPab**	**07 07 43.9**	**+0.3**	
PVCC	**Panska Ves**	**145.47 333**	*e*PKP	**PKPab**	**07 07 43.9**	**+0.3**	
BRG	**Berggiesshubel**	**145.48 334**	⇑*i*PKP2	**PKPab**	**07 07 43.8**	**+0.2**	
BRG					07 11 10.6		
BRG			pmax	pmax			
	comp=Z,131nm,0.8s						
BRG			pmax	pmax			
	comp=Z,9.0nm,0.9s						
BRG			pmax	pmax			
	comp=Z,12nm,1.2s						
BRG			pmax	pmax			
	comp=Z,8.0nm,1.0s						
BRG	**Berggiesshubel**	**145.48 334**	⇑*i*PKP	**PKPab**	**07 07 43.8**	**+0.2**	
BRG			Amp		07 07 44.7		
	comp=Z,131nm,0.8s						
BRG	**Berggiesshubel**	**145.48 334**	*e*PKPbc	**PKPab**	**07 07 43.8**	**+0.2**	
	baz=35,slow=2.8						
CLL	**Collm**	**145.52 335**	⇑*i*PKP2	**PKPab**	**07 07 43.7**	**-0.1**	
CLL			*i*		07 11 10.7		
CLL			pmax	pmax			
	comp=Z,136nm,0.8s						
CLL	**Collm**	**145.52 335**	⇑*i*PKPbc	**PKPab**	**07 07 43.7**	**-0.1**	
	comp=Z,136nm,0.8s						
CLL			*ep*PKiKP	**pPKPdf**	**07 08 20.0**	**+1.4**	
CLL			*i* SKPbc	**SKiKP**	**07 11 10.7**	**+0.1**	
	comp=Z,9.0nm,0.9s						
CLL			AMS	AMS	08 21 00.0		
	comp=Z,200nm,21.1s						
CLL	**Collm**	**145.52 335**	*e*PKPbc	**PKPab**	**07 07 43.6**	**-0.1**	
	baz=35,slow=2.8						
VTS	**Vitosha**	**145.53 315**	P	**PKPab**	**07 07 44.4**	**+0.1**	
SMOL	**Smolenice**	**145.57 328**	*e*PKP2	**PKPab**	**07 07 44.8**	**+0.7**	
SRO	**Srobarova**	**145.58 326**	*e*PKP2	**PKPab**	**07 07 44.7**	**+0.6**	
SRO	**Srobarova**	**145.58 326**	*e*PKP	**PKPab**	**07 07 44.7**	**+0.6**	
NRDL	**Niedersach Rie**	**145.63 339**	*e*PKPbc	**PKPab**	**07 07 43.9**	**-0.1**	
	baz=35,slow=2.8						
MMB	**Musomishta**	**145.66 313**	P	**PKPbc**	**07 07 44.1**	**-0.1**	
FBE	**Freiberg**	**145.68 334**	*ep*PKPbc	pPKPbc	07 08 20.9	+2.0	
KRUC	**Moravsky**	**145.70 329**	*e*PKP	**PKPab**	**07 07 44.6**	**+0.1**	
KRUC			*e*		07 11 11.6		
ASSE	**Asse, Remlinge**	**145.74 338**	*e*PKPbc	**PKPbc**	**07 07 44.1**	**+0.2**	
	baz=35,slow=2.8						
MODS	**Modra-Piesok**	**145.74 328**	*e*PKP2	**PKPab**	**07 07 45.3**	**+0.6**	
MODS	**Modra-Piesok**	**145.74 328**	*e*PKP	**PKPab**	**07 07 45.3**	**+0.6**	
GOPC	**GO Pecny, Ondr**	**145.83 332**	*e*PKP2	**PKPab**	**07 07 45.1**	**+0.1**	
GOPC	**GO Pecny, Ondr**	**145.83 332**	*e*PKP	**PKPab**	**07 07 45.1**	**+0.1**	
PRA	**Prague**	**145.87 332**	*e*PKP2	**PKPab**	**07 07 45.1**	**0.0**	
PRA	**Prague**	**145.87 332**	*e*PKP	**PKPab**	**07 07 45.1**	**0.0**	
PRU	**Pruhonice**	**145.88 332**	*e*PKP2	**PKPab**	**07 07 45.0**	**-0.2**	
PRU	**Pruhonice**	**145.88 332**	*e*PKP	**PKPab**	**07 07 45.0**	**-0.2**	
HSKC	**Hora Svate Kat**	**145.89 334**	*e*PKP	**PKPab**	**07 07 45.0**	**-0.2**	
ZST	**Bratislava**	**145.94 328**	*e*PKP2	**PKPab**	**07 07 45.6**	**+0.1**	
ZST	**Bratislava**	**145.94 328**	*e*PKP	**PKPab**	**07 07 45.6**	**+0.1**	
KKB	**Krupnik**	**145.95 314**	P	**PKPbc**	**07 07 45.3**	**+0.3**	
TREC	**Trest**	**145.96 330**	*e*PKP2	**PKPab**	**07 07 45.2**	**-0.3**	
TREC	**Trest**	**145.96 330**	*e*PKP	**PKPab**	**07 07 45.2**	**-0.3**	
EKA	**Eskdalemuir Ar**	**145.97 353**	PKPbc	**PKPdf**	**07 07 43.9**	**+0.2**	
	comp=Z,18nm,0.6s,baz=357,slow=2.3,SNR=33						
ESK	**Eskdalemuir**	**145.99 354**	*eP*	**PKPdf**	**07 07 44.0**	**+0.4**	
BOVS	**Bovan**	**146.03 318**	⇑P	**PKPbc**	**07 07 45.3**	**+0.1**	
NEUB	**Neuenburg**	**146.08 336**	*e*PKPbc	**PKPab**	**07 07 45.6**	**-0.3**	
	baz=35,slow=2.8						
CLZ	**Clausthal**	**146.08 338**	*e*PKPbc	**PKPab**	**07 07 45.6**	**-0.3**	
	baz=35,slow=2.8						
HKWD	**Heukewalde**	**146.19 335**	*ep*PKPbc	pPKPbc	07 08 22.7	+2.2	
NEWG	**New Galloway**	**146.28 355**	*eP*	**PKPdf**	**07 07 44.7**	**+0.5**	
EDMD	**Edmundbyers**	**146.32 352**	*eP*	**PKPdf**	**07 07 44.6**	**+0.4**	
FRGS	**Fruska Gora**	**146.36 321**	⇑P	**PKPbc**	**07 07 46.2**	**+0.1**	
FRGS	**Fruska Gora**	**146.36 321**	⇑*i*P	**PKPbc**	**07 07 46.4**	**+0.3**	
TANN	**Tannenbergstha**	**146.43 334**	*e*PKPbc	**PKPbc**	**07 07 46.5**	**+0.3**	
	baz=35,slow=2.8						
TANN			*ep*PKPbc	pPKPab	07 08 23.6	+1.7	
GTTG	**Gottingen**	**146.47 338**	*e*PKPbc	**PKPab**	**07 07 46.8**	**-0.5**	
	baz=35,slow=2.8						
PLN	**Plauen**	**146.50 335**	*e*PKPbc	**PKPbc**	**07 07 46.9**	**+0.5**	
	baz=35,slow=2.8						
IBBN	**Ibbenburen**	**146.55 341**	*e*PKPbc	**PKPbc**	**07 07 46.8**	**+0.4**	
	baz=35,slow=2.8						
VAY	**Valandovo**	**146.56 313**	*i* P	**PKPbc**	**07 07 46.3**	**-0.5**	
NKC	**Novy Kostel**	**146.58 334**	*e*PKP2	**PKPbc**	**07 07 47.2**	**+0.6**	
NKC	**Novy Kostel**	**146.58 334**	*e*PKP	**PKPbc**	**07 07 47.2**	**+0.6**	
MOX	**Moxa**	**146.59 335**	*e*PKPbc	**PKPbc**	**07 07 46.9**	**+0.3**	
	baz=35,slow=2.8						
RONA	**Rosalia, Austr**	**146.68 328**	*i* PKP	**PKPbc**	**07 07 47.7**	**+0.7**	
	comp=Z,44nm,0.6s,SNR=20						
KESW	**Keswick, Cumbr**	**146.69 353**	*eP*	**PKPbc**	**07 07 45.8**	**-0.9**	
CONA	**Conrad Observa**	**146.74 328**	*i* PKP	**PKPab**	**07 07 48.0**	**-0.7**	
	comp=Z,58nm,1.3s,SNR=20						
CKRC	**Cesky Krumlov**	**146.84 331**	*e*PKP2	**PKPbc**	**07 07 48.0**	**+0.6**	
CKRC	**Cesky Krumlov**	**146.84 331**	*e*PKP	**PKPbc**	**07 07 48.0**	**+0.6**	
TEKS	**Tekeris**	**146.87 321**	⇑P	**PKPbc**	**07 07 47.5**	**-0.1**	
MANZ	**Manzenberg**	**146.91 334**	*e*PKPbc	**PKPbc**	**07 07 48.0**	**+0.4**	
	baz=35,slow=2.8						
KHC	**Kasperske Hory**	**146.94 332**	*e*PKP2	**PKPbc**	**07 07 48.3**	**+0.6**	
KHC	**Kasperske Hory**	**146.94 332**	*e*PKP	**PKPbc**	**07 07 48.3**	**+0.6**	
KHC			*ex*	x	07 08 02.5		
SKO	**Skopje**	**147.01 315**	*i* P	**PKPbc**	**07 07 48.5**	**+0.4**	
ROTZ	**Rotzenmuhle**	**147.04 334**	*e*PKPbc	**PKPbc**	**07 07 48.5**	**+0.6**	
	baz=35,slow=2.8						
UBBA	**Unterbreizbach**	**147.05 337**	*e*PKPbc	**PKPbc**	**07 07 48.1**	**+0.4**	
	baz=35,slow=2.8						
GEC2	**GERESS Array S**	**147.10 331**	*e*PKPbc	**PKPbc**	**07 07 48.5**	**+0.3**	
	baz=35,slow=2.8						
GERES	**GERESS Array B**	**147.10 331**	PKPbc	**PKPbc**	**07 07 48.5**	**+0.3**	
	comp=Z,57nm,0.7s,baz=34,slow=5.0,SNR=130						
GERES			SKPbc	**SKPbc**	**07 11 13.3**	**-0.6**	
	comp=Z,2.6nm,0.9s,baz=35,slow=2.4,SNR=3.8						
LIT	**Litokhoron**	**147.14 311**		**PKPbc**	**07 07 48.1**	**-0.4**	
LIT	**Litokhoron**	**147.14 311**	PKP2	**PKPbc**	**07 07 48.1**	**-0.4**	
WET	**Wettzell**	**147.23 332**	*e*PKPbc	**PKPbc**	**07 07 49.1**	**+0.6**	
	baz=35,slow=2.8						
KASTN	**Kahler Asten**	**147.28 339**	*e*PKPbc	**PKPbc**	**07 07 48.8**	**+0.2**	
	baz=35,slow=2.8						
SJES	**Sjenica**	**147.30 318**	⇑*i*P	**PKPbc**	**07 07 49.4**	**+0.4**	
BBLS	**Lazi&#263i**	**147.32 320**	⇑*i*P	**PKPbc**	**07 07 49.3**	**+0.3**	
ARSA	**Arzberg**	**147.37 328**	*e*PKP	**PKPbc**	**07 07 49.1**	**+0.2**	
	comp=Z,8.9nm,0.6s						
BUG	**Bochum--Univer**	**147.45 340**	*e*PKPbc	**PKPbc**	**07 07 49.3**	**+0.4**	
	baz=35,slow=2.8						
HAPS	**Han Pijesak,Bl**	**147.47 320**	⇑*i*P	**PKPbc**	**07 07 49.9**	**+0.5**	
RUDO	**Rudo**	**147.48 319**	⇑*i*P	**PKPbc**	**07 07 49.2**	**-0.1**	
GRF	**Grafenberg Arr**	**147.50 335**	*e*PKPbc	**PKPbc**	**07 07 49.6**	**+0.5**	
	baz=35,slow=2.8						
KOGS	**Kog**	**147.54 326**	*i* PKPbc	**PKPbc**	**07 07 49.1**	**-0.2**	
KOGS			*i* PKPab	**PKPab**	**07 07 54.2**	**+2.5**	
MOA	**Molln**	**147.56 330**	*i* PKP	**PKPbc**	**07 07 49.6**	**+0.2**	
	comp=Z,17nm,0.5s,SNR=7.7						
FNA	**Florina**	**147.61 313**		**PKPbc**	**07 07 49.3**	**-0.5**	
FNA	**Florina**	**147.61 313**	PKP2	**PKPbc**	**07 07 49.3**	**-0.5**	
KALN	**Kalnik**	**147.64 325**	*i* P	**PKPbc**	**07 07 49.6**	**-0.1**	
LBWR	**Ladybower, Pea**	**147.68 351**	*eP*	**PKPbc**	**07 07 49.3**	**-0.2**	
AGG	**Agios Georgios**	**147.69 310**		**PKPbc**	**07 07 49.5**	**-0.6**	
AGG	**Agios Georgios**	**147.69 310**	PKP2	**PKPbc**	**07 07 49.5**	**-0.6**	
MOSL	**Moslavina**	**147.81 324**	*i* P	**PKPbc**	**07 07 50.2**	**+0.1**	
LOBO	**Lobor**	**147.82 326**	*i* P	**PKPbc**	**07 07 50.1**	**-0.1**	
OHR	**Ohrid**	**147.84 314**	*i* P	**PKPbc**	**07 07 50.8**	**+0.4**	
BIOA	**Bad Ischl, Aus**	**147.97 330**	*e*PKP	**PKPbc**	**07 07 50.4**	**-0.1**	
	comp=Z,12nm,0.7s						
PUK	**Puka**	**147.98 316**		**PKPbc**	**07 07 51.2**	**+0.4**	
UPM	**Unac-Piva**	**147.99 319**	⇑*i*P	**PKPbc**	**07 07 50.3**	**-0.6**	
SOKA	**Soboth**	**148.01 327**	*i* PKP	**PKPbc**	**07 07 50.5**	**-0.2**	
	comp=Z,20nm,0.6s,SNR=16						
A051A	**Mrakovica**	**148.10 323**	⇑*i*P	**PKPbc**	**07 07 51.2**	**+0.2**	
TNS	**Taunus Mts**	**148.10 338**	*e*PKPbc	**PKPbc**	**07 07 51.1**	**+0.3**	
	baz=35,slow=2.8						
BLY	**Banja Luka**	**148.11 323**	⇑*i*P	**PKPbc**	**07 07 50.6**	**-0.3**	
WLF1	**Llynfaes**	**148.11 354**	*eP*	**PKPbc**	**07 07 49.9**	**-0.7**	
AHRW	**Bad Neuenahr-A**	**148.29 340**	*e*PKPbc	**PKPbc**	**07 07 51.7**	**+0.5**	
	baz=35,slow=2.8						
TIR	**Tirane**	**148.35 315**	⇑P	**PKiKP**	**07 07 52.8**	**-0.4**	
TIR	**Tirane**	**148.35 315**		**PKPbc**	**07 07 52.4**	**+0.7**	
TIR	**Tirane**	**148.35 315**	⇑PKP2	**PKiKP**	**07 07 52.8**	**-0.4**	
DRME	**Dracevica, Mon**	**148.36 317**	⇑*i*P	**PKPbc**	**07 07 50.4**	**-1.3**	
OBKA	**Obir**	**148.37 328**	*i* PKP	**PKPbc**	**07 07 51.3**	**-0.3**	
	comp=Z,18nm,0.8s,SNR=6.0						
OBKA	**Obir**	**148.37 328**	⇑*i*P	**PKPbc**	**07 07 50.8**	**-0.9**	
MGRS	**Mrkonjic Grad**	**148.37 322**	*eP*	**PKPbc**	**07 07 50.8**	**-0.9**	
BRY	**Bratogost**	**148.38 319**	⇑*i*P	**PKPbc**	**07 07 51.4**	**-0.5**	
NEVS	**Nevesinje**	**148.43 320**	⇑*i*P	**PKPbc**	**07 07 51.8**	**-0.1**	
LLW	**Llanuwchllyn**	**148.47 353**	*eP*	**PKPbc**	**07 07 50.0**	**-1.6**	
ELMS	**Elmsett, Ipswi**	**148.48 348**	*eP*	**PKPbc**	**07 07 51.6**	**0.0**	
KBA	**Kohlreisnsper**	**148.55 329**	*i* PKP	**PKPbc**	**07 07 51.7**	**-0.5**	
	comp=Z,24nm,0.6s,SNR=15						
BTNL	**Ternell**	**148.55 341**	*d*PKPbc	**PKPbc**	**07 07 52.0**	**0.0**	
MEM	**Membach**	**148.57 341**	*d*PKP	**PKPbc**	**07 07 52.1**	**+0.2**	
LESA	**Schwarzleotal**	**148.61 330**	*e*PKP	**PKPbc**	**07 07 52.1**	**-0.1**	
	comp=Z,38nm,0.5s						
A050A	**Klekovaca**	**148.64 323**	⇑*i*P	**PKPbc**	**07 07 51.9**	**-0.5**	
HCY	**Herceg Novi**	**148.66 318**	⇑*i*P	**PKPbc**	**07 07 51.8**	**-0.6**	
FUR	**Furstenfeldbru**	**148.67 333**	*e*PKPbc	**PKPbc**	**07 07 52.9**	**+0.6**	
	baz=35,slow=2.8						
BOJS	**Bojanci**	**148.68 325**	⇑*i*P	**PKPbc**	**07 07 51.7**	**-0.7**	
LJU	**Ljubljana**	**148.69 327**	*i* PKPbc	**PKPbc**	**07 07 52.5**	**+0.1**	
LJU			*i* PKPab	**PKPab**	**07 07 56.3**	**-0.2**	
BSTI	**Sart Tilman**	**148.72 341**	*d*PKPbc	**PKPbc**	**07 07 52.7**	**+0.4**	
MYKA	**Terra Mystica**	**148.73 329**	*i* PKP	**PKPbc**	**07 07 52.0**	**-0.6**	
	comp=Z,31nm,0.6s,SNR=16						
DBRK	**Dubrovnik**	**148.75 319**	*i* P	**PKPbc**	**07 07 52.0**	**-0.6**	
BHOU	**Houvegnez**	**148.79 341**	*d*PKPbc	**PKPbc**	**07 07 53.0**	**+0.5**	
BHOU			*d*PKP	**PKPab**	**07 07 57.0**	**+0.3**	
RICI	**Ricice**	**148.89 321**	*i* P	**PKPbc**	**07 07 52.4**	**-0.6**	
STON	**Ston**	**148.91 319**	*i* P	**PKPbc**	**07 07 52.3**	**-0.7**	
STON	**Ston**	**148.91 319**	⇑*i*P	**PKPbc**	**07 07 52.1**	**-0.9**	
BCLA	**Clavier**	**148.95 341**	*d*PKPbc	**PKPbc**	**07 07 53.1**	**+0.2**	
BCLA			*d*PKiKP	**PKiKP**	**07 07 54.6**	**+0.4**	
BCLA			*d*PKP	**PKPab**	**07 07 57.3**	**0.0**	
CEY	**Cerknica**	**148.96 327**	⇑*i*P	**PKPbc**	**07 07 52.8**	**-0.3**	
CADS	**Cadrg**	**148.96 328**	*i* PKPbc	**PKPbc**	**07 07 52.5**	**-0.7**	
KUJV	**Kijevo**	**149.00 322**	*i* P	**PKPbc**	**07 07 53.0**	**-0.3**	
UDBI	**Udbina**	**149.04 344**	*i* P	**PKPbc**	**07 07 53.1**	**-0.3**	
BGES	**Gesves**	**149.04 342**	*d*PKP	**PKPbc**	**07 07 52.9**	**-0.2**	
WATA	**Walderalm**	**149.17 331**	*i* PKP	**PKPbc**	**07 07 53.7**	**-0.1**	
	comp=Z,25nm,0.5s,SNR=11						
ABTA	**Abfaltersbach**	**149.18 330**	*i* PKP	**PKPbc**	**07 07 53.2**	**-0.6**	
	comp=Z,38nm,0.7s,SNR=14						
WTTA	**Wattenberg**	**149.20 331**	*i* PKP	**PKPbc**	**07 07 53.9**	**+0.1**	
	comp=Z,47nm,0.7s,SNR=16						
RCHB	**Rochefort**	**149.20 341**	*d*PKPbc	**PKPbc**	**07 07 53.5**	**0.0**	
MCH1	**Michaelchurch**	**149.22 352**	*eP*	**PKPbc**	**07 07 52.4**	**-1.1**	
STRD	**Stroud**	**149.33 351**	*eP*	**PKPbc**	**07 07 53.8**	**+0.1**	
WLF	**Walferdange**	**149.35 340**	*d*PKPbc	**PKiKP**	**07 07 54.8**	**-0.2**	
WLF	**Walferdange**	**149.35 340**	*e*PKPbc	**PKiKP**	**07 07 54.8**	**-0.2**	
	baz=35,slow=2.8						
MONM	**Monmouth**	**149.35 352**	*eP*	**PKPbc**	**07 07 52.0**	**-1.8**	
MOTA	**Moosalm**	**149.37 332**	*i* PKP	**PKPbc**	**07 07 54.2**	**-0.1**	
	comp=Z,46nm,0.6s,SNR=18						
RETA	**Reutte**	**149.41 332**	*e*PKP	**PKPbc**	**07 07 54.3**	**+0.1**	
	comp=Z,33nm,1.1s						
SQTA	**Sankt Quirin**	**149.42 332**	*i* PKP	**PKPbc**	**07 07 54.4**	**0.0**	
	comp=Z,59nm,0.6s,SNR=20						
DOU	**Dourbes**	**149.44 342**	*d*PKPbc	**PKPbc**	**07 07 54.4**	**+0.3**	
DOU			*dp*PKP	**pPKPbc**	**07 08 29.0**	**-0.4**	
LSTV	**Lastovo**	**149.46 320**	*i* P	**PKPbc**	**07 07 53.2**	**-1.1**	
RSBS	**Rosebush, Pemb**	**149.46 354**	*eP*	**PKPbc**	**07 07 53.5**	**-0.6**	
HVAR	**Hvar**	**149.48 321**	*i* P	**PKPbc**	**07 07 53.4**	**-1.0**	
MORI	**Morici**	**149.49 323**	*i* P	**PKPbc**	**07 07 54.0**	**-0.4**	
SWN1	**Swindon**	**149.53 350**	*eP*	**PKPbc**	**07 07 53.1**	**-1.1**	
UBR	**Ueberruh**	**149.54 333**	*e*PKPbc	**PKPbc**	**07 07 54.6**	**+0.1**	
	baz=35,slow=2.8						
VIRC	**Vir**	**149.58 324**	*i* P	**PKPbc**	**07 07 54.3**	**-0.3**	
WOL	**Wolverton**	**149.63 350**	*eP*	**PKPbc**	**07 07 54.2**	**-0.3**	
ZIRJ	**Zirje**	**149.65 322**	*i* P	**PKPbc**	**07 07 54.3**	**-0.5**	
BFO	**Black Forest**	**149.72 336**		**PKPbc**	**07 07 55.2**	**+0.3**	
BFO	**Black Forest**	**149.72 336**	PKP2	**PKPbc**	**07 07 55.2**	**+0.3**	
BFO	**Black Forest**	**149.72 336**	*e*PKPbc	**PKPbc**	**07 07 55.0**	**+0.1**	

NVS	**Novosibirsk**	**3.25**	**338**	Pn	**Pn**	**06 55 47.9**	**+0.4**
NVS				Pg	**Pg**	**06 55 57.5**	**-1.2**
NVS				S	**Sn**	**06 56 25.2**	**-1.0**
NVS				Sg	**Sg**	**06 56 39.4**	**-1.3**
NVSII	**Novosibirsk**	**3.25**	**338**	PN	**Pn**	**06 55 48.0**	**+0.6**
NVSII						06 55 57.2	
NVSII				S	**Sn**	**06 56 25.6**	**-0.6**
NVSII						06 56 41.2	
NVSII	**Novosibirsk**	**3.25**	**338**	Pn	**Pn**	**06 55 48.1**	**+0.6**
NVSII				Pg	**Pb**	**06 55 57.2**	**+3.0**
NVSII				S	**Sn**	**06 56 25.7**	**-0.6**
NVSII				Sg	**Sg**	**06 56 41.3**	**+0.5**
VEH	**Verkhnyaya Baz**	**3.34**	**63**	PN	**Pn**	**06 55 51.0**	**+2.2**
VEH	**Verkhnyaya Baz**	**3.34**	**63**	Pn	**Pn**	**06 55 51.0**	**+2.2**
VEH				S	**Sn**	**06 56 29.8**	**+1.2**
TBTR	**Tabat**	**3.46**	**70**	PN	**Pb**	**06 55 59.7**	**+1.9**
TBTR						06 56 41.2	
KEM	**Kemerovo**	**3.52**	**7**	PN	**Pb**	**06 55 58.7**	**-0.1**
KEM						06 56 48.1	
KEM	**Kemerovo**	**3.52**	**7**	Pg	**Pb**	**06 55 58.7**	**-0.1**
KEM				Sg	**Sg**	**06 56 48.2**	**-1.3**
SEM	**Semipalatinsk**	**3.52**	**248**	Pg	**Pb**	**06 56 00.7**	**+1.6**
	comp=Z,36nm,0.2s						
SEM				Lg	Lg	06 56 45.6	
	comp=Z,350nm,0.3s						
DJO	**Djoy, Khakassi**	**3.72**	**73**	PN	**Pn**	**06 55 55.9**	**+2.0**
DJO						06 56 53.7	
DJO	**Djoy, Khakassi**	**3.72**	**73**	Pn	**Pn**	**06 55 55.9**	**+2.0**
DJO				Pg	**Pb**	**06 56 04.9**	**+2.7**
DJO				Sg	**Sg**	**06 56 53.7**	**-2.0**
BALAH	**Balakhonka, Ku**	**3.79**	**6**	Pn	**Pn**	**06 55 55.3**	**+0.5**
BALAH				Pg	**Pg**	**06 56 07.8**	**-1.1**
BALAH				Sg	**Sg**	**06 56 56.4**	**-1.6**
CERR	**Cheremushki**	**3.85**	**73**	PN	**Pn**	**06 55 53.8**	**-1.9**
CERR						06 56 57.7	
CERR	**Cheremushki**	**3.85**	**73**	Pn	**Pn**	**06 55 53.8**	**-1.9**
CERR				Pg	**Pb**	**06 56 06.9**	**+2.5**
CERR				Sg	**Sg**	**06 56 57.8**	**-2.2**
SHRR	**Shira**	**3.92**	**46**	PN	**Pb**	**06 56 07.3**	**+1.7**
SHRR						06 56 54.5	
ABNR	**Abakan**	**4.14**	**61**	PN	**Pb**	**06 56 11.4**	**+2.0**
ABNR						06 57 01.5	
BRCR	**Berchikul'**	**4.18**	**24**	PN	**Pn**	**06 56 03.2**	**+2.9**
BRCR						06 57 08.6	
BRCR	**Berchikul'**	**4.18**	**24**	Pn	**Pn**	**06 56 03.2**	**+2.9**
BRCR				Sg	**Sg**	**06 57 08.6**	**-2.0**
KURK	**Kurchatov**	**4.38**	**258**	PN	**Pn**	**06 56 06.5**	**+3.5**
KURK						06 56 59.2	
KURK	**Kurchatov**	**4.38**	**258**	Pn	**Pn**	**06 56 05.0**	**+2.0**
KURK				Sg	**Sb**	**06 57 12.6**	**+6.4**
ZSN	**Zaisan**	**4.42**	**184**	Pg	**Pg**	**06 56 18.4**	**-2.6**
	comp=Z,53nm,0.5s						
ZSN				Lg	Lg	06 57 16.1	
	comp=Z,131nm,0.8s						
KURBB	**Kurchatov Arra**	**4.46**	**257**	Pn	**Pn**	**06 56 06.5**	**+2.4**
	comp=Z,1.5nm,0.3s,baz=74,slow=15,SNR=97						
KURBB				Sn	**Sn**	**06 56 59.2**	**+3.1**
	comp=Z,1.6nm,0.3s,baz=158,slow=25,SNR=5.1						
KURBB				Lg	Lg	06 57 15.4	
	comp=Z,4.1nm,0.3s,baz=74,slow=32,SNR=16						
	comp=Z,10nm,0.3s						
KURBB	**Kurchatov Arra**	**4.46**	**257**	⇓Pn	**Pn**	**06 56 04.2**	**+0.1**
	comp=Z,21nm,0.5s						
KURBB				⇓Lg	Lg	06 57 13.4	
	comp=Z,274nm,0.8s						
ARDR	**Aradan**	**5.02**	**78**	PN	**Pn**	**06 56 13.8**	**+1.9**
ARDR						06 57 33.4	
ARDR	**Aradan**	**5.02**	**78**	Pn	**Pn**	**06 56 13.8**	**+1.9**
ARDR				Pg	**Pb**	**06 56 28.6**	**+4.2**
ARDR				Sg	**Sg**	**06 57 33.5**	**-4.0**
MK31	**Makanchi Array**	**5.45**	**203**	*i* PN	**Pn**	**06 56 18.1**	**+0.4**
MK31	**Makanchi Array**	**5.45**	**203**	⇓Pn	**Pn**	**06 56 20.0**	**+2.3**
	comp=Z,2.9nm,0.2s,baz=23,slow=12,SNR=523						
MK31				⇑Pg	**Pg**	**06 56 37.1**	**-3.6**
	comp=Z,14nm,0.6s						
MK31				⇓Lg	Lg	06 57 49.1	
	comp=Z,49nm,0.5s,baz=32,slow=29,SNR=15						
MKAR	**Makanchi Array**	**5.45**	**203**	Pn	**Pn**	**06 56 20.4**	**+2.7**
	comp=Z,8.2nm,0.3s,baz=23,slow=13,SNR=362						
MKAR				Sn	**Sn**	**06 57 22.8**	**+2.4**
	comp=Z,7.5nm,0.3s,baz=34,slow=26,SNR=5.1						
MKAR				Lg	Lg	06 57 47.3	
	comp=Z,18nm,0.3s,baz=19,slow=31,SNR=11						
	comp=Z,13nm,0.3s						
MKAR	**Makanchi Array**	**5.45**	**203**	Pn	**Pn**	**06 56 20.6**	**+2.9**
MKAR				S	**Sn**	**06 57 20.5**	**+0.1**
MAKZ	**Makanchi**	**5.51**	**205**	PN	**Pn**	**06 56 20.9**	**+2.4**
MAKZ				S	**Sn**	**06 57 23.4**	**+1.4**
MAKZ	**Makanchi**	**5.51**	**205**	⇑Pn	**Pn**	**06 56 21.1**	**+2.5**
	comp=Z,8.1nm,0.3s						
MAKZ				⇓Pg	**Pg**	**06 56 38.2**	**-3.7**
	comp=Z,19nm,0.6s						
MAKZ				⇓Lg	Lg	06 57 50.9	
	comp=Z,115nm,1.1s						
MAKZ	**Makanchi**	**5.51**	**205**	Pn	**Pn**	**06 56 20.9**	**+2.4**
MAKZ				Pg	**Pg**	**06 56 40.8**	**-1.1**
MAKZ				S	**Sn**	**06 57 23.4**	**+1.4**
MAKZ				Sg	**Sg**	**06 57 47.6**	**-5.7**
KZLR	**Kyzyl**	**5.65**	**88**	Sg	**Sg**	**06 57 53.4**	**-4.4**
MINR	**Mina**	**6.11**	**57**	Pg	**Pg**	**06 56 51.3**	**-2.1**
MINR				Sg	**Sg**	**06 58 11.8**	**-0.6**
GZL	**Zheleznogorsk**	**6.54**	**44**	Sg	**Sg**	**06 58 26.7**	**+0.6**
GZLN	**Zheleznogorsk**	**6.71**	**44**	Pg	**Pg**	**06 57 01.9**	**-2.9**
GZLN				Sg	**Sg**	**06 58 29.3**	**-2.3**
KAPS	**Kapalarasan**	**7.68**	**213**	Pg	Pg	06 57 17.8	-5.6
	comp=Z,6.2nm,0.4s						
KAPS				Lg	Lg	06 58 58.1	
	comp=Z,42nm,0.7s						
BRZS	**Berezniki**	**8.23**	**262**	Pg	Pg	06 57 27.5	-6.3
	comp=Z,2.5nm,0.3s						
BRZS				Lg	Lg	06 59 14.3	
	comp=Z,25nm,0.7s						
TDK	**Taldyqorghan**	**8.26**	**217**	Pg	Pg	06 57 28.7	-5.9
	comp=Z,30nm,0.3s						
TDK				Lg	Lg	06 59 16.0	
	comp=Z,122nm,0.8s						
DJR	**Jarkent**	**8.39**	**208**	Pg	Pg	06 57 32.5	-4.5
	comp=Z,4.7nm,0.5s						
DJR				Lg	Lg	06 59 22.1	
	comp=Z,15nm,0.8s						
KNOS	**Konyrlen**	**8.56**	**211**	Pg	Pg	06 57 35.5	-4.7
	comp=Z,8.9nm,0.5s						
KNOS				Lg	Lg	06 59 28.2	
	comp=Z,26nm,1.0s						
BLB	**Baldybastay**	**9.02**	**213**	Pg	Pn	06 57 43.9	+37
	comp=Z,20nm,0.4s						
BLB				Lg	Lg	06 59 42.6	
	comp=Z,29nm,0.9s						
OTUK	**Ortayu**	**9.12**	**252**	P	**Pn**	**06 57 07.9**	**-0.2**
OTUK	**Ortayu**	**9.12**	**252**	Pg	Pn	06 57 44.3	+36
	comp=Z,1.4nm,0.2s						
OTUK				Lg	Lg	06 59 43.0	
	comp=Z,7.3nm,1.0s						
OTUK	**Ortayu**	**9.12**	**252**	⇓Pn	**Pn**	**06 57 07.9**	**-0.2**
	comp=Z,4.9nm,0.3s						
OTUK				⇓Lg	Lg	06 59 40.3	
	comp=Z,23nm,0.9s						
ARXS	**Arharly**	**9.15**	**216**	Pg	Pn	06 57 46.6	+38
	comp=Z,3.2nm,0.5s						
ARXS				Lg	Lg	06 59 47.6	
	comp=Z,36nm,0.9s						
BVA0	**Borovoye Array**	**9.22**	**283**	P	**Pn**	**06 57 06.6**	**-2.8**
BVA0				S	**Sn**	**06 58 53.8**	**+0.7**
BVA0	**Borovoye Array**	**9.22**	**283**	⇓Pn	**Pn**	**06 57 06.6**	**-2.8**
	comp=Z,2.3nm,0.8s,baz=98,slow=13,SNR=5.9						
BVA0				⇑Sn	**Sn**	**06 58 53.8**	**+0.7**
	comp=Z,3.3nm,0.3s,baz=64,slow=44,SNR=4.5						
BVA0				⇑Lg	Lg	06 59 42.6	
	comp=Z,6.4nm,0.6s,baz=61,slow=25,SNR=3.6						
BVAR	**Borovoye Array**	**9.22**	**283**	Pn	**Pn**	**06 57 08.9**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=90,slow=12,SNR=6.3						
BVAR				Sn	**Sn**	**06 58 50.2**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=98,slow=21,SNR=5.8						
BVAR				Lg	Lg	06 59 47.5	
	baz=263,slow=37						
	comp=Z,0.9nm,0.3s						
BRVK	**Borovoye**	**9.28**	**283**	*eP*	**Pn**	**06 57 09.8**	**-0.5**
PDGK	**Podgornoye**	**9.40**	**207**	P	**Pn**	**06 57 15.7**	**+3.7**
PDGK	**Podgornoye**	**9.40**	**207**	Pg	Pn	06 57 49.2	+37
	comp=Z,2.1nm,0.4s						
PDGK				Lg	Lg	06 59 51.4	
	comp=Z,9.4nm,0.7s						
PDGK	**Podgornoye**	**9.40**	**207**	⇑Pn	**Pn**	**06 57 15.7**	**+3.7**
	comp=Z,2.0nm,0.6s						
PDGK				⇓Lg	Lg	06 59 55.7	
	comp=Z,31nm,1.1s						
SHLS	**Shalkode**	**9.57**	**207**	Pg	Pn	06 57 51.3	+37
	comp=Z,8.7nm,0.3s						
SHLS				Lg	Lg	06 59 54.5	
	comp=Z,16nm,0.4s						
KURS	**Kuram**	**9.66**	**213**	Pg	Pn	06 57 54.3	+39
	comp=Z,3.2nm,0.6s						
KURS				Lg	Lg	07 00 00.2	
	comp=Z,14nm,1.1s						
UZB	**Uzynbulak**	**9.70**	**209**	Pg	Pn	06 57 55.1	+39
	comp=Z,6.8nm,0.3s						
UZB				Lg	Lg	07 00 00.6	
	comp=Z,10nm,0.5s						
CHKK	**Chushkaly**	**9.77**	**218**	Pg	Pn	06 57 57.0	+40
	comp=Z,1.7nm,0.1s						
CHKK				Lg	Lg	07 00 04.5	
	comp=Z,18nm,0.3s						
SATY	**Saty**	**9.97**	**211**	Pg	Pn	06 58 00.4	+41
	comp=Z,4.1nm,0.4s						
SATY				Lg	Lg	07 00 10.7	
	comp=Z,16nm,0.2s						
KTBS	**Karatobe**	**10.01**	**219**	Pg	Pn	06 58 01.2	+41
	comp=Z,2.0nm,0.5s						
KTBS				Lg	Lg	07 00 11.6	
	comp=Z,32nm,0.7s						
BTLS	**Baital**	**10.13**	**232**	Pg	Pn	06 58 03.3	+41
	comp=Z,1.5nm,0.3s						
BTLS				Lg	Lg	07 00 16.3	
	comp=Z,10nm,0.6s						
KOTS	**Kotyrbulak**	**10.26**	**216**	Pg	Pn	06 58 06.9	+43
	comp=Z,2.5nm,0.4s						
KOTS				Lg	Lg	07 00 22.0	
	comp=Z,32nm,1.2s						
MDOK	**Medeo**	**10.34**	**216**	Pg	Pn	06 58 07.0	+42
	comp=Z,2.1nm,0.4s						
MDOK				Lg	Lg	07 00 21.9	
	comp=Z,16nm,1.2s						
KRBS	**Karabastau**	**10.43**	**222**	Pg	Pn	06 58 09.0	+43
	comp=Z,1.3nm,0.5s						
KRBS				Lg	Lg	07 00 25.1	
	comp=Z,16nm,1.1s						
TNSS	**Tian-Shan**	**10.49**	**216**	Pg	Pn	06 58 09.9	+43
	comp=Z,2.1nm,0.4s						
TNSS				Lg	Lg	07 00 26.5	
	comp=Z,6.3nm,0.6s						
MTBS	**Maitube**	**10.60**	**218**	Pg	Pn	06 58 11.7	+43
	comp=Z,1.9nm,0.3s						
MTBS				Lg	Lg	07 00 29.4	
	comp=Z,16nm,0.6s						
DGS	**Degeres**	**10.77**	**221**	Pg	Pn	06 58 15.7	+45
	comp=Z,3.2nm,0.5s						
DGS				Lg	Lg	07 00 36.4	
	comp=Z,29nm,0.7s						
KST	**Kastek**	**10.86**	**219**	Pg	Pn	06 58 16.9	+45
	comp=Z,3.2nm,0.8s						
KST				Lg	Lg	07 00 39.0	
	comp=Z,17nm,0.9s						
TKM2	**Tokmak 2**	**11.11**	**220**	⇑Lg	Lg	07 00 47.3	
	comp=Z,27nm,1.4s						
CHMS	**Chumysh**	**11.39**	**223**	⇑Lg	Lg	07 00 57.5	
	comp=Z,32nm,1.0s						
AAK	**Ala-Archa**	**11.79**	**223**	Pn	**Pn**	**06 57 47.9**	**+3.1**
	comp=Z,0.1nm,0.3s,baz=45,slow=8.6,SNR=1.8						
AAK				Sn	**Sn**	**06 59 56.2**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=190,slow=3.6,SNR=1.9						
AAK				Lg	Lg	07 01 05.6	
	comp=Z,0.6nm,0.3s,baz=203,slow=18,SNR=3.8						
	comp=Z,0.6nm,0.4s						
MRKS	**Merke**	**12.26**	**227**	Pg	Pn	06 58 41.4	+50
	comp=Z,1.7nm,0.3s						
MRKS				Lg	Lg	07 01 21.0	
	comp=Z,13nm,1.3s						
KK31	**Karatay Array**	**13.30**	**235**	P	**Pn**	**06 58 06.7**	**+1.5**
KK31	**Karatay Array**	**13.30**	**235**	⇑Pn	**Pn**	**06 58 06.7**	**+1.5**
	comp=Z,0.9nm,0.5s,baz=16,slow=13,SNR=15						
KK31				⇑Lg	Lg	07 01 52.5	
	comp=Z,3.8nm,0.6s,baz=243,slow=10,SNR=6.6						
BRLS	**Borolday**	**13.69**	**236**	Pg	P	06 59 14.1	+55
	comp=Z,1.1nm,0.5s						
BRLS				Lg	Lg	07 02 17.6	
	comp=Z,6.3nm,1.1s						
SONM	**Songino Array**	**14.15**	**98**	Pn	**Pn**	**06 58 17.0**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=291,slow=12,SNR=1.7						
AB31	**Akbulak array**	**16.33**	**271**	P	**Pn**	**06 58 43.0**	**-2.6**
	comp=Z,1.7nm,0.8s,baz=68,slow=9.2,SNR=4.0						
AKTO	**Aktyubinsk**	**17.18**	**276**	P	**Pn**	**06 58 55.6**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=83,slow=8.6,SNR=3.6						
	comp=Z,0.9nm,0.3s						
NRIK	**Noril'sk**	**17.58**	**3**	*i* P	**Pn**	**06 59 02.0**	**+0.8**
NRIK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NRIK	**Noril'sk**	**17.58**	**3**	P	**Pn**	**06 58 57.7**	**-3.5**
	comp=Z,0.4nm,0.3s,baz=180,slow=9.6,SNR=2.0						
NRIK				S	Sn	07 02 06.9	-10
	comp=Z,0.7nm,0.3s,baz=343,slow=7.9,SNR=1.3						
	comp=Z,1.0nm,0.3s						
FINES	**FINESS Array B**	**32.84**	**310**	P	**P**	**07 01 28.4**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=89,slow=7.0,SNR=5.6						
	comp=Z,0.9nm,0.8s						
HFS	**Hagfors**	**39.03**	**311**	P	**P**	**07 02 20.7**	**-2.2**
	comp=Z,1.2nm,0.4s,baz=81,slow=9.5,SNR=8.6						
	comp=Z,1.2nm,0.4s						
NB2	**NORSAR Subarra**	**39.85**	**313**	P	**P**	**07 02 27.9**	**-1.8**
	comp=Z,1.4nm,0.6s,baz=67,slow=7.9						
NOA	**NORSAR Array B**	**39.85**	**313**	*eP*	**P**	**07 02 28.1**	**-1.6**
NOA	**NORSAR Array B**	**39.85**	**313**	P	**P**	**07 02 27.8**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=72,slow=9.1,SNR=7.3						
	comp=Z,0.2nm,0.3s						
SHEM	**Shemya Is, Ala**	**50.88**	**52**	LR	LR	07 25 00.1	
	comp=Z,65nm,18.5s,baz=45,slow=36						
KDAK	**Kodiak Island**	**60.92**	**31**	LR	LR	07 35 51.1	
	comp=Z,63nm,18.2s,baz=233,slow=40						
YKA	**Yellowknife Ar**	**64.91**	**10**	P	**P**	**07 05 34.3**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=348,slow=7.8,SNR=1.4						
	comp=Z,0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**75.88**	**273**	P	**P**	**07 06 41.9**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=24,slow=6.4,SNR=1.6						
	comp=Z,0.2nm,0.6s						
ASAR	**Alice Springs**	**86.37**	**136**	P	**P**	**07 07 37.7**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=324,slow=4.4,SNR=8.5						
	comp=Z,0.6nm,0.6s						
NVAR	**Mina Array Bea**	**87.75**	**18**	P	**P**	**07 07 44.7**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=298,slow=3.8,SNR=1.8						
	comp=Z,0.2nm,0.5s						

IDC ***15*** *06:56:41.0±3.1,36°.54N×135°.37E, h233km±31km, mb3.2/4, mbtmp3.7/6, Error ellipse: s-maj=57.4km s-min=21.6km az=88.0*

JMA ***15*** *06:56:48.8±0.2,36°N±1°×13°7E±°, h283km±1km, MV3.1/30, NORTHERN GIFU PREF*

ISC 15 06:56:48.6±1.0, 36°.13N±0°.10×136°.97E±0°.09, h281km±7km, n17, σ0°89/22, mb3.3/4, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JKG	**Kaga**	**0.54**	**286**	P		**Pn**	**06 57 25.6**	**+0.5**
JYTA	**Yamagatataniai**	**0.57**	**200**	P		**Pn**	**06 57 25.5**	**+0.3**
JYTA				*eS*		**S**	**06 57 54.0**	**-0.4**
MAT	**Matsushiro**	**1.08**	**67**	*eP*		Pn	**06 57 28.0**	**+0.7**
MAT				*eS*		**S**	**06 57 58.0**	**-0.1**
MJAR	**Matsushiro Arr**	**1.08**	**67**	P		**Pn**	**06 57 27.2**	**-0.1**
	5.8nm,0.3s,baz=260,slow=6.3,SNR=21							
MJAR				S		**S**	**06 57 59.7**	**+1.7**
	5.9nm,0.7s,baz=34,slow=4.4,SNR=10							
JYN	**Shimob**	**1.43**	**116**	*eP*		**Pn**	**06 57 30.1**	**+0.6**
JWT	**Wachi**	**1.53**	**237**	P		**Pn**	**06 57 30.3**	**+0.2**
JWT				*eS*		**S**	**06 58 02.1**	**-1.0**
JIE	**Ise**	**1.75**	**187**	P		**Pn**	**06 57 32.3**	**+0.5**
JIE				*eS*		**S**	**06 58 05.7**	**-0.2**
JAG	**Ashikaga**	**2.03**	**81**	P		**Pn**	**06 57 33.6**	**-0.2**
JAG				*eS*		**S**	**06 58 08.0**	**-1.9**
JSD	**Sado**	**2.17**	**28**	P		**Pn**	**06 57 35.6**	**+0.6**
JWY	**Kouya**	**2.21**	**211**	*eP*		**Pn**	**06 57 36.1**	**+0.5**
JTNC	**Tanabenakahech**	**2.56**	**206**	*eP*		**Pn**	**06 57 38.9**	**+0.2**
JHS	**Saijyo**	**3.34**	**251**	P		**Pn**	**06 57 46.6**	**0.0**
ASAJ	**Asahikawa**	**9.07**	**27**	P		**Pn**	**06 58 53.2**	**-1.9**
	5.1nm,0.4s,baz=239,slow=12,SNR=6.0							
WRA	**Warramunga Arr**	**55.82**	**183**	P		**P**	**07 05 56.8**	**-0.3**
	0.6nm,0.7s,baz=357,slow=7.6,SNR=5.0							
	0.6nm,0.7s							
ASAR	**Alice Springs**	**59.54**	**183**	P		**P**	**07 06 22.7**	**-0.2**
	0.2nm,0.7s,baz=12,slow=9.6,SNR=1.9							
	0.2nm,0.7s							
FINES	**FINESS Array B**	**67.91**	**331**	P		P	07 07 07.0	-10
	1.6nm,0.9s,baz=54,slow=7.4,SNR=4.3							
	1.6nm,0.9s							
TXAR	**Lajitas Array**	**93.47**	**50**	P		**P**	**07 09 33.7**	**+0.9**
	0.3nm,0.6s,baz=274,slow=2.4,SNR=3.6							
	0.3nm,0.6s							

NEIC ***15*** *07:00:15.7±1.5,56°.21N±0°.08×149°.3W±0°.1, h21km±10km, ML3.8/54, ML3.6(AEIC), Error ellipse: s-maj=11.7km s-min=8.3km az=152.0*

IDC ***15*** *07:00:16.2±1.6,56°.23N×149°.39W, h0km, mb3.6/4, mbtmp3.5/8, ML3.2/4, MS3.1/3, Error ellipse: s-maj=30.8km s-min=19.3km az=44.0*

AEIC ***15*** *07:00:18.6±1.4,56°.20N±0°.09×149°.3W±0°.1, h9km±7km, Error ellipse: s-maj=12.8km s-min=9.2km az=161.0*

ISC 15 07:00:16.1±0.8, 56°.33N±0°.07×149°.30W±0°.05, h10km, n209, σ1s08/195, mb3.4/4, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.31**	**310**			**Pn**	**07 00 53.9**	**-0.4**
KDAK						**Sn**	**07 01 20.2**	**-2.5**
KDAK	**Kodiak Island**	**2.31**	**310**	Pn		**Pn**	**07 00 54.0**	**-0.2**
	2.6nm,0.3s,baz=128,slow=8.5,SNR=82							
KDAK				Sn		**Sn**	**07 01 21.4**	**-1.3**
	9.7nm,0.3s,baz=54,slow=22,SNR=5.2							
	6.3nm,0.3s							
OHAK	**Old Harbor**	**2.37**	**294**			**Pn**	**07 00 53.6**	**-1.4**
OHAK						**Sn**	**07 01 21.2**	**-2.9**
OHAK	**Old Harbor**	**2.37**	**294**	P		**Pn**	**07 00 53.6**	**-1.4**
	baz=113							
OHAK				S		**Sn**	**07 01 21.2**	**-2.9**
	baz=113							
SII	**Sitkinak Islan**	**2.72**	**277**			**Pn**	**07 00 58.3**	**-1.6**
SII	**Sitkinak Islan**	**2.72**	**277**	IAML			07 01 46.1	
	comp=E,164nm,0.6s							
SII	**Sitkinak Islan**	**2.72**	**277**	P		**Pn**	**07 00 58.3**	**-1.6**
	baz=95							
SYI	**Shuyak Island**	**2.83**	**325**			**Pn**	**07 01 00.9**	**-0.4**
SYI						**Sn**	**07 01 34.4**	**-1.1**
Q20K	**Shuyak Island**	**2.83**	**325**	P		**Pn**	**07 01 00.9**	**-0.4**
	baz=144							
Q20K				S		**Sn**	**07 01 34.4**	**-1.1**
	baz=144							
CNPM	**China Poot**	**3.37**	**343**			**Sn**	**07 01 46.5**	**-2.2**
Q23K	**Middleton Isla**	**3.48**	**26**			**Pn**	**07 01 09.0**	**-1.3**
Q23K	**Middleton Isla**	**3.48**	**26**	IAML			07 01 55.8	
	comp=N,140nm,1.2s							
Q23K				IAML			07 01 57.3	
	comp=E,144nm,1.3s							
Q23K	**Middleton Isla**	**3.48**	**26**	P		**Pn**	**07 01 09.0**	**-1.3**
	baz=207							
MID	**Middleton Isla**	**3.48**	**26**			**Pn**	**07 01 09.0**	**-1.3**
MID	**Middleton Isla**	**3.48**	**26**	IAML			07 01 54.3	
	comp=N,131nm,1.4s							
MID				IAML			07 01 57.3	
	comp=E,154nm,1.4s							
Q19K	**Cape Douglas,**	**3.50**	**320**			**Pn**	**07 01 10.8**	**+0.2**
Q19K	**Cape Douglas,**	**3.50**	**320**	IAML			07 02 03.6	
	comp=N,320nm,0.9s							
Q19K	**Cape Douglas,**	**3.50**	**320**	P		**Pn**	**07 01 10.8**	**+0.2**
	baz=137							
BRSE	**Bradley Lake S**	**3.51**	**348**			**Pn**	**07 01 09.8**	**-0.9**
BRSE	**Bradley Lake S**	**3.51**	**348**	P		**Pn**	**07 01 09.8**	**-0.9**
	baz=167							
BRLK	**Bradley Lake**	**3.55**	**347**	Pn		**Pn**	**07 01 10.1**	**-1.2**
BRLK				IAML			07 01 58.6	
	comp=N,72nm,0.7s							
BRLK				IAML			07 01 59.6	
	comp=E,100nm,0.7s							
HOM	**Homer**	**3.56**	**340**	Pn		**Pn**	**07 01 10.3**	**-1.1**
HOM				IAML			07 02 20.8	
	comp=N,238nm,0.9s							
HOM				IAML			07 02 25.8	
	comp=E,226nm,0.9s							
CHIR	**Chirikof Islan**	**3.58**	**264**			**Pn**	**07 01 09.7**	**-2.0**
CHIR						**Sn**	**07 01 49.1**	**-4.9**
KAKN	**Katmai Knife C**	**3.70**	**305**			**Pn**	**07 01 13.3**	**0.0**
AUCH	**Augustine Cone**	**3.76**	**326**			**Pn**	**07 01 14.4**	**+0.2**
SEW	**Seward**	**3.79**	**359**			**Pn**	**07 01 13.3**	**-1.1**
SEW	**Seward**	**3.79**	**359**	P		**Pn**	**07 01 13.3**	**-1.1**
	baz=178							
P23K	**Montague Islan**	**3.81**	**14**			**Pn**	**07 01 14.0**	**-0.9**
P23K	**Montague Islan**	**3.81**	**14**	P		**Pn**	**07 01 14.0**	**-0.9**
	baz=195							
P19K	**Oil Pt**	**3.94**	**329**			**Pn**	**07 01 16.3**	**-0.2**
P19K	**Oil Pt**	**3.94**	**329**	IAML			07 02 13.1	
	comp=N,148nm,0.4s							
P19K				IAML			07 02 14.7	
	comp=E,144nm,0.6s							
P19K	**Oil Pt**	**3.94**	**329**	P		**Pn**	**07 01 16.3**	**-0.2**
	baz=147							
O20K	**Slope Mountain**	**4.15**	**336**			**Pn**	**07 01 19.4**	**-0.1**
O20K	**Slope

SPCR	Spurr Chakacha	5.12	344			Pn	07 01 31.7 -1.1
KNK	Knik Glacier	5.12	5			Pn	07 01 32.6 -0.2
KNK	Knik Glacier	5.12	5	IAML			07 02 35.8
	comp=E,42nm,0.7s						
KNK				IAML			07 02 39.2
	comp=N,34nm,0.6s						
KNK	Knik Glacier	5.12	5	P		Pn	07 01 32.6 -0.2
	baz=185						
SNH	Sunshine Point	5.15	39			Pn	07 01 32.4 -0.8
SNH	Sunshine Point	5.15	39	IAML			07 02 30.7
	comp=E,69nm,1.2s						
SNH				IAML			07 02 31.6
	comp=N,62nm,1.2s						
DIV	Divide	5.15	19			Pn	07 01 32.6 -0.7
SUA	Susitna One	5.21	352			Pn	07 01 33.1 -0.9
SUA	Susitna One	5.21	352	IAML			07 02 43.0
	comp=E,24nm,0.6s						
SUA				IAML			07 02 47.3
	comp=N,29nm,0.8s						
SUA	Susitna One	5.21	352	P		Pn	07 01 33.1 -0.9
	baz=171						
KHIT	Khitrov Hills	5.21	35			Pn	07 01 33.2 -0.8
BMRM	Bremner River	5.26	26			Pn	07 01 34.6 -0.1
BMRM	Bremner River	5.26	26	P		Pn	07 01 34.6 -0.1
	baz=209						
PMR	Palmer	5.28	1			Pn	07 01 34.9 0.0
PMR	Palmer	5.28	1	P		Pn	07 01 34.9 0.0
	baz=181						
WAX	Waxell Ridge	5.34	37			Pn	07 01 35.1 -0.8
STLK	Strandline Lak	5.35	347			Pn	07 01 35.5 -0.5
O17K	Koliganek Bris	5.39	313			Pn	07 01 36.7 +0.2
O17K	Koliganek Bris	5.39	313	P		Pn	07 01 36.7 +0.2
	baz=127						
P16K	Nushagak River	5.39	304			Pn	07 01 36.8 +0.3
P16K	Nushagak River	5.39	304	P		Pn	07 01 36.8 +0.3
	baz=117						
BARK	Barkley Ridge	5.43	38			Pn	07 01 36.5 -0.6
GHO	Glory Hole Cre	5.46	2			Pn	07 01 37.3 -0.3
KLU	Klutina	5.46	17			Pn	07 01 36.8 -0.9
KLU	Klutina	5.46	17	P		Pn	07 01 37.5 -0.1
	baz=200						
MESA	MESA	5.47	42			Pn	07 01 37.1 -0.7
MESA	MESA	5.47	42	P		Pn	07 01 37.1 -0.7
	baz=227						
SML	Sawmill	5.52	5			Pn	07 01 37.8 -0.5
SML	Sawmill	5.52	5	P		Pn	07 01 38.5 +0.3
	baz=185						
M23K	Glacier View	5.54	8			Pn	07 01 38.4 -0.1
M23K	Glacier View	5.54	8	P		Pn	07 01 38.4 -0.1
	baz=189						
SCM	Sheep Creek Mo	5.61	10			Pn	07 01 39.1 -0.5
SCM	Sheep Creek Mo	5.61	10	P		Pn	07 01 39.1 -0.5
	baz=191						
ISLE	Juniper Island	5.63	38			Pn	07 01 39.0 -0.9
BAGL	Bagley Icefiel	5.63	39			Pn	07 01 39.2 -0.6
O16K	Kokwok River B	5.71	309			Pn	07 01 40.8 -0.1
O16K	Kokwok River B	5.71	309	P		Pn	07 01 40.8 -0.1
	baz=122						
VRDI	Verde Repeater	5.78	29			Pn	07 01 40.9 -1.0
SKT	Skwentna	5.78	349			Pn	07 01 41.8 -0.1
SKT	Skwentna	5.78	349	P		Pn	07 01 41.8 -0.1
	baz=168						
N25K	Chitina, Valde	5.82	23			Pn	07 01 42.0 -0.5
N25K	Chitina, Valde	5.82	23	P		Pn	07 01 42.4 -0.1
	baz=206						
KIAG	Kiagna River	5.86	35			Pn	07 01 42.7 -0.4
GLB	Gilahina Butte	5.86	27			Pn	07 01 42.5 -0.5
SAMH	Samovar Hills	5.89	46			Pn	07 01 43.3 -0.2
N17K	Nushagak Hills	5.91	319			Pn	07 01 43.1 -0.5
N17K	Nushagak Hills	5.91	319	P		Pn	07 01 43.1 -0.5
	baz=133						
TABL	Table Mountain	5.95	43			Pn	07 01 43.2 -1.1
M24K	Tolsona, Glenn	6.01	14			Pn	07 01 45.8 +0.7
MCARA	McCarthy VSAT	6.02	30			Pn	07 01 45.3 +0.2
MCARA	McCarthy VSAT	6.02	30	P		Pn	07 01 45.3 +0.2
	baz=215						
CHNA	Chernabura Isl	6.03	260	P		Pn	07 01 43.2 -2.0
	baz=72						
PTPK	Patty Peak	6.03	33			Pn	07 01 45.0 -0.5
CNBA	Chernabura Isl	6.03	260			Pn	07 01 43.2 -2.1
PCA	Pinnacle	6.09	48			Pn	07 01 45.3 -0.8
PINM	Pinnacle	6.09	48	P		Pn	07 01 45.3 -0.8
	baz=235						
BARN	Barnard Glacie	6.19	37			Pn	07 01 46.7 -0.9
CTG	Chitna Glacier	6.23	38	P		Pn	07 01 47.3 -0.9
	baz=224						
CTGM	Chitina Glacie	6.23	38			Pn	07 01 47.3 -0.9
PNL	Peninsula	6.24	53			Pn	07 01 47.3 -0.8
PNL	Peninsula	6.24	53	P		Pn	07 01 47.3 -0.8
	baz=241						
LOGN	Logan Glacier	6.25	40			Pn	07 01 47.6 -0.8
BCPM	Bancas Point	6.27	51			Pn	07 01 47.8 -0.8
O15K	Ungalikthiuk R	6.32	301			Pn	07 01 49.5 +0.3
O15K	Ungalikthiuk R	6.32	301	P		Pn	07 01 49.5 +0.3
	baz=113						
SDPT	Sand Point	6.38	266	Pn		Pn	07 01 48.8 -1.2
HARP	HAARP	6.44	17			Pn	07 01 51.4 +0.4
HARP	HAARP	6.44	17	P		Pn	07 01 51.4 +0.4
	baz=200						
WAT7	Susitna Watana	6.53	2			Pn	07 01 52.6 +0.4
M17K	Holitna River	6.61	324			Pn	07 01 52.8 -0.4
M17K	Holitna River	6.61	324	P		Pn	07 01 52.7 -0.4
	baz=137						
DHY	Denali Highway	6.84	7			Pn	07 01 57.4 +0.9
DHY	Denali Highway	6.84	7	P		Pn	07 01 57.4 +0.9
	baz=189						
M26K	Nabesna, AK	6.89	25	Pn		Pn	07 01 57.8 +0.8
M16K	Timber Creek	6.89	317			Pn	07 01 56.6 -0.4
M16K	Timber Creek	6.89	317	P		Pn	07 01 56.6 -0.4
	baz=129						
O29M	Mount Kennedy	6.91	50			Pn	07 01 57.1 -0.3
O29M	Mount Kennedy	6.91	50	P		Pn	07 01 57.1 -0.3
	baz=239						
P29M	Windy Craggy	6.98	57			Pn	07 01 57.2 -1.1
P29M	Windy Craggy	6.98	57	P		Pn	07 01 57.2 -1.1
	baz=246						
O14K	Tigyukauivet M	7.04	300	Pn		Pn	07 01 59.0 0.0
RND	Reindeer	7.10	2			Pn	07 02 00.4 +0.4
M27K	Edge Creek, AK	7.13	29			Pn	07 02 01.5 +1.0
M27K	Edge Creek, AK	7.13	29	P		Pn	07 02 01.5 +1.0
	baz=215						
PN7A	Pavlof North-7	7.20	268			Pn	07 02 00.6 -0.8
CAST	Castle Rocks	7.25	350	Pn		Pn	07 02 03.7 +1.7
KTH	Kantishna Hill	7.29	354	Pn		Pn	07 02 03.9 +1.2
YUK6	Outpost Mounta	7.34	46			Pn	07 02 03.5 0.0
YUK6	Outpost Mounta	7.34	46	P		Pn	07 02 03.5 0.0
	baz=235						
MCK	McKinley	7.43	1			Pn	07 02 05.5 +1.0
MCK	McKinley	7.43	1	P		Pn	07 02 05.5 +1.0
	baz=181						
YUK4	Talbot Arm	7.47	43	P		Pn	07 02 07.0 +1.8
	baz=231						
HYT	Haines Junctio	7.63	49	Pn		Pn	07 02 06.7 -0.7
L27K	Beaver Creek,	7.73	26	Pn		Pn	07 02 08.8 +0.1
BPAW	Bear Paw Mtn.	7.84	355			Pn	07 02 10.5 +0.4
BPAW	Bear Paw Mtn.	7.84	355	P		Pn	07 02 10.5 +0.4
	baz=173						
K17K	Iditarod	7.87	328	Pn		Pn	07 02 08.3 -2.2
SKAG	Skagway	8.07	61			Pn	07 02 12.7 -0.6
BESE	Bessie Mountai	8.11	68			Pn	07 02 12.2 -1.6
FALS	False Pass	8.13	265			Pn	07 02 13.5 -0.6
FALS	False Pass	8.13	265	P		Pn	07 02 13.5 -0.6
	baz=75						
N30M	Aishikik Lake	8.14	46			Pn	07 02 13.9 -0.4
HDA	Harding Lake	8.19	7	Pn		Pn	07 02 15.9 +1.0
O30N	Mendenhall	8.21	52			Pn	07 02 14.6 -0.6
M29M	Somme Creek	8.25	38			Pn	07 02 16.8 +1.0
NEA2	Nenana	8.29	1	Pn		Pn	07 02 16.7 +0.4
JIS	Juneau Island	8.31	70			Pn	07 02 15.2 -1.3
ISLZ	Isanotski Laza	8.34	265			Pn	07 02 16.0 -1.0
SSLS	Shishaldin Sou	8.50	265			Pn	07 02 18.9 -0.3
ILAR	Eielson Array	8.55	7	Pn		Pn	07 02 20.4 +0.6
	comp=N,0.6nm,0.3s,baz=188,slow=13,SNR=10						
ILAR					Sn	Sn	07 03 52.3 -4.0
	comp=N,0.5nm,0.3s,baz=195,slow=22,SNR=6.8						
	comp=N,1.4nm,0.4s						
MDM	Murphy Dome	8.68	3	Pn		Pn	07 02 22.0 +0.4
WHY	Whitehorse	8.70	54			Pn	07 02 21.3 -0.7
MLY	Manley	8.76	356	Pn		Pn	07 02 22.5 -0.2
WESE	West Dahl East	8.90	264			Pn	07 02 24.3 -0.4
P32M	Attlin	8.90	62	P		Pn	07 02 23.7 -1.0
	baz=254						
P33M	Teslin, Yukon	9.51	59			Pn	07 02 31.4 -1.6
P33M	Teslin, Yukon	9.51	59	P		Pn	07 02 32.0 -1.0
	baz=252						
H21K	Melozitna Rive	9.51	351			Pn	07 02 31.0 -2.0
K29M	Barlow Dome	9.54	33			Pn	07 02 33.8 +0.2
DLBC	Dease Lake	10.61	71	Pn		Pn	07 02 47.3 -0.8
	comp=N,0.9nm,0.3s,baz=276,slow=6.5,SNR=30						
DLBC					Sn	Sn	07 04 44.1 -2.8
	comp=N,0.1nm,0.3s,baz=312,slow=22,SNR=1.2						
DLBC					LR	LR	07 06 21.4
	comp=N,122nm,19.1s,baz=270,slow=34						
BBB	Bella Bella	13.04	100	LR		LR	07 06 45.5
	comp=N,41nm,20.5s,baz=239,slow=30						
INK	Inuvik	14.01	25	Pn		Pn	07 03 36.9 +2.6
	baz=145,slow=24,SNR=1.9						
	comp=N,0.7nm,0.9s						
YKA	Yellowknife Ar	18.52	56	P		Pn	07 04 33.6 +1.2
	comp=N,0.1nm,0.3s,baz=266,slow=11,SNR=9.0						
	comp=N,0.5nm,0.7s						
ELK	Elko	27.05	111	LR		LR	07 14 45.4
	comp=N,81nm,18.6s,baz=158,slow=32						
NVAR	Mina Array Bea	27.24	118	P		P	07 06 01.6 +1.2
	comp=N,0.5nm,0.9s,baz=304,slow=8.6,SNR=2.7						
	comp=N,0.5nm,0.9s						
NVAR	Mina Array Bea	27.24	118	PKiKP		P	07 06 01.2 +0.9
	comp=N,0.2nm,0.6s,baz=270,slow=1.8,SNR=2.3						
PDAR	Pinedale Array	28.68	101	P		P	07 06 15.5 +2.2
	comp=N,0.2nm,0.6s,baz=328,slow=12,SNR=1.9						
	comp=N,0.2nm,0.6s						
H11N2	WAKE ISLAND Hy	48.90	240	T		T	08 01 42.8
	baz=31,slow=76,SNR=6.3						
H11N3	WAKE ISLAND Hy	48.90	240	T		T	08 01 45.3
	baz=31,slow=76,SNR=5.8						
H11N1	WAKE ISLAND Hy	48.92	240	T		T	08 01 45.3
	baz=31,slow=76,SNR=5.8						
H11S1	WAKE ISLAND Hy	50.04	239	T		T	08 03 13.9
	baz=30,slow=76,SNR=5.1						
H11S2	WAKE ISLAND Hy	50.05	239	T		T	08 03 03.9
	baz=30,slow=76,SNR=6.1						
H11S3	WAKE ISLAND Hy	50.06	239	T		T	08 03 04.9
	baz=30,slow=76,SNR=5.2						
SONM	Songino Array	58.60	310	P		P	07 10 14.5 +1.5
	comp=N,0.3nm,0.5s,baz=46,slow=4.2,SNR=2.6						
	comp=N,0.3nm,0.5s						
FINES	FINESS Array B	62.51	3	P		P	07 10 42.0 +2.8
	comp=N,2.7nm,0.8s,baz=45,slow=5.7,SNR=3.3						
	comp=N,2.7nm,0.8s						

*SJA **15** 07:01:52.1±2.2,24.°10S×70.°13W,h28km±16km,ML3.3, MW3.5*
*GUC **15** 07:01:55.0±0.9,23.°97S×70.°20W,h52km±3km,ML3.3*

ISC 15 07:01:53.7±3.2,23.°97S×70.°22W×0.°07,h15km±23km, n19,σ8°70/32,4C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PB14	**IPOC Station P**	**0.68**	**194**	⇓*iP*		Pn	**07 02 09.3**	**+0.2**
PB14				*eS*		Sn	**07 02 19.3**	**-0.2**
PB14				IAML			07 02 20.1	
	comp=E,1μm,0.3s							
PB15	**IPOC Station P**	**1.02**	**42**	*i* P		Pn	**07 02 14.3**	**+0.6**
PB15				*eS*		Sn	**07 02 27.7**	**-0.2**
PB15				IAML			07 02 31.7	
	comp=Z,2μm,0.1s							
PB15	**IPOC Station P**	**1.02**	**42**	*eP*		Pb	**07 02 13.3**	**+0.1**
PB15				*eS*		Sn	**07 02 27.2**	**-0.7**
GO02	**Mina Guanaco**	**1.32**	**154**	⇑*iP*		Pb	**07 02 18.7**	**+0.2**
GO02				*eS*		Sb	**07 02 35.7**	**+0.3**
GO02				IAML			07 02 38.2	
	comp=E,1μm,0.3s							
PB06	**IPOC Station P**	**1.39**	**26**	*i* P		Pb	**07 02 19.5**	**0.0**
PB06				*eS*		Sb	**07 02 38.4**	**+1.2**
PB06				IAML			07 02 39.6	
	comp=Z,419nm,0.1s							
PB06	**IPOC Station P**	**1.39**	**26**	*eP*		Pn	**07 02 19.3**	**+0.5**
PB06				*eS*		Sb	**07 02 37.0**	**-0.1**
PB06				IAML			07 02 41.0	
	comp=N,603nm,0.2s							
PB04	**IPOC Station P**	**1.63**	**2**	*i* P		Pn	**07 02 22.5**	**+0.4**
PB04				IAML			07 03 05.3	
	comp=Z,130nm,0.4s							
PB04	**IPOC Station P**	**1.63**	**2**	⇑*iP*		Pn	**07 02 22.4**	**+0.4**
PB04				*eS*		Sn	**07 02 43.0**	**+0.2**
PB04				IAML			07 02 50.2	
	comp=E,378nm,0.3s							
LVC	**Limon Verde**	**1.81**	**42**	*eP*		Pb	**07 02 26.0**	**-0.8**
LVC				*eS*		Sn	**07 02 47.7**	**+0.1**
AF01	**San Pedro de A**	**2.13**	**62**	⇑*eP*		Pb	**07 02 31.3**	**-0.9**
AF01				*eS*		Sn	**07 02 55.1**	**-0.3**
AF01				IAML			07 03 03.9	
	comp=N,379nm,0.3s							
AC01	**Pan de Azucar**	**2.20**	**189**	*eP*		Pn	**07 02 29.6**	**-0.2**
AC01				*eS*		Sn	**07 02 56.6**	**-0.1**
AC01				IAML			07 03 02.4	
	comp=N,151nm,0.4s							
AC01				IAML			07 03 04.2	
	comp=E,199nm,0.5s							
PB07	**IPOC Station P**	**2.25**	**8**	*i* P		Pn	**07 02 30.9**	**+0.3**
PB07				*eS*		Sb	**07 03 02.4**	**+0.4**
PB07				IAML			07 03 07.0	
	comp=Z,189nm,0.3s							
PB07	**IPOC Station P**	**2.25**	**8**	*eP*		Pn	**07 02 30.8**	**+0.2**
PB07				*eS*		Sn	**07 02 57.8**	**-0.5**
PB07				IAML			07 03 06.2	
	comp=E,296nm,0.3s							
PB09	**IPOC Station P**	**2.34**	**23**	*i* P		Pn	**07 02 33.3**	**+1.5**
PB09				*eS*		Sb	**07 03 02.8**	**-1.8**
PB09				IAML			07 03 12.5	
	comp=Z,112nm,0.5s							
PB09	**IPOC Station P**	**2.34**	**23**	⇑*eP*		Pn	**07 02 33.4**	**+1.6**
PB09				*eS*		Sn	**07 03 00.5**	**0.0**
PB09				IAML			07 03 14.0	
	comp=N,124nm,0.4s							
PB02	**IPOC Station P**	**2.65**	**7**	*i* P		Pn	**07 02 35.8**	**-0.3**
PB02				*eS*		Sb	**07 03 13.8**	**+0.3**
PB02				IAML			07 03 27.7	
	comp=Z,191nm,0.3s							
PB01	**IPOC Station P**	**2.99**	**13**	*i* P		Pn	**07 02 41.0**	**+0.3**
PB01				IAML			07 03 33.7	
	comp=Z,47nm,0.3s							
AC02	**Maricunga**	**3.02**	**161**	IAML			07 03 38.1	
	comp=E,130nm,0.4s							
AC06	**Mina Casimiro**	**3.38**	**182**	IAML			07 03 39.0	
	comp=E,67nm,0.3s							

ATH 15 07:06:43.3,37.°92N×22.°60E,h10km±2km,ML1.3/5, Manual Solution by S.Liakopoulos This location: 2020/05/26 08:39:16 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
THAL	**Thalero**	**0.13**	**23**	P		Pg	07 06 46.4	+0.1
THAL				S		Sg	07 06 48.5	+0.1
GUR	**Goura**	**0.20**	**275**	P		Pg	07 06 48.0	+0.3
GUR				S		Sg	07 06 50.0	-0.6
LOUT	**Loutraki**	**0.30**	**77**	P		Pg	07 06 49.6	+0.2
LOUT				S		Sg	07 06 53.2	-0.3
LTK	**Loutraki**	**0.31**	**70**	P		Pg	07 06 49.5	+0.1
LTK				S		Sg	07 06 52.8	-0.8
KLV	**Kalavryta, Ach**	**0.38**	**289**	P		Pg	07 06 50.9	+0.1
KLV				S		Sg	07 06 55.6	-0.2
VIL2	**Platees**	**0.60**	**61**	P		Pb	07 06 55.5	-0.4
VIL2				S		Sg	07 07 03.2	+0.3
EFP	**Efpalio**	**0.75**	**313**	P		Pb	07 06 58.3	-0.1
EFP				S		Sg	07 07 06.5	-0.9
ANX	**Ano Chora**	**0.86**	**322**	P		Pg	07 07 00.1	+0.2
ANX				S		Sb	07 07 12.0	0.0
MAKR	**Makrakomi, Fth**	**1.15**	**341**	P		Pn	07 07 05.5	0.0

IDC 15 07:06:54.4±294.0,64.°21N×42.°80E,h0km,Error ellipse: s-maj=161.9km s-min=117.7km az=35.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
I37NO	**I37NO**	**10.72**	**308**	I		I	08 07 00.0	
	baz=108,slow=338,SNR=1.6							
I31KZ	**AKTYUBINSK INF**	**16.03**	**142**	I		I	08 49 10.0	
	baz=337,slow=332,SNR=0.7							
I46RU	**ZALESOVO INFRA**	**23.45**	**96**	I		I	09 27 35.0	
	0.1nm,1.2s,baz=317,slow=325,SNR=1.1							
I18DK	**QAANAAQ INFRAS**	**32.69**	**338**	I		I	10 30 40.0	
	baz=52,slow=342,SNR=0.9							

*NNC **15** 07:07:10.2±0.9,42.°22N×81.°33E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=6.6km s-min=5.4km az=174.0*
*SOME **15** 07:07:10.4,42.°22N×81.°33E,h15km*

ISC 15 07:07:10.6±3.3,42.°22N±0.°09×81.°30E±0.°08,h9km±16km, n42,σ1°89/62,3C-2D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.41**	**331**	*eP*		Pb	**07 07 37.2**	**0.0**
	36nm,0.4s							
KTMS				*eS*		Sg	**07 07 56.6**	**+0.6**
	14nm,0.2s							
KTMS	**Ketmen**	**1.41**	**331**	P		Pb	**07 07 37.2**	**0.0**
	36nm,0.4s							
KTMS				S		Sg	**07 07 56.6**	**+0.6**
	14nm,0.2s							
SHLS	**Shalkode**	**1.65**	**305**	*eP*		Pn	**07 07 37.4**	**-2.5**
	8.8nm,0.1s							
SHLS				*eS*		Sn	**07 07 57.2**	**-4.0**
	41nm,0.2s							
PDGK	**Podgornoye**	**1.74**	**310**	P		Pb	**07 07 42.9**	**+0.1**
	4.1nm,0.2s							
PDGK				S		Sg	**07 08 06.3**	**-0.1**
	13nm,0.3s							
PDGK	**Podgornoye**	**1.74**	**310**	⇓P		Pn	**07 07 41.6**	**+0.6**
	4.0nm,0.4s							
PDGK				⇑S		Sg	**07 08 06.3**	**-0.1**
	13nm,0.4s							
UZB	**Uzynbulak**	**1.92**	**300**	*eP*		Pb	**07 07 46.4**	**+0.5**
	11nm,0.4s							
UZB				*eS*		Sg	**07 08 12.3**	**0.0**
	37nm,0.4s							
UZB	**Uzynbulak**	**1.92**	**300**	Pg		Pb	**07 07 46.4**	**+0.5**
	11nm,0.4s							
UZB				Lg		Lg	07 08 12.3	
	37nm,0.4s							
SATY	**Saty**	**2.30**	**292**	*eP*		Pb	**07 07 53.3**	**+1.0**
	5.8nm,0.3s							
SATY				*eS*		Sg	**07 08 24.2**	**-0.2**
	33nm,0.2s							
SATY	**Saty**	**2.30**	**292**	Pg		Pb	**07 07 53.3**	**+1.0**
	5.8nm,0.3s							
SATY				Lg		Lg	07 08 24.2	
	33nm,0.2s							
ZHN	**Zhinishke**	**2.32**	**295**	*eP*		Pb	**07 07 53.3**	**+0.7**
	9.7nm,0.2s							
ZHN				*eS*		Sg	**07 08 24.3**	**-0.8**
	119nm,0.2s							
ZHN	**Zhinishke**	**2.32**	**295**	Pg		Pb	**07 07 53.3**	**+0.7**
	9.7nm,0.2s							
ZHN				Lg		Lg	07 08 24.3	
	119nm,0.2s							
DJR	**Jarkent**	**2.38**	**333**	*eP*		Pb	**07 07 55.0**	**+1.2**
	2.9nm,0.3s							
DJR				*eS*		Sg	**07 08 27.1**	**-0.1**
	56nm,0.5s							
DJR	**Jarkent**	**2.38**	**333**	Pg		Pb	**07 07 55.0**	**+1.2**
	2.9nm,0.3s							
DJR				Lg		Lg	07 08 27.1	
	56nm,0.5s							
KURS	**Kuram**	**2.63**	**300**	*eP*		Pb	**07 07 58.5**	**+0.6**
	5.7nm,0.6s							
KURS				*eS*		Sg	**07 08 33.3**	**-1.8**
	15nm,0.6s							
KURS	**Kuram**	**2.63**	**300**	Pg		Pb	**07 07 58.5**	**+0.6**
	5.7nm,0.6s							
KURS				Lg		Lg	07 08 33.3	
	15nm,0.6s							
KNOS	**Konyrlen**	**2.64**	**325**	Pg		Pb	**07 07 59.0**	**+0.8**
	8.3nm,0.3s							
KNOS				Lg		Lg	07 08 34.1	
	25nm,0.4s							
BLB	**Baldybastay**	**2.79**	**313**	Pg		Pb	**07 08 01.6**	**+0.8**
	4.8nm,0.3s							
BLB				Lg		Lg	07 08 38.6	
	14nm,0.3s							
ARXS	**Arharly**	**3.23**	**309**	*eP*		Pb	**07 08 08.7**	**+0.6**
	1.9nm,0.4s							
ARXS				*eS*		Sb	**07 08 50.5**	**+2.9**
	9.5nm,0.2s							
ARXS	**Arharly**	**3.23**	**309**	Pg		Pb	**07 08 08.7**	**+0.6**
	1.9nm,0.4s							
ARXS				Lg		Lg	07 08 50.5	
	9.5nm,0.2s							
KOTS	**Kotyrbulak**	**3.25**	**290**	*eP*		Pb	**07 08 10.3**	**+1.7**
	4.3nm,0.2s							
KOTS				*eS*		Sg	**07 08 53.1**	**-1.9**
	27nm,0.6s							
KOTS	**Kotyrbulak**	**3.25**	**290**	Pg		Pb	**07 08 10.3**	**+1.7**
	4.3nm,0.2s							
KOTS				Lg		Lg	07 08 53.1	
	27nm,0.6s							
MDOK	**Medeo**	**3.27**	**288**	*eP*		Pb	**07 08 09.9**	**+0.9**
	3.1nm,0.2s							
MDOK				*eS*		Sg	**07 08 52.9**	**-3.0**
	9.6nm,0.5s							
MDOK	**Medeo**	**3.27**	**288**	Pg		Pb	**07 08 09.9**	**+0.9**
	3.1nm,0.2s							
MDOK				Lg		Lg	07 08 52.9	
	9.6nm,0.5s							
TNSS	**Tian-Shan**	**3.32**	**286**	*eP*		Pb	**07 08 11.1**	**+1.2**
	1.7nm,0.2s							
TNSS				*eS*		Sg	**07 08 54.5**	**-2.7**
	6.3nm,0.4s							
TNSS	**Tian-Shan**	**3.32**	**286**	Pg		Pb	**07 08 11.1**	**+1.2**
	1.7nm,0.2s							
TNSS				Lg		Lg	07 08 54.5	
	6.3nm,0.4s							
KAPS	**Kapalarasan**	**3.37**	**336**	*eP*		Pb	**07 08 11.9**	**+1.3**
	1.3nm,0.1s							
KAPS				*eS*		Sg	**07 08 56.1**	**-2.9**
	13nm,0.2s							
KAPS	**Kapalarasan**	**3.37**	**336**	Pg		Pb	**07 08 11.9**	**+1.3**
	1.3nm,0.1s							
KAPS				Lg		Lg	07 08 56.1	
	13nm,0.2s							
CHKK	**Chushkaly**	**3.56**	**299**	*eP*		Pb	**07 08 14.7**	**+0.9**
	0.7nm,0.1s							
CHKK				*eS*		Sb	**07 09 00.8**	**+3.7**
	11nm,0.3s							
CHKK	**Chushkaly**	**3.56**	**299**	Pg		Pb	**07 08 14.7**	**+0.9**
	0.7n

KRBS Lg Lg 07 09 28.8
2.4nm,0.3s
MAKZ Makanchi 4.61 6 ⇑Pn Pn 07 08 19.5 -1.0
2.9nm,1.2s
MAKZ ⇓Lg Lg 07 09 36.2
3.7nm,1.1s
MK31 Makanchi Array 4.63 8 Pn Pn 07 08 19.8 -1.0
0.5nm,0.6s,baz=198,slow=13,SNR=8.6
MK31 Lg Lg 07 09 37.5
3.4nm,0.7s,baz=193,slow=30,SNR=12

KRSC 15 07:11:35.1±1.2, 49.82N×157.01E, h20km±26km, MI3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.03**	**327**	*eP*		Pb	07 11 54.0	-0.3
SKR				*eS*		Sb	07 12 06.9	-0.5
PAU	**Pauzhetka**	**1.65**	**356**	*eP*		Pb	07 12 05.6	+0.8
PAU				*eS*		Sb	07 12 26.3	+1.1
KDTR	**Khodutka, Kamc**	**2.10**	**18**	*eP*		Pb	07 12 11.4	-1.1
KDTR				*eS*		Sb	07 12 37.1	-1.0
ASAK	**Asacha**	**2.63**	**12**	*eP*		Pn	07 12 18.8	+2.4
MTVR	**Mutnovka**	**2.77**	**15**	*eP*		Pn	07 12 21.0	+2.6
MTVR				*eS*		Sn	07 12 54.1	+2.9
RUS	**Russkaya**	**2.78**	**19**	*eP*		Pn	07 12 20.5	+2.1
KRMR	**Karymshinskiy**	**3.09**	**13**	*eP*		Pn	07 12 25.9	+3.2
APC	**Apacha**	**3.11**	**2**	*eP*		Pn	07 12 25.8	+2.9
AVH	**Avacha**	**3.61**	**17**	*eP*		Pn	07 12 33.8	+3.9
KOK	**Koryaka**	**3.62**	**16**	*eP*		Pn	07 12 34.2	+4.2
SMAR	**Somma**	**3.62**	**17**	*eP*		Pn	07 12 33.2	+3.0
KRX	**Arik**	**3.69**	**15**	*eP*		Pn	07 12 34.6	+3.5

BJI ***15*** *07:19:54.3±0.0, 7.51N×124.91E, h10km, mb4.6/55, mB5.0/28, Ms4.7/50, Ms7 4.5/45*
MAN ***15*** *07:19:58.6, 8.08N×124.54E, h3km, mb5.7, ML4.7, MS5.0*
MAN INTENSITY VI- TALAKAG BUKIDNON; INTENSITY V - LIBONA BUKIDNON; INTENSITY IV - BAUNGON BUKIDNON; INTENSITY III - ILIGAN CITY; CAGAYAN DE ORO CITY; EL SALVADOR CITY MISAMIS ORIENTAL; INTENSITY II - KALILANGAN AND MANOLO FORTICH BUKIDNON; TAGOLOAN AND VILLANUEVA MISAMIS ORIENTAL; INTENSITY I- VALENCIA CITY.
IDC ***15*** *07:19:58.7±0.6, 8.05N×124.70E, h0km, mb4.6/28, mbtmp4.6/29, MS4.2/60, Error ellipse: s-maj=23.1km s-min=13.0km az=70.0*
MOS ***15*** *07:20:00.0±1.1, 7.92N×124.52E, h19km, mb5.1/41, MS4.5/4, Error ellipse: s-maj=12.2km s-min=5.8km az=111.7*
DJA ***15*** *07:20:01.5±0.3, 8.3N±3×12.5E±°, h10km, M4.9/47, mb4.9/47, mB5.5/25, MLv5.3/6, Mw(mB)4.9/25, MwMwp4.7/6, Mwp5.0/6*
NEIC ***15*** *07:20:01.0±1.2, 8.07N±0.08×124.74E±0.07, h10km±1km, mb5.0/72, Error ellipse: s-maj=15.0km s-min=10.8km az=36.0*
GCMT ***15*** *07:20:02.0±0.2, 8.13N±0.01×124.63E±0.02, h17km±1km, MW5.0/111, Moment Tensor Solution. s21,c25; s111,c166; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.05±.14; Mθθ3.63±.12; Mϕϕ-3.58±.11; Mrθ0.11±.30; Mθϕ-1.25±.10; Mϕr-1.00±.31; Best double couple: Ms3.94400×10^16 NP1:ϕs324.00000°, δ83.00000°, λ-13.00000°. NP2:ϕs55.00000°, δ77.00000°, λ-173.00000°. Principal axes: T 3.8600, Plg4.0000°, Azm10.0000°; N 0.1670, Plg76.0000°, Azm116.0000°; P -4.0270, Plg14.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 15 07:20:01.8±0.5, 8.04N±0.02×124.64E±0.03, h14km±3km, n634, σ1$56/640, mb4.8/125, MS4.2/77, 44C-25D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**0.42**	**7**	⇑*iP*		**Pg**	**07 20 06.8**	**-3.3**
CGP				*i* S		**Sg**	**07 20 12.9**	**-2.9**
KCP	**Kidapawan**	**1.12**	**156**	⇓*iP*		**Pb**	**07 20 20.5**	**-2.5**
KCP				*i* S		**Sb**	**07 20 37.0**	**-0.4**
TASP	**Talacogon, Agu**	**1.23**	**70**	⇓*iP*		**Pb**	**07 20 25.0**	**+0.2**
PAGZ	**Pagadian**	**1.26**	**261**	*eP*		**Pn**	**07 20 21.3**	**-3.6**
PAGZ				*eS*		**Sb**	**07 20 40.1**	**-1.4**
PAGZ	**Pagadian**	**1.26**	**261**	⇓*iP*		**Pn**	**07 20 21.4**	**-3.6**
PAGZ				*i* S		Sg	07 20 58.9	+16
DAV	**Davao City (W)**	**1.34**	**136**			**Pn**	**07 20 25.4**	**-0.7**
DAV	**Davao City (W)**	**1.34**	**136**	P		**Pn**	**07 20 26.4**	**+0.3**
DAV	**Davao City (W)**	**1.34**	**136**	⇓*eP*		**Pn**	**07 20 26.0**	**-0.1**
DCPH	**Dipolog City**	**1.38**	**293**	⇓*eP*		**Pn**	**07 20 21.9**	**-4.8**
DCPH				*i* S		**Sn**	**07 20 44.8**	**-0.1**
LSIP	**Lazi, Siquijor**	**1.47**	**317**	⇓*iP*		**Pn**	**07 20 23.5**	**-4.4**
LSIP				*i* S		**Sb**	**07 20 47.7**	**+0.1**
SKMP	**Bagumbayan, Su**	**1.51**	**184**	⇑*eP*		**Pn**	**07 20 25.5**	**-3.0**
SKMP				*eS*		**Sb**	**07 20 49.0**	**+0.2**
GHBP	**Garcia Hernand**	**1.61**	**349**	⇑*iP*		**Pn**	**07 20 26.2**	**-3.7**
BIPH	**Bislig**	**1.71**	**85**	⇓*eP*		**Pn**	**07 20 30.5**	**-0.7**
BIPH				*eS*		**Sb**	**07 20 54.6**	**+0.2**
CDOP	**Cateel, Davao**	**1.80**	**98**	⇓*iP*		**Pn**	**07 20 32.6**	**+0.1**
TBP	**Tagbilaran**	**1.81**	**335**	⇑*eP*		**Pn**	**07 20 28.6**	**-4.0**
TBP				*i* S		**Sn**	**07 20 52.5**	**-2.9**
SNPH	**Sibulan**	**1.90**	**313**	⇑*eP*		**Pn**	**07 20 31.4**	**-2.4**
SNPH				*eS*		**Sb**	**07 20 59.1**	**-0.8**
SCPH	**Surigao**	**1.92**	**26**	⇑*eP*		**Pn**	**07 20 31.7**	**-2.5**
MATI	**Mati**	**1.94**	**124**	⇓*eP*		**Pn**	**07 20 34.7**	**+0.4**
MATI				*eS*		**Sg**	**07 21 03.9**	**-0.3**
GSPH	**General Santos**	**1.96**	**171**	⇓*eP*		**Pn**	**07 20 35.3**	**+0.5**
GSPH				*eS*		**Sg**	**07 21 08.6**	**+3.5**
TABP	**Talibon, Bohol**	**2.06**	**352**	⇑*iP*		**Pn**	**07 20 33.0**	**-3.0**
MSLP	**Maasin**	**2.09**	**6**	⇑*eP*		**Pn**	**07 20 34.5**	**-2.0**
MSLP				*eS*		**Sn**	**07 20 59.3**	**-3.0**
MSLP	**Maasin**	**2.09**	**6**	⇑*iP*		**Pn**	**07 20 34.9**	**-1.6**
MSLP				*i* S		**Sb**	**07 21 05.5**	**+0.1**
DDMP	**Don Marcelino,**	**2.20**	**151**	⇑*eP*		**Pn**	**07 20 37.8**	**-0.1**
DDMP				*eS*		**Sb**	**07 21 09.8**	**+1.3**
GLSP	**General Luna,**	**2.27**	**40**	⇓*eP*		**Pn**	**07 20 37.8**	**-1.1**
GLSP				*eS*		**Sb**	**07 21 10.1**	**-0.6**
LLP	**Lapu-Lapu**	**2.36**	**344**	⇓*iP*		**Pn**	**07 20 39.2**	**-1.0**
LLP				*i* S		**Sn**	**07 21 09.4**	**+0.5**
CNOP	**Candoni, Negro**	**2.66**	**312**	⇑*eP*		**Pn**	**07 20 41.5**	**-2.8**
CNOP				*eS*		**Sn**	**07 21 16.7**	**+0.4**
CNOP	**Candoni, Negro**	**2.66**	**312**	⇑*eP*		**Pn**	**07 20 43.0**	**-1.3**
CNOP				*eS*		**Sb**	**07 21 22.4**	**+0.7**
ZCP	**Zamboanga City**	**2.77**	**247**	⇑*iP*		**Pn**	**07 20 45.8**	**-0.1**
ZCP				*i* S		**Sb**	**07 21 24.2**	**-0.8**
OCLP	**Ormoc**	**2.99**	**359**	*eP*		**Pn**	**07 20 48.5**	**-0.3**
OCLP				*eS*		**Sb**	**07 21 33.6**	**+2.2**
PLP	**Palo**	**3.12**	**6**	⇑*eP*		**Pn**	**07 20 49.5**	**-1.2**
PLP				*eS*		**Sn**	**07 21 26.9**	**-0.9**
GUIM	**Jordan**	**3.27**	**322**	⇓*eP*		**Pn**	**07 20 50.7**	**-2.0**
GUIM				*eS*		**Sn**	**07 21 29.4**	**-2.1**
BESP	**Borongan**	**3.62**	**12**	⇑*eP*		**Pn**	**07 20 56.7**	**-0.9**
BESP				*eS*		**Sn**	**07 21 43.9**	**+3.7**
JAP	**San Jose, Anti**	**3.78**	**316**	⇓*eP*		**Pn**	**07 20 59.6**	**-0.1**
RCP	**Roxas**	**3.96**	**332**	⇓*eP*		**Pn**	**07 21 00.4**	**-1.8**
MMPH	**Masbate**	**4.41**	**347**	*eP*		**Pn**	**07 21 07.1**	**-1.2**
MMPH				*i* S		**Sn**	**07 22 04.1**	**+4.7**
SGSI	**Sangihe**	**4.42**	**168**	P		**Pn**	**07 21 11.0**	**+2.6**
OTRP	**Odiongan**	**5.01**	**329**	⇑*eP*		**Pn**	**07 21 16.2**	**-0.4**
OTRP				*eS*		**Sn**	**07 22 19.5**	**+5.1**
PVCP	**Virac**	**5.54**	**355**	⇑*eP*		**Pn**	**07 21 24.5**	**+0.6**
PVCP				*eS*		**Sb**	**07 22 43.3**	**-1.5**
SJMP	**San Jose**	**5.59**	**322**	⇑*eP*		**Pn**	**07 21 22.9**	**-1.8**
SCSP	**San Jose Seism**	**5.69**	**349**	⇑*eP*		**Pn**	**07 21 26.1**	**+0.2**
SCSP				*eS*		**Sb**	**07 22 53.9**	**+5.0**
BUSP	**Coron**	**5.88**	**312**	⇓*eP*		**Pn**	**07 21 27.2**	**-1.5**
BUSP				*eS*		**Sn**	**07 22 29.1**	**-6.9**
ENPP	**El Nido**	**6.03**	**302**	⇓*eP*		**Pn**	**07 21 29.8**	**-0.9**
ENPP				*eS*		**Sn**	**07 22 34.4**	**-5.1**
BOAC	**Boac**	**6.04**	**333**	⇑*eP*		**Pn**	**07 21 29.3**	**-1.5**
PPR	**Puerto Princes**	**6.09**	**287**	⇑*iP*		**Pn**	**07 21 32.1**	**+0.6**
GQP	**Guinayangan**	**6.21**	**340**	⇑*eP*		Pn	07 21 27.8	-5.4
JCNP	**Jose Panganiba**	**6.50**	**343**	⇑*eP*		**Pn**	**07 21 37.6**	**+0.5**
JCNP	**Jose Panganiba**	**6.50**	**343**	*eP*		Pn	07 21 43.0	+5.9
LQP	**Lukban**	**6.76**	**334**	⇓*eP*		**Pn**	**07 21 43.0**	**+2.1**
LUBP	**Lubang**	**7.12**	**323**	⇓*eP*		**Pn**	**07 21 47.4**	**+1.8**
LUBP	**Lubang**	**7.12**	**323**	⇓*eP*		**Pn**	**07 21 47.6**	**+2.0**
LUBP				*eS*		**Sb**	**07 23 32.9**	**+2.8**
POLP	**Polilio Island**	**7.15**	**339**	⇑*eP*		**Pn**	**07 21 47.0**	**+0.9**
KMSI	**Cibinong**	**7.45**	**185**	P		**Pn**	**07 21 50.8**	**+0.7**
	335nm,0.7s,5μm1.9nm							
QVP	**Quezon City--P**	**7.45**	**332**	⇑*eP*		**Pn**	**07 21 54.8**	**+4.6**
GTOI	**Gorontalo**	**7.53**	**193**	P		**Pn**	**07 21 49.0**	**-2.3**
	54nm,1.0s,555nm1μm0.3nm							
TNTI	**Ternate**	**7.71**	**159**	Pn		**Pn**	**07 21 54.7**	**+0.9**
TNTI	**Ternate**	**7.71**	**159**	P		**Pn**	**07 21 55.1**	**+1.3**
	118nm,1.1s,0.5nm							
TOLI2	**Tolitoli**	**7.88**	**209**	Pn		**Pn**	**07 21 53.8**	**-2.3**
TOLI2	**Tolitoli**	**7.88**	**209**	P		**Pn**	**07 21 53.6**	**-2.5**
MRSI	**Marisa**	**7.98**	**200**	P		**Pn**	**07 21 57.4**	**-0.1**
	129nm,0.7s,1μm3μm							
KKM	**Kota Kinabalu**	**8.59**	**257**	Pn		**Pn**	**07 22 07.2**	**+1.2**
KKM	**Kota Kinabalu**	**8.59**	**257**	P		**Pn**	**07 22 08.6**	**+2.6**
SMPP	**San Manuel, Pa**	**8.94**	**335**	⇑*eP*		**Pn**	**07 22 12.4**	**+1.8**
MPSI	**Mapaga**	**8.99**	**212**	P		**Pn**	**07 22 11.2**	**-0.2**
	11nm,0.8s							
LBMI	**Labuha**	**9.08**	**162**	P		**Pn**	**07 22 13.9**	**+1.3**
	132nm,0.9s,2μm							
LUWI	**Luwuk**	**9.21**	**192**	Pn		**Pn**	**07 22 15.3**	**+0.9**
LUWI	**Luwuk**	**9.21**	**192**	P		**Pn**	**07 22 17.0**	**+2.6**
LUWI	**Luwuk**	**9.21**	**192**	P		**Pn**	**07 22 16.4**	**+2.0**
	200nm,0.7s							
CAUP	**Cauayan**	**9.27**	**343**	⇑*eP*		**Pn**	**07 22 16.1**	**+1.0**
SAMP	**Sagada Mountai**	**9.70**	**338**	⇑*eP*		**Pn**	**07 22 22.1**	**+1.0**
I39PW	**PALAU INFRASON**	**9.83**	**92**	I		I	08 19 10.0	
	baz=274,slow=292,SNR=0.8							
SANI	**Sanana**	**10.11**	**172**	P		**Pn**	**07 22 24.5**	**-2.2**
SANI	**Sanana**	**10.11**	**172**	P		**Pn**	**07 22 29.1**	**+2.4**
	55nm,1.4s,884nm							
SWI	**Sorong**	**11.04**	**143**	P		**Pn**	**07 22 41.0**	**+1.6**
	56nm,1.1s							
NLAI	**Namlea**	**11.47**	**168**	P		**Pn**	**07 22 46.3**	**+1.0**
	34nm,0.6s,10μm							
TTSI	**Tana Toraja**	**12.02**	**204**	P		**Pn**	**07 22 54.8**	**+2.0**
	53nm,1.4s,964nm							
BKB	**Balikpapan**	**12.04**	**220**	P		**Pn**	**07 22 52.4**	**-0.7**
	89nm,0.7s,6μm							
FAKI	**Fak Fak**	**13.27**	**145**			**Pn**	**07 23 07.2**	**-2.8**
FAKI	**Fak Fak**	**13.27**	**145**	P		**Pn**	**07 23 13.0**	**+3.0**
FAKI	**Fak Fak**	**13.27**	**145**	P		**Pn**	**07 23 11.3**	**+1.3**
	81nm,1.2s							
KAPI	**Kappang**	**13.85**	**201**	Pn		**Pn**	**07 23 18.3**	**+0.3**
KAPI	**Kappang**	**13.85**	**201**	*eP*		**Pn**	**07 23 16.5**	**-1.4**
YULB	**Yu-li**	**15.60**	**349**			**P**	**07 23 44.3**	**-1.3**
YULB	**Yu-li**	**15.60**	**349**	P		**P**	**07 23 48.2**	**+2.6**
TPUB	**Ta-pu**	**15.65**	**346**			**P**	**07 23 44.8**	**-1.5**
TPUB	**Ta-pu**	**15.65**	**346**	P		**P**	**07 23 48.7**	**+2.5**
	72nm,0.9s							
KSM	**Kuching**	**15.70**	**246**			**P**	**07 23 46.3**	**-0.5**
KSM	**Kuching**	**15.70**	**246**	P		**Pn**	**07 23 43.8**	**+1.1**
SSLB	**Suanglung**	**16.05**	**348**	P		**P**	**07 23 53.8**	**+3.1**
YHNB	**Yeheng**	**16.83**	**350**	P		**P**	**07 23 58.8**	**-0.5**
YHNB					IAmb	IAmb	07 24 02.4	
	comp=Z,254nm,1.8s							
YHNB	**Yeheng**	**16.83**	**350**	P		**P**	**07 24 00.7**	**+1.4**
EDFI	**Ende, Flores**	**16.94**	**190**	P		**P**	**07 24 01.0**	**+0.4**
	comp=Z,37nm,1.6s,comp=Z,721nm							
SOEI	**Soe**	**17.68**	**181**	P		**P**	**07 24 08.5**	**-0.3**
SOEI	**Soe**	**17.68**	**181**	P		**P**	**07 24 08.6**	**-0.3**
SOEI	**Soe**	**17.68**	**181**	P		**P**	**07 24 09.9**	**+1.0**
	comp=Z,125nm,1.0s,comp=Z,2μm							
QZH	**Quanzhou**	**17.77**	**342**	⇓*iP*		**P**	**07 24 11.4**	**+1.7**
QZH					S	**S**	**07 27 36.8**	**+2.9**
QZH					pmax	pmax		
	comp=Z,840nm,8.2s							
QZH					LR	LR		
	comp=Z,1μm,19.9s							
QZH					LR	LR		
	comp=Z,1μm,21.0s							
QZH					LR	LR		
	comp=Z,1μm,18.2s							
QIZ	**Qiongzhong**	**18.05**	**309**	P		**P**	**07 24 15.3**	**+2.5**
QIZ					sP	**sP**	**07 24 21.0**	**+2.1**
QIZ					S	**S**	**07 27 38.5**	**-1.0**
QIZ					pmax	pmax		
	comp=Z,29nm,1.7s							
QIZ					LR	LR		
	comp=Z,2μm,15.1s							
QIZ					LR	LR		
	comp=Z,760nm,15.1s							
QIZ					LR	LR		
	comp=Z,1μm,16.0s							
PLAI	**Plampang**	**18.10**	**202**	P		**Pn**	**07 24 12.5**	**-0.5**
PLAI	**Plampang**	**18.10**	**202**	P		**P**	**07 24 14.2**	**+0.9**
	comp=Z,96nm,1.2s,comp=Z,919nm							
BATI	**Baumata**	**18.15**	**183**	P		**Pn**	**07 24 13.0**	**-0.7**
	comp=Z,21nm,0.5s,baz=117,slow=16,SNR=1.1							
BATI					LR	LR	07 33 11.4	
	comp=Z,595nm,18.4s,baz=3.5,slow=44							
BWJI	**Bawean**	**18.25**	**221**	P		**Pn**	**07 24 14.2**	**-0.7**
	comp=Z,262nm,0.8s,comp=Z,10μm							
TWSI	**Taliwang, Sumb**	**18.37**	**205**	P		**P**	**07 24 16.3**	**-0.1**
	comp=Z,52nm,1.0s,comp=Z,821nmcomp=Z,1μm							
KMMI	**Kalianget**	**18.38**	**216**	P		**Pn**	**07 24 18.1**	**+1.6**
SRBI	**Singaraja**	**18.57**	**211**	P		**Pn**	**07 24 19.2**	**+0.4**
	comp=Z,49nm,1.0s,comp=Z,701nm							
GENI	**Geneyen**	**18.75**	**124**	P		**Pn**	**07 24 21.3**	**+0.3**
	comp=Z,72nm,0.9s							
ABJI	**Asem Bagus**	**18.84**	**214**	P		**P**	**07 24 21.4**	**-0.1**
	comp=Z,67nm,1.1s							
JOW	**Kunigami**	**19.01**	**10**			**P**	**07 24 21.7**	**-1.6**
JOW					IAmb	IAmb	07 24 30.5	
	comp=Z,142nm,1.3s							
JOW	**Kunigami**	**19.01**	**10**	P		**Pn**	**07 24 29.6**	**+5.6**
JOW	**Kunigami**	**19.01**	**10**	P		**Pn**	**07 24 25.9**	**+1.9**
	comp=Z,35nm,0.8s,baz=178,slow=3.7,SNR=6.0							
JOW					LR	LR	07 30 47.0	
	comp=Z,1μm,21.8s,baz=149,slow=34							
BLJI	**Banyuglugur**	**19.16**	**215**	P		**Pn**	**07 24 28.6**	**+2.7**
	comp=Z,61nm,1.4s,comp=Z,1μm							
GRJI	**Gresik**	**19.18**	**220**	P		**Pn**	**07 24 27.4**	**+1.3**
	comp=Z,146nm,1.2s							
JAGI	**Jajag, Banyuwa**	**19.45**	**213**	P		**P**	**07 24 28.3**	**+0.1**
GMJI	**Gumukmas**	**19.68**	**215**	P		**P**	**07 24 30.8**	**+0.1**
	comp=Z,49nm,1.8s,comp=Z,871nm							
PWJI	**Pagerwojo**	**20.45**	**219**	P		Pn	07 24 40.9	-0.4
	comp=Z,26nm,1.1s							
SMRI	**Semarang**	**20.62**	**224**	P		**P**	**07 24 42.1**	**+1.1**
	comp=Z,39nm,1.3s							
PPBI	**Pangkal Pinang**	**21.05**	**242**	P		**P**	**07 24 46.4**	**+0.7**
UGM	**Wanagama**	**21.19**	**222**	P		**P**	**07 24 46.8**	**-0.4**
UGM					IAmb	IAmb	07 24 59.8	
	comp=Z,74nm,1.0s							
UGM	**Wanagama**	**21.19**	**222**	P		**P**	**07 24 50.3**	**+3.1**
UGM	**Wanagama**	**21.19**	**222**	P		**P**	**07 24 48.0**	**+0.8**
	comp=Z,86nm,0.9s							
DRS	**Darwin Rock St**	**21.27**	**163**	P		**P**	**07 24 48.8**	**+0.9**
	comp=Z,58nm,1.2s							
YOGI	**Yogyakarta**	**21.27**	**223**	P		**P**	**07 24 48.7**	**+0.7**
	comp=Z,69nm,1.4s							
MYKOM	**Kota Tinggi**	**21.61**	**254**	P		**P**	**07 24 52.0**	**+0.3**
MYKOM					IAmb	IAmb	07 24 57.4	
	comp=Z,30nm,0.3s							
MTN	**Manton Dam**	**21.73**	**163**	P		**P**	**07 24 52.4**	**-0.5**
	baz=22,SNR=6.9							
MTN	**Manton Dam**	**21.73**	**163**	P		**P**	**07 24 51.9**	**-1.0**
MTN					IAmb	IAmb	07 24 56.4	
	comp=Z,89nm,1.4s							
MTN	**Manton Dam**	**21.73**	**163**	P		**P**	**07 24 53.2**	**+0.3**
KPJI	**Karang Pucung**	**21.88**	**226**	P		**P**	**07 24 55.2**	**+0.7**
	comp=Z,39nm,1.2s							
KDU	**Kakadu**	**22.01**	**159**	P		**P**	**07 24 54.8**	**-1.1**
	baz=22,SNR=5.5							
KDU	**Kakadu**	**22.01**	**159**	P		**P**	**07 24 56.6**	**+0.7**
LEM	**Lembang**	**22.50**	**229**	P		**P**	**07 25 01.2**	**-0.2**
	comp=Z,46nm,0.9s							
CMJI	**Cimerak**	**22.53**	**226**	P		**P**	**07 25 01.5**	**0.0**
	comp=Z,60nm,0.9s							
CNSH	**ChangSha**	**22.88**	**333**	⇑*P*		**P**	**07 25 05.6**	**+0.5**
CNSH					S	**S**	**07 29 15.5**	**+0.9**
CNSH					pmax	pmax		
	comp=Z,260nm,3.5s							
CNSH					LR	LR		
	comp=Z,530nm,20.5s							
CNSH					LR	LR		
	comp=Z,1μm,19.1s							
CNSH					LR	LR		
	comp=Z,830nm,16.3s							
BBJI	**Bungbulang**	**22.89**	**228**	P		**P**	**07 25 08.6**	**+3.2**
DBJI	**Dramaga**	**22.99**	**231**	P		**P**	**07 25 07.8**	**+1.4**
	comp=Z,94nm,0.6s,comp=Z,11μm							
NONG	**Nongkai**	**23.16**	**298**	P		**P**	**07 25 10.6**	**+2.5**
	comp=Z,25nm,1.0s							
SSE	**Sheshan**	**23.16**	**352**	P		**P**	**07 25 08.9**	**+0.9**
SSE					S	**S**	**07 29 17.6**	**-1.7**
SSE					pmax	pmax		
	comp=Z,17nm,1.5s							
SSE					pmax	pmax		
	comp=Z,180nm,3.3s							
SSE					LR	LR		
	comp=Z,240nm,20.1s							
SSE					LR	LR		
	comp=Z,290nm,20.3s							
NAYO	**Nakonayok**	**23.70**	**287**	P		**P**	**07 25 14.5**	**+1.0**
IPM	**Ipoh**	**23.73**	**263**	P		**P**	**07 25 15.2**	**+1.3**
	comp=Z,39nm,1.4s							
SKLT	**Songkhla**	**23.82**	**270**	P		**P**	**07 25 17.7**	**+3.0**
KNRA	**Kununurra**	**23.91**	**170**	P		**P**	**07 25 13.9**	**-1.6**
	baz=24,SNR=10							
KNRA	**Kununurra**	**23.91**	**170**	P		**P**	**07 25 14.5**	**-1.0**
KNRA	**Kununurra**	**23.91**	**170**	P		**P**	**07 25 15.1**	**-0.4**
SLVN	**Son La**	**23.98**	**306**	P		**P**	**07 25 16.6**	**+0.4**
KULM	**Kulim**	**23.98**	**265**	P		**P**	**07 25 16.0**	**-0.2**
LHSI	**Lahat**	**24.14**	**242**	P		**P**	**07 25 16.9**	**-0.8**
	comp=Z,964nm,0.9s							
KASI	**Kota Agung**	**24.19**	**237**	P		**P**	**07 25 18.1**	**0.0**
	comp=Z,48nm,1.2s							
WHN	**Wuhan**	**24.37**	**338**	⇑P		**P**	**07 25 22.6**	**+3.0**
WHN					S	**S**	**07 29 41.6**	**+2.8**
WHN					LR	LR		
	comp=Z,2μm,15.7s							
WHN					LR	LR		
	comp=Z,3μm,16.4s							
WHN					LR	LR		
	comp=Z,2μm,25.2s							
NJ2	**Nanjing**	**24.49**	**348**	*eP*		**P**	**07 25 22.3**	**+1.6**
NJ2					pP	**pP**	**07 25 24.6**	**-0.5**
NJ2					sS	**sS**	**07 29 47.9**	**+0.1**
NJ2					pmax	pmax		
	comp=Z,12nm,0.5s							
NJ2					LR	LR		
	comp=Z,650nm,14.0s							
NJ2					LR	LR		
	comp=Z,560nm,12.6s							
NJ2					LR	LR		
	comp=Z,460nm,15.2s							
SURA	**Surathani**	**24.75**	**274**	P		**P**	**07 25 25.7**	**+2.4**
	comp=Z,91nm,1.1s							
SRIT	**Nakonsritamara**	**24.78**	**273**	P		**P**	**07 25 24.4**	**+0.9**
SRIT					IAmb	IAmb	07 25 26.8	
	comp=Z,43nm,0.8s							
SRIT	**Nakonsritamara**	**24.78**	**273**	P		**P**	**07 25 26.0**	**+2.5**
GYA	**Guiyang**	**25.04**	**319**	*eP*		**P**	**07 25 24.4**	**-1.5**
GYA					S	**S**	**07 29 48.9**	**-1.1**
GYA					pmax	pmax		
	comp=Z,27nm,0.6s							
GYA					pmax	pmax		
	comp=Z,190nm,5.4s							
GYA					LR	LR		
	comp=Z,880nm,18.3s							
GYA					LR	LR		
	comp=Z,1μm,13.0s							
GYA					LR	LR		
	comp=Z,1μm,16.3s							
JCJ	**Chichijima**	**25.21**	**39**	LR		LR	07 36 03.3	
	comp=Z,400nm,18.5s,baz=156,slow=38							
JNU	**Nakatsue**	**25.62**	**12**	LR		LR	07 34 54.7	
	comp=Z,313nm,21.0s,baz=186,slow=35							
PDSI	**Padang**	**25.70**	**251**	P		**P**	**07 25 32.1**	**+0.3**
	comp=Z,17nm,0.9s							
SRDT	**SRDT**	**25.79**	**286**	P		**P**	**07 25 35.6**	**+2.9**
	comp=Z,30nm,1.4s							
PHRA	**Phrae**	**25.90**	**296**	P		**P**	**07 25 32.9**	**-0.7**
FITZ	**Fitzroy Crossi**	**25.99**	**178**	P		**P**	**07 25 33.6**	**-0.8**
	baz=26,SNR=7.2							
ENH	**Enshi**	**26.28**	**329**	P		**P**	**07 25 40.8**	**+3.8**
CRAI	**Chiangrai**	**26.42**	**300**	P		**P**	**07 25 37.7**	**-0.7**
KMI	**Kunming**	**26.93**	**312**	⇓P		**P**	**07 25 43.8**	**+0.7**
KMI					S	**S**	**07 30 25.9**	**+5.8**
KMI					pmax	pmax		
	comp=Z,17nm,0.4s							
KMI					LR	LR		
	comp=Z,780nm,16.4s							
KMI					LR	LR		
	comp=Z,730nm,14.5s							
KMI					LR	LR		
	comp=Z,890nm,14.5s							
CM31	**Chiang Mai Arr**	**27.03**	**295**	P		**P**	**07 25 44.5

MAJO pmax pmax
comp=Z,5.0nm,1.0s
MJAR Matsushiro Arr 30.95 22 P **P** **07 26 15.7 -2.8**
comp=Z,1.3nm,0.5s,baz=193,slow=11,SNR=4.0
MJAR LR LR 07 37 06.4
comp=Z,632nm,21.3s,baz=217,slow=33
comp=Z,1.3nm,0.5s
QIS Mount Isa 32.00 153 P **P** **07 26 26.8 -1.1**
baz=32,SNR=6.1
QIS Mount Isa 32.00 153 P **P** **07 26 27.7 -0.3**
comp=Z,13nm,1.2s
BJT Baijiatuau 32.73 348 P P 07 26 39.8 +5.7
BJI Beijing 32.75 348 P **P** **07 26 33.3 -1.0**
BJI sP **pP** **07 26 39.3 +0.6**
BJI S **S** **07 31 50.6 0.0**
BJI pmax pmax
comp=Z,1.0nm,0.4s
BJI LR LR
comp=Z,230nm,22.1s
BJI LR LR
comp=Z,170nm,21.8s
BJI LR LR
comp=Z,140nm,19.2s
ASAR Alice Springs 32.79 164 P **P** **07 26 33.8 -1.1**
comp=Z,4.9nm,0.8s,baz=343,slow=7.1,SNR=42
ASAR LR LR 07 42 42.1
comp=Z,196nm,19.6s,baz=352,slow=42
comp=Z,4.9nm,0.8s
ASPA Alice Springs 32.79 164 P **P** **07 26 34.6 -0.2**
baz=33
AS01 Alice Springs 32.80 164 P **P** **07 26 35.5 +0.6**
comp=Z,12nm,0.7s
WRKA Warakurna 33.07 174 P **P** **07 26 36.9 -0.3**
baz=33,SNR=10
WRKA Warakurna 33.07 174 P **P** **07 26 37.8 +0.5**
HHC Hu-ho-hao-te 34.69 342 *eP* **P** **07 26 52.8 +1.5**
HHC sP sP 07 26 59.9 +2.2
HHC SS SS 07 34 38.1 -13
HHC pmax pmax
comp=Z,9.0nm,0.8s
HHC pmax pmax
comp=Z,91nm,3.9s
HHC LR LR
comp=Z,660nm,19.1s
HHC LR LR
comp=Z,340nm,18.9s
HHC LR LR
comp=Z,940nm,20.6s
TV1H Townsville Har 34.82 141 P **P** **07 26 55.1 +2.6**
comp=Z,14nm,1.1s
CTA Charters Tower 35.12 143 LR LR 07 43 16.0
comp=Z,505nm,18.1s,baz=359,slow=40
CN2 Changchun 35.63 1 *eP* **P** **07 26 58.4 -0.8**
CN2 *eS* **S** **07 32 34.5 -0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,500nm,12.0s
CN2 LR LR
comp=Z,400nm,12.0s
CN2 LR LR
comp=Z,400nm,15.0s
USA0B Ussuriysk Arra 36.59 9 *i* P **P** **07 27 10.1 +2.7**
USRK Ussuriysk Ar. 36.59 9 P **P** **07 27 05.4 -2.0**
comp=Z,4.1nm,0.9s,baz=189,slow=7.1,SNR=6.6
USRK LR LR 07 40 58.6
comp=Z,376nm,21.9s,baz=191,slow=34
comp=Z,4.1nm,0.9s
MDJ Mudanjiang 36.69 6 P **P** **07 27 08.0 -0.3**
MDJ pmax pmax
comp=Z,9.0nm,0.9s
MDJ pmax pmax
comp=Z,160nm,5.1s
MDJ Mudanjiang 36.69 6 P P 07 27 13.8 +5.5
OOD Oodnadatta 37.19 164 P **P** **07 27 13.2 +0.5**
BNX BinXian 37.64 3 ⇑P **P** **07 27 17.3 +1.0**
BNX pmax pmax
comp=Z,5.0nm,1.3s
BNX pmax pmax
comp=Z,150nm,3.8s
GTA Gaotai 38.36 328 P **P** **07 27 22.9 +0.2**
GTA sP sP 07 27 31.1 +2.0
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA LR LR
comp=Z,320nm,17.4s
GTA LR LR
comp=Z,390nm,18.9s
GTA LR LR
comp=Z,630nm,19.3s
FORT Forrest 38.74 175 P **P** **07 27 24.8 -0.9**
FORT IAmb IAmb 07 27 35.5
comp=Z,32nm,0.9s
INKA Innaminka 38.84 157 P **P** **07 27 27.4 +0.8**
comp=Z,16nm,1.3s
MULG Mulgathing 39.16 167 P **P** **07 27 31.5 +2.2**
ASAJ Asahikawa 39.20 21 LR LR 07 42 07.8
comp=Z,290nm,21.5s,baz=195,slow=34
HNR Honiara 39.22 116 LR LR 07 42 41.1
comp=Z,2µm,21.6s,baz=288,slow=35
KMBL Kambalda 39.27 184 P **P** **07 27 29.1 -1.1**
baz=40,SNR=5.1
KMBL Kambalda 39.27 184 P **P** **07 27 30.9 +0.7**
QLP Quilpie 39.32 152 P **P** **07 27 31.6 +0.9**
comp=Z,17nm,1.8s
LCRK Leigh Creek 40.43 162 P **P** **07 27 42.5 +2.7**
MUN Mundaring 40.60 191 P **P** **07 27 42.3 +1.1**
baz=41
YSS Yuzh-Sakhalins 41.76 19 *eP* P 07 27 56.6 +6.0
YSS *eS* S 07 34 17.4 +10
YSS MLR MLR
comp=Z,300nm,14.0s
YSS MLR MLR
comp=N,300nm,15.0s
YSS MLR MLR
comp=E,200nm,15.0s
EIDS Eidsvold 42.02 143 P **P** **07 27 52.1 -0.9**
BBOO Buckleboo 42.05 166 P **P** **07 27 52.4 -0.8**
baz=42,SNR=5.8
BBOO Buckleboo 42.05 166 P **P** **07 27 52.1 -1.1**
BBOO Buckleboo 42.05 166 P **P** **07 27 55.2 +2.0**
HEH HeiHe 42.14 3 *eP* **P** **07 27 53.3 -0.4**
HEH pmax pmax
comp=E,7.0nm,1.1s
HEH LR LR
comp=E,340nm,16.1s
HEH LR LR
comp=E,330nm,18.2s
HEH LR LR
comp=E,540nm,18.0s
ULN Ulaanbaatar 42.41 342 P **P** **07 27 55.5 -0.7**
ULN Ulaanbaatar 42.41 342 *ce*P **P** **07 27 55.0 -1.1**
ULN pmax pmax
comp=Z,10.0nm,1.7s
SONM Songino Array 42.58 342 P **P** **07 27 56.6 -0.9**
SONM Songino Array 42.58 342 P **P** **07 27 56.6 -0.9**
SONM pmax pmax
comp=Z,16nm,1.6s
SONM Songino Array 42.58 342 P **P** **07 27 56.4 -1.1**
comp=Z,3.9nm,0.9s,baz=161,slow=8.8,SNR=19
SONM LR LR 07 46 43.6
comp=Z,837nm,21.6s,baz=158,slow=38
comp=Z,3.9nm,0.9s
STKA Stephens Creek 42.87 159 P **P** **07 27 59.2 -0.7**
baz=43,SNR=11
STKA Stephens Creek 42.87 159 P **P** **07 27 58.5 -1.4**
STKA Stephens Creek 42.87 159 P **P** **07 28 00.1 +0.2**
STKA Stephens Creek 42.87 159 P **P** **07 27 58.5 -1.4**
STKA pmax pmax
comp=Z,3.0nm,0.9s
STKA Stephens Creek 42.87 159 P **P** **07 27 58.7 -1.2**
comp=Z,16nm,1.1s,baz=329,slow=8.2,SNR=17
STKA LR LR 07 48 15.0
comp=Z,197nm,18.1s,baz=337,slow=40
comp=Z,16nm,1.1s
HTT Hallett 43.42 163 P **P** **07 28 03.9 -0.4**
baz=44,SNR=3.7
HTT Hallett 43.42 163 P **P** **07 28 03.8 -0.5**
AULRC Lightning Ridg 43.51 150 P **P** **07 28 07.2 +2.2**
PALK Pallekele 43.54 272 LR LR 07 46 01.8
comp=Z,275nm,21.7s,baz=190,slow=36
HYB Hyderabad 45.81 286 *eP* **P** **07 28 23.8 +0.1**
MOY Mondy 47.65 340 *eP* **P** **07 28 37.6 -0.1**
MOY pmax pmax
comp=Z,19nm,1.8s
YNG Young 47.74 153 P **P** **07 28 41.6 +3.0**
WMQ Urumqi 48.03 324 *eP* **P** **07 28 42.0 +1.2**
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ LR LR
comp=Z,730nm,13.5s
WMQ LR LR
comp=Z,450nm,19.1s
WMQ LR LR
comp=Z,280nm,17.5s
DGZ Jazzator, Alta 51.84 330 *i* P **P** **07 29 10.1 +0.3**
DGZ pmax pmax
comp=Z,19nm,1.7s
PETK Petropavlovsk- 52.32 25 P **P** **07 29 13.2 +0.2**
comp=Z,3.3nm,0.9s,baz=213,slow=5.0,SNR=1.4
PETK LR LR 07 49 37.1
comp=Z,272nm,21.3s,baz=227,slow=34
comp=Z,3.3nm,0.9s
PET Petropavlovsk 52.66 25 *eP* **P** **07 29 16.0 +0.5**
PET *eS* **S** **07 36 40.6 -2.0**
MK31 Makanchi Array 52.86 325 P **P** **07 29 16.4 -0.8**
MK31 IAmb IAmb 07 29 22.6
comp=Z,13nm,1.0s
MK31 Makanchi Array 52.86 325 *ce*P **P** **07 29 16.6 -0.6**
MKAR Makanchi Array 52.86 325 P **P** **07 29 16.5 -0.6**
MKAR Makanchi Array 52.86 325 P **P** **07 29 16.7 -0.5**
comp=Z,5.7nm,0.7s,baz=125,slow=7.6,SNR=46
MKAR LR LR 07 53 03.0
comp=Z,419nm,18.1s,baz=114,slow=38
comp=Z,5.7nm,0.7s
MAKZ Makanchi 53.05 324 P **P** **07 29 17.2 -1.3**
MAKZ IAmb IAmb 07 29 24.6
comp=Z,29nm,1.4s
MAKZ Makanchi 53.05 324 P **P** **07 29 17.2 -1.3**
MAKZ pmax pmax
comp=Z,29nm,1.4s
PRZ Przheval'sk 53.12 318 P **P** **07 29 19.7 +0.3**
PRZ Przheval'sk 53.12 318 P **P** **07 29 19.7 +0.3**
PRZ pmax pmax
comp=Z,26nm,0.7s
KSH Kashi 53.56 314 P **P** **07 29 24.6 +2.0**
KSH pmax pmax
comp=Z,8.0nm,0.9s
YAK Yakutsk 54.01 3 *ce*P **P** **07 29 27.8 +2.5**
YAK pmax pmax
comp=Z,19nm,1.0s
YAK Yakutsk 54.01 3 LR LR 07 53 09.9
comp=Z,247nm,21.6s,baz=162,slow=37
NRN Naryn 54.29 316 P **P** **07 29 27.8 -0.4**
NRN IAmb IAmb 07 29 29.4
comp=Z,10nm,0.8s
NRN Naryn 54.29 316 P **P** **07 29 27.8 -0.4**
NRN pmax pmax
comp=Z,11nm,0.8s
ULHL Ulahol 54.46 317 P **P** **07 29 30.7 +1.4**
SNR=6.5
BOOM Boomskoye usch 54.76 317 P **P** **07 29 30.9 -0.5**
BOOM IAmb IAmb 07 29 35.3
comp=Z,15nm,1.3s
BOOM Boomskoye usch 54.76 317 P **P** **07 29 30.9 -0.5**
BOOM pmax pmax
comp=Z,15nm,1.3s
MA2 Magadan 55.10 16 *ce*P **P** **07 29 35.5 +2.2**
MA2 pmax pmax
comp=Z,10.0nm,1.7s
MA2 Magadan 55.10 16 LR LR 07 52 20.6
comp=Z,138nm,21.8s,baz=212,slow=35
TKM2 Tokmak 2 55.17 317 P **P** **07 29 34.3 -0.1**
SNR=12
KBK Karagaybulak 55.50 317 P **P** **07 29 37.1 +0.4**
SNR=9.2
UCH Uchtor 55.63 316 P **P** **07 29 38.7 +0.7**
SNR=43
CHMS Chumysh 55.77 317 P **P** **07 29 38.6 +0.1**
SNR=5.8
AAK Ala-Archa 55.80 317 P **P** **07 29 39.5 +0.7**
SNR=6.5
AAK Ala-Archa 55.80 317 P **P** **07 29 38.2 -0.6**
AAK IAmb IAmb 07 29 48.1
comp=Z,8.6nm,0.8s
AAK Ala-Archa 55.80 317 *ce*P **P** **07 29 39.7 +0.8**
AAK pmax pmax
comp=Z,19nm,1.7s
AAK Ala-Archa 55.80 317 LR LR 07 55 32.3
comp=Z,328nm,21.3s,baz=104,slow=38
ZAA0 Zalesovo Array 55.83 333 P **P** **07 29 37.4 -1.2**
ZAA0 IAmb IAmb 07 29 44.0
comp=Z,40nm,2.0s
ZALV Zalesovo Beam 55.83 333 P **P** **07 29 37.2 -1.4**
ZALV Zalesovo Beam 55.83 333 *i* P **P** **07 29 37.7 -0.9**
ZALV pmax pmax
comp=Z,6.0nm,0.9s
ZALV Zalesovo Beam 55.83 333 P **P** **07 29 37.1 -1.5**
comp=Z,5.5nm,0.9s,baz=116,slow=6.8,SNR=17
ZALV LR LR 07 56 14.2
comp=Z,321nm,18.5s,baz=136,slow=39
comp=Z,5.5nm,0.9s
USP Ospenovka 56.05 317 P **P** **07 29 40.6 +0.1**
SNR=5.6
EKS2 Erkin-Say 56.30 317 P **P** **07 29 42.6 +0.3**
SNR=7.0
ARSB Arslanbob 56.35 315 P **P** **07 29 42.7 -0.1**
ARSB Arslanbob 56.35 315 P **P** **07 29 42.7 -0.1**
ARSB pmax pmax
comp=Z,7.0nm,1.4s
DRK Karamyk 56.57 312 P **P** **07 29 45.0 +0.4**
DRK IAmb IAmb 07 29 46.0
comp=Z,14nm,0.8s
KURBB Kurchatov Arra 57.01 327 P **P** **07 29 46.5 -0.7**
comp=Z,8.0nm,0.9s,baz=125,slow=6.6,SNR=61
comp=Z,8.0nm,0.9s
KURK Kurchatov 57.02 327 P **P** **07 29 46.4 -0.7**
KURK Kurchatov 57.02 327 *ce*P **P** **07 29 46.7 -0.4**
KURK pmax pmax
comp=Z,25nm,1.3s
KBL Kabul 57.30 306 P **P** **07 29 49.0 -0.7**
KBL IAmb IAmb 07 29 50.5
comp=Z,12nm,0.8s
KBL Kabul 57.30 306 P **P** **07 29 49.0 -0.7**
KBL pmax pmax
comp=Z,12nm,0.9s
SEY Seymchan 58.37 14 *i* P **P** **07 29 59.4 +3.0**
SEY pmax pmax
comp=Z,15nm,1.5s
SIMJ Simiganj 58.39 311 P **P** **07 29 56.5 -0.7**
SIMJ IAmb IAmb 07 30 30.3
comp=Z,16nm,1.4s
MSVF Nonsavu 58.63 116 *i* P **P** **07 30 00.3 +1.2**
MSVF pmax pmax
comp=Z,21nm,1.2s
KK31 Karatay Array 58.69 316 P **P** **07 29 58.2 -0.9**
KK31 IAmb IAmb 07 30 00.1
comp=Z,12nm,0.8s
KK31 Karatay Array 58.69 316 P **P** **07 29 58.2 -0.9**
KK31 pmax pmax
comp=Z,12nm,0.9s
KKAR Karatay Array 58.69 316 P **P** **07 29 58.1 -1.1**
KKAR IAmb IAmb 07 30 00.1
comp=Z,12nm,0.8s
KKAR Karatay Array 58.69 316 P **P** **07 29 58.1 -1.1**
KKAR pmax pmax
comp=Z,12nm,0.9s
SHEM Shemya Is, Ala 59.88 32 LR LR 07 50 41.6
comp=Z,107nm,21.5s,baz=332,slow=31
BVAR Borovoye Array 62.60 326 P **P** **07 30 24.7 -0.9**
comp=Z,15nm,0.9s,baz=120,slow=8.7,SNR=44
BVAR LR LR 07 59 06.2
comp=Z,279nm,20.3s,baz=113,slow=38
comp=Z,15nm,0.9s
BRVK Borovoye 62.67 326 P **P** **07 30 25.3 -0.7**
BRVK Borovoye 62.67 326 *ce*P **P** **07 30 25.6 -0.4**
BRVK pmax pmax
comp=Z,26nm,1.0s
TIXI Tiksi 63.60 1 P **P** **07 30 32.3 +0.5**
TIXI Tiksi 63.60 1 P **P** **07 30 32.3 +0.5**
TIXI pmax pmax
comp=Z,27nm,1.2s
TIXI Tiksi 63.60 1 LR LR 07 59 59.3
comp=Z,189nm,20.7s,baz=204,slow=38
WSAR Wadi Sarin 64.86 292 LR LR 08 01 09.4
comp=Z,60nm,20.2s,baz=100,slow=38
NRIK Noril'sk 65.78 346 P **P** **07 30 45.9 -0.1**
NRIK Noril'sk 65.78 346 *ce*P **P** **07 30 46.0 -0.1**
NRIK pmax pmax
comp=Z,30nm,1.5s
NRIK Noril'sk 65.78 346 P **P** **07 30 45.4 -0.7**
comp=Z,7.9nm,0.7s,baz=132,slow=6.1,SNR=13
NRIK LR LR 08 01 52.6
comp=Z,230nm,18.3s,baz=154,slow=38
comp=Z,7.9nm,0.7s
BILL Bilibino 65.97 16 *i* P **P** **07 30 49.4 +2.0**
BILL pmax pmax
comp=Z,14nm,1.6s
GEYT Alibeck 66.61 308 P **P** **07 30 52.0 -0.1**
comp=Z,2.0nm,0.3s,baz=99,slow=8.3,SNR=9.2
GEYT LR LR 08 03 03.5
comp=Z,167nm,20.9s,baz=104,slow=39
comp=Z,2.0nm,0.3s
URZ Urewera 67.09 137 LR LR 08 02 28.7
comp=Z,106nm,18.0s,baz=94,slow=38
ABKAR Akbulak array 67.52 320 P **P** **07 30 56.7 -0.9**
AKTO Aktyubinsk 69.02 321 P **P** **07 31 06.8 -0.2**
comp=Z,16nm,0.8s,baz=98,slow=5.1,SNR=42
AKTO LR LR 08 03 56.7
comp=Z,339nm,18.9s,baz=116,slow=38
comp=Z,16nm,0.8s
SVE Sverdlovsk 69.22 328 *eP* **P** **07 31 07.8 -0.3**
SVE pmax pmax
comp=Z,41nm,1.0s
P08K Saint George I 70.11 32 P **P** **07 31 10.7 -2.9**
baz=254
ARU Arti 70.21 327 P **P** **07 31 12.5 -1.7**
ARU Arti 70.21 327 *c i* P **P** **07 31 13.6 -0.6**
ARU S **S** **07 40 26.6 +1.2**
ARU pmax pmax
comp=Z,21nm,0.9s
ARU Arti 70.21 327 P **P** **07 31 12.7 -1.5**
comp=Z,7.2nm,0.2s,baz=116,slow=7.4,SNR=18
ARU LR LR 08 05 25.9
comp=Z,163nm,18.4s,baz=131,slow=39
comp=Z,7.2nm,0.2s
UNV Unalaska Valle 71.12 36 P **P** **07 31 16.3 -3.5**
baz=257
GAMB Gambell 71.35 25 P **P** **07 31 17.8 -3.1**
baz=249
M11K Mekoryuk 72.81 29 P **P** **07 31 27.1 -2.6**
baz=256
FALS False Pass 73.09 35 P **P** **07 31 28.8 -2.8**
baz=260
TNA Tin City 73.47 24 P **P** **07 31 31.6 -2.0**
baz=252
F14K Arctic Creek 74.09 24 P **P** **07 31 35.9 -1.4**
baz=254
M13K Dall Lake 74.19 29 P **P** **07 31 37.0 -0.9**
baz=258
ANM Nome 74.24 25 P **P** **07 31 36.8 -1.3**
baz=255
J14K Nanvaranak Lak 74.59 27 P **P** **07 31 36.5 -3.7**
baz=257
L14K Kuka Creek 74.70 28 P **P** **07 31 38.7 -2.2**
baz=258
F15K North Star Dit 74.82 24 P **P** **07 31 40.6 -0.9**
baz=256
SDPT Sand Point 74.84 35 P **P** **07 31 40.2 -1.6**
baz=262
G15K Niukluk 74.90 25 P **P** **07 31 41.0 -0.9**
baz=256
N14K Kuskokwak Cree 74.92 30 P **P** **07 31 41.2 -0.9**
baz=260
M14K Bethel 74.93 29 P **P** **07 31 41.3 -0.9**
baz=259
O14K Tigyukauivet M 75.01 31 P **P** **07 31 41.6 -1.1**
baz=260
C16K Lisburne Hills 75.23 21 P **P** **07 31 43.2 -0.6**
C16K IAmb IAmb 07 31 54.6
comp=Z,13nm,1.1s
C16K Lisburne Hills 75.23 21 P **P** **07 31 43.1 -0.7**
baz=254
CHNA Chernabura Isl 75.28 35 P **P** **07 31 41.7 -2.6**
baz=263
L15K Ungalak Mounta 75.33 28 P **P** **07 31 42.3 -2.2**
baz=260
K15K Wolf Creek Mou 75.42 28 P **P** **07 31 43.3 -1.8**
baz=259
KIRV Kirov 75.48 328 *ce*P **P** **07 31 45.2 -0.2**
KIRV Kirov 75.48 328 P **P** **07 31 44.8 -0.7**
comp=Z,43nm,0.9s,baz=148,slow=2.1,SNR=16
KIRV LR LR 08 09 04.6
comp=Z,175nm,19.2s,baz=96,slow=39
comp=Z,43nm,0.9s
M15K Kasigluk River 75.54 29 P **P** **07 31 44.6 -1.1**
baz=260
H16K Elim 75.57 25 P **P** **07 31 43.9 -1.9**
baz=258
G16K Koyuk River 75.68 24 P **P** **07 31 44.6 -1.9**
baz=258
O15K Ungalikthiuk R 75.73 31 P **P** **07 31 43.2 -3.7**
baz=262
N15K Kwethluk River 75.75 30 P **P** **07 31 46.3 -0.7**
baz=261
BELG Belogornoye 75.75 322 *i* P **P** **07 31 46.5 -0.6**
BELG pmax pmax
comp=Z,12nm,0.9s
BELG Belogornoye 75.75 322 LR LR 08 07 03.7
comp=Z,116nm,20.0s,baz=157,slow=37
D17K Noatak River 75.91 22 P **P** **07 31 46.8 -0.9**
baz=256
J16K Anvik River 76.02 27 P **P** **07 31 47.9 -0.6**
baz=260
RDOG Red Dog Mine 76.06 22 P **P** **07 31 48.1 -0.5**
baz=256
C17K DeLong Mountai 76.06 21 P **P** **07 31 47.3 -1.3**
baz=256
I17K Unalakleet 76.08 26 P **P** **07 31 47.4 -1.3**
baz=260
CHGN Chignik 76.11 34 P **P** **07 31 47.8 -1.3**
baz=264
L16K Owhat River 76.28 28 P **P** **07 31 48.9 -1.1**
baz=261
F17K Baldwin Pennin 76.34 23 P **P** **07 31 49.1 -1.0**
baz=258
G17K Kiwalik Mounta 76.40 24 P **P** **07 31 49.6 -1.0**
baz=259
M16K Timber Creek 76.42 29 P **P** **07 31 50.2 -0.6**
baz=262
N16K Nishlik Lake 76.44 30 P **P** **07 31 50.3 -0.7**
baz=262
H17K Granite Mounta 76.60 25 P **P** **07 31 51.0 -0.8**
baz=260
P16K Nushagak River 76.65 31 P **P** **07 31 51.3 -0.8**
baz=263
O16K Kokwok River B 76.66 31 P **P** **07 31 51.1 -1.0**
baz=263
B18K Kokolik River 76.75 20 P **P** **07 31 51.5 -1.0**
baz=257
E18K Tukpahlearik C 76.78 23 P **P** **07 31 52.0 -0.7**
baz=259
C18K Utukok River 76.81 21 P **P** **07 31 52.6 -0.3**
baz=258
L17K Donlin 76.89 28 P **P** **07 31 52.8 -0.6**
baz=262
RAYN Ar Rayn 76.91 292 P **P** **07 31 53.4 -1.0**
RAYN IAmb IAmb 07 31 55.5
comp=Z,7.0nm,0.9s
RAYN Ar Rayn 76.91 292 P **P** **07 31 53.4 -1.0**
RAYN pmax pmax
comp=Z,7.0nm,0.9s
K17K Iditarod 76.97 27 P **P** **07 31 52.8 -1.1**
baz=262
F18K Selawik 77.00 23 P **P** **07 31 53.6 -0.2**
baz=260
GNI Garni 77.15 309 *i* P **P** **07 31 56.5 +0.9**
GNI pmax pmax
comp=Z,15nm,1.0s
GNI Garni 77.15 309 LR LR 08 11 14.8
comp=Z,78nm,19.1s,baz=174,slow=40
O17K Koliganek Bris 77.19 31 P **P** **07 31 54.2 -0.9**
baz=264
M17K Holitna River 77.20 29 P **P** **07 31 54.1 -1.1**
baz=263
N17K Nushagak Hills 77.22 30 P **P** **07 31 54.4 -0.9**
baz=264
G18K Tagagawik 77.28 24 P **P** **07 31 54.8 -0.8**
baz=261
H18K Honhosa River 77.29 25 P **P** **07 31 54.8 -0.8**
baz=262
Q16K King Salmon 77.30 32 P **P** **07 31 55.1 -0.7**
baz=264
P17K Kvichak River 77.46 31 P **P** **07 31 56.0 -0.7**
baz=264
C19K Lookout Ridge 77.47 21 P **P** **07 31 55.8 -0.8**
baz=259
CHIR Chirikof Islan 77.63 35 P **P** **07 31 56.6 -1.0**
baz=266

L18K	Granite Mounta	77.65	28	P		P	07 31 56.8	-0.9
	baz=264							
Q17K	Contact Creek	77.67	32	P		P	07 31 56.9	-1.1
	baz=265							
F19K	Shaleruckik Mo	77.77	23	P		P	07 31 57.0	-1.2
	baz=262							
J18K	Innoko River	77.78	27	P		P	07 31 57.5	-0.9
	baz=263							
GCSA	Galena City Sc	77.86	25	P		P	07 31 57.3	-1.5
	baz=263							
N18K	Kilae Creek	77.88	30	P		P	07 31 58.5	-0.5
	baz=265							
D19K	Kuna River	77.89	22	P		P	07 31 58.1	-0.9
	baz=261							
G19K	Purcell Mounta	77.95	24	P		P	07 31 59.2	-0.1
	baz=262							
M18K	Stony River	77.98	29	P		P	07 31 58.3	-1.2
	baz=265							
TTA	Tatalina	78.04	27	P		P	07 31 58.8	-1.1
TTA	Tatalina	78.04	27	P		P	07 31 58.8	-1.1
TTA				pmax		pmax		
	comp=Z,6.0nm,1.1s							
TTA	Tatalina	78.04	27	P		P	07 31 59.2	-0.8
	baz=264							
E19K	Redstone River	78.07	23	P		P	07 31 58.9	-1.0
	baz=262							
P18K	Big Mountain,	78.10	31	P		P	07 31 59.5	-0.8
	baz=266							
H19K	Roundabout Mou	78.13	25	P		P	07 31 59.6	-0.7
	baz=263							
O18K	Koktuh Hills	78.14	31	P		P	07 31 58.9	-1.6
O18K	Koktuh Hills	78.14	31	P		P	07 31 60.0	-0.5
	baz=266							
J19K	Poorman	78.32	26	P		P	07 31 59.8	-1.5
	baz=264							
B20K	Meade River	78.46	20	P		P	07 32 00.2	-1.8
	baz=262							
D20K	Etivluk River	78.47	21	P		P	07 32 01.3	-0.9
	baz=262							
SII	Sitkinak Islan	78.47	34	P		P	07 32 00.9	-1.5
	baz=267							
L19K	White Mountain	78.50	28	P		P	07 32 01.4	-1.1
	baz=265							
KBZ	Khabaz	78.53	313	*ce*P		P	07 32 02.8	-0.1
KBZ				pmax		pmax		
	comp=Z,11nm,1.3s							
KBZ	Khabaz	78.53	313	P		P	07 32 03.3	+0.4
	comp=Z,4.4nm,0.9s,baz=102,slow=2.4,SNR=5.3							
KBZ				LR		LR	08 12 59.0	
	comp=Z,54nm,18.5s,baz=76,slow=40							
	comp=Z,4.4nm,0.9s							
E20K	Nigu River	78.56	22	P		P	07 32 02.0	-0.7
	baz=263							
N19K	Bonanza Creek	78.58	30	P		P	07 32 01.8	-1.2
	baz=266							
F20K	Avaraart Lake	78.60	23	P		P	07 32 02.2	-0.6
	baz=264							
O19K	Port Alsworth	78.61	30	P		P	07 32 01.1	-2.0
	baz=266							
KIV	Kislovodsk	78.68	313	*e*P		P	07 32 03.2	-0.7
KIV				pmax		pmax		
	comp=Z,15nm,1.1s							
M19K	Big River Lodg	78.70	28	P		P	07 32 01.8	-1.8
	baz=266							
H20K	Anotteneega Mo	78.78	25	P		P	07 32 03.0	-0.9
	baz=265							
A21K	Barrow	78.82	19	P		P	07 32 03.0	-1.0
	baz=262,SNR=7.9							
Q19K	Cape Douglas,	78.88	32	P		P	07 32 02.2	-2.4
	baz=267							
I20K	Naaghedeneel	78.89	26	P		P	07 32 03.4	-1.0
	baz=265							
K20K	Telida	78.95	27	P		P	07 32 02.8	-2.1
	baz=266							
L20K	Farewell, AK	78.98	28	P		P	07 32 03.1	-2.0
	baz=266							
J20K	Nowinta River	78.98	26	P		P	07 32 03.7	-1.3
	baz=266							
OHAK	Old Harbor	79.00	33	P		P	07 32 03.6	-1.6
	baz=268							
P19K	Oil Pt	79.13	31	P		P	07 32 03.9	-2.1
	baz=267							
C21K	Knifeblade Rid	79.18	21	P		P	07 32 04.2	-1.8
	baz=264							
B21K	Ikpikpuk River	79.28	21	P		P	07 32 04.5	-2.1
	baz=264							
IMAR	Indian Mountai	79.29	24	P		P	07 32 06.2	-0.4
M20K	Styx River	79.29	29	P		P	07 32 04.9	-2.0
	baz=267							
VRH	Novokhopyorsk	79.35	321	*e*P		P	07 32 06.9	-0.3
VRH				pmax		pmax		
	comp=Z,20nm,0.5s							
KDAK	Kodiak Island	79.39	33	P		P	07 32 05.2	-2.2
	baz=268							
KDAK	Kodiak Island	79.39	33	LR		LR	08 02 54.7	
	comp=Z,156nm,21.8s,baz=278,slow=32							
E21K	Killik River	79.40	22	P		P	07 32 06.0	-1.3
	baz=265							
G21K	Allakaket	79.42	24	P		P	07 32 05.7	-1.7
	baz=266							
O20K	Slope Mountain	79.46	30	P		P	07 32 05.7	-2.1
	baz=268							
F21K	Alatna River	79.49	23	P		P	07 32 06.6	-1.2
	baz=266							
RAR	Rarotonga	79.63	113	LR		LR	08 02 42.0	
	comp=Z,50nm,20.2s,baz=318,slow=32							
H21K	Melozitna Rive	79.65	25	P		P	07 32 07.3	-1.3
	baz=266							
N20K	Mount Spurr	79.70	29	P		P	07 32 08.4	-0.7
	baz=268							
B22K	Teshekpuk Lake	79.76	20	P		P	07 32 08.1	-1.0
	baz=265,SNR=14							
CHUM	Lake Minchumin	79.77	27	P		P	07 32 07.7	-1.6
	baz=267							
PPLA	Purkeypile	79.78	28	P		P	07 32 07.7	-1.9
	baz=268							
CAST	Castle Rocks	79.85	27	P		P	07 32 09.0	-0.8
CAST				IAmb		IAmb	07 32 10.5	
	comp=Z,9.3nm,0.9s							
CAST	Castle Rocks	79.85	27	P		P	07 32 08.2	-1.6
	baz=268,SNR=9.0							
D22K	Ayikyak River	79.91	21	P		P	07 32 08.5	-1.5
	baz=266							
HOM	Homer	79.94	31	P		P	07 32 08.4	-1.9
	baz=269							
I21K	Tanana	79.97	25	P		P	07 32 08.4	-2.0
	baz=267							
SKT	Skwentna	80.05	28	P		P	07 32 10.1	-0.8
SKT	Skwentna	80.05	28	P		P	07 32 09.0	-1.9
	baz=268							
E22K	Anaktuvuk Pass	80.18	22	P		P	07 32 10.1	-1.4
	baz=267,SNR=6.8							
G22K	Bettles	80.24	23	P		P	07 32 10.9	-0.9
	baz=267							
H22K	Ishtalitna Cre	80.25	24	P		P	07 32 11.3	-0.7
	baz=268							
BPAW	Bear Paw Mtn.	80.36	26	P		P	07 32 10.9	-1.6
	baz=268,SNR=8.4							
BRSE	Bradley Lake S	80.40	31	P		P	07 32 11.6	-1.2
	baz=269							
SUA	Susitna One	80.41	29	P		P	07 32 11.0	-2.0
	baz=269,SNR=12							
MLY	Manley	80.49	25	P		P	07 32 12.7	-0.5
MLY	Manley	80.49	25	P		P	07 32 12.1	-1.2
	baz=268,SNR=7.2							
D23K	Nanushuk River	80.64	21	P		P	07 32 12.8	-1.1
	baz=268,SNR=11							
KLMR	Klimovskoe	80.65	330	*e*P		P	07 32 11.2	-2.9
KLMR				pmax		pmax		
	comp=Z,45nm,1.4s							
TRF	Thorofare Moun	80.66	27	P		P	07 32 13.1	-1.2
TRF	Thorofare Moun	80.66	27	P		P	07 32 13.9	-0.5
	baz=269							
C23K	Itkillik River	80.69	20	P		P	07 32 14.1	-0.1
	baz=268							
M22K	Willow	80.72	29	P		P	07 32 12.9	-1.5
	baz=270,SNR=8.3							
COLD	Coldfoot	80.76	23	P		P	07 32 13.6	-1.0
	baz=269,SNR=11							
G23K	Bananza Creek	80.82	24	P		P	07 32 14.1	-0.9
	baz=269,SNR=12							
RC01	Rabbit Creek A	80.90	29	P		P	07 32 14.9	-0.6
	baz=270							
O22K	Cooper Landing	80.91	30	P		P	07 32 13.2	-2.2
	baz=270							
VORR	Voronezh	80.92	321	*e*P		P	07 32 15.7	0.0
VORR				pmax		pmax		
	comp=Z,54nm,0.4s							

E23K	Chandalar	81.00	22	P		P	07 32 14.2	-1.7
	baz=269,SNR=16							
TOLK	Toolik Lake Re	81.03	22	P		P	07 32 15.9	-0.1
TOLK				IAmb		IAmb	07 32 20.8	
	comp=Z,10nm,1.0s							
TOLK	Toolik Lake Re	81.03	22	P		P	07 32 14.6	-1.5
	baz=269,SNR=8.9							
I23K	Minto, Yukon-K	81.08	25	P		P	07 32 16.3	0.0
I23K	Minto, Yukon-K	81.08	25	P		P	07 32 14.3	-2.0
	baz=270							
PMR	Palmer	81.19	29	P		P	07 32 15.4	-1.5
	baz=270							
NEA2	Nenana	81.20	26	P		P	07 32 16.7	-0.3
NEA2	Nenana	81.20	26	P		P	07 32 15.6	-1.4
	baz=270,SNR=8.9							
MCK	McKinley	81.26	27	P		P	07 32 15.5	-1.9
	baz=270,SNR=13							
RND	Reindeer	81.30	27	P		P	07 32 16.2	-1.4
RND				IAmb		IAmb	07 32 23.9	
	comp=Z,8.8nm,0.9s							
RND	Reindeer	81.30	27	P		P	07 32 16.2	-1.4
RND				pmax		pmax		
	comp=Z,9.0nm,0.9s							
D24K	Happy Valley	81.31	21	P		P	07 32 16.2	-1.3
	baz=270,SNR=7.8							
C24K	Franklin Bluff	81.35	21	P		P	07 32 16.0	-1.7
	baz=270							
E24K	Your Creek	81.43	22	P		P	07 32 16.2	-2.1
	baz=270							
WAT1	Susitna Watana	81.45	28	P		P	07 32 16.1	-2.3
	baz=271							
KNK	Knik Glacier	81.51	29	P		P	07 32 17.0	-1.7
	baz=271							
SML	Sawmill	81.57	29	P		P	07 32 17.4	-1.6
	baz=271							
WRH	Wood River Hil	81.62	26	P		P	07 32 18.5	-0.7
WRH				IAmb		IAmb	07 32 23.6	
	comp=Z,16nm,1.2s							
F24K	Squaw Lake	81.66	23	P		P	07 32 18.3	-1.2
	baz=271							
H24K	Noodor Dome	81.69	25	P		P	07 32 18.5	-1.1
	baz=271							
COLA	College	81.72	26	*i* P		P	07 32 22.0	+2.3
COLA				pmax		pmax		
	comp=Z,7.0nm,1.0s							
MOS	Moscow	81.73	325	*e*P		P	07 32 18.2	-1.8
WAT6	Susitna Watana	81.83	28	P		P	07 32 19.1	-1.4
	baz=272,SNR=13							
G24K	Hadweenzic Riv	81.83	24	P		P	07 32 19.3	-1.0
	baz=271							
M23K	Glacier View	81.86	29	P		P	07 32 19.8	-0.7
	baz=272							
POKR	Poker Plat Res	81.89	25	P		P	07 32 19.1	-1.5
	baz=271							
DHY	Denali Highway	81.98	27	P		P	07 32 20.0	-1.3
	baz=272							
SCM	Sheep Creek Mo	82.04	29	P		P	07 32 20.1	-1.5
	baz=272							
P23K	Montague Islan	82.08	30	P		P	07 32 19.6	-2.1
	baz=272							
HDA	Harding Lake	82.12	26	P		P	07 32 20.2	-1.7
HDA				IAmb		IAmb	07 32 26.8	
	comp=Z,7.2nm,0.8s							
HDA	Harding Lake	82.12	26	P		P	07 32 20.2	-1.7
	baz=272							
IL31		82.14	26	P		P	07 32 20.4	-1.5
ILAR	Eielson Array	82.14	26	P		P	07 32 20.4	-1.5
	comp=Z,1.4nm,0.8s,baz=243,slow=4.8,SNR=25							
ILAR				LR		LR	08 07 13.6	
	comp=Z,97nm,21.9s,baz=256,slow=34							
	comp=Z,1.4nm,0.8s							
D25K	Kavik River	82.18	21	P		P	07 32 21.3	-0.8
	baz=272,SNR=14							
OBN	Obninsk	82.36	325	*e*P		P	07 32 23.3	0.0
OBN				*e*S		S	07 42 39.4	+0.5
OBN				pmax		pmax		
	comp=Z,37nm,1.7s							
OBN				MLR		MLR		
	comp=Z,174nm,19.0s							
G25K	Bearman Lake	82.38	24	P		P	07 32 21.6	-1.5
	baz=272							
H25L	Birch Creek	82.52	24	P		P	07 32 23.1	-0.8
	baz=273							
F25K	Christian Rive	82.52	23	P		P	07 32 22.7	-1.3
	baz=273,SNR=11							
E25K	Arctic Village	82.52	22	P		P	07 32 23.0	-0.9
	baz=273							
M24K	Tolsona, Glenn	82.57	28	P		P	07 32 24.3	0.0
M24K	Tolsona, Glenn	82.57	28	P		P	07 32 23.4	-1.0
	baz=273							
C26K	Camden Bay	82.66	20	P		P	07 32 23.4	-1.1
	baz=273							
K24K	Donnelly Dome	82.66	27	P		P	07 32 23.6	-1.2
	baz=273,SNR=10							
PRP	Porcupine Dome	82.67	25	P		P	07 32 23.9	-1.0
	baz=273							
KLU	Klutina	82.73	29	P		P	07 32 24.5	-0.7
	baz=273							
J25K	Salcha River,	82.79	26	P		P	07 32 24.7	-0.8
	baz=273							
PAX	Paxson	82.85	27	P		P	07 32 24.6	-1.2
	baz=274							
EYAK	Cordova Ski Ar	82.87	30	P		P	07 32 24.7	-1.1
	baz=274							
BMAR	Burnt Mountain	82.94	23	P		P	07 32 26.0	-0.2
HARP	HAARP	83.03	28	P		P	07 32 25.8	-0.8
	baz=274							
F26K	Sheenjek River	83.08	23	P		P	07 32 26.6	-0.3
	baz=274							
APA	Apatity	83.10	337	*i* P		P	07 32 34.2	+7.3
APA				pmax		pmax		
	comp=Z,11nm,1.0s							
APA				MLR		MLR		
	comp=Z,600nm,19.0s							
G26K	Porcupine Rive	83.28	23	P		P	07 32 27.3	-0.6
	baz=274							
N25K	Chitina, Valde	83.35	29	P		P	07 32 27.3	-1.2
	baz=274							
BMRM	Bremner River	83.40	29	P		P	07 32 27.4	-1.3
	baz=274							
SCRK	Sand Creek	83.44	26	P		P	07 32 27.3	-1.6
	baz=275							
KAIM	Kayak Island	83.58	30	P		P	07 32 27.0	-2.5
	baz=275							
J26L	Joseph Creek	83.58	26	P		P	07 32 28.2	-1.3
	baz=275							
MENT	Mentasta	83.65	27	P		P	07 32 29.5	-0.4
MENT				IAmb		IAmb	07 32 36.5	
	comp=Z,10nm,0.8s							
I26K	Coal Creek Min	83.68	25	P		P	07 32 28.6	-1.3
	baz=275							
L26K	Log Cabin Wild	83.81	27	P		P	07 32 30.4	-0.2
L26K				IAmb		IAmb	07 32 37.4	
	comp=Z,6.8nm,0.9s							
L26K	Log Cabin Wild	83.81	27	P		P	07 32 29.3	-1.4
	baz=275							
ASF	Jabal al Asfar	83.87	302	LR		LR	08 14 42.9	
	comp=Z,78nm,19.8s,baz=209,slow=39							
E27K	Coleen River	84.00	22	P		P	07 32 31.7	+0.1
	baz=276							
M26K	Nabesna, AK	84.03	28	P		P	07 32 30.7	-1.1
	baz=276							
D27M	Malcolm River	84.10	21	P		P	07 32 30.8	-1.3
	baz=277							
MCARA	McCarthy VSAT	84.12	29	P		P	07 32 30.9	-1.4
	baz=276							
BGLC	Bering Glacier	84.13	30	P		P	07 32 32.3	+0.1
	baz=276							
G27K	Doyon Strip	84.13	23	P		P	07 32 31.6	-0.7
	baz=276							
H27K	Steamboat Moun	84.25	24	P		P	07 32 33.0	+0.1
	baz=277							
K27K	Chicken	84.27	26	P		P	07 32 32.5	-0.5
	baz=276							
I27K	Kandik River	84.29	25	P		P	07 32 31.6	-1.5
	baz=277							
L27K	Beaver Creek,	84.50	27	P		P	07 32 33.9	-0.3
	baz=277							
M27K	Edge Creek, AK	84.56	28	P		P	07 32 34.1	-0.6
	baz=277							
EGAK	Eagle	84.58	25	P		P	07 32 34.0	-0.5
EGAK				IAmb		IAmb	07 32 39.5	
	comp=Z,15nm,0.9s							
EGAK	Eagle	84.58	25	P		P	07 32 34.0	-0.5
	baz=277							
E28M	Babbage River	84.70	22	P		P	07 32 34.5	-0.6
	baz=278							

F28M	Old Crow	84.72	23	P		P	07 32 34.5	-0.7
F28M	Old Crow	84.72	23	P		P	07 32 35.1	-0.1
	baz=278							
SIM	Simferopol'	84.76	315	*e*P		P	07 32 35.6	-0.2
SIM				pmax		pmax		
	comp=Z,23nm,0.8s							
MESA	MESA	84.78	30	P		P	07 32 34.7	-1.2
	baz=277							
D28M	Stokes Point	84.88	21	P		P	07 32 36.1	+0.3
	baz=279							
CTG	Chitna Glacier	84.98	29	P		P	07 32 35.9	-1.0
	baz=277							
I28M	Miner Creek	85.00	25	P		P	07 32 36.1	-0.7
	baz=278							
BVCY	Beaver Creek	85.02	28	P		P	07 32 36.6	-0.2
	baz=278,SNR=5.8							
MMAI	Mount Meron Ar	85.04	303	LR		LR	08 15 03.7	
	comp=Z,47nm,21.4s,baz=43,slow=39							
LOGN	Logan Glacier	85.17	29	P		P	07 32 37.6	-0.2
YUK3	Moose Creek	85.30	28	P		P	07 32 38.0	-0.5
	baz=278							
E29M	Blow River	85.33	22	P		P	07 32 38.2	0.0
	baz=280							
DAWY	Dawson	85.44	26	P		P	07 32 38.9	0.0
	baz=279							
H29M	Whitestone	85.52	24	P		P	07 32 39.5	+0.2
	baz=280							
G29M	Pine Creek	85.54	23	P		P	07 32 39.6	+0.3
	baz=280							
PINM	Pinnacle	85.64	30	P		P	07 32 39.9	-0.1
	baz=278							
BRTR	Keskin Array B	85.69	309	*i* P		P	07 32 40.2	-0.6
BRTR				pmax		pmax		
	comp=Z,3.0nm,0.8s							
BRTR	Keskin Array B	85.69	309	P		P	07 32 39.5	-1.3
	comp=Z,2.5nm,0.8s,baz=99,slow=6.4,SNR=12							
BRTR				LR		LR	08 15 19.4	
	comp=Z,99nm,21.0s,baz=93,slow=39							
	comp=Z,2.5nm,0.8s							
YUK8	Steele Glacier	85.70	29	P		P	07 32 40.1	-0.4
	baz=279							
ARCES	ARCESS Array B	85.71	340	P		P	07 32 39.2	-0.9
	comp=Z,3.1nm,0.9s,baz=60,slow=7.4,SNR=6.5							
ARCES				LR		LR	08 15 51.5	
	comp=Z,151nm,18.7s,baz=89,slow=39							
	comp=Z,3.1nm,0.9s							
EIL	Elat	85.81	299	LR		LR	08 17 48.2	
	comp=Z,112nm,19.2s,baz=66,slow=40							
SPITS	Spitsbergen Ar	85.87	349	LR		LR	08 17 02.6	
	comp=Z,172nm,18.1s,baz=34,slow=40							
J29N	Klondike Camp	85.88	26	P		P	07 32 40.8	-0.4
	baz=280							
M29M	Somme Creek	86.12	28	P		P	07 32 41.3	-1.1
	baz=280							
PNL	Peninsula	86.13	30	P		P	07 32 41.8	-0.6
	baz=279							
EPYK	Eagle Plains	86.15	24	P		P	07 32 41.8	-0.6
	baz=281							
L29M	L29M	86.15	27	P		P	07 32 41.6	-0.9
	baz=280							
YUK4	Talbot Arm	86.22	29	P		P	07 32 42.0	-1.0
	baz=280							
G30M	tAoh Zraii Nji	86.22	23	P		P	07 32 42.0	-0.7
	baz=281							
F30M	Barrier River	86.26	22	P		P	07 32 43.0	+0.1
	baz=282							
K29M	Barlow Dome	86.29	26	P		P	07 32 43.1	-0.1
	baz=280							
YUK6	Outpost Mounta	86.42	29	P		P	07 32 44.4	+0.3
	baz=280							
I30M	Mount Dempster	86.51	25	P		P	07 32 44.8	+0.5
	baz=281							
J30M	Hart River	86.66	25	P		P	07 32 43.7	-1.4
	baz=282							
M30M	Minto, Yukon	86.86	27	P		P	07 32 44.5	-1.4
	baz=281							
HYT	Haines Junctio	86.86	29	P		P	07 32 46.1	0.0
HYT				IAmb		IAmb	07 36 03.8	
	comp=Z,23nm,1.8s							
HYT	Haines Junctio	86.86	29	P		P	07 32 45.9	-0.2
	baz=281							
INK	Inuvik	86.94	21	P		P	07 32 45.0	-1.1
	baz=284							
INK	Inuvik	86.94	21	LR		LR	08 13 31.8	
	comp=Z,65nm,22.0s,baz=18,slow=37							
N30M	Aishikik Lake	86.94	28	P		P	07 32 45.5	-0.9
	baz=281							
P29M	Windy Craggy	86.97	30	P		P	07 32 45.7	-0.8
	baz=281							
G31M	Satah River	86.98	23	P		P	07 32 45.6	-0.7
	baz=283							
MAW	Mawson	87.07	200	LR		LR	08 06 27.6	
	comp=Z,100nm,21.5s,baz=72,slow=32							
FINES	FINESS Array B	87.08	332	*i* P		P	07 32 47.2	+0.3
FINES				pmax		pmax		
	comp=Z,2.0nm,0.8s							
FINES	FINESS Array B	87.08	332	P		P	07 32 46.9	0.0
	comp=Z,2.6nm,0.9s,baz=64,slow=4.4,SNR=4.2							
FINES				LR		LR	08 15 42.9	
	comp=Z,224nm,18.3s,baz=38,slow=38							
	comp=Z,2.6nm,0.9s							
H31M	Peel River	87.21	24	P		P	07 32 47.2	-0.4
	baz=283							
AKASG	Malin Array Be	87.26	321	P		P	07 32 47.8	-0.2
	comp=Z,1.7nm,0.8s,baz=71,slow=3.9,SNR=6.7							
AKASG				LR		LR	08 15 15.4	
	comp=Z,160nm,21.1s,baz=67,slow=38							
	comp=Z,1.7nm,0.8s							
AKBB	Malin Array Si	87.26	321	*ce*P		P	07 32 45.7	-2.4
AKBB				pmax		pmax		
	comp=Z,7.0nm,1.2s							
MNK	Minsk	87.43	325	*i* P		P	07 32 49.9	+1.1
MNK				*i* PPP		PPP	07 38 08.9	
MNK				*i* S		SKSac	07 43 18.3	+2.1
MNK				pmax		pmax		
	comp=N,19nm,0.6s							
MNK				pmax		pmax		
	comp=Z,9.0nm,0.6s							
MNK				pmax		pmax		
	comp=E,10.0nm,0.8s							
MNK				MLR		MLR		
	comp=E,327nm,22.0s							
MNK				MLR		MLR		
	comp=N,595nm,24.0s							
MNK				MLR		MLR		
	comp=Z,143nm,20.0s							
O30N	Mendenhall	87.55	29	P		P	07 32 48.8	-0.6
	baz=282							
PLBC	Pleasant Camp	87.69	30	P		P	07 32 49.1	-0.9
	baz=282							
VNDA	Vanda	87.94	172	LR		LR	08 14 07.3	
	comp=Z,50nm,18.1s,baz=339,slow=37							
M31M	Drury Creek, Y	88.03	27	P		P	07 32 51.1	-0.5
	baz=283							
WHY	Whitehorse	88.15	29	P		P	07 32 51.1	-1.2
WHY				IAmb		IAmb	07 33 00.9	
	comp=Z,6.6nm,0.9s							
WHY	Whitehorse	88.15	29	P		P	07 32 51.8	-0.6
	baz=283							
SKAG	Skagway	88.20	30	P		P	07 32 52.3	-0.1
	baz=283							
R31K	City Hall, Gus	88.22	31	P		P	07 32 52.0	-0.5
	baz=282							
PPT	Papeete	88.41	108	LR		LR	08 06 12.8	
	comp=Z,85nm,19.6s,baz=287,slow=31							
PPT2	Papeete2	88.41	108	*e*LR		LR	08 00 53.5	
PPT2				*e*LR		LR	08 00 56.6	
	comp=Z,130nm,33.5s							
	comp=Z,245nm,30.2s							
FARO	Faro, Yukon	88.50	27	P		P	07 32 52.3	-1.5
FARO				IAmb		IAmb	07 33 00.1	
	comp=Z,9.0nm,1.2s							
FARO	Faro, Yukon	88.50	27	P		P	07 32 53.5	-0.3
	baz=284							
A36M	Sachs Harbour	88.50	17	P		P	07 32 52.5	-1.0
	baz=292							
SIT	Sitka	88.73	33	P		P	07 32 53.1	-1.8
	baz=283							
N32M	Quiet Lake	88.89	28	P		P	07 32 54.6	-1.0
	baz=284							
P32M	Atlin	88.97	30	P		P	07 32 54.4	-1.7
	baz=284							
S32K	Killisnoo	89.04	32	P	

Q32M	**Nakina River**	**89.85**	**30**	P		**P**	**07 32 58.5**	**-1.9**
	baz=285							
C36M	**Paulatuk**	**89.87**	**19**	P		**P**	**07 32 59.0**	**-1.0**
	baz=293							
U33K	**Whale Pass**	**90.14**	**33**	P		**P**	**07 33 00.0**	**-1.5**
	baz=285							
MLR	**Muntele Rosu**	**90.38**	**316**	LR		LR	08 17 49.1	
	comp=Z,126nm,21.0s,baz=65,slow=38							
R33M	**Jennings River**	**90.38**	**30**	P		**P**	**07 33 01.1**	**-1.7**
	baz=286							
WRAK	**Wrangell Islan**	**90.48**	**33**	P		**P**	**07 33 01.1**	**-2.0**
	baz=285							
S34M	**Telegraph Cree**	**90.71**	**31**	P		**P**	**07 33 02.9**	**-1.3**
	baz=286							
TGTN	**Hyland Airport**	**91.00**	**27**	P		**P**	**07 33 03.9**	**-1.7**
	baz=289							
DLBC	**Dease Lake**	**91.12**	**30**	P		**P**	**07 33 05.0**	**-1.2**
	baz=287							
DLBC	**Dease Lake**	**91.12**	**30**	LR		LR	08 09 13.5	
	comp=Z,94nm,21.6s,baz=292,slow=32							
V35K	**Ketchikan**	**91.17**	**34**	P		**P**	**07 33 04.4**	**-1.9**
	baz=286							
WTLY	**Watson Lake, Y**	**91.21**	**29**	P		**P**	**07 33 04.7**	**-1.8**
	baz=288							
T35M	**Bob Quinn**	**91.44**	**32**	P		**P**	**07 33 05.2**	**-2.4**
	baz=287							
WRGLY	**Wrigley**	**92.49**	**25**	P		**P**	**07 33 10.2**	**-2.0**
	baz=293							
HFS	**Hagfors**	**93.26**	**332**	P		**P**	**07 33 15.4**	**-0.5**
	comp=Z,5.0nm,1.0s,baz=93,slow=3.0,SNR=2.1							
HFS				LR		LR	08 19 30.7	
	comp=Z,236nm,18.5s,baz=61,slow=38							
	comp=Z,5.0nm,1.0s							
KOTAN	**Kotaneelee Air**	**93.43**	**28**	P		**P**	**07 33 14.3**	**-2.4**
	baz=292							
MBAR	**Mbarara**	**93.95**	**270**	LR		LR	08 15 53.1	
	comp=Z,72nm,18.3s,baz=296,slow=36							
RES	**Resolute Bay**	**93.96**	**10**	P		**P**	**07 33 18.8**	**0.0**
	comp=Z,3.2nm,0.8s,baz=304,slow=5.4,SNR=13							
RES				LR		LR	08 21 48.6	
	comp=Z,44nm,18.1s,baz=9.0,slow=40							
	comp=Z,3.2nm,0.8s							
NOA	**NORSAR Array B**	**94.03**	**333**	P		**P**	**07 33 17.6**	**-1.9**
	comp=Z,1.0nm,0.8s,baz=67,slow=6.7,SNR=2.8							
NOA				LR		LR	08 19 25.5	
	comp=Z,202nm,19.0s,baz=65,slow=38							
	comp=Z,1.0nm,0.8s							
JMIC	**Jan Mayen**	**95.20**	**346**	LR		LR	08 20 21.3	
	comp=Z,66nm,19.3s,baz=88,slow=38							
YKA	**Yellowknife Ar**	**96.43**	**24**	*i* P		**P**	**07 33 29.7**	**-0.7**
YKA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
YKA	**Yellowknife Ar**	**96.43**	**24**	P		**P**	**07 33 29.8**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=301,slow=4.9,SNR=20							
	comp=Z,1.6nm,0.8s							
QSPA	**South Pole Qui**	**97.92**	**180**	LR		LR	08 16 57.8	
	comp=Z,83nm,20.9s,baz=320,slow=35							
LSZ	**Lusaka**	**98.27**	**256**	LR		LR	08 18 32.3	
	comp=Z,112nm,18.3s,baz=133,slow=36							
SMMC	**Simmler**	**105.48**	**50**	P		**PKiKP**	**07 38 24.3**	**-0.8**
	baz=292							
PKM	**Mcpherson Peak**	**105.78**	**50**	P		**PKiKP**	**07 38 23.6**	**-2.3**
	baz=292							
ARVC	**Arvin**	**106.44**	**50**	P		**PKiKP**	**07 38 24.1**	**-2.7**
	baz=293							
ISA	**Isabella, Lake**	**106.50**	**49**	P		**PKiKP**	**07 38 25.1**	**-2.0**
	baz=293							
EGMT	**Eagleton**	**106.50**	**35**	P		**PKiKP**	**07 38 25.4**	**-1.3**
	baz=303							
SNCC	**San Nicolas Is**	**106.61**	**52**	P		**PKiKP**	**07 38 25.1**	**-2.1**
	baz=292							
OSI	**Osito Audit: C**	**106.72**	**50**	P		**PKiKP**	**07 38 25.0**	**-2.4**
	baz=292							
TORD	**Torodi Ar. Bea**	**119.55**	**290**	PKP		**PKPdf**	**07 38 51.4**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=31,slow=3.4,SNR=2.1							
TXAR	**Lajitas Array**	**120.49**	**49**	PKP		**PKPdf**	**07 38 53.5**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=201,slow=1.0,SNR=8.9							

IDC ***15*** *07:20:28.4±4.0,20°.18S×177°.76W,h449km±42km, mb3.3/8, mbtmp4.1/9, Error ellipse: s-maj=24.1km s-min=15.8km az=119.0*

ISC 15 07:20:35.3±0.9, 20°.5S±0°.2×177°.8W±0°.2, h534km±n15, σ0.96/15, mb3.6/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**18.21**	**193**	P	**P**	**07 24 14.9**	**-0.8**
	2.0nm,0.3s,baz=351,slow=3.9,SNR=6.7						
URZ				S	S	07 27 24.8	+10
	4.2nm,0.9s,baz=96,slow=18,SNR=1.4						
STKA	**Stephens Creek**	**37.98**	**244**	P	**P**	**07 27 07.8**	**+0.1**
	0.4nm,0.4s,baz=1.1,slow=16,SNR=2.9						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**44.73**	**257**	P	**P**	**07 28 01.4**	**0.0**
	2.0nm,0.8s,baz=354,slow=10,SNR=8.4						
ASAR				PcP	**PcP**	**07 29 33.4**	**+1.1**
	2.8nm,1.2s,baz=56,slow=1.7,SNR=5.0						
	2.0nm,0.8s						
WRA	**Warramunga Arr**	**44.82**	**262**	P	**P**	**07 28 01.8**	**-0.2**
	1.0nm,0.3s,baz=97,slow=7.7,SNR=16						
	1.0nm,0.3s						
PETK	**Petropavlovsk-**	**76.36**	**345**	P	**P**	**07 31 27.9**	**-1.5**
	6.1nm,0.9s,baz=127,slow=8.0,SNR=2.8						
	6.1nm,0.9s						
NVAR	**Mina Array Bea**	**80.89**	**43**	P	**P**	**07 31 54.5**	**+0.3**
	0.5nm,0.7s,baz=230,slow=9.6,SNR=5.4						
	0.5nm,0.7s						
TXAR	**Lajitas Array**	**86.88**	**57**	P	**P**	**07 32 24.8**	**+1.1**
	0.5nm,0.7s,baz=218,slow=6.7,SNR=8.1						
	0.5nm,0.7s						
PDAR	**Pinedale Array**	**88.83**	**43**	P	**P**	**07 32 32.6**	**-0.2**
	0.4nm,0.6s,baz=204,slow=3.3,SNR=5.5						
	0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**90.34**	**289**	P	**P**	**07 32 41.8**	**+1.8**
	1.2nm,0.4s,baz=104,slow=3.1,SNR=8.4						
	1.2nm,0.4s						
MKAR	**Makanchi Array**	**111.39**	**313**	PKiKP	**PKiKP**	**07 38 07.6**	**-1.1**
	0.3nm,0.6s,baz=65,slow=4.3,SNR=3.9						
ARCES	**ARCESS Array B**	**129.00**	**350**	PKP	**PKiKP**	**07 38 42.0**	**-0.5**
	4.6nm,1.1s,baz=358,slow=3.0,SNR=4.3						
FINES	**FINESS Array B**	**135.87**	**344**	PKP	**PKiKP**	**07 38 56.3**	**-0.3**
	1.0nm,0.8s,baz=37,slow=2.6,SNR=2.1						
AKASG	**Malin Array Be**	**143.15**	**331**	PKhKP	PKPpre	07 39 05.5	
	4.1nm,0.6s,baz=42,slow=4.3,SNR=23						
BRTR	**Keskin Array B**	**147.03**	**312**	PKPbc	**PKPbc**	**07 39 18.6**	**0.0**
	1.3nm,0.7s,baz=142,slow=5.3,SNR=6.0						
MMAI	**Mount Meron Ar**	**148.03**	**300**	PKPbc	**PKPbc**	**07 39 20.4**	**-0.9**
	0.9nm,0.3s,baz=0.0,slow=1.4,SNR=1.9						

IDC ***15*** *07:40:38.2±1.1,0°.48N×127°.55E,h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=77.4km s-min=20.4km az=68.0*

DJA ***15*** *07:40:45.4±0.5,0°.N±4°×12°.7E±°, h57km±18km, M3.6/7, MLv3.6/7*

ISC 15 07:40:46.5±0.8, 0°.00N±0°.06×126°.81E±0°.07, h70km, n13, σ1.89/15, mb3.6/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**0.94**	**133**	P	**Pn**	**07 41 04.1**	**-0.2**
LBMI				S	**Sn**	**07 41 17.2**	**-0.3**
TNTI	**Ternate**	**0.94**	**36**	P	**Pn**	**07 41 03.4**	**-1.0**
TNTI				S	**Sn**	**07 41 16.3**	**-1.3**
SANI	**Sanana**	**2.20**	**202**	P	**Pn**	**07 41 18.9**	**-2.0**
KMSI	**Cibinong**	**2.88**	**281**	P	**Pn**	**07 41 28.2**	**-2.0**
NLAI	**Namlea**	**3.23**	**175**	P	**Pn**	**07 41 33.1**	**-1.9**
GTOI	**Gorontalo**	**3.85**	**279**	P	**Pn**	**07 41 43.5**	**+0.1**
WRA	**Warramunga Arr**	**21.15**	**160**	P	**P**	**07 45 27.0**	**+0.9**
	0.3nm,0.3s,baz=340,slow=11,SNR=16						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**24.52**	**164**	P	**P**	**07 46 02.1**	**+2.5**
	0.4nm,0.5s,baz=346,slow=11,SNR=5.6						
	0.4nm,0.5s						
SONM	**Songino Array**	**50.84**	**342**	P	**P**	**07 49 38.0**	**-2.3**
	0.2nm,0.3s,baz=133,slow=8.3,SNR=1.8						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**60.66**	**326**	P	**P**	**07 50 51.3**	**+0.8**
	0.5nm,0.4s,baz=120,slow=7.6,SNR=13						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**64.92**	**328**	P	**P**	**07 51 19.4**	**+0.8**
	0.7nm,0.7s,baz=119,slow=7.4,SNR=5.9						
	0.7nm,0.7s						
GEYT	**Alibeck**	**73.30**	**310**	P	**P**	**07 52 14.4**	**+3.5**
	1.3nm,0.4s,baz=109,slow=7.9,SNR=1.9						
	1.3nm,0.4s						
ILAR	**Eielson Array**	**88.41**	**25**	P	**P**	**07 53 29.2**	**-1.5**
	0.3nm,0.9s,baz=267,slow=3.3,SNR=2.6						
	0.3nm,0.9s						

NNC 15 07:43:34.3±1.6, 54°.42N×86°.11E, h0km, mb3.6, mpv2.8, 6C-4D, Error ellipse: s-maj=22.6km s-min=7.5km az=157.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**0.90**	**239**	⇑P	Pg	07 43 51.1	-0.3
	0.5nm,0.4s						
ZAA0				⇑S	Sb	07 44 04.1	-1.0
	2.2nm,0.3s						
KURK	**Kurchatov**	**5.88**	**234**	⇓Pn	Pn	07 45 03.6	+1.0
	2.8nm,1.3s						
KURK				⇑Sn	Sn	07 46 11.8	+1.1
	0.8nm,0.5s						
KURK				⇓Lg	Lg	07 46 41.8	
	1.6nm,0.5s						
KURBB	**Kurchatov Arra**	**5.99**	**234**	⇑Pn	Pn	07 45 04.9	+0.8
	2.0nm,0.3s						
KURBB				⇑Sn	Sn	07 46 14.4	+1.1
	2.8nm,0.5s						
KURBB				⇓Lg	Lg	07 46 42.4	
	2.8nm,0.5s						
MK31	**Makanchi Array**	**8.01**	**199**	Pn	Pn	07 45 33.5	+1.6
	0.2nm,0.3s,baz=26,slow=14,SNR=68						
MK31				⇑Sn	Sn	07 47 03.5	+0.4
	0.3nm,0.5s,baz=25,slow=26,SNR=2.5						
MK31				⇓Lg	Lg	07 47 48.3	
	1.1nm,0.8s,baz=144,slow=74,SNR=6.5						

IDC ***15*** *07:52:05.0±0.7,5°.59S×142°.48E, h0km, mb4.4/14, mbtmp4.4/17, ML3.0/2, MS3.4/6, Error ellipse: s-maj=30.7km s-min=16.0km az=79.0*

NEIC ***15*** *07:52:05.2±2.4,5°.86S±0°.09×142°.22E±0°.08, h10km±1km, mb4.8/38, Error ellipse: s-maj=14.7km s-min=14.1km az=190.0*

DJA ***15*** *07:52:12.8±2.2,6°.S±4°×14°.2E±°, h24km±19km, M5.0/10, mB4.7/1, mb4.5/10, MLv5.3/2, Mw(mB)3.9/1*

ISC 15 07:52:08.1±0.4, 5°.87S±0°.05×142°.28E±0°.06, h28km, n100, σ1.70/103, mb4.8/44, MS3.4/3, 1D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.21**	**300**	P	**Pb**	**07 52 30.5**	**0.0**
MMPI	**Merauke**	**3.19**	**216**	P	**Pn**	**07 53 00.4**	**+4.0**
GENI	**Genyem**	**3.88**	**327**	P	Pn	07 52 54.4	-12
GENI	**Genyem**	**3.88**	**327**	P	**Pn**	**07 53 07.5**	**+1.6**
PMG	**Port Moresby**	**5.97**	**126**	Pn	**Pn**	**07 53 34.5**	**-0.2**
PMG	**Port Moresby**	**5.97**	**126**	P	**Pn**	**07 53 35.6**	**+0.9**
PMG	**Port Moresby**	**5.97**	**126**	Pn	**Pn**	**07 53 35.4**	**+0.8**
	5.6nm,0.3s,baz=355,slow=1.9,SNR=13						
PMG				Sn	**Sn**	**07 54 41.1**	**-1.1**
	5.3nm,0.3s,baz=34,slow=22,SNR=5.6						
PMG				LR	LR	07 57 00.4	
	comp=Z,279nm,18.7s,baz=228,slow=49						
	31nm,0.5s						
COEN	**Coen**	**8.08**	**174**		**Pn**	**07 54 04.3**	**+0.6**
COEN	**Coen**	**8.08**	**174**	P	**Pn**	**07 54 07.3**	**+3.6**
RABL	**Rabaul**	**9.98**	**81**	Pn	**Pn**	**07 54 30.1**	**+0.3**
FAKI	**Fak Fak**	**10.43**	**286**	Pn	**Pn**	**07 54 33.4**	**-2.4**
FAKI	**Fak Fak**	**10.43**	**286**	P	**Pn**	**07 54 34.4**	**-1.4**
KDU	**Kakadu**	**11.81**	**234**	P	**Pn**	**07 54 55.8**	**+1.0**
DRS	**Darwin Rock St**	**12.99**	**239**	P	**Pn**	**07 55 12.4**	**+1.5**
	72nm,0.6s						
MTN	**Manton Dam**	**13.00**	**237**	Pn	**Pn**	**07 55 09.3**	**-1.7**
CTA	**Charters Tower**	**14.65**	**165**	Pn	**Pn**	**07 55 35.1**	**+1.6**
	0.2nm,0.3s,baz=89,slow=4.3,SNR=1.2						
CTA				Lg	Lg	08 00 01.5	
	0.4nm,0.3s,baz=90,slow=23,SNR=7.8						
CTA				LR	LR	08 02 04.3	
	comp=Z,130nm,18.1s,baz=179,slow=40						
	7.1nm,1.3s						
CTAO	**Charters Tower**	**14.65**	**165**	P	**Pn**	**07 55 30.9**	**-2.6**
QIS	**Mount Isa**	**14.83**	**190**	P	**Pn**	**07 55 36.9**	**+0.9**
WB0	**Warramunga Arr**	**15.80**	**208**		**Pn**	**07 55 45.4**	**-3.4**
WRA	**Warramunga Arr**	**15.98**	**208**		**Pn**	**07 55 49.9**	**-1.1**
WRA	**Warramunga Arr**	**15.98**	**208**	Pn	**Pn**	**07 55 50.2**	**-0.8**
	1.7nm,0.3s,baz=29,slow=13,SNR=45						
WRA				Sn	**Sn**	**07 58 43.9**	**-3.5**
	1.7nm,0.3s,baz=26,slow=22,SNR=5.4						
WRA				Lg	Lg	08 00 43.9	
	1.2nm,0.3s,baz=39,slow=28,SNR=5.0						
KNRA	**Kununurra**	**16.46**	**233**		**Pn**	**07 55 55.2**	**-1.9**
SOEI	**Soe**	**18.26**	**257**	P	**P**	**07 56 21.5**	**+1.8**
	75nm,1.2s						
BATI	**Baunata**	**18.93**	**256**	LR	LR	08 05 43.0	
	comp=Z,174nm,18.6s,baz=101,slow=43						
ASAR	**Alice Springs**	**19.44**	**204**	P	**Pn**	**07 56 35.9**	**+2.0**
	13nm,0.7s,baz=34,slow=9.6,SNR=130						
ASAR				S	**S**	**08 00 05.5**	**-5.5**
	3.6nm,0.7s,baz=16,slow=28,SNR=4.4						
ASAR				Lg	Lg	08 02 31.1	
	baz=19,slow=30						
FITZ	**Fitzroy Crossi**	**20.29**	**232**	P	**P**	**07 56 42.1**	**+0.3**
GTOI	**Gorontalo**	**20.30**	**288**	P	Pn	07 56 44.8	+0.7
	14nm,0.8s						
PATS	**Pohnpei**	**20.38**	**52**	P	**P**	**07 56 41.6**	**-1.2**
EDFI	**Ende, Flores**	**20.62**	**261**	P	**P**	**07 56 44.6**	**-1.0**
	23nm,1.3s						
STKA	**Stephens Creek**	**25.88**	**181**	P	**P**	**07 57 42.6**	**+5.0**
	2.1nm,0.7s,baz=355,slow=9.4,SNR=7.7						
STKA				LR	LR	08 09 13.9	
	comp=Z,178nm,18.6s,baz=358,slow=39						
	2.1nm,0.7s						
NWAO	**Narrogin (SRO)**	**35.61**	**218**	LR	LR	08 12 58.4	
	comp=Z,61nm,20.1s,baz=168,slow=35						
MJAR	**Matsushiro Arr**	**42.37**	**355**	P	**P**	**07 59 58.2**	**-1.8**
	3.0nm,0.9s,baz=180,slow=7.5,SNR=4.7						
	3.0nm,0.9s						
MAJO	**Matsushiro**	**42.37**	**355**	P	**P**	**07 59 58.0**	**-1.9**
MAJO					IAmb	IAmb	08 00 15.6
	comp=Z,26nm,1.6s						
MJB9	**Matsu-Tunnel**	**42.37**	**355**	P	**P**	**07 59 58.8**	**-1.2**
MJB9					IAmb	IAmb	08 00 16.6
	comp=Z,26nm,1.6s						
NJ2	**Nanjing**	**43.83**	**331**	*e*P	**P**	**08 00 12.3**	**+0.5**
NJ2				pP	**pP**	**08 00 15.8**	**-4.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KSAR	**Wonju Array Be**	**45.14**	**344**	P	**P**	**08 00 22.1**	**-0.1**
KSRS	**Korea Array**	**45.14**	**344**	P	**P**	**08 00 22.2**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=162,slow=11,SNR=7.8						
	comp=Z,3.4nm,0.8s						
GYA	**Guiyang**	**47.16**	**315**	*e*P	**P**	**08 00 40.8**	**+2.3**
GYA				pmax	pmax		
	comp=Z,16nm,0.6s						
GYA				pmax	pmax		
	comp=Z,120nm,7.3s						
LYN	**LuoYang**	**49.08**	**327**	⇓P	**P**	**08 00 53.9**	**+0.9**
LYN				pmax	pmax		
	comp=Z,15nm,1.1s						
CMAR	**Chiang Mai Arr**	**49.10**	**300**	P	**P**	**08 00 55.3**	**+1.8**
	comp=Z,1.6nm,0.3s,baz=130,slow=5.2,SNR=5.6						
CMAR				LR	LR	08 24 35.6	
	comp=Z,12nm,18.4s,baz=150,slow=40						
	comp=Z,1.6nm,0.3s						
USRK	**Ussuriysk Ar.**	**50.70**	**350**	P	**P**	**08 01 04.3**	**-0.8**
USRK	**Ussuriysk Ar.**	**50.70**	**350**	P	**P**	**08 01 05.3**	**+0.1**
	comp=Z,8.5nm,0.9s,baz=176,slow=8.3,SNR=12						
	comp=Z,8.5nm,0.9s						
XAN	**Xi'an**	**50.70**	**324**	P	**P**	**08 01 05.8**	**+0.3**
XAN				pP	pP	08 01 10.1	-4.0
XAN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PZH	**PanZhiHua**	**50.78**	**311**	P	**P**	**08 01 07.6**	**+1.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,110nm,4.8s						
CD2	**Chengdu**	**51.91**	**317**	P	**P**	**08 01 15.8**	**+1.3**
CD2				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC	**Hu-ho-hao-te**	**54.37**	**332**	*e*P	**P**	**08 01 35.3**	**+2.7**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,64nm,4.2s						
BTO	**Baotou**	**54.93**	**330**	*e*P	**P**	**08 01 38.0**	**+1.4**
BTO				pP	**pP**	**08 01 42.6**	**-2.8**
BTO				sP	**sP**	**08 01 45.3**	**-3.4**
BTO				PP	**PP**	**08 03 42.8**	**+2.9**
BTO				pmax	pmax		
	comp=Z,21nm,1.1s						
BTO				pmax	pmax		
	comp=Z,280nm,4.6s						
HEH	**HeiHe**	**57.37**	**349**	*e*P	**P**	**08 01 52.8**	**-0.9**
GTA	**Gaotai**	**59.72**	**323**	P	**P**	**08 02 11.8**	**+1.3**
GTA				sP	sP	08 02 30.1	+7.4
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PETK	**Petropavlovsk-**	**60.19**	**11**	P	**P**	**08 02 13.4**	**0.0**
PETK	**Petropavlovsk-**	**60.19**	**11**	P	**P**	**08 02 13.2**	**-0.2**
	comp=Z,12nm,0.9s,baz=142,slow=7.5,SNR=10						
	comp=Z,12nm,0.9s						
ULN	**Ulaanbaatar**	**61.84**	**334**	P	**P**	**08 02 24.6**	**-0.2**
SONM	**Songino Array**	**62.10**	**333**	P	**P**	**08 02 26.9**	**+0.4**
SONM	**Songino Array**	**62.10**	**333**	P	**P**	**08 02 27.1**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=157,slow=6.7,SNR=4.1						
	comp=Z,0.5nm,0.6s						
WMQ	**Urumqi**	**69.69**	**321**	*e*P	**P**	**08 03 17.3**	**+1.9**
WMQ				pP	pP	08 03 20.1	-4.3
WMQ				sP	sP	08 03 22.8	-4.9
WMQ				pmax	pmax		
	comp=Z,25nm,0.7s						
MK31	**Makanchi Array**	**74.46**	**322**	P	**P**	**08 03 44.4**	**+0.6**
MKAR	**Makanchi Array**	**74.46**	**322**	P	**P**	**08 03 44.2**	**+0.3**
MKAR	**Makanchi Array**	**74.46**	**322**	P	**P**	**08 03 44.8**	**+0.9**
	comp=Z,4.5nm,0.7s,baz=104,slow=7.6,SNR=42						
	comp=Z,4.5nm,0.7s						
MAKZ	**Makanchi**	**74.66**	**322**	P	**P**	**08 03 45.9**	**+0.9**
MAKZ				IAmb	IAmb	08 03 46.3	
	comp=Z,4.8nm,0.6s						
ZAA0	**Zalesovo Array**	**76.45**	**329**	P	**P**	**08 03 54.0**	**-1.1**
ZAA0				IAmb	IAmb	08 05 16.2	
	comp=Z,13nm,1.0s						
ZALV	**Zalesovo Beam**	**76.45**	**329**	P	**P**	**08 03 54.3**	**-0.8**
ZALV	**Zalesovo Beam**	**76.45**	**329**	P	**P**	**08 03 54.6**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=114,slow=6.3,SNR=7.6						
	comp=Z,1.7nm,0.6s						
AAK	**Ala-Archa**	**77.94**	**316**	P	**P**	**08 04 05.2**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=180,slow=18,SNR=2.1						
	comp=Z,1.2nm,0.7s						
KURK	**Kurchatov**	**78.34**	**324**	P	**P**	**08 04 05.4**	**-0.4**
KURBB	**Kurchatov Arra**	**78.35**	**324**	P	**P**	**08 04 06.4**	**+0.6**
	comp=Z,2.5nm,0.9s,baz=114,slow=5.0,SNR=17						
	comp=Z,2.5nm,0.9s						
ANM	**Nome**	**80.17**	**20**	P	**P**	**08 04 15.8**	**+0.3**
ANM				IAmb	IAmb	08 05 22.6	
	comp=Z,22nm,1.9s						
L16K	**Owhat River**	**80.79**	**24**	P	**P**	**08 04 18.7**	**-0.2**
L16K				IAmb	IAmb	08 04 27.2	
	comp=Z,8.4nm,0.9s						
N17K	**Nushagak Hills**	**81.16**	**26**	P	**P**	**08 04 21.0**	**+0.2**
N17K				IAmb	IAmb	08 04 30.1	
	comp=Z,7.0nm,0.8s						
O18K	**Koktuh Hills**	**81.72**	**27**	P	**P**	**08 04 23.0**	**-0.8**
K17K	**Iditarod**	**81.78**	**24**	P	**P**	**08 04 24.0**	**-0.1**
K17K				IAmb	IAmb	08 04 33.4	
	comp=Z,12nm,0.9s						
H17K	**Granite Mounta**	**82.31**	**21**	P	**P**	**08 04 27.1**	**+0.2**
H17K				IAmb	IAmb	08 04 28.6	
	comp=Z,6.2nm,0.8s						
NRIK	**Noril'sk**	**83.75**	**343**	P	**P**	**08 04 34.4**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=142,slow=3.8,SNR=4.2						
	comp=Z,1.5nm,0.3s						
BVAR	**Borovoye Array**	**83.93**	**325**	P	**P**	**08 04 36.1**	**+0.6**
	comp=Z,8.4nm,0.8s,baz=104,slow=6.3,SNR=40						
	comp=Z,8.4nm,0.8s						
BRVK	**Borovoye**	**84.00**	**325**	P	**P**	**08 04 35.9**	**+0.1**
BRVK				IAmb	IAmb	08 04 37.5	
	comp=Z,9.1nm,0.9s						
QSPA	**South Pole Qui**	**84.09**	**180**	P	**P**	**08 04 36.3**	**0.0**
QSPA				IAmb	IAmb	08 04 39.1	
	comp=Z,12nm,1.2s						
E19K	**Redstone River**	**84.54**	**20**	P	**P**	**08 04 38.3**	**+0.1**
E19K				IAmb	IAmb	08 04 48.8	
	comp=Z,8.4nm,0.9s						
CAST	**Castle Rocks**	**84.61**	**24**	P	**P**	**08 04 37.7**	**-1.1**
RC01	**Rabbit Creek A**	**84.70**	**27**	P	**P**	**08 04 38.4**	**-0.8**
D19K	**Kuna River**	**84.77**	**19**	P	**P**	**08 04 39.0**	**-0.4**
D19K				IAmb	IAmb	08 04 40.9	
	comp=Z,7.9nm,1.1s						
KNK	**Knik Glacier**	**85.39**	**27**	P	**P**	**08 04 42.1**	**-0.6**
SML	**Sawmill**	**85.59**	**26**	P	**P**	**08 04 42.7**	**-1.0**
MLY	**Manley**	**85.81**	**23**	P	**P**	**08 04 43.8**	**-1.0**
MLY				IAmb	IAmb	08 04 45.3	
	comp=Z,5.1nm,0.9s						
RND	**Reindeer**	**85.95**	**25**	P	**P**	**08 04 44.3**	**-1.2**
NEA2	**Nenana**	**86.30**	**24**	P	**P**	**08 04 46.0**	**-1.1**
DHY	**Denali Highway**	**86.45**	**25**	P	**P**	**08 04 47.4**	**-0.7**
WRH	**Wood River Hil**	**86.65**	**24**	P	**P**	**08 04 46.9**	**-1.9**
WRH				IAmb	IAmb	08 04 55.6	
	comp=Z,5.6nm,0.9s						
E22K	**Anaktuvuk Pass**	**86.68**	**20**	P	**P**	**08 04 48.0**	**-1.0**
E22K				IAmb	IAmb	08 04 58.5	
	comp=Z,4.4nm,0.7s						
CCB	**Cl

TWE	**Neicheng**	**0.27**	**244**	⇑*i* P	Pb	08 08 37.2	-0.4
	baz=241						
TWE				*i* S	Sg	08 08 40.8	+0.9
	baz=241						
ESAO	**Su ao**	**0.28**	**197**	*e*P	Pb	08 08 39.1	+1.3
	baz=197						
ESAO				*e*S	Sb	08 08 42.8	+0.3
	baz=197						
FUSB	**Fushanzhiwuyua**	**0.33**	**256**	⇑*i* P	Pb	08 08 38.2	-0.5
	baz=255						
FUSB				S	Sb	08 08 43.1	-0.9
	baz=255						
TNOU	**National Taiwa**	**0.34**	**334**	*i* P	Pb	08 08 39.0	+0.1
	baz=334						
TNOU				S	Sb	08 08 43.7	-0.7
	baz=334						
NHY	**Taipei**	**0.39**	**301**	P	Pb	08 08 39.4	-0.3
	baz=300						
NHDH	**Xindian Distri**	**0.39**	**288**	*e*P	Pb	08 08 39.3	-0.5
	baz=287						
NWLT	**Wulai**	**0.40**	**261**	P	Pb	08 08 39.3	-0.6
	baz=260						
NWLT				*e*S	Sg	08 08 44.8	+0.9
	baz=260						
EWUT	**Wuta**	**0.42**	**200**	*e*P	Pb	08 08 40.0	-0.2
	baz=199						
EWUT				*e*S	Sb	08 08 46.6	0.0
	baz=199						
YM01	**YM01**	**0.45**	**313**	P	Pg	08 08 39.8	+0.2
	baz=312						
NDT	**Datong Townshi**	**0.45**	**238**	*i* P	Pb	08 08 40.6	-0.2
	baz=238						
LATG	**Datong**	**0.48**	**231**	P	Pb	08 08 40.9	-0.4
	baz=230						
EOS2	**EOS2**	**0.50**	**147**	*e*P	Pb	08 08 41.1	-0.4
	baz=147						
TWY	**Chenhua**	**0.53**	**325**	P	Pg	08 08 41.5	+0.5
	baz=325						
TWS1	**Kuangyinshan**	**0.54**	**299**	*e*P	Pb	08 08 43.0	+0.8
	baz=299						
YHNB	**Yeheng**	**0.54**	**251**	*i* P	Pb	08 08 42.0	-0.3
	baz=251						
NSK	**Sanguang**	**0.55**	**253**	*i* P	Pb	08 08 42.3	-0.2
	baz=251						
NNS	**Nan Shan**	**0.65**	**232**	*i* P	Pb	08 08 43.9	-0.3
	baz=231						
NNSB	**Datong**	**0.65**	**231**	*i* P	Pb	08 08 44.5	+0.2
	baz=230						
EOS3	**EOS3**	**0.65**	**148**	P	Pb	08 08 44.6	+0.5
	baz=147						
NACB	**Ninganchiao**	**0.73**	**205**	*e*P	Pg	08 08 44.4	-0.6
	baz=204						
ETL	**Fush Village**	**0.74**	**203**	*e*P	Pg	08 08 45.2	+0.2
	baz=202						
ETLH	**Xiulin Townshi**	**0.76**	**213**	*e*P	Pg	08 08 45.7	+0.3
	baz=213						
NFF	**Wufeng Townshi**	**0.77**	**254**	*e*P	Pb	08 08 46.5	+0.2
	baz=254						
EOS4	**EOS4**	**0.80**	**154**	*e*P	Pn	08 08 47.1	-0.6
	baz=154						
TWD	**Chiawan**	**0.82**	**202**	*e*P	Pb	08 08 46.8	-0.2
	baz=201						

TAP 15 08:08:33.2,24.84N×121.97E,h10km,ML2.4,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.03**	**288**	*i* P	Pg	08 08 35.7	+0.5
	baz=290						
EGS				*i* S	Sg	08 08 37.1	+0.6
	baz=290						
NTC	**Toucheng**	**0.12**	**279**	P	Pb	08 08 37.0	-0.6
	baz=278						
TWB1	**Santiao Chiao**	**0.17**	**7**	*i* S	Sg	08 08 40.6	+1.0
	baz=9.0						
TIPB	**Shuangxi**	**0.19**	**317**	*i* S	Sg	08 08 41.2	+1.2
	baz=317						
ILA	**Ilan**	**0.21**	**251**	P	Pg	08 08 38.1	+0.6
	baz=249						
TWC	**Suao**	**0.25**	**205**	*i* P	Pg	08 08 38.7	+0.4
	baz=203						
TWC				*i* S	Sg	08 08 44.1	+2.4
	baz=203						
SXI1	**Grass Mountain**	**0.27**	**343**	*i* P	Pb	08 08 39.8	-0.4
	baz=342						
SXI1				*i* S	Sb	08 08 44.3	-0.6
	baz=342						
ESAO	**Su ao**	**0.28**	**203**	*e*P	Pb	08 08 39.9	-0.4
	baz=203						
ESAO				*i* S	Sb	08 08 44.7	-0.3
	baz=203						
NWF	**Wu-fen Shan**	**0.29**	**325**	P	Pb	08 08 40.1	-0.4
	baz=324						
NWF				*i* S	Sb	08 08 45.1	-0.3
	baz=324						
WFSB	**Wu-fen Shan**	**0.29**	**325**	P	Pb	08 08 40.1	-0.3
	baz=324						
WFSB				S	Sb	08 08 45.1	-0.2
	baz=324						
TWE	**Neicheng**	**0.29**	**247**	*i* P	Pb	08 08 39.9	-0.6
	baz=245						
TWE				S	Sg	08 08 44.2	+1.1
	baz=245						
NDS	**Dongshan**	**0.30**	**229**	P	Pb	08 08 40.1	-0.6
	baz=228						
FUSB	**Fushanzhiwuyua**	**0.35**	**258**	P	Pb	08 08 41.0	-0.5
	baz=257						
TNOU	**National Taiwa**	**0.36**	**331**	*i* P	Pb	08 08 41.8	+0.1
	baz=330						
TNOU				S	Sb	08 08 46.4	-0.9
	baz=330						
EWUT	**Wuta**	**0.42**	**204**	P	Pb	08 08 42.3	-0.4
	baz=203						
NWLT	**Wulai**	**0.42**	**262**	P	Pb	08 08 42.5	-0.3
	baz=262						
NWLT				*e*S	Sb	08 08 48.8	-0.4
	baz=262						
ENA	**Nanau**	**0.45**	**207**	*e*P	Pb	08 08 43.4	+0.2
	baz=205						
NDT	**Datong Townshi**	**0.47**	**241**	*i* P	Pb	08 08 43.5	-0.1
	baz=240						
NDT				*e*S	Sb	08 08 50.3	-0.3
	baz=240						
YM01	**YM01**	**0.47**	**311**	P	Pb	08 08 44.0	+0.4
	baz=310						
EOS2	**EOS2**	**0.48**	**150**	*e*P	Pb	08 08 43.7	+0.1
	baz=149						
LATG	**Datong**	**0.50**	**233**	P	Pb	08 08 43.7	-0.4
	baz=233						
TWY	**Chenhua**	**0.55**	**323**	*e*P	Pg	08 08 44.2	+0.3
	baz=323						
YHNB	**Yeheng**	**0.56**	**253**	P	Pb	08 08 44.7	-0.5
	baz=252						
YHNB				S	Sn	08 08 55.3	-1.3
	baz=252						
NSK	**Sanguang**	**0.57**	**254**	P	Pg	08 08 43.1	-1.2
	baz=253						
NNS	**Nan Shan**	**0.67**	**234**	P	Pb	08 08 47.0	0.0
	baz=233						
NNS				S	Sn	08 08 58.5	-0.8
	baz=233						
NNSB	**Datong**	**0.67**	**233**	P	Pb	08 08 47.1	+0.1
	baz=232						
NNSB				*e*S	Sn	08 08 58.1	-1.2
	baz=232						
NACB	**Ninganchiao**	**0.74**	**207**	*i* P	Pb	08 08 48.1	0.0
	baz=207						
NACB				S	Sb	08 08 58.1	-0.2
	baz=207						
ETL	**Fush Village**	**0.74**	**205**	P	Pb	08 08 48.0	-0.2
	baz=204						
ETL				*e*S	Sb	08 08 58.9	+0.6
	baz=204						
ETLH	**Xiulin Townshi**	**0.77**	**215**	*e*P	Pb	08 08 48.5	-0.1
	baz=215						
ETLH				*e*S	Sb	08 08 58.9	-0.2
	baz=215						

JMA 15 08:09:13.7±0.2,24.2N±0.4×123.8E±0.4,h15km±1km, MV1.5/7,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.14**	**314**	P	Pg	08 09 17.5	0.0
IRIF				*e*S	Sg	08 09 20.0	0.0
JKRS	**Kuro-shima**	**0.16**	**91**	*i* P	Pg	08 09 17.8	0.0
JKRS				*e*S	Sg	08 09 20.9	+0.4
HATJ	**Hateruma jima**	**0.18**	**189**	*i* P	Pg	08 09 18.0	-0.1
HATJ				*e*S	Sg	08 09 21.4	+0.3
JIJ	**Ishigaki jima**	**0.30**	**66**	P	Pg	08 09 19.9	-0.3
JIJ				*e*S	Sg	08 09 24.3	-0.3
JISG	**Ishigakijimahi**	**0.55**	**51**	P	Pg	08 09 24.7	0.0
JISG				*e*S	Sb	08 09 32.8	0.0
JTJ	**Tarama**	**0.88**	**63**	*e*P	Pb	08 09 30.6	-0.1
JTJ				*e*S	Sg	08 09 43.1	+0.6

*IDC **15** 08:19:49.4±3.4,6.05S×154.85E,h240km±32km,mb3.5/9, mbtmp4.1/11,Error ellipse: s-maj=21.0km s-min=17.6km az=54.0*

ISC 15 08:19:50.5±0.9,6.1S±0.1×154.9E±0.2,h250km,n12, σ0.92/14,mb3.9/9,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.36**	**246**	P	**Pn**	**08 21 48.7**	**+0.4**
	9.0nm,0.7s,baz=9.6,slow=19,SNR=3.6						
DZM	**Mont Dzumac**	**19.45**	**146**	P	**P**	**08 23 58.4**	**-0.5**
	9.5nm,1.1s,baz=250,slow=8.7,SNR=9.7						
WRA	**Warramunga Arr**	**24.28**	**233**	P	**P**	**08 24 44.6**	**-0.7**
	2.0nm,0.3s,baz=57,slow=9.9,SNR=18						
WRA				PcP	**PcP**	**08 28 19.4**	**+1.1**
	0.2nm,0.3s,baz=61,slow=2.7,SNR=1.7						
	2.0nm,0.3s						
ASAR	**Alice Springs**	**26.73**	**227**	P	**P**	**08 25 05.9**	**-1.5**
	0.6nm,0.3s,baz=58,slow=9.0,SNR=16						
ASAR				PcP	**PcP**	**08 28 24.7**	**+0.8**
	0.4nm,0.5s,baz=73,slow=2.7,SNR=5.2						
	0.6nm,0.6s						
SONM	**Songino Array**	**68.49**	**327**	P	**P**	**08 30 26.5**	**+0.5**
	1.0nm,0.6s,baz=162,slow=6.0,SNR=7.1						
	1.0nm,0.6s						
ILAR	**Eielson Array**	**82.54**	**22**	P	**P**	**08 31 45.0**	**-0.1**
	0.2nm,0.5s,baz=240,slow=5.3,SNR=8.4						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**82.63**	**319**	P	**P**	**08 31 46.3**	**+0.3**
	1.8nm,0.6s,baz=99,slow=5.8,SNR=23						
	1.8nm,0.6s						
ZALV	**Zalesovo Beam**	**83.34**	**326**	P	**P**	**08 31 48.3**	**-1.1**
	1.2nm,0.6s,baz=113,slow=5.0,SNR=6.0						
	1.2nm,0.6s						
QSPA	**South Pole Qui**	**83.92**	**180**	P	**P**	**08 31 53.3**	**+1.0**
	1.7nm,0.9s,baz=188,slow=0.7,SNR=17						
	1.7nm,0.9s						
KURBB	**Kurchatov Arra**	**86.06**	**322**	P	**P**	**08 32 02.7**	**-0.3**
	0.4nm,0.6s,baz=100,slow=4.2,SNR=4.6						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**91.48**	**323**	P	**P**	**08 32 27.5**	**-1.0**
	0.8nm,0.6s,baz=78,slow=7.7,SNR=4.0						
	0.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**152.66**	**287**	PKPbc	**PKPbc**	**08 39 17.8**	**-0.7**
	0.4nm,0.6s,baz=72,slow=2.3,SNR=6.1						

DJA 15 08:23:26.3±0.4,9°S±6°×117°9E±°,h87km±6km,M3.7/8, MLv3.7/8,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.89**	**287**	P	Pn	08 23 45.8	+1.2
PLAI				S	Sn	08 24 00.1	+1.9
TWSI	**Taliwang, Sumb**	**1.77**	**281**	P	Pn	08 23 56.3	+0.9
BASI	**Baing, Sumba**	**2.22**	**121**	P	Pn	08 24 01.2	-0.1
EDFI	**Ende, Flores**	**3.03**	**84**	P	Pn	08 24 12.1	-0.2
IGBI	**Denpasar**	**3.46**	**274**	P	Pn	08 24 17.2	-0.8
SRBI	**Singaraja**	**3.53**	**286**	P	Pn	08 24 18.7	-0.3
BKSI	**Bulukumba**	**4.02**	**22**	P	Pn	08 24 26.3	+0.7
JAGI	**Jajag, Banyuwa**	**4.48**	**278**	P	Pn	08 24 31.7	-0.1
GMJI	**Gumukmas**	**5.20**	**279**	P	Pn	08 24 41.3	-0.4

*NNC **15** 08:49:57.1±4.1,54.3N×87.15E,h0km,mb3.0,mpv2.8, Error ellipse: s-maj=14.7km s-min=13.4km az=17.0, Suspected Mining explosion.*
*IDC **15** 08:49:58.3±2.5,54.11N×87.21E,h0km,mbtmp3.1/3, ML2.7/3,Error ellipse: s-maj=21.1km s-min=13.7km az=62.0*

ISC 15 08:49:57.1±4.1,54.3N±0.2×87.1E±0.2,h0km,n9,σ1.31/15, 7C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.38**	**258**	I	I	09 00 00.0	
	baz=87,slow=317,SNR=1.1						
ZAA0	**Zalesovo Array**	**1.38**	**257**	⇑Pn	**Pg**	**08 50 23.5**	**0.0**
	0.5nm,0.3s						
ZAA0				⇑Sn	**Sn**	**08 50 44.5**	**+1.9**
	1.8nm,0.3s						
ZALV	**Zalesovo Beam**	**1.38**	**257**	Pg	**Pb**	**08 50 23.8**	**0.0**
	5.4nm,0.3s,baz=84,slow=16,SNR=50						
ZALV				Lg	Lg	08 50 44.0	
	3.2nm,0.3s,baz=84,slow=27,SNR=10						
KURK	**Kurchatov**	**6.29**	**239**	⇑Pn	**Pn**	**08 51 30.7**	**-0.2**
	1.2nm,0.8s						
KURK				⇓Sn	**Sn**	**08 52 42.8**	**-0.5**
	1.8nm,0.8s						
KURK				⇑Lg	Lg	08 53 15.8	
	8.3nm,1.2s						
KURBB	**Kurchatov Arra**	**6.39**	**239**	Pn	**Pn**	**08 51 34.1**	**+1.8**
	0.2nm,0.3s,baz=53,slow=13,SNR=4.2						
KURBB				Sn	**Sn**	**08 52 46.8**	**+1.0**
	0.1nm,0.3s,baz=36,slow=41,SNR=0.7						
KURBB				Lg	Lg	08 53 19.4	
	baz=51,slow=32,SNR=2.1						
	0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**6.39**	**239**	⇓Pn	**Pn**	**08 51 32.9**	**+0.6**
	0.7nm,0.3s						
KURBB				⇑Sn	**Sn**	**08 52 45.4**	**-0.5**
	3.6nm,0.7s						
KURBB				⇑Lg	Lg	08 53 18.4	
	10.0nm,1.0s						
MK31	**Makanchi Array**	**8.09**	**204**	Pn	**Pn**	**08 51 56.0**	**+0.3**
	0.2nm,0.5s,baz=28,slow=14,SNR=9.9						
MK31				⇑Sn	**Sn**	**08 53 28.3**	**+0.6**
	0.2nm,0.5s,baz=35,slow=27,SNR=3.1						
MK31				⇓Lg	Lg	08 54 13.8	
	5.1nm,1.1s,baz=38,slow=30,SNR=3.6						
MKAR	**Makanchi Array**	**8.09**	**204**	Pn	**Pn**	**08 51 56.4**	**+0.7**
	0.2nm,0.3s,baz=29,slow=14,SNR=8.3						
MKAR				Sn	**Sn**	**08 53 26.6**	**-1.2**
	0.1nm,0.3s,baz=31,slow=26,SNR=1.6						
MKAR				Lg	Lg	08 54 11.3	
	baz=16,slow=14,SNR=5.2						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**10.01**	**270**	Pn	**Pn**	**08 52 22.5**	**+0.6**
	baz=74,slow=16,SNR=3.4						
BVAR				Sn	**Sn**	**08 54 11.8**	**-3.1**
	baz=72,slow=25,SNR=5.0						
	0.4nm,0.3s						

KRSC 15 08:51:01.0±2.0,48.44N×156.28E,h4km±38km,MI3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.25**	**357**	*e*P	Pb	08 51 40.8	-1.3
PAU	**Pauzhetka**	**3.05**	**6**	*e*S	Sb	08 52 32.6	-0.7
KDTR	**Khodutka, Kamc**	**3.57**	**18**	*e*P	Pn	08 51 59.0	+2.0
KDTR				*e*S	Sn	08 52 43.5	+4.0
ASAK	**Asacha**	**4.08**	**14**	*e*P	Pn	08 52 08.6	+4.4
MTVR	**Mutnovka**	**4.23**	**16**	*e*P	Pn	08 52 10.3	+4.1
MTVR				*e*S	Sn	08 53 01.1	+5.0
APC	**Apacha**	**4.53**	**7**	*e*P	Pn	08 52 14.6	+4.4
AVH	**Avacha**	**5.08**	**17**	*e*P	Pn	08 52 22.1	+4.3
KOK	**Koryaka**	**5.08**	**16**	*e*P	Pn	08 52 23.2	+5.3
KRX	**Arik**	**5.15**	**16**	*e*P	Pn	08 52 23.8	+4.9

JMA 15 09:11:26.6±0.4,24°N±1°×12°4E±°,h24km±2km,MV0.7/5, NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.09**	**55**	P	Pb	09 11 30.8	-0.2
HATJ				S	Sb	09 11 33.7	-0.2
IRIF	**Iriomote-Funau**	**0.33**	**0**	P	Pb	09 11 33.9	-0.1
IRIF				*e*S	Sb	09 11 38.9	-0.1
JKRS	**Kuro-shima**	**0.34**	**48**	P	Pb	09 11 34.4	+0.1
JKRS				*e*S	Sb	09 11 39.6	+0.2
JIJ	**Ishigaki jima**	**0.52**	**47**	P	Pb	09 11 36.7	-0.4
JIJ				S	Sb	09 11 43.6	-0.7

TAP 15 09:12:11.3,24.07N×121.55E,h15km±1km,ML0.7,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.04**	**76**	*i* P	Pg	09 12 14.9	+0.7
	baz=76						
TWD				*i* S	Sg	09 12 16.9	+0.9
	baz=76						
ETL	**Fush Village**	**0.11**	**37**	P	Pb	09 12 15.5	+0.3
	baz=37						
ETL				S	Sb	09 12 17.9	+0.1
	baz=37						
NACB	**Ninganchiao**	**0.11**	**22**	P	Pb	09 12 15.3	+0.1
	baz=21						
NACB				S	Sb	09 12 17.8	+0.1
	baz=21						
ETM	**Tongmen**	**0.12**	**207**	*e*P	Pb	09 12 15.2	0.0
	baz=206						
ETM				*e*S	Sb	09 12 18.8	+1.0
	baz=206						
LXIB	**Xiulin Townshi**	**0.13**	**249**	*e*P	Pb	09 12 15.8	+0.2
	baz=249						
LXIB				*e*S	Sb	09 12 18.4	-0.1
	baz=249						
ETLH	**Xiulin Townshi**	**0.15**	**336**	P	Pb	09 12 16.1	+0.2
	baz=335						
ETLH				*e*S	Sb	09 12 18.9	0.0
	baz=335						
WARBT	**Fenglin Townsh**	**0.38**	**203**	*e*P	Pg	09 12 19.3	+0.2
	baz=203						
WARBT				*e*S	Sb	09 12 25.3	-0.2
	baz=203						

*NNC **15** 09:18:35.3±0.9,51.67N×75.39E,h0km,mb3.3,mpv2.9, Error ellipse: s-maj=16.9km s-min=6.3km az=25.0, Suspected Mining explosion.*
*IDC **15** 09:18:37.2±0.8,51.64N×75.45E,h0km,mbtmp2.8/4, ML2.3/4,Error ellipse: s-maj=21.4km s-min=6.7km az=29.0*

ISC 15 09:18:35.8±0.9,51.56N±0.07×75.40E±0.04,h0km,n12, σ1.22/16,10C-5D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.18**	**114**	Pn	**Pb**	**09 19 14.7**	**-1.4**
	0.5nm,0.3s,baz=301,slow=18,SNR=35						
KURBB				Lg	Lg	09 19 45.8	
	1.0nm,0.3s,baz=295,slow=28,SNR=6.7						
	2.1nm,0.4s						
KURBB	**Kurchatov Arra**	**2.18**	**114**	⇓Pn	**Pb**	**09 19 15.1**	**-1.1**
	4.8nm,0.7s						
KURBB				⇑Lg	Lg	09 19 46.5	
	89nm,0.7s						
KURK	**Kurchatov**	**2.19**	**111**	⇑Pn	**Pn**	**09 19 14.5**	**+1.0**
	3.2nm,0.6s						
KURK				⇓Lg	Lg	09 19 43.4	
	25nm,0.7s						
BVA0	**Borovoye Array**	**3.41**	**297**	⇑Pg	**Pb**	**09 19 35.4**	**-1.8**
	3.0nm,0.6s,baz=106,slow=14,SNR=20						
BVA0				⇑Lg	Lg	09 20 21.3	
	8.7nm,0.6s,baz=116,slow=28,SNR=8.5						
BVAR	**Borovoye Array**	**3.41**	**297**	Pn	**Pn**	**09 19 31.5**	**+1.3**
	0.2nm,0.3s,baz=112,slow=16,SNR=13						
BVAR				Pg	**Pb**	**09 19 36.4**	**-0.7**
	0.2nm,0.3s,baz=112,slow=16,SNR=18						
BVAR				Sn	**Sn**	**09 20 12.3**	**+0.9**
	0.2nm,0.3s,baz=110,slow=21,SNR=5.4						
	0.9nm,0.3s						
BRVK	**Borovoye**	**3.48**	**298**	⇓Pg	**Pb**	**09 19 37.2**	**-1.2**
	4.3nm,0.6s						
BRVK				⇑Lg	Lg	09 20 22.7	
	11nm,0.7s						
OTUK	**Ortayu**	**3.86**	**212**	⇓Pg	**Pg**	**09 19 48.6**	**-1.2**
	1.1nm,0.5s						
OTUK				⇓Lg	Lg	09 20 42.3	
	6.4nm,0.9s						
I46RU	**ZALESOVO INFRA**	**6.20**	**64**	I	I	09 53 50.0	
	baz=250,slow=311,SNR=0.7						
ZALV	**Zalesovo Beam**	**6.20**	**64**	Pn	**Pn**	**09 20 09.8**	**+1.3**
	0.5nm,0.3s,baz=256,slow=15,SNR=6.0						
ZALV				Sn	**Sn**	**09 21 19.3**	**-0.7**
	0.2nm,0.3s,baz=251,slow=23,SNR=2.0						
ZALV				Lg	Lg	09 21 51.6	
	0.1nm,0.3s,baz=250,slow=22,SNR=2.9						
	1.1nm,0.3s						
MAKZ	**Makanchi**	**6.41**	**135**	⇑Sn	**Sn**	**09 21 26.4**	**+1.0**
	1.1nm,0.6s						
MAKZ				⇑Lg	Lg	09 22 00.6	
	8.1nm,0.8s						
MK31	**Makanchi Array**	**6.56**	**134**	⇑Pn	**Pn**	**09 20 13.7**	**+0.2**
	0.4nm,0.6s,baz=312,slow=12,SNR=5.5						
MK31				⇑Sn	**Sn**	**09 21 29.7**	**+0.5**
	1.4nm,0.7s,baz=322,slow=20,SNR=5.5						
MK31				⇑Lg	Lg	09 22 07.4	
	6.9nm,0.7s,baz=326,slow=26,SNR=8.7						
MKAR	**Makanchi Array**	**6.56**	**134**	Pn	**Pn**	**09 20 14.9**	**+1.3**
	0.1nm,0.3s,baz=318,slow=6.2,SNR=5.6						
MKAR				Sn	**Sn**	**09 21 30.2**	**+1.1**
	0.3nm,0.3s,baz=325,slow=21,SNR=8.4						
MKAR				Lg	Lg	09 22 03.6	
	0.6nm,0.3s,baz=321,slow=27,SNR=7.7						
	0.3nm,0.5s						

NNC 15 09:20:57.2±0.9,50.96N×73.59E,h0km,mb3.9,mpv3.7, 6C-4D,Error ellipse: s-maj=9.0km s-min=7.5km az=119.0,Suspected Mining explosion.,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRZS	**Berezniki**	**1.13**	**211**	P	Pg	09 21 18.5	-0.4
	25nm,0.2s						
BRZS				S	Sn	09 21 36.3	-0.3
	31nm,0.4s						
OTUK	**Ortayu**	**2.83**	**197**	Pg	Pn	09 21 45.4	+1.6
	2.4nm,0.3s						
OTUK				Lg	Lg	09 22 22.8	
	7.2nm,0.3s						
BVA0	**Borovoye Array**	**2.87**	**318**	Pg	Pb	09 21 49.5	+0.3
	2.1nm,0.7s,baz=130,slow=12,SNR=22						
BVA0				⇑Lg	Lg	09 22 27.9	
	11nm,0.6s,baz=131,slow=27,SNR=6.1						
BRVK	**Borovoye**	**2.93**	**317**	⇑Pg	Pb	09 21 50.9	+0.6
	1.4nm,0.3s						
BRVK				⇓Lg	Lg	09 22 29.5	
	46nm,0.9s						
KURBB	**Kurchatov Arra**	**3.15**	**94**	⇑Pn	Pn	09 21 48.3	+0.2
	6.3nm,0.5s						
KURBB				⇑Lg	Lg	09 22 38.5	
	116nm,0.8s						
KURK	**Kurchatov**	**3.20**	**92**	⇑Pn	Pn	09 21 49.6	+0.9
	5.6nm,0.9s						
KURK				⇑Lg	Lg	09 22 39.6	
	47nm,0.8s						
BTLS	**Baital**	**5.93**	**177**	Pg	Pb	09 22 38.5	-2.8
	2.6nm,0.8s						
TDK	**Taldyqorghan**	**6.78**	**150**	Pg	Pb	09 22 50.8	-5.0
	36nm,0.2s						
TDK				Lg	Lg	09 24 14.7	
	0.5nm,0.3s						
KAPS	**Kapalarasan**	**6.86**	**144**	Pg	Pb	09 22 52.3	-5.0
	3.2nm,0.7s						
KAPS				Lg	Lg	09 24 17.2	
	14nm,0.9s						
MAKZ	**Makanchi**	**6.91**	**124**	⇓Lg	Lg	09 24 37.0	
	9.1nm,0.8s						
MK31	**Makanchi Array**	**7.09**	**123**	⇓Lg	Lg	09 24 41.8	
	5.6nm,0.6s,baz=308,slow=25,SNR=5.1						
ARXS	**Arharly**	**7.33**	**155**	Pg	Pb	09 23 01.4	-3.9
	2.9nm,0.4s						
ARXS				Lg	Lg	09 24 33.4	
	12nm,0.8s						
KRBS	**Karabastau**	**7.40**	**168**	Pg	Pb	09 23 04.8	-1.7
	2.6nm,0.5s						
KRBS				Lg	Lg	09 24 38.8	
	14nm,1.1s						

KTBS				Lg	Lg	09 24 41.4	
	6.2nm,0.8s						
KNOS	**Konyrlen**	**7.60**	**148**	Pg	Pb	09 23 05.8	-4.2
	3.5nm,1.1s						
KNOS				Lg	Lg	09 24 41.0	
	6.4nm,0.7s						
DJR	**Jarkent**	**7.84**	**145**	Pg	Pb	09 23 10.6	-3.3
	2.2nm,0.5s						
DJR				Lg	Lg	09 24 48.6	
	4.4nm,0.6s						
DGS	**Degeres**	**7.86**	**168**	Pg	Pb	09 23 13.3	-1.0
	3.0nm,0.6s						
DGS				Lg	Lg	09 24 53.6	
	14nm,0.7s						
MTBS	**Maitube**	**8.06**	**165**	Pg	Pb	09 23 17.0	-0.7
	3.3nm,0.5s						
MTBS				Lg	Lg	09 24 59.3	
	6.9nm,0.5s						
KST	**Kastek**	**8.08**	**168**	Pg	Pb	09 23 16.7	-1.4
	3.9nm,0.8s						
KST				Lg	Lg	09 24 59.5	
	12nm,1.0s						
KOTS	**Kotyrbulak**	**8.09**	**161**	Pg	Pb	09 23 16.2	-2.0
	3.7nm,0.6s						
KOTS				Lg	Lg	09 24 58.3	
	14nm,0.9s						
MDOK	**Medeo**	**8.14**	**162**	Pg	Pb	09 23 17.9	-1.3
	2.2nm,0.5s						
MDOK				Lg	Lg	09 25 01.0	
	6.3nm,1.1s						
TKM2	**Tokmak 2**	**8.15**	**170**	⇓Lg	Lg	09 25 14.3	
	17nm,0.9s						
ZSN	**Zaisan**	**8.18**	**111**	Pg	Pb	09 23 10.6	-9.0
	3.1nm,0.3s						
MRKS	**Merke**	**8.22**	**182**	Lg	Lg	09 23 03.2	
	5.1nm,0.4s						
MRKS				Pg	Pb	09 23 22.1	+1.7
	1.8nm,0.6s						
TNSS	**Tian-Shan**	**8.25**	**163**	Pg	Pb	09 23 19.9	-1.2
	2.0nm,0.3s						
TNSS				Lg	Lg	09 25 04.7	
	1.5nm,0.8s						
BRLS	**Borolday**	**8.33**	**199**	Pg	Pg	09 23 31.9	-4.8
	0.9nm,0.1s						

IDC ***15*** *09:21:35.7±3.8, 19°.98S×177°.86W, h543km±43km, mb3.3/12, mbtmp4.2/14, Error ellipse: s-maj=20.4km s-min=18.6km az=71.0*
NEIC ***15*** *09:21:37.2±0.8, 19°.8S±0°.1×177°.9W±0°.2, h558km±10km, mb4.1/19, Error ellipse: s-maj=25.3km s-min=17.2km az=119.0*

ISC 15 09:21:37.8±0.6**, 19°.8S**±0°.1×**177°.9W**±0°.1**, h569**km**, n45, σ1§01/45, mb4.0/23, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.33**	**298**	P	**P**	**09 23 03.4**	**-0.3**
NIUE	**Niue**	**7.60**	**86**	P	**P**	**09 23 33.0**	**+0.8**
AFI	**Afiamalu**	**8.33**	**46**	P	**P**	**09 23 35.6**	**-4.0**
DZM	**Mont Dzumac**	**14.76**	**259**	P	**P**	**09 24 45.0**	**+0.4**
	8.2nm,1.0s,baz=126,slow=19,SNR=3.0						
TOZ	**Tahuroa Road**	**18.73**	**196**	P	**P**	**09 25 21.2**	**-0.1**
URZ	**Urewera**	**18.86**	**192**	P	**P**	**09 25 18.8**	**-3.7**
	5.5nm,0.3s,baz=358,slow=2.5,SNR=22						
CTA	**Charters Tower**	**33.62**	**263**	P	**P**	**09 27 32.2**	**0.0**
	2.7nm,0.5s,baz=90,slow=11,SNR=1.9						
	2.7nm,0.5s						
BBOO	**Buckleboo**	**42.90**	**243**	P	**P**	**09 28 47.4**	**+0.2**
BBOO				IAmb	IAmb	09 29 01.7	
	comp=Z,7.9nm,1.1s						
WR0	**Warramunga Arr**	**44.56**	**261**	P	**P**	**09 28 59.5**	**-0.7**
WR0				IAmb	IAmb	09 29 22.4	
	comp=Z,6.4nm,1.4s						
WB0	**Warramunga Arr**	**44.73**	**262**	P	**P**	**09 29 01.7**	**+0.2**
WB0				IAmb	IAmb	09 29 01.8	
	comp=Z,3.3nm,0.6s						
ASAR	**Alice Springs**	**44.73**	**256**	P	**P**	**09 29 01.6**	**+0.1**
	comp=Z,3.7nm,0.8s,baz=95,slow=7.9,SNR=37						
ASAR				PcP	**PcP**	**09 30 31.6**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=111,slow=3.8,SNR=4.4						
	comp=Z,3.7nm,0.8s						
WB2	**Warramunga Arr**	**44.74**	**261**	P	**P**	**09 29 01.3**	**-0.3**
WB2				IAmb	IAmb	09 29 02.1	
	comp=Z,10.0nm,1.2s						
WRAB	**Tennant Creek**	**44.74**	**261**	P	**P**	**09 29 01.4**	**-0.2**
WRA	**Warramunga Arr**	**44.75**	**261**	P	**P**	**09 29 01.3**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=97,slow=7.6,SNR=25						
	comp=Z,2.5nm,0.7s						
MJAR	**Matsushiro Arr**	**69.70**	**323**	P	**P**	**09 31 52.0**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=164,slow=5.3,SNR=5.5						
	comp=Z,1.4nm,0.5s						
QSPA	**South Pole Qui**	**70.24**	**180**	P	**P**	**09 31 54.4**	**+0.3**
QSPA	**South Pole Qui**	**70.24**	**180**	P	**P**	**09 31 53.7**	**-0.4**
	comp=Z,3.6nm,0.8s,baz=360,slow=0.9,SNR=15						
	comp=Z,3.6nm,0.8s						
PETK	**Petropavlovsk-**	**75.64**	**345**	P	**P**	**09 32 26.1**	**+1.3**
	comp=Z,4.6nm,0.9s,baz=116,slow=6.2,SNR=2.2						
	comp=Z,4.6nm,0.9s						
NVAR	**Mina Array Bea**	**80.50**	**43**	P	**P**	**09 32 52.6**	**+1.1**
	comp=Z,0.9nm,0.9s,baz=226,slow=11,SNR=6.1						
	comp=Z,0.9nm,0.9s						
SUA	**Susitna One**	**83.89**	**13**	P	**P**	**09 33 08.3**	**+0.3**
SUA				IAmb	IAmb	09 33 34.9	
	comp=Z,8.0nm,1.4s						
TTA	**Tatalina**	**84.28**	**10**	P	**P**	**09 33 10.0**	**+0.2**
TTA				IAmb	IAmb	09 33 17.7	
	comp=Z,7.5nm,1.4s						
GHO	**Glory Hole Cre**	**84.56**	**13**	P	**P**	**09 33 11.9**	**+0.7**
SEY	**Seymchan**	**85.73**	**347**	P	**P**	**09 33 17.4**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=142,slow=3.5,SNR=9.2						
	comp=Z,2.2nm,0.6s						
TXAR	**Lajitas Array**	**86.65**	**57**	P	**P**	**09 33 22.9**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=216,slow=6.9,SNR=6.4						
	comp=Z,0.4nm,0.7s						
I21K	**Tanana**	**87.04**	**11**	P	**P**	**09 33 23.7**	**+0.8**
I21K				IAmb	IAmb	09 33 24.9	
	comp=Z,3.9nm,1.1s						
MLY	**Manley**	**87.13**	**11**	P	**P**	**09 33 23.6**	**+0.2**
WRH	**Wood River Hil**	**87.14**	**12**	P	**P**	**09 33 24.0**	**+0.7**
WRH				IAmb	IAmb	09 33 24.6	
	comp=Z,3.8nm,1.0s						
H21K	**Melozitna Rive**	**87.34**	**10**	P	**P**	**09 33 24.9**	**+0.6**
CCB	**Clear Creek Bu**	**87.35**	**12**	P	**P**	**09 33 24.8**	**+0.5**
CCB				IAmb	IAmb	09 33 25.2	
	comp=Z,2.8nm,0.6s						
IMAR	**Indian Mountai**	**87.49**	**10**	P	**P**	**09 33 25.7**	**+0.7**
IL31		**87.65**	**13**	P	**P**	**09 33 26.3**	**+0.6**
ILAR	**Eielson Array**	**87.65**	**13**	P	**P**	**09 33 26.0**	**+0.3**
ILAR	**Eielson Array**	**87.65**	**13**	P	**P**	**09 33 25.7**	**0.0**
	comp=Z,0.8nm,0.7s,baz=216,slow=5.2,SNR=17						
	comp=Z,0.8nm,0.7s						
M29M	**Somme Creek**	**87.74**	**17**	P	**P**	**09 33 27.6**	**+1.3**
M30M	**Minto, Yukon**	**88.31**	**18**	P	**P**	**09 33 30.0**	**+1.0**
M30M				IAmb	IAmb	09 33 30.5	
	comp=Z,1.9nm,0.8s						
E19K	**Redstone River**	**88.37**	**8**	P	**P**	**09 33 28.9**	**-0.2**
E19K				IAmb	IAmb	09 33 31.1	
	comp=Z,2.2nm,0.9s						
PDAR	**Pinedale Array**	**88.44**	**43**	P	**P**	**09 33 30.0**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=219,slow=3.8,SNR=3.5						
	comp=Z,0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**89.94**	**290**	P	**P**	**09 33 36.8**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=120,slow=3.0,SNR=7.2						
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**118.60**	**320**	PKP	**PKPdf**	**09 39 21.0**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=41,slow=2.7,SNR=3.1						
FINES	**FINESS Array B**	**135.15**	**344**	PKP	**PKiKP**	**09 39 54.2**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=96,slow=3.8,SNR=3.9						
AKASG	**Malin Array Be**	**142.45**	**332**	PKiKP	PKPpre	09 40 03.2	
	comp=Z,1.1nm,0.4s,baz=44,slow=4.3,SNR=9.5						
EKA	**Eskdalemuir Ar**	**144.33**	**5**	PKP	**PKPab**	**09 40 09.8**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=9.2,slow=6.7,SNR=1.9						
BRTR	**Keskin Array B**	**146.43**	**313**	PKPbc	**PKPbc**	**09 40 16.1**	**0.0**
	comp=Z,1.2nm,0.6s,baz=108,slow=3.7,SNR=6.0						
MMAI	**Mount Meron Ar**	**147.53**	**301**	PKPbc	**PKiKP**	**09 40 20.1**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=75,slow=2.2,SNR=2.1						
GERES	**GERESS Array B**	**149.57**	**345**	PKPbc	**PKiKP**	**09 40 24.2**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=57,slow=4.9,SNR=5.7						

IDC ***15*** *09:23:58.0±8.8, 19°.83S×177°.63W, h545km±81km, mb3.5/7, mbtmp4.5/9, Error ellipse: s-maj=77.6km s-min=20.2km az=47.0*
ISC 15 09:23:59.3±1.9**, 20°.0S**±0°.2×**177°.7W**±0°.2**, h550**km**, n11, σ0§88/10, mb4.0/7, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.97**	**259**	P	**P**	**09 27 09.7**	**+1.1**
	6.6nm,0.6s,baz=89,slow=19,SNR=13						
URZ	**Urewera**	**18.78**	**193**	P	**P**	**09 27 42.7**	**-1.3**
	11nm,0.3s,baz=323,slow=1.5,SNR=20						
CTA	**Charters Tower**	**33.84**	**263**	P	**P**	**09 29 56.2**	**-0.4**
	11nm,0.5s,baz=90,slow=10,SNR=10						
	11nm,0.5s						
STKA	**Stephens Creek**	**38.29**	**244**	P	**P**	**09 30 33.4**	**+0.3**
	1.9nm,0.5s,baz=69,slow=6.5,SNR=4.4						
	1.9nm,0.5s						
ASAR	**Alice Springs**	**44.94**	**256**	P	**P**	**09 31 25.2**	**-0.5**
	9.5nm,0.8s,baz=89,slow=8.1,SNR=90						
	9.5nm,0.8s						
WRA	**Warramunga Arr**	**44.97**	**261**	P	**P**	**09 31 24.9**	**-1.2**
	3.7nm,0.5s,baz=95,slow=4.9,SNR=47						
	3.7nm,0.5s						
VNDA	**Vanda**	**58.47**	**185**	P	**P**	**09 33 02.7**	**+0.5**
	1.0nm,0.8s,baz=121,slow=10,SNR=2.2						
	1.0nm,0.8s						
QSPA	**South Pole Qui**	**70.10**	**180**	P	**P**	**09 34 16.9**	**+0.6**
	3.4nm,0.8s,baz=104,slow=1.8,SNR=12						
	3.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**90.22**	**289**	P	**P**	**09 36 02.0**	**0.0**
	0.6nm,0.3s,baz=124,slow=2.9,SNR=4.4						
	0.6nm,0.3s						
AKASG	**Malin Array Be**	**142.69**	**332**	PKhKP	PKPpre	09 42 24.1	
	0.6nm,0.5s,baz=56,slow=2.5,SNR=5.3						
BRTR	**Keskin Array B**	**146.70**	**313**	PKPbc	**PKPdf**	**09 42 37.3**	**-0.1**
	0.3nm,0.4s,baz=46,slow=4.2,SNR=2.8						

IDC ***15*** *09:27:37.6±0.5, 5°.90S×147°.09E, h0km, mb4.3/23, mbtmp4.3/26, ML4.5/2, MS3.7/30, Error ellipse: s-maj=23.3km s-min=11.2km az=81.0*
DJA ***15*** *09:27:45.7±0.4, 6°.5±3°×14°.7E±°, h53km±5km, M4.8/25, mB5.3/7, mb4.9/25, MLv4.9/3, Mw(mB)4.7/7*
NEIC ***15*** *09:27:45.5±1.6, 6°.00S±0°.06×147°.02E±0°.08, h51km±7km, mb4.7/46, Error ellipse: s-maj=12.1km s-min=8.6km az=85.0*

ISC 15 09:27:47.8±0.4**, 6°.06S**±0°.05×**146°.99E**±0°.06**, h78**km**, n166, σ1§29/134, mb4.6/55, 3C-1D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.33**	**177**	Pn	**Pn**	**09 28 35.4**	**-2.3**
PMG	**Port Moresby**	**3.33**	**177**	P	**Pn**	**09 28 36.0**	**-1.6**
PMG	**Port Moresby**	**3.33**	**177**	Pn	**Pn**	**09 28 34.8**	**-2.8**
	328nm,0.7s,baz=356,slow=7.3,SNR=85						
PMG				Sn	**Sn**	**09 29 17.7**	**+1.6**
	112nm,0.3s,baz=55,slow=18,SNR=8.9						
PMG				LR	LR	09 30 09.1	
	comp=Z,2μm,19.2s,baz=12,slow=44						
BULU	**Kimbe**	**3.35**	**81**	P	**Pn**	**09 28 36.1**	**-1.8**
MANU	**Manus Island**	**4.01**	**5**		**Pn**	**09 28 44.0**	**-2.9**
MANU	**Manus Island**	**4.01**	**5**	P	**Pn**	**09 28 44.5**	**-2.4**
KAVG	**Kavieng**	**5.14**	**48**	P	**Pn**	**09 29 01.5**	**-0.8**
I40PG	**Keravat**	**5.30**	**71**	I	I	09 59 00.0	
	baz=250,slow=315,SNR=0.9						
RABL	**Rabaul**	**5.48**	**70**	Pn	**Pn**	**09 29 03.4**	**-3.6**
RABL	**Rabaul**	**5.48**	**70**	P	**Pn**	**09 29 05.7**	**-1.3**
TABU	**Tabubil**	**5.79**	**278**	P	**Pn**	**09 29 10.7**	**-0.5**
COEN	**Coen**	**8.70**	**205**	Pn	**Pn**	**09 29 48.7**	**-2.2**
COEN	**Coen**	**8.70**	**205**	P	**Pn**	**09 29 49.1**	**-1.8**
MTSU	**Mount Surprise**	**12.28**	**192**	P	**Pn**	**09 30 39.3**	**-0.5**
CTA	**Charters Tower**	**13.96**	**183**	Pn	**Pn**	**09 31 00.8**	**-1.4**
	1.0nm,0.3s,baz=89,slow=4.6,SNR=7.9						
CTA				LR	LR	09 36 08.3	
	comp=Z,578nm,21.6s,baz=15,slow=36						
	7.7nm,0.7s						
CTAO	**Charters Tower**	**13.96**	**183**	Pn	**Pn**	**09 31 01.6**	**-0.6**
CTAO	**Charters Tower**	**13.96**	**183**	P	**Pn**	**09 31 02.2**	**0.0**
KDU	**Kakadu**	**15.75**	**244**	P	**Pn**	**09 31 24.1**	**-1.1**
QIS	**Mount Isa**	**16.09**	**206**	P	**Pn**	**09 31 28.6**	**-0.9**
SWI	**Sorong**	**16.52**	**288**	P	**Pn**	**09 31 34.9**	**+0.1**
	170nm,0.9s,1μm						
MTN	**Manton Dam**	**17.02**	**246**	Pn	**Pn**	**09 31 39.9**	**-1.1**
WB0	**Warramunga Arr**	**18.32**	**221**	P	**P**	**09 31 55.7**	**-0.3**
WR0	**Warramunga Arr**	**18.36**	**220**	P	**P**	**09 31 55.6**	**-0.8**
WRAB	**Tennant Creek**	**18.47**	**221**	P	**P**	**09 31 56.3**	**-1.3**
WB2	**Warramunga Arr**	**18.47**	**220**	P	**P**	**09 31 56.5**	**-1.1**
WRA	**Warramunga Arr**	**18.48**	**221**	P	**P**	**09 31 56.1**	**-1.7**
WRA	**Warramunga Arr**	**18.48**	**221**	P	**P**	**09 31 56.2**	**-1.5**
	1.8nm,0.3s,baz=45,slow=12,SNR=35						
WRA				S	**S**	**09 35 19.2**	**-4.9**
	3.0nm,0.8s,baz=35,slow=21,SNR=4.0						
WRA				PcP	**PcP**	**09 36 26.8**	**+1.7**
	4.9nm,0.7s,baz=24,slow=1.8,SNR=6.4						
	5.5nm,0.6s						
EIDS	**Eidsvold**	**19.60**	**169**	P	**P**	**09 32 09.6**	**-0.2**
EIDS	**Eidsvold**	**19.60**	**169**	P	**P**	**09 32 10.0**	**+0.1**
NLAI	**Namlea**	**20.02**	**277**	P	**P**	**09 32 14.5**	**0.0**
	44nm,1.3s						
KNRA	**Kununurra**	**20.27**	**240**	P	**P**	**09 32 17.8**	**+0.6**
QLP	**Quilpie**	**20.58**	**187**	P	**P**	**09 32 20.5**	**0.0**
SANI	**Sanana**	**21.32**	**280**	P	**P**	**09 32 28.1**	**-0.4**
SANI	**Sanana**	**21.32**	**280**	P	**P**	**09 32 28.8**	**+0.3**
	35nm,0.7s,825nm						
AS01	**Alice Springs**	**21.53**	**214**	P	**P**	**09 32 30.8**	**0.0**
ASAR	**Alice Springs**	**21.56**	**214**	P	**P**	**09 32 30.7**	**-0.4**
	8.9nm,0.6s,baz=55,slow=9.0,SNR=54						
ASAR				S	**S**	**09 36 25.0**	**-1.0**
	3.2nm,0.8s,baz=34,slow=20,SNR=1.9						
ASAR				LR	LR	09 41 42.9	
	comp=Z,463nm,19.8s,baz=47,slow=39						
	8.9nm,0.6s						
KOUNC	**Koumac, New Ca**	**22.12**	**132**	P	**P**	**09 32 37.1**	**0.0**
INKA	**Innaminka**	**22.36**	**195**	P	**P**	**09 32 38.7**	**-0.9**
AULRC	**Lightning Ridg**	**23.27**	**178**	P	**P**	**09 32 48.1**	**-0.6**
BATI	**Baumata**	**23.45**	**258**	LR	LR	09 44 24.5	
	comp=Z,392nm,19.8s,baz=88,slow=43						
FITZ	**Fitzroy Crossi**	**24.02**	**238**	P	**P**	**09 32 55.1**	**-0.5**
FITZ	**Fitzroy Crossi**	**24.02**	**238**	P	**P**	**09 32 55.7**	**0.0**
OOD	**Oodnadatta**	**24.13**	**205**	P	**P**	**09 32 56.5**	**0.0**
ARMA	**Armidale**	**24.62**	**170**	P	**P**	**09 33 01.3**	**+0.2**
ARMA				IAmb	IAmb	09 33 04.5	
	comp=Z,33nm,1.1s						
ARMA	**Armidale**	**24.62**	**170**	P	**P**	**09 33 01.7**	**+0.6**
DZM	**Mont Dzumac**	**24.64**	**132**	P	**P**	**09 33 00.9**	**-0.4**
DZM				IAmb	IAmb	09 33 05.6	
	comp=Z,16nm,0.8s						
DZM	**Mont Dzumac**	**24.64**	**132**	P	**P**	**09 33 01.5**	**+0.2**
DZM	**Mont Dzumac**	**24.64**	**132**	eP	**P**	**09 33 00.1**	**-1.2**
	comp=Z,51nm,1.1s						
DZM				eLR	LR	09 39 13.0	
	comp=Z,531nm,24.2s						
DZM	**Mont Dzumac**	**24.64**	**132**	P	**P**	**09 33 01.0**	**-0.4**
	comp=Z,13nm,0.6s,baz=328,slow=9.5,SNR=22						
	comp=Z,13nm,0.6s						
LUWI	**Luwuk**	**24.67**	**281**	P	**P**	**09 33 03.2**	**+1.6**
LUWI	**Luwuk**	**24.67**	**281**	P	**P**	**09 33 02.8**	**+1.2**
LUWI	**Luwuk**	**24.67**	**281**	P	**P**	**09 33 03.7**	**+2.1**
	comp=Z,125nm,1.2s						
MMRI	**Maumere**	**24.68**	**263**	P	**P**	**09 33 00.5**	**-1.2**
	comp=Z,33nm,0.7s,comp=Z,4μm						
GTOI	**Gorontalo**	**24.84**	**285**	P	**P**	**09 33 02.6**	**-0.6**
GTOI	**Gorontalo**	**24.84**	**285**	P	**P**	**09 33 04.2**	**+1.0**
	comp=Z,41nm,0.6s,comp=Z,498nm						
AUPHS	**Peel High Scho**	**25.18**	**172**	P	**P**	**09 33 07.0**	**+0.9**
EDFI	**Ende, Flores**	**25.22**	**262**	P	**P**	**09 33 05.7**	**-1.1**
	comp=Z,29nm,0.7s						
CMSA	**Cobar Meteorol**	**25.38**	**183**	P	**P**	**09 33 08.2**	**+0.4**
LCRK	**Leigh Creek**	**25.62**	**198**	P	**P**	**09 33 10.3**	**+0.2**
WRKA	**Warakurna**	**26.02**	**222**	P	**P**	**09 33 14.7**	**+0.9**
AUDCS	**Dubbo College**	**26.08**	**177**	P	**P**	**09 33 14.3**	**+0.1**
STKA	**Stephens Creek**	**26.18**	**190**	P	**P**	**09 33 15.1**	**0.0**
STKA	**Stephens Creek**	**26.18**	**190**	P	**P**	**09 33 15.4**	**+0.3**
STKA	**Stephens Creek**	**26.18**	**190**	P	**P**	**09 33 14.6**	**-0.5**
	comp=Z,6.0nm,0.7s,baz=348,slow=7.3,SNR=12						
STKA				LR	LR	09 44 27.5	
	comp=Z,358nm,19.4s,baz=15,slow=38						
	comp=Z,6.0nm,0.7s						
BASI	**Baing, Sumba**	**26.46**	**259**	P	**P**	**09 33 19.9**	**+2.1**
	comp=Z,128nm,0.9s						
MULG	**Mulgathing**	**26.99**	**205**	P	**P**	**09 33 22.1**	**-0.3**
TOLI2	**Tolitoli**	**27.11**	**284**	P	**P**	**09 33 23.6**	**-0.2**
TOLI2				IAmb	IAmb	09 33 37.8	
	comp=Z,16nm,0.7s						
TOLI2	**Tolitoli**	**27.11**	**284**	P	**P**	**09 33 25.4**	**+1.7**
MPSI	**Mapaga**	**27.77**	**282**	P	**P**	**09 33 27.4**	**-2.2**
YNG	**Young**	**28.13**	**178**	P	**P**	**09 33 32.9**	**+0.3**
HTT	**Hallett**	**28.25**	**194**	P	**P**	**09 33 33.9**	**+0.2**
BBOO	**Buckleboo**	**28.50**	**200**	P	**P**	**09 33 36.3**	**+0.5**
BBOO				IAmb	IAmb	09 33 56.2	

	comp=Z,32nm,1.4s						
CAN	**Canberra**	**29.18**	**177**	P	**P**	**09 33 42.3**	**+0.4**
CAN				IAmb	IAmb	09 33 57.9	
	comp=Z,16nm,1.2s						
FORT	**Forrest**	**30.34**	**214**	P	**P**	**09 33 53.3**	**+1.1**
MBWA	**Marble Bar**	**30.36**	**238**	P	**P**	**09 33 52.8**	**+0.2**
MBWA				IAmb	IAmb	09 33 54.4	
	comp=Z,6.8nm,0.6s						
PSA00	**Pilbara Seismi**	**30.45**	**237**	P	**P**	**09 33 53.2**	**0.0**
PSA00				IAmb	IAmb	09 34 05.7	
	comp=Z,13nm,1.0s						
ARPS	**Mount Arapiles**	**30.93**	**188**	P	**P**	**09 33 57.0**	**-0.3**
H11S3	**WAKE ISLAND Hy**	**31.19**	**38**	T	T	10 06 48.7	
	baz=220,slow=76,SNR=28						
H11S2	**WAKE ISLAND Hy**	**31.20**	**38**	T	T	10 06 44.4	
	baz=220,slow=76,SNR=8.9						
H11S1	**WAKE ISLAND Hy**	**31.21**	**38**	T	T	10 06 44.9	
	baz=220,slow=76,SNR=9.6						
TOO	**Toolangi**	**31.40**	**182**	P	**P**	**09 34 01.4**	**-0.1**
TOO				IAmb	IAmb	09 34 03.1	
	comp=Z,12nm,0.9s						
TOO	**Toolangi**	**31.40**	**182**	P	**P**	**09 34 02.1**	**+0.6**
H11N1	**WAKE ISLAND Hy**	**32.24**	**37**	T	T	10 08 02.3	
	baz=218,slow=76,SNR=23						
H11N3	**WAKE ISLAND Hy**	**32.26**	**37**	T	T	10 08 07.4	
	baz=218,slow=76,SNR=15						
H11N2	**WAKE ISLAND Hy**	**32.26**	**37**	T	T	10 08 00.2	
	baz=218,slow=76,SNR=36						
MEEK	**Meekatharra**	**33.90**	**230**	P	**P**	**09 34 24.1**	**+0.6**
GIRL	**Giralia**	**35.63**	**239**	P	**P**	**09 34 39.1**	**+0.7**
JOW	**Kunigami**	**37.38**	**332**	LR	LR	09 47 04.2	
	comp=Z,198nm,20.9s,baz=158,slow=31						
NWAO	**Narrogin (SRO)**	**38.48**	**222**	LR	LR	09 52 11.6	
	comp=Z,342nm,19.6s,baz=68,slow=38						
BBJI	**Bungbulang**	**39.08**	**266**	P	**P**	**09 35 07.3**	**-0.5**
LEM	**Lembang**	**39.12**	**267**	LR	LR	09 56 24.0	
	comp=Z,42nm,18.4s,baz=256,slow=44						
JHJ	**Hachijo jima 2**	**39.56**	**350**	LR	LR	09 50 02.9	
	comp=Z,61nm,19.8s,baz=44,slow=34						
PPBI	**Pangkal Pinang**	**40.92**	**274**	P	P	09 35 33.2	+10
QRZ	**Quartz Range**	**41.48**	**150**	P	**P**	**09 35 28.9**	**+1.8**
JNU	**Nakatsue**	**41.86**	**340**	P	**P**	**09 35 30.6**	**+0.2**
	comp=Z,5.7nm,0.9s,baz=220,slow=8.9,SNR=1.7						
JNU				LR	LR	09 51 40.3	
	comp=Z,56nm,19.6s,baz=158,slow=35						
	comp=Z,5.7nm,0.9s						
MRNZ	**Matariki Terra**	**42.03**	**151**	P	**P**	**09 35 32.3**	**+0.7**
URZ	**Urewera**	**42.12**	**144**	P	**P**	**09 35 33.2**	**+0.8**
	comp=Z,9.1nm,0.9s,baz=290,slow=16,SNR=2.6						
URZ				LR	LR	09 52 25.2	
	comp=Z,129nm,19.4s,baz=300,slow=35						
	comp=Z,9.1nm,0.9s						
RTZ	**Ruatahuna**	**42.28**	**144**	P	**P**	**09 35 34.2**	**+0.4**
MRZ	**Mangatainoka R**	**42.92**	**148**	P	**P**	**09 35 40.0**	**+1.1**
MJAR	**Matsushiro Arr**	**43.17**	**350**	P	**P**	**09 35 39.3**	**-1.6**
	comp=Z,1.9nm,0.9s,baz=178,slow=12,SNR=2.6						
MJAR				LR	LR	09 53 09.8	
	comp=Z,39nm,18.0s,baz=156,slow=36						
	comp=Z,1.9nm,0.9s						
NJ2	**Nanjing**	**46.42**	**326**	eP	**P**	**09 36 08.4**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
KSRS	**Korea Array**	**46.80**	**339**	P	**P**	**09 36 10.1**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=152,slow=9.8,SNR=2.9						
KSRS				LR	LR	09 53 15.5	
	comp=Z,67nm,20.9s,baz=145,slow=33						
	comp=Z,1.8nm,0.8s						
USA0B	**Ussuriysk Arra**	**51.82**	**346**	P	**P**	**09 36 47.4**	**-0.5**
USA0B				IAmb	IAmb	09 37 11.3	
	comp=Z,7.5nm,0.8s						
USRK	**Ussuriysk Ar.**	**51.82**	**346**	P	**P**	**09 36 47.1**	**-0.8**
USRK	**Ussuriysk Ar.**	**51.82**	**346**	P	**P**	**09 36 45.5**	**-2.3**
	comp=Z,1.5nm,0.7s,baz=158,slow=9.2,SNR=2.1						
	comp=Z,1.5nm,0.7s						
LYN	**LuoYang**	**51.89**	**324**	eP	P	09 36 57.0	+8.4

CCB	**Clear Creek Bu**	**85.13**	**23**		**P**		**09 40 14.0**	**-1.0**
CCB				IAmb	IAmb		09 40 25.7	
	comp=Z,8.0nm,1.2s							
B21K	**Ikpikpuk River**	**85.16**	**17**	IAmb	IAmb		09 40 34.6	
	comp=Z,2.8nm,0.7s							
E22K	**Anaktuvuk Pass**	**85.28**	**19**	IAmb	IAmb		09 40 50.9	
	comp=Z,5.9nm,1.2s							
NRIK	**Noril'sk**	**85.33**	**342**	P	**P**		**09 40 14.8**	**-1.1**
	comp=Z,2.1nm,0.4s,baz=37,slow=1.3,SNR=1.7							
	comp=Z,2.1nm,0.4s							
IL31		**85.54**	**23**	P	**P**		**09 40 15.8**	**-1.2**
IL31				IAmb	IAmb		09 40 34.1	
	comp=Z,5.2nm,0.8s							
ILAR	**Eielson Array**	**85.54**	**23**	P	**P**		**09 40 16.0**	**-1.0**
ILAR	**Eielson Array**	**85.54**	**23**	P	**P**		**09 40 15.6**	**-1.4**
	comp=Z,2.0nm,0.8s,baz=254,slow=4.6,SNR=28							
	comp=Z,2.0nm,0.8s							
J25K	**Salcha River,**	**86.08**	**24**	IAmb	IAmb		09 40 38.0	
	comp=Z,5.1nm,0.9s							
F24K	**Squaw Lake**	**86.33**	**20**	IAmb	IAmb		09 40 24.4	
	comp=Z,3.8nm,0.8s							
BVAR	**Borovoye Array**	**86.81**	**324**	P	**P**		**09 40 22.0**	**-1.6**
	comp=Z,0.9nm,0.9s,baz=114,slow=7.0,SNR=1.8							
	comp=Z,0.9nm,0.9s							
D25K	**Kavik River**	**87.59**	**19**	IAmb	IAmb		09 40 45.1	
	comp=Z,3.6nm,0.9s							
K29M	**Barlow Dome**	**89.06**	**25**	P	**P**		**09 40 34.7**	**+0.5**
K29M				IAmb	IAmb		09 40 47.7	
	comp=Z,3.9nm,0.9s							
R32K	**Eaglecrest**	**89.10**	**31**	P	**P**		**09 40 35.7**	**+1.4**
J30M	**Hart River**	**89.75**	**25**	IAmb	IAmb		09 40 39.9	
	comp=Z,3.5nm,0.9s							
DLBC	**Dease Lake**	**91.45**	**31**	LR	LR		10 13 18.7	
	comp=Z,47nm,19.8s,baz=61,slow=30							
INK	**Inuvik**	**91.71**	**21**	P	**P**		**09 40 43.8**	**-2.4**
	comp=Z,0.4nm,0.6s,baz=238,slow=6.4,SNR=1.8							
	comp=Z,0.4nm,0.6s							
YBH	**Yreka Blue Hor**	**94.22**	**49**	LR	LR		10 17 36.2	
	comp=Z,44nm,19.5s,baz=336,slow=32							
NEW	**Newport**	**98.41**	**42**	LR	LR		10 19 24.0	
	comp=Z,31nm,19.6s,baz=340,slow=32							
PFO	**Pinyon Flats O**	**98.77**	**57**	LR	LR		10 20 27.2	
	comp=Z,48nm,18.3s,baz=208,slow=32							
KIRV	**Kirov**	**99.09**	**328**	LR	LR		10 26 09.8	
	comp=Z,51nm,22.0s,baz=75,slow=36							
YKA	**Yellowknife Ar**	**99.23**	**28**	P	**Pdif**		**09 41 20.2**	**-0.4**
	comp=Z,0.5nm,1.0s,baz=284,slow=5.0,SNR=3.5							
	comp=Z,0.5nm,1.0s							
RPN	**Rapa Nui**	**99.33**	**119**	LR	LR		10 19 48.0	
	comp=Z,14nm,18.1s,baz=353,slow=32							
ELK	**Elko**	**99.81**	**50**	LR	LR		10 24 55.2	
	comp=Z,29nm,18.3s,baz=256,slow=34							
PLCA	**Paso Flores**	**122.08**	**147**	PKP	**PKiKP**		**09 46 35.0**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=244,slow=1.4,SNR=5.8							
LPAZ	**La Paz**	**138.77**	**123**	PKhKP	PKPpre		09 47 00.3	
	comp=Z,1.0nm,0.7s,baz=274,slow=3.9,SNR=5.4							
LPAZ				PKP	**PKiKP**		**09 47 08.2**	**-0.8**
	comp=Z,3.6nm,0.8s,baz=236,slow=3.3,SNR=8.9							
CPUP	**Villa Florida**	**140.09**	**145**	PKP	**PKPdf**		**09 47 09.2**	**+1.0**
	comp=Z,3.0nm,0.8s,baz=204,slow=2.9,SNR=4.7							
TORD	**Torodi Ar. Bea**	**145.09**	**284**	PKPbc	**PKPbc**		**09 47 16.6**	**-0.3**
	comp=Z,5.6nm,0.8s,baz=56,slow=4.6,SNR=16							
KIC	**Kosan Boka**	**151.89**	**272**	⇑*i*P	**PKiKP**		**09 47 37.4**	**+2.1**
	comp=Z,19nm,0.8s							
DBIC	**Dimbokro**	**152.01**	**273**	PKPbc	**PKPbc**		**09 47 34.9**	**-0.3**
	comp=Z,3.5nm,0.6s,baz=151,slow=3.8,SNR=4.8							
TIC	**Toumodi**	**152.17**	**273**	⇑*i*P	**PKPbc**		**09 47 32.8**	**-2.8**
	comp=Z,11nm,0.3s							
LIC	**Lamto**	**152.17**	**272**	⇑*i*P	**PKiKP**		**09 47 37.4**	**+1.5**
	comp=Z,16nm,0.7s							
BDFB	**Brasilia**	**153.82**	**146**	PKP	**PKPdf**		**09 47 32.7**	**+1.4**
	comp=Z,1.2nm,0.5s,baz=171,slow=6.3,SNR=3.1							
BDFB				PKPbc	**PKiKP**		**09 47 40.5**	**+1.2**
	comp=Z,4.1nm,0.3s,baz=194,slow=1.8,SNR=6.8							
BDFB				PKPab	**PKPab**		**09 47 51.9**	**-0.4**
	comp=Z,2.5nm,0.4s,baz=233,slow=14,SNR=2.5							

HEL ***15*** *09:28:46.8±0.3,60.°95N×29.°10E,h0km,ML1.7,Suspected explosion*
IDC ***15*** *09:28:48.2±2.3,60.°94N×28.°96E,h0km,mbtmp3.6/2, ML2.3/3/2,Error ellipse: s-maj=17.7km s-min=12.5km az=161.0*
ISC 15 09:28:44.5±1.3,60.°94N±0.°05×29.°15E±0.°05,h0km,n21, σ1s09/30,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.50**	**349**	Op	PG	**Pb**	**09 28 56.0**	**-0.1**
RUF					SG	**Sg**	**09 29 01.7**	**+1.2**
RUF					MSG		09 29 02.4	
	comp=Z,18nm,0.2s							
VJF	**Virojoki**	**0.88**	**244**		PG	**Pb**	**09 29 02.7**	**+0.1**
	baz=62							
VJF					MSG		09 29 13.5	
	comp=Z,11nm,0.2s							
VJF					SB	**Sb**	**09 29 14.5**	**-0.5**
FIA0	**FINESS Array S**	**1.57**	**290**		PG	**Pb**	**09 29 14.3**	**-0.1**
	baz=103							
FIA0					MSG		09 29 33.2	
	comp=Z,5.9nm,0.2s							
FINES	**FINESS Array B**	**1.57**	**290**		Pg	**Pb**	**09 29 14.4**	**0.0**
	comp=Z,1.0nm,0.3s,baz=111,slow=16,SNR=31							
FINES					Lg	Lg	09 29 34.9	
	comp=Z,3.2nm,0.3s,baz=107,slow=30,SNR=24							
PVF	**Pernaja**	**1.66**	**258**		PG	**Pb**	**09 29 16.0**	**0.0**
	baz=70							
PVF					MSG		09 29 35.8	
	comp=Z,12nm,0.2s							
PVF					SN	**Sg**	**09 29 38.9**	**+1.0**
KAF	**Kangasniemi**	**1.80**	**312**		PG	**Pg**	**09 29 19.2**	**+0.2**
KAF					MSG		09 29 39.7	
	comp=Z,10nm,0.2s							
KAF					SN	**Sb**	**09 29 42.1**	**+0.6**
JOF	**Joensuu**	**2.23**	**26**		PG	**Pg**	**09 29 26.7**	**-0.6**
JOF					SG	**Sg**	**09 29 55.8**	**-0.4**
HEL1	**Helsinki**	**2.24**	**252**		PG	**Pg**	**09 29 26.9**	**-0.5**
	baz=71							
NUR	**Nurmijrvi**	**2.25**	**261**		PG	**Pb**	**09 29 25.6**	**-0.5**
	baz=80							
NUR					MSG		09 29 52.9	
	comp=Z,2.9nm,0.2s							
SUF	**Sumiainen**	**2.28**	**323**		PG	**Pg**	**09 29 27.6**	**-0.7**
	baz=141							
SUF					MSG		09 29 53.7	
	comp=Z,2.0nm,0.2s							
SUF					SG	**Sg**	**09 29 57.3**	**-0.5**
KEF	**Keuruu**	**2.39**	**303**		PG	**Pb**	**09 29 28.4**	**+0.1**
KEF					MSG		09 29 56.8	
	comp=Z,2.9nm,0.2s							
KEF					SG	**Sb**	**09 29 58.8**	**+0.4**
MEF	**Metsahovi**	**2.46**	**255**		PB	**Pb**	**09 29 28.7**	**-0.8**
MEF					MSG		09 29 58.6	
	comp=Z,2.9nm,0.2s							
MEF					SB	**Sb**	**09 30 00.1**	**-0.2**
NIF	**Nilsia**	**2.54**	**346**		PG	**Pb**	**09 29 31.3**	**+0.4**
	baz=162							
NIF					SG	**Sb**	**09 30 03.6**	**+1.0**
RMF	**Romuvaara**	**3.31**	**6**		PB	**Pb**	**09 29 43.7**	**-0.4**
	baz=183							
KPF	**Kankaanpaa**	**3.52**	**288**		PG	**Pb**	**09 29 48.4**	**+0.8**
RAF	**Rauma**	**3.60**	**275**		PB	**Pb**	**09 29 47.6**	**-1.3**
VAF	**Ylistaro**	**3.71**	**307**		SG	**Sg**	**09 30 42.6**	**-1.1**
OUL	**Oulu**	**4.42**	**342**		SG	**Sg**	**09 31 04.9**	**-1.4**
I43RU	**DUBNA INFRASON**	**5.95**	**132**		I	I	10 05 20.0	
	baz=321,slow=324,SNR=1.7							
HFS	**Hagfors**	**7.67**	**271**		Pn	**Pn**	**09 30 38.1**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=82,slow=22,SNR=1.2							
	comp=Z,5.1nm,1.2s							
ARCES	**ARCESS Array B**	**8.77**	**352**		Pn	**Pn**	**09 30 54.4**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=168,slow=13,SNR=2.2							
ARCES					Sn	**Sn**	**09 32 27.9**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=168,slow=23,SNR=2.1							
	comp=Z,4.4nm,1.1s							

SNET ***15*** *09:41:55.4±1.0,13.°90N×91.°02W,h15km±9km,ML2.8*
GCG ***15*** *09:41:59.2±1.9,14.°96N×90.°86W,h58km±35km,MD2.9*
CATAC ***15*** *09:42:00.4±1.0,14.°00N×90.°85W,h59km±16km,ML2.8*
ISC 15 09:41:53.2±1.6,13.°77N±0.°08×91.°03W±0.°06,h10km,n22, σ1s36/29,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.70**	**15**	*i* P		**Pn**	**09 42 10.9**	**+1.5**
FUG				*i* S		**Sn**	**09 42 21.5**	**+1.2**
PCG	**Pacaya**	**0.74**	**33**	*i* P		**Pn**	**09 42 11.9**	**+1.9**
PCG				*i* S		**Sn**	**09 42 24.5**	**+3.0**
SULM	**Suchitepequez,**	**0.75**	**316**	*i* P		Pn	09 42 17.7	+7.9
CHTG	**Tecpan**	**0.99**	**2**	*i* S		**Sg**	**09 42 23.8**	**-1.5**
CHTG				*i* P		Pn	09 42 24.1	+11
CHTG				IAML			09 42 25.7	
	comp=Z,2μm,1.0s							
NBG	**Las Nubes**	**1.05**	**39**	*i* P		**Pn**	**09 42 16.6**	**+2.4**
NBG				*i* S		**Sg**	**09 42 24.2**	**-3.0**
GUNB	**GUNB**	**1.06**	**39**	*i* P		**Pn**	**09 42 16.1**	**+1.7**
GUNB				IAML			09 42 32.9	
	comp=Z,390nm,1.0s							
STG3	**Santiaguito 3,**	**1.08**	**331**	*i* P		**Pg**	**09 42 13.7**	**-0.2**
STG3				*i* S		**Sg**	**09 42 26.7**	**-1.3**
NUBE	**Las Nubes**	**1.22**	**84**	*e*P		**Pn**	**09 42 17.1**	**+0.6**
NUBE				*e*S		**Sn**	**09 42 33.2**	**+0.1**
NUBE				IAML			09 42 36.9	
	comp=Z,95nm,0.3s							
NUBE	**Las Nubes**	**1.22**	**84**	*i* P		**Pn**	**09 42 17.4**	**+0.9**
NUBE				*i* S		**Sn**	**09 42 33.7**	**+0.6**
NUBE				IAML			09 42 36.8	
	comp=Z,220nm,1.0s							
SLOZ	**Alcaldia de Sa**	**1.24**	**78**	*e*P		**Pn**	**09 42 17.2**	**+0.6**
SLOZ				*e*S		**Sn**	**09 42 33.8**	**+0.5**
CEVE	**Cerro Verde**	**1.37**	**87**	*e*P		**Pn**	**09 42 19.6**	**+1.0**
CEVE				IAML			09 42 43.8	
	comp=Z,258nm,0.4s							
SBLS	**San Blas**	**1.37**	**87**	*e*P		**Pn**	**09 42 19.8**	**+1.2**
UNIC	**Universidad Ca**	**1.45**	**81**	*i* P		**Pg**	**09 42 21.3**	**+0.2**
UNIC				IAML			09 42 58.4	
	comp=Z,190nm,1.0s							
JAYA	**Jayaque - finc**	**1.54**	**94**	*e*P		**Pg**	**09 42 22.6**	**-0.2**
JAYA	**Jayaque - finc**	**1.54**	**94**	*i* P		**Pb**	**09 42 21.8**	**-0.1**
JAYA				*i* S		**Sg**	**09 42 42.1**	**-0.7**
JAYA				IAML			09 42 42.5	
	comp=Z,340nm,1.0s							
HUEH	**Huehuetenango**	**1.61**	**343**	*e*P		**Pn**	**09 42 22.1**	**+0.2**
MTO3	**Montecristo**	**1.74**	**69**	*e*P		**Pn**	**09 42 24.2**	**+0.5**
MTO3	**Montecristo**	**1.74**	**69**	*i* P		**Pb**	**09 42 24.5**	**-0.8**
MTO3				IAML			09 42 50.4	
	comp=Z,37nm,1.0s							
ESQI	**Esquipulas**	**1.82**	**64**	*e*P		**Pb**	**09 42 25.6**	**-1.0**
ESQI	**Esquipulas**	**1.82**	**64**	*i* P		**Pb**	**09 42 25.6**	**-1.0**
ESQI				IAML			09 42 28.0	
	comp=Z,57nm,1.0s							
COEG	**Centro de Oper**	**2.09**	**94**	*i* P		**Pb**	**09 42 30.3**	**-1.0**
COEG				IAML			09 42 31.0	
	comp=Z,76nm,1.0s							
PQSS	**Presa 15 de Se**	**2.40**	**93**	*e*P		**Pn**	**09 42 33.9**	**+1.3**

TEH ***15*** *09:45:32.7,34.°45N×45.°77E,h8km±48km,ML3.2*
ISN ***15*** *09:45:34.9±1.3,34.°35N×45.°67E,h18km±13km,ML3.2*
DSN ***15*** *09:45:44.4±0.9,33.°41N×46.°22E,h15km,Error ellipse: s-maj=38.3km s-min=8.1km az=41.0*
ISC 15 09:45:32.3±1.1,34.°44N±0.°04×45.°80E±0.°04,h25km±11km, n18,σ2s24/24,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.19**	**292**	Op	Pg	**Pb**	**09 45 36.6**	**-1.2**
IDHR	**Dehrash**	**0.55**	**61**		Pg	**Pb**	**09 45 43.7**	**+0.2**
IDHR					Sg	**Sb**	**09 45 52.1**	**+0.9**
IGHG	**Ghaleghazi**	**0.65**	**99**		Pg	**Pn**	**09 45 46.3**	**+0.1**
IGHG					Sg	**Sn**	**09 45 57.0**	**+1.3**
ILBA	**Ilam Banvizeh**	**0.88**	**157**		Pg	**Pn**	**09 45 49.8**	**+0.6**
ILBA					Sg	**Sn**	**09 46 03.3**	**+2.1**
KCHF	**Cheshme Sefid,**	**1.04**	**99**		Pg	**Pb**	**09 45 52.9**	**+1.2**
IBDR	**Badra**	**1.33**	**175**		*e*Pg	**Pb**	**09 45 57.0**	**+0.5**
	baz=350							
IBDR					*e*Sg	**Sb**	**09 46 15.0**	**+1.9**
IBDR					AML	AML	09 46 23.6	
	comp=E,434nm,0.5s							
IBDR					AML	AML	09 46 28.6	
	comp=N,296nm,0.9s							
BHD	**Baghdad**	**1.66**	**226**		*e*Pn	**Pb**	**09 46 02.5**	**+0.4**
BHD					*e*Sn	**Sb**	**09 46 24.0**	**+1.5**
BHD					AML	AML	09 46 41.1	
	comp=E,537nm,0.5s							
IBZA	**Bozab**	**1.71**	**88**		Pg	**Pb**	**09 46 05.6**	**+2.5**
SDS1	**Sardasht. Az.**	**1.73**	**352**		Pg	**Pb**	**09 46 05.0**	**+1.6**
IKFM	**Kafar-mosalman**	**1.93**	**118**		Pn	**Pb**	**09 46 07.9**	**+1.2**
IDOB	**Doab**	**2.08**	**107**		Pn	**Pb**	**09 46 09.8**	**+0.4**
MAHB	**Mahabad**	**2.33**	**358**		Pn	**Pb**	**09 46 13.9**	**+0.3**
HSAM	**Samen**	**2.33**	**95**		Pn	**Pb**	**09 46 13.4**	**-0.4**
HAGD	**Aghdareh**	**2.78**	**81**		Pn	**Pb**	**09 46 20.2**	**-1.3**
MSFE	**Esma-Masafi**	**12.74**	**132**		P	**Pn**	**09 48 32.8**	**+0.8**
UOSS	**Minazif**	**13.08**	**134**		P	**Pn**	**09 48 36.2**	**-0.3**
HATD	**Hatta, Dubai**	**13.12**	**134**		P	**Pn**	**09 48 37.7**	**+0.5**
ASHO	**Ashiyiah**	**13.19**	**135**		P	**Pn**	**09 48 38.2**	**+0.1**
ASHO					S	**Sn**	**09 50 55.6**	**-8.4**

IDC 15 09:54:25.3±2.5,54.°29N×86.°12E,h0km,mbtmp3.0/2, ML2.9/2,Error ellipse: s-maj=18.1km s-min=10.8km az=55.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.84**	**246**	Op	I	I	10 00 00.0	
	baz=62,slow=340,SNR=2.4							
ZALV	**Zalesovo Beam**	**0.84**	**246**		Pg	Pg	09 54 40.4	-1.1
	2.2nm,0.3s,baz=64,slow=17,SNR=16							
ZALV					Lg	Lg	09 54 53.4	
	7.0nm,0.3s,baz=68,slow=30,SNR=11							
KURBB	**Kurchatov Arra**	**5.92**	**235**		Pn	Pn	09 55 55.6	+1.5
	0.1nm,0.3s,baz=53,slow=13,SNR=5.7							
KURBB					Sn	Sn	09 57 02.8	+0.1
	baz=32,slow=20,SNR=1.6							
KURBB					Lg	Lg	09 57 33.0	
	0.1nm,0.3s,baz=22,slow=24,SNR=2.0							
	0.9nm,0.5s							
MKAR	**Makanchi Array**	**7.89**	**200**		Pn	Pn	09 56 22.0	+0.7
	0.3nm,0.3s,baz=22,slow=7.1,SNR=12							
MKAR					Sn	Sn	09 57 50.1	-1.2
	0.1nm,0.3s,baz=21,slow=28,SNR=1.3							
MKAR					Lg	Lg	09 58 35.4	
	baz=24,slow=28,SNR=5.1							
	0.3nm,0.3s							

MIRAS ***15*** *10:15:16.1,54.°77N×61.°20E,h0km,ML2.6/3*
NNC ***15*** *10:15:22.5±21.0,54.°45N×61.°39E,h0km,mb2.8,mpv2.4, Error ellipse: s-maj=189.0km s-min=48.6km az=153.0, Suspected Mining explosion.*
ISC 15 10:15:13.4±1.4,54.°75N±0.°05×61.°0E±0.°1,h0km,n6, σ0s71/7,1C-1D,Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KAUR	**Kamensk Uralsk**	**1.71**	**10**	*e*P		**Pb**	**10 15 45.6**	**-0.1**
	baz=5.8							
KAUR				*e*S		**Sg**	**10 16 08.2**	**-0.3**
	71nm,0.3s,baz=5.8							
KAUR				*i* AML		AML	10 16 10.1	
	109nm,1.1s							
SVE	**Sverdlovsk**	**2.09**	**355**	*e*P		**Pg**	**10 15 53.2**	**-0.3**
	18nm,0.3s,baz=351							
SVE				*e*S		**Sg**	**10 16 21.9**	**+1.4**
	baz=351							
SVE				*i* AML		AML	10 16 23.8	
	28nm,1.2s							
ARU	**Arti**	**2.17**	**322**	*e*P		**Pg**	**10 15 54.8**	**-0.2**
	8.8nm,0.3s,baz=319							
ARU				*e*S		**Sg**	**10 16 23.1**	**0.0**
	21nm,0.3s,baz=319							
ARU				*i* AML		AML	10 16 25.2	
	26nm,0.4s							
AKTO	**Aktyubinsk**	**4.68**	**204**	⇑Lg		Lg	10 17 43.4	
	3.6nm,1.1s							
AB31	**Akbulak array**	**5.54**	**187**	Pg		**Pg**	**10 16 59.4**	**0.0**
	0.2nm,0.4s,baz=12,slow=15,SNR=4.9							
AB31					Lg	Lg	10 18 11.8	
	1.0nm,0.5s,baz=1.6,slow=27,SNR=5.2							
BVA0	**Borovoye Array**	**5.83**	**103**	⇓Lg		Lg	10 18 17.1	
	5.0nm,1.1s							

IDC ***15*** *10:18:22.9±1.1,20.°6S±0.°3×178.°9W±0.°2,h645km,n7, σ0s91/7,mb3.4/5,Fiji Islands region*

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.76**	**261**	Op	P	**P**	**10 21 18.2**	**+0.1**
	4.2nm,0.7s,baz=96,slow=18,SNR=2.4							
ASAR	**Alice Springs**	**43.70**	**257**	P		**P**	**10 25 33.9**	**+0.2**
	1.0nm,0.5s,baz=95,slow=7.7,SNR=26							
	1.0nm,0.5s							
WRA	**Warramunga Arr**	**43.78**	**262**	P		**P**	**10 25 34.0**	**-0.3**
	0.8nm,0.5s,baz=97,slow=7.4,SNR=16							
	0.8nm,0.5s							
QSPA	**South Pole Qui**	**69.45**	**180**	P		**P**	**10 28 28.5**	**+0.2**
	1.5nm,0.5s,baz=108,slow=3.2,SNR=21							
	1.5nm,0.5s							
NVAR	**Mina Array Bea**	**81.67**	**44**	P		**P**	**10 29 35.5**	**-0.6**
	0.2nm,0.6s,baz=219,slow=7.0,SNR=1.5							
	0.2nm,0.6s							
ILAR	**Eielson Array**	**88.61**	**13**	P		**P**	**10 30 09.7**	**+1.1**
	0.2nm,0.4s,baz=217,slow=5.1,SNR=7.0							
	0.2nm,0.4s							
AKASG	**Malin Array Be**	**142.72**	**330**	PKP		**PKPdf**	**10 36 43.0**	**-1.2**
	0.9nm,0.3s,baz=46,slow=3.6,SNR=8.9							

IDC ***15*** *11:06:03.5±0.9,17.°25S×66.°49E,h0km,mb4.1/12, mbtmp4.1/12,MS3.8/35,Error ellipse: s-maj=34.4km s-min=22.9km az=71.0*
ISC 15 11:06:05.8±1.0,17.°3S±0.°2×66.°5E±0.°2,h14km,n55, σ0s96/16,mb4.3/12,MS3.8/37,Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**11.21**	**32**	Op	T	T	11 20 31.4	
	baz=211,slow=75,SNR=943							
H08S2	**Diego Garcia H**	**11.22**	**32**		T	T	11 20 36.2	
	baz=211,slow=75,SNR=354							
H08S3	**Diego Garcia H**	**11.23**	**32**		T	T	11 20 44.2	
	baz=211,slow=75,SNR=1418							
PALK	**Pallekele**	**28.15**	**31**	LR		LR	11 21 04.4	
	comp=Z,133nm,18.9s,baz=315,slow=32							
H04N2	**CROZET ISLANDS**	**31.29**	**200**	T		T	11 45 22.4	
	baz=27,slow=75,SNR=293							
H04N1	**CROZET ISLANDS**	**31.29**	**200**	T		T	11 45 23.4	
	baz=27,slow=75,SNR=338							
H04N3	**CROZET ISLANDS**	**31.31**	**200**	T		T	11 45 20.5	
	baz=27,slow=75,SNR=320							
LSZ	**Lusaka**	**36.76**	**267**	LR		LR	11 26 24.7	
	comp=Z,136nm,18.9s,baz=136,slow=33							
ATD	**Arta Tunnel**	**36.93**	**319**	LR		LR	11 25 42.6	
	comp=Z,5.5nm,21.9s,baz=86,slow=32							
LBTB	**Lobatse**	**38.78**	**251**	LR		LR	11 26 02.3	
	comp=Z,123nm,21.9s,baz=86,slow=31							
MBAR	**Mbarara**	**38.86**	**291**	LR		LR	11 27 35.9	
	comp=Z,307nm,18.2s,baz=65,slow=33							
BOSA	**Boshof**	**39.42**	**246**	LR		LR	11 29 00.4	
	comp=Z,48nm,18.1s,baz=94,slow=35							
WSAR	**Wadi Sarin**	**40.98**	**349**	LR		LR	11 28 00.9	
	comp=Z,76nm,19.5s,baz=234,slow=32							
LEM	**Lembang**	**41.47**	**81**	LR		LR	11 27 37.4	
	comp=Z,181nm,20.4s,baz=263,slow=31							
H01W3	**Cape Leeuwin H**	**45.82**	**122**	T		T	12 03 38.6	
	baz=280,slow=75,SNR=406							
H01W2	**Cape Leeuwin H**	**45.82**	**122**	T		T	12 03 38.5	
	baz=280,slow=75,SNR=400							
H01W1	**Cape Leeuwin H**	**45.83**	**122**	T		T	12 03 39.7	
	baz=280,slow=75,SNR=411							
TSUM	**Tsumeb**	**46.35**	**260**	LR		LR	11 32 11.7	
	comp=Z,102nm,19.1s,baz=152,slow=34							
CMAR	**Chiang Mai Arr**	**47.76**	**44**	P		**P**	**11 14 43.2**	**+0.5**
	1.5nm,0.4s,baz=233,slow=8.4,SNR=17							
CMAR						LR	11 31 57.8	
	comp=Z,65nm,21.0s,baz=235,slow=33							
	1.5nm,0.4s							
NWAO	**Narrogin (SRO)**	**48.10**	**119**	LR		LR	11 31 39.1	
	comp=Z,157nm,18.3s,baz=287,slow=32							
MAW	**Mawson**	**50.36**	**182**	LR		LR	11 30 51.8	
	comp=Z,93nm,21.0s,baz=52,slow=30							
GEYT	**Alibeck**	**55.46**	**352**	LR		LR	11 36 48.7	
	comp=Z,24nm,18.6s,baz=139,slow=33							
EIL	**Elat**	**55.69**	**327**	LR		LR	11 35 54.8	
	comp=Z,61nm,21.2s,baz=66,slow=32							
BATI	**Baumata**	**55.84**	**91**	LR		LR	11 35 33.1	
	comp=Z,108nm,21.4s,baz=239,slow=32							
AAK	**Ala-Archa**	**60.06**	**7**	LR		LR	11 41 18.9	
	comp=Z,72nm,18.6s,baz=196,slow=35							
ASAR	**Alice Springs**	**63.01**	**108**	LR		LR	11 40 45.2	
	comp=Z,325nm,19.3s,baz=262,slow=33							
DAV	**Davao City (W)**	**63.21**	**73**	LR		LR	11 42 21.4	
	comp=Z,63nm,20.2s,baz=194,slow=34							
WRA	**Warramunga Arr**	**63.98**	**104**	P		**P**	**11 16 37.9**	**-1.4**
	7.0nm,1.0s,baz=262,slow=6.3,SNR=15							
	7.0nm,1.0s							
BRTR	**Keskin Array B**	**64.44**	**332**	P		**P**	**11 16 42.6**	**+0.7**
	0.2nm,0.3s,baz=170,slow=8.8,SNR=1.8							
	0.2nm,0.3s							
MKAR	**Makanchi Array**	**65.34**	**12**	P		**P**	**11 16 47.3**	**-0.1**
	0.8nm,0.7s,baz=215,slow=7.4,SNR=5.5							
MKAR						LR	11

*IDC **15** 11:11:03.4±1.9,5°.43S×152°.06E, h0km, mb3.8/5, mbtmp3.9/6, ML2.1/1, MS2.9/1, Error ellipse: s-maj=75.2km s-min=22.4km az=120.0*

ISC 15 11:11:10.2±1.9,5°.4S×151°.9E±0°.4, h45km, n7, σ0s72/8, mb3.8/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.14**	**230**	Pn	**Pn**	**11 12 39.2**	**+0.9**
	3.0nm,0.3s,baz=61,slow=8.3,SNR=7.0						
PMG				Sn	**Sn**	**11 13 46.6**	**-0.7**
	6.8nm,0.3s,baz=166,slow=22,SNR=10						
PMG				LR	LR	11 14 49.5	
	comp=Z,101nm,18.7s,baz=42,slow=36 12nm,0.4s						
WRA	**Warramunga Arr**	**22.36**	**228**	P	**P**	**11 16 03.8**	**-0.8**
	3.7nm,0.8s,baz=54,slow=10,SNR=22 3.7nm,0.8s						
ASAR	**Alice Springs**	**25.08**	**222**	P	**P**	**11 16 30.9**	**+0.1**
	3.5nm,0.7s,baz=55,slow=9.0,SNR=67 3.5nm,0.7s						
SONM	**Songino Array**	**66.40**	**328**	P	**P**	**11 21 55.2**	**+0.5**
	0.5nm,0.5s,baz=148,slow=5.5,SNR=5.1 0.5nm,0.5s						
MKAR	**Makanchi Array**	**80.22**	**319**	P	**P**	**11 23 15.7**	**-0.5**
	0.1nm,0.3s,baz=144,slow=5.2,SNR=2.3 0.1nm,0.3s						
ILAR	**Eielson Array**	**83.09**	**22**	P	**P**	**11 23 30.4**	**-0.3**
	0.4nm,0.7s,baz=248,slow=5.0,SNR=10.0 0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**149.65**	**287**	PKPbc	**PKPbc**	**11 30 56.2**	**+0.2**
	1.3nm,0.4s,baz=85,slow=2.8,SNR=20						

*IDC **15** 11:13:19.7±0.8, 19°.36N×64°.30W, h0km, mb3.7/11, mbtmp3.9/14, ML3.6/3, MS3.5/9, Error ellipse: s-maj=23.5km s-min=17.0km az=81.0*

*RSPR **15** 11:13:22.6, 19°.21N×64°.19W, h110km±8km, MD4.4/11*

*NEIC **15** 11:13:27.8, 18°.82N×64°.59W, h10km*

*NEIC **15** 11:13:30.7±2.2, 18°.8N±0°.1×64°.60W±0°.06, h35km±2km, mb4.6/13, ML4.1/38, Mwr4.1/22, Error ellipse: s-maj=18.0km s-min=8.2km az=13.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr=0.38; Mθθ=0.62; Mφφ 1.00; Mrθ=-1.27; Mθφ=0.18; Mφr0.57; Fault plane solution: Mo1.65000×10^15^ NP1:ϕs26.95000°, δ32.95000°, λ-13.66000°. NP2:ϕs128.48000°, δ82.62000°, λ-122.21000°. Principal axes: T 1.4509, Plg30.0000°, Azm244.0000°; N 0.4378, Plg32.0000°, Azm133.0000°; P -1.7987, Plg43.0000°, Azm7.0000°;*

ISC 15 11:13:26.4±0.5, 19°.14N±0°.06×64°.31W±0°.03, h42km, n98, σ1s67/95, mb4.0/18, MS3.4/7, 11C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMRT	**St. Maarten**	**1.59**	**133**	*eP*	**Pn**	**11 13 50.4**	**-1.7**
SMRT	**St. Maarten**	**1.59**	**133**	*eS*	**Sn**	**11 14 10.9**	**-0.6**
HUMP	**Col San Antoni**	**1.77**	**236**	*iP*	**Pn**	**11 13 54.1**	**-0.4**
HUMP	**Col San Antoni**	**1.77**	**236**	*eS*	**Sn**	**11 14 18.1**	**+2.3**
HUMP	**Col San Antoni**	**1.77**	**236**		**Pn**	**11 13 53.7**	**-0.8**
SABA	**Saba**	**1.82**	**146**	*eP*	**Pn**	**11 13 53.9**	**-1.4**
SABA	**Saba**	**1.82**	**146**		**Pn**	**11 13 59.7**	**+4.5**
SABA				IAML		11 14 41.0	
	comp=N,2μm,0.7s						
GCPR	**Guanabo City**	**1.88**	**244**	*eP*	**Pn**	**11 13 55.0**	**-1.1**
GCPR	**Guanabo City**	**1.88**	**244**	*eS*	**Sn**	**11 14 20.7**	**+2.2**
GCPR	**Guanabo City**	**1.88**	**244**		**Pn**	**11 13 54.7**	**-1.3**
SEUS	**St. Eustatius**	**2.07**	**142**		**Pn**	**11 13 02.2**	**+3.6**
SEUS				IAML		11 14 38.6	
	comp=E,2μm,0.6s						
IGPR	**InterUniversit**	**2.07**	**236**	*eP*	**Pn**	**11 13 58.5**	**-0.2**
IGPR	**InterUniversit**	**2.07**	**236**	*eS*	**Sn**	**11 14 25.1**	**+1.9**
IGPR	**InterUniversit**	**2.07**	**236**		**Pn**	**11 13 58.1**	**-0.6**
IGPR				IAML		11 14 36.4	
	comp=N,2μm,0.5s						
IGPR				IAML		11 14 39.6	
	comp=E,2μm,0.3s						
EMPR	**Esperanza - Ma**	**2.21**	**253**	*eS*	**Sn**	**11 14 28.6**	**+1.9**
EMPR	**Esperanza - Ma**	**2.21**	**253**		**Pn**	**11 13 59.7**	**-0.8**
EMPR				IAML		11 14 35.2	
	comp=N,2μm,0.7s						
EMPR				IAML		11 14 37.9	
	comp=E,2μm,0.7s						
CELP	**Cerrillos**	**2.41**	**244**	*iP*	**Pn**	**11 14 02.9**	**-0.4**
CELP	**Cerrillos**	**2.41**	**244**	*eS*	**Sn**	**11 14 32.5**	**+1.0**
CELP	**Cerrillos**	**2.41**	**244**		**Pn**	**11 14 02.6**	**-0.6**
CELP				IAML		11 14 40.3	
	comp=N,845nm,0.8s						
OBIP	**Obispado Ponce**	**2.44**	**244**	*iP*	**Pn**	**11 14 02.3**	**-1.4**
OBIP	**Obispado Ponce**	**2.44**	**244**	*eS*	**Sn**	**11 14 34.6**	**+2.2**
OBIP	**Obispado Ponce**	**2.44**	**244**		**Pn**	**11 14 02.3**	**-1.4**
OBIP				IAML		11 14 39.9	
	comp=E,1μm,0.8s						
OBIP				IAML		11 14 49.6	
	comp=N,947nm,1.1s						
AOPR	**Arecibo Observ**	**2.45**	**252**	*eP*	**Pn**	**11 14 03.0**	**-0.9**
AOPR	**Arecibo Observ**	**2.45**	**252**	*eS*	**Sn**	**11 14 33.8**	**+1.1**
AOPR	**Arecibo Observ**	**2.45**	**252**		**Pn**	**11 14 02.8**	**-1.1**
AOPR				IAML		11 14 47.0	
	comp=N,2μm,0.5s						
AOPR	**Arecibo Observ**	**2.45**	**252**	*eP*	**Pn**	**11 14 02.7**	**-1.1**
AOPR				*eS*	**Sn**	**11 14 34.7**	**+2.0**
UUPR	**Utuado, UPR, P**	**2.46**	**249**	*eP*	**Pn**	**11 14 03.0**	**-0.9**
UUPR	**Utuado, UPR, P**	**2.46**	**249**	*eS*	**Sn**	**11 14 32.6**	**-0.2**
UUPR	**Utuado, UPR, P**	**2.46**	**249**		**Pn**	**11 14 03.0**	**-0.9**
AGPR	**Aguadilla, PR**	**2.74**	**256**	*eP*	**Pn**	**11 14 06.5**	**-1.4**
AGPR	**Aguadilla, PR**	**2.74**	**256**	*eS*	**Sn**	**11 14 41.3**	**+1.5**
AGPR	**Aguadilla, PR**	**2.74**	**256**		**Pn**	**11 14 06.8**	**-1.1**
AGPR				IAML		11 14 58.0	
	comp=N,868nm,0.7s						
LSP	**Las Mesas**	**2.81**	**250**	*eP*	**Pn**	**11 14 08.6**	**-0.2**
LSP	**Las Mesas**	**2.81**	**250**	*eS*	**Sn**	**11 14 42.9**	**+1.4**
PRSN	**Puerto Rico Se**	**2.85**	**252**		**Pn**	**11 14 08.8**	**-0.5**
PRSN				IAML		11 14 50.2	
	comp=E,757nm,0.3s						
PRSN				IAML		11 14 57.0	
	comp=N,843nm,0.5s						
MLPR	**Magueyes Islan**	**2.85**	**246**	*eP*	**Pn**	**11 14 09.0**	**-0.3**
MLPR	**Magueyes Islan**	**2.85**	**246**	*eS*	**Sn**	**11 14 43.7**	**+1.3**
MLPR	**Magueyes Islan**	**2.85**	**246**		**Pn**	**11 14 09.2**	**-0.2**
MLPR				IAML		11 14 49.6	
	comp=E,578nm,0.8s						
CRPR	**Cabo Rojo, PR**	**2.89**	**247**	*eP*	**Pn**	**11 14 09.5**	**-0.4**
CRPR	**Cabo Rojo, PR**	**2.89**	**247**	*eS*	**Sn**	**11 14 41.7**	**-1.8**
CRPR	**Cabo Rojo, PR**	**2.89**	**247**		**Pn**	**11 14 09.9**	**0.0**
ANDO	**Antigua, Disas**	**3.10**	**130**	*eP*	**Pn**	**11 14 11.2**	**-1.7**
ANDO				*eS*	**Sn**	**11 14 47.5**	**-1.2**
MBFL	**Flemmings, Mon**	**3.10**	**140**	*eP*	**Pn**	**11 14 13.1**	**+0.2**
ANBD	**Bethesda, Anti**	**3.19**	**130**	*eP*	**Pn**	**11 14 12.5**	**-1.5**
ANBD				*eS*	**Sn**	**11 14 49.6**	**-1.3**
GDHS	**Morne Mazeau,**	**3.74**	**139**		**Pn**	**11 14 23.6**	**+1.9**
ABD	**La Joyeuse, An**	**3.77**	**134**	Pn	**Pn**	**11 14 24.9**	**+2.8**
ABD				IAML		11 15 33.3	
	comp=E,320nm,0.6s						
ABD				IAML		11 15 42.5	
	comp=N,381nm,0.8s						
ABD	**La Joyeuse, An**	**3.77**	**134**	*eP*	**Pn**	**11 14 21.0**	**-1.1**
ABD				*eS*	**Sn**	**11 15 03.3**	**-2.0**
PCDR	**Punta Cana, DR**	**3.91**	**261**	*eP*	**Pn**	**11 14 22.9**	**-1.0**
PCDR	**Punta Cana, DR**	**3.91**	**261**	Pn	**Pn**	**11 14 22.9**	**-1.0**
PCDR				IAML		11 15 34.7	
	comp=E,262nm,0.8s						
PCDR				IAML		11 15 36.0	
	comp=N,449nm,0.9s						
GDSD	**La Dsirade Is**	**4.18**	**132**	Pn	**Pn**	**11 14 30.5**	**+2.9**
GDSD				IAML		11 15 34.6	
	comp=E,188nm,0.8s						
GDSD				IAML		11 15 46.0	
	comp=N,142nm,1.6s						
MPOM	**Morne Pois Mar**	**5.72**	**144**	*eP*	**Pn**	**11 14 51.1**	**+2.2**
MPOM	**Morne Pois Mar**	**5.72**	**144**	*eS*	**Sn**	**11 15 52.5**	**-0.8**
SLBI	**Saint Lucia, B**	**6.01**	**147**	*eP*	**Pn**	**11 14 53.5**	**+0.7**
SDDR	**Presa de Saban**	**6.61**	**270**		**Pn**	**11 15 00.9**	**-0.1**
SDDR	**Presa de Saban**	**6.61**	**270**	*eP*	**Pn**	**11 15 00.2**	**-0.8**
PAPH	**Port-au-Prince**	**7.60**	**267**		**Pn**	**11 15 14.1**	**-0.5**
CRUV	**Carupano**	**8.48**	**173**	*eP*	**Pn**	**11 15 28.7**	**+1.9**
CRUV	**Carupano**	**8.48**	**173**	*eS*	**Sn**	**11 15 00.8**	**-0.5**
PCRV	**Puerto La Cruz**	**8.92**	**182**	Pn	**Pn**	**11 15 31.6**	**-1.2**
	comp=N,1.3nm,0.3s,baz=2.2,slow=4.8,SNR=2.8						
PCRV				Sn	**Sn**	**11 17 10.4**	**-1.7**
	comp=N,0.7nm,0.3s,baz=293,slow=15,SNR=1.6 comp=N,6.1nm,0.5s						
BAUV	**El Baul**	**10.77**	**200**	Pn	**Pn**	**11 15 57.7**	**-0.4**
BAUV	**El Baul**	**10.77**	**200**	*eP*	**Pn**	**11 15 59.4**	**+1.3**
BAUV	**El Baul**	**10.77**	**200**	*eS*	**Sn**	**11 17 48.8**	**-8.6**
SDV	**Santo Domingo**	**11.90**	**212**		**Pn**	**11 16 10.5**	**-3.2**
SDV	**Santo Domingo**	**11.90**	**212**	Pn	**Pn**	**11 16 14.3**	**+0.6**
	comp=N,1.8nm,0.3s,baz=57,slow=10,SNR=16						
SDV				Sn	**Sn**	**11 18 21.5**	**-3.8**
	comp=N,0.7nm,0.3s,baz=324,slow=19,SNR=2.7						
SDV				LR	LR	11 21 11.4	
	comp=N,210nm,19.1s,baz=36,slow=39 comp=N,10nm,0.8s						
BOAV	**Boa Vista**	**17.05**	**167**		**P**	**11 17 23.2**	**0.0**
ROSC	**El Rosal**	**17.25**	**216**	P	**Pn**	**11 17 23.7**	**-1.0**
ROSC	**El Rosal**	**17.25**	**216**	P	**P**	**11 17 25.9**	**+0.1**
	comp=N,3.2nm,0.3s,baz=116,slow=15,SNR=4.6						
ROSC				LR	LR	11 24 43.2	
	comp=N,342nm,19.9s,baz=47,slow=39 comp=N,11nm,0.5s						
656A	**Willston**	**19.47**	**305**	P	**Pn**	**11 17 54.9**	**+3.8**
PEZE	**Perez Zeledon,**	**21.11**	**245**	P	**P**	**11 18 08.3**	**+0.6**
PEZE				IAmb	IAmb	11 18 08.9	
	comp=Z,19nm,0.8s						
W57A	**Gilead**	**21.15**	**322**	P	P	11 18 16.4	+8.6
W57A				IAmb	IAmb	11 18 27.5	
	comp=Z,20nm,0.6s						
JSC	**Jenkinsville**	**21.32**	**318**	P	P	11 18 16.8	+7.0
JTS	**Las Juntas de**	**21.80**	**249**	P	**P**	**11 18 13.5**	**-1.6**
	comp=Z,5.0nm,0.7s,baz=69,slow=14,SNR=2.4						
JTS				LR	LR	11 26 38.6	
	comp=Z,63nm,19.6s,baz=94,slow=36 comp=Z,5.0nm,0.7s						
TULM	**Tuc-Chalpat**	**22.59**	**217**	P	**P**	**11 18 24.1**	**+0.2**
TEIG	**Tepich**	**22.59**	**277**	P	**P**	**11 18 25.6**	**+2.1**
TEIG				IAmb	IAmb	11 18 31.8	
	comp=Z,25nm,1.1s						
TEIG	**Tepich**	**22.59**	**277**	LR	LR	11 29 29.6	
	comp=Z,514nm,19.2s,slow=43						
OTAV	**Otavalo**	**23.36**	**218**	P	**P**	**11 18 31.1**	**-0.7**
OTAV				IAmb	IAmb	11 18 45.4	
	comp=Z,14nm,1.2s						
SLOR	**San Lorenzo -**	**24.17**	**217**	P	**P**	**11 18 40.0**	**+0.6**
SLOR				IAmb	IAmb	11 18 41.9	
	comp=Z,21nm,1.2s						
PETF	**Flores**	**24.40**	**269**	P	**P**	**11 18 41.9**	**+0.9**
PETF				IAmb	IAmb	11 18 43.9	
	comp=Z,26nm,0.7s						
MTO3	**Montecristo**	**24.44**	**263**	P	**P**	**11 18 42.1**	**+0.4**
MTO3				IAmb	IAmb	11 19 03.2	
	comp=Z,12nm,1.0s						
CHSH	**Refugio Sur-Vo**	**25.01**	**216**	P	**P**	**11 18 47.9**	**+0.7**
ATAH	**Atahualpa**	**29.58**	**209**	LR	LR	11 33 22.4	
	comp=Z,147nm,19.3s,baz=359,slow=40						
NNA	**Nana**	**33.31**	**203**	LR		11 36 27.3	
	comp=Z,71nm,18.6s,baz=12,slow=41						
LPAZ	**La Paz**	**35.41**	**186**	P	**P**	**11 20 19.3**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=333,slow=5.6,SNR=4.4 comp=Z,0.8nm,0.6s						
TXAR	**Lajitas Array**	**37.15**	**293**	P	**P**	**11 20 31.4**	**-2.0**
	comp=Z,0.8nm,0.8s,baz=107,slow=9.3,SNR=9.0 comp=Z,0.8nm,0.8s						
PDAR	**Pinedale Array**	**44.71**	**312**	P	**P**	**11 21 34.9**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=108,slow=9.6,SNR=4.5 comp=Z,0.4nm,0.6s						
CPUP	**Villa Florida**	**45.71**	**171**	P	**P**	**11 21 45.0**	**+1.6**
	comp=Z,2.4nm,0.7s,baz=42,slow=6.7,SNR=4.1 comp=Z,2.4nm,0.7s						
NVAR	**Mina Array Bea**	**50.34**	**304**	P	**P**	**11 22 19.1**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=87,slow=9.0,SNR=4.0 comp=Z,0.4nm,0.6s						
YKA	**Yellowknife Ar**	**55.31**	**334**	P	**P**	**11 22 53.3**	**-2.2**
	comp=Z,0.4nm,0.6s,baz=104,slow=6.8,SNR=7.7 comp=Z,0.4nm,0.6s						
ESDC	**Sonseca Array**	**55.37**	**55**	LR	LR	11 42 50.3	
	comp=Z,30nm,19.9s,baz=177,slow=32						
SUMG	**Summit**	**55.45**	**9**	*iP*	**P**	**11 23 00.0**	**+3.2**
TORD	**Torodi Ar. Bea**	**63.37**	**85**	P	**P**	**11 23 51.8**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=306,slow=5.2,SNR=2.9 comp=Z,0.5nm,0.7s						
INK	**Inuvik**	**64.70**	**337**	P	**P**	**11 23 57.0**	**-2.7**
	comp=Z,0.3nm,0.5s,baz=36,slow=9.6,SNR=1.6 comp=Z,0.3nm,0.5s						
NOA	**NORSAR Array B**	**66.43**	**31**	LR	LR	11 48 06.6	
	comp=Z,21nm,21.2s,baz=245,slow=32						
ILAR	**Eielson Array**	**69.71**	**333**	P	**P**	**11 24 29.6**	**-1.9**
	comp=Z,0.2nm,0.7s,baz=101,slow=4.1,SNR=12 comp=Z,0.2nm,0.7s						
BRTR	**Keskin Array B**	**83.87**	**50**	P	**P**	**11 25 50.7**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=270,slow=3.7,SNR=4.3 comp=Z,0.9nm,0.8s						
MA2	**Magadan**	**96.50**	**343**	LR	LR	12 15 22.8	
	comp=Z,15nm,18.4s,baz=328,slow=39						
PZH	**PanZhiHua**	**132.65**	**17**	PKP	**PKiKP**	**11 32 43.6**	**+5.0**
ASAR	**Alice Springs**	**162.46**	**252**	PKPab	**PKPab**	**11 34 11.8**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=106,slow=3.9,SNR=8.7						

IDC 15 11:21:47.8±2.1, 5°.86S×152°.88E, h0km, mb3.3/3, mbtmp3.4/4, ML3.8/1, MS2.9/1, Error ellipse: s-maj=131.3km s-min=31.4km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**15.54**	**204**	Pn	Pn	11 25 27.4	-1.0
	0.2nm,0.3s,baz=254,slow=0.2,SNR=1.3						
CTA				LR	LR	11 30 12.9	
	comp=Z,38nm,18.4s,baz=183,slow=32 0.8nm,0.5s						
WRA	**Warramunga Arr**	**22.82**	**230**	P	P	11 26 52.7	+0.1
	0.6nm,1.0s,baz=53,slow=9.5,SNR=2.3 0.6nm,1.0s						
ASAR	**Alice Springs**	**25.44**	**224**	P	P	11 27 17.6	+0.1
	0.3nm,0.7s,baz=59,slow=8.4,SNR=8.6 0.3nm,0.7s						
YKA	**Yellowknife Ar**	**96.32**	**28**	P	P	11 35 18.3	+0.2
	0.2nm,0.8s,baz=274,slow=2.7,SNR=4.2 0.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**150.70**	**286**	PKPbc	PKPbc	11 41 42.5	-0.6
	0.3nm,0.4s,baz=78,slow=2.9,SNR=3.5						

KRSC 15 11:24:20.8±1.6, 49°.69N×157°.19E, h57km±28km, MI3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.21**	**326**	*eP*	Pn	11 24 42.0	+0.6
SKR				*eS*	Sn	11 24 57.3	+0.5
PAU	**Pauzhetka**	**1.79**	**352**	*eP*	Pn	11 24 52.8	+3.5
PAU				*eS*	Sn	11 25 15.0	+4.0
KDTR	**Khodutka, Kamc**	**2.19**	**15**	*eP*	Pn	11 24 56.8	+2.0
KDTR				*eS*	Sn	11 25 23.4	+2.7
ASAK	**Asacha**	**2.73**	**9**	*eP*	Pn	11 25 05.6	+3.4
MTVR	**Mutnovka**	**2.86**	**12**	*eP*	Pn	11 25 07.0	+2.9
MTVR				*eS*	Sn	11 25 41.2	+3.8
RUS	**Russkaya**	**2.87**	**16**	*eP*	Pn	11 25 05.5	+1.5
RUS				*eS*	Sn	11 25 40.3	+3.0
KRMR	**Karymshinskiy**	**3.20**	**10**	*eS*	Sn	11 25 50.4	+5.1
DALK	**Dalny**	**3.48**	**16**	*eP*	Pn	11 25 15.5	+3.1
DALK				*eS*	Sn	11 25 56.1	+3.7
AVH	**Avacha**	**3.71**	**15**	*eP*	Pn	11 25 19.6	+4.0
SMAR	**Somma**	**3.71**	**15**	*eP*	Pn	11 25 18.9	+3.0
KOK	**Koryaka**	**3.72**	**14**	*eP*	Pn	11 25 20.0	+4.2
KRER	**Koryakskii**	**3.75**	**14**	*eP*	Pn	11 25 20.0	+3.8
KRX	**Arik**	**3.78**	**13**	*eP*	Pn	11 25 20.5	+3.9
GNL	**Ganaly**	**4.04**	**6**	*eP*	Pn	11 25 23.4	+3.3
TUMD	**Tumrok D**	**5.86**	**18**	*eS*	Sn	11 26 53.1	+2.4

*IDC **15** 11:24:33.9±2.8, 16°.89S×67°.11E, h0km, mb3.8/6, mbtmp3.8/6, MS3.5/7, Error ellipse: s-maj=88.5km s-min=29.6km az=56.0*

ISC 15 11:24:35.6±2.7, 17°.0S±0°.4×67°.0E±0°.5, h13km, n22, σ1s33/7, mb4.0/6, MS3.4/7, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**10.69**	**31**	T	T	11 38 57.6	
	baz=211,slow=75						
H08S2	**Diego Garcia H**	**10.69**	**31**	T	T	11 39 00.3	
	baz=211,slow=75						
H08S3	**Diego Garcia H**	**10.71**	**31**	T	T	11 39 14.5	
	baz=211,slow=75						
PALK	**Pallekele**	**27.62**	**30**	LR	LR	11 38 38.4	
	comp=Z,49nm,19.3s,baz=283,slow=31						
H04N2	**CROZET ISLANDS**	**31.75**	**200**	T	T	12 03 19.4	
	baz=27,slow=75						
H04N1	**CROZET ISLANDS**	**31.76**	**200**	T	T	12 03 42.5	
	baz=27,slow=75						
H04N3	**CROZET ISLANDS**	**31.77**	**200**	T	T	12 03 28.5	
	baz=27,slow=75						
LSZ	**Lusaka**	**37.29**	**267**	LR	LR	11 43 28.6	
	comp=Z,45nm,21.6s,baz=182,slow=30						
MBAR	**Mbarara**	**39.23**	**291**	LR	LR	11 45 53.3	
	comp=Z,102nm,19.8s,baz=312,slow=33						
LBTB	**Lobatse**	**39.36**	**251**	LR	LR	11 46 00.6	
	comp=Z,44nm,19.7s,baz=112,slow=33						
LEM	**Lembang**	**40.92**	**81**	LR		11 46 54.3	
	comp=Z,54nm,20.5s,baz=224,slow=33						
H01W3	**Cape Leeuwin H**	**45.55**	**122**	T	T	12 21 52.9	
	baz=278,slow=75						
H01W2	**Cape Leeuwin H**	**45.55**	**122**	T	T	12 21 53.6	
	baz=278,slow=75						
H01W1	**Cape Leeuwin H**	**45.57**	**122**	T	T	12 21 56.6	
	baz=278,slow=75						
TSUM	**Tsumeb**	**46.91**	**259**	LR	LR	11 49 44.7	
	comp=Z,57nm,18.8s,baz=159,slow=32						
CMAR	**Chiang Mai Arr**	**47.18**	**43**	P	**P**	**11 33 08.3**	**0.0**
	0.4nm,0.3s,baz=229,slow=7.7,SNR=2.4 0.4nm,0.3s						
ASAR	**Alice Springs**	**62.62**	**108**	P	**P**	**11 34 59.3**	**-0.8**
	1.2nm,0.8s,baz=274,slow=5.4,SNR=13						
ASAR				LR	LR	11 58 52.9	
	comp=Z,88nm,19.3s,baz=235,slow=33 1.2nm,0.8s						
WRA	**Warramunga Arr**	**63.56**	**104**	P	**P**	**11 35 06.6**	**+0.1**
	2.5nm,1.0s,baz=262,slow=5.9,SNR=7.4 2.5nm,1.0s						
KURBB	**Kurchatov Arra**	**68.04**	**8**	P	**P**	**11 35 34.9**	**+0.3**
	0.7nm,0.9s,baz=208,slow=6.6,SNR=4.4 0.7nm,0.9s						
BVAR	**Borovoye Array**	**69.75**	**2**	P	**P**	**11 35 43.2**	**-1.9**
	1.0nm,0.6s,baz=163,slow=5.3,SNR=4.3 1.0nm,0.8s						
SONM	**Songino Array**	**73.49**	**26**	P	**P**	**11 36 08.6**	**+0.6**
	0.4nm,0.7s,baz=222,slow=3.9,SNR=3.1 0.4nm,0.7s						
ILAR	**Eielson Array**	**127.04**	**17**	PKP	**PKiKP**	**11 43 41.0**	**+1.5**
	0.2nm,0.9s,baz=289,slow=2.8,SNR=1.9						

*GRAL **15** 11:30:38.9±0.3, 33°.46N×35°.67E, h0km±18km, MD2.7*

Gll 15 11:30:37.4±0.3, 33°.49N±0°.02×35°.721E±0°.009, h0km, Md1.4/3, confirmed, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QRWL	**Qaraoun**	**0.06**	**329**	*eP*	Pg	11 30 40.4	+1.8
RCY	**Rachaya**	**0.10**	**88**	*eP*	Pg	11 30 41.4	+2.1
SHBL	**Chebaa**	**0.14**	**172**	*eP*	Pg	11 30 41.2	+1.0
SHBL				*eS*	Sg	11 30 42.9	+0.8
NATI	**Neve Ativ**	**0.23**	**177**	P	Pg	11 30 42.9	+1.1
NATI	**Neve Ativ**	**0.23**	**177**	S	Sg	11 30 47.5	+2.7
DQRL	**Deir Qamar**	**0.25**	**329**	*eP*	Pg	11 30 43.6	+1.4
DQRL				*eS*	Sg	11 30 47.0	+1.6
GEM	**Giv'at Ha'Em**	**0.29**	**190**	P	Pg	11 30 44.0	+1.1
GEM	**Giv'at Ha'Em**	**0.29**	**190**	S	Sb	11 30 49.5	-1.3
BHL	**Bhannes**	**0.41**	**352**	*eP*	Pb	11 30 46.9	-0.8
KSHT	**Keshet**	**0.52**	**172**	P	Pb	11 30 48.9	-0.5
KSHT	**Keshet**	**0.52**	**172**	S	Sb	11 30 57.6	+0.1
MMC7	**Mount Meron ar**	**0.54**	**210**	P	Pb	11 30 49.1	-0.8
MMA0B	**Mount Meron ar**	**0.55**	**209**	S	Sb	11 30 58.8	+0.4
MMA0B	**Mount Meron ar**	**0.55**	**209**	P	Pb	11 30 49.1	-0.8
HNTI	**Hanita**	**0.61**	**228**	S	Sb	11 31 00.7	+0.4
HNTI	**Hanita**	**0.61**	**228**	P	Pb	11 30 50.6	-0.5
HWQ	**Hawqa**	**0.81**	**13**	*eP*	Pb	11 30 54.1	-0.3
MMLI	**Mount Malkishu**	**1.08**	**194**	P	Pb	11 30 59.3	+0.2
MMLI	**Mount Malkishu**	**1.08**	**194**	S	Sn	11 31 15.3	-0.3
BEIL	**Beino**	**1.11**	**20**	*eP*	Pb	11 30 59.8	+0.2
HMDT	**Nahal Hemdat**	**1.25**	**188**	P	Pb	11 31 01.9	+0.1
HMDT	**Nahal Hemdat**	**1.25**	**188**	S	Sn	11 31 20.1	+0.5
SLTI	**Sal'it**	**1.37**	**205**	S	Sn	11 31 23.5	+0.7
SLTI	**Sal'it**	**1.37**	**205**	P	Pb	11 31 04.2	+0.2
DSI	**Dead Sea**	**1.94**	**189**	P	Pn	11 31 11.4	-0.2
DSI	**Dead Sea**	**1.94**	**189**	S	Sn	11 31 36.8	+0.1
YTIR	**Yattir**	**2.18**	**194**	P	Pn	11 31 15.3	+0.2
YTIR	**Yattir**	**2.18**	**194**	S	Sn	11 31 43.7	+0.8
GHAJ	**Ghor Haditha**	**2.19**	**183**	P	Pn	11 31 15.3	+0.2
GHAJ	**Ghor Haditha**	**2.19**	**183**	S	Sn	11 31 43.5	+0.7

*AEIC **15** 11:34:25.1±1.0, 52°.4N±0°.2×174°.7W±0°.1, h222km±6km, Error ellipse: s-maj=34.1km s-min=9.2km az=163.0*

**NEIC 15 11:34:24.5±0.8, 52°.4N±0°.2×174°.7W±0°.2, h222km±8km, mb4.0/12

TOZ	**Tahuroa Road**	**24.55**	**201**	P	**P**	**11 42 03.9**	**-0.9**
TOZ				IAmb	IAmb	11 42 22.7	
	comp=Z,27nm,1.4s						
MRZ	**Mangatainoka R**	**27.18**	**198**	P	**P**	**11 42 27.9**	**-0.6**
WHZ	**Wether Hill Ro**	**34.42**	**203**	P	**P**	**11 43 33.5**	**+1.1**
CAN	**Canberra**	**39.12**	**232**	P	**P**	**11 44 12.6**	**0.0**
CAN				IAmb	IAmb	11 44 13.2	
	comp=Z,34nm,1.5s						
WR0	**Warramunga Arr**	**49.61**	**257**	P	**P**	**11 45 36.7**	**0.0**
WR0				IAmb	IAmb	11 46 20.2	
	comp=Z,5.8nm,1.3s						
WB0	**Warramunga Arr**	**49.76**	**257**	P	**P**	**11 45 37.0**	**-0.8**
WB2	**Warramunga Arr**	**49.79**	**257**	P	**P**	**11 45 37.5**	**-0.6**
WB2				IAmb	IAmb	11 45 42.2	
	comp=Z,9.9nm,1.4s						
WRAB	**Tennant Creek**	**49.79**	**257**	P	**P**	**11 45 37.5**	**-0.5**
WRAB				IAmb	IAmb	11 45 57.2	
	comp=Z,7.7nm,1.2s						
WRA	**Warramunga Arr**	**49.80**	**257**	P	**P**	**11 45 37.3**	**-0.8**
WRA	**Warramunga Arr**	**49.80**	**257**	P	**P**	**11 45 37.8**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=93,slow=6.6,SNR=6.6						
	comp=Z,0.3nm,0.4s						
AS31	**Alice Springs**	**50.09**	**252**	P	**P**	**11 45 40.5**	**+0.2**
ASAR	**Alice Springs**	**50.09**	**252**	P	**P**	**11 45 39.9**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=85,slow=8.4,SNR=25						
	comp=Z,1.7nm,0.7s						
PEA0B	**Petropavlovsk-**	**72.31**	**342**	P	**P**	**11 48 08.5**	**-1.8**
KBO	**Bosley Butte**	**72.86**	**36**	P	**P**	**11 48 11.9**	**-2.0**
NVAR	**Mina Array Bea**	**74.19**	**42**	P	**P**	**11 48 23.4**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=227,slow=10,SNR=9.0						
	comp=Z,1.0nm,0.7s						
QSPA	**South Pole Qui**	**74.94**	**180**	P	**P**	**11 48 26.7**	**+0.9**
QSPA				IAmb	IAmb	11 49 09.6	
	comp=Z,3.5nm,1.1s						
QSPA	**South Pole Qui**	**74.94**	**180**	P	**P**	**11 48 27.5**	**+1.8**
	comp=Z,2.0nm,0.9s,baz=18,slow=1.6,SNR=5.9						
	comp=Z,2.0nm,0.9s						
N15K	**Kwethluk River**	**75.79**	**7**	P	**P**	**11 48 32.5**	**+2.1**
TXAR	**Lajitas Array**	**80.54**	**56**	P	**P**	**11 48 58.5**	**+0.9**
	comp=Z,1.1nm,1.0s,baz=242,slow=5.3,SNR=6.9						
	comp=Z,1.1nm,1.0s						
PDAR	**Pinedale Array**	**82.12**	**42**	P	**P**	**11 49 05.8**	**0.0**
	comp=Z,0.9nm,0.9s,baz=254,slow=2.5,SNR=6.7						
	comp=Z,0.9nm,0.9s						
ILAR	**Eielson Array**	**82.18**	**11**	P	**P**	**11 49 06.1**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=226,slow=7.1,SNR=5.3						
	comp=Z,0.6nm,0.8s						
GERES	**GERESS Array B**	**145.83**	**351**	PKPbc	**PKPbc**	**11 56 24.3**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=74,slow=9.8,SNR=4.7						
BRTR	**Keskin Array B**	**145.85**	**321**	PKPbc	**PKPdf**	**11 56 24.0**	**0.0**
	comp=Z,1.5nm,0.9s,baz=169,slow=1.3,SNR=4.6						

DNK 15 11:40:28.9±1.0, 56°05N×14°02E, h0km, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEL	**Delary**	**0.43**	**349**	P	Pg	11 40 36.7	-0.4
	baz=162						
DEL				*i* P	Pb	11 40 36.9	-2.5
DEL				S	Sg	11 40 42.5	-0.2
DEL				*e*S	Sb	11 40 42.6	-3.8
LUNU	**Lund**	**0.53**	**218**	*e*P	Pg	11 40 38.2	-0.7
LUNU				P	Pb	11 40 38.8	-2.2
BJUU	**Bjuv**	**0.56**	**273**	P	Pg	11 40 39.0	-0.6
BJUU				*e*P	Pb	11 40 39.1	-2.5
BJUU				S	Sg	11 40 46.2	-0.6
BJUU				*e*S	Sb	11 40 46.4	-3.6
BLEU	**Blekinge**	**1.04**	**75**	P	Pg	11 40 48.2	-0.5
BLEU				*e*P	Pb	11 40 48.2	-1.4

DNK 15 11:40:31.8±0.8, 57°36N×13°56E, h0km, ML1.1 (UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNOU	**Gnosjoe**	**0.13**	**122**	P	Pg	11 40 34.1	-0.1
	baz=304						
GNOU				S	Sg	11 40 36.1	+0.2
BORU	**Boraas**	**0.51**	**303**	P	Pg	11 40 41.1	-0.4
BORU				S	Sg	11 40 48.1	0.0
FABU	**Falkenberg**	**0.58**	**232**	P	Pg	11 40 41.7	-1.2
FKPU	**Falk**	**0.81**	**6**	P	Pg	11 40 47.1	-0.1
VXJU	**Vaexsjoe**	**0.87**	**120**	P	Pg	11 40 47.5	-0.9
VXJU	**Vaexsjoe**	**0.87**	**120**	P	Pg	11 40 47.5	-0.9
ONAU	**Onsala**	**0.89**	**273**	P	Pg	11 40 47.7	-1.1
TJOU	**Tjoern**	**1.24**	**304**	P	Pg	11 40 54.5	-1.0

*CATAC **15** 11:41:58.6±0.4, 9.°43N×84.°49W, h7km±4km, ML3.1*
*UCR **15** 11:41:59.0±1.6, 9.°40N×84.°53W, h18km±6km, MW3.6*
ISC 15 11:41:58.9±1.0, 9.°41N±0.°03×84.°51W±0.°02, h17km±7km, n85, σ0°85/123, 5C-9D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RITA	**Parrita**	**0.20**	**58**	*i* P	**Pg**	**11 42 04.2**	**+0.3**
RITA				*e*S	**Sb**	**11 42 09.1**	**+1.3**
JACO	**JACO, Garabito**	**0.29**	**329**	⇓*i* P	**Pg**	**11 42 05.1**	**-0.1**
JACO				*e*S	**Sb**	**11 42 10.6**	**+0.2**
JACO	**JACO, Garabito**	**0.29**	**329**	*i* P	**Pg**	**11 42 04.5**	**-0.8**
JACO				IAML		11 42 05.4	
	comp=Z,1μm,1.0s						
JACO				*i* S	**Sb**	**11 42 10.6**	**+0.2**
SVQ2	**Quepos**	**0.34**	**87**	*e*P	**Pg**	**11 42 05.9**	**-0.1**
SVQ2				*e*S	**Sb**	**11 42 11.7**	**+0.1**
LLNJ	**Naranjito**	**0.41**	**81**	⇓*i* P	**Pg**	**11 42 07.2**	**0.0**
LLNJ				*e*S	**Sb**	**11 42 14.2**	**+0.6**
TRB2	**Turrubares**	**0.50**	**7**	*e*P	**Pg**	**11 42 08.5**	**-0.6**
TRB2				*e*S	**Sg**	**11 42 16.1**	**+0.3**
ACOS	**Acosta**	**0.51**	**42**	*e*P	**Pg**	**11 42 08.9**	**-0.3**
ACOS				*e*S	**Sg**	**11 42 16.1**	**-0.1**
ABE2	**San Pablo**	**0.53**	**57**	*e*P	**Pg**	**11 42 09.4**	**-0.3**
RAZU	**San Marcos de**	**0.54**	**63**	*e*P	**Pb**	**11 42 10.1**	**+0.1**
RAZU				*e*S	**Sb**	**11 42 18.4**	**+0.8**
LAFE	**Finca La Fe, P**	**0.56**	**315**	*e*P	**Pg**	**11 42 10.2**	**+0.1**
LAFE				*e*S	**Sb**	**11 42 19.1**	**+1.0**
LAFE	**Finca La Fe, P**	**0.56**	**315**	*i* P	**Pg**	**11 42 10.0**	**-0.1**
LAFE				IAML		11 42 22.7	
	comp=Z,4.9nm,1.0s						
LCR2	**La Lucha 2**	**0.59**	**56**	*e*P	**Pg**	**11 42 10.2**	**-0.6**
LCR2				*e*S	**Sb**	**11 42 19.2**	**-0.1**
ARZA	**Esparza**	**0.60**	**345**	⇓*i* P	**Pg**	**11 42 10.2**	**-0.6**
ARZA				*e*S	**Sg**	**11 42 19.0**	**+0.2**
CBL1	**Cabuya**	**0.60**	**287**	⇓*i* P	**Pg**	**11 42 10.6**	**-0.3**
CBL1				*e*S	**Sb**	**11 42 20.2**	**+0.9**
SANTA	**Santa Ana**	**0.61**	**31**	*e*P	**Pg**	**11 42 10.8**	**-0.2**
BELE	**Belen**	**0.64**	**29**	*e*P	**Pb**	**11 42 12.2**	**+0.3**
BELE				*e*S	**Sg**	**11 42 19.7**	**-0.6**
AMPA	**Desamparados**	**0.65**	**42**	*e*P	**Pg**	**11 42 10.9**	**-0.9**
TCS1	**Tacares**	**0.66**	**18**	*e*P	**Pg**	**11 42 11.7**	**-0.2**
TCS1	**Tacares**	**0.66**	**18**	*i* P	**Pg**	**11 42 11.6**	**-0.4**
TCS1				IAML		11 42 26.7	
	comp=Z,5μm,1.0s						
LUJA	**Lujan**	**0.67**	**40**	⇑*i* P	**Pb**	**11 42 12.8**	**+0.5**
SRA1	**San Ramn**	**0.67**	**2**	*e*P	Pg	11 42 03.6	-8.6
HDC	**Heredia**	**0.70**	**33**	*e*P	**Pb**	**11 42 11.2**	**-1.7**
HDC				*e*S	**Sb**	**11 42 22.9**	**+0.5**
HDC3	**Heredia 3**	**0.70**	**34**	*e*P	**Pb**	**11 42 12.0**	**-0.9**
HDC3				*e*S	**Sg**	**11 42 22.3**	**+0.1**
HDC3	**Heredia 3**	**0.70**	**34**	*i* P	**Pb**	**11 42 12.0**	**-0.9**
HDC3				*i* S	**Sg**	**11 42 22.0**	**-0.2**
HDC3				IAML		11 42 31.4	
	comp=Z,640nm,1.0s						
OCM	**Ochomogo**	**0.72**	**48**	⇑*e*P	**Pb**	**11 42 12.4**	**-0.9**
OCM	**Ochomogo**	**0.72**	**48**	*i* P	**Pb**	**11 42 12.2**	**-1.0**
OCM				*i* S	**Sg**	**11 42 21.8**	**-1.0**
OCM				IAML		11 42 25.8	
	comp=Z,460nm,1.0s						
RIMA	**Rio Macho**	**0.73**	**61**	⇑*e*P	**Pb**	**11 42 12.5**	**-0.8**
RIMA				*e*S	**Sb**	**11 42 23.5**	**+0.4**
RIMA	**Rio Macho**	**0.73**	**61**	*i* P	**Pb**	**11 42 12.3**	**-1.0**
RIMA				IAML		11 42 26.0	
	comp=Z,880nm,1.0s						
CDM	**Cerro de Muert**	**0.75**	**79**	*e*P	**Pg**	**11 42 12.8**	**-0.9**
CDM				*e*S	**Sb**	**11 42 24.5**	**+0.6**
CDM	**Cerro de Muert**	**0.75**	**79**	*i* P	**Pg**	**11 42 13.1**	**-0.6**
CDM				IAML		11 42 28.1	
	comp=Z,1μm,1.0s						
ZELE	**Perez Zeledon**	**0.79**	**93**	*e*P	**Pb**	**11 42 10.8**	**-3.6**
ZELE				*e*S	**Sg**	**11 42 25.2**	**+0.3**
PEZE	**Perez Zeledon,**	**0.82**	**92**	*e*P	**Pb**	**11 42 14.2**	**-0.7**
PEZE				*e*S	**Sg**	**11 42 26.6**	**+0.8**
PEZE	**Perez Zeledon,**	**0.82**	**92**	*i* P	**Sg**	**11 42 27.2**	**+1.4**
VPS6	**Volcano Poas**	**0.82**	**19**	*e*P	**Pb**	**11 42 13.3**	**-1.7**
CVIMO	**Finca Echandi**	**0.82**	**42**	⇑*i* P	**Pb**	**11 42 14.6**	**-0.4**
CVIMO				*e*S	**Sn**	**11 42 29.4**	**+1.4**
VICA	**Volcano Irazu**	**0.87**	**49**	⇑*e*P	**Pb**	**11 42 15.3**	**-0.6**
VICA				*e*S	**Sn**	**11 42 28.5**	**-0.8**
ICR3	**Volcano Irazu**	**0.87**	**50**	*e*P	**Pb**	**11 42 14.4**	**-1.5**
CPMI	**Catarata Coope**	**0.87**	**8**	*e*P	**Pb**	**11 42 15.1**	**-0.8**
CPMI				*e*S	**Sb**	**11 42 27.5**	**+0.1**
CPMI	**Catarata Coope**	**0.87**	**8**	*i* P	**Pb**	**11 42 14.6**	**-1.2**
CPMI				IAML		11 42 31.4	
	comp=Z,420nm,1.0s						
VINA	**Juan Vinas**	**0.89**	**57**	*e*P	**Pg**	**11 42 16.6**	**+0.3**
OCHAL	**Ojochal**	**0.91**	**110**	*i* P	**Pb**	**11 42 15.4**	**-0.9**
OCHAL				IAML		11 42 33.6	
	comp=Z,330nm,1.0s						
VTRT	**Volcan Turrial**	**0.92**	**50**	*e*P	**Pg**	**11 42 17.1**	**+0.3**
VTLA	**Turrialba Volc**	**0.93**	**51**	*e*P	**Pb**	**11 42 16.3**	**-0.6**
CVTQ	**Turrialba Volc**	**0.94**	**51**	*e*P	**Pb**	**11 42 16.8**	**-0.2**
TURIB	**Turrialba**	**0.95**	**59**	*e*P	**Pb**	**11 42 16.3**	**-0.7**
TURIB				*e*S	**Sb**	**11 42 29.5**	**+0.2**
CVTV	**Tajo**	**0.95**	**52**	*e*P	**Pb**	**11 42 17.0**	**-0.3**
VTR0	**Volcan Turrial**	**0.95**	**51**	*e*P	**Pb**	**11 42 17.3**	**0.0**
VTUN	**Crater Central**	**0.95**	**50**	*i* P	**Pb**	**11 42 16.1**	**-1.2**
VTUN				IAML		11 42 37.2	
	comp=Z,570nm,1.0s						
CVTR	**Volcan Turrial**	**0.95**	**51**	*e*P	**Pb**	**11 42 17.2**	**-0.1**
CVTR				*e*S	**Sn**	**11 42 31.7**	**+0.3**
VTCV	**VTCV, Calle Va**	**0.96**	**54**	*e*P	**Pb**	**11 42 16.6**	**-0.6**
VTCV				*e*S	**Sn**	**11 42 31.2**	**0.0**
VTCV	**VTCV, Calle Va**	**0.96**	**54**	*i* P	**Pb**	**11 42 17.1**	**-0.1**
VTCV				IAML		11 42 34.9	
	comp=Z,2μm,1.0s						
VERB	**Verbena**	**0.96**	**56**	*e*P	**Pb**	**11 42 16.9**	**-0.4**
VERB				*e*S	**Sn**	**11 42 31.1**	**-0.1**
SOCE	**Pocosol**	**0.97**	**354**	⇓*e*P	**Pb**	**11 42 16.9**	**-0.5**
SOCE				*e*S	**Sg**	**11 42 30.9**	**+0.2**
SOCE	**Pocosol**	**0.97**	**354**	*i* P	**Pb**	**11 42 16.9**	**-0.5**
SOCE				IAML		11 42 33.7	
	comp=Z,830nm,1.0s						
JUNT	**Juntas**	**0.97**	**333**	*e*P	**Pb**	**11 42 17.3**	**-0.1**
JUNT				*e*S	**Sg**	**11 42 30.5**	**-0.1**
JTS	**Las Juntas de**	**0.98**	**333**	⇓*i* P	**Pb**	**11 42 16.2**	**-1.3**
JTS				*e*S	**Sb**	**11 42 29.9**	**-0.2**
VTLO	**VTLO**	**0.99**	**51**	*e*P	**Pb**	**11 42 17.4**	**-0.5**
ARE1	**Arenal 1**	**1.06**	**349**	⇓*e*P	**Pb**	**11 42 18.6**	**-0.3**
ARE1				*e*S	**Sg**	**11 42 34.4**	**+0.8**
RIFO	**Rio Frio, Sara**	**1.07**	**33**	*e*P	**Pb**	**11 42 18.6**	**-0.5**
RIFO				*e*S	**Sn**	**11 42 33.5**	**-0.2**
RIFO	**Rio Frio, Sara**	**1.07**	**33**	*i* P	**Pb**	**11 42 18.5**	**-0.5**
RIFO				IAML		11 42 41.8	
	comp=Z,670nm,1.0s						
VACR	**Volcan Arenal**	**1.07**	**351**	*e*P	**Pb**	**11 42 18.6**	**-0.5**
INDI	**Punta indio, G**	**1.08**	**295**	*e*P	**Pb**	**11 42 16.2**	**-3.0**
INDI				*e*S	**Sg**	**11 42 36.4**	**+2.3**
INDI	**Punta indio, G**	**1.08**	**295**	*i* P	**Pb**	**11 42 16.4**	**-2.8**
INDI				IAML		11 42 39.6	
	comp=Z,180nm,1.0s						
PLAN	**Los Planes de**	**1.10**	**132**	*i* P	**Pg**	**11 42 20.6**	**+0.4**
PLAN				IAML		11 42 43.1	
	comp=Z,1μm,1.0s						
LCOCO	**El Coco**	**1.15**	**54**	*e*P	**Pn**	**11 42 20.3**	**0.0**
DUNO	**Dulce Nombre,**	**1.18**	**304**	*i* P	**Pn**	**11 42 19.9**	**-0.8**
DUNO				IAML		11 42 39.2	
	comp=Z,230nm,1.0s						
IRES	**Siquirres**	**1.20**	**55**	*e*P	**Pb**	**11 42 21.3**	**0.0**
IRES				*e*S	**Sg**	**11 42 38.9**	**+1.1**
EDBA	**Buenos Aires**	**1.24**	**101**	*e*P	**Pn**	**11 42 21.2**	**-0.4**
DRK0	**Durika**	**1.25**	**97**	*e*P	**Pn**	**11 42 21.5**	**-0.5**
JUD3	**Juan Diaz 3**	**1.26**	**306**	*e*P	**Pb**	**11 42 22.2**	**-0.2**
JUD3				*e*S	**Sg**	**11 42 41.2**	**+1.3**
COVE	**Coope Vega, Sa**	**1.30**	**5**	*e*P	**Pn**	**11 42 22.3**	**-0.1**
BATAN	**Batan**	**1.31**	**58**	⇓*e*P	**Pb**	**11 42 22.9**	**-0.2**
BATAN				*e*S	**Sg**	**11 42 42.0**	**+0.7**
BATAN	**Batan**	**1.31**	**58**	*i* P	**Pn**	**11 42 22.4**	**-0.1**
BATAN				IAML		11 42 45.7	
	comp=Z,850nm,1.0s						
ACAL	**Aguas Claras**	**1.32**	**337**	*e*P	**Pn**	**11 42 22.7**	**-0.1**
ORTG	**Ortega, Santa**	**1.33**	**315**	*e*P	**Pn**	**11 42 21.9**	**-1.0**
ORTG	**Ortega, Santa**	**1.33**	**315**	*i* P	**Pb**	**11 42 23.4**	**-0.2**
ORTG				IAML		11 42 43.0	
	comp=Z,100nm,1.0s						
SAJU	**San Juanillo,**	**1.35**	**299**	*i* P	**Pb**	**11 42 24.3**	**+0.4**
SAJU				IAML		11 42 50.1	
	comp=Z,110nm,1.0s						
EDP2	**Potrero Grande**	**1.37**	**107**	*e*P	**Pn**	**11 42 23.1**	**-0.3**
CUI	**Cuipilapa**	**1.40**	**332**	⇓*e*P	**Pn**	**11 42 23.4**	**-0.3**
CUI				*e*S	**Sb**	**11 42 42.6**	**+0.3**
POTG	**Potrero Grande**	**1.42**	**104**	*e*P	**Pn**	**11 42 23.8**	**-0.2**
VERA	**Finca Concepci**	**1.48**	**346**	*e*P	**Pn**	**11 42 25.5**	**-0.5**
VMAR	**Armenia, Volca**	**1.52**	**337**	*e*P	**Pn**	**11 42 25.9**	**+0.5**
VMAR				*e*S	**Sb**	**11 42 46.7**	**+1.0**
PIRO	**Carate, Puerto**	**1.53**	**131**	*e*P	**Pb**	**11 42 27.1**	**+0.2**
HZTE	**Horizontes, Gu**	**1.68**	**320**	*i* P	**Pb**	**11 42 29.2**	**-0.3**
HZTE				IAML		11 43 18.3	
	comp=Z,160nm,1.0s						
ACON	**Acoyapa**	**2.62**	**346**	*e*P	**Pn**	**11 42 42.1**	**+1.5**

*BER **15** 11:51:05.2±3.0, 81.°36N×3.°18W, h21km±31km, mb(Pn)3.1, ML1.5(DNK), Confirmed Earthquake*
*FCIAR **15** 11:51:06.0, 81.°25N×2.°33W, h10km, station OMEGA has station magnitude of 3.30*
*DNK **15** 11:51:06.2±2.4, 81.°17N×2.°64W, h25km±21km, ML1.5*
ISC 15 11:50:59.6±1.0, 81°31N±0.°08×3°36W±0.°05, h10km, n21, σ2°88/38, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.01**	**285**	*e*P	**Pn**	**11 51 36.8**	**+3.3**
NOR				IAML		11 52 02.7	
	comp=Z,2.5nm,0.3s						
NOR	**Nord**	**2.01**	**285**	*e*P	**Pn**	**11 51 36.8**	**+3.3**
NOR				IAML		11 52 02.7	
	comp=Z,2.5nm,0.3s						
KBS	**Kingsbay**	**3.55**	**124**	*e*P	**Pn**	**11 51 54.8**	**+0.2**
KBS				*e*S	**Sn**	**11 52 34.4**	**-2.1**
KBS				IAML		11 52 45.1	
	comp=Z,3.8nm,0.4s						
KBS	**Kingsbay**	**3.55**	**124**	*i* P	**Pn**	**11 51 57.1**	**+2.5**
KBS				*i* S	**Sn**	**11 52 34.6**	**-1.8**
KBS	**Kingsbay**	**3.55**	**124**	*e*P	**Pn**	**11 51 56.7**	**+2.1**
KBS				*e*S	**Sn**	**11 52 35.0**	**-1.5**
BRBB	**Barentsburg B**	**4.49**	**127**	*e*P	**Pn**	**11 52 10.7**	**+3.3**
BRBB				*e*S	**Sn**	**11 52 58.2**	**-1.4**
BRBA	**Barentsburg A**	**4.52**	**127**	*e*P	**Pn**	**11 52 11.3**	**+3.4**
BRBA				*e*S	**Sn**	**11 52 59.6**	**-0.8**
BRBA				IAML		11 53 08.2	
	comp=Z,6.3nm,1.1s						
SPA0	**Spitsbergen Ar**	**4.69**	**122**	*e*P	**Pn**	**11 52 13.0**	**+2.7**
SPA0				*e*S	**Sn**	**11 53 02.5**	**-2.2**
SPA0				IAML		11 53 07.8	
	comp=Z,3.6nm,0.9s						
SPA0	**Spitsbergen Ar**	**4.69**	**122**	*e*P	**Pn**	**11 52 12.9**	**+2.6**
SPA0				*e*S	**Sn**	**11 53 02.3**	**-2.4**
DAG	**Danmarks Havn**	**5.38**	**220**	*e*	**Pn**	**11 52 20.9**	**+1.1**
	baz=33,slow=16						
DAG				*i* P	**Pn**	**11 52 23.2**	**+3.4**
DAG				*i* S	**Sn**	**11 53 19.9**	**-1.8**
DAG				IAML		11 53 23.4	
	comp=Z,3.6nm,0.3s						
DAG	**Danmarks Havn**	**5.38**	**220**	*e*	**Pn**	**11 52 20.9**	**+1.1**
	baz=33,slow=16						
DAG				*i* P	**Pn**	**11 52 23.2**	**+3.4**
DAG				*i* S	**Sn**	**11 53 19.9**	**-1.8**
DAG				IAML		11 53 23.4	
	comp=Z,3.6nm,0.3s						
HSPB	**Hornsund (broa**	**5.56**	**131**	*e*P	**Pn**	**11 52 25.5**	**+3.3**
HSPB				*e*S	**Sn**	**11 53 25.5**	**-0.6**
HSPB				IAML		11 53 29.4	
	comp=Z,2.6nm,0.5s						
HOPEN	**Hopen**	**7.18**	**117**	*e*P	**Pn**	**11 52 46.6**	**+2.2**
HOPEN				*e*S	**Sn**	**11 54 01.8**	**-4.0**
HOPEN				IAML		11 54 06.6	
	comp=Z,2.2nm,1.1s						
ZFI2	**Zemlya Franca-**	**7.74**	**68**	*e*P	**Pn**	**11 52 52.6**	**+0.5**
ZFI2				*i* S	Sn	11 54 12.0	-7.6
OMEGA	**Omega**	**7.76**	**68**	*e*P	**Pn**	**11 52 52.5**	**+0.1**
OMEGA				*e*S	Sn	11 54 11.8	-8.3
	comp=Z,8.8nm,2.0s						
DBG	**Daneborg**	**7.83**	**215**	*i* P	**Pn**	**11 52 56.4**	**+3.1**
DBG				*i* S	**Sn**	**11 54 16.6**	**-5.2**
DBG				IAML		11 54 30.7	
	comp=Z,1.6nm,0.3s						
DBG	**Daneborg**	**7.83**	**215**	*i* P	**Pn**	**11 52 56.4**	**+3.1**
DBG				*i* S	**Sn**	**11 54 16.6**	**-5.2**
DBG				IAML		11 54 30.7	
	comp=Z,1.6nm,0.3s						
NEEM	**North Greenlan**	**9.31**	**271**	*i* P	**Pn**	**11 53 16.6**	**+2.7**
NEEM				*i* S	**Sn**	**11 54 54.5**	**-4.2**
NEEM	**North Greenlan**	**9.31**	**271**	*i* P	**Pn**	**11 53 16.6**	**+2.7**
NEEM				*i* S	**Sn**	**11 54 54.5**	**-4.2**
SUMG	**Summit**	**11.49**	**240**	*e*P	**Pn**	**11 53 46.2**	**+2.4**
SUMG				*e*S	Sn	11 55 44.5	-7.7
SUMG	**Summit**	**11.49**	**240**	*e*P	**Pn**	**11 53 46.2**	**+2.4**
SUMG				*e*S	Sn	11 55 44.5	-7.7

*NOU **15** 11:53:05.5, 21.°02S×170.°14E, h0km, MLv3.8/6, Southeast of Loyalty Islands*
*IDC **15** 11:53:16.0±1.1, 21.°36S×169.°35E, h0km, mb4.0/7, mbtmp3.9/8, ML3.5/1, MS3.4/2, Error ellipse: s-maj=41.3km s-min=20.9km az=159.0*
*NEIC **15** 11:53:19.6±1.4, 21.°43S±0.°06×169.°22E±0.°07, h10km±1km, mb4.4/17, Error ellipse: s-maj=11.9km s-min=10.2km az=301.0*
ISC 15 11:53:21.1±0.7, 21°33S±0.°10×169°24E±0.°08, h29km, n40, σ1°06/40, mb4.3/13, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.13**	**262**		**Pn**	**11 53 39.8**	**-1.1**
MARNC	**Mare, Loyalty**	**1.13**	**262**	P	**Pn**	**11 53 39.9**	**-1.1**
LIFNC	**LIFOU**	**1.94**	**286**		**Pn**	**11 53 50.5**	**-1.6**
LIFNC	**LIFOU**	**1.94**	**286**	P	**Pn**	**11 53 50.5**	**+0.6**
PINNC	**Pines Island,**	**2.10**	**232**		**Pn**	**11 53 53.5**	**-0.7**
PINNC	**Pines Island,**	**2.10**	**232**	P	**Pn**	**11 53 53.5**	**-0.7**
OUENC	**Ouen Island, N**	**2.47**	**244**		**Pn**	**11 53 59.5**	**0.0**
OUENC	**Ouen Island, N**	**2.47**	**244**	P	**Pn**	**11 53 59.6**	**+0.2**
DZM	**Mont Dzumac**	**2.70**	**254**	Pn	**Pn**	**11 54 02.7**	**0.0**
	8.1nm,0.3s,baz=120,slow=8.1,SNR=247						
DZM				Sn	**Sn**	**11 54 35.8**	**+1.4**
	13nm,0.3s,baz=304,slow=22,SNR=7.5						
	20nm,0.4s						
ONTNC	**Ouen Toro**	**2.76**	**249**	P	**Pn**	**11 54 03.4**	**0.0**
NOUC	**Port Laguerre**	**2.83**	**254**	P	**Pn**	**11 54 04.8**	**+0.4**
KOUNC	**Koumac, New Ca**	**4.69**	**279**		**Pn**	**11 54 30.6**	**+0.6**
MSVF	**Nonsavu**	**9.05**	**68**	Pn	**Pn**	**11 55 30.6**	**+0.7**
ARMA	**Armidale**	**18.23**	**237**	Pn	**Pn**	**11 57 29.6**	**-2.5**
ARMA				IAmb	IAmb	11 58 03.0	
	comp=Z,17nm,1.3s						
CTA	**Charters Tower**	**21.53**	**269**	P	**P**	**11 58 07.7**	**-0.4**
	comp=Z,4.5nm,0.9s,baz=90,slow=14,SNR=2.9						
	comp=Z,4.5nm,0.9s						
CTAO	**Charters Tower**	**21.53**	**269**	P	**P**	**11 58 08.6**	**+0.5**
CTAO				IAmb	IAmb	11 58 22.6	
	comp=Z,20nm,1.4s						
TOO	**Toolangi**	**26.15**	**227**	P	**P**	**11 58 52.5**	**-0.4**
TOO				IAmb	IAmb	11 59 14.0	
	comp=Z,19nm,1.4s						
STKA	**Stephens Creek**	**26.78**	**241**	P	**P**	**11 58 59.7**	**+1.0**
STKA	**Stephens Creek**	**26.78**	**241**	P	**P**	**11 58 59.6**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=87,slow=13,SNR=4.8						
STKA				LR	LR	12 08 20.1	
	comp=Z,54nm,18.7s,baz=20,slow=34						
	comp=Z,1.9nm,0.7s						
BBOO	**Buckleboo**	**31.55**	**242**	P	**P**	**11 59 42.3**	**+1.3**
BBOO				IAmb	IAmb	11 59 43.0	
	comp=Z,5.7nm,0.9s						
WR0	**Warramunga Arr**	**32.46**	**266**	P	**P**	**11 59 48.6**	**-0.5**
WR0				IAmb	IAmb	11 59 50.6	
	comp=Z,6.3nm,1.2s						
WB0	**Warramunga Arr**	**32.63**	**266**	P	**P**	**11 59 50.9**	**+0.3**
WB0

Sta	Name	Dist	Az	Phase	Type	Time	Res	baz
								baz=202
TYC	Yuchr	0.20	222	⇑iP	Pb	11 57 55.4	0.0	baz=215
TYC				iS	Sb	11 57 58.8	0.0	baz=215
WHP	Taichung City	0.23	348	⇑P	Pb	11 57 56.2	0.0	baz=347
WHP				iS	Sb	11 58 00.9	+0.8	baz=347
TDCB	Techi	0.25	35	⇓P	Pg	11 57 56.3	+0.2	baz=29
TDCB				S	Sg	11 57 59.7	-0.3	baz=29
TWT	Tachien	0.26	38	⇓iP	Pg	11 57 56.3	0.0	baz=35
TWT				iS	Sg	11 57 60.0	-0.4	baz=35
WHF	Hehuan Shan	0.26	68	⇓iP	Pb	11 57 57.3	+0.4	baz=76
WHF				iS	Sb	11 58 01.3	+0.1	baz=76
SSLB	Suanglung	0.26	189	P	Pb	11 57 56.3	-0.4	
WWF	Wufeng	0.28	269	⇓P	Pb	11 57 58.0	+1.1	baz=270
WWF				eS	Sn	11 58 03.6	-1.9	baz=270
FUSS	Fushou	0.30	48	⇓P	Pg	11 57 57.1	+0.1	baz=47
FUSS				S	Sg	11 58 01.2	-0.3	baz=47
TCU	Taichung	0.31	288	⇓iP	Pb	11 57 58.5	+1.0	baz=289
TCU				iS	Sn	11 58 04.5	-1.8	baz=289
VWDT	VWDT	0.32	156	⇑P	Pb	11 57 57.7	+0.1	baz=156
VWDT				S	Sb	11 58 02.1	-0.4	baz=156
WNT1	Nantou City	0.33	244	P	Pb	11 57 58.6	+0.9	baz=245
WNT1				S	Sn	11 58 04.8	-1.8	baz=245
WJS	Zhushan	0.34	228	⇓P	Pb	11 57 58.5	+0.6	baz=228
WJS				S	Sb	11 58 04.5	+1.5	baz=228
WNT	Mingjian	0.34	240	⇓iP	Pb	11 57 58.6	+0.8	baz=240
WNT				iS	Sb	11 58 04.7	+1.7	baz=240
TWQ1	Liyutan	0.36	325	⇑iP	Pb	11 57 59.0	+0.6	baz=334
TWQ1				S	Sb	11 58 05.7	+1.9	baz=334
WHYT	Xinyi Township	0.38	201	P	Pb	11 57 58.4	-0.2	baz=197
WHYT				S	Sb	11 58 04.9	+0.7	baz=197
LXIB	Xiulin Townshi	0.38	94	⇓P	Pb	11 57 58.6	-0.1	baz=90
LXIB				S	Sb	11 58 04.8	+0.5	baz=90
WYL	Yuanlin Townsh	0.39	257	⇓P	Pb	11 57 59.8	+1.0	baz=258
WYL				S	Sn	11 58 07.0	-1.3	baz=258
WCHH	Zhanghua	0.41	274	⇓P	Pb	11 57 60.0	+0.9	baz=274
WCHH				S	Sb	11 58 06.7	+1.7	baz=274
NSY	Sanyi	0.43	329	⇑iP	Pb	11 58 00.5	+1.0	baz=331
NSY				iS	Sn	11 58 08.2	-1.0	baz=331
WDJ	Dajia District	0.44	312	⇓P	Pn	11 58 01.1	-0.8	baz=313
WDJ				S	Sn	11 58 09.3	-0.3	baz=313
ETM	Tongmen	0.46	100	⇓P	Pb	11 57 59.8	-0.2	baz=100
ETM				S	Sb	11 58 06.2	-0.3	baz=100
ESL	Shilin	0.46	120	⇓iP	Pb	11 58 00.1	+0.1	baz=120
ESL				iS	Sb	11 58 06.3	-0.2	baz=120
ETLH	Xiulin Townshi	0.47	70	⇓P	Pb	11 58 00.1	-0.1	baz=67
ETLH				S	Sb	11 58 06.6	-0.3	baz=67
WARBT	Fenglin Townsh	0.48	133	⇓P	Pb	11 58 00.3	-0.1	baz=127
WARBT				S	Sb	11 58 06.7	-0.6	baz=127
NNSB	Datong	0.52	43	⇓P	Pg	11 58 00.5	-0.2	baz=43
NNSB				S	Sg	11 58 07.8	+0.1	baz=43
NNSH	Datong	0.52	43	P	Pg	11 58 00.6	-0.2	baz=37
NNSH				S	Sg	11 58 07.7	0.0	baz=37
NNS	Nan Shan	0.52	41	⇓iP	Pg	11 58 00.7	-0.1	baz=42
NNS				iS	Sb	11 58 08.2	-0.2	baz=42
NMLH	Miaoli	0.52	339	⇑P	Pn	11 58 02.3	-0.7	baz=339
NMLH				S	Sb	11 58 10.0	+1.6	baz=339
CHN5	Tsauling	0.54	213	⇓iP	Pb	11 58 01.9	+0.5	baz=212
CHN5				iS	Sb	11 58 10.1	+1.3	baz=212
WGK	Gukeng	0.54	228	⇓iP	Pb	11 58 02.0	+0.7	baz=227
WGK				iS	Sn	11 58 10.6	-1.4	baz=227
EGFH	Guangfu	0.54	134	P	Pb	11 58 01.4	0.0	baz=129
EGFH				S	Sb	11 58 08.6	-0.3	baz=129
TWD	Chiawan	0.55	87	⇓iP	Pb	11 58 01.4	-0.1	baz=93
TWD				iS	Sb	11 58 09.0	0.0	baz=93
WDLH	Douliu	0.55	230	⇓P	Pb	11 58 02.2	+0.6	baz=230
WDLH				S	Sn	11 58 10.8	-1.4	baz=230
HWA	Hwalien	0.56	97	⇓iP	Pb	11 58 02.1	+0.5	baz=97
HWA				iS	Sb	11 58 10.1	+0.8	baz=97
NACB	Ninganchiao	0.56	77	P	Pb	11 58 01.5	-0.2	
NACB	Ninganchiao	0.56	77	⇓P	Pb	11 58 01.5	-0.2	baz=74
NACB				S	Sb	11 58 09.2	-0.1	baz=74
ALS	Alishan	0.56	199	iP	Pb	11 58 02.4	+0.4	baz=187
ALS				iS	Sb	11 58 10.9	+1.0	baz=187
SHUL	Shoufeng	0.58	117	⇓P	Pb	11 58 02.4	+0.4	baz=117
SHUL				S	Sb	11 58 10.6	+0.7	baz=117
ETL	Fush Village	0.58	79	⇓P	Pb	11 58 01.9	-0.2	baz=88
ETL				S	Sb	11 58 10.5	+0.5	baz=88
NSTT	Nanjuang	0.58	0	⇑iP	Pb	11 58 02.7	+0.6	baz=1.0
NSTT				iS	Sb	11 58 10.6	+0.6	baz=1.0
WRL	Guolierlin Hig	0.59	256	⇓P	Pb	11 58 02.5	+0.3	baz=256
WRL				S	Sb	11 58 11.2	+0.9	baz=256
NFF	Wufeng Townshi	0.59	10	P	Pb	11 58 02.4	+0.1	baz=18
NFF				S	Sb	11 58 10.7	+0.3	baz=18
LIOB	Emei	0.59	1	⇑iP	Pb	11 58 03.1	+0.7	baz=2.0
LIOB				iS	Sb	11 58 11.1	+0.6	baz=2.0
RLNB	Erlin	0.61	255	⇓P	Pb	11 58 03.0	+0.5	baz=255
RLNB				S	Sb	11 58 12.1	+1.3	baz=255
EHY	Hungye	0.61	151	iP	Pb	11 58 02.7	0.0	baz=146
EHY				iS	Sb	11 58 11.0	0.0	baz=146
EHYH	Wanrong	0.64	150	⇑P	Pb	11 58 03.1	+0.1	baz=145
EHYH				S	Sb	11 58 12.3	+0.7	baz=145
NJN	Zhunan	0.64	349	P	Pn	11 58 04.6	-0.1	baz=350
NJN				S	Sn	11 58 14.0	-0.5	baz=350
WTK	Tuku	0.67	237	⇓P	Pb	11 58 03.7	+0.2	baz=237
WTK				S	Sn	11 58 14.5	-0.5	baz=237
HGSD	Ruisui	0.68	145	P	Pb	11 58 04.1	+0.4	baz=145
HGSD				S	Sn	11 58 14.1	-1.2	baz=145
LATG	Datong	0.68	45	⇓P	Pg	11 58 03.5	-0.3	baz=37
LATG				S	Sg	11 58 12.6	-0.3	baz=37
WTCT	Ta-ch'eng	0.68	255	iP	Pg	11 58 04.3	+0.5	baz=254
WTCT				iS	Sn	11 58 15.0	-0.5	baz=254
NJD	Zhudong	0.69	7	P	Pg	11 58 04.6	+0.7	baz=7.0
NJD				S	Sn	11 58 15.7	0.0	baz=7.0
CHN2	Minshiung	0.70	223	iP	Pn	11 58 04.9	-0.6	baz=223
CHN2				iS	Sn	11 58 15.7	-0.3	baz=223
NSK	Sanguang	0.70	27	⇓iP	Pg	11 58 04.2	0.0	baz=35
NSK				iS	Sg	11 58 12.8	-0.9	baz=35
WCKO	Fanlu	0.71	211	P	Pg	11 58 04.4	+0.1	baz=221
WCKO				S	Sn	11 58 14.8	-1.3	baz=221
YHNB	Yeheng	0.71	29	P	Pg	11 58 04.3	0.0	
YHNB	Yeheng	0.71	29	⇓P	Pb	11 58 04.2	-0.1	baz=36
YHNB				S	Sg	11 58 13.0	-0.7	baz=36
YULB	Yu-li	0.71	157	P	Pg	11 58 04.1	-0.2	
YULB	Yu-li	0.71	157	⇓P	Pg	11 58 04.2	0.0	baz=149
YULB				S	Sb	11 58 14.6	+0.9	baz=149
NDT	Datong Townshi	0.72	40	⇓P	Pb	11 58 04.1	-0.4	baz=35
NDT				S	Sn	11 58 15.6	-0.9	baz=35
EHP	Heping Village	0.72	69	P	Pg	11 58 04.9	+0.3	baz=69
EHP				S	Sg	11 58 14.8	+0.6	baz=69
HSN1	Hsinchu	0.73	1	P	Pn	11 58 06.2	+0.4	baz=2.0
HSN1				S	Sn	11 58 17.1	+0.5	baz=2.0
EAHA	Aohua	0.73	67	⇓P	Pb	11 58 04.4	-0.2	baz=67
EAHA				S	Sg	11 58 14.6	+0.2	baz=67
SBCB	Hsinchu	0.74	359	P	Pn	11 58 06.2	+0.1	baz=359
SBCB				S	Sn	11 58 17.9	+0.9	baz=359
TWF1	Yuli	0.74	159	iP	Pg	11 58 05.1	+0.1	baz=150
TWF1				S	Sn	11 58 15.8	-1.2	baz=150
HSN	Hsinchu	0.75	358	iP	Pn	11 58 06.1	-0.1	baz=1.0
HSN				iS	Sn	11 58 18.7	+1.6	baz=1.0
WMLT	Mailiao	0.75	251	eP	Pg	11 58 05.6	+0.5	baz=263
WMLT				S	Sn	11 58 17.5	+0.4	baz=263
EYUL	Yuli	0.76	157	P	Pg	11 58 05.4	+0.2	baz=149
EYUL				S	Sn	11 58 16.3	-1.0	baz=149
CHY	Chiayi	0.76	224	P	Pg	11 58 05.6	+0.3	baz=223
CHY				S	Sn	11 58 17.3	-0.1	baz=223
ENA	Nanau	0.77	61	⇓iP	Pg	11 58 05.4	-0.1	baz=61
ENA				iS	Sn	11 58 17.0	-0.7	baz=61
CHN4	Tsaushan	0.79	208	⇓iP	Pg	11 58 06.0	+0.2	baz=207
CHN4				iS	Sn	11 58 18.6	+0.6	baz=207
EWUT	Wuta	0.81	61	⇓P	Pb	11 58 05.9	-0.1	baz=61
EWUT				S	Sg	11 58 17.3	+0.3	baz=61
TPUB	Ta-pu	0.82	205	P	Pg	11 58 06.4	0.0	
TPUB	Ta-pu	0.82	205	⇓P	Pg	11 58 06.3	-0.1	baz=203
TPUB				S	Sn	11 58 17.8	-1.0	baz=203
WSF	Szhu	0.82	240	iP	Pb	11 58 04.9	-1.3	baz=239
WSF				iS	Sn	11 58 18.4	-0.5	baz=239
ECBN	Changbin	0.84	150	P	Pn	11 58 07.7	+0.3	baz=150
ECBN				S	Sn	11 58 19.9	+0.6	baz=150
ELDTW	Lidau	0.86	179	iP	Pg	11 58 06.9	-0.2	baz=183
ELDTW				iS	Sn	11 58 20.2	+0.3	baz=183
NWLT	Wulai	0.86	32	⇓P	Pb	11 58 06.8	0.0	baz=38
NWLT				S	Sb	11 58 18.2	+0.2	baz=38
WTP	Ta-pu	0.87	204	iP	Pg	11 58 07.2	-0.2	baz=202
WTP				iS	Sn	11 58 20.0	-0.2	baz=202
NDS	Dongshan	0.88	48	P	Pb	11 58 07.1	0.0	baz=48
NDS				S	Sg	11 58 18.8	-0.2	baz=48
WSL	Shuilin Townsh	0.88	234	P	Pg	11 58 07.6	+0.1	baz=233
WSL				S	Sn	11 58 20.9	+0.5	baz=233
FULB	Fuli	0.89	162	iP	Pn	11 58 08.4	+0.3	baz=162
FULB				S	Sn	11 58 21.3	+0.8	baz=162
FUSB	Fushanzhiwuyua	0.89	37	⇓P	Pb	11 58 07.1	-0.3	baz=33
FUSB				S	Sn	11 58 20.2	-0.4	baz=33
STYH	Taoyuan	0.90	193	P	Pg	11 58 07.8	0.0	baz=192
STYH				S	Sb	11 58 19.1	0.0	baz=192
TWE	Neicheng	0.90	42	⇓iP	Pg	11 58 07.8	-0.2	baz=43
TWE				iS	Sn	11 58 21.1	+0.1	baz=43
TWK	Hsinying	0.91	211	⇓iP	Pg	11 58 07.9	-0.2	baz=209
TWK				iS	Sn	11 58 21.1	0.0	baz=209
EHD	Haiduan	0.92	168	P	Pn	11 58 08.3	-0.2	baz=179
EHD				S	Sn	11 58 20.8	-0.4	baz=179
CHKH	Chenggong	0.93	157	P	Pn	11 58 08.8	+0.2	baz=157
CHKH				S	Sn	11 58 23.1	+1.7	baz=157
ESAO	Su ao	0.93	56	P	Pb	11 58 08.0	0.0	baz=56
ESAO				S	Sg	11 58 20.5	-0.3	baz=56
NCUH	Zhongli	0.93	10	P	Pn	11 58 09.2	+0.5	baz=11
NCUH				S	Sn	11 58 23.0	+1.4	baz=11
NCU	National Centr	0.93	10	iP	Pn	11 58 09.3	+0.6	baz=11
NCU				iS	Sn	11 58 23.2	+1.5	baz=11
SNST	Tainan City	0.94	209	P	Pg	11 58 08.6	-0.2	baz=208
SNST				iS	Sn	11 58 22.8	+0.8	baz=208
ICHU	Yijhu	0.95	224	P	Pb	11 58 08.5	+0.1	baz=234
ICHU				S	Sn	11 58 22.8	+0.7	baz=234
TWC	Suao	0.95	54	⇓iP	Pb	11 58 08.5	+0.1	baz=54
TWC				S	Sn	11 58 22.1	-0.1	baz=54
CHN1	Nanshi	0.96	207	iP	Pg	11 58 08.9	-0.2	baz=206
CHN1				iS	Sn	11 58 22.6	+0.1	baz=206
ECS	Chishang	0.97	168	P	Pn	11 58 09.8	+0.6	baz=177
ECS				S	Sn	11 58 23.9	+1.3	baz=177
ILA	Ilan	0.99	44	iP	Pn	11 58 09.4	0.0	baz=44
ILA				eS	Sn	11 58 23.8	+0.8	baz=44
CHKT	Chengkung	1.00	160	iP	Pg	11 58 10.0	+0.2	baz=160
CHKT				iS	Sn	11 58 25.3	+2.0	baz=160
CHN8	Yiju	1.01	226	iP	Pn	11 58 09.5	-0.2	baz=225
CHN8				iS	Sn	11 58 24.2	+0.8	baz=225
TATO	Taipei	1.02	26	P	Pg	11 58 10.8	+0.6	
SGST	Jiashian	1.04	202	iP	Pb	11 58 09.6	-0.3	baz=210
SGST				iS	Sn	11 58 24.9	+0.7	baz=210
TWA	Mucha	1.07	30	iP	Pg	11 58 11.2	+0.1	baz=31
TWA				iS	Sg	11 58 27.4	+2.3	baz=31
TAP	Taipei	1.09	25	P	Pg	11 58 12.6	+1.1	baz=26
TAP				S	Sg	11 58 27.5	+1.8	baz=26
SLGT	Liugui	1.10	197	P	Pg	11 58 11.7	+0.1	baz=196
SLGT				S	Sg	11 58 27.1	+1.1	baz=196
NTC	Toucheng	1.10	43	eP	Pg	11 58 12.5	+0.8	baz=44
NTC				S	Sg	11 58 28.1	+2.0	baz=44
NHY	Taipei	1.11	28	eP	Pg	11 58 12.7	+0.7	baz=28
NHY				S	Sg	11 58 27.4	+0.9	baz=28
TWS1	Kuangyinshan	1.11	20	iP	Pg	11 58 12.1	+0.1	baz=20
TWS1				iS	Sg	11 58 28.5	+2.0	baz=20
SSHA	Shanhua	1.12	216	P	Pg	11 58 12.4	+0.4	baz=215
SSHA				S	Sg	11 58 29.1	+2.4	baz=215
CHN3	Shinhua	1.13	211	iP	Pg	11 58 12.5	+0.3	baz=220
CHN3				iS	Sg	11 58 29.6	+2.6	baz=220
SCLT	Jiali	1.14	221	iP	Pg	11 58 11.9	-0.5	baz=219
SCLT				iS	Sg	11 58 28.8	+1.4	baz=219
LONT	Longtian	1.14	174	P	Pg	11 58 12.5	0.0	baz=174
LONT				S	Sg	11 58 28.5	+1.1	baz=174
EGS		1.16	47	iP	Pg	11 58 12.9	+0.1	baz=61
EGS				S	Sg	11 58 28.9	+0.9	baz=61
EOS2	EOS2	1.18	72	eP	Pg	11 58 13.9	+0.7	baz=63
EOS2				eS	Sg	11 58 35.0	+6.3	baz=63
NTST	Danshui	1.18	20	P	Pg	11 58 14.4	+1.1	baz=20
NTST				S	Sg	11 58 29.9	+1.2	baz=20
SHHT	Tainan City	1.19	210	P	Pg	11 58 13.6	+0.3	baz=210
SHHT				S	Sg	11 58 32.9	+4.1	baz=210
TIPB	Shuangxi	1.19	39	iP	Pb	11 58 12.6	+0.1	baz=23
TIPB				S	Sg	11 58 29.4	+0.5	baz=23
EOS4	EOS4	1.21	86	eP	Pg	11 58 13.4	-0.2	baz=101
EOS4				eS	Sg	11 58 30.7	+1.4	baz=101
YM01	YM01	1.21	25	P	Pb	11 58 13.0	+0.1	baz=26
YM01				S	Sg	11 58 30.5	+0.9	baz=26
TWG	Pinlang	1.22	177	iP	Pg	11 58 13.7	-0.3	baz=170
TWG				iS	Sg	11 58 31.2	+1.2	baz=170
EOS3	EOS3	1.23	79	eP	Pg	11 58 14.3	+0.3	baz=77
EOS3				eS	Sg	11 58 36.1	+6.0	baz=77
TWGBT	Beinan	1.23	177	⇑P	Pg	11 58 13.5	-0.6	baz=170
TWGBT				S	Sg	11 58 31.1	+1.0	baz=170
ANP	Anpu	1.23	23	iP	Pb	11 58 13.2	0.0	baz=23
ANP				iS	Sg	11 58 31.0	+0.8	baz=23
TSCK	Chigu Township	1.23	223	P	Pn	11 58 12.6	-0.1	baz=233
TSCK				S	Sg	11 58 30.3	+0.1	baz=233
TAI1	Yung-k'ang	1.23	215	P	Pb	11 58 13.2	+0.1	baz=214
TAI1				iS	Sg	11 58 31.5	+1.3	baz=214
NWF	Wu-fen Shan	1.24	35	iP	Pg	11 58 14.3	0.0	baz=36
NWF				S	Sg	11 58 31.1	+0.5	baz=36
WFSB	Wu-fen Shan	1.24	35	P	Pg	11 58 13.8	-0.5	baz=36
WFSB				S	Sg	11 58 31.0	+0.4	baz=36
SCST	Cishan	1.25	202	P	Pg	11 58 14.3	-0.1	baz=202
SCST				S	Sg	11 58 32.2	+1.5	baz=202
TTN	Taitung	1.29	174	iP	Pg	11 58 14.8	-0.6	baz=174
TTN				iS	Sg	11 58 34.8	+2.5	baz=174
TNOU	National Taiwa	1.30	33	P	Pg	11 58 15.5	-0.1	baz=16
TNOU				S	Sg	11 58 31.8	-0.7	baz=16
SXI1	Grass Mountain	1.31	37	P	Pg	11 58 15.3	-0.4	baz=38
SXI1				S	Sg	11 58 32.4	-0.4	baz=38
TWB1	Santiao Chiao	1.31	43	iP	Pb	11 58 14.8	+0.3	

	baz=25								
TWB1				*i*	S		**Sg**	11 58 33.8	+1.0
	baz=25								
TWM1	**Shoushan**	**1.33**	**204**	*i*	P		**Pg**	11 58 16.3	+0.2
	baz=203								
TWM1					S		**Sg**	11 58 35.5	+2.1
	baz=203								
TWY	**Chenhua**	**1.34**	**24**	*i*	P		**Pb**	11 58 15.5	+0.5
	baz=25								
TWY				*e*	S		**Sg**	11 58 33.8	+0.1
	baz=25								
TSMG	**Majia**	**1.38**	**194**		P		**Pb**	11 58 16.1	+0.4
	baz=193								
TSMG					S		**Sg**	11 58 35.1	+0.2
	baz=193								
SGLT	**Jiouru**	**1.40**	**200**	*e*	P		**Pg**	11 58 18.6	+1.3
	baz=184								
SGLT				*e*	S		**Sg**	11 58 38.5	+2.9
	baz=184								
PNG	**Penghu**	**1.41**	**250**	*i*	P		**Pn**	11 58 15.0	-0.2
	baz=250								
PNG				*i*	S		**Sb**	11 58 34.4	+0.5
	baz=250								
PHUB	**P'eng-hu**	**1.41**	**248**		P		**Pn**	11 58 14.6	-0.6
	baz=248								
PHUB					S		**Sn**	11 58 33.7	+0.2
	baz=248								
SNJT	**Kaohsiung City**	**1.43**	**206**		P		**Pg**	11 58 17.4	-0.4
	baz=205								
SNJT					S		**Sg**	11 58 39.1	+2.6
	baz=205								
LDUT	**Ludao**	**1.44**	**162**		P		**Pn**	11 58 15.6	0.0
	baz=163								
LDUT					S		**Sg**	11 58 36.5	-0.2
	baz=163								
ECL	**Taimali**	**1.45**	**182**	*i*	P		**Pb**	11 58 17.1	+0.2
	baz=167								
ECL				*i*	S		**Sg**	11 58 36.4	-0.7
	baz=167								
WDGT	**Dungji**	**1.46**	**238**	*i*	P		**Pn**	11 58 16.1	+0.2
	baz=237								
WDGT				*i*	S		**Sb**	11 58 35.1	-0.2
	baz=237								
MASBT	**Mashibuluo**	**1.47**	**193**		P		**Pb**	11 58 17.0	-0.2
	baz=194								
MASBT					S		**Sg**	11 58 38.2	+0.4
	baz=194								
WSSB	**Gushan**	**1.56**	**206**		P		**Pb**	11 58 18.8	+0.1
	baz=206								
WSSB					S		**Sg**	11 58 42.0	+1.3
	baz=206								
EAST	**Anshuo**	**1.66**	**185**	*i*	P		**Pb**	11 58 20.3	-0.3
	baz=204								
EAST				*i*	S		**Sg**	11 58 43.1	-1.0
	baz=204								
VCHM	**Qimei**	**1.67**	**240**		P		**Pn**	11 58 18.6	-0.2
	baz=241								
VCHM					S		**Sn**	11 58 40.3	+0.6
	baz=241								
TAW	**Tawu**	**1.69**	**183**	*e*	P		**Pn**	11 58 19.3	+0.3
	baz=167								
TAW					S		**Sg**	11 58 43.6	-1.1
	baz=167								
VWUC	**VWUC**	**1.70**	**304**		P		**Pn**	11 58 18.1	-1.1
	baz=304								
VWUC					S		**Sb**	11 58 41.5	-0.6
	baz=304								
TAWH	**Dawu Township**	**1.70**	**184**		P		**Pb**	11 58 21.0	-0.2
	baz=202								
TAWH					S		**Sg**	11 58 44.6	-0.7
	baz=202								
SCZT	**Fangliau**	**1.71**	**192**	*i*	P		**Pb**	11 58 20.6	-0.6
	baz=192								
SCZT				*i*	S		**Sb**	11 58 43.0	+0.6
	baz=192								
JYNG	**Yonagunijimaku**	**1.82**	**77**	*e*	P		**Pb**	11 58 22.6	-0.6
SLIU	**Shizi**	**1.83**	**186**		P		**Pb**	11 58 22.4	-1.0
	baz=203								
SLIU					S		**Sg**	11 58 47.8	-1.6
	baz=203								
PCYT	**Pengchaiyu**	**1.85**	**31**	*i*	P		**Pn**	11 58 21.8	+0.5
	baz=34								
PCYT					S		**Sn**	11 58 44.7	+0.4
	baz=34								
YOJ	**Yonaguni jima**	**1.88**	**77**		P		**Pb**	11 58 23.3	-0.9
YOJ	**Yonaguni jima**	**1.88**	**77**		P		**Pn**	11 58 22.7	+1.0
	baz=75								
YOJ				*e*	S		**Sg**	11 58 49.2	-1.8
	baz=75								
YOJ	**Yonaguni jima**	**1.88**	**77**		P		**Pn**	11 58 22.8	+1.1
YOJ				*e*	S		**Sb**	11 58 47.9	+0.5
PTMZ	**Houxiangcun**	**1.98**	**300**		P		**Pn**	11 58 22.2	-0.8
	baz=300								
PTMZ				*e*	S		**Sn**	11 58 48.2	+0.8
	baz=300								
HEN	**Hengchun**	**2.05**	**187**	*i*	P		**Pn**	11 58 24.9	+0.9
	baz=187								
HEN					S		**Sb**	11 58 53.4	+1.1
	baz=187								
LAY	**Lan-yu**	**2.06**	**166**	*i*	P		**Pn**	11 58 24.5	+0.2
	baz=168								
LAY				*e*	S		**Sn**	11 58 50.7	+1.1
	baz=168								
TWK1	**Hengchun**	**2.10**	**185**	*i*	P		**Pn**	11 58 25.9	+1.1
	baz=201								
TWK1					S		**Sb**	11 58 54.3	+0.4
	baz=201								
TWKBT	**Hengchun**	**2.10**	**185**		P		**Pn**	11 58 25.3	+0.5
	baz=201								
TWKBT				*e*	S		**Sb**	11 58 55.1	+1.1
	baz=201								
LYUB	**Lan-yu**	**2.11**	**165**		P		**Pn**	11 58 24.1	-0.7
	baz=167								
LYUB					S		**Sn**	11 58 51.2	+0.6
	baz=167								
MATB	**Ma-tsu**	**2.30**	**336**		P		**Pn**	11 58 26.3	-1.2
	baz=334								
MATB				*e*	S		**Sn**	11 58 56.2	+0.8
	baz=334								
MSUT	**Lienchiang**	**2.33**	**335**	*e*	P		**Pn**	11 58 27.1	-0.8
	baz=334								
MSUT				*e*	S		**Sn**	11 58 56.6	+0.5
	baz=334								
KNM	**Kinmen**	**2.37**	**279**	*i*	P		**Pb**	11 58 30.7	-1.9
	baz=278								
KNM					S		**Sb**	11 59 02.9	+1.3
	baz=278								
KNMB	**Chin-men Tao**	**2.42**	**280**		P		**Pn**	11 58 28.2	-0.9
	baz=280								
KNMB					S		**Sn**	11 58 58.2	-0.1
	baz=280								
IRIF	**Iriomote-Funau**	**2.51**	**83**		P		**Pn**	11 58 31.8	+1.4
IRIF				*e*	S		**Sb**	11 59 03.0	-2.6
HATJ	**Hateruma jima**	**2.56**	**89**		P		**Pn**	11 58 32.5	+1.4
MHZQ	**Yeshan**	**2.71**	**319**		P		**Pn**	11 58 32.9	-0.3
	baz=318								
MHZQ				*e*	S		**Sn**	11 59 05.2	-0.4
	baz=318								
LYJJ	**Jianjiangzhen**	**2.73**	**336**		P		**Pn**	11 58 33.3	-0.1
	baz=334								
LYJJ				*e*	S		**Sn**	11 59 06.7	+0.6
	baz=334								
JKRS	**Kuro-shima**	**2.75**	**85**		P		**Pn**	11 58 35.2	+1.5
JKRS				*e*	S		**Sn**	11 59 09.2	+2.6
JIJ	**Ishigaki jima**	**2.89**	**83**		P		**Pn**	11 58 36.5	+0.9
JIJ				*e*	S		**Sn**	11 59 10.2	+0.4
AXDP	**Jialang**	**2.89**	**288**		P		**Pn**	11 58 35.0	-0.6
	baz=288								
AXDP				*e*	S		**Sn**	11 59 12.6	+2.7
	baz=288								
XPSS	**Dashiqiu**	**2.96**	**346**		P		**Pn**	11 58 35.0	-1.6
	baz=345								
XPSS				*e*	S		**Sn**	11 59 12.8	+1.1
	baz=345								
ZPLA	**Ao Xicun**	**2.98**	**268**		P		**Pn**	11 58 36.4	-0.4
	baz=266								
ZPLA					S		**Sn**	11 59 11.2	-0.8
	baz=266								
JISG	**Ishigakijimahi**	**3.07**	**79**	*e*	P		**Pn**	11 58 38.6	+0.5
JISG				*e*	S		**Sn**	11 59 14.7	+0.4
DSXP	**Dongshan**	**3.29**	**265**		P		**Pn**	11 58 40.6	-0.5
	baz=262								
DSXP					S		**Sn**	11 59 19.4	-0.4
	baz=262								
JTJ	**Tarama**	**3.43**	**79**		P		**Pn**	11 58 44.7	+1.8
JTJ					S		**Sn**	11 59 24.9	+1.7
SXFK	**Yanhouchang**	**3.84**	**308**		P		**Pn**	11 58 47.9	-0.7
	baz=308								
JIRB	**Irabujima**	**3.88**	**78**	*e*	S		**Sn**	11 59 36.8	+2.4
JMJ2	**Miyako jima3**	**4.00**	**79**	*e*	S		**Sn**	11 59 41.5	+4.0
JOGS	**Gusukube**	**4.08**	**79**	*e*	P		**Pn**	11 58 55.0	+3.1
JOW	**Kunigami**	**7.13**	**66**		P		**Pn**	11 59 34.2	+0.2
	4.5nm,0.3s,baz=166,slow=13,SNR=24								
JOW					S		**Sn**	12 00 52.5	-2.2
	14nm,1.0s,baz=345,slow=16,SNR=1.5								
	11nm,0.3s								
KSRS	**Korea Array**	**14.62**	**22**		P		**Pn**	12 01 16.1	-0.3
	1.6nm,0.9s,baz=224,slow=11,SNR=1.1								
KSRS					LR		LR	12 06 46.5	
	comp=Z,27nm,18.9s,baz=215,slow=37								
MJAR	**Matsushiro Arr**	**19.35**	**46**	LR			LR	12 11 27.5	
	comp=Z,17nm,18.8s,baz=192,slow=42								
CMAR	**Chiang Mai Arr**	**21.29**	**259**	LR			LR	12 10 49.8	
	comp=Z,13nm,19.6s,baz=0.0,slow=36								
SONM	**Songino Array**	**26.43**	**338**	P			**P**	**12 03 26.7**	**+0.4**
	0.5nm,0.7s,baz=161,slow=9.2,SNR=2.9								
	0.5nm,0.7s								
MKAR	**Makanchi Array**	**38.32**	**316**	P			**P**	**12 05 11.2**	**+1.1**
	0.9nm,0.6s,baz=110,slow=9.9,SNR=11								
	0.9nm,0.6s								
PETK	**Petropavlovsk-**	**40.07**	**34**	P			**P**	**12 05 22.0**	**-2.7**
	6.5nm,0.9s,baz=212,slow=5.1,SNR=2.6								
	6.5nm,0.9s								
ZALV	**Zalesovo Beam**	**40.27**	**327**	P			**P**	**12 05 26.6**	**+0.4**
	1.0nm,0.5s,baz=111,slow=8.1,SNR=5.3								
	1.0nm,0.5s								
WRA	**Warramunga Arr**	**45.62**	**162**	P			**P**	**12 06 07.4**	**-2.5**
	0.4nm,0.6s,baz=345,slow=8.3,SNR=9.1								
	0.4nm,0.6s								
ASAR	**Alice Springs**	**49.06**	**164**	P			**P**	**12 06 35.3**	**-1.4**
	0.3nm,0.3s,baz=330,slow=6.1,SNR=4.9								
	0.3nm,0.3s								
FINES	**FINESS Array B**	**71.48**	**330**	P			**P**	**12 09 10.6**	**+0.9**
	0.9nm,0.7s,baz=46,slow=6.0,SNR=2.1								
	0.9nm,0.7s								

IDC 15 12:15:04.5±542.0, 66°23N×11°52E, h0km, Error ellipse: s-maj=236.3km s-min=79.6km az=47.0, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I37NO	**I37NO**	**3.94**	**40**	I	I	12 40 30.0	
	baz=227,slow=334,SNR=2.5						
I43RU	**DUBNA INFRASON**	**5.41**	**116**	I	I	13 48 50.0	
	baz=318,slow=326,SNR=3.6						
I31KZ	**AKTYUBINSK INF**	**28.24**	**101**	I	I	15 07 20.0	
	baz=323,slow=334,SNR=0.5						
I46RU	**ZALESOVO INFRA**	**36.27**	**73**	I	I	15 55 20.0	
	baz=318,slow=326,SNR=2.1						

IDC 15 12:15:39.7±2.1, 5°82S×142°05E, h0km, mb3.6/1, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=121.5km s-min=27.0km az=115.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.92**	**207**	Pn	Pn	12 19 23.3	-2.0
	0.1nm,0.3s,baz=32,slow=12,SNR=6.1						
WRA				Lg	Lg	12 24 04.2	
	baz=31,slow=28,SNR=3.5						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**19.40**	**203**	P	Pn	12 20 08.5	-0.2
	0.1nm,0.3s,baz=30,slow=10,SNR=14						
ASAR				Lg	Lg	12 25 56.7	
	baz=25,slow=29						
	1.0nm,0.6s						
ILAR	**Eielson Array**	**87.28**	**24**	P	P	12 28 28.0	-0.1
	0.4nm,0.9s,baz=260,slow=5.4,SNR=3.1						
	0.4nm,0.9s						

*IDC **15** 12:21:29.8±1.1, 49°.68S×121°.47E, h0km, mb3.9/6, mbtmp3.9/6, MS3.7/9, Error ellipse: s-maj=50.0km s-min=19.3km az=97.0*

ISC 15 12:21:31.2±1.1, 49°.7S±0°.1×121°.5E±0°.3, h10km, n16, σ0s89/7, mb3.8/6, MS3.7/8, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**15.72**	**337**	T	T	12 41 25.8	
	baz=160,slow=74,SNR=17						
H01W2	**Cape Leeuwin H**	**15.72**	**337**	T	T	12 41 23.9	
	baz=160,slow=74,SNR=18						
H01W3	**Cape Leeuwin H**	**15.74**	**337**	T	T	12 41 26.4	
	baz=160,slow=74,SNR=14						
NWAO	**Narrogin (SRO)**	**17.02**	**348**	LR	LR	12 30 43.7	
	comp=Z,108nm,18.8s,baz=208,slow=32						
STKA	**Stephens Creek**	**23.27**	**48**	P		**P**	**12 26 39.0**	**+0.2**
	1.8nm,0.7s,baz=211,slow=12,SNR=4.2						
STKA				LR	LR	12 34 38.6	
	comp=Z,71nm,18.4s,baz=206,slow=34						
	1.8nm,0.7s						
ASAR	**Alice Springs**	**27.71**	**25**	P		**P**	**12 27 20.9**	**+1.2**
	1.2nm,0.8s,baz=199,slow=8.7,SNR=7.9						
ASAR				LR	LR	12 37 11.0	
	comp=Z,197nm,20.3s,baz=184,slow=34						
	1.2nm,0.8s						
WRA	**Warramunga Arr**	**31.38**	**24**	P		**P**	**12 27 50.9**	**-1.2**
	1.0nm,0.7s,baz=198,slow=7.7,SNR=4.7						
	1.0nm,0.7s						
VNDA	**Vanda**	**31.82**	**165**	P		**P**	**12 27 55.5**	**0.0**
	3.8nm,0.7s,baz=306,slow=9.4,SNR=22						
VNDA				LR	LR	12 39 55.5	
	comp=Z,95nm,18.8s,baz=301,slow=35						
	3.8nm,0.7s						
CTA	**Charters Tower**	**35.49**	**43**	LR	LR	12 42 00.9	
	comp=Z,57nm,19.9s,baz=238,slow=35						
BATI	**Baumata**	**39.38**	**3**	LR	LR	12 44 33.5	
	comp=Z,107nm,20.1s,baz=182,slow=35						
QSPA	**South Pole Qui**	**40.46**	**180**	P		**P**	**12 29 09.6**	**-0.1**
	0.9nm,0.8s,baz=180,slow=1.5,SNR=7.2						
QSPA				LR	LR	12 44 48.5	
	comp=Z,109nm,18.8s,baz=308,slow=35						
	0.9nm,0.8s						
HNR	**Honiara**	**51.25**	**52**	LR	LR	12 49 29.3	
	comp=Z,335nm,20.7s,baz=172,slow=33						
SNAA	**Sanae**	**52.77**	**199**	LR	LR	12 51 46.6	
	comp=Z,151nm,18.1s,baz=289,slow=34						
CMAR	**Chiang Mai Arr**	**70.71**	**337**	P		**P**	**12 32 47.4**	**+0.2**
	0.7nm,0.6s,baz=181,slow=6.1,SNR=6.0						
	0.7nm,0.6s						
PDAR	**Pinedale Array**	**144.58**	**81**	PKP	PKPbc	12 41 06.5	+0.2
	0.2nm,0.5s,baz=255,slow=2.7,SNR=2.4						
YKA	**Yellowknife Ar**	**147.29**	**46**	PKPbc	**PKPbc**	**12 41 14.0**	**+0.4**
	2.3nm,0.7s,baz=276,slow=2.9,SNR=50						

IDC 15 12:22:51.5±2.2, 6°88S×144°16E, h0km, mb3.6/2, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=76.3km s-min=30.4km az=120.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.11**	**215**	Pn	Pn	12 26 39.5	-0.1
	0.1nm,0.3s,baz=43,slow=12,SNR=5.9						
WRA				Sn	Sn	12 29 41.4	+2.4
	0.1nm,0.3s,baz=38,slow=11,SNR=1.7						
WRA				Lg	Lg	12 31 24.9	
	0.1nm,0.3s,baz=39,slow=28,SNR=5.2						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**19.38**	**209**	S	S	12 31 03.9	+4.5
	0.3nm,0.2s,baz=15,slow=27,SNR=1.6						
ASAR				Lg	Lg	12 33 11.9	
	baz=15,slow=21,SNR=1.6						
MKAR	**Makanchi Array**	**76.40**	**321**	P	P	12 34 41.8	-1.2
	0.8nm,1.1s,baz=116,slow=8.2,SNR=3.8						
	0.8nm,1.1s						
ILAR	**Eielson Array**	**87.40**	**24**	P	P	12 35 41.7	+1.2
	0.4nm,0.9s,baz=260,slow=5.4,SNR=4.9						
	0.4nm,0.9s						

*IDC **15** 12:31:38.5±0.9, 38°.57N×138°.69E, h205km±10km, mb3.0/8, mbtmp3.6/13, Error ellipse: s-maj=18.9km s-min=13.6km az=77.0*

*JMA **15** 12:31:39.2±0.2, 38°.6N±0°.9×138°.7E±0°.9, h202km±1km, MV3.2/38, OFF N NIIGATA PREF*

ISC 15 12:31:38.5±0.7, 38°58N±0°.05×138°76E±0°.06, h207km±6km, n31, σ1s39/47, mb3.2/8, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAW	**Awa shima**	**0.40**	**107**	P		**Pn**	**12 32 06.3**	**+0.2**
JAW				*e*S		**S**	**12 32 27.0**	**-0.5**
JSD	**Sado**	**0.67**	**216**	P		**Pn**	**12 32 07.1**	**0.0**
JSD				S		**S**	**12 32 28.7**	**-0.6**
JYA	**Atsumi**	**0.75**	**88**	P		**Pn**	**12 32 07.8**	**+0.3**
JYA				S		**S**	**12 32 30.0**	**0.0**
JNS	**Sasagawa**	**0.88**	**150**	P		**Pn**	**12 32 08.3**	**+0.1**
JIZZ	**Izumozaki**	**1.04**	**182**	*e*P		**Pn**	**12 32 10.1**	**+0.7**
JIZZ				S		**S**	**12 32 33.6**	**+0.6**
JYS	**Shirataka**	**1.09**	**109**	*e*P		**Pn**	**12 32 10.6**	**+1.0**
JYS				*e*S		**S**	**12 32 34.3**	**+0.8**
JYK	**Kaneyama**	**1.30**	**74**	P		**Pn**	**12 32 11.5**	**+0.3**
JYK				S		**S**	**12 32 36.4**	**+0.1**
JSZ	**Suzu**	**1.57**	**225**	P		**Pn**	**12 32 13.7**	**+0.2**
JSZ				S		**S**	**12 32 40.5**	**+0.2**
JOTO	**OTAMA OYAMA**	**1.61**	**129**	P		**Pn**	**12 32 14.5**	**+0.7**
JHG	**Hegura jima**	**1.62**	**244**	P		**Pn**	**12 32 14.2**	**+0.3**
JMK	**Ichinoseki**	**1.96**	**78**	P		**Pn**	**12 32 17.4**	**+0.4**
JMK				S		**S**	**12 32 46.7**	**-0.1**
MAT	**Matsushiro**	**2.08**	**192**	P		**Pn**	**12 32 18.7**	**+0.3**
MAT				*e*S		**S**	**12 32 49.5**	**+0.5**
MJAR	**Matsushiro Arr**	**2.08**	**192**	P		**Pn**	**12 32 18.6**	**+0.2**
	26nm,0.7s,baz=8.4,slow=11,SNR=46							
MJAR				S		**S**	**12 32 49.8**	**+0.8**
	5.7nm,0.9s,baz=275,slow=18,SNR=6.8							
JOM	**Ohasama**	**2.17**	**65**	*e*P		**Pn**	**12 32 19.6**	**+0.4**
JOM				*e*S		**S**	**12 32 51.6**	**+1.0**
JAG	**Ashikaga**	**2.22**	**165**	*i* P		**Pn**	**12 32 19.9**	**+0.1**
JRY	**Ryogami san**	**2.56**	**177**	P		**Pn**	**12 32 23.6**	**0.0**
JRY				*e*S		**S**	**12 32 58.5**	**+0.3**
JANG	**Nango**	**2.79**	**49**	P		**Pn**	**12 32 26.6**	**+0.6**
JANG				*e*S		**S**	**12 33 02.8**	**0.0**
JKG	**Kaga**	**3.00**	**221**	P		**Pn**	**12 32 29.3**	**+0.8**
JYN	**Shimob**	**3.08**	**183**	P		**Pn**	**12 32 29.3**	**-0.3**
JYN				S		**S**	**12 33 09.1**	**+0.2**
JHJ	**Hachijo jima 2**	**5.51**	**171**	P		**Pn**	**12 32 58.5**	**-1.1**
	35nm,0.3s,baz=57,slow=22,SNR=12							
JHJ				S		**S**	**12 33 57.0**	**-6.4**
	91nm,0.8s,baz=232,slow=19,SNR=2.1							
ASAJ	**Asahikawa**	**6.24**	**26**	P		**Pn**	**12 33 07.7**	**-1.2**
	1.5nm,0.3s,baz=236,slow=7.3,SNR=2.0							
ASAJ				S		**S**	**12 34 15.0**	**-5.4**
	4.2nm,0.8s,baz=283,slow=24,SNR=1.7							
USRK	**Ussuriysk Ar.**	**7.58**	**320**	P		**Pn**	**12 33 26.5**	**+0.3**
	4.8nm,0.6s,baz=142,slow=12,SNR=8.8							
KLR	**Kul'dur**	**11.78**	**337**	P		**Pn**	**12 34 19.8**	**-0.4**
	0.9nm,0.6s,baz=176,slow=13,SNR=2.9							
SONM	**Songino Array**	**25.18**	**302**	P		**P**	**12 36 44.9**	**0.0**
	0.9nm,0.4s,baz=101,slow=8.8,SNR=12							
	0.9nm,0.4s							
ZALV	**Zalesovo Beam**	**39.32**	**311**	P		**P**	**12 38 47.2**	**0.0**
	0.3nm,0.3s,baz=98,slow=4.5,SNR=4.1							
	0.3nm,0.3s							
MKAR	**Makanchi Array**	**41.52**	**300**	P		**P**	**12 39 04.5**	**-0.9**
	0.1nm,0.4s,baz=84,slow=11,SNR=2.5							
	0.1nm,0.4s							
KURBB	**Kurchatov Arra**	**43.40**	**306**	P		**P**	**12 39 20.0**	**-0.4**
	1.5nm,0.4s,baz=83,slow=8.4,SNR=19							
	1.5nm,0.4s							
ILAR	**Eielson Array**	**49.33**	**33**	P		**P**	**12 40 07.2**	**+0.9**
	0.2nm,0.7s,baz=273,slow=5.1,SNR=5.9							
	0.2nm,0.7s							
WRA	**Warramunga Arr**	**58.36**	**185**	P		**P**	**12 41 12.0**	**0.0**
	0.2nm,0.5s,baz=360,slow=7.3,SNR=5.0							
	0.2nm,0.5s							
FINES	**FINESS Array B**	**66.46**	**331**	P		**P**	**12 42 05.2**	**0.0**
	1.0nm,0.7s,baz=63,slow=8.8,SNR=4.5							
	1.0nm,0.7s							
PDAR	**Pinedale Array**	**78.06**	**44**	P		**P**	**12 43 15.6**	**+1.1**
	0.2nm,0.6s,baz=351,slow=1.2,SNR=1.8							
	0.2nm,0.6s							

IDC 15 12:54:00.3±1.4, 49°.65S×123°.57E, h0km, mb3.7/4, mbtmp3.7/4, MS3.6/2, Error ellipse: s-maj=71.5km s-min=26.7km az=87.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.29**	**331**	T	T	13 13 54.8	
	baz=161						
H01W2	**Cape Leeuwin H**	**16.29**	**331**	T	T	13 13 56.7	
	baz=161						
H01W3	**Cape Leeuwin H**	**16.31**	**331**	T	T	13 13 59.6	
	baz=161						
ASAR	**Alice Springs**	**27.18**	**21**	P	P	12 59 46.0	+0.5
	0.9nm,1.0s,baz=196,slow=9.2,SNR=4.2						
	0.9nm,1.0s						
WRA	**Warramunga Arr**	**30.87**	**20**	P	P	13 00 17.6	-0.7
	0.4nm,0.8s,baz=198,slow=12,SNR=1.3						
	0.4nm,0.8s						
VNDA	**Vanda**	**31.49**	**165**	P	P	13 00 23.2	0.0
	2.3nm,0.9s,baz=302,slow=8.2,SNR=7.0						
VNDA				LR	LR	13 11 49.2	
	comp=Z,77nm,18.8s,baz=202,slow=34						
	2.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**71.24**	**335**	P	P	13 05 21.4	+0.2
	0.9nm,1.0s,baz=191,slow=5.2,SNR=5.1						
	0.9nm,1.0s						
TSUM	**Tsumeb**	**85.45**	**246**	LR	LR	13 36 57.3	
	comp=Z,45nm,21.0s,baz=166,slow=30						
YKA	**Yellowknife Ar**	**146.33**	**45**	PKPbc	PKPdf	13 13 40.8	+0.3
	0.6nm,0.8s,baz=278,slow=2.8,SNR=11						

JMA 15 13:06:11.3±0.1, 24°.3N±0°.3×123°.8E±0°.2, h14km±1km, MV1.7/10, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.13**	**312**	P	Pg	13 06 14.7	0.0
IRIF				S	Sg	13 06 17.3	+0.2
JKRS	**Kuro-shima**	**0.16**	**94**	*i* P	Pg	13 06 15.3	+0.1
JKRS				S	Sg	13 06 18.5	+0.7
HATJ	**Hateruma jima**	**0.19**	**188**	P	Pg	13 06 15.5	-0.1
HATJ				S	Sg	13 06 18.8	+0.2
JIJ	**Ishigaki jima**	**0.30**	**68**	P	Pg	13 06 17.4	-0.2
JIJ				S	Sg	13 06 21.8	0.0
JISG	**Ishigakijimahi**	**0.55**	**52**	*i* P	Pg	13 06 22.1	0.0
JISG				S	Sg	13 06 29.8	+0.4
YOJ	**Yonaguni jima**	**0.78**	**286**	P	Pg	13 06 26.5	0.0

Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**1.27**	**233**	*e*P	Pg	13 09 01.1	-1.5
VSU				*e*SN	Sn	13 09 21.2	+0.2
EE03	**Tooma soojaam,**	**1.28**	**254**	*e*P	Pg	13 09 01.2	-1.7
EE03				*e*S	Sg	13 09 17.2	-2.3
ARBE	**Arbavere**	**1.38**	**279**	*e*PN	Pg	13 09 04.0	-0.8
VJF	**Virojoki**	**1.41**	**337**	*e*P	Pn	13 09 03.5	-1.8
VJF				*e*S	Sg	13 09 21.8	-1.9
EE07	**Piusa Caves, O**	**1.54**	**204**	*e*P	Pn	13 09 06.1	-0.9
EE07				*e*SN	Sg	13 09 27.8	0.0
EE08	**Sarghaua, Vand**	**1.86**	**253**	*e*P	Pn	13 09 11.1	-0.4
EE08				*e*S	Sn	13 09 35.2	-0.4
PVF	**Pernaja**	**1.92**	**314**	*e*PN	Pn	13 09 12.3	+0.1
PVF				*e*SG	Sn	13 09 37.4	+0.4
PVF				MSG		13 09 40.1	
	comp=Z,0.9nm,0.1s						
EE02	**Kiisa, Saku**	**2.03**	**270**	*e*SG	Sb	13 09 40.9	-1.0
RUF	**Ruokolahti**	**2.19**	**4**	*e*P	Pn	13 09 15.3	-0.8
RUF				*e*SB	Sn	13 09 45.1	+1.2
MEF	**Metsahovi**	**2.36**	**296**	*e*P	Pb	13 09 20.1	-1.7
MEF	**Metsahovi**	**2.36**	**296**	*e*P	Pn	13 09 18.2	-0.2
MEF				*e*SB	Sb	13 09 50.0	-1.5
MEF				MSG		13 09 51.3	
	comp=Z,0.6nm,0.1s						
FIA0	**FINESS Array S**	**2.55**	**331**	*e*PB	Pn	13 09 22.6	+1.7
FIA0				*e*SG	Sb	13 09 56.8	0.0
FIA0				MSG		13 09 58.4	
	comp=Z,0.6nm,0.1s						
FIA1	**FINESS Array S**	**2.55**	**331**	*e*PB	Pn	13 09 22.6	+1.7
FIA1				*e*SG	Sb	13 09 56.8	0.0
FIA1				MSG		13 09 57.3	
	comp=Z,0.2nm,0.1s						
EE01	**Perakula, Nova**	**2.58**	**271**	*e*SB	Sb	13 09 56.5	-1.2

HEL 15 13:09:25.0±0.1, 61°48N×23°42E, h0km, ML1.1, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPF	**Kankaanpaa**	**0.73**	**299**	*e*P	Pg	13 09 38.0	-1.0
KPF				*e*S	Sg	13 09 48.5	0.0
RAF	**Rauma**	**0.92**	**241**	*e*P	Pg	13 09 40.4	-2.3
RAF	**Rauma**	**0.92**	**241**	*e*P	Pg	13 09 40.4	-2.3
RAF				MSG		13 09 52.1	
	comp=Z,1.2nm,0.2s						
RAF				*e*SB	Sg	13 09 54.6	+0.1
KEF	**Keuruu**	**0.97**	**44**	*e*P	Pg	13 09 43.0	-0.7
KEF	**Keuruu**	**0.97**	**44**	*e*P	Pg	13 09 42.5	-1.2
KEF				MSG		13 09 55.5	
	comp=Z,1.6nm,0.2s						
KEF				*e*SB	Sg	13 09 56.3	+0.1
FIA0	**FINESS Array S**	**1.28**	**91**	*e*P	Pg	13 09 47.8	-1.7
FIA0				MSG		13 10 03.5	
	comp=Z,1.4nm,0.2s						
FIA0				*e*SB	Sg	13 10 06.3	+0.3
KAF	**Kangasniemi**	**1.51**	**64**	*e*PG	Pn	13 09 52.2	-1.1
KAF				MSG		13 10 10.7	
	comp=Z,2.0nm,0.2s						
KAF				*e*SN	Sb	13 10 13.6	0.0
VAF	**Ylistaro**	**1.60**	**348**	*e*P	Pn	13 09 53.9	-0.7
VAF	**Ylistaro**	**1.60**	**348**	*e*PG	Pn	13 09 54.0	-0.6
VAF				MSG		13 10 13.6	
	comp=Z,1.0nm,0.2s						
VAF				*e*SN	Sn	13 10 16.0	+0.1
SUF	**Sumiainen**	**1.79**	**45**	*e*PG	Pn	13 09 57.0	-0.1
SUF				MSG		13 10 18.8	
	comp=Z,0.8nm,0.2s						
AAL	**Aland**	**2.13**	**234**	*e*P	Pn	13 09 52.5	-9.2

IDC 15 13:16:39.1±1.9, 5°64S×146°68E, h0km, mb3.1/2, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=70.5km s-min=30.3km az=112.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.77**	**173**	Pn	Pn	13 17 38.9	+0.3
	6.5nm,0.3s,baz=337,slow=7.0,SNR=9.7						
PMG				Sn	Sn	13 18 17.3	-6.4
	1.3nm,0.3s,baz=78,slow=20,SNR=1.3						
WRA	**Warramunga Arr**	**18.61**	**219**	P	P	13 20 57.2	-1.0
	0.1nm,0.3s,baz=43,slow=11,SNR=2.6						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**21.74**	**213**	P	P	13 21 32.4	+0.1
	0.3nm,0.4s,baz=52,slow=8.9,SNR=11						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**85.28**	**23**	P	P	13 29 17.7	+0.2
	0.2nm,0.7s,baz=261,slow=4.5,SNR=1.8						
	0.2nm,0.7s						

IDC 15 13:19:05.4±0.7, 6°08S×142°87E, h0km, mb4.1/13, mbtmp4.1/15, ML2.2/1, MS3.0/1, Error ellipse: s-maj=29.9km s-min=16.6km az=75.0
NEIC 15 13:19:07.5±1.7, 6°25S±0°10×142°72E±0°06, h10km±1km, mb4.1/11, Error ellipse: s-maj=16.8km s-min=9.4km az=186.0
ISC 15 13:19:10.1±0.5, 6°30S±0°06×142°65E±0°07, h35km, n31, σ1°95/33, mb4.0/13, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.43**	**125**		**Pn**	**13 20 28.0**	**-0.7**
PMG	**Port Moresby**	**5.43**	**125**	Pn	**Pn**	**13 20 27.3**	**-1.3**
	4.9nm,0.3s,baz=60,slow=1.6,SNR=6.8						
PMG				Sn	**Sn**	**13 21 31.5**	**+1.5**
	6.9nm,0.3s,baz=242,slow=21,SNR=10						
PMG				LR	LR	13 23 00.8	
	comp=Z,151nm,18.7s,baz=262,slow=44						
	14nm,0.4s						
MANU	**Manus Island**	**6.32**	**48**	Pn	**Pn**	**13 20 39.4**	**-1.5**
FAKI	**Fak Fak**	**10.89**	**287**	Pn	**Pn**	**13 21 41.6**	**-2.1**
MTN	**Manton Dam**	**13.08**	**239**	Pn	**Pn**	**13 22 14.8**	**+1.3**
CTA	**Charters Tower**	**14.15**	**166**	Lg	Lg	13 26 44.7	
	0.1nm,0.3s,baz=90,slow=23,SNR=1.9						
WB0	**Warramunga Arr**	**15.61**	**210**		**Pn**	**13 22 47.4**	**-0.2**
WB0				IAmb	IAmb	13 23 00.6	
	comp=Z,18nm,0.8s						
WR0	**Warramunga Arr**	**15.70**	**209**		**Pn**	**13 22 49.0**	**+0.2**
WR0				IAmb	IAmb	13 23 01.6	
	comp=Z,18nm,0.9s						
WRAB	**Tennant Creek**	**15.77**	**210**		**Pn**	**13 22 50.4**	**+0.6**
WRAB				IAmb	IAmb	13 23 19.7	
	comp=Z,11nm,0.8s						
WB2	**Warramunga Arr**	**15.78**	**210**		**Pn**	**13 22 50.9**	**+1.1**
WB2				IAmb	IAmb	13 23 06.6	
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**15.79**	**210**	Pn	**Pn**	**13 22 50.2**	**+0.3**
WRA	**Warramunga Arr**	**15.79**	**210**	Pn	**Pn**	**13 22 49.4**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=22,slow=13,SNR=22						
WRA				Sn	**Sn**	**13 25 36.7**	**-7.1**
	comp=Z,0.8nm,0.3s,baz=30,slow=22,SNR=5.0						
WRA				Lg	Lg	13 27 32.3	
	baz=108,slow=14						
KNRA	**Kununurra**	**16.50**	**234**	P	**P**	**13 23 02.2**	**+0.9**
AS31	**Alice Springs**	**19.21**	**205**	P	**Pn**	**13 23 35.6**	**+3.2**
AS31				IAmb	IAmb	13 23 42.1	
	comp=Z,9.0nm,0.7s						
ASAR	**Alice Springs**	**19.21**	**205**	P	**Pn**	**13 23 35.4**	**+3.0**
	comp=Z,9.3nm,0.5s,baz=32,slow=10,SNR=87						
ASAR				S	**Sn**	**13 27 03.9**	**-3.0**
	comp=Z,1.0nm,0.6s,baz=16,slow=27,SNR=4.4						
ASAR				Lg	Lg	13 29 17.4	
	comp=Z,0.1nm,0.3s,baz=20,slow=27,SNR=4.1						
FITZ	**Fitzroy Crossi**	**20.32**	**233**	P	**P**	**13 23 43.3**	**0.0**
FITZ				IAmb	IAmb	13 23 51.2	
	comp=Z,3.5nm,0.9s						
STKA	**Stephens Creek**	**25.47**	**182**	P	**P**	**13 24 37.4**	**+2.4**
	comp=Z,2.2nm,0.8s,baz=348,slow=14,SNR=2.9						
	comp=Z,2.2nm,0.8s						
MARNC	**Mare, Loyalty**	**28.82**	**124**	P	**P**	**13 25 04.1**	**-1.2**
MJAR	**Matsushiro Arr**	**42.81**	**355**	P	**P**	**13 27 02.8**	**-1.9**
	comp=Z,0.8nm,0.6s,baz=174,slow=7.9,SNR=2.0						
	comp=Z,0.8nm,0.6s						
KSRS	**Korea Array**	**45.64**	**344**	P	**P**	**13 27 27.2**	**0.0**
	comp=Z,1.1nm,0.7s,baz=159,slow=8.7,SNR=1.7						
	comp=Z,1.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**49.62**	**301**	P	**P**	**13 27 59.5**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=124,slow=6.3,SNR=6.3						
	comp=Z,0.7nm,0.3s						
PETK	**Petropavlovsk-**	**60.54**	**10**	P	**P**	**13 29 16.3**	**-0.4**
	comp=Z,4.0nm,0.9s,baz=158,slow=7.1,SNR=8.0						
	comp=Z,4.0nm,0.9s						
SONM	**Songino Array**	**62.64**	**333**	P	**P**	**13 29 32.8**	**+1.6**
SONM				IAmb	IAmb	13 29 58.1	
	comp=Z,1.4nm,1.2s						
SONM	**Songino Array**	**62.64**	**333**	P	**P**	**13 29 31.6**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=162,slow=5.8,SNR=4.2						
	comp=Z,0.5nm,0.6s						
MKAR	**Makanchi Array**	**75.01**	**322**	P	**P**	**13 30 49.0**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=106,slow=7.1,SNR=16						
	comp=Z,1.5nm,0.8s						
ZALV	**Zalesovo Beam**	**77.00**	**329**	P	**P**	**13 30 59.2**	**0.0**
	comp=Z,0.8nm,0.5s,baz=101,slow=7.7,SNR=4.5						
	comp=Z,0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**78.91**	**324**	P	**P**	**13 31 09.4**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=119,slow=4.9,SNR=7.0						
	comp=Z,0.6nm,0.6s						
QSPA	**South Pole Qui**	**83.67**	**180**	P	**P**	**13 31 36.4**	**+1.3**
	comp=Z,2.1nm,1.0s,baz=291,slow=1.3,SNR=12						
	comp=Z,2.1nm,1.0s						
NRIK	**Noril'sk**	**84.26**	**343**	P	**P**	**13 31 38.2**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=79,slow=7.0,SNR=3.7						
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**84.48**	**325**	P	**P**	**13 31 40.4**	**+1.1**
	comp=Z,5.9nm,0.7s,baz=116,slow=6.7,SNR=33						
	comp=Z,5.9nm,0.7s						
ILAR	**Eielson Array**	**87.47**	**24**	P	**P**	**13 31 52.7**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=258,slow=4.8,SNR=34						
	comp=Z,1.5nm,0.7s						

IDC 15 13:28:52.9±2.2, 49°61S×120°14E, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=100.3km s-min=21.0km az=103.0
ISC 15 13:28:53.0±2.3, 49°5S±0°2×119°6E±0°7, h10km, n9, σ1°56/6, mb4.0/5, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.16**	**342**	T	T	13 48 50.3	
	baz=161,slow=74						
H01W1	**Cape Leeuwin H**	**15.16**	**343**	T	T	13 48 50.1	
	baz=161,slow=74						
H01W3	**Cape Leeuwin H**	**15.17**	**342**	T	T	13 48 51.3	
	baz=161,slow=74						
STKA	**Stephens Creek**	**24.09**	**51**	P	**P**	**13 34 09.9**	**+1.3**
	3.0nm,0.8s,baz=220,slow=10,SNR=3.9						
	3.0nm,0.8s						
ASAR	**Alice Springs**	**28.12**	**29**	P	**P**	**13 34 45.3**	**+0.2**
	1.3nm,0.9s,baz=193,slow=8.8,SNR=5.2						
	1.3nm,0.9s						
WRA	**Warramunga Arr**	**31.76**	**27**	P	**P**	**13 35 16.2**	**-1.0**
	0.7nm,0.8s,baz=200,slow=8.0,SNR=2.4						
	0.7nm,0.8s						
VNDA	**Vanda**	**32.30**	**164**	P	**P**	**13 35 20.0**	**-1.5**
	3.4nm,0.9s,baz=312,slow=8.9,SNR=12						
	3.4nm,0.9s						
QSPA	**South Pole Qui**	**40.61**	**180**	P	**P**	**13 36 34.1**	**+1.5**
	3.2nm,1.0s,baz=329,slow=1.8,SNR=5.4						
	3.2nm,1.0s						
YKA	**Yellowknife Ar**	**148.05**	**45**	PKPbc	**PKiKP**	**13 48 38.9**	**-0.3**
	1.7nm,0.8s,baz=277,slow=2.9,SNR=31						

IDC 15 13:44:18.4±0.9, 6°39S×143°61E, h0km, mb4.0/8, mbtmp4.0/10, ML1.9/1, MS3.3/3, Error ellipse: s-maj=38.2km s-min=21.0km az=67.0
NEIC 15 13:44:18.6±1.1, 6°61S±0°09×143°55E±0°09, h10km±1km, mb4.4/26, Error ellipse: s-maj=16.6km s-min=14.1km az=149.0
ISC 15 13:44:22.2±0.5, 6°61S±0°06×143°50E±0°07, h35km, n53, σ2°09/54, mb4.3/19, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.57**	**128**		**Pn**	**13 45 27.2**	**-1.7**
PMG	**Port Moresby**	**4.57**	**128**	Pn	**Pn**	**13 45 30.8**	**+1.9**
	4.3nm,0.3s,baz=32,slow=4.8,SNR=12						
PMG				Sn	**Sn**	**13 46 24.7**	**+3.9**
	1.5nm,0.3s,baz=306,slow=18,SNR=1.9						
	16nm,0.4s						
COEN	**Coen**	**7.31**	**182**	Pn	**Pn**	**13 46 10.4**	**+3.8**
RABL	**Rabaul**	**8.96**	**75**	Pn	**Pn**	**13 46 27.0**	**-2.2**
KDU	**Kakadu**	**12.43**	**240**	P	**Pn**	**13 47 16.4**	**-0.3**
CTA	**Charters Tower**	**13.66**	**169**	Lg	Lg	13 51 31.9	
	baz=270,slow=19						
CTA				LR	LR	13 52 26.1	
	comp=Z,56nm,18.2s,baz=356,slow=35						
CTAO	**Charters Tower**	**13.66**	**169**	Pn	**Pn**	**13 47 29.2**	**-4.4**
MTN	**Manton Dam**	**13.66**	**242**	Pn	**Pn**	**13 47 32.6**	**-1.0**
MTN	**Manton Dam**	**13.66**	**242**	P	**Pn**	**13 47 33.5**	**-0.1**
QIS	**Mount Isa**	**14.37**	**195**	P	**P**	**13 47 49.7**	**-0.1**
	7.8nm,0.5s						
WB0	**Warramunga Arr**	**15.79**	**213**	Pn	**Pn**	**13 48 00.8**	**-1.3**
WR0	**Warramunga Arr**	**15.86**	**212**	P	**Pn**	**13 48 03.2**	**+0.1**
WRAB	**Tennant Creek**	**15.95**	**213**	Pn	**Pn**	**13 48 04.4**	**+0.3**
WB2	**Warramunga Arr**	**15.95**	**213**		**Pn**	**13 48 03.1**	**-1.0**
WRA	**Warramunga Arr**	**15.96**	**213**	Pn	**Pn**	**13 48 04.5**	**+0.3**
WRA	**Warramunga Arr**	**15.96**	**213**	Pn	**Pn**	**13 48 02.1**	**-2.1**
	0.4nm,0.3s,baz=32,slow=13,SNR=19						
WRA				Sn	**Sn**	**13 50 53.5**	**-6.6**
	0.1nm,0.3s,baz=93,slow=32,SNR=1.4						
WRA				Lg	Lg	13 52 42.8	
	baz=342,slow=15,SNR=1.8						
KNRA	**Kununurra**	**17.02**	**237**	Pn	**Pn**	**13 48 17.1**	**-0.6**
KNRA				IAmb	IAmb	13 48 28.3	
	comp=Z,12nm,0.7s						
KNRA	**Kununurra**	**17.02**	**237**	P	**P**	**13 48 18.8**	**-0.4**
AS01	**Alice Springs**	**19.28**	**207**	P	**Pn**	**13 48 49.1**	**+3.8**
	comp=Z,11nm,1.0s						
SOEI	**Soe**	**19.29**	**259**	P	**P**	**13 48 42.0**	**-2.4**
SOEI				IAmb	IAmb	13 48 48.0	
	comp=Z,72nm,1.5s						
ASAR	**Alice Springs**	**19.30**	**208**	P	**Pn**	**13 48 48.8**	**+3.2**
	comp=Z,7.5nm,0.9s,baz=38,slow=9.3,SNR=46						
ASAR				S	**S**	**13 52 17.2**	**-3.9**
	comp=Z,0.5nm,0.7s,baz=18,slow=18,SNR=2.5						
ASAR				Lg	Lg	13 54 36.6	
	comp=Z,0.1nm,0.3s,baz=36,slow=32,SNR=4.3						
ASAR				LR	LR	13 57 02.9	
	comp=Z,105nm,21.7s,baz=29,slow=39						
FITZ	**Fitzroy Crossi**	**20.82**	**235**	P	**P**	**13 49 01.4**	**+0.6**
OOD	**Oodnadatta**	**22.33**	**198**	P	**P**	**13 49 22.2**	**+5.2**
WRKA	**Warakurna**	**23.40**	**217**	P	**P**	**13 49 31.4**	**+3.3**
TOLI2	**Tolitoli**	**23.93**	**288**	P	**P**	**13 49 32.4**	**-0.9**
TOLI2				IAmb	IAmb	13 49 59.8	
	comp=Z,5.2nm,0.9s						
STKA	**Stephens Creek**	**25.20**	**184**	LR	LR	14 01 24.3	
	comp=Z,103nm,18.4s,baz=21,slow=40						
MSVF	**Nonsavu**	**35.47**	**111**	P	**P**	**13 51 14.9**	**-0.9**
TWG	**Pinlang**	**36.56**	**324**	P	**P**	**13 51 24.5**	**-0.5**
JNU	**Nakatsue**	**41.29**	**344**	P	**P**	**13 52 04.2**	**-0.2**
USA0B	**Ussuriysk Arra**	**51.63**	**349**	P	**P**	**13 53 24.7**	**-0.7**
USRK	**Ussuriysk Ar.**	**51.63**	**349**	P	**P**	**13 53 24.9**	**-0.4**
USRK	**Ussuriysk Ar.**	**51.63**	**349**	P	**P**	**13 53 26.3**	**+1.0**
	comp=Z,4.0nm,0.8s,baz=164,slow=5.7,SNR=5.1						
	comp=Z,4.0nm,0.8s						
SONM	**Songino Array**	**63.30**	**333**	P	**P**	**13 54 49.4**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=151,slow=6.6,SNR=2.3						
	comp=Z,0.3nm,0.5s						
MK31	**Makanchi Array**	**75.78**	**322**	P	**P**	**13 56 04.7**	**0.0**
MK31				IAmb	IAmb	13 56 10.0	
	comp=Z,2.5nm,1.1s						
MKAR	**Makanchi Array**	**75.78**	**322**	P	**P**	**13 56 03.8**	**-0.8**
MKAR	**Makanchi Array**	**75.78**	**322**	P	**P**	**13 56 05.8**	**+1.2**
	comp=Z,1.9nm,0.9s,baz=100,slow=7.4,SNR=14						
	comp=Z,1.9nm,0.9s						
MAKZ	**Makanchi**	**75.98**	**322**	P	**P**	**13 56 05.4**	**-0.4**
MAKZ				IAmb	IAmb	13 56 12.1	
	comp=Z,3.2nm,1.1s						
ZALV	**Zalesovo Beam**	**77.70**	**329**	P	**P**	**13 56 15.2**	**0.0**
	comp=Z,0.4nm,0.4s,baz=90,slow=8.6,SNR=2.0						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**79.65**	**324**	P	**P**	**13 56 27.1**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=121,slow=4.5,SNR=4.9						
	comp=Z,0.5nm,0.7s						
QSPA	**South Pole Qui**	**83.36**	**180**	P	**P**	**13 56 44.0**	**-1.6**
QSPA				IAmb	IAmb	13 57 12.2	
	comp=Z,3.5nm,1.4s						
QSPA	**South Pole Qui**	**83.36**	**180**	P	**P**	**13 56 47.6**	**+2.0**
	comp=Z,2.1nm,1.0s,baz=285,slow=4.0,SNR=3.0						
	comp=Z,2.1nm,1.0s						
M20K	**Styx River**	**83.67**	**25**	P	**P**	**13 56 45.0**	**-2.2**
M20K				IAmb	IAmb	13 56 52.9	
	comp=Z,7.1nm,1.2s						
SUA	**Susitna One**	**84.52**	**26**	P	**P**	**13 56 51.1**	**-0.4**
SUA				IAmb	IAmb	13 57 14.3	
	comp=Z,5.7nm,1.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**84.81**	**27**	P	**P**	**13 56 52.8**	**-0.1**
E19K	**Redstone River**	**84.83**	**19**	P	**P**	**13 56 53.2**	**+0.4**
E19K				IAmb	IAmb	13 57 01.1	
	comp=Z,4.2nm,1.1s						
BVAR	**Borovoye Array**	**85.23**	**325**	P	**P**	**13 56 55.8**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=104,slow=6.3,SNR=7.6						
	comp=Z,1.3nm,0.7s						
TRF	**Thorofare Moun**	**85.53**	**24**	P	**P**	**13 56 55.9**	**-0.7**
TRF				IAmb	IAmb	13 56 58.8	
	comp=Z,4.3nm,1.2s						
SML	**Sawmill**	**85.71**	**26**	P	**P**	**13 56 57.4**	**0.0**
B20K	**Meade River**	**86.17**	**17**	P	**P**	**13 57 00.6**	**+1.2**
B20K				IAmb	IAmb	13 57 25.8	
	comp=Z,3.3nm,1.2s						
DHY	**Denali Highway**	**86.60**	**25**		**P**	**13 57 02.3**	**+0.4**
DHY				IAmb	IAmb	13 57 08.8	
	comp=Z,3.7nm,0.9s						
E22K	**Anaktuvuk Pass**	**86.96**	**20**	P	**P**	**13 57 03.8**	**+0.4**
E22K				IAmb	IAmb	13 57 14.3	
	comp=Z,2.9nm,1.1s						
D22K	**Ayikyak River**	**87.00**	**19**	P	**P**	**13 57 04.2**	**+0.7**
D22K				IAmb	IAmb	13 57 23.7	
	comp=Z,3.5nm,1.1s						
ILAR	**Eielson Array**	**87.42**	**24**	P	**P**	**13 57 05.7**	**0.0**
	comp=Z,0.8nm,0.8s,baz=261,slow=4.1,SNR=8.8						
	comp=Z,0.8nm,0.8s						

CATAC 15 13:45:33.5±0.7, 7°52N×82°52W, h7km±3km, ML3.5
UPA 15 13:45:35.3±1.8, 7°66N×82°36W, h8km±7km, MD3.9, ML4.0, MW4.1
ISC 15 13:45:32.5±1.7, 7°54N±0°07×82°39W±0°04, h8km±11km, n32, σ0°82/55, 1C, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIMO3	**Limones**	**0.73**	**320**	*e*P	**Pb**	**13 45 48.5**	**+1.0**
LIMO3				*e*S	**Sb**	**13 45 58.7**	**+1.0**
PTPM	**Petroterminale**	**0.82**	**324**	*e*P	**Pb**	**13 45 49.8**	**+0.8**
PTPM				*e*S	**Sn**	**13 46 01.6**	**-1.1**
PEDE3	**Pedregal, Chir**	**0.84**	**358**	*e*P	**Pg**	**13 45 48.4**	**-0.4**
PEDE3				*e*S	**Sb**	**13 46 00.4**	**-0.5**
LOCO3	**Loma Colorada,**	**0.87**	**358**	*e*P	**Pb**	**13 45 50.1**	**+0.2**
DVD	**David**	**0.90**	**356**	*e*P	**Pb**	**13 45 50.6**	**+0.3**
CCOL	**Caracol de Cor**	**1.04**	**326**	*i*P	**Pg**	**13 45 52.7**	**+0.2**
CCOL				*i*S	**Sn**	**13 46 07.7**	**-0.4**
CCOL				IAML		13 46 15.7	
	comp=Z,2μm,1.0s						
CDITO	**Canoas**	**1.13**	**335**	*e*P	**Pb**	**13 45 54.4**	**-0.1**
CDITO	**Canoas**	**1.13**	**335**	*i*P	**Pb**	**13 45 53.8**	**-0.6**
CDITO				*i*S	**Sb**	**13 46 09.3**	**0.0**
CDITO				IAML		13 46 22.3	
	comp=Z,700nm,1.0s						
PSOM3	**Paja de Sombre**	**1.14**	**4**	*e*P	**Pn**	**13 45 55.7**	**+0.8**
PTAR3	**Potrerillos Ar**	**1.15**	**355**	*e*P	**Pn**	**13 45 56.4**	**+1.3**
PTAR3				*e*S	**Sg**	**13 46 09.5**	**-0.3**
GMAL	**Guarumal, Vera**	**1.17**	**79**	*e*P	**Pb**	**13 45 54.6**	**-0.5**
GMAL				*e*S	**Sb**	**13 46 10.5**	**+0.1**
BCO2	**Palmira**	**1.18**	**354**	*e*P	**Pb**	**13 45 54.9**	**-0.5**
BCO2				*e*S	**Sn**	**13 46 11.1**	**-0.8**
LNBQ3	**Los Naranjos,**	**1.25**	**358**	*e*P	**Pg**	**13 45 56.9**	**+0.3**
PIRO	**Carate, Puerto**	**1.27**	**313**	*i*S	**Sb**	**13 46 12.3**	**-0.9**
BRU2	**Volcan**	**1.28**	**347**	*e*P	**Pn**	**13 45 56.8**	**-0.1**
BRU2				*e*S	**Sb**	**13 46 13.4**	**-0.4**
BRU2	**Volcan**	**1.28**	**347**	*i*P	**Pn**	**13 45 55.4**	**-1.5**
BRU2				*i*S	**Sg**	**13 46 13.8**	**-0.1**
BRU2				IAML		13 46 16.3	
	comp=Z,830nm,1.0s						
BC3P	**Paso Ancho**	**1.29**	**350**	*e*P	**Pg**	**13 45 57.7**	**+0.4**
BC3P				*e*S	**Sn**	**13 46 14.9**	**+0.3**
MESA3	**La Mesa, Verag**	**1.34**	**63**	*e*P	**Pb**	**13 45 58.2**	**+0.3**
MESA3				*e*S	**Sb**	**13 46 14.3**	**-1.0**
CHGR2	**Aguacate**	**1.41**	**10**	*e*P	**Pb**	**13 45 59.2**	**0.0**
CACAO	**El Cacao, Vera**	**1.53**	**97**	*e*P	**Pb**	**13 46 01.3**	**+0.1**
CACAO				AMP		13 46 03.4	
	comp=Z,2μm,0.1s						
CACAO				*e*S	**Sb**	**13 46 21.7**	**+0.9**
POTG	**Potrero Grande**	**1.67**	**335**	*i*P	**Pb**	**13 46 03.2**	**-0.4**
POTG				*i*S	**Sb**	**13 46 25.2**	**+0.4**
POTG				IAML		13 46 53.8	
	comp=Z,1μm,1.0s						
PLAN	**Los Planes de**	**1.70**	**312**	*i*P	**Pn**	**13 46 01.5**	**-1.0**
PLAN				*i*S	**Sn**	**13 46 23.0**	**-1.5**
PLAN				IAML		13 46 26.8	
	comp=Z,920nm,1.0s						
SRBA	**San Rafael, Bu**	**1.94**	**330**	*i*P	**Pn**	**13 46 05.7**	**-0.2**
SRBA				*i*S	**Sn**	**13 46 30.4**	**-0.1**
SRBA				IAML		13 46 41.6	
	comp=Z,83nm,1.0s						
**OCH

17nm,0.4s
KMKR *e*Sg **Sn** **13 58 05.8 +0.7**
14nm,0.3s
VSHL Vashlovani 2.39 166 P **Pb** **13 57 54.0 -1.1**
VSHL S **Sb** **13 58 23.9 -0.5**
AKT Akhty 2.58 143 *e*Pn **Pn** **13 57 52.3 -1.4**
13nm,0.2s
AKT *e*Sn **Sn** **13 58 23.2 -1.6**

IDC ***15*** *14:06:18.3±7.3,16°.19N×97°.24W,h0km,mb3.4/4, mbtmp3.3/5,ML3.3/1,MS3.5/6,Error ellipse: s-maj=152.5km s-min=116.8km az=36.0*
MEX ***15*** *14:06:20.1±0.6,15°.76N×98°.49W,h10km,MD4.3*
ISC 15 14:06:19.1±2.3,15°.84N±0°.09×98°.44W±0°.05,h8km±12km, n16,σ2ˢ14/19,mb3.4/4,MS3.3/5,Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.63**	**28**	*e*P	**Pg**	**14 06 31.6**	**+0.4**
PNIG				*i* S	**Sg**	**14 06 40.7**	**+1.3**
CRIG	**Cruz Grande**	**1.12**	**323**	*e*P	**Pb**	**14 06 38.1**	**-2.5**
CRIG				*e*S	**Sb**	**14 06 53.1**	**-2.3**
PEIG	**Puerto Escondi**	**1.25**	**82**	*e*P	**Pn**	**14 06 40.9**	**-2.1**
PEIG				*e*S	**Sb**	**14 06 55.9**	**-3.4**
YOIG	**Yosondua**	**1.33**	**40**	*e*P	**Pn**	**14 06 42.3**	**-1.9**
YOIG				*e*S	**Sb**	**14 07 02.2**	**+0.5**
MGIG	**Malinaltepec**	**1.40**	**352**	*e*P	**Pn**	**14 06 43.5**	**-1.7**
MGIG				*e*S	**Sn**	**14 07 01.9**	**-2.1**
TXIG	**Tlaxiaco**	**1.55**	**24**	*e*P	**Pn**	**14 06 46.1**	**-1.2**
TXIG				*e*S	**Sn**	**14 07 06.4**	**-1.4**
VHO	**Vista Hermosa**	**2.04**	**53**	*e*P	**Pn**	**14 06 53.9**	**-0.1**
VHO				*e*S	**Sn**	**14 07 21.0**	**+1.1**
TXAR	**Lajitas Array** baz=161,slow=5.7,SNR=2.8	**14.27**	**341**	Pn	**Pn**	**14 09 44.0**	**+2.3**
TXAR	comp=Z,79nm,18.6s,baz=150,slow=40 0.3nm,0.8s			LR	LR	14 15 51.0	
ANMO	**Albuquerque** comp=Z,93nm,20.6s,baz=245,slow=38	**20.34**	**341**	LR	LR	14 19 09.9	
PDAR	**Pinedale Array** 0.2nm,0.7s,baz=142,slow=13,SNR=2.0	**28.48**	**343**	P	**P**	**14 12 16.7**	**+1.6**
PDAR	comp=Z,67nm,20.2s,baz=160,slow=38 0.2nm,0.7s			LR	LR	14 24 24.0	
NVAR	**Mina Array Bea** 0.5nm,0.8s,baz=133,slow=10.0,SNR=4.3 0.5nm,0.8s	**28.50**	**326**	P	**P**	**14 12 19.0**	**+3.7**
ELK	**Elko** comp=Z,96nm,19.4s,baz=156,slow=38	**28.79**	**333**	LR	LR	14 24 41.3	
NEW	**Newport** comp=Z,55nm,20.5s,baz=128,slow=39	**35.80**	**339**	LR	LR	14 29 38.0	
LVC	**Limon Verde** comp=Z,186nm,18.6s,baz=230,slow=33	**47.91**	**142**	LR	LR	14 32 32.4	
YKA	**Yellowknife Ar** 0.5nm,0.9s,baz=158,slow=6.6,SNR=5.7 0.5nm,0.9s	**47.98**	**350**	P	**P**	**14 14 57.1**	**-1.1**
ILAR	**Eielson Array** 0.4nm,1.0s,baz=161,slow=5.7,SNR=4.1 0.4nm,1.0s	**58.76**	**338**	P	**P**	**14 16 18.6**	**+1.2**

IDC ***15*** *14:16:13.6±2.6,8°.81S×118°.46E,h156km±22km,mb3.4/8, mbtmp3.9/10,MS3.0/1,Error ellipse: s-maj=30.6km s-min=9.1km az=51.0*
DJA ***15*** *14:16:13.9±0.2,9°.5S×117°.8E±°,h121km±4km,M4.3/20, mb4.3/9,mB4.8/1,MLv4.3/20,Mw(mB)4.1/1*
ISC 15 14:16:13.2±0.5,8°.91S±0°.06×118°.37E±0°.04,h150km,n51, σ1ˢ21/57,mb3.9/9,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.59**	**278**	P	**Pn**	**14 16 33.9**	**-1.2**
PLAI	**Plampang**	**0.59**	**278**	P	**Pn**	**14 16 33.9**	**-1.2**
PLAI				S	**Sn**	**14 16 48.7**	**-3.0**
TWSI	**Taliwang, Sumb**	**1.48**	**276**	P	**Pn**	**14 16 42.1**	**-0.5**
TWSI				S	**Sn**	**14 17 03.7**	**-1.4**
BASI	**Baing, Sumba**	**2.53**	**121**	P	**Pn**	**14 16 54.8**	**0.0**
BASI				S	**Sn**	**14 17 25.5**	**-1.3**
SRBI	**Singaraja**	**3.23**	**284**	P	**Pn**	**14 17 03.0**	**-0.5**
EDFI	**Ende, Flores**	**3.28**	**87**	P	**Pn**	**14 17 03.9**	**-0.4**
EDFI				S	**Sn**	**14 17 42.9**	**-0.9**
MMRI	**Maumere**	**3.83**	**86**	P	**Pn**	**14 17 11.4**	**+0.1**
MMRI	**Maumere**	**3.83**	**86**	P	**Pn**	**14 17 11.1**	**-0.2**
MMRI				S	**Sn**	**14 17 55.2**	**-1.1**
BKSI	**Bulukumba**	**3.96**	**26**	P	**Pn**	**14 17 13.2**	**+0.2**
KAPI	**Kappang**	**4.10**	**20**	P	**Pn**	**14 17 15.3**	**+0.4**
JAGI	**Jajag, Banyuwa**	**4.20**	**276**	P	**Pn**	**14 17 14.0**	**-2.1**
JAGI	**Jajag, Banyuwa**	**4.20**	**276**	P	**Pn**	**14 17 14.2**	**-1.9**
ABJI	**Asem Bagus**	**4.24**	**285**	P	**Pn**	**14 17 17.3**	**+0.6**
KMMI	**Kalianget**	**4.74**	**293**	P	**Pn**	**14 17 24.6**	**+1.4**
BLJI	**Banyuglugur**	**4.87**	**283**	P	**Pn**	**14 17 25.4**	**+0.5**
GMJI	**Gumukmas**	**4.92**	**277**	P	**Pn**	**14 17 25.3**	**-0.2**
BATI	**Baumata** 46nm,0.3s,baz=352,slow=1.6,SNR=21	**5.37**	**104**	P	**Pn**	**14 17 31.4**	**-0.2**
BATI				S	**Sn**	**14 18 31.1**	**-1.8**
BATI	**Baumata** 36nm,0.3s,baz=45,slow=20,SNR=14	**5.37**	**104**	P	**Pn**	**14 17 31.6**	**-0.1**
BBSI	**Bau Bau** 55nm,0.6s,1μm0.3nm 83nm,1.0s,0.3nm	**5.38**	**51**	P	**Pn**	**14 17 31.6**	**-0.1**
SOEI	**Soe** 25nm,0.8s	**5.88**	**99**	P	**Pn**	**14 17 38.1**	**-0.3**
SOEI	**Soe** 26nm,0.8s,0.3nm	**5.88**	**99**	P	**Pn**	**14 17 38.3**	**-0.1**
PWJI	**Pagerwojo** 16nm,0.7s,0.2nm	**6.56**	**277**	P	**Pn**	**14 17 49.4**	**+2.0**
UGM	**Wanagama**	**7.83**	**277**	P	**Pn**	**14 18 05.2**	**+0.8**
UGM	**Wanagama** 62nm,1.4s,0.5nm	**7.83**	**277**	P	**Pn**	**14 18 04.8**	**+0.4**
KPJI	**Karang Pucung** 12nm,1.0s	**9.48**	**279**	P	**Pn**	**14 18 28.0**	**+1.6**
CMJI	**Cimerak**	**9.88**	**276**	P	**Pn**	**14 18 33.2**	**+1.4**
BBJI	**Bungbulang** 15nm,1.0s	**10.71**	**277**	P	**Pn**	**14 18 41.1**	**-1.7**
KNRA	**Kununurra**	**12.17**	**125**	P	**Pn**	**14 19 02.2**	**+0.4**
MBWA	**Marble Bar**	**12.25**	**174**	P	**Pn**	**14 19 02.9**	**+0.1**
PSA00	**Pilbara Seismi**	**12.67**	**174**	P	**Pn**	**14 19 08.5**	**+0.3**
MTN	**Manton Dam**	**13.12**	**108**	P	**Pn**	**14 19 13.4**	**-0.7**
GIRL	**Giralia** 115nm,1.2s	**14.22**	**196**	P	**P**	**14 19 29.9**	**-0.9**
KDU	**Kakadu**	**14.35**	**106**	P	**Pn**	**14 19 30.4**	**+0.8**
FAKI	**Fak Fak** 49nm,1.6s	**15.03**	**68**	P	**P**	**14 19 40.6**	**+0.8**
MNAI	**Manna**	**15.96**	**285**	P	**P**	**14 19 51.1**	**+0.9**
MEEK	**Meekatharra**	**17.64**	**179**	P	**Pn**	**14 20 12.2**	**+2.4**
WRKA	**Warakurna**	**18.62**	**151**	P	**Pn**	**14 20 22.6**	**+1.2**
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=301,slow=13,SNR=5.8	**18.94**	**127**	P	**Pn**	**14 20 24.2**	**-0.9**
WRA	0.3nm,0.4s,baz=306,slow=23,SNR=6.0			S	**S**	**14 23 48.9**	**-1.3**
ASAR	**Alice Springs** 0.4nm,0.6s,baz=310,slow=8.1,SNR=14	**20.89**	**136**	P	**P**	**14 20 45.2**	**+1.5**
ASAR	0.2nm,0.6s,baz=312,slow=15,SNR=1.6 0.4nm,0.6s			S	**S**	**14 24 30.6**	**+2.1**
AS01	**Alice Springs** 4.3nm,0.8s	**20.91**	**136**	P	Pn	14 20 47.8	-0.8
FORT	**Forrest** 20nm,1.0s	**23.56**	**159**	P	**P**	**14 21 12.7**	**+2.6**
OOD	**Oodnadatta**	**24.90**	**141**	P	**P**	**14 21 24.1**	**+1.8**
CMAR	**Chiang Mai Arr** 0.4nm,0.4s,baz=154,slow=6.8,SNR=4.6 0.4nm,0.4s	**33.27**	**325**	P	**P**	**14 22 36.8**	**+0.2**
GTA	**Gaotai** comp=Z,3.0nm,0.7s	**51.07**	**342**	P	**P**	**14 25 01.3**	**+0.9**
GTA				pmax	pmax		
USRK	**Ussuriysk Ar.** comp=Z,2.3nm,0.4s,baz=193,slow=6.8,SNR=12 comp=Z,2.3nm,0.4s	**54.28**	**12**	P	**P**	**14 25 23.5**	**-0.2**
ASAJ	**Asahikawa** comp=Z,16nm,21.0s,baz=122,slow=35	**57.16**	**21**	LR	LR	14 49 25.9	
SONM	**Songino Array** comp=Z,0.6nm,0.4s,baz=169,slow=8.4,SNR=4.4 comp=Z,0.6nm,0.4s	**57.48**	**350**	P	**P**	**14 25 46.3**	**-0.4**
MKAR	**Makanchi Array** comp=Z,0.4nm,0.5s,baz=152,slow=6.3,SNR=11 comp=Z,0.4nm,0.5s	**64.10**	**333**	P	**P**	**14 26 30.5**	**-0.8**
KURBB	**Kurchatov Arra** comp=Z,0.6nm,0.6s,baz=139,slow=5.8,SNR=7.5 comp=Z,0.6nm,0.6s	**68.61**	**334**	P	**P**	**14 26 58.5**	**-1.4**
ZALV	**Zalesovo Beam** comp=Z,2.6nm,0.6s,baz=142,slow=4.5,SNR=9.9 comp=Z,2.6nm,0.6s	**68.74**	**339**	P	**P**	**14 26 59.4**	**-1.1**
QSPA	**South Pole Qui**	**81.08**	**180**	P	**P**	**14 28 11.2**	**-0.3**

comp=Z,0.8nm,0.6s,baz=259,slow=5.2,SNR=12
comp=Z,0.8nm,0.6s

HEL ***15*** *14:26:02.0±0.3,67°.16N×20°.53E,h0km,ML1.7,Suspected explosion*
IDC ***15*** *14:26:02.2±1.1,67°.27N×21°.00E,h0km,mbtmp2.8/3, ML1.8/3,Error ellipse: s-maj=18.3km s-min=8.4km az=111.0*
UPP ***15*** *14:26:02.6±0.1,67°.20N×20°.67E,h0km,ML2.2,Confirmed Induced event*
BER ***15*** *14:26:04.1±1.6,67°.11N×20°.67E,h1km,ML1.8,Confirmed Induced event*
ISC 15 14:26:03.1±0.8,67°.21N±0°.02×20°.73E±0°.03,h0km,n42, σ1ˢ06/62,1D,Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.11**	**216**	P	**Pg**	**14 26 04.5**	**-0.7**
DUNU				S	**Sg**	**14 26 05.9**	**-0.7**
MASU	**Masugnsbyn**	**0.55**	**63**	P	**Pg**	**14 26 13.7**	**0.0**
KUA	**Kurravaara**	**0.76**	**349**	P	**Pg**	**14 26 17.0**	**-0.7**
SALU	**Saltoluokta**	**0.88**	**282**	*i* P	**Pg**	**14 26 18.8**	**-1.1**
SALU	**Saltoluokta**	**0.88**	**282**	P	**Pg**	**14 26 18.8**	**-1.1**
PAJU	**Pajala**	**0.95**	**100**	P	**Pg**	**14 26 20.4**	**-0.9**
PAJU	**Pajala** baz=275	**0.95**	**100**	PG	**Pg**	**14 26 20.1**	**-1.1**
PAJU				SB	**Sg**	**14 26 33.6**	**0.0**
LANU	**Lannavaara**	**0.97**	**29**	P	**Pg**	**14 26 21.1**	**-0.6**
LANU	**Lannavaara**	**0.97**	**29**	PG	**Pg**	**14 26 20.9**	**-0.8**
LANU				SB	**Sb**	**14 26 36.0**	**-0.2**
KOVU	**Salmi**	**1.04**	**348**	P	**Pg**	**14 26 22.2**	**-0.9**
KLF	**Kolari** baz=273	**1.26**	**87**	PG	**Pg**	**14 26 25.9**	**-1.3**
KLF	comp=Z,3.2nm,0.2s			MSG		14 26 42.4	
KLF				SG	**Sg**	**14 26 43.8**	**+0.4**
HEF	**Hetta**	**1.64**	**41**	*e*P	**Pn**	**14 26 32.5**	**-0.7**
HEF	**Hetta** baz=222	**1.64**	**41**	PG	**Pn**	**14 26 32.4**	**-0.8**
HEF	comp=Z,5.6nm,0.2s			MSG		14 26 53.6	
HEF				SG	**Sn**	**14 26 55.0**	**+0.1**
KALU	**Kalix**	**1.71**	**141**	P	**Pn**	**14 26 33.4**	**-0.7**
KALU	**Kalix** baz=321	**1.71**	**141**	PG	**Pn**	**14 26 33.3**	**-0.9**
KALU				SN	**Sn**	**14 26 56.8**	**+0.1**
SJUU	**Sjulsmark**	**1.74**	**168**	P	**Pn**	**14 26 33.8**	**-0.7**
KIF	**Kilpisjarvi**	**1.81**	**1**	*e*P	**Pn**	**14 26 35.8**	**+0.4**
KIF				*e*S	**Sb**	**14 27 00.4**	**+0.4**
KIF	**Kilpisjarvi**	**1.81**	**1**	PG	**Pn**	**14 26 35.8**	**+0.4**
KIF	comp=Z,7.0nm,0.2s			MSG		14 26 58.5	
KIF				SN	**Sg**	**14 27 01.8**	**+0.8**
TOF	**Tornio**	**1.83**	**127**	PG	**Pn**	**14 26 35.3**	**-0.4**
TOF	comp=Z,5.1nm,0.2s			MSG		14 26 57.5	
TOF				SG	**Sn**	**14 26 59.8**	**+0.4**
KTK1	**Kautokeino**	**2.04**	**26**	*e*P	**Pn**	**14 26 39.7**	**+1.1**
KTK1				*e*S	**Sn**	**14 27 05.2**	**+0.4**
KTK1	comp=Z,23nm,0.9s			IAML		14 27 08.5	
KTK1	**Kautokeino**	**2.04**	**26**	PG	**Pn**	**14 26 39.8**	**+1.1**
KTK1				SG	**Sb**	**14 27 07.5**	**+0.6**
FAUS	**Fauske**	**2.12**	**277**	*e*P	**Pn**	**14 26 39.9**	**+0.2**
FAUS	comp=Z,18nm,0.6s			IAML		14 27 10.2	
RNF	**Rovaniemi** baz=290	**2.17**	**104**	PG	**Pn**	**14 26 40.8**	**+0.4**
RNF				SG	**Sb**	**14 27 10.5**	**0.0**
SGF	**Sodankyl**	**2.26**	**81**	PG	**Pn**	**14 26 42.8**	**+1.2**
SGF				SG	**Sb**	**14 27 13.6**	**+0.5**
JETT	**Jettan, Norway**	**2.36**	**357**	*e*P	**Pn**	**14 26 44.1**	**+1.0**
RANF	**Ranua** baz=299	**2.70**	**114**	PN	**Pn**	**14 26 47.6**	**0.0**
RANF				SG	**Sb**	**14 27 25.3**	**-0.4**
ARCES	**ARCESS Array B** comp=Z,0.3nm,0.3s,baz=220,slow=13,SNR=35	**2.93**	**35**	Pn	**Pn**	**14 26 50.9**	**0.0**
ARCES	comp=Z,1.0nm,0.3s,baz=219,slow=32,SNR=16 comp=Z,0.6nm,0.3s			Lg	Lg	14 27 28.0	
ARA0	**ARCESS Array S**	**2.93**	**35**	*e*P	**Pn**	**14 26 51.3**	**+0.4**
ARA0	comp=Z,4.0nm,0.4s			IAML		14 27 44.8	
ARA0	**ARCESS Array S**	**2.93**	**35**	PN	**Pn**	**14 26 51.3**	**+0.4**
ARA0				SB	**Sn**	**14 27 28.4**	**+1.7**
OUL	**Oulu**	**2.99**	**133**	SG	**Sb**	**14 27 36.3**	**+2.1**
KMNF	**Kaamanen**	**3.04**	**47**	PN	**Pn**	**14 26 52.2**	**-0.2**
KMNF				SN	**Sn**	**14 27 30.7**	**+1.2**
RAJF	**Raja-Jooseppi**	**3.14**	**63**	PB	**Pb**	**14 26 57.9**	**-1.9**
RAJF				SG	**Sb**	**14 27 39.0**	**+0.4**
OUF	**Merijarvi**	**3.29**	**148**	SG	**Sb**	**14 27 45.4**	**+2.5**
UMAU	**Umeaa**	**3.34**	**180**	PB	**Pn**	**14 26 56.5**	**0.0**
KEV	**Kevo**	**3.45**	**39**	PN	**Pn**	**14 26 58.5**	**+0.6**
KEV				SN	**Sn**	**14 27 39.6**	**+0.2**
VRF	**Varrio**	**3.46**	**77**	PG	**Pb**	**14 27 05.3**	**+0.1**
VRF				SG	**Sg**	**14 27 52.0**	**-2.1**
OLKF	**Oulanka, Finla**	**3.55**	**101**	PN	**Pn**	**14 27 00.1**	**+0.7**
OLKF				SG	**Sb**	**14 27 52.4**	**+2.2**
MSF	**Maaselka**	**3.57**	**108**	SG	**Sb**	**14 27 52.6**	**+1.8**
KU6	**Riekki**	**3.84**	**104**	PG	**Pb**	**14 27 13.4**	**+1.8**
KU6				SG	**Sg**	**14 28 03.0**	**-3.3**
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=346,slow=13,SNR=2.5	**6.24**	**156**	Pn	**Pn**	**14 27 36.9**	**+0.7**
FINES	comp=Z,0.3nm,0.3s,baz=345,slow=28,SNR=5.6 comp=Z,1.0nm,0.6s			Lg	Lg	14 29 14.6	
NOA	**NORSAR Array B** baz=26,slow=10.0,SNR=1.4	**7.45**	**218**	Pn	**Pn**	**14 27 52.6**	**-0.4**
NOA	baz=23,slow=14,SNR=4.1 comp=Z,0.8nm,0.9s			Lg	Lg	14 29 56.1	
SPITS	**Spitsbergen Ar** baz=164,slow=6.6	**11.10**	**355**	Pn	Pn	14 28 37.2	-5.6

IDC ***15*** *14:29:00.9±1.9,4°.68S×153°.92E,h0km,mb3.8/9, mbtmp3.8/9,MS3.1/2,Error ellipse: s-maj=65.1km s-min=25.2km az=114.0*
ISC 15 14:29:09.2±1.8,4°.8S±0°.3×153°.7E±0°.3,h56km,n13, σ0ˢ95/11,mb3.9/9,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** 2.2nm,0.3s,baz=158,slow=17,SNR=6.7	**7.94**	**234**	Sn	**Sn**	**14 32 29.6**	**-1.0**
CTA	**Charters Tower** comp=Z,2.2nm,19.0s,baz=5.0,slow=36	**16.84**	**205**	LR	LR	14 39 10.0	
WRA	**Warramunga Arr** 1.0nm,0.4s,baz=50,slow=10,SNR=35 1.0nm,0.4s	**24.12**	**230**	P	**P**	**14 34 21.4**	**+1.3**
ASAR	**Alice Springs** 0.2nm,0.6s,baz=54,slow=8.9,SNR=6.7 0.2nm,0.6s	**26.76**	**224**	P	**P**	**14 34 44.7**	**+0.7**
CMAR	**Chiang Mai Arr** 0.4nm,0.4s,baz=117,slow=5.4,SNR=4.7 0.4nm,0.4s	**58.69**	**295**	P	**P**	**14 39 02.0**	**+0.4**
SONM	**Songino Array** 0.4nm,0.4s,baz=108,slow=9.1,SNR=2.8 0.4nm,0.4s	**66.81**	**327**	P	**P**	**14 39 56.0**	**+0.8**
KDAK	**Kodiak Island** comp=Z,18nm,21.1s,baz=308,slow=33	**75.78**	**26**	LR	LR	15 10 23.6	
MKAR	**Makanchi Array** 1.0nm,0.6s,baz=96,slow=7.7,SNR=9.6 1.0nm,0.6s	**80.92**	**319**	P	**P**	**14 41 17.6**	**-0.1**
ZALV	**Zalesovo Beam** 0.7nm,0.5s,baz=102,slow=6.1,SNR=2.9 0.7nm,0.5s	**81.65**	**326**	P	**P**	**14 41 20.9**	**-0.5**
ILAR	**Eielson Array** 0.2nm,0.8s,baz=254,slow=6.5,SNR=1.9 0.2nm,0.8s	**81.82**	**22**	P	**P**	**14 41 21.4**	**-0.7**
KURBB	**Kurchatov Arra** 0.8nm,0.7s,baz=106,slow=4.6,SNR=5.0 0.8nm,0.7s	**84.36**	**322**	P	**P**	**14 41 34.1**	**-1.3**
BVAR	**Borovoye Array** 2.9nm,0.6s,baz=103,slow=6.3,SNR=14 2.9nm,0.6s	**89.78**	**323**	P	**P**	**14 42 00.8**	**-0.8**
TORD	**Torodi Ar. Bea** 1.8nm,0.6s,baz=44,slow=3.4,SNR=13	**151.16**	**289**	PKPbc	**PKPbc**	**14 48 57.1**	**-0.3**

IDC ***15*** *14:29:33.7±1.4,14°.16N×146°.57E,h0km,mb3.7/8, mbtmp3.7/8,MS3.0/2,Error ellipse: s-maj=48.9km s-min=22.6km az=90.0*

ISC 15 14:29:39.3±1.4,14°.2N±0°.2×146°.5E±0°.4,h37km,n10, σ0ˢ98/8,mb3.8/8,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr** comp=Z,24nm,19.0s,baz=99,slow=35	**23.52**	**343**	LR	LR	14 43 22.2	
WRA	**Warramunga Arr** 1.2nm,0.8s,baz=16,slow=9.0,SNR=5.4 1.2nm,0.8s	**35.94**	**200**	P	**P**	**14 36 35.1**	**-1.4**
ASAR	**Alice Springs** 0.3nm,0.7s,baz=26,slow=8.6,SNR=2.0 0.3nm,0.7s	**39.56**	**198**	P	**P**	**14 37 08.5**	**+1.4**
LEM	**Lembang** comp=Z,23nm,18.1s,baz=334,slow=40	**43.89**	**244**	LR	LR	14 58 35.3	
SONM	**Songino Array** 0.4nm,0.5s,baz=140,slow=9.1,SNR=3.4 0.4nm,0.5s	**47.23**	**324**	P	**P**	**14 38 08.8**	**0.0**
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=91,slow=7.9,SNR=2.1 0.4nm,0.4s	**62.13**	**324**	P	**P**	**14 39 56.5**	**0.0**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=91,slow=8.6,SNR=7.7 0.2nm,0.3s	**62.23**	**316**	P	**P**	**14 39 58.0**	**+0.7**
KURBB	**Kurchatov Arra** 1.0nm,0.5s,baz=98,slow=6.8,SNR=11 1.0nm,0.5s	**65.26**	**319**	P	**P**	**14 40 17.2**	**0.0**
ILAR	**Eielson Array** 0.2nm,0.5s,baz=248,slow=5.6,SNR=6.0 0.2nm,0.5s	**67.37**	**25**	P	**P**	**14 40 30.5**	**0.0**
BVAR	**Borovoye Array** 0.8nm,0.5s,baz=103,slow=6.4,SNR=6.8 0.8nm,0.5s	**70.50**	**322**	P	**P**	**14 40 49.6**	**-0.6**

DJA ***15*** *14:46:53.8±0.3,9°.5S±3°×12°.1E±°,h10km,M3.5/11, MLv3.5/11*
ISC 15 14:46:54.9±1.0,9°.11S±0°.06×120°.54E±0°.04,h26km,n16, σ0ˢ83/18,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BASI	**Baing, Sumba**	**1.10**	**178**	P	**Pn**	**14 47 14.7**	**0.0**
BASI				S	**Sb**	**14 47 30.4**	**+1.1**
EDFI	**Ende, Flores**	**1.19**	**73**	P	**Pn**	**14 47 15.5**	**-0.5**
WBSI	**Waikabubak, Su**	**1.25**	**245**	P	**Pn**	**14 47 16.5**	**-0.3**
MMRI	**Maumere**	**1.74**	**74**	P	**Pb**	**14 47 25.3**	**-0.9**
MMRI	**Maumere**	**1.74**	**74**	P	**Pn**	**14 47 24.9**	**+1.4**
MMRI				S	**Sb**	**14 47 48.2**	**+0.5**
PLAI	**Plampang**	**2.75**	**276**	P	**Pn**	**14 47 37.6**	**+0.3**
PLAI	**Plampang**	**2.75**	**276**	P	**Pn**	**14 47 37.1**	**-0.2**
PLAI				S	**Sn**	**14 48 10.4**	**+0.7**
BATI	**Baumata**	**3.27**	**110**	P	**Pn**	**14 47 45.0**	**+0.5**
TWSI	**Taliwang, Sumb**	**3.63**	**276**	P	**Pn**	**14 47 50.2**	**+0.6**
SOEI	**Soe**	**3.73**	**100**	P	**Pn**	**14 47 52.6**	**+1.6**
BKSI	**Bulukumba**	**3.79**	**354**	P	**Pn**	**14 47 51.7**	**0.0**
JAGI	**Jajag, Banyuwa**	**6.35**	**275**	P	**Pn**	**14 48 27.6**	**+0.7**
LUWI	**Luwuk**	**8.32**	**16**	P	Pn	14 48 59.0	+5.1
KNRA	**Kununurra**	**10.35**	**130**	P	**Pn**	**14 49 20.8**	**-1.0**
MTN	**Manton Dam**	**11.04**	**111**	P	**Pn**	**14 49 30.8**	**-0.5**
KDU	**Kakadu** 50nm,2.9s	**12.24**	**108**	P	**Pn**	**14 49 47.2**	**-0.5**

IDC ***15*** *14:53:19.0±0.7,33°.11N×75°.91E,h0km,mb4.1/20, mbtmp4.1/24,ML3.8/4,MS3.0/8,Error ellipse: s-maj=18.5km s-min=13.2km az=41.0*
MOS ***15*** *14:53:21.3±1.1,33°.18N×75°.99E,h22km,mb4.4/10,Error ellipse: s-maj=10.0km s-min=4.6km az=97.7*
NDI ***15*** *14:53:22.6±3.8,33°.19N×76°.04E,h10km±16km,ML3.7, MW3.8,mb4.5(NEIC)*
NEIC ***15*** *14:53:24.2±2.5,33°.03N±0°.09×76°.10E±0°.03,h40km±9km, mb4.5/41,Error ellipse: s-maj=12.8km s-min=2.6km az=190.0*
NNC ***15*** *14:53:30.4±4.5,33°.54N×75°.77E,h60km±38km,mb4.1, Error ellipse: s-maj=40.7km s-min=31.5km az=39.0*
ISC 15 14:53:24.9±0.9,33°.20N±0°.04×75°.98E±0°.05,h41km±9km, n149,σ1ˢ82/154,mb4.4/45,MS2.8/7,11C-7D,Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**0.80**	**196**	*e*Pg	**Pn**	**14 53 35.9**	**-3.9**
THN				*i* Sg	**Sn**	**14 53 47.5**	**-2.9**
THN	comp=E,2μm,0.6s			IAML		14 53 49.2	
THN	comp=E,2μm,0.0s			IAML		14 53 57.8	
DHRM	**DHARAMSHALA**	**0.99**	**164**	*e*Pg	**Pn**	**14 53 40.6**	**-2.0**
DHRM				*i* Sg	**Sn**	**14 53 56.6**	**+1.1**
DHRM	comp=E,2μm,0.6s			IAML		14 54 02.9	
DHRM	comp=E,3μm,0.3s			IAML		14 54 03.5	
JMU	**Jammu**	**1.03**	**242**	*e*P	**Pn**	**14 53 42.2**	**-0.7**
JMU				*e*S	**Sn**	**14 54 02.2**	**+6.0**
BHK	**Bhakra**	**1.82**	**168**	*e*P	**Pn**	**14 53 55.3**	**+1.5**
BHK				*e*S	**Sn**	**14 54 19.1**	**+3.4**
BHK	comp=E,1μm,0.0s			IAML		14 54 22.7	
SMLA	**Simla**	**2.30**	**154**	*e*P	**Pn**	**14 54 01.6**	**+1.2**
SMLA				*i* S	**Sn**	**14 54 30.4**	**+3.0**
NIL	**Nilore**	**2.33**	**282**		**Pn**	**14 54 03.3**	**+2.6**
NIL	**Nilore**	**2.33**	**282**	P	**Pn**	**14 54 03.3**	**+2.6**
DDI	**Dehra Dun**	**3.37**	**148**	*e*P	**Pn**	**14 54 17.4**	**+2.2**
PTH	**Pithoragarh**	**5.14**	**134**	*e*P	**Pn**	**14 54 39.4**	**-0.1**
PTH				*e*S	**Sn**	**14 55 38.0**	**+0.4**
KBL	**Kabul**	**5.92**	**285**	Pn	**Pn**	**14 54 51.4**	**+1.0**
KBL	**Kabul**	**5.92**	**285**	P	**Pn**	**14 54 51.4**	**+1.0**
KSH	**Kashi**	**6.30**	**360**	Pn	**Pn**	**14 54 55.3**	**-0.1**
KSH				Sn	**Sn**	**14 56 00.8**	**-5.3**
KSH	comp=Z,43nm,0.7s			pmax	pmax		
KSH	comp=N,58nm,0.5s			smax	smax		
KSH	comp=E,71nm,0.6s			smax	smax		
DRK	**Karamyk**	**7.11**	**333**	Pn	**Pn**	**14 55 08.7**	**+2.0**
GAR	**Garm**	**7.38**	**323**		**Pn**	**14 55 10.6**	**+0.4**
SIMJ	**Simiganj**	**7.85**	**316**	Pn	**Pn**	**14 55 18.0**	**+1.4**
BTK	**Batken**	**8.00**	**330**	Pn	**Pn**	**14 55 20.2**	**+1.5**
BTK	**Batken**	**8.00**	**330**	P	**Pn**	**14 55 20.2**	**+1.5**
NRN	**Naryn**	**8.21**	**0**	Pn	**Pn**	**14 55 24.9**	**+3.1**
NRN	**Naryn**	**8.21**	**0**	P	**Pn**	**14 55 24.9**	**+3.1**
ARSB	**Arslanbob**	**8.45**	**344**		**Pn**	**14 55 25.8**	**+0.9**
ARSB	**Arslanbob**	**8.45**	**344**	P	**Pn**	**14 55

comp=Z,1.7nm,0.3s,baz=152,slow=13,SNR=30
KK31 S Sn 14 57 49.2 -6.7
comp=Z,20nm,0.7s,baz=158,slow=24,SNR=14
KKAR Karatay Array 10.78 338 Pn 14 55 56.0 -0.7
KKAR Karatay Array 10.78 338 P Pn 14 55 56.0 -0.7
MAKZ Makanchi 14.34 17 Pn 14 56 46.1 +0.9
MAKZ Makanchi 14.34 17 P Pn 14 56 46.1 +0.9
MAKZ Makanchi 14.34 17 ⇑P Pn 14 56 45.1 -0.1
comp=Z,6.5nm,0.8s
MK31 Makanchi Array 14.40 18 Pn Pn 14 56 45.7 -0.3
MK31 Makanchi Array 14.40 18 *i*P Pn 14 56 46.0 0.0
MK31 Makanchi Array 14.40 18 P Pn 14 56 46.6 +0.6
comp=Z,2.6nm,0.7s,baz=196,slow=13,SNR=35
MKAR Makanchi Array 14.40 18 Pn Pn 14 56 46.8 +0.8
MKAR Makanchi Array 14.40 18 P Pn 14 56 46.8 +0.8
MKAR Makanchi Array 14.40 18 Pn Pn 14 56 45.7 -0.3
comp=Z,0.5nm,0.3s,baz=206,slow=13,SNR=19
MKAR Sn Sn 14 59 20.1 -4.2
comp=Z,0.6nm,0.3s,baz=204,slow=27,SNR=7.2
MKAR LR LR 15 02 41.5
comp=Z,16nm,19.2s,baz=261,slow=39
comp=Z,2.2nm,0.8s
OTUK Ortayu 15.27 351 P Pn 14 56 56.9 -0.7
OTUK Ortayu 15.27 351 ⇑P Pn 14 56 57.0 -0.7
comp=Z,5.1nm,0.8s
GOMU GeErMu 15.78 74 P Pn 14 57 04.8 +0.3
GOMU pP P 14 57 10.4 +2.5
GOMU sP pP 14 57 12.8 -6.4
KURBB Kurchatov Arra 17.51 5 P Pn 14 57 23.8 -2.0
comp=Z,0.2nm,0.3s,baz=192,slow=11,SNR=29
comp=Z,4.0nm,0.8s
KURK Kurchatov 17.61 6 Pn Pn 14 57 25.3 -1.7
KURK Kurchatov 17.61 6*ce*P Pn 14 57 24.6 -2.4
KURK pmax pmax
comp=Z,15nm,1.3s
KURK Kurchatov 17.61 6 ⇓P Pn 14 57 25.0 -1.9
comp=Z,17nm,1.4s
WSAR Wadi Sarin 18.21 241 P P 14 57 31.8 -2.7
comp=Z,0.2nm,0.3s,baz=96,slow=11,SNR=1.1
comp=Z,1.7nm,0.8s
DGZ Jazzator, Alta 18.55 24*d*iP Pn 14 57 39.3 +0.6
AB31 Akbulak array 20.00 328 P P 14 57 53.9 +0.1
AB31 Akbulak array 20.00 328 P P 14 57 53.9 +0.1
comp=Z,3.3nm,0.6s,baz=133,slow=10,SNR=46
ABKAR Akbulak array 20.00 328 P P 14 57 54.6 +0.7
GTA Gaotai 20.15 65 P Pn 14 57 57.5 -0.4
GTA pP pP 14 58 02.6 -4.5
GTA pmax pmax
comp=Z,4.0nm,1.1s
BVAR Borovoye Array 20.21 350 P P 14 57 56.6 +0.4
comp=Z,5.6nm,0.4s,baz=158,slow=10,SNR=42
BVAR LR LR 15 06 19.2
comp=Z,45nm,21.4s,baz=318,slow=38
comp=Z,5.6nm,0.4s
BRVK Borovoye 20.26 350 P 14 57 57.8 +1.1
BRVK IAmb IAmb 14 57 59.6
comp=Z,11nm,0.8s
BRVK Borovoye 20.26 350*ce*P P 14 57 58.1 +1.4
BRVK pmax pmax
comp=Z,22nm,1.3s
BRVK Borovoye 20.26 350 ⇓P P 14 57 57.0 +0.3
comp=Z,13nm,0.8s
TNCH TengChong 21.28 107 P P 14 58 10.0 +1.9
TNCH pP pP 14 58 18.0 -1.3
TNCH pmax pmax
comp=Z,24nm,0.9s
ZAA0 Zalesovo Array 21.67 14 P P 14 58 09.7 -2.1
ZALV Zalesovo Beam 21.67 14 P P 14 58 09.8 -2.0
ZALV Zalesovo Beam 21.67 14 P P 14 58 11.7 -0.1
comp=Z,4.8nm,0.6s,baz=209,slow=10,SNR=16
ZALV LR LR 15 06 56.9
comp=Z,14nm,19.1s,baz=28,slow=38
comp=Z,4.8nm,0.6s
AKTO Aktyubinsk 21.71 328 P P 14 58 12.7 +0.4
comp=Z,23nm,0.8s,baz=129,slow=8.2,SNR=71
AKTO LR LR 15 06 53.7
comp=Z,29nm,20.9s,baz=26,slow=37
comp=Z,23nm,0.8s
AKTO Aktyubinsk 21.71 328 ⇓P P 14 58 12.8 +0.4
comp=Z,14nm,0.7s
PZH PanZhiHua 23.29 100 P P 14 58 28.6 -0.6
PZH pmax pmax
comp=Z,7.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.7s
CRAI Chiangrai 25.26 115 P P 14 58 44.5 -2.9
CRAI IAmb IAmb 14 58 49.8
comp=Z,7.6nm,0.9s
CM31 Chiang Mai Arr 25.27 120 P P 14 58 43.7 -3.7
CM31 IAmb IAmb 14 58 49.8
comp=Z,14nm,0.8s
CMAR Chiang Mai Arr 25.27 120 P P 14 58 46.6 -0.9
CMAR Chiang Mai Arr 25.27 120 *i*P P 14 58 48.7 +1.2
CMAR pmax pmax
comp=Z,12nm,0.9s
CMAR Chiang Mai Arr 25.27 120 P P 14 58 47.4 -0.1
comp=Z,13nm,0.9s,baz=313,slow=10,SNR=65
comp=Z,13nm,0.9s
ARU Arti 26.15 338 P P 14 58 55.4 +0.3
ARU IAmb IAmb 14 58 57.6
comp=Z,6.0nm,0.7s
ARU Arti 26.15 338*d*iP P 14 58 56.9 +1.8
ARU 14 59 32.4
ARU S S 15 03 27.2 +3.4
ARU pmax pmax
comp=Z,6.0nm,0.7s
PALK Pallekele 26.17 169 LR LR 15 09 49.5
comp=Z,43nm,19.1s,baz=286,slow=38
PHRA Phrae 26.19 118 P P 14 58 54.1 -1.7
SONM Songino Array 27.14 48 P P 14 59 02.9 -1.3
SONM Songino Array 27.14 48 P P 14 59 06.0 +1.8
comp=Z,2.1nm,0.6s,baz=240,slow=9.8,SNR=12
SONM LR LR 15 12 52.6
comp=Z,26nm,18.3s,baz=287,slow=43
comp=Z,2.1nm,0.6s
GYA Guiyang 27.39 96 *e*P P 14 59 10.9 +4.2
GYA pmax pmax
comp=Z,10.0nm,0.7s
ULN Ulaanbaatar 27.56 49*ce*P P 14 59 09.4 +1.3
ULN pmax pmax
comp=Z,8.0nm,2.5s
KBZ Khabaz 27.79 302 *i*P P 14 59 11.5 +1.6
KBZ pmax pmax
comp=Z,6.0nm,1.5s
HHC Hu-ho-hao-te 29.26 65 *e*P P 14 59 24.8 +1.6
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,140nm,4.2s
ARPR Arapgir-MALATY 30.81 292 P P 14 59 35.5 -1.4
ARPR IAmb IAmb 14 59 44.0
comp=Z,20nm,1.5s
KIRV Kirov 31.01 333*ce*P P 14 59 39.0 +0.7
BR131 Keskin Array S 34.42 293 P P 15 00 07.6 -1.0
BR131 Keskin Array S 34.42 293 *i*P P 15 00 07.7 -0.9
BRTR Keskin Array B 34.42 293 P P 15 00 06.4 -2.2
BRTR Keskin Array B 34.42 293 P P 15 00 08.7 +0.1
comp=Z,0.2nm,0.4s,baz=103,slow=11,SNR=2.4
comp=Z,0.2nm,0.4s
NJ2 Nanjing 35.94 80 *e*P P 15 00 22.1 +0.6
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
NRIK Noril'sk 36.77 7*ce*P P 15 00 29.5 +1.4
NRIK pmax pmax
comp=Z,6.0nm,1.3s
GSI Gunungsitoli 37.66 143 P P 15 00 31.8 -4.4
AKASG Malin Array Be 38.20 311 P P 15 00 39.4 -1.0
comp=Z,0.2nm,0.3s,baz=79,slow=8.0,SNR=1.9
comp=Z,0.2nm,0.3s
TPUB Ta-pu 40.29 92 P P 15 00 55.7 -2.6
NACGM Naroch 40.42 318 *e*P P 15 00 58.4 -0.5
comp=N,3μm,0.9s
BURAR Bucovina Array 40.52 306 P P 15 00 59.7 -0.3
NACB Ninganchiao 40.75 91 P P 15 00 59.7 -2.3
FIA1 FINESS Array S 42.48 327 P P 15 01 18.2 +2.5
FINES FINESS Array B 42.48 327 *i*P P 15 01 17.1 +1.4
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 42.48 327 P P 15 01 16.6 +0.8
comp=Z,1.3nm,0.5s,baz=140,slow=9.9,SNR=10
comp=Z,1.3nm,0.5s
USA0B Ussuriysk Arra 44.29 59 P P 15 01 30.8 +0.3
USA0B IAmb IAmb 15 01 43.8
comp=Z,7.9nm,1.0s
USA0B Ussuriysk Arra 44.29 59 P P 15 01 30.8 +0.3
USA0B pmax pmax
comp=Z,8.0nm,1.0s
USRK Ussuriysk Ar. 44.29 59 P P 15 01 30.8 +0.3
USRK Ussuriysk Ar. 44.29 59 P P 15 01 30.8 +0.3
USRK Ussuriysk Ar. 44.29 59 P P 15 01 31.5 +0.9
comp=Z,1.3nm,0.8s,baz=257,slow=10,SNR=5.2
comp=Z,1.3nm,0.8s
JNU Nakatsue 45.49 74 P P 15 01 39.0 -1.3
ARCES ARCESS Array B 45.74 338 P P 15 01 43.0 +1.2
ARCES IAmb IAmb 15 01 57.3
comp=Z,8.5nm,1.1s
ARCES ARCESS Array B 45.74 338 P P 15 01 43.0 +1.2
ARCES ARCESS Array B 45.74 338 P P 15 01 43.0 +1.2
comp=Z,3.4nm,0.7s,baz=111,slow=8.0,SNR=17
comp=Z,3.4nm,0.7s
HFS Hagfors 48.16 324 P P 15 02 00.9 +0.1
comp=Z,1.4nm,0.5s,baz=90,slow=9.6,SNR=8.2
comp=Z,1.4nm,0.5s
CLL Collm 48.44 312 *e*P P 15 02 11.0 +8.0
NC405 NORSAR Array S 49.21 325 P P 15 02 10.0 +1.2
NC405 IAmb IAmb 15 02 33.5
comp=Z,18nm,1.4s
NB201 NORSAR Array S 49.41 325 P P 15 02 10.8 +0.5
NB2 NORSAR Subarra 49.45 325 P P 15 02 11.3 +0.6
comp=Z,2.3nm,0.8s,baz=94,slow=7.9
NOA NORSAR Array B 49.45 325 P P 15 02 11.0 +0.3
NOA NORSAR Array B 49.45 325 P P 15 02 10.9 +0.3
comp=Z,0.8nm,0.6s,baz=94,slow=7.6,SNR=4.2
comp=Z,0.8nm,0.6s
MJAR Matsushiro Arr 50.38 68 P P 15 02 17.6 -0.5
comp=Z,2.8nm,0.9s,baz=291,slow=8.7,SNR=5.9
MJAR LR LR 15 25 53.4
comp=Z,51nm,18.7s,baz=164,slow=39
comp=Z,2.8nm,0.9s
SPITS Spitsbergen Ar 51.63 347 P P 15 02 27.9 +1.1
SPITS pmax pmax
comp=Z,59nm,1.3s
SPITS Spitsbergen Ar 51.63 347 P P 15 02 26.6 -0.2
comp=Z,12nm,0.9s,baz=78,slow=10,SNR=5.1
comp=Z,12nm,0.9s
ASAJ Asahikawa 51.85 57 LR LR 15 28 32.7
comp=Z,33nm,18.1s,baz=93,slow=41
TORD Torodi Ar. Bea 69.86 273 P P 15 04 31.0 -0.8
comp=Z,1.3nm,0.7s,baz=43,slow=6.8,SNR=8.5
comp=Z,1.3nm,0.7s
C19K Lookout Ridge 70.20 18 P 15 04 34.6 +1.5
C19K IAmb IAmb 15 04 35.8
comp=Z,3.3nm,0.7s
B22K Teshekpuk Lake 70.84 16 P P 15 04 37.2 +0.3
B22K IAmb IAmb 15 04 39.5
comp=Z,10nm,1.4s
F15K North Star Dit 70.97 22 P P 15 04 38.3 +0.5
F15K IAmb IAmb 15 04 41.2
comp=Z,7.3nm,1.2s
D19K Kuna River 71.01 18 IAmb IAmb 15 04 40.6
comp=Z,3.8nm,0.6s
E18K Tukpahlearik C 71.07 20 IAmb IAmb 15 04 40.8
comp=Z,3.2nm,0.7s
B21K Ikpikpuk River 71.09 17 P P 15 04 39.5 +1.1
F17K Baldwin Pennin 71.54 21 IAmb IAmb 15 04 44.6
comp=Z,8.6nm,1.1s
E19K Redstone River 71.98 19 P P 15 04 44.7 +0.8
E19K IAmb IAmb 15 05 06.3
comp=Z,6.2nm,1.4s
TOLK Toolik Lake Re 73.02 16 P P 15 04 51.8 +1.8
TOLK IAmb IAmb 15 04 52.6
comp=Z,4.1nm,0.7s
MLY Manley 75.55 19 P P 15 05 06.9 +2.0
E29M Blow River 75.62 12 P P 15 05 06.8 +1.7
E29M IAmb IAmb 15 05 07.7
comp=Z,4.1nm,1.1s
POKR Poker Plat Res 76.34 17 IAmb IAmb 15 05 12.2
comp=Z,4.8nm,0.9s
INK Inuvik 76.43 11 P P 15 05 10.7 +1.0
comp=Z,0.5nm,0.4s,baz=354,slow=9.6,SNR=3.2
comp=Z,0.5nm,0.4s
ILAR Eielson Array 76.76 17 P P 15 05 12.4 +0.7
comp=Z,1.3nm,0.7s,baz=311,slow=5.3,SNR=36
comp=Z,1.3nm,0.7s
WRA Warramunga Arr 76.76 125 *i*P P 15 05 12.6 +0.3
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 76.76 125 P P 15 05 12.7 +0.4
comp=Z,1.6nm,0.9s,baz=321,slow=6.1,SNR=18
comp=Z,1.6nm,0.9s
H29M Whitestone 77.44 14 P P 15 05 16.9 +1.5
H29M IAmb IAmb 15 05 37.8
comp=Z,5.9nm,1.5s
G31M Satah River 77.56 12 P P 15 05 16.9 +0.9
G31M IAmb IAmb 15 05 18.4
comp=Z,6.2nm,1.4s
ASAR Alice Springs 79.01 128 P P 15 05 25.1 +0.3
comp=Z,1.2nm,0.8s,baz=309,slow=5.2,SNR=12
comp=Z,1.2nm,0.8s
YKA Yellowknife Ar 84.25 5 P P 15 05 53.2 +1.3
comp=Z,1.3nm,0.7s,baz=345,slow=5.2,SNR=22
comp=Z,1.3nm,0.7s

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*IDC **15** 15:04:41.6±1.5, 59.°04N×152.°51W, h71km±26km, mb3.7/11, mbtmp4.0/15, MS3.2/3, Error ellipse: s-maj=31.6km s-min=13.9km az=131.0*
*NEIC **15** 15:04:41.6±1.3, 59.°00N±0.°04×152.°44W±0.°06, h73km±6km, Error ellipse: s-maj=5.6km s-min=4.3km az=151.0*
*AEIC **15** 15:04:43±1.4, 59.°03N±0.°03×152.°47W±0.°06, h62km±5km, ML3.6, mb4.0/1(NEIC), ML3.8/132(NEIC), Error ellipse: s-maj=4.7km s-min=4.0km az=137.0*

ISC 15 15:04:41.3±0.6, 59.°00N±0.°03×152.°41W±0.°03, h76km±6km, n454, σ0°79/475, mb4.0/11, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
Q20K	**Shuyak Island**	**0.39**	**179**	P	**Pn**	**15 04 53.8**	**+0.1**
	baz=355						
Q20K				S	**Sn**	**15 05 02.5**	**-0.3**
	baz=355						
SYI	**Shuyak Island**	**0.39**	**179**		**Pn**	**15 04 53.8**	**+0.1**
SYI	**Shuyak Island**	**0.39**	**179**		**Sn**	**15 05 02.5**	**-0.3**
AU22	**Augustine Moun**	**0.62**	**308**		**Pn**	**15 04 55.5**	**-0.2**
AU22					**Sn**	**15 05 05.6**	**-0.8**
Q19K	**Cape Douglas,**	**0.65**	**264**		**Pn**	**15 04 55.8**	**-0.3**
Q19K				IAML		15 05 08.6	
	comp=E,4μm,0.6s						
Q19K				IAML		15 05 09.1	
	comp=N,6μm,0.6s						
Q19K	**Cape Douglas,**	**0.65**	**264**		**Sn**	**15 05 06.1**	**-0.9**
Q19K	**Cape Douglas,**	**0.65**	**264**	P	**Pn**	**15 04 55.9**	**-0.2**
	baz=80						
Q19K				S	**Sn**	**15 05 06.2**	**-0.9**
	baz=80						
AUCH	**Augustine Cone**	**0.65**	**305**		**Pn**	**15 04 55.9**	**-0.3**
AUCH					**Sn**	**15 05 05.8**	**-1.4**
AUL	**Augustine Lava**	**0.66**	**306**		**Pn**	**15 04 56.0**	**-0.2**
HOM	**Homer**	**0.77**	**30**		**Pn**	**15 04 57.7**	**+0.4**
HOM				IAML		15 05 10.5	
	comp=E,4μm,0.3s						
HOM	**Homer**	**0.77**	**30**		**Sn**	**15 05 09.3**	**0.0**
HOM	**Homer**	**0.77**	**30**	P	**Pn**	**15 04 57.8**	**+0.4**
	baz=214						
HOM				S	**Sn**	**15 05 09.3**	**0.0**
	baz=214						
P19K	**Oil Pt**	**0.78**	**328**		**Sn**	**15 05 08.3**	**-1.4**
P19K	**Oil Pt**	**0.78**	**328**	P	**Pn**	**15 04 57.2**	**-0.3**
	baz=148						
P19K				S	**Sn**	**15 05 08.9**	**-0.8**
	baz=148						
CNPM	**China Poot**	**0.80**	**48**		**Pn**	**15 04 57.9**	**+0.1**
CNPM				IAML		15 05 10.5	
	comp=N,3μm,0.4s						
CNPM				IAML		15 05 10.8	
	comp=E,4μm,0.5s						
CNPM	**China Poot**	**0.80**	**48**		**Sn**	**15 05 09.8**	**-0.2**
ILSW	**Illiamna Southw**	**1.06**	**339**		**Pn**	**15 05 00.3**	**-0.6**
ILSW				IAML		15 05 15.6	
	comp=N,3μm,0.4s						
ILSW				IAML		15 05 15.8	
	comp=E,2μm,0.7s						
ILSW	**Illiamna Southw**	**1.06**	**339**		**Sn**	**15 05 14.1**	**-1.5**
IVE	**Iliamna Volcan**	**1.07**	**343**		**Pn**	**15 05 00.7**	**-0.4**
O20K	**Slope Mountain**	**1.09**	**354**		**Pn**	**15 05 01.6**	**+0.3**
O20K					**Sn**	**15 05 16.3**	**0.0**
O20K	**Slope Mountain**	**1.09**	**354**	P	**Pn**	**15 05 01.6**	**+0.3**
	baz=176						
O20K				S	**Sn**	**15 05 16.4**	**+0.1**
	baz=176						
BRLK	**Bradley Lake**	**1.09**	**45**		**Pn**	**15 05 01.2**	**-0.1**
BRLK				Sn	**Sn**	**15 05 15.2**	**-1.1**
BRLK				IAML		15 05 16.4	
	comp=E,2μm,0.6s						
BRLK				IAML		15 05 18.0	
	comp=N,2μm,0.3s						
BRSE	**Bradley Lake S**	**1.13**	**48**		**Pn**	**15 05 02.0**	**+0.3**
BRSE					**Sn**	**15 05 16.6**	**-0.5**
BRSE	**Bradley Lake S**	**1.13**	**48**	P	**Pn**	**15 05 02.0**	**+0.3**
	baz=232						
BRSE				S	**Sn**	**15 05 16.6**	**-0.5**
	baz=232						
KDAK	**Kodiak Island**	**1.22**	**184**		**Pn**	**15 05 03.7**	**+0.9**
KDAK				IAML		15 05 26.6	
	comp=N,1μm,0.4s						
KDAK	**Kodiak Island**	**1.22**	**184**	P	**Pn**	**15 05 03.5**	**+0.7**
	comp=N,129nm,0.3s,baz=62,slow=7.9,SNR=1719						
KDAK				S	**Sn**	**15 05 19.7**	**+0.8**
	comp=N,319nm,0.3s,baz=311,slow=19,SNR=14						
KAHC	**Katmai Hardscr**	**1.40**	**257**		**Pn**	**15 05 05.6**	**+0.3**
KAHC	**Katmai Hardscr**	**1.40**	**257**	P	**Pn**	**15 05 05.6**	**+0.3**
	baz=73						
RED	**Redoubt Volcan**	**1.44**	**353**		**Pn**	**15 05 05.7**	**0.0**
RED					**Sn**	**15 05 23.5**	**-0.6**
RDSO	**Redoubt South**	**1.47**	**353**		**Pn**	**15 05 06.2**	**0.0**
RSO	**Redoubt South**	**1.48**	**353**	Pn	**Pn**	**15 05 06.5**	**+0.1**
P18K	**Big Mountain,**	**1.51**	**286**	Pn	**Pn**	**15 05 05.7**	**-0.8**
P18K				Sn	**Sn**	**15 05 23.7**	**-1.9**
P18K	**Big Mountain,**	**1.51**	**286**	P	**Pn**	**15 05 05.8**	**-0.8**
	baz=103						
RDWB	**Redoubt West**	**1.51**	**352**		**Pn**	**15 05 06.8**	**0.0**
O19K	**Port Alsworth**	**1.55**	**322**	P	**Pn**	**15 05 06.7**	**-0.3**
	baz=140						
KAKN	**Katmai Knife C**	**1.56**	**244**		**Pn**	**15 05 07.8**	**+0.5**
RDT	**Redoubt**	**1.58**	**360**		**Pn**	**15 05 07.7**	**+0.1**
NCT	**North Crescent**	**1.59**	**351**		**Pn**	**15 05 08.0**	**+0.2**
NCT					**Sn**	**15 05 27.4**	**-0.4**
DFR	**Drift River**	**1.61**	**355**		**Pn**	**15 05 08.3**	**+0.3**
RDJH	**Redoubt Jeurge**	**1.61**	**353**		**Pn**	**15 05 08.4**	**+0.4**
KVTA	**Katmai Vly 10**	**1.63**	**249**		**Pn**	**15 05 08.8**	**+0.6**
KCE	**Katmai Mt Cerb**	**1.64**	**244**		**Pn**	**15 05 09.0**	**+0.6**
O18K	**Koktuh Hills**	**1.67**	**302**	Sn	**Sn**	**15 05 27.1**	**-2.4**
O18K	**Koktuh Hills**	**1.67**	**302**	P	**Pn**	**15 05 08.1**	**-0.6**
	baz=119						
ACHA	**Angle Creek He**	**1.72**	**244**		**Pn**	**15 05 10.2**	**+0.8**
ANCK	**Angle Creek**	**1.81**	**245**		**Pn**	**15 05 11.4**	**+0.9**
KELA	**Mount Kelaz**	**1.83**	**254**		**Pn**	**15 05 11.3**	**+0.5**
OHAK	**Old Harbor**	**1.84**	**195**		**Pn**	**15 05 11.6**	**+0.7**
OHAK				Sn	**Sn**	**15 05 31.9**	**-1.6**
OHAK	**Old Harbor**	**1.84**	**195**	P	**Pn**	**15 05 11.7**	**+0.8**
OHAK	**Old Harbor**	**1.84**	**195**	P	**Pn**	**15 05 11.8**	**+0.8**
	baz=13						
SEW	**Seward**	**1.87**	**52**		**Pn**	**15 05 11.1**	**-0.2**
SEW	**Seward**	**1.87**	**52**	P	**Pn**	**15 05 11.1**	**-0.2**
	baz=236						
SLKM	**Skilak Lake**	**1.88**	**35**		**Pn**	**15 05 11.5**	**+0.1**
CAPN	**Captain Cook N**	**1.89**	**19**		**Pn**	**15 05 13.6**	**+2.1**
CAPN				Sn	**Sn**	**15 05 38.1**	**+3.6**
CAPN	**Captain Cook N**	**1.89**	**19**	P	**Pn**	**15 05 13.5**	**+1.9**
	baz=201						
CNTC	**Contact Creek**	**1.96**	**249**		**Pn**	**15 05 13.2**	**+0.5**
Q17K	**Contact Creek**	**1.96**	**249**	P	**Pn**	**15 05 13.2**	**+0.5**
	baz=65						
O22K	**Cooper Landing**	**2.02**	**41**		**Pn**	**15 05 13.5**	**+0.3**
O22K				Sn	**Sn**	**15 05 36.6**	**-1.0**
O22K				IAML		15 05 48.4	
	comp=E,1μm,0.8s						
O22K	**Cooper Landing**	**2.02**	**41**	P	**Pn**	**15 05 13.5**	**+0.3**
	baz=225						
P17K	**Kvichak River**	**2.09**	**277**		**Pn**	**15 05 14.2**	**-0.1**
P17K	**Kvichak River**	**2.09**	**277**	P	**Pn**	**15 05 14.2**	**-0.1**
	baz=93						
N19K	**Bonanza Creek**	**2.10**	**331**	Pn	**Pn**	**15 05 14.4**	**-0.1**
N19K	**Bonanza Creek**	**2.10**	**331**	P	**Pn**	**15 05 14.3**	**-0.2**
	baz=150						
N20K	**Mount Spurr**	**2.21**	**2**	P	**Pn**	**15 05 16.7**	**+0.7**
	baz=184						
SPCR	**Spurr Chakacha**	**2.21**	**2**		**Pn**	**15 05 16.7**	**+0.7**
Q16K	**King Salmon**	**2.23**	**264**		**Pn**	**15 05 16.9**	**+0.7**
Q16K	**King Salmon**	**2.23**	**264**	P	**Pn**	**15 05 16.6**	**+0.4**
	baz=79						
SPCN	**Chakachatna No**	**2.24**	**3**		**Pn**	**15 05 17.2**	**+0.9**
SPCG	**Spurr Capps Gl**	**2.31**	**5**		**Pn**	**15 05 18.2**	**+0.9**
SPNN	**North Nagishla**	**2.38**	**357**		**Pn**	**15 05 19.3**	**+0.9**
FIS	**Fire Island**	**2.42**	**26**		**Pn**	**15 05 20.3**	**+1.7**
FIS				IAML		15 05 56.7	
	comp=N,512nm,0.5s						
FIS				IAML		15 06 21.4	
	comp=E,520nm,0.7s						
PLK3	**Peulik 3**	**2.42**	**239**		**Pn**	**15 05 19.7**	**+0.9**
N18K	**Kilae Creek**	**2.44**	**315**	Pn	**Pn**	**15 05 18.6**	**-0.3**
N18K	**Kilae Creek**	**2.44**	**315**	P	**Pn**	**15 05 18.6**	**-0.3**
	baz=132						
RC01	**Rabbit Creek A**	**2.49**	**31**	Pn	**Pn**	**15 05 20.0**	**+0.4**
RC01				Sn	**Sn**	**15 05 47.5**	**-1.5**
RC01				IAML		15 05 52.1	
	comp=N,556nm,0.3s						
RC01				IAML		15 05 55.2	
	comp=E,591nm,0.3s						
RC01	**Rabbit Creek A**	**2.49**	**31**	P	**Pn**	**15 05 20.1**	**+0.4**
	baz=215						
PLK1	**Peulik 1**	**2.52**	**243**		**Pn**	**15 05 21.1**	**+1.1**
O17K	**Koliganek Bris**	**2.52**	**290**		**Pn**	**15 05 20.1**	**0.0**
O17K	**Koliganek Bris**	**2.52**	**290**	P	**Pn**	**15 05 20.1**	**0.0**
	baz=106						
STLK	**Strandline Lak**	**2.53**	**6**		**Pn**	**15 05 21.2**	**+1.0**
SUA	**Susitna One**	**2.61**	**18**	Pn	**Pn**	**15 05 22.1**	**+0.8**
SUA				Sn	**Sn**	**15 05 52.7**	**+0.6**
SUA				IAML		15 05 56.1	
	comp=N,379nm,0.6s						
SUA	**Susitna One**	**2.61**	**18**	P	**Pn**	**15 05 22.1**	**+0.8**
	baz=200						
SII	**Sitkinak Islan**	**2.62**	**202**	Pn	**Pn**	**15 05 22.2**	**+0.7**
SII				Sn	**Sn**	**15 05 51.1**	**-1.2**
SII				IAML		15 06 08.3	
	comp=N,310nm,0.7s						
SII				IAML		15 06 11.2	
	comp=E,421nm,0.8s						
SII	**Sitkinak Islan**	**2.62**	**202**	P	**Pn**	**15 05 22.5**	**+1.0**
SVW2	**Sparrevohn**	**2.64**	**324**		**Pn**	**15 05 21.4**	**-0.4**
SVW2	**Sparrevohn**	**2.64**	**324**	P	**Pn**	**15 05 21.3**	**-0.4**
P23K	**Montague Islan**	**2.74**	**66**		**Pn**	**15 05 23.6**	**+0.6**
P23K	**Montague Islan**	**2.74**	**66**	P	**Pn**	**15 05 23.9**	**+0.8**
	baz=252						
N17K	**Nushagak Hills**	**2.87**	**304**	Pn	**Pn**	**15 05 24.6**	**-0.2**
N17K	**Nushagak Hills**	**2.87**	**304**	P	**Pn**	**15 05 24.5**	**-0.2**
	baz=120						
P16K	**Nushagak River**	**2.89**	**273**		**Pn**	**15 05 25.7**	**+0.6**
P16K	**Nushagak River**	**2.89**	**273**	P	**Pn**	**15 05 25.6**	**+0.6**
	baz=88						
M20K	**Styx River**	**2.92**	**353**	P	**Pn**	**15 05 26.4**	**+0.9**
	baz=173						
O16K	**Kokwok River B**	**2.98**	**284**	P	**Pn**	**15 05 26.4**	**+0.1**
	baz=99						
M22K	**Willow**	**2.99**	**21**		**Pn**	**15 05 27.0**	**+0.7**
M22K				Sn	**Sn**	**15 06 00.2**	**-0.8**
M22K	**Willow**	**2.99**	**21**	P	**Pn**	**15 05 27.2**	**+0.8**
	baz=204						
SKT	**Skwentna**	**3.02**	**8**		**Pn**	**15 05 27.2**	**+0.3**
SKT				IAML		15 06 05.7	
	comp=E,251nm,0.4s						
SKT				IAML		15 06 06.5	
	comp=N,253nm,0.4s						
SKT	**Skwentna**	**3.02**	**8**	P	**Pn**	**15 05 27.7**	**+0.8**
	baz=189						
M18K	**Stony River**	**3.03**	**327**		**Pn**	**15 05 26.8**	**-0.1**
M18K	**Stony River**	**3.03**	**327**	P	**Pn**	**15 05 26.7**	**-0.2**
	baz=144						
PMR	**Palmer**	**3.07**	**31**	P	**Pn**	**15 05 27.7**	**+0.2**
M19K	**Big River Lodg**	**3.08**	**342**		**Pn**	**15 05 27.8**	**+0.2**
M19K				Sn	**Sn**	**15 06 01.4**	**-1.9**
M19K	**Big River Lodg**	**3.08**	**342**	P	**Pn**	**15 05 27.8**	**+0.2**
	baz=161						
R16K	**Pilot Point**	**3.08**	**244**		**Pn**	**15 05 28.6**	**+1.0**
R16K	**Pilot Point**	**3.08**	**244**	IAML		15 06 05.2	
	comp=E,357nm,2.4s						
R16K				IAML		15 06 25.3	
	comp=N,239nm,2.3s						
R16K	**Pilot Point**	**3.08**	**244**	P	**Pn**	**15 05 28.6**	**+1.0**
	baz=59						
KNK	**Knik Glacier**	**3.12**	**37**		**Pn**	**15 05 28.3**	**+0.1**
KNK				IAML		15 06 04.5	
	comp=E,448nm,0.4s						
KNK				IAML		15 06 10.5	
	comp=N,350nm,0.4s						
KNK	**Knik Glacier**	**3.12**	**37**	P	**Pn**	**15 05 28.3**	**+0.1**
	baz=222						

Q23K	Middleton Isla	3.14	79			Pn	15 05 28.8	+0.3	
Q23K	Middleton Isla	3.14	79	IAML			15 06 05.2		
	comp=N,281nm,1.1s								
Q23K				IAML			15 06 06.9		
	comp=E,232nm,1.5s								
Q23K	Middleton Isla	3.14	79	P		Pn	15 05 28.8	+0.3	
	baz=265								
MID	Middleton Isla	3.15	80			Pn	15 05 28.7	+0.2	
MID	Middleton Isla	3.15	80	IAML			15 06 06.9		
	comp=E,242nm,0.8s								
MID				IAML			15 06 08.5		
	comp=N,263nm,1.3s								
MID	Middleton Isla	3.15	80	P		Pn	15 05 29.0	+0.5	
GHO	Glory Hole Cre	3.28	30			Pn	15 05 30.4	+0.1	
GHO				IAML			15 06 08.2		
	comp=N,282nm,0.6s								
GHO				IAML			15 06 11.9		
	comp=E,278nm,0.5s								
HIN	Hinchinbrook I	3.31	62			Pn	15 05 31.1	+0.4	
L19K	White Mountain	3.42	340	Pn		Pn	15 05 32.7	+0.5	
L19K				IAML			15 06 11.9		
	comp=N,220nm,0.6s								
L19K				IAML			15 06 12.2		
	comp=E,222nm,0.7s								
L19K	White Mountain	3.42	340	P		Pn	15 05 32.6	+0.5	
	baz=159								
SML	Sawmill	3.47	34			Pn	15 05 33.1	+0.2	
SML	Sawmill	3.47	34	IAML			15 06 13.0		
	comp=N,170nm,0.8s								
SML				IAML			15 06 17.4		
	comp=E,139nm,0.4s								
SML	Sawmill	3.47	34	P		Pn	15 05 33.1	+0.2	
	baz=218								
M17K	Holitna River	3.48	316	Pn		Pn	15 05 33.2	+0.2	
M17K				IAML			15 06 32.5		
	comp=E,229nm,0.7s								
M17K				IAML			15 06 43.0		
	comp=N,268nm,0.8s								
M17K	Holitna River	3.48	316	P		Pn	15 05 33.4	+0.4	
	baz=132								
N16K	Nishlik Lake	3.55	297			Pn	15 05 34.3	+0.3	
N16K	Nishlik Lake	3.55	297	P		Pn	15 05 34.3	+0.3	
	baz=112								
L20K	Farewell, AK	3.57	349			Pn	15 05 35.1	+0.8	
L20K	Farewell, AK	3.57	349	P		Pn	15 05 35.1	+0.8	
	baz=168								
CUT	Chulitna	3.58	16			Pn	15 05 35.0	+0.7	
CUT	Chulitna	3.58	16	P		Pn	15 05 35.2	+0.9	
	baz=199								
CHIR	Chirikof Islan	3.63	210	Pn		Pn	15 05 35.4	+0.3	
CHIR				IAML			15 06 58.2		
	comp=N,104nm,2.1s								
CHIR	Chirikof Islan	3.63	210	P		Pn	15 05 35.3	+0.2	
	baz=27								
M23K	Glacier View	3.64	38			Pn	15 05 35.6	+0.3	
M23K	Glacier View	3.64	38	P		Pn	15 05 35.7	+0.4	
	baz=222								
EYAK	Cordova Ski Ar	3.71	62			Pn	15 05 36.1	0.0	
EYAK	Cordova Ski Ar	3.71	62	P		Pn	15 05 36.6	+0.5	
EYAK	Cordova Ski Ar	3.71	62	P		Pn	15 05 36.2	+0.1	
	baz=249								
SCM	Sheep Creek Mo	3.80	39			Pn	15 05 37.9	+0.4	
SCM				IAML			15 06 23.3		
	comp=E,274nm,0.5s								
SCM				IAML			15 06 24.4		
	comp=N,169nm,0.5s								
SCM	Sheep Creek Mo	3.80	39	P		Pn	15 05 38.1	+0.6	
	baz=224								
O15K	Ungalikthiuk R	3.83	276			Pn	15 05 38.6	+0.7	
O15K	Ungalikthiuk R	3.83	276	P		Pn	15 05 38.6	+0.7	
	baz=89								
L18K	Granite Mounta	3.86	329			Pn	15 05 37.9	-0.3	
L18K	Granite Mounta	3.86	329	P		Pn	15 05 38.2	0.0	
	baz=145								
M16K	Timber Creek	3.87	304	Pn		Pn	15 05 38.9	+0.6	
M16K	Timber Creek	3.87	304	P		Pn	15 05 38.7	+0.4	
	baz=119								
PPLA	Purkeypile	3.91	1			Pn	15 05 40.3	+1.2	
PPLA	Purkeypile	3.91	1	P		Pn	15 05 40.3	+1.2	
	baz=182								
DIV	Divide	3.95	54			Pn	15 05 39.3	-0.2	
N15K	Kwethluk River	4.08	290	Pn		Pn	15 05 42.4	+1.2	
N15K				IAML			15 06 30.1		
	comp=N,87nm,0.8s								
N15K	Kwethluk River	4.08	290	P		Pn	15 05 42.0	+0.8	
	baz=103								
KLU	Klutina	4.09	49			Pn	15 05 41.8	+0.5	
KLU				IAML			15 06 27.7		
	comp=N,154nm,0.4s								
KLU				IAML			15 06 28.8		
	comp=E,161nm,0.4s								
KLU	Klutina	4.09	49	P		Pn	15 05 41.8	+0.5	
	baz=236								
RAGM	Ragged Mountai	4.16	67			Pn	15 05 42.5	+0.2	
RAGM				IAML			15 06 32.7		
	comp=E,197nm,0.9s								
KAIM	Kayak Island	4.18	74	Pn		Pn	15 05 44.0	+1.4	
KAIM				IAML			15 06 33.9		
	comp=E,149nm,0.7s								
KAIM	Kayak Island	4.18	74	P		Pn	15 05 43.9	+1.3	
	baz=261								
GOAT	Goat Mountain	4.19	64			Pn	15 05 43.1	+0.3	
CHGN	Chignik	4.21	233			Pn	15 05 44.2	+1.2	
CHGN				IAML			15 06 32.0		
	comp=E,93nm,0.4s								
CHGN	Chignik	4.21	233	P		Pn	15 05 43.8	+0.9	
	baz=47								
WAT7	Susitna Watana	4.22	23			Pn	15 05 44.0	+0.7	
WAT6	Susitna Watana	4.26	30			Pn	15 05 44.2	+0.3	
WAT6	Susitna Watana	4.26	30	P		Pn	15 05 44.2	+0.3	
	baz=215								
WAT1	Susitna Watana	4.28	24			Pn	15 05 44.5	+0.5	
WAT1	Susitna Watana	4.28	24	P		Pn	15 05 44.4	+0.5	
	baz=208								
L17K	Donlin	4.28	320			Pn	15 05 43.9	-0.1	
L17K	Donlin	4.28	320	P		Pn	15 05 43.9	-0.1	
	baz=135								
TTA	Tatalina	4.32	338	Pn		Pn	15 05 44.6	+0.1	
TTA	Tatalina	4.32	338	P		Pn	15 05 44.8	+0.2	
TTA	Tatalina	4.32	338	P		Pn	15 05 44.6	+0.1	
	baz=155								
HMT	Hamilton	4.34	69			Pn	15 05 45.1	+0.3	
M24K	Tolsona, Glenn	4.38	42	Pn		Pn	15 05 45.6	+0.3	
M24K	Tolsona, Glenn	4.38	42	P		Pn	15 05 45.9	+0.6	
	baz=228								
BMRM	Bremner River	4.39	60			Pn	15 05 45.4	0.0	
BMRM	Bremner River	4.39	60	P		Pn	15 05 45.5	0.0	
	baz=247								
CAST	Castle Rocks	4.44	2	Pn		Pn	15 05 46.7	+0.5	
CAST	Castle Rocks	4.44	2	P		Pn	15 05 46.5	+0.4	
	baz=183								
L16K	Owhat River	4.44	311	Pn		Pn	15 05 45.8	-0.3	
L16K	Owhat River	4.44	311	P		Pn	15 05 46.0	-0.2	
	baz=125								
K20K	Telida	4.45	350			Pn	15 05 46.9	+0.6	
K20K	Telida	4.45	350	P		Pn	15 05 46.9	+0.6	
	baz=169								
NICHA	Nichawak Mount	4.46	70			Pn	15 05 47.4	+1.0	
M15K	Kasigluk River	4.51	296			Pn	15 05 47.2	+0.1	
M15K	Kasigluk River	4.51	296	P		Pn	15 05 47.2	+0.1	
	baz=108								
SUCK	Suckling Hills	4.52	73	Pn		Pn	15 05 48.1	+0.9	
SUCK				IAML			15 07 15.6		
	comp=N,84nm,3.2s								
SUCK				IAML			15 08 31.0		
	comp=E,72nm,3.5s								
O14K	Tigyukauivet M	4.57	277	Pn		Pn	15 05 48.9	+1.0	
O14K				IAML			15 06 41.7		
	comp=N,112nm,0.9s								
O14K	Tigyukauivet M	4.57	277	P		Pn	15 05 48.6	+0.7	
	baz=89								
TRF	Thorofare Moun	4.58	12	Pn		Pn	15 05 48.3	0.0	
TRF				IAML			15 06 44.3		
	comp=E,119nm,0.6s								
TRF	Thorofare Moun	4.58	12	P		Pn	15 05 48.2	0.0	
	baz=194								
BERG	Berg Lake	4.63	69			Pn	15 05 49.0	+0.4	
KTH	Kantishna Hill	4.63	8	Pn		Pn	15 05 49.1	+0.3	
KTH				IAML			15 07 08.6		
	comp=E,96nm,0.9s								
N25K	Chitina, Valde	4.68	53			Pn	15 05 49.6	+0.1	
N25K				IAML			15 06 42.2		
	comp=N,73nm,0.6s								
N25K				IAML			15 06 43.2		
	comp=E,58nm,0.5s								
N25K	Chitina, Valde	4.68	53	P		Pn	15 05 49.7	+0.2	
	baz=240								
K17K	Iditarod	4.71	325	Pn		Pn	15 05 50.2	+0.3	
K17K				IAML			15 07 09.5		
	comp=E,68nm,1.1s								
K17K				IAML			15 07 24.9		
	comp=N,63nm,0.9s								
K17K	Iditarod	4.71	325	P		Pn	15 05 49.6	-0.2	
	baz=140								
RND	Reindeer	4.75	20	Pn		Pn	15 05 50.5	+0.2	
RND				IAML			15 06 44.7		
	comp=N,88nm,0.6s								
DHY	Denali Highway	4.76	29			Pn	15 05 51.1	+0.4	
DHY				IAML			15 06 45.7		
	comp=N,121nm,0.4s								
DHY				IAML			15 06 50.0		
	comp=E,114nm,0.5s								
DHY	Denali Highway	4.76	29	P		Pn	15 05 51.2	+0.5	
	baz=214								
BGLC	Bering Glacier	4.78	72			Pn	15 05 52.1	+1.4	
BGLC	Bering Glacier	4.78	72	P		Pn	15 05 51.6	+0.9	
	baz=261								
GRIN	Grindle Hills	4.79	71			Pn	15 05 51.7	+0.8	
N14K	Kuskokwak Cree	4.83	285			Pn	15 05 52.6	+1.2	
N14K	Kuskokwak Cree	4.83	285	P		Pn	15 05 52.2	+0.9	
	baz=97								
KHIT	Khitrov Hills	4.86	69			Pn	15 05 51.8	-0.1	
CHUM	Lake Minchumin	4.90	0			Pn	15 05 53.0	+0.6	
CHUM	Lake Minchumin	4.90	0	P		Pn	15 05 53.0	+0.6	
	baz=181								
HARP	HAARP	4.93	43			Pn	15 05 53.7	+0.9	
HARP	HAARP	4.93	43	P		Pn	15 05 53.9	+1.0	
	baz=230								
J18K	Innoko River	4.94	337	Pn		Pn	15 05 53.2	+0.2	
J18K	Innoko River	4.94	337	P		Pn	15 05 53.4	+0.4	
	baz=153								
CRQM	Cirque	4.99	65			Pn	15 05 54.1	+0.3	
WACK	Wrangell Chich	4.99	50			Pn	15 05 54.5	+0.6	
SNH	Sunshine Point	5.00	72	Pn		Pn	15 05 54.6	+0.8	
SNH						Sn	15 06 47.9	-2.5	
SNH				IAML			15 06 52.8		
	comp=E,110nm,0.4s								
CRQE	Cirque	5.01	65	P		Pn	15 05 54.0	-0.1	
	baz=254								
WASW	Wrangell South	5.02	51			Pn	15 05 54.8	+0.6	
MCK	McKinley	5.04	18			Pn	15 05 54.9	+0.7	
WAX	Waxell Ridge	5.05	69			Pn	15 05 55.0	+0.5	
M14K	Bethel	5.12	294	Pn		Pn	15 05 55.8	+0.4	
M14K				IAML			15 07 24.8		
	comp=N,52nm,2.9s								
M14K				IAML			15 08 06.6		
	comp=E,41nm,3.4s								
M14K	Bethel	5.12	294	P		Pn	15 05 56.0	+0.6	
	baz=106								
BPAW	Bear Paw Mtn.	5.17	7	Pn		Pn	15 05 55.7	-0.3	
BPAW				IAML			15 06 56.4		
	comp=E,39nm,0.4s								
BPAW				IAML			15 06 58.4		
	comp=N,39nm,0.5s								
BPAW	Bear Paw Mtn.	5.17	7	P		Pn	15 05 56.2	+0.1	
	baz=189								
BARK	Barkley Ridge	5.21	70			Pn	15 05 57.6	+0.9	
PAX	Paxson	5.22	37			Pn	15 05 57.1	+0.3	
J19K	Poorman	5.25	344	Pn		Pn	15 05 57.5	+0.4	
J19K				IAML			15 06 56.1		
	comp=E,36nm,0.3s								
J19K	Poorman	5.25	344	P		Pn	15 05 57.4	+0.4	
	baz=162								
L15K	Ungalak Mounta	5.25	305			Pn	15 05 57.5	+0.4	
L15K	Ungalak Mounta	5.25	305	P		Pn	15 05 57.5	+0.4	
	baz=117								
MCARA	McCarthy VSAT	5.26	59			Pn	15 05 57.4	+0.1	
J20K	Nowinta River	5.26	352	Pn		Pn	15 05 58.0	+0.6	
J20K				IAML			15 06 58.2		
	comp=E,44nm,0.5s								
J20K				IAML			15 07 27.6		
	comp=N,32nm,1.3s								
J20K	Nowinta River	5.26	352	P		Pn	15 05 57.7	+0.4	
	baz=170								
ISLE	Juniper Island	5.33	68			Pn	15 05 58.7	+0.3	
BWN	Browne	5.38	14	Pn		Pn	15 05 59.7	+0.8	
BWN				IAML			15 07 20.5		
	comp=N,87nm,0.8s								
KIAG	Kiagna River	5.41	65			Pn	15 05 59.6	+0.1	
BAGL	Bagley Icefiel	5.43	70			Pn	15 06 00.8	+1.2	
PTPK	Patty Peak	5.44	62			Pn	15 06 00.5	+0.6	
MESA	MESA	5.44	73			Pn	15 06 01.1	+1.1	
MESA	MESA	5.44	73	P		Pn	15 06 00.9	+0.9	
	baz=262								
K15K	Wolf Creek Mou	5.57	310	Pn		Pn	15 06 01.5	0.0	
K15K	Wolf Creek Mou	5.57	310	P		Pn	15 06 01.7	+0.2	
	baz=122								
L14K	Kuka Creek	5.64	299	Pn		Pn	15 06 02.8	+0.3	
L14K	Kuka Creek	5.64	299	P		Pn	15 06 03.0	+0.5	
	baz=110								
SDPT	Sand Point	5.71	234	Pn		Pn	15 06 04.5	+1.0	
SDPT	Sand Point	5.71	234	P		Pn	15 06 04.6	+1.1	
SDPT	Sand Point	5.71	234	P		Pn	15 06 04.2	+0.8	
	baz=46								
M13K	Dall Lake	5.72	289	Pn		Pn	15 06 05.0	+1.4	
M13K	Dall Lake	5.72	289	P		Pn	15 06 04.4	+0.9	
	baz=99								
M26K	Nabesna, AK	5.74	50			Pn	15 06 04.4	+0.5	
M26K	Nabesna, AK	5.74	50	P		Pn	15 06 04.5	+0.5	
	baz=238								
CNBA	Chernabura Isl	5.75	226	Pn		Pn	15 06 03.9	-0.1	
BARN	Barnard Glacie	5.77	64			Pn	15 06 04.6	+0.2	
K24K	Donnelly Dome	5.78	31			Pn	15 06 06.0	+1.6	
K24K	Donnelly Dome	5.78	31	P		Pn	15 06 05.1	+0.7	
	baz=217								
MENT	Mentasta	5.79	43			Pn	15 06 04.2	-0.3	
NEA2	Nenana	5.83	14			Pn	15 06 04.7	-0.4	
NEA2	Nenana	5.83	14	P		Pn	15 06 05.0	-0.2	
	baz=198								
J16K	Anvik River	5.85	321	Pn		Pn	15 06 04.8	-0.6	
J16K	Anvik River	5.85	321	P		Pn	15 06 05.4	0.0	
	baz=134								
WRH	Wood River Hil	5.86	19	Pn		Pn	15 06 05.0	-0.5	
TABL	Table Mountain	5.88	71			Pn	15 06 06.8	+0.8	
CTG	Chitna Glacier	5.89	66	P		Pn	15 06 07.0	+0.9	
	baz=256								
CTGM	Chitna Glacie	5.90	66	Pn		Pn	15 06 06.6	+0.4	
I20K	Naaghedeneel	5.90	351			Pn	15 06 06.3	+0.3	
I20K	Naaghedeneel	5.90	351	P		Pn	15 06 06.1	+0.1	
	baz=170								
L26K	Log Cabin Wild	5.97	44	Pn		Pn	15 06 07.2	+0.2	
L26K	Log Cabin Wild	5.97	44	P		Pn	15 06 07.2	+0.2	
	baz=232								
HDA	Harding Lake	6.02	23			Pn	15 06 07.5	-0.2	
HDA	Harding Lake	6.02	23	P		Pn	15 06 08.1	+0.5	
	baz=208								
SAMH	Samovar Hills	6.02	74			Pn	15 06 09.5	+1.8	
LOGN	Logan Glacier	6.02	67			Pn	15 06 08.0	+0.2	
CCB	Clear Creek Bu	6.07	19	Pn		Pn	15 06 07.6	-0.7	
MLY	Manley	6.11	7	Pn		Pn	15 06 08.2	-0.7	
MLY	Manley	6.11	7	P		Pn	15 06 09.0	+0.1	
	baz=188								
GCSA	Galena City Sc	6.14	342			Pn	15 06 09.6	+0.3	
GCSA	Galena City Sc	6.14	342	P		Pn	15 06 09.6	+0.3	
	baz=158								
M27K	Edge Creek, AK	6.17	52	Pn		Pn	15 06 10.4	+0.5	
M27K	Edge Creek, AK	6.17	52	P		Pn	15 06 10.4	+0.5	
	baz=242								
I21K	Tanana	6.21	2			Pn	15 06 10.3	+0.1	
I21K	Tanana	6.21	2	P		Pn	15 06 10.7	+0.5	
	baz=182								
COLA	College	6.28	18			Pn	15 06 10.9	-0.2	
COLA	College	6.28	18	P		Pn	15 06 11.4	+0.3	
PCA	Pinnacle	6.28	75			Pn	15 06 11.8	+0.6	
PINM	Pinnacle	6.28	75	P		Pn	15 06 11.8	+0.6	
	baz=266								
MDM	Murphy Dome	6.30	16	Pn		Pn	15 06 11.4	-0.1	
I17K	Unalakleet	6.31	325	Pn		Pn	15 06 11.5	0.0	
I17K	Unalakleet	6.31	325	P		Pn	15 06 11.6	0.0	
	baz=137								
I23K	Minto, Yukon-K	6.34	12			Pn	15 06 11.4	-0.5	
I23K	Minto, Yukon-K	6.34	12	P		Pn	15 06 12.3	+0.3	
	baz=195								
IL31		6.35	22			Pn	15 06 11.9	-0.3	
ILAR	Eielson Array	6.35	22	Pn		Pn	15 06 11.6	-0.6	
ILAR	Eielson Array	6.35	22	P		Pn	15 06 11.8	-0.4	
	comp=N,21nm,0.5s,baz=208,slow=14,SNR=322								
ILAR				S		Sn	15 07 18.6	-4.5	
	comp=N,13nm,0.5s,baz=212,slow=22,SNR=10								
YUK2	White River	6.38	59			Pn	15 06 13.7	+1.0	
SCRK	Sand Creek	6.42	35	Pn		Pn	15 06 12.4	-0.7	
	baz=223								
YUK3	Moose Creek	6.54	60			Pn	15 06 15.8	+0.8	
YUK3	Moose Creek	6.54	60	P		Pn	15 06 15.8	+0.8	
	baz=250								
J25K	Salcha River,	6.54	28	Pn		Pn	15 06 14.6	-0.2	
J25K	Salcha River,	6.54	28	P		Pn	15 06 14.8	0.0	
	baz=214								
L27K	Beaver Creek,	6.56	47	Pn		Pn	15 06 14.9	-0.1	
L27K	Beaver Creek,	6.56	47	P		Pn	15 06 15.3	+0.2	
	baz=237								
POKR	Poker Plat Res	6.57	19			Pn	15 06 14.6	-0.5	
POKR	Poker Plat Res	6.57	19	P		Pn	15 06 14.8	-0.3	
	baz=203								
BCAR	Beaver Creek A	6.57	47	Pn		Pn	15 06 15.5	+0.2	
BCPM	Bancas Point	6.58	76			Pn	15 06 16.4	+1.1	
J14K	Nanvaranak Lak	6.61	309			Pn	15 06 15.2	-0.5	
J14K	Nanvaranak Lak	6.61	309	P		Pn	15 06 15.6	-0.1	
	baz=120								
BVCY	Beaver Creek	6.62	54			Pn	15 06 16.9	+1.0	
BVCY	Beaver Creek	6.62	54	P		Pn	15 06 16.5	+0.7	
	baz=244								
H20K	Anotleneega Mo	6.62	351			Pn	15 06 16.5	+0.7	
H20K	Anotleneega Mo	6.62	351	P		Pn	15 06 16.2	+0.3	
	baz=169								
H21K	Melozitna Rive	6.69	359			Pn	15 06 16.6	-0.1	
H21K	Melozitna Rive	6.69	359	P		Pn	15 06 16.7	-0.1	
	baz=178								
PNL	Peninsula	6.69	79			Pn	15 06 17.4	+0.6	
PNL	Peninsula	6.69	79	P		Pn	15 06 18.1	+1.3	
PNL	Peninsula	6.69	79	P		Pn	15 06 17.4	+0.6	
	baz=270								
YUK8	Steele Glacier	6.71	65			Pn	15 06 19.1	+1.7	
YUK8	Steele Glacier	6.71	65	P		Pn	15 06 18.6	+1.2	
	baz=256								
H18K	Honhosa River	6.78	338	Pn		Pn	15 06 17.9	-0.2	
H18K	Honhosa River	6.78	338	P		Pn	15 06 17.7	-0.3	
	baz=153								
H19K	Roundabout Mou	6.82	346			Pn	15 06 18.6	0.0	
H19K	Roundabout Mou	6.82	346	P		Pn	15 06 19.0	+0.5	
	baz=162								
H17K	Granite Mounta	6.93	333	Pn		Pn	15 06 20.1	+0.1	
H17K	Granite Mounta	6.93	333	P		Pn	15 06 19.9	-0.1	
	baz=146								
J26L	Joseph Creek	6.93	33			Pn	15 06 20.5	+0.3	
J26L	Joseph Creek	6.93	33	P		Pn	15 06 20.3	+0.2	
	baz=222								
H22K	Ishtalitna Cre	6.94	3			Pn	15 06 20.1	-0.1	
H22K	Ishtalitna Cre	6.94	3	P		Pn	15 06 20.1	-0.1	
	baz=185								
IMAR	Indian Mountai	7.04	356			Pn	15 06 21.8	+0.3	
K27K	Chicken	7.06	40			Pn	15 06 22.4	+0.6	
K27K	Chicken	7.06	40	P		Pn	15 06 21.9	+0.1	
	baz=229								
O29M	Mount Kennedy	7.13	74			Pn	15 06 24.4	+1.5	
O29M	Mount Kennedy	7.13	74	P		Pn	15 06 23.5	+0.6	
	baz=266								
H24K	Noodor Dome	7.18	15	Pn		Pn	15 06 23.5	0.0	
H24K	Noodor Dome	7.18	15	P		Pn	15 06 23.4	0.0	
	baz=199								
PRP	Porcupine Dome	7.28	23	Pn		Pn	15 06 25.3	+0.3	
H16K	Elim	7.32	325			Pn	15 06 25.8	+0.5	
H16K	Elim	7.32	325	P		Pn	15 06 24.9	-0.5	
	baz=136								
YUK7	Dusty Glacier	7.37	72			Pn	15 06 26.7	+0.5	
G19K	Purcell Mounta	7.49	345	Pn		Pn	15 06 28.4	+0.8	
G19K	Purcell Mounta	7.49	345	P		Pn	15 06 28.6	+0.9	
	baz=161								
G18K	Tagagawik	7.50	340	Pn		Pn	15 06 27.9	+0.1	
G18K	Tagagawik	7.50	340	P		Pn	15 06 27.1	-0.8	
	baz=155								
P29M	Windy Craggy	7.53	79			Pn	15 06 29.2	+0.9	
P29M	Windy Craggy	7.53	79	P		Pn	15 06 29.2	+0.9	
	baz=272								
G21K	Allakaket	7.56	357			Pn	15 06 29.8	+1.1	
G21K	Allakaket	7.56	357	P		Pn	15 06 28.8	+0.1	
	baz=176								
G17K	Kiwalik Mounta	7.57	333			Pn	15 06 28.3	-0.5	
G17K	Kiwalik Mounta	7.57	333	P		Pn	15 06 28.3	-0.5	
	baz=146								
M29M	Somme Creek	7.66	57			Pn	15 06 31.0	+1.0	
M29M	Somme Creek	7.66	57	P		Pn	15 06 30.3	+0.2	
	baz=250								
I26K	Coal Creek Min	7.66	30			Pn	15 06 29.9	-0.2	
I26K	Coal Creek Min	7.66	30	P		Pn	15 06 29.9	-0.2	
	baz=219								
HYT	Haines Junctio	7.71	70	Pn		Pn	15 06 31.9	+1.1	
HYT	Haines Junctio	7.71	70	P		Pn	15 06 31.6	+0.7	
	baz=263								
G23K	Bananza Creek	7.82	7	Pn		Pn	15 06 32.7	+0.5	
G23K	Bananza Creek	7.82	7	P		Pn	15 06 32.1	-0.1	
	baz=189								
EGAK	Eagle	7.85	38	Pn		Pn	15 06 33.0	+0.3	
H25L	Birch Creek	7.90	20			Pn	15 06 33.4	+0.2	
H25L	Birch Creek	7.90	20	P		Pn	15 06 33.4	+0.2	
	baz=206								
G16K	Koyuk River	7.92	328	Pn		Pn	15 06 34.0	+0.5	
G16K	Koyuk River	7.92	328	P		Pn	15 06 33.2	-0.3	
	baz=140								
N30M	Aishikik Lake	8.01	66			Pn	15 06 35.2	+0.4	
N30M	Aishikik Lake	8.01	66	P		Pn	15 06 35.3	+0.4	
	baz=259								
DAWY	Dawson	8.02	45	Pn		Pn	15 06 35.7

C23K	**Itkillik River**	**10.91**	**3**	Pn		**Pn**	**15 07 13.8**	**-0.4**
R33M	**Jennings River**	**10.99**	**79**	Pn		**Pn**	**15 07 17.0**	**+1.5**
CRAG	**Craig**	**11.02**	**100**	Pn		**Pn**	**15 07 14.7**	**-1.2**
WRAK	**Wrangell Islan**	**11.03**	**95**			**Pn**	**15 07 15.0**	**-1.0**
E28M	**Babbage River**	**11.16**	**25**	Pn		**Pn**	**15 07 16.1**	**-1.5**
S34M	**Telegraph Cree**	**11.19**	**86**	Pn		**Pn**	**15 07 18.9**	**+0.7**
E29M	**Blow River**	**11.37**	**28**	Pn		**Pn**	**15 07 20.0**	**-0.6**
B22K	**Teshekpuk Lake**	**11.40**	**358**	Pn		**Pn**	**15 07 19.0**	**-1.8**
G31M	**Satah River**	**11.41**	**38**	Pn		**Pn**	**15 07 19.2**	**-1.8**
DLBC	**Dease Lake**	**11.64**	**83**	Pn		**Pn**	**15 07 25.6**	**+1.3**
DLBC	**Dease Lake**	**11.64**	**83**	P		**Pn**	**15 07 25.4**	**+1.1**
	comp=N,2.2nm,0.4s,baz=231,slow=10,SNR=6.4							
DLBC				S		**Sn**	**15 09 28.1**	**-4.2**
	comp=N,0.6nm,0.3s,baz=336,slow=22,SNR=1.3							
V35K	**Ketchikan**	**11.85**	**99**	Pn		**Pn**	**15 07 27.0**	**-0.2**
F31M	**Tsiigehtchic**	**11.88**	**37**	Pn		**Pn**	**15 07 27.2**	**-0.3**
T35M	**Bob Quinn**	**11.91**	**90**	Pn		**Pn**	**15 07 30.0**	**+1.9**
U35K	**Hyder**	**12.42**	**95**	Pn		**Pn**	**15 07 36.8**	**+1.9**
INK	**Inuvik**	**12.48**	**34**	Pn		**Pn**	**15 07 35.1**	**-0.5**
INK	**Inuvik**	**12.48**	**34**	P		**Pn**	**15 07 35.8**	**+0.2**
	comp=N,2.8nm,0.9s,baz=229,slow=14,SNR=9.3							
DIB	**Dawson Inlet,**	**12.52**	**109**	Pn		**Pn**	**15 07 35.8**	**-0.5**
GRNB	**Grenville Isla**	**13.42**	**103**	Pn		**Pn**	**15 07 47.5**	**-0.8**
C36M	**Paulatuk**	**15.93**	**38**	Pn		**Pn**	**15 08 18.9**	**-1.6**
C36M				IAmb		IAmb	15 08 36.0	
	comp=Z,18nm,1.4s							
YKA	**Yellowknife Ar**	**18.61**	**63**	P		**Pn**	**15 08 54.0**	**+0.6**
YKA	**Yellowknife Ar**	**18.61**	**63**	P		**P**	**15 08 53.4**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=276,slow=12,SNR=13							
PETK	**Petropavlovsk-**	**27.91**	**280**	P		**P**	**15 10 24.6**	**+0.6**
	comp=Z,2.1nm,0.9s,baz=69,slow=13,SNR=14							
PETK				LR		LR	15 22 24.9	
	comp=Z,23nm,20.3s,baz=106,slow=38							
	comp=Z,2.1nm,0.9s							
SPITS	**Spitsbergen Ar**	**42.90**	**3**	P		**P**	**15 12 31.9**	**+0.2**
	comp=Z,21nm,1.1s,baz=26,slow=5.0,SNR=2.1							
	comp=Z,21nm,1.1s							
KLR	**Kul'dur**	**43.19**	**292**	LR		LR	15 30 50.3	
	comp=Z,26nm,19.5s,baz=101,slow=36							
USRK	**Ussuriysk Ar.**	**46.61**	**287**	P		**P**	**15 13 01.6**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=46,slow=11,SNR=1.7							
	comp=Z,1.5nm,0.7s							
KSRS	**Korea Array**	**53.70**	**284**	P		**P**	**15 13 55.1**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=40,slow=7.3,SNR=1.4							
	comp=Z,0.5nm,0.4s							
SONM	**Songino Array**	**55.63**	**307**	P		**P**	**15 14 09.3**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=32,slow=5.7,SNR=6.4							
SONM				LR		LR	15 38 09.2	
	comp=Z,46nm,18.5s,baz=84,slow=36							
	comp=Z,0.6nm,0.4s							
ZALV	**Zalesovo Beam**	**58.37**	**324**	P		**P**	**15 14 29.0**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=42,slow=6.0,SNR=3.5							
	comp=Z,0.8nm,0.6s							
FINES	**FINESS Array B**	**59.88**	**1**	P		**P**	**15 14 39.0**	**+0.5**
	comp=Z,1.8nm,1.0s,baz=358,slow=9.5,SNR=3.6							
	comp=Z,1.8nm,1.0s							
HFS	**Hagfors**	**60.71**	**8**	P		**P**	**15 14 45.0**	**+0.8**
HFS	**Hagfors**	**60.71**	**8**	P		**P**	**15 14 45.0**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=60,slow=5.8,SNR=7.1							
	comp=Z,1.0nm,0.5s							
BVAR	**Borovoye Array**	**63.10**	**333**	P		**P**	**15 15 00.4**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=41,slow=6.4,SNR=6.5							
	comp=Z,1.1nm,0.6s							
MKAR	**Makanchi Array**	**65.41**	**322**	P		**P**	**15 15 15.2**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=28,slow=6.7,SNR=5.8							
	comp=Z,0.2nm,0.4s							
AKASG	**Malin Array Be**	**70.65**	**359**	P		**P**	**15 15 48.5**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=2.5,slow=5.9,SNR=4.8							
	comp=Z,1.0nm,0.5s							

*IDC **15** 15:06:54.0±1.8,28°.87N×52°.68E,h0km,mb3.9/3,*
mbtmp3.7/5,ML3.4/2,Error ellipse: s-maj=49.2km
s-min=30.2km az=55.0
*TEH **15** 15:06:55.0,28°.96N×52°.78E,h8km±54km,ML3.2*
ISC 15 15:06:56.3±0.8,28°.91N±0'.04×52°.82E±0'.06,h16km,n15,
σ1s05/16,mb3.8/3,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QIR1	**Qir**	**0.47**	**155**	Pg	**Pb**	**15 07 05.8**	**-0.5**
SHI	**Shiraz**	**0.78**	**340**	Pg	**Pg**	**15 07 09.7**	**-1.8**
JHRM	**Jahrom**	**0.78**	**121**	Pg	**Pn**	**15 07 12.4**	**-0.4**
KAZ2	**Kazeron-Fars-I**	**1.23**	**305**	Pg	**Pb**	**15 07 18.5**	**-0.6**
AHBU	**AHRAM**	**1.33**	**268**	Pg	**Pg**	**15 07 20.6**	**-1.4**
DSBU	**Dashti - Bushe**	**1.47**	**249**	Pg	**Pg**	**15 07 23.8**	**-0.8**
DSBU				Sg	**Sg**	**15 07 44.5**	**+0.7**
LMD1	**Lamerd**	**1.59**	**169**	Pg	**Pg**	**15 07 26.6**	**-0.4**
KLNJ	**Kolanjah**	**2.35**	**333**	Pn	**Pn**	**15 07 35.8**	**+1.3**
IRAM	**Rameshev**	**2.92**	**353**	Pn	**Pn**	**15 07 44.0**	**+1.7**
ISFB	**Sefidab**	**5.45**	**355**	Pn	**Pn**	**15 08 17.9**	**+0.9**
WSAR	**Wadi Sarin**	**7.69**	**136**	Pn	**Pn**	**15 08 48.4**	**+0.7**
	0.8nm,0.3s,baz=329,slow=7.7,SNR=12						
	2.9nm,0.5s						
BRTR	**Keskin Array B**	**19.13**	**309**	P	**P**	**15 11 18.6**	**-0.1**
	0.1nm,0.3s,baz=126,slow=9.5,SNR=5.8						
	0.9nm,0.8s						
FINES	**FINESS Array B**	**37.06**	**339**	P	**P**	**15 14 05.2**	**-0.1**
	2.0nm,0.8s,baz=133,slow=9.7,SNR=5.0						
	2.0nm,0.8s						
HFS	**Hagfors**	**40.82**	**331**	P	**P**	**15 14 36.5**	**-0.3**
	1.6nm,0.8s,baz=135,slow=8.6,SNR=1.8						
	1.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**49.85**	**263**	P	**P**	**15 15 48.0**	**-1.0**
	0.8nm,0.7s,baz=56,slow=7.3,SNR=7.1						
	0.8nm,0.7s						

*KRNET **15** 15:17:07.4±0.1,40°.46N×74°.16E,h16km,mb3.2*
*SOME **15** 15:17:07.9,40°.55N×74°.02E,h5km*
*KNET **15** 15:17:09.8±0.6,40°.62N×74°.16E,h3km±5km,ml2.6,Error*
ellipse: s-maj=6.3km s-min=4.2km az=64.0
*NNC **15** 15:17:11.2±1.0,40°.66N×74°.05E,h0km,mb3.8,mpv3.5,*
Error ellipse: s-maj=7.6km s-min=4.5km az=171.0
ISC 15 15:17:07.2±0.9,40°.44N±0'.03×74°.11E±0'.02,h10km,n60,
σ1s75/99,32C-31D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.63**	**228**	⇑*i*P	**Pb**	**15 17 20.1**	**-0.3**
	baz=29						
SFK				⇑*i*S	**Sb**	**15 17 29.5**	**+0.2**
	baz=29						
OHH	**Osh**	**1.01**	**275**	⇓*i*P	**Pn**	**15 17 27.3**	**-0.2**
	baz=74						
OHH				⇓*i*S	**Sn**	**15 17 41.7**	**-0.2**
	baz=74						
ARSB	**Arslanbob**	**1.23**	**316**	⇑*i*P	**Pg**	**15 17 30.8**	**0.0**
	baz=14						
ARSB				⇑*i*S	**Sn**	**15 17 47.7**	**+0.3**
	baz=14						
ARLS	**Aral**	**1.43**	**6**	⇓*i*P	**Pn**	**15 17 33.4**	**0.0**
	baz=5.0						
ARLS				⇓*i*S	**Sn**	**15 17 52.3**	**-0.1**
	baz=5.0						
NRN	**Naryn**	**1.74**	**55**	⇓*i*P	**Pn**	**15 17 38.1**	**+0.3**
	baz=54						
NRN				⇓*i*S	**Sb**	**15 18 00.8**	**-0.8**
	baz=54						
UCH	**Uchtor**	**1.81**	**10**	⇓P	**Pb**	**15 17 41.2**	**+0.5**
	26nm,0.3s,SNR=71						
UCH				⇑S	**Sg**	**15 18 04.9**	**-0.7**
	40nm,0.2s						
UCH	**Uchtor**	**1.81**	**10**	⇑*i*P	**Pb**	**15 17 40.4**	**-0.4**
	baz=8.0						
UCH				⇑*i*S	**Sb**	**15 18 04.4**	**+0.7**
	baz=8.0						
DRK	**Karamyk**	**2.02**	**242**	⇓*i*P	**Pb**	**15 17 44.5**	**+0.4**
	baz=42						
DRK				⇓*i*S	**Sg**	**15 18 11.6**	**-0.4**
	baz=42						
ARK	**Arkit**	**2.12**	**311**	⇑*e*P	**Pb**	**15 17 45.6**	**-0.1**
	baz=10.0						
ARK				⇑*e*S	**Sb**	**15 18 13.0**	**+0.9**
	baz=10.0						
AAK	**Ala-Archa**	**2.22**	**7**	⇑P	**Pb**	**15 17 48.0**	**+0.6**
	7.9nm,0.2s,SNR=21						
AAK				⇑S	**Sb**	**15 18 16.4**	**+1.3**
	24nm,0.3s						
AAK	**Ala-Archa**	**2.22**	**7**	⇓*i*P	**Pb**	**15 17 46.3**	**-1.2**
	baz=6.0						
AAK				⇓*i*S	**Sb**	**15 18 14.6**	**-0.4**
	baz=6.0						
EKS2	**Erkin-Say**	**2.24**	**354**	⇑P	**Pb**	**15 17 48.1**	**+0.3**
	8.6nm,0.2s,SNR=39						
EKS2				⇑S	**Sg**	**15 18 17.5**	**-1.5**
	29nm,0.4s						
EKS2	**Erkin-Say**	**2.24**	**354**	⇓*e*P	**Pb**	**15 17 46.6**	**-1.2**
	baz=53						
EKS2				⇓*i*S	**Sb**	**15 18 15.4**	**-0.2**
	baz=53						
KBK	**Karagaybulak**	**2.31**	**16**	⇑P	**Pb**	**15 17 49.6**	**+0.7**
	8.2nm,0.1s,SNR=10						
KBK				⇑S	**Sg**	**15 18 20.2**	**-1.1**
	73nm,0.4s						
KBK	**Karagaybulak**	**2.31**	**16**	⇑*i*P	**Pb**	**15 17 47.4**	**-1.6**
	baz=15						
KBK				⇑*i*S	**Sb**	**15 18 16.5**	**-1.1**
	baz=15						
MNAS	**Manas**	**2.38**	**330**	⇑*i*P	**Pb**	**15 17 48.8**	**-1.4**
	baz=29						
MNAS				⇑*i*S	**Sb**	**15 18 19.2**	**-0.4**
	baz=29						
MRKS	**Merke**	**2.40**	**344**	*e*P	**Pb**	**15 17 50.5**	**0.0**
	26nm,0.2s						
MRKS				*e*S	**Sb**	**15 18 21.1**	**+0.9**
	56nm,0.3s						
MRKS	**Merke**	**2.40**	**344**	Pg	**Pb**	**15 17 50.5**	**0.0**
	26nm,0.2s						
MRKS				Lg	Lg	15 18 21.1	
	56nm,0.3s						
FRU1	**Bishkek**	**2.40**	**9**	⇓*i*P	**Pb**	**15 17 49.0**	**-1.6**
	baz=8.0						
FRU1				⇓*i*S	**Sb**	**15 18 19.5**	**-0.8**
	baz=8.0						
ULHL	**Ulahol**	**2.42**	**41**	⇓P	**Pb**	**15 17 50.3**	**-0.6**
	3.5nm,0.2s,SNR=19						
ULHL				⇑S	**Sb**	**15 18 22.5**	**+1.7**
	23nm,0.4s						
ULHL	**Ulahol**	**2.42**	**41**	⇓*i*P	**Pb**	**15 17 48.7**	**+1.7**
	baz=41						
ULHL				⇓*i*S	**Sb**	**15 18 18.9**	**-1.9**
	baz=41						
TRKS	**Terek-Say**	**2.50**	**297**	⇑*i*P	**Pb**	**15 17 50.2**	**-2.0**
	baz=95						
TRKS				⇑*i*S	**Sb**	**15 18 21.4**	**-1.7**
	baz=95						
BTK	**Batken**	**2.55**	**263**	⇓*i*P	**Pb**	**15 17 51.7**	**-1.3**
	baz=62						
BTK				⇓*i*S	**Sb**	**15 18 24.1**	**-0.3**
	baz=62						
CHMS	**Chumysh**	**2.60**	**10**	⇑P	**Pb**	**15 17 53.0**	**-1.0**
	10nm,0.5s,SNR=7.6						
CHMS				⇓S	**Sb**	**15 18 27.6**	**+1.6**
	15nm,0.3s						
CHMS	**Chumysh**	**2.60**	**10**	⇑Pn	**Pb**	**15 17 53.2**	**-0.7**
	5.4nm,0.5s						
CHMS				⇑Lg	Lg	15 18 27.5	
	25nm,0.7s						
CHMS				Lg	Lg	15 19 06.3	
	67nm,0.1s						
CHMS	**Chumysh**	**2.60**	**10**	⇓*i*P	**Pn**	**15 17 51.4**	**+2.0**
	baz=10.0						
CHMS				⇓*i*S	**Sb**	**15 18 23.5**	**-2.5**
	baz=10.0						
TKM2	**Tokmak 2**	**2.72**	**24**	⇓P	**Pb**	**15 17 55.0**	**-1.1**
	1.5nm,0.1s						
TKM2	**Tokmak 2**	**2.72**	**24**	⇑Pn	**Pb**	**15 17 55.1**	**-0.9**
	3.4nm,0.6s						
TKM2	**Tokmak 2**	**2.72**	**24**	⇓*i*P	**Pn**	**15 17 53.1**	**+2.0**
	baz=23						
TKM2				⇓*i*S	**Sn**	**15 18 26.4**	**+2.2**
	baz=23						
USP	**Ospenovka**	**2.84**	**6**	⇑P	**Pb**	**15 17 56.6**	**-1.4**
	8.4nm,0.2s,SNR=11						
USP	**Ospenovka**	**2.84**	**6**	⇑*i*P	**Pn**	**15 17 54.8**	**+2.1**
	baz=5.0						
USP				⇑*i*S	**Sn**	**15 18 29.4**	**+2.4**
	baz=5.0						
KDJ	**Kajisay**	**2.87**	**53**	⇑*i*P	**Pn**	**15 17 55.2**	**+2.1**
	baz=53						
KDJ				⇑*i*S	**Sn**	**15 18 30.0**	**+2.2**
	baz=53						
KST	**Kastek**	**2.95**	**27**	*e*P	**Pb**	**15 18 01.3**	**+1.4**
	4.6nm,0.2s						
KST				*e*S	**Sg**	**15 18 39.9**	**-2.0**
	35nm,0.4s						
KST	**Kastek**	**2.95**	**27**	Pg	**Pb**	**15 18 01.3**	**+1.4**
	4.6nm,0.2s						
KST				Lg	Lg	15 18 39.9	
	35nm,0.4s						
SGDS	**Sogindy**	**3.04**	**7**	Pg	**Pb**	**15 18 02.9**	**+1.6**
	5.7nm,0.3s						
SGDS				Lg	Lg	15 18 42.6	
	12nm,0.4s						
DGS	**Degeres**	**3.07**	**23**	*e*P	**Pb**	**15 18 03.3**	**+1.4**
	5.6nm,0.4s						
DGS				*e*S	**Sg**	**15 18 43.4**	**-2.3**
	26nm,0.4s						
DGS	**Degeres**	**3.07**	**23**	Pg	**Pb**	**15 18 03.3**	**+1.4**
	5.6nm,0.4s						
DGS				Lg	Lg	15 18 43.4	
	26nm,0.4s						
IZV	**Izvestkoviy**	**3.20**	**35**	*e*P	**Pg**	**15 18 06.6**	**-2.0**
	25nm,0.2s						
IZV				*e*S	**Sg**	**15 18 48.7**	**-1.3**
	20nm,0.1s						
IZV	**Izvestkoviy**	**3.20**	**35**	Pg	**Pg**	**15 18 06.6**	**-2.0**
	25nm,0.2s						
IZV				Lg	Lg	15 18 48.7	
	20nm,0.1s						
MTBS	**Maitube**	**3.20**	**32**	*e*P	**Pb**	**15 18 05.9**	**+1.8**
	4.4nm,0.2s						
MTBS				*e*S	**Sg**	**15 18 47.8**	**-2.2**
	10nm,0.2s						
MTBS	**Maitube**	**3.20**	**32**	Pg	**Pb**	**15 18 05.9**	**+1.8**
	4.4nm,0.2s						
MTBS				Lg	Lg	15 18 47.8	
	10nm,0.2s						
TNSS	**Tian-Shan**	**3.35**	**38**	*e*P	**Pg**	**15 18 09.3**	**-2.2**
	1.8nm,0.1s						
TNSS				*e*S	**Sg**	**15 18 53.4**	**-1.5**
	7.0nm,0.4s						
TNSS	**Tian-Shan**	**3.35**	**38**	Pg	**Pg**	**15 18 09.3**	**-2.2**
	1.8nm,0.1s						
TNSS				Lg	Lg	15 18 53.4	
	7.0nm,0.4s						
KRBS	**Karabastau**	**3.46**	**19**	*e*P	**Pb**	**15 18 10.6**	**+2.1**
	4.4nm,0.3s						
KRBS				*e*S	**Sg**	**15 18 55.7**	**-2.5**
	22nm,0.4s						
KRBS	**Karabastau**	**3.46**	**19**	Pg	**Pb**	**15 18 10.6**	**+2.1**
	4.4nm,0.3s						
KRBS				Lg	Lg	15 18 55.7	
	22nm,0.4s						
MDOK	**Medeo**	**3.50**	**38**	*e*P	**Pg**	**15 18 11.7**	**-2.5**
	3.7nm,0.3s						
MDOK				*e*S	**Sg**	**15 18 57.4**	**-2.1**
	9.0nm,0.4s						
MDOK	**Medeo**	**3.50**	**38**	Pg	**Pg**	**15 18 11.7**	**-2.5**
	3.7nm,0.3s						
MDOK				Lg	Lg	15 18 57.4	
	9.0nm,0.4s						
KOTS	**Kotyrbulak**	**3.58**	**38**	*e*P	**Pg**	**15 18 13.5**	**-2.3**
	3.7nm,0.3s						
KOTS				*e*S	**Sg**	**15 19 00.7**	**-1.5**
	20nm,0.3s						
KOTS	**Kotyrbulak**	**3.58**	**38**	Pg	**Pg**	**15 18 13.5**	**-2.3**
	3.7nm,0.3s						
KOTS				Lg	Lg	15 19 00.7	
	20nm,0.3s						
KK31	**Karatay Array**	**3.79**	**316**	Pg	**Pb**	**15 18 16.0**	**+1.9**
	1.2nm,0.3s,baz=141,slow=18,SNR=30						
KK31				⇓Lg	Lg	15 19 05.8	
	3.1nm,0.4s,baz=136,slow=26,SNR=3.9						
KKAR	**Karatay Array**	**3.79**	**316**	⇓*i*P	**Pn**	**15 18 08.4**	**+2.8**
	baz=15						
KKAR				⇓*i*S	**Sn**	**15 18 53.1**	**+2.9**
	baz=15						
KTBS	**Karatobe**	**3.79**	**29**	*e*P	**Pb**	**15 18 16.5**	**+2.3**
	2.7nm,0.2s						
KTBS				*e*S	**Sg**	**15 19 05.9**	**-3.0**
	9.4nm,0.4s						
KTBS	**Karatobe**	**3.79**	**29**	Pg	**Pb**	**15 18 16.5**	**+2.3**
	2.7nm,0.2s						
KTBS				Lg	Lg	15 19 05.9	
	9.4nm,0.4s						
CHM	**Chimkent**	**3.88**	**300**	*e*P	**Pb**	**15 18 16.7**	**+1.1**
	20nm,0.3s						
CHM				*e*S	**Sb**	**15 19 06.3**	**+3.7**
	67nm,0.1s						
CHKK	**Chushkaly**	**4.03**	**31**	*e*P	**Pb**	**15 18 21.1**	**+2.9**
	2.2nm,0.1s						
CHKK				*e*S	**Sg**	**15 19 13.7**	**-2.9**
	13nm,0.2s						
CHKK	**Chushkaly**	**4.03**	**31**	Pg	**Pb**	**15 18 21.1**	**+2.9**
	2.2nm,0.1s						
CHKK				Lg	Lg	15 19 13.7	
	13nm,0.2s						
BRLS	**Borolday**	**4.12**	**310**	*e*P	**Pb**	**15 18 21.7**	**+2.0**
	2.2nm,0.2s						
BRLS				*e*S	**Sg**	**15 19 14.7**	**-4.6**
	6.8nm,0.2s						
BRLS	**Borolday**	**4.12**	**310**	Pg	**Pb**	**15 18 21.7**	**+2.0**
	2.2nm,0.2s						
BRLS				Lg	Lg	15 19 14.7	
	6.8nm,0.2s						
PDGK	**Podgornoye**	**4.95**	**53**	⇓Pg	**Pg**	**15 18 40.8**	**-1.1**
	3.7nm,1.1s						
PDGK				⇓Lg	Lg	15 19 46.2	
	6.7nm,1.0s						
OTUK	**Ortayu**	**7.91**	**351**	⇑Lg	Lg	15 21 13.3	
	6.2nm,0.8s						

IDC 15 15:22:31.6±2.0,6°.38S×143°.46E,h0km,mb3.2/1,
mbtmp3.3/4,ML3.3/2,Error ellipse: s-maj=43.7km
s-min=30.3km az=53.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.74**	**130**	Pn	Pn	15 23 44.9	+0.5
	7.4nm,0.9s,baz=311,slow=18,SNR=1.5						
PMG				Sn	Sn	15 24 40.7	+0.5
	0.3nm,0.3s,baz=315,slow=16,SNR=1.9						
WRA	**Warramunga Arr**	**16.14**	**212**	Pn	Pn	15 26 17.9	-2.1
	0.1nm,0.3s,baz=30,slow=13,SNR=9.7						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**19.49**	**207**	P	P	15 27 01.1	+0.6
	0.1nm,0.3s,baz=40,slow=8.1,SNR=12						
	1.0nm,1.0s						
MKAR	**Makanchi Array**	**75.57**	**322**	P	P	15 34 18.4	+0.1
	0.2nm,0.6s,baz=106,slow=5.1,SNR=2.0						
	0.2nm,0.6s						

RSNC 15 15:30:32.3±0.0,7°N±1'×7°3W±',h142km±3km,mb3.7,
ML2.5,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.21**	**200**	P	Pn	15 30 50.8	-1.2
BARC				S	Sn	15 31 05.8	-1.1
PAMC	**Pamplona, Colo**	**0.68**	**37**	P	Pn	15 30 53.7	-0.7
PAMC				S	Sn	15 31 10.8	-0.4
RUSC	**La Rusia**	**0.89**	**178**	P	Pn	15 30 54.7	-1.3
RUSC				S	Sn	15 31 13.3	-0.7
TAMC	**Tame, Arauca**	**1.36**	**105**	P	Pn	15 30 58.9	-0.9
TAMC				S	Sn	15 31 20.0	-0.8
PTBC	**PUERTO BERRIO,**	**1.36**	**260**	P	Pn	15 30 57.7	-2.1
PTBC				S	Sn	15 31 18.9	-1.9
OCAC	**Ocana**	**1.45**	**352**	P	Pn	15 30 59.4	-1.6
OCAC				S	Sn	15 31 22.0	-0.9
SPBC	**San Pablo de B**	**1.48**	**220**	P	Pn	15 30 59.9	-1.3
SPBC				S	Sn	15 31 22.3	-0.9
NORC	**Norcasia**	**2.13**	**235**	P	Pn	15 31 06.9	-1.7
NORC				S	Sn	15 31 35.1	-1.4
ROSC	**El Rosal**	**2.28**	**212**	P	Pn	15 31 10.6	-0.2
ROSC				S	Sn	15 31 41.6	+1.4
CVER	**Cruz Verde, Cu**	**2.45**	**203**	P	Pn	15 31 12.2	-0.7
CVER				S	Sn	15 31 42.1	-2.0
HELC	**Santa Helena**	**2.48**	**256**	P	Pn	15 31 12.6	-0.5
HELC				S	Sn	15 31 43.3	-1.1
VILC	**Villavicencio,**	**2.72**	**192**	P	Pn	15 31 14.7	-1.3
VILC				S	Sn	15 31 49.6	-0.1
GUY2C	**Guyana, Caldas**	**2.73**	**235**	P	Pn	15 31 15.0	-1.4
GUY2C				S	Sn	15 31 51.5	+1.2
PTGC	**Puerto Gaitan,**	**2.75**	**159**	P	Pn	15 31 13.7	-2.5
PTGC				S	Sn	15 31 46.4	-3.7
CBOC	**Ciudad Bolivar**	**3.03**	**252**	P	Pn	15 31 18.5	-1.4
CBOC				S	Sn	15 31 54.0	-2.6
DBBC	**Dabeiba**	**3.09**	**274**	P	Pn	15 31 18.4	-2.1
DBBC				S	Sn	15 31 54.5	-3.3
SDV	**Santo Domingo**	**3.22**	**50**	P	Pn	15 31 20.1	-2.3
SDV				S	Sn	15 31 57.7	-3.4
ANIL	**Santa Ana**	**3.23**	**225**	P	Pn	15 31 22.2	-0.4
ARGC	**Ariguani, Magd**	**3.25**	**340**	P	Pn	15 31 21.6	-1.0
ARGC				S	Sn	15 31 59.6	-1.9
ORTC	**Ortega, Tolima**	**3.57**	**217**	P	Pn	15 31 24.8	-1.9
ORTC				S	Sn	15 32 08.8	-0.1
APAC	**Apartado, Choc**	**3.61**	**288**	P	Pn	15 31 24.7	-2.6
APAC				S	Sn	15 32 07.3	-2.6
PLMC	**San Jos del P**	**3.67**	**239**	P	Pn	15 31 26.5	-1.6
PLMC				S	Sn	15 32 09.9	-1.5
SJCC	**San Jacinto, C**	**3.70**	**327**	P	Pn	15 31 25.1	-3.5
SJCC				S	Sn	15 32 06.3	-5.9
CRJC	**Cerrejon, Guaj**	**4.21**	**3**	P	Pn	15 31 31.7	-3.5
CRJC				S	Sn	15 32 18.3	-5.8
YOTC	**Yotoco, Valle**	**4.26**	**229**	P	Pn	15 31 32.7	-3.2
YOTC				S	Sn	15 32 23.4	-1.9
SMRC	**Santa Marta, M**	**4.48**	**346**	P	Pn	15 31 36.2	-2.6
SMRC				S	Sn	15 32 24.1	-6.4
URIC	**Uribia, Colomb**	**5.00**	**13**	P	Pn	15 31 41.3	-4.4
	15nm,1.1s						
URIC				S	Sn	15 32 35.0	-7.8
	15nm,1.1s						
JAMC	**Jamundi, Valle**	**5.02**	**225**	P	Pn	15 31 41.1	-5.0

*IDC **15** 15:35:48.4±1.1,50°.28N×29°.54W,h0km,mb3.6/7,*
mbtmp3.6/7,MS3.2/8,Error ellipse: s-maj=37.4km
s-min=20.6km az=8.0
**ISC 15 15:35:49.9±1.0,50°.3N±0'

ASAR				PcP	**PcP**	**15 57 04.2**	**+0.9**		
	0.4nm,1.0s,baz=106,slow=4.0,SNR=2.0								
	0.5nm,0.7s								
WRA	**Warramunga Arr**	**43.55**	**262**	P	**P**	**15 55 31.2**	**+0.3**		
	0.8nm,1.0s,baz=98,slow=7.6,SNR=5.6								
	0.8nm,1.0s								
QSPA	**South Pole Qui**	**69.39**	**180**	P	**P**	**15 58 26.2**	**-0.1**		
	0.7nm,0.9s,baz=27,slow=6.5,SNR=1.5								
	0.7nm,0.9s								
NVAR	**Mina Array Bea**	**81.86**	**44**	P	**P**	**15 59 35.5**	**+0.1**		
	0.4nm,0.6s,baz=222,slow=9.3,SNR=3.9								
	0.4nm,0.6s								
SEY	**Seymchan**	**86.31**	**347**	P	**P**	**15 59 56.6**	**+0.5**		
	0.5nm,0.5s,baz=117,slow=2.3,SNR=4.9								
	0.5nm,0.5s								
TXAR	**Lajitas Array**	**88.02**	**58**	P	**P**	**16 00 05.9**	**+0.8**		
	0.3nm,0.8s,baz=224,slow=5.0,SNR=2.3								
	0.3nm,0.8s								
ILAR	**Eielson Array**	**88.72**	**13**	P	**P**	**16 00 07.0**	**-0.4**		
	0.3nm,0.6s,baz=220,slow=4.7,SNR=6.1								
	0.3nm,0.6s								
BVAR	**Borovoye Array**	**118.55**	**320**	PKP	**PKiKP**	**16 05 57.0**	**-0.2**		
	0.4nm,0.4s,baz=106,slow=2.1,SNR=4.4								
HFS	**Hagfors**	**139.54**	**350**	PKhKP	PKPpre	16 06 30.3			
	0.8nm,0.4s,baz=29,slow=3.4,SNR=4.8								
AKASG	**Malin Array Be**	**142.66**	**330**	PKP	**PKPdf**	**16 06 39.9**	**-2.5**		
	1.2nm,0.4s,baz=41,slow=4.2,SNR=12								

IDC 15 15:49:04.3±1.2, 17°.05S×67°.20E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=38.2km s-min=30.9km az=21.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**10.67**	**29**	T	T	16 03 27.2	
	baz=211,slow=75,SNR=97						
H08S2	**Diego Garcia H**	**10.68**	**30**	T	T	16 03 28.0	
	baz=211,slow=75,SNR=68						
H08S3	**Diego Garcia H**	**10.69**	**29**	T	T	16 03 28.7	
	baz=211,slow=75,SNR=157						
H04N2	**CROZET ISLANDS**	**31.74**	**201**	T	T	16 28 02.6	
	baz=27,slow=75,SNR=182						
H04N1	**CROZET ISLANDS**	**31.74**	**201**	T	T	16 28 03.8	
	baz=27,slow=75,SNR=150						
H04N3	**CROZET ISLANDS**	**31.75**	**201**	T	T	16 28 00.8	
	baz=27,slow=75,SNR=163						
BOSA	**Boshof**	**40.15**	**246**	P	P	15 56 42.4	-0.1
	2.6nm,1.0s,baz=28,slow=3.5,SNR=1.4						
	2.6nm,1.0s						
H01W3	**Cape Leeuwin H**	**45.34**	**122**	T	T	16 46 20.5	
	baz=280,slow=75,SNR=52						
H01W2	**Cape Leeuwin H**	**45.34**	**122**	T	T	16 46 19.3	
	baz=280,slow=75,SNR=53						
H01W1	**Cape Leeuwin H**	**45.36**	**122**	T	T	16 46 21.7	
	baz=280,slow=75,SNR=58						
ASAR	**Alice Springs**	**62.41**	**108**	P	P	15 59 29.2	-0.4
	0.9nm,0.9s,baz=266,slow=5.6,SNR=9.4						
	0.9nm,0.9s						
WRA	**Warramunga Arr**	**63.36**	**104**	P	P	15 59 36.5	+0.5
	1.5nm,1.0s,baz=261,slow=6.0,SNR=4.7						
	1.5nm,1.0s						
KURBB	**Kurchatov Arra**	**68.11**	**8**	P	P	16 00 05.0	-0.9
	0.3nm,0.6s,baz=205,slow=6.6,SNR=4.1						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**69.83**	**2**	P	P	16 00 17.6	+1.1
	0.3nm,0.5s,baz=180,slow=5.9,SNR=2.1						
	0.3nm,0.5s						

TAP 15 15:58:04.2, 24°.42N×121°.72E, h6km, ML1.8, 1D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.02**	**56**	*i* P	Pg	15 58 05.7	+0.3
	baz=70						
ENA				S	Sg	15 58 06.5	+0.3
	baz=70						
EWUT	**Wuta**	**0.06**	**61**	⇓*i* P	Pg	15 58 06.0	+0.3
	baz=61						
EWUT				S	Sg	15 58 07.0	+0.1
	baz=61						
EAHA	**Aohua**	**0.09**	**170**	P	Pg	15 58 06.6	+0.4
	baz=169						
EAHA				*e*S	Sg	15 58 08.0	+0.5
	baz=169						
ESAO	**Su ao**	**0.19**	**35**	*e*P	Pg	15 58 08.2	+0.2
	baz=35						
ESAO				*e*S	Sg	15 58 10.4	-0.3
	baz=35						
LATG	**Datong**	**0.21**	**303**	P	Pg	15 58 09.2	+0.7
	baz=303						
LATG				S	Sg	15 58 12.5	+1.1
	baz=303						
NDS	**Dongshan**	**0.22**	**358**	*e*P	Pg	15 58 09.2	+0.7
	baz=357						
NDS				S	Sg	15 58 12.3	+0.9
	baz=357						
TWC	**Suao**	**0.22**	**31**	P	Pg	15 58 09.0	+0.4
	baz=33						
TWC				S	Sg	15 58 12.1	+0.5
	baz=33						
NDT	**Datong Townshi**	**0.27**	**314**	P	Pg	15 58 10.3	+0.9
	baz=313						
NACB	**Ninganchiao**	**0.27**	**206**	*e*P	Pg	15 58 09.4	0.0
	baz=207						
NACB				*e*S	Sg	15 58 13.2	+0.2
	baz=207						
ETL	**Fush Village**	**0.27**	**200**	*e*P	Pg	15 58 09.9	+0.4
	baz=199						
ETL				*e*S	Sg	15 58 13.8	+0.6
	baz=199						
ETLH	**Xiulin Townshi**	**0.30**	**226**	P	Pg	15 58 10.5	+0.3
	baz=236						
ETLH				*e*S	Sg	15 58 14.3	+0.1
	baz=236						
TWE	**Neicheng**	**0.31**	**350**	P	Pg	15 58 10.9	+0.7
	baz=352						
TWE				*e*S	Sg	15 58 15.2	+0.9
	baz=352						
NNSB	**Datong**	**0.31**	**272**	*i* P	Pg	15 58 10.9	+0.6
	baz=272						
NNSB				S	Sg	15 58 15.0	+0.6
	baz=272						
NNS	**Nan Shan**	**0.32**	**274**	*i* P	Pg	15 58 11.1	+0.6
	baz=274						
NNS				S	Sg	15 58 15.3	+0.6
	baz=274						
TWD	**Chiawan**	**0.35**	**199**	*e*P	Pg	15 58 11.2	+0.1
	baz=198						
TWD				*e*S	Sg	15 58 15.7	0.0
	baz=198						
FUSB	**Fushanzhiwuyua**	**0.36**	**340**	P	Pg	15 58 12.0	+0.7
	baz=339						
FUSB				S	Sg	15 58 16.8	+0.7
	baz=339						
YHNB	**Yeheng**	**0.40**	**309**	P	Pb	15 58 13.0	-0.8
	baz=315						
YHNB				*e*S	Sg	15 58 18.1	+0.8
	baz=315						
NWLT	**Wulai**	**0.41**	**331**	P	Pb	15 58 13.1	-0.8
	baz=330						
NWLT				*e*S	Sg	15 58 18.2	+0.6
	baz=330						
NSK	**Sanguang**	**0.42**	**308**	P	Pg	15 58 13.2	+0.8
	baz=308						
NSK				*e*S	Sg	15 58 18.8	+0.9
	baz=308						
EOS2	**EOS2**	**0.46**	**90**	*e*P	Pg	15 58 12.4	-0.7
	baz=82						
FUSS	**Fushou**	**0.47**	**249**	*e*P	Pg	15 58 13.9	+0.6
	baz=250						
FUSS				*e*S	Sg	15 58 20.1	+0.7
	baz=250						
LXIB	**Xiulin Townshi**	**0.48**	**216**	*e*P	Pg	15 58 13.6	0.0
	baz=217						
LXIB				*e*S	Sg	15 58 21.0	+1.1
	baz=217						
ETM	**Tongmen**	**0.50**	**205**	*e*P	Pg	15 58 13.9	+0.1
	baz=205						
ETM				*e*S	Sg	15 58 20.9	+0.7
	baz=205						
WHF	**Hehuan Shan**	**0.50**	**237**	*e*P	Pg	15 58 14.2	+0.4
	baz=238						
WHF				*e*S	Sg	15 58 20.5	+0.1
	baz=238						
EOS3	**EOS3**	**0.56**	**103**	*e*P	Pb	15 58 15.6	-0.6
	baz=106						
TIPB	**Shuangxi**	**0.56**	**10**	*e*P	Pg	15 58 15.3	+0.4
	baz=358						
TIPB				S	Sg	15 58 22.7	+0.4
	baz=358						
NFF	**Wufeng Townshi**	**0.59**	**291**	P	Pb	15 58 16.6	-0.4
	baz=291						
NFF				*e*S	Sg	15 58 24.2	+0.9
	baz=291						
CHGB	**Renai**	**0.61**	**235**	*e*P	Pg	15 58 16.7	+0.7
	baz=245						
CHGB				*e*S	Sb	15 58 25.4	-1.0
	baz=245						
TWB1	**Santiao Chiao**	**0.64**	**22**	*e*S	Sg	15 58 24.8	+0.1
	baz=13						
ESL	**Shilin**	**0.66**	**204**	*e*P	Pg	15 58 16.7	-0.1
	baz=203						
ESL				*e*S	Sg	15 58 25.4	0.0
	baz=203						
OWD	**Renai**	**0.68**	**227**	*e*P	Pb	15 58 18.0	-0.5
	baz=218						
LIOB	**Emei**	**0.68**	**290**	*e*P	Pb	15 58 18.7	+0.2
	baz=290						
LIOB				*e*S	Sb	15 58 28.1	-0.1
	baz=290						
SXI1	**Grass Mountain**	**0.69**	**12**	*e*P	Pb	15 58 18.6	0.0
	baz=2.0						
SXI1				*e*S	Sg	15 58 27.0	+0.6
	baz=2.0						
NSTT	**Nanjuang**	**0.69**	**288**	*e*P	Pb	15 58 18.5	-0.1
	baz=288						
NSTT				*e*S	Sb	15 58 27.5	-0.9
	baz=288						
WUSB	**Renai**	**0.70**	**233**	*e*P	Pg	15 58 18.1	+0.5
	baz=242						
WUSB				*e*S	Sg	15 58 27.3	+0.6
	baz=242						
WHP	**Taichung City**	**0.72**	**259**	*e*P	Pb	15 58 19.4	+0.2
	baz=260						
WHP				*e*S	Sb	15 58 28.9	-0.5
	baz=260						
YM01	**YM01**	**0.74**	**349**	*e*P	Pb	15 58 19.7	+0.3
	baz=348						
YM01				*e*S	Sb	15 58 29.0	-0.8
	baz=348						
WARBT	**Fenglin Townsh**	**0.76**	**204**	*e*P	Pg	15 58 18.8	0.0
	baz=204						
WARBT				*e*S	Sg	15 58 28.4	-0.2
	baz=204						
EGFH	**Guangfu**	**0.79**	**200**	*e*P	Pg	15 58 19.5	+0.1
	baz=210						
EGFH				*e*S	Sb	15 58 30.7	-0.5
	baz=210						
VWDT	**VWDT**	**0.85**	**219**	*e*P	Pb	15 58 21.3	+0.1
	baz=220						
VWDT				*e*S	Sb	15 58 33.1	+0.2
	baz=220						
SSLB	**Suanglung**	**0.94**	**228**	*e*P	Pg	15 58 22.3	+0.1
	baz=230						
SSLB				*e*S	Sb	15 58 36.0	+0.4
	baz=230						
YULB	**Yu-li**	**1.09**	**201**	*e*P	Pg	15 58 24.2	-0.9
	baz=202						

JMA 15 15:58:59.6±0.2, 24°.2N±0°.4×123°.8E±0°.5, h18km±1km, MV0.6/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.12**	**321**	*e*P	Pg	15 59 03.4	-0.1
IRIF				*e*S	Sg	15 59 06.2	+0.2
JKRS	**Kuro-shima**	**0.18**	**91**	P	Pg	15 59 04.3	+0.1
JKRS				*e*S	Sb	15 59 07.2	+0.1
HATJ	**Hateruma jima**	**0.18**	**182**	*i* P	Pb	15 59 04.2	-0.1
HATJ				*e*S	Sb	15 59 07.2	-0.1
JIJ	**Ishigaki jima**	**0.33**	**68**	P	Pg	15 59 06.4	-0.1
JIJ				*e*S	Sg	15 59 11.2	-0.1
JISG	**Ishigakijimahi**	**0.57**	**53**	P	Pg	15 59 11.0	0.0
JISG				*e*S	Sb	15 59 19.2	+0.4

WEL 15 16:09:25.0, 45°.5±7°.×16°.8E±1°.1, h72km±14km, M3.2/10, ML3.6/21, MLv3.2/10, Error ellipse: s-maj=0.0km s-min=0.0km az=75.5, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.24**	**287**	P	Pn	16 09 35.9	-0.1
MSZ				S	Sn	16 09 45.6	+1.5
WKZ	**Wanaka**	**0.56**	**99**	P	Pn	16 09 40.5	+1.9
MLZ	**Mavora Lakes**	**0.63**	**188**	P	Pn	16 09 39.9	+0.6
MLZ				S	Sn	16 09 51.7	+1.9
JCZ	**Jackson Bay**	**0.78**	**30**	P	Pn	16 09 41.5	+0.5
JCZ				S	Sn	16 09 54.0	+1.2
EAZ	**Earnscleugh**	**0.90**	**123**	P	Pn	16 09 44.0	+1.8
DCZ	**Deep Cove**	**1.06**	**227**	P	Pn	16 09 43.4	-0.9
WHZ	**Wether Hill Ro**	**1.17**	**190**	P	Pn	16 09 46.0	+0.3
WHZ				S	Sn	16 10 02.3	+1.2
LBZ	**Lake Benmore**	**1.43**	**76**	P	Pn	16 09 49.6	+0.5
TUZ	**Tuapeka**	**1.55**	**142**	P	Pn	16 09 52.0	+1.4
FOZ	**Fox Glacier**	**1.66**	**43**	P	Pn	16 09 51.8	-0.3
ODZ	**Otahua Downs**	**1.73**	**101**	P	Pn	16 09 53.9	+0.9
PYZ	**Puysegur Point**	**1.80**	**217**	P	Pn	16 09 54.2	+0.2
SYZ	**Scrubby Hill**	**1.90**	**161**	P	Pn	16 09 56.1	+0.9
TMZ	**Timaru**	**2.00**	**81**	P	Pn	16 09 57.0	+0.3
HHSZ	**Highcliff Hill**	**2.01**	**125**	P	Pn	16 09 58.5	+1.7
APZ	**The Paps**	**2.09**	**185**	P	Pn	16 09 58.1	+0.1
ARCZ	**Arundel**	**2.25**	**70**	P	Pn	16 09 59.3	-0.7
WVZ	**Waitaha Valley**	**2.46**	**48**	P	Pn	16 10 02.4	-0.3
MHCZ	**Mount Hutt**	**2.68**	**64**	P	Pn	16 10 04.7	-1.1
WACZ	**Wakanui South**	**2.70**	**74**	P	Pn	16 10 05.7	-0.4
INZ	**Inchbonnie**	**3.07**	**50**	P	Pn	16 10 10.2	-1.0
OXZ	**Oxford**	**3.08**	**64**	P	Pn	16 10 09.5	-1.8
MQZ	**McQueen's Vall**	**3.33**	**73**	P	Pn	16 10 14.7	0.0
LTZ	**Lake Taylor**	**3.51**	**57**	P	Pn	16 10 15.2	-2.0
AMCZ	**Amberley**	**3.55**	**65**	P	Pn	16 10 16.6	-1.0
DSZ	**Denniston Nort**	**3.97**	**42**	P	Pn	16 10 21.7	-1.7
THZ	**Tophouse**	**4.52**	**50**	P	Pn	16 10 29.1	-1.9
MRNZ	**Mataraki Terra**	**4.70**	**46**	P	Pn	16 10 33.3	-0.1
QRZ	**Quartz Range**	**5.03**	**40**	P	Pn	16 10 36.6	-1.2
TKNZ	**Takaka Hill**	**5.07**	**45**	P	Pn	16 10 37.6	-0.8

IDC 15 16:13:19.2±1.6, 6°.41S×68°.22E, h0km, mb3.7/9, mbtmp3.7/9, MS3.7/40, Error ellipse: s-maj=56.3km s-min=23.1km az=50.0

ISC 15 16:13:20.6±1.8, 6°.4S±0°.3×68°.2E±0°.3, h10km, n52, σ1s03/11, mb3.8/9, MS3.7/39, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**4.41**	**106**	T	T	16 19 19.8	
	baz=306,slow=80,SNR=9.6						
H08S3	**Diego Garcia H**	**4.42**	**106**	T	T	16 19 13.6	
	baz=306,slow=80,SNR=10						
H08S2	**Diego Garcia H**	**4.43**	**106**	T	T	16 19 04.8	
	baz=306,slow=80,SNR=12						
PALK	**Pallekele**	**18.47**	**43**	LR	LR	16 23 00.3	
	comp=Z,543nm,20.8s,baz=333,slow=32						
OPO	**Ambohidratompo**	**23.76**	**238**	LR	LR	16 26 01.4	
	comp=Z,195nm,19.2s,baz=182,slow=32						
WSAR	**Wadi Sarin**	**30.94**	**343**	LR	LR	16 29 57.4	
	comp=Z,117nm,21.4s,baz=211,slow=32						
MBAR	**Mbarara**	**37.82**	**277**	LR	LR	16 33 18.4	
	comp=Z,57nm,20.1s,baz=110,slow=32						
CMAR	**Chiang Mai Arr**	**39.13**	**50**	LR	LR	16 34 26.4	
	comp=Z,72nm,22.0s,baz=220,slow=32						
LEM	**Lembang**	**39.15**	**93**	LR	LR	16 34 13.6	
	comp=Z,117nm,20.5s,baz=263,slow=32						
LSZ	**Lusaka**	**40.20**	**254**	LR	LR	16 35 57.5	
	comp=Z,126nm,19.4s,baz=109,slow=34						
H04N2	**CROZET ISLANDS**	**42.04**	**197**	T	T	17 06 15.7	
	baz=25,slow=75,SNR=9.7						
H04N1	**CROZET ISLANDS**	**42.05**	**197**	T	T	17 06 17.7	
	baz=25,slow=75,SNR=11						
H04N3	**CROZET ISLANDS**	**42.06**	**197**	T	T	17 06 16.4	
	baz=25,slow=75,SNR=13						
LBTB	**Lobatse**	**44.73**	**241**	LR	LR	16 37 22.4	
	comp=Z,180nm,20.0s,baz=66,slow=32						
GEYT	**Ailbeck**	**45.12**	**349**	LR	LR	16 38 48.0	
	comp=Z,144nm,21.9s,baz=167,slow=34						
EIL	**Elat**	**48.05**	**320**	LR	LR	16 40 03.4	
	comp=Z,47nm,19.5s,baz=50,slow=33						
ASF	**Jabal al Asfar**	**48.61**	**324**	LR	LR	16 40 30.3	
	comp=Z,28nm,19.1s,baz=190,slow=34						
AAK	**Ala-Archa**	**49.17**	**6**	LR	LR	16 42 42.2	
	comp=Z,71nm,18.9s,baz=190,slow=36						
TSUM	**Tsumeb**	**50.78**	**251**	LR	LR	16 42 57.1	
	comp=Z,54nm,18.2s,baz=152,slow=35						
SUR	**Sutherland**	**51.05**	**233**	LR	LR	16 41 32.1	
	comp=Z,28nm,18.1s,baz=68,slow=33						
MKAR	**Makanchi Array**	**54.45**	**12**	P	**P**	**16 22 48.1**	**-0.1**
	0.7nm,1.1s,baz=216,slow=7.5,SNR=3.9						
MKAR				LR	LR	16 45 26.0	
	comp=Z,74nm,21.7s,baz=233,slow=35						
	0.7nm,1.1s						
BRTR	**Keskin Array B**	**55.92**	**328**	P	**P**	**16 23 00.3**	**+1.2**
	0.9nm,1.0s,baz=153,slow=11,SNR=6.0						
	0.9nm,1.0s						
AKTO	**Aktyubinsk**	**57.32**	**352**	LR	LR	16 47 23.9	
	comp=Z,43nm,18.4s,baz=198,slow=36						
KURBB	**Kurchatov Arra**	**57.52**	**8**	P	**P**	**16 23 09.7**	**-0.4**
	1.1nm,1.1s,baz=200,slow=7.1,SNR=5.7						
KURBB				LR	LR	16 47 56.1	
	comp=Z,92nm,19.7s,baz=169,slow=36						
	1.1nm,1.1s						
DAV	**Davao City (W)**	**58.80**	**78**	LR	LR	16 50 59.4	
	comp=Z,20nm,18.2s,baz=266,slow=38						
BVAR	**Borovoye Array**	**59.26**	**2**	P	**P**	**16 23 20.8**	**-1.4**
	0.6nm,0.9s,baz=168,slow=8.3,SNR=2.2						
BVAR				LR	LR	16 50 29.8	
	comp=Z,57nm,18.1s,baz=193,slow=38						
	0.6nm,0.9s						
BELG	**Belogornoye**	**61.17**	**346**	LR	LR	16 50 45.7	
	comp=Z,58nm,19.3s,baz=325,slow=37						
MAW	**Mawson**	**61.18**	**182**	LR	LR	16 45 05.0	
	comp=Z,110nm,20.9s,baz=25,slow=31						
ZALV	**Zalesovo Beam**	**61.77**	**11**	P	**P**	**16 23 40.7**	**+1.5**
	0.2nm,0.3s,baz=212,slow=5.1,SNR=1.8						
ZALV				LR	LR	16 50 05.5	
	comp=Z,72nm,18.6s,baz=205,slow=36						
	0.2nm,0.3s						
ARU	**Arti**	**63.14**	**354**	LR	LR	16 51 04.1	
	comp=Z,40nm,18.7s,baz=152,slow=36						
SONM	**Songino Array**	**63.64**	**28**	P	**P**	**16 23 52.3**	**+0.1**
	2.8nm,1.1s,baz=218,slow=6.5,SNR=14						
SONM				LR	LR	16 50 55.2	
	comp=Z,138nm,21.0s,baz=231,slow=36						
	2.8nm,1.1s						
ASAR	**Alice Springs**	**65.21**	**113**	P	**P**	**16 24 03.5**	**+0.7**
	0.9nm,1.0s,baz=319,slow=7.4,SNR=6.4						
	0.9nm,1.0s						
WRA	**Warramunga Arr**	**65.42**	**109**	P	**P**	**16 24 03.6**	**-0.6**
	1.9nm,1.0s,baz=280,slow=5.0,SNR=5.5						
	1.9nm,1.1s						
AKASG	**Malin Array Be**	**66.08**	**334**	P	**P**	**16 24 07.2**	**-0.6**
	0.1nm,0.2s,baz=133,slow=5.3,SNR=5.2						
	0.1nm,0.2s						
KIRV	**Kirov**	**66.55**	**349**	LR	LR	16 53 52.0	
	comp=Z,45nm,18.3s,baz=152,slow=37						
KSRS	**Korea Array**	**70.65**	**47**	LR	LR	16 56 17.2	
	comp=Z,59nm,19.4s,baz=280,slow=36						
JNU	**Natskasgol**	**71.20**	**52**	LR	LR	16 54 58.3	
	comp=Z,32nm,20.7s,baz=206,slow=35						
DBIC	**Dimbokro**	**74.05**	**279**	LR	LR	16 57 39.5	
	comp=Z,23nm,18.1s,baz=6.5,slow=36						
USRK	**Ussuriysk Ar.**	**76.21**	**42**	LR	LR	17 01 46.3	
	comp=Z,42nm,18.4s,baz=209,slow=38						
NRIK	**Noril'sk**	**76.78**	**7**	LR	LR	17 01 24.3	
	comp=Z,54nm,18.6s,baz=128,slow=38						
MJAR	**Matsushiro Arr**	**78.02**	**51**	LR	LR	17 01 07.1	
	comp=Z,44nm,18.8s,baz=234,slow=37						
KLR	**Kul'dur**	**78.11**	**37**	LR	LR	17 01 50.4	
	comp=Z,42nm,20.2s,baz=224,slow=37						
HFS	**Hagfors**	**78.91**	**335**	LR	LR	17 00 55.5	
	comp=Z,47nm,20.6s,baz=86,slow=36						
NOA	**NORSAR Array B**	**80.43**	**336**	LR	LR	17 02 44.5	
	comp=Z,26nm,18.2s,baz=235,slow=37						
ARCES	**ARCESS Array B**	**81.22**	**346**	LR	LR	17 01 58.4	
	comp=Z,39nm,21.9s,baz=50,slow=36						
YAK	**Yakutsk**	**82.79**	**25**	LR	LR	17 04 25.4	
	comp=Z,43nm,18.4s,baz=288,slow=37						
TIXI	**Tiksi**	**87.21**	**16**	LR	LR	17 06 15.8	
	comp=Z,81nm,18.0s,baz=206,slow=36						
MA2	**Magadan**	**91.74**	**30**	LR	LR	17 09 45.0	
	comp=Z,30nm,19.2s,baz=244,slow=37						
SEY	**Seymchan**	**93.03**	**27**	LR	LR	17 09 13.2	
	comp=Z,133nm,19.2s,baz=272,slow=36						
PETK	**Petropavlovsk-**	**94.80**	**37**	LR	LR	17 12 47.6	
	comp=Z,28nm,20.3s,baz=257,slow=38						
NVAR	**Mina Array Bea**	**147.61**	**10**	PKPbc	**PKPbc**	**16 33 06.2**	**+0.1**
	3.4nm,1.3s,baz=10,slow=1.7,SNR=5.2						
TXAR	**Lajitas Array**	**155.96**	**342**	PKPab	**PKPab**	**16 33 41.7**	**-1.2**
	0.3nm,0.5s,baz=28,slow=5.7,SNR=4.9						

IDC 15 16:43:30.6±4.0, 35°.93N×69°.93E, h85km±38km, mb3.2/4, mbtmp3.5/10, MS3.1/1, Error ellipse: s-maj=38.9km s-min=25.0km az=138.0

NNC 15 16:43:35.1±2.8, 36°.26N×69°.67E, h97km±46km, mb3.5, mpv3.8, Error ellipse: s-maj=22.9km s-min=19.3km az=43.0

ISC 15 16:43:33.1±1.1, 36°.15N±0°.10×69°.59E±0°.08, h112km, n23, σ1s39/27, mb3.1/3, 3C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.99**	**6**	P	**Pn**	**16 45 13.9**	**+1.2**
	0.8nm,0.3s,baz=174,slow=11,SNR=26						
KK31				⇑S	**Sn**	**16 46 30.2**	**-0.4**
	3.6nm,0.8s,baz=177,slow=12,SNR=4.9						
UCH	**Uchtor**	**7.18**	**31**	P	**Pn**	**16 45 16.4**	**+0.6**
	SNR=11						
EKS2	**Erkin-Say**	**7.27**	**25**	P	**Pn**	**16 45 19.2**	**+2.5**
	SNR=7.4						
AAK	**Ala-Archa**	**7.51**	**29**	P	**Pn**	**16 45 20.9**	**+0.8**
	SNR=8.2						
AAK	**Ala-Archa**	**7.51**	**29**	P	**Pn**	**16 45 19.5**	**-0.5**
	3.5nm,0.3s,baz=200,slow=6.8,SNR=29						
AAK				S	**Sn**	**16 46 41.3**	**-2.4**
	4.6nm,0.6s,baz=255,slow=20,SNR=2.6						
CHMS	**Chumysh**	**7.92**	**29**	P	**Pn**	**16 45 25.9**	**+0.5**
	SNR=8.3						
CHMS	**Chumysh**	**7.92**	**29**	⇓P	**Pn**	**16 45 25.5**	**+0.1**
	5.0nm,0.5s						
CHMS				⇑S	**Sn**	**16 46 53.1**	**-0.3**
	12nm,0.8s						
ULHL	**Ulahol**	**7.99**	**38**	P	**Pn**	**16 45 27.8**	**+1.3**
	SNR=9.0						
USP	**Ospenovka**	**8.06**	**27**	P	**Pn**	**16 45 28.6**	**+1.3**
	SNR=8.7						
TKM2	**Tokmak 2**	**8.20**	**33**	⇓P	**Pn**	**16 45 28.7**	**-0.7**
	2.6nm,0.6s			

*IDC **15** 16:44:15.9±1.1,21˙10S×67˙73W,h152km±11km,mb3.8/7, mbtmp4.4/11,MS3.7/1,Error ellipse: s-maj=18.7km s-min=14.0km az=142.0*
*NEIC **15** 16:44:16.6±1.9,21˙18S±0˙05×67˙91W±0˙08,h169km±8km, mb4.6/19,Error ellipse: s-maj=11.5km s-min=7.4km az=75.0*
*VAO **15** 16:44:16.6±0.4,20˙98S×67˙81W,h155km,mb4.4*
*GUC **15** 16:44:17.9±0.4,21˙16S×68˙04W,h180km±4km,ML4.6*
*SCB **15** 16:44:17.3±1.2,21˙21S×67˙90W,h152km±12km,ML4.5/5, MW4.8,Error ellipse: s-maj=3.5km s-min=3.1km az=0.0*

ISC 15 16:44:16.4±0.6,21˙14S±0˙04×67˙86W±0˙04,h164km±6km, n171,σ1ᵎ48/197,mb4.5/11,7C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.44**	**243**	Pn		**Pn**	**16 44 47.6**	**+1.0**
PB09				Sn		**Sn**	**16 45 09.9**	**0.0**
PB09	**IPOC Station P**	**1.44**	**243**	*i* P		**Pn**	**16 44 47.2**	**+0.5**
PB09				*e*S		**Sn**	**16 45 10.6**	**+0.6**
PB09				IAML			16 45 12.6	
	comp=Z,2μm,0.2s							
PB09	**IPOC Station P**	**1.44**	**243**	*i* P		**Pn**	**16 44 47.8**	**+1.2**
PB09				*e*S		**Sn**	**16 45 10.7**	**+0.7**
PB09				IAML			16 45 12.2	
	comp=N,2μm,0.5s							
PB09	**IPOC Station P**	**1.44**	**243**	Pg		**Pn**	**16 44 47.3**	**+0.7**
PB01	**IPOC Station P**	**1.52**	**273**	Pn		**Pn**	**16 44 47.3**	**0.0**
PB01				Sn		**Sn**	**16 45 10.6**	**-0.5**
PB01	**IPOC Station P**	**1.52**	**273**	*i* P		**Pn**	**16 44 47.2**	**-0.1**
PB01				⇓*e*S		**Sn**	**16 45 12.4**	**+1.3**
PB01				IAML			16 45 12.9	
	comp=Z,3μm,0.2s							
PB01	**IPOC Station P**	**1.52**	**273**	⇑*i* P		**Pn**	**16 44 47.6**	**+0.3**
PB01				*e*S		**Sn**	**16 45 11.2**	**0.0**
PB01				IAML			16 45 12.4	
	comp=N,6μm,0.2s							
PB01	**IPOC Station P**	**1.52**	**273**	Pg		**Pn**	**16 44 48.0**	**+0.7**
PB01				Sg		**Sn**	**16 45 11.1**	**0.0**
PB01				IAML			16 45 12.5	
	comp=N,5μm,0.3s							
PB08	**IPOC Station P**	**1.56**	**309**			**Pn**	**16 44 48.8**	**+0.7**
PB08				Sn		**Sn**	**16 45 13.6**	**+1.1**
PB08	**IPOC Station P**	**1.56**	**309**	*i* P		**Pn**	**16 44 48.8**	**+0.7**
PB08				*e*S		**Sn**	**16 45 13.5**	**+1.1**
PB08				IAML			16 45 14.3	
	comp=Z,2μm,1.0s							
PB08	**IPOC Station P**	**1.56**	**309**	⇑*i* P		**Pn**	**16 44 49.5**	**+1.4**
PB08				*e*S		**Sn**	**16 45 13.7**	**+1.3**
PB08				IAML			16 45 14.4	
	comp=N,5μm,0.4s							
PB08	**IPOC Station P**	**1.56**	**309**	Pg		**Pn**	**16 44 49.4**	**+1.4**
LVC	**Limon Verde**	**1.76**	**213**	*i* P		**Pn**	**16 44 50.0**	**-0.1**
LVC				IAML			16 45 17.2	
	comp=Z,661nm,0.9s							
LVC	**Limon Verde**	**1.76**	**213**	P		**Pn**	**16 44 50.7**	**+0.6**
	comp=Z,303nm,0.3s,baz=24,slow=7.2,SNR=450							
LVC				LR		LR	16 45 09.4	
	comp=Z,49nm,21.9s,baz=24,slow=29							
LVC				S		**Sn**	**16 45 16.0**	**-0.2**
	comp=Z,408nm,0.3s,baz=360,slow=19,SNR=8.7							
LVC	**Limon Verde**	**1.76**	**213**	*e*P		**Pn**	**16 44 50.4**	**+0.3**
AF01	**San Pedro de A**	**1.83**	**189**			**Pn**	**16 44 50.7**	**-0.1**
AF01				Sn		**Sn**	**16 45 19.5**	**+2.0**
AF01	**San Pedro de A**	**1.83**	**189**	Pg		**Pn**	**16 44 50.6**	**-0.2**
PB02	**IPOC Station P**	**1.91**	**264**			**Pn**	**16 44 51.2**	**-0.2**
PB02				Sn		**Sn**	**16 45 17.3**	**-1.2**
PB02	**IPOC Station P**	**1.91**	**264**	*i* P		**Pn**	**16 44 51.2**	**-0.2**
PB02				*e*S		**Sn**	**16 45 18.3**	**-0.1**
PB02				IAML			16 45 19.9	
	comp=Z,7μm,0.2s							
PB02	**IPOC Station P**	**1.91**	**264**	⇑*i* P		**Pn**	**16 44 51.8**	**+0.4**
PB02				*e*S		**Sn**	**16 45 17.4**	**-1.1**
PB02	**IPOC Station P**	**1.91**	**264**	Pg		**Pn**	**16 44 51.8**	**+0.4**
PB02				Sg		**Sn**	**16 45 17.7**	**-0.7**
PB02				IAML			16 45 19.2	
	comp=Z,6μm,0.1s							
GO01	**Chusmiza**	**1.92**	**319**			**Pn**	**16 44 53.0**	**+1.0**
GO01	**Chusmiza**	**1.92**	**319**	*i* P		**Pn**	**16 44 52.5**	**+0.5**
GO01				IAML			16 45 26.2	
	comp=Z,999nm,0.6s							
GO01	**Chusmiza**	**1.92**	**319**	*i* P		**Pn**	**16 44 53.1**	**+1.0**
GO01				*e*S		**Sn**	**16 45 21.7**	**+2.2**
GO01				IAML			16 45 25.9	
	comp=N,3μm,0.2s							
GO01	**Chusmiza**	**1.92**	**319**	Pg		**Pn**	**16 44 53.2**	**+1.2**
PB07	**IPOC Station P**	**1.97**	**252**			**Pn**	**16 44 51.8**	**-0.4**
PB07				Sn		**Sn**	**16 45 18.4**	**-1.5**
PB07	**IPOC Station P**	**1.97**	**252**	*i* P		**Pn**	**16 44 51.9**	**-0.4**
PB07				IAML			16 45 23.4	
	comp=Z,2μm,0.2s							
PB07	**IPOC Station P**	**1.97**	**252**	⇑*i* P		**Pn**	**16 44 52.6**	**+0.3**
PB07				*e*S		**Sn**	**16 45 18.7**	**-1.3**
MOCB	**Mochara**	**2.08**	**94**	Pg		**Pn**	**16 44 55.3**	**+1.6**
MOCB				Sg		**Sn**	**16 45 23.6**	**+1.1**
MOCB				IAML			16 45 27.7	
	comp=Z,749nm,0.4s							
PB11	**IPOC Station P**	**2.17**	**309**			**Pn**	**16 44 54.9**	**+0.5**
PB11	**IPOC Station P**	**2.17**	**309**	*i* P		**Pn**	**16 44 54.2**	**-0.3**
PB11				IAML			16 45 25.3	
	comp=Z,2μm,0.3s							
PB11	**IPOC Station P**	**2.17**	**309**	⇑*i* P		**Pn**	**16 44 55.0**	**+0.5**
PB11				*e*S		**Sn**	**16 45 23.4**	**-0.4**
PB11	**IPOC Station P**	**2.17**	**309**	Pg		**Pn**	**16 44 55.1**	**+0.6**
PB11				Sg		**Sn**	**16 45 23.8**	**0.0**
PB11				IAML			16 45 25.7	
	comp=Z,5μm,0.2s							
PB06	**IPOC Station P**	**2.23**	**225**	Pn		**Pn**	**16 44 55.4**	**+0.2**
TA01	**Diego Aracena**	**2.24**	**284**			**Pn**	**16 44 54.8**	**-0.3**
TA01	**Diego Aracena**	**2.24**	**284**	*i* P		**Pn**	**16 44 54.2**	**-0.9**
TA01				IAML			16 45 25.4	
	comp=Z,1μm,0.2s							
TA01	**Diego Aracena**	**2.24**	**284**	⇑*i* P		**Pn**	**16 44 54.8**	**-0.3**
TA01				*e*S		**Sn**	**16 45 23.3**	**-1.8**
TA01				IAML			16 45 24.4	
	comp=E,3μm,0.2s							
TA02	**Huaiquique**	**2.29**	**292**			**Pn**	**16 44 55.5**	**-0.2**
TA02	**Huaiquique**	**2.29**	**292**	*i* P		**Pn**	**16 44 55.2**	**-0.5**
TA02				IAML			16 45 29.4	
	comp=Z,3μm,0.2s							
TA02	**Huaiquique**	**2.29**	**292**	*e*P		**Pn**	**16 44 55.5**	**-0.2**
TA02				*e*S		**Sn**	**16 45 24.6**	**-1.5**
TA02				IAML			16 45 27.2	
	comp=E,4μm,0.2s							
PB04	**IPOC Station P**	**2.44**	**240**			**Pn**	**16 44 57.4**	**-0.2**
PB04	**IPOC Station P**	**2.44**	**240**	*i* P		**Pn**	**16 44 56.9**	**-0.7**
PB04				IAML			16 45 31.2	
	comp=Z,2μm,0.2s							
PB04	**IPOC Station P**	**2.44**	**240**	*e*P		**Pn**	**16 44 57.6**	**0.0**
PB04				*e*S		**Sn**	**16 45 27.4**	**-2.1**
PB04				IAML			16 45 31.1	
	comp=N,2μm,0.2s							
PB15	**IPOC Station P**	**2.54**	**216**			**Pn**	**16 44 59.1**	**+0.2**
PB15	**IPOC Station P**	**2.54**	**216**	*i* P		**Pn**	**16 44 59.2**	**+0.2**
PB15				IAML			16 45 34.9	
	comp=Z,7μm,0.1s							
PB15	**IPOC Station P**	**2.54**	**216**	Pg		**Pn**	**16 44 59.4**	**+0.5**
SOEO	**Opoqueri**	**2.56**	**360**	Pg		**Pn**	**16 45 01.9**	**+2.5**
PB05	**IPOC Station P**	**2.76**	**231**	Pn		**Pn**	**16 45 01.3**	**-0.2**
AOVT	**TarijaAcel**	**2.97**	**98**	Pg		**Pn**	**16 45 05.5**	**+1.3**
PB16	**IPOC Station P**	**3.19**	**331**	Pn		**Pn**	**16 45 08.7**	**+1.4**
PB16	**IPOC Station P**	**3.19**	**331**	*i* P		**Pn**	**16 45 08.1**	**+0.9**
PB16				IAML			16 45 50.3	
	comp=Z,377nm,0.6s							
PB16	**IPOC Station P**	**3.19**	**331**	⇑*i* P		**Pn**	**16 45 08.9**	**+1.7**
PB16				*e*S		**Sn**	**16 45 47.9**	**+1.2**
PB16				IAML			16 45 50.1	
	comp=E,805nm,0.6s							
PB16	**IPOC Station P**	**3.19**	**331**	Pg		**Pn**	**16 45 08.7**	**+1.4**
PB16				Sg		**Sn**	**16 45 47.9**	**+1.2**
PB16				IAML			16 45 50.2	
	comp=E,401nm,0.5s							
PB12	**IPOC Station P**	**3.42**	**317**	Pn		**Pn**	**16 45 08.6**	**-1.1**
PB12	**IPOC Station P**	**3.42**	**317**	*i* P		**Pn**	**16 45 08.1**	**-1.6**
PB12				IAML			16 45 54.3	
	comp=Z,541nm,0.2s							
PB12	**IPOC Station P**	**3.42**	**317**	*e*P		**Pn**	**16 45 08.6**	**-1.1**
PB12				*e*S		**Sn**	**16 45 48.4**	**-2.7**
PB12				IAML			16 45 50.9	
	comp=E,930nm,0.4s							
PB10	**IPOC Station P**	**3.44**	**226**	Pn		**Pn**	**16 45 08.7**	**-1.1**
AOEA	**Aiquile**	**3.84**	**41**	Pg		**Pn**	**16 45 17.0**	**+1.7**
SOEJ	**Jacaque**	**4.15**	**356**	Pg		**Pn**	**16 45 22.1**	**+2.6**
SOTI	**Planta Incahua**	**4.15**	**72**	Pg		**Pn**	**16 45 20.1**	**+1.0**
SLA	**San Lorenzo**	**4.18**	**149**	*i* P		**Pn**	**16 45 21.1**	**+1.6**
SLA				IAML			16 46 18.7	
	comp=E,88nm,0.6s							
PB14	**IPOC Station P**	**4.19**	**214**	Pn		**Pn**	**16 45 19.1**	**-0.7**
BBOE	**La Paz, Chanca**	**4.30**	**358**	Pg		**Pn**	**16 45 24.2**	**+2.7**
GO02	**Mina Guanaco**	**4.31**	**201**	Pn		**Pn**	**16 45 20.6**	**-0.7**
GO02	**Mina Guanaco**	**4.31**	**201**	*i* P		**Pn**	**16 45 19.9**	**-1.4**
GO02				IAML			16 46 13.0	
	comp=Z,902nm,0.2s							
BBOD	**La Paz, Gloria**	**4.53**	**351**	Pg		**Pn**	**16 45 26.9**	**+2.5**
AC01	**Pan de Azucar**	**5.58**	**206**	Pn		**Pn**	**16 45 35.4**	**-2.3**
AC02	**Maricunga**	**5.79**	**191**	Pn		**Pn**	**16 45 39.8**	**-1.1**
AC06	**Mina Casimiro**	**6.60**	**200**			**Pn**	**16 45 48.2**	**-2.9**
GO03	**Copiap**	**6.78**	**198**			**Pn**	**16 45 50.6**	**-3.0**
AC04	**Llanos de Chal**	**7.62**	**202**	Pn		**Pn**	**16 45 60.0**	**-4.7**
BBSD	**Serra de San D**	**7.90**	**61**	*e*P		**Pn**	**16 46 06.0**	**-2.5**
SIV	**San Ignacio**	**8.22**	**53**	P		**Pn**	**16 46 10.8**	**-2.0**
	comp=Z,71nm,0.4s,baz=235,slow=12,SNR=411							
SIV				S		**Sn**	**16 47 38.0**	**-6.7**
	comp=Z,9.1nm,0.5s,baz=309,slow=18,SNR=3.6							
LCO	**Las Campanas**	**8.25**	**198**	Pn		**Pn**	**16 46 09.0**	**-4.3**
TICA	**Tres Isletas**	**8.62**	**129**	*e*P		**Pn**	**16 46 17.8**	**-0.1**
CO01	**Juntas del Tor**	**9.03**	**192**	Pn		**Pn**	**16 46 20.9**	**-2.7**
GO04	**Tololo Observa**	**9.38**	**196**	Pn		**Pn**	16 46 23.3	-4.9
CO03	**El Pedregal**	**9.99**	**194**	Pn		**Pn**	**16 46 31.7**	**-4.4**
PTLB	**Pontes e Lacer**	**10.03**	**57**			**Pn**	**16 46 35.5**	**-1.1**
PTLB	**Pontes e Lacer**	**10.03**	**57**	*e*P		**Pn**	**16 46 34.9**	**-1.8**
CO06	**Fray Jorge**	**10.09**	**199**	Pn		**Pn**	16 46 31.8	-5.5
CO02	**Combarbal**	**10.41**	**195**	Pn		**Pn**	16 46 36.6	-5.1
BDQN	**Bodoquena, MS**	**10.42**	**88**	*e*P		**Pn**	**16 46 40.2**	**-1.6**
CPUP	**Villa Florida**	**10.95**	**120**	Pn		**Pn**	**16 46 47.7**	**-0.9**
CPUP	**Villa Florida**	**10.95**	**120**	P		**Pn**	**16 46 47.9**	**-0.6**
	comp=Z,11nm,0.6s,baz=284,slow=11,SNR=22							
VILB	**Vilhena**	**10.95**	**43**			**Pn**	**16 46 47.5**	**-1.2**
VILB	**Vilhena**	**10.95**	**43**	*e*P		**Pn**	**16 46 48.0**	**-0.7**
ANTJ	**Antonio Joao (**	**11.07**	**97**	*e*P		**Pn**	**16 46 49.8**	**-0.5**
ETMB	**Extrema**	**11.37**	**8**			**Pn**	**16 46 52.6**	**-1.5**
ETMB	**Extrema**	**11.37**	**8**	*e*P		**Pn**	**16 46 52.2**	**-1.9**
AQDB	**Aquidauana**	**11.40**	**89**			**Pn**	**16 46 53.9**	**-0.6**
AQDB	**Aquidauana**	**11.40**	**89**	*e*P		**Pn**	**16 46 54.3**	**-0.2**
VA03	**San Esteban**	**11.83**	**191**			**Pn**	**16 46 55.7**	**-4.4**
AMBA	**Amambai (Brazi**	**12.07**	**101**	*e*P		**Pn**	**16 47 03.5**	**+0.3**
MT02	**Curacav**	**12.42**	**193**			**Pn**	**16 47 03.5**	**-4.1**
MT03	**Universidad Ad**	**12.53**	**190**			**Pn**	**16 47 05.7**	**-3.5**
SALV	**Santo Antonio**	**12.66**	**68**	*e*P		**Pn**	**16 47 09.8**	**-1.1**
LMEL	**Las Melosas**	**12.83**	**189**			**Pn**	**16 47 09.4**	**-3.7**
MT09	**Talagante**	**12.89**	**192**			**Pn**	**16 47 10.6**	**-3.2**
SAML	**Samuel**	**12.93**	**21**	Pn		**Pn**	**16 47 13.4**	**-0.9**
MT01	**Popeta**	**13.03**	**193**			**Pn**	**16 47 12.7**	**-2.7**
BO04	**La Punta**	**13.03**	**190**			**Pn**	**16 47 13.8**	**-1.7**
BO01	**Tunca**	**13.51**	**191**	Pn		**Pn**	**16 47 20.5**	**-1.0**
TRCB	**Terra Rica**	**14.23**	**99**			**P**	**16 47 32.2**	**-1.0**
TRCB	**Terra Rica**	**14.23**	**99**	*e*P		**P**	**16 47 34.0**	**+0.8**
PDRB	**Porto dos Gac**	**14.27**	**50**	*e*P		**Pn**	**16 47 30.5**	**-0.7**
TBOT	**Tacuaremb**	**14.97**	**137**	*e*P		**P**	**16 47 40.9**	**-0.3**
PTGB	**Ptanga**	**14.98**	**107**	*e*P		**P**	**16 47 40.6**	**+3.0**
CLDB	**Colider**	**15.44**	**50**	*e*P		**Pn**	**16 47 45.4**	**-0.3**
ALGR	**Alto Alegre (B**	**15.46**	**123**	*e*P		**P**	**16 47 46.9**	**+0.2**
ITAB	**Concordia**	**15.58**	**116**			**P**	**16 47 48.1**	**+0.1**
ITAB	**Concordia**	**15.58**	**116**	*e*P		**P**	**16 47 48.4**	**+0.3**
LDASE	**Londrina, Braz**	**15.66**	**101**	*e*P		**P**	**16 47 50.2**	**+1.1**
CPSB	**Cacapava Do Su**	**15.93**	**128**	*e*P		**P**	**16 47 52.6**	**+0.7**
ITRB	**Iturama**	**16.47**	**88**	*e*P		**Pn**	**16 47 58.6**	**+0.4**
PLTB	**Pedras Altas**	**16.57**	**133**	P		**P**	**16 47 57.9**	**-1.1**
PLTB				IAmb		IAmb	16 48 01.3	
	comp=Z,22nm,1.0s							
PLTB	**Pedras Altas**	**16.57**	**133**	*e*P		**P**	**16 47 58.9**	**-0.1**
FRTB	**Fartura**	**17.09**	**101**	*e*P		**Pn**	**16 48 05.5**	**-0.1**
ATAH	**Atahualpa**	**17.25**	**322**	P		**Pn**	**16 48 10.7**	**+2.7**
	comp=Z,5.4nm,0.7s,baz=126,slow=4.4,SNR=4.1							
CNLB	**Canela**	**17.40**	**121**	*e*P		**Pn**	**16 48 08.9**	**-0.4**
TRQA	**Tornquist**	**17.61**	**164**	P		**P**	**16 48 09.6**	**-0.8**
TRQA				IAmb		IAmb	16 48 12.8	
	comp=Z,34nm,1.1s							
SNDB	**Serra Nova Dou**	**18.30**	**63**	*e*P		**P**	**16 48 17.5**	**-0.5**
NPGB	**Novo Progresso**	**18.51**	**43**	*e*P		**P**	**16 48 19.6**	**-0.7**
GO06	**Curarrehue**	**18.65**	**189**	P		**P**	**16 48 21.1**	**-0.6**
GO06				IAmb		IAmb	16 48 23.4	
	comp=Z,18nm,0.9s							
IPMB	**Ipameri, GO**	**18.78**	**84**	*e*P		**P**	**16 48 23.7**	**+0.3**
MACA	**Manacapuru-AM**	**19.18**	**22**	P		**P**	**16 48 26.3**	**-1.3**
LR05	**Currie**	**19.36**	**190**	P		**P**	**16 48 28.8**	**-0.5**
BDFB	**Brasilia**	**19.61**	**77**	P		**P**	**16 48 31.1**	**-1.2**
BDFB				IAmb		IAmb	16 48 36.1	
	comp=Z,13nm,0.5s							
BDFB	**Brasilia**	**19.61**	**77**	P		**P**	**16 48 31.5**	**-0.8**
	comp=Z,12nm,0.5s,baz=237,slow=11,SNR=8.1							
PLCA	**Paso Flores**	**19.67**	**186**	P		**P**	**16 48 32.2**	**-0.5**
PLCA				IAmb		IAmb	16 48 37.5	
	comp=Z,13nm,0.8s							
PLCA	**Paso Flores**	**19.67**	**186**	P		**P**	**16 48 33.3**	**+0.5**
	comp=Z,12nm,0.8s,baz=12,slow=12,SNR=15							
PLCA	**Paso Flores**	**19.67**	**186**	*e*P		**Pn**	**16 48 37.1**	**+1.1**
MCRA	**Macar, Loja**	**20.39**	**323**	P		**P**	**16 48 41.3**	**+0.6**
ITTB	**Itaituba**	**20.41**	**37**	*e*P		**P**	**16 48 40.1**	**-0.8**
LL01	**San Ignacio de**	**21.52**	**189**	P		**P**	**16 48 52.4**	**0.0**
LL01				IAmb		IAmb	16 48 55.8	
	comp=Z,21nm,1.1s							
BSCB	**Bom Sucesso**	**21.55**	**94**	*e*P		**P**	**16 48 53.5**	**+0.4**
DIAM	**Diamantina, MG**	**22.94**	**87**	*e*P		**P**	**16 49 06.5**	**-0.2**
SMTB	**Santa Maria do**	**23.04**	**61**	*e*P		**P**	**16 49 07.4**	**0.0**
JANB	**Januaria**	**23.18**	**79**	*e*P		**P**	**16 49 08.2**	**-0.6**
MALB	**Monte Alegre**	**23.30**	**36**	*e*P		**P**	**16 49 09.5**	**-0.3**
SDBA	**SAO DESIDERIO**	**23.61**	**72**	*e*P		**P**	**16 49 12.5**	**-0.2**
BOAV	**Boa Vista**	**24.46**	**18**	P		**P**	**16 49 19.6**	**-0.7**
SJMB	**Sao Joao De Ma**	**25.19**	**89**	*e*P		**P**	**16 49 26.7**	**-0.2**
MCPB	**Macapa, AP**	**25.78**	**39**	*e*P		**P**	**16 49 32.9**	**+0.6**
GUA01	**Guaratinga, BA**	**26.92**	**85**	*e*P		**P**	**16 49 42.6**	**+0.1**
NBLA	**Lagarto - SE**	**30.55**	**75**	*e*P		**P**	**16 50 13.9**	**-0.9**
NBPB	**Pedra_Branca-C**	**31.49**	**65**	*e*P		**P**	**16 50 23.6**	**+0.4**
NBAN	**Anadia - AL**	**32.45**	**74**	*e*P		**P**	**16 50 30.7**	**-0.6**
NBLV	**Livramento - P**	**32.88**	**70**	*e*P		**P**	**16 50 36.2**	**+1.0**
RCBR	**Riachuelo**	**34.50**	**68**	P		**P**	**16 50 48.7**	**-0.5**
RCBR				IAmb		IAmb	16 50 50.9	
	comp=Z,11nm,0.8s							
RCBR	**Riachuelo**	**34.50**	**68**	*e*P		**P**	**16 50 50.1**	**+1.0**
CELP	**Cerrillos**	**38.99**	**2**	P		**P**	**16 51 26.0**	**-0.9**
TXAR	**Lajitas Array**	**60.90**	**324**	P		**P**	**16 54 12.7**	**+0.7**
	comp=Z,2.0nm,0.5s,baz=141,slow=14,SNR=2.5							
	comp=Z,0.2nm,0.5s							
J55A	**Hilton**	**64.73**	**352**	P		**P**	**16 54 34.5**	**-2.4**
DBIC	**Dimbokro**	**67.70**	**73**	P		**P**	**16 54 56.1**	**-0.3**
DBIC				IAmb		IAmb	16 54 56.6	
	comp=Z,10nm,0.7s							
DBIC	**Dimbokro**	**67.70**	**73**	P		**P**	**16 54 56.1**	**-0.3**
	comp=Z,9.7nm,0.8s,baz=222,slow=5.9,SNR=8.6							
	comp=Z,9.7nm,0.8s							
D62A	**Allapoint, All**	**67.90**	**359**	P		**P**	**16 54 58.0**	**+1.0**
D62A				IAmb		IAmb	16 55 26.1	
	comp=Z,20nm,1.4s							
QSPA	**South Pole Qui**	**69.06**	**180**	P		**P**	**16 55 05.4**	**+1.2**
	comp=Z,6.6nm,0.5s,baz=219,slow=19,SNR=13							
	comp=Z,0.6nm,0.5s							
PDAR	**Pinedale Array**	**74.29**	**329**	P		**P**	**16 55 37.3**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=120,slow=8.5,SNR=1.7							
	comp=Z,0.4nm,0.6s							
SCHQ	**Schefferville**	**75.66**	**1**	P		**P**	**16 55 43.4**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=242,slow=7.7,SNR=2.1							
	comp=Z,2.2nm,0.7s							
FLWY	**Flagg Ranch**	**75.83**	**330**	P		**P**	**16 55 47.0**	**+2.4**
TOA0	**Torodi Ar. Sit**	**76.31**	**70**			**P**	**16 55 47.4**	**-0.4**
TOA0				IAmb		IAmb	16 55 48.4	
	comp=Z,9.7nm,0.7s							
TORD	**Torodi Ar. Bea**	**76.31**	**70**	P		**P**	**16 55 47.4**	**-0.4**
TORD				IAmb		IAmb	16 55 48.4	
	comp=Z,8.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**76.31**	**70**	P		**P**	**16 55 47.6**	**-0.1**
	comp=Z,8.3nm,0.7s,baz=259,slow=5.2,SNR=42							
	comp=Z,8.3nm,0.7s							
NEW	**Newport**	**81.93**	**329**	LR		LR	17 36 13.8	
	comp=Z,42nm,18.2s,baz=1.0,slow=38							
YKA	**Yellowknife Ar**	**91.17**	**340**	P		**P**	**16 57 03.5**	**+1.3**
	comp=Z,1.9nm,0.8s,baz=131,slow=4.1,SNR=32							
	comp=Z,1.9nm,0.8s							
ASAR	**Alice Springs**	**130.68**	**207**	PKP		**PKiKP**	**17 03 09.6**	**0.0**
	comp=Z,0.2nm,0.9s,baz=96,slow=1.1,SNR=4.4							
KURBB	**Kurchatov Arra**	**140.50**	**34**	PKP		**PKPdf**	**17 03 26.0**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=281,slow=2.8,SNR=2.2							
ZALV	**Zalesovo Beam**	**141.21**	**26**	PKP		**PKPdf**	**17 03 26.4**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=270,slow=1.5,SNR=4.2							
USRK	**Ussuriysk Ar.**	**151.71**	**329**	PKPbc		**PKiKP**	**17 03 52.5**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=357,slow=2.2,SNR=4.9							
SONM	**Songino Array**	**152.96**	**9**	PKPbc		**PKiKP**	**17 03 55.0**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=76,slow=0.6,SNR=4.9							
SONM				PKPab		**PKPab**	**17 04 05.9**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=260,slow=0.9,SNR=1.9							

IDC 15 16:54:27.7±3.3,6˙18S×142˙29E,h0km,mb3.8/2, mbtmp3.7/4,ML3.3/2,MS3.6/1,Error ellipse: s-maj=114.4km s-min=32.9km az=95.0,New Guinea

Code	Station Name	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.72**	**209**	Pn	Pn	16 58 09.9	-0.7
	0.1nm,0.3s,baz=31,slow=12,SNR=1.5					
	0.5nm,0.9s					
ASAR	**Alice Springs**	**19.17**	**204**	P	Pn	16 58 53.5	-0.4
	0.3nm,0.3s,baz=33,slow=9.9,SNR=58					
	1.9nm,0.6s					
NWAO	**Narrogin (SRO)**	**35.38**	**218**	LR	LR	17 17 11.9	
	comp=Z,95nm,20.4s,baz=180,slow=39					
MKAR	**Makanchi Array**	**74.70**	**322**	P	P	17 06 09.4	0.0
	0.4nm,0.7s,baz=100,slow=6.1,SNR=2.4					
	0.4nm,0.7s					
BVAR	**Borovoye Array**	**84.18**	**325**	P	P	17 07 00.8	-0.1
	1.0nm,0.6s,baz=121,slow=6.8,SNR=3.6					
	1.0nm,0.6s					

*IDC **15** 16:58:20.2±1.5,23˙55N×94˙68E,h106km±13km,mb3.9/19, mbtmp4.2/21,Error ellipse: s-maj=14.3km s-min=11.1km az=47.0*
*NEIC **15** 16:58:20.6±1.6,23˙63N±0˙05×94˙71E±0˙06,h107km±6km, mb4.3/43,Error ellipse: s-maj=8.2km s-min=6.6km az=59.0*
*NDI **15** 16:58:20.9±1.9,23˙65N×94˙70E,h120km,ML3.9,MW4.2, mb4.3(NEIC)*

ISC 15 16:58:20.1±0.7,23˙62N±0˙04×94˙69E±0˙04,h108km±7km, n98,σ1ᵎ10/113,mb4.2/40,1C-1D,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.39**	**331**	*e*P		**Pn**	**16 58 46.9**	**+1.4**
IMP				*e*S		**Sn**	**16 59 05.2**	**+0.3**
SAIH	**SAIHA**	**1.93**	**235**	*e*P		**Pn**	**16 58 51.9**	**-0.4**
SAIH				*e*S		**Sn**	**16 59 15.4**	**-1.4**
SAIH				*e*S		**Sn**	**16 59 19.6**	**+2.7**
SAIH				IAML			16 59 25.2	
	1μm,0.3s							
MND	**Mandalay**	**2.07**	**140**	Pn		**Pn**	**16 58 53.6**	**-0.3**
MND				Sn		**Sn**

comp=Z,4.0nm,0.4s
MBWA Marble Bar 50.75 149 P P 17 07 09.3 +0.1
PSA00 Pilbara Seismi 51.16 149 P P 17 07 11.9 -0.4
FITZ Fitzroy Crossi 51.30 141 P P 17 07 13.5 +0.1
FITZ IAmb IAmb 17 07 33.1
comp=Z,2.2nm,1.3s
KNRA Kununurra 51.33 136 P P 17 07 13.2 -0.4
BR131 Keskin Array S 53.42 303 P P 17 07 30.6 +1.6
BR131 IAmb IAmb 17 07 31.0
comp=Z,5.1nm,1.4s
BRTR Keskin Array B 53.42 303 P P 17 07 30.2 +1.1
BRTR Keskin Array B 53.42 303 P P 17 07 29.9 +0.9
comp=Z,0.6nm,0.7s,baz=108,slow=7.3,SNR=5.0
comp=Z,0.6nm,0.7s
AKASG Malin Array Be 56.66 316 P P 17 07 51.8 -0.1
comp=Z,0.7nm,0.6s,baz=82,slow=6.2,SNR=7.4
comp=Z,0.7nm,0.6s
AKBB Malin Array Si 56.66 316 P P 17 07 52.1 +0.1
AKBB IAmb IAmb 17 07 58.9
comp=Z,10nm,1.5s
KIEV Kiev 56.67 316 P P 17 07 51.8 -0.3
KIEV IAmb IAmb 17 07 58.9
comp=Z,8.5nm,1.4s
WB0 Warramunga Arr 57.95 135 P P 17 08 01.5 0.0
WRA Warramunga Arr 58.04 135 P P 17 08 01.6 -0.4
WRA Warramunga Arr 58.04 135 P P 17 08 02.3 +0.3
comp=Z,7.0nm,0.8s,baz=322,slow=7.5,SNR=50
WRA PcP **PcP 17 08 51.8 -1.0**
comp=Z,0.8nm,0.8s,baz=339,slow=4.1,SNR=2.7
comp=Z,7.0nm,0.8s
WB2 Warramunga Arr 58.05 135 P P 17 08 02.3 +0.2
WR0 Warramunga Ar 58.18 135 P P 17 08 03.1 0.0
MLR Muntele Rosu 58.87 310 P P 17 08 08.8 +1.0
MLR IAmb IAmb 17 08 10.8
comp=Z,5.8nm,0.7s
FIA1 FINESS Array S 59.33 329 P P 17 08 11.2 +0.8
FINES FINESS Array B 59.33 329 P P 17 08 11.1 +0.7
FINES FINESS Array B 59.33 329 P P 17 08 11.3 +0.9
comp=Z,1.1nm,0.5s,baz=92,slow=5.4,SNR=6.9
comp=Z,1.1nm,0.5s
NWAO Narrogin (SRO) 60.20 158 P P 17 08 17.0 +0.3
AS31 Alice Springs 60.49 138 P P 17 08 19.6 +0.7
AS31 IAmb IAmb 17 08 20.1
comp=Z,2.2nm,0.6s
ASAR Alice Springs 60.49 138 P P 17 08 19.4 +0.5
comp=Z,4.7nm,0.5s,baz=321,slow=6.9,SNR=117
comp=Z,4.7nm,0.5s
ARCES ARCESS Array B 60.82 338 P P 17 08 21.9 +1.4
ARCES ARCESS Array B 60.82 338 P P 17 08 21.6 +1.0
comp=Z,3.6nm,1.0s,baz=85,slow=8.3,SNR=9.5
comp=Z,3.6nm,1.0s
SPITS Spitsbergen Ar 64.65 347 P P 17 08 46.7 +0.9
comp=Z,13nm,0.9s,baz=89,slow=8.8,SNR=2.0
comp=Z,13nm,0.9s
HFS Hagfors 65.37 327 P P 17 08 51.5 +0.8
comp=Z,5.8nm,0.6s,baz=104,slow=6.3,SNR=14
comp=Z,5.8nm,0.6s
NC405 NORSAR Array S 66.25 328 P P 17 08 57.0 +0.6
NC405 IAmb IAmb 17 09 31.0
comp=Z,11nm,1.2s
NC602 NORSAR Array S 66.38 328 P P 17 08 57.5 +0.4
NC602 IAmb IAmb 17 09 19.9
comp=Z,8.0nm,1.2s
NB2 NORSAR Subarra 66.50 328 P P 17 08 58.4 +0.4
comp=Z,1.1nm,0.6s,baz=83,slow=6.5
NOA NORSAR Array B 66.50 328 P P 17 08 58.2 +0.2
comp=Z,1.6nm,0.6s,baz=83,slow=6.2,SNR=5.8
comp=Z,1.6nm,0.6s
NC204 NORSAR Array S 66.69 328 P P 17 08 59.8 +0.6
GERES GERESS Array B 66.80 315 P P 17 09 00.5 +0.3
comp=Z,0.8nm,0.5s,baz=67,slow=8.0,SNR=2.5
comp=Z,0.8nm,0.5s
BBOO Buckleboo 68.60 143 P P 17 09 11.4 -0.1
STKA Stephens Creek 71.11 139 P P 17 09 26.9 0.0
C19K Lookout Ridge 73.58 21 P P 17 09 41.2 +0.1
E18K Tukpahlearik C 73.88 23 P P 17 09 42.4 -0.4
F17K Baldwin Pennin 74.02 24 P P 17 09 43.6 0.0
F17K IAmb IAmb 17 10 07.4
comp=Z,4.6nm,1.4s
B21K Ikpikpuk River 74.95 20 P P 17 09 48.4 -0.6
B21K IAmb IAmb 17 10 16.2
comp=Z,5.3nm,1.4s
B22K Teshekpuk Lake 74.98 19 P P 17 09 49.0 -0.1
EKA Eskdalemuir Ar 75.20 324 P P 17 09 51.4 +0.7
comp=Z,4.1nm,0.8s,baz=80,slow=6.0,SNR=5.3
comp=Z,4.1nm,0.8s
C23K Itkillik River 76.06 19 P P 17 09 55.2 -0.1
C23K IAmb IAmb 17 10 23.2
comp=Z,4.3nm,1.3s
TOLK Toolik Lake Re 77.01 20 P P 17 10 00.2 -0.6
J19K Poorman 77.21 25 P P 17 10 01.6 -0.2
J19K IAmb IAmb 17 10 09.3
comp=Z,3.2nm,1.2s
H21K Melozitna Rive 77.46 23 P P 17 10 03.2 -0.1
H21K IAmb IAmb 17 10 07.7
comp=Z,6.8nm,1.4s
E24K Your Creek 77.65 20 P P 17 10 04.3 -0.1
E24K IAmb IAmb 17 10 22.8
comp=Z,5.3nm,1.5s
SUMG Summit 78.99 347 P P 17 10 12.1 0.0
SUMG IAmb IAmb 17 10 33.9
comp=Z,7.4nm,1.2s
BMAR Burnt Mountain 79.24 20 P P 17 10 14.1 +0.9
TORD Torodi Ar. Bea 87.52 283 P P 17 10 57.1 +0.7
comp=Z,0.8nm,0.7s,baz=57,slow=5.1,SNR=4.3
comp=Z,0.8nm,0.7s
ROSC El Rosal 149.75 338 PKPbc PKPbc 17 17 58.7 0.0
comp=Z,6.9nm,0.4s,baz=26,slow=4.0,SNR=5.6
CPUP Villa Florida 154.51 258 PKPbc PKPbc 17 18 08.0 -0.6
comp=Z,2.3nm,0.8s,baz=172,slow=4.0,SNR=3.9

*GII **15** 17:03:36.3±0.5, 35°.583N±0°.003×28°.311E±0°.001, h0km, Mws2.7, confirmed*
*ISK **15** 17:03:37.6, 36°.01N×27°.92E, h80km±1km, ML2.8/14*
*AFAD **15** 17:03:38.7±0.0, 35°.99N×28°.04E, h7km±1km, ML2.3*
*ATH **15** 17:03:39.1, 36°.03N×27°.86E, h72km±3km, ML2.8/3, Error ellipse: s-maj=4.7km s-min=1.6km az=104.0*
*THE **15** 17:03:40.2, 36°.03N×27°.84E, h67km±4km, ML2.9/2, Error ellipse: s-maj=5.8km s-min=1.3km az=105.0*
ISC 15 17:03:36.4±1.3, 35°.88N±0°.04×28°.03E±0°.05, h81km±12km, n75, σ1°31/94, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.35**	**14**	Pg	**Pn**	**17 03 50.4**	**+1.3**
ARG				Sg	**Sn**	**17 03 58.9**	**+0.4**
ARG	**Arkhangelos**	**0.35**	**14**	P	**Pn**	**17 03 50.4**	**+1.3**
ARG				S	**Sn**	**17 03 58.1**	**-0.4**
	670nm,0.2s						
ARG	**Arkhangelos**	**0.35**	**14**	P	**Pn**	**17 03 50.4**	**+1.3**
ARG				S	**Sn**	**17 03 58.2**	**-0.4**
ARG				AML	AML	17 03 59.5	
	comp=N,1246μm,0.3s						
ARG				AML	AML	17 03 59.8	
	comp=E,1402μm,0.1s						
KARP	**Karpathos**	**0.78**	**245**	Pg	**Pn**	**17 03 54.6**	**+1.6**
KARP	**Karpathos**	**0.78**	**245**	P	**Pn**	**17 03 54.6**	**+1.6**
KARP				S	**Sn**	**17 04 05.5**	**+0.1**
	comp=E,1μm,0.1s						
KARP	**Karpathos**	**0.78**	**245**	P	**Pn**	**17 03 54.6**	**+1.6**
KARP				S	**Sn**	**17 04 05.9**	**+0.5**
KARP				AML	AML	17 04 06.9	
	comp=N,2342μm,0.1s						
KARP				AML	AML	17 04 07.2	
	comp=E,2574μm,0.2s						
TURN	**Turunc**	**0.91**	**11**	Pg	**Pn**	**17 03 55.7**	**+1.2**
TURN				Sg	**Sn**	**17 04 07.9**	**0.0**
TURN	**Turunc**	**0.91**	**11**	P	**Pn**	**17 03 55.6**	**+1.2**
TURN				S	**Sn**	**17 04 08.1**	**+0.2**
DAT	**Datca**	**0.92**	**337**	Pg	**Pn**	**17 03 54.7**	**0.0**
DAT	**Datca**	**0.92**	**337**	P	**Pn**	**17 03 54.7**	**0.0**
DAT				S	**Sn**	**17 04 06.4**	**-2.0**
DAT	**Datca**	**0.92**	**337**	P	**Pn**	**17 03 54.7**	**0.0**
DAT				S	**Sn**	**17 04 06.4**	**-2.0**
DAT				*i* AML	AML	17 04 07.0	
	comp=E,267nm,0.2s						
DAT				*i* AML	AML	17 04 07.0	
	comp=E,190nm,0.2s						
YAZI	**Mula-Dat§a-**	**0.92**	**330**	P	**Pn**	**17 03 54.6**	**0.0**
YAZI				S	**Sn**	**17 04 05.9**	**-2.4**
YAZI				*i* AML	AML	17 04 06.0	
	comp=E,113nm,0.4s						
YAZI				*i* AML	AML	17 04 06.0	
	comp=E,68nm,0.1s						
DALY	**Dalyan (Mula)**	**1.06**	**28**	Pg	**Pn**	**17 03 57.8**	**+1.5**
DALY				Sg	**Sn**	**17 04 11.6**	**+0.5**
FETY	**Fethiye**	**1.14**	**48**	Pn	**Pn**	**17 03 58.9**	**+1.7**
FETY				Sn	**Sn**	**17 04 13.9**	**+1.0**
FETY	**Fethiye**	**1.14**	**48**	P	**Pn**	**17 03 58.9**	**+1.7**
FETY				S	**Sn**	**17 04 14.4**	**+1.6**
BDRM	**Kayabasi**	**1.27**	**339**	P	**Pn**	**17 03 58.6**	**-0.3**
BDRM				S	**Sn**	**17 04 13.5**	**-2.3**
BODT	**Bodrum**	**1.31**	**334**	Pn	**Pn**	**17 03 59.1**	**-0.3**
BODT	**Bodrum**	**1.31**	**334**	P	**Pn**	**17 03 59.1**	**-0.3**
BODT				S	**Sn**	**17 04 13.6**	**-3.1**
AKAS	**Kas**	**1.33**	**74**	Pn	**Pn**	**17 04 02.3**	**+2.6**
AKAS				Sn	**Sn**	**17 04 20.3**	**+3.1**
KLNA	**Kalymnos**	**1.37**	**322**	P	**Pn**	**17 03 59.8**	**-0.3**
KLNA				S	**Sn**	**17 04 15.0**	**-3.0**
YKAV	**Yalikavak-Bodr**	**1.38**	**334**	Pn	**Pn**	**17 04 00.2**	**0.0**
MULA	**Mugla, Merkez-**	**1.39**	**10**	P	**Pn**	**17 04 02.9**	**+2.4**
MULA				*i* AML	AML	17 04 21.0	
	comp=E,33nm,0.5s						
MULA				*i* AML	AML	17 04 22.0	
	comp=E,51nm,0.2s						
MLSB	**Milas**	**1.43**	**352**	Pn	**Pn**	**17 04 00.9**	**0.0**
CAME	**Cameli-Denizli**	**1.48**	**44**	Pn	**Pn**	**17 04 03.1**	**+1.5**
ZKR	**Zakros**	**1.66**	**243**	P	**Pn**	**17 04 06.2**	**+2.3**
DDIM	**Aydin, Didim**	**1.70**	**338**	P	**Pn**	**17 04 04.5**	**+0.2**
DDIM				S	**Sn**	**17 04 23.8**	**-1.7**
APMY	**Acipayam-Deniz**	**1.89**	**32**	Pn	**Pn**	**17 04 08.4**	**+1.4**
GCAM	**G?zelcaml?**	**1.93**	**341**	Pn	**Pn**	**17 04 07.5**	**+0.2**
GCAM	**G?zelcaml?**	**1.93**	**341**	P	**Pn**	**17 04 07.4**	**+0.2**
GCAM				S	**Sn**	**17 04 28.7**	**-2.2**
SMG	**Samos**	**2.06**	**333**	P	**Pn**	**17 04 08.9**	**-0.2**
SMG				AML	AML	17 04 32.5	
	comp=N,172μm,0.5s						
SMG				AML	AML	17 04 34.1	
	comp=E,112μm,0.6s						
THR8	**Santorini-Mono**	**2.13**	**285**	P	**Pn**	**17 04 10.0**	**0.0**
THR6	**Thira Island,**	**2.18**	**283**	P	**Pn**	**17 04 11.4**	**+0.7**
THR3	**Thira Island,**	**2.19**	**285**	P	**Pn**	**17 04 11.5**	**+0.7**
SNT5	**Nea Kammeni, S**	**2.19**	**285**	P	**Pn**	**17 04 11.5**	**+0.7**
APE	**Apeiranthos**	**2.33**	**301**	Pn	**Pn**	**17 04 12.9**	**+0.1**
APE	**Apeiranthos**	**2.33**	**301**	P	**Pn**	**17 04 13.0**	**+0.1**
IDI	**Anoyia**	**2.62**	**258**	P	**Pn**	**17 04 17.7**	**+0.9**
CHOS	**Chios island**	**2.96**	**328**	P	**Pn**	**17 04 21.6**	**+0.4**
IMMV	**Iera Moni Meta**	**3.32**	**264**	P	**Pn**	**17 04 27.7**	**+1.7**
GVD	**Gavdhos**	**3.38**	**253**	P	**Pn**	**17 04 29.1**	**+2.2**
OFRI	**`Ofer**	**6.62**	**117**	S	**Sn**	**17 06 24.1**	**-0.9**
OFRI	**`Ofer**	**6.62**	**117**	P	**Pn**	**17 05 10.5**	**-0.5**
MMC7	**Mount Meron ar**	**6.72**	**113**	P	**Pn**	**17 05 12.2**	**-0.2**
MMA0B	**Mount Meron ar**	**6.73**	**113**	P	**Pn**	**17 05 12.4**	**-0.2**
MMA0B	**Mount Meron ar**	**6.73**	**113**	S	**Sn**	**17 06 27.6**	**-0.2**
GEM	**Giv'at Ha'Em**	**6.84**	**111**	P	**Pn**	**17 05 14.1**	**+0.1**
GEM	**Giv'at Ha'Em**	**6.84**	**111**	S	**Sn**	**17 06 29.9**	**-0.6**
NATI	**Neve Ativ**	**6.88**	**110**	S	**Sn**	**17 06 29.6**	**-1.7**
NATI	**Neve Ativ**	**6.88**	**110**	P	**Pn**	**17 05 14.6**	**+0.1**
MMLI	**Mount Malkishu**	**7.03**	**117**	P	**Pn**	**17 05 16.3**	**-0.3**
MMLI	**Mount Malkishu**	**7.03**	**117**	S	**Sn**	**17 06 34.1**	**-0.9**
KSHT	**Keshet**	**7.05**	**112**	P	**Pn**	**17 05 16.7**	**-0.3**
KSHT	**Keshet**	**7.05**	**112**	S	**Sn**	**17 06 35.4**	**-0.3**
AMAZ	**Amatzia**	**7.19**	**125**	P	**Pn**	**17 05 18.8**	**-0.1**
AMAZ	**Amatzia**	**7.19**	**125**	S	**Sn**	**17 06 37.9**	**-1.2**
HMDT	**Nahal Hemdat**	**7.20**	**118**	P	**Pn**	**17 05 19.1**	**+0.1**
HMDT	**Nahal Hemdat**	**7.20**	**118**	S	**Sn**	**17 06 38.0**	**-1.1**
KZIT	**Kziot**	**7.28**	**131**	P	**Pn**	**17 05 19.6**	**-0.5**
KZIT	**Kziot**	**7.28**	**131**	S	**Sn**	**17 06 39.6**	**-1.5**
YTIR	**Yattir**	**7.43**	**125**	P	**Pn**	**17 05 22.1**	**-0.2**
YTIR	**Yattir**	**7.43**	**125**	S	**Sn**	**17 06 44.1**	**-0.9**
DSI	**Dead Sea**	**7.48**	**123**	S	**Sn**	**17 06 45.2**	**-0.9**
DSI	**Dead Sea**	**7.48**	**123**	P	**Pn**	**17 05 22.3**	**-0.5**
MSBI	**Mazada**	**7.62**	**125**	P	**Pn**	**17 05 24.4**	**-0.4**
MSBI	**Mazada**	**7.62**	**125**	S	**Sn**	**17 06 48.1**	**-1.4**
PRNI	**Paran**	**8.04**	**131**	S	**Sn**	**17 06 56.9**	**-2.8**
PRNI	**Paran**	**8.04**	**131**	P	**Pn**	**17 05 29.8**	**-0.7**
KRMI	**Paran Flat**	**8.04**	**134**	S	**Sn**	**17 06 57.6**	**-2.2**
KRMI	**Paran Flat**	**8.04**	**134**	P	**Pn**	**17 05 30.0**	**-0.5**
HRFI	**Mount Harif**	**8.28**	**133**	S	**Sn**	**17 07 04.1**	**-1.6**
HRFI	**Mount Harif**	**8.28**	**133**	P	**Pn**	**17 05 33.3**	**-0.5**
MBRI	**Mt Berech**	**8.39**	**134**	P	**Pn**	**17 05 34.6**	**-0.7**
MBRI	**Mt Berech**	**8.39**	**134**	S	**Sn**	**17 07 07.1**	**-1.3**
EIL	**Elat**	**8.50**	**135**	S	**Sn**	**17 07 08.6**	**-2.5**
EIL	**Elat**	**8.50**	**135**	P	**Pn**	**17 05 36.1**	**-0.7**

*IDC **15** 17:06:58.5±1.0, 11°.64N×92°.29E, h0km, mb3.9/12, mbtmp3.9/14, ML3.8/2, MS3.7/2, Error ellipse: s-maj=29.0km s-min=17.6km az=57.0*
*NEIC **15** 17:07:05.6±2.9, 11°.91N±0°.04×92°.3E±0°.1, h42km±9km, mb4.3/9, Error ellipse: s-maj=18.9km s-min=3.7km az=77.0*
ISC 15 17:07:02.3±0.7, 11°.80N±0°.07×92°.28E±0°.07, h23km, n41, σ1°36/36, mb4.0/16, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**0.48**	**107**	*e*Pg	**Pn**	**17 07 13.2**	**-0.5**
PBA				*i* Sg	**Sn**	**17 07 21.3**	**-0.1**
PBA				IAML		17 07 22.1	
	comp=N,15μm,0.3s						
PBA				IAML		17 07 22.6	
	comp=E,20μm,0.1s						
DGPR	**DIGLIPUR**	**1.51**	**25**	*e*P	**Pn**	**17 07 28.9**	**+1.0**
DGPR				*e*S	**Sb**	**17 07 49.9**	**+1.5**
DGPR				IAML		17 08 00.6	
	comp=N,4μm,0.7s						
DGPR				IAML		17 08 00.7	
	comp=E,3μm,0.6s						
CM31	**Chiang Mai Arr**	**9.23**	**43**		**Pn**	**17 09 13.1**	**-1.1**
CMAR	**Chiang Mai Arr**	**9.23**	**43**	Pn	**Pn**	**17 09 15.4**	**+1.2**
CMAR	**Chiang Mai Arr**	**9.23**	**43**	Pn	**Pn**	**17 09 15.2**	**+1.1**
	comp=E,0.3nm,0.3s,baz=233,slow=15,SNR=9.5						
CMAR				Sn	**Sn**	**17 10 55.2**	**-2.1**
	baz=243,slow=29						
	comp=E,1.5nm,0.8s						
PHRA	**Phrae**	**10.16**	**48**	Pn	**Pn**	**17 09 28.5**	**+1.6**
KULM	**Kulim**	**10.51**	**127**	Pn	**Pn**	**17 09 34.1**	**+2.5**
MND	**Mandalay**	**10.80**	**19**	Pn	**Pn**	**17 09 33.0**	**-2.6**
PALK	**Pallekele**	**12.27**	**250**	Pn	**Pn**	**17 09 55.3**	**-0.5**
	comp=E,0.4nm,0.3s,baz=164,slow=11,SNR=2.7						
PALK				Sn	**Sn**	17 12 01.4	-11
	comp=E,0.3nm,0.3s,baz=300,slow=18,SNR=1.7						
	comp=E,3.6nm,0.9s						
ENH	**Enshi**	**24.35**	**38**	P	**P**	**17 12 17.2**	**-1.4**
ENH				IAmb	IAmb	17 12 19.9	
	comp=Z,13nm,0.7s						
H08S3	**Diego Garcia H**	**27.57**	**226**	T	T	17 41 24.8	
	baz=46,slow=76,SNR=15						
H08S2	**Diego Garcia H**	**27.57**	**226**	T	T	17 41 25.8	
	baz=46,slow=76,SNR=24						
H08S1	**Diego Garcia H**	**27.59**	**226**	T	T	17 41 25.9	
	baz=46,slow=76,SNR=13						
GAR	**Garm**	**33.39**	**328**	P	**P**	**17 13 38.4**	**-0.9**
GAR				IAmb	IAmb	17 13 48.3	
	comp=Z,13nm,1.5s						
MK31	**Makanchi Array**	**35.89**	**348**	P	**P**	**17 14 01.0**	**+0.4**
MKAR	**Makanchi Array**	**35.89**	**348**	P	**P**	**17 13 58.9**	**-1.7**
MKAR	**Makanchi Array**	**35.89**	**348**	P	**P**	**17 14 02.0**	**+1.4**
	comp=Z,1.7nm,0.7s,baz=168,slow=8.3,SNR=12						
	comp=Z,1.7nm,0.7s						
MAKZ	**Makanchi**	**35.96**	**348**	P	**P**	**17 14 01.6**	**+0.4**
MAKZ				IAmb	IAmb	17 14 25.2	
	comp=Z,2.6nm,1.3s						
SONM	**Songino Array**	**37.82**	**16**	P	**P**	**17 14 17.7**	**+0.5**
SONM				IAmb	IAmb	17 14 19.2	
	comp=Z,4.0nm,1.4s						
SONM	**Songino Array**	**37.82**	**16**	P	**P**	**17 14 18.6**	**+1.4**
	comp=Z,1.0nm,0.5s,baz=202,slow=7.1,SNR=7.2						
	comp=Z,1.0nm,0.5s						
GEYT	**Alibeck**	**40.09**	**316**	LR	LR	17 33 04.1	
	comp=Z,81nm,20.5s,baz=171,slow=39						
KURBB	**Kurchatov Arra**	**40.32**	**346**	P	**P**	**17 14 38.8**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=154,slow=7.5,SNR=6.3						
	comp=Z,1.2nm,0.7s						
KSRS	**Korea Array**	**40.87**	**45**	P	**P**	**17 14 42.5**	**0.0**
	comp=Z,1.5nm,0.5s,baz=238,slow=8.4,SNR=6.9						
	comp=Z,1.5nm,0.5s						
ZAA0	**Zalesovo Array**	**42.46**	**353**	P	**P**	**17 14 52.4**	**-3.0**
ZALV	**Zalesovo Beam**	**42.46**	**353**	P	**P**	**17 14 52.7**	**-2.6**
ZALV	**Zalesovo Beam**	**42.46**	**353**	P	**P**	**17 14 56.2**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=179,slow=7.5,SNR=7.0						
	comp=Z,1.5nm,0.7s						
BVAR	**Borovoye Array**	**44.70**	**341**	P	**P**	**17 15 14.4**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=156,slow=7.3,SNR=2.7						
	comp=Z,0.4nm,0.5s						
WRA	**Warramunga Arr**	**52.05**	**127**	P	**P**	**17 16 09.7**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=307,slow=7.6,SNR=19						
	comp=Z,1.2nm,0.6s						
WB2	**Warramunga Arr**	**52.06**	**127**	P	**P**	**17 16 10.0**	**-0.7**
ASAR	**Alice Springs**	**53.85**	**131**	P	**P**	**17 16 22.9**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=303,slow=7.0,SNR=13						
	comp=Z,0.7nm,0.6s						
PMG	**Port Moresby**	**58.48**	**109**	LR	LR	17 49 51.3	
	comp=Z,66nm,18.7s,baz=250,slow=44						
TIXI	**Tiksi**	**63.78**	**12**	P	**P**	**17 17 32.2**	**+0.1**
TIXI				IAmb	IAmb	17 17 41.0	
	comp=Z,2.2nm,0.8s						
H04N2	**CROZET ISLANDS**	**68.19**	**209**	T	T	18 32 08.2	
	baz=44,slow=75,SNR=5.1						
H04N1	**CROZET ISLANDS**	**68.20**	**209**	T	T	18 32 09.6	
	baz=44,slow=75,SNR=4.9						
H04N3	**CROZET ISLANDS**	**68.21**	**209**	T	T	18 32 08.3	
	baz=44,slow=75,SNR=4.9						
FINES	**FINESS Array B**	**68.40**	**332**	P	**P**	**17 18 02.0**	**0.0**
FINES	**FINESS Array B**	**68.40**	**332**	P	**P**	**17 18 02.2**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=107,slow=4.6,SNR=6.0						
	comp=Z,1.3nm,0.8s						
ARCES	**ARCESS Array B**	**70.97**	**340**	P	**P**	**17 18 18.6**	**+0.9**
ARCES	**ARCESS Array B**	**70.97**	**340**	P	**P**	**17 18 18.6**	**+0.9**
	comp=Z,2.4nm,1.0s,baz=91,slow=5.6,SNR=4.2						
	comp=Z,2.4nm,1.0s						
HFS	**Hagfors**	**74.16**	**329**	P	**P**	**17 18 37.4**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=98,slow=11,SNR=2.2						
	comp=Z,2.2nm,0.8s						
ILAR	**Eielson Array**	**91.81**	**22**	P	**P**	**17 20 08.0**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=301,slow=4.2,SNR=6.2						
	comp=Z,0.3nm,0.6s						

*IDC **15** 17:07:25.9±2.2, 5°.83S×68°.89E, h0km, mb3.6/7, mbtmp3.6/7, MS3.9/2, Error ellipse: s-maj=73.2km s-min=23.1km az=52.0*
*NEIC **15** 17:07:28.8±1.5, 6°.0S±0°.1×68°.9E±0°.1, h10km±2km, mb4.2/9, Error ellipse: s-maj=22.2km s-min=17.6km az=257.0*
ISC 15 17:07:27.6±0.9, 6°.0S±0°.1×68°.8E±0°.1, h10km, n25, σ0°89/20, mb4.0/9, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGAR	**Diego Garcia**	**3.87**	**112**	Pn	**Pn**	**17 08 27.9**	**+0.6**
H08S1	**Diego Carcia H**	**3.99**	**115**	Pn	**Pn**	**17 08 28.7**	**+0.1**
	baz=308,slow=17						
H08S1				T	T	17 13 09.3	
	baz=305,slow=80,SNR=6.3						
H08S3	**Diego Garcia H**	**3.99**	**115**	Pn	**Pn**	**17 08 28.8**	**+0.2**
	baz=308,slow=17						
H08S3				T	T	17 13 16.9	
	baz=305,slow=80,SNR=5.8						
H08S2	**Diego Garcia H**	**4.00**	**115**	Pn	**Pn**	**17 08 29.0**	**+0.2**
	baz=308,slow=17						
H08S2				T	T	17 13 12.3	
	baz=305,slow=80,SNR=6.8						
KAAM	**Kaadhehdhoo**	**7.62**	**33**	Pn	**Pn**	**17 09 18.9**	**0.0**
PALK	**Pallekele**	**17.68**	**42**	LR	LR	17 16 29.7	
	comp=Z,229nm,20.8s,baz=317,slow=31						
MBAR	**Mbarara**	**38.39**	**277**	P	**P**	**17 14 49.9**	**+0.1**
NIL	**Nilore**	**39.60**	**6**	P	**P**	**17 14 60.0**	**+0.6**
H04N2	**CROZET ISLANDS**	**42.69**	**197**	T	T	18 00 16.6	
	baz=24,slow=74						
H04N1	**CROZET ISLANDS**	**42.70**	**197**	T	T	18 00 17.5	
	baz=24						
H04N3	**CROZET ISLANDS**	**42.71**	**197**	T	T	18 00 15.4	
	baz=24,slow=74						
GEYT	**Alibeck**	**44.78**	**348**	P	**P**	**17 15 41.2**	**-0.4**
GYA0B	**ALIBECK ARRAY**	**44.78**	**348**	P	**P**	**17 15 41.6**	**0.0**
GYA0B				IAmb	IAmb	17 15 42.7	
	comp=Z,3.2nm,0.8s						
KK31	**Karatay Array**	**48.84**	**2**	P	**P**	**17 16 14.6**	**+1.3**
KKAR	**Karatay Array**	**48.84**	**2**	P	**P**	**17 16 14.6**	**+1.3**
KKAR				IAmb	IAmb	17 16 20.9	
	comp=Z,2.2nm,1.1s						
MKAR	**Makanchi Array**	**53.85**	**11**	P	**P**	**17 16 49.8**	**-1.1**
	comp=Z,2.0nm,0.7s,baz=180,slow=4.3,SNR=2.1						
	comp=Z,2.0nm,0.7s						
ABKAR	**Akbulak array**	**55.52**	**353**	P	**P**	**17 17 04.6**	**+1.7**
BRTR	**Keskin Array B**	**55.85**	**328**	P	**P**	**17 17 04.7**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=157,slow=7.8,SNR=3.7						
	comp=Z,0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**56.96**	**7**	P	**P**	**17 17 12.6**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=198,slow=5.7,SNR=5.7						
	comp=Z,0.8nm,0.3s						
ZALV	**Zalesovo Beam**	**61.17**	**11**	P	**P**	**17 17 40.9**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=196,slow=9.9,SNR=2.7						
	comp=Z,0.5nm,0.4s						
SONM	**Songino Array**	**62.92**	**27**	P	**P**	**17 17 53.1**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=222,slow=7.2,SNR=3.5						
	comp=Z,0.3nm,0.4s						
ASAR	**Alice Springs**	**64.81**	**113**	P	**P**	**17 18 06.6**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=283,slow=6.0,SNR=5.5						
	comp=Z,0.5nm,0.7s						
WRA	**Warramunga Arr**	**64.98**	**109**	P	**P**	**17 18 08.5**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=278,slow=7.1,SNR=3.8						
	comp=Z,0.8nm,0.7s						
QSPA	**South Pole Qui**	**84.08**	**180**	LR	LR	17 52 09.6	
	comp=Z,86nm,18.7s,baz=250,slow=32						
NVAR	**Mina Array Bea**	**147.02**	**10**	PKPbc	**PKPbc**	**17 27 11.3**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=333,slow=5.5,SNR=2.1						

*ASRS **15** 17:07:38.2±0.9,

comp=Z,56nm,21.7s,baz=235,slow=33
LEM Lembang 38.33 94 LR LR 17 44 19.8
comp=Z,101nm,20.6s,baz=234,slow=32
MBAR Mbarara 38.59 276 LR LR 17 43 53.0
comp=Z,54nm,21.1s,baz=88,slow=32
LSA Lhasa 40.98 30 P **P** **17 31 25.0 -0.6**
LSA IAmb IAmb 17 31 37.6
comp=Z,3.8nm,0.9s
LSZ Lusaka 41.28 253 LR LR 17 44 20.1
comp=Z,128nm,20.9s,baz=106,slow=30
H04N2 CROZET ISLANDS 43.12 198 T T 18 16 31.7
baz=25,slow=75,SNR=7.0
H04N1 CROZET ISLANDS 43.12 198 T T 18 16 32.7
baz=25,slow=75,SNR=5.4
H04N3 CROZET ISLANDS 43.13 198 T T 18 16 32.1
baz=25,slow=75,SNR=6.3
GAR Garm 44.37 1 P **P** **17 31 51.6 -1.0**
GEYT Alibeck 44.47 348 LR LR 17 49 24.0
comp=Z,66nm,19.6s,baz=168,slow=34
DRK Karamyk 44.90 3 P **P** **17 31 56.5 -0.5**
DRK IAmb IAmb 17 32 23.9
comp=Z,5.1nm,1.0s
BTK Batken 45.44 2 P **P** **17 32 00.3 -0.7**
BTK IAmb IAmb 17 32 10.1
comp=Z,4.2nm,0.8s
LBTB Lobatse 45.90 240 LR LR 17 47 12.2
comp=Z,160nm,21.2s,baz=77,slow=31
AAK Ala-Archa 48.24 5 LR LR 17 53 07.6
comp=Z,40nm,18.1s,baz=206,slow=36
TSUM Tsumeb 51.89 250 LR LR 17 51 32.9
comp=Z,61nm,18.1s,baz=147,slow=33
SUR Sutherland 52.26 233 LR LR 17 50 39.2
comp=Z,94nm,21.6s,baz=113,slow=31
MAKZ Makanchi 53.40 11 P **P** **17 33 00.8 -0.9**
MK31 Makanchi Array 53.45 11 P **P** **17 33 00.6 -1.4**
MKAR Makanchi Array 53.45 11 P **P** **17 33 00.0 -2.0**
MKAR Makanchi Array 53.45 11 P **P** **17 33 03.4 +1.4**
comp=Z,0.3nm,0.7s,baz=186,slow=6.5,SNR=3.2
MKAR LR LR 17 55 29.1
comp=Z,69nm,20.0s,baz=220,slow=35
comp=Z,0.3nm,0.7s
KBZ Khabaz 54.48 337 P **P** **17 33 11.0 +1.5**
comp=Z,2.1nm,0.7s,baz=188,slow=15,SNR=3.3
comp=Z,2.1nm,0.7s
ABKAR Akbulak array 55.19 353 P **P** **17 33 14.0 -0.6**
BRTR Keskin Array B 55.67 327 P **P** **17 33 19.1 +0.5**
comp=Z,1.7nm,1.1s,baz=148,slow=7.3,SNR=5.4
BRTR LR LR 17 54 52.8
comp=Z,29nm,21.7s,baz=154,slow=34
comp=Z,1.7nm,1.1s
KURBB Kurchatov Arra 56.57 7 P **P** **17 33 28.0 +3.5**
comp=Z,1.0nm,1.1s,baz=203,slow=6.4,SNR=6.7
KURBB LR LR 17 58 11.4
comp=Z,57nm,19.2s,baz=170,slow=36
comp=Z,1.0nm,1.1s
AKTO Aktyubinsk 56.60 352 LR LR 17 57 27.8
comp=Z,30nm,18.9s,baz=47,slow=36
DAV Davao City (W) 57.77 78 LR LR 17 57 19.5
comp=Z,32nm,21.8s,baz=274,slow=35
BVAR Borovoye Array 58.39 1 P **P** **17 33 39.4 +2.0**
comp=Z,0.7nm,0.9s,baz=168,slow=7.4,SNR=3.9
BVAR LR LR 17 59 02.2
comp=Z,39nm,19.3s,baz=171,slow=36
comp=Z,0.7nm,0.9s
BRVK Borovoye 58.42 1 P **P** **17 33 37.7 +0.2**
BRVK IAmb IAmb 17 33 44.8
comp=Z,2.6nm,1.1s
ZAA0 Zalesovo Array 60.77 11 P **P** **17 33 53.8 +0.1**
ZAA0 IAmb IAmb 17 34 15.8
comp=Z,3.4nm,1.2s
ZALV Zalesovo Beam 60.77 11 P **P** **17 33 53.4 -0.2**
ZALV Zalesovo Beam 60.77 11 P **P** **17 33 56.8 +3.1**
comp=Z,0.7nm,0.7s,baz=200,slow=3.8,SNR=4.9
ZALV LR LR 18 00 41.3
comp=Z,48nm,19.7s,baz=192,slow=36
comp=Z,0.7nm,0.7s
ARU Arti 62.40 353 P **P** **17 34 03.4 -1.3**
ARU Arti 62.40 353 LR LR 18 01 08.0
comp=Z,29nm,20.6s,baz=160,slow=36
SONM Songino Array 62.49 27 P **P** **17 34 05.7 0.0**
SONM Songino Array 62.49 27 P **P** **17 34 08.8 +3.2**
comp=Z,1.3nm,0.9s,baz=218,slow=6.4,SNR=5.5
SONM LR LR 18 01 22.3
comp=Z,71nm,20.1s,baz=230,slow=36
comp=Z,1.3nm,0.9s
ASAR Alice Springs 64.74 113 P **P** **17 34 22.1 +1.2**
comp=Z,0.9nm,0.8s,baz=292,slow=4.9,SNR=2.6
comp=Z,0.9nm,0.8s
KIRV Kirov 65.88 349 LR LR 18 04 06.3
comp=Z,33nm,18.4s,baz=134,slow=37
KSRS Korea Array 69.43 47 LR LR 18 06 23.2
comp=Z,41nm,19.5s,baz=210,slow=37
MJAR Matsushiro Arr 76.80 51 LR LR 18 11 13.0
comp=Z,38nm,18.3s,baz=232,slow=37
SNAA Sanae 79.08 198 LR LR 18 03 12.3
comp=Z,84nm,18.9s,baz=10.0,slow=30
ARCES ARCESS Array B 80.61 346 LR LR 18 11 38.6
comp=Z,33nm,21.5s,baz=120,slow=36
ASAJ Asahikawa 82.16 44 LR LR 18 12 19.2
comp=Z,28nm,21.4s,baz=141,slow=35
TIXI Tiksi 86.16 16 LR LR 18 16 12.1
comp=Z,86nm,20.6s,baz=207,slow=36
NVAR Mina Array Bea 146.62 11 PKPbc **PKPbc** **17 43 24.6 +0.1**
comp=Z,0.4nm,0.8s,baz=3.8,slow=2.7,SNR=2.0
TXAR Lajitas Array 155.40 345 PKPab **PKPab** **17 43 59.6 -2.0**
comp=Z,0.4nm,0.8s,baz=50,slow=1.4,SNR=4.8

IDC 15 17:28:21.1±2.2, 14.°25S×179.°94E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=132.2km s-min=29.2km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.85**	**256**	P	P	17 36 31.0	+1.4
	0.7nm,0.9s,baz=89,slow=6.9,SNR=2.2						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**44.37**	**251**	P	P	17 36 32.7	-1.0
	1.6nm,0.5s,baz=89,slow=8.2,SNR=16						
	1.6nm,0.5s						
ILAR	**Eielson Array**	**82.72**	**14**	P	P	17 40 45.7	-0.7
	0.3nm,0.4s,baz=228,slow=5.2,SNR=5.2						
	0.3nm,0.4s						
TXAR	**Lajitas Array**	**85.42**	**58**	P	P	17 41 01.9	+0.8
	0.4nm,0.9s,baz=233,slow=6.2,SNR=3.5						
	0.4nm,0.9s						

*NEIC **15** 17:47:02.0±0.8, 31.°15N±0.°02×103.°25W±0.°02, h5km±2km, mb_Lg2.8/36, ML3.0/58, Error ellipse: s-maj=4.3km s-min=3.0km az=131.0*
*ANF **15** 17:47:04.3±0.6, 31.°09N×103.°27W, h5km, ML3.5/6, Error ellipse: s-maj=7.0km s-min=6.6km az=132.0*
ISC 15 17:47:02.8±0.9, 31.°14N±0.°03×103.°24W±0.°03, h10km, n39, σ1§11/35, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNHN	**Monahans**	**0.46**	**64**		**Pg**	**17 47 11.3**	**-0.4**
PECS	**Pecos**	**0.58**	**293**		**Pg**	**17 47 13.4**	**-0.7**
PECS				IAML		17 47 27.1	
	520nm,0.4s						
ALPN	**Alpine**	**0.84**	**204**		**Pg**	**17 47 18.2**	**-0.8**
ALPN				IAML		17 47 36.7	
	296nm,0.7s						
ODSA	**Odessa**	**1.14**	**31**	Pg	**Pb**	**17 47 23.3**	**-1.3**
SAND	**Sanderson**	**1.53**	**141**		**Pn**	**17 47 30.6**	**+0.4**
SAND				IAML		17 47 56.8	
	152nm,0.7s						
SAND				IAML		17 47 57.9	
	89nm,0.4s						
VHRN	**Van Horn**	**1.54**	**257**		**Pn**	**17 47 30.5**	**+0.1**
VHRN				IAML		17 47 58.2	
	140nm,0.6s						
OZNA	**Ozona**	**1.83**	**96**		**Pn**	**17 47 35.0**	**+0.7**
TX31	**Lajitas Ar. Si**	**1.84**	**192**		**Pb**	**17 47 36.1**	**-0.4**
TX31	**Lajitas Ar. Si**	**1.84**	**192**	P	**Pn**	**17 47 35.8**	**+1.4**
	baz=11						
TX31				S	**Sb**	**17 48 00.6**	**+0.9**
	baz=11						
MNTX	**Cornudas Mount**	**1.91**	**287**	P	**Pn**	**17 47 37.3**	**+1.9**
	baz=106						
MNTX				S	**Sb**	**17 48 02.7**	**+1.0**
	baz=106						
SGCY	**Sterling City**	**1.96**	**66**		**Pn**	**17 47 37.7**	**+1.5**
POST	**Post**	**2.42**	**37**		**Pn**	**17 47 43.5**	**+1.0**
POST				IAmb_Lg		17 48 21.2	
	comp=Z,62nm,0.9s						
SN07	**Snyder 07**	**2.78**	**45**		**Pn**	**17 47 48.3**	**+0.8**
DRIO	**Del Rio**	**2.84**	**126**	Pn	**Pn**	**17 47 48.8**	**+0.6**
MSTX	**Muleshoe**	**2.85**	**8**		**Pn**	**17 47 48.8**	**+0.5**
MSTX				IAmb_Lg		17 48 40.2	
	comp=Z,29nm,1.0s						
MSTX	**Muleshoe**	**2.85**	**8**	S	**Sb**	**17 48 30.7**	**+1.9**
	baz=188						
JCT	**Junction City**	**3.03**	**102**	Pn	**Pn**	**17 47 51.3**	**+0.4**
JCT	**Junction City**	**3.03**	**102**	P	**Pn**	**17 47 53.1**	**+2.3**
	baz=284						
JCT				S	**Sb**	**17 48 32.9**	**-1.1**
	baz=284						
DKNS	**Dickens**	**3.19**	**37**	Pn	**Pn**	**17 47 54.5**	**+1.4**
ABTX	**Abilene, Hawle**	**3.40**	**63**		**Pn**	**17 47 56.9**	**+1.0**
ABTX				IAmb_Lg		17 48 49.3	
	comp=Z,22nm,0.7s						
ABTX	**Abilene, Hawle**	**3.40**	**63**	P	**Pn**	**17 47 58.0**	**+2.1**
	baz=246						
APMT	**Aspermont**	**3.42**	**50**		**Pn**	**17 47 57.5**	**+1.2**
APMT				IAmb_Lg		17 48 56.8	
	comp=Z,26nm,0.9s						
BRDY	**Brady**	**3.64**	**87**		**Pn**	**17 47 59.9**	**+0.7**
HNDO	**Hondo**	**3.78**	**114**	Pn	**Pn**	**17 48 01.6**	**+0.4**
HNDO				IAmb_Lg		17 49 14.0	
	comp=Z,20nm,0.7s						
AMTX	**Amarillo**	**3.96**	**19**		**Pn**	**17 48 02.8**	**-0.8**
AMTX				IAmb_Lg		17 49 16.6	
	comp=Z,28nm,0.8s						
833A	**Chaparral WMA,**	**4.37**	**129**	IAmb_Lg		17 49 31.9	
	comp=Z,19nm,1.3s						
PLPT	**Palo Pinto**	**4.50**	**67**		**Pn**	**17 48 11.8**	**+0.7**
ANMO	**Albuquerque**	**4.66**	**325**	IAmb_Lg		17 49 35.6	
	comp=Z,7.8nm,0.9s						
ANMO	**Albuquerque**	**4.66**	**325**	Pn	**Pn**	**17 48 13.0**	**-0.4**
SMWD	**Samnorwood**	**4.68**	**32**	IAmb_Lg		17 49 41.0	
	comp=Z,33nm,1.1s						
435B	**Jarrell**	**4.87**	**93**	IAmb_Lg		17 49 43.6	
	comp=Z,27nm,0.8s						
WHTX	**Lake Whitney,**	**5.01**	**79**	Pn	**Pn**	**17 48 19.0**	**+1.0**
FW06	**Azle**	**5.16**	**68**	Pn	**Pn**	**17 48 19.8**	**-0.3**
319A	**Douglas**	**5.18**	**274**	Pn	**Pn**	**17 48 20.1**	**-0.3**
319A				IAML		17 49 53.4	
	comp=E,17nm,0.5s						
319A				IAML		17 49 55.8	
	comp=N,23nm,0.8s						
WMOK	**Wichita Mounta**	**5.19**	**45**		**Pn**	**17 48 21.3**	**+0.8**
WMOK				IAmb_Lg		17 49 52.0	
	comp=Z,15nm,1.1s						
WMOK	**Wichita Mounta**	**5.19**	**45**	P	**Pn**	**17 48 21.4**	**+1.0**
	baz=228						
MLDN	**Muldoon**	**5.50**	**103**	IAmb_Lg		17 50 05.5	
	comp=Z,21nm,0.7s						
T25A	**Trinidad**	**6.06**	**351**	IAmb_Lg		17 50 31.3	
	comp=Z,14nm,1.0s						
W35A	**Tecumseh**	**6.67**	**51**	IAmb_Lg		17 50 46.0	
	comp=Z,13nm,1.1s						

*HEL **15** 18:01:04.8±0.3, 67.°07N×20.°84E, h0km, ML2.0, Explosion*
*IDC **15** 18:01:05.9±1.0, 67.°08N×20.°95E, h0km, mbtmp2.8/4, ML1.9/4, Error ellipse: s-maj=16.6km s-min=8.0km az=116.0*
*UPP **15** 18:01:05.7±0.1, 67.°06N×20.°97E, h0km, ML2.0, Suspected explosion*
ISC 15 18:01:05.1±0.7, 67.°06N±0.°02×20.°96E±0.°02, h0km, n42, σ1§45/64, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.16**	**292**	P	**Pg**	**18 01 09.2**	**+0.9**
DUNU				S	**Sg**	**18 01 12.1**	**+1.7**
MASU	**Masugnsbyn**	**0.57**	**45**	P	**Pg**	**18 01 16.6**	**+0.6**
PAJU	**Pajala**	**0.85**	**92**	P	**Pg**	**18 01 21.3**	**0.0**
PAJU	**Pajala**	**0.85**	**92**	PG	**Pg**	**18 01 21.1**	**-0.2**
	baz=277						
PAJU				SB	**Sg**	**18 01 32.9**	**+0.7**
KUA	**Kurravaara**	**0.93**	**345**	P	**Pg**	**18 01 23.0**	**+0.1**
RATU	**Laukkuluspa**	**0.93**	**326**	P	**Pg**	**18 01 23.0**	**+0.1**
SALU	**Saltoluokta**	**1.01**	**290**	P	**Pg**	**18 01 24.5**	**+0.1**
LANU	**Lannavaara**	**1.07**	**21**	P	**Pg**	**18 01 25.4**	**-0.2**
KLF	**Kolari**	**1.19**	**80**	PG	**Pg**	**18 01 27.5**	**-0.3**
KLF				MSG		18 01 42.1	
	comp=Z,17nm,0.2s						
KLF				SG	**Sg**	**18 01 42.9**	**-0.3**
KOVU	**Salmi**	**1.21**	**346**	P	**Pg**	**18 01 28.1**	**-0.1**
KALU	**Kalix**	**1.54**	**140**	PG	**Pn**	**18 01 33.4**	**-0.4**
	baz=323						
KALU				SG	**Sn**	**18 01 51.1**	**-3.5**
TOF	**Tornio**	**1.67**	**125**	PG	**Pn**	**18 01 35.8**	**+0.3**
	baz=308						
TOF				MSG		18 01 55.9	
	comp=Z,9.7nm,0.2s						
TOF				SN	**Sn**	**18 01 57.4**	**-0.2**
HEF	**Hetta**	**1.70**	**36**	eP	**Pn**	**18 01 36.6**	**+0.5**
HEF	**Hetta**	**1.70**	**36**	PG	**Pn**	**18 01 36.4**	**+0.3**
	baz=218						
HEF				MSG		18 01 56.1	
	comp=Z,13nm,0.2s						
KIF	**Kilpisjarvi**	**1.95**	**358**	*eP*	**Pb**	**18 01 41.6**	**0.0**
KIF	**Kilpisjarvi**	**1.95**	**358**	PG	**Pn**	**18 01 39.7**	**+0.3**
KIF				MSG		18 02 03.9	
	comp=Z,24nm,0.2s						
RNF	**Rovaniemi**	**2.05**	**100**	PG	**Pn**	**18 01 42.1**	**+1.3**
RNF				SG	**Sb**	**18 02 09.8**	**+0.7**
KTK1	**Kautokeino**	**2.14**	**23**	PG	**Pb**	**18 01 44.1**	**-0.6**
KTK1				SG	**Sb**	**18 02 12.6**	**+0.8**
SGF	**Sodankyl**	**2.20**	**77**	PG	**Pn**	**18 01 44.4**	**+1.6**
SGF				SG	**Sg**	**18 02 15.2**	**-0.4**
I37NO	**I37NO**	**2.21**	**337**	I	I	18 17 09.8	
	baz=154,slow=339,SNR=2.1						
BURU	**Burvik**	**2.50**	**176**	PB	**Pn**	**18 01 48.4**	**+1.5**
BURU				SG	**Sb**	**18 02 21.1**	**-0.8**
RANF	**Ranua**	**2.56**	**112**	PB	**Pn**	**18 01 49.4**	**+1.7**
	baz=300						
RANF				SG	**Sb**	**18 02 24.5**	**+0.7**
OBF4	**Vikkela, Lumij**	**2.82**	**141**	PB	**Pb**	**18 01 54.8**	**-1.5**
OBF4				MSG		18 02 28.8	
	comp=Z,3.2nm,0.2s						
OUL	**Oulu**	**2.83**	**132**	PB	**Pn**	**18 01 53.4**	**+1.9**
OUL				SG	**Sb**	**18 02 32.2**	**+0.8**
OBF0	**Syolatti, Pyha**	**2.91**	**151**	PG	**Pb**	**18 01 57.3**	**-0.5**
OBF0				MSG		18 02 31.1	
	comp=Z,3.8nm,0.2s						
ARA0	**ARCESS Array S**	**3.00**	**32**	PB	**Pn**	**18 01 55.2**	**+1.3**
	baz=214						
ARA0				SB	**Sb**	**18 02 35.3**	**-1.3**
ARCES	**ARCESS Array B**	**3.00**	**32**	Pn	**Pn**	**18 01 55.0**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=214,slow=14,SNR=34						
ARCES				Sn	**Sn**	**18 02 30.7**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=214,slow=24,SNR=7.2						
	comp=Z,0.5nm,0.3s						
KMNF	**Kaamanen**	**3.08**	**44**	PB	**Pn**	**18 01 56.0**	**+1.0**
KMNF				SG	**Sb**	**18 02 39.8**	**+0.9**
OUF	**Merijarvi**	**3.12**	**148**	PB	**Pn**	**18 01 58.6**	**+3.1**
RAJF	**Raja-Jooseppi**	**3.13**	**60**	PB	**Pn**	**18 01 58.9**	**+3.2**
RAJF				SG	**Sb**	**18 02 42.5**	**+2.1**
UMAU	**Umeaa**	**3.19**	**182**	PB	**Pn**	**18 01 57.7**	**+1.2**
	baz=358						
UMAU				SN	**Sn**	**18 02 35.9**	**+0.7**
VRF	**Varrio**	**3.41**	**74**	PN	**Pn**	**18 02 01.5**	**+2.0**
VRF				SG	**Sb**	**18 02 49.9**	**+1.6**
MSF	**Maaselka**	**3.44**	**106**	PN	**Pn**	**18 02 01.1**	**+1.2**
MSF				SG	**Sb**	**18 02 50.5**	**+1.4**
KEV	**Kevo**	**3.51**	**37**	PB	**Pb**	**18 02 05.1**	**-3.0**
KU6	**Riekki**	**3.72**	**102**	PN	**Pn**	**18 02 04.9**	**+1.2**
	baz=289						
HUSU	**Husum**	**3.81**	**192**	PN	**Pn**	**18 02 06.1**	**+1.2**
VAF	**Ylistaro**	**4.10**	**169**	PN	**Pn**	**18 02 10.7**	**+1.8**
HEMU	**Hemsoen**	**4.58**	**197**	PN	**Pn**	**18 02 17.1**	**+1.7**
	baz=17						
HEMU				SN	**Sn**	**18 03 08.7**	**-0.5**
NIF	**Nilsia**	**4.68**	**139**	PN	**Pn**	**18 02 18.5**	**+1.6**
	baz=321						
FINES	**FINESS Array B**	**6.06**	**156**	Pn	**Pn**	**18 02 37.3**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=342,slow=14,SNR=6.5						
FINES				Pg	**Pb**	**18 02 51.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=342,slow=12,SNR=6.8						
FINES				Sn	**Sn**	**18 03 46.6**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=346,slow=23,SNR=5.8						
	comp=Z,0.6nm,0.6s						
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**18 02 53.4**	**-0.8**
	baz=31,slow=14,SNR=0.9						
NOA				Sn	**Sn**	**18 04 15.2**	**-3.5**
	baz=3.5,slow=18,SNR=2.2						
	comp=Z,0.3nm,0.6s						
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**18 02 57.5**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=26,slow=12,SNR=5.4						
HFS				Sn	**Sn**	**18 04 21.5**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=19,slow=26,SNR=1.6						
	comp=Z,2.0nm,0.9s						

*SOME **15** 18:36:06.1, 42.°02N×83.°65E, h10km*
*NNC **15** 18:36:08.3±2.0, 41.°97N×83.°52E, h3km±18km, mb3.6, mpv3.3, Error ellipse: s-maj=14.8km s-min=9.7km az=154.0*
ISC 15 18:36:06.4±2.4, 42.°0N±0.°1×83.°61E±0.°07, h15km, n28, σ2§42/37, 2C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.79**	**302**	*eP*	**Pg**	**18 36 59.7**	**-0.2**
	2.5nm,0.2s						
KTMS				*eS*	**Sg**	**18 37 38.3**	**+2.2**
	6.1nm,0.3s						
KTMS	**Ketmen**	**2.79**	**302**	Pg	**Pg**	**18 36 59.7**	**-0.2**
	2.5nm,0.2s						
KTMS				Lg	Lg	18 37 38.3	
	6.1nm,0.3s						
SHLS	**Shalkode**	**3.27**	**292**	*eP*	**Pb**	**18 37 01.4**	**-2.8**
	8.0nm,0.3s						
SHLS				*eS*	**Sb**	**18 37 41.0**	**-2.8**
	23nm,0.2s						
SHLS	**Shalkode**	**3.27**	**292**	Pg	**Pb**	**18 37 01.3**	**-2.8**
	8.0nm,0.3s						
SHLS				Lg	Lg	18 37 41.0	
	23nm,0.2s						
PDGK	**Podgornoye**	**3.31**	**295**	Pg	**Pb**	**18 37 06.6**	**+1.8**
	1.9nm,0.3s						
PDGK				Lg	Lg	18 37 49.9	
	4.1nm,0.5s						
PDGK	**Podgornoye**	**3.31**	**295**	⇑Pg	**Pb**	**18 37 07.7**	**+2.9**
	6.7nm,0.8s						
PDGK				⇓Lg	Lg	18 37 54.8	
	23nm,0.9s						
UZB	**Uzynbulak**	**3.57**	**290**	*eP*	**Pb**	**18 37 11.9**	**+2.6**
	4.1nm,0.2s						
UZB				*eS*	**Sg**	**18 37 59.0**	**-2.1**
	10.0nm,0.6s						
UZB	**Uzynbulak**	**3.57**	**290**	Pg	**Pb**	**18 37 11.9**	**+2.6**
	4.1nm,0.2s						
UZB				Lg	Lg	18 37 59.0	
	10.0nm,0.6s						
DJR	**Jarkent**	**3.63**	**311**	*eP*	**Pg**	**18 37 14.5**	**-1.3**
	1.5nm,0.3s						
DJR				*eS*	**Sg**	**18 38 03.6**	**+0.8**
	3.5nm,0.3s						
SATY	**Saty**	**3.98**	**287**	*eP*	**Pg**	**18 37 21.7**	**-1.0**
	6.4nm,0.2s						
SATY				*eS*	**Sg**	**18 38 16.0**	**+1.7**
	14nm,0.3s						
SATY	**Saty**	**3.98**	**287**	Pg	**Pg**	**18 37 21.7**	**-1.0**
	6.4nm,0.2s						
SATY				Lg	Lg	18 38 16.0	
	14nm,0.3s						
KNOS	**Konyrlen**	**4.00**	**307**	Pg	**Pb**	**18 37 18.9**	**+2.3**
	2.3nm,0.2s						
KNOS				Lg	Lg	18 38 11.0	
	5.3nm,0.4s						
KAPS	**Kapalarasan**	**4.49**	**318**	*eP*	**Pg**	**18 37 29.6**	**-2.8**
	2.3nm,0.2s						
KAPS				*eS*	**Sg**	**18 38 29.3**	**-1.3**
	4.3nm,0.4s						
KAPS	**Kapalarasan**	**4.49**	**318**	Pg	**Pg**	**18 37 29.6**	**-2.8**
	2.3nm,0.2s						
KAPS				Lg	Lg	18 38 29.3	
	4.3nm,0.4s						
MK31	**Makanchi Array**	**4.87**	**349**	⇓Pn	**Pn**	**18 37 22.9**	**+3.9**
	0.1nm,0.5s,baz=188,slow=12,SNR=5.1						
MK31				Pg	**Pg**	**18 37 38.8**	**-0.7**
	1.7nm,0.8s,baz=164,slow=15,SNR=3.5						
MK31				⇑Lg	Lg	18 38 47.3	
	4.6nm,0.5s,baz=161,slow=28,SNR=13						
MAKZ	**Makanchi**	**4.93**	**347**	⇓Lg	Lg	18 38 49.6	
	3.7nm,0.7s						
TNSS	**Tian-Shan**	**5.03**	**284**	*eP*	**Pg**	**18 37 39.6**	**-3.1**
	1.2nm,0.2s						
TNSS				*eS*	**Sg**	**18 38 46.8**	**-1.1**
	2.5nm,0.7s						
TNSS	**Tian-Shan**	**5.03**	**284**	Pg	**Pg**	**18 37 39.6**	**-3.1**
	1.2nm,0.2s						
TNSS				Lg	Lg	18 38 46.8	
	2.5nm,0.7s						
KTBS	**Karatobe**	**5.37**	**291**	*eP*	**Pg**	**18 37 45.6**	**-3.5**
	1.9nm,0.3s						
KTBS				*eS*	**Sg**	**18 38 57.3**	**-1.3**
	3.2nm,0.5s						
KTBS	**Karatobe**	**5.37**	**291**	Pg	**Pg**	**18 37 45.6**	**-3.5**
	1.9nm,0.3s						
KTBS				Lg	Lg	18 38 57.3	
	3.2nm,0.5s						
ZSN	**Zaisan**	**5.50**	**9**	*eP*	**Pg**	**18 37 48.4**	**-3.3**
	1.7nm,0.6s						
ZSN				*eS*	**Sg**	**18 39 02.0**	**-1.0**
	4.6nm,0.5s						
ZSN	**Zaisan**	**5.50**	**9**	Pg	**Pg**	**18 37 48.4**	**-3.3**
	1.7nm,0.6s						
ZSN				Lg	Lg	18 39 02.0	
	4.6nm,0.5s						
KST	**Kastek**	**5.74**	**283**	*eP*	**Pg**	**18 37 53.6**	**-2.7**
	2.4nm,0.3s						
KST				*eS*	**Sg**	**18 39 11.0**	**+0.3**
	5.9nm,0.3s						
KST	**Kastek**	**5.74**	**283**	Pg	**Pg**	**18 37 53.6**	**-2.7**
	2.4nm,0.3s						
KST				Lg	Lg	18 39 11.0	
	5.9nm,0.3s						
DGS	**Degeres**	**5.91**	**285**	*eP*	**Pg**	**18 37 57.5**	**-2.1**
	1.4nm,0.3s						
DGS				*eS*	**Sg**	**18 39 17.7**	**+1.6**
	5.2nm,0.6s						
DGS	**Degeres**	**5.91**	**285**	Pg	**Pg**	**18 37 57.5**	**-2.1**
	1.4nm,0.3s						
DGS				Lg	Lg	18 39 17.7	
	5.2nm,0.6s						
TKM2	**Tokmak 2**	**6.00**	**281**	⇓Lg	Lg	18 39 17.3	
	6.5nm,0.8s						
KURBB	**Kurchatov Arra**	**9.29**	**340**	⇓Lg	Lg	18 41 04.5	
	4.6nm,1.2s						

TAP 15 18:37:21.0, 22.°36N×120.°80E, h14km±1km, ML1.2, 2C, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAST	**Anshuo**	**0.05**	**61**	*i* P	Pg	18 37 24.4	+0.7
	baz=65						
EAST				*i* S	Sg	18 37 26.1	+0.6
	baz=65						
TAWH	**Dawu Township**	**0.08**	**104**	⇑*i* P	Pg	18 37 24.6	+0.7
	baz=103						
TAWH				*i* S	Sg	18 37 26.8	+0.9
	baz=103						
TAW	**Tawu**	**0.09**	**91**	*i* P	Pg	18 37 24.7	+0.8
	baz=91						
TAW				*i* S	Sg	18 37 27.1	+1.2
	baz=91						
TAW	**Tawu**	**0.09**	**91**	*i* P	Sg	18 37 27.2	+1.3
	baz=75						
SLIU	**Shizi**	**0.14**	**181**	*i* P	Pg	18 37 24.8	+0.2
	baz=181						
SLIU				*i* S	Sg	18 37 27.6	+0.4
	baz=181						
SCZT	**Fangliau**	**0.17**	**274**	⇑*i* P	Pb	18 37 26.1	+0.2
	baz=274						
SCZT				*i* S	Sb	18 37 28.9	-0.3
	baz=274						
ECL	**Taimali**	**0.28**	**31**	*i* P	Pb	18 37 27.6

baz=178

TAP 15 18:37:23.9, 22°33N × 120°80E, h13 km, ML1.2, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EAST	**Anshuo**	**0.07**	**39**	*i* P		Pg	18 37 27.1	+0.5
EAST	baz=44			*i* S		Sg	18 37 28.8	+0.4
TAWH	**Dawu Township**	**0.08**	**84**	*i* P		Pg	18 37 27.4	+0.7
TAWH	baz=84			*i* S		Sg	18 37 29.6	+1.0
TAW	**Tawu**	**0.09**	**73**	*i* S		Sg	18 37 29.9	+1.2
SLIU	**Shizi**	**0.12**	**182**	P		Pg	18 37 26.9	-0.2
SLIU	baz=182			*i* S		Sb	18 37 30.1	-0.7
SCZT	**Fangliau**	**0.17**	**283**	P		Pb	18 37 29.4	+0.3
SCZT	baz=283			*i* S		Sb	18 37 31.9	-0.6
ECL	**Taimali**	**0.30**	**28**	P		Pb	18 37 30.9	-0.3
ECL	baz=29			*e*S		Sb	18 37 35.8	-0.3
MASBT	**Mashibuluo**	**0.32**	**331**	*e*S		Sb	18 37 36.3	-0.4
HEN	**Hengchun**	**0.33**	**191**	*e*S		Sb	18 37 37.4	+0.5
TWK1	**Hengchun**	**0.39**	**180**	*e*S		Sb	18 37 38.7	+0.1
TSMG	**Majia**	**0.40**	**339**	*e*P		Pb	18 37 32.7	-0.2
TSMG	baz=338			*e*S		Sg	18 37 38.1	+0.8

IDC ***15*** *18:51:49.0±3.8, 55°62N × 149°45W, h0 km, mb3.3/1, mbtmp3.3/5, ML3.2/4, Error ellipse: s-maj=59.9km s-min=37.3km az=171.0*

NEIC ***15*** *18:51:54.9±1.0, 56°30N±0°03 × 149°46W±0°10, h10 km±2 km, ML3.6/62, ML3.4(AEIC), Error ellipse: s-maj=9.4km s-min=4.0km az=74.0*

AEIC ***15*** *18:51:58.8±1.2, 56°21N±0°09 × 149°3W±0°1, h12 km±7 km, Error ellipse: s-maj=12.9km s-min=9.1km az=160.0*

ISC 15 18:51:54.4±1.1, 56°31N±0°08 × 149°42W±0°06, h10 km, n270, σ1s00/264, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KDAK	**Kodiak Island**	**2.27**	**312**			**Pn**	**18 52 32.8**	**+0.8**
KDAK						**Sn**	**18 52 59.0**	**-1.0**
KDAK	**Kodiak Island**	**2.27**	**312**	Pn		**Pn**	**18 52 33.0**	**+1.0**
KDAK	4.0nm,0.3s,baz=136,slow=6.0,SNR=144			Sn		**Sn**	**18 52 58.9**	**-1.2**
	19nm,0.3s,baz=53,slow=22,SNR=12 9.2nm,0.3s							
OHAK	**Old Harbor**	**2.32**	**295**			**Pn**	**18 52 33.1**	**+0.5**
OHAK	**Old Harbor** comp=N,237nm,0.5s	**2.32**	**295**	IAML			18 52 60.0	
OHAK	comp=E,289nm,0.4s			IAML			18 52 60.0	
OHAK	**Old Harbor**	**2.32**	**295**	P		**Pn**	**18 52 32.8**	**+0.2**
OHAK	**Old Harbor** baz=112	**2.32**	**295**	P		**Pn**	**18 52 33.1**	**+0.5**
OHAK	baz=112			S		**Sn**	**18 52 59.5**	**-1.6**
SII	**Sitkinak Islan**	**2.66**	**277**			**Pn**	**18 52 37.3**	**0.0**
SII						**Sn**	**18 53 07.3**	**-2.3**
SII	**Sitkinak Islan** comp=N,126nm,1.0s	**2.66**	**277**	IAML			18 53 11.2	
SII	**Sitkinak Islan**	**2.66**	**277**	P		**Pn**	**18 52 37.6**	**+0.3**
SII	**Sitkinak Islan** baz=94	**2.66**	**277**	P		**Pn**	**18 52 37.3**	**0.0**
SII	baz=94			S		**Sn**	**18 53 07.3**	**-2.3**
SYI	**Shuyak Island**	**2.81**	**326**			**Pn**	**18 52 40.5**	**+1.2**
SYI	**Shuyak Island**	**2.81**	**326**			**Sn**	**18 53 13.4**	**+0.1**
SYI	**Shuyak Island** comp=E,127nm,0.4s	**2.81**	**326**	IAML			18 53 14.9	
SYI	comp=N,129nm,0.3s			IAML			18 53 15.4	
Q20K	**Shuyak Island** baz=144	**2.81**	**326**	P		**Pn**	**18 52 40.4**	**+1.0**
Q20K	baz=144			S		**Sn**	**18 53 13.4**	**+0.1**
CNPM	**China Poot**	**3.37**	**344**			**Pn**	**18 52 47.7**	**+0.6**
CNPM	**China Poot**	**3.37**	**344**			**Sn**	**18 53 26.6**	**-0.4**
CNPM	**China Poot** comp=N,78nm,0.4s	**3.37**	**344**	IAML			18 53 28.8	
CNPM	comp=E,60nm,0.5s			IAML			18 53 30.4	
Q19K	**Cape Douglas,**	**3.47**	**321**			**Pn**	**18 52 49.2**	**+0.7**
Q19K	**Cape Douglas,** comp=E,172nm,0.9s	**3.47**	**321**	IAML			18 53 38.2	
Q19K	comp=N,181nm,1.0s			IAML			18 53 40.8	
Q19K	**Cape Douglas,** baz=138	**3.47**	**321**	P		**Pn**	**18 52 49.2**	**+0.7**
BRSE	**Bradley Lake S**	**3.51**	**349**			**Pn**	**18 52 49.6**	**+0.5**
BRSE						**Sn**	**18 53 29.9**	**-0.7**
BRSE	**Bradley Lake S** baz=168	**3.51**	**349**	P		**Pn**	**18 52 49.6**	**+0.5**
BRSE	baz=168			S		**Sn**	**18 53 29.9**	**-0.7**
CHIR	**Chirikof Islan**	**3.51**	**265**			**Pn**	**18 52 48.6**	**-0.4**
CHIR	**Chirikof Islan** comp=E,82nm,0.4s	**3.51**	**265**	IAML			18 53 28.2	
CHIR	comp=N,87nm,0.7s			IAML			18 53 28.4	
CHIR	**Chirikof Islan** baz=80	**3.51**	**265**	P		**Pn**	**18 52 48.6**	**-0.4**
Q23K	**Middleton Isla**	**3.53**	**26**			**Pn**	**18 52 49.4**	**+0.2**
Q23K	**Middleton Isla** comp=E,107nm,0.9s	**3.53**	**26**	IAML			18 53 29.0	
Q23K	comp=N,106nm,1.5s			IAML			18 53 30.2	
Q23K	**Middleton Isla** baz=209	**3.53**	**26**	P		**Pn**	**18 52 49.4**	**+0.2**
MID	**Middleton Isla**	**3.53**	**26**	Pn		**Pn**	**18 52 49.4**	**+0.2**
MID	comp=E,109nm,0.9s			IAML			18 53 28.9	
MID	comp=N,94nm,1.1s			IAML			18 53 30.4	
MID	**Middleton Isla**	**3.53**	**26**	P		**Pn**	**18 52 49.6**	**+0.4**
BRLK	**Bradley Lake**	**3.55**	**348**			**Pn**	**18 52 49.7**	**+0.2**
BRLK	comp=E,56nm,0.3s			IAML			18 53 32.5	
KAKN	**Katmai Knife C**	**3.65**	**305**			**Pn**	**18 52 52.3**	**+1.3**
AUL	**Augustine Lava**	**3.75**	**327**			**Pn**	**18 52 53.8**	**+1.5**
SEW	**Seward**	**3.81**	**360**			**Pn**	**18 52 53.0**	**0.0**
SEW						**Sn**	**18 53 35.9**	**-1.9**
SEW	**Seward** baz=180	**3.81**	**360**	P		**Pn**	**18 52 53.0**	**0.0**
SEW	baz=180			S		**Sn**	**18 53 35.9**	**-1.9**
P23K	**Montague Islan**	**3.85**	**15**			**Pn**	**18 52 53.8**	**+0.1**
P23K	**Montague Islan** baz=197	**3.85**	**15**	P		**Pn**	**18 52 53.8**	**+0.1**
P19K	**Oil Pt** comp=E,114nm,0.5s	**3.92**	**330**	IAML			18 53 45.2	
P19K	comp=N,93nm,0.5s			IAML			18 53 46.3	
P19K	**Oil Pt** baz=148	**3.92**	**330**	P		**Pn**	**18 52 56.1**	**+1.5**
CNTC	**Contact Creek**	**4.02**	**302**			**Pn**	**18 52 57.8**	**+1.7**
Q17K	**Contact Creek** baz=117	**4.02**	**302**	P		**Pn**	**18 52 57.8**	**+1.7**
O20K	**Slope Mountain**	**4.15**	**337**			**Pn**	**18 52 58.5**	**+0.7**
O20K	**Slope Mountain** baz=155	**4.15**	**337**	P		**Pn**	**18 52 58.5**	**+0.7**
IVE	**Iliamna Volcan**	**4.18**	**334**			**Pn**	**18 52 58.6**	**+0.4**
ILSW	**Iliamna Southw**	**4.18**	**333**			**Pn**	**18 52 58.0**	**-0.2**
ILSW	**Iliamna Southw** comp=N,71nm,0.4s	**4.18**	**333**	IAML			18 53 49.3	
ILSW	comp=E,53nm,0.4s			IAML			18 53 50.0	
O22K	**Cooper Landing**	**4.19**	**358**			**Pn**	**18 52 58.3**	**0.0**
O22K	**Cooper Landing** comp=E,101nm,0.8s	**4.19**	**358**	IAML			18 53 56.9	
O22K	**Cooper Landing** baz=178	**4.19**	**358**	P		**Pn**	**18 52 58.3**	**0.0**
HIN	**Hinchinbrook I** comp=E,93nm,1.1s	**4.38**	**19**	IAML			18 53 50.4	
P18K	**Big Mountain,** baz=133	**4.38**	**317**	P		**Pn**	**18 53 01.8**	**+0.8**
RED	**Redoubt Volcan**	**4.48**	**338**			**Pn**	**18 53 02.3**	**-0.1**
KAIM	**Kayak Island**	**4.49**	**34**			**Pn**	**18 53 02.8**	**+0.3**
KAIM	**Kayak Island** baz=218	**4.49**	**34**	P		**Pn**	**18 53 02.8**	**+0.3**
RSO	**Redoubt South**	**4.52**	**339**			**Pn**	**18 53 03.2**	**+0.2**
RDT	**Redoubt**	**4.56**	**341**			**Pn**	**18 53 03.2**	**-0.2**
RDWB	**Redoubt West**	**4.56**	**338**			**Pn**	**18 53 03.3**	**-0.3**
CAPN	**Captain Cook N**	**4.56**	**349**			**Pn**	**18 53 04.9**	**+1.5**
CAPN	**Captain Cook N** baz=168	**4.56**	**349**	P		**Pn**	**18 53 04.9**	**+1.5**
DFR	**Drift River**	**4.62**	**340**			**Pn**	**18 53 04.7**	**+0.3**
EYAK	**Cordova Ski Ar**	**4.67**	**23**			**Pn**	**18 53 05.1**	**+0.2**
EYAK	**Cordova Ski Ar**	**4.67**	**23**	P		**Pn**	**18 53 06.1**	**+1.3**
EYAK	**Cordova Ski Ar** baz=206	**4.67**	**23**	P		**Pn**	**18 53 05.1**	**+0.2**
O19K	**Port Alsworth**	**4.68**	**328**			**Pn**	**18 53 05.0**	**0.0**
O19K	**Port Alsworth** baz=145	**4.68**	**328**	P		**Pn**	**18 53 05.0**	**0.0**
O18K	**Koktuh Hills**	**4.70**	**322**			**Pn**	**18 53 06.0**	**+0.7**
O18K	**Koktuh Hills** comp=N,24nm,0.9s	**4.70**	**322**	IAML			18 54 04.3	
O18K	**Koktuh Hills** baz=137	**4.70**	**322**	P		**Pn**	**18 53 06.0**	**+0.7**
P17K	**Kvichak River**	**4.75**	**310**			**Pn**	**18 53 07.1**	**+1.2**
P17K	**Kvichak River** baz=125	**4.75**	**310**	P		**Pn**	**18 53 07.1**	**+1.2**
RAGM	**Ragged Mountai**	**4.79**	**29**			**Pn**	**18 53 07.0**	**+0.4**
RC01	**Rabbit Creek A**	**4.80**	**358**			**Pn**	**18 53 07.0**	**+0.4**
RC01	**Rabbit Creek A** comp=E,45nm,0.4s	**4.80**	**358**	IAML			18 54 06.0	
RC01	**Rabbit Creek A** baz=178	**4.80**	**358**	P		**Pn**	**18 53 07.0**	**+0.4**
SUCK	**Suckling Hills**	**4.81**	**36**			**Pn**	**18 53 07.2**	**+0.4**
SUCK	**Suckling Hills** comp=E,54nm,0.8s	**4.81**	**36**	IAML			18 54 01.7	
HMT	**Hamilton**	**4.87**	**32**			**Pn**	**18 53 08.6**	**+1.0**
FIS	**Fire Island**	**4.87**	**355**			**Pn**	**18 53 08.7**	**+1.1**
FIS	**Fire Island** comp=N,62nm,0.7s	**4.87**	**355**	IAML			18 54 10.6	
FIS	comp=E,56nm,0.8s			IAML			18 54 11.7	
NICHA	**Nichawak Mount**	**4.88**	**34**			**Pn**	**18 53 08.6**	**+0.8**
GOAT	**Goat Mountain**	**4.94**	**28**			**Pn**	**18 53 09.3**	**+0.6**
BGLC	**Bering Glacier**	**5.01**	**38**			**Pn**	**18 53 10.4**	**+0.8**
BGLC	**Bering Glacier** baz=223	**5.01**	**38**	P		**Pn**	**18 53 10.4**	**+0.8**
CHGN	**Chignik**	**5.01**	**274**	Pn		**Pn**	**18 53 09.8**	**+0.2**
CHGN	comp=E,58nm,0.1s			IAML			18 54 07.3	
CHGN	comp=N,53nm,0.1s			IAML			18 54 09.2	
BERG	**Berg Lake**	**5.08**	**34**			**Pn**	**18 53 11.2**	**+0.7**
N20K	**Mount Spurr** baz=163	**5.12**	**345**	P		**Pn**	**18 53 11.1**	**0.0**
SPCR	**Spurr Chakacha**	**5.12**	**345**			**Pn**	**18 53 11.1**	**0.0**
GRIN	**Grindle Hills**	**5.12**	**36**			**Pn**	**18 53 11.8**	**+0.8**
SPCN	**Chakachatna No**	**5.14**	**345**			**Pn**	**18 53 11.7**	**+0.3**
KNK	**Knik Glacier**	**5.14**	**5**			**Pn**	**18 53 12.0**	**+0.6**
KNK	comp=E,23nm,0.7s			IAML			18 54 11.1	
KNK	comp=N,26nm,0.6s			IAML			18 54 17.8	
KNK	**Knik Glacier** baz=186	**5.14**	**5**	P		**Pn**	**18 53 12.2**	**+0.7**
SPCG	**Spurr Capps Gl**	**5.18**	**346**			**Pn**	**18 53 12.6**	**+0.6**
DIV	**Divide**	**5.19**	**20**			**Pn**	**18 53 12.7**	**+0.6**
SNH	**Sunshine Point**	**5.21**	**39**			**Pn**	**18 53 12.8**	**+0.4**
SNH	**Sunshine Point** comp=E,41nm,1.4s	**5.21**	**39**	IAML			18 54 10.9	
SNH	comp=N,38nm,0.3s			IAML			18 54 11.4	
SUA	**Susitna One**	**5.21**	**353**			**Pn**	**18 53 12.5**	**0.0**
SUA	**Susitna One** baz=172	**5.21**	**353**	P		**Pn**	**18 53 12.5**	**0.0**
N19K	**Bonanza Creek**	**5.24**	**332**			**Pn**	**18 53 13.2**	**+0.4**
N19K	**Bonanza Creek** baz=148	**5.24**	**332**	P		**Pn**	**18 53 13.2**	**+0.4**
KHIT	**Khitrov Hills**	**5.26**	**36**			**Pn**	**18 53 13.3**	**+0.2**
PMR	**Palmer**	**5.30**	**1**	Pn		**Pn**	**18 53 14.0**	**+0.5**
PMR	**Palmer**	**5.30**	**1**	P		**Pn**	**18 53 16.0**	**+2.5**
BMRM	**Bremner River**	**5.30**	**26**			**Pn**	**18 53 14.3**	**+0.7**
BMRM	**Bremner River** baz=210	**5.30**	**26**	P		**Pn**	**18 53 14.3**	**+0.7**
SPNN	**North Nagishla**	**5.35**	**343**			**Pn**	**18 53 15.1**	**+0.7**
STLK	**Strandline Lak**	**5.35**	**347**			**Pn**	**18 53 14.9**	**+0.6**
O17K	**Koliganek Bris**	**5.36**	**314**			**Pn**	**18 53 15.3**	**+1.0**
O17K	**Koliganek Bris** baz=127	**5.36**	**314**	P		**Pn**	**18 53 15.3**	**+1.0**
WAX	**Waxell Ridge**	**5.40**	**37**			**Pn**	**18 53 15.5**	**+0.5**
GHO	**Glory Hole Cre**	**5.49**	**2**			**Pn**	**18 53 17.1**	**+0.9**
BARK	**Barkley Ridge**	**5.49**	**39**			**Pn**	**18 53 16.9**	**+0.7**
KLU	**Klutina**	**5.50**	**18**			**Pn**	**18 53 17.7**	**+1.3**
KLU	**Klutina** baz=201	**5.50**	**18**	P		**Pn**	**18 53 17.5**	**+1.1**
MESA	**MESA**	**5.53**	**42**			**Pn**	**18 53 17.4**	**+0.5**
MESA	**MESA** baz=229	**5.53**	**42**	P		**Pn**	**18 53 17.4**	**+0.5**
N18K	**Kilae Creek**	**5.54**	**325**			**Pn**	**18 53 17.3**	**+0.4**
N18K	**Kilae Creek** baz=140	**5.54**	**325**	P		**Pn**	**18 53 17.3**	**+0.4**
SML	**Sawmill**	**5.54**	**5**			**Pn**	**18 53 17.9**	**+0.9**
SML	**Sawmill** baz=186	**5.54**	**5**	P		**Pn**	**18 53 17.9**	**+0.9**
M23K	**Glacier View** baz=190	**5.57**	**8**	P		**Pn**	**18 53 18.7**	**+1.5**
SCM	**Sheep Creek Mo** baz=192	**5.64**	**10**	P		**Pn**	**18 53 19.8**	**+1.4**
O16K	**Kokwok River B**	**5.67**	**309**			**Pn**	**18 53 19.8**	**+1.2**
O16K	**Kokwok River B** baz=122	**5.67**	**309**	P		**Pn**	**18 53 19.8**	**+1.2**
ISLE	**Juniper Island**	**5.68**	**38**			**Pn**	**18 53 19.4**	**+0.5**
SVW2	**Sparrevohn**	**5.78**	**329**	Pn		**Pn**	**18 53 20.3**	**+0.2**
SVW2	**Sparrevohn**	**5.78**	**329**	P		**Pn**	**18 53 20.6**	**+0.5**
SKT	**Skwentna**	**5.79**	**350**			**Pn**	**18 53 20.6**	**+0.3**
SKT	**Skwentna** baz=168	**5.79**	**350**	P		**Pn**	**18 53 20.6**	**+0.3**
VRDI	**Verde Repeater**	**5.83**	**30**			**Pn**	**18 53 21.4**	**+0.5**
N25K	**Chitina, Valde**	**5.87**	**23**			**Pn**	**18 53 22.4**	**+1.0**
N25K	**Chitina, Valde** baz=207	**5.87**	**23**	P		**Pn**	**18 53 22.5**	**+1.1**
N17K	**Nushagak Hills**	**5.88**	**319**			**Pn**	**18 53 22.4**	**+0.9**
N17K	**Nushagak Hills** baz=133	**5.88**	**319**	P		**Pn**	**18 53 22.4**	**+0.9**
M20K	**Styx River**	**5.91**	**343**			**Pn**	**18 53 22.4**	**+0.4**
M20K	**Styx River** baz=160	**5.91**	**343**	P		**Pn**	**18 53 22.4**	**+0.4**
GLB	**Gilahina Butte**	**5.91**	**27**			**Pn**	**18 53 22.4**	**+0.4**
SAMH	**Samovar Hills**	**5.96**	**46**			**Pn**	**18 53 23.9**	**+1.3**
CHNA	**Chernabura Isl** baz=72	**5.96**	**260**	P		**Pn**	**18 53 21.7**	**-0.9**
CNBA	**Chernabura Isl**	**5.96**	**260**			**Pn**	**18 53 22.5**	**-0.2**
TABL	**Table Mountain**	**6.01**	**43**			**Pn**	**18 53 24.6**	**+1.2**
M24K	**Tolsona, Glenn**	**6.05**	**15**			**Pn**	**18 53 24.8**	**+0.9**
M24K	**Tolsona, Glenn** baz=198	**6.05**	**15**	P		**Pn**	**18 53 25.6**	**+1.8**
MCARA	**McCarthy VSAT**	**6.07**	**30**			**Pn**	**18 53 24.5**	**+0.4**
PTPK	**Patty Peak**	**6.08**	**34**			**Pn**	**18 53 25.2**	**+0.8**
PCA	**Pinnacle**	**6.15**	**48**			**Pn**	**18 53 26.2**	**+0.9**
PINM	**Pinnacle** baz=236	**6.15**	**48**	P		**Pn**	**18 53 26.2**	**+0.9**
M18K	**Stony River** baz=145	**6.16**	**330**	P		**Pn**	**18 53 25.7**	**+0.3**
M19K	**Big River Lodg**	**6.17**	**338**			**Pn**	**18 53 25.9**	**+0.5**
M19K	**Big River Lodg** baz=154	**6.17**	**338**	P		**Pn**	**18 53 25.9**	**+0.5**
BARN	**Barnard Glacie**	**6.25**	**37**			**Pn**	**18 53 27.5**	**+0.8**
WASW	**Wrangell South**	**6.25**	**23**			**Pn**	**18 53 28.2**	**+1.4**
O15K	**Ungalikthiuk R**	**6.27**	**302**			**Pn**	**18 53 28.4**	**+1.6**
O15K	**Ungalikthiuk R** baz=113	**6.27**	**302**	P		**Pn**	**18 53 28.4**	**+1.6**
CTG	**Chitna Glacier** baz=226	**6.29**	**39**	P		**Pn**	**18 53 28.1**	**+0.9**
CTGM	**Chitina Glacie**	**6.29**	**39**			**Pn**	**18 53 28.1**	**+0.8**
PNL	**Peninsula**	**6.30**	**54**	P		**Pn**	**18 53 28.4**	**+1.1**
PNL	**Peninsula** baz=242	**6.30**	**54**	P		**Pn**	**18 53 28.3**	**+1.0**
SDPT	**Sand Point**	**6.31**	**266**	Pn		**Pn**	**18 53 28.0**	**+0.7**
SDPT	**Sand Point**	**6.31**	**266**	P		**Pn**	**18 53 28.5**	**+1.1**
LOGN	**Logan Glacier**	**6.31**	**41**			**Pn**	**18 53 28.2**	**+0.6**
BCPM	**Bancas Point**	**6.34**	**51**			**Pn**	**18 53 28.2**	**+0.4**
WAT6	**Susitna Watana** baz=189	**6.35**	**7**	P		**Pn**	**18 53 29.1**	**+1.0**
N16K	**Nishlik Lake**	**6.45**	**314**			**Pn**	**18 53 30.9**	**+1.5**
N16K	**Nishlik Lake** baz=126	**6.45**	**314**	P		**Pn**	**18 53 30.8**	**+1.5**
HARP	**HAARP** baz=202	**6.48**	**18**	P		**Pn**	**18 53 31.9**	**+2.1**
L19K	**White Mountain**	**6.51**	**337**			**Pn**	**18 53 30.5**	**+0.3**
L19K	**White Mountain** baz=152	**6.51**	**337**	P		**Pn**	**18 53 30.5**	**+0.3**
WAT7	**Susitna Watana**	**6.55**	**2**			**Pn**	**18 53 31.8**	**+1.0**
WAT1	**Susitna Watana**	**6.56**	**3**			**Pn**	**18 53 32.0**	**+1.2**
WAT1	**Susitna Watana** baz=184	**6.56**	**3**	P		**Pn**	**18 53 32.0**	**+1.2**
M17K	**Holitna River**	**6.58**	**324**			**Pn**	**18 53 31.9**	**+0.8**
M17K	**Holitna River** baz=138	**6.58**	**324**	P		**Pn**	**18 53 31.9**	**+0.8**
L20K	**Farewell, AK**	**6.59**	**342**			**Pn**	**18 53 31.4**	**+0.1**
L20K	**Farewell, AK** baz=158	**6.59**	**342**	P		**Pn**	**18 53 31.4**	**+0.1**
M16K	**Timber Creek**	**6.86**	**317**			**Pn**	**18 53 36.1**	**+1.2**
M16K	**Timber Creek** baz=130	**6.86**	**317**	P		**Pn**	**18 53 36.1**	**+1.2**
DHY	**Denali Highway**	**6.87**	**8**			**Pn**	**18 53 36.4**	**+1.3**
DHY	**Denali Highway** baz=190	**6.87**	**8**	P		**Pn**	**18 53 36.4**	**+1.3**
O29M	**Mount Kennedy**	**6.97**	**50**			**Pn**	**18 53 37.8**	**+1.2**
O29M	**Mount Kennedy** baz=240	**6.97**	**50**	P		**Pn**	**18 53 37.8**	**+1.2**
PAX	**Paxson**	**6.97**	**15**			**Pn**	**18 53 38.2**	**+1.6**
PAX	**Paxson** baz=199	**6.97**	**15**	P		**Pn**	**18 53 38.2**	**+1.6**
L18K	**Granite Mounta**	**7.00**	**331**			**Pn**	**18 53 37.4**	**+0.5**
L18K	**Granite Mounta** baz=145	**7.00**	**331**	P		**Pn**	**18 53 37.7**	**+0.9**
P29M	**Windy Craggy**	**7.04**	**57**			**Pn**	**18 53 37.7**	**+0.1**
P29M	**Windy Craggy** baz=247	**7.04**	**57**	P		**Pn**	**18 53 37.7**	**+0.1**
S12K	**Black Hills**	**7.12**	**270**			**Pn**	**18 53 38.9**	**+0.4**
S12K	**Black Hills** baz=80	**7.12**	**270**	P		**Pn**	**18 53 38.9**	**+0.4**
RND	**Reindeer**	**7.12**	**2**			**Pn**	**18 53 40.2**	**+1.5**
YUK3	**Moose Creek**	**7.16**	**36**			**Pn**	**18 53 41.1**	**+1.8**
YUK3	**Moose Creek** baz=224	**7.16**	**36**	P		**Pn**	**18 53 41.1**	**+1.8**
TRF	**Thorofare Moun**	**7.18**	**357**			**Pn**	**18 53 40.4**	**+0.9**
TRF	**Thorofare Moun** baz=176	**7.18**	**357**	P		**Pn**	**18 53 40.3**	**+0.9**
M27K	**Edge Creek, AK**	**7.18**	**29**			**Pn**	**18 53 40.8**	**+1.3**
M27K	**Edge Creek, AK** baz=216	**7.18**	**29**	P		**Pn**	**18 53 40.8**	**+1.3**
CAST	**Castle Rocks**	**7.26**	**350**			**Pn**	**18 53 41.6**	**+1.2**
CAST	**Castle Rocks** baz=168	**7.26**	**350**	P		**Pn**	**18 53 41.6**	**+1.2**
KTH	**Kantishna Hill**	**7.31**	**355**	Pn		**Pn**	**18 53 42.1**	**+1.0**
M15K	**Kasigluk River**	**7.36**	**311**			**Pn**	**18 53 43.6**	**+1.9**
M15K	**Kasigluk River** baz=122	**7.36**	**311**	P		**Pn**	**18 53 43.6**	**+1.9**
L17K	**Donlin**	**7.40**	**326**			**Pn**	**18 53 42.9**	**+0.5**
L17K	**Donlin** baz=138	**7.40**	**326**	P		**Pn**	**18 53 42.9**	**+0.5**
YUK6	**Outpost Mounta**	**7.40**	**47**			**Pn**	**18 53 44.1**	**+1.5**
YUK6	**Outpost Mounta** baz=236	**7.40**	**47**	P		**Pn**	**18 53 44.1**	**+1.5**
TTA	**Tatalina**	**7.43**	**336**	Pn		**Pn**	**18 53 42.9**	**0.0**
K20K	**Telida**	**7.45**	**344**			**Pn**	**18 53 44.0**	**+1.0**
K20K	**Telida** baz=160	**7.45**	**344**	P		**Pn**	**18 53 44.0**	**+1.0**
MCK	**McKinley**	**7.45**	**2**			**Pn**	**18 53 44.9**	**+1.8**
MCK	**McKinley** baz=182	**7.45**	**2**	P		**Pn**	**18 53 44.9**	**+1.8**
L16K	**Owhat River**	**7.50**	**320**			**Pn**	**18 53 44.6**	**+1.0**
L16K	**Owhat River** baz=132	**7.50**	**320**	P		**Pn**	**18 53 44.6**	**+1.0**
YUK4	**Talbot Arm** baz=232	**7.53**	**43**	P		**Pn**	**18 53 47.2**	**+2.9**
P30M	**Million Dollar**	**7.60**	**55**			**Pn**	**18 53 46.2**	**+1.0**
P30M	**Million Dollar** baz=245	**7.60**	**55**	P		**Pn**	**18 53 46.2**	**+1.0**
HYT	**Haines Junctio**	**7.69**	**49**	Pn		**Pn**	**18 53 47.0**	**+0.5**
L27K	**Beaver Creek,**	**7.78**	**26**	Pn		**Pn**	**18 53 48.2**	**+0.6**
SIT	**Sitka**	**7.80**	**79**	P		**Pn**	**18 53 45.4**	**-2.4**
K17K	**Iditarod**	**7.85**	**329**			**Pn**	**18 53 48.5**	**0.0**
K17K	**Iditarod** baz=141	**7.85**	**329**	P		**Pn**	**18 53 47.6**	**-0.8**
BPAW	**Bear Paw Mtn.**	**7.86**	**355**			**Pn**	**18 53 48.6**	**0.0**
BPAW	**Bear Paw Mtn.** baz=174	**7.86**	**355**	P		**Pn**	**18 53 48.7**	**0.0**
SKAG	**Skagway**	**8.14**	**61**	P		**Pn**	**18 53 54.8**	**+2.3**
SCRK	**Sand Creek**	**8.15**	**17**	Pn		**Pn**	**18 53 53.1**	**+0.3**
BESE	**Bessie Mountai**	**8.18**	**68**			**Pn**	**18 53 52.2**	**-0.8**
N30M	**Aishikik Lake**	**8.20**	**46**			**Pn**	**18 53 54.1**	**+0.7**
N30M	**Aishikik Lake** baz=236	**8.20**	**46**	P		**Pn**	**18 53 54.1**	**+0.7**
WRH	**Wood River Hil**	**8.21**	**4**			**Pn**	**18 53 55.5**	**+2.0**
HDA	**Harding Lake**	**8.22**	**8**			**Pn**	**18 53 54.8**	**+1.2**
HDA	**Harding Lake** baz=190	**8.22**	**8**	P		**Pn**	**18 53 54.8**	**+1.2**
J20K	**Nowinta River**	**8.23**	**345**			**Pn**	**18 53 54.3**	**+0.6**
J20K	**Nowinta River** baz=162	**8.23**	**345**	P		**Pn**	**18 53 54.3**	**+0.6**
ISLZ	**Isanotski Laza**	**8.27**	**265**			**Pn**	**18 53 54.0**	**-0.3**
O30N	**Mendenhall**	**8.28**	**52**			**Pn**	**18 53 55.0**	**+0.6**
O30N	**Mendenhall** baz=243	**8.28**	**52**	P		**Pn**	**18 53 55.0**	**+0.6**
M29M	**Somme Creek**	**8.30**	**38**			**Pn**	**18 53 56.1**	**+1.3**
M29M	**Somme Creek** baz=227	**8.30**	**38**	P		**Pn**	**18 53 56.1**	**+1.3**
NEA2	**Nenana**	**8.31**	**1**	Pn		**Pn**	**18 53 55.3**	**+0.4**
JIS	**Juneau Island**	**8.38**	**70**	P		**Pn**	**18 53 55.3**	**-0.4**
CCB	**Clear Creek Bu**	**8.40**	**5**			**Pn**	**18 53 57.1**	**+1.0**
K27K	**Chicken**	**8.56**	**22**	Pn		**Pn**	**18 53 58.4**	**+0.1**
J25K	**Salcha River,**	**8.56**	**12**	Pn		**Pn**	**18 53 58.8**	**+0.4**
IL31		**8.58**	**7**			**Pn**	**18 53 58.8**	**+0.3**
ILAR	**Eielson Array**	**8.58**	**7**	Pn		**Pn**	**18 53 59.0**	**+0.4**
ILAR	**Eielson Array** comp=N,0.3nm,0.3s,baz=190,slow=13,SNR=13	**8.

ML2.3/25,**ML2.2**/25(NEIC),**Error ellipse: s-maj=3.7km s-min=2.3km az=156.0,Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNW	**Green Mountain**	**0.16**	**333**		Pb	18 53 10.0	-0.7
GNW					Sb	18 53 13.9	-0.3
GNW	**Green Mountain**	**0.16**	**333**	IAML		18 53 14.0	
	comp=E,335nm,0.7s						
GNW				IAML		18 53 14.8	
	comp=N,219nm,0.1s						
VVHS	**Vashon High Sc**	**0.18**	**88**		Pb	18 53 10.7	-0.1
VVHS					Sb	18 53 15.2	+0.8
UPS	**University of**	**0.22**	**135**		Pb	18 53 11.3	0.0
HDW	**Hoodsport**	**0.33**	**315**		Pb	18 53 12.2	-0.7
SP2	**Seward Park 2**	**0.34**	**66**		Pb	18 53 13.5	+0.4
SP2					Sn	18 53 20.0	-1.0
C04A	**Brinnon**	**0.35**	**330**		Pb	18 53 12.4	-0.8
C04A					Sb	18 53 18.0	-0.4
MPL	**Maple valley S**	**0.36**	**82**		Sb	18 53 19.7	+0.9
EGRN	**Evergreen Coll**	**0.39**	**208**		Pb	18 53 13.3	-0.5
EGRN					Sb	18 53 19.7	+0.2
B013	**Quilcene**	**0.42**	**341**		Pb	18 53 13.6	-0.6
B013					Sb	18 53 19.9	-0.3
B013	**Quilcene**	**0.42**	**341**		Pb	18 53 13.7	-0.6
B013					Sb	18 53 19.8	-0.4
SMW	**South Mountain**	**0.44**	**257**		Pb	18 53 14.3	-0.4
PCFR	**Pierce County**	**0.47**	**156**		Pb	18 53 14.3	-0.7
GHW	**Garrison Hill**	**0.48**	**141**		Pb	18 53 14.6	-0.8
GHW					Sb	18 53 21.6	-0.5
CPW	**Capitol Peak**	**0.53**	**213**		Pb	18 53 15.3	-0.9
D05A	**Enumclaw**	**0.55**	**115**		Pb	18 53 16.2	-0.2
D05A	**Enumclaw**	**0.55**	**115**	IAML		18 53 25.0	
	comp=E,64nm,0.6s						
D05A				IAML		18 53 25.2	
	comp=N,76nm,0.5s						
B941	**Kapowsin**	**0.55**	**142**		Pb	18 53 15.3	-1.1
B941					Sb	18 53 22.9	-1.0
BLN	**Blyn Mountain**	**0.61**	**344**		Pb	18 53 16.9	-0.7
BLN					Sb	18 53 25.0	-0.9
RATT	**Rattlesnake La**	**0.62**	**89**		Pb	18 53 16.9	-0.7
BLH	**Bald Hill**	**0.62**	**48**		Pb	18 53 16.9	-0.8
GSM	**Grass Mountain**	**0.66**	**109**		Pb	18 53 17.6	-0.8
RVC	**Mount Rainier-**	**0.70**	**133**		Pb	18 53 17.9	-1.0
RVC					Sb	18 53 27.8	-0.4
C05A	**Tolt Reservoir**	**0.75**	**68**		Pb	18 53 18.7	-1.1
C05A					Sb	18 53 28.7	-0.9
TTW	**Tolt Reservoir**	**0.75**	**68**		Pb	18 53 18.8	-1.0
LCW	**Lucas Creek**	**0.75**	**179**		Pb	18 53 18.6	-1.2
OLQ	**Olympics--Lake**	**0.75**	**278**		Pn	18 53 21.3	+0.8
OLQ					Sb	18 53 29.2	-0.4
WISH	**Wishkah**	**0.78**	**248**		Pb	18 53 18.4	-1.9
WISH				IAML		18 53 34.8	
	comp=N,124nm,1.4s						
WISH				IAML		18 53 48.7	
	comp=E,96nm,2.3s						
NLWA	**Neilton Lookou**	**0.79**	**268**		Pb	18 53 19.6	-0.9
NLWA					Sb	18 53 30.9	+0.1
NLWA	**Neilton Lookou**	**0.79**	**268**	IAML		18 53 31.4	
	comp=E,148nm,0.4s						
NLWA				IAML		18 53 34.6	
	comp=E,119nm,0.7s						
OBSR	**Observation Ro**	**0.80**	**130**		Pb	18 53 19.7	-1.2
B04A	**Port Angeles**	**0.83**	**320**	Pn	Pb	18 53 19.5	-1.7
B04A				IAML		18 53 33.0	
	comp=E,68nm,0.4s						
REMR	**Mount Rainier-**	**0.85**	**135**		Pb	18 53 20.2	-1.3
REMR					Sb	18 53 31.5	-1.1
LON	**Longmire**	**0.91**	**137**		Pb	18 53 21.0	-1.6
LON	**Longmire**	**0.91**	**137**		Pb	18 53 21.2	-1.4
JCW	**Jim Creek**	**0.94**	**34**		Pb	18 53 21.6	-1.5
SR41	**SR410 Landslid**	**0.96**	**123**		Pn	18 53 22.2	-1.3
B019	**Raymond**	**1.00**	**220**		Pn	18 53 23.1	-0.8
BMW	**Boistfort Moun**	**1.01**	**201**		Pn	18 53 22.8	-1.3
B201	**Coldwater, Mou**	**1.16**	**164**		Pn	18 53 24.9	-1.2
STD	**Studebaker Rid**	**1.23**	**164**		Pn	18 53 26.4	-0.8
RADR	**Rader Ridge**	**1.24**	**217**	Pn	Pn	18 53 26.0	-1.3
RADR				IAML		18 53 39.0	
	comp=E,78nm,1.9s						
RADR				IAML		18 53 48.9	
	comp=N,68nm,3.1s						
RPW	**Rockport**	**1.31**	**38**		Pn	18 53 27.9	-0.3
PGC	**Sidney**	**1.33**	**338**	Pn	Pn	18 53 27.1	-1.3
PGC				IAML		18 53 47.1	
	comp=E,30nm,0.5s						
F04D	**Rainier, OR**	**1.35**	**189**	Pn	Pn	18 53 27.0	-1.7
LTY	**Liberty**	**1.40**	**96**		Pn	18 53 29.3	-0.2
LTY				IAML		18 53 48.4	
	comp=N,43nm,0.3s						
MBW	**Mount Baker**	**1.47**	**21**		Pn	18 53 30.6	+0.1
F04A	**Amboy**	**1.50**	**172**	Pn	Pn	18 53 30.2	-0.6
F04A				IAML		18 53 51.6	
	comp=N,40nm,0.5s						
F03A	**Seaside**	**1.60**	**202**	Pn	Pn	18 53 31.3	-0.8
NLW	**Nelson Butte**	**1.73**	**67**		Pb	18 53 35.5	-1.1
MXC	**Moxie City**	**1.86**	**116**	Pn	Pn	18 53 34.8	-0.9
MXC				IAML		18 54 03.4	
	comp=E,18nm,0.3s						
MXC				IAML		18 54 31.6	
	comp=N,13nm,4.7s						
OT3	**Othello 3**	**2.50**	**106**		Pn	18 53 41.0	-3.5
JBO	**Jordan Butte**	**2.79**	**133**		Pn	18 53 47.0	-1.6
SPLB	**Strathcona Par**	**3.15**	**323**		Pn	18 53 56.4	+3.0

BJI ***15*** *18:58:25.8±0.0,6.°08S×142.°75E,h16km,mb4.8/71, mB5.2/35,Ms4.7/28,Ms7 4.4/34*

IDC ***15*** *18:58:26.6±0.5,6.°00S×142.°49E,h0km,mb4.7/18, mbtmp4.8/23,ML3.0/2,MS4.4/48,Error ellipse: s-maj=22.3km s-min=12.9km az=76.0*

NEIC ***15*** *18:58:28.7±2.0,6.°02S±0.°03×142.°29E±0.°09,h10km±1km, mb5.0/115,Error ellipse: s-maj=14.6km s-min=4.5km az=259.0*

MOS ***15*** *18:58:28.8±0.8,5.°98S×142.°42E,h28km,mb5.1/30,Error ellipse: s-maj=12.7km s-min=6.0km az=116.8*

GCMT ***15*** *18:58:29.7±2.0,6.°09S±0.°01×142.°31E±0.°02,h12km, MW5.0/102,Moment Tensor Solution. s37,c42; s102,c148; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.74±.09; Mθθ-3.29±.07; Mϕϕ-0.44±.08; Mrθ1.68±.25; Mθϕ2.07±.06; Mϕr0.43±.36; Best double couple: Mo4.44300×10¹⁶ NP1:ϕs101.00000°,δs56.00000°, λ70.00000°. NP2:ϕs315.00000°,δs39.00000°,λ118.00000°. Principal axes: T 4.3000, Plg71.0000°, Azm323.0000°; N 0.2860, Plg17.0000°, Azm113.0000°; P -4.5850, Plg9.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***15*** *18:58:30.1±0.2,6.°S±2.°×14.°2E±.°,h10km,M4.8/43, mb4.9/43,mB5.2/26,MLv5.6/7,Mw5.0/26,Mw(mB)4.7/26, MwMwp4.7/2,Mwp5.1/2*

ISC 15 18:58:30.6±0.3,6.°15S±0.°04×142.°28E±0.°04,h28km,n451, σ1ϕ54/404,mb5.0/126,MS4.4/64,12C-7D,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**1.37**	**310**	P	**Pn**	**18 58 53.5**	**-0.4**
MMPI	**Merauke**	**2.97**	**219**	P	**Pn**	**18 59 19.6**	**+3.7**
JAY	**Jayapura**	**3.94**	**336**	P	**Pn**	**18 59 29.8**	**+0.6**
JAY				S	**Sn**	**19 00 15.4**	**+0.9**
GENI	**Genyem**	**4.11**	**329**	P	**Pn**	**18 59 32.6**	**+1.0**
GENI	**Genyem**	**4.11**	**329**	P	**Pn**	**18 59 32.1**	**+0.5**
GENI				S	**Sn**	**19 00 19.9**	**+1.1**
PMG	**Port Moresby**	**5.82**	**124**	Pn	**Pn**	**18 59 54.1**	**-0.9**
PMG	**Port Moresby**	**5.82**	**124**	P	**Pn**	**18 59 54.4**	**-0.7**
PMG	**Port Moresby**	**5.82**	**124**	P	**Pn**	**18 59 54.3**	**-0.8**
PMG	**Port Moresby**	**5.82**	**124**	*ce*P	**Pn**	**18 59 54.1**	**-0.9**
PMG				pmax	pmax		
	comp=Z,145nm,1.3s						
PMG	**Port Moresby**	**5.82**	**124**	Pn	**Pn**	**18 59 55.0**	**-0.1**
	comp=Z,8.1nm,0.3s,baz=353,slow=7.5,SNR=30						
PMG				Sn	**Sn**	**19 01 00.6**	**-0.3**
	comp=Z,6.5nm,0.3s,baz=234,slow=19,SNR=7.9						
	comp=Z,39nm,0.5s						
MANU	**Manus Island**	**6.51**	**51**	Pn	**Pn**	**19 00 03.1**	**-1.5**
COEN	**Coen**	**7.81**	**174**	P	**Pn**	**19 00 24.8**	**+2.4**
	baz=7.9,SNR=14						
COEN	**Coen**	**7.81**	**174**	Pn	**Pn**	**19 00 25.1**	**+2.6**
COEN	**Coen**	**7.81**	**174**	P	**Pn**	**19 00 24.6**	**+2.1**
RABL	**Rabaul**	**10.03**	**79**	Pn	**Pn**	**19 00 53.4**	**+0.4**
FAKI	**Fak Fak**	**10.50**	**287**	Pn	**Pn**	**19 00 58.2**	**-1.2**
FAKI	**Fak Fak**	**10.50**	**287**	P	**Pn**	**19 00 58.5**	**-0.9**
FAKI	**Fak Fak**	**10.50**	**287**	P	**Pn**	**19 00 59.3**	**-0.1**
	comp=Z,145nm,0.8s,comp=Z,1μm						
KDU	**Kakadu**	**11.65**	**235**	P	**Pn**	**19 01 14.6**	**-0.5**
	baz=12,SNR=65						
KDU	**Kakadu**	**11.65**	**235**	P	**Pn**	**19 01 14.6**	**-0.5**
MTSU	**Mount Surprise**	**12.08**	**171**	P	**Pn**	**19 01 25.1**	**+4.1**
	baz=12,SNR=20						
MTSU	**Mount Surprise**	**12.08**	**171**	P	**Pn**	**19 01 22.1**	**+1.1**
SWI	**Sonogno**	**12.18**	**295**	P	**Pn**	**19 01 20.8**	**-1.6**
	comp=Z,110nm,0.8s						
DRS	**Darwin Rock St**	**12.85**	**240**	P	**Pn**	**19 01 32.5**	**+1.1**
MTN	**Manton Dam**	**12.85**	**238**	P	**Pn**	**19 01 30.6**	**-0.8**
	baz=13,SNR=14						
MTN	**Manton Dam**	**12.85**	**238**	Pn	**Pn**	**19 01 30.1**	**-1.3**
MTN	**Manton Dam**	**12.85**	**238**	P	**Pn**	**19 01 31.1**	**-0.4**
CTA	**Charters Tower**	**14.38**	**165**	Pn	**Pn**	**19 01 54.6**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=270,slow=5.4,SNR=5.4						
CTA				Lg	Lg	19 06 03.0	
	comp=Z,0.2nm,0.3s,baz=270,slow=16,SNR=2.3						
CTA				LR	LR	19 07 40.9	
	comp=Z,3μm,19.3s,baz=0.0,slow=38						
	comp=Z,9.6nm,1.0s						
CTAO	**Charters Tower**	**14.38**	**165**	Pn	**Pn**	**19 01 55.3**	**+2.8**
CTAO	**Charters Tower**	**14.38**	**165**	P	**Pn**	**19 01 55.3**	**+2.8**
QIS	**Mount Isa**	**14.56**	**190**	P	**Pn**	**19 01 55.6**	**+0.8**
	baz=15,SNR=14						
QIS	**Mount Isa**	**14.56**	**190**	P	**Pn**	**19 01 55.6**	**+0.8**
WB0	**Warramunga Arr**	**15.56**	**209**	Pn	**Pn**	**19 02 07.1**	**-1.0**
WB0				IAmb	IAmb	19 02 25.0	
	comp=Z,68nm,0.9s						
WR0	**Warramunga Arr**	**15.65**	**208**		**Pn**	**19 02 07.9**	**-1.4**
WRAB	**Tennant Creek**	**15.72**	**209**		**Pn**	**19 02 08.3**	**-1.9**
WRAB	**Tennant Creek**	**15.72**	**209**	*i* P	**Pn**	**19 02 08.2**	**-2.0**
WB2	**Warramunga Arr**	**15.73**	**209**		**Pn**	**19 02 09.0**	**-1.4**
LBMI	**Labuha**	**15.73**	**290**	P	**Pn**	**19 02 11.1**	**+0.7**
	comp=Z,55nm,0.9s,comp=Z,2μm						
WRA	**Warramunga Arr**	**15.73**	**209**	Pn	**Pn**	**19 02 09.5**	**-0.9**
	comp=Z,3.4nm,0.3s,baz=27,slow=13,SNR=74						
WRA				Sn	**Sn**	**19 04 55.7**	**-8.3**
	comp=Z,1.6nm,0.3s,baz=24,slow=22,SNR=5.1						
WRA				Lg	Lg	19 06 49.8	
	comp=Z,0.2nm,0.3s,baz=26,slow=27,SNR=4.8						
WRA				LR	LR	19 09 00.4	
	comp=Z,8μm,18.4s,baz=9.0,slow=40						
KNRA	**Kununurra**	**16.29**	**233**	P	**Pn**	**19 02 16.2**	**-1.3**
	baz=16,SNR=48						
KNRA	**Kununurra**	**16.29**	**233**	Pn	**Pn**	**19 02 15.2**	**-2.4**
KNRA				IAmb	IAmb	19 02 23.7	
	comp=Z,80nm,0.8s						
TNTI	**Ternate**	**16.40**	**294**	P	**Pn**	**19 02 19.3**	**+0.4**
	comp=Z,42nm,1.0s,comp=Z,774nm						
SANI	**Sanana**	**16.75**	**283**	P	**Pn**	**19 02 23.8**	**+0.4**
SANI	**Sanana**	**16.75**	**283**	P	**Pn**	**19 02 24.1**	**+0.7**
	comp=Z,31nm,0.8s,comp=Z,1μm						
HNR	**Honiara**	**17.80**	**102**	P	**Pn**	**19 02 34.8**	**-1.7**
	comp=Z,536nm,0.7s,baz=180,slow=9.0,SNR=2.2						
HNR				LR	LR	19 09 45.0	
	comp=Z,7μm,18.1s,baz=276,slow=38						
SOEI	**Soe**	**18.19**	**257**	P	**Pn**	**19 02 41.6**	**+0.2**
SOEI	**Soe**	**18.19**	**257**	P	**Pn**	**19 02 41.9**	**+0.5**
SOEI	**Soe**	**18.19**	**257**	P	**P**	**19 02 44.4**	**+2.9**
	comp=Z,174nm,0.9s,comp=Z,2μm						
BATI	**Baumata**	**18.86**	**256**	P	**Pn**	**19 02 52.1**	**+2.7**
	comp=Z,51nm,0.6s,baz=171,slow=1.7,SNR=22						
BATI				S	**Sn**	**19 06 13.5**	**-6.4**
	comp=Z,26nm,0.8s,baz=252,slow=21,SNR=3.0						
BATI				LR	LR	19 12 23.1	
	comp=Z,2μm,18.3s,baz=92,slow=44						
BATI	**Baumata**	**18.86**	**256**	P	**Pn**	**19 02 49.9**	**+0.4**
	comp=Z,85nm,0.7s,comp=Z,2μm						
AS01	**Alice Springs**	**19.17**	**204**	P	**Pn**	**19 02 53.4**	**+0.2**
AS31	**Alice Springs**	**19.19**	**204**	P	**P**	**19 02 52.5**	**+0.2**
ASAR	**Alice Springs**	**19.19**	**204**		**Pn**	**19 02 53.8**	**+0.4**
ASAR	**Alice Springs**	**19.19**	**204**	P	**Pn**	**19 02 53.8**	**+0.4**
ASAR	**Alice Springs**	**19.19**	**204**	P	**Pn**	**19 02 55.0**	**+1.5**
	comp=Z,23nm,0.6s,baz=31,slow=11,SNR=307						
ASAR				S	**Sn**	**19 06 22.5**	**-5.3**
	comp=Z,5.6nm,0.7s,baz=20,slow=28,SNR=3.5						
ASAR				Lg	Lg	19 08 36.3	
	comp=Z,0.3nm,0.3s,baz=28,slow=28,SNR=2.8						
ASAR				LR	LR	19 11 19.2	
	comp=Z,4μm,21.4s,baz=34,slow=40						
SGSI	**Sangihe**	**19.37**	**300**	P	**Pn**	**19 02 55.7**	**+0.1**
	comp=Z,163nm,0.5s						
KMSI	**Cibinong**	**19.45**	**289**	P	**P**	**19 02 54.5**	**-0.7**
	comp=Z,179nm,1.0s,comp=Z,2μm						
MMRI	**Maumere**	**20.03**	**262**		**P**	**19 02 59.4**	**-2.1**
MMRI				IAmb	IAmb	19 03 42.6	
	comp=Z,90nm,1.0s						
MMRI	**Maumere**	**20.03**	**262**	P	**P**	**19 03 02.5**	**+1.0**
MMRI	**Maumere**	**20.03**	**262**	P	Pn	19 03 03.8	+0.4
	comp=Z,63nm,1.6s,comp=Z,1μm						
LUWI	**Luwuk**	**20.11**	**284**	P	**P**	**19 03 01.8**	**-0.6**
LUWI				IAmb	IAmb	19 03 44.3	
	comp=Z,128nm,1.2s						
LUWI	**Luwuk**	**20.11**	**284**	P	Pn	19 03 15.5	+11
FITZ	**Fitzroy Crossi**	**20.12**	**232**	P	**P**	**19 03 03.9**	**+1.5**
	baz=20,SNR=25						
FITZ	**Fitzroy Crossi**	**20.12**	**232**	P	**P**	**19 03 01.6**	**-0.9**
QLP	**Quilpie**	**20.41**	**175**	P	Pn	19 03 08.8	+1.1
	baz=21,SNR=21						
QLP	**Quilpie**	**20.41**	**175**	P	Pn	19 03 08.6	+0.9
PATS	**Pohnpei**	**20.55**	**51**	P	Pn	19 03 08.3	-1.2
	baz=21,SNR=3.2						
EDFI	**Ende, Flores**	**20.58**	**262**	P	**P**	**19 03 07.6**	**0.0**
	comp=Z,48nm,1.2s,comp=Z,926nmcomp=Z,1μm						
EIDS	**Eidsvold**	**20.89**	**157**	P	Pn	19 03 13.8	+0.4
	baz=21,SNR=4.1						
EIDS	**Eidsvold**	**20.89**	**157**		Pn	19 03 13.2	-0.2
EIDS				IAmb	IAmb	19 03 18.4	
	comp=Z,73nm,1.1s						
DAV	**Davao City (W)**	**21.21**	**308**	LR	LR	19 13 36.0	
	comp=Z,315nm,18.0s,baz=126,slow=43						
MRSI	**Marisa**	**21.34**	**287**	P	**P**	**19 03 19.5**	**+3.7**
	comp=Z,33nm,1.0s,comp=Z,580nm						
BASI	**Baing, Sumba**	**21.85**	**258**	P	**P**	**19 03 20.7**	**-0.5**
	comp=Z,159nm,1.1s,comp=Z,2μm						
BKSI	**Bulukumba**	**22.06**	**271**	P	**P**	**19 03 26.2**	**+2.7**
	comp=Z,78nm,0.8s,comp=Z,964nm						
OOD	**Oodnadatta**	**22.42**	**195**	P	**P**	**19 03 30.0**	**+2.8**
KAPI	**Kappang**	**22.45**	**272**	*i* P	**P**	**19 03 28.7**	**+1.0**
KAPI				pmax	pmax		
	comp=Z,78nm,0.9s						
TTSI	**Tana Toraja**	**22.60**	**277**	P	**P**	**19 03 30.3**	**+1.1**
	comp=Z,51nm,1.2s,comp=Z,778nm						
TOLI2	**Tolitoli**	**22.64**	**288**	P	**P**	**19 03 29.4**	**-0.3**
TOLI2	**Tolitoli**	**22.64**	**288**	P	**P**	**19 03 31.7**	**+2.0**
WRKA	**Warakurna**	**23.07**	**214**	P	**P**	**19 03 35.1**	**+1.0**
	baz=23,SNR=71						
WRKA	**Warakurna**	**23.07**	**214**	P	**P**	**19 03 35.3**	**+1.2**
MPSI	**Mapaga**	**23.25**	**285**	P	**P**	**19 03 37.3**	**+1.3**
	comp=Z,24nm,1.1s,comp=Z,483nm						
PLAI	**Plampang**	**24.44**	**262**	P	**P**	**19 03 47.7**	**+0.5**
PLAI	**Plampang**	**24.44**	**262**	P	**P**	**19 03 47.3**	**+0.1**
	comp=Z,25nm,0.7s,comp=Z,463nm						
LCRK	**Leigh Creek**	**24.47**	**188**	P	**P**	**19 03 48.8**	**+1.4**
MULG	**Mulgathing**	**25.22**	**197**	P	**P**	**19 03 55.8**	**+1.6**
TWSI	**Taliwang, Sumb**	**25.31**	**263**	P	**P**	**19 03 56.5**	**+1.3**
	comp=Z,12nm,0.7s						
CMSA	**Cobar Meteorol**	**25.46**	**173**	P	**P**	**19 03 58.8**	**+2.5**
	baz=26,SNR=8.6						
CMSA	**Cobar Meteorol**	**25.46**	**173**	P	**P**	**19 03 57.8**	**+1.5**
STKA	**Stephens Creek**	**25.61**	**181**	P	**P**	**19 03 58.6**	**+1.0**
	baz=26,SNR=10						
STKA	**Stephens Creek**	**25.61**	**181**	P	**P**	**19 03 58.7**	**+1.1**
STKA	**Stephens Creek**	**25.61**	**181**	P	**P**	**19 03 59.0**	**+1.4**
STKA	**Stephens Creek**	**25.61**	**181**	P	**P**	**19 03 58.7**	**+1.1**
STKA				pmax	pmax		
	comp=Z,11nm,1.5s						
STKA	**Stephens Creek**	**25.61**	**181**	P	**P**	**19 03 58.8**	**+1.1**
	comp=Z,3.8nm,0.6s,baz=347,slow=8.3,SNR=13						
STKA				Lg	Lg	19 12 01.9	
	comp=Z,0.1nm,0.3s,baz=90,slow=20,SNR=1.9						
STKA				LR	LR	19 14 38.8	
	comp=Z,1μm,21.6s,baz=354,slow=38						
	comp=Z,3.8nm,0.6s						
ARMA	**Armidale**	**25.70**	**161**	P	**P**	**19 04 02.1**	**+3.6**
	baz=26,SNR=4.8						
ARMA	**Armidale**	**25.70**	**161**	P	**P**	**19 04 00.1**	**+1.5**
ARMA				IAmb	IAmb	19 04 36.7	
	comp=Z,51nm,1.4s						
MBWA	**Marble Bar**	**26.45**	**233**	P	**P**	**19 04 06.1**	**+0.7**
PSA00	**Pilbara Seismi**	**26.57**	**233**	P	**P**	**19 04 08.0**	**+1.5**
PSA00				IAmb	IAmb	19 04 28.7	
	comp=Z,38nm,1.2s						
BBOO	**Buckleboo**	**27.15**	**192**	P	**P**	**19 04 14.2**	**+2.7**
	baz=27,SNR=5.0						
BBOO	**Buckleboo**	**27.15**	**192**	P	**P**	**19 04 13.8**	**+2.2**
BBOO				IAmb	IAmb	19 04 53.2	
	comp=Z,60nm,1.4s						
BBOO	**Buckleboo**	**27.15**	**192**	P	**P**	**19 04 14.3**	**+2.7**
FORT	**Forrest**	**27.91**	**207**	P	**P**	**19 04 20.1**	**+1.7**
DZM	**Mont Dzumac**	**28.21**	**127**	*e*LR	LR	19 11 38.0	
	comp=Z,1μm,25.0s						
DZM	**Mont Dzumac**	**28.21**	**127**	LR	LR	19 15 56.6	
	comp=Z,601nm,18.5s,baz=301,slow=37						
TGY	**Tagaytay City**	**29.21**	**314**	LR	LR	19 16 05.6	
	comp=Z,250nm,21.1s,baz=111,slow=36						
JCJ	**Chichijima**	**33.05**	**360**	LR	LR	19 17 36.5	
	comp=Z,423nm,20.5s,baz=133,slow=35						
MORW	**Morawa**	**33.68**	**224**	P	**P**	**19 05 09.0**	**-0.3**
MORW				IAmb	IAmb	19 05 34.9	
	comp=Z,21nm,1.3s						
LEM	**Lembang**	**34.44**	**267**	LR	LR	19 23 20.8	
	comp=Z,371nm,19.6s,baz=108,slow=43						
NWAO	**Narrogin (SRO)**	**35.40**	**218**	LR	LR	19 20 40.4	
	comp=Z,3μm,19.4s,baz=35,slow=37						
JOW	**Kunigami**	**35.48**	**338**	LR	LR	19 17 24.9	
	comp=Z,534nm,20.0s,baz=151,slow=32						
TPUB	**Ta-pu**	**36.11**	**325**	P	**P**	**19 05 28.2**	**-2.2**
TPUB				IAmb	IAmb	19 05 39.2	
	comp=Z,23nm,0.9s						
SSLB	**Suanglung**	**36.31**	**326**	P	**P**	**19 05 31.2**	**-0.9**
MSVF	**Nonsavu**	**36.76**	**111**	*i* P	**P**	**19 05 36.3**	**+0.1**
MSVF				pmax	pmax		
	comp=Z,132nm,3.8s						
YHNB	**Yeheng**	**36.78**	**327**	P	**P**	**19 05 36.3**	**+0.1**
YHNB				IAmb	IAmb	19 05 40.4	
	comp=Z,46nm,1.4s						
TATO	**Taipei**	**36.97**	**328**	P	**P**	**19 05 38.0**	**+0.4**
JHJ	**Hachijo jima 2**	**39.12**	**357**	LR	LR	19 19 00.4	
	comp=Z,1μm,20.4s,baz=334,slow=32						
JNU	**Nakatsue**	**40.53**	**345**	LR	LR	19 22 09.4	
	comp=Z,300nm,18.8s,baz=158,slow=35						
QIZ	**Qiongzhong**	**40.59**	**309**	P	**P**	**19 06 07.4**	**-0.7**
QIZ				S	**S**	**19 12 18.3**	**+2.1**
QIZ				sS	**pS**	**19 12 27.6**	**+1.6**
QIZ				LR	LR		
	comp=Z,160nm,12.6s						
				LR	LR		
	comp=Z,160nm,10.9s						
QIZ				LR	LR		
	comp=Z,250nm,20.2s						
KRJI	**Kerinci**	**40.90**	**274**	P	**P**	**19 06 12.9**	**+2.0**
	comp=Z,66nm,1.1s,comp=Z,1μm						
MJAR	**Matsushiro Arr**	**42.64**	**355**	P	**P**	**19 06 24.0**	**-0.7**
	comp=Z,7.4nm,1.1s,baz=180,slow=8.7,SNR=7.6						
MJAR				LR	LR	19 22 13.4	
	comp=Z,483nm,19.9s,baz=145,slow=34						
	comp=Z,7.4nm,1.1s						
MAJO	**Matsushiro**	**42.64**	**355**	*i* P	**P**	**19 06 23.8**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,26nm,1.4s						
RAO	**Raoul Island**	**44.01**	**126**	LR	LR	19 21 57.4	
	comp=Z,303nm,19.2s,baz=300,slow=32						
NJ2	**Nanjing**	**44.06**	**331**	*e*P	**P**	**19 06 39.1**	**+2.9**
NJ2				sP	**pP**	**19 06 44.3**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
CNSH	**ChangSha**	**44.35**	**322**	⇑P	**P**	**19 06 39.3**	**+0.7**
CNSH				pmax	pmax		
	comp=Z,20nm,1.1s						
URZ	**Urewera**	**44.92**	**140**	LR	LR	19 26 32.3	
	comp=Z,519nm,18.2s,baz=80,slow=38						
WHN	**Wuhan**	**45.24**	**325**	⇓P	**P**	**19 06 47.5**	**+1.9**
SNZO	**South Karori**	**45.39**	**145**	P	**P**	**19 06 46.8**	**+0.1**
KSRS	**Korea Array**	**45.40**	**344**	P	**P**	**19 06 46.8**	**0.0**
	comp=Z,4.9nm,0.8s,baz=155,slow=8.8,SNR=7.4						
KSRS				LR	LR	19 24 16.7	
	comp=Z,189nm,20.5s,baz=145,slow=34						
	comp=Z,4.9nm,0.8s						
KS19	**Wonju Array Si**	**45.46**	**344**	P	**P**	**19 06 46.5**	**-0.8**
GYA	**Guiyang**	**47.35**	**315**	*e*P	**P**	**19 07 04.4**	**+1.9**
GYA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
GYA				pmax	pmax		
	comp=Z,160nm,6.8s						
CMAR	**Chiang Mai Arr**	**49.23**	**301**	P	**P**	**19 07 17.9**	**+0.9**
	comp=Z,12nm,0.3s,baz=112,slow=5.7,SNR=3.3						
	comp=Z,12nm,0.3s						
LYN	**

CN2 eS S 19 14 57.0 -2.0
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,200nm,10.0s
CN2 LR LR
comp=Z,200nm,10.0s
CN2 LR LR
comp=Z,300nm,10.0s
CD2 Chengdu 52.10 317 P P 19 07 39.6 +1.1
CD2 S S 19 15 05.1 +4.0
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 LR LR
comp=Z,180nm,16.2s
TNCH TengChong 52.65 308 P P 19 07 44.5 +1.7
TNCH pP pP 19 07 47.5 -4.0
TNCH S S 19 15 10.6 +1.6
TNCH pmax pmax
comp=Z,10.0nm,1.4s
TNCH pmax pmax
comp=Z,76nm,4.6s
TNCH LR LR
comp=Z,100nm,13.6s
TNCH LR LR
comp=Z,140nm,15.5s
TNCH LR LR
comp=Z,210nm,20.0s
YSS Yuzh-Sakhalins 52.87 0 eP P 19 07 41.6 -2.2
YSS pmax pmax
comp=Z,20nm,0.6s
BNX BinXian 53.34 347 ⇓P P 19 07 46.8 -0.5
BNX pP sP 19 07 58.8 -0.6
BNX PP PP 19 09 47.3 -0.6
BNX S S 19 15 20.5 +3.2
BNX pmax pmax
comp=Z,18nm,1.0s
BNX pmax pmax
comp=Z,220nm,3.4s
BNX LR LR
comp=Z,250nm,13.8s
BNX LR LR
comp=Z,370nm,12.4s
BNX LR LR
comp=Z,450nm,15.2s
HHC Hu-ho-hao-te 54.61 332 eP P 19 07 57.6 +0.8
HHC S S 19 15 34.8 -0.1
HHC ScS ScS 19 17 44.6 +0.2
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,140nm,4.8s
HHC LR LR
comp=Z,210nm,18.3s
HHC LR LR
comp=Z,190nm,19.9s
HHC LR LR
comp=Z,340nm,19.1s
BTO Baotou 55.16 330 eP P 19 07 57.8 -3.1
BTO pP pP 19 08 10.3 +0.8
BTO sP sP 19 08 15.6 +2.7
BTO S S 19 15 37.3 -5.1
BTO sS sS 19 15 56.8 +0.1
BTO SS SS 19 19 25.3 -1.7
BTO pmax pmax
comp=Z,13nm,0.9s
BTO pmax pmax
comp=Z,100nm,3.9s
BTO LR LR
comp=Z,540nm,13.6s
BTO LR LR
comp=Z,430nm,19.1s
BTO LR LR
comp=Z,710nm,16.9s
LZH Lanzhou 55.35 322 eP P 19 08 03.8 +1.4
LZH sP pP 19 08 11.3 +0.2
LZH S S 19 15 51.1 +5.9
LZH pmax pmax
comp=Z,19nm,1.4s
LZH LR LR
comp=Z,220nm,10.7s
LZH LR LR
comp=Z,120nm,10.0s
LZH LR LR
comp=Z,170nm,10.7s
KLR Kul'dur 55.91 352 *ce*P P 19 08 05.1 -0.8
KLR pmax pmax
comp=Z,23nm,1.7s
KLR Kul'dur 55.91 352 LR LR 19 28 24.2
comp=Z,435nm,22.0s,baz=165,slow=32
BRDH Bariadhala 57.20 302 LR LR 19 36 04.3
comp=Z,25µm,20.6s,baz=357,slow=39
HEH HeiHe 57.63 349 eP P 19 08 18.5 +0.4
HEH pP pP 19 08 24.4 -2.5
HEH PcP PcP 19 09 09.8 -1.2
HEH S S 19 16 16.4 +1.9
HEH ScS ScS 19 18 03.8 -1.8
HEH pmax pmax
comp=Z,12nm,1.2s
HEH pmax pmax
comp=Z,160nm,5.0s
HEH LR LR
comp=Z,530nm,16.6s
HEH LR LR
comp=Z,450nm,16.0s
HEH LR LR
comp=Z,840nm,20.8s
RAR Rarotonga 57.95 111 LR LR 19 30 50.7
comp=Z,63nm,21.8s,baz=281,slow=34
GTA Gaotai 59.94 323 P P 19 08 35.4 +0.9
GTA pP pP 19 08 43.1 -0.2
GTA sP sP 19 08 47.3 +0.7
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA LR LR
comp=Z,120nm,18.2s
GTA LR LR
comp=Z,140nm,18.5s
GTA LR LR
comp=Z,150nm,19.6s
PETK Petropavlovsk- 60.46 11 P P 19 08 37.1 -0.6
comp=Z,6.5nm,0.8s,baz=163,slow=7.4,SNR=11
PETK LR LR 19 31 05.0
comp=Z,198nm,21.9s,baz=208,slow=32
comp=Z,6.5nm,0.8s
PET Petropavlovsk 60.56 11 eP P 19 08 33.1 -5.2
PET eS S 19 16 45.4 -6.9
PET MLR MLR
comp=Z,200nm,16.0s
LSA Lhasa 60.63 309 IAmb IAmb 19 08 44.0
comp=Z,21nm,1.3s
ZEA Zeya 60.99 350 eP P 19 08 41.3 0.0
ZEA pmax pmax
comp=Z,20nm,1.4s
GOMU GeErMu 61.24 317 P P 19 08 46.1 +2.3
GOMU pP pP 19 08 51.1 -1.5
GOMU sP sP 19 08 52.9 -3.0
GOMU pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 62.08 334 *ce*P P 19 08 48.8 -0.1
ULN pmax pmax
comp=Z,18nm,2.5s
SONM Songino Array 62.34 334 P P 19 08 50.6 -0.1
SONM IAmb IAmb 19 09 10.4
comp=Z,16nm,1.4s
SONM Songino Array 62.34 334 P P 19 08 50.6 -0.1
SONM pmax pmax
comp=Z,15nm,1.4s
SONM Songino Array 62.34 334 P P 19 08 51.5 +0.8
comp=Z,1.1nm,0.6s,baz=152,slow=8.2,SNR=10
SONM LR LR 19 35 37.6
comp=Z,381nm,19.6s,baz=135,slow=36
comp=Z,1.1nm,0.6s
PALK Pallekele 62.86 281 LR LR 19 39 32.8
comp=Z,153nm,19.6s,baz=216,slow=39
CIT Chita 62.92 341 eP P 19 08 54.6 +0.2
CIT *e* 19 09 02.4
CIT *e* 19 09 34.8
SHEM Shemya Is, Ala 64.57 21 LR LR 19 31 42.2
comp=Z,456nm,21.5s,baz=209,slow=31
ZAK Zakamensk 65.61 334 eP P 19 09 11.9 -0.2
ZAK pmax pmax
comp=Z,15nm,1.5s
MA2 Magadan 65.86 5 eP P 19 09 13.7 +0.3
MA2 pmax pmax
comp=Z,19nm,1.2s
MA2 Magadan 65.86 5 LR LR 19 35 10.4
comp=Z,166nm,21.5s,baz=184,slow=34
PPT Papeete 67.36 106 LR LR 19 35 04.4
comp=Z,86nm,21.9s,baz=269,slow=33
PPT2 Papeete2 67.36 106 eS S 19 18 20.1 +1.9
comp=Z,46nm,25.5s
PPT2 eLQ LQ 19 26 53.9
comp=Z,722nm,30.8s
PPT2 eLR LR 19 29 45.1
comp=Z,119nm,22.5s
PPT2 eLR LR 19 29 46.7
comp=Z,158nm,22.8s
MOY Mondy 67.54 334 eP P 19 09 25.0 +0.6
MOY pmax pmax
comp=Z,38nm,2.2s
TBI Tubuai 67.64 113 eLQ LQ 19 26 55.7
comp=Z,2µm,32.5s
TBI eLR LR 19 29 50.2
comp=Z,893nm,29.2s
YAK Yakutsk 68.67 354 *ce*P P 19 09 30.4 -0.7
YAK pmax pmax
comp=Z,20nm,1.7s
YAK Yakutsk 68.67 354 LR LR 19 37 52.2
comp=Z,202nm,20.0s,baz=132,slow=34
SEY Seymchan 69.32 5 *ce*P P 19 09 34.4 -0.7
SEY pmax pmax
comp=Z,9.0nm,1.6s
SEY Seymchan 69.32 5 LR LR 19 37 30.9
comp=Z,204nm,21.1s,baz=222,slow=34
WMQ Urumqi 69.90 321 eP P 19 09 40.8 +1.6
WMQ pmax pmax
comp=Z,17nm,1.1s
WMQ pmax pmax
comp=Z,160nm,3.9s
WMQ LR LR
comp=Z,88nm,16.9s
VNDA Vanda 72.08 176 P P 19 09 53.0 +1.2
VNDA Vanda 72.08 176 P P 19 09 53.0 +1.2
comp=Z,2.9nm,1.1s,baz=332,slow=7.1,SNR=3.7
VNDA LR LR 19 41 01.0
comp=Z,508nm,18.6s,baz=349,slow=35
comp=Z,2.9nm,1.1s
DGZ Jazzator, Alta 73.09 326 *i*P P 19 09 58.4 -0.1
DGZ pmax pmax
comp=Z,10.0nm,1.1s
ZSN Zaisan 73.42 323 eP P 19 10 00.2 -0.1
ZSN pmax pmax
comp=Z,13nm,2.1s
ZSN Zaisan 73.42 323 eP P 19 10 00.2 -0.1
comp=Z,14nm,2.1s,baz=323
MK31 Makanchi Array 74.67 322 P P 19 10 07.9 +0.2
MK31 Makanchi Array 74.67 322 *ce*P P 19 10 08.0 +0.4
MKAR Makanchi Array 74.67 322 P P 19 10 08.1 +0.5
MKAR Makanchi Array 74.67 322 *i*P P 19 10 08.1 +0.5
MKAR pmax pmax
comp=Z,8.0nm,0.9s
MKAR Makanchi Array 74.67 322 P P 19 10 08.2 +0.6
comp=Z,8.3nm,0.9s,baz=112,slow=6.8,SNR=66
MKAR LR LR 19 44 04.6
comp=Z,66nm,18.8s,baz=150,slow=37
comp=Z,8.3nm,0.9s
MAKZ Makanchi 74.87 322 P P 19 10 09.2 +0.5
MAKZ IAmb IAmb 19 10 12.3
comp=Z,17nm,1.1s
MAKZ Makanchi 74.87 322 P P 19 10 09.3 +0.5
MAKZ pmax pmax
comp=Z,17nm,1.2s
SHLS Shalkode 74.94 318 eP P 19 10 07.7 -1.7
SHLS pmax pmax
comp=Z,19nm,1.8s
SHLS Shalkode 74.94 318 eP P 19 10 07.7 -1.7
comp=Z,19nm,1.8s,baz=318
UZB Uzynbulak 75.23 317 eP P 19 10 10.6 -0.5
UZB pmax pmax
comp=Z,12nm,1.6s
UZB Uzynbulak 75.23 317 eP P 19 10 10.7 -0.5
comp=Z,12nm,1.6s,baz=317
KPKS Kokpek 75.58 318 eP P 19 10 12.4 -0.6
KPKS Kokpek 75.58 318 eP P 19 10 12.5 -0.6
baz=318
ZHN Zhinishke 75.63 317 eP P 19 10 13.3 -0.1
ZHN pmax pmax
comp=Z,12nm,1.2s
ZHN Zhinishke 75.63 317 eP P 19 10 13.3 -0.1
comp=Z,12nm,1.2s,baz=317
BILL Bilibino 75.93 9⇑eP P 19 10 14.1 -0.3
BILL pmax pmax
comp=Z,11nm,1.3s
KSH Kashi 76.02 313 P P 19 10 18.3 +2.6
KSH sP pP 19 10 24.9 +0.3
KSH pmax pmax
comp=Z,11nm,1.0s
TDK Taldyqorghan 76.37 319 eP P 19 10 17.2 -0.2
TDK pmax pmax
comp=Z,18nm,1.3s
TDK Taldyqorghan 76.37 319 eP P 19 10 17.2 -0.2
comp=Z,18nm,1.3s,baz=319
MDOK Medeo 76.57 317 eP P 19 10 18.1 -0.6
MDOK Medeo 76.57 317 eP P 19 10 18.1 -0.6
baz=317
AAA Alma-Ata 76.67 317 eP P 19 10 18.8 -0.4
AAA Alma-Ata 76.67 317 eP P 19 10 18.9 -0.4
baz=317
ZALV Zalesovo Beam 76.68 329 P P 19 10 17.7 -1.2
ZALV Zalesovo Beam 76.68 329 P P 19 10 17.7 -1.2
ZALV Zalesovo Beam 76.68 329 P P 19 10 18.5 -0.4
comp=Z,1.6nm,0.5s,baz=120,slow=5.5,SNR=9.4
ZALV LR LR 19 44 57.7
comp=Z,183nm,19.2s,baz=112,slow=36
comp=Z,1.6nm,0.5s
CHKK Chushkaly 76.87 318 eP P 19 10 20.0 -0.2
CHKK Chushkaly 76.87 318 eP P 19 10 20.1 -0.2
baz=318
SEM Semipalatinsk 77.49 325 eP P 19 10 22.7 -1.1
SEM Semipalatinsk 77.49 325 eP P 19 10 22.7 -1.1
baz=325
AAK Ala-Archa 78.14 316 P P 19 10 26.8 -0.8
AAK Ala-Archa 78.14 316 P P 19 10 26.8 -0.8
AAK pmax pmax
comp=Z,6.0nm,1.2s
TIXI Tiksi 78.14 356 P P 19 10 27.5 +0.8
TIXI Tiksi 78.14 356 eP P 19 10 23.1 -3.6
TIXI Tiksi 78.14 356 P P 19 10 27.1 +0.3
comp=Z,3.0nm,0.2s,baz=139,slow=1.8,SNR=7.5
TIXI LR LR 19 43 54.8
comp=Z,81nm,19.6s,baz=192,slow=35
comp=Z,3.0nm,0.2s
SGDS Sogindy 78.32 317 eP P 19 10 27.8 -0.6
SGDS Sogindy 78.32 317 eP P 19 10 27.8 -0.6
baz=316
KURK Kurchatov 78.56 324 P P 19 10 27.8 -1.7
KURK IAmb IAmb 19 10 50.0
comp=Z,19nm,1.4s
KURK Kurchatov 78.56 324 P P 19 10 27.8 -1.7
KURK pmax pmax
comp=Z,19nm,1.4s
KURBB Kurchatov Arra 78.57 324 P P 19 10 30.4 +0.8
comp=Z,3.8nm,0.2s,baz=116,slow=4.8,SNR=14
comp=Z,3.8nm,0.2s
BTLS Baital 79.26 318 eP P 19 10 33.0 -0.4
BTLS Baital 79.26 318 eP P 19 10 33.1 -0.4
baz=318
L14K Kuka Creek 79.55 24 IAmb IAmb 19 10 49.1
comp=Z,20nm,1.1s
L14K Kuka Creek 79.55 24 P P 19 10 35.3 +0.7
baz=236
GAR Garm 80.03 311 IAmb IAmb 19 10 43.1
comp=Z,25nm,1.2s
TNA Tin City 80.20 19 P P 19 10 38.5 +0.4
baz=230
L15K Ungalak Mounta 80.21 24 P P 19 10 38.0 -0.2
baz=237
MAW Mawson 80.31 202 LR LR 19 45 02.5
comp=Z,569nm,18.0s,baz=72,slow=35
DZA Taraz 80.42 315 eP P 19 10 39.8 0.0
DZA pmax pmax
comp=Z,11nm,0.7s
DZA Taraz 80.42 315 eP P 19 10 39.9 0.0
comp=Z,11nm,0.7s,baz=315
ANM Nome 80.42 20 P P 19 10 40.2 +0.8
baz=233
K15K Wolf Creek Mou 80.53 23 P P 19 10 40.9 +0.9
baz=237
O16K Kokwok River B 80.55 26 P P 19 10 40.5 +0.4
baz=240
F14K Arctic Creek 80.66 19 P P 19 10 40.3 -0.3
baz=232
N16K Nishlik Lake 80.70 25 P P 19 10 42.0 +1.1
baz=240
M16K Timber Creek 80.90 25 P P 19 10 43.0 +1.0
baz=239
SIMJ Simiganj 80.92 311 P P 19 10 43.3 +0.5
Q17K Contact Creek 80.92 28 P P 19 10 41.3 -1.0
baz=243
L16K Owhat River 81.04 24 P P 19 10 42.7 +0.1
baz=239
O17K Koliganek Bris 81.08 27 P P 19 10 43.3 +0.3
baz=241
G15K Niukluk 81.14 20 P P 19 10 43.1 0.0
baz=234
F15K North Star Dit 81.36 20 IAmb IAmb 19 11 07.6
comp=Z,25nm,1.5s
F15K North Star Dit 81.36 20 P P 19 10 45.1 +0.7
baz=234
N17K Nushagak Hills 81.41 26 P P 19 10 45.5 +0.8
baz=241
J16K Anvik River 81.43 23 IAmb IAmb 19 10 46.4
comp=Z,29nm,1.4s
J16K Anvik River 81.43 23 P P 19 10 45.5 +0.8
baz=238
CHM Chimkent 81.48 314 eP P 19 10 45.0 -0.5
CHM Chimkent 81.48 314 eP P 19 10 45.1 -0.5
baz=314
BRLS Boroldoy 81.51 315 eP P 19 10 45.4 -0.3
BRLS Boroldoy 81.51 315 eP P 19 10 45.4 -0.3
baz=315
H16K Elim 81.57 21 P P 19 10 46.0 +0.6
baz=236
I17K Unalakleet 81.72 22 P P 19 10 46.9 +0.7
baz=238
L17K Donlin 81.74 24 P P 19 10 47.6 +1.2
baz=240
BRZS Berezniki 81.81 322 eP P 19 10 46.7 -0.3
BRZS pmax pmax
comp=Z,17nm,2.1s
BRZS Berezniki 81.81 322 eP P 19 10 46.8 -0.3
comp=Z,17nm,2.1s,baz=322
G16K Koyuk River 81.95 20 IAmb IAmb 19 11 05.2
comp=Z,20nm,1.4s
G16K Koyuk River 81.95 20 P P 19 10 47.8 +0.4
baz=236
K17K Iditarod 82.03 24 P P 19 10 49.0 +1.1
baz=240
N18K Kilae Creek 82.04 26 P P 19 10 49.1 +1.0
baz=242
KDAK Kodiak Island 82.29 29 LR LR 19 46 00.4
comp=Z,311nm,18.8s,baz=265,slow=35
H17K Granite Mounta 82.57 21 P P 19 10 50.9 +0.3
baz=238
G17K Kiwalik Mounta 82.61 21 P P 19 10 50.9 0.0
baz=237
C16K Lisburne Hills 82.69 17 P P 19 10 51.5 +0.3
baz=233
N19K Bonanza Creek 82.72 26 IAmb IAmb 19 10 52.6
comp=Z,12nm,1.0s
N19K Bonanza Creek 82.72 26 P P 19 10 52.2 +0.5
baz=244
F17K Baldwin Pennin 82.92 20 IAmb IAmb 19 11 33.4
comp=Z,14nm,1.4s
F17K Baldwin Pennin 82.92 20 P P 19 10 52.8 +0.3
baz=237
J18K Innoko River 83.03 23 P P 19 10 52.4 -0.7
baz=241
D17K Noatak River 83.03 18 P P 19 10 53.4 +0.3
baz=235
L19K White Mountain 83.18 25 IAmb IAmb 19 11 12.2
comp=Z,22nm,1.4s
RDOG Red Dog Mine 83.29 18 IAmb IAmb 19 11 12.1
comp=Z,14nm,1.2s
RDOG Red Dog Mine 83.29 18 P P 19 10 55.1 +0.7
baz=235
C17K DeLong Mountai 83.45 18 P P 19 10 55.4 +0.2
baz=235
G18K Tagagawik 83.52 21 IAmb IAmb 19 11 26.7
comp=Z,12nm,1.2s
G18K Tagagawik 83.52 21 P P 19 10 55.4 -0.2
baz=239
F18K Selawik 83.54 20 P P 19 10 56.0 +0.4
baz=238
E18K Tukpahlearik C 83.67 19 IAmb IAmb 19 11 14.5
comp=Z,9.7nm,1.1s
E18K Tukpahlearik C 83.67 19 P P 19 10 56.6 +0.3
baz=237
J19K Poorman 83.71 23 IAmb IAmb 19 10 57.8
comp=Z,18nm,1.4s
J19K Poorman 83.71 23 P P 19 10 57.3 +0.7
baz=242
L20K Farewell, AK 83.72 25 P P 19 10 57.2 +0.5
baz=244
M20K Styx River 83.78 25 P P 19 10 57.3 +0.2
baz=245
QSPA South Pole Qui 83.82 180 P P 19 10 57.6 +0.2
QSPA South Pole Qui 83.82 180 P P 19 10 57.9 +0.5
comp=Z,7.5nm,0.8s,baz=321,slow=0.9,SNR=23
QSPA LR LR 19 48 33.3
comp=Z,865nm,19.6s,baz=3.0,slow=36
comp=Z,7.5nm,0.8s
NRIK Noril'sk 84.01 343 *ce*P P 19 10 57.3 -0.7
NRIK pmax pmax
comp=Z,18nm,1.1s
NRIK Noril'sk 84.01 343 P P 19 10 57.9 -0.1
comp=Z,13nm,1.0s,baz=134,slow=5.2,SNR=14
NRIK LR LR 19 49 15.6
comp=Z,166nm,18.8s,baz=134,slow=36
comp=Z,13nm,1.0s
K20K Telida 84.03 24 IAmb IAmb 19 10 59.6
comp=Z,18nm,1.3s
K20K Telida 84.03 24 P P 19 10 58.6 +0.3
baz=244
H19K Roundabout Mou 84.12 22 IAmb IAmb 19 10 59.8
comp=Z,12nm,1.1s
H19K Roundabout Mou 84.12 22 P P 19 10 58.9 +0.3
baz=241
BVAR Borovoye Array 84.15 325 P P 19 10 59.5 +0.3
comp=Z,12nm,0.7s,baz=112,slow=6.4,SNR=78
comp=Z,12nm,0.7s
C18K Utukok River 84.16 18 P P 19 10 59.2 +0.3
baz=236
G19K Purcell Mounta 84.20 21 P P 19 10 59.4 +0.4
baz=241
BRVK Borovoye 84.22 325 *ce*P P 19 11 00.1 +0.6
BRVK pmax pmax
comp=Z,26nm,1.7s
F19K Shaleruckik Mo 84.30 20 P P 19 10 59.2 -0.4
baz=240
J20K Nowinta River 84.37 23 P P 19 11 00.7 +0.7
baz=244
B18K Kokolik River 84.37 17 P P 19 11 00.7 +0.8
baz=236
PPLA Purkeypile 84.60 25 P P 19 11 00.9 -0.5
baz=245
H20K Anotleneega Mo 84.69 22 P P 19 11 01.5 0.0
baz=243
SEW Seward 84.70 28 P P 19 11 01.6 -0.1
baz=248
E19K Redstone River 84.80 20 P P 19 11 02.4 +0.3
baz=240
CAST Castle Rocks 84.86 24 IAmb IAmb 19 11 02.7
comp=Z,14nm,1.3s
CAST Castle Rocks 84.86 24 P P 19 11 01.8 -0.7
baz=245
C19K Lookout Ridge 84.89 18 P P 19 11 03.5 +0.9
baz=238
RC01 Rabbit Creek A 84.94 27 P P 19 11 02.4 -0.6
baz=248
CHUM Lake Minchumin 84.97 24 P P 19 11 02.9 0.0
baz=245
D19K Kuna River 85.03 19 IAmb IAmb 19 11 33.4
comp=Z,14nm,1.1s
D19K Kuna River 85.03 19 P P 19 11 02.9 -0.3
baz=239
A19K Wainwright 85.06 17 P P 19 11 03.7 +0.4
baz=236
F20K Avaraart Lake 85.11 20 P P 19 11 03.9 +0.3
baz=242
PMR Palmer 85.40 27 P P 19 11 04.5 -0.6
baz=248
H21K Melozitna Rive 85.53 22 P P 19 11 05.7 -0.1
baz=245
E20K Nigu River 85.53 19 P P 19 11 06.2 +0.3
baz=241
BPAW Bear Paw Mtn. 85.59 24 P P 19 11 05.8 -0.4
baz=246

D20K	**Etivluk River**	**85.62**	**19**	P	**P**	**19 11 06.2**	**0.0**
	baz=241						
KNK	**Knik Glacier**	**85.64**	**27**	P	**P**	**19 11 06.3**	**-0.1**
	baz=249						
I21K	**Tanana**	**85.64**	**23**	IAmb	IAmb	19 11 07.5	
	comp=Z,20nm,1.4s						
I21K	**Tanana**	**85.64**	**23**	P	**P**	**19 11 07.1**	**+0.8**
	baz=245						
SML	**Sawmill**	**85.84**	**26**	P	**P**	**19 11 07.2**	**-0.3**
	baz=249						
F21K	**Alatna River**	**85.97**	**21**	P	**P**	**19 11 08.2**	**+0.3**
	baz=244						
MLY	**Manley**	**86.06**	**23**	P	**P**	**19 11 07.6**	**-0.9**
MLY				IAmb	IAmb	19 11 09.1	
	comp=Z,12nm,1.2s						
MLY	**Manley**	**86.06**	**23**	P	**P**	**19 11 08.4**	**-0.1**
	baz=247						
B20K	**Meade River**	**86.09**	**17**	P	**P**	**19 11 08.4**	**0.0**
	baz=240						
WAT1	**Susitna Watana**	**86.11**	**25**	P	**P**	**19 11 08.0**	**-0.8**
	baz=249						
H22K	**Ishtalitna Cre**	**86.17**	**22**	P	**P**	**19 11 08.6**	**-0.4**
	baz=246						
MCK	**McKinley**	**86.28**	**25**	P	**P**	**19 11 08.3**	**-1.3**
	baz=248						
SCM	**Sheep Creek Mo**	**86.29**	**27**	P	**P**	**19 11 09.8**	**0.0**
	baz=250						
WAT6	**Susitna Watana**	**86.37**	**26**	P	**P**	**19 11 09.5**	**-0.7**
	baz=249						
C21K	**Knifeblade Rid**	**86.41**	**19**	P	**P**	**19 11 10.4**	**+0.3**
	baz=242						
G22K	**Bettles**	**86.54**	**21**	P	**P**	**19 11 11.0**	**+0.3**
	baz=246						
NEA2	**Nenana**	**86.55**	**24**	P	**P**	**19 11 10.1**	**-0.7**
	baz=248						
B21K	**Ikpikpuk River**	**86.68**	**18**	P	**P**	**19 11 11.4**	**+0.1**
	baz=243						
DHY	**Denali Highway**	**86.70**	**25**	IAmb	IAmb	19 11 41.2	
	comp=Z,9.8nm,0.9s						
DHY	**Denali Highway**	**86.70**	**25**	P	**P**	**19 11 11.5**	**-0.3**
	baz=250						
KLU	**Klutina**	**86.81**	**27**	IAmb	IAmb	19 11 31.9	
	comp=Z,14nm,1.0s						
KLU	**Klutina**	**86.81**	**27**	P	**P**	**19 11 12.6**	**+0.3**
	baz=251						
M24K	**Tolsona, Glenn**	**86.90**	**27**	P	**P**	**19 11 12.9**	**+0.2**
	baz=251						
E22K	**Anaktuvuk Pass**	**86.94**	**20**	IAmb	IAmb	19 11 22.0	
	comp=Z,14nm,1.4s						
E22K	**Anaktuvuk Pass**	**86.94**	**20**	P	**P**	**19 11 13.0**	**+0.3**
	baz=245						
D22K	**Ayikyak River**	**86.97**	**19**	IAmb	IAmb	19 11 48.1	
	comp=Z,15nm,1.2s						
D22K	**Ayikyak River**	**86.97**	**19**	P	**P**	**19 11 13.0**	**+0.2**
	baz=244						
G23K	**Bananza Creek**	**87.00**	**22**	P	**P**	**19 11 12.8**	**-0.2**
	baz=247						
CCB	**Clear Creek Bu**	**87.08**	**24**	IAmb	IAmb	19 11 12.8	
	comp=Z,7.9nm,0.9s						
COLD	**Coldfoot**	**87.13**	**21**	P	**P**	**19 11 13.8**	**+0.2**
	baz=247						
COLA	**College**	**87.14**	**24**	*i* P	**P**	**19 11 10.8**	**-2.9**
COLA				pmax	pmax		
	comp=Z,11nm,1.3s						
BMRM	**Bremner River**	**87.25**	**28**	P	**P**	**19 11 14.7**	**+0.3**
	baz=252						
B22K	**Teshekpuk Lake**	**87.37**	**18**	P	**P**	**19 11 14.4**	**-0.3**
	baz=244						
N25K	**Chitina, Valde**	**87.45**	**27**	IAmb	IAmb	19 11 16.6	
	comp=Z,17nm,1.5s						
N25K	**Chitina, Valde**	**87.45**	**27**	P	**P**	**19 11 14.8**	**-0.5**
	baz=252						
H24K	**Noodor Dome**	**87.47**	**23**	IAmb	IAmb	19 11 16.0	
	comp=Z,8.1nm,1.1s						
H24K	**Noodor Dome**	**87.47**	**23**	P	**P**	**19 11 15.9**	**+0.5**
	baz=249						
IL31		**87.49**	**24**	IAmb	IAmb	19 11 28.9	
	comp=Z,8.2nm,0.9s						
ILAR	**Eielson Array**	**87.49**	**24**	P	**P**	**19 11 13.2**	**-2.3**
	comp=Z,3.5nm,0.8s,baz=257,slow=5.2,SNR=36						
	comp=Z,3.5nm,0.8s						
D23K	**Nanushuk River**	**87.66**	**19**	P	**P**	**19 11 17.3**	**+1.1**
	baz=246						
E23K	**Chandalar**	**87.66**	**20**	P	**P**	**19 11 17.0**	**+0.8**
	baz=247						
GLB	**Gilahina Butte**	**87.76**	**28**	IAmb	IAmb	19 11 17.4	
	comp=Z,10nm,1.1s						
TOLK	**Toolik Lake Re**	**87.90**	**20**	P	**P**	**19 11 18.1**	**+0.7**
	baz=248						
G24K	**Hadweenzic Riv**	**87.93**	**22**	IAmb	IAmb	19 11 18.8	
	comp=Z,14nm,1.2s						
G24K	**Hadweenzic Riv**	**87.93**	**22**	P	**P**	**19 11 18.5**	**+1.0**
	baz=250						
C23K	**Itkillik River**	**88.03**	**19**	P	**P**	**19 11 18.5**	**+0.6**
	baz=246						
J25K	**Salcha River,**	**88.05**	**24**	P	**P**	**19 11 17.3**	**-0.9**
	baz=252						
E24K	**Your Creek**	**88.06**	**21**	IAmb	IAmb	19 11 59.3	
	comp=Z,8.6nm,1.4s						
F24K	**Squaw Lake**	**88.07**	**21**	IAmb	IAmb	19 11 19.9	
	comp=Z,11nm,1.1s						
F24K	**Squaw Lake**	**88.07**	**21**	P	**P**	**19 11 18.9**	**+0.7**
	baz=249						
D24K	**Happy Valley**	**88.35**	**20**	P	**P**	**19 11 20.1**	**+0.7**
	baz=248						
H25L	**Birch Creek**	**88.41**	**23**	P	**P**	**19 11 20.4**	**+0.7**
	baz=251						
L26K	**Log Cabin Wild**	**88.43**	**26**	IAmb	IAmb	19 11 41.7	
	comp=Z,16nm,1.4s						
L26K	**Log Cabin Wild**	**88.43**	**26**	P	**P**	**19 11 20.4**	**+0.5**
	baz=253						
SCRK	**Sand Creek**	**88.43**	**25**	P	**P**	**19 11 19.7**	**-0.4**
SCRK	**Sand Creek**	**88.43**	**25**	P	**P**	**19 11 19.2**	**-0.9**
	baz=253						
G25K	**Bearman Lake**	**88.47**	**22**	P	**P**	**19 11 21.0**	**+1.0**
	baz=251						
C24K	**Franklin Bluff**	**88.60**	**19**	P	**P**	**19 11 21.5**	**+0.9**
	baz=248						
BARN	**Barnard Glacie**	**88.65**	**28**	IAmb	IAmb	19 11 40.9	
	comp=Z,9.9nm,0.9s						
J26L	**Joseph Creek**	**88.76**	**25**	IAmb	IAmb	19 11 22.4	
	comp=Z,13nm,1.2s						
J26L	**Joseph Creek**	**88.76**	**25**	P	**P**	**19 11 21.6**	**0.0**
	baz=253						
CTG	**Chitna Glacier**	**88.78**	**28**	P	**P**	**19 11 22.0**	**+0.2**
	baz=255						
M27K	**Edge Creek, AK**	**88.89**	**27**	IAmb	IAmb	19 11 23.5	
	comp=Z,12nm,1.1s						
M27K	**Edge Creek, AK**	**88.89**	**27**	P	**P**	**19 11 22.7**	**+0.4**
	baz=255						
F25K	**Christian Rive**	**88.91**	**21**	P	**P**	**19 11 22.9**	**+0.7**
	baz=251						
L27K	**Beaver Creek,**	**89.10**	**26**	IAmb	IAmb	19 11 24.3	
	comp=Z,9.5nm,1.2s						
L27K	**Beaver Creek,**	**89.10**	**26**	P	**P**	**19 11 23.3**	**+0.2**
	baz=255						
E25K	**Arctic Village**	**89.11**	**21**	P	**P**	**19 11 23.5**	**+0.4**
	baz=251						
GEYT	**Alibeck**	**89.15**	**308**	P	**P**	**19 11 24.8**	**+0.9**
	comp=Z,3.2nm,1.0s,baz=67,slow=1.1,SNR=7.0						
GEYT				LR	LR	19 53 48.3	
	comp=Z,75nm,20.9s,baz=130,slow=37						
	comp=Z,3.2nm,1.0s						
I26K	**Coal Creek Min**	**89.16**	**24**	P	**P**	**19 11 23.3**	**0.0**
	baz=254						
D25K	**Kavik River**	**89.23**	**20**	IAmb	IAmb	19 11 52.8	
	comp=Z,14nm,1.2s						
D25K	**Kavik River**	**89.23**	**20**	P	**P**	**19 11 24.0**	**+0.4**
	baz=250						
K27K	**Chicken**	**89.25**	**25**	P	**P**	**19 11 24.0**	**+0.3**
	baz=254						
BVCY	**Beaver Creek**	**89.37**	**27**	P	**P**	**19 11 24.4**	**0.0**
	baz=256						
G26K	**Porcupine Rive**	**89.40**	**22**	P	**P**	**19 11 25.1**	**+0.8**
	baz=253						
F26K	**Sheenjek River**	**89.48**	**21**	P	**P**	**19 11 25.8**	**+1.0**
	baz=252						
YUK8	**Steele Glacier**	**89.60**	**28**	P	**P**	**19 11 26.5**	**+0.7**
	baz=257						
I27K	**Kandik River**	**89.86**	**24**	P	**P**	**19 11 26.7**	**+0.1**
	baz=255						
H27K	**Steamboat Moun**	**90.06**	**23**	P	**P**	**19 11 28.1**	**+0.5**
	baz=255						
YUK4	**Talbot Arm**	**90.14**	**28**	P	**P**	**19 11 28.6**	**+0.4**
	baz=258						
G27K	**Doyon Strip**	**90.16**	**23**	P	**P**	**19 11 29.1**	**+1.1**
	baz=255						
DAWY	**Dawson**	**90.41**	**26**	P	**P**	**19 11 29.3**	**+0.1**
DAWY				IAmb	IAmb	19 11 30.4	
	comp=Z,14nm,1.3s						
DAWY	**Dawson**	**90.41**	**26**	P	**P**	**19 11 30.0**	**+0.8**
	baz=257						
M29M	**Somme Creek**	**90.46**	**27**	P	**P**	**19 11 30.1**	**+0.5**
	baz=258						
I28M	**Miner Creek**	**90.50**	**24**	IAmb	IAmb	19 11 31.9	
	comp=Z,9.2nm,1.2s						
I28M	**Miner Creek**	**90.50**	**24**	P	**P**	**19 11 29.9**	**+0.2**
	baz=256						
E27K	**Coleen River**	**90.55**	**21**	IAmb	IAmb	19 11 31.6	
	comp=Z,11nm,1.4s						
E27K	**Coleen River**	**90.55**	**21**	P	**P**	**19 11 30.8**	**+1.0**
	baz=255						
HYT	**Haines Junctio**	**90.57**	**29**	P	**P**	**19 11 29.8**	**-0.4**
	baz=258						
P30M	**Million Dollar**	**90.70**	**30**	P	**P**	**19 11 30.7**	**0.0**
	baz=259						
L29M	**L29M**	**90.75**	**27**	IAmb	IAmb	19 11 32.2	
	comp=Z,12nm,1.1s						
L29M	**L29M**	**90.75**	**27**	P	**P**	**19 11 31.7**	**+0.9**
	baz=258						
N30M	**Aishikik Lake**	**90.89**	**28**	P	**P**	**19 11 31.8**	**+0.3**
	baz=259						
J29N	**Klondike Camp**	**90.99**	**25**	P	**P**	**19 11 32.1**	**+0.1**
	baz=258						
K29M	**Barlow Dome**	**91.17**	**26**	IAmb	IAmb	19 11 48.3	
	comp=Z,6.6nm,1.0s						
K29M	**Barlow Dome**	**91.17**	**26**	P	**P**	**19 11 33.4**	**+0.5**
	baz=259						
ARU	**Arti**	**91.61**	**326**	P	**P**	**19 11 34.0**	**-0.9**
ARU				IAmb	IAmb	19 11 53.9	
	comp=Z,10nm,1.3s						
ARU	**Arti**	**91.61**	**326**	*d* P	**P**	**19 11 33.1**	**-1.8**
ARU						19 15 11.4	
ARU				S	**SKSac**	**19 22 05.4**	**-0.1**
ARU				SS	**SS**	**19 28 33.9**	**-6.3**
ARU				pmax	pmax		
	comp=Z,19nm,2.3s						
ARU	**Arti**	**91.61**	**326**	P	**P**	**19 11 33.6**	**-1.2**
	comp=Z,2.5nm,0.6s,baz=103,slow=4.4,SNR=7.4						
ARU				LR	LR	19 54 07.1	
	comp=Z,92nm,19.7s,baz=114,slow=36						
	comp=Z,2.5nm,0.6s						
J30M	**Hart River**	**91.82**	**25**	IAmb	IAmb	19 11 57.9	
	comp=Z,12nm,1.4s						
J30M	**Hart River**	**91.82**	**25**	P	**P**	**19 11 35.5**	**-0.4**
	baz=260						
I30M	**Mount Dempster**	**91.92**	**25**	P	**P**	**19 11 36.1**	**-0.2**
	baz=260						
EPYK	**Eagle Plains**	**91.99**	**23**	P	**P**	**19 11 36.8**	**+0.3**
	baz=259						
F30M	**Barrier River**	**92.57**	**22**	P	**P**	**19 11 40.5**	**+1.4**
	baz=260						
FARO	**Faro, Yukon**	**92.77**	**28**	P	**P**	**19 11 40.3**	**+0.1**
	baz=262						
H31M	**Peel River**	**92.85**	**24**	P	**P**	**19 11 39.4**	**-1.0**
	baz=262						
G31M	**Satah River**	**93.04**	**23**	P	**P**	**19 11 42.9**	**+1.6**
	baz=262						
INK	**Inuvik**	**93.52**	**22**	LR	LR	19 50 56.7	
	comp=Z,124nm,19.6s,baz=194,slow=34						
DLBC	**Dease Lake**	**93.98**	**32**	LR	LR	19 46 44.1	
	comp=Z,153nm,21.8s,baz=330,slow=31						
BBB	**Bella Bella**	**94.57**	**38**	LR	LR	19 50 34.5	
	comp=Z,256nm,18.0s,baz=256,slow=33						
WTLY	**Watson Lake, Y**	**94.75**	**30**	IAmb	IAmb	19 12 22.3	
	comp=Z,8.1nm,1.2s						
WTLY	**Watson Lake, Y**	**94.75**	**30**	P	**P**	**19 11 48.9**	**-0.4**
	baz=266						
KIRV	**Kirov**	**96.70**	**328**	LR	LR	19 56 57.9	
	comp=Z,192nm,20.1s,baz=87,slow=36						
MAK	**Makhachkala**	**97.64**	**312**	*eP*	**P**	**19 11 58.6**	**-4.2**
MAK				*e*		19 22 33.5	
MAK				*e*SSS	SSS	19 33 49.2	
MAK				pmax	pmax		
	comp=Z,242nm,1.2s						
BELG	**Belogornoye**	**97.67**	**322**	*i* P	**P**	**19 12 01.9**	**-0.8**
BELG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BELG	**Belogornoye**	**97.67**	**322**	LR	LR	19 59 04.4	
	comp=Z,117nm,19.5s,baz=325,slow=37						
YBH	**Yreka Blue Hor**	**97.79**	**49**	LR	LR	19 50 59.2	
	comp=Z,137nm,19.7s,baz=298,slow=32						
SNAA	**Sanae**	**99.04**	**191**	LR		19 59 14.7	
	comp=Z,354nm,18.2s,baz=191,slow=37						
KIV	**Kislovodsk**	**101.14**	**313**	*eP*	**Pdif**	**19 12 16.3**	**-2.3**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,80nm,20.0s						
CLL	**Collm**	**118.55**	**326**	*e*PKIKP	**PKiKP**	**19 17 19.0**	**+3.1**
CLL	**Collm**	**118.55**	**326**	*e*PKPdf	**PKiKP**	**19 17 19.0**	**+3.1**
CLL				AMS	AMS	20 07 00.0	
	comp=Z,200nm,21.1s						
GERES	**GERESS Array B**	**119.31**	**324**	PKP	**PKiKP**	**19 17 17.9**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=91,slow=3.9,SNR=2.6						
PLCA	**Paso Flores**	**124.46**	**150**	PKP	**PKiKP**	**19 17 28.7**	**+0.7**
	comp=Z,2.2nm,0.9s,baz=333,slow=2.3,SNR=3.6						
PB06	**IPOC Station P**	**137.65**	**134**		**PKPdf**	**19 17 50.0**	**-3.2**
TORD	**Torodi Ar. Bea**	**140.56**	**283**	PKhKP	PKPpre	19 17 53.3	
	comp=Z,0.6nm,0.8s,baz=55,slow=3.9,SNR=3.0						
TORD				PKP	**PKiKP**	**19 18 02.1**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=53,slow=3.2,SNR=6.0						
SDDR	**Presa de Saban**	**144.93**	**66**		**PKPab**	**19 18 04.0**	**-1.3**
KIC	**Kosan Boka**	**147.22**	**272**	⇓*i*PKIKP	**PKPab**	**19 18 14.1**	**-0.1**
	comp=Z,52nm,1.3s						
DBIC	**Dimbokro**	**147.34**	**273**	PKPbc	**PKPab**	**19 18 14.3**	**-0.3**
	comp=Z,8.2nm,0.9s,baz=89,slow=2.8,SNR=6.1						
LIC	**Lamto**	**147.50**	**272**	⇑*i*PKIKP	**PKPbc**	**19 18 14.1**	**+0.9**
	comp=Z,22nm,0.8s						
TIC	**Toumodi**	**147.50**	**273**	⇓*i*PKIKP	**PKPab**	**19 18 14.7**	**-0.6**
	comp=Z,3.1nm,0.2s						

*IDC **15** 19:09:34.3±1.1,6°.50S×143°.87E, h0km, mb3.9/4, mbtmp4.0/6, ML2.0/1, Error ellipse: s-maj=40.0km s-min=25.5km az=83.0*

ISC 15 19:09:39.4±0.9, 6°.7S±0°.1×143°.8E±0°.1, h35km, n7, σ1§96/8, mb3.8/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.29**	**129**	Pn	**Pn**	**19 10 43.1**	**+0.9**
	5.5nm,0.3s,baz=321,slow=8.1,SNR=21						
PMG				Sn	**Sn**	**19 11 29.6**	**-1.4**
	3.0nm,0.3s,baz=342,slow=20,SNR=3.5						
	24nm,0.5s						
WRA	**Warramunga Arr**	**16.03**	**214**	Pn	**Pn**	**19 13 19.5**	**-2.8**
	0.2nm,0.3s,baz=31,slow=12,SNR=6.4						
WRA				Lg	Lg	19 18 06.7	
	0.1nm,0.3s,baz=41,slow=29,SNR=5.0						
ASAR	**Alice Springs**	**19.34**	**208**	P	**P**	**19 14 04.6**	**+2.5**
	15nm,0.8s,baz=42,slow=9.2,SNR=30						
ASAR				Lg	Lg	19 19 55.2	
	baz=32,slow=28,SNR=4.8						
MKAR	**Makanchi Array**	**76.03**	**322**	P	**P**	**19 21 22.6**	**-0.7**
	0.8nm,1.0s,baz=108,slow=6.9,SNR=5.6						
	0.8nm,1.0s						
QSPA	**South Pole Qui**	**83.26**	**180**	P	**P**	**19 22 03.1**	**+0.8**
	3.0nm,1.0s,baz=291,slow=2.2,SNR=4.3						
	3.0nm,1.0s						
BVAR	**Borovoye Array**	**85.47**	**325**	P	**P**	**19 22 14.2**	**+0.6**
	0.7nm,0.8s,baz=115,slow=6.8,SNR=4.4						
	0.7nm,0.8s						
ILAR	**Eielson Array**	**87.40**	**24**	P	**P**	**19 22 22.2**	**-0.6**
	0.3nm,0.8s,baz=241,slow=5.0,SNR=2.7						
	0.3nm,0.8s						

PRU 15 19:13:19.6, 49°.83N×18°.50E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.23**	**272**	*e*P	Pg	19 13 23.3	-0.7
OKC	**Ostrava-Krasne**	**0.23**	**272**	*e*PG	Pg	19 13 23.3	-0.7
OKC				*e*SG	Sg	19 13 27.2	+0.3
MORC	**Moravsky Berou**	**0.62**	**265**	*e*PG	Pg	19 13 31.1	-0.4
MORC				*e*SG	Sg	19 13 38.7	-0.9
LANS	**Liptovska Anna**	**0.93**	**137**	*e*SG	Sg	19 13 49.5	+0.1
KRLC	**Kraliky**	**1.14**	**283**	*e*P	Pg	19 13 39.8	-1.6
KRLC	**Kraliky**	**1.14**	**283**	*e*PG	Pg	19 13 39.8	-1.6
KRLC				*e*SG	Sg	19 13 55.9	-0.2
DPC	**Dobruska-Polom**	**1.50**	**291**	*e*SG	Sg	19 14 07.4	-0.2

*IDC **15** 19:41:33.9±0.7,6°.13S×142°.66E, h0km, mb4.1/13, mbtmp4.2/16, ML1.8/1, MS3.6/23, Error ellipse: s-maj=29.1km s-min=15.4km az=82.0*

*NEIC **15** 19:41:35.6±1.6,6°.1S±0°.1×142°.6E±0°.1, h10km±1km, mb4.7/36, Error ellipse: s-maj=20.1km s-min=15.3km az=40.0*

*DJA **15** 19:41:43.8±0.3,6°.S±3°×14°.2E±°, h57km±5km, M4.8/29, mB5.3/7, mb4.4/29, MLv5.0/7, Mw(mB)4.7/7*

ISC 15 19:41:36.4±0.5, 6°.38S±0°.05×142°.52E±0°.06, h10km, n102, σ1§97/71, mb4.5/34, MS3.6/18, 1D, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.70**	**310**	P	**Pn**	**19 42 05.0**	**-1.1**
MMPI	**Merauke**	**2.97**	**225**	P	**Pb**	**19 42 32.9**	**+3.5**
JAY	**Jayapura**	**4.24**	**335**	P	**Pn**	**19 42 40.8**	**-0.4**
GENI	**Genyem**	**4.43**	**328**	P	**Pn**	**19 42 43.3**	**-0.4**
GENI	**Genyem**	**4.43**	**328**	P	**Pn**	**19 42 43.4**	**-0.3**
PMG	**Port Moresby**	**5.49**	**124**	Pn	**Pn**	**19 42 57.5**	**-0.9**
PMG	**Port Moresby**	**5.49**	**124**	P	**Pn**	**19 43 01.5**	**+3.2**
	41nm,0.9s						
PMG	**Port Moresby**	**5.49**	**124**	Pn	**Pn**	**19 42 59.5**	**+1.2**
	1.8nm,0.3s,baz=305,slow=8.5,SNR=7.1						
PMG				Sn	**Sn**	**19 43 59.6**	**-2.0**
	1.5nm,0.3s,baz=314,slow=13,SNR=2.2						
PMG				LR	LR	19 46 00.4	
	comp=Z,299nm,20.0s,baz=257,slow=48						
	22nm,0.8s						
COEN	**Coen**	**7.56**	**175**		**Pn**	**19 43 28.5**	**+1.8**
FAKI	**Fak Fak**	**10.80**	**288**	Pn	Pn	19 44 09.2	-2.0
FAKI	**Fak Fak**	**10.80**	**288**	P	Pn	19 44 08.9	-2.3
KDU	**Kakadu**	**11.72**	**237**	P	**Pn**	**19 44 22.6**	**-1.2**
SWI	**Sorong**	**12.50**	**296**	P	**Pn**	**19 44 36.8**	**+2.3**
	26nm,1.0s,894nm						
MTN	**Manton Dam**	**12.93**	**239**		Pn	19 44 38.3	-2.1
MTN	**Manton Dam**	**12.93**	**239**	P	**Pn**	**19 44 38.5**	**-1.9**
CTA	**Charters Tower**	**14.10**	**165**	Lg	Lg	19 49 04.1	
	0.1nm,0.3s,baz=270,slow=21,SNR=2.6						
CTA				LR	LR	19 50 19.8	
	comp=Z,310nm,19.0s,baz=181,slow=37						
QIS	**Mount Isa**	**14.38**	**191**	P	**Pn**	**19 45 00.5**	**+0.3**
WB0	**Warramunga Arr**	**15.48**	**210**		**Pn**	**19 45 12.2**	**-2.7**
WR0	**Warramunga Arr**	**15.57**	**209**	P	**Pn**	**19 45 15.2**	**-0.9**
WRAB	**Tennant Creek**	**15.64**	**210**		**Pn**	**19 45 17.2**	**+0.1**
WB2	**Warramunga Arr**	**15.65**	**210**	P	**Pn**	**19 45 15.2**	**-2.0**
WB2				IAmb	IAmb	19 45 24.6	
	comp=Z,51nm,1.4s						
WRA	**Warramunga Arr**	**15.65**	**210**	Pn	**Pn**	**19 45 15.0**	**-2.2**
WRA	**Warramunga Arr**	**15.65**	**210**	Pn	**Pn**	**19 45 15.9**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=33,slow=13,SNR=17						
WRA				Sn	**Sn**	**19 48 02.7**	**-8.1**
	comp=Z,0.5nm,0.3s,baz=75,slow=13,SNR=2.5						
WRA				Lg	Lg	19 49 55.2	
	comp=Z,0.6nm,0.3s,baz=35,slow=28,SNR=6.6						
WRA				LR	LR	19 52 23.4	
	comp=Z,352nm,18.4s,baz=350,slow=41						
WB1	**Warramunga Ar.**	**15.66**	**210**	P	**Pn**	**19 45 16.5**	**-0.9**
KNRA	**Kununurra**	**16.35**	**234**	Pn	**Pn**	**19 45 23.4**	**-2.9**
KNRA				IAmb	IAmb	19 45 34.5	
	comp=Z,68nm,1.4s						
TNTI	**Ternate**	**16.71**	**295**	P	**Pn**	**19 45 30.5**	**-0.3**
	comp=Z,28nm,1.4s,comp=Z,720nm						
SANI	**Sanana**	**17.04**	**284**	P	**Pn**	**19 45 35.1**	**+0.2**
	comp=Z,11nm,0.8s						
SOEI	**Soe**	**18.38**	**258**		**Pn**	**19 45 50.8**	**-0.9**
SOEI				IAmb	IAmb	19 46 13.9	
	comp=Z,63nm,0.9s						
SOEI	**Soe**	**18.38**	**258**	P	**Pn**	**19 45 51.0**	**-0.7**
SOEI	**Soe**	**18.38**	**258**	P	**Pn**	**19 45 54.1**	**+2.4**
	comp=Z,86nm,1.3s						
BATI	**Baumata**	**19.04**	**257**	P	**P**	**19 46 01.5**	**+2.6**
	comp=Z,10.0nm,0.4s,baz=79,slow=9.2,SNR=4.7						
BATI				LR	LR	19 55 32.4	
	comp=Z,289nm,20.4s,baz=96,slow=44						
BATI	**Baumata**	**19.04**	**257**	P	**Pn**	**19 46 02.8**	**+3.1**
	comp=Z,26nm,1.2s						
AS01	**Alice Springs**	**19.06**	**205**	P	**P**	**19 46 00.3**	**+1.2**
AS31	**Alice Springs**	**19.08**	**205**	P	**P**	**19 46 00.4**	**+1.1**
ASAR	**Alice Springs**	**19.08**	**205**	P	**P**	**19 45 59.9**	**+0.5**
ASAR	**Alice Springs**	**19.08**	**205**	P	**P**	**19 46 01.1**	**+1.8**
	comp=Z,8.1nm,0.6s,baz=32,slow=10,SNR=133						
ASAR				Sn	**Sn**	**19 49 27.8**	**-6.3**
	comp=Z,0.2nm,0.3s,baz=23,slow=26,SNR=4.6						
ASAR				Lg	Lg	19 51 49.5	
	comp=Z,0.2nm,0.3s,baz=28,slow=33,SNR=5.7						
ASAR				LR	LR	19 54 10.7	
	comp=Z,680nm,18.2s,baz=35,slow=39						
SGSI	**Sangihe**	**19.69**	**300**	P	**P**	**19 46 06.2**	**+0.2**
	comp=Z,367nm,0.4s,comp=Z,5μm						
QLP	**Quilpie**	**20.16**	**176**	P	**P**	**19 46 13.2**	**+2.2**
FITZ	**Fitzroy Crossi**	**20.17**	**233**	P	**P**	**19 46 11.4**	**+0.2**
MMRI	**Maumere**	**20.23**	**262**	P	**P**	**19 46 14.2**	**+2.3**
	comp=Z,43nm,1.8s,comp=Z,908nm						
LUWI	**Luwuk**	**20.40**	**284**	P	**P**	**19 46 14.9**	**+1.2**
	comp=Z,74nm,1.1s						
EDFI	**Ende, Flores**	**20.78**	**262**	P	**P**	**19 46 18.0**	**0.0**
	comp=Z,28nm,1.5s						
INKA	**Innaminka**	**21.31**	**184**	P	**P**	**19 46 25.6**	**+2.1**
DAV	**Davao City (W)**	**21.54**	**308**	LR	LR	19 56 19.0	
	comp=Z,39nm,18.1s,baz=126,slow=41						
MRSI	**Marisa**	**21.64**	**288**	P	**P**	**19 46 27.2**	**+0.1**
	comp=Z,12nm,1.5s						
OOD	**Oodnadatta**	**22.27**	**196**	P	**P**	**19 46 35.0**	**+1.3**
BKSI	**Bulukumba**	**22.31**	**272**	P	**P**	**19 46 36.2**	**+1.9**
	comp=

MA2	**Magadan**	**66.07**	**5**	LR	LR	20 17 55.3	
	comp=Z,20nm,21.9s,baz=160,slow=33						
YAK	**Yakutsk**	**68.93**	**354**	LR	LR	20 19 18.6	
	comp=Z,66nm,21.6s,baz=120,slow=33						
VNDA	**Vanda**	**71.84**	**176**	P	**P**	**19 53 00.9**	**+1.9**
	comp=Z,0.9nm,0.8s,baz=341,slow=6.9,SNR=2.4						
	comp=Z,0.9nm,0.8s						
MK31	**Makanchi Array**	**75.00**	**322**		**P**	**19 53 16.9**	**-1.3**
MKAR	**Makanchi Array**	**75.00**	**322**		**P**	**19 53 16.3**	**-1.8**
MKAR	**Makanchi Array**	**75.00**	**322**	P	**P**	**19 53 17.4**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=106,slow=7.2,SNR=15						
	comp=Z,1.3nm,0.8s						
MAKZ	**Makanchi**	**75.19**	**322**	P	**P**	**19 53 18.2**	**-1.0**
MAKZ				IAmb	IAmb	19 53 20.3	
	comp=Z,6.0nm,1.2s						
ZALV	**Zalesovo Beam**	**77.00**	**329**	P	P	19 53 26.7	-2.7
	comp=Z,0.5nm,0.4s,baz=102,slow=6.2,SNR=4.0						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**78.90**	**324**	P	**P**	**19 53 38.4**	**-1.6**
	comp=Z,1.2nm,0.9s,baz=116,slow=4.5,SNR=8.0						
	comp=Z,1.2nm,0.9s						
ARSB	**Arslanbob**	**79.10**	**314**	P	**P**	**19 53 39.9**	**-1.6**
G16K	**Koyuk River**	**82.08**	**20**	IAmb	IAmb	19 53 57.8	
	comp=Z,6.1nm,1.1s						
KDAK	**Kodiak Island**	**82.37**	**29**	LR	LR	20 23 17.0	
	comp=Z,49nm,21.2s,baz=233,slow=30						
QSPA	**South Pole Qui**	**83.59**	**180**	P	**P**	**19 54 04.0**	**-0.8**
	comp=Z,2.2nm,0.9s,baz=337,slow=0.8,SNR=7.4						
	comp=Z,2.2nm,0.9s						
NRIK	**Noril'sk**	**84.30**	**343**	P	P	19 54 05.8	-2.3
NRIK				IAmb	IAmb	19 54 09.2	
	comp=Z,7.0nm,1.1s						
NRIK	**Noril'sk**	**84.30**	**343**	P	**P**	**19 54 06.9**	**-1.2**
	comp=Z,2.8nm,0.8s,baz=139,slow=6.1,SNR=6.3						
	comp=Z,2.8nm,0.8s						
BVAR	**Borovoye Array**	**84.48**	**325**	P	**P**	**19 54 08.6**	**-0.8**
	comp=Z,4.5nm,0.8s,baz=112,slow=6.9,SNR=22						
	comp=Z,4.5nm,0.8s						
BRVK	**Borovoye**	**84.55**	**325**	P	P	19 54 07.8	-2.0
C19K	**Lookout Ridge**	**85.04**	**18**	IAmb	IAmb	19 54 14.3	
	comp=Z,5.3nm,1.1s						
HRA	**Herat**	**85.60**	**305**	P	**P**	**19 54 15.1**	**-0.6**
HRA				IAmb	IAmb	19 54 17.4	
	comp=Z,2.6nm,0.9s						
RND	**Reindeer**	**86.30**	**25**	P	P	19 54 15.7	-2.7
DHY	**Denali Highway**	**86.81**	**25**	P	**P**	**19 54 19.1**	**-1.9**
DHY				IAmb	IAmb	19 54 21.1	
	comp=Z,5.7nm,0.9s						
WRH	**Wood River Hil**	**87.01**	**24**	P	**P**	**19 54 20.1**	**-1.6**
WRH				IAmb	IAmb	19 54 58.8	
	comp=Z,6.9nm,1.4s						
D22K	**Ayikyak River**	**87.10**	**19**	IAmb	IAmb	19 54 53.1	
	comp=Z,6.7nm,1.4s						
CCB	**Clear Creek Bu**	**87.19**	**24**	IAmb	IAmb	19 54 21.6	
	comp=Z,5.7nm,1.0s						
IL31		**87.60**	**24**	IAmb	IAmb	19 54 25.6	
	comp=Z,2.4nm,0.8s						
ILAR	**Eielson Array**	**87.60**	**24**	P	P	19 54 21.9	-2.7
	comp=Z,1.8nm,0.8s,baz=256,slow=5.0,SNR=16						
ILAR				LR	LR	20 30 06.0	
	comp=Z,26nm,19.6s,baz=213,slow=33						
	comp=Z,1.8nm,0.8s						
TOLK	**Toolik Lake Re**	**88.04**	**20**	IAmb	IAmb	19 54 27.9	
	comp=Z,5.1nm,1.0s						
J26L	**Joseph Creek**	**88.87**	**25**	IAmb	IAmb	19 54 31.3	
	comp=Z,5.0nm,1.3s						
K29M	**Barlow Dome**	**91.27**	**26**	IAmb	IAmb	19 54 43.5	
	comp=Z,8.2nm,1.4s						
J30M	**Hart River**	**91.92**	**25**	IAmb	IAmb	19 55 11.9	
	comp=Z,3.9nm,1.4s						
INK	**Inuvik**	**93.64**	**22**	LR	LR	20 35 48.8	
	comp=Z,43nm,18.8s,baz=179,slow=35						
BBB	**Bella Bella**	**94.60**	**38**	LR	LR	20 27 56.6	
	comp=Z,27nm,20.5s,baz=306,slow=30						
YBH	**Yreka Blue Hor**	**97.76**	**49**	LR	LR	20 31 38.7	
	comp=Z,42nm,21.2s,baz=178,slow=31						

GUC 15 19:57:39.7±0.7, 23°.04S×66°.84W, h212$^{km}_{\pm 4km}$, ML3.5, 5C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.49**	**55**	⇓*i*P			Pn	19 58 14.3	-0.7
YJA				*i* S			S	19 58 40.5	-1.6
LVC	**Limon Verde**	**1.96**	**282**	⇑*i*P			Pn	19 58 18.8	-0.4
LVC				*i* S			S	19 58 49.1	-0.4
PB15	**IPOC Station P**	**2.43**	**266**	*i* P			Pn	19 58 23.6	-0.2
PB15				*i* S			S	19 58 57.4	-0.5
PB06	**IPOC Station P**	**2.55**	**277**	*i* P			Pn	19 58 24.6	-0.4
PB06				*i* S			S	19 58 59.0	-1.1
PB06				IAML				19 59 01.4	
	comp=N,85nm,0.1s								
PB09	**IPOC Station P**	**2.55**	**299**	⇑*i*P			Pn	19 58 25.2	+0.1
PB09				*i* S			S	19 58 58.0	-2.1
PB05	**IPOC Station P**	**3.11**	**273**	⇑*i*P			Pn	19 58 30.6	-0.8
PB05				*i* S			S	19 59 09.5	-1.9
PB05				IAML				19 59 11.4	
	comp=E,24nm,0.3s								
PB07	**IPOC Station P**	**3.11**	**294**	⇑*i*P			Pn	19 58 30.8	-0.7
PB07				*i* S			S	19 59 09.1	-2.6
PB07				IAML				19 59 10.2	
	comp=N,133nm,0.1s								
PB04	**IPOC Station P**	**3.14**	**282**	*i* P			Pn	19 58 31.1	-0.7
PB01	**IPOC Station P**	**3.16**	**308**	*i* P			Pn	19 58 31.2	-0.8
PB01				*i* S			S	19 59 11.1	-1.5
GO02	**Mina Guanaco**	**3.29**	**229**	*i* P			Pn	19 58 32.9	-0.7
GO02				*i* S			S	19 59 14.3	-1.2
PB02	**IPOC Station P**	**3.31**	**301**	*i* P			Pn	19 58 32.9	-0.9
PB02				*i* S			S	19 59 13.0	-2.8
PB10	**IPOC Station P**	**3.45**	**261**	⇑*i*P			Pn	19 58 34.5	-0.8
PB10				*i* S			S	19 59 15.4	-3.2
PB08	**IPOC Station P**	**3.60**	**323**	*i* P			Pn	19 58 37.7	+0.2
GO01	**Chusmiza**	**4.01**	**326**	*i* P			Pn	19 58 42.7	+0.1
PB11	**IPOC Station P**	**4.19**	**321**	*i* P			Pn	19 58 42.8	-1.7
PB11				*i* S			S	19 59 32.3	-2.9

*IDC **15** 20:13:29.4±0.9, 8°.48S×71°.48W, h586$^{km}_{\pm 11km}$, mb3.6/16, mbtmp4.6/23, Error ellipse: s-maj=12.4km s-min=8.7km az=53.0*
*NEIC **15** 20:13:29.7±2.2, 8°.5S±0°.1×71°.5W±0°.1, h590$^{km}_{\pm 9km}$, mb4.5/226, Error ellipse: s-maj=18.1km s-min=14.2km az=60.0*
*OSUNB **15** 20:13:29.1±0.2, 8°.55S×71°.51W, h581$^{km}_{\pm 2km}$, mb4.3/25, Error ellipse: s-maj=2.5km s-min=2.8km az=0.0*
*VAO **15** 20:13:29.7±0.5, 8°.59S×71°.49W, h580$^{km}_{\pm 9km}$, mb4.3*
*IGQ **15** 20:14:22±2.5, 6°.S±19°×7°.5W±2°.2, h286^{km}*

ISC 15 20:13:29.0±0.3, 8°.52S±0°.05×71°.46W±0°.05, h583^{km}, n522, σ0^{99}/446, mb4.5/126, 1C-2D, Western Brazil

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**1.46**	**302**	eP			P	**20 14 39.8**	**-0.1**
CZSB	**Cruzeiro do Su**	**1.46**	**302**	eP			P	**20 14 39.8**	**-0.1**
CZSB	**Cruzeiro do Su**	**1.46**	**302**	eP			P	**20 14 39.8**	**-0.1**
CZSB				eS			S	**20 15 35.2**	**-2.2**
TBTG	**Tabatinga, AM**	**4.57**	**20**	P			P	**20 14 58.8**	**+1.2**
TBTG	**Tabatinga, AM**	**4.57**	**20**	eP			P	**20 14 58.8**	**+1.2**
TBTG	**Tabatinga, AM**	**4.57**	**20**	eP			P	**20 14 58.8**	**+1.2**
TBTG				eS			S	**20 16 10.7**	**+1.0**
ETMB	**Extrema**	**5.33**	**104**				P	**20 15 04.7**	**+1.1**
ETMB	**Extrema**	**5.33**	**104**	eP			P	**20 15 04.7**	**+1.1**
ETMB	**Extrema**	**5.33**	**104**	eP			P	**20 15 04.8**	**+1.1**
ETMB				eS			S	**20 16 21.4**	**+0.6**
NNA	**Nana**	**6.32**	**237**	P			P	**20 15 12.4**	**+0.2**
NNA	**Nana**	**6.32**	**237**	P			P	**20 15 12.3**	**+0.1**
	93nm,0.3s,baz=64,slow=7.3,SNR=25								
NNA				S			S	**20 16 45.5**	**+8.9**
	25nm,0.4s,baz=87,slow=10,SNR=2.2								
ATAH	**Atahualpa**	**7.01**	**281**	P			P	**20 15 20.1**	**+1.2**
	28nm,0.5s,baz=118,slow=6.7,SNR=24								
ATAH				S			S	**20 16 49.9**	**+1.2**
	52nm,0.9s,baz=126,slow=15,SNR=8.5								
SAML	**Samuel**	**8.19**	**94**				P	**20 15 31.0**	**+1.3**
SAML	**Samuel**	**8.19**	**94**	eP			P	**20 15 31.0**	**+1.3**
SAML	**Samuel**	**8.19**	**94**	eP			P	**20 15 30.9**	**+1.3**
SAML				eS			S	**20 17 10.1**	**+1.6**
TEFE	**Tefe**	**8.41**	**54**	eP			P	**20 15 33.3**	**+1.5**
TEFE	**Tefe**	**8.41**	**54**	eP			P	**20 15 33.3**	**+1.5**
TEFE				eS			S	**20 17 14.2**	**+1.7**
MCRA	**Macar, Loja**	**9.40**	**296**	P			P	**20 15 41.1**	**-0.5**
PUYO	**Puyo, Santa Ro**	**9.56**	**317**	P			P	**20 15 44.0**	**+0.6**
COHC	**Cochancay**	**9.82**	**307**	P			P	**20 15 45.2**	**-0.5**
COHC	**Cochancay**	**9.82**	**307**	P			P	**20 15 47.0**	**+1.3**
BMAS	**Trigal station**	**9.87**	**315**	P			P	**20 15 48.0**	**+1.3**
ARNL	**Arenillas**	**9.88**	**299**	P			P	**20 15 45.6**	**-0.8**
BBIL	**Ulba Tungurahu**	**9.92**	**315**	P			P	**20 15 48.0**	**+0.9**
PB16	**IPOC Station P**	**9.94**	**169**	P			P	**20 15 46.0**	**-1.4**
TAMH	**Tambohuasha Ch**	**10.06**	**313**	P			P	**20 15 50.0**	**+1.3**
PIAT	**Ana Tenorio**	**10.09**	**317**	P			P	**20 15 49.0**	**+0.1**
PB12	**IPOC Station P**	**10.09**	**174**	P			P	**20 15 46.1**	**-2.4**
PORT	**Chimborazo Vol**	**10.11**	**314**	P			P	**20 15 51.0**	**+1.7**
PIS1	**Pisayambo**	**10.13**	**317**	P			P	**20 15 50.0**	**+0.6**
CHSH	**Refugio Sur-Vo**	**10.16**	**313**	P			P	**20 15 49.0**	**-0.8**
CHSH	**Refugio Sur-Vo**	**10.16**	**313**	P			P	**20 15 50.0**	**+0.2**
VCES	**Cotopaxi**	**10.32**	**318**	P			P	**20 15 53.0**	**+1.6**
ANTS	**Antisana-Sarah**	**10.40**	**320**	P			P	**20 15 53.0**	**+0.7**
CASC	**Dorado de Casc**	**10.41**	**325**	P			P	**20 15 52.0**	**+0.2**
ANTM	**Antisana-La Mi**	**10.41**	**319**	P			P	**20 15 53.0**	**+0.7**
BTAM	**Cotopaxi Volca**	**10.42**	**318**	P			P	**20 15 54.0**	**+1.6**
BVC2	**Cotopaxi Volca**	**10.44**	**318**	P			P	**20 15 55.0**	**+2.4**
SLOR	**San Lorenzo -**	**10.44**	**317**	P			P	**20 15 53.7**	**+1.2**
BREF	**Cotopaxi Volca**	**10.45**	**318**	P			P	**20 15 55.0**	**+2.2**
ANTG	**Antisana-Guama**	**10.45**	**319**	P			P	**20 15 54.0**	**+1.3**
ANGU	**Angureal**	**10.73**	**322**	P			P	**20 15 57.0**	**+1.5**
CAYA	**Cayambe**	**10.73**	**322**	P			P	**20 15 57.0**	**+1.5**
BONI	**La Bonita**	**10.77**	**326**	P			P	**20 15 55.0**	**-0.6**
FLOC	**Florencia**	**10.87**	**337**	P			P	**20 15 55.0**	**-1.4**
GGPT	**Toaza - Volcan**	**10.90**	**319**	P			P	**20 15 58.0**	**+0.9**
GGPC	**Guagua Pichinc**	**10.92**	**319**	P			P	**20 15 58.0**	**+0.5**
TERV	**Terraza Guagua**	**10.93**	**319**	P			P	**20 15 58.0**	**+0.5**
PULU	**Pululahua**	**11.01**	**320**	P			P	**20 15 59.2**	**+1.0**
IMBA	**Imbabura, San**	**11.02**	**322**	P			P	**20 15 58.8**	**+0.5**
TULM	**Tulcn-Chalpat**	**11.13**	**325**	P			P	**20 15 60.0**	**+0.5**
OTAV	**Otavalo**	**11.15**	**321**	P			P	**20 15 57.9**	**-1.7**
OTAV	**Otavalo**	**11.15**	**321**	P			P	**20 16 00.0**	**+0.4**
OTAV	**Otavalo**	**11.15**	**321**	eP			P	**20 16 00.6**	**+0.9**
OTAV	**Otavalo**	**11.15**	**321**	eP			P	**20 16 01.0**	**+1.3**
COTA	**Cotacachi**	**11.15**	**322**	P			P	**20 16 01.0**	**+1.2**
GO01	**Chusmiza**	**11.30**	**169**	P			P	**20 15 59.8**	**-1.3**
PB11	**IPOC Station P**	**11.31**	**171**	P			P	**20 15 59.2**	**-1.6**
SALI	**Salinas**	**11.38**	**303**	P			P	**20 16 00.5**	**-1.1**
TA02	**Huaiquique**	**11.75**	**174**	P			P	**20 16 03.4**	**-1.8**
PB08	**IPOC Station P**	**11.77**	**169**	P			P	**20 16 04.4**	**-1.3**
VILB	**Vilhena**	**11.90**	**113**	P			P	**20 16 07.4**	**+0.6**
VILB	**Vilhena**	**11.90**	**113**	eP			P	**20 16 08.0**	**+1.1**
VILB	**Vilhena**	**11.90**	**113**	eP			P	**20 16 07.9**	**+1.1**
BBAC	**Balboa, Cauca**	**11.96**	**331**	P			P	**20 16 07.0**	**-0.6**
MACA	**Manacapuru-AM**	**11.96**	**64**	P			P	**20 16 07.6**	**+0.1**
MACA	**Manacapuru-AM**	**11.96**	**64**	eP			P	**20 16 08.0**	**+0.6**
MACA	**Manacapuru-AM**	**11.96**	**64**	eS			S	**20 18 17.4**	**-0.3**
TA01	**Diego Aracena**	**12.04**	**174**	P			P	**20 16 07.1**	**-1.0**
SIV	**San Ignacio**	**12.57**	**127**	P			P	**20 16 14.0**	**+0.5**
	9.0nm,0.5s,baz=297,slow=9.5,SNR=26								
PB01	**IPOC Station P**	**12.59**	**172**	P			P	**20 16 12.7**	**-1.2**
PB01							S	**20 18 25.1**	**-4.3**
PB02	**IPOC Station P**	**12.81**	**173**	P			P	**20 16 14.9**	**-1.1**
PB02							S	**20 18 31.4**	**-2.1**
PB07	**IPOC Station P**	**13.22**	**174**	P			P	**20 16 18.9**	**-1.4**
PB09	**IPOC Station P**	**13.37**	**171**	P			P	**20 16 21.0**	**-0.9**
PB09							S	**20 18 39.9**	**-4.0**
ROSC	**El Rosal**	**13.58**	**348**	P			P	**20 16 23.8**	**-0.5**
ROSC	**El Rosal**	**13.58**	**348**	P			P	**20 16 24.6**	**+0.2**
	16nm,0.4s,baz=135,slow=14,SNR=5.6								
BBSD	**Serra de San D**	**13.63**	**130**	eP			P	**20 16 24.8**	**+0.3**
PB04	**IPOC Station P**	**13.79**	**175**	P			P	**20 16 25.0**	**-1.2**
PTLB	**Pontes e Lacer**	**13.88**	**121**	P			P	**20 16 27.6**	**+0.7**
PTLB	**Pontes e Lacer**	**13.88**	**121**	eP			P	**20 16 27.3**	**+0.3**
PTLB	**Pontes e Lacer**	**13.88**	**121**	eP			P	**20 16 27.2**	**+0.3**
PB06	**IPOC Station P**	**14.22**	**173**	P			P	**20 16 29.0**	**-1.4**
LVC	**Limon Verde**	**14.22**	**170**	P			P	**20 16 29.9**	**-0.8**
LVC	**Limon Verde**	**14.22**	**170**	P			P	**20 16 31.6**	**+1.0**
	20nm,0.4s,baz=0.0,slow=6.1,SNR=31								
LVC				S			S	**20 19 02.9**	**+3.5**
	6.8nm,0.7s,baz=352,slow=19,SNR=4.4								
LVC	**Limon Verde**	**14.22**	**170**	eP			P	**20 16 30.2**	**-0.4**
LVC	**Limon Verde**	**14.22**	**170**	eP			P	**20 16 30.0**	**-0.6**
LVC				eS			S	**20 18 59.7**	**+0.3**
PB05	**IPOC Station P**	**14.30**	**175**	P			P	**20 16 29.8**	**-1.3**
AF01	**San Pedro de A**	**14.69**	**168**	P			P	**20 16 35.2**	**+0.2**
PB15	**IPOC Station P**	**14.73**	**173**	P			P	**20 16 33.2**	**-2.2**
PDRB	**Porto dos Gac**	**14.82**	**103**	eP			P	**20 16 36.5**	**+0.4**
PDRB	**Porto dos Gac**	**14.82**	**103**	eP			P	**20 16 36.3**	**+0.2**
PDRB				eS			S	**20 19 11.7**	**+2.3**
PB10	**IPOC Station P**	**14.93**	**177**	P			P	**20 16 35.9**	**-1.1**
BOAV	**Boa Vista**	**15.38**	**46**	P			P	**20 16 42.3**	**+0.9**
BOAV						IAmb	IAmb	20 16 43.5	
	comp=Z,7.3nm,0.6s								
BOAV	**Boa Vista**	**15.38**	**46**	eP			P	**20 16 42.5**	**+1.0**
BOAV				eS			S	**20 19 21.6**	**+3.0**
NPGB	**Novo Progresso**	**16.02**	**86**	eP			P	**20 16 48.3**	**+0.8**
NPGB				eS			S	**20 19 30.1**	**+0.8**
PB14	**IPOC Station P**	**16.05**	**177**	P			P	**20 16 45.6**	**-2.3**
ITTB	**Itaituba**	**16.16**	**76**	eP			P	**20 16 50.2**	**+1.5**
ITTB				eS			S	**20 19 32.2**	**+0.7**
GO02	**Mina Guanaco**	**16.64**	**174**	P			P	**20 16 53.7**	**+0.3**
SALV	**Santo Antonio**	**17.05**	**117**	eP			P	**20 16 58.7**	**+1.8**
SDV	**Santo Domingo**	**17.31**	**3**	P			P	**20 16 59.2**	**-0.2**
SDV						IAmb	IAmb	20 17 01.8	
	comp=Z,8.4nm,0.5s								
SDV	**Santo Domingo**	**17.31**	**3**	P			P	**20 17 00.0**	**+0.6**
	comp=Z,7.0nm,0.4s,baz=236,slow=3.6,SNR=9.3								
SDV	**Santo Domingo**	**17.31**	**3**	eP			P	**20 17 00.1**	**+0.6**
AC01	**Pan de Azucar**	**17.55**	**177**	P			P	**20 17 01.3**	**+0.1**
AC01						IAmb	IAmb	20 17 02.9	
	comp=Z,20nm,0.8s								
BAUV	**El Baul**	**17.68**	**11**	P			P	**20 17 03.5**	**+0.9**
AC02	**Maricunga**	**18.35**	**173**	P			P	**20 17 10.0**	**+0.9**
AC02						IAmb	IAmb	20 17 12.5	
	comp=Z,15nm,0.7s								
AC06	**Mina Casimiro**	**18.77**	**177**	P			P	**20 17 12.3**	**0.0**
AC06						IAmb	IAmb	20 17 13.2	
	comp=Z,14nm,0.6s								
AQDB	**Aquidauana**	**19.32**	**130**	P			P	**20 17 18.5**	**+1.1**
AQDB						IAmb	IAmb	20 17 19.4	
	comp=Z,13nm,0.7s								
AQDB	**Aquidauana**	**19.32**	**130**	eP			P	**20 17 18.4**	**+1.1**
PCRV	**Puerto La Cruz**	**19.78**	**20**	P			P	**20 17 22.1**	**+0.4**
	comp=Z,10nm,0.7s,baz=225,slow=7.1,SNR=6.6								
LCO	**Campanas**	**20.40**	**178**	P			P	**20 17 26.8**	**-0.6**
ARAG	**Araguaiana, MT**	**20.48**	**112**	eP			P	**20 17 28.7**	**+0.7**
MCPB	**Macapa, AP**	**20.96**	**68**	eP			P	**20 17 33.8**	**+1.5**
CO01	**Juntas del Tor**	**21.38**	**177**	P			P	**20 17 37.1**	**+0.9**
CO01						IAmb	IAmb	20 17 38.0	
	comp=Z,10nm,0.9s								
CO06	**Fray Jorge**	**22.04**	**180**	P			P	**20 17 42.0**	**+0.2**
CO03	**El Pedregal**	**22.22**	**178**	P			P	**20 17 43.9**	**+0.4**
CPUP	**Villa Florida**	**22.22**	**145**	P			P	**20 17 42.3**	**-1.1**
CPUP						IAmb	IAmb	20 17 44.8	
	comp=Z,15nm,1.3s								
CPUP	**Villa Florida**	**22.22**	**145**	P			P	**20 17 43.0**	**-0.4**
	comp=Z,3.2nm,0.4s,baz=326,slow=10,SNR=11								
	comp=Z,3.2nm,0.4s								
CO02	**Combarbal**	**22.57**	**179**	P			P	**20 17 46.7**	**0.0**
TRCB	**Terra Rica**	**22.98**	**130**	eP			P	**20 17 50.5**	**+0.2**
MDP	**Montagnes des**	**23.13**	**55**	P			P	**20 17 51.5**	**-0.2**
	comp=Z,10nm,0.8s,baz=226,slow=7.6,SNR=5.8								
	comp=Z,10nm,0.8s								
BDFB	**Brasilia**	**23.98**	**109**	P			P	**20 18 00.6**	**+1.2**
	comp=Z,5.6nm,0.5s,baz=273,slow=9.8,SNR=8.6								
	comp=Z,5.6nm,0.5s								
BDFB	**Brasilia**	**23.98**	**109**	eP			P	**20 18 00.5**	**+1.2**
VA03	**San Esteban**	**24.14**	**178**	P			P	**20 18 01.7**	**+1.2**
IPMB	**Ipameri, GO**	**24.48**	**115**	eP			P	**20 18 04.0**	**+0.4**
PTGB	**Pitanga**	**24.53**	**133**	eP			P	**20 18 04.0**	**-0.1**
MT09	**Talagante**	**25.14**	**179**	P			P	**20 18 09.9**	**+0.5**
MT01	**Popeta**	**25.22**	**180**	P			P	**20 18 10.2**	**+0.3**
MT01						IAmb	IAmb	20 18 12.8	
	comp=Z,19nm,1.1s								
ITQB	**Itaqui**	**25.23**	**148**	eP			P	**20 18 09.4**	**-0.6**
LMEL	**Las Melosas**	**25.23**	**178**	P			P	**20 18 11.5**	**+1.3**
LMEL						IAmb	IAmb	20 18 16.9	
	comp=Z,10nm,0.8s								
BO04	**La Punta**	**25.36**	**178**	P			P	**20 18 12.0**	**+0.8**
ITAB	**Concordia**	**26.09**	**138**	eP			P	**20 18 17.5**	**-0.3**
SDBA	**SAO DESIDERIO**	**26.39**	**101**	eP			P	**20 18 21.5**	**+0.9**
MLPR	**Magueyes Islan**	**26.68**	**9**	P			P	**20 18 23.2**	**+0.3**
MLPR						IAmb	IAmb	20 19 06.8	
	comp=Z,24nm,0.9s								
CRPR	**Cabo Rojo, PR**	**26.71**	**9**	P			P	**20 18 23.4**	**+0.2**
CELP	**Cerrillos**	**26.86**	**10**	P			P	**20 18 24.5**	**0.0**
CELP						IAmb	IAmb	20 18 25.1	
	comp=Z,24nm,1.1s								
JANB	**Januaria**	**27.34**	**106**	eP			P	**20 18 29.5**	**+0.7**
PLTB	**Pedras Altas**	**28.47**	**147**	P			P	**20 18 37.3**	**-1.2**
PLTB	**Pedras Altas**	**28.47**	**147**	eP			P	**20 18 37.4**	**-1.1**
BSCB	**Bom Sucesso**	**28.57**	**119**	eP			P	**20 18 39.5**	**0.0**
DIAM	**Diamantina, MG**	**28.68**	**113**	eP			P	**20 18 41.1**	**+0.5**
PARB	**Paraibuna**	**28.81**	**124**	eP			P	**20 18 41.5**	**0.0**
TER01	**Tubaro-SC**	**28.95**	**136**	eP			P	**20 18 41.9**	**-0.8**
TRQA	**Tornquist**	**30.63**	**165**	eP			P	**20 18 56.5**	**-0.4**
GDU01	**Guandu, BA**	**31.69**	**102**	eP			P	**20 19 07.2**	**+0.9**
PLCA	**Paso Flores**	**32.09**	**179**	P			P	**20 19 09.5**	**+0.2**
	comp=Z,8.4nm,0.5s,baz=348,slow=9.9,SNR=37								
PLCA					ScP		**ScP**	**20 24 29.2**	**-0.4**
	comp=Z,3.1nm,0.6s,baz=5.4,slow=4.6,SNR=12								
	comp=Z,8.4nm,0.5s								
PLCA	**Paso Flores**	**32.09**	**179**	eP			P	**20 19 09.6**	**+0.2**
GOGA	**Godfrey**	**43.24**	**345**	P			P	**20 20 39.5**	**-0.5**
	baz=163								
LRAL	**Lakeview Retre**	**43.90**	**341**	IAmb		IAmb	IAmb	20 20 44.6	
	comp=Z,7.5nm,0.7s								
LRAL	**Lakeview Retre**	**43.90**	**341**	P		P	**P**	**20 20 43.7**	**-1.3**
	baz=158								
HBVL	**Hebbronville**	**44.13**	**324**	IAmb		IAmb	IAmb	20 20 48.5	
	comp=Z,15nm,0.6s								
KMSC	**Kings Mountain**	**44.42**	**348**	P		P	**P**	**20 20 49.0**	**0.0**
	baz=166								
Y49A	**Blount Mountai**	**44.47**	**342**	IAmb		IAmb	IAmb	20 20 48.9	
	comp=Z,17nm,0.6s								
833A	**Chaparral WMA,**	**45.50**	**325**	IAmb		IAmb	IAmb	20 20 59.1	
	comp=Z,14nm,0.9s								
833A	**Chaparral WMA,**	**45.50**	**325**	P		P	**P**	**20 20 57.7**	**+0.2**
	baz=140								
NATX	**Nacogdoches**	**45.79**	**332**	P		P	**P**	**20 20 59.9**	**+0.4**
	baz=147								
PLAL	**Pickwick Lake**	**46.03**	**341**	IAmb		IAmb	IAmb	20 21 00.2	
	comp=Z,10nm,0.8s								
TZTN	**Tazewell**	**46.24**	**346**	P		P	**P**	**20 21 02.3**	**-0.6**
	baz=164								
BLA	**Blacksburg**	**46.26**	**350**	P		P	**P**	**20 21 03.1**	**+0.1**
	baz=168								
HNDO	**Hondo**	**46.35**	**326**	IAmb		IAmb	IAmb	20 21 05.1	
	comp=Z,19nm,0.7s								
DRIO	**Del Rio**	**47.03**	**324**	IAmb		IAmb	IAmb	20 21 09.4	
	comp=Z,8.8nm,0.6s								
WHTX	**Lake Whitney,**	**47.33**	**330**	P		P	**P**	**20 21 11.2**	**+0.1**
	baz=144								
T47A	**Sharon Grove**	**47.59**	**343**	IAmb		IAmb	IAmb	20 21 12.2	
	comp=Z,12nm,0.7s								
MIAR	**Mount Ida**	**47.68**	**335**	IAmb		IAmb

comp=Z,14nm,0.5s
SPMN **Marine on St.** 56.84 342 P P 20 22 17.8 -1.2
baz=155
MVCO **Mesa Verde** 57.20 325 P P 20 22 21.9 0.0
baz=135
ISCO **Idaho Springs** 57.54 329 P P 20 22 24.6 +0.3
baz=139
E38A **The Farm, Brul** 57.74 344 IAmb IAmb 20 22 24.3
comp=Z,14nm,0.6s
N23A **Red Feather La** 58.53 330 P P 20 22 31.1 +0.3
baz=139
EYMN **Ely** 58.95 344 IAmb IAmb 20 22 32.4
comp=Z,28nm,0.5s
EYMN **Ely** 58.95 344 P P 20 22 31.9 -1.3
baz=157,SNR=9.8
W13A **Hualapai Mount** 59.04 320 P P 20 22 34.0 -0.3
O20A **White River Ci** 59.15 328 P P 20 22 35.3 +0.4
baz=136
BC3 **Big Chuckawall** 59.18 318 P P 20 22 35.4 +0.3
baz=127
IRM **Iron Mountain** 59.28 318 P P 20 22 36.2 +0.5
baz=128,SNR=6.4
KNB **Kanab** 59.61 322 IAmb IAmb 20 22 39.9
comp=Z,14nm,0.8s
B35A **Bob, Littlefor** 59.95 343 IAmb IAmb 20 22 39.0
comp=Z,22nm,0.6s
GMRC **Granite Mounta** 60.00 318 P P 20 22 41.2 +0.7
baz=127,SNR=5.2
RSSD **Black Hills** 60.12 333 P P 20 22 41.5 +0.2
RSSD IAmb IAmb 20 22 42.4
comp=Z,15nm,0.5s
RSSD **Black Hills** 60.12 333 P P 20 22 42.0 +0.7
baz=142
K22A **Casper** 60.14 331 P P 20 22 41.6 +0.2
baz=139
RDMU **Red Mountain** 60.17 327 IAmb IAmb 20 22 42.5
comp=Z,14nm,0.8s
MVU **Marysvale** 60.23 324 IAmb IAmb 20 22 43.6
comp=Z,31nm,0.8s
MURC **Murrieta** 60.32 317 P P 20 22 44.2 +1.5
baz=126
HEC **Hector,Ludlow** 60.47 318 P P 20 22 45.1 +1.5
baz=127
AGMN **Agassiz Nation** 60.54 342 IAmb IAmb 20 22 43.3
comp=Z,16nm,0.7s
AGMN **Agassiz Nation** 60.54 342 P P 20 22 42.7 -1.0
baz=152,SNR=11
GSC **Goldstone, Bar** 61.06 318 P P 20 22 48.2 +0.7
baz=127
MDND **Maddock** 61.40 339 P P 20 22 49.5 +0.1
baz=148,SNR=7.7
GWY **Greenwater Val** 61.50 319 P P 20 22 49.9 -0.5
TCUT **Toone Canyon** 61.55 327 IAmb IAmb 20 22 51.8
comp=Z,16nm,0.7s
EDW2 **Edwards Air Fo** 61.60 317 P P 20 22 51.4 +0.3
baz=126
DUG **Dugway, Tooele** 61.70 325 P P 20 22 52.2 +0.5
baz=132,SNR=8.8
PDAR **Pinedale Array** 61.73 329 P P 20 22 51.6 -0.3
comp=Z,3.2nm,0.4s,baz=120,slow=9.3,SNR=60
PDAR PcP PcP 20 23 25.4 -0.9
comp=Z,1.8nm,0.6s,baz=119,slow=7.3,SNR=6.9
comp=Z,3.2nm,0.4s
FURC **Furnace Creek,** 61.79 319 P P 20 22 53.1 +1.0
baz=127
WCT **Wildcat Mounta** 61.84 320 P P 20 22 52.7 +0.2
MPMC **Manual Prospec** 61.95 319 P P 20 22 53.8 +0.3
baz=126
R11B **Troy Canyon, C** 62.14 322 P P 20 22 55.5 +0.9
baz=129,SNR=5.8
ULM **Lac du Bonnet** 62.27 343 IAmb IAmb 20 22 54.3
comp=Z,29nm,0.8s
ULM **Lac du Bonnet** 62.27 343 P P 20 22 53.5 -1.4
comp=Z,21nm,0.3s,baz=152,slow=5.8,SNR=62
comp=Z,21nm,0.3s
ARVC **Arvin** 62.31 317 P P 20 22 56.4 +1.0
baz=125
ISA **Isabella, Lake** 62.37 318 P P 20 22 57.0 +1.0
baz=125
CWC **Cottonwood Cre** 62.57 319 P P 20 22 58.0 +0.7
baz=126
PKM **Mcpherson Peak** 62.84 316 P P 20 22 59.7 +0.5
baz=124
TPH **Tonopah** 62.99 321 IAmb IAmb 20 23 01.5
comp=Z,18nm,0.9s
LAO **LASA Array** 63.09 334 IAmb IAmb 20 23 01.2
comp=Z,13nm,0.7s
LAO **LASA Array** 63.09 334 P P 20 23 00.9 +0.5
baz=141
SMMC **Simmler** 63.20 317 P P 20 23 01.6 +0.4
baz=124
SCHQ **Schefferville** 63.23 3 P P 20 22 60.0 -1.1
comp=Z,2.7nm,0.5s,baz=177,slow=7.2,SNR=6.8
comp=Z,2.7nm,0.5s
RLMT **Red Lodge** 63.30 331 P P 20 23 02.2 +0.2
baz=137,SNR=6.8
H17A **Grant Village** 63.42 330 P P 20 23 03.8 +1.1
baz=136
DGMT **Dagmar** 63.65 336 P P 20 23 04.5 +0.6
baz=144
NVAR **Mina Array Bea** 63.88 320 P P 20 23 06.4 +0.6
comp=Z,1.0nm,0.6s,baz=154,slow=6.5,SNR=9.9
NVAR PcP PcP 20 23 34.9 -0.3
comp=Z,1.4nm,0.6s,baz=124,slow=4.5,SNR=8.2
comp=Z,1.0nm,0.6s
YHL **Hebgen Lake** 64.05 330 IAmb IAmb 20 23 08.9
comp=Z,11nm,0.7s
BOZ **Bozeman (W)** 64.80 330 P P 20 23 11.6 +0.3
baz=135,SNR=5.8
HLID **Hailey** 64.84 327 P P 20 23 12.2 +0.5
baz=132,SNR=8.1
PNTR **Pine Nut** 65.09 320 IAmb IAmb 20 23 15.1
comp=Z,9.8nm,0.8s
MFID **Camas Ranch** 65.52 326 IAmb IAmb 20 23 17.4
comp=Z,13nm,0.8s
EGMT **Eagleton** 65.67 333 IAmb IAmb 20 23 17.4
comp=Z,20nm,0.7s
EGMT **Eagleton** 65.67 333 P P 20 23 16.7 +0.1
baz=138,SNR=14
ORV **Oroville** 66.56 320 P P 20 23 23.1 +0.8
LIC **Lamto** 67.83 80 i P P 20 23 30.4 -0.1
comp=Z,4.4nm,0.2s
TIC **Toumodi** 67.92 79 i P P 20 23 30.9 -0.2
comp=Z,4.0nm,0.2s
I07A **Izee** 68.01 325 IAmb IAmb 20 23 32.7
comp=Z,12nm,1.2s
FFC **Flin Flon** 68.02 341 P P 20 23 29.4 -1.4
FFC IAmb IAmb 20 23 30.9
comp=Z,6.5nm,0.6s
DBIC **Dimbokro** 68.09 79 P P 20 23 30.8 -1.3
DBIC IAmb IAmb 20 23 33.1
comp=Z,9.2nm,0.7s
DBIC **Dimbokro** 68.09 79 P P 20 23 32.5 +0.4
comp=Z,7.9nm,0.4s,baz=252,slow=5.1,SNR=20
comp=Z,7.9nm,0.4s
DBIC **Dimbokro** 68.09 79 eP P 20 23 32.0 0.0
KIC **Kosan Boka** 68.14 80 i P P 20 23 32.6 +0.2
comp=Z,2.6nm,0.2s
PINE **Pine Mountain** 68.66 324 IAmb IAmb 20 23 37.1
comp=Z,13nm,0.7s
I05D **Terrebonne, OR** 69.22 324 IAmb IAmb 20 23 40.1
comp=Z,14nm,0.7s
NEW **Newport** 69.37 329 P P 20 23 39.6 +0.4
baz=131
D08A **Wollman Farm,** 69.53 327 IAmb IAmb 20 23 42.2
comp=Z,12nm,1.2s
EDM **Edmonton** 71.03 335 IAmb IAmb 20 23 48.9
comp=Z,19nm,0.6s
BRLDA **Berland Lookou** 73.37 334 IAmb IAmb 20 24 02.9
comp=Z,10nm,0.8s
TOA0 **Torodi Ar. Sit** 75.76 74 P P 20 24 15.8 -0.7
TOA0 IAmb IAmb 20 24 17.2
comp=Z,8.9nm,1.0s
TORD **Torodi Ar. Bea** 75.76 74 P P 20 24 16.4 -0.1
comp=Z,2.7nm,0.3s,baz=264,slow=5.2,SNR=74
comp=Z,2.7nm,0.3s
SFJD **Kangerlussuaq** 76.82 8 eP P 20 24 19.2 -1.9
DY2G **Dye2** 77.03 10 eP P 20 24 21.3 -1.4
ISOG **Isortoq, Green** 77.67 13 eP P 20 24 24.7 -1.1
YKA **Yellowknife Ar** 78.19 341 P P 20 24 28.1 -0.5
comp=Z,5.8nm,0.6s,baz=135,slow=5.5,SNR=138
comp=Z,5.8nm,0.6s
ESDC **Sonseca Array** 78.55 47 P P 20 24 32.3 +1.2
comp=Z,1.4nm,0.7s,baz=263,slow=4.6,SNR=9.5
comp=Z,1.4nm,0.7s
TOAD **Toad River Com** 79.74 335 P P 20 24 37.3 +0.3
baz=126
KOTAN **Kotaneelee Air** 80.02 336 P P 20 24 39.2 +0.9
baz=127
ICESG **Greenland Ices** 80.54 11 eP P 20 24 40.5 -0.8
ICESG IAmb IAmb 20 24 41.5
comp=Z,10nm,1.0s
T35M **Bob Quinn** 80.94 332 IAmb IAmb 20 24 44.5
comp=Z,7.2nm,0.7s
T35M **Bob Quinn** 80.94 332 P P 20 24 44.0 +0.7
baz=121
TAM **Tamanrasset** 81.44 65 P P 20 24 47.5 +0.8
TAM IAmb IAmb 20 24 48.8
comp=Z,5.6nm,0.6s
QSPA **South Pole Qui** 81.59 180 P P 20 24 47.1 +0.5
comp=Z,3.4nm,0.6s,baz=152,slow=10,SNR=23
comp=Z,3.4nm,0.6s
DLBC **Dease Lake** 81.60 333 IAmb IAmb 20 24 48.4
comp=Z,6.3nm,0.8s
DLBC **Dease Lake** 81.60 333 P P 20 24 47.4 +0.7
baz=122
WRGLY **Wrigley** 81.69 339 P P 20 24 47.1 +0.2
baz=128
S34M **Telegraph Cree** 81.83 332 P P 20 24 48.6 +0.8
baz=120
R33M **Jennings River** 82.51 334 P P 20 24 51.9 +0.6
baz=121
TGTN **Hyland Airport** 82.52 336 P P 20 24 52.2 +1.0
baz=124
Q32M **Nakina River** 82.87 333 P P 20 24 53.7 +0.5
baz=120
S32K **Killisnoo** 83.24 331 P P 20 24 55.6 +0.8
baz=117
R32K **Eaglecrest** 83.58 332 P P 20 24 57.2 +0.8
baz=118
SUMG **Summit** 83.71 10 P P 20 24 57.0 -0.3
SUMG IAmb IAmb 20 24 57.9
comp=Z,12nm,0.6s
SUMG **Summit** 83.71 10 i P P 20 24 56.0 -1.4
SUMG IAmb IAmb 20 24 58.1
comp=Z,12nm,0.6s
P33M **Teslin, Yukon** 83.73 334 P P 20 24 57.9 +0.6
baz=119
P32M **Atlin** 83.83 333 P P 20 24 58.2 +0.4
baz=118
MMPY **Sheldon Lake,** 84.29 336 P P 20 25 00.8 +0.8
baz=121
N32M **Quiet Lake** 84.30 335 IAmb IAmb 20 25 00.9
comp=Z,15nm,0.6s
N32M **Quiet Lake** 84.30 335 P P 20 25 00.5 +0.4
baz=119
WHY **Whitehorse** 84.85 334 P P 20 25 03.4 +0.6
baz=117
FARO **Faro, Yukon** 84.94 335 P P 20 25 03.8 +0.7
baz=119
M31M **Drury Creek, Y** 85.36 335 P P 20 25 06.2 +1.1
baz=118
O30N **Mendenhall** 85.43 334 P P 20 25 06.6 +1.1
baz=116
P30M **Million Dollar** 85.53 333 P P 20 25 06.8 +0.8
baz=116
P29M **Windy Craggy** 85.68 332 IAmb IAmb 20 25 08.6
comp=Z,11nm,0.7s
P29M **Windy Craggy** 85.68 332 P P 20 25 07.4 +0.7
baz=115
HYT **Haines Junctio** 86.08 333 P P 20 25 09.8 +1.1
baz=115
N30M **Aishikik Lake** 86.17 334 IAmb IAmb 20 25 10.9
comp=Z,11nm,1.0s
N30M **Aishikik Lake** 86.17 334 P P 20 25 09.9 +0.9
baz=116
O29M **Mount Kennedy** 86.34 333 P P 20 25 10.6 +0.6
baz=114
PNL **Peninsula** 86.46 332 P P 20 25 11.5 +1.1
baz=113
YUK6 **Outpost Mounta** 86.51 333 P P 20 25 11.7 +0.9
baz=114
M30M **Minto, Yukon** 86.52 335 IAmb IAmb 20 25 11.2
comp=Z,4.4nm,0.6s
M30M **Minto, Yukon** 86.52 335 P P 20 25 10.9 +0.2
baz=116,SNR=7.9
NEEM **North Greenlan** 86.61 4 eP P 20 25 11.4 +0.3
NEEM IAmb IAmb 20 25 11.9
comp=Z,21nm,0.9s
YUK4 **Talbot Arm** 86.80 334 P P 20 25 13.0 +0.8
baz=114,SNR=14
PINM **Pinnacle** 87.03 332 P P 20 25 13.8 +0.7
baz=113
H31M **Peel River** 87.04 338 IAmb IAmb 20 25 14.1
comp=Z,9.5nm,0.8s
H31M **Peel River** 87.04 338 P P 20 25 13.6 +0.6
baz=118
M29M **Somme Creek** 87.17 335 IAmb IAmb 20 25 15.2
comp=Z,9.8nm,0.8s
M29M **Somme Creek** 87.17 335 P P 20 25 14.4 +0.6
baz=114
J30M **Hart River** 87.22 337 IAmb IAmb 20 25 15.5
comp=Z,5.9nm,0.7s
J30M **Hart River** 87.22 337 P P 20 25 15.0 +1.0
baz=116,SNR=10
YUK8 **Steele Glacier** 87.27 333 P P 20 25 14.9 +0.5
baz=113,SNR=5.7
L29M **L29M** 87.31 335 P P 20 25 14.8 +0.4
baz=115
K29M **Barlow Dome** 87.37 336 IAmb IAmb 20 25 15.7
comp=Z,5.4nm,0.6s
K29M **Barlow Dome** 87.37 336 P P 20 25 15.1 +0.4
baz=115
I30M **Mount Dempster** 87.52 338 IAmb IAmb 20 25 16.7
comp=Z,10nm,0.9s
I30M **Mount Dempster** 87.52 338 P P 20 25 15.7 +0.3
baz=116
G31M **Satah River** 87.54 339 P P 20 25 15.2 0.0
baz=118,SNR=11
A36M **Sachs Harbour** 87.60 345 P P 20 25 15.3 -0.1
baz=127,SNR=6.4
F31M **Tsiigehtchic** 87.61 340 IAmb IAmb 20 25 16.0
comp=Z,8.0nm,0.6s
F31M **Tsiigehtchic** 87.61 340 P P 20 25 15.5 0.0
baz=119,SNR=5.6
YUK3 **Moose Creek** 87.77 334 P P 20 25 17.0 +0.3
baz=112,SNR=7.8
CTG **Chitina Glacier** 87.85 333 P P 20 25 17.7 +0.6
baz=112
J29N **Klondike Camp** 87.90 337 IAmb IAmb 20 25 18.5
comp=Z,8.3nm,0.7s
J29N **Klondike Camp** 87.90 337 P P 20 25 17.7 +0.6
baz=115,SNR=7.5
INK **Inuvik** 87.96 341 IAmb IAmb 20 25 18.0
comp=Z,10nm,0.6s
INK **Inuvik** 87.96 341 P P 20 25 17.1 0.0
baz=119,SNR=13
EPYK **Eagle Plains** 88.16 339 P P 20 25 18.6 +0.4
baz=116
BVCY **Beaver Creek** 88.18 334 P P 20 25 19.0 +0.6
baz=112
DAWY **Dawson** 88.21 336 IAmb IAmb 20 25 19.3
comp=Z,5.8nm,0.8s
DAWY **Dawson** 88.21 336 P P 20 25 18.8 +0.2
baz=114,SNR=7.3
G30M **tAoh Zrali Nji** 88.25 339 P P 20 25 19.1 +0.4
baz=116
F30M **Barrier River** 88.39 340 P P 20 25 19.7 +0.5
baz=117
BGLC **Bering Glacier** 88.45 332 P P 20 25 19.7 +0.1
baz=110
M27K **Edge Creek, AK** 88.60 334 IAmb IAmb 20 25 23.5
comp=Z,4.2nm,0.8s
M27K **Edge Creek, AK** 88.60 334 P P 20 25 20.9 +0.4
baz=111
H29M **Whitestone** 88.70 338 P P 20 25 21.0 +0.3
baz=114
MCARA **McCarthy VSAT** 88.77 333 P P 20 25 21.8 +0.7
baz=110
L27K **Beaver Creek,** 88.84 335 IAmb IAmb 20 25 22.6
comp=Z,6.0nm,0.7s
L27K **Beaver Creek,** 88.84 335 P P 20 25 22.0 +0.5
baz=111,SNR=7.5
G29M **Pine Creek** 88.86 339 P P 20 25 21.9 +0.4
baz=115
I28M **Miner Creek** 88.98 337 P P 20 25 22.0 -0.1
baz=113
EGAK **Eagle** 89.20 336 IAmb IAmb 20 25 24.6
comp=Z,3.7nm,0.8s
EGAK **Eagle** 89.20 336 P P 20 25 23.4 +0.4
baz=112
K27K **Chicken** 89.29 335 P P 20 25 24.3 +0.8
baz=111
E29M **Blow River** 89.44 340 IAmb IAmb 20 25 24.4
comp=Z,4.7nm,0.8s
E29M **Blow River** 89.44 340 P P 20 25 24.1 0.0
baz=115,SNR=10
L26K **Log Cabin Wild** 89.47 334 P P 20 25 24.5 +0.1
baz=110
N25K **Chitina, Valde** 89.55 333 P P 20 25 25.5 +0.6
baz=109
I27K **Kandik River** 89.68 337 P P 20 25 25.5 +0.1
baz=112
EYAK **Cordova Ski Ar** 89.75 332 P P 20 25 25.8 +0.2
baz=108
F28M **Old Crow** 89.81 339 IAmb IAmb 20 25 26.4
comp=Z,6.0nm,0.8s
F28M **Old Crow** 89.81 339 P P 20 25 25.8 -0.1
baz=113,SNR=13
H27K **Steamboat Moun** 89.88 338 P P 20 25 26.3 +0.1
baz=112
SCRK **Sand Creek** 90.06 335 P P 20 25 26.7 -0.5
SCRK IAmb IAmb 20 25 27.8
comp=Z,4.9nm,0.9s
SCRK **Sand Creek** 90.06 335 P P 20 25 27.3 0.0
baz=109
J26L **Joseph Creek** 90.07 336 IAmb IAmb 20 25 27.9
comp=Z,4.2nm,0.8s
J26L **Joseph Creek** 90.07 336 P P 20 25 27.3 +0.1
baz=110
E28M **Babbage River** 90.08 340 P P 20 25 26.8 -0.2
baz=114
D28M **Stokes Point** 90.11 341 P P 20 25 27.2 0.0
baz=114
KLU **Klutina** 90.12 332 P P 20 25 27.3 -0.2
baz=108
G27K **Doyon Strip** 90.14 338 IAmb IAmb 20 25 27.4
comp=Z,3.0nm,0.6s
G27K **Doyon Strip** 90.14 338 P P 20 25 27.1 -0.3
baz=112,SNR=6.6
I26K **Coal Creek Min** 90.18 336 P P 20 25 27.3 -0.2
baz=110
DAG **Danmarks Havn** 90.32 11 i P P 20 25 26.0 -2.0
DAG IAmb IAmb 20 25 28.4
comp=Z,5.1nm,1.1s
PAX **Paxson** 90.37 334 P P 20 25 28.4 -0.2
baz=108
E27K **Coleen River** 90.63 339 IAmb IAmb 20 25 30.0
comp=Z,3.5nm,0.6s
E27K **Coleen River** 90.63 339 P P 20 25 29.8 +0.2
baz=112
D27M **Malcolm River** 90.81 340 IAmb IAmb 20 25 31.5
comp=Z,5.2nm,0.7s
D27M **Malcolm River** 90.81 340 P P 20 25 30.7 +0.2
baz=112
J25K **Salcha River,** 90.84 336 IAmb IAmb 20 25 31.3
comp=Z,5.9nm,0.8s
J25K **Salcha River,** 90.84 336 P P 20 25 31.2 +0.5
baz=108
G26K **Porcupine Rive** 90.98 338 P P 20 25 31.7 +0.5
baz=110
M23K **Glacier View** 91.03 333 P P 20 25 31.9 +0.3
baz=106
PRP **Porcupine Dome** 91.18 336 P P 20 25 32.7 +0.3
baz=108
DHY **Denali Highway** 91.23 334 P P 20 25 33.3 +0.6
baz=106
WAT6 **Susitna Watana** 91.25 333 P P 20 25 32.9 +0.1
baz=106
KNK **Knik Glacier** 91.26 332 P P 20 25 33.7 +1.0
baz=106
SML **Sawmill** 91.31 332 P P 20 25 33.1 +0.2
baz=106
F26K **Sheenjek River** 91.36 339 P P 20 25 33.5 +0.5
baz=109
IL31 91.51 335 IAmb IAmb 20 25 34.1
comp=Z,4.6nm,1.2s
ILAR **Eielson Array** 91.51 335 P P 20 25 33.2 -0.5
comp=Z,1.2nm,0.8s,baz=110,slow=2.4,SNR=22
comp=Z,1.2nm,0.8s
H25L **Birch Creek** 91.53 337 P P 20 25 34.4 +0.7
baz=108
G25K **Bearman Lake** 91.79 337 P P 20 25 35.7 +0.7
baz=108
POKR **Poker Plat Res** 91.83 336 IAmb IAmb 20 25 35.9
comp=Z,11nm,1.1s
POKR **Poker Plat Res** 91.83 336 P P 20 25 35.3 0.0
baz=106
CCB **Clear Creek Bu** 91.85 335 IAmb IAmb 20 25 35.6
comp=Z,4.6nm,0.5s
F25K **Christian Rive** 91.87 338 P P 20 25 36.1 +0.6
baz=108
WRH **Wood River Hil** 91.92 335 IAmb IAmb 20 25 36.0
comp=Z,3.9nm,0.6s
COLA **College** 91.94 335 P P 20 25 35.7 +0.1
baz=106
BRSE **Bradley Lake S** 91.94 330 P P 20 25 35.3 -0.5
baz=104
E25K **Arctic Village** 92.00 339 P P 20 25 36.6 +0.7
baz=108
MCK **McKinley** 92.09 334 P P 20 25 36.3 -0.1
baz=105
H24K **Noodor Dome** 92.21 336 P P 20 25 37.2 +0.2
baz=106
G24K **Hadweenzic Riv** 92.29 337 P P 20 25 38.1 +0.8
baz=106
C26K **Camden Bay** 92.34 341 P P 20 25 38.3 +0.9
baz=108
SUA **Susitna One** 92.34 332 P P 20 25 37.9 +0.2
baz=104
NEA2 **Nenana** 92.36 335 IAmb IAmb 20 25 37.9
comp=Z,5.6nm,0.7s
NEA2 **Nenana** 92.36 335 P P 20 25 37.2 -0.4
baz=105
TRF **Thorofare Moun** 92.60 334 IAmb IAmb 20 25 39.3
comp=Z,4.1nm,0.7s
TRF **Thorofare Moun** 92.60 334 P P 20 25 38.5 -0.5
baz=104
I23K **Minto, Yukon-K** 92.63 336 IAmb IAmb 20 25 39.0
comp=Z,3.8nm,0.7s
I23K **Minto, Yukon-K** 92.63 336 P P 20 25 38.5 -0.3
baz=104
D25K **Kavik River** 92.65 340 IAmb IAmb 20 25 40.4
comp=Z,4.0nm,0.9s
D25K **Kavik River** 92.65 340 P P 20 25 39.1 +0.2
baz=107
F24K **Squaw Lake** 92.67 338 IAmb IAmb 20 25 40.9
comp=Z,3.7nm,1.1s
F24K **Squaw Lake** 92.67 338 P P 20 25 39.4 +0.3
baz=106
SKT **Skwentna** 92.82 332 P P 20 25 39.4 -0.4
baz=103
N20K **Mount Spurr** 92.97 331 P P 20 25 40.3 -0.3
baz=102
E24K **Your Creek** 93.04 339 P P 20 25 41.2 +0.4
baz=105
BPAW **Bear Paw Mtn.** 93.06 334 P P 20 25 40.3 -0.6
baz=103
MLY **Manley** 93.17 335 IAmb IAmb 20 25 41.2
comp=Z,2.9nm,0.6s
MLY **Manley** 93.17 335 P P 20 25 40.8 -0.5
baz=103
GERES **GERESS Array B** 93.17 41 P P 20 25 41.3 -0.6
comp=Z,0.8nm,0.7s,baz=300,slow=7.8,SNR=3.5
comp=Z,0.8nm,0.7s
G23K **Bananza Creek** 93.27 337 IAmb IAmb 20 25 43.0
comp=Z,4.2nm,0.8s
G23K **Bananza Creek** 93.27 337 P P 20 25 42.3 +0.5
baz=104
PPLA **Purkeypile** 93.32 333 P P 20 25 41.7 -0.5
baz=102
CAST **Castle Rocks** 93.38 334 IAmb IAmb 20 25 41.7
comp=Z,4.0nm,0.5s
CAST **Castle Rocks** 93.38 334 P P 20 25 41.6 -0.8
baz=102
D24K **Happy Valley** 93.44 340 P P 20 25 42.3 -0.2
baz=105
E23K **Chandalar** 93.45 338 P P 20 25 42.7 +0.1
baz=104
COLD **Coldfoot** 93.47 338 P P 20 25 42.9 +0.3
baz=104
C24K **Franklin Bluff** 93.54 340 P P 20 25 43.2 +0.3
baz=105
TOLK **Toolik Lake Re** 93.58 339 P P 20 25 43.3 +0.1
baz=104
D23K **Nanushuk River** 94.04 339 P P 20 25 45.6 +0.4
baz=103
C23K **Itkillik River** 94.22 340 IAmb IAmb 20 25 46.9
comp=Z,3.9nm,0.8s
C23K **Itkillik River** 94.22 340 P P 20 25 46.3 +0.3
baz=103
K20K **Telida** 94.25 333 P P 20 25 45.3 -1.0
baz=100
E22K **Anaktuvuk Pass** 94.27 338 P P 20 25 46.4 +0.1
baz=102

J20K	Nowinta River baz=100	94.43	334	P		P	20 25 46.1	-0.9	
P17K	Kvichak River baz=99	94.69	329	P		P	20 25 49.0	+0.7	
F21K	Alatna River baz=101	94.71	337	P		P	20 25 48.9	+0.5	
H20K	Anotleneega Mo baz=100	94.96	335	P		P	20 25 49.3	-0.2	
B22K	Teshekpuk Lake baz=100	95.26	340	P		P	20 25 50.8	+0.1	
C21K	Kniveblade Rid baz=99	95.53	339	P		P	20 25 52.3	+0.4	
B21K	Ikpikpuk River baz=99	95.54	340	P		P	20 25 52.4	+0.4	
F20K	Avaraart Lake baz=99	95.55	337	P		P	20 25 52.0	0.0	
H19K	Roundabout Mou baz=98	95.62	335	P		P	20 25 52.5	+0.2	
E20K	Nigu River baz=98	95.90	338	P		P	20 25 53.9	+0.2	
G19K	Purcell Mounta baz=98	95.96	336	P		P	20 25 53.7	-0.3	
L17K	Donlin baz=97	95.99	332	P		P	20 25 54.0	-0.2	
N16K	Nishlik Lake baz=97	96.02	330	P		P	20 25 53.8	-0.6	
D20K	Etivluk River baz=98	96.12	339	P		P	20 25 54.8	+0.2	
M16K	Timber Creek baz=96	96.18	331	P		P	20 25 54.7	-0.3	
E19K	Redstone River baz=97	96.18	337	P		P	20 25 54.9	-0.1	
F19K	Shaleruckik Mo baz=97	96.32	337	P		P	20 25 55.5	-0.1	
H18K	Honhosa River baz=96	96.36	335	P		P	20 25 56.0	+0.2	
O15K	Ungalikthiuk R baz=96	96.41	329	P		P	20 25 56.7	+0.6	
B20K	Meade River baz=97	96.47	340	P		P	20 25 56.4	+0.2	
G18K	Tagagawik baz=96	96.57	336	P		P	20 25 56.9	+0.2	
D19K	Kuna River baz=96	96.64	338	P		P	20 25 57.4	+0.4	
F18K	Selawik baz=95	97.04	336	P	Pdif		20 25 58.4	-0.3	
J16K	Anvik River baz=95	97.16	333	P		P	20 26 00.2	+0.8	
C19K	Lookout Ridge baz=95	97.23	339	P		P	20 26 00.2	+0.5	
I17K	Unalakleet baz=94	97.25	334	P		P	20 26 01.0	+1.3	
G17K	Kiwalik Mounta baz=94	97.35	335	P		P	20 26 00.5	+0.3	
E18K	Tukpahlearik C baz=94	97.47	337	P		P	20 26 00.9	+0.2	
F17K	Baldwin Pennin baz=94	97.66	336	P		P	20 26 02.1	+0.6	
C18K	Utukok River baz=93	97.78	338	P		P	20 26 02.2	0.0	
A19K	Wainwright baz=93	97.82	340	P		P	20 26 02.7	+0.5	
H16K	Elim baz=93	97.97	334	P		P	20 26 03.2	+0.2	
B18K	Kokolik River baz=93	98.03	339	P		P	20 26 04.0	+0.9	
RDOG	Red Dog Mine baz=92	98.39	338	P		P	20 26 04.8	0.0	
D17K	Noatak River baz=92	98.44	337	P	Pdif		20 26 05.0	0.0	
J14K	Nanvaranak Lak baz=92	98.47	332	P		P	20 26 05.5	+0.3	
C17K	DeLong Mountai baz=92	98.50	338	P	Pdif		20 26 04.9	-0.4	
G15K	Niukluk baz=91	98.75	335	P		P	20 26 06.9	+0.4	
F15K	North Star Dit baz=91	99.02	335	P		Pdif	20 26 07.1	-0.5	
C16K	Lisburne Hills baz=90	99.30	338	P		Pdif	20 26 08.5	-0.3	
M11K	Mekoryuk baz=90	99.69	330	P		Pdif	20 26 10.3	-0.3	
F14K	Arctic Creek baz=89	99.72	335	P		Pdif	20 26 10.5	-0.2	
ABKAR	Akbulak array	122.67	36	PKPdf		PKPdf	20 31 19.2	-0.1	
BVAR	Borovoye Array comp=Z,0.6nm,0.5s,baz=270,slow=1.4,SNR=4.3	125.95	27	PKP		PKiKP	20 31 25.7	-0.2	
ZALV	Zalesovo Beam	130.84	18	PKPdf		PKPdf	20 31 32.5	-2.2	
KLR	Kul'dur comp=Z,0.8nm,0.3s,baz=49,slow=4.0,SNR=6.0	135.00	339	PKP		PKPdf	20 31 42.4	-0.3	
MAKZ	Makanchi	135.62	26	PKPdf		PKPdf	20 31 43.0	-0.9	
MKAR	Makanchi Array comp=Z,0.7nm,0.4s,baz=300,slow=1.2,SNR=5.5	135.76	26	PKP		PKPdf	20 31 44.1	-0.1	
USRK	Ussuriysk Ar. comp=Z,0.9nm,0.5s,baz=39,slow=1.1,SNR=1.9	139.02	334	PKP		PKiKP	20 31 52.1	-0.5	
ASAR	Alice Springs comp=Z,2.0nm,0.5s,baz=135,slow=3.9,SNR=19	139.53	217	SKP		SKPdf	20 34 31.5	-0.5	
SONM	Songino Array comp=Z,0.5nm,0.3s,baz=327,slow=2.4,SNR=9.5	140.78	2	PKhKP	PKPpre		20 31 48.1		
SONM	comp=Z,0.6nm,0.6s,baz=331,slow=1.3,SNR=4.8			SKP			20 34 35.2		
WRA	Warramunga Arr comp=Z,0.6nm,0.3s,baz=137,slow=2.7,SNR=6.2	141.99	222	PKhKP	PKPpre		20 31 52.4		
WRA	comp=Z,1.3nm,0.3s,baz=133,slow=2.3,SNR=7.5			PKP		PKiKP	20 31 58.6	-0.9	
WRA	comp=Z,4.1nm,0.7s,baz=137,slow=2.6,SNR=19			SKP			20 34 38.3		
KSRS	Korea Array comp=Z,9.8nm,0.8s,baz=41,slow=3.3,SNR=16	146.27	332	PKPbc		PKPbc	20 32 05.5	+0.1	
KSAR	Wonju Array Be	146.30	332	PKPdf		PKPdf	20 32 01.0	-2.2	
BJT	Baijiatuan	147.90	349	PKPbc		PKPbc	20 32 09.7	0.0	
CMAR	Chiang Mai Arr comp=Z,0.6nm,0.7s,baz=306,slow=2.5,SNR=5.3	166.42	42	PKP		PKPdf	20 32 28.9	-0.1	
CMAR	comp=Z,0.5nm,0.8s,baz=294,slow=4.5,SNR=3.3			PKPab		PKPab	20 33 34.4	-0.5	

*IDC **15** 20:20:53.8±2.0,8˚.21S×118˚.50E,h179km±16km,mb4.0/10, mbtmp4.5/12,MS3.2/2,Error ellipse: s-maj=32.3km s-min=7.7km az=51.0*

*NEIC **15** 20:20:53.4±2.6,8˚.27S±0˚.09×118˚.40E±0˚.07,h174km±9km, mb4.4/24,Error ellipse: s-maj=12.9km s-min=10.1km az=205.0*

*DJA **15** 20:20:54.7±0.2,8˚S±2˚×11˚.9E±˚,h160km±3km,M4.5/22, mb4.7/15,mB4.9/6,MLv4.6/22,Mw(mB)4.2/6*

ISC 15 20:20:53.6±0.4,8˚.31S±0˚.05×118˚.50E±0˚.04,h174km,n105, σ1$40/113,mb4.4/28,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	Plampang	0.88	234	P	Pn	20 21 20.2	+0.4
PLAI	Plampang	0.88	234	P	Pn	20 21 20.3	+0.4
PLAI				S	Sn	20 21 39.4	-0.7
TWSI	Taliwang, Sumb	1.66	255	P	Pn	20 21 26.6	0.0
TWSI				S	Sn	20 21 52.6	+0.5
BASI	Baing, Sumba	2.80	133	P	Pn	20 21 40.1	+0.6
EDFI	Ende, Flores	3.19	98	P	Pn	20 21 45.2	+0.8
EDFI				S	Sn	20 22 23.1	-0.8
SRBI	Singaraja	3.26	274	P	Pn	20 21 45.4	+0.2
SRBI				S	Sn	20 22 27.9	+2.6
BKSI	Bulukumba	3.38	29	P	Pn	20 21 47.5	+0.9
BKSI				S	Sn	20 22 28.8	+0.8
KAPI	Kappang	3.50	21	Pn	Pn	20 21 48.3	+0.1
MMRI	Maumere	3.71	95	Pn	Pn	20 21 50.4	-0.5
MMRI	Maumere	3.71	95	P	Pn	20 21 52.8	+1.9
MMRI	Maumere	3.71	95	P	Pn	20 21 51.0	+0.1
MMRI				S	Sn	20 22 34.5	-1.0
ABJI	Asem Bagus	4.25	277	P	Pn	20 22 00.5	+2.7
JAGI	Jajag, Banyuwa	4.30	268	Pn	Pn	20 21 56.8	-1.6
JAGI	Jajag, Banyuwa	4.30	268	P	Pn	20 21 57.3	-1.1
JAGI	Jajag, Banyuwa	4.30	268	P	Pn	20 21 57.1	-1.3
KMMI	Kalianget	4.66	285	P	Pn	20 22 05.2	+2.1
BLJI	Banyuglugur	4.89	276	P	Pn	20 22 07.9	+1.9
BBSI	Bau Bau	4.92	56	P	Pn	20 22 06.5	+0.1
GMJI	Gumukmas	5.00	270	P	Pn	20 22 05.9	-1.6
TTSI	Tana Toraja 68nm,1.2s,777nm0.2nm	5.39	14	P	Pn	20 22 15.4	+2.9
BATI	Baumata 54nm,0.3s,baz=274,slow=4.1,SNR=56	5.43	111	P	Pn	20 22 14.3	+1.1
BATI	307nm,0.4s,baz=197,slow=19,SNR=6.4			S	Sn	20 23 15.2	-0.5
BATI	Baumata 103nm,0.5s,3μm1.5nm	5.43	111	P	Pn	20 22 14.3	+1.1
SOEI	Soe	5.88	105	Pn	Pn	20 22 19.1	+0.1
SOEI	Soe	5.88	105	P	Pn	20 22 19.6	+0.6
SOEI	Soe 186nm,0.7s,3μm2.1nm	5.88	105	P	Pn	20 22 20.0	+1.0
GRJI	Gresik 169nm,0.8s,2μm0.6nm	6.13	283	P	Pn	20 22 24.2	+2.0
BWJI	Bawean 87nm,0.5s,0.4nm	6.29	292	P	Pn	20 22 25.8	+1.4
PWJI	Pagerwojo 64nm,0.5s,1μm0.6nm	6.63	272	P	Pn	20 22 29.9	+1.0
UGM	Wanagama	7.91	272	Pn	Pn	20 22 44.6	-1.2
UGM	Wanagama	7.91	272	P	Pn	20 22 45.5	-0.3
BBJI	Bungbulang	10.78	274	P	Pn	20 23 21.9	-1.7
FITZ	Fitzroy Crossi	11.96	145	Pn	Pn	20 23 39.1	+0.4
FITZ	Fitzroy Crossi	11.96	145	P	Pn	20 23 40.5	+1.8
KNRA	Kununurra	12.42	127		Pn	20 23 43.6	-1.0
KNRA	Kununurra	12.42	127	P	Pn	20 23 45.4	+0.7
MBWA	Marble Bar	12.83	175	Pn	Pn	20 23 49.0	-0.8
MBWA	Marble Bar	12.83	175	P	Pn	20 23 51.4	+1.5
XMIS	Christmas Isla	12.86	259	Pn	Pn	20 23 46.2	-4.0
XMIS	Christmas Isla 30nm,1.5s	12.86	259	P	Pn	20 23 49.7	-0.6
DRS	Darwin Rock St 24nm,1.0s	12.87	110	P	Pn	20 23 51.4	+1.1
MTN	Manton Dam	13.21	111	Pn	Pn	20 23 54.5	-0.2
MTN	Manton Dam	13.21	111	P	Pn	20 23 55.8	+1.1
PSA00	Pilbara Seismi	13.25	175	Pn	Pn	20 23 53.9	-1.3
PSA00	Pilbara Seismi	13.25	175	P	Pn	20 23 57.2	+2.0
KDU	Kakadu	14.41	109	P	Pn	20 24 10.4	+0.7
KKM	Kota Kinabalu	14.44	351		Pn	20 24 09.5	-0.7
KKM	Kota Kinabalu	14.44	351	P	P	20 24 12.5	+0.4
FAKI	Fak Fak	14.69	69	Pn	Pn	20 24 10.7	-2.6
FAKI	Fak Fak	14.69	69	P	Pn	20 24 12.0	-1.2
FAKI	Fak Fak 94nm,0.7s	14.69	69	P	Pn	20 24 13.6	+0.4
SWI	Sorong 82nm,0.7s	14.71	60	P	P	20 24 15.6	+0.6
LWLI	Liwa	14.71	282	P	P	20 24 31.5	+16
MNAI	Manna	15.94	283		Pn	20 24 25.6	-2.9
MNAI	Manna 119nm,1.2s	15.94	283	P	P	20 24 29.9	+1.2
MEEK	Meekatharra	18.23	180	P	Pn	20 24 55.1	-0.7
WRKA	Warakurna	19.08	152	P	Pn	20 25 05.7	-0.1
WB0	Warramunga Arr	19.15	128	P	P	20 25 04.2	+0.4
WRA	Warramunga Arr	19.21	129	P	P	20 25 03.8	-0.6
WRA	Warramunga Arr 4.9nm,0.3s,baz=304,slow=12,SNR=220	19.21	129	P	P	20 25 05.1	+0.7
WRA	2.0nm,0.5s,baz=298,slow=20,SNR=4.4			S	S	20 28 35.1	+2.3
WRAB	Tennant Creek	19.21	129	P	P	20 25 04.9	+0.5
WRAB	comp=Z,13nm,0.8s			IAmb	IAmb	20 25 06.1	
WB2	Warramunga Arr	19.22	129	P	P	20 25 05.1	+0.6
AS31	Alice Springs	21.24	138	P	P	20 25 27.1	+0.9
ASAR	Alice Springs	21.24	138	P	P	20 25 26.7	+0.6
ASAR	Alice Springs comp=Z,20nm,0.4s,baz=308,slow=8.7,SNR=303	21.24	138	P	P	20 25 27.2	+1.1
ASAR	comp=Z,3.5nm,0.9s,baz=327,slow=24,SNR=18			S	S	20 29 12.7	+0.7
ASAR	comp=Z,1.2nm,0.4s,baz=288,slow=1.5,SNR=6.6			PcP	PcP	20 29 23.8	-0.3
ASAR	comp=Z,1.4nm,0.7s,baz=331,slow=1.9,SNR=6.1			ScP	ScP	20 32 43.8	-1.0
AS01	Alice Springs comp=Z,33nm,0.5s	21.27	138	P	P	20 25 27.0	+0.5
QIS	Mount Isa comp=Z,23nm,0.7s	23.75	123	P	P	20 25 51.0	+0.8
COEN	Coen	24.84	105	P	P	20 26 00.3	+0.2
COEN	comp=Z,9.8nm,0.7s			IAmb	IAmb	20 26 01.4	
COEN	Coen	24.84	105	P	P	20 26 01.1	+0.9
OOD	Oodnadatta	25.29	142	P	P	20 26 05.9	+1.9
MULG	Mulgathing	26.27	148	P	P	20 26 14.7	+1.8
MTSU	Mount Surprise	26.93	114	P	P	20 26 20.4	+1.5
LCRK	Leigh Creek comp=Z,10nm,2.1s	28.73	143	P	P	20 26 36.4	+1.7
BBOO	Buckleboo	29.31	149	P	P	20 26 40.6	+0.8
BBOO	comp=Z,9.1nm,1.1s			IAmb	IAmb	20 27 10.0	
BBOO	Buckleboo comp=Z,11nm,1.4s	29.31	149	P	P	20 26 41.0	+1.1
HTT	Hallett comp=Z,12nm,2.4s	31.32	146	P	P	20 26 59.3	+1.7
STKA	Stephens Creek	31.80	141	P	P	20 27 03.4	+1.6
STKA	Stephens Creek comp=Z,3.8nm,0.5s,baz=311,slow=9.3,SNR=12	31.80	141	P	P	20 27 03.5	+1.6
CMAR	comp=Z,3.8nm,0.5s Chiang Mai Arr comp=Z,0.9nm,0.5s,baz=156,slow=7.2,SNR=9.1	32.86	324	P	P	20 27 11.7	+0.6
CRAI	comp=Z,0.9nm,0.5s Chiangrai	33.50	328	P	P	20 27 17.5	+0.8
ARMA	Armidale	37.98	130	P	P	20 27 56.5	+1.6
ARMA	comp=Z,13nm,1.3s			IAmb	IAmb	20 28 15.0	
TOO	Toolangi comp=Z,18nm,1.4s	38.02	144	P	P	20 27 57.1	+2.1
TOO				IAmb	IAmb	20 28 16.4	
PZH	PanZhiHua comp=Z,6.0nm,0.7s	38.24	335	P	P	20 27 58.4	+1.4
PZH	comp=Z,100nm,4.7s			pmax	pmax		
LSA	Lhasa comp=Z,4.5nm,0.7s	46.05	326	P	P	20 29 00.2	-0.4
LSA				IAmb	IAmb	20 29 01.5	
KSRS	Korea Array comp=Z,1.2nm,0.5s,baz=190,slow=10.0,SNR=4.1	46.37	10	P	P	20 29 02.2	-0.1
HHC	comp=Z,1.2nm,0.5s Hu-ho-hao-te comp=Z,6.0nm,0.8s	49.33	353	eP	P	20 29 28.0	+2.8
HHC				pmax	pmax		
HHC	comp=Z,55nm,5.0s			pmax	pmax		
USRK	Ussuriysk Ar. comp=Z,3.4nm,0.8s,baz=194,slow=7.1,SNR=12	53.67	12	P	P	20 29 56.7	-0.5
ASAJ	comp=Z,3.4nm,0.8s Asahikawa comp=Z,18nm,19.8s,baz=140,slow=38	56.56	21	LR	LR	20 56 21.6	
SONM	Songino Array comp=Z,5.0nm,0.6s,baz=168,slow=8.4,SNR=54	56.91	350	P	P	20 30 20.0	-0.6
WMQ	comp=Z,5.0nm,0.6s Urumqi	58.92	334	eP	P	20 30 34.0	-0.5
WMQ	comp=Z,10.0nm,0.7s			pmax	pmax		
MK31	Makanchi Array comp=Z,3.4nm,0.7s	63.62	333	P	P	20 31 03.8	-2.1
MK31				IAmb	IAmb	20 31 05.3	
MKAR	Makanchi Array	63.62	333	P	P	20 31 04.0	-1.9
MKAR	Makanchi Array comp=Z,6.8nm,0.7s,baz=146,slow=7.5,SNR=81	63.62	333	P	P	20 31 04.6	-1.3
MKAR	comp=Z,24nm,18.4s,baz=233,slow=39			LR	LR	21 01 45.7	
MAKZ	Makanchi comp=Z,6.8nm,0.7s	63.77	333	P	P	20 31 04.8	-2.1
MAKZ	comp=Z,7.4nm,1.5s			IAmb	IAmb	20 31 06.4	
AAK	Ala-Archa comp=Z,3.7nm,1.1s	64.63	325	P	P	20 31 11.3	-1.5
AAK				IAmb	IAmb	20 31 13.2	
ARSB	Arslanbob	64.67	324	P	P	20 31 11.9	-1.2
KURBB	Kurchatov Arra comp=Z,2.1nm,0.5s,baz=142,slow=5.5,SNR=49	68.13	334	P	P	20 31 33.1	-1.5
KURK	Kurchatov comp=Z,2.1nm,0.5s	68.16	334		P	20 31 33.0	-1.9
KURK	comp=Z,4.7nm,1.1s			IAmb	IAmb	20 31 33.9	
ZAA0	Zalesovo Array comp=Z,4.9nm,0.5s	68.22	339		P	20 31 32.5	-2.6
ZAA0				IAmb	IAmb	20 31 33.5	
ZALV	Zalesovo Beam comp=Z,4.9nm,0.4s,baz=144,slow=5.0,SNR=31	68.22	339	P	P	20 31 33.3	-1.9
BVAR	comp=Z,4.9nm,0.4s Borovoye Array comp=Z,0.6nm,0.3s,baz=134,slow=7.0,SNR=3.8	73.46	332	P	P	20 32 04.7	-2.1
ABKAR	comp=Z,0.6nm,0.3s Akbulak array	76.71	325	P	P	20 32 23.4	-2.1
ABKAR	Akbulak array	76.71	325	P	P	20 32 23.5	-1.9
TIXI	Tiksi comp=Z,4.9nm,0.5s	80.08	3	IAmb	IAmb	20 32 42.8	
TIXI				P	P	20 32 42.9	-0.6
YKA	Yellowknife Ar comp=Z,0.3nm,0.7s,baz=308,slow=2.4,SNR=3.1	113.76	24	PKhKP	PKPpre	20 39 10.2	
TORD	Torodi Ar. Bea comp=Z,0.3nm,0.5s,baz=83,slow=1.9,SNR=6.3	117.85	280	PKP	PKPdf	20 39 19.4	-0.9

*IDC **15** 20:25:50.8±2.5,7˚.59S×111˚.89E,h144km±27km,mb3.4/6, mbtmp4.0/8,Error ellipse: s-maj=52.0km s-min=15.6km az=36.0*

*DJA **15** 20:25:51.0±0.3,8˚S±5˚×11˚2E±˚,h129km±4km,M4.4/21, mb4.8/6,mB5.2/7,MLv3.9/21,Mw(mB)4.6/7*

*NEIC **15** 20:25:51.0±2.9,8˚.3S±0˚.2×111˚.63E±0˚.09,h132km±11km, mb4.4/6,Error ellipse: s-maj=36.5km s-min=6.2km az=199.0*

ISC 15 20:25:50.2±0.7,8˚.08S±0˚.08×111˚.65E±0˚.04,h144km±6km, n47,σ1$22/54,mb3.7/6,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PWJI	Pagerwojo	0.16	70	P	Pn	20 26 09.3	-0.3
PWJI				S	Sn	20 26 22.9	-1.4
NGJI	Ngawi	0.73	345	P	Pn	20 26 13.0	+0.8
UGM	Wanagama	1.13	278		Pn	20 26 15.7	+0.2
UGM	Wanagama	1.13	278	P	Pn	20 26 16.5	+0.9
UGM	Wanagama	1.13	278	P	Pn	20 26 16.1	+0.5
UGM				S	Sn	20 26 34.0	-0.9
YOGI	Yogyakarta	1.37	281	P	Pn	20 26 18.5	+0.6
YOGI				S	Sn	20 26 39.1	+0.1
GRJI	Gresik	1.42	35	P	Pn	20 26 17.9	-0.5
SMRI	Semarang	1.58	310		Pn	20 26 20.3	+0.2
SMRI	Semarang	1.58	310	P	Pn	20 26 20.6	+0.5
SMRI	Semarang	1.58	310	P	Pn	20 26 20.1	0.0
SMRI				S	Sn	20 26 43.1	+0.1
GMJI	Gumukmas	1.79	96	P	Pn	20 26 22.4	0.0
GMJI				S	Sn	20 26 46.8	-0.3
BLJI	Banyuglugur	1.95	80	P	Pn	20 26 24.9	+0.5
BLJI				S	Sn	20 26 51.6	+1.1
BWJI	Bawean	2.42	24	P	Pn	20 26 28.8	-1.3
JAGI	Jajag, Banyuwa	2.50	99		Pn	20 26 31.2	+0.1
JAGI	Jajag, Banyuwa	2.50	99	P	Pn	20 26 31.0	-0.1
JAGI				S	Sn	20 27 02.0	-0.5
KMMI	Kalianget	2.51	66	P	Pn	20 26 30.7	-0.4
ABJI	Asem Bagus	2.57	84	P	Pn	20 26 33.4	+1.5
KPJI	Karang Pucung	2.80	285	P	Pn	20 26 35.7	+1.0
CMJI	Cimerak	3.19	275	P	Pn	20 26 38.9	-0.8
SRBI	Singaraja	3.52	90	P	Pn	20 26 45.3	+1.2
BBJI	Bungbulang	4.01	278	P	Pn	20 26 52.3	+1.8
LEM	Lembang 65nm,0.7s,baz=64,slow=10,SNR=14	4.19	287	P	Pn	20 26 55.3	+2.3
LEM	14nm,0.5s,baz=148,slow=24,SNR=1.3			S	Sn	20 27 52.5	+11
LEM	Lembang	4.19	287	P	Pn	20 26 54.1	+1.2
DBJI	Dramaga 61nm,0.5s,2μm0.3nm	5.09	287	P	Pn	20 27 05.7	+0.9
SKJI	Sukabumi 131nm,0.8s,4μm0.7nm	5.16	282	P	Pn	20 27 08.7	+3.0
TWSI	Taliwang, Sumb 30nm,0.7s,2μm0.2nm	5.22	98	P	Pn	20 27 06.0	-0.4
PLAI	Plampang 17nm,0.6s,761nm0.1nm	6.10	97	P	Pn	20 27 18.1	-0.2
XMI	Christmas Isla	6.34	248	P	Pn	20 27 21.1	-0.3
XMIS	Christmas Isla	6.39	248		Pn	20 27 20.7	-1.3
XMIS	Christmas Isla	6.39	248	P	Pn	20 27 21.4	-0.7
KASI	Kota Agung	7.54	289	P	Pn	20 27 39.1	+1.5
MNAI	Manna	9.40	293	Pn	Pn	20 28 03.5	+1.1
MNAI	Manna 93nm,1.0s	9.40	293	P	Pn	20 28 04.5	+2.1
BATI	Baumata 14nm,0.3s,baz=280,slow=6.1,SNR=8.6	12.05	101	P	Pn	20 28 35.5	-1.9
SOEI	Soe	12.57	99	Pn	Pn	20 28 43.1	-1.3
MBWA	Marble Bar	15.17	150	P	Pn	20 29 18.5	+1.4
MBWA	comp=Z,7.5nm,1.1s			IAmb	IAmb	20 29 21.3	
GSI	Gunungsitoli comp=Z,39nm,1.5s	16.85	303	P	P	20 29 36.5	-1.0
GSI				IAmb	IAmb	20 30 07.0	
KNRA	Kununurra comp=Z,20nm,1.0s	18.36	116	P	P	20 29 55.4	+1.4
KNRA				IAmb	IAmb	20 29 58.3	
MTN	Manton Dam comp=Z,68nm,1.5s	19.73	106	P	P	20 30 09.7	+0.8
MTN				IAmb	IAmb	20 30 38.7	
FAKI	Fak Fak	21.12	77	P	P	20 30 24.1	+0.2
WRA	Warramunga Arr comp=Z,0.4nm,0.4s,baz=297,slow=12,SNR=2.6	24.93	121	P	P	20 31 03.0	+2.7
ASAR	comp=Z,0.4nm,0.4s Alice Springs comp=Z,0.6nm,0.5s,baz=298,slow=8.0,SNR=3.0	26.36	129	P	P	20 31 14.3	+1.1
STKA	comp=Z,0.6nm,0.5s Stephens Creek	36.55	135	P	P	20 32 40.6	-1.6
STKA	Stephens Creek comp=Z,1.0nm,0.4s,baz=306,slow=12,SNR=4.7	36.55	135	P	P	20 32 43.9	+1.7
MKAR	comp=Z,1.0nm,0.4s Makanchi Array comp=Z,0.3nm,0.3s,baz=148,slow=7.5,SNR=8.1	60.56	337	P	P	20 35 43.8	-1.6
MMAI	comp=Z,0.3nm,0.3s Mount Meron Ar comp=Z,0.7nm,0.5s,baz=96,slow=5.8,SNR=1.9	82.99	305	P	P	20 38 00.5	+0.7
BRTR	comp=Z,0.7nm,0.5s Keskin Array B comp=Z,0.4nm,0.4s,baz=116,slow=3.4,SNR=3.7	86.00	311	P	P	20 38 13.7	-1.2
	comp=Z,0.4nm,0.4s						

*ATH **15** 20:37:08.2,38˚.09N×23˚.62E,h186km±2km,ML2.8/10, Error ellipse: s-maj=2.1km s-min=1.3km az=202.0*

*THE **15** 20:37:11.3,38˚.15N×23˚.54E,h167km±1km,ML2.4/7,Error ellipse: s-maj=3.0km s-min=1.5km az=154.0*

*IDC **15** 20:37:15.9±7.0,38˚.21N×23˚.61E,h255km±78km,mb2.9/6, mbtmp3.4/7,Error ellipse: s-maj=34.2km s-min=18.8km az=126.0*

ISC 15 20:37:08.8±0.8,38˚.15N±0˚.05×23˚.58E±0˚.05,h184km±5km, n77,σ1$15/97,mb3.4/6,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATH	Athens Observa	0.21	148	P	Pn	20 37 33.0	-0.1
VILL	Villia	0.21	274	P	Pn	20 37 33.1	-0.1
VILL	140nm,0.7s			S	Sn	20 37 51.1	-0.9
ATHU	Athens Univers	0.24	138	P	Pn	20 37 33.4	+0.1
ATHU	40nm,0.6s			S	Sn	20 37 50.9	-1.1
ATHU	Athens Univers	0.24	138	P	Pn	20 37 33.3	0.0
ATHU				S	Sn	20 37 51.0	-1.0
PTL	Penteli	0.25	114	P	Pn	20 37 34.3	+1.0
PTL	135nm,0.8s			S	Sn	20 37 51.2	-0.9
PTL	Penteli	0.25	114	P	Pn	20 37 32.9	-0.4
PTL				S	Sn	20 37 50.5	-1.5
PTL	comp=E,310μm,0.6s			AML	AML	20 37 52.3	
PTL	comp=N,201μm,0.7s			AML	AML	20 37 52.9	
VIL2	Platees	0.25	285	P	Pn	20 37 33.4	+0.1
VIL2				S	Sn	20 37 50.8	-1.2
VIL2	comp=N,296μm,0.6s			AML	AML	20 37 53.3	
VIL2	comp=E,202μm,0.7s			AML	AML	20 37 54.0	
DION	Dionisos Attik	0.29	104	P	Pn	20 37 34.3	+0.9
DION	comp=E,208nm,0.7s			S	Sn	20 37 52.2	0.0
DION	Dionisos Attik	0.29	104	P	Pn	20 37 33.7	+0.3
DION				S	Sn	20 37 51.5	-0.7
DION	comp=E,403μm,0.6s			AML	AML	20 37 52.4	
DION	comp=N,144μm,0.8s			AML	AML	20 37 53.9	
LTK	Loutraki	0.50	256	P	Pn	20 37 34.0	-0.1
LOUT	Loutraki	0.50	252	P	Pn	20 37 34.1	+0.1
LOUT	comp=N,105nm,0.5s			S	Sn	20 37 52.0	-1.4
LOUT	Loutraki	0.50	252	P	Pn	20 37 34.0	-0.1
KYMI	Kymi, Euboea I	0.64	40	P	Pn	20 37 34.9	+0.3
KYMI	comp=N,45nm,0.6s			S	Sn	20 37 53.3	-1.3
KYMI

THAL				AML	AML	20 37 58.2	
	comp=N,788μm,0.3s						
YDRA	**Hydra**	**0.80**	**186**	P	**Pn**	**20 37 35.3**	**-0.2**
KRND	**KRANIDI**	**0.84**	**204**	P	**Pn**	**20 37 35.8**	**0.0**
KRND				S	**Sn**	**20 37 55.5**	**-1.1**
	comp=N,230nm,0.5s						
KRND	**KRANIDI**	**0.84**	**204**	P	**Pn**	**20 37 35.6**	**-0.2**
KRND				S	**Sn**	**20 37 54.9**	**-1.6**
AXAR	**Agios Charalam**	**0.95**	**311**	P	**Pn**	**20 37 37.3**	**+0.8**
AXAR				S	**Sn**	**20 37 57.7**	**-0.3**
AXAR				AML	AML	20 37 58.4	
	comp=N,1176μm,0.4s						
AXAR				AML	AML	20 37 59.8	
	comp=E,460μm,0.3s						
GUR	**Goura**	**1.00**	**258**	P	**Pn**	**20 37 37.2**	**+0.3**
KLV	**Kalavryta, Ach**	**1.13**	**265**	P	**Pn**	**20 37 38.4**	**+0.4**
ALIK	**Aliki, Aigiali**	**1.16**	**276**	P	**Pn**	**20 37 39.1**	**+1.1**
NEO	**Neokhori**	**1.19**	**347**	P	**Pn**	**20 37 38.7**	**+0.4**
TRIZ	**Trizonia**	**1.20**	**281**	P	**Pn**	**20 37 38.1**	**-0.3**
XOR	**Xorichti**	**1.25**	**346**	P	**Pn**	**20 37 39.3**	**+0.5**
AGG	**Agios Georgios**	**1.31**	**312**	P	**Pn**	**20 37 40.2**	**+0.8**
EFP	**Efpalio**	**1.34**	**282**	P	**Pn**	**20 37 40.5**	**+0.9**
EFP	**Efpalio**	**1.34**	**282**	P	**Pn**	**20 37 40.8**	**+1.2**
ANX	**Ano Chora**	**1.38**	**289**	P	**Pn**	**20 37 40.6**	**+0.6**
ANX	**Ano Chora**	**1.38**	**289**	P	**Pn**	**20 37 40.6**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.42**	**308**	P	**Pn**	**20 37 41.4**	**+1.0**
MAKR				S	**Sn**	**20 38 04.9**	**0.0**
MAKR				AML	AML	20 38 05.8	
	comp=N,381μm,0.5s						
MAKR				AML	AML	20 38 05.9	
	comp=E,311μm,0.4s						
DRO	**Drossia**	**1.49**	**263**	P	**Pn**	**20 37 42.3**	**+1.4**
DRO	**Drossia**	**1.49**	**263**	P	**Pn**	**20 37 42.0**	**+1.1**
VLI	**Veliai**	**1.52**	**200**	P	**Pn**	**20 37 40.6**	**-0.6**
VLI				S	**Sn**	**20 38 03.9**	**-2.5**
VLI				AML	AML	20 38 05.9	
	comp=E,152μm,0.3s						
VLI				AML	AML	20 38 07.0	
	comp=N,164μm,0.5s						
MNVA	**Monemvasia**	**1.52**	**197**	P	**Pn**	**20 37 41.6**	**+0.4**
EVR	**Evrytania**	**1.58**	**299**	P	**Pn**	**20 37 42.8**	**+0.9**
EVR				S	**Sn**	**20 38 08.1**	**+0.4**
EVR				AML	AML	20 38 09.4	
	comp=E,161μm,0.3s						
EVR				AML	AML	20 38 09.8	
	comp=N,191μm,0.3s						
MHLO	**Agia Marina, M**	**1.60**	**155**	P	**Pn**	**20 37 42.1**	**+0.1**
RLS	**Riolos of Patr**	**1.67**	**268**	P	**Pn**	**20 37 44.1**	**+1.4**
RLS				AML	AML	20 38 11.1	
	comp=N,351μm,0.4s						
RLS				AML	AML	20 38 12.8	
	comp=E,295μm,0.3s						
PVO	**Paravola**	**1.68**	**287**	P	**Pn**	**20 37 44.2**	**+1.5**
THL	**Klokotos Trika**	**1.87**	**320**	P	**Pn**	**20 37 45.1**	**+0.5**
APE	**Apeiranthos**	**1.89**	**124**	P	**Pn**	**20 37 44.8**	**-0.2**
CHOS	**Chios island**	**1.96**	**82**	P	**Pn**	**20 37 46.0**	**+0.2**
SIGR	**SIGRI**	**2.08**	**59**	P	**Pn**	**20 37 47.3**	**+0.5**
LIA	**Limnos Island**	**2.15**	**35**	P	**Pn**	**20 37 47.8**	**+0.2**
THR5	**Thira Island,**	**2.23**	**140**	P	**Pn**	**20 37 48.6**	**0.0**
THR9	**Santorini-Faro**	**2.28**	**141**	P	**Pn**	**20 37 48.8**	**-0.5**
ANKY	**Antikythira Is**	**2.29**	**186**	P	**Pn**	**20 37 48.6**	**-0.7**
NYDR	**Nydri-Lefkada**	**2.33**	**285**	P	**Pn**	**20 37 50.7**	**+1.0**
EVGI	**Lefkada island**	**2.34**	**283**	P	**Pn**	**20 37 50.7**	**+0.9**
PRK	**Paraskevi**	**2.38**	**62**	P	**Pn**	**20 37 50.3**	**+0.1**
TSLK	**Tsoukalades, L**	**2.39**	**287**	P	**Pn**	**20 37 51.3**	**+0.9**
DRAG	**Dragano-Lefkad**	**2.42**	**284**	P	**Pn**	**20 37 51.3**	**+0.6**
KEF5	**Kardakata, Kep**	**2.45**	**274**	P	**Pn**	**20 37 51.6**	**+0.5**
KPRO	**Kipourio**	**2.49**	**317**	P	**Pn**	**20 37 52.3**	**+0.7**
KEF3	**Kipouria, Keph**	**2.54**	**272**	P	**Pn**	**20 37 52.4**	**+0.2**
SMG	**Samos**	**2.62**	**99**	P	**Pn**	**20 37 53.6**	**+0.6**
CHAN	**Chania**	**2.65**	**172**	P	**Pn**	**20 37 52.5**	**-0.9**
IMMV	**Iera Moni Meta**	**2.70**	**173**	P	**Pn**	**20 37 53.1**	**-1.0**
SMTH	**Samothraki Isl**	**2.77**	**33**	P	**Pn**	**20 37 54.7**	**-0.1**
NEST	**Nestorio**	**3.00**	**320**	P	**Pn**	**20 37 58.6**	**+1.0**
IDI	**Anoyia**	**3.04**	**159**	P	**Pn**	**20 37 56.9**	**-1.4**
KASA	**Kassiopi**	**3.26**	**300**	P	**Pn**	**20 38 01.4**	**+0.8**
GVD	**Gavdhos**	**3.33**	**173**	P	**Pn**	**20 38 00.4**	**-1.3**
DBRK	**Dubrovnik**	**6.13**	**319**	*e*Pn	**Pn**	**20 38 35.4**	**-1.9**
DBRK				Sn	**Sn**	**20 39 40.7**	**-6.6**
STON	**Ston**	**6.50**	**318**	*e*Pn	**Pn**	**20 38 40.1**	**-2.2**
RICI	**Ricice**	**7.24**	**320**	*e*Pn	**Pn**	**20 38 50.3**	**-1.7**
HVAR	**Hvar**	**7.39**	**315**	*e*Pn	**Pn**	**20 38 51.5**	**-2.4**
KIJV	**Kijevo**	**7.97**	**319**	*e*Pn	**Pn**	**20 39 00.3**	**-1.2**
VIRC	**Vir**	**8.88**	**316**	*e*Pn	**Pn**	**20 39 12.8**	**-0.7**
AKASG	**Malin Array Be**	**13.18**	**16**	P	**P**	**20 40 12.9**	**+0.7**
	comp=E,0.2nm,0.3s,baz=212,slow=10,SNR=5.0						
HFS	**Hagfors**	**22.88**	**347**	P	**P**	**20 41 56.2**	**+0.1**
	comp=E,2.1nm,0.7s,baz=168,slow=10,SNR=2.2						
	comp=E,2.1nm,0.7s						
FINES	**FINESS Array B**	**23.37**	**3**	P	**P**	**20 42 00.8**	**+0.4**
	comp=E,0.5nm,0.3s,baz=172,slow=10,SNR=6.5						
	comp=E,0.5nm,0.3s						
NOA	**NORSAR Array B**	**24.19**	**345**	P	**P**	**20 42 09.5**	**+1.4**
	comp=E,0.5nm,0.9s,baz=145,slow=11,SNR=0.9						
	comp=E,0.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**31.60**	**224**	P	**P**	**20 43 15.6**	**+1.3**
	comp=E,0.3nm,0.3s,baz=36,slow=9.6,SNR=7.3						
	comp=E,0.3nm,0.3s						
MKAR	**Makanchi Array**	**43.26**	**59**	P	**P**	**20 44 52.2**	**+0.3**
	comp=E,0.2nm,0.6s,baz=265,slow=8.8,SNR=4.9						
	comp=E,0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**43.91**	**48**	P	**P**	**20 44 56.4**	**-0.6**
	comp=E,0.4nm,0.3s,baz=277,slow=8.7,SNR=2.3						
	comp=E,0.4nm,0.3s						

*IDC **15** 21:46:04.8±8.7,35°.99N×69°.33E,h91km±57km,mb3.1/1, mbtmp3.3/6,ML3.1/4,MS3.7/1,Error ellipse: s-maj=128.7km s-min=25.7km az=166.0*

ISC 15 21:46:07.0±3.3,36°.2N±0°.3×69°.3E±0°.1,h100km,n6, σ0s62/8,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**7.55**	**31**	P	**Pn**	**21 47 55.0**	**+0.5**
	1.1nm,0.3s,baz=162,slow=5.1,SNR=19						
AAK				S	**Sn**	**21 49 18.0**	**-0.5**
	0.4nm,0.4s,baz=306,slow=19,SNR=1.4						
	1.9nm,0.3s						
GEYT	**Alibeck**	**9.08**	**284**	P	**Pn**	**21 48 14.9**	**-0.4**
	0.4nm,0.3s,baz=103,slow=9.1,SNR=5.2						
GEYT				S	**Sn**	**21 49 55.9**	**+0.2**
	0.5nm,0.5s,baz=21,slow=42,SNR=1.4						
GEYT				LR	LR	21 51 44.1	
	comp=Z,468nm,20.8s,slow=37						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**14.33**	**39**	P	**Pn**	**21 49 24.7**	**-0.4**
	0.2nm,0.7s,baz=218,slow=9.1,SNR=1.7						
KURBB	**Kurchatov Arra**	**15.85**	**22**	P	**P**	**21 49 45.8**	**-0.1**
	baz=213,slow=11,SNR=3.0						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**16.80**	**2**	P	**P**	**21 49 56.7**	**+0.2**
	baz=169,slow=10.0,SNR=3.1						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**20.74**	**27**	P	**P**	**21 50 40.4**	**+0.9**
	0.7nm,0.3s,baz=218,slow=11,SNR=5.3						
	0.7nm,0.3s						

*IDC **15** 22:09:18.3±0.9,41°.56N×138°.28E,h0km,mb3.7/6, mbtmp3.6/10,ML2.8/4,MS2.5/2,Error ellipse: s-maj=26.3km s-min=20.6km az=108.0*

*JMA **15** 22:09:20.6±0.4,41°.5N±0°.8×13°.8E±°,h21km±4km, MV3.8/38,EASTERN SEA OF JAPAN*

*NIED **15** 22:09:20.6,41°.54N×138°.43E,h21km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr2.17; Mθθ-0.07; Mφφ-2.10; Mrθ-2.01; Mθφ0.97; Mφr-0.36; Fault plane solution: M0 3.01000×10¹⁴ NP1: φs307.00000°,δ59.00000°,λ53.00000°. NP2: φs184.00000°,δ47.00000°,λ136.00000°.*

ISC 15 22:09:19.3±1.7,41°.54N±0°.04×138°.37E±0°.05,h10km±10km, n25,σ1s35/37,mb3.8/6,Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**0.99**	**56**	*e*P	**Pg**	**22 09 38.3**	**0.0**
JOSM				*e*S	**Sg**	**22 09 50.5**	**-0.6**
JOMM	**Oshimamatsumae**	**1.23**	**90**	*e*S	**Sb**	**22 09 57.5**	**-1.0**
JHST	**Hiyamasetana**	**1.43**	**51**	*e*P	**Pn**	**22 09 44.9**	**-0.3**
JHST				*e*S	**Sn**	**22 10 01.6**	**-2.4**
JSR	**Shiriuchi**	**1.54**	**90**	*e*P	**Pb**	**22 09 47.6**	**-0.2**
JIW	**Iwasaki**	**1.56**	**127**	*e*P	**Pn**	**22 09 46.6**	**-0.8**
JIW				*e*S	**Sn**	**22 10 05.1**	**-2.2**
JYM2	**Yakumo 2**	**1.60**	**68**	*e*P	**Pn**	**22 09 48.1**	**+0.4**
JYM2				*e*S	**Sn**	**22 10 06.5**	**-1.8**
JSH	**Shimam**	**1.66**	**48**	*e*P	**Pn**	**22 09 48.0**	**-0.5**
JSH				*e*S	**Sn**	**22 10 06.4**	**-3.4**
JOT	**Ohata**	**2.02**	**94**	*e*P	**Pn**	**22 09 54.4**	**+1.0**
JKB	**Kayabe**	**2.02**	**79**	*e*P	**Pn**	**22 09 54.5**	**+1.1**
JKB				*e*S	**Sn**	**22 10 18.7**	**0.0**
JTM	**Tenmabayashi**	**2.17**	**109**	*e*P	**Pn**	**22 09 56.3**	**+0.8**
JTM				*e*S	**Sn**	**22 10 20.8**	**-1.6**
JAH	**Hinai**	**2.19**	**127**	*e*P	**Pn**	**22 09 56.1**	**+0.4**
JAH				*e*S	**Sn**	**22 10 22.5**	**-0.2**
JNB	**Noboribetsu**	**2.19**	**64**	*e*P	**Pn**	**22 09 56.5**	**+0.7**
JNB				*e*S	**Sn**	**22 10 21.6**	**-1.4**
JANG	**Nango**	**2.65**	**115**	*e*P	**Pn**	**22 10 02.8**	**+0.7**
JANG				*e*S	**Sn**	**22 10 34.2**	**-0.1**
JYK	**Kaneyama**	**3.03**	**149**	*e*P	**Pn**	**22 10 06.7**	**-0.6**
JYK				*e*S	**Sn**	**22 10 42.1**	**-1.5**
JOM	**Ohasama**	**3.04**	**132**	*e*P	**Pn**	**22 10 08.3**	**+0.9**
MJAR	**Matsushiro Arr**	**4.99**	**182**	Pn	**Pn**	**22 10 36.7**	**+2.3**
	0.1nm,0.3s,baz=11,slow=14,SNR=4.0						
MJAR				Sn	**Sn**	**22 11 28.8**	**-3.3**
	0.2nm,0.3s,baz=351,slow=16,SNR=6.3						
	1.1nm,0.5s						
USRK	**Ussuriysk Ar.**	**5.39**	**302**	Pn	**Pn**	**22 10 39.5**	**-0.2**
	0.5nm,0.3s,baz=104,slow=14,SNR=7.3						
	1.4nm,0.3s						
KLR	**Kul'dur**	**8.99**	**331**	Pn	**Pn**	**22 11 28.9**	**-0.1**
	0.2nm,0.3s,baz=144,slow=14,SNR=6.6						
KLR				LR	LR	22 14 49.7	
	comp=Z,35nm,19.6s,baz=194,slow=37						
	0.6nm,0.3s						
KSRS	**Korea Array**	**9.05**	**247**	Pn	**Pn**	**22 11 29.9**	**0.0**
	0.2nm,0.3s,baz=49,slow=15,SNR=1.2						
KSRS				LR	LR	22 14 36.6	
	comp=Z,20nm,19.7s,baz=350,slow=35						
	1.9nm,1.0s						
KURBB	**Kurchatov Arra**	**41.45**	**304**	P	**P**	**22 17 05.8**	**-0.2**
	0.2nm,0.2s,baz=81,slow=8.1,SNR=1.6						
	0.2nm,0.2s						
ILAR	**Eielson Array**	**47.03**	**34**	P	**P**	**22 17 51.7**	**+1.3**
	0.7nm,0.8s,baz=278,slow=5.9,SNR=8.7						
	0.7nm,0.8s						
YKA	**Yellowknife Ar**	**61.11**	**30**	P	**P**	**22 19 33.2**	**0.0**
	0.1nm,0.3s,baz=310,slow=4.8,SNR=2.0						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**61.28**	**184**	P	**P**	**22 19 35.0**	**+0.2**
	1.0nm,0.9s,baz=1.5,slow=7.2,SNR=9.5						
	1.0nm,0.9s						
PDAR	**Pinedale Array**	**76.16**	**45**	P	**P**	**22 21 09.0**	**+1.3**
	0.9nm,0.9s,baz=303,slow=1.5,SNR=6.8						
	0.9nm,0.9s						
ULM	**Lac du Bonnet**	**77.00**	**32**	P	**P**	**22 21 12.2**	**+0.2**
	1.4nm,0.6s,baz=335,slow=3.2,SNR=3.0						
	1.4nm,0.6s						

*NNC **15** 22:12:40.9±1.2,42°.08N×86°.35E,h0km,mb3.7,mpv3.5, Error ellipse: s-maj=10.4km s-min=6.2km az=171.0*

*SOME **15** 22:12:57.1,42°.30N×85°.67E,h15km*

ISC 15 22:12:49.1±2.5,41°.98N±0°.10×85°.88E±0°.09,h10km,n36, σ2s24/49,5C-4D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**4.33**	**292**	*e*P	Pn	22 13 50.0	-5.2
	0.5nm,0.1s						
KTMS				*e*S	**Sn**	**22 14 42.1**	**-3.7**
	4.6nm,0.1s						
KTMS	**Ketmen**	**4.33**	**292**	*e*P	**Pg**	**22 14 12.2**	**+0.2**
	1.9nm,0.4s						
KTMS				*e*S	**Sg**	**22 15 05.2**	**-2.9**
	11nm,0.2s						
KTMS	**Ketmen**	**4.33**	**292**	Pg	**Pg**	**22 14 12.2**	**+0.2**
	1.9nm,0.4s						
KTMS				Lg	Lg	22 15 05.2	
	11nm,0.2s						
SHLS	**Shalkode**	**4.89**	**286**	*e*P	Pn	22 13 55.8	-6.9
	2.9nm,0.1s						
SHLS				*e*S	**Sn**	**22 14 52.3**	**-7.1**
	737nm,0.2s						
SHLS	**Shalkode**	**4.89**	**286**	*e*P	**Pb**	**22 14 18.0**	**+3.1**
	9.4nm,0.3s						
SHLS				*e*S	**Sb**	**22 15 15.3**	**+1.6**
	23nm,0.3s						
SHLS	**Shalkode**	**4.89**	**286**	Pg	**Pb**	**22 14 18.0**	**+3.1**
	9.4nm,0.3s						
SHLS				Lg	Lg	22 15 15.3	
	23nm,0.3s						
PDGK	**Podgornoye**	**4.90**	**288**	Pg	**Pg**	**22 14 24.4**	**+1.4**
	1.5nm,0.3s						
PDGK				Lg	Lg	22 15 26.0	
	6.6nm,0.5s						
PDGK	**Podgornoye**	**4.90**	**288**	⇑Pn	**Pn**	**22 14 00.4**	**-2.6**
	2.3nm,0.9s						
PDGK				⇓Pg	**Pb**	**22 14 16.5**	**+1.3**
	2.1nm,0.5s						
PDGK				⇑Lg	Lg	22 15 27.8	
	9.6nm,0.6s						
DJR	**Jarkent**	**5.04**	**300**	*e*P	**Pn**	**22 14 02.2**	**-2.6**
	1.0nm,0.1s						
DJR				*e*S	**Sn**	**22 15 03.4**	**+0.3**
	3.9nm,0.3s						
UZB	**Uzynbulak**	**5.20**	**285**	*e*P	**Pn**	**22 14 04.0**	**-3.1**
	2.3nm,0.1s						
UZB				*e*S	**Sn**	**22 15 06.0**	**-1.1**
	9.0nm,0.3s						
UZB	**Uzynbulak**	**5.20**	**285**	*e*P	**Pg**	**22 14 28.8**	**+0.1**
	5.2nm,0.3s						
UZB				*e*S	**Sg**	**22 15 33.7**	**-2.3**
	7.4nm,0.4s						
UZB	**Uzynbulak**	**5.20**	**285**	Pg	**Pg**	**22 14 28.8**	**+0.1**
	5.2nm,0.3s						
UZB				Lg	Lg	22 15 33.7	
	7.4nm,0.4s						
KNOS	**Konyrlen**	**5.45**	**298**	Pg	**Pg**	**22 14 35.6**	**+2.2**
	4.5nm,0.2s						
KNOS				Lg	Lg	22 15 45.5	
	7.0nm,0.2s						
MK31	**Makanchi Array**	**5.46**	**333**	Pn	Pn	22 14 04.8	-5.7
	0.5nm,0.3s,baz=105,slow=12,SNR=27						
MK31				⇑Pg	**Pb**	**22 14 21.5**	**-3.0**
	0.4nm,0.3s,baz=143,slow=15,SNR=3.8						
MK31				Lg	Lg	22 15 36.7	
	1.1nm,0.3s,baz=146,slow=29,SNR=4.4						
ZSN	**Zaisan**	**5.52**	**353**	*e*P	**Pg**	**22 14 36.5**	**+1.8**
	2.8nm,0.2s						
ZSN				*e*S	**Sg**	**22 15 47.1**	**+1.0**
	9.7nm,0.5s						
MAKZ	**Makanchi**	**5.58**	**331**	⇓Pn	Pn	22 14 06.1	-6.1
	0.9nm,0.8s						
MAKZ				⇑Pg	**Pb**	**22 14 24.4**	**-2.2**
	1.7nm,0.7s						
MAKZ				⇑Lg	Lg	22 15 42.1	
	4.1nm,0.6s						
SATY	**Saty**	**5.63**	**284**	*e*P	**Pn**	**22 14 12.6**	**-0.4**
	1.8nm,0.1s						
SATY				*e*S	**Sn**	**22 15 20.8**	**+3.1**
	10nm,0.2s						
SATY	**Saty**	**5.63**	**284**	*e*P	**Pg**	**22 14 38.4**	**+1.5**
	1.7nm,0.8s						
SATY				*e*S	**Sg**	**22 15 50.2**	**+0.4**
	8.1nm,0.4s						
SATY	**Saty**	**5.63**	**284**	Pg	**Pg**	**22 14 38.4**	**+1.5**
	1.7nm,0.8s						
SATY				Lg	Lg	22 15 50.3	
	8.1nm,0.4s						
KAPS	**Kapalarasan**	**5.77**	**307**	*e*P	**Pn**	**22 14 17.0**	**+2.1**
	0.4nm,0.1s						
KAPS				*e*S	**Sn**	**22 15 28.3**	**+7.1**
	2.9nm,0.2s						
KAPS	**Kapalarasan**	**5.77**	**307**	*e*P	**Pg**	**22 14 39.8**	**+0.2**
	1.2nm,0.1s						
KAPS				*e*S	**Sg**	**22 15 52.6**	**-1.7**
	5.9nm,0.4s						
KAPS	**Kapalarasan**	**5.77**	**307**	Pg	**Pg**	**22 14 39.8**	**+0.2**
	1.2nm,0.1s						
KAPS				Lg	Lg	22 15 52.6	
	5.9nm,0.4s						
BLB	**Baldybastay**	**5.82**	**294**	Pg	**Pg**	**22 14 40.8**	**+0.2**
	4.8nm,0.2s						
BLB				Lg	Lg	22 15 54.4	
	5.2nm,0.2s						
TDK	**Taldyqorghan**	**6.22**	**302**	*e*P	**Pg**	**22 14 49.4**	**+1.2**
	7.5nm,0.2s						
TDK				*e*S	**Sg**	**22 16 09.1**	**+0.4**
	13nm,0.3s						
TDK	**Taldyqorghan**	**6.22**	**302**	Pg	**Pg**	**22 14 49.4**	**+1.2**
	7.5nm,0.2s						
TDK				Lg	Lg	22 16 09.1	
	13nm,0.3s						
ARXS	**Arharly**	**6.30**	**293**	*e*P	**Pg**	**22 14 50.4**	**+0.6**
	0.9nm,0.2s						
ARXS				*e*S	**Sg**	**22 16 11.0**	**-0.5**
	6.9nm,0.3s						
ARXS	**Arharly**	**6.30**	**293**	Pg	**Pg**	**22 14 50.4**	**+0.6**
	0.9nm,0.2s						
ARXS				Lg	Lg	22 16 11.0	
	6.9nm,0.3s						
KOTS	**Kotyrbulak**	**6.59**	**284**	*e*P	**Pg**	**22 14 56.3**	**+1.0**
	1.8nm,0.2s						
KOTS				*e*S	**Sg**	**22 16 21.1**	**+0.5**
	13nm,0.3s						
KOTS	**Kotyrbulak**	**6.59**	**284**	Pg	**Pg**	**22 14 56.3**	**+1.0**
	1.8nm,0.2s						
KOTS				Lg	Lg	22 16 21.1	
	13nm,0.3s						
MDOK	**Medeo**	**6.63**	**283**	Lg	Lg	22 16 23.1	
	6.8nm,0.9s						
KTBS	**Karatobe**	**6.98**	**287**	*e*P	**Pg**	**22 15 03.5**	**+0.7**
	0.9nm,0.2s						
KTBS				*e*S	**Sg**	**22 16 33.2**	**+0.1**
	4.6nm,0.3s						
KTBS	**Karatobe**	**6.98**	**287**	Pg	**Pg**	**22 15 03.5**	**+0.7**
	0.9nm,0.2s						
KTBS				Lg	Lg	22 16 33.2	
	4.6nm,0.3s						
KRBS	**Karabastau**	**7.70**	**286**	*e*P	**Pg**	**22 15 16.7**	**+0.3**
	0.6nm,0.6s						
KRBS				*e*S	**Sg**	**22 16 56.1**	**+0.1**
	0.4nm,0.4s						
KRBS	**Karabastau**	**7.70**	**286**	Pg	**Pg**	**22 15 16.7**	**+0.3**
	0.6nm,0.6s						
KRBS				Lg	Lg	22 16 56.1	
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**10.02**	**332**	⇓Lg	Lg	22 18 03.8	
	3.9nm,0.7s						
KURK	**Kurchatov**	**10.07**	**333**	⇓Lg	Lg	22 18 02.1	
	4.1nm,1.0s						

*IDC **15** 22:25:54.8±2.5,55°.99N×148°.63W,h0km,mb3.8/6, mbtmp3.6/11,ML3.4/5,MS2.6/1,Error ellipse: s-maj=49.7km s-min=24.6km az=175.0*

*NEIC **15** 22:26:02.2±1.5,56°.6N±0°.1×148°.7W±0°.1,h20km±9km, ML3.9/70,ML3.7(AEIC),Error ellipse: s-maj=16.7km s-min=5.3km az=151.0*

*AEIC **15** 22:26:04.1±1.4,56°.5N±0°.1×148°.6W±0°.1,h5km±8km,Error ellipse: s-maj=16.5km s-min=8.7km az=167.0*

ISC 15 22:25:58.9±1.0,56°.49N±0°.08×148°.56W±0°.05,h10km, n226,σ1s52/233,mb3.9/6,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.55**	**302**		**Pn**	**22 26 41.0**	**+0.8**
KDAK	**Kodiak Island**	**2.55**	**302**		**Sn**	**22 27 09.1**	**-2.2**
KDAK	**Kodiak Island**	**2.55**	**302**	Pn	**Pn**	**22 26 41.0**	**+0.8**
	2.9nm,0.3s,baz=124,slow=5.6,SNR=74						
KDAK				Sn	**Sn**	**22 27 09.2**	**-2.0**
	12nm,0.3s,baz=258,slow=23,SNR=40						
	7.2nm,0.3s						
OHAK	**Old Harbor**	**2.70**	**288**		**Pn**	**22 26 42.4**	**+0.2**
OHAK					**Sn**	**22 27 12.1**	**-2.9**
OHAK	**Old Harbor**	**2.70**	**288**	P	**Pn**	**22 26 42.5**	**+0.2**
OHAK	**Old Harbor**	**2.70**	**288**	P	**Pn**	**22 26 42.4**	**+0.2**
	baz=103						
OHAK				S	**Sn**	**22 27 12.1**	**-2.9**
	baz=103						
SYI	**Shuyak Island**	**2.97**	**318**	Pn	**Pn**	**22 26 47.3**	**+1.4**
Q20K	**Shuyak Island**	**2.97**	**317**	P	**Pn**	**22 26 47.1**	**+1.2**
	baz=134						
Q20K				S	**Sn**	**22 27 21.2**	**-0.4**
	baz=134						
SII	**Sitkinak Islan**	**3.12**	**274**		**Pn**	**22 26 48.4**	**+0.3**
SII	**Sitkinak Islan**	**3.12**	**274**	IAML		22 27 28.4	
	comp=E,144nm,0.7s						
SII				IAML		22 27 30.1	
	comp=N,165nm,1.0s						
SII	**Sitkinak Islan**	**3.12**	**274**	P	**Pn**	**22 26 48.8**	**+0.8**
SII	**Sitkinak Islan**	**3.12**	**274**	P	**Pn**	**22 26 48.4**	**+0.3**
	baz=88						
MID	**Middleton Isla**	**3.18**	**21**		**Pn**	**22 26 49.5**	**+0.7**
MID	**Middleton Isla**	**3.18**	**21**	IAML		22 27 25.9	
	comp=E,338nm,0.3s						
MID				IAML		22 27 26.4	
	comp=N,317nm,0.4s						
MID	**Middleton Isla**	**3.18**	**21**	P	**Pn**	**22 26 50.2**	**+1.3**
Q23K	**Middleton Isla**	**3.18**	**21**		**Pn**	**22 26 49.8**	**+1.0**
Q23K	**Middleton Isla**	**3.18**	**21**	IAML		22 27 25.9	
	comp=E,389nm,0.3s						
Q23K				IAML		22 27 26.4	
	comp=N,288nm,0.7s						
Q23K	**Middleton Isla**	**3.18**	**21**	P	**Pn**	**22 26 49.8**	**+1.0**
	baz=205						
CNPM	**China Poot**	**3.37**	**336**		**Pn**	**22 26 52.0**	**+0.6**
CNPM					**Sn**	**22 27 30.9**	**-0.6**
BRSE	**Bradley Lake S**	**3.46**	**341**		**Pn**	**22 26 53.5**	**+0.6**
BRSE					**Sn**	**22 27 33.0**	**-0.9**
BRSE	**Bradley Lake S**	**3.46**	**341**	P	**Pn**	**22 26 53.5**	**+0.6**
	baz=160						
BRSE				S	**Sn**	**22 27 33.0**	**-0.9**
	baz=160						
BRLK	**Bradley Lake**	**3.51**	**340**		**Pn**	**22 26 54.1**

P18K	**Big Mountain,**	**4.60**	**312**	Pn		**Pn**	**22 27 08.8**	**+0.5**
P18K	**Big Mountain,** baz=126	**4.60**	**312**	P		**Pn**	**22 27 09.2**	**+0.9**
RC01	**Rabbit Creek A**	**4.66**	**353**			**Pn**	**22 27 10.4**	**+1.2**
RC01	comp=E,94nm,0.5s			IAML			22 28 03.3	
RC01	comp=N,101nm,0.4s			IAML			22 28 04.1	
RC01	**Rabbit Creek A** baz=173	**4.66**	**353**	P		**Pn**	**22 27 10.6**	**+1.4**
BERG	**Berg Lake**	**4.68**	**31**			**Pn**	**22 27 10.9**	**+1.4**
NCT	**North Crescent**	**4.69**	**333**			**Pn**	**22 27 10.0**	**+0.3**
GRIN	**Grindle Hills**	**4.70**	**34**			**Pn**	**22 27 11.4**	**+1.6**
FIS	**Fire Island**	**4.75**	**350**			**Pn**	**22 27 10.1**	**-0.4**
FIS	comp=N,167nm,0.5s			IAML			22 28 09.9	
SNH	**Sunshine Point**	**4.78**	**37**			**Pn**	**22 27 12.4**	**+1.6**
SNH	**Sunshine Point** comp=E,87nm,0.7s	**4.78**	**37**	IAML			22 28 08.6	
SNH	comp=N,92nm,1.0s			IAML			22 28 12.7	
O19K	**Port Alsworth**	**4.80**	**323**			**Pn**	**22 27 11.6**	**+0.5**
O19K	**Port Alsworth** baz=139	**4.80**	**323**	P		**Pn**	**22 27 12.2**	**+1.1**
O18K	**Koktuh Hills**	**4.88**	**317**			**Pn**	**22 27 12.8**	**+0.6**
O18K	**Koktuh Hills** baz=131	**4.88**	**317**	P		**Pn**	**22 27 13.2**	**+0.9**
KNK	**Knik Glacier**	**4.94**	**1**			**Pn**	**22 27 14.3**	**+1.2**
KNK	comp=E,92nm,0.6s			IAML			22 28 08.9	
KNK	comp=N,49nm,0.6s			IAML			22 28 11.1	
KNK	**Knik Glacier** baz=182	**4.94**	**1**	P		**Pn**	**22 27 14.8**	**+1.7**
BMRM	**Bremner River** baz=208	**4.95**	**23**	P		**Pn**	**22 27 14.6**	**+1.5**
P17K	**Kvichak River**	**5.01**	**306**			**Pn**	**22 27 15.7**	**+1.7**
P17K	**Kvichak River** baz=119	**5.01**	**306**	P		**Pn**	**22 27 15.7**	**+1.7**
MESA	**MESA**	**5.08**	**40**			**Pn**	**22 27 17.4**	**+2.2**
MESA	comp=N,101nm,0.4s			IAML			22 28 16.4	
MESA	comp=E,90nm,1.2s			IAML			22 28 44.9	
MESA	**MESA** baz=227	**5.08**	**40**	P		**Pn**	**22 27 16.3**	**+1.1**
N20K	**Mount Spurr** baz=157	**5.09**	**340**	P		**Pn**	**22 27 15.8**	**+0.6**
SPCN	**Chakachatna No**	**5.11**	**340**			**Pn**	**22 27 16.7**	**+1.2**
SUA	**Susitna One**	**5.12**	**348**			**Pn**	**22 27 16.4**	**+0.8**
SUA	**Susitna One** baz=167	**5.12**	**348**	P		**Pn**	**22 27 16.4**	**+0.8**
PMR	**Palmer**	**5.13**	**357**			**Pn**	**22 27 15.8**	**+0.1**
PMR	comp=N,43nm,0.5s			IAML			22 28 13.1	
PMR	comp=E,43nm,0.7s			IAML			22 28 17.4	
CRQM	**Cirque**	**5.13**	**31**			**Pn**	**22 27 17.2**	**+1.3**
SPCG	**Spurr Capps Gl**	**5.14**	**341**			**Pn**	**22 27 17.1**	**+1.2**
SPCP	**Crater Peak Br**	**5.14**	**340**			**Pn**	**22 27 17.4**	**+1.4**
CRQE	**Cirque** baz=217	**5.14**	**31**	P		**Pn**	**22 27 17.2**	**+1.2**
KLU	**Klutina** comp=N,118nm,0.3s	**5.21**	**14**	IAML			22 28 16.9	
KLU	comp=E,106nm,0.4s			IAML			22 28 19.2	
KLU	**Klutina** baz=197	**5.21**	**14**	P		**Pn**	**22 27 18.2**	**+1.5**
ISLE	**Juniper Island** comp=E,68nm,0.9s	**5.26**	**36**	IAML			22 28 18.6	
ISLE	comp=N,64nm,0.9s			IAML			22 28 19.6	
GHO	**Glory Hole Cre**	**5.31**	**358**			**Pn**	**22 27 19.7**	**+1.6**
GHO	**Glory Hole Cre** comp=E,73nm,0.6s	**5.31**	**358**	IAML			22 28 21.2	
GHO	comp=N,115nm,0.6s			IAML			22 28 21.4	
N19K	**Bonanza Creek**	**5.33**	**327**			**Pn**	**22 27 19.0**	**+0.5**
N19K	comp=E,30nm,0.8s			IAML			22 28 24.6	
N19K	**Bonanza Creek** baz=142	**5.33**	**327**	P		**Pn**	**22 27 19.1**	**+0.7**
SML	**Sawmill**	**5.34**	**1**			**Pn**	**22 27 20.2**	**+1.6**
SML	**Sawmill** comp=N,79nm,0.8s	**5.34**	**1**	IAML			22 28 20.8	
SML	comp=E,92nm,0.5s			IAML			22 28 23.4	
SML	**Sawmill** baz=182	**5.34**	**1**	P		**Pn**	**22 27 20.2**	**+1.6**
M23K	**Glacier View**	**5.34**	**4**			**Pn**	**22 27 20.4**	**+1.8**
M23K	**Glacier View** baz=186	**5.34**	**4**	P		**Pn**	**22 27 20.4**	**+1.8**
SPNN	**North Nagishla**	**5.34**	**338**			**Pn**	**22 27 20.0**	**+1.2**
SCM	**Sheep Creek Mo**	**5.40**	**6**			**Pn**	**22 27 20.8**	**+1.3**
SCM	comp=N,74nm,0.6s			IAML			22 28 23.3	
SCM	comp=E,94nm,0.8s			IAML			22 28 26.3	
SCM	**Sheep Creek Mo** baz=188	**5.40**	**6**	P		**Pn**	**22 27 21.3**	**+1.8**
VRDI	**Verde Repeater**	**5.45**	**27**	Pn		**Pn**	**22 27 21.3**	**+1.2**
SAMH	**Samovar Hills**	**5.49**	**45**			**Pn**	**22 27 22.3**	**+1.6**
KIAG	**Kiagna River**	**5.50**	**33**			**Pn**	**22 27 22.3**	**+1.4**
N25K	**Chitina, Valde**	**5.53**	**20**			**Pn**	**22 27 22.5**	**+1.3**
N25K	**Chitina, Valde** baz=204	**5.53**	**20**	P		**Pn**	**22 27 22.5**	**+1.3**
TABL	**Table Mountain**	**5.56**	**41**			**Pn**	**22 27 23.6**	**+1.9**
O17K	**Koliganek Bris**	**5.59**	**310**			**Pn**	**22 27 23.3**	**+1.3**
O17K	**Koliganek Bris** baz=122	**5.59**	**310**	P		**Pn**	**22 27 23.3**	**+1.3**
PTPK	**Patty Peak**	**5.68**	**31**			**Pn**	**22 27 24.9**	**+1.5**
PCA	**Pinnacle**	**5.68**	**47**			**Pn**	**22 27 24.6**	**+1.3**
PINM	**Pinnacle** baz=235	**5.68**	**47**	P		**Pn**	**22 27 24.6**	**+1.2**
MCARA	**McCarthy VSAT** baz=214	**5.69**	**28**	P		**Pn**	**22 27 25.0**	**+1.7**
N18K	**Kilae Creek**	**5.69**	**321**			**Pn**	**22 27 23.9**	**+0.5**
N18K	**Kilae Creek** baz=135	**5.69**	**321**	P		**Pn**	**22 27 23.9**	**+0.5**
SKT	**Skwentna**	**5.72**	**346**	Pn		**Pn**	**22 27 24.5**	**+0.7**
SKT	**Skwentna** baz=164	**5.72**	**346**	P		**Pn**	**22 27 25.0**	**+1.3**
M24K	**Tolsona, Glenn**	**5.77**	**11**			**Pn**	**22 27 26.6**	**+2.0**
M24K	**Tolsona, Glenn** baz=194	**5.77**	**11**	P		**Pn**	**22 27 26.5**	**+2.0**
PNL	**Peninsula**	**5.81**	**53**			**Pn**	**22 27 26.6**	**+1.5**
PNL	**Peninsula**	**5.81**	**53**	P		**Pn**	**22 27 26.9**	**+1.8**
PNL	**Peninsula** baz=242	**5.81**	**53**	P		**Pn**	**22 27 26.6**	**+1.5**
BARN	**Barnard Glacie**	**5.82**	**35**			**Pn**	**22 27 26.7**	**+1.3**
CTG	**Chitna Glacier** baz=224	**5.86**	**37**	P		**Pn**	**22 27 27.0**	**+1.3**
CTGM	**Chitina Glacie**	**5.86**	**37**			**Pn**	**22 27 27.0**	**+1.2**
LOGN	**Logan Glacier**	**5.87**	**39**			**Pn**	**22 27 27.3**	**+1.3**
SVW2	**Sparrevohn**	**5.89**	**325**			**Pn**	**22 27 26.5**	**+0.4**
SVW2	**Sparrevohn**	**5.89**	**325**	P		**Pn**	**22 27 26.5**	**+0.4**
M20K	**Styx River**	**5.90**	**338**			**Pn**	**22 27 27.2**	**+0.8**
M20K	**Styx River** baz=155	**5.90**	**338**	P		**Pn**	**22 27 27.2**	**+0.8**
WACK	**Wrangell Chich**	**5.93**	**20**			**Pn**	**22 27 28.2**	**+1.4**
O16K	**Kokwok River B**	**5.94**	**306**			**Pn**	**22 27 28.0**	**+1.2**
O16K	**Kokwok River B** baz=117	**5.94**	**306**	P		**Pn**	**22 27 28.0**	**+1.2**
N17K	**Nushagak Hills** baz=126	**6.07**	**315**	P		**Pn**	**22 27 29.6**	**+1.1**
WAT6	**Susitna Watana** baz=185	**6.13**	**4**	P		**Pn**	**22 27 31.2**	**+1.7**
HARP	**HAARP** baz=199	**6.18**	**15**	P		**Pn**	**22 27 32.4**	**+2.3**
M19K	**Big River Lodg** baz=149	**6.20**	**334**	P		**Pn**	**22 27 30.9**	**+0.5**
M18K	**Stony River**	**6.27**	**326**			**Pn**	**22 27 31.4**	**+0.1**
M18K	**Stony River** baz=140	**6.27**	**326**	P		**Pn**	**22 27 31.4**	**+0.1**
WAT1	**Susitna Watana**	**6.37**	**0**			**Pn**	**22 27 34.2**	**+1.6**
WAT1	**Susitna Watana** baz=181	**6.37**	**0**	P		**Pn**	**22 27 34.2**	**+1.6**
WAT7	**Susitna Watana**	**6.37**	**359**			**Pn**	**22 27 34.4**	**+1.7**
O29M	**Mount Kennedy**	**6.49**	**50**			**Pn**	**22 27 36.2**	**+1.7**
O29M	**Mount Kennedy** baz=239	**6.49**	**50**	P		**Pn**	**22 27 36.2**	**+1.7**
P29M	**Windy Craggy**	**6.55**	**57**			**Pn**	**22 27 36.5**	**+1.3**
P29M	**Windy Craggy** baz=247	**6.55**	**57**	P		**Pn**	**22 27 36.5**	**+1.3**
L19K	**White Mountain**	**6.56**	**333**			**Pn**	**22 27 35.6**	**+0.3**
L19K	**White Mountain** baz=148	**6.56**	**333**	P		**Pn**	**22 27 35.6**	**+0.3**
M26K	**Nabesna, AK**	**6.58**	**23**			**Pn**	**22 27 37.5**	**+1.9**
M26K	**Nabesna, AK** baz=209	**6.58**	**23**	P		**Pn**	**22 27 37.5**	**+1.9**
L20K	**Farewell, AK**	**6.59**	**338**			**Pn**	**22 27 36.4**	**+0.7**
L20K	**Farewell, AK** baz=154	**6.59**	**338**	P		**Pn**	**22 27 36.4**	**+0.7**
O15K	**Ungalikthiuk R**	**6.59**	**299**			**Pn**	**22 27 37.3**	**+1.6**
O15K	**Ungalikthiuk R** baz=109	**6.59**	**299**	P		**Pn**	**22 27 37.3**	**+1.6**
YUK2	**White River**	**6.63**	**34**			**Pn**	**22 27 38.7**	**+2.3**
DHY	**Denali Highway**	**6.64**	**5**			**Pn**	**22 27 37.8**	**+1.3**
DHY	**Denali Highway** baz=186	**6.64**	**5**	P		**Pn**	**22 27 37.8**	**+1.3**
N16K	**Nishlik Lake**	**6.68**	**311**			**Pn**	**22 27 38.2**	**+1.3**
N16K	**Nishlik Lake** baz=122	**6.68**	**311**	P		**Pn**	**22 27 38.2**	**+1.3**
PAX	**Paxson**	**6.69**	**12**			**Pn**	**22 27 38.8**	**+1.7**
PAX	**Paxson** baz=196	**6.69**	**12**	P		**Pn**	**22 27 38.8**	**+1.7**
M17K	**Holitna River** baz=133	**6.73**	**321**	P		**Pn**	**22 27 38.6**	**+0.9**
YUK3	**Moose Creek**	**6.74**	**35**			**Pn**	**22 27 40.1**	**+2.1**
YUK3	**Moose Creek** baz=223	**6.74**	**35**	P		**Pn**	**22 27 40.1**	**+2.1**
SDPT	**Sand Point**	**6.79**	**265**	P		**Pn**	**22 27 39.9**	**+1.4**
M27K	**Edge Creek, AK**	**6.80**	**27**			**Pn**	**22 27 40.4**	**+1.6**
M27K	**Edge Creek, AK** baz=214	**6.80**	**27**	P		**Pn**	**22 27 40.3**	**+1.6**
YUK6	**Outpost Mounta**	**6.94**	**46**			**Pn**	**22 27 43.2**	**+2.5**
YUK6	**Outpost Mounta** baz=235	**6.94**	**46**	P		**Pn**	**22 27 43.2**	**+2.5**
RND	**Reindeer**	**6.95**	**359**			**Pn**	**22 27 42.5**	**+1.8**
TRF	**Thorofare Moun**	**7.04**	**354**			**Pn**	**22 27 43.6**	**+1.6**
TRF	**Thorofare Moun** baz=173	**7.04**	**354**	P		**Pn**	**22 27 43.6**	**+1.6**
M16K	**Timber Creek**	**7.06**	**314**			**Pn**	**22 27 43.6**	**+1.4**
M16K	**Timber Creek** baz=126	**7.06**	**314**	P		**Pn**	**22 27 43.6**	**+1.4**
YUK4	**Talbot Arm** baz=232	**7.07**	**42**	P		**Pn**	**22 27 46.2**	**+3.7**
N15K	**Kwethluk River**	**7.10**	**306**			**Pn**	**22 27 44.7**	**+1.9**
N15K	**Kwethluk River** baz=116	**7.10**	**306**	P		**Pn**	**22 27 44.7**	**+1.9**
P30M	**Million Dollar**	**7.12**	**54**			**Pn**	**22 27 44.9**	**+1.9**
P30M	**Million Dollar** baz=245	**7.12**	**54**	P		**Pn**	**22 27 44.9**	**+1.9**
CAST	**Castle Rocks**	**7.18**	**347**			**Pn**	**22 27 44.6**	**+0.9**
CAST	**Castle Rocks** baz=165	**7.18**	**347**	P		**Pn**	**22 27 44.7**	**+0.9**
KTH	**Kantishna Hill**	**7.19**	**352**			**Pn**	**22 27 45.4**	**+1.4**
HYT	**Haines Junctio**	**7.22**	**48**	Pn		**Pn**	**22 27 47.3**	**+2.9**
MCK	**McKinley**	**7.27**	**359**			**Pn**	**22 27 46.4**	**+1.3**
MCK	**McKinley** baz=179	**7.27**	**359**	P		**Pn**	**22 27 46.4**	**+1.3**
SIT	**Sitka**	**7.30**	**80**	P		Pn	22 27 43.6	-1.8
L27K	**Beaver Creek,**	**7.42**	**24**			**Pn**	**22 27 48.8**	**+1.7**
L27K	**Beaver Creek,** baz=211	**7.42**	**24**	P		**Pn**	**22 27 48.8**	**+1.7**
SKAG	**Skagway**	**7.64**	**62**	P		**Pn**	**22 27 52.2**	**+2.1**
S32K	**Killisnoo**	**7.71**	**77**			**Pn**	**22 27 50.3**	**-0.7**
S32K	**Killisnoo** baz=269	**7.71**	**77**	P		**Pn**	**22 27 50.3**	**-0.7**
BWN	**Browne**	**7.73**	**357**	Pn		**Pn**	**22 27 54.4**	**+3.2**
BPAW	**Bear Paw Mtn.** baz=170	**7.73**	**352**	P		**Pn**	**22 27 52.5**	**+1.1**
N30M	**Aishikik Lake** baz=236	**7.74**	**45**	P		**Pn**	**22 27 53.7**	**+2.1**
O30N	**Mendenhall**	**7.79**	**51**			**Pn**	**22 27 54.5**	**+2.3**
SCRK	**Sand Creek**	**7.85**	**15**			**Pn**	**22 27 55.0**	**+1.9**
M29M	**Somme Creek**	**7.88**	**37**			**Pn**	**22 27 54.9**	**+1.4**
M29M	**Somme Creek** baz=226	**7.88**	**37**	P		**Pn**	**22 27 54.9**	**+1.4**
WRH	**Wood River Hil**	**8.02**	**1**			**Pn**	**22 27 57.5**	**+2.3**
J20K	**Nowinta River**	**8.20**	**343**			**Pn**	**22 27 58.6**	**+0.9**
J20K	**Nowinta River** baz=158	**8.20**	**343**	P		**Pn**	**22 27 58.6**	**+0.9**
CCB	**Clear Creek Bu**	**8.20**	**2**			**Pn**	**22 27 58.8**	**+1.1**
WHY	**Whitehorse**	**8.28**	**54**	Pn		**Pn**	**22 28 01.9**	**+3.0**
IL31		**8.36**	**5**			**Pn**	**22 28 01.0**	**+1.2**
ILAR	**Eielson Array** comp=E,0.4nm,0.3s,baz=187,slow=13,SNR=18	**8.36**	**5**	Pn		**Pn**	**22 28 01.9**	**+2.0**
ILAR	comp=E,1.2nm,0.3s,baz=186,slow=22,SNR=25			Sn		**Sn**	**22 29 31.7**	**-2.5**
ILAR	comp=E,38nm,20.8s,baz=155,slow=32 comp=E,0.9nm,0.4s			LR		LR	22 30 39.6	
COLA	**College**	**8.43**	**2**			**Pn**	**22 28 01.7**	**+0.9**
COLA	**College**	**8.43**	**2**	P		**Pn**	**22 28 02.6**	**+1.8**
L29M	**L29M**	**8.46**	**34**			**Pn**	**22 28 03.0**	**+1.6**
L29M	**L29M** baz=224	**8.46**	**34**	P		**Pn**	**22 28 03.0**	**+1.6**
P32M	**Atlin** baz=256	**8.47**	**62**	P		**Pn**	**22 28 03.0**	**+1.5**
MDM	**Murphy Dome**	**8.51**	**1**			**Pn**	**22 28 03.0**	**+1.0**
M30M	**Minto, Yukon**	**8.54**	**39**	Pn		**Pn**	**22 28 05.1**	**+2.7**
I23K	**Minto, Yukon-K**	**8.70**	**358**			**Pn**	**22 28 06.5**	**+1.9**
CRAG	**Craig**	**8.72**	**90**	P		**Pn**	**22 28 04.2**	**-0.7**
P33M	**Teslin, Yukon**	**9.07**	**59**			**Pn**	**22 28 11.0**	**+1.2**
P33M	**Teslin, Yukon** baz=253	**9.07**	**59**	P		**Pn**	**22 28 11.0**	**+1.2**
J29N	**Klondike Camp**	**9.47**	**28**	Pn		**Pn**	**22 28 17.4**	**+2.1**
R33M	**Jennings River** baz=261	**9.79**	**65**	P		**Pn**	**22 28 21.4**	**+1.7**
J30M	**Hart River**	**10.09**	**31**	Pn		**Pn**	**22 28 26.5**	**+2.8**
DLBC	**Dease Lake** comp=E,0.5nm,0.3s,baz=264,slow=7.1,SNR=8.6	**10.17**	**71**	Pn		**Pn**	**22 28 26.6**	**+1.8**
DLBC	comp=E,0.3nm,0.3s,baz=179,slow=21,SNR=1.8 comp=E,1.2nm,0.3s			Sn		**Sn**	**22 30 14.4**	**-4.5**
G23K	**Bananza Creek**	**10.29**	**357**	Pn		**Pn**	**22 28 28.5**	**+2.1**
G21K	**Allakaket**	**10.34**	**349**			**Pn**	**22 28 29.0**	**+2.0**
MMPY	**Sheldon Lake,**	**10.69**	**48**	Pn		**Pn**	**22 28 35.1**	**+3.2**
F20K	**Avaraart Lake**	**11.12**	**345**			**Pn**	**22 28 39.7**	**+2.1**
INK	**Inuvik** comp=E,0.1nm,0.3s,baz=208,slow=12,SNR=3.1	**13.70**	**24**	Pn		**Pn**	**22 29 15.8**	**+3.0**
INK	comp=E,0.3nm,0.3s,baz=136,slow=20,SNR=3.8 comp=E,1.1nm,0.9s			Sn		**Sn**	**22 31 43.5**	**-1.3**
YKA	**Yellowknife Ar** comp=E,0.1nm,0.3s,baz=268,slow=12,SNR=8.0 comp=E,0.6nm,0.8s	**18.09**	**57**	P		**Pn**	**22 30 11.4**	**+1.4**
ARCES	**ARCESS Array B** comp=E,2.4nm,0.9s,baz=1.6,slow=8.5,SNR=4.1 comp=E,2.4nm,0.9s	**54.21**	**3**	P		**P**	**22 35 24.0**	**+0.1**
SONM	**Songino Array** comp=E,0.4nm,0.8s,baz=28,slow=6.5,SNR=3.1 comp=E,0.4nm,0.8s	**58.81**	**310**	P		**P**	**22 35 57.9**	**+0.7**
FINES	**FINESS Array B** comp=E,1.6nm,0.9s,baz=8.8,slow=10.0,SNR=1.9 comp=E,1.6nm,0.9s	**62.34**	**3**	P		**P**	**22 36 20.3**	**-0.5**
BVAR	**Borovoye Array** comp=E,0.5nm,0.4s,baz=35,slow=5.4,SNR=5.1 comp=E,0.5nm,0.4s	**66.27**	**335**	P		**P**	**22 36 46.8**	**+0.1**
MKAR	**Makanchi Array** comp=E,0.2nm,0.5s,baz=20,slow=3.5,SNR=4.6 comp=E,0.2nm,0.5s	**68.66**	**325**	P		**P**	**22 37 01.2**	**-0.7**
BRTR	**Keskin Array B** comp=E,0.4nm,0.6s,baz=360,slow=4.8,SNR=2.7 comp=E,0.4nm,0.6s	**84.14**	**358**	P		**P**	**22 38 30.5**	**+0.5**

*JMA **15** 22:50:03.6±0.1, 37.1°N±0.3×141.4°E±0.6, h30km, MV3.6/40, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*IDC **15** 22:50:16.3±1.5, 35.05°N×137.29°E, h0km, mb3.4/3, mbtmp3.4/3, MS3.7/2, Error ellipse: s-maj=28.5km s-min=15.0km az=120.0*

ISC 15 22:50:01.6±4.0, 37.07°N±0.05×141.43°E±0.08, h8km±27km, n16, σ0.876/23, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.50**	**274**	*i* P	**Pb**	**22 50 12.8**	**+0.1**
ONAJ				S	**Sb**	**22 50 19.5**	**-0.7**
JFK	**Kawauchi**	**0.53**	**304**	*i* P	**Pb**	**22 50 13.3**	**+0.2**
JFK				S	**Sb**	**22 50 20.2**	**-0.8**
JFFD	**Fukushimafurud**	**0.69**	**272**	*i* P	**Pb**	**22 50 15.7**	**-0.2**
JFFD				S	**Sb**	**22 50 24.5**	**-1.1**
JMST	**Minamisoumatoc**	**0.78**	**327**	P	**Pb**	**22 50 17.6**	**+0.1**
JMST				S	**Sb**	**22 50 27.7**	**-0.5**
JHO	**Hitachi**	**0.82**	**237**	P	**Pb**	**22 50 17.6**	**-0.5**
JHO				S	**Sb**	**22 50 28.4**	**-1.0**
JMM	**Marumori**	**0.94**	**328**	P	**Pb**	**22 50 20.1**	**-0.1**
JMM				*e*S	**Sb**	**22 50 32.0**	**-0.8**
JOTO	**OTAMA OYAMA**	**1.00**	**300**	*i* P	**Pb**	**22 50 21.5**	**+0.4**
JOTO				S	**Sb**	**22 50 34.1**	**-0.4**
JIO	**Ouri**	**1.39**	**357**	P	**Pn**	**22 50 26.6**	**-0.6**
JIO				S	**Sn**	**22 50 44.1**	**-1.5**
JFY	**Yanaizu**	**1.42**	**284**	*e*P	**Pn**	**22 50 28.0**	**+0.3**
JFY				*e*S	**Sb**	**22 50 45.9**	**-0.5**
JOU	**Okura**	**1.43**	**335**	P	**Pb**	**22 50 28.6**	**+0.2**
JOU				*e*S	**Sb**	**22 50 46.8**	**-0.1**
MJAR	**Matsushiro Arr** 0.6nm,0.3s,baz=205,slow=24,SNR=22	**2.63**	**259**	Pg	**Pn**	**22 50 44.8**	**+0.4**
MJAR	0.5nm,0.3s,baz=183,slow=24,SNR=2.8			Lg	Lg	22 51 11.1	
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=86,slow=11,SNR=4.6 0.4nm,0.7s	**44.11**	**302**	P	**P**	**22 58 11.9**	**+1.7**
KURBB	**Kurchatov Arra** 0.5nm,0.5s,baz=80,slow=8.3,SNR=2.0 0.5nm,0.5s	**45.99**	**308**	P	P	22 58 29.7	+4.7
PMG	**Port Moresby** comp=Z,99nm,19.9s,baz=352,slow=32	**46.54**	**172**	LR	LR	23 14 34.7	
WRA	**Warramunga Arr** 0.2nm,0.6s,baz=5.0,slow=7.4,SNR=5.3 0.2nm,0.6s	**57.10**	**188**	P	**P**	**22 59 48.4**	**0.0**
NWAO	**Narrogin (SRO)** comp=Z,44nm,19.1s,baz=246,slow=38	**73.21**	**201**	LR	LR	23 34 35.6	

*IDC **15** 23:08:31.9±1.3, 5.72°S×142.86°E, h0km, mb3.9/5, mbtmp3.9/6, ML4.0/1, MS3.5/5, Error ellipse: s-maj=48.1km s-min=25.7km az=93.0*
*NEIC **15** 23:08:40.7±1.2, 6.05°S±0.1×141.97°E±0.04, h10km±2km, mb4.0/8, Error ellipse: s-maj=20.2km s-min=5.9km az=346.0*

ISC 15 23:08:37.5±1.0, 5.76°S±0.08×142.4°E±0.1, h28km, n24, σ1.943/21, mb3.9/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN	**Coen**	**8.18**	**174**	Pn	**Pn**	**23 10 37.1**	**+2.6**
RABL	**Rabaul**	**9.90**	**81**	Pn	Pn	23 11 08.4	+10
FAKI	**Fak Fak**	**10.46**	**285**	Pn	**Pn**	**23 11 06.2**	**+0.5**
MTN	**Manton Dam**	**13.12**	**237**	Pn	**Pn**	**23 11 41.4**	**-0.6**
CTA	**Charters Tower** comp=Z,84nm,18.9s,baz=184,slow=34	**14.74**	**165**	LR	LR	23 16 54.2	
WB0	**Warramunga Arr**	**15.93**	**208**	Pn	**Pn**	**23 12 19.6**	**-0.2**
WB0	comp=Z,20nm,1.2s			IAmb	IAmb	23 12 44.3	
WR0	**Warramunga Arr**	**16.03**	**208**	Pn	**Pn**	**23 12 19.5**	**-1.6**
WR0	comp=Z,11nm,1.1s			IAmb	IAmb	23 12 45.3	
WB2	**Warramunga Arr**	**16.10**	**208**	Pn	**Pn**	**23 12 21.4**	**-0.7**
WB2	comp=Z,7.8nm,0.9s			IAmb	IAmb	23 12 31.0	
WRA	**Warramunga Arr**	**16.11**	**208**	Pn	**Pn**	**23 12 22.7**	**+0.5**
WRA	**Warramunga Arr** comp=Z,0.2nm,0.3s,baz=29,slow=11,SNR=13	**16.11**	**208**	Pn	**Pn**	**23 12 20.1**	**-2.0**
WRA	comp=Z,0.1nm,0.3s,baz=18,slow=22,SNR=2.7			Sn	**Sn**	**23 15 17.0**	**-3.1**
WRA	baz=36,slow=25,SNR=4.8			Lg	Lg	23 17 11.9	
KNRA	**Kununurra**	**16.58**	**232**	Pn	**Pn**	**23 12 27.1**	**-1.1**
HNR	**Honiara** comp=Z,1μm,20.4s,baz=222,slow=36	**17.81**	**103**	LR	LR	23 18 54.3	
BATI	**Baumata** comp=Z,213nm,18.1s,baz=86,slow=44	**19.02**	**255**	LR	LR	23 22 40.3	
AS31	**Alice Springs**	**19.57**	**204**	P	**Pn**	**23 13 05.1**	**+0.2**
ASAR	**Alice Springs**	**19.57**	**204**	P	**Pn**	**23 13 04.5**	**-0.3**
ASAR	**Alice Springs** comp=Z,0.5nm,0.3s,baz=31,slow=10,SNR=34	**19.57**	**204**	P	**Pn**	**23 13 05.0**	**+0.2**
ASAR	comp=Z,0.8nm,0.9s,baz=28,slow=24,SNR=3.0			S	**Sn**	**23 16 44.4**	**+0.5**
ASAR	baz=36,slow=26			Lg	Lg	23 19 00.4	
ASAR	comp=Z,106nm,21.6s,baz=30,slow=35 comp=Z,6.1nm,0.8s			LR	LR	23 20 02.7	
FITZ	**Fitzroy Crossi**	**20.41**	**232**	P	**P**	**23 13 12.9**	**+0.4**
FITZ	comp=Z,6.2nm,1.3s			IAmb	IAmb	23 13 16.2	
DZM	**Mont Dzumac** comp=Z,30nm,18.4s,baz=206,slow=34	**28.38**	**127**	LR	LR	23 24 22.8	
CMAR	**Chiang Mai Arr** comp=Z,0.7nm,0.6s,baz=114,slow=6.5,SNR=4.6 comp=Z,0.7nm,0.6s	**49.10**	**300**	P	**P**	**23 17 23.9**	**+1.0**
MKAR	**Makanchi Array** comp=Z,0.4nm,0.7s,baz=96,slow=7.7,SNR=4.8 comp=Z,0.4nm,0.7s	**74.41**	**322**	P	**P**	**23 20 13.8**	**+0.8**
BVAR	**Borovoye Array** comp=Z,1.8nm,0.9s,baz=106,slow=4.8,SNR=6.4 comp=Z,1.8nm,0.9s	**83.88**	**325**	P	**P**	**23 21 05.3**	**+0.6**
QSPA	**South Pole Qui**	**84.20**	**180**	P	**P**	**23 21 05.3**	**-0.9**
QSPA	**South Pole Qui** comp=Z,1.3nm,0.9s,baz=336,slow=1.5,SNR=6.9 comp=Z,1.3nm,0.9s	**84.20**	**180**	P	**P**	**23 21 04.9**	**-1.4**
ILAR	**Eielson Array** comp=Z,0.6nm,0.8s,baz=260,slow=5.1,SNR=6.5 comp=Z,0.6nm,0.8s	**87.11**	**24**	P	**P**	**23 21 18.0**	**-2.4**

*IDC **15** 23:13:58.0±0.8, 36.00°N×136.97°E, h272km±10km, mb3.0/5, mbtmp3.6/7, Error ellipse: s-maj=28.7km s-min=19.0km az=79.0*
*JMA **15** 23:13:57.8±0.3, 36°N±1.3°×13.7°E±0.8°, h276km±2km, MV3.0/28, NORTHERN GIFU PREF*

ISC 15 23:13:58.0±0.8, 36.11°N±0.09×136.84°E±0.07, h250km, n18, σ2.835/21, mb3.1/5, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYTA	**Yamagatataniai**	**0.52**	**189**	*e*P	**Pn**	**23 14 33.6**	**+2.5**
JYTA				*e*S	**S**	**23 15 00.5**	**+3.5**
MAT	**Matsushiro**	**1.19**	**68**	*e*P	**Pn**	**23 14 36.3**	**+2.1**
MAT				*e*S	**S**	**23 15 06.6**	**+3.9**
MJAR	**

ATKA					IAML			23 26 52.2	
	comp=E,62nm,1.5s								
GSMY	**Great Sitkin M**	**3.18**	**286**			Pn		23 26 47.0	0.0
GSTD	**Great Sitkin T**	**3.24**	**286**			Pn		23 26 47.8	0.0
GSTD						Sn		23 27 26.1	+0.8
GSCK	**Great Sitkin C**	**3.24**	**285**			Pn		23 26 47.5	-0.3
GSCK						Sn		23 27 26.7	+1.4
ADK	**Adak**	**3.54**	**282**			Pn		23 26 51.0	-0.8
ADK					IAML			23 27 35.4	
	comp=E,45nm,0.2s								
ADK					IAML			23 27 37.5	
	comp=E,34nm,1.3s								
ADK	**Adak**	**3.54**	**282**	Sn	Sn			23 27 32.2	-0.4
UNV	**Unalaska Valle**	**3.81**	**46**	Pn	Pn			23 26 53.8	-1.7
KICM	**Kanaga Island**	**3.85**	**282**		Pn			23 26 55.5	-0.6
TASE	**Tanaga Southea**	**4.36**	**280**		Pn			23 27 02.7	-0.5
M27K	**Edge Creek, AK**	**19.27**	**44**		Pn			23 30 22.5	+0.3
M27K					IAmb	IAmb		23 30 24.0	
	comp=E,2.7nm,0.9s								
J26L	**Joseph Creek**	**19.52**	**37**	P	P			23 30 23.9	+0.1
B20K	**Meade River**	**19.90**	**14**	P	P			23 30 27.9	+0.3
B21K	**Ikpikpuk River**	**19.99**	**17**	P	P			23 30 29.0	+0.4
I26K	**Coal Creek Min**	**20.08**	**35**	P	P			23 30 29.6	-0.1
FYU	**Fort Yukon**	**20.08**	**31**	Pn	Pn			23 30 31.3	-0.3
M29M	**Somme Creek**	**20.80**	**45**	Pn	Pn			23 30 39.5	-0.7
M29M					IAmb	IAmb		23 30 40.9	
	comp=E,1.6nm,0.7s								
BMAR	**Burnt Mountain**	**20.81**	**29**	Pn	Pn			23 30 40.5	+0.3
C23K	**Itkillik River**	**20.96**	**20**	P	P			23 30 39.8	+0.6
C23K					IAmb	IAmb		23 30 44.7	
	comp=E,3.4nm,1.1s								
N30M	**Aishikik Lake**	**21.16**	**48**	P	P			23 30 39.9	-1.6
N30M					IAmb	IAmb		23 30 42.5	
	comp=E,2.8nm,1.1s								
I28M	**Miner Creek**	**21.33**	**36**	P	P			23 30 43.4	0.0
I28M					IAmb	IAmb		23 30 46.7	
	comp=E,1.3nm,0.8s								

IDC 15 23:54:57.2±3.9,**6**°**00.5**′**S**×**142**°**12.2E**,**h0**km,**mb3.4**/1,
mbtmp3.3/3,**ML3.3**/2,**Error ellipse: s-maj=120.0km**
s-min=28.3km az=101.0,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.79**	**208**	Pn	Pn	23 58 39.2	-2.0
	0.1nm,0.3s,baz=31,slow=13,SNR=6.4						
WRA				Lg	Lg	00 03 19.4	
	baz=31,slow=29,SNR=2.0						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**19.27**	**203**	P	P	23 59 24.0	+0.4
	0.1nm,0.3s,baz=35,slow=10,SNR=8.1						
ASAR				Lg	Lg	00 05 10.0	
	baz=18,slow=30						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**74.45**	**322**	P	P	00 06 37.7	+0.2
	0.2nm,0.6s,baz=129,slow=5.7,SNR=2.5						
	0.2nm,0.6s						

*IDC **16** 00:02:05.8*±*1.5,28°.66S*×*74°.09E,h0km,mb4.0/9,*
mbtmp4.0/9,MS3.8/25,Error ellipse: s-maj=49.8km
s-min=25.2km az=37.0

ISC 16 00:02:07.4±1.5,**28°.6S**±0°.3×**74°.1E**±0°.2,**h10**km,**n40,**
σ1**§00**/12,**mb4.1**/10,**MS3.8**/25,**Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**20.93**	**355**	T	T	00 28 22.3	
	baz=176,slow=76,SNR=26						
H08S1	**Diego Garcia H**	**20.93**	**355**	T	T	00 28 28.0	
	baz=176,slow=76,SNR=23						
H08S3	**Diego Garcia H**	**20.95**	**355**	T	T	00 28 20.4	
	baz=176,slow=76,SNR=26						
H04N2	**CROZET ISLANDS**	**24.77**	**219**	T	T	00 33 29.8	
	baz=53,slow=74,SNR=692						
H04N1	**CROZET ISLANDS**	**24.79**	**219**	T	T	00 33 30.4	
	baz=53,slow=74,SNR=780						
H04N3	**CROZET ISLANDS**	**24.79**	**219**	T	T	00 33 29.0	
	baz=53,slow=74,SNR=717						
H04S1	**CROZET ISLANDS**	**25.13**	**218**	T	T	00 33 56.1	
	baz=50,slow=76,SNR=8.3						
H04S3	**CROZET ISLANDS**	**25.14**	**218**	T	T	00 33 58.6	
	baz=50,slow=76,SNR=9.4						
H04S2	**CROZET ISLANDS**	**25.15**	**218**	T	T	00 34 02.7	
	baz=50,slow=76,SNR=9.3						
PALK	**Pallekele**	**36.26**	**11**	LR	LR	00 21 11.9	
	comp=Z,96nm,18.8s,baz=293,slow=32						
NWAO	**Narrogin (SRO)**	**37.10**	**108**	LR	LR	00 21 24.9	
	comp=Z,112nm,19.2s,baz=120,slow=31						
LEM	**Lembang**	**38.36**	**62**	LR	LR	00 22 34.3	
	comp=Z,126nm,18.8s,baz=184,slow=32						
LBTB	**Lobatse**	**43.22**	**263**	LR	LR	00 25 11.7	
	comp=Z,127nm,19.1s,baz=145,slow=32						
LSZ	**Lusaka**	**44.36**	**277**	LR	LR	00 25 24.3	
	comp=Z,181nm,19.5s,baz=144,slow=32						
SUR	**Sutherland**	**45.69**	**251**	LR	LR	00 25 23.2	
	comp=Z,264nm,21.6s,baz=141,slow=31						
MBAR	**Mbarara**	**49.92**	**296**	LR	LR	00 28 54.8	
	comp=Z,90nm,18.0s,baz=140,slow=32						
TSUM	**Tsumeb**	**52.12**	**267**	LR	LR	00 30 00.4	
	comp=Z,179nm,20.4s,baz=140,slow=32						
CMAR	**Chiang Mai Arr**	**52.61**	**30**	P	**P**	**00 11 22.7**	**+1.1**
	1.7nm,0.7s,baz=208,slow=7.3,SNR=9.8						
CMAR				LR	LR	00 30 44.1	
	comp=Z,71nm,19.7s,baz=195,slow=33						
	1.7nm,0.7s						
ASAR	**Alice Springs**	**53.43**	**99**	P	**P**	**00 11 27.9**	**+0.1**
	1.6nm,0.7s,baz=247,slow=6.6,SNR=15						
ASAR				PcP	**PcP**	**00 12 34.0**	**-1.0**
	0.8nm,0.9s,baz=238,slow=5.3,SNR=2.0						
ASAR				LR	LR	00 30 31.4	
	comp=Z,96nm,21.1s,baz=256,slow=32						
	1.6nm,0.7s						
WRA	**Warramunga Arr**	**55.09**	**95**	P	**P**	**00 11 40.2**	**+0.2**
	4.7nm,0.9s,baz=253,slow=7.3,SNR=14						
	4.7nm,0.9s						
SNAA	**Sanae**	**59.00**	**201**	LR	LR	00 34 13.7	
	comp=Z,223nm,18.1s,baz=205,slow=33						
DAV	**Davao City (W)**	**60.97**	**63**	LR	LR	00 35 40.7	
	comp=Z,53nm,20.4s,baz=164,slow=33						
QSPA	**South Pole Qui**	**61.51**	**180**	LR	LR	00 36 35.7	
	comp=Z,233nm,18.0s,baz=251,slow=34						
TGY	**Tagaytay City**	**62.08**	**53**	LR	LR	00 35 15.5	
	comp=Z,92nm,19.8s,baz=28,slow=32						
CTA	**Charters Tower**	**65.41**	**100**	LR	LR	00 38 17.1	
	comp=Z,136nm,20.0s,baz=329,slow=33						
KSH	**Kashi**	**67.82**	**2**	P	**P**	**00 13 03.6**	**-2.0**
KSH				pP	pwP	00 13 10.6	-1.1
KSH				pmax	pmax		
	comp=Z,4.0nm,1.2s						
AAK	**Ala-Archa**	**70.92**	**0**	LR	LR	00 42 52.3	
	comp=Z,76nm,18.2s,baz=160,slow=34						
MKAR	**Makanchi Array**	**75.44**	**6**	P	**P**	**00 13 50.6**	**-0.6**
	comp=Z,1.1nm,0.9s,baz=179,slow=7.0,SNR=6.8						
MKAR				LR	LR	00 46 28.1	
	comp=Z,45nm,18.1s,baz=205,slow=35						
	comp=Z,1.1nm,0.9s						
KURBB	**Kurchatov Arra**	**79.00**	**3**	P	**P**	**00 14 11.3**	**+0.2**
	comp=Z,1.0nm,1.0s,baz=187,slow=5.4,SNR=7.6						
	comp=Z,1.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**81.32**	**290**	P	**P**	**00 14 25.1**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=116,slow=5.3,SNR=2.5						
	comp=Z,0.4nm,0.7s						
BVAR	**Borovoye Array**	**81.38**	**358**	P	**P**	**00 14 24.4**	**+0.6**
	comp=Z,3.5nm,0.8s,baz=157,slow=7.7,SNR=12						
BVAR				LR	LR	00 48 19.7	
	comp=Z,38nm,20.3s,baz=143,slow=34						
	comp=Z,3.5nm,0.8s						
SONM	**Songino Array**	**81.46**	**21**	P	**P**	**00 14 25.1**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=200,slow=7.2,SNR=7.6						
SONM				LR	LR	00 51 18.5	
	comp=Z,54nm,18.6s,baz=152,slow=36						
	comp=Z,0.8nm,0.8s						
JNU	**Nakatsue**	**81.66**	**45**	LR	LR	00 47 23.0	
	comp=Z,39nm,20.9s,baz=184,slow=33						
ZALV	**Zalesovo Beam**	**82.76**	**6**	P	**P**	**00 14 30.0**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=172,slow=4.2,SNR=4.8						
	comp=Z,1.0nm,0.7s						
KSRS	**Korea Array**	**82.85**	**40**	LR	LR	00 49 05.6	
	comp=Z,58nm,20.4s,baz=210,slow=34						
DBIC	**Dimbokro**	**83.57**	**281**	LR	LR	00 50 01.3	
	comp=Z,38nm,19.1s,baz=198,slow=34						
JCJ	**Chichijima**	**85.60**	**56**	LR	LR	00 51 16.7	
	comp=Z,27nm,19.4s,baz=126,slow=34						
KLR	**Kul'dur**	**92.95**	**34**	LR	LR	00 58 27.7	
	comp=Z,50nm,18.0s,baz=222,slow=36						
ASAJ	**Asahikawa**	**95.65**	**42**	LR	LR	00 57 27.1	
	comp=Z,28nm,19.7s,baz=292,slow=35						
YKA	**Yellowknife Ar**	**145.65**	**7**	PKPbc	**PKPbc**	**00 21 45.5**	**0.0**
	comp=Z,0.9nm,0.8s,baz=338,slow=4.1,SNR=14						

*IDC **16** 00:30:22.6*±*2.0,4°.93N*×*126°.50E,h67km*±*17km,mb4.2/23,*
mbtmp4.5/25,MS3.5/10,Error ellipse: s-maj=34.9km
s-min=10.7km az=69.0
*DJA **16** 00:30:23.5*±*0.7,5°.N*±*2°*×*12°.6E*±*°,h11km*±*5km,M4.6/22,*
mB5.0/8,mb4.7/22,MLv4.9/13,Mw(mB)4.3/8
*NEIC **16** 00:30:26.2*±*1.6,4°.77N*±*0°.05*×*126°.44E*±*0°.09,h95km*±*7km,*
mb4.5/84,Error ellipse: s-maj=12.7km s-min=7.5km
az=74.0

ISC 16 00:30:26.4±0.9,**4°.81N**±0°.04×**126°.46E**±0°.06,**h100**km,8km,
n165,σ1**§37**/173,**mb4.5**/70,**2C-1D**,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.45**	**220**	P	**Pn**	**00 30 51.2**	**-0.9**
SGSI				S	**Sn**	**00 31 11.3**	**-0.3**
DAV	**Davao City (W)**	**2.41**	**339**		**Pn**	**00 31 04.6**	**+0.2**
DAV				Sn	**Sn**	**00 31 34.0**	**+0.5**
DAV	**Davao City (W)**	**2.41**	**339**	P	Pn	00 30 58.8	-5.6
	112nm,0.4s,baz=59,slow=0.7,SNR=2.4						
DAV				S	**Sn**	**00 31 38.5**	**+5.0**
	1μm,0.5s,baz=114,slow=22,SNR=7.2						
TNTI	**Ternate**	**4.11**	**167**	Pn	**Pn**	**00 31 26.0**	**-1.2**
TNTI				Sn	**Sn**	**00 32 11.4**	**-2.9**
TNTI	**Ternate**	**4.11**	**167**	P	**Pn**	**00 31 25.7**	**-1.5**
TNTI				S	**Sn**	**00 32 16.0**	**+1.7**
KMSI	**Cibinong**	**4.88**	**211**	P	**Pn**	**00 31 37.6**	**0.0**
KMSI				S	**Sn**	**00 32 37.2**	**+4.3**
GTOI	**Gorontalo**	**5.39**	**220**	P	**Pn**	**00 31 44.5**	**0.0**
	48nm,0.9s,451nm0.2nm						
GTOI				S	**Sn**	**00 32 46.6**	**+1.3**
	48nm,0.9s,451nm0.2nm						
LBMI	**Labuha**	**5.51**	**169**	P	**Pn**	**00 31 45.3**	**-0.8**
	130nm,0.7s,2μm0.9nm						
LBMI				S	**Sn**	**00 32 52.0**	**+3.8**
	130nm,0.7s,2μm0.9nm						
MRSI	**Marisa**	**6.24**	**226**	P	**Pn**	**00 31 56.4**	**+0.4**
	109nm,0.7s,2μm0.5nm						
MRSI				S	**Sn**	**00 33 08.5**	**+2.6**
	109nm,0.7s,2μm0.5nm						
TOLI2	**Tolitoli**	**6.76**	**237**	Pn	**Pn**	**00 32 01.8**	**-1.3**
TOLI2				Sn	**Sn**	**00 33 17.8**	**-0.8**
SANI	**Sanana**	**6.83**	**184**	P	**Pn**	**00 32 04.1**	**0.0**
	24nm,0.7s,1μm0.3nm						
LUWI	**Luwuk**	**6.88**	**212**	Pn	**Pn**	**00 32 04.1**	**-0.7**
LUWI	**Luwuk**	**6.88**	**212**	P	**Pn**	**00 32 05.8**	**+1.0**
	199nm,1.0s,0.8nm						
SWI	**Sorong**	**7.40**	**139**	P	**Pn**	**00 32 11.3**	**-0.5**
	35nm,0.9s,993nm0.2nm						
TTSI	**Tana Toraja**	**10.24**	**221**	P	**Pn**	**00 32 50.6**	**+0.1**
	26nm,0.9s						
SMKI	**Samarinda**	**10.62**	**241**	P	**Pn**	**00 32 56.4**	**+0.8**
	146nm,0.5s,7μm						
KAPI	**Kappang**	**11.84**	**215**	Pn	**Pn**	**00 33 10.0**	**-2.0**
EDFI	**Ende, Flores**	**14.29**	**199**	P	**P**	**00 33 47.0**	**-1.5**
	17nm,0.8s						
SOEI	**Soe**	**14.63**	**189**	P	**P**	**00 33 50.8**	**-1.6**
	19nm,1.3s						
BATI	**Baumata**	**15.18**	**191**	P	**Pn**	**00 33 53.9**	**-1.7**
	12nm,0.5s,baz=331,slow=5.1,SNR=1.3						
BATI	**Baumata**	**15.18**	**191**	P	**P**	**00 33 59.0**	**+0.7**
	40nm,0.6s						
STKI	**Sintang**	**15.69**	**253**	P	**P**	**00 34 04.7**	**+0.7**
WBSI	**Waikabubak, Su**	**15.99**	**206**	P	**P**	**00 34 08.8**	**+1.4**
	0.1nm,0.7s						
BASI	**Baing, Sumba**	**16.04**	**201**	P	**P**	**00 34 11.1**	**+3.3**
	41nm,0.8s						
PLAI	**Plampang**	**16.08**	**213**	P	**P**	**00 34 09.5**	**+1.2**
	36nm,0.8s						
KSM	**Kuching**	**16.46**	**259**	P	**Pn**	**00 34 11.0**	**-0.7**
KSM				IAmb	IAmb	00 34 17.2	
	comp=Z,27nm,0.7s						
TWSI	**Taliwang, Sumb**	**16.50**	**215**	P	**P**	**00 34 14.9**	**+1.9**
	comp=Z,35nm,0.9s						
SRBI	**Singaraja**	**17.03**	**221**	P	**P**	**00 34 21.2**	**+2.4**
	comp=Z,16nm,1.0s						
JAGI	**Jajag, Banyuwa**	**18.02**	**223**	P	**P**	**00 34 28.0**	**-1.7**
JAGI				IAmb	IAmb	00 34 38.0	
	comp=Z,16nm,0.7s						
JAGI	**Jajag, Banyuwa**	**18.02**	**223**	P	**Pn**	**00 34 33.2**	**+2.6**
	comp=Z,22nm,1.2s						
TPUB	**Ta-pu**	**19.23**	**344**		**P**	**00 34 41.1**	**-1.8**
TPUB				IAmb	IAmb	00 34 44.4	
	comp=Z,28nm,0.9s						
SSLB	**Suanglung**	**19.60**	**345**	P	**P**	**00 34 46.1**	**-0.9**
SSLB				IAmb	IAmb	00 35 13.1	
	comp=Z,26nm,1.3s						
NACB	**Ninganchiao**	**19.82**	**347**	P	**P**	**00 34 47.6**	**-1.6**
KNRA	**Kununurra**	**20.48**	**174**	P	Pn	00 34 59.2	-0.3
KNRA				IAmb	IAmb	00 35 17.0	
	comp=Z,35nm,1.1s						
LEM	**Lembang**	**22.08**	**239**	LR	LR	00 46 09.9	
	comp=Z,64nm,18.7s,baz=29,slow=43						
MYKOM	**Kota Tinggi**	**22.77**	**263**	P	**P**	**00 35 20.5**	**-0.3**
FITZ	**Fitzroy Crossi**	**22.78**	**182**	P	**P**	**00 35 20.1**	**-0.7**
UBPT	**Khong Chiam**	**23.11**	**298**	P	**P**	**00 35 23.6**	**-0.4**
COEN	**Coen**	**24.95**	**139**	P	**P**	**00 35 40.1**	**-0.7**
PMG	**Port Moresby**	**25.00**	**124**	LR	LR	00 45 01.7	
	comp=Z,131nm,20.4s,baz=288,slow=35						
IPM	**Ipoh**	**25.35**	**270**	P	**P**	**00 35 42.8**	**-1.7**
WB0	**Warramunga Arr**	**25.64**	**163**	P	**P**	**00 35 46.4**	**-0.6**
WB0				IAmb	IAmb	00 36 05.4	
	comp=Z,16nm,0.7s						
XMIS	**Christmas Isla**	**25.69**	**234**	P	**P**	**00 35 45.8**	**-1.8**
XMIS				IAmb	IAmb	00 36 00.0	
	comp=Z,33nm,1.1s						
KULM	**Kulim**	**25.71**	**272**	P	**P**	**00 35 42.6**	**-5.1**
WRA	**Warramunga Arr**	**25.79**	**163**	P	**P**	**00 35 48.7**	**+0.4**
WRA	**Warramunga Arr**	**25.79**	**163**	P	**P**	**00 35 47.9**	**-0.4**
	comp=Z,7.1nm,1.0s,baz=341,slow=10,SNR=34						
WRA				PcP	**PcP**	**00 39 16.7**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=351,slow=2.3,SNR=3.0						
WRA				ScP	**ScP**	**00 42 49.8**	**+3.4**
	comp=Z,0.8nm,0.8s,baz=340,slow=3.1,SNR=6.9						
	comp=Z,7.1nm,1.0s						
WB2	**Warramunga Arr**	**25.79**	**163**	P	**P**	**00 35 48.7**	**+0.4**
WB2				IAmb	IAmb	00 36 07.1	
	comp=Z,14nm,0.8s						
WR0	**Warramunga Arr**	**25.86**	**162**	P	**P**	**00 35 49.8**	**+0.8**
WR0				IAmb	IAmb	00 36 17.8	
	comp=Z,18nm,1.1s						
MBWA	**Marble Bar**	**26.64**	**194**	P	**P**	**00 35 56.4**	**+0.5**
MBWA				IAmb	IAmb	00 35 59.5	
	comp=Z,19nm,0.9s						
JCJ	**Chichijima**	**26.76**	**32**	P	**P**	**00 35 57.5**	**+0.5**
PSA00	**Pilbara Seismi**	**27.01**	**194**	P	**P**	**00 35 59.9**	**+0.6**
PSA00				IAmb	IAmb	00 36 00.8	
	comp=Z,20nm,0.9s						
NJ2	**Nanjing**	**28.02**	**346**	*e*P	**P**	**00 36 10.8**	**+2.6**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,410nm,3.7s						
WHN	**Wuhan**	**28.03**	**337**	P	**P**	**00 36 07.8**	**-0.5**
GSI	**Gunungsitoli**	**29.05**	**264**	P	**P**	**00 36 16.8**	**-0.8**
AS31	**Alice Springs**	**29.22**	**166**	P	**P**	**00 36 19.7**	**+0.8**
ASAR	**Alice Springs**	**29.22**	**166**	P	**P**	**00 36 20.3**	**+1.3**
ASAR	**Alice Springs**	**29.22**	**166**	P	**P**	**00 36 19.1**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=346,slow=7.0,SNR=18						
ASAR				PcP	**PcP**	**00 39 24.5**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=351,slow=3.0,SNR=5.3						
ASAR				ScP	**ScP**	**00 42 59.4**	**+2.6**
	comp=Z,1.9nm,1.0s,baz=343,slow=2.6,SNR=8.8						
	comp=Z,2.1nm,0.8s						
CRAI	**Chiangrai**	**29.65**	**303**	P	**P**	**00 36 21.7**	**-1.2**
CMAR	**Chiang Mai Arr**	**30.11**	**299**	P	**P**	**00 36 27.1**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=115,slow=7.4,SNR=7.2						
CMAR				PcP	**PcP**	**00 39 28.5**	**+2.1**
	comp=Z,2.0nm,0.3s,baz=131,slow=1.0,SNR=5.8						
CMAR				LR	LR	00 48 55.0	
	comp=Z,30nm,18.3s,baz=105,slow=37						
	comp=Z,1.2nm,0.3s						
PZH	**PanZhiHua**	**31.99**	**315**	P	**P**	**00 36 46.1**	**+2.6**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
XAN	**Xi'an**	**33.34**	**333**	⇓P	**P**	**00 36 53.8**	**-1.3**
XAN				pmax	pmax		
	comp=Z,15nm,1.4s						
HNS	**HongShan**	**34.17**	**343**	⇑P	**P**	**00 37 02.4**	**+0.2**
HNS				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BJT	**Baijiatuau**	**36.26**	**347**	P	**P**	**00 37 19.4**	**-0.7**
BJI	**Beijing**	**36.28**	**347**	P	**P**	**00 37 19.8**	**-0.4**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
LZH	**Lanzhou**	**37.44**	**329**	⇑P	**P**	**00 37 31.4**	**+1.0**
LZH				pmax	pmax		
	comp=Z,40nm,1.3s						
HHC	**Hu-ho-hao-te**	**38.30**	**342**	*e*P	**P**	**00 37 41.0**	**+3.6**
HHC				pmax	pmax		
	comp=Z,14nm,0.5s						
HHC				pmax	pmax		
	comp=Z,79nm,4.0s						
BTO	**Baotou**	**38.58**	**340**	*e*P	**P**	**00 37 40.4**	**+0.6**
BTO				S	S	00 43 37.8	+9.1
BTO				SS	SS	00 46 06.1	-17
BTO				pmax	pmax		
	comp=Z,11nm,0.6s						
BTO				pmax	pmax		
	comp=Z,200nm,4.9s						
BTO				LR	LR		
	comp=Z,270nm,6.4s						
BTO				LR	LR		
	comp=Z,180nm,5.0s						
BTO				LR	LR		
	comp=Z,280nm,6.7s						
STKA	**Stephens Creek**	**39.23**	**159**	P	**P**	**00 37 46.0**	**+0.8**
STKA	**Stephens Creek**	**39.23**	**159**	P	**P**	**00 37 45.1**	**0.0**
	comp=Z,6.7nm,0.6s,baz=336,slow=9.6,SNR=14						
	comp=Z,6.7nm,0.6s						
XLT	**XiLinHaoTe**	**39.99**	**348**	*e*P	**P**	**00 37 51.6**	**+0.1**
XLT				pmax	pmax		
	comp=Z,14nm,0.7s						
XLT				pmax	pmax		
	comp=Z,140nm,5.1s						
GTA	**Gaotai**	**42.04**	**329**	*e*P	**P**	**00 38 08.9**	**+0.5**
GTA				PcP	**PcP**	**00 40 04.3**	**+2.6**
GTA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**42.05**	**66**	T	T	01 23 00.8	
	baz=254						
H11N2	**WAKE ISLAND Hy**	**42.06**	**66**	T	T	01 23 04.5	
	baz=254						
H11N3	**WAKE ISLAND Hy**	**42.07**	**66**	T	T	01 23 07.1	
	baz=254						
ARMA	**Armidale**	**42.51**	**147**	P	**P**	**00 38 13.5**	**+1.2**
GOMU	**GeErMu**	**42.68**	**321**	P	**P**	**00 38 14.3**	**+0.4**
GOMU				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PALK	**Pallekele**	**45.56**	**275**	LR	LR	00 58 01.5	
	comp=Z,34nm,18.4s,baz=248,slow=36						
ULN	**Ulaanbaatar**	**46.02**	**342**	P	**P**	**00 38 39.7**	**-0.4**
ULN				IAmb	IAmb	00 38 47.5	
	comp=Z,4.2nm,0.8s						
SONM	**Songino Array**	**46.20**	**341**	P	**P**	**00 38 40.2**	**-1.2**
SONM	**Songino Array**	**46.20**	**341**	P	**P**	**00 38 40.4**	**-1.0**
	comp=Z,2.2nm,0.7s,baz=157,slow=8.0,SNR=15						
SONM				PcP	**PcP**	**00 40 15.8**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=160,slow=2.1,SNR=5.1						
	comp=Z,2.2nm,0.7s						
WMQ	**Urumqi**	**51.69**	**325**	*e*P	**P**	**00 39 27.3**	**+3.8**
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
PETK	**Petropavlovsk-**	**54.54**	**23**	LR	LR	01 04 34.1	
	comp=Z,31nm,19.4s,baz=245,slow=38						
MSVF	**Nonsavu**	**55.61**	**115**	P	**P**	**00 39 52.5**	**+0.1**
MK31	**Makanchi Array**	**56.52**	**325**	P	**P**	**00 39 57.7**	**-0.7**
MK31				IAmb	IAmb	00 39 59.7	
	comp=Z,6.0nm,0.6s						
MKAR	**Makanchi Array**	**56.52**	**325**	P	**P**	**00 39 57.7**	**-0.7**
	comp=Z,8.2nm,0.5s,baz=122,slow=7.9,SNR=166						
MKAR				PcP	**PcP**	**00 40 53.7**	**-0.3**
	comp=Z,2.2nm,0.5s,baz=116,slow=4.0,SNR=5.2						
MKAR				LR	LR	01 04 31.3	
	comp=Z,53nm,20.6s,baz=112,slow=36						
	comp=Z,8.2nm,0.5s						
MAKZ	**Makanchi**	**56.71**	**325**	P	**P**	**00 39 59.0**	**-0.8**
PRZ	**Przheval'sk**	**56.72**	**319**	P	**P**	**00 40 00.6**	**+0.4**
KSH	**Kashi**	**57.10**	**315**	P	**P**	**00 40 03.0**	**+0.2**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MA2	**Magadan**	**57.73**	**14**	LR	LR	01 06 25.0	
	comp=Z,42nm,19.5s,baz=277,slow=38						
NRN	**Naryn**	**57.86**	**317**	P	**P**	**00 40 07.8**	**-0.6**
NRN				IAmb	IAmb	00 40 08.5	
	comp=Z,3.6nm,0.6s						
AAK	**Ala-Archa**	**59.38**	**318**	P	**P**	**00 40 18.6**	**-0.1**
AAK				IAmb	IAmb	00 40 20.1	
	comp=Z,2.2nm,0.7s						
ZALV	**Zalesovo Beam**	**59.51**	**333**	P	**P**	**00 40 18.1**	**-1.0**
ZALV	**Zalesovo Beam**	**59.51**	**333**	P	**P**	**00 40 17.7**	**-1.4**
	comp=Z,2.6nm,0.6s,baz=124,slow=6.6,SNR=12						
ZALV				PcP	**PcP**	**00 41 04.7**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=194,slow=4.2,SNR=3.7						
	comp=Z,2.6nm,0.6s						
ARSB	**Arslanbob**	**59.90**	**316**	P	**P**	**00 40

D24K	**Happy Valley**	**83.65**	**21**	P		**P**	**00 42 44.5**	**+0.9**
D24K				IAmb		IAmb	00 43 18.3	
	comp=Z,8.8nm,1.4s							
MDM	**Murphy Dome**	**83.68**	**25**	P		**P**	**00 42 44.6**	**+0.7**
MDM				IAmb		IAmb	00 43 22.9	
	comp=Z,9.8nm,1.4s							
WRH	**Wood River Hil**	**83.72**	**26**	P		**P**	**00 42 43.9**	**-0.2**
WRH				IAmb		IAmb	00 43 12.2	
	comp=Z,7.3nm,1.3s							
CCB	**Clear Creek Bu**	**83.85**	**26**	P		**P**	**00 42 43.0**	**-1.8**
CCB				IAmb		IAmb	00 42 54.4	
	comp=Z,6.9nm,1.4s							
H24K	**Noodor Dome**	**83.86**	**24**	P		**P**	**00 42 45.5**	**+0.6**
F24K	**Squaw Lake**	**83.92**	**23**	P		**P**	**00 42 45.4**	**+0.3**
F24K				IAmb		IAmb	00 43 14.8	
	comp=Z,6.9nm,1.4s							
ILAR	**Eielson Array**	**84.25**	**25**	P		**P**	**00 42 45.8**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=257,slow=6.2,SNR=6.2							
	comp=Z,0.5nm,0.8s							
HIN	**Hinchinbrook I**	**84.38**	**30**	P		**P**	**00 42 47.7**	**+0.1**
VNDA	**Vanda**	**84.52**	**173**	P		**P**	**00 42 49.0**	**+1.2**
VNDA	**Vanda**	**84.52**	**173**	P		**P**	**00 42 49.1**	**+1.2**
	comp=Z,2.6nm,1.0s,baz=320,slow=7.2,SNR=7.7							
	comp=Z,2.6nm,1.0s							
KLU	**Klutina**	**84.67**	**29**	P		**P**	**00 42 49.5**	**+0.4**
KLU				IAmb		IAmb	00 43 24.7	
	comp=Z,5.7nm,1.2s							
BMAR	**Burnt Mountain**	**85.19**	**23**	P		**P**	**00 42 52.3**	**+0.7**
N25K	**Chitina, Valde**	**85.30**	**29**	P		**P**	**00 42 52.4**	**+0.2**
N25K				IAmb		IAmb	00 43 32.9	
	comp=Z,7.7nm,1.4s							
KAIM	**Kayak Island**	**85.43**	**30**	P		**P**	**00 42 53.3**	**+0.5**
GLB	**Gilahina Butte**	**85.68**	**29**	P		**P**	**00 42 54.7**	**+0.6**
GLB				IAmb		IAmb	00 43 18.2	
	comp=Z,8.9nm,1.4s							
I26K	**Coal Creek Min**	**85.83**	**25**	P		**P**	**00 42 54.4**	**-0.2**
VRDI	**Verde Repeater**	**85.86**	**29**	P		**P**	**00 42 54.5**	**-0.7**
VRDI				IAmb		IAmb	00 43 09.0	
	comp=Z,4.0nm,1.1s							
OBN	**Obninsk**	**86.03**	**325**	P		**P**	**00 42 54.8**	**-1.0**
WAX	**Waxell Ridge**	**86.19**	**30**	P		**P**	**00 42 57.1**	**+0.4**
WAX				IAmb		IAmb	00 43 07.8	
	comp=Z,6.7nm,1.1s							
I28M	**Miner Creek**	**87.16**	**25**	P		**P**	**00 43 01.9**	**+0.5**
I28M				IAmb		IAmb	00 43 15.5	
	comp=Z,3.8nm,1.1s							
JOF	**Joensuu**	**88.10**	**333**	*eP*		**P**	**00 43 05.2**	**-0.5**
BR131	**Keskin Array S**	**89.13**	**310**	P		**P**	**00 43 09.9**	**-1.4**
BR131				IAmb		IAmb	00 43 13.1	
	comp=Z,2.7nm,1.0s							
BRTR	**Keskin Array B**	**89.13**	**310**	P		**P**	**00 43 10.4**	**-0.9**
BRTR	**Keskin Array B**	**89.13**	**310**	P		**P**	**00 43 09.8**	**-1.4**
	comp=Z,0.8nm,0.5s,baz=122,slow=4.0,SNR=9.4							
	comp=Z,0.8nm,0.5s							
INK	**Inuvik**	**89.26**	**21**	LR		LR	01 29 55.5	
	comp=Z,38nm,18.0s,baz=174,slow=40							
ARCES	**ARCESS Array B**	**89.35**	**340**	P		**P**	**00 43 10.7**	**-0.8**
	comp=Z,4.4nm,0.7s,baz=81,slow=6.7,SNR=21							
	comp=Z,4.4nm,0.7s							
SPITS	**Spitsbergen Ar**	**89.38**	**349**	P		**P**	**00 43 11.9**	**+0.5**
	comp=Z,9.2nm,0.8s,baz=65,slow=10,SNR=6.7							
	comp=Z,9.2nm,0.8s							
FINES	**FINESS Array B**	**90.76**	**332**	P		**P**	**00 43 17.5**	**-0.6**
	comp=Z,4.7nm,0.5s,baz=67,slow=4.7,SNR=60							
	comp=Z,4.7nm,0.5s							
AKASG	**Malin Array Be**	**90.89**	**321**	P		**P**	**00 43 17.5**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=72,slow=3.2,SNR=4.8							
	comp=Z,0.6nm,0.5s							
KEF	**Keuruu**	**91.17**	**333**	*eP*		**P**	**00 43 19.4**	**-0.6**
MEF	**Metsahovi**	**91.82**	**331**	*eP*		**P**	**00 43 22.2**	**-0.8**
VAF	**Ylistaro**	**91.95**	**334**	*eP*		**P**	**00 43 23.6**	**0.0**
PABE	**Paberze**	**93.10**	**326**	*eP*		**P**	**00 43 29.2**	**+0.1**
BUR08	**Bucovina Ar. S**	**94.03**	**318**	P		**P**	**00 43 33.1**	**-0.6**
QSPA	**South Pole Qui**	**94.71**	**180**	P		**P**	**00 43 36.9**	**+0.5**
	comp=Z,1.4nm,0.9s,baz=254,slow=8.1,SNR=3.0							
	comp=Z,1.4nm,0.9s							
HFS	**Hagfors**	**96.94**	**332**	P		**P**	**00 43 45.2**	**-1.3**
	comp=Z,1.4nm,0.5s,baz=90,slow=7.5,SNR=9.9							
HFS				LR		LR	01 34 16.7	
	comp=Z,55nm,18.1s,baz=206,slow=40							
	comp=Z,1.4nm,0.5s							
NB2	**NORSAR Subarra**	**97.71**	**334**	P		**P**	**00 43 48.7**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=65,slow=4.6							
NOA	**NORSAR Array B**	**97.71**	**334**	P		**P**	**00 43 48.4**	**-1.7**
	comp=Z,1.5nm,0.7s,baz=65,slow=4.6,SNR=8.3							
	comp=Z,1.5nm,0.7s							
YKA	**Yellowknife Ar**	**98.63**	**24**	P		**P**	**00 43 53.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=306,slow=4.3,SNR=1.5							
	comp=Z,0.1nm,0.3s							
GERES	**GERESS Array B**	**101.08**	**322**	P		**Pdif**	**00 44 05.3**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=60,slow=5.9,SNR=2.5							
TORD	**Torodi Ar. Bea**	**122.33**	**289**	PKP		**PKPdf**	**00 49 10.8**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=61,slow=2.9,SNR=5.9							

NEIC ***16*** *00:48:09.2±1.1,4.6S±0.1×152.3E±0.2, h38km±8km, mb4.3/13, Error ellipse: s-maj=28.1km s-min=19.6km az=98.0*
IDC ***16*** *00:48:15.5±11.0,4.93S×152.01E, h65km±91km, mb3.6/8, mbtmp3.9/8, MS3.1/1, Error ellipse: s-maj=62.1km s-min=28.4km az=93.0*

ISC 16 00:48:15.3±0.9,5.0S±0.1×152.1E±0.2, h70km, n29, σ1§36/30, mb4.1/15, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN	**Coen**	**12.50**	**224**	Pn	**Pn**	**00 51 10.5**	**+0.1**
CTA	**Charters Tower**	**16.02**	**200**	LR	LR	00 56 56.1	
	comp=Z,68nm,18.2s,baz=359,slow=32						
MTN	**Manton Dam**	**22.11**	**248**	P	**P**	**00 53 05.5**	**+0.4**
WB0	**Warramunga Arr**	**22.63**	**228**	P	**P**	**00 53 11.2**	**+0.5**
WB0				IAmb	IAmb	00 53 13.0	
	comp=Z,9.2nm,0.8s						
WR0	**Warramunga Arr**	**22.64**	**227**	P	**P**	**00 53 11.2**	**+0.4**
WR0				IAmb	IAmb	00 53 13.1	
	comp=Z,6.9nm,0.7s						
WRAB	**Tennant Creek**	**22.76**	**228**	P	**P**	**00 53 11.9**	**-0.2**
WRAB				IAmb	IAmb	00 53 13.2	
	comp=Z,7.2nm,0.6s						
WB2	**Warramunga Arr**	**22.77**	**228**	P	**P**	**00 53 12.5**	**+0.3**
WRA	**Warramunga Arr**	**22.78**	**228**	P	**P**	**00 53 12.2**	**0.0**
WRA	**Warramunga Arr**	**22.78**	**228**	P	**P**	**00 53 12.6**	**+0.3**
	comp=Z,7.1nm,0.5s,baz=52,slow=9.7,SNR=87						
WRA				PcP	**PcP**	**00 57 02.4**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=48,slow=2.1,SNR=4.5						
	comp=Z,7.1nm,0.5s						
KNRA	**Kununurra**	**25.25**	**243**	P	**P**	**00 53 35.8**	**+0.7**
KNRA				IAmb	IAmb	00 53 38.7	
	comp=Z,10nm,0.9s						
AS31	**Alice Springs**	**25.52**	**222**	P	**P**	**00 53 38.4**	**+0.9**
ASAR	**Alice Springs**	**25.52**	**222**	P	**P**	**00 53 36.9**	**-0.7**
ASAR	**Alice Springs**	**25.52**	**222**	P	**P**	**00 53 38.5**	**+0.9**
	comp=Z,2.6nm,0.4s,baz=50,slow=9.0,SNR=26						
ASAR				PcP	**PcP**	**00 57 08.9**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=36,slow=3.4,SNR=1.9						
	comp=Z,2.6nm,0.4s						
FITZ	**Fitzroy Crossi**	**28.94**	**241**	P	**P**	**00 54 07.7**	**-0.5**
BBOO	**Buckleboo**	**31.44**	**206**	P	**P**	**00 54 31.1**	**+1.0**
BBOO				IAmb	IAmb	00 54 49.2	
	comp=Z,7.8nm,1.1s						
FORT	**Forrest**	**34.18**	**219**	P	**P**	**00 54 54.2**	**+0.2**
MBWA	**Marble Bar**	**35.25**	**240**	P	**P**	**00 55 02.6**	**-0.9**
PSA00	**Pilbara Seismi**	**35.31**	**239**	P	**P**	**00 55 03.0**	**-1.0**
PSA00				IAmb	IAmb	00 55 08.7	
	comp=Z,7.2nm,1.1s						
AMCZ	**Amberley**	**42.13**	**157**	P	**P**	**00 55 59.8**	**-0.9**
CMAR	**Chiang Mai Arr**	**57.34**	**296**	P	**P**	**00 57 57.2**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=111,slow=5.0,SNR=1.6						
	comp=Z,0.6nm,0.4s						
SONM	**Songino Array**	**66.14**	**328**	P	**P**	**00 58 57.0**	**+1.6**
	comp=Z,0.7nm,0.5s,baz=156,slow=4.4,SNR=7.0						
	comp=Z,0.7nm,0.5s						
MK31	**Makanchi Array**	**80.03**	**319**	P	**P**	**01 00 13.7**	**-3.7**
MK31				IAmb	IAmb	01 00 18.6	
	comp=Z,1.2nm,1.1s						
MKAR	**Makanchi Array**	**80.03**	**319**	P	**P**	**01 00 12.9**	**-4.4**
MKAR	**Makanchi Array**	**80.03**	**319**	P	**P**	**01 00 17.1**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=103,slow=7.1,SNR=5.6						
	comp=Z,0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**80.95**	**326**	P	**P**	**01 00 20.7**	**-1.4**
	comp=Z,0.7nm,0.4s,baz=108,slow=4.7,SNR=4.8						
	comp=Z,0.7nm,0.4s						
ILAR	**Eielson Array**	**82.63**	**22**	P	**P**	**01 00 31.3**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=247,slow=4.8,SNR=4.2						
	comp=Z,0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**83.54**	**322**	P	**P**	**01 00 34.7**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=107,slow=3.6,SNR=5.5						
	comp=Z,0.5nm,0.7s						
GERES	**GERESS Array B**	**123.87**	**328**	PKP	**PKiKP**	**01 07 06.6**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=49,slow=4.4,SNR=2.0						
TORD	**Torodi Ar. Bea**	**149.71**	**287**	PKPbc	**PKPbc**	**01 07 57.7**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=96,slow=3.3,SNR=7.7						

NEIC ***16*** *01:00:36.3±1.4, 17.01S±0.05×71.3W±0.1, h82km±11km, mb4.3/8, Error ellipse: s-maj=19.4km s-min=2.7km az=69.0*
VAO ***16*** *01:00:39.3±1.0, 16.99S×70.62W, h96km±7km, mb4.4*

ISC 16 01:00:37.2±0.9, 17.05S±0.06×71.0W±0.1, h100km, n51, σ1§19/50, mb4.2/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**1.66**	**159**		**Pn**	**01 01 07.5**	**+1.9**
PB12				Sn	**Sn**	**01 01 28.0**	**+0.9**
PB16	**IPOC Station P**	**1.88**	**133**		**Pn**	**01 01 10.6**	**+1.9**
PB16				Sn	**Sn**	**01 01 34.0**	**+1.2**
PB11	**IPOC Station P**	**2.96**	**156**	Pn	**Pn**	**01 01 23.5**	**+0.9**
PB11				Sn	**Sn**	**01 01 56.0**	**-1.6**
GO01	**Chusmiza**	**3.09**	**148**		**Pn**	**01 01 27.1**	**+2.4**
TA02	**Huaiquique**	**3.30**	**166**		**Pn**	**01 01 27.8**	**+0.9**
PB08	**IPOC Station P**	**3.52**	**151**	Pn	**Pn**	**01 01 31.5**	**+1.3**
TA01	**Diego Aracena**	**3.57**	**168**		**Pn**	**01 01 29.9**	**-0.7**
PB01	**IPOC Station P**	**4.21**	**161**		**Pn**	**01 01 40.0**	**+0.7**
PB02	**IPOC Station P**	**4.36**	**167**		**Pn**	**01 01 42.5**	**+1.1**
PB07	**IPOC Station P**	**4.76**	**168**		**Pn**	**01 01 47.6**	**+0.8**
PB09	**IPOC Station P**	**4.99**	**161**		**Pn**	**01 01 51.4**	**+1.4**
PB04	**IPOC Station P**	**5.31**	**172**		**Pn**	**01 01 54.6**	**+0.3**
PB06	**IPOC Station P**	**5.77**	**167**		**Pn**	**01 02 00.5**	**-0.1**
PB05	**IPOC Station P**	**5.81**	**173**	Pn	**Pn**	**01 02 01.3**	**+0.2**
LVC	**Limon Verde**	**5.86**	**161**	Pn	**Pn**	**01 02 02.6**	**+0.8**
LVC	**Limon Verde**	**5.86**	**161**	*eP*	**Pn**	**01 02 03.1**	**+1.3**
PB15	**IPOC Station P**	**6.28**	**167**		**Pn**	**01 02 07.7**	**+0.1**
PB10	**IPOC Station P**	**6.44**	**177**	Pn	**Pn**	**01 02 09.6**	**+0.1**
PB14	**IPOC Station P**	**7.55**	**176**	Pn	**Pn**	**01 02 24.3**	**-0.6**
GO02	**Mina Guanaco**	**8.17**	**171**	Pn	**Pn**	**01 02 33.2**	**-0.1**
ETMB	**Extrema**	**8.54**	**33**		**Pn**	**01 02 37.9**	**-0.2**
ETMB	**Extrema**	**8.54**	**33**	*eP*	**Pn**	**01 02 37.3**	**-0.8**
AC01	**Pan de Azucar**	**9.06**	**178**	Pn	**Pn**	**01 02 43.8**	**-1.3**
AC02	**Maricunga**	**9.88**	**170**	Pn	**Pn**	**01 02 56.3**	**-0.4**
BBSD	**Serra de San D**	**9.89**	**92**	*eP*	Pn	01 02 54.2	-2.3
AC06	**Mina Casimiro**	**10.27**	**177**	Pn	**Pn**	**01 03 01.3**	**-0.3**
SAML	**Samuel**	**11.05**	**44**	Pn	**Pn**	**01 03 09.4**	**-2.8**
SAML	**Samuel**	**11.05**	**44**	*eP*	Pn	01 03 08.8	-3.4
VILB	**Vilhena**	**11.16**	**70**	Pn	**Pn**	**01 03 12.0**	**-1.7**
VILB	**Vilhena**	**11.16**	**70**	*eP*	**Pn**	**01 03 11.8**	**-1.9**
PTLB	**Pontes e Lacer**	**11.46**	**84**	Pn	Pn	01 03 14.6	-3.2
PTLB	**Pontes e Lacer**	**11.46**	**84**	*eP*	Pn	01 03 14.2	-3.5
CO02	**Combarbal**	**14.09**	**180**	Pn	**Pn**	**01 03 49.1**	**-3.3**
TEFE	**Tefe**	**14.82**	**25**	*eP*	**Pn**	**01 04 01.7**	**0.0**
MACA	**Manacapuru-AM**	**17.09**	**37**	Pn	**P**	**01 04 30.7**	**+0.5**
MACA				IAmb	IAmb	01 04 32.5	
	comp=Z,9.5nm,0.6s						
MACA	**Manacapuru-AM**	**17.09**	**37**	*eP*	**P**	**01 04 29.6**	**-0.6**
CRSM	**Crissiumal (Br**	**18.76**	**127**	*eP*	**P**	**01 04 48.5**	**0.0**
ITTB	**Itaituba**	**19.53**	**52**	*eP*	**P**	**01 04 55.8**	**-1.2**
RODS	**Rosario do Sul**	**19.55**	**135**	*eP*	**P**	**01 04 57.1**	**+0.1**
SNDB	**Serra Nova Dou**	**19.68**	**78**	*eP*	**P**	**01 04 57.5**	**-1.1**
TBOT	**Tacuaremb**	**19.95**	**140**	*eP*	**P**	**01 05 02.0**	**+0.7**
ITAB	**Concordia**	**20.14**	**123**	P	**P**	**01 05 03.2**	**-0.2**
PLTB	**Pedras Altas**	**21.50**	**136**	P	**P**	**01 05 17.9**	**-0.1**
PLTB				IAmb	IAmb	01 05 24.2	
	comp=Z,38nm,1.5s						
PLTB	**Pedras Altas**	**21.50**	**136**	*eP*	**P**	**01 05 17.9**	**-0.1**
BOAV	**Boa Vista**	**21.89**	**29**	P	**P**	**01 05 22.5**	**+0.2**
MALB	**Monte Alegre**	**22.30**	**49**	*eP*	**P**	**01 05 25.9**	**-0.7**
PLCA	**Paso Flores**	**23.60**	**179**	P	**P**	**01 05 38.9**	**-0.2**
PLCA				IAmb	IAmb	01 05 43.2	
	comp=Z,16nm,1.4s						
MCPB	**Macapa, AP**	**24.93**	**50**	*eP*	**P**	**01 05 50.5**	**-0.8**
BAUV	**El Baul**	**25.99**	**7**	*eP*	**P**	**01 06 01.2**	**+0.4**
D62A	**Allapoint, All**	**63.86**	**1**	P	**P**	**01 11 00.1**	**+1.2**
QSPA	**South Pole Qui**	**73.11**	**180**	IAmb	IAmb	01 11 57.3	
	comp=Z,3.2nm,1.2s						
QSPA				P	**P**	**01 11 58.5**	**+1.9**

IDC ***16*** *01:10:07.6±1.9, 6.02S×143.16E, h0km, mb3.7/5, mbtmp3.7/6, ML3.9/1, Error ellipse: s-maj=72.7km s-min=34.2km az=102.0*

ISC 16 01:10:08.6±1.8, 6.2S±0.2×143.0E±0.5, h10km, n7, σ1§62/7, mb3.6/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.02**	**211**	Pn	**Pn**	**01 13 52.4**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=31,slow=13,SNR=9.4						
ASAR	**Alice Springs**	**19.42**	**206**	P	**Pn**	**01 14 38.0**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=36,slow=8.3,SNR=27						
	comp=Z,0.4nm,0.8s						
SONM	**Songino Array**	**62.72**	**333**	P	**P**	**01 20 32.5**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=130,slow=5.8,SNR=1.6						
	comp=Z,0.2nm,0.5s						
MKAR	**Makanchi Array**	**75.15**	**322**	P	**P**	**01 21 52.2**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=103,slow=6.4,SNR=5.6						
	comp=Z,0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**79.03**	**324**	P	**P**	**01 22 13.5**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=126,slow=4.8,SNR=2.9						
	comp=Z,0.4nm,0.8s						
BVAR	**Borovoye Array**	**84.61**	**325**	P	**P**	**01 22 43.1**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=122,slow=7.0,SNR=9.0						
	comp=Z,1.6nm,0.7s						
ILAR	**Eielson Array**	**87.27**	**24**	P	**P**	**01 22 54.7**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=249,slow=4.9,SNR=6.0						
	comp=Z,0.4nm,0.7s						

MEX ***16*** *01:11:52.7±0.6, 15.03N×92.93W, h94km±8km, MD4.2*
SNET ***16*** *01:11:53.2±0.9, 14.98N×93.00W, h54km±32km, ML4.0*
GCG ***16*** *01:11:54.4±0.8, 15.28N×92.77W, h13km±10km, MD4.2*

ISC 16 01:11:52.7±1.2, 15.06N±0.05×93.01W±0.03, h80km±9km, n41, σ1§77/68, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.67**	**343**	*eP*	**Pn**	**01 12 08.7**	**+0.6**
PCIG				*i* S	**Sn**	**01 12 20.8**	**+1.4**
THIG		**0.74**	**102**	*eP*	**Pn**	**01 12 07.7**	**-1.0**
THIG				*i* S	**Sn**	**01 12 19.8**	**-0.9**
PATR	**El Naranjo**	**0.75**	**86**	*eP*	**Pn**	**01 12 08.1**	**-1.1**
PATR				*i* S	**Sn**	**01 12 20.1**	**-1.3**
PAVE	**Pavencul**	**0.82**	**81**	*eP*	**Pn**	**01 12 09.1**	**-0.8**
PAVE				*i* S	**Sn**	**01 12 22.0**	**-0.6**
CHUJ	**Union Juarez**	**0.87**	**88**	*eP*	**Pn**	**01 12 09.6**	**-0.9**
CHUJ				*i* S	**Sn**	**01 12 22.5**	**-1.3**
SMSP	**San Marcos**	**1.19**	**94**	*i* P	**Pn**	**01 12 13.9**	**-0.5**
SMSP				*i* S	**Sn**	**01 12 30.5**	**-0.1**
RTAL	**Retalhuleu**	**1.38**	**113**	*eP*	**Pn**	**01 12 15.7**	**-0.7**
RTAL				*eS*	**Sn**	**01 12 33.1**	**-1.3**
RTAL	**Retalhuleu**	**1.38**	**113**	*eP*	**Pn**	**01 12 15.9**	**-0.6**
RTAL				*eS*	**Sn**	**01 12 33.0**	**-1.3**
STG3	**Santiaguito 3,**	**1.44**	**104**	*eP*	**Pn**	**01 12 17.6**	**+0.2**
CARR	**Arriaga**	**1.46**	**324**	*eP*	**Pn**	**01 12 19.3**	**+1.8**
CARR				*i* S	**Sn**	**01 12 39.7**	**+3.5**
CCIG	**Comitan**	**1.48**	**35**	*eP*	**Pn**	**01 12 19.5**	**+1.7**
CCIG				*i* S	**Sn**	**01 12 39.9**	**+3.0**
HUEH	**Huehuetenango**	**1.48**	**80**	*i* P	**Pn**	**01 12 18.4**	**+0.5**
HUEH				*i* S	**Sn**	**01 12 38.1**	**+1.2**
HUEH	**Huehuetenango**	**1.48**	**80**	*eP*	**Pn**	**01 12 18.5**	**+0.6**
HUEH				*eS*	**Sn**	**01 12 38.4**	**+1.4**
HUEH				IAML		01 12 42.5	
	comp=Z,3µm,0.2s						
SULM	**Suchitepequez,**	**1.59**	**118**	*eP*	**Pn**	**01 12 20.4**	**+1.2**
SULM				*eS*	**Sn**	**01 12 41.5**	**+2.3**
TGIG		**1.71**	**356**	*eP*	**Pn**	**01 12 21.4**	**+0.7**
TGIG				*i* S	**Sn**	**01 12 42.7**	**+0.6**
NILT	**Santiago Nilte**	**2.15**	**314**	*eP*	**Pn**	**01 12 28.3**	**+1.7**
NILT				*i* S	**Sn**	**01 12 54.8**	**+2.3**
FUG	**Fuego 3**	**2.19**	**106**	*eP*	**Pn**	**01 12 28.6**	**+1.4**
PCG	**Pacaya**	**2.42**	**106**	*eP*	**Pn**	**01 12 32.8**	**+2.3**
PCG				*eS*	**Sn**	**01 13 01.3**	**+2.0**
UXUV	**UXUV**	**2.49**	**334**	*eP*	**Pn**	**01 12 33.2**	**+2.0**
UXUV				*i* S	**Sn**	**01 12 59.0**	**-1.7**
NBG	**Las Nubes**	**2.62**	**100**	*eP*	**Pn**	**01 12 34.2**	**+1.1**
CMIG	**Matias Romero**	**2.70**	**318**	*eP*	**Pn**	**01 12 35.4**	**+1.4**
CMIG				*eS*	**Sn**	**01 13 06.3**	**+0.5**
HUIG	**Huatulco**	**3.07**	**284**	*eP*	**Pn**	**01 12 39.0**	**0.0**
HUIG				*eS*	**Sn**	**01 13 10.5**	**-4.1**
MRL	**Marmol**	**3.21**	**89**	*eP*	**Pn**	**01 12 42.3**	**+1.1**
TUIG	**Tuzandepetl**	**3.25**	**336**	*eP*	Pn	01 12 34.7	-6.7
TUIG				*i* S	**Sn**	**01 13 15.3**	**-3.7**
NUBE	**Las Nubes**	**3.34**	**110**	*eP*	**Pn**	**01 12 43.0**	**+0.2**
NUBE				*eS*	**Sn**	**01 13 22.0**	**+0.6**
CEVE	**Cerro Verde**	**3.50**	**110**	*eS*	**Sn**	**01 13 26.6**	**+1.0**
PETF	**Flores**	**3.54**	**58**	*eP*	**Pn**	**01 12 45.5**	**+0.2**
PETF				*i* S	**Sn**	**01 13 21.0**	**-5.1**
PETF	**Flores**	**3.54**	**58**	*eP*	**Pn**	**01 12 46.0**	**+0.7**
MTO3	**Montecristo**	**3.59**	**100**	*eP*	**Pn**	**01 12 47.5**	**+1.2**
JAYA	**Jayaque - finc**	**3.73**	**112**	*eS*	**Sn**	**01 13 30.5**	**-0.4**
JAYA				IAML		01 13 36.2	
	comp=Z,266nm,0.2s						
NEUV	**Arroyo Zacate**	**3.76**	**315**	*eP*	**Pn**	**01 12 50.6**	**+2.3**
NEUV				*i* S	**Sn**	**01 13 30.9**	**-0.5**
PMUV	**Sontecomapan**	**4.01**	**330**	*eP*	**Pn**	**01 12 49.2**	**-2.6**
PMUV				*i* S	**Sn**	**01 13 35.4**	**-2.3**
VHO	**Vista Hermosa**	**4.10**	**300**	*eP*	Pn	01 13 02.0	+8.9
VHO				*eS*	**Sn**	**01 13 36.8**	**-3.2**
COEG	**Centro de Oper**	**4.25**	**109**	IAML		01 13 53.8	
	comp=Z,80nm,0.4s						
SCIG	**Sabancuy**	**4.26**	**24**	*eP*	**Pn**	**01 12 55.5**	**+0.4**
SCIG				*eS*	**Sn**	**01 13 42.0**	**-1.6**
TOIG	**Toxpalan**	**4.92**	**308**	*eP*	**Pn**	**01 13 05.2**	**+1.0**
TOIG				*eS*	**Sn**	**01 14 00.1**	**+0.2**
TXIG	**Tlaxiaco**	**5.06**	**296**	*eP*	**Pn**	**01 13 06.7**	**+0.3**
TXIG				*eS*	**Sn**	**01 14 06.2**	**+2.5**
TPIG	**Tehuac#an**	**5.34**	**309**	*eS*	**Sn**	**01 14 08.3**	**-2.0**
HLIG	**Huajuapan de L**	**5.36**	**302**	*eP*	**Pn**	**01 13 09.3**	**-1.1**
HLIG				*eS*	**Sn**	**01 14 12.0**	**+1.2**
JAUV	**Jalcomulco**	**5.61**	**320**	*eP*	**Pn**	**01 13 13.7**	**+0.2**
JAUV				*eS*	**Sn**	**01 14 13.5**	**-3.1**
FTIG	**Fresnillo de T**	**5.67**	**301**	*i* P	**Pn**	**01 13 13.7**	**-0.8**

IDC ***16*** *01:12:10.1±1.2, 6.26S×143.09E, h0km, mb3.7/4, mbtmp3.8/7, ML3.7/2, Error ellipse: s-maj=31.4km s-min=22.2km az=88.0*

ISC 16 01:12:11.4±1.0, 6.3S±0.1×143.1E±0.1, h10km, n7, σ1§42/8, mb3.6/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.11**	**127**	Pn	**Pn**	**01 13 29.2**	**+1.2**
	15nm,0.4s,baz=304,slow=7.3,SNR=3.9						
PMG				Sn	**Sn**	**01 14 25.9**	**-1.1**
	1.6nm,0.3s,baz=280,slow=17,SNR=1.7						
WRA	**Warramunga Arr**	**15.99**	**211**	Pn	**Pn**	**01 15 55.0**	**-1.6**
	0.2nm,0.3s,baz=34,slow=13,SNR=3.4						
WRA				Sn	Sn	01 18 41.7	-12
	0.1nm,0.3s,baz=37,slow=27,SNR=1.9						
WRA				Lg	Lg	01 20 36.4	
	0.1nm,0.3s,baz=30,slow=25,SNR=4.7						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**19.38**	**206**	P	**Pn**	**01 16 39.9**	**+1.2**
	0.4nm,0.3s,baz=38,slow=7.6,SN

NAX	**Nakhchivan**	**4.96**	**265**	Pn		**Pn**	**01 14 05.2**	**-0.5**
NAX				Sn		**Sn**	**01 15 02.3**	**+0.4**
QZX	**Qazax, Azerbai**	**5.12**	**287**	Pn		**Pn**	**01 14 06.1**	**-1.7**
QZX				Sn		**Sn**	**01 15 04.5**	**-1.1**
GEYT	**Alibeck**	**5.21**	**109**	Pn		**Pn**	**01 14 07.0**	**-2.0**
	0.2nm,0.3s,baz=285,slow=34,SNR=1.6							
GEYT				Sn		**Sn**	**01 15 03.2**	**-4.7**
	0.3nm,0.3s,baz=297,slow=19,SNR=1.8							
GEYT				Lg		Lg	01 15 39.4	
	1.1nm,0.3s,baz=344,slow=25,SNR=4.4							
	0.5nm,0.3s							
KBZ	**Khabaz**	**7.79**	**303**	Pn		Pn	01 14 37.7	-6.2
	baz=96,slow=9.2,SNR=3.1							
KBZ				Sn		**Sn**	**01 16 03.6**	**-6.7**
	0.1nm,0.3s,baz=1.0,slow=14,SNR=1.6							
BVAR	**Borovoye Array**	**18.34**	**38**	P		**P**	**01 17 01.5**	**+1.2**
	0.1nm,0.3s,baz=218,slow=11,SNR=14							
	2.2nm,0.5s							
AKASG	**Malin Array Be**	**19.26**	**312**	P		**P**	**01 17 11.2**	**+0.9**
	1.2nm,0.3s,baz=114,slow=13,SNR=5.1							
	0.2nm,0.2s							
KURBB	**Kurchatov Arra**	**21.59**	**51**	P		**P**	**01 17 36.8**	**+1.5**
	0.2nm,0.6s,baz=248,slow=12,SNR=2.6							
	0.2nm,0.6s							
MKAR	**Makanchi Array**	**23.14**	**62**	P		**P**	**01 17 52.9**	**+1.5**
	0.4nm,0.8s,baz=253,slow=9.6,SNR=3.0							
	0.4nm,0.8s							

IDC ***16*** *01:30:35.3±0.5, 0.63S×121.97E, h0km, mb4.4/19, mbtmp4.4/21, ML5.2/3, MS3.7/24, Error ellipse: s-maj=25.6km s-min=11.5km az=72.0*
DJA ***16*** *01:30:39.2±0.1, 1.1S×12.2E±.1, h10km, M5.0/32, mB5.5/18, mb5.1/32, MLv5.2/18, Mw(mB)5.0/18*
NEIC ***16*** *01:30:41.3±1.8, 0.59S±0.06×121.83E±0.05, h31km±5km, mb5.0/56, Error ellipse: s-maj=10.5km s-min=5.6km az=219.0*
ISC 16 01:30:40.9±0.5, 0.59S±0.04×121.83E±0.05, h32km±3km, h32km:pP-P, n162, σ1s50/165, mb4.9/56, MS3.7/22, 1C-2D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**1.04**	**116**	Pn	**Pb**	**01 31 00.3**	**-0.1**
LUWI				Sn	**Sb**	**01 31 15.7**	**+2.0**
LUWI	**Luwuk**	**1.04**	**116**	P	**Pb**	**01 31 00.9**	**+0.5**
LUWI	**Luwuk**	**1.04**	**116**	P	**Pb**	**01 31 00.6**	**+0.2**
LUWI				S	**Sb**	**01 31 17.0**	**+3.3**
MRSI	**Marisa**	**1.07**	**6**	P	**Pn**	**01 30 57.4**	**-2.3**
MRSI				S	**Sn**	**01 31 12.3**	**-1.2**
GTOI	**Gorontalo**	**1.69**	**44**	P	**Pn**	**01 31 07.3**	**-1.0**
TOLI2	**Tolitoli**	**1.99**	**328**		**Pn**	**01 31 11.6**	**-0.8**
TOLI2	**Tolitoli**	**1.99**	**328**	P	**Pn**	**01 31 12.3**	**-0.1**
KMSI	**Cibinong**	**2.44**	**62**	P	**Pb**	**01 31 22.0**	**-2.1**
TTSI	**Tana Toraja**	**3.16**	**220**	P	**Pn**	**01 31 27.8**	**-0.7**
SANI	**Sanana**	**4.40**	**109**	P	**Pn**	**01 31 45.8**	**+0.2**
SANI	**Sanana**	**4.40**	**109**	P	**Pn**	**01 31 45.5**	**-0.1**
KAPI	**Kappang**	**4.86**	**205**	Pn	**Pn**	**01 31 50.7**	**-1.2**
KAPI	**Kappang**	**4.86**	**205**	P	**Pn**	**01 31 51.4**	**-0.5**
BBSI	**Bau Bau**	**4.92**	**171**	P	**Pn**	**01 31 53.4**	**+0.7**
BKB	**Balikpapan**	**4.98**	**262**	Pn	**Pn**	**01 31 54.0**	**+0.5**
BKB	**Balikpapan**	**4.98**	**262**	P	**Pn**	**01 31 54.4**	**+0.8**
BKB	**Balikpapan**	**4.98**	**262**	P	**Pn**	**01 31 54.1**	**+0.5**
BKSI	**Bulukumba**	**5.00**	**200**	P	**Pn**	**01 31 53.2**	**-0.6**
SGSI	**Sangihe**	**5.63**	**41**	P	**Pn**	**01 32 04.6**	**+2.1**
	312nm,1.0s,6μm1.9nm						
LBMI	**Labuha**	**5.67**	**90**	P	**Pn**	**01 32 04.6**	**+1.6**
	395nm,0.6s,5μm4.5nm						
TNTI	**Ternate**	**5.70**	**76**	P	**Pn**	**01 32 06.4**	**+3.0**
NLAI	**Namlea**	**5.88**	**117**	P	**Pn**	**01 32 08.4**	**+2.4**
	599nm,0.7s,6μm1.9nm						
MTKI	**Muara Teweh, K**	**6.95**	**267**	P	**Pn**	**01 32 21.1**	**+0.5**
	173nm,0.9s,1.5nm						
MMRI	**Maumere**	**8.00**	**177**	Pn	**Pn**	**01 32 35.0**	**-0.1**
MMRI	**Maumere**	**8.00**	**177**	P	**Pn**	**01 32 34.8**	**-0.3**
	198nm,1.0s						
EDFI	**Ende, Flores**	**8.11**	**181**	P	**Pn**	**01 32 35.6**	**-1.0**
	79nm,0.6s,745nm						
DAV	**Davao City (W)**	**8.48**	**26**	LR	LR	01 36 11.6	
	comp=Z,609nm,19.9s,baz=175,slow=40						
BNDI	**Bandanaira**	**8.96**	**116**	P	**Pn**	**01 32 50.5**	**+2.3**
	286nm,0.6s						
PLAI	**Plampang**	**9.13**	**206**	P	**Pn**	**01 32 49.8**	**-0.7**
PLAI	**Plampang**	**9.13**	**206**	P	**Pn**	**01 32 49.3**	**-1.2**
	27nm,0.8s						
SOEI	**Soe**	**9.42**	**165**	Pn	**Pn**	**01 32 55.4**	**+0.7**
SOEI	**Soe**	**9.42**	**165**	P	**Pn**	**01 32 56.4**	**+1.7**
	90nm,0.8s						
SWI	**Sorong**	**9.43**	**92**	P	**Pn**	**01 32 57.0**	**+2.3**
	180nm,0.7s						
TWSI	**Taliwang, Sumb**	**9.48**	**211**	P	**Pn**	**01 32 53.5**	**-1.9**
	16nm,1.1s						
BASI	**Baing, Sumba**	**9.65**	**187**	P	**Pn**	**01 32 58.3**	**+0.6**
	77nm,1.7s,1μm						
BATI	**Baumata**	**9.72**	**169**	Pn	**Pn**	**01 32 56.5**	**-2.2**
	6.4nm,0.3s,baz=310,slow=18,SNR=2.2						
BATI				LR	LR	01 36 58.3	
	comp=Z,636nm,20.5s,baz=148,slow=40						
	13nm,0.3s						
BATI	**Baumata**	**9.72**	**169**	P	**Pn**	**01 32 57.9**	**-0.9**
	53nm,0.8s						
SRBI	**Singaraja**	**9.95**	**221**	P	**Pn**	**01 33 01.1**	**-0.7**
	20nm,1.1s						
FAKI	**Fak Fak**	**10.66**	**103**	Pn	**Pn**	**01 33 10.7**	**-0.9**
FAKI	**Fak Fak**	**10.66**	**103**	P	**Pn**	**01 33 10.8**	**-0.8**
FAKI	**Fak Fak**	**10.66**	**103**	P	**Pn**	**01 33 11.6**	**0.0**
	129nm,0.9s,1μm						
JAGI	**Jajag, Banyuwa**	**10.95**	**224**	Pn	**Pn**	**01 33 14.7**	**-0.8**
JAGI	**Jajag, Banyuwa**	**10.95**	**224**	P	**Pn**	**01 33 16.5**	**+1.0**
	42nm,1.3s						
PWJI	**Pagerwojo**	**12.43**	**233**	P	**Pn**	**01 33 36.5**	**+0.8**
	14nm,1.2s						
TGY	**Tagaytay City**	**14.63**	**357**	Pn	**Pn**	**01 34 04.8**	**-1.0**
	71nm,0.3s,baz=213,slow=14,SNR=2.1						
TGY				LR	LR	01 39 45.3	
	comp=Z,262nm,20.0s,baz=104,slow=38						
LEM	**Lembang**	**15.47**	**246**	Pn	**Pn**	**01 34 16.4**	**-0.8**
	3.8nm,0.3s,baz=65,slow=19,SNR=2.2						
LEM				LR	LR	01 41 07.5	
	comp=Z,333nm,18.9s,baz=53,slow=41						
	21nm,0.6s						
FITZ	**Fitzroy Crossi**	**17.80**	**168**	P	**Pn**	**01 34 45.5**	**-0.9**
KASI	**Kota Agung**	**17.99**	**254**	P	**P**	**01 34 50.6**	**+1.5**
	111nm,0.9s,981nm						
KRJI	**Kerinci**	**20.42**	**266**	P	**P**	**01 35 15.0**	**-0.8**
	154nm,0.5s,47μm						
PSA00	**Pilbara Seismi**	**20.94**	**185**	P	**P**	**01 35 20.9**	**-0.4**
PDSI	**Padang**	**21.37**	**269**	P	**P**	**01 35 26.1**	**+0.1**
	43nm,1.1s						
IPM	**Ipoh**	**21.39**	**284**	P	**P**	**01 35 27.1**	**+0.9**
IPM				IAmb	IAmb	01 35 32.9	
	comp=Z,58nm,1.0s						
KULM	**Kulim**	**21.95**	**286**	P	**P**	**01 35 33.1**	**+1.0**
KULM				IAmb	IAmb	01 35 37.3	
	comp=Z,45nm,1.2s						
WB0	**Warramunga Arr**	**22.68**	**148**	P	**P**	**01 35 39.4**	**-0.6**
SISI	**Saibi**	**22.75**	**268**	P	**P**	**01 35 41.4**	**+0.6**
	comp=Z,34nm,1.1s						
WRAB	**Tennant Creek**	**22.80**	**148**	P	**P**	**01 35 41.4**	**+0.2**
WRAB				IAmb	IAmb	01 36 01.8	
	comp=Z,131nm,1.9s						
WRA	**Warramunga Arr**	**22.80**	**148**	P	**P**	**01 35 40.7**	**-0.6**
WRA	**Warramunga Arr**	**22.80**	**148**	P	**P**	**01 35 39.9**	**-1.3**
	comp=Z,9.9nm,0.8s,baz=327,slow=10,SNR=47						
WRA				PcP	**PcP**	**01 39 32.0**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=336,slow=1.6,SNR=3.0						
	comp=Z,9.9nm,0.8s						
WB2	**Warramunga Arr**	**22.80**	**148**	P	**P**	**01 35 41.3**	**0.0**
WB2				IAmb	IAmb	01 35 51.3	
	comp=Z,101nm,1.8s						
WR0	**Warramunga Arr**	**22.92**	**148**	P	**P**	**01 35 42.8**	**+0.3**
TPUB	**Ta-pu**	**23.78**	**357**	P	**P**	**01 35 50.6**	**-0.3**
TPUB				IAmb	IAmb	01 36 12.0	
	comp=Z,42nm,0.9s						
SSLB	**Suanglung**	**24.25**	**358**	P	**P**	**01 35 54.9**	**-0.4**
SSLB				IAmb	IAmb	01 36 01.5	
	comp=Z,32nm,0.7s						
GSI	**Gunungsitoli**	**24.33**	**274**	P	**P**	**01 35 57.0**	**+0.9**
GSI				IAmb	IAmb	01 36 02.3	
	comp=Z,50nm,0.9s						
GSI	**Gunungsitoli**	**24.33**	**274**	P	**P**	**01 35 56.6**	**+0.5**
	comp=Z,59nm,0.8s						
AS31	**Alice Springs**	**25.75**	**154**	P	**P**	**01 36 10.5**	**+1.5**
ASAR	**Alice Springs**	**25.75**	**154**	P	**P**	**01 36 07.6**	**-1.4**
	comp=Z,2.7nm,0.7s,baz=334,slow=8.8,SNR=16						

ASAR				PcP	**PcP**	**01 39 37.8**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=343,slow=2.8,SNR=5.7							
ASAR				LR	LR	01 46 38.0		
	comp=Z,258nm,19.2s,baz=318,slow=38							
	comp=Z,2.7nm,0.7s							
MLSI	**Meulaboh, Aceh**	**25.86**	**281**	P	**P**	**01 36 10.8**	**+0.7**
JOW	**Kunigami**	**27.96**	**12**	LR	LR	01 46 22.2		
	comp=Z,165nm,21.8s,baz=153,slow=34							
CMAR	**Chiang Mai Arr**	**29.41**	**311**	P	**P**	**01 36 43.2**	**+1.5**
	comp=Z,1.5nm,0.7s,baz=137,slow=6.4,SNR=11							
CMAR				LR	LR	01 50 24.2		
	comp=Z,127nm,20.1s,baz=125,slow=40							
	comp=Z,1.5nm,0.7s							
CTA	**Charters Tower**	**30.77**	**131**	LR	LR	01 50 13.2		
	comp=Z,194nm,19.1s,baz=181,slow=38							
ENH	**Enshi**	**32.87**	**340**	P	**P**	**01 37 12.1**	**-0.1**
JCJ	**Chichijima**	**33.78**	**34**	LR	LR	01 50 10.1		
	comp=Z,64nm,21.3s,baz=127,slow=35							
TNCH	**TengChong**	**34.03**	**320**	P	**P**	**01 37 24.5**	**+2.0**
TNCH				sP	pP	01 37 29.8	-1.9
TNCH				PP	**PnPn**	**01 38 36.9**	**+0.5**
TNCH				S	**S**	**01 42 49.8**	**+3.5**
TNCH				pmax	pmax			
	comp=Z,120nm,3.9s							
LYN	**LuoYang**	**36.04**	**347**	⇓P	**P**	**01 37 41.1**	**+1.6**
LYN				S	**S**	**01 43 20.0**	**+3.4**
LYN				sS	sS	01 43 29.1	-2.8
LYN				pmax	pmax			
	comp=Z,34nm,0.8s							
LYN				pmax	pmax			
	comp=Z,200nm,4.6s							
STKA	**Stephens Creek**	**36.29**	**151**	P	**P**	**01 37 40.5**	**-1.2**
STKA	**Stephens Creek**	**36.29**	**151**	P	**P**	**01 37 38.7**	**-3.0**
	comp=Z,3.1nm,0.8s,baz=328,slow=13,SNR=5.0							
STKA				LR	LR	01 53 41.0		
	comp=Z,123nm,18.7s,baz=16,slow=38							
	comp=Z,3.1nm,0.8s							
XAN	**Xi'an**	**36.52**	**342**	⇓P	**P**	**01 37 45.8**	**+2.1**
XAN				pmax	pmax			
	comp=Z,17nm,1.4s							
XAN				LR	LR			
	comp=Z,290nm,17.2s							
KSRS	**Korea Array**	**38.27**	**8**	P	**P**	**01 37 57.2**	**-1.2**
	comp=Z,3.4nm,0.8s,baz=190,slow=8.8,SNR=6.2							
KSRS				LR	LR	01 53 36.0		
	comp=Z,76nm,20.5s,baz=180,slow=36							
	comp=Z,3.4nm,0.8s							
HNS	**HongShan**	**38.37**	**351**	⇑P	**P**	**01 38 00.9**	**+1.7**
HNS				pmax	pmax			
	comp=Z,6.0nm,1.1s							
MJAR	**Matsushiro Arr**	**39.95**	**21**	P	**P**	**01 38 11.0**	**-1.5**
	comp=Z,6.5nm,0.9s,baz=196,slow=7.8,SNR=7.2							
MJAR				LR	LR	01 52 14.8		
	comp=Z,72nm,21.9s,baz=196,slow=32							
	comp=Z,6.5nm,0.9s							
LZH	**Lanzhou**	**40.15**	**337**	*e*P	**P**	**01 38 17.0**	**+2.7**
LZH				pP	sP	01 38 26.0	-1.5
LZH				pmax	pmax			
	comp=Z,18nm,1.4s							
PALK	**Pallekele**	**41.77**	**282**	LR	LR	01 55 53.4		
	comp=Z,101nm,21.8s,baz=219,slow=36							
HHC	**Hu-ho-hao-te**	**42.29**	**348**	*e*P	**P**	**01 38 33.5**	**+1.7**
HHC				pP	pP	01 38 38.0	-3.2
HHC				sP	sP	01 38 45.3	+0.3
HHC				*e*S	**S**	**01 44 58.3**	**+7.6**
HHC				pmax	pmax			
	comp=Z,11nm,0.6s							
HHC				pmax	pmax			
	comp=Z,71nm,4.0s							
HHC				LR	LR			
	comp=Z,160nm,13.5s							
HHC				LR	LR			
	comp=Z,110nm,17.7s							
BTO	**Baotou**	**42.39**	**347**	*e*P	**P**	**01 38 36.3**	**+3.7**
BTO				pP	**pP**	**01 38 41.8**	**-0.2**
BTO				sP	**sP**	**01 38 46.5**	**+0.7**
BTO				S	S	01 45 01.3	+9.2
BTO				SS	**SS**	**01 47 53.8**	**-8.2**
BTO				pmax	pmax			
	comp=Z,7.0nm,0.6s							
BTO				pmax	pmax			
	comp=Z,200nm,5.6s							
BTO				LR	LR			
	comp=Z,230nm,7.5s							
BTO				LR	LR			
	comp=Z,120nm,5.2s							
BTO				LR	LR			
	comp=Z,320nm,7.2s							
GOMU	**GeErMu**	**44.40**	**328**	P	**P**	**01 38 51.1**	**+1.9**
GOMU				pP	pP	01 38 55.3	-3.3
GOMU				sP	sP	01 38 56.8	-5.5
GOMU				pmax	pmax			
	comp=Z,4.0nm,0.8s							
XLT	**XiLinHaoTe**	**44.59**	**354**	*e*P	**P**	**01 38 52.0**	**+1.7**
XLT				pmax	pmax			
	comp=Z,14nm,0.9s							
XLT				pmax	pmax			
	comp=Z,140nm,5.2s							
GTA	**Gaotai**	**44.63**	**336**	P	**P**	**01 38 52.6**	**+1.9**
GTA				pmax	pmax			
	comp=Z,5.0nm,0.7s							
USRK	**Ussurisk Ar.**	**45.51**	**10**	P	**P**	**01 38 56.8**	**-0.6**
	comp=Z,5.2nm,0.9s,baz=190,slow=5.7,SNR=3.8							
USRK				LR	LR	01 56 30.7		
	comp=Z,63nm,20.0s,baz=186,slow=34							
	comp=Z,5.2nm,0.9s							
ASAJ	**Asahikawa**	**48.22**	**20**	LR	LR	02 01 52.2		
	comp=Z,44nm,18.4s,baz=314,slow=39							
DZM	**Mont Dzumac**	**48.38**	**119**	LR	LR	01 59 51.2		
	comp=Z,70nm,19.3s,baz=232,slow=36							
ULN	**Ulaanbaatar**	**49.95**	**347**	P	**P**	**01 39 33.2**	**+1.2**
ULN	**Ulaanbaatar**	**49.95**	**347**	P	**P**	**01 39 33.2**	**+1.2**
SONM	**Songino Array**	**50.07**	**346**	P	**P**	**01 39 34.0**	**+1.0**
SONM				IAmb	IAmb	01 39 36.5		
	comp=Z,15nm,1.0s							
SONM	**Songino Array**	**50.07**	**346**	P	**P**	**01 39 33.6**	**+0.7**
	comp=Z,11nm,0.7s,baz=162,slow=7.5,SNR=68							
SONM				LR	LR	02 02 46.1		
	comp=Z,96nm,18.4s,baz=150,slow=38							
	comp=Z,11nm,0.7s							
KLR	**Kul'dur**	**50.36**	**8**	LR	LR	01 59 57.5		
	comp=Z,56nm,21.8s,baz=231,slow=35							
KSH	**Kashi**	**57.85**	**319**	P	**P**	**01 40 31.4**	**+1.5**
KSH				pP	pP	01 40 38.3	-1.2
KSH				pmax	pmax			
	comp=Z,4.0nm,0.9s							
MK31	**Makanchi Array**	**58.51**	**329**	P	**P**	**01 40 34.8**	**+0.6**
MK31				IAmb	IAmb	01 40 36.3		
	comp=Z,9.4nm,0.8s							
MKAR	**Makanchi Array**	**58.51**	**329**	P	**P**	**01 40 35.0**	**+0.7**
MKAR	**Makanchi Array**	**58.51**	**329**	P	**P**	**01 40 35.2**	**+0.9**
	comp=Z,13nm,0.8s,baz=131,slow=7.8,SNR=113							
	comp=Z,13nm,0.8s							
MAKZ	**Makanchi**	**58.68**	**329**	P	**P**	**01 40 35.9**	**+0.5**
MAKZ				IAmb	IAmb	01 40 36.9		
	comp=Z,7.9nm,0.7s							
MAKZ	**Makanchi**	**58.68**	**329**	P	**P**	**01 40 36.1**	**+0.6**
MAKZ				pP	**pP**	**01 40 44.0**	**-1.1**
BOOM	**Boomskoye usch**	**59.48**	**322**	P	**P**	**01 40 41.2**	**-0.1**
BOOM				IAmb	IAmb	01 40 50.3		
	comp=Z,18nm,1.7s							
KBL	**Kabul**	**60.44**	**311**	P	**P**	**01 40 48.2**	**+0.1**
AAK	**Ala-Archa**	**60.45**	**321**	P	**P**	**01 40 48.6**	**+0.6**
AAK	**Ala-Archa**	**60.45**	**321**	LR	LR	02 10 29.7		
	comp=Z,48nm,18.1s,baz=116,slow=40							
AAK	**Ala-Archa**	**60.45**	**321**	P	**P**	**01 40 49.5**	**+1.5**
AAK				pP	**pP**	**01 40 58.0**	**+0.4**
PETK	**Petropavlovsk-**	**61.29**	**24**	P	**P**	**01 40 52.2**	**-1.0**
	comp=Z,6.9nm,0.9s,baz=199,slow=3.1,SNR=6.5							
	comp=Z,6.9nm,0.9s							
GAR	**Garm**	**61.42**	**316**	P	**P**	**01 40 54.7**	**+0.2**
SIMJ	**Simiganj**	**62.18**	**315**	P	**P**	**01 40 59.8**	**+0.1**
SIMJ				IAmb	IAmb	01 41 10.5		
	comp=Z,11nm,0.9s							
SIMJ	**Simiganj**	**62.18**	**315**	P	**P**	**01 41 00.9**	**+1.2**
SIMJ				pP	**pP**	**01 41 09.2**	**-0.1**
ZAA0	**Zalesovo Array**	**62.38**	**336**	P	**P**	**01 40 59.9**	**-0.6**
ZAA0				IAmb	IAmb	01 41 01.1		
	comp=Z,7.9nm,0.8s							
ZALV	**Zalesovo Beam**	**62.38**	**336**	P	**P**	**01 41 00.0**	**-0.4**
ZALV	**Zalesovo Beam**	**62.38**	**336**	P	**P**	**01 40 59.9**	**-0.6**
	comp=Z,7.2nm,0.7s,baz=134,slow=6.9,SNR=35							
	comp=Z,7.2nm,0.7s							
KURBB	**Kurchatov Arra**	**62.90**	**331**	P	**P**	**01 41 03.9**	**-0.1**
	comp=Z,7.9nm,0.8s,baz=133,slow=6.1,SNR=80							
	comp=Z,7.9nm,0.8s							

KURK	**Kurchatov**	**62.91**	**331**	P	**P**	**01 41 03.9**	**-0.3**
KURK	**Kurchatov**	**62.91**	**331**	P	**P**	**01 41 04.2**	**0.0**
KURK				pP	**pP**	**01 41 12.4**	**-1.4**
KK31	**Karatay Array**	**63.21**	**320**	P	**P**	**01 41 05.4**	**-0.9**
KKAR	**Karatay Array**	**63.21**	**320**	P	**P**	**01 41 05.5**	**-0.8**
MA2	**Magadan**	**64.11**	**16**	P	**P**	**01 41 12.2**	**+0.3**
MA2				IAmb	IAmb	01 41 14.8	
	comp=Z,19nm,1.0s						
MA2	**Magadan**	**64.11**	**16**	P	**P**	**01 41 12.8**	**+0.9**
MA2				sP	**sP**	**01 41 25.5**	**+0.2**
DRV	**Dumont d'Urvil**	**67.18**	**172**	P	**P**	**01 41 31.2**	**-0.3**
BVAR	**Borovoye Array**	**68.39**	**329**	P	**P**	**01 41 39.0**	**-0.4**
	comp=Z,5.1nm,0.8s,baz=128,slow=9.3,SNR=22						
	comp=Z,5.1nm,0.8s						
BRVK	**Borovoye**	**68.46**	**329**	P	**P**	**01 41 39.8**	**-0.1**
BRVK				IAmb	IAmb	01 41 47.9	
	comp=Z,28nm,1.5s						
BRVK	**Borovoye**	**68.46**	**329**	P	**P**	**01 41 40.9**	**+1.0**
GEYT	**Alibeck**	**69.89**	**311**	P	**P**	**01 41 48.6**	**-0.5**
	comp=Z,5.0nm,1.0s,baz=106,slow=9.4,SNR=5.0						
	comp=Z,5.0nm,1.0s						
TIXI	**Tiksi**	**72.26**	**2**	P	**P**	**01 42 01.9**	**-0.9**
ABKAR	**Akbulak array**	**72.49**	**323**	P	**P**	**01 42 03.9**	**-0.6**
NRIK	**Noril'sk**	**73.52**	**348**	P	**P**	**01 42 09.8**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=151,slow=1.3,SNR=4.2						
	comp=Z,1.3nm,0.5s						
VNDA	**Vanda**	**79.83**	**172**	P	**P**	**01 42 44.7**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=317,slow=7.3,SNR=8.9						
VNDA				LR	LR	02 18 14.1	
	comp=Z,92nm,19.2s,baz=214,slow=36						
	comp=Z,1.3nm,0.7s						
M14K	**Bethel**	**83.79**	**29**	P	**P**	**01 43 08.0**	**+1.1**
F15K	**North Star Dit**	**83.80**	**24**	P	**P**	**01 43 07.2**	**+0.3**
C16K	**Lisburne Hills**	**84.23**	**21**	P	**P**	**01 43 09.0**	**0.0**
C16K				IAmb	IAmb	01 43 13.0	
	comp=Z,17nm,1.1s						
G16K	**Koyuk River**	**84.64**	**24**	P	**P**	**01 43 11.8**	**+0.6**
G16K				IAmb	IAmb	01 43 15.2	
	comp=Z,12nm,1.1s						
E18K	**Tukpahlearik C**	**85.77**	**22**	P	**P**	**01 43 17.0**	**+0.2**
E18K				IAmb	IAmb	01 43 20.5	
	comp=Z,29nm,1.9s						
C18K	**Utukok River**	**85.81**	**21**	P	**P**	**01 43 16.4**	**-0.7**
C18K				IAmb	IAmb	01 43 20.9	
	comp=Z,25nm,1.8s						
ASF	**Jabal al Asfar**	**86.02**	**302**	LR	LR	02 28 14.5	
	comp=Z,53nm,18.0s,baz=86,slow=40						
C19K	**Lookout Ridge**	**86.48**	**21**	P	**P**	**01 43 20.2**	**-0.1**
C19K				IAmb	IAmb	01 43 25.6	
	comp=Z,21nm,1.4s						
D19K	**Kuna River**	**86.89**	**21**	P	**P**	**01 43 22.1**	**-0.2**
E19K	**Redstone River**	**87.06**	**22**	P	**P**	**01 43 23.3**	**+0.2**
E19K				IAmb	IAmb	01 43 30.8	
	comp=Z,7.0nm,1.1s						
H19K	**Roundabout Mou**	**87.09**	**24**	P	**P**	**01 43 23.4**	**+0.1**
B20K	**Meade River**	**87.47**	**20**	P	**P**	**01 43 25.1**	**0.0**
BRTR	**Keskin Array B**	**88.98**	**310**	P	**P**	**01 43 31.2**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=85,slow=3.6,SNR=2.4						
	comp=Z,0.3nm,0.6s						
QSPA	**South Pole Qui**	**89.35**	**180**	P	**P**	**01 43 34.2**	**0.0**
QSPA	**South Pole Qui**	**89.35**	**180**	P	**P**	**01 43 33.4**	**-0.7**
	comp=Z,5.0nm,0.6s,baz=291,slow=3.8,SNR=40						
	comp=Z,5.0nm,0.6s						
MLY	**Manley**	**89.44**	**25**	P	**P**	**01 43 34.0**	**-0.5**
MLY				IAmb	IAmb	01 43 40.0	
	comp=Z,5.3nm,1.1s						
ILAR	**Eielson Array**	**91.08**	**25**	P	**P**	**01 43 40.5**	**-1.6**
	comp=Z,0.2nm,0.5s,baz=251,slow=5.5,SNR=6.8						
	comp=Z,0.2nm,0.5s						
I26K	**Coal Creek Min**	**92.64**	**25**	P	**P**	**01 43 49.5**	**+0.2**
LSZ	**Lusaka**	**93.36**	**255**	LR	LR	02 21 51.2	
	comp=Z,66nm,19.5s,baz=128,slow=33						
BARN	**Barnard Glacie**	**93.67**	**29**	P	**P**	**01 43 54.5**	**+0.1**
I28M	**Miner Creek**	**93.96**	**24**	P	**P**	**01 43 55.6**	**0.0**
I28M				IAmb	IAmb	01 44 06.9	
	comp=Z,11nm,1.5s						
M29M	**Somme Creek**	**95.02**	**27**	P	**P**	**01 43 58.7**	**-1.8**
M29M				IAmb	IAmb	01 44 11.7	
	comp=Z,12nm,1.6s						
L29M	**L29M**	**95.07**	**27**	P	**P**	**01 43 59.9**	**-0.7**
L29M				IAmb	IAmb	01 44 06.6	
	comp=Z,7.5nm,1.1s						
M30M	**Minto, Yukon**	**95.76**	**27**	P	**P**	**01 44 04.2**	**+0.4**
N30M	**Aishikik Lake**	**95.81**	**28**	P	**P**	**01 44 04.6**	**+0.5**
WHY	**Whitehorse**	**97.01**	**29**	P	**P**

4.1nm,0.3s,baz=175,slow=32,SNR=7.5
KKAR Karatay Array 2.80 357 ⇓*i*P **Pn 01 35 57.1 +1.8**
baz=57
KKAR ⇓*i*S **Sn 01 36 31.8 +2.4**
baz=57
MRKS Merke 3.10 37 *e*P **Pb 01 36 06.6 +1.2**
10nm,0.2s
MRKS *e*S **Sg 01 36 47.5 -1.8**
42nm,0.2s
MRKS Merke 3.10 37 Pg **Pb 01 36 06.6 +1.2**
7.5nm,0.3s
MRKS Lg Lg 01 36 46.6
30nm,0.3s
ARLS Aral 3.16 59 ⇓*i*P **Pn 01 36 02.0 +1.7**
baz=59
ARLS ⇓*i*S **Sn 01 36 40.0 +1.6**
baz=59
EKS2 Erkin-Say 3.31 44 ⇑*i*P **Pn 01 36 04.2 +1.9**
baz=43
EKS2 ⇑*i*S **Sn 01 36 44.0 +2.0**
baz=43
UCH Uchtor 3.46 55 ⇓*i*P **Pn 01 36 06.5 +1.7**
baz=54
UCH ⇓*i*S **Sn 01 36 48.0 +1.6**
baz=54
AAK Ala-Archa 3.69 50 ⇓*i*P **Pn 01 36 09.5 +1.9**
baz=49
AAK ⇓*i*S **Sn 01 36 53.1 +1.6**
baz=49
NUT Nurota 3.83 275 P **Pb 01 36 14.6 -3.3**
NUT S **Sb 01 37 04.2 -0.4**
FRU1 Bishkek 3.88 48 ⇑*i*P **Pn 01 36 12.1 +2.0**
baz=48
FRU1 ⇑*i*S **Sn 01 36 57.6 +1.6**
baz=48
KBK Karagaybulak 3.97 52 ⇑*i*P **Pn 01 36 13.2 +1.7**
baz=52
KBK ⇑*i*S **Sn 01 36 59.7 +1.3**
baz=52
CHMS Chumysh 4.06 47 ⇓*i*P **Pn 01 36 14.7 +2.1**
baz=47
CHMS ⇓*i*S **Sn 01 37 02.0 +1.4**
baz=47
USP Ospenovka 4.11 43 ⇓*i*P **Pn 01 36 15.1 +1.8**
baz=42
USP ⇓*i*S **Sn 01 37 03.3 +1.6**
baz=42
NRN Naryn 4.18 73 ⇑*i*P **Pn 01 36 15.7 +1.2**
baz=72
NRN ⇑*i*S **Sn 01 37 04.1 +0.2**
baz=72
BOOM Boomskoye usch 4.51 59 ⇑*i*P **Pn 01 36 20.9 +2.0**
baz=59
BOOM ⇑*i*S **Sn 01 37 12.8 +1.0**
baz=59
ULHL Ulahol 4.61 63 ⇓*e*P **Pn 01 36 22.1 +1.8**
baz=63
ULHL ⇓*i*S **Sn 01 37 15.1 +0.8**
baz=63
DGS Degeres 4.80 51 *e*P **Pg 01 36 38.5 -3.3**
3.3nm,0.1s
DGS *e*S **Sg 01 37 42.2 -1.8**
7.1nm,0.4s
DGS Degeres 4.80 51 Pg **Pg 01 36 39.1 -2.7**
3.3nm,0.4s
DGS Lg Lg 01 37 41.7
6.6nm,0.6s
KST Kastek 4.81 54 *e*P **Pg 01 36 39.0 -2.9**
1.3nm,0.1s
KST *e*S **Sg 01 37 42.5 -1.6**
7.2nm,0.3s
KST Kastek 4.81 54 Pg **Pg 01 36 39.5 -2.4**
1.8nm,0.4s
KST Lg Lg 01 37 42.5
13nm,0.5s
MTBS Maitube 5.14 55 *e*P **Pb 01 36 43.7 +3.4**
1.2nm,0.1s
MTBS *e*S **Sg 01 37 51.1 -3.8**
2.9nm,0.2s
MTBS Maitube 5.14 55 Pg **Pg 01 36 44.4 -3.9**
1.4nm,0.3s
MTBS Lg Lg 01 37 51.1
3.8nm,0.6s
TNSS Tian-Shan 5.42 58 *e*P **Pg 01 36 51.9 -1.8**
1.1nm,0.1s
TNSS *e*S **Sg 01 38 04.9 +0.9**
1.9nm,0.6s
TNSS Tian-Shan 5.42 58 Pg **Pg 01 36 52.4 -1.4**
1.5nm,0.4s
TNSS Lg Lg 01 38 04.9
1.9nm,0.6s
KTBS Karatobe 5.62 51 Pg Pg 01 36 52.5 -4.8
1.3nm,0.5s
KTBS Lg Lg 01 38 04.9
3.6nm,0.5s
KOTS Kotyrbulak 5.62 57 Pg **Pg 01 36 53.8 -3.8**
2.2nm,0.4s
KOTS Lg Lg 01 38 07.0
8.1nm,0.8s
ARXS Arharly 6.58 51 Pg Pb 01 37 09.8 +5.0
1.1nm,0.7s
AB31 Akbulak array 11.76 323 ⇑P **Pn 01 37 55.8 -2.2**
0.2nm,0.5s,baz=139,slow=12,SNR=8.3

SDD 16 01:49:54.2±2.0,**19°.96N**×**72°.24W**,**h23**km±67km,**MD3.2, ML2.3, MW2.8, 3C-1D, Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCDR	**Montecristi**	**0.56**	**97**	⇑*e*Pg	Pb	01 50 04.3	-1.0
MCDR				⇓*e*Sg	Sb	01 50 12.6	-0.3
MCDR				IAML		01 50 13.1	
	comp=Z,81nm,0.6s						
MCDR				IAML		01 50 13.7	
	comp=E,157nm,0.5s						
MCDR				IAML		01 50 16.1	
	comp=N,170nm,0.1s						
REDR	**Restauracion**	**1.12**	**134**	IAML		01 50 16.4	
	comp=N,197nm,0.2s						
REDR				IAML		01 50 16.8	
	comp=E,278nm,0.3s						
SDDR	**Presa de Saban**	**1.32**	**137**	*e*Pg	Pn	01 50 17.6	+0.2
JIDR	**Jimani**	**1.50**	**166**	⇑*e*Pg	Pn	01 50 19.6	-0.2
JIDR				⇑*e*Sg	Sb	01 50 40.6	+0.5
JIDR				IAML		01 50 41.4	
	comp=N,38nm,1.4s						
JIDR				IAML		01 50 41.8	
	comp=E,46nm,0.2s						
GTBY	**Guantanamo Bay**	**2.70**	**270**	*e*Pg	Pb	01 50 41.2	-0.6
GTBY				*e*Sg	Sb	01 51 13.8	-0.6
GTBY				IAML		01 51 24.5	
	comp=N,38nm,4.8s						

IDC **16** *02:01:20.4*±*1.3, 0°.31N*×*124°.15E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=185.7km s-min=19.3km az=63.0*
DJA **16** *02:01:28.8*±*1.2, 2°.N*±*3°*×*12°.7E*±*°, h26km*±*12km, M4.4/12, mb4.9/3, mB6.0/2, MLv4.2/12, Mw(mB)5.6/2*
ISC 16 02:01:29.1±1.1,**1°.80N**±0°.07×**127°.26E**±0°.07,**h100**km,**n15,** σ0**°.94**/19,**mb3.8/5, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.03**	**174**	P	**Pn**	**02 01 48.3**	**-1.6**
TNTI				S	**Sn**	**02 02 04.6**	**-0.9**
LBMI	**Labuha**	**2.43**	**174**	P	**Pn**	**02 02 07.8**	**+0.4**
LBMI				S	**Sn**	**02 02 38.2**	**+1.4**
SGSI	**Sangihe**	**2.55**	**317**	P	**Pn**	**02 02 08.4**	**-0.5**
KMSI	**Cibinong**	**3.50**	**250**	P	**Pn**	**02 02 21.2**	**-0.4**
KMSI				S	**Sn**	**02 03 01.8**	**-0.3**
SANI	**Sanana**	**4.03**	**198**	P	**Pn**	**02 02 28.4**	**-0.4**
GTOI	**Gorontalo**	**4.40**	**255**	P	**Pn**	**02 02 34.9**	**+1.1**
GTOI				S	**Sn**	**02 03 24.5**	**+0.5**
SWI	**Sorong**	**4.80**	**123**	P	**Pn**	**02 02 40.8**	**+1.7**
NLAI	**Namlea**	**5.01**	**182**	P	**Pn**	**02 02 42.8**	**+0.8**
LUWI	**Luwuk**	**5.30**	**238**	P	**Pn**	**02 02 45.7**	**-0.3**
	46nm,0.6s,20μm4.0nm						
MRSI	**Marisa**	**5.48**	**256**	P	**Pn**	**02 02 48.3**	**-0.1**
WRA	**Warramunga Arr**	**22.70**	**163**	P	**P**	**02 06 21.5**	**-1.1**
	2.0nm,0.3s,baz=331,slow=12,SNR=37						
	2.0nm,0.3s						
ASAR	**Alice Springs**	**26.13**	**166**	P	**P**	**02 06 53.2**	**-0.8**
	0.8nm,0.4s,baz=341,slow=9.9,SNR=11						
	0.8nm,0.4s						
STKA	**Stephens Creek**	**36.15**	**159**	P	**P**	**02 08 21.6**	**-0.4**
	1.4nm,0.5s,baz=340,slow=8.7,SNR=3.4						
	1.4nm,0.5s						
MKAR	**Makanchi Array**	**59.43**	**326**	P	**P**	**02 11 22.4**	**+0.9**
	0.3nm,0.4s,baz=120,slow=8.5,SNR=7.3						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**63.64**	**328**	P	**P**	**02 11 50.1**	**+0.5**
	0.3nm,0.4s,baz=129,slow=5.9,SNR=5.6						
	0.3nm,0.4s						

UPA **16** *02:05:00.6*±*1.1, 5°.46N*×*77°.85W, h4km*±*27km, MW4.2*
RSNC **16** *02:05:03.0*±*0.0, 6°.N*±*2°*×*7°.8W*±*°, h2km*±*4km, mb4.3, ML3.0*
NEIC **16** *02:05:05.2*±*1.6, 5°.54N*±*0°.05*×*77°.56W*±*0°.07, h35km*±*1km, mb4.3/11, Error ellipse: s-maj=14.1km s-min=4.5km az=54.0*
VAO **16** *02:05:07.6*±*1.2, 4°.98N*×*77°.12W, h10km, mb4.4*
IDC **16** *02:05:08.2*±*2.6, 5°.50N*×*77°.56W, h54km*±*25km, mb3.4/9, mbtmp3.8/13, ML2.8/3, MS3.3/3, Error ellipse: s-maj=19.7km s-min=18.6km az=71.0*
ISC 16 02:05:02.6±1.2,**5°.53N**±0°.03×**77°.69W**±0°.04,**h15**km±8km, **n93,** σ1**°70**/116,**mb3.7**/12,**1D, Near west coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIZC	**Pizarro, Choco**	**0.65**	**149**	P	**Pg**	**02 05 14.4**	**-1.0**
PIZC				S	**Sg**	**02 05 25.4**	**+1.3**
SOLC	**Bahia Solano**	**0.75**	**22**	P	**Pg**	**02 05 16.4**	**-0.9**
SOLC				S	**Sg**	**02 05 28.6**	**+1.4**
PLMC	**San Jos del P**	**1.54**	**114**	P	**Pn**	**02 05 27.0**	**-2.5**
PLMC				S	**Sn**	**02 05 46.7**	**-2.5**
MALC	**Bahia Malaga**	**1.55**	**167**	P	**Pn**	**02 05 28.2**	**-1.4**
MALC				S	**Sn**	**02 05 50.3**	**+0.8**
PTAC	**Punta Ardita,**	**1.61**	**356**	P	**Pn**	**02 05 28.7**	**-1.8**
PTAC				S	**Sn**	**02 05 47.3**	**-3.7**
CBOC	**Ciudad Bolivar**	**1.71**	**79**	P	**Pn**	**02 05 29.6**	**-2.4**
CBOC				S	**Sn**	**02 05 50.2**	**-3.4**
YOTC	**Yotoco, Valle**	**2.04**	**139**	P	**Pn**	**02 05 34.2**	**-2.3**
YOTC				S	**Sn**	**02 05 59.8**	**-2.0**
DBBC	**Dabeiba**	**2.09**	**45**	P	**Pn**	**02 05 37.1**	**-0.1**
HELC	**Santa Helena**	**2.25**	**73**	P	**Pn**	**02 05 39.0**	**-0.6**
HELC				S	**Sn**	**02 06 06.9**	**-0.4**
GUY2C	**Guyana, Caldas**	**2.34**	**97**	P	**Pn**	**02 05 40.2**	**-0.7**
RECRC	**Villamaria, Ca**	**2.40**	**104**	P	**Pn**	**02 05 41.7**	**-0.1**
ANIL	**Santa Ana**	**2.50**	**114**	P	**Pn**	**02 05 42.8**	**-0.3**
JAMC	**Jamundi, Valle**	**2.51**	**156**	P	**Pn**	**02 05 40.6**	**-2.5**
JAMC				S	**Sn**	**02 06 12.2**	**-1.4**
GR1C	**Gorgona, Isla**	**2.55**	**191**	P	**Pn**	**02 05 44.3**	**+0.8**
GR1C				S	**Sn**	**02 06 16.9**	**+2.5**
APAC	**Apartado, Choc**	**2.60**	**25**	P	**Pn**	**02 05 45.0**	**+0.8**
APAC				S	**Sn**	**02 06 18.4**	**+2.9**
NORC	**Norcasia**	**2.81**	**89**	P	**Pn**	**02 05 47.7**	**+0.6**
NORC				S	**Sn**	**02 06 21.2**	**+0.5**
ORTC	**Ortega, Tolima**	**2.92**	**123**	P	**Pn**	**02 05 49.1**	**+0.5**
ORTC				S	**Sn**	**02 06 24.0**	**+0.5**
UPD2	**Meteti**	**3.02**	**354**	*e*P	**Pn**	**02 05 50.4**	**+0.5**
UPD2				*e*S	**Sn**	**02 06 26.7**	**+1.0**
UPD2	**Meteti**	**3.02**	**354**	P	**Pn**	**02 05 50.9**	**+1.1**
POPC	**Popayan, Colom**	**3.14**	**161**	P	**Pn**	**02 05 50.9**	**-0.8**
PTBC	**PUERTO BERRIO,**	**3.37**	**73**	P	**Pn**	**02 05 56.0**	**+1.2**
AZU	**Azuero**	**3.41**	**311**	⇓*e*P	**Pn**	**02 05 53.3**	**-2.0**
AZU				*e*S	**Sn**	**02 06 33.5**	**-1.9**
AZU	**Azuero**	**3.41**	**311**	P	**Pn**	**02 05 53.4**	**-1.9**
AZU				S	**Sn**	**02 06 33.8**	**-1.6**
ROSC	**El Rosal**	**3.43**	**101**	Pn	**Pn**	**02 05 54.3**	**-1.6**
ROSC	**El Rosal**	**3.43**	**101**	P	**Pn**	**02 05 59.3**	**+3.4**
	7.5nm,0.3s,baz=282,slow=20,SNR=9.0						
	22nm,0.4s						
ROSC	**El Rosal**	**3.43**	**101**	P	**Pn**	**02 06 00.3**	**+4.4**
BBAC	**Balboa, Cauca**	**3.51**	**173**	P	**Pn**	**02 05 57.8**	**+0.9**
SPBC	**San Pablo de B**	**3.61**	**88**	P	**Pn**	**02 05 59.5**	**+1.4**
CHIT3	**Chitre**	**3.62**	**312**	*e*P	**Pn**	**02 05 56.8**	**-1.4**
CHIT3				*e*S	Sn	02 06 34.2	-6.6
CACAO	**El Cacao, Vera**	**3.63**	**300**	*e*P	**Pn**	**02 05 55.9**	**-2.4**
CACAO				*e*S	**Sn**	**02 06 37.7**	**-3.1**
CACAO	**El Cacao, Vera**	**3.63**	**300**	P	**Pn**	**02 05 56.3**	**-2.0**
CACAO				S	**Sn**	**02 06 37.7**	**-3.1**
FLAM	**Flamenco Islan**	**3.83**	**332**	*e*S	**Sn**	**02 06 46.0**	**+0.3**
CHPO	**Chepo, Panama**	**3.88**	**339**	*e*P	**Pn**	**02 06 50.0**	**-1.8**
CHPO				*e*S	**Sn**	**02 06 45.6**	**-1.5**
UPA	**Univ. de Panam**	**3.88**	**332**	*e*P	**Pn**	**02 06 00.5**	**-1.3**
UPA				*e*S	**Sn**	**02 06 46.9**	**-0.3**
PNME	**Penonome**	**3.93**	**318**	*e*P	**Pn**	**02 06 01.6**	**-0.9**
PNME				*e*S	**Sn**	**02 06 45.6**	**-2.7**
GARC	**Garzon, Huila**	**3.98**	**146**	P	**Pn**	**02 06 04.3**	**+0.9**
ZANG	**Zanguenga, Cho**	**4.03**	**328**	*e*P	**Pn**	**02 06 02.6**	**-1.2**
ZANG				*e*S	**Sn**	**02 06 50.3**	**-0.5**
FRIJ	**El Hiral**	**4.19**	**331**	*e*P	**Pn**	**02 06 04.3**	**-1.7**
FRIJ				*e*S	**Sn**	**02 06 53.7**	**-0.9**
BCIP	**Isla Barro Col**	**4.19**	**330**	Pn	**Pn**	**02 06 05.9**	**-0.1**
BCIP	**Isla Barro Col**	**4.19**	**330**	*e*P	**Pn**	**02 06 04.9**	**-1.2**
BCIP				*e*S	**Sn**	**02 06 54.7**	**-0.1**
BCIP	**Isla Barro Col**	**4.19**	**330**	P	**Pn**	**02 06 04.6**	**-1.4**
BCIP				S	**Sn**	**02 06 54.4**	**-0.4**
VILC	**Villavicencio,**	**4.23**	**109**	P	**Pn**	**02 06 08.9**	**+2.3**
MLIR	**Monte Lirio**	**4.26**	**330**	*e*P	**Pn**	**02 06 05.5**	**-1.6**
MLIR				*e*S	**Sn**	**02 06 55.2**	**-1.4**
RUSC	**La Rusia**	**4.60**	**85**	P	**Pn**	**02 06 14.4**	**+2.3**
BARC	**Barichara**	**4.61**	**77**	P	**Pn**	**02 06 13.9**	**+1.9**
SJCC	**San Jacinto, C**	**5.00**	**30**	P	**Pn**	**02 06 18.8**	**+1.5**
	14nm,0.9s						
MACC	**Macarena, Meta**	**5.10**	**131**	P	**Pn**	**02 06 18.8**	**+0.2**
OTAV	**Otavalo**	**5.31**	**188**	Pn	**Pn**	**02 06 21.9**	**+0.1**
OTAV	**Otavalo**	**5.31**	**188**	*e*P	**Pn**	**02 06 21.6**	**-0.2**
PULU	**Pululahua**	**5.53**	**188**	Pn	**Pn**	**02 06 25.3**	**+0.5**
SLOR	**San Lorenzo -**	**6.27**	**187**	Pn	**Pn**	**02 06 34.9**	**-0.1**
LCR2	**La Lucha 2**	**7.53**	**304**	Pn	**Pn**	**02 06 54.2**	**+2.2**
SDV	**Santo Domingo**	**7.76**	**64**	Pn	**Pn**	**02 06 54.4**	**-0.9**
SDV	**Santo Domingo**	**7.76**	**64**	P	**Pn**	**02 06 56.6**	**+1.4**
	1.2nm,0.3s,baz=215,slow=12,SNR=8.5						
SDV				S	**Sn**	**02 08 22.3**	**-0.7**
	6.0nm,0.5s,baz=251,slow=14,SNR=1.1						
	7.2nm,0.5s						
SDV	**Santo Domingo**	**7.76**	**64**	*e*P	**Pn**	**02 06 57.5**	**+2.2**
JTS	**Las Juntas de**	**8.61**	**304**	Pn	**Pn**	**02 07 08.7**	**+2.0**
JTS	**Las Juntas de**	**8.61**	**304**	LR	LR	02 10 34.1	
	comp=Z,164nm,18.1s,baz=130,slow=37						
MCRA	**Macar, Loja**	**10.09**	**193**	Pn	**Pn**	**02 07 28.3**	**+1.1**
BAUV	**El Baul**	**10.16**	**70**	Pn	**Pn**	**02 07 26.3**	**-1.7**
ATAH	**Atahualpa**	**12.60**	**183**	P	**Pn**	**02 08 03.6**	**+1.8**
	0.2nm,0.3s,baz=3.2,slow=18,SNR=2.6						
ATAH				LR	LR	02 13 28.7	
	comp=Z,177nm,20.8s,baz=4.1,slow=40						
	2.2nm,0.5s						
TEFE	**Tefe**	**15.83**	**124**	*e*P	Pn	02 08 39.8	-5.4
OBIP	**Obispado Ponce**	**16.49**	**40**	Pn	**Pn**	**02 08 52.1**	**-1.4**
OBIP				IAmb	IAmb	02 09 28.9	
	comp=Z,16nm,0.9s						
BOAV	**Boa Vista**	**17.41**	**100**	Pn	**Pn**	**02 09 02.2**	**-3.0**
NNA	**Nana**	**17.42**	**177**	P	**Pn**	**02 09 07.2**	**+1.9**
	comp=Z,8.5nm,0.6s,baz=2.7,slow=15,SNR=4.3						
NNA				LR	LR	02 16 37.6	
	comp=Z,101nm,21.8s,baz=8.0,slow=40						
MACA	**Manacapuru-AM**	**19.06**	**117**	P	**P**	**02 09 22.3**	**-2.3**
MACA				IAmb	IAmb	02 09 22.9	
	comp=Z,17nm,0.9s						
MACA	**Manacapuru-AM**	**19.06**	**117**	*e*P	**P**	**02 09 22.5**	**-2.1**
ETMB	**Extrema**	**19.06**	**143**	P	**P**	**02 09 22.3**	**-2.2**
ETMB				IAmb	IAmb	02 09 23.5	
	comp=Z,8.4nm,0.6s						
ETMB	**Extrema**	**19.06**	**143**	*e*P	**P**	**02 09 22.1**	**-2.4**
SAML	**Samuel**	**20.40**	**135**	P	**P**	**02 09 36.9**	**-2.3**
SAML				IAmb	IAmb	02 09 37.7	
	comp=Z,14nm,0.7s						
SAML	**Samuel**	**20.40**	**135**	*e*P	**P**	**02 09 36.5**	**-2.7**
ITTB	**Itaituba**	**24.03**	**114**	*e*P	**P**	**02 10 15.9**	**-1.4**
PB16	**IPOC Station P**	**25.05**	**161**	P	**P**	**02 10 25.8**	**-1.3**
VILB	**Vilhena**	**25.28**	**137**	P	**P**	**02 10 28.0**	**-0.6**
VILB	**Vilhena**	**25.28**	**137**	*e*P	**P**	**02 10 28.4**	**-0.3**
NPGB	**Novo Progresso**	**25.55**	**119**	*e*P	**P**	**02 10 29.2**	**-1.9**
PB11	**IPOC Station P**	**26.35**	**163**	P	**P**	**02 10 37.5**	**-0.9**
PB11				IAmb	IAmb	02 10 42.1	
	comp=Z,14nm,0.8s						
GO01	**Chusmiza**	**26.40**	**162**	P	**P**	**02 10 39.0**	**-0.2**
GO01				IAmb	IAmb	02 10 40.6	
	comp=Z,10nm,1.1s						
PDRB	**Porto dos Gac**	**26.93**	**129**	*e*P	**P**	**02 10 42.7**	**-0.8**
PTLB	**Pontes e Lacer**	**27.79**	**139**	*e*P	**P**	**02 10 48.9**	**-2.4**
BBSD	**Serra de San D**	**28.19**	**144**	*e*P	P	02 10 51.9	-2.9
Y49A	**Blount Mountai**	**29.33**	**345**	P	**P**	**02 11 05.0**	**+0.2**
Y49A				IAmb	IAmb	02 11 07.4	
	comp=Z,5.1nm,0.8s						
TXAR	**Lajitas Array**	**34.10**	**317**	P	**P**	**02 11 48.9**	**+1.9**
	comp=Z,0.5nm,0.9s,baz=134,slow=10,SNR=4.5						
	comp=Z,0.5nm,0.9s						
PLCA	**Paso Flores**	**46.50**	**173**	P	**P**	**02 13 30.1**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=350,slow=12,SNR=3.4						
	comp=Z,2.4nm,0.8s						
PDAR	**Pinedale Array**	**46.58**	**328**	P	**P**	**02 13 31.5**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=137,slow=11,SNR=4.8						
	comp=Z,0.5nm,0.7s						
NVAR	**Mina Array Bea**	**49.25**	**318**	P	**P**	**02 13 53.2**	**+2.2**
	comp=Z,0.5nm,0.7s,baz=126,slow=6.8,SNR=3.7						
	comp=Z,0.5nm,0.7s						
YKA	**Yellowknife Ar**	**62.98**	**342**	P	**P**	**02 15 28.6**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=132,slow=6.3,SNR=7.9						
	comp=Z,0.4nm,0.7s						
DBIC	**Dimbokro**	**72.37**	**85**	P	**P**	**02 16 28.2**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=268,slow=3.7,SNR=4.0						
	comp=Z,3.3nm,0.7s						
ESDC	**Sonseca Array**	**73.97**	**50**	P	**P**	**02 16 39.2**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=294,slow=6.0,SNR=2.2						
	comp=Z,0.7nm,0.8s						
ILAR	**Eielson Array**	**76.23**	**336**	P	**P**	**02 16 52.6**	**+2.4**
	comp=Z,0.2nm,0.7s,baz=116,slow=4.1,SNR=2.4						
	comp=Z,0.2nm,0.7s						
O22K	**Cooper Landing**	**76.39**	**331**	P	**P**	**02 16 51.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**78.45**	**78**	P	**P**	**02 17 02.9**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=286,slow=5.3,SNR=6.9						
	comp=Z,0.6nm,0.7s						
ASAR	**Alice Springs**	**144.65**	**236**	PKP	**PKPab**	**02 24 37.9**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=122,slow=3.6,SNR=11						
WRA	**Warramunga Arr**	**145.72**	**242**	PKPbc	**PKPdf**	**02 24 41.5**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=105,slow=3.0,SNR=6.7						

IDC **16** *02:17:18.0*±*2.0, 47°.80N*×*152°.95E, h0km, mb3.4/6, mbtmp3.5/7, ML2.9/1, Error ellipse: s-maj=52.6km s-min=29.7km az=166.0*
KRSC **16** *02:17:37.7*±*1.0, 48°.13N*×*156°.40E, h40km*±*20km, Ml4.1*
ISC 16 02:17:34.1±2.6,**47°.8N**±0°.1×**156°.0E**±0°.4,**h35**km,**n22,** σ2**°38**/18,**mb3.5/6, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**3.72**	**8**	*e*P	**Pn**	**02 18 31.8**	**+2.8**
PAU				*e*S	**Sn**	**02 19 10.7**	**-0.9**
KDTR	**Khodutka, Kamc**	**4.24**	**18**	*e*P	**Pn**	**02 18 38.6**	**+2.4**
KDTR				*e*S	**Sn**	**02 19 23.4**	**-1.0**
ASAK	**Asacha**	**4.76**	**14**	*e*P	**Pn**	**02 18 45.7**	**+2.3**
MTVR	**Mutnovka**	**4.90**	**16**	*e*P	**Pn**	**02 18 48.2**	**+2.8**
MTVR				*e*S	**Sn**	**02 19 40.2**	**-0.7**
RUS	**Russkaya**	**4.92**	**18**	*e*P	**Pn**	**02 18 48.1**	**+2.6**
RUS				*e*S	**Sn**	**02 19 39.1**	**-2.0**
PETK	**Petropavlovsk-**	**5.43**	**11**	Pn	**Pn**	**02 18 51.4**	**-1.2**
	1.3nm,0.3s,baz=194,slow=13,SNR=15						
PETK				Sn	Sn	02 20 02.0	+8.2
	0.1nm,0.3s,baz=106,slow=16,SNR=1.3						
	4.8nm,0.5s						
KOK	**Koryaka**	**5.76**	**16**	*e*P	**Pn**	**02 19 00.2**	**+3.1**
SMAR	**Somma**	**5.76**	**17**	*e*P	**Pn**	**02 18 59.9**	**+2.6**
KRX	**Arik**	**5.83**	**16**	*e*P	**Pn**	**02 19 00.4**	**+2.3**
TUMR	**Tumrok**	**7.93**	**17**	*e*P	**Pn**	**02 19 30.1**	**+3.2**
H11N2	**WAKE ISLAND Hy 29.35**	**159**		T	T	02 55 56.9	
	baz=342,slow=76,SNR=7.7						
H11N1	**WAKE ISLAND Hy 29.36**	**159**		T	T	02 55 47.7	
	baz=342,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy 29.37**	**159**		T	T	02 55 55.4	
	baz=342,slow=76,SNR=4.3						
H11S1	**WAKE ISLAND Hy 30.48**	**160**		T	T	02 57 17.0	
	baz=344,slow=76,SNR=39						
H11S3	**WAKE ISLAND Hy 30.49**	**160**		T	T	02 57 17.0	
	baz=344,slow=76,SNR=39						
H11S2	**WAKE ISLAND Hy 30.50**	**160**		T	T	02 57 17.7	
	baz=344,slow=76,SNR=28						
ILAR	**Eielson Array**	**34.50**	**39**	P	**P**	**02 24 17.6**	**-0.8**
	0.3nm,0.7s,baz=276,slow=8.0,SNR=5.1						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**48.21**	**298**	P	P	02 25 45.2	-26
	0.1nm,0.3s,baz=90,slow=3.2,SNR=2.4						
	0.1nm,0.3s						
YKA	**Yellowknife Ar**	**48.90**	**38**	P	**P**	**02 26 12.9**	**-3.2**
	0.3nm,0.6s,baz=303,slow=8.0,SNR=6.9						
	0.3nm,0.6s						
PDAR	**Pinedale Array**	**62.53**	**56**	P	**P**	**02 27 55.2**	**+0.8**
	0.2nm,0.4s,baz=260,slow=4.5,SNR=4.1						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**63.92**	**336**	P	P	02 27 47.0	-16
	1.6nm,0.8s,baz=27,slow=6.5,SNR=2.4						
	1.6nm,0.8s						
TXAR	**Lajitas Array**	**75.26**	**63**	P	**P**	**02 29 14.1**	**+0.5**
	0.2nm,0.5s,baz=289,slow=4.7,SNR=5.8						
	0.2nm,0.5s						

IDC **16** *02:31:10.2*±*0.9, 6°.38S*×*143°.82E, h0km, mb3.9/8, mbtmp3.9/10, ML1.9/1, Error ellipse: s-maj=36.2km s-min=20.6km az=75.0*
ISC 16 02:31:14.9±0.8,**6°.60S**±0°.08×**143°.57E**±0°.10,**h35**km,**n11,** σ1**°54**/14,**mb3.9/8, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.51**	**128**	Pn	**Pn**	**02 32 20.0**	**-0.8**
	4.2nm,0.3s,baz=307,slow=5.1,SNR=2.6						
PMG				Sn	**Sn**	**02 33 12.4**	**+0.2**
	5.2nm,0.3s,baz=306,slow=19,SNR=2.0						
	12nm,0.4s						
WRA	**Warramunga Arr**	**16.00**	**213**	Pn	**Pn**	**02 34 57.6**	**+0.1**
	0.4nm,0.3s,baz=37,slow=14,SNR=25						
WRA				Sn	**Sn**	**02 37 51.3**	**-2.7**
	0.2nm,0.3s,baz=36,slow=25,SNR=2.8						
WRA				Lg	Lg	02 39 47.0	
	0.2nm,0.3s,baz=34,slow=26,SNR=5.1						
ASAR	**Alice Springs**	**19.34**	**208**	P	**Pn**	**02 35 41.0**	**+2.2**
	5.4nm,0.7s,baz=34,slow=9.9,SNR=55						
ASAR				Sn	**S**	**02 39 14.0**	**-0.6**
	0.1nm,0.3s,baz=82,slow=34,SNR=2.9						
ASAR		

comp=E,4μm,0.8s
ADCV BITLIS_Adilcev 0.67 266 P **Pb** **02 35 27.3 -1.2**
ADCV *i* AML AML 02 35 38.0
comp=N,2μm,0.4s
ADCV S **Sb** **02 35 38.1 +0.2**
ADCV *i* AML AML 02 35 44.0
comp=E,2μm,0.5s
ADCV BITLIS_Adilcev 0.67 266 Pg **Pb** **02 35 27.0 -1.5**
GEVA Gevas 0.68 217 Pg **Pg** **02 35 26.6 -1.2**
DYDN Diyadin 0.69 7 Pg **Pg** **02 35 26.6 -1.5**
AKDM Akdamar-Van 0.70 222 Pg **Pb** **02 35 27.5 -1.6**
AKDM Sg **Sb** **02 35 38.7 -0.2**
AKDM Akdamar-Van 0.70 222 Pg **Pb** **02 35 27.4 -1.6**
DORK Agr/Tutak/Do 0.81 311 P **Pg** **02 35 29.0 -1.3**
DORK S **Sb** **02 35 42.3 +0.1**
DORK *i* AML AML 02 35 53.0
comp=N,1μm,0.6s
DORK *i* AML AML 02 35 53.0
comp=E,2μm,0.7s
AGRB Hanur-Agry 0.85 328 Pg **Pg** **02 35 30.2 -0.8**
AGRB Sg **Sb** **02 35 43.4 +0.2**
AGRB Hanur-Agry 0.85 328 Pg **Pg** **02 35 30.1 -0.9**
KOTA Agri, Merkez-K 0.99 343 P **Pg** **02 35 33.0 -0.7**
KOTA S **Sn** **02 35 47.9 -1.0**
KOTA *i* AML AML 02 35 54.0
comp=N,293nm,0.4s
KOTA *i* AML AML 02 35 55.0
comp=E,244nm,0.5s
MAKU Maku 1.00 60 Pg **Pg** **02 35 32.8 -1.0**
IGDI IGDIR 1.08 21 P **Pg** **02 35 34.6 -0.9**
IGDI S **Sn** **02 35 52.7 +1.6**
PERV Siirt/Pervari- 1.22 222 P **Pn** **02 35 38.2 +0.4**
BLIS Bitlis-Merkez 1.23 249 P **Pg** **02 35 36.5 -1.7**
BLIS S **Sn** **02 35 53.9 -0.8**
BLIS *i* AML AML 02 35 59.0
comp=E,848nm,0.6s
BLIS *i* AML AML 02 36 02.0
comp=N,967nm,0.6s
TASB TASBURUN-IGDIR 1.24 24 Pn **Pn** **02 35 38.3 +0.2**
TASB Sn **Sn** **02 35 57.4 +2.5**
TASB TASBURUN-IGDIR 1.24 24 Pg **Pg** **02 35 37.4 -1.0**
GURO Guroymak-BITLI 1.24 256 Pn **Pb** **02 35 37.1 -1.2**
GURO Sn **Sn** **02 35 55.3 +0.2**
VNNZ Vanand 1.26 9 *eP* **Pb** **02 35 38.4 -0.2**
VNNZ *eS* **Sn** **02 35 58.9 +3.4**
HAKT HAKKARI 1.30 175 Pg **Pg** **02 35 38.2 -1.4**
HYR Heyderabad 1.31 49 P **Pn** **02 35 39.0 -0.2**
HYR S **Sb** **02 35 53.6 -2.8**
METS Metsamor 1.35 17 *eP* **Pb** **02 35 39.6 -0.5**
METS *eS* **Sn** **02 36 01.8 +4.1**
YOVA Hakkari_Yksek 1.39 156 P **Pg** **02 36 42.0 +0.7**
YOVA S **Sn** **02 36 04.8 +6.0**
NRKZ NAREK 1.42 36 *eP* **Pb** **02 35 40.8 -0.5**
NRKZ *eS* **Sg** **02 36 02.8 +2.5**
ARUZ Aruch 1.48 15 *eP* **Pb** **02 35 41.8 -0.6**
ARUZ *eS* **Sg** **02 36 04.7 +2.4**
NAX Nakhchivan 1.53 77 P **Pn** **02 35 42.1 0.0**
NAX S **Sn** **02 35 59.8 -2.3**
GNI Garni 1.58 35 Pn **Pb** **02 35 43.9 -0.1**
GNI Sn **Sg** **02 36 06.7 +1.3**
GNI Garni 1.58 35⇑ *iP* **Pb** **02 35 43.7 -0.3**
GNI ⇓ *iS* **Sg** **02 36 04.9 -0.4**
CUKT Cukurca 1.61 179 Pn **Pg** **02 35 44.2 -1.3**
CUKT Sn **Sg** **02 36 06.5 +0.2**
CUKT Cukurca 1.61 179 P **Pb** **02 35 44.0 -0.4**
CUKT *i* AML AML 02 36 15.0
comp=N,822nm,1.0s
CUKT *i* AML AML 02 36 16.0
comp=E,781nm,0.7s
MUSM Mu-Merkez 1.62 266 P **Pb** **02 35 43.6 -1.1**
MUSM *i* AML AML 02 36 18.0
comp=N,166nm,0.9s
AMBZ Amberd 1.62 19 *eP* **Pb** **02 35 44.6 -0.2**
AMBZ *eS* **Sg** **02 36 09.6 +2.8**
SBZ Shahbuz 1.63 70 P **Pn** **02 35 43.5 -0.1**
SBZ S **Sn** **02 36 02.3 -2.3**
IMRD Marand 1.67 94 Pg **Pn** **02 35 44.2 +0.1**
VRTB Varto-Mus 1.68 281 Pn **Pg** **02 35 45.2 -1.6**
VRTB Varto-Mus 1.68 281 P **Pb** **02 35 44.7 -1.1**
VRTB S **Sg** **02 36 10.5 +1.9**
VRTB *i* AML AML 02 36 25.0
comp=E,695nm,1.0s
VRTB *i* AML AML 02 36 30.0
comp=N,650nm,1.2s
ISHB Shabestar 1.70 109 Pg **Pn** **02 35 44.4 -0.2**
KAPZ Kaputan 1.70 30 *eP* **Pb** **02 35 45.7 -0.5**
KAPZ *eS* **Sg** **02 36 11.4 +2.0**
KOPR Koprukoy-ERZUR 1.75 311 Pn **Pb** **02 35 46.1 -0.9**
BOZK Kars-Merkez-Bo 1.79 345 P **Pg** **02 35 48.7 -0.4**
BOZK *i* AML AML 02 36 22.0
comp=N,197nm,1.3s
BOZK *i* AML AML 02 36 22.0
comp=E,127nm,0.7s
EAK Akyaka 1.83 1 P **Pg** **02 35 50.3 +0.6**
EAK *i* AML AML 02 36 26.0
comp=N,632nm,1.7s
EAK *i* AML AML 02 36 32.0
comp=E,552nm,1.1s
ORD Ordubad 1.89 87 P **Pb** **02 35 48.3 -0.9**
ORD S **Sn** **02 36 11.8 +0.8**
SENK Senkaya-Erzuru 1.95 331 Pn **Pb** **02 35 49.4 -0.9**
SLHN Bingol, Solhan 1.99 274 P **Pb** **02 35 50.0 -1.0**
SLHN *i* AML AML 02 36 37.0
comp=E,248nm,1.0s
SLHN *i* AML AML 02 36 44.0
comp=N,177nm,1.1s
SVAN Silvan-Diyarba 1.99 250 Pn **Pb** **02 35 49.4 -1.6**
SVAN Silvan-Diyarba 1.99 250 P **Pg** **02 35 51.2 -1.6**
SVAN S **Sg** **02 36 19.1 +0.4**
SVAN *i* AML AML 02 36 24.0
comp=E,177nm,1.5s
SVAN *i* AML AML 02 36 27.0
comp=N,201nm,1.4s
ERZM Erzurum 2.01 302 P **Pg** **02 35 51.2 -1.9**
KARO Karliova-Bingo 2.02 284 Pn **Pb** **02 35 49.7 -1.8**
ITBZ Tabriz 2.11 106 Pn **Pn** **02 35 51.4 +1.2**
MIDY Mardin/Midyat- 2.25 231 P **Pb** **02 35 53.4 -2.0**
MIDY S **Sg** **02 36 27.1 +0.3**
MIDY *i* AML AML 02 36 33.0
comp=N,280nm,0.9s
MIDY *i* AML AML 02 36 33.0
comp=E,273nm,1.1s
BNGB Bingl 2.26 274 Pn **Pb** **02 35 53.5 -2.2**
BGD Bogdanovka 2.41 0 P **Pg** **02 36 00.1 -0.6**
BGD S **Sg** **02 36 35.1 +3.1**
GDB GEDABAY 2.51 41 P **Pn** **02 35 55.7 0.0**
GDB S **Sn** **02 36 24.3 -2.1**
DMNI Dmanisi 2.52 11 P **Pb** **02 35 58.4 -1.5**
AKH Akhalkalaki 2.55 359 P **Pg** **02 36 02.5 -1.1**
AKH S **Sg** **02 36 39.3 +2.7**
QZX Qazax, Azerbai 2.60 32 P **Pn** **02 35 56.6 -0.1**
QZX S **Sn** **02 36 26.0 -2.4**
IHRS Heris 2.77 100 Pn **Pn** **02 36 00.5 +1.2**
BRNG Burnasheti 2.77 4 P **Pb** **02 36 04.7 +0.3**
GANJ Ganja 2.77 49 P **Pn** **02 35 59.2 +0.1**
GANJ S **Sn** **02 36 30.7 -2.0**
MAZI Mazidag 2.83 241 Pn **Pn** **02 36 01.4 +1.3**
DYBB Diyarbakir 2.84 253 Pn **Pn** **02 36 01.5 +1.3**
DGRG David-gareji 2.94 27 P **Pb** **02 36 06.4 -0.7**
QRD Qoradiz 2.97 77 P **Pn** **02 36 01.9 0.0**
BCA Borcka 2.99 331 Pn **Pn** **02 36 03.7 +1.6**
AGDM Agdam 3.01 64 P **Pn** **02 36 02.4 0.0**
AGDM S **Sn** **02 36 36.3 -2.2**
BAYT Aydıntepe-Bayb 3.06 301 Pn **Pn** **02 36 04.9 +1.6**
BATM Batumi 3.10 333 Pn **Pn** **02 36 05.6 +2.0**
SDS1 Sardasht. Az. 3.10 150 Pn **Pn** **02 36 05.4 +1.7**
CHOM Cayeli-Rize 3.11 317 Pn **Pn** **02 36 06.5 +1.6**
BRDA Brd 3.12 62 P **Pn** **02 36 03.9 0.0**
BRDA S **Sn** **02 36 39.1 -2.1**
BLQ Beylaqan 3.21 73 P **Pn** **02 36 05.2 0.0**
BLQ S **Sn** **02 36 41.3 -2.2**
VSHL Vashlovani 3.21 42 P **Pb** **02 36 09.7 -2.1**
ALIG Mtskhetisjvari 3.25 1 P **Pb** **02 36 13.8 +1.4**
ALIG S **Sg** **02 37 00.7 +1.8**
PTK Pertek 3.27 272 Pn **Pn** **02 36 07.4 +1.3**
MNGR Mingechevir, A 3.31 54 P **Pn** **02 36 06.6 0.0**
MNGR S **Sn** **02 36 43.9 -2.1**
GRMI Germi 3.37 89 Pn **Pn** **02 36 09.2 +1.7**
ZRD Zardab 3.48 65 P **Pn** **02 36 08.8 0.0**
ZRD S **Sn** **02 36 48.0 -2.1**
LGD Lagodekhi 3.61 34 P **Pb** **02 36 19.4 +0.9**
ZKTA Zakatala 3.63 39 P **Pn** **02 36 11.0 +0.1**
ZKTA S **Sn** **02 36 51.8 -2.0**
SEKA Sheki 3.64 49 P **Pn** **02 36 11.9 +0.8**
SEKA S **Sn** **02 36 53.4 -0.8**
YRD Yardimli 3.64 88 P **Pn** **02 36 11.1 -0.2**
YRD S **Sn** **02 36 55.7 +1.3**
LRK Lerik 3.73 92 P **Pn** **02 36 14.3 +1.8**
LRK S **Sn** **02 36 58.1 +1.6**
ONI Oni 3.73 359 P **Pb** **02 36 21.4 +0.7**
GLBA Clilabad 3.77 83 P **Pn** **02 36 12.8 0.0**
GLBA S **Sn** **02 36 55.1 -2.2**
KDMR Kurdemir 3.87 65 P **Pn** **02 36 14.2 0.0**
KDMR S **Sn** **02 36 57.6 -2.1**
QBL Gabala 3.89 56 P **Pn** **02 36 14.4 0.0**
QBL S **Sn** **02 36 58.0 -2.2**
MTEO Meteo 3.89 10 P **Pb** **02 36 23.4 -0.2**
SAAT Saatly 3.89 74 P **Pn** **02 36 14.1 -0.4**
SAAT S **Sn** **02 36 57.3 -2.8**
SHTL Shatili 3.98 17 P **Pb** **02 36 24.9 0.0**
LKRN Lenkeran, Azer 4.07 90 P **Pn** **02 36 19.0 +2.1**
LKRN S **Sn** **02 37 05.2 +0.6**
ASTR Astara 4.09 93 P **Pn** **02 36 18.8 +1.6**
ASTR S **Sn** **02 37 05.4 +0.3**
XNQ Khinaliq 4.20 55 P **Pn** **02 36 18.8 -0.1**
XNQ S **Sn** **02 37 05.8 -2.3**
PQL Pirkuli 4.32 62 P **Pn** **02 36 20.4 -0.2**
PQL S **Sn** **02 37 08.6 -2.4**
QSAR Qusar 4.47 52 P **Pn** **02 36 22.4 -0.1**
QSAR S **Sn** **02 37 12.2 -2.3**
GBS Qobustan 4.47 66 P **Pn** **02 36 22.4 -0.1**
GBS S **Sn** **02 37 12.3 -2.2**
QUBA Quba, Azerbaij 4.52 55 P **Pn** **02 36 23.2 -0.1**
QUBA S **Sn** **02 37 13.7 -2.2**
ATGJ Altiaghaj 4.59 62 P **Pn** **02 36 24.0 -0.1**
ATGJ S **Sn** **02 37 15.3 -2.3**
SIZA Siyzn 4.65 60 P **Pn** **02 36 24.9 -0.1**
SIZA S **Sn** **02 37 16.9 -2.2**
IDHR Dehrash 4.72 151 Pn **Pn** **02 36 28.1 +2.0**

DJA 16 02:36:20.3±0.4, 9°S±7°×11°2E±°, h60km±25km, M3.6/13, mb3.8/5, MLv3.5/13, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PWJI	**Pagerwojo**	**1.39**	**334**	P	Pn		02 36 43.7	+0.2
PWJI				S	Sn		02 37 01.0	+0.1
GMJI	**Gumukmas**	**1.42**	**45**	P	Pn		02 36 44.2	+0.2
GMJI				S	Sn		02 37 01.7	0.0
JAGI	**Jajag, Banyuwa**	**1.89**	**65**	P	Pn		02 36 50.5	+0.2
JAGI				S	Sn		02 37 12.6	-0.5
BLJI	**Banyuglugur**	**1.92**	**37**	P	Pn		02 36 51.1	+0.4
BLJI				S	Sn		02 37 14.5	+0.8
UGM	**Wanagama**	**2.32**	**306**	P	Pn		02 36 56.2	+0.1
UGM				S	Sn		02 37 23.4	-0.1
ABJI	**Asem Bagus**	**2.32**	**51**	P	Pn		02 36 56.8	+0.6
SRBI	**Singaraja**	**3.01**	**67**	P	Pn		02 37 05.9	+0.4
SRBI				S	Sn		02 37 40.7	+0.4
BWJI	**Bawean**	**3.42**	**4**	P	Pn		02 37 19.6	-0.5
KPJI	**Karang Pucung**	**3.96**	**299**	P	Pn		02 37 18.9	+0.4
CMJI	**Cimerak**	**4.20**	**290**	P	Pn		02 37 21.4	-0.5
TWSI	**Taliwang, Sumb**	**4.44**	**83**	P	Pn		02 37 25.2	0.0
PLAI	**Plampang**	**5.31**	**86**	P	Pn		02 37 37.0	-0.1
	16nm,0.6s,0.1nm							
WBSI	**Waikabubak, Su**	**6.89**	**94**	P		Pn	02 37 59.0	+0.3
	0.1nm,1.2s,0.0nm							
BASI	**Baing, Sumba**	**8.10**	**97**	P		Pn	02 38 15.8	+0.6

*NEIC **16** 02:49:51.2±1.6, 10.88N±0.05×62.14W±0.08, h69km±8km, mb4.7/73, Mwr4.6(CAR), Error ellipse: s-maj=11.3km s-min=7.0km az=90.0*
*CAR **16** 02:49:51.8±2.4, 10.79N±0.06×61.97W±0.08, h60km±6km, Error ellipse: s-maj=10.9km s-min=8.4km az=97.0*
*TRN **16** 02:49:51.9, 10.91N×62.08W, h53km, MD4.6, North of the Paria peninsula. Felt in Trinidad, MMI IV, V.*
*FUNV **16** 02:49:51.7, 10.84N×61.98W, h62km, MW4.6*
*IDC **16** 02:49:51.7±0.9, 10.93N×62.37W, h78km±8km, mb4.0/22, mbtmp4.3/24, MS3.4/13, Error ellipse: s-maj=13.2km s-min=11.3km az=34.0*
*VAO **16** 02:49:52.1±0.7, 9.86N×62.13W, h0km, mb4.6*
ISC 16 02:49:50.8±0.6, 10°86N±0.03×62°14W±0.04, h71km±5km, n199, σ1§47/235, mb4.5/62, 2C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
TCE	**Chacachacare**	**0.41**	**113**	*eP*	**Pn**		**02 50 02.9**	**-0.1**
TRN	**Trinidad (W)**	**0.75**	**106**	*eP*	**Pn**		**02 50 05.4**	**-0.9**
TRN				*eS*	**Sn**		**02 50 15.4**	**-2.5**
TPP	**Pointe-a-Pierr**	**0.86**	**128**	*eP*	**Pn**		**02 50 08.4**	**+0.7**
CRUV	**Carupano**	**1.09**	**261**	⇓ *iP*	**Pn**		**02 50 11.5**	**+1.0**
CRUV				*eS*	**Sn**		**02 50 26.8**	**+1.5**
CRUV	**Carupano**	**1.09**	**261**	*eP*	**Pn**		**02 50 11.5**	**+1.0**
CRUV				*eS*	**Sn**		**02 50 26.9**	**+1.7**
TBH	**Brigand Hill**	**1.12**	**109**	*eP*	**Pn**		**02 50 11.3**	**+0.5**
GRFF	**Grenada Fort F**	**1.25**	**18**	*eP*	**Pn**		**02 50 11.6**	**-1.0**
GRFF				*eS*	**Sn**		**02 50 27.4**	**-1.5**
GRGR	**Grenville**	**1.35**	**20**	Pn	**Pn**		**02 50 13.3**	**-0.6**
GRGR				Sn	**Sn**		**02 50 30.0**	**-1.3**
GRGR	**Grenville**	**1.35**	**20**	*eP*	**Pn**		**02 50 13.6**	**-0.3**
GRGR				*eS*	**Sn**		**02 50 29.5**	**-1.8**
TPR	**Prospect**	**1.38**	**76**	*e*	**Pn**		**02 50 16.0**	**+1.8**
GRW	**Mount Saint Ca**	**1.38**	**20**	*eP*	**Pn**		**02 50 15.0**	**+0.7**
GRW				*eS*	**Sn**		**02 50 31.3**	**-0.6**
GRHS	**Sauteurs**	**1.44**	**20**	*eP*	**Pn**		**02 50 14.6**	**-0.5**
GRHS				*eS*	**Sn**		**02 50 32.4**	**-1.0**
GCMP	**Grenada, Carri**	**1.76**	**23**	*eP*	**Pn**		**02 50 19.2**	**-0.2**
GCMP				*eS*	**Sn**		**02 50 40.3**	**-0.7**
CUMV	**Cumana_UDO**	**2.06**	**258**	*eP*	**Pn**		**02 50 26.0**	**+2.6**
CUMV				*eS*	**Sn**		**02 50 50.6**	**+2.4**
SVOC	**Richmond Hill,**	**2.45**	**21**	*eP*	**Pn**		**02 50 28.2**	**-0.4**
SVOC				*eS*	**Sn**		**02 50 56.0**	**-1.6**
SVT	**Saint Vincent**	**2.46**	**21**	*eP*	**Pn**		**02 50 28.3**	**-0.4**
SVT				*eS*	**Sn**		**02 50 55.4**	**-2.3**
PCRV	**Puerto La Cruz**	**2.55**	**255**⇑	*eP*	**Pn**		**02 50 31.9**	**+2.0**
PCRV				*eS*	**Sn**		**02 50 59.8**	**-0.2**
PCRV	**Puerto La Cruz**	**2.55**	**255**	P	**Pn**		**02 50 31.7**	**+1.8**
	68nm,0.3s,baz=45,slow=7.1,SNR=226							
PCRV				S		**Sn**	**02 50 56.3**	**-3.6**
	170nm,0.5s,baz=74,slow=4.3,SNR=9.9							
PCRV	**Puerto La Cruz**	**2.55**	**255**	*eP*	**Pn**		**02 50 32.1**	**+2.1**
PCRV				*eS*	**Sn**		**02 51 02.5**	**+2.6**
SVB	**Belmont**	**2.55**	**20**	*eP*	**Pn**		**02 50 29.6**	**-0.5**
SVB				*eS*	**Sn**		**02 50 58.5**	**-1.5**
SVV	**Soufriere Volc**	**2.61**	**20**	*eP*	**Pn**		**02 50 27.4**	**-3.3**
SVV				*eS*	**Sn**		**02 51 00.3**	**-1.1**
SLDE	**Delcer**	**3.11**	**20**	*eS*	**Sn**		**02 51 15.1**	**+1.4**
SLB	**Belfond**	**3.14**	**20**	*eP*	**Pn**		**02 50 39.5**	**+1.5**
SLCP	**Castries, St.**	**3.33**	**20**	*eP*	**Pn**		**02 50 41.7**	**+1.2**
SLCP				*eS*	**Sn**		**02 51 17.4**	**-1.5**
BCHC	**Barbados, Cave**	**3.34**	**47**	*eP*	**Pn**		**02 50 41.8**	**+1.2**
BCHC				*eS*	**Sn**		**02 51 17.4**	**-1.8**
SLBI	**Saint Lucia, B**	**3.35**	**20**	*eP*	**Pn**		**02 50 40.9**	**+0.2**
SLBI				*eS*	**Sn**		**02 51 16.7**	**-2.7**
SLW	**Petit Monier**	**3.36**	**20**	*eS*	**Sn**		**02 51 18.4**	**-1.2**
BBGH	**Gun Hill**	**3.40**	**48**	Pn	**Pn**		**02 50 41.1**	**-0.3**
BBGH	**Gun Hill**	**3.40**	**48**	*eP*	**Pn**		**02 50 41.8**	**+0.3**
BBGH				*eS*	**Sn**		**02 51 19.1**	**-1.6**
H05S1	**Guadeloupe/Mar**	**3.77**	**20**	P	**Pn**		**02 50 46.9**	**+0.4**
H05S1				S	**Sn**		**02 51 27.5**	**-2.2**
MPOM	**Morne Pois Mar**	**3.78**	**19**		**Pn**		**02 50 46.2**	**-0.5**
MPOM	**Morne Pois Mar**	**3.78**	**19**	*eP*	**Pn**		**02 50 47.2**	**+0.6**
MPOM				*eS*	**Sn**		**02 51 27.7**	**-2.2**
BIM	**Bigot**	**3.79**	**16**	Pn	**Pn**		**02 50 46.8**	**0.0**
BIM	**Bigot**	**3.79**	**16**	*eP*	**Pn**		**02 50 47.3**	**+0.5**
BIM				*eS*	**Sn**		**02 51 27.8**	**-2.4**
FDF	**Fort de France**	**3.97**	**14**	Pn	**Pn**		**02 50 49.4**	**+0.1**
SVN	**Savane Anatole**	**4.07**	**13**	Pn	**Pn**		**02 50 51.0**	**+0.3**
ILAM	**Ilet Lapin Mar**	**4.09**	**17**	Pn	**Pn**		**02 50 51.1**	**+0.2**
ILAM	**Ilet Lapin Mar**	**4.09**	**17**	*eP*	**Pn**		**02 50 52.2**	**+1.3**
ILAM				*eS*	**Sn**		**02 51 35.0**	**-2.4**
FUNV	**FUNVISIS**	**4.61**	**266**	*eP*	**Pn**		**02 50 60.0**	**+1.9**
FUNV				*eS*	**Sn**		**02 51 50.5**	**+0.1**
TACV	**Tcata**	**4.86**	**262**	*eP*	**Pn**		**02 51 03.6**	**+2.1**
TACV				*eS*	**Sn**		**02 51 56.5**	**0.0**
LUEV	**Luepa**	**5.03**	**172**⇑	*eP*	**Pn**		**02 51 02.0**	**-1.9**
LUEV				*eS*	**Sn**		**02 51 54.6**	**-6.2**
MAGL	**Barre de l'ile**	**5.13**	**9**	Pn	**Pn**		**02 51 06.2**	**+1.0**
CBE	**Ff, Capester**	**5.21**	**6**	Pn	**Pn**		**02 51 07.1**	**+0.9**
CBE	**Ff, Capester**	**5.21**	**6**	*eP*	**Pn**		**02 51 06.8**	**+0.5**
CBE				*eS*	**Sn**		**02 52 01.9**	**-3.1**
GDHS	**Morne Mazeau,**	**5.40**	**4**	Pn	**Pn**		**02 51 10.0**	**+1.2**
CACV	**CAICARA DEL OR**	**5.44**	**233**	*eP*	Pn		02 51 04.2	-5.1
CACV				*eS*	Sn		02 52 00.1	-10
BENV	**Beln**	**5.44**	**261**	*eP*	**Pn**		**02 51 11.5**	**+2.0**
BENV				*eS*	**Sn**		**02 52 09.1**	**-1.7**
GDSD	**La Dsirade Is**	**5.52**	**11**	Pn	**Pn**		**02 51 11.2**	**+0.7**
H05N1	**Guadeloupe/Mar**	**5.53**	**11**	P	**Pn**		**02 51 11.4**	**+0.8**
H05N1				S	**Sn**		**02 52 09.9**	**-3.0**
	SNR=4.0							
TURV	**Turiamo**	**5.62**	**266**	*eP*	**Pn**		**02 51 13.7**	**+1.9**
TURV				*eS*	**Sn**		**02 52 12.7**	**-2.4**
ABD	**La Joyeuse, An**	**5.62**	**6**	Pn	**Pn**		**02 51 13.4**	**+1.6**
ABD	**La Joyeuse, An**	**5.62**	**6**	*eP*	**Pn**		**02 51 13.8**	**+1.9**
ABD				*eS*	**Sn**		**02 52 12.4**	**-2.7**
MBFL	**Flemmings, Mon**	**5.86**	**359**	*eP*	**Pn**		**02 51 16.5**	**+1.4**
MBFL				*eS*	**Sn**		**02 52 17.5**	**-3.4**
BAUV	**El Baul**	**6.12**	**252**	*eP*	**Pn**		**02 51 19.3**	**+0.6**
BAUV				*eS*	**Sn**		**02 52 24.8**	**-2.5**
BAUV	**El Baul**	**6.12**	**252**	*eP*	**Pn**		**02 51 19.3**	**+0.6**
BAUV				*eS*	**Sn**		**02 52 26.4**	**-0.9**
ANBD	**Bethesda, Anti**	**6.17**	**3**	*eP*	**Pn**		**02 51 20.4**	**+1.1**
ANBD				*eS*	**Sn**		**02 52 25.7**	**-2.8**
TEPV	**Terepaima**	**7.00**	**263**	*eP*	**Pn**		**02 51 31.7**	**+1.0**
TEPV				*eS*	**Sn**		**02 52 45.6**	**-3.3**
SIQV	**Siquisique**	**7.54**	**269**	*eP*	**Pn**		**02 51 39.1**	**+1.0**
AUA1	**Aruba**	**7.88**	**283**	Pn	**Pn**		**02 51 43.4**	**+0.6**
IGPR	**InterUniversit**	**8.04**	**332**	Pn	**Pn**		**02 51 44.5**	**-0.5**
HUMP	**Col San Antoni**	**8.09**	**334**	Pn	**Pn**		**02 51 45.2**	**-0.3**
GCPR	**Guaynabo City**	**8.34**	**333**	Pn	**Pn**		**02 51 47.9**	**-1.1**
OBIP	**Obispado Ponce**	**8.35**	**329**	Pn	**Pn**		**02 51 47.8**	**-1.4**
CELP	**Cerrillos**	**8.37**	**330**	Pn	**Pn**		**02 51 49.2**	**-0.2**
BOAV	**Boa Vista**	**8.56**	**169**	Pn	**Pn**		**02 51 49.8**	**-2.2**
CRPR	**Cabo Rojo, PR**	**8.59**	**326**	Pn	**Pn**		**02 51 52.5**	**+0.1**
SDV	**Santo Domingo**	**8.60**	**258**	Pn	**Pn**		**02 51 52.7**	**0.0**
SDV	**Santo Domingo**	**8.60**	**258**	P	**Pn**		**02 51 52.0**	**-0.7**
	16nm,0.6s,baz=104,slow=11,SNR=18							
SDV				S		**Sn**	**02 53 25.2**	**-3.1**
	27nm,0.4s,baz=60,slow=20,SNR=11							
SDV				LR	LR		02 56 15.1	
	comp=Z,96nm,18.6s,baz=98,slow=46							
SDV	**Santo Domingo**	**8.60**	**258**	*eP*		**Pn**	**02 51 52.3**	**-0.4**
SDV				*eS*		**Sn**	**02 53 25.1**	**-3.2**
AOPR	**Arecibo Observ**	**8.68**	**330**	Pn		**Pn**	**02 51 53.0**	**-0.7**
AOPR	**Arecibo Observ**	**8.68**	**330**	*e*		**Pn**	**02 51 53.7**	**0.0**
AOPR	**Arecibo Observ**	**8.68**	**330**	*eS*		**Pn**	**02 51 53.3**	**-0.4**
AGPR	**Aguadilla, PR**	**8.97**	**328**	Pn		**Pn**	**02 51 55.9**	**-1.7**
SOCV	**Socops**	**8.97**	**254**⇓	*eP*		**Pn**	**02 51 57.6**	**-0.1**
PCDR	**Punta Cana, DR**	**9.72**	**322**	Pn		**Pn**	**02 52 08.0**	**+0.1**
MCQV	**Machiques**	**10.26**	**266**	*eP*		**Pn**	**02 52 14.9**	**-0.3**
MDP	**Montagnes des**	**11.00**	**121**	P		Pn	02 52 19.3	-6.1
	16nm,0.6s,baz=309,slow=15,SNR=23							
MDP				S		Sn	02 54 13.1	-14
	155nm,0.4s,baz=7.9,slow=14,SNR=16							
SDDR	**Presa de Saban**	**11.97**	**314**	Pn		**Pn**	**02 52 41.8**	**+3.1**
PAPH	**Port-au-Prince**	**12.43**	**309**	Pn		**Pn**	**02 52 45.8**	**+0.8**
ROSC	**El Rosal**	**13.46**	**245**	Pn		**Pn**	**02 53 01.7**	**+2.5**
ROSC	**El Rosal**	**13.46**	**245**	P		**Pn**	**02 52 57.6**	**-1.6**
	2.6nm,0.3s,baz=72,slow=18,SNR=2.3							
ROSC				LR		LR	02 59 11.8	
	comp=Z,292nm,20.6s,baz=68,slow=42							
MACA	**Manacapuru-AM**	**14.00**	**174**	*eP*		**Pn**	**02 53 05.0**	**-0.9**
MACA				*eS*		Sn	02 55 30.6	-9.3
MALB	**Monte Alegre**	**14.86**	**148**	*eP*		**Pn**	**02 53 13.1**	**-4.0**
MALB				*eS*		Sn	02 55 44.1	-17
MCPB	**Macapa, AP**	**14.99**	**137**	*eP*		**Pn**	**02 53 14.4**	**-4.4**
MCPB				*eS*		Sn	02 55 47.5	-16
NMDO	**Nuevo Mundo**	**15.67**	**310**	Pn		**Pn**	**02 53 27.3**	**-0.2**
NMDO				IAmb		IAmb	02 53 33.1	
	comp=Z,22nm,0.8s							
ITTB	**Itaituba**	**16.41**	**157**	*eP*		**Pn**	**02 53 34.0**	**-2.8**
ITTB				*eS*		Sn	02 56 20.9	-17
NPGB	**Novo Progresso**	**19.02**	**159**	*eP*		**P**	**02 54 06.9**	**-0.2**
NPGB				*eS*		S	02 57 24.3	-15
OTAV	**Otavalo**	**19.34**	**238**			**Pn**	**02 54 13.4**	**+0.6**
SAML	**Samuel**	**19.70**	**183**	P		**Pn**	**02 54 15.8**	**-0.8**
SAML	**Samuel**	**19.70**	**183**	*eP*		**Pn**	**02 54 16.7**	**+0.1**
JTS	**Las Juntas de**	**22.43**	**271**	LR		LR	03 03 05.5	
	comp=Z,27nm,22.0s,baz=15,slow=36							
SIV	**San Ignacio**	**26.70**	**178**	LR		LR	03 06 16.5	
	comp=Z,80nm,20.5s,baz=110,slow=37							
TEIG	**Tepich**	**26.82**	**293**	LR		LR	03 04 18.7	
	comp=Z,364nm,21.9s,slow=33							
Y57A	**Sumter**	**28.47**	**327**	P		**P**	**02 55 39.8**	**+0.6**
Y57A				IAmb		IAmb	02 56 07.3	
	comp=Z,17nm,0.7s							
W57A	**Gilead**	**29.14**	**329**	P		**P**	**02 55 45.3**	**+0.1**
W57A				IAmb		IAmb	02 55 45.8	
	comp=Z,14nm,1.0s							
BDFB	**Brasilia**	**29.81**	**152**	P		**P**	**02 55 53.8**	**+2.4**
BDFB	**Brasilia**	**29.81**	**152**	P		**P**	**02 55 53.4**	**+2.0**
	comp=Z,4.2nm,0.6s,baz=316,slow=11,SNR=8.0							
	comp=Z,4.2nm,0.6s							
152A	**Waverly Hall**	**30.05**	**320**	P		**P**	**02 55 54.2**	**+0.9**
152A				IAmb		IAmb	02 55 56.2	
	comp=Z,5.9nm,0.6s							
T57A	**Hurt**	**30.26**	**332**	P		**P**	**02 55 55.2**	**+0.1**
T57A	

comp=Z,7.9nm,0.7s
TXAR Lajitas Array 42.83 302 P **P 02 57 41.2 -1.0**
comp=Z,2.6nm,0.8s,baz=114,slow=9.0,SNR=26
TXAR pP **pP 02 58 00.0 +0.3**
comp=Z,1.0nm,0.6s,baz=95,slow=8.9,SNR=3.8
TXAR PcP **PcP 02 59 32.2 -0.1**
comp=Z,2.0nm,0.6s,baz=119,slow=4.8,SNR=15
comp=Z,2.6nm,0.8s
ALPN Alpine 43.12 303 P **P 02 57 43.8 -0.7**
PECS Pecos 43.61 304 P **P 02 57 48.2 -0.2**
PECS IAmb IAmb 02 57 48.8
comp=Z,5.8nm,0.7s
MSTX Muleshoe 43.65 308 P **P 02 57 47.7 -1.0**
MSTX IAmb IAmb 02 57 48.7
comp=Z,15nm,0.7s
SCHQ Schefferville 44.02 356 P **P 02 57 50.8 -0.4**
comp=Z,3.7nm,0.6s,baz=174,slow=8.8,SNR=8.6
comp=Z,3.7nm,0.6s
VHRN Van Horn 44.35 303 P **P 02 57 53.3 -1.1**
RTBA Rita Blanca 44.59 312 P **P 02 57 55.3 -1.0**
RTBA IAmb IAmb 02 57 56.3
comp=Z,14nm,0.8s
ANMO Albuquerque 46.84 308 P **P 02 58 13.8 -0.2**
ANMO Albuquerque 46.84 308 LR LR 03 19 34.9
comp=Z,23nm,18.9s,baz=191,slow=38
121A Cookes Peak, D 47.14 305 P **P 02 58 16.1 -0.3**
121A IAmb IAmb 02 58 18.2
comp=Z,5.9nm,0.9s
SDCO Great Sand Dun 47.14 312 P **P 02 58 15.6 -0.9**
ULM Lac du Bonnet 48.09 331 P **P 02 58 21.3 -2.0**
ULM Lac du Bonnet 48.09 331 P **P 02 58 20.8 -2.4**
comp=Z,3.1nm,0.4s,baz=134,slow=8.1,SNR=11
comp=Z,3.1nm,0.4s
P18A Preston Nutter 51.28 313 P **P 02 58 47.2 -0.9**
P18A IAmb IAmb 02 58 48.5
comp=Z,7.3nm,0.9s
SRU San Rafael Swe 51.31 312 P **P 02 58 47.4 -0.8**
SRU IAmb IAmb 02 58 48.4
comp=Z,6.0nm,0.8s
DGMT Dagmar 51.31 325 P **P 02 58 48.4 +0.5**
P17A Butcher Ranch, 51.59 312 P **P 02 58 49.2 -1.0**
P17A IAmb IAmb 02 58 50.5
comp=Z,6.1nm,1.1s
PLCA Paso Flores 51.91 188 P **P 02 58 53.2 +0.9**
PLCA Paso Flores 51.91 188 P **P 02 58 52.3 -0.1**
comp=Z,5.2nm,0.9s,baz=11,slow=7.7,SNR=11
comp=Z,5.2nm,0.9s
PD31 Pinedale Array 51.97 316 P **P 02 58 51.5 -1.6**
PDAR Pinedale Array 51.97 316 P **P 02 58 51.9 -1.2**
PDAR Pinedale Array 51.97 316 P **P 02 58 51.3 -1.8**
comp=Z,2.4nm,0.8s,baz=117,slow=9.2,SNR=21
PDAR pP **pP 02 59 09.8 -1.3**
comp=Z,0.4nm,0.5s,baz=116,slow=10,SNR=2.5
PDAR PcP **PcP 03 00 03.3 -1.4**
comp=Z,0.6nm,0.6s,baz=103,slow=4.0,SNR=5.4
PDAR LR LR 03 21 26.2
comp=Z,34nm,20.7s,baz=150,slow=37
comp=Z,2.4nm,0.8s
BSUT Blindstream Ca 51.97 313 P **P 02 58 52.9 -0.4**
BSUT IAmb IAmb 02 58 55.2
comp=Z,5.2nm,1.0s
KNB Kanab 52.38 309 P **P 02 58 56.1 -0.1**
TCUT Toone Canyon 52.64 314 P **P 02 58 57.0 -1.1**
TCUT IAmb IAmb 02 58 57.6
comp=Z,5.0nm,0.7s
HWUT Hardware Ranch 52.92 314 P **P 02 58 58.0 -2.1**
HWUT IAmb IAmb 02 58 59.9
comp=Z,4.7nm,0.9s
LOHW Long Hollow 53.01 317 P **P 02 58 59.7 -1.0**
AHID Auburn Hatcher 53.02 316 P **P 02 58 59.1 -1.7**
AHID IAmb IAmb 02 59 00.4
comp=Z,5.5nm,1.1s
DUG Dugway, Tooele 53.34 312 P **P 02 59 02.5 -0.6**
DUG IAmb IAmb 02 59 03.2
comp=Z,4.4nm,0.8s
FCC Fort Churchill 53.55 340 P **P 02 59 04.2 +0.1**
PSUT Pine Spring 53.60 310 P **P 02 59 04.9 -0.2**
BGU Big Grassy Mou 53.73 313 P **P 02 59 05.4 -0.6**
BGU IAmb IAmb 02 59 06.3
comp=Z,6.0nm,0.8s
HVU Hansel Valley 53.83 314 P **P 02 59 06.0 -0.8**
HVU IAmb IAmb 02 59 48.8
comp=Z,6.6nm,1.4s
YHL Hebgen Lake 53.88 318 P **P 02 59 07.0 -0.2**
YHL IAmb IAmb 02 59 08.5
comp=Z,11nm,1.0s
SPR3 Spring Creek 3 54.09 311 P **P 02 59 08.7 -0.1**
BOZ Bozeman (W) 54.46 319 P **P 02 59 10.7 -0.5**
ELK Elko 55.27 312 P **P 02 59 16.3 -1.0**
comp=Z,1.0nm,0.6s,baz=103,slow=2.7,SNR=4.3
ELK LR LR 03 27 01.9
comp=Z,28nm,18.0s,baz=89,slow=40
comp=Z,1.0nm,0.6s
HLID Hailey 55.57 316 P **P 02 59 18.7 -0.6**
HLID IAmb IAmb 02 59 19.3
comp=Z,4.7nm,1.0s
DBIC Dimbokro 56.70 89 P **P 02 59 27.7 +0.1**
DBIC Dimbokro 56.70 89 P **P 02 59 28.3 +0.7**
comp=Z,5.1nm,0.5s,baz=271,slow=7.9,SNR=13
comp=Z,5.1nm,0.5s
NVAR Mina Array Bea 56.95 309 P **P 02 59 26.9 -2.4**
comp=Z,0.6nm,0.6s,baz=103,slow=7.5,SNR=4.8
NVAR LR LR 03 28 43.3
comp=Z,39nm,18.1s,baz=230,slow=41
comp=Z,0.6nm,0.6s
ESDC Sonseca Array 58.75 50 P **P 02 59 43.3 +1.6**
comp=Z,4.1nm,0.8s,baz=263,slow=7.6,SNR=22
comp=Z,4.1nm,0.8s
NEW Newport 58.95 320 P **P 02 59 40.8 -2.0**
comp=Z,3.4nm,0.7s,baz=110,slow=6.4,SNR=5.4
comp=Z,3.4nm,0.7s
TOA0 Torodi Ar. Sit 62.34 81 P **P 03 00 06.8 +0.4**
TOA0 IAmb IAmb 03 00 07.7
comp=Z,8.1nm,0.9s
TORD Torodi Ar. Bea 62.34 81 P **P 03 00 06.4 0.0**
TORD IAmb IAmb 03 00 07.7
comp=Z,6.3nm,0.9s
TORD Torodi Ar. Bea 62.34 81 P **P 03 00 06.9 +0.5**
comp=Z,4.8nm,0.5s,baz=287,slow=6.4,SNR=65
comp=Z,4.8nm,0.5s
TAM Tamanrasset 65.38 70 P **P 03 00 26.2 -0.3**
KEST Kesra 68.74 56 P **P 03 00 48.5 +1.0**
comp=Z,2.0nm,0.6s,baz=278,slow=7.1,SNR=5.7
comp=Z,2.0nm,0.6s
DAVA Damuels 69.91 44 *eP* **P 03 00 55.4 +0.9**
comp=Z,5.9nm,0.9s
FETA Feichten 70.46 44 *iP* **P 03 00 59.1 +1.1**
comp=Z,1.7nm,0.4s
RETA Reutte 70.53 43 *iP* **P 03 00 59.3 +1.0**
comp=Z,5.3nm,1.2s
MOTA Moosalm 70.74 44 *iP* **P 03 01 00.5 +0.9**
comp=Z,5.8nm,1.0s
SQTA Sankt Quirin 70.80 44 *iP* **P 03 01 00.9 +0.9**
comp=Z,4.6nm,0.8s
LESA Schwarzleotal 71.81 44 *iP* **P 03 01 06.8 +0.8**
comp=Z,2.1nm,0.4s
NOA NORSAR Array B 72.52 29 P **P 03 01 10.8 +0.9**
comp=Z,1.3nm,0.9s,baz=262,slow=6.0,SNR=3.6
comp=Z,1.3nm,0.9s
GERES GERESS Array B 72.59 42 P **P 03 01 11.5 +0.8**
comp=Z,1.5nm,0.8s,baz=267,slow=2.0,SNR=5.5
comp=Z,1.5nm,0.8s
INK Inuvik 73.13 338 LR LR 03 35 43.2
comp=Z,37nm,18.8s,baz=7.0,slow=38
HFS Hagfors 73.60 30 P **P 03 01 17.0 +0.8**
comp=Z,1.3nm,0.4s,baz=241,slow=3.0,SNR=13
comp=Z,1.3nm,0.4s
SPITS Spitsbergen Ar 77.09 12 P **P 03 01 36.8 +0.8**
comp=Z,5.5nm,0.8s,baz=232,slow=1.6,SNR=5.8
comp=Z,5.5nm,0.8s
ILAR Eielson Array 78.02 334 P **P 03 01 39.8 -1.6**
comp=Z,0.5nm,0.6s,baz=88,slow=4.6,SNR=18
ILAR LR LR 03 39 36.8
comp=Z,27nm,18.0s,baz=80,slow=38
comp=Z,0.5nm,0.6s
ARCES ARCESS Array B 79.08 21 P **P 03 01 47.6 +0.5**
comp=Z,2.3nm,0.7s,baz=270,slow=3.6,SNR=7.1
comp=Z,2.3nm,0.7s
FINES FINESS Array B 79.70 29 P **P 03 01 51.6 +1.0**
comp=Z,3.5nm,0.7s,baz=276,slow=5.2,SNR=5.9
comp=Z,3.5nm,0.7s
BR131 Keskin Array S 87.54 50 P **P 03 02 31.8 +0.4**
BR131 IAmb IAmb 03 02 32.9
comp=Z,5.5nm,1.3s
BRTR Keskin Array B 87.54 50 P **P 03 02 32.5 +1.0**
comp=Z,1.7nm,0.7s,baz=265,slow=5.3,SNR=14
comp=Z,1.7nm,0.7s
SONM Songino Array 120.69 9 PKP **PKiKP 03 08 35.4 +0.3**
comp=Z,0.1nm,0.3s,baz=296,slow=3.0,SNR=1.5
CMAR Chiang Mai Arr 145.40 33 PKPbc **PKPab 03 09 22.1 +0.3**
comp=Z,3.4nm,0.8s,baz=316,slow=5.7,SNR=16
STKA Stephens Creek 149.70 223 PKPbc **PKPbc 03 09 33.1 0.0**
comp=Z,1.2nm,0.6s,baz=146,slow=3.6,SNR=3.8
WRA Warramunga Arr 161.74 238 PKP **PKPdf 03 09 44.6 -0.1**
comp=Z,0.7nm,0.9s,baz=110,slow=0.5,SNR=3.5

OSPL 16 02:50:32.4±1.6, 18°10N×70°61W, h0km±8km, ML2.8, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOSC1	**San Cristbal**	**0.56**	**57**	*i* P	Pg	02 50 41.0	-2.2
LOSC1				*eS*	Sg	02 50 47.9	-2.6
PODR	**Polo**	**0.64**	**276**	*i* P	Pg	02 50 44.0	-0.8
PODR				*eS*	Sg	02 50 51.4	-1.7
SDD	**Santo Domingo**	**0.75**	**62**	*i* P	Pg	02 50 46.0	-0.8
SDD				*eS*	Sg	02 50 56.2	-0.3
LOPE2	**Hotel El Peder**	**1.08**	**266**	*i* P	Pg	02 50 51.7	-1.5
LOPE2				*eS*	Sg	02 51 06.4	-0.8
LOPE2				IAML		02 51 14.5	
	comp=Z,161nm,0.5s						
SDDR	**Presa de Saban**	**1.09**	**324**	*i* P	Pg	02 50 51.2	-2.1
SDDR				*eS*	Sg	02 51 05.8	-1.6
SDDR				IAML		02 51 12.6	
	comp=Z,221nm,0.5s						
SDDR	**Presa de Saban**	**1.09**	**324**	*eP*	Pg	02 50 51.2	-2.1
SDDR				*eS*	Sg	02 51 05.8	-1.6
SC01	**Santiago de lo**	**1.32**	**355**	*i* P	Pg	02 50 55.9	-1.8
SC01				*eS*	Sg	02 51 14.1	-0.9
SC01				IAML		02 51 20.8	
	comp=Z,174nm,0.3s						
LODA1	**ITESIL, Dajabo**	**1.77**	**324**	*i* P	Pn	02 51 01.7	-2.6
LODA1				*eS*	Sn	02 51 24.9	-2.7
PCDR	**Punta Cana, DR**	**2.15**	**79**	*i* P	Pn	02 51 07.3	-2.2
AOPR	**Arecibo Observ**	**3.67**	**86**	*eP*	Pn	02 51 30.9	+0.4

IDC 16 02:51:58.8±1.8, 7°09N×122°68E, h0km, mb3.6/5, mbtmp3.6/5, MS3.4/7, Error ellipse: s-maj=247.7km s-min=22.5km az=63.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.88**	**90**	P	Pb	02 52 51.0	-0.1
CMAR	**Chiang Mai Arr**	**25.72**	**298**	LR	LR	03 08 40.7	
	comp=Z,66nm,18.6s,baz=115,slow=39						
WRA	**Warramunga Arr**	**29.21**	**157**	P	P	02 58 01.4	-1.1
	0.7nm,1.0s,baz=334,slow=10,SNR=2.5						
	0.7nm,1.0s						
ASAR	**Alice Springs**	**32.47**	**161**	P	P	02 58 32.2	+0.9
	0.6nm,0.7s,baz=344,slow=7.5,SNR=5.8						
	0.6nm,0.7s						
MJAR	**Matsushiro Arr**	**32.57**	**24**	LR	LR	03 11 08.6	
	comp=Z,42nm,21.2s,baz=212,slow=35						
KLR	**Kul'dur**	**42.69**	**9**	LR	LR	03 20 31.6	
	comp=Z,39nm,18.6s,baz=212,slow=40						
STKA	**Stephens Creek**	**42.75**	**156**	P	P	02 59 57.9	-0.2
	1.4nm,0.8s,baz=349,slow=10,SNR=3.3						
	1.4nm,0.8s						
SONM	**Songino Array**	**42.91**	**344**	LR	LR	03 18 30.5	
	comp=Z,114nm,19.8s,baz=144,slow=37						
MKAR	**Makanchi Array**	**52.52**	**326**	P	P	03 01 14.3	+0.3
	0.3nm,0.6s,baz=135,slow=6.2,SNR=3.3						
	0.3nm,0.6s						
PETK	**Petropavlovsk-**	**54.00**	**25**	LR	LR	03 26 20.7	
	comp=Z,29nm,18.5s,baz=44,slow=38						
KURBB	**Kurchatov Arra**	**56.76**	**328**	P	P	03 01 44.1	-0.5
	0.4nm,0.8s,baz=129,slow=5.9,SNR=3.2						
	0.4nm,0.8s						
KIRV	**Kirov**	**75.28**	**329**	LR	LR	03 37 35.6	
	comp=Z,41nm,20.5s,baz=282,slow=36						
NOA	**NORSAR Array B**	**94.00**	**333**	LR	LR	03 49 09.8	
	comp=Z,19nm,21.1s,baz=330,slow=36						

NEIC ***16*** *02:56:20.9±1.6, 48°96N×0°04×129°8W±0°1, h16km±7km, mb3.9/5, ML3.4/26, Mwr4.6(OTT), Error ellipse: s-maj=11.2km s-min=6.2km az=80.0*
IDC ***16*** *02:56:23.3±1.5, 49°05N×129°47W, h0km, mb3.7/5, mbtmp3.7/12, ML3.5/7, MS3.5/22, Error ellipse: s-maj=27.5km s-min=14.0km az=57.0*
PGC ***16*** *02:56:23.3±0.3, 48°98N×129°66W, h10km, MLSn3.3/37, Mw4.0/37, 249km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region*
NEIC ***16*** *02:56:23.3, 48°98N×129°65W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr=1.17; Mθθ=1.40; Mϕϕ=3.08; Mrθ=-4.59; Mrϕ=-0.22; Mθϕ=-7.97; Fault plane solution: Mo=9.50000×10^15 NP1:ϕs=29.00000°, δ=84.00000°, λ=-85.00000°. NP2:ϕs=167.00000°, δ=8.00000°, λ=-132.00000°. Principal axes: T 8.9726, Plg=39.0000°, Azm=114.0000°; N 0.8837, Plg=5.0000°, Azm=208.0000°; P -9.8562, Plg=50.0000°, Azm=304.0000°;*

ISC 16 02:56:21.9±3.1, 48°98N±0°05×129°63W±0°06, h7km±23km, n173, σ1s77/174, mb3.6/5, MS3.6/13, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NCHR	**NEPTUNE Canada**	**1.07**	**160**		**Pb**	**02 56 41.5**	**-1.0**
NCHR					**Sb**	**02 56 54.6**	**-2.0**
NCHR	**NEPTUNE Canada**	**1.07**	**160**	P	**Pb**	**02 56 41.5**	**-1.0**
NCHR				S	**Sb**	**02 56 54.6**	**-2.0**
KEMF	**NEPTUNE Canada**	**1.09**	**161**		**Pb**	**02 56 42.0**	**-0.9**
KEMF					**Sb**	**02 56 54.5**	**-2.6**
KEMF	**NEPTUNE Canada**	**1.09**	**161**	P	**Pb**	**02 56 42.0**	**-0.9**
KEMF				S	**Sb**	**02 56 54.5**	**-2.6**
KEMO	**NEPTUNE Canada**	**1.11**	**162**		**Pb**	**02 56 42.2**	**-1.0**
KEMO					**Sb**	**02 56 55.9**	**-1.9**
KEMO	**NEPTUNE Canada**	**1.11**	**162**	P	**Pb**	**02 56 42.2**	**-1.0**
KEMO				S	**Sb**	**02 56 55.9**	**-1.9**
NC89	**ODP889**	**1.86**	**99**	Sn	**Sn**	**02 57 14.1**	**-3.6**
NC89	**ODP889**	**1.86**	**99**	Sn	**Sn**	**02 57 14.1**	**-3.6**
EDB	**Eliza Dome**	**1.87**	**60**		**Pn**	**02 56 53.0**	**-1.3**
EDB	**Eliza Dome**	**1.87**	**60**	P	**Pn**	**02 56 53.0**	**-1.3**
HOLB	**Holberg**	**1.93**	**30**	Pn	**Pn**	**02 56 53.9**	**-1.2**
HOLB	**Holberg**	**1.93**	**30**		**Pn**	**02 56 53.9**	**-1.2**
HOLB				IAML		02 57 20.8	
	comp=E,356nm,0.1s						
HOLB				IAML		02 57 21.7	
	comp=N,446nm,0.5s						
HOLB	**Holberg**	**1.93**	**30**	Pn	**Pn**	**02 56 53.9**	**-1.2**
PACB	**Port Alice, BC**	**2.01**	**43**	Pn	**Pn**	**02 56 55.0**	**-1.2**
PACB				Sn	**Sn**	**02 57 17.8**	**-3.8**
PACB	**Port Alice, BC**	**2.01**	**43**	Pn	**Pn**	**02 56 55.0**	**-1.2**
ETB	**Estevan Point**	**2.07**	**78**	Pn	**Pn**	**02 56 56.7**	**-0.3**
ETB	**Estevan Point**	**2.07**	**78**	Pn	**Pn**	**02 56 56.7**	**-0.3**
MAYB	**Maynard**	**2.14**	**47**	Pn	**Pn**	**02 56 57.1**	**-1.0**
MAYB	**Maynard**	**2.14**	**47**	Pn	**Pn**	**02 56 57.1**	**-1.0**
PHC	**Port Hardy**	**2.24**	**39**	Pn	**Pn**	**02 56 58.6**	**-0.7**
PHC	**Port Hardy**	**2.24**	**39**	Sn	**Sn**	**02 57 23.7**	**-3.5**
WOSB	**Woss**	**2.32**	**58**	Pn	**Pn**	**02 57 00.2**	**-0.3**
WOSB				Sn	**Sn**	**02 57 26.6**	**-2.6**
WOSB	**Woss**	**2.32**	**58**	Pn	**Pn**	**02 57 00.2**	**-0.3**
WOSB				Sn	**Sn**	**02 57 26.6**	**-2.6**
GDR	**Gold River**	**2.48**	**70**	Pn	**Pn**	**02 57 02.2**	**-0.5**
GDR				Sn	**Sn**	**02 57 30.7**	**-2.5**
B012	**Ucluelet**	**2.69**	**90**	Pn	**Pn**	**02 57 05.3**	**-0.3**
B012				Sn	**Sn**	**02 57 35.1**	**-3.3**
NCSB	**Newcastle Ridg**	**2.72**	**57**	Pn	**Pn**	**02 57 06.5**	**+0.4**
NCSB				Sn	**Sn**	**02 57 36.9**	**-2.4**
NCRB	**Newcastle Ridg**	**2.72**	**57**	Pn	**Pn**	**02 57 06.5**	**+0.3**
OZB	**Mount Ozzard**	**2.73**	**89**	Pn	**Pn**	**02 57 05.3**	**-0.8**
OZB				IAML		02 57 37.7	
	comp=E,79nm,0.8s						
OZB				IAML		02 57 37.7	
	comp=N,96nm,0.7s						
OZB	**Mount Ozzard**	**2.73**	**89**	Pn	**Pn**	**02 57 05.6**	**-0.5**
OZB				Sn	**Sn**	**02 57 36.1**	**-3.2**
SPLB	**Strathcona Par**	**2.75**	**69**	Pn	**Pn**	**02 57 06.7**	**+0.3**
SPLB				Sn	**Sn**	**02 57 37.8**	**-2.1**
BFSB	**Bamfield**	**2.97**	**91**	Pn	**Pn**	**02 57 09.0**	**-0.4**
BFSB				Sn	**Sn**	**02 57 41.6**	**-3.6**
B928	**Bamfield**	**2.97**	**91**	Pn	**Pn**	**02 57 09.1**	**-0.3**
B928				Sn	**Sn**	**02 57 41.9**	**-3.2**
CBB	**Campbell River**	**2.97**	**68**	Pn	**Pn**	**02 57 09.4**	**-0.1**
CBB				IAML		02 57 44.9	
	comp=N,69nm,0.8s						
CBB				IAML		02 57 44.9	
	comp=E,85nm,0.7s						
CBB	**Campbell River**	**2.97**	**68**	Pn	**Pn**	**02 57 10.0**	**+0.5**
CBB				Sn	**Sn**	**02 57 43.3**	**-2.1**
B927	**Port Alberni**	**3.18**	**84**	Pn	**Pn**	**02 57 12.0**	**-0.2**
B927				Sn	**Sn**	**02 57 48.3**	**-1.9**
BBB	**Bella Bella**	**3.35**	**16**		**Pn**	**02 57 13.6**	**-1.1**
BBB				IAML		02 57 52.1	
	comp=E,107nm,0.6s						
BBB				IAML		02 57 54.7	
	comp=N,89nm,0.5s						
BBB	**Bella Bella**	**3.35**	**16**	Pn	**Pn**	**02 57 13.8**	**-0.8**
	comp=N,12nm,0.3s,baz=211,slow=11,SNR=214						
BBB				Sn	**Sn**	**02 57 49.6**	**-5.0**
	comp=N,17nm,0.3s,baz=175,slow=12,SNR=5.5						
BBB				LR	LR	02 58 26.6	
	comp=N,536nm,18.8s,baz=181,slow=38						
	comp=N,27nm,0.3s						
BBB	**Bella Bella**	**3.35**	**16**	Pn	**Pn**	**02 57 14.3**	**-0.3**
OCP	**Olym-Cheeka Pk**	**3.39**	**100**	Pn	**Pn**	**02 57 15.7**	**+0.5**
PFB	**Port Renfrew**	**3.46**	**95**	Pn	**Pn**	**02 57 16.1**	**0.0**
PFB				Sn	**Sn**	**02 57 53.9**	**-3.4**
PTRF	**Port Renfrew**	**3.48**	**95**	Pn	**Pn**	**02 57 16.3**	**-0.1**
PTRF				Sn	**Sn**	**02 57 55.7**	**-2.1**
C03A	**Quillayute Air**	**3.52**	**105**	Pn	**Pn**	**02 57 16.2**	**-0.8**
B926	**Mesachie Lake**	**3.63**	**90**	Pn	**Pn**	**02 57 18.8**	**+0.4**
CLRS	**Cowichan Lake**	**3.63**	**90**		**Pn**	**02 57 18.0**	**-0.5**
CLRS	**Cowichan Lake**	**3.63**	**90**	Pn	**Pn**	**02 57 18.9**	**+0.4**
NLLB	**Nanaimo Lost L**	**3.72**	**84**	Pn	**Pn**	**02 57 19.8**	**+0.1**
NLLB	**Nanaimo Lost L**	**3.72**	**84**	Sn	**Sn**	**02 58 02.9**	**-0.7**
SHB	**Sechelt**	**3.82**	**79**	Pn	**Pn**	**02 57 21.6**	**+0.5**
SHB	**Sechelt**	**3.82**	**79**	Sn	**Sn**	**02 58 03.8**	**-2.5**
BAIB	**Barry Inlet**	**3.84**	**340**	Pn	**Pn**	**02 57 22.0**	**+0.5**
BNB	**Barry Inlet**	**3.84**	**340**	Pn	**Pn**	**02 57 21.9**	**+0.5**
SYMB	**Survey Mountai**	**3.88**	**94**	Pn	**Pn**	**02 57 22.2**	**+0.2**
SYMB	**Survey Mountai**	**3.88**	**94**	Sn	**Sn**	**02 58 06.0**	**-1.9**
GOBB	**Galiano Island**	**4.03**	**88**	Pn	**Pn**	**02 57 24.4**	**+0.4**
GOBB	**Galiano Island**	**4.03**	**88**	Sn	**Sn**	**02 58 10.2**	**-1.3**
STW	**Striped Peak**	**4.04**	**100**	Pn	**Pn**	**02 57 24.9**	**+0.8**
B009	**North Saanich**	**4.10**	**92**	Pn	**Pn**	**02 57 25.2**	**+0.3**
B010	**North Saanich**	**4.10**	**92**	Pn	**Pn**	**02 57 25.4**	**+0.5**
B010	**North Saanich**	**4.10**	**92**	Sn	**Sn**	**02 58 11.6**	**-1.4**
PGC	**Sidney**	**4.10**	**92**	Pn	**Pn**	**02 57 25.3**	**+0.5**
PGC	**Sidney**	**4.10**	**92**	Sn	**Sn**	**02 58 10.8**	**-2.2**
PA01	**PA01 North**	**4.10**	**92**	Sn	**Sn**	**02 58 12.6**	**-0.4**
OSD	**Olympics--Snow**	**4.12**	**104**	Pn	**Pn**	**02 57 25.7**	**+0.4**
BUTB	**Butedale**	**4.16**	**10**	Pn	**Pn**	**02 57 25.6**	**-0.2**
BUTB	**Butedale**	**4.16**	**10**	Sn	**Sn**	**02 58 11.5**	**-3.1**
NLWA	**Neilton Lookou**	**4.17**	**110**	Pn	**Pn**	**02 57 26.9**	**+1.0**
BIB	**Bowen Island**	**4.17**	**82**	Pn	**Pn**	**02 57 26.4**	**+0.6**
VGZ	**Gonzales**	**4.21**	**95**	Pn	**Pn**	**02 57 27.5**	**+1.0**
VGZ	**Gonzales**	**4.21**	**95**	Sn	**Sn**	**02 58 14.6**	**-1.3**
WPB	**Watts Point**	**4.25**	**78**	Pn	**Pn**	**02 57 27.6**	**+0.6**
SNB	**Saturna Island**	**4.27**	**90**	Pn	**Pn**	**02 57 26.8**	**-0.4**
SNB	**Saturna Island**	**4.27**	**90**	Sn	**Sn**	**02 58 15.3**	**-2.0**
WISH	**Wishkah**	**4.35**	**113**	Pn	**Pn**	**02 57 29.4**	**+1.1**
WISH				IAML		03 00 19.7	
	comp=E,53nm,4.5s						
GRIB	**Gribbell Islan**	**4.38**	**4**	Pn	**Pn**	**02 57 28.5**	**-0.2**
GRIB	**Gribbell Islan**	**4.38**	**4**	Sn	**Sn**	**02 58 15.8**	**-4.1**
WSLR	**Whistler**	**4.52**	**73**	Pn	**Pn**	**02 57 32.0**	**+1.3**
HDW	**Hoodsport**	**4.59**	**104**	Pn	**Pn**	**02 57 32.6**	**+0.9**
DIB	**Dawson Inlet,**	**4.59**	**338**	Pn	**Pn**	**02 57 28.1**	**-3.6**
DIB				IAML		02 58 21.5	
	comp=N,31nm,3.9s						
DIB				IAML		02 59 07.0	
	comp=E,39nm,3.4s						
DIB	**Dawson Inlet,**	**4.59**	**338**	Pn	**Pn**	**02 57 32.1**	**+0.5**
H02S1	**DAWSON INLET T**	**4.59**	**338**	Pn	**Pn**	**02 57 32.3**	**+0.6**
HWKB	**Hawksbury Isla**	**4.63**	**4**	Pn	**Pn**	**02 57 32.5**	**-0.1**
HWKB	**Hawksbury Isla**	**4.63**	**4**	Sn	**Sn**	**02 58 23.4**	**-2.9**
HNBB	**Haney**	**4.64**	**84**	Pn	**Pn**	**02 57 32.8**	**+0.3**
HNBB	**Haney**	**4.64**	**84**	Sn	**Sn**	**02 58 25.3**	**-1.2**
RADR	**Rader Ridge**	**4.70**	**121**	Pn	**Pn**	**02 57 31.9**	**-1.2**
GNW	**Green Mountain**	**4.76**	**105**	Pn	**Pn**	**02 57 33.5**	**-0.5**
GNW	**Green Mountain**	**4.76**	**105**	Sn	**Sn**	**02 58 27.8**	**-1.6**
GRNB	**Grenville Isla**	**4.88**	**358**	Pn	**Pn**	**02 57 34.8**	**-0.9**
GRNB				IAML		03 00 14.7	
	comp=E,27nm,2.5s						
GRNB	**Grenville Isla**	**4.88**	**358**	Pn	**Pn**	**02 57 35.9**	**+0.3**
GRNB	**Grenville Isla**	**4.88**	**358**	Sn	**Sn**	**02 58 28.7**	**-3.6**
MBW	**Mount Baker**	**5.11**	**89**	Pn	**Pn**	**02 57 40.3**	**+1.4**
KITB	**Kitimat**	**5.14**	**7**	Pn	**Pn**	**02 57 40.8**	**+1.5**
JCW	**Jim Creek**	**5.17**	**96**	Pn	**Pn**	**02 57 41.4**	**+1.7**
LLLB	**Lillooet**	**5.28**	**69**	Pn	**Pn**	**02 57 42.6**	**+1.4**
LLLB	**Lillooet**	**5.28**	**69**	Sn	**Sn**	**02 58 42.7**	**+0.5**
RUBB	**Prince Rupert**	**5.37**	**356**	Pn	**Pn**	**02 57 40.4**	**-1.9**
RUBB				IAML		02 59 29.1	
	comp=E,28nm,4.2s						
RUBB				IAML		03 00 18.0	
	comp=N,18nm,4.2s						
RUBB	**Prince Rupert**	**5.37**	**356**	Pn	**Pn**	**02 57 43.6**	**+1.3**
RPW	**Rockport**	**5.40**	**93**	Pn	**Pn**	**02 57 44.4**	**+1.5**
HOPB	**Hope**	**5.40**	**83**	Pn	**Pn**	**02 57 44.3**	**+1.6**
HEBO	**Mount Hebo**	**5.50**	**131**	Pn	**Pn**	**02 57 44.0**	**-0.3**
LON	**Longmire**	**5.72**	**110**		**Pn**	**02 57 48.1**	**+0.9**
LON	**Longmire**	**5.72**	**110**	Pn	**Pn**	**02 57 49.6**	**+2.4**
COR	**Corvallis**	**6.18**	**133**		**Pn**	**02 57 53.4**	**0.0**
LTY	**Liberty**	**6.24**	**103**		**Pn**	**02 57 55.2**	**+0.8**
LTY	**Liberty**	**6.24**	**103**	Pn	**Pn**	**02 57 56.8**	**+2.4**
FSJB	**Fort St James**	**6.41**	**29**	Pn	**Pn**	**02 57 58.2**	**+1.5**
H04D	**Lebanon**	**6.50**	**131**		**Pn**	**02 57 57.1**	**-0.8**
HOOD	**Mount Hood Mea**	**6.56**	**121**		**Pn**	**02 57 58.1**	**-0.7**
PNT	**Penticton**	**6.58**	**83**	Pn	**Pn**	**02 58 00.2**	**+1.2**
BUCK	**Buck Mountain**	**6.62**	**134**	Pn	**Pn**	**02 57 58.6**	**-1.0**
I04A	**Tendick Farm,**	**7.20**	**133**		**Pn**	**02 58 07.7**	**+0.2**
I05D	**Terrebonne, OR**	**7.35**	**126**		**Pn**	**02 58 09.8**	**+0.1**
C09A	**Chrisman Ranch**	**7.65**	**95**		**Pn**	**02 58 14.8**	**+1.1**
C09A	**Chrisman Ranch**

FFC	**Flin Flon**	**17.95**	**61**	P		**Pn**	**03 00 32.1**	**+0.3**
G31M	**Satah River**	**18.15**	**354**			**Pn**	**03 00 31.6**	**-2.5**
G31M				IAmb		IAmb	03 00 38.6	
	comp=Z,16nm,1.4s							
PFO	**Pinyon Flats O**	**18.22**	**143**	LR		LR	03 06 59.2	
	comp=Z,78nm,20.4s,baz=354,slow=35							
ILAR	**Eielson Array**	**18.31**	**336**	P		**P**	**03 00 38.7**	**+2.4**
	baz=152,slow=11,SNR=7.9							
ILAR				LR		LR	03 06 50.7	
	comp=Z,68nm,21.6s,baz=145,slow=34							
	comp=Z,0.7nm,1.0s							
INK	**Inuvik**	**19.48**	**356**	P		**Pn**	**03 00 50.5**	**+0.3**
	baz=161,slow=12,SNR=3.4							
	comp=Z,1.2nm,0.8s							
ULM	**Lac du Bonnet**	**21.80**	**74**	P		**P**	**03 01 15.4**	**+1.1**
	comp=Z,6.7nm,0.8s,baz=284,slow=11,SNR=23							
ULM				LR		LR	03 08 31.1	
	comp=Z,67nm,20.8s,baz=248,slow=34							
	comp=Z,6.7nm,0.8s							
TXAR	**Lajitas Array**	**27.89**	**125**	P		**P**	**03 02 14.0**	**+1.6**
	comp=Z,0.8nm,0.9s,baz=324,slow=9.1,SNR=6.4							
	comp=Z,0.8nm,0.9s							
LPIG	**La Paz**	**29.11**	**142**	LR		LR	03 12 21.6	
	comp=Z,54nm,21.7s,baz=1.5,slow=33							
RES	**Resolute Bay**	**29.64**	**18**	LR		LR	03 14 43.8	
	comp=Z,72nm,19.7s,baz=357,slow=37							
SADO	**Sadowa**	**34.25**	**78**	LR		LR	03 17 02.5	
	comp=Z,130nm,19.9s,baz=273,slow=36							
SHEM	**Shemya Is, Ala**	**34.95**	**298**	LR		LR	03 14 57.8	
	comp=Z,57nm,18.2s,baz=112,slow=32							
FRB	**Frobisher Bay**	**35.37**	**42**	LR		LR	03 18 02.4	
	comp=Z,125nm,19.5s,baz=202,slow=37							
SCHQ	**Schefferville**	**38.02**	**57**	LR		LR	03 19 44.0	
	comp=Z,241nm,18.3s,baz=258,slow=37							
YAK	**Yakutsk**	**52.71**	**324**	LR		LR	03 28 00.6	
	comp=Z,51nm,18.2s,baz=140,slow=36							
BORG	**Borgarnes**	**53.79**	**30**	LR		LR	03 29 07.1	
	comp=Z,78nm,19.1s,baz=317,slow=37							
H11N2	**WAKE ISLAND Hy**	**58.02**	**264**	T		T	04 09 10.2	
	baz=43							
H11N3	**WAKE ISLAND Hy**	**58.02**	**264**	T		T	04 09 13.1	
	baz=43,slow=74							
H11N1	**WAKE ISLAND Hy**	**58.03**	**264**	T		T	04 09 13.1	
	baz=43,slow=74							
NOA	**NORSAR Array B**	**65.89**	**20**	LR		LR	03 34 42.4	
	comp=Z,33nm,18.9s,baz=335,slow=35							
ZALV	**Zalesovo Beam**	**73.40**	**340**	LR		LR	03 42 15.7	
	comp=Z,30nm,19.2s,baz=34,slow=38							
KURBB	**Kurchatov Arra**	**77.88**	**342**	P		**P**	**03 08 22.1**	**+2.2**
	comp=Z,0.3nm,0.7s,baz=22,slow=5.4,SNR=1.3							
	comp=Z,0.3nm,0.7s							
DAVOX	**Davos/Dischmat**	**78.34**	**27**	LR		LR	03 46 10.6	
	comp=Z,44nm,18.3s,baz=258,slow=38							
ESDC	**Sonseca Array**	**79.52**	**40**	P		**P**	**03 08 31.6**	**+2.4**
	comp=Z,0.6nm,0.9s,baz=319,slow=5.8,SNR=4.5							
	comp=Z,0.6nm,0.9s							
MKAR	**Makanchi Array**	**80.65**	**338**	P		**P**	**03 08 36.5**	**+1.3**
	comp=Z,0.2nm,0.7s,baz=15,slow=2.6,SNR=2.6							
	comp=Z,0.2nm,0.7s							
MLR	**Muntele Rosu**	**83.53**	**17**	LR		LR	03 45 25.1	
	comp=Z,42nm,18.2s,baz=282,slow=35							

*IGIL **16** 03:18:22.2, 39°.51N × 12°.35W, h31km, ML1.4*
*MDD **16** 03:18:24.0 ± 1.2, 39°.41N × 11°.89W, h0km, Mb4.1/2, M_mb3.5/2, Error ellipse: s-maj=10.1km s-min=5.6km az=85.0*
*INMG **16** 03:18:26.0 ± 1.0, 39°.47N × 12°.35W, h22km, ML2.0, Error ellipse: s-maj=6.0km s-min=3.0km az=88.0*
*CNRM **16** 03:18:28.1, 39°.08N × 11°.82W, h81km*

ISC 16 03:18:18.4 ± 3.0, 39°.39N ± 0°.05 × 12°.2W ± 0°.2, h10km, n46, σ 2s 62/70, 2C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**2.32**	**100**	*eP*	**Pb**	**03 19 00.1**	**-0.3**
PMAFR				*eS*	**Sn**	**03 19 25.8**	**+0.5**
PMAFR				A	A	03 19 38.4	
	21nm,0.9s						
PMAFR	**Mafra**	**2.32**	**100**	Pn	**Pb**	**03 18 59.8**	**-0.5**
PMAFR				Sn	**Sn**	**03 19 25.4**	**+0.1**
PCAS	**Casmilo, Conde**	**2.94**	**76**	eS	**Sn**	**03 19 39.4**	**-1.2**
PCAS				A	A	03 19 40.1	
	2.7nm,0.8s						
PMTG	**Montargil**	**3.12**	**95**	*eP*	**Pb**	**03 19 12.0**	**-1.9**
PMTG				*eS*	**Sn**	**03 19 44.7**	**-0.2**
PMTG				A	A	03 19 49.1	
	4.0nm,0.5s						
PNCL	**Nicolau / Gran**	**3.15**	**113**	*eP*	**Pn**	**03 19 11.5**	**+3.4**
PNCL				*eS*	**Sn**	**03 19 45.9**	**+0.1**
PNCL				A	A	03 19 47.2	
	3.8nm,0.4s						
PNCL	**Nicolau / Gran**	**3.15**	**113**	Pn	**Pn**	**03 19 11.2**	**+3.1**
PNCL				Sn	**Sn**	**03 19 45.6**	**-0.2**
PTEO	**Sao Teotonio**	**3.30**	**123**	eS	**Sn**	**03 19 49.6**	**+0.1**
EVO	**Evora**	**3.39**	**103**	*eP*	**Pn**	**03 19 14.6**	**+3.2**
EVO				*eS*	**Sn**	**03 19 51.7**	**+0.1**
EVO				A	A	03 19 56.6	
	2.0nm,0.4s						
EVO	**Evora**	**3.39**	**103**	Pn	**Pn**	**03 19 14.5**	**+3.2**
EVO				Sn	**Sn**	**03 19 50.0**	**-1.6**
MORF	**Marmelete**	**3.49**	**126**	*eP*	**Pn**	**03 19 14.5**	**+1.7**
MESJ	**Messejana**	**3.49**	**115**	*eP*	**Pn**	**03 19 16.0**	**+3.2**
MESJ				eS	**Sn**	**03 19 54.3**	**+0.1**
MESJ	**Messejana**	**3.49**	**115**	*eP*	**Pn**	**03 19 14.5**	**+1.7**
MESJ				eS	**Sn**	**03 19 52.3**	**-1.9**
MESJ				IAML		03 19 55.1	
	comp=E,0.9nm,0.1s						
PFVI	**Vila Bisbo**	**3.50**	**129**	Pn	**Pn**	**03 19 14.7**	**+1.9**
PFVI	**Vila Bisbo**	**3.50**	**129**	P	**Pn**	**03 19 13.4**	**+0.6**
PFVI	**Vila Bisbo**	**3.50**	**129**	S	**Sn**	**03 19 50.4**	**-3.9**
PVIS	**Viseu**	**3.57**	**67**	*eP*	**Pn**	**03 19 16.3**	**+2.4**
PVIS				*eS*	**Sn**	**03 19 54.0**	**-2.2**
PVIS				A	A	03 19 56.6	
	comp=E,2.8nm,0.4s						
PESTR	**Estremoz**	**3.64**	**97**	*eP*	**Pn**	**03 19 18.3**	**+3.5**
PESTR				eS	**Sn**	**03 19 56.8**	**-1.0**
PESTR	**Estremoz**	**3.64**	**97**	P	**Pn**	**03 19 18.2**	**+3.5**
PESTR	**Estremoz**	**3.64**	**97**	S	**Sn**	**03 19 55.5**	**-2.3**
PCBR	**Castelo Branco**	**3.69**	**82**	*eP*	**Pn**	**03 19 18.7**	**+3.2**
PCBR				eS	**Sn**	**03 19 57.1**	**-1.9**
PCVE	**Castro Verde**	**3.72**	**117**	*eP*	**Pn**	**03 19 19.4**	**+3.5**
PCVE				eS	**Sn**	**03 19 59.3**	**-0.5**
PCVE	**Castro Verde**	**3.72**	**117**	Pn	**Pn**	**03 19 18.9**	**+3.0**
MTE	**Manteigas**	**3.73**	**73**	eS	**Sn**	**03 19 59.5**	**-0.7**
PMRV	**Marv??o**	**3.74**	**88**	*eP*	**Pn**	**03 19 19.3**	**+3.1**
PMRV				eS	**Sn**	**03 19 59.4**	**-0.9**
EZAM	**Zamans**	**3.84**	**43**	S	**Sn**	**03 19 58.5**	**-4.2**
PGAV	**Gavieira, Arco**	**3.95**	**48**	eS	**Sn**	**03 20 02.8**	**-2.8**
PBDV	**Barranco-do-Ve**	**4.00**	**121**	*eP*	**Pn**	**03 19 22.6**	**+2.9**
PBDV				eS	**Sn**	**03 20 05.5**	**-1.1**
PBDV	**Barranco-do-Ve**	**4.00**	**121**	Pn	**Pn**	**03 19 22.2**	**+2.5**
PBDV				Sn	**Sn**	**03 20 04.3**	**-2.3**
ELOB	**Lobios**	**4.01**	**51**	P	**Pn**	**03 19 23.6**	**+3.6**
ELOB				⇑iVmb_V		03 19 29.0	
	comp=E,467nm,SNR=1.4						
ELOB				S	**Sn**	**03 20 04.2**	**-3.0**
PVAQ	**Vaqueiros**	**4.05**	**118**	*eP*	**Pn**	**03 19 24.2**	**+3.7**
PVAQ				eS	**Sn**	**03 20 06.8**	**-1.2**
PVAQ				A	A	03 20 08.3	
	comp=E,3.5nm,0.8s						
PVAQ	**Vaqueiros**	**4.05**	**118**	Pn	**Pn**	**03 19 23.0**	**+2.4**
PVAQ				Sn	**Sn**	**03 20 06.0**	**-2.0**
PVAQ	**Vaqueiros**	**4.05**	**118**	P	**Pn**	**03 19 21.9**	**+1.4**
PVAQ	**Vaqueiros**	**4.05**	**118**	S	**Sn**	**03 20 05.2**	**-2.8**
EBAD	**Badajoz**	**4.10**	**97**	Pn	**Pn**	**03 19 23.9**	**+2.8**
EBAD				Sn	**Sn**	**03 20 07.0**	**-2.2**
EBAD	**Badajoz**	**4.10**	**97**	P	**Pn**	**03 19 24.8**	**+3.7**
EBAD				⇑iVmb_V		03 19 30.6	
	comp=E,156nm,SNR=1.0						
EBAD				S	**Sn**	**03 20 08.1**	**-1.0**
EGRO	**El Granado**	**4.15**	**115**	Pn	**Pn**	**03 19 24.2**	**+2.4**
EGRO	**El Granado**	**4.15**	**115**	P	**Pn**	**03 19 24.6**	**+2.7**
EGRO				S	**Sn**	**03 20 09.7**	**-0.8**
PBAR	**Barrancos**	**4.22**	**105**	eS	**Sn**	**03 20 11.2**	**-1.0**
PBAR	**Barrancos**	**4.22**	**105**	Pn	**Pn**	**03 19 25.7**	**+2.9**
PBAR				Sn	**Sn**	**03 20 10.8**	**-1.4**
EMAZ	**Mazaricos**	**4.31**	**34**	S	**Sn**	**03 20 09.6**	**-4.8**
EAGO	**Agolada(Pontev**	**4.62**	**41**	P	**Pn**	**03 19 30.7**	**+2.4**
EAGO				S	**Sn**	**03 20 15.6**	**-6.3**
ECAB	**El Cabril**	**5.48**	**102**	Pn	**Pn**	**03 19 42.4**	**+2.4**
MD31	**MD31**	**8.87**	**135**	P	**Pn**	**03 20 28.4**	**+1.6**
MD31	**MD31**	**8.87**	**135**	S	**Sn**	**03 22 01.8**	**-5.1**
MDT	**Midelt**	**9.00**	**135**	P	**Pn**	**03 20 28.9**	**+0.4**
MDT	**Midelt**	**9.00**	**135**	S	**Sn**	**03 22 04.9**	**-5.0**

*JMA **16** 03:34:30.6 ± 0.1, 42°.9N ± 0°.4 × 145°.4E ± 0°.5, h47km, MV3.7/40, OFF NEMURO PENINSULA*
*SKHL **16** 03:34:31.4 ± 0.3, 42°.90N × 145°.40E, h27km ± 2km, mb4.6/4*

ISC 16 03:34:31.1 ± 1.8, 42°.88N ± 0°.10 × 145°.34E ± 0°.06, h42km ± 11km, n13, σ 0s 51/25, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.24**	**327**	*eP*	**Pn**	**03 34 39.1**	**+0.1**
JKHN				*eS*	**Sn**	**03 34 44.8**	**+0.4**
AKK	**Akkeshi**	**0.39**	**291**	*i P*	**Pn**	**03 34 40.5**	**-0.1**
AKK				*eS*	**Sn**	**03 34 47.2**	**0.0**
JAK	**Akkeshi**	**0.49**	**284**	*eP*	**Pn**	**03 34 41.6**	**-0.1**
JAK				*eS*	**Sn**	**03 34 49.7**	**+0.4**
NMR	**Nemuro--Hokkai**	**0.56**	**30**	*i P*	**Pn**	**03 34 42.3**	**-0.5**
NMR				AMB	AMB	03 34 42.6	
	460nm,0.3s						
NMR				*i* S	**Sn**	**03 34 50.3**	**-0.7**
NMR				A	A	03 34 51.0	
	970nm,0.3s						
NMR				A	A	03 34 51.0	
	4μm,0.3s						
NEM2	**Nemuro 2**	**0.57**	**31**	*eP*	**Pn**	**03 34 42.3**	**-0.5**
NEM2				*eS*	**Sn**	**03 34 50.8**	**-0.3**
JNK	**Nakash**	**0.84**	**327**	*eP*	**Pn**	**03 34 46.2**	**-0.3**
JNK				*eS*	**Sn**	**03 34 56.5**	**-1.2**
JRA	**Rausu**	**1.07**	**351**	*eP*	**Pn**	**03 34 49.5**	**-0.1**
JRA				*eS*	**Sn**	**03 35 03.5**	**+0.3**
JOB	**Onbets**	**1.11**	**272**	*eP*	**Pn**	**03 34 49.9**	**-0.2**
JOB				*eS*	**Sn**	**03 35 04.4**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**1.22**	**18**	*eP*	**Pn**	**03 34 51.6**	**0.0**
YUK				AMB	AMB	03 34 52.3	
	640nm,0.3s						
YUK				*i* S	**Sn**	**03 35 06.6**	**-0.2**
YUK				A	A	03 35 08.4	
	1μm,0.3s						
YUK				A	A	03 35 08.4	
	2μm,0.3s						
JAR	**Ashorobuto**	**1.23**	**290**	*eP*	**Pn**	**03 34 51.6**	**-0.1**
JAR				*eS*	**Sn**	**03 35 07.8**	**+0.6**
JCH	**Churui**	**1.48**	**260**	*eP*	**Pn**	**03 34 54.8**	**-0.4**
JCH				*eS*	**Sn**	**03 35 13.1**	**-0.4**
JTKR	**Abashiri--Toko**	**1.51**	**317**	*eP*	**Pn**	**03 34 56.2**	**+0.5**
KUR	**Kuril'sk**	**2.97**	**37**	*eP*	**Pn**	**03 35 16.9**	**+1.2**
KUR				AMB	AMB	03 35 17.6	
	20nm,0.3s						
KUR				*eS*	**Sn**	**03 35 50.2**	**+0.1**
KUR				A	A	03 35 55.1	
	90nm,0.3s						
KUR				A	A	03 35 55.1	
	100nm,0.3s						

IDC 16 03:59:57.3 ± 3.3, 55°.51N × 86°.16E, h0km, mbtmp2.7/3, ML2.1/3, Error ellipse: s-maj=30.4km s-min=20.1km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.75**	**207**	I	I	04 09 50.0	
	baz=26,slow=342,SNR=0.1						
ZALV	**Zalesovo Beam**	**1.75**	**207**	Pg	Pn	04 00 27.3	-1.6
	3.1nm,0.3s,baz=30,slow=15,SNR=19						
ZALV				Lg	Lg	04 00 53.4	
	1.8nm,0.3s,baz=26,slow=24,SNR=5.2						
KURBB	**Kurchatov Arra**	**6.72**	**226**	Pn	Pn	04 01 38.2	+1.2
	baz=42,slow=14,SNR=2.2						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**9.06**	**197**	Pn	Pn	04 02 09.6	+0.3
	baz=21,slow=14,SNR=2.0						
	0.1nm,0.5s						
BVAR	**Borovoye Array**	**9.56**	**261**	Pn	Pn	04 02 14.3	-1.8
	baz=68,slow=17,SNR=1.3						
	0.3nm,0.5s						

*TRN **16** 04:01:58.2, 11°.17N × 62°.15W, h113km, MD3.4, North of the Paria peninsula.*
*FUNV **16** 04:01:58.8, 11°.15N × 62°.12W, h114km, MW3.7*

ISC 16 04:01:55.5 ± 1.3, 11°.15N ± 0°.04 × 62°.19W ± 0°.04, h139km ± 9km, n29, σ 1s 92/50, 1C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.62**	**136**	*e*	**Pn**	**04 02 17.6**	**+1.2**
TCE				*eS*	**Sn**	**04 02 29.9**	**-2.3**
TRN	**Trinidad (W)**	**0.92**	**123**	*eP*	**Pn**	**04 02 19.2**	**+0.6**
TRN				*eS*	**Sn**	**04 02 33.2**	**-2.8**
GRFF	**Grenada Fort F**	**1.00**	**26**	*eP*	**Pn**	**04 02 19.3**	**0.0**
GRFF				*eS*	**Sn**	**04 02 34.9**	**-2.4**
TPP	**Pointe-a-Pierr**	**1.10**	**139**	*e*	**Pn**	**04 02 22.8**	**+2.6**
TPP	**Pointe-a-Pierr**	**1.10**	**139**	*e*	**Sn**	**04 02 41.5**	**+2.5**
GRGR	**Grenville**	**1.11**	**28**	*eP*	**Pn**	**04 02 20.5**	**+0.3**
GRGR				*eS*	**Sn**	**04 02 37.4**	**-1.8**
GRW	**Mount Saint Ca**	**1.13**	**27**	*eP*	**Pn**	**04 02 21.5**	**+0.9**
GRW				*eS*	**Sn**	**04 02 36.7**	**-3.0**
CRUV	**Carupano**	**1.13**	**245**	*eP*	**Pn**	**04 02 21.5**	**+1.1**
CRUV				*eS*	**Sn**	**04 02 38.5**	**-1.0**
CRUV	**Carupano**	**1.13**	**245**	*eP*	**Pn**	**04 02 21.6**	**+1.1**
CRUV				*eS*	**Sn**	**04 02 38.4**	**-1.0**
GRHS	**Sauteurs**	**1.19**	**27**	*eP*	**Pn**	**04 02 21.3**	**+0.2**
GRHS				*eS*	**Sn**	**04 02 38.9**	**-1.7**
TBH	**Brigand Hill**	**1.29**	**121**	*e*	**Pn**	**04 02 24.6**	**+2.5**
TBH	**Brigand Hill**	**1.29**	**121**	*e*	**Sn**	**04 02 44.2**	**+1.9**
GCMP	**Grenada, Carri**	**1.52**	**29**	*eP*	**Pn**	**04 02 25.0**	**+0.5**
GCMP				*eS*	**Sn**	**04 02 44.6**	**-2.1**
CUMV	**Cumana_UDO**	**2.10**	**250**	*eP*	**Pn**	**04 02 34.1**	**+3.0**
CUMV				*eS*	**Sn**	**04 02 57.8**	**-0.6**
SVOC	**Richmond Hill,**	**2.20**	**25**	*eP*	**Pn**	**04 02 33.1**	**+0.7**
SVOC				*eS*	**Sn**	**04 03 01.3**	**+0.5**
SVT	**Saint Vincent**	**2.21**	**25**	*eP*	**Pn**	**04 02 33.2**	**+0.7**
SVB	**Belmont**	**2.30**	**23**	*eP*	**Pn**	**04 02 34.3**	**+0.7**
SVB				*eS*	**Sn**	**04 03 02.4**	**-0.6**
PCRV	**Puerto La Cruz**	**2.59**	**248**	⇑*eP*	**Pn**	**04 02 39.8**	**+2.5**
PCRV				*eS*	**Sn**	**04 03 09.7**	**+0.2**
PCRV	**Puerto La Cruz**	**2.59**	**248**	*eP*	**Pn**	**04 02 40.2**	**+2.9**
PCRV				*eS*	**Sn**	**04 03 10.5**	**+1.1**
SLB	**Belfond**	**2.89**	**23**	*eP*	**Pn**	**04 02 43.2**	**+2.2**
SLBI	**Saint Lucia, B**	**3.09**	**22**	*eP*	**Pn**	**04 02 44.9**	**+1.3**
SLBI				*eS*	**Sn**	**04 03 20.6**	**-0.2**
BIM	**Bigot**	**3.52**	**18**	*eP*	**Pn**	**04 02 51.4**	**+2.2**
BIM				*eS*	**Sn**	**04 03 28.7**	**-2.1**
MPOM	**Morne Pois Mar**	**3.52**	**22**	*eP*	**Pn**	**04 02 51.5**	**+2.3**
MPOM				*eS*	**Sn**	**04 03 30.3**	**-0.5**
TACV	**Tcata**	**4.86**	**258**	*eP*	**Pn**	**04 03 08.6**	**+1.7**
TACV				*eS*	**Sn**	**04 04 00.7**	**-1.8**
LUEV	**Luepa**	**5.33**	**172**	*eP*	**Pn**	**04 03 13.7**	**+0.5**
LUEV				*eS*	**Sn**	**04 04 10.3**	**-3.6**
BENV	**Beln**	**5.45**	**258**	*eP*	**Pn**	**04 03 17.4**	**+2.6**
CACV	**CAICARA DEL OR**	**5.58**	**231**	*eP*	**Pn**	**04 03 12.8**	**-3.7**
CACV				*eS*	Sn	04 04 09.2	-10
BAUV	**El Baul**	**6.17**	**250**	*eP*	**Pn**	**04 03 25.3**	**+0.9**
BAUV				*eS*	**Sn**	**04 04 30.5**	**-3.3**
BAUV	**El Baul**	**6.17**	**250**	*eP*	**Pn**	**04 03 25.2**	**+0.9**
BAUV				*eS*	**Sn**	**04 04 32.3**	**-1.5**

*ANF **16** 04:08:00.7 ± 0.1, 33°.94N × 116°.32W, h15km, ML3.0/30, Error ellipse: s-maj=0.9km s-min=0.9km az=33.0*
*NEIC **16** 04:08:00.9 ± 0.8, 33°.951N ± 0°.009 × 116°.317W ± 0°.006, h17km ± 3km, Error ellipse: s-maj=1.3km s-min=0.8km az=163.0*
*PAS **16** 04:08:01.5 ± 0.8, 33°.956N ± 0°.009 × 116°.32W ± 0°.01, h8km ± 8km, ML3.1/277, ML3.0/59(NEIC), Error ellipse: s-maj=1.3km s-min=1.3km az=128.0*

ISC 16 04:08:01.1 ± 0.8, 33°.95N ± 0°.01 × 116°.32W ± 0°.01, h16km ± 6km, n142, σ 0s 57/199, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEVC	**Devers**	**0.21**	**267**		**Pg**	**04 08 06.1**	**+0.1**
DEVC					**Sg**	**04 08 09.5**	**+0.2**
BELC	**Belle Mtn. Jos**	**0.28**	**78**		**Pg**	**04 08 06.9**	**-0.2**
BELC	**Belle Mtn. Jos**	**0.28**	**78**	P	**Pg**	**04 08 06.9**	**-0.2**
	baz=261,SNR=1000						
BELC				S	**Sg**	**04 08 10.8**	**-0.4**
	baz=261						
TPC	**Twentynine Pal**	**0.28**	**55**		**Pg**	**04 08 06.7**	**-0.4**
PMD	**Palm Desert**	**0.30**	**189**	Pg	**Pg**	**04 08 07.2**	**-0.2**
PMD				IAML		04 08 11.8	
	comp=E,1μm,0.4s						
PMD	**Palm Desert**	**0.30**	**189**		**Sg**	**04 08 11.5**	**-0.3**
GTM	**Goat Mountain**	**0.35**	**356**		**Pg**	**04 08 08.0**	**-0.4**
GTM					**Sg**	**04 08 12.7**	**-0.6**
PFO	**Pinyon Flats O**	**0.35**	**199**	Pg	**Pg**	**04 08 08.2**	**-0.1**
PFO				IAML		04 08 13.4	
	comp=E,898nm,0.2s						
PFO	**Pinyon Flats O**	**0.35**	**199**	P	**Pg**	**04 08 08.3**	**-0.1**
	baz=19,SNR=166						
PFO				S	**Sg**	**04 08 13.1**	**-0.3**
	baz=19						
XPFO	**Pion Flat**	**0.35**	**198**		**Pg**	**04 08 08.3**	**-0.1**
XPFO					**Sg**	**04 08 13.2**	**-0.3**
CTCC	**Cactus City**	**0.40**	**136**		**Pg**	**04 08 09.2**	**0.0**
CTCC					**Sg**	**04 08 15.1**	**+0.3**
GVDA	**Garner Valley**	**0.40**	**227**		**Pg**	**04 08 09.3**	**0.0**
GVDA					**Sg**	**04 08 14.8**	**-0.1**
DNR	**Dunn Ranch,Anz**	**0.46**	**214**		**Pg**	**04 08 10.5**	**+0.2**
DNR					**Sg**	**04 08 16.9**	**+0.4**
CTW	**Cottonwood Mou**	**0.46**	**125**		**Pg**	**04 08 10.5**	**+0.2**
CTW					**Sb**	**04 08 17.1**	**-0.4**
SNDA	**J Saunders Pla**	**0.46**	**212**		**Pg**	**04 08 10.5**	**+0.1**
SNDA					**Sg**	**04 08 17.1**	**+0.5**
FRD	**Ford Ranch, An**	**0.51**	**207**		**Pg**	**04 08 11.3**	**+0.1**
FRD					**Sg**	**04 08 17.9**	**-0.1**
FRD	**Ford Ranch, An**	**0.51**	**207**		**Pg**	**04 08 11.2**	**+0.1**
FRD					**Sg**	**04 08 17.9**	**-0.1**
CRY	**Cary Ranch**	**0.51**	**222**		**Pg**	**04 08 11.4**	**+0.1**
CRY					**Sg**	**04 08 18.3**	**+0.1**
BZNA	**Buzz No.'s Pla**	**0.54**	**212**		**Pg**	**04 08 11.9**	**+0.1**
BZNA					**Sg**	**04 08 19.2**	**+0.2**
BBSC	**Beaumont Base**	**0.55**	**268**		**Pg**	**04 08 12.0**	**0.0**
BBSC					**Sg**	**04 08 19.6**	**+0.3**
POB	**Polly Butte**	**0.56**	**243**		**Pg**	**04 08 12.2**	**0.0**
POB					**Sg**	**04 08 19.7**	**0.0**
SIL	**Silver Peak**	**0.58**	**314**		**Pg**	**04 08 12.4**	**-0.2**
HAY	**Hayfield**	**0.58**	**114**		**Pb**	**04 08 13.2**	**+0.3**
HAY					**Sb**	**04 08 21.5**	**+0.5**
BBRC	**Big Bear Solar**	**0.59**	**303**		**Pg**	**04 08 12.6**	**-0.2**
BBRC					**Sg**	**04 08 20.8**	**+0.1**
BBRC	**Big Bear Solar**	**0.59**	**303**	P	**Pg**	**04 08 12.6**	**-0.2**
	baz=121,SNR=33						
BBRC				S	**Sg**	**04 08 20.8**	**+0.1**
	baz=121						
HMTC	**Hemet**	**0.61**	**248**		**Pg**	**04 08 13.1**	**-0.1**
HMTC					**Sg**	**04 08 21.1**	**-0.3**
CFT	**Crafton Hills**	**0.66**	**278**		**Pg**	**04 08 13.9**	**-0.2**
CFT					**Sb**	**04 08 24.2**	**+0.9**
SVD	**Seven Oaks Dam**	**0.66**	**284**		**Pg**	**04 08 13.8**	**-0.3**
SVD					**Sg**	**04 08 22.7**	**-0.2**
BORC	**Borrego Spring**	**0.68**	**187**		**Pg**	**04 08 14.4**	**-0.1**
BORC					**Sg**	**04 08 23.4**	**0.0**
BACC	**Bachelor Mtn.**	**0.68**	**241**		**Pg**	**04 08 14.3**	**-0.2**
BACC					**Sg**	**04 08 23.4**	**-0.2**
PEC	**Perris**	**0.70**	**266**		**Pg**	**04 08 14.5**	**-0.3**
PEC					**Sg**	**04 08 23.6**	**-0.4**
SALN	**Salton City**	**0.72**	**157**		**Pb**	**04 08 15.4**	**+0.1**
PLM	**Palomar**	**0.74**	**217**		**Pg**	**04 08 15.6**	**0.0**
PLM					**Sb**	**04 08 25.7**	**0.0**
SLH	**Sleepy Hollow**	**0.75**	**176**		**Pb**	**04 08 15.9**	**0.0**
SLH					**Sb**	**04 08 26.3**	**+0.4**
BOMB	**Bombay Beach**	**0.76**	**139**		**Pg**	**04 08 16.2**	**+0.3**
BOMB					**Sn**	**04 08 27.1**	**-1.2**
HLNC	**Highland**	**0.76**	**283**		**Pb**	**04 08 15.7**	**-0.4**
HLNC					**Sg**	**04 08 26.1**	**0.0**
BC3	**Big Chuckawall**	**0.78**	**112**		**Pb**	**04 08 16.4**	**0.0**
BC3					**Sb**	**04 08 26.7**	**-0.1**
BC3	**Big Chuckawall**	**0.78**	**112**	P	**Pb**	**04 08 16.4**	**0.0**
	baz=293,SNR=273						
BC3				S	**Sb**	**04 08 26.7**	**-0.1**
	baz=293						
MATG	**Mataguay Scout**	**0.79**	**200**		**Pb**	**04 08 16.5**	**-0.1**
MATG					**Sg**	**04 08 27.1**	**0.0**
MURC	**Murrieta**	**0.80**	**245**		**Pb**	**04 08 16.4**	**-0.4**
MURC					**Sb**	**04 08 26.9**	**-0.5**
MURC	**Murrieta**	**0.80**	**245**	P	**Pb**	**04 08 16.4**	**-0.4**
	baz=64,SNR=24						
MURC				S	**Sb**	**04 08 27.

GSC				IAML			04 08 48.5	
	comp=E,277nm,0.3s							
GSC	**Goldstone, Bar**	**1.41**	**344**	Pg	**Pg**	**04 08 27.7**	**-0.6**
	baz=163,SNR=47							
GSC				Sb	**Sg**	**04 08 46.1**	**-0.5**
	baz=163							
OLP	**Otay Lakes Par**	**1.43**	**201**		**Pb**	**04 08 27.1**	**-0.3**
JNH	**Juniper Hills**	**1.44**	**291**		**Pb**	**04 08 27.7**	**0.0**
SBB	**Saddle Back Bu**	**1.45**	**301**		**Pb**	**04 08 27.9**	**+0.1**
MWC	**Mount Wilson**	**1.47**	**281**		**Pb**	**04 08 28.0**	**-0.1**
BLYC	**Blythe**	**1.51**	**97**		**Pb**	**04 08 28.3**	**-0.4**
BLYC				IAML		04 08 52.7		
	comp=E,272nm,0.3s							
TUQ	**Turquoise Moun**	**1.52**	**12**		**Pg**	**04 08 29.7**	**-0.7**
TUQ	**Turquoise Moun**	**1.52**	**12**	Pb	**Pb**	**04 08 29.3**	**+0.2**
	baz=192,SNR=17							
TUQ				Sb	**Sg**	**04 08 49.5**	**-0.7**
	baz=192							
LRRC	**Littlerock Res**	**1.53**	**293**		**Pb**	**04 08 29.1**	**+0.1**
GLA	**Glamis**	**1.54**	**125**		**Pn**	**04 08 27.3**	**-0.7**
GLA				IAML		04 08 52.3		
	comp=N,236nm,0.5s							
GLA	**Glamis**	**1.54**	**125**	P	**Pn**	**04 08 27.1**	**-0.8**
	baz=306,SNR=30							
GLA				Sg	**Sg**	**04 08 51.2**	**+0.6**
	baz=306							
TJX	**Tijuana**	**1.56**	**203**		**Pb**	**04 08 28.8**	**-0.7**
TJX				IAML		04 08 50.8		
	comp=N,277nm,0.8s							
PASC	**Pasadena Art C**	**1.56**	**279**		**Pb**	**04 08 29.1**	**-0.6**
PASC				IAML		04 08 50.0		
	comp=N,173nm,0.5s							
PASC				IAML		04 08 51.9		
	comp=E,230nm,0.4s							
NEE2	**Needles Airpor**	**1.63**	**59**	Pb	**Pb**	**04 08 31.0**	**+0.1**
	baz=240,SNR=24							
NEE2				Sb	**Sb**	**04 08 52.1**	**+0.9**
	baz=240							
CBX	**Cerro Bola**	**1.65**	**190**		**Pn**	**04 08 30.1**	**+0.5**
EDW2	**Edwards Air Fo**	**1.67**	**304**	P	**Pn**	**04 08 29.8**	**0.0**
	baz=123,SNR=67							
EDW2				Sb	**Sb**	**04 08 53.5**	**+1.2**
	baz=123							
DECC	**Green Verdugo**	**1.70**	**281**	Pb	**Pb**	**04 08 32.0**	**+0.1**
	baz=100,SNR=5.6							
DECC				Sb	**Sb**	**04 08 54.3**	**+1.2**
	baz=100							
CIS	**Catalina Islan**	**1.83**	**253**	Pb	**Pb**	**04 08 34.1**	**-0.1**
	baz=72							
CIS				Sb	**Sb**	**04 08 58.0**	**+1.2**
	baz=72							
PDMCI	**Parker Dam,Lak**	**1.84**	**78**	Pb	**Pb**	**04 08 34.6**	**+0.2**
	baz=260							
PDMCI				Sb	**Sb**	**04 08 58.6**	**+1.3**
	baz=260							
CCAC	**Calif City Air**	**1.84**	**311**	Pn	**Pn**	**04 08 32.8**	**+0.6**
CCAC				IAML		04 09 03.5		
	comp=E,88nm,0.8s							
CCAC				IAML		04 09 05.7		
	comp=N,99nm,0.5s							
SHOC	**Shoshone, Teco**	**1.95**	**1**	Sb	**Sg**	**04 09 02.2**	**-1.6**
	baz=181							
ESJX	**Sierra Juarez**	**1.96**	**171**	Pn	**Pb**	**04 08 35.3**	**-1.3**
ESJX				IAML		04 09 04.6		
	comp=E,99nm,0.3s							
QSM	**Queen of Sheba**	**2.06**	**348**	Pn	**Pn**	**04 08 35.3**	**+0.1**
QSM				IAML		04 09 08.3		
	comp=N,128nm,0.2s							
OSI	**Osito Audit: C**	**2.10**	**289**	Sb	**Sb**	**04 09 06.4**	**+1.8**
	baz=108							
V12A	**Nelson**	**2.15**	**34**	Pn	**Pn**	**04 08 36.5**	**+0.1**
GWY	**Greenwater Val**	**2.25**	**353**	Pn	**Pn**	**04 08 37.9**	**0.0**
MPMC	**Manual Prospec**	**2.31**	**336**	P	**Pn**	**04 08 38.7**	**-0.1**
	baz=155,SNR=15							
MPMC				Sb	**Sg**	**04 09 13.8**	**-1.8**
	baz=155							
W13A	**Hualapai Mount**	**2.32**	**60**	Pn	**Pn**	**04 08 38.6**	**-0.3**
W13A				IAML		04 09 19.0		
	comp=E,69nm,0.5s							
W13A				IAML		04 09 19.3		
	comp=N,57nm,0.5s							
ARVC	**Arvin**	**2.38**	**300**	P	**Pn**	**04 08 39.4**	**-0.1**
	baz=119							
ISA	**Isabella, Lake**	**2.46**	**315**	Pn	**Pn**	**04 08 41.2**	**+0.5**
ISA	**Isabella, Lake**	**2.46**	**315**	P	**Pn**	**04 08 40.4**	**-0.3**
	baz=133							
WTNK	**Soaring Height**	**2.49**	**25**	Pn	**Pn**	**04 08 40.9**	**-0.1**
VTX	**Valle De La Tr**	**2.59**	**170**	Pn	**Pn**	**04 08 43.9**	**+1.5**
VTX				IAML		04 09 23.9		
	comp=E,71nm,0.5s							
VTX				IAML		04 09 24.2		
	comp=N,44nm,0.5s							
SHPR	**Sheep Range**	**2.73**	**20**		**Pn**	**04 08 45.2**	**+0.8**
BCW	**Bitter Crk WRg**	**2.74**	**292**	Pn	**Pn**	**04 08 45.4**	**+0.9**
BCW				IAML		04 09 45.2		
	comp=N,53nm,1.0s							
BCW				IAML		04 09 45.6		
	comp=E,66nm,1.0s							
Y14A	**Wickenburg**	**2.76**	**89**		**Pn**	**04 08 45.1**	**+0.3**
Y14A				IAML		04 09 34.0		
	comp=E,58nm,0.3s							
PKM	**Mcpherson Peak**	**3.04**	**289**	P	**Pn**	**04 08 49.6**	**+0.9**
	baz=107							
GRAC	**Grapevine Rang**	**3.16**	**345**	Pn	**Pn**	**04 08 51.5**	**+1.2**
GRAC				IAML		04 09 43.4		
	comp=E,49nm,0.6s							
GRAC				IAML		04 09 44.1		
	comp=N,43nm,0.6s							
GRAC	**Grapevine Rang**	**3.16**	**345**	P	**Pn**	**04 08 51.3**	**+1.0**
	baz=164							
LCH	**Last Change Ra**	**3.45**	**342**		**Pn**	**04 08 55.4**	**+1.0**
214A	**Organ Pipe Nat**	**3.56**	**123**	Pn	**Pn**	**04 08 56.7**	**+1.0**
214A				IAML		04 10 02.9		
	comp=N,15nm,2.1s							
214A				IAML		04 10 08.2		
	comp=E,15nm,1.2s							
214A	**Organ Pipe Nat**	**3.56**	**123**	P	**Pn**	**04 08 55.3**	**-0.4**
	baz=305							
S11A	**Rachel**	**3.72**	**7**	Pn	**Pn**	**04 08 58.9**	**+0.9**
MZP	**Montezuma Peak**	**3.84**	**347**	Pn	**Pn**	**04 09 00.7**	**+0.8**
LCMT	**Little Creek M**	**3.96**	**39**		**Pn**	**04 09 02.5**	**+1.2**
X16A	**Lo Mia Camp, P**	**4.07**	**82**		**Pn**	**04 09 04.0**	**+1.0**
U15A	**North Rim**	**4.13**	**52**		**Pn**	**04 09 05.2**	**+1.4**
KNB	**Kanab**	**4.19**	**42**		**Pn**	**04 09 05.7**	**+1.2**
CCUT	**Cedar City**	**4.33**	**33**	Pn	**Pn**	**04 09 07.9**	**+1.4**
R11B	**Troy Canyon, C**	**4.43**	**8**	Pn	**Pn**	**04 09 09.0**	**+1.1**
SZCU	**Shurtz Canyon**	**4.49**	**35**	Pn	**Pn**	**04 09 09.6**	**+0.9**
PKCU	**Pink Cliffs**	**4.78**	**42**	Pn	**Pn**	**04 09 13.6**	**+0.8**
PSUT	**Pine Spring**	**4.99**	**23**	Pn	**Pn**	**04 09 16.7**	**+1.1**
SPR3	**Spring Creek 3**	**5.29**	**17**	Pn	**Pn**	**04 09 20.0**	**+0.1**
X18A	**Snowflake**	**5.31**	**82**	Pn	**Pn**	**04 09 21.4**	**+1.4**
TCRU	**Three Creeks R**	**5.61**	**33**	Pn	**Pn**	**04 09 24.9**	**+0.8**
MVU	**Marysvale**	**5.63**	**35**	Pn	**Pn**	**04 09 25.3**	**+0.8**
MSU	**Marysvale**	**5.66**	**35**	Pn	**Pn**	**04 09 24.7**	**0.0**

NEIC ***16*** *04:15:54.4±1.3, 37.22N±0.02×97.78W±0.02, h11km±5km, Error ellipse: s-maj=3.1km s-min=2.0km az=154.0*

NEIC ***16*** *04:15:55.0±1.3, 37.20N±0.02×97.77W±0.02, h6km±3km, mb_Lg2.8/49, ML2.9/19, ML3.1/36, Error ellipse: s-maj=3.2km s-min=1.8km az=176.0*

ANF ***16*** *04:15:55.0±0.5, 37.17N×97.78W, h7km, ML3.2/7, Error ellipse: s-maj=5.4km s-min=4.3km az=12.0*

ISC 16 04:15:54.7±0.8, 37.22N±0.02×97.77W±0.02, h14km±5km, n71, σ0s93/76, Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAN01	**Argonia South**	**0.07**	**173**		**Pg**	**04 15 57.6**	**+0.1**
KS21	**Milan North St**	**0.11**	**54**		**Pb**	**04 15 57.9**	**-0.7**
KS21					**Sg**	**04 15 59.9**	**-0.1**
KAN09	**Caldwell North**	**0.15**	**126**		**Pg**	**04 15 58.2**	**-0.3**
KAN09					**Sg**	**04 16 00.4**	**-0.6**
KAN09				IAML		04 16 01.8	
	comp=E,10μm,0.2s						
KAN08	**Anthony NE Sta**	**0.16**	**271**		**Pg**	**04 15 58.5**	**0.0**
KAN08					**Sg**	**04 16 01.0**	**-0.2**
KAN08				IAML		04 16 01.1	
	comp=E,9μm,0.1s						
KAN08				IAML		04 16 01.2	
	comp=N,4μm,0.1s						
KAN17	**Caldwell West**	**0.18**	**179**		**Pg**	**04 15 58.5**	**-0.4**
KAN17					**Sg**	**04 16 00.9**	**-0.8**
KAN17				IAML		04 16 01.0	
	comp=E,5μm,0.2s						
KAN12	**Harper NE Stat**	**0.20**	**292**		**Pb**	**04 15 59.4**	**-0.8**
KAN12					**Sg**	**04 16 02.4**	**+0.2**
KAN12				IAML		04 16 04.7	
	comp=E,6μm,0.3s						
KAN10	**Anthony SW Sta**	**0.28**	**249**		**Pg**	**04 16 00.5**	**0.0**
KAN10					**Sg**	**04 16 04.3**	**-0.2**
KAN14	**Manchester OK**	**0.31**	**210**		**Pg**	**04 16 00.9**	**-0.2**
KAN14					**Sg**	**04 16 05.0**	**-0.4**
KAN14				IAML		04 16 06.6	
	comp=E,2μm,0.2s						
KAN13	**South Haven SW**	**0.32**	**132**		**Pg**	**04 16 01.1**	**-0.1**
KAN13					**Sg**	**04 16 05.3**	**-0.2**
KAN13				IAML		04 16 05.6	
	comp=N,4μm,0.3s						
KAN13				IAML		04 16 06.4	
	comp=E,3μm,0.3s						
GC02	**Grant County #**	**0.38**	**191**		**Pg**	**04 16 02.1**	**-0.2**
GC02					**Sg**	**04 16 07.1**	**-0.4**
OK032	**Salt Plains WL**	**0.55**	**220**		**Pg**	**04 16 05.3**	**-0.1**
OK032					**Sg**	**04 16 12.6**	**-0.2**
OK032				IAML		04 16 12.8	
	comp=E,866nm,0.2s						
BLOK	**Blackwell**	**0.64**	**136**		**Pg**	**04 16 07.0**	**-0.2**
BLOK					**Sg**	**04 16 15.7**	**+0.1**
BLOK				IAML		04 16 19.5	
	comp=E,1μm,0.2s						
CROK	**Carrier**	**0.74**	**193**		**Pg**	**04 16 08.7**	**-0.3**
CROK					**Sg**	**04 16 18.4**	**-0.3**
CROK				IAML		04 16 18.9	
	comp=E,861nm,0.3s						
CROK				IAML		04 16 25.1	
	comp=N,797nm,0.3s						
OK035	**E0210 Rd and N**	**0.91**	**236**	Pg	**Pg**	**04 16 11.9**	**-0.4**
OK048	**Pawnee Station**	**1.04**	**140**	Pg	**Pb**	**04 16 14.0**	**-0.5**
OK048				IAML		04 16 28.1	
	comp=N,360nm,0.2s						
T35A	**Sooner Cattle**	**1.05**	**107**		**Pg**	**04 16 14.7**	**-0.3**
T35A					**Sb**	**04 16 28.5**	**+0.1**
T35A				IAML		04 16 29.0	
	comp=E,422nm,0.5s						
T35B	**Sooner Cattle**	**1.05**	**107**	P	**Pb**	**04 16 14.6**	**-0.1**
	baz=286						
T35B				S	**Sg**	**04 16 28.4**	**-0.3**
	baz=286						
U32A	**Winter Ranch,**	**1.30**	**230**	P	**Pb**	**04 16 18.9**	**-0.1**
	baz=50						
U32A				S	**Sg**	**04 16 36.3**	**-0.3**
	baz=50						
OK033	**Mehan**	**1.35**	**150**		**Pn**	**04 16 19.2**	**0.0**
OK033				IAML		04 16 43.0	
	comp=E,376nm,0.5s						
QUOK	**Quay**	**1.35**	**141**		**Pb**	**04 16 19.8**	**-0.1**
QUOK				IAML		04 16 40.9	
	comp=N,405nm,0.2s						
R32A	**Long Quarter,**	**1.41**	**328**		**Pg**	**04 16 21.5**	**-0.3**
R32A	**Long Quarter,**	**1.41**	**328**	P	**Pg**	**04 16 21.5**	**-0.3**
	baz=148						
R32A				S	**Sg**	**04 16 39.6**	**-0.5**
	baz=148						
OK029	**Liberty Lake**	**1.45**	**170**		**Pb**	**04 16 21.2**	**-0.3**
OK052	**Battle Ridge R**	**1.45**	**147**		**Pb**	**04 16 21.3**	**-0.3**
ADOK	**Arcadia Dam**	**1.60**	**168**		**Pn**	**04 16 22.5**	**-0.1**
DEOK	**Depew**	**1.72**	**143**		**Pb**	**04 16 25.4**	**-0.7**
CSTR	**Hydro, Custer**	**1.74**	**205**	Pg	**Pb**	**04 16 26.0**	**-0.4**
ELIS	**Ellis County**	**1.76**	**229**		**Pb**	**04 16 25.8**	**-1.0**
OKCSW	**OKLAHOMA CITY**	**1.83**	**171**		**Pn**	**04 16 26.5**	**+0.6**
FNO	**Franklin**	**1.99**	**171**		**Pn**	**04 16 28.6**	**+0.7**
TUL3	**Leonard**	**2.06**	**129**	Pn	**Pn**	**04 16 29.7**	**+0.8**
TUL3	**Leonard**	**2.06**	**129**	P	**Pn**	**04 16 30.3**	**+1.4**
	baz=310						
TUL3				S	**Sg**	**04 16 59.1**	**-1.9**
	baz=310						
KSU1	**Kansas State U**	**2.08**	**26**		**Pb**	**04 16 31.2**	**-1.1**
KSU1	**Kansas State U**	**2.08**	**26**	S	**Sg**	**04 17 00.6**	**-1.2**
	baz=206						
W35A	**Tecumseh**	**2.19**	**160**		**Pn**	**04 16 31.7**	**+1.0**
CBKS	**Cedar Bluff**	**2.22**	**316**	Sg	**Sg**	**04 17 04.3**	**-1.8**
CBKS	**Cedar Bluff**	**2.22**	**316**	P	**Pn**	**04 16 32.5**	**+1.3**
	baz=136						
CBKS				S	**Sg**	**04 17 04.5**	**-1.6**
	baz=136						
WMOK	**Wichita Mounta**	**2.61**	**199**	Pn	**Pn**	**04 16 37.4**	**+0.8**
WMOK	**Wichita Mounta**	**2.61**	**199**	P	**Pn**	**04 16 37.7**	**+1.1**
	baz=18						
U38A	**Gravette**	**2.83**	**105**	IAmb_Lg		04 17 26.3	
	comp=Z,28nm,0.7s						
SMWD	**Samnorwood**	**2.91**	**224**	Pn	**Pn**	**04 16 41.5**	**+0.8**
HHAR	**Hobbs**	**3.22**	**106**		**Pn**	**04 16 46.3**	**+1.4**
LOOK	**Love County**	**3.26**	**171**	Pn	**Pn**	**04 16 46.5**	**+1.0**
X37A	**Clayton**	**3.27**	**143**		**Pn**	**04 16 47.0**	**+1.4**
X37A				IAmb_Lg		04 17 46.8	
	comp=Z,31nm,0.8s						
S39A	**Bolivar**	**3.57**	**81**		**Pn**	**04 16 51.1**	**+1.4**
S39A				IAmb_Lg		04 17 54.2	
	comp=Z,15nm,0.8s						
AMTX	**Amarillo**	**3.94**	**235**	Pn	**Pn**	**04 16 56.3**	**+1.5**
AMTX				IAmb_Lg		04 18 06.0	
	comp=Z,28nm,1.0s						
RTBA	**Rita Blanca**	**4.06**	**260**	Pn	**Pn**	**04 16 58.6**	**+2.1**
P38A	**Dawn**	**4.10**	**53**	Pn	**Pn**	**04 16 59.7**	**+2.7**
BGNE	**Belgrade**	**4.19**	**356**	IAmb_Lg		04 18 09.9	
	comp=Z,21nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.22**	**296**		**Pn**	**04 17 00.8**	**+1.9**
KSCO				IAmb_Lg		04 18 10.9	
	comp=Z,14nm,0.9s						
FW06	**Azle**	**4.25**	**178**	IAmb_Lg		04 18 13.3	
	comp=Z,19nm,0.9s						
MIAR	**Mount Ida**	**4.33**	**127**	Pn	**Pn**	**04 17 01.2**	**+1.1**
MIAR				IAmb_Lg		04 18 16.1	
	comp=Z,18nm,0.9s						
DKNS	**Dickens**	**4.38**	**217**	Pn	**Pn**	**04 17 01.5**	**+0.6**
MGMO	**Mountain Grove**	**4.39**	**89**	Pn	**Pn**	**04 17 02.1**	**+1.1**
MGMO				IAmb_Lg		04 18 16.0	
	comp=Z,22nm,0.9s						
R40A	**Maddies Statio**	**4.49**	**75**	Pn	**Pn**	**04 17 04.4**	**+2.1**
Z38A	**Mt. Pleasant**	**4.56**	**149**	Pn	**Pn**	**04 17 04.3**	**+1.0**
Z38A				IAmb_Lg		04 18 22.3	
	comp=Z,23nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.74**	**105**	IAmb_Lg		04 18 23.0	
	comp=Z,12nm,0.8s						
X40A	**Basin Creek Fa**	**4.85**	**123**	IAmb_Lg		04 18 33.5	
	comp=Z,15nm,0.7s						
N38A	**Joes South For**	**5.02**	**43**	IAmb_Lg		04 18 41.3	
	comp=Z,16nm,0.8s						
UALR	**University of**	**5.03**	**117**	Pn	**Pn**	**04 17 10.1**	**+0.4**
UALR				IAmb_Lg		04 18 46.8	
	comp=Z,18nm,1.1s						
P40A	**Paris**	**5.05**	**61**	Pn	**Pn**	**04 17 11.2**	**+1.1**
P40A				IAmb_Lg		04 18 43.0	
	comp=Z,17nm,1.1s						
WLAR	**White Oak Lake**	**5.19**	**131**	IAmb_Lg		04 18 41.5	
	comp=Z,15nm,0.9s						
T25A	**Trinidad**	**5.30**	**271**	Pn	**Pn**	**04 17 13.3**	**-0.5**
T25A				IAmb_Lg		04 18 43.7	
	comp=Z,11nm,0.7s						
PBMO	**Poplar Bluff**	**5.89**	**92**	IAmb_Lg		04 19 06.4	
	comp=Z,16nm,0.8s						
Q24A	**Divide**	**6.07**	**289**		**Pn**	**04 17 23.8**	**-0.6**
CGM3	**Cape Girardeau**	**6.47**	**87**	IAmb_Lg		04 19 19.4	
	comp=Z,11nm,0.9s						
ECSD	**EROS Data Cent**	**6.56**	**7**	Pn	**Pn**	**04 17 31.6**	**+0.8**
JCT	**Junction City**	**6.94**	**195**	IAmb_Lg		04 19 51.6	
	comp=Z,8.6nm,0.7s						
Y22D	**IRIS PASSCAL I**	**8.08**	**250**	IAmb_Lg		04 20 21.5	
	comp=Z,11nm,0.8s						
JFWS	**Jewell Farm**	**8.09**	**43**	IAmb_Lg		04 20 10.9	
	comp=Z,8.2nm,0.8s						
K22A	**Casper**	**8.63**	**312**	IAmb_Lg		04 20 41.6	
	comp=Z,9.1nm,1.0s						

IDC ***16*** *04:28:35.7±0.7, 52.01N×105.72E, h0km, mb3.7/10, mbtmp3.7/15, ML3.5/4, MS3.3/15, Error ellipse: s-maj=18.6km s-min=14.1km az=63.0*

MOS ***16*** *04:28:35.8±1.7, 52.00N×105.69E, h10km, mb4.2/5, Error ellipse: s-maj=7.9km s-min=6.8km az=48.4*

MOS Felt (III-IV) at Irkutsk.

BYKL ***16*** *04:28:38.2±0.1, 52.05N×105.65E, h19km±2km, FELT I=III-IV MSK at Bol'shiye Koty, Listvyanka, Molodezhny, Dzepzhinsk, Ipkutsk, Urik, Shelekhov, Baklashi; III at Nizhniy Sayantui, Ulan-Ude, Angarsk, Usol'ye-Sibipskoye.*

ISC 16 04:28:38.0±0.8, 52.05N±0.02×105.67E±0.02, h16km±5km, n93, σ2s10/143, mb3.7/13, MS3.2/10, 9C-13D, Lake Baikal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BGT	**Bolshoye Golou**	**0.16**	**269**	⇓*i*	**Pg**	**04 28 42.8**	**+0.6**
BGT				Pmax		04 28 43.0	
	10μm,0.2s						
BGT				*e*Sg	**Sg**	**04 28 46.0**	**+1.0**
BGT				Smax		04 28 46.3	
	54μm,0.3s						
BGT	**Bolshoye Golou**	**0.16**	**269**	⇓*i*	**Pg**	**04 28 42.8**	**+0.6**
BGT				pmax	pmax		
	comp=Z,10μm,0.2s						
VBR	**Suhoy Ruchey**	**0.33**	**139**	⇑*i*	**Pg**	**04 28 45.3**	**+0.5**
VBR				*e*Sg	**Sg**	**04 28 50.5**	**+1.0**
LSTR	**Listvyanka**	**0.55**	**251**	⇓*i*	**Pb**	**04 28 48.7**	**-0.6**
LSTR				Pmax		04 28 49.4	
	comp=Z,525nm,0.3s						
LSTR				*e*Sg	**Sb**	**04 28 56.0**	**-0.9**
LSTR				Smax		04 28 56.2	
	comp=Z,5μm,0.2s						
LSTR	**Listvyanka**	**0.55**	**251**	⇓*i*	**Pb**	**04 28 48.7**	**-0.6**
LSTR				pmax	pmax		
	comp=Z,520nm,0.2s						
KAB	**Kabansk**	**0.61**	**89**	⇑*i*	**Pb**	**04 28 50.3**	**+0.1**
KAB				Pmax		04 28 50.4	
	comp=Z,4μm,0.3s						
KAB				*e*Sg	**Sg**	**04 28 58.9**	**+0.9**
KAB				Smax		04 28 59.8	
	comp=Z,27μm,0.5s						
KAB	**Kabansk**	**0.61**	**89**	⇑*i*	**Pb**	**04 28 50.3**	**+0.1**
KAB				pmax	pmax		
	comp=Z,4μm,0.6s						
FFNB	**Fofonovo**	**0.68**	**90**	⇑*i*	**Pb**	**04 28 51.3**	**-0.1**
FFNB				*e*Sg	**Sb**	**04 29 00.3**	**-0.2**
IVK	**Ivanovka**	**0.82**	**253**	⇓*i*	**Pb**	**04 28 53.3**	**-0.5**
IVK				Pmax		04 28 53.8	
	comp=Z,353nm,0.1s						
IVK				*e*Sg	**Sb**	**04 29 04.0**	**-0.6**
IVK				Smax		04 29 04.8	
	comp=Z,6μm,0.3s						
IVK				*e*		04 29 06.9	
IVK				*e*Sb	**Sn**	**04 29 09.8**	**+3.1**
TRG	**Tyrgan**	**0.83**	**30**	⇓*i*	**Pb**	**04 28 53.8**	**-0.2**
TRG				Pmax		04 28 59.9	
	comp=Z,467nm,0.2s						
TRG				*e*Sg	**Sb**	**04 29 05.1**	**+0.2**
TRG				Smax		04 29 09.2	
	comp=Z,7μm,0.4s						
TRG				*e*Sb	**Sn**	**04 29 13.4**	**+6.5**
TRG	**Tyrgan**	**0.83**	**30**	⇓*i*	**Pb**	**04 28 53.8**	**-0.2**
TRG				pmax	pmax		
	comp=Z,322nm,0.2s						
IRK	**Irkutsk**	**0.89**	**283**	*e*Pg	**Pg**	**04 28 55.2**	**+0.1**
IRK				Pmax		04 28 57.5	
	comp=Z,3μm,0.3s						
IRK				*e*Sg	**Sg**	**04 29 06.8**	**0.0**
IRK				Smax		04 29 11.7	
	comp=Z,32μm,0.5s						
IRK	**Irkutsk**	**0.89**	**283**	*e*PG	**Pg**	**04 28 55.1**	**0.0**
IRK				pmax	pmax		
	comp=Z,2μm,0.1s						
HRMR	**Khuramsha**	**0.90**	**117**	⇑*i*	**Pb**	**04 28 54.8**	**-0.4**
HRMR				Pmax		04 28 56.1	
	comp=Z,5μm,0.4s						
HRMR				*e*Sg	**Sb**	**04 29 06.9**	**-0.1**
HRMR				Smax		04 29 07.8	
	comp=Z,32μm,0.4s						
UUDB	**Ulan-Yde**	**1.25**	**98**	⇑*i*	**Pn**	**04 29 01.0**	**+0.2**
	comp=Z,209nm,0.5s						
UUDB				⇓*i*	**Pn**	**04 29 01.0**	**+0.2**
	comp=Z,375nm,0.5s						
UUDB				⇓*i*	**Pn**	**04 29 01.0**	**+0.2**
	comp=Z,770nm,0.5s						
UUDB				Pmax		04 29 01.9	
	comp=Z,758nm,0.4s						
UUDB				*e*Sg	**Sn**	**04 29 17.2**	**0.0**
UUDB				Smax		04 29 19.5	
	comp=Z,5μm,0.5s						
TLY	**Talaya**	**1.31**	**255**	⇑*i*	**Pb**	**04 29 02.0**	**-0.2**
TLY				Pmax		04 29 03.0	
	comp=Z,353nm,0.2s						
TLY				*e*Pb	**Pg**	**04 29 03.8**	**+0.6**
TLY				*e*Sg	**Sb**	**04 29 18.9**	**+0.1**
TLY				Smax		04 29 22.2	
	comp=Z,4μm,0.1s						
TLY	**Talaya**	**1.31**	**255**	*e*PG	**Pb**	**04 29 02.2**	**0.0**
TLY				pmax	pmax		
	comp=Z,357nm,0.2s						
KELR	**Kotokel**	**1.64**	**63**	*e*Pn	**Pn**	**04 29 06.6**	**+0.4**
KELR				*e*Pg	**Pb**	**04 29 07.9**	**+0.1**
KELR				*e*Pb	**Pg**	**04 29 08.8**	**-0.7**
KELR				*e*Sg	**Sb**	**04 29 29.3**	**+1.0**
UZR	**Uzur**	**1.79**	**44**	⇓*i*	**Pn**	**04 29 08.9**	**+0.6**
UZR				*e*Pg	**Pb**	**04 29 10.7**	**+0.2**
UZR				Pmax		04 29 18.2	
	comp=Z,243nm,0.4s						
UZR				*e*Sn	**Sb**	**04 29 31.7**	**-1.0**
UZR				*e*Sg	**Sg**	**04 29 34.1**	**-1.6**
UZR				*e*		04 29 44.1	
UZR				max		04 29 46.8	
	comp=Z,1μm,0.3s						
GORB	**Goryachinsk**	**1.85**	**58**	⇓*i*	**Pn**	**04 29 09.3**	**+0.2**
GORB				*e*Pg	**Pb**	**04 29 11.2**	**-0.3**
GORB				*e*Sg	**Sb**	**04 29 36.3**	**+1.9**
OGRR	**Ongureny**	**1.98**	**35**	⇓*i*	**Pn**	**04 29 12.0**	**+1.1**
OGRR				*e*Pg	**Pb**	**04 29 14.1**	**+0.5**
OGRR				*e*		04 29 19.9	
OGRR				max		04 29 21.1	
	comp=Z,424nm,0.8s						
OGRR				*e*Sn	**Sb**	**04 29 37.0**	**-1.1**
OGRR				*e*Sg	**Sg**	**04 29 39.8**	**-1.8**
OGRR				Smax		04 29 43.5	
	comp=Z,2μm,0.5s						
OGRR				*e*		04 29 46.6	
ARS	**Arshan**	**2.01**	**268**	*e*Pn	**Pn**	**04 29 12.4**	**+1.0**
ARS

ORL				*e*Pg		**Pb**	**04 29 42.5**	**+0.6**
ORL				Pmax			04 29 49.0	
	comp=Z,133nm,0.6s							
ORL				*e*Sg		**Sb**	**04 30 29.5**	**+3.8**
ORL				Smax			04 30 33.6	
	comp=Z,1μm,0.8s							
ORL	**Oriik**	**3.63**	**280**	⇑ *i* PN		**Pn**	**04 29 35.7**	**+2.0**
ORL				pmax	pmax			
	comp=Z,163nm,0.5s							
SONM	**Songino Array**	**4.24**	**173**	Pn		**Pn**	**04 29 42.7**	**+0.6**
	comp=Z,7.7nm,0.3s,baz=346,slow=14,SNR=100							
SONM				Pg		**Pb**	**04 29 53.2**	**+0.9**
	comp=Z,24nm,0.3s,baz=349,slow=17,SNR=32							
SONM				Lg		Lg	04 30 48.8	
	comp=Z,72nm,0.3s,baz=343,slow=23,SNR=15							
SONM				LR		LR	04 31 40.0	
	comp=Z,208nm,19.3s,baz=332,slow=44							
	comp=Z,18nm,0.5s							
ULN	**Ulaanbaatar**	**4.28**	**167**	*e*Pn		**Pn**	**04 29 43.1**	**+0.5**
ULN				*e*Pg		**Pb**	**04 29 54.8**	**+1.9**
ULN				*e*Sg		**Sg**	**04 30 50.3**	**-5.0**
ULN	**Ulaanbaatar**	**4.28**	**167**	*i* PN		**Pn**	**04 29 42.5**	**-0.1**
YLYR	**Ulyunkhan**	**4.33**	**47**	*e*Pn		**Pn**	**04 29 44.2**	**+1.0**
YLYR				*e*			04 29 50.0	
YLYR				*e*Pg		**Pb**	**04 29 56.4**	**+2.6**
YLYR				Pmax			04 30 10.5	
	comp=Z,31nm,0.7s							
YLYR				*e*Sn		**Sn**	**04 30 32.3**	**-1.1**
YLYR				*e*Sg		**Sg**	**04 30 52.6**	**-4.4**
YLYR				*e*			04 31 07.8	
YLYR				max			04 31 10.6	
	comp=Z,258nm,1.1s							
YLYR	**Ulyunkhan**	**4.33**	**47**	*e*PN		**Pn**	**04 29 44.2**	**+1.0**
YLYR				pmax	pmax			
	comp=Z,17nm,0.3s							
NIZB	**Nizh Angarsk**	**4.38**	**30**	*e*Pn		**Pn**	**04 29 44.6**	**+0.8**
NIZB				*e*			04 29 54.2	
NIZB				max			04 30 03.8	
	comp=Z,45nm,0.5s							
NIZB				*e*Sn		**Sn**	**04 30 33.4**	**-1.0**
NIZB				*e*Sg		**Sb**	**04 30 52.3**	**+5.3**
NIZB				Smax			04 31 06.0	
	comp=Z,433nm,1.0s							
KPC	**Khapcheranga**	**4.85**	**116**	*e*Pn		**Pn**	**04 29 49.5**	**-0.9**
KPC				*e*Pg		**Pb**	**04 30 05.2**	**+2.6**
KPC				*e*			04 30 13.9	
KPC				max			04 30 15.3	
	comp=Z,50nm,0.6s							
KPC				*e*Sn		**Sn**	**04 30 45.7**	**-0.5**
KPC				*e*Sg		**Sg**	**04 31 08.5**	**-5.1**
KPC				Smax			04 31 12.0	
	comp=Z,1μm,1.2s							
KPC				*e*			04 31 18.2	
KPC	**Khapcheranga**	**4.85**	**116**	*e*PN		**Pn**	**04 29 49.5**	**-0.9**
KPC				pmax	pmax			
	comp=Z,45nm,0.3s							
CIT	**Chita**	**4.87**	**87**	*e*Pg		**Pb**	**04 30 05.9**	**+3.1**
CIT				Pmax			04 30 14.2	
	comp=Z,83nm,0.2s							
CIT				*e*Sn		**Sn**	**04 30 46.6**	**+0.1**
CIT				*e*Sg		**Sg**	**04 31 08.7**	**-5.4**
CIT				Smax			04 31 15.0	
	comp=Z,831nm,0.6s							
CIT	**Chita**	**4.87**	**87**	*e*PN		**Pn**	**04 29 49.5**	**-1.0**
CIT				pmax	pmax			
	comp=Z,82nm,0.6s							
KMO	**Kumora**	**5.04**	**38**	*e*		Pn	04 29 58.3	+5.4
KMO				*e*Pg		**Pb**	**04 30 07.8**	**+2.0**
KMO				Pmax			04 30 32.8	
	comp=Z,35nm,0.4s							
KMO				*e*Sn		**Sn**	**04 30 50.0**	**-0.8**
KMO				*e*Sg		**Sg**	**04 31 13.9**	**-5.8**
KMO				Smax			04 31 46.1	
	comp=Z,383nm,1.1s							
KMO	**Kumora**	**5.04**	**38**	*e*PN		**Pn**	**04 29 53.2**	**+0.3**
KMO				pmax	pmax			
	comp=Z,30nm,0.3s							
YOA	**Uoyan**	**5.42**	**39**	*e*Sg		**Sg**	**04 31 26.1**	**-5.8**
YOA				Smax			04 32 05.7	
	comp=Z,1μm,1.0s							
UKT	**Uakit**	**5.84**	**51**	*e*Pn		**Pn**	**04 30 04.9**	**+1.0**
UKT				*e*Pg		**Pb**	**04 30 22.3**	**+2.8**
UKT				Pmax			04 30 35.6	
	comp=Z,17nm,0.9s							
UKT				*e*Sn		**Sn**	**04 31 08.8**	**-1.8**
UKT				*e*Sg		**Sg**	**04 31 39.1**	**-6.2**
UKT				Smax			04 31 56.2	
	comp=Z,120nm,1.3s							
UKT	**Uakit**	**5.84**	**51**	*e*PN		**Pn**	**04 30 05.0**	**+1.0**
UKT				pmax	pmax			
	comp=Z,16nm,0.9s							
SVKR	**Severomuysk**	**6.18**	**46**	*e*Sg		**Sg**	**04 31 50.3**	**-5.7**
SVKR				Smax			04 32 16.9	
	comp=Z,449nm,1.0s							
KZLR	**Kyzyl**	**6.96**	**272**	*e*Pg		Pb	04 30 43.6	+5.2
KZLR				*e*Sg		**Sg**	**04 32 12.8**	**-8.2**
NLYR	**Nelyaty**	**7.37**	**49**	*e*Pn		**Pn**	**04 30 26.1**	**+1.3**
NLYR				*e*Pg		Pb	04 30 50.9	+5.5
NLYR				Pmax			04 31 32.2	
	comp=Z,26nm,1.0s							
NLYR				*e*Sn		**Sn**	**04 31 46.7**	**-1.3**
NLYR				*e*Sg		Sg	04 32 25.5	-8.6
NLYR				Smax			04 32 43.5	
	comp=Z,167nm,1.3s							
BOD	**Bodaibo**	**7.51**	**36**	*e*Pn		**Pn**	**04 30 28.9**	**+2.2**
BOD				*e*Pg		Pb	04 30 53.3	+5.5
BOD				Pmax			04 31 16.5	
	comp=Z,13nm,0.8s							
BOD				*e*Sn		**Sn**	**04 31 49.5**	**-2.0**
BOD				*e*Sg		Sb	04 32 29.9	+13
BOD				Smax			04 32 54.3	
	comp=Z,100nm,1.1s							
ARDR	**Aradan**	**7.53**	**279**	*e*		**Pb**	**04 30 50.7**	**+2.6**
ARDR				*e*Sg		Sb	04 32 28.9	+11
VTMR	**Vitim**	**8.36**	**25**	*e*Sn		**Sn**	**04 32 09.1**	**-3.2**
VTMR				*e*Sg		Sb	04 32 56.7	+15
CRS	**Chara**	**8.79**	**52**	*e*Pn		**Pn**	**04 30 45.3**	**+0.9**
CRS				*e*			04 30 55.9	
CRS				*e*Pg			04 31 16.8	
CRS				Pmax			04 31 57.5	
	comp=Z,18nm,1.6s							
CRS				*e*			04 32 40.7	
CRS				*e*Sg		Sn	04 33 11.7	+49
CRS				Smax			04 33 43.0	
	comp=Z,98nm,1.7s							
TUP	**Tupik**	**8.89**	**69**	*e*Sg		Sn	04 33 13.6	+48
TUP				Smax			04 33 19.3	
	comp=Z,348nm,1.5s							
TUP	**Tupik**	**8.89**	**69**	*e*PN		**Pn**	**04 30 45.3**	**-0.4**
KHNR	**Khani**	**9.64**	**54**	*e*Sg		Sn	04 33 37.4	+53
YKLR	**Yuktali**	**10.38**	**58**	*e*Sg		Sn	04 33 59.3	+57
XLT	**XiLinHaoTe**	**10.72**	**135**	*e*P		Pn	04 31 16.3	+5.4
XLT				smax		smax		
	comp=N,4.0nm,0.9s							
XLT				smax		smax		
	comp=E,42nm,0.9s							
DGZ	**Jazzator, Alta**	**11.76**	**266**	*i* P		**Pn**	**04 31 23.8**	**-1.3**
ZALV	**Zalesovo Beam**	**12.70**	**287**	Pn		**Pn**	**04 31 36.8**	**-0.9**
	comp=E,5.1nm,0.9s,baz=92,slow=10,SNR=17							
ZALV				Lg		Lg	04 35 09.0	
	comp=E,0.2nm,0.3s,baz=99,slow=23,SNR=7.9							
ZALV				LR		LR	04 36 32.1	
	comp=E,137nm,19.7s,baz=87,slow=37							
ZEA	**Zeya**	**13.13**	**74**	P		**Pn**	**04 31 46.9**	**+3.2**
MK31	**Makanchi Array**	**16.07**	**260**	*i* P		**Pn**	**04 32 21.5**	**-1.6**
MKAR	**Makanchi Array**	**16.07**	**260**	Pn		**Pn**	**04 32 23.3**	**+0.2**
	comp=E,0.1nm,0.3s,baz=101,slow=15,SNR=3.2							
MKAR				Lg		Lg	04 37 01.4	
	baz=67,slow=35							
MKAR				LR		LR	04 38 43.6	
	comp=E,122nm,19.5s,baz=64,slow=38							
	comp=E,0.3nm,0.7s							
KLR	**Kul'dur**	**16.75**	**89**	*i* P		**P**	**04 32 33.6**	**-0.3**
KLR	**Kul'dur**	**16.75**	**89**	LR		LR	04 39 54.6	
	comp=E,45nm,18.1s,baz=230,slow=41							
KURK	**Kurchatov**	**16.91**	**276**	*i* P		**Pn**	**04 32 32.3**	**-1.4**
KURBB	**Kurchatov Arra**	**16.99**	**276**	Pn		**Pn**	**04 32 34.2**	**-0.5**
	baz=79,slow=9.8,SNR=2.0							
KURBB				Lg		Lg	04 37 24.2	
	baz=65,slow=35,SNR=1.6							
	comp=E,0.2nm,0.3s							
USRK	**Ussuriysk Ar.**	**19.16**	**104**	LR		LR	04 41 04.0	
	comp=E,68nm,19.9s,baz=179,slow=39							
NRIK	**Noril'sk**	**19.33**	**341**	*i* P		**Pn**	**04 33 03.5**	**+0.2**
NRIK				pmax	pmax			
	comp=Z,4.0nm,1.0s							
NRIK	**Noril'sk**	**19.33**	**341**	P		**Pn**	**04 33 03.1**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=144,slow=8.1,SNR=2.1							
	comp=Z,1.3nm,0.4s							
BVAR	**Borovoye Array**	**21.36**	**287**	P		**P**	**04 33 24.0**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=76,slow=14,SNR=12							
BVAR				LR		LR	04 42 00.8	
	comp=Z,91nm,21.4s,baz=62,slow=38							
	comp=Z,2.3nm,0.7s							
KSRS	**Korea Array**	**21.39**	**124**	LR		LR	04 42 28.2	
	comp=Z,69nm,18.7s,baz=330,slow=39							
BRVK	**Borovoye**	**21.41**	**287**	*i* P		**P**	**04 33 25.5**	**+0.6**
BRVK				pmax	pmax			
	comp=Z,8.0nm,2.2s							
TIXI	**Tiksi**	**22.21**	**19**	*i* P		**P**	**04 33 33.4**	**+0.2**
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.6s							
AAK	**Ala-Archa**	**22.97**	**258**	LR		LR	04 42 57.6	
	comp=Z,104nm,18.2s,baz=62,slow=38							
ASAJ	**Asahikawa**	**25.68**	**93**	LR		LR	04 44 38.3	
	comp=Z,60nm,20.6s,baz=109,slow=38							
MJAR	**Matsushiro Arr**	**27.68**	**111**	LR		LR	04 44 49.9	
	comp=Z,30nm,18.2s,baz=141,slow=35							
AKTO	**Aktyubinsk**	**29.46**	**286**	LR		LR	04 46 17.5	
	comp=Z,50nm,19.5s,baz=83,slow=36							
CMAR	**Chiang Mai Arr**	**33.94**	**191**	*i* P		**P**	**04 35 18.6**	**-1.8**
CMAR				pmax	pmax			
	comp=Z,2.0nm,0.4s							
JCJ	**Chichijima**	**36.98**	**118**	LR		LR	04 50 58.6	
	comp=Z,88nm,19.9s,baz=125,slow=36							
OBN	**Obninsk**	**39.62**	**303**	*e*P		**P**	**04 36 10.4**	**+2.0**
OBN				pmax	pmax			
	comp=Z,3.0nm,0.8s							
FINES	**FINESS Array B**	**41.98**	**315**	*i* P		**P**	**04 36 30.1**	**+2.3**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
FINES	**FINESS Array B**	**41.98**	**315**	P		**P**	**04 36 27.8**	**0.0**
	comp=Z,1.2nm,0.8s,baz=56,slow=10,SNR=3.5							
	comp=Z,1.2nm,0.8s							
AKASG	**Malin Array Be**	**45.65**	**300**	P		**P**	**04 36 56.6**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=58,slow=9.2,SNR=4.6							
	comp=Z,0.4nm,0.4s							
NOA	**NORSAR Array B**	**48.42**	**320**	LR		LR	04 59 28.8	
	comp=Z,41nm,18.3s,baz=240,slow=38							
BRTR	**Keskin Array B**	**49.64**	**286**	P		**P**	**04 37 30.6**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=25,slow=6.1,SNR=2.8							
BRTR				LR		LR	05 01 23.2	
	comp=Z,33nm,19.1s,baz=176,slow=40							
	comp=Z,0.3nm,0.7s							
ILAR	**Eielson Array**	**50.85**	**32**	P		**P**	**04 37 38.2**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=303,slow=5.4,SNR=10							
	comp=Z,0.6nm,0.7s							
YKA	**Yellowknife Ar**	**61.46**	**20**	P		**P**	**04 38 53.2**	**+0.1**
	comp=Z,0.3nm,0.9s,baz=334,slow=7.2,SNR=2.4							
	comp=Z,0.3nm,0.9s							
WRA	**Warramunga Arr**	**75.93**	**152**	P		**P**	**04 40 23.1**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=343,slow=6.2,SNR=6.5							
	comp=Z,0.8nm,0.7s							
ASAR	**Alice Springs**	**79.34**	**154**	P		**P**	**04 40 42.7**	**0.0**
	comp=Z,0.9nm,0.6s,baz=348,slow=5.7,SNR=9.5							
	comp=Z,0.9nm,0.6s							
NVAR	**Mina Array Bea**	**82.08**	**33**	P		**P**	**04 40 58.8**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=304,slow=2.7,SNR=3.6							
	comp=Z,0.4nm,0.7s							
TORD	**Torodi Ar. Bea**	**88.14**	**289**	P		**P**	**04 41 28.8**	**+0.6**
	comp=Z,0.5nm,1.0s,baz=32,slow=7.1,SNR=2.1							
	comp=Z,0.5nm,1.0s							
LSZ	**Lusaka**	**94.40**	**251**	LR		LR	05 27 30.9	
	comp=Z,70nm,19.0s,baz=172,slow=37							

*IDC **16** 04:37:09.7±0.7,0°.39N×98°.83E,h0km,mb4.0/15, mbtmp4.0/16,ML4.5/1,MS3.2/2,Error ellipse: s-maj=35.5km s-min=14.6km az=63.0*
*NEIC **16** 04:37:15.3±1.6,0°.28N±0°.10×98°.60E±0°.07,h36km±4km, mb4.4/18,Error ellipse: s-maj=15.7km s-min=8.1km az=212.0*
*DJA **16** 04:37:15.4±0.4,0°N±2″×9°9E±″,h30km±7km,M4.8/19, mb4.7/8,mB5.4/7,MLv4.7/19,Mw(mB)4.8/7*

ISC 16 04:37:15.7±0.5,0°.34N±0°.04×98°.64E±0°.05,h43km,n78, σ0s99/68,mb4.3/27,1C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBSI	**Pulau Batu**	**0.53**	**222**	P	**Pn**	**04 37 27.1**	**+0.1**
PBSI				S	**Sn**	**04 37 36.2**	**+1.2**
SBSI	**Sibolga**	**1.23**	**12**	P	**Pn**	**04 37 36.7**	**+0.3**
SBSI				S	**Sn**	**04 37 52.5**	**+0.7**
GSI	**Gunungsitoli**	**1.43**	**312**	Pn	**Pn**	**04 37 38.5**	**-0.6**
GSI	**Gunungsitoli**	**1.43**	**312**	P	**Pn**	**04 37 40.2**	**+1.0**
GSI	**Gunungsitoli**	**1.43**	**312**	P	**Pn**	**04 37 40.0**	**+0.8**
SISI	**Saibi**	**1.72**	**165**	P	**Pn**	**04 37 43.3**	**+0.1**
SISI				S	**Sn**	**04 38 05.3**	**+1.4**
PDSI	**Padang**	**2.21**	**124**	P	**Pn**	**04 37 49.9**	**0.0**
BKNI	**Bangkinang**	**2.40**	**90**		**Pn**	**04 37 53.3**	**+0.7**
BKNI	**Bangkinang**	**2.40**	**90**	P	Pn	04 37 58.9	+6.4
BKNI	**Bangkinang**	**2.40**	**90**	P	**Pn**	**04 37 53.6**	**+1.1**
SNSI	**Sinabang, Aceh**	**3.09**	**312**	P	**Pn**	**04 38 02.6**	**+0.6**
SNSI				S	**Sn**	**04 38 37.2**	**-0.5**
KCSI	**Kotacane, Aceh**	**3.27**	**345**	P	**Pn**	**04 38 04.9**	**+0.3**
PPSI	**Pulau Pagai**	**3.38**	**156**	P	**Pn**	**04 38 05.0**	**-0.9**
KRJI	**Kerinci**	**3.72**	**131**	P	**Pn**	**04 38 10.8**	**+0.1**
MLSI	**Meulaboh, Aceh**	**4.49**	**330**	P	**Pn**	**04 38 21.1**	**-0.2**
IPM	**Ipoh**	**4.75**	**30**		**Pn**	**04 38 25.1**	**+0.2**
IPM	**Ipoh**	**4.75**	**30**	P	Pn	04 38 32.3	+7.4
LHMI	**Lhok Sumawe**	**5.14**	**341**	Pn	**Pn**	**04 38 30.9**	**+0.8**
LHMI	**Lhok Sumawe**	**5.14**	**341**	P	**Pn**	**04 38 30.3**	**+0.2**
	74nm,0.7s,0.9nm						
KULM	**Kulim**	**5.31**	**22**	Pn	**Pn**	**04 38 33.5**	**+1.0**
MYKOM	**Kota Tinggi**	**5.41**	**75**		**Pn**	**04 38 33.9**	**+0.1**
DSRI	**Dabo**	**6.00**	**98**	P	**Pn**	**04 38 41.6**	**-0.3**
	39nm,0.5s,3μm0.3nm						
MNAI	**Manna**	**6.36**	**137**	P	**Pn**	**04 38 48.4**	**+1.5**
	71nm,0.6s,0.8nm						
SKLT	**Songkhla**	**7.06**	**16**	P	Pn	04 39 03.6	+7.0
PPBI	**Pangkal Pinang**	**7.90**	**108**	P	**Pn**	**04 39 09.0**	**+0.9**
SRIT	**Nakonsritamara**	**8.25**	**7**	Pn	**Pn**	**04 39 13.9**	**+1.0**
SRIT	**Nakonsritamara**	**8.25**	**7**	P	Pn	04 39 20.6	+7.7
SURA	**Surathani**	**8.82**	**6**	P	Pn	04 39 28.1	+7.4
	28nm,0.8s						
CMAR	**Chiang Mai Arr**	**18.00**	**1**	P	**Pn**	**04 41 22.7**	**-0.2**
	0.6nm,0.3s,baz=188,slow=11,SNR=2.3						
CMAR				LR	LR	04 47 35.5	
	comp=Z,62nm,20.8s,baz=135,slow=35						
	1.4nm,0.3s						
TOLI2	**Tolitoli**	**22.16**	**88**	P	**P**	**04 42 06.7**	**-1.4**
TOLI2				IAmb	IAmb	04 42 22.3	
	comp=Z,13nm,1.0s						
H08S2	**Diego Garcia H**	**27.25**	**253**	T	T	05 10 31.6	
	baz=73,slow=75,SNR=117						
H08S3	**Diego Garcia H**	**27.25**	**253**	T	T	05 10 31.8	
	baz=73,slow=75,SNR=118						
H08S1	**Diego Carcia H**	**27.27**	**253**	T	T	05 10 30.8	
	baz=73,slow=75,SNR=103						
MBWA	**Marble Bar**	**29.69**	**137**	P	**P**	**04 43 16.1**	**-1.7**
MBWA				IAmb	IAmb	04 43 53.5	
	comp=Z,9.7nm,1.4s						
XAN	**Xi'an**	**34.88**	**15**	⇑P	**P**	**04 44 05.3**	**+2.2**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WB0	**Warramunga Arr**	**40.34**	**122**	P	**P**	**04 44 48.2**	**-1.3**
WRA	**Warramunga Arr**	**40.37**	**122**	P	**P**	**04 44 47.9**	**-1.8**
	comp=Z,1.2nm,0.8s,baz=299,slow=10,SNR=16						
	comp=Z,1.2nm,0.8s						
WB2	**Warramunga Arr**	**40.38**	**122**	P	**P**	**04 44 49.3**	**-0.5**
WB2				IAmb	IAmb	04 44 59.4	
	comp=Z,18nm,1.4s						
WR0	**Warramunga Arr**	**40.54**	**122**	P	**P**	**04 44 50.3**	**-0.9**
WR0				IAmb	IAmb	04 45 23.2	
	comp=Z,11nm,1.4s						
ASAR	**Alice Springs**	**41.74**	**127**	P	**P**	**04 44 59.3**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=305,slow=8.1,SNR=11						
ASAR				PcP	**PcP**	**04 46 57.5**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=290,slow=3.8,SNR=1.8						
	comp=Z,1.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**41.99**	**15**	*e*P	**P**	**04 45 04.8**	**+1.9**
HHC				sP	pP	04 45 18.5	+3.7
HHC				pmax	pmax		
	comp=Z,11nm,0.6s						
HHC				pmax	pmax		
	comp=Z,47nm,4.0s						
KSRS	**Korea Array**	**45.76**	**33**	P	**P**	**04 45 30.3**	**-2.7**
	comp=Z,0.7nm,0.4s,baz=215,slow=7.3,SNR=1.4						
	comp=Z,0.7nm,0.4s						
XLT	**XiLinHaoTe**	**46.07**	**18**	*e*P	P	04 45 28.3	-7.2
XLT				pP	pP	04 45 38.0	-10
XLT				sP	sP	04 45 42.4	-10
XLT				pmax	pmax		
	comp=Z,5.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,120nm,5.0s						
BOOM	**Boomskoye usch**	**46.66**	**337**	P	**P**	**04 45 39.5**	**-0.8**
BOOM				IAmb	IAmb	04 45 54.4	
	comp=Z,2.3nm,0.6s						
SONM	**Songino Array**	**47.78**	**7**	P	**P**	**04 45 48.6**	**-0.3**
SONM				IAmb	IAmb	04 46 00.7	
	comp=Z,5.0nm,0.8s						
SONM	**Songino Array**	**47.78**	**7**	P	**P**	**04 45 49.5**	**+0.7**
	comp=Z,1.8nm,0.8s,baz=189,slow=10.0,SNR=7.5						
SONM				PcP	**PcP**	**04 47 18.3**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=245,slow=2.4,SNR=1.1						
	comp=Z,1.8nm,0.8s						
ULN	**Ulaanbaatar**	**47.90**	**8**	P	**P**	**04 45 51.1**	**+1.3**
ULN				IAmb	IAmb	04 46 01.1	
	comp=Z,4.8nm,0.8s						
BBOO	**Buckleboo**	**48.27**	**137**	P	**P**	**04 45 52.4**	**-0.4**
MK31	**Makanchi Array**	**48.42**	**345**	P	**P**	**04 45 54.3**	**+0.6**
MK31				IAmb	IAmb	04 46 06.4	
	comp=Z,5.1nm,1.4s						
MKAR	**Makanchi Array**	**48.42**	**345**	P	**P**	**04 45 54.2**	**+0.5**
MKAR	**Makanchi Array**	**48.42**	**345**	P	**P**	**04 45 54.4**	**+0.7**
	comp=Z,1.4nm,0.5s,baz=160,slow=8.6,SNR=23						
	comp=Z,1.4nm,0.5s						
MAKZ	**Makanchi**	**48.52**	**345**	P	**P**	**04 45 54.4**	**0.0**
STKA	**Stephens Creek**	**51.72**	**132**	P	**P**	**04 46 18.2**	**-0.7**
	comp=Z,2.3nm,0.8s,baz=328,slow=7.5,SNR=4.5						
	comp=Z,2.3nm,0.8s						
KURBB	**Kurchatov Arra**	**52.94**	**344**	P	**P**	**04 46 27.1**	**-0.4**
	comp=Z,0.9nm,0.2s,baz=164,slow=6.7,SNR=2.6						
	comp=Z,0.9nm,0.2s						
KURK	**Kurchatov**	**52.99**	**344**	P	**P**	**04 46 28.0**	**0.0**
KURK				IAmb	IAmb	04 46 41.8	
	comp=Z,3.4nm,0.8s						
ZAA0	**Zalesovo Array**	**54.63**	**350**	P	**P**	**04 46 41.2**	**+1.3**
ZALV	**Zalesovo Beam**	**54.63**	**350**	P	**P**	**04 46 40.1**	**+0.2**
ZALV	**Zalesovo Beam**	**54.63**	**350**	P	**P**	**04 46 40.0**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=165,slow=6.2,SNR=5.5						
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**57.53**	**340**	P	**P**	**04 47 00.8**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=138,slow=10.0,SNR=5.3						
	comp=Z,1.2nm,0.6s						
ABKAR	**Akbulak array**	**58.95**	**331**	P	**P**	**04 47 10.1**	**-0.5**
ABKAR				IAmb	IAmb	04 47 21.1	
	comp=Z,1.7nm,0.7s						
ABKAR	**Akbulak array**	**58.95**	**331**	P	**P**	**04 47 09.7**	**-0.9**
H04N2	**CROZET ISLANDS**	**61.89**	**215**	T	T	05 53 58.6	
	baz=55,slow=75,SNR=36						
H04N1	**CROZET ISLANDS**	**61.90**	**215**	T	T	05 53 59.4	
	baz=55,slow=75,SNR=38						
H04N3	**CROZET ISLANDS**	**61.91**	**215**	T	T	05 53 58.0	
	baz=55,slow=75,SNR=47						
H04S1	**CROZET ISLANDS**	**62.21**	**214**	T	T	05 54 26.9	
	baz=54						
H04S3	**CROZET ISLANDS**	**62.22**	**214**	T	T	05 54 32.6	
	baz=54						
H04S2	**CROZET ISLANDS**	**62.23**	**214**	T	T	05 55 01.8	
	baz=54						
NRIK	**Noril'sk**	**69.28**	**356**	P	**P**	**04 48 18.6**	**+0.5**
	comp=Z,1.3nm,0.4s,baz=117,slow=6.8,SNR=1.8						
	comp=Z,1.3nm,0.4s						
BRTR	**Keskin Array B**	**70.75**	**312**	P	**P**	**04 48 27.9**	**0.0**
	comp=Z,0.4nm,0.7s,baz=160,slow=4.1,SNR=3.0						
BRTR				LR	LR	05 23 08.1	
	comp=Z,23nm,18.5s,baz=274,slow=39						
	comp=Z,0.4nm,0.7s						
FINES	**FINESS Array B**	**81.42**	**332**	P	**P**	**04 49 28.6**	**+0.7**
FINES	**FINESS Array B**	**81.42**	**332**	P	**P**	**04 49 28.4**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=86,slow=4.6,SNR=2.1						
	comp=Z,1.7nm,0.9s						
ARCES	**ARCESS Array B**	**83.82**	**340**	P	**P**	**04 49 39.2**	**-1.1**
	comp=Z,2.0nm,0.8s,baz=54,slow=15,SNR=1.4						
	comp=Z,2.0nm,0.8s						
VNDA	**Vanda**	**84.71**	**169**	P	**P**	**04 49 45.8**	**+1.1**
VNDA	**Vanda**	**84.71**	**169**	P	**P**	**04 49 46.8**	**+2.1**
	comp=Z,0.2nm,0.4s,baz=325,slow=13,SNR=1.6						
	comp=Z,0.2nm,0.4s						
QSPA	**South Pole Qui**	**90.29**	**180**	P	**P**	**04 50 12.0**	**+0.1**
QSPA	**South Pole Qui**	**90.29**	**180**	P	**P**	**04 50 13.5**	**+1.6**
	comp=Z,1.1nm,1.0s,baz=242,slow=3.5,SNR=1.4						
	comp=Z,1.1nm,1.0s						
TXAR	**Lajitas Array**	**143.60**	**34**	PKP	PKPbc	04 56 46.0	+1.9
	comp=Z,0.1nm,0.3s,baz=336,slow=4.2,SNR=1.7						
CPUP	**Villa Flor

baz=354
DLBC Dease Lake 2.52 174 Pn **Pn** 04 51 24.9 +0.1
DLBC Sn **Sn** 04 51 53.7 -2.4
DLBC Dease Lake 2.52 174 Sg **Sg** 04 52 01.8 -1.8
O30N Mendenhall 2.74 269 P **Pn** 04 51 28.2 +0.4
baz=84,SNR=46
O30N Sb **Sg** 04 52 09.1 -1.6
baz=84
SKAG Skagway 2.83 241 P **Pn** 04 51 29.2 +0.2
baz=57,SNR=12
SKAG Sb **Sb** 04 52 11.4 +2.4
baz=57
S34M Telegraph Cree 3.05 186 P **Pn** 04 51 33.0 +0.9
baz=5.7,SNR=180
S34M Sb **Sg** 04 52 18.8 -1.9
baz=5.7
S34M Telegraph Cree 3.05 186 Pn **Pn** 04 51 32.9 +0.9
BESE Bessie Mountai 3.23 225 Pn **Pn** 04 51 35.3 +0.7
BESE Bessie Mountai 3.23 225 Sg **Sb** 04 52 23.0 +2.3
N30M Aishikik Lake 3.23 282 P **Pn** 04 51 34.7 +0.1
baz=97
N30M Sb **Sg** 04 52 24.3 -2.1
baz=97
N30M Aishikik Lake 3.23 282 Pn **Pn** 04 51 34.7 +0.1
N30M Pg **Pb** 04 51 42.8 +1.9
N30M Aishikik Lake 3.23 282 Sg **Sg** 04 52 24.3 -2.1
PLBC Pleasant Camp 3.28 246 Sb **Sb** 04 52 24.8 +2.7
baz=61
PLBC Pleasant Camp 3.28 246 Sn **Sn** 04 52 14.8 -0.1
PLBC Sg **Sg** 04 52 26.7 -1.4
KOTAN Kotaneelee Air 3.29 101 Sb **Sg** 04 52 26.6 -1.6
baz=287
P30M Million Dollar 3.30 258 P **Pn** 04 51 35.7 +0.3
baz=73
P30M Sb **Sb** 04 52 24.8 +2.3
baz=73
P30M Million Dollar 3.30 258 Pn **Pn** 04 51 35.8 +0.3
P30M Pg **Pb** 04 51 43.4 +1.4
P30M Million Dollar 3.30 258 Sg **Sg** 04 52 25.9 -2.7
R32K Eaglecrest 3.36 219 P **Pn** 04 51 37.4 +1.1
baz=36
R32K Sb **Sb** 04 52 27.2 +2.9
baz=36
R32K Eaglecrest 3.36 219 Sg **Sb** 04 52 27.3 +2.9
M30M Minto, Yukon 3.41 302 P **Pn** 04 51 37.0 -0.1
baz=116,SNR=65
M30M Sb **Sg** 04 52 30.8 -1.5
baz=116
M30M Minto, Yukon 3.41 302 Pn **Pn** 04 51 36.9 -0.1
M30M Minto, Yukon 3.41 302 Sn **Sn** 04 52 16.6 -1.6
M30M Sg **Sg** 04 52 30.0 -2.3
HYT Haines Junctio 3.43 271 P **Pn** 04 51 37.6 +0.3
baz=86,SNR=12
HYT Sb **Sb** 04 52 29.6 +3.3
baz=86
HYT Haines Junctio 3.43 271 Pn **Pn** 04 51 37.8 +0.5
HYT Pg **Pb** 04 51 46.0 +1.8
HYT Haines Junctio 3.43 271 Sg **Sg** 04 52 30.6 -2.1
FLDN Fort Liard 3.54 98 S **Sn** 04 52 22.6 +1.6
baz=284
FLDN Fort Liard 3.54 98 Sn **Sn** 04 52 18.2 -2.8
MAYO Mayo, Yukon 3.67 319 Sb **Sg** 04 52 38.0 -2.5
baz=135
MAYO Mayo, Yukon 3.67 319 Sg **Sg** 04 52 39.0 -1.5
R31K City Hall, Gus 3.67 229 Sb **Sg** 04 52 37.6 -2.9
baz=44
R31K City Hall, Gus 3.67 229 Sg **Sg** 04 52 38.4 -2.1
YUK7 Dusty Glacier 3.77 267 Pn **Pn** 04 51 42.9 +0.8
YUK7 Dusty Glacier 3.77 267 Sg **Sg** 04 52 40.9 -3.0
P29M Windy Craggy 3.83 253 Sb **Sb** 04 52 41.5 +3.5
baz=67
P29M Windy Craggy 3.83 253 Sg **Sg** 04 52 43.5 -2.4
YUK6 Outpost Mounta 3.84 274 P **Pn** 04 51 43.7 +0.7
baz=87,SNR=7.6
YUK6 Sb **Sg** 04 52 42.5 -3.3
baz=87
YUK6 Outpost Mounta 3.84 274 Pn **Pn** 04 51 44.2 +1.1
YUK6 Outpost Mounta 3.84 274 Sg **Sg** 04 52 43.6 -2.2
T35M Bob Quinn 3.97 178 P **Pn** 04 51 46.1 +1.4
baz=358
T35M Bob Quinn 3.97 178 Pn **Pn** 04 51 46.1 +1.4
T35M Bob Quinn 3.97 178 Sg **Sg** 04 52 47.5 -2.7
YUK4 Talbot Arm 3.97 279 P **Pn** 04 51 45.6 +0.8
baz=94
YUK4 Talbot Arm 3.97 279 Pn **Pn** 04 51 45.5 +0.6
YUK4 Talbot Arm 3.97 279 Sg **Sb** 04 52 46.5 +4.4
WRGLY Wrigley 4.03 52 Sb **Sg** 04 52 48.6 -3.4
baz=238
O29M Mount Kennedy 4.03 264 Sg **Sg** 04 52 49.8 -2.2
S32K Killisnoo 4.06 213 Sb **Sb** 04 52 47.8 +3.4
baz=29
M29M Somme Creek 4.08 295 P **Pn** 04 51 46.2 -0.1
baz=109
M29M Somme Creek 4.08 295 Pn **Pn** 04 51 46.1 -0.1
M29M Somme Creek 4.08 295 Sg **Sg** 04 52 50.9 -2.9
S31K Pelican 4.18 227 Sb **Sb** 04 52 51.4 +3.6
baz=42
L29M L29M 4.20 305 P **Pn** 04 51 47.4 -0.4
baz=118
L29M L29M 4.20 305 Pn **Pn** 04 51 47.5 -0.4
K29M Barlow Dome 4.38 315 Pn **Pn** 04 51 49.4 -1.0
K29M Barlow Dome 4.38 315 Sg **Sg** 04 53 00.7 -2.5
FNSB Fort Nelson 4.46 115 Sg **Sg** 04 53 00.7 -5.1
YUK8 Steele Glacier 4.51 278 Sg **Sg** 04 53 03.0 -4.5
J30M Hart River 4.53 326 P **Pn** 04 51 52.9 +0.5
baz=141
J30M Hart River 4.53 326 Pn **Pn** 04 51 52.9 +0.5
J30M Hart River 4.53 326 Sg **Sb** 04 53 03.2 +5.2
PNL Peninsula 4.61 258 Sg **Sb** 04 53 05.4 +5.3
WRAK Wrangell Islan 4.63 193 Sg **Sg** 04 53 06.5 -4.9
YUK3 Moose Creek 4.87 284 P **Pn** 04 51 57.2 +0.1
baz=96,SNR=11
YUK3 Moose Creek 4.87 284 Pn **Pn** 04 51 57.3 +0.1
YUK3 Moose Creek 4.87 284 Sg **Sb** 04 53 13.3 +5.4
PCA Pinnacle 4.90 264 Sg **Sb** 04 53 13.6 +5.1
U33K Whale Pass 5.03 197 P **Pn** 04 51 59.5 +0.4
baz=15
U33K Whale Pass 5.03 197 Pn **Pn** 04 51 59.5 +0.4
U33K Whale Pass 5.03 197 Sg **Sb** 04 53 16.9 +4.7
U35K Hyder 5.04 177 Sg **Sg** 04 53 18.5 -6.1
YUK2 White River 5.05 284 Pn **Pn** 04 51 59.6 0.0
YUK2 White River 5.05 284 Sg **Sb** 04 53 18.3 +5.3
I30M Mount Dempster 5.06 331 P **Pn** 04 52 01.1 +1.3
baz=146,SNR=18
I30M Mount Dempster 5.06 331 Pn **Pn** 04 52 00.6 +0.8
I30M Mount Dempster 5.06 331 Sg **Sg** 04 53 21.0 -4.2
NBC3 NorthernBC 3 5.06 101 Sg **Sg** 04 53 20.3 -4.9
LOGN Logan Glacier 5.13 273 Sg **Sg** 04 53 22.9 -4.5
BVCY Beaver Creek 5.15 291 P **Pn** 04 52 01.2 +0.3
baz=102,SNR=11
BVCY Beaver Creek 5.15 291 Pn **Pn** 04 52 01.0 +0.1
BVCY Beaver Creek 5.15 291 Sg **Sg** 04 53 23.6 -4.5
DAWY Dawson 5.18 311 Pn **Pn** 04 52 00.3 -1.0
DAWY Dawson 5.18 311 Sg **Sg** 04 53 24.8 -4.0
H31M Peel River 5.18 342 P **Pn** 04 52 02.0 +0.7
baz=159,SNR=32
H31M Peel River 5.18 342 Pn **Pn** 04 52 02.2 +0.9
H31M Peel River 5.18 342 Sg **Sg** 04 53 25.3 -3.7
NBC5 NorthernBC 5 5.28 127 Pn **Pn** 04 52 02.1 -0.5
NBC5 NorthernBC 5 5.28 127 Sg **Sg** 04 53 27.1 -5.0
CTGM Chitina Glacie 5.28 275 Sg **Sg** 04 53 29.4 -2.8
M27K Edge Creek, AK 5.61 290 P **Pn** 04 52 07.8 +0.5
baz=100,SNR=9.1
M27K Edge Creek, AK 5.61 290 Pn **Pn** 04 52 08.2 +1.0
M27K Edge Creek, AK 5.61 290 Sg **Sg** 04 53 36.5 -6.1
V35K Ketchikan 5.66 186 Sg **Sg** 04 53 38.3 -5.9
L27K Beaver Creek, 5.75 297 P **Pn** 04 52 09.0 0.0
baz=107
L27K Beaver Creek, 5.75 297 Pn **Pn** 04 52 08.4 -0.6
L27K Beaver Creek, 5.75 297 Sg **Sg** 04 53 41.9 -5.2
KIAG Kiagna River 5.78 275 Sg **Sg** 04 53 45.1 -3.2
MCARA McCarthy VSAT 6.08 280 Sg **Sg** 04 53 53.6 -4.2
EPYK Eagle Plains 6.11 336 P **Pn** 04 52 14.5 +0.4
baz=150
EPYK Eagle Plains 6.11 336 Sg **Sg** 04 53 54.3 -4.5
M26K Nabesna, AK 6.13 289 P **Pn** 04 52 14.9 +0.5
baz=98
K27K Chicken 6.20 305 P **Pn** 04 52 16.2 +1.0
baz=115
K27K Chicken 6.20 305 Sg **Sg** 04 53 55.4 -6.1
EGAK Eagle 6.21 313 Sg **Sg** 04 53 56.0 -6.1
I28M Miner Creek 6.22 321 Sg **Sg** 04 53 57.3 -4.9
G31M Satah River 6.23 346 P **Pn** 04 52 16.7 +1.1
baz=163,SNR=5.9

G31M Satah River 6.23 346 Pn **Pn** 04 52 16.4 +0.8
H29M Whitestone 6.36 330 P **Pn** 04 52 17.8 +0.5
baz=143
H29M Whitestone 6.36 330 Pn **Pn** 04 52 17.4 0.0
H29M Whitestone 6.36 330 Sn **Sn** 04 53 27.0 -3.5
H29M Whitestone 6.36 330 Sg **Sg** 04 54 04.2 -2.3
L26K Log Cabin Wild 6.41 295 P **Pn** 04 52 18.4 +0.3
baz=104
G30M tAoh Zraii Nji 6.57 340 Sn **Sn** 04 53 34.6 -1.1
G30M tAoh Zraii Nji 6.57 340 Sg **Sg** 04 54 08.9 -4.4
F31M Tsiigehtchic 6.68 349 Sn **Sn** 04 53 35.3 -3.1
G29M Pine Creek 6.85 334 P **Pn** 04 52 24.8 +0.7
baz=148
G29M Pine Creek 6.85 334 Pn **Pn** 04 52 24.6 +0.5
G29M Pine Creek 6.85 334 Sn **Sn** 04 53 40.3 -2.3
G29M Pine Creek 6.85 334 Sg **Sg** 04 54 18.2 -4.1
SCRK Sand Creek 6.96 302 P **Pn** 04 52 26.0 +0.3
baz=110
J26L Joseph Creek 6.98 306 P **Pn** 04 52 27.0 +1.0
baz=115
F30M Barrier River 7.08 343 Pn **Pn** 04 52 28.8 +1.5
F30M Barrier River 7.08 343 Sn **Sn** 04 53 44.7 -3.6
F30M Barrier River 7.08 343 Sg **Sg** 04 54 25.6 -4.3
RIDG Independent Ri 7.24 299 P **Pn** 04 52 30.0 +0.4
baz=106
PAX Paxson 7.34 293 P **Pn** 04 52 31.2 +0.2
baz=100
F28M Old Crow 7.83 333 Pn **Pn** 04 52 39.2 +1.5

*IDC **16** 05:10:16.9±1.5,5.°97S×142.°87E, h0km, mb3.8/4, mbtmp3.8/5, ML3.9/1, MS2.6/1, Error ellipse: s-maj=73.0km s-min=31.5km az=94.0*
ISC 16 05:10:18.5±1.3, 6.°1S±0.°2×142.°7E±0.°4, h10km, n7, σ1°22/6, mb3.8/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.52**	**127**	LR	LR	05 13 43.9	
	comp=Z,51nm,18.1s,baz=190,slow=38						
WRA	**Warramunga Arr**	**15.97**	**210**	Pn	**Pn**	**05 14 01.9**	**-1.5**
	0.3nm,0.3s,baz=26,slow=13,SNR=11						
WRA				Sn	Sn	05 16 49.2	-12
	0.2nm,0.3s,baz=23,slow=22,SNR=1.5						
WRA				Lg	Lg	05 18 47.2	
	0.1nm,0.3s,baz=40,slow=31,SNR=6.2						
ASAR	**Alice Springs**	**19.41**	**205**	P	**Pn**	**05 14 47.0**	**+1.0**
	0.4nm,0.3s,baz=31,slow=10,SNR=29						
ASAR				S	S	05 18 15.3	-9.3
	0.4nm,0.6s,baz=11,slow=29,SNR=2.3						
ASAR				Lg	Lg	05 20 35.9	
	0.1nm,0.3s,baz=19,slow=29,SNR=2.0						
	3.5nm,0.7s						
MKAR	**Makanchi Array**	**74.87**	**322**	P	**P**	**05 21 59.7**	**+0.2**
	0.2nm,0.6s,baz=129,slow=7.0,SNR=3.9						
	0.2nm,0.6s						
QSPA	**South Pole Qui**	**83.87**	**180**	P	**P**	**05 22 48.9**	**+0.5**
	1.0nm,0.7s,baz=304,slow=3.6,SNR=2.1						
	1.0nm,0.7s						
BVAR	**Borovoye Array**	**84.34**	**325**	P	**P**	**05 22 51.1**	**+0.4**
	1.1nm,0.9s,baz=114,slow=3.6,SNR=3.9						
	1.0nm,0.9s						
ILAR	**Eielson Array**	**87.28**	**24**	P	**P**	**05 23 04.3**	**-0.8**
	0.3nm,0.9s,baz=248,slow=4.8,SNR=2.5						
	0.3nm,0.9s						

*ISK **16** 05:12:07.6, 38.°87N×43.°58E, h5km, ML3.0/10*
*AFAD **16** 05:12:08.9±0.0, 38.°86N×43.°50E, h7km±1km, ML2.5*
*TEH **16** 05:12:09.2, 38.°79N×43.°58E, h10km, ML2.5*
ISC 16 05:12:09.1±1.0, 38.°87N±0.°02×43.°57E±0.°03, h8km±8km, n23, σ0°70/37, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.12**	**1**	P	**Pg**	**05 12 11.5**	**-0.5**
VMUR				S	**Sg**	**05 12 14.8**	**+0.7**
VMUR				*i* AML	AML	05 12 20.0	
	comp=N,2μm,0.3s						
VMUR				*i* AML	AML	05 12 20.0	
	comp=E,3μm,0.4s						
VANB	**Van**	**0.31**	**207**	Pg	**Pb**	**05 12 16.1**	**-0.8**
VANB				Sg	**Sb**	**05 12 23.1**	**+1.0**
TVAN	**Van**	**0.36**	**201**	P	**Pg**	**05 12 16.4**	**+0.1**
TVAN				*i* AML	AML	05 12 24.0	
	comp=N,2μm,0.6s						
TVAN				S	**Sb**	**05 12 24.2**	**+0.4**
TVAN				*i* AML	AML	05 12 28.0	
	comp=E,1μm,0.7s						
OZAP	**Van, Ozalp-Mer**	**0.39**	**122**	P	**Pb**	**05 12 17.4**	**-1.0**
OZAP				*i* AML	AML	05 12 31.0	
	comp=N,274nm,1.0s						
OZAP				*i* AML	AML	05 12 32.0	
	comp=E,626nm,0.9s						
ADCV	**BITLIS_Adilcev**	**0.66**	**265**	P	**Pg**	**05 12 21.0**	**-0.9**
ADCV				S	**Sb**	**05 12 33.0**	**+0.5**
ADCV				*i* AML	AML	05 12 33.0	
	comp=E,245nm,0.7s						
ADCV				*i* AML	AML	05 12 35.0	
	comp=N,384nm,0.4s						
DYDN	**Diyadin**	**0.68**	**8**	P	**Pg**	**05 12 22.5**	**+0.2**
DYDN				S	**Sb**	**05 12 32.5**	**-0.6**
DYDN				*i* AML	AML	05 12 37.0	
	comp=N,119nm,0.8s						
DYDN				*i* AML	AML	05 12 38.0	
	comp=E,126nm,0.8s						
GEVA	**Gevas**	**0.69**	**216**	P	**Pg**	**05 12 21.8**	**-0.6**
GEVA				*i* AML	AML	05 12 34.0	
	comp=N,151nm,0.6s						
GEVA				S	**Sb**	**05 12 34.4**	**+1.4**
GEVA				*i* AML	AML	05 12 39.0	
	comp=E,258nm,0.6s						
AKDM	**Akdamar-Van**	**0.71**	**221**	Pg	**Pg**	**05 12 22.3**	**-0.5**
AKDM				Sg	**Sb**	**05 12 33.9**	**+0.1**
DORK	**Agr/Tutak/Do**	**0.80**	**310**	P	**Pg**	**05 12 23.7**	**-0.9**
DORK				S	**Sb**	**05 12 36.5**	**0.0**
DORK				*i* AML	AML	05 12 44.0	
	comp=N,185nm,0.8s						
DORK				*i* AML	AML	05 12 46.0	
	comp=E,136nm,0.9s						
AGRB	**Hanur-Agry**	**0.84**	**328**	Pg	**Pg**	**05 12 24.9**	**-0.4**
AGRB				Sg	**Sb**	**05 12 37.5**	**0.0**
MLAZ	**Malazgirt-MUS**	**0.84**	**289**	Pg	**Pg**	**05 12 25.2**	**-0.1**
MLAZ				Sg	**Sb**	**05 12 38.1**	**+0.6**
KOTA	**Agri, Merkez-K**	**0.97**	**343**	P	**Pg**	**05 12 27.7**	**-0.2**
KOTA				S	**Sn**	**05 12 43.0**	**-0.4**
KOTA				*i* AML	AML	05 12 43.0	
	comp=N,36nm,0.3s						
MAKU	**Maku**	**0.99**	**60**	Pg	**Pb**	**05 12 28.5**	**-0.1**
MAKU				Sg	**Sn**	**05 12 43.1**	**-0.7**
BLIS	**Bitlis-Merkez**	**1.23**	**249**	P	**Pg**	**05 12 31.4**	**-1.2**
BLIS				S	**Sn**	**05 12 49.5**	**+0.1**
BLIS				*i* AML	AML	05 12 50.0	
	comp=E,266nm,0.6s						
BLIS				*i* AML	AML	05 12 51.0	
	comp=N,280nm,0.4s						
GURO	**Guroymak-BITLI**	**1.24**	**256**	Pn	**Pg**	**05 12 32.1**	**-0.9**
GNI	**Garni**	**1.57**	**35**	Pn	**Pn**	**05 12 37.9**	**+0.5**
GNI				Sn	**Sg**	**05 12 59.6**	**0.0**
CUKT	**Cukurca**	**1.62**	**179**	Pn	**Pb**	**05 12 38.6**	**-0.7**
VRTB	**Varto-Mus**	**1.67**	**281**	Pn	**Pb**	**05 12 39.6**	**-0.6**
IMRD	**Marand**	**1.67**	**95**	Pg	**Pb**	**05 12 40.3**	**0.0**
ISHB	**Shabestar**	**1.71**	**109**	Pg	**Pn**	**05 12 39.6**	**+0.2**
KOPR	**Koprukoy-ERZUR**	**1.74**	**311**	Pn	**Pn**	**05 12 40.5**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.99**	**250**	Pn	**Pn**	**05 12 44.3**	**+1.2**
BNGB	**Bingl**	**2.26**	**274**	Pn	**Pn**	**05 12 47.9**	**+1.1**

*IDC **16** 05:24:43.8±2.1, 50.°46N×173.°86W, h0km, mb3.6/8, mbtmp3.6/8, Error ellipse: s-maj=64.3km s-min=22.8km az=16.0*
*AEIC **16** 05:24:49.2±1.4, 50.°47N±0.°09×174.°01W±0.°08, h30km±7km, Error ellipse: s-maj=14.4km s-min=5.5km az=158.0*
*NEIC **16** 05:24:49.0±1.3, 50.°54N±0.°08×174.°0W±0.°1, h25km±10km, mb3.7/11, ML3.0(AEIC), Error ellipse: s-maj=14.4km s-min=2.5km az=141.0*
ISC 16 05:24:48.7±1.0, 50.°40N±0.°10×173.°98W±0.°06, h35km, n42, σ1°10/48, mb3.5/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**1.81**	**356**		**Pn**	**05 25 16.5**	**-0.9**
ATKA					**Sn**	**05 25 38.8**	**-0.3**
KOFP	**Korovin Flat P**	**1.88**	**358**		**Pn**	**05 25 17.8**	**-0.6**

KOSE Korovin Southe 1.95 359 **Pn** **05 25 18.2 -1.1**
KOWE Korovin West 1.98 355 **Pn** **05 25 19.5 -0.2**
KOWE **Sn** **05 25 41.2 -2.1**
GSMY Great Sitkin M 2.10 322 **Pn** **05 25 20.6 -0.8**
GSMY **Sn** **05 25 45.6 -0.8**
GSCK Great Sitkin C 2.12 321 **Pn** **05 25 20.7 -0.9**
GSCK **Sn** **05 25 45.7 -1.1**
GSSP Great Sitkin S 2.19 322 **Pn** **05 25 21.9 -0.7**
ADK Adak 2.26 312 **Pn** **05 25 22.2 -1.4**
ADK **Sn** **05 25 49.4 -0.8**
KIRH Kanaga Island 2.47 309 **Pn** **05 25 25.8 -0.7**
KIWB Kanaga Island 2.47 307 **Pn** **05 25 25.6 -0.8**
KIKV Kanaga Island 2.50 308 **Pn** **05 25 26.0 -0.8**
KIKV **Sn** **05 25 56.0 0.0**
TASE Tanaga Southea 2.94 301 **Pn** **05 25 32.6 -0.2**
TAFP Tanaga Falls P 2.94 302 **Pn** **05 25 32.4 -0.4**
TAFP **Sn** **05 26 06.6 -0.3**
GAEA Gareloi East 3.31 297 **Pn** **05 25 37.4 -0.6**
AMKA Amchitka 4.37 286 Pn **Pn** **05 25 50.8 -1.6**
S12K Black Hills 8.93 49 Pn **Pn** **05 26 57.0 +2.0**
SDPT Sand Point 9.55 54 Pn **Pn** **05 27 03.4 -0.1**
CHGN Chignik 11.01 52 Pn **Pn** **05 27 23.8 +0.3**
OHAK Old Harbor 13.97 53 Pn **Pn** **05 28 01.6 -2.3**
KDAK Kodiak Island 14.53 51 Pn Pn 05 28 07.3 -4.1
0.3nm,0.3s,baz=252,slow=5.5,SNR=2.5
SVW2 Sparrevohn 14.84 37 Pn **Pn** **05 28 15.9 +0.2**
L19K White Mountain 15.80 34 P **Pn** **05 28 30.3 +2.1**
L19K IAmb IAmb 05 28 54.0
comp=Z,5.6nm,1.2s
J18K Innoko River 16.05 29 P **P** **05 28 36.4 +1.8**
J19K Poorman 16.77 29 P **Pn** **05 28 42.1 +1.6**
H18K Honhosa River 16.89 23 **P** **05 28 43.9 +0.1**
H18K IAmb IAmb 05 28 54.8
comp=Z,7.0nm,1.5s
CAST Castle Rocks 17.57 34 P **P** **05 28 52.1 +0.9**
GHO Glory Hole Cre 17.90 41 P **Pn** **05 28 54.0 -0.6**
GHO IAmb IAmb 05 29 18.2
comp=Z,9.1nm,1.4s
KNK Knik Glacier 17.93 42 P **Pn** **05 28 54.8 -0.1**
KNK IAmb IAmb 05 29 13.3
comp=Z,9.1nm,1.4s
KTH Kantishna Hill 18.06 34 P **P** **05 28 58.1 +1.3**
KTH IAmb IAmb 05 29 03.2
comp=Z,7.8nm,1.4s
SML Sawmill 18.16 41 P **Pn** **05 28 58.0 +0.2**
TRF Thorofare Moun 18.24 35 P **Pn** **05 28 59.2 +0.4**
TRF IAmb IAmb 05 29 01.3
comp=Z,6.0nm,1.4s
I21K Tanana 18.73 29 P **P** **05 29 04.2 +0.1**
I21K IAmb IAmb 05 29 06.8
comp=Z,6.5nm,1.1s
ILAR Eielson Array 20.21 34 P **P** **05 29 19.0 -1.2**
comp=Z,1.0nm,0.9s,baz=230,slow=9.5,SNR=14
comp=Z,1.0nm,0.9s
NVAR Mina Array Bea 40.62 85 P **P** **05 32 25.9 +0.6**
comp=Z,0.2nm,0.5s,baz=279,slow=7.2,SNR=2.5
comp=Z,0.2nm,0.5s
PDAR Pinedale Array 43.67 74 P **P** **05 32 49.7 -0.4**
comp=Z,0.5nm,0.7s,baz=336,slow=3.3,SNR=6.1
comp=Z,0.5nm,0.7s
TXAR Lajitas Array 55.75 84 P **P** **05 34 20.5 -1.5**
comp=Z,0.3nm,0.8s,baz=303,slow=5.2,SNR=4.0
comp=Z,0.3nm,0.8s
ARCES ARCESS Array B 59.53 352 P **P** **05 34 47.3 -0.6**
comp=Z,3.7nm,0.9s,baz=21,slow=8.7,SNR=2.0
comp=Z,3.7nm,0.9s
KURBB Kurchatov Arra 61.98 317 P **P** **05 35 05.7 +1.0**
comp=Z,0.2nm,0.6s,baz=43,slow=6.6,SNR=1.9
comp=Z,0.2nm,0.6s
MKAR Makanchi Array 63.01 311 P **P** **05 35 12.9 +1.2**
MKAR Makanchi Array 63.01 311 P **P** **05 35 11.9 +0.2**
comp=Z,0.4nm,0.8s,baz=33,slow=5.8,SNR=3.1
comp=Z,0.4nm,0.8s
AKTO Aktyubinsk 70.20 328 P **P** **05 35 58.4 +0.9**
comp=Z,1.8nm,0.6s,baz=42,slow=4.6,SNR=6.0
comp=Z,1.8nm,0.6s
ABKAR Akbulak array 70.52 326 P **P** **05 36 01.9 +2.4**

*IDC **16** 05:48:54.9±1.0, 37.°09N×28.°69E, h0km, mb3.5/4, mbtmp3.7/10, ML3.9/6, MS2.8/2, Error ellipse: s-maj=19.0km s-min=16.2km az=145.0*
*ISK **16** 05:48:54.6, 37.°11N×28.°60E, h5km, ML3.5/36*
*THE **16** 05:48:56.0, 37.°07N×28.°57E, h0km, ML3.3/7, Error ellipse: s-maj=0.9km s-min=0.6km az=59.0*
*AFAD **16** 05:48:56.0±0.0, 37.°14N×28.°60E, h7km±1km, MW3.6*
*ATH **16** 05:48:57.0, 37.°13N×28.°60E, h7km±2km, ML3.3/6, Error ellipse: s-maj=2.8km s-min=1.2km az=197.0*
ISC 16 05:48:56.2±0.9, 37.°10N±0.°02×28.°61E±0.°02, h11km±7km, n86, σ1°09/123, mb3.5/4, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MULA	**Mugla, Merkez-**	**0.28**	**305**	P	**Pg**	**05 49 01.5**	**-0.4**
MULA				*i* AML	AML	05 49 06.0	
	comp=N,2μm,0.3s						
MULA				S	**Sg**	**05 49 06.3**	**+0.6**
MULA				*i* AML	AML	05 49 12.0	
	comp=E,6μm,0.5s						
DALY	**Dalyan (Mula)**	**0.28**	**172**	Pg	**Pg**	**05 49 01.4**	**-0.6**
DNZT	**Denizli-Tavas-**	**0.38**	**62**	P	**Pg**	**05 49 03.3**	**-0.5**
DNZT				S	**Sg**	**05 49 10.0**	**+1.1**
DNZT				*i* AML	AML	05 49 11.0	
	comp=N,4μm,0.5s						
DNZT				*i* AML	AML	05 49 14.0	
	comp=E,2μm,0.5s						
TURN	**Turunc**	**0.43**	**222**	Pg	**Pg**	**05 49 03.9**	**-0.8**
TURN				Sg	**Sg**	**05 49 11.0**	**+0.5**
TAVA	**DENIZLI_Tavas**	**0.44**	**34**	P	**Pg**	**05 49 04.0**	**-0.9**
TAVA				S	**Sg**	**05 49 10.9**	**+0.1**
TAVA				*i* AML	AML	05 49 13.0	
	comp=N,2μm,0.5s						
TAVA				*i* AML	AML	05 49 13.0	
	comp=E,2μm,0.2s						
FETI	**Fethiye-Mugla**	**0.57**	**136**	Pg	**Pg**	**05 49 06.5**	**-0.7**
FETI				Sg	**Sb**	**05 49 16.3**	**+0.1**
CAEL	**Denizli, Camel**	**0.57**	**87**	P	**Pg**	**05 49 07.3**	**0.0**
CAEL				S	**Sb**	**05 49 18.7**	**+2.2**
CAEL				*i* AML	AML	05 49 23.0	
	comp=N,4μm,1.0s						
CAEL				*i* AML	AML	05 49 24.0	
	comp=E,4μm,0.6s						
CAME	**Cameli-Denizli**	**0.58**	**105**	Pg	**Pg**	**05 49 07.1**	**-0.4**
CAME				Sg	**Sb**	**05 49 16.5**	**-0.2**
FETY	**Fethiye**	**0.60**	**140**	Pg	**Pg**	**05 49 07.2**	**-0.7**
FETY				Sg	**Sb**	**05 49 17.0**	**-0.2**
FETY	**Fethiye**	**0.60**	**140**	P	**Pb**	**05 49 08.4**	**-0.3**
FETY				S	**Sb**	**05 49 17.9**	**+0.6**
DNIZ	**Denizli-Tavas-**	**0.63**	**33**	P	**Pg**	**05 49 07.4**	**-1.0**
DNIZ				S	**Sg**	**05 49 16.7**	**-0.1**
DNIZ				*i* AML	AML	05 49 19.0	
	comp=N,4μm,0.3s						
DNIZ				*i* AML	AML	05 49 19.0	
	comp=E,7μm,0.3s						
APMY	**Acipayam-Deniz**	**0.67**	**56**	Pg	**Pg**	**05 49 08.3**	**-0.9**
APMY				Sg	**Sb**	**05 49 19.2**	**-0.1**
MLSB	**Milas**	**0.69**	**287**	Pg	**Pg**	**05 49 09.3**	**-0.3**
ESEN	**Aydn-Nazilli**	**0.73**	**344**	P	**Pg**	**05 49 09.3**	**-0.9**
ESEN				S	**Sg**	**05 49 19.3**	**-0.5**
ESEN				*i* AML	AML	05 49 23.0	
	comp=N,882nm,0.3s						
ESEN				*i* AML	AML	05 49 26.0	
	comp=E,1μm,0.4s						
KNIK	**Mula-Seydike**	**0.81**	**108**	P	**Pg**	**05 49 11.8**	**-0.2**
KNIK				*i* AML	AML	05 49 27.0	
	comp=N,534nm,0.5s						
KNIK				*i* AML	AML	05 49 29.0	
	comp=E,414nm,0.5s						
DATC	**Datca-Mugla**	**0.83**	**246**	Pg	**Pg**	**05 49 11.9**	**-0.3**
DAT	**Datca**	**0.90**	**246**	Pg	**Pg**	**05 49 13.4**	**-0.2**
DAT	**Datca**	**0.90**	**246**	P	**Pg**	**05 49 12.4**	**-1.2**
DAT				S	**Sb**	**05 49 27.4**	**+1.3**
DAT	**Datca**	**0.90**	**246**	P	**Pg**	**05 49 12.7**	**-0.9**
DAT				S	**Sn**	**05 49 28.4**	**+0.3**
ARG	**Arkhangelos**	**0.96**	**204**	Pg	**Pg**	**05 49 14.8**	**0.0**
ARG	**Arkhangelos**	**0.96**	**204**	P	**Pg**	**05 49 13.8**	**-0.9**
ARG				S	**Sb**	**05 49 28.9**	**+1.3**
	2μm,0.5s						
ARG	**Arkhangelos**	**0.96**	**204**	P	**Pg**	**05 49 14.7**	**0.0**
ARG				S	**Sn**	**05 49 29.6**	**+0.2**
ARG				AML	AML	05 49 32.7	
	comp=E,3531μm,0.7s						
ARG				AML	AML	05 49 35.8	

comp=N,3025µm,0.4s
INCE Denizli-Bozkur 0.98 51 P Pg 05 49 13.8 -1.3
INCE S Sn 05 49 30.7 +0.6
INCE *i* AML AML 05 49 31.0
comp=N,1µm,0.6s
INCE *i* AML AML 05 49 36.0
comp=N,1µm,0.5s
YAZI Mula-Datşa- 1.01 246 P Pg 05 49 15.0 -0.7
YAZI *i* AML AML 05 49 36.0
comp=N,532nm,0.7s
YAZI *i* AML AML 05 49 37.0
comp=N,552nm,0.9s
BODT Bodrum 1.04 268 Pg **Pg 05 49 15.4 -0.8**
BODT Bodrum 1.04 268 P **Pg 05 49 15.0 -1.2**
BODT S **Sn 05 49 31.1 -0.2**
YKAV Yalikavak-Bodr 1.06 272 Pg **Pg 05 49 15.8 -0.8**
ELL Elmali 1.10 108 Pn **Pg 05 49 17.0 -0.4**
KIRA zmir-Kiraz 1.11 352 P **Pg 05 49 16.2 -1.4**
KIRA S **Sn 05 49 33.7 +0.5**
KIRA *i* AML AML 05 49 37.0
comp=N,576nm,0.4s
KIRA *i* AML AML 05 49 39.0
comp=N,814nm,0.6s
DIDI Didim-Aydin 1.12 285 Pn **Pg 05 49 17.3 -0.5**
DDIM Aydin, Didim 1.15 289 P **Pg 05 49 17.6 -0.7**
DDIM S **Sn 05 49 35.1 +1.2**
DDIM *i* AML AML 05 49 43.0
comp=N,1µm,0.5s
DDIM *i* AML AML 05 49 43.0
comp=N,759nm,0.5s
IZMR zmir-demi 1.16 334 P **Pg 05 49 17.4 -1.1**
IZMR S **Sb 05 49 33.8 +0.5**
IZMR *i* AML AML 05 49 37.0
comp=N,392nm,0.5s
IZMR *i* AML AML 05 49 40.0
comp=N,603nm,0.5s
AKAS Kas 1.18 137 Pn **Pg 05 49 18.7 -0.2**
KSL Kastellorizon 1.23 140 P **Pg 05 49 19.4 -0.4**
KSL S **Sn 05 49 36.6 +0.6**
comp=N,1µm,0.5s
KSL Kastellorizon 1.23 140 P **Pn 05 49 20.4 +1.0**
KSL S **Sn 05 49 36.9 +1.0**
KSL AML AML 05 49 45.6
comp=N,1910µm,0.4s
KSL AML AML 05 49 46.2
comp=E,2496µm,0.6s
GCAM G?zelcaml? 1.25 299 Pn **Pg 05 49 19.5 -0.7**
NISR Nisiros 1.28 248 P **Pn 05 49 19.0 -1.1**
NISR S **Sg 05 49 36.6 -0.9**
comp=E,2µm,0.5s
NISR Nisiros 1.28 248 P **Pb 05 49 20.6 +0.3**
NISR S **Sb 05 49 37.6 +0.8**
NISR AML AML 05 49 48.8
comp=E,3608µm,0.9s
NISR AML AML 05 49 49.8
comp=N,3396µm,0.6s
KLNA Kalymnos 1.31 264 P **Pg 05 49 21.4 0.0**
DEMR Demre-Antalya 1.35 129 Pn **Pg 05 49 22.1 -0.1**
KORT Korkueli 1.40 94 Pn **Pb 05 49 22.8 +0.4**
BASM Basmaki-Afyon 1.41 54 Pn **Pn 05 49 21.9 0.0**
KULA Kula-Manisa 1.41 2 Pn **Pn 05 49 21.9 -0.1**
KULA Kula-Manisa 1.41 2 P **Pn 05 49 21.6 -0.4**
KULA S **Sn 05 49 42.3 +1.6**
KHL Karahalli 1.42 30 Pn **Pn 05 49 22.4 +0.3**
SMG Samos 1.54 294 P **Pn 05 49 23.5 -0.1**
SMG S **Sn 05 49 44.0 +0.5**
comp=N,795nm,0.4s
SMG Samos 1.54 294 P **Pn 05 49 23.7 +0.1**
SMG S **Sn 05 49 42.9 -0.6**
SMG AML AML 05 49 56.2
comp=N,1623µm,0.4s
SMG AML AML 05 49 56.7
comp=E,871µm,0.5s
BCK Bucak 1.62 77 Pn **Pn 05 49 25.7 +0.9**
ANTB Antalya 1.65 96 Pn **Pb 05 49 26.5 -0.1**
GMLD Gumuldur 1.66 306 Pn **Pn 05 49 26.2 +0.9**
ISP Isparta 1.69 64 Pn **Pn 05 49 26.2 +0.5**
ISP Isparta 1.69 64 P **Pn 05 49 26.3 +0.6**
GOMA Golmarmara-Man 1.70 341 Pn **Pn 05 49 26.7 +0.9**
BLCB Balcova 1.79 316 Pn **Pn 05 49 27.8 +0.8**
BLCB Balcova 1.79 316 P **Pn 05 49 27.0 0.0**
KARP Karpathos 1.94 217 Pn **Pn 05 49 29.9 +0.7**
KARP Karpathos 1.94 217 P **Pn 05 49 30.3 +1.2**
KARP S **Sn 05 49 54.1 +0.6**
KARP AML AML 05 50 03.6
comp=E,1541µm,0.7s
KARP AML AML 05 50 05.9
comp=N,2100µm,0.7s
SIMA Simav-Kutahya 2.00 8 Pn **Pn 05 49 30.6 +0.5**
URLA Izmir 2.03 309 Pn **Pn 05 49 31.4 +1.0**
GEDZ Gediz 2.04 18 Pn **Pn 05 49 31.6 +1.0**
FOCM Foa 2.19 318 Pn **Pn 05 49 33.4 +0.9**
DKL Dikili 2.38 326 Pn **Pn 05 49 36.3 +1.1**
CHOS Chios island 2.40 303 Pn **Pn 05 49 36.2 +0.7**
CHOS Chios island 2.40 303 P **Pn 05 49 35.2 -0.3**
CHOS S **Sn 05 50 05.6 +0.7**
comp=N,232nm,0.7s
CHOS Chios island 2.40 303 P **Pn 05 49 36.0 +0.6**
CHOS S **Sn 05 50 04.1 -0.8**
CHOS AML AML 05 50 22.1
comp=E,616µm,0.8s
CHOS AML AML 05 50 27.4
comp=N,276µm,0.6s
APE Apeiranthos 2.46 270 Pn **Pn 05 49 37.3 +1.0**
APE Apeiranthos 2.46 270 P **Pn 05 49 36.3 0.0**
APE S **Sn 05 50 06.8 +0.4**
comp=N,112nm,0.8s
APE Apeiranthos 2.46 270 P **Pn 05 49 36.7 +0.4**
ZKR Zakros 2.77 225 Pn **Pn 05 49 41.7 +1.2**
ZKR Zakros 2.77 225 P **Pn 05 49 42.6 +2.0**
PRK Paraskevi 2.83 320 P **Pn 05 49 40.8 -0.5**
PRK S **Sn 05 50 16.2 +0.9**
comp=N,498nm,0.7s
SIGR SIGRI 3.02 315 Pn **Pn 05 49 45.7 +1.7**
SIGR SIGRI 3.02 315 P **Pn 05 49 44.5 +0.5**
IDI Anoyia 3.51 240 Pn **Pn 05 49 52.0 +1.3**
IDI Anoyia 3.51 240 Pn **Pn 05 49 53.4 +2.7**
comp=N,0.1nm,0.3s,baz=30,slow=7.4,SNR=25
IDI Sn **Sn 05 50 35.5 +3.2**
comp=N,0.1nm,0.3s,baz=13,slow=19,SNR=4.7
IDI Anoyia 3.51 240 P **Pn 05 49 52.2 +1.5**
BRTR Keskin Array B 4.74 55 Pn **Pn 05 50 09.4 +1.7**
comp=N,2.8nm,0.3s,baz=233,slow=15,SNR=53
BRTR Sn **Sn 05 51 04.5 +1.6**
comp=N,0.3nm,0.3s,baz=224,slow=26,SNR=1.0
BRTR LR LR 05 52 30.6
comp=N,105nm,19.1s,baz=252,slow=46
comp=N,9.8nm,0.6s
MMAI Mount Meron Ar 6.90 124 Pn **Pn 05 50 37.1 -0.4**
comp=N,7.6nm,0.3s,baz=307,slow=12,SNR=14
MMAI Sn **Sn 05 51 52.9 -3.1**
comp=N,1.7nm,0.3s,baz=319,slow=26,SNR=1.2
comp=N,6.1nm,0.4s
ASF Jabal al Asfar 8.41 123 Pn **Pn 05 50 58.5 +0.3**
comp=N,0.6nm,0.3s,baz=332,slow=5.7,SNR=2.9
comp=N,1.5nm,0.4s
MLR Muntele Rosu 8.62 347 Pn **Pn 05 51 02.7 +1.7**
comp=N,0.3nm,0.3s,baz=141,slow=14,SNR=4.5
comp=N,1.7nm,0.6s
EIL Elat 9.11 143 Pn **Pn 05 51 06.5 -1.1**
comp=N,2.4nm,0.3s,baz=341,slow=3.6,SNR=15
EIL Sn **Sn 05 52 44.3 -5.9**
comp=N,0.6nm,0.3s,baz=45,slow=16,SNR=2.0
EIL LR LR 05 55 47.0
comp=N,43nm,18.2s,baz=245,slow=46
comp=N,9.1nm,0.5s
GERES GERESS Array B 15.99 322 Pn **P 05 52 44.8 +0.1**
comp=N,0.2nm,0.3s,baz=134,slow=5.6,SNR=1.7
comp=N,0.3nm,0.4s
FINES FINESS Array B 24.42 357 P **P 05 54 13.5 -1.0**
comp=N,1.9nm,0.7s,baz=157,slow=10,SNR=5.7
comp=N,1.9nm,0.7s
TORD Torodi Ar. Bea 33.88 232 P **P 05 55 38.9 -0.1**
comp=N,0.6nm,0.4s,baz=34,slow=9.1,SNR=9.6
comp=N,0.6nm,0.4s
KURBB Kurchatov Arra 37.73 53 P **P 05 56 12.3 +0.5**
comp=N,0.4nm,0.7s,baz=284,slow=8.9,SNR=2.7
comp=N,0.4nm,0.7s
MKAR Makanchi Array 40.38 59 P **P 05 56 33.4 -0.7**
comp=N,0.2nm,0.6s,baz=277,slow=8.6,SNR=2.1
comp=N,0.2nm,0.6s

*IDC **16** 05:49:55.9±2.4, 18°.87N×104°.67W, h0km, mb3.5/3, mbtmp3.3/5, ML3.0/1, Error ellipse: s-maj=49.0km s-min=31.3km az=55.0*

*MEX **16** 05:49:56.5±0.7, 18°.78N×104°.61W, h5km, MD4.3*

ISC 16 05:49:55.6±1.0, 18°.77N±0°.05×104°.56W±0°.04, h10km, n36, σ2s02/59, mb3.5/3, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CIHU	**Emiliano Zapat**	**0.52**	**341**	*eP*	**Pg**	**05 50 05.1**	**-0.7**
CIHU				*eS*	**Sg**	**05 50 12.7**	**+0.1**
CDAR	**Ciudad de Arme**	**0.55**	**72**	*eP*	**Pg**	**05 50 06.0**	**-0.3**
CDAR				*eS*	**Sg**	**05 50 13.2**	**-0.3**
CJM	**Chamela**	**0.86**	**328**	*eP*	**Pg**	**05 50 11.0**	**-1.1**
CJM				*eS*	**Sg**	**05 50 22.6**	**-0.7**
CEGR	**Campo Tres**	**0.91**	**47**	*i P*	**Pg**	**05 50 11.7**	**-1.5**
CEGR				*eS*	**Sg**	**05 50 23.3**	**-1.7**
COIG	**Colima**	**0.92**	**64**	*eP*	**Pg**	**05 50 12.1**	**-1.2**
COIG				*eS*	**Sg**	**05 50 24.0**	**-1.4**
COMA	**Comala**	**0.94**	**54**	*eP*	**Pg**	**05 50 12.4**	**-1.3**
COMA				*eS*	**Sg**	**05 50 24.9**	**-1.0**
MNGA	**Volcan de Coli**	**1.13**	**52**	*eP*	**Pb**	**05 50 16.0**	**-1.4**
MNGA				*eS*	**Sg**	**05 50 31.5**	**-0.5**
EZ5V		**1.15**	**52**	*eP*	**Pb**	**05 50 16.5**	**-1.2**
EZ5V				*eS*	**Sg**	**05 50 32.1**	**-0.6**
SOMAC	**Volcano de Col**	**1.16**	**49**	*eP*	**Pb**	**05 50 16.4**	**-1.5**
SOMAC				*eS*	**Sg**	**05 50 31.9**	**-1.1**
INCO	**Volcan de Coli**	**1.18**	**50**	*eP*	**Pb**	**05 50 16.7**	**-1.6**
JUBC	**Volcan de Coli**	**1.19**	**52**	*eP*	**Pb**	**05 50 17.2**	**-1.4**
JUBC				*eS*	**Sb**	**05 50 33.7**	**-0.5**
MMIG	**Aquila**	**1.25**	**112**	*eP*	**Pn**	**05 50 17.4**	**-1.7**
MMIG				*eS*	**Sb**	**05 50 32.5**	**-3.0**
ESTA	**Talpa de Allen**	**1.64**	**351**	*eP*	**Pn**	**05 50 22.9**	**-1.7**
ESTA				*eS*	**Sn**	**05 50 44.0**	**-1.9**
PUVA	**Puert Vallarta**	**1.95**	**342**	*i P*	**Pn**	**05 50 29.4**	**+0.7**
PUVA				*eS*	**Sn**	**05 50 54.1**	**+0.9**
ANIG	**Ahuacatlan**	**2.27**	**1**	*eP*	**Pn**	**05 50 34.5**	**+1.1**
ANIG				*eS*	**Sn**	**05 51 00.4**	**-1.1**
ZIIG	**Zihuatanejo**	**3.16**	**111**	*eP*	**Pn**	**05 50 44.3**	**-1.2**
ZIIG				*eS*	**Sn**	**05 51 19.5**	**-3.8**
MOIG	**Morelia**	**3.31**	**74**	*eP*	**Pn**	**05 50 45.0**	**-2.8**
MOIG				*eS*	**Sn**	**05 51 23.3**	**-4.0**
AAIG	**Aguscalientes**	**3.78**	**32**	*eP*	**Pn**	**05 50 54.2**	**-0.1**
AAIG				*eS*	**Sn**	**05 51 39.1**	**+0.2**
ARIG	**Puente Sto Nin**	**4.03**	**96**	*eP*	**Pn**	**05 50 57.4**	**-0.1**
ARIG				*eS*	**Sn**	**05 51 43.9**	**-0.9**
ZAIG	**Zacatecas**	**4.39**	**25**	*eP*	**Pn**	**05 51 05.2**	**+2.4**
ZAIG				*eS*	**Sn**	**05 51 53.9**	**-0.3**
CAIG	**El Cayaco**	**4.43**	**112**	*eP*	**Pn**	**05 51 03.3**	**+0.3**
CAIG				*eS*	**Sn**	**05 51 52.1**	**-2.6**
MEIG	**Mezcala**	**4.77**	**99**	*eP*	**Pn**	**05 51 08.9**	**+1.2**
MEIG				*eS*	**Sn**	**05 52 04.2**	**+1.1**
PLIG	**Platanillo**	**4.81**	**94**	*eP*	**Pn**	**05 51 12.5**	**+4.2**
PLIG				*eS*	**Sn**	**05 52 07.8**	**+3.6**
DAIG	**Los Arroyos**	**4.99**	**110**	*eP*	**Pn**	**05 51 12.1**	**+1.4**
DAIG				*eS*	**Sn**	**05 52 10.0**	**+1.6**
YAIG	**Yautepec**	**5.21**	**88**	*eP*	**Pn**	**05 51 13.3**	**-0.5**
YAIG				*eS*	**Sn**	**05 52 15.6**	**+1.7**
RPIG	**Rio Verde**	**5.30**	**53**	*eP*	**Pn**	**05 51 16.6**	**+1.6**
RPIG				*eS*	**Sn**	**05 52 17.2**	**+1.1**
DEIG	**Demacu**	**5.43**	**73**	*eP*	**Pn**	05 51 24.1	+7.2
DEIG				*eS*	**Sn**	**05 52 24.9**	**+5.3**
DEIG				*i S*	**Sn**	**05 52 24.9**	**+5.3**
PDIG	**Papasquiaro**	**6.29**	**353**	*eP*	**Pn**	**05 51 29.9**	**+1.2**
CMIG	**Matias Romero**	**9.36**	**99**	Pn	**Pn**	**05 52 12.3**	**+1.6**
	2.1nm,1.0s,baz=357,slow=16,SNR=1.4						
CMIG				Lg	Lg	05 54 44.2	
	0.1nm,0.3s,baz=324,slow=19,SNR=2.9						
TXAR	**Lajitas Array**	**10.55**	**4**	Pn	**Pn**	**05 52 30.0**	**+3.0**
	baz=182,slow=17,SNR=1.7						
TXAR				Lg	Lg	05 55 26.0	
	baz=178,slow=24,SNR=2.8						
	0.1nm,0.3s						
NVAR	**Mina Array Bea**	**22.95**	**331**	P	**P**	**05 55 00.2**	**-0.3**
	0.3nm,0.6s,baz=159,slow=13,SNR=1.8						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**53.90**	**339**	P	**P**	**05 59 19.0**	**+0.1**
	0.4nm,0.8s,baz=152,slow=6.1,SNR=5.9						
	0.4nm,0.8s						
H03N2	**Juan Fernandez**	**57.39**	**155**	T	T	07 01 45.4	
	baz=333,slow=77,SNR=8.1						
H03N1	**Juan Fernandez**	**57.40**	**155**	T	T	07 01 52.3	
	baz=333,slow=77,SNR=30						
H03N3	**Juan Fernandez**	**57.41**	**155**	T	T	07 01 51.2	
	baz=333,slow=77,SNR=21						
GERES	**GERESS Array B**	**93.22**	**36**	P	**P**	**06 03 13.9**	**+3.3**
	0.7nm,0.6s,baz=316,slow=4.1,SNR=3.8						
	0.7nm,0.6s						

*IDC **16** 06:01:34.4±1.6, 54°.94N×160°.07W, h0km, mb4.0/12, mbtmp3.9/14, ML3.8/2, MS3.1/2, Error ellipse: s-maj=39.3km s-min=18.7km az=170.0*

*NEIC **16** 06:01:35.9±1.6, 54°.69N±0°.04×159°.86W±0°.06, h10km±1km, mb3.7/9, ML3.7/22, ML3.6(AEIC), Error ellipse: s-maj=6.1km s-min=5.9km az=219.0*

*AEIC **16** 06:01:39.8±1.4, 54°.78N±0°.06×159°.88W±0°.06, h22km±6km, Error ellipse: s-maj=8.7km s-min=4.8km az=167.0*

ISC 16 06:01:38.7±0.8, 54°.86N±0°.05×159°.89W±0°.03, h33km±6km, n178, σ1s58/177, mb4.2/12, South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNA	**Chernabura Isl**	**0.17**	**99**	P	**Pb**	**06 01 44.5**	**-0.5**
	baz=227						
CHNA				S	**Sb**	**06 01 49.0**	**-0.4**
	baz=227						
CNBA	**Chernabura Isl**	**0.18**	**102**	Pg	**Pb**	**06 01 44.1**	**-1.0**
SDPT	**Sand Point**	**0.60**	**326**	Pg	**Pn**	**06 01 50.8**	**0.0**
SDPT				IAML		06 02 00.9	
	comp=E,4µm,0.9s						
SDPT				IAML		06 02 00.9	
	comp=N,3µm,0.8s						
SDPT	**Sand Point**	**0.60**	**326**		**Sn**	**06 01 59.7**	**+0.4**
SDPT	**Sand Point**	**0.60**	**326**	P	**Pn**	**06 01 51.0**	**+0.2**
SDPT	**Sand Point**	**0.60**	**326**	P	**Pn**	**06 01 51.0**	**+0.2**
	baz=152						
SDPT				S	**Sn**	**06 01 59.7**	**+0.4**
	baz=152						
PS1A	**Pavlof South-1**	**1.21**	**299**		**Pb**	**06 01 60.0**	**-1.0**
PS1A					**Sb**	**06 02 16.2**	**0.0**
PVV	**Pavlof Volcano**	**1.21**	**296**		**Pb**	**06 01 59.7**	**-1.3**
PVV					**Sb**	**06 02 16.0**	**-0.3**
VNKR	**Veniaminof 5**	**1.21**	**14**		**Pb**	**06 02 00.6**	**-0.5**
VNSW	**Veniaminof 7**	**1.23**	**9**		**Pb**	**06 02 01.2**	**-0.3**
PN7A	**Pavlof North-7**	**1.34**	**296**		**Pb**	**06 02 02.3**	**-1.0**
PN7A					**Sb**	**06 02 19.8**	**-0.4**
VNHG	**Veniaminof 1**	**1.43**	**16**		**Pb**	**06 02 04.3**	**-0.5**
S12K	**Black Hills**	**1.50**	**305**		**Pn**	**06 02 04.1**	**+0.8**
S12K	**Black Hills**	**1.50**	**305**		**Sb**	**06 02 24.6**	**-0.1**
S12K	**Black Hills**	**1.50**	**305**	P	**Pb**	**06 02 04.5**	**-1.5**
	baz=128						
S12K				S	**Sb**	**06 02 24.6**	**-0.1**
	baz=128						
CHGN	**Chignik**	**1.67**	**29**	Pn	**Pn**	**06 02 06.9**	**+1.3**
CHGN	**Chignik**	**1.67**	**29**		**Sb**	**06 02 29.6**	**+0.1**
CHGN	**Chignik**	**1.67**	**29**	P	**Pn**	**06 02 07.0**	**+1.4**
	baz=208						
CHGN				S	**Sb**	**06 02 29.6**	**+0.1**
	baz=208						
FALS	**False Pass**	**2.04**	**271**		**Pn**	**06 02 11.7**	**+1.1**
FALS	**False Pass**	**2.04**	**271**	P	**Pn**	**06 02 12.2**	**+1.6**
FALS	**False Pass**	**2.04**	**271**	P	**Pn**	**06 02 11.7**	**+1.1**
	baz=93						
ISLZ	**Isanotski Laza**	**2.22**	**268**		**Pn**	**06 02 14.1**	**+0.9**
ANNE	**Aniakchak Nort**	**2.30**	**26**		**Pn**	**06 02 16.6**	**+2.3**
ANNW	**Aniakchak Nort**	**2.31**	**23**		**Pb**	**06 02 17.3**	**-2.4**
SSLS	**Shishaldin Sou**	**2.38**	**268**		**Pn**	**06 02 17.1**	**+1.6**
CHIR	**Chirikof Islan**	**2.62**	**67**	Pn	**Pn**	**06 02 19.0**	**+0.4**
CHIR				IAML		06 03 06.5	
	comp=E,489nm,1.2s						
CHIR				IAML		06 03 08.8	
	comp=N,353nm,1.1s						
WECS	**Westdahl Cape**	**2.86**	**265**		**Pn**	**06 02 23.4**	**+1.5**
R16K	**Pilot Point**	**3.01**	**24**		**Pn**	**06 02 26.2**	**+2.2**
R16K	**Pilot Point**	**3.01**	**24**	P	**Pn**	**06 02 26.2**	**+2.2**
	baz=205						
AKUT	**Akutan**	**3.51**	**260**	P	**Pn**	**06 02 32.6**	**+1.8**
SII	**Sitkinak Islan**	**3.65**	**60**	Pn	**Pn**	**06 02 33.6**	**+0.8**
SII				IAML		06 03 51.1	
	comp=E,228nm,0.7s						
SII	**Sitkinak Islan**	**3.65**	**60**	P	**Pn**	**06 02 35.2**	**+2.4**
UNV	**Unalaska Valle**	**4.00**	**258**	P	**Pn**	**06 02 38.5**	**+0.9**
Q17K	**Contact Creek**	**4.07**	**31**	P	**Pn**	**06 02 40.4**	**+1.8**
	baz=213						
CNTC	**Contact Creek**	**4.07**	**31**		**Pn**	**06 02 40.4**	**+1.7**
MNAT	**Makushin Natee**	**4.09**	**259**		**Pn**	**06 02 39.9**	**+1.1**
ANCK	**Angle Creek**	**4.14**	**34**		**Pn**	**06 02 41.7**	**+2.1**
P16K	**Nushagak River**	**4.31**	**13**		**Pn**	**06 02 44.1**	**+2.3**
P16K	**Nushagak River**	**4.31**	**13**	P	**Pn**	**06 02 44.1**	**+2.3**
	baz=194						
O15K	**Ungalikthiuk R**	**4.33**	**0**		**Pn**	**06 02 43.5**	**+1.4**
O15K	**Ungalikthiuk R**	**4.33**	**0**	P	**Pn**	**06 02 43.5**	**+1.4**
	baz=180						
OHAK	**Old Harbor**	**4.39**	**55**	Pn	**Pn**	**06 02 43.6**	**+0.6**
OHAK				IAML		06 03 58.2	
	comp=N,56nm,0.8s						
OHAK	**Old Harbor**	**4.39**	**55**	P	**Pn**	**06 02 43.3**	**+0.3**
O14K	**Tigyukauivet M**	**4.47**	**351**		**Pn**	**06 02 45.7**	**+1.7**
O14K	**Tigyukauivet M**	**4.47**	**351**	IAML		06 04 25.2	
	comp=N,59nm,2.1s						
O14K	**Tigyukauivet M**	**4.47**	**351**	P	**Pn**	**06 02 45.7**	**+1.7**
	baz=170						
P17K	**Kvichak River**	**4.74**	**22**		**Pn**	**06 02 50.0**	**+2.3**
P17K	**Kvichak River**	**4.74**	**22**	P	**Pn**	**06 02 50.0**	**+2.3**
	baz=204						
O16K	**Kokwok River B**	**4.85**	**11**		**Pn**	**06 02 51.0**	**+1.8**
O16K	**Kokwok River B**	**4.85**	**11**	IAML		06 03 36.1	
	comp=E,35nm,3.6s						
O16K	**Kokwok River B**	**4.85**	**11**	P	**Pn**	**06 02 51.0**	**+1.8**
	baz=192						
KDAK	**Kodiak Island**	**5.01**	**51**	Pn	**Pn**	**06 02 51.3**	**-0.2**
KDAK				IAML		06 04 19.1	
	comp=E,67nm,0.7s						
KDAK				IAML		06 04 24.9	
	comp=E,50nm,2.6s						
KDAK	**Kodiak Island**	**5.01**	**51**	Pn	**Pn**	**06 02 51.6**	**+0.1**
	comp=E,1.0nm,0.3s,baz=227,slow=5.7,SNR=18						
KDAK				Sn	**Sn**	**06 03 47.6**	**-0.5**
	comp=E,2.2nm,0.3s,baz=18,slow=21,SNR=6.0						
	comp=E,7.2nm,0.6s						
N14K	**Kuskokwak Cree**	**5.17**	**350**		**Pn**	**06 02 55.3**	**+1.7**
N14K	**Kuskokwak Cree**	**5.17**	**350**	P	**Pn**	**06 02 55.3**	**+1.7**
	baz=169						
P18K	**Big Mountain,**	**5.21**	**27**	Pn	**Pn**	**06 02 56.0**	**+1.8**
P18K				IAML		06 04 14.3	
	comp=E,31nm,2.5s						
P18K				IAML		06 05 16.3	
	comp=N,29nm,3.1s						
Q19K	**Cape Douglas,**	**5.33**	**37**	Pn	**Pn**	**06 02 57.7**	**+1.9**
N15K	**Kwethluk River**	**5.33**	**359**		**Pn**	**06 02 57.6**	**+1.8**
N15K	**Kwethluk River**	**5.33**	**359**	P	**Pn**	**06 02 57.6**	**+1.8**
	baz=179						
O18K	**Koktuh Hills**	**5.61**	**25**	Pn	**Pn**	**06 03 02.2**	**+2.4**
O18K	**Koktuh Hills**	**5.61**	**25**	P	**Pn**	**06 03 01.8**	**+2.1**
	baz=208						
N16K	**Nishlik Lake**	**5.66**	**6**		**Pn**	**06 03 02.4**	**+1.9**
N16K	**Nishlik Lake**	**5.66**	**6**	P	**Pn**	**06 03 02.4**	**+1.9**
	baz=186						
N17K	**Nushagak Hills**	**5.87**	**13**		**Pn**	**06 03 05.0**	**+1.8**
N17K	**Nushagak Hills**	**5.87**	**13**	P	**Pn**	**06 03 05.0**	**+1.8**
	baz=195						
M15K	**Kasigluk River**	**5.87**	**356**		**Pn**	**06 03 04.5**	**+1.3**
M15K	**Kasigluk River**	**5.87**	**356**	P	**Pn**	**06 03 04.5**	**+1.3**
	baz=175						
M13K	**Dall Lake**	**5.87**	**343**		**Pn**	**06 03 04.9**	**+1.7**
M13K	**Dall Lake**	**5.87**	**343**	P	**Pn**	**06 03 04.9**	**+1.7**
	baz=160						
P19K	**Oil Pt**	**6.01**	**34**	Pn	**Pn**	**06 03 08.2**	**+3.0**
M14K	**Bethel**	**6.01**	**350**	Pn	**Pn**	**06 03 06.5**	**+1.4**
M14K	**Bethel**	**6.01**	**350**	P	**Pn**	**06 03 06.7**	**+1.5**
	baz=169						
O19K	**Port Alsworth**	**6.13**	**27**	Pn	**Pn**	**06 03 10.3**	**+3.5**
M16K	**Timber Creek**	**6.20**	**4**		**Pn**	**06 03 09.7**	**+1.9**
M16K	**Timber Creek**	**6.20**	**4**	P	**Pn**	**06 03 09.7**	**+1.9**
	baz=185						
N18K	**Kilae Creek**	**6.22**	**18**		**Pn**	**06 03 10.6**	**+2.5**
N18K	**Kilae Creek**	**6.22**	**18**	P	**Pn**	**06 03 10.6**	**+2.5**
	baz=201						
M11K	**Mekoryuk**	**6.50**	**331**		**Pn**	**06 03 13.4**	**+1.7**
M11K	**Mekoryuk**	**6.50**	**331**	P	**Pn**	**06 03 13.5**	**+1.7**
	baz=146						
SVW2	**Sparrevohn**	**6.66**	**18**	Pn	**Pn**	**06 03 16.5**	**+2.4**
SVW2	**Sparrevohn**	**6.66**	**18**	P	**Pn**	**06 03 16.8**	**+2.7**
L14K	**Kuka Creek**	**6.67**	**348**		**Pn**	**06 03 15.5**	**+1.3**
L14K	**Kuka Creek**	**6.67**	**348**	P	**Pn**	**06 03 15.5**	**+1.3**
	baz=166						
M17K	**Holitna River**	**6.69**	**10**		**Pn**	**06 03 16.4**	**+1.9**
M17K	**Holitna River**	**6.69**	**10**	P	**Pn**	**06 03 16.4**	**+1.9**
	baz=192						
L16K	**Owhat River**	**6.88**	**2**		**Pn**	**06 03 18.8**	**+1.8**
L16K	**Owhat River**	**6.88**	**2**	P	**Pn**	**06 03 17.4**	**+0.4**
	baz=182						
M18K	**Stony River**	**6.99**	**16**		**Pn**	**06 03 20.3**	**+1.7**
M18K	**Stony River**	**6.99**	**16**	P	**Pn**	**06 03 20.3**	**+1.7**
	baz=199						
RDT	**Redoubt**	**6.99**	**32**		**Pn**	**06 03 21.3**	**+2.7**
L17K	**Donlin**	**7.35**	**6**		**Pn**	**06 03 24.4**	**+0.9**
L17K	**Donlin**	**7.35**	**6**	P	**Pn**	**06 03 24.4**	**+0.9**
	baz=187						
K15K	**Wolf Creek Mou**	**7.51**	**354**		**Pn**	**06 03 27.7**	**+2.0**
K15K	**Wolf Creek Mou**	**7.51**	**354**	P	**Pn**	**06 03 27.7**	**+2.0**
	baz=173						
L18K	**Granite Mounta**	**7.57**	**11**		**Pn**	**06 03 28.1**	**+1.6**
L18K	**Granite Mounta**	**7.57**	**11**	P	**Pn**	**06 03 28.1**	**+1.6**
	baz=194						
M19K	**Big River Lodg**	**7.63**	**20**		**Pn**	**06 03 30.1**	**+2.7**
M19K	**Big River Lodg**	**7.63**	**20**	P	**Pn**	**06 03 30.1**	**+2.7**
	baz=204						
L19K	**White Mountain**	**7.80**	**18**		**Pn**	**06 03 31.9**	**+2.2**
L19K	**White Mountain**	**7.80**	**18**	P	**Pn**	**06 03 31.9**	**+2.2**
	baz=201						
K17K	**Iditarod**	**7.92**	**5**		**Pn**	**06 03 32.9**	**+1.5**
K17K	**Iditarod**	**7.92**	**5**	P	**Pn**	**06 03 32.9**	**+1.5**
	baz=186						
J14K	**Nanvaranak Lak**	**8.14**	**348**		**Pn**	**06 03 35.9**	**+1.6**
J14K	**Nanvaranak Lak**	**8.14**	**348**	P	**Pn**	**06 03 35.9**	**+1.6**
	baz=165						
SUA	**Susitna One**	**8.19**	**32**	Pn	**Pn**	**06 03 36.8**	**+1.6**
TTA	**Tatalina**	**8.34**	**12**	Pn	**Pn**	**06 03 38.3**	**+1.1**
TTA	**Tatalina**	**8.34**	**12**	P	**Pn**	**06 03 38.9**	**+1.7**
TTA	**Tatalina**	**8.34**	**12**	P	**Pn**	**06 03 38.5**	**+1.4**
	baz=195						
SKT	**Skwentna**	**8.37**	**28**	Pn	**Pn**	**06 03 40.9**	**+3.3**
J16K	**Anvik River**	**8.46**	**358**		**Pn**	**06 03 39.7**

P33M					IAmb	IAmb	06 05 43.5		
	comp=Z,3.9nm,1.1s								
FARO	**Faro, Yukon**	**15.60**	**51**	P	**P**		**06 05 20.0**	**+0.2**	
EPYK	**Eagle Plains**	**16.07**	**35**	P	**P**		**06 05 26.1**	**+1.2**	
EPYK					IAmb	IAmb	06 05 35.6		
	comp=Z,11nm,0.8s								
DLBC	**Dease Lake**	**16.73**	**65**	P	**P**		**06 05 33.2**	**+0.9**	
F31M	**Tsiigehtchic**	**17.64**	**34**	P	**Pn**		**06 05 42.0**	**+0.5**	
F31M					IAmb	IAmb	06 06 01.5		
	comp=Z,5.4nm,1.2s								
INK	**Inuvik**	**18.19**	**32**	P	**Pn**		**06 05 47.7**	**-0.5**	
INK					IAmb	IAmb	06 05 50.6		
	comp=Z,4.9nm,1.3s								
INK	**Inuvik**	**18.19**	**32**	P	**Pn**		**06 05 48.1**	**-0.1**	
	comp=Z,0.5nm,0.3s,baz=215,slow=13,SNR=17								
	comp=Z,1.2nm,0.3s								
C36M	**Paulatuk**	**21.70**	**34**	P	**P**		**06 06 25.3**	**-1.0**	
YKA	**Yellowknife Ar**	**24.29**	**53**	P	**P**		**06 06 53.9**	**+1.4**	
	comp=Z,0.2nm,0.3s,baz=267,slow=9.1,SNR=2.9								
	comp=Z,0.2nm,0.3s								
PEA0B	**Petropavlovsk-**	**24.73**	**284**	P	**P**		**06 06 56.7**	**0.0**	
PETK	**Petropavlovsk-**	**24.73**	**284**	P	**P**		**06 06 56.4**	**-0.3**	
PETK	**Petropavlovsk-**	**24.73**	**284**	P	**P**		**06 06 57.0**	**+0.3**	
	comp=Z,4.1nm,0.5s,baz=73,slow=14,SNR=16								
	comp=Z,4.1nm,0.5s								
BPMT	**Black Pine Rid**	**30.13**	**87**	P	**P**		**06 07 43.0**	**-2.5**	
ELK	**Elko**	**32.54**	**97**	LR	LR		06 20 00.2		
	comp=Z,35nm,18.4s,baz=47,slow=34								
ASAJ	**Asahikawa**	**37.85**	**278**	LR	LR		06 23 41.0		
	comp=Z,26nm,21.2s,baz=172,slow=35								
H11N2	**WAKE ISLAND Hy**	**43.16**	**229**	T	T		06 55 48.5		
	baz=28,slow=76,SNR=8.3								
H11N3	**WAKE ISLAND Hy**	**43.16**	**229**	T	T		06 55 48.9		
	baz=28,slow=76,SNR=8.6								
H11N1	**WAKE ISLAND Hy**	**43.17**	**229**	T	T		06 55 49.8		
	baz=28,slow=76,SNR=6.4								
H11S1	**WAKE ISLAND Hy**	**44.32**	**228**	T	T		06 57 19.3		
	baz=28,slow=74								
H11S2	**WAKE ISLAND Hy**	**44.34**	**228**	T	T		06 57 18.6		
	baz=28,slow=74								
H11S3	**WAKE ISLAND Hy**	**44.34**	**228**	T	T		06 57 18.2		
	baz=28								
NRIK	**Noril'sk**	**46.84**	**333**	P	**P**		**06 10 04.8**	**+0.1**	
	comp=Z,1.6nm,0.4s,baz=34,slow=4.8,SNR=2.5								
	comp=Z,1.6nm,0.4s								
SPITS	**Spitsbergen Ar**	**47.20**	**1**	P	**P**		**06 10 07.4**	**-0.2**	
	comp=Z,26nm,1.1s,baz=358,slow=13,SNR=10.0								
	comp=Z,29nm,1.1s								
TXAR	**Lajitas Array**	**47.28**	**99**	P	**P**		**06 10 10.1**	**+1.3**	
	comp=Z,0.1nm,0.5s,baz=300,slow=4.1,SNR=1.8								
	comp=Z,0.1nm,0.5s								
SONM	**Songino Array**	**54.71**	**305**	P	**P**		**06 11 04.7**	**+0.2**	
	comp=Z,1.2nm,0.6s,baz=47,slow=6.6,SNR=6.1								
	comp=Z,1.2nm,0.6s								
KURBB	**Kurchatov Arra**	**64.14**	**323**	P	**P**		**06 12 09.4**	**+0.1**	
	comp=Z,0.3nm,0.5s,baz=27,slow=6.3,SNR=5.4								
	comp=Z,0.3nm,0.5s								
BVAR	**Borovoye Array**	**64.72**	**329**	P	**P**		**06 12 13.2**	**+0.2**	
	comp=Z,1.8nm,0.7s,baz=38,slow=7.5,SNR=9.4								
	comp=Z,1.8nm,0.7s								
HFS	**Hagfors**	**65.24**	**4**	P	**P**		**06 12 16.3**	**0.0**	
	comp=Z,1.2nm,0.4s,baz=19,slow=5.0,SNR=4.4								
	comp=Z,1.2nm,0.4s								
MKAR	**Makanchi Array**	**65.96**	**318**	P	**P**		**06 12 20.3**	**-0.9**	
	comp=Z,0.3nm,0.4s,baz=39,slow=6.8,SNR=6.4								
	comp=Z,0.3nm,0.4s								
AKASG	**Malin Array Be**	**74.54**	**354**	P	**P**		**06 13 12.5**	**-1.1**	
	comp=Z,0.5nm,0.4s,baz=6.6,slow=5.8,SNR=2.3								
	comp=Z,0.5nm,0.4s								
CMAR	**Chiang Mai Arr**	**81.35**	**290**	P	**P**		**06 13 52.0**	**+0.1**	
	comp=Z,1.1nm,0.3s,baz=24,slow=5.2,SNR=5.8								
	comp=Z,1.1nm,0.3s								

*TEH **16** 06:07:10.2,38°.83N×44°.45E,h6km±8.8km,ML2.5*
*AFAD **16** 06:07:11.9±0.0,38°.95N×44°.59E,h7km±2km,ML2.1*
*AZER **16** 06:07:12.6,38°.96N×44°.64E,h9km,ml2.6*

ISC 16 06:07:12.3±1.2,38°.93N±0°.03×44°.61E±0°.02,h8km±10km, n22,σ1ₛ50/37,Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKU	**Maku**	**0.43**	**7**	Pg	**Pb**	**06 07 20.9**	**-1.4**
OZAP	**Van, Ozalp-Mer**	**0.55**	**241**	P	**Pg**	**06 07 23.0**	**-0.1**
OZAP				S	**Sb**	**06 07 31.5**	**-1.0**
OZAP				*i* AML	AML	06 07 32.0	
	comp=N,198nm,0.8s						
OZAP				*i* AML	AML	06 07 34.0	
	comp=E,191nm,0.8s						
NAX	**Nakhchivan**	**0.73**	**70**	P	**Pb**	**06 07 27.6**	**+0.2**
NAX				S	**Sn**	**06 07 39.5**	**-0.8**
HYR	**Heyderabad**	**0.81**	**13**	P	**Pb**	**06 07 28.7**	**0.0**
HYR				S	**Sn**	**06 07 41.6**	**-0.7**
VMUR	**Van-Muradiye**	**0.81**	**275**	P	**Pg**	**06 07 27.0**	**-1.0**
VMUR				S	**Sb**	**06 07 38.7**	**-1.3**
VMUR				*i* AML	AML	06 07 45.0	
	comp=N,62nm,0.3s						
VMUR				*i* AML	AML	06 07 54.0	
	comp=E,53nm,0.8s						
SBZ	**Shahbuz**	**0.87**	**57**	P	**Pb**	**06 07 29.9**	**+0.2**
SBZ				S	**Sn**	**06 07 42.8**	**-1.0**
IMRD	**Marand**	**0.88**	**104**	Pg	**Pg**	**06 07 29.2**	**-0.1**
IMRD				Sg	**Sb**	**06 07 42.6**	**+0.7**
DYDN	**Diyadin**	**0.94**	**311**	P	**Pg**	**06 07 29.6**	**-0.9**
DYDN				*i* AML	AML	06 07 49.0	
	comp=E,82nm,0.6s						
DYDN				*i* AML	AML	06 07 50.0	
	comp=N,109nm,0.7s						
ISHB	**Shabestar**	**1.02**	**129**	Pg	**Pg**	**06 07 30.5**	**-1.4**
IGDI	**IGDIR**	**1.02**	**336**	P	**Pb**	**06 07 31.4**	**-1.0**
IGDI				*i* AML	AML	06 07 51.0	
	comp=N,58nm,0.5s						
IGDI				*i* AML	AML	06 07 51.0	
	comp=E,40nm,0.5s						
TVAN	**Van**	**1.02**	**247**	P	**Pg**	**06 07 31.7**	**-0.4**
TVAN				S	**Sn**	**06 07 51.0**	**+3.2**
TVAN				*i* AML	AML	06 07 52.0	
	comp=N,62nm,0.7s						
TVAN				*i* AML	AML	06 07 56.0	
	comp=E,72nm,0.7s						
ORD	**Ordubad**	**1.08**	**90**	P	**Pb**	**06 07 33.2**	**0.0**
ORD				S	**Sn**	**06 07 49.8**	**+0.9**
GEVA	**Gevas**	**1.36**	**244**	P	**Pn**	**06 07 37.4**	**-0.5**
GEVA				S	**Sn**	**06 07 58.4**	**+2.2**
GEVA				*i* AML	AML	06 08 02.0	
	comp=N,28nm,0.7s						
ITBZ	**Tabriz**	**1.39**	**120**	Pg	**Pn**	**06 07 36.9**	**-1.2**
KOTA	**Agri, Merkez-K**	**1.40**	**309**	P	**Pb**	**06 07 37.8**	**-0.9**
KOTA				S	**Sn**	**06 07 59.2**	**+2.2**
ADCV	**BITLIS_Adilcev**	**1.48**	**266**	P	**Pb**	**06 07 39.3**	**-0.9**
ADCV				S	**Sg**	**06 08 01.1**	**+1.2**
ADCV				*i* AML	AML	06 08 08.0	
	comp=N,25nm,0.2s						
ADCV				*i* AML	AML	06 08 28.0	
	comp=E,22nm,0.0s						
DORK	**Agr/Tutak/Do**	**1.50**	**288**	P	**Pb**	**06 07 39.9**	**-0.6**
DORK				S	**Sg**	**06 08 02.1**	**+1.6**
DORK				*i* AML	AML	06 08 07.0	
	comp=E,28nm,1.0s						
DORK				*i* AML	AML	06 08 15.0	
	comp=N,21nm,0.5s						
PERV	**Siirt/Pervari-**	**1.90**	**240**	P	**Pg**	**06 07 48.0**	**-0.7**
PERV				*i* AML	AML	06 08 17.0	
	comp=E,26nm,0.4s						
PERV				*i* AML	AML	06 08 20.0	
	comp=N,52nm,0.7s						
GDB	**GEDABAY**	**1.99**	**26**	P	**Pg**	**06 07 49.6**	**-0.9**
GDB				S	**Sg**	**06 08 16.6**	**+0.2**
IHRS	**Heris**	**2.00**	**107**	Pn	**Pb**	**06 07 48.3**	**-0.7**
VSHL	**Vashlovani**	**2.68**	**30**	P	**Pg**	**06 08 03.3**	**-0.3**
VSHL				S	**Sg**	**06 08 42.9**	**+4.6**
YRD	**Yardimli**	**2.83**	**89**	P	**Pb**	**06 08 00.9**	**-2.3**
YRD				S	**Sb**	**06 08 40.1**	**+2.0**

IDC 16 06:21:40.6±3.0,41°.71N×127°.10E,h0km,mbtmp3.0/3, ML2.8/3,Error ellipse: s-maj=40.4km s-min=15.0km az=106.0,North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**4.29**	**171**	Pn	Pn	06 22 46.7	-0.5
	0.6nm,0.3s,baz=356,slow=14,SNR=2.8						
KSRS				Pg	Pb	06 22 59.7	+2.7
	2.0nm,0.3s,baz=349,slow=18,SNR=10						
KSRS				Lg	Lg	06 23 57.8	
	5.6nm,0.3s,baz=352,slow=29,SNR=14						
	1.0nm,0.3s						
I45RU	**USSURIYSK INFR**	**4.36**	**54**	I	I	06 48 10.0	
	0.1nm,0.8s,baz=234,slow=332,SNR=1.8						
USRK	**Ussuriysk Ar.**	**4.37**	**54**	Pn	Pn	06 22 48.7	+0.5
	0.3nm,0.3s,baz=235,slow=14,SNR=4.3						
USRK				Pg	Pb	06 22 59.8	+1.5
	0.5nm,0.3s,baz=235,slow=15,SNR=5.6						
USRK				Lg	Lg	06 24 00.2	
	1.7nm,0.3s,baz=236,slow=27,SNR=9.2						
	0.8nm,0.4s						
KLR	**Kul'dur**	**8.20**	**22**	Pn	Pn	06 23 40.2	-0.6
	0.2nm,0.3s,baz=222,slow=15,SNR=4.7						
KLR				Lg	Lg	06 26 01.2	
	0.1nm,0.3s,baz=151,slow=20,SNR=3.3						
	0.8nm,0.5s						

*UPA **16** 06:22:52.8±3.5,7°.20N×79°.74W,h10km±27km,MD3.8, MW4.3*
*RSNC **16** 06:22:52.7±0.0,7°.N±3°.×8°.0W±°,h0km±5km,mb3.5,ML2.5*

ISC 16 06:22:48.7±1.5,7°.14N±0°.05×79°.71W±0°.03,h3km±12km, n26,σ1ₛ92/45,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZU	**Azuero**	**0.86**	**319**	*i* P	**Pb**	**06 23 06.3**	**0.0**
AZU				*e*S	**Sn**	**06 23 18.9**	**-2.0**
AZU	**Azuero**	**0.86**	**319**	P	**Pb**	**06 23 06.3**	**0.0**
AZU				S	**Sb**	**06 23 17.2**	**-1.1**
CHIT3	**Chitre**	**1.08**	**319**	*e*P	**Pb**	**06 23 09.8**	**-0.2**
CHIT3				*e*S	**Sn**	**06 23 24.7**	**-1.5**
PNME	**Penonome**	**1.48**	**335**	*e*P	**Pg**	**06 23 16.8**	**-0.3**
PNME				*e*S	**Sg**	**06 23 36.4**	**+0.1**
PNME	**Penonome**	**1.48**	**335**	P	**Pg**	**06 23 17.8**	**+0.7**
PNME				S	**Sg**	**06 23 35.7**	**-0.6**
CALO3	**Calobre, Verag**	**1.63**	**316**	*e*P	**Pb**	**06 23 19.0**	**-0.4**
GMAL	**Guarumal, Vera**	**1.64**	**292**	*e*P	**Pb**	**06 23 19.3**	**-0.3**
GMAL				*e*S	**Sg**	**06 23 42.8**	**+1.3**
GMAL	**Guarumal, Vera**	**1.64**	**292**	P	**Pb**	**06 23 19.5**	**-0.1**
GMAL				S	**Sg**	**06 23 43.7**	**+2.3**
UPA	**Univ. de Panam**	**1.84**	**5**	P	**Pb**	**06 23 22.8**	**-0.2**
UPA				S	**Sb**	**06 23 45.9**	**-0.6**
PTAC	**Punta Ardita,**	**1.88**	**90**	*e*P	**Pn**	**06 23 21.9**	**+0.1**
PTAC				*e*S	**Sn**	**06 23 43.6**	**-2.4**
PTAC	**Punta Ardita,**	**1.88**	**90**	P	**Pn**	**06 23 22.3**	**-1.4**
PTAC				S	**Sn**	**06 23 43.2**	**-2.8**
BCIP	**Isla Barro Col**	**2.02**	**356**	*e*P	**Pb**	**06 23 26.1**	**-0.1**
BCIP				*e*S	**Sb**	**06 23 50.6**	**-1.1**
BCIP	**Isla Barro Col**	**2.02**	**356**	P	**Pb**	**06 23 25.9**	**-0.2**
BCIP				S	**Sb**	**06 23 51.6**	**-0.1**
FRIJ	**El Hiral**	**2.07**	**359**	*e*P	**Pb**	**06 23 26.3**	**-0.7**
FRIJ				*e*S	**Sb**	**06 23 52.4**	**-0.8**
CHPO	**Chepo, Panama**	**2.10**	**16**	*e*P	**Pb**	**06 23 26.9**	**-0.6**
CHPO				*e*S	**Sb**	**06 23 53.5**	**-0.6**
UPD2	**Meteti**	**2.19**	**50**	P	**Pb**	**06 23 28.9**	**0.0**
UPD2				S	**Sg**	**06 23 59.7**	**+0.7**
SOLC	**Bahia Solano**	**2.45**	**111**	P	**Pn**	**06 23 29.7**	**+0.1**
SOLC				S	**Sb**	**06 24 02.1**	**-2.0**
CAPC	**Capurgana**	**2.77**	**57**	P	**Pb**	**06 23 37.0**	**-1.8**
APAC	**Apartado, Choc**	**3.19**	**76**	P	**Pb**	**06 23 45.1**	**-0.9**
APAC				S	**Sb**	**06 24 24.2**	**-1.1**
BCO2	**Palmira**	**3.21**	**300**	*e*P	**Pb**	**06 23 43.9**	**-2.6**
BCO2				*e*S	**Sb**	**06 24 25.2**	**-0.8**
BRU2	**Volcan**	**3.39**	**299**	*e*P	**Pb**	**06 23 47.0**	**-2.5**
DBBC	**Dabeiba**	**3.47**	**92**	P	**Pb**	**06 23 46.8**	**-4.1**
DBBC				S	**Sn**	**06 24 26.5**	**+1.1**
PLMC	**San Jos del P**	**4.06**	**123**	P	**Pn**	**06 23 52.9**	**+1.1**
HELC	**Santa Helena**	**4.25**	**102**	P	**Pn**	**06 23 57.2**	**+2.5**
HELC				S	**Sn**	**06 24 49.8**	**+4.7**
NORC	**Norcasia**	**5.05**	**108**	P	Pn	06 24 10.2	+4.7
	4.8nm,0.7s						
PTBC	**PUERTO BERRIO,**	**5.25**	**96**	P	Pn	06 24 12.7	+4.6
PTBC				S	**Sn**	**06 25 15.8**	**+6.7**

*IDC **16** 06:50:32.9±1.8,6°.43S×143°.23E,h0km,mb3.7/4, mbtmp3.7/5,ML3.7/1,Error ellipse: s-maj=69.7km s-min=29.0km az=107.0*

ISC 16 06:50:34.1±1.8,6°.7S±0°.2×143°.0E±0°.4,h10km,n6,σ2ₛ20/7, mb3.8/4,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.63**	**212**	Pn	**Pn**	**06 54 15.3**	**+0.5**
	0.1nm,0.3s,baz=27,slow=11,SNR=1.8						
WRA				Sn	**Sn**	**06 57 05.5**	**-2.7**
	0.1nm,0.3s,baz=27,slow=23,SNR=2.6						
WRA				Lg	Lg	06 58 58.2	
	0.1nm,0.3s,baz=35,slow=28,SNR=3.5						
ASAR	**Alice Springs**	**19.02**	**206**	P	**Pn**	**06 55 00.1**	**+3.1**
	0.2nm,0.3s,baz=32,slow=10.0,SNR=15						
ASAR				Lg	Lg	07 00 47.5	
	baz=33,slow=30						
	1.3nm,0.6s						
SONM	**Songino Array**	**63.12**	**333**	P	**P**	**07 01 02.2**	**0.0**
	0.2nm,0.5s,baz=152,slow=6.5,SNR=1.9						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**75.50**	**322**	P	**P**	**07 02 19.4**	**+0.6**
	0.3nm,0.7s,baz=142,slow=4.9,SNR=2.6						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**84.97**	**325**	P	**P**	**07 03 09.6**	**-0.1**
	1.4nm,0.7s,baz=101,slow=7.5,SNR=6.8						
	1.4nm,0.7s						
ILAR	**Eielson Array**	**87.68**	**24**	P	**P**	**07 03 21.4**	**-1.4**
	4.8nm,0.7s						
	0.5nm,0.7s,baz=260,slow=4.7,SNR=8.7						
	0.5nm,0.7s						

RSNC 16 06:50:59.6±0.0,6°.N±3°.×7°.8W±°,h22km±5km,mb3.6,ML2.1, MLv3.0,Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIZC	**Pizarro, Choco**	**0.63**	**151**	P	Pb	06 51 09.9	-2.1
PIZC				S	Sn	06 51 21.6	-1.1
SOLC	**Bahia Solano**	**0.75**	**20**	P	Pb	06 51 11.5	-2.5
SOLC				S	Sb	06 51 21.5	-2.2
PLMC	**San Jos del P**	**1.51**	**114**	P	Pn	06 51 22.1	-3.3
PLMC				S	Sn	06 51 40.7	-3.8
MALC	**Bahia Malaga**	**1.53**	**167**	P	Pn	06 51 23.5	-2.2
MALC				S	Sn	06 51 43.4	-1.6
PTAC	**Punta Ardita,**	**1.62**	**355**	P	Pn	06 51 23.5	-3.4
PTAC				S	Sn	06 51 42.4	-4.7
YOTC	**Yotoco, Valle**	**2.02**	**139**	P	Pn	06 51 29.4	-3.1
YOTC				S	Sn	06 51 50.9	-6.2
DBBC	**Dabeiba**	**2.08**	**44**	P	Pn	06 51 32.2	-1.1
HELC	**Santa Helena**	**2.23**	**73**	P	Pn	06 51 34.0	-1.6
HELC				S	Sn	06 51 58.0	-4.7
GUY2C	**Guyana, Caldas**	**2.31**	**97**	P	Pn	06 51 35.4	-1.4
GUY2C				S	Sn	06 52 03.5	-1.4
JAMC	**Jamundi, Valle**	**2.50**	**157**	P	Pn	06 51 35.8	-3.3
JAMC				S	Sn	06 52 03.2	-5.8
APAC	**Apartado, Choc**	**2.60**	**25**	P	Pn	06 51 39.8	-0.6
APAC				S	Sn	06 52 11.4	+0.1
ORTC	**Ortega, Tolima**	**2.90**	**123**	P	Pn	06 51 44.0	-0.5
POPC	**Popayan, Colom**	**3.12**	**161**	P	Pn	06 51 45.8	-2.0
POPC				S	Sn	06 52 19.2	-5.3
PTBC	**PUERTO BERRIO,**	**3.35**	**72**	P	Pn	06 51 51.1	+0.4
PTBC				S	Sn	06 52 27.8	-2.1
AZU	**Azuero**	**3.43**	**311**	P	Pn	06 51 49.2	-2.6
AZU				S	Sn	06 52 28.7	-3.1
SPBC	**San Pablo de B**	**3.58**	**88**	P	Pn	06 51 54.4	+0.4
GARC	**Garzon, Huila**	**3.96**	**147**	P	Pn	06 51 59.1	-0.2
FLOC	**Florencia**	**4.40**	**153**	P	Pn	06 52 04.8	-0.3
BARC	**Barichara**	**4.59**	**76**	P	Pn	06 52 10.5	+2.6
BARC				S	Sn	06 53 02.2	+1.5
MACC	**Macarena, Meta**	**5.08**	**131**	P	Pn	06 52 13.8	-0.7

*DSN **16** 07:24:06.0±1.7,32°.79N×54°.49E,h15km,ML3.8/8,Error ellipse: s-maj=83.1km s-min=16.4km az=79.0*
*IDC **16** 07:24:15.7±0.6,31°.73N×56°.70E,h0km,mb4.4/27, mbtmp4.4/35,ML4.0/7,MS3.6/31,Error ellipse: s-maj=14.7km s-min=11.3km az=10.0*
*BJI **16** 07:24:15.0±0.0,31°.87N×56°.26E,h21km,mb4.5/39, mB5.0/19,Ms4.3/12,Ms7 4.1/10*
*MOS **16** 07:24:15.8±0.9,31°.77N×56°.70E,h11km,mb4.7/33,Error ellipse: s-maj=5.7km s-min=4.1km az=82.2*
*TEH **16** 07:24:16.5,31°.84N×56°.74E,h8km±20km,ML4.8*
*THR **16** 07:24:17.7±0.8,31°.85N×56°.73E,h14km±7km,ML4.8*

*NEIC **16** 07:24:18.6±2.0,31°.87N±0°.07×56°.73E±0°.08,h10km±1km, mb4.6/51,Error ellipse: s-maj=12.0km s-min=11.1km az=110.0*
*OMAN **16** 07:24:20.1±0.3,31°.88N×56°.33E,h10km,mb4.8/34, ms3.0/2,Error ellipse: s-maj=6.8km s-min=5.0km az=335.0*

ISC 16 07:24:18.2±0.3,31°.84N±0°.03×56°.69E±0°.03,h10km,n576, σ1ₛ48/591,mb4.6/81,MS3.7/28,17C-3D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.88**	**189**	Pg	**Pg**	**07 24 33.7**	**-1.4**
IBAF	**Bafgh**	**0.99**	**256**	Pg	**Pg**	**07 24 36.0**	**-1.1**
TPRV	**Parvadeh(Tabas**	**1.19**	**360**	Pg	**Pb**	**07 24 39.3**	**-1.5**
KRM1	**Kerman Provinc**	**1.42**	**159**	Pg	**Pn**	**07 24 44.0**	**-0.3**
KHGB	**Koh Gabri**	**1.47**	**187**	Pg	**Pn**	**07 24 44.8**	**-0.2**
TKDS	**Koohdasht(Taba**	**1.81**	**12**	Pn	**Pb**	**07 24 49.9**	**-1.6**
IMEH	**Mehriz**	**1.82**	**256**	Pn	**Pn**	**07 24 51.0**	**+1.1**
TABS	**Tabas**	**1.84**	**11**	*e*Pn	**Pb**	**07 24 50.6**	**-1.5**
TABS				IAML		07 25 20.5	
	comp=N,7μm,0.4s						
TVBK	**TV Kerman**	**1.85**	**178**	Pn	**Pb**	**07 24 51.4**	**-0.8**
KRBR	**Kerman**	**1.85**	**178**	*e*Pn	**Pb**	**07 24 51.7**	**-0.6**
KRBR				*e*Sg	**Sg**	**07 25 17.0**	**-0.7**
KRBR				IAML		07 25 18.6	
	comp=E,8μm,0.3s						
KRBR				IAML		07 25 23.8	
	comp=N,8μm,0.6s						
YZKH	**Yazd**	**1.86**	**288**	*e*Pn	**Pn**	**07 24 51.3**	**+1.1**
YZKH				*e*Sg	**Sb**	**07 25 17.2**	**+1.5**
YZKH				IAML		07 25 19.3	
	comp=E,8μm,0.5s						
YZKH				IAML		07 25 20.1	
	comp=N,6μm,0.3s						
ICHK	**Chekchek**	**1.98**	**282**	Pn	**Pn**	**07 24 53.1**	**+1.1**
ITEG	**Tejag**	**2.04**	**58**	Pn	**Pn**	**07 24 52.8**	**0.0**
IKOO	**Kooshah**	**2.05**	**73**	Pn	**Pn**	**07 24 52.9**	**-0.1**
BSRN	**Basiran**	**2.08**	**86**	*e*Pn	**Pn**	**07 24 53.1**	**-0.1**
BSRN				IAML		07 25 27.9	
	comp=N,5μm,0.4s						
BSRN	**Basiran**	**2.08**	**86**	Pn	**Pn**	**07 24 53.1**	**-0.1**
CHMN	**Cheshme madani**	**2.10**	**159**	Pn	**Pn**	**07 24 53.8**	**0.0**
TNSJ	**Nastanj**	**2.12**	**358**	Pn	**Pn**	**07 24 54.2**	**+0.3**
NGRK	**Negar Kerman**	**2.19**	**179**	Pn	**Pn**	**07 24 55.5**	**+0.6**
AFRZ	**Afriz**	**2.52**	**51**	Pn	**Pn**	**07 24 59.3**	**-0.1**
ISAD	**Sadrabad**	**2.56**	**272**	Pn	**Pn**	**07 25 00.9**	**+1.0**
ANAR	**Anarak**	**2.84**	**299**	Pn	**Pn**	**07 25 04.3**	**+0.5**
IDAH	**Dahanechah**	**2.84**	**71**	Pn	**Pn**	**07 25 03.8**	**-0.1**
NHDN	**Nehbandan**	**2.90**	**98**	Pn	**Pn**	**07 25 04.4**	**-0.2**
KBAM	**BAM**	**3.09**	**150**	Pn	**Pn**	**07 25 06.2**	**-1.0**
NASN	**Na'in**	**3.42**	**287**	*e*Pn	**Pn**	**07 25 13.6**	**+1.7**
SHRT	**Shahrakht**	**3.53**	**58**	*e*Pn	**Pn**	**07 25 13.7**	**+0.5**
SHRT				IAML		07 26 21.3	
	comp=E,1μm,0.5s						
SHRT				IAML		07 26 22.4	
	comp=N,1μm,0.7s						
SHRT	**Shahrakht**	**3.53**	**58**	Pn	**Pn**	**07 25 13.6**	**+0.4**
IRAM	**Ramesheh**	**3.67**	**271**	Pn	**Pn**	**07 25 16.2**	**+1.1**
IZEF	**Zefreh**	**3.84**	**287**	Pn	**Pn**	**07 25 18.8**	**+1.2**
IGAR	**Gharneh**	**3.98**	**279**	Pn	**Pn**	**07 25 21.3**	**+1.8**
TBHD	**Torbat heydari**	**4.15**	**30**	Pn	**Pn**	**07 25 22.5**	**+0.7**
ZHSF	**Zahedan**	**4.16**	**121**	*e*Pn	**Pn**	**07 25 22.4**	**+0.4**
SHRO	**Shahrood**	**4.18**	**352**	*e*Pn	**Pn**	**07 25 23.0**	**+0.8**
SHRO				IAML		07 26 34.6	
	comp=N,1μm,0.7s						
SHRO				IAML		07 26 40.8	
	comp=E,888nm,0.4s						
SHI	**Shiraz**	**4.21**	**240**	Pn	**Pn**	**07 25 24.1**	**+1.6**
IANJ	**Anjilo**	**4.30**	**328**	Pn	**Pn**	**07 25 24.6**	**+0.8**
ZHDN	**Zahedan**	**4.30**	**123**	Pn	**Pn**	**07 25 23.7**	**-0.2**
KRSH	**Karshahi**	**4.38**	**300**	Pn	**Pn**	**07 25 25.7**	**+0.8**
KLNJ	**Kolanjah**	**4.43**	**261**	Pn	**Pn**	**07 25 27.3**	**+1.5**
BNDS	**Bandar-Abbas**	**4.45**	**186**	*e*Pn	**Pn**	**07 25 27.5**	**+1.7**
ISFB	**Sefidab**	**4.50**	**305**	Pn	**Pn**	**07 25 27.0**	**+0.5**
IKLH	**Kolahrood**	**4.56**	**290**	Pn	**Pn**	**07 25 29.0**	**+1.5**
TBJM	**Torbat-e-JAM**	**4.58**	**41**	Pn	**Pn**	**07 25 28.2**	**+0.5**
QIR1	**Qir**	**4.60**	**224**	Pn	**Pn**	**07 25 29.2**	**+1.3**
SBZV	**Sabzevar**	**4.60**	**9**	Pn	**Pn**	**07 25 28.9**	**+0.9**
IBRJ	**Brojen**	**4.62**	**272**	Pn	**Pn**	**07 25 29.7**	**+1.4**
ILAS	**Lasjerd**	**4.71**	**320**	Pn	**Pn**	**07 25 30.7**	**+1.2**
GHIR	**Ghir-Karzin**	**4.78**	**223**	*e*Pn	**Pn**	**07 25

GIDE GILAN DEYLAMAN 7.56 314 *e*Pn Pn **07 26 10.4 +1.8**
JRN Qarnain Island 7.66 207 P Pn **07 26 12.9 +3.2**
JRN S Sn **07 27 39.0 +2.4**
SOHO SOHO 7.67 181 P Pn **07 26 12.2 +2.1**
SOHO SOHO 7.67 181 P Pn **07 26 11.9 +1.9**
SOHO P Pn **07 26 11.9 +1.9**
SHMA Al-Shehemyia 7.79 222 P Pn **07 26 11.6 0.0**
SNR=8.0
SHMA S Sn **07 27 37.6 -2.2**
ALNE Al Ain 7.80 186 P Pn **07 26 13.9 +2.2**
ALNE Al Ain 7.80 186 P Pn **07 26 14.0 +2.3**
ALNE S Sn **07 27 41.6 +1.5**
SAKB Bahrain 7.94 224 P Pn **07 26 13.9 +0.2**
SAKB S Sn **07 27 42.0 -1.7**
ZNJK Zanjan 8.19 308 *e*Pn Pn **07 26 18.7 +1.4**
KBD Kabd 8.20 253 P Pn **07 26 16.9 -0.4**
KBD S Sn **07 27 45.7 -4.3**
HOQ Hoqain 8.24 176 P Pn **07 26 20.9 +3.0**
BIDO Bidbid 8.38 171 P Pn **07 26 23.1 +3.4**
BIDO S Sn **07 28 03.1 +8.6**
MZWR Madinat Zayed 8.42 198 P Pn **07 26 22.0 +1.8**
SNGE Sanandaj 8.45 295 *e*Pn Pn **07 26 23.6 +2.8**
ARQ Araqi 8.47 181 P Pn **07 26 24.7 +3.7**
TRNA Turayna 8.56 216 P Pn **07 26 21.1 -1.2**
SNR=5.8
TRNA S Sn **07 27 57.9 -1.0**
WSAR Wadi Sarin 8.74 168 Pn Pn **07 26 23.6 -1.0**
comp=E,0.9nm,0.3s,baz=5.4,slow=9.5,SNR=16
WSAR Sn Sn **07 28 01.8 -1.5**
baz=113,slow=23
WSAR LR LR 07 30 36.8
comp=E,130nm,19.8s,baz=340,slow=44
comp=E,7.4nm,0.6s
SMRA Abu-Samra 8.75 218 P Pn **07 26 23.6 -1.2**
SNR=9.3
SMDO Samad 8.83 172 P Pn **07 26 29.3 +3.4**
SMDO S Sn **07 28 12.7 +7.1**
SLWR Sila 8.91 211 P Pn **07 26 26.9 0.0**
SLWR S Sn **07 28 06.9 -0.5**
ILBA Ilam Banvizeh 9.01 284 *e*Pn Pn **07 26 29.9 +1.5**
BSY Bisya 9.07 177 P Pn **07 26 31.0 +1.7**
UMZA Um Al Zommool 9.19 189 P Pn **07 26 33.1 +2.3**
UMZA S Sn **07 28 16.6 +2.3**
JMDO Jabal Madar 9.51 172 P Pn **07 26 37.5 +2.2**
JMDO P Pn **07 26 37.5 +2.2**
JLN Jalan Bani Buh 9.95 165 P Pn 07 26 46.1 +4.9
GRMI Germi 9.99 317 *e*Pn Pn **07 26 43.8 +1.8**
SRSL SARDASHT 10.31 298 *e*Pn Pn **07 26 47.4 +1.1**
KBL Kabul 10.70 72 Pn Pn **07 26 53.2 +1.5**
KBL Kabul 10.70 72 P Pn **07 26 53.2 +1.5**
KBL Kabul 10.70 72 P Pn 07 26 57.1 +5.4
SNR=8.3
MHTO MHTO 10.87 174 P Pn **07 26 55.4 +1.6**
SNR=5.4
MHTO P Pn **07 26 55.4 +1.6**
SIMJ Simiganj 12.15 53 Pn Pn **07 27 09.8 -1.7**
GNI Garni 12.73 314 Pn Pn **07 27 17.6 -1.8**
GNI Garni 12.73 314 P Pn **07 27 17.6 -1.8**
RAYN Ar Rayn 12.91 233 Pn Pn **07 27 17.1 -4.7**
RAYN Ar Rayn 12.91 233 P Pn **07 27 17.1 -4.7**
RAYN Ar Rayn 12.91 233 P Pn **07 27 18.1 -3.7**
MAK Makhachkala 13.28 329 *e*P Pn **07 27 27.4 +0.7**
MAK *e*S Sn **07 29 59.7 +5.4**
MAK pmax pmax
comp=Z,167nm,1.1s
MAK MLR MLR
comp=Z,117nm,13.0s
DOK Doka 13.36 191 P Pn **07 27 29.8 +1.9**
NIL Nilore 14.06 78 Pn **07 27 37.9 +0.4**
NIL Nilore 14.06 78 P Pn **07 27 37.9 +0.4**
BTK Batken 14.07 50 Pn **07 27 36.1 -1.5**
BTK Batken 14.07 50 P Pn **07 27 36.1 -1.5**
WHFO Wadi Hawf 14.11 191 P Pn **07 27 39.5 +1.3**
SNR=7.9
DMTO DMTO 14.15 187 P Pn **07 27 39.6 +0.9**
GROC Groznyy 14.25 326 *e*P Pn **07 27 40.1 +0.2**
GROC pmax pmax
comp=Z,13nm,0.4s
DRK Karamyk 14.45 54 Pn **07 27 42.8 -0.2**
RBK Rabkut 14.45 190 P P **07 27 47.3 -2.4**
ABTO Aybut 14.74 193 P Pn **07 27 49.4 +2.5**
SNR=10
ONI Oni 15.03 319 Pn **07 27 50.8 +0.2**
ONI Oni 15.03 319 P Pn **07 27 50.8 +0.2**
ONI pmax pmax
comp=Z,6.0nm,0.8s
OHH Osh 15.61 52 P Pn **07 27 58.0 -0.3**
KK31 Karatay Array 15.69 40 Pn Pn **07 27 57.6 -1.7**
KK31 Karatay Array 15.69 40 P Pn **07 27 57.6 -1.7**
KK31 pmax pmax
comp=Z,18nm,1.1s
KKAR Karatay Array 15.69 40 Pn Pn **07 27 58.2 -1.1**
KKAR Karatay Array 15.69 40 P Pn **07 27 58.2 -1.1**
KKAR pmax pmax
comp=Z,18nm,1.1s
NEUR Neytrino 15.88 320 *i* P P **07 28 05.5 -0.2**
NEUR pmax pmax
comp=Z,11nm,1.5s
KBZ Khabaz 16.09 321 *ce*P P **07 28 08.7 +1.0**
KBZ pmax pmax
comp=Z,6.0nm,0.8s
KBZ Khabaz 16.09 321 Pn Pn **07 28 05.0 +0.6**
comp=Z,0.2nm,0.3s,baz=122,slow=10,SNR=11
comp=Z,4.9nm,1.0s
ARSB Arslanbob 16.13 50 Pn Pn **07 28 05.0 -0.2**
ARSB Arslanbob 16.13 50 P Pn **07 28 05.0 -0.2**
ARSB pmax pmax
comp=Z,16nm,1.2s
KIV Kislovodsk 16.36 322 Pn **07 28 08.9 +1.0**
KIV IAmb IAmb 07 28 16.2
comp=Z,39nm,1.0s
KIV Kislovodsk 16.36 322 *e*P P **07 28 13.0 +2.2**
KIV pmax pmax
comp=Z,33nm,1.1s
KIV MLR MLR
comp=Z,23nm,14.0s
ARPR Arapgir-MALATY 16.60 301 P P **07 28 14.1 +0.5**
ASF Jabal al Asfar 16.79 276 Pn Pn **07 28 12.2 -1.4**
comp=Z,0.8nm,0.3s,baz=151,slow=2.7,SNR=10
ASF LR LR 07 36 11.3
comp=Z,188nm,19.7s,baz=150,slow=43
comp=Z,7.7nm,0.8s
EKS2 Erkin-Say 17.34 47 P Pn **07 28 19.8 -0.6**
SNR=14
KSH Kashi 17.42 59 P Pn **07 28 17.3 -4.2**
KSH pP P 07 28 19.9 -2.8
KSH sP sP 07 28 25.6 -1.6
KSH pmax pmax
comp=Z,21nm,0.7s
KSH LR LR
comp=Z,410nm,10.0s
KSH LR LR
comp=Z,840nm,9.0s
KSH LR LR
comp=Z,710nm,11.8s
AB31 Akbulak array 17.57 7 *i* P P **07 28 24.3 +0.2**
ABKAR Akbulak array 17.57 7 P **07 28 23.2 -0.9**
UCH Uchtor 17.58 49 P Pn **07 28 23.1 -0.6**
SNR=17
AAK Ala-Archa 17.77 48 P P **07 28 26.5 -0.1**
SNR=11
AAK Ala-Archa 17.77 48 P **07 28 25.5 -1.2**
AAK IAmb IAmb 07 28 31.6
comp=Z,64nm,1.5s
AAK Ala-Archa 17.77 48 *ce*P P **07 28 25.7 -0.9**
AAK pmax pmax
comp=Z,52nm,1.6s
AAK Ala-Archa 17.77 48 P P **07 28 25.9 -0.7**
comp=Z,0.4nm,0.3s,baz=228,slow=9.0,SNR=17
AAK LR LR 07 36 42.0
comp=Z,242nm,19.3s,baz=246,slow=42
comp=Z,8.0nm,0.7s
AAK Ala-Archa 17.77 48 P P **07 28 26.8 +0.2**
SOC Sochi 17.79 316 *e*P P **07 28 26.4 -0.2**
SOC *e* 07 31 49.5
SOC MLR MLR
comp=Z,156nm,17.0s
LABN Labinsk 17.86 320 *e*P P **07 28 27.1 -0.3**
LABN *e*S S **07 31 51.7 -0.9**
LABN pmax pmax
comp=Z,34nm,0.7s
FRU1 Bishkek 17.95 47 P P **07 28 27.7 -0.8**
FRU1 IAmb IAmb 07 28 50.4
comp=Z,59nm,1.2s
FRU1 pmax pmax
comp=Z,59nm,1.2s
MMAI Mount Meron Ar 18.01 279 P Pn **07 28 28.8 +0.1**
comp=Z,3.0nm,0.7s,baz=104,slow=18,SNR=2.0
MMAI LR LR 07 36 42.2
comp=Z,93nm,20.3s,baz=48,slow=41
NRN Naryn 18.19 53 P Pn **07 28 29.2 -1.9**
NRN Naryn 18.19 53 P Pn **07 28 29.2 -1.9**
NRN pmax pmax
comp=Z,18nm,1.0s
BNN Bunyan 18.37 298 P P **07 28 34.7 +1.6**
BNN IAmb IAmb 07 28 57.3
comp=Z,47nm,1.3s
AKTO Aktyubinsk 18.61 3 P Pn **07 28 35.5 -0.3**
AKTO Aktyubinsk 18.61 3 P Pn **07 28 36.4 +0.6**
comp=Z,1.8nm,0.3s,baz=184,slow=9.2,SNR=23
AKTO LR LR 07 36 54.6
comp=Z,236nm,18.0s,baz=128,slow=40
comp=Z,25nm,0.7s
TKM2 Tokmak 2 18.62 48 P Pn **07 28 35.3 -0.9**
SNR=14
TKM2 Tokmak 2 18.62 48 *i* P Pn **07 28 35.7 -0.5**
TKM2 pmax pmax
comp=Z,21nm,1.1s
BOOM Boomskoye usch 18.63 50 P Pn **07 28 36.1 -0.2**
BOOM IAmb IAmb 07 28 39.5
comp=Z,23nm,0.7s
BOOM Boomskoye usch 18.63 50 P Pn **07 28 36.1 -0.2**
BOOM pmax pmax
comp=Z,23nm,0.7s
ERBR Yeremizino-Bor 18.70 322 *e*P Pn **07 28 36.5 -0.5**
ERBR *e*S S **07 32 11.9 +2.4**
ERBR pmax pmax
comp=Z,21nm,0.7s
ULHL Ulahol 18.71 51 P Pn **07 28 37.7 +0.3**
SNR=6.9
EIL Elat 18.80 269 P Pn **07 28 38.3 -0.1**
comp=Z,0.2nm,0.3s,baz=31,slow=10,SNR=3.1
EIL LR LR 07 37 25.4
comp=Z,319nm,18.2s,baz=67,slow=42
comp=Z,7.0nm,1.0s
MDOK Medeo 19.66 49 P Pn **07 28 48.0 -0.8**
ANN Anapa 19.83 316 *e*P P **07 28 49.3 +0.3**
ANN *e**PP **pP** **07 28 52.1 0.0**
ANN *e*S Sn **07 32 37.3 +4.0**
ANN pmax pmax
comp=Z,9.0nm,0.5s
BR131 Keskin Array S 20.25 299 P P **07 28 54.2 +0.4**
BR131 Keskin Array S 20.25 299 *i* P P **07 28 54.4 +0.6**
BRTR Keskin Array B 20.25 299 P P **07 28 53.4 -0.4**
BRTR Keskin Array B 20.25 299 P Pn 07 28 54.8 -1.0
comp=Z,7.0nm,0.7s,baz=113,slow=13,SNR=24
BRTR PcP **PcP** **07 33 07.3 -0.3**
comp=Z,1.4nm,0.8s,baz=146,slow=5.3,SNR=4.0
BRTR LR LR 07 36 58.1
comp=Z,109nm,18.0s,baz=112,slow=38
comp=Z,7.0nm,0.7s
PRZ Przheval'sk 20.25 52 P Pn 07 28 54.2 -1.5
PRZ IAmb IAmb 07 28 57.0
comp=Z,24nm,0.8s
PRZ Przheval'sk 20.25 52 P Pn 07 28 54.3 -1.5
PRZ pmax pmax
comp=Z,24nm,0.8s
ARXS Arharly 20.67 47 *e*P P **07 28 58.4 +0.2**
PDGK Podgornoye 21.33 51 P P **07 29 05.1 -0.4**
BELG Belogornoye 21.58 345 P P **07 29 07.6 -0.2**
comp=Z,48nm,0.7s,baz=296,slow=1.0,SNR=20
comp=Z,48nm,0.7s
BRZS Berezniki 21.70 29 *e*P P **07 29 09.6 +0.4**
SIM Simferopol' 21.92 313 *e*P P **07 29 11.8 +0.2**
SIM S S **07 33 14.0 +0.4**
SIM pmax pmax
comp=Z,17nm,0.8s
VRH Novokhopyorsk 22.28 335 *e*P P **07 29 13.5 -1.8**
VRH pmax pmax
comp=Z,13nm,0.8s
ELL Elmali 22.63 290 P P **07 29 21.3 +1.9**
ELL Elmali 22.63 290 P P **07 29 21.3 +1.9**
ELL pmax pmax
comp=Z,84nm,0.8s
VSR Storozhevoye 23.28 331 *e*P P **07 29 24.2 -1.6**
VSR pmax pmax
comp=Z,10.0nm,0.9s
BRVK Borovoye 23.38 21 P P **07 29 25.7 -1.1**
BRVK IAmb IAmb 07 29 28.6
comp=Z,19nm,0.8s
BRVK Borovoye 23.38 21 *ce*P P **07 29 27.1 +0.2**
BRVK pmax pmax
comp=Z,31nm,1.3s
BVA0 Borovoye Array 23.39 21 *i* P P **07 29 27.0 +0.1**
BVAR Borovoye Array 23.39 21 P P **07 29 27.1 +0.1**
comp=Z,31nm,0.8s,baz=204,slow=7.0,SNR=137
BVAR PcP **PcP** **07 33 12.7 -0.6**
comp=Z,3.4nm,0.8s,baz=222,slow=2.2,SNR=7.1
BVAR LR LR 07 39 30.7
comp=Z,163nm,18.6s,baz=209,slow=39
comp=Z,31nm,0.8s
VORR Voronezh 23.61 332 P P **07 29 26.7 -2.4**
VORR pmax pmax
comp=Z,25nm,0.6s
ATD Arta Tunnel 23.91 215 LR LR 07 40 35.2
comp=Z,10nm,21.2s,baz=0.5,slow=41
LPSR Galich'ya Gora 24.44 333 *e*P P **07 29 35.4 -1.5**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
MAKZ Makanchi 24.48 45 P P **07 29 36.5 -0.9**
MAKZ IAmb IAmb 07 29 45.3
comp=Z,30nm,1.3s
MAKZ Makanchi 24.48 45 P P **07 29 36.5 -0.9**
MAKZ pmax pmax
comp=Z,29nm,1.3s
ARU Arti 24.62 2 P P **07 29 39.4 +0.9**
ARU IAmb IAmb 07 29 40.7
comp=Z,17nm,1.0s
ARU Arti 24.62 2 *c i* P P **07 29 40.0 +1.5**
ARU 07 30 10.0
ARU S S **07 34 06.0 +6.4**
ARU SS SnSn **07 34 54.1 +9.2**
ARU pmax pmax
comp=Z,20nm,1.0s
MK31 Makanchi Array 24.66 45 P P **07 29 39.2 +0.1**
MK31 Makanchi Array 24.66 45 *i* P P **07 29 38.6 -0.5**
MK31 pmax pmax
comp=Z,16nm,1.2s
MKAR Makanchi Array 24.66 45 P P **07 29 38.6 -0.4**
MKAR Makanchi Array 24.66 45 *ce*P P **07 29 39.5 +0.4**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 24.66 45 P P **07 29 39.3 +0.2**
comp=Z,3.9nm,0.7s,baz=222,slow=7.2,SNR=23
MKAR PcP **PcP** **07 33 15.2 -1.1**
comp=Z,0.7nm,0.7s,baz=254,slow=4.6,SNR=3.7
MKAR LR LR 07 40 13.7
comp=Z,112nm,18.8s,baz=234,slow=39
comp=Z,3.9nm,0.7s
KURBB Kurchatov Arra 24.78 34 P P **07 29 40.4 +0.3**
comp=Z,14nm,0.9s,baz=233,slow=9.5,SNR=84
KURBB LR LR 07 40 47.5
comp=Z,298nm,18.9s,baz=190,slow=40
comp=Z,14nm,0.9s
KURK Kurchatov 24.89 34 P P **07 29 41.0 +0.1**
KURK IAmb IAmb 07 29 44.3
comp=Z,25nm,0.9s
KURK Kurchatov 24.89 34 *ce*P P **07 29 41.6 +0.7**
KURK pmax pmax
comp=Z,30nm,1.0s
KURK Kurchatov 24.89 34 P P **07 29 41.7 +0.7**
SVE Sverdlovsk 25.14 5 *e*P P **07 29 44.0 +0.8**
SVE pmax pmax
comp=Z,32nm,1.1s
TIRR Tirgusor 25.42 308 P P **07 29 47.6 +1.7**
TIRR IAmb IAmb 07 29 49.6
comp=Z,27nm,1.0s
TIRR Tirgusor 25.42 308 P P **07 29 47.6 +1.7**
TIRR pmax pmax
comp=Z,27nm,1.0s
WMQ Urumqi 27.10 55 *e*P P **07 30 03.0 +1.8**
KIRV Kirov 27.20 352 *ce*P P **07 30 02.6 +0.8**
KIRV Kirov 27.20 352 LR LR 07 43 54.4
comp=Z,70nm,18.5s,baz=195,slow=43
OBN Obninsk 27.27 334 *e*P P **07 30 03.4 +0.9**
OBN *e* 07 30 48.2
OBN *e*PPP PPP 07 30 57.2
OBN pmax pmax
comp=Z,34nm,1.3s
OBN MLR MLR
comp=Z,60nm,18.0s
MLR Muntele Rosu 27.41 309 P P **07 30 05.4 +1.3**
MLR IAmb IAmb 07 30 34.1
comp=Z,8.8nm,1.0s
MLR Muntele Rosu 27.41 309 P P **07 30 05.4 +1.3**
MLR pmax pmax
comp=Z,9.0nm,1.0s
AKASG Malin Array Be 27.70 321 P P **07 30 06.5 +0.1**
comp=Z,2.7nm,0.7s,baz=123,slow=8.1,SNR=12
comp=Z,2.7nm,0.7s
AKBB Malin Array Si 27.70 321 P P **07 30 06.2 -0.2**
AKBB IAmb IAmb 07 30 11.5
comp=Z,7.2nm,0.8s
AKBB Malin Array Si 27.70 321 *ce*P P **07 30 07.2 +0.8**
KIEV Kiev 27.71 321 P P **07 30 06.0 -0.4**
KIEV IAmb IAmb 07 30 11.5
comp=Z,6.3nm,0.8s
KIEV Kiev 27.71 321 P P **07 30 06.0 -0.4**
KIEV pmax pmax
comp=Z,6.0nm,0.8s
BURAR Bucovina Array 28.63 313 P P **07 30 15.4 +0.5**
BUR08 Bucovina Ar. S 28.65 313 P P **07 30 16.1 +1.1**
BUR08 IAmb IAmb 07 30 21.3
comp=Z,5.8nm,0.9s
DGZ Jazzator, Alta 29.05 43 *i* P P **07 30 19.1 +0.5**
DGZ pmax pmax
comp=Z,3.0nm,0.9s
ZAA0 Zalesovo Array 29.88 34 P P **07 30 25.4 -0.3**
ZAA0 IAmb IAmb 07 30 26.3
comp=Z,13nm,0.8s
ZALV Zalesovo Beam 29.88 34 P P **07 30 25.4 -0.3**
ZALV Zalesovo Beam 29.88 34 P P **07 30 25.4 -0.3**
ZALV Zalesovo Beam 29.88 34 P P **07 30 25.0 -0.7**
comp=Z,12nm,0.8s,baz=240,slow=9.3,SNR=44
ZALV LR LR 07 44 23.4
comp=Z,82nm,20.6s,baz=254,slow=40
comp=Z,12nm,0.8s
KWP Kalwaria Pacla 30.93 315 P P **07 30 36.0 +0.9**
KWP IAmb IAmb 07 30 37.9
comp=Z,12nm,1.0s
KWP Kalwaria Pacla 30.93 315 P P **07 30 36.0 +0.9**
KWP pmax pmax
comp=Z,12nm,1.0s
KOLS Kolonicke sedl 30.94 314 *e*P P **07 30 37.6 +2.4**
KOLS Kolonicke sedl 30.94 314 *e*P P **07 30 37.6 +2.4**
KLMR Klimovskoe 31.15 344 *e*P P **07 30 34.7 -2.1**
KLMR pmax pmax
comp=Z,23nm,1.8s
CRVS Cervenica-Dubn 31.44 313 *e*P P **07 30 43.0 +3.4**
CRVS Cervenica-Dubn 31.44 313 *e*P P **07 30 43.0 +3.4**
GOMU GeErMu 31.76 72 P P 07 30 36.6 -6.4
GOMU pP pP 07 30 43.8 -2.6
GOMU pmax pmax
comp=Z,4.0nm,0.8s
GTA Gaotai 35.59 65 *e*P P **07 31 17.0 +1.0**
GTA pP sP 07 31 21.5 +0.7
GTA pmax pmax
comp=Z,9.0nm,1.0s
FIA1 FINESS Array S 35.67 335 P P **07 31 16.0 -0.2**
FINES FINESS Array B 35.67 335 P P **07 31 15.6 -0.6**
FINES FINESS Array B 35.67 335 *i* P P **07 31 16.3 +0.1**
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 35.67 335 P P **07 31 15.9 -0.4**
comp=Z,2.9nm,0.7s,baz=141,slow=9.8,SNR=9.8
comp=Z,2.9nm,0.7s
GEC2 GERESS Array S 36.35 311 P P **07 31 22.9 +0.6**
GEC2 IAmb IAmb 07 31 24.2
comp=Z,6.0nm,0.9s
GERES GERESS Array B 36.35 311 P P **07 31 22.4 +0.1**
GERES GERESS Array B 36.35 311 P P **07 31 22.4 +0.1**
GERES GERESS Array B 36.35 311 P P **07 31 21.9 -0.4**
comp=Z,2.6nm,0.8s,baz=78,slow=9.1,SNR=8.7
GERES LR LR 07 49 56.4
comp=Z,43nm,18.5s,baz=210,slow=42
comp=Z,2.6nm,0.8s
CLL Collm 37.34 314 P P **07 31 31.5 +0.9**
CLL IAmb IAmb 07 31 35.6
comp=Z,8.5nm,0.7s
CLL Collm 37.34 314 *i* P P **07 31 31.4 +0.7**
CLL *i* 07 31 34.5
CLL pmax pmax
comp=Z,10.0nm,1.0s
CLL Collm 37.34 314 *i* P P **07 31 31.4 +0.7**
comp=Z,10.0nm,1.0s
CLL *i* pP **sP** **07 31 34.5 -1.0**
comp=Z,13nm,1.0s
MOY Mondy 37.81 45 *e*P P **07 31 35.8 +1.0**
MOY pmax pmax
comp=Z,22nm,1.8s
KIBK Kibwezi 38.32 211 P P **07 31 43.2 +3.9**
KIBK IAmb IAmb 07 31 44.8
comp=Z,9.1nm,0.9s
ZAK Zakamensk 38.95 48 *e*P P **07 31 44.2 -0.1**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
KEST Kesra 39.24 289 P P **07 31 47.4 +0.4**
comp=Z,6.2nm,0.9s,baz=22,slow=6.0,SNR=4.8
comp=Z,6.2nm,0.9s
PZH PanZhiHua 39.48 86 P P **07 31 50.8 +1.7**
PZH pmax pmax
comp=Z,6.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,4.4s
HFS Hagfors 40.00 328 P P **07 31 52.7 -0.2**
comp=Z,5.5nm,0.8s,baz=148,slow=8.7,SNR=5.6
comp=Z,5.5nm,0.8s
CM31 Chiang Mai Arr 40.26 99 P P **07 31 54.3 -1.2**
CM31 IAmb IAmb 07 31 55.6
comp=Z,8.2nm,0.8s
CMAR Chiang Mai Arr 40.26 99 P P **07 31 54.9 -0.6**
comp=Z,6.0nm,0.7s,baz=294,slow=8.6,SNR=29
CMAR LR LR 07 52 03.0
comp=Z,28nm,21.3s,baz=315,slow=41
comp=Z,6.0nm,0.7s
MBAR Mbarara 40.55 222 LR LR 07 50 03.3
comp=Z,115nm,18.6s,baz=56,slow=38
SONM Songino Array 40.65 52 P P **07 31 58.4 -0.1**
SONM Songino Array 40.65 52 P P **07 31 58.4 -0.1**
SONM pmax pmax
comp=Z,4.0nm,1.3s
SONM Songino Array 40.65 52 P P **07 31 58.9 +0.4**
comp=Z,2.4nm,1.0s,baz=267,slow=9.4,SNR=12
SONM LR LR 07 51 16.0
comp=Z,129nm,20.1s,baz=276,slow=40
comp=Z,2.4nm,1.0s
ULN Ulaanbaatar 41.09 52 P P **07 32 01.8 -0.4**
ULN Ulaanbaatar 41.09 52 *ce*P P **07 32 01.9 -0.4**
ULN pmax pmax
comp=Z,7.0nm,1.3s
NRIK Noril'sk 41.40 16 P P **07 32 04.8 +0.5**
NRIK Noril'sk 41.40 16 *ce*P P **07 32 04.8 +0.5**
NRIK pmax pmax
comp=Z,5.0nm,1.0s
NRIK Noril'sk 41.40 16 P P **07 32 04.2 -0.1**
comp=Z,1.7nm,0.3s,baz=215,slow=6.7,SNR=4.1
comp=Z,1.7nm,0.3s
NB2 NORSAR Subarra 41.49 328 P P **07 32 04.3 -0.9**
comp=Z,4.0nm,0.8s,baz=116,slow=8.6
NOA NORSAR Array B 41.49 328 P P **07 32 03.6 -1.5**
comp=Z,2.3nm,0.8s,baz=115,slow=8.0,SNR=6.6
comp=Z,2.3nm,0.8s
ARCES ARCESS Array B 41.62 344 P P **07 32 05.9 -0.3**
ARCES IAmb IAmb 07 32 36.4
comp=Z,17nm,1.2s
ARCES ARCESS Array B 41.62 344 P P **07 32 05.9 -0.3**
ARCES pmax pmax
comp=Z,17nm,1.3s
ARCES ARCESS Array B 41.62 344 P P **07 32 05.8 -0.3**
comp=Z,3.6nm,0.8s,baz=133,slow=7.1,SNR=6.9
ARCES LR LR 07 51 44.1
comp=Z,80nm,18.3s,baz=247,slow=40
comp=Z,3.6nm,0.8s
BTO Baotou 43.34 63 *e*P P **07 32 17.4 -3.2**
BTO pP **pP** **07 32 23.6 -0.4**
BTO sP **sP** **07 32 26.5 +1.1**
BTO S S **07 38 43.8 -4.5**
BTO pmax pmax
comp=Z,8.0nm,0.6s
BTO pmax pmax
comp=Z,160nm,6.1s
BTO LR LR
comp=Z,550nm,12.8s
BTO LR LR
comp=Z,380nm,10.1s

BTO LR LR
comp=Z,530nm,13.7s
XAN Xi'an 43.50 72 ⇓P P 07 32 21.6 -0.3
XAN pP sP 07 32 25.6 -1.1
XAN ScS ScS 07 42 12.3 -10
XAN pmax pmax
comp=Z,20nm,1.3s
XAN LR LR
comp=Z,410nm,18.6s
GYA Guiyang 43.67 84 eP P 07 32 23.0 -0.5
GYA pmax pmax
comp=Z,18nm,0.6s
GYA pmax pmax
comp=Z,160nm,4.6s
HHC Hu-ho-hao-te 44.48 62 eP P
HHC sP sP 07 32 37.8 +3.3
HHC pmax pmax
comp=Z,18nm,0.5s
HHC pmax pmax
comp=Z,65nm,4.5s
LHMI Lhok Sumawe 46.02 117 P P 07 32 42.9 +0.8
LYN LuoYang 46.26 71 ⇓P P 07 32 44.6 +0.8
LYN pmax pmax
comp=Z,41nm,0.8s
BOD Bodaibo 46.42 38 eP P 07 32 44.1 -0.6
BOD pmax pmax
comp=Z,15nm,0.8s
EKA Eskdalemuir Ar 47.54 318 P P 07 32 53.1 -0.4
comp=Z,5.6nm,0.7s,baz=105,slow=7.3,SNR=6.3
comp=Z,5.6nm,0.7s
WHN Wuhan 48.84 76 ⇑P P 07 32 58.9 -5.0
ESDC Sonseca Array 49.02 297 P P 07 33 04.1 -1.2
comp=Z,1.3nm,0.8s,baz=72,slow=6.4,SNR=5.2
comp=Z,1.3nm,0.8s
TIA Tai'an 49.58 68 P P 07 33 09.8 +0.2
TIA pmax pmax
comp=Z,10.0nm,0.8s
SPITS Spitsbergen Ar 49.65 350 P P 07 33 09.6 +0.1
comp=Z,5.2nm,0.6s,baz=128,slow=12,SNR=11
comp=Z,5.2nm,0.6s
NJ2 Nanjing 52.07 72 eP P 07 33 28.3 0.0
NJ2 pmax pmax
comp=Z,17nm,0.5s
TOA0 Torodi Ar. Sit 53.54 263 P P 07 33 39.1 -0.3
TOA0 IAmb IAmb 07 34 01.3
comp=Z,4.6nm,0.8s
TORD Torodi Ar. Bea 53.54 263 P P 07 33 39.0 -0.4
TORD IAmb IAmb 07 33 59.3
comp=Z,3.9nm,0.8s
TORD Torodi Ar. Bea 53.54 263 P P 07 33 37.8 -1.6
comp=Z,2.8nm,0.9s,baz=53,slow=6.6,SNR=9.9
TORD LR LR 07 59 03.3
comp=Z,98nm,19.6s,baz=84,slow=39
comp=Z,2.8nm,0.9s
LSZ Lusaka 54.24 215 LR LR 07 58 53.3
comp=Z,105nm,21.7s,baz=144,slow=38
HEH HeiHe 54.35 48 eP P 07 33 43.9 -0.9
HEH pmax pmax
comp=Z,9.0nm,0.8s
HEH pmax pmax
comp=Z,240nm,4.1s
TIXI Tiksi 54.52 22 P P 07 33 44.9 -0.9
TIXI IAmb IAmb 07 34 10.7
comp=Z,3.9nm,0.8s
TIXI Tiksi 54.52 22ceP P 07 33 44.7 -1.0
TIXI pmax pmax
comp=Z,11nm,2.5s
YAK Yakutsk 54.53 34 LR LR 07 57 12.5
comp=Z,42nm,18.4s,baz=280,slow=36
DAG Danmarks Havn 55.91 344 iP P 07 33 53.8 -2.0
DAG IAmb IAmb 07 33 55.8
comp=Z,7.0nm,0.8s
DBG Daneborg 56.11 341 iP P 07 33 57.1 -0.1
DBG IAmb IAmb 07 33 58.5
comp=Z,37nm,1.6s
NOR Nord 56.28 350 iP P 07 33 57.1 -1.3
MDJ Mudanjiang 56.90 55 P P 07 34 02.8 -0.5
MDJ pmax pmax
comp=Z,9.0nm,1.7s
MDJ pmax pmax
comp=Z,140nm,5.2s
KLR Kul'dur 57.30 49ceP P 07 34 04.4 -1.6
KLR pmax pmax
comp=Z,9.0nm,2.5s
KLR Kul'dur 57.30 49 LR LR 08 01 04.2
comp=Z,184nm,18.4s,baz=262,slow=38
KSRS Korea Array 57.60 63 P P 07 34 07.2 -1.2
comp=Z,6.1nm,0.8s,baz=278,slow=6.8,SNR=11
KSRS LR LR 08 01 13.5
comp=Z,44nm,18.3s,baz=275,slow=38
comp=Z,6.1nm,0.8s
JNU Nakatsue 61.31 67 LR LR 08 07 02.1
comp=Z,39nm,18.3s,baz=354,slow=42
SUMG Summit 61.47 340 P P 07 34 35.1 +0.1
SUMG Summit 61.47 340 P P 07 34 35.1 +0.1
SUMG pmax pmax
comp=Z,12nm,0.9s
SUMG Summit 61.47 340 iP P 07 34 34.6 -0.4
SUMG IAmb IAmb 07 34 36.7
comp=Z,15nm,1.0s
DBIC Dimbokro 62.39 260 LR LR 08 04 10.7
comp=Z,108nm,19.4s,baz=42,slow=38
ICESG Greenland Ices 62.86 336 iP P 07 34 44.0 -0.2
ICESG IAmb IAmb 07 34 45.5
comp=Z,5.6nm,0.9s
NEEM North Greenlan 62.91 346 iP P 07 34 43.1 -1.3
NEEM IAmb IAmb 07 34 45.0
comp=Z,5.1nm,0.9s
TSUM Tsumeb 63.09 222 LR LR 08 04 52.6
comp=Z,111nm,20.1s,baz=152,slow=39
LBTB Lobatse 63.86 211 LR LR 08 04 42.1
comp=Z,106nm,18.3s,baz=141,slow=38
SEY Seymchan 64.65 30ceP P 07 34 55.4 -0.3
SEY pmax pmax
comp=Z,12nm,0.8s
SEY Seymchan 64.65 30 LR LR 08 06 05.0
comp=Z,131nm,18.6s,baz=304,slow=39
MA2 Magadan 65.10 34 LR LR 08 05 55.5
comp=Z,63nm,18.1s,baz=302,slow=38
MJAR Matsushiro Arr 65.85 61 P P 07 35 01.2 -1.6
comp=Z,3.3nm,0.9s,baz=298,slow=2.6,SNR=4.7
MJAR LR LR 08 08 05.3
comp=Z,34nm,19.3s,baz=18,slow=40
comp=Z,3.3nm,0.9s
DY2G Dye2 66.16 335 iP P 07 35 05.1 -0.7
DY2G IAmb IAmb 07 35 06.6
comp=Z,7.9nm,0.7s
UPNV Upernavik 66.25 343 iP P 07 35 04.7 -1.2
EUNU Eureka 66.51 353 P P 07 35 07.5 -0.1
EUNU IAmb IAmb 07 35 08.9
comp=Z,6.5nm,0.9s
BILL Bilibino 67.72 23⇑eP P 07 35 14.5 -0.9
BILL pmax pmax
comp=Z,7.0nm,1.3s
PETK Petropavlovsk- 71.29 39 LR LR 08 09 29.6
comp=Z,56nm,19.2s,baz=118,slow=38
PET Petropavlovsk 71.83 38ceP P 07 35 41.0 +0.1
PET pmax pmax
comp=Z,88nm,1.3s
A19K Wainwright 74.67 12 P P 07 35 57.7 +0.3
baz=327
B18K Kokolik River 75.25 13 P P 07 36 00.8 +0.1
baz=327
C16K Lisburne Hills 75.41 15 P P 07 36 01.1 -0.6
C16K IAmb IAmb 07 36 01.9
comp=Z,5.8nm,0.8s
C16K Lisburne Hills 75.41 15 P P 07 36 01.0 -0.7
baz=324
B20K Meade River 75.53 11 P P 07 36 01.6 -0.8
baz=331
C17K DeLong Mountai 75.71 14 P P 07 36 03.2 -0.3
baz=326
B22K Teshekpuk Lake 75.83 10 P P 07 36 04.3 +0.2
B22K Teshekpuk Lake 75.83 10 P P 07 36 04.1 +0.1
baz=334
C19K Lookout Ridge 75.89 13 P P 07 36 04.6 +0.1
baz=329,SNR=9.6
C18K Utukok River 75.97 13 P P 07 36 04.7 -0.3
baz=327
RDOG Red Dog Mine 76.12 14 P P 07 36 05.5 -0.3
baz=326
B21K Ikpikpuk River 76.29 11 P P 07 36 06.8 +0.1
baz=333
D17K Noatak River 76.38 15 P P 07 36 06.5 -0.7
baz=326,SNR=14
A36M Sachs Harbour 76.45 1 P P 07 36 07.0 -0.6
A36M Sachs Harbour 76.45 1 P P 07 36 07.0 -0.6
baz=358
C21K Knifeblade Rid 76.68 11 P P 07 36 09.1 +0.1
baz=333
D19K Kuna River 76.69 12 P P 07 36 08.5 -0.5
baz=330
C23K Itkillik River 76.70 9 P P 07 36 09.2 +0.2
baz=336,SNR=9.6
D20K Etivluk River 76.77 12 P P 07 36 09.1 -0.4
baz=331
TNA Tin City 76.98 17 P P 07 36 10.1 -0.6
baz=322
C24K Franklin Bluff 77.06 9 P P 07 36 11.1 0.0
baz=338
E18K Tukpahlearik C 77.13 14 P P 07 36 10.9 -0.6
baz=328
E20K Nigu River 77.24 12 P P 07 36 11.6 -0.6
baz=332
D22K Ayikyak River 77.27 10 P P 07 36 11.9 -0.4
baz=335
C26K Camden Bay 77.33 7 P P 07 36 12.3 -0.3
baz=341
GAMB Gambell 77.34 20 P P 07 36 11.9 -0.8
baz=319
F14K Arctic Creek 77.45 17 P P 07 36 13.0 -0.4
baz=324
E21K Killik River 77.46 11 P P 07 36 12.7 -0.7
baz=334
D23K Nanushuk River 77.49 10 P P 07 36 13.7 +0.2
baz=336
D24K Happy Valley 77.57 9 P P 07 36 14.1 +0.1
baz=338,SNR=9.2
F15K North Star Dit 77.67 16 P P 07 36 14.2 -0.3
baz=325,SNR=7.9
D25K Kavik River 77.73 8 P P 07 36 15.0 +0.1
baz=340
E19K Redstone River 77.76 13 P P 07 36 14.4 -0.6
baz=331
F17K Baldwin Pennin 77.83 15 P P 07 36 14.9 -0.5
baz=328
TOLK Toolik Lake Re 77.95 10 P P 07 36 15.5 -0.6
TOLK Toolik Lake Re 77.95 10 P P 07 36 16.1 0.0
baz=337,SNR=23
F18K Selawik 78.03 14 P P 07 36 15.9 -0.6
baz=329,SNR=9.5
E22K Anaktuuk Pass 78.08 11 P P 07 36 16.6 -0.2
baz=336,SNR=5.5
F19K Shaleruckik Mo 78.20 13 P P 07 36 16.1 -1.4
baz=330
D27M Malcolm River 78.39 6 P P 07 36 18.2 -0.3
baz=345
F20K Avaraart Lake 78.40 12 P P 07 36 17.9 -0.6
baz=332,SNR=7.3
G15K Niukluk 78.40 16 P P 07 36 18.1 -0.5
baz=326
ANM None 78.43 17 P P 07 36 18.5 -0.3
baz=324
G16K Koyuk River 78.47 16 P P 07 36 18.6 -0.4
baz=327
E23K Chandalar 78.48 10 P P 07 36 19.1 -0.1
baz=337
D28M Stokes Point 78.50 6 P P 07 36 18.9 -0.1
baz=347
E24K Your Creek 78.62 9 P P 07 36 19.9 0.0
baz=338
F21K Alatna River 78.64 12 P P 07 36 19.5 -0.5
baz=334,SNR=5.9
G17K Kiwalik Mounta 78.76 15 P P 07 36 19.9 -0.7
baz=328
G18K Tagagawik 78.84 14 P P 07 36 20.7 -0.3
baz=330
G19K Purcell Mounta 78.94 13 P 07 36 20.9 -0.7
G19K Purcell Mounta 78.94 13 P P 07 36 21.0 -0.7
baz=331,SNR=14
E25K Arctic Village 78.96 8 P P 07 36 21.6 -0.1
baz=341,SNR=13
C36M Paulatuk 79.11 0 P P 07 36 21.2 -1.2
baz=359,SNR=6.1
H16K Elim 79.13 16 P P 07 36 22.0 -0.6
baz=327
E28M Babbage River 79.14 6 P P 07 36 22.6 0.0
baz=346,SNR=8.8
COLD Coldfoot 79.16 10 P P 07 36 22.6 -0.2
baz=337,SNR=8.3
F24K Squaw Lake 79.23 9 P P 07 36 23.1 -0.1
baz=339
G22K Bettles 79.24 11 P P 07 36 22.8 -0.4
baz=336
G21K Allakaket 79.27 12 P P 07 36 22.8 -0.6
baz=334
E27K Coleen River 79.35 7 P P 07 36 23.7 -0.1
baz=344
H17K Granite Mounta 79.40 15 P P 07 36 23.4 -0.8
baz=329
F25K Christian Rive 79.45 9 P P 07 36 24.3 -0.1
baz=341
E29M Blow River 79.49 5 P P 07 36 24.5 0.0
baz=347,SNR=10
F26K Sheenjek River 79.54 8 P P 07 36 24.8 -0.1
baz=342
H18K Honhosa River 79.55 14 P P 07 36 24.3 -0.7
baz=330
H19K Roundabout Mou 79.61 13 P P 07 36 24.6 -0.6
baz=332
G23K Bananza Creek 79.67 10 P P 07 36 25.1 -0.6
baz=337
INK Inuvik 79.87 4 P P 07 36 26.0 -0.5
baz=351,SNR=11
H20K Anotleneega Mo 79.94 13 P P 07 36 26.5 -0.6
baz=333,SNR=6.7
G24K Hadweenzic Riv 80.05 10 P P 07 36 28.0 +0.3
baz=339,SNR=9.4
F28M Old Crow 80.07 6 P P 07 36 27.4 -0.3
baz=346,SNR=15
I17K Unalakleet 80.13 16 P P 07 36 28.0 0.0
baz=328
H21K Melozitna Rive 80.17 12 P P 07 36 28.0 -0.3
baz=335
G25K Bearman Lake 80.18 9 P P 07 36 28.4 +0.1
baz=340
H22K Ishtalitna Cre 80.20 11 P P 07 36 28.6 +0.1
baz=336
G26K Porcupine Rive 80.30 8 P P 07 36 28.9 0.0
baz=342
J14K Nanvaranak Lak 80.39 18 P P 07 36 29.4 -0.1
baz=326
F30M Barrier River 80.41 5 P P 07 36 29.2 -0.4
baz=349,SNR=7.5
I20K Nagheglideneel 80.64 13 P P 07 36 30.5 -0.3
baz=334
J16K Anvik River 80.66 16 P P 07 36 30.8 -0.2
baz=328
G27K Doyon Strip 80.67 7 P P 07 36 31.2 +0.2
baz=344
H25L Birch Creek 80.69 9 P P 07 36 31.1 +0.1
baz=341
F31M Tsiigehtchic 80.72 4 P P 07 36 30.7 -0.4
baz=351,SNR=16
I21K Tanana 80.75 12 P P 07 36 31.2 -0.3
baz=336
H24K Noodor Dome 80.81 10 P P 07 36 31.5 -0.3
baz=339
G29M Pine Creek 80.92 6 P P 07 36 31.7 -0.7
baz=347
G30M tAoh Zraii Nji 81.00 5 P P 07 36 32.2 -0.6
baz=349,SNR=9.9
SCHQ Scheffervzile 81.01 331 P P 07 36 31.6 -1.4
comp=Z,5.1nm,0.9s,baz=19,slow=2.9,SNR=5.4
comp=Z,5.1nm,0.9s
MLY Manley 81.10 11 P P 07 36 32.8 -0.6
baz=337
J19K Poorman 81.14 14 P P 07 36 33.2 -0.3
baz=333
G31M Satah River 81.20 4 P P 07 36 33.0 -0.8
G31M Satah River 81.20 4 P P 07 36 33.1 -0.6
baz=351,SNR=10
I23K Minto, Yukon-K 81.22 11 P P 07 36 33.7 -0.2
baz=338
H27K Steamboat Moun 81.25 7 P P 07 36 34.1 0.0
baz=344,SNR=5.7
J20K Nowinta River 81.27 13 P P 07 36 33.8 -0.3
baz=334
K15K Wolf Creek Mou 81.28 17 P P 07 36 34.0 -0.3
baz=328
J18K Innoko River 81.38 14 P P 07 36 34.7 -0.1
baz=332
PRP Porcupine Dome 81.44 9 P P 07 36 35.1 -0.1
baz=341
POKR Poker Plat Res 81.55 10 P P 07 36 35.6 -0.1
baz=339
EPYK Eagle Plains 81.56 5 P P 07 36 35.5 -0.3
baz=348
H29M Whitestone 81.57 6 P P 07 36 35.4 -0.4
baz=347,SNR=8.7
M11K Mekoryuk 81.61 20 P P 07 36 35.8 -0.3
baz=324
K17K Iditarod 81.69 15 P P 07 36 35.9 -0.5
baz=330
COLA College 81.71 10 P P 07 36 36.1 -0.4
baz=339
NEA2 Nenana 81.78 11 P P 07 36 36.3 -0.7
baz=338,SNR=5.8
L14K Kuka Creek 81.79 18 P P 07 36 36.5 -0.5
baz=327
I27K Kandik River 81.84 8 P P 07 36 36.9 -0.4
baz=344
CHUM Lake Minchumin 81.88 13 P P 07 36 37.0 -0.4
baz=335
BPAW Bear Paw Mtn. 81.92 12 P P 07 36 37.0 -0.7
baz=336
I26K Coal Creek Min 81.95 8 P P 07 36 37.4 -0.4
baz=343
ILAR Eielson Array 81.95 10 P P 07 36 36.9 -1.0
comp=Z,1.9nm,0.7s,baz=323,slow=4.6,SNR=7.5
comp=Z,1.9nm,0.7s
TTA Tatalina 82.00 14 P P 07 36 37.7 -0.5
baz=332
K20K Telida 82.02 13 P P 07 36 37.6 -0.6
baz=334
I28M Miner Creek 82.17 7 P P 07 36 38.3 -0.8
baz=346,SNR=5.2
L17K Donlin 82.20 16 P P 07 36 38.8 -0.3
baz=330
HDA Harding Lake 82.29 10 P P 07 36 38.5 -1.1
baz=340
L16K Owhat River 82.29 16 P P 07 36 39.3 -0.2
baz=330
H31M Peel River 82.30 5 P P 07 36 39.0 -0.6
baz=350
J25K Salcha River, 82.32 9 P P 07 36 39.2 -0.6
baz=341
CAST Castle Rocks 82.34 13 P P 07 36 39.5 -0.4
baz=336,SNR=15
M13K Dall Lake 82.39 19 P P 07 36 38.7 -1.4
baz=326
M14K Bethel 82.48 18 P P 07 36 40.4 -0.2
baz=328
L18K Granite Mounta 82.49 15 P P 07 36 40.2 -0.4
baz=332
MCK McKinley 82.61 11 P P 07 36 40.5 -0.8
baz=338
TRF Thorofare Moun 82.64 12 P P 07 36 41.1 -0.6
baz=337
J26L Joseph Creek 82.67 9 P P 07 36 41.1 -0.6
baz=343
EGAK Eagle 82.69 8 P P 07 36 41.1 -0.5
EGAK Eagle 82.69 8 P P 07 36 41.2 -0.5
baz=345,SNR=6.8
I30M Mount Dempster 82.72 6 P P 07 36 41.2 -0.8
baz=349
PPLA Purkeypile 82.80 13 P P 07 36 41.7 -0.7
baz=336
L20K Farewell, AK 82.85 14 P P 07 36 42.1 -0.5
baz=334
M15K Kasigluk River 82.86 18 P P 07 36 42.2 -0.3
baz=329
L19K White Mountain 82.92 14 P P 07 36 42.6 -0.3
baz=333
M16K Timber Creek 83.01 17 P P 07 36 43.1 -0.2
baz=330
K24K Donnelly Dome 83.03 10 P P 07 36 43.0 -0.5
baz=341
M17K Holitna River 83.04 16 P P 07 36 43.1 -0.4
baz=331
SCRK Sand Creek 83.12 9 P P 07 36 43.6 -0.5
baz=342,SNR=8.9
RIDG Independent Ri 83.23 9 P P 07 36 43.6 -1.0
baz=342
M19K Big River Lodg 83.26 14 P P 07 36 44.4 -0.4
baz=334
K27K Chicken 83.31 8 P P 07 36 44.7 -0.2
baz=344
J29N Klondike Camp 83.32 6 P P 07 36 44.8 -0.2
baz=347
M18K Stony River 83.33 15 P P 07 36 44.8 -0.2
baz=333
J30M Hart River 83.36 6 P P 07 36 45.1 -0.3
baz=349
DHY Denali Highway 83.48 11 P P 07 36 45.1 -0.9
baz=340
WAT1 Susitna Watana 83.52 11 P P 07 36 45.4 -0.6
baz=339
M20K Styx River 83.54 14 P P 07 36 45.6 -0.7
baz=335
DAWY Dawson 83.58 7 P P 07 36 45.8 -0.5
baz=346,SNR=12
SKT Skwentna 83.77 13 P P 07 36 46.7 -0.6
baz=336
PAX Paxson 83.87 10 P P 07 36 47.1 -0.8
baz=341
WAT6 Susitna Watana 83.88 11 P P 07 36 47.5 -0.5
baz=339
K29M Barlow Dome 83.98 6 P P 07 36 48.1 -0.4
baz=348
L26K Log Cabin Wild 84.11 9 P P 07 36 48.9 -0.1
baz=343
N19K Bonanza Creek 84.23 15 P P 07 36 49.5 -0.2
baz=334
M22K Willow 84.24 12 P P 07 36 48.8 -0.9
baz=337
L27K Beaver Creek, 84.28 8 P P 07 36 49.4 -0.5
baz=344,SNR=6.8
N20K Mount Spurr 84.35 14 P P 07 36 49.5 -0.8
baz=336
MAYO Mayo, Yukon 84.37 6 P P 07 36 50.0 -0.3
baz=349
O15K Ungalikthiuk R 84.39 18 P P 07 36 50.1 -0.4
baz=329
SUA Susitna One 84.39 13 P P 07 36 50.0 -0.6
baz=337
HARP HAARP 84.46 10 P P 07 36 50.5 -0.3
baz=341
O16K Kokwok River B 84.47 17 P P 07 36 50.4 -0.5
baz=331
SML Sawmill 84.51 12 P 07 36 50.1 -1.1
SML Sawmill 84.51 12 P P 07 36 50.3 -0.9
baz=339
O17K Koliganek Bris 84.56 16 P P 07 36 50.6 -0.7
baz=332
PMR Palmer 84.57 12 P P 07 36 50.6 -0.7
baz=338,SNR=5.3
M24K Tolsona, Glenn 84.58 11 P P 07 36 51.3 -0.2
baz=341
M23K Glacier View 84.62 11 P P 07 36 51.1 -0.6
baz=339
L29M L29M 84.64 7 P P 07 36 51.2 -0.6
baz=347
SCM Sheep Creek Mo 84.65 11 P P 07 36 51.1 -0.8
baz=340
M26K Nabesna, AK 84.76 9 P P 07 36 51.8 -0.6
baz=343
O19K Port Alsworth 84.82 15 P P 07 36 52.0 -0.5
baz=334
KNK Knik Glacier 84.86 12 P P 07 36 52.4 -0.4
baz=339
O18K Koktuh Hills 84.92 16 P P 07 36 52.8 -0.4
baz=333
RC01 Rabbit Creek A 84.93 13 P P 07 36 52.2 -1.0
baz=338
M27K Edge Creek, AK 84.95 9 P P 07 36 53.0 -0.4
baz=344
BVCY Beaver Creek 85.02 8 P P 07 36 53.6 -0.1
baz=345
KLU Klutina 85.20 11 P P 07 36 54.2 -0.5
baz=341,SNR=6.0
P17K Kvichak River 85.22 16 P P 07 36 54.7 0.0
baz=332
M29M Somme Creek 85.26 7 P P 07 36 55.0 0.0
baz=347,SNR=6.0
WRGLY Wrigley 85.26 0 P P 07 36 55.0 +0.2
baz=360
M30M Minto, Yukon 85.29 6 P P 07 36 54.9 -0.1
baz=348
P18K Big Mountain, 85.33 16 P P 07 36 54.6 -0.6
baz=333
O22K Cooper Landing 85.49 13 P P 07 36 55.4 -0.5
baz=338

Q16K	**King Salmon**	**85.63**	**17**	P		**P**	**07 36 56.1**	**-0.6**
	baz=332							
YUK3	**Moose Creek**	**85.69**	**8**	P		**P**	**07 36 56.9**	**-0.4**
	baz=345,SNR=11							
MCARA	**McCarthy VSAT**	**85.73**	**9**	P		**P**	**07 36 56.6**	**-0.7**
	baz=343							
YKA	**Yellowknife Ar**	**85.74**	**356**	P		**P**	**07 36 56.6**	**-0.5**
	comp=Z,3.4nm,0.8s,baz=358,slow=5.4,SNR=76							
	comp=Z,3.4nm,0.8s							
M31M	**Drury Creek, Y**	**85.86**	**5**	P		**P**	**07 36 57.2**	**-0.7**
	baz=350,SNR=7.6							
HOM	**Homer**	**85.88**	**14**	P		**P**	**07 36 57.8**	**-0.1**
	baz=336							
SEW	**Seward**	**85.89**	**13**	P		**P**	**07 36 57.6**	**-0.4**
	baz=338							
BMRM	**Bremner River**	**85.90**	**10**	P		**P**	**07 36 57.6**	**-0.5**
	baz=342							
FARO	**Faro, Yukon**	**85.91**	**5**	P		**P**	**07 36 57.6**	**-0.6**
	baz=351,SNR=5.7							
Q19K	**Cape Douglas,**	**86.11**	**15**	P		**P**	**07 36 59.0**	**-0.1**
	baz=334							
EYAK	**Cordova Ski Ar**	**86.12**	**11**	P		**P**	**07 36 58.9**	**-0.2**
	baz=341							
YUK8	**Steele Glacier**	**86.25**	**8**	P		**P**	**07 36 59.3**	**-0.8**
	baz=346							
YUK4	**Talbot Arm**	**86.31**	**7**	P		**P**	**07 36 59.9**	**-0.4**
	baz=347,SNR=11							
N30M	**Aishikik Lake**	**86.36**	**7**	P		**P**	**07 36 59.8**	**-0.5**
	baz=348,SNR=6.1							
CTG	**Chitna Glacier**	**86.36**	**9**	P		**P**	**07 36 60.0**	**-0.5**
	baz=345,SNR=9.3							
P23K	**Montague Islan**	**86.37**	**12**	P		**P**	**07 36 59.3**	**-1.0**
	baz=340							
YUK6	**Outpost Mounta**	**86.74**	**7**	P		**P**	**07 37 01.9**	**-0.5**
	baz=347							
TGTN	**Hyland Airport**	**86.88**	**2**	P		**P**	**07 37 02.6**	**-0.3**
	baz=356,SNR=5.9							
HYT	**Haines Junctio**	**86.94**	**7**	P		**P**	**07 37 03.1**	**-0.2**
HYT	**Haines Junctio**	**86.94**	**7**	P		**P**	**07 37 03.1**	**-0.2**
	baz=348,SNR=25							
N32M	**Quiet Lake**	**87.00**	**5**	P		**P**	**07 37 02.7**	**-0.8**
	baz=352,SNR=6.7							
MESA	**MESA**	**87.04**	**9**	P		**P**	**07 37 03.4**	**-0.5**
	baz=344							
O30N	**Mendenhall**	**87.14**	**6**	P		**P**	**07 37 03.4**	**-0.7**
	baz=349,SNR=6.4							
O29M	**Mount Kennedy**	**87.34**	**8**	P		**P**	**07 37 04.8**	**-0.5**
	baz=347							
PINM	**Pinnacle**	**87.34**	**8**	P		**P**	**07 37 04.8**	**-0.4**
	baz=346							
WHY	**Whitehorse**	**87.35**	**6**	P		**P**	**07 37 04.2**	**-1.1**
	baz=350							
KDAK	**Kodiak Island**	**87.39**	**15**	P		**P**	**07 37 04.7**	**-0.7**
	baz=335							
P30M	**Million Dollar**	**87.69**	**7**	P		**P**	**07 37 06.5**	**-0.3**
	baz=348							
OHAK	**Old Harbor**	**87.74**	**16**	P		**P**	**07 37 07.2**	**+0.2**
	baz=335							
PNL	**Peninsula**	**87.86**	**8**	P		**P**	**07 37 07.1**	**-0.5**
	baz=346							
P33M	**Teslin, Yukon**	**87.95**	**5**	P		**P**	**07 37 07.3**	**-0.9**
	baz=352,SNR=9.5							
P29M	**Windy Craggy**	**88.09**	**7**	P		**P**	**07 37 08.5**	**-0.3**
	baz=348							
CHNA	**Chernabura Isl**	**88.21**	**20**	P		**P**	**07 37 08.8**	**-0.5**
	baz=330							
WTLY	**Watson Lake, Y**	**88.28**	**3**	P		**P**	**07 37 09.5**	**-0.2**
	baz=355							
SKAG	**Skagway**	**88.50**	**6**	P		**P**	**07 37 10.2**	**-0.4**
	baz=350							
P32M	**Atlin**	**88.51**	**5**	P		**P**	**07 37 09.9**	**-0.9**
	baz=351							
R33M	**Jennings River**	**88.89**	**4**	P		**P**	**07 37 12.2**	**-0.4**
	baz=354							
PKME	**Peaks-Kenny Pk**	**88.94**	**325**	P		**P**	**07 37 13.2**	**+0.3**
	baz=43							
DLBC	**Dease Lake**	**89.89**	**4**	P		**P**	**07 37 17.5**	**+0.2**
	baz=354							
S34M	**Telegraph Cree**	**90.35**	**4**	P		**P**	**07 37 19.7**	**+0.3**
	baz=353							
WRA	**Warramunga Arr**	**90.39**	**113**	P		**P**	**07 37 18.1**	**-1.9**
	comp=Z,1.7nm,0.6s,baz=314,slow=4.0,SNR=6.6							
	comp=Z,1.7nm,0.6s							
ASAR	**Alice Springs**	**92.11**	**117**	P		**P**	**07 37 26.4**	**-1.6**
	comp=Z,2.8nm,0.8s,baz=304,slow=4.2,SNR=14							
	comp=Z,2.8nm,0.8s							
ELIB	**Princess Elisa**	**106.09**	**190**	*d*PKiKP		**PKiKP**	**07 42 44.0**	**+2.3**

IDC ***16*** *07:28:40.6±1.9, 4.2*9*S×100.3*0*E, h0*km*, mb3.9/10, mbtmp3.9/10, MS3.4/5, Error ellipse: s-maj=76.8km s-min=17.2km az=57.0*

NEIC ***16*** *07:28:43.7±0.8, 4.2*2*S±0.1*′*×100.4*4*E±0.1*′*, h10*km*±1*km*, mb4.1/7, Error ellipse: s-maj=24.2km s-min=11.6km az=221.0*

DJA ***16*** *07:28:43.0±0.4, 4*°*S±4.1*″*×10*°*0E±*°*, h50*km*±32*km*, M4.5/12, mb4.5/6, mB5.5/2, MLv4.5/12, Mw(mB)5.0/2*

ISC 16 07:28:44.6±0.8, 4°22S±0.09×100°37E±0.0°08, h27km, n51, σ1°08/41, mb4.0/14, MS3.7/4, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PPSI	**Pulau Pagai**	**1.49**	**346**	P	**Pn**	**07 29 09.0**	**-0.6**
PPSI				S	**Sn**	**07 29 27.9**	**-0.3**
MNAI	**Manna**	**2.58**	**93**		**Pn**	**07 29 24.3**	**-0.4**
MNAI	**Manna**	**2.58**	**93**	P	**Pn**	**07 29 23.3**	**-1.4**
MNAI				S	**Sn**	**07 29 54.1**	**-1.2**
SISI	**Saibi**	**3.14**	**336**	P	**Pn**	**07 29 30.7**	**-1.7**
SISI				S	**Sn**	**07 30 07.5**	**-1.6**
LHSI	**Lahat**	**3.17**	**83**	P	**Pn**	**07 29 30.4**	**-2.4**
PDSI	**Padang**	**3.28**	**2**	P	**Pn**	**07 29 33.3**	**-1.1**
KASI	**Kota Agung**	**4.31**	**108**	P	**Pn**	**07 29 46.1**	**-2.4**
BKNI	**Bangkinang**	**4.56**	**8**	Pn	**Pn**	**07 29 53.0**	**+1.1**
BKNI	**Bangkinang**	**4.56**	**8**	P	**Pn**	**07 29 50.9**	**-1.0**
PMBI	**Palembang**	**4.58**	**74**	Pn	**Pn**	**07 29 50.0**	**-2.1**
PBSI	**Pulau Batu**	**4.63**	**333**	P	**Pn**	**07 29 50.9**	**-2.0**
DSRI	**Dabo**	**5.61**	**49**	P	**Pn**	**07 30 05.9**	**-0.4**
GSI	**Gunungsitoli**	**6.15**	**333**	Pn	**Pn**	**07 30 13.6**	**-0.2**
GSI	**Gunungsitoli**	**6.15**	**333**	P	**Pn**	**07 30 13.2**	**-0.6**
	21nm,0.8s,2μm0.2nm						
LEM	**Lembang**	**7.67**	**110**	LR	LR	07 33 22.5	
	comp=Z,47nm,19.7s,baz=142,slow=37						
SNSI	**Sinabang, Aceh**	**7.72**	**328**	P	**Pn**	**07 30 34.1**	**-1.3**
	51nm,0.5s,0.2nm						
CMAR	**Chiang Mai Arr**	**22.57**	**356**	P	**P**	**07 33 43.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**22.57**	**356**	P	**P**	**07 33 42.5**	**-0.6**
	1.3nm,0.3s,baz=186,slow=8.8,SNR=1.7						
CMAR				LR	LR	07 43 20.8	
	comp=Z,35nm,18.1s,baz=305,slow=39						
	1.3nm,0.3s						
CRAI	**Chiangrai**	**24.29**	**0**	P	**P**	**07 34 00.5**	**+0.5**
CRAI				IAmb	IAmb	07 34 10.2	
	comp=Z,5.3nm,0.9s						
H08S2	**Diego Garcia H**	**27.93**	**262**	T	T	08 04 58.7	
	baz=83,slow=76,SNR=114						
H08S3	**Diego Garcia H**	**27.94**	**262**	T	T	08 04 59.2	
	baz=83,slow=76,SNR=179						
H08S1	**Diego Carcia H**	**27.95**	**262**	T	T	08 05 00.1	
	baz=83,slow=76,SNR=86						
H01W3	**Cape Leeuwin H**	**33.08**	**159**	T	T	08 10 34.6	
	baz=337,slow=76,SNR=42						
H01W2	**Cape Leeuwin H**	**33.09**	**159**	T	T	08 10 35.7	
	baz=337,slow=76,SNR=51						
H01W1	**Cape Leeuwin H**	**33.09**	**159**	T	T	08 10 35.7	
	baz=337,slow=76,SNR=39						
WB0	**Warramunga Arr**	**36.58**	**118**	P	**P**	**07 35 48.9**	**+0.2**
WRA	**Warramunga Arr**	**36.59**	**118**	P	**P**	**07 35 48.1**	**-0.7**
	comp=Z,1.1nm,1.0s,baz=288,slow=9.6,SNR=3.6						
	comp=Z,1.1nm,1.0s						
AS31	**Alice Springs**	**37.69**	**124**	P	**P**	**07 35 58.4**	**+0.3**
ASAR	**Alice Springs**	**37.69**	**124**	P	**P**	**07 35 58.4**	**+0.4**
ASAR	**Alice Springs**	**37.69**	**124**	P	**P**	**07 35 57.6**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=295,slow=7.6,SNR=13						
	comp=Z,0.4nm,0.4s						
CTA	**Charters Tower**	**47.35**	**113**	LR	LR	08 00 45.5	
	comp=Z,55nm,18.1s,baz=0.0,slow=41						
STKA	**Stephens Creek**	**47.43**	**130**	P	**P**	**07 37 17.3**	**+0.2**
STKA				IAmb	IAmb	07 37 35.5	
	comp=Z,0.7nm,0.9s						
STKA	**Stephens Creek**	**47.43**	**130**	P	**P**	**07 37 17.3**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=299,slow=7.5,SNR=4.9						
	comp=Z,1.5nm,0.6s						
SONM	**Songino Array**	**52.10**	**5**	P	**P**	**07 37 53.5**	**+1.0**
	comp=Z,1.7nm,0.9s,baz=185,slow=8.5,SNR=9.8						
	comp=Z,1.7nm,0.9s						
MK31	**Makanchi Array**	**53.25**	**345**	P	**P**	**07 38 01.4**	**+0.5**
MK31				IAmb	IAmb	07 38 10.6	
	comp=Z,1.8nm,0.6s						
MKAR	**Makanchi Array**	**53.25**	**345**	P	**P**	**07 38 02.2**	**+1.3**
MKAR	**Makanchi Array**	**53.25**	**345**	P	**P**	**07 38 01.4**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=159,slow=8.8,SNR=12						
	comp=Z,1.1nm,0.6s						
MAKZ	**Makanchi**	**53.35**	**344**	P	**P**	**07 38 02.9**	**+1.3**
MAKZ				IAmb	IAmb	07 38 31.2	
	comp=Z,1.9nm,0.7s						
USRK	**Ussuriysk Ar.**	**55.94**	**27**	P	**P**	**07 38 21.4**	**+1.0**
	comp=Z,3.7nm,0.7s,baz=235,slow=5.1,SNR=5.1						
	comp=Z,3.7nm,0.7s						
KURBB	**Kurchatov Arra**	**57.77**	**344**	P	**P**	**07 38 33.6**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=164,slow=7.2,SNR=1.7						
	comp=Z,0.7nm,0.8s						
H04N2	**CROZET ISLANDS**	**59.26**	**217**	T	T	08 42 59.5	
	baz=58,slow=75,SNR=137						
H04N1	**CROZET ISLANDS**	**59.27**	**217**	T	T	08 43 17.0	
	baz=58,slow=75,SNR=134						
H04N3	**CROZET ISLANDS**	**59.27**	**217**	T	T	08 42 59.4	
	baz=58,slow=75,SNR=134						
ZALV	**Zalesovo Beam**	**59.40**	**349**	P	**P**	**07 38 45.0**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=175,slow=5.2,SNR=6.4						
	comp=Z,0.8nm,0.4s						
BVAR	**Borovoye Array**	**62.38**	**340**	P	**P**	**07 39 04.4**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=110,slow=8.1,SNR=2.7						
	comp=Z,0.6nm,0.7s						
ABKAR	**Akbulak array**	**63.75**	**332**	P	**P**	**07 39 14.6**	**+0.5**
SUR	**Sutherland**	**78.94**	**238**	LR	LR	08 10 04.0	
	comp=Z,84nm,19.6s,baz=200,slow=32						
VNDA	**Vanda**	**79.93**	**169**	P	**P**	**07 40 51.1**	**+0.4**
VNDA				IAmb	IAmb	07 41 05.8	
	comp=Z,3.5nm,1.4s						
HFS	**Hagfors**	**91.96**	**330**	LR	LR	08 26 35.3	
	comp=Z,38nm,18.1s,baz=284,slow=38						
APMT	**Aspermont**	**145.30**	**31**	PKPbc	**PKPdf**	**07 48 20.4**	**-0.2**
TXAR	**Lajitas Array**	**146.19**	**40**	PKPbc	**PKiKP**	**07 48 25.7**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=277,slow=0.9,SNR=6.9						

DJA 16 07:33:20.9±0.3, 7°S±2.2°×11°3E±°, h10km, M3.6/12, mB6.3/1, MLv3.6/12, Mw(mB)6.1/1, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMMI	**Kalianget**	**0.51**	**84**	P	Pb	07 33 31.4	-0.5
KMMI				S	Sg	07 33 36.5	-0.9
BLJI	**Banyuglugur**	**0.66**	**168**	P	Pb	07 33 34.3	-0.1
BLJI				S	Sg	07 33 42.9	+0.7
GRJI	**Gresik**	**0.99**	**281**	P	Pg	07 33 39.1	-0.9
GRJI				S	Sb	07 33 54.0	+0.7
ABJI	**Asem Bagus**	**1.03**	**132**	P	Pb	07 33 41.0	+0.1
GMJI	**Gumukmas**	**1.17**	**181**	P	Pb	07 33 42.3	-0.9
GMJI				S	Sn	07 33 59.1	-0.2
BWJI	**Bawean**	**1.48**	**327**	P	Pb	07 33 48.0	-0.4
JAGI	**Jajag, Banyuwa**	**1.52**	**153**	P	Pn	07 33 48.0	-0.2
JAGI				S	Sb	07 34 08.9	+0.2
PWJI	**Pagerwojo**	**1.88**	**241**	P	Pn	07 33 53.0	-0.1
SRBI	**Singaraja**	**1.99**	**119**	P	Pn	07 33 54.7	0.0
NGJI	**Ngawi**	**2.00**	**262**	P	Pn	07 33 55.8	+1.0
UGM	**Wanagama**	**3.02**	**254**	P	Pn	07 34 08.8	-0.1
PLAI	**Plampang**	**4.61**	**112**	P	Pn	07 34 30.6	-0.1
MTKI	**Muara Teweh, K**	**6.28**	**13**	P	Pn	07 34 53.7	0.0

IDC 16 08:07:21.2±2.0, 6°07S×143°49E, h0km, mb3.8/3, mbtmp3.9/4, ML3.9/1, MS3.3/2, Error ellipse: s-maj=78.5km s-min=30.0km az=108.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.41**	**212**	Pn		08 11 08.3	-4.9
	0.2nm,0.3s,baz=29,slow=13,SNR=7.3						
WRA				Sn	Sn	08 13 58.0	-18
	0.1nm,0.3s,baz=28,slow=22,SNR=3.4						
WRA				Lg	Lg	08 15 57.4	
	0.1nm,0.3s,baz=36,slow=25,SNR=2.7						
ASAR	**Alice Springs**	**19.78**	**207**	P	P	08 11 53.3	+0.1
	0.4nm,0.3s,baz=30,slow=11,SNR=57						
ASAR				Lg	Lg	08 17 46.7	
	baz=19,slow=29,SNR=4.1						
ASAR				LR	LR	08 20 30.5	
	comp=Z,92nm,18.2s,baz=202,slow=40						
	5.7nm,0.8s						
KLR	**Kul'dur**	**56.01**	**351**	LR	LR	08 39 41.8	
	comp=Z,21nm,18.7s,baz=268,slow=35						
MKAR	**Makanchi Array**	**75.35**	**322**	P	P	08 19 07.4	+0.7
	0.9nm,0.9s,baz=111,slow=6.5,SNR=4.6						
	0.9nm,0.9s						
BVAR	**Borovoye Array**	**84.78**	**325**	P	P	08 19 58.1	+0.6
	0.5nm,0.5s,baz=114,slow=3.6,SNR=3.8						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**86.93**	**24**	P	P	08 20 06.5	-1.3
	0.4nm,0.9s,baz=268,slow=5.5,SNR=4.4						
	0.4nm,0.9s						

IDC ***16*** *08:23:21.8±2.2, 44°.19N×128°.93W, h0km, mb3.5/5, mbtmp3.5/12, ML3.3/7, MS3.3/18, Error ellipse: s-maj=39.9km s-min=15.0km az=51.0*

NEIC ***16*** *08:23:23.1±2.7, 44°.04N±0°.05×128°.9W±0°.1, h10km±2km, mb4.0/23, ML3.4/44, Error ellipse: s-maj=16.3km s-min=8.1km az=272.0*

ISC 16 08:23:23.6±1.2, 44°06N±0°09×128°9W±0°1, h15km, n106, σ1°26/90, mb3.9/8, MS3.3/11, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**3.54**	**108**	Pn	**Pn**	**08 24 14.9**	**-3.1**
KEBM				IAML		08 24 47.1	
	comp=E,103nm,2.0s						
KEBM				IAML		08 25 01.9	
	comp=N,100nm,1.9s						
J01E	**Myrtle Point**	**3.73**	**102**	Pn	**Pn**	**08 24 18.4**	**-2.1**
J01E				IAML		08 25 29.6	
	comp=E,54nm,2.4s						
HEBO	**Mount Hebo**	**3.85**	**71**	Pn	**Pn**	**08 24 21.9**	**-0.5**
HEBO				IAML		08 24 54.8	
	comp=E,87nm,2.7s						
HEBO				IAML		08 26 15.6	
	comp=N,76nm,2.4s						
COR	**Corvallis**	**4.06**	**81**	Pn	**Pn**	**08 24 25.1**	**0.0**
COR				IAML		08 25 28.1	
	comp=N,46nm,2.7s						
K02D	**Willamette Mer**	**4.06**	**108**	Pn	**Pn**	**08 24 22.6**	**-2.7**
K02D				IAML		08 25 11.2	
	comp=E,42nm,3.7s						
G03D	**McMinnville, O**	**4.19**	**72**		**Pn**	**08 24 25.9**	**-1.1**
G03D				IAML		08 26 37.7	
	comp=E,38nm,4.0s						
G03D				IAML		08 27 04.9	
	comp=N,40nm,3.6s						
DBO	**Dodson Butte**	**4.22**	**101**	Pn	**Pn**	**08 24 26.2**	**-1.3**
DBO				IAML		08 25 25.5	
	comp=N,43nm,4.7s						
DBO				IAML		08 26 47.8	
	comp=E,36nm,4.1s						
F03A	**Seaside**	**4.23**	**62**	Pn	**Pn**	**08 24 26.7**	**-0.8**
BUCK	**Buck Mountain**	**4.27**	**86**	Pn	**Pn**	**08 24 29.1**	**+1.0**
BUCK				IAML		08 26 48.4	
	comp=E,54nm,3.6s						
BUCK				IAML		08 27 07.0	
	comp=N,49nm,4.6s						
RADR	**Rader Ridge**	**4.31**	**55**	Pn	**Pn**	**08 24 27.2**	**-1.5**
L02F	**Cave Junction**	**4.37**	**115**	Pn	**Pn**	**08 24 27.6**	**-1.8**
H04D	**Lebanon**	**4.46**	**82**		**Pn**	**08 24 31.0**	**+0.4**
H04D				IAML		08 25 58.9	
	comp=E,35nm,3.4s						
H04D				IAML		08 26 43.4	
	comp=N,34nm,4.2s						
E03A	**Lebam**	**4.51**	**55**		**Pn**	**08 24 30.5**	**-0.9**
E03A				IAML		08 25 58.0	
	comp=N,42nm,2.4s						
HUMO	**Hull Mountain**	**4.58**	**106**	Pn	**Pn**	**08 24 31.7**	**-0.7**
I04A	**Tendick Farm,**	**4.70**	**91**		**Pn**	**08 24 35.1**	**+1.1**
WISH	**Wishkah**	**4.72**	**48**		**Pn**	**08 24 33.5**	**-0.8**
NLWA	**Neilton Lookou**	**4.85**	**45**		**Pn**	**08 24 34.8**	**-1.3**
NLWA				IAML		08 25 50.8	
	comp=N,22nm,2.9s						
NLWA				IAML		08 26 09.0	
	comp=N,24nm,4.7s						
C03A	**Quillayute Air**	**4.92**	**36**	Pn	**Pn**	**08 24 35.6**	**-1.4**
F04A	**Amboy**	**4.97**	**66**		**Pn**	**08 24 37.0**	**-0.7**
F04A				IAML		08 25 31.6	
	comp=E,20nm,3.2s						
L04D	**Klamath Falls**	**5.17**	**109**		**Pn**	**08 24 41.4**	**+0.8**
L04D				IAML		08 27 37.6	
	comp=E,34nm,3.3s						
HOOD	**Mount Hood Mea**	**5.33**	**74**		**Pn**	**08 24 44.2**	**+1.5**
HOOD				IAML		08 26 10.4	
	comp=N,20nm,0.9s						
OZB	**Mount Ozzard**	**5.43**	**25**	Pn	**Pn**	**08 24 43.0**	**-1.1**
I05D	**Terrebonne, OR**	**5.45**	**84**	Pn	**Pn**	**08 24 45.1**	**+0.7**
B04A	**Port Angeles**	**5.49**	**41**	Pn	**Pn**	**08 24 43.9**	**-0.9**
GNW	**Green Mountain**	**5.51**	**48**	Pn	**Pn**	**08 24 44.8**	**-0.2**
G05A	**Wamic**	**5.54**	**75**		**Pn**	**08 24 46.7**	**+1.1**
J05D	**Fort Rock, OR**	**5.62**	**95**		**Pn**	**08 24 47.5**	**+0.7**
LON	**Longmire**	**5.67**	**59**		**Pn**	**08 24 47.5**	**+0.1**
PINE	**Pine Mountain**	**5.76**	**90**	Pn	**Pn**	**08 24 50.0**	**+1.2**
D05A	**Enumclaw**	**5.77**	**55**		**Pn**	**08 24 49.0**	**+0.3**
CLRS	**Cowichan Lake**	**5.79**	**33**		**Pn**	**08 24 48.0**	**-0.9**
PGC	**Sidney**	**5.94**	**38**	Pn	**Pn**	**08 24 49.5**	**-1.5**
G06A	**Carlson Farm,**	**6.02**	**76**	Pn	**Pn**	**08 24 52.5**	**+0.4**
MXC	**Moxie City**	**6.57**	**65**		**Pn**	**08 25 00.4**	**+0.7**
LTY	**Liberty**	**6.60**	**58**		**Pn**	**08 25 00.5**	**+0.4**
I07A	**Izee**	**6.78**	**87**	Pn	**Pn**	**08 25 04.4**	**+1.8**
E07A	**Sunnyside**	**6.85**	**66**	Pn	**Pn**	**08 25 05.1**	**+1.5**
ORV	**Oroville**	**7.14**	**127**		**Pn**	**08 25 08.2**	**+0.8**
G08A	**Pilot Rock**	**7.20**	**77**	Pn	**Pn**	**08 25 09.1**	**+0.6**
E08A	**Dider Farm, El**	**7.36**	**67**	Pn	**Pn**	**08 25 10.4**	**0.0**
D08A	**Wollman Farm,**	**7.62**	**63**	Pn	**Pn**	**08 25 14.3**	**+0.2**
BBB	**Bella Bella**	**8.14**	**3**	Pn	**Pn**	**08 25 21.9**	**+0.7**
BBB	**Bella Bella**	**8.14**	**3**	Pn	**Pn**	**08 25 20.7**	**-0.5**
	comp=N,0.5nm,0.3s,baz=273,slow=2.7,SNR=6.5						
BBB				LR	LR	08 28 01.0	
	comp=N,124nm,18.5s,baz=45,slow=35						
	comp=N,6.9nm,0.7s						
CMB	**Columbia Colle**	**8.81**	**130**	Pn	**Pn**	**08 25 30.7**	**+0.2**
NEW	**Newport**	**9.19**	**59**	Pn	**Pn**	**08 25 35.9**	**+0.2**
	comp=N,0.1nm,0.3s,baz=234,slow=9.7,SNR=4.8						
NEW				LR	LR	08 29 13.0	
	comp=N,195nm,18.1s,baz=258,slow=38						
	comp=N,2.1nm,0.7s						
NVAR	**Mina Array Bea**	**9.77**	**122**	Pn	**Pn**	**08 25 47.0**	**+3.2**
	comp=N,0.1nm,0.3s,baz=282,slow=13,SNR=7.4						
	comp=N,1.3nm,0.8s						
ELK	**Elko**	**10.64**	**103**	Pn	**Pn**	**08 25 59.1**	**+3.4**
	comp=N,0.1nm,0.3s,baz=297,slow=12,SNR=4.1						
ELK				LR	LR	08 30 10.9	
	comp=N,79nm,20.4s,baz=292,slow=38						
	comp=N,0.9nm,0.7s						
GWY	**Greenwater Val**	**12.22**	**126**	Pn	**Pn**	**08 26 18.5**	**+1.1**
YHL	**Hebgen Lake**	**12.69**	**80**		**Pn**	**08 26 23.8**	**0.0**
YHH	**Holmes Hill**	**12.93**	**80**	Pn	**Pn**	**08 26 26.9**	**-0.2**
IMW	**Indian Meadow**	**12.95**	**84**		**Pn**	**08 26 27.7**	**+0.4**
TPAW	**Teton Pass**	**12.99**	**86**		**Pn**	**08 26 30.2**	**+2.3**
H17A	**Grant Village**	**13.16**	**82**	Pn	**Pn**	**08 26 31.0**	**+0.9**
V12A	**Nelson**	**13.62**	**123**	Pn	**Pn**	**08 26 36.9**	**+0.7**
LCMT	**Little Creek M**	**13.83**	**115**	Pn	**Pn**	**08 26 41.5**	**+2.4**
EGMT	**Eagleton**	**13.88**	**67**	Pn	**Pn**	**08 26 42.2**	**+2.5**
KNB	**Kanab**	**14.10**	**114**	Pn	**Pn**	**08 26 42.5**	**-0.5**
PDAR	**Pinedale Array**	**14.13**	**89**	Pn	**Pn**	**08 26 47.0**	**+3.7**
	comp=N,0.1nm,0.3s,baz=282,slow=10,SNR=4.6						
PDAR				LR	LR	08 32 23.1	
	comp=N,104nm,20.9s,baz=288,slow=38						
	comp=N,0.5nm,0.8s						
PFO	**Pinyon Flats O**	**14.23**	**133**	LR	LR	08 31 30.4	
	comp=N,94nm,20.1s,baz=190,slow=34						
DLBC	**Dease Lake**	**14.41**	**358**	Pn	**Pn**	**08 26 47.0**	**0.0**
	baz=184,slow=8.8,SNR=1.6						
DLBC				LR	LR	08 32 03.9	
	comp=N,84nm,18.6s,baz=148,slow=36						
	comp=N,0.7nm,1.0s						
JIS	**Juneau Island**	**14.63**	**348**	Pn	**Pn**	**08 26 50.8**	**+1.0**
O20A	**White River Ci**	**15.83**	**97**	Pn	**Pn**	**08 27 07.2**	**+1.2**
O20A				IAmb	IAmb	08 27 15.8	
	comp=Z,8.3nm,0.9s						
SKAG	**Skagway**	**15.91**	**348**		**P**	**08 27 10.5**	**+0.2**
SKAG				IAmb	IAmb	08 27 11.9	
	comp=Z,10nm,1.3s						
WUAZ	**Wupatki**	**15.93**	**116**	Pn	**Pn**	**08 27 08.3**	**+0.9**
WUAZ				IAmb	IAmb	08 27 21.3	
	comp=Z,10nm,1.3s						
Y14A	**Wickenburg**	**15.95**	**124**		**P**	**08 27 09.7**	**-1.3**
LAO	**LASA Array**	**16.15**	**73**	Pn	**Pn**	**08 27 11.5**	**+1.6**
LAO				IAmb	IAmb	08 27 19.1	
	comp=Z,13nm,1.1s						
FLDN	**Fort Liard**	**16.53**	**10**		**P**	**08 27 16.6**	**-0.6**
FLDN				IAmb	IAmb	08 27 23.0	
	comp=Z,12nm,1.1s						
W18A	**Petrified Fore**	**17.24**	**115**		**P**	**08 27 24.9**	**-0.5**
W18A				IAmb	IAmb	08 27 32.9	
	comp=Z,22nm,1.4s

H11S1	**WAKE ISLAND Hy 59.05 266** baz=48,slow=75,SNR=207	T	T	09 36 58.9	
H11S2	**WAKE ISLAND Hy 59.05 266** baz=48,slow=75,SNR=217	T	T	09 36 57.0	
H11S3	**WAKE ISLAND Hy 59.06 266** baz=48,slow=75,SNR=203	T	T	09 36 59.6	

ISC 16 09:00:09.6±1.0, 49°57'N±0'.06×17°74E±0'.07, h10km, n6, σ0°45/9, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MORC	**Moravsky Berou**	**0.25**	**329**	*e*PG	**Pg**	**09 00 14.5**	**-0.2**
MORC				*e*SG	**Sg**	**09 00 18.3**	**+0.2**
JAVC	**Velka Javorina**	**0.71**	**184**	*e*PG	**Pb**	**09 00 24.4**	**+0.3**
VRAC	**Vranov**	**0.79**	**252**	*e*PG	**Pg**	**09 00 24.8**	**-0.1**
KRUC	**Moravsky**	**1.01**	**241**	*e*PG	**Pg**	**09 00 29.1**	**0.0**
LANS	**Liptovska Anna**	**1.20**	**110**	*e*PG	**Pn**	**09 00 32.4**	**-0.1**
LANS				*e*SG	**Sn**	**09 00 49.6**	**+0.7**
VYHS	**Vyhne**	**1.29**	**146**	*e*PG	**Pn**	**09 00 33.3**	**-0.4**
VYHS				*e*SG	**Sb**	**09 00 50.0**	**-0.6**

*KMA **16** 09:02:47.7±0.1, 36°.10N×129°.35E, h12km±2km, Error ellipse: s-maj=1.0km s-min=0.8km az=71.0*
*JMA **16** 09:02:47.8±0.6, 36°N±2°×12°9E±°, h14km, MV3.1/11, S KOREAN PENINSULA REG*
*KEA **16** 09:02:49.1, 36°.34N×129°.00E, h1km, ML3.0/5*

ISC 16 09:02:47.4±1.1, 36°.13N±0'.03×129°.20E±0'.04, h10km±10km, n24, σ0°98/32, South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSPHA	**Pohang** SNR=1091	**0.15**	**67**	P	**Pg**	**09 02 50.3**	**-0.5**
YOCB	**Yeongcheon** SNR=88	**0.25**	**232**	P	**Pg**	**09 02 54.8**	**+2.3**
KSADO	**Andong** SNR=112	**0.34**	**324**	P	**Pb**	**09 02 56.7**	**+1.1**
KSUSN	**Ulsan** SNR=185	**0.43**	**188**	P	**Pb**	**09 02 56.4**	**-0.7**
KSUSN	SNR=185			P	**Pb**	**09 02 56.4**	**-0.7**
YODB	**Yeongdeok** SNR=155	**0.44**	**23**	P	**Pg**	**09 02 56.3**	**+0.3**
KSDAG	**Daegu** SNR=81	**0.44**	**214**	P	**Pb**	**09 02 57.5**	**+0.3**
EUSB	**Uiseong** SNR=31	**0.47**	**299**	P	**Pn**	**09 02 59.2**	**-0.9**
EUSB	SNR=31			P	**Pn**	**09 02 59.2**	**-0.9**
GUWB	**Gunwi** SNR=54	**0.49**	**276**	P	**Pn**	**09 02 59.7**	**-0.8**
GUWB	SNR=54			P	**Pn**	**09 02 59.7**	**-0.8**
YEYB	**Yeongyang** SNR=93	**0.50**	**350**	P	**Pb**	**09 02 58.8**	**+0.5**
YEYB	SNR=93			P	**Pb**	**09 02 58.8**	**+0.5**
KSDAU	**Deagu-acc** SNR=51	**0.53**	**242**	P	**Pn**	**09 03 00.0**	**-0.9**
JEJB	**Jeongja** SNR=20	**0.53**	**158**	P	**Pg**	**09 02 57.0**	**-0.7**
ADOA	**Andong Acc Bor** SNR=22	**0.59**	**318**	P	**Pn**	**09 03 01.3**	**-0.6**
KSULJ	**Uljin** SNR=54	**0.59**	**17**	P	**Pg**	**09 02 59.4**	**+0.5**
KSCIG	**Chilgok** SNR=87	**0.67**	**262**	P	**Pn**	**09 03 02.8**	**-0.1**
KSCIG	SNR=87			P	**Pn**	**09 03 02.8**	**-0.1**
KSGUM	**GUMI** SNR=24	**0.74**	**278**	P	**Pn**	**09 03 04.3**	**+0.4**
KSBUS	**Busan** SNR=90	**0.88**	**184**	P	**Pg**	**09 03 04.1**	**-0.3**
JTU	**Tsushima**	**1.61**	**174**	*e*P	**Pn**	**09 03 15.9**	**0.0**
JTU				*e*S	**Sn**	**09 03 36.9**	**+0.2**
JTSM	**Tsushimamitsus**	**1.80**	**175**	*e*P	**Pn**	**09 03 19.3**	**+0.9**
JTSM				S	**Sb**	**09 03 42.5**	**-0.4**
JGT2	**ShimaneMisato**	**2.90**	**111**	*e*S	**Sn**	**09 04 11.0**	**+2.4**
HJU	**Haeju**	**3.37**	**306**	Pg	**Pg**	**09 03 50.3**	**-1.6**
HJU				Sg	**Sg**	**09 04 34.9**	**-0.6**
HJU	comp=N,103nm,0.7s			AML	AML		
HJU	comp=E,50nm,0.2s			AML	AML		
HJU	comp=Z,35nm,0.7s			AML	AML		
PYAG	**Pyongyang**	**3.99**	**318**	Sg	**Sg**	**09 04 55.0**	**-0.5**
PYAG	comp=N,31nm,0.1s			AML	AML		
PYAG	comp=E,31nm,0.3s			AML	AML		
PYAG	comp=Z,23nm,0.4s			AML	AML		
HHU	**Hamhung**	**4.01**	**341**	Sg	**Sg**	**09 04 55.4**	**-0.8**
HHU	comp=N,20nm,0.1s			AML	AML		
HHU	comp=E,31nm,0.2s			AML	AML		
HHU	comp=Z,16nm,0.4s			AML	AML		
PYS	**Pyongsong**	**4.09**	**321**	Sg	**Sg**	**09 04 57.3**	**-1.4**
PYS	comp=N,50nm,0.1s			AML	AML		
PYS	comp=E,52nm,0.3s			AML	AML		
PYS	comp=Z,32nm,0.4s			AML	AML		
SUJ	**Sinuiju**	**5.43**	**318**	Sg	**Sg**	**09 05 42.3**	**+0.8**
SUJ	comp=N,29nm,0.4s			AML	AML		
SUJ	comp=E,24nm,0.1s			AML	AML		
SUJ	comp=Z,13nm,0.5s			AML	AML		

IDC 16 09:04:43.0±2.6, 54°.03N×86°.52E, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=21.5km s-min=12.7km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA** baz=83,slow=348,SNR=3.9	**1.01**	**266**	I	I	09 10 38.0	
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=81,slow=17,SNR=6.5	**1.01**	**266**	Pg	Pg	09 05 01.1	-1.2
ZALV	2.4nm,0.3s,baz=88,slow=30,SNR=18			Lg	Lg	09 05 16.6	
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=54,slow=13,SNR=4.5 1.2nm,0.2s	**5.97**	**238**	Pn	Pn	09 06 14.1	+1.5
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=25,slow=13,SNR=9.8 0.3nm,0.3s	**7.73**	**202**	Pn	Pn	09 06 37.6	+0.8

*NEIC **16** 09:23:33.1±0.4, 36°.97N±0'.02×90°.39W±0'.02, h4km±7km, Error ellipse: s-maj=2.5km s-min=2.3km az=172.0*

SLM 16 09:23:32.9±0.4, 36°.98N±0'.02×90°.41W±0'.02, h4km±6km, Md2.6/12, ML1.8/12(NEIC), Error ellipse: s-maj=2.7km s-min=1.6km az=148.0, New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBMO	**Poplar Bluff**	**0.20**	**184**	Pg	Pg	09 23 36.5	-0.2
PBMO	comp=E,114nm,0.2s			IAML		09 23 39.7	
PBMO	**Poplar Bluff**	**0.20**	**184**		Sg	09 23 39.5	+0.3
BRNM	**Bernie**	**0.42**	**127**		Pg	09 23 40.6	-0.3
BRNM					Sg	09 23 46.0	-0.3
BETM	**Bethany**	**0.46**	**142**		Pg	09 23 41.2	-0.5
GUAMO	**Guam**	**0.47**	**100**		Pg	09 23 41.4	-0.5
MLDM	**Malden**	**0.53**	**131**		Pg	09 23 42.6	-0.4
MLDM					Sg	09 23 49.7	-0.1
COKM	**Charter Oak**	**0.61**	**115**		Pg	09 23 44.2	-0.4
COKM					Sg	09 23 52.1	-0.4
PARMO	**Parma**	**0.61**	**120**		Pg	09 23 43.9	-0.7
PARMO	comp=N,50nm,1.4s			IAML		09 23 52.2	
PARMO					Sg	09 23 52.4	-0.2
PARMO	comp=E,52nm,0.4s			IAML		09 23 53.0	
TOPM	**Tallapoosa**	**0.61**	**137**		Pg	09 23 43.9	-0.8
CGM3	**Cape Girardeau**	**0.68**	**62**		Pg	09 23 45.4	-0.6
CGM3	comp=E,48nm,0.2s			IAML		09 23 54.3	
CGM3	comp=N,71nm,0.2s			IAML		09 23 54.8	
KEWM	**Kewanee**	**0.71**	**113**		Pg	09 23 46.2	-0.4
MARMO	**Marston**	**0.74**	**126**		Pg	09 23 46.6	-0.6
DWDM	**Dogwood**	**0.76**	**103**		Pg	09 23 46.6	-0.8
WADM	**Wardell**	**0.78**	**141**		Pg	09 23 47.3	-0.6
HENM	**Henderson Moun**	**0.80**	**109**		Pg	09 23 47.3	-0.9
PENMO	**Penman**	**0.82**	**130**		Pg	09 23 47.9	-0.7
CHRM	**Charleston**	**0.85**	**98**		Pg	09 23 48.3	-0.9
EPRM	**East Prairie**	**0.88**	**107**		Pg	09 23 49.0	-0.9
BRGM	**Braggadocio**	**0.89**	**150**		Pg	09 23 49.0	-0.9
PEBM	**Pemiscott Bayo**	**0.97**	**153**	Pg	Pg	09 23 51.0	-0.4
FVM	**French Village**	**1.01**	**359**	Pg	Pg	09 23 51.6	-0.6
CCM	**Cathedral Cave**	**1.27**	**329**	Pg	Pg	09 23 56.1	-1.1
CCM	comp=N,27nm,0.1s			IAML		09 24 14.7	
MGMO	**Mountain Grove**	**1.50**	**277**		Pn	09 24 00.2	-0.4
FCAR	**Ozark Folk Cen**	**1.75**	**232**	Pn	Pn	09 24 02.8	-1.3
R40A	**Maddies Statio**	**1.98**	**312**	Pn	Pn	09 24 06.2	-0.9
WVT	**Waverly**	**2.24**	**111**	Pn	Pn	09 24 09.6	-1.1
WHAR	**Wooly Hollow**	**2.27**	**223**	Pn	Pn	09 24 11.0	-0.1
S39A	**Bolivar**	**2.43**	**288**	Pn	Pn	09 24 14.0	+0.7

*IDC **16** 09:24:60.0±0.4, 56°.40S×25°.51W, h0km, mb5.2/13, mbtmp5.1/14, ML4.8/1, MS4.8/35, Error ellipse: s-maj=19.6km s-min=14.4km az=68.0*
*MOS **16** 09:25:00.2±1.1, 56°.52S×25°.84W, h10km, mb5.5/18, MS4.9/7, Error ellipse: s-maj=19.0km s-min=10.4km az=105.1*
*NEIC **16** 09:25:01.7, 56°.48S×25°.73W, h10km*
*NEIC **16** 09:25:01.5±1.7, 56°.51S±0'.09×25°.8W±0'.2, h8km, mb5.6/134, Ms_20 5.1/145, Mwb5.3/11, Mww5.4/24, Error ellipse: s-maj=15.9km s-min=13.3km az=213.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.00; $M_{\theta\theta}$-0.29; $M_{\phi\phi}$-0.71; $M_{r\theta}$-0.42; $M_{\theta\phi}$0.44; $M_{\phi r}$0.57; Fault plane solution: $M_0$1.22000×10^{17} NP1: ϕ_s149.99000°, δ27.46000°, λ94.22000°. NP2: ϕ_s325.24000°, δ62.62000°, λ87.81000°. Principal axes: T 1.2268, Plg72.0000°, Azm230.0000°; N -0.0120, Plg2.0000°, Azm326.0000°; P -1.2148, Plg18.0000°, Azm57.0000°;*
*NEIC **16** 09:25:01.8, 55°.88S×25°.57W, h22km, Moment Tensor Solution. Duration: 2^{s}6 Moment tensor: Scale 10^{17}Nm; M_{rr}1.75; $M_{\theta\theta}$-0.34; $M_{\phi\phi}$-1.41; $M_{r\theta}$-0.34; $M_{\theta\phi}$0.61; $M_{\phi r}$0.03; Fault plane solution: $M_0$1.75000×10^{17} NP1: ϕ_s326.70000°, δ48.56000°, λ77.90000°. NP2: ϕ_s164.65000°, δ42.86000°, λ103.36000°. Principal axes: T 1.8047, Plg81.0000°, Azm173.0000°; N -0.1133, Plg9.0000°, Azm335.0000°; P -1.6915, Plg3.0000°, Azm65.0000°;*
*NEIC **16** 09:25:01.8, 56°.48S×25°.75W, h22km*
*BJI **16** 09:25:02.7±0.0, 56°.40S×25°.60W, h20km, mB5.6/8, Ms5.2/13, Ms7 5.0/17*
*GCMT **16** 09:25:07.5±0.1, 56°.50S±0'.01×25°.38W±0'.01, h15km, MW5.4/145, Moment Tensor Solution. s113,c194; s145,c261; Duration: 1^{s}2 Moment tensor: Scale 10^{17} Nm; M_{rr}1.19±.02; $M_{\theta\theta}$0.03±.02; $M_{\phi\phi}$-1.22±.02; $M_{r\theta}$-0.12±.03; $M_{\theta\phi}$0.52±.01; $M_{\phi r}$0.62±.03; Best double couple: $M_0$1.44500×10^{17} NP1:ϕ_s345.00000°, δ58.00000°, λ95.00000°. NP2:ϕ_s155.00000°, δ32.00000°, λ82.00000°. Principal axes: T 1.3420, Plg76.0000°, Azm271.0000°; N 0.2060, Plg4.0000°, Azm162.0000°; P -1.5490, Plg13.0000°, Azm71.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 09:25:01.3±0.2, 56°.56S±0'.05×25°.65W±0'.06, h10km, n799, σ1°98/721, mb5.5/88, MS5.0/98, 13C-13D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**6.58**	**286**		**Pn**	**09 26 36.5**	**-1.4**
VNA1	**Neumayer--Stat** comp=Z,84nm,0.8s	**16.00**	**159**	⇓P	**P**	**09 28 49.5**	**0.0**
VNA3	**Neumayer Olymp** comp=Z,27nm,0.4s	**16.23**	**161**	⇓P	**P**	**09 28 51.9**	**-0.2**
VNA3				⇓S	Sn	09 31 37.8	-11
VNA2	**Neumayer--Watz** comp=E,37nm,0.5s,baz=330,slow=15	**16.40**	**159**	⇓P	**P**	**09 28 53.9**	**-0.1**
VNA2	baz=253,slow=7.2			⇓S	**Sn**	**09 31 44.7**	**-8.2**
SNAA	**Sanae**	**17.93**	**157**		**Pn**	**09 29 11.5**	**+1.1**
SNAA	**Sanae**	**17.93**	**157**	P	**Pn**	**09 29 11.5**	**+1.1**
SNAA	comp=Z,126nm,1.4s			pmax	pmax		
SNAA	**Sanae**	**17.93**	**157**	*e*P	**P**	**09 29 14.1**	**+3.2**
SNAA	**Sanae** comp=Z,871nm,0.9s	**17.93**	**157**	⇓P	**P**	**09 29 13.2**	**+2.3**
SNAA				⇓S	**Sn**	**09 32 21.7**	**-8.2**
SNAA	**Sanae** comp=Z,2.9nm,0.3s,baz=316,slow=16,SNR=30	**17.93**	**157**	P	**P**	**09 29 13.4**	**+2.4**
SNAA	comp=Z,2μm,18.5s,baz=360,slow=35 comp=Z,34nm,1.0s			LR	LR	09 35 34.0	
TROLL	**Troll, Antarti** comp=Z,2μm,0.9s	**19.41**	**154**	⇓P	**Pn**	**09 29 29.2**	**+0.8**
TROLL				⇓S	**Sn**	**09 32 58.6**	**-7.1**
EFI	**East Falkland**	**19.50**	**271**	P	**P**	**09 29 27.1**	**-1.0**
EFI	**East Falkland**	**19.50**	**271**	P	**P**	**09 29 27.2**	**-1.0**
EFI	comp=Z,108nm,1.2s			pmax	pmax		
PMSA	**Palmer Station**	**20.22**	**230**	P	**P**	**09 29 36.5**	**+0.5**
PMSA	comp=Z,153nm,0.8s			IAmb	IAmb	09 29 43.1	
PMSA	**Palmer Station** comp=Z,98nm,0.7s,baz=63,slow=7.7,SNR=15	**20.22**	**230**	P	Pn	09 29 38.9	+1.0
PMSA	comp=Z,3μm,18.4s,baz=88,slow=34 comp=Z,98nm,0.7s			LR	LR	09 36 41.7	
PMSA	**Palmer Station**	**20.22**	**230**	*e*P	Pn	09 29 39.6	+1.7
NVL	**N'lazarevskaya**	**21.36**	**146**	*e*P	**P**	**09 29 48.0**	**-0.3**
NVL				*e*S	**S**	**09 33 43.6**	**-1.4**
NVL	comp=Z,45nm,1.6s			pmax	pmax		
NVL	comp=N,2μm,11.4s			smax	smax		
NVL	comp=Z,5μm,17.0s			MLR	MLR		
BELA	**Belgrano 2**	**21.63**	**185**	P	**P**	**09 29 51.9**	**+0.7**
BELA	comp=Z,216nm,1.0s			IAmb	IAmb	09 29 56.6	
SMAI	**San Martin Ant**	**21.94**	**222**	P	**P**	**09 29 55.1**	**+0.6**
SMAI	comp=Z,334nm,1.4s			IAmb	IAmb	09 30 17.3	
MG01	**Puerto William**	**23.42**	**256**	P	**P**	**09 30 09.4**	**-0.7**
MG01	comp=Z,138nm,1.1s			IAmb	IAmb	09 30 17.1	
MG02	**Cerro Sombrero**	**25.16**	**260**	P	**P**	**09 30 25.7**	**-0.6**
ELIB	**Princess Elisa** comp=Z,30nm,1.0s	**25.24**	**147**	*d*P	**P**	**09 30 29.4**	**+2.3**
MG03	**Isla Dawson**	**25.37**	**257**	P	**P**	**09 30 29.5**	**+1.4**
MG03	comp=Z,135nm,1.4s			IAmb	IAmb	09 30 44.2	
MG04	**Isla Riesco**	**26.40**	**258**	P	**P**	**09 30 36.2**	**-1.3**
MG04	comp=Z,368nm,1.9s			IAmb	IAmb	09 31 01.4	
MG05	**Puerto Natales**	**27.45**	**260**	P	**P**	**09 30 48.3**	**+1.3**
GO09	**Cerro Castillo**	**27.56**	**261**	P	**P**	**09 30 47.3**	**-0.7**
GO09	comp=Z,107nm,1.4s			IAmb	IAmb	09 31 21.6	
TRQA	**Tornquist**	**30.31**	**292**	P	**P**	**09 31 10.9**	**-1.7**
TRQA	**Tornquist**	**30.31**	**292**	P	**P**	**09 31 10.9**	**-1.7**
TRQA	comp=Z,32nm,1.2s			pmax	pmax		
COYC	**Coyhaique**	**30.60**	**271**	P	**P**	**09 31 15.1**	**+0.1**
COYC	comp=Z,104nm,1.7s			IAmb	IAmb	09 31 54.4	
PLTB	**Pedras Altas**	**31.48**	**310**	P	**P**	**09 31 22.6**	**-0.4**
PLTB	comp=Z,45nm,0.9s			IAmb	IAmb	09 31 24.3	
PLTB	**Pedras Altas**	**31.48**	**310**	*e*P	**P**	**09 31 23.0**	**0.0**
AY01	**Puyuhuapi**	**31.63**	**272**	P	**P**	**09 31 22.6**	**-1.5**
CNLB	**Canela**	**32.53**	**316**	*e*P	**P**	**09 31 32.7**	**+0.5**
TBOT	**Tacuaremb**	**32.56**	**307**	*e*P	**P**	**09 31 32.7**	**+0.4**
CPSB	**Cacapava Do Su**	**32.59**	**312**	*e*P	**P**	**09 31 33.2**	**+0.4**
PLCA	**Paso Flores**	**32.93**	**279**	P	**P**	**09 31 35.2**	**-0.5**
PLCA	**Paso Flores**	**32.93**	**279**	P	**P**	**09 31 35.2**	**-0.5**
PLCA	comp=Z,28nm,1.3s			pmax	pmax		
PLCA	**Paso Flores** comp=Z,4.1nm,1.0s,baz=132,slow=6.9,SNR=3.8	**32.93**	**279**	P	**P**	**09 31 35.3**	**-0.4**
PLCA	comp=Z,848nm,18.1s,baz=136,slow=37 comp=Z,4.1nm,1.0s			LR	LR	09 45 20.5	
PLCA	**Paso Flores**	**32.93**	**279**	*e*P	**P**	**09 31 34.1**	**-1.6**
RODS	**Rosario do Sul**	**33.39**	**309**	*e*P	**P**	**09 31 40.2**	**+0.6**
QSPA	**South Pole Qui**	**33.69**	**180**	P	**P**	**09 31 43.9**	**+1.7**
QSPA	**South Pole Qui** comp=Z,95nm,0.6s,baz=193,slow=3.9,SNR=436	**33.69**	**180**	P	**P**	**09 31 44.0**	**+1.8**
QSPA	comp=Z,2μm,19.0s,baz=191,slow=37 comp=Z,95nm,0.6s			LR	LR	09 45 43.5	
PSAL	**Palomas, Salto**	**33.82**	**305**	*e*P	**P**	**09 31 43.3**	**-0.1**
ALGR	**Alto Alegre (B**	**33.84**	**314**	*e*P	**P**	**09 31 44.4**	**+0.7**
LL05	**Los Muermos**	**34.07**	**276**	P	**P**	**09 31 43.7**	**-1.9**
UNIS	**Unistalda (Bra**	**34.45**	**311**	*e*P	**P**	**09 31 49.4**	**+0.6**
ITQB	**Itaqui**	**34.59**	**308**	P	**P**	**09 31 49.5**	**-0.5**
ITQB	comp=Z,85nm,1.1s			IAmb	IAmb	09 31 50.9	
ITQB	**Itaqui**	**34.59**	**308**	*e*P	**P**	**09 31 49.7**	**-0.4**
ITAB	**Concordia**	**34.89**	**316**	P	**P**	**09 31 53.8**	**+1.2**
ITAB	comp=Z,170nm,1.3s			IAmb	IAmb	09 31 54.8	
ITAB	comp=Z,2μm,19.0s			IAMs_20	IAMs_20	09 47 52.6	
ITAB	**Concordia**	**34.89**	**316**	*e*P	**P**	**09 31 53.9**	**+1.2**
CRSM	**Crissiumal (Br**	**35.41**	**313**	*e*P	**P**	**09 31 56.9**	**-0.2**
SPB	**Sao Paulo**	**36.58**	**325**	P	**P**	**09 32 06.0**	**-1.2**
SPB	comp=Z,103nm,1.5s			IAmb	IAmb	09 32 22.7	
SPB	**Sao Paulo**	**36.58**	**325**	*e*P	**P**	**09 32 07.4**	**+0.2**
DUB01	**Friburgo-RJ**	**36.58**	**333**	*e*P	**P**	**09 32 08.4**	**+1.1**
VAS01	**Vassouras-RJ**	**36.66**	**332**	*e*P	**P**	**09 32 09.2**	**+1.3**
VAO	**Valinhos**	**36.99**	**326**	*e*P	**P**	**09 32 12.3**	**+1.5**
PTGB	**Pitanga**	**37.14**	**318**	*e*P	**P**	**09 32 12.6**	**+0.5**
BO02	**Sierra Bellavi**	**37.39**	**286**	P	**P**	**09 32 12.7**	**-1.5**
FRTB	**Fartura**	**37.51**	**322**	*e*P	**P**	**09 32 16.3**	**+1.2**
CPUP	**Villa Florida**	**37.80**	**310**	P	**P**	**09 32 17.1**	**-0.5**
CPUP	**Villa Florida** comp=Z,36nm,0.9s,baz=153,slow=7.7,SNR=36	**37.80**	**310**	P	**P**	**09 32 16.9**	**-0.6**
CPUP	comp=Z,1μm,18.2s,baz=156,slow=42 comp=Z,36nm,0.9s			LR	LR	09 51 28.6	
CPUP	**Villa Florida**	**37.80**	**310**	*e*P	**P**	**09 32 17.3**	**-0.2**
GO05	**Huala**	**37.84**	**285**	P	**P**	**09 32 16.8**	**-1.1**
BO01	**Tunca**	**37.86**	**286**	P	**P**	**09 32 16.3**	**-1.8**
BO04	**La Punta**	**37.92**	**287**	P	**P**	**09 32 17.7**	**-0.9**
LDASE	**Londrina, Braz**	**38.00**	**320**	*e*P	**P**	**09 32 20.4**	**+1.0**
MCR1	**Marechal Candi**	**38.12**	**315**	*e*P	**P**	**09 32 20.4**	**+0.1**
BSCB	**Bom Sucesso**	**38.24**	**330**	*e*P	**P**	**09 32 22.3**	**+0.9**
MT03	**Universidad Ad**	**38.25**	**288**	P	**P**	**09 32 18.4**	**-3.0**
MT03	comp=Z,200nm,2.0s			IAmb	IAmb	09 32 36.4	
MT09	**Talagante**	**38.28**	**287**	P	**P**	**09 32 20.6**	**-1.1**
MT16	**CCHEN**	**38.30**	**288**	P	**P**	**09 32 20.9**	**-0.9**
MT01	**Popeta**	**38.35**	**287**	P	**P**	**09 32 20.5**	**-1.7**
CER	**Ceres**	**38.40**	**72**	*e*P	**P**	**09 32 24.0**	**+1.5**
CER	comp=Z,304nm,2.5s			IAmb	IAmb	09 32 32.1	
MT05	**Renca**	**38.45**	**288**	P	**P**	**09 32 21.7**	**-1.3**
PEL	**Peldehue**	**38.61**	**288**	P	**P**	**09 32 22.8**	**-1.6**
PEL	**Peldehue**	**38.61**	**288**	P	**P**	**09 32 22.8**	**-1.6**
PEL	comp=Z,60nm,1.1s			pmax	pmax		
VA05	**Santo Domingo**	**38.71**	**286**	P	**P**	**09 32 23.9**	**-1.2**
VA05	comp=Z,211nm,1.7s			IAmb	IAmb	09 32 39.6	
MT02	**Curacav**	**38.76**	**287**	P	**P**	**09 32 24.3**	**-1.3**
RIB01	**Linhares ES**	**38.79**	**337**	*e*P	**P**	**09 32 27.2**	**+1.2**
VA03	**San Esteban**	**38.84**	**288**	P	**P**	**09 32 25.5**	**-0.9**
VA03	comp=Z,126nm,1.7s			IAmb	IAmb	09 32 43.7	
TICA	**Tres Isletas**	**39.08**	**306**	*e*P	**P**	**09 32 28.7**	**+0.4**
TRCB	**Terra Rica**	**39.10**	**318**	P	**P**	**09 32 28.7**	**+0.2**
TRCB	comp=Z,79nm,1.0s			IAmb	IAmb	09 32 30.0	
TRCB	**Terra Rica**	**39.10**	**318**	*e*P	**P**	**09 32 29.0**	**+0.4**
MAW	**Mawson** comp=Z,736nm,19.9s,baz=254,slow=34	**39.22**	**143**	LR	LR	09 47 00.2	
VA06	**Catapilco**	**39.39**	**288**	P	**P**	**09 32 30.0**	**-0.9**
SJMB	**Sao Joao De Ma**	**39.56**	**337**	*e*P	**P**	**09 32 32.7**	**+0.4**
PCMB	**Pacaembu**	**39.70**	**321**	*e*P	**P**	**09 32 33.7**	**+0.2**
AMBA	**Amambai (Brazi**	**39.87**	**315**	*e*P	**P**	**09 32 34.5**	**-0.4**
SUR	**Sutherland** comp=Z,3μm,20.0s	**39.96**	**73**	IAMs_20	IAMs_20	09 45 36.5	
SUR	**Sutherland**	**39.96**	**73**	*e*P	**P**	**09 32 37.3**	**+1.5**
SUR	**Sutherland** comp=Z,2μm,18.6s,baz=222,slow=32	**39.96**	**73**	LR	LR	09 46 04.1	
CVNA	**Calvinia**	**40.11**	**71**	*e*P	P	09 32 42.3	+5.3
CVNA	comp=Z,248nm,2.2s			IAmb	IAmb	09 33 11.3	
CO02	**Combarbal**	**40.30**	**290**	P	**P**	**09 32 37.4**	**-1.2**
CO03	**El Pedregal**	**40.42**	**290**	P	**P**	**09 32 38.7**	**-0.9**
DIAM	**Diamantina, MG**	**40.53**	**333**	*e*P	**P**	**09 32 40.8**	**+0.2**
FRAZ	**Fraserburg**	**40.63**	**73**	*e*P	**P**	**09 32 42.7**	**+1.4**
FRAZ	comp=Z,298nm,2.3s			IAmb	IAmb	09 33 01.3	
GRAN	**Grantham**	**40.74**	**74**	*e*P	**P**	**09 32 42.4**	**+0.2**
GRAN	comp=Z,12nm,0.8s			IAmb	IAmb	09 33 02.5	
CO01	**Juntas del Tor**	**40.80**	**292**	P	**P**	**09 32 42.2**	**-0.7**
PMNB	**Patos De Minas**	**41.04**	**329**	*e*P	**P**	**09 32 45.1**	**+0.3**
ANTJ	**Antonio Joao (**	**41.10**	**314**	*e*P	**P**	**09 32 44.8**	**-0.4**
ITRB	**Iturama**	**41.15**	**323**	*e*P	**P**	**09 32 46.4**	**+0.8**
GUA01	**Guaratinga, BA**	**41.33**	**339**	*e*P	**P**	**09 32 46.9**	**-0.1**
CO05	**La Serena**	**41.44**	**290**	P	**P**	**09 32 47.1**	**-0.8**
BRAK	**Brakfontein**	**41.53**	**74**	*e*P	**P**	**09 32 47.2**	**-1.5**
AC05	**El Transito**	**41.82**	**292**	P	**P**	**09 32 50.1**	**-1.0**
AC05	comp=Z,115nm,1.1s			IAmb	IAmb	09 33 08.0	
LCO	**Las Campanas**	**41.89**	**292**	P	**P**	**09 32 51.0**	**-0.9**
LCO	**Las Campanas**	**41.89**	**292**	P	**P**	**09 32 51.0**	**-0.9**
LCO	comp=Z,59nm,1.0s			pmax	pmax		
GRAF	**Camdeboo Natio**	**42.00**	**76**	*e*P	**P**	**09 32 52.3**	**-0.2**
GRAF	comp=Z,292nm,2.2s			IAmb	IAmb	09 33 13.2	
MURT	**Porto Murtinho**	**42.05**	**313**	*e*P	**P**	**09 32 52.1**	**-0.9**
IPMB	**Ipameri, GO**	**42.09**	**327**	*e*P	**P**	**09 32 54.1**	**+0.8**
SOE	**Somerset East**	**42.25**	**78**	*e*P	**P**	**09 32 57.8**	**+3.3**
GRHM	**Grahamstown, E** comp=Z,2μm,19.0s	**42.26**	**79**	IAMs_20	IAMs_20	09 47 34.6	
AQDB	**Aquidauana**	**42.36**	**316**	P	**P**	**09 32 54.7**	**-0.8**
AQDB	comp=Z,158nm,1.3s			IAmb	IAmb	09 32 56.1	
AQDB	comp=Z,3μm,19.0s			IAMs_20	IAMs_20	09 51 35.7	
AQDB	**Aquidauana**	**42.36**	**316**	*e*P	**P**	**09 32 54.8**	**-0.6**
AC04	**Llanos de Chal**	**42.74**	**292**	P	**P**	**09 32 57.6**	**-0.8**
AC04	comp=Z,150nm,1.2s			IAmb	IAmb	09 33 14.0	
BDQN	**Bodoquena, MS**	**42.80**	**315**	*e*P	**P**	**09 32 57.9**	**-1.1**
GO03	**Copiap**	**42.81**	**294**	P	**P**	**09 32 58.2**	**-0.9**
GO03	comp=

comp=Z,13nm,1.0s,baz=153,slow=6.8,SNR=9.3
BDFB LR LR 09 51 14.4
comp=Z,2µm,18.4s,baz=146,slow=36
comp=Z,13nm,1.0s
GO02 Mina Guanaco 44.49 296 P **P** **09 33 12.8 -0.2**
PB14 IPOC Station P 45.34 296 P **P** **09 33 18.6 -1.1**
ARAG Araguaiana, MT 45.36 323 *eP* **P** **09 33 20.1 +0.5**
SBA Scott Base 45.62 184 P **P** **09 33 22.2 +1.2**
SBA IAmb IAmb 09 33 24.8
comp=Z,84nm,1.4s
SBA Scott Base 45.62 184 P **P** **09 33 22.2 +1.2**
SBA pmax pmax
comp=Z,84nm,1.4s
AF01 San Pedro de A 45.66 299 P **P** **09 33 22.8 +0.5**
PB15 IPOC Station P 46.07 298 P **P** **09 33 25.1 -0.2**
PB15 IAmb IAmb 09 33 30.8
comp=Z,71nm,0.8s
WIN Windhoek 46.09 61 IAMs_20 IAMs_20 09 48 50.6
comp=Z,2µm,19.0s
VNDA Vanda 46.10 182 P **P** **09 33 26.4 +1.6**
VNDA IAmb IAmb 09 33 28.1
comp=Z,33nm,0.8s
VNDA Vanda 46.10 182 P **P** **09 33 26.4 +1.6**
VNDA pmax pmax
comp=Z,33nm,0.8s
VNDA Vanda 46.10 182 P **P** **09 33 26.6 +1.9**
comp=Z,25nm,0.7s,baz=189,slow=6.8,SNR=167
VNDA LR LR 09 51 59.2
comp=Z,471nm,19.3s,baz=160,slow=35
comp=Z,25nm,0.7s
LVC Limon Verde 46.30 299 P **P** **09 33 25.9 -1.5**
LVC Limon Verde 46.30 299 P **P** **09 33 25.9 -1.5**
LVC pmax pmax
comp=Z,126nm,1.0s
LVC Limon Verde 46.30 299 *eP* **P** **09 33 27.4 0.0**
PB10 IPOC Station P 46.34 296 P **P** **09 33 26.7 -0.6**
PB10 IAmb IAmb 09 33 27.7
comp=Z,88nm,1.1s
NBLA Lagarto - SE 46.43 343 *eP* **P** **09 33 27.5 -0.5**
SDBA SAO DESIDERIO 46.50 334 *eP* **P** **09 33 28.6 0.0**
SALV Santo Antonio 46.54 318 *eP* **P** **09 33 29.3 +0.4**
PB06 IPOC Station P 46.54 298 P **P** **09 33 28.6 -0.5**
PB06 IAmb IAmb 09 33 30.3
comp=Z,67nm,0.9s
PB05 IPOC Station P 46.73 297 P **P** **09 33 29.4 -1.1**
PB04 IPOC Station P 47.14 298 P **P** **09 33 33.3 -0.5**
PB09 IPOC Station P 47.15 299 P **P** **09 33 34.2 +0.3**
BBSD Serra de San D 47.29 312 *eP* **P** **09 33 33.9 -0.9**
NBAN Anadia - AL 47.51 346 *eP* **P** **09 33 36.0 -0.5**
PB07 IPOC Station P 47.52 298 P **P** **09 33 36.2 -0.5**
PB02 IPOC Station P 47.87 299 P **P** **09 33 39.2 -0.2**
PB01 IPOC Station P 47.91 299 P **P** **09 33 39.5 -0.1**
H10S2 ASCENSION HYDR 48.26 15 T T 10 26 31.8
baz=32,slow=74,SNR=25
PTLB Pontes e Lacer 48.26 315 P **P** **09 33 42.8 +0.5**
PTLB IAMs_20 IAMs_20 09 55 18.8
comp=Z,2µm,18.0s
PTLB Pontes e Lacer 48.26 315 *eP* **P** **09 33 42.1 -0.2**
H10S3 ASCENSION HYDR 48.27 15 T T 10 26 31.5
baz=188,slow=74,SNR=69
LBTB Lobatse 48.35 71 P **P** **09 33 43.2 +0.2**
LBTB IAmb IAmb 09 34 09.1
comp=Z,54nm,1.5s
LBTB IAMs_20 IAMs_20 09 51 08.9
comp=Z,2µm,19.0s
LBTB Lobatse 48.35 71 P **P** **09 33 43.2 +0.2**
LBTB pmax pmax
comp=Z,54nm,1.5s
LBTB Lobatse 48.35 71 *eP* **P** **09 33 43.1 0.0**
LBTB IAmb IAmb 09 34 08.4
comp=Z,64nm,1.6s
LBTB Lobatse 48.35 71 LR LR 09 51 19.0
comp=Z,1µm,18.2s,baz=220,slow=33
PB08 IPOC Station P 48.52 300 P **P** **09 33 45.4 +0.7**
SIV San Ignacio 48.55 312 LR LR 09 53 33.4
comp=Z,927nm,21.7s,baz=170,slow=35
TA01 Diego Aracena 48.65 299 P **P** **09 33 45.0 -0.2**
SNDB Serra Nova Dou 48.70 326 *eP* **P** **09 33 46.3 +0.6**
HRAO HartRAO 48.74 74 *eP* **P** **09 33 48.0 +1.8**
TA02 Huaiquique 48.88 299 P **P** **09 33 46.6 -0.4**
TA02 IAmb IAmb 09 33 48.4
comp=Z,90nm,0.9s
NBCA Caruaru-PE 48.90 346 *eP* **P** **09 33 46.8 -0.4**
GO01 Chusmiza 48.95 301 P **P** **09 33 48.1 0.0**
PB11 IPOC Station P 49.09 300 P **P** **09 33 48.9 +0.1**
TSUM Tsumeb 49.20 59 P **P** **09 33 49.2 -0.5**
TSUM IAmb IAmb 09 34 09.1
comp=Z,66nm,1.9s
TSUM Tsumeb 49.20 59 *eP* **P** **09 33 48.5 -1.2**
TSUM IAmb IAmb 09 34 08.7
comp=Z,79nm,2.0s
TSUM Tsumeb 49.20 59 LR LR 09 50 58.4
comp=Z,738nm,19.6s,baz=202,slow=32
H10N1 ASCENSION HYDR 49.38 15 T T 10 27 59.3
baz=188,slow=75,SNR=6.5
H10N3 ASCENSION HYDR 49.38 15 T T 10 28 16.0
baz=188,slow=75,SNR=46
H10N2 ASCENSION HYDR 49.40 15 T T 10 28 17.5
baz=188,slow=75,SNR=46
NBLV Livramento - P 49.87 345 *eP* **P** **09 33 54.1 -0.7**
PB16 IPOC Station P 50.24 301 P **P** **09 33 58.1 0.0**
PB16 IAmb IAmb 09 33 59.6
comp=Z,34nm,0.9s
PB12 IPOC Station P 50.39 300 P **P** **09 33 57.3 -1.3**
PB12 IAmb IAmb 09 34 00.4
comp=Z,139nm,1.4s
SMTB Santa Maria do 50.59 331 *eP* **P** **09 34 00.5 +0.4**
PDRB Porto dos Gac 50.87 319 *eP* **P** **09 34 01.7 -0.5**
VILB Vilhena 50.95 315 P **P** **09 34 02.5 -0.3**
VILB IAmb IAmb 09 34 03.7
comp=Z,182nm,1.4s
VILB IAMs_20 IAMs_20 09 56 53.0
comp=Z,2µm,19.0s
VILB Vilhena 50.95 315 *eP* **P** **09 34 02.5 -0.3**
CLDB Colider 51.22 321 *eP* **P** **09 34 04.8 -0.1**
RCBR Riachuelo 51.25 347 LR LR 09 52 58.0
comp=Z,429nm,18.5s,baz=222,slow=33
NBPB Pedra_Branca-C 52.07 342 *eP* **P** **09 34 11.4 +0.3**
CASY Casey 53.13 160 P **P** **09 34 20.4 +1.9**
CASY IAmb IAmb 09 34 21.0
comp=Z,73nm,1.6s
CASY Casey 53.13 160 IAMs_20 IAMs_20 09 56 04.4
comp=Z,2µm,19.0s
NPGB Novo Progresso 54.64 323 *eP* **P** **09 34 29.8 -0.3**
SAML Samuel 55.78 313 P **P** **09 34 37.6 -0.6**
SAML IAmb IAmb 09 34 39.3
comp=Z,132nm,1.4s
SAML Samuel 55.78 313 IAMs_20 IAMs_20 09 59 34.8
comp=Z,1µm,18.0s
SAML Samuel 55.78 313 P **P** **09 34 37.6 -0.6**
SAML pmax pmax
comp=Z,132nm,1.4s
SAML MLR MLR
comp=Z,1µm,18.0s
SAML Samuel 55.78 313 *eP* **P** **09 34 37.7 -0.6**
ETMB Extrema 56.25 310 P **P** **09 34 41.2 -0.5**
ETMB IAmb IAmb 09 34 42.6
comp=Z,71nm,1.2s
ETMB Extrema 56.25 310 *eP* **P** **09 34 41.0 -0.6**
TMAB Tom-Au,PA,Br 56.95 333 *eP* **P** **09 34 47.7 +1.2**
ITTB Itaituba 57.27 324 *eP* **P** **09 34 48.8 -0.1**
LSZ Lusaka 57.77 67 P **P** **09 34 52.1 -0.5**
LSZ Lusaka 57.77 67 P **P** **09 34 52.1 -0.5**
LSZ pmax pmax
comp=Z,24nm,1.2s
LSZ MLR MLR
comp=Z,700nm,18.0s
LSZ Lusaka 57.77 67 LR LR 09 57 12.4
comp=Z,639nm,18.2s,baz=198,slow=34
MALB Monte Alegre 59.17 326 *eP* **P** **09 35 02.6 +0.4**
NNA Nana 59.25 297 P **P** **09 35 00.6 -2.2**
NNA IAmb IAmb 09 35 04.3
comp=Z,96nm,1.1s
NNA Nana 59.25 297 *ceP* **P** **09 35 02.3 -0.5**
NNA pmax pmax
comp=Z,183nm,1.3s
NNA Nana 59.25 297 LR LR 09 59 53.3
comp=Z,509nm,21.4s,baz=144,slow=35
MCPB Macapa, AP 59.93 329 *eP* **P** **09 35 08.4 +1.0**
MACA Manacapuru-AM 60.12 319 P **P** **09 35 07.1 -1.6**
MACA Manacapuru-AM 60.12 319 *eP* **P** **09 35 07.9 -0.8**
CZSB Cruzeiro do Su 60.98 304 P **P** **09 35 13.5 -1.1**
CZSB Cruzeiro do Su 60.98 304 *eP* **P** **09 35 13.3 -1.4**
TEFE Tefe 61.30 314 *eP* **P** **09 35 15.8 -1.0**
TBTG Tabatinga, AM 62.88 309 P **P** **09 35 25.8 -1.6**
TBTG IAmb IAmb 09 35 27.1
comp=Z,67nm,1.3s
TBTG Tabatinga, AM 62.88 309 *eP* **P** **09 35 26.1 -1.3**
ATAH Atahualpa 64.19 299 LR LR 10 06 18.1
comp=Z,396nm,19.1s,baz=155,slow=39
RPN Rapa Nui 64.41 259 LR LR 09 58 15.7
comp=Z,298nm,19.8s,baz=140,slow=31
LIC Lamto 64.82 23⇑ *iP* **P** **09 35 39.6 -0.5**
comp=Z,104nm,0.8s
KIC Kosan Boka 65.02 23⇑ *iP* **P** **09 35 40.8 -0.6**
comp=Z,84nm,0.8s
BOAV Boa Vista 65.21 321 P **P** **09 35 42.1 -0.6**
BOAV IAmb IAmb 09 35 43.3
comp=Z,72nm,1.0s
TIC Toumodi 65.23 23⇑ *eP* **P** **09 35 42.1 -0.7**
comp=Z,46nm,0.6s
OPO Ambohidratompo 65.26 86 LR LR 09 59 27.4
comp=Z,905nm,20.0s,baz=2.5,slow=32
DBIC Dimbokro 65.29 23 P **P** **09 35 42.4 -0.8**
DBIC IAmb IAmb 09 35 57.9
comp=Z,54nm,1.1s
DBIC IAMs_20 IAMs_20 09 57 28.4
comp=Z,1µm,21.0s
DBIC Dimbokro 65.29 23 *eP* **P** **09 35 42.1 -1.1**
DBIC Dimbokro 65.29 23 P **P** **09 35 43.0 -0.1**
comp=Z,26nm,0.8s,baz=174,slow=6.2,SNR=21
DBIC LR LR 09 58 18.3
comp=Z,1µm,19.2s,baz=188,slow=31
comp=Z,26nm,0.8s
MDP Montagnes des 65.30 330 LR LR 10 03 26.4
comp=Z,999nm,19.1s,baz=132,slow=35
MCRA Macar, Loja 67.35 299 P **P** **09 35 55.9 -0.6**
COHC Cochancay 68.67 300 P **P** **09 36 05.1 +0.4**
COHC IAmb IAmb 09 36 07.2
comp=Z,22nm,0.8s
SLOR San Lorenzo - 69.83 302 IAmb IAmb 09 36 15.0
comp=Z,70nm,1.4s
OTAV Otavalo 70.65 302 pP 09 36 18.6 -0.7
OTAV Otavalo 70.65 302 *eP* **P** **09 36 17.8 +0.3**
TULM Tulcn-Chalpat 70.77 303 P **P** **09 36 18.9 +0.6**
MBAR Mbarara 71.63 61 IAMs_20 IAMs_20 10 07 11.7
comp=Z,730nm,18.0s
ROSC El Rosal 72.87 308 P **P** **09 36 31.8 +1.0**
comp=Z,26nm,1.0s,baz=114,slow=9.3,SNR=10.0
ROSC LR LR 10 08 49.9
comp=Z,516nm,21.0s,baz=152,slow=36
comp=Z,26nm,1.0s
TOA0 Torodi Ar. Sit 73.09 28 P **P** **09 36 31.3 -0.2**
TOA0 IAmb IAmb 09 36 46.4
comp=Z,48nm,1.1s
TORD Torodi Ar. Bea 73.09 28 P **P** **09 36 31.2 -0.3**
TORD IAmb IAmb 09 36 46.4
comp=Z,42nm,1.1s
TORD Torodi Ar. Bea 73.09 28 P **P** **09 36 31.1 -0.4**
comp=Z,24nm,0.8s,baz=192,slow=4.7,SNR=102
TORD LR LR 10 01 33.2
comp=Z,383nm,20.4s,baz=178,slow=30
comp=Z,24nm,0.8s
KIBK Kibwezi 73.81 69 IAMs_20 IAMs_20 10 06 34.0
comp=Z,1µm,19.0s
PCRV Puerto La Cruz 73.89 320 LR LR 10 11 24.9
comp=Z,682nm,19.2s,slow=38
BAUV El Baul 74.02 316 P **P** **09 36 37.2 +0.2**
SDV Santo Domingo 74.98 314 P **P** **09 36 43.6 +0.8**
SDV IAmb IAmb 09 36 46.4
comp=Z,35nm,0.9s
SDV Santo Domingo 74.98 314 P **P** **09 36 43.5 +0.6**
comp=Z,26nm,0.8s,baz=190,slow=3.2,SNR=17
SDV LR LR 10 12 21.1
comp=Z,2µm,18.6s,baz=148,slow=38
comp=Z,26nm,0.8s
SDV Santo Domingo 74.98 314 *eP* **P** **09 36 42.3 -0.6**
FDF Fort de France 76.96 325 P **P** **09 36 54.6 +0.7**
FDF Fort de France 76.96 325 P **P** **09 36 54.6 +0.7**
FDF pmax pmax
comp=Z,185nm,1.2s
LODK Lodwar 77.38 63 IAMs_20 IAMs_20 10 08 56.9
comp=Z,862nm,18.0s
MLZ Mavora Lakes 77.78 190 P **P** **09 36 58.7 +0.4**
MLZ IAmb IAmb 09 37 08.2
comp=Z,87nm,1.4s
GDSD La Dsirade Is 78.42 325 P **P** **09 37 02.7 +0.8**
GDSD IAmb IAmb 09 39 53.5
comp=Z,56nm,1.0s
LBZ Lake Benmore 78.54 192 P **P** **09 37 03.5 +1.1**
LBZ IAmb IAmb 09 37 11.9
comp=Z,141nm,1.7s
GDHS Morne Mazeau, 78.60 325 P **P** **09 37 04.0 +1.0**
LTZ Lake Taylor 79.88 193 P **P** **09 37 10.9 +1.1**
LTZ IAmb IAmb 09 37 13.0
comp=Z,83nm,1.3s
CDITO Canoas 80.03 302 P **P** **09 37 10.6 -0.3**
CDITO IAmb IAmb 09 37 13.2
comp=Z,197nm,1.7s
SEUS St. Eustatius 80.14 324 P **P** **09 37 11.4 +0.2**
BRU2 Volcan 80.14 303 P **P** **09 37 11.8 +0.2**
BRU2 IAmb IAmb 09 37 21.4
comp=Z,81nm,1.6s
SABA Saba 80.34 324 P **P** **09 37 13.2 +0.8**
TUWZ Tuamarina 80.98 195 P **P** **09 37 17.1 +1.4**
PEZE Perez Zeledon, 81.12 302 P **P** **09 37 17.8 +1.0**
PEZE IAmb IAmb 09 37 19.6
comp=Z,39nm,1.1s
RIMA Rio Macho 81.54 302 P **P** **09 37 19.5 +0.3**
RIMA IAmb IAmb 09 37 21.2
comp=Z,67nm,1.6s
HUMP Col San Antoni 81.70 322 P **P** **09 37 19.5 -0.1**
HUMP IAmb IAmb 09 37 21.9
comp=Z,47nm,0.9s
GCPR Guaynabo City 81.94 322 P **P** **09 37 20.1 -0.8**
GCPR IAmb IAmb 09 37 21.4
comp=Z,90nm,1.2s
MLPR Magueyes Islan 81.96 321 P **P** **09 37 20.6 -0.4**
MLPR IAmb IAmb 09 37 21.3
comp=Z,92nm,1.2s
SOCE Pocosol 82.43 302 P **P** **09 37 23.5 -0.2**
SOCE IAmb IAmb 09 38 36.9
comp=Z,88nm,1.4s
JTS Las Juntas de 82.51 301 P **P** **09 37 25.0 +1.0**
JTS IAmb IAmb 09 37 26.0
comp=Z,99nm,1.4s
JTS Las Juntas de 82.51 301 P **P** **09 37 25.0 +1.0**
JTS pmax pmax
comp=Z,99nm,1.5s
JTS Las Juntas de 82.51 301 P **P** **09 37 24.8 +0.8**
comp=Z,30nm,1.2s,baz=70,slow=2.4,SNR=7.1
JTS LR LR 10 19 24.4
comp=Z,156nm,18.0s,baz=141,slow=40
comp=Z,30nm,1.2s
ARE1 Arenal 1 82.55 302 IAmb IAmb 09 37 44.8
comp=Z,65nm,1.1s
COVE Coope Vega, Sa 82.63 302 P **P** **09 37 24.3 -0.2**
ORTG Ortega, Santa 82.81 301 P **P** **09 37 26.0 +0.3**
ORTG IAmb IAmb 09 37 27.5
comp=Z,68nm,1.5s
TAM Tamanrasset 83.32 29 P **P** **09 37 29.5 +1.3**
TAM Tamanrasset 83.32 29 P **P** **09 37 29.5 +1.3**
TAM pmax pmax
comp=Z,17nm,1.2s
URZ Urewera 83.59 198 LR LR 10 12 21.9
comp=Z,136nm,18.6s,baz=282,slow=34
FURI Furi 83.74 64 IAMs_20 IAMs_20 10 11 57.4
comp=Z,638nm,21.0s
ACON Acoyapa 84.08 302 P **P** **09 37 31.7 -0.4**
ACON IAmb IAmb 09 37 46.0
comp=Z,34nm,1.0s
TOZ Tahuroa Road 84.37 197 IAMs_20 IAMs_20 10 21 30.8
comp=Z,590nm,19.0s
SDDR Presa de Saban 84.43 317 P **P** **09 37 33.8 0.0**
SDDR IAmb IAmb 09 37 50.8
comp=Z,24nm,0.9s
BOAB BOACO BROADBAN 84.73 302 P **P** **09 37 35.4 +0.1**
MATN Matagalpa 85.27 302 P **P** **09 37 37.9 -0.3**
TOO Toolangi 85.93 173 P **P** **09 37 41.6 +0.3**
TOO IAmb IAmb 09 38 41.6
comp=Z,46nm,1.6s
TOO Toolangi 85.93 173 P **P** **09 37 41.6 +0.3**
TOO pmax pmax
comp=Z,45nm,1.6s
TGUH Tegucigalpa,Un 86.89 301 P **P** **09 37 46.0 -0.2**
TGUH IAmb IAmb 09 38 16.7
comp=Z,50nm,1.4s
NMDO Nuevo Mundo 87.29 315 IAMs_20 IAMs_20 10 18 26.1
comp=Z,892nm,20.0s
TBI Tubuai 87.42 230 *eP* P 09 37 38.4 -10
comp=Z,655nm,27.2s
TBI Tubuai 87.42 230 *eS* **S** **09 48 35.7 +6.4**
comp=Z,1µm,28.0s
TBI Tubuai 87.42 230 *e*LR LR 10 05 21.6
comp=Z,1µm,34.5s
TBI *e*LR LR 10 05 38.0
comp=Z,3µm,30.0s
ATD Arta Tunnel 88.08 66 IAMs_20 IAMs_20 10 15 32.5
comp=Z,851nm,18.0s
ATD Arta Tunnel 88.08 66 LR LR 10 15 34.4
comp=Z,39nm,18.4s,baz=184,slow=34
MTO3 Montecristo 88.18 300 P **P** **09 37 51.7 -0.8**
MTO3 IAmb IAmb 09 37 53.4
comp=Z,89nm,2.0s
ESQI Esquipulas 88.31 300 P **P** **09 37 53.4 +0.4**
FORT Forrest 90.18 158 P **P** **09 38 03.4 +1.7**
MDT Midelt 90.81 18 LR LR 10 14 42.8
comp=Z,1µm,19.4s,baz=174,slow=33
STKA Stephens Creek 91.24 169 *i* P **P** **09 38 07.0 +0.4**
STKA Stephens Creek 91.24 169 P P **09 38 07.3 +0.8**
comp=Z,2.6nm,0.7s,baz=152,slow=6.4,SNR=4.4
STKA LR LR 10 19 19.0
comp=Z,784nm,18.5s,baz=192,slow=36
comp=Z,2.6nm,0.7s
CAMR Camarioca 92.13 310 IAMs_20 IAMs_20 10 22 48.4
comp=Z,959nm,20.0s
LHI Lord Howe Isla 92.17 184 P **P** **09 38 10.5 -0.3**
PPT2 Papeete2 92.56 232 *eP* P 09 38 04.6 -8.3
comp=Z,56nm,25.2s
PPT2 Papeete2 92.56 232 *eS* S 09 49 32.5 +15
comp=Z,317nm,30.8s
PPT2 Papeete2 92.56 232 *e*LR LR 10 07 52.5
comp=Z,1µm,27.8s
PPT2 *e*LR LR 10 07 58.4
comp=Z,795nm,31.0s
PPT Papeete 92.57 232 LR LR 10 14 03.1
comp=Z,399nm,18.3s,baz=176,slow=32
SOR Soroa 92.59 309 IAMs_20 IAMs_20 10 22 39.6
comp=Z,712nm,20.0s
TEIG Tepich 92.70 303 LR LR 10 24 34.4
comp=Z,3µm,18.9s,slow=39
RAR Rarotonga 93.44 222 LR LR 10 16 29.4
comp=Z,297nm,18.2s,baz=164,slow=33
060A Indiantown 95.24 313 IAMs_20 IAMs_20 10 19 40.6
comp=Z,916nm,21.0s
KEST Kesra 96.62 28 IAMs_20 IAMs_20 10 15 59.3
comp=Z,653nm,21.0s
KEST Kesra 96.62 28 LR LR 10 16 42.3
comp=Z,474nm,21.2s,baz=168,slow=32
PSAA3 Pilbara Seismi 96.90 148 IAMs_20 IAMs_20 10 20 03.0
comp=Z,467nm,20.0s
PSAC2 Pilbara Seismi 96.93 148 IAMs_20 IAMs_20 10 26 11.7
comp=Z,532nm,20.0s
UNM Universidad Na 97.22 294 IAMs_20 IAMs_20 10 30 43.5
comp=Z,528nm,21.0s
ESDC Sonseca Array 97.62 17 LR LR 10 18 38.1
comp=Z,305nm,18.6s,baz=179,slow=33
656A Williston 98.18 312 IAMs_20 IAMs_20 10 25 39.7
comp=Z,792nm,20.0s
ASAR Alice Springs 98.23 161 P **P** **09 38 38.3 -0.5**
ASAR Alice Springs 98.23 161 P **P** **09 38 38.3 -0.5**
ASAR Alice Springs 98.23 161 P **P** **09 38 39.1 +0.4**
comp=Z,5.7nm,1.1s,baz=189,slow=4.5,SNR=18
ASAR PP **PP** **09 42 38.7 +1.5**
comp=Z,2.7nm,1.1s,baz=187,slow=6.5,SNR=5.2
ASAR PKKPbc **PKKPdf** **09 55 09.6 +0.6**
comp=Z,0.7nm,0.8s,baz=36,slow=2.6,SNR=7.4
ASAR LR LR 10 22 35.1
comp=Z,444nm,18.1s,baz=188,slow=35
comp=Z,5.7nm,1.1s
AS31 Alice Springs 98.23 161 P **P** **09 38 37.3 -1.5**
EIL Elat 100.00 50 LR LR 10 20 17.3
comp=Z,340nm,19.9s,baz=246,slow=33
255A Hazlehurst 100.41 314 IAMs_20 IAMs_20 10 28 03.6
comp=Z,739nm,22.0s
154A Montrose 101.27 313 IAMs_20 IAMs_20 10 19 17.3
comp=Z,543nm,21.0s
GHAJ Ghor Haditha 101.68 50 IAMs_20 IAMs_20 10 31 31.4
comp=Z,500nm,18.0s
WRA Warramunga Arr 101.95 161 P **Pdif** **09 38 55.6 +0.3**
comp=Z,0.8nm,0.7s,baz=201,slow=5.0,SNR=5.2
WR0 Warramunga Arr 101.97 161 IAMs_20 IAMs_20 10 28 08.6
comp=Z,766nm,21.0s
250A Grady 102.01 311 IAMs_20 IAMs_20 10 29 30.0
comp=Z,675nm,19.0s
BALJ Balqa 102.39 50 IAMs_20 IAMs_20 10 23 32.2
comp=Z,507nm,19.0s
CSS Mathiatis 103.93 46 IAMs_20 IAMs_20 10 25 53.9
comp=Z,446nm,20.0s
KNRA Kununurra 104.91 154 IAMs_20 IAMs_20 10 26 14.9
comp=Z,625nm,20.0s
PALK Pallekele 105.03 100 IAMs_20 IAMs_20 10 19 05.2
comp=Z,381nm,19.0s
V48A Smith Brothers 105.49 312 IAMs_20 IAMs_20 10 25 11.2
comp=Z,624nm,21.0s
UOSS Minazif 106.15 69 IAMs_20 IAMs_20 10 26 53.5
comp=Z,579nm,19.0s
SALO Salr 106.24 26 IAMs_20 IAMs_20 10 33 06.0
comp=Z,612nm,20.0s
DRIO Del Rio 106.36 299 PKiKP **PKiKP** **09 43 26.5 +0.8**
FUORN Ofenpass-Fuorn 107.12 25 IAMs_20 IAMs_20 10 23 37.2
comp=Z,472nm,19.0s
T45A Paducah 107.34 312 IAMs_20 IAMs_20 10 28 36.1
comp=Z,726nm,20.0s
GAZ Gaziantep 107.42 48 IAMs_20 IAMs_20 10 28 04.3
comp=Z,464nm,20.0s
TXAR Lajitas Array 107.79 296 PP **PP** **09 43 49.3 -0.7**
comp=Z,1.4nm,1.0s,baz=144,slow=4.5,SNR=5.6
W35A Tecumseh 109.35 305 IAMs_20 IAMs_20 10 27 47.5
comp=Z,523nm,20.0s
SOEI Soe 109.39 148 IAMs_20 IAMs_20 10 29 43.9
comp=Z,640nm,19.0s
KHC Kasperske Hory 110.26 26 AMS AMS 10 26 50.0
comp=Z,500nm,15.9s
OK035 E0210 Rd and N 111.47 304 IAMs_20 IAMs_20 10 29 15.5
comp=Z,621nm,20.0s
121A Cookes Peak, D 112.44 295 P **PKiKP** **09 43 38.3 +1.1**
baz=144
GNI Garni 113.11 52 IAMs_20 IAMs_20 10 31 37.1
comp=Z,392nm,19.0s
TUC Tucson 113.78 293 P **PKiKP** **09 43 39.7 +0.1**
baz=143
SOC Sochi 113.86 46 *i* PKiKP **PKiKP** **09 43 40.3 +1.1**
SOC *e* 09 44 34.1
SOC *e*PPP PPP 09 46 58.1
SOC *e* 09 50 30.9
SOC *e*PS **PS** **09 54 11.1 +1.8**
SOC *e*SS SS 10 00 24.5 +2.2
SOC *e*SSS SSS 10 04 42.0
ONI Oni 114.56 49 IAMs_20 IAMs_20 10 29 56.5
comp=Z,359nm,20.0s
KIV Kislovodsk 115.37 48 *i* PKiKP **PKiKP** **09 43 44.4 +2.1**
KIV *e*PS **PS** **09 54 26.6 +3.2**
KIV *e*SS SS 10 00 46.9 +4.4
KIV *e*SSS SSS 10 05 03.9
KIV pmax pmax
comp=Z,4.0nm,1.0s
SDCO Great Sand Dun 115.49 300 P **PKPdf** **09 43 42.9 -0.1**
baz=143
VTX Valle De La Tr 115.64 288 IAMs_20 IAMs_20 10 27 35.3
comp=Z,412nm,21.0s
ECSD EROS Data Cent 116.28 310 **PKiKP** **09 43 44.1 +0.1**
MVCO Mesa Verde 116.52 298 P **PKiKP** **09 43 45.5 +0.6**
baz=142
MAK Makhachkala 116.60 52 *i* P **Pdif** **09 39 55.2 -4.4**
MAK *i* 09 43 41.6
MAK *e* 09 44 51.2
MAK *e* 09 50 30.8
MAK *e*PS **PKKPdf** **09 54 39.7 +2.0**
MAK *e*SS SS 10 00 56.3 -2.0
MAK *e*SSS SSS 10 05 19.9
MAK pmax pmax
comp=Z,85nm,1.0s
WUAZ Wupatki 116.61 295 P **PKiKP** **09 43 45.9 +0.8**
baz=142
K30B Basset 116.72 307 PKPdf **PKiKP** **09 43 45.0 +0.2**
IKP In-Ko-Pah, Jac 116.80 289 P **PKiKP** **09 43 46.0 +0.6**
baz=142
HRA Herat 116.83 68 IAMs_20 IAMs_20 10 35 58.4
comp=Z,300nm,18.0s
SWSC Sam W. Stewart 116.87 290 P **PKiKP** **09 43 45.9 +0.5**
baz=142
PDMCI Parker Dam,Lak 117.07 292 P **PKiKP** **09 43 46.1 +0.3**
baz=142
MONP2 Monument Peak 117.15 289 P **PKiKP** **09 43 46.8 +0.5**
baz=142
ISCO Idaho Springs 117.17 301 PKPdf **PKiKP** **09 43 46.5 +0.3**
ISCO Idaho Springs 117.17 301 PKiKP **PKiKP** **09 43 46.5 +0.3**

ISCO	Idaho Springs	117.17	301		P		PKiKP	09 43 46.4	+0.3
	baz=142								
BC3	Big Chuckawall	117.24	290		P		PKiKP	09 43 46.6	+0.4
	baz=142								
IRM	Iron Mountain	117.48	291		P		PKiKP	09 43 47.7	+1.0
	baz=142								
GYA0B	ALIBECK ARRAY	117.53	62		IAMs_20	IAMs_20		10 34 33.5	
	comp=Z,419nm,21.0s								
BELC	Belle Mtn. Jos	117.80	290		P		PKiKP	09 43 48.4	+1.0
	baz=141								
SUSD	Miller	117.85	309		P		PKPdf	09 43 46.2	-0.8
	baz=143								
N23A	Red Feather La	118.19	302		P		PKPdf	09 43 47.6	-0.5
	baz=142								
HMU	Henry Mountain	118.19	297		PKPdf		PKPdf	09 43 47.5	-0.7
GMRC	Granite Mounta	118.23	291		P		PKPdf	09 43 48.2	0.0
	baz=141								
SCI2	San Clemente I	118.34	287		P		PKiKP	09 43 48.7	+0.4
	baz=141								
O20A	White River Ci	118.68	300		P		PKiKP	09 43 49.7	+0.7
	baz=141								
MNK	Minsk	118.98	32	*i*	PKIKP		PKiKP	09 43 50.1	+1.3
MNK				*i*				09 45 07.9	
MNK				*i*				09 50 51.9	
MNK				*i*	SS	SS		10 01 27.8	-1.2
MNK					pmax	pmax			
	comp=N,20nm,0.9s								
MNK					pmax	pmax			
	comp=Z,10.0nm,0.9s								
MNK					pmax	pmax			
	comp=E,9.0nm,1.0s								
SRU	San Rafael Swe	118.99	298		PKPdf		PKPdf	09 43 49.3	-0.3
SRU	San Rafael Swe	118.99	298		PKIKP		PKPdf	09 43 49.3	-0.3
SZCU	Shutter Canyon	119.09	295		PKPdf		PKiKP	09 43 50.6	+0.7
CCUT	Cedar City	119.20	295		PKPdf		PKiKP	09 43 50.2	+0.1
MVU	Marysvale	119.36	296		PKPdf		PKiKP	09 43 51.1	+0.7
EDW2	Edwards Air Fo	119.52	289		P		PKPdf	09 43 50.1	-0.5
	baz=141								
TCRU	Three Creeks R	119.56	296		PKPdf		PKiKP	09 43 51.1	+0.2
AGMN	Agassiz Nation	119.65	314		P		PKiKP	09 43 50.6	+0.2
	baz=143								
SCZ2	Santa Cruz Isl	119.70	287		P		PKPdf	09 43 50.2	-0.7
	baz=141								
K22A	Casper	119.83	303		P		PKPdf	09 43 51.0	0.0
	baz=141								
RSSD	Black Hills	119.83	306		PKPdf		PKPdf	09 43 50.7	-0.4
RSSD	Black Hills	119.83	306		PKIKP		PKPdf	09 43 50.7	-0.4
RSSD	Black Hills	119.83	306		P		PKPdf	09 43 50.6	-0.4
	baz=141								
SBC	Santa Barbara	120.08	288		P		PKPdf	09 43 51.3	-0.3
	baz=140								
ARVC	Arvin	120.14	289		P		PKPdf	09 43 51.7	+0.1
	baz=140								
FURC	Furnace Creek,	120.15	291		P		PKiKP	09 43 51.8	+0.1
	baz=140								
MPMC	Manual Prospec	120.16	290		P		PKPdf	09 43 51.5	-0.4
	baz=140								
WCT	Wildcat Mounta	120.28	292		IAMs_20	IAMs_20		10 35 19.0	
	comp=Z,490nm,20.0s								
ISA	Isabella, Lake	120.37	289		P		PKPdf	09 43 52.3	+0.1
	baz=140								
PKM	Mcpherson Peak	120.48	288		P		PKPdf	09 43 52.2	-0.3
	baz=140								
S11A	Rachel	120.48	293		IAMs_20	IAMs_20		10 23 33.3	
	comp=Z,396nm,19.0s								
CWC	Cottonwood Cre	120.76	290		P		PKPdf	09 43 52.5	-0.6
	baz=140								
NOA	NORSAR Array B	120.79	20		PKP		PKPdf	09 43 51.9	-0.2
	comp=Z,0.6nm,0.7s,baz=207,slow=21,SNR=2.0								
SPR3	Spring Creek 3	120.80	295		PKPdf		PKPdf	09 43 52.6	-0.6
CTU	Camp Tracy	120.81	298		PKPdf		PKiKP	09 43 53.5	+0.4
VES	Vestal, Richgr	120.83	289		P		PKPdf	09 43 52.9	0.0
	baz=140								
MDND	Maddock	120.83	311		PKPdf		PKPdf	09 43 51.7	-0.8
MDND	Maddock	120.83	311		P		PKiKP	09 43 53.2	+0.5
	baz=142								
SMMC	Simmler	120.90	288		P		PKiKP	09 43 53.4	+0.1
	baz=140								
R11B	Troy Canyon, C	120.94	294		P		PKPdf	09 43 53.0	-0.3
	baz=140								
DUG	Dugway, Tooele	120.95	297		PKPdf		PKPdf	09 43 53.3	+0.1
DUG	Dugway, Tooele	120.95	297		PKIKP		PKPdf	09 43 53.3	+0.1
DUG	Dugway, Tooele	120.95	297		P		PKPdf	09 43 53.0	-0.3
	baz=140								
ULM	Lac du Bonnet	121.22	315	*e*	PKIKP		PKPdf	09 43 52.8	-0.4
ULM					pmax	pmax			
	comp=Z,6.0nm,0.8s								
ULM	Lac du Bonnet	121.22	315		PKP		PKPdf	09 43 52.2	-0.9
	comp=Z,5.7nm,0.8s,baz=51,slow=2.7,SNR=11								
PDAR	Pinedale Array	121.34	301		PKP		PKPdf	09 43 52.5	-1.5
	comp=Z,1.4nm,1.0s,baz=140,slow=4.4,SNR=9.9								
PDAR					PKKPbc		PKKPab	09 53 55.6	+1.6
	comp=Z,0.6nm,0.8s,baz=311,slow=1.8,SNR=4.6								
BW06	Boulder Array	121.34	301		P		PKPdf	09 43 53.5	-0.5
	baz=140								
NIL	Nilore	122.06	77		IAMs_20	IAMs_20		10 39 09.1	
	comp=Z,313nm,18.0s								
OBN	Obninsk	122.23	37	*i*	PKIKP		PKPdf	09 43 53.4	-1.5
OBN					pmax	pmax			
	comp=Z,5.0nm,0.9s								
OBN					MLR	MLR			
	comp=Z,149nm,17.0s								
NVAR	Mina Array Bea	122.39	292		PKP		PKiKP	09 43 56.8	+0.4
	comp=Z,0.6nm,0.6s,baz=90,slow=1.8,SNR=7.8								
ELK	Elko	122.58	296		PKPdf		PKiKP	09 43 56.9	+0.2
ELK	Elko	122.58	296		PKIKP		PKiKP	09 43 56.9	+0.2
MOOW	Moose Ponds	122.65	301		PKPdf		PKPdf	09 43 56.6	+0.2
LAO	LASA Array	122.79	306		P		PKPdf	09 43 56.6	+0.2
	baz=140,SNR=8.0								
RLMT	Red Lodge	123.00	303		PKPdf		PKPdf	09 43 57.2	+0.1
RLMT	Red Lodge	123.00	303		P		PKiKP	09 43 57.6	+0.3
	baz=139								
LKWY	Lake	123.11	302		PKPdf		PKiKP	09 43 58.4	+0.8
LKWY	Lake	123.11	302		PKIKP		PKiKP	09 43 58.4	+0.8
DGMT	Dagmar	123.26	309		PKPdf		PKiKP	09 43 57.5	0.0
DGMT	Dagmar	123.26	309		P		PKiKP	09 43 58.3	+0.8
	baz=140								
DY2G	Dye2	123.69	350	*i*	P		PKPdf	09 43 56.4	-1.3
CMAR	Chiang Mai Arr	124.08	109	*e*	PKIKP		PKPdf	09 44 00.0	+0.3
CMAR					pmax	pmax			
	comp=Z,4.0nm,0.8s								
CMAR	Chiang Mai Arr	124.08	109		PKP		PKPdf	09 43 59.6	-0.1
	comp=Z,3.7nm,0.8s,baz=233,slow=3.5,SNR=23								
BELG	Belogornoye	124.09	45	*i*	PKIKP		PKPdf	09 43 58.3	-0.3
BELG				*i*				09 44 00.2	
BELG	Belogornoye	124.09	45		PKP		PKPdf	09 43 58.2	-0.3
	comp=Z,7.5nm,0.8s,baz=170,slow=4.4,SNR=7.0								
HLID	Hailey	124.28	298		P		PKiKP	09 43 60.0	+0.1
	baz=138								
FINES	FINESS Array B	124.44	27	*c*	*i* PKIKP		PKPdf	09 43 59.0	0.0
FINES					pmax	pmax			
	comp=Z,3.0nm,0.9s								
FINES	FINESS Array B	124.44	27		PKP		PKPdf	09 43 58.5	-0.5
	comp=Z,3.2nm,0.8s,baz=97,slow=3.5,SNR=8.9								
BOZ	Bozeman (W)	124.45	302		P		PKPdf	09 44 00.0	+0.2
	baz=138								
SOEG	Soedalen	124.53	357	*i*	P		PKPdf	09 43 56.4	-2.6
SFJD	Kangerlussuaq	124.65	348	*i*	P		PKPdf	09 43 57.9	-1.3
PHRA	Phrae	124.79	111		PKPdf		PKPdf	09 44 01.1	0.0
EGMT	Eagleton	125.39	305		P		PKiKP	09 44 02.0	+0.3
	baz=138,SNR=8.6								
ICESG	Greenland Ices	125.76	354	*i*	P		PKPdf	09 43 59.4	-2.4
PLID	Pearl Lake	126.17	299		PKPdf		PKPdf	09 44 03.3	+0.1
OVMT	Ovando	126.18	302		PKPdf		PKPdf	09 44 02.7	-0.4
CHM	Chimkent	126.60	67	*e*	PKIKP		PKPdf	09 44 02.7	-1.1
CHM	Chimkent	126.60	67	*e*	PKP		PKPdf	09 44 02.8	-1.1
	baz=67								
BMO	Blue Mountains	126.64	298		PKPdf		PKPdf	09 44 03.5	-0.3
BMO	Blue Mountains	126.64	298		PKIKP		PKPdf	09 44 03.6	-0.3
IUG	luzhnay	126.69	67	*e*	PKIKP		PKPdf	09 44 03.3	-0.8
IUG	luzhnay	126.69	67	*e*	PKP		PKPdf	09 44 03.3	-0.8
	baz=68								
AKTO	Aktyubinsk	126.95	53		PKP		PKPdf	09 44 03.3	-0.9
	comp=Z,5.0nm,1.0s,baz=224,slow=1.6,SNR=8.1								
ABKAR	Akbulak array	126.96	55		PKPdf		PKPdf	09 44 03.7	-0.6
FFC	Flin Flon	127.05	315		PKPdf		PKPdf	09 44 04.3	+0.1
FFC	Flin Flon	127.05	315		PKIKP		PKPdf	09 44 04.3	+0.1
FCC	Fort Churchill	127.21	323		PKPdf		PKPdf	09 44 03.8	-0.6
FCC	Fort Churchill	127.21	323		PKIKP		PKPdf	09 44 03.8	-0.6
BRLS	Borolday	127.23	66	*e*	PKIKP		PKPdf	09 44 03.4	-1.6
BRLS	Borolday	127.23	66	*e*	PKP		PKPdf	09 44 03.5	-1.6
	baz=67								
F10A	Beach Ranch, E	127.41	299		PKPdf		PKPdf	09 44 04.9	-0.5
ARSB	Arslanbob	127.62	70		PKPdf		PKPdf	09 44 06.3	+0.3
ARSB	Arslanbob	127.62	70		PKIKP		PKPdf	09 44 06.3	+0.3
ARSB					MLR	MLR			
	comp=Z,100nm,19.0s								
KK31	Karatay Array	127.63	67		PKPdf		PKPdf	09 44 05.8	0.0
KK31	Karatay Array	127.63	67		PKIKP		PKPdf	09 44 05.8	0.0
KKAR	Karatay Array	127.63	67		PKPdf		PKPdf	09 44 05.8	0.0
KKAR	Karatay Array	127.63	67		PKIKP		PKPdf	09 44 05.8	0.0
KLMR	Klimovskoe	127.76	34	*e*	PKIKP		PKPdf	09 44 03.3	-2.1
KLMR					pmax	pmax			
	comp=Z,39nm,1.4s								
KLMR					MLR	MLR			
	comp=Z,450nm,15.0s								
G08A	Pilot Rock	127.77	297		PKPdf		PKiKP	09 44 07.2	+0.5
KSH	Kashi	127.88	74		PKP		PKPdf	09 44 06.5	0.0
DZA	Taraz	127.89	68	*e*	PKIKP		PKPdf	09 44 05.7	-0.6
DZA	Taraz	127.89	68	*e*	PKP		PKPdf	09 44 05.8	-0.6
	baz=68								
E09A	Wood Farm, Sta	128.24	299		PKPdf		PKiKP	09 44 08.0	+0.6
HAWA	Hanford	128.83	298		PKPdf		PKiKP	09 44 08.8	+0.2
NEW	Newport	128.98	301		P		PKiKP	09 44 08.7	-0.2
	baz=135								
D08A	Wollman Farm,	129.00	299		PKPdf		PKiKP	09 44 09.1	+0.2
SUMG	Summit	129.16	355	*i*	P		PKPdf	09 44 06.4	-1.8
TNCH	TengChong	129.23	104		PKP		PKPdf	09 44 07.8	-1.8
TNCH					sPKP			09 44 16.6	
AAK	Ala-Archa	129.34	70		PKPdf		PKPdf	09 44 09.5	+0.2
AAK					IAMs_20	IAMs_20		10 37 58.5	
	comp=Z,335nm,21.0s								
AAK	Ala-Archa	129.34	70	*c*	*i* PKIKP		PKPdf	09 44 08.4	-0.9
AAK					pmax	pmax			
	comp=Z,9.0nm,1.0s								
KIRV	Kirov	129.40	41	*c*	*i* PKIKP		PKPdf	09 44 08.8	+0.3
KIRV	Kirov	129.40	41		PKP		PKPdf	09 44 08.4	-0.1
	comp=Z,9.6nm,0.6s,baz=296,slow=5.4,SNR=5.0								
FRU1	Bishkek	129.54	70		IAMs_20	IAMs_20		10 34 56.6	
	comp=Z,292nm,20.0s								
SGDS	Sogindy	129.99	69	*e*	PKIKP		PKPdf	09 44 09.2	-1.1
SGDS	Sogindy	129.99	69	*e*	PKP		PKPdf	09 44 09.2	-1.1
	baz=70								
QIZ	Qiongzhong	130.05	120		PKP		PKPdf	09 44 11.8	+0.7
QIZ					SS	SS		10 03 53.6	+5.2
QIZ					AMB	AMB			
	comp=Z,130nm,4.1s								
QIZ					LR	LR			
	comp=Z,220nm,20.2s								
QIZ					LR	LR			
	comp=Z,110nm,17.7s								
QIZ					LR	LR			
	comp=Z,230nm,17.2s								
QIZ	Qiongzhong	130.05	120		IAMs_20	IAMs_20		10 33 29.6	
	comp=Z,280nm,20.0s								
EDM	Edmonton	130.70	308		PKPdf		PKPdf	09 44 11.1	-0.2
EDM	Edmonton	130.70	308		PKIKP		PKPdf	09 44 11.1	-0.2
UPNV	Upernavik	130.76	348	*i*	P		PKPdf	09 44 09.5	-1.3
BTLS	Baital	130.80	67	*e*	PKIKP		PKPdf	09 44 10.6	-1.1
BTLS	Baital	130.80	67	*e*	PKP		PKPdf	09 44 10.7	-1.0
	baz=68								
TNSS	Tian-Shan	130.91	71	*e*	PKIKP		PKPdf	09 44 10.8	-1.7
TNSS	Tian-Shan	130.91	71	*e*	PKP		PKPdf	09 44 10.9	-1.6
	baz=71								
AAA	Alma-Ata	131.01	71	*e*	PKIKP		PKPdf	09 44 11.0	-1.3
AAA	Alma-Ata	131.01	71	*e*	PKP		PKPdf	09 44 11.0	-1.3
	baz=71								
MDOK	Medeo	131.05	71	*e*	PKIKP		PKPdf	09 44 11.4	-1.0
MDOK	Medeo	131.05	71	*e*	PKP		PKPdf	09 44 11.5	-1.0
	baz=71								
ARCES	ARCESS Array B	131.11	21		PKP		PKPdf	09 44 11.4	-0.1
	comp=Z,4.2nm,0.8s,baz=222,slow=1.2,SNR=3.5								
APA	Apatity	131.28	26	⇓	*i* PKIKP		PKPdf	09 44 05.8	-6.1
APA					pmax	pmax			
	comp=Z,11nm,1.0s								
PRZ	Przheval'sk	131.28	73		IAMs_20	IAMs_20		10 40 49.3	
	comp=Z,294nm,19.0s								
ARU	Arti	131.41	47		PKPdf		PKPdf	09 44 12.8	+0.4
ARU	Arti	131.41	47	*i*	PKIKP		PKiKP	09 44 13.4	0.0
ARU								09 46 30.6	
ARU	Arti	131.41	47		PKP		PKPdf	09 44 12.4	-0.1
	comp=Z,2.6nm,0.3s,baz=305,slow=2.7,SNR=11								
CHKK	Chushkaly	131.50	70	*e*	PKIKP		PKPdf	09 44 12.4	-0.7
CHKK	Chushkaly	131.50	70	*e*	PKP		PKPdf	09 44 12.4	-0.7
	baz=71								
SATY	Saty	131.69	72	*e*	PKIKP		PKPdf	09 44 12.1	-1.5
SATY	Saty	131.69	72	*e*	PKP		PKPdf	09 44 12.2	-1.5
	baz=72								
UZB	Uzunbulak	132.07	73	*e*	PKIKP		PKPdf	09 44 13.0	-1.4
UZB	Uzunbulak	132.07	73	*e*	PKP		PKPdf	09 44 13.1	-1.4
	baz=73								
PZH	PanZhiHua	132.14	106		PKP		PKiKP	09 44 16.5	+0.4
SHLS	Shalkode	132.31	73	*e*	PKIKP		PKPdf	09 44 14.1	-0.7
SHLS	Shalkode	132.31	73	*e*	PKP		PKPdf	09 44 14.2	-0.7
	baz=73								
SVE	Sverdlovsk	132.53	48	*e*	PKIKP		PKiKP	09 44 15.9	+0.2
TDK	Taldyqorghan	133.02	70	*e*	PKIKP		PKPdf	09 44 14.7	-1.2
TDK	Taldyqorghan	133.02	70	*e*	PKP		PKPdf	09 44 14.7	-1.2
	baz=70								
BRLDA	Berland Lookou	133.07	306		PKPdf		PKiKP	09 44 16.8	-0.2
DAG	Danmarks Havn	133.15	2	*i*	P		PKPdf	09 44 13.4	-1.8
BRZS	Berezniki	133.45	62	*e*	PKIKP		PKPdf	09 44 16.2	-0.4
BRZS	Berezniki	133.45	62	*e*	PKP		PKPdf	09 44 16.2	-0.4
	baz=62								
BRVK	Borovoye	134.31	57		PKPdf		PKPdf	09 44 18.0	-0.1
BRVK	Borovoye	134.31	57	*c*	*i* PKIKP		PKPdf	09 44 18.7	+0.7
BRVK					pmax	pmax			
	comp=Z,4.0nm,0.8s								
BVAR	Borovoye Array	134.34	57		PKP		PKPdf	09 44 18.0	-0.1
	comp=Z,5.4nm,0.8s,baz=236,slow=1.6,SNR=20								
GYA	Guiyang	134.68	111	*e*	PKP		PKPdf	09 44 20.6	+0.8
TULEG	Thule	135.64	347		PKPdf		PKiKP	09 44 21.0	-0.5
HILA	High Level	135.74	311		PKPdf		PKPdf	09 44 20.9	+0.3
GOMU	GeErMu	135.78	91		PKP		PKPdf	09 44 16.1	-5.8
MKAR	Makanchi Array	136.24	71		PKIKP		PKPdf	09 44 20.0	-1.9
MKAR	Makanchi Array	136.24	71		PKhKP		PKPpre	09 44 12.4	
	comp=Z,0.9nm,0.9s,baz=222,slow=1.6,SNR=4.8								
MKAR					PKP		PKPdf	09 44 19.9	-1.9
	comp=Z,2.4nm,0.9s,baz=242,slow=2.6,SNR=9.1								
MKAR					SKPbc		SKPbc	09 47 53.5	-0.3
	comp=Z,1.6nm,1.1s,baz=219,slow=0.8,SNR=4.0								
CD2	Chengdu	136.70	104		PKP		PKPdf	09 44 23.5	+0.2
KURBB	Kurchatov Arra	136.75	64		PKP		PKPdf	09 44 21.7	-1.0
	comp=Z,3.0nm,0.9s,baz=234,slow=3.3,SNR=4.6								
KURK	Kurchatov	136.85	64		PKPdf		PKPdf	09 44 22.2	-0.6
KURK					IAMs_20	IAMs_20		10 45 29.8	
	comp=Z,284nm,20.0s								
KURK	Kurchatov	136.85	64	*c*	*i* PKIKP		PKPdf	09 44 23.1	+0.3
KURK					pmax	pmax			
	comp=Z,9.0nm,1.3s								
SPITS	Spitsbergen Ar	136.89	12		PKP		PKPdf	09 44 22.4	+0.2
	comp=Z,33nm,1.1s,baz=182,slow=4.6,SNR=3.9								
YKA	Yellowknife Ar	137.13	317		PKPdf		PKPdf	09 44 22.4	-0.6
YKA	Yellowknife Ar	137.13	317		PKhKP		PKPpre	09 44 12.6	
	comp=Z,0.9nm,1.0s,baz=106,slow=3.3,SNR=8.5								
YKA					PKP		PKPdf	09 44 23.1	+0.1
	comp=Z,13nm,1.0s,baz=125,slow=2.3,SNR=45								
YKA					PP		PP	09 47 06.0	-2.3
	comp=Z,2.0nm,1.0s,baz=121,slow=7.0,SNR=8.1								
YKA					SKPbc		SKPbc	09 47 53.7	-2.1
	comp=Z,1.2nm,0.9s,baz=123,slow=2.0,SNR=3.0								
WMQ	Urumqi	137.17	78	*e*	PKP		PKPdf	09 44 22.1	-1.7
WMQ					LR	LR			
	comp=Z,280nm,24.3s								
SEM	Semipalatinsk	137.48	66	*e*	PKIKP		PKPdf	09 44 23.6	-0.7
SEM	Semipalatinsk	137.48	66	*e*	PKP		PKPdf	09 44 23.6	-0.7
	baz=66								
ZSN	Zaisan	138.01	72	*e*	PKIKP		PKPdf	09 44 24.0	-1.1
ZSN	Zaisan	138.01	72	*e*	PKP		PKPdf	09 44 24.0	-1.1
	baz=72								
TOAD	Toad River Com	139.41	308		P		PKPdf	09 44 28.3	+0.9
	baz=123								
FLDN	Fort Liard	139.41	311		PKPdf		PKiKP	09 44 28.6	-0.9
FLDN	Fort Liard	139.41	311		P		PKPdf	09 44 28.4	+1.2
	baz=122								
KOTAN	Kotaneelee Air	139.59	310		P		PKiKP	09 44 29.0	-1.0
	baz=122								
DIB	Dawson Inlet,	139.61	297		PKPdf		PKiKP	09 44 29.1	-1.0
V35K	Ketchikan	140.39	300		P		PKPdf	09 44 30.3	+1.1
	baz=123								
T35M	Bob Quinn	140.65	303		P		PKPdf	09 44 30.9	+1.3
	baz=122								
LZH	Lanzhou	140.68	99	*e*	PKP		PKiKP	09 44 36.3	+3.1
DGZ	Jazzator, Alta	140.74	71	*i*	PKIKP		PKiKP	09 44 33.8	+0.9
GTA	Gaotai	140.84	92		PKP		PKPdf	09 44 31.3	+0.6
GTA					LR	LR			
	comp=Z,140nm,15.3s								
GTA					LR	LR			
	comp=Z,140nm,17.5s								
GTA					LR	LR			
	comp=Z,130nm,16.4s								
WRGLY	Wrigley	140.95	315		P		PKPdf	09 44 31.0	+1.1
	baz=120								
DLBC	Dease Lake	141.31	305		PKPdf		PKPdf	09 44 31.4	+0.5
DLBC	Dease Lake	141.31	305		P		PKPdf	09 44 31.9	+1.0
	baz=121								
WRAK	Wrangell Islan	141.33	302		P		PKPdf	09 44 31.8	+1.0
	baz=122								
U33K	Whale Pass	141.53	301		P		PKPdf	09 44 32.2	+1.0
	baz=122								
S34M	Telegraph Cree	141.54	304		P		PKPdf	09 44 32.3	+1.1
	baz=121								
WTLY	Watson Lake, Y	141.62	308		PKPdf		PKPdf	09 44 32.1	+0.7
WTLY	Watson Lake, Y	141.62	308		P		PKPdf	09 44 32.3	+1.0
	baz=120,SNR=16								
ZALV	Zalesovo Beam	141.83	64		PKhKP		PKPpre	09 44 26.0	
	comp=Z,1.4nm,0.5s,baz=238,slow=2.9,SNR=7.9								
XAN	Xi'an	141.87	107	⇑	PKP		PKPdf	09 44 29.1	-3.6
TGTN	Hyland Airport	142.08	310		P		PKPdf	09 44 33.3	+1.1
	baz=118								
R33M	Jennings River	142.22	306		P		PKPdf	09 44 33.6	+1.1
	baz=119								
Q32M	Nakina River	142.59	305		P		PKPdf	09 44 34.0	+0.7
	baz=119								
R32K	Eaglecrest	143.28	303		P		PKPdf	09 44 35.6	+1.3
	baz=119								
LYN	LuoYang	144.13	110	⇓	PKP		PKPbc	09 44 35.1	+0.4
SKAG	Skagway	144.21	305		PKPdf		PKPbc	09 44 34.7	+0.6
WHY	Whitehorse	144.55	307		PKPdf		PKPbc	09 44 35.4	0.0
WHY	Whitehorse	144.55	307		P		PKPbc	09 44 35.2	-0.1
	baz=116,SNR=22								
FARO	Faro, Yukon	144.55	310		P		PKPbc	09 44 35.4	+0.2
	baz=115,SNR=56								
JOW	Kunigami	144.91	137				PKPab	09 44 36.2	-1.1
M31M	Drury Creek, Y	144.98	309		PKPdf		PKPab	09 44 36.4	-0.2
M31M	Drury Creek, Y	144.98	309		P		PKPab	09 44 36.4	-0.2
	baz=114,SNR=53								
A36M	Sachs Harbour	145.10	328		PKPbc		PKPab	09 44 36.7	0.0
A36M	Sachs Harbour	145.10	328		P		PKPdf	09 44 36.9	-0.1
	baz=107								
O30N	Mendenhall	145.13	306		PKPbc		PKPdf	09 44 37.6	+0.1
O30N	Mendenhall	145.13	306		P		PKPdf	09 44 37.5	+0.1
	baz=115,SNR=23								
P30M	Million Dollar	145.25	305		P		PKPab	09 44 37.7	+0.1
	baz=115								
NJ2	Nanjing	145.34	120	⇑	PKPbc		PKPab	09 44 39.4	+0.7
NJ2					sPKP			09 44 52.4	
P29M	Windy Craggy	145.39	304		P		PKPbc	09 44 37.8	-0.1
	baz=115								
HYT	Haines Junctio	145.78	306		P		PKPab	09 44 39.6	-0.1
	baz=114,SNR=22								
O29M	Mount Kennedy	146.06	305		P		PKPdf	09 44 39.6	+0.4
	baz=114								
MAYO	Mayo, Yukon	146.16	311		P		PKPbc	09 44 39.8	-0.4
	baz=111,SNR=24								
M30M	Minto, Yukon	146.16	309		P		PKPbc	09 44 40.0	-0.3
	baz=112,SNR=70								
PNL	Peninsula	146.17	303		P		PKPbc	09 44 40.5	+0.1
	baz=114								
YUK6	Outpost Mounta	146.22	306		P		PKPbc	09 44 40.6	-0.2

	baz=104,SNR=20						
L26K	Log Cabin Wild	149.15 308	P		PKPbc	09 44 48.4	0.0
	baz=107,SNR=9.1						
H27K	Steamboat Moun	149.23 315	P		PKPbc	09 44 48.6	+0.1
	baz=103,SNR=27						
N25K	Chitina, Valde	149.27 305	P		PKPbc	09 44 48.8	+0.1
	baz=108,SNR=5.5						
MENT	Mentasta	149.28 308	PKPbc		PKiKP	09 44 49.7	-0.2
Q23K	Middleton Isla	149.34 300	P		PKPbc	09 44 48.4	-0.5
	baz=111						
G27K	Doyon Strip	149.41 316	P		PKPbc	09 44 48.9	0.0
	baz=102,SNR=12						
EYAK	Cordova Ski Ar	149.45 303	P		PKPbc	09 44 49.0	-0.1
	baz=110						
D27M	Malcolm River	149.59 320	PKPbc		PKiKP	09 44 50.0	-0.3
D27M	Malcolm River	149.59 320	P		PKPbc	09 44 49.4	+0.1
	baz=99						
ZAK	Zakamensk	149.59 80	*e*PKP2		PKPbc	09 44 49.0	-0.9
ZAK			pmax		pmax		
	comp=Z,38nm,1.4s						
J26L	Joseph Creek	149.64 311	P		PKPbc	09 44 49.6	0.0
	baz=104						
E27K	Coleen River	149.65 318	PKPbc		PKPbc	09 44 50.0	+0.5
E27K	Coleen River	149.65 318	P		PKPbc	09 44 49.4	0.0
	baz=100						
I26K	Coal Creek Min	149.67 312	P		PKPbc	09 44 49.6	0.0
	baz=104						
SCRK	Sand Creek	149.69 310	PKPbc		PKiKP	09 44 50.6	-0.2
SCRK	Sand Creek	149.69 310	P		PKPbc	09 44 49.8	0.0
	baz=105,SNR=20						
HARP	HAARP	149.76 306	P		PKPbc	09 44 50.0	+0.2
	baz=107						
KLU	Klutina	149.83 304	P		PKiKP	09 44 51.1	0.0
	baz=108,SNR=12						
SONM	Songino Array	149.91 86	*e*PKIKP		PKPdf	09 44 45.5	-0.5
SONM			pmax		pmax		
	comp=Z,4.0nm,1.1s						
SONM	Songino Array	149.91 86	PKPbc		PKPbc	09 44 50.6	-0.2
	comp=Z,24nm,0.9s,baz=218,slow=2.7,SNR=77						
RIDG	Independent Ri	149.99 309	P		PKPbc	09 44 50.9	+0.4
	baz=105						
P23K	Montague Islan	150.04 301	P		PKPbc	09 44 50.8	+0.3
	baz=109						
PAX	Paxson	150.06 307	P		PKPbc	09 44 50.5	-0.1
	baz=106,SNR=18						
M24K	Tolsona, Glenn	150.13 306	PKPbc		PKiKP	09 44 52.3	+0.6
M24K	Tolsona, Glenn	150.13 306	P		PKiKP	09 44 51.5	-0.1
	baz=107,SNR=10						
G26K	Porcupine Rive	150.26 316	P		PKPbc	09 44 50.9	+0.1
	baz=100,SNR=11						
K24K	Donnelly Dome	150.41 309	P		PKPbc	09 44 51.3	-0.1
	baz=104,SNR=8.6						
J25K	Salcha River,	150.43 311	P		PKPbc	09 44 51.5	+0.1
	baz=103						
F26K	Sheenjek River	150.52 317	P		PKiKP	09 44 52.0	-0.3
	baz=99,SNR=14						
SCM	Sheep Creek Mo	150.57 305	PKPbc		PKiKP	09 44 52.8	+0.2
SCM	Sheep Creek Mo	150.57 305	PKIKP		PKiKP	09 44 52.8	+0.2
SCM	Sheep Creek Mo	150.57 305	P		PKPbc	09 44 52.1	+0.2
	baz=106,SNR=9.4						
PRP	Porcupine Dome	150.68 312	P		PKPbc	09 44 52.1	0.0
	baz=101						
M23K	Glacier View	150.75 305	P		PKPbc	09 44 52.2	0.0
	baz=106,SNR=13						
DHY	Denali Highway	150.93 307	P		PKiKP	09 44 53.2	-0.2
	baz=104,SNR=14						
H25L	Birch Creek	150.94 314	P		PKPbc	09 44 52.8	+0.3
	baz=100						
WAT6	Susitna Watana	150.96 306	P		PKPbc	09 44 53.0	+0.1
	baz=105,SNR=5.2						
KNK	Knik Glacier	150.97 304	P		PKPbc	09 44 52.8	0.0
	baz=106,SNR=5.8						
SML	Sawmill	151.03 304	P		PKPbc	09 44 52.7	-0.3
	baz=106,SNR=10						
C26K	Camden Bay	151.04 322	P		PKiKP	09 44 53.1	-0.1
	baz=94,SNR=5.8						
SEW	Seward	151.05 301	P		PKPbc	09 44 52.5	-0.4
	baz=108						
HDA	Harding Lake	151.05 310	PKPbc		PKiKP	09 44 53.3	-0.1
HDA	Harding Lake	151.05 310	P		PKPbc	09 44 52.6	-0.3
	baz=102,SNR=9.1						
IRK	Irkutsk	151.07 77	*e*PKIKP		PKPbc	09 44 51.7	-1.6
IRK			pmax		pmax		
	comp=Z,69nm,2.2s						
F25K	Christian Rive	151.07 317	P		PKPbc	09 44 53.0	+0.1
	baz=98						
ILAR	Eielson Array	151.10 311	PKPbc		PKPbc	09 44 53.1	+0.2
	comp=Z,63nm,0.9s,baz=117,slow=1.3,SNR=90						
E25K	Arctic Village	151.11 318	P		PKPbc	09 44 53.0	+0.1
	baz=97						
G25K	Bearman Lake	151.13 315	P		PKiKP	09 44 53.5	0.0
	baz=99,SNR=11						
O22K	Cooper Landing	151.29 301	P		PKPbc	09 44 53.5	+0.1
	baz=107						
PMR	Palmer	151.33 304	P		PKPbc	09 44 53.6	+0.1
	baz=106						
WAT1	Susitna Watana	151.39 306	P		PKPbc	09 44 54.0	+0.3
	baz=104						
POKR	Poker Plat Res	151.40 311	P		PKPbc	09 44 53.3	-0.3
	baz=101						
RC01	Rabbit Creek A	151.47 303	P		PKPbc	09 44 53.7	-0.2
	baz=106,SNR=5.7						
D25K	Kavik River	151.51 320	PKPbc		PKPbc	09 44 54.1	+0.3
D25K	Kavik River	151.51 320	P		PKPbc	09 44 53.6	-0.2
	baz=94						
COLA	College	151.52 311	P		PKPbc	09 44 53.7	-0.2
	baz=101						
BRSE	Bradley Lake S	151.55 300	P		PKPbc	09 44 53.9	-0.2
	baz=108						
G24K	Hadweenzic Riv	151.66 315	P		PKPbc	09 44 54.4	+0.2
	baz=98						
H24K	Noodor Dome	151.70 313	P		PKPbc	09 44 53.9	-0.5
	baz=99						
MCK	McKinley	151.76 308	P		PKPbc	09 44 54.6	0.0
	baz=102,SNR=19						
KDAK	Kodiak Island	151.81 295	P		PKPbc	09 44 54.8	0.0
	baz=110						
M22K	Willow	151.83 304	P		PKPbc	09 44 54.6	-0.1
	baz=105,SNR=17						
F24K	Squaw Lake	151.92 316	PKPbc		PKiKP	09 44 55.6	+0.4
F24K	Squaw Lake	151.92 316	P		PKPbc	09 44 54.8	0.0
	baz=96						
OHAK	Old Harbor	151.97 294	P		PKPbc	09 44 55.0	-0.1
	baz=111						
NEA2	Nenana	151.99 310	P		PKPbc	09 44 54.2	-0.8
	baz=100,SNR=11						
Q20K	Shuyak Island	152.00 297	P		PKPbc	09 44 54.7	-0.5
	baz=109						
SUA	Susitna One	152.05 303	P		PKPbc	09 44 54.9	-0.5
	baz=105,SNR=5.5						
CUT	Chulitna	152.06 305	P		PKPbc	09 44 54.9	-0.3
	baz=104,SNR=6.1						
SII	Sitkinak Islan	152.18 292	P		PKPbc	09 44 55.8	+0.1
	baz=112						
I23K	Minto, Yukon-K	152.20 311	P		PKPbc	09 44 55.5	0.0
	baz=99						
TRF	Thorofare Moun	152.30 307	P		PKPbc	09 44 56.1	+0.1
	baz=102						
C24K	Franklin Bluff	152.35 321	P		PKiKP	09 44 55.9	0.0
	baz=91						
D24K	Happy Valley	152.38 320	P		PKiKP	09 44 56.6	+0.6
	baz=92						
SKT	Skwentna	152.54 304	P		PKPbc	09 44 56.4	+0.1
	baz=103,SNR=10.0						
O20K	Slope Mountain	152.56 300	P		PKiKP	09 44 58.2	+1.4
	baz=106						
E23K	Chandalar	152.62 317	P		PKPbc	09 44 56.6	+0.2
	baz=93						
TOLK	Toolik Lake Re	152.63 319	P		PKiKP	09 44 56.9	+0.3
	baz=92						
CHIR	Chirikof Islan	152.65 290	P		PKiKP	09 44 57.5	+0.6
	baz=112						
N20K	Mount Spurr	152.66 302	P		PKiKP	09 44 57.5	+0.6
	baz=104						
G23K	Bananza Creek	152.67 314	PKPbc		PKiKP	09 44 57.2	+0.4
G23K	Bananza Creek	152.67 314	P		PKiKP	09 44 57.2	+0.4
	baz=96						
Q19K	Cape Douglas,	152.72 297	P		PKiKP	09 44 57.1	+0.1
	baz=108						
BPAW	Bear Paw Mtn.	152.72 309	PKPbc		PKiKP	09 44 56.9	0.0
BPAW	Bear Paw Mtn.	152.72 309	P		PKPbc	09 44 56.8	+0.1
	baz=100,SNR=5.2						
P19K	Oil Pt	152.73 299	P		PKiKP	09 44 57.3	+0.2
	baz=107						
MLY	Manley	152.76 311	PKPbc		PKPbc	09 44 56.7	-0.1
MLY	Manley	152.76 311	P		PKiKP	09 44 57.1	+0.1
	baz=98						
COLD	Coldfoot	152.79 315	P		PKiKP	09 44 57.2	+0.3
	baz=94						
XLT	XiLinHaoTe	152.83 101	*e*PKPbc		PKPbc	09 44 57.8	+0.1
XLT			pPKP		PKPab	09 45 08.8	0.0
XLT			PKPab		sPKPab	09 45 11.8	+0.8
XLT			PP		PP	09 48 43.8	+1.5
XLT			pmax		pmax		
	comp=Z,120nm,4.1s						
C23K	Itkillik River	153.01 321	P		PKPbc	09 44 57.2	+0.1
	baz=89						
PPLA	Purkeypile	153.03 306	P		PKPbc	09 44 57.7	+0.1
	baz=101						
D23K	Nanushuk River	153.04 319	P		PKiKP	09 44 57.7	+0.3
	baz=90						
H22K	Ishtalitna Cre	153.13 312	P		PKiKP	09 44 57.8	+0.1
	baz=96						
CHUM	Lake Minchumin	153.26 308	P		PKPbc	09 44 57.9	+0.1
	baz=99						
G22K	Bettles	153.28 315	P		PKPbc	09 44 57.5	-0.3
	baz=94						
I21K	Tanana	153.30 311	P		PKPbc	09 44 57.9	0.0
	baz=97						
O19K	Port Alsworth	153.41 299	P		PKiKP	09 44 58.8	+0.5
	baz=105						
E22K	Anaktuvuk Pass	153.45 317	P		PKPbc	09 44 58.3	+0.1
	baz=91						
Q17K	Contact Creek	153.63 295	P		PKiKP	09 44 59.2	+0.2
	baz=108						
P18K	Big Mountain,	153.63 297	P		PKiKP	09 44 59.0	+0.1
	baz=106						
N19K	Bonanza Creek	153.64 301	P		PKPbc	09 44 58.9	0.0
	baz=104						
H21K	Melozitna Rive	153.70 312	P		PKPbc	09 44 58.9	+0.1
	baz=95						
L20K	Farewell, AK	153.72 305	P		PKiKP	09 44 59.5	+0.5
	baz=101						
O18K	Koktuh Hills	153.75 298	P		PKiKP	09 44 59.4	+0.3
	baz=105						
D22K	Ayikyak River	153.77 319	P		PKiKP	09 44 59.4	+0.5
	baz=89						
M19K	Big River Lodg	153.84 303	P		PKiKP	09 44 60.0	+0.7
	baz=102						
B22K	Teshekpuk Lake	153.95 322	P		PKPbc	09 44 59.1	0.0
	baz=85						
K20K	Telida	153.95 306	P		PKiKP	09 44 59.8	+0.3
	baz=99						
KSRS	Korea Array	154.00 126	PKPab		PKPab	09 45 14.5	+0.8
	comp=Z,4.9nm,1.0s,baz=197,slow=2.3,SNR=6.3						
G21K	Allakaket	154.04 314	IAMs_20		IAMs_20	10 55 39.3	
	comp=Z,378nm,20.0s						
G21K	Allakaket	154.04 314	P		PKiKP	09 44 59.7	+0.2
	baz=93						
F21K	Alatna River	154.06 315	P		PKiKP	09 45 00.2	+0.6
	baz=92						
J20K	Nowinta River	154.10 308	P		PKiKP	09 45 00.5	+0.8
	baz=97						
L19K	White Mountain	154.11 304	P		PKiKP	09 45 00.8	+1.0
	baz=101						
IMAR	Indian Mountai	154.11 312	PKPbc		PKiKP	09 45 00.4	+0.7
Q16K	King Salmon	154.14 295	P		PKiKP	09 45 00.8	+0.9
	baz=107						
P17K	Kvichak River	154.18 297	P		PKiKP	09 45 00.8	+0.8
	baz=106						
CHGN	Chignik	154.28 289	P		PKiKP	09 45 02.4	+2.2
	baz=110						
N18K	Kilae Creek	154.28 300	P		PKiKP	09 45 02.2	+2.0
	baz=103						
CHNA	Chernabura Isl	154.35 286	P		PKPab	09 45 14.6	-0.2
	baz=113						
B21K	Ikpikpuk River	154.42 321	P		PKPab	09 45 15.1	+0.5
	baz=85						
M18K	Stony River	154.42 302	P		PKPab	09 45 15.0	+0.1
	baz=101						
C21K	Knifeblade Rid	154.51 320	P		PKPab	09 45 15.8	+0.7
	baz=86						
H20K	Anotleneega Mo	154.54 311	P		PKPab	09 45 15.8	+0.4
	baz=94						
O17K	Koliganek Bris	154.65 298	P		PKPab	09 45 16.8	+0.9
	baz=104						
J19K	Poorman	154.72 308	P		PKPab	09 45 17.1	+1.0
	baz=96						
E20K	Nigu River	155.08 318	P		PKPab	09 45 18.0	+0.3
	baz=87						
J18K	Innoko River	155.15 306	P		PKPab	09 45 18.5	+0.5
	baz=97						
D20K	Etivluk River	155.20 319	P		PKPab	09 45 18.6	+0.5
	baz=85						
B20K	Meade River	155.25 322	PKPab		PKPab	09 45 19.3	+1.1
B20K	Meade River	155.25 322	P		PKPab	09 45 19.0	+0.8
	baz=82						
G19K	Purcell Mounta	155.48 313	P		PKPab	09 45 19.5	+0.2
	baz=90						
E19K	Redstone River	155.51 316	IAMs_20		IAMs_20	11 00 46.8	
	comp=Z,329nm,19.0s						
E19K	Redstone River	155.51 316	P		PKPab	09 45 20.7	+1.3
	baz=88						
N16K	Nishlik Lake	155.63 299	P		PKPab	09 45 21.1	+1.0
	baz=102						
L17K	Donlin	155.69 303	P		PKPab	09 45 20.9	+0.5
	baz=98						
F19K	Shaleruckik Mo	155.75 314	P		PKPab	09 45 20.7	+0.3
	baz=88						
D19K	Kuna River	155.77 318	PKPdf		PKPdf	09 44 53.5	-0.2
D19K			PKPab		pPKPab	09 45 21.8	-0.6
D19K	Kuna River	155.77 318	P		PKPab	09 45 21.2	+0.6
	baz=84						
H18K	Honhosa River	155.99 310	P		PKPab	09 45 21.9	+0.4
	baz=92						
S12K	Black Hills	155.99 286	P		PKPab	09 45 22.9	+1.0
	baz=110						
G18K	Tagagawik	156.12 312	P		PKPab	09 45 22.7	+0.6
	baz=90						
C19K	Lookout Ridge	156.23 320	P		PKPab	09 45 23.3	+0.7
	baz=81						
F18K	Selawik	156.50 314	P		PKPab	09 45 23.7	+0.1
	baz=87						
A19K	Wainwright	156.53 323	P		PKPab	09 45 24.2	+0.5
	baz=77						
M15K	Kasigluk River	156.60 299	P		PKPab	09 45 24.4	+0.2
	baz=100						
E18K	Tukpahlearik C	156.81 316	P		PKPab	09 45 25.2	+0.2
	baz=84						
C18K	Utukok River	156.87 319	P		PKPab	09 45 25.5	+0.1
	baz=81						
N14K	Kuskokwak Cree	156.94 297	P		PKPab	09 45 27.3	+1.6
	baz=101						
B18K	Kokolik River	156.96 321	P		PKPab	09 45 26.4	+0.8
	baz=78						
L15K	Ungalak Mounta	157.13 301	P		PKPab	09 45 27.0	+0.5
	baz=97						
MJAR	Matsushiro Arr	157.21 145	PKPab		PKPab	09 45 27.0	-0.5
	comp=Z,7.4nm,1.0s,baz=202,slow=6.0,SNR=7.3						
M14K	Bethel	157.22 299	PKPab		PKPab	09 45 28.1	+1.2
M14K	Bethel	157.22 299	P		PKPab	09 45 27.3	+0.4
	baz=99						
MJA0	Matsu Arr-Jizo	157.23 145	*e*PKIKP		PKPdf	09 44 56.3	-0.4
MJA0			pmax		pmax		
	comp=Z,2.0nm,0.9s						
RDOG	Red Dog Mine	157.60 318	PKPab		PKPab	09 45 29.5	+1.1
RDOG			IAMs_20		IAMs_20	10 49 23.9	
	comp=Z,306nm,20.0s						
RDOG	Red Dog Mine	157.60 318	P		PKPab	09 45 28.2	-0.2
	baz=80						
C17K	DeLong Mountai	157.62 319	P		PKPab	09 45 29.0	+0.5
	baz=79,SNR=6.1						
L14K	Kuka Creek	157.66 300	P		PKPab	09 45 29.5	+0.8
	baz=97						
CN2	Changchun	157.72 113	*e*PKP		PKPdf	09 44 56.5	-0.5
D17K	Noatak River	157.72 317	P		PKPab	09 45 29.3	+0.4
	baz=81,SNR=5.7						
M13K	Dall Lake	157.85 298	P		PKPab	09 45 30.6	+0.9
	baz=99						
HIA	Hailar	158.08 95	PKPab		PKPab	09 45 32.2	+1.1
HIA	Hailar	158.08 95	PKP2		PKPab	09 45 32.2	+1.1
G15K	Niukluk	158.39 310	P		PKPab	09 45 32.1	+0.2
	baz=87						
C16K	Lisburne Hills	158.45 319	PKPab		PKPab	09 45 32.6	+0.6
C16K	Lisburne Hills	158.45 319	P		PKPab	09 45 32.4	+0.4
	baz=77						
NIKH	Nikolski High	158.64 276	P		PKPab	09 45 33.8	+0.5
	baz=114						
F14K	Arctic Creek	159.31 312	P		PKPab	09 45 36.6	+0.8
	baz=83						
BNX	BinXian	160.06 111	||P		PKPab	09 45 39.3	-0.4
BNX			pmax		pmax		
	comp=Z,9.0nm,1.2s						
BNX			pmax		pmax		
	comp=Z,160nm,5.7s						
MDJ	Mudanjiang	160.38 117	PKP		PKPdf	09 44 56.8	-3.3
MDJ			PP		PP	09 49 24.8	+0.9
MDJ			AMB		AMB		
	comp=Z,290nm,5.2s						
SPIA	Saint Paul Isl	160.77 287	P		PKPab	09 45 41.3	-1.2
	baz=103						
YSS	Yuzh-Sakhalins	168.01 138	*i* PKIKP		PKPdf	09 45 07.5	+0.7
YSS			*e*			09 50 09.2	
YSS			*e*PPP		PPP	09 54 02.0	
YSS			pmax		pmax		
	comp=Z,20nm,1.0s						

AEIC ***16*** *09:41:54.8±1.6,67°.25N±0°.03×160°.56W±0°.06,h15km±6km, MLS.4,ML3.3/100(NEIC),Error ellipse: s-maj=4.2km s-min=3.1km az=218.0*

NEIC ***16*** *09:41:56.4±1.6,67°.24N±0°.03×160°.55W±0°.09,h20km±7km, Error ellipse: s-maj=5.2km s-min=3.4km az=71.0*

ISC 16 09:41:54.4±0.9,**67°.26N**±0°.02×**160°.53W**±0°.03,**h11**km±7km, **n257,σ1§02/272,Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
E18K	Tukpahlearik C	0.17	350	Pg	Pg	09 41 58.0	-0.1
E18K				Sg	Sg	09 42 00.8	+0.2
E18K	Tukpahlearik C	0.17	350	P	Pg	09 41 58.2	+0.2
	baz=174						
E18K				S	Sg	09 42 00.6	0.0
	baz=174						
F18K	Selawik	0.75	152		Pg	09 42 09.0	+0.2
F18K					Sg	09 42 20.1	+1.6
F18K	Selawik	0.75	152	P	Pg	09 42 09.0	+0.2
	baz=332						
F18K				S	Sg	09 42 20.1	+1.6
	baz=332						
F17K	Baldwin Pennin	0.87	199	Pg	Pg	09 42 11.2	+0.1
F17K				Sg	Sg	09 42 22.9	+0.5
F17K				IAML		09 42 25.1	
	comp=N,1μm,0.9s						
F17K				IAML		09 42 26.4	
	comp=E,842nm,0.7s						
F17K	Baldwin Pennin	0.87	199	P	Pg	09 42 11.0	-0.1
	baz=18						
F17K				S	Sg	09 42 23.0	+0.6
	baz=18						
D17K	Noatak River	1.08	295		Pb	09 42 14.0	-1.0
D17K					Sb	09 42 28.4	-0.7
D17K	Noatak River	1.08	295	P	Pb	09 42 14.0	-1.0
	baz=114						
D17K				S	Sb	09 42 28.3	-0.7
	baz=114						
F19K	Shaleruckik Mo	1.16	110		Pb	09 42 15.1	-1.4
F19K				IAML		09 42 33.8	
	comp=E,659nm,0.5s						
F19K	Shaleruckik Mo	1.16	110		Sb	09 42 30.6	-1.0
F19K	Shaleruckik Mo	1.16	110	P	Pb	09 42 15.1	-1.4
	baz=292						
F19K				S	Sb	09 42 30.6	-1.0
	baz=292						
RDOG	Red Dog Mine	1.21	312		Pn	09 42 16.7	-0.6
RDOG				IAML		09 42 37.3	
	comp=E,685nm,0.5s						
RDOG				IAML		09 42 37.4	
	comp=N,532nm,0.4s						
RDOG	Red Dog Mine	1.21	312	P	Pn	09 42 16.7	-0.6
	baz=131						
E19K	Redstone River	1.29	80	Pn	Pn	09 42 17.7	-0.7
E19K					Sb	09 42 34.8	-0.5
E19K	Redstone River	1.29	80	P	Pn	09 42 17.7	-0.7
	baz=262						
E19K				S	Sb	09 42 33.9	-1.4
	baz=262						
C18K	Utukok River	1.42	350	Pn	Pn	09 42 20.6	+0.4
C18K					Sn	09 42 39.8	+0.9
C18K	Utukok River	1.42	350	P	Pn	09 42 20.6	+0.4
	baz=170						
C18K				S	Sn	09 42 40.0	+1.2
	baz=170						
D19K	Kuna River	1.54	35	Pn	Pn	09 42 22.7	+0.9
D19K	Kuna River	1.54	35	P	Pn	09 42 22.7	+0.9
	baz=218						
G18K	Tagagawik	1.56	150	Pn	Pn	09 42 22.0	-0.1
G18K					Sn	09 42 42.1	-0.2
G18K				IAML		09 42 45.1	
	comp=E,525nm,0.6s						
G18K	Tagagawik	1.56	150	P	Pn	09 42 21.8	-0.3
	baz=332						
G18K				S	Sn	09 42 42.1	-0.2
	baz=332						
C17K	DeLong Mountai	1.58	322		Pn	09 42 23.4	+1.0
C17K	DeLong Mountai	1.58	322	P	Pn	09 42 23.4	+1.0
	baz=140						
G17K	Kiwalik Mounta	1.77	182		Pn	09 42 24.4	-0.5
G17K	Kiwalik Mounta	1.77	182	P	Pn	09 42 24.4	-0.5
	baz=1.2						
G19K	Purcell Mounta	1.77	128	Pn	Pn	09 42 24.7	-0.2
G19K				IAML		09 42 53.3	
	comp=N,360nm,0.4s						
G19K	Purcell Mounta	1.77	128	P	Pn	09 42 24.7	-0.2
	baz=310						
C19K	Lookout Ridge	1.89	10	Pn	Pn	09 42 27.4	+0.8
C19K				IAML		09 42 59.1	
	comp=E,226nm,0.6s						
C19K	Lookout Ridge	1.89	10	P	Pn	09 42 27.6	+1.0
	baz=191						
F20K	Avaraart Lake	1.89	94	Pn	Pn	09 42 27.0	+0.5
F20K	Avaraart Lake	1.89	94	P	Pn	09 42 26.7	+0.1
	baz=278						
E20K	Nigu River	1.93	57		Pn	09 42 28.0	+0.8
E20K	Nigu River	1.93	57	P	Pn	09 42 28.0	+0.8
	baz=241						
G16K	Koyuk River	2.01	202	Pn	Pn	09 42 27.6	-0.6
G16K	Koyuk River	2.01	202	P	Pn	09 42 27.7	-0.6
	baz=20						
D20K	Etivluk River	2.08	44		Pn	09 42 30.0	+0.8
D20K	Etivluk River	2.08	44	P	Pn	09 42 30.0	+0.8
	baz=227						
C16K	Lisburne Hills	2.10	301	Pn	Pn	09 42 30.2	+0.9
C16K				IAML		09 43 04.5	
	comp=E,217nm,0.5s						
C16K	Lisburne Hills	2.10	301	P	Pn	09 42 30.2	+0.9
	baz=117						
B18K	Kokolik River	2.17	348		Pn	09 42 31.5	+1.2
B18K	Kokolik River	2.17	348	P	Pn	09 42 31.5	+1.2
	baz=167						
F15K	North Star Dit	2.27	229	Pn	Pn	09 42 30.8	-1.0
F15K	North Star Dit	2.27	229	P	Pn	09 42 30.8	-1.0
	baz=45						
H18K	Honhosa River	2.29	156	Pn	Pn	09 42 32.2	+0.1
H18K	Honhosa River	2.29	156	P	Pn	09 42 32.1	+0.1
	baz=338						
H17K	Granite Mounta	2.35	174	Pn	Pn	09 42 32.9	0.0
H17K				IAML		09 43 10.6	
	comp=N,219nm,0.6s						
H17K				IAML		09 43 13.7	
	comp=E,194nm,0.9s						
H17K	Granite Mounta	2.35	174	P	Pn	09 42 32.7	-0.1
	baz=354						
H19K	Roundabout Mou	2.39	135		Pn	09 42 33.6	+0.2
H19K				IAML		09 43 03.2	
	comp=N,208nm,0.5s						
H19K	Roundabout Mou	2.39	135	P	Pn	09 42 33.5	0.0
	baz=318						
G15K	Niukluk	2.69	214		Pn	09 42 36.9	-0.6
G15K	Niukluk	2.69	214	P	Pn	09 42 36.9	-0.6
	baz=30						
H16K	Elim	2.73	196		Pn	09 42 37.2	-0.8
H16K	Elim	2.73	196	P	Pn	09 42 37.2	-0.8
	baz=14						
F21K	Alatna River	2.74	88		Pn	09 42 39.2	+0.9
F21K				IAML		09 43 31.2	
	comp=E,119nm,0.9s						
F21K				IAML		09 43 31.7	
	comp=N,111nm,0.8s	

baz=310
GCSA Galena City Sc 2.93 148 Pn Pn 09 42 41.4 +0.5
GCSA Galena City Sc 2.93 148 P Pn 09 42 41.4 +0.5
baz=331
F14K Arctic Creek 2.94 235 Pn Pn 09 42 41.5 +0.5
F14K Arctic Creek 2.94 235 P Pn 09 42 41.5 +0.5
baz=50
A19K Wainwright 2.97 356 Pn Pn 09 42 42.3 +1.0
A19K Wainwright 2.97 356 P Pn 09 42 42.3 +1.0
baz=176
IMAR Indian Mountai 2.99 112 Pn Pn 09 42 41.8 0.0
B20K Meade River 3.02 23 Pn Pn 09 42 42.8 +0.6
B20K Meade River 3.02 23 P Pn 09 42 42.8 +0.6
baz=206
B21K Ikpikpuk River 3.23 40 Pn Pn 09 42 45.6 +0.7
B21K IAML 09 43 42.4
comp=N,89nm,0.7s
B21K IAML 09 43 44.9
comp=E,88nm,0.6s
B21K Ikpikpuk River 3.23 40 P Pn 09 42 45.8 +0.9
baz=225
ANM Nome 3.36 219 Pn Pn 09 42 46.6 -0.2
ANM Nome 3.36 219 P Pn 09 42 46.0 -0.7
baz=34
D22K Ayikyak River 3.37 57 Pn Pn 09 42 49.0 +2.1
D22K Ayikyak River 3.37 57 P Pn 09 42 48.5 +1.6
baz=245
I17K Unalakleet 3.39 181 Pn Pn 09 42 47.7 +0.6
I17K IAML 09 43 49.6
comp=N,69nm,1.0s
I17K IAML 09 43 51.1
comp=E,80nm,1.0s
TNA Tin City 3.43 244 Pn 09 42 48.0 +0.4
TNA Tin City 3.43 244 P Pn 09 42 48.0 +0.4
baz=57
E22K Anaktuvuk Pass 3.44 71 Pn Pn 09 42 49.6 +1.7
E22K IAML 09 43 44.7
comp=E,60nm,1.3s
E22K IAML 09 43 50.9
comp=N,66nm,0.7s
E22K Anaktuvuk Pass 3.44 71 P Pn 09 42 49.3 +1.4
baz=259
H21K Melozitna Rive 3.49 114 Pn Pn 09 42 49.2 +0.6
H21K IAML 09 43 52.8
comp=N,55nm,1.4s
H21K Melozitna Rive 3.49 114 P Pn 09 42 48.7 +0.1
baz=301
I20K Naaghedeneel 3.50 132 Pn Pn 09 42 49.5 +0.9
I20K Naaghedeneel 3.50 132 P Pn 09 42 49.5 +0.9
baz=318
J19K Poorman 3.86 146 Pn 09 42 54.0 +0.4
J19K IAML 09 44 03.0
comp=N,41nm,1.0s
J19K Poorman 3.86 146 P Pn 09 42 54.2 +0.5
baz=330
H22K Ishtalitna Cre 3.90 106 Pn Pn 09 42 54.9 +0.6
H22K Ishtalitna Cre 3.90 106 P Pn 09 42 54.9 +0.6
baz=294
J16K Anvik River 3.99 180 Pn Pn 09 42 56.0 +0.5
J16K IAML 09 44 14.6
comp=E,45nm,0.8s
J16K Anvik River 3.99 180 P Pn 09 42 55.5 0.0
baz=0.3
COLD Coldfoot 4.01 86 Pn 09 42 56.5 +0.7
COLD Coldfoot 4.01 86 P Pn 09 42 56.3 +0.5
baz=275
B22K Teshekpuk Lake 4.03 37 Pn Pn 09 42 56.5 +0.5
B22K IAML 09 44 10.6
comp=N,48nm,0.7s
B22K Teshekpuk Lake 4.03 37 P Pn 09 42 56.4 +0.5
baz=223
I21K Tanana 4.04 117 Pn 09 42 56.5 +0.4
I21K IAML 09 44 11.3
comp=N,44nm,1.2s
I21K IAML 09 44 11.6
comp=E,53nm,1.2s
I21K Tanana 4.04 117 P Pn 09 42 56.4 +0.2
baz=305
D23K Nanushuk River 4.07 61 Pn 09 42 58.5 +2.0
D23K Nanushuk River 4.07 61 P Pn 09 42 58.5 +2.0
baz=250
J20K Nowinta River 4.07 137 Pn Pn 09 42 57.1 +0.6
J20K IAML 09 44 10.9
comp=E,40nm,0.9s
J20K IAML 09 44 12.2
comp=N,42nm,1.1s
J20K Nowinta River 4.07 137 P Pn 09 42 56.8 +0.3
baz=322
J18K Innoko River 4.13 155 Pn Pn 09 42 58.0 +0.6
J18K IAML 09 44 09.5
comp=E,43nm,0.8s
J18K IAML 09 44 10.6
comp=N,38nm,1.3s
J18K Innoko River 4.13 155 P Pn 09 42 58.0 +0.6
baz=339
G23K Bananza Creek 4.16 93 Pn Pn 09 42 57.7 -0.2
A21K Barrow 4.31 17 Pn 09 42 59.9 +0.1
A21K Barrow 4.31 17 P Pn 09 42 59.9 +0.1
baz=201
TOLK Toolik Lake Re 4.36 66 Pn Pn 09 43 02.3 +1.8
TOLK IAML 09 44 24.5
comp=N,41nm,0.9s
TOLK IAML 09 44 30.0
comp=E,38nm,0.8s
TOLK Toolik Lake Re 4.36 66 P Pn 09 43 01.6 +1.1
baz=256
C23K Itkillik River 4.47 50 Pn Pn 09 43 03.2 +1.3
C23K IAML 09 44 28.1
comp=N,36nm,1.0s
C23K IAML 09 44 28.7
comp=E,36nm,0.7s
C23K Itkillik River 4.47 50 P Pn 09 43 02.9 +0.9
baz=239
MLY Manley 4.56 115 Pn Pn 09 43 03.8 +0.5
MLY Manley 4.56 115 P Pn 09 43 03.4 +0.1
baz=304
K17K Iditarod 4.66 167 Pn Pn 09 43 05.5 +0.8
K17K Iditarod 4.66 167 P Pn 09 43 04.7 +0.1
baz=349
E24K Your Creek 4.67 74 Pn 09 43 05.9 +1.1
E24K IAML 09 44 32.0
comp=E,28nm,0.7s
E24K IAML 09 44 41.0
comp=N,21nm,1.6s
E24K Your Creek 4.67 74 P Pn 09 43 06.1 +1.3
baz=265
J14K Nanvaranak Lak 4.71 197 Pn Pn 09 43 04.3 -1.0
J14K IAML 09 44 33.1
comp=E,26nm,1.1s
J14K IAML 09 45 59.5
comp=N,24nm,3.9s
TTA Tatalina 4.75 154 Pn Pn 09 43 07.1 +1.1
TTA IAML 09 44 29.5
comp=N,20nm,1.1s
TTA Tatalina 4.75 154 P Pn 09 43 06.6 +0.7
baz=338
K20K Telida 4.76 142 Pn Pn 09 43 06.3 +0.2
K20K Telida 4.76 142 P Pn 09 43 06.1 0.0
baz=328
F24K Squaw Lake 4.89 81 Pn Pn 09 43 09.5 +1.7
I23K Minto, Yukon-K 5.00 110 Pn Pn 09 43 09.8 +0.6
I23K IAML 09 44 36.2
comp=E,18nm,1.4s
I23K Minto, Yukon-K 5.00 110 P Pn 09 43 09.5 +0.3
baz=300
K15K Wolf Creek Mou 5.00 185 Pn Pn 09 43 09.7 +0.3
K15K IAML 09 44 44.3
comp=E,28nm,3.1s
K15K IAML 09 45 16.9
comp=N,26nm,3.4s
K15K Wolf Creek Mou 5.00 185 P Pn 09 43 09.2 -0.2
baz=4.4
BPAW Bear Paw Mtn. 5.06 124 Pn Pn 09 43 11.2 +1.0
BPAW IAML 09 44 38.4
comp=N,22nm,2.1s
BPAW IAML 09 44 38.9
comp=E,25nm,2.3s
BPAW Bear Paw Mtn. 5.06 124 P Pn 09 43 11.2 +1.0
baz=313
G24K Hadweenzic Riv 5.16 90 Pn Pn 09 43 11.9 +0.5
CAST Castle Rocks 5.23 134 Pn Pn 09 43 13.4 +0.9
CAST IAML 09 44 57.6
comp=N,17nm,4.1s
CAST Castle Rocks 5.23 134 P Pn 09 43 13.3 +0.8
baz=321
L17K Donlin 5.24 168 Pn 09 43 13.1 +0.6
baz=350
H24K Noodor Dome 5.25 100 Pn Pn 09 43 13.7 +0.9
H24K IAML 09 44 55.6
comp=N,16nm,2.8s
H24K IAML 09 45 40.3
comp=E,14nm,5.0s
H24K Noodor Dome 5.25 100 P Pn 09 43 12.6 -0.2
baz=291
L18K Granite Mounta 5.32 160 Pn Pn 09 43 14.8 +1.1
L18K IAML 09 44 54.2
comp=E,20nm,2.9s
L18K IAML 09 44 57.6
comp=N,21nm,3.2s
L18K Granite Mounta 5.32 160 P Pn 09 43 14.6 +0.9
baz=344
NEA2 Nenana 5.40 114 Pn 09 43 15.7 +0.9
NEA2 Nenana 5.40 114 P Pn 09 43 15.4 +0.6
baz=305
KTH Kantishna Hill 5.47 128 Pn Pn 09 43 16.9 +1.1
MDM Murphy Dome 5.50 109 Pn Pn 09 43 16.6 +0.3
BWN Browne 5.52 119 Pn Pn 09 43 18.3 +1.9
L20K Farewell, AK 5.57 146 Pn Pn 09 43 17.8 +0.6
L20K Farewell, AK 5.57 146 P Pn 09 43 17.8 +0.6
baz=332
L16K Owhat River 5.59 175 Pn Pn 09 43 18.0 +0.6
PPLA Purkeypile 5.62 137 Pn Pn 09 43 19.1 +1.2
PPLA Purkeypile 5.62 137 P Pn 09 43 19.1 +1.2
baz=325
D25K Kavik River 5.64 62 Pn Pn 09 43 18.5 +0.4
D25K Kavik River 5.64 62 P Pn 09 43 18.2 0.0
baz=255
L19K White Mountain 5.65 152 Pn Pn 09 43 19.4 +1.2
L19K White Mountain 5.65 152 P Pn 09 43 18.9 +0.6
baz=337
COLA College 5.69 109 Pn 09 43 19.4 +0.7
POKR Poker Plat Res 5.72 106 Pn 09 43 19.8 +0.6
POKR Poker Plat Res 5.72 106 P Pn 09 43 19.6 +0.4
baz=298
TRF Thorofare Moun 5.74 127 Pn Pn 09 43 20.6 +1.0
TRF Thorofare Moun 5.74 127 P Pn 09 43 20.6 +1.0
baz=316
F25K Christian Rive 5.74 80 Pn Pn 09 43 20.5 +1.0
F25K Christian Rive 5.74 80 P Pn 09 43 20.5 +1.0
baz=273
E25K Arctic Village 5.76 75 Pn Pn 09 43 21.2 +1.4
E25K Arctic Village 5.76 75 P Pn 09 43 21.1 +1.3
baz=268
WRH Wood River Hil 5.82 113 Pn Pn 09 43 21.2 +0.6
MCK McKinley 5.98 121 Pn 09 43 23.4 +0.6
MCK McKinley 5.98 121 P Pn 09 43 23.4 +0.6
baz=311
M19K Big River Lodg 5.99 151 Pn Pn 09 43 24.3 +1.4
M19K Big River Lodg 5.99 151 P Pn 09 43 23.9 +1.0
baz=336
M17K Holitna River 6.03 166 Pn Pn 09 43 24.6 +1.1
M17K Holitna River 6.03 166 P Pn 09 43 24.4 +0.9
baz=348
IL31 6.10 108 Pn 09 43 24.7 +0.4
ILAR Eielson Array 6.10 108 Pn 09 43 24.7 +0.3
M18K Stony River 6.14 158 Pn 09 43 25.6 +0.6
M18K Stony River 6.14 158 P Pn 09 43 25.6 +0.6
baz=343
BMAR Burnt Mountain 6.17 81 Pn Pn 09 43 27.1 +1.8
RND Reindeer 6.23 123 Pn Pn 09 43 27.0 +0.8
HDA Harding Lake 6.26 111 Pn 09 43 26.9 +0.2
M20K Styx River 6.26 146 Pn 09 43 28.2 +1.4
M20K Styx River 6.26 146 P Pn 09 43 28.2 +1.4
baz=333
PRP Porcupine Dome 6.28 99 Pn Pn 09 43 27.3 +0.4
PRP Porcupine Dome 6.28 99 P Pn 09 43 27.0 +0.1
baz=293
M16K Timber Creek 6.30 173 Pn Pn 09 43 28.6 +1.4
M16K Timber Creek 6.30 173 P Pn 09 43 27.8 +0.6
baz=354
C26K Camden Bay 6.30 58 Pn 09 43 28.0 +0.8
C26K Camden Bay 6.30 58 P Pn 09 43 28.0 +0.8
baz=252
CUT Chulitna 6.54 133 Pn Pn 09 43 32.5 +2.1
CUT Chulitna 6.54 133 P Pn 09 43 32.4 +1.9
baz=322
SVW2 Sparrevohn 6.55 158 Pn Pn 09 43 31.7 +1.1
SKT Skwentna 6.56 140 Pn Pn 09 43 32.5 +1.8
SKT Skwentna 6.56 140 P Pn 09 43 32.1 +1.5
baz=328
M14K Bethel 6.56 186 Pn Pn 09 43 29.5 -1.3
WAT7 Susitna Watana 6.64 126 Pn 09 43 33.2 +1.3
WAT1 Susitna Watana 6.74 126 Pn 09 43 34.5 +1.3
WAT1 Susitna Watana 6.74 126 P Pn 09 43 34.5 +1.3
baz=316
J25K Salcha River, 6.74 106 Pn Pn 09 43 33.8 +0.5
J25K Salcha River, 6.74 106 P Pn 09 43 33.7 +0.5
baz=300
SPNN North Nagishla 6.82 146 Pn 09 43 35.8 +1.4
N16K Nishlik Lake 6.86 173 Pn 09 43 36.0 +1.2
N16K Nishlik Lake 6.86 173 P Pn 09 43 36.0 +1.2
baz=354
STLK Strandline Lak 6.90 143 Pn 09 43 37.0 +1.6
N18K Kilae Creek 6.91 161 Pn 09 43 36.9 +1.3
N18K Kilae Creek 6.91 161 P Pn 09 43 36.8 +1.2
baz=345
N17K Nushagak Hills 6.92 166 Pn Pn 09 43 37.9 +2.2
DHY Denali Highway 6.94 121 Pn 09 43 37.8 +1.7
DHY Denali Highway 6.94 121 P Pn 09 43 37.4 +1.3
baz=313
N19K Bonanza Creek 6.99 155 Pn Pn 09 43 37.8 +1.1
N19K Bonanza Creek 6.99 155 P Pn 09 43 37.6 +0.9
baz=340
N15K Kwethluk River 7.12 178 Pn Pn 09 43 39.9 +1.5
WAT6 Susitna Watana 7.17 125 Pn Pn 09 43 39.8 +0.5
WAT6 Susitna Watana 7.17 125 P Pn 09 43 39.8 +0.5
baz=316
SUA Susitna One 7.19 139 Pn Pn 09 43 41.6 +2.1
E27K Coleen River 7.25 74 Pn Pn 09 43 41.6 +1.4
I26K Coal Creek Min 7.27 98 Pn 09 43 40.3 -0.2
I26K Coal Creek Min 7.27 98 P Pn 09 43 40.3 -0.2
baz=293
GHO Glory Hole Cre 7.43 132 Pn Pn 09 43 44.8 +2.1
J26L Joseph Creek 7.47 104 Pn Pn 09 43 43.8 +0.4
J26L Joseph Creek 7.47 104 P Pn 09 43 43.4 +0.1
baz=299
PMR Palmer 7.52 134 Pn Pn 09 43 45.0 +1.2
D27M Malcolm River 7.52 66 Pn Pn 09 43 44.6 +0.7
SML Sawmill 7.58 130 Pn Pn 09 43 46.1 +1.3
SCRK Sand Creek 7.59 108 Pn Pn 09 43 45.3 +0.4
SCRK Sand Creek 7.59 108 P Pn 09 43 45.0 +0.1
baz=303
O19K Port Alsworth 7.60 156 Pn Pn 09 43 46.1 +1.1
RSO Redoubt South 7.63 150 Pn Pn 09 43 44.4 -1.2
O16K Kokwok River B 7.77 171 Pn Pn 09 43 48.1 +0.8
O18K Koktuh Hills 7.80 160 Pn Pn 09 43 48.8 +1.1
KNK Knik Glacier 7.85 133 Pn Pn 09 43 51.3 +2.8
SCM Sheep Creek Mo 7.86 128 Pn Pn 09 43 48.6 0.0
F28M Old Crow 7.94 78 Pn Pn 09 43 51.3 +1.6
E28M Babbage River 8.01 71 Pn Pn 09 43 51.9 +1.4
O14K Tigyukauivet M 8.04 183 Pn Pn 09 43 51.0 -0.1
EGAK Eagle 8.26 98 Pn Pn 09 43 54.7 +0.7
MENT Mentasta 8.30 114 Pn Pn 09 43 56.3 +1.7
L26K Log Cabin Wild 8.38 112 Pn Pn 09 43 57.1 +1.4
I28M Miner Creek 8.46 93 Pn Pn 09 43 59.1 +2.2
KLU Klutina 8.56 126 Pn Pn 09 44 02.0 +3.8
E29M Slow River 8.62 72 Pn Pn 09 44 00.3 +1.5
G29M Pine Creek 8.77 82 Pn Pn 09 44 02.8 +1.8
H29M Whitestone 8.82 86 Pn Pn 09 44 03.1 +1.4
M26K Nabesna, AK 8.90 115 Pn Pn 09 44 04.1 +1.3
N25K Chitina, Valde 8.90 122 Pn Pn 09 44 01.1 -1.8
L27K Beaver Creek, 8.91 109 Pn 09 44 04.4 +1.5
BCAR Beaver Creek A 8.92 109 Pn Pn 09 44 04.2 +1.2
DAWY Dawson 9.28 100 Pn Pn 09 44 08.8 +0.9
GLB Gilahina Butte 9.28 121 Pn Pn 09 44 08.7 +0.6
M27K Edge Creek, AK 9.32 113 Pn Pn 09 44 10.8 +2.1
EPYK Eagle Plains 9.41 84 Pn Pn 09 44 10.7 +0.9
G30M tAoh Zraii Nji 9.45 80 Pn Pn 09 44 11.8 +1.5
MCARA McCarthy VSAT 9.59 120 Pn Pn 09 44 12.4 +0.2
RAGM Ragged Mountai 9.80 127 Pn Pn 09 44 15.2 +0.1
I30M Mount Dempster 9.93 91 Pn Pn 09 44 17.9 +0.9
G31M Satah River 10.21 80 Pn Pn 09 44 21.5 +0.9
INK Inuvik 10.24 72 Pn Pn 09 44 22.0 +0.9
L29M L29M 10.26 103 Pn Pn 09 44 23.0 +1.6
M29M Somme Creek 10.52 107 Pn Pn 09 44 26.4 +1.3
LOGN Logan Glacier 10.68 118 Pn Pn 09 44 28.4 +1.2
M30M Minto, Yukon 11.07 104 Pn Pn 09 44 34.3 +1.8
N30M Aishikik Lake 11.64 109 Pn Pn 09 44 39.6 -0.7
baz=113
N30M Aishikik Lake 11.64 109 P Pn 09 44 39.7 -0.7
BCPM Bancas Point 11.78 118 Pn Pn 09 44 42.0 -0.1

HEL 16 09:42:56.4±0.2, 60°46N×26°94E, h0km, ML0.8, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VJF	Virojoki	0.32	75	PG	Pg	09 43 02.0	-0.4
VJF				SG	Sg	09 43 06.2	-0.3
PVF	Pernaja	0.54	279	PG	Pg	09 43 05.6	-1.1
PVF				SG	Sg	09 43 13.2	-0.5
PVF				MSG		09 43 13.8	
comp=Z,1.1nm,0.2s							
HEL1	Helsinki	1.06	255	PG	Pg	09 43 15.3	-1.4
FIA0	FINESS Array S	1.07	337	PB	Pg	09 43 16.5	-0.4
FIA0				MSG		09 43 29.1	
comp=Z,1.0nm,0.2s							
FIA0				SB	Sg	09 43 30.6	-0.2
NUR	Nurmijrvi	1.13	273	PG	Pg	09 43 16.4	-1.7
NUR				MSG		09 43 30.9	
comp=Z,1.3nm,0.2s							
NUR				SN	Sn	09 43 37.3	+1.5
MEF	Metsahovi	1.29	260	PG	Pg	09 43 19.4	-1.6
MEF				MSG		09 43 35.3	
comp=Z,1.1nm,0.2s							
MEF				SN	Sn	09 43 41.5	+2.0
RUF	Ruokolahti	1.38	45	PG	Pg	09 43 20.6	-2.2
RUF				MSG		09 43 37.9	
comp=Z,1.0nm,0.2s							
RUF				SN	Sn	09 43 42.2	+0.4
KAF	Kangasniemi	1.69	350	PG	Pn	09 43 26.8	-0.3
baz=172							
KAF				MSG		09 43 46.7	
comp=Z,0.7nm,0.2s							
KEF	Keuruu	1.98	331	PG	Pn	09 43 31.7	+0.6
baz=151							
KEF				MSG		09 43 55.2	
comp=Z,0.6nm,0.2s							
VSU	Vasula	2.01	183	PG	Pb	09 43 32.7	-1.0
VSU				SG	Sb	09 43 58.8	-0.5
MTSE	Matsula	2.37	224	SG	Sb	09 44 09.4	0.0

HEL 16 09:43:55.9±0.2, 62°73N×22°85E, h0km, ML1.1, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAF	Ylistaro	0.32	345	PG	Pg	09 44 01.4	-0.7
VAF				SG	Sg	09 44 03.4	-2.8
KPF	Kankaanpaa	0.97	202	SN	Pg	09 44 13.8	-0.7
KPF	Kankaanpaa	0.97	202	PG	Pg	09 44 13.8	-0.7
baz=20							
KPF				SB	Sg	09 44 28.0	+0.9
KEF	Keuruu	1.10	120	PG	Pg	09 44 15.7	-1.2
KEF				MSG		09 44 29.4	
comp=Z,1.2nm,0.2s							
KEF				SB	Sg	09 44 30.5	-0.5
UMAU	Umeaa	1.52	321	PN	Pn	09 44 24.0	-0.3
baz=137							
SUF	Sumiainen	1.52	89	PG	Pn	09 44 22.8	-1.5
baz=276							
SUF				MSG		09 44 41.5	
comp=Z,0.7nm,0.2s							
SUF				SN	Sg	09 44 43.6	-1.0
KAF	Kangasniemi	1.72	110	MSG		09 44 47.2	
comp=Z,1.4nm,0.2s							
KAF				SG	Sn	09 44 49.2	-0.5
HUSU	Husum	1.77	292	SG	Sb	09 44 51.7	-0.1
RAF	Rauma	1.79	197	MSG		09 44 49.3	
comp=Z,1.6nm,0.2s							
RAF				SN	Sg	09 44 53.0	-0.4
OUF	Merijarvi	1.84	26	SB	Sb	09 44 53.5	-0.6
OUF	Merijarvi	1.84	26	PG	Pn	09 44 29.2	+0.5
OUF				MSG		09 44 50.9	
comp=Z,0.7nm,0.2s							
OUF				SG	Sb	09 44 53.5	-0.6
OBF0	Syolatti, Pyha	1.88	19	PG	Pb	09 44 30.1	-0.9
OBF0				MSG		09 44 51.9	
comp=Z,1.4nm,0.2s							
OBF0				SG	Sb	09 44 55.1	+0.2
BURU	Burvik	1.97	341	PG	Pn	09 44 31.3	+0.8
baz=160							
BURU				SG	Sn	09 44 56.3	+0.5
FIA0	FINESS Array S	1.99	129	PG	Pn	09 44 30.8	0.0
FIA0				MSG		09 44 55.0	
comp=Z,1.0nm,0.2s							
FIA0				SG	Sb	09 44 57.4	-0.9
HEMU	Hemsoen	2.22	271	PG	Pn	09 44 34.9	+1.0
HEMU				SG	Sb	09 45 04.7	-0.1
NIF	Nilsia	2.35	71	SG	Sb	09 45 07.4	-1.2

IDC 16 09:52:49.1±13.0, 15°36S×165°73E, h0km, mb3.9/3, mbtmp3.9/4, ML3.8/1, Error ellipse: s-maj=236.5km s-min=36.5km az=55.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	6.71	174	Pn	Pn	09 54 29.0	0.0
2.0nm,0.3s,baz=82,slow=12,SNR=49							
DZM				Sn	Sn	09 55 47.5	+1.2
2.0nm,0.3s,baz=302,slow=22,SNR=11							
4.6nm,0.4s							
STKA	Stephens Creek	27.45	229	P	P	09 58 37.1	+0.2
0.9nm,0.3s,baz=52,slow=10,SNR=6.7							
0.9nm,0.3s							
WRA	Warramunga Arr	30.23	257	P	P	09 59 01.5	-0.3
0.4nm,0.6s,baz=80,slow=6.9,SNR=2.3							
0.4nm,0.6s							
ASAR	Alice Springs	31.05	250	P	P	09 59 09.1	0.0
1.2nm,0.7s,baz=80,slow=9.1,SNR=19							
1.2nm,0.7s							

IDC 16 09:57:02.1±15.0, 4°41N×124°47E, h372km±177km, mb3.3/8, mbtmp4.1/8, MS3.9/1, Error ellipse: s-maj=125.9km s-min=17.2km az=54.0

ISC 16 09:57:00.1±1.4, 4°5N±0°4×124°5E±0°6, h350km, n9, σ0s80/8, mb3.6/8, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	26.12	159	P	P	10 02 02.8	-0.7
1.5nm,0.4s,baz=340,slow=9.2,SNR=47							
1.5nm,0.4s							
CMAR	Chiang Mai Arr	28.57	301	P	P	10 02 25.3	+0.1
0.6nm,0.3s,baz=126,slow=6.1,SNR=4.1							
0.6nm,0.3s							
ASAR	Alice Springs	29.43	162	P	P	10 02 32.4	-0.4
1.0nm,0.4s,baz=344,slow=7.1,SNR=29							
1.0nm,0.4s							
STKA	Stephens Creek	39.64	157	P	P	10 03 60.0	+0.7
1.5nm,0.4s,baz=355,slow=9.4,SNR=6.3							
1.5nm,0.4s							
MKAR	Makanchi Array	55.69	326	P	P	10 06 02.0	+0.8
1.5nm,0.3s,baz=120,slow=7.7,SNR=33							
1.5nm,0.3s							
AAK	Ala-Archa	58.31	318	LR	LR	10 35 35.9	
comp=Z,100nm,21.8s,baz=240,slow=40							
KURBB	Kurchatov Arra	59.92	328	P	P	10 06 30.6	+0.4
1.4nm,0.5s,baz=129,slow=6.5,SNR=11							
1.4nm,0.5s							
BVAR	Borovoye Array	65.49	327	P	P	10 07 05.7	-0.9
0.5nm,0.6s,baz=134,slow=8.3,SNR=2.9							
0.5nm,0.6s							
AKTO	Aktyubinsk	71.69	322	P	P	10 07 44.0	-0.7
1.2nm,0.6s,baz=111,slow=8.5,SNR=4.3							
1.2nm,0.6s							

IDC 16 10:17:00.0±1.9, 5°38S×141°09E, h0km, mb3.8/1, mbtmp4.1/4, ML4.3/2, Error ellipse: s-maj=43.2km s-min=29.2km az=56.0

ISC 16 10:17:01.5±1.5, 5°5S±0°2×141°02E±0°10, h10km, n10, σ1s90/10, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	7.24	123	Pn	Pn	10 18 47.2	-0.2
11nm,0.6s,baz=279,slow=11,SNR=2.0							
PMG				Sn	Sn	10 20 11.8	+2.0
0.7nm,0.3s,baz=271,slow=16,SNR=1.7							
FAKI	Fak Fak	9.11	286	P	Pn	10 18 59.5	-14

DRS	Darwin Rock St	12.16	235	P	Pn	10 19 57.2	+2.2
	26nm,0.7s						
QIS	Mount Isa	15.07	185	P	P	10 20 40.6	+0.6
KNRA	Kununurra	15.75	229	P	Pn	10 20 44.2	+0.6
WRA	Warramunga Arr	15.80	204	Pn	P	10 20 47.4	-0.7
	1.7nm,0.3s,baz=23,slow=12,SNR=54						
	3.7nm,0.4s						
ASAR	Alice Springs	19.36	200	P	P	10 21 27.3	-0.2
	0.5nm,0.3s,baz=30,slow=10.0,SNR=52						
	3.2nm,0.6s						
EIDS	Eidsvold	22.02	155	P	P	10 21 54.2	-2.0
	17nm,1.6s						
WRKA	Warakurna	22.98	211	P	P	10 22 03.2	-3.3
MKAR	Makanchi Array	73.36	322	P	P	10 28 33.9	+0.2
	0.7nm,0.8s,baz=126,slow=7.3,SNR=4.0						
	0.7nm,0.8s						

IDC ***16*** *10:30:30.1±3.4, 53°.69N×90°.89E, h0km, mbtmp3.1/3, ML2.5/3, Error ellipse: s-maj=27.9km s-min=23.9km az=56.0*

NNC ***16*** *10:30:33.5±2.5, 53°.71N×90°.58E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=18.1km s-min=17.1km az=31.0, Suspected Mining explosion.*

ISC 16 10:30:33.0±4.1, 53°.6N±0°.1×90°.7E±0°.2, h0km, n10, σ1§57/11, 4C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	3.50	277	I	I	10 56 50.0	
	baz=90,slow=336,SNR=2.2						
ZAA0	Zalesovo Array	3.50	277	⇓Pg	Pb	10 31 35.9	+0.2
	1.2nm,0.8s						
ZAA0				⇑Lg	Lg	10 32 23.1	
	4.7nm,0.8s						
ZALV	Zalesovo Beam	3.50	277	Pn	Pn	10 31 29.2	+0.6
	0.7nm,0.3s,baz=94,slow=15,SNR=12						
ZALV				Lg	Lg	10 32 22.1	
	2.1nm,0.3s,baz=91,slow=26,SNR=12						
	3.1nm,0.5s						
KURK	Kurchatov	7.98	253	⇑Pn	Pn	10 32 30.9	+0.8
	2.4nm,0.9s						
KURK				⇑Sn	Sn	10 34 01.5	+0.5
	6.5nm,0.9s						
KURK				⇓Lg	Lg	10 34 45.7	
	8.4nm,0.7s						
KURBB	Kurchatov Arra	8.07	253	Pn	Pn	10 32 30.2	-1.1
	0.1nm,0.3s,baz=64,slow=14,SNR=7.5						
KURBB				Sn	Sn	10 34 01.4	-1.9
	baz=68,slow=25,SNR=1.2						
KURBB				Lg	Lg	10 34 49.2	
	baz=69,slow=37,SNR=4.1						
	1.1nm,0.5s						
KURBB	Kurchatov Arra	8.07	253	⇓Pn	Pn	10 32 30.5	-0.9
	1.7nm,0.5s						
KURBB				⇓Sn	Sn	10 34 02.7	-0.6
	15nm,0.7s						
KURBB				⇓Lg	Lg	10 34 49.1	
	31nm,0.9s						
MK31	Makanchi Array	8.71	222	⇑Pn	Pn	10 32 51.7	+11
	1.6nm,0.8s,baz=40,slow=13,SNR=5.2						
MK31				⇓Sn	Sn	10 34 22.4	+3.3
	1.3nm,0.7s,baz=41,slow=24,SNR=2.5						
MK31				⇓Lg	Lg	10 35 12.4	
	4.8nm,0.8s,baz=46,slow=29,SNR=4.8						
MKAR	Makanchi Array	8.71	222	Pn	Pn	10 32 38.9	-1.3
	0.1nm,0.3s,baz=39,slow=13,SNR=5.8						
MKAR				Sn	Sn	10 34 19.2	+0.1
	0.1nm,0.3s,baz=42,slow=28,SNR=1.6						
MKAR				Lg	Lg	10 35 09.2	
	0.1nm,0.3s,baz=38,slow=28,SNR=2.3						
	0.5nm,0.6s						
SONM	Songino Array	11.51	114	Lg	Lg	10 36 26.1	
	baz=300,slow=26						
I34MN	SONGINO INFRAS	11.54	114	I	I	11 37 30.0	
	baz=312,slow=325,SNR=0.7						

IDC ***16*** *10:38:25.1±2.1, 1°.33N×125°.36E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=200.3km s-min=27.8km az=64.0*

DJA ***16*** *10:38:27.5±0.3, 2°.N±3°×12°.6E±°, h10km, M4.0/10, mb4.5/3, MLv3.8/10*

ISC 16 10:38:26.7±1.1, 1°.8N±0°.1×126°.43E±0°.08, h10km, n12, σ1§41/12, mb3.3/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	1.37	137	P	Pn	10 38 52.9	+1.0
SGSI	Sangihe	2.10	335	S	Sn	10 39 29.0	+0.8
LBMI	Labuha	2.62	156	P	Pn	10 39 11.2	+2.0
KMSI	Cibinong	2.72	244	P	Pn	10 39 11.7	+1.2
GTOI	Gorontalo	3.60	252	P	Pn	10 39 24.6	+2.0
SANI	Sanana	3.82	187	P	Pn	10 39 26.0	+0.3
LUWI	Luwuk	4.60	233	P	Pn	10 39 37.5	+1.1
MRSI	Marisa	4.67	254	P	Pn	10 39 37.2	-0.1
SWI	Sorong	5.50	118	P	Pn	10 39 49.7	+1.0
	15nm,0.6s,0.1nm						
WRA	Warramunga Arr	22.93	161	P	P	10 43 30.3	-0.9
	0.3nm,0.3s,baz=336,slow=11,SNR=9.0						
	0.3nm,0.3s						
ASAR	Alice Springs	26.31	164	P	P	10 44 02.2	-0.6
	0.2nm,0.5s,baz=346,slow=8.4,SNR=8.4						
	0.2nm,0.5s						
MKAR	Makanchi Array	58.99	326	P	P	10 48 24.9	-1.7
	0.2nm,0.6s,baz=132,slow=7.4,SNR=2.3						
	0.2nm,0.6s						

NEIC ***16*** *10:45:44.9±1.4, 15°.5S±0°.1×170°.6W±0°.1, h10km±2km, mb4.2/6, Error ellipse: s-maj=28.2km s-min=13.8km az=31.0*

IDC ***16*** *10:46:08.9±4.4, 18°.28S×173°.64W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=204.6km s-min=34.5km az=141.0*

ISC 16 10:46:09.9±1.4, 18°.5S±0°.3×173°.8W±0°.2, h10km, n13, σ1§80/13, mb4.3/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	Niue	3.66	99	Pn	Pn	10 46 42.2	-24
MSVF	Nonsavu	7.84	275	Pn	Pb	10 48 24.0	-2.0
CTAO	Charters Tower	37.72	261	P	P	10 53 27.9	+1.8
CTAO				IAmb	IAmb	10 53 53.6	
	comp=Z,9.1nm,1.1s						
WB0	Warramunga Arr	48.85	260	P	P	10 54 57.1	+1.1
WB0				IAmb	IAmb	10 55 07.6	
	comp=Z,3.5nm,1.2s						
WB2	Warramunga Arr	48.87	259	P	P	10 54 56.7	+0.5
WRAB	Tennant Creek	48.87	259	P	P	10 54 57.4	+1.2
WRA	Warramunga Arr	48.88	259	P	P	10 54 57.2	+1.0
WRA				PcP	PcP	10 56 06.4	-14
WRA	Warramunga Arr	48.88	259	P	P	10 54 57.3	+1.0
	comp=Z,0.6nm,0.6s,baz=97,slow=7.0,SNR=11						
	comp=Z,0.6nm,0.6s						
AS31	Alice Springs	48.89	254	P	P	10 54 58.7	+2.3
AS31				IAmb	IAmb	10 54 58.9	
	comp=Z,1.3nm,0.9s						
ASAR	Alice Springs	48.89	254	P	P	10 54 58.3	+1.9
ASAR	Alice Springs	48.89	254	P	P	10 54 58.5	+2.2
	comp=Z,2.1nm,0.6s,baz=97,slow=7.3,SNR=30						
ASAR				PcP	PcP	10 56 22.0	+1.1
	comp=Z,0.3nm,0.9s,baz=100,slow=4.3,SNR=1.3						
	comp=Z,2.1nm,0.6s						
VNDA	Vanda	60.25	186	P	P	10 56 15.8	-2.2
VNDA				IAmb	IAmb	10 56 26.6	
	comp=Z,4.0nm,1.4s						
ILAR	Eielson Array	85.56	11	P	P	10 58 47.2	-0.7
	comp=Z,0.3nm,0.5s,baz=227,slow=6.0,SNR=16						
	comp=Z,0.3nm,0.5s						

HEL ***16*** *10:52:34.8±0.3, 67°.62N×20°.79E, h0km, ML1.5, Suspected explosion*

UPP ***16*** *10:52:35.5±0.0, 67°.63N×21°.02E, h0km, ML1.9, Suspected explosion*

IDC ***16*** *10:52:36.7±2.1, 67°.65N×21°.52E, h0km, mbtmp2.8/2, ML2.0/2, Error ellipse: s-maj=29.4km s-min=9.7km az=105.0*

ISC 16 10:52:35.1±0.8, 67°.60N±0°.02×20°.97E±0°.03, h0km, n27, σ1§09/41, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MASU	Masugnsbyn	0.42	110	P	Pg	10 52 43.5	+0.4
MASU				S	Sg	10 52 49.9	+1.3
KUA	Kurravaara	0.43	326	P	Pg	10 52 43.5	+0.3
KUA				S	Sg	10 52 49.1	+0.3
DUNU	Dundret	0.51	198	P	Pb	10 52 45.8	-1.1
RATU	Laukkuluspa	0.57	293	P	Pg	10 52 46.4	+0.4
LANU	Lannavaara	0.59	41	P	Pg	10 52 46.0	-0.4
LANU	Lannavaara	0.59	41	PG	Pg	10 52 45.9	-0.6
LANU				SG	Sg	10 52 54.8	+0.7
KOVU	Salmi	0.69	334	P	Pg	10 52 48.3	-0.1
SALU	Saltoluokta	0.97	258	P	Pg	10 52 54.0	+0.3
PAJU	Pajala	1.01	124	P	Pg	10 52 54.2	-0.3
PAJU	Pajala	1.01	124	PG	Pg	10 52 54.1	-0.3
	baz=305						
PAJU				SB	Sb	10 53 08.9	-0.4
KLF	Kolari	1.21	106	PG	Pg	10 52 57.8	-0.5
KLF				MSG		10 53 13.7	
	comp=Z,2.5nm,0.2s						
KLF				SB	Sb	10 53 14.6	-0.4
HEF	Hetta	1.30	50	PG	Pg	10 52 58.6	-1.3
HEF				MSG		10 53 15.2	
	comp=Z,3.5nm,0.2s						
HEF				SG	Sg	10 53 16.4	-0.2
KIF	Kilpisjarvi	1.41	358	PN	Pn	10 53 01.3	-0.6
KIF				MSG		10 53 17.8	
	comp=Z,8.4nm,0.2s						
KIF				SN	Sb	10 53 20.8	+0.1
KTK1	Kautokeino	1.65	30	PG	Pn	10 53 05.8	+0.5
KTK1				SN	Sg	10 53 28.1	+0.2
I37NO	I37NO	1.72	330	I	I	11 05 30.0	
	baz=149,slow=334,SNR=4.1						
KALU	Kalix	1.99	150	PG	Pb	10 53 11.7	-0.4
	baz=332						
KALU				SG	Sg	10 53 38.9	0.0
TOF	Tornio	2.02	138	PG	Pb	10 53 12.4	-0.3
TOF				MSG		10 53 36.7	
	comp=Z,2.8nm,0.2s						
TOF				SG	Sg	10 53 40.3	+0.3
SGF	Sodankyl	2.14	92	PG	Pb	10 53 13.4	-1.3
SGF				SG	Sb	10 53 42.2	+0.5
RNF	Rovaniemi	2.21	115	PG	Pb	10 53 15.0	-0.8
	baz=302						
RNF				SG	Sb	10 53 44.5	+0.8
ARCES	ARCESS Array B	2.56	39	Pn	Pn	10 53 18.2	+0.5
	comp=Z,0.2nm,0.3s,baz=218,slow=14,SNR=12						
ARCES				Lg	Lg	10 53 51.2	
	comp=Z,0.7nm,0.3s,baz=218,slow=26,SNR=16						
	comp=Z,1.1nm,0.4s						
KMNF	Kaamanen	2.72	52	PN	Pn	10 53 20.3	+0.4
KMNF				SN	Sn	10 53 54.5	+1.0
RANF	Ranua	2.80	122	PB	Pb	10 53 24.0	-1.9
RANF				SB	Sb	10 53 58.9	-1.8
RAJF	Raja-Jooseppi	2.89	69	SG	Sb	10 54 03.4	0.0
KEV	Kevo	3.09	43	PB	Pn	10 53 26.1	+1.1
KEV				SN	Sn	10 54 03.5	+1.0
KEV				MSG		10 54 06.5	
	comp=Z,1.8nm,0.2s						
MSF	Maaselka	3.62	114	PN	Pn	10 53 34.6	+2.3
	baz=304						
UMAU	Umeaa	3.74	182	SB	Sb	10 54 23.7	-3.9
FINES	FINESS Array B	6.56	158	Pn	Pn	10 54 14.4	+1.7
	comp=Z,0.1nm,0.3s,baz=346,slow=12,SNR=2.3						
FINES				Lg	Lg	10 56 01.3	
	comp=Z,0.1nm,0.3s,baz=330,slow=27,SNR=2.1						
	comp=Z,1.5nm,0.8s						

HEL ***16*** *10:53:21.9±0.3, 67°.63N×20°.86E, h0km, ML1.7, Suspected explosion*

UPP 16 10:53:21.7±0.0, 67°.65N×21°.04E, h0km, ML1.8, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	Kurravaara	0.41	320	P	Pg	10 53 29.4	-0.1
KUA				S	Sg	10 53 35.0	+0.2
MASU	Masugnsbyn	0.42	117	P	Pg	10 53 29.6	0.0
MASU				S	Sg	10 53 35.6	+0.6
LANU	Lannavaara	0.54	42	P	Pg	10 53 32.0	-0.1
LANU	Lannavaara	0.54	42	PG	Pg	10 53 32.2	+0.1
LANU				SG	Sg	10 53 40.4	+1.3
DUNU	Dundret	0.56	199	P	Pg	10 53 32.3	0.0
DUNU				S	Sg	10 53 40.4	+0.9
RATU	Laukkuluspa	0.58	289	P	Pg	10 53 32.5	-0.3
KOVU	Salmi	0.67	331	P	Pg	10 53 34.5	+0.1
SALU	Saltoluokta	1.01	256	P	Pg	10 53 40.4	-0.6
PAJU	Pajala	1.02	127	P	Pg	10 53 40.6	-0.5
PAJU	Pajala	1.02	127	PG	Pg	10 53 41.1	-0.1
PAJU				SG	Sg	10 53 54.5	+0.1
KLF	Kolari	1.20	109	PG	Pg	10 53 45.0	+0.3
KLF				MSG		10 54 00.0	
	comp=Z,5.2nm,0.2s						
KLF				SG	Sb	10 54 01.1	-0.2
HEF	Hetta	1.25	51	PG	Pg	10 53 44.7	-0.9
	baz=235						
HEF				MSG		10 54 01.3	
	comp=Z,6.3nm,0.2s						
HEF				SG	Sg	10 54 01.8	0.0
KIF	Kilpisjarvi	1.37	356	PN	Pb	10 53 48.1	0.0
KIF				MSG		10 54 04.4	
	comp=Z,26nm,0.2s						
KIF				SN	Sn	10 54 10.0	+3.3
KTK1	Kautokeino	1.60	30	PG	Pg	10 53 52.4	+0.1
KTK1				SN	Sg	10 54 14.8	+1.9
KALU	Kalix	2.02	152	PG	Pb	10 53 58.3	-0.8
KALU				SG	Sb	10 54 24.3	-0.5
TOF	Tornio	2.04	139	PG	Pb	10 53 59.1	-0.4
TOF				MSG		10 54 23.6	
	comp=Z,4.0nm,0.2s						
TOF				SG	Sb	10 54 25.4	0.0
SGF	Sodankyl	2.12	93	SG	Sb	10 54 27.8	+0.2
RNF	Rovaniemi	2.21	116	PG	Pb	10 54 01.5	-0.9
RNF				SG	Sb	10 54 30.1	-0.1
KMNF	Kaamanen	2.67	53	SG	Sb	10 54 45.2	+1.6
RANF	Ranua	2.80	123	SG	Sb	10 54 47.8	+0.5
RAJF	Raja-Jooseppi	2.86	70	SB	Sb	10 54 49.8	+0.9
KEV	Kevo	3.04	43	PB	Pn	10 54 12.9	+2.0
KEV				MSG		10 54 52.9	
	comp=Z,1.7nm,0.2s						
VRF	Varrio	3.27	84	SG	Pn	10 54 16.1	+1.9
VRF	Varrio	3.27	84	PN	Pn	10 54 16.1	+1.9
VRF				SG	Sb	10 55 02.0	+1.2
OBF4	Vikkela, Lumij	3.29	148	SG	Pn	10 54 17.5	+3.2
OBF4	Vikkela, Lumij	3.29	148	PB	Pn	10 54 17.5	+3.2
MSF	Maaselka	3.62	115	PN	Pn	10 54 20.3	+1.4
UMAU	Umeaa	3.78	182	PN	Pn	10 54 21.7	+0.6
KUK	Riekki	3.86	111	PN	Pn	10 54 24.3	+2.1
KUK				SG	Sg	10 55 23.5	-2.0
HUSU	Husum	4.39	191	SN	Sn	10 55 19.7	-1.4
VAF	Ylistaro	4.67	171	PN	Pn	10 54 35.2	+1.8
VAF				SN	Sn	10 55 29.0	+0.8

NEIC ***16*** *10:59:41.6±1.0, 36°.72N±0°.02×99°.38W±0°.03, h5km±2km, Error ellipse: s-maj=4.7km s-min=2.9km az=307.0*

TUL ***16*** *10:59:41.6±0.9, 36°.71N±0°.02×99°.39W±0°.03, h4km±6km, ML3.0, mb_Lg2.6/51(NEIC), ML3.0/16(NEIC), Error ellipse: s-maj=4.4km s-min=1.7km az=130.0*

ANF ***16*** *10:59:42.1±0.4, 36°.73N×99°.36W, h1km±2km, ML3.3/8, Error ellipse: s-maj=3.2km s-min=1.7km az=75.0*

ISC 16 10:59:42.1±1.2, 36°.72N±0°.03×99°.36W±0°.03, h11km±11km, n74, σ0§83/62, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
U32A	Winter Ranch,	0.45	140	Pg	Pg	10 59 50.8	-0.2
U32A				Sg	Sg	10 59 57.5	+0.6
U32A				IAML		10 59 57.9	
	comp=N,965nm,0.3s						
U32A				IAML		10 59 58.0	
	comp=E,2μm,0.4s						
U32A	Winter Ranch,	0.45	140	P	Pg	10 59 50.7	-0.2
	baz=318,SNR=65						
U32A				S	Sg	10 59 57.4	+0.6
	baz=318						
OK035	E0210 Rd and N	0.52	91	Pg	Pg	10 59 52.4	+0.1
OK035				Sg	Sb	11 00 00.3	-0.6
OK035				IAML		11 00 02.8	
	comp=E,710nm,0.3s						
OK038	West end E0370	0.55	116		Pg	10 59 52.9	0.0
OK038				Sg	Sg	11 00 00.9	+0.7
ELIS	Ellis County	0.66	184		Pg	10 59 54.4	-0.5
ELIS				Sg	Sb	11 00 03.8	-1.1
ELIS				IAML		11 00 04.0	
	comp=E,598nm,0.2s						
ELIS				IAML		11 00 04.2	
	comp=N,728nm,0.3s						
OK032	Salt Plains WL	0.93	85		Pg	10 59 59.6	-0.4
OK032				IAML		11 00 20.3	
	comp=N,557nm,0.2s						
OK032				IAML		11 00 28.3	
	comp=N,400nm,0.2s						
KAN10	Anthony SW Sta	1.09	68	Pg	Pg	11 00 02.6	-0.5
CROK	Carrier	1.13	101	Pg	Pg	11 00 03.2	-0.6
KAN14	Manchester OK	1.14	78	Pg	Pg	11 00 03.5	-0.6
CSTR	Hydro, Custer	1.20	153		Pg	11 00 04.5	-0.7
GC02	Grant County #	1.21	83	Pg	Pg	11 00 04.7	-0.7
KAN08	Anthony NE Sta	1.22	65	Pg	Pg	11 00 05.0	-0.6
KAN12	Harper NE Stat	1.23	62		Pg	11 00 05.2	-0.6
KAN05	Bluff City Nor	1.25	72	Pg	Pg	11 00 05.6	-0.6
KAN06	Argonia West S	1.31	66		Pn	11 00 06.5	+0.1
KAN17	Caldwell West	1.32	75		Pn	11 00 06.7	+0.2
KAN01	Argonia South	1.35	71		Pn	11 00 07.4	+0.4
KAN09	Caldwell North	1.45	73		Pn	11 00 08.6	+0.2
KS21	Milan North St	1.47	67		Pb	11 00 09.5	-0.1
KAN13	South Haven SW	1.54	79		Pb	11 00 10.5	-0.1
BLOK	Blackwell	1.72	88		Pb	11 00 13.4	-0.4
SMWD	Samnorwood	1.77	204		Pn	11 00 13.0	+0.2
R32A	Long Quarter,	1.77	17		Pb	11 00 14.0	-0.7
R32A	Long Quarter,	1.77	17	P	Pb	11 00 14.1	-0.7
	baz=197,SNR=18						
R32A				S	Sb	11 00 37.8	+0.8
	baz=197						
OK029	Liberty Lake	1.79	120	Pn	Pn	11 00 13.8	+0.7
ADOK	Arcadia Dam	1.93	123	Pn	Pn	11 00 15.5	+0.5
OK048	Pawnee Station	1.97	98		Pn	11 00 16.7	+1.2
WMOK	Wichita Mounta	2.04	167	Pn	Pn	11 00 17.3	+0.9
WMOK				IAmb_Lg		11 00 47.7	
	comp=Z,26nm,0.8s						
WMOK	Wichita Mounta	2.04	167	P	Pn	11 00 17.3	+0.9
	baz=346,SNR=187						
WMOK				S	Sb	11 00 45.1	+0.6
	baz=346						
OKCSW	OKLAHOMA CITY	2.04	130	Pn	Pn	11 00 17.5	+1.1
OK033	Mehan	2.07	108		Pn	11 00 18.4	+1.5
CBKS	Cedar Bluff	2.11	352		Pb	11 00 19.1	-1.4
CBKS	Cedar Bluff	2.11	352	P	Pn	11 00 18.6	+1.1
	baz=172,SNR=23						
CBKS				S	Sb	11 00 47.2	+0.5
	baz=172						
FNO	Franklin	2.16	132	Pn	Pn	11 00 19.6	+1.5
OK052	Battle Ridge R	2.19	109	Pn	Pb	11 00 20.8	-1.0
QUOK	Quay	2.21	104	Pn	Pn	11 00 20.4	+1.7
T35A	Sooner Cattle	2.29	84		Pn	11 00 21.2	+1.2
T35B	Sooner Cattle	2.29	84	P	Pn	11 00 20.9	+1.0
	baz=266,SNR=25						
T35B				S	Sb	11 00 50.8	-1.1
	baz=266						
DEOK	Depew	2.47	110	Pn	Pn	11 00 23.1	+0.7
W35A	Tecumseh	2.55	127		Pn	11 00 24.3	+0.8
AMTX	Amarillo	2.63	227	IAmb_Lg		11 01 10.0	
	comp=Z,30nm,0.9s						
RTBA	Rita Blanca	2.73	265		Pn	11 00 27.3	+1.2
WTFS	Witchita Falls	3.04	166	IAmb_Lg		11 01 16.9	
	comp=Z,14nm,1.2s						
KSU1	Kansas State U	3.22	42	IAmb_Lg		11 01 30.8	
	comp=Z,19nm,0.8s						
LOOK	Love County	3.25	146	Pn	Pn	11 00 33.2	+0.1
DKNS	Dickens	3.31	203	IAmb_Lg		11 01 34.0	
	comp=Z,16nm,0.8s						
APMT	Aspermont	3.45	191	Pn	Pn	11 00 37.1	+1.2
KSCO	Kaye Shedlock'	3.45	312	Pn	Pn	11 00 36.8	+0.8
RLO	Rose Lookout	3.54	98	Pn	Pn	11 00 36.4	-0.7
RLO				IAmb_Lg		11 01 33.1	
	comp=Z,13nm,0.8s						
Z35A	Perchaven, San	3.80	152	Pn	Pn	11 00 40.0	-0.6
FW03	Perrin-Whitt E	3.82	164	IAmb_Lg		11 01 46.9	
	comp=Z,12nm,1.0s						
SN07	Snyder 07	3.84	200	IAmb_Lg		11 01 45.6	
	comp=Z,24nm,1.0s						
X37A	Clayton	3.88	122	P	Pn	11 00 42.7	+0.9
	baz=304,SNR=5.9						
MSTX	Muleshoe	3.92	226	IAmb_Lg		11 01 43.5	
	comp=Z,10nm,1.1s						
U38A	Gravette	4.01	93	IAmb_Lg		11 01 53.3	
	comp=Z,15nm,0.8s						
U38A	Gravette	4.01	93	P	Pn	11 00 44.9	+1.3
	baz=275,SNR=13						
SN05	Snyder 5	4.04	199	IAmb_Lg		11 01 53.2	
	comp=Z,21nm,1.0s						
POST	Post	4.05	206	IAmb_Lg		11 01 49.8	
	comp=Z,15nm,0.9s						
ABTX	Abilene, Hawle	4.09	183	Pn	Pn	11 00 45.3	+0.5
ABTX				IAmb_Lg		11 01 59.5	
	comp=Z,13nm,0.9s						
HHAR	Hobbs	4.39	94		Pn	11 00 49.5	+0.7
S39A	Bolivar	4.91	77	P	Pn	11 00 56.6	+0.6
	baz=260,SNR=9.0						
Z38A	Mt. Pleasant	4.98	133	IAmb_Lg		11 02 31.6	
	comp=Z,13nm,0.8s						
Q24A	Divide	5.10	298	IAmb_Lg		11 02 32.3	
	comp=Z,16nm,0.7s						
U40A	Yellville	5.25	92	P	Pn	11 01 01.5	+0.9
	baz=276,SNR=9.0						
U40A				P	Pn	11 01 01.5	+0.9
	baz=276,SNR=9.0						
P38A	Dawn	5.43	56	IAmb_Lg		11 02 47.3	
	comp=Z,11nm,0.8s						
X40A	Basin Creek Fa	5.76	111	IAmb_Lg		11 02 50.6	
	comp=Z,7.7nm,0.8s						
R40A	Maddies Statio	5.85	72	IAmb_Lg		11 02 57.9	
	comp=Z,9.0nm,0.8s						
OZNA	Ozona	5.97	195	IAmb_Lg		11 02 54.5	
	comp=Z,8.1nm,1.0s						
MNHN	Monahans	6.07	209	IAmb_Lg		11 02 59.8	
	comp=Z,12nm,0.8s						
435B	Jarrell	6.11	166	IAmb_Lg		11 03 03.0	
	comp=Z,9.5nm,0.8s						
PHWY	Pilot Hill	6.59	316	IAmb_Lg		11 03 10.8	
	comp=Z,6.4nm,0.8s						
LCAR	Lake Charles	6.65	93	IAmb_Lg		11 03 11.5	
	comp=Z,6.1nm,0.7s						
K22A	Casper	8.10	319	IAmb_Lg		11 04 07.9	
	comp=Z,6.6nm,1.0s						
833A	Chaparral WMA,	8.38	180	IAmb_Lg		11 04 02.1	
	comp=Z,7.6nm,0.8s						

BGR ***16*** *11:01:36.9±0.4, 47°.83N×14°.23E, h10km, ML2.2/5, Error ellipse: s-maj=5.6km s-min=4.4km az=90.0*

VIE ***16*** *11:01:36.5±0.1, 47°.80N×14°.16E, h3km, mb2.1/16, ml2.6/17, Error ellipse: s-maj=1.1km s-min=0.8km az=173.0, felt 4-5 ems98 at Steyrling / Upper Austria*

IPEC ***16*** *11:01:36.3±0.2, 47°.79N×14°.19E, h1km±1km, ML2.4/7, Error ellipse: s-maj=1.6km s-min=0.9km az=65.0*

PRU ***16*** *11:01:38.2, 47°.88N×14°.24E, h0km, Klaus*

**ISC 16 11:01:36.7±1.1, 47°.83N±0°.02×14

LESA	**Schwarzleotal**	**1.11**	**249**	*e*Pg	**Pg**	**11 01 57.2**	**-0.8**
	18nm,0.4s						
LESA				*e*Sg	**Sg**	**11 02 13.0**	**+0.7**
	23nm,0.2s						
CONA	**Conrad Observa**	**1.12**	**84**	*e*Pg	**Pg**	**11 01 58.3**	**+0.1**
	2.1nm,0.1s,SNR=30						
CONA				*e*Sg	**Sn**	**11 02 14.5**	**-1.5**
	40nm,0.2s						
MYKA	**Terra Mystica**	**1.26**	**198**	Pg	**Pg**	**11 02 00.8**	**0.0**
	2.1nm,0.1s						
MYKA				*e*Sg	**Sg**	**11 02 17.3**	**+0.2**
	11nm,0.4s						
SOKA	**Soboth**	**1.28**	**153**	Pg	**Pn**	**11 02 01.6**	**-0.3**
	4.1nm,0.2s,SNR=5.8						
SOKA				Sg	**Sb**	**11 02 18.4**	**-0.3**
	3.1nm,0.2s						
OBKA	**Obir**	**1.34**	**170**	Pg	**Pg**	**11 02 02.3**	**-0.1**
	1.4nm,0.2s						
OBKA				Sg	**Sn**	**11 02 21.1**	**-0.2**
	9.9nm,0.4s						
KHC	**Kasperske Hory**	**1.37**	**343**	*e*PG	**Pn**	**11 02 02.8**	**-0.3**
KHC				*e*SG	**Sb**	**11 02 21.5**	**+0.2**
RONA	**Rosalia, Austr**	**1.42**	**94**	*e*Pg	**Pg**	**11 02 04.4**	**+0.5**
	3.8nm,0.3s,SNR=12						
RONA				*e*Sg	**Sn**	**11 02 23.7**	**+0.5**
	39nm,0.3s,SNR=9.5						
ABTA	**Abfaltersbach**	**1.58**	**227**	*e*Pg	**Pn**	**11 02 06.3**	**+0.3**
	6.6nm,0.2s,SNR=15						
ABTA				Sg	**Sn**	**11 02 27.0**	**-0.1**
	27nm,0.4s,SNR=5.6						
WET	**Wettzell**	**1.59**	**327**	*e*Pg	**Pn**	**11 02 06.2**	**+0.1**
WET				*e*Sg	**Sg**	**11 02 28.6**	**+0.9**
WTTA	**Wattenberg**	**1.83**	**253**	*e*Pg	**Pb**	**11 02 10.8**	**-0.4**
	7.5nm,0.2s,SNR=12						
WTTA				*e*Sg	**Sb**	**11 02 35.4**	**+0.8**
	30nm,0.6s						
WTTA	**Wattenberg**	**1.83**	**253**	*e*Pg	**Pb**	**11 02 10.7**	**-0.4**
WTTA				*e*Sg	**Sg**	**11 02 35.9**	**+0.5**
WATA	**Walderalm**	**1.84**	**256**	*e*Pg	**Pn**	**11 02 10.5**	**+0.8**
	7.7nm,0.3s,SNR=7.8						
WATA				*e*Sg	**Sb**	**11 02 35.9**	**+0.8**
	11nm,0.2s						
KRUC	**Moravsky**	**1.91**	**49**	*e*Pn	**Pn**	**11 02 10.0**	**-0.6**
	baz=230						
KRUC				*e*Sg	**Sg**	**11 02 37.3**	**-0.9**
	11nm,0.2s,baz=230						
ZST	**Bratislava**	**1.98**	**78**	*e*SG	**Sb**	**11 02 39.0**	**+0.1**
SQTA	**Sankt Quirin**	**2.12**	**254**	*e*Pg	**Pb**	**11 02 15.3**	**-0.7**
	2.8nm,0.2s,SNR=4.6						
SQTA				*e*Sg	**Sg**	**11 02 44.3**	**-0.4**
	7.7nm,0.2s						
GOPC	**GO Pecny, Ondr**	**2.12**	**10**	*e*SG	**Sg**	**11 02 44.4**	**-0.6**
MODS	**Modra-Piesok**	**2.13**	**74**	*e*PG	**Pb**	**11 02 16.3**	**+0.1**
MODS				*e*SG	**Sg**	**11 02 44.1**	**-1.1**
MOTA	**Moosalm**	**2.15**	**258**	*e*Pg	**Pn**	**11 02 15.3**	**+1.3**
	2.1nm,0.2s,SNR=6.1						
MOTA				*e*Sg	**Sb**	**11 02 45.3**	**+1.4**
	30nm,0.6s,SNR=11						
VRAC	**Vranov**	**2.17**	**46**	*e*Pn	**Pn**	**11 02 14.0**	**-0.1**
	baz=227						
VRAC				*e*Sg	**Sg**	**11 02 45.0**	**-1.5**
	18nm,0.5s,baz=227						
VRAC	**Vranov**	**2.17**	**46**	*e*PN	**Pn**	**11 02 14.1**	**-0.1**
VRAC				*e*SG	**Sg**	**11 02 45.1**	**-1.5**
PRU	**Pruhonice**	**2.17**	**6**	*e*SG	**Sb**	**11 02 44.6**	**+0.2**
	comp=Z,9.6nm,0.2s						
ROTZ	**Rotzenmuhle**	**2.35**	**327**	*e*Pg	**Pb**	**11 02 20.7**	**+0.8**
FETA	**Feichten**	**2.49**	**252**	*e*Pg	**Pb**	**11 02 22.4**	**0.0**
	1.5nm,0.2s						
FETA				*e*Sg	**Sb**	**11 02 53.4**	**-0.3**
	1.5nm,0.2s						
NKC	**Novy Kostel**	**2.67**	**335**	*e*SG	**Sg**	**11 03 01.2**	**-1.3**
	comp=Z,11nm,0.4s						
MORC	**Moravsky Berou**	**2.95**	**47**	*e*SG	**Sg**	**11 03 12.0**	**+0.6**
VYHS	**Vyhne**	**3.17**	**76**	*e*PN	**Pn**	**11 02 27.7**	**-0.2**
VYHS				*e*PG	**Pg**	**11 02 38.1**	**+0.6**
VYHS				*e*SG	**Sg**	**11 03 19.7**	**+1.1**
CLL	**Collm**	**3.57**	**348**	*e*Pn	**Pn**	**11 02 34.0**	**+0.7**
CLL				*e*Sg	**Sg**	**11 03 29.0**	**-2.4**
	comp=Z,10.0nm,0.6s						

JMA ***16*** *11:04:27.4±0.1,24°.3N±0°.2×123°.8E±0°.2,h15km,MD3.6/10, MV3.5/10,NEAR ISHIGAKIJIMA ISLAND*
JMA Felt I J1 at NEAR ISHIGAKIJIMA ISLAND.
ISC 16 11:04:27.5±0.9,24°.25N±0°.05×123°.81E±0°.03,h14km±7km, n23,σ0s59/24,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.11**	**320**	*i* P	**Pg**	**11 04 30.6**	**-0.1**
IRIF				S	**Sg**	**11 04 33.0**	**+0.1**
IRIF	**Iriomote-Funau**	**0.11**	**320**	A	A	11 04 30.6	
	comp=E,9.0nm,0.7s,comp=N,7.0nm,0.5s						
JKRS	**Kuro-shima**	**0.19**	**95**	*i* P	**Pg**	**11 04 31.9**	**0.0**
JKRS				S	**Sg**	**11 04 34.9**	**+0.1**
JKRS	**Kuro-shima**	**0.19**	**95**	A	A	11 04 31.9	
	comp=E,33nm,1.2s,comp=N,30nm,0.2s						
HATJ	**Hateruma jima**	**0.20**	**180**	*i* P	**Pg**	**11 04 31.8**	**-0.2**
HATJ				S	**Sg**	**11 04 35.2**	**+0.2**
HATJ	**Hateruma jima**	**0.20**	**180**	A	A	11 04 31.8	
	comp=E,27nm,0.8s,comp=N,11nm,4.5s						
JIJ	**Ishigaki jima**	**0.33**	**70**	*i* P	**Pg**	**11 04 33.9**	**-0.3**
JIJ				S	**Sg**	**11 04 38.7**	**-0.1**
JIJ	**Ishigaki jima**	**0.33**	**70**	A	A	11 04 33.9	
	comp=E,4.0nm,1.0s,comp=N,5.0nm,0.7s						
JISG	**Ishigakijimahi**	**0.57**	**54**	*i* P	**Pg**	**11 04 38.4**	**-0.3**
JISG				S	**Sg**	**11 04 46.4**	**+0.1**
JISG	**Ishigakijimahi**	**0.57**	**54**	A	A	11 04 38.4	
	comp=E,5.0nm,0.5s,comp=N,4.0nm,1.2s						
YOJ	**Yonaguni jima**	**0.75**	**286**	P	**Pb**	**11 04 42.2**	**-0.2**
YOJ	**Yonaguni jima**	**0.75**	**286**	P	**Pg**	**11 04 41.9**	**-0.3**
YOJ				S	**Sg**	**11 04 51.9**	**-0.2**
JYNG	**Yonagunijimaku**	**0.81**	**284**	P	**Pg**	**11 04 42.9**	**-0.3**
JYNG				S	**Sg**	**11 04 53.6**	**-0.2**
JYNG	**Yonagunijimaku**	**0.81**	**284**	A	A	11 04 42.9	
	comp=E,5.0nm,1.2s,comp=N,4.0nm,2.3s						
JTJ	**Tarama**	**0.90**	**65**	*i* P	**Pb**	**11 04 44.5**	**-0.5**
JTJ				S	**Sg**	**11 04 57.3**	**+0.4**
JTJ	**Tarama**	**0.90**	**65**	A	A	11 04 44.5	
	comp=E,6.0nm,0.8s,comp=N,4.0nm,0.8s						
NACB	**Ninganchiao**	**2.02**	**268**	P	**Pn**	**11 05 01.5**	**+0.4**
TATO	**Taipei**	**2.23**	**289**	P	**Pn**	**11 05 04.6**	**+0.6**
YHNB	**Yeheng**	**2.25**	**281**	P	**Pn**	**11 05 05.1**	**+0.7**
YULB	**Yu-li**	**2.45**	**250**	P	**Pn**	**11 05 06.5**	**-0.6**
SSLB	**Suanglung**	**2.65**	**260**	P	**Pn**	**11 05 10.8**	**+1.0**
TWGBT	**Beinan**	**2.88**	**241**	P	**Pn**	**11 05 12.4**	**-0.6**
TPUB	**Ta-pu**	**3.06**	**253**	P	**Pn**	**11 05 17.3**	**+1.8**

IDC 16 11:22:06.1±3.8,16°.74S×174°.77W,h0km,mb4.2/3, mbtmp4.2/3,Error ellipse: s-maj=176.0km s-min=80.8km az=156.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**42.23**	**241**	P	P	11 30 01.8	+0.6
	1.0nm,0.4s,baz=87,slow=13,SNR=3.7						
	1.0nm,0.4s						
WRA	**Warramunga Arr**	**48.27**	**258**	P	P	11 30 49.0	-0.3
	1.3nm,0.4s,baz=96,slow=7.4,SNR=70						
WRA				PcP	PcP	11 32 16.1	-0.4
	0.3nm,0.5s,baz=90,slow=3.7,SNR=1.9						
	1.3nm,0.4s						
ASAR	**Alice Springs**	**48.45**	**253**	P	P	11 30 50.4	-0.4
	3.1nm,0.5s,baz=91,slow=7.8,SNR=98						
ASAR				PcP	PcP	11 32 16.9	-0.3
	0.3nm,0.4s,baz=100,slow=3.7,SNR=5.2						
	3.1nm,0.5s						

NEIC ***16*** *11:31:07.4±1.4,36°.98N±0°.02×99°.42W±0°.04,h5km±2km, Error ellipse: s-maj=5.4km s-min=3.1km az=280.0*
TUL 16 11:31:08.4±1.9,36°.97N±0°.02×99°.37W±0°.03,h4km±5km, ML2.7,mb_Lg2.5/33(NEIC),ML2.8/12(NEIC),Error ellipse: s-maj=3.4km s-min=2.6km az=120.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.66**	**153**	Pg	Pg	11 31 21.0	-0.1
U32A				Sg	Sg	11 31 30.5	+0.9
U32A				IAML		11 31 33.7	
	comp=E,403nm,0.4s						
OK038	**West end E0370**	**0.70**	**134**	Pg	Pg	11 31 22.1	+0.2
OK038				Sg	Sg	11 31 31.9	+0.9
ELIS	**Ellis County**	**0.90**	**183**		Pg	11 31 25.7	-0.1
ELIS				IAML		11 31 40.7	
	comp=E,287nm,0.3s						
ELIS				IAML		11 31 42.7	
	comp=N,298nm,0.2s						
OK032	**Salt Plains WL**	**0.94**	**100**		Pg	11 31 26.2	-0.3
OK032				IAML		11 31 40.4	
	comp=N,310nm,0.2s						
OK032				IAML		11 31 48.8	
	comp=N,321nm,0.1s						
KAN10	**Anthony SW Sta**	**1.03**	**81**	Pg	Pg	11 31 27.0	-1.1
KAN10					Pb	11 31 27.3	-1.5
KAN10					Sg	11 31 41.9	+0.4
KAN14	**Manchester OK**	**1.12**	**90**	Pg	Pg	11 31 29.7	-0.3
KAN08	**Anthony NE Sta**	**1.15**	**77**	Pg	Pg	11 31 29.4	-1.0
CROK	**Carrier**	**1.20**	**112**	Pg	Pg	11 31 31.1	-0.3
CROK				IAML		11 31 53.3	
	comp=E,265nm,0.2s						
GC02	**Grant County #**	**1.21**	**95**		Pg	11 31 31.2	-0.5
KAN17	**Caldwell West**	**1.28**	**86**	Pg	Pg	11 31 32.4	-0.7
KAN09	**Caldwell North**	**1.41**	**83**	Pg	Pn	11 31 34.8	0.0
CSTR	**Hydro, Custer**	**1.43**	**157**		Pn	11 31 35.0	-0.1
R32A	**Long Quarter,**	**1.54**	**20**		Pn	11 31 36.7	+0.1
R32A				Pn	Pb	11 31 36.8	-0.7
R32A				IAmb_Lg		11 31 57.8	
	comp=Z,32nm,0.8s						
BLOK	**Blackwell**	**1.74**	**96**		Pb	11 31 40.2	-0.6
CBKS	**Cedar Bluff**	**1.86**	**351**	Pn	Pn	11 31 41.7	+0.6
OK029	**Liberty Lake**	**1.94**	**127**	Pn	Pb	11 31 43.3	-1.0
SMWD	**Samnorwood**	**1.99**	**201**		Pn	11 31 43.8	+0.9
OK048	**Pawnee Station**	**2.02**	**105**	Pn	Pn	11 31 43.7	+0.4
ADOK	**Arcadia Dam**	**2.08**	**129**	Pn	Pn	11 31 43.2	-0.8
OK033	**Mehan**	**2.16**	**115**	Pn	Pn	11 31 45.0	-0.2
OK033				IAmb_Lg		11 32 17.6	
	comp=Z,16nm,0.8s						
OKCSW	**OKLAHOMA CITY**	**2.21**	**134**	IAmb_Lg		11 32 20.3	
	comp=Z,20nm,0.7s						
WMOK	**Wichita Mounta**	**2.28**	**168**	Pn	Pn	11 31 46.8	0.0
WMOK				IAmb_Lg		11 32 20.2	
	comp=Z,16nm,1.0s						
QUOK	**Quay**	**2.28**	**110**	Pn	Pn	11 31 46.2	-0.6
OK052	**Battle Ridge R**	**2.29**	**114**	Pn	Pn	11 31 46.8	0.0
T35A	**Sooner Cattle**	**2.29**	**91**	Pn	Pn	11 31 46.6	-0.3
FNO	**Franklin**	**2.34**	**136**	Pn	Pn	11 31 48.0	+0.4
DEOK	**Depew**	**2.57**	**115**	Pn	Pn	11 31 50.2	-0.6
W35A	**Tecumseh**	**2.71**	**131**		Pn	11 31 52.7	-0.1
RTBA	**Rita Blanca**	**2.76**	**260**	Pn	Pn	11 31 54.2	+0.7
RTBA				IAmb_Lg		11 32 42.2	
	comp=Z,12nm,0.8s						
AMTX	**Amarillo**	**2.80**	**223**	Pn	Pn	11 31 54.1	0.0
KSU1	**Kansas State U**	**3.04**	**45**	Pn	Pn	11 31 57.6	+0.3
KSU1				IAmb_Lg		11 32 47.5	
	comp=Z,14nm,0.9s						
TUL3	**Leonard**	**3.07**	**109**	Pn	Pn	11 31 57.6	-0.1
WTFS	**Witchita Falls**	**3.28**	**167**	Pn	Pn	11 32 01.7	+1.2
KSCO	**Kaye Shedlock'**	**3.28**	**309**	Pn	Pn	11 32 00.2	-0.5
KSCO				IAmb_Lg		11 32 55.5	
	comp=Z,13nm,0.7s						
LOOK	**Love County**	**3.47**	**148**	Pn	Pn	11 32 01.6	-1.4
DKNS	**Dickens**	**3.53**	**202**	Pn	Pn	11 32 02.7	-1.4
RLO	**Rose Lookout**	**3.59**	**102**	Pn	Pn	11 32 04.1	-0.6
RLO				IAmb_Lg		11 32 59.6	
	comp=Z,17nm,0.8s						
APMT	**Aspermont**	**3.69**	**190**	Pn	Pn	11 32 06.6	+0.4
X37A	**Clayton**	**4.02**	**125**	Pn	Pn	11 32 10.0	-0.8
U38A	**Gravette**	**4.04**	**96**	Pn	Pn	11 32 10.8	-0.1
U38A				IAmb_Lg		11 33 17.1	
	comp=Z,12nm,0.7s						
T25A	**Trinidad**	**4.04**	**274**	Pn	Pn	11 32 12.2	+1.1
MSTX	**Muleshoe**	**4.08**	**224**	Pn	Pn	11 32 11.2	-0.5
MSTX				IAmb_Lg		11 33 22.7	
	comp=Z,7.5nm,0.8s						
PLPT	**Palo Pinto**	**4.24**	**168**	Pn	Pn	11 32 14.1	+0.4
POST	**Post**	**4.27**	**205**	Pn	Pn	11 32 16.1	+1.9
ABTX	**Abilene, Hawle**	**4.34**	**183**	Pn	Pn	11 32 16.3	+1.1
HHAR	**Hobbs**	**4.42**	**97**	Pn	Pn	11 32 15.9	-0.3
OGNE	**Ogallala**	**4.48**	**333**	Pn	Pn	11 32 17.8	+0.7
S39A	**Bolivar**	**4.87**	**80**	Pn	Pn	11 32 23.4	+1.0
S39A				IAmb_Lg		11 33 52.3	
	comp=Z,9.7nm,0.9s						
SDCO	**Great Sand Dun**	**4.95**	**281**	Pn	Pn	11 32 24.5	+0.7
Q24A	**Divide**	**4.98**	**295**	Pn	Pn	11 32 23.7	-0.5
Z38A	**Mt. Pleasant**	**5.16**	**135**	Pn	Pn	11 32 25.1	-1.2
BRDY	**Brady**	**5.68**	**177**	IAmb_Lg		11 34 14.5	
	comp=Z,7.9nm,1.1s						
MNHN	**Monahans**	**6.28**	**208**	IAmb_Lg		11 34 30.9	
	comp=Z,4.4nm,0.8s						
PBMO	**Poplar Bluff**	**7.17**	**89**	IAmb_Lg		11 34 55.0	
	comp=Z,6.1nm,0.7s						
RSSD	**Black Hills**	**7.98**	**335**	IAmb_Lg		11 35 28.0	
	comp=Z,3.8nm,0.8s						

CATAC ***16*** *11:51:46.5±0.8,8°.19N×83°.25W,h18km±4km,ML3.2*
UCR ***16*** *11:51:49.9±0.7,8°.49N×83°.27W,h11km±1km,MWW3.8*
UPA ***16*** *11:51:50.3±1.0,8°.62N×83°.26W,h16km±3km,ML3.0*
ISC 16 11:51:49.7±0.9,8°.49N±0°.03×83°.26W±0°.03,h12km±5km, n31,σ1s17/46,1C,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIME	**Puerto Jimenez**	**0.08**	**309**	*e*P	**Pg**	**11 51 52.2**	**-0.1**
JIME				*e*S	**Sg**	**11 51 54.6**	**+0.4**
PIRO	**Carate, Puerto**	**0.11**	**220**	*e*P	**Pg**	**11 51 53.0**	**+0.3**
PIRO	**Carate, Puerto**	**0.11**	**220**	*i* P	**Pg**	**11 51 53.0**	**+0.3**
PIRO				IAML		11 51 59.3	
	comp=Z,18μm,1.0s						
FITO	**Golfito**	**0.17**	**39**	*e*P	**Pg**	**11 51 53.5**	**-0.1**
FITO				*e*S	**Sg**	**11 51 56.6**	**+0.2**
EDAD	**Golfito**	**0.19**	**31**	*e*P	**Pg**	**11 51 53.8**	**-0.1**
CDITO	**Canoas**	**0.40**	**78**	*i* P	**Pg**	**11 51 57.9**	**+0.2**
CDITO				AMP		11 51 58.2	
	comp=Z,1μm,0.3s						
CDITO				*e*S	**Sb**	**11 52 04.5**	**-0.2**
CDITO	**Canoas**	**0.40**	**78**	*e*P	**Pg**	**11 51 57.9**	**+0.2**
CDITO	**Canoas**	**0.40**	**78**	*i* P	**Pg**	**11 51 57.8**	**+0.2**
CDITO				IAML		11 52 10.4	
	comp=Z,1μm,1.0s						
PLAN	**Los Planes de**	**0.45**	**294**	*i* P	**Pb**	**11 51 59.4**	**-0.2**
PLAN				IAML		11 52 12.0	
	comp=Z,2μm,1.0s						
PTPM	**Petroterminale**	**0.47**	**127**	*e*P	**Pn**	**11 52 01.5**	**-0.9**
PTPM				*i* P	**Pn**	**11 52 01.5**	**-0.9**
PTPM				*e*S	**Sn**	**11 52 10.8**	**+5.4**
EDPN	**Palmar Norte**	**0.51**	**338**	*e*P	**Pg**	**11 51 59.**-	**-0.2**
EDP2	**Potrero Grande**	**0.53**	**9**	*e*P	**Pg**	**11 52 00.4**	**+0.3**
MLIR3	**Monte Lirio, C**	**0.53**	**55**	*e*P	**Pb**	**11 52 00.8**	**-0.2**
MLIR3				*e*S	**Sb**	**11 52 09.0**	**+0.3**
BRU2	**Volcan**	**0.64**	**62**	*i*P	**Pg**	**11 52 02.5**	**+0.2**
BRU2				AMP		11 52 05.2	
	comp=Z,710nm,0.2s						
BRU2				*e*S	**Sb**	**11 52 11.9**	**-0.1**
BRU2	**Volcan**	**0.64**	**62**	*e*P	**Pg**	**11 52 02.5**	**+0.2**
BRU2	**Volcan**	**0.64**	**62**	*i* P	**Pg**	**11 52 02.2**	**-0.1**
BRU2				IAML		11 52 16.9	
	comp=Z,640nm,1.0s						
EDBA	**Buenos Aires**	**0.67**	**359**	*e*P	**Pg**	**11 52 02.7**	**-0.1**
BC3P	**Paso Ancho**	**0.72**	**63**	*e*P	**Pg**	**11 52 03.6**	**-0.2**
BC3P				*e*S	**Sg**	**11 52 13.8**	**+0.4**
BCO2	**Palmira**	**0.76**	**73**	*i* P	**Pg**	**11 52 04.5**	**-0.1**
BCO2				*e*S	**Sb**	**11 52 15.6**	**+0.1**
DRK0	**Durika**	**0.77**	**1**	*e*P	**Pg**	**11 52 04.1**	**-0.6**
PTAR3	**Potrerillos Ar**	**0.79**	**75**	*e*P	**Pg**	**11 52 04.9**	**-0.1**
PTAR3				*e*S	**Sb**	**11 52 16.4**	**+0.3**
DVD	**David**	**0.81**	**94**	*e*P	**Pn**	**11 52 06.6**	**-0.3**
DVD				*e*S	**Sg**	**11 52 17.0**	**+1.1**
CDM	**Cerro de Muert**	**1.17**	**335**	*e*P	**Pb**	**11 52 10.9**	**-1.2**
CDM	**Cerro de Muert**	**1.17**	**335**	*i* P	**Pb**	**11 52 11.0**	**-1.2**
CDM				*i* S	**Sn**	**11 52 32.1**	**+3.7**
CDM				IAML		11 52 34.1	
	comp=Z,220nm,1.0s						
RIMA	**Rio Macho**	**1.40**	**335**	*e*P	**Pn**	**11 52 14.2**	**-1.0**
RIMA	**Rio Macho**	**1.40**	**335**	*i* P	**Pn**	**11 52 14.4**	**-0.9**
RIMA				IAML		11 52 38.6	
	comp=Z,220nm,1.0s						
ABE2	**San Pablo**	**1.44**	**327**	*e*P	**Pg**	**11 52 17.7**	**+0.2**
OCM	**Ochomogo**	**1.56**	**334**	*i* P	**Pn**	**11 52 17.8**	**+0.4**
OCM				*i* S	**Sg**	**11 52 41.5**	**+1.6**
OCM				IAML		11 52 43.4	
	comp=Z,220nm,1.0s						
BATAN	**Batan**	**1.60**	**356**	*i* P	**Pb**	**11 52 18.5**	**-0.8**
BATAN				*i* S	**Sg**	**11 52 41.0**	**-0.4**
BATAN				IAML		11 52 44.8	
	comp=Z,540nm,1.0s						
JACO	**JACO, Garabito**	**1.81**	**310**	*i* P	**Pn**	**11 52 20.7**	**0.0**
JACO				IAML		11 52 24.0	
	comp=Z,100nm,1.0s						
JACO				*i* S	**Sn**	**11 52 43.2**	**-0.3**
SAJU	**San Juanillo,**	**2.88**	**303**	*i* P	**Pn**	**11 52 34.2**	**-1.3**
SAJU				IAML		11 52 59.7	
	comp=Z,31nm,1.0s						

IDC 16 12:07:17.4±30.0,21°.84S×69°.41E,h0km,mb3.7/3, mbtmp3.7/3,MS3.7/3,Error ellipse: s-maj=920.9km s-min=53.5km az=57.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**14.42**	**12**	T	T	12 25 06.2	
	baz=196,slow=76						
H08S2	**Diego Carcia H**	**14.43**	**12**	T	T	12 25 04.5	
	baz=196,slow=76						
H08S3	**Diego Garcia H**	**14.44**	**12**	T	T	12 25 05.7	
	baz=196,slow=76						
H04N2	**CROZET ISLANDS**	**28.18**	**206**	T	T	12 42 56.0	
	baz=36,slow=75						
H04N1	**CROZET ISLANDS**	**28.19**	**206**	T	T	12 42 46.0	
	baz=36,slow=75						
H04N3	**CROZET ISLANDS**	**28.20**	**206**	T	T	12 42 56.3	
	baz=36,slow=75						
LSZ	**Lusaka**	**39.53**	**272**	LR	LR	12 28 28.7	
	comp=Z,128nm,19.2s,baz=160,slow=32						
BATI	**Baumata**	**53.17**	**86**	LR	LR	12 35 57.3	
	comp=Z,67nm,20.6s,baz=262,slow=32						
ASAR	**Alice Springs**	**59.04**	**105**	P	P	12 17 20.0	+0.3
	1.1nm,0.9s,baz=258,slow=5.8,SNR=13						
ASAR				LR	LR	12 40 02.5	
	comp=Z,68nm,19.8s,baz=252,slow=33						
	1.1nm,0.9s						
WRA	**Warramunga Arr**	**60.28**	**101**	P	P	12 17 27.6	-0.7
	0.7nm,0.8s,baz=258,slow=6.5,SNR=2.8						
	0.7nm,0.8s						
SONM	**Songino Array**	**76.90**	**25**	P	P	12 19 11.7	+0.1
	0.2nm,0.4s,baz=221,slow=5.7,SNR=1.8						
	0.2nm,0.4s						

HEL 16 12:28:15.3±0.6,60°.92N×29°.27E,h0km,ML1.2, Suspected explosion,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUF	**Ruokolahti**	**0.53**	**343**	PG	Pg	12 28 24.9	-0.6
RUF				SG	Sg	12 28 31.6	-0.7
RUF				MSG		12 28 32.4	
	comp=Z,3.4nm,0.2s						
VJF	**Virojoki**	**0.93**	**246**	PG	Pg	12 28 32.1	-0.9
VJF				MSG		12 28 43.8	
	comp=Z,2.6nm,0.2s						
VJF				SB	Sg	12 28 45.0	0.0
FIA0	**FINESS Array S**	**1.64**	**290**	PG	Pn	12 28 44.0	-1.3
FIA0				MSG		12 29 04.3	
	comp=Z,1.8nm,0.2s						
FIA0				SN	Sb	12 29 07.3	-0.1
PVF	**Pernaja**	**1.72**	**259**	PG	Pn	12 28 46.2	-0.2
	baz=77						
PVF				MSG		12 29 06.6	
	comp=Z,1.9nm,0.2s						
PVF				SG	Sg	12 29 10.4	0.0
KAF	**Kangasniemi**	**1.86**	**311**	PG	Pn	12 28 49.2	+0.8
	baz=130						
KAF				MSG		12 29 10.8	
	comp=Z,2.4nm,0.2s						
KAF				SG	Sb	12 29 14.0	+0.1
JOF	**Joensuu**	**2.23**	**25**	SG	Sb	12 29 23.1	-1.3
SUF	**Sumiainen**	**2.34**	**322**	MSG		12 29 24.5	
	comp=Z,0.7nm,0.2s						
SUF				SG	Sb	12 29 27.8	+0.2
KEF	**Keuruu**	**2.45**	**303**	MSG		12 29 27.9	
	comp=Z,0.8nm,0.2s						
KEF				SG	Sb	12 29 31.7	+0.8
MEF	**Metsahovi**	**2.51**	**256**	MSG		12 29 29.4	
	comp=Z,1.1nm,0.2s						
MEF				SB	Sn	12 29 29.6	+1.1

HEL 16 12:29:38.0±0.1,63°.98N×28°.12E,h0km,ML1.6, Suspected explosion,Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIF	**Nilsia**	**0.61**	**193**	PG	Pg	12 29 48.9	-0.7
	baz=12						
NIF				SG	Sg	12 29 56.9	-0.6
RMF	**Romuvaara**	**0.83**	**72**	SB	Pg	12 29 53.4	-0.5
RMF	**Romuvaara**	**0.83**	**72**	PG	Pg	12 29 53.4	-0.5
RMF				MSG		12 30 03.7	
	comp=Z,6.5nm,0.2s						
RMF				SB	Sg	12 30 04.3	-0.3
OUL	**Oulu**	**1.47**

*HEL **16** 12:30:55.1±0.2,68.14N×33.35E,h0km,ML1.6,Explosion*
KOLA 16 12:30:55.7,68°06'N×33°34'E,h0km,ML2.0,Error ellipse: s-maj=1.9km s-min=1.2km az=100.0,Olenegorsk City, Mines,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.48**	**196**	P	Pg	12 31 03.9	-0.9
APA0				S	Sg	12 31 10.7	-0.3
APA	**Apatity**	**0.50**	**177**	P	Pg	12 31 04.7	-0.5
APA				S	Sg	12 31 11.4	-0.2
LVZ	**Lovozero**	**0.52**	**108**	P	Pg	12 31 04.8	-0.8
LVZ				S	Sg	12 31 11.9	-0.5
LVZ	**Lovozero**	**0.52**	**108**	PG	Pg	12 31 05.2	-0.4
LVZ				SG	Sg	12 31 11.7	-0.7
TERR	**Teriberka**	**1.31**	**29**	P	Pg	12 31 18.8	-2.1
TERR				S	Sg	12 31 36.6	-1.3
VRF	**Varrio**	**1.45**	**259**	SN	Pg	12 31 21.5	-1.8
VRF	**Varrio**	**1.45**	**259**	PG	Pn	12 31 21.5	-1.6
	baz=77						
VRF				MSG		12 31 39.2	
	comp=Z,4.3nm,0.2s						
VRF				SG	Sg	12 31 41.3	-0.8
RAJF	**Raja-Jooseppi**	**1.92**	**285**	PG	Pn	12 31 29.3	-0.3
RAJF				SG	Sn	12 31 53.4	-1.0
KU6	**Riekki**	**2.45**	**215**	MSG		12 32 09.5	
	comp=Z,1.9nm,0.2s						
KU6				SG	Sb	12 32 12.4	+1.1
VADS	**Vadso**	**2.51**	**327**	P	Pn	12 31 37.0	-0.8
VADS				S	Sn	12 32 08.6	-0.4
KMNF	**Kaamanen**	**2.57**	**298**	PG	Pn	12 31 40.2	+1.7
KMNF				SG	Sb	12 32 13.4	-1.2
SGF	**Sodankyl**	**2.67**	**260**	SG	Sb	12 32 16.7	-0.7
MSF	**Maaselka**	**2.74**	**220**	SG	Sb	12 32 20.7	+1.1
KEV	**Kevo**	**2.85**	**309**	PB	Pn	12 31 42.6	+0.3
KEV				MSG		12 32 17.8	
	comp=Z,2.5nm,0.2s						
KEV				SG	Sb	12 32 20.9	-1.9
ARA0	**ARCESS Array S**	**3.21**	**301**	PN	Pn	12 31 46.6	-0.7
	baz=115						
ARCES	**ARCESS Array B**	**3.21**	**301**	P	Pn	12 31 46.5	-0.8
KTK1	**Kautokeino**	**3.83**	**289**	PN	Pn	12 31 55.5	-0.3

IDC 16 13:06:18.6±3.3,16°51S×172°82W,h0km,mb3.7/4, mbtmp3.7/4,Error ellipse: s-maj=171.4km s-min=28.6km az=145.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**50.14**	**258**	P	P	13 15 16.2	0.0
	0.9nm,1.0s,baz=96,slow=6.4,SNR=6.6						
	0.9nm,1.0s						
ASAR	**Alice Springs**	**50.31**	**253**	P	P	13 15 17.2	-0.2
	1.0nm,0.6s,baz=87,slow=8.4,SNR=24						
	1.0nm,0.6s						
PDAR	**Pinedale Array**	**82.72**	**42**	P	P	13 18 44.9	+0.3
	0.3nm,0.7s,baz=240,slow=1.8,SNR=3.5						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**83.42**	**11**	P	P	13 18 47.2	-0.2
	0.4nm,0.7s,baz=226,slow=6.4,SNR=11						
	0.4nm,0.7s						

*THE **16** 13:31:08.9,40.97N×20.76E,h0km±5km,ML2.4/3,Error ellipse: s-maj=6.6km s-min=0.9km az=318.0*
*TIR **16** 13:31:10.9,41.42N×21.50E,h3km,Md2.6,Ml2.5*
*SKO **16** 13:31:11.3,40.99N×20.96E,h12km,ML1.7*
ISC 16 13:31:11.7±1.1,40°87N±0°02×20°88E±0°04,h7km±11km, n14,σ2s10/26,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHR	**Ohrid**	**0.25**	**346**	*i* Pg	**Pg**	**13 31 15.1**	**-1.5**
OHR				*i* Sg	**Sg**	**13 31 19.7**	**-0.2**
OHR				*e*Lg	Lg	13 31 23.3	
	comp=E,359nm,0.4s						
OHR				*e*Lg	Lg	13 31 25.9	
	comp=N,762nm,1.2s						
KBN	**Korca**	**0.26**	**196**	P	**Pg**	**13 31 15.1**	**-1.7**
KBN				S	**Sg**	**13 31 20.5**	**+0.2**
	comp=N,938nm,0.9s						
FNA	**Florina**	**0.39**	**103**	P	**Pg**	**13 31 18.7**	**-0.6**
FNA				S	**Sb**	**13 31 25.5**	**-1.7**
	comp=N,1μm,0.2s						
FNA	**Florina**	**0.39**	**103**	*i* Pg	**Pg**	**13 31 18.9**	**-0.4**
FNA				*i* Sg	**Sb**	**13 31 26.0**	**-1.2**
NEST	**Nestorio**	**0.47**	**164**	P	**Pg**	**13 31 19.9**	**-1.0**
NEST				S	**Sg**	**13 31 28.9**	**+1.8**
	comp=N,212nm,0.5s						
PENT	**Pentalofos**	**0.70**	**164**	P	**Pg**	**13 31 24.5**	**-0.8**
PENT				S	**Sg**	**13 31 36.6**	**+2.2**
LSK	**Leskovik**	**0.75**	**197**	P	**Pg**	**13 31 24.6**	**-1.6**
LSK				S	**Sg**	**13 31 36.8**	**+0.8**
GRG	**Griva**	**1.16**	**85**	*i* Pg	**Pn**	**13 31 32.5**	**-1.9**
GRG				*i* Sg	**Sn**	**13 31 51.0**	**+0.5**
GRG	**Griva**	**1.16**	**85**	*i* Pg	**Pn**	**13 31 32.7**	**-1.7**
GRG				*i* Sg	**Sn**	**13 31 52.4**	**+1.9**
STIP	**Stip**	**1.28**	**50**	*i* Pg	**Pg**	**13 31 37.6**	**+1.3**
STIP				*i* Sg	Sn	13 31 59.2	+5.7
PUK	**Puka**	**1.39**	**328**	P	**Pg**	**13 31 38.1**	**-0.2**
	baz=328						
PUK				S	**Sg**	**13 32 00.8**	**+4.5**
	baz=328						
IGT	**Igoumenitsa**	**1.40**	**198**	*i* Pg	**Pg**	**13 31 40.2**	**+1.6**
IGT				*i* Sg	**Sg**	**13 32 01.1**	**+4.3**
LIT	**Litokhoron**	**1.45**	**122**	*i* Pg	**Pb**	**13 31 38.9**	**-0.2**
LIT				*i* Sg	**Sg**	**13 32 02.5**	**+4.2**
KNT	**Kendrikon**	**1.55**	**79**	*i* Pg	**Pg**	**13 31 39.9**	**-1.6**

*AEIC **16** 13:38:44.0±1.7,51.70N±0.06×178.53W±0.03,h13km±3km, Error ellipse: s-maj=9.5km s-min=2.6km az=187.0*
NEIC 16 13:38:44.0±0.9,51°68N±0°09×178°52W±0°03,h19km±5km, ML3.5(AEIC),Error ellipse: s-maj=13.5km s-min=1.5km az=172.0,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAEA	**Gareloi East**	**0.18**	**308**		Pg	13 38 48.8	0.0
GALAA	**Gareloi Lava P**	**0.18**	**299**		Pg	13 38 48.8	-0.1
GANO	**Gareloi North**	**0.23**	**310**		Pb	13 38 49.2	0.0
TASE	**Tanaga Southea**	**0.34**	**62**		Pb	13 38 51.7	+0.2
TANO	**Tanaga North**	**0.35**	**46**		Pb	13 38 51.8	+0.2
TAFP	**Tanaga Falls P**	**0.40**	**56**		Pg	13 38 52.4	-0.1
KICM	**Kanaga Island**	**0.86**	**73**		Pb	13 39 00.4	+0.2
KIWB	**Kanaga Island**	**0.87**	**78**		Pb	13 39 00.1	-0.4
KIWB	**Kanaga Island**	**0.87**	**78**		Sb	13 39 11.9	+0.3
KIRH	**Kanaga Island**	**0.91**	**75**		Pb	13 39 01.1	-0.1
ADK	**Adak**	**1.16**	**79**		Pn	13 39 04.8	-0.3
ADK	**Adak**	**1.16**	**79**		Sn	13 39 20.3	-0.1
CEPE	**Semis' Perret**	**1.17**	**285**		Pn	13 39 05.2	-0.2
CESW	**Semis' Southwe**	**1.21**	**282**		Pn	13 39 05.5	-0.4
CEAP	**Semis' Anvil P**	**1.23**	**286**		Pn	13 39 06.0	0.0
AMKA	**Amchitka**	**1.39**	**259**		Pn	13 39 08.5	+0.2
AMKA	**Amchitka**	**1.39**	**259**		Sb	13 39 26.8	+0.1
GSCK	**Great Sitkin C**	**1.50**	**76**		Pn	13 39 10.2	+0.4
GSMY	**Great Sitkin M**	**1.57**	**75**		Pn	13 39 11.5	+0.7
GSTR	**Great Sitkin T**	**1.58**	**74**		Pn	13 39 10.7	-0.3
LSSE	**Little Sitkin**	**1.83**	**279**		Pn	13 39 14.8	+0.4
ATKA	**Atka Island**	**2.73**	**77**		Pn	13 39 27.7	+1.0
KOKL	**Mount Kliuchef**	**2.75**	**75**		Pn	13 39 28.3	+1.2
CLES	**Cleveland East**	**5.42**	**74**	Pn	Pn	13 40 03.3	-0.4

*AFAD **16** 13:55:16.6±0.0,38.89N×26.45E,h7km±1km,ML2.5*
*ATH **16** 13:55:17.4,38.92N×26.46E,h9km±2km,ML2.5/6,Error ellipse: s-maj=2.2km s-min=1.1km az=318.0*
*THE **16** 13:55:17.1,38.91N×26.45E,h7km±1km,ML2.7/7,Error ellipse: s-maj=1.3km s-min=0.6km az=357.0*
ISC 16 13:55:17.0±0.9,38°91N±0°02×26°45E±0°02,h11km±7km, n24,σ0s56/43,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EAG3	**Mitilini, Lesv**	**0.20**	**27**	P	**Pg**	**13 55 21.3**	**0.0**
EAG3				S	**Sg**	**13 55 24.0**	**-0.2**
LESV	**Lesvos island,**	**0.22**	**23**	P	**Pg**	**13 55 21.4**	**-0.2**
LESV				S	**Sg**	**13 55 24.9**	**+0.2**
	4μm,0.3s						
KARB	**zmir-Karabur**	**0.25**	**188**	P	**Pg**	**13 55 22.1**	**-0.1**
KARB				S	**Sg**	**13 55 25.7**	**+0.1**
PRK	**Paraskevi**	**0.37**	**337**	P	**Pg**	**13 55 24.3**	**0.0**
PRK				S	**Sg**	**13 55 29.9**	**+0.6**
PRK				AML	AML	13 55 30.3	
	comp=E,4381μm,0.3s						
PRK				AML	AML	13 55 32.3	
	comp=N,2293μm,0.4s						
IZMD	**zmir-Dikili-**	**0.38**	**78**	P	**Pg**	**13 55 24.0**	**-0.5**
ZEDA	**zmir-Bergama**	**0.49**	**83**	P	**Pg**	**13 55 26.4**	**-0.2**
ZEDA				S	**Sg**	**13 55 33.8**	**+0.7**
ZEDA				*i* AML	AML	13 55 34.0	
	comp=N,369nm,0.3s						
SIGR	**SIGRI**	**0.56**	**303**	P	**Pg**	**13 55 28.0**	**+0.1**
SIGR				S	**Sg**	**13 55 35.7**	**+0.5**
	comp=N,242nm,0.3s						
SIGR	**SIGRI**	**0.56**	**303**	P	**Pg**	**13 55 27.9**	**0.0**
SIGR				S	**Sg**	**13 55 35.5**	**+0.2**
SIGR				AML	AML	13 55 36.0	
	comp=E,525μm,0.3s						
SIGR				AML	AML	13 55 41.5	
	comp=N,480μm,0.3s						
CHOS	**Chios island**	**0.61**	**211**	P	**Pg**	**13 55 28.6**	**-0.2**
CHOS				S	**Sb**	**13 55 38.3**	**+0.1**
	comp=N,445nm,0.2s						
CHOS	**Chios island**	**0.61**	**211**	P	**Pg**	**13 55 28.6**	**-0.2**
CHOS				S	**Sb**	**13 55 38.2**	**0.0**
CHOS				AML	AML	13 55 41.5	
	comp=E,1140μm,0.2s						
CHOS				AML	AML	13 55 42.0	
	comp=N,640μm,0.3s						
ZEYE	**Izmir, Urla-Ze**	**0.67**	**177**	P	**Pg**	**13 55 29.1**	**-0.9**
ZEYE				S	**Sb**	**13 55 40.8**	**+0.9**
ZEYE				*i* AML	AML	13 55 42.0	
	comp=N,331nm,0.4s						
ZEYE				*i* AML	AML	13 55 42.0	
	comp=N,353nm,0.5s						
BLCB	**Balcova**	**0.70**	**138**	P	**Pg**	**13 55 30.3**	**-0.2**
BLCB				S	**Sg**	**13 55 40.5**	**+0.9**
BUHA	**Balikesir, Bur**	**0.77**	**39**	P	**Pg**	**13 55 30.8**	**-1.0**
BUHA				S	**Sn**	**13 55 44.8**	**-0.4**
BUHA				*i* AML	AML	13 55 46.0	
	comp=N,310nm,0.6s						
BUHA				*i* AML	AML	13 55 48.0	
	comp=N,152nm,0.4s						
BAYC	**CANAKKALE_Bayr**	**0.84**	**5**	P	**Pg**	**13 55 32.8**	**-0.4**
BAYC				S	**Sb**	**13 55 45.3**	**+0.5**
BAYC				*i* AML	AML	13 55 46.0	
	comp=N,219nm,0.5s						
BAYC				*i* AML	AML	13 55 48.0	
	comp=N,153nm,0.2s						
EZN	**Ezine**	**0.92**	**354**	P	**Pg**	**13 55 34.7**	**-0.1**
EZN				S	**Sb**	**13 55 48.6**	**+1.4**
	comp=N,298nm,0.3s						
STEP	**BALIKESIR_Sava**	**1.09**	**64**	P	**Pg**	**13 55 37.8**	**-0.2**
STEP				S	**Sb**	**13 55 53.3**	**+1.3**
STEP				*i* AML	AML	13 55 54.0	
	comp=N,206nm,0.9s						
STEP				*i* AML	AML	13 55 57.0	
	comp=N,172nm,0.4s						
SMG	**Samos**	**1.23**	**166**	P	**Pb**	**13 55 39.7**	**-0.6**
SMG				S	**Sn**	**13 55 57.4**	**+0.6**
	comp=N,252nm,0.4s						
SMG	**Samos**	**1.23**	**166**	P	**Pb**	**13 55 40.3**	**0.0**
SMG				AML	AML	13 55 59.6	
	comp=N,586μm,0.4s						
SMG				AML	AML	13 56 00.3	
	comp=E,415μm,0.5s						
GOAD	**anakkale-G¶**	**1.32**	**342**	P	**Pn**	**13 55 40.4**	**-1.0**
GOAD				S	**Sb**	**13 55 59.2**	**+0.4**
LIA	**Limnos Island**	**1.40**	**316**	P	**Pn**	**13 55 42.6**	**+0.2**
LIA				S	**Sb**	**13 56 00.1**	**-0.8**
	comp=E,290nm,0.4s						
LIA	**Limnos Island**	**1.40**	**316**	P	**Pn**	**13 55 42.0**	**-0.4**
LIA				AML	AML	13 56 02.1	
	comp=E,681μm,0.5s						
LIA				AML	AML	13 56 03.2	
	comp=N,480μm,0.4s						
BKES	**Balkesir-Mer**	**1.41**	**54**	P	**Pn**	**13 55 42.5**	**-0.1**
BKES				S	**Sb**	**13 56 01.5**	**+0.2**
BKES				*i* AML	AML	13 56 04.0	
	comp=N,65nm,0.5s						
BKES				*i* AML	AML	13 56 08.0	
	comp=N,61nm,0.6s						
SMTH	**Samothraki Isl**	**1.72**	**336**	P	**Pn**	**13 55 46.6**	**-0.2**
ALN	**Alexandroupoli**	**2.01**	**351**	P	**Pn**	**13 55 50.8**	**-0.1**
ALN				AML	AML	13 56 22.3	
	comp=E,85μm,0.6s						
ALN				AML	AML	13 56 22.7	
	comp=N,90μm,0.6s						

*IDC **16** 13:57:40.8±2.0,51.81N×178.33E,h0km,mb3.3/5, mbtmp3.3/5,Error ellipse: s-maj=50.5km s-min=38.1km az=134.0*
*NEIC **16** 13:57:53.7±0.4,51.84N±0.10×178.8E±0.1,h106km±2km, ML3.2(AEIC),Error ellipse: s-maj=15.6km s-min=9.9km az=145.0*
*AEIC **16** 13:57:53.5±1.1,51.88N±0.08×178.9E±0.1,h102km±4km, Error ellipse: s-maj=11.2km s-min=10.2km az=162.0*
ISC 16 13:57:53.2±0.9,51°9N±0°1×178°73E±0°06,h108km±6km, n25,σ0s33/28,mb3.3/5,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSE	**Little Sitkin**	**0.12**	**304**		**Pn**	**13 58 08.5**	**+0.3**
LSPA	**Little Sitkin**	**0.14**	**313**		**Pn**	**13 58 08.5**	**+0.3**
LSPA					**Sn**	**13 58 19.3**	**-0.1**
LSNW	**Little Sitkin**	**0.17**	**309**		**Pn**	**13 58 08.2**	**-0.1**
CESW	**Semis' Southwe**	**0.52**	**86**		**Pn**	**13 58 09.9**	**0.0**
CEAP	**Semis' Anvil P**	**0.54**	**75**		**Pn**	**13 58 10.4**	**+0.3**
CEAP					**Sn**	**13 58 22.6**	**-0.2**
CEPE	**Semis' Perret**	**0.58**	**80**		**Pn**	**13 58 10.5**	**+0.2**
AMKA	**Amchitka**	**0.60**	**144**		**Pn**	**13 58 10.4**	**-0.1**
AMKA	**Amchitka**	**0.60**	**144**		**Sn**	**13 58 23.4**	**-0.1**
GANE	**Gareloi Northe**	**1.55**	**91**		**Pn**	**13 58 20.4**	**+0.1**
TASE	**Tanaga Southea**	**2.00**	**90**		**Pn**	**13 58 26.4**	**+0.3**
TAFP	**Tanaga Falls P**	**2.04**	**88**		**Pn**	**13 58 26.6**	**+0.1**
TAFP					**Sn**	**13 58 51.9**	**-0.1**
KICM	**Kanaga Island**	**2.52**	**87**		**Pn**	**13 58 32.8**	**0.0**
KIWB	**Kanaga Island**	**2.55**	**89**		**Pn**	**13 58 33.2**	**+0.1**
KIRH	**Kanaga Island**	**2.59**	**88**		**Pn**	**13 58 33.7**	**+0.1**
ADK	**Adak**	**2.84**	**88**		**Pn**	**13 58 36.7**	**-0.3**
ADK	**Adak**	**2.84**	**88**		**Sn**	**13 59 10.5**	**-0.1**
GSCK	**Great Sitkin C**	**3.16**	**85**		**Pn**	**13 58 41.2**	**-0.1**
GSMY	**Great Sitkin M**	**3.23**	**85**		**Pn**	**13 58 41.8**	**-0.3**
ATKA	**Atka Island**	**4.38**	**83**		**Pn**	**13 58 58.0**	**+0.5**
KOKL	**Mount Kliuchef**	**4.38**	**81**		**Pn**	**13 58 58.1**	**+0.5**
ILAR	**Eielson Array**	**21.85**	**41**	P	**P**	**14 02 36.7**	**+0.1**
	0.1nm,0.5s,baz=231,slow=9.9,SNR=1.7						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**57.67**	**312**	P	**P**	**14 07 31.5**	**-0.4**
	0.5nm,0.6s,baz=39,slow=7.3,SNR=4.6						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**58.52**	**307**	P	**P**	**14 07 37.0**	**-0.9**
	0.1nm,0.3s,baz=54,slow=5.4,SNR=4.6						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**59.51**	**318**	P	**P**	**14 07 44.8**	**+0.2**
	0.3nm,0.3s,baz=59,slow=5.8,SNR=3.7						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**84.83**	**220**	P	**P**	**14 10 16.1**	**+0.6**
	0.2nm,0.8s,baz=22,slow=5.3,SNR=4.2						
	0.2nm,0.8s						

*IDC **16** 14:00:11.6±3.4,16.44N×97.68W,h0km,mb4.0/5, mbtmp3.8/6,ML3.4/1,MS3.4/15,Error ellipse: s-maj=61.3km s-min=17.2km az=5.0*
*NEIC **16** 14:00:16.0±2.4,16.43N±0.06×98.02W±0.03,h17km±6km, mb4.5/75,Md4.4/99(MEX),Error ellipse: s-maj=9.0km s-min=3.5km az=203.0*
*MEX **16** 14:00:17.5±0.7,16.39N×98.05W,h20km±5km,MD4.4*
ISC 16 14:00:15.2±0.8,16°35N±0°03×98°07W±0°02,h20km±3km, n398,σ1s75/456,mb4.5/35,MS3.4/11,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.07**	**307**		**Sg**	**14 00 22.8**	**+1.2**
PNIG	**Pinotepa**	**0.07**	**307**	*i* P	**Pg**	**14 00 19.6**	**+0.7**
PNIG				*i* S	**Sg**	**14 00 22.8**	**+1.2**
YOIG	**Yosondua**	**0.71**	**45**		**Pg**	**14 00 28.0**	**-1.1**
YOIG					**Sg**	**14 00 36.8**	**-1.8**
YOIG	**Yosondua**	**0.71**	**45**	*i* P	**Pg**	**14 00 28.0**	**-1.1**
YOIG				*e*S	**Sg**	**14 00 36.8**	**-1.8**
TXIG	**Tlaxiaco**	**0.94**	**18**		**Pb**	**14 00 31.7**	**-1.4**
TXIG					**Sg**	**14 00 43.3**	**-2.0**
TXIG	**Tlaxiaco**	**0.94**	**18**	*i* P	**Pb**	**14 00 31.7**	**-1.4**
TXIG				*i* S	**Sg**	**14 00 43.3**	**-2.0**
PEIG	**Puerto Escondi**	**0.95**	**111**		**Pb**	**14 00 32.3**	**-0.7**
PEIG					**Sb**	**14 00 44.3**	**-0.9**
PEIG	**Puerto Escondi**	**0.95**	**111**	*e*P	**Pb**	**14 00 32.3**	**-0.7**
PEIG				*i* S	**Sb**	**14 00 44.3**	**-0.9**
MGIG	**Malinaltepec**	**1.03**	**328**		**Pb**	**14 00 33.1**	**-1.4**
MGIG					**Sb**	**14 00 46.4**	**-1.4**
MGIG	**Malinaltepec**	**1.03**	**328**	*e*P	**Pb**	**14 00 33.1**	**-1.4**
MGIG				*i* S	**Sb**	**14 00 46.4**	**-1.4**
CRIG	**Cruz Grande**	**1.09**	**291**		**Pb**	**14 00 33.8**	**-1.5**
CRIG					**Sb**	**14 00 48.0**	**-1.2**
CRIG	**Cruz Grande**	**1.09**	**291**	*e*P	**Pb**	**14 00 33.8**	**-1.5**
CRIG				*i* S	**Sb**	**14 00 48.0**	**-1.2**
TLIG	**Tlapa**	**1.30**	**339**	Pn	**Pn**	**14 00 37.7**	**-0.6**
TLIG				Sn	**Sb**	**14 00 54.3**	**-1.0**
TLIG	**Tlapa**	**1.30**	**339**	*e*P	**Pn**	**14 00 37.4**	**-1.0**
TLIG				*e*S	**Sb**	**14 00 52.1**	**-3.3**
OXIG	**Oaxaca**	**1.47**	**60**		**Pn**	**14 00 40.0**	**-0.8**
OXIG					**Sn**	**14 00 58.3**	**-1.2**
VHO	**Vista Hermosa**	**1.47**	**60**	*i* P	**Pn**	**14 00 40.0**	**-0.8**
VHO				*e*S	**Sn**	**14 00 58.3**	**-1.2**
HLIG	**Huajuapan de L**	**1.49**	**10**		**Pn**	**14 00 40.4**	**-0.7**
HLIG					**Sn**	**14 00 59.8**	**-0.4**
HLIG	**Huajuapan de L**	**1.49**	**10**	*e*P	**Pn**	**14 00 40.4**	**-0.7**
HLIG				*i* S	**Sn**	**14 00 59.8**	**-0.4**
FTIG	**Fresnillo de T**	**1.55**	**358**		**Pn**	**14 00 41.3**	**-0.5**
FTIG					**Sn**	**14 00 54.7**	**-6.8**
FTIG	**Fresnillo de T**	**1.55**	**358**	*e*P	**Pn**	**14 00 41.3**	**-0.5**
FTIG				*e*S	**Sn**	**14 00 54.7**	**-6.8**
DAIG	**Los Arroyos**	**1.66**	**294**		**Pn**	**14 00 42.2**	**-0.9**
DAIG					**Sn**	**14 00 58.8**	**-5.1**
DAIG	**Los Arroyos**	**1.66**	**294**	*e*P	**Pn**	**14 00 42.2**	**-0.9**
DAIG				*i* S	**Sn**	**14 00 58.8**	**-5.1**
HUIG	**Huatulco**	**1.97**	**107**		**Pn**	**14 00 46.9**	**-0.6**
HUIG					**Sn**	**14 01 08.8**	**-2.8**
HUIG	**Huatulco**	**1.97**	**107**	*e*P	**Pn**	**14 00 46.9**	**-0.6**
HUIG				*i* S	**Sn**	**14 01 08.8**	**-2.8**
TOIG	**Toxpalan**	**1.98**	**29**		**Pn**	**14 00 47.1**	**-0.7**
TOIG					**Sn**	**14 01 14.0**	**+1.9**
TOIG	**Toxpalan**	**1.98**	**29**	*e*P	**Pn**	**14 00 47.1**	**-0.7**
TOIG				*e*S	**Sn**	**14 01 14.0**	**+1.9**
MEIG	**Mezcala**	**2.16**	**317**		**Pn**	**14 00 50.8**	**+0.7**
MEIG					**Sn**	**14 01 15.7**	**-0.7**
MEIG	**Mezcala**	**2.16**	**317**	*e*P	**Pn**	**14 00 50.8**	**+0.7**
MEIG				*i* S	**Sn**	**14 01 15.7**	**-0.7**
TPIG	**Tehuac#an**	**2.17**	**18**		**Pn**	**14 00 50.6**	**+0.3**
TPIG					**Sn**	**14 01 18.6**	**+1.9**
TPIG	**Tehuac#an**	**2.17**	**18**	*e*P	**Pn**	**14 00 50.6**	**+0.3**
TPIG				*i* S	**Sn**	**14 01 18.6**	**+1.9**
CAIG	**El Cayaco**	**2.22**	**289**		**Pn**	**14 00 49.6**	**-1.3**
CAIG					**Sn**	**14 01 15.1**	**-2.7**
CAIG	**El Cayaco**	**2.22**	**289**	*e*P	**Pn**	**14 00 49.6**	**-1.3**
CAIG				*e*S	**Sn**	**14 01 15.1**	**-2.7**
PLIG	**Platanillo**	**2.45**	**326**		**Pn**	**14 00 54.4**	**+0.3**
PLIG					**Sn**	**14 01 20.9**	**-2.7**
PLIG	**Platanillo**	**2.45**	**326**	*e*P	**Pn**	**14 00 54.4**	**+0.3**
PLIG				*e*S	**Sn**	**14 01 20.9**	**-2.7**
NEUV	**Arroyo Zacate**	**2.56**	**58**	*e*P	**Pn**	**14 00 55.0**	**-0.5**
NEUV				*i* S	**Sb**	**14 01 29.9**	**-1.5**
YAIG	**Yautepec**	**2.67**	**339**		**Pn**	**14 00 58.2**	**+0.9**
YAIG					**Sn**	**14 01 32.6**	**+3.4**
YAIG	**Yautepec**	**2.67**	**339**	*e*P	**Pn**	**14 00 58.2**	**+0.9**
YAIG				*i* S	**Sn**	**14 01 32.6**	**+3.4**
PPIG	**Popocatepetl**	**2.75**	**349**		**Pn**	**14 00 59.0**	**+0.3**
PPIG					**Sn**	**14 01 34.0**	**-1.3**
PPM	**Popocatepetl**	**2.75**	**349**	*e*P	**Sn**	**14 00 59.0**	**+0.3**
PPM				*i* S	**Sn**	**14 01 30.4**	**-1.3**
AMVM	**AMECAMECA**	**2.85**	**346**		**Pb**	**14 01 05.0**	**-0.6**
AMVM					**Sn**	**14 01 33.1**	**-0.7**
AMVM	**AMECAMECA**	**2.85**	**346**	*e*P	**Pb**	**14 01 05.0**	**-0.6**
AMVM				*i* S	**Sn**	**14 01 33.1**	**-0.7**
ARIG	**Puente Sto Nin**	**2.90**	**312**		**Pn**	**14 01 02.4**	**+2.1**
ARIG					**Sn**	**14 01 31.0**	**-3.7**
ARIG	**Puente Sto Nin**	**2.90**	**312**	*e*P	**Pn**	**14 01 02.4**	**+2.1**
ARIG				*e*S	**Sn**	**14 01 31.0**	**-3.7**
TLVM	**San Miguel Top**	**3.03**	**340**	*e*P	**Pn**	**14 01 05.5**	**+3.1**
TLVM				*e*S	**Sn**	**14 01 34.8**	**-3.4**
XCVM	**Xochimilco**	**3.06**	**341**	*e*P	**Pb**	**14 01 06.9**	**-2.2**
XCVM				*e*S	**Sn**	**14 01 34.3**	**-4.5**
THVM	**De Xico**	**3.07**	**344**	*e*P	**Pn**	**14 01 05.8**	**+3.0**
THVM				*i* S	**Sn**	**14 01 40.9**	**+1.8**
AOVM	**Tlapan**	**3.14**	**338**	*e*P	**Pn**	**14 01 05.2**	**+1.3**
AOVM				*i* S	**Sn**	**14 01 39.6**	**-1.5**
CMIG	**Matias Romero**	**3.14**	**76**	Pg	**Pn**	**14 01 02.1**	**-1.4**
	7.7nm,0.3s,baz=251,slow=10.0,SNR=53						
CMIG				LR	LR	14 01 37.2	
	comp=Z,140nm,21.3s,baz=249,slow=31						
CMIG				Lg	Lg	14 01 39.1	
	53nm,0.3s,baz=15,slow=13,SNR=5.1						
CMIG	**Matias Romero**	**3.14**	**76**	*i* P	**Pn**	**14 01 02.3**	**-1.3**
CMIG				*i* S

TEIG	**Tepich**	**10.07**	**66**	Pn	**Pn**	**14 02 37.6**	**-1.1**
TEIG	**Tepich**	**10.07**	**66**	LR	LR	14 07 15.3	
	comp=Z,3µm,18.5s,slow=44						
833A	**Chaparral WMA,**	**11.98**	**354**	P	**Pn**	**14 03 07.0**	**+2.1**
	baz=173,SNR=5.5						
LPIG	**La Paz**	**13.83**	**306**	LR	LR	14 08 12.2	
	comp=Z,45nm,19.4s,baz=114,slow=34						
TXAR	**Lajitas Array**	**13.91**	**339**	Pn	**Pn**	**14 03 33.0**	**+1.6**
	baz=149,slow=13,SNR=3.5						
TXAR				Lg	Lg	14 07 34.3	
	baz=170,slow=30,SNR=1.9						
TXAR				LR	LR	14 09 43.2	
	comp=Z,131nm,21.1s,baz=144,slow=41						
	0.2nm,0.6s						
JCT	**Junction City**	**14.15**	**354**	Pn	**Pn**	**14 03 36.2**	**+1.5**
JCT	**Junction City**	**14.15**	**354**	P	**Pn**	**14 03 36.7**	**+2.0**
	baz=172						
OZNA	**Ozona**	**14.77**	**350**	Pn	**Pn**	**14 03 45.5**	**+2.4**
BRDY	**Brady**	**14.89**	**357**	Pn	**Pn**	**14 03 41.7**	**-3.0**
WHTX	**Lake Whitney,**	**15.58**	**2**	Pn	**Pn**	**14 03 50.5**	**-3.3**
WHTX				IAmb	IAmb	14 04 07.8	
	comp=Z,25nm,0.9s						
WHTX	**Lake Whitney,**	**15.58**	**2**	P	**Pn**	**14 03 55.8**	**+2.0**
	baz=181						
VHRN	**Van Horn**	**15.70**	**337**		**P**	**14 03 59.3**	**-0.1**
237A	**Washetta, Mont**	**15.72**	**7**		**Pn**	**14 03 53.1**	**-2.4**
237A				IAmb	IAmb	14 04 09.7	
	comp=Z,54nm,1.2s						
SGCY	**Sterling City**	**15.74**	**350**		**P**	**14 03 59.7**	**-0.1**
PECS	**Pecos**	**15.86**	**342**	P	**P**	**14 04 01.1**	**0.0**
ABTX	**Abilene, Hawle**	**16.27**	**355**	P	**P**	**14 04 05.5**	**-0.1**
	baz=174,SNR=5.8						
PLPT	**Palo Pinto**	**16.39**	**359**	P	**P**	**14 04 07.0**	**+0.1**
PLPT				IAmb	IAmb	14 04 17.7	
	comp=Z,34nm,0.8s						
MNTX	**Cornudas Mount**	**16.67**	**338**	P	**P**	**14 04 10.3**	**+0.3**
	baz=154						
POST	**Post**	**16.93**	**350**	P	**P**	**14 04 13.5**	**+0.5**
POST				IAmb	IAmb	14 04 14.9	
	comp=Z,24nm,0.9s						
Z38A	**Mt. Pleasant**	**17.07**	**9**	P	**Pn**	**14 04 13.3**	**+0.6**
Z38A				IAmb	IAmb	14 04 24.1	
	comp=Z,50nm,1.0s						
VBMS	**Vicksburg**	**17.22**	**22**	P	**Pn**	**14 04 14.3**	**-0.3**
VBMS	**Vicksburg**	**17.22**	**22**	P	**Pn**	**14 04 15.1**	**+0.5**
	baz=205						
MSTX	**Muleshoe**	**18.05**	**347**	P	**P**	**14 04 26.7**	**+1.4**
	baz=164						
319A	**Douglas**	**18.11**	**328**	P	**P**	**14 04 27.8**	**+1.7**
WMOK	**Wichita Mounta**	**18.32**	**358**	P	**Pn**	**14 04 27.6**	**-0.7**
	baz=177						
121A	**Cookes Peak, D**	**18.36**	**333**	P	**P**	**14 04 31.7**	**+2.9**
121A	**Cookes Peak, D**	**18.36**	**333**	P	**P**	**14 04 30.9**	**+2.0**
	baz=148						
MIAR	**Mount Ida**	**18.56**	**12**	P	**P**	**14 04 30.2**	**-0.6**
	baz=193						
W35A	**Tecumseh**	**18.76**	**3**	P	**P**	**14 04 31.5**	**-1.5**
W35A				IAmb	IAmb	14 04 41.4	
	comp=Z,30nm,1.3s						
SMWD	**Samnorwood**	**18.78**	**354**	P	**P**	**14 04 33.8**	**+0.5**
DUN6	**Lazy B Ranch**	**18.98**	**330**	P	**Pn**	**14 04 37.7**	**+1.4**
DUN6				IAmb	IAmb	14 04 39.2	
	comp=Z,24nm,0.8s						
LRAL	**Lakeview Retre**	**19.40**	**29**	P	**P**	**14 04 39.5**	**-0.5**
	baz=214						
TUL3	**Leonard**	**19.59**	**6**	P	**P**	**14 04 42.6**	**+0.6**
	baz=186						
TUC	**Tucson**	**19.64**	**326**	P	**Pn**	**14 04 44.9**	**+0.8**
	baz=140						
ANMO	**Albuquerque**	**19.99**	**339**	P	**Pn**	**14 04 48.3**	**-0.1**
ANMO	**Albuquerque**	**19.99**	**339**	P	**Pn**	**14 04 48.5**	**+0.1**
	baz=155						
ANMO	**Albuquerque**	**19.99**	**339**	LR	LR	14 13 09.4	
	comp=Z,255nm,19.7s,baz=248,slow=39						
214A	**Organ Pipe Nat**	**20.51**	**322**	P	Pn	14 04 55.0	+0.5
	baz=135						
T35A	**Sooner Cattle**	**20.53**	**4**	P	**P**	**14 04 50.6**	**-1.8**
T35A				IAmb	IAmb	14 05 18.0	
	comp=Z,16nm,0.8s						
X48A	**Hartselle**	**20.57**	**27**	P	**P**	**14 04 48.6**	**-4.1**
PLAL	**Pickwick Lake**	**20.60**	**24**	P	**P**	**14 04 50.7**	**-2.4**
PLAL				IAmb	IAmb	14 05 03.2	
	comp=Z,16nm,0.8s						
X18A	**Snowflake**	**21.01**	**332**	P	**P**	**14 05 00.2**	**+2.4**
T25A	**Trinidad**	**21.46**	**346**	P	**P**	**14 05 03.0**	**+0.5**
T25A	**Trinidad**	**21.46**	**346**	P	**P**	**14 05 03.6**	**+1.0**
	baz=162,SNR=11						
GOGA	**Godfrey**	**21.50**	**35**	P	**P**	**14 05 01.3**	**-1.5**
	baz=221						
X16A	**Lo Mia Camp, P**	**21.63**	**329**	P	**P**	**14 05 07.3**	**+2.9**
X16A				IAmb	IAmb	14 05 20.4	
	comp=Z,14nm,0.9s						
S39A	**Bolivar**	**21.67**	**10**	P	**P**	**14 05 03.5**	**-1.1**
WVT	**Waverly**	**21.71**	**23**	P	**P**	**14 05 02.2**	**-2.8**
WVT				IAmb	IAmb	14 05 16.3	
	comp=Z,20nm,0.8s						
WVT	**Waverly**	**21.71**	**23**	P	**P**	**14 05 03.3**	**-1.8**
	baz=207						
V48A	**Smith Brothers**	**21.76**	**25**	P	**P**	**14 05 03.2**	**-2.5**
Y14A	**Wickenburg**	**22.08**	**325**	P	**P**	**14 05 11.6**	**+2.5**
SDCO	**Great Sand Dun**	**22.30**	**344**	P	**P**	**14 05 12.4**	**+0.7**
SDCO	**Great Sand Dun**	**22.30**	**344**	P	**P**	**14 05 12.4**	**+0.7**
	baz=160,SNR=7.3						
CCM	**Cathedral Cave**	**22.44**	**14**	P	**P**	**14 05 12.7**	**-0.2**
	baz=197						
R40A	**Maddies Statio**	**22.45**	**12**	P	**P**	**14 05 12.3**	**-0.7**
R40A				IAmb	IAmb	14 05 26.0	
	comp=Z,12nm,0.8s						
WUAZ	**Wupatki**	**22.48**	**331**	P	**P**	**14 05 15.9**	**+2.3**
WUAZ				IAmb	IAmb	14 05 19.2	
	comp=Z,13nm,1.0s						
WUAZ	**Wupatki**	**22.48**	**331**	P	**P**	**14 05 16.2**	**+2.7**
	baz=144,SNR=9.3						
GLA	**Glamis**	**22.49**	**321**	P	**P**	**14 05 16.3**	**+2.8**
	baz=133						
KSU1	**Kansas State U**	**22.70**	**3**	P	**P**	**14 05 14.9**	**-0.8**
	baz=183						
MVCO	**Mesa Verde**	**22.74**	**338**	P	**P**	**14 05 17.4**	**+1.1**
MVCO				IAmb	IAmb	14 05 20.3	
	comp=Z,16nm,1.0s						
MVCO	**Mesa Verde**	**22.74**	**338**	P	**P**	**14 05 17.4**	**+1.1**
	baz=152,SNR=7.2						
PDMCI	**Parker Dam,Lak**	**22.98**	**324**	P	**P**	**14 05 21.6**	**+3.0**
	baz=136						
TKL	**Tuckaleechee C**	**23.07**	**31**	LR	LR	14 18 09.3	
	comp=Z,52nm,18.0s,baz=203,slow=47						
BC3	**Big Chuckawall**	**23.29**	**321**	P	**P**	**14 05 23.9**	**+2.0**
	baz=132						
Q24A	**Divide**	**23.37**	**346**	P	**P**	**14 05 23.3**	**+0.4**
Q24A	**Divide**	**23.37**	**346**	P	**P**	**14 05 23.7**	**+0.8**
	baz=162						
MONP2	**Monument Peak**	**23.38**	**318**	P	**P**	**14 05 25.5**	**+2.5**
	baz=129						
W13A	**Hualapai Mount**	**23.43**	**326**	P	**P**	**14 05 25.7**	**+2.3**
P38A	**Dawn**	**23.53**	**9**	P	**P**	**14 05 21.3**	**-2.7**
P38A				IAmb	IAmb	14 05 24.7	
	comp=Z,9.1nm,0.9s						
U15A	**North Rim**	**23.66**	**330**	P	**P**	**14 05 27.0**	**+1.3**
U15A				IAmb	IAmb	14 05 39.3	
	comp=Z,13nm,1.1s						
P40A	**Paris**	**23.69**	**12**	P	**P**	**14 05 24.2**	**-1.4**
P40A				IAmb	IAmb	14 05 25.7	
	comp=Z,21nm,1.1s						
BELC	**Belle Mtn. Jos**	**23.85**	**321**	P	**P**	**14 05 29.6**	**+2.1**
	baz=132						
PFO	**Pinyon Flats O**	**23.88**	**319**	LR	LR	14 15 50.1	
	comp=Z,53nm,20.0s,baz=190,slow=39						
TZTN	**Tazewell**	**23.89**	**30**	P	**P**	**14 05 26.3**	**-1.3**
	baz=216						
KMSC	**Kings Mountain**	**23.96**	**36**	P	**P**	**14 05 27.2**	**-1.1**
	baz=223						
SMCO	**Snowmass**	**24.04**	**343**	P	**P**	**14 05 29.7**	**+0.3**
SMCO				IAmb	IAmb	14 05 34.3	
	comp=Z,18nm,1.4s						
WCI	**Wyandotte Cave**	**24.13**	**23**	P	**P**	**14 05 28.7**	**-1.2**
WCI	**Wyandotte Cave**	**24.13**	**23**	P	**P**	**14 05 29.2**	**-0.7**
	baz=208						
GMRC	**Granite Mounta**	**24.20**	**323**	P	**P**	**14 05 33.0**	**+2.3**
	baz=134						
ISCO	**Idaho Springs**	**24.27**	**346**	P	**P**	**14 05 32.0**	**+0.5**
ISCO				IAmb	IAmb	14 05 33.5	
	comp=Z,13nm,0.8s						
ISCO	**Idaho Springs**	**24.27**	**346**	P	**P**	**14 05 31.9**	**+0.4**
	baz=161,SNR=13						
U54A	**Nelsons Funny**	**24.73**	**33**	P	**P**	**14 05 33.7**	**-1.7**
OGNE	**Ogallala**	**24.75**	**353**	P	**P**	**14 05 35.4**	**-0.1**
	baz=170						
S51A	**Beattyville**	**24.76**	**28**	P	**P**	**14 05 33.6**	**-1.9**
S51A				IAmb	IAmb	14 05 36.2	
	comp=Z,14nm,0.8s						
MTPU	**Mount Pierson**	**24.93**	**333**	P	**P**	**14 05 39.5**	**+1.9**
MTPU				IAmb	IAmb	14 05 50.8	
	comp=Z,15nm,0.9s						
BFSC	**Mount Baldy Ra**	**25.04**	**319**	P	**P**	**14 05 41.1**	**+2.8**
	baz=130						
GSC	**Goldstone, Bar**	**25.23**	**322**	P	**P**	**14 05 42.3**	**+2.3**
	baz=133						
O20A	**White River Ci**	**25.30**	**342**	P	**P**	**14 05 42.1**	**+1.5**
O20A				IAmb	IAmb	14 05 44.4	
	comp=Z,17nm,1.1s						
O20A	**White River Ci**	**25.30**	**342**	P	**P**	**14 05 42.4**	**+1.7**
	baz=156,SNR=10						
MVU	**Marysvale**	**25.33**	**333**	P	**P**	**14 05 42.6**	**+1.6**
N23A	**Red Feather La**	**25.39**	**346**	P	**P**	**14 05 42.2**	**+0.6**
N23A				IAmb	IAmb	14 05 45.1	
	comp=Z,19nm,1.2s						
N23A	**Red Feather La**	**25.39**	**346**	P	**P**	**14 05 42.5**	**+0.9**
	baz=162,SNR=7.5						
P18A	**Preston Nutter**	**25.51**	**338**	P	**P**	**14 05 44.6**	**+1.9**
P18A				IAmb	IAmb	14 05 47.0	
	comp=Z,8.7nm,0.9s						
EDW2	**Edwards Air Fo**	**25.67**	**320**	P	**P**	**14 05 45.5**	**+1.6**
	baz=130						
SFIN	**Lafayette**	**25.77**	**20**	P	**P**	**14 05 43.9**	**-0.8**
	baz=205						
P49A	**Miami Univ. Ec**	**25.87**	**24**	P	**P**	**14 05 43.4**	**-2.2**
P49A	**Miami Univ. Ec**	**25.87**	**24**	P	**P**	**14 05 43.7**	**-1.9**
	baz=210						
BLA	**Blacksburg**	**25.99**	**34**	P	**P**	**14 05 45.4**	**-1.4**
	baz=222						
RDMU	**Red Mountain**	**26.12**	**340**	P	**P**	**14 05 49.0**	**+0.9**
RDMU				IAmb	IAmb	14 05 52.1	
	comp=Z,7.4nm,0.9s						
MPMC	**Manual Prospec**	**26.15**	**322**	P	**P**	**14 05 50.1**	**+1.7**
	baz=133						
O48B	**Farmland**	**26.33**	**23**	P	**P**	**14 05 47.2**	**-2.6**
O48B	**Farmland**	**26.33**	**23**	P	**P**	**14 05 49.1**	**-0.7**
	baz=209						
SPR3	**Spring Creek 3**	**26.68**	**331**	P	**P**	**14 05 54.0**	**+0.7**
N47A	**Urbana**	**26.69**	**21**	P	**P**	**14 05 50.9**	**-2.1**
CWC	**Cottonwood Cre**	**26.76**	**322**	P	**P**	**14 05 56.1**	**+2.2**
	baz=132						
R11B	**Troy Canyon, C**	**26.78**	**328**	P	**P**	**14 05 56.4**	**+2.3**
	baz=139						
DUG	**Dugway, Tooele**	**27.00**	**335**	P	**P**	**14 05 57.3**	**+1.3**
	baz=147						
K22A	**Casper**	**27.20**	**346**	P	**P**	**14 05 58.2**	**+0.5**
K22A				IAmb	IAmb	14 06 09.6	
	comp=Z,12nm,1.1s						
K22A	**Casper**	**27.20**	**346**	P	**P**	**14 05 58.0**	**+0.2**
	baz=161						
JFWS	**Jewell Farm**	**27.31**	**13**	P	**P**	**14 05 57.6**	**-1.0**
	baz=196						
PDAR	**Pinedale Array**	**28.10**	**342**	P	**P**	**14 06 06.1**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=127,slow=10,SNR=6.1						
PDAR				LR	LR	14 18 21.8	
	comp=Z,117nm,20.2s,baz=168,slow=39						
	comp=Z,0.6nm,0.7s						
BW06	**Boulder Array**	**28.11**	**342**	P	**P**	**14 06 07.0**	**+1.0**
	baz=155						
NVAR	**Mina Array Bea**	**28.28**	**325**	P	**P**	**14 06 10.2**	**+2.7**
NVAR	**Mina Array Bea**	**28.28**	**325**	P	**P**	**14 06 08.3**	**+0.8**
	comp=Z,3.4nm,1.0s,baz=149,slow=9.2,SNR=15						
	comp=Z,3.4nm,1.0s						
ELK	**Elko**	**28.50**	**332**	LR	LR	14 18 10.5	
	comp=Z,121nm,18.1s,baz=144,slow=38						
MOOW	**Moose Ponds**	**29.36**	**341**	P	**P**	**14 06 17.6**	**+0.5**
RLMT	**Red Lodge**	**30.19**	**344**	P	**P**	**14 06 25.4**	**+1.0**
	baz=158						
ATAH	**Atahualpa**	**30.39**	**139**	LR	LR	14 16 03.6	
	comp=Z,85nm,21.0s,baz=180,slow=32						
HLID	**Hailey**	**30.48**	**336**	P	**P**	**14 06 28.5**	**+1.6**
	baz=147						
BOZ	**Bozeman (W)**	**31.30**	**342**	P	**P**	**14 06 35.5**	**+1.4**
	baz=154						
WVOR	**Wild Horse Val**	**31.41**	**330**	P	**P**	**14 06 36.0**	**+0.9**
WVOR				IAmb	IAmb	14 06 38.4	
	comp=Z,6.9nm,1.0s						
AGMN	**Agassiz Nation**	**31.91**	**3**	P	**P**	**14 06 38.9**	**-0.4**
	baz=184,SNR=8.8						
BINY	**Binghamton**	**31.98**	**32**	P	**P**	**14 06 39.5**	**-0.5**
	baz=223,SNR=5.2						
PAL	**Palisades**	**32.24**	**35**	P	**P**	**14 06 41.7**	**-0.6**
	baz=228						
PLID	**Pearl Lake**	**32.38**	**336**	P	**P**	**14 06 43.9**	**+0.1**
SADO	**Sadowa**	**32.52**	**25**	LR	LR	14 22 01.2	
	comp=Z,27nm,19.1s,baz=328,slow=41						
EGMT	**Eagleton**	**33.02**	**346**	P	**P**	**14 06 50.2**	**+1.1**
	baz=159						
F10A	**Beach Ranch, E**	**33.60**	**336**	P	**P**	**14 06 54.4**	**+0.2**
F10A				IAmb	IAmb	14 06 57.3	
	comp=Z,5.8nm,1.0s						
ULM	**Lac du Bonnet**	**33.86**	**3**	P	**P**	**14 06 54.6**	**-1.7**
	comp=Z,1.7nm,0.5s,baz=181,slow=7.7,SNR=5.4						
	comp=Z,1.7nm,0.5s						
NNA	**Nana**	**35.12**	**142**	LR	LR	14 18 14.2	
	comp=Z,64nm,19.9s,baz=207,slow=31						
NEW	**Newport**	**35.46**	**338**	P	**P**	**14 07 11.1**	**+0.8**
	baz=147						
NEW	**Newport**	**35.46**	**338**	LR	LR	14 23 10.5	
	comp=Z,225nm,18.3s,baz=140,slow=39						
PKME	**Peaks-Kenny Pk**	**37.59**	**34**	P	**P**	**14 07 27.8**	**-0.6**
	baz=229						
FFC	**Flin Flon**	**38.42**	**356**	P	**P**	**14 07 34.0**	**-1.2**
FFC				IAmb	IAmb	14 07 35.8	
	comp=Z,6.4nm,0.9s						
EDM	**Edmonton**	**38.70**	**345**	P	**P**	**14 07 37.5**	**-0.2**
EDM				IAmb	IAmb	14 07 48.5	
	comp=Z,8.7nm,0.9s						
BBB	**Bella Bella**	**42.94**	**333**	LR	LR	14 27 37.1	
	comp=Z,46nm,19.1s,baz=250,slow=38						
YKA	**Yellowknife Ar**	**47.54**	**350**	P	**P**	**14 08 48.0**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=156,slow=7.1,SNR=14						
	comp=Z,1.0nm,0.8s						
KOTAN	**Kotaneelee Air**	**47.61**	**343**	P	**P**	**14 08 50.8**	**+1.2**
	baz=145						
DLBC	**Dease Lake**	**48.21**	**338**	P	**P**	**14 08 56.0**	**+1.7**
	baz=137						
DLBC	**Dease Lake**	**48.21**	**338**	LR	LR	14 31 10.1	
	comp=Z,148nm,18.4s,baz=129,slow=38						
WTLY	**Watson Lake, Y**	**49.05**	**340**	P	**P**	**14 09 02.7**	**+2.0**
	baz=139						
R33M	**Jennings River**	**49.25**	**338**	P	**P**	**14 09 04.4**	**+2.1**
	baz=136						
R32K	**Eaglecrest**	**49.79**	**336**	P	**P**	**14 09 08.3**	**+2.0**
	baz=131						
TGTN	**Hyland Airport**	**49.97**	**342**	P	**P**	**14 09 09.2**	**+1.4**
	baz=140						
S31K	**Pelican**	**50.28**	**335**	P	**P**	**14 09 11.0**	**+1.0**
	baz=129						
P32M	**Atlin**	**50.38**	**337**	P	**P**	**14 09 12.4**	**+1.6**
	baz=133						
P33M	**Teslin, Yukon**	**50.49**	**338**	P	**P**	**14 09 12.5**	**+0.8**
	baz=134						
P30M	**Million Dollar**	**51.95**	**336**	P	**P**	**14 09 23.2**	**+0.5**
	baz=130						
O30N	**Mendenhall**	**52.05**	**337**	P	**P**	**14 09 24.4**	**+1.0**
	baz=131						
FARO	**Faro, Yukon**	**52.10**	**340**	P	**P**	**14 09 24.8**	**+1.1**
	baz=135						
M31M	**Drury Creek, Y**	**52.43**	**339**	P	**P**	**14 09 26.6**	**+0.5**
	baz=134						
HYT	**Haines Junctio**	**52.61**	**337**	P	**P**	**14 09 28.5**	**+0.8**
	baz=130						
O29M	**Mount Kennedy**	**52.69**	**336**	P	**P**	**14 09 29.5**	**+1.3**
	baz=128						
H03N2	**Juan Fernandez**	**52.77**	**160**	T	T	15 05 55.5	
	baz=338,slow=77,SNR=128						
H03N1	**Juan Fernandez**	**52.78**	**160**	T	T	15 05 55.9	
	baz=338,slow=77,SNR=127						
H03N3	**Juan Fernandez**	**52.79**	**160**	T	T	15 05 56.2	
	baz=338,slow=77,SNR=140						
N30M	**Aishikik Lake**	**52.87**	**338**	P	**P**	**14 09 30.3**	**+0.8**
	baz=130						
YUK6	**Outpost Mounta**	**53.01**	**337**	P	**P**	**14 09 31.7**	**+1.0**
	baz=129						
YUK4	**Talbot Arm**	**53.37**	**337**	P	**P**	**14 09 34.4**	**+1.0**
	baz=129						
YUK8	**Steele Glacier**	**53.76**	**337**	P	**P**	**14 09 37.6**	**+1.3**
	baz=127						
M29M	**Somme Creek**	**54.01**	**338**	P	**P**	**14 09 38.9**	**+1.1**
	baz=129						
L29M	**L29M**	**54.32**	**339**	P	**P**	**14 09 41.0**	**+0.9**
L29M				IAmb	IAmb	14 09 42.5	
	comp=Z,3.8nm,0.8s						
L29M	**L29M**	**54.32**	**339**	P	**P**	**14 09 41.3**	**+1.2**
	baz=130						
YUK3	**Moose Creek**	**54.32**	**337**	P	**P**	**14 09 41.5**	**+1.2**
	baz=127						
K29M	**Barlow Dome**	**54.60**	**340**	P	**P**	**14 09 43.9**	**+1.8**
	baz=131						
J30M	**Hart River**	**54.71**	**341**	P	**P**	**14 09 43.4**	**+0.5**
	baz=133						
BVCY	**Beaver Creek**	**54.86**	**337**	P	**P**	**14 09 45.1**	**+1.1**
	baz=127						
MCARA	**McCarthy VSAT**	**55.09**	**335**	P	**P**	**14 09 46.1**	**+0.5**
	baz=124						
I30M	**Mount Dempster**	**55.17**	**341**	P	**P**	**14 09 46.0**	**-0.3**
	baz=133						
M27K	**Edge Creek, AK**	**55.21**	**337**	P	**P**	**14 09 46.9**	**+0.2**
	baz=126						
DAWY	**Dawson**	**55.37**	**339**	P	**P**	**14 09 48.4**	**+0.8**
	baz=129						
BMRM	**Bremner River**	**55.50**	**335**	P	**P**	**14 09 49.3**	**+0.6**
	baz=122						
L27K	**Beaver Creek,**	**55.61**	**338**	P	**P**	**14 09 49.9**	**+0.6**
	baz=126						
M26K	**Nabesna, AK**	**55.66**	**337**	P	**P**	**14 09 50.5**	**+0.7**
	baz=124						
G31M	**Satah River**	**55.77**	**344**	P	**P**	**14 09 50.0**	**-0.4**
	baz=136						
N25K	**Chitina, Valde**	**55.84**	**335**	P	**P**	**14 09 50.9**	**-0.3**
	baz=122						
F31M	**Tsiigehtchic**	**56.01**	**344**	P	**P**	**14 09 51.5**	**-0.6**
	baz=137						
K27K	**Chicken**	**56.27**	**338**	P	**P**	**14 09 55.8**	**+1.7**
	baz=126						
KLU	**Klutina**	**56.32**	**335**	P	**P**	**14 09 54.5**	**0.0**
	baz=121						
EGAK	**Eagle**	**56.41**	**339**	P	**P**	**14 09 54.9**	**-0.1**
	baz=128						
I28M	**Miner Creek**	**56.43**	**340**	P	**P**	**14 09 54.8**	**-0.5**
	baz=129						
H29M	**Whitestone**	**56.45**	**342**	P	**P**	**14 09 54.8**	**-0.5**
	baz=132						
INK	**Inuvik**	**56.60**	**345**	P	**P**	**14 09 56.6**	**+0.3**
INK				IAmb	IAmb	14 09 57.9	
	comp=Z,4.5nm,1.1s						
INK	**Inuvik**	**56.60**	**345**	P	**P**	**14 09 55.8**	**-0.5**
	baz=138						
F30M	**Barrier River**	**56.68**	**344**	P	**P**	**14 09 57.1**	**+0.2**
	baz=135						
G29M	**Pine Creek**	**56.82**	**342**	P	**P**	**14 09 57.9**	**0.0**
	baz=132						
PAX	**Paxson**	**56.92**	**336**	P	**P**	**14 09 59.0**	**+0.2**
	baz=122						
SCRK	**Sand Creek**	**56.93**	**338**	P	**P**	**14 09 59.2**	**+0.3**
	baz=124						
J26L	**Joseph Creek**	**57.08**	**338**	P	**P**	**14 10 01.7**	**+1.8**
J26L				IAmb	IAmb	14 10 11.4	
	comp=Z,6.6nm,1.3s						
J26L	**Joseph Creek**	**57.08**	**338**	P	**P**	**14 10 00.5**	**+0.6**
	baz=125						
RIDG	**Independent Ri**	**57.11**	**337**	P	**P**	**14 10 01.0**	**+1.0**
	baz=123						
H27K	**Steamboat Moun**	**57.44**	**341**	P	**P**	**14 10 03.0**	**+0.6**
	baz=128						
K24K	**Donnelly Dome**	**57.49**	**337**	P	**P**	**14 10 03.6**	**+0.8**
	baz=122						
KDAK	**Kodiak Island**	**57.67**	**329**	P	**P**	**14 10 05.0**	**+0.9**
	baz=112						
PMR	**Palmer**	**57.71**	**334**	P	**P**	**14 10 04.1**	**-0.1**
	baz=118						
DHY	**Denali Highway**	**57.72**	**336**	P	**P**	**14 10 04.2**	**-0.3**
	baz=120						
RC01	**Rabbit Creek A**	**57.73**	**333**	P	**P**	**14 10 04.5**	**+0.1**
	baz=117						
J25K	**Salcha River,**	**57.79**	**338**	P	**P**	**14 10 05.6**	**+0.7**
	baz=123						
E29M	**Blow River**	**57.79**	**344**	P	**P**	**14 10 05.0**	**+0.2**
	baz=133						
F28M	**Old Crow**	**57.82**	**342**	P	**P**	**14 10 06.0**	**+0.9**
F28M				IAmb	IAmb	14 10 06.8	
	comp=Z,3.3nm,0.9s						
F28M	**Old Crow**	**57.82**	**342**	P	**P**	**14 10 05.4**	**+0.3**
	baz=130,SNR=5.5						
G27K	**Doyon Strip**	**57.84**	**341**	P	**P**	**14 10 05.9**	**+0.7**
	baz=128						
HDA	**Harding Lake**	**58.25**	**337**	P	**P**	**14 10 08.4**	**+0.3**
	baz=121						
SUA	**Susitna One**	**58.34**	**333**	P	**P**	**14 10 10.0**	**+1.2**
PRP	**Porcupine Dome**	**58.34**	**339**	P	**P**	**14 10 08.9**	**+0.1**
	baz=123						
E28M	**Babbage River**	**58.38**	**343**	P	**P**	**14 10 09.1**	**+0.2**
	baz=131						
IL31		**58.42**	**338**	P	**P**	**14 10 10.3**	**+1.2**
IL31				IAmb	IAmb	14 10 10.4	
	comp=Z,5.1nm,1.2s						
ILAR	**Eielson Array**	**58.42**	**338**	P	**P**	**14 10 10.1**	**+0.9**
ILAR	**Eielson Array**	**58.42**	**338**	P	**P**	**14 10 09.3**	**+0.1**
	comp=Z,2.1nm,1.1s,baz=147,slow=4.7,SNR=12						
	comp=Z,2.1nm,1.1s						
RND	**Reindeer**	**58.47**	**336**	P	**P**	**14 10 11.0**	**+1.3**
MCK	**McKinley**	**58.66**	**336**	P	**P**	**14 10 11.5**	**+0.6**
	baz=119						
D28M	**Stokes Point**	**58.66**	**344**	P	**P**	**14 10 11.2**	**+0.5**
	baz=133						
E27K	**Coleen River**	**58.69**	**342**	P	**P**	**14 10 11.3**	**+0.2**
	baz=129						
N20K	**Mount Spurr**	**58.86**	**333**	P	**P**	**14 10 12.7**	**+0.3**
	baz=114						
H25L	**Birch Creek**	**58.86**	**340**	P	**P**	**14 10 13.3**	**+1.0**
	baz=124						
SKT	**Skwentna**	**58.90**	**334**	P	**P**	**14 10 13.1**	**+0.4**
	baz=115						
TRF	**Thorofare Moun**	**59.05**	**336**	P	**P**	**14 10 15.0

COLD	Coldfoot	60.85	339	P	P	14 10 27.4	+1.5
	baz=119						
J20K	Nowinta River	60.91	335	P	P	14 10 26.6	+0.2
J20K	Nowinta River	60.91	335	P	P	14 10 26.9	+0.5
	baz=114						
O16K	Kokwok River B	61.00	330	P	P	14 10 27.6	+0.6
	baz=108						
H21K	Melozitna Rive	61.03	337	P	P	14 10 27.4	+0.2
	baz=116						
E23K	Chandalar	61.08	340	P	P	14 10 28.8	+1.2
	baz=120						
SDPT	Sand Point	61.08	325	P	P	14 10 28.8	+1.2
	baz=103						
G22K	Bettles	61.15	339	P	P	14 10 28.9	+1.0
	baz=118						
TTA	Tatalina	61.19	334	P	P	14 10 28.9	+0.5
	baz=111						
L18K	Granite Mounta	61.23	333	P	P	14 10 29.2	+0.6
	baz=110						
M17K	Holitna River	61.27	332	P	P	14 10 30.2	+1.3
	baz=109						
I20K	Naaghedeneel	61.30	336	P	P	14 10 30.3	+1.3
	baz=114						
TOLK	Toolik Lake Re	61.37	341	P	P	14 10 29.5	+0.1
	baz=121						
J19K	Poorman	61.43	335	P	P	14 10 30.3	+0.4
	baz=112						
N16K	Nishlik Lake	61.59	331	P	P	14 10 30.1	-1.0
	baz=107						
G21K	Allakaket	61.67	338	P	P	14 10 31.3	-0.2
	baz=116						
C24K	Franklin Bluff	61.67	342	P	P	14 10 31.5	+0.1
	baz=122						
J18K	Innoko River	61.69	334	P	P	14 10 31.8	+0.1
	baz=111						
H20K	Anotleneega Mo	61.74	337	P	P	14 10 33.3	+1.3
	baz=114						
E22K	Anaktuvuk Pass	61.83	340	P	P	14 10 33.0	+0.4
	baz=118						
M16K	Timber Creek	61.85	331	P	P	14 10 33.5	+0.7
	baz=108						
D23K	Nanushuk River	61.88	341	P	P	14 10 33.1	+0.3
	baz=120						
F21K	Alatna River	61.97	339	P	P	14 10 33.8	+0.2
	baz=116						
C23K	Itkillik River	62.30	342	P	P	14 10 36.2	+0.6
	baz=120						
D22K	Ayikyak River	62.47	341	P	P	14 10 37.4	+0.6
D22K	Ayikyak River	62.47	341	P	P	14 10 38.0	+1.2
	baz=118						
M15K	Kasigluk River	62.56	331	P	P	14 10 37.2	-0.3
	baz=106						
F20K	Avaraart Lake	62.69	338	P	P	14 10 38.8	+0.5
	baz=114						
G19K	Purcell Mounta	62.83	337	P	P	14 10 39.8	+0.5
	baz=112						
L15K	Ungalak Mounta	63.21	331	P	P	14 10 41.6	-0.2
	baz=106						
C21K	Knifeblade Rid	63.27	340	P	P	14 10 43.1	+0.9
	baz=116						
J16K	Anvik River	63.28	333	P	P	14 10 43.6	+1.3
	baz=107						
G18K	Tagagawik	63.34	336	P	P	14 10 43.7	+1.1
	baz=110						
F19K	Shaleruckik Mo	63.35	338	P	P	14 10 43.8	+1.1
	baz=112						
E20K	Nigu River	63.35	339	P	P	14 10 43.8	+1.0
	baz=114						
B22K	Teshekpuk Lake	63.39	342	P	P	14 10 43.2	+0.4
B22K				IAmb	IAmb	14 11 23.9	
	comp=Z,3.2nm,1.1s						
B22K	Teshekpuk Lake	63.39	342	P	P	14 10 43.5	+0.6
	baz=118						
E19K	Redstone River	63.39	338	P	P	14 10 43.2	+0.2
	baz=112						
B21K	Ikpikpuk River	63.42	341	P	P	14 10 43.7	+0.6
B21K				IAmb	IAmb	14 11 15.0	
	comp=Z,6.4nm,1.5s						
B21K	Ikpikpuk River	63.42	341	P	P	14 10 43.3	+0.3
	baz=116						
H17K	Granite Mounta	63.51	335	P	P	14 10 45.0	+1.2
	baz=109						
L14K	Kuka Creek	63.67	331	P	P	14 10 46.3	+1.4
	baz=104						
D20K	Etivluk River	63.68	340	P	P	14 10 45.9	+1.0
	baz=114						
M13K	Dall Lake	63.76	330	P	P	14 10 48.1	+2.7
	baz=103						
G17K	Kiwalik Mounta	63.98	336	P	P	14 10 47.8	+0.9
	baz=108						
D19K	Kuna River	64.10	339	P	P	14 10 48.3	+0.7
	baz=112						
H16K	Elim	64.36	335	P	P	14 10 50.6	+1.2
	baz=106						
B20K	Meade River	64.39	341	P	P	14 10 50.5	+1.0
B20K				IAmb	IAmb	14 10 50.7	
	comp=Z,3.2nm,0.7s						
B20K	Meade River	64.39	341	P	P	14 10 50.1	+0.7
	baz=114						
J14K	Nanvaranak Lak	64.42	332	P	P	14 10 51.9	+2.2
	baz=104						
E18K	Tukpahlearik C	64.59	338	P	P	14 10 51.7	+0.8
	baz=109						
G16K	Koyuk River	64.63	335	P	P	14 10 51.8	+0.7
	baz=106						
A21K	Barrow	64.77	342	P	P	14 10 52.4	+0.5
	baz=115						
C19K	Lookout Ridge	64.83	340	P	P	14 10 53.3	+0.8
	baz=111						
G15K	Niukluk	65.20	335	P	P	14 10 55.9	+1.1
	baz=105						
C18K	Utukok River	65.21	339	P	P	14 10 55.5	+0.6
	baz=109						
D17K	Noatak River	65.58	338	P	P	14 10 58.2	+0.9
	baz=107						
F15K	North Star Dit	65.64	335	P	P	14 10 58.5	+0.8
F15K	North Star Dit	65.64	335	P	P	14 10 59.0	+1.4
	baz=104						
ANM	Nome	65.65	334	P	P	14 10 58.7	+0.9
	baz=103						
B18K	Kokolik River	65.66	340	P	P	14 10 58.1	+0.4
	baz=109						
A19K	Wainwright	65.70	341	P	P	14 10 58.8	+0.8
	baz=110						
C17K	DeLong Mountai	65.85	338	P	P	14 11 00.3	+1.3
	baz=107						
F14K	Arctic Creek	66.26	335	P	P	14 11 03.0	+1.4
	baz=103						
P08K	Saint George I	66.31	325	P	P	14 11 03.0	+0.9
	baz=96						
C16K	Lisburne Hills	66.56	338	P	P	14 11 02.6	-0.9
	baz=105						
SPIA	Saint Paul Isl	66.76	326	P	P	14 11 06.3	+1.3
	baz=95						
TNA	Tin City	66.92	335	P	P	14 11 06.7	+0.8
	baz=101						
RAR	Rarotonga	71.09	240	LR	LR	14 37 10.7	
	comp=Z,60nm,19.5s,baz=157,slow=31						

*MEX **16** 14:21:29.5±0.5, 14°.7N×92°.69W, h79km±7km, MD4.2*
*SNET **16** 14:21:31.9±0.8, 14°.78N×92°.52W, h61km±11km, ML4.4*
*GCG **16** 14:21:32.2±0.6, 14°.98N×92°.49W, h26km±3km, MD4.1*

ISC 16 14:21:28.7±1.2, 14°.73N±0°.05×92°.77W±0°.03, h63km±11km, n44, σ2s05/72, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
THIG		0.52	70	*i*	P	Pn	14 21 41.2	+0.1
THIG				*i*	S	Sn	14 21 50.6	+0.5
PATR	El Naranjo	0.65	53	*i*	P	Pn	14 21 42.3	-0.5
PATR				*i*	S	Sn	14 21 52.7	-0.3
CHUJ	Union Juarez	0.73	60	*i*	P	Pn	14 21 43.4	-0.4
CHUJ				*i*	S	Sn	14 21 54.6	-0.3
PAVE	Pavencul	0.74	51	*i*	P	Pn	14 21 43.6	-0.2
PAVE				*i*	S	Sn	14 21 54.6	-0.3
SMSP	San Marcos	0.99	75	*eP*		Pn	14 21 47.0	0.0
SMSP				*eS*		Sn	14 22 00.6	+0.1
RTAL	Retalhuleu	1.06	101	*eP*		Pn	14 21 47.0	-0.6
RTAL				*i*	S	Sn	14 22 01.3	-0.4
RTAL	Retalhuleu	1.06	101	*eP*		Pn	14 21 47.9	+0.2
RTAL				*eS*		Sn	14 22 00.7	-1.0
PCIG		1.06	336	*i*	P	Pn	14 21 48.0	+0.3
PCIG				*i*	S	Sn	14 22 02.2	+0.3
STG3	Santiaguito 3,	1.16	91	*eP*		Pn	14 21 49.7	+0.6
STG3				*eS*		Sn	14 22 03.5	-0.9
SULM	Suchitepequez,	1.24	110	*eP*		Pn	14 21 51.9	+1.9
SULM				*eS*		Sn	14 22 02.3	-3.6
HUEH	Huehuetenango	1.36	64	*eP*		Pn	14 21 52.6	+0.8
HUEH				*i*	S	Sn	14 22 10.9	+1.9
CCIG	Comitan	1.66	21	*eP*		Pn	14 21 57.3	+1.5
CCIG				*i*	S	Sn	14 22 17.3	+1.0
CARR	Arriaga	1.87	324	*eP*		Pn	14 21 59.9	+1.4
CARR				*i*	S	Sn	14 22 22.9	+1.8
FUG	Fuego 3	1.89	98	*eP*		Pn	14 22 00.4	+1.5
FUG				*eS*		Sn	14 22 22.1	+0.4
TGIG		2.07	351	*eP*		Pn	14 22 01.2	0.0
TGIG				*i*	S	Sn	14 22 25.2	-0.7
PCG	Pacaya	2.12	99	*eP*		Pn	14 22 04.3	+2.2
PCG				*eS*		Sn	14 22 29.1	+1.6
NBG	Las Nubes	2.35	93	*eP*		Pn	14 22 08.9	+3.7
NILT	Santiago Nilte	2.55	316	*eP*		Pn	14 22 09.2	+1.5
NILT				*eS*		Sn	14 22 37.6	0.0
SLOZ	Alcaldia de Sa	2.98	103	*eP*		Pn	14 22 14.4	+0.8
SLOZ				*eS*		Sn	14 22 47.0	-1.1
MRL	Marmol	3.00	83	*eP*		Pn	14 22 15.0	+0.9
NUBE	Las Nubes	3.01	105	*eP*		Pn	14 22 14.7	+0.5
NUBE				*eS*		Sn	14 22 47.6	-1.5
CMIG	Matias Romero	3.11	319	*eP*		Pn	14 22 16.3	+1.0
CMIG				*i*	S	Sn	14 22 55.5	+4.2
CEVE	Cerro Verde	3.18	106	*eP*		Pn	14 22 17.6	+1.1
SNJE	San Jose	3.18	105	*eP*		Pn	14 22 17.1	+0.6
MTO3	Montecristo	3.32	95	*eP*		Pn	14 22 18.6	+0.3
HUIG	Huatulco	3.39	288	*eP*		Pn	14 22 19.0	-0.1
HUIG				*eS*		Sn	14 22 49.5	-8.6
JAYA	Jayaque - finc	3.39	108	*eP*		Pn	14 22 20.1	+0.8
JAYA				IAML			14 23 03.5	
	comp=Z,618nm,0.3s							
PETF	Flores	3.54	52	*eP*		Pn	14 22 21.9	+0.7
PETF				*i*	S	Sn	14 22 57.0	-4.8
PETF	Flores	3.54	52	*eP*		Pn	14 22 21.9	+0.7
COEG	Centro de Oper	3.93	106	IAML			14 23 27.2	
	comp=Z,355nm,0.3s							
NEUV	Arroyo Zacate	4.16	316	*eP*		Pn	14 22 31.4	+1.7
NEUV				*i*	S	Sn	14 23 13.7	-3.4
PEIG	Puerto Escondi	4.41	287	*eP*		Pn	14 22 33.0	-0.1
PEIG				*i*	S	Sn	14 23 19.0	-4.2
PMUV	Sontecomapan	4.42	330	*eP*		Pn	14 22 35.0	+1.7
PMUV				*eS*		Sn	14 23 22.4	-1.1
VHO	Vista Hermosa	4.47	302	*i*	S	Sn	14 23 21.3	-3.7
SCIG	Sabancuy	4.48	20	*eP*		Pn	14 22 34.5	+0.5
SCIG				*i*	S	Sn	14 23 20.1	-4.9
PACA	Pacayal	4.49	106	IAML			14 23 42.7	
	comp=Z,1μm,0.3s							
CNCH	Conchagua	5.00	106	*eP*		Pn	14 22 43.3	+1.9
YOIG	Yosondua	5.06	295	*eP*		Pn	14 22 41.9	-0.4
YOIG				*i*	S	Sn	14 23 39.3	-0.4
TOIG	Toxpalan	5.31	310	*eP*		Pn	14 22 49.0	+3.4
TOIG				*i*	S	Sn	14 23 41.1	-4.5
PNIG	Pinotepa	5.42	288	*eP*		Pn	14 22 45.8	-1.3
PNIG				*i*	S	Sn	14 23 46.2	-1.9
TXIG	Tlaxiaco	5.42	298	*eP*		Pn	14 22 51.6	+4.4
TPIG	Tehuac#an	5.73	310	*eS*		Sn	14 23 59.6	+3.6
HLIG	Huajuapan de L	5.74	303	*eP*		Pn	14 22 54.9	+3.4
HLIG				*eS*		Sn	14 23 56.4	+0.3
JAUV	Jalcomulco	6.01	321	*eP*		Pn	14 22 54.0	-1.2
JAUV				*i*	S	Sn	14 23 59.0	-3.7

IDC 16 14:31:09.9±2.0, 3°.77N×125°.92E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=188.1km s-min=24.8km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
WRA	Warramunga Arr	24.98	161	P		P	14 36 35.1	-0.3
	0.5nm,0.5s,baz=339,slow=10,SNR=11							
	0.5nm,0.5s							
ASAR	Alice Springs	28.36	164	P		P	14 37 06.3	+0.3
	0.2nm,0.5s,baz=353,slow=8.2,SNR=1.7							
	0.2nm,0.5s							
MKAR	Makanchi Array	57.06	326	P		P	14 40 57.9	0.0
	0.5nm,0.5s,baz=121,slow=8.0,SNR=15							
	0.5nm,0.5s							

*NOU **16** 15:24:04.4, 37°.61S×176°.31E, h349km, MLv3.5/8, North Island, New Zealand*
*WEL **16** 15:24:12.0±0.6, 38°.5±4°×17°.6E±°, h276km±5km, M3.1/59, MLv3.1/59, Error ellipse: s-maj=0.0km s-min=0.0km az=53.4*

ISC 16 15:24:07.2±2.3, 37°.78S±0°.10×176°.26E±0°.08, h312km±13km, n163, σ155/177, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
TGRZ	Tauranga	0.05	359	P		Pn	15 24 47.6	+0.8
KMRZ	Kaimai	0.26	255	P		Pn	15 24 48.1	+1.2
OMRZ	Omania	0.34	165	P		Pn	15 24 48.2	+1.3
MARZ	Manawahe	0.39	123	P		Pn	15 24 48.1	+1.1
HSRZ	Hossack Road	0.53	181	P		Pn	15 24 48.4	+1.1
GRRZ	Galatos Road	0.58	192	P		Pn	15 24 49.0	+1.6
RRRZ	Republican Roa	0.59	160	P		Pn	15 24 48.5	+1.0
TOZ	Tahuroa Road	0.60	274	P		Pn	15 24 49.0	+1.4
HRRZ	Handcock Road	0.61	178	P		Pn	15 24 48.9	+1.4
PRRZ	Plateau Road	0.73	172	P		Pn	15 24 48.9	+1.1
KUTZ	Kaahu Road	0.79	206	P		Pn	15 24 49.8	+1.7
TLZ	Tolley Road	0.79	226	P		Pn	15 24 49.9	+1.8
MUGZ	Murupara	0.81	150	P		Pn	15 24 49.1	+1.0
MUGZ				S		S	15 25 17.8	-2.9
URZ	Urewera	0.83	126	P		Pn	15 24 48.7	+0.6
URZ	Urewera	0.83	126	P		Pn	15 24 48.9	+0.8
URZ	Urewera	0.83	126	P		Pn	15 24 48.8	+0.6
URZ				S		S	15 25 17.8	-3.0
RTZ	Ruatahuna	1.01	146	P		Pn	15 24 50.2	+1.2
RTZ				S		S	15 25 20.8	-1.5
WATZ	Wairara	1.02	204	P		Pn	15 24 50.6	+1.6
MRHZ	Matea Rd	1.06	173	P		Pn	15 24 50.3	+1.1
MKAZ	Moumakai	1.10	307	P		Pn	15 24 50.9	+1.5
MKAZ				S		S	15 25 22.0	-1.0
KUZ	Kuaotunu	1.12	337	P		Pn	15 24 50.1	+0.5
KUZ	Kuaotunu	1.12	337	P		Pn	15 24 50.0	+0.5
KUZ	Kuaotunu	1.12	337	P		Pn	15 24 50.1	+0.5
RUGZ	Raukumara Rang	1.14	100	P		Pn	15 24 49.7	0.0
MWZ	Matawai	1.14	119	P		Pn	15 24 50.6	+1.0
RATZ	Rangitukua	1.15	199	P		Pn	15 24 51.2	+1.5
RAGZ	Rawiri	1.16	129	P		Pn	15 24 51.3	+1.6
RAGZ				S		S	15 25 21.9	-1.7
MTHZ	Maungataniwha	1.17	157	P		Pn	15 24 51.0	+1.3
MTHZ				S		S	15 25 21.4	-2.2
HAZ	Te Kaha	1.21	89	P		Pn	15 24 50.1	+0.3
HAZ				S		S	15 25 20.8	-3.0
RITZ	Rihia Road	1.24	195	P		Pn	15 24 51.9	+1.9
KATZ	Kakaramea	1.28	200	P		Pn	15 24 52.0	+1.6
RAHZ	Arahi	1.31	151	P		Pn	15 24 52.2	+1.8
RAHZ				S		S	15 25 24.0	-0.9
SNGZ	Shannon Statio	1.31	140	P		Pn	15 24 52.1	+1.6
SNGZ				S		S	15 25 23.6	-1.3
HIZ	Hauiti	1.33	236	P		Pn	15 24 52.5	+2.0
HIZ	Hauiti	1.33	236	P		Pn	15 24 52.4	+1.9
WIAZ	Waiheke Island	1.33	317	P		Pn	15 24 51.9	+1.2
ETAZ	East Tamaki Re	1.34	307	P		Pn	15 24 52.1	+1.4
NMHZ	Naumai	1.39	162	P		Pn	15 24 53.1	+2.2
NMHZ				S		S	15 25 25.8	0.0
NTVZ	North Tongarir	1.40	199	P		Pn	15 24 52.7	+1.6
BKZ	Black Stump Fm	1.40	173	P		Pn	15 24 52.4	+1.5
BKZ	Black Stump Fm	1.40	173	P		Pn	15 24 52.5	+1.5
BKZ				S		S	15 25 24.4	-1.5
KRVZ	Karewarewa	1.40	200	P		Pn	15 24 52.6	+1.5
TMVZ	Te Maari	1.41	198	P		Pn	15 24 52.6	+1.5
TKGZ	Te Karaka	1.42	118	P		Pn	15 24 52.4	+1.4
TKGZ				S		S	15 25 24.5	-1.5
TWGZ	Tauwhareparae	1.42	107	P		Pn	15 24 52.5	+1.4
TWGZ				S		S	15 25 24.6	-1.5
ETVZ	East Tongariro	1.42	198	P		Pn	15 24 53.0	+1.8
WTVZ	West Tongariro	1.44	201	P		Pn	15 24 52.9	+1.6
PKGZ	Pakihiroa	1.44	95	P		Pn	15 24 52.3	+1.0
NNVZ	North Ngauruho	1.45	200	P		Pn	15 24 53.1	+1.8
TWVZ	Taurewa	1.45	206	P		Pn	15 24 52.9	+1.6
OTVZ	Oturere	1.46	199	P		Pn	15 24 53.1	+1.6
AWAZ	Awhitu Peninsu	1.47	298	P		Pn	15 24 53.1	+1.7
MBAZ	Motutapu North	1.48	312	P		Pn	15 24 52.9	+1.3
NGZ	Ngauruhoe	1.49	200	P		Pn	15 24 53.4	+1.7
SNVZ	South Ngauruho	1.49	199	P		Pn	15 24 53.2	+1.6
RIGZ	Rimuhau	1.50	129	P		Pn	15 24 52.7	+1.2
RIGZ				S		S	15 25 26.0	-1.0
WHHZ	Waihua	1.51	150	P		Pn	15 24 53.4	+1.9
COVZ	Chateau Observ	1.53	201	P		Pn	15 24 53.4	+1.6
TUVZ	Tukino	1.56	198	P		Pn	15 24 53.8	+1.7
FWVZ	Far West T-bar	1.58	200	P		Pn	15 24 53.7	+1.4
MAVZ	Matarangi	1.59	200	P		Pn	15 24 54.2	+1.7
WTAZ	Waiatarua	1.59	302	P		Pn	15 24 54.1	+1.9
ARHZ	Aropaoanui	1.59	159	P		Pn	15 24 54.1	+2.0
WHVZ	Whangaehu Hut	1.59	199	P		Pn	15 24 54.1	+1.7
PUZ	Puketiti	1.60	101	P		Pn	15 24 53.1	+0.9
TRVZ	Turoa	1.62	200	P		Pn	15 24 54.3	+1.7
WNVZ	Wahianoa	1.63	198	P		Pn	15 24 54.2	+1.6
MXZ	Matakaoa Point	1.64	83	P		Pn	15 24 53.7	+1.2
MXZ	Matakaoa Point	1.64	83	P		Pn	15 24 53.5	+1.0
ABAZ	Army Bay	1.64	315	P		Pn	15 24 54.1	+1.6
KWHZ	Kaweka Forest	1.65	176	P		Pn	15 24 54.4	+1.8
GRZ	Great Barrier	1.65	337	P		Pn	15 24 53.5	+0.8
PKVZ	Pokaka	1.67	205	P		Pn	15 24 54.3	+1.6
MOVZ	Moawhango	1.68	194	P		Pn	15 24 54.1	+1.4
RVAZ	Riverhead Bore	1.68	306	P		Pn	15 24 54.3	+1.5
CNGZ	Carnagh Statio	1.69	115	P		Pn	15 24 54.5	+1.7
MCHZ	McNeill Hill	1.70	169	P		Pn	15 24 55.0	+2.2
WMGZ	Waiomatatini S	1.71	92	P		Pn	15 24 53.8	+0.9
PRGZ	Paritu Road	1.71	132	P		Pn	15 24 54.5	+1.6
BHHZ	Black Hill Sta	1.72	185	P		Pn	15 24 54.6	+1.6
MTVZ	Mangateitei	1.72	201	P		Pn	15 24 54.8	+1.7
VRZ	Vera Road	1.79	221	P		Pn	15 24 55.4	+1.9
KRHZ	Kereru	1.86	177	P		Pn	15 24 55.6	+1.6
MHGZ	Mahia Peninsul	1.89	137	P		Pn	15 24 56.0	+1.9
CKHZ	Cape Kidnapper	1.98	161	P		Pn	15 24 57.0	+2.2
MHEZ	Mangahewa	2.00	229	P		Pn	15 24 57.8	+2.8
KAHZ	Kahuranaki	2.07	167	P		Pn	15 24 57.8	+2.2
PNHZ	Pukenui	2.13	181	P		Pn	15 24 57.7	+1.6
WAZ	Wanganui	2.21	206	P		Pn	15 24 58.5	+1.8
LREZ	Lake Rotokare	2.22	220	P		Pn	15 24 59.1	+2.3
NEZ	North Egmont	2.26	228	P		Pn	15 24 59.7	+2.5
PREZ	Palmer Road	2.27	226	P		Pn	15 24 59.7	+2.4
PKE	Pukeiti	2.28	231	P		Pn	15 24 59.8	+2.5
WPHZ	Waipukurau	2.29	177	P		Pn	15 24 59.1	+1.8
TSZ	Takapari Road	2.29	186	P		Pn	15 24 58.9	+1.5
PXZ	Pawanui	2.30	168	P		Pn	15 24 59.4	+2.0
KHEZ	Kahui Hut	2.32	229	P		Pn	15 25 00.4	+2.7
KHEZ	Kahui Hut	2.32	229	P		Pn	15 25 00.2	+2.5
WCZ	Waipu Caves	2.39	319	P		Pn	15 24 59.7	+1.4
NBEZ	Newall Road No	2.40	231	P		Pn	15 25 00.9	+2.7
PRHZ	Porangahau	2.50	173	P		Pn	15 25 01.1	+2.0
DVHZ	Dannevirke	2.52	182	P		Pn	15 25 00.8	+1.5
OHWZ	Ohakea	2.54	197	P		Pn	15 25 01.7	+2.3
POWZ	Post Office Ro	2.64	188	P		Pn	15 25 01.8	+1.5
ANWZ	Angora Road	2.68	177	P		Pn	15 25 02.9	+2.1
PRWZ	Pori Road	2.78	185	P		Pn	15 25 03.6	+1.9
BFZ	Birch Farm	2.90	180	P		Pn	15 25 04.7	+1.9
BFZ	Birch Farm	2.90	180	P		Pn	15 25 04.5	+1.8
MRZ	Mangatainoka R	2.93	190	P		Pn	15 25 04.4	+1.4
TIWZ	Tintock	3.01	185	P		Pn	15 25 05.5	+1.6
CPWZ	Castlepoint	3.13	181	P		Pn	15 25 07.4	+2.5
OGWZ	Otaki Gorge	3.15	195	P		Pn	15 25 06.7	+1.5
HOWZ	Holdsworth Sta	3.17	190	P		Pn	15 25 06.6	+1.2
KIW	Kapiti Island	3.25	198	P		Pn	15 25 07.5	+1.3
OUZ	Omahuta	3.33	319	P		Pn	15 25 08.4	+1.2
OUZ	Omahuta	3.33	319	P		Pn	15 25 08.4	+1.2
TMWZ	Te Maipa	3.34	185	P		Pn	15 25 08.6	+1.5
MTW	Mount Morrison	3.43	190	P		Pn	15 25 09.1	+1.2
CAW	Cannon Point	3.45	195	P		Pn	15 25 09.5	+1.3
DUWZ	D'Urville Isla	3.52	210	P		Pn	15 25 10.1	+1.1
TRWZ	Traveller	3.64	187	P		Pn	15 25 11.8	+1.6
PAWZ	Paruwai Farm	3.66	190	P		Pn	15 25 11.7	+1.3
WEL	Wellington	3.69	198	P		Pn	15 25 12.0	+1.3
TCW	Tory Channel	3.76	204	P		Pn	15 25 12.8	+1.4
BHW	Baring Head	3.78	196	P		Pn	15 25 12.9	+1.2
PLWZ	Palliser	3.87	191	P		Pn	15 25 13.8	+1.2
TUWZ	Tuamarina	4.06	205	P		Pn	15 25 15.9	+1.2
NNZ	Nelson	4.09	212	P		Pn	15 25 15.8	+0.9
TKNZ	Takaka Hill	4.14	217	P		Pn	15 25 15.6	+0.1
QRZ	Quartz Range	4.20	222	P		Pn	15 25 16.2	+0.1
QRZ	Quartz Range	4.20	222	P		Pn	15 25 16.3	+0.1
QRZ	Quartz Range	4.20	222	P		Pn	15 25 16.2	+0.1
CMWZ	Cape Campbell	4.27	201	P		Pn	15 25 19.6	+2.7
BSWZ	Blackbirch Sta	4.34	204	P		Pn	15 25 19.2	+1.5
MRNZ	Matariki Terra	4.52	216	P		Pn	15 25 19.8	+0.1
THZ	Tophouse	4.75	212	P		Pn	15 25 22.9	+0.6
KHZ	Kahutara	5.08	203	P		Pn	15 25 27.6	+1.6
KHZ	Kahutara	5.08	203	P		Pn	15 25 27.5	+1.6
DSZ	Denniston Nort	5.24	220	P		Pn	15 25 27.9	-0.1
GVZ	Greta Valley S	5.74	204	P		Pn	15 25 34.7	+1.0
LTZ	Lake Taylor	5.86	210	P		Pn	15 25 35.7	+0.6
AMCZ	Amberley	6.05	206	P		Pn	15 25 38.6	+1.2
INZ	Inchbonnie	6.16	215	P		Pn	15 25 39.0	+0.3
OXZ	Oxford	6.41	209	P		Pn	15 25 42.0	+0.4
MQZ	McQueen's Vall	6.53	204	P		Pn	15 25

ASAR	**Alice Springs**	**60.11**	**185**	P	**P**	**16 00 32.5**	**+0.9**
	0.2nm,0.6s,baz=17,slow=13,SNR=1.8							
	0.2nm,0.6s							

*TEH **16** 15:58:48.4, 34˚.07N×46˚.32E, h11km±23km, ML2.9*
*ISN **16** 15:58:49.6±1.1, 34˚.03N×46˚.13E, h12km±8km, ML2.8*
ISC 16 15:58:48.3±1.3, 34˚.07N±0˚.04×46˚.26E±0˚.05, h7km±14km, n12, σ0.62/17, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGHG	**Ghaleghazi**	**0.37**	**45**	Pg	**Pg**	**15 58 55.5**	**0.0**
IGHG				Sg	**Sg**	**15 59 01.0**	**+0.6**
ILBA	**Ilam Banvizeh**	**0.45**	**185**	Pg	**Pg**	**15 58 57.7**	**+0.7**
ILBA				Sg	**Sb**	**15 59 04.7**	**-0.7**
IDHR	**Dehrash**	**0.64**	**10**	Pg	**Pg**	**15 59 00.3**	**-0.3**
KCHF	**Cheshme Sefid,**	**0.68**	**72**	Pg	**Pg**	**15 59 00.9**	**-0.6**
KCHF				Sg	**Sg**	**15 59 10.0**	**-0.4**
KGS1	**Ghasr-e-Shirin**	**0.70**	**308**	Pg	**Pb**	**15 59 03.2**	**+0.3**
IBDR	**Badra**	**0.99**	**196**	*e*Pg	**Pg**	**15 59 07.0**	**-0.4**
	baz=10.0						
IBDR				*e*Sg	**Sb**	**15 59 21.0**	**-0.1**
IBDR				AML	AML	15 59 29.3	
	comp=N,254nm,0.4s						
IBDR				AML	AML	15 59 29.7	
	comp=E,316nm,0.5s						
ILIN	**Lien**	**1.03**	**34**	Pg	**Pg**	**15 59 08.0**	**0.0**
IBZA	**Bozab**	**1.39**	**73**	Pg	**Pn**	**15 59 14.3**	**-0.1**
IKFM	**Kafar-mosalman**	**1.43**	**112**	Pg	**Pn**	**15 59 14.9**	**+0.2**
IDOB	**Doab**	**1.62**	**99**	Pg	**Pn**	**15 59 18.6**	**+1.1**
BHD	**Baghdad**	**1.75**	**244**	*e*Pn	**Pb**	**15 59 20.0**	**-0.8**
BHD				*e*Sn	**Sb**	**15 59 43.0**	**-0.1**
HSAM	**Samen**	**1.95**	**85**	Pn	**Pn**	**15 59 23.0**	**+0.9**

*TEH **16** 16:01:24.6, 34˚.59N×46˚.04E, h10km, ML2.7*
*ISN **16** 16:01:24.8±1.2, 34˚.60N×46˚.06E, h20km±10km, ML2.5*
ISC 16 16:01:25.1±1.1, 34˚.56N±0˚.06×46˚.05E±0˚.04, h10km, n8, σ0.60/12, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.31**	**64**	Pg	**Pg**	**16 01 30.9**	**-0.5**
IDHR				Sg	**Sg**	**16 01 36.2**	**+0.6**
KGS1	**Ghasr-e-Shirin**	**0.38**	**262**	Pg	**Pg**	**16 01 32.4**	**-0.3**
IGHG	**Ghaleghazi**	**0.49**	**118**	Pg	**Pg**	**16 01 34.2**	**-0.5**
KCHF	**Cheshme Sefid,**	**0.87**	**109**	Pg	**Pg**	**16 01 42.2**	**-0.2**
KCHF				Sg	**Sb**	**16 01 55.2**	**+1.1**
ILBA	**Ilam Banvizeh**	**0.94**	**172**	Pg	**Pg**	**16 01 43.4**	**+0.1**
IBDR	**Badra**	**1.45**	**184**	*e*Pg	**Pn**	**16 01 51.0**	**-0.4**
	baz=4.0						
IBDR				*e*Sg	**Sg**	**16 02 12.0**	**+0.2**
IBDR				AML	AML	16 02 23.1	
	comp=E,77nm,0.6s						
IBDR				AML	AML	16 02 28.2	
	comp=N,68nm,0.5s						
IKFM	**Kafar-mosalman**	**1.82**	**124**	Pn	**Pg**	**16 01 59.2**	**-0.7**
BHD	**Baghdad**	**1.89**	**228**	*e*Pn	**Pn**	**16 01 58.0**	**+0.6**
BHD				*e*Sn	**Sb**	**16 02 23.0**	**-0.4**

*IDC **16** 16:02:35.2±1.8, 1˚.37N×127˚.23E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=180.6km s-min=21.8km az=67.0*
*DJA **16** 16:02:44.5±0.4, 1˚N±5˚×12˚7E±˚, h10km, M3.8/8, mb4.2/1, MLv3.6/8*
ISC 16 16:02:45.3±1.1, 1˚.07N±0˚.09×126˚.88E±0˚.10, h72km, n12, σ1.9/04/13, mb3.5/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.57**	**121**	P	**Pn**	**16 02 58.8**	**-0.2**
LBMI	**Labuha**	**1.81**	**160**	P	**Pn**	**16 03 16.0**	**+1.6**
SGSI	**Sangihe**	**2.93**	**333**	P	**Pn**	**16 03 30.8**	**+1.2**
SANI	**Sanana**	**3.22**	**196**	P	**Pn**	**16 03 33.4**	**-0.2**
GTOI	**Gorontalo**	**3.89**	**264**	P	**Pn**	**16 03 43.3**	**+0.6**
NLAI	**Namlea**	**4.29**	**177**	P	**Pn**	**16 03 49.5**	**+1.4**
LUWI	**Luwuk**	**4.61**	**243**	P	**Pn**	**16 03 53.0**	**+0.5**
BKSI	**Bulukumba**	**9.27**	**227**	P	**Pn**	**16 04 57.1**	**+0.9**
WRA	**Warramunga Arr**	**22.13**	**161**	P	**P**	**16 07 34.2**	**-0.8**
	0.9nm,0.6s,baz=341,slow=10,SNR=29						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**25.52**	**165**	P	**P**	**16 08 07.5**	**+0.2**
	1.0nm,0.7s,baz=344,slow=12,SNR=17						
ASAR				PcP	**PcP**	**16 11 37.7**	**+0.3**
	0.1nm,0.7s,baz=350,slow=2.0,SNR=4.1						
	1.0nm,0.7s						
MKAR	**Makanchi Array**	**59.82**	**326**	P	**P**	**16 12 42.1**	**-1.1**
	0.3nm,0.6s,baz=118,slow=8.6,SNR=4.6						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**64.05**	**328**	P	**P**	**16 13 10.4**	**-1.0**
	0.4nm,0.5s,baz=126,slow=6.2,SNR=3.7						
	0.4nm,0.5s						

*IDC **16** 16:06:43.9±2.6, 0˚.82N×97˚.16E, h0km, mb3.8/5, mbtmp3.7/6, ML3.9/1, Error ellipse: s-maj=120.2km s-min=24.7km az=58.0*
*DJA **16** 16:06:50.6±0.5, 1˚N±4˚×9˚8E±˚, h25km±7km, M4.0/8, mb5.0/1, MLv3.5/8*
ISC 16 16:06:51.0±1.0, 1˚.10N±0˚.10×97˚.9E±0˚.1, h35km, n26, σ1.9/07/14, mb3.7/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.35**	**305**	P	**Pn**	**16 07 00.4**	**+0.9**
PBSI	**Pulau Batu**	**1.22**	**160**	P	**Pn**	**16 07 12.0**	**+0.4**
SNSI	**Sinabang, Aceh**	**2.01**	**310**	P	**Pn**	**16 07 23.1**	**+0.7**
KCSI	**Kotacane, Aceh**	**2.41**	**358**	P	**Pn**	**16 07 28.9**	**+1.0**
SISI	**Saibi**	**2.71**	**153**	P	**Pn**	**16 07 31.9**	**-0.1**
PDSI	**Padang**	**3.28**	**128**	P	**Pn**	**16 07 40.4**	**+0.4**
PPSI	**Pulau Pagai**	**4.40**	**151**	P	**Pn**	**16 07 55.0**	**-0.3**
MNAI	**Manna**	**7.44**	**137**	P	**Pn**	**16 08 38.4**	**+1.3**
CMAR	**Chiang Mai Arr**	**17.28**	**3**	P	**P**	**16 10 50.6**	**-0.3**
	0.2nm,0.3s,baz=191,slow=13,SNR=2.2						
	0.4nm,0.6s						
H08S2	**Diego Garcia H**	**26.75**	**251**	T	T	16 39 13.4	
	baz=72,slow=76,SNR=476						
H08S3	**Diego Garcia H**	**26.75**	**251**	T	T	16 39 13.7	
	baz=72,slow=76,SNR=720						
H08S1	**Diego Garcia H**	**26.77**	**251**	T	T	16 39 13.3	
	baz=72,slow=76,SNR=446						
H01W3	**Cape Leeuwin H**	**38.91**	**158**	T	T	16 55 28.4	
	baz=333,slow=76,SNR=15						
H01W2	**Cape Leeuwin H**	**38.92**	**158**	T	T	16 55 29.2	
	baz=333,slow=76,SNR=29						
H01W1	**Cape Leeuwin H**	**38.92**	**158**	T	T	16 55 29.4	
	baz=333,slow=76,SNR=21						
ASAR	**Alice Springs**	**42.81**	**127**	P	**P**	**16 14 47.0**	**+1.2**
	0.5nm,0.7s,baz=296,slow=8.0,SNR=9.8						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**47.50**	**346**	P	**P**	**16 15 21.8**	**-0.8**
	0.7nm,0.5s,baz=162,slow=9.6,SNR=14						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**52.00**	**344**	P	**P**	**16 15 55.3**	**-1.4**
	0.3nm,0.3s,baz=166,slow=6.6,SNR=4.5						
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**53.76**	**350**	P	**P**	**16 16 09.2**	**-0.5**
	1.5nm,0.4s,baz=166,slow=6.8,SNR=9.2						
	1.5nm,0.4s						
BVAR	**Borovoye Array**	**56.56**	**340**	P	**P**	**16 16 28.1**	**-1.9**
	0.4nm,0.5s,baz=148,slow=8.5,SNR=2.7						
	0.4nm,0.5s						
H04N2	**CROZET ISLANDS**	**62.07**	**215**	T	T	17 23 42.0	
	baz=54,slow=75,SNR=339						
H04N1	**CROZET ISLANDS**	**62.08**	**215**	T	T	17 23 40.9	
	baz=54,slow=75,SNR=274						
H04N3	**CROZET ISLANDS**	**62.08**	**214**	T	T	17 23 39.5	
	baz=54,slow=75,SNR=257						
H04S1	**CROZET ISLANDS**	**62.40**	**214**	T	T	17 24 04.6	
	baz=53,slow=76,SNR=14						
H04S3	**CROZET ISLANDS**	**62.41**	**214**	T	T	17 24 01.1	
	baz=53,slow=76,SNR=23						
H04S2	**CROZET ISLANDS**	**62.42**	**214**	T	T	17 24 04.2	
	baz=53,slow=76,SNR=16						

TAP 16 16:10:16.2, 24˚.02N×121˚.64E, h31km±1km, ML1.2, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.05**	**220**	*e*P	Pb	16 10 21.8	+0.3
	baz=211						

TWD	**Chiawan**	**0.08**	**328**	*i* P	Pb	16 10 21.9	+0.2
	baz=333							
TWD				S	Sb	16 10 26.0	+0.7
	baz=333							
ETM	**Tongmen**	**0.14**	**250**	P	Pn	16 10 22.6	+0.3
	baz=249							
ETM				S	Sb	16 10 26.8	+0.7
	baz=249							
NACB	**Ninganchiao**	**0.16**	**345**	*e*P	Pn	16 10 22.7	+0.1
	baz=345							
NACB				*e*S	Sn	16 10 27.0	+0.5
	baz=345							
LXIB	**Xiulin Townshi**	**0.21**	**272**	*i* P	Pb	16 10 23.0	+0.1
	baz=271							
LXIB				*i* S	Sn	16 10 28.1	+0.4
	baz=271							
SHUL	**Shoufeng**	**0.24**	**197**	*e*S	Sn	16 10 30.1	+1.8
	baz=197							
ETLH	**Xiulin Townshi**	**0.24**	**323**	P	Pb	16 10 23.4	+0.2
	baz=322							
ETLH				*e*S	Sn	16 10 28.2	-0.3
	baz=322							
WHF	**Hehuan Shan**	**0.37**	**291**	P	Pn	16 10 25.5	-0.3
	baz=290							
WHF				*e*S	Sb	16 10 31.5	+0.4
	baz=290							
WARBT	**Fenglin Townsh**	**0.38**	**218**	P	Pb	16 10 24.8	-0.1
	baz=218							
WARBT				*e*S	Sb	16 10 30.6	-0.2
	baz=218							
CHGB	**Renai**	**0.43**	**276**	P	Pn	16 10 26.4	0.0
	baz=275							
CHGB				*e*S	Sn	16 10 32.9	-0.4
	baz=275							
OWD	**Renai**	**0.43**	**262**	*e*S	Sn	16 10 33.3	+0.1
	baz=261							
FUSS	**Fushou**	**0.43**	**303**	P	Pb	16 10 26.1	+0.3
	baz=302							
FUSS				*e*S	Sn	16 10 33.4	0.0
	baz=302							
NNSB	**Datong**	**0.47**	**330**	*e*P	Pn	16 10 27.6	+0.6
	baz=330							
NNSB				S	Sn	16 10 34.6	+0.3
	baz=330							
WUSB	**Renai**	**0.48**	**267**	*e*P	Pn	16 10 27.7	+0.6
	baz=267							
WUSB				*e*S	Sn	16 10 35.2	+0.8
	baz=267							
VWDT	**VWDT**	**0.53**	**240**	*e*S	Sn	16 10 35.8	+0.4
	baz=240							
FUSB	**Fushanzhiwuyua**	**0.74**	**356**	*e*P	Pn	16 10 30.3	-0.4
	baz=356							
FUSB				*e*S	Sb	16 10 40.0	-0.7
	baz=356							
NWLT	**Wulai**	**0.77**	**351**	*e*S	Sn	16 10 41.6	+0.1
	baz=350							

JMA 16 16:10:29.9±0.1, 24˚N±3˚×123˚.0E±0˚.6, h47km±1km, MV1.4/8, NW OFF ISHIGAKIJIMA IS, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.07**	**326**	P	Pn	16 10 37.1	-0.1
JYNG				S	Sn	16 10 42.5	+0.1
YOJ	**Yonaguni jima**	**0.07**	**14**	P	Pn	16 10 37.2	0.0
YOJ				*e*S	Sn	16 10 42.2	-0.2
IRIF	**Iriomote-Funau**	**0.68**	**94**	*e*S	Sn	16 10 53.1	+0.3
JKRS	**Kuro-shima**	**0.94**	**99**	*e*P	Pn	16 10 47.0	+0.3
JKRS				S	Sn	16 10 59.9	+0.8
JIJ	**Ishigaki jima**	**1.05**	**91**	P	Pn	16 10 48.2	0.0
JIJ				S	Sn	16 11 01.4	-0.4
JISG	**Ishigakijimahi**	**1.22**	**80**	*e*P	Pn	16 10 50.8	+0.3
JISG				*e*S	Sn	16 11 06.2	+0.3

IDC 16 16:14:07.0±31.0, 21˚.98S×70˚.29E, h0km, mb3.8/3, mbtmp3.8/3, MS3.6/10, Error ellipse: s-maj=737.6km s-min=53.7km az=75.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Garcia H**	**14.40**	**9**	T	T	16 31 52.6	
	baz=195,slow=76						
H08S2	**Diego Garcia H**	**14.41**	**9**	T	T	16 31 48.8	
	baz=195,slow=76						
H08S3	**Diego Garcia H**	**14.42**	**9**	T	T	16 31 53.1	
	baz=195,slow=76						
H04N2	**CROZET ISLANDS**	**28.44**	**208**	T	T	16 49 40.4	
	baz=36,slow=75						
H04N1	**CROZET ISLANDS**	**28.45**	**208**	T	T	16 49 35.7	
	baz=36,slow=75						
H04N3	**CROZET ISLANDS**	**28.46**	**208**	T	T	16 49 40.2	
	baz=36,slow=75						
LSZ	**Lusaka**	**40.35**	**272**	LR	LR	16 35 24.8	
	comp=Z,53nm,18.6s,baz=156,slow=32						
LBTB	**Lobatse**	**40.96**	**257**	LR	LR	16 36 23.7	
	comp=Z,71nm,18.5s,baz=128,slow=33						
SUR	**Sutherland**	**44.88**	**246**	LR	LR	16 38 01.5	
	comp=Z,54nm,18.2s,baz=156,slow=32						
CMAR	**Chiang Mai Arr**	**49.00**	**37**	P	P	16 22 55.6	-0.1
	0.3nm,0.3s,baz=227,slow=7.8,SNR=4.6						
	0.3nm,0.3s						
TSUM	**Tsneb**	**49.22**	**263**	LR	LR	16 42 30.1	
	comp=Z,70nm,18.0s,baz=150,slow=35						
ASAR	**Alice Springs**	**58.22**	**105**	P	P	16 24 03.5	0.0
	1.1nm,0.9s,baz=259,slow=6.7,SNR=12						
ASAR				LR	LR	16 46 54.0	
	comp=Z,68nm,18.0s,baz=272,slow=34						
	1.1nm,0.9s						
WRA	**Warramunga Arr**	**59.45**	**101**	P	P	16 24 12.0	-0.1
	1.2nm,1.0s,baz=255,slow=6.1,SNR=4.0						
	1.2nm,1.0s						
STKA	**Stephens Creek**	**63.34**	**116**	LR	LR	16 48 54.4	
	comp=Z,56nm,19.1s,baz=205,slow=33						
CTA	**Charters Tower**	**70.21**	**104**	LR	LR	16 54 28.6	
	comp=Z,55nm,18.1s,baz=0.0,slow=34						
PMG	**Port Moresby**	**74.43**	**94**	LR	LR	17 00 11.1	
	comp=Z,24nm,18.1s,baz=234,slow=37						
MLR	**Muntele Rosu**	**78.32**	**330**	LR	LR	16 58 34.1	
	comp=Z,30nm,18.4s,baz=330,slow=34						
DZM	**Mont Dzumac**	**87.32**	**113**	LR	LR	17 02 04.5	
	comp=Z,40nm,19.9s,baz=245,slow=33						

IDC 16 16:15:43.9±2.0, 11˚.50S×166˚.23E, h0km, mb3.5/3, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=56.3km s-min=35.2km az=125.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.51**	**179**	Pn	Pn	16 18 15.2	-0.9
	0.4nm,0.3s,baz=212,slow=18,SNR=5.7						
DZM				Sn	Sn	16 20 01.6	-13
	baz=131,slow=19,SNR=1.9						
	2.6nm,0.9s						
WRA	**Warramunga Arr**	**31.78**	**251**	P	P	16 22 11.0	+0.8
	0.5nm,0.7s,baz=77,slow=8.0,SNR=2.4						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**33.02**	**244**	P	P	16 22 20.6	-0.5
	0.9nm,0.8s,baz=70,slow=9.6,SNR=10						
	0.9nm,0.8s						
ILAR	**Eielson Array**	**83.79**	**18**	P	P	16 28 15.0	+0.2
	0.2nm,0.6s,baz=218,slow=5.7,SNR=2.2						
	0.2nm,0.6s						

*BEO **16** 16:20:47.4±0.8, 40˚.00N×19˚.61E, h10km±3km, ML3.0/6*
*TIR **16** 16:20:49.5, 40˚.38N×20˚.17E, h11km, Md3.0, Ml3.0*
*THE **16** 16:20:50.9, 40˚.25N×19˚.73E, h5km±2km, ML2.6/7, Error ellipse: s-maj=2.6km s-min=1.0km az=226.0*
*ATH **16** 16:20:51.0, 40˚.31N×19˚.78E, h10km±4km, ML2.6/5, Error ellipse: s-maj=4.8km s-min=2.4km az=156.0*
ISC 16 16:20:50.9±1.1, 40˚.27N±0˚.02×19˚.77E±0˚.03, h8km±9km, n37, σ1.9/41/60, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLO	**Vlora**	**0.29**	**314**	P	**Pg**	**16 20 56.1**	**-0.5**
VLO				S	**Sb**	**16 21 01.4**	**-1.9**
	8μm,0.2s						
SRN	**Sarande**	**0.43**	**155**	P	**Pg**	**16 20 58.6**	**-0.6**
	baz=146						
SRN				S	**Sg**	**16 21 06.4**	**+1.5**
	baz=146						
SRN				AMP			
	comp=N,1.7nm,0.4s,baz=146						

SRN	**Sarande**	**0.43**	**155**	P	**Pg**	**16 20 58.5**	**-0.7**
SRN				S	**Sg**	**16 21 05.7**	**+0.8**
	comp=N,445nm,0.5s							
KASA	**Kassiopi**	**0.54**	**166**	P	**Pg**	**16 21 01.4**	**+0.1**
KASA				S	**Sb**	**16 21 10.5**	**0.0**
LSK	**Leskovik**	**0.65**	**100**	P	**Pg**	**16 21 02.0**	**-1.5**
LSK				S	**Sb**	**16 21 13.8**	**-0.1**
	comp=N,638nm,0.6s							
KBN	**Korca**	**0.86**	**65**	P	**Pg**	**16 21 07.1**	**-0.3**
KBN				S	**Sn**	**16 21 20.9**	**-1.3**
	comp=N,305nm,0.4s							
IGT	**Igoumenitsa**	**0.86**	**149**	P	**Pg**	**16 21 07.0**	**-0.4**
	baz=145							
IGT				S	**Sn**	**16 21 21.2**	**-0.8**
	baz=145							
IGT	**Igoumenitsa**	**0.86**	**149**	P	**Pg**	**16 21 06.8**	**-0.6**
IGT				S	**Sb**	**16 21 20.0**	**+0.3**
	comp=N,198nm,0.9s							
IGT	**Igoumenitsa**	**0.86**	**149**	P	**Pg**	**16 21 06.8**	**-0.6**
IGT				AML	AML	16 21 27.4	
	comp=E,333μm,0.6s							
IGT				AML	AML	16 21 28.8	
	comp=N,380μm,0.9s							
NEST	**Nestorio**	**0.99**	**81**	P	**Pb**	**16 21 09.9**	**-0.5**
NEST				S	**Sn**	**16 21 25.6**	**+0.1**
	comp=N,172nm,0.5s							
NEST	**Nestorio**	**0.99**	**81**	P	**Pb**	**16 21 09.8**	**-0.5**
NEST				AML	AML	16 21 33.1	
	comp=E,489μm,0.5s							
NEST				AML	AML	16 21 34.1	
	comp=N,362μm,0.5s							
SCTE	**Santa Cesarea**	**1.01**	**259**	P	**Pg**	**16 21 10.4**	**0.0**
JAN	**Janina**	**1.03**	**126**	P	**Pb**	**16 21 11.4**	**+0.3**
JAN				AML	AML	16 21 34.0	
	comp=N,783μm,0.8s							
JAN				AML	AML	16 21 34.8	
	comp=E,914μm,0.4s							
PENT	**Pentalofos**	**1.05**	**94**	P	**Pg**	**16 21 10.8**	**-0.3**
PENT				S	**Sn**	**16 21 27.3**	**+0.2**
TIR	**Tirane**	**1.08**	**4**	P	**Pn**	**16 21 12.3**	**-0.1**
	baz=6.0							
TIR				S	**Sn**	**16 21 28.2**	**+0.6**
	baz=6.0							
TIR				AMP				
	comp=N,0.5nm,0.5s,baz=6.0							
TIR	**Tirane**	**1.08**	**4**	*e*Pg	**Pn**	**16 21 11.8**	**-0.6**
TIR				*e*Sg	**Sn**	**16 21 30.5**	**+2.9**
OHR	**Ohrid**	**1.15**	**43**	*e*Pg	**Pn**	**16 21 12.8**	**-0.6**
OHR				*e*Sg	**Sn**	**16 21 32.9**	**+3.5**
OHR	**Ohrid**	**1.15**	**43**	*i* Pn	**Pn**	**16 21 13.4**	**-0.1**
OHR				*i* Sn	**Sn**	**16 21 33.1**	**+3.7**
KPRO	**Kipourio**	**1.27**	**104**	P	**Pb**	**16 21 14.9**	**-0.2**
KPRO	**Kipourio**	**1.27**	**104**	P	**Pn**	**16 21 13.5**	**-1.5**
KPRO				AML	AML	16 21 41.8	
	comp=E,666μm,0.7s							
KPRO				AML	AML	16 21 44.4	
	comp=N,593μm,0.5s							
FNA	**Florina**	**1.33**	**67**	P	**Pn**	**16 21 15.3**	**-0.6**
FNA				S	**Sg**	**16 21 35.6**	**+1.9**
	comp=N,590nm,0.7s							
FNA	**Florina**	**1.33**	**67**	*e*Pg	**Pn**	**16 21 15.3**	**-0.6**
FNA				*e*Sg	**Sg**	**16 21 37.7**	**+4.0**
FNA	**Florina**	**1.33**	**67**	P	**Pn**	**16 21 14.2**	**-1.7**
FNA				AML	AML	16 21 39.8	
	comp=N,1146μm,0.7s							
FNA				AML	AML	16 21 41.3	
	comp=E,1204μm,0.7s							
LKD2	**Lefkada island**	**1.63**	**155**	P	**Pn**	**16 21 20.2**	**+0.2**
NYDR	**Nydri-Lefkada**	**1.71**	**155**	P	**Pn**	**16 21 20.0**	**-1.1**
PUK	**Puka**	**1.77**	**3**	P	**Pb**	**16 21 23.1**	**-0.7**
	baz=4.0							
PUK				S	**Sg**	**16 21 50.0**	**+2.1**
	baz=4.0							
PUK				AMP				
	comp=E,0.3nm,0.4s,baz=4.0							
BCI	**Bajram Curri**	**2.11**	**6**	P	**Pb**	**16 21 28.2**	**-1.2**
	baz=7.0							
BCI				S	**Sg**	**16 21 56.3**	**-2.3**
	baz=7.0							
SKO	**Skopje**	**2.12**	**36**	*e*Pn	**Pn**	**16 21 25.7**	**-1.0**
SKO				*e*Sn	**Sb**	**16 21 55.6**	**-0.5**
STIP	**Stip**	**2.32**	**51**	*i* Pn	**Pb**	**16 21 33.1**	**+0.1**
VAY	**Valandovo**	**2.37**	**63**	*e*Pn	**Pn**	**16 21 28.1**	**-2.1**
VAY				*e*Sn	**Sb**	**16 22 03.2**	**-0.2**
VAY	**Valandovo**	**2.37**	**63**	*i* Pn	**Pg**	**16 21 35.2**	**-1.2**
PRVS	**Prvonek**	**2.83**	**37**	*e*Pn	**Pn**	**16 21 36.5**	**0.0**
SJES	**Sjenica**	**2.99**	**3**	*e*Pn	**Pn**	**16 21 39.4**	**+0.6**
SJES				*e*Sn	**Sb**	**16 22 18.4**	**-2.9**
SELS	**Selova**	**3.12**	**19**	*e*Pn	**Pn**	**16 21 42.1**	**+1.7**
IVAS	**Ivanjica**	**3.32**	**5**	*e*Pn	**Pn**	**16 21 43.5**	**+0.3**
BBLS	**Lazi&#263i**	**3.60**	**356**	*e*Pn	**Pn**	**16 21 47.9**	**+0.8**
BBLS				*e*Sn	**Sn**	**16 22 30.2**	**+0.3**
ZAPS	**Zavoj**	**3.69**	**35**	*e*Pn	**Pn**	**16 21 47.5**	**-0.8**
ZAPS				*e*Sn	**Sn**	**16 22 33.7**	**+1.7**

*IDC **16** 16:34:51.2±1.7, 5˚.69S×130˚.74E, h0km, mb3.6/4, mbtmp3.6/7, ML3.7/3, MS3.5/1, Error ellipse: s-maj=53.2km s-min=25.8km az=79.0*
*DJA **16** 16:35:07.9±0.3, 6˚S±3˚×13˚0E±˚, h109km, 9km, M4.2/11, mB5.3/4, mb3.9/11, MLv4.3/10, Mw(mB)4.7/4, MwMwp4.6/1, Mwp5.0/1*
ISC 16 16:35:05.5±0.7, 6˚.40S±0˚.05×130˚.46E±0˚.08, h150km, n24, σ2.8/48/26, mb3.4/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.94**	**343**	P	**Pn**	**16 35 42.1**	**+2.1**
BNDI	**Bandanaira**	**1.94**	**343**	P	**Pn**	**16 35 40.5**	**+0.5**
BNDI				S	**Sn**	**16 36 02.6**	**-3.9**
FAKI	**Fak Fak**	**3.89**	**27**	P	**Pn**	**16 36 04.0**	**-0.4**
FAKI	**Fak Fak**	**3.89**	**27**	P	**Pn**	**16 36 03.9**	**-0.5**
SWI	**Sorong**	**5.55**	**8**	P	**Pn**	**16 36 25.2**	**-1.2**
DRS	**Darwin Rock St**	**6.01**	**176**	P	**Pn**	**16 36 35.8**	**+3.3**
SANI	**Sanana**	**6.21**	**314**	P	**Pn**	**16 36 35.8**	**+0.8**
SANI	**Sanana**	**6.21**	**314**	P	**Pn**	**16 36 35.6**	**+0.6**
	8.8nm,0.6s,0.1nm							
LBMI	**Labuha**	**6.44**	**333**	P	**Pn**	**16 36 37.5**	**-0.6**
	25nm,1.3s,1μm0.1nm							
MTN	**Man

s-maj=87.3km s-min=30.1km az=107.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.28**	**212**	Pn	Pn	16 55 17.1	-7.1
	0.1nm,0.3s,baz=30,slow=13,SNR=2.1						
WRA				Sn	Sn	16 58 08.1	-18
	baz=28,slow=22,SNR=1.6						
WRA				Lg	Lg	17 00 02.6	
	baz=33,slow=25,SNR=1.8						
ASAR	**Alice Springs**	**19.65**	**207**	P	P	16 56 04.0	-0.6
	0.6nm,0.3s,baz=29,slow=13,SNR=87						
ASAR				Lg	Lg	17 02 01.9	
	baz=14,slow=31,SNR=4.2						
	4.1nm,0.7s						
TGY	**Tagaytay City**	**30.05**	**312**	LR	LR	17 10 33.5	
	comp=Z,61nm,21.7s,baz=116,slow=38						
MKAR	**Makanchi Array**	**75.38**	**322**	P	P	17 03 19.4	-0.2
	0.7nm,0.8s,baz=103,slow=7.5,SNR=4.8						
	0.7nm,0.8s						
BVAR	**Borovoye Array**	**84.82**	**325**	P	P	17 04 10.7	+0.3
	1.9nm,0.7s,baz=103,slow=6.5,SNR=12						
	1.9nm,0.7s						
ILAR	**Eielson Array**	**87.06**	**24**	P	P	17 04 21.4	+0.1
	0.3nm,0.6s,baz=238,slow=5.2,SNR=2.7						
	0.3nm,0.6s						

DJA 16 16:56:56.8±0.6, 10°S±4°×12°3E±°, h12km±6km, M3.3/8, mb4.0/6, mbB5.3/1, MLv3.0/8, Mw(mB)4.8/1, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.54**	**64**	P	Pb	16 57 08.1	-0.2
SOEI	**Soe**	**1.28**	**58**	P	Pn	16 57 19.7	-1.0
MMRI	**Maumere**	**2.02**	**333**	P	Pn	16 57 30.6	-0.2
EDFI	**Ende, Flores**	**2.23**	**319**	P	Pn	16 57 33.9	+0.2
BASI	**Baing, Sumba**	**2.56**	**275**	P	Pn	16 57 38.2	0.0
PLAI	**Plampang**	**5.56**	**286**	P	Pn	16 58 20.4	+1.0
	5.4nm,0.8s,0.0nm						
SRBI	**Singaraja**	**8.20**	**286**	P	Pn	16 58 56.1	+0.4
	8.1nm,1.6s						
JAGI	**Jajag, Banyuwa**	**9.11**	**282**	P	Pn	16 59 07.9	-0.3
	10nm,1.7s						
LUWI	**Luwuk**	**9.36**	**358**	P	Pn	16 59 11.5	-0.1
	24nm,0.7s,1μm						
PWJI	**Pagerwojo**	**11.48**	**281**	P	Pn	16 59 38.0	-2.6
	6.1nm,1.5s						

NEIC ***16*** *17:10:05.7±1.1, 13°.6S±0°.2×167°.3E±0°.2, h201km±13km, mb4.5/12, Error ellipse: s-maj=27.9km s-min=18.7km az=209.0*

IDC ***16*** *17:10:11.2±4.5, 13°.88S×167°.11E, h238km±38km, mb3.4/8, mbtmp4.0/9, Error ellipse: s-maj=32.6km s-min=21.4km az=40.0*

ISC 16 17:10:06.7±1.1, 13°.67S±0°.09×167°.2E±0°.2, h200km, n27, σ0.92/29, mb4.2/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOUNC	**Koumac, New Ca**	**7.38**	**202**	Pn	**Pn**	**17 11 52.4**	**+0.5**
DZM	**Mont Dzumac**	**8.39**	**185**	Pn	**Pn**	**17 12 04.8**	**-0.3**
DZM	**Mont Dzumac**	**8.39**	**185**	P	**Pn**	**17 12 06.6**	**+1.5**
	1.4nm,0.4s,baz=118,slow=18,SNR=8.6						
DZM				S	**Sn**	**17 13 40.3**	**+0.8**
	5.0nm,1.0s,baz=53,slow=15,SNR=2.3						
CTA	**Charters Tower**	**21.00**	**249**	P	**P**	**17 14 36.6**	**+1.8**
	3.2nm,0.9s,baz=270,slow=0.9,SNR=1.4						
	3.2nm,0.9s						
CTAO	**Charters Tower**	**21.00**	**249**	P	**P**	**17 14 34.6**	**-0.3**
CTAO				IAmb	IAmb	17 15 10.4	
	comp=Z,24nm,1.5s						
ARMA	**Armidale**	**21.99**	**218**	P	**P**	**17 14 44.5**	**-0.4**
ARMA				IAmb	IAmb	17 15 20.8	
	comp=Z,22nm,1.5s						
STKA	**Stephens Creek**	**29.62**	**228**	P	**P**	**17 15 53.9**	**+0.5**
STKA	**Stephens Creek**	**29.62**	**228**	P	**P**	**17 15 53.5**	**+0.1**
	comp=Z,2.1nm,0.3s,baz=51,slow=9.8,SNR=7.4						
	comp=Z,2.1nm,0.3s						
TOO	**Toolangi**	**30.65**	**215**	P	**P**	**17 16 02.6**	**+0.1**
TOO				IAmb	IAmb	17 16 41.1	
	comp=Z,20nm,1.4s						
WB0	**Warramunga Arr**	**31.94**	**255**	P	**P**	**17 16 13.1**	**-0.9**
WB2	**Warramunga Arr**	**32.00**	**254**	P	**P**	**17 16 13.1**	**-1.3**
WB2				IAmb	IAmb	17 16 49.5	
	comp=Z,9.2nm,1.2s						
WRA	**Warramunga Arr**	**32.01**	**254**	P	**P**	**17 16 13.7**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=86,slow=9.5,SNR=18						
	comp=Z,0.8nm,0.5s						
AS31	**Alice Springs**	**32.98**	**248**	P	**P**	**17 16 21.9**	**-1.0**
ASAR	**Alice Springs**	**32.98**	**248**	P	**P**	**17 16 21.6**	**-1.4**
ASAR	**Alice Springs**	**32.98**	**248**	P	**P**	**17 16 22.1**	**-0.9**
	comp=Z,1.8nm,0.5s,baz=74,slow=9.7,SNR=109						
ASAR				PcP	**PcP**	**17 19 02.2**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=83,slow=1.9,SNR=7.7						
	comp=Z,1.8nm,0.5s						
BBOO	**Buckleboo**	**34.16**	**231**	P	**P**	**17 16 32.6**	**-0.5**
KNRA	**Kununurra**	**37.18**	**262**	P	**P**	**17 16 58.6**	**-0.3**
KNRA				IAmb	IAmb	17 16 59.3	
	comp=Z,24nm,1.4s						
FORT	**Forrest**	**39.77**	**238**	P	**P**	**17 17 19.3**	**-1.0**
TOLI2	**Tolitoli**	**48.26**	**284**	P	**P**	**17 18 27.5**	**-0.4**
TOLI2				IAmb	IAmb	17 18 59.0	
	comp=Z,17nm,1.4s						
CASY	**Casey**	**64.47**	**202**	P	**P**	**17 20 20.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**74.44**	**294**	P	**P**	**17 21 25.2**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=129,slow=4.5,SNR=7.1						
	comp=Z,0.7nm,0.7s						
QSPA	**South Pole Qui**	**76.36**	**180**	P	**P**	**17 21 32.7**	**-1.0**
QSPA	**South Pole Qui**	**76.36**	**180**	P	**P**	**17 21 32.9**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=230,slow=1.1,SNR=15						
	comp=Z,1.4nm,0.7s						
SONM	**Songino Array**	**81.59**	**324**	P	**P**	**17 22 02.2**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=20,slow=4.6,SNR=2.6						
	comp=Z,0.2nm,0.5s						
MKAR	**Makanchi Array**	**96.37**	**316**	P	**P**	**17 23 14.0**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=96,slow=7.8,SNR=5.7						
	comp=Z,0.3nm,0.5s						
ARCES	**ARCESS Array B**	**119.20**	**346**	PKP	**PKiKP**	**17 28 30.9**	**-0.5**
	comp=Z,7.0nm,1.2s,baz=32,slow=1.3,SNR=8.5						
FINES	**FINESS Array B**	**124.71**	**338**	PKP	**PKiKP**	**17 28 42.3**	**-0.1**
	comp=Z,1.3nm,0.9s,baz=64,slow=3.2,SNR=4.0						

NEIC ***16*** *17:17:46.4±1.9, 21°.1S±0°.1×178°.3W±0°.1, h530km±7km, mb4.4/65, Error ellipse: s-maj=18.3km s-min=14.4km az=123.0*

IDC ***16*** *17:17:49.7±1.7, 21°.11S×178°.61W, h560km±19km, mb3.4/14, mbtmp4.4/16, Error ellipse: s-maj=15.9km s-min=10.8km az=153.0*

ISC 16 17:17:46.7±1.0, 21°.01S±0°.08×178°.44W±0°.08, h534km±11km, n110, σ1.25/116, mb4.3/45, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.50**	**43**		**P**	**17 19 58.3**	**-1.2**
AFI					**S**	**17 21 44.5**	**-4.0**
MARNC	**Mare, Loyalty**	**12.62**	**265**	P	**P**	**17 20 32.4**	**+0.7**
PINNC	**Pines Island,**	**13.20**	**260**	P	**P**	**17 20 39.4**	**+1.7**
LIFNC	**LIFOU**	**13.38**	**268**	P	**P**	**17 20 40.3**	**+0.7**
OUENC	**Ouen Island, N**	**13.75**	**261**	P	**P**	**17 20 45.2**	**+1.8**
DZM	**Mont Dzumac**	**14.10**	**263**	P	**P**	**17 20 47.5**	**+0.3**
DZM	**Mont Dzumac**	**14.10**	**263**	P	**P**	**17 20 48.0**	**+0.8**
	16nm,0.7s,baz=81,slow=18,SNR=18						
KOUNC	**Koumac, New Ca**	**16.16**	**269**	P	**P**	**17 21 09.3**	**+1.0**
TOZ	**Tahuroa Road**	**17.47**	**196**	P	**P**	**17 21 20.1**	**-0.2**
TOZ				IAmb	IAmb	17 21 23.1	
	comp=Z,13nm,1.0s						
URZ	**Urewera**	**17.61**	**192**	P	**P**	**17 21 20.8**	**-0.8**
	comp=Z,6.6nm,0.3s,baz=7.5,slow=4.2,SNR=13						
RTZ	**Ruatahuna**	**17.98**	**192**	P	**P**	**17 21 24.6**	**-0.5**
HIZ	**Hauiti**	**18.37**	**197**	P	**P**	**17 21 30.0**	**+1.4**
MRZ	**Mangatainoka R**	**20.24**	**193**	P	**P**	**17 21 42.8**	**-2.7**
MRNZ	**Matariki Terra**	**21.65**	**198**	P	**P**	**17 21 56.5**	**-1.7**
GVZ	**Greta Valley S**	**23.03**	**196**	P	**P**	**17 22 07.8**	**-2.8**
OXZ	**Oxford**	**23.63**	**198**	P	**P**	**17 22 13.8**	**-2.1**
EIDS	**Eidsvold**	**28.31**	**255**	P	**P**	**17 22 58.1**	**+0.6**
EIDS				IAmb	IAmb	17 23 02.4	
	comp=Z,7.9nm,1.1s						
ARMA	**Armidale**	**28.47**	**245**	P	**P**	**17 23 00.4**	**+1.4**
ARMA				IAmb	IAmb	17 23 08.3	
	comp=Z,21nm,1.4s						
CTA	**Charters Tower**	**33.03**	**265**	P	**P**	**17 23 38.3**	**+0.2**
	comp=Z,1.8nm,0.3s,baz=89,slow=8.5,SNR=7.9						
	comp=Z,1.8nm,0.3s						
CTAO	**Charters Tower**	**33.03**	**265**	P	**P**	**17 23 38.8**	**+0.7**
CTAO				IAmb	IAmb	17 24 11.6	
	comp=Z,15nm,1.2s						
PMG	**Port Moresby**	**35.06**	**284**	P	**P**	**17 23 55.4**	**+0.3**
PMG	**Port Moresby**	**35.06**	**284**	P	**P**	**17 23 55.7**	**+0.5**
	comp=Z,14nm,0.8s,baz=125,slow=7.0,SNR=5.5						
	comp=Z,14nm,0.8s						
TOO	**Toolangi**	**35.26**	**234**	P	**P**	**17 23 57.4**	**+0.8**
TOO				IAmb	IAmb	17 24 03.6	
	comp=Z,15nm,1.4s						
STKA	**Stephens Creek**	**37.19**	**245**	P	**P**	**17 24 12.8**	**+0.2**
STKA	**Stephens Creek**	**37.19**	**245**	P	**P**	**17 24 12.7**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=102,slow=7.0,SNR=4.2						
	comp=Z,1.8nm,0.6s						
COEN	**Coen**	**37.20**	**274**	P	**P**	**17 24 13.8**	**+0.9**
COEN				IAmb	IAmb	17 24 14.7	
	comp=Z,7.9nm,0.9s						
BBOO	**Buckleboo**	**41.95**	**244**	P	**P**	**17 24 49.9**	**-1.0**
BBOO				IAmb	IAmb	17 25 30.9	
	comp=Z,18nm,1.5s						
WAKE	**Wake Island**	**42.62**	**339**	P	**P**	**17 24 57.3**	**+1.1**
WR0	**Warramunga Arr**	**43.93**	**263**	P	**P**	**17 25 05.8**	**-0.7**
WR0				PcP	**PcP**	**17 26 40.1**	**-0.7**
AS31	**Alice Springs**	**44.00**	**257**	P	**P**	**17 25 07.1**	**+0.1**
AS31				PcP	**PcP**	**17 26 40.7**	**-0.3**
ASAR	**Alice Springs**	**44.00**	**257**	P	**P**	**17 25 06.4**	**-0.6**
ASAR				PcP	**PcP**	**17 26 40.3**	**-0.7**
ASAR	**Alice Springs**	**44.00**	**257**	P	**P**	**17 25 07.0**	**0.0**
	comp=Z,2.0nm,0.5s,baz=93,slow=8.0,SNR=113						
ASAR				PcP	**PcP**	**17 26 41.0**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=106,slow=3.6,SNR=20						
ASAR				ScP	**ScP**	**17 29 41.6**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=104,slow=4.5,SNR=4.7						
ASAR				S	**S**	**17 30 57.2**	**-3.2**
	comp=Z,1.4nm,0.8s,baz=91,slow=15,SNR=13						
	comp=Z,2.0nm,0.5s						
WB2	**Warramunga Arr**	**44.11**	**263**	P	**P**	**17 25 07.5**	**-0.4**
WRAB	**Tennant Creek**	**44.11**	**263**	P	**P**	**17 25 07.3**	**-0.6**
WRA	**Warramunga Arr**	**44.12**	**263**	P	**P**	**17 25 06.7**	**-1.3**
WRA				PcP	**PcP**	**17 26 40.9**	**-0.6**
WRA	**Warramunga Arr**	**44.12**	**263**	P	**P**	**17 25 07.6**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=91,slow=5.3,SNR=157						
WRA				PcP	**PcP**	**17 26 41.6**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=98,slow=2.7,SNR=2.7						
WRA				S	**S**	**17 30 57.4**	**-4.7**
	comp=Z,1.0nm,0.9s,baz=103,slow=12,SNR=2.4						
	comp=Z,1.1nm,0.3s						
FORT	**Forrest**	**48.71**	**247**	P	**P**	**17 25 42.7**	**+0.1**
FORT				IAmb	IAmb	17 25 43.2	
	comp=Z,13nm,0.8s						
MTN	**Manton Dam**	**48.76**	**271**	P	**P**	**17 25 43.0**	**-0.1**
KNRA	**Kununurra**	**50.21**	**267**	P	**P**	**17 25 53.9**	**+0.1**
KNRA				IAmb	IAmb	17 26 03.7	
	comp=Z,21nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.55**	**263**	P	**P**	**17 26 10.7**	**0.0**
SOEI	**Soe**	**56.10**	**272**	P	**P**	17 26 41.3	+5.3
SOEI				IAmb	IAmb	17 26 42.1	
	comp=Z,13nm,0.5s						
SBA	**Scott Base**	**57.33**	**184**	P	**P**	**17 26 45.8**	**+2.6**
MBWA	**Marble Bar**	**57.34**	**258**	P	**P**	**17 26 43.5**	**-0.7**
MBWA				IAmb	IAmb	17 26 50.7	
	comp=Z,21nm,1.4s						
VNDA	**Vanda**	**57.36**	**185**	P	**P**	**17 26 44.8**	**+1.4**
MMRI	**Maumere**	**58.36**	**273**	P	**P**	**17 26 51.0**	**-0.2**
MMRI				IAmb	IAmb	17 27 14.5	
	comp=Z,19nm,1.2s						
MORW	**Morawa**	**59.25**	**248**	P	**P**	**17 26 55.3**	**-1.7**
MORW				IAmb	IAmb	17 27 16.1	
	comp=Z,16nm,1.2s						
TOLI2	**Tolitoli**	**63.31**	**282**	P	**P**	**17 27 24.6**	**+0.8**
TOLI2				IAmb	IAmb	17 27 48.6	
	comp=Z,7.4nm,0.9s						
QSPA	**South Pole Qui**	**69.06**	**180**	P	**P**	**17 27 59.4**	**+0.6**
QSPA	**South Pole Qui**	**69.06**	**180**	P	**P**	**17 27 59.6**	**+0.9**
	comp=Z,2.8nm,0.6s,baz=191,slow=1.1,SNR=26						
	comp=Z,2.8nm,0.6s						
UGM	**Wanagama**	**69.54**	**269**	P	**P**	**17 28 02.1**	**-0.4**
MJAR	**Matsushiro Arr**	**70.38**	**324**	P	**P**	**17 28 07.4**	**+0.5**
	comp=Z,2.0nm,0.5s,baz=159,slow=5.8,SNR=9.1						
	comp=Z,2.0nm,0.5s						
MAJO	**Matsushiro**	**70.38**	**324**	P	**P**	**17 28 07.5**	**+0.5**
MAJO				IAmb	IAmb	17 28 23.5	
	comp=Z,19nm,1.4s						
MJB9	**Matsu-Tunnel**	**70.38**	**324**	P	**P**	**17 28 08.3**	**+1.4**
MJB9				IAmb	IAmb	17 28 24.5	
	comp=Z,17nm,1.4s						
ADK	**Adak**	**72.60**	**1**	P	**P**	**17 28 20.0**	**+0.5**
ADK				IAmb	IAmb	17 28 21.9	
	comp=Z,24nm,0.9s						
YULB	**Yu-li**	**73.44**	**304**	P	**P**	**17 28 24.4**	**-0.6**
NACB	**Ninganchiao**	**73.62**	**305**	P	**P**	**17 28 25.4**	**-0.6**
TPUB	**Ta-pu**	**73.91**	**303**	P	**P**	**17 28 27.0**	**-0.7**
SSLB	**Suanglung**	**73.91**	**304**	P	**P**	**17 28 27.1**	**-0.6**
PEA0B	**Petropavlovsk-**	**76.66**	**345**	P	**P**	**17 28 43.1**	**+0.8**
PETK	**Petropavlovsk-**	**76.66**	**345**	P	**P**	**17 28 42.5**	**+0.2**
PETK	**Petropavlovsk-**	**76.66**	**345**	P	**P**	**17 28 43.1**	**+0.8**
	comp=Z,4.4nm,0.6s,baz=110,slow=6.5,SNR=12						
	comp=Z,4.4nm,0.6s						
BELA	**Belgrano 2**	**79.10**	**173**	P	**P**	**17 28 55.1**	**-0.1**
USRK	**Ussuriysk Ar.**	**79.16**	**326**	P	**P**	**17 28 57.8**	**+1.9**
	comp=Z,2.9nm,0.6s,baz=132,slow=2.4,SNR=9.5						
	comp=Z,2.9nm,0.6s						
YBH	**Yreka Blue Hor**	**80.95**	**39**	P	**P**	**17 29 07.8**	**+2.3**
YBH				IAmb	IAmb	17 29 31.1	
	comp=Z,10nm,1.4s						
NVAR	**Mina Array Bea**	**81.68**	**44**	P	**P**	**17 29 11.2**	**+1.7**
	comp=Z,0.9nm,0.6s,baz=219,slow=7.1,SNR=6.8						
	comp=Z,0.9nm,0.6s						
O16K	**Kokwok River B**	**82.03**	**10**	P	**P**	**17 29 10.2**	**-0.3**
O16K				IAmb	IAmb	17 29 47.2	
	comp=Z,19nm,1.4s						
KVN	**Kaiserville**	**82.17**	**43**	P	**P**	**17 29 12.8**	**+0.9**
N15K	**Kwethluk River**	**82.26**	**9**	P	**P**	**17 29 12.8**	**+1.1**
N15K				IAmb	IAmb	17 29 54.0	
	comp=Z,32nm,1.4s						
P18K	**Big Mountain,**	**82.35**	**12**	P	**P**	**17 29 12.2**	**0.0**
P18K				IAmb	IAmb	17 29 40.0	
	comp=Z,12nm,1.3s						
K05A	**Summer Lake**	**82.62**	**39**	P	**P**	**17 29 15.5**	**+1.4**
J05D	**Fort Rock, OR**	**82.76**	**38**	P	**P**	**17 29 17.0**	**+2.2**
O18K	**Koktuh Hills**	**82.79**	**12**	P	**P**	**17 29 14.6**	**+0.3**
O18K				IAmb	IAmb	17 29 47.5	
	comp=Z,22nm,1.4s						
IPM	**Ipoh**	**82.79**	**278**	P	**P**	**17 29 16.1**	**+0.6**
IPM				IAmb	IAmb	17 29 17.0	
	comp=Z,8.8nm,0.7s						
M16K	**Timber Creek**	**83.25**	**9**	P	**P**	**17 29 18.5**	**+1.9**
M16K				IAmb	IAmb	17 29 33.8	
	comp=Z,18nm,1.4s						
ILSW	**Iliamna Southw**	**83.31**	**12**	P	**P**	**17 29 17.4**	**+0.3**
ILSW				IAmb	IAmb	17 29 39.6	
	comp=Z,28nm,1.4s						
KULM	**Kulim**	**83.43**	**278**	P	**P**	**17 29 18.9**	**+0.3**
KULM				IAmb	IAmb	17 29 20.4	
	comp=Z,7.9nm,1.0s						
K15K	**Wolf Creek Mou**	**84.11**	**8**	P	**P**	**17 29 22.4**	**+1.6**
K15K				IAmb	IAmb	17 29 30.0	
	comp=Z,19nm,1.4s						
L18K	**Granite Mounta**	**84.74**	**10**	P	**P**	**17 29 25.0**	**+1.1**
L18K				IAmb	IAmb	17 29 26.0	
	comp=Z,9.4nm,1.4s						
M19K	**Big River Lodg**	**84.84**	**11**	P	**P**	**17 29 24.6**	**+0.2**
M19K				IAmb	IAmb	17 29 46.7	
	comp=Z,16nm,1.5s						
GSI	**Gunungsitoli**	**84.84**	**273**	P	**P**	**17 29 26.7**	**+1.1**
SUA	**Susitna One**	**85.15**	**13**	P	**P**	**17 29 26.4**	**+0.3**
SUA				IAmb	IAmb	17 30 10.0	
	comp=Z,17nm,1.4s						
F10A	**Beach Ranch, E**	**86.66**	**38**		**P**	**17 29 33.9**	**+0.3**
TRF	**Thorofare Moun**	**87.04**	**12**	P	**P**	**17 29 34.7**	**-0.4**
TRF				IAmb	IAmb	17 29 35.7	
	comp=Z,5.0nm,0.7s						
TXAR	**Lajitas Array**	**87.68**	**57**	P	**P**	**17 29 40.2**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=242,slow=5.3,SNR=8.0						
	comp=Z,0.9nm,0.8s						
ILAR	**Eielson Array**	**88.91**	**13**	P	**P**	**17 29 43.4**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=217,slow=5.3,SNR=14						
	comp=Z,0.8nm,0.5s						
FLWY	**Flagg Ranch**	**89.55**	**42**		**P**	**17 29 46.5**	**-0.8**
FLWY				IAmb	IAmb	17 30 02.3	
	comp=Z,9.5nm,1.3s						
E19K	**Redstone River**	**89.60**	**8**	P	**P**	**17 29 47.6**	**+0.8**
E19K				IAmb	IAmb	17 29 48.0	
	comp=Z,2.4nm,0.8s						
PDAR	**Pinedale Array**	**89.62**	**43**	P	**P**	**17 29 48.8**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=208,slow=3.6,SNR=12						
	comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**89.90**	**290**	P	**P**	**17 29 50.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**89.90**	**290**	P	**P**	**17 29 50.5**	**+1.3**
	comp=Z,3.3nm,0.9s,baz=128,slow=2.9,SNR=22						
	comp=Z,3.3nm,0.9s						
DAWY	**Dawson**	**90.06**	**16**	P	**P**	**17 29 49.5**	**+0.5**
BVAR	**Borovoye Array**	**119.20**	**320**	PKP	**PKPdf**	**17 35 34.2**	**-0.6**
	comp=Z,2.6nm,0.4s,baz=112,slow=2.1,SNR=25						
SPITS	**Spitsbergen Ar**	**122.35**	**356**	PKP	**PKPdf**	**17 35 39.9**	**-0.3**
	comp=Z,12nm,1.0s,baz=96,slow=2.9,SNR=6.5						
ARCES	**ARCESS Array B**	**129.35**	**349**	PKP	**PKPdf**	**17 35 53.6**	**-0.2**
	comp=Z,1.2nm,0.4s,baz=40,slow=0.8,SNR=12						
FINES	**FINESS Array B**	**136.15**	**343**	PKP	**PKPdf**	**17 36 06.1**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=39,slow=2.5,SNR=5.8						
NB2	**NORSAR Subarra**	**139.44**	**353**	PKP	PKPpre	17 36 06.2	
	comp=Z,0.4nm,0.5s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**139.44**	**353**	PKP	**PKPdf**	**17 36 13.6**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=13,slow=3.8,SNR=1.3						
HFS	**Hagfors**	**139.98**	**351**	PKhKP	PKPpre	17 36 07.9	
	comp=Z,1.6nm,0.3s,baz=64,slow=3.4,SNR=18						
LODK	**Lodwar**	**142.76**	**247**		**PKPdf**	**17 36 17.5**	**-2.8**
AKASG	**Malin Array Be**	**143.26**	**330**		PKPab	17 36 17.1	-0.8
AKASG	**Malin Array Be**	**143.26**	**330**	PKP	PKPab	17 36 17.4	-0.4
	comp=Z,7.0nm,0.4s,baz=42,slow=4.2,SNR=70						
AKBB	**Malin Array Si**	**143.26**	**330**		PKPab	17 36 17.2	-0.7
KIEV	**Kiev**	**143.27**	**330**		PKPab	17 36 16.8	-1.1
EKA	**Eskdalemuir Ar**	**145.55**	**5**	PKPbc	**PKPbc**	**17 36 24.6**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=344,slow=2.5,SNR=3.6						
BR131	**Keskin Array S**	**146.87**	**311**	PKPdf	**PKPdf**	**17 36 24.7**	**-1.9**
BR131					**PKPbc**	**17 36 29.1**	**-0.3**
BRTR	**Keskin Array B**	**146.87**	**311**	PKPdf	**PKPdf**	**17 36 25.1**	**-1.6**
BRTR					**PKPbc**	**17 36 28.7**	**-0.8**
BRTR	**Keskin Array B**	**146.87**	**311**	PKPbc	**PKPbc**	**17 36 29.1**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=137,slow=4.8,SNR=21						
MMAI	**Mount Meron Ar**	**147.70**	**299**	PKPbc	**PKiKP**	**17 36 32.6**	**-0.6**
	comp=Z,4.6nm,0.4s,baz=76,slow=7.0,SNR=36						
KHC	**Kasperske Hory**	**150.35**	**344**	PKPdf	**PKPdf**	**17 36 29.7**	**-2.1**
KHC					**PKPbc**	**17 36 36.7**	**-0.9**
GERES	**GERESS Array B**	**150.58**	**344**	PKPbc	**PKiKP**	**17 36 38.5**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=32,slow=5.3,SNR=8.3						

NEIC ***16*** *17:21:31.4±1.0, 35°.76N±0°.01×98°.31W±0°.02, h5km±1km, Error ellipse: s-maj=2.4km s-min=2.1km az=60.0*

TUL 16 17:21:32±1.0, 35°.76N±0°.01×98°.30W±0°.02, h6km±5km, ML2.2, mb_Lg2.5/7(NEIC), ML2.2/42(NEIC), Error ellipse: s-maj=1.9km s-min=1.8km az=56.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSTR	**Hydro, Custer**	**0.34**	**251**	Pg	Pg	17 21 39.1	+0.5
OK029	**Liberty Lake**	**0.68**	**87**	Pg	Pg	17 21 45.0	-0.2
OK029				Sg	Sg	17 21 54.4	+0.3
CROK	**Carrier**	**0.79**	**19**	Pg	Pg	17 21 47.1	0.0
CROK				Sg	Sg	17 21 57.5	+0.1
CROK				IAML		17 22 10.2	
	comp=N,122nm,0.3s						
U32A	**Winter Ranch,**	**0.84**	**317**		Pg	17 21 47.7	-0.5
U32A				Sg	Sg	17 21 59.4	+0.3
U32A				IAML		17 22 02.1	
	comp=N,63nm,0.1s						
U32A				IAML		17 22 03.3	
	comp=E,55nm,0.1s						
FNO	**Franklin**	**0.89**	**124**		Pb	17 21 49.5	-0.3
FNO				Sg	Sg	17 22 00.7	+0.2
FNO				IAML		17 22 01.4	
	comp=E,61nm,0.1s						
FNO				IAML		17 22 01.6	
	comp=N,57nm,0.3s						
OK032	**Salt Plains WL**	**1.04**	**4**	Pg	Pg	17 21 51.3	-0.7
WMOK	**Wichita Mounta**	**1.09**	**201**		Pg	17 21 52.0	-1.0
WMOK				Sg	Sg	17 22 06.9	-0.3
OK033	**Mehan**	**1.14**	**75**		Pg	17 21 53.1	-0.7
OK033				IAML		17 22 09.8	
	comp=N,64nm,0.2s						
OK033				IAML		17 22 10.4	
	comp=N,57nm,0.1s						
KAN14	**Manchester OK**	**1.23**	**13**	Pg

CUKT	**Cukurca**	**1.80**	**205**	P	**Pg**	17 42 07.9	**+0.8**
CUKT				*i* AML	AML	17 42 38.0	
	comp=E,47nm,0.7s						
CUKT				*i* AML	AML	17 42 44.0	
	comp=N,47nm,0.7s						
PERV	**Siirt/Pervari-**	**1.84**	**240**	P	**Pg**	17 42 07.8	**-0.1**
PERV				S	**Sg**	17 42 32.8	**+1.1**
PERV				*i* AML	AML	17 42 42.0	
	comp=N,79nm,0.7s						
PERV				*i* AML	AML	17 42 42.0	
	comp=E,45nm,0.5s						
BLIS	**Bitlis-Merkez**	**1.96**	**257**	P	**Pg**	17 42 09.8	**-0.4**
GANJ	**Ganja**	**2.22**	**37**	P	**Pb**	17 42 11.7	**-1.1**
GANJ				S	**Sg**	17 42 42.8	**-1.2**
QRD	**Qoradiz**	**2.23**	**74**	P	**Pb**	17 42 11.0	**-1.8**
QRD				S	**Sb**	17 42 40.8	**+0.4**
QZX	**Qazax, Azerbai**	**2.26**	**16**	P	**Pb**	17 42 11.6	**-1.7**
QZX				S	**Sb**	17 42 42.8	**+1.6**
AGDM	**Agdam**	**2.32**	**58**	P	**Pb**	17 42 12.8	**-1.6**
AGDM				S	**Sb**	17 42 45.0	**+1.9**
BLQ	**Beylaqan**	**2.48**	**69**	P	**Pn**	17 42 14.5	**+1.7**
BLQ				S	**Sb**	17 42 49.3	**+1.7**
VSHL	**Vashlovani**	**2.73**	**31**	P	**Pb**	17 42 21.9	**+0.4**
VSHL				S	**Sg**	17 43 03.5	**+3.1**
YRD	**Yardimli**	**2.88**	**88**	P	**Pn**	17 42 20.9	**+2.4**
YRD				S	**Sb**	17 42 56.6	**-2.7**
LRK	**Lerik**	**2.97**	**94**	P	**Pb**	17 42 23.0	**-2.6**
LRK				S	**Sb**	17 43 00.5	**-1.4**
XNQ	**Khinaliq**	**3.58**	**49**	S	**Sb**	17 43 17.2	**-2.1**

IDC 16 17:46:21.9±7.9, 1°40S×137°75E, h0km, mb3.4/3, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=377.1km s-min=26.7km az=84.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.73**	**190**	P	Pn	17 50 43.0	+0.3
	0.1nm,0.3s,baz=11,slow=13,SNR=7.4						
WRA				S	Sn	17 54 02.3	-11
	0.3nm,0.7s,baz=299,slow=46,SNR=1.3						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**22.45**	**189**	P	P	17 51 22.4	-0.3
	0.9nm,0.8s,baz=8.8,slow=10,SNR=12						
ASAR				S	S	17 55 29.2	-1.1
	0.2nm,0.9s,baz=3.8,slow=22,SNR=4.4						
	0.9nm,0.8s						
MKAR	**Makanchi Array**	**68.17**	**322**	P	P	17 57 24.5	+0.3
	0.2nm,0.7s,baz=98,slow=8.0,SNR=1.6						
	0.2nm,0.7s						
BVAR	**Borovoye Array**	**77.70**	**325**	P	P	17 58 20.2	-0.3
	0.4nm,0.6s,baz=122,slow=5.4,SNR=3.1						
	0.4nm,0.6s						

TEH 16 17:49:40.2, 34°11N×46°33E, h12km±153km, ML2.6
ISN 16 17:49:42.1±1.3, 34°08N×46°25E, h29km±10km, ML2.6
ISC 16 17:49:40.2±1.0, 34°12N±0°04×46°33E±0°06, h10km, n7, σ0°39/10, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.29**	**43**	Pg	**Pb**	17 49 47.3	**-0.4**
IDHR	**Dehrash**	**0.58**	**4**	Pg	**Pb**	17 49 51.8	**+0.2**
IDHR				Sg	**Sb**	17 50 00.9	**-0.2**
KCHF	**Cheshme Sefid,**	**0.61**	**75**	Pg	**Pg**	17 49 51.7	**-0.3**
IBDR	**Badra**	**1.06**	**199**	*e*Pg	**Pg**	17 50 00.0	**-0.5**
	baz=15						
IBDR				*e*Sg	**Sb**	17 50 15.0	**+0.5**
IBDR				AML	AML	17 50 20.6	
	comp=N,144nm,0.6s						
IBDR				AML	AML	17 50 21.1	
	comp=E,162nm,0.4s						
IBZA	**Bozab**	**1.31**	**74**	Pg	**Pg**	17 50 05.7	**+0.2**
IKFM	**Kafar-mosalman**	**1.39**	**115**	Pg	**Pb**	17 50 06.3	**0.0**
BHD	**Baghdad**	**1.83**	**243**	*e*Pn	**Pn**	17 50 12.0	**+0.3**
BHD				*e*Sn	**Sn**	17 50 35.0	**0.0**

NEIC 16 18:01:55.9±2.9, 10°65N±0°07×62°09W±0°04, h79km±10km, mb4.2/7, Error ellipse: s-maj=10.2km s-min=5.2km az=202.0
FUNV 16 18:01:58.8, 10°71N×62°12W, h26km, MW4.2
TRN 16 18:01:58.6, 10°82N×62°23W, h77km, MD3.8, North of the Paria peninsula.
IDC 16 18:01:59.9±2.1, 11°15N×62°43W, h99km±21km, mb3.5/12, mbtmp3.8/14, Error ellipse: s-maj=26.8km s-min=18.6km az=169.0
VAO 16 18:01:59.8±1.2, 9°96N×61°82W, h10km, mb4.2
ISC 16 18:01:56.8±0.7, 10°76N±0°04×62°17W±0°04, h90km±6km, n99, σ1s94/138, mb3.9/13, 1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.42**	**99**	*e*P	**Pn**	18 02 12.8	**+1.9**
TRN	**Trinidad (W)**	**0.77**	**98**	*i*P	**Pn**	18 02 15.7	**+1.8**
TRN				*e*S	**Sn**	18 02 27.3	**+0.5**
TPP	**Pointe-a-Pierr**	**0.84**	**122**	*e*P	**Pn**	18 02 17.2	**+2.5**
CRUV	**Carupano**	**1.05**	**265**	*e*P	**Pn**	18 02 18.2	**+1.2**
CRUV				*e*S	**Sn**	18 02 32.2	**0.0**
CRUV	**Carupano**	**1.05**	**265**	*e*P	**Pn**	18 02 18.0	**+1.0**
CRUV				*e*S	**Sn**	18 02 32.0	**-0.2**
TBH	**Brigand Hill**	**1.12**	**104**	*e*P	**Pn**	18 02 19.9	**+2.0**
TBH				*e*S	**Sn**	18 02 34.4	**+0.6**
GRFF	**Grenada Fort F**	**1.35**	**18**	*e*P	**Pn**	18 02 21.2	**+0.5**
GRFF				*e*S	**Sn**	18 02 38.2	**-0.6**
TPR	**Prospect**	**1.44**	**73**	*e*P	**Pn**	18 02 23.4	**+1.7**
GRGR	**Grenville**	**1.46**	**20**		**Pn**	18 02 22.5	**+0.4**
GRGR				Sn	**Sn**	18 02 39.7	**-1.4**
GRGR	**Grenville**	**1.46**	**20**	*e*P	**Pn**	18 02 22.4	**+0.4**
GRGR				*e*S	**Sn**	18 02 40.5	**-0.6**
GRW	**Mount Saint Ca**	**1.48**	**20**	*e*P	**Pn**	18 02 22.9	**+0.5**
GRW				*e*S	**Sn**	18 02 41.4	**-0.4**
GRHS	**Sauteurs**	**1.55**	**20**	*e*P	**Pn**	18 02 23.7	**+0.5**
GRHS				*e*S	**Sn**	18 02 42.0	**-1.1**
GRSS	**Sisters**	**1.62**	**20**	*e*P	**Pn**	18 02 26.3	**+2.1**
GRSS				*e*S	**Sn**	18 02 44.1	**-0.8**
GCMP	**Grenada, Carri**	**1.87**	**23**	*e*P	**Pn**	18 02 28.2	**+0.9**
GCMP				*e*S	**Sn**	18 02 49.8	**-0.6**
CUMV	**Cumana_UDO**	**2.01**	**261**	*e*P	**Pn**	18 02 32.0	**+2.8**
CUMV				*e*S	**Sn**	18 02 55.2	**+1.4**
PCRV	**Puerto La Cruz**	**2.49**	**257**	*e*P	**Pn**	18 02 36.8	**+1.3**
PCRV				*e*S	**Sn**	18 03 05.3	**0.0**
PCRV	**Puerto La Cruz**	**2.49**	**257**	P	**Pn**	18 02 37.4	**+1.9**
	39nm,0.2s,baz=58,slow=4.6,SNR=152						
PCRV				S	**Sn**	18 03 06.0	**+0.8**
	79nm,0.5s,baz=95,slow=5.8,SNR=16						
PCRV	**Puerto La Cruz**	**2.49**	**257**	*e*P	**Pn**	18 02 36.9	**+1.4**
PCRV				*e*S	**Sn**	18 03 05.8	**+0.5**
SVOC	**Richmond Hill,**	**2.56**	**21**	*e*P	**Pn**	18 02 37.0	**+0.7**
SVOC				*e*S	**Sn**	18 03 07.2	**+0.4**
SVB	**Belmont**	**2.66**	**20**	*e*P	**Pn**	18 02 38.9	**+1.2**
SVB				*e*S	**Sn**	18 03 08.3	**-0.8**
BCHC	**Barbados, Cave**	**3.43**	**46**	*e*S	**Sn**	18 03 28.3	**+0.5**
SLBI	**Saint Lucia, B**	**3.45**	**20**	*e*P	**Pn**	18 02 49.5	**+1.1**
SLBI				*e*S	**Sn**	18 03 27.5	**-0.8**
SLW	**Petit Monier**	**3.46**	**20**	*e*S	**Sn**	18 03 28.5	**-0.1**
BBGH	**Gun Hill**	**3.49**	**47**	Pn	**Pn**	18 02 46.0	**-3.0**
BBGH	**Gun Hill**	**3.49**	**47**	*e*P	**Pn**	18 02 51.5	**+2.6**
BBGH				*e*S	**Sn**	18 03 29.7	**+0.4**
MPOM	**Morne Pois Mar**	**3.88**	**19**	Pn	**Pn**	18 02 56.0	**+1.7**
MPOM					**Sn**	18 03 37.5	**-1.3**
MPOM	**Morne Pois Mar**	**3.88**	**19**	*e*P	**Pn**	18 02 55.6	**+1.3**
MPOM				*e*S	**Sn**	18 03 38.1	**-0.7**
BIM	**Bigot**	**3.89**	**16**		**Pn**	18 02 54.3	**0.0**
BIM				Sn	**Sn**	18 03 36.4	**-2.6**
BIM	**Bigot**	**3.89**	**16**	*e*P	**Pn**	18 02 55.2	**+0.9**
BIM				*e*S	**Sn**	18 03 37.5	**-1.4**
ZAM	**Aeronautique**	**3.95**	**16**	*e*P	**Pn**	18 02 56.7	**+1.5**
LPMF	**Morne Lapointe**	**3.97**	**17**	*e*P	**Pn**	18 02 56.9	**+1.4**
MVM	**Montagne Vaucl**	**3.97**	**18**	*e*P	**Pn**	18 02 57.6	**+2.0**
FDF	**Fort de France**	**4.07**	**14**	Pn	**Pn**	18 02 54.6	**-2.4**
FDF				Sn	**Sn**	18 03 40.1	**-3.5**
GBMF	**Grand Be**	**4.13**	**14**	*e*P	**Pn**	18 02 59.4	**+1.6**
PCM	**Pelee Case Pet**	**4.14**	**13**	*e*P	**Pn**	18 02 58.9	**+1.1**
BAMF	**Morne Balai**	**4.15**	**14**	*e*P	**Pn**	18 03 01.4	**+3.4**
SVN	**Savane Anatole**	**4.17**	**13**	Pn	**Pn**	18 02 58.1	**-0.2**
SVN	**Savane Anatole**	**4.17**	**13**	*e*P	**Pn**	18 02 59.1	**+0.8**
SVN				*e*S	**Sn**	18 03 44.2	**-1.7**
ILAM	**Ilet Lapin Mar**	**4.19**	**17**	Pn	**Pn**	18 02 59.3	**+0.8**
MERV	**Las Mercedes**	**4.33**	**250**	*e*P	**Pn**	18 03 01.5	**+1.2**
MERV				*e*S	**Sn**	18 03 49.2	**-0.5**
FUNV	**FUNVISIS**	**4.57**	**267**	*e*P	**Pn**	18 03 06.0	**+2.3**
FUNV				*e*S	**Sn**	18 03 55.5	**-0.1**
TACV	**Tcata**	**4.81**	**263**	*e*P	**Pn**	18 03 08.2	**+1.3**
TACV				*e*S	**Sn**	18 04 01.5	**-0.1**
LUEV	**Luepa**	**4.94**	**172**	*e*P	**Pn**	18 03 09.2	**+0.4**
LUEV				*e*S	**Sn**	18 04 01.2	**-3.5**
TDBA	**Terre de Bas,**	**5.09**	**6**	*e*P	Pn	18 03 14.8	+4.2
MAGL	**Barre de l'ile**	**5.23**	**9**	Pn	**Pn**	18 03 13.4	**+0.8**
MAGL	**Barre de l'ile**	**5.23**	**9**	*e*P	**Pn**	18 03 16.2	**+3.6**
CBE	**Ff, Capester**	**5.31**	**6**	Pn	**Pn**	18 03 14.8	**+1.2**
CBE	**Ff, Capester**	**5.31**	**6**	*e*P	**Pn**	18 03 15.1	**+1.4**
CBE				*e*S	**Sn**	18 04 09.9	**-3.6**
CACV	**CAICARA DEL OR**	**5.35**	**234**	*e*P	Pn	18 03 09.6	-4.7
CACV				*e*S	Sn	18 04 02.5	-12
BENV	**Beln**	**5.40**	**262**	*e*P	**Pn**	18 03 16.7	**+1.7**
BENV				*e*S	**Sn**	18 04 14.1	**-1.7**
GDHS	**Morne Mazeau,**	**5.50**	**4**	Pn	**Pn**	18 03 18.2	**+1.9**
TURV	**Turiamo**	**5.58**	**267**	*e*P	**Pn**	18 03 18.8	**+1.4**
TURV				*e*S	**Sn**	18 04 18.6	**-1.6**
GDSD	**La Dsirade Is**	**5.62**	**11**	Pn	**Pn**	18 03 19.4	**+1.4**
ABD	**La Joyeuse, An**	**5.72**	**7**	Pn	**Pn**	18 03 20.5	**+1.2**
ABD	**La Joyeuse, An**	**5.72**	**7**	*e*P	**Pn**	18 03 21.2	**+2.0**
ABD				*e*S	**Sn**	18 04 20.2	**-3.4**
BAUV	**El Baul**	**6.06**	**253**		**Pn**	18 03 24.0	**+0.1**
BAUV	**El Baul**	**6.06**	**253**	*e*P	**Pn**	18 03 23.8	**-0.1**
BAUV				*e*S	**Sn**	18 04 28.8	**-3.1**
MAPV	**Macapo**	**6.25**	**262**	*e*P	**Pn**	18 03 26.8	**+0.3**
MAPV				*e*S	**Sn**	18 04 34.3	**-2.3**
ANBD	**Bethesda, Anti**	**6.26**	**4**	*e*P	**Pn**	18 03 28.7	**+2.0**
JACV	**Jacura**	**6.54**	**273**	*e*P	**Pn**	18 03 32.0	**+1.4**
JACV				*e*S	**Sn**	18 04 41.5	**-2.3**
TEPV	**Terepaima**	**6.95**	**264**	*e*P	**Pn**	18 03 36.9	**+0.8**
TEPV				*e*S	**Sn**	18 04 51.0	**-2.7**
CURV	**Curarigua**	**7.70**	**265**	*e*P	**Pn**	18 03 47.2	**+0.9**
OBIP	**Obispado Ponce**	**8.42**	**330**	Pn	**Pn**	18 03 56.2	**+0.2**
CELP	**Cerrillos**	**8.43**	**330**	Pn	**Pn**	18 03 55.9	**-0.3**
BOAV	**Boa Vista**	**8.47**	**169**		**Pn**	18 03 54.2	**-2.6**
SDV	**Santo Domingo**	**8.54**	**258**	Pn	**Pn**	18 03 57.9	**-0.1**
SDV	**Santo Domingo**	**8.54**	**258**	P	**Pn**	18 03 57.7	**-0.3**
	2.0nm,0.3s,baz=61,slow=16,SNR=2.2						
SDV				S	**Sn**	18 05 29.8	**-3.0**
	5.0nm,0.4s,baz=273,slow=16,SNR=4.0						
EMPR	**Esperanza - Ma**	**8.75**	**332**	Pn	**Pn**	18 03 59.3	**-1.3**
SOCV	**Socops**	**8.91**	**255**	*e*S	**Sn**	18 05 36.1	**-5.4**
MDP	**Montagnes des**	**10.99**	**120**	P	**Pn**	18 04 31.0	**-0.1**
	12nm,0.8s,baz=304,slow=15,SNR=8.2						
MDP				S	**Sn**	18 06 23.7	**-8.5**
	18nm,0.3s,baz=60,slow=22,SNR=14						
SDDR	**Presa de Saban**	**12.01**	**314**		**Pn**	18 04 46.5	**+1.5**
MALB	**Monte Alegre**	**14.80**	**147**	*e*P	**Pn**	18 05 18.6	**-2.9**
MALB				*e*S	Sn	18 07 53.4	-11
MCPB	**Macapa, AP**	**14.94**	**137**	*e*S	Sn	18 07 57.5	-11
ITTB	**Itaituba**	**16.34**	**157**	*e*P	**Pn**	18 05 38.3	**-2.7**
TBTG	**Tabatinga, AM**	**16.73**	**208**	*e*P	**Pn**	18 05 46.8	**+1.0**
NPGB	**Novo Progresso**	**18.95**	**159**	*e*P	**P**	18 06 11.9	**+0.9**
OTAV	**Otavalo**	**19.26**	**238**	*e*S	**Sn**	18 10 00.0	**+6.9**
SAML	**Samuel**	**19.61**	**183**	P	**P**	18 06 15.9	**-2.2**
SAML				IAmb	IAmb	18 06 23.5	
	comp=Z,11nm,1.2s						
SAML	**Samuel**	**19.61**	**183**	*e*S	**S**	18 09 53.0	**-1.7**
MCRA	**Macar, Loja**	**23.22**	**231**	P	**P**	18 06 54.8	**-1.6**
ATAH	**Atahualpa**	**24.02**	**223**	P	**P**	18 07 07.3	**+3.3**
	comp=Z,3.4nm,0.6s,baz=75,slow=9.7,SNR=3.2						
	comp=Z,3.4nm,0.6s						
735A	**Kenedy**	**37.85**	**304**	P	**P**	18 09 05.4	**+0.3**
BRDY	**Brady**	**39.71**	**307**	P	**P**	18 09 20.6	**-0.1**
POST	**Post**	**42.35**	**308**	P	**P**	18 09 41.9	**-0.5**
TXAR	**Lajitas Array**	**42.85**	**302**	P	**P**	18 09 46.5	**+0.1**
	comp=Z,0.2nm,0.4s,baz=124,slow=10,SNR=4.9						
TXAR				PcP	**PcP**	18 11 37.0	**+0.9**
	comp=Z,0.5nm,0.7s,baz=120,slow=5.3,SNR=5.1						
	comp=Z,0.2nm,0.4s						
PD31	**Pinedale Array**	**52.02**	**317**	P	**P**	18 10 56.0	**-1.5**
PD31				IAmb	IAmb	18 11 35.7	
	comp=Z,2.1nm,1.4s						
PDAR	**Pinedale Array**	**52.02**	**317**	P	**P**	18 10 56.6	**-0.9**
	comp=Z,1.4nm,0.5s,baz=114,slow=9.8,SNR=19						
PDAR				PcP	**PcP**	18 12 07.8	**-0.9**
	comp=Z,0.5nm,0.7s,baz=118,slow=5.9,SNR=3.6						
	comp=Z,1.4nm,0.5s						
YHL	**Hebgen Lake**	**53.92**	**318**	P	**P**	18 11 11.6	**0.0**
YHL				IAmb	IAmb	18 11 12.7	
	comp=Z,4.8nm,0.7s						
NVAR	**Mina Array Bea**	**56.98**	**309**	P	**P**	18 11 31.4	**-2.1**
	comp=Z,0.3nm,0.5s,baz=321,slow=2.8,SNR=1.9						
	comp=Z,0.3nm,0.5s						
ESDC	**Sonseca Array**	**58.84**	**50**	P	**P**	18 11 47.6	**+1.3**
	comp=Z,1.0nm,0.8s,baz=267,slow=7.3,SNR=4.1						
	comp=Z,1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**62.39**	**81**	P	**P**	18 12 12.2	**+1.5**
	comp=Z,0.3nm,0.4s,baz=284,slow=6.0,SNR=2.4						
	comp=Z,0.3nm,0.4s						
YKA	**Yellowknife Ar**	**63.74**	**336**	P	**P**	18 12 16.9	**-1.9**
	comp=Z,0.3nm,0.7s,baz=87,slow=10,SNR=4.8						
	comp=Z,0.3nm,0.7s						
NOA	**NORSAR Array B**	**72.62**	**29**	P	**P**	18 13 16.1	**+1.7**
	comp=Z,1.2nm,0.9s,baz=67,slow=14,SNR=3.2						
	comp=Z,1.2nm,0.9s						
HFS	**Hagfors**	**73.70**	**30**	P	**P**	18 13 22.1	**+1.4**
	comp=Z,2.4nm,0.8s,baz=204,slow=3.3,SNR=4.2						
	comp=Z,2.4nm,0.8s						
ILAR	**Eielson Array**	**78.09**	**334**	P	**P**	18 13 43.9	**-1.8**
	comp=Z,0.5nm,0.8s,baz=106,slow=1.3,SNR=5.7						
	comp=Z,0.5nm,0.8s						
FINES	**FINESS Array B**	**79.80**	**29**	P	**P**	18 13 56.8	**+1.7**
	comp=Z,1.2nm,0.6s,baz=263,slow=3.5,SNR=10						
	comp=Z,1.2nm,0.6s						
BRTR	**Keskin Array B**	**87.63**	**50**	P	**P**	18 14 37.0	**+1.3**
	comp=Z,0.7nm,0.7s,baz=253,slow=6.4,SNR=5.4						
	comp=Z,0.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**145.50**	**33**	PKPbc	**PKPdf**	18 21 27.0	**+1.5**
	comp=Z,1.0nm,0.7s,baz=316,slow=6.1,SNR=10						
ASAR	**Alice Springs**	**160.01**	**228**	PKP	**PKPdf**	18 21 46.7	**+0.3**
	comp=Z,0.2nm,0.8s,baz=141,slow=4.7,SNR=1.9						
ASAR				PKPab	**PKPab**	18 22 29.4	**+3.0**
	comp=Z,0.2nm,0.8s,baz=120,slow=5.5,SNR=1.7						

IDC 16 18:21:19.2±3.9, 19°28N×145°46E, h99km±35km, mb3.6/11, mbtmp4.0/12, Error ellipse: s-maj=29.4km s-min=14.5km az=100.0
NEIC 16 18:21:22.5±1.4, 19°24N±0°07×145°6E±0°2, h121km±8km, mb4.3/44, Error ellipse: s-maj=24.2km s-min=9.2km az=83.0
ISC 16 18:21:19.7±0.5, 19°24N±0°07×145°5E±0°1, h100km, n69, σ1s01/68, mb4.3/32, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**8.39**	**339**	Pn	**Pn**	18 23 21.7	**+3.1**
JCJ				Sn	**Sn**	18 24 51.3	**-0.3**
JCJ	**Chichijima**	**8.39**	**339**	P	**Pn**	18 23 18.1	**-0.4**
	24nm,0.8s,baz=282,slow=22,SNR=1.1						
JCJ				S	**Sn**	18 24 49.1	**-2.5**
	23nm,0.5s,baz=317,slow=22,SNR=1.5						
MAJO	**Matsushiro**	**18.39**	**341**	P	**P**	18 25 24.6	**-2.2**
MAJO				IAmb	IAmb	18 26 04.8	
	comp=Z,16nm,1.4s						
H11S3	**WAKE ISLAND Hy**	**20.07**	**89**	T	T	18 46 35.7	
	baz=275,slow=74,SNR=8.5						
H11S1	**WAKE ISLAND Hy**	**20.08**	**89**	T	T	18 46 35.2	
	baz=275,slow=74,SNR=7.0						
H11S2	**WAKE ISLAND Hy**	**20.08**	**89**	T	T	18 46 41.7	
	baz=275,slow=74,SNR=8.7						
JKA	**Kamikawa-asahi**	**24.92**	**355**	P	**P**	18 26 35.8	**+2.3**
PETK	**Petropavlovsk-**	**35.10**	**13**	P	**P**	18 28 04.1	**+0.8**
	comp=Z,5.2nm,1.1s,baz=184,slow=8.7,SNR=1.4						
	comp=Z,5.2nm,1.1s						
KNRA	**Kununurra**	**38.41**	**207**	P	**P**	18 28 33.0	**+1.3**
CTAO	**Charters Tower**	**39.09**	**179**	P	**P**	18 28 37.5	**+0.1**
WB0	**Warramunga Arr**	**40.27**	**196**	P	**P**	18 28 47.0	**-0.1**
WB0				IAmb	IAmb	18 28 50.0	
	comp=Z,6.0nm,1.1s						
WRAB	**Tennant Creek**	**40.44**	**196**	P	**P**	18 28 48.5	**0.0**
WRAB				IAmb	IAmb	18 28 51.8	
	comp=Z,10.0nm,1.3s						
WRA	**Warramunga Arr**	**40.45**	**196**	P	**P**	18 28 47.7	**-1.0**
WRA	**Warramunga Arr**	**40.45**	**196**	P	**P**	18 28 48.3	**-0.3**
	comp=Z,2.3nm,0.5s,baz=9.4,slow=8.5,SNR=21						
	comp=Z,2.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**41.92**	**209**	P	**P**	18 29 01.3	**+0.6**
AS31	**Alice Springs**	**44.12**	**195**	P	**P**	18 29 17.8	**-0.6**
ASAR	**Alice Springs**	**44.12**	**195**	P	**P**	18 29 18.0	**-0.4**
ASAR	**Alice Springs**	**44.12**	**195**	P	**P**	18 29 17.9	**-0.4**
	comp=Z,0.4nm,0.4s,baz=13,slow=7.8,SNR=19						
	comp=Z,0.4nm,0.4s						
DZM	**Mont Dzumac**	**45.88**	**152**	P	**P**	18 29 31.0	**-1.4**
DZM				IAmb	IAmb	18 29 34.6	
	comp=Z,9.7nm,1.2s						
GIRL	**Giralia**	**51.63**	**218**	P	**P**	18 30 15.9	**-0.4**
N15K	**Kwethluk River**	**56.04**	**29**	P	**P**	18 30 47.6	**-0.3**
F15K	**North Star Dit**	**56.62**	**22**	P	**P**	18 30 52.4	**+0.4**
C16K	**Lisburne Hills**	**57.72**	**19**	P	**P**	18 30 59.8	**+0.1**
C16K				IAmb	IAmb	18 31 43.0	
	comp=Z,3.5nm,1.4s						
MKAR	**Makanchi Array**	**57.95**	**314**	P	**P**	18 31 02.2	**+0.4**
	comp=Z,0.2nm,0.5s,baz=168,slow=12,SNR=2.1						
	comp=Z,0.2nm,0.5s						
F17K	**Baldwin Pennin**	**58.19**	**22**	P	**P**	18 31 03.0	**0.0**
F17K				IAmb	IAmb	18 31 04.7	
	comp=Z,4.2nm,1.0s						
NWAO	**Narrogin (SRO)**	**58.49**	**208**	P	**P**	18 31 06.2	**+0.7**
H18K	**Honhosa River**	**58.71**	**24**	P	**P**	18 31 06.6	**-0.1**
H18K				IAmb	IAmb	18 31 18.1	
	comp=Z,3.0nm,1.3s						
G18K	**Tagagawik**	**58.90**	**23**	P	**P**	18 31 08.3	**+0.3**
G18K				IAmb	IAmb	18 31 08.9	
	comp=Z,1.6nm,0.8s						
C18K	**Utukok River**	**59.23**	**20**	P	**P**	18 31 10.5	**+0.2**
H19K	**Roundabout Mou**	**59.60**	**24**	P	**P**	18 31 13.2	**+0.5**
H19K				IAmb	IAmb	18 31 17.0	
	comp=Z,2.4nm,1.1s						
C19K	**Lookout Ridge**	**59.96**	**20**	P	**P**	18 31 16.0	**+0.7**
C19K				IAmb	IAmb	18 31 17.0	
	comp=Z,2.7nm,0.7s						
CNPM	**China Poot**	**60.10**	**32**	P	**P**	18 31 15.5	**-0.9**
BRLK	**Bradley Lake**	**60.33**	**31**	P	**P**	18 31 16.7	**-1.2**
CAST	**Castle Rocks**	**60.70**	**27**	P	**P**	18 31 20.4	**0.0**
CAST				IAmb	IAmb	18 31 21.3	
	comp=Z,2.0nm,0.7s						
KURBB	**Kurchatov Arra**	**60.79**	**318**	P	**P**	18 31 20.4	**-0.8**
	comp=Z,0.8nm,0.2s,baz=93,slow=7.3,SNR=1.4						
	comp=Z,0.8nm,0.2s						
IMAR	**Indian Mountai**	**60.80**	**24**	P	**P**	18 31 21.1	**+0.1**
B20K	**Meade River**	**61.12**	**19**	P	**P**	18 31 23.1	**0.0**
B20K				IAmb	IAmb	18 31 23.9	
	comp=Z,6.0nm,1.4s						
BPAW	**Bear Paw Mtn.**	**61.36**	**27**	P	**P**	18 31 25.1	**+0.3**
BPAW				IAmb	IAmb	18 31 25.4	
	comp=Z,2.8nm,0.6s						
MLY	**Manley**	**61.71**	**26**	P	**P**	18 31 27.1	**0.0**
MLY				IAmb	IAmb	18 31 33.6	
	comp=Z,3.3nm,1.3s						
D22K	**Ayikyak River**	**62.16**	**21**	P	**P**	18 31 31.1	**+1.0**
WRH	**Wood River Hil**	**62.67**	**27**	P	**P**	18 31 32.8	**-0.7**
TOLK	**Toolik Lake Re**	**63.16**	**22**	P	**P**	18 31 37.6	**+0.8**
TOLK				IAmb	IAmb	18 31 37.9	
	comp=Z,4.9nm,1.3s						
ILAR	**Eielson Array**	**63.24**	**26**	P	**P**	18 31 35.8	**-1.5**
	comp=Z,0.8nm,0.6s,baz=251,slow=6.1,SNR=10						
	comp=Z,0.8nm,0.6s						
J25K	**Salcha River,**	**63.85**	**27**	P	**P**	18 31 39.9	**-1.5**
J25K				IAmb	IAmb	18 32 08.1	
	comp=Z,3.7nm,1.4s						
D25K	**Kavik River**	**64.45**	**21**	P	**P**	18 31 45.9	**+0.6**
D25K				IAmb	IAmb	18 31 46.7	
	comp=

comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 54.52 331 P P 19 11 06.4 -0.1
ZALV Zalesovo Beam 54.52 331 P P 19 11 06.9 +0.4
comp=Z,2.4nm,0.8s,baz=116,slow=6.8,SNR=8.7
comp=Z,2.4nm,0.8s
KURK Kurchatov 55.98 325 P P 19 11 16.7 -0.3
KURK IAmb IAmb 19 11 30.7
comp=Z,2.1nm,0.8s
KURBB Kurchatov Arra 55.99 325 P P 19 11 17.3 +0.2
comp=Z,0.8nm,0.6s,baz=127,slow=7.3,SNR=4.6
comp=Z,0.8nm,0.6s
GAR Garm 57.25 310 P P 19 11 25.6 -0.9
C23K Itkillik River 77.88 21 P P 19 13 36.7 +0.6
C23K IAmb IAmb 19 14 20.4
comp=Z,4.4nm,1.4s
BMAR Burnt Mountain 80.10 23 P P 19 13 48.9 +0.5
OBN Obninsk 81.41 324 LR LR 19 53 58.3
comp=Z,59nm,19.2s,baz=174,slow=39
FINES FINESS Array B 85.79 332 P P 19 14 18.1 +0.2
comp=Z,0.4nm,0.4s,baz=113,slow=5.0,SNR=7.7
comp=Z,0.4nm,0.4s
MAW Mawson 89.87 200 P P 19 14 36.1 -1.1
comp=Z,24nm,1.1s,baz=14,slow=8.0,SNR=4.2
HFS Hagfors 91.94 332 P P 19 14 47.1 -0.1
comp=Z,4.7nm,1.1s,baz=46,slow=4.3,SNR=1.6
comp=Z,4.7nm,1.1s
LPAZ La Paz 164.76 114 PKP PKPdf 19 21 44.2 -0.4
comp=Z,1.0nm,0.4s,baz=260,slow=6.1,SNR=4.0

*UCR **16** 19:06:21.6±0.3,7.°07N×82.°42W, h10km±13km, MW3.9*
*RSNC **16** 19:06:22.3±0.5, 7.°7N×8.°2W×.°, h0km, ML3.1*
*UPA **16** 19:06:24.4±1.8, 7.°15N×82.°36W, h20km±15km, MW4.5*
*IDC **16** 19:06:26.8±3.2, 8.°02N×81.°95W, h0km, mb3.6/7, mbtmp3.7/8, ML4.3/1, MS3.3/9, Error ellipse: s-maj=98.7km s-min=29.5km az=24.0*

ISC 16 19:06:23.1±2.3, 7.°22N±0.°06×82.°30W±0.°04, h8km±13km, n74, σ1°§43/89, mb3.6/7, MS3.6/3, 5C-5D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTPM	**Petroterminale**	**1.14**	**330**	***i*P**	**Pn**	**19 06 43.8**	**-1.6**
NANC3	**Nancito, Chiri**	**1.16**	**29**⇓	***e*P**	**Pn**	**19 06 45.2**	**-0.6**
NANC3				*i* S	**Sg**	**19 07 01.9**	**+1.4**
GMAL	**Guarumal, Vera**	**1.19**	**63**⇓	***i*P**	**Pb**	**19 06 45.4**	**-0.5**
GMAL				*e*S	**Sg**	**19 07 02.9**	**+1.5**
GMAL	**Guarumal, Vera**	**1.19**	**63**	***e*P**	**Pb**	**19 06 45.4**	**-0.5**
GMAL				*e*S	**Sg**	**19 07 03.3**	**+1.9**
GMAL	**Guarumal, Vera**	**1.19**	**63**	P	**Pb**	**19 06 45.4**	**-0.5**
GMAL				S	**Sg**	**19 07 01.9**	**+0.5**
LOCO3	**Loma Colorada,**	**1.19**	**354**⇓	***i*P**	**Pn**	**19 06 45.5**	**-0.6**
DVD	**David**	**1.22**	**353**⇓	***e*P**	**Pn**	**19 06 45.7**	**-0.8**
DVD				*i* S	**Sn**	**19 07 01.8**	**-1.5**
DVD				*i* S	**Sb**	**19 07 02.0**	**-0.4**
CCOL	**Caracol de Cor**	**1.36**	**331**	***e*P**	**Pn**	**19 06 47.3**	**-1.2**
MARI3	**Mariato, Verag**	**1.37**	**72**⇑	***e*P**	**Pb**	**19 06 48.8**	**-0.1**
MARI3				*i* S	**Sg**	**19 07 06.0**	**-1.1**
CACAO	**El Cacao, Vera**	**1.43**	**85**	***e*P**	**Pb**	**19 06 49.1**	**-0.9**
CACAO				*e*S	**Sb**	**19 07 03.7**	**-1.2**
CACAO	**El Cacao, Vera**	**1.43**	**85**	P	**Pb**	**19 06 49.5**	**-0.6**
CACAO				S	**Sb**	**19 07 07.7**	**-0.8**
PSOM3	**Paja de Sombre**	**1.46**	**359**	***i*P**	**Pb**	**19 06 50.2**	**-0.4**
CDITO	**Canoas**	**1.46**	**337**⇑	***i*P**	**Pn**	**19 06 48.6**	**-1.2**
CDITO	**Canoas**	**1.46**	**337**	***e*P**	**Pn**	**19 06 48.7**	**-1.2**
PTAR3	**Potrerillos Ar**	**1.48**	**352**	***i*P**	**Pn**	**19 06 49.9**	**-0.3**
PTAR3				*i* S	**Sg**	**19 07 11.0**	**+0.2**
BCO2	**Palmira**	**1.51**	**351**⇑	***i*P**	**Pn**	**19 06 50.1**	**-0.6**
BCO2				*i* S	**Sb**	**19 07 10.6**	**-0.3**
PIRO	**Carate, Puerto**	**1.56**	**319**	***e*P**	**Pn**	**19 06 49.3**	**-1.9**
BRU2	**Volcan**	**1.61**	**346**⇑	***i*P**	**Pn**	**19 06 51.2**	**-0.8**
BRU2	**Volcan**	**1.61**	**346**	***e*P**	**Pn**	**19 06 51.3**	**-0.8**
BC3P	**Paso Ancho**	**1.62**	**349**	***i*P**	**Pn**	**19 06 51.4**	**-0.8**
MLIR3	**Monte Lirio, C**	**1.65**	**342**	***e*P**	**Pn**	**19 06 50.3**	**-2.2**
JIME	**Puerto Jimenez**	**1.66**	**322**	***e*P**	**Pn**	**19 06 51.5**	**-1.1**
EDAD	**Golfito**	**1.66**	**329**	***e*P**	**Pn**	**19 06 51.2**	**-1.5**
CHGR2	**Aguacate**	**1.72**	**5**	***e*P**	**Pb**	**19 06 54.2**	**-0.8**
PESE3	**Pese, Herrera**	**1.81**	**68**	***e*P**	**Pb**	**19 06 55.8**	**-0.7**
PESE3				*i* S	**Sb**	**19 07 18.1**	**-1.3**
CALO3	**Calobre, Verag**	**1.81**	**53**	***e*P**	**Pb**	**19 06 55.6**	**-1.1**
EDP2	**Potrero Grande**	**1.99**	**334**	***e*P**	**Pn**	**19 06 57.2**	**+0.1**
POTG	**Potrero Grande**	**2.00**	**336**	***e*P**	**Pn**	**19 06 57.2**	**-0.1**
CHIT3	**Chitre**	**2.00**	**68**⇑	***i*P**	**Pb**	**19 06 58.8**	**-1.1**
AZU	**Azuero**	**2.09**	**74**⇓	***i*P**	**Pn**	**19 06 59.1**	**+0.6**
AZU				*i* S	**Sb**	**19 07 24.8**	**-2.6**
AZU	**Azuero**	**2.09**	**74**	P	**Pn**	**19 06 59.1**	**+0.6**
AZU				S	**Sb**	**19 07 24.9**	**-2.5**
ACHO3	**Achotines, Los**	**2.12**	**85**	***e*P**	**Pn**	**19 06 59.0**	**+0.2**
ACHO3				*e*S	**Sn**	**19 07 24.9**	**-0.5**
CNI2	**El Empalme, Bo**	**2.20**	**356**	***e*P**	**Pn**	**19 07 01.2**	**+1.2**
PCRI3	**Pocri, Los San**	**2.21**	**78**	***e*P**	**Pb**	**19 07 01.1**	**-2.2**
DRK0	**Durika**	**2.24**	**335**	***e*P**	**Pn**	**19 07 00.3**	**-0.4**
SRBA	**San Rafael, Bu**	**2.26**	**332**	***e*P**	**Pn**	**19 07 00.6**	**-0.4**
PNME	**Penonome**	**2.33**	**57**	***e*P**	**Pb**	**19 07 03.5**	**-1.8**
PNME	**Penonome**	**2.33**	**57**	P	**Pb**	**19 07 04.9**	**-0.4**
PNME				S	**Sb**	**19 07 32.3**	**-1.9**
CDM	**Cerro de Muert**	**2.74**	**328**	***e*P**	**Pn**	**19 07 07.5**	**-0.4**
LCR2	**La Lucha 2**	**3.02**	**326**	***e*P**	**Pn**	**19 07 11.4**	**-0.1**
BATAN	**Batan**	**3.05**	**340**	***e*P**	**Pn**	**19 07 13.2**	**+1.4**
BATAN				*e*S	**Sn**	**19 07 48.0**	**-0.6**
BATAN				*i* S	**Sb**	**19 07 50.8**	**-4.5**
VTCV	**VTCV, Calle Va**	**3.09**	**333**	***e*P**	**Pn**	**19 07 13.2**	**+0.8**
LCOCO	**El Coco**	**3.11**	**336**	***e*P**	**Pn**	**19 07 14.1**	**+1.6**
BCIP	**Isla Barro Col**	**3.11**	**51**	***e*P**	**Pn**	**19 07 13.7**	**+1.1**
BCIP	**Isla Barro Col**	**3.11**	**51**	P	**Pn**	**19 07 14.4**	**+1.8**
BCIP				S	**Sb**	**19 07 55.1**	**-1.8**
CVTV	**Tajo**	**3.12**	**333**	***e*P**	**Pn**	**19 07 13.7**	**+0.7**
VTLO	**VTLO**	**3.14**	**333**	***e*P**	**Pn**	**19 07 14.1**	**+0.8**
FRIJ	**El Hiral**	**3.23**	**52**	***e*P**	**Pn**	**19 07 15.8**	**+1.6**
JACO	**JACO, Garabito**	**3.37**	**316**	***e*P**	**Pn**	**19 07 14.7**	**-1.4**
JTS	**Las Juntas de**	**4.03**	**320**	***i*P**	**Pn**	**19 07 24.5**	**-0.7**
JTS	**Las Juntas de**	**4.03**	**320**	Pn	**Pn**	**19 07 24.2**	**-0.9**
	26nm,0.3s,baz=173,slow=5.0,SNR=41						
JTS				Sn	**Sn**	**19 08 11.4**	**-1.2**
	baz=109,slow=24						
JTS				LR	LR	19 09 02.5	
	comp=Z,269nm,21.5s,baz=70,slow=42						
	58nm,0.4s						
JTS	**Las Juntas de**	**4.03**	**320**	***e*P**	**Pn**	**19 07 25.8**	**+0.7**
INDI	**Punta indio, G**	**4.12**	**310**	***e*P**	**Pn**	**19 07 25.8**	**-0.6**
PLVR	**Palo Verde**	**4.33**	**316**	***e*P**	**Pn**	**19 07 29.5**	**-0.1**
JUD3	**Juan Diaz 3**	**4.34**	**313**	***e*P**	**Pn**	**19 07 29.2**	**-0.3**
PTAC	**Punta Ardita,**	**4.46**	**91**	P	**Pn**	**19 07 30.3**	**-0.8**
PTAC				S	**Sn**	**19 08 17.6**	**-5.6**
HZTE	**Horizontes, Gu**	**4.76**	**317**	***e*P**	**Pn**	**19 07 36.5**	**+1.3**
GR1C	**Gorgona, Isla**	**5.87**	**135**	P	**Pn**	**19 07 49.9**	**-0.6**
MALC	**Bahia Malaga**	**5.88**	**123**	P	**Pn**	**19 07 52.2**	**+1.6**
DBBC	**Dabeiba**	**6.05**	**92**	P	**Pn**	**19 07 53.8**	**+0.8**
SDV	**Santo Domingo**	**11.67**	**81**	LR	LR	19 14 51.0	
	comp=Z,73nm,20.0s,baz=234,slow=45						
TEIG	**Tepich**	**14.17**	**336**	LR	LR	19 14 16.5	
	comp=Z,665nm,21.3s,slow=35						
ATAH	**Atahualpa**	**14.78**	**165**	LR	LR	19 14 49.2	
	comp=Z,78nm,21.3s,baz=327,slow=32						
CMIG	**Matias Romero**	**15.73**	**310**	LR	LR	19 16 31.3	
	comp=Z,50nm,19.0s,baz=195,slow=39						
PCRV	**Puerto La Cruz**	**17.70**	**79**	LR	LR	19 18 25.4	
	comp=Z,128nm,18.6s,slow=42						
TXAR	**Lajitas Array**	**29.82**	**320**	P	**P**	**19 12 30.8**	**-0.2**
	0.4nm,0.9s,baz=126,slow=9.0,SNR=2.4						
TXAR				LR	LR	19 25 15.6	
	comp=Z,16nm,18.0s,baz=78,slow=38						
	0.4nm,0.9s						
PDAR	**Pinedale Array**	**42.78**	**330**	P	**P**	**19 14 22.1**	**+0.4**
	0.2nm,0.5s,baz=120,slow=10,SNR=2.0						
	0.2nm,0.5s						
ULM	**Lac du Bonnet**	**44.37**	**348**	P	**P**	**19 14 33.5**	**-0.4**
	2.5nm,0.7s,baz=150,slow=8.7,SNR=5.6						
	2.5nm,0.7s						
NVAR	**Mina Array Bea**	**44.96**	**319**	P	**P**	**19 14 42.5**	**+3.3**
	1.0nm,0.5s,baz=125,slow=7.7,SNR=6.7						
	1.0nm,0.5s						
YKA	**Yellowknife Ar**	**60.01**	**343**	P	**P**	**19 16 30.4**	**+0.3**
	0.4nm,0.8s,baz=137,slow=6.0,SNR=6.0						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**72.83**	**336**	P	**P**	**19 17 53.5**	**+1.2**
	0.4nm,0.7s,baz=99,slow=4.7,SNR=6.7						
	0.4nm,0.7s						
ESDC	**Sonseca Array**	**76.46**	**51**	P	**P**	**19 18 13.9**	**0.0**
	0.5nm,0.9s,baz=14,slow=40,SNR=1.3						
ESDC				LR	LR	19 48 47.0	
	comp=Z,32nm,18.4s,baz=264,slow=34						
	0.5nm,0.9s						
SPITS	**Spitsbergen Ar**	**84.76**	**12**	LR	LR	20 02 28.2	
	comp=Z,21nm,18.1s,baz=244,slow=40						
GEYT	**Alibeck**	**121.89**	**36**	PKP	**PKiKP**	**19 25 21.9**	**+3.1**
	0.4nm,0.6s,baz=308,slow=7.1,SNR=1.3						

*NDI **16** 19:58:32.6±2.9, 12.°48N×94.°07E, h123km±18km, ML3.8, MW4.2, mb4.3(NEIC)*
*NEIC **16** 19:58:33.8±1.5, 12.°57N±0.°08×93.°8E±0.°1, h109km±4km, mb4.3/36, Error ellipse: s-maj=15.2km s-min=11.1km az=67.0*
*IDC **16** 19:58:35.6±2.4, 12.°51N×93.°81E, h128km±21km, mb3.7/16, mbtmp4.1/18, MS3.4/1, Error ellipse: s-maj=19.7km s-min=11.4km az=56.0*

ISC 16 19:58:35.1±0.7, 12.°56N±0.°05×93.°79E±0.°06, h124km±6km, n82, σ0°§98/93, mb4.2/32, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**1.37**	**229**	***e*P**	**Pn**	**19 59 01.3**	**0.0**
PBA				*e*S	**Sn**	**19 59 21.8**	**+0.6**
PBA				IAML		19 59 24.5	
	comp=E,1µm,0.3s						
PBA				IAML		19 59 25.4	
	comp=N,976nm,0.3s						
CM31	**Chiang Mai Arr**	**7.68**	**40**		**Pn**	**20 00 24.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**7.68**	**40**		**Pn**	**20 00 24.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**7.68**	**40**	P	**Pn**	**20 00 26.1**	**+1.8**
	comp=N,16nm,0.7s,baz=234,slow=14,SNR=81						
CMAR				S	**Sn**	**20 01 50.0**	**+0.2**
	comp=N,0.5nm,0.3s,baz=34,slow=47,SNR=0.7						
PHRA	**Phrae**	**8.56**	**46**	Pn	**Pn**	**20 00 36.3**	**+0.1**
MND	**Mandalay**	**9.66**	**13**	Pn	**Pn**	**20 00 46.5**	**-4.5**
CRAI	**Chiangrai**	**9.90**	**39**		**Pn**	**20 00 54.5**	**+0.3**
KULM	**Kulim**	**9.90**	**136**	Pn	**Pn**	**20 00 54.4**	**+0.1**
SAIH	**SAIHA**	**9.90**	**356**	***e*P**	**Pn**	**20 00 52.8**	**-1.6**
VIS	**Vishakhapatnam**	**11.33**	**298**	***e*P**	**Pn**	**20 01 12.9**	**-0.5**
VIS				*ex*	x	20 03 06.9	
IMP	**Imphal**	**12.21**	**1**	***e*P**	**Pn**	**20 01 22.1**	**-2.9**
SHL	**Shillong**	**13.06**	**352**	***e*P**	**Pn**	**20 01 34.5**	**-1.7**
SHL				*e*S	Sn	20 03 48.7	-12
KOHI	**KOHIMA**	**13.09**	**1**	***e*P**	**Pn**	**20 01 34.9**	**-1.7**
TNCH	**TengChong**	**13.18**	**19**⇓	***e*P**	**Pn**	**20 01 37.8**	**0.0**
TNCH				S	**Sn**	**20 04 03.5**	**+0.3**
TNCH				ScP	**ScP**	**20 10 22.9**	**+1.8**
TNCH				PcS	**PcS**	**20 10 35.3**	**+1.4**
TNCH	**TengChong**	**13.18**	**19**	ScS	ScS	20 13 54.8	-3.3
TNCH				pmax	pmax		
	comp=Z,14nm,0.6s						
TNCH				pmax	pmax		
	comp=Z,57nm,4.2s						
MDRS	**Chennai**	**13.22**	**274**	*ex*	x	20 03 52.6	
BOK	**Bokaro**	**13.46**	**327**	***e*P**	**Pn**	**20 01 41.5**	**+0.4**
BOK				*i* x	**P**	**20 01 44.8**	**-1.2**
BOK				*ex*	x	20 04 00.8	
PALK	**Pallekele**	**13.92**	**249**	P	**Pn**	**20 01 48.2**	**+0.9**
	comp=Z,2.0nm,0.3s,baz=174,slow=12,SNR=9.3						
PALK				S	Sn	20 04 10.5	-11
	comp=Z,9.5nm,0.4s,baz=262,slow=21,SNR=9.3						
MYKOM	**Kota Tinggi**	**14.62**	**136**	P	**P**	**20 01 59.3**	**+0.3**
GTK	**Tadong**	**15.47**	**342**	*ex*	**P**	**20 02 10.9**	**+2.4**
LSA	**Lhasa**	**17.23**	**352**		**P**	**20 02 27.9**	**-0.4**
LSA				IAmb	IAmb	20 02 29.6	
	comp=Z,9.3nm,0.6s						
MNAI	**Manna**	**19.12**	**151**	P	**P**	**20 02 47.8**	**-0.8**
PTH	**Pithoragarh**	**21.09**	**325**	***e*P**	**P**	**20 03 11.4**	**+1.4**
GOMU	**GeErMu**	**23.55**	**2**	P	**P**	**20 03 35.6**	**+0.9**
GOMU				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SMLA	**Simla**	**24.02**	**323**	*ex*	**P**	**20 03 37.6**	**-0.9**
DHRM	**DHARAMSHALA**	**25.34**	**323**	***e*P**	**P**	**20 03 50.9**	**+0.1**
DHRM				*i* pP	**pP**	**20 04 17.9**	**+0.7**
MK31	**Makanchi Array**	**35.48**	**346**	P	**P**	**20 05 20.5**	**+0.8**
MKAR	**Makanchi Array**	**35.48**	**346**	P	**P**	**20 05 20.0**	**+0.4**
MKAR	**Makanchi Array**	**35.48**	**346**	P	**P**	**20 05 20.4**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=158,slow=8.5,SNR=14						
MKAR				PcP	**PcP**	**20 07 46.5**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=174,slow=2.4,SNR=2.8						
	comp=Z,0.7nm,0.4s						
SONM	**Songino Array**	**36.71**	**14**	P	**P**	**20 05 30.5**	**+0.2**
SONM	**Songino Array**	**36.71**	**14**	P	**P**	**20 05 31.0**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=201,slow=8.1,SNR=12						
SONM				PcP	**PcP**	**20 07 50.5**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=233,slow=3.6,SNR=2.5						
SONM				ScP	**ScP**	**20 11 25.1**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=195,slow=3.5,SNR=4.5						
SONM				LR	LR	20 23 08.8	
	comp=Z,51nm,18.2s,baz=169,slow=40						
	comp=Z,0.3nm,0.3s						
SOEI	**Soe**	**37.52**	**125**	P	**P**	**20 05 37.8**	**+0.3**
KURBB	**Kuchatov Arra**	**39.95**	**345**	P	**P**	**20 05 57.8**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=160,slow=7.8,SNR=11						
	comp=Z,1.3nm,0.6s						
KURK	**Kurchatov**	**40.02**	**345**	P	**P**	**20 05 57.3**	**-0.4**
GEYT	**Alibeck**	**40.58**	**315**	P	**P**	**20 06 04.0**	**+1.3**
	comp=Z,1.1nm,0.4s,baz=116,slow=13,SNR=5.3						
	comp=Z,1.1nm,0.4s						
ZAA0	**Zalesovo Array**	**41.90**	**352**	P	**P**	**20 06 13.1**	**0.0**
ZAA0				IAmb	IAmb	20 06 14.2	
	comp=Z,3.1nm,0.9s						
ZALV	**Zalesovo Beam**	**41.90**	**352**	P	**P**	**20 06 12.1**	**-0.9**
ZALV	**Zalesovo Beam**	**41.90**	**352**	P	**P**	**20 06 13.7**	**+0.6**
	comp=Z,2.4nm,0.3s,baz=164,slow=8.8,SNR=15						
	comp=Z,2.4nm,0.3s						
FITZ	**Fitzroy Crossi**	**43.77**	**133**	P	**P**	**20 06 27.9**	**-0.8**
BVAR	**Borovoye Array**	**44.48**	**340**	P	**P**	**20 06 34.5**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=142,slow=9.2,SNR=4.2						
	comp=Z,0.4nm,0.5s						
NWAO	**Narrogin (SRO)**	**50.47**	**154**	P	**P**	**20 07 19.8**	**-0.7**
WB0	**Warramunga Arr**	**51.28**	**128**	P	**P**	**20 07 26.1**	**-0.6**
WRA	**Warramunga Arr**	**51.34**	**128**	P	**P**	**20 07 26.4**	**-0.8**
WRA	**Warramunga Arr**	**51.34**	**128**	P	**P**	**20 07 26.8**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=305,slow=10,SNR=18						
WRA				PcP	**PcP**	**20 08 39.6**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=323,slow=3.1,SNR=5.8						
	comp=Z,1.0nm,0.5s						
WRAB	**Tennant Creek**	**51.34**	**128**	P	**P**	**20 07 26.8**	**-0.4**
WRAB				IAmb	IAmb	20 07 31.5	
	comp=Z,5.5nm,1.4s						
WRAB				PcP	**PcP**	**20 08 39.1**	**-1.3**
WB2	**Warramunga Arr**	**51.35**	**128**	P	**P**	**20 07 26.5**	**-0.8**
WB2				PcP	**PcP**	**20 08 38.9**	**-1.6**
AS31	**Alice Springs**	**53.24**	**132**	P	**P**	**20 07 40.8**	**-0.5**
ASAR	**Alice Springs**	**53.24**	**132**	P	**P**	**20 07 40.9**	**-0.4**
	comp=Z,1.7nm,0.4s,baz=310,slow=7.0,SNR=57						
	comp=Z,1.7nm,0.4s						
BRTR	**Keskin Array B**	**59.18**	**309**	P	**P**	**20 08 22.8**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=133,slow=7.3,SNR=7.9						
	comp=Z,1.0nm,0.6s						
BBOO	**Buckleboo**	**60.53**	**139**	P	**P**	**20 08 32.9**	**+0.4**
STKA	**Stephens Creek**	**63.62**	**135**	P	**P**	**20 08 52.1**	**-1.0**
STKA	**Stephens Creek**	**63.62**	**135**	P	**P**	**20 08 52.9**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=289,slow=7.3,SNR=5.1						
	comp=Z,0.7nm,0.4s						
KARP	**Karpathos**	**63.84**	**303**	P	**P**	**20 08 54.4**	**-0.2**
BURAR	**Bucovina Array**	**66.40**	**317**	P	**P**	**20 09 10.6**	**-0.4**
FINES	**FINESS Array B**	**68.44**	**331**	P	**P**	**20 09 21.7**	**-1.8**
FINES	**FINESS Array B**	**68.44**	**331**	P	**P**	**20 09 23.3**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=116,slow=6.6,SNR=3.5						
	comp=Z,1.8nm,0.9s						
TOO	**Toolangi**	**69.53**	**138**	P	**P**	**20 09 31.5**	**+0.8**
ARCES	**ARCESS Array B**	**70.77**	**340**	P	**P**	**20 09 38.3**	**+0.6**
ARCES	**ARCESS Array B**	**70.77**	**340**	P	**P**	**20 09 38.4**	**+0.6**
	comp=Z,3.5nm,0.8s,baz=81,slow=7.5,SNR=6.9						
	comp=Z,3.5nm,0.8s						
GEC2	**GERESS Array S**	**74.14**	**317**	P	**P**	**20 09 57.6**	**-0.6**
GERES	**GERESS Array B**	**74.14**	**317**	P	**P**	**20 09 58.0**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=80,slow=7.5,SNR=4.4						
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**74.27**	**329**	P	**P**	**20 09 59.3**	**+0.8**
	comp=Z,1.4nm,0.4s,baz=125,slow=4.4,SNR=7.7						
	comp=Z,1.4nm,0.4s						
PRED	**Cave del Predi**	**74.30**	**315**	P	**P**	**20 09 58.6**	**-0.4**
PRED				IAmb	IAmb	20 09 59.2	
	comp=Z,8.2nm,1.4s						
SPITS	**Spitsbergen Ar**	**75.21**	**348**	P	**P**	**20 10 03.5**	**-0.2**
	comp=Z,5.1nm,0.8s,baz=112,slow=9.1,SNR=5.7						
	comp=Z,5.1nm,0.8s						
LBTB	**Lobatse**	**76.22**	**240**	P	**P**	**20 10 10.2**	**-0.2**
LBTB				IAmb	IAmb	20 10 45.2	
	comp=Z,7.8nm,1.2s						
BOSA	**Boshof**	**77.81**	**237**	P	**P**	**20 10 19.5**	**+0.1**
C18K	**Utukok River**	**83.77**	**21**	P	**P**	**20 10 50.2**	**0.0**
C18K				IAmb	IAmb	20 11 21.0	
	comp=Z,3.9nm,1.4s						
C19K	**Lookout Ridge**	**84.17**	**20**	P	**P**	**20 10 52.8**	**+0.6**
C19K				IAmb	IAmb	20 11 21.7	
	comp=Z,4.3nm,1.5s						
D19K	**Kuna River**	**84.89**	**21**	P	**P**	**20 10 56.2**	**+0.3**
D19K				IAmb	IAmb	20 11 34.9	
	comp=Z,5.5nm,1.4s						
B21K	**Ikpikpuk River**	**85.61**	**19**	P	**P**	**20 10 59.8**	**+0.4**
B21K				IAmb	IAmb	20 11 26.1	
	comp=Z,4.2nm,1.4s						
J16K	**Anvik River**	**85.75**	**26**	P	**P**	**20 11 00.6**	**+0.4**
J16K				IAmb	IAmb	20 11 06.4	
	comp=Z,7.8nm,1.4s						
H18K	**Honhosa River**	**86.02**	**24**	P	**P**	**20 11 01.5**	**0.0**
H18K				IAmb	IAmb	20 11 13.3	
	comp=Z,7.0nm,1.4s						
G19K	**Purcell Mounta**	**86.14**	**23**	P	**P**	**20 11 02.2**	**+0.2**
G19K				IAmb	IAmb	20 11 32.0	
	comp=Z,5.3nm,1.4s						
C23K	**Itkillik River**	**86.77**	**18**	P	**P**	**20 11 05.1**	**+0.1**
C23K				IAmb	IAmb	20 11 26.6	
	comp=Z,6.4nm,1.4s						
IMAR	**Indian Mountai**	**87.45**	**22**	P	**P**	**20 11 08.0**	**-0.4**
TOLK	**Toolik Lake Re**	**87.67**	**19**	P	**P**	**20 11 09.9**	**+0.5**
TOLK				IAmb	IAmb	20 11 29.3	
	comp=Z,4.9nm,1.5s						
D25K	**Kavik River**	**88.31**	**18**	P	**P**	**20 11 12.3**	**-0.2**
D25K				IAmb	IAmb	20 11 12.8	
	comp=Z,3.0nm,1.3s						
TORD	**Torodi Ar. Bea**	**89.20**	**283**	P	**P**	**20 11 16.2**	**-1.5**
TORD				IAmb	IAmb	20 11 48.9	
	comp=Z,2.5nm,1.5s						
TORD	**Torodi Ar. Bea**	**89.20**	**283**	P	**P**	**20 11 17.5**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=87,slow=4.4,SNR=4.7						
	comp=Z,0.5nm,0.5s						
CAST	**Castle Rocks**	**89.23**	**24**	P	**P**	**20 11 17.2**	**+0.3**
CAST				IAmb	IAmb	20 11 31.0	
	comp=Z,6.3nm,1.3s						
TXAR	**Lajitas Array**	**135.07**	**22**	PKP	**PKiKP**	**20 17 41.9**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=148,slow=0.9,SNR=7.7						
PLCA	**Paso Flores**	**148.75**	**203**	PKPbc	**PKPbc**	**20 18 08.3**	**-0.1**
	comp=Z,3.4nm,0.8s,baz=286,slow=1.9,SNR=5.8						

RSNC 16 20:32:13.8±0.0, 5.°N±1.°×7.°4W±.°, h148km±3km, mb4.3, mB5.0, ML2.2, Mw(mB)4.3, Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPBC	**San Pablo de B**	**0.51**	**320**	P	Pn	20 32 34.3	-0.8
SPBC				S	Sn	20 32 50.4	-0.9
ROSC	**El Rosal**	**0.71**	**234**	P	Pn	20 32 37.0	+0.3
ROSC				S	Sn	20 32 55.0	+1.0
RUSC	**La Rusia**	**0.91**	**46**	P	Pn	20 32 37.6	-0.6
RUSC				S	Sn	20 32 55.8	-0.9
VILC	**Villavicencio,**	**1.14**	**178**	P	Pn	20 32 38.6	-1.2
VILC				S	Sn	20 32 58.9	-0.8
NORC	**Norcasia**	**1.16**	**285**	P	Pn	20 32 38.8	-1.1
NORC				S	Sn	20 32 58.6	-1.2
BARC	**Barichara**	**1.44**	**23**	P	Pn	20 32 41.6	-1.2
BARC				S	Sn	20 33 02.7	-2.3
PTBC	**PUERT

ISC 16 21:06:49.0±1.1, 9°2S±0.1×127°29E±0.08, h35km, n11, σ2§72/13, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.04**	**258**	P	**Pn**	**21 07 36.2**	**+1.3**
BATI	**Baumata**	**3.73**	**253**	Pn	**Pn**	**21 07 46.0**	**+1.8**
	3.6nm,0.3s,baz=74,slow=18,SNR=11						
BATI				Sn	**Sn**	**21 08 29.1**	**+2.2**
	16nm,0.3s,baz=81,slow=22,SNR=11 11nm,0.3s						
DRS	**Darwin Rock St**	**4.81**	**133**	P	**Pn**	**21 08 02.2**	**+3.2**
MTN	**Manton Dam**	**5.26**	**135**	P	**Pn**	**21 08 09.5**	**+4.3**
KNRA	**Kununurra**	**6.64**	**168**	P	**Pn**	**21 08 26.8**	**+2.6**
KAPI	**Kappang**	**8.54**	**298**	P	Pn	21 08 41.9	-8.4
FITZ	**Fitzroy Crossi**	**9.03**	**190**	P	**Pn**	**21 08 58.2**	**+1.2**
WRA	**Warramunga Arr**	**12.70**	**148**	Pn	**Pn**	**21 09 47.2**	**-0.1**
	1.2nm,0.3s,baz=316,slow=14,SNR=110						
WRA				Sn	**Sn**	**21 12 06.7**	**-0.9**
	0.8nm,0.3s,baz=319,slow=26,SNR=8.0 0.8nm,0.3s						
ASAR	**Alice Springs**	**15.76**	**157**	Pn	**Pn**	**21 10 28.4**	**0.0**
	0.4nm,0.3s,baz=342,slow=9.2,SNR=32						
ASAR				Sn	**Sn**	**21 13 17.3**	**-4.7**
	0.1nm,0.3s,baz=337,slow=25,SNR=3.0 0.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**39.19**	**314**	P	**P**	**21 14 12.7**	**-1.3**
	0.4nm,0.3s,baz=140,slow=6.1,SNR=6.8 0.4nm,0.3s						
MKAR	**Makanchi Array**	**68.60**	**329**	P	**P**	**21 17 47.0**	**-1.5**
	0.5nm,0.9s,baz=126,slow=7.3,SNR=4.3 0.5nm,0.9s						

*SSNC **16** 21:48:22.3±1.3, 18°17N×78°09W, h20km±21km, MD3.3, ML2.7, MW2.9*
*JSN **16** 21:48:23.0±0.8, 19°24N×77°36W, h15km, MD3.1*

ISC 16 21:48:23.1±2.5, 18°50N±0°1.0×77°9W±0°2, h1km±18km, n10, σ1§64/19, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STH	**Stony Hill**	**1.10**	**112**	*i* P	**Pg**	**21 48 44.4**	**+0.3**
STH				*i* S	**Sb**	**21 49 01.1**	**+1.4**
GWJ	**Greenwich**	**1.17**	**111**	*i* P	**Pg**	**21 48 45.1**	**-1.6**
HOJ	**Hope**	**1.18**	**115**	*i* P	**Pg**	**21 48 46.6**	**+0.9**
PILO	**Pilon**	**1.47**	**18**	*e*P	**Pb**	**21 48 50.4**	**-0.9**
PILO				*e*S	**Sn**	**21 49 09.8**	**-0.9**
PILO				IAML		21 49 13.8	
	comp=N,111nm,0.2s						
PILO				IAML		21 49 14.4	
	comp=E,96nm,0.3s						
LMGC	**Las Mercedes**	**1.76**	**28**	*e*P	**Pn**	**21 48 54.8**	**0.0**
LMGC				*e*S	**Sn**	**21 49 19.4**	**+1.6**
LMGC				IAML		21 49 22.3	
	comp=N,85nm,0.1s						
LMGC				IAML		21 49 23.1	
	comp=E,77nm,0.1s						
CHIV	**Chivirico**	**2.02**	**43**	*e*P	**Pn**	**21 48 58.1**	**-0.2**
CHIV				*e*S	**Sn**	**21 49 25.7**	**+1.6**
CHIV				IAML		21 49 28.3	
	comp=N,7.7nm,0.2s						
CHIV				IAML		21 49 28.9	
	comp=E,12nm,0.1s						
YAR	**Yar**	**2.35**	**37**	*e*P	**Pn**	**21 49 03.8**	**+0.9**
YAR				*e*S	**Sn**	**21 49 34.8**	**+2.5**
YAR				IAML		21 49 35.3	
	comp=N,16nm,0.4s						
YAR				IAML		21 49 36.8	
	comp=E,16nm,0.2s						
MARVS	**Santiago de Cu**	**2.39**	**51**	*e*P	**Pn**	**21 49 03.4**	**0.0**
MARVS				*e*S	**Sn**	**21 49 34.5**	**+1.1**
MARVS				IAML		21 49 37.4	
	comp=E,9.2nm,0.2s						
MARVS				IAML		21 49 37.8	
	comp=N,13nm,0.3s						
RCC	**Rio Carpintero**	**2.54**	**54**	*e*P	**Pn**	**21 49 05.8**	**+0.3**
RCC				*e*S	**Sn**	**21 49 34.2**	**-2.9**
RCC				*e*Sg	**Sb**	**21 49 38.4**	**-2.9**
SABCS	**La Quijada**	**3.05**	**52**	*e*P	**Pn**	**21 49 13.2**	**+0.7**
SABCS				*e*S	**Sn**	**21 49 51.3**	**+1.7**
SABCS				IAML		21 49 56.5	
	comp=N,21nm,0.7s						
SABCS				IAML		21 50 01.1	
	comp=E,19nm,0.5s						

*IDC **16** 21:51:06.1±3.7, 36°75N×71°65E, h92km±30km, mb3.5/5, mbtmp3.8/11, Error ellipse: s-maj=35.5km s-min=24.4km az=3.0*
*NNC **16** 21:51:10.6±12.0, 37°45N×71°14E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=124.1km s-min=78.3km az=162.0*

ISC 16 21:51:08.4±1.3, 37°0N±0°1.0×71°46E±0°09, h106km, n21, σ1§46/24, mb3.6/5, 1C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**5.73**	**23**	P	**Pn**	**21 52 32.4**	**+1.0**
	SNR=7.6						
EKS2	**Erkin-Say**	**5.94**	**17**	P	**Pn**	**21 52 35.0**	**+1.2**
	SNR=14						
AAK	**Ala-Archa**	**6.10**	**22**	P	**Pn**	**21 52 37.0**	**+0.9**
	SNR=24						
AAK	**Ala-Archa**	**6.10**	**22**	P	**Pn**	**21 52 37.3**	**+1.1**
	18nm,0.4s,baz=190,slow=6.2,SNR=155						
AAK				S	**Sn**	**21 53 43.1**	**-1.5**
	5.5nm,0.6s,baz=143,slow=20,SNR=8.6						
KK31	**Karatay Array**	**6.14**	**354**	P	**Pn**	**21 52 37.6**	**+1.0**
	1.1nm,0.2s,baz=177,slow=13,SNR=57						
KK31				⇑S	**Sn**	**21 53 42.6**	**-2.9**
	7.0nm,0.5s,baz=173,slow=23,SNR=5.2						
CHMS	**Chumysh**	**6.51**	**22**	P	**Pn**	**21 52 42.3**	**+0.7**
	SNR=15						
USP	**Ospenovka**	**6.68**	**19**	P	**Pn**	**21 52 44.5**	**+0.6**
	SNR=8.2						
GEYT	**Alibeck**	**10.65**	**279**	P	**Pn**	**21 53 37.6**	**-0.2**
	3.0nm,0.4s,baz=104,slow=12,SNR=15						
GEYT				S	**Sn**	**21 55 31.9**	**-3.0**
	2.4nm,0.7s,baz=123,slow=16,SNR=4.2						
MKAR	**Makanchi Array**	**12.68**	**36**	P	**Pn**	**21 54 03.9**	**-0.8**
	0.4nm,0.7s,baz=230,slow=11,SNR=3.2						
KURBB	**Kurchatov Arra**	**14.54**	**18**	P	**P**	**21 54 32.1**	**-0.2**
	0.4nm,0.5s,baz=204,slow=11,SNR=4.7						
AB31	**Akbulak array**	**14.84**	**329**	P	**Pn**	**21 54 32.5**	**-0.1**
	0.3nm,0.3s,baz=169,slow=9.7,SNR=35						
BVAR	**Borovoye Array**	**16.05**	**358**	P	**P**	**21 54 50.3**	**+1.2**
	0.3nm,0.4s,baz=193,slow=5.8,SNR=3.0						
AKTO	**Aktyubinsk**	**16.54**	**329**	P	**P**	**21 54 55.4**	**+0.8**
	4.0nm,0.7s,baz=137,slow=8.4,SNR=7.5						
AKTO	**Aktyubinsk**	**16.54**	**329**	⇓P	**P**	**21 54 55.9**	**+1.3**
	2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**19.31**	**24**	P	**P**	**21 55 24.1**	**-0.8**
	0.5nm,0.4s,baz=230,slow=14,SNR=3.6						
AKASG	**Malin Array Be**	**32.93**	**308**	P	**P**	**21 57 34.5**	**+2.1**
	0.3nm,0.4s,baz=79,slow=6.4,SNR=2.2 0.3nm,0.4s						
FINES	**FINESS Array B**	**37.28**	**326**	P	**P**	**21 58 11.1**	**+1.4**
	0.8nm,0.3s,baz=122,slow=8.9,SNR=15 0.8nm,0.3s						
HFS	**Hagfors**	**42.91**	**322**	P	**P**	**21 58 57.4**	**+1.3**
	2.4nm,0.5s,baz=93,slow=10,SNR=15 2.4nm,0.5s						
NB2	**NORSAR Subarra**	**44.21**	**323**	P	**P**	**21 59 07.5**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=94,slow=8.6						
NOA	**NORSAR Array B**	**44.21**	**323**	P	**P**	**21 59 07.6**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=103,slow=7.0,SNR=4.4 comp=Z,0.4nm,0.4s						
ASAR	**Alice Springs**	**84.24**	**125**	P	**P**	**22 03 26.4**	**-1.9**
	comp=Z,0.2nm,0.6s,baz=330,slow=5.4,SNR=1.5 comp=Z,0.2nm,0.6s						

*IDC **16** 21:54:13.9±1.3, 35°60N×22°85E, h0km, mb3.7/9, mbtmp3.6/13, ML3.3/4, MS3.0/3, Error ellipse: s-maj=26.1km s-min=17.0km az=22.0*
*ATH **16** 21:54:18.1, 35°26N×22°85E, h9km±2km, ML3.2/5, Error ellipse: s-maj=4.2km s-min=1.4km az=48.0*
*THE **16** 21:54:18.4, 35°27N×22°87E, h7km±1km, MD3.1/7, Error ellipse: s-maj=1.5km s-min=0.8km az=63.0*

ISC 16 21:54:16.7±1.3, 35°28N±0°1.0×22°68E±0°09, h37km±2km, n47, σ2§31/56, mb3.6/9, MS2.9/3, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.77**	**41**	P	**Pn**	**21 54 31.5**	**+0.5**
ANKY				S	**Sn**	**21 54 41.5**	**0.0**
	3µm,0.6s						
ANKY	**Antikythira Is**	**0.77**	**41**	P	**Pn**	**21 54 31.6**	**+0.5**
ANKY				S	**Sn**	**21 54 41.5**	**0.0**
ANKY				AML	AML	21 54 43.4	
	comp=N,6532µm,0.6s						
ANKY				AML	AML	21 54 46.1	
	comp=E,6238µm,0.7s						
RODP	**Rodopos**	**0.92**	**72**	P	**Pn**	**21 54 33.9**	**+0.8**
RODP				S	**Sn**	**21 54 45.0**	**-0.2**
	comp=E,302nm,0.6s						
IMMV	**Iera Moni Meta**	**1.08**	**80**	P	**Pn**	**21 54 36.2**	**+0.9**
IMMV				S	**Sn**	**21 54 49.2**	**+0.3**
	comp=E,1µm,0.8s						
IMMV	**Iera Moni Meta**	**1.08**	**80**	P	**Pn**	**21 54 36.2**	**+0.9**
IMMV				S	**Sn**	**21 54 48.0**	**-1.0**
IMMV				AML	AML	21 54 51.9	
	comp=E,2585µm,0.6s						
IMMV				AML	AML	21 54 57.4	
	comp=N,2852µm,0.9s						
CHAN	**Chania**	**1.14**	**78**	P	**Pn**	**21 54 37.1**	**+1.0**
CHAN				S	**Sn**	**21 54 50.4**	**+0.1**
CHAN				AML	AML	21 54 55.7	
	comp=E,2921µm,0.7s						
CHAN				AML	AML	21 54 58.2	
	comp=N,2431µm,0.7s						
GVD	**Gavdhos**	**1.23**	**111**	P	**Pn**	**21 54 38.6**	**+1.2**
GVD				S	**Sn**	**21 54 54.8**	**+2.0**
	comp=N,872nm,0.5s						
GVD	**Gavdhos**	**1.23**	**111**	P	**Pn**	**21 54 38.9**	**+1.5**
GVDS	**Gavdos**	**1.24**	**110**	P	**Pn**	**21 54 38.5**	**+1.1**
GVDS				S	**Sn**	**21 54 53.5**	**+0.7**
	comp=N,538nm,0.5s						
VLI	**Velíai**	**1.45**	**8**	P	**Pn**	**21 54 43.2**	**+2.8**
VLI				S	**Sn**	**21 55 04.1**	**+6.0**
	comp=N,758nm,0.7s						
VLI	**Velíai**	**1.45**	**8**	P	**Pn**	**21 54 43.9**	**+3.5**
VLI				S	**Sn**	**21 55 03.0**	**+4.9**
VLI				AML	AML	21 55 08.7	
	comp=N,1776µm,0.7s						
VLI				AML	AML	21 55 09.2	
	comp=E,1251µm,0.7s						
PRNS	**Prines Rethymn**	**1.49**	**86**	P	**Pn**	**21 54 41.7**	**+0.8**
PRNS				S	**Sn**	**21 55 00.1**	**+1.0**
PYL	**PYLOS**	**1.78**	**335**	P	Pn	21 54 50.1	+5.2
PYL	**PYLOS**	**1.78**	**335**	P	**Pn**	**21 54 49.5**	**+4.6**
IDI	**Anoyia**	**1.81**	**89**	P	**Pn**	**21 54 46.3**	**+1.0**
IDI				S	**Sn**	**21 55 09.0**	**+2.0**
	comp=E,202nm,1.0s						
IDI	**Anoyia**	**1.81**	**89**	Pn	**Pn**	**21 54 46.6**	**+1.3**
	comp=E,0.1nm,0.3s,baz=276,slow=14,SNR=52						
IDI				Sn	**Sn**	**21 55 09.0**	**+2.0**
	comp=E,0.2nm,0.3s,baz=309,slow=20,SNR=6.9						
IDI	**Anoyia**	**1.81**	**89**	P	**Pn**	**21 54 46.3**	**+1.0**
IDI				S	**Sn**	**21 55 08.6**	**+1.6**
IDI				AML	AML	21 55 22.9	
	comp=N,614µm,0.6s						
IDI				AML	AML	21 55 30.3	
	comp=E,324µm,0.8s						
IACM	**Heraklion**	**1.96**	**89**	P	**Pn**	**21 54 49.2**	**+1.9**
KSTL	**Kastelli Herak**	**1.96**	**89**	P	Pn	21 54 52.4	+5.1
GUR	**Goura**	**2.66**	**354**	P	**Pn**	**21 55 01.3**	**+4.1**
DRO	**Drossia**	**2.78**	**344**	P	**Pn**	**21 55 02.0**	**+3.3**
KLV	**Kalavryta, Ach**	**2.79**	**351**	P	**Pn**	**21 55 03.5**	**+4.7**
ZKR	**Zakros**	**2.90**	**92**	P	**Pn**	**21 55 02.1**	**+1.8**
STON	**Ston**	**8.51**	**334**	*e*Pn	**Pn**	**21 56 16.8**	**-0.4**
MAKA	**Makarska**	**9.12**	**333**	*e*Pn	**Pn**	**21 56 27.2**	**+1.6**
MAKA				Sn	**Sn**	**21 58 02.3**	**-4.6**
HVAR	**Hvar**	**9.25**	**330**	*e*Pn	**Pn**	**21 56 28.3**	**+0.9**
RICI	**Ricice**	**9.26**	**334**	*e*Pn	**Pn**	**21 56 28.5**	**+0.9**
BRTR	**Keskin Array B**	**9.77**	**60**	Pn	**Pn**	**21 56 34.1**	**-0.7**
	comp=E,0.1nm,0.3s,baz=235,slow=14,SNR=8.3 comp=E,1.2nm,0.8s						
KIJV	**Kijevo**	**9.96**	**333**	*e*Pn	**Pn**	**21 56 38.0**	**+0.8**
ZIRJ	**Zirje**	**9.97**	**329**	*e*Pn	**Pn**	**21 56 37.4**	**+0.1**
ZIRJ				Sn	**Sn**	**21 58 20.4**	**-7.4**
VIRC	**Vir**	**10.74**	**329**	*e*Pn	**Pn**	**21 56 48.2**	**+0.4**
MMAI	**Mount Meron Ar**	**10.78**	**98**	Pn	**Pn**	**21 56 49.8**	**+1.2**
	comp=E,0.3nm,0.3s,baz=266,slow=12,SNR=1.6						
MMAI				Sn	Sn	21 58 40.5	-7.5
	comp=E,0.5nm,0.3s,baz=279,slow=32,SNR=2.2 comp=E,1.1nm,0.7s						
EIL	**Elat**	**11.77**	**115**	Sn	Sn	21 58 59.9	-12
	comp=E,0.2nm,0.3s,baz=349,slow=17,SNR=1.7						
GERES	**GERESS Array B**	**15.09**	**337**	Pn	**Pn**	**21 57 46.4**	**-0.7**
	comp=E,0.1nm,0.3s,baz=149,slow=12,SNR=1.3 comp=E,0.3nm,0.3s						
KBZ	**Khabaz**	**17.70**	**55**	P	**Pn**	**21 58 20.0**	**-0.2**
	comp=E,0.1nm,0.3s,baz=236,slow=10,SNR=3.7 comp=E,1.9nm,0.9s						
HFS	**Hagfors**	**25.54**	**350**	P	**P**	**21 59 42.3**	**+0.7**
	comp=E,1.4nm,0.6s,baz=160,slow=12,SNR=8.8 comp=E,1.4nm,0.6s						
FINES	**FINESS Array B**	**26.27**	**4**	P	**P**	**21 59 47.9**	**-0.3**
	comp=E,0.7nm,0.4s,baz=189,slow=9.7,SNR=3.3 comp=E,0.7nm,0.4s						
NOA	**NORSAR Array B**	**26.80**	**348**	P	**P**	**21 59 53.6**	**+0.5**
	comp=E,0.4nm,0.6s,baz=168,slow=6.7,SNR=4.2 comp=E,0.4nm,0.6s						
GEYT	**Alibeck**	**28.47**	**74**	LR	LR	22 14 02.8	
	comp=E,20nm,19.5s,baz=263,slow=42						
TORD	**Torodi Ar. Bea**	**29.07**	**226**	P	P	22 00 18.7	+5.0
	comp=E,0.2nm,0.5s,baz=50,slow=5.7,SNR=1.7 comp=E,0.2nm,0.5s						
ARCES	**ARCESS Array B**	**34.34**	**2**	P	**P**	**22 00 59.2**	**-0.3**
	comp=E,2.9nm,0.9s,baz=185,slow=9.0,SNR=1.6 comp=E,2.9nm,0.9s						
DBIC	**Dimbokro**	**38.10**	**228**	LR	LR	22 17 28.0	
	comp=E,19nm,19.1s,baz=276,slow=36						
KURBB	**Kurchatov Arra**	**42.62**	**51**	P	**P**	**22 02 08.2**	**-1.0**
	comp=E,0.7nm,0.5s,baz=275,slow=8.7,SNR=9.2 comp=E,0.7nm,0.5s						
MKAR	**Makanchi Array**	**45.40**	**56**	P	**P**	**22 02 30.4**	**-1.2**
	comp=E,0.3nm,0.4s,baz=270,slow=7.2,SNR=9.7 comp=E,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**46.38**	**46**	P	**P**	**22 02 38.0**	**-1.2**
	comp=E,0.6nm,0.3s,baz=260,slow=8.9,SNR=4.7 comp=E,0.6nm,0.3s						
FRB	**Frobisher Bay**	**59.52**	**329**	LR	LR	22 34 52.2	
	comp=E,24nm,18.1s,baz=14,slow=41						
YKA	**Yellowknife Ar**	**76.69**	**341**	P	**P**	**22 06 05.1**	**+1.5**
	comp=E,0.1nm,0.6s,baz=36,slow=5.4,SNR=2.2 comp=E,0.1nm,0.6s						

JMA 16 21:58:29.6±0.1, 24°3N±0°3×123°8E±0°4, h15km±1km, MV1.4/9, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.10**	**327**	P	Pg	21 58 32.7	-0.1
IRIF				*e*S	Sg	21 58 35.2	+0.3
HATJ	**Hateruma jima**	**0.20**	**175**	P	Pg	21 58 34.0	-0.1
HATJ				*e*S	Sg	21 58 37.0	-0.2
JKRS	**Kuro-shima**	**0.20**	**95**	*i* P	Pg	21 58 34.4	+0.1
JKRS				S	Sb	21 58 38.1	-0.6
JIJ	**Ishigaki jima**	**0.34**	**71**	P	Pg	21 58 36.4	-0.3
JIJ				*e*S	Sg	21 58 41.2	-0.2
JISG	**Ishigakijimahi**	**0.58**	**55**	*e*P	Pg	21 58 40.9	-0.1
JISG				*e*S	Sb	21 58 49.2	-0.3
JYNG	**Yonagunijimaku**	**0.79**	**284**	*e*S	Sn	21 58 58.0	+0.2
JTJ	**Tarama**	**0.92**	**65**	*e*P	Pb	21 58 47.1	-0.1
JTJ				*e*S	Sg	21 58 60.0	+0.5

TAP 16 21:58:54.5, 24°49N×121°95E, h12km, ML1.5, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESAO	**Su ao**	**0.13**	**313**	P	Pb	21 58 58.5	-0.4
	baz=313						
ESAO				S	Sg	21 59 00.7	+0.6
	baz=313						
TWC	**Suao**	**0.15**	**324**	*i* P	Pb	21 58 58.8	-0.5
	baz=326						
TWC				*i* S	Sg	21 59 00.9	+0.4
	baz=326						
EWUT	**Wuta**	**0.16**	**254**	P	Pb	21 58 59.1	-0.3
	baz=253						
EWUT				S	Sg	21 59 02.7	+1.9
	baz=253						
ENA	**Nanau**	**0.20**	**252**	S	Sg	21 59 02.8	+1.0
	baz=250						
EAHA	**Aohua**	**0.25**	**230**	*e*P	Pb	21 59 00.4	-0.5
	baz=229						
EAHA				*e*S	Sg	21 59 04.7	+1.5
	baz=229						
NDS	**Dongshan**	**0.25**	**304**	S	Sb	21 59 04.8	-0.6
	baz=304						
EOS2	**EOS2**	**0.27**	**105**	P	Pb	21 59 01.1	-0.2
	baz=105						
EOS2				S	Sb	21 59 05.5	-0.2
	baz=105						
LATG	**Datong**	**0.38**	**277**	P	Pb	21 59 03.3	0.0
	baz=276						
LATG				S	Sb	21 59 09.2	0.0
	baz=276						
EOS3	**EOS3**	**0.40**	**121**	S	Sb	21 59 09.3	0.0
	baz=120						
NDT	**Datong Townshi**	**0.41**	**286**	P	Pb	21 59 04.2	+0.5
	baz=285						
NDT				S	Sb	21 59 09.5	-0.4
	baz=285						
FUSB	**Fushanzhiwuyua**	**0.42**	**310**	P	Pb	21 59 03.9	0.0
	baz=309						
FUSB				S	Sb	21 59 09.6	-0.7
	baz=309						
NACB	**Ninganchiao**	**0.45**	**226**	P	Pb	21 59 04.1	-0.2
	baz=225						
NACB				S	Sb	21 59 10.3	-0.7
	baz=225						
TIPB	**Shuangxi**	**0.49**	**347**	P	Pb	21 59 05.5	+0.4
	baz=347						
TIPB				S	Sb	21 59 13.0	+0.7
	baz=347						
NWLT	**Wulai**	**0.49**	**305**	*e*P	Pb	21 59 05.8	+0.7
	baz=305						
NWLT				*e*S	Sb	21 59 11.6	-0.7
	baz=305						
EOS4	**EOS4**	**0.50**	**137**	S	Sb	21 59 12.2	0.0
	baz=137						
ETLH	**Xiulin Townshi**	**0.51**	**236**	P	Pb	21 59 05.4	0.0
	baz=236						
ETLH				S	Sb	21 59 13.0	+0.2
	baz=236						
NNSB	**Datong**	**0.52**	**263**	P	Pb	21 59 05.6	0.0
	baz=263						
NNSB				S	Sb	21 59 13.2	+0.2
	baz=263						
YHNB	**Yeheng**	**0.55**	**289**	*e*P	Pb	21 59 05.7	-0.4
	baz=289						
YHNB				*e*S	Sb	21 59 13.5	-0.4
	baz=289						
FUSS	**Fushou**	**0.68**	**249**	*e*P	Pb	21 59 08.9	+0.4
	baz=249						
FUSS				*e*S	Sb	21 59 18.5	+0.5
	baz=249						
WHF	**Hehuan Shan**	**0.71**	**241**	*e*P	Pb	21 59 09.3	+0.3
	baz=240						
WHF				*e*S	Sb	21 59 19.3	+0.3
	baz=240						

*IDC **16** 22:21:43.2±0.8, 5°87S×142°15E, h0km, mb4.1/13, mbtmp4.1/15, ML2.0/1, MS3.5/27, Error ellipse: s-maj=31.6km s-min=16.0km az=67.0*
*NEIC **16** 22:21:47.9±2.1, 5°9S±0°1×141°4E±0°1, h10km±2km, mb4.3/13, Error ellipse: s-maj=19.8km s-min=16.9km az=196.0*

ISC 16 22:21:47.1±0.6, 5°97S±0°06×141°4E±0°1, h10km, n56, σ1§75/36, mb4.2/17, MS3.5/22, 1D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.64**	**121**	Pn	**Pn**	**22 23 26.6**	**+1.8**
PMG	**Port Moresby**	**6.64**	**121**	Pn	Pn	22 23 15.4	-9.4
	2.3nm,0.3s,baz=214,slow=21,SNR=2.1						
PMG				Lg	Lg	22 24 54.3	
	0.1nm,0.3s,baz=240,slow=19,SNR=0.9						
PMG				LR	LR	22 26 24.0	
	comp=Z,99nm,21.5s,baz=302,slow=46 5.5nm,0.4s						
COEN	**Coen**	**8.12**	**168**	Pn	**Pn**	**22 23 46.4**	**+1.2**
CTA	**Charters Tower**	**14.80**	**162**	Lg	Lg	22 29 29.2	
	0.2nm,0.3s,baz=90,slow=14,SNR=2.5						
CTA				LR	LR	22 30 56.5	
	comp=Z,291nm,18.8s,baz=0.0,slow=38						
WB0	**Warramunga Arr**	**15.32**	**206**		**Pn**	**22 25 23.8**	**+0.2**
WB0				IAmb	IAmb	22 25 43.6	
	comp=Z,19nm,1.1s						
WR0	**Warramunga Arr**	**15.43**	**205**		**Pn**	**22 25 23.2**	**-1.8**
WR0				IAmb	IAmb	22 25 36.4	
	comp=Z,12nm,0.8s						
WRAB	**Tennant Creek**	**15.48**	**206**		**Pn**	**22 25 27.2**	**+1.5**
WRAB				IAmb	IAmb	22 25 45.3	
	comp=Z,10nm,0.7s						
WB2	**Warramunga Arr**	**15.49**	**206**		**Pn**	**22 25 24.8**	**-1.1**
WB2				IAmb	IAmb	22 25 38.8	
	comp=Z,14nm,1.1s						
WRA	**Warramunga Arr**	**15.50**	**206**	Pn	**Pn**	**22 25 25.9**	**0.0**
WRA	**Warramunga Arr**	**15.50**	**206**	Pn	**Pn**	**22 25 25.7**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=22,slow=13,SNR=14						
WRA				Sn	**Sn**	**22 28 16.2**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=108,slow=12,SNR=2.7						
WRA				Lg	Lg	22 30 08.2	
	comp=Z,0.3nm,0.3s,baz=30,slow=28,SNR=2.3						
KNRA	**Kununurra**	**15.72**	**231**		**Pn**	**22 25 30.2**	**+1.4**
BATI	**Baumata**	**18.07**	**255**	LR	LR	22 35 18.9	
	comp=Z,302nm,18.3s,baz=94,slow=43						
HNR	**Honiara**	**18.68**	**102**	P	**Pn**	**22 26 08.5**	**+2.5**
HNR	**Honiara**	**18.68**	**102**	LR	LR	22 32 51.6	
	comp=Z,927nm,18.8s,baz=303,slow=37						
AS31	**Alice Springs**	**19.02**	**202**	P	**P**	**22 26 10.6**	**+1.2**
ASAR	**Alice Springs**	**19.02**	**202**	P	**P**	**22 26 10.6**	**+1.2**
ASAR	**Alice Springs**	**19.02**	**202**	P	**P**	**22 26 10.3**	**+1.0**
	comp=Z,5.0nm,0.9s,baz=28,slow=9.4,SNR=26						
ASAR				S	**Sn**	**22 29 40.7**	**-2.5**
	comp=Z,1.2nm,0.7s,baz=24,slow=22,SNR=4.2						
ASAR				Lg	Lg	22 31 58.0	
	baz=23,slow=32						
ASAR				LR	LR	22 34 16.2	
	comp=Z,1µm,20.1s,baz=28,slow=39						
FITZ	**Fitzroy Crossi**	**19.55**	**231**		**Pn**	**22 26 19.5**	**+3.0**
STKA	**Stephens Creek**	**25.77**	**180**	P	**P**	**22 27 18.4**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=340,slow=14,SNR=4.5						
STKA				LR	LR	22 38 36.8	
	comp=Z,227nm,19.9s,baz=7.7,slow=39 comp=Z,1.9nm,0.7s						
JCJ	**Chichijima**	**32.88**	**1**	LR	LR	22 38 36.1	
	comp=Z,64nm,20.7s,baz=168,slow=31						
LEM	**Lembang**	**33.59**	**267**	LR	LR	22 43 51.4	
	comp=Z,77nm,21.5s,baz=96,slow=39						
JOW	**Kunigami**	**35.01**	**339**	LR	LR	22 39 57.9	
	comp=Z,86nm,21.1s,baz=358,slow=31						
NWAO	**Narrogin (SRO)**	**35.01**	**217**	LR	LR	22 43 55.3	
	comp=Z,283nm,20.8s,baz=115,slow=38						
JNU	**Nakatsue**	**40.15**	**346**	LR	LR	22 45 23.9	
	comp=Z,35nm,18.8s,baz=166,slow=35						
KSRS	**Korea Array**	**45.00**	**345**	P	**P

PALK	**Pallekele**	**61.98**	**281**	LR	LR	23 04 14.0		
	comp=Z,33nm,18.1s,baz=230,slow=41							
SHEM	**Shemya Is, Ala**	**64.72**	**21**	LR	LR	22 54 11.3		
	comp=Z,74nm,20.3s,baz=27,slow=30							
MA2	**Magadan**	**65.76**	**5**	LR	LR	22 58 15.4		
	comp=Z,19nm,20.7s,baz=134,slow=33							
YAK	**Yakutsk**	**68.41**	**354**	LR	LR	23 00 58.3		
	comp=Z,23nm,19.5s,baz=106,slow=34							
SEY	**Seymchan**	**69.22**	**5**	P	**P**	**22 32 51.1**	**-2.7**	
	comp=Z,0.5nm,0.4s,baz=198,slow=20,SNR=2.7							
	comp=Z,0.5nm,0.4s							
MK31	**Makanchi Array**	**74.00**	**322**	P	**P**	**22 33 23.7**	**+0.6**	
MK31				IAmb	IAmb	22 33 26.9		
	comp=Z,3.8nm,0.9s							
MKAR	**Makanchi Array**	**74.00**	**322**	P	**P**	**22 33 23.3**	**+0.2**	
	comp=Z,3.5nm,0.8s,baz=105,slow=7.6,SNR=25							
	comp=Z,3.5nm,0.8s							
MAKZ	**Makanchi**	**74.20**	**322**	P	**P**	**22 33 23.4**	**-0.8**	
ZALV	**Zalesovo Beam**	**76.10**	**329**	P	**P**	**22 33 34.9**	**-0.1**	
	comp=Z,1.3nm,0.7s,baz=105,slow=3.4,SNR=3.4							
ZALV				LR	LR	23 08 02.2		
	comp=Z,22nm,19.3s,baz=44,slow=36							
	comp=Z,1.3nm,0.7s							
TIXI	**Tiksi**	**77.91**	**356**	LR	LR	23 06 14.4		
	comp=Z,15nm,20.4s,baz=201,slow=34							
KURBB	**Kurchatov Arra**	**77.93**	**325**	P	**P**	**22 33 45.1**	**-0.3**	
	comp=Z,1.7nm,0.6s,baz=116,slow=4.9,SNR=11							
	comp=Z,1.7nm,0.6s							
KDAK	**Kodiak Island**	**82.56**	**30**	LR	LR	23 04 31.7		
	comp=Z,48nm,20.9s,baz=250,slow=31							
BVAR	**Borovoye Array**	**83.51**	**325**	P	**P**	**22 34 14.2**	**-1.0**	
	comp=Z,5.5nm,0.9s,baz=109,slow=5.3,SNR=23							
	comp=Z,5.5nm,0.9s							
NRIK	**Noril'sk**	**83.60**	**343**	P	**P**	**22 34 14.2**	**-1.1**	
	comp=Z,1.1nm,0.3s,baz=150,slow=1.4,SNR=5.7							
	comp=Z,1.1nm,0.3s							
QSPA	**South Pole Qui**	**83.99**	**180**	P	**P**	**22 34 14.4**	**-3.2**	
	comp=Z,1.7nm,1.0s,baz=309,slow=8.9,SNR=2.5							
	comp=Z,1.7nm,1.0s							
ILAR	**Eielson Array**	**87.68**	**24**	LR	LR	23 10 47.1		
	comp=Z,25nm,21.2s,baz=211,slow=34							
GEYT	**Alibeck**	**88.36**	**308**	P	**P**	**22 34 39.0**	**-0.7**	
	comp=Z,1.1nm,0.8s,baz=58,slow=8.7,SNR=2.3							
	comp=Z,1.1nm,0.8s							
INK	**Inuvik**	**93.68**	**22**	LR	LR	23 10 09.4		
	comp=Z,40nm,21.8s,baz=183,slow=31							
DLBC	**Dease Lake**	**94.29**	**32**	LR	LR	23 18 16.2		
	comp=Z,26nm,18.7s,baz=274,slow=36							
BBB	**Bella Bella**	**94.96**	**38**	LR	LR	23 13 03.7		
	comp=Z,35nm,18.8s,baz=265,slow=33							
TORD	**Torodi Ar. Bea**	**139.69**	**283**	PKP	**PKPdf**	**22 41 15.7**	**-0.6**	
	comp=Z,0.3nm,0.8s,baz=76,slow=2.5,SNR=1.9							

IDC ***16*** *22:33:31.6±1.2,53.˚31N×160.˚28E,h0km,mb3.8/12, mbtmp3.8/12,Error ellipse: s-maj=32.3km s-min=16.7km az=165.0*

KRSC ***16*** *22:33:36.2±0.9,53.˚14N×160.˚27E,h44.4km±7.7km,Ml4.1*

ISC 16 22:33:33.1±1.6,53.˚23N±0.˚05×160.˚40E±0.˚05,h12km±9km, n52,σ1°35/64,mb3.9/12,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.26**	**241**	*eP*	**Pn**	**22 33 44.6**	**+1.8**
SPN				*eS*	**Sb**	**22 33 49.8**	**+5.6**
NLC	**Nalytchevo**	**0.64**	**265**	*eP*	**Pn**	**22 33 48.7**	**+0.8**
NLC				*eS*	**Sn**	**22 33 57.1**	**-0.9**
SMAR	**Somma**	**0.96**	**273**	*eP*	**Pn**	**22 33 53.6**	**+1.0**
SMAR				*eS*	**Sn**	**22 34 05.6**	**-0.8**
KII	**Karymskiy**	**0.99**	**325**	*eP*	**Pn**	**22 33 55.5**	**+2.6**
KII				*eS*	**Sn**	**22 34 08.3**	**+1.4**
KRER	**Koryakskii**	**1.00**	**275**	*eP*	**Pn**	**22 33 54.4**	**+1.3**
KRER				*eS*	**Sn**	**22 34 07.0**	**-0.2**
AVH	**Avacha**	**1.00**	**273**	*eP*	**Pn**	**22 33 54.5**	**+1.4**
AVH				*eS*	**Sn**	**22 34 07.1**	**0.0**
DALK	**Dalny**	**1.01**	**259**	*eP*	**Pn**	**22 33 53.5**	**+0.4**
DALK				*eS*	**Sb**	**22 34 05.9**	**+0.1**
KRX	**Arik**	**1.06**	**278**	*eP*	**Pn**	**22 33 54.9**	**+1.0**
KRX				*eS*	**Sn**	**22 34 07.8**	**-0.9**
KOK	**Koryaka**	**1.06**	**274**	*eP*	**Pn**	**22 33 55.2**	**+1.3**
PET	**Petropavlovsk**	**1.07**	**260**	*eP*	**Pn**	**22 33 54.7**	**+0.7**
PET				*eS*	**Sb**	**22 34 07.2**	**-0.3**
INSR	**Institute**	**1.09**	**262**	*eP*	**Pn**	**22 33 55.4**	**+1.1**
INSR				*eS*	**Sg**	**22 34 08.4**	**0.0**
RUS	**Russkaya**	**1.40**	**236**	*eP*	**Pn**	**22 33 58.5**	**+0.2**
RUS				*eS*	**Sn**	**22 34 14.2**	**-2.5**
KRMR	**Karymshinskiy**	**1.43**	**255**	*eP*	**Pn**	**22 33 59.4**	**+0.6**
KRMR				*eS*	**Sn**	**22 34 15.9**	**-1.6**
MTVR	**Mutnovka**	**1.54**	**242**	*eP*	**Pn**	**22 34 01.2**	**+0.7**
MTVR				*eS*	**Sn**	**22 34 18.8**	**-1.6**
GNL	**Ganaly**	**1.54**	**289**	*eP*	**Pg**	**22 34 02.5**	**-0.2**
PETK	**Petropavlovsk-**	**1.63**	**267**	Pn	**Pn**	**22 34 02.5**	**+0.9**
	29nm,0.3s,baz=70,slow=14,SNR=455						
PETK				Sn	**Sn**	**22 34 22.8**	**+0.2**
	56nm,0.3s,baz=86,slow=39,SNR=12						
ASAK	**Asacha**	**1.74**	**242**	*eP*	**Pn**	**22 34 04.6**	**+1.4**
ASAK				*eS*	**Sn**	**22 34 25.0**	**-0.3**
APC	**Apacha**	**1.98**	**263**	*eP*	**Pn**	**22 34 08.9**	**-0.1**
APC				*eS*	**Sb**	**22 34 34.0**	**+0.3**
TUMD	**Tumrok D**	**1.98**	**360**	*eP*	**Pg**	**22 34 10.0**	**-1.0**
TUMD				*eS*	**Sb**	**22 34 34.0**	**+0.3**
KDTR	**Khodutka, Kamc**	**2.01**	**226**	*eP*	**Pn**	**22 34 07.4**	**+0.6**
KDTR				*eS*	**Sn**	**22 34 30.3**	**-1.5**
TUMR	**Tumrok**	**2.07**	**356**	*eP*	**Pg**	**22 34 12.0**	**-0.6**
KMNR	**Kamenistaya**	**2.54**	**358**	*eP*	**Pb**	**22 34 19.0**	**+0.4**
BZMR	**Bezymyannaya**	**2.71**	**1**	*eP*	**Pb**	**22 34 22.3**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**2.72**	**3**	*eP*	**Pb**	**22 34 21.8**	**0.0**
KIRR	**Kirishev**	**2.73**	**359**	*eP*	**Pb**	**22 34 22.0**	**+0.1**
BZWR	**Bezymyannyi-We**	**2.74**	**1**	*eP*	**Pb**	**22 34 22.1**	**0.0**
KPT	**Kopyto**	**2.75**	**358**	*eP*	**Pb**	**22 34 21.7**	**-0.5**
ZLN	**Zelenaya**	**2.81**	**5**	*eP*	**Pb**	**22 34 23.4**	**+0.2**
PAU	**Pauzhetka**	**2.82**	**233**	*eP*	**Pn**	**22 34 21.3**	**+3.4**
LGNR	**Loginova**	**2.87**	**3**	*eP*	**Pb**	**22 34 25.9**	**+1.6**
ESO	**Esso**	**2.88**	**341**	*eP*	**Pb**	**22 34 22.5**	**-1.9**
CIRR	**Tsirk**	**2.93**	**4**	*eP*	**Pb**	**22 34 25.9**	**+1.1**
KRSR	**Krestovskiy**	**3.00**	**2**	*eP*	**Pb**	**22 34 24.6**	**-1.9**
KBG	**Krutoberegovo**	**3.31**	**23**	*eP*	**Pb**	**22 34 30.2**	**-1.6**
ILAR	**Eielson Array**	**28.59**	**45**	P	**P**	**22 39 29.7**	**+1.0**
	0.6nm,0.8s,baz=258,slow=8.8,SNR=6.0						
	0.6nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**33.81**	**169**	T	T	23 15 54.5		
	baz=353,slow=76,SNR=32							
H11N3	**WAKE ISLAND Hy**	**33.82**	**169**	T	T	23 15 55.3		
	baz=353,slow=76,SNR=23							
H11N1	**WAKE ISLAND Hy**	**33.83**	**169**	T	T	23 15 55.5		
	baz=353,slow=76,SNR=29							
H11S1	**WAKE ISLAND Hy**	**34.99**	**170**	T	T	23 17 46.2		
	baz=352,slow=76,SNR=7.1							
H11S3	**WAKE ISLAND Hy**	**35.01**	**170**	T	T	23 17 21.5		
	baz=352,slow=76,SNR=12							
H11S2	**WAKE ISLAND Hy**	**35.01**	**170**	T	T	23 17 52.0		
	baz=352,slow=76,SNR=5.9							
YKA	**Yellowknife Ar**	**42.94**	**43**	P	**P**	**22 41 32.0**	**+0.7**	
	0.1nm,0.3s,baz=302,slow=8.5,SNR=3.8							
	0.1nm,0.3s							
SPITS	**Spitsbergen Ar**	**47.03**	**350**	P	**P**	**22 42 03.0**	**-0.7**	
	2.9nm,0.7s,baz=75,slow=7.6,SNR=6.9							
	2.9nm,0.7s							
KURBB	**Kurchatov Arra**	**47.92**	**302**	P	**P**	**22 42 10.8**	**-0.1**	
	0.5nm,0.5s,baz=60,slow=7.6,SNR=4.5							
	0.5nm,0.5s							
MKAR	**Makanchi Array**	**48.26**	**296**	P	**P**	**22 42 13.4**	**-0.2**	
	0.2nm,0.4s,baz=68,slow=6.9,SNR=4.4							
	0.2nm,0.4s							
BVAR	**Borovoye Array**	**50.45**	**308**	P	**P**	**22 42 30.0**	**-0.3**	
	0.6nm,0.5s,baz=57,slow=7.9,SNR=5.2							
	0.6nm,0.5s							
ARCES	**ARCESS Array B**	**53.22**	**342**	P	**P**	**22 42 50.2**	**-0.5**	
	3.0nm,0.9s,baz=52,slow=9.3,SNR=1.5							
	3.0nm,0.9s							
FINES	**FINESS Array B**	**60.07**	**337**	P	**P**	**22 43 38.0**	**-1.4**	
	2.0nm,0.9s,baz=36,slow=7.4,SNR=2.3							
	2.0nm,0.9s							
TXAR	**Lajitas Array**	**70.41**	**67**	P	**P**	**22 44 48.4**	**+1.3**	
	0.4nm,0.5s,baz=299,slow=4.0,SNR=7.1							
	0.4nm,0.5s							
EKA	**Eskdalemuir Ar**	**70.96**	**350**	P	**P**	**22 44 49.5**	**-0.4**	
	2.9nm,0.8s,baz=18,slow=5.6,SNR=3.9							
	2.9nm,0.8s							
ASAR	**Alice Springs**	**79.96**	**205**	P	**P**	**22 45 41.4**	**-0.4**	
	0.2nm,0.4s,baz=18,slow=5.6,SNR=2.1							
	0.2nm,0.4s							
MMAI	**Mount Meron Ar**	**81.74**	**316**	P	**P**	**22 45 50.4**	**-1.1**	
	1.4nm,0.8s,baz=31,slow=3.4,SNR=4.4							
	1.4nm,0.8s							

WEL 16 22:37:22.9,38.˚S±3.˚×17.˚7E±.˚,h9km±2km,M3.3/36, ML3.5/37,MLv3.3/36,Error ellipse: s-maj=0.0km s-min=0.0km az=145.1,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.02**	**44**	P	Pg	22 37 24.9	+0.4
WIZ				S	Sg	22 37 26.0	+0.4
WSRZ	**White Island S**	**0.02**	**6**	P	Pg	22 37 25.0	+0.5
WSRZ				S	Sg	22 37 26.6	+0.9
WHRZ	**Whale Island**	**0.35**	**207**	P	Pb	22 37 31.6	+0.2
HAZ	**Te Kaha**	**0.53**	**114**	P	Pg	22 37 33.7	+0.5
HAZ				S	Sb	22 37 41.4	-0.7
RUGZ	**Raukumara Rang**	**0.58**	**137**	P	Pg	22 37 34.3	0.0
MARZ	**Manawahe**	**0.60**	**222**	P	Pb	22 37 35.5	0.0
EDRZ	**Edgecumbe**	**0.66**	**211**	P	Pb	22 37 36.6	-0.1
URZ	**Urewera**	**0.72**	**184**	P	Pg	22 37 36.7	-0.1
TGRZ	**Tauranga**	**0.75**	**255**	P	Pb	22 37 37.9	-0.2
MYRZ	**Mayor Island**	**0.79**	**289**	P	Pb	22 37 38.6	-0.2
PKGZ	**Pakihiroa**	**0.80**	**116**	P	Pb	22 37 38.7	-0.3
MKRZ	**Makatiti**	**0.82**	**223**	P	Pn	22 37 41.4	+0.6
MWZ	**Matawai**	**0.84**	**161**	P	Pg	22 37 39.0	-0.1
OMRZ	**Omania**	**0.85**	**228**	P	Pb	22 37 40.1	+0.2
TARZ	**Mount Tarawera**	**0.88**	**217**	P	Pn	22 37 41.0	-0.5
KARZ	**Kaharoa**	**0.88**	**237**	P	Pb	22 37 40.5	+0.1
MXZ	**Matakaoa Point**	**0.90**	**92**	P	Pg	22 37 40.3	+0.1
TWGZ	**Tauwhareparae**	**0.90**	**135**	P	Pb	22 37 40.8	+0.1
NGRZ	**Ngongotaha**	**0.96**	**234**	P	Pn	22 37 42.5	-0.2
HLRZ	**Highlands Stat**	**0.96**	**222**	P	Pn	22 37 47.4	+4.7
RAGZ	**Rawiri**	**0.97**	**169**	P	Pg	22 37 41.7	+0.1
PUZ	**Puketiti**	**1.01**	**122**	P	Pn	22 37 43.1	-0.2
WMGZ	**Waiomatatini S**	**1.02**	**106**	P	Pn	22 37 44.3	+0.8
KMRZ	**Kaimai**	**1.02**	**252**	P	Pn	22 37 43.8	+0.3
RTZ	**Ruatahuna**	**1.09**	**188**	P	Pg	22 37 43.1	-0.7
HRRZ	**Handcock Road**	**1.10**	**219**	P	Pn	22 37 48.7	+4.1
PRRZ	**Plateau Road**	**1.14**	**213**	P	Pn	22 37 45.6	+0.5
CNGZ	**Carnagh Statio**	**1.25**	**139**	P	Pg	22 37 47.7	+0.8
SNGZ	**Shannon Statio**	**1.25**	**174**	P	Pg	22 37 47.1	+0.2
RIGZ	**Rimuhau**	**1.25**	**159**	P	Pg	22 37 47.3	+0.3
MTHZ	**Maungataniwha**	**1.34**	**191**	P	Pn	22 37 48.0	+0.1
TOZ	**Tahuroa Road**	**1.34**	**261**	P	Pn	22 37 46.1	-1.7
RAHZ	**Arahi**	**1.38**	**183**	P	Pg	22 37 49.3	0.0
KUZ	**Kuaotunu**	**1.41**	**304**	P	Pn	22 37 46.6	-2.1
PRGZ	**Paritu Road**	**1.49**	**158**	P	Pg	22 37 51.9	+0.4
TLZ	**Tolley Road**	**1.52**	**238**	P	Pg	22 37 54.1	+2.1
WHHZ	**Waihua**	**1.54**	**178**	P	Pg	22 37 53.5	+1.1
NMHZ	**Naumai**	**1.58**	**190**	P	Pg	22 37 53.6	+0.3
MKAZ	**Moumakai**	**1.66**	**284**	P	Pn	22 37 50.7	-1.5
BKZ	**Black Stump Fm**	**1.71**	**198**	P	Pn	22 37 53.8	+0.8
MHGZ	**Mahia Peninsul**	**1.71**	**161**	P	Pg	22 37 57.7	+1.9
ARHZ	**Aropaoanui**	**1.73**	**185**	P	Pb	22 37 54.4	-0.4
WIAZ	**Waiheke Island**	**1.79**	**294**	P	Pn	22 37 53.4	-0.6
GRZ	**Great Barrier**	**1.88**	**313**	P	Pn	22 37 54.0	-1.2
ETAZ	**East Tamaki Re**	**1.89**	**287**	P	Pn	22 37 54.7	-0.6
MCHZ	**McNeill Hill**	**1.94**	**191**	P	Pb	22 37 58.5	+0.1
NTVZ	**North Tongarir**	**1.95**	**217**	P	Pg	22 38 00.7	+0.4
TMVZ	**Te Maari**	**1.95**	**216**	P	Pg	22 38 00.5	+0.1
KWHZ	**Kiwaiwa Forest**	**1.97**	**197**	P	Pn	22 37 57.8	+1.2
MBAZ	**Motutapu North**	**1.98**	**292**	P	Pn	22 37 55.6	-0.9
WTVZ	**West Tongariro**	**2.01**	**218**	P	Pg	22 38 02.0	+0.6
NNVZ	**North Ngauruho**	**2.01**	**217**	P	Pg	22 38 02.1	+0.7
OTVZ	**Oturere**	**2.01**	**216**	P	Pb	22 37 59.8	+0.1
SNVZ	**South Ngauruho**	**2.04**	**216**	P	Pg	22 38 01.7	-0.4
NGZ	**Ngauruhoe**	**2.05**	**217**	P	Pg	22 38 02.0	-0.2
AWAZ	**Awhitu Peninsu**	**2.07**	**282**	P	Pn	22 37 58.8	+0.9
BHHZ	**Black Hill Sta**	**2.13**	**204**	P	Pb	22 38 01.1	-0.7
WTAZ	**Waiatarua**	**2.16**	**285**	P	Pb	22 38 03.0	+0.8
WNVZ	**Wahianoa**	**2.17**	**214**	P	Pb	22 38 02.7	+0.2
MOVZ	**Moawhango**	**2.17**	**210**	P	Pb	22 38 02.0	-0.5
KRHZ	**Kereru**	**2.19**	**196**	P	Pn	22 38 00.3	+0.7
KAHZ	**Kahuranaki**	**2.26**	**186**	P	Pn	22 38 01.7	+1.1
PNHZ	**Pukenui**	**2.49**	**198**	P	Pn	22 38 04.3	+0.6
PXZ	**Pawanui**	**2.50**	**186**	P	Pn	22 38 03.2	-0.6
WCZ	**Waipu Caves**	**2.78**	**304**	P	Pn	22 38 07.1	-0.5
MRZ	**Mangatainoka R**	**3.36**	**201**	P	Pn	22 38 18.5	+3.0
OUZ	**Omahuta**	**3.70**	**308**	P	Pn	22 38 20.0	-0.2

IDC ***16*** *22:41:42.5±1.1,6.˚16S×142.˚21E,h0km,mb3.7/5, mbtmp3.7/8,ML3.7/2,Error ellipse: s-maj=36.3km s-min=24.0km az=66.0*

ISC 16 22:41:44.3±0.9,6.˚3S±0.˚1×142.˚1E±0.˚1,h10km,n10, σ2°38/12,mb3.8/5,2C,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.84**	**122**	Pn	**Pn**	**22 43 10.7**	**-0.3**
	12nm,0.5s,baz=311,slow=18,SNR=5.6						
PMG				Sn	**Sn**	**22 44 17.2**	**-0.9**
	1.5nm,0.3s,baz=249,slow=21,SNR=3.9						
WRA	**Warramunga Arr**	**15.51**	**209**	Pn	**Pn**	**22 45 24.6**	**+1.4**
	0.3nm,0.3s,baz=33,slow=12,SNR=7.7						
WRA				Sn	**Sn**	**22 48 11.6**	**-3.7**
	0.4nm,0.3s,baz=22,slow=22,SNR=2.8						
WRA				Lg	Lg	22 49 53.3	
	baz=255,slow=40						
	1.9nm,0.8s						
ASAR	**Alice Springs**	**18.97**	**204**	P	**P**	**22 46 06.2**	**+0.1**
	0.2nm,0.3s,baz=32,slow=9.5,SNR=4.5						
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**74.72**	**322**	P	**P**	**22 53 23.0**	**-1.4**
	0.2nm,0.6s,baz=106,slow=6.2,SNR=2.3						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**78.64**	**324**	P	**P**	**22 53 45.5**	**-0.9**
	0.2nm,0.7s,baz=95,slow=4.1,SNR=1.4						
	0.2nm,0.7s						
QSPA	**South Pole Qui**	**83.64**	**180**	P	**P**	**22 54 15.5**	**+2.5**
	2.4nm,1.1s,baz=12,slow=1.7,SNR=3.0						
	2.4nm,1.1s						
BVAR	**Borovoye Array**	**84.22**	**325**	P	**P**	**22 54 16.1**	**+0.1**
	0.7nm,0.6s,baz=109,slow=7.8,SNR=4.7						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**87.71**	**24**	P	**P**	**22 54 31.9**	**-1.1**
	0.4nm,0.8s,baz=264,slow=4.4,SNR=3.3						
	0.4nm,0.8s						
VNA3	**Neumayer Olymp**	**100.36**	**189**	⇑P	**Pdif**	**22 55 35.4**	**+4.3**
	comp=Z,1.1nm,0.2s						
VNA1	**Neumayer--Stat**	**100.65**	**190**	⇑P	**Pdif**	**22 55 34.7**	**+2.4**
	comp=Z,3.1nm,0.3s						

IDC ***16*** *23:13:11.6±7.9,36.˚85S×70.˚57W,h144km±61km,mb3.6/2, mbtmp3.9/3,Error ellipse: s-maj=149.7km s-min=38.0km az=130.0*

SJA ***16*** *23:13:11.4±0.7,36.˚92S×70.˚81W,h178km±4km,ML3.7, MW3.7*

GUC ***16*** *23:13:14.0±0.7,36.˚87S×70.˚84W,h176km±6km,ML3.9*

ISC 16 23:13:12.6±0.8,36.˚91S±0.˚03×70.˚85W±0.˚06,h171km±7km, n45,σ1°36/77,2C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BI02	**San Fabin de**	**0.42**	**305**	⇑*iP*	**Pn**	**23 13 36.2**	**0.0**
CANA	**Caviahue**	**0.99**	**190**	*eP*	**Pn**	**23 13 39.5**	**0.0**
CANA				*eS*	**Sn**	**23 13 59.9**	**-0.6**
ML02	**Panimavida**	**1.23**	**338**	⇑*eP*	**Pn**	**23 13 42.2**	**+0.8**
ML02				*eS*	**Sn**	**23 14 03.4**	**-0.1**
ML02				IAML		23 14 05.2	
	comp=N,2μm,0.3s						
EDS3	**Malargue**	**1.63**	**46**	*eP*	**Pn**	**23 13 45.2**	**-0.1**
EDS3				*eS*	**Sn**	**23 14 10.0**	**-0.5**
BI05	**Punta Hualpn**	**1.89**	**274**	*eP*	**Pn**	**23 13 49.2**	**+1.4**
BI05				*eS*	**Sn**	**23 14 14.6**	**-0.4**
GO05	**Huala**	**2.09**	**335**	*eP*	**Pn**	**23 13 50.6**	**+0.6**
GO05				*eS*	**Sn**	**23 14 19.1**	**+0.1**
GO05	**Huala**	**2.09**	**335**	*eP*	**Pn**	**23 13 50.8**	**+0.7**
GO05				*eS*	**Sn**	**23 14 18.3**	**-0.7**
GO05				IAML		23 14 22.7	
	comp=N,476nm,0.5s						
BO02	**Sierra Bellavi**	**2.11**	**1**	*eP*	**Pn**	**23 13 51.2**	**+0.8**
BO02				*eS*	**Sn**	**23 14 21.8**	**+2.2**
BO02				IAML		23 14 25.3	
	comp=Z,336nm,0.2s						
BO02	**Sierra Bellavi**	**2.11**	**1**	*eP*	**Pn**	**23 13 51.2**	**+0.8**
BO02				*eS*	**Sn**	**23 14 18.9**	**-0.7**
BO02				IAML		23 14 26.1	
	comp=N,557nm,0.2s						
BO01	**Tunca**	**2.52**	**356**	*eP*	**Pn**	**23 13 55.4**	**+0.4**
BO01				*eS*	**Sn**	**23 14 27.1**	**-0.8**
BO01	**Tunca**	**2.52**	**356**	*eP*	**Pn**	**23 13 55.4**	**+0.4**
BO01				*eS*	**Sn**	**23 14 26.4**	**-1.5**
BO01				IAML		23 14 27.9	
	comp=N,214nm,0.2s						
RFA	**San Rafael**	**2.88**	**43**	*eP*	**Pn**	**23 13 59.4**	**-0.1**
BO04	**La Punta**	**2.92**	**4**	*i* P	**Pn**	**23 14 00.3**	**+0.4**
BO04				*eS*	**Sn**	**23 14 35.5**	**-1.2**
BO04				IAML		23 14 38.2	
	comp=N,211nm,0.2s						
LR03	**Panguipulli**	**2.97**	**203**	*eP*	**Pn**	**23 13 59.7**	**-0.7**
LR03				*eS*	**Sn**	**23 14 35.9**	**-1.8**
MT01	**Popeta**	**3.05**	**354**	*eP*	**Pn**	**23 14 01.3**	**-0.3**
MT01				*eS*	**Sn**	**23 14 37.9**	**-1.7**
MT01				IAML		23 14 42.4	
	comp=Z,115nm,0.1s						
MT01	**Popeta**	**3.05**	**354**	*eP*	**Pn**	**23 14 01.2**	**-0.3**
MT01				*eS*	**Sn**	**23 14 36.8**	**-2.8**
LMEL	**Las Melosas**	**3.10**	**10**	*eP*	**Pn**	**23 14 03.1**	**+0.9**
LMEL				*eS*	**Sn**	**23 14 41.5**	**+0.7**
LMEL				IAML		23 14 47.3	
	comp=N,177nm,0.2s						
MT09	**Talagante**	**3.12**	**358**	*eP*	**Pn**	**23 14 02.6**	**0.0**
MT09				*eS*	**Sn**	**23 14 39.2**	**-2.2**
MT12	**Pirque**	**3.17**	**4**	*eP*	**Pn**	**23 14 03.4**	**+0.2**
MT12				*eS*	**Sn**	**23 14 40.9**	**-1.5**
MT12				IAML		23 14 46.2	
	comp=E,260nm,0.4s						
VA05	**Santo Domingo**	**3.30**	**349**	*eP*	**Pn**	**23 14 04.0**	**-0.6**
VA05				*eS*	**Sn**	**23 14 40.9**	**-4.1**
MT15	**Las Vizcachas**	**3.31**	**5**	*eP*	**Pn**	**23 14 05.2**	**+0.4**
MT15				*eS*	**Sn**	**23 14 44.3**	**-1.1**
MT03	**Universidad Ad**	**3.42**	**5**	*eP*	**Pn**	**23 14 05.8**	**-0.3**
MT03				*eS*	**Sn**	**23 14 46.5**	**-1.4**
MT03				IAML		23 14 52.9	
	comp=Z,141nm,0.5s						
MT03	**Universidad Ad**	**3.42**	**5**	*eP*	**Pn**	**23 14 06.2**	**0.0**
MT03				*eS*	**Sn**	**23 14 46.4**	**-1.5**
MT16	**CCHEN**	**3.48**	**4**	*i* S	**Sn**	**23 14 47.3**	**-2.0**
MT05	**Renca**	**3.51**	**1**	*eP*	**Pn**	**23 14 07.6**	**+0.3**
MT05				*eS*	**Sn**	**23 14 48.4**	**-1.4**
MT05				IAML		23 14 51.5	
	comp=Z,125nm,0.4s						
MT05	**Renca**	**3.51**	**1**	*eP*	**Pn**	**23 14 07.5**	**+0.3**
MT05				*eS*	**Sn**	**23 14 47.2**	**-2.7**
MT14	**Cerro Cal¡n**	**3.51**	**4**	*eP*	**Pn**	**23 14 07.9**	**+0.6**
MT14				*i* S	**Sn**	**23 14 48.0**	**-1.9**
MT04	**Ro Olivares**	**3.54**	**10**	*eP*	**Pn**	**23 14 08.4**	**+0.6**
MT04				*eS*	**Sn**	**23 14 49.6**	**-1.2**
MT10	**Hacienda Santa**	**3.63**	**4**	*eP*	**Pn**	**23 14 09.0**	**0.0**
MT10				*eS*	**Sn**	**23 14 49.1**	**-3.7**
MT02	**Curacav**	**3.65**	**356**	*eP*	**Pn**	**23 14 08.6**	**-0.4**
MT02				*eS*	**Sn**	**23 14 51.6**	**-1.3**
MT02				IAML		23 14 59.3	
	comp=Z,52nm,0.6s						
MT02	**Curacav**	**3.65**	**356**	*eP*	**Pn**	**23 14 08.6**	**-0.4**
MT02				*eS*	**Sn**	**23 14 49.9**	**-3.0**
PEL	**Peldehue**	**3.76**

comp=Z,504nm,21.1s,baz=176,slow=29
H01W1 Cape Leeuwin H 46.89 279 T T 00 40 47.8
baz=149,slow=76,SNR=38
H01W2 Cape Leeuwin H 46.89 279 T T 00 40 53.9
baz=149,slow=76,SNR=36
H01W3 Cape Leeuwin H 46.90 279 T T 00 40 54.8
baz=149,slow=76,SNR=37
NWAO Narrogin (SRO) 47.28 283 LR LR 00 05 02.9
comp=Z,2μm,21.6s,baz=134,slow=30
CTA Charters Tower 48.63 322 LR LR 00 08 06.5
comp=Z,676nm,19.1s,baz=1.0,slow=33
CTAO Charters Tower 48.63 322 P **P** **23 50 04.7 +1.0**
CTAO IAmb IAmb 23 50 07.4
comp=Z,28nm,1.5s
ASAR Alice Springs 49.07 306 P **P** **23 50 06.5 -0.5**
ASAR Alice Springs 49.07 306 P **P** **23 50 06.9 -0.1**
comp=Z,9.7nm,1.0s,baz=154,slow=6.6,SNR=45
ASAR PcP **PcP** **23 51 30.3 -0.3**
comp=Z,1.1nm,1.0s,baz=142,slow=4.6,SNR=1.2
ASAR LR LR 00 09 37.0
comp=Z,417nm,18.3s,baz=156,slow=35
comp=Z,9.7nm,1.0s
AS31 Alice Springs 49.07 306 P **P** **23 50 07.4 +0.3**
AFI Afiamalu 51.45 16 P **P** **23 50 25.9 +0.7**
WR0 Warramunga Arr 52.28 309 P **P** **23 50 31.3 0.0**
WR0 IAmb IAmb 23 50 42.3
comp=Z,35nm,1.4s
WB2 Warramunga Arr 52.36 309 P **P** **23 50 31.3 -0.6**
WB2 IAmb IAmb 23 50 34.6
comp=Z,36nm,1.3s
WRA Warramunga Arr 52.37 309 P **P** **23 50 31.4 -0.5**
WRA Warramunga Arr 52.37 309 P **P** **23 50 30.8 -1.1**
comp=Z,8.7nm,1.0s,baz=158,slow=6.7,SNR=18
WRA PcP **PcP** **23 51 42.4 -0.4**
comp=Z,1.1nm,1.0s,baz=151,slow=2.6,SNR=1.4
WRA LR LR 00 09 50.1
comp=Z,2μm,21.5s,baz=169,slow=33
comp=Z,8.7nm,1.0s
WRAB Tennant Creek 52.37 309 P **P** **23 50 31.4 -0.6**
WRAB IAmb IAmb 23 50 34.6
comp=Z,22nm,1.1s
WB0 Warramunga Arr 52.51 309 P **P** **23 50 32.2 -0.8**
WB0 IAmb IAmb 23 50 35.6
comp=Z,22nm,1.1s
PPT Papeete 52.59 43 LR LR 00 08 41.2
comp=Z,183nm,18.3s,baz=188,slow=31
MBWA Marble Bar 56.66 292 P **P** **23 51 03.5 +0.4**
MBWA IAmb IAmb 23 51 28.9
comp=Z,15nm,1.1s
PMG Port Moresby 58.66 327 LR LR 00 11 28.0
comp=Z,879nm,21.9s,baz=153,slow=31
RPN Rapa Nui 59.48 89 LR LR 00 10 31.1
comp=Z,770nm,21.6s,baz=217,slow=30
LL05 Los Muermos 61.39 127 P **P** **23 51 37.5 +1.8**
PLCA Paso Flores 62.98 129 P **P** **23 51 44.9 -1.6**
comp=Z,7.2nm,1.2s,baz=235,slow=3.0,SNR=3.6
PLCA LR LR 00 14 21.8
comp=Z,216nm,20.4s,baz=202,slow=32
comp=Z,7.2nm,1.2s
BATI Baumata 65.14 301 LR LR 00 18 40.1
comp=Z,465nm,19.8s,baz=178,slow=34
H03S2 Juan Fernandez 66.14 119 T T 01 04 34.8
baz=206,slow=74,SNR=3.6
H03S1 Juan Fernandez 66.15 119 T T 01 04 30.3
baz=206,slow=74,SNR=3.5
H03S3 Juan Fernandez 66.16 119 T T 01 04 37.0
baz=206,slow=74,SNR=3.4
MMRI Maumere 67.11 301 P **P** **23 52 13.4 -0.1**
BO02 Sierra Bellavi 68.25 126 P **P** **23 52 20.4 -0.1**
BO02 IAmb IAmb 23 52 25.7
comp=Z,17nm,1.1s
BO01 Tunca 68.51 125 P **P** **23 52 22.2 +0.1**
MT02 Curacav 69.51 125 P **P** **23 52 29.1 +0.8**
MT02 IAmb IAmb 23 52 48.8
comp=Z,17nm,1.4s
MT16 CCHEN 69.58 125 P **P** **23 52 29.8 +1.0**
MT16 IAmb IAmb 23 52 39.8
comp=Z,13nm,0.7s
PEL Peldehue 69.78 125 P **P** **23 52 29.9 -0.1**
CO03 El Pedregal 71.86 124 P **P** **23 52 43.8 +1.0**
CO03 IAmb IAmb 23 52 47.1
comp=Z,22nm,1.4s
CO01 Juntas del Tor 72.86 124 P **P** **23 52 49.5 +0.6**
CO01 IAmb IAmb 23 53 03.3
comp=Z,11nm,1.2s
LEM Lembang 74.50 287 LR LR 00 21 16.9
comp=Z,490nm,20.9s,baz=154,slow=32
AC02 Maricunga 76.06 124 P **P** **23 53 08.2 +0.3**
AC02 IAmb IAmb 23 53 13.1
comp=Z,13nm,1.2s
PLTB Pedras Altas 76.52 139 **P** **23 53 11.4 +1.5**
PLTB IAmb IAmb 23 53 33.1
comp=Z,16nm,1.3s
PB06 IPOC Station P 79.67 122 P **P** **23 53 27.9 +0.2**
PB06 IAmb IAmb 23 53 34.5
comp=Z,17nm,1.1s
LVC Limon Verde 80.00 122 P **P** **23 53 30.2 +0.6**
LVC IAmb IAmb 23 53 31.7
comp=Z,28nm,1.5s
LVC Limon Verde 80.00 122 LR LR 00 21 59.1
comp=Z,324nm,18.6s,baz=204,slow=31
CPUP Villa Florida 80.49 133 P **P** **23 53 31.3 -0.5**
comp=Z,4.1nm,1.0s,baz=174,slow=3.0,SNR=5.5
CPUP LR LR 00 26 03.1
comp=Z,461nm,18.0s,baz=202,slow=33
comp=Z,4.1nm,1.0s
DAV Davao City (W) 80.54 310 LR LR 00 30 00.9
comp=Z,167nm,19.6s,baz=165,slow=36
SUR Sutherland 81.26 201 LR LR 00 27 55.4
comp=Z,780nm,18.7s,baz=166,slow=34
ROCAM Rodrigues Isla 81.35 242 P **P** **23 53 36.8 +0.3**
KKM Kota Kinabalu 82.89 300 P **P** **23 53 43.9 -0.7**
KKM IAmb IAmb 23 53 47.4
comp=Z,20nm,1.2s
GSI Gunungsitoli 86.03 281 P **P** **23 54 00.5 +0.1**
GSI IAmb IAmb 23 54 19.8
comp=Z,8.9nm,1.0s
LPAZ La Paz 86.08 120 P **P** **23 54 01.3 -0.2**
LPAZ La Paz 86.08 120 P **P** **23 54 00.1 -1.4**
comp=Z,1.0nm,0.8s,baz=204,slow=6.4,SNR=5.1
LPAZ LR LR 00 22 59.4
comp=Z,205nm,21.2s,baz=183,slow=29
comp=Z,1.0nm,0.8s
KHU Kahuku 86.54 27 P **P** **23 54 03.1 +0.1**
NNA Nana 86.62 111 LR LR 00 24 39.9
comp=Z,248nm,18.2s,baz=198,slow=30
LBTB Lobatse 87.61 207 LR LR 00 31 15.8
comp=Z,586nm,18.5s,baz=174,slow=34
KULM Kulim 88.34 286 P **P** **23 54 11.6 0.0**
TGY Tagaytay City 88.67 308 LR LR 00 35 46.3
comp=Z,90nm,18.6s,baz=126,slow=37
H08S2 Diego Garcia H 88.68 255 T T 01 33 16.6
baz=154,slow=76,SNR=22
H08S1 Diego Garcia H 88.69 255 T T 01 33 16.7
baz=154,slow=76,SNR=14
H08S3 Diego Garcia H 88.70 255 T T 01 33 17.9
baz=154,slow=76,SNR=19
ATAH Atahualpa 90.39 108 LR LR 00 25 49.0
comp=Z,683nm,19.4s,baz=221,slow=30
MCRA Macar, Loja 92.24 105 P **P** **23 54 29.5 -0.5**
BDFB Brasilia 93.36 138 LR LR 00 34 07.5
comp=Z,250nm,19.6s,baz=151,slow=34
TSUM Tsumeb 94.69 201 LR LR 00 34 20.6
comp=Z,672nm,20.9s,baz=166,slow=34
JCJ Chichijima 95.08 331 LR LR 00 32 16.2
comp=Z,78nm,21.4s,baz=116,slow=32
LSZ Lusaka 96.50 212 P **P** **23 54 49.0 -0.6**
LSZ Lusaka 96.50 212 LR LR 00 36 20.6
comp=Z,345nm,18.9s,baz=180,slow=34
QIZ Qiongzhong 97.18 300 P **P** **23 54 51.8 -0.5**
QIZ pmax pmax
comp=Z,160nm,5.5s
QIZ LR LR
comp=N,200nm,21.4s
QIZ LR LR
comp=E,110nm,16.3s
QIZ LR LR
comp=Z,280nm,32.8s
JOW Kunigami 98.30 318 LR LR 00 35 18.2
comp=Z,206nm,21.9s,baz=148,slow=33
PALK Pallekele 98.60 269 LR LR 00 35 19.3
comp=Z,163nm,18.0s,baz=247,slow=33
CD2 Chengdu 110.23 300 Pdif **Pdif** **23 55 51.5 +1.3**
HHC Hu-ho-hao-te 116.42 310 *eP* **PKPdf** **00 00 00.8 -2.0**
HHC LR LR
comp=N,150nm,18.4s
HHC LR LR
comp=E,110nm,15.5s
HHC LR LR
comp=Z,190nm,19.0s
E07A Sunnyside 121.74 47 PKPdf **PKiKP** **00 00 15.1 +2.2**
PDAR Pinedale Array 121.88 57 PKP **PKPdf** **00 00 13.1 -0.3**
comp=Z,0.8nm,0.9s,baz=149,slow=3.5,SNR=4.5
FXWY Fox Creek 122.12 55 **PKiKP** **00 00 14.7 +0.6**
Y52A Lilburn 124.42 83 **PKPdf** **00 00 17.1 -1.2**
RSSD Black Hills 125.08 60 **PKPdf** **00 00 18.6 -0.9**
ECSD EROS Data Cent 127.60 66 **PKPdf** **00 00 22.4 -1.7**
WMQ Urumqi 127.67 294 *eP* **PKiKP** **00 00 25.8 +0.9**
WMQ LR LR
comp=Z,120nm,20.1s
KSH Kashi 128.86 282 PKP **PKiKP** **00 00 28.0 +0.5**
L29M L29M 131.98 26 P **PKiKP** **00 00 33.9 +1.0**
baz=205
G19K Purcell Mounta 132.01 15 **PKiKP** **00 00 32.9 +0.1**
G19K Purcell Mounta 132.01 15 P **PKiKP** **00 00 32.9 +0.1**
baz=196
ILAR Eielson Array 132.02 21 **PKPdf** **00 00 30.5 -1.3**
ILAR Eielson Array 132.02 21 PKP **PKPdf** **00 00 30.4 -1.4**
comp=Z,2.8nm,1.0s,baz=234,slow=2.9,SNR=17
H21K Melozitna Rive 132.04 17 P **PKiKP** **00 00 33.2 +0.3**
baz=198
MKAR Makanchi Array 132.27 292 PKP **PKPdf** **00 00 32.0 -0.8**
comp=Z,0.5nm,0.8s,baz=159,slow=2.5,SNR=4.7
EGAK Eagle 132.96 24 P **PKPdf** **00 00 33.1 -0.5**
baz=204
E20K Nigu River 134.15 14 P **PKiKP** **00 00 37.0 -0.1**
baz=196
D20K Etivluk River 134.54 14 P **PKiKP** **00 00 37.6 -0.3**
baz=196
EPYK Eagle Plains 135.19 25 P **PKiKP** **00 00 39.4 +0.1**
baz=207
G30M tAoh Zraii Nji 135.83 25 P **PKPdf** **00 00 39.4 +0.5**
baz=207
G31M Satah River 136.14 26 P **PKiKP** **00 00 41.8 +0.7**
baz=208
E28M Babbage River 136.72 22 **PKPdf** **00 00 41.1 +0.6**
E28M Babbage River 136.72 22 P **PKPdf** **00 00 39.9 -0.6**
baz=206
KURBB Kurchatov Arra 136.83 292 PKP **PKPdf** **00 00 40.4 -0.8**
comp=Z,1.7nm,0.9s,baz=150,slow=2.0,SNR=5.3
KURK Kurchatov 136.87 293 **PKiKP** **00 00 44.4 +1.3**
YKA Yellowknife Ar 136.94 40 PKP **PKPdf** **00 00 39.2 -1.9**
comp=Z,0.4nm,0.8s,baz=220,slow=2.3,SNR=5.5
ZALV Zalesovo Beam 137.00 300 PKP **PKPdf** **00 00 41.8 +0.4**
comp=Z,0.3nm,0.5s,baz=135,slow=2.0,SNR=1.7
TIXI Tiksi 139.70 339 PKPpre 00 00 42.5
BVAR Borovoye Array 141.94 289 PKP **PKPdf** **00 00 48.2 -2.2**
comp=Z,0.2nm,0.4s,baz=134,slow=4.2,SNR=2.4
ABKAR Akbulak array 143.49 277 **PKPdf** **00 00 52.7 -0.6**
KARS Kars 143.76 252 PKPdf PKPbc 00 00 53.1 +1.1
ONI Oni 145.25 254 **PKPdf** **00 00 57.0 +0.3**
ARG Arkhangelos 145.51 230 PKPdf **PKPab** **00 00 58.0 +0.3**
IDI Anoyia 145.69 225 PKPdf **PKPab** **00 00 59.0 +0.6**
KBZ Khabaz 146.42 255 PKPbc **PKPdf** **00 00 59.0 +0.5**
comp=Z,9.4nm,0.8s,baz=135,slow=2.4,SNR=20
KIV Kislovodsk 146.69 255 **PKPbc** **00 01 00.4 -0.5**
BR131 Keskin Array S 146.70 240 **PKPbc** **00 01 00.5 -0.6**
BRTR Keskin Array B 146.70 240 PKPbc **PKPdf** **00 01 00.1 +0.6**
comp=Z,5.7nm,0.8s,baz=156,slow=3.5,SNR=40
NRIK Noril'sk 146.99 319 **PKPdf** **00 00 59.8 +1.0**
NRIK Noril'sk 146.99 319 PKPbc **PKPbc** **00 01 00.1 -0.8**
comp=Z,9.1nm,1.0s,baz=97,slow=3.0,SNR=10
SCHQ Schefferville 148.40 78 **PKPbc** **00 01 04.5 -0.6**
SCHQ Schefferville 148.40 78 PKPbc **PKPbc** **00 01 03.6 -1.5**
comp=Z,14nm,1.1s,baz=239,slow=7.5,SNR=6.3
ARU Arti 149.21 285 **PKPbc** **00 01 06.5 -0.6**
RES Resolute Bay 150.38 33 PKPdf **PKPdf** **00 01 06.8 +2.7**

*IDC **16** 23:54:03.6±2.2,9.°92S×118.°93E,h0km,mb3.4/1,*
mbtmp3.2/3,ML3.5/3,Error ellipse: s-maj=68.4km
s-min=27.2km az=34.0
*DJA **16** 23:54:10.0±0.3,10.°S±4.°×11.°9E±.°,h59km±29km,M4.1/12,*
mb4.3/7,mB5.3/1,MLv4.0/12,Mw(mB)4.7/1
ISC 16 23:54:09.7±1.0,**10.°0S**±0.°1×**119.°04E**±0.°06,**h50**km,**n19,**
σ1s29/18,Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BASI	**Baing, Sumba**	**1.53**	**98**	P	**Pn**	**23 54 34.8**	**+0.2**
PLAI	**Plampang**	**1.71**	**313**	P	**Pn**	**23 54 36.6**	**-0.5**
TWSI	**Taliwang, Sumb**	**2.48**	**300**	P	**Pn**	**23 54 48.1**	**+0.5**
EDFI	**Ende, Flores**	**2.90**	**65**	P	**Pn**	**23 54 52.4**	**-1.1**
MMRI	**Maumere**	**3.44**	**67**	P	**Pn**	**23 55 01.0**	**+0.2**
SRBI	**Singaraja**	**4.24**	**296**	P	**Pn**	**23 55 11.7**	**-0.1**
BATI	**Baumata**	**4.56**	**93**	Pn	**Pn**	**23 55 17.1**	**+0.9**
	19nm,0.3s,baz=276,slow=2.2,SNR=8.9			Sn			
BATI					**Sn**	**23 56 08.9**	**+1.0**
	16nm,0.3s,baz=214,slow=23,SNR=6.9						
BATI	**Baumata**	**4.56**	**93**	P	**Pn**	**23 55 17.5**	**+1.3**
BKSI	**Bulukumba**	**4.78**	**13**	P	**Pn**	**23 55 18.6**	**-0.6**
JAGI	**Jajag, Banyuwa**	**5.06**	**287**	P	**Pn**	**23 55 23.2**	**+0.1**
	16nm,0.9s,0.2nm						
SOEI	**Soe**	**5.16**	**88**	P	**Pn**	**23 55 25.2**	**+0.7**
	33nm,0.6s,0.2nm						
GMJI	**Gumukmas**	**5.79**	**287**	P	**Pn**	**23 55 33.2**	**+0.1**
	8.2nm,1.0s						
BLJI	**Banyuglugur**	**5.83**	**292**	P	**Pn**	**23 55 33.8**	**+0.1**
WRA	**Warramunga Arr**	**17.76**	**126**	P	**Pn**	**23 58 13.8**	**+0.3**
	0.1nm,0.3s,baz=301,slow=12,SNR=2.7						
WRA				S	Sn	00 01 18.1	-13
	0.5nm,0.7s,baz=306,slow=20,SNR=2.1						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**19.64**	**136**	P	**P**	**23 58 35.6**	**+1.2**
	0.1nm,0.3s,baz=314,slow=10,SNR=2.1						
ASAR				S	**S**	**00 02 09.4**	**-4.2**
	0.3nm,0.6s,baz=306,slow=23,SNR=2.8						
	0.3nm,0.6s						
H08S2	**Diego Garcia H**	**46.03**	**269**	T	T	00 51 57.8	
	baz=96,slow=76,SNR=28						
H08S3	**Diego Garcia H**	**46.04**	**269**	T	T	00 51 58.6	
	baz=96,slow=76,SNR=23						
H08S1	**Diego Carcia H**	**46.05**	**269**	T	T	00 51 59.2	
	baz=96,slow=76,SNR=22						
MKAR	**Makanchi Array**	**65.37**	**333**	P	**P**	**00 04 46.9**	**0.0**
	0.2nm,0.5s,baz=134,slow=6.2,SNR=2.2						
	0.2nm,0.5s						

*SOME **17** 00:14:43.6,41.°30N×78.°72E,h0km*
*NNC **17** 00:14:44.6±1.1,41.°23N×78.°72E,h0km,mb3.2,mpv2.8,*
Error ellipse: s-maj=7.3km s-min=4.8km az=168.0
*KRNET **17** 00:14:44.7±0.1,41.°31N×78.°79E,h13km,mb2.4*
ISC 17 00:14:45.7±2.0,**41.°31N**±0.°07×**78.°67E**±0.°04,**h7**km±14km,
n41,σ1s03/65,8C-6D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**0.77**	**303**	⇓*iP*	**Pb**	**00 15 01.1**	**-0.6**
	baz=0.0						
TARG				⇓*iS*	**Sb**	**00 15 13.4**	**+0.8**
	baz=0.0						
PRZ	**Przheval'sk**	**1.19**	**350**	⇓*iP*	**Pg**	**00 15 08.3**	**-0.3**
	baz=46						
PRZ				⇓*iS*	**Sn**	**00 15 25.1**	**-0.3**
	baz=46						
KDJ	**Kajisay**	**1.38**	**307**	⇓*iP*	**Pg**	**00 15 12.1**	**-0.2**
	baz=5.0						
KDJ				⇓*iS*	**Sg**	**00 15 32.2**	**+2.0**
	baz=5.0						
ANVS	**Anan'yevo**	**1.65**	**333**	⇑*iP*	**Pb**	**00 15 16.6**	**0.0**
	baz=31						
ANVS				⇑*iS*	**Sg**	**00 15 39.9**	**+1.1**
	baz=31						
SATY	**Saty**	**1.76**	**354**	*eP*	**Pb**	**00 15 18.2**	**-0.2**
	1.4nm,0.2s						
SATY				*eS*	**Sg**	**00 15 42.9**	**+0.7**
	18nm,0.2s						
SATY	**Saty**	**1.76**	**354**	P	**Pg**	**00 15 19.0**	**-0.4**
	3.0nm,0.3s						
SATY				S	**Sg**	**00 15 44.4**	**+2.1**
	19nm,0.2s						
UZB	**Uzynbulak**	**1.85**	**8**	*eP*	**Pb**	**00 15 19.7**	**-0.3**
	3.1nm,0.3s						
UZB				*eS*	**Sg**	**00 15 45.5**	**+0.2**
	8.0nm,0.3s						
UZB	**Uzynbulak**	**1.85**	**8**	Pg	**Pb**	**00 15 19.7**	**-0.3**
	3.1nm,0.3s						
UZB				Lg	Lg	00 15 45.5	
	8.0nm,0.3s						
ZHN	**Zhinishke**	**1.86**	**355**	*eP*	**Pb**	**00 15 19.8**	**-0.4**
	1.1nm,0.1s						
ZHN				*eS*	**Sg**	**00 15 45.6**	**0.0**
	37nm,0.2s						
ZHN	**Zhinishke**	**1.86**	**355**	Pg	**Pg**	**00 15 20.6**	**-0.9**
	3.0nm,0.2s						
ZHN				Lg	Lg	00 15 47.1	
	37nm,0.2s						
SHLS	**Shalkode**	**1.94**	**17**	*eP*	**Pg**	**00 15 23.1**	**+0.2**
	3.0nm,0.3s						
SHLS				*eS*	**Sg**	**00 15 51.8**	**+3.8**
	18nm,0.5s						
SHLS	**Shalkode**	**1.94**	**17**	Pg	**Pg**	**00 15 23.1**	**+0.2**
	3.0nm,0.3s						
SHLS				Lg	Lg	00 15 51.8	
	18nm,0.5s						
NRN	**Naryn**	**2.01**	**274**	⇑*iP*	**Pg**	**00 15 23.5**	**-0.8**
	baz=74						
NRN				⇑*iS*	**Sg**	**00 15 52.0**	**+1.6**
	baz=74						
ULHL	**Ulahol**	**2.04**	**298**	⇑*iP*	**Pg**	**00 15 23.8**	**-1.1**
	baz=97						
ULHL				⇑*iS*	**Sg**	**00 15 52.0**	**+0.6**
	baz=97						
PDGK	**Podgornoye**	**2.11**	**17**	Pg	**Pb**	**00 15 24.4**	**+0.2**
	0.9nm,0.4s						
PDGK				Lg	Lg	00 15 53.7	
	5.6nm,0.5s						
PDGK	**Podgornoye**	**2.11**	**17**	⇑Pg	**Pb**	**00 15 24.5**	**+0.2**
	1.1nm,0.4s						
PDGK				⇑Lg	Lg	00 15 53.6	
	19nm,0.9s						
TNSS	**Tian-Shan**	**2.15**	**324**	*eP*	**Pg**	**00 15 25.8**	**-1.2**
	1.3nm,0.1s						
TNSS				*eS*	**Sg**	**00 15 55.9**	**+1.1**
	5.7nm,0.2s						
TNSS	**Tian-Shan**	**2.15**	**324**	Pg	**Pg**	**00 15 26.2**	**-0.7**
	2.7nm,0.3s						
TNSS				Lg	Lg	00 15 56.8	
	5.4nm,0.5s						
KURS	**Kuram**	**2.21**	**351**	*eP*	**Pb**	**00 15 25.9**	**-0.1**
	1.7nm,0.3s						
KURS				*eS*	**Sg**	**00 15 56.1**	**-0.5**
	9.2nm,0.4s						
KURS	**Kuram**	**2.21**	**351**	Pg	**Pg**	**00 15 26.9**	**-1.1**
	2.0nm,0.4s						
KURS				Lg	Lg	00 15 58.0	
	9.2nm,0.4s						
MDOK	**Medeo**	**2.21**	**327**	*eP*	**Pg**	**00 15 26.8**	**-1.3**
	3.8nm,0.5s						
MDOK				*eS*	**Sg**	**00 15 57.9**	**+1.2**
	10nm,0.5s						
MDOK	**Medeo**	**2.21**	**327**	Pg	**Pg**	**00 15 26.8**	**-1.3**
	2.6nm,0.5s						
MDOK				Pg	**Pg**	**00 15 26.8**	**-1.3**
	3.8nm,0.5s						
MDOK				Lg	Lg	00 15 57.3	
	11nm,0.7s						
MDOK				Lg	Lg	00 15 57.9	
	10nm,0.5s						
KOTS	**Kotyrbulak**	**2.24**	**329**	*eP*	**Pb**	**00 15 26.4**	**-0.2**
	1.6nm,0.4s						
KOTS				*eS*	**Sg**	**00 15 57.0**	**-0.8**
	16nm,0.6s						
KOTS	**Kotyrbulak**	**2.24**	**329**	Pg	**Pg**	**00 15 28.1**	**-0.7**
	3.3nm,0.2s						
KOTS				Lg	Lg	00 16 00.3	
	28nm,0.6s						
MTBS	**Maitube**	**2.46**	**318**	*eP*	**Pb**	**00 15 31.2**	**+0.8**
	1.5nm,0.2s						
MTBS				*eS*	**Sg**	**00 16 05.3**	**+0.4**
	8.2nm,0.3s						
MTBS	**Maitube**	**2.46**	**318**	Pg	**Pb**	**00 15 31.2**	**+0.8**
	1.5nm,0.2s						
MTBS				Lg	Lg	00 16 05.3	
	8.2nm,0.3s						
KTMS	**Ketmen**	**2.47**	**30**	*eP*	**Pb**	**00 15 30.3**	**-0.2**
	1.7nm,0.3s						
KTMS				*eS*	**Sg**	**00 16 04.2**	**-0.9**
	5.3nm,0.4s						
KTMS	**Ketmen**	**2.47**	**30**	Pg	**Pb**	**00 15 30.3**	**-0.2**
	1.7nm,0.3s						
KTMS				Lg	Lg	00 16 04.2	
	5.3nm,0.4s						
KST	**Kastek**	**2.65**	**312**	*eP*	**Pb**	**00 15 33.2**	**-0.4**
	1.6nm,0.3s						
KST				*eS*	**Sg**	**00 16 09.3**	**-1.7**
	12nm,0.8s						
KST	**Kastek**	**2.65**	**312**	Pg	**Pb**	**00 15 33.3**	**-0.4**
	1.6nm,0.3s						
KST				Lg	Lg	00 16 09.3	
	12nm,0.8s						
BLB	**Baldybastay**	**2.79**	**357**	Pg	**Pb**	**00 15 36.3**	**+0.4**
	1.8nm,0.1s						
BLB				Lg	Lg	00 16 14.4	
	12nm,0.4s						
KTBS	**Karatobe**	**2.81**	**329**	*eP*	**Pb**	**00 15 37.5**	**+1.2**
	2.1nm,0.7s						
KTBS				*eS*	**Sg**	**00 16 16.6**	**+0.4**
	7.4nm,0.6s						
KTBS	**Karatobe**	**2.81**	**329**	Pg	**Pb**	**00 15 37.5**	**+1.2**
	2.1nm,0.7s						
KTBS				Lg	Lg	00 16 16.6	
	7.4nm,0.6s						
DGS	**Degeres**	**2.89**	**313**	*eP*	**Pb**	**00 15 38.0**	**+0.4**
	1.6nm,0.5s						
DGS				*eS*	**Sg**	**00 16 17.5**	**-1.1**
	5.2nm,0.4s						
DGS	**Degeres**	**2.89**	**313**	Pg	**Pb**	**00 15 38.0**	**+0.4**
	1.6nm,0.5s						
DGS				Lg	Lg	00 16 17.5	
	5.2nm,0.4s						
ARXS	**Arharly**	**2.97**	**348**	*eP*	**Pb**	**00 15 39.7**	**+0.7**
	2.6nm,0.5s						
ARXS				*eS*	**Sg**	**00 16 20.2**	**-0.8**
	12nm,0.4s						
ARXS	**Arharly**	**2.97**	**348**	Pg	**Pb**	**00 15 39.7**	**+0.7**
	2.6nm,0.5s						
ARXS				Lg	Lg	00 16 20.2	
	12nm,0.4s						
DJR	**Jarkent**	**3.13**	**15**	*eP*	**Pb**	**00 15 42.0**	**+0.3**
	1.3nm,0.3s						
DJR				*eS*	**Sg**	**00 16 24.2**	**-2.0**
	5.0nm,0.4s						
DJR	**Jarkent**	**3.13**	**15**	Pg	**Pb**	**00 15 42.0**	**+0.3**
	1.3nm,0.3s						
DJR				Lg	Lg	00 16 24.2	
	5.0nm,0.4s						
KRBS	**Karabastau**	**3.25**	**318**	*eP*	**Pb**	**00 15 45.1**	**+1.3**
	0.7nm,0.4s						
KRBS				*eS*	**Sg**	**00 16 29.3**	**-0.9**
	2.7nm,0.5s						
KRBS	**Karabastau**	**3.25**	**318**	Pg	**Pb**	**00 15 45.1**	**+1.3**
	0.7nm,0.4s						
KRBS				Lg	Lg	00 16 29.3	
	2.7nm,0.5s						

*IDC **17** 00:21:59.9±1.0,45.°70N×26.°29E,h120km±5km,mb3.0/2,*
mbtmp3.2/4,Error ellipse: s-maj=30.0km s-min=13.8km
az=119.0
*CFUSG **17** 00:22:00.8,45.°11N×26.°62E,h99km,mb2.5/1,Romania*
Magtype MSH 3.5 from 1 stations
*BUC **17** 00:22:01.0±0.2,45.°55N×26.°36E,h118km±2km,ml3.9/69,*
Error ellipse: s-maj=1.4km s-min=1.2km az=177.0
*SOF **17** 00:22:00.7,45.°54N±0.°02×26.°33E±0.°01,h120km±6km,*
MD3.5/5
*SIGU **17** 00:22:00.3,45.°58N×26.°35E,h125km,mb3.0*
*MOLD **17** 00:22:00.3,45.°64N×26.°44E,h140km,MB2.8,Mb3.0*
*BEO **17** 00:22:02.4±0.7,45.°33N×25.°80E,h0km±3km,ML2.9/10*
ISC 17 00:21:59.8±0.9,**45.°57N**±0.°02×**26.°34E**±0.°02,**h132**km±5km,
n134,σ1s42/213,78C-50D,Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLR	**Muntele Rosu**	**0.29**	**254**	⇓P	**Pn**	**00 22 18.6**	**+0.2**
MLR				⇓S	**Sn**	**00 22 31.8**	**-0.5**
MLR	**Muntele Rosu**	**0.29**	**254**	P	**Pn**	**00 22 18.5**	**+0.2**
	294nm,0.3s,baz=2.3,slow=9.8,SNR=779						
MLR				S	**Sn**	**00 22 31.6**	**-0.7**
	662nm,0.4s,baz=102,slow=20,SNR=28						
COVR	**Voineasa-Covas**	**0.29**	**341**	⇑P	**Pn**	**00 22 18.1**	**-0.1**
COVR				⇓S	**Sn**	**00 22 31.0**	**-1.2**
SPBR	**Spulber**	**0.34**	**58**	⇑P	**Pn**	**00 22 18.9**	**+0.5**
SPBR				⇓S	**Sn**	**00 22 32.6**	**+0.2**
PLOR	**Plostina**	**0.35**	**38**	⇓P	**Pn**	**00 22 18.3**	**-0.1**
PLOR				⇑S	**Sn**	**00 22 32.3**	**-0.3**
VRI	**Vrincioaia**	**0.40**	**43**	⇑P	**Pn**	**00 22 18.8**	**+0.2**
VRI				⇑S	**Sn**	**00 22 31.7**	**-1.2**

TURR	**Turia**	**0.53**	**335**	⇑P	**Pn**	**00 22 19.5**	**+0.2**
TURR				⇓S	**Sn**	**00 22 33.3**	**-0.9**
PANC	**Panciu**	**0.64**	**62**	⇑P	**Pn**	**00 22 20.5**	**+0.6**
PANC				⇑S	**Sn**	**00 22 34.6**	**-0.6**
OZUR		**0.65**	**324**	⇑P	**Pn**	**00 22 20.0**	**-0.1**
OZUR				⇑S	**Sn**	**00 22 34.1**	**-1.5**
BOSR	**Bodos**	**0.69**	**317**	⇑P	**Pn**	**00 22 20.5**	**+0.1**
BOSR				⇓S	**Sn**	**00 22 34.7**	**-1.3**
DOPR	**Dopca**	**0.77**	**301**	⇑P	**Pn**	**00 22 21.1**	**+0.1**
DOPR				⇑S	**Sn**	**00 22 36.3**	**-0.8**
GHRR		**0.89**	**56**	⇑P	**Pn**	**00 22 22.5**	**+0.6**
GHRR				⇓S	**Sn**	**00 22 38.1**	**-0.6**
VOIR		**0.92**	**262**	⇑P	**Pn**	**00 22 22.5**	**+0.2**
VOIR				⇓S	**Sn**	**00 22 38.2**	**-1.0**
TUDR		**0.94**	**88**	⇑P	**Pn**	**00 22 22.2**	**-0.1**
TUDR				⇓S	**Sn**	**00 22 38.3**	**-1.0**
MTUR	**Matau**	**0.96**	**249**	⇑P	**Pn**	**00 22 23.2**	**+0.6**
TESR	**Tescani**	**0.96**	**13**	⇓P	**Pn**	**00 22 22.7**	**+0.1**
TESR				⇑S	**Sn**	**00 22 38.4**	**-1.5**
IZVR	**Izvoarele**	**1.00**	**91**	⇑P	**Pn**	**00 22 22.6**	**-0.3**
IZVR				⇓S	**Sn**	**00 22 38.7**	**-1.7**
SLCR	**Slobozia Conac**	**1.01**	**88**	⇓P	**Pn**	**00 22 22.8**	**-0.1**
SLCR				⇑S	**Sn**	**00 22 38.8**	**-1.6**
SCHL	**Schela**	**1.05**	**93**	⇑P	**Pn**	**00 22 23.2**	**-0.1**
SCHL				⇑S	**Sn**	**00 22 39.5**	**-1.6**
SCHLR	**Schela**	**1.05**	**95**	⇓P	**Pn**	**00 22 23.2**	**-0.1**
SCHLR				⇓S	**Sn**	**00 22 39.5**	**-1.7**
VARL	**Varlezi**	**1.11**	**72**	⇑P	**Pn**	**00 22 24.3**	**+0.4**
VARL				⇑S	**Sn**	**00 22 41.5**	**-0.7**
BIR	**Birlad**	**1.14**	**52**	⇑P	**Pn**	**00 22 24.7**	**+0.6**
BIR				⇓S	**Sn**	**00 22 42.0**	**-0.7**
INCR	**INCERC-Sediu C**	**1.14**	**186**	⇓P	**Pn**	**00 22 24.7**	**+0.5**
INCR				⇓S	**Sn**	**00 22 42.5**	**-0.2**
SCTR	**Scanteiesti**	**1.17**	**84**	⇑P	**Pn**	**00 22 25.2**	**+0.7**
SCTR				⇑S	**Sn**	**00 22 42.8**	**-0.4**
CIOR	**Ciorogarla**	**1.17**	**196**	⇓P	**Pn**	**00 22 25.0**	**+0.5**
CIOR				⇑S	**Sn**	**00 22 43.2**	**-0.1**
AMRR	**Amara**	**1.19**	**143**	⇓P	**Pn**	**00 22 25.4**	**+0.6**
AMRR				⇓S	**Sn**	**00 22 43.2**	**-0.5**
TATR	**Tatarca**	**1.20**	**88**	⇑P	**Pn**	**00 22 25.4**	**+0.7**
TATR				⇓S	**Sn**	**00 22 43.4**	**-0.4**
STFAR	**Stefanesti-Arg**	**1.20**	**234**	⇑P	**Pn**	**00 22 25.7**	**+0.8**
STFAR				⇑S	**Sn**	**00 22 44.0**	**0.0**
GISR	**Galati**	**1.21**	**96**	⇓P	**Pn**	**00 22 25.3**	**+0.3**
GISR				⇓S	**Sn**	**00 22 43.2**	**-0.9**
ARR	**Arges**	**1.22**	**261**	⇑P	**Pn**	**00 22 26.0**	**+0.9**
ARR				⇑S	**Sn**	**00 22 43.5**	**-0.8**
BUC1	**Bucharest**	**1.24**	**190**	⇓P	**Pn**	**00 22 26.0**	**+0.7**
BUC1				⇑S	**Sn**	**00 22 44.3**	**-0.3**
VLDR	**Vladesti**	**1.25**	**77**	⇑P	**Pn**	**00 22 25.9**	**+0.6**
VLDR				⇓S	**Sn**	**00 22 44.2**	**-0.5**
JOSR	**Joseni**	**1.27**	**334**	⇑P	**Pn**	**00 22 25.7**	**+0.1**
JOSR				⇑S	**Sn**	**00 22 44.3**	**-0.9**
GIUM	**Giurgiulesti**	**1.32**	**93**	⇓P	**Pn**	**00 22 26.7**	**+0.6**
GIUM				⇑S	**Sn**	**00 22 45.6**	**-0.3**
GIUM	**Giurgiulesti**	**1.32**	**93**	P	**Pn**	**00 22 26.6**	**+0.6**
GIUM				S	**Sn**	**00 22 45.6**	**-0.3**
CFR	**Carcaliu**	**1.33**	**107**	⇑P	**Pn**	**00 22 26.1**	**0.0**
CFR				⇑S	**Sn**	**00 22 44.2**	**-1.9**
SGRR	**Singureni**	**1.37**	**191**	⇓P	**Pn**	**00 22 27.1**	**+0.5**
SGRR				⇓S	**Sn**	**00 22 46.6**	**-0.5**
BIZ	**Bicaz**	**1.38**	**353**	⇑S	**Sn**	**00 22 47.8**	**+0.5**
GIRR	**Girov**	**1.39**	**5**	⇑P	**Pn**	**00 22 27.6**	**+0.8**
HUMR	**Humele**	**1.42**	**223**	⇓P	**Pn**	**00 22 27.5**	**+0.3**
HUMR				⇑S	**Sn**	**00 22 47.4**	**-0.6**
HARR	**Harsova**	**1.43**	**127**	⇓P	**Pn**	**00 22 27.6**	**+0.4**
VASR	**Vaslui**	**1.47**	**43**	⇓P	**Pn**	**00 22 28.2**	**+0.5**
VASR				⇑S	**Sn**	**00 22 47.7**	**-1.3**
MDB	**Medias**	**1.48**	**293**	⇓P	**Pn**	**00 22 29.1**	**+1.3**
TLBR	**Topalu**	**1.59**	**130**	⇓P	**Pn**	**00 22 29.5**	**+0.5**
TLBR				⇑S	**Sn**	**00 22 49.7**	**-1.6**
LEOM	**Leova**	**1.61**	**55**	⇑P	**Pn**	**00 22 29.7**	**+0.5**
LEOM				⇑S	**Sn**	**00 22 51.0**	**-0.7**
LEOM	**Leova**	**1.61**	**55**	P	**Pn**	**00 22 29.7**	**+0.5**
LEOM				S	**Sn**	**00 22 50.1**	**-1.5**
LEOM	**Leova**	**1.61**	**55**	P	**Pn**	**00 22 29.7**	**+0.5**
LEOM				S	**Sn**	**00 22 50.9**	**-0.7**
TPGR	**Topolog**	**1.64**	**115**	⇑P	**Pn**	**00 22 29.8**	**+0.2**
TPGR				⇑S	**Sn**	**00 22 50.6**	**-1.6**
COPA	**Copaceanca**	**1.64**	**209**	⇓P	**Pn**	**00 22 30.1**	**+0.5**
COPA				⇓S	**Sn**	**00 22 51.9**	**-0.5**
CVDA	**Cernavoda**	**1.73**	**135**	⇑P	**Pn**	**00 22 31.1**	**+0.5**
CVDA				⇓S	**Sn**	**00 22 53.2**	**-0.9**
TLCR		**1.79**	**102**	⇓P	**Pn**	**00 22 31.6**	**+0.3**
TLCR				⇓S	**Sn**	**00 22 54.4**	**-1.0**
PRAR	**RASCA**	**1.79**	**358**	⇓P	**Pn**	**00 22 32.7**	**+1.3**
LOT	**Lotru**	**1.81**	**267**	⇓P	**Pn**	**00 22 32.6**	**+0.9**
IAS	**Iasi**	**1.83**	**27**	⇑P	**Pn**	**00 22 32.1**	**+0.4**
TIRR	**Tirgusor**	**1.84**	**126**	⇓P	**Pn**	**00 22 32.4**	**+0.4**
TIRR				⇑S	**Sn**	**00 22 54.8**	**-1.8**
RAZG	**Razgrad**	**2.01**	**176**	⇓P	**Pn**	**00 22 34.4**	**+0.4**
RAZG				⇑S	**Sn**	**00 22 59.2**	**-1.0**
MFTR	**Murfatlar**	**2.03**	**133**	⇓P	**Pn**	**00 22 34.7**	**+0.5**
MFTR				⇓S	**Sn**	**00 22 59.5**	**-1.1**
ZIMR		**2.04**	**200**	⇓P	**Pn**	**00 22 34.7**	**+0.4**
ZIMR				⇑S	**Sn**	**00 22 59.6**	**-1.1**
ARCR	**ARCALIA**	**2.04**	**318**	⇓P	**Pn**	**00 22 34.8**	**+0.4**
TSCT	**Constanta Port**	**2.17**	**130**	⇑P	**Pn**	**00 22 36.5**	**+0.6**
TSCT				⇓S	**Sn**	**00 23 02.1**	**-1.5**
MILM	**Milestii Mici**	**2.18**	**51**	⇑P	**Pn**	**00 22 36.4**	**+0.4**
MILM	**Milestii Mici**	**2.18**	**51**	⇑*i*P	**Pn**	**00 22 36.4**	**+0.4**
	2µm,0.1s						
MILM				*i* S	**Sn**	**00 23 01.8**	**-2.1**
	7µm,0.1s						
MILM	**Milestii Mici**	**2.18**	**51**	P	**Pn**	**00 22 36.4**	**+0.4**
MILM				S	**Sn**	**00 23 02.0**	**-1.9**
CJR	**Cluj-Napoca**	**2.22**	**302**	⇓P	**Pn**	**00 22 37.3**	**+0.7**
KIS	**Kishinev**	**2.23**	**49**	⇑P	**Pn**	**00 22 37.2**	**+0.4**
KIS	**Kishinev**	**2.23**	**49**	⇑*i*P	**Pn**	**00 22 37.1**	**+0.4**
	2µm,0.2s						
KIS				*i* S	**Sn**	**00 23 03.3**	**-1.7**
	5µm,0.2s						
KIS	**Kishinev**	**2.23**	**49**	P	**Pn**	**00 22 37.1**	**+0.4**
KIS				S	**Sn**	**00 23 03.5**	**-1.5**
SZH	**Strazhitsa**	**2.32**	**187**	*i* P	**Pn**	**00 22 38.3**	**+0.5**
SZH				S	**Sn**	**00 23 05.3**	**-1.7**
PSN	**Preselentsi**	**2.32**	**146**	*i* P	**Pn**	**00 22 38.7**	**+0.9**
PSN				S	**Sn**	**00 23 06.5**	**-0.5**
MANR	**Mangalia**	**2.38**	**137**	⇓P	**Pn**	**00 22 39.1**	**+0.6**
MANR				⇓S	**Sn**	**00 23 07.2**	**-1.0**
SRE	**Strehaia**	**2.40**	**249**	⇓P	**Pn**	**00 22 39.1**	**+0.4**
SRE				⇑S	**Sn**	**00 23 08.0**	**-0.7**
NEF	**NEVSHA**	**2.40**	**163**	*i* P	**Pn**	**00 22 39.6**	**+0.7**
DEV	**Deva**	**2.43**	**279**	⇓P	**Pn**	**00 22 40.3**	**+1.2**
GZR	**Gura Zlata**	**2.51**	**267**	⇑P	**Pn**	**00 22 41.1**	**+0.9**
GZR				⇓S	**Sn**	**00 23 12.5**	**+1.1**
GZR	**Gura Zlata**	**2.51**	**267**	*e*Pg	**Pn**	**00 22 41.1**	**+0.9**
GZR				*e*Sg	**Sn**	**00 23 11.6**	**+0.2**
PRD	**Provadia**	**2.53**	**162**	*i* P	**Pn**	**00 22 41.1**	**+0.7**
PRD				S	**Sn**	**00 23 11.7**	**0.0**
ROIA	**ROIAK**	**2.59**	**163**	*i* P	**Pn**	**00 22 42.2**	**+1.0**
AVR	**AVREN**	**2.63**	**158**	*i* P	**Pn**	**00 22 42.7**	**+1.0**
BAIL	**Bailesti**	**2.64**	**235**	⇓P	**Pn**	**00 22 42.5**	**+0.8**
BAIL				⇑S	**Sn**	**00 23 14.0**	**0.0**
PURM	**Purcari**	**2.64**	**67**	⇑*i*P	**Pn**	**00 22 42.2**	**+0.4**
	8µm,0.1s						
PURM				*i* S	**Sn**	**00 23 12.2**	**-1.9**
	11µm,0.3s						
ELND	**Elena**	**2.66**	**187**	⇑P	**Pn**	**00 22 42.8**	**+0.6**
RMGR	**Halanga-Turnu**	**2.74**	**252**	⇓P	**Pn**	**00 22 43.5**	**+0.5**
CHRU	**Chernivtsi**	**2.74**	**354**	P	**Pn**	**00 22 44.6**	**+1.5**
PUNG	**Punghina**	**2.74**	**243**	⇑P	**Pn**	**00 22 43.3**	**+0.1**
PUNG	**Punghina**	**2.74**	**243**	*e*Pg	**Pn**	**00 22 42.9**	**-0.2**
PUNG				*e*Sg	**Sn**	**00 23 13.7**	**-2.8**
VALD	**Valchedram**	**2.80**	**229**	*i* P	**Pn**	**00 22 44.2**	**+0.4**
DRGR		**2.80**	**297**	*e*Pn	**Pn**	**00 22 44.0**	**+0.1**
HERR	**Herculane**	**2.86**	**257**	⇑P	**Pn**	**00 22 44.4**	**-0.2**
RAKU	**Rahkiv**	**2.87**	**329**	*e*Pn	**Pn**	**00 22 46.1**	**+1.3**
KSV	**Kosov**	**2.88**	**343**	*e*Pn	**Pn**	**00 22 46.4**	**+1.5**
MPEP	**Malo Peshtene**	**2.89**	**221**	*i* P	**Pn**	**00 22 45.7**	**+0.6**
SORM	**Soroca**	**2.91**	**28**	⇑P	**Pn**	**00 22 45.3**	**0.0**
SORM	**Soroca**	**2.91**	**28**	⇑*i*P	**Pn**	**00 22 45.2**	**0.0**
	2µm,0.1s						
SORM				*i* S	**Sn**	**00 23 17.6**	**-2.8**
	3µm,0.2s						
SORM	**Soroca**	**2.91**	**28**	P	**Pn**	**00 22 45.2**	**0.0**
SORM				S	**Sn**	**00 23 17.8**	**-2.6**
NSLU	**Nyzhne Selyshc**	**2.93**	**335**	*e*Pn	**Pn**	**00 22 51.5**	**+6.0**
SURR	**Surduc**	**2.96**	**275**	⇑P	**Pn**	**00 22 46.5**	**+0.6**
KMPD	**K-Podol'skiy**	**2.99**	**2**	*e*Pn	**Pn**	**00 22 46.4**	**+0.1**
KMPD				*e*Sn	**Sn**	**00 23 20.5**	**-1.8**
JMB	**Yambol**	**3.08**	**177**	*i* P	**Pn**	**00 22 48.1**	**+0.6**
JMB				S	**Sn**	**00 23 23.0**	**-1.4**
NDNU	**Novodnistrovsk**	**3.10**	**13**	*e*Pn	**Pn**	**00 22 48.1**	**+0.3**
NDNU				Pm		00 22 48.3	
NDNU				*e*Sn	**Sn**	**00 23 22.7**	**-2.2**
NDNU				Sm		00 23 24.5	
BZS	**Buzias**	**3.31**	**272**	⇑P	**Pn**	**00 22 50.9**	**+0.4**
BZS	**Buzias**	**3.31**	**272**	*e*Pn	**Pn**	**00 22 50.4**	**-0.1**
SIRR	**Siria**	**3.34**	**284**	⇓P	**Pn**	**00 22 51.8**	**+0.9**
SIRR	**Siria**	**3.34**	**284**	*e*Pn	**Pn**	**00 22 51.7**	**+0.8**
MDVR	**Moldovita**	**3.37**	**258**	⇑P	**Pn**	**00 22 51.5**	**+0.2**
MDVR	**Moldovita**	**3.37**	**258**	*e*Pn	**Pn**	**00 22 51.4**	**+0.2**
MDVR				*e*Sn	**Sn**	**00 23 26.0**	**-5.0**
STNU	**Starunia**	**3.38**	**339**	*e*Pn	**Pn**	**00 22 52.9**	**+1.5**
ZAGS	**Zajecar**	**3.42**	**240**	*e*Pn	**Pn**	**00 22 51.3**	**-0.6**
ZAGS				*e*Sn	**Sn**	**00 23 26.2**	**-5.9**
KUBS	**Kucevo**	**3.50**	**252**	*e*Sn	**Pn**	**00 22 51.7**	**-1.3**
KUBS	**Kucevo**	**3.50**	**252**	*e*Pn	**Sn**	**00 23 29.0**	**-5.2**
ZAPS	**Zavoj**	**3.51**	**230**	*e*Pn	**Pn**	**00 22 52.9**	**-0.3**
ZAPS				*e*Sn	**Sn**	**00 23 30.0**	**-4.4**
MEZ	**Mezhgor'ye**	**3.52**	**328**	*i* Pn	**Pn**	**00 22 54.9**	**+1.7**
HORU	**Horodok**	**3.65**	**1**	*i* Pn	**Pn**	**00 22 55.6**	**+0.8**
HORU				Pm		00 22 55.9	
HORU				*e*Sn	**Sn**	**00 23 37.6**	**+0.1**
HORU				Sm		00 23 52.8	
MUKU	**Mukachevo**	**3.81**	**320**	*e*Pn	**Pn**	**00 22 58.4**	**+1.4**
MORS	**Morshin**	**3.93**	**336**	*i* Pn	**Pn**	**00 23 00.2**	**+1.6**
GRUS	**Gruza**	**4.35**	**249**	*e*Pn	**Pn**	**00 23 04.4**	**+0.3**
GRUS				*e*Sn	**Sn**	**00 23 48.4**	**-5.7**
KOLS	**Kolonicke sedl**	**4.36**	**322**	*e*P	**Pn**	**00 23 06.1**	**+1.9**
TARU	**Tarkhankut**	**4.36**	**90**	*e*S	**Sn**	**00 23 53.3**	**-1.1**
TARU				Sm		00 23 54.4	
	comp=N,4.0nm,0.2s						
TARU				Sm		00 23 54.4	
	comp=E,24nm,0.4s						
SELS	**Selova**	**4.42**	**240**	*e*Pn	**Pn**	**00 23 04.6**	**-0.5**
SELS				*e*Sn	**Sn**	**00 23 50.4**	**-5.5**
TRUS	**Trudelj**	**4.42**	**254**	*e*Pn	**Pn**	**00 23 05.2**	**0.0**
TRUS				*e*Sn	**Sn**	**00 23 51.6**	**-4.4**
DIVS	**Divibare**	**4.75**	**254**	*e*Pn	**Pn**	**00 23 08.8**	**-0.8**
IVAS	**Ivanjica**	**4.85**	**248**	*e*Pn	**Pn**	**00 23 10.0**	**-0.9**
IVAS				*e*Sn	**Sn**	**00 24 01.6**	**-4.6**
SEV	**Sevastopol'**	**5.29**	**99**	*e*P	**Pn**	**00 23 16.9**	**+0.1**
SEV				Pm		00 23 18.2	
	comp=Z,3.0nm,0.3s						
SEV				*e*S	**Sn**	**00 24 14.8**	**-1.9**
SEV				Sm		00 24 19.0	
	comp=N,8.0nm,0.3s						
SEV				Sm		00 24 19.0	
	comp=E,4.0nm,0.5s						
AKASG	**Malin Array Be**	**5.48**	**20**	P	**Pn**	**00 23 19.4**	**+0.1**
	comp=E,0.3nm,0.3s,baz=209,slow=12,SNR=4.1						
AKASG				S	**Sn**	**00 24 17.8**	**-3.4**
	comp=E,1.1nm,0.4s,baz=198,slow=22,SNR=7.5						
SIM	**Simferopol'**	**5.53**	**94**	*e*S	**Sn**	**00 24 20.4**	**-2.0**
SIM				Sm		00 24 22.9	
	comp=N,8.0nm,0.3s						
SIM				Sm		00 24 22.9	
	comp=E,1.0nm,0.2s						
SIM	**Simferopol'**	**5.53**	**94**	S	**Sn**	**00 24 20.4**	**-2.0**
SIM				Sm		00 24 22.9	
YAL	**Yalta**	**5.64**	**98**	*e*S	**Sn**	**00 24 22.6**	**-2.6**
YAL				Sm		00 24 29.0	
	comp=N,1.0nm,0.3s						
YAL				Sm		00 24 29.0	
	comp=E,5.0nm,0.4s						
YAL	**Yalta**	**5.64**	**98**	S	**Sn**	**00 24 22.6**	**-2.6**
YAL				Sm		00 24 29.0	
ALU	**Alushta**	**5.78**	**96**	*e*S	**Sn**	**00 24 27.2**	**-1.1**
ALU				Sm		00 24 29.0	
	comp=N,4.0nm,0.2s						
ALU				Sm		00 24 29.1	
	comp=E,2.0nm,0.5s						
ALU	**Alushta**	**5.78**	**96**	S	**Sn**	**00 24 27.2**	**-1.1**
ALU				Sm		00 24 29.0	
SUDU	**Sudak**	**6.16**	**93**	*e*S	**Sn**	**00 24 36.1**	**-1.4**
SUDU				Sm		00 24 37.8	
	comp=N,5.0nm,0.4s						
SUDU				Sm		00 24 37.8	
	comp=E,9.0nm,0.4s						
SUDU	**Sudak**	**6.16**	**93**	S	**Sn**	**00 24 36.1**	**-1.4**
SUDU				Sm		00 24 37.8	
BRTR	**Keskin Array B**	**7.94**	**135**	P	**Pn**	**00 23 53.2**	**+0.7**
	comp=E,0.8nm,0.6s,baz=315,slow=12,SNR=6.0						
ESDC	**Sonseca Array**	**22.98**	**266**	P	**P**	**00 26 52.9**	**+0.1**
	comp=E,0.5nm,0.7s,baz=61,slow=9.4,SNR=2.9						
	comp=E,0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**38.48**	**221**	P	**P**	**00 29 10.9**	**+1.9**
	comp=E,0.3nm,0.4s,baz=26,slow=8.7,SNR=9.7						
	comp=E,0.3nm,0.4s						

NEIC ***17*** *00:23:01.9±1.9,45°.22N±0°.04×106°.78W±0°.08,h0km±1km, ML2.8/46,Error ellipse: s-maj=9.6km s-min=5.8km az=67.0*

IDC ***17*** *00:23:02.3±1.3,44°.96N×106°.85W,h0km,mbtmp3.4/2, ML3.2/2,Error ellipse: s-maj=55.6km s-min=8.9km az=136.0*

ISC 17 00:23:00.7±1.0,45°.03N±0°.05×106°.80W±0°.05,h0km,n29, σ1s65/28,Montana

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
LAO	**LASA Array**	**1.71**	**14**		**Pb**	**00 23 32.5**	**-0.6**
LAO				IAML		00 24 03.8	
	114nm,0.7s						
LAO				IAML		00 24 03.9	
	147nm,0.8s						
RLMT	**Red Lodge**	**1.75**	**274**		**Pn**	**00 23 32.8**	**+0.2**
RLMT				IAML		00 24 00.1	
	71nm,0.5s						
RLMT				IAML		00 24 00.7	
	78nm,0.6s						
RSSD	**Black Hills**	**2.17**	**114**	Pn	**Pg**	**00 23 42.2**	**-0.2**
RSSD				IAML		00 24 18.8	
	62nm,0.5s						
K22A	**Casper**	**2.38**	**175**		**Pg**	**00 23 45.5**	**-0.9**
K22A				IAML		00 24 20.2	
	comp=N,52nm,0.8s						
K22A				IAML		00 24 27.2	
	comp=E,53nm,0.8s						
YMP	**Mirror Lake Pl**	**2.40**	**264**		**Pn**	**00 23 42.8**	**+1.2**
LKWY	**Lake**	**2.60**	**261**		**Pb**	**00 23 47.5**	**-0.9**
LKWY				IAML		00 24 41.7	
	comp=E,37nm,0.8s						
H17A	**Grant Village**	**2.76**	**258**		**Pb**	**00 23 50.1**	**-1.0**
YNR	**Norris Junctio**	**2.77**	**265**		**Pb**	**00 23 50.3**	**-1.0**
YNR				IAML		00 24 30.3	
	comp=E,24nm,0.6s						
YNR				IAML		00 24 36.5	
	comp=N,22nm,1.1s						
YHH	**Holmes Hill**	**2.88**	**267**	Pn	**Pb**	**00 23 51.9**	**-1.4**
YFT	**Old Faithful**	**2.93**	**260**		**Pb**	**00 23 53.3**	**-0.7**
FLWY	**Flagg Ranch**	**2.94**	**253**	Pn	**Pb**	**00 23 52.3**	**-1.8**
FLWY				IAML		00 24 35.4	
	comp=N,33nm,1.7s						
FLWY				IAML		00 24 54.4	
	comp=N,28nm,1.0s						
PD31	**Pinedale Array**	**3.01**	**222**	Pn	**Pb**	**00 23 54.4**	**-0.9**
PDAR	**Pinedale Array**	**3.01**	**222**		**Pb**	**00 23 54.1**	**-1.2**
PDAR	**Pinedale Array**	**3.01**	**222**	Pn	**Pb**	**00 23 53.6**	**-1.7**
	comp=N,3.1nm,0.3s,baz=50,slow=17,SNR=81						
PDAR				Lg	Lg	00 24 33.5	
	comp=N,4.0nm,0.3s,baz=45,slow=32,SNR=24						
	comp=N,2.9nm,0.3s						
LOHW	**Long Hollow**	**3.07**	**244**		**Pb**	**00 23 55.0**	**-1.4**
LOHW				IAML		00 24 46.9	
	comp=N,21nm,0.9s						
LOHW				IAML		00 24 47.6	
	comp=N,17nm,1.0s						
MOOW	**Moose Ponds**	**3.10**	**247**	Pn	**Pn**	**00 23 54.2**	**+3.1**
YHL	**Hebgen Lake**	**3.12**	**268**		**Pb**	**00 23 55.3**	**-1.8**
YHL				IAML		00 24 46.9	
	comp=N,33nm,0.8s						
YHL				IAML		00 24 52.3	
	comp=E,34nm,0.9s						
IMW	**Indian Meadow**	**3.17**	**251**		**Pb**	**00 23 56.5**	**-1.6**
IMW				IAML		00 24 50.5	
	comp=E,22nm,0.6s						
IMW				IAML		00 24 59.1	
	comp=E,28nm,0.7s						
SNOW	**Snow King Moun**	**3.24**	**243**	Pn	**Pb**	**00 23 57.5**	**-1.8**
SNOW				IAML		00 24 55.6	
	comp=E,18nm,0.9s						
SNOW				IAML		00 25 01.1	
	comp=E,21nm,0.9s						
FXWY	**Fox Creek**	**3.33**	**247**		**Pb**	**00 23 58.4**	**-2.5**
RWWY	**Rawlins**	**3.35**	**185**		**Pb**	**00 23 58.8**	**-2.3**
RWWY				IAML		00 24 54.3	
	comp=E,23nm,1.0s						
RWWY				IAML		00 25 09.1	
	comp=E,19nm,1.1s						
TPAW	**Teton Pass**	**3.35**	**244**		**Pn**	**00 23 57.9**	**+3.3**
TPAW				IAML		00 25 05.5	
	comp=E,15nm,1.2s						
REDW	**Red Top Meadow**	**3.35**	**242**		**Pn**	**00 23 57.2**	**+2.6**
BOZ	**Bozeman (W)**	**3.45**	**281**		**Pn**	**00 23 56.7**	**+0.8**
BOZ				IAML		00 24 52.6	
	comp=E,15nm,2.0s						
EGMT	**Eagleton**	**3.63**	**327**	Pn	**Pn**	**00 23 58.6**	**+0.4**
DGMT	**Dagmar**	**3.88**	**27**	Pn	**Pn**	**00 24 02.6**	**+0.9**
N23A	**Red Feather La**	**4.18**	**171**	Pg	**Pg**	**00 24 21.5**	**+0.7**
I10CA	**LAC DU BONNET**	**8.93**	**51**	I	I	01 18 40.0	
	baz=237,slow=322,SNR=6.3						
ULM	**Lac du Bonnet**	**9.04**	**51**	Pn	**Pn**	**00 25 12.8**	**+0.4**
	comp=E,0.6nm,0.3s,baz=237,slow=11,SNR=5.6						
ULM				Lg	Lg	00 27 41.2	
	comp=E,0.3nm,0.3s,baz=151,slow=16,SNR=2.2						
	comp=E,1.5nm,0.3s						

AFAD 17 00:27:57.9±0.0,38°.38N×27°.71E,h7km±4km,ML1.3, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IZMR	**zmir-demi**	**0.31**	**141**	P	Pg	00 28 04.2	+0.3
IZMR				P	Pb	00 28 04.3	-1.4
IZMR				S	Sg	00 28 08.0	+0.1
IZMR				*i* AML	AML	00 28 14.0	
	comp=N,41nm,0.6s						
IZMR				*i* AML	AML	00 28 15.0	
	comp=E,31nm,0.6s						
AKHS	**Akhisar**	**0.51**	**9**	P	Pg	00 28 07.6	-0.2
AKHS				*i* AML	AML	00 28 18.0	
	comp=E,22nm,0.7s						
KIRA	**zmir-Kiraz**	**0.57**	**108**	P	Pg	00 28 09.1	+0.1
KIRA				S	Sg	00 28 15.1	-1.4
MANT	**Manisa**	**0.68**	**80**	P	Pg	00 28 10.8	-0.2
GCAM	**G?zelcaml?**	**0.77**	**209**	P	Pb	00 28 13.4	-0.2
GCAM				*i* AML	AML	00 28 26.0	
	comp=N,20nm,1.0s						
GCAM				*i* AML	AML	00 28 37.0	
	comp=E,12nm,1.1s						

AFAD 17 00:28:04.2±0.0,37°.27N×28°.28E,h7km±1km,ML1.1, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TURN	**Turunc**	**0.49**	**183**	P	Pg	00 28 14.3	+0.6
TURN				S	Sg	00 28 20.3	+0.1
TURN				*i* AML	AML	00 28 23.0	
	comp=N,10nm,0.3s						
ESEN	**Aydn-Nazilli**	**0.53**	**6**	P	Pg	00 28 12.6	-1.8
ESEN				S	Sg	00 28 22.2	+0.9
ESEN				*i* AML	AML	00 28 26.0	
	comp=N,9.2nm,0.6s						
ESEN				*i* AML	AML	00 28 27.0	
	comp=E,13nm,0.4s						
ESEN	**Aydn-Nazilli**	**0.53**	**6**	P	Pg	00 28 12.7	-1.8
ESEN				S	Sg	00 28 22.1	+0.7
TAVA	**DENIZLI_Tavas**	**0.54**	**69**	P	Pg	00 28 14.8	+0.1
TAVA				S	Sg	00 28 20.6	-1.2
DNZT	**Denizli-Tavas-**	**0.59**	**89**	P	Pg	00 28 15.7	0.0
DNIZ	**Denizli-Tavas-**	**0.70**	**59**	P	Pg	00 28 17.9	+0.2
DNIZ				*i* A

ATHAL					AML	AML	00 31 54.2		
	1.1nm,0.4s								
AKDN	**Akdeniz- Kıbrı**	**0.72**	**348**		Pg	**Pn**	**00 31 41.1**	**+0.8**	
ALFC	**Alefka**	**0.73**	**321**		P	**Pb**	**00 31 40.2**	**+0.3**	
ALFC					S	**Sn**	**00 31 52.5**	**+1.9**	
ALFC					AML	AML	00 31 55.7		
	0.7nm,0.4s								
ALFC					AML	AML	00 31 56.6		
	0.4nm,0.2s								
LFK	**Lefkose**	**0.76**	**24**		Pg	**Pn**	**00 31 40.6**	**-0.2**	
AKMS	**Akamas**	**0.80**	**303**		P	**Pb**	**00 31 41.6**	**+0.5**	
AKMS					S	**Sn**	**00 31 55.2**	**+2.9**	
AKMS					AML	AML	00 32 01.4		
	0.2nm,0.3s								
AKMS					AML	AML	00 32 04.3		
	0.3nm,0.4s								
PARAL	**Paralimni**	**0.84**	**61**		P	**Pb**	**00 31 42.9**	**+1.2**	
PARAL					S	**Sn**	**00 31 55.2**	**+2.0**	
PARAL					AML	AML	00 31 57.9		
	0.3nm,0.9s								
PARAL					AML	AML	00 32 01.8		
	0.4nm,0.6s								
TEKE	**Tekeli-Mersin**	**1.55**	**359**		Pn	**Pb**	**00 31 53.7**	**-0.2**	
TEKE					Sn	**Sb**	**00 32 15.9**	**+2.8**	
AKKU	**Akkuyu-Mersin**	**1.60**	**12**		Pn	**Pb**	**00 31 54.1**	**-0.6**	
AKKU					Sn	**Sb**	**00 32 16.6**	**+2.1**	
GULN	**MERSIN_Gulnar**	**1.62**	**11**		P	**Pb**	**00 31 54.5**	**-0.6**	
GULN					S	**Sb**	**00 32 14.3**	**-0.9**	
TISA	**Tisan-Mersin**	**1.63**	**15**		Pn	**Pb**	**00 31 54.4**	**-0.8**	
YESI	**Yesilovacik-Me**	**1.66**	**14**		Pn	**Pb**	**00 31 54.7**	**-0.9**	
KARG	**Kargicak-Mersi**	**1.68**	**16**		Pn	**Pb**	**00 31 54.9**	**-1.1**	
IKL	**Isikli**	**1.71**	**15**		Pn	**Pb**	**00 31 55.4**	**-1.0**	
GAZI	**Gazipasa**	**1.78**	**338**		Pn	**Pb**	**00 31 57.3**	**-0.4**	
GAZI	**Gazipasa**	**1.78**	**338**		P	**Pb**	**00 31 57.1**	**-0.7**	
GAZI					S	**Sn**	**00 32 15.7**	**-0.9**	
GAZI					*i* AML	AML	00 32 21.0		
	comp=N,78nm,0.5s								
TEVE	**Tevekalti-Mers**	**1.86**	**7**		Pn	**Pb**	**00 31 57.8**	**-1.3**	
KIZK	**Mersin**	**2.06**	**23**		Pn	**Pn**	**00 32 00.1**	**+1.6**	
HNTI	**Hanita**	**2.25**	**131**		P	**Pn**	**00 32 02.0**	**+0.7**	
MMA0B	**Mount Meron ar**	**2.44**	**129**		P	**Pn**	**00 32 03.0**	**-1.0**	
MMA0B	**Mount Meron ar**	**2.44**	**129**		S	**Sn**	**00 32 32.6**	**-0.4**	
MMB1	**Mount Meron ar**	**2.45**	**129**		P	**Pn**	**00 32 03.9**	**-0.1**	
GEM	**Giv'at Ha'Em**	**2.50**	**123**		P	**Pn**	**00 32 06.1**	**+1.5**	
GEM	**Giv'at Ha'Em**	**2.50**	**123**		P	**Pn**	**00 32 04.8**	**+0.2**	
NATI	**Neve Ativ**	**2.52**	**121**		P	**Pn**	**00 32 05.0**	**+0.1**	
KEPZ	**Antalya-Kepez**	**2.63**	**332**		P	**Pn**	**00 32 08.2**	**+1.7**	
KKBE	**Karaman, Kazim**	**2.63**	**356**		P	**Pb**	**00 32 09.8**	**-2.5**	
KKBE					*i* AML	AML	00 33 37.0		
	comp=E,20nm,2.9s								
DED	**Mersin**	**2.72**	**29**		P	**Pn**	**00 32 07.3**	**-0.4**	
DED					S	**Sn**	**00 32 37.4**	**-2.4**	
KSHT	**Keshet**	**2.73**	**125**		P	**Pn**	**00 32 08.3**	**+0.4**	
KSHT	**Keshet**	**2.73**	**125**		S	**Sn**	**00 32 39.9**	**-0.2**	
SLTI	**Sal'it**	**2.82**	**145**		P	**Pn**	**00 32 10.1**	**+1.0**	
MMLI	**Mount Malkishu**	**2.86**	**138**		P	**Pn**	**00 32 09.7**	**0.0**	
SHMJ	**Saham**	**2.86**	**130**		P	**Pn**	**00 32 10.4**	**+0.8**	
SHMJ					S	**Sb**	**00 32 46.5**	**-4.2**	
KERG	**Konya-Eregli**	**2.93**	**15**		P	**Pn**	**00 32 13.7**	**+3.0**	
KERG					S	**Sn**	**00 32 46.0**	**+0.9**	
KERG					*i* AML	AML	00 32 55.0		
	comp=E,19nm,0.6s								
QRNJ	**Al-Qirein**	**3.02**	**137**		S	**Sn**	**00 32 50.0**	**+2.9**	
QRNJ	**Al-Qirein**	**3.02**	**137**		P	**Pn**	**00 32 12.7**	**+0.9**	
HMDT	**Nahal Hemdat**	**3.06**	**139**		P	**Pn**	**00 32 12.6**	**+0.3**	
HMDT	**Nahal Hemdat**	**3.06**	**139**		S	**Sn**	**00 32 48.9**	**+0.8**	
AMAZ	**Amatzia**	**3.39**	**154**		P	**Pn**	**00 32 18.3**	**+1.4**	
AMAZ	**Amatzia**	**3.39**	**154**		S	**Sn**	**00 32 57.1**	**+1.0**	
AMAZ	**Amatzia**	**3.39**	**154**		P	**Pn**	**00 32 17.7**	**+0.8**	
DSI	**Dead Sea**	**3.54**	**148**		P	**Pn**	**00 32 19.4**	**+0.4**	
DSI	**Dead Sea**	**3.54**	**148**		S	**Sn**	**00 33 00.7**	**+0.7**	
YTIR	**Yattir**	**3.61**	**152**		P	**Pn**	**00 32 20.7**	**+0.6**	
YTIR	**Yattir**	**3.61**	**152**		S	**Sn**	**00 33 01.7**	**-0.2**	
KNIK	**Mula-Seydike**	**3.68**	**309**		P	**Pn**	**00 32 23.4**	**+2.4**	
KNIK					S	**Sn**	**00 32 59.9**	**-3.7**	
IZZE	**Mula-Seydike**	**3.70**	**301**		P	**Pn**	**00 32 20.8**	**-0.3**	
IZZE					S	**Sn**	**00 32 56.1**	**-7.7**	
IZZE					*i* AML	AML	00 33 09.0		
	comp=N,13nm,1.7s								
IZZE					*i* AML	AML	00 33 45.0		
	comp=E,13nm,1.2s								
MSBI	**Mazada**	**3.75**	**150**		P	**Pn**	**00 32 23.4**	**+1.5**	
KZIT	**Kziot**	**3.82**	**164**		P	**Pn**	**00 32 23.3**	**+0.5**	
KZIT	**Kziot**	**3.82**	**164**		S	**Sn**	**00 33 07.2**	**+0.4**	
KZIT	**Kziot**	**3.82**	**164**		P	**Pn**	**00 32 23.3**	**+0.5**	
GHAJ	**Ghor Haditha**	**3.85**	**148**		P	**Pn**	**00 32 24.9**	**+1.7**	
GHAJ	**Ghor Haditha**	**3.85**	**148**		P	**Pn**	**00 32 24.6**	**+1.4**	
FETY	**Fethiye**	**3.89**	**303**		P	**Pn**	**00 32 27.0**	**+3.2**	
FETY					S	**Sn**	**00 33 05.9**	**-2.8**	
GOLH	**Golhisar**	**3.94**	**313**		P	**Pn**	**00 32 27.4**	**+2.9**	
GOLH					S	**Sn**	**00 33 04.9**	**-4.9**	
GOLH					*i* AML	AML	00 33 28.0		
	comp=N,14nm,1.7s								
GOLH					*i* AML	AML	00 33 34.0		
	comp=E,8.5nm,0.9s								
KARJ	**KARJ**	**4.05**	**148**		P	Pn	00 32 17.8	-8.1	
DNZT	**Denizli-Tavas-**	**4.29**	**310**		P	**Pn**	**00 32 31.4**	**+2.0**	
DNZT					S	Sn	00 33 07.4	-11	
ZFRI	**Zfri**	**4.37**	**156**		P	**Pn**	**00 32 30.6**	**+0.3**	
PRNI	**Paran**	**4.50**	**159**		P	**Pn**	**00 32 32.5**	**+0.3**	
TURN	**Turunc**	**4.55**	**300**		P	**Pn**	**00 32 32.3**	**-0.5**	
TURN					S	Sn	00 33 14.0	-11	
TURN					*i* AML	AML	00 34 43.0		
	comp=E,5.1nm,0.9s								
KRMI	**Paran Flat**	**4.65**	**163**		P	**Pn**	**00 32 34.2**	**-0.1**	
HRFI	**Mount Harif**	**4.81**	**160**		P	**Pn**	**00 32 37.4**	**+0.9**	
HRFI	**Mount Harif**	**4.81**	**160**		S	**Sn**	**00 33 30.7**	**-0.6**	
HRFI	**Mount Harif**	**4.81**	**160**		P	**Pn**	**00 32 36.8**	**+0.3**	
MBRI	**Mt Berech**	**5.01**	**162**		P	**Pn**	**00 32 39.6**	**+0.4**	
DAT	**Datca**	**5.02**	**297**		P	**Pn**	**00 32 39.7**	**+0.4**	
DAT					S	Sn	00 33 26.7	-10	
DAT					*i* AML	AML	00 33 51.0		
	comp=N,6.9nm,0.8s								
DAT					*i* AML	AML	00 34 36.0		
	comp=E,6.8nm,2.3s								
ESEN	**Aydn-Nazilli**	**5.04**	**311**		P	**Pn**	**00 32 40.5**	**+1.0**	
ESEN					S	Sn	00 33 23.3	-14	
ESEN					*i* AML	AML	00 34 39.0		
	comp=N,3.9nm,1.5s								
ESEN					*i* AML	AML	00 34 44.0		
	comp=E,5.5nm,2.0s								
EIL	**Elat**	**5.13**	**162**		P	**Pn**	**00 32 41.4**	**+0.5**	
EIL					S	**Sn**	**00 33 40.4**	**+1.1**	
EIL	**Elat**	**5.13**	**162**		S	**Sn**	**00 33 39.7**	**+0.4**	
EIL	**Elat**	**5.13**	**162**		P	**Pn**	**00 32 40.9**	**0.0**	

*NEIC **17** 00:36:14.7±1.3,0.°07N±0.°06×123.°12E±0.°07, h161km±2km, mb4.3/14, Error ellipse: s-maj=9.6km s-min=8.8km az=65.0*

*DJA **17** 00:36:16.2±0.3,0.°3S±3.°×12.°3E±.°, h161km×3km, M4.3/13, mb4.4/8, mB4.8/5, MLv4.4/13, Mw(mB)4.0/5*

*IDC **17** 00:36:21.2±2.9,0.°04S×123.°3E, h243km±29km, mb3.3/10, mbtmp3.9/10, Error ellipse: s-maj=34.3km s-min=13.6km az=64.0*

ISC 17 00:36:15.0±0.6,0.°04S±0.°06×123.°09E±0.°05, h181km±5km, n44, σ1§69/54, mb4.0/18, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.68**	**353**	P	**Pn**	**00 36 40.8**	**0.0**
GTOI				S	**Sn**	**00 37 00.2**	**-0.6**
LUWI	**Luwuk**	**1.05**	**198**	Pn	**Pn**	**00 36 42.0**	**-1.2**
LUWI				Sn	**Sn**	**00 37 02.2**	**-3.0**
LUWI	**Luwuk**	**1.05**	**198**	P	**Pn**	**00 36 42.3**	**-0.9**
LUWI				S	**Sn**	**00 37 02.1**	**-3.0**
KMSI	**Cibinong**	**1.08**	**56**	P	**Pn**	**00 36 44.1**	**+0.7**
KMSI				S	**Sn**	**00 37 06.6**	**+1.2**
TOLI2	**Tolitoli**	**2.58**	**296**	Pn	**Pn**	**00 36 57.4**	**-1.3**
TOLI2				Sn	**Sn**	**00 37 29.6**	**-3.1**
SANI	**Sanana**	**3.52**	**125**	P	**Pn**	**00 37 09.4**	**-0.7**
TNTI	**Ternate**	**4.35**	**79**		**Pn**	**00 37 19.9**	**-0.7**
TNTI					**Sn**	**00 38 08.9**	**-3.2**
TNTI	**Ternate**	**4.35**	**79**	P	**Pn**	**00 37 21.1**	**+0.5**
TTSI	**Tana Toraja**	**4.43**	**228**	P	**Pn**	**00 37 22.2**	**+0.5**
LBMI	**Labuha**	**4.45**	**98**	P	**Pn**	**00 37 22.3**	**+0.4**
NLAI	**Namlea**	**5.11**	**128**	P	**Pn**	**00 37 30.8**	**+0.3**
	35nm,0.5s,3μm0.9nm						
KAPI	**Kappang**	**5.96**	**214**	Pn	**Pn**	**00 37 43.0**	**+1.4**
BKSI	**Bulukumba**	**6.03**	**209**	P	**Pn**	**00 37 43.8**	**+1.4**
	57nm,1.0s,501nm0.2nm						

EDFI	**Ende, Flores**	**8.77**	**189**		P	**Pn**	**00 38 19.7**	**+1.2**	
	7.7nm,0.8s								
FAKI	**Fak Fak**	**9.59**	**107**		Pn	**Pn**	**00 38 30.4**	**+1.1**	
FAKI	**Fak Fak**	**9.59**	**107**		P	**Pn**	**00 38 30.8**	**+1.5**	
	24nm,1.5s								
JAGI	**Jajag, Banyuwa**	**12.23**	**227**			**P**	**00 39 11.6**	**+3.2**	
PWJI	**Pagerwojo**	**13.77**	**235**		P	**P**	**00 39 24.6**	**-0.9**	
	16nm,0.7s								
KPJI	**Karang Pucung**	**15.87**	**243**		P	**P**	**00 39 50.0**	**+1.1**	
	33nm,0.8s								
FITZ	**Fitzroy Crossi**	**18.12**	**172**		P	**Pn**	**00 40 15.8**	**+0.2**	
WB0	**Warramunga Arr**	**22.52**	**151**		P	**P**	**00 41 01.0**	**+1.2**	
WB0					IAmb	IAmb	00 41 15.8		
	comp=Z,21nm,1.5s								
WRA	**Warramunga Arr**	**22.64**	**152**		P	**P**	**00 41 00.7**	**-0.2**	
	comp=Z,0.8nm,0.9s,baz=327,slow=11,SNR=7.8								
	comp=Z,0.8nm,0.9s								
WB2	**Warramunga Arr**	**22.65**	**152**		P	**P**	**00 41 02.0**	**+1.1**	
WB2					IAmb	IAmb	00 41 34.5		
	comp=Z,17nm,1.5s								
WR0	**Warramunga Arr**	**22.75**	**151**		P	**P**	**00 41 02.2**	**+0.3**	
WR0					IAmb	IAmb	00 41 05.9		
	comp=Z,13nm,1.5s								
YULB	**Yu-li**	**23.36**	**356**		P	**P**	**00 41 07.9**	**+0.5**	
ASAR	**Alice Springs**	**25.73**	**157**		P	**P**	**00 41 29.1**	**+0.2**	
	comp=Z,0.2nm,0.6s,baz=332,slow=9.5,SNR=1.4								
ASAR					ScP	**ScP**	**00 48 09.2**	**-7.5**	
	comp=Z,0.4nm,1.0s,baz=349,slow=2.7,SNR=1.6								
	comp=Z,0.2nm,0.6s								
CMAR	**Chiang Mai Arr**	**30.01**	**309**		P	**P**	**00 42 09.8**	**+2.8**	
	comp=Z,1.4nm,0.5s,baz=139,slow=7.0,SNR=12								
	comp=Z,1.4nm,0.5s								
MJAR	**Matsushiro Arr**	**39.01**	**19**		P	**P**	**00 43 23.8**	**-0.2**	
	comp=Z,1.9nm,0.6s,baz=200,slow=9.5,SNR=4.9								
	comp=Z,1.9nm,0.6s								
SONM	**Songino Array**	**49.85**	**345**		P	**P**	**00 44 50.9**	**+1.1**	
	comp=Z,2.2nm,0.7s,baz=161,slow=9.7,SNR=18								
SONM					PcP	**PcP**	**00 46 07.0**	**-0.7**	
	comp=Z,0.7nm,0.5s,baz=142,slow=4.9,SNR=5.0								
	comp=Z,2.2nm,0.7s								
MK31	**Makanchi Array**	**58.70**	**328**		P	**P**	**00 45 54.3**	**+0.8**	
MKAR	**Makanchi Array**	**58.70**	**328**		P	**P**	**00 45 54.2**	**+0.6**	
MKAR	**Makanchi Array**	**58.70**	**328**		P	**P**	**00 45 54.3**	**+0.7**	
	comp=Z,0.8nm,0.5s,baz=121,slow=8.7,SNR=18								
MKAR					PcP	**PcP**	**00 46 40.7**	**-0.8**	
	comp=Z,0.9nm,0.5s,baz=129,slow=4.7,SNR=8.3								
	comp=Z,0.8nm,0.5s								
MAKZ	**Makanchi**	**58.87**	**328**		P	**P**	**00 45 55.4**	**+0.6**	
MAKZ					IAmb	IAmb	00 45 56.5		
	comp=Z,3.9nm,1.4s								
KBL	**Kabul**	**61.04**	**310**		P	**P**	**00 46 10.6**	**+0.6**	
GAR	**Garm**	**61.91**	**315**		P	**P**	**00 46 15.9**	**+0.3**	
GAR					IAmb	IAmb	00 46 17.8		
	comp=Z,4.4nm,0.9s								
ZALV	**Zalesovo Beam**	**62.39**	**336**		P	**P**	**00 46 17.6**	**-0.7**	
	comp=Z,0.4nm,0.5s,baz=141,slow=6.7,SNR=2.8								
	comp=Z,0.4nm,0.5s								
KURBB	**Kurchatov Arra**	**63.04**	**330**		P	**P**	**00 46 23.0**	**+0.2**	
	comp=Z,0.9nm,0.6s,baz=112,slow=8.2,SNR=9.9								
KURBB					PcP	**PcP**	**00 46 58.0**	**-0.8**	
	comp=Z,0.5nm,0.8s,baz=125,slow=4.4,SNR=4.3								
	comp=Z,0.9nm,0.6s								
KURK	**Kurchatov**	**63.06**	**330**		P	**P**	**00 46 23.2**	**+0.4**	
KURK					IAmb	IAmb	00 46 23.6		
	comp=Z,2.9nm,0.6s								
BVAR	**Bovoye Array**	**68.56**	**329**		P	**P**	**00 46 57.5**	**-0.6**	
	comp=Z,0.6nm,0.6s,baz=107,slow=7.7,SNR=3.8								
	comp=Z,0.6nm,0.6s								
TIXI	**Tiksi**	**71.67**	**2**		P	**P**	**00 47 16.4**	**-0.1**	
TIXI					IAmb	IAmb	00 47 16.9		
	comp=Z,3.7nm,0.5s								
ADK	**Adak**	**72.11**	**34**		P	**P**	**00 47 19.5**	**0.0**	
NRIK	**Noril'sk**	**73.25**	**348**		P	**P**	**00 47 26.1**	**+0.1**	
	comp=Z,1.6nm,0.4s,baz=124,slow=4.7,SNR=4.9								
	comp=Z,1.6nm,0.4s								
SPITS	**Spitsbergen Ar**	**93.44**	**349**		P	**P**	**00 49 08.0**	**-1.3**	
	comp=Z,8.4nm,1.0s,baz=99,slow=8.9,SNR=6.1								
TORD	**Torodi Ar. Bea**	**120.51**	**285**		PKP	**PKPdf**	**00 54 45.6**	**-0.5**	
	comp=Z,0.4nm,0.4s,baz=65,slow=2.2,SNR=10.0								

*SOME **17** 00:45:58.7,41.°30N×78.°75E, h0km*

*NNC **17** 00:45:59.7±0.8,41.°23N×78.°75E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=5.7km s-min=4.0km az=170.0*

*KRNET **17** 00:46:01.8±0.1,41.°38N×78.°80E, h30km, mb2.3*

ISC 17 00:45:59.2±2.4,41.°24N±0.°09×78.°74E±0.°05, h2km±13km, n36, σ0§86/57, 8C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**0.85**	**305**	⇓*i* P	**Pb**	**00 46 17.9**	**+0.8**
	baz=95						
TARG				⇓*i* S	**Sb**	**00 46 29.2**	**0.0**
	baz=95						
PRZ	**Przheval'sk**	**1.27**	**349**	⇓*i* P	**Pg**	**00 46 23.1**	**-0.4**
	baz=45						
PRZ				⇓*i* S	**Sg**	**00 46 38.8**	**-1.1**
	baz=45						
KDJ	**Kajisay**	**1.47**	**308**	⇓*i* P	**Pn**	**00 46 27.2**	**+0.3**
	baz=2.0						
KDJ				⇓*i* S	**Sg**	**00 46 46.0**	**-0.4**
	baz=2.0						
ANVS	**Anan'yevo**	**1.73**	**333**	⇑*e* P	**Pn**	**00 46 30.5**	**-0.1**
	baz=29						
ANVS				⇑*e* S	**Sn**	**00 46 52.1**	**-1.4**
	baz=29						
SATY	**Saty**	**1.83**	**352**	*e* P	**Pg**	**00 46 34.4**	**0.0**
	3.1nm,0.3s						
SATY				*e* S	**Sg**	**00 47 00.2**	**+2.1**
	7.4nm,0.3s						
SATY	**Saty**	**1.83**	**352**	Pg	**Pg**	**00 46 34.4**	**0.0**
	3.1nm,0.3s						
SATY				Lg	Lg	00 47 00.2	
	7.4nm,0.3s						
UZB	**Uzynbulak**	**1.91**	**6**	*e* P	**Pb**	**00 46 35.0**	**0.0**
	2.9nm,0.2s						
UZB				*e* S	**Sg**	**00 47 00.9**	**+0.1**
	4.3nm,0.4s						
UZB	**Uzynbulak**	**1.91**	**6**	Pg	**Pb**	**00 46 35.0**	**0.0**
	2.9nm,0.2s						
UZB				Lg	Lg	00 47 00.9	
	4.3nm,0.4s						
ZHN	**Zhinishke**	**1.94**	**353**	*e* P	**Pb**	**00 46 35.7**	**+0.3**
	3.7nm,0.2s						
ZHN				*e* S	**Sg**	**00 47 02.1**	**+0.6**
	13nm,0.2s						
ZHN	**Zhinishke**	**1.94**	**353**	Pg	**Pb**	**00 46 35.7**	**+0.3**
	3.7nm,0.2s						
ZHN				Lg	Lg	00 47 02.1	
	13nm,0.2s						
NRN	**Naryn**	**2.07**	**276**	⇑*i* P	**Pb**	**00 46 37.6**	**-0.2**
	baz=72						
NRN				⇑*i* S	**Sb**	**00 47 03.5**	**-0.6**
	baz=72						
ULHL	**Ulahol**	**2.12**	**299**	⇑*i* P	**Pn**	**00 46 37.2**	**+1.2**
	baz=95						
ULHL				⇑*i* S	**Sn**	**00 47 02.8**	**-0.2**
	baz=95						
PDGK	**Podgornoye**	**2.16**	**15**	Pg	**Pb**	**00 46 39.5**	**+0.3**
	0.8nm,0.6s						
PDGK				Lg	Lg	00 47 08.6	
	3.0nm,0.5s						
PDGK	**Podgornoye**	**2.16**	**15**	⇑Pg	**Pb**	**00 46 39.3**	**+0.1**
	0.8nm,0.4s						
PDGK				⇑Lg	Lg	00 47 08.6	
	7.2nm,0.8s						
TNSS	**Tian-Shan**	**2.23**	**324**	*e* P	**Pg**	**00 46 41.6**	**-0.5**
	2.0nm,0.3s						
TNSS				*e* S	**Sg**	**00 47 12.4**	**+1.4**
	3.4nm,0.4s						
TNSS	**Tian-Shan**	**2.23**	**324**	Pg	**Pg**	**00 46 41.6**	**-0.5**
	2.0nm,0.3s						
TNSS				Lg	Lg	00 47 12.4	
	3.4nm,0.4s						
KURS	**Kuram**	**2.28**	**350**	*e* P	**Pb**	**00 46 42.2**	**+1.0**
	4.2nm,0.6s						
KURS				*e* S	**Sg**	**00 47 13.8**	**+1.3**
	2.6nm,0.4s						
KURS	**Kuram**	**2.28**	**350**	Pg	**Pb**	**00 46 42.2**	**+1.0**
	4.2nm,0.6s						
KURS				Lg	Lg	00 47 13.8	
	2.6nm,0.4s						
MDOK	**Medeo**	**2.29**	**327**	*e* P	**Pb**	**00 46 41.9**	**+0.5**
	3.5nm,0.6s						
MDOK				*e* S	**Sg**	**00 47 12.9**	**0.0**
	5.8nm,0.7s						
MDOK	**Medeo**	**2.29**	**327**	Pg	**Pb**	**00 46 41.6**	**+0.1**
	2.2nm,0.5s						
MDOK				Pg	**Pb**	**00 46 41.9**	**+0.5**
	3.5nm,0.6s						
MDOK				Lg	Lg	00 47 12.9	
	5.8nm,0.7s						
MDOK				Lg	Lg	00 47 12.9	
	7.5nm,0.9s						
KOTS	**Kotyrbulak**	**2.33**	**329**	*e* P	**Pg**	**00 46 43.3**	**-0.6**
	2.1nm,0.2s						
KOTS				*e* S	**Sg**	**00 47 15.4**	**+1.4**
	15nm,0.6s						
KOTS	**Kotyrbulak**	**2.33**	**329**	Pg	**Pg**	**00 46 43.3**	**-0.6**
	2.1nm,0.2s						
KOTS				Lg	Lg	00 47 15.4	
	15nm,0.6s						
KTMS	**Ketmen**	**2.50**	**28**	*e* P	**Pb**	**00 46 45.8**	**+0.7**
	0.6nm,0.2s						
KTMS				*e* S	**Sg**	**00 47 19.8**	**+0.1**
	2.5nm,0.4s						
KTMS	**Ketmen**	**2.50**	**28**	Pg	**Pb**	**00 46 45.8**	**+0.7**
	0.6nm,0.2s						
KTMS				Lg	Lg	00 47 19.8	
	2.5nm,0.4s						
MTBS	**Maitube**	**2.55**	**318**	*e* P	**Pb**	**00 46 45.9**	**+0.1**
	1.1nm,0.2s						
MTBS				*e* S	**Sg**	**00 47 19.8**	**-1.4**
	3.7nm,0.3s						
MTBS	**Maitube**	**2.55**	**318**	Pg	**Pb**	**00 46 45.9**	**+0.1**
	1.1nm,0.2s						
MTBS				Lg	Lg	00 47 19.8	
	3.7nm,0.3s						
KST	**Kastek**	**2.74**	**312**	*e* P	**Pb**	**00 46 50.2**	**+1.2**
	0.9nm,0.2s						
KST				*e* S	**Sg**	**00 47 27.1**	**-0.1**
	7.3nm,0.6s						
KST	**Kastek**	**2.74**	**312**	Pg	**Pb**	**00 46 50.2**	**+1.2**
	0.9nm,0.2s						
KST				Lg	Lg	00 47 27.1	
	7.3nm,0.6s						
KTBS	**Karatobe**	**2.90**	**329**	*e* P	**Pb**	**00 46 52.6**	**+0.9**
	1.7nm,0.5s						
KTBS				*e* S	**Sg**	**00 47 31.6**	**-0.7**
	3.8nm,0.5s						
KTBS	**Karatobe**	**2.90**	**329**	Pg	**Pb**	**00 46 52.6**	**+0.9**
	1.7nm,0.5s						
KTBS				Lg	Lg	00 47 31.6	
	3.8nm,0.5s						
CHKK	**Chushkaly**	**2.91**	**334**	*e* P	**Pb**	**00 46 52.9**	**+1.0**
	0.6nm,0.2s						
CHKK				*e* S	**Sg**	**00 47 31.9**	**-0.9**
	7.3nm,0.3s						
CHKK	**Chushkaly**	**2.91**	**334**	Pg	**Pb**	**00 46 52.9**	**+1.0**
	0.6nm,0.2s						
CHKK				Lg	Lg	00 47 31.9	
	7.3nm,0.3s						
ARXS	**Arharly**	**3.04**	**348**	*e* P	**Pb**	**00 46 54.9**	**+0.7**
	0.9nm,0.5s						
ARXS				*e* S	**Sg**	**00 47 35.6**	**-1.4**
	4.7nm,0.5s						
ARXS	**Arharly**	**3.04**	**348**	Pg	**Pb**	**00 46 54.9**	**+0.7**
	0.9nm,0.5s						
ARXS				Lg	Lg	00 47 35.6	
	4.7nm,0.5s						
DJR	**Jarkent**	**3.18**	**14**	*e* P	**Pb**	**00 46 57.2**	**+0.6**
	0.6nm,0.2s						
DJR				*e* S	**Sg**	**00 47 39.5**	**-2.0**
	2.7nm,0.3s						
DJR	**Jarkent**	**3.18**	**14**	Pg	**Pb**	**00 46 57.2**	**+0.6**
	0.6nm,0.2s						
DJR				Lg	Lg	00 47 39.5	
	2.7nm,0.3s						

*IDC **17** 01:00:02.1±0.6,37.°09S×95.°21W, h0km, mb4.3/8, mbtmp4.3/9, ML3.8/1, MS4.0/25, Error ellipse: s-maj=29.4km s-min=17.3km az=92.0*

*GCMT **17** 01:00:03.5±0.4,37.°01S±0.°05×95.°35W±0.°03, h18km±1km, MW4.8/76, Moment Tensor Solution. s15,c16; s76,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.00±.20; $M_{\theta\theta}$0.10±.11; $M_{\phi\phi}$1.90±.13; $M_{r\theta}$0.97±.37; $M_{\theta\phi}$-0.30±.07; $M_{\phi r}$0.42±.24; Best double couple: $M_0$2.20200×10^{16} NP1:ϕ_s193.00000°, δ53.00000°, λ-62.00000°. NP2: ϕ_s331.00000°, δ45.00000°, λ-122.00000°. Principal axes: T 1.9690, Plg4.0000°, Azm263.0000°; N 0.4680, Plg22.0000°, Azm355.0000°; P -2.4350, Plg67.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=

comp=Z,15nm,1.1s
LPAZ La Paz 31.78 57 P **P** **01 06 28.3 +0.3**
comp=Z,2.8nm,0.9s,baz=220,slow=8.2,SNR=8.3
LPAZ LR LR 01 14 34.9
comp=Z,51nm,20.7s,baz=236,slow=28
comp=Z,2.8nm,0.9s
LPAZ La Paz 31.78 57 *e*P **P** **01 06 29.8 +1.8**
ATAH Atahualpa 33.59 32 LR LR 01 17 01.4
comp=Z,367nm,20.3s,baz=217,slow=30
CPUP Villa Florida 33.90 83 LR LR 01 18 41.1
comp=Z,326nm,19.8s,baz=253,slow=33
MCRA Macar, Loja 35.51 27 P **P** **01 06 59.1 -0.7**
CZSB Cruzeiro do Su 35.76 41 P **P** **01 07 01.9 0.0**
SIV San Ignacio 36.90 65 LR LR 01 20 08.1
comp=Z,259nm,20.1s,baz=290,slow=33
COHC Cochancay 37.52 27 P **P** **01 07 17.2 +0.4**
ITAB Concordia 37.63 88 *e*P P 01 07 25.8 +8.0
ETMB Extrema 37.83 52 P **P** **01 07 18.4 -1.1**
ETMB Extrema 37.83 52 *e*P **P** **01 07 20.3 +0.8**
AQDB Aquidauana 38.20 75 P **P** **01 07 20.7 -2.0**
AQDB IAmb IAmb 01 07 29.0
comp=Z,29nm,1.5s
AQDB Aquidauana 38.20 75 *e*P P 01 07 28.0 +5.3
CHSH Refugio Sur-Vo 38.56 27 P **P** **01 07 24.7 -1.6**
CHSH IAmb IAmb 01 07 31.1
comp=Z,25nm,1.4s
PTLB Pontes e Lacer 38.66 66 P **P** **01 07 25.0 -1.6**
PTLB Pontes e Lacer 38.66 66 *e*P **P** **01 07 30.2 +3.7**
PULU Pululahua 40.10 27 P **P** **01 07 38.4 -0.6**
OTAV Otavalo 40.32 27 P **P** **01 07 40.1 -0.7**
OTAV Otavalo 40.32 27 *e*P **P** **01 07 39.9 -0.9**
SAML Samuel 40.42 54 P **P** **01 07 40.9 -0.3**
SAML Samuel 40.42 54 *e*P **P** **01 07 42.5 +1.3**
SALV Santo Antonio 40.92 70 *e*P P 01 07 50.9 +5.5
TULM Tulcn-Chalpat 41.00 27 P **P** **01 07 46.5 0.0**
ARAG Araguaiana, MT 43.98 73 *e*P P 01 08 16.3 +6.0
ROSC El Rosal 46.11 30 P **P** **01 08 27.4 -0.2**
ROSC IAmb IAmb 01 08 51.9
comp=Z,14nm,1.0s
ROSC El Rosal 46.11 30 P **P** **01 08 28.4 +0.7**
comp=Z,3.3nm,0.3s,baz=213,slow=22,SNR=1.6
ROSC LR LR 01 25 49.0
comp=Z,199nm,19.6s,baz=270,slow=34
comp=Z,3.3nm,0.3s
MACA Manacapuru-AM 46.42 52 P **P** **01 08 27.9 -1.8**
MACA Manacapuru-AM 46.42 52 *e*P **P** **01 08 30.9 +1.3**
BDFB Brasilia 46.95 76 LR LR 01 27 19.2
comp=Z,414nm,18.8s,baz=184,slow=35
NPGB Novo Progresso 47.08 61 *e*P P 01 08 40.2 +5.3
BELA Belgrano 2 47.97 166 P **P** **01 08 41.4 +0.3**
JTS Las Juntas de 48.14 14 LR LR 01 23 51.1
comp=Z,144nm,21.9s,baz=154,slow=30
JANB Januaria 50.17 78 *e*P P 01 09 06.3 +7.6
PPT2 Papeete2 51.20 277 *e*S **S** **01 16 18.1 -7.0**
comp=Z,100nm,24.0s
PPT2 *e*LR LR 01 23 24.8
comp=Z,470nm,24.2s
PPT2 *e*LR LR 01 23 30.3
comp=Z,425nm,27.0s
PPT Papeete 51.21 277 LR LR 01 24 53.1
comp=Z,255nm,18.2s,baz=126,slow=29
SDV Santo Domingo 51.29 32 LR LR 01 28 42.0
comp=Z,141nm,21.7s,baz=238,slow=34
GUA01 Guaratinga, BA 52.86 83 *e*P P 01 09 25.7 +6.9
QSPA South Pole Qui 53.13 180 P **P** **01 09 20.5 +0.2**
QSPA IAmb IAmb 01 09 30.4
comp=Z,12nm,1.2s
QSPA South Pole Qui 53.13 180 P **P** **01 09 21.1 +0.7**
comp=Z,5.3nm,1.1s,baz=214,slow=0.5,SNR=10
comp=Z,5.3nm,1.1s
CMIG Matias Romero 53.89 1 LR LR 01 27 35.1
comp=Z,32nm,20.8s,baz=187,slow=31
VNA3 Neumayer Olymp 54.02 157 ⇑P **P** **01 09 27.9 +1.3**
comp=Z,11nm,1.0s
VNA3 ⇑PcP **PcP** **01 10 28.3 -3.2**
comp=Z,4.1nm,1.0s
VNA3 ⇑PKKPdf **PKKPdf** **01 31 21.6 +2.0**
comp=Z,1.1nm,0.2s
VNA2 Neumayer--Watz 54.81 156 ⇑P P 01 09 27.3 -5.0
comp=Z,5.9nm,0.8s,baz=290,slow=16
VNA2 ⇑PKKPdf **PKKPdf** **01 31 24.0 +5.3**
comp=Z,0.4nm,0.2s,baz=317,slow=12
PCRV Puerto La Cruz 55.17 38 LR LR 01 30 57.1
comp=Z,322nm,20.2s,slow=34
SNAA Sanae 56.05 158 ⇑P **P** **01 09 42.2 +0.9**
comp=Z,109nm,0.9s
SNAA Sanae 56.05 158 P **P** **01 09 41.9 +0.6**
comp=Z,8.9nm,1.1s,baz=239,slow=6.0,SNR=4.7
comp=Z,8.9nm,1.1s
VNDA Vanda 56.79 195 P **P** **01 09 48.2 +1.8**
comp=Z,2.1nm,1.0s,baz=154,slow=17,SNR=7.9
VNDA LR LR 01 28 38.6
comp=Z,100nm,20.5s,baz=230,slow=30
comp=Z,2.1nm,1.0s
RAR Rarotonga 57.42 267 LR LR 01 29 03.3
comp=Z,82nm,21.6s,baz=158,slow=30
TROLL Troll, Antarti 57.55 159 ⇑P **P** **01 09 52.0 -0.1**
comp=Z,781nm,0.9s
TROLL ⇑PcP **PcP** **01 10 42.5 -2.9**
comp=Z,145nm,0.9s
TROLL ⇑PKKPdf **PKKPdf** **01 31 17.6 +2.0**
comp=Z,2.8nm,0.1s
NBLA Lagarto - SE 57.69 79 *e*P P 01 10 00.1 +6.5
MDP Montagnes des 57.86 53 LR LR 01 32 00.2
comp=Z,248nm,21.5s,baz=284,slow=33
NBPB Pedra_Branca-C 59.67 73 *e*P P 01 10 12.9 +5.5
RCBR Riachuelo 62.32 75 LR LR 01 36 28.6
comp=Z,177nm,19.1s,baz=245,slow=35
ELIB Princess Elisa 63.21 162 *d*P **P** **01 10 29.9 -0.8**
comp=Z,8.2nm,0.8s
ELIB *dx* x 01 10 36.4
ELIB *d*PcP **PcP** **01 11 08.1 0.0**
ELIB *d*PP **PP** **01 12 49.1 -0.1**
DRIO Del Rio 66.35 355 P **P** **01 10 51.9 +0.4**
DRIO IAmb IAmb 01 10 54.2
comp=Z,9.7nm,1.4s
TX31 Lajitas Ar. Si 66.53 352 P **P** **01 10 53.6 +0.9**
TXAR Lajitas Array 66.53 352 P **P** **01 10 53.6 +0.8**
TXAR Lajitas Array 66.53 352 P **P** **01 10 53.8 +1.1**
comp=Z,2.9nm,1.1s,baz=167,slow=6.0,SNR=18
comp=Z,2.9nm,1.1s
URZ Urewera 66.57 239 LR LR 01 32 07.7
comp=Z,248nm,21.6s,baz=298,slow=29
ALPN Alpine 67.56 352 P **P** **01 10 59.6 +0.3**
VHRN Van Horn 68.12 351 P **P** **01 11 03.4 +0.5**
VHRN IAmb IAmb 01 11 46.1
comp=Z,7.7nm,1.5s
WHTX Lake Whitney, 68.75 358 P **P** **01 11 06.2 -0.3**
352A Blakely 68.91 10 P **P** **01 11 05.2 -2.3**
ABTX Abilene, Hawle 69.47 356 P **P** **01 11 10.3 -0.8**
ABTX IAmb IAmb 01 11 13.8
comp=Z,5.1nm,1.1s
143A Socs Landing, 69.53 4 P **P** **01 11 11.1 -0.3**
DUN6 Lazy B Ranch 70.46 348 P **P** **01 11 17.9 +0.6**
TUC Tucson 70.53 346 P **P** **01 11 17.4 -0.2**
TUC IAmb IAmb 01 11 27.8
comp=Z,9.3nm,1.5s
MSTX Muleshoe 71.03 354 P **P** **01 11 20.9 +0.2**
MSTX IAmb IAmb 01 11 40.8
comp=Z,11nm,1.1s
ANMO Albuquerque 72.41 350 P **P** **01 11 28.4 -0.7**
ANMO IAmb IAmb 01 11 38.4
comp=Z,9.8nm,1.5s
Y14A Wickenburg 72.55 345 P **P** **01 11 30.1 +0.4**
Y14A IAmb IAmb 01 11 33.6
comp=Z,7.7nm,1.2s
BG3 Lake Jocassee 72.65 11 P **P** **01 11 29.7 -0.6**
CCM Cathedral Cave 74.87 3 P **P** **01 11 43.6 +0.4**
CCM IAmb IAmb 01 11 51.2
comp=Z,5.4nm,0.9s
MVCO Mesa Verde 74.92 349 P **P** **01 11 42.5 -1.3**
MVCO IAmb IAmb 01 11 48.1
comp=Z,12nm,1.3s
SDCO Great Sand Dun 75.05 352 P **P** **01 11 45.2 +0.5**
SHPR Sheep Range 75.49 344 P **P** **01 11 48.0 +1.0**
HMU Henry Mountain 75.99 348 P **P** **01 11 50.9 +0.8**
P38A Dawn 76.36 1 P **P** **01 11 52.3 +0.6**
P38A IAmb IAmb 01 11 54.5
comp=Z,11nm,1.1s
TPH Tonopah 77.47 342 P **P** **01 11 59.1 +0.8**
SPR3 Spring Creek 3 77.70 345 P **P** **01 12 00.7 +1.0**
NVAR Mina Array Bea 78.07 342 P **P** **01 12 01.6 0.0**
NVAR Mina Array Bea 78.07 342 P **P** **01 12 03.4 +1.8**
comp=Z,2.1nm,0.9s,baz=187,slow=5.3,SNR=11
comp=Z,2.1nm,0.9s
DUG Dugway, Tooele 78.56 346 P **P** **01 12 05.1 +0.9**
DUG IAmb IAmb 01 12 08.2
comp=Z,12nm,1.5s
ELK Elko 79.57 345 P **P** **01 12 11.2 +1.4**
ELK IAmb IAmb 01 12 13.5
comp=Z,13nm,1.5s
ECSD EROS Data Cent 80.45 359 P **P** **01 12 15.1 +0.8**
ECSD IAmb IAmb 01 12 17.1
comp=Z,14nm,1.4s
PDAR Pinedale Array 80.52 349 P **P** **01 12 15.5 +0.5**
PDAR Pinedale Array 80.52 349 P **P** **01 12 15.8 +0.9**
comp=Z,5.8nm,1.2s,baz=158,slow=4.8,SNR=16
comp=Z,5.8nm,1.2s
RSSD Black Hills 81.21 354 P **P** **01 12 19.4 +0.8**
RSSD IAmb IAmb 01 12 22.2
comp=Z,12nm,1.3s
TPAW Teton Pass 81.44 349 P **P** **01 12 20.3 +0.4**
TPAW IAmb IAmb 01 12 22.4
comp=Z,14nm,1.4s
HLID Hailey 82.12 346 P **P** **01 12 24.4 +1.1**
HLID IAmb IAmb 01 12 27.3
comp=Z,10nm,1.4s
YHH Holmes Hill 82.69 349 P **P** **01 12 26.7 +0.2**
SADO Sadowa 82.80 12 LR LR 01 44 45.1
comp=Z,56nm,20.1s,baz=68,slow=32
DZM Mont Dzumac 83.17 248 LR LR 01 41 00.7
comp=Z,90nm,20.2s,baz=42,slow=30
J05D Fort Rock, OR 83.38 341 P **P** **01 12 30.5 +0.7**
I07A Izee 83.70 343 P **P** **01 12 32.5 +1.0**
HAWA Hanford 85.89 344 P **P** **01 12 43.9 +1.6**
HAWA IAmb IAmb 01 12 46.2
comp=Z,11nm,1.3s
DBIC Dimbokro 94.39 85 LR LR 01 51 13.4
comp=Z,130nm,19.7s,baz=210,slow=33
TSUM Tsumeb 95.66 119 LR LR 01 51 09.8
comp=Z,26nm,19.9s,baz=324,slow=32
HNR Honiara 95.86 254 LR LR 01 47 41.0
comp=Z,1μm,20.5s,baz=354,slow=30
CTA Charters Tower 98.74 237 LR LR 01 55 12.8
comp=Z,63nm,18.0s,baz=0.0,slow=34
YKA Yellowknife Ar 100.44 351 P **Pdif** **01 13 48.8 -0.3**
comp=Z,3.3nm,1.0s,baz=146,slow=3.4,SNR=3.5
RAYN Ar Rayn 143.88 101 PKPdf PKPab 01 19 36.2 +0.5
KULM Kulim 145.12 209 **PKPbc** **01 19 38.9 -1.5**
MDJ Mudanjiang 145.52 297 **PKPdf** **01 19 40.5 -0.2**
KSRS Korea Array 145.76 284 PKPbc **PKPab** **01 19 43.3 +1.1**
comp=Z,1.4nm,0.7s,baz=151,slow=2.8,SNR=3.6
KSAR Wonju Array Be 145.79 284 PKPbc **PKPbc** **01 19 42.6 +0.7**
GURO Guroymak-BITLI 146.54 74 PKPdf **PKPdf** **01 19 43.3 +0.5**
NRIK Noril'sk 147.65 358 PKPdf **PKPdf** **01 19 43.3 -0.3**
NRIK Noril'sk 147.65 358 PKPbc **PKPbc** **01 19 47.4 +1.1**
comp=Z,1.5nm,0.6s,baz=47,slow=3.9,SNR=9.1
KIV Kislovodsk 147.67 64 **PKPbc** **01 19 46.8 -0.5**
KBZ Khabaz 147.81 65 PKPbc **PKPbc** **01 19 48.5 +1.0**
comp=Z,4.5nm,1.1s,baz=266,slow=8.9,SNR=6.2
ONI Oni 148.15 67 **PKPdf** **01 19 46.9 +1.6**
SRIT Nakonsritamara 148.54 209 PKPbc **PKPbc** **01 19 49.1 -1.1**
GNI Garni 148.87 72 PKPbc **PKPbc** **01 19 50.1 -0.6**
PALK Pallekele 150.11 172 PKPbc **PKPbc** **01 19 54.0 -0.3**
HIA Hailar 151.90 307 PKPbc **PKPbc** **01 19 57.7 +0.3**
CMAR Chiang Mai Arr 157.57 218 PKPdf **PKPdf** **01 19 58.2 -1.5**
CMAR Chiang Mai Arr 157.57 218 PKPab **PKPab** **01 20 32.5 +1.0**
comp=Z,0.5nm,0.3s,baz=157,slow=2.6,SNR=5.8
ABKAR Akbulak array 158.39 48 PKPdf **PKPdf** **01 19 59.6 0.0**
GEYT Alibeck 158.98 80 PKPdf **PKPdf** **01 20 00.8 0.0**
SONM Songino Array 160.74 311 PKPab **PKPab** **01 20 46.5 +1.8**
comp=Z,1.7nm,1.1s,baz=30,slow=1.4,SNR=8.2
BVAR Bovoye Array 161.22 27 PKP **PKPdf** **01 20 04.2 +1.4**
comp=Z,1.0nm,0.9s,baz=80,slow=1.7,SNR=6.4
BVAR PKPab **PKPab** **01 20 46.3 -0.2**
comp=Z,0.5nm,0.7s,baz=289,slow=4.4,SNR=2.1
ZALV Zalesovo Beam 163.14 360 PKP **PKPdf** **01 20 03.6 -1.1**
comp=Z,1.0nm,0.8s,baz=318,slow=1.9,SNR=7.2
KURBB Kurchatov Arra 165.78 16 PKP **PKPdf** **01 20 06.7 -0.4**
comp=Z,1.7nm,1.1s,baz=355,slow=0.6,SNR=5.8
MKAR Makanchi Array 170.15 9 PKP **PKPdf** **01 20 09.7 -0.6**
comp=Z,0.6nm,0.9s,baz=59,slow=7.2,SNR=5.2

TAP ***17*** *01:01:02.5,24.34N×121.64E,h24km,ML3.6,B*
JMA ***17*** *01:01:02.9±0.1,24.3N±0.3×121.6E±0.6,h22km,MV2.9/10, TAIWAN REGION*
ISC 17 01:01:02.9±0.8,24.33N±0.01×121.64E±0.01,h19km±1km**, n157,₀0°75/306,7C-15D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EAHA	**Aohua**	**0.09**	**93**	⇑P			**Pg**	**01 01 07.0**	**+0.5**
baz=94									
EAHA				S			**Sg**	**01 01 10.1**	**+1.1**
baz=94									
EHP	**Heping Village**	**0.09**	**105**	P			**Pg**	**01 01 07.3**	**+0.7**
baz=105									
EHP				*e*S			**Sg**	**01 01 10.5**	**+1.4**
baz=105									
ENA	**Nanau**	**0.13**	**44**	⇑*i*P			**Pg**	**01 01 07.5**	**+0.5**
baz=48									
ENA				*i* S			**Sg**	**01 01 10.8**	**+1.1**
baz=48									
EWUT	**Wuta**	**0.17**	**48**	P			**Pg**	**01 01 07.8**	**+0.4**
baz=48									
EWUT				S			**Sg**	**01 01 11.4**	**+0.9**
baz=48									
NACB	**Ninganchiao**	**0.17**	**196**	P			**Pg**	**01 01 07.4**	**0.0**
NACB	**Ninganchiao**	**0.17**	**196**	⇑P			**Pg**	**01 01 07.5**	**0.0**
baz=195									
NACB				S			**Sg**	**01 01 11.3**	**+0.8**
baz=195									
ETL	**Fush Village**	**0.17**	**186**	P			**Pg**	**01 01 07.7**	**+0.1**
baz=185									
ETL				S			**Sg**	**01 01 11.8**	**+1.0**
baz=185									
ETLH	**Xiulin Townshi**	**0.20**	**229**	⇑P			**Pg**	**01 01 08.2**	**+0.3**
baz=228									
ETLH				S			**Sg**	**01 01 12.0**	**+0.7**
baz=228									
LATG	**Datong**	**0.23**	**332**	⇓P			**Pb**	**01 01 08.5**	**+0.3**
baz=333									
LATG				S			**Sg**	**01 01 12.5**	**+0.3**
baz=333									
NNSB	**Datong**	**0.26**	**292**	⇓P			**Pb**	**01 01 09.0**	**+0.1**
baz=297									
NNSB				S			**Sg**	**01 01 13.2**	**+0.3**
baz=297									
NNSH	**Datong**	**0.26**	**292**	⇓P			**Pb**	**01 01 09.0**	**+0.2**
baz=291									
NNSH				S			**Sb**	**01 01 13.2**	**+0.4**
baz=291									
TWD	**Chiawan**	**0.26**	**190**	⇑*i*P			**Pb**	**01 01 08.6**	**-0.1**
baz=181									
TWD				*i* S			**Sg**	**01 01 13.7**	**+0.9**
baz=181									
NNS	**Nan Shan**	**0.27**	**293**	⇓*i*P			**Pb**	**01 01 09.1**	**0.0**
baz=299									
NNS				*i* S			**Sb**	**01 01 13.5**	**+0.3**
baz=299									
NDT	**Datong Townshi**	**0.29**	**336**	⇓P			**Pg**	**01 01 09.5**	**+0.1**
baz=341									
NDT				S			**Sb**	**01 01 14.1**	**+0.2**
baz=341									
ESAO	**Su ao**	**0.30**	**37**	P			**Pg**	**01 01 09.4**	**-0.1**
baz=38									
ESAO				S			**Sg**	**01 01 14.0**	**0.0**
baz=38									
NDS	**Dongshan**	**0.30**	**12**	⇓P			**Pg**	**01 01 09.7**	**+0.1**
baz=12									
NDS				S			**Sb**	**01 01 14.6**	**+0.2**
baz=12									
TWC	**Suao**	**0.33**	**34**	⇑*i*P			**Pg**	**01 01 10.1**	**+0.1**
baz=36									
TWC				*i* S			**Sg**	**01 01 15.2**	**+0.3**
baz=36									
HWA	**Hwalien**	**0.36**	**186**	*i* P			**Pg**	**01 01 10.7**	**+0.3**
baz=191									
HWA				*i* S			**Sb**	**01 01 17.2**	**+1.2**
baz=191									
FUSS	**Fushou**	**0.38**	**257**	⇓P			**Pg**	**01 01 11.0**	**+0.1**
baz=257									
FUSS				S			**Sg**	**01 01 16.5**	**+0.2**
baz=257									
LXIB	**Xiulin Townshi**	**0.38**	**214**	P			**Pg**	**01 01 10.4**	**-0.4**
baz=214									
LXIB				S			**Sg**	**01 01 16.8**	**+0.5**
baz=214									
TWE	**Neicheng**	**0.39**	**3**	⇓*i*P			**Pg**	**01 01 10.9**	**0.0**
baz=9.0									
TWE				*i* S			**Sg**	**01 01 16.5**	**+0.1**
baz=9.0									
ETM	**Tongmen**	**0.39**	**201**	P			**Pg**	**01 01 10.6**	**-0.5**
baz=194									
ETM				S			**Sg**	**01 01 16.9**	**+0.3**
baz=194									
WHF	**Hehuan Shan**	**0.39**	**241**	⇑*i*P			**Pg**	**01 01 11.3**	**+0.1**
baz=241									
WHF				*i* S			**Sg**	**01 01 17.2**	**+0.2**
baz=241									
YHNB	**Yeheng**	**0.41**	**324**	P			**Pg**	**01 01 11.2**	**-0.3**
YHNB	**Yeheng**	**0.41**	**324**	⇓P			**Pg**	**01 01 11.4**	**0.0**
baz=324									
YHNB				S			**Sg**	**01 01 17.4**	**+0.1**
baz=324									
FUSB	**Fushanzhiwuyua**	**0.43**	**353**	⇓P			**Pg**	**01 01 11.5**	**-0.2**
baz=356									
FUSB				S			**Sg**	**01 01 17.8**	**+0.1**
baz=356									
NSK	**Sanguang**	**0.43**	**323**	⇓*i*P			**Pg**	**01 01 11.6**	**-0.2**
baz=323									
NSK				*i* S			**Sg**	**01 01 17.6**	**-0.2**
baz=323									
TWT	**Tachien**	**0.43**	**259**	⇓*i*P			**Pg**	**01 01 12.2**	**+0.3**
baz=256									
TWT				*i* S			**Sg**	**01 01 18.4**	**+0.4**
baz=256									
ILA	**Ilan**	**0.44**	**12**	*i* P			**Pg**	**01 01 12.1**	**+0.2**
baz=9.0									
ILA				*i* S			**Sb**	**01 01 18.7**	**+0.4**
baz=9.0									
TDCB	**Techi**	**0.45**	**260**	⇓P			**Pg**	**01 01 12.2**	**+0.1**
baz=257									
TDCB				S			**Sg**	**01 01 18.1**	**-0.3**
baz=257									
NWLT	**Wulai**	**0.46**	**344**	⇓P			**Pg**	**01 01 11.9**	**-0.4**
baz=338									
NWLT				S			**Sg**	**01 01 18.5**	**-0.1**
baz=338									
CHGB	**Renai**	**0.51**	**238**	P			**Pb**	**01 01 13.1**	**-0.3**
baz=238									
CHGB				S			**Sg**	**01 01 20.7**	**+0.5**
baz=238									
EOS2	**EOS2**	**0.54**	**81**	*e*P			**Pg**	**01 01 14.7**	**+1.0**
baz=76									
EOS2				*e*S			**Sn**	**01 01 25.0**	**+1.0**
baz=76									
SHUL	**Shoufeng**	**0.55**	**188**	P			**Pb**	**01 01 13.9**	**+0.1**
baz=190									
SHUL				S			**Sg**	**01 01 22.9**	**+1.6**
baz=190									
ESL	**Shilin**	**0.55**	**200**	*i* P			**Pb**	**01 01 12.9**	**-1.0**
baz=194									
ESL				*i* S			**Sb**	**01 01 21.1**	**-0.3**
baz=194									
NFF	**Wufeng Townshi**	**0.56**	**302**	P			**Pb**	**01 01 13.9**	**-0.2**
baz=307									
NFF				S			**Sb**	**01 01 21.6**	**-0.1**
baz=307									
OWD	**Renai**	**0.57**	**229**	P			**Pb**	**01 01 13.9**	**-0.4**
baz=229									
OWD				S			**Sb**	**01 01 21.9**	**-0.1**
baz=229									
EGS		**0.57**	**27**	*i* P			**Pb**	**01 01 14.3**	**+0.1**
baz=28									
EGS				S			**Sg**	**01 01 22.9**	**+0.8**
baz=28									
WUSB	**Renai**	**0.59**	**235**	P			**Pb**	**01 01 14.4**	**-0.2**
baz=230									
WUSB				S			**Sg**	**01 01 23.1**	**+0.4**
baz=230									
EOS3	**EOS3**	**0.62**	**94**	*e*P			**Pn**	**01 01 16.2**	**-0.3**
baz=87									
EOS3				*e*S			**Sn**	**01 01 28.0**	**+2.2**
baz=87									
NHDH	**Xindian Distri**	**0.64**	**350**	P			**Pb**	**01 01 15.3**	**0.0**
baz=355									
NHDH				S			**Sb**	**01 01 23.6**	**-0.2**
baz=355									
WHP	**Taichung City**	**0.64**	**265**	⇓P			**Pb**	**01 01 15.5**	**+0.1**
baz=265									
WHP				S			**Sb**	**01 01 24.2**	**+0.2**
baz=265									
NJD	**Zhudong**	**0.65**	**308**	P			**Pg**	**01 01 16.2**	**+0.6**
baz=311									
NJD				*e*S			**Sg**	**01 01 25.2**	**+0.9**
baz=311									
EOS4	**EOS4**	**0.65**	**109**	*e*P			**Pg**	**01 01 16.3**	**+0.7**
baz=109									
EOS4				*e*S			**Sn**	**01 01 26.8**	**+0.4**
baz=109									
LIOB	**Emei**	**0.65**	**299**	P			**Pb**	**01 01 15.9**	**+0.3**
baz=292									
LIOB				S			**Sb**	**01 01 24.6**	**+0.3**
baz=292									
TATO	**Taipei**	**0.65**	**348**	P			**Pb**	**01 01 15.7**	**0.0**
TATO	**Taipei**	**0.65**	**348**	P			**Pb**	**01 01 15.5**	**-0.1**
baz=352									
TATO				S			**Sb**	**01 01 23.9**	**-0.5**
baz=352									
NSTT	**Nanjuang**	**0.66**	**297**	*e*P			**Pb**	**01 01 15.8**	**+0.1**
baz=297									
NSTT				*i* S			**Sb**	**01 01 24.8**	**+0.3**
baz=297									
TIPB	**Shuangxi**	**0.66**	**15**	P			**Pb**	**01 01 15.4**	**-0.3**
baz=7.0									
TIPB				S			**Sb**	**01 01 24.1**	**-0.4**
baz=7.0									
WARBT	**Fenglin Townsh**	**0.66**	**201**	P			**Pb**	**01 01 14.0**	**-1.7**
baz=208									
WARBT				S			**Sb**	**01 01 24.6**	**+0.1**
baz=208									
BACT	**New Taipei Cit**	**0.69**	**345**	P			**Pg**	**01 01 17.0**	**+0.6**
baz=353									
BACT				*e*S			**Sg**	**01 01 26.8**	**+1.2**
baz=353									
EGFH	**Guangfu**	**0.69**	**197**	P			**Pb**	**01 01 15.6**	**-0.7**
baz=197									
EGFH				S			**Sg**	**01 01 26.6**	**+0.9**
baz=197									
WPL	**Puli Township**	**0.70**	**243**	P			**Pb**	**01 01 16.1**	**-0.5**
baz=243									
WPL				S			**Sb**	**01 01 26.0**	**+0.1**
baz=243									
TAP	**Taipei**	**0.71**	**350**	P			**Pg**	**01 01 17.1**	**+0.2**
baz=350									
TAP				S			**Sg**	**01 01 26.8**	**+0.4**
baz=350									
DPDB	**Guoxing**	**0.72**	**246**	P			**Pb**	**01 01 16.9**	**0.0**
baz=246									
DPDB				S			**Sb**	**01 01 26.7**	**+0.3**
baz=246									
HSN1	**Hsinchu**	**0.72**	**308**	P			**Pg**	**01 01 17.6**	**+0.6**
baz=308									
HSN1				*e*S			**Sn**	**01 01 28.1**	**-0.6**
baz=308									
WCS	**Beigang Elemen**	**0.72**	**248**	P			**Pb**	**01 01 17.0**	**+0.1**
baz=248									
WCS				S			**Sb**	**01 01 26.4**	**0.0**
baz=248									
NTY	**Taoyuan**	**0.73**	**335**	P			**Pg**	**01 01 17.9**	**+0.5**
baz=335									
NTY				S			**Sn**	**01 01 28.3**	**-0.7**
baz=335									
VWDT	**VWDT**	**0.74**	**219**	P			**Pb**	**01 01 16.7**	**-0.4**
baz=223									
VWDT				S			**Sg**	**01 01 28.2**	**+1.0**
baz=223									
TWB1	**Santiao Chiao**	**0.74**	**25**	*i* P			**Pb**	**01 01 16.7**	**-0.5**
baz=25									
TWB1				S			**Sb**	**01 01 26.7**	**-0.2**
baz=25									
NWF	**Wu-fen Shan**	**0.74**	**10**	*i* P			**Pb**	**01 01 17.4**	**+0.1**
baz=9.0									
NWF				S			**Sg**	**01 01 27.6**	**+0.1**
baz=9.0									
WFSB	**Wu-fen Shan**	**0.74**	**10**	P			**Pb**	**01 01 17.4**	**+0.2**
baz=9.0									
WFSB				S			**Sg**	**01 01 27.6**	**+0.1**
baz=9.0									
SBCB	**Hsinchu**	**0.75**	**307**	P			**Pg**	**01 01 18.1**	**+0.5**
baz=307									
SBCB				S			**Sn**	**01 01 29.8**	**+0.3**
baz=307									
NCUH	**Zhongli**	**0.76**	**327**	P			**Pg**	**01 01 17.9**	**+0.2**
baz=326									
NCUH				S			**Sn**	**01 01 29.0**	**-0.5**
baz=326									
NCU	**National Centr**	**0.76**	**327**	*i* P			**Pg**	**01 01 17.9**	**+0.2**
baz=327									

NCU				*i*	S		**Sn**	**01 01 29.4 -0.1**
	baz=327							
HSN	**Hsinchu**	**0.77**	**307**	*i*	P		**Pg**	**01 01 18.2 +0.2**
HSN	baz=311			*i*	S		**Sn**	**01 01 30.1 +0.2**
SXI1	**Grass Mountain**	**0.79**	**16**		P		**Pb**	**01 01 18.0 -0.1**
SXI1	baz=360			*e*	S		**Sg**	**01 01 29.6 +0.8**
NJN	**Zhunan**	**0.79**	**296**	*e*	P		**Pg**	**01 01 18.6 +0.3**
NJN	baz=293			*e*	S		**Sg**	**01 01 29.5 +0.8**
TWS1	**Kuangyinshan**	**0.79**	**345**	*i*	P		**Pg**	**01 01 18.6 +0.2**
TWS1	baz=357				S		**Sn**	**01 01 29.9 -0.4**
TWQ1	**Liyutan**	**0.79**	**271**	*i*	P		**Pg**	**01 01 18.8 +0.3**
TWQ1	baz=271				S		**Sn**	**01 01 30.2 -0.3**
NMLH	**Miaoli**	**0.80**	**285**		P		**Pn**	**01 01 19.4 +0.2**
NMLH	baz=285				S		**Sn**	**01 01 30.3 -0.4**
NSY	**Sanyi**	**0.81**	**276**	*i*	P		**Pn**	**01 01 19.4 +0.1**
NSY	baz=276			*i*	S		**Sn**	**01 01 31.7 +0.9**
YM01	**YM01**	**0.81**	**355**		P		**Pb**	**01 01 18.7 +0.2**
YM01	baz=343				S		**Sb**	**01 01 29.2 +0.2**
SMLT	**Sun Moon Lake**	**0.81**	**237**	*i*	P		**Pb**	**01 01 18.5 0.0**
SMLT	baz=237				S		**Sg**	**01 01 29.9 +0.2**
TNOU	**National Taiwa**	**0.82**	**8**		P		**Pb**	**01 01 18.6 0.0**
TNOU	baz=11				S		**Sb**	**01 01 29.5 +0.2**
SSLB	**Suanglung**	**0.83**	**229**		P		**Pb**	**01 01 18.6 -0.2**
SSLB	**Suanglung**	**0.83**	**229**		P		**Pb**	**01 01 18.3 -0.5**
SSLB	baz=230				S		**Sn**	**01 01 31.2 -0.3**
TYC	**Yuchr**	**0.84**	**239**	*i*	P		**Pb**	**01 01 18.8 0.0**
TYC	baz=239				S		**Sb**	**01 01 30.0 +0.3**
NTST	**Danshui**	**0.84**	**348**		P		**Pb**	**01 01 19.4 +0.4**
NTST	baz=359				S		**Sn**	**01 01 31.5 -0.2**
YM08	**YM08**	**0.85**	**357**		P		**Pb**	**01 01 18.6 -0.5**
YM08	baz=344				S		**Sb**	**01 01 30.3 +0.1**
ANP	**Anpu**	**0.86**	**352**	*i*	P		**Pb**	**01 01 19.1 -0.1**
ANP	baz=352				S		**Sg**	**01 01 31.2 +0.2**
HGSD	**Ruisui**	**0.86**	**194**		P		**Pb**	**01 01 18.5 -0.7**
HGSD	baz=202			*e*	S		**Sg**	**01 01 31.8 +0.6**
NHW	**Xinwu Township**	**0.86**	**321**		P		**Pb**	**01 01 19.5 +0.2**
NHW	baz=321				S		**Sn**	**01 01 32.5 +0.3**
NWRT	**Kuosheng**	**0.86**	**1**	*e*	P		**Pb**	**01 01 19.3 0.0**
NWRT	baz=360				S		**Sg**	**01 01 31.2 0.0**
EHY	**Hungye**	**0.88**	**200**	*i*	P		**Pb**	**01 01 17.5 -2.0**
EHY	baz=191				S		**Sb**	**01 01 30.6 -0.2**
EHYH	**Wanrong**	**0.88**	**198**		P		**Pb**	**01 01 19.0 -0.6**
EHYH	baz=198			*e*	S		**Sg**	**01 01 31.8 0.0**
TCU	**Taichung**	**0.90**	**258**	*i*	P		**Pg**	**01 01 21.0 +0.5**
TCU	baz=258			*i*	S		**Sn**	**01 01 35.2 +2.1**
WWF	**Wufeng**	**0.91**	**252**		P		**Pg**	**01 01 21.6 +0.9**
WWF	baz=245				S		**Sn**	**01 01 34.4 +1.1**
WDJ	**Dajia District**	**0.92**	**271**		P		**Pg**	**01 01 21.4 +0.6**
WDJ	baz=271				S		**Sn**	**01 01 34.3 +0.9**
TWY	**Chenhua**	**0.94**	**358**	*i*	P		**Pn**	**01 01 21.3 +0.2**
TWY	baz=348				S		**Sg**	**01 01 33.6 0.0**
WHYT	**Xinyi Township**	**0.96**	**229**		P		**Pb**	**01 01 21.3 +0.3**
WHYT	baz=226			*e*	S		**Sb**	**01 01 34.1 +0.7**
WNT1	**Nantou City**	**0.98**	**244**		P		**Pg**	**01 01 22.7 +0.8**
WNT1	baz=245				S		**Sg**	**01 01 37.7 +2.9**
WJS	**Zhushan**	**0.98**	**239**		P		**Pg**	**01 01 22.4 +0.4**
WJS	baz=239				S		**Sg**	**01 01 36.5 +1.7**
WNT	**Mingjian**	**0.99**	**243**	*i*	P		**Pg**	**01 01 22.4 +0.4**
WNT	baz=256			*i*	S		**Sg**	**01 01 37.5 +2.4**
YULB	**Yu-li**	**0.99**	**199**		P		**Pb**	**01 01 20.6 -0.9**
YULB	**Yu-li**	**0.99**	**199**		P		**Pb**	**01 01 18.5 -2.9**
YULB	baz=199			*e*	S		**Sb**	**01 01 33.6 -0.5**
WCHH	**Zhanghua**	**1.02**	**256**		P		**Pn**	**01 01 22.7 +0.5**
WCHH	baz=256				S		**Sg**	**01 01 38.1 +1.9**
EYUL	**Yuli**	**1.03**	**197**		P		**Pb**	**01 01 21.7 -0.4**
EYUL	baz=197			*e*	S		**Sb**	**01 01 34.5 -0.7**
TWF1	**Yuli**	**1.03**	**198**	*i*	P		**Pb**	**01 01 21.2 -0.9**
TWF1	baz=198				S		**Sb**	**01 01 34.4 -0.8**
ECBN	**Changbin**	**1.03**	**190**	*e*	P		**Pb**	**01 01 22.0 -0.1**
ECBN	baz=190			*e*	S		**Sb**	**01 01 35.1 -0.1**
ALS	**Alishan**	**1.12**	**223**	*i*	P		**Pn**	**01 01 23.9 0.0**
ALS	baz=210			*i*	S		**Sg**	**01 01 40.5 +1.0**
CHN5	**Tsauling**	**1.15**	**230**	*i*	P		**Pg**	**01 01 25.2 +0.1**
CHN5	baz=231			*i*	S		**Sg**	**01 01 40.9 +0.7**
CHKH	**Chenggong**	**1.16**	**191**		P		**Pn**	**01 01 23.5 -0.6**
CHKH	baz=192				S		**Sb**	**01 01 38.9 -0.1**
FULB	**Fuli**	**1.18**	**196**		P		**Pn**	**01 01 24.2 -0.2**
FULB	baz=196			*e*	S		**Sb**	**01 01 39.3 -0.2**
WGK	**Gukeng**	**1.18**	**237**	*i*	P		**Pb**	**01 01 25.3 +0.6**
WGK	baz=249			*i*	S		**Sg**	**01 01 42.9 +1.7**
WDLH	**Douliu**	**1.20**	**238**		P		**Pb**	**01 01 25.7 +0.7**
WDLH	baz=249				S		**Sg**	**01 01 43.0 +1.2**
WRL	**Guolierlin Hig**	**1.23**	**250**		P		**Pn**	**01 01 25.2 0.0**
WRL	baz=262				S		**Sn**	**01 01 42.2 +0.9**
EHD	**Haiduan**	**1.25**	**199**		P		**Pn**	**01 01 24.0 -1.3**
EHD	baz=199				S		**Sb**	**01 01 40.9 -0.7**
YOJ	**Yonaguni jima**	**1.25**	**84**		P		**Pg**	**01 01 27.6 +0.5**
YOJ	**Yonaguni jima**	**1.25**	**84**		P		**Pn**	**01 01 25.4 0.0**
YOJ	baz=84			*e*	S		**Sg**	**01 01 43.6 +0.1**
YOJ	**Yonaguni jima**	**1.25**	**84**	*e*	P		**Pn**	**01 01 25.7 +0.3**
CHKT	**Chengkung**	**1.26**	**192**	*i*	P		**Pn**	**01 01 25.9 +0.5**
CHKT	baz=192			*i*	S		**Sn**	**01 01 42.4 +0.6**
ELDTW	**Lidau**	**1.28**	**207**	*i*	P		**Pn**	**01 01 23.9 -1.9**
ELDTW	baz=195				S		**Sn**	**01 01 41.9 -0.7**
ECS	**Chishang**	**1.29**	**198**	*e*	P		**Pn**	**01 01 25.9 -0.1**
ECS	baz=198			*e*	S		**Sn**	**01 01 42.8 0.0**
WCKO	**Fanlu**	**1.30**	**227**		P		**Pb**	**01 01 27.3 +0.5**
WCKO	baz=240				S		**Sg**	**01 01 46.4 +1.3**
WTK	**Tuku**	**1.32**	**241**		P		**Pb**	**01 01 27.0 0.0**
WTK	baz=255				S		**Sg**	**01 01 45.5 0.0**
CHN4	**Tsaushan**	**1.37**	**225**	*i*	P		**Pb**	**01 01 28.8 +0.9**
CHN4	baz=225			*i*	S		**Sg**	**01 01 48.0 +0.7**
TPUB	**Ta-pu**	**1.39**	**222**		P		**Pb**	**01 01 28.3 +0.1**
TPUB	**Ta-pu**	**1.39**	**222**		P		**Pn**	**01 01 27.9 +0.7**
TPUB	baz=211				S		**Sg**	**01 01 47.8 +0.1**
STYH	**Taoyuan**	**1.41**	**215**	*e*	P		**Pn**	**01 01 27.8 +0.3**
STYH	baz=203				S		**Sb**	**01 01 47.4 +1.3**
WTP	**Ta-pu**	**1.44**	**221**	*i*	P		**Pb**	**01 01 29.0 -0.1**
WTP	baz=207			*i*	S		**Sg**	**01 01 49.6 +0.2**
WSF	**Szhu**	**1.47**	**242**	*e*	P		**Pb**	**01 01 29.5 -0.2**
WSF	baz=254			*i*	S		**Sg**	**01 01 50.1 -0.5**
LONT	**Longtian**	**1.50**	**198**	*e*	P		**Pn**	**01 01 27.6 -1.2**
LONT	baz=187			*e*	S		**Sn**	**01 01 46.3 -1.5**
TWK	**Hsinying**	**1.50**	**225**	*i*	P		**Pb**	**01 01 30.4 +0.2**
TWK	baz=225			*i*	S		**Sg**	**01 01 51.1 -0.3**
WSL	**Shuilin Townsh**	**1.53**	**238**		P		**Pg**	**01 01 31.9 -0.4**
WSL	baz=251				S		**Sg**	**01 01 51.6 -0.6**
SNST	**Tainan City**	**1.53**	**224**		P		**Pg**	**01 01 31.9 -0.4**
SNST	baz=224				S		**Sg**	**01 01 51.8 -0.5**
CHN1	**Nanshi**	**1.53**	**222**	*i*	P		**Pb**	**01 01 30.8 0.0**
CHN1	baz=210			*i*	S		**Sg**	**01 01 53.0 +0.5**
ICHU	**Yijhu**	**1.58**	**232**		P		**Pb**	**01 01 31.6 +0.1**
ICHU	baz=233				S		**Sb**	**01 01 52.6 +1.5**
SGST	**Jiashian**	**1.58**	**218**	*i*	P		**Pn**	**01 01 30.2 +0.3**
SGST	baz=205			*i*	S		**Sb**	**01 01 52.7 +1.6**
TWG	**Pinlang**	**1.59**	**199**	*e*	P		**Pn**	**01 01 30.3 +0.2**
TWG	baz=188			*e*	S		**Sn**	**01 01 49.4 -0.8**
TWGBT	**Beinan**	**1.60**	**199**	*e*	P		**Pn**	**01 01 30.6 +0.5**
TWGBT	baz=188			*e*	S		**Sn**	**01 01 48.9 -1.4**
SLGT	**Liugui**	**1.62**	**215**		P		**Pb**	**01 01 31.6 -0.5**
SLGT	baz=202				S		**Sg**	**01 01 54.3 -0.8**
CHN8	**Yiju**	**1.64**	**233**	*e*	P		**Pb**	**01 01 32.7 +0.2**
CHN8	baz=250			*i*	S		**Sb**	**01 01 54.6 +1.8**
LDUT	**Ludao**	**1.66**	**186**	*e*	P		**Pn**	**01 01 29.2 -1.8**
LDUT	baz=197			*e*	S		**Sn**	**01 01 51.1 -0.7**
ECL	**Taimali**	**1.84**	**200**	*i*	P		**Pn**	**01 01 33.3 -0.2**
ECL	baz=188			*e*	S		**Sn**	**01 01 54.9 -1.4**
TSCK	**Chigu Township**	**1.85**	**231**		P		**Pn**	**01 01 34.3 +0.7**
TSCK	baz=232				S		**Sb**	**01 01 59.1 +0.1**
TSMG	**Majia**	**1.86**	**210**		P		**Pn**	**01 01 34.3 +0.5**
TSMG	baz=194				S		**Sb**	**01 01 59.6 +0.3**
MASBT	**Mashibuluo**	**1.95**	**209**		P		**Pn**	**01 01 35.9 +0.9**
MASBT	baz=193			*e*	S		**Sb**	**01 02 01.1 -0.6**
PNG	**Penghu**	**2.06**	**249**	*e*	P		**Pn**	**01 01 36.2 -0.2**
PNG	baz=250			*e*	S		**Sn**	**01 02 02.0 +0.4**
PHUB	**P'eng-hu**	**2.06**	**247**		P		**Pn**	**01 01 36.0 -0.6**
PHUB	baz=249				S		**Sn**	**01 02 01.0 -0.8**
EAST	**Anshuo**	**2.08**	**201**		P		**Pn**	**01 01 37.3 +0.5**
EAST	baz=191			*e*	S		**Sn**	**01 02 02.5 +0.4**
WDGT	**Dungji**	**2.11**	**240**	*e*	P		**Pn**	**01 01 37.9 +0.8**
WDGT	baz=241			*i*	S		**Sb**	**01 02 05.0 -1.4**
JKRS	**Kuro-shima**	**2.16**	**92**	*e*	P		**Pn**	**01 01 38.3 +0.4**
JKRS				*e*	S		**Sn**	**01 02 02.9 -1.3**
SCZT	**Fangliau**	**2.17**	**206**	*e*	P		**Pb**	**01 01 40.2 -1.3**
SCZT	baz=191			*e*	S		**Sb**	**01 02 07.3 -0.8**
SLIU	**Shizi**	**2.25**	**200**		P		**Pn**	**01 01 40.3 +1.2**
SLIU	baz=189			*e*	S		**Sn**	**01 02 07.7 +1.3**
JIJ	**Ishigaki jima**	**2.28**	**89**		P		**Pn**	**01 01 40.5 +1.0**
JIJ				*e*	S		**Sn**	**01 02 06.6 -0.5**
VCHM	**Qimei**	**2.32**	**242**		P		**Pn**	**01 01 40.0 0.0**
VCHM	baz=243				S		**Sn**	**01 02 08.5 +0.5**
MATB	**Ma-tsu**	**2.38**	**320**		P		**Pn**	**01 01 39.7 -1.1**
MATB	baz=320				S		**Sn**	**01 02 09.1 -0.4**
PTMZ	**Houxiangcun**	**2.40**	**288**		P		**Pn**	**01 01 40.3 -0.9**
PTMZ	baz=287				S		**Sn**	**01 02 08.6 -1.5**
JISG	**Ishigakijimahi**	**2.44**	**84**		P		**Pn**	**01 01 42.4 +0.6**
JISG					S		**Sn**	**01 02 11.1 -0.1**
LYJJ	**Jianjiangzhen**	**2.79**	**323**		P		**Pn**	**01 01 45.2 -1.3**
LYJJ	baz=323			*e*	S		**Sn**	**01 02 18.1 -1.5**
XPSS	**Dashiqiu**	**2.90**	**333**		P		**Pn**	**01 01 47.5 -0.5**
XPSS	baz=334			*e*	S		**Sn**	**01 02 20.8 -1.6**
KNM	**Kinmen**	**2.93**	**272**	*i*	P		**Pn**	**01 01 49.1 +0.6**
KNM	baz=272				S		**Sn**	**01 02 25.0 +1.9**
MHZQ	**Yeshan**	**2.95**	**307**		P		**Pn**	**01 01 48.1 -0.7**
MHZQ	baz=307			*e*	S		**Sn**	**01 02 22.5 -1.1**
KNMB	**Chin-men Tao**	**2.97**	**273**		P		**Pn**	**01 01 48.4 -0.7**
KNMB	baz=273			*e*	S		**Sn**	**01 02 22.6 -1.6**
AXDP	**Jialang**	**3.39**	**280**		P		**Pn**	**01 01 54.4 -0.4**
AXDP	baz=280				S		**Sn**	**01 02 34.1 -0.5**
ZPLA	**Ao Xicun**	**3.58**	**264**	*e*	P		**Pn**	**01 01 57.3 -0.1**
ZPLA	baz=265			*e*	S		**Sn**	**01 02 38.4 -0.8**

IDC 17 01:38:05.2±2.4, 3.56N×127.00E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=196.0km s-min=28.0km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.44**	**163**	P	P	01 43 26.1	+0.2
	2.0nm,0.5s,baz=343,slow=9.8,SNR=16 2.0nm,0.5s						
ASAR	**Alice Springs**	**27.89**	**166**	P	P	01 43 56.8	-0.2
	0.3nm,0.5s,baz=344,slow=8.2,SNR=8.0 0.3nm,0.5s						
MKAR	**Makanchi Array**	**57.85**	**325**	P	P	01 47 58.6	-0.1
	0.1nm,0.5s,baz=122,slow=8.1,SNR=2.0 0.1nm,0.5s						

*NEIC **17** 01:50:22.6±0.5, 19.41N±0.04×155.26W±0.02, h41km±4km, Error ellipse: s-maj=5.3km s-min=3.2km az=164.0*
HVO 17 01:50:23.6±0.4, 19.39N±0.04×155.24W±0.03, h38km±3km, ML2.1/17, ML2.5/38(NEIC), Error ellipse: s-maj=5.5km s-min=4.1km az=194.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKO	**Keanakako`i**	**0.03**	**284**	Pn	Pn	01 50 29.2	-0.8
KKO				IAML		01 50 32.4	
	comp=E,456nm,1.3s						
KKO				IAML		01 50 38.7	
	comp=N,752nm,0.7s						
PUH	**Pauahi**	**0.03**	**129**	Pn	Pn	01 50 29.4	-0.6
PUH					Sn	01 50 33.7	-0.6
PUH				IAML		01 50 35.2	
	comp=N,658nm,0.7s						
BYL	**Byron's Ledge**	**0.03**	**315**	Pn	Pn	01 50 29.2	-0.8
BYL				IAML		01 50 38.0	
	comp=N,643nm,0.8s						
BYL				IAML		01 50 39.5	
	comp=E,736nm,0.7s						
RIM	**Rim**	**0.03**	**277**	Pn	Pn	01 50 29.4	-0.6
RIM				IAML		01 50 34.3	
	comp=N,628nm,1.0s						
RIM				IAML		01 50 34.8	
	comp=E,521nm,0.9s						
HATHI	**Halema'uma'u T**	**0.04**	**326**	Pn	Pn	01 50 29.2	-0.8
SBLHI	**Steaming Bluff**	**0.04**	**322**		Pn	01 50 29.2	-0.8
SBLHI					Sn	01 50 33.7	-0.8
SBLHI	**Steaming Bluff**	**0.04**	**322**	IAML		01 50 35.3	
	comp=N,564nm,0.9s						
SBLHI				IAML		01 50 37.1	
	comp=E,439nm,1.5s						
SDHHI	**Sand Hill**	**0.05**	**268**	Pn	Pn	01 50 29.3	-0.7
UWE	**Uwekahuna**	**0.06**	**300**	Pn	Pn	01 50 29.3	-0.8
KNHH	**Kane Nui o Ham**	**0.07**	**100**		Pn	01 50 29.5	-0.6
RSD	**Rainshed**	**0.08**	**332**	Pn	Pn	01 50 29.7	-0.5
RSD				IAML		01 50 35.1	
	comp=N,451nm,0.7s						
STCH	**Steam Cracks**	**0.11**	**93**	Pn	Pn	01 50 29.6	-5.9
HLP	**Hilina Pali**	**0.12**	**215**		Pn	01 50 29.7	-5.4
HLP				IAML		01 50 35.2	
	comp=N,570nm,1.3s						
HLP				IAML		01 50 35.6	
	comp=E,487nm,0.6s						
MLH	**Mauna Loa**	**0.17**	**306**		Pn	01 50 30.1	-3.2
MLH				IAML		01 50 36.2	
	comp=N,548nm,0.7s						
HTC	**Hot Caves**	**0.21**	**225**		Pn	01 50 30.5	-1.9
JOKA	**Jonika Flow**	**0.22**	**79**		Pn	01 50 30.3	-1.9
HMH	**Humu'ula Sheep**	**0.31**	**312**	Pn	Pn	01 50 31.3	-1.0
HMH					Sn	01 50 37.1	-2.3
MLOA	**Mauna Loa Obse**	**0.35**	**294**		Pn	01 50 31.5	-1.2
MLOA					Sn	01 50 37.9	-2.0
MLOA				IAML		01 50 38.9	
	comp=E,444nm,0.6s						
MWH	**Moku'aweowe**	**0.35**	**285**		Pn	01 50 31.6	-1.2
MWH				IAML		01 50 45.1	
	comp=N,397nm,0.7s						
MWH				IAML		01 50 50.2	
	comp=E,448nm,1.1s						
KHU	**Kahuku**	**0.38**	**248**		Pn	01 50 31.8	-1.0
KHU				IAML		01 50 39.5	
	comp=E,361nm,1.4s						
KHU	**Kahuku**	**0.38**	**248**		Sn	01 50 38.0	-1.8
POHA	**Pohakuloa**	**0.46**	**323**		Pn	01 50 32.3	-1.6
POHA				IAML		01 50 43.3	
	comp=E,422nm,0.4s						
POHA	**Pohakuloa**	**0.46**	**323**		Sn	01 50 39.6	-1.6
HUH	**Hualalai**	**0.64**	**297**		Pn	01 50 35.5	-1.0
HUH				IAML		01 50 50.8	
	comp=E,285nm,0.5s						
HUH				IAML		01 50 58.0	
	comp=N,274nm,0.6s						
KHLU	**Kahalu`u**	**0.65**	**288**		Pn	01 50 34.7	-1.8
KHLU				IAML		01 50 44.1	
	comp=E,240nm,0.6s						

*RSPR **17** 01:51:13.6, 18.03N×68.63W, h97km±2km, MD3.2/7*
*NEIC **17** 01:51:14.2±0.7, 18.0N±0.3×68.64W±0.10, h90km±26km, ML2.5/22, Md3.2/7(RSPR), Error ellipse: s-maj=42.8km s-min=9.0km az=193.0*
*SDD **17** 01:51:15.1±2.2, 18.22N×68.66W, h95km±11km, MD3.4, ML2.7, MW3.0*
*OSPL **17** 01:51:16.0±3.7, 17.92N×68.73W, h69km±91km, ML2.4*
ISC 17 01:51:12.9±1.3, 18.1N±0.1×68.70W±0.03, h96km±10km, n39,σ1°32/56, 20C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SADR	**Isla Saona**	**0.13**	**324**	⇑*e*Pg	**Pn**	**01 51 26.6**	**+0.1**
SADR				⇑*e*Sg	**Sn**	**01 51 37.5**	**+1.1**
SADR				IAML		01 51 38.1	
	comp=E,219nm,0.2s						
SADR				IAML		01 51 38.7	
	comp=N,318nm,0.3s						
PCDR	**Punta Cana, DR**	**0.52**	**35**	⇑*e*P	**Pn**	**01 51 28.8**	**+0.4**
PCDR	**Punta Cana, DR**	**0.52**	**35**		**Pn**	**01 51 28.9**	**+0.4**
PCDR					**Sn**	**01 51 40.7**	**+0.6**
PCDR				IAML		01 51 42.2	
	comp=E,164nm,0.6s						
PCDR	**Punta Cana, DR**	**0.52**	**35**	⇑*e*Pg	**Pn**	**01 51 27.6**	**-0.8**
PCDR				⇑*e*Sg	**Sn**	**01 51 39.8**	**-0.3**
PCDR				IAML		01 51 42.0	
	comp=E,152nm,0.8s						
PCDR				IAML		01 51 42.1	
	comp=N,324nm,0.5s						
PCDR	**Punta Cana, DR**	**0.52**	**35**	*i*P	**Pn**	**01 51 28.8**	**+0.4**
PCDR				*e*S	**Sn**	**01 51 40.5**	**+0.5**
PCDR				IAML		01 51 43.6	
	comp=Z,99nm,0.5s						
MIDR	**Miches**	**0.95**	**340**	⇑*e*Pg	**Pn**	**01 51 31.9**	**-0.7**
MIDR				⇓*e*Sg	**Sn**	**01 51 45.6**	**-1.7**
MIDR				IAML		01 51 46.4	
	comp=E,56nm,0.5s						
MIDR				IAML		01 51 47.9	
	comp=N,45nm,0.2s						
CRPR	**Cabo Rojo, PR**	**1.51**	**93**	⇓*e*P	**Pn**	**01 51 39.6**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.51**	**93**	*e*S	**Sn**	**01 51 58.0**	**-1.0**
CRPR	**Cabo Rojo, PR**	**1.51**	**93**		**Pn**	**01 51 39.6**	**+0.5**
CRPR					**Sn**	**01 51 57.8**	**-1.2**
CRPR				IAML		01 52 45.5	
	comp=N,37nm,3.0s						
CRPR	**Cabo Rojo, PR**	**1.51**	**93**	⇑*i*P	**Pn**	**01 51 39.8**	**+0.7**
CRPR				IAML		01 51 58.4	
	comp=Z,41nm,0.8s						
LSP	**Las Mesas**	**1.54**	**86**	⇑*e*P	**Pn**	**01 51 40.6**	**+1.2**
LSP	**Las Mesas**	**1.54**	**86**		**Pn**	**01 51 40.6**	**+1.2**
AGPR	**Aguadilla, PR**	**1.56**	**76**	⇑*e*P	**Pn**	**01 51 41.1**	**+1.5**
AGPR	**Aguadilla, PR**	**1.56**	**76**		**Pn**	**01 51 40.7**	**+1.1**

AGPR				IAML		01 52 09.6	
	comp=N,100nm,2.4s						
MLPR	**Magueyes Islan**	**1.58**	**94**⇓	*e*P	**Pn**	**01 51 40.2**	**+0.3**
MLPR	**Magueyes Islan**	**1.58**	**94**	*e*S	**Sn**	**01 51 59.7**	**-0.8**
MLPR	**Magueyes Islan**	**1.58**	**94**		**Pn**	**01 51 40.2**	**+0.3**
MLPR					**Sn**	**01 51 59.6**	**-0.8**
BANI	**BANI**	**1.61**	**281**⇑	*e*Pg	**Pn**	**01 51 41.7**	**+1.3**
BANI			⇑	*e*Sg	**Sn**	**01 52 01.3**	**+0.1**
BANI				IAML		01 52 05.2	
	comp=N,67nm,1.0s						
BANI				IAML		01 52 07.4	
	comp=E,63nm,0.5s						
AOPR	**Arecibo Observ**	**1.87**	**82**⇑	*e*P	**Pn**	**01 51 44.0**	**+0.3**
AOPR	**Arecibo Observ**	**1.87**	**82**	*e*S	**Sn**	**01 52 06.8**	**-0.3**
AOPR	**Arecibo Observ**	**1.87**	**82**		**Pn**	**01 51 43.7**	**+0.1**
AOPR					**Sn**	**01 52 06.6**	**-0.5**
AOPR				IAML		01 52 13.9	
	comp=N,70nm,0.3s						
AOPR	**Arecibo Observ**	**1.87**	**82**⇑	*e*Pg	**Pn**	**01 51 43.3**	**-0.4**
AOPR			⇑	*e*Sg	**Sn**	**01 52 05.9**	**-1.2**
AOPR				IAML		01 52 13.5	
	comp=E,97nm,0.3s						
AOPR				IAML		01 52 13.8	
	comp=N,66nm,0.3s						
UUPR	**Utuado, UPR, P**	**1.89**	**85**⇑	*e*P	**Pn**	**01 51 44.3**	**+0.4**
UUPR	**Utuado, UPR, P**	**1.89**	**85**	*e*S	**Sn**	**01 52 07.2**	**-0.3**
UUPR	**Utuado, UPR, P**	**1.89**	**85**		**Pn**	**01 51 44.0**	**+0.2**
UUPR					**Sn**	**01 52 07.0**	**-0.5**
OBIP	**Obispado Ponce**	**1.99**	**91**⇑	*e*P	**Pn**	**01 51 44.6**	**-0.6**
OBIP	**Obispado Ponce**	**1.99**	**91**	*e*S	**Sn**	**01 52 08.6**	**-1.2**
OBIP	**Obispado Ponce**	**1.99**	**91**		**Pn**	**01 51 44.6**	**-0.6**
OBIP				IAML		01 52 02.3	
	comp=E,27nm,3.9s						
OBIP					**Sn**	**01 52 08.4**	**-1.4**
CELP	**Cerrillos**	**2.02**	**90**⇑	*e*P	**Pn**	**01 51 45.8**	**+0.3**
CELP	**Cerrillos**	**2.02**	**90**	*e*S	**Sn**	**01 52 09.8**	**-0.7**
CELP	**Cerrillos**	**2.02**	**90**		**Pn**	**01 51 45.7**	**+0.1**
CELP					**Sn**	**01 52 09.8**	**-0.7**
CELP				IAML		01 53 10.3	
	comp=E,23nm,3.0s						
PODR	**Polo**	**2.46**	**272**⇑	*e*Pg	**Pn**	**01 51 53.8**	**+2.3**
PODR			⇑	*e*Sg	**Sn**	**01 52 19.2**	**-1.9**
PODR				IAML		01 52 25.5	
	comp=E,38nm,0.3s						
PODR				IAML		01 52 25.5	
	comp=N,29nm,1.4s						
PODR	**Polo**	**2.46**	**272**	*i* P	**Pn**	**01 51 52.1**	**+0.6**
PODR				*e*S	**Sn**	**01 52 15.0**	**-6.1**
IGPR	**InterUniversit**	**2.47**	**92**	Pn	**Pn**	**01 51 51.9**	**+0.4**
IGPR				IAML		01 52 20.5	
	comp=N,23nm,0.3s						
IGPR				IAML		01 52 23.7	
	comp=E,22nm,0.2s						
SDDR	**Presa de Saban**	**2.61**	**290**	Pn	**Pn**	**01 51 55.7**	**+2.2**
SDDR				IAML		01 52 32.4	
	comp=E,21nm,1.8s						
SDDR				IAML		01 53 27.7	
	comp=E,19nm,2.0s						
SDDR	**Presa de Saban**	**2.61**	**290**	*i* P	**Pn**	**01 51 55.6**	**+2.2**
SDDR				IAML		01 52 29.8	
	comp=Z,13nm,1.5s						
HUMP	**Col San Antoni**	**2.71**	**88**	*e*S	**Sn**	**01 52 27.0**	**+0.2**
HUMP	**Col San Antoni**	**2.71**	**88**	Pn	**Pn**	**01 51 55.6**	**+0.9**
HUMP					**Sn**	**01 52 26.7**	**-0.2**
HUMP				IAML		01 52 28.1	
	comp=N,16nm,1.4s						
HUMP				IAML		01 52 33.4	
	comp=E,19nm,2.3s						
JIDR	**Jimani**	**3.02**	**278**⇑	*e*Pg	**Pn**	**01 52 01.1**	**+2.3**
JIDR			⇓	*e*Sg	**Sn**	**01 52 32.8**	**-1.5**
JIDR				IAML		01 52 39.2	
	comp=N,41nm,2.4s						
JIDR				IAML		01 52 50.5	
	comp=E,30nm,1.8s						

IDC ***17*** *01:53:00.3±8.9, 19.°91S×177.°72W, h536km±97km, mb2.8/4, mbtmp3.8/5, Error ellipse: s-maj=47.3km s-min=27.8km az=35.0*

ISC 17 01:53:01.3±1.1, 20.°0S±0.°2×177.°8W±0.°2, h550km, n7, σ1s57/7, mb3.3/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.77**	**193**	P	**P**	**01 56 44.4**	**-1.6**
	4.0nm,0.4s,baz=35,slow=1.6,SNR=2.4						
ASAR	**Alice Springs**	**44.84**	**256**	P	**P**	**02 00 28.1**	**+1.1**
	0.5nm,0.6s,baz=88,slow=8.1,SNR=6.9						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**44.87**	**261**	P	**P**	**02 00 27.8**	**+0.5**
	0.3nm,0.3s,baz=97,slow=7.6,SNR=11						
	0.3nm,0.3s						
QSPA	**South Pole Qui**	**70.11**	**180**	P	**P**	**02 03 19.4**	**+1.1**
	1.2nm,0.9s,baz=359,slow=1.2,SNR=6.0						
	1.2nm,0.9s						
TXAR	**Lajitas Array**	**86.60**	**57**	P	**P**	**02 04 47.8**	**+0.8**
	0.3nm,0.6s,baz=228,slow=6.6,SNR=5.5						
	0.3nm,0.6s						
BRTR	**Keskin Array B**	**146.62**	**313**	PKPbc	**PKPbc**	**02 11 40.3**	**-1.6**
	0.2nm,0.4s,baz=44,slow=4.6,SNR=1.7						
GERES	**GERESS Array B**	**149.73**	**345**	PKPbc	**PKiKP**	**02 11 48.7**	**-1.3**
	0.6nm,0.7s,baz=46,slow=5.6,SNR=4.9						

SJA ***17*** *02:00:57.1±0.6, 23.°88S×66.°79W, h226km±5km, ML3.7, MW3.6*

VAO ***17*** *02:00:57.7±0.5, 23.°84S×67.°39W, h271km, mb3.9*

IDC ***17*** *02:00:58.4±1.0, 23.°73S×66.°68W, h202km±12km, mb3.1/3, mbtmp3.7/9, Error ellipse: s-maj=16.5km s-min=14.1km az=142.0*

GUC ***17*** *02:00:59.9±0.8, 23.°84S×67.°10W, h212km±7km, ML4.0*

ISC 17 02:00:58.5±0.7, 23.°87S±0.°04×66.°86W±0.°05, h212km±7km, n56, σ1s17/82, mb3.4/3, 6C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.50**	**125**	*e*P	**Pn**	**02 01 33.3**	**-0.1**
SLA				*e*S	**S**	**02 02 00.4**	**0.0**
AF01	**San Pedro de A**	**1.52**	**307**⇑	*e*P	**Pn**	**02 01 34.3**	**+0.5**
AF01				*e*S	**S**	**02 02 00.8**	**-0.1**
YJA	**Yavi**	**2.09**	**37**	*e*P	**Pn**	**02 01 39.6**	**+0.3**
YJA				*e*S	**S**	**02 02 10.9**	**+0.2**
LVC	**Limon Verde**	**2.27**	**303**	*e*P	**Pn**	**02 01 41.9**	**+0.9**
LVC				*e*S	**S**	**02 02 15.8**	**+2.0**
LVC	**Limon Verde**	**2.27**	**303**	P	**Pn**	**02 01 42.0**	**+0.9**
	53nm,0.3s,baz=117,slow=6.9,SNR=329						
LVC				S	**S**	**02 02 14.1**	**+0.3**
	46nm,0.2s,baz=265,slow=22,SNR=19						
LVC	**Limon Verde**	**2.27**	**303**	*e*P	**Pn**	**02 01 41.5**	**+0.5**
LVC				*e*S	**S**	**02 02 12.7**	**-1.1**
LVC				IAML		02 02 15.9	
	444nm,0.1s						
LVC	**Limon Verde**	**2.27**	**303**	*e*P	**Pn**	**02 01 41.9**	**+0.9**
LVC				*e*S	**S**	**02 02 13.7**	**-0.1**
FSA	**Cafayete**	**2.37**	**161**	*e*P	**Pn**	**02 01 41.3**	**-0.6**
PB15	**IPOC Station P**	**2.49**	**285**	*e*P	**Pn**	**02 01 44.2**	**+1.0**
PB15				*e*S	**S**	**02 02 18.4**	**+0.7**
PB15	**IPOC Station P**	**2.49**	**285**⇑	*i*P	**Pn**	**02 01 43.6**	**+0.3**
PB15				*i* S	**S**	**02 02 16.5**	**-1.2**
PB06	**IPOC Station P**	**2.75**	**294**	*e*P	**Pn**	**02 01 47.0**	**+0.9**
PB06				*e*S	**S**	**02 02 23.0**	**+0.1**
PB06				IAML		02 02 24.3	
	comp=Z,190nm,0.3s						
PB06	**IPOC Station P**	**2.75**	**294**	*e*P	**Pn**	**02 01 46.6**	**+0.5**
PB06				*e*S	**S**	**02 02 22.4**	**-0.5**
PB06				IAML		02 02 24.5	
	comp=N,432nm,0.1s						
GO02	**Mina Guanaco**	**2.81**	**242**⇑	*e*P	**Pn**	**02 01 46.9**	**+0.1**
GO02				*e*S	**S**	**02 02 24.5**	**+0.2**
GO02				IAML		02 02 25.4	
	comp=E,558nm,0.3s						
GO02				IAML		02 02 26.0	
	comp=N,495nm,0.4s						
PB09	**IPOC Station P**	**3.02**	**313**	*e*P	**Pn**	**02 01 50.3**	**+1.1**
PB09				*e*S	**S**	**02 02 29.6**	**+1.3**
PB09				IAML		02 02 32.8	
	comp=Z,140nm,0.5s						
PB09	**IPOC Station P**	**3.02**	**313**	*i* P	**Pn**	**02 01 49.8**	**+0.7**
PB09				*i* S	**S**	**02 02 27.8**	**-0.6**
PB09				IAML		02 02 33.0	
	comp=N,100nm,0.3s						
PB05	**IPOC Station P**	**3.24**	**287**	*e*P	**Pn**	**02 01 52.2**	**+0.5**
PB05				IAML		02 02 37.9	
	comp=Z,83nm,0.4s						
PB05	**IPOC Station P**	**3.24**	**287**⇑	*e*P	**Pn**	**02 01 51.9**	**+0.3**
PB05				*e*S	**S**	**02 02 31.6**	**-1.3**
PB05				IAML		02 02 35.1	
	comp=N,108nm,0.1s						
PB14	**IPOC Station P**	**3.33**	**256**⇑	*e*P	**Pn**	**02 01 53.1**	**+0.2**
PB14				*e*S	**S**	**02 02 34.0**	**-1.1**
PB04	**IPOC Station P**	**3.40**	**296**	*e*P	**Pn**	**02 01 54.3**	**+0.7**
PB04				IAML		02 02 42.6	
	comp=Z,133nm,0.1s						
PB04	**IPOC Station P**	**3.40**	**296**	*i* P	**Pn**	**02 01 53.7**	**+0.1**
PB04				*e*S	**S**	**02 02 35.1**	**-1.3**
PB10	**IPOC Station P**	**3.41**	**275**	*e*P	**Pn**	**02 01 54.2**	**+0.6**
PB10				IAML		02 02 39.0	
	comp=Z,72nm,0.9s						
PB07	**IPOC Station P**	**3.52**	**307**	*e*P	**Pn**	**02 01 55.6**	**+0.6**
PB07				*e*S	**S**	**02 02 38.1**	**-0.8**
PB07				IAML		02 02 40.0	
	comp=Z,163nm,0.2s						
PB07	**IPOC Station P**	**3.52**	**307**⇑	*e*P	**Pn**	**02 01 55.3**	**+0.3**
PB07				*e*S	**S**	**02 02 37.1**	**-1.8**
AC02	**Maricunga**	**3.60**	**214**	*e*P	**Pn**	**02 01 56.7**	**+0.4**
AC02				IAML		02 03 19.1	
	comp=Z,87nm,1.6s						
PB01	**IPOC Station P**	**3.72**	**319**	*e*P	**Pn**	**02 01 57.9**	**+0.5**
PB01				*e*S	**S**	**02 02 42.9**	**-0.4**
PB01				IAML		02 02 50.0	
	comp=Z,70nm,0.2s						
PB01	**IPOC Station P**	**3.72**	**319**	*e*P	**Pn**	**02 01 57.5**	**+0.2**
PB01				*e*S	**S**	**02 02 42.1**	**-1.1**
AC01	**Pan de Azucar**	**4.09**	**235**	*e*P	**Pn**	**02 02 00.9**	**-0.8**
AC01				*e*S	**S**	**02 02 48.3**	**-2.9**
AC01				IAML		02 02 50.9	
	comp=Z,55nm,0.5s						
PB08	**IPOC Station P**	**4.28**	**330**	*e*P	**Pn**	**02 02 05.3**	**+0.8**
PB08				*e*S	**S**	**02 02 56.2**	**+0.1**
TA01	**Diego Aracena**	**4.50**	**316**	*e*P	**Pn**	**02 02 07.4**	**+0.4**
TA01				IAML		02 03 03.0	
	comp=Z,36nm,0.3s						
GO01	**Chusmiza**	**4.71**	**332**	*e*P	**Pn**	**02 02 11.0**	**+1.0**
GO03	**Copiap**	**4.80**	**219**	*e*P	**Pn**	**02 02 09.6**	**-1.1**
GO03				*e*S	**S**	**02 03 05.0**	**-2.5**
PB11	**IPOC Station P**	**4.84**	**327**	*e*P	**Pn**	**02 02 10.7**	**-0.7**
PB11				*e*S	**S**	**02 03 06.9**	**-1.8**
PB11				IAML		02 03 10.1	
	comp=Z,57nm,0.1s						
LPAZ	**La Paz**	**7.63**	**351**	P	**Pn**	**02 02 46.1**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=173,slow=8.1,SNR=2.1						
LPAZ				S	**S**	**02 04 12.6**	**-1.9**
	comp=Z,0.7nm,0.7s,baz=65,slow=6.1,SNR=1.7						
LPAZ	**La Paz**	**7.63**	**351**	*e*P	**Pn**	**02 02 45.4**	**-2.3**
BBSD	**Serra de San D**	**8.85**	**43**	*e*P	**Pn**	**02 03 05.8**	**+3.0**
CPUP	**Villa Florida**	**8.98**	**108**	P	**Pn**	**02 03 02.2**	**-2.2**
	comp=Z,2.2nm,0.7s,baz=286,slow=15,SNR=5.7						
SIV	**San Ignacio**	**9.53**	**36**	P	**Pn**	**02 03 08.9**	**-2.8**
	comp=Z,1.8nm,0.7s,baz=224,slow=11,SNR=9.5						
BDQN	**Bodoquena, MS**	**9.96**	**72**	*e*P	**P**	**02 03 22.0**	**-2.5**
ITQB	**Itaqui**	**10.81**	**125**	*e*P	**P**	**02 03 32.5**	**-1.6**
CRSM	**Crissiumal (Br**	**12.11**	**110**	*e*P	**P**	**02 03 48.6**	**+0.1**
RODS	**Rosario do Sul**	**12.22**	**124**	*e*P	**P**	**02 03 49.3**	**-0.5**
TRCB	**Terra Rica**	**13.11**	**88**	*e*P	**P**	**02 04 00.4**	**+0.6**
ALGR	**Algarve (B**	**13.33**	**115**	*e*P	**P**	**02 04 02.4**	**+0.2**
PTGB	**Pitanga**	**13.52**	**97**	*e*P	**P**	**02 04 04.8**	**+0.5**
CPSB	**Cacapava Do Su**	**13.60**	**122**	*e*P	**P**	**02 04 04.4**	**-0.7**
LDASE	**Londrina, Braz**	**14.43**	**91**	*e*P	**P**	**02 04 14.6**	**+0.1**
PCMB	**Pacaembu**	**14.56**	**84**	*e*P	**P**	**02 04 17.2**	**+1.3**
ARAG	**Araguaiana, MT**	**16.31**	**63**	*e*P	**Pn**	**02 04 35.9**	**-0.1**
PLCA	**Paso Flores**	**17.10**	**190**	P	**Pn**	**02 04 46.9**	**+1.5**
	comp=Z,1.5nm,0.5s,baz=350,slow=7.7,SNR=7.2						
VAO	**Valinhos**	**18.27**	**91**	*e*P	**P**	**02 04 55.7**	**-0.9**
BDFB	**Brasilia**	**19.51**	**69**	P	**P**	**02 05 09.4**	**-0.6**
	comp=Z,6.2nm,0.6s,baz=241,slow=10,SNR=13						
TXAR	**Lajitas Array**	**63.65**	**324**	P	**P**	**02 11 09.2**	**+1.9**
	comp=Z,0.1nm,0.4s,baz=148,slow=5.3,SNR=1.8						
	comp=Z,0.1nm,0.4s						
QSPA	**South Pole Qui**	**66.34**	**180**	P	**P**	**02 11 25.9**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=309,slow=1.1,SNR=8.8						
	comp=Z,0.8nm,0.5s						
TORD	**Torodi Ar. Bea**	**76.40**	**69**	P	**P**	**02 12 24.1**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=260,slow=5.8,SNR=9.3						
	comp=Z,0.5nm,0.6s						
WRA	**Warramunga Arr**	**131.81**	**207**	PKP	**PKiKP**	**02 19 47.7**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=159,slow=1.7,SNR=1.5						
MKAR	**Makanchi Array**	**146.34**	**39**	PKPbc	**PKPbc**	**02 20 13.8**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=335,slow=2.5,SNR=4.3						

IDC 17 02:03:44.1±6.8, 5.°68S×141.°99E, h0km, mb3.1/1, mbtmp3.3/3, ML2.9/2, Error ellipse: s-maj=241.5km s-min=36.9km az=94.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.01**	**207**	Pn	**Pn**	**02 07 30.9**	**0.0**
	baz=29,slow=13,SNR=2.1						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**19.50**	**203**	P	**P**	**02 08 13.1**	**0.0**
	0.1nm,0.3s,baz=32,slow=9.5,SNR=12						
	1.4nm,0.8s						
MKAR	**Makanchi Array**	**74.12**	**322**	P	**P**	**02 15 22.5**	**+0.1**
	0.1nm,0.5s,baz=101,slow=7.5,SNR=2.0						
	0.1nm,0.5s						

JMA ***17*** *02:06:21.6±0.3, 43.°9N±0.°7×14.°0E±°, h236km±2km, MV3.1/32, NW OFF SHAKOTAN PEN*

IDC ***17*** *02:06:25.9±10.0, 43.°88N×140.°01E, h270km±110km, mb3.2/11, mbtmp3.8/11, Error ellipse: s-maj=24.1km s-min=19.3km az=113.0*

ISC 17 02:06:22.3±0.8, 43.°75N±0.°06×140.°09E±0.°08, h240km±8km, n26, σ1s09/32, mb3.3/11, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSH	**Shimam**	**1.11**	**182**	*e*P	**Pn**	**02 06 56.6**	**-0.3**
JHR	**Hokuryu**	**1.19**	**90**	*e*P	**Pn**	**02 06 57.6**	**+0.2**
JEW	**Eniwo**	**1.35**	**132**	*e*P	**Pn**	**02 06 59.1**	**+0.5**
JEW				*e*S	**S**	**02 07 28.5**	**+1.6**
JOSM	**Okushiri--Mats**	**1.73**	**195**	*e*P	**Pn**	**02 07 01.5**	**-0.1**
JRBN	**Rebuntou**	**1.81**	**22**	*e*P	**Pn**	**02 07 00.7**	**-1.5**
JKK2	**Kamakawa 2**	**1.93**	**85**	*e*P	**Pn**	**02 07 03.6**	**+0.3**
JKK2				*e*S	**S**	**02 07 35.3**	**0.0**
JWK2	**Keihoku**	**2.03**	**39**	*e*P	**Pn**	**02 07 03.9**	**-0.2**
JSE	**Soyaes**	**2.16**	**55**	*e*P	**Pn**	**02 07 05.3**	**0.0**
JOMM	**Oshimamatsumae**	**2.23**	**182**	*e*P	**Pn**	**02 07 06.3**	**+0.2**
JNBK	**Urakawa-nobuka**	**2.44**	**126**	*e*P	**Pn**	**02 07 09.2**	**+0.9**
JNBK				*e*S	**S**	**02 07 45.1**	**+0.8**
JCH	**Churui**	**2.65**	**114**	*e*P	**Pn**	**02 07 09.3**	**-1.0**
JCH				*e*S	**S**	**02 07 45.8**	**-2.4**
JAR	**Ashorobuto**	**2.71**	**98**	*e*S	**S**	**02 07 50.2**	**+0.8**
JTKR	**Abashiri--Toko**	**2.77**	**84**	*e*P	**Pn**	**02 07 11.8**	**+0.2**
JTKR				*e*S	**S**	**02 07 50.6**	**+0.2**
JAK	**Akkeshi**	**3.44**	**101**	*e*S	**S**	**02 08 01.4**	**-2.5**
JANG	**Nango**	**3.54**	**162**	*e*P	**Pn**	**02 07 19.2**	**-1.1**
JANG				*e*S	**S**	**02 08 03.5**	**-2.5**
SONM	**Songino Array**	**23.73**	**292**	P	**P**	**02 11 13.6**	**+0.7**
	0.2nm,0.3s,baz=74,slow=7.4,SNR=2.1						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**36.88**	**306**	P	**P**	**02 13 07.5**	**-0.3**
	0.6nm,0.3s,baz=83,slow=12,SNR=3.5						
	0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**41.32**	**302**	P	**P**	**02 13 44.0**	**-0.4**
	0.6nm,0.7s,baz=78,slow=8.8,SNR=4.0						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**44.50**	**36**	P	**P**	**02 14 09.5**	**-0.1**
	0.7nm,0.8s,baz=282,slow=7.8,SNR=9.3						
	0.7nm,0.8s						
BVAR	**Borovoye Array**	**45.49**	**307**	P	**P**	**02 14 17.4**	**-0.2**
	0.5nm,0.3s,baz=70,slow=9.0,SNR=6.1						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**62.44**	**330**	P	**P**	**02 16 18.8**	**-0.9**
	1.5nm,0.8s,baz=64,slow=4.4,SNR=5.2						
	1.5nm,0.8s						
WRA	**Warramunga Arr**	**63.60**	**186**	P	**P**	**02 16 28.5**	**+0.8**
	0.5nm,1.0s,baz=0.8,slow=6.7,SNR=1.7						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**67.33**	**186**	P	**P**	**02 16 52.9**	**+1.4**
	0.3nm,0.5s,baz=3.3,slow=4.6,SNR=4.3						
	0.3nm,0.5s						
HFS	**Hagfors**	**67.58**	**334**	P	**P**	**02 16 52.4**	**-0.2**
	6.7nm,1.1s,baz=40,slow=7.5,SNR=4.0						
	6.7nm,1.1s						
FRB	**Frobisher Bay**	**70.47**	**13**	P	**P**	**02 17 09.8**	**-0.4**
	5.9nm,1.1s,baz=13,slow=12,SNR=3.8						
	5.9nm,1.1s						
PDAR	**Pinedale Array**	**73.70**	**46**	P	**P**	**02 17 31.1**	**+0.9**
	0.2nm,0.5s,baz=332,slow=1.3,SNR=4.0						
	0.2nm,0.5s						

IDC 17 02:16:47.2±1.6, 30.°41N×106.°34E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=327.4km s-min=22.0km az=55.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**24.77**	**318**	P	P	02 22 10.5	-0.1
	0.4nm,0.4s,baz=116,slow=9.8,SNR=8.3						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**56.85**	**148**	P	P	02 26 33.8	0.0
	1.0nm,0.6s,baz=336,slow=8.2,SNR=25						
	1.0nm,0.6s						
FINES	**FINESS Array B**	**59.21**	**327**	P	P	02 26 49.8	0.0
	1.1nm,0.8s,baz=91,slow=5.6,SNR=4.3						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**59.92**	**151**	P	P	02 26 55.0	-0.2
	0.5nm,0.7s,baz=320,slow=6.3,SNR=7.4						
	0.5nm,0.7s						

IDC ***17*** *02:18:21.3±1.2, 56.°26N×149.°96W, h0km, mb3.4/4, mbtmp3.5/9, ML3.3/5, MS3.0/5, Error ellipse: s-maj=24.5km s-min=19.2km az=37.0*

NEIC ***17*** *02:18:22.1±1.4, 56.°24N±0.°07×150.°01W±0.°10, h23km±7km, mb3.8/2, ML3.7/56, ML3.6(AEIC), Error ellipse: s-maj=11.2km s-min=7.2km az=161.0*

AEIC ***17*** *02:18:24.6±1.6, 56.°20N±0.°07×149.°97W±0.°09, h10km±5km, Error ellipse: s-maj=11.2km s-min=7.2km az=162.0*

ISC 17 02:18:23.2±3.5, 56.°32N±0.°07×149.°97W±0.°05, h28km±29km, n313, σ0s81/313, mb3.3/4, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.04**	**298**		**Pn**	**02 18 54.6**	**-1.0**
OHAK					**Sn**	**02 19 18.2**	**-1.9**
OHAK	**Old Harbor**	**2.04**	**298**	P	**Pn**	**02 18 54.8**	**-0.8**
OHAK	**Old Harbor**	**2.04**	**298**	P	**Pn**	**02 18 54.7**	**-1.0**
	baz=117						
OHAK				S	**Sn**	**02 19 18.3**	**-1.9**
	baz=117						
KDAK	**Kodiak Island**	**2.05**	**317**		**Pn**	**02 18 55.5**	**-0.2**
KDAK	**Kodiak Island**	**2.05**	**317**		**Sn**	**02 19 19.2**	**-1.2**
KDAK	**Kodiak Island**	**2.05**	**317**	Pn	**Pn**	**02 18 55.5**	**-0.2**
	5.6nm,0.3s,baz=138,slow=6.2,SNR=79						
KDAK				Sn	**Sn**	**02 19 19.0**	**-1.4**
	18nm,0.3s,baz=162,slow=20,SNR=22						
	21nm,0.5s						
SII	**Sitkinak Islan**	**2.36**	**278**		**Pn**	**02 18 58.7**	**-1.2**
SII					**Sn**	**02 19 26.1**	**-1.9**
SII				IAML		02 19 30.0	
	comp=E,241nm,0.6s						
SII	**Sitkinak Islan**	**2.36**	**278**	P	**Pn**	**02 18 58.6**	**-1.4**
	baz=96						
SII				S	**Sn**	**02 19 25.7**	**-2.3**
	baz=96						
Q20K	**Shuyak Island**	**2.65**	**331**	P	**Pn**	**02 19 03.8**	**-0.1**
	baz=151						
Q20K				S	**Sn**	**02 19 34.7**	**-0.4**
	baz=151						
SYI	**Shuyak Island**	**2.65**	**331**		**Pn**	**02 19 04.2**	**+0.2**
SYI					**Sn**	**02 19 34.7**	**-0.4**
CHIR	**Chirikof Islan**	**3.21**	**263**	Pn	**Pn**	**02 19 10.1**	**-1.7**
CHIR				IAML		02 19 57.5	
	comp=N,125nm,3.1s						
CHIR				IAML		02 20 55.5	
	comp=E,113nm,4.9s						
CHIR	**Chirikof Islan**	**3.21**	**263**	P	**Pn**	**02 19 10.0**	**-1.7**
	baz=80						
Q19K	**Cape Douglas,**	**3.28**	**324**	Pn	**Pn**	**02 19 13.6**	**+0.8**
Q19K	**Cape Douglas,**	**3.28**	**324**	P	**Pn**	**02 19 13.7**	**+1.0**
	baz=143						
CNPM	**China Poot**	**3.29**	**349**		**Pn**	**02 19 12.5**	**-0.3**
CNPM					**Sn**	**02 19 50.2**	**-0.7**
CNPM				IAML		02 19 59.9	
	comp=E,106nm,0.6s						
KAKN	**Katmai Knife C**	**3.40**	**308**		**Pn**	**02 19 14.9**	**+0.5**
BRSE	**Bradley Lake S**	**3.46**	**353**		**Pn**	**02 19 14.3**	**-0.8**
BRSE					**Sn**	**02 19 54.6**	**-0.6**
BRSE	**Bradley Lake S**	**3.46**	**353**	P	**Pn**	**02 19 14.3**	**-0.8**
	baz=173						
BRSE				S	**Sn**	**02 19 54.6**	**-0.6**
	baz=173						
BRLK	**Bradley Lake**	**3.49**	**352**		**Pn**	**02 19 15.0**	**-0.6**
ANCK	**Angle Creek**	**3.55**	**304**		**Pn**	**02 19 17.0**	**+0.6**
KAHC	**Katmai Hardscr**	**3.59**	**313**		**Pn**	**02 19 17.9**	**+0.9**
KAHC	**Katmai Hardscr**	**3.59**	**313**	P	**Pn**	**02 19 17.9**	**+0.9**
	baz=130						
AUL	**Augustine Lava**	**3.59**	**330**		**Pn**	**02 19 18.0**	**+1.1**
Q23K	**Middleton Isla**	**3.67**	**30**	Pn	**Pn**	**02 19 17.7**	**-0.3

CHGN				IAML		02 20 27.0		
	comp=E,46nm,0.3s							
EYAK	**Cordova Ski Ar**	**4.79**	**26**		**Pn**	**02 19 33.6**	**+0.3**	
EYAK	**Cordova Ski Ar**	**4.79**	**26**	P	**Pn**	**02 19 33.9**	**+0.6**	
EYAK	**Cordova Ski Ar**	**4.79**	**26**	P	**Pn**	**02 19 33.4**	**+0.1**	
	baz=209							
RC01	**Rabbit Creek A**	**4.79**	**1**		**Pn**	**02 19 32.8**	**-0.6**	
RC01				IAML		02 20 27.7		
	comp=N,52nm,0.5s							
RC01				IAML		02 20 28.7		
	comp=E,75nm,0.5s							
RC01	**Rabbit Creek A**	**4.79**	**1**	P	**Pn**	**02 19 33.1**	**-0.3**	
	baz=182							
RAGM	**Ragged Mountai**	**4.94**	**32**		**Pn**	**02 19 35.9**	**+0.4**	
SUCK	**Suckling Hills**	**4.99**	**38**		**Pn**	**02 19 36.6**	**+0.5**	
SUCK				IAML		02 20 38.8		
	comp=N,82nm,0.9s							
SUCK				IAML		02 20 49.0		
	comp=E,77nm,0.9s							
HMT	**Hamilton**	**5.03**	**34**		**Pn**	**02 19 37.0**	**+0.3**	
N20K	**Mount Spurr**	**5.04**	**348**	P	**Pn**	**02 19 36.0**	**-0.8**	
	baz=166							
NICHA	**Nichawak Mount**	**5.04**	**36**		**Pn**	**02 19 37.4**	**+0.5**	
GOAT	**Goat Mountain**	**5.08**	**31**		**Pn**	**02 19 37.9**	**+0.4**	
N19K	**Bonanza Creek**	**5.09**	**334**		**Pn**	**02 19 37.3**	**-0.3**	
N19K	**Bonanza Creek**	**5.09**	**334**	P	**Pn**	**02 19 37.3**	**-0.3**	
	baz=151							
SPCP	**Crater Peak Br**	**5.09**	**348**		**Pn**	**02 19 37.3**	**-0.4**	
P16K	**Nushagak River**	**5.09**	**306**		**Pn**	**02 19 37.9**	**+0.3**	
P16K	**Nushagak River**	**5.09**	**306**	P	**Pn**	**02 19 37.9**	**+0.3**	
	baz=120							
O17K	**Koliganek Bris**	**5.13**	**315**		**Pn**	**02 19 38.0**	**-0.1**	
O17K	**Koliganek Bris**	**5.13**	**315**	P	**Pn**	**02 19 38.0**	**-0.1**	
	baz=130							
KNK	**Knik Glacier**	**5.17**	**8**		**Pn**	**02 19 38.3**	**-0.4**	
KNK				IAML		02 20 50.5		
	comp=N,32nm,0.6s							
KNK				IAML		02 20 52.3		
	comp=E,38nm,0.6s							
KNK	**Knik Glacier**	**5.17**	**8**	P	**Pn**	**02 19 38.4**	**-0.3**	
	baz=190							
SUA	**Susitna One**	**5.18**	**356**		**Pn**	**02 19 37.8**	**-1.0**	
SUA				IAML		02 20 23.9		
	comp=E,30nm,3.8s							
SUA				IAML		02 20 39.0		
	comp=N,38nm,2.8s							
SUA	**Susitna One**	**5.18**	**356**	P	**Pn**	**02 19 38.2**	**-0.6**	
	baz=176							
BGLC	**Bering Glacier**	**5.20**	**40**		**Pn**	**02 19 39.0**	**+0.1**	
BGLC	**Bering Glacier**	**5.20**	**40**	P	**Pn**	**02 19 39.0**	**+0.1**	
	baz=225							
SPNN	**North Nagishla**	**5.26**	**345**		**Pn**	**02 19 40.0**	**0.0**	
STLK	**Strandline Lak**	**5.29**	**350**		**Pn**	**02 19 40.0**	**-0.3**	
DIV	**Divide**	**5.30**	**23**		**Pn**	**02 19 40.8**	**+0.4**	
GRIN	**Grindle Hills**	**5.30**	**39**		**Pn**	**02 19 40.9**	**+0.5**	
PMR	**Palmer**	**5.31**	**4**		**Pn**	**02 19 40.2**	**-0.2**	
PMR				IAML		02 20 47.5		
	comp=E,23nm,0.7s							
PMR				IAML		02 20 50.4		
	comp=N,23nm,0.6s							
PMR	**Palmer**	**5.31**	**4**	P	**Pn**	**02 19 40.7**	**+0.2**	
N18K	**Kilae Creek**	**5.37**	**327**		**Pn**	**02 19 40.9**	**-0.4**	
N18K	**Kilae Creek**	**5.37**	**327**	P	**Pn**	**02 19 41.1**	**-0.2**	
	baz=143							
SNH	**Sunshine Point**	**5.40**	**41**		**Pn**	**02 19 42.1**	**+0.3**	
O16K	**Kokwok River B**	**5.43**	**311**	Pn	**Pn**	**02 19 42.7**	**+0.5**	
O16K	**Kokwok River B**	**5.43**	**311**	P	**Pn**	**02 19 42.6**	**+0.4**	
	baz=124							
BMRM	**Bremner River**	**5.44**	**29**		**Pn**	**02 19 42.8**	**+0.5**	
BMRM	**Bremner River**	**5.44**	**29**	P	**Pn**	**02 19 42.7**	**+0.3**	
	baz=213							
KHIT	**Khitrov Hills**	**5.44**	**38**		**Pn**	**02 19 42.5**	**+0.1**	
GHO	**Glory Hole Cre**	**5.50**	**5**		**Pn**	**02 19 43.5**	**+0.4**	
SML	**Sawmill**	**5.57**	**8**		**Pn**	**02 19 44.4**	**+0.3**	
SML	**Sawmill**	**5.57**	**8**	P	**Pn**	**02 19 44.6**	**+0.4**	
	baz=190							
WAX	**Waxell Ridge**	**5.58**	**39**		**Pn**	**02 19 44.5**	**+0.1**	
KLU	**Klutina**	**5.60**	**20**		**Pn**	**02 19 44.8**	**+0.3**	
KLU	**Klutina**	**5.60**	**20**	P	**Pn**	**02 19 44.7**	**+0.2**	
	baz=204							
SVW2	**Sparrevohn**	**5.62**	**331**		**Pn**	**02 19 44.7**	**0.0**	
SVW2	**Sparrevohn**	**5.62**	**331**	P	**Pn**	**02 19 44.5**	**-0.2**	
CHNA	**Chernabura Isl**	**5.66**	**259**	P	**Pn**	**02 19 44.1**	**-1.2**	
	baz=72							
CNBA	**Chernabura Isl**	**5.66**	**259**	Pn	**Pn**	**02 19 44.0**	**-1.4**	
N17K	**Nushagak Hills**	**5.67**	**321**	Pn	**Pn**	**02 19 45.9**	**+0.4**	
N17K	**Nushagak Hills**	**5.67**	**321**	P	**Pn**	**02 19 45.5**	**0.0**	
	baz=136							
SCM	**Sheep Creek Mo**	**5.70**	**13**		**Pn**	**02 19 46.3**	**+0.4**	
SCM	**Sheep Creek Mo**	**5.70**	**13**	P	**Pn**	**02 19 46.3**	**+0.4**	
	baz=195							
MESA	**MESA**	**5.73**	**44**		**Pn**	**02 19 47.1**	**+0.6**	
MESA	**MESA**	**5.73**	**44**	P	**Pn**	**02 19 46.6**	**+0.1**	
	baz=231							
SKT	**Skwentna**	**5.74**	**353**	Pn	**Pn**	**02 19 46.1**	**-0.3**	
SKT	**Skwentna**	**5.74**	**353**	P	**Pn**	**02 19 46.1**	**-0.3**	
	baz=172							
M20K	**Styx River**	**5.82**	**345**		**Pn**	**02 19 46.7**	**-0.9**	
M20K	**Styx River**	**5.82**	**345**	P	**Pn**	**02 19 47.2**	**-0.3**	
	baz=163							
ISLE	**Juniper Island**	**5.87**	**40**		**Pn**	**02 19 48.6**	**+0.2**	
BAGL	**Bagley Icefiel**	**5.88**	**41**		**Pn**	**02 19 48.5**	**+0.1**	
VRDI	**Verde Repeater**	**5.97**	**32**	Pn	**Pn**	**02 19 50.1**	**+0.3**	
N25K	**Chitina, Valde**	**5.99**	**25**	Pn	**Pn**	**02 19 50.5**	**+0.7**	
N25K	**Chitina, Valde**	**5.99**	**25**	P	**Pn**	**02 19 50.2**	**+0.3**	
	baz=210							
SDPT	**Sand Point**	**6.00**	**265**		**Pn**	**02 19 49.4**	**-0.6**	
SDPT	**Sand Point**	**6.00**	**265**	P	**Pn**	**02 19 49.9**	**-0.1**	
SDPT	**Sand Point**	**6.00**	**265**	P	**Pn**	**02 19 49.3**	**-0.7**	
	baz=77							
O15K	**Ungalikthiuk R**	**6.01**	**303**		**Pn**	**02 19 50.3**	**+0.2**	
O15K	**Ungalikthiuk R**	**6.01**	**303**	P	**Pn**	**02 19 50.3**	**+0.2**	
	baz=115							
M18K	**Stony River**	**6.01**	**332**		**Pn**	**02 19 49.7**	**-0.4**	
M18K	**Stony River**	**6.01**	**332**	P	**Pn**	**02 19 49.7**	**-0.4**	
	baz=148							
GLB	**Gilahina Butte**	**6.05**	**29**		**Pn**	**02 19 51.0**	**+0.3**	
KIAG	**Kiagna River**	**6.09**	**38**		**Pn**	**02 19 51.5**	**+0.1**	
M24K	**Tolsona, Glenn**	**6.12**	**17**	Pn	**Pn**	**02 19 52.7**	**+0.9**	
M24K	**Tolsona, Glenn**	**6.12**	**17**	P	**Pn**	**02 19 52.4**	**+0.6**	
	baz=200							
SAMH	**Samovar Hills**	**6.17**	**48**		**Pn**	**02 19 52.9**	**+0.4**	
TABL	**Table Mountain**	**6.21**	**45**		**Pn**	**02 19 53.4**	**+0.3**	
MCARA	**McCarthy VSAT**	**6.23**	**32**		**Pn**	**02 19 53.4**	**+0.4**	
MCARA	**McCarthy VSAT**	**6.23**	**32**	P	**Pn**	**02 19 53.5**	**+0.4**	
	baz=218							
N16K	**Nishlik Lake**	**6.23**	**316**		**Pn**	**02 19 53.6**	**+0.5**	
N16K	**Nishlik Lake**	**6.23**	**316**	P	**Pn**	**02 19 53.6**	**+0.5**	
	baz=129							
PTPK	**Patty Peak**	**6.25**	**36**		**Pn**	**02 19 54.1**	**+0.5**	
WASW	**Wrangell South**	**6.37**	**26**		**Pn**	**02 19 55.4**	**+0.1**	
PCA	**Pinnacle**	**6.38**	**50**		**Pn**	**02 19 55.6**	**+0.4**	
PINM	**Pinnacle**	**6.38**	**50**	P	**Pn**	**02 19 55.5**	**+0.3**	
	baz=237							
WACK	**Wrangell Chich**	**6.38**	**25**		**Pn**	**02 19 55.6**	**+0.2**	
WAT6	**Susitna Watana**	**6.38**	**9**		**Pn**	**02 19 55.8**	**+0.3**	
WAT6	**Susitna Watana**	**6.38**	**9**	P	**Pn**	**02 19 55.8**	**+0.3**	
	baz=191							
L19K	**White Mountain**	**6.39**	**339**	Pn	**Pn**	**02 19 54.8**	**-0.6**	
M17K	**Holitna River**	**6.40**	**326**		**Pn**	**02 19 55.9**	**+0.4**	
M17K	**Holitna River**	**6.40**	**326**	P	**Pn**	**02 19 56.0**	**+0.5**	
	baz=140							
BARN	**Barnard Glacie**	**6.43**	**39**		**Pn**	**02 19 56.4**	**+0.4**	
CTG	**Chitna Glacier**	**6.48**	**40**	P	**Pn**	**02 19 56.9**	**+0.3**	
	baz=228							
CTGM	**Chitina Glacie**	**6.48**	**40**		**Pn**	**02 19 56.8**	**+0.1**	
LOGN	**Logan Glacier**	**6.51**	**42**		**Pn**	**02 19 57.4**	**+0.3**	
PNL	**Peninsula**	**6.54**	**55**		**Pn**	**02 19 57.9**	**+0.4**	
PNL	**Peninsula**	**6.54**	**55**	P	**Pn**	**02 19 58.3**	**+0.8**	
PNL	**Peninsula**	**6.54**	**55**	P	**Pn**	**02 19 57.9**	**+0.4**	
	baz=243							
WAT7	**Susitna Watana**	**6.56**	**4**		**Pn**	**02 19 58.2**	**+0.5**	
BCPM	**Bancas Point**	**6.57**	**52**		**Pn**	**02 19 58.4**	**+0.5**	
WAT1	**Susitna Watana**	**6.57**	**6**	P	**Pn**	**02 19 58.6**	**+0.7**	
	baz=187							
HARP	**HAARP**	**6.58**	**20**		**Pn**	**02 19 58.8**	**+0.9**	
HARP	**HAARP**	**6.58**	**20**	P	**Pn**	**02 19 58.8**	**+0.9**	
	baz=204							
N15K	**Kwethluk River**	**6.59**	**310**	Pn	**Pn**	**02 19 59.6**	**+1.5**	
N15K	**Kwethluk River**	**6.59**	**310**	P	**Pn**	**02 19 59.1**	**+1.0**	
	baz=122							
M16K	**Timber Creek**	**6.65**	**319**		**Pn**	**02 19 59.5**	**+0.6**	
M16K	**Timber Creek**	**6.65**	**319**	P	**Pn**	**02 19 59.7**	**+0.8**	
	baz=132							
PS1A	**Pavlof South-1**	**6.69**	**267**		**Pn**	**02 19 58.8**	**-0.6**	
O14K	**Tigyukauivet M**	**6.72**	**301**	Pn	**Pn**	**02 20 00.4**	**+0.6**	
O14K	**Tigyukauivet M**	**6.72**	**301**	P	**Pn**	**02 20 00.2**	**+0.4**	
	baz=112							
S12K	**Black Hills**	**6.81**	**270**	Pn	**Pn**	**02 20 00.6**	**-0.5**	
S12K	**Black Hills**	**6.81**	**270**	P	**Pn**	**02 20 00.4**	**-0.8**	
	baz=80							
PN7A	**Pavlof North-7**	**6.83**	**268**		**Pn**	**02 20 00.9**	**-0.6**	
L18K	**Granite Mounta**	**6.85**	**333**	Pn	**Pn**	**02 20 01.2**	**-0.4**	
DHY	**Denali Highway**	**6.91**	**10**		**Pn**	**02 20 03.2**	**+0.6**	
DHY	**Denali Highway**	**6.91**	**10**	P	**Pn**	**02 20 03.0**	**+0.5**	
	baz=192							
PAX	**Paxson**	**7.05**	**17**		**Pn**	**02 20 05.5**	**+1.0**	
PAX	**Paxson**	**7.05**	**17**	P	**Pn**	**02 20 05.0**	**+0.5**	
	baz=201							
M26K	**Nabesna, AK**	**7.06**	**27**		**Pn**	**02 20 05.8**	**+1.2**	
M15K	**Kasigluk River**	**7.12**	**312**		**Pn**	**02 20 05.5**	**+0.1**	
M15K	**Kasigluk River**	**7.12**	**312**	P	**Pn**	**02 20 05.5**	**+0.1**	
	baz=124							
RND	**Reindeer**	**7.13**	**4**	Pn	**Pn**	**02 20 06.1**	**+0.5**	
TRF	**Thorofare Moun**	**7.16**	**359**	Pn	**Pn**	**02 20 06.2**	**+0.2**	
TRF	**Thorofare Moun**	**7.16**	**359**	P	**Pn**	**02 20 06.4**	**+0.4**	
	baz=179							
N14K	**Kuskokwak Cree**	**7.18**	**305**		**Pn**	**02 20 06.5**	**+0.4**	
N14K	**Kuskokwak Cree**	**7.18**	**305**	P	**Pn**	**02 20 06.5**	**+0.4**	
	baz=116							
CAST	**Castle Rocks**	**7.20**	**352**	Pn	**Pn**	**02 20 06.4**	**-0.1**	
O29M	**Mount Kennedy**	**7.21**	**52**		**Pn**	**02 20 07.3**	**+0.7**	
O29M	**Mount Kennedy**	**7.21**	**52**	P	**Pn**	**02 20 07.1**	**+0.5**	
	baz=241							
L17K	**Donlin**	**7.23**	**327**		**Pn**	**02 20 07.6**	**+0.8**	
L17K	**Donlin**	**7.23**	**327**	P	**Pn**	**02 20 07.6**	**+0.8**	
	baz=141							
KTH	**Kantishna Hill**	**7.28**	**357**	Pn	**Pn**	**02 20 07.8**	**+0.3**	
L16K	**Owhat River**	**7.30**	**322**	Pn	**Pn**	**02 20 08.3**	**+0.5**	
L16K	**Owhat River**	**7.30**	**322**	P	**Pn**	**02 20 08.2**	**+0.4**	
	baz=134							
P29M	**Windy Craggy**	**7.30**	**58**		**Pn**	**02 20 08.6**	**+0.7**	
P29M	**Windy Craggy**	**7.30**	**58**	P	**Pn**	**02 20 07.8**	**-0.1**	
	baz=248							
TTA	**Tatalina**	**7.30**	**338**	P	**Pn**	**02 20 08.3**	**+0.4**	
M27K	**Edge Creek, AK**	**7.33**	**31**		**Pn**	**02 20 09.6**	**+1.2**	
M27K	**Edge Creek, AK**	**7.33**	**31**	P	**Pn**	**02 20 08.8**	**+0.5**	
	baz=218							
MCK	**McKinley**	**7.46**	**4**		**Pn**	**02 20 10.5**	**+0.5**	
MCK	**McKinley**	**7.46**	**4**	P	**Pn**	**02 20 11.0**	**+1.0**	
	baz=185							
S31K	**Pelican**	**7.65**	**72**	Pn	**Pn**	**02 20 11.5**	**-1.1**	
BVCY	**Beaver Creek**	**7.68**	**33**		**Pn**	**02 20 13.9**	**+0.9**	
BVCY	**Beaver Creek**	**7.68**	**33**	P	**Pn**	**02 20 13.9**	**+0.9**	
	baz=221							
K17K	**Iditarod**	**7.69**	**330**	Pn	**Pn**	**02 20 12.7**	**-0.3**	
M14K	**Bethel**	**7.69**	**310**	Pn	**Pn**	**02 20 13.3**	**+0.2**	
BPAW	**Bear Paw Mtn.**	**7.83**	**357**	Pn	**Pn**	**02 20 14.1**	**-0.9**	
RIDG	**Independent Ri**	**7.87**	**17**		**Pn**	**02 20 16.4**	**+0.7**	
L27K	**Beaver Creek,**	**7.91**	**28**		**Pn**	**02 20 17.2**	**+0.9**	
HYT	**Haines Junctio**	**7.92**	**50**	Pn	**Pn**	**02 20 17.2**	**+0.7**	
BCAR	**Beaver Creek A**	**7.93**	**28**	Pn	**Pn**	**02 20 16.8**	**+0.4**	
J18K	**Innoko River**	**7.93**	**337**	Pn	**Pn**	**02 20 16.6**	**+0.1**	
ISLZ	**Isanotski Laza**	**7.96**	**264**		**Pn**	**02 20 15.9**	**-1.1**	
SIT	**Sitka**	**8.10**	**79**	Pn	**Pn**	**02 20 16.7**	**-2.0**	
M13K	**Dall Lake**	**8.14**	**306**	Pn	**Pn**	**02 20 19.8**	**+0.5**	
J20K	**Nowinta River**	**8.15**	**347**		**Pn**	**02 20 19.2**	**-0.2**	
J19K	**Poorman**	**8.20**	**342**	Pn	**Pn**	**02 20 19.8**	**-0.4**	
WRH	**Wood River Hil**	**8.23**	**6**	Pn	**Pn**	**02 20 20.2**	**-0.3**	
SCRK	**Sand Creek**	**8.24**	**19**	Pn	**Pn**	**02 20 20.8**	**0.0**	
HDA	**Harding Lake**	**8.26**	**9**		**Pn**	**02 20 21.8**	**+0.9**	
HDA	**Harding Lake**	**8.26**	**9**	P	**Pn**	**02 20 21.9**	**+1.0**	
	baz=192							
L14K	**Kuka Creek**	**8.29**	**313**		**Pn**	**02 20 22.0**	**+0.6**	
NEA2	**Nenana**	**8.32**	**3**		**Pn**	**02 20 21.7**	**0.0**	
NEA2	**Nenana**	**8.32**	**3**	P	**Pn**	**02 20 22.2**	**+0.5**	
	baz=184							
SKAG	**Skagway**	**8.41**	**62**		**Pn**	**02 20 24.4**	**+1.4**	
K15K	**Wolf Creek Mou**	**8.41**	**320**	Pn	**Pn**	**02 20 24.4**	**+1.3**	
N30M	**Aishikik Lake**	**8.42**	**47**		**Pn**	**02 20 23.7**	**+0.5**	
CCB	**Clear Creek Bu**	**8.43**	**6**		**Pn**	**02 20 23.7**	**+0.5**	
BESE	**Bessie Mountai**	**8.46**	**68**		**Pn**	**02 20 23.4**	**-0.4**	
M29M	**Somme Creek**	**8.49**	**39**		**Pn**	**02 20 25.3**	**+1.1**	
S32K	**Killisnoo**	**8.51**	**76**	Pn	**Pn**	**02 20 23.2**	**-1.1**	
O30N	**Mendenhall**	**8.51**	**53**		**Pn**	**02 20 25.1**	**+0.6**	
O30N	**Mendenhall**	**8.51**	**53**	P	**Pn**	**02 20 24.9**	**+0.4**	
	baz=244							
R32K	**Eaglecrest**	**8.59**	**70**		**Pn**	**02 20 24.9**	**-0.6**	
WECS	**Westdahl Cape**	**8.61**	**264**		**Pn**	**02 20 24.7**	**-1.2**	
IL31		**8.62**	**9**		**Pn**	**02 20 26.7**	**+0.9**	
ILAR	**Eielson Array**	**8.62**	**9**	Pn	**Pn**	**02 20 27.2**	**+1.4**	
ILAR	**Eielson Array**	**8.62**	**9**	Pn	**Pn**	**02 20 26.0**	**+0.2**	
	comp=N,0.6nm,0.3s,baz=196,slow=13,SNR=38							
ILAR					Sn	**Sn**	**02 21 58.1**	**-3.8**
	comp=N,0.6nm,0.3s,baz=191,slow=24,SNR=6.3							
ILAR					LR	LR	02 24 07.7	
	comp=N,69nm,19.1s,baz=130,slow=40							
	comp=N,2.1nm,0.5s							
J25K	**Salcha River,**	**8.62**	**13**		**Pn**	**02 20 25.8**	**-0.2**	
COLA	**College**	**8.65**	**6**	P	**Pn**	**02 20 27.3**	**+1.1**	
JIS	**Juneau Island**	**8.66**	**70**		**Pn**	**02 20 25.3**	**-1.1**	
JIS	**Juneau Island**	**8.66**	**70**	P	**Pn**	**02 20 26.4**	**0.0**	
K27K	**Chicken**	**8.67**	**24**		**Pn**	**02 20 23.3**	**+0.7**	
MDM	**Murphy Dome**	**8.71**	**5**		**Pn**	**02 20 26.9**	**-0.3**	
MLY	**Manley**	**8.75**	**358**	Pn	**Pn**	**02 20 27.4**	**-0.3**	
J26L	**Joseph Creek**	**8.79**	**18**		**Pn**	**02 20 28.5**	**+0.1**	
J16K	**Anvik River**	**8.80**	**327**	Pn	**Pn**	**02 20 28.1**	**-0.2**	
I23K	**Minto, Yukon-K**	**8.87**	**2**		**Pn**	**02 20 29.3**	**0.0**	
I23K	**Minto, Yukon-K**	**8.87**	**2**	P	**Pn**	**02 20 30.1**	**+0.8**	
	baz=182							
WHY	**Whitehorse**	**9.01**	**55**	Pn	**Pn**	**02 20 31.8**	**+0.5**	
L29M	**L29M**	**9.05**	**36**		**Pn**	**02 20 32.5**	**+0.7**	
M30M	**Minto, Yukon**	**9.17**	**41**	Pn	**Pn**	**02 20 33.9**	**+0.4**	
P32M	**Atlin**	**9.24**	**62**	Pn	**Pn**	**02 20 34.7**	**+0.3**	
AKUT	**Akutan**	**9.29**	**263**	Pn	**Pn**	**02 20 34.0**	**-1.1**	
DAWY	**Dawson**	**9.37**	**30**	Pn	**Pn**	**02 20 37.0**	**+0.7**	
U33K	**Whale Pass**	**9.39**	**84**	Pn	**Pn**	**02 20 34.7**	**-1.7**	
H21K	**Melozitna Rive**	**9.47**	**353**		**Pn**	**02 20 36.7**	**-0.9**	
PRP	**Porcupine Dome**	**9.48**	**11**	Pn	**Pn**	**02 20 38.8**	**+1.1**	
EGAK	**Eagle**	**9.52**	**23**	Pn	**Pn**	**02 20 39.0**	**+0.8**	
H24K	**Noodor Dome**	**9.61**	**5**		**Pn**	**02 20 40.2**	**+0.7**	
I26K	**Coal Creek Min**	**9.61**	**17**		**Pn**	**02 20 39.9**	**+0.6**	
H19K	**Roundabout Mou**	**9.76**	**344**	Pn	**Pn**	**02 20 42.3**	**+0.9**	
K29M	**Barlow Dome**	**9.76**	**34**		**Pn**	**02 20 42.4**	**+0.8**	
UNV	**Unalaska Valle**	**9.80**	**262**	P	**Pn**	**02 20 40.7**	**-1.4**	
P33M	**Teslin, Yukon**	**9.83**	**60**	Pn	**Pn**	**02 20 43.0**	**+0.4**	
Q32M	**Nakina River**	**9.85**	**67**	Pn	**Pn**	**02 20 43.7**	**+0.8**	
IMAR	**Indian Mountai**	**9.87**	**351**	Pn	**Pn**	**02 20 43.6**	**+0.6**	
M31M	**Drury Creek, Y**	**9.90**	**47**		**Pn**	**02 20 44.5**	**+1.1**	
N32M	**Quiet Lake**	**10.01**	**54**	Pn	**Pn**	**02 20 45.9**	**+0.9**	
S34M	**Telegraph Cree**	**10.36**	**73**	Pn	**Pn**	**02 20 49.0**	**-0.8**	
I28M	**Miner Creek**	**10.37**	**24**		**Pn**	**02 20 51.4**	**+1.5**	
G21K	**Allakaket**	**10.37**	**352**		**Pn**	**02 20 49.6**	**-0.3**	
G23K	**Bananza Creek**	**10.43**	**360**	Pn	**Pn**	**02 20 49.9**	**-0.8**	
G24K	**Hadweenzic Riv**	**10.49**	**5**	Pn	**Pn**	**02 20 51.8**	**+0.4**	
FYK	**Fort Yukon**	**10.53**	**10**		**Pn**	**02 20 52.6**	**+0.7**	
R33M	**Jennings River**	**10.57**	**65**	Pn	**Pn**	**02 20 53.0**	**+0.2**	
J30M	**Hart River**	**10.65**	**33**	Pn	**Pn**	**02 20 55.0**	**+1.2**	
DLBC	**Dease Lake**	**10.96**	**71**	Pn	**Pn**	**02 20 57.7**	**-0.3**	
DLBC	**Dease Lake**	**10.96**	**71**	Pn	**Pn**	**02 20 58.4**	**+0.3**	
	comp=N,0.2nm,0.3s,baz=222,slow=11,SNR=2.1							
DLBC					Sn	**Sn**	**02 22 54.9**	**-4.8**
	baz=341,slow=24							
	comp=N,0.9nm,0.3s							
F21K	**Alatna River**	**11.07**	**353**	Pn	**Pn**	**02 21 00.2**	**+0.8**	
H29M	**Whitestone**	**11.37**	**24**	Pn	**Pn**	**02 21 03.1**	**-0.3**	
MMPY	**Sheldon Lake,**	**11.39**	**49**	Pn	**Pn**	**02 21 05.1**	**+1.3**	
BMAR	**Burnt Mountain**	**11.43**	**11**	Pn	**Pn**	**02 21 05.3**	**+1.0**	
F19K	**Redstone River**	**11.68**	**346**	Pn	**Pn**	**02 21 07.6**	**-0.1**	
E25K	**Eagle Village**	**12.02**	**8**	Pn	**Pn**	**02 21 12.2**	**+0.2**	
E18K	**Tukpahlearik C**	**12.19**	**340**	Pn	**Pn**	**02 21 15.2**	**+0.5**	
F28M	**Old Crow**	**12.26**	**18**	Pn	**Pn**	**02 21 16.7**	**+1.0**	
G30M	**tAoh Zraii Nji**	**12.49**	**26**		**Pn**	**02 21 20.0**	**+1.2**	
E27K	**Coleen River**	**12.52**	**15**	Pn	**Pn**	**02 21 19.0**	**-0.1**	
G31M	**Satah River**	**12.94**	**28**	Pn	**Pn**	**02 21 25.7**	**+0.9**	
D25K	**Kavik River**	**13.15**	**6**	Pn	**Pn**	**02 21 29.5**	**+1.6**	
BBB	**Bella Bella**	**13.41**	**99**	LR	LR	02 25 18.2		
	comp=N,75nm,20.2s,baz=250,slow=31							
D27M	**Malcolm River**	**13.59**	**14**		**Pn**	**02 21 34.2**	**+0.5**	
INK	**Inuvik**	**14.18**	**25**	Pn	**Pn**	**02 21 42.7**	**+1.0**	
INK	**Inuvik**	**14.18**	**25**	Pn	**Pn**	**02 21 43.5**	**+1.8**	
	comp=N,0.1nm,0.3s,baz=226,slow=8.1,SNR=6.0							
INK					LR	LR	02 26 47.6	
	comp=N,38nm,20.4s,baz=174,slow=36							
	comp=N,1.7nm,0.8s							
KIWB	**Kanaga Island**	**16.51**	**266**		**Pn**	**02 22 12.9**	**+0.4**	
C36M	**Paulatuk**	**17.41**	**31**	Pn	**Pn**	**02 22 23.5**	**-0.1**	
C36M				IAmb	IAmb	02 22 27.7		
	comp=Z,3.6nm,0.7s							
A36M	**Sachs Harbour**	**18.80**	**24**	P	**Pn**	**02 22 41.9**	**+1.3**	
A36M				IAmb	IAmb	02 22 44.4		
	comp=Z,8.8nm,0.8s							
YKA	**Yellowknife Ar**	**18.84**	**56**	P	**P**	**02 22 41.0**	**+0.5**	
YKA	**Yellowknife Ar**	**18.84**	**56**	P	**Pn**	**02 22 42.8**	**+1.7**	
	comp=Z,0.1nm,0.3s,baz=269,slow=11,SNR=5.1							
	comp=Z,0.2nm,0.5s							
NEW	**Newport**	**21.47**	**98**	LR	LR	02 30 10.2		
	comp=Z,45nm,18.1s,baz=266,slow=33							
LYMT	**Lyon Mountain**	**24.89**	**96**	P	**P**	**02 23 44.7**	**+1.1**	
PDAR	**Pinedale Array**	**29.05**	**101**	P	P	02 24 23.0	+2.0	
	comp=Z,0.1nm,0.5s,baz=310,slow=7.0,SNR=1.4							
	comp=Z,0.1nm,0.5s							
ULM	**Lac du Bonnet**	**32.17**	**78**	LR	LR	02 37 34.0		
	comp=Z,35nm,18.8s,baz=63,slow=36							
TXAR	**Lajitas Array**	**42.19**	**110**	P	P	02 26 16.1	+2.6	
	comp=Z,0.3nm,0.9s,baz=302,slow=2.0,SNR=3.4							
	comp=Z,0.3nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**48.57**	**239**	T	T	03 19 21.8		
	baz=30,slow=76,SNR=20							
H11N3	**WAKE ISLAND Hy**	**48.58**	**239**	T	T	03 19 23.6		
	baz=30,slow=76,SNR=18							
H11N1	**WAKE ISLAND Hy**	**48.59**	**239**	T	T	03 19 21.2		
	baz=30,slow=76,SNR=16							
H11S1	**WAKE ISLAND Hy**	**49.72**	**239**	T	T	03 20 45.4		
	baz=30,slow=76,SNR=20							
H11S2	**WAKE ISLAND Hy**	**49.73**	**239**	T	T	03 20 47.9		
	baz=30,slow=76,SNR=21							
H11S3	**WAKE ISLAND Hy**	**49.73**	**239**	T	T	03 20 49.0		
	baz=30,slow=76,SNR=24			

SONM	**Songino Array**	**48.72**	**340**	P	**P**	**02 40 20.5**	**+0.7**	
	comp=Z,4.7nm,0.5s,baz=152,slow=8.0,SNR=38							
SONM				PcP	**PcP**	**02 41 42.2**	**-0.4**	
	comp=Z,0.7nm,0.6s,baz=157,slow=5.3,SNR=3.1							
	comp=Z,4.7nm,0.5s							
MK31	**Makanchi Array**	**59.26**	**325**	P	**P**	**02 41 36.4**	**+0.2**	
MK31				IAmb	IAmb	02 41 37.3		
	comp=Z,3.8nm,0.8s							
MKAR	**Makanchi Array**	**59.26**	**325**	P	**P**	**02 41 36.3**	**+0.1**	
MKAR	**Makanchi Array**	**59.26**	**325**	P	**P**	**02 41 36.5**	**+0.3**	
	comp=Z,5.4nm,0.7s,baz=121,slow=8.3,SNR=64							
MKAR				PcP	**PcP**	**02 42 22.3**	**-0.5**	
	comp=Z,1.9nm,0.7s,baz=98,slow=6.5,SNR=9.2							
	comp=Z,5.4nm,0.7s							
MAKZ	**Makanchi**	**59.45**	**325**	P	**P**	**02 41 37.5**	**0.0**	
MAKZ				IAmb	IAmb	02 41 38.5		
	comp=Z,5.9nm,0.7s							
ZAA0	**Zalesovo Array**	**62.17**	**333**	P	**P**	**02 41 54.9**	**-0.7**	
ZALV	**Zalesovo Beam**	**62.17**	**333**	P	**P**	**02 41 54.4**	**-1.2**	
ZALV	**Zalesovo Beam**	**62.17**	**333**	P	**P**	**02 41 54.8**	**-0.8**	
	comp=Z,1.3nm,0.5s,baz=115,slow=6.1,SNR=8.7							
	comp=Z,1.3nm,0.5s							
KURBB	**Kurchatov Arra**	**63.41**	**327**	P	**P**	**02 42 03.9**	**0.0**	
	comp=Z,4.0nm,0.3s,baz=127,slow=6.1,SNR=22							
	comp=Z,4.0nm,0.3s							
KURK	**Kurchatov**	**63.41**	**327**	P	**P**	**02 42 03.5**	**-0.4**	
GAR	**Garm**	**63.77**	**313**	P	**P**	**02 42 06.5**	**-0.1**	
KK31	**Karatay Array**	**65.04**	**317**	P	**P**	**02 42 14.0**	**-0.7**	
KKAR	**Karatay Array**	**65.04**	**317**	P	**P**	**02 42 14.1**	**-0.7**	
TIXI	**Tiksi**	**68.76**	**0**	P	**P**	**02 42 37.0**	**-0.6**	
TIXI				IAmb	IAmb	02 42 37.8		
	comp=Z,5.8nm,0.5s							
TIXI	**Tiksi**	**68.76**	**0**	P	**P**	**02 42 36.8**	**-0.8**	
	comp=Z,4.6nm,0.4s,baz=205,slow=3.9,SNR=12							
	comp=Z,4.6nm,0.4s							
BVAR	**Borovoye Array**	**69.00**	**327**	P	**P**	**02 42 39.1**	**-0.4**	
	comp=Z,4.9nm,0.7s,baz=120,slow=8.8,SNR=27							
	comp=Z,4.9nm,0.7s							
BRVK	**Borovoye**	**69.07**	**327**	P	**P**	**02 42 39.5**	**-0.5**	
BRVK				IAmb	IAmb	02 42 40.5		
	comp=Z,5.9nm,0.7s							
NRIK	**Noril'sk**	**71.73**	**346**	P	**P**	**02 42 55.5**	**-0.2**	
	comp=Z,3.1nm,0.6s,baz=122,slow=5.4,SNR=5.3							
	comp=Z,3.1nm,0.6s							
GEYT	**Alibeck**	**72.76**	**309**	P	**P**	**02 43 02.3**	**-0.3**	
	comp=Z,1.2nm,0.5s,baz=88,slow=8.8,SNR=4.1							
	comp=Z,1.2nm,0.5s							
ABKAR	**Akbulak array**	**73.92**	**321**	P	**P**	**02 43 08.0**	**-1.0**	
ARU	**Arti**	**76.61**	**328**	P	**P**	**02 43 23.3**	**-0.9**	
ARU				IAmb	IAmb	02 43 24.0		
	comp=Z,5.3nm,0.8s							
L16K	**Owhat River**	**79.13**	**27**	P	**P**	**02 43 38.8**	**+0.7**	
L16K				IAmb	IAmb	02 44 04.0		
	comp=Z,11nm,1.4s							
C18K	**Utukok River**	**80.35**	**20**	P	**P**	**02 43 45.6**	**+0.9**	
O18K	**Koktuh Hills**	**80.78**	**30**	P	**P**	**02 43 47.6**	**+0.6**	
O18K				IAmb	IAmb	02 44 11.9		
	comp=Z,6.0nm,1.3s							
TTA	**Tatalina**	**80.98**	**27**	P	**P**	**02 43 49.1**	**+1.0**	
KDAK	**Kodiak Island**	**81.80**	**32**	P	**P**	**02 43 52.9**	**+0.4**	
KDAK	**Kodiak Island**	**81.80**	**32**	P	**P**	**02 43 52.8**	**+0.4**	
	comp=Z,6.7nm,0.9s,baz=263,slow=7.2,SNR=5.4							
	comp=Z,6.7nm,0.9s							
RAYN	**Ar Rayn**	**82.37**	**293**	P	**P**	**02 43 54.2**	**-2.0**	
IMAR	**Indian Mountai**	**82.52**	**24**	P	**P**	**02 43 55.9**	**-0.2**	
SKT	**Skwentna**	**82.88**	**28**	P	**P**	**02 43 57.7**	**-0.3**	
ILAR	**Eielson Array**	**85.23**	**25**	P	**P**	**02 44 08.1**	**-1.7**	
	comp=Z,0.1nm,0.6s,baz=244,slow=6.1,SNR=1.3							
GURO	**Guroymak-BITLI**	**85.42**	**308**	P	**P**	**02 44 11.5**	**0.0**	
GURO				IAmb	IAmb	02 44 13.0		
	comp=Z,4.1nm,1.0s							
BMAR	**Burnt Mountain**	**86.29**	**23**	P	**P**	**02 44 16.1**	**+1.1**	
SPITS	**Spitsbergen Ar**	**91.71**	**349**	P	**P**	**02 44 39.2**	**-1.1**	
	comp=Z,5.0nm,0.9s,baz=46,slow=6.2,SNR=5.3							
	comp=Z,5.0nm,0.9s							
ARCES	**ARCESS Array B**	**91.89**	**340**	P	**P**	**02 44 40.0**	**-1.3**	
	comp=Z,2.8nm,0.7s,baz=83,slow=7.4,SNR=12							
	comp=Z,2.8nm,0.7s							
QSPA	**South Pole Qui**	**92.71**	**180**	P	**P**	**02 44 44.3**	**-0.9**	
	comp=Z,0.8nm,1.0s,baz=171,slow=2.9,SNR=5.6							
	comp=Z,0.8nm,1.0s							
FINES	**FINESS Array B**	**93.43**	**332**	P	**P**	**02 44 46.5**	**-2.0**	
	comp=Z,2.2nm,1.0s,baz=87,slow=2.9,SNR=3.7							
	comp=Z,2.2nm,1.0s							
TORD	**Torodi Ar. Bea**	**124.78**	**288**	PKP	**PKPdf**	**02 50 32.6**	**-0.8**	
	comp=Z,0.6nm,0.6s,baz=64,slow=2.2,SNR=10							

IDC 17 02:50:49.9±2.1, 5.75S×141.65E, h0km, mb3.4/1, mbtmp3.4/3, ML3.1/2, Error ellipse: s-maj=158.3km s-min=30.1km az=114.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.80**	**206**	Pn	Pn	02 54 32.1	-1.8
	0.1nm,0.3s,baz=30,slow=13,SNR=2.3						
WRA				Lg	Lg	02 59 12.5	
	baz=27,slow=28,SNR=1.6						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**19.31**	**202**	P	Pn	02 55 17.4	-0.3
	0.1nm,0.3s,baz=30,slow=11,SNR=9.8						
	1.1nm,0.8s						
ILAR	**Eielson Array**	**87.38**	**24**	P	P	03 03 38.7	0.0
	0.2nm,0.7s,baz=232,slow=4.4,SNR=1.4						
	0.2nm,0.7s						

SJA 17 03:06:17.9±1.8, 20.96S×68.70W, h100km, ML3.5, MW3.7
IDC 17 03:06:19.1±0.8, 21.02S×68.54W, h114km±10km, mb3.2/4, mbtmp3.7/6, Error ellipse: s-maj=27.8km s-min=10.6km az=100.0
GUC 17 03:06:19.7±0.7, 21.00S×68.76W, h102km±4km, ML3.7
VAO 17 03:06:19.7±0.3, 21.19S×68.35W, h125km, mb4.2
ISC 17 03:06:17.9±0.7, 20.98S±0.03×68.69W±0.05, h105km±6km, n56, σ1°58/88, mb3.5/4, 8C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.75**	**265**	*eP*	**Pn**	**03 06 36.5**	**+0.2**
PB01				*eS*	**Sn**	**03 06 50.8**	**+0.6**
PB01				IAML		03 06 52.6	
	comp=Z,1μm,0.3s						
PB01	**IPOC Station P**	**0.75**	**265**	⇑*iP*	**Pn**	**03 06 36.5**	**+0.2**
PB01				*i* S	**Sn**	**03 06 49.5**	**-0.7**
PB01				IAML		03 06 51.1	
	comp=N,2μm,0.2s						
PB08	**IPOC Station P**	**0.94**	**332**	*eP*	**Pn**	**03 06 39.3**	**+0.8**
PB08				*eS*	**Sn**	**03 06 56.3**	**+2.3**
PB08				IAML		03 06 57.4	
	comp=Z,497nm,0.5s						
PB08	**IPOC Station P**	**0.94**	**332**	⇑*iP*	**Pn**	**03 06 39.8**	**+1.3**
PB08				*i* S	**Sn**	**03 06 55.5**	**+1.5**
PB08				IAML		03 06 57.2	
	comp=E,982nm,0.3s						
PB09	**IPOC Station P**	**0.96**	**212**	*eP*	**Pn**	**03 06 39.5**	**+0.9**
PB09				*eS*	**Sn**	**03 06 56.7**	**+2.5**
PB09				IAML		03 06 58.1	
	comp=Z,930nm,0.2s						
PB09	**IPOC Station P**	**0.96**	**212**	⇑*iP*	**Pn**	**03 06 39.3**	**+0.8**
PB09				IAML		03 06 59.0	
	comp=E,6μm,0.1s						
PB02	**IPOC Station P**	**1.18**	**253**	*eP*	**Pn**	**03 06 41.1**	**+0.4**
PB02				*eS*	**Sn**	**03 06 59.1**	**+1.0**
PB02	**IPOC Station P**	**1.18**	**253**	⇑*iP*	**Pn**	**03 06 41.0**	**+0.2**
PB02				*i* S	**Sn**	**03 06 57.7**	**-0.3**
PB02				IAML		03 06 59.9	
	comp=E,5μm,0.8s						
PB07	**IPOC Station P**	**1.34**	**236**	*eP*	**Pn**	**03 06 42.8**	**+0.1**
PB07				*eS*	**Sn**	**03 07 03.4**	**+1.8**
PB07				IAML		03 07 04.4	
	comp=Z,687nm,0.1s						
PB07	**IPOC Station P**	**1.34**	**236**	⇑*iP*	**Pn**	**03 06 42.8**	**+0.1**
PB07				*i* S	**Sn**	**03 07 01.3**	**-0.2**
PB07				IAML		03 07 04.2	
	comp=N,933nm,0.3s						
GO01	**Chusmiza**	**1.38**	**340**	*eP*	**Pn**	**03 06 44.4**	**+0.9**
GO01				*eS*	**Sn**	**03 07 05.4**	**+2.5**
GO01				*eS*		03 07 06.5	
GO01				*eS*		03 07 06.7	
GO01				IAML		03 07 09.2	
	comp=Z,256nm,0.5s						
GO01	**Chusmiza**	**1.38**	**340**	*eP*	**Pn**	**03 06 44.8**	**+1.2**
GO01				*eS*	**Sn**	**03 07 04.2**	**+1.3**
GO01				IAML		03 07 07.0	
	comp=N,690nm,0.3s						
TA01	**Diego Aracena**	**1.45**	**286**	*eP*	**Pn**	**03 06 44.1**	**+0.3**
TA01				*eS*	**Sn**	**03 07 04.1**	**+0.5**
TA01				IAML		03 07 05.2	
	comp=Z,401nm,0.7s						
TA01	**Diego Aracena**	**1.45**	**286**	⇑*eP*	**Pn**	**03 06 43.9**	**+0.1**
TA01				*i* S	**Sn**	**03 07 03.0**	**-0.5**
TA01				IAML		03 07 04.9	
	comp=E,1μm,0.4s						
PB11	**IPOC Station P**	**1.51**	**323**	*eP*	**Pn**	**03 06 44.9**	**+0.1**
PB11				*eS*	**Sn**	**03 07 06.7**	**+1.6**
PB11				IAML		03 07 12.8	
	comp=Z,318nm,0.3s						
PB11	**IPOC Station P**	**1.51**	**323**	*eP*	**Pn**	**03 06 45.4**	**+0.7**
PB11				*i* S	**Sn**	**03 07 05.7**	**+0.6**
PB11				IAML		03 07 09.6	
	comp=E,797nm,0.3s						
TA02	**Huaiquique**	**1.52**	**297**	*eP*	**Pn**	**03 06 45.0**	**+0.3**
TA02				*eS*	**Sn**	**03 07 06.5**	**+1.5**
TA02				*eS*		03 07 06.7	
TA02				IAML		03 07 06.8	
	comp=Z,427nm,0.1s						
TA02	**Huaiquique**	**1.52**	**297**	*eP*	**Pn**	**03 06 45.3**	**+0.7**
TA02				*i* S	**Sn**	**03 07 04.6**	**-0.4**
LVC	**Limon Verde**	**1.64**	**187**	*eP*	**Pn**	**03 06 47.7**	**+1.2**
LVC				*eS*	**Sn**	**03 07 10.7**	**+2.4**
LVC				IAML		03 07 13.9	
	comp=Z,220nm,0.6s						
LVC	**Limon Verde**	**1.64**	**187**	P	**Pn**	**03 06 47.8**	**+1.3**
	comp=Z,340nm,0.5s,baz=32,slow=12,SNR=506						
LVC				S	**Sn**	**03 07 09.8**	**+1.6**
	comp=Z,300nm,0.4s,baz=179,slow=18,SNR=24						
LVC	**Limon Verde**	**1.64**	**187**	⇑*iP*	**Pn**	**03 06 47.8**	**+1.2**
LVC				*eS*	**Sn**	**03 07 09.7**	**+1.4**
LVC				IAML		03 07 14.2	
	comp=Z,2μm,0.3s						
LVC	**Limon Verde**	**1.64**	**187**	*eP*	**Pn**	**03 06 47.3**	**+0.7**
LVC				*eS*	**Sn**	**03 07 09.0**	**+0.7**
PB06	**IPOC Station P**	**1.91**	**205**	*eP*	**Pn**	**03 06 50.1**	**+0.4**
PB06				*eP*		03 06 50.2	
PB06				*eS*	**Sn**	**03 07 16.7**	**+2.8**
PB06				IAML		03 07 19.2	
	comp=Z,645nm,0.4s						
PB06	**IPOC Station P**	**1.91**	**205**	⇑*iP*	**Pn**	**03 06 50.0**	**+0.4**
PB06				*i* S	**Sn**	**03 07 14.4**	**+0.5**
PB04	**IPOC Station P**	**1.92**	**225**	*eP*	**Pn**	**03 06 50.1**	**+0.3**
PB04				*eS*	**Sn**	**03 07 18.2**	**+4.1**
PB04				IAML		03 07 24.0	
	comp=Z,797nm,0.2s						
PB04	**IPOC Station P**	**1.92**	**225**	*eP*	**Pn**	**03 06 50.2**	**+0.5**
PB04				*eS*	**Sn**	**03 07 15.4**	**+1.3**
PB04				IAML		03 07 24.2	
	comp=N,891nm,0.2s						
AF01	**San Pedro de A**	**2.02**	**166**	*eP*	**Pn**	**03 06 53.3**	**+2.0**
PB05	**IPOC Station P**	**2.34**	**217**	*eP*	**Pn**	**03 06 54.9**	**-0.3**
PB05				*eS*	**Sn**	**03 07 29.4**	**+5.7**
PB05				IAML		03 07 33.8	
	comp=Z,202nm,0.2s						
PB05	**IPOC Station P**	**2.34**	**217**	*eP*	**Pn**	**03 06 55.1**	**0.0**
PB05				*eS*	**Sn**	**03 07 25.1**	**+1.4**
PB05				IAML		03 07 31.8	
	comp=E,598nm,0.2s						
PB15	**IPOC Station P**	**2.34**	**198**	*eP*	**Pn**	**03 06 56.0**	**+0.7**
PB15				*eS*	**Sn**	**03 07 22.3**	**-1.6**
PB15	**IPOC Station P**	**2.34**	**198**	*eP*	**Pn**	**03 06 55.8**	**+0.5**
PB15				*eS*	**Sn**	**03 07 23.3**	**-0.6**
PB16	**IPOC Station P**	**2.74**	**344**	*eP*	**Pn**	**03 07 02.4**	**+1.5**
PB16				*eS*	**Sn**	**03 07 32.8**	**-1.0**
PB16				IAML		03 07 43.8	
	comp=Z,75nm,0.5s						
PB16	**IPOC Station P**	**2.74**	**344**	*eP*	**Pn**	**03 07 03.0**	**+2.2**
PB16				*eS*	**Sn**	**03 07 36.6**	**+2.8**
PB16				IAML		03 07 45.1	
	comp=E,117nm,0.6s						
PB12	**IPOC Station P**	**2.81**	**326**	*eP*	**Pn**	**03 07 01.2**	**-0.2**
PB12				*eS*	**Sn**	**03 07 35.7**	**+0.9**
PB12				IAML		03 07 42.3	
	comp=Z,110nm,0.3s						
PB12	**IPOC Station P**	**2.81**	**326**	*eP*	**Pn**	**03 07 00.9**	**-0.4**
PB12				*eS*	**Sn**	**03 07 34.9**	**+0.1**
PB12				IAML		03 07 43.9	
	comp=N,266nm,0.5s						
PB10	**IPOC Station P**	**3.06**	**214**	*eP*	**Pn**	**03 07 05.2**	**+0.6**
PB10				*eS*	Sn	03 07 51.8	+11
PB10				IAML		03 07 52.6	
	comp=Z,328nm,0.4s						
PB10	**IPOC Station P**	**3.06**	**214**	*eP*	**Pn**	**03 07 05.5**	**+0.9**
PB10				IAML		03 07 53.8	
	comp=E,489nm,0.4s						
YJA	**Yavi**	**3.19**	**113**	*eP*	Pn	03 07 10.6	+3.9
LPAZ	**La Paz**	**4.69**	**7**	P	**Pn**	**03 07 28.8**	**+1.7**
LPAZ				S	**Sn**	**03 08 24.6**	**+3.8**
	comp=E,15nm,0.5s,baz=184,slow=7.4,SNR=74						
	comp=E,2.7nm,0.5s,baz=54,slow=14,SNR=1.2						
LPAZ	**La Paz**	**4.69**	**7**	*eP*	Pn	03 07 31.1	+4.0
BBSD	**Serra de San D**	**8.52**	**65**	*eP*	**Pn**	**03 08 16.5**	**-2.0**
SIV	**San Ignacio**	**8.77**	**57**	P	**Pn**	**03 08 20.3**	**-1.6**
	comp=E,9.2nm,0.4s,baz=236,slow=9.6,SNR=81						
MURT	**Porto Murtinho**	**10.35**	**96**	*eP*	**Pn**	**03 08 41.7**	**-1.7**
PTLB	**Pontes e Lacer**	**10.61**	**60**	*eP*	**Pn**	**03 08 45.7**	**-1.2**
BDQN	**Bodoquena, MS**	**11.19**	**89**	*eP*	**Pn**	**03 08 51.9**	**-2.8**
VILB	**Vilhena**	**11.38**	**47**	*eP*	**Pn**	**03 08 56.6**	**-0.8**
SNDB	**Serra Nova Dou**	**18.92**	**64**	*eP*	**Pn**	**03 10 30.4**	**-1.9**
ITTB	**Itaituba**	**20.76**	**39**	*eP*	**P**	**03 10 49.0**	**-1.5**
OTAV	**Otavalo**	**23.14**	**334**	*eP*	**P**	**03 11 19.9**	**+4.2**
MALB	**Monte Alegre**	**23.65**	**38**	*eP*	**P**	**03 11 19.2**	**-0.6**
PMSA	**Palmer Station**	**43.89**	**177**	*eP*	**P**	**03 14 11.8**	**-1.8**
TXAR	**Lajitas Array**	**60.32**	**325**	P	**P**	**03 16 16.4**	**+0.5**
	comp=E,0.2nm,0.6s,baz=123,slow=6.7,SNR=2.5						
	comp=E,0.2nm,0.6s						
NVAR	**Mina Array Bea**	**75.21**	**322**	P	**P**	**03 17 50.4**	**+1.1**
	comp=E,0.3nm,0.7s,baz=147,slow=5.1,SNR=2.1						
	comp=E,0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**76.99**	**70**	P	**P**	**03 17 59.1**	**-0.5**
	comp=E,0.5nm,0.6s,baz=252,slow=5.0,SNR=16						
	comp=E,0.5nm,0.6s						
YKA	**Yellowknife Ar**	**90.76**	**341**	P	**P**	**03 19 08.0**	**-0.6**
	comp=E,0.5nm,0.9s,baz=129,slow=4.8,SNR=5.9						
	comp=E,0.5nm,0.9s						
MKAR	**Makanchi Array**	**145.09**	**36**	PKPbc	**PKPdf**	**03 25 43.6**	**+0.7**
	comp=E,0.5nm,0.4s,baz=320,slow=3.0,SNR=12						

IDC 17 03:25:17.7±2.6, 17.99S×178.49W, h619km±30km, mb3.2/15, mbtmp4.1/16, Error ellipse: s-maj=18.1km s-min=14.3km az=143.0
ISC 17 03:25:14.1±0.6, 17.9S±0.1×178.4W±0.1, h579km, n24, σ1°13/26, mb3.8/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.82**	**251**	P	**P**	**03 28 22.2**	**+0.9**
	4.3nm,0.6s,baz=102,slow=22,SNR=9.0						
CTA	**Charters Tower**	**33.44**	**261**	P	**P**	**03 31 07.0**	**+0.7**
	2.8nm,0.6s,baz=90,slow=8.8,SNR=2.6						
	2.8nm,0.6s						
STKA	**Stephens Creek**	**38.62**	**241**	P	**P**	**03 31 49.5**	**+0.7**
	2.3nm,0.5s,baz=95,slow=13,SNR=9.2						
	2.3nm,0.5s						
WRA	**Warramunga Arr**	**44.63**	**260**	P	**P**	**03 32 36.2**	**-0.1**
	3.6nm,0.4s,baz=96,slow=7.3,SNR=75						
WRA				PcP	**PcP**	**03 34 06.0**	**-0.4**
	0.6nm,0.5s,baz=90,slow=3.8,SNR=4.7						
	3.6nm,0.4s						
ASAR	**Alice Springs**	**44.78**	**254**	P	**P**	**03 32 38.0**	**+0.5**
	9.9nm,0.6s,baz=86,slow=8.6,SNR=191						
ASAR				PcP	**PcP**	**03 34 06.6**	**-0.3**
	1.3nm,0.5s,baz=101,slow=3.9,SNR=9.0						
ASAR				S	**S**	**03 38 30.6**	**-2.9**
	0.3nm,0.6s,baz=92,slow=16,SNR=5.9						
	9.9nm,0.6s						
VNDA	**Vanda**	**60.41**	**185**	P	**P**	**03 34 29.0**	**+1.2**
	1.3nm,1.1s,baz=30,slow=6.2,SNR=1.7						
	1.3nm,1.1s						
MJAR	**Matsushiro Arr**	**67.94**	**323**	P	**P**	**03 35 16.2**	**+0.2**
	2.1nm,0.6s,baz=154,slow=7.0,SNR=6.1						
	2.1nm,0.6s						
QSPA	**South Pole Qui**	**72.11**	**180**	P	**P**	**03 35 40.5**	**0.0**
	1.4nm,0.7s,baz=279,slow=0.6,SNR=14						
	1.4nm,0.7s						
PETK	**Petropavlovsk-**	**73.71**	**345**	P	**P**	**03 35 50.2**	**+0.7**
	5.0nm,0.8s,baz=157,slow=9.1,SNR=2.7						
	5.0nm,0.8s						
NVAR	**Mina Array Bea**	**79.44**	**44**	P	**P**	**03 36 22.3**	**+0.9**
	0.2nm,0.5s,baz=234,slow=6.1,SNR=2.8						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**85.92**	**13**	P	**P**	**03 36 51.9**	**-1.1**
	0.3nm,0.4s,baz=244,slow=5.1,SNR=8.8						
	0.3nm,0.4s						
TXAR	**Lajitas Array**	**86.01**	**58**	P	**P**	**03 36 54.9**	**+0.5**
	0.3nm,0.7s,baz=217,slow=6.8,SNR=4.4						
	0.3nm,0.7s						
PDAR	**Pinedale Array**	**87.37**	**43**	P	**P**	**03 37 00.8**	**+0.1**
	0.3nm,0.6s,baz=264,slow=1.7,SNR=1.9						
	0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**88.90**	**290**	P	**P**	**03 37 08.3**	**+0.3**
	0.6nm,0.3s,baz=119,slow=3.2,SNR=1.5						
	0.6nm,0.3s						
SNAA	**Sanae**	**90.56**	**179**	P	**P**	**03 37 13.6**	**-1.2**
	1.3nm,0.6s,baz=169,slow=5.2,SNR=2.0						
	1.3nm,0.6s						
SONM	**Songino Array**	**93.58**	**319**	P	**P**	**03 37 30.5**	**+1.4**
	0.2nm,0.5s,baz=128,slow=6.1,SNR=2.9						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**109.16**	**314**	PKiKP	**PKiKP**	**03 42 37.1**	**-1.7**
	0.2nm,0.5s,baz=191,slow=0.7,SNR=5.1						
KURBB	**Kurchatov Arra**	**111.91**	**318**	PKiKP	**PKiKP**	**03 42 42.8**	**-1.0**
	0.3nm,0.6s,baz=80,slow=2.0,SNR=4.5						
BVAR	**Borovoye Array**	**116.87**	**321**	PKP	**PKPdf**	**03 42 52.0**	**-1.3**
	0.9nm,0.6s,baz=67,slow=8.1,SNR=3.6						
ARCES	**ARCESS Array B**	**126.35**	**350**	PKP	**PKPdf**	**03 43 08.9**	**-2.2**
	3.4nm,0.9s,baz=25,slow=3.0,SNR=3.6						
AKASG	**Malin Array Be**	**140.59**	**332**	PKhKP	PKPpre	03 43 31.2	
	0.7nm,0.6s,baz=50,slow=3.7,SNR=5.8						
BRTR	**Keskin Array B**	**144.81**	**315**	PKP	**PKPdf**	**03 43 46.6**	**+0.4**
	1.1nm,0.6s,baz=73,slow=2.7,SNR=11						
MMAI	**Mount Meron Ar**	**146.16**	**303**	PKPbc	**PKPbc**	**03 43 51.1**	**+0.4**
	2.3nm,0.5s,baz=64,slow=5.2,SNR=12						
GERES	**GERESS Array B**	**147.65**	**345**	PKPbc	**PKPbc**	**03 43 54.0**	**-0.2**
	1.5nm,0.6s,baz=21,slow=4.9,SNR=11						

IDC 17 04:17:02.5±2.1, 6.15S×142.77E, h0km, mb3.7/3, mbtmp3.7/4, ML3.7/1, MS2.9/2, Error ellipse: s-maj=87.3km s-min=36.4km az=104.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**14.26**	**167**	LR	LR	04 26 00.9	
	comp=Z,38nm,21.3s,baz=1.0,slow=38						
WRA	**Warramunga Arr**	**15.97**	**210**	Pn	Pn	04 20 44.4	-4.3
	0.3nm,0.3s,baz=27,slow=13,SNR=13						
WRA				Sn	Sn	04 23 31.8	-15
	0.1nm,0.3s,baz=66,slow=13,SNR=1.5						
WRA				Lg	Lg	04 25 25.8	
	0.1nm,0.3s,baz=36,slow=31,SNR=5.0						
ASAR	**Alice Springs**	**19.39**	**205**	P	P	04 21 30.2	0.0
	0.2nm,0.3s,baz=35,slow=11,SNR=22						
ASAR				S	Sn	04 24 57.6	-12
	0.4nm,0.8s,baz=16,slow=27,SNR=2.3						
ASAR				Lg	Lg	04 27 16.6	
	baz=43,slow=19,SNR=1.8						
	1.9nm,0.7s						
MJAR	**Matsushiro Arr**	**42.68**	**355**	LR	LR	04 41 36.2	
	comp=Z,22nm,19.6s,baz=78,slow=34						
MKAR	**Makanchi Array**	**74.97**	**322**	P	P	04 28 45.4	-0.4
	0.8nm,1.0s,baz=121,slow=5.6,SNR=4.6						
	0.8nm,1.0s						
BVAR	**Borovoye Array**	**84.44**	**325**	P	P	04 29 37.6	+0.7
	0.8nm,0.8s,baz=121,slow=5.6,SNR=2.2						
	0.8nm,0.8s						
ILAR	**Eielson Array**	**87.30**	**24**	P	P	04 29 50.8	-0.1
	0.4nm,0.9s,baz=244,slow=3.9,SNR=2.3						
	0.4nm,0.9s						

NNC 17 04:58:27.9±15.0, 37.04N×70.11E, h0km, mb4.2, mpv3.8, 2C-2D, Error ellipse: s-maj=117.8km s-min=102.4km az=172.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.07**	**3**	⇑P	Pn	05 00 01.3	+2.4
	2.0nm,0.3s,baz=184,slow=13,SNR=38						
KK31				⇑S	Sn	05 01 12.4	+3.3
	2.5nm,0.7s,baz=193,slow=25,SNR=4.0						
UCH	**Uchtor**	**6.20**	**32**	P	Pn	05 00 02.0	+0.9
	SNR=22						
EKS2	**Erkin-Say**	**6.29**	**26**	P	Pn	05 00 03.4	+1.3
	SNR=12						
AAK	**Ala-Archa**	**6.53**	**30**	P	Pn	05 00 06.5	+1.0
	SNR=7.1						
KBK	**Karagabulak**	**6.73**	**32**	P	P

NUBE					IAML			05 05 10.0		
	comp=Z,4μm,1.0s									
LOAL	**Lomas de Alarc**	**0.70**	**51**	*i* P		**Pn**		**05 04 59.3**	**0.0**	
LOAL					IAML			05 04 59.6		
	comp=Z,34μm,1.0s									
SLOZ	**Alcaldia de Sa**	**0.72**	**49⇓**	*e*P		**Pn**		**05 04 59.5**	**0.0**	
SLOZ				*e*S		**Sn**		**05 05 10.9**	**+0.9**	
CEVE	**Cerro Verde**	**0.75**	**69⇓**	*i* P		**Pn**		**05 05 00.1**	**-0.1**	
CEVE	**Cerro Verde**	**0.75**	**69**	*i* P		**Pn**		**05 04 59.9**	**-0.2**	
CEVE				*i* S		**Sn**		**05 05 10.0**	**-1.0**	
CEVE					IAML			05 05 13.1		
	comp=Z,15μm,1.0s									
SBLS	**San Blas**	**0.76**	**68⇓**	*i* P		**Pn**		**05 05 00.0**	**-0.1**	
RTR	**El Retiro**	**0.76**	**63⇓**	*i* P		**Pn**		**05 05 00.3**	**+0.2**	
SNJE	**San Jose**	**0.78**	**66⇓**	*i* P		**Pn**		**05 05 00.4**	**-0.1**	
PCG	**Pacaya**	**0.87**	**343**	*e*P		**Pn**		**05 05 02.2**	**+0.4**	
JAYA	**Jayaque - finc**	**0.88**	**83⇓**	*i* P		**Pb**		**05 05 01.3**	**+0.2**	
JAYA	**Jayaque - finc**	**0.88**	**83**	*i* P		**Pb**		**05 05 01.3**	**+0.2**	
JAYA				*i* S		**Sn**		**05 05 13.7**	**-0.3**	
JAYA					IAML			05 05 16.5		
	comp=Z,18μm,1.0s									
UNIC	**Universidad Ca**	**0.88**	**61**	*i* P		**Pn**		**05 05 01.6**	**-0.2**	
UNIC					IAML			05 05 01.8		
	comp=Z,2μm,1.0s									
CEDA	**San Andres**	**0.96**	**75⇓**	*i* P		**Pn**		**05 05 02.6**	**-0.1**	
CEDA	**San Andres**	**0.96**	**75**	*i* P		**Pb**		**05 05 02.5**	**+0.1**	
CEDA				*i* S		**Sn**		**05 05 15.8**	**0.0**	
CEDA					IAML			05 05 19.4		
	comp=Z,11μm,1.0s									
JUAM	**Asuncion Mita**	**0.99**	**38**	*i* P		**Pb**		**05 05 03.0**	**0.0**	
JUAM				*i* S		**Sn**		**05 05 16.2**	**-0.5**	
JUAM					IAML			05 05 21.9		
	comp=Z,2μm,1.0s									
LALI	**Alcalda de L**	**1.00**	**94**	*e*P		**Pb**		**05 05 02.9**	**-0.2**	
LALI	**Alcalda de L**	**1.00**	**94**	*i* P		**Pb**		**05 05 02.8**	**-0.2**	
LALI				*i* S		**Sn**		**05 05 16.8**	**+0.1**	
LALI					IAML			05 05 21.5		
	comp=Z,710nm,1.0s									
FUG	**Fuego 3**	**1.01**	**332**	*e*P		**Pb**		**05 05 03.5**	**+0.1**	
PMON	**Piamonte**	**1.01**	**81**	*i* P		**Pb**		**05 05 03.3**	**-0.1**	
PMON					IAML			05 05 19.9		
	comp=Z,5μm,1.0s									
NBG	**Las Nubes**	**1.03**	**360**	*e*P		**Pn**		**05 05 05.1**	**+1.2**	
GUNB	**GUNB**	**1.04**	**360**	*i* P		**Pb**		**05 05 03.4**	**-0.5**	
GUNB				*i* S		**Sn**		**05 05 17.6**	**-0.5**	
GUNB					IAML			05 05 19.3		
	comp=Z,4μm,1.0s									
GCG4	**OSOP**	**1.04**	**350**	*i* P		**Pb**		**05 05 03.9**	**-0.1**	
GCG4					IAML			05 05 22.5		
	comp=Z,4μm,1.0s									
BOQS	**Boqueron**	**1.05**	**80**	*e*P		**Pn**		**05 05 04.2**	**0.0**	
PIC2	**El Picacho**	**1.07**	**80**	*e*P		**Pn**		**05 05 04.7**	**+0.2**	
QUEZ	**Alcaldia de Qu**	**1.08**	**75**	*i* P		**Pn**		**05 05 04.5**	**+0.1**	
QUEZ					IAML			05 05 28.1		
	comp=Z,6μm,1.0s									
UEES	**Universidad Ev**	**1.09**	**81**	*e*P		**Pb**		**05 05 04.6**	**0.0**	
UEES	**Universidad Ev**	**1.09**	**81**	*i* P		**Pb**		**05 05 04.6**	**0.0**	
UEES				*i* S		**Sn**		**05 05 19.3**	**+0.2**	
UEES					IAML			05 05 22.8		
	comp=Z,3μm,1.0s									
SNET	**Serv Nac Est T**	**1.09**	**83⇓**	*e*P		**Pn**		**05 05 04.7**	**+0.1**	
SNET	**Serv Nac Est T**	**1.09**	**83**	*i* P		**Pn**		**05 05 04.6**	**0.0**	
SNET				*i* S		**Sn**		**05 05 19.3**	**+0.2**	
SNET					IAML			05 05 21.0		
	comp=Z,6μm,1.0s									
GUMI	**Mixco**	**1.10**	**346**	*i* P		**Pn**		**05 05 04.8**	**-0.1**	
GUMI					IAML			05 05 22.5		
	comp=Z,3μm,1.0s									
UTEC	**Universidad Te**	**1.12**	**82**	*i* P		**Pb**		**05 05 05.3**	**+0.1**	
UTEC					IAML			05 05 28.6		
	comp=Z,2μm,1.0s									
PANCS	**Alcalda de**	**1.14**	**87**	*i* P		**Pn**		**05 05 04.8**	**-0.4**	
PANCS					IAML			05 05 23.7		
	comp=Z,6μm,1.0s									
LOMA	**Loma Larga**	**1.15**	**85**	*e*P		**Pn**		**05 05 05.3**	**-0.1**	
LOMA	**Loma Larga**	**1.15**	**85**	*i* P		**Pn**		**05 05 05.3**	**-0.1**	
LOMA					IAML			05 05 22.9		
	comp=Z,3μm,1.0s									
IGN	**Direccin Gen**	**1.15**	**82**	*i* P		**Pb**		**05 05 05.8**	**+0.1**	
IGN				*i* S		**Sn**		**05 05 21.0**	**+0.3**	
IGN					IAML			05 05 30.2		
	comp=Z,9μm,1.0s									
UDBS	**Universidad Do**	**1.17**	**82**	*i* P		**Pn**		**05 05 05.8**	**+0.1**	
UDBS					IAML			05 05 25.1		
	comp=Z,3μm,1.0s									
LFRS	**El Faro**	**1.25**	**87**	*e*P		**Pn**		**05 05 07.1**	**+0.2**	
MTO3	**Montecristo**	**1.27**	**49⇓**	*i* P		**Pn**		**05 05 07.0**	**-0.3**	
MTO3	**Montecristo**	**1.27**	**49**	*i* P		**Pn**		**05 05 06.9**	**-0.3**	
MTO3					IAML			05 05 09.1		
	comp=Z,1μm,1.0s									
SJTE	**Alcalda de S**	**1.30**	**87**	*e*P		**Pn**		**05 05 07.5**	**-0.1**	
SJTE	**Alcalda de S**	**1.30**	**87**	*i* P		**Pn**		**05 05 07.6**	**+0.1**	
SJTE				*i* S		**Sb**		**05 05 24.6**	**0.0**	
SJTE					IAML			05 05 26.7		
	comp=Z,2μm,1.0s									
PAVA	**Las Pavas**	**1.38**	**83**	*e*P		**Pn**		**05 05 08.5**	**-0.1**	
PAVA	**Las Pavas**	**1.38**	**83**	*i* P		**Pn**		**05 05 08.5**	**-0.1**	
PAVA				*i* S		**Sb**		**05 05 26.6**	**-0.2**	
PAVA					IAML			05 05 31.8		
	comp=Z,2μm,1.0s									
ESQI	**Esquipulas**	**1.40**	**44**	*i* P		**Pn**		**05 05 08.7**	**-0.2**	
ESQI					IAML			05 05 31.7		
	comp=Z,1μm,1.0s									
SULM	**Suchitepequez,**	**1.40**	**302**	*e*P		**Pn**		**05 05 08.6**	**-0.2**	
COEG	**Centro de Oper**	**1.43**	**87**	*e*P		**Pn**		**05 05 09.2**	**0.0**	
COEG	**Centro de Oper**	**1.43**	**87**	*i* P		**Pn**		**05 05 08.9**	**-0.3**	
COEG				*i* S		**Sn**		**05 05 27.5**	**+0.1**	
COEG					IAML			05 05 33.9		
	comp=Z,1μm,1.0s									
UESV	**Universidad de**	**1.52**	**87**	*i* P		**Pn**		**05 05 10.8**	**+0.4**	
UESV					IAML			05 05 35.1		
	comp=Z,740nm,1.0s									
TECO	**Alcaldia de Te**	**1.52**	**90**	*e*P		**Pn**		**05 05 10.1**	**-0.4**	
TECO	**Alcaldia de Te**	**1.52**	**90**	*i* P		**Pn**		**05 05 10.1**	**-0.4**	
TECO					IAML			05 05 35.9		
	comp=Z,1μm,1.0s									
SCLA	**Alcaldia de Sa**	**1.58**	**84**	*e*P		**Pn**		**05 05 11.4**	**+0.1**	
SCLA	**Alcaldia de Sa**	**1.58**	**84**	*i* P		**Pn**		**05 05 11.2**	**-0.1**	
SCLA					IAML			05 05 44.5		
	comp=Z,370nm,1.0s									
RTAL	**Retalhuleu**	**1.63**	**307**	*i* P		**Pn**		**05 05 12.1**	**+0.1**	
RTAL					IAML			05 05 37.0		
	comp=Z,860nm,1.0s									
MRL	**Marmol**	**1.65**	**23**	*e*P		**Pb**		**05 05 13.4**	**-0.9**	
STG3	**Santiaguito 3,**	**1.66**	**314**	*e*P		**Pn**		**05 05 12.1**	**-0.3**	
ALJI	**Alcalda de J**	**1.74**	**97**	*i* P		**Pn**		**05 05 13.7**	**+0.2**	
ALJI					IAML			05 05 30.3		
	comp=Z,500nm,1.0s									
TECA	**Tecapa**	**1.79**	**92**	*e*P		**Pn**		**05 05 14.4**	**0.0**	
PACA	**Pacayal**	**1.97**	**92**	*i* P		**Pn**		**05 05 17.1**	**+0.4**	
PACA					IAML			05 05 47.6		
	comp=Z,4μm,1.0s									
SMSP	**San Marcos**	**1.98**	**316**	*i* P		**Pn**		**05 05 16.6**	**-0.5**	
SMSP					IAML			05 05 44.9		
	comp=Z,3μm,1.0s									
RANC	**El Ranchito**	**2.00**	**93**	*i* P		**Pn**		**05 05 17.7**	**+0.5**	
RANC					IAML			05 05 56.4		
	comp=Z,400nm,1.0s									
BLLM	**Bellamira**	**2.05**	**93**	*e*P		**Pn**		**05 05 18.5**	**+0.6**	
JUCU	**Jucuarˌn**	**2.06**	**98**	*e*P		**Pn**		**05 05 17.8**	**-0.2**	
JUCU	**Jucuarˌn**	**2.06**	**98**	*i* P		**Pn**		**05 05 17.2**	**-0.8**	
JUCU				*i* S		**Sn**		**05 05 43.7**	**+0.6**	
JUCU					IAML			05 05 48.0		
	comp=Z,520nm,1.0s									
LCND	**La Caada**	**2.40**	**96**	*e*P		**Pn**		**05 05 22.4**	**-0.1**	
CNCH	**Conchagua**	**2.46**	**96**	*e*P		**Pn**		**05 05 23.2**	**-0.3**	
TGUH	**Tegucigalpa,Un**	**3.03**	**80**	*i* P		**Pn**		**05 05 30.8**	**-0.5**	
TGUH					IAML			05 06 06.2		
	comp=Z,120nm,1.0s									
CCIG	**Comitan**	**3.22**	**328**	*i* P		**Pn**		**05 05 34.6**	**+0.6**	
CCIG					IAML			05 06 38.1		
	comp=Z,100nm,1.0s									
PETF	**Flores**	**3.38**	**8**	*i* P		**Pn**		**05 05 36.6**	**+0.6**	
PETF					IAML			05 05 36.8		
	comp=Z,120nm,1.0s									
YUSH	**Yuscaran**	**3.43**	**83**	*i* P		**Pn**		**05 05 36.6**	**-0.2**	

IDC 17 05:11:03.4±2.1,5.92S×143.00E,h0km,mb3.7/1, mbtmp3.4/3,ML3.3/2,Error ellipse: s-maj=275.6km s-min=34.6km az=116.0,New Guinea

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

WRA	**Warramunga Arr**	**16.29**	**210**	Pn		Pn		05 14 53.6	-0.1	
	0.1nm,0.3s,baz=35,slow=12,SNR=7.9									
	0.2nm,0.5s									
ASAR	**Alice Springs**	**19.70**	**205**	P		P		05 15 34.6	+0.1	
	0.1nm,0.3s,baz=33,slow=11,SNR=12									
	0.9nm,0.6s									
ILAR	**Eielson Array**	**86.99**	**24**	P		P		05 23 50.3	0.0	
	0.5nm,1.0s,baz=254,slow=3.4,SNR=3.3									
	0.5nm,1.0s									

*SJA **17** 05:11:37.5±0.8,31.57S×69.28W,h118km±3km,ML3.6, MW3.7*

*GUC **17** 05:11:38.1±0.7,31.58S×69.62W,h143km±4km,ML3.9*

ISC 17 05:11:37.8±1.3,31.59S±0.02×69.32W±0.03,h124km±8km, n57,σ1ß25/105,10C,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.21**	**174**	*e*P	**Pn**	**05 11 54.7**	**-0.7**
RTLS				*e*S	**Sn**	**05 12 07.4**	**-1.3**
SJA	**San Juan**	**0.65**	**85**	*e*P	**Pn**	**05 11 57.1**	**-0.2**
SJA				*e*S	**Sn**	**05 12 09.9**	**-2.2**
SJA				IAML		05 12 11.8	
	comp=Z,3μm,0.2s						
DOCA	**Reserva Natura**	**0.67**	**18**	*e*P	**Pn**	**05 11 57.2**	**-0.6**
DOCA				*e*S	**Sn**	**05 12 11.6**	**-1.3**
DOCA				IAML		05 12 12.5	
	comp=Z,2μm,0.2s						
RTCV	**Cerro Valdivia**	**0.72**	**113**	*e*P	**Pn**	**05 11 57.5**	**-0.3**
RTCV				*e*S	**Sn**	**05 12 12.2**	**-0.8**
RTLL	**Cerro Villicun**	**0.77**	**71**	*e*P	Pn	05 11 51.9	-6.4
RTLL				IAML		05 12 12.9	
	comp=Z,2μm,0.5s						
ACCO	**Cerro Coronel**	**1.02**	**13**	*e*P	**Pn**	**05 12 00.7**	**-0.1**
ACCO				*e*S	**Sn**	**05 12 18.4**	**+0.2**
ACCO				IAML		05 12 20.6	
	comp=Z,472nm,0.3s						
ASAL	**Salagasta**	**1.08**	**158**	*e*P	**Pn**	**05 12 01.4**	**+0.2**
ASAL				*e*S	**Sn**	**05 12 19.7**	**+0.8**
ASAL				IAML		05 12 20.0	
	comp=Z,480nm,0.6s						
ARCO	**CERRO ARCO**	**1.29**	**165**	*e*P	**Pn**	**05 12 03.8**	**+0.4**
ARCO				IAML		05 12 24.3	
	comp=Z,993nm,0.3s						
ARCO				*e*S	**Sn**	**05 12 24.4**	**+1.5**
CO03	**El Pedregal**	**1.39**	**302**	*e*P	**Pn**	**05 12 04.5**	**+0.1**
CO03				*e*S	**Sn**	**05 12 25.7**	**+1.1**
CO03				IAML		05 12 28.9	
	comp=Z,661nm,0.2s						
CO03	**El Pedregal**	**1.39**	**302⇑**	*e*P	**Pn**	**05 12 04.8**	**+0.4**
CO03				*e*S	**Sn**	**05 12 24.8**	**+0.3**
CO03				IAML		05 12 27.0	
	comp=E,2μm,0.3s						
AROD	**Rodeo**	**1.42**	**355**	*e*P	**Pn**	**05 12 05.6**	**+0.6**
AROD				*e*S	**Sn**	**05 12 26.2**	**+0.6**
ACDV	**Cuesta del Vie**	**1.42**	**7**	*e*P	**Pn**	**05 12 05.2**	**+0.3**
ACDV				*e*S	**Sn**	**05 12 25.8**	**+0.4**
ACDV				IAML		05 12 26.0	
	comp=Z,629nm,0.9s						
CO02	**Combarbal**	**1.48**	**284**	*e*P	**Pn**	**05 12 06.0**	**+0.5**
CO02				*e*S	**Sn**	**05 12 27.5**	**+1.0**
CO02				IAML		05 12 28.3	
	comp=Z,1μm,0.2s						
CO02	**Combarbal**	**1.48**	**284⇑**	*e*P	**Pn**	**05 12 05.6**	**+0.1**
CO02				*e*S	**Sn**	**05 12 25.7**	**-0.8**
CO02				IAML		05 12 29.4	
	comp=N,4μm,0.2s						
AAGR	**Agrelo**	**1.55**	**164**	*e*P	**Pn**	**05 12 06.7**	**+0.5**
AAGR				*e*S	**Sn**	**05 12 29.9**	**+2.0**
AAGR				IAML		05 12 30.0	
	comp=Z,358nm,0.3s						
VA03	**San Esteban**	**1.57**	**221**	*e*P	**Pn**	**05 12 07.2**	**+0.7**
VA03				*e*S	**Sn**	**05 12 29.8**	**+1.6**
VA03				IAML		05 12 34.2	
	comp=Z,395nm,0.2s						
VA03	**San Esteban**	**1.57**	**221**	*i* P	**Pn**	**05 12 07.0**	**+0.6**
VA03				*i* S	**Sn**	**05 12 28.9**	**+0.7**
VA03				IAML		05 12 30.1	
	comp=N,1μm,0.3s						
CO01	**Juntas del Tor**	**1.74**	**337**	*e*P	**Pn**	**05 12 08.8**	**+0.3**
CO01				*e*S	**Sn**	**05 12 34.6**	**+2.7**
CO01				IAML		05 12 35.5	
	comp=Z,250nm,0.5s						
CO01	**Juntas del Tor**	**1.74**	**337**	*e*P	**Pn**	**05 12 09.9**	**+1.3**
CO01				*e*S	**Sn**	**05 12 34.7**	**+2.7**
AVFE	**Valle Fertil**	**1.85**	**60**	*e*P	**Pn**	**05 12 09.6**	**-0.1**
AVFE				*e*S	**Sn**	**05 12 33.3**	**-0.8**
AVFE				IAML		05 12 35.1	
	comp=Z,247nm,0.4s						
GO04	**Tololo Observa**	**1.90**	**318**	*e*P	**Pn**	**05 12 10.9**	**+0.5**
GO04				*e*S	**Sn**	**05 12 35.5**	**+0.1**
GO04	**Tololo Observa**	**1.90**	**318⇑**	*e*P	**Pn**	**05 12 10.9**	**+0.1**
GO04				*e*S	**Sn**	**05 12 35.0**	**-0.4**
GO04				IAML		05 12 38.4	
	comp=E,2μm,0.3s						
FCH	**Farellones**	**1.92**	**205**	*e*P	**Pn**	**05 12 12.1**	**+1.3**
FCH				*e*S	**Sn**	**05 12 38.3**	**+2.2**
PEL	**Peldehue**	**1.93**	**216**	*e*P	**Pn**	**05 12 11.1**	**+0.4**
PEL	**Peldehue**	**1.93**	**216**	*e*P	**Pn**	**05 12 10.7**	**-0.1**
PEL				*e*S	**Sn**	**05 12 36.2**	**+0.3**
PEL				IAML		05 12 37.8	
	comp=N,429nm,0.2s						
VA06	**Catapilco**	**1.94**	**239**	*e*P	**Pn**	**05 12 10.2**	**-0.5**
VA06				*e*S	**Sn**	**05 12 34.7**	**-1.2**
MT04	**Ro Olivares**	**1.94**	**201**	*e*P	**Pn**	**05 12 12.4**	**+1.4**
MT04				*e*S	**Sn**	**05 12 38.4**	**+2.0**
MT10	**Hacienda Santa**	**1.97**	**211**	*e*P	**Pn**	**05 12 12.2**	**+0.9**
MT10				*e*S	**Sn**	**05 12 38.0**	**+1.2**
MT10				IAML		05 12 41.5	
	comp=N,1μm,0.3s						
ROCH	**El Roble**	**1.99**	**226⇑**	*e*P	**Pn**	**05 12 11.7**	**+0.2**
ROCH				*e*S	**Sn**	**05 12 37.4**	**0.0**
ROCH				IAML		05 12 41.0	
	comp=N,641nm,0.3s						
ROC1	**El Roble**	**1.99**	**226**	*e*P	**Pn**	**05 12 11.6**	**0.0**
ROC1				*e*S	**Sn**	**05 12 38.1**	**+0.6**
AVIZ	**Vizcacheras**	**2.00**	**160**	*e*P	**Pn**	**05 12 12.4**	**+0.8**
MT14	**Cerro Calˌn**	**2.08**	**209**	*e*P	**Pn**	**05 12 12.8**	**+0.3**
MT14				*e*S	**Sn**	**05 12 40.1**	**+1.1**
MT14				IAML		05 12 42.2	
	comp=N,1μm,0.7s						
MT16	**CCHEN**	**2.10**	**209**	*e*P	**Pn**	**05 12 13.4**	**+0.6**
MT16				*e*S	**Sn**	**05 12 40.1**	**+0.5**
MT03	**Universidad Ad**	**2.15**	**207**	*e*P	**Pn**	**05 12 14.5**	**+1.0**
MT03				*e*S	**Sn**	**05 12 43.6**	**+2.9**
MT03				IAML		05 12 44.1	
	comp=Z,458nm,0.5s						
MT03	**Universidad Ad**	**2.15**	**207⇑**	*i* P	**Pn**	**05 12 14.5**	**+1.0**
MT03				*i* S	**Sn**	**05 12 41.8**	**+1.0**
MT03				IAML		05 12 44.9	
	comp=N,918nm,0.2s						
MT05	**Renca**	**2.16**	**213**	*e*P	**Pn**	**05 12 14.3**	**+0.8**
MT05				*e*S	**Sn**	**05 12 42.8**	**+1.8**
MT05				IAML		05 12 44.0	
	comp=Z,378nm,0.2s						
MT05	**Renca**	**2.16**	**213⇑**	*e*P	**Pn**	**05 12 14.1**	**+0.5**
MT05				*e*S	**Sn**	**05 12 41.6**	**+0.7**
MT05				IAML		05 12 42.7	
	comp=E,1μm,0.3s						
CO06	**Fray Jorge**	**2.18**	**294**	*e*P	**Pn**	**05 12 12.7**	**-1.0**
CO06				*e*S	**Sn**	**05 12 38.6**	**-2.6**
CO06				IAML		05 12 50.1	
	comp=E,736nm,0.2s						
AGUA	**GUANDACOL**	**2.21**	**19**	*e*P	**Pn**	**05 12 15.1**	**+0.8**
AGUA				IAML		05 12 44.8	
	comp=Z,342nm,0.2s						
MT15	**Las Vizcachas**	**2.24**	**206**	*e*P	**Pn**	**05 12 15.1**	**+0.5**
MT15				*e*S	**Sn**	**05 12 43.7**	**+1.0**
MT15				IAML		05 12 48.3	
	comp=N,972nm,0.3s						
MT02	**Curacav**	**2.27**	**222**	*e*P	**Pn**	**05 12 14.6**	**-0.2**
MT02				IAML		05 12 45.5	
	comp=Z,145nm,0.3s						
MT02	**Curacav**	**2.27**	**222⇑**	*e*P	**Pn**	**05 12 14.5**	**-0.4**
MT02				*e*S	**Sn**	**05 12 42.5**	**-0.7**
ACHE	**Chepes**	**2.31**	**80**	*e*P	**Pn**	**05 12 15.6**	**0.0**
ACHE				*e*S	**Sn**	**05 12 43.5**	**-1.0**
CO05	**La Serena**	**2.34**	**315⇑**	*e*P	**Pn**	**05 12 15.1**	**-0.7**
CO05				*e*S	**Sn**	**05 12 43.1**	**-1.7**
CO05				IAML		05 12 44.4	
	comp=N,1μm,0.5s						
LMEL	**Las Melosas**	**2.37**	**198**	*e*P	**Pn**	**05 12 17.2**	**+0.9**
LMEL				*e*S	**Sn**	**05 12 47.0**	**+1.1**
LMEL				IAML		05 12 55.2	
	comp=N,555nm,0.1s						
MT12	**Pirque**	**2.38**	**205⇑**	*e*P	**Pn**	**05 12 16.8**	**+0.5**
MT12				*e*S	**Sn**	**05 12 46.3**	**+0.5**
MT12				IAML		05 12 52.0	
	comp=N,563nm,0.2s						
VA01	**Torpederas**	**2.43**	**233**	*e*P	**Pn**	**05 12 15.8**	**-1.1**
VA01				*e*S	**Sn**	**05 12 44.9**	**-2.1**
VA01				IAML		05 12 50.8	
	comp=N,278nm,0.1s						
MT09	**Talagante**	**2.60**	**212⇑**	*e*P	**Pn**	**05 12 18.8**	**-0.3**
MT09				*e*S	**Sn**	**05 12 50.8**	**-0.1**
MT09				IAML		05 12 51.6	
	comp=E,596nm,0.4s						
BO04	**La Punta**	**2.63**	**204**	*e*P	**Pn**	**05 12 19.7**	**+0.2**
BO04				*e*S	**Sn**	**05 12 51.9**	**+0.3**
BO04				IAML		05 12 53.7	
	comp=E,352nm,0.6s						
APLL	**PUNTA DE LOS L**	**2.68**	**64**	*e*P	**Pn**	**05 12 20.1**	**0.0**
MT01	**Popeta**	**2.79**	**215**	*e*S	**Sn**	**05 12 54.0**	**-1.2**
MT01				IAML		05 12 55.6	
	comp=Z,141nm,0.2s						
MT01	**Popeta**	**2.79**	**215**	*e*P	**Pn**	**05 12 20.5**	**-1.0**
MT01				*e*S	**Sn**	**05 12 53.1**	**-2.1**
MT01				IAML		05 12 55.8	
	comp=E,253nm,0.2s						
VA05	**Santo Domingo**	**2.83**	**223**	*e*P	**Pn**	**05 12 21.1**	**-0.9**
VA05				*e*S	**Sn**	**05 12 54.5**	**-1.5**
VA05				IAML		05 13 01.4	
	comp=N,339nm,0.1s						
LCO	**Las Campanas**	**2.83**	**335**	*e*P	**Pn**	**05 12 22.6**	**+0.3**
LCO				*e*S	**Sn**	**05 12 56.0**	**-0.5**
LCO				IAML		05 12 56.6	
	comp=Z,246nm,0.5s						
LCO	**Las Campanas**	**2.83**	**335**	*e*P	**Pn**	**05 12 22.2**	**-0.1**
LCO				*e*S	**Sn**	**05 12 55.0**	**-1.6**
VCA	**Vinchina**	**3.00**	**19**	*e*S	**Sn**	**05 13 02.3**	**+2.0**
VCA				*e*S	**Sn**	**05 13 02.3**	**+2.0**
VCA				IAML		05 13 05.7	
	comp=Z,193nm,0.8s						
RFA	**San Rafael**	**3.26**	**167**	*e*S	**Sn**	**05 13 00.1**	**-6.0**
RFA				IAML		05 13 05.6	
	comp=Z,81nm,0.6s						

*IDC **17** 05:16:34.2±0.6,15.29S×176.33W,h0km,mb4.3/14, mbtmp4.3/14,MS4.0/21,Error ellipse: s-maj=25.7km s-min=16.8km az=132.0*

*NEIC **17** 05:16:35.4±1.5,15.4S±0.1×175.96W±0.08,h10km±1km, mb4.8/45,Error ellipse: s-maj=18.9km s-min=12.1km az=158.0*

*GCMT **17** 05:16:41.4±0.4,15.27S±0.02×176.10W±0.02,h18km±2km, MW4.9/74,Moment Tensor Solution. s11,c11; s74,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.79±.14; $M_{\theta\theta}$2.26±.14; $M_{\phi\phi}$-1.47±.11; $M_{r\theta}$-1.13±.36; $M_{r\phi}$1.48±.11; $M_{\theta\phi}$-1.19±.34; Best double couple: M_o2.87500×10^{16} NP1:φs31.00000°,δ83.00000°,λ-143.00000°. NP2: φs296.00000°,δ53.00000°,λ-9.00000°. Principal axes: T 3.3090, Plg20.0000°, Azm158.0000°; N -0.8660, Plg52.0000°, Azm40.0000°; P -2.4400, Plg31.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 05:16:38.0±0.5,15.3S±0.1×176.2W±0.1,h26km,n118, σ1ß01/97,mb4.7/38,MS4.0/20,3C-3D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.47**	**72**		**Pn**	05 17 39.5	-4.7
MSVF	**Nonsavu**	**6.05**	**246**		**Pn**	**05 18 05.9**	**0.0**
NIUE	**Niue**	**7.04**	**123**	Pn	Pn	05 18 14.5	-4.8
MARNC	**Mare, Loyalty**	**16.20**	**245**	Pn	**Pn**	**05 20 24.5**	**+0.6**
OUENC	**Ouen Island, N**	**17.56**	**244**	P	**P**	**05 20 41.1**	**-0.8**
OUENC				IAmb	IAmb	05 20 51.4	
	comp=Z,120nm,1.1s						
DZM	**Mont Dzumac**	**17.79**	**245**	P	**P**	**05 20 46.8**	**+2.2**
DZM				IAmb	IAmb	05 21 00.5	
	comp=Z,77nm,1.4s						
DZM	**Mont Dzumac**	**17.79**	**245**	Pn	**P**	**05 20 47.5**	**+3.0**
	comp=Z,0.4nm,0.3s,baz=55,slow=19,SNR=9.1						
DZM				LR	LR	05 26 28.0	
	comp=Z,702nm,18.9s,baz=96,slow=34						
KOUNC	**Koumac, New Ca**	**19.31**	**252**	P	**Pn**	**05 21 02.1**	**-0.3**
URZ	**Urewera**	**23.61**	**193**	LR

comp=Z,5.4nm,0.8s
KSRS Korea Array 74.25 317 P **P** **05 28 14.3 +1.4**
comp=Z,1.4nm,0.7s,baz=126,slow=6.2,SNR=4.3
KSRS LR LR 05 57 49.4
comp=Z,42nm,19.4s,baz=205,slow=33
comp=Z,1.4nm,0.7s
QSPA South Pole Qui 74.72 180 P **P** **05 28 15.9 +0.4**
comp=Z,5.9nm,0.8s,baz=49,slow=1.2,SNR=17
comp=Z,5.9nm,0.8s
KDAK Kodiak Island 75.40 13 P **P** **05 28 18.9 -0.1**
KDAK Kodiak Island 75.40 13 LR LR 05 53 31.4
comp=Z,89nm,20.1s,baz=226,slow=29
USRK Ussuriysk Ar. 75.74 324 LR LR 05 55 50.0
comp=Z,163nm,21.5s,baz=160,slow=31
NVAR Mina Array Bea 76.07 43 P **P** **05 28 23.6 -0.1**
NVAR Mina Array Bea 76.07 43 P **P** **05 28 25.0 +1.3**
comp=Z,2.5nm,1.0s,baz=228,slow=9.4,SNR=13
comp=Z,2.5nm,1.0s
NV11 Mina Array Sit 76.17 43 P **P** **05 28 25.1 +1.0**
NV11 IAmb IAmb 05 28 26.9
comp=Z,10nm,1.4s
P18K Big Mountain, 76.37 11 P **P** **05 28 23.7 -1.0**
ILSW Iliamna Southw 77.31 12 P **P** **05 28 29.8 -0.3**
M16K Timber Creek 77.31 8 P **P** **05 28 30.9 +1.0**
M16K IAmb IAmb 05 28 35.8
comp=Z,13nm,1.1s
PINE Pine Mountain 77.43 38 P **P** **05 28 30.6 -0.7**
PINE IAmb IAmb 05 28 54.3
comp=Z,8.6nm,1.2s
H02S1 DAWSON INLET T 77.87 25 T T 06 54 02.6
SNR=5.2
L16K Owhat River 77.91 8 P **P** **05 28 33.5 +0.3**
L16K IAmb IAmb 05 28 36.3
comp=Z,15nm,1.4s
NJ2 Nanjing 78.00 308 *e*P **P** **05 28 35.8 +1.4**
NJ2 pmax pmax
comp=Z,18nm,0.5s
TUC Tucson 78.42 52 P **P** **05 28 37.0 +0.2**
KLR Kul'dur 79.02 328 LR LR 05 57 23.1
comp=Z,118nm,21.5s,baz=160,slow=31
SUA Susitna One 79.15 12 P **P** **05 28 40.0 -0.2**
SUA IAmb IAmb 05 28 41.1
comp=Z,6.2nm,0.8s
J16K Anvik River 79.28 7 P **P** **05 28 41.8 +1.1**
J16K IAmb IAmb 05 28 50.7
comp=Z,11nm,1.0s
TTA Tatalina 79.57 9 P **P** **05 28 43.3 +0.9**
TTA IAmb IAmb 05 28 52.5
comp=Z,19nm,1.3s
J18K Innoko River 79.97 9 P **P** **05 28 45.0 +0.6**
J18K IAmb IAmb 05 28 46.4
comp=Z,12nm,1.1s
N25K Chitina, Valde 80.65 15 P **P** **05 28 48.5 +0.2**
N25K IAmb IAmb 05 28 50.8
comp=Z,6.3nm,0.9s
TRF Thorofare Moun 81.05 11 P **P** **05 28 50.7 +0.2**
TRF IAmb IAmb 05 29 09.7
comp=Z,6.8nm,1.0s
HLID Hailey 81.27 40 P **P** **05 28 51.6 -0.5**
RND Reindeer 81.29 12 P **P** **05 28 51.8 +0.2**
RND IAmb IAmb 05 29 00.3
comp=Z,14nm,1.3s
O30N Mendenhall 82.32 19 P **P** **05 28 57.8 +0.7**
G19K Purcell Mounta 82.47 8 P **P** **05 28 58.0 +0.3**
G19K IAmb IAmb 05 29 13.0
comp=Z,9.9nm,1.5s
HDA Harding Lake 82.57 12 P **P** **05 28 57.9 -0.4**
HDA IAmb IAmb 05 29 13.4
comp=Z,6.9nm,1.2s
TXAR Lajitas Array 82.79 57 P **P** **05 29 02.2 +1.9**
comp=Z,1.4nm,0.9s,baz=217,slow=6.0,SNR=14
comp=Z,1.4nm,0.9s
SCRK Sand Creek 82.84 14 P **P** **05 28 59.5 -0.3**
ILAR Eielson Array 82.90 12 P **P** **05 28 59.1 -0.9**
ILAR Eielson Array 82.90 12 P **P** **05 28 59.6 -0.4**
comp=Z,1.4nm,0.9s,baz=225,slow=5.0,SNR=12
ILAR LR LR 06 00 01.6
comp=Z,58nm,19.2s,baz=214,slow=31
comp=Z,1.4nm,0.9s
E18K Tukpahlearik C 83.29 6 P **P** **05 29 02.2 +0.3**
E18K IAmb IAmb 05 29 21.3
comp=Z,7.4nm,1.1s
C16K Lisburne Hills 83.73 4 P **P** **05 29 04.9 +0.8**
C16K IAmb IAmb 05 29 13.3
comp=Z,9.9nm,1.3s
PDAR Pinedale Array 84.00 43 P **P** **05 29 05.5 -0.9**
PDAR Pinedale Array 84.00 43 P **P** **05 29 07.0 +0.6**
comp=Z,1.7nm,0.8s,baz=210,slow=3.0,SNR=17
comp=Z,1.7nm,0.8s
BELA Belgrano 2 84.44 172 P **P** **05 29 07.2 -0.7**
BELA IAmb IAmb 05 29 08.4
comp=Z,4.7nm,1.0s
I28M Miner Creek 85.02 14 P **P** **05 29 10.8 -0.1**
GYA Guiyang 85.66 299 *e*P **P** **05 29 14.6 -0.4**
GYA pmax pmax
comp=Z,16nm,0.6s
HHC Hu-ho-hao-te 87.03 314 *e*P **P** **05 29 22.5 +1.1**
HHC sP pP 05 29 28.8 -0.5
HHC pmax pmax
comp=Z,5.0nm,0.5s
HHC pmax pmax
comp=Z,80nm,5.3s
PZH PanZhiHua 89.86 297 P **P** **05 29 36.4 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,80nm,5.6s
CMAR Chiang Mai Arr 90.06 289 P **P** **05 29 37.0 +0.8**
comp=Z,0.7nm,0.3s,baz=108,slow=2.1,SNR=6.9
comp=Z,0.7nm,0.3s
YKA Yellowknife Ar 91.09 24 P **P** **05 29 39.7 -0.2**
comp=Z,0.2nm,0.5s,baz=252,slow=5.8,SNR=5.3
comp=Z,0.2nm,0.5s
ELIB Princess Elisa 91.96 186 *d*P **P** **05 29 43.1 -1.0**
TROLL Troll, Antarti 92.88 180 ⇓P **P** **05 29 49.4 +1.0**
comp=Z,237nm,0.8s
SONM Songino Array 93.02 319 P **P** **05 29 49.6 +0.2**
comp=Z,0.7nm,0.7s,baz=113,slow=4.8,SNR=4.0
comp=Z,0.7nm,0.7s
A36M Sachs Harbour 93.45 14 P **P** **05 29 49.8 -0.8**
A36M IAmb IAmb 05 30 12.6
comp=Z,4.6nm,0.9s
TIXI Tiksi 94.22 345 LR LR 06 08 44.2
comp=Z,141nm,20.4s,baz=192,slow=33
MK31 Makanchi Array 108.87 315 ⇓Pg **Pdif** **05 30 58.0 -2.4**
baz=126,slow=16,SNR=4.6
MK31 ⇑Lg Lg 05 31 27.5
comp=Z,0.7nm,0.6s,baz=122,slow=31,SNR=9.9
MAKZ Makanchi 109.09 315 ⇑Pg **Pdif** **05 30 59.2 -2.1**
comp=Z,0.2nm,0.3s
MAKZ ⇑Lg Lg 05 31 29.6
comp=Z,0.6nm,0.9s
FINES FINESS Array B 131.25 346 PKP **PKPdf** **05 35 47.6 +0.3**
comp=Z,0.9nm,0.8s,baz=27,slow=9.5,SNR=1.6
BRTR Keskin Array B 144.38 319 PKP PKPbc 05 36 11.0 +0.2
comp=Z,5.7nm,0.9s,baz=63,slow=1.6,SNR=19
GERES GERESS Array B 145.60 348 PKPbc **PKPdf** **05 36 12.9 -1.2**
comp=Z,1.2nm,0.6s,baz=12,slow=7.4,SNR=6.3
CONA Conrad Observa 145.99 345 *i* PKP **PKPab** **05 36 15.9 -0.2**
comp=Z,8.2nm,1.3s
RONA Rosalia, Austr 146.10 345 *i* PKP **PKPab** **05 36 16.2 -0.2**
comp=Z,8.5nm,1.1s
MMAI Mount Meron Ar 146.42 307 PKPbc **PKPab** **05 36 17.9 -0.3**
comp=Z,5.8nm,0.8s,baz=106,slow=5.2,SNR=5.9
MOA Molln 146.43 347 *i* PKP **PKPdf** **05 36 13.8 -1.7**
comp=Z,0.5nm,0.3s
MOA *i* PKP **PKPbc** **05 36 16.9 +0.1**
comp=Z,6.1nm,1.1s
BIOA Bad Ischl, Aus 146.71 348 *i* PKP **PKPbc** **05 36 17.7 0.0**
comp=Z,1.4nm,0.4s
LESA Schwarzleotal 147.15 349 *i* PKP **PKPbc** **05 36 18.3 -0.7**
comp=Z,1.1nm,0.4s
KBA Koelnbreinsper 147.36 348 *i* PKP **PKPdf** **05 36 15.2 -2.0**
comp=Z,4.8nm,1.1s
KBA *i* pPKP **PKPbc** **05 36 19.2 -0.5**
comp=Z,1.8nm,0.6s
SOKA Soboth 147.36 346 *e*PKP **PKPbc** **05 36 18.9 -0.6**
comp=Z,2.7nm,0.8s
RETA Reutte 147.41 351 *e*PKP **PKPbc** **05 36 19.0 -0.7**
comp=Z,7.1nm,1.0s
WTTA Wattenberg 147.49 350 *e*PKP **PKPbc** **05 36 19.0 -1.0**
comp=Z,3.7nm,0.6s
MOTA Moosalm 147.50 351 *i* PKP **PKPdf** **05 36 15.7 -1.8**
comp=Z,0.2nm,0.2s
MOTA *i* PKP **PKPbc** **05 36 18.3 -1.7**
comp=Z,6.8nm,1.4s
SQTA Sankt Quirin 147.60 351 *i* PKP **PKPdf** **05 36 15.7 -1.9**
comp=Z,0.7nm,0.3s
SQTA *e*pPKP **PKPbc** **05 36 19.7 -0.5**
comp=Z,8.7nm,1.3s
OBKA Obir 147.64 346 *i* pPKP **PKPbc** **05 36 19.9 -0.4**
comp=Z,4.1nm,1.0s
MYKA Terra Mystica 147.72 347 *i* PKP **PKPbc** **05 36 19.7 -0.9**
comp=Z,3.6nm,0.6s
DAVA Damuels 147.73 352 *i* PKP **PKPdf** **05 36 16.2 -1.6**
comp=Z,0.5nm,0.3s
DAVA *e*pPKP **PKPbc** **05 36 19.9 -0.8**
comp=Z,5.9nm,1.0s
ABTA Abfaltersbach 147.84 349 *i* PKP **PKPbc** **05 36 19.8 -1.1**
comp=Z,5.4nm,1.0s
FETA Feichten 147.87 351 *i* PKP **PKPdf** **05 36 18.4 +0.4**
comp=Z,0.9nm,0.5s

IDC ***17*** *05:23:49.2±0.6,2˚.72N×128˚.40E,h0km,mb4.1/13, mbtmp4.1/13,MS3.5/3,Error ellipse: s-maj=44.7km s-min=13.3km az=76.0*
NEIC ***17*** *05:23:54.3±2.7,2˚.83N±0˚.09×128˚.22E±0˚.09,h35km±2km, mb4.6/23,Error ellipse: s-maj=16.6km s-min=14.6km az=55.0*
DJA ***17*** *05:23:56.0±0.6,3˚N±6˚×12˚8E±˚,h53km±5km,M4.5/15, mb4.8/15,mB4.8/7,MLv4.7/13,Mw(mB)4.1/7*
ISC 17 05:23:54.3±0.5,2.78N±0˚.06×128˚.21E±0˚.08,h35km,n79, σ1§41/69,mb4.5/30,1C,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.17**	**203**		**Pn**	**05 24 28.7**	**+0.8**
TNTI	**Ternate**	**2.17**	**203**	P	**Pn**	**05 24 28.8**	**+0.9**
SGSI	**Sangihe**	**2.82**	**289**	P	**Pn**	**05 24 38.4**	**+1.5**
LBMI	**Labuha**	**3.47**	**192**	P	**Pn**	**05 24 48.2**	**+2.4**
SWI	**Sorong**	**4.73**	**140**	P	**Pn**	**05 25 05.1**	**+1.9**
KMSI	**Cibinong**	**4.76**	**243**	P	**Pn**	**05 25 03.9**	**+0.3**
SANI	**Sanana** 72nm,0.8s,919nm0.2nm	**5.29**	**205**	P	**Pn**	**05 25 12.2**	**+1.4**
GTOI	**Gorontalo** 30nm,0.5s,334nm0.1nm	**5.61**	**248**	P	**Pn**	**05 25 17.7**	**+2.4**
NLAI	**Namlea** 61nm,0.8s,0.3nm	**6.08**	**190**	P	**Pn**	**05 25 25.5**	**+3.7**
LUWI	**Luwuk**	**6.63**	**235**		**Pn**	**05 25 30.5**	**+1.2**
LUWI	**Luwuk** 117nm,0.8s,0.6nm	**6.63**	**235**	P	**Pn**	**05 25 32.9**	**+3.6**
MRSI	**Marisa** 127nm,0.8s,1μm0.4nm	**6.67**	**250**	P	**Pn**	**05 25 33.4**	**+3.6**
FAKI	**Fak Fak**	**6.96**	**144**	Pn	**Pn**	**05 25 34.8**	**+1.0**
FAKI	**Fak Fak** 63nm,0.8s,0.3nm	**6.96**	**144**	P	**Pn**	**05 25 35.4**	**+1.6**
TOLI2	**Tolitoli**	**7.60**	**258**	Pn	**Pn**	**05 25 42.6**	**-0.1**
TTSI	**Tana Toraja** 53nm,0.6s	**10.19**	**235**	P	**Pn**	**05 26 19.4**	**+1.3**
KAPI	**Kappang**	**11.46**	**228**	Pn	**Pn**	**05 26 37.0**	**+1.4**
BATI	**Baumata** comp=Z,150nm,20.2s,baz=50,slow=43	**13.67**	**199**	LR	LR	05 33 31.6	
PLAI	**Plampang** 59nm,1.0s	**15.53**	**222**	P	**Pn**	**05 27 32.4**	**+1.6**
MTN	**Manton Dam**	**15.79**	**169**	Pn	**Pn**	**05 27 34.5**	**+0.3**
MTN	comp=Z,100nm,1.5s			IAmb	IAmb	05 27 43.0	
TWSI	**Taliwang, Sumb** comp=Z,34nm,1.1s,comp=Z,558nm	**16.07**	**225**	P	**P**	**05 27 40.4**	**-0.4**
SRBI	**Singaraja** comp=Z,35nm,0.8s	**16.87**	**230**	P	**Pn**	**05 27 47.7**	**-0.1**
KMMI	**Kalianget**	**17.25**	**235**	P	**Pn**	**05 27 53.4**	**+0.8**
JAGI	**Jajag, Banyuwa** comp=Z,39nm,0.9s	**17.93**	**231**	P	**Pn**	**05 28 01.0**	**0.0**
BLJI	**Banyuglugur** comp=Z,39nm,0.8s,comp=Z,3μm	**17.94**	**234**	P	**P**	**05 28 03.2**	**+1.7**
KNRA	**Kununurra**	**18.35**	**178**	P	**Pn**	**05 28 06.7**	**+0.6**
KNRA	comp=Z,52nm,1.3s			IAmb	IAmb	05 28 14.4	
PWJI	**Pagerwojo** comp=Z,34nm,0.8s	**19.57**	**237**	P	**Pn**	**05 28 21.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**20.90**	**187**	P	**P**	**05 28 33.5**	**-0.2**
WB0	**Warramunga Arr**	**23.22**	**165**	P	**P**	**05 28 57.6**	**-0.8**
WB0	comp=Z,25nm,0.9s			IAmb	IAmb	05 28 58.8	
WRAB	**Tennant Creek**	**23.36**	**165**	P	**P**	**05 28 59.5**	**-0.4**
WRAB	comp=Z,37nm,1.1s			IAmb	IAmb	05 29 00.4	
WRA	**Warramunga Arr** comp=Z,13nm,0.5s,baz=345,slow=10,SNR=79 comp=Z,13nm,0.5s	**23.37**	**165**	P	**P**	**05 28 59.4**	**-0.5**
JOW	**Kunigami** comp=Z,94nm,19.8s,baz=172,slow=35	**23.92**	**0**	LR	LR	05 37 48.7	
PSA00	**Pilbara Seismi**	**25.55**	**198**	P	**P**	**05 29 19.2**	**-0.8**
PSA00	comp=Z,9.3nm,0.8s			IAmb	IAmb	05 29 20.6	
XMIS	**Christmas Isla**	**26.03**	**239**	P	**P**	**05 29 24.1**	**-0.5**
AS31	**Alice Springs**	**26.86**	**168**	P	**P**	**05 29 31.1**	**-0.9**
ASAR	**Alice Springs** comp=Z,1.9nm,0.6s,baz=353,slow=8.2,SNR=28	**26.87**	**168**	P	**P**	**05 29 31.2**	**-0.7**
ASAR	comp=Z,0.8nm,0.6s,baz=351,slow=2.0,SNR=5.6 comp=Z,1.9nm,0.6s			PcP	**PcP**	**05 32 53.3**	**-0.7**
NJ2	**Nanjing** comp=Z,11nm,0.5s	**30.42**	**344**	*e*P	**P**	**05 30 03.6**	**+0.2**
NJ2				pmax	pmax		
FORT	**Forrest**	**33.37**	**180**	P	**P**	**05 30 28.7**	**-0.7**
KSRS	**Korea Array** comp=Z,1.6nm,0.7s,baz=170,slow=9.7,SNR=6.3 comp=Z,1.6nm,0.7s	**34.51**	**360**	P	**P**	**05 30 40.5**	**+1.3**
PZH	**PanZhiHua**	**34.65**	**315**	P	**P**	**05 30 41.5**	**+0.8**
PZH	comp=Z,10.0nm,0.5s			pmax	pmax		
PZH	comp=Z,100nm,4.6s			pmax	pmax		
MJAR	**Matsushiro Arr** comp=Z,0.9nm,0.4s,baz=190,slow=9.3,SNR=4.4 comp=Z,0.9nm,0.4s	**34.84**	**14**	P	**P**	**05 30 41.7**	**-0.4**
XAN	**Xi'an**	**35.93**	**332**	⇑P	P	05 30 56.8	+5.2
XAN				pP	pwP	05 31 06.1	+0.6
XAN	comp=Z,9.0nm,0.9s			pmax	pmax		
BBOO	**Buckleboo**	**36.17**	**169**	P	**P**	**05 30 52.4**	**-1.1**
STKA	**Stephens Creek**	**36.74**	**161**	P	**P**	**05 30 57.8**	**-0.6**
STKA	**Stephens Creek** comp=Z,7.9nm,0.7s,baz=340,slow=9.2,SNR=10 comp=Z,7.9nm,0.7s	**36.74**	**161**	P	**P**	**05 30 57.9**	**-0.6**
ARMA	**Armidale**	**39.87**	**148**	P	**P**	**05 31 24.1**	**-0.9**
ARMA	comp=Z,13nm,1.4s			IAmb	IAmb	05 31 39.2	
HHC	**Hu-ho-hao-te**	**40.77**	**341**	*e*P	**P**	**05 31 33.8**	**+1.6**
HHC				pP	pP	05 31 38.9	-2.5
HHC	comp=Z,10.0nm,0.5s			pmax	pmax		
HHC	comp=Z,70nm,5.0s			pmax	pmax		
H11S3	**WAKE ISLAND Hy** baz=252,slow=74,SNR=41	**40.78**	**65**	T	T	06 14 53.4	
H11S2	**WAKE ISLAND Hy** baz=252,slow=74,SNR=20	**40.80**	**65**	T	T	06 14 50.5	
H11S1	**WAKE ISLAND Hy** baz=252,slow=74,SNR=14	**40.80**	**65**	T	T	06 14 54.9	
H11N1	**WAKE ISLAND Hy** baz=250,slow=75,SNR=36	**41.35**	**63**	T	T	06 15 29.1	
H11N2	**WAKE ISLAND Hy** baz=250,slow=75,SNR=13	**41.36**	**63**	T	T	06 15 29.9	
H11N3	**WAKE ISLAND Hy** baz=250,slow=75,SNR=36	**41.37**	**63**	T	T	06 15 30.6	
USRK	**Ussuriysk Ar.** comp=Z,4.8nm,0.7s,baz=163,slow=6.8,SNR=9.0 comp=Z,4.8nm,0.7s	**41.38**	**4**	P	**P**	**05 31 37.3**	**+0.2**
MDJ	**Mudanjiang**	**41.68**	**1**	P	**P**	**05 31 39.3**	**-0.2**
MDJ	comp=Z,5.0nm,0.8s			pmax	pmax		
MDJ	comp=Z,140nm,3.9s			pmax	pmax		
XLT	**XiLinHaoTe**	**42.34**	**347**	*e*P	P	05 31 50.8	+5.8
XLT	comp=Z,11nm,0.6s			pmax	pmax		
XLT	comp=Z,75nm,6.3s			pmax	pmax		
TOO	**Toolangi**	**43.23**	**160**	P	**P**	**05 31 50.8**	**-1.6**
TOO	comp=Z,16nm,1.4s			IAmb	IAmb	05 32 18.5	
SONM	**Songino Array** comp=Z,0.5nm,0.7s,baz=139,slow=9.2,SNR=3.8 comp=Z,0.5nm,0.7s	**48.67**	**341**	P	**P**	**05 32 37.1**	**+1.9**
MK31	**Makanchi Array**	**59.17**	**325**	P	**P**	**05 33 52.3**	**+0.5**
MK31	comp=Z,3.3nm,0.8s			IAmb	IAmb	05 34 09.8	
MKAR	**Makanchi Array**	**59.17**	**325**	P	**P**	**05 33 52.0**	**+0.2**
MKAR	**Makanchi Array**	**59.17**	**325**	P	**P**	**05 33 53.2**	**+1.5**
comp=Z,2.6nm,0.7s,baz=119,slow=8.2,SNR=23
comp=Z,2.6nm,0.7s
ZALV Zalesovo Beam 62.10 333 P **P** **05 34 13.1 +1.6**
comp=Z,0.4nm,0.4s,baz=116,slow=6.6,SNR=3.8
comp=Z,0.4nm,0.4s
KURBB Kurchatov Arra 63.33 327 P **P** **05 34 20.9 +1.1**
comp=Z,1.0nm,0.5s,baz=128,slow=6.1,SNR=18
comp=Z,1.0nm,0.5s
KURK Kurchatov 63.33 327 P **P** **05 34 17.1 -2.7**
KURK IAmb IAmb 05 34 39.9
comp=Z,8.7nm,1.3s
BVAR Borovoye Array 68.92 327 P **P** **05 34 56.6 +1.0**
comp=Z,1.5nm,0.8s,baz=120,slow=8.5,SNR=6.3
comp=Z,1.5nm,0.8s
ABKAR Akbulak array 73.81 321 P **P** **05 35 21.8 -3.5**
VNDA Vanda 82.31 173 P **P** **05 36 10.9 -0.9**
VNDA Vanda 82.31 173 P **P** **05 36 10.8 -1.1**
comp=Z,0.8nm,0.6s,baz=327,slow=8.8,SNR=6.9
comp=Z,0.8nm,0.6s
IMAR Indian Mountai 82.61 24 P **P** **05 36 14.6 +1.0**
CAST Castle Rocks 82.92 26 P **P** **05 36 16.0 +0.6**
SKT Skwentna 82.98 28 P **P** **05 36 15.2 -0.5**
SKT IAmb IAmb 05 36 17.8
comp=Z,5.0nm,1.2s
MLY Manley 83.71 25 P **P** **05 36 20.5 +1.0**
MLY IAmb IAmb 05 36 35.7
comp=Z,2.7nm,1.0s
RND Reindeer 84.36 27 P **P** **05 36 22.5 -0.3**
RND IAmb IAmb 05 36 52.4
comp=Z,10nm,1.5s
KNK Knik Glacier 84.38 29 P **P** **05 36 20.9 -2.0**
SCM Sheep Creek Mo 84.94 28 P **P** **05 36 26.2 +0.4**
ILAR Eielson Array 85.32 25 P **P** **05 36 27.4 -0.1**
comp=Z,0.2nm,0.6s,baz=258,slow=5.2,SNR=4.7
comp=Z,0.2nm,0.6s
BMAR Burnt Mountain 86.38 23 P **P** **05 36 33.3 +0.6**
SPITS Spitsbergen Ar 91.69 349 LR LR 06 21 49.3
comp=Z,47nm,21.0s,baz=345,slow=38
QSPA South Pole Qui 92.69 180 P **P** **05 37 01.5 -1.1**
QSPA IAmb IAmb 05 37 11.6
comp=Z,5.1nm,1.3s

ROM 17 05:25:07.0±0.1,43˚.045N±0˚.004×13˚.035E±0˚.006, h10km,ML1.6/12,6C-6D,Error ellipse: s-maj=0.6km s-min=0.2km az=321.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CESI	**CESI - Serrava**	**0.10**	**247**	⇑P	Pg	05 25 10.2	+0.5
CESI				S	Sg	05 25 12.1	+0.5
CESI	comp=N,247μm,0.3s			AML	AML		
CESI	comp=E,237μm,0.5s			AML	AML		
CSP1	**Cessapalombo**	**0.13**	**69**	⇑P	Pg	05 25 10.6	+0.4
CSP1				S	Sg	05 25 13.0	+0.6
CSP1	comp=N,75μm,0.2s			AML	AML		
CSP1	comp=E,181μm,0.4s			AML	AML		
PF6	**Pievefavera**	**0.15**	**48**	⇓P	Pg	05 25 10.9	+0.4
PF6				S	Sg	05 25 13.5	+0.7
MC2	**Monte Cornacci**	**0.17**	**139**	⇓P	Pg	05 25 11.6	+0.7
MC2				S	Sg	05 25 14.7	+1.1
NRCA	**Norcia**	**0.22**	**165**	P	Pg	05 25 11.6	0.0
NRCA				S	Sg	05 25 16.0	+1.3
NRCA	comp=E,356μm,0.2s			AML	AML		
NRCA	comp=N,420μm,0.8s			AML	AML		
NRCA	comp=E,368μm,0.2s			AML	AML		
NRCA	comp=N,326μm,0.1s			AML	AML		
GUMA	**Gualdo di Mace**	**0.22**	**85**	⇑P	Pg	05 25 12.6	+1.0
GUMA	comp=E,690μm,0.3s			AML	AML		
GUMA	comp=E,690μm,1.7s			AML	AML		
GUMA	comp=N,401μm,0.2s			AML	AML		
T1221	**Campello sul C**	**0.23**	**217**	⇑P	Pg	05 25 12.6	+0.8
T1221				S	Sg	05 25 16.6	+1.6
MMO1	**Montemonaco**	**0.26**	**124**	⇓P	Pg	05 25 12.9	+0.6
EL6	**Elcito**	**0.29**	**10**	⇓P	Pg	05 25 13.1	+0.2
EL6	comp=N,202μm,0.2s			AML	AML		
EL6	comp=E,178μm,1.1s			AML	AML		
T1214	**Arquata del Tr**	**0.31**	**156**	⇓P	Pg	05 25 13.8	+0.5
MF5	**Montefalcone A**	**0.32**	**100**	⇓P	Pb	05 25 14.6	-0.2
GAVE	**Gavelli**	**0.37**	**196**	⇑P	Pb	05 25 15.1	-0.6
MTRA	**Matera**	**0.39**	**137**	⇑P	Pg	05 25 15.2	+0.5

ROM 17 05:25:59.8±0.1,43˚.047N±0˚.003×13˚.028E±0˚.004, h10km,ML2.0/80,8C-7D,Error ellipse: s-maj=0.2km s-min=0.2km az=339.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FEMA	**Monte Fema**	**0.09**	**170**	⇓P	Pg	05 26 02.5	+0.2
FEMA				S	Sg	05 26 04.2	+0.2
FEMA	comp=N,7340μm,0.9s			AML	AML		
FEMA	comp=N,7340μm,1.1s			AML	AML		
FEMA	comp=E,10750μm,0.4s			AML	AML		
CESI	**CESI - Serrava**	**0.10**	**245**	⇑P	Pg	05 26 02.9	+0.5
CESI				S	Sg	05 26 04.8	+0.6
CESI	comp=E,1220μm,0.9s			AML	AML		
CESI	comp=N,1340μm,1.2s			AML	AML		
CESI	comp=E,1220μm,1.1s			AML	AML		
CESI	comp=N,1340μm,0.8s			AML	AML		
CSP1	**Cessapalombo**	**0.14**	**71**	⇑P	Pg	05 26 03.4	+0.4
CSP1				S	Sg	05 26 05.7	+0.5
CSP1	comp=E,1655μm,0.4s			AML	AML		
CSP1	comp=N,410μm,0.2s			AML	AML		
CSP1	comp=N,410μm,1.8s			AML	AML		
PF6	**Pievefavera**	**0.16**	**50**	⇑P	Pg	05 26 03.6	+0.3
PF6	comp=N,348μm,0.1s			AML	AML		
PF6	comp=E,928μm,0.4s			AML	AML		
PF6	comp=E,928μm,0.4s			AML	AML		
PF6	comp=N,348μm,0.1s			AML	AML		
MC2	**Monte Cornacci**	**0.18**	**138**	⇓P	Pg	05 26 04.2	+0.5
MC2				S	Sg	05 26 07.5	+1.1
SNTG	**Esanatoglia**	**0.22**	**343**	⇑P	Pg	05 26 04.9	+0.6
SNTG				S	Sg	05 26 08.7	+1.3
SNTG	comp=E,471μm,1.2s			AML	AML		
SNTG	comp=N,703μm,0.2s			AML	AML		
SNTG	comp=E,460μm,0.2s			AML	AML		
SNTG	comp=N,654μm,0.5s			AML	AML		
SNTG	comp=E,471μm,0.8s			AML	AML		
SNTG	comp=E,460μm,1.8s			AML	AML		
SNTG	comp=N,654μm,0.5s			AML	AML		
GUMA	**Gualdo di Mace**	**0.23**	**86**	⇑P	Pg	05 26 05.3	+0.9
GUMA				S	Sg	05 26 09.5	+1.9
GUMA	comp=E,3130μm,0.4s			AML	AML		
GUMA	comp=N,3915μm,0.3s			AML	AML		
GUMA	comp=N,3010μm,0.2s			AML	AML		
GUMA	comp=E,4990μm,0.3s			AML	AML		

comp=E,3130µm,0.4s
T1221 Campello sul C 0.23 216 ⇑P Pg 05 26 05.3 +0.8
T1221 S Sg 05 26 09.2 +1.5
T1221 AML AML
comp=E,274µm,1.4s
T1221 AML AML
comp=N,546µm,0.4s
MMO1 Montemonaco 0.26 124 ⇓P Pg 05 26 05.6 +0.5
ATCC AVT- Casa Cast 0.32 296 ⇑P Pb 05 26 06.9 -0.7
ATCC AML AML
comp=E,996µm,0.2s
ATCC AML AML
comp=N,658µm,0.4s
T1214 Arquata del Tr 0.32 155 ⇓P Pg 05 26 06.6 +0.4
T1214 AML AML
comp=E,366µm,1.0s
T1214 AML AML
comp=N,453µm,0.2s
T1214 AML AML
comp=E,374µm,0.3s
T1214 AML AML
comp=N,438µm,0.2s
T1214 AML AML
comp=N,452µm,0.2s
T1214 AML AML
comp=N,438µm,0.2s
T1214 AML AML
comp=E,366µm,1.0s
T1214 AML AML
comp=E,373µm,0.3s
MF5 Montefalcone A 0.32 100 ⇓P Pb 05 26 07.2 -0.5
MF5 AML AML
comp=E,542µm,0.5s
MF5 AML AML
comp=E,542µm,0.5s
MF5 AML AML
comp=N,502µm,1.0s
GAVE Gavelli 0.37 196 ⇓P Pg 05 26 07.8 +0.7
GAVE AML AML
comp=E,500µm,1.2s
GAVE AML AML
comp=N,304µm,0.9s
GAVE AML AML
comp=E,518µm,1.2s
GAVE AML AML
comp=N,422µm,0.5s
GAVE AML AML
comp=E,518µm,0.8s
GAVE AML AML
comp=E,500µm,0.8s
GAVE AML AML
comp=N,304µm,1.1s
MTRA Matera 0.40 137 ⇓P Pg 05 26 08.0 +0.4
MTRA AML AML
comp=E,368µm,0.3s
MTRA AML AML
comp=N,308µm,0.7s
MTRA AML AML
comp=N,308µm,0.8s
MTRA AML AML
comp=N,267µm,0.5s
MTRA AML AML
comp=E,364µm,0.3s
MTRA AML AML
comp=E,367µm,0.3s
MTRA AML AML
comp=N,267µm,1.5s
MOMA Monte Martano 0.41 234 ⇑P Pg 05 26 08.5 +0.6
MOMA AML AML
comp=E,151µm,1.1s
MOMA AML AML
comp=N,200µm,0.3s
MOMA AML AML
comp=E,151µm,0.9s

MOS ***17*** *05:50:07.7±0.9,47°.39S×13°.56W,h10km,mb5.6/23,Error ellipse: s-maj=13.9km s-min=11.2km az=73.8*
IDC ***17*** *05:50:07.3±0.4,47°.36S×13°.45W,h0km,mb4.9/14, mbtmp4.9/14,MS5.3/47,Error ellipse: s-maj=16.8km s-min=15.0km az=73.0*
BJI ***17*** *05:50:07.7±0.0,47°.50S×13°.40W,h10km,mB5.7/20, Ms5.8/33,Ms7 5.6/33*
NEIC ***17*** *05:50:09.1±2.3,47°.68S±0°.10×13°.5W±0°.2,h10km±1km, mb5.5/75,Ms_20 5.5/855,Mwb5.5/20,Mww5.7/28,Error ellipse: s-maj=18.3km s-min=15.7km az=121.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-1.21; Mθθ-0.50; Mϕϕ1.70; Mrθ1.13; Mθϕ-0.07; Mϕr-1.42; Fault plane solution: M₀2.36000×10¹⁷ NP1: ϕs330.18000°,δ72.97000°,λ-113.79000°. NP2: ϕs206.58000°,δ28.97000°,λ-37.21000°. Principal axes: T 2.3713, Plg24.0000°, Azm78.0000°; N -0.0141, Plg23.0000°, Azm338.0000°; P -2.3572, Plg56.0000°, Azm210.0000°;*
NEIC ***17*** *05:50:09.1,47°.66S×13°.51W,h12km*
NEIC ***17*** *05:50:09.1,47°.36S×13°.36W,h12km,Moment Tensor Solution. Duration: 3ᵗ5 Moment tensor: Scale 10¹⁷Nm; Mrr-3.32; Mθθ0.37; Mϕϕ2.95; Mrθ2.23; Mθϕ-0.26; Mϕr-2.79; Fault plane solution: M₀4.72000×10¹⁷ NP1: ϕs331.60000°,δ69.78000°,λ-103.45000°. NP2: ϕs186.29000°,δ24.13000°,λ-57.72000°. Principal axes: T 4.3178, Plg24.0000°, Azm72.0000°; N 0.8072, Plg13.0000°, Azm336.0000°; P -5.1250, Plg63.0000°, Azm220.0000°;*
NEIC ***17*** *05:50:09.1,47°.66S×13°.51W,h10km*
GCMT ***17*** *05:50:11.1±0.1,47°.62S±0°.01×13°.21W±0°.01,h12km, MW5.7/165,Moment Tensor Solution. s133,c229; s165,c347; Duration: 1ᵗ6 Moment tensor: Scale 10¹⁷ Nm; Mrr-3.59±.03; Mθθ-0.08±.04; Mϕϕ3.67±.03; Mrθ0.11±.10; Mθϕ-0.44±.03; Mϕr-0.60±.09; Best double couple: M₀3.70500×10¹⁷ NP1:ϕs353.00000°,δ50.00000°, λ-91.00000°. NP2:ϕs174.00000°,δ40.00000°, λ-89.00000°. Principal axes: T 3.7700, Plg5.0000°, Azm83.0000°; N -0.1320, Plg1.0000°, Azm353.0000°; P -3.6400, Plg85.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 05:50:09.3±0.3,47°.55S±0°.06×13°.56W±0°.05,h10km,n997, σ1ᵗ56/547,mb5.5/70,MS5.5/482,13C-2D,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H09W1	**TRISTAN DA CUN**	**10.48**	**5**	T	T	06 03 12.3	
	SNR=8.8						
TRIS	**Tristan da Cun**	**10.51**	**5**		**Pn**	**05 52 41.6**	**+1.6**
HOPE	**Hope Point**	**15.91**	**236**	P	**Pn**	**05 53 52.8**	**-0.2**
HOPE	**Hope Point**	**15.91**	**236**	P	**Pn**	**05 53 52.8**	**-0.2**
HOPE				pmax	pmax		
	comp=Z,73nm,1.2s						
ORCD	**Orcadas**	**22.26**	**222**	P	**P**	**05 55 02.0**	**-4.0**
VNA1	**Neumayer--Stat**	**23.31**	**176**	⇑P	**P**	**05 55 18.0**	**+1.1**
	comp=Z,62nm,0.8s						
VNA2	**Neumayer--Watz**	**23.63**	**175**	⇑P	**P**	**05 55 20.9**	**+0.7**
	comp=Z,73nm,0.8s,baz=343,slow=11						
VNA3	**Neumayer Olymp**	**23.84**	**177**	⇑P	**P**	**05 55 22.5**	**+0.3**
	comp=Z,150nm,1.0s						
SNAA	**Sanae**	**24.72**	**172**	P	**P**	**05 55 29.9**	**-0.5**
SNAA	**Sanae**	**24.72**	**172**	⇑P	**P**	**05 55 31.5**	**+1.2**
	comp=Z,1µm,0.9s						
SNAA	**Sanae**	**24.72**	**172**	P	**P**	**05 55 32.1**	**+1.8**
	comp=Z,64nm,0.9s,baz=345,slow=9.9,SNR=51						
SNAA				LR	LR	06 02 42.3	
	comp=Z,2µm,21.1s,baz=338,slow=30						
	comp=Z,64nm,0.9s						
TROLL	**Troll, Antarti**	**25.65**	**169**	⇑P	**P**	**05 55 39.7**	**+0.8**
	comp=Z,3µm,0.8s						
NVL	**N'lazarevskaya**	**26.26**	**161**	*e*P	**P**	**05 55 41.5**	**-2.6**
NVL				*e*S	**S**	**06 00 12.8**	**-3.4**
NVL				pmax	pmax		
	comp=Z,45nm,1.0s						
NVL				smax	smax		
	comp=N,2µm,14.6s						
ELIB	**Princess Elisa**	**29.80**	**158**	*d*P	**P**	**05 56 15.9**	**0.0**
	comp=Z,16nm,1.2s						
SUR	**Sutherland**	**30.10**	**72**	P	**P**	**05 56 15.2**	**-3.9**
SUR				IAmb	IAmb	05 56 25.7	
	comp=Z,68nm,1.1s						
SUR	**Sutherland**	**30.10**	**72**	IAMs_20	IAMs_20	06 05 01.7	
	comp=Z,12µm,22.0s						
SUR	**Sutherland**	**30.10**	**72**	LR	LR	06 05 21.1	
	comp=Z,11µm,21.4s,baz=238,slow=30						
PMSA	**Palmer Station**	**31.86**	**219**	LR	LR	06 08 50.2	
	comp=Z,3µm,18.3s,baz=76,slow=35						
GRHM	**Grahamstown, E**	**33.19**	**79**	P	**P**	**05 56 43.9**	**-2.2**
GRHM				IAmb	IAmb	05 57 08.5	
	comp=Z,112nm,1.6s						
GRHM				IAMs_20	IAMs_20	06 06 34.1	
	comp=Z,9µm,20.0s						
SMAI	**San Martin Ant**	**33.61**	**213**	P	**P**	**05 56 48.2**	**-1.1**
SMAI				IAmb	IAmb	05 56 58.4	
	comp=Z,57nm,0.9s						
CNLB	**Canela**	**34.01**	**289**	*e*P	**P**	**05 56 56.1**	**+2.9**
PLTB	**Pedras Altas**	**34.20**	**283**	P	**P**	**05 56 55.9**	**+1.0**
PLTB				IAmb	IAmb	05 57 03.8	
	comp=Z,162nm,2.0s						
PLTB	**Pedras Altas**	**34.20**	**283**	*e*P	**P**	**05 56 57.0**	**+2.2**
USHA	**Ushuaia**	**34.36**	**237**	LR	LR	06 07 44.9	
	comp=Z,6µm,21.4s,baz=95,slow=31						
VAS01	**Vassouras-RJ**	**34.78**	**306**	*e*P	**P**	**05 57 00.5**	**+0.6**
CPSB	**Cacapava Do Su**	**34.96**	**285**	*e*P	**P**	**05 57 02.7**	**+1.3**
WIN	**Windhoek**	**34.98**	**55**	P	**P**	**05 57 00.5**	**-1.4**
WIN				IAmb	IAmb	05 57 08.3	
	comp=Z,129nm,1.4s						
WIN				IAMs_20	IAMs_20	06 07 23.9	
	comp=Z,9µm,20.0s						
WIN	**Windhoek**	**34.98**	**55**	P	**P**	**05 57 00.5**	**-1.4**
WIN				pmax	pmax		
	comp=Z,129nm,1.4s						
BOSA	**Boshof**	**35.46**	**72**	P	**P**	**05 57 04.0**	**-1.9**
BOSA	**Boshof**	**35.46**	**72**	P	**P**	**05 57 04.5**	**-1.4**
	comp=Z,64nm,0.5s,baz=230,slow=11,SNR=45						
BOSA				LR	LR	06 08 26.3	
	comp=Z,11µm,21.2s,baz=212,slow=31						
	comp=Z,64nm,0.5s						
RIB01	**Linhares ES**	**35.64**	**313**	*e*P	**P**	**05 57 06.3**	**-1.0**
ALGR	**Alto Alegre (B**	**35.75**	**287**	*e*P	**P**	**05 57 09.6**	**+1.3**
TBOT	**Tacuaremb**	**35.79**	**281**	*e*P	**P**	**05 57 09.6**	**+1.1**
SPB	**Sao Paulo**	**36.03**	**300**	IAMs_20	IAMs_20	06 08 51.1	
	comp=Z,9µm,19.0s						
RODS	**Rosario do Sul**	**36.15**	**283**	*e*P	**P**	**05 57 13.6**	**+1.9**
VAO	**Valinhos**	**36.20**	**301**	*e*P	**P**	**05 57 12.7**	**+0.5**
TRQA	**Tornquist**	**36.25**	**267**	P	**P**	**05 57 13.3**	**+0.9**
TRQA				IAMs_20	IAMs_20	06 09 04.1	
	comp=Z,9µm,21.0s						
TRQA	**Tornquist**	**36.25**	**267**	P	**P**	**05 57 13.3**	**+0.9**
TRQA				pmax	pmax		
	comp=Z,89nm,1.6s						
ITAB	**Concordia**	**36.25**	**290**	P	**P**	**05 57 13.9**	**+1.4**
ITAB				IAmb	IAmb	05 57 21.9	
	comp=Z,129nm,1.8s						
ITAB				IAMs_20	IAMs_20	06 08 32.7	
	comp=Z,8µm,22.0s						
ITAB	**Concordia**	**36.25**	**290**	*e*P	**P**	**05 57 13.8**	**+1.4**
BSCB	**Bom Sucesso**	**36.54**	**306**	*e*P	**P**	**05 57 14.8**	**-0.4**
SJMB	**Sao Joao De Ma**	**36.55**	**312**	*e*P	**P**	**05 57 14.0**	**-1.1**
UNIS	**Unistalda (Bra**	**36.90**	**285**	*e*P	**P**	**05 57 19.4**	**+1.4**
PSAL	**Palomas, Salto**	**37.28**	**280**	*e*P	**P**	**05 57 22.0**	**+0.8**
CRSM	**Crissiumal (Br**	**37.30**	**288**	*e*P	**P**	**05 57 22.6**	**+1.1**
MG05	**Puerto Natales**	**37.51**	**241**	IAMs_20	IAMs_20	06 11 24.7	
	comp=Z,10µm,21.0s						
ITQB	**Itaqui**	**37.53**	**283**	P	**P**	**05 57 24.4**	**+1.1**
ITQB				IAmb	IAmb	05 57 30.9	
	comp=Z,138nm,1.3s						
ITQB	**Itaqui**	**37.53**	**283**	*e*P	**P**	**05 57 23.9**	**+0.5**
GUA01	**Guaratinga, BA**	**37.69**	**316**	*e*P	**P**	**05 57 23.6**	**-1.2**
TSUM	**Tsumeb**	**37.96**	**53**	P	**P**	**05 57 25.8**	**-1.5**
TSUM	**Tsumeb**	**37.96**	**53**	LR	LR	06 09 22.7	
	comp=Z,6µm,19.7s,baz=224,slow=31						
PTGB	**Pitanga**	**38.00**	**293**	*e*P	**P**	**05 57 28.2**	**+0.7**
DIAM	**Diamantina, MG**	**38.16**	**310**	*e*P	**P**	**05 57 29.3**	**+0.4**
LBTB	**Lobatse**	**38.20**	**68**	P	**P**	**05 57 28.1**	**-1.1**
LBTB				IAMs_20	IAMs_20	06 10 13.3	
	comp=Z,7µm,20.0s						
LBTB	**Lobatse**	**38.20**	**68**	P	**P**	**05 57 28.1**	**-1.1**
LBTB				pmax	pmax		
	comp=Z,95nm,1.5s						
LBTB	**Lobatse**	**38.20**	**68**	LR	LR	06 10 24.8	
	comp=Z,7µm,19.5s,baz=220,slow=32						
BB19B	**Bebedouro**	**38.62**	**301**	*e*P	**P**	**05 57 33.1**	**+0.4**
GO08	**Villa O'Higgin**	**38.62**	**246**	IAMs_20	IAMs_20	06 13 35.5	
	comp=Z,6µm,18.0s						
AY03	**Cochrane**	**39.10**	**248**	IAMs_20	IAMs_20	06 11 43.4	
	comp=Z,5µm,21.0s						
MCR1	**Marechal Candi**	**39.42**	**291**	*e*P	**P**	**05 57 40.5**	**+1.2**
PMNB	**Patos De Minas**	**39.45**	**306**	*e*P	**P**	**05 57 39.3**	**-0.3**
H10N1	**ASCENSION HYDR**	**39.57**	**359**	T	T	06 39 58.4	
	baz=180						
H10N3	**ASCENSION HYDR**	**39.58**	**359**	T	T	06 39 55.3	
	baz=180,slow=74						
H10N2	**ASCENSION HYDR**	**39.59**	**359**	T	T	06 39 59.6	
	baz=180,slow=74						
CPUP	**Villa Florida**	**40.22**	**286**	P	**P**	**05 57 46.3**	**+0.3**
CPUP	**Villa Florida**	**40.22**	**286**	P	**P**	**05 57 45.8**	**-0.2**
	comp=Z,5.8nm,0.8s,baz=123,slow=9.8,SNR=18						
CPUP				PcP	**PcP**	**05 59 49.6**	**-0.3**
	comp=Z,10nm,1.0s,baz=100,slow=6.7,SNR=6.1						
CPUP				LR	LR	06 11 53.6	
	comp=Z,4µm,21.8s,baz=141,slow=32						
	comp=Z,5.8nm,0.8s						
LL02	**Futaleuf**	**40.35**	**254**	P	**P**	**05 57 47.5**	**+0.6**
LL02				IAmb	IAmb	05 57 55.2	
	comp=Z,202nm,1.9s						
POGA	**Pongola**	**40.52**	**77**	P	**P**	**05 57 47.8**	**-0.7**
POGA				IAmb	IAmb	05 58 05.4	
	comp=Z,229nm,1.9s						
PLCA	**Paso Flores**	**40.66**	**258**	IAMs_20	IAMs_20	06 13 52.2	
	comp=Z,6µm,18.0s						
PLCA	**Paso Flores**	**40.66**	**258**	P	**P**	**05 57 50.6**	**+1.1**
	comp=Z,3.2nm,1.0s,baz=124,slow=7.7,SNR=5.1						
PLCA				PcP	**PcP**	**05 59 50.9**	**-0.3**
	comp=Z,3.6nm,0.8s,baz=147,slow=2.6,SNR=3.7						
PLCA				LR	LR	06 13 55.0	
	comp=Z,4µm,19.2s,baz=131,slow=35						
	comp=Z,3.2nm,1.0s						
PLCA	**Paso Flores**	**40.66**	**258**	*e*P	**P**	**05 57 51.6**	**+2.0**
ITRB	**Iturama**	**40.74**	**300**	*e*P	**P**	**05 57 51.0**	**+0.6**
IPMB	**Ipameri, GO**	**40.88**	**304**	*e*P	**P**	**05 57 51.2**	**-0.3**
AMBA	**Amambai (Brazi**	**41.13**	**292**	*e*P	**P**	**05 57 54.0**	**+0.4**
JANB	**Januaria**	**41.20**	**311**	*e*P	**P**	**05 57 54.4**	**+0.2**
NBLA	**Lagarto - SE**	**41.76**	**323**	*e*P	**P**	**05 57 56.3**	**-2.4**
MAW	**Mawson**	**42.24**	**146**	P	**P**	**05 58 02.7**	**+0.6**
	comp=Z,20nm,1.0s,baz=267,slow=17,SNR=5.1						
MAW				LR	LR	06 12 09.9	
	comp=Z,2µm,20.4s,baz=276,slow=31						
	comp=Z,20nm,1.0s						
NBAN	**Anadia - AL**	**42.36**	**326**	*e*P	**P**	**05 58 01.7**	**-2.0**
LR03	**Panguipulli**	**42.40**	**258**	IAMs_20	IAMs_20	06 12 38.3	
	comp=Z,6µm,20.0s						
ANTJ	**Antonio Joao (**	**42.45**	**292**	*e*P	**P**	**05 58 03.9**	**-0.4**
BDFB	**Brasilia**	**42.67**	**306**	P	**P**	**05 58 06.3**	**0.0**
BDFB				IAmb	IAmb	05 58 14.1	
	comp=Z,218nm,1.8s						
BDFB				IAMs_20	IAMs_20	06 12 29.6	
	comp=Z,8µm,20.0s						
BDFB	**Brasilia**	**42.67**	**306**	P	**P**	**05 58 06.0**	**-0.3**
BDFB	**Brasilia**	**42.67**	**306**	P	**P**	**05 58 06.0**	**-0.3**
	comp=Z,16nm,1.0s,baz=143,slow=9.1,SNR=15						
BDFB				LR	LR	06 12 50.5	
	comp=Z,8µm,18.7s,baz=140,slow=32						
	comp=Z,16nm,1.0s						
QSPA	**South Pole Qui**	**42.71**	**180**	P	**P**	**05 58 06.9**	**+0.7**
	comp=Z,78nm,0.9s,baz=213,slow=7.2,SNR=80						
	comp=Z,78nm,0.9s						
H04S2	**CROZET ISLANDS**	**43.27**	**114**	T	T	06 45 04.7	
	baz=245,slow=75,SNR=134						
H04S3	**CROZET ISLANDS**	**43.27**	**114**	T	T	06 45 02.4	
	baz=245,slow=75,SNR=102						
H04S1	**CROZET ISLANDS**	**43.29**	**114**	T	T	06 45 06.3	
	baz=245,slow=75,SNR=123						
AQDB	**Aquidauana**	**43.38**	**294**	P	**P**	**05 58 11.9**	**0.0**
AQDB				IAmb	IAmb	05 58 18.7	
	comp=Z,138nm,1.9s						
AQDB	**Aquidauana**	**43.38**	**294**	*e*P	**P**	**05 58 11.6**	**-0.2**
NBCA	**Caruaru-PE**	**43.59**	**327**	*e*P	**P**	**05 58 13.4**	**-0.3**
MURT	**Porto Murtinho**	**43.71**	**291**	*e*P	**P**	**05 58 13.6**	**-0.9**
SDBA	**SAO DESIDERIO**	**43.76**	**313**	*e*P	**P**	**05 58 13.6**	**-1.4**
ML02	**Panimavida**	**43.85**	**264**	IAMs_20	IAMs_20	06 15 21.2	
	comp=Z,6µm,19.0s						
BO02	**Sierra Bellavi**	**43.97**	**265**	P	**P**	**05 58 16.1**	**-0.5**
RVDE	**Rio Verde (Bra**	**44.00**	**296**	*e*P	**P**	**05 58 17.4**	**+0.5**
BDQN	**Bodoquena, MS**	**44.06**	**293**	*e*P	**P**	**05 58 16.9**	**-0.4**
LMEL	**Las Melosas**	**44.12**	**267**	P	**P**	**05 58 18.9**	**+1.0**
BO04	**La Punta**	**44.32**	**266**	IAMs_20	IAMs_20	06 14 33.7	
	comp=Z,6µm,20.0s						
BO01	**Tunca**	**44.41**	**266**	P	**P**	**05 58 19.7**	**-0.3**
BO01				IAmb	IAmb	05 58 27.6	
	comp=Z,61nm,1.1s						
MT03	**Universidad Ad**	**44.54**	**267**	IAMs_20	IAMs_20	06 14 28.6	
	comp=Z,8µm,22.0s						
GO05	**Huala**	**44.62**	**264**	IAMs_20	IAMs_20	06 13 33.6	
	comp=Z,5µm,22.0s						
MT09	**Talagante**	**44.70**	**266**	P	**P**	**05 58 22.2**	**-0.3**
MT09				IAmb	IAmb	05 58 29.9	
	comp=Z,93nm,1.1s						
MT09				IAMs_20	IAMs_20	06 14 35.8	
	comp=Z,5µm,20.0s						
NBLV	**Livramento - P**	**44.73**	**326**	*e*P	**P**	**05 58 22.7**	**-0.1**
MT01	**Popeta**	**44.82**	**266**	P	**P**	**05 58 23.1**	**-0.3**
MT01				IAmb	IAmb	05 58 30.8	
	comp=Z,79nm,1.1s						
PEL	**Peldehue**	**44.86**	**267**	P	**P**	**05 58 23.6**	**-0.1**
PEL	**Peldehue**	**44.86**	**267**	P	**P**	**05 58 23.6**	**-0.1**
PEL				pmax	pmax		
	comp=Z,123nm,1.1s						
MT02	**Curacav**	**45.10**	**267**	IAMs_20	IAMs_20	06 14 37.5	
	comp=Z,6µm,19.0s						
VA01	**Torpederas**	**45.58**	**267**	IAMs_20	IAMs_20	06 14 43.1	
	comp=Z,7µm,20.0s						
VA06	**Catapilco**	**45.62**	**267**	P	**P**	**05 58 30.2**	**+0.6**
VA06				IAMs_20	IAMs_20	06 15 13.4	
	comp=Z,7µm,20.0s						
RCBR	**Riachuelo**	**45.77**	**328**	P	**P**	**05 58 30.4**	**-0.6**
RCBR				IAmb	IAmb	05 58 37.8	
	comp=Z,70nm,1.4s						
RCBR	**Riachuelo**	**45.77**	**328**	P	**P**	**05 58 30.4**	**-0.6**
RCBR				pmax	pmax		
	comp=Z,70nm,1.5s						
RCBR	**Riachuelo**	**45.77**	**328**	LR	LR	06 14 13.8	
	comp=Z,2µm,18.7s,baz=243,slow=32						
RCBR	**Riachuelo**	**45.77**	**328**	*e*P	**P**	**05 58 30.0**	**-0.9**
CO02	**Combarbal**	**46.24**	**269**	IAMs_20	IAMs_20	06 14 42.9	
	comp=Z,6µm,22.0s						
CO03	**El Pedregal**	**46.25**	**270**	P	**P**	**05 58 35.2**	**+0.4**
CO03				IAmb	IAmb	05 58 43.8	
	comp=Z,29nm,0.7s						
CO03				IAMs_20	IAMs_20	06 14 44.2	
	comp=Z,6µm,22.0s						
CO01	**Juntas del Tor**	**46.38**	**271**	IAMs_20	IAMs_20	06 15 20.8	
	comp=Z,7µm,20.0s						
CO06	**Fray Jorge**	**46.99**	**269**	P	**P**	**05 58 40.2**	**-0.3**
CO06				IAmb	IAmb	05 58 47.5	
	comp=Z,81nm,1.4s						
CO06				IAMs_20	IAMs_20	06 15 06.9	
	comp=Z,7µm,21.0s						
LSZ	**Lusaka**	**47.13**	**61**	P	**P**	**05 58 41.1**	**-0.7**
LSZ				IAmb	IAmb	05 58 48.2	
	comp=Z,56nm,1.0s						
LSZ	**Lusaka**	**47.13**	**61**	P	**P**	**05 58 41.1**	**-0.7**
LSZ				pmax	pmax		
	comp=Z,56nm,1.0s						
LSZ	**Lusaka**	**47.13**	**61**	LR	LR	06 16 04.7	
	comp=Z,8µm,19.2s,baz=222,slow=33						
GO03	**Copiap**	**47.99**	**274**	IAMs_20	IAMs_20	06 16 13.5	
	comp=Z,6µm,20.0s						
AC06	**Mina Casimiro**	**48.22**	**274**	IAMs_20	IAMs_20	06 16 20.7	
	comp=Z,7µm,21.0s						
BBSD	**Serra de San D**	**48.91**	**292**	*e*P	**P**	**05 58 55.0**	**-0.4**
GO02	**Mina Guanaco**	**49.15**	**277**	IAMs_20	IAMs_20	06 16 53.5	
	comp=Z,6µm,21.0s						
AC01	**Pan de Azucar**	**49.18**	**275**	P	**P**	**05 58 58.3**	**+0.9**
PTLB	**Pontes e Lacer**	**49.31**	**295**	P	**P**	**05 58 58.3**	**-0.2**
PB14	**IPOC Station P**	**50.06**	**276**	IAMs_20	IAMs_20	06 17 33.5	
	comp=Z,6µm,20.0s						
SIV	**San Ignacio**	**50.10**	**292**	LR	LR	06 17 30.0	
	comp=Z,8µm,20.8s,baz=152,slow=33						
LVC	**Limon Verde**	**50.42**	**280**	P	**P**	**05 59 08.2**	**+0.8**
LVC	**Limon Verde**	**50.42**	**280**	P	**P**	**05 59 08.2**	**+0.8**
LVC				pmax	pmax		
	comp=Z,41nm,1.1s						
LVC	**Limon Verde**	**50.42**	**280**	LR	LR	06 18 04.3	
	comp=Z,4µm,21.5s,baz=139,slow=33						
LVC	**Limon Verde**	**50.42**	**280**	*e*P	**P**	**05 59 08.3**	**+1.0**
PB06	**IPOC Station P**	**50.80**	**279**	IAMs_20	IAMs_20	06 17 55.4	
	comp=Z,5µm,19.0s						
PDRB	**Porto dos Gac**	**50.86**	**300**	*e*P	**P**	**05 59 10.2**	**-0.1**
PB05	**IPOC Station P**	**51.12**	**278**	P	**P**	**05 59 13.2**	**+0.9**
PB05				IAMs_20	IAMs_20	06 18 00.8	
	comp=Z,5µm,21.0s						
PB09	**IPOC Station P**	**51.21**	**280**	P	**P**	**05 59 14.0**	**+0.9**
PB09				IAMs_20	IAMs_20	06 18 39.2	
	comp=Z,6µm,22.0s						
PB04	**IPOC Station P**	**51.44**	**279**	IAMs_20	IAMs_20	06 17 39.1	
	comp=Z,5µm,22.0s						
PB07	**IPOC Station P**	**51.68**	**280**	IAMs_20	IAMs_20	06 19 21.6	
	comp=Z,5µm,21.0s						
VILB	**Vilhena**	**51.88**	**296**	*e*P	**P**	**05 59 17.8**	**-0.2**
PB01	**IPOC Station P**	**51.89**	**280**	P	**P**	**05 59 18.4**	**+0.3**
PB01				IAmb	IAmb	05 59 25.8	
	comp=Z,82nm,1.2s						
PB02	**IPOC Station P**	**51.97**	**280**	IAMs_20	IAMs_20	06 19 11.2	
	comp=Z,5µm,19.0s						
TA02	**Huaiquique**	**52.86**	**281**	IAMs_20	IAMs_20	06 20 22.8	
	comp=Z,4µm,21.0s						
PB11	**IPOC Station P**	**52.91**	**281**	P	**P**	**05 59 25.5**	**-0.2**
NPGB	**Novo Progresso**	**53.78**	**305**	*e*P	**P**	**05 59 31.6**	**-0.3**
PB16	**IPOC Station P**	**53.82**	**283**	P	**P**	**05 59 33.6**	**+0.7**
PB16				IAmb	IAmb	05 59 49.7	
	comp=Z,87nm,1.8s						
PB16				IAMs_20	IAMs_20	06 21 51.4	
	comp=Z,4µm,20.0s						
LPAZ	**La Paz**	**54.40**	**286**	P	**P**	**05 59 36.6**	**-0.6**
LPAZ				IAMs_20	IAMs_20	06 21 03.6	
	comp=Z,5µm,22.0s						
LPAZ	**La Paz**	**54.40**	**286**	P	**P**	**05 59 36.5**	**-0.6**
	comp=Z,4.6nm,0.8s,baz=153,slow=4.5,SNR=16						
LPAZ				LR	LR	06 21 26.2	
	comp=Z,5µm,21.9s,baz=122,slow=34						
	comp=Z,4.6nm,0.8s						
LPAZ	**La Paz**	**54.40**	**286**	*e*P	**P**	**05 59 35.6**	**-1.6**
DBIC	**Dimbokro**	**54.53**	**11**	P	**P**	**05 59 35.8**	**-1.6**
DBIC				IAmb	IAmb	05 59 42.8	
	comp=Z,125nm,1.5s						
DBIC	**Dimbokro**	**54.53**	**11**	P	**P**	**05 59 35.5**	**-1.9**
	comp=Z,14nm,0.8s,baz=189,slow=9.2,SNR=15						
DBIC				PKiKP	**PKiKP**	**06 07 16.5**	**+1.8**
	comp=Z,1.8nm,0.3s,baz=247,slow=0.8,SNR=4.4						
DBIC				LR	LR	06 16 42.3	
	comp=Z,2µm,21.6s,baz=166,slow=29						
	comp=Z,14nm,0.8s						
SBA	**Scott Base**	**54.87**	**180**	P	**P**	**05 59 40.7**	**+1.6**
SBA				IAmb	IAmb	05 59 43.6	
	comp=Z,72nm,1.1s						
SBA	**Scott Base**	**54.87**	**180**	P	**P**	**05 59 40.7**	**+1.6**
SBA				pmax	pmax		
	comp=Z,72nm,1.1s						
VNDA	**Vanda**	**55.17**	**179**	P	**P**	**05 59 42.4**	**+1.1**
VNDA				IAmb	IAmb	05 59 45.3	
	comp=Z,69nm,1.4s						
VNDA	**Vanda**	**55.17**	**179**	P	**P**	**05 59 42.4**	**+1.1**
VNDA				pmax	pmax		
	comp=Z,69nm,1.4s						
VNDA	**Vanda**	**55.17**	**179

comp=Z,41nm,1.2s
MBAR Mbarara 60.50 53 IAMs_20 IAMs_20 06 22 43.7
comp=Z,4µm,21.0s
MBAR Mbarara 60.50 53 P **P** **06 00 19.4 -0.3**
MBAR pmax pmax
comp=Z,41nm,1.3s
MBAR Mbarara 60.50 53 LR LR 06 23 04.9
comp=Z,3µm,21.1s,baz=204,slow=33
MBAR Mbarara 60.50 53 *e*P **P** **06 00 17.9 -1.8**
MBAR *e*S **S** **06 08 38.0 +2.6**
TOA0 Torodi Ar. Sit 61.94 17 P **P** **06 00 26.8 -2.4**
TORD Torodi Ar. Bea 61.94 17 P **P** **06 00 26.8 -2.4**
TORD IAmb IAmb 06 00 42.6
comp=Z,91nm,1.6s
TORD Torodi Ar. Bea 61.94 17 P **P** **06 00 27.0 -2.2**
comp=Z,9.0nm,0.8s,baz=194,slow=7.8,SNR=36
TORD LR LR 06 22 19.5
comp=Z,2µm,20.2s,baz=180,slow=31
comp=Z,9.0nm,0.8s
MDP Montagnes des 62.69 315 LR LR 06 24 15.7
comp=Z,3µm,21.2s,baz=144,slow=33
KIBK Kibwezi 63.24 61 P **P** **06 00 37.7 -0.4**
KIBK IAmb IAmb 06 00 47.1
comp=Z,35nm,1.3s
NNA Nana 63.27 282 *i* P **P** **06 00 38.1 -0.1**
NNA pmax pmax
comp=Z,16nm,1.0s
NNA Nana 63.27 282 LR LR 06 24 59.2
comp=Z,3µm,21.4s,baz=145,slow=33
CZSB Cruzeiro do Su 63.73 288 P **P** **06 00 39.0 -2.2**
CZSB Cruzeiro do Su 63.73 288 *e*P **P** **06 00 42.6 +1.4**
BOAV Boa Vista 64.44 306 P **P** **06 00 44.4 -1.5**
BOAV IAmb IAmb 06 00 53.2
comp=Z,51nm,1.6s
LODK Lodwar 66.38 55 P **P** **06 00 57.7 -0.8**
LODK IAmb IAmb 06 01 21.0
comp=Z,45nm,1.7s
LODK Lodwar 66.38 55 *e*P **P** **06 00 57.5 -1.0**
LODK *e*S **S** **06 09 53.7 +5.2**
LODK IAMs_20 IAMs_20 06 27 06.0
comp=N,3µm,18.6s
ATAH Atahualpa 67.87 284 LR LR 06 30 36.3
comp=N,2µm,21.9s,baz=157,slow=36
MCRA Macar, Loja 70.96 285 P **P** **06 01 26.9 -0.2**
ARNL Arenillas 71.65 285 P **P** **06 01 30.8 -0.4**
COHC Cochancay 71.94 287 P **P** **06 01 33.1 +0.2**
TAM Tamanrasset 72.09 18 P **P** **06 01 32.8 -0.9**
TAM Tamanrasset 72.09 18 P **P** **06 01 32.8 -0.9**
TAM pmax pmax
comp=Z,25nm,1.2s
CHSH Refugio Sur-Vo 72.42 288 P **P** **06 01 36.6 0.0**
CHSH IAmb IAmb 06 01 44.3
comp=Z,131nm,2.0s
FURI Furi 72.73 55 *e*P **P** **06 01 37.3 -0.7**
FURI *e*S **SKiKP** **06 11 09.7 -2.3**
FURI IAMs_20 IAMs_20 06 31 42.3
comp=Z,4µm,17.4s
SLOR San Lorenzo - 72.77 288 P **P** **06 01 37.4 -1.1**
PCRV Puerto La Cruz 73.15 307 LR LR 06 31 14.4
comp=Z,9µm,19.8s,slow=34
SALI Salinas 73.28 286 IAMs_20 IAMs_20 06 32 03.2
comp=Z,3µm,20.0s
PULU Pululahua 73.34 289 P **P** **06 01 41.2 -0.6**
OTAV Otavalo 73.47 289 P **P** **06 01 42.9 +0.3**
OTAV IAmb IAmb 06 01 51.4
comp=Z,89nm,1.4s
OTAV Otavalo 73.47 289 P **P** **06 01 42.9 +0.3**
OTAV pmax pmax
comp=Z,89nm,1.5s
OTAV Otavalo 73.47 289 *e*P **P** **06 01 43.1 +0.4**
BAUV El Baul 74.02 303 P **P** **06 01 43.8 -1.5**
RPN Rapa Nui 74.16 247 LR LR 06 27 47.7
comp=Z,1µm,21.5s,baz=130,slow=30
ROSC El Rosal 74.45 296 P **P** **06 01 47.4 -0.8**
ROSC El Rosal 74.45 296 P **P** **06 01 47.4 -0.8**
ROSC pmax pmax
comp=Z,275nm,1.9s
ROSC El Rosal 74.45 296 LR LR 06 33 17.8
comp=Z,5µm,18.6s,baz=174,slow=35
DESE Dese 75.09 54 *e*P **P** **06 01 49.0 -2.7**
SDV Santo Domingo 75.46 301 P **P** **06 01 52.7 -1.1**
SDV Santo Domingo 75.46 301 LR LR 06 33 23.6
comp=Z,3µm,21.1s,baz=156,slow=34
SDV Santo Domingo 75.46 301 *e*P **P** **06 01 53.2 -0.6**
ATD Arta Tunnel 77.22 57 LR LR 06 36 00.5
comp=Z,198nm,18.1s,baz=199,slow=36
ATD Arta Tunnel 77.22 57 *e*P **P** **06 02 04.5 +0.9**
ATD *e*S **S** **06 12 01.2 +8.0**
ATD AMP 06 35 40.3
comp=Z,9µm,14.8s
MDT Midelt 80.40 8 LR LR 06 33 27.4
comp=Z,2µm,19.3s,baz=174,slow=32
GCPR Guaynabo City 80.68 310 P **P** **06 02 21.5 -0.9**
GCPR IAmb IAmb 06 02 48.6
comp=Z,88nm,1.5s
OBIP Obispado Ponce 80.73 310 IAMs_20 IAMs_20 06 35 32.0
comp=Z,2µm,20.0s
AOPR Arecibo Observ 81.06 310 IAMs_20 IAMs_20 06 26 35.7
comp=Z,2µm,21.0s
AGPR Aguadilla, PR 81.35 309 IAMs_20 IAMs_20 06 35 19.3
comp=Z,2µm,20.0s
H08S1 Diego Carcia H 81.74 92 T T 07 32 30.5
baz=226
PCDR Punta Cana, DR 82.06 308 IAMs_20 IAMs_20 06 40 37.1
comp=Z,2µm,20.0s
TATN Tataouine 82.65 20 P **P** **06 02 32.8 +0.3**
CDITO Canoas 82.66 291 IAMs_20 IAMs_20 06 38 30.2
comp=Z,2µm,22.0s
BRU2 Volcan 82.71 291 IAMs_20 IAMs_20 06 38 25.6
comp=Z,2µm,20.0s
SRBA San Rafael, Bu 83.47 291 IAMs_20 IAMs_20 06 39 15.7
comp=Z,2µm,19.0s
PEZE Perez Zeledon, 83.79 291 P **P** **06 02 38.7 -0.3**
PEZE IAmb IAmb 06 02 55.2
comp=Z,33nm,1.2s
PEZE IAMs_20 IAMs_20 06 39 34.1
comp=Z,2µm,21.0s
SDDR Presa de Saban 84.00 306 IAMs_20 IAMs_20 06 37 01.6
comp=Z,2µm,22.0s
BATAN Batan 84.14 292 IAMs_20 IAMs_20 06 37 48.5
comp=Z,2µm,21.0s
RIMA Rio Macho 84.20 291 P **P** **06 02 39.8 -1.4**
PFVI Vila Bisbo 84.41 4 *e*P **P** **06 02 39.7 -1.7**
PBDV Barranco-do-Ve 84.56 5 *e*P **P** **06 02 43.2 +1.0**
MORF Marmelete 84.59 4 *e*P **P** **06 02 43.3 +0.9**
MORF Marmelete 84.59 4 *e*P **P** **06 02 42.2 -0.1**
MORF Marmelete 84.59 4 *e*P **P** **06 02 42.3 -0.1**
MORF IAmb IAmb 06 02 45.4
comp=Z,116nm,1.8s
PVAQ Vaqueiros 84.74 5 *e*P **P** **06 02 44.0 +1.0**
PVAQ Vaqueiros 84.74 5 eLR LR 06 32 18.4
comp=Z,1µm,20.0s
PCVE Castro Verde 84.95 4 *e*P **P** **06 02 45.3 +1.2**
COVE Coope Vega, Sa 85.26 291 P **P** **06 02 45.7 -0.6**
COVE IAMs_20 IAMs_20 06 40 21.2
comp=Z,2µm,19.0s
ARE1 Arenal 1 85.27 291 IAMs_20 IAMs_20 06 35 51.3
comp=Z,2µm,22.0s
JTS Las Juntas de 85.28 291 P **P** **06 02 45.7 -0.7**
JTS IAmb IAmb 06 02 49.5
comp=Z,74nm,1.6s
JTS Las Juntas de 85.28 291 IAMs_20 IAMs_20 06 41 27.8
comp=Z,2µm,18.0s
JTS Las Juntas de 85.28 291 P **P** **06 02 45.7 -0.7**
JTS pmax pmax
comp=Z,74nm,1.6s
JTS MLR MLR
comp=Z,2µm,18.0s
JTS Las Juntas de 85.28 291 LR LR 06 41 40.6
comp=Z,1µm,18.0s,baz=135,slow=36
KEST Kesra 85.41 19 LR LR 06 37 53.8
comp=Z,1µm,18.8s,baz=160,slow=34
H01W2 Cape Leeuwin H 85.50 139 T T 07 38 10.4
baz=215
H01W1 Cape Leeuwin H 85.51 139 T T 07 38 22.2
baz=215
H01W3 Cape Leeuwin H 85.51 139 T T 07 38 11.9
baz=215
PBAR Barrancos 85.54 5 *e*P **P** **06 02 47.8 +0.7**
comp=Z,58nm,1.6s
GRTK Grand Turk 85.98 308 IAMs_20 IAMs_20 06 40 42.0
comp=Z,2µm,18.0s
PMTG Montargil 86.37 4 *e*P **P** **06 02 53.0 +1.9**
comp=Z,96nm,1.6s
ACON Acoyapa 86.70 292 IAMs_20 IAMs_20 06 41 57.3
comp=Z,1µm,18.0s
PMRV Marv??o 86.77 5 *e*P **P** **06 02 54.3 +1.2**
comp=Z,105nm,1.7s
PMRV Marv??o 86.77 5 eLR LR 06 33 04.7
comp=Z,755nm,20.0s
GTBY Guantanamo Bay 86.88 304 IAMs_20 IAMs_20 06 40 42.7
comp=Z,2µm,20.0s
PAB San Pablo 87.10 7 P **P** **06 02 54.4 -0.4**
PAB San Pablo 87.10 7 P **P** **06 02 54.4 -0.4**
PAB pmax pmax
comp=Z,80nm,1.5s
ESDC Sonseca Array 87.26 7 P **P** **06 02 55.9 +0.4**
comp=Z,15nm,1.1s,baz=185,slow=4.5,SNR=23
ESDC LR LR 06 38 47.8
comp=Z,717nm,19.1s,baz=178,slow=34
comp=Z,15nm,1.1s
ESBB Sonseca Array 87.26 7 P **P** **06 02 55.7 +0.1**
ESBB IAmb IAmb 06 03 04.5
comp=Z,41nm,1.2s
MTE Manteigas 87.73 5 *e*P **P** **06 02 58.8 +1.0**
comp=Z,101nm,1.5s
MTE Manteigas 87.73 5 eLR LR 06 33 52.5
comp=Z,614nm,18.0s
RAFF Raffo Rosso 88.01 22 IAMs_20 IAMs_20 06 41 41.5
comp=Z,2µm,19.0s
KAAM Kaadhehdhoo 88.03 87 IAMs_20 IAMs_20 06 39 33.3
comp=Z,2µm,18.0s
EIL Elat 88.38 41 LR LR 06 39 31.3
comp=Z,3µm,19.9s,baz=232,slow=34
RAYN Ar Rayn 88.41 52 P **P** **06 03 01.2 -0.2**
RAYN IAmb IAmb 06 03 17.0
comp=Z,57nm,1.6s
RAYN Ar Rayn 88.41 52 P **P** **06 03 01.2 -0.2**
RAYN pmax pmax
comp=Z,57nm,1.7s
RAYN MLR MLR
comp=Z,3µm,19.0s
MAHO Mahon 88.50 14 IAMs_20 IAMs_20 06 39 18.8
comp=Z,2µm,18.0s
MVO Moncorvo 88.52 5 eLR LR 06 33 58.9
comp=Z,675nm,22.0s
NWAO Narrogin (SRO) 88.53 140 LR LR 06 34 13.8
comp=Z,579nm,21.3s,baz=203,slow=30
MQZ McQueen's Vall 88.96 185 IAMs_20 IAMs_20 06 41 51.4
comp=Z,2µm,19.0s
VSL Villasalto 89.04 18 IAMs_20 IAMs_20 06 38 31.0
comp=Z,2µm,20.0s
PBRG Bragança 89.18 5 *e*P **P** **06 03 05.7 +1.1**
comp=Z,85nm,1.7s
IDI Anoyia 89.37 31 LR LR 06 43 20.4
comp=Z,9.4nm,18.4s,baz=169,slow=36
TGUH Tegucigalpa,Un 89.61 291 P **P** **06 03 06.3 -1.0**
KARP Karpathos 90.41 32 P **P** **06 03 09.9 -0.6**
BALJ Balqa 90.75 40 IAMs_20 IAMs_20 06 40 36.2
comp=Z,3µm,20.0s
ASF Jabal al Asfar 91.38 41 LR LR 06 39 54.4
comp=Z,2µm,21.9s,baz=235,slow=33
MMAI Mount Meron Ar 91.45 39 P **P** **06 03 16.1 +0.7**
comp=Z,2.0nm,0.6s,baz=169,slow=2.9,SNR=4.6
MMAI LR LR 06 41 51.0
comp=Z,4µm,19.6s,baz=156,slow=34
comp=Z,2.0nm,0.6s
AGG Agios Georgios 91.94 27 P **P** **06 03 15.6 -1.9**
AGG Agios Georgios 91.94 27 P **P** **06 03 15.6 -1.9**
AGG pmax pmax
comp=Z,20nm,1.3s
CSS Mathiatis 92.26 37 IAMs_20 IAMs_20 06 42 42.2
comp=Z,2µm,22.0s
APG El Apazote 92.34 290 LR LR 06 42 37.0
comp=Z,89nm,21.3s,baz=234,slow=34
CAMR Camarioca 92.91 301 IAMs_20 IAMs_20 06 44 50.5
comp=Z,2µm,19.0s
GUMA Gualdo di Mace 93.31 19 IAMs_20 IAMs_20 06 44 14.8
comp=Z,951nm,18.0s
PETF Flores 93.39 291 IAMs_20 IAMs_20 06 42 46.7
comp=Z,2µm,21.0s
BNI Bardonecchia 93.92 14 IAMs_20 IAMs_20 06 42 25.2
comp=Z,2µm,20.0s
URZ Urewera 94.04 188 LR LR 06 39 39.3
comp=Z,338nm,21.9s,baz=299,slow=32
PRMA PARMA 94.30 17 IAMs_20 IAMs_20 06 40 43.1
comp=Z,2µm,21.0s
TEIG Tepich 94.88 295 LR LR 06 45 05.8
comp=Z,14µm,21.8s,slow=35
WSAR Wadi Sarin 95.63 62 LR LR 06 45 17.0
comp=Z,3µm,19.1s,baz=226,slow=35
CTI Castel Tesino 95.80 17 P **P** **06 03 33.4 -1.8**
CTI IAmb IAmb 06 03 51.8
comp=Z,25nm,1.5s
CTI Castel Tesino 95.80 17 P **P** **06 03 33.4 -1.8**
CTI pmax pmax
comp=Z,25nm,1.5s
CAN Canberra 96.03 166 IAMs_20 IAMs_20 06 44 04.2
comp=Z,1µm,19.0s
DAVOX Davos/Dischmat 96.16 16 LR LR 06 44 43.4
comp=Z,705nm,18.8s,baz=178,slow=34
MDUB Mudunu 96.24 33 IAMs_20 IAMs_20 06 55 14.7
comp=Z,2µm,18.0s
BRTR Keskin Array B 96.50 35 P **P** **06 03 37.9 -0.7**
BRTR Keskin Array B 96.50 35 *ce*P **P** **06 03 39.9 +1.3**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 96.50 35 P **P** **06 03 38.5 -0.2**
comp=Z,1.4nm,0.8s,baz=190,slow=7.3,SNR=6.6
BRTR LR LR 06 45 39.9
comp=Z,1µm,21.9s,baz=203,slow=35
comp=Z,1.4nm,0.8s
FETA Feichten 96.55 16 *e*P **P** **06 03 39.7 +1.1**
comp=Z,4.1nm,1.4s
FETA *i* PP **PP** **06 07 38.4 +4.8**
comp=Z,5.0nm,1.2s
ABTA Abfaltersbach 96.64 18 *e*P **P** **06 03 38.9 -0.1**
comp=Z,11nm,1.2s
ABTA *i* PP **PP** **06 07 39.5 +5.3**
comp=Z,6.5nm,1.3s
DAVA Damuels 96.64 16 *e*PP **PP** **06 07 37.0 +2.7**
comp=Z,4.6nm,1.0s
CMIG Matias Romero 96.72 288 LR LR 06 46 15.9
comp=Z,857nm,18.9s,baz=133,slow=35
MOTA Moosalm 96.93 17 *e*PP **PP** **06 07 41.4 +5.0**
comp=Z,11nm,1.3s
WTTA Wattenberg 96.96 17 *e*P **P** **06 03 42.1 +1.6**
comp=Z,17nm,1.7s
RETA Reutte 97.00 16 *e*PP **PP** **06 07 40.5 +3.6**
comp=Z,9.8nm,1.4s
SOKA Soboth 97.12 19 *e*P **P** **06 03 40.7 -0.4**
comp=Z,14nm,1.9s
SOKA *e*PP **PP** **06 07 42.4 +4.5**
comp=Z,13nm,1.8s
KBA Koelnbreinsper 97.13 18 *e*P Pdif 06 03 43.5 +2.1
comp=Z,6.9nm,1.3s
LESA Schwarzleotal 97.32 18 *i* PP **PP** **06 07 40.0 +0.6**
comp=Z,6.9nm,1.0s
BFO Black Forest 97.38 15 IAMs_20 IAMs_20 06 44 54.7
comp=Z,1µm,18.0s
ARSA Arzberg 97.77 20 *e*P Pdif 06 03 45.3 +1.3
comp=Z,8.6nm,1.3s
BIOA Bad Ischl, Aus 97.78 18 *e*PcP Pdif 06 03 46.4 +2.4
comp=Z,5.6nm,1.2s
BIOA *e*PP **PP** **06 07 46.2 +3.4**
comp=Z,1.6nm,0.6s
STKA Stephens Creek 97.84 159 LR LR 06 45 03.6
comp=Z,349nm,19.6s,baz=195,slow=34
ARPR Arapgir-MALATY 97.86 38 IAMs_20 IAMs_20 06 49 36.3
comp=Z,2µm,19.0s
MOA Molln 98.06 19 *e*PP **PP** **06 07 50.5 +5.5**
comp=Z,9.1nm,1.4s
PALK Pallekele 98.19 88 LR LR 06 38 24.5
comp=Z,4µm,21.8s,baz=332,slow=30
CONA Conrad Observa 98.48 20 *i* Pdiff Pdif 06 03 49.8 +2.5
comp=Z,12nm,1.6s
CONA *e*PP **PP** **06 07 53.0 +4.7**
comp=Z,14nm,1.8s
GERES GERESS Array B 98.89 18 LR LR 06 45 25.7
comp=Z,868nm,19.5s,baz=192,slow=34
MLR Muntele Rosu 98.93 27 LR LR 06 46 01.6
comp=Z,481nm,20.5s,baz=194,slow=34
CKRC Cesky Krumlov 98.99 18 AMS AMS 06 44 20.0
comp=Z,1µm,21.5s
KHC Kasperske Hory 99.13 18 AMS AMS 06 46 30.0
comp=Z,900nm,15.6s
456A Hilliard 99.19 306 IAMs_20 IAMs_20 06 47 32.9
comp=Z,2µm,20.0s
ZVC Zvikov 99.55 18 AMS AMS 06 45 40.0
comp=Z,1µm,20.1s
257A Skidaway Islan 99.61 307 IAMs_20 IAMs_20 06 52 10.8
comp=Z,1µm,18.0s
TREC Trest 99.69 19 AMS AMS 06 44 40.0
comp=Z,1µm,22.3s
VRAC Vranov 99.95 20 LR LR 06 48 41.0
comp=Z,241nm,18.3s,baz=198,slow=35
GOPC GO Pecny, Ondr 100.12 18 AMS AMS 06 46 30.0
comp=Z,800nm,21.8s
PRU Pruhonice 100.14 18 AMS AMS 06 46 00.0
comp=Z,700nm,20.1s
PRA Prague 100.20 18 AMS AMS 06 44 00.0
comp=Z,700nm,21.1s
255A Hazlehurst 100.36 306 IAMs_20 IAMs_20 06 52 02.7
comp=Z,2µm,18.0s
Y58A Scranton 100.38 309 IAMs_20 IAMs_20 06 51 56.2
comp=Z,2µm,19.0s
HSKC Hora Svate Kat 100.50 17 AMS AMS 06 44 10.0
comp=Z,1µm,23.6s
W59A Clinton 100.73 311 IAMs_20 IAMs_20 06 48 18.5
comp=Z,1µm,20.0s
DPC Dobruska-Polom 100.87 19 AMS AMS 06 46 30.0
comp=Z,800nm,18.6s
UPC Upice 100.95 19 AMS AMS 06 45 40.0
comp=Z,900nm,18.5s
LHI Lord Howe Isla 101.02 174 IAMs_20 IAMs_20 06 56 42.4
comp=Z,1µm,22.0s
OSTC Ostas 101.04 19 AMS AMS 06 45 30.0
comp=Z,1µm,22.3s
UNM Universidad Na 101.14 286 IAMs_20 IAMs_20 06 51 59.4
comp=Z,1µm,19.0s
154A Montrose 101.23 306 IAMs_20 IAMs_20 06 52 45.7
comp=Z,1µm,19.0s
ARMA Armidale 101.25 167 IAMs_20 IAMs_20 06 44 26.8
comp=Z,2µm,22.0s
BIRD Birdtown, Kers 101.37 309 IAMs_20 IAMs_20 06 52 22.4
comp=Z,1µm,20.0s
JSC Jenkinsville 101.51 309 IAMs_20 IAMs_20 06 52 11.1
comp=Z,1µm,20.0s
GNI Garni 101.52 42 IAMs_20 IAMs_20 06 48 26.8
comp=Z,2µm,21.0s
HODGE Hodges 102.00 308 IAMs_20 IAMs_20 06 52 37.2
comp=Z,1µm,18.0s
GOGA Godfrey 102.03 307 IAMs_20 IAMs_20 06 51 41.9
comp=Z,1µm,19.0s
KMSC Kings Mountain 102.21 309 IAMs_20 IAMs_20 06 49 44.6
comp=Z,1µm,18.0s
PAULI Pauline 102.22 309 IAMs_20 IAMs_20 06 52 40.8
comp=Z,1µm,19.0s
T57A Hurt 102.56 312 IAMs_20 IAMs_20 06 45 18.0
comp=Z,1µm,21.0s
R58B Mineral 102.62 313 IAMs_20 IAMs_20 06 46 45.6
comp=Z,1µm,21.0s
MOIG Morelia 102.70 285 IAMs_20 IAMs_20 06 46 26.8
comp=Z,2µm,22.0s
Y52A Lilburn 102.70 306 IAMs_20 IAMs_20 06 52 29.6
comp=Z,2µm,18.0s
ASAR Alice Springs 103.30 150 PKKPbc PKKPbc 06 20 02.5 +0.3
comp=Z,0.6nm,0.8s,baz=34,slow=2.5,SNR=3.9
V53A Saluda 103.39 308 IAMs_20 IAMs_20 06 53 05.9
comp=Z,1µm,19.0s
W52A Murphy 103.55 307 IAMs_20 IAMs_20 06 47 47.2
comp=Z,1µm,21.0s
X51A Calhoun 103.66 306 IAMs_20 IAMs_20 06 53 15.0
comp=Z,1µm,19.0s
KIV Kislovodsk 103.71 38 IAMs_20 IAMs_20 06 49 21.1
comp=Z,2µm,20.0s
TKL Tuckaleechee C 103.89 308 IAMs_20 IAMs_20 06 51 31.2
comp=Z,1µm,19.0s
V52A Sevierville 103.94 308 IAMs_20 IAMs_20 06 53 04.4
comp=Z,1µm,20.0s
Y49A Blount Mountai 103.99 305 IAMs_20 IAMs_20 06 51 12.6
comp=Z,1µm,19.0s
R55A Marlinton 103.99 312 IAMs_20 IAMs_20 06 47 11.8
comp=Z,1µm,20.0s
PPT2 Papeete2 104.12 223 *e*P **Pdif** **06 04 11.0 -2.2**
comp=Z,22nm,21.8s
PPT2 Papeete2 104.12 223 *e*PP PP 06 08 23.4 -6.8
comp=Z,41nm,23.0s
PPT2 *e*S 06 15 58.8
comp=Z,406nm,27.5s
PPT2 *e*SS **SS** **06 23 26.1 +7.8**
comp=Z,507nm,25.8s
PPT2 Papeete2 104.12 223 *e*LQ LQ 06 34 05.1
comp=Z,2µm,43.5s
PPT2 *e*LR LR 06 38 36.6
comp=Z,2µm,36.5s
PPT2 *e*LR LR 06 38 55.2
comp=Z,3µm,30.5s
CPCT Cooper Cave 104.14 307 IAMs_20 IAMs_20 06 49 15.7
comp=Z,1µm,20.0s
S54A Dingess, Beckl 104.23 311 IAMs_20 IAMs_20 06 54 10.0
comp=Z,1µm,20.0s
W50A Signal Mountai 104.38 307 IAMs_20 IAMs_20 06 48 46.1
comp=Z,1µm,21.0s
KSPA Keystone Colle 104.42 317 IAMs_20 IAMs_20 06 48 50.2
comp=Z,1µm,20.0s
TZTN Tazewell 104.44 309 IAMs_20 IAMs_20 06 53 08.7
comp=Z,1µm,20.0s
SWET Sewanee 104.73 306 IAMs_20 IAMs_20 06 53 26.4
comp=Z,2µm,22.0s
X48A Hartselle 104.78 305 IAMs_20 IAMs_20 06 51 15.6
comp=Z,1µm,20.0s
MAK Makhachkala 105.01 42 *i* P **Pdif** **06 04 16.7 +0.4**
MAK *e*PPP PPP 06 10 49.9
MAK *e* 06 14 49.7
MAK *e*PS **PS** **06 17 45.3 -5.8**
MAK *e*SS SS 06 23 25.3 -6.3
MAK *e*SSS SSS 06 27 27.3
MAK pmax pmax
comp=Z,55nm,0.3s
S51A Beattyville 105.29 309 IAMs_20 IAMs_20 06 54 58.1
comp=Z,2µm,18.0s
T50A Nancy 105.48 308 IAMs_20 IAMs_20 06 54 19.3
comp=Z,1µm,20.0s
Q52A Bidwell 105.60 311 IAMs_20 IAMs_20 06 55 11.3
comp=Z,1µm,19.0s
CLTN Cedars of Leba 105.60 307 IAMs_20 IAMs_20 06 48 37.3
comp=Z,1µm,22.0s
V48A Smith Brothers 105.61 306 IAMs_20 IAMs_20 06 50 56.5
comp=Z,1µm,22.0s
U49A Red Boiling Sp 105.61 307 IAMs_20 IAMs_20 06 54 17.7
comp=Z,2µm,19.0s
PLAL Pickwick Lake 105.74 305 IAMs_20 IAMs_20 06 52 16.1
comp=Z,1µm,20.0s
ZAIG Zacatecas 105.80 286 IAMs_20 IAMs_20 06 47 17.9
comp=Z,2µm,22.0s
P52A Corning 106.03 312 IAMs_20 IAMs_20 06 47 01.9
comp=Z,1µm,22.0s
O53A New Philadelph 106.04 313 IAMs_20 IAMs_20 06 46 36.0
comp=Z,1µm,22.0s
R50A Paris 106.15 309 IAMs_20 IAMs_20 06 55 22.0
comp=Z,1µm,19.0s
KVTX Kingsville 106.20 293 IAMs_20 IAMs_20 06 50 58.9
comp=Z,2µm,22.0s
O52A Adamsville 106.25 312 IAMs_20 IAMs_20 06 46 45.6
comp=Z,1µm,21.0s
N53A Lisbon 106.27 313 IAMs_20 IAMs_20 06 48 47.2
comp=Z,1µm,21.0s
GYA0B ALIBECK ARRAY 106.37 51 IAMs_20 IAMs_20 06 55 22.0
comp=Z,2µm,19.0s
WVT Waverly 106.45 306 IAMs_20 IAMs_20 06 53 23.7
comp=Z,2µm,21.0s
R49A Shelbyville 106.60 309 IAMs_20 IAMs_20 06 54 48.0
comp=Z,1µm,20.0s
BKNI Bangkinang 106.63 108 IAMs_20 IAMs_20 06 47 34.3
comp=Z,1µm,18.0s
T47A Sharon Grove 106.68 307 IAMs_20 IAMs_20 06 53 51.9
comp=Z,1µm,21.0s
ACSO Alum Creek Sta 106.91 311 IAMs_20 IAMs_20 06 47 30.2
comp=Z,1µm,22.0s
M52A Chesterland 107.08 313 IAMs_20 IAMs_20 06 55 13.7
comp=Z,1µm,21.0s
HALT Halls 107.12 305 IAMs_20 IAMs_20 06 53 32.7
comp=Z,1µm,20.0s
P49A Miami Univ. Ec 107.28 310 IAMs_20 IAMs_20 06 55 53.0
comp=Z,1µm,19.0s
GLAT Glass 107.35 305 IAMs_20 IAMs_20 06 52 53.8
comp=Z,1µm,20.0s
HICK Hickman 107.52 305 IAMs_20 IAMs_20 06 52 48.1
comp=Z,1µm,20.0s
MNK Minsk 107.54 24 *i* P **Pdif** **06 04 25.1 -2.1**
MNK *i* 06 08 53.0
MNK *i* PPP PPP 06 11 08.8
MNK *i* 06 15 45.5
MNK *i* PS **PS** **06 18 15.5 -1.5**
MNK *i* SS SS 06 24 04.5 -1.2
MNK *i* SSS SSS 06 28 06.6
MNK pmax pmax
comp=Z,9.0nm,0.8s
MNK pmax pmax
comp=N,6.0nm,0.6s
MNK pmax pmax

MNK comp=E,9.0nm,0.9s MLR MLR
MNK comp=Z,406nm,20.0s MLR MLR
MNK comp=N,237nm,18.0s MLR MLR
MNK comp=E,119nm,17.0s MLR MLR
GNAR Gosnell 107.54 304 IAMs_20 IAMs_20 06 54 32.7 comp=Z,1µm,19.0s
T45A Paducah 107.54 306 IAMs_20 IAMs_20 06 54 06.7 comp=Z,1µm,20.0s
PEBM Pemiscott Bayo 107.56 304 IAMs_20 IAMs_20 06 56 28.2 comp=Z,1µm,18.0s
O49A Covington 107.57 311 IAMs_20 IAMs_20 06 48 16.6 comp=Z,1µm,22.0s
JAGI Jajag, Banyuwa 107.60 125 IAMs_20 IAMs_20 06 45 02.3 comp=Z,1µm,18.0s
NACGM Naroch 107.60 23 *e*PP PKiKP 06 08 42.2 +6.9 baz=208
P48A Milroy 107.60 309 IAMs_20 IAMs_20 06 55 33.3 comp=Z,1µm,19.0s
HBAR Harrisburg 107.61 304 IAMs_20 IAMs_20 06 53 38.4 comp=Z,2µm,19.0s
WLAR White Oak Lake 107.68 301 IAMs_20 IAMs_20 06 52 01.3 comp=Z,1µm,22.0s
PVMO Portageville 107.69 305 IAMs_20 IAMs_20 06 53 32.6 comp=Z,1µm,19.0s
USIN University of 107.70 307 IAMs_20 IAMs_20 06 55 05.9 comp=Z,1µm,19.0s
M50A Fremont 107.82 312 IAMs_20 IAMs_20 06 53 48.1 comp=Z,2µm,21.0s
PARMO Parma 107.90 305 IAMs_20 IAMs_20 06 53 10.2 comp=Z,1µm,20.0s
N49A Columbus Grove 108.04 311 IAMs_20 IAMs_20 06 48 03.9 comp=Z,1µm,21.0s
O48B Farmland 108.05 310 IAMs_20 IAMs_20 06 52 38.2 comp=Z,1µm,18.0s
237A Washetta, Mont 108.08 298 IAMs_20 IAMs_20 06 52 27.7 comp=Z,1µm,20.0s
X40A Basin Creek Fa 108.09 301 IAMs_20 IAMs_20 06 52 21.1 comp=Z,2µm,22.0s
LCAR Lake Charles 108.26 304 IAMs_20 IAMs_20 06 53 39.6 comp=Z,1µm,20.0s
CGM3 Cape Girardeau 108.30 305 IAMs_20 IAMs_20 06 55 45.9 comp=Z,1µm,19.0s
PBMO Poplar Bluff 108.36 305 IAMs_20 IAMs_20 06 54 47.3 comp=Z,1µm,20.0s
SIUC Southern Illin 108.36 306 IAMs_20 IAMs_20 06 57 05.4 comp=Z,1µm,19.0s
S44A Carbondale 108.36 306 IAMs_20 IAMs_20 06 56 56.6 comp=Z,1µm,18.0s
OLIL Olney 108.49 307 IAMs_20 IAMs_20 06 55 29.8 comp=Z,1µm,19.0s
K50A Casco 108.63 313 IAMs_20 IAMs_20 06 57 36.7 comp=Z,1µm,20.0s
P46A Rosedale 108.65 309 IAMs_20 IAMs_20 06 55 43.2 comp=Z,1µm,20.0s
FCAR Ozark Folk Cen 108.68 303 IAMs_20 IAMs_20 06 51 59.8 comp=Z,2µm,22.0s
AAM Ann Arbor 108.79 313 IAMs_20 IAMs_20 06 48 11.9 comp=Z,1µm,22.0s
SFIN Lafayette 109.15 309 IAMs_20 IAMs_20 06 57 25.3 comp=Z,1µm,21.0s
FVM French Village 109.22 305 IAMs_20 IAMs_20 06 53 39.1 comp=Z,1µm,21.0s
SLM Saint Louis 109.58 306 IAMs_20 IAMs_20 06 55 29.7 comp=Z,1µm,20.0s
MGMO Mountain Grove 109.66 304 IAMs_20 IAMs_20 06 54 31.7 comp=Z,1µm,19.0s
O44A Mansfield 109.71 308 IAMs_20 IAMs_20 06 49 36.1 comp=Z,1µm,22.0s
CCM Cathedral Cave 109.72 305 IAMs_20 IAMs_20 06 56 13.5 comp=Z,1µm,20.0s
FW07 Weatherford 109.76 297 IAMs_20 IAMs_20 06 54 19.3 comp=Z,1µm,22.0s
P43A Skaggs, Pawnee 109.91 307 IAMs_20 IAMs_20 06 54 32.4 comp=Z,1µm,20.0s
L46A Eue Claire 109.92 311 IAMs_20 IAMs_20 06 54 21.6 comp=Z,1µm,20.0s
M44A Midewin, Midew 110.37 309 IAMs_20 IAMs_20 06 56 49.7 comp=Z,2µm,20.0s
HDIL Hopedale 110.44 308 IAMs_20 IAMs_20 06 53 01.5 comp=Z,1µm,21.0s
R40A Maddies Statio 110.46 305 IAMs_20 IAMs_20 06 55 39.9 comp=Z,1µm,20.0s
HQIL Hanson Quary C 110.57 310 IAMs_20 IAMs_20 06 57 49.9 comp=Z,1µm,19.0s
HPIG 110.71 287 IAMs_20 IAMs_20 06 52 44.1 comp=Z,1µm,21.0s
ABTX Abilene, Hawle 110.83 296 IAMs_20 IAMs_20 06 55 01.6 comp=Z,1µm,21.0s
W35A Tecumseh 110.91 299 IAMs_20 IAMs_20 06 54 48.9 comp=Z,2µm,21.0s
GLMI Grayling 111.12 314 IAMs_20 IAMs_20 06 58 31.4 comp=Z,2µm,21.0s
DEOK Depew 111.17 300 IAMs_20 IAMs_20 06 56 22.7 comp=Z,1µm,19.0s
P40A Paris 111.21 306 IAMs_20 IAMs_20 06 55 12.8 comp=Z,1µm,20.0s
FNO Franklin 111.30 299 IAMs_20 IAMs_20 06 54 02.1 comp=Z,1µm,21.0s
OK029 Liberty Lake 111.70 300 IAMs_20 IAMs_20 06 55 23.8 comp=Z,2µm,20.0s
NIL Nilore 111.98 64 IAMs_20 IAMs_20 06 53 06.1 comp=Z,1µm,21.0s
MTN Manton Dam 112.13 143 IAMs_20 IAMs_20 06 50 44.9 comp=Z,1µm,20.0s
H43A Windswept, Lux 112.43 312 IAMs_20 IAMs_20 06 58 52.1 comp=Z,1µm,20.0s
L40A Anamosa 112.53 308 IAMs_20 IAMs_20 06 54 01.8 comp=Z,1µm,19.0s
I42A Draeger Farm, 112.60 311 IAMs_20 IAMs_20 06 59 05.7 comp=Z,1µm,19.0s
JFWS Jewell Farm 112.61 309 IAMs_20 IAMs_20 06 51 17.9 comp=Z,1µm,21.0s
JFWS Jewell Farm 112.61 309 P PKiKP 06 08 45.9 +0.7 baz=135
SIMJ Simiganj 112.89 57 IAMs_20 IAMs_20 06 56 43.4 comp=Z,1µm,20.0s
OK035 E0210 Rd and N 113.06 300 IAMs_20 IAMs_20 06 56 08.8 comp=Z,2µm,20.0s
FINES FINESS Array B 113.23 19 *c i*PKIKP PKiKP 06 08 44.5 -1.2
FINES pmax pmax comp=Z,1.0nm,0.6s
KSM Kuching 113.34 115 IAMs_20 IAMs_20 06 49 27.5 comp=Z,1µm,20.0s
KSU1 Kansas State U 113.47 303 IAMs_20 IAMs_20 06 57 09.6 comp=Z,1µm,19.0s
I40A Norwalk 113.48 310 IAMs_20 IAMs_20 06 58 31.0 comp=Z,1µm,19.0s
SCIA State Center 113.50 307 IAMs_20 IAMs_20 06 56 39.3 comp=Z,2µm,20.0s
F42A Maple Grove Fa 113.52 313 IAMs_20 IAMs_20 06 50 31.0 comp=Z,1µm,21.0s
AMTX Amarillo 113.61 296 IAMs_20 IAMs_20 06 58 13.2 comp=Z,1µm,19.0s
MSTX Muleshoe 113.66 295 P PKiKP 06 08 48.0 +0.3 baz=132
K38A Parkersburg 113.76 308 IAMs_20 IAMs_20 06 51 59.4 comp=Z,2µm,22.0s
MNTX Cornudas Mount 113.76 291 P PKiKP 06 08 47.7 -0.1 baz=132
G40A Rib Lake 114.22 311 IAMs_20 IAMs_20 06 54 14.6 comp=Z,1µm,21.0s
COWI Conover 114.26 312 IAMs_20 IAMs_20 06 51 04.6 comp=Z,1µm,21.0s
EPT El Paso 114.52 291 IAMs_20 IAMs_20 06 53 40.2 comp=Z,1µm,21.0s
BTK Batken 114.87 57 IAMs_20 IAMs_20 06 58 17.8 comp=Z,1µm,20.0s
N33A J Bar K, Exete 115.05 303 IAMs_20 IAMs_20 06 57 38.4 comp=Z,1µm,19.0s
BKB Balikpapan 115.05 123 IAMs_20 IAMs_20 06 47 33.5 comp=Z,2µm,22.0s
DRK Karamyk 115.05 58 IAMs_20 IAMs_20 06 58 52.5 comp=Z,1µm,20.0s
L34A Svendsen Farm, 115.27 305 IAMs_20 IAMs_20 06 54 06.3 comp=Z,1µm,21.0s
SPMN Marine on St. 115.53 310 IAMs_20 IAMs_20 07 01 14.3 comp=Z,1µm,18.0s
E38A The Farm, Brul 115.83 311 IAMs_20 IAMs_20 06 55 01.0 comp=Z,2µm,20.0s
BGNE Belgrade 115.89 304 IAMs_20 IAMs_20 06 58 03.7 comp=Z,1µm,20.0s
Y22D IRIS PASSCAL I 116.31 292 IAMs_20 IAMs_20 06 57 44.5 comp=Z,1µm,20.0s
F36A Milaca 116.34 310 IAMs_20 IAMs_20 06 59 23.6 comp=Z,1µm,19.0s
ECSD EROS Data Cent 116.57 306 IAMs_20 IAMs_20 06 57 15.8 comp=Z,1µm,21.0s
T25A Trinidad 116.76 297 IAMs_20 IAMs_20 06 59 14.6 comp=Z,1µm,20.0s
KSH Kashi 117.51 61 PKP PKPdf 06 08 53.1 -1.8
KSH PP PP 06 10 09.5 +1.9
KSH AMB AMB comp=Z,290nm,9.2s
KSH LR LR comp=Z,880nm,19.2s
KSH LR LR comp=Z,1µm,18.9s
KSH LR LR comp=Z,1µm,21.6s
K30B Basset 117.54 304 IAMs_20 IAMs_20 06 56 13.4 comp=Z,1µm,21.0s
TUC Tucson 117.61 289 IAMs_20 IAMs_20 06 55 38.8 comp=Z,1µm,22.0s
TUC Tucson 117.61 289 P PKPdf 06 08 55.5 +0.2 baz=131
F33A 5 Mile Ranch, 117.78 308 IAMs_20 IAMs_20 07 00 49.7 comp=Z,1µm,20.0s
OGNE Ogallala 117.81 301 IAMs_20 IAMs_20 06 56 52.6 comp=Z,1µm,21.0s
SDCO Great Sand Dun 117.81 296 IAMs_20 IAMs_20 06 59 29.5 comp=Z,1µm,20.0s
SDCO Great Sand Dun 117.81 296 P PKPdf 06 08 55.8 +0.1 baz=130
B35A Bob, Littlefor 118.09 312 IAMs_20 IAMs_20 06 53 33.0 comp=Z,1µm,19.0s
SUSD Miller 118.31 306 IAMs_20 IAMs_20 07 01 55.9 comp=Z,1µm,18.0s
Q24A Divide 118.38 298 IAMs_20 IAMs_20 06 59 36.5 comp=Z,1µm,20.0s
CMAR Chiang Mai Arr 118.53 94 *c i*PKIKP PKPdf 06 08 57.2 -0.1
CMAR pmax pmax comp=Z,3.0nm,0.3s
214A Organ Pipe Nat 118.69 287 IAMs_20 IAMs_20 06 59 32.3 comp=Z,1µm,20.0s
214A Organ Pipe Nat 118.69 287 P PKPdf 06 08 57.9 +0.6 baz=131
W18A Petrified Fore 118.75 292 P PKPdf 06 08 58.0 +0.5 baz=130
FRU1 Bishkek 118.84 57 IAMs_20 IAMs_20 07 04 13.8 comp=Z,902nm,19.0s
D32A Dogwood Acres, 119.00 309 IAMs_20 IAMs_20 06 53 49.9 comp=Z,1µm,20.0s
AGMN Agassiz Nation 119.14 311 IAMs_20 IAMs_20 06 54 11.9 comp=Z,1µm,19.0s
AGMN Agassiz Nation 119.14 311 P PKPdf 06 08 58.3 +0.7 baz=130
ISCO Idaho Springs 119.19 298 P PKPdf 06 08 58.4 0.0 baz=129
MVCO Mesa Verde 119.31 294 IAMs_20 IAMs_20 06 56 46.8 comp=Z,1µm,22.0s
MVCO Mesa Verde 119.31 294 P PKPdf 06 08 58.7 +0.1 baz=130
X16A Lo Mia Camp, P 119.38 290 IAMs_20 IAMs_20 07 00 16.9 comp=Z,1µm,20.0s
ARU Arti 119.74 38 IAMs_20 IAMs_20 07 01 57.2 comp=Z,1µm,22.0s
WUAZ Wupatki 120.04 291 IAMs_20 IAMs_20 06 57 38.2 comp=Z,1µm,22.0s
WUAZ Wupatki 120.04 291 P PKPdf 06 09 00.1 +0.2 baz=129
N23A Red Feather La 120.07 299 IAMs_20 IAMs_20 06 59 25.3 comp=Z,1µm,20.0s
N23A Red Feather La 120.07 299 P PKPdf 06 09 00.1 +0.1 baz=129
ARCES ARCESS Array B 120.24 15 PKiKP PKPdf 06 08 56.3 -2.7
ARCES PKP sPKPdf 06 09 04.2 +2.1 comp=Z,6.3nm,0.9s,baz=280,slow=1.6,SNR=4.7 comp=Z,6.6nm,1.1s,baz=216,slow=1.0,SNR=3.6
ULM Lac du Bonnet 120.39 312 PKP PKPdf 06 08 58.1 -1.8 comp=Z,2.5nm,0.7s,baz=112,slow=1.6,SNR=6.9
KKM Kota Kinabalu 120.53 117 IAMs_20 IAMs_20 06 52 56.8 comp=Z,1µm,21.0s
E28A Huff 120.61 307 IAMs_20 IAMs_20 07 01 07.5 comp=Z,1µm,20.0s
GLA Glamis 120.69 287 P PKPdf 06 09 01.1 0.0 baz=130
ESJX Sierra Juarez 120.76 285 IAMs_20 IAMs_20 06 52 31.1 comp=Z,871nm,19.0s
MDND Maddock 120.81 309 IAMs_20 IAMs_20 07 02 20.9 comp=Z,1µm,20.0s
UABX UABC, Campus M 120.83 286 IAMs_20 IAMs_20 06 53 24.0 comp=Z,1µm,19.0s
RSSD Black Hills 120.95 303 IAMs_20 IAMs_20 06 57 47.7 comp=Z,1µm,22.0s
RSSD Black Hills 120.95 303 P PKPdf 06 09 01.0 -0.5 baz=128
O20A White River Ci 120.97 297 P PKPdf 06 09 01.5 -0.1 baz=128
PDMCI Parker Dam,Lak 121.04 288 P PKPdf 06 09 01.8 +0.1 baz=129
YUH Yuha Desert 121.15 286 IAMs_20 IAMs_20 06 52 56.5 comp=Z,1µm,22.0s
HMU Henry Mountain 121.15 294 IAMs_20 IAMs_20 07 02 11.8 comp=Z,1µm,19.0s
U15A North Rim 121.19 291 IAMs_20 IAMs_20 06 58 12.7 comp=Z,1µm,22.0s
SWSC Sam W. Stewart 121.26 286 P PKPdf 06 09 02.4 +0.2 baz=130
IKP In-Ko-Pah, Jac 121.27 286 P PKPdf 06 09 02.4 +0.1 baz=130
RWWY Rawlins 121.31 299 IAMs_20 IAMs_20 07 00 01.1 comp=Z,1µm,21.0s
BC3 Big Chuckawall 121.48 287 P PKPdf 06 09 02.2 -0.5 baz=129
K22A Casper 121.49 300 IAMs_20 IAMs_20 07 01 12.1 comp=Z,1µm,21.0s
K22A Casper 121.49 300 P PKPdf 06 09 02.0 -0.5 baz=128
IRM Iron Mountain 121.59 288 P PKPdf 06 09 02.8 0.0 baz=129
MONP2 Monument Peak 121.63 286 P PKPdf 06 09 02.8 -0.4 baz=129
SRU San Rafael Swe 121.74 295 IAMs_20 IAMs_20 07 01 42.3 comp=Z,1µm,21.0s
KNB Kanab 121.88 292 IAMs_20 IAMs_20 06 57 38.2 comp=Z,1µm,22.0s
BELC Belle Mtn. Jos 122.05 287 P PKPdf 06 09 03.6 -0.2 baz=129
109C Camp Elliot, M 122.07 285 P PKPdf 06 09 04.2 +0.5 baz=129
MTPU Mount Pierson 122.11 293 IAMs_20 IAMs_20 06 58 30.2 comp=Z,1µm,21.0s
LCMT Little Creek M 122.15 291 IAMs_20 IAMs_20 07 01 20.2 comp=Z,1µm,20.0s
GMRC Granite Mounta 122.32 288 P PKPdf 06 09 03.9 -0.5 baz=129
SZCU Shurtz Canyon 122.41 292 IAMs_20 IAMs_20 07 02 43.1 comp=Z,1µm,20.0s
MURC Murrieta 122.58 286 P PKPdf 06 09 04.9 +0.2 baz=129
HEC Hector,Ludlow 122.78 287 P PKPdf 06 09 05.8 +0.7 baz=128
BBRC Big Bear Solar 122.81 287 P PKPdf 06 09 05.2 -0.2 baz=129
BRVK Borovoye 122.86 46 *c i*PKIKP PKPdf 06 09 04.1 -0.5
BRVK pmax pmax comp=Z,3.0nm,1.3s
BVAR Borovoye Array 122.90 46 PKP PKPdf 06 09 02.9 -1.8 comp=Z,1.7nm,0.5s,baz=239,slow=1.1,SNR=14
SCI2 San Clemente I 123.08 284 P PKPdf 06 09 05.6 0.0 baz=129
BFSC Mount Baldy Ra 123.28 286 P PKPdf 06 09 06.3 +0.1 baz=128
PDAR Pinedale Array 123.35 299 PKP PKPdf 06 09 04.5 -1.6 comp=Z,3.0nm,0.6s,baz=123,slow=4.2,SNR=39
GSC Goldstone, Bar 123.38 288 P PKPdf 06 09 06.5 +0.2 baz=128
SHOC Shoshone, Teco 123.40 288 P PKPdf 06 09 06.9 +0.7 baz=128
DUG Dugway, Tooele 123.80 295 P PKPdf 06 09 07.8 +0.8 baz=127
QSM Queen of Sheba 123.82 288 IAMs_20 IAMs_20 07 07 43.4 comp=Z,942nm,21.0s
EDW2 Edwards Air Fo 123.89 286 P PKPdf 06 09 07.4 +0.2 baz=128
SPR3 Spring Creek 3 124.03 293 IAMs_20 IAMs_20 07 04 40.1 comp=Z,1µm,20.0s
CCAC Calif City Air 124.07 287 IAMs_20 IAMs_20 07 01 11.9 comp=Z,962nm,20.0s
DAG Danmarks Havn 124.08 359 *i* P PKPdf 06 09 04.0 -2.2
FURC Furnace Creek, 124.12 289 P PKPdf 06 09 08.4 +0.9 baz=128
AHID Auburn Hatcher 124.27 298 IAMs_20 IAMs_20 07 02 26.5 comp=Z,1µm,21.0s
MPMC Manual Prospec 124.28 288 P PKPdf 06 09 08.3 +0.2 baz=128
SCZ2 Santa Cruz Isl 124.42 285 P PKPdf 06 09 08.6 +0.4 baz=128
R11B Troy Canyon, C 124.43 291 P PKPdf 06 09 08.5 +0.2 baz=127
RLMT Red Lodge 124.55 301 IAMs_20 IAMs_20 06 59 58.1 comp=Z,1µm,21.0s
RLMT Red Lodge 124.55 301 P PKPdf 06 09 08.3 -0.1 baz=125
ARVC Arvin 124.58 286 P PKPdf 06 09 08.9 +0.4 baz=128
TPAW Teton Pass 124.60 299 IAMs_20 IAMs_20 07 03 29.4 comp=Z,1µm,20.0s
MOOW Moose Ponds 124.63 299 IAMs_20 IAMs_20 07 01 54.0 comp=Z,1µm,21.0s
ISA Isabella, Lake 124.67 287 P PKPdf 06 09 08.1 -0.6 baz=128
HVU Hansel Valley 124.71 296 IAMs_20 IAMs_20 07 03 59.1 comp=Z,976nm,20.0s
FXWY Fox Creek 124.73 299 IAMs_20 IAMs_20 07 03 34.8 comp=Z,1µm,21.0s
SBC Santa Barbara 124.74 285 P PKPdf 06 09 08.4 -0.3 baz=128
GRAC Grapevine Rang 124.76 289 IAMs_20 IAMs_20 07 03 54.3 comp=Z,983nm,21.0s
BCW Bitter Crk WRg 124.85 286 IAMs_20 IAMs_20 07 00 26.4 comp=Z,894nm,19.0s
CWC Cottonwood Cre 124.89 288 P PKPdf 06 09 08.9 -0.3 baz=127
H17A Grant Village 124.90 300 P PKPdf 06 09 09.4 +0.2 baz=125
PKM Mcpherson Peak 125.08 285 P PKPdf 06 09 09.9 +0.2 baz=128
YNR Norris Junctio 125.14 300 IAMs_20 IAMs_20 07 02 45.7 comp=Z,1µm,21.0s
YNM Yellowstone No 125.16 300 IAMs_20 IAMs_20 07 03 00.2 comp=Z,1µm,22.0s
VES Vestal, Richgr 125.18 287 P PKPdf 06 09 09.9 +0.4 baz=127
TIN Tinemaha, Big 125.35 288 P PKPdf 06 09 10.0 -0.1 baz=127
MAKZ Makanchi 125.42 57 IAMs_20 IAMs_20 07 05 38.8 comp=Z,1µm,21.0s
SMMC Simmler 125.45 286 P PKPdf 06 09 10.2 0.0 baz=127
MK31 Makanchi Array 125.59 57 *c i*PKIKP PKPdf 06 09 08.8 -1.2
MKAR Makanchi Array 125.59 57 PKP PKPdf 06 09 08.6 -1.5 comp=Z,1.0nm,0.7s,baz=210,slow=2.0,SNR=8.2
ELK Elko 125.62 294 IAMs_20 IAMs_20 07 04 19.2 comp=Z,1µm,21.0s
KURBB Kurchatov Arra 125.65 52 PKP PKPdf 06 09 08.8 -1.2 comp=Z,1.6nm,0.6s,baz=232,slow=2.2,SNR=9.3
VOG Valley Oaks Go 125.66 287 P PKPdf 06 09 10.7 +0.2 baz=127
KURK Kurchatov 125.75 52 IAMs_20 IAMs_20 07 04 16.8 comp=Z,919nm,20.0s
PZH PanZhiHua 125.87 89 PKP PKPdf 06 09 10.9 -0.5
PZH PP PP 06 11 12.0 +7.4
PZH AMB AMB comp=Z,110nm,6.2s
PZH LR LR comp=Z,610nm,19.6s
PZH LR LR comp=Z,780nm,19.2s
PZH LR LR comp=Z,770nm,19.0s
MLAC Mammoth, Mammt 126.08 289 P PKPdf 06 09 11.7 +0.1 baz=126
NV11 Mina Array Sit 126.11 290 IAMs_20 IAMs_20 07 04 16.1 comp=Z,1µm,22.0s
BOZ Bozeman (W) 126.20 301 IAMs_20 IAMs_20 07 01 11.5 comp=Z,1µm,22.0s
BOZ Bozeman (W) 126.20 301 P PKPdf 06 09 11.6 +0.2 baz=124
NVAR Mina Array Bea 126.21 290 PKP PKPdf 06 09 12.1 +0.3 comp=Z,4.5nm,0.6s,baz=140,slow=2.1,SNR=41
LHV Little Huntoon 126.23 289 IAMs_20 IAMs_20 07 05 21.2 comp=Z,977nm,20.0s
MDPB Devils Postpil 126.24 288 IAMs_20 IAMs_20 07 04 23.4 comp=Z,966nm,21.0s
QIZ Qiongzhong 126.25 102 PKP PKPdf 06 09 11.3 -0.8
QIZ PP PP 06 11 05.8 -1.0
QIZ AMB AMB comp=Z,210nm,3.8s
QIZ LR LR comp=Z,940nm,20.6s
QIZ LR LR comp=Z,760nm,20.6s
QIZ LR LR comp=Z,2µm,19.6s
KVN Kaiserville 126.44 290 IAMs_20 IAMs_20 07 05 34.7 comp=Z,1µm,20.0s
EGMT Eagleton 126.46 304 IAMs_20 IAMs_20 07 06 55.5 comp=Z,966nm,20.0s
EGMT Eagleton 126.46 304 P PKPdf 06 09 12.1 +0.4 baz=123
RYN Ryan 126.46 290 IAMs_20 IAMs_20 07 04 26.3 comp=Z,1µm,22.0s
HLID Hailey 126.72 297 IAMs_20 IAMs_20 07 05 11.2 comp=Z,1µm,19.0s
HLID Hailey 126.72 297 P PKPdf 06 09 12.3 -0.2 baz=124
NEEM North Greenlan 126.88 350 *i* P PKPdf 06 09 11.2 -0.8
WMQ Urumqi 127.10 63 *e*P PKPdf 06 09 04.5 -8.6
WMQ pmax pmax comp=Z,21nm,1.3s
WMQ LR LR comp=N,710nm,18.3s
WMQ LR LR comp=E,650nm,18.3s
WMQ LR LR comp=Z,700nm,22.3s
YERR Yerington 127.13 290 IAMs_20 IAMs_20 07 07 11.9 comp=Z,992nm,19.0s
GOMU GeErMu 127.25 75 PKP PKPdf 06 09 12.1 -1.9
GOMU SS SS 06 28 20.8 -2.8
GOMU AMB AMB comp=Z,140nm,5.9s
GOMU LR LR comp=Z,530nm,20.4s
GOMU LR LR comp=Z,970nm,20.2s
GOMU LR LR comp=Z,2µm,20.1s
PNTR Pine Nut 127.41 290 IAMs_20 IAMs_20 07 04 21.6 comp=Z,1µm,22.0s
MFID Camas Ranch 127.49 296 IAMs_20 IAMs_20 07 03 10.7 comp=Z,1µm,21.0s
PAHR Pah Rah Range 127.63 290 IAMs_20 IAMs_20 07 04 30.3 comp=Z,1µm,20.0s
EMB Emerald Bay 127.67 289 IAMs_20 IAMs_20 07 04 44.3 comp=Z,1µm,22.0s
AFDM Forest Hills D 128.21 289 IAMs_20 IAMs_20 07 07 35.6 comp=Z,928nm,20.0s
PLID Pearl Lake 128.50 298 IAMs_20 IAMs_20 07 04 48.5 comp=Z,1µm,21.0s
WVOR Wild Horse Val 128.68 294 IAMs_20 IAMs_20 07 05 05.1 comp=Z,1µm,21.0s
ORV Oroville 128.89 289 IAMs_20 IAMs_20 07 07 10.7 comp=Z,1µm,20.0s
J08A Circle Bar Ran 129.08 295 IAMs_20 IAMs_20 07 04 45.8 comp=Z,994nm,22.0s
BMO Blue Mountains 129.16 297 IAMs_20 IAMs_20 07 04 32.0 comp=Z,1µm,22.0s
CD2 Chengdu 130.03 86 PKP PKPdf 06 09 19.0 -0.1
DGZ Jazzator, Alta 130.04 56 *i* PKIKP PKPdf 06 09 17.5 -1.1
DGZ *i* 06 09 20.7
E09A Wood Farm, Sta 130.53 298 IAMs_20 IAMs_20 07 06 58.1 comp=Z,1µm,20.0s
ZALV Zalesovo Beam 130.67 50 PKP PKPdf 06 09 17.9 -1.6 comp=Z,0.9nm,0.5s,baz=262,slow=4.5,SNR=5.2
K04D Chiloquin, OR 130.72 292 IAMs_20 IAMs_20 07 09 12.2 comp=Z,882nm,18.0s
NEW Newport 130.80 301 P PKPdf 06 09 20.2 +0.2 baz=120
YBH Yreka Blue Hor 130.85 291 IAMs_20 IAMs_20 07 07 42.6 comp=Z,864nm,21.0s
E08A Dider Farm, El 131.06 298 IAMs_20 IAMs_20 07 05 52.2 comp=Z,1µm,21.0s
D08A Wollman Farm, 131.26 299 IAMs_20 IAMs_20 07 04 02.5 comp=Z,1µm,22.0s
HAWA Hanford 131.29 298 IAMs_20 IAMs_20 07 07 26.4 comp=Z,1µm,20.0s
G06A Carlson Farm, 131.38 296 IAMs_20 IAMs_20 07 05 54.7 comp=Z,1µm,22.0s
I04A Tendick Farm, 131.74 293 IAMs_20 IAMs_20 07 07 37.2

comp=Z,1µm,21.0s
G05A Wamic 131.80 296 IAMs_20 IAMs_20 07 07 38.8
comp=Z,1µm,21.0s
MXC Moxie City 131.84 298 IAMs_20 IAMs_20 07 07 44.0
comp=Z,1µm,21.0s
I03D Drain, OR 132.28 293 IAMs_20 IAMs_20 07 10 16.3
comp=Z,1µm,20.0s
H04D Lebanon 132.31 294 IAMs_20 IAMs_20 07 08 45.3
comp=Z,1µm,18.0s
LON Longmire 132.84 297 IAMs_20 IAMs_20 07 05 32.3
comp=Z,1µm,22.0s
RES Resolute Bay 133.00 339 PKP **PKPdf 06 09 22.1 -1.2**
comp=Z,8.3nm,1.0s,baz=110,slow=1.1,SNR=9.2
LZH Lanzhou 133.15 80 *e*PKP **PKPdf 06 09 25.0 0.0**
LZH AMB AMB
comp=Z,97nm,6.2s
LZH LR LR
comp=Z,520nm,15.1s
LZH LR LR
comp=Z,360nm,14.1s
LZH LR LR
comp=Z,790nm,14.8s
GNW Green Mountain 133.83 298 IAMs_20 IAMs_20 07 05 45.6
comp=Z,960nm,22.0s
YKAW1 Yellowknife Wh 135.32 320 IAMs_20 IAMs_20 07 02 38.6
comp=Z,882nm,20.0s
YKA Yellowknife Ar 135.38 320 PKP **PKPdf 06 09 26.9 -1.1**
comp=Z,3.7nm,0.7s,baz=112,slow=2.0,SNR=28
KNMB Chin-men Tao 135.69 104 IAMs_20 IAMs_20 06 56 35.7
comp=Z,1µm,20.0s
CBB Campbell River 136.42 300 IAMs_20 IAMs_20 07 05 55.1
comp=Z,1µm,22.0s
NRIK Noril'sk 137.23 31 IAMs_20 IAMs_20 07 14 39.7
comp=Z,1µm,20.0s
MOY Mondy 138.66 59 *e*PKIKP **PKPdf 06 09 33.8 -0.8**
MOY pmax pmax
comp=Z,34nm,3.8s
FLDN Fort Liard 138.82 315 P **PKPdf 06 09 35.2 +0.8**
baz=105
KOTAN Kotaneelee Air 139.07 314 P **PKPdf 06 09 35.7 +0.7**
baz=104
WRGLY Wrigley 139.49 319 IAMs_20 IAMs_20 07 13 39.7
comp=Z,737nm,20.0s
WRGLY Wrigley 139.49 319 P **PKPdf 06 09 36.8 +1.2**
baz=101
ZAK Zakamensk 139.54 62 *e*PKIKP **PKPdf 06 09 36.2 -0.1**
ZAK pmax pmax
comp=Z,6.0nm,1.8s
BTO Baotou 139.66 78 *e*PKP **PKPdf 06 09 34.3 -2.5**
BTO sPKP 06 09 44.8
BTO LR LR
comp=Z,1µm,20.0s
BTO LR LR
comp=Z,920nm,19.2s
BTO LR LR
comp=Z,1µm,22.2s
SONM Songino Array 140.49 67 PKIKP **PKPdf 06 09 37.0 -1.1**
SONM Songino Array 140.49 67 PKhKP PKPpre 06 09 29.4
comp=Z,0.8nm,0.9s,baz=237,slow=2.2,SNR=3.6
SONM PKP **PKPdf 06 09 37.0 -1.1**
comp=Z,1.0nm,0.7s,baz=239,slow=2.8,SNR=7.0
C36M Paulatuk 140.53 328 IAMs_20 IAMs_20 07 05 47.7
comp=Z,761nm,19.0s
C36M Paulatuk 140.53 328 P **PKPdf 06 09 38.0 +0.7**
baz=94
HHC Hu-ho-hao-te 140.80 79 *e*PKP **PKPdf 06 09 38.5 -0.4**
HHC PP **PP 06 12 39.3 -0.6**
HHC SKKS 06 19 28.3
HHC SS **SS 06 30 59.8 -6.9**
HHC AMB AMB
comp=Z,150nm,5.5s
HHC LR LR
comp=Z,530nm,18.1s
HHC LR LR
comp=Z,530nm,17.2s
HHC LR LR
comp=Z,1µm,17.4s
ULN Ulaanbaatar 140.91 67*c i*PKIKP **PKPdf 06 09 40.5 +1.6**
ULN pmax pmax
comp=Z,8.0nm,1.7s
NJ2 Nanjing 140.94 96 *e*PKP **PKPdf 06 09 39.0 -0.2**
A36M Sachs Harbour 140.98 333 P **PKPdf 06 09 38.3 +0.3**
baz=89
U35K Hyder 141.07 307 P **PKPdf 06 09 38.4 -0.2**
baz=105
HNS HongShan 141.17 86 ⇑PKP **PKiKP 06 09 43.0 +0.8**
HNS PP **PP 06 12 48.3 +6.3**
HNS LR LR
comp=Z,950nm,19.6s
HNS LR LR
comp=Z,350nm,18.2s
HNS LR LR
comp=Z,1µm,19.9s
WTLY Watson Lake, Y 141.38 313 IAMs_20 IAMs_20 07 17 04.0
comp=E,791nm,19.0s
WTLY Watson Lake, Y 141.38 313 P **PKPdf 06 09 39.4 +0.2**
baz=101,SNR=8.6
TGTN Hyland Airport 141.38 316 P **PKPdf 06 09 39.1 -0.1**
baz=100
T35M Bob Quinn 141.46 308 P **PKPdf 06 09 39.4 0.0**
baz=104
DLBC Dease Lake 141.67 311 IAMs_20 IAMs_20 07 10 21.6
comp=Z,876nm,20.0s
DLBC Dease Lake 141.67 311 P **PKPdf 06 09 39.8 0.0**
baz=102,SNR=6.4
DLBC Dease Lake 141.67 311 PKP **PKPdf 06 09 37.5 -2.3**
comp=Z,4.6nm,0.9s,baz=95,slow=0.9,SNR=11
V35K Ketchikan 141.79 305 IAMs_20 IAMs_20 07 16 26.9
comp=Z,794nm,20.0s
V35K Ketchikan 141.79 305 P **PKPdf 06 09 40.3 +0.3**
baz=105
S34M Telegraph Cree 142.13 310 IAMs_20 IAMs_20 07 14 15.8
comp=Z,1µm,20.0s
S34M Telegraph Cree 142.13 310 P **PKPdf 06 09 40.7 +0.2**
baz=102
R33M Jennings River 142.33 312 P **PKPdf 06 09 41.1 0.0**
baz=100
WRAK Wrangell Islan 142.45 307 P **PKPdf 06 09 41.6 +0.4**
baz=103
U33K Whale Pass 142.80 306 P **PKPdf 06 09 41.9 +0.2**
baz=103
T33K Petersburg 142.86 307 P **PKPdf 06 09 42.2 +0.4**
baz=102
Q32M Nakina River 142.91 311 IAMs_20 IAMs_20 07 13 51.7
comp=Z,972nm,22.0s
Q32M Nakina River 142.91 311 P **PKPdf 06 09 42.3 +0.1**
baz=100
BJT Baijiatuau 143.48 83 IAMs_20 IAMs_20 07 07 14.8
comp=Z,1µm,21.0s
N32M Quiet Lake 143.63 315 IAMs_20 IAMs_20 07 18 27.8
comp=Z,740nm,19.0s
P32M Atlin 143.75 312 IAMs_20 IAMs_20 07 18 47.6
comp=Z,972nm,18.0s
FARO Faro, Yukon 143.85 316 IAMs_20 IAMs_20 07 09 41.3
comp=Z,1µm,22.0s
S32K Killisnoo 143.86 308 IAMs_20 IAMs_20 07 14 58.7
comp=Z,968nm,20.0s
JIS Juneau Island 143.89 310 IAMs_20 IAMs_20 07 15 53.5
comp=Z,934nm,20.0s
R32K Eaglecrest 143.96 310 IAMs_20 IAMs_20 07 15 54.5
comp=Z,1µm,21.0s
INK Inuvik 143.96 327 PKP PKPab 06 09 40.5 -0.3
comp=Z,28nm,1.0s,baz=76,slow=3.6,SNR=68
F31M Tsiigehtchic 144.10 325 IAMs_20 IAMs_20 07 15 26.8
comp=Z,885nm,20.0s
SIT Sitka 144.19 307 IAMs_20 IAMs_20 07 15 40.3
comp=Z,757nm,20.0s
M31M Drury Creek, Y 144.34 316 IAMs_20 IAMs_20 07 09 42.2
comp=Z,1µm,22.0s
H31M Peel River 144.40 323 IAMs_20 IAMs_20 07 10 53.3
comp=Z,863nm,21.0s
S31K Pelican 144.81 309 IAMs_20 IAMs_20 07 16 10.0
comp=Z,890nm,20.0s
O30N Mendenhall 145.05 314 IAMs_20 IAMs_20 07 15 32.1
comp=Z,1µm,20.0s
G30M tAoh Zraii Nji 145.09 325 IAMs_20 IAMs_20 07 19 50.4
comp=Z,797nm,19.0s
XLT XiLinHaoTe 145.16 77 *e*PKPbc **PKPbc 06 09 45.0 -1.1**
XLT pPKP PKiKP 06 09 52.1 +1.8
XLT LR LR
comp=Z,500nm,18.7s
XLT LR LR
comp=Z,680nm,20.3s
I30M Mount Dempster 145.26 322 IAMs_20 IAMs_20 07 17 20.2
comp=Z,819nm,20.0s
J30M Hart River 145.26 320 IAMs_20 IAMs_20 07 17 35.5
comp=Z,875nm,20.0s
E29M Blow River 145.57 327 IAMs_20 IAMs_20 07 16 33.0
comp=Z,953nm,21.0s
N30M Aishikik Lake 145.58 315 IAMs_20 IAMs_20 07 16 38.0
comp=Z,1µm,20.0s
N30M Aishikik Lake 145.58 315 P **PKPdf 06 09 46.5 0.0**
baz=93
D28M Stokes Point 145.71 329 P **PKPdf 06 09 47.0 +0.6**
baz=79
HYT Haines Junctio 145.75 314 IAMs_20 IAMs_20 07 19 54.5
comp=Z,744nm,18.0s
HYT Haines Junctio 145.75 314 P **PKPdf 06 09 47.7 +0.7**
baz=93,SNR=24
P29M Windy Craggy 145.78 312 P **PKPdf 06 09 47.3 +0.3**
baz=95
K29M Barlow Dome 145.80 319 P **PKPdf 06 09 46.8 -0.1**
baz=89
G29M Pine Creek 145.81 325 IAMs_20 IAMs_20 07 17 37.4
comp=Z,954nm,19.0s
G29M Pine Creek 145.81 325 P **PKPdf 06 09 46.6 -0.1**
baz=84
H29M Whitestone 146.02 323 P **PKPdf 06 09 47.4 +0.3**
baz=84
J29N Klondike Camp 146.09 320 IAMs_20 IAMs_20 07 12 44.2
comp=Z,1µm,21.0s
J29N Klondike Camp 146.09 320 P **PKPdf 06 09 47.8 +0.4**
baz=87,SNR=24
L29M L29M 146.09 318 IAMs_20 IAMs_20 07 20 21.2
comp=Z,844nm,21.0s
L29M L29M 146.09 318 P **PKPdf 06 09 47.6 +0.3**
baz=89
E28M Babbage River 146.13 328 IAMs_20 IAMs_20 07 21 02.7
comp=Z,718nm,20.0s
E28M Babbage River 146.13 328 P **PKPdf 06 09 47.0 -0.2**
baz=80,SNR=25
YUK6 Outpost Mounta 146.17 314 P **PKPdf 06 09 48.5 +0.6**
baz=92,SNR=7.5
CIT Chita 146.19 62 *e*PKP2 **PKPdf 06 09 48.1 +0.2**
CIT pmax pmax
comp=Z,317nm,3.0s
M29M Somme Creek 146.25 317 IAMs_20 IAMs_20 07 16 15.4
comp=Z,1µm,22.0s
M29M Somme Creek 146.25 317 P **PKPdf 06 09 48.7 +0.9**
baz=90
O29M Mount Kennedy 146.25 313 P **PKPdf 06 09 48.5 +0.7**
baz=93,SNR=9.3
YUK4 Talbot Arm 146.32 315 P **PKPdf 06 09 49.3 +1.2**
baz=91,SNR=20
F28M Old Crow 146.42 326 IAMs_20 IAMs_20 07 20 48.9
comp=Z,887nm,21.0s
F28M Old Crow 146.42 326 P **PKPdf 06 09 48.1 +0.3**
baz=81,SNR=44
D27M Malcolm River 146.51 329 IAMs_20 IAMs_20 07 17 18.6
comp=Z,841nm,21.0s
D27M Malcolm River 146.51 329 P **PKPdf 06 09 49.0 +1.1**
baz=77,SNR=77
DAWY Dawson 146.62 320 IAMs_20 IAMs_20 07 12 05.4
comp=Z,948nm,21.0s
DAWY Dawson 146.62 320 P **PKPdf 06 09 48.8 +0.6**
baz=87,SNR=40
DL2 Dalian 146.62 88 PKPbc **PKPdf 06 09 44.3 -4.7**
DL2 AMB AMB
comp=Z,420nm,4.5s
DL2 LR LR
comp=Z,800nm,17.2s
DL2 LR LR
comp=Z,730nm,16.1s
DL2 LR LR
comp=Z,1µm,21.2s
PNL Peninsula 146.63 312 P **PKPdf 06 09 49.4 +1.1**
baz=93
I28M Miner Creek 146.74 322 IAMs_20 IAMs_20 07 13 29.1
comp=Z,948nm,21.0s
I28M Miner Creek 146.74 322 P **PKPdf 06 09 49.5 +1.0**
baz=84
BCPM Bancas Point 146.76 312 IAMs_20 IAMs_20 07 20 25.4
comp=Z,894nm,19.0s
YUK8 Steele Glacier 146.86 315 P **PKPdf 06 09 50.5 +1.4**
baz=91,SNR=38
E27K Coleen River 146.96 327 IAMs_20 IAMs_20 07 24 28.6
comp=Z,712nm,20.0s
E27K Coleen River 146.96 327 P **PKPdf 06 09 50.1 +1.4**
baz=78
YUK3 Mcse Creek 147.19 315 P **PKPdf 06 09 50.7 +1.2**
baz=89,SNR=12
G27K Doyon Strip 147.24 325 IAMs_20 IAMs_20 07 18 14.1
comp=Z,706nm,19.0s
G27K Doyon Strip 147.24 325 P **PKPdf 06 09 50.9 +1.7**
baz=80
H27K Steamboat Moun 147.28 324 P **PKPdf 06 09 50.9 +1.6**
baz=81
EGAK Eagle 147.32 321 IAMs_20 IAMs_20 07 12 56.9
comp=Z,893nm,21.0s
EGAK Eagle 147.32 321 P **PKPdf 06 09 50.8 +1.4**
baz=84,SNR=34
BVCY Beaver Creek 147.37 317 P **PKPdf 06 09 51.1 +1.5**
baz=88,SNR=23
BOD Bodaibo 147.40 52 *e*PKP2 **PKPdf 06 09 50.3 +0.7**
BOD pmax pmax
comp=Z,80nm,2.0s
I27K Kandik River 147.41 323 P **PKPdf 06 09 51.5 +1.9**
baz=82
LOGN Nagan Glacier 147.46 314 IAMs_20 IAMs_20 07 11 16.9
comp=Z,881nm,22.0s
TABL Table Mountain 147.53 313 IAMs_20 IAMs_20 07 14 45.6
comp=Z,1µm,21.0s
CTGM Chitina Glacie 147.62 314 IAMs_20 IAMs_20 07 12 06.2
comp=Z,749nm,22.0s
CTG Chitna Glacier 147.63 314 P **PKPdf 06 09 52.0 +1.9**
baz=90,SNR=11
C26K Camden Bay 147.66 331 P **PKPdf 06 09 52.3 +2.5**
baz=72,SNR=22
L27K Beaver Creek, 147.77 318 IAMs_20 IAMs_20 07 19 44.5
comp=Z,936nm,20.0s
L27K Beaver Creek, 147.77 318 P **PKPdf 06 09 52.4 +2.2**
baz=86,SNR=33
K27K Chicken 147.80 320 P **PKPdf 06 09 52.6 +2.4**
baz=84
M27K Edge Creek, AK 147.84 317 IAMs_20 IAMs_20 07 17 40.3
comp=Z,787nm,22.0s
M27K Edge Creek, AK 147.84 317 P **PKPdf 06 09 52.6 +2.1**
baz=87,SNR=19
MESA MESA 147.93 312 IAMs_20 IAMs_20 07 14 06.2
comp=Z,1µm,22.0s
MESA MESA 147.93 312 P **PKPdf 06 09 53.0 +2.3**
baz=90
F26K Sheenjek River 148.01 327 P **PKPdf 06 09 53.0 +2.5**
baz=76
G26K Porcupine Rive 148.04 325 P **PKPdf 06 09 52.8 +2.4**
baz=78
I26K Coal Creek Min 148.09 322 IAMs_20 IAMs_20 07 19 28.5
comp=Z,969nm,20.0s
I26K Coal Creek Min 148.09 322 P **PKPdf 06 09 53.2 +2.6**
baz=81
ISLE Juniper Island 148.12 313 IAMs_20 IAMs_20 07 15 02.3
comp=Z,1µm,21.0s
D25K Kavik River 148.34 330 P **PKPdf 06 09 53.4 +2.5**
baz=71
M26K Nabesna, AK 148.36 317 IAMs_20 IAMs_20 07 17 45.2
comp=Z,884nm,21.0s
M26K Nabesna, AK 148.36 317 P **PKPdf 06 09 53.6 +2.4**
baz=86
WAX Waxell Ridge 148.38 313 IAMs_20 IAMs_20 07 21 40.0
comp=Z,900nm,19.0s
J26L Joseph Creek 148.39 321 IAMs_20 IAMs_20 07 14 53.6
comp=Z,1µm,22.0s
J26L Joseph Creek 148.39 321 P **PKPdf 06 09 53.9 +2.7**
baz=82
E25K Arctic Village 148.42 328 IAMs_20 IAMs_20 07 08 35.5
comp=Z,854nm,22.0s
E25K Arctic Village 148.42 328 P **PKPdf 06 09 54.0 +2.9**
baz=74
MCARA McCarthy VSAT 148.43 315 IAMs_20 IAMs_20 07 15 26.4
comp=Z,958nm,21.0s
MCARA McCarthy VSAT 148.43 315 P **PKPdf 06 09 54.2 +2.9**
baz=88,SNR=6.2
L26K Log Cabin Wild 148.47 318 IAMs_20 IAMs_20 07 14 19.2
comp=Z,824nm,21.0s
L26K Log Cabin Wild 148.47 318 P **PKPdf 06 09 54.3 +2.9**
baz=85,SNR=19
F25K Christian Rive 148.59 327 P **PKPbc 06 09 54.8 -0.4**
baz=75
BGLC Bering Glacier 148.59 312 P **PKPbc 06 09 55.0 -0.2**
baz=89
SCRK Sand Creek 148.64 320 IAMs_20 IAMs_20 07 17 50.8
comp=Z,848nm,21.0s
SCRK Sand Creek 148.64 320 P **PKPdf 06 09 54.8 +3.1**
baz=82,SNR=23
VRDI Verde Repeater 148.65 314 IAMs_20 IAMs_20 07 15 39.1
comp=Z,885nm,22.0s
GLB Gilahina Butte 148.81 315 IAMs_20 IAMs_20 07 15 25.4
comp=Z,783nm,21.0s
C24K Franklin Bluff 148.96 332 P **PKPbc 06 09 55.4 -0.6**
baz=68
G25K Bearman Lake 148.97 325 P **PKPbc 06 09 55.7 -0.3**
baz=76
H25L Birch Creek 148.98 324 P **PKPbc 06 09 55.9 -0.1**
baz=77
PRP Porcupine Dome 149.03 323 IAMs_20 IAMs_20 07 18 45.9
comp=Z,781nm,21.0s
PRP Porcupine Dome 149.03 323 P **PKPbc 06 09 55.9 -0.6**
baz=78,SNR=18
J25K Salcha River, 149.14 321 P **PKPbc 06 09 56.1 -0.5**
baz=80
KAIM Kayak Island 149.17 312 P **PKPbc 06 09 56.5 -0.3**
baz=89
N25K Chitina, Valde 149.17 315 P **PKPbc 06 09 56.5 -0.3**
baz=86,SNR=18
D24K Happy Valley 149.22 331 IAMs_20 IAMs_20 07 23 14.2
comp=Z,771nm,20.0s
D24K Happy Valley 149.22 331 P **PKPbc 06 09 55.9 -0.7**
baz=69
BMRM Bremner River 149.22 314 P **PKPbc 06 09 56.6 -0.3**
baz=87
HARP HAARP 149.36 317 P **PKPdf 06 09 55.9 +3.1**
baz=84,SNR=8.7
F24K Squaw Lake 149.44 327 IAMs_20 IAMs_20 07 21 37.1
comp=Z,760nm,20.0s
F24K Squaw Lake 149.44 327 P **PKPbc 06 09 56.7 -0.6**
baz=72
PAX Paxson 149.44 318 P **PKPbc 06 09 56.8 -0.6**
baz=83,SNR=9.3
K24K Donnelly Dome 149.45 320 P **PKPdf 06 09 56.4 +3.5**
baz=81,SNR=10
E24K Your Creek 149.47 328 IAMs_20 IAMs_20 07 23 04.4
comp=Z,677nm,20.0s
E24K Your Creek 149.47 328 P **PKPbc 06 09 56.7 -0.6**
baz=71
G24K Hadweenzic Riv 149.52 326 IAMs_20 IAMs_20 07 13 00.3
comp=Z,801nm,22.0s
G24K Hadweenzic Riv 149.52 326 P **PKPbc 06 09 56.9 -0.6**
baz=74,SNR=21
C23K Itkillik River 149.53 332 IAMs_20 IAMs_20 07 24 48.4
comp=Z,748nm,20.0s
C23K Itkillik River 149.53 332 P **PKPbc 06 09 56.9 -0.4**
baz=66,SNR=16
TOLK Toolik Lake Re 149.66 330 IAMs_20 IAMs_20 07 19 01.1
comp=Z,659nm,20.0s
TOLK Toolik Lake Re 149.66 330 P **PKPbc 06 09 56.8 -0.9**
baz=69,SNR=42
ILAR Eielson Array 149.75 322 PKPbc **PKPbc 06 09 57.2 -0.8**
comp=Z,18nm,0.7s,baz=96,slow=2.0,SNR=49
EYAK Cordova Ski Ar 149.80 313 P **PKPbc 06 09 58.5 +0.3**
baz=86
KLU Klutina 149.81 315 IAMs_20 IAMs_20 07 18 28.9
comp=Z,821nm,21.0s
KLU Klutina 149.81 315 P **PKPbc 06 09 58.5 +0.1**
baz=85,SNR=20
HDA Harding Lake 149.85 321 IAMs_20 IAMs_20 07 15 47.6
comp=Z,978nm,21.0s
HDA Harding Lake 149.85 321 P **PKPbc 06 09 57.2 -1.1**
baz=79,SNR=39
M24K Tolsona, Glenn 149.87 316 P **PKPbc 06 09 58.3 -0.1**
baz=83
E23K Chandalar 149.88 329 P **PKPbc 06 09 57.3 -1.0**
baz=70
POKR Poker Plat Res 149.90 323 IAMs_20 IAMs_20 07 20 51.9
comp=Z,719nm,21.0s
POKR Poker Plat Res 149.90 323 P **PKPbc 06 09 57.3 -1.1**
baz=77,SNR=11
D23K Nanushuk River 149.90 331 P **PKPbc 06 09 57.6 -0.7**
baz=67
H24K Noodor Dome 149.90 324 IAMs_20 IAMs_20 07 21 52.7
comp=Z,766nm,20.0s
H24K Noodor Dome 149.90 324 P **PKPbc 06 09 58.0 -0.4**
baz=75
COLA College 150.13 322 IAMs_20 IAMs_20 07 22 56.1
comp=Z,753nm,19.0s
COLA College 150.13 322 P **PKPdf 06 09 57.7 +3.8**
baz=77
KSRS Korea Array 150.14 96 PKPbc **PKPbc 06 09 58.6 -1.2**
comp=Z,3.5nm,0.7s,baz=259,slow=3.0,SNR=11
KSRS PKPab **sPKPbc 06 10 04.4 +1.5**
comp=Z,7.1nm,0.8s,baz=250,slow=3.0,SNR=9.0
B22K Teshekpuk Lake 150.16 334 P **PKPbc 06 09 58.0 -0.8**
baz=61
Q23K Middleton Isla 150.16 311 P **PKPdf 06 09 57.8 +3.7**
baz=88
TIXI Tiksi 150.20 23 IAMs_20 IAMs_20 07 23 17.9
comp=Z,878nm,20.0s
TIXI Tiksi 150.20 23*c i*PKIKP **PKPdf 06 09 56.9 +3.1**
TIXI pmax pmax
comp=Z,41nm,2.5s
MDM Murphy Dome 150.26 322 IAMs_20 IAMs_20 07 13 18.6
comp=Z,725nm,20.0s
DHY Denali Highway 150.28 319 IAMs_20 IAMs_20 07 13 20.1
comp=Z,791nm,21.0s
DHY Denali Highway 150.28 319 P **PKPbc 06 09 59.1 -0.4**
baz=80,SNR=15
COLD Coldfot 150.38 327 P **PKPbc 06 09 59.0 -0.4**
baz=70,SNR=32
SCM Sheep Creek Mo 150.44 316 P **PKPbc 06 09 59.6 -0.3**
baz=83,SNR=15
G23K Bananza Creek 150.48 326 IAMs_20 IAMs_20 07 13 26.9
comp=Z,700nm,22.0s
G23K Bananza Creek 150.48 326 P **PKPbc 06 09 59.6 -0.2**
baz=71
WAT6 Susitna Watana 150.53 318 P **PKPbc 06 09 59.7 -0.4**
baz=81,SNR=16
A21K Barrow 150.55 337 P **PKPbc 06 09 59.0 -0.7**
baz=56
D22K Ayikyak River 150.60 331 IAMs_20 IAMs_20 07 27 59.8
comp=Z,778nm,22.0s
D22K Ayikyak River 150.60 331 P **PKPbc 06 09 59.4 -0.6**
baz=65
E22K Anaktuvuk Pass 150.62 329 IAMs_20 IAMs_20 07 23 55.1
comp=Z,744nm,20.0s
E22K Anaktuvuk Pass 150.62 329 P **PKPbc 06 09 59.2 -0.9**
baz=67
M23K Glacier View 150.63 316 P **PKPbc 06 09 59.4 -0.8**
baz=82,SNR=18
P23K Montague Islan 150.66 312 P **PKPbc 06 09 59.8 -0.6**
baz=86
I23K Minto, Yukon-K 150.68 323 IAMs_20 IAMs_20 07 13 30.6
comp=Z,784nm,22.0s
I23K Minto, Yukon-K 150.68 323 P **PKPbc 06 09 59.0 -1.3**
baz=75,SNR=19
NEA2 Nenana 150.70 322 IAMs_20 IAMs_20 07 18 15.2
comp=Z,794nm,19.0s
NEA2 Nenana 150.70 322 P **PKPbc 06 09 59.0 -1.3**
baz=76,SNR=21
MCK McKinley 150.84 320 P **PKPbc 06 09 59.5 -1.3**
baz=78,SNR=30
WAT1 Susitna Watana 150.85 318 P **PKPbc 06 10 00.0 -0.8**
baz=80
B21K Ikpikpuk River 150.87 333 P **PKPbc 06 09 59.7 -0.8**
baz=61
RND Reindeer 150.88 319 IAMs_20 IAMs_20 07 15 19.9
comp=Z,951nm,20.0s
SML Sawmill 150.92 316 IAMs_20 IAMs_20 07 19 04.1
comp=Z,903nm,20.0s
SML Sawmill 150.92 316 P **PKPbc 06 10 00.5 -0.5**
baz=82,SNR=12
BWN Browne 150.97 321 IAMs_20 IAMs_20 07 16 07.4
comp=Z,1µm,22.0s
KNK Knik Glacier 151.03 315 IAMs_20 IAMs_20 07 24 30.2
comp=Z,844nm,18.0s
KNK Knik Glacier 151.03 315 P **PKPbc 06 10 00.8 -0.5**
baz=82,SNR=11
C21K Knifeblade Rid 151.15 332 P **PKPbc 06 10 00.9 -0.4**
baz=62
E21K Killik River 151.22 331 P **PKPbc 06 10 00.6 -0.9**
baz=64
H22K Ishtalitna Cre 151.26 325 P **PKPbc 06 10 01.0 -0.6**
baz=71
MLY Manley 151.28 323 P **PKPdf 06 09 59.9 +4.1**
baz=73,SNR=20
PMR Palmer 151.32 316 IAMs_20 IAMs_20 07 16 55.9
comp=Z,704nm,21.0s
PMR Palmer 151.32 316 P **PKPbc 06 10 01.4 -0.5**
baz=81,SNR=15
CN2 Changchun 151.35 82 *e*PKPbc **PKPdf 06 09 53.8 -2.6**
B20K Meade River 151.43 335 P **PKPbc 06 10 01.5 -0.3**
baz=57
TRF Thorofare Moun 151.50 320 IAMs_20 IAMs_20 07 15 28.2
comp=Z,972nm,22.0s
TRF Thorofare Moun 151.50 320 P **PKPbc 06 10 01.4 -1.0**
baz=77,SNR=24

F21K	Alatna River	151.57	328	IAMs_20	IAMs_20	07 10 45.4		
	comp=Z,699nm,20.0s							
F21K	Alatna River	151.57	328	P	PKPbc	06 10 01.6	-0.7	
	baz=66,SNR=14							
BPAW	Bear Paw Mtn.	151.63	321	IAMs_20	IAMs_20	07 16 40.9		
	comp=Z,985nm,22.0s							
BPAW	Bear Paw Mtn.	151.63	321	P	PKPbc	06 10 01.4	-1.2	
	baz=75,SNR=33							
SEW	Seward	151.68	313	P	PKPbc	06 10 01.7	-0.9	
	baz=84							
RC01	Rabbit Creek A	151.69	315	IAMs_20	IAMs_20	07 21 04.6		
	comp=Z,686nm,18.0s							
RC01	Rabbit Creek A	151.69	315	P	PKPbc	06 10 02.3	-0.4	
	baz=82,SNR=5.9							
CUT	Chulitna	151.71	318	IAMs_20	IAMs_20	07 19 44.0		
	comp=Z,771nm,21.0s							
CUT	Chulitna	151.71	318	P	PKPbc	06 10 02.1	-0.6	
	baz=79,SNR=9.6							
I21K	Tanana	151.73	324	P	PKPbc	06 10 01.6	-1.1	
	baz=72							
KTH	Kantishna Hill	151.75	320	IAMs_20	IAMs_20	07 16 55.9		
	comp=Z,932nm,22.0s							
M22K	Willow	151.76	316	IAMs_20	IAMs_20	07 16 58.5		
	comp=Z,721nm,22.0s							
M22K	Willow	151.76	316	P	PKPbc	06 10 01.9	-1.0	
	baz=80,SNR=10							
O22K	Cooper Landing	151.77	314	P	PKPbc	06 10 02.0	-0.9	
	baz=83							
G21K	Allakaket	151.85	327	P	PKPbc	06 10 02.3	-0.6	
	baz=68							
H21K	Melozitna Rive	151.90	325	IAMs_20	IAMs_20	07 22 12.4		
	comp=Z,817nm,21.0s							
H21K	Melozitna Rive	151.90	325	P	PKPbc	06 10 02.3	-0.8	
	baz=70							
D20K	Etivluk River	151.94	332	P	PKPbc	06 10 02.6	-0.5	
	baz=60,SNR=17							
E20K	Nigu River	152.03	331	P	PKPbc	06 10 02.6	-0.8	
	baz=61							
SUA	Susitna One	152.11	316	P	PKPbc	06 10 02.6	-1.2	
	baz=80,SNR=9.3							
CHUM	Lake Minchumin	152.26	321	P	PKPbc	06 10 02.4	-1.5	
	baz=74,SNR=22							
CAST	Castle Rocks	152.28	320	P	PKPbc	06 10 02.4	-1.6	
	baz=75,SNR=13							
BRSE	Bradley Lake S	152.37	312	P	PKPbc	06 10 03.3	-1.0	
	baz=83							
SKT	Skwentna	152.38	317	IAMs_20	IAMs_20	07 17 29.7		
	comp=Z,796nm,21.0s							
SKT	Skwentna	152.38	317	P	PKPbc	06 10 03.1	-1.2	
	baz=78,SNR=10							
A19K	Wainwright	152.41	337	P	PKPbc	06 10 03.4	-0.7	
	baz=52							
F20K	Avaraart Lake	152.43	329	P	PKPbc	06 10 03.3	-0.9	
	baz=64,SNR=7.2							
PPLA	Purkeypile	152.47	319	P	PKPbc	06 10 03.4	-1.2	
	baz=76,SNR=15							
D19K	Kuna River	152.53	332	IAMs_20	IAMs_20	07 25 42.7		
	comp=Z,730nm,20.0s							
D19K	Kuna River	152.53	332	P	PKPbc	06 10 03.8	-0.7	
	baz=58							
C19K	Lookout Ridge	152.64	334	P	PKPbc	06 10 04.1	-0.6	
	baz=56							
H20K	Anotleneega Mo	152.76	325	P	PKPbc	06 10 04.5	-0.5	
	baz=68							
E19K	Redstone River	152.76	330	IAMs_20	IAMs_20	07 12 43.3		
	comp=Z,868nm,21.0s							
E19K	Redstone River	152.76	330	P	PKPbc	06 10 04.0	-0.9	
	baz=61							
HOM	Homer	152.83	312	P	PKPbc	06 10 03.8	-1.5	
	baz=82							
N20K	Mount Spurr	152.85	315	P	PKPbc	06 10 04.4	-1.0	
	baz=79							
I20K	Naaghedeneel	152.86	324	P	PKPbc	06 10 05.1	-0.1	
	baz=70							
J20K	Nowinta River	152.94	322	IAMs_20	IAMs_20	07 17 33.0		
	comp=Z,815nm,22.0s							
J20K	Nowinta River	152.94	322	P	PKPbc	06 10 04.4	-1.0	
	baz=71							
B18K	Kokolik River	153.13	336	P	PKPbc	06 10 04.9	-0.8	
	baz=52							
M20K	Styx River	153.14	317	IAMs_20	IAMs_20	07 17 54.0		
	comp=Z,834nm,22.0s							
M20K	Styx River	153.14	317	P	PKPbc	06 10 05.0	-1.1	
	baz=77							
K20K	Telida	153.16	321	IAMs_20	IAMs_20	07 17 35.7		
	comp=Z,955nm,21.0s							
K20K	Telida	153.16	321	P	PKPbc	06 10 04.4	-1.5	
	baz=73,SNR=8.8							
F19K	Shaleruckik Mo	153.25	329	P	PKPbc	06 10 05.3	-0.7	
	baz=62							
O20K	Slope Mountain	153.25	313	P	PKPbc	06 10 04.6	-1.8	
	baz=81							
G19K	Purcell Mounta	153.32	327	IAMs_20	IAMs_20	07 26 05.9		
	comp=Z,690nm,20.0s							
G19K	Purcell Mounta	153.32	327	P	PKPbc	06 10 05.9	-0.3	
	baz=64							
L20K	Farewell, AK	153.33	319	P	PKPbc	06 10 07.1	+0.7	
	baz=75							
BNX	BinXian	153.33	79	⇓PKPbc	PKPdf	06 10 03.8	+4.5	
SYI	Shuyak Island	153.34	310	IAMs_20	IAMs_20	07 23 53.4		
	comp=Z,885nm,20.0s							
Q20K	Shuyak Island	153.34	310	P	PKPbc	06 10 06.3	-0.2	
	baz=84							
H19K	Roundabout Mou	153.35	326	IAMs_20	IAMs_20	07 12 52.7		
	comp=Z,683nm,22.0s							
H19K	Roundabout Mou	153.35	326	P	PKPbc	06 10 06.0	-0.2	
	baz=66							
C18K	Utukok River	153.38	334	IAMs_20	IAMs_20	07 24 05.2		
	comp=Z,794nm,20.0s							
C18K	Utukok River	153.38	334	P	PKPbc	06 10 05.7	-0.7	
	baz=54							
KDAK	Kodiak Island	153.52	308	P	PKPbc	06 10 07.1	+0.2	
	baz=85							
J19K	Poorman	153.61	322	IAMs_20	IAMs_20	07 25 24.7		
	comp=Z,753nm,20.0s							
J19K	Poorman	153.61	322	P	PKPbc	06 10 06.8	-0.1	
	baz=70							
P19K	Oil Pt	153.63	312	P	PKPbc	06 10 07.9	+0.8	
	baz=81							
GCSA	Galena City Sc	153.83	324	P	PKPbc	06 10 08.3	+1.0	
	baz=67							
L19K	White Mountain	153.85	318	IAMs_20	IAMs_20	07 21 20.4		
	comp=Z,725nm,20.0s							
L19K	White Mountain	153.85	318	P	PKPbc	06 10 08.2	+0.7	
	baz=74							
E18K	Tukpahlearik C	153.90	331	IAMs_20	IAMs_20	07 14 44.2		
	comp=Z,768nm,20.0s							
E18K	Tukpahlearik C	153.90	331	P	PKPbc	06 10 07.5	0.0	
	baz=57							
OHAK	Old Harbor	153.95	307	P	PKPbc	06 10 07.9	+0.1	
	baz=86							
Q19K	Cape Douglas,	153.95	311	P	PKPbc	06 10 08.1	+0.2	
	baz=82							
G18K	Tagagawik	154.01	328	IAMs_20	IAMs_20	07 23 27.2		
	comp=Z,683nm,22.0s							
G18K	Tagagawik	154.01	328	P	PKPbc	06 10 07.5	-0.2	
	baz=62							
F18K	Selawik	154.02	329	P	PKPbc	06 10 08.1	+0.5	
	baz=60							
N19K	Bonanza Creek	154.02	315	P	PKPbc	06 10 08.2	+0.2	
	baz=77							
O19K	Port Alsworth	154.07	314	P	PKPbc	06 10 08.1	+0.1	
	baz=79							
C17K	DeLong Mountai	154.07	335	P	PKPbc	06 10 08.2	+0.4	
	baz=52							
TTA	Tatalina	154.13	320	P	PKPbc	06 10 08.1	-0.1	
	baz=71							
H18K	Honhosa River	154.24	326	IAMs_20	IAMs_20	07 23 35.9		
	comp=Z,677nm,20.0s							
H18K	Honhosa River	154.24	326	P	PKPbc	06 10 08.3	+0.1	
	baz=64							
RDOG	Red Dog Mine	154.25	334	P	PKPbc	06 10 09.4	+1.2	
	baz=53							
J18K	Innoko River	154.25	322	IAMs_20	IAMs_20	07 24 39.4		
	comp=Z,681nm,21.0s							
J18K	Innoko River	154.25	322	P	PKPbc	06 10 08.4	+0.1	
	baz=69							
HEH	HeiHe	154.40	69	*e*PKPbc	PKPdf	06 10 04.6	+3.9	
HEH				LR	LR			
	comp=Z,770nm,16.6s							
HEH				LR	LR			
	comp=Z,920nm,19.2s							
HEH				LR	LR			
	comp=Z,2µm,20.2s							
MDJ	Mudanjiang	154.43	83	PKPbc	PKPdf	06 09 58.9	-2.0	
MDJ				PP	PP	06 13 56.9	-2.7	
MDJ				AMB	AMB			
	comp=Z,540nm,9.3s							
MDJ				LR	LR			
	comp=Z,450nm,17.5s							
MDJ				LR	LR			
	comp=Z,670nm,22.7s							
MDJ				LR	LR			
	comp=Z,1µm,18.8s							
SVW2	Sparrevohn	154.47	316	IAMs_20	IAMs_20	07 18 05.4		
	comp=Z,642nm,21.0s							
M18K	Stony River	154.48	317	P	PKPbc	06 10 09.4	+0.5	
	baz=74							
SII	Sitkinak Islan	154.49	305	P	PKPbc	06 10 09.3	+0.2	
	baz=86							
D17K	Noatak River	154.52	333	P	PKPbc	06 10 09.9	+1.2	
	baz=53							
O18K	Koktuh Hills	154.57	313	P	PKPbc	06 10 09.4	+0.3	
	baz=78							
ZEA	Zeya	154.64	61	*i* PKIKP	PKPbc	06 10 07.8	-1.6	
ZEA				*e*		06 14 02.7		
ZEA				pmax	pmax			
	comp=Z,300nm,5.4s							
ZEA				pmax	pmax			
	comp=Z,200nm,4.1s							
F17K	Baldwin Pennin	154.65	330	IAMs_20	IAMs_20	07 12 47.0		
	comp=Z,996nm,22.0s							
F17K	Baldwin Pennin	154.65	330	P	PKPbc	06 10 09.8	+0.8	
	baz=58							
L18K	Granite Mounta	154.66	319	IAMs_20	IAMs_20	07 27 31.4		
	comp=Z,887nm,21.0s							
L18K	Granite Mounta	154.66	319	P	PKPbc	06 10 09.3	+0.1	
	baz=72							
P18K	Big Mountain,	154.68	312	P	PKPbc	06 10 09.9	+0.6	
	baz=79							
N18K	Kilae Creek	154.72	315	IAMs_20	IAMs_20	07 27 39.2		
	comp=Z,722nm,20.0s							
N18K	Kilae Creek	154.72	315	P	PKPbc	06 10 09.4	0.0	
	baz=76							
YAK	Yakutsk	154.77	41	IAMs_20	IAMs_20	07 17 51.2		
	comp=Z,952nm,22.0s							
C16K	Lisburne Hills	154.82	336	IAMs_20	IAMs_20	07 18 30.0		
	comp=Z,680nm,20.0s							
C16K	Lisburne Hills	154.82	336	P	PKPbc	06 10 09.7	+0.4	
	baz=49							
H17K	Granite Mounta	154.92	326	IAMs_20	IAMs_20	07 22 45.0		
	comp=Z,639nm,20.0s							
H17K	Granite Mounta	154.92	326	P	PKiKP	06 10 11.1	+1.5	
	baz=62							
G17K	Kiwalik Mounta	154.92	328	P	PKPbc	06 10 10.9	+1.2	
	baz=60							
K17K	Iditarod	155.19	321	P	PKPdf	06 10 11.1	+10	
	baz=69							
Q17K	Contact Creek	155.21	310	P	PKPdf	06 10 11.3	+10	
	baz=81							
M17K	Holitna River	155.25	317	P	PKPab	06 10 26.9	+0.2	
	baz=73							
P17K	Kvichak River	155.32	312	P	PKPab	06 10 27.6	+0.5	
	baz=78							
CHIR	Chirikof Islan	155.34	304	P	PKPab	06 10 28.3	+1.0	
	baz=87							
N17K	Nushagak Hills	155.38	315	P	PKPab	06 10 28.3	+1.1	
	baz=75							
L17K	Donlin	155.40	319	P	PKPab	06 10 28.1	+0.8	
	baz=70							
O17K	Koliganek Bris	155.52	313	P	PKPab	06 10 28.2	+0.3	
	baz=76							
Q16K	King Salmon	155.53	311	P	PKPab	06 10 28.5	+0.5	
	baz=79							
G16K	Koyuk River	155.59	328	P	PKPab	06 10 28.8	+0.8	
	baz=58							
I17K	Unalakleet	155.71	324	IAMs_20	IAMs_20	07 27 44.3		
	comp=Z,648nm,20.0s							
I17K	Unalakleet	155.71	324	P	PKPab	06 10 29.3	+0.8	
	baz=63							
USA0B	Usuriysk Arra	155.90	85	IAMs_20	IAMs_20	07 14 51.1		
	comp=Z,1µm,22.0s							
J16K	Anvik River	155.93	323	P	PKPab	06 10 29.3	-0.2	
	baz=65							
H16K	Elim	155.94	327	P	PKPab	06 10 29.3	-0.2	
	baz=60							
O16K	Kokwok River B	156.06	313	P	PKPab	06 10 31.1	+1.0	
	baz=76							
M16K	Timber Creek	156.06	317	P	PKPab	06 10 30.8	+0.6	
	baz=72							
L16K	Owhat River	156.07	319	P	PKPab	06 10 31.1	+0.9	
	baz=70							
P16K	Nushagak River	156.14	312	P	PKPab	06 10 31.1	+0.6	
	baz=77							
N16K	Nishlik Lake	156.14	316	P	PKPab	06 10 31.2	+0.6	
	baz=73							
F15K	North Star Dit	156.21	330	IAMs_20	IAMs_20	07 27 51.0		
	comp=Z,666nm,21.0s							
F15K	North Star Dit	156.21	330	P	PKPab	06 10 32.1	+1.5	
	baz=81							
R16K	Pilot Point	156.21	308	P	PKPab	06 10 32.1	+1.3	
	baz=81							
G15K	Niukluk	156.40	328	P	PKPab	06 10 32.5	+1.0	
	baz=56							
MAJO	Matsushiro	156.45	108	IAMs_20	IAMs_20	07 14 28.1		
	comp=Z,910nm,22.0s							
K15K	Wolf Creek Mou	156.74	321	IAMs_20	IAMs_20	07 25 30.2		
	comp=Z,847nm,20.0s							
K15K	Wolf Creek Mou	156.74	321	P	PKPab	06 10 32.9	-0.2	
	baz=66							
CHGN	Chignik	156.85	305	P	PKPab	06 10 33.5	-0.1	
	baz=83							
N15K	Kwethluk River	156.87	315	P	PKPab	06 10 33.7	0.0	
	baz=72							
F14K	Arctic Creek	156.91	331	P	PKPab	06 10 34.4	+0.7	
	baz=52							
L15K	Ungalak Mounta	156.97	320	P	PKPab	06 10 34.5	+0.5	
	baz=67							
M15K	Kasigluk River	156.97	317	P	PKPab	06 10 35.5	+1.4	
	baz=70							
ANM	Nome	157.12	328	IAMs_20	IAMs_20	07 36 07.4		
	comp=Z,813nm,22.0s							
ANM	Nome	157.12	328	P	PKPab	06 10 35.7	+1.1	
	baz=55							
TNA	Tin City	157.37	332	P	PKPab	06 10 36.4	+0.8	
	baz=50							
J14K	Nanvaranak Lak	157.38	323	IAMs_20	IAMs_20	07 15 54.0		
	comp=Z,865nm,22.0s							
J14K	Nanvaranak Lak	157.38	323	P	PKPab	06 10 36.0	+0.2	
	baz=62							
M14K	Bethel	157.54	318	P	PKPab	06 10 36.4	-0.1	
	baz=68							
L14K	Kuka Creek	157.63	319	P	PKPab	06 10 36.4	-0.5	
	baz=66							
CHNA	Chernabura Isl	157.67	302	P	PKPab	06 10 36.6	-0.6	
	baz=65							
N14K	Kuskokwak Cree	157.70	315	P	PKPab	06 10 37.0	-0.2	
	baz=71							
O14K	Tigyukauivet M	157.71	314	P	PKPab	06 10 37.6	+0.3	
	baz=73							
SDPT	Sand Point	158.12	303	P	PKPab	06 10 39.2	0.0	
	baz=83							
M13K	Dall Lake	158.30	318	P	PKPab	06 10 41.2	+1.4	
	baz=67							
JMM	Marumori	158.90	108	IAMs_20	IAMs_20	07 29 33.8		
	comp=Z,837nm,21.0s							
S12K	Black Hills	158.96	305	P	PKPab	06 10 43.2	+0.3	
	baz=81							
TEY	Ternei	159.29	86	*e*PKIKP	PKPdf	06 09 59.8	-7.3	
M11K	Mekoryuk	159.60	319	P	PKPab	06 10 44.0	-1.4	
	baz=63							
GAMB	Gambell	159.77	331	P	PKPab	06 10 45.2	-0.9	
	baz=47							

IDC ***17*** *05:53:23.9±6.3, 36°.51N×70°.28E, h142km±49km, mb3.3/1, mbtmp3.7/6, Error ellipse: s-maj=79.5km s-min=20.0km az=155.0*

NNC ***17*** *05:53:28.5±5.7, 36°.88N×70°.28E, h169km±79km, mb2.8, mpv3.8, Error ellipse: s-maj=47.8km s-min=31.1km az=24.0*

ISC 17 05:53:26.9±1.8**, 36°.7N**±0°.1×**70°.27E**±0°.08**, h204km, n19,**
σ1°**97**/23**, 4C-6D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array	6.36	2	⇓P	Pn	05 54 58.6	-0.1
	4.3nm,0.3s,baz=178,slow=12,SNR=134						
KK31				⇓S	S	05 56 10.6	-0.9
	4.9nm,0.7s,baz=185,slow=23,SNR=6.0						
UCH	Uchtor	6.39	30	P	Pn	05 54 58.7	-0.9
	SNR=21						
EKS2	Erkin-Say	6.50	23	P	Pn	05 55 01.0	+0.3
	SNR=6.1						
DHRM	DHARAMSHALA	6.70	130	*e*S	S	05 56 06.3	-14
AAK	Ala-Archa	6.73	28	P	Pn	05 55 03.8	+0.1
	SNR=15						
AAK	Ala-Archa	6.73	28	P	Pn	05 55 03.7	0.0
	6.9nm,0.4s,baz=197,slow=9.3,SNR=34						
AAK				S	S	05 56 20.2	-0.2
	6.0nm,0.5s,baz=338,slow=22,SNR=8.9						
KBK	Karagaybulak	6.92	30	P	Pn	05 54 49.9	-16
	SNR=8.0						
CHMS	Chumysh	7.14	27	⇑P	Pn	05 55 08.0	-0.9
	1.9nm,0.3s						
CHMS				⇓S	S	05 56 27.2	-2.6
	13nm,0.8s						
USP	Ospenovka	7.28	25	P	Pn	05 55 10.8	0.0
	SNR=7.9						
TKM2	Tokmak 2	7.41	32	P	Pn	05 55 12.4	-0.2
	SNR=12						
TKM2	Tokmak 2	7.41	32	⇑P	Pn	05 55 12.2	-0.4
	1.6nm,0.4s						
TKM2				⇑S	S	05 56 35.0	-1.5
	6.5nm,0.8s						
SMLA	Simla	8.01	132	*e*S	S	05 56 31.9	-19
GEYT	Alibeck	9.75	281	P	Pn	05 55 42.1	-0.7
	1.1nm,0.4s,baz=103,slow=10,SNR=2.5						
GEYT				S	S	05 57 29.0	-3.1
	2.0nm,0.5s,baz=156,slow=7.5,SNR=1.9						
MKAR	Makanchi Array	13.45	38	P	P	05 56 31.2	-1.1
	1.5nm,0.6s,baz=214,slow=10.0,SNR=7.9						
AB31	Akbulak array	14.59	332	⇑P	P	05 56 46.5	+1.7
	0.6nm,0.3s,baz=162,slow=11,SNR=47						
AB31				⇓S	S	05 59 22.6	-3.0
	1.0nm,0.7s,baz=157,slow=23,SNR=4.2						
KURBB	Kurchatov Arra	15.09	21	P	P	05 56 54.2	+3.9
	0.2nm,0.3s,baz=209,slow=11,SNR=4.6						
AKTO	Aktyubinsk	16.28	331	⇓P	Pn	05 57 07.9	+3.6
	0.1nm,0.4s						
AKTO				⇓S	S	06 00 06.2	+2.6
	1.0nm,0.8s						
BVAR	Borovoye Array	16.28	0	P	Pn	05 57 06.7	+2.5
	0.6nm,0.3s,baz=187,slow=8.7,SNR=4.2						
ZALV	Zalesovo Beam	19.95	26	P	Pn	05 57 46.3	-1.2
	1.4nm,0.3s,baz=217,slow=10,SNR=9.6						
	1.4nm,0.3s						

IDC ***17*** *06:03:55.9±1.9, 6°.32S×143°.40E, h0km, mb3.8/5, mbtmp3.7/7, ML3.2/1, MS3.9/3, Error ellipse: s-maj=59.1km s-min=24.7km az=113.0*

ISC 17 06:04:00.8±1.6**, 6°.5S**±0°.2×**143°.3E**±0°.3**, h35km, n10,**
σ0°**69**/8**, mb3.8**/5**, New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	13.85	168	LR	LR	06 12 56.4	
	comp=Z,80nm,19.8s,baz=0.0,slow=39						
WRA	Warramunga Arr	16.00	212	Pn	Pn	06 07 43.4	0.0
	0.1nm,0.3s,baz=29,slow=14,SNR=2.7						
WRA				Sn	Sn	06 10 29.7	-10
	0.1nm,0.3s,baz=23,slow=22,SNR=3.5						
WRA				Lg	Lg	06 12 29.1	
	0.1nm,0.3s,baz=34,slow=31,SNR=3.2						
	1.8nm,1.1s						
ASAR	Alice Springs	19.37	207	P	Pn	06 08 25.1	+0.1
	0.2nm,0.5s,baz=33,slow=10,SNR=7.8						
ASAR				Lg	Lg	06 14 12.1	
	baz=22,slow=29						
ASAR				LR	LR	06 16 35.0	
	comp=Z,295nm,19.8s,baz=30,slow=39						
BATI	Baumata	19.80	258	P	Pn	06 08 29.9	-0.3
	18nm,0.3s,baz=95,slow=11,SNR=1.9						
MKAR	Makanchi Array	75.55	322	P	P	06 15 42.2	+0.4
	1.0nm,0.9s,baz=120,slow=7.2,SNR=6.8						
	1.0nm,0.9s						
ZALV	Zalesovo Beam	77.47	329	P	P	06 15 52.0	-0.6
	0.4nm,0.4s,baz=104,slow=4.6,SNR=1.4						
	0.4nm,0.4s						
KURBB	Kurchatov Arra	79.42	324	P	P	06 16 04.7	+1.3
	0.7nm,0.9s,baz=115,slow=4.4,SNR=3.4						
	0.7nm,0.9s						
BVAR	Borovoye Array	84.99	325	P	P	06 16 32.6	0.0
	2.0nm,1.0s,baz=106,slow=4.8,SNR=7.7						
	2.0nm,1.0s						
ILAR	Eielson Array	87.35	24	P	P	06 16 43.7	-0.2
	0.3nm,0.9s,baz=260,slow=5.1,SNR=1.9						
	0.3nm,0.9s						
ARU	Arti	92.43	326	LR	LR	07 01 09.1	
	comp=Z,452nm,20.9s,baz=211,slow=37						

IDC ***17*** *06:11:37.8±1.2, 57°.84S×25°.72W, h0km, mb3.7/3, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=81.6km s-min=27.8km az=89.0*

ISC 17 06:11:44.9±1.2**, 58°.0S**±0°.2×**25°.5W**±0°.4**, h49km, n10,**
σ1°**41**/10**, mb3.7**/3**, 4C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	14.67	157	⇑P	Pn	06 15 07.4	-1.5
	comp=Z,1.5nm,0.2s						
VNA3	Neumayer Olymp	14.87	160	⇑P	Pn	06 15 09.9	-1.8
	comp=Z,0.5nm,0.1s						
SNAA	Sanae	16.61	155	⇑P	Pn	06 15 33.1	-0.9
	comp=Z,7.0nm,0.2s						
SNAA	Sanae	16.61	155	Pn	Pn	06 15 33.2	-0.8
	comp=Z,0.3nm,0.3s,baz=314,slow=17,SNR=9.0						
	comp=Z,1.1nm,0.4s						
TROLL	Troll, Antarti	18.11	152	⇑P	P	06 15 54.9	+2.5
	comp=Z,15nm,0.2s						
QSPA	South Pole Qui	32.29	180	P	P	06 18 08.8	+0.1
	comp=Z,0.6nm,0.5s,baz=42,slow=4.3,SNR=9.6						
	comp=Z,0.6nm,0.5s						
VNDA	Vanda	44.71	182	P	P	06 19 53.1	+0.8
	comp=Z,1.2nm,0.9s,baz=191,slow=6.5,SNR=2.6						
	comp=Z,1.2nm,0.9s						
TORD	Torodi Ar. Bea	74.28	27	P	P	06 23 16.6	-0.1
	comp=Z,0.2nm,0.4s,baz=191,slow=4.8,SNR=1.4						
	comp=Z,0.2nm,0.4s						
YKA	Yellowknife Ar	138.22	316	PKP	PKPdf	06 31 02.4	-0.4
	comp=Z,0.1nm,0.5s,baz=118,slow=2.2,SNR=4.2						
ILAR	Eielson Array	152.07	309	PKPbc	PKPbc	06 31 32.6	-0.4
	comp=Z,0.4nm,0.4s,baz=130,slow=1.9,SNR=12						

SEA ***17*** *06:20:26.9±1.5, 45°.819N×0°.009×122°.49W±0°.01, h9km±4km, ML2.1/28, ML2.1/16(NEIC), Error ellipse: s-maj=1.6km s-min=1.1km az=124.0*

NEIC ***17*** *06:20:26.5±1.8, 45°.830N×0°.009×122°.47W±0°.01, h5km±2km, Error ellipse: s-maj=3.0km s-min=1.8km az=265.0*

PNSN 17 06:20:26.9, 45°.82N×122°.49W, h9km, MD2.1, Fault plane solution: NP1:ϕ±120.00000°, δ35.00000°, λ80.00000°.**,**
Washington-Oregon border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
F04A	Amboy	0.12	23		Pg	06 20 29.7	+0.1
ROSS	Ross	0.20	217		Pg	06 20 30.9	0.0
HUBA	Hudson Bay Hig	0.22	212		Pg

B023	**Clatskanie**	**0.51**	**305**			Pg	06 20 36.4	-0.3
B201	**Coldwater, Mou**	**0.51**	**18**			Pg	06 20 36.0	-0.7
TDL	**Tradedollar La**	**0.56**	**19**			Pg	06 20 37.1	-0.7
APM	**Augspurger Mou**	**0.57**	**98**			Pg	06 20 37.5	-0.4
G04A	**Mulino**	**0.61**	**179**			Pg	06 20 37.9	-0.8
EYES	**Ewing Young ES**	**0.63**	**219**			Pg	06 20 38.8	-0.3
VLL	**Laurance Lake**	**0.67**	**122**			Pg	06 20 39.3	-0.5
KOSW	**Kosmos**	**0.67**	**18**			Pg	06 20 39.0	-0.9
ASR	**Mount Adams--S**	**0.71**	**62**			Pg	06 20 39.6	-0.9
F05D	**White Salmon**	**0.72**	**84**			Pg	06 20 40.1	-0.7
TDH	**Tom, Dick, Har**	**0.72**	**137**			Pg	06 20 39.9	-0.9
F03A	**Seaside**	**0.76**	**279**			Pg	06 20 40.7	-0.8
F03A	**Seaside**	**0.76**	**279**			Sg	06 20 51.7	+0.4
SHRK	**Shell Rock**	**0.76**	**117**			Pg	06 20 40.8	-0.7
SHRK						Sg	06 20 51.4	0.0
HOOD	**Mount Hood Mea**	**0.77**	**130**	Pg		Pg	06 20 40.2	-1.4
HOOD				IAML			06 20 51.7	
	comp=N,42nm,0.2s							
G03D	**McMinnville, O**	**0.82**	**222**			Pg	06 20 41.3	-1.3
BMW	**Boistfort Moun**	**0.83**	**322**			Pg	06 20 42.0	-1.0
LCW	**Lucas Creek**	**0.86**	**350**			Pg	06 20 42.2	-1.3
VBEM	**Beaver Butte**	**0.99**	**140**			Pg	06 20 44.9	-0.9
G05A	**Wamic**	**1.00**	**125**			Pg	06 20 45.0	-1.2
E03A	**Lebam**	**1.04**	**315**			Pg	06 20 45.3	-1.6
LON	**Longmire**	**1.04**	**27**			Pg	06 20 45.3	-1.6
LON	**Longmire**	**1.04**	**27**			Pg	06 20 45.5	-1.4
RRHS	**Rochester High**	**1.05**	**339**			Pg	06 20 45.7	-1.4
HEBO	**Mount Hebo**	**1.08**	**236**	Pg		Pg	06 20 46.1	-1.5
HEBO				IAML			06 21 11.0	
	comp=N,66nm,1.6s							
RADR	**Rader Ridge**	**1.09**	**304**	Pg		Pg	06 20 46.0	-1.9
RADR				IAML			06 21 03.8	
	comp=E,42nm,3.6s							
RADR				IAML			06 21 14.7	
	comp=N,44nm,3.2s							
REMR	**Mount Rainier-**	**1.10**	**24**			Pg	06 20 46.4	-1.5
OBSR	**Observation Ro**	**1.18**	**23**			Pg	06 20 47.8	-1.6
RVC	**Mount Rainier-**	**1.18**	**17**			Pb	06 20 47.7	-1.8
B941	**Kapowsin**	**1.18**	**9**			Pb	06 20 47.4	-2.0
GHW	**Garrison Hill**	**1.23**	**7**			Pn	06 20 48.4	-1.9
FMW	**Mount Fremont**	**1.25**	**27**			Pn	06 20 47.3	-3.4
SR41	**SR410 Landslid**	**1.25**	**31**			Pn	06 20 48.6	-2.2
H04D	**Lebanon**	**1.31**	**188**			Pn	06 20 49.7	-1.6
COR	**Corvallis**	**1.36**	**205**	Pn		Pn	06 20 50.3	-1.8
COR				IAML			06 21 10.6	
	comp=N,46nm,2.4s							
D05A	**Enumclaw**	**1.41**	**14**			Pn	06 20 51.1	-1.6
G06A	**Carlson Farm,**	**1.43**	**113**	Pn		Pn	06 20 52.0	-1.0
TRW	**Toppenish Ridg**	**1.43**	**70**			Pn	06 20 53.2	+0.1
GSM	**Grass Mountain**	**1.47**	**19**			Pn	06 20 52.7	-0.9
NAC	**Naches**	**1.47**	**51**			Pn	06 20 53.8	+0.2
RATT	**Rattlesnake La**	**1.68**	**16**			Pn	06 20 56.1	-0.3
I05D	**Terrebonne, OR**	**1.69**	**151**			Pn	06 20 56.4	-0.3
MXC	**Moxie City**	**1.70**	**63**			Pn	06 20 56.7	-0.1
GNW	**Green Mountain**	**1.76**	**353**			Pn	06 20 56.6	-1.0
GNW				IAML			06 21 45.9	
	comp=N,12nm,5.0s							
HDW	**Hoodsport**	**1.87**	**348**			Pn	06 20 58.9	-0.2
HBO	**Huckleberry Mo**	**1.98**	**176**			Pn	06 21 01.0	+0.3

*IDC **17** 06:25:25.1±2.1,50°.47N×150°.22E,h422$^{km}_{\pm}$26^{km},mb2.8/7, mbtmp3.8/11,Error ellipse: s-maj=28.7km s-min=14.0km az=119.0*

ISC 17 06:25:23.5±0.8,50°.4N±0°.1×150°.3E±0°.2,h400^{km},n11, σ1ᵍ44/11,mb3.1/7,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.20**	**223**	P	**P**	**06 27 23.1**	**+1.9**
	16nm,0.6s,baz=90,slow=5.1,SNR=10.0						
MA2	**Magadan**	**9.20**	**1**	P	**Pn**	**06 27 33.1**	**+1.2**
	4.3nm,0.6s,baz=173,slow=11,SNR=3.9						
SEY	**Seymchan**	**12.61**	**4**	P	**P**	**06 28 10.5**	**+0.9**
	1.0nm,0.2s,baz=164,slow=9.3,SNR=3.9						
MJAR	**Matsushiro Arr**	**16.38**	**217**	P	**P**	**06 28 51.9**	**+1.0**
	1.6nm,0.4s,baz=14,slow=12,SNR=6.9						
SONM	**Songino Array**	**28.57**	**282**	P	**P**	**06 30 42.0**	**-2.6**
	0.2nm,0.3s,baz=27,slow=9.7,SNR=2.6						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**34.94**	**42**	P	**P**	**06 31 38.9**	**-0.2**
	0.4nm,0.8s,baz=282,slow=9.1,SNR=3.8						
	0.4nm,0.8s						
YKA	**Yellowknife Ar**	**49.12**	**38**	P	**P**	**06 33 31.1**	**-0.8**
	0.3nm,0.7s,baz=304,slow=7.5,SNR=5.0						
	0.3nm,0.7s						
FINES	**FINESS Array B**	**59.95**	**333**	P	**P**	**06 34 49.2**	**+0.5**
	3.1nm,1.0s,baz=54,slow=9.7,SNR=4.3						
	3.1nm,1.0s						
WRA	**Warramunga Arr**	**71.45**	**196**	P	**P**	**06 36 00.7**	**-1.0**
	0.7nm,0.8s,baz=12,slow=5.9,SNR=2.4						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**75.17**	**196**	P	**P**	**06 36 23.6**	**+0.4**
	0.8nm,0.6s,baz=6.1,slow=5.3,SNR=12						
	0.8nm,0.6s						
TXAR	**Lajitas Array**	**77.26**	**59**	P	**P**	**06 36 34.4**	**-0.6**
	0.3nm,0.8s,baz=298,slow=3.8,SNR=2.9						
	0.3nm,0.8s						

IDC 17 06:27:03.4±2.6,6°.30S×130°.12E,h0^{km},mb3.2/1, mbtmp3.2/3,ML3.2/2,Error ellipse: s-maj=154.2km s-min=33.6km az=70.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.17**	**164**	Pn	Pn	06 30 23.6	-1.9
	0.1nm,0.3s,baz=346,slow=13,SNR=2.0						
WRA				Sn	Sn	06 32 47.9	-16
	0.3nm,0.3s,baz=331,slow=23,SNR=9.3						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**17.65**	**168**	P	P	06 31 11.9	+0.1
	0.1nm,0.3s,baz=350,slow=11,SNR=7.3						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**67.71**	**327**	P	P	06 38 02.7	0.0
	0.1nm,0.4s,baz=115,slow=6.5,SNR=2.4						
	0.1nm,0.4s						

IDC 17 06:31:32.7±2.6,6°.63N×126°.36E,h0^{km},mb3.6/4, mbtmp3.6/4,MS4.3/1,Error ellipse: s-maj=249.4km s-min=22.8km az=66.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.54**	**164**	P	P	06 37 21.9	+0.4
	0.6nm,0.8s,baz=344,slow=8.2,SNR=1.4						
	0.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**29.18**	**296**	LR	LR	06 51 28.3	
	comp=Z,300nm,20.0s,baz=230,slow=41						
ASAR	**Alice Springs**	**31.00**	**166**	P	P	06 37 51.7	-0.4
	0.2nm,0.6s,baz=339,slow=7.2,SNR=4.2						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**54.99**	**324**	P	P	06 41 06.3	+0.4
	0.5nm,0.3s,baz=118,slow=7.5,SNR=18						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**59.13**	**327**	P	P	06 41 34.5	-0.6
	0.5nm,0.3s,baz=125,slow=6.6,SNR=7.1						
	0.5nm,0.3s						

*IDC **17** 06:37:57.6±1.1,56°.33S×25°.68W,h0^{km},mb3.9/5, mbtmp3.9/6,ML3.3/1,Error ellipse: s-maj=43.1km s-min=21.6km az=72.0*

ISC 17 06:38:01.8±1.0,56°.4S±0°.2×25°.7W±0°.3,h29^{km},n10, σ0ᵍ87/10,mb3.8/5,3C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**16.43**	**162**	⇑P	**Pn**	**06 41 49.3**	**-0.6**
	comp=Z,0.4nm,0.2s						
VNA2	**Neumayer--Watz**	**16.60**	**159**	⇑P	**Pn**	**06 41 50.6**	**-1.4**
	comp=Z,1.0nm,0.3s,baz=332,slow=16						
SNAA	**Sanae**	**18.13**	**157**	⇑P	**P**	**06 42 12.0**	**+0.8**
	comp=Z,6.3nm,0.2s						
SNAA	**Sanae**	**18.13**	**157**	P	**Pn**	**06 42 10.2**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=299,slow=13,SNR=1.7						
	comp=Z,1.7nm,0.7s						
QSPA	**South Pole Qui**	**33.89**	**180**	P	**P**	**06 44 42.1**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=158,slow=9.2,SNR=13						
	comp=Z,1.1nm,0.6s						
CPUP	**Villa Florida**	**37.64**	**310**	P	**P**	**06 45 13.0**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=185,slow=8.3,SNR=3.2						
	comp=Z,1.2nm,0.7s						
VNDA	**Vanda**	**46.30**	**182**	P	**P**	**06 46 24.4**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=166,slow=8.3,SNR=2.1						
	comp=Z,0.6nm,0.7s						
LPAZ	**La Paz**	**51.23**	**304**	P	**P**	**06 47 04.0**	**+0.6**
	comp=Z,1.3nm,0.3s,baz=134,slow=5.7,SNR=9.3						
	comp=Z,1.3nm,0.3s						
TORD	**Torodi Ar. Bea**	**72.93**	**28**	P	**P**	**06 49 28.3**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=199,slow=6.3,SNR=6.0						
	comp=Z,0.7nm,0.7s						
ILAR	**Eielson Array**	**150.94**	**311**	PKPbc	**PKiKP**	**06 57 50.7**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=124,slow=1.6,SNR=6.1						

IDC 17 06:58:47.2±3.0,6°.72S×128°.70E,h0^{km},mb3.8/1, mbtmp3.8/3,ML3.7/2,Error ellipse: s-maj=325.4km s-min=31.4km az=67.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.24**	**158**	Pn	Pn	07 02 09.3	-0.9
	0.3nm,0.3s,baz=335,slow=12,SNR=1.6						
WRA				Sn	Sn	07 04 35.0	-14
	0.4nm,0.3s,baz=328,slow=23,SNR=2.4						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**17.57**	**164**	P	Pn	07 02 54.3	+0.5
	0.4nm,0.3s,baz=346,slow=11,SNR=34						
ASAR				S	Sn	07 06 00.1	-10
	0.2nm,0.6s,baz=346,slow=22,SNR=1.7						
	1.2nm,0.5s						
MKAR	**Makanchi Array**	**67.29**	**327**	P	P	07 09 43.9	0.0
	0.4nm,0.3s,baz=119,slow=6.7,SNR=6.9						
	0.4nm,0.3s						

*NNC **17** 07:13:05.6±0.4,50°.01N×78°.73E,h0^{km},mb3.1,mpv2.8, Error ellipse: s-maj=4.2km s-min=2.1km az=68.0, Suspected Mining explosion.*

*IDC **17** 07:13:07.2±0.9,50°.07N×78°.71E,h0^{km},mbtmp2.8/2, ML2.4/2,Error ellipse: s-maj=9.6km s-min=6.2km az=62.0*

ISC 17 07:13:06.7±0.9,49°.96N±0°.04×78°.70E±0°.04,h0^{km},n14, σ2ᵍ16/19,7C-4D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**0.67**	**351**	Pg	**Pg**	**07 13 17.9**	**-1.6**
	2.0nm,0.3s,baz=169,slow=19,SNR=30						
KURBB				Lg	Lg	07 13 27.1	
	2.8nm,0.3s,baz=167,slow=30,SNR=10						
KURBB	**Kurchatov Arra**	**0.67**	**351**	⇓P	**Pg**	**07 13 17.6**	**-1.9**
	12nm,0.3s						
KURBB				⇑S	**Sg**	**07 13 26.6**	**-1.6**
	50nm,0.6s						
KURK	**Kurchatov**	**0.76**	**356**	⇓P	**Pg**	**07 13 19.3**	**-1.8**
	3.8nm,0.3s						
KURK				⇓S	**Sg**	**07 13 29.7**	**-1.3**
	12nm,0.6s						
SEM	**Semipalatinsk**	**1.09**	**65**	P	**Pg**	**07 13 25.5**	**-2.1**
	3.8nm,0.2s						
SEM				S	**Sg**	**07 13 40.3**	**-1.4**
	34nm,0.3s						
MAKZ	**Makanchi**	**3.84**	**144**	⇑Pg	**Pb**	**07 14 16.2**	**+1.0**
	0.4nm,0.4s						
MAKZ				⇑Lg	Lg	07 15 06.0	
	9.9nm,0.8s						
BRZS	**Berezniki**	**3.89**	**273**	Pg	**Pb**	**07 14 16.9**	**+0.8**
	0.6nm,0.2s						
BRZS				Lg	Lg	07 15 07.8	
	4.2nm,0.4s						
MK31	**Makanchi Array**	**3.97**	**142**	⇑Pn	**Pn**	**07 14 09.5**	**+0.7**
	0.1nm,0.2s,baz=322,slow=10,SNR=44						
MK31				⇓Pg	**Pb**	**07 14 18.7**	**+1.1**
	0.6nm,0.3s,baz=320,slow=14,SNR=15						
MK31				⇑Lg	Lg	07 15 11.2	
	8.8nm,0.6s,baz=322,slow=26,SNR=20						
MKAR	**Makanchi Array**	**3.97**	**142**	Pn	**Pn**	**07 14 09.9**	**+1.1**
	0.2nm,0.3s,baz=320,slow=10,SNR=52						
MKAR				Pg	**Pb**	**07 14 18.4**	**+0.9**
	0.7nm,0.3s,baz=332,slow=15,SNR=13						
MKAR				Sn	**Sn**	**07 15 00.3**	**+4.2**
	0.9nm,0.3s,baz=329,slow=20,SNR=7.1						
MKAR				Lg	Lg	07 15 10.3	
	1.9nm,0.3s,baz=323,slow=28,SNR=14						
	0.2nm,0.3s						
OTUK	**Ortayu**	**4.52**	**250**	⇑Pn	**Pn**	**07 14 17.0**	**+0.7**
	0.6nm,0.3s						
OTUK				⇑Lg	Lg	07 15 30.8	
	4.3nm,0.8s						
KAPS	**Kapalarasan**	**4.70**	**174**	Pg	**Pg**	**07 14 33.4**	**-3.3**
	1.5nm,0.5s						
KAPS				Lg	Lg	07 15 36.5	
	5.7nm,0.5s						
ZSN	**Zaisan**	**4.79**	**119**	Pg	**Pg**	**07 14 35.2**	**-3.3**
	2.1nm,0.3s						
ZSN				Lg	Lg	07 15 39.7	
	8.3nm,0.4s						
ZALV	**Zalesovo Beam**	**5.50**	**41**	Pn	**Pn**	**07 14 30.1**	**+0.3**
	0.5nm,0.3s,baz=233,slow=14,SNR=5.9						
ZALV				Sn	**Sn**	**07 15 36.6**	**+3.0**
	0.2nm,0.3s,baz=247,slow=18,SNR=1.8						
ZALV				Lg	Lg	07 16 00.5	
	0.4nm,0.3s,baz=228,slow=25,SNR=2.7						
	1.3nm,0.3s						
I46RU	**ZALESOVO INFRA**	**5.50**	**41**	I	I	07 45 50.0	
	0.1nm,0.9s,baz=223,slow=329,SNR=5.7						
AAK	**Ala-Archa**	**7.88**	**203**	Lg	Lg	07 17 19.1	
	0.2nm,0.3s,baz=241,slow=23,SNR=5.4						

*SKHL **17** 07:15:32.8±0.6,44°.30N×148°.90E,h31$^{km}_{\pm}$4^{km},mb4.4/3*
*JMA **17** 07:15:35.1±0.4,44°.N±2°.×14°.8E±°,h0^{km},MV3.5/15,SE OFF ETOROFU*

ISC 17 07:15:33.5±3.8,44°.30N±0°.10×148°.8E±0°.2,h35^{km},n12, σ1ᵍ38/20,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.14**	**325**	*e*P	**Pn**	**07 15 52.3**	**-0.6**
KUR				AMB	AMB	07 15 52.6	
	120nm,0.3s						
KUR				*e*S	**Sn**	**07 16 07.3**	**+0.1**
KUR				A	A	07 16 08.5	
	230nm,0.3s						
KUR				A	A	07 16 08.5	
	190nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.12**	**264**	*e*P	**Pn**	**07 16 07.2**	**+0.8**
YUK				AMB	AMB	07 16 08.7	
	120nm,0.4s						
YUK				*e*S	**Sn**	**07 16 32.5**	**+1.0**
YUK				A	A	07 16 35.9	
	160nm,0.2s						
YUK				A	A	07 16 35.9	
	280nm,0.2s						
NEM2	**Nemuro 2**	**2.39**	**248**	*e*P	**Pn**	**07 16 10.0**	**-0.1**
NEM2				*e*S	**Sn**	**07 16 35.3**	**-2.8**
NMR	**Nemuro--Hokkai**	**2.40**	**248**	*e*P	**Pn**	**07 16 10.4**	**+0.2**
NMR				*e*S	**Sn**	**07 16 38.7**	**+0.3**
JNSB	**Nemuroshibetsu**	**2.78**	**260**	*e*P	**Pn**	**07 16 16.7**	**+1.3**
JNK	**Nakash**	**3.02**	**258**	*e*P	**Pn**	**07 16 19.5**	**+0.7**
JNK				*e*S	**Sn**	**07 16 52.1**	**-1.6**
AKK	**Akkeshi**	**3.14**	**247**	*e*P	**Pn**	**07 16 21.5**	**+1.2**
AKK				AMB	AMB	07 16 23.0	
	40nm,0.5s						
AKK				*e*S	**Sn**	**07 16 57.3**	**+0.8**
AKK				A	A	07 17 08.4	
	70nm,0.3s						
AKK				A	A	07 17 08.4	
	90nm,0.3s						
JAK	**Akkeshi**	**3.24**	**248**	*e*P	**Pn**	**07 16 22.3**	**+0.5**
JAK				*e*S	**Sn**	**07 16 57.3**	**-1.9**
JAR	**Abashiri--Toko**	**3.53**	**266**	*e*P	**Pn**	**07 16 27.6**	**+1.9**
JAR	**Ashorobuto**	**3.77**	**256**	*e*S	**Sn**	**07 17 11.1**	**-1.1**
JCH	**Churui**	**4.29**	**249**	*e*P	**Pn**	**07 16 37.5**	**+1.3**
JNBK	**Urakawa-nobuka**	**4.84**	**247**	*e*P	**Pn**	**07 16 44.6**	**+0.8**
JNBK				*e*S	**Sn**	**07 17 36.5**	**-2.2**

*IDC **17** 07:19:31.2±3.4,4°.78S×102°.73E,h0^{km},mb3.7/7, mbtmp3.7/7,Error ellipse: s-maj=158.0km s-min=20.7km az=51.0*
*DJA **17** 07:19:39.6±0.5,5°.S±4°.×10°.3E±°,h36$^{km}_{\pm}$10^{km},M4.0/10, mb4.2/3,MLv3.9/10*

ISC 17 07:19:39.4±1.1,4°.8S±0°.1×102°.9E±0°.1,h59^{km},n25, σ1ᵍ11/17,mb3.8/7,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.44**	**5**	P	**Pn**	**07 19 51.0**	**+0.3**
LHSI	**Lahat**	**1.15**	**32**	P	**Pn**	**07 20 00.9**	**+1.6**
LWLI	**Liwa**	**1.16**	**101**	P	**Pn**	**07 20 00.4**	**+0.8**
KASI	**Kota Agung**	**1.73**	**114**	P	**Pn**	**07 20 08.0**	**+0.9**
KASI				S	**Sn**	**07 20 28.2**	**0.0**
KRJI	**Kerinci**	**3.06**	**332**	P	**Pn**	**07 20 28.2**	**+2.7**
PPSI	**Pulau Pagai**	**3.54**	**305**	P	**Pn**	**07 20 32.1**	**+0.2**
SISI	**Saibi**	**5.15**	**312**	P	**Pn**	**07 20 53.5**	**-0.5**
	31nm,0.7s,0.1nm						
CMJI	**Cimerak**	**6.24**	**119**	P	**Pn**	**07 21 09.7**	**+0.7**
H08S2	**Diego Garcia H**	**30.37**	**263**	T	T	07 57 40.6	
	baz=86,slow=76,SNR=4.6						
H08S3	**Diego Garcia H**	**30.38**	**263**	T	T	07 57 48.0	
	baz=86,slow=76,SNR=9.0						
H08S1	**Diego Carcia H**	**30.39**	**263**	T	T	07 57 46.0	
	baz=86,slow=76,SNR=6.4						
H01W3	**Cape Leeuwin H**	**31.68**	**162**	T	T	07 59 27.2	
	baz=335						
H01W2	**Cape Leeuwin H**	**31.70**	**162**	T	T	07 59 27.6	
	baz=335						
H01W1	**Cape Leeuwin H**	**31.70**	**162**	T	T	07 59 36.8	
	baz=335						
WRA	**Warramunga Arr**	**34.08**	**119**	P	**P**	**07 26 18.9**	**+0.4**
	0.3nm,0.7s,baz=300,slow=8.2,SNR=7.5						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**35.26**	**125**	P	**P**	**07 26 29.4**	**+0.7**
	0.1nm,0.3s,baz=299,slow=7.9,SNR=4.5						
	0.1nm,0.3s						
SONM	**Songino Array**	**52.51**	**3**	P	**P**	**07 28 46.0**	**-0.6**
	0.4nm,0.5s,baz=186,slow=8.3,SNR=3.1						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**54.53**	**343**	P	**P**	**07 29 00.7**	**-0.6**
	0.9nm,0.5s,baz=154,slow=8.9,SNR=14						
	0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**59.07**	**342**	P	**P**	**07 29 32.3**	**-1.1**
	0.5nm,0.6s,baz=158,slow=6.4,SNR=4.3						
	0.5nm,0.6s						
H04N2	**CROZET ISLANDS**	**60.35**	**218**	T	T	08 34 25.5	
	baz=62,slow=75,SNR=10						
H04N1	**CROZET ISLANDS**	**60.37**	**219**	T	T	08 34 23.0	
	baz=62,slow=75,SNR=16						
H04N3	**CROZET ISLANDS**	**60.37**	**218**	T	T	08 34 21.2	
	baz=62,slow=75,SNR=16						
ZALV	**Zalesovo Beam**	**60.48**	**348**	P	**P**	**07 29 41.9**	**-1.1**
	0.7nm,0.4s,baz=162,slow=5.3,SNR=4.9						
	0.7nm,0.4s						
BVAR	**Borovoye Array**	**63.82**	**339**	P	**P**	**07 30 04.4**	**-1.0**
	0.5nm,0.5s,baz=140,slow=7.7,SNR=4.0						
	0.5nm,0.5s						
TXAR	**Lajitas Array**	**144.96**	**43**	PKPbc	**PKPdf**	**07 39 10.6**	**-0.3**
	0.3nm,0.6s,baz=304,slow=2.3,SNR=4.6						

WEL 17 07:27:11.8±1.0,31°.S±17°.×177°.8W±3°.1,h454$^{km}_{\pm}$30^{km}, M4.0/10,mB4.4/9,ML4.9/17,MLv4.8/10,Mw(mB)3.5/9, Error ellipse: s-maj=0.8km s-min=0.0km az=114.4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**6.78**	**202**	P	P	07 28 55.5	+1.4
MXZ				S	S	07 30 18.2	+0.2
WMGZ	**Waiomatatini S**	**6.98**	**201**	P	P	07 28 56.6	+0.4
WMGZ				S	S	07 30 22.7	+0.9
HAZ	**Te Kaha**	**7.13**	**205**	P	P	07 28 56.8	-1.0
HAZ				S	S	07 30 25.4	+0.6
PKGZ	**Pakihiroa**	**7.15**	**203**	P	P	07 28 57.3	-0.7
PKGZ				S	S	07 30 26.7	+1.5
PUZ	**Puketiti**	**7.26**	**201**	P	P	07 28 58.9	-0.3
PUZ				S	S	07 30 26.4	-0.9
RUGZ	**Raukumara Rang**	**7.36**	**205**	P	P	07 29 00.1	-0.2
RUGZ				S	S	07 30 30.2	+0.8
TWGZ	**Tauwhareparae**	**7.44**	**202**	P	P	07 29 01.1	0.0
TWGZ				S	S	07 30 32.9	+2.0
CNGZ	**Carnagh Statio**	**7.66**	**200**	P	P	07 29 04.2	+0.8
TKGZ	**Te Karaka**	**7.72**	**202**	P	P	07 29 05.5	+1.4
TKGZ				S	S	07 30 36.9	+0.6
MWZ	**Matawai**	**7.74**	**204**	P	P	07 29 05.0	+0.7
MWZ				S	S	07 30 37.2	+0.5
URZ	**Urewera**	**7.83**	**207**	P	P	07 29 04.1	-1.1
URZ				S	S	07 30 39.1	+0.8
RIGZ	**Rimuhau**	**8.00**	**202**	P	P	07 29 06.3	-0.8
RIGZ				S	S	07 30 40.8	-0.9
AWAZ	**Awhitu Peninsu**	**8.09**	**223**	P	P	07 29 07.1	-0.9
TOZ	**Tahuroa Road**	**8.11**	**216**	P	P	07 29 09.1	+0.9
RTZ	**Ruatahuna**	**8.19**	**206**	P	P	07 29 09.5	+0.3
HRRZ	**Handcock Road**	**8.27**	**210**	P	P	07 29 04.4	-5.6
PRRZ	**Plateau Road**	**8.32**	**209**	P	P	07 29 11.6	+1.1
ALRZ	**Allen Road**	**8.39**	**209**	P	P	07 29 11.6	+0.3
RAHZ	**Arahi**	**8.41**	**204**	P	P	07 29 12.4	+0.9
RAHZ				S	S	07 30 50.7	+0.7
MTHZ	**Maungataniwha**	**8.45**	**206**	P	P	07 29 12.8	+0.9
NMHZ	**Naumai**	**8.67**	**205**	P	P	07 29 15.5	+1.1
ARHZ	**Aropaoanui**	**8.75**	**204**	P	P	07 29 15.8	+0.7
ARHZ				S	S	07 30 58.3	+1.6
BKZ	**Black Stump Fm**	**8.85**	**206**	P	P	07 29 16.5	+0.2
HIZ	**Hauiti**	**9.04**	**216**	P	P	07 29 20.0	+1.7
KWHZ	**Kaweka Forest**	**9.10**	**206**	P	P	07 29 18.0	-1.0
SNVZ	**South Ngauruho**	**9.21**	**210**	P	P	07 29 19.5	-0.9
KRHZ	**Kereru**	**9.31**	**205**	P	P	07 29 21.2	-0.1

*VAO **17** 07:30:44.9±0.7,23°.07S×68°.85W,h10^{km},mb4.3*

PB04 IAML 07 31 33.4
PB09 IPOC Station P 1.57 357 Pn 07 31 13.3 +0.5
PB09 IPOC Station P 1.57 357 *i* P **Pn 07 31 13.2 +0.4**
PB09 IAML 07 31 41.3
comp=Z,3µm,0.6s
PB09 IPOC Station P 1.57 357 *e*P **Pn 07 31 13.9 +1.1**
PB09 *e*S **Sn 07 31 35.1 +2.1**
PB09 IAML 07 31 36.1
comp=E,3µm,0.5s
PB14 IPOC Station P 1.69 222 Pn 07 31 14.8 +0.3
PB07 IPOC Station P 1.77 337 Pn 07 31 15.5 +0.1
PB07 IPOC Station P 1.77 337 *i* P **Pn 07 31 15.0 -0.4**
PB07 IAML 07 31 41.6
comp=Z,4µm,0.6s
PB07 IPOC Station P 1.77 337⇑ *i*P **Pn 07 31 15.6 +0.2**
PB07 *i* S **Sn 07 31 37.2 -0.5**
PB07 IAML 07 31 38.9
comp=E,4µm,0.4s
GO02 Mina Guanaco 1.83 193 Pn **Pn 07 31 16.8 +0.6**
GO02 Mina Guanaco 1.83 193 *i* P **Pn 07 31 16.5 +0.3**
GO02 IAML 07 31 46.5
comp=Z,1µm,0.5s
GO02 Mina Guanaco 1.83 193⇑ *i*P **Pn 07 31 17.2 +1.0**
GO02 *i* S **Sn 07 31 40.5 +1.3**
GO02 IAML 07 31 45.2
comp=N,2µm,0.1s
PB02 IPOC Station P 2.15 341 Pn 07 31 19.6 -0.8
PB02 IPOC Station P 2.15 341⇑ *i*P **Pn 07 31 20.5 +0.1**
PB02 *i* S **Sn 07 31 44.0 -2.6**
PB02 IAML 07 31 53.4
comp=E,4µm,0.1s
PB01 IPOC Station P 2.34 352 Pn 07 31 22.0 -0.8
PB01 IPOC Station P 2.34 352⇑ *i*P **Pn 07 31 23.0 +0.2**
PB01 IAML 07 31 55.4
comp=E,2µm,0.3s
TA01 Diego Aracena 2.95 341 Pn 07 31 28.9 -2.0
AC01 Pan de Azucar 3.06 205 Pn **Pn 07 31 31.3 -1.1**
AC01 Pan de Azucar 3.06 205 *i* P **Pn 07 31 30.9 -1.5**
AC01 IAML 07 32 17.1
comp=Z,247nm,0.4s
PB08 IPOC Station P 3.21 360 Pn **Pn 07 31 34.5 -0.3**
TA02 Huaiquique 3.22 343 Pn 07 31 33.0 -1.5
AC02 Maricunga 3.45 180 Pn **Pn 07 31 39.3 +1.3**
AC02 Maricunga 3.45 180 *i* P **Pn 07 31 38.8 +0.7**
AC02 IAML 07 32 45.1
comp=Z,328nm,0.8s
PB11 IPOC Station P 3.62 352 Pn **Pn 07 31 38.8 -1.3**
GO01 Chusmiza 3.69 359 Pn 07 31 40.9 -0.4
GO01 Chusmiza 3.69 359 *i* P **Pn 07 31 40.2 -1.1**
GO01 IAML 07 32 49.5
comp=Z,360nm,0.3s
GO01 Chusmiza 3.69 359 *e*P **Pn 07 31 42.7 +1.4**
AC06 Mina Casimiro 4.12 195 Pn 07 31 44.8 -1.9
GO03 Copiap 4.32 193 Pn 07 31 48.1 -1.4
GO03 Copiap 4.32 193 *i* P **Pn 07 31 47.7 -1.7**
GO03 IAML 07 33 08.8
comp=Z,196nm,0.4s
PB16 IPOC Station P 5.02 356 Pn 07 31 59.4 -0.2
VCA Vinchina 5.41 171 *i* P **Pn 07 32 05.4 +1.0**
VCA IAML 07 33 11.7
comp=Z,45nm,0.8s
LCO Las Campanas 5.79 194 Pn 07 32 07.2 -2.4
CO01 Juntas del Tor 6.63 187 Pn 07 32 20.2 -1.0
GO04 Tololo Observa 6.93 192 Pn 07 32 23.1 -2.2
LPAZ La Paz 7.11 8 Pn 07 32 27.9 -0.2
LPAZ La Paz 7.11 8 P **Pn 07 32 28.7 +0.7**
comp=Z,2.7nm,0.6s,baz=172,slow=3.3,SNR=13
LPAZ La Paz 7.11 8 *e*P **Pn 07 32 23.8 -4.3**
TICA Tres Isletas 8.51 112 *e*P **Pn 07 32 46.7 +0.2**
BBSD Serra de San D 10.10 54 *e*P **Pn 07 33 05.8 -2.5**
SIV San Ignacio 10.57 47 P **Pn 07 33 11.7 -3.1**
comp=Z,8.7nm,0.5s,baz=235,slow=9.3,SNR=47
SIV S Sn 07 35 00.1 -11
comp=Z,1.9nm,0.4s,baz=319,slow=2.3,SNR=2.0
CPUP Villa Florida 11.13 108 P **Pn 07 33 21.1 -1.2**
comp=Z,3.2nm,0.8s,baz=300,slow=13,SNR=6.8
CPUP LR LR 07 37 30.7
comp=Z,73nm,19.2s,baz=45,slow=37
PTLB Pontes e Lacer 12.30 52 Pn 07 33 36.0 -2.0
PTLB Pontes e Lacer 12.30 52 *e*P **Pn 07 33 34.5 -3.6**
AMBA Amambai (Brazi 13.04 91 *e*P **Pn 07 33 46.9 -1.0**
ETMB Extrema 13.77 12 *e*P **Pn 07 33 55.9 -1.6**
CRSM Crissiumal (Br 14.25 110 *e*P **Pn 07 34 04.7 +0.9**
RODS Rosario do Sul 14.25 122 *e*P **P 07 34 06.8 -1.5**
SALV Santo Antonio 14.69 62 *e*P **Pn 07 34 07.4 -2.0**
SAML Samuel 15.44 23 *e*P **Pn 07 34 18.6 -0.4**
ALGR Alto Alegre (B 15.46 114 *e*P **P 07 34 21.0 -0.8**
PTGB Pitanga 15.67 98 *e*P **P 07 34 24.5 +0.3**
ITAB Concordia 15.86 108 Pn **Pn 07 34 23.4 -0.9**
ITAB IAmb IAmb 07 34 27.9
comp=Z,23nm,1.4s
ITAB Concordia 15.86 108 *e*P **P 07 34 26.1 -0.1**
TRQA Tornquist 15.87 159 Pn 07 34 23.3 -1.1
TRQA IAmb IAmb 07 34 27.7
comp=Z,12nm,0.7s
CZSB Cruzeiro do Su 15.92 347 P **P 07 34 27.2 +0.2**
CZSB IAmb IAmb 07 34 57.8
comp=Z,52nm,1.2s
CZSB Cruzeiro do Su 15.92 347 *e*P **P 07 34 27.4 +0.4**
GO06 Curarehue 16.28 186 Pn **Pn 07 34 27.3 -2.2**
LDASE Londrina, Braz 16.56 94 *e*P **P 07 34 33.7 -0.3**
PLCA Paso Flores 17.35 184 Pn **P 07 34 40.1 -2.5**
PLCA Paso Flores 17.35 184 P **Pn 07 34 43.1 +0.5**
comp=Z,1.7nm,0.6s,baz=356,slow=10,SNR=7.0
CLDB Colider 17.80 48 *e*P **Pn 07 34 48.4 +0.3**
ITRB Iturama 17.86 82 *e*P **Pn 07 34 49.6 +0.7**
FRTB Fartura 17.99 94 *e*P **Pn 07 34 50.5 0.0**
TBTG Tabatinga, AM 19.09 358 P **Pn 07 35 02.9 -0.7**
TBTG Tabatinga, AM 19.09 358 *e*P **Pn 07 35 03.5 0.0**
TEFE Tefe 20.22 13 *e*P **P 07 35 14.1 0.0**
MCRA Macar, Loja 21.58 329 P **P 07 35 28.5 -0.3**
PARB Paraibuna 21.60 95 *e*P **P 07 35 32.4 +3.4**
MACA Manacapuru-AM 21.70 23 P **P 07 35 28.2 -1.7**
OTAV Otavalo 25.15 338 *e*P **P 07 36 09.4 +5.7**
GO08 Villa O'Higgin 25.19 185 P **P 07 36 05.0 +1.7**
GO08 IAmb IAmb 07 36 05.2
comp=Z,25nm,1.5s
BOAV Boa Vista 26.95 19 P **P 07 36 18.2 -1.3**
BOAV IAmb IAmb 07 36 52.3
comp=Z,6.0nm,0.8s
MDP Montagnes des 32.57 32 LR LR 07 50 57.1
comp=Z,80nm,20.7s,baz=108,slow=37
NBPB Pedra_Branca-C 33.55 63 *e*P P 07 37 22.6 +4.8
SNAA Sanae 60.59 161 P **P 07 40 47.9 +0.7**
comp=Z,1.4nm,0.6s,baz=339,slow=8.5,SNR=1.6
comp=Z,1.4nm,0.6s
JCT Junction City 61.09 330 P **P 07 40 50.9 -0.1**
SAND Sanderson 61.77 328 P **P 07 40 55.9 +0.3**
SAND IAmb IAmb 07 40 57.4
comp=Z,4.6nm,1.1s
TXAR Lajitas Array 62.04 326 P **P 07 40 56.5 -1.0**
TXAR Lajitas Array 62.04 326 P **P 07 40 58.2 +0.7**
comp=Z,0.5nm,0.5s,baz=157,slow=8.4,SNR=12
TXAR pP **pP 07 41 21.6 +1.4**
comp=Z,0.2nm,0.7s,baz=139,slow=7.1,SNR=1.4
comp=Z,0.5nm,0.5s
TX31 Lajitas Ar. Si 62.04 326 P **P 07 40 57.7 +0.2**
TX31 IAmb IAmb 07 41 33.0
comp=Z,4.0nm,1.4s
OZNA Ozona 62.08 329 P **P 07 40 57.4 -0.2**
OZNA IAmb IAmb 07 40 58.4
comp=Z,1.9nm,0.7s
VHRN Van Horn 63.88 326 P **P 07 41 09.9 +0.2**
VHRN IAmb IAmb 07 41 11.4
comp=Z,5.4nm,0.9s
QSPA South Pole Qui 66.83 180 P **P 07 41 29.9 +1.6**
comp=Z,0.7nm,0.6s,baz=180,slow=3.0,SNR=11
QSPA pP **pP 07 41 52.3 +0.7**
comp=Z,2.1nm,0.5s,baz=194,slow=1.3,SNR=5.0
comp=Z,0.7nm,0.6s
PDAR Pinedale Array 75.62 330 P **P 07 42 22.2 +0.6**
comp=Z,0.3nm,0.4s,baz=106,slow=4.8,SNR=2.5
comp=Z,0.3nm,0.4s
NVAR Mina Array Bea 76.83 322 P **P 07 42 29.9 +1.4**
comp=Z,0.7nm,0.8s,baz=144,slow=4.0,SNR=5.9
comp=Z,0.7nm,0.8s
ULM Lac du Bonnet 77.03 343 P **P 07 42 29.0 -0.1**
comp=Z,2.9nm,0.4s,baz=139,slow=6.8,SNR=8.4
comp=Z,2.9nm,0.4s
SCHQ Schefferville 77.91 1 P **P 07 42 33.8 -0.2**
comp=Z,4.4nm,1.1s,baz=155,slow=3.1,SNR=5.0
comp=Z,4.4nm,1.1s
TORD Torodi Ar. Bea 78.20 70 P **P 07 42 36.0 -0.4**
comp=Z,3.2nm,0.5s,baz=258,slow=5.2,SNR=33
TORD pP **pP 07 43 00.1 -0.4**
comp=Z,1.8nm,0.5s,baz=258,slow=5.0,SNR=5.5
comp=Z,3.2nm,0.5s
YKA Yellowknife Ar 92.87 341 P **P 07 43 48.8 +0.3**
comp=Z,1.1nm,0.8s,baz=136,slow=4.3,SNR=20
comp=Z,1.1nm,0.8s
KURBB Kurchatov Arra 143.01 34 PKP **PKPdf 07 50 06.9 -2.4**
comp=Z,0.3nm,0.5s,baz=307,slow=3.0,SNR=2.0
ZALV Zalesovo Beam 143.73 26 PKP PKPbc 07 50 08.4 +0.1
comp=Z,2.4nm,0.9s,baz=294,slow=2.6,SNR=6.1
MKAR Makanchi Array 147.26 37 PKPbc **PKPbc 07 50 17.8 -1.5**
comp=Z,2.4nm,0.8s,baz=356,slow=2.3,SNR=12
MKAR pPKPbc **pPKPbc 07 50 44.6 0.0**
comp=Z,1.0nm,0.5s,baz=305,slow=3.6,SNR=4.5

*BGR **17** 07:36:29.7,23.°99S×179.°37W,h500km*
*BJI **17** 07:36:30.8±0.0,23.°55S×179.°20W,h521km,mb4.7/39, mB5.0/19*
*IDC **17** 07:36:32.2±0.8,23.°82S×179.°89W,h510km±8km,mb4.1/24, mbtmp5.0/28,Error ellipse: s-maj=9.2km s-min=9.1km az=22.0*
*NEIC **17** 07:36:33.8±2.8,23.°73S±0.°10×179.°84W±0.°09, h530km±6km,mb4.9/74,Error ellipse: s-maj=14.2km s-min=11.4km az=184.0*
*NOU **17** 07:36:33.6,23.°85S×179.°82W,h531km,ML4.9/99,South of Fiji Islands*
ISC 17 07:36:32.5±0.3,23.°81S±0.°04×179.°91W±0.°05,h518km, n527,σ1.°09/577,mb4.9/112,23C-13D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.71**	**162**	P	**P**	**P**	**07 38 07.5**	**+0.8**
RAO	**Raoul Island**	**5.71**	**162**	P	**P**	**P**	**07 38 08.7**	**+1.9**
RAO	**Raoul Island**	**5.71**	**162**	P	**P**	**P**	**07 38 06.9**	**+0.1**
	898nm,0.5s,baz=143,slow=3.2,SNR=12							
RAO				S	**S**	**S**	**07 39 21.7**	**-2.2**
	647nm,0.3s,baz=96,slow=22,SNR=9.6							
GLKZ	**Green Lake**	**5.71**	**162**	P	**P**	**P**	**07 38 07.4**	**+0.5**
GLKZ				S	**S**	**S**	**07 39 25.1**	**+1.0**
MSVF	**Nonsavu**	**6.34**	**342**	P	**P**	**P**	**07 38 12.9**	**-0.2**
MSVF	**Nonsavu**	**6.34**	**342**	P	**P**	**P**	**07 38 13.9**	**+0.8**
DGTI	**Dogotuki**	**7.48**	**357**	P	**P**	**P**	**07 38 26.1**	**+1.9**
NIUE	**Niue**	**10.42**	**65**	P	**P**	**P**	**07 38 52.8**	**-1.7**
	baz=10,SNR=4.3							
NIUE	**Niue**	**10.42**	**65**	P	**P**	**P**	**07 38 52.9**	**-1.7**
NIUE	**Niue**	**10.42**	**65**	P	**P**	**P**	**07 38 55.2**	**+0.7**
MARNC	**Mare, Loyalty**	**11.38**	**279**	P	**P**	**P**	**07 39 05.7**	**+1.1**
PINNC	**Pines Island,**	**11.69**	**273**	P	**P**	**P**	**07 39 09.4**	**+1.6**
PINNC	**Pines Island,**	**11.69**	**273**	P	**P**	**P**	**07 39 10.3**	**+2.5**
LIFNC	**LIFOU**	**12.27**	**282**	P	**P**	**P**	**07 39 14.2**	**+0.3**
OUENC	**Ouen Island, N**	**12.27**	**274**	P	**P**	**P**	**07 39 15.0**	**+1.1**
OUENC	**Ouen Island, N**	**12.27**	**274**	P	**P**	**P**	**07 39 17.4**	**+3.5**
AFI	**Afiamalu**	**12.49**	**39**	P	**P**	**P**	**07 39 12.9**	**-3.6**
DZM	**Mont Dzumac**	**12.69**	**275**	P	**P**	**P**	**07 39 20.4**	**+1.9**
DZM	**Mont Dzumac**	**12.69**	**275**	P	**P**	**P**	**07 39 21.2**	**+2.7**
DZM	**Mont Dzumac**	**12.69**	**275**	*e*Pn	**P**	**P**	**07 39 20.8**	**+2.3**
	64nm,1.1s							
DZM				*e*Sn	**S**	**S**	**07 41 34.2**	**-1.0**
	52nm,1.5s							
DZM	**Mont Dzumac**	**12.69**	**275**	P	**P**	**P**	**07 39 19.8**	**+1.3**
	11nm,0.7s,baz=60,slow=20,SNR=18							
DZM				S	**S**	**S**	**07 41 34.3**	**-0.9**
	3.9nm,0.7s,baz=88,slow=17,SNR=1.3							
OUZ	**Omahuta**	**12.69**	**205**	P	**P**	**P**	**07 39 20.1**	**+1.9**
NOUC	**Port Laguerre**	**12.82**	**275**	P	**P**	**P**	**07 39 22.2**	**+2.5**
TGRZ	**Tauranga**	**14.26**	**192**	P	**P**	**P**	**07 39 38.4**	**+3.9**
RUGZ	**Raukumara Rang**	**14.26**	**188**	P	**P**	**P**	**07 39 35.2**	**+0.5**
PUZ	**Puketiti**	**14.30**	**186**	P	**P**	**P**	**07 39 34.4**	**-0.6**
PUZ				S	**S**	**S**	**07 42 01.9**	**-3.6**
TOZ	**Tahuroa Road**	**14.42**	**195**		**P**	**P**	**07 39 36.4**	**+0.1**
KMRZ	**Kaimai**	**14.44**	**193**	P	**P**	**P**	**07 39 40.0**	**+3.5**
TWGZ	**Tauwhareparae**	**14.44**	**187**	P	**P**	**P**	**07 39 36.1**	**-0.4**
TWGZ				S	**S**	**S**	**07 42 06.5**	**-1.6**
KARZ	**Kaharoa**	**14.54**	**192**	P	**P**	**P**	**07 39 41.0**	**+3.5**
OMRZ	**Omania**	**14.60**	**192**	P	**P**	**P**	**07 39 40.9**	**+2.7**
URZ	**Urewera**	**14.63**	**189**	P	**P**	**P**	**07 39 38.3**	**-0.1**
URZ	**Urewera**	**14.63**	**189**	P	**P**	**P**	**07 39 37.7**	**-0.7**
	42nm,0.5s,baz=85,slow=1.1,SNR=54							
URZ				S	**S**	**S**	**07 42 07.5**	**-4.1**
	48nm,0.6s,baz=265,slow=23,SNR=14							
URZ	**Urewera**	**14.63**	**189**	P	**P**	**P**	**07 39 37.3**	**-1.1**
URZ				S	**S**	**S**	**07 42 10.3**	**-1.4**
MWZ	**Matawai**	**14.64**	**188**	P	**P**	**P**	**07 39 37.7**	**-1.0**
MWZ				S	**S**	**S**	**07 42 10.3**	**-1.8**
UTU	**Utuhina**	**14.70**	**192**	P	**P**	**P**	**07 39 42.3**	**+3.1**
TKGZ	**Te Karaka**	**14.71**	**187**	P	**P**	**P**	**07 39 41.6**	**+2.4**
TKGZ				S	**S**	**S**	**07 42 12.4**	**-0.8**
CNGZ	**Carnagh Statio**	**14.72**	**186**	P	**P**	**P**	**07 39 39.9**	**+0.6**
RRRZ	**Republican Roa**	**14.80**	**191**	P	**P**	**P**	**07 39 41.7**	**+1.4**
GRRZ	**Galatos Road**	**14.89**	**192**	P	**P**	**P**	**07 39 40.9**	**-0.3**
HRRZ	**Handcock Road**	**14.89**	**192**	P	**P**	**P**	**07 39 42.6**	**+1.4**
PRRZ	**Plateau Road**	**14.98**	**191**	P	**P**	**P**	**07 39 43.3**	**+1.2**
RIGZ	**Rimuhau**	**14.98**	**187**	P	**P**	**P**	**07 39 41.8**	**-0.3**
RIGZ				S	**S**	**S**	**07 42 16.2**	**-2.4**
TLZ	**Tolley Road**	**14.99**	**194**	P	**P**	**P**	**07 39 45.4**	**+3.2**
KOUNC	**Koumac, New Ca**	**14.99**	**279**	P	**P**	**P**	**07 39 42.5**	**0.0**
RTZ	**Ruatahuna**	**15.00**	**189**	P	**P**	**P**	**07 39 41.1**	**-1.3**
KUTZ	**Kaahu Road**	**15.08**	**193**	P	**P**	**P**	**07 39 46.0**	**+2.9**
MTHZ	**Maungataniwha**	**15.25**	**190**	P	**P**	**P**	**07 39 36.6**	**-8.4**
WATZ	**Wairara**	**15.31**	**193**	P	**P**	**P**	**07 39 47.2**	**+1.6**
KATZ	**Kakaramea**	**15.57**	**193**	P	**P**	**P**	**07 39 49.6**	**+1.2**
BKZ	**Black Stump Fm**	**15.61**	**190**		**P**	**P**	**07 39 48.1**	**-0.6**
BKZ	**Black Stump Fm**	**15.61**	**190**	P	**P**	**P**	**07 39 48.2**	**-0.5**
BKZ	**Black Stump Fm**	**15.61**	**190**	P	**P**	**P**	**07 39 47.4**	**-1.3**
NTVZ	**North Tongarir**	**15.70**	**193**	P	**P**	**P**	**07 39 49.5**	**-0.2**
KRVZ	**Karewarewa**	**15.70**	**193**	P	**P**	**P**	**07 39 49.5**	**-0.2**
TMVZ	**Te Maari**	**15.71**	**193**	P	**P**	**P**	**07 39 49.8**	**0.0**
TWVZ	**Taurewa**	**15.72**	**193**	P	**P**	**P**	**07 39 49.2**	**-0.7**
ETVZ	**East Tongariro**	**15.73**	**193**	P	**P**	**P**	**07 39 50.9**	**+0.9**
WTVZ	**West Tongariro**	**15.73**	**193**	P	**P**	**P**	**07 39 49.9**	**-0.1**
NNVZ	**North Ngauruho**	**15.74**	**193**	P	**P**	**P**	**07 39 50.1**	**-0.1**
OTVZ	**Oturere**	**15.76**	**193**	P	**P**	**P**	**07 39 49.1**	**-1.3**
NGZ	**Ngauruhoe**	**15.79**	**193**	P	**P**	**P**	**07 39 50.8**	**+0.1**
SNVZ	**South Ngauruho**	**15.79**	**193**	P	**P**	**P**	**07 39 50.0**	**-0.7**
COVZ	**Chateau Observ**	**15.82**	**193**	P	**P**	**P**	**07 39 52.6**	**+1.6**
MCHZ	**McNeill Hill**	**15.85**	**190**	P	**P**	**P**	**07 39 50.5**	**-0.6**
TUVZ	**Tukino**	**15.87**	**193**	P	**P**	**P**	**07 39 51.0**	**-0.5**
KWHZ	**Kawhia Forest**	**15.88**	**190**	P	**P**	**P**	**07 39 49.9**	**-1.5**
TRVZ	**Turoa**	**15.92**	**193**	P	**P**	**P**	**07 39 51.8**	**-0.3**
WNVZ	**Wahianoa**	**15.93**	**193**	P	**P**	**P**	**07 39 51.4**	**-0.8**
MOVZ	**Moawhango**	**15.98**	**192**	P	**P**	**P**	**07 39 51.8**	**-0.8**
BHHZ	**Black Hill Sta**	**16.00**	**191**	P	**P**	**P**	**07 39 50.0**	**-2.7**
KAHZ	**Kahuranaki**	**16.17**	**189**	P	**P**	**P**	**07 39 53.5**	**-0.9**
BFZ	**Birch Farm**	**17.13**	**190**	P	**P**	**P**	**07 40 02.3**	**-1.6**
MRZ	**Mangatainoka R**	**17.23**	**192**		**P**	**P**	**07 40 02.4**	**-2.3**
SNZO	**South Karori**	**18.02**	**193**	P	**P**	**P**	**07 40 10.1**	**-1.9**
BHW	**Baring Head**	**18.09**	**193**		**P**	**P**	**07 40 11.4**	**-1.1**
QRZ	**Quartz Range**	**18.12**	**199**	P	**P**	**P**	**07 40 13.5**	**+0.6**
QRZ	**Quartz Range**	**18.12**	**199**	P	**P**	**P**	**07 40 12.5**	**-0.4**
PLWZ	**Palliser**	**18.17**	**192**		**P**	**P**	**07 40 12.0**	**-1.4**
TKNZ	**Takaka Hill**	**18.19**	**198**	P	**P**	**P**	**07 40 13.5**	**0.0**
TUWZ	**Tuamarina**	**18.31**	**195**	P	**P**	**P**	**07 40 13.4**	**-1.2**
RAR	**Rarotonga**	**18.78**	**86**		**P**	**P**	**07 40 16.9**	**-2.3**
RAR	**Rarotonga**	**18.78**	**86**	P	**P**	**P**	**07 40 18.8**	**-0.4**
RAR	**Rarotonga**	**18.78**	**86**	P	**P**	**P**	**07 40 18.7**	**-0.4**
	21nm,0.6s,baz=246,slow=7.0,SNR=9.7							
THZ	**Tophouse**	**18.88**	**197**		**P**	**P**	**07 40 18.9**	**-1.0**
LHI	**Lord Howe Isla**	**20.13**	**243**	P	**P**	**P**	**07 40 32.6**	**+1.3**
	baz=20							
RPZ	**Rata Peaks**	**21.20**	**198**	P	**P**	**P**	**07 40 40.4**	**-0.5**
RPZ	**Rata Peaks**	**21.20**	**198**	P	**P**	**P**	**07 40 40.3**	**-0.5**
	27nm,0.6s,baz=12,slow=2.0,SNR=17							
RPZ				S	**S**	**S**	**07 43 57.9**	**-4.1**
	7.0nm,0.7s,baz=66,slow=22,SNR=1.7							
	27nm,0.6s							
GC1S	**Gold Coast 1 S**	**24.26**	**254**	P	**P**	**P**	**07 41 09.6**	**+1.1**
ARMA	**Armidale**	**26.13**	**249**	P	**P**	**P**	**07 41 26.5**	**+1.3**
	baz=26,SNR=79							
ARMA	**Armidale**	**26.13**	**249**	P	**P**	**P**	**07 41 25.8**	**+0.7**
ARMA	**Armidale**	**26.13**	**249**	P	**P**	**P**	**07 41 26.6**	**+1.4**
EIDS	**Eidsvold**	**26.40**	**261**	P	**P**	**P**	**07 41 28.1**	**+0.6**
	baz=27,SNR=39							
EIDS	**Eidsvold**	**26.40**	**261**	P	**P**	**P**	**07 41 27.3**	**-0.2**
EIDS	**Eidsvold**	**26.40**	**261**	P	**P**	**P**	**07 41 28.2**	**+0.7**
NTLH	**Newcastle Hard**	**26.51**	**244**	P	**P**	**P**	**07 41 29.0**	**+0.7**
AUPHS	**Peel High Scho**	**26.86**	**248**	P	**P**	**P**	**07 41 32.7**	**+1.3**
MGCD	**Mangrove Creek**	**27.06**	**243**	P	**P**	**P**	**07 41 34.8**	**+1.7**
	baz=27,SNR=35							
MGCD	**Mangrove Creek**	**27.06**	**243**	P	**P**	**P**	**07 41 35.0**	**+1.8**
MGCD	**Mangrove Creek**	**27.06**	**243**	P	**P**	**P**	**07 41 34.8**	**+1.7**
RK1H	**Rockhampton Ha**	**27.11**	**265**	P	**P**	**P**	**07 41 34.6**	**+0.9**
SYDH	**Sydney Hard Ro**	**27.49**	**242**	P	**P**	**P**	**07 41 38.3**	**+1.4**
WOLH	**Wollongong Har**	**27.54**	**241**	P	**P**	**P**	**07 41 38.7**	**+1.4**
TBI	**Tubuai**	**27.89**	**95**	*e*sS	sS	sS	07 48 21.5	-6.2
	2µm,41.0s							
AUUHS	**Ulladulla High**	**28.11**	**239**	P	**P**	**P**	**07 41 43.6**	**+1.3**
AUDCS	**Dubbo College**	**28.93**	**246**	P	**P**	**P**	**07 41 50.6**	**+1.0**
CNB	**Canberra Magne**	**28.97**	**240**	P	**P**	**P**	**07 41 51.1**	**+1.2**
	baz=29,SNR=72							
CNB	**Canberra Magne**	**28.97**	**240**	P	**P**	**P**	**07 41 50.1**	**+0.2**
CNB	**Canberra Magne**	**28.97**	**240**	P	**P**	**P**	**07 41 51.2**	**+1.2**
PPT2	**Papeete2**	**29.00**	**83**	*e*sS	sS	sS	07 48 35.8	-10
	569nm,29.0s							
PPT2				*e*sS	SS	SS	07 48 42.3	-31
	709nm,26.2s							
PPT	**Papeete**	**29.01**	**83**	P	**P**	**P**	**07 41 50.9**	**+0.5**
	36nm,0.7s,baz=60,slow=3.9,SNR=8.8							
	36nm,0.7s							
AULRC	**Lightning Ridg**	**29.19**	**252**	P	**P**	**P**	**07 41 53.0**	**+1.2**
CAN	**Canberra**	**29.26**	**240**	P	**P**	**P**	**07 41 53.2**	**+0.7**
CAN	**Canberra**	**29.26**	**240**	P	**P**	**P**	**07 41 53.0**	**+0.6**
CAN	**Canberra**	**29.26**	**240**	P	**P**	**P**	**07 41 53.5**	**+1.1**
YNG	**Young**	**29.50**	**242**	P	**P**	**P**	**07 41 55.7**	**+1.1**
	baz=30,SNR=9.0							
YNG	**Young**	**29.50**	**242**	P	**P**	**P**	**07 41 55.2**	**+0.7**
YNG	**Young**	**29.50**	**242**	P	**P**	**P**	**07 41 55.5**	**+1.0**
MILA	**Mila**	**29.62**	**236**	P	**P**	**P**	**07 41 56.5**	**+1.0**
	baz=30,SNR=9.5							
MILA	**Mila**	**29.62**	**236**	P	**P**	**P**	**07 41 56.0**	**+0.5**
MILA	**Mila**	**29.62**	**236**	P	**P**	**P**	**07 41 56.7**	**+1.2**
AUSMG	**Snowy Mountain**	**29.85**	**238**	P	**P**	**P**	**07 41 58.6**	**+1.0**
TV1H	**Townsville Har**	**31.26**	**272**	P	**P**	**P**	**07 42 10.4**	**+0.6**
CMSA	**Cobar Meteorol**	**31.33**	**248**	P	**P**	**P**	**07 42 10.7**	**+0.5**
	baz=32,SNR=114							
CMSA	**Cobar Meteorol**	**31.33**	**248**	P	**P**	**P**	**07 42 10.6**	**+0.4**
CMSA	**Cobar Meteorol**	**31.33**	**248**	P	**P**	**P**	**07 42 10.7**	**+0.5**
CTA	**Charters Tower**	**31.56**	**270**	P	**P**	**P**	**07 42 13.0**	**+0.6**
	182nm,0.5s,baz=90,slow=8.9,SNR=363							
CTAO	**Charters Tower**	**31.56**	**270**	P	**P**	**P**	**07 42 13.1**	**+0.7**
CTAO	**Charters Tower**	**31.56**	**270**	P	**P**	**P**	**07 42 12.9**	**+0.6**
CTAO	**Charters Tower**	**31.56**	**270**	P	**P**	**P**	**07 42 13.3**	**+0.9**
CTAO	**Charters Tower**	**31.56**	**270**	P	**P**	**P**	**07 42 13.0**	**+0.6**
GLAD	**Gladstone**	**31.81**	**230**	P	**P**	**P**	**07 42 15.0**	**+0.8**
AULHS	**Lilydale High**	**32.47**	**230**	P	**P**	**P**	**07 42 20.2**	**+0.4**
QLP	**Quilpie**	**32.50**	**257**	P	**P**	**P**	**07 42 20.5**	**+0.2**
	baz=33,SNR=15							
QLP	**Quilpie**	**32.50**	**257**	P	**P**	**P**	**07 42 20.9**	**+0.6**
QLP	**Quilpie**	**32.50**	**257**	P	**P**	**P**	**07 42 20.7**	**+0.4**
TOO	**Toolangi**	**32.57**	**237**	P	**P**	**P**	**07 42 21.0**	**+0.2**
	baz=33,SNR=4.5							
TOO	**Toolangi**	**32.57**	**237**	P	**P**	**P**	**07 42 20.8**	**0.0**
TOO	**Toolangi**	**32.57**	**237**	P	**P**	**P**	**07 42 21.2**	**+0.4**
TOO	**Toolangi**	**32.57**	**237**	P	**P**	**P**	**07 42 21.6**	**+0.8**
CORO	**Coronation Par**	**32.59**	**229**	P	**P**	**P**	**07 42 22.2**	**+1.3**
MOO	**Moorlands**	**32.95**	**228**	P	**P**	**P**	**07 42 24.8**	**+0.9**
	baz=33							
TAU	**Tasmania Unive**	**33.06**	**227**	P	**P**	**P**	**07 42 25.3**	**+0.5**
TAU	**Tasmania Unive**	**33.06**	**227**	P	**P**	**P**	**07 42 25.8**	**+1.0**
TAU	**Tasmania Unive**	**33.06**	**227**	P	**P**	**P**	**07 42 25.7**	**+1.0**
TAU	**Tasmania Unive**	**33.06**	**227**	P	**P**	**P**	**07 42 25.5**	**+0.8**
GEXS	**Deakin Univers**	**33.65**	**236**	P	**P**	**P**	**07 42 31.1**	**+1.3**
GEXS	**Deakin Univers**	**33.65**	**236**	P	**P**	**P**	**07 42 30.9**	**+1.1**
BRAT	**Ballarat**	**33.76**	**238**	P	**P**	**P**	**07 42 32.0**	**+1.2**
BRAT	**Ballarat**	**33.76**	**238**	P	**P**	**P**	**07 42 32.2**	**+1.4**
MTSU	**Mount Surprise**	**33.82**	**273**	P	**P**	**P**	**07 42 32.2**	**+0.6**
	baz=34,SNR=85							
MTSU	**Mount Surprise**	**33.82**	**273**	P	**P**	**P**	**07 42 32.7**	**+1.1**
MTSU	**Mount Surprise**	**33.82**	**273**	P	**P**	**P**	**07 42 32.3**	**+0.7**
PMG	**Port Moresby**	**34.54**	**289**	P	**P**	**P**	**07 42 38.0**	**+0.3**
PMG	**Port Moresby**	**34.54**	**289**	P	**P**	**P**	**07 42 37.8**	**+0.1**
	132nm,0.7s,baz=94,slow=4.8,SNR=50							
	132nm,0.7s							
PMG	**Port Moresby**	**34.54**	**289**	P	**P**	**P**	**07 42 37.7**	**0.0**

baz=49,SNR=106
KNRA Kununurra 48.77 270 P **P** 07 44 30.0 -0.2
KNRA Kununurra 48.77 270 P **P** 07 44 30.2 0.0
KNRA Kununurra 48.77 270 P **P** 07 44 30.0 -0.2
HPAH Hawaii Prepara 49.55 30 P **P** 07 44 35.5 -0.5
HPAH IAmb IAmb 07 44 37.1
comp=Z,49nm,0.7s
DRV Dumont d'Urvil 49.66 200 P **P** 07 44 35.9 -0.1
FAKI Fak Fak 50.64 287 P **P** 07 44 43.2 -0.8
FAKI IAmb IAmb 07 44 43.8
comp=Z,35nm,0.7s
FAKI Fak Fak 50.64 287 P **P** 07 44 43.5 -0.5
FAKI Fak Fak 50.64 287 P **P** 07 44 43.0 -1.0
comp=Z,55nm,1.1s
FITZ Fitzroy Crossi 50.92 266 P **P** 07 44 45.7 -0.3
baz=51,SNR=62
FITZ Fitzroy Crossi 50.92 266 P **P** 07 44 45.8 -0.2
FITZ IAmb IAmb 07 44 47.2
comp=Z,18nm,0.8s
FITZ Fitzroy Crossi 50.92 266 P **P** 07 44 46.6 +0.6
KMBL Kambalda 51.63 248 P **P** 07 44 50.4 -0.7
baz=52,SNR=9.5
KMBL Kambalda 51.63 248 P **P** 07 44 50.8 -0.3
KMBL Kambalda 51.63 248 P **P** 07 44 50.5 -0.6
SWI Sorong 52.49 288 P **P** 07 44 57.1 -0.3
comp=Z,287nm,0.8s,comp=Z,2µm
SBA Scott Base 54.47 183 P **P** 07 45 12.9 +2.4
SBA Scott Base 54.47 183 P **P** 07 45 13.0 +2.5
SBA PcP **PcP** 07 46 07.3 +1.4
VNDA Vanda 54.48 185 P **P** 07 45 11.8 +1.3
VNDA Vanda 54.48 185 P **P** 07 45 12.0 +1.5
comp=Z,3.5nm,0.8s,baz=350,slow=7.2,SNR=6.1
VNDA ScP **ScP** 07 49 14.4 -0.1
comp=Z,2.0nm,0.8s,baz=334,slow=4.8,SNR=5.4
comp=Z,3.5nm,0.8s
VNDA Vanda 54.48 185 P **P** 07 45 12.0 +1.5
VNDA PcP **PcP** 07 46 06.7 +0.7
VNDA ScP **ScP** 07 49 14.3 -0.2
SOEI Soe 54.92 275 P **P** 07 45 14.7 0.0
SOEI Soe 54.92 275 P **P** 07 45 16.7 +1.9
SOEI Soe 54.92 275 P **P** 07 45 15.4 +0.6
SOEI Soe 54.92 275 P **P** 07 45 15.8 +1.0
comp=Z,159nm,0.9s,comp=Z,2µm
NLAI Namlea 55.04 283 P **P** 07 45 15.6 +0.1
comp=Z,36nm,0.8s,comp=Z,11µm
KLBR Kellerberrin 55.10 247 P **P** 07 45 15.2 -0.5
baz=55,SNR=9.8
KLBR Kellerberrin 55.10 247 P **P** 07 45 15.1 -0.5
KLBR Kellerberrin 55.10 247 P **P** 07 45 15.2 -0.5
MEEK Meekatharra 55.22 253 P **P** 07 45 15.6 -1.0
baz=55,SNR=8.6
MEEK Meekatharra 55.22 253 P **P** 07 45 16.0 -0.6
MEEK Meekatharra 55.22 253 P **P** 07 45 15.8 -0.8
PSA00 Pilbara Seismi 55.26 260 P **P** 07 45 15.7 -1.2
PSA00 IAmb IAmb 07 45 17.4
comp=Z,37nm,0.8s
PSA00 Pilbara Seismi 55.26 260 P **P** 07 45 17.7 +0.8
PSA00 Pilbara Seismi 55.26 260 P **P** 07 45 16.4 -0.5
BATI Baumata 55.30 274 P **P** 07 45 18.6 +1.3
comp=Z,110nm,0.5s,baz=173,slow=2.4,SNR=15
BATI Baumata 55.30 274 P **P** 07 45 18.7 +1.3
comp=Z,129nm,0.5s,comp=Z,1µm
NWAO Narrogin (SRO) 55.35 245 P **P** 07 45 17.0 -0.4
baz=56,SNR=19
NWAO P **P** 07 45 17.0 -0.4
baz=56,SNR=19
NWAO Narrogin (SRO) 55.35 245 P **P** 07 45 17.0 -0.4
NWAO Narrogin (SRO) 55.35 245 P **P** 07 45 16.9 -0.4
comp=Z,12nm,0.4s,baz=111,slow=5.8,SNR=28
comp=Z,12nm,0.4s
NWAO Narrogin (SRO) 55.35 245 P **P** 07 45 16.8 -0.5
MBWA Marble Bar 55.47 260 P **P** 07 45 17.6 -0.8
MBWA IAmb IAmb 07 45 18.7
comp=Z,88nm,1.1s
MBWA Marble Bar 55.47 260 P **P** 07 45 17.7 -0.6
MBWA Marble Bar 55.47 260 P **P** 07 45 17.8 -0.6
MBWA Marble Bar 55.47 260 P **P** 07 45 17.8 -0.6
LBMI Labuha 55.89 286 P **P** 07 45 21.7 +0.3
comp=Z,109nm,1.0s
BLDU Ballidu 56.14 248 P **P** 07 45 22.4 -0.6
baz=56,SNR=71
BLDU Ballidu 56.14 248 P **P** 07 45 22.5 -0.4
BLDU Ballidu 56.14 248 P **P** 07 45 22.3 -0.6
MUN Mundaring 56.34 246 P **P** 07 45 24.2 -0.2
baz=56,SNR=7.9
MUN Mundaring 56.34 246 P **P** 07 45 24.7 +0.4
MUN Mundaring 56.34 246 P **P** 07 45 24.1 -0.2
SANI Sanana 56.57 284 P **P** 07 45 25.6 -0.5
SANI Sanana 56.57 284 P **P** 07 45 25.4 -0.7
SANI Sanana 56.57 284 P **P** 07 45 25.1 -1.0
comp=Z,47nm,0.6s,comp=Z,685nm
TNTI Ternate 56.68 288 P **P** 07 45 26.3 -0.6
comp=Z,72nm,1.0s
MORW Morawa 56.98 250 P **P** 07 45 28.6 -0.2
baz=57,SNR=24
MORW Morawa 56.98 250 P **P** 07 45 28.3 -0.4
MORW IAmb IAmb 07 45 28.8
comp=Z,67nm,0.6s
MORW Morawa 56.98 250 P **P** 07 45 28.7 -0.1
MORW Morawa 56.98 250 P **P** 07 45 28.4 -0.4
MMRI Maumere 57.20 275 P **P** 07 45 30.4 0.0
MMRI Maumere 57.20 275 P **P** 07 45 30.0 -0.4
comp=Z,96nm,0.7s
EDFI Ende, Flores 57.65 275 P **P** 07 45 32.7 -0.9
comp=Z,125nm,1.1s,comp=Z,1µm
BASI Baing, Sumba 58.12 273 P **P** 07 45 37.0 +0.3
comp=Z,247nm,1.1s,comp=Z,3µm
CCD Concordia, Ant 58.83 195 P **P** 07 45 41.3 +0.3
CCD PcP **PcP** 07 46 23.8 0.0
CCD ScP **ScP** 07 49 33.6 -0.7
WBSI Waikabubak, Su 59.42 273 P **P** 07 45 46.5 +1.0
comp=Z,0.1nm,0.6s
KMSI Cibinong 59.56 286 P **P** 07 45 46.0 -0.3
comp=Z,77nm,0.9s
LUWI Luwuk 59.89 283 P **P** 07 45 47.6 -0.9
LUWI IAmb IAmb 07 45 49.6
comp=Z,150nm,1.3s
LUWI Luwuk 59.89 283 P **P** 07 45 49.8 +1.3
LUWI Luwuk 59.89 283 P **P** 07 45 48.5 0.0
comp=Z,98nm,1.1s,comp=Z,2µm
GIRL Giralia 60.02 257 P **P** 07 45 49.8 +0.5
baz=60,SNR=6.9
GIRL Giralia 60.02 257 P **P** 07 45 49.8 +0.5
CASY Casey 60.23 206 P **P** 07 45 49.6 -0.3
CASY IAmb IAmb 07 45 50.6
comp=Z,58nm,1.2s
CASY Casey 60.23 206 P **P** 07 45 49.6 -0.3
BKSI Bulukumba 60.43 278 P **P** 07 45 51.6 -0.6
comp=Z,89nm,0.9s,comp=Z,832nm
GTOI Gorontalo 60.44 285 P **P** 07 45 52.5 +0.3
comp=Z,39nm,0.8s,comp=Z,442nm
PLAI Plampang 61.20 273 P **P** 07 45 57.1 -0.1
PLAI Plampang 61.20 273 P **P** 07 45 56.9 -0.3
PLAI Plampang 61.20 273 P **P** 07 45 56.5 -0.7
comp=Z,233nm,0.9s,comp=Z,2µm
MRSI Marisa 61.32 284 P **P** 07 45 56.3 -1.7
comp=Z,24nm,0.6s
TTSI Tana Toraja 61.66 280 P **P** 07 46 00.0 -0.2
comp=Z,27nm,1.2s
TOLI2 Tolitoli 62.63 285 P **P** 07 46 06.0 -0.6
IGBI Denpasar 63.61 272 P **P** 07 46 12.7 -0.2
comp=Z,100nm,1.3s,comp=Z,1µmcomp=Z,2µm
JAGI Jajag, Banyuwa 64.65 272 P **P** 07 46 18.2 -1.3
JAGI Jajag, Banyuwa 64.65 272 P **P** 07 46 19.3 -0.2
JAGI Jajag, Banyuwa 64.65 272 P **P** 07 46 18.5 -1.0
JAGI Jajag, Banyuwa 64.65 272 P **P** 07 46 18.0 -1.5
comp=Z,81nm,1.2s
ABJI Asem Bagus 64.83 272 P **P** 07 46 20.2 -0.4
comp=Z,35nm,1.5s,comp=Z,3µm
GMJI Gumukmas 65.37 272 P **P** 07 46 23.0 -1.0
BLJI Banyuglugur 65.44 272 P **P** 07 46 24.1 -0.3
comp=Z,86nm,0.6s,comp=Z,3µm
QSPA South Pole Qui 66.27 180 P **P** 07 46 30.1 +1.2
comp=Z,17nm,0.9s,baz=246,slow=1.0,SNR=30
comp=Z,17nm,0.9s
GRJI Gresik 66.77 273 P **P** 07 46 33.1 +0.3
comp=Z,438nm,1.1s
PWJI Pagerwojo 66.97 271 P **P** 07 46 33.3 -0.7
comp=Z,88nm,0.8s
MTKI Muara Teweh, K 67.00 280 P **P** 07 46 34.2 0.0
comp=Z,66nm,0.5s
NGJI Ngawi 67.53 272 P **P** 07 46 38.4 +1.0
comp=Z,62nm,0.9s
UGM Wanagama 68.18 271 P **P** 07 46 40.9 -0.5
UGM Wanagama 68.18 271 P **P** 07 46 41.8 +0.3
UGM Wanagama 68.18 271 P **P** 07 46 41.1 -0.4
comp=Z,147nm,0.6s
KKM Kota Kinabalu 68.96 287 P **P** 07 46 46.0 -0.2
KKM IAmb IAmb 07 46 46.7
comp=Z,33nm,0.6s
KKM Kota Kinabalu 68.96 287 P **P** 07 46 47.4 +1.2
KPJI Karang Pucung 69.86 271 P **P** 07 46 51.0 -0.5
comp=Z,81nm,0.5s,comp=Z,2µm
CMJI Cimerak 70.13 270 P **P** 07 46 51.8 -1.3
comp=Z,89nm,1.2s
STKI Sintang 70.52 279 P **P** 07 46 55.6 +0.2
comp=Z,80nm,0.9s,comp=Z,25µm
BBJI Bungbulang 70.99 270 P **P** 07 46 58.9 +0.6
BBJI Bungbulang 70.99 270 P **P** 07 46 57.5 -0.8
LEM Lembang 71.26 271 P **P** 07 46 59.7 -0.3
comp=Z,139nm,0.9s
JGF Kuroka 71.60 324 P **P** 07 47 01.2 -0.2
XMI Christmas Isla 71.66 266 P **P** 07 47 02.6 +0.4
XMI Christmas Isla 71.66 266 P **P** 07 47 02.4 +0.2
XMIS Christmas Isla 71.69 266 P **P** 07 47 01.7 -0.7
XMIS IAmb IAmb 07 47 03.0
comp=Z,54nm,0.7s
XMIS Christmas Isla 71.69 266 P **P** 07 47 02.8 +0.5
MJAR Matsushiro Arr 71.87 326 P **P** 07 47 02.5 -0.3
comp=Z,9.9nm,0.9s,baz=158,slow=5.8,SNR=23
comp=Z,9.9nm,0.9s
MAJO Matsushiro 71.87 326 P **P** 07 47 03.9 +1.0
MAJO Matsushiro 71.87 326 P **P** 07 47 02.7 -0.2
MJB9 Matsu-Tunnel 71.88 326 P **P** 07 47 03.1 +0.2
DBJI Dramaga 72.16 271 P **P** 07 47 05.0 -0.1
comp=Z,142nm,0.8s
KSM Kuching 72.17 280 P **P** 07 47 04.8 -0.4
KSM Kuching 72.17 280 P **P** 07 47 06.0 +0.9
NACB Ninganchiao 74.12 306 P **P** 07 47 15.1 -0.9
NACB Ninganchiao 74.12 306 P **P** 07 47 16.5 +0.5
KASI Kota Agung 74.62 271 P **P** 07 47 17.9 -1.2
comp=Z,101nm,1.1s,comp=Z,1µm
LWLI Liwa 75.22 271 P **P** 07 47 21.6 -1.0
comp=Z,106nm,0.6s
ASAJ Asahikawa 75.82 333 P **P** 07 47 26.8 +1.7
comp=Z,16nm,0.8s,baz=195,slow=2.8,SNR=11
comp=Z,16nm,0.8s
MAW Mawson 77.86 200 P **P** 07 47 36.2 +0.2
baz=78,SNR=10
MAW Mawson 77.86 200 P **P** 07 47 36.8 +0.8
MAW Mawson 77.86 200 P **P** 07 47 36.8 +0.8
comp=Z,15nm,0.6s,baz=146,slow=5.2,SNR=13
comp=Z,15nm,0.6s
KSRS Korea Array 78.23 320 P **P** 07 47 39.5 +1.1
comp=Z,6.5nm,0.8s,baz=133,slow=5.8,SNR=26
comp=Z,6.5nm,0.8s
PETK Petropavlovsk- 79.03 346 P **P** 07 47 42.8 +0.5
comp=Z,9.5nm,0.6s,baz=116,slow=6.8,SNR=16
comp=Z,9.5nm,0.6s
PDSI Padang 80.14 273 P **P** 07 47 49.4 +0.2
comp=Z,24nm,0.6s,comp=Z,7µm
NJ2 Nanjing 80.66 311 *e*P **P** 07 47 53.3 +1.9
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
USA0B Ussuriysk Arra 80.73 327 P **P** 07 47 52.4 +1.0
USA0B IAmb IAmb 07 47 53.7
comp=Z,32nm,1.3s
USRK Ussuriysk Ar. 80.73 327 P **P** 07 47 51.7 +0.3
USRK Ussuriysk Ar. 80.73 327 P **P** 07 47 52.8 +1.3
comp=Z,7.5nm,0.6s,baz=164,slow=4.2,SNR=17
comp=Z,7.5nm,0.6s
IPM Ipoh 81.83 279 P **P** 07 47 58.2 +0.3
MDJ Mudanjiang 82.24 326 P **P** 07 48 00.1 +0.9
MDJ pmax pmax
comp=Z,24nm,0.9s
MDJ pmax pmax
comp=Z,310nm,4.6s
MDJ Mudanjiang 82.24 326 P **P** 07 47 59.7 +0.6
MDJ IAmb IAmb 07 48 00.7
comp=Z,18nm,0.9s
MDJ Mudanjiang 82.24 326 P **P** 07 48 00.2 +1.0
KULM Kulim 82.51 279 P **P** 07 48 01.2 -0.1
KULM IAmb IAmb 07 48 46.5
comp=Z,43nm,1.2s
ESJX Sierra Juarez 82.54 50 P **P** 07 48 02.4 +1.1
UBPT Khong Chiam 82.57 290 P **P** 07 48 02.3 +0.8
ISA Isabella, Lake 82.90 46 P **P** 07 48 03.2 +0.3
WHN Wuhan 83.01 308 ⇑P **P** 07 48 04.5 +1.1
CMB Columbia Colle 83.08 43 P **P** 07 48 04.1 +0.4
CMB IAmb IAmb 07 48 05.5
comp=Z,20nm,1.2s
PFO Pinyon Flats O 83.08 49 P **P** 07 48 05.0 +1.1
ELIB Princess Elisa 83.16 187 *d*P **P** 07 48 03.4 -0.3
comp=Z,5.4nm,1.1s
GSI Gunungsitoli 83.67 274 P **P** 07 48 07.0 -0.1
GSI Gunungsitoli 83.67 274 P **P** 07 48 07.5 +0.4
GSI Gunungsitoli 83.67 274 P **P** 07 48 07.5 +0.4
comp=Z,64nm,0.6s
CN2 Changchun 83.86 324 ⇓P **P** 07 48 08.1 +0.8
CN2 epP pwP 07 50 02.0 -2.4
CN2 eS **S** 07 57 50.1 +2.5
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,100nm,4.0s
WAKR Walker 83.96 43 P **P** 07 48 08.8 +0.6
WAKR IAmb IAmb 07 48 10.6
comp=Z,44nm,1.6s
BNX BinXian 84.13 326 ⇑P **P** 07 48 08.8 +0.2
BNX pmax pmax
comp=Z,15nm,0.9s
BNX pmax pmax
comp=Z,120nm,4.3s
PNTR Pine Nut 84.20 43 P **P** 07 48 10.1 +0.6
PNTR IAmb IAmb 07 48 11.6
comp=Z,21nm,1.1s
LCH Last Change Ra 84.36 45 P **P** 07 48 10.5 +0.4
HUMO Hull Mountain 84.38 38 P **P** 07 48 11.4 +1.5
HUMO IAmb IAmb 07 48 13.1
comp=Z,20nm,1.4s
KCSI Kotacane, Aceh 84.39 276 P **P** 07 48 09.7 -1.0
comp=Z,12nm,0.6s
TROLL Troll, Antarti 84.42 181 ⇑P **P** 07 48 09.9 -0.1
comp=Z,78nm,0.3s
KLR Kul'dur 84.49 331 P **P** 07 48 11.3 +1.0
comp=Z,2.4nm,0.6s,baz=143,slow=2.3,SNR=12
comp=Z,2.4nm,0.6s
HSIG 84.59 55 P **P** 07 48 11.8 +0.4
HSIG IAmb IAmb 07 48 13.0
comp=Z,14nm,0.7s
NVAR Mina Array Bea 84.63 44 P **P** 07 48 12.7 +1.1
NVAR Mina Array Bea 84.63 44 P **P** 07 48 12.6 +1.0
comp=Z,2.9nm,0.7s,baz=225,slow=7.4,SNR=20
comp=Z,2.9nm,0.7s
NV11 Mina Array Sit 84.72 44 P **P** 07 48 12.1 +0.1
SNAA Sanae 84.76 179 P **P** 07 48 10.5 -1.0
SNAA IAmb IAmb 07 49 24.3
comp=Z,61nm,1.9s
SNAA Sanae 84.76 179 ⇑P **P** 07 48 11.0 -0.5
comp=Z,11nm,0.4s
SNAA Sanae 84.76 179 P **P** 07 48 10.8 -0.7
comp=Z,1.7nm,0.4s,baz=209,slow=7.3,SNR=17
comp=Z,1.7nm,0.4s
SRIT Nakonsritamara 84.83 282 P **P** 07 48 14.4 +1.6
I03D Drain, OR 84.85 37 P **P** 07 48 12.0 -0.2
VNA3 Neumayer Olymp 84.96 177 ⇑P **P** 07 48 12.3 -0.1
comp=Z,0.6nm,0.2s
KVN Kaiserville 85.12 44 P **P** 07 48 14.1 +0.2
Q19K Cape Douglas, 85.25 13 P **P** 07 48 12.2 -1.6
Q19K IAmb IAmb 07 48 49.8
comp=Z,63nm,1.4s
BUCK Buck Mountain 85.37 37 P **P** 07 48 15.5 +0.6
SHPR Sheep Range 85.58 47 P **P** 07 48 16.8 +0.6
J05D Fort Rock, OR 85.79 39 P **P** 07 48 17.6 +0.6
J05D IAmb IAmb 07 48 19.3
comp=Z,42nm,1.7s
NONG Nongkai 85.81 292 P **P** 07 48 18.5 +1.1
PINE Pine Mountain 86.27 38 P **P** 07 48 20.2 +0.9
PINE IAmb IAmb 07 48 22.0
comp=Z,67nm,1.6s
ENH Enshi 86.46 305 P **P** 07 48 20.1 -0.2
ENH IAmb IAmb 07 48 22.1
comp=Z,38nm,1.1s
ENH Enshi 86.46 305 P **P** 07 48 20.7 +0.4
LYN LuoYang 86.49 310 ⇓P **P** 07 48 21.5 +1.2
LYN pmax pmax
comp=Z,29nm,0.8s
LYN pmax pmax
comp=Z,250nm,4.3s
HNS HongShan 86.50 314 ⇓P **P** 07 48 21.4 +1.2
HNS pmax pmax
comp=Z,16nm,1.7s
MA2 Magadan 86.51 346 P **P** 07 48 20.0 +0.3
MA2 IAmb IAmb 07 48 21.1
comp=Z,90nm,1.9s
MA2 Magadan 86.51 346 P **P** 07 48 20.3 +0.5
MA2 Magadan 86.51 346 P **P** 07 48 19.4 -0.4
comp=Z,11nm,0.8s,baz=126,slow=6.8,SNR=9.8
comp=Z,11nm,0.8s
BJT Baijiatuao 87.02 316 P **P** 07 48 22.2 -0.4
BJT Baijiatuao 87.02 316 P **P** 07 48 23.2 +0.6
BJI Beijing 87.02 316 P **P** 07 48 23.4 +0.8
BJI pmax pmax
comp=Z,4.0nm,0.6s
HEH HeiHe 87.21 329 *e*P **P** 07 48 23.3 0.0
HEH pmax pmax
comp=Z,13nm,1.2s
I07A Izee 87.27 39 P **P** 07 48 24.9 +1.0
I07A IAmb IAmb 07 48 26.2
comp=Z,20nm,1.3s
KNB Kanab 87.43 48 P **P** 07 48 25.1 +0.2
KNB IAmb IAmb 07 48 27.5
comp=Z,24nm,1.6s
PSUT Pine Spring 87.56 46 P **P** 07 48 26.2 +0.6
SRDT SRDT 87.68 287 P **P** 07 48 27.9 +1.6
G08A Pilot Rock 88.30 38 P **P** 07 48 29.3 +0.6
G08A IAmb IAmb 07 48 30.9
comp=Z,27nm,1.4s
MXC Moxie City 88.34 37 P **P** 07 48 28.9 +0.2
LTY Liberty 88.56 36 P **P** 07 48 30.3 +0.6
LTY IAmb IAmb 07 48 31.5
comp=Z,23nm,1.6s
XAN Xi'an 88.75 308 ⇓P **P** 07 48 32.3 +1.3
XAN pmax pmax
comp=Z,34nm,0.7s
SEY Seymchan 89.20 348 P **P** 07 48 32.7 +0.5
comp=Z,6.9nm,0.6s,baz=144,slow=5.2,SNR=25
comp=Z,6.9nm,0.6s
XLT XiLinHaoTe 89.27 319 *e*P **P** 07 48 33.3 +0.1
XLT pmax pmax
comp=Z,14nm,0.8s
XLT pmax pmax
comp=Z,97nm,6.0s
CMAR Chiang Mai Arr 89.57 290 P **P** 07 48 37.0 +2.0
comp=Z,7.3nm,0.7s,baz=134,slow=3.1,SNR=43
CMAR PP **PP** 07 52 17.2 +0.9
comp=Z,1.6nm,0.3s,baz=128,slow=4.8,SNR=5.0
comp=Z,7.3nm,0.7s
F10A Beach Ranch, E 89.69 38 P **P** 07 48 35.5 +0.3
F10A IAmb IAmb 07 48 36.5
comp=Z,24nm,1.7s
VHRN Van Horn 89.97 56 P **P** 07 48 37.9 +1.1
VHRN IAmb IAmb 07 48 39.3
comp=Z,34nm,1.7s
HLID Hailey 89.97 41 P **P** 07 48 37.5 +0.9
HLID IAmb IAmb 07 48 38.9
comp=Z,17nm,1.4s
SRU San Rafael Swe 90.08 47 P **P** 07 48 37.6 +0.4
SRU IAmb IAmb 07 48 39.0
comp=Z,12nm,0.8s
TX31 Lajitas Ar. Si 90.31 58 P **P** 07 48 38.9 +0.4
TX31 IAmb IAmb 07 48 40.9
comp=Z,38nm,1.8s
TXAR Lajitas Array 90.31 58 P **P** 07 48 39.5 +1.1
comp=Z,4.0nm,0.6s,baz=215,slow=6.4,SNR=79
TXAR PP **PP** 07 52 22.5 +0.5
comp=Z,0.1nm,0.6s,baz=231,slow=5.7,SNR=1.9
TXAR PKKPbc **PKKPbc** 08 06 05.5 +0.9
comp=Z,0.4nm,0.6s,baz=76,slow=5.3,SNR=4.1
comp=Z,4.0nm,0.6s
HHC Hu-ho-hao-te 90.41 315 *e*P **P** 07 48 39.8 +1.2
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,92nm,5.6s
BSUT Blindstream Ca 90.65 45 P **P** 07 48 40.4 +0.3
BSUT IAmb IAmb 07 48 42.0
comp=Z,15nm,0.8s
PZH PanZhiHua 90.71 299 P **P** 07 48 41.3 +1.0
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,190nm,5.7s
CD2 Chengdu 91.10 303 *e*P **P** 07 48 43.0 +1.1
BTO Baotou 91.29 314 *e*P **P** 07 48 45.3 +2.6
BTO sP **sP** 07 51 30.5 +2.4
BTO S **S** 07 58 53.6 -3.5
BTO pmax pmax
comp=Z,15nm,0.8s
BTO pmax pmax
comp=Z,420nm,11.2s
ILAR Eielson Array 91.92 14 P **P** 07 48 44.5 -0.4
comp=Z,0.3nm,0.5s,baz=230,slow=4.9,SNR=8.5
comp=Z,0.3nm,0.5s
PDAR Pinedale Array 92.57 44 P **P** 07 48 49.0 +0.3
comp=Z,1.7nm,0.6s,baz=214,slow=3.6,SNR=14
comp=Z,1.7nm,0.6s
LZH Lanzhou 93.38 308 *e*P **P** 07 48 54.1 +1.6
LZH pmax pmax
comp=Z,13nm,1.4s
SONM Songino Array 97.09 319 P Pdif 07 49 09.3 +0.4
comp=Z,0.6nm,0.5s,baz=132,slow=5.9,SNR=6.7
SONM PP **PP** 07 53 09.6 -4.2
comp=Z,0.6nm,0.8s,baz=126,slow=5.7,SNR=2.9
comp=Z,0.6nm,0.5s
WMQ Urumqi 107.74 311 *e*P **Pdif** 07 49 56.6 +0.3
ZALV Zalesovo Beam 111.93 321 PKiKP **PKiKP** 07 54 07.0 -1.1
comp=Z,1.2nm,0.5s,baz=192,slow=1.2,SNR=6.7
MKAR Makanchi Array 112.15 313 PKiKP **PKiKP** 07 54 07.8 -1.1
comp=Z,1.6nm,0.6s,baz=220,slow=1.3,SNR=21
MKAR PKKPab **PKKPab** 08 05 11.7 +0.8
comp=Z,0.5nm,0.5s,baz=278,slow=4.8,SNR=7.3
KURBB **Kurchatov Arra 115.24 316** PKP **PKPdf** 07 54 13.6 -1.0
comp=Z,2.9nm,0.6s,baz=101,slow=1.8,SNR=28
BDFB Brasilia 118.80 125 PKKPbc PKKPbc 08 04 40.2 +0.6
comp=Z,1.5nm,0.6s,baz=140,slow=24,SNR=3.2
BVAR Borovoye Array 120.43 319 PKP **PKPdf** 07 54 24.1 -0.5
comp=Z,5.7nm,0.5s,baz=113,slow=1.2,SNR=35
SUR Sutherland 120.72 200 PKP **PKiKP** 07 54 25.8 -0.5
comp=Z,4.7nm,0.7s,baz=166,slow=4.0,SNR=9.6
SPITS Spitsbergen Ar 125.03 356 PKP **PKPdf** 07 54 32.0 -0.8
comp=Z,46nm,1.2s,baz=101,slow=4.3,SNR=6.0
GEYT Alibeck 128.99 300 PKP **PKPdf** 07 54 40.5 -1.0
comp=Z,3.8nm,0.7s,baz=80,slow=8.1,SNR=7.1
GEYT SKPbc 07 57 15.4
comp=Z,4.8nm,0.9s,baz=116,slow=3.4,SNR=8.1
ARCES **ARCESS Array B 131.81 348** PKP **PKPdf** 07 54 45.2 -0.7
comp=Z,2.6nm,0.5s,baz=23,slow=1.4,SNR=24
ARCES SKPbc **SKPbc** 07 57 22.4 -0.8
comp=Z,1.9nm,0.7s,baz=46,slow=5.2,SNR=3.8
LSZ Lusaka 132.43 218 PKP **PKiKP** 07 54 49.1 -0.8
comp=Z,2.6nm,0.4s,baz=172,slow=6.3,SNR=3.7
LSZ SKPbc **SKPab** 07 57 28.2 -0.9
comp=Z,3.4nm,0.6s,baz=118,slow=3.8,SNR=5.0
FINES **FINESS Array B 138.39 342** PKhKP PKPpre 07 54 47.3
comp=Z,1.4nm,0.7s,baz=56,slow=4.4,SNR=14
FINES PKP **PKPdf** 07 54 58.4 +0.1
comp=Z,1.6nm,0.4s,baz=114,slow=2.8,SNR=15
FINES SKPbc **SKPbc** 07 57 44.0 +0.1
comp=Z,4.8nm,0.6s,baz=49,slow=2.8,SNR=12
NB2 NORSAR Subarra142.00 351 PKP **PKPdf** 07 55 00.4 -4.5
comp=Z,0.6nm,0.5s,baz=10,slow=3.2
NB2 SKPa 07 57 54.0
comp=Z,0.9nm,0.6s,baz=13,slow=2.6
NOA NORSAR Array B142.00 351 PKhKP PKPpre 07 55 00.3
comp=Z,0.7nm,0.5s,baz=2.3,slow=1.6,SNR=14
NOA SKPbc **SKPbc** 07 57 53.0 -0.4
comp=Z,0.8nm,0.6s,baz=14,slow=4.2,SNR=5.4
HFS Hagfors 142.47 349 PKhKP PKPpre 07 55 01.9
comp=Z,14nm,0.5s,baz=72,slow=4.8,SNR=144
AKASG **Malin Array Be 144.94 327** PKP PKPbc 07 55 10.1 -0.8
comp=Z,13nm,0.5s,baz=40,slow=4.3,SNR=125
AKASG SKPbc **SKiKP** 07 58 01.4 +0.3
comp=Z,4.6nm,0.6s,baz=42,slow=2.9,SNR=13
SUW Suwalki 145.22 336 *e*PKP **PKPab** 07 55 12.2 -0.4
SORM Soroca 146.98 324 ⇑P **PKPbc** 07 55 16.4 -0.3
BRTR Keskin Array B 147.59 307 PKPbc **PKPbc** 07 55 18.4 -0.3
comp=Z,13nm,0.6s,baz=157,slow=5.4,SNR=16
MMAI Mount Meron Ar 147.74 295 PKPbc **PKiKP** 07 55 20.1 -0.7
comp=Z,30nm,0.5s,baz=72,slow=5.4,SNR=91
BEL Belsk 147.82 336 *e*PKP **PKiKP** 07 55 19.3 -0.9
ANTO Ankara 148.15 308 ⇓P **PKPbc** 07 55 19.5 -0.6
EKA Eskdalemuir Ar 148.42 4 PKPbc **PKPbc** 07 55 19.9 -0.3
comp=Z,1.8nm,0.4s,baz=346,slow=2.9,SNR=25
KWP Kalwaria Pacla 148.73 331 *e*PKP **PKiKP** 07 55 21.9 -0.3
BURAR **Bucovina Array 148.94 326** ⇑P **PKiKP** 07 55 22.8 0.0
BISRR **Bisoca 149.43 322** ⇓P **PKPbc** 07 55 22.9 -0.2

KOLS	Kolonicke sedl	149.43	331	*e*PKP	PKiKP	07 55 23.6	-0.1
STHS	Stebnicka Huta	149.52	332	*e*PKP	PKiKP	07 55 23.0	-0.8
ARCR	ARCALIA	149.73	326	⇑P	PKiKP	07 55 24.1	-0.2
BMR	Baia Mare	149.76	328	⇑P	PKPbc	07 55 21.7	-2.0
CRVS	Cervenica-Dubn	149.82	331	*e*PKP	PKiKP	07 55 24.4	-0.1
NIE	Niedzica	149.92	333	*e*PKP	PKiKP	07 55 24.9	+0.2
CEI	Carei	150.25	329	⇑P	PKPdf	07 55 20.4	+1.4
CBBR	Cluj-Babes-Bol	150.35	326	⇓P	PKPdf	07 55 21.5	+2.3
CJR	Cluj-Napoca	150.37	326	⇓P	PKiKP	07 55 25.4	-0.3
OSTC	Ostas	150.50	339⇑	*e*PKP	PKiKP	07 55 26.3	+0.5
CHVC	Chvalec	150.53	339⇑	*e*PKP	PKiKP	07 55 25.8	-0.1
UPC	Upice	150.61	339⇑	*e*PKP	PKiKP	07 55 26.0	0.0
DPC	Dobruska-Polom	150.64	339⇑	*e*PKP	PKiKP	07 55 26.4	+0.2
DPC				AMS	AMS	07 55 40.0	
MORC	Moravsky Berou	150.70	337	*e*PKP	PKiKP	07 55 26.0	-0.3
MORC				*e*		07 55 35.6	
KRLC	Kraliky	150.72	338⇑	*e*PKP	PKiKP	07 55 26.4	+0.1
KRLC				AMS	AMS	07 55 40.0	
CLL	Collm	150.79	343	*e*PKPdf	PKPdf	07 55 20.0	+0.3
CLL	comp=Z,20nm,0.7s			*i* PKPbc	PKiKP	07 55 25.7	-0.6
CLL	comp=Z,12nm,0.7s			*i* PKPab	PKPab	07 55 35.2	-0.2
CLL				*e*pPKPbc	pPKPbc	07 57 27.0	+0.6
BRG	Berggiesshubel	150.93	342	*i* PKP	PKiKP	07 55 26.7	0.0
BRG	comp=Z,16nm,0.6s			Amp		07 55 27.4	
BRG	Berggiesshubel	150.93	342	P	PKPab	07 55 34.3	-1.6
BRG	comp=Z,5.6nm,0.6s			Amp		07 55 37.7	
BRG	Berggiesshubel baz=22,slow=2.2	150.93	342	*e*PKPbc	PKiKP	07 55 26.3	-0.3
MAUC	Maruska	150.93	336⇑	*e*PKP	PKiKP	07 55 27.1	+0.3
WIMM	Wimmelburg baz=22,slow=2.2	150.97	345	*e*PKPbc	PKiKP	07 55 26.2	-0.5
WIMM	baz=20,slow=4.6			*e*PKPab	PKPab	07 55 35.0	-1.1
HUMR	Humele	151.02	322	⇓P	PKiKP	07 55 26.4	-0.7
CHRS	Christianenhau baz=22,slow=2.2	151.04	346	*e*PKPbc	PKiKP	07 55 26.6	-0.3
CHRS	baz=20,slow=4.6			*e*PKPab	PKPab	07 55 36.8	+0.4
FBE	Freiberg baz=22,slow=2.2	151.05	343	*e*PKPbc	PKiKP	07 55 27.2	+0.3
PVCC	Panska Ves	151.05	341⇑	*e*PKP	PKiKP	07 55 27.3	+0.4
NEUB	Neuenburg baz=20,slow=4.6	151.19	345	*e*PKPab	PKPab	07 55 37.4	+0.3
VYHS	Vyhne	151.24	334	*e*PKP	PKiKP	07 55 27.5	+0.1
VYHS				*e*		07 55 38.1	
VYHS				*e*		07 56 55.8	
PSZ	Piszkesteto	151.25	332	⇑P	PKiKP	07 55 27.2	-0.3
MODW	Modelwitz baz=22,slow=2.2	151.26	344	*e*PKPbc	PKiKP	07 55 27.1	-0.2
MODW	baz=20,slow=4.6			*e*PKPab	PKPab	07 55 38.0	+0.6
JAVC	Velka Javorina	151.41	335	*e*PKP	PKiKP	07 55 28.5	+0.7
JAVC				*e*		07 55 39.7	
HKWD	Heukewalde baz=20,slow=4.6	151.42	344	*e*PKPab	PKPab	07 55 38.6	+0.6
TAUT	Tautenburg baz=22,slow=2.2	151.42	345	*e*PKPbc	PKiKP	07 55 27.5	-0.1
TAUT	baz=20,slow=4.6			*e*PKPab	PKPab	07 55 38.3	+0.3
VRAC	Vranov	151.43	337	*e*PKP	PKiKP	07 55 27.1	-0.7
VRAC				*e*		07 55 39.0	
PRA	Prague	151.49	340⇑	*e*PKP	PKiKP	07 55 27.9	+0.1
MLFH	Mildenfurth baz=22,slow=2.2	151.50	344	*e*PKPbc	PKiKP	07 55 27.5	-0.3
MLFH	baz=20,slow=4.6			*e*PKPab	PKPab	07 55 38.7	+0.4
SCHF	Schoenfels baz=22,slow=2.2	151.52	343	*e*PKPbc	PKiKP	07 55 27.6	-0.3
SCHF	baz=20,slow=4.6			*e*PKPab	PKPab	07 55 39.0	+0.5
PRU	Pruhonice	151.53	340⇑	*e*PKP	PKiKP	07 55 27.9	0.0
GRZ1	Mausoleum Wald baz=22,slow=2.2	151.56	344	*e*PKPbc	PKiKP	07 55 27.8	-0.2
GRZ1	baz=20,slow=4.6			*e*PKPab	PKPab	07 55 39.1	+0.5
SIRR	Siria	151.64	328	⇓P	PKiKP	07 55 28.4	+0.1
GZR	Gura Zlata	151.68	325	⇑P	PKiKP	07 55 28.1	-0.3
KRUC	Moravsky	151.71	337	*e*PKP	PKiKP	07 55 28.0	-0.3
KRUC				*e*		07 55 40.0	
TANN	Tannenbergstha baz=22,slow=2.2	151.75	343	*e*PKPbc	PKiKP	07 55 28.2	-0.3
TANN	baz=20,slow=4.6			*e*PKPab	PKPab	07 55 39.8	+0.3
MOX	Moxa baz=22,slow=2.2	151.75	344	*e*PKPbc	PKiKP	07 55 28.0	-0.3
MOX	baz=20,slow=4.6			*e*PKPab	PKPab	07 55 39.4	0.0
WERD	Werda baz=22,slow=2.2	151.76	343	*e*PKPbc	PKiKP	07 55 28.2	-0.2
WERD	baz=20,slow=4.6			*e*PKPab	PKPab	07 55 39.7	+0.2
PLN	Plauen baz=22,slow=2.2	151.76	344	*e*PKPbc	PKiKP	07 55 28.1	-0.3
PLN	baz=20,slow=4.6			*e*PKPab	PKPab	07 55 39.8	+0.3
MULD	Muldenberg baz=22,slow=2.2	151.77	343	*e*PKPbc	PKiKP	07 55 28.3	-0.2
MULD	baz=20,slow=4.6			*e*PKPab	PKPab	07 55 40.1	+0.6
SURR	Surduc	151.77	326	⇓P	PKiKP	07 55 28.1	-0.5
GUNZ	Gunzen baz=22,slow=2.2	151.83	343	*e*PKPbc	PKiKP	07 55 28.7	+0.1
GUNZ	baz=20,slow=4.6			*e*PKPab	PKPab	07 55 40.4	+0.6
HWTS	Hohenwarte Tal baz=20,slow=4.6	151.84	345	*e*PKPab	PKPab	07 55 40.0	+0.1
WERN	Wernitzgruen baz=20,slow=4.6	151.89	343	*e*PKPab	PKPab	07 55 40.6	+0.5
NKC	Novy Kostel baz=20,slow=4.6	151.92	343	*e*PKPab	PKPab	07 55 40.8	+0.6
BZS	Buzias	152.12	327	⇓P	PKPbc	07 55 27.5	-1.6
KHC	Kasperske Hory baz=22,slow=2.2	152.58	341⇑	*e*PKP	PKiKP	07 55 30.3	+0.1
KHC				AMS	AMS	07 55 40.0	
CKRC	Cesky Krumlov	152.63	339⇑	*e*PKP	PKiKP	07 55 30.5	+0.2
WET	Wettzell baz=20,slow=4.6	152.78	341	*e*PKPab	PKPab	07 55 44.5	+0.5
GEC2	GERESS Array S baz=22,slow=2.2	152.80	340	*e*PKPbc	PKiKP	07 55 30.4	-0.3
GERES	GERESS Array B comp=Z,1.2nm,0.6s,baz=15,slow=5.5,SNR=6.1	152.80	340	PKPbc	PKPbc	07 55 29.9	-0.7
CONA	Conrad Observa comp=Z,2.6nm,0.6s	152.86	336	*i* PKP	PKiKP	07 55 31.0	+0.1
CONA	comp=Z,7.7nm,0.6s			*i* PKP	PKPab	07 55 45.3	+0.9
RONA	Rosalia, Austr comp=Z,3.7nm,0.6s	152.88	336	*i* PKP	PKiKP	07 55 30.9	+0.1
RONA	comp=Z,6.5nm,0.6s			*i* PKP	PKPab	07 55 45.4	+1.0
ARSA	Arzberg comp=Z,2.5nm,0.5s	153.55	336	*i* PKP	PKPab	07 55 47.7	+0.4
PERS	Pernice	154.22	336	*i* PKPbc	PKPab	07 55 50.2	+0.1
KBA	Koelnbreinsper comp=Z,0.5nm,0.3s	154.47	339	*i* PKP	PKPbc	07 55 34.2	-0.1
KBA	comp=Z,2.7nm,0.5s			*i* PKP	PKPab	07 55 52.0	+0.6
OBKA	Obir comp=Z,0.7nm,0.3s	154.53	336	*i* PKP	PKiKP	07 55 33.6	-0.8
OBKA	comp=Z,3.7nm,0.7s			*i* PKP	PKPab	07 55 51.4	-0.2
MYKA	Terra Mystica comp=Z,1.3nm,0.3s	154.75	338	*i* PKP	PKiKP	07 55 33.9	-0.9
MYKA	comp=Z,6.0nm,0.6s			*i* PKP	PKPab	07 55 52.1	-0.4
WATA	Walderalm comp=Z,4.2nm,0.5s	154.79	341	*i* PKP	PKPab	07 55 52.8	0.0
WTTA	Wattenberg comp=Z,6.9nm,0.5s	154.84	341	*i* PKP	PKPab	07 55 53.5	+0.6
RETA	Reutte comp=Z,4.1nm,0.5s	154.88	343	*i* PKP	PKPab	07 55 53.5	+0.5
MOTA	Moosalm comp=Z,2.7nm,0.5s	154.92	342	*i* PKP	PKPab	07 55 53.4	+0.2
SQTA	Sankt Quirin comp=Z,1.0nm,0.3s	155.00	342	*i* PKP	PKPab	07 55 54.1	+0.5
ABTA	Abfaltersbach comp=Z,2.4nm,0.6s	155.03	339	*i* PKP	PKPdf	07 55 34.5	+8.3
ABTA	comp=Z,3.0nm,0.6s			*i* PKP	PKPab	07 55 53.9	+0.2
JAVS	Javornik	155.24	336	*i* PKPbc	PKPab	07 55 54.0	-0.6
GBRS	Gornja Briga	155.26	335	*i* PKPdf	PKPab	07 55 54.8	+0.2
DAVA	Damuels comp=Z,8.8nm,0.6s	155.30	344	*i* PKP	PKPab	07 55 55.2	+0.3
FETA	Feichten	155.32	342	*i* PKP	PKPab	07 55 55.9	+0.9

comp=Z,1.5nm,0.6s

ESDC	Sonseca Array	163.81	11	PKPab	PKPab	07 56 32.4	+0.2
	comp=Z,1.2nm,1.0s,baz=163,slow=26,SNR=4.1						
TORD	Torodi Ar. Bea	169.29	188	PKP	PKPdf	07 55 40.0	-0.9
	comp=Z,1.6nm,1.0s,baz=15,slow=1.8,SNR=4.7						
TORD				PKPab	PKPab	07 56 56.6	-0.1
	comp=Z,1.3nm,0.7s,baz=153,slow=4.7,SNR=8.9						

IDC ***17*** *07:36:38.9±0.7, 59°.19S×159°.10E, h0km, mb4.6/9, mbtmp4.5/10, ML3.2/1, MS4.2/20, Error ellipse: s-maj=42.5km s-min=18.2km az=68.0*

NEIC ***17*** *07:36:43.9±2.2, 58°.93S±0°.05×159°.0E±0°.3, h10km±1km, mb4.9/14, Error ellipse: s-maj=28.5km s-min=7.3km az=279.0*

GCMT ***17*** *07:36:45.8±0.3, 59°.25S±0°.01×159°.16E±0°.05, h23km, MW5.1/81, Moment Tensor Solution. s33,c40; s81,c114; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.67±.31; Mθθ-4.42±.18; Mφφ0.74±.19; Mrθ0.04±.21; Mrφ1.79±.11; Mθφ1.94±.33; Best double couple: M0 4.86700×10^16 NP1:φs313.00000°, δ55.00000°, λ126.00000°. NP2: φs82.00000°, δ48.00000°, λ50.00000°. Principal axes: T 4.7170, Plg61.0000°, Azm281.0000°; N 0.2940, Plg28.0000°, Azm111.0000°; P -5.0160, Plg4.0000°, Azm18.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 07:36:40.7±0.5, 59°.14S±0°.07×159°.2E±0°.1, h10km, n64, σ1s33/36, mb4.8/14, MS4.3/20, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
				Op	ISC		
MCQ	Macquarie Isla	4.66	359	Pn	Pn	07 37 49.4	-1.6
PYZ	Puysegur Point	13.76	23	Pn	Pn	07 39 55.7	0.0
WHZ	Wether Hill Ro	14.29	26	Pn	Pn	07 40 03.8	+0.8
DCZ	Deep Cove	14.53	23	Pn	Pn	07 40 09.3	+3.1
MLZ	Mavora Lakes	14.83	25	Pn	Pn	07 40 12.0	+1.7
WKZ	Wanaka	15.54	27	Pn	Pn	07 40 21.5	+1.7
ODZ	Otahua Downs	15.75	31	Pn	Pn	07 40 23.9	+1.4
LBZ	Lake Benmore	16.24	29	Pn	Pn	07 40 29.9	+1.1
RPZ	Rata Peaks	17.09	31	Pn	Pn	07 40 38.9	-0.7
RPZ				IAmb	IAmb	07 40 46.3	
	comp=Z,42nm,0.8s						
VNDA	Vanda	18.49	178	P	P	07 40 56.6	+0.2
	comp=Z,0.1nm,0.3s,baz=350,slow=13,SNR=8.9						
VNDA				LR	LR	07 45 48.1	
	comp=Z,188nm,21.3s,baz=356,slow=30						
	comp=Z,4.7nm,1.0s						
SBA	Scott Base	18.97	175	P	Pn	07 41 04.7	+2.4
CASY	Casey	22.85	231	P	P	07 41 44.9	+1.3
CASY				IAmb	IAmb	07 41 46.1	
	comp=Z,34nm,1.1s						
URZ	Urewera	23.88	37	LR	LR	07 50 44.8	
	comp=Z,812nm,19.4s,baz=296,slow=35						
STKA	Stephens Creek	29.72	329	LR	LR	07 53 09.7	
	comp=Z,700nm,18.2s,baz=149,slow=33						
QSPA	South Pole Qui	30.96	180	P	P	07 43 04.4	+6.8
QSPA	South Pole Qui	30.96	180	P	P	07 42 58.7	+1.0
	comp=Z,6.1nm,1.0s,baz=338,slow=2.9,SNR=6.2						
QSPA				LR	LR	07 53 55.3	
	comp=Z,345nm,18.2s,baz=341,slow=34						
	comp=Z,6.1nm,1.0s						
FORT	Forrest	35.29	310	P	P	07 43 36.3	+0.8
FORT				IAmb	IAmb	07 43 48.2	
	comp=Z,30nm,0.9s						
DZM	Mont Dzumac	37.40	11	LR	LR	07 56 31.8	
	comp=Z,581nm,19.6s,baz=204,slow=32						
H01W1	Cape Leeuwin H	38.04	289	T	T	08 24 32.1	
	baz=146,slow=76						
H01W2	Cape Leeuwin H	38.04	289	T	T	08 24 31.0	
	baz=146,slow=76						
H01W3	Cape Leeuwin H	38.05	289	T	T	08 24 28.3	
	baz=146,slow=76						
MAW	Mawson	39.65	217	LR	LR	08 00 15.6	
	comp=Z,472nm,19.3s,baz=114,slow=36						
ASAR	Alice Springs	39.69	322	P	P	07 44 13.8	+0.9
	comp=Z,8.7nm,0.8s,baz=147,slow=7.6,SNR=7.3						
	comp=Z,8.7nm,0.8s						
BELA	Belgrano 2	42.97	176	P	P	07 44 44.8	+5.6
BELA				IAmb	IAmb	07 44 46.2	
	comp=Z,23nm,1.0s						
WR0	Warramunga Arr	42.98	325	P	P	07 44 39.2	-0.7
WR0				IAmb	IAmb	07 44 41.4	
	comp=Z,14nm,0.9s						
WRA	Warramunga Arr	43.05	325	P	P	07 44 40.7	+0.2
	comp=Z,5.5nm,0.9s,baz=160,slow=7.1,SNR=5.2						
	comp=Z,5.5nm,0.9s						
COEN	Coen	46.65	338	P	P	07 45 10.2	+1.1
COEN				IAmb	IAmb	07 45 12.1	
	comp=Z,16nm,1.1s						
RAR	Rarotonga	47.87	56	LR	LR	08 03 27.6	
	comp=Z,151nm,18.1s,baz=230,slow=34						
TROLL	Troll, Antarti	48.13	190	P	P	07 45 18.3	-2.0
SNAA	Sanae	48.87	187	P	P	07 45 31.5	+5.7
SNAA				IAmb	IAmb	07 45 45.8	
	comp=Z,12nm,1.1s						
SNAA	Sanae	48.87	187	P	P	07 45 25.7	-0.2
SNAA	Sanae	48.87	187	P	P	07 45 24.0	-1.8
	comp=Z,7.1nm,1.1s,baz=187,slow=8.9,SNR=3.7						
	comp=Z,7.1nm,1.1s						
HNR	Honiara	49.61	1	LR	LR	08 03 30.0	
	comp=Z,3μm,18.5s,baz=336,slow=32						
PMG	Port Moresby	50.46	345	LR	LR	08 04 50.3	
	comp=Z,280nm,18.4s,baz=156,slow=34						
PPT	Papeete	55.62	64	LR	LR	08 04 18.9	
	comp=Z,244nm,20.8s,baz=254,slow=30						
LEM	Lembang	65.19	301	LR	LR	08 13 39.0	
	comp=Z,154nm,19.2s,baz=192,slow=34						
RPN	Rapa Nui	67.88	106	LR	LR	08 10 16.5	
	comp=Z,206nm,18.8s,baz=199,slow=30						
PLCA	Paso Flores	72.32	143	P	P	07 48 11.0	+4.7
PLCA				IAmb	IAmb	07 48 12.6	
	comp=Z,16nm,1.1s						
PLCA	Paso Flores	72.32	143	P	P	07 48 06.5	+0.2
	comp=Z,2.6nm,1.0s,baz=199,slow=8.8,SNR=3.9						
	comp=Z,2.6nm,1.0s						
TRQA	Tornquist	77.32	148	P	P	07 48 39.6	+4.4
H08S2	Diego Garcia H	81.78	269	T	T	09 19 13.2	
	baz=148,slow=76,SNR=131						
H08S1	Diego Carcia H	81.78	269	T	T	09 19 14.8	
	baz=148,slow=76,SNR=58						
H08S3	Diego Garcia H	81.80	269	T	T	09 19 13.3	
	baz=148,slow=76,SNR=111						
SUR	Sutherland	82.48	215	LR	LR	08 23 25.4	
	comp=Z,93nm,18.4s,baz=132,slow=34						
BOSA	Boshof	84.60	220	P	P	07 49 13.5	-0.7
	comp=Z,7.0nm,0.9s,baz=85,slow=3.5,SNR=3.8						
	comp=Z,7.0nm,0.9s						
LBTB	Lobatse	87.81	221	LR	LR	08 22 46.5	
	comp=Z,67nm,22.0s,baz=118,slow=32						
CPUP	Villa Florida	89.65	148	P	P	07 49 38.4	-0.2
	comp=Z,5.9nm,1.0s,baz=193,slow=6.9,SNR=7.9						
	comp=Z,5.9nm,1.0s						
PALK	Pallekele	90.31	284	LR	LR	08 23 11.7	
	comp=Z,129nm,19.6s,baz=183,slow=31						
CMAR	Chiang Mai Arr	91.52	305	P	P	07 49 48.6	+1.4
	comp=Z,1.8nm,0.3s,baz=185,slow=3.6,SNR=7.1						
CMAR				LR	LR	08 28 43.3	
	comp=Z,111nm,19.7s,baz=160,slow=34						
	comp=Z,1.8nm,0.3s						
LPAZ	La Paz	95.56	135	P	P	07 50 06.3	-0.5
	comp=Z,0.9nm,0.7s,baz=110,slow=3.8,SNR=3.8						
LPAZ				LR	LR	08 23 25.6	
	comp=Z,73nm,20.5s,baz=342,slow=29						
	comp=Z,0.9nm,0.7s						
TSUM	Tsumeb	95.82	216	LR	LR	08 30 29.5	
	comp=Z,141nm,19.8s,baz=156,slow=34						
LSZ	Lusaka	95.84	227	LR	LR	08 29 01.9	
	comp=Z,124nm,19.0s,baz=130,slow=33						
MJAR	Matsushiro Arr	96.91	343	LR	LR	08 32 17.2	
	comp=Z,31nm,20.6s,baz=175,slow=34						
ATAH	Atahualpa	99.72	122	LR	LR	08 26 58.7	
	comp=Z,68nm,20.1s,baz=314,slow=30						
NVAR	Mina Array Bea	118.55	62	PKP	PKiKP	07 55 28.9	+0.7
	comp=Z,1.0nm,1.0s,baz=226,slow=5.3,SNR=3.7						
MKAR	Makanchi Array	122.83	307	PKP	PKPdf	07 55 35.0	-0.8
	comp=Z,1.7nm,1.0s,baz=114,slow=5.4,SNR=5.8						
PDAR	Pinedale Array	126.04	66	PKP	PKiKP	07 55 42.5	-0.3
	comp=Z,0.2nm,0.5s,baz=175,slow=3.3,SNR=1.7						
KURBB	Kurchatov Arra	127.38	308	PKP	PKPdf	07 55 43.6	-0.7
	comp=Z,1.7nm,0.8s,baz=139,slow=1.4,SNR=8.4						
ZALV	Zalesovo Beam	127.51	314	PKP	PKPdf	07 55 42.6	-1.9
	comp=Z,0.3nm,0.3s,baz=113,slow=3.3,SNR=1.8						
ILAR	Eielson Array	130.11	27	PKP	PKPdf	07 55 48.6	-0.5
	comp=Z,0.7nm,0.7s,baz=230,slow=3.4,SNR=5.8						
TORD	Torodi Ar. Bea	131.10	210	PKP	PKPdf	07 55 51.1	-1.4
	comp=Z,2.1nm,1.1s,baz=158,slow=1.6,SNR=7.3						
BVAR	Borovoye Array	132.55	305	PKP	PKPdf	07 55 52.0	-2.0
	comp=Z,1.2nm,0.7s,baz=129,slow=4.0,SNR=4.2						
YKA	Yellowknife Ar	138.01	44	PKP	PKPdf	07 56 03.5	-0.4
	comp=Z,0.5nm,0.7s,baz=242,slow=2.5,SNR=6.1						
AKASG	Malin Array Be	150.66	276	PKPbc	PKPbc	07 56 30.4	-1.3
	comp=Z,4.6nm,0.9s,baz=89,slow=2.0,SNR=16						

NEIC ***17*** *07:39:18.2±1.6, 17°.7N±0°.06×95°.37W±0°.05, h116km±4km, mb4.4/31, Md4.4/90(MEX), Error ellipse: s-maj=9.6km s-min=5.6km az=201.0*

MEX ***17*** *07:39:19.3±1.0, 17°.80N×95°.39W, h116km±8km, MD4.4*

ISC 17 07:39:18.1±0.7, 17°.77N±0°.03×95°.37W±0°.03, h125km±6km, n104, σ1s90/156, mb4.5/7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
				Op	ISC		
NEUV	Arroyo Zacate	0.42	262	*e*P	Pn	07 39 35.1	-0.9
NEUV				*i* S	Sn	07 39 47.3	-2.3
PMUV	Sontecomapan	0.80	17	*e*P	Pn	07 39 38.2	-0.7
PMUV				*e*S	Sn	07 39 52.5	-2.0
CMIG	Matias Romero	0.82	146		Pn	07 39 38.8	-0.2
CMIG					Sn	07 39 53.0	-1.6
CMIG	Matias Romero	0.82	146	*e*P	Pn	07 39 38.8	-0.2
CMIG				*e*S	Sn	07 39 53.0	-1.6
TUIG	Tuzandepetl	0.94	74	*e*P	Pn	07 39 40.1	+0.3
TUIG				*e*S	Sn	07 39 53.9	-2.5
UXUV	UXUV	1.25	111	*e*P	Pn	07 39 43.3	+0.2
UXUV				*e*S	Sn	07 40 00.3	-1.7
NILT	Santiago Nilte	1.40	149	*e*P	Pn	07 39 44.3	-0.4
NILT				*e*S	Sn	07 40 03.7	-1.3
OXIG	Oaxaca	1.48	242		Pn	07 39 45.7	0.0
OXIG					Sn	07 40 06.8	0.0
VHO	Vista Hermosa	1.48	242	*e*P	Pn	07 39 45.7	0.0
VHO				*e*S	Sn	07 40 06.8	0.0
TOIG	Toxpalan	1.65	281		Pn	07 39 47.7	+0.1
TOIG					Sn	07 40 08.6	-1.5
TOIG	Toxpalan	1.65	281	*e*P	Pn	07 39 47.7	+0.1
TOIG				*e*S	Sn	07 40 08.6	-1.5
OZST	Orizaba	1.96	304	*e*P	Pn	07 39 50.4	-1.0
OZST				*e*S	Sn	07 40 14.2	-2.7
TPIG	Tehuac#an	2.00	289		Pn	07 39 52.2	+0.3
TPIG					Sn	07 40 16.5	-1.3
TPIG	Tehuac#an	2.00	289	*e*P	Pn	07 39 52.2	+0.3
TPIG				*e*S	Sn	07 40 16.5	-1.3
CARR	Arriaga	2.06	137	*i* P	Pn	07 39 52.9	+0.4
CARR				*i* S	Sn	07 40 16.9	-2.0
JAUV	Jalcomulco	2.09	320	*e*P	Pn	07 39 50.9	-2.0
JAUV				*i* S	Sn	07 40 13.0	-6.5
HUIG	Huatulco	2.12	200		Pn	07 39 52.0	-1.2
HUIG					Sn	07 40 17.9	-2.3
HUIG	Huatulco	2.12	200	*e*P	Pn	07 39 52.0	-1.2
HUIG				*e*S	Sn	07 40 17.9	-2.3
LVIG	Laguna Verde	2.18	333	*e*P	Pn	07 39 51.4	-2.6
LVIG				*e*S	Sn	07 40 16.9	-4.6
YOIG	Yosondua	2.27	247		Pn	07 39 54.4	-1.0
YOIG					Sn	07 40 22.9	-1.1
YOIG	Yosondua	2.27	247	*e*P	Pn	07 39 54.4	-1.0
YOIG				*e*S	Sn	07 40 22.9	-1.1
HLIG	Huajuapan de L	2.32	272		Pn	07 39 56.3	+0.4
HLIG					Sn	07 40 23.0	-2.0
HLIG	Huajuapan de L	2.32	272	*e*P	Pn	07 39 56.3	+0.4
HLIG				*e*S	Sn	07 40 23.0	-2.0
TXIG	Tlaxiaco	2.35	258		Pn	07 39 55.8	-0.5
TXIG	Tlaxiaco	2.35	258	*e*P	Pn	07 39 55.8	-0.5
TXIG				*e*S	Sn	07 40 22.5	-3.2
TGIG		2.37	114		Pn	07 39 56.9	+0.5
TGIG					Sn	07 40 24.5	-1.3
TGIG		2.37	114	*e*P	Pn	07 39 56.9	+0.5
TGIG				*e*S	Sn	07 40 24.5	-1.3
PEIG	Puerto Escondi	2.45	224		Pn	07 39 55.3	-2.2
PEIG					Sn	07 40 25.7	-2.1
PEIG	Puerto Escondi	2.45	224	*e*P	Pn	07 39 55.3	-2.2
PEIG				*e*S	Sn	07 40 25.7	-2.1
FTIG	Fresnillo de T	2.63	273		Pn	07 40 00.0	+0.2
FTIG					Sn	07 40 30.1	-1.9
FTIG	Fresnillo de T	2.63	273	*e*P	Pn	07 40 00.0	+0.2
FTIG				*e*S	Sn	07 40 30.1	-1.9
PCIG		2.91	135		Pn	07 40 03.9	+0.5
PCIG					Sn	07 40 37.9	-0.4
PCIG		2.91	135	*e*P	Pn	07 40 03.9	+0.5
PCIG				*e*S	Sn	07 40 37.9	-0.4
PNIG	Pinotepa	2.97	243	*e*P	Pn	07 40 01.7	-2.5
PNIG				*e*S	Sn	07 40 35.9	-3.8
TLIG	Tlapa	3.06	267		Pn	07 40 05.4	+0.1
TLIG	Tlapa	3.06	267	*e*P	Pn	07 40 05.2	-0.2
TLIG				*e*S	Sn	07 40 38.3	-3.5
MGIG	Malinaltepec	3.16	261		Pn	07 40 06.0	-0.8
MGIG	Malinaltepec	3.16	261	*e*P	Pn	07 40 06.0	-0.8
MGIG				*e*S	Sn	07 40 38.6	-5.8
PPMI	Popocatepetl	3.35	293	*e*P	Pn	07 40 11.7	+2.3
PPMI				*e*S	Sn	07 40 45.7	-3.5
CCIG	Comitan	3.43	115	Pn	Pn	07 40 10.3	-0.1
CCIG	Comitan	3.43	115	*e*P	Pn	07 40 10.8	+0.5
CCIG				*e*S	Sn

FW06	**Azle**	**15.26**	**353**	P	**P**	**07 42 50.0**	**+1.1**
FW06				IAmb	IAmb	07 42 52.0	
	comp=Z,19nm,0.6s						
ABTX	**Abilene, Hawle**	**15.28**	**346**	P	**P**	**07 42 49.7**	**+0.6**
ABTX				IAmb	IAmb	07 42 52.3	
	comp=Z,12nm,0.7s						
FW03	**Perrin-Whitt E**	**15.39**	**351**	P	**P**	**07 42 50.9**	**+0.5**
FW03				IAmb	IAmb	07 42 53.4	
	comp=Z,15nm,0.6s						
SN05	**Snyder 5**	**15.84**	**343**	P	**P**	**07 42 56.5**	**+1.1**
SN05				IAmb	IAmb	07 42 58.3	
	comp=Z,8.1nm,0.4s						
APMT	**Aspermont**	**16.06**	**345**	P	**Pn**	**07 42 58.0**	**+1.1**
DKNS	**Dickens**	**16.59**	**344**	P	**P**	**07 43 05.9**	**+2.2**
W35A	**Tecumseh**	**17.36**	**356**	P	**P**	**07 43 13.1**	**+1.0**
W35A				IAmb	IAmb	07 43 16.4	
	comp=Z,8.6nm,0.8s						
AMTX	**Amarillo**	**17.95**	**343**	P	**Pn**	**07 43 20.0**	**+0.2**
T35A	**Sooner Cattle**	**19.09**	**357**	P	**P**	**07 43 31.5**	**+0.4**
T35A				IAmb	IAmb	07 43 32.5	
	comp=Z,13nm,0.8s						
U49A	**Red Boiling Sp**	**20.50**	**23**	P	**P**	**07 43 47.1**	**+0.9**
TZTN	**Tazewell**	**21.42**	**27**	P	**P**	**07 43 56.5**	**+0.4**
TZTN				IAmb	IAmb	07 44 21.4	
	comp=Z,23nm,1.4s						
Q44A	**Meyer Farm, Va**	**21.77**	**13**	P	**P**	**07 43 59.4**	**-0.4**
Q44A				IAmb	IAmb	07 44 00.2	
	comp=Z,10nm,0.6s						
V55A	**Taylorsville**	**21.95**	**32**	P	**P**	**07 44 00.5**	**-1.2**
N38A	**Joes South For**	**23.01**	**4**	P	**P**	**07 44 12.1**	**-0.1**
N38A				IAmb	IAmb	07 44 14.5	
	comp=Z,18nm,0.5s						
Q48B	**Farmland**	**24.08**	**19**	P	**P**	**07 44 22.0**	**+0.1**
Q48B				IAmb	IAmb	07 44 22.4	
	comp=Z,25nm,1.4s						
SCIA	**State Center**	**24.12**	**4**	P	**P**	**07 44 22.9**	**+0.6**
SCIA				IAmb	IAmb	07 44 24.4	
	comp=Z,12nm,0.7s						
O49A	**Covington**	**24.29**	**21**	P	**P**	**07 44 22.9**	**-0.9**
O49A				IAmb	IAmb	07 44 24.3	
	comp=Z,15nm,0.7s						
M44A	**Midewin, Midew**	**24.36**	**13**	P	**P**	**07 44 24.9**	**+0.5**
L40A	**Anamosa**	**24.47**	**7**	P	**P**	**07 44 26.5**	**+1.2**
L40A				IAmb	IAmb	07 44 26.9	
	comp=Z,6.4nm,0.7s						
SDV	**Santo Domingo**	**25.61**	**107**	P	**P**	**07 44 37.1**	**+0.9**
REDW	**Red Top Meadow**	**28.68**	**336**	P	**P**	**07 45 05.5**	**+2.0**
SAML	**Samuel**	**41.42**	**127**	P	**P**	**07 46 51.8**	**-0.8**
PB05	**IPOC Station P**	**47.28**	**148**	P	**P**	**07 47 39.1**	**-0.1**

*IDC **17** 08:01:60.0±1.3,39°.52N×99°.21W,h0km,mbtmp3.3/3, ML4.1/2,Error ellipse: s-maj=17.4km s-min=9.3km az=96.0*
*NEIC **17** 08:01:60.0±1.7,39°.31N±0°.03×99°.13W±0°.06,h5km±2km, mb_Lg2.7/45,Error ellipse: s-maj=7.8km s-min=5.4km az=273.0*
*ANF **17** 08:02:01.9±0.7,39°.28N×99°.17W,h8km±5km,ML3.6/18, Error ellipse: s-maj=3.8km s-min=3.3km az=5.0*
ISC 17 08:02:01.9±1.6,39°.28N±0°.04×99°.19W±0°.04,h15km±11km, n58,σt1.9≥20/60,Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CBKS	**Cedar Bluff**	**0.63**	**222**	Pg		**Pg**	**08 02 14.1**	**-0.1**
CBKS				IAmb_Lg			08 02 22.4	
	comp=Z,75nm,0.7s							
CBKS						**Sb**	**08 02 22.9**	**-0.4**
CBKS	**Cedar Bluff**	**0.63**	**222**	P		**Pg**	**08 02 14.1**	**-0.1**
	baz=44							
CBKS				S		**Sb**	**08 02 22.9**	**-0.4**
	baz=44							
R32A	**Long Quarter,**	**0.94**	**156**			**Pb**	**08 02 19.0**	**-0.8**
R32A						**Sb**	**08 02 31.7**	**-0.4**
R32A	**Long Quarter,**	**0.94**	**156**	P		**Pb**	**08 02 19.2**	**-0.7**
	baz=340							
R32A				S		**Sb**	**08 02 31.8**	**-0.4**
	baz=340							
N33B	**J Bar K, Exete**	**1.98**	**42**	P		**Pn**	**08 02 35.5**	**+0.6**
	baz=222,SNR=52							
N33B				S		**Sn**	**08 03 01.4**	**+2.0**
	baz=222							
N33A	**J Bar K, Exete**	**1.98**	**42**			**Pn**	**08 02 35.4**	**+0.6**
KSU1	**Kansas State U**	**2.02**	**94**	Pn		**Pn**	**08 02 36.9**	**+1.5**
KSU1	**Kansas State U**	**2.02**	**94**	P		**Pn**	**08 02 36.9**	**+1.5**
	baz=277,SNR=25							
KSU1				S		**Sn**	**08 03 02.7**	**+2.4**
	baz=277							
BGNE	**Belgrade**	**2.27**	**20**			**Pn**	**08 02 39.4**	**+0.5**
BGNE	**Belgrade**	**2.27**	**20**	P		**Pn**	**08 02 39.9**	**+1.0**
	baz=200,SNR=39							
KAN06	**Argonia West S**	**2.29**	**152**	Pn		**Pn**	**08 02 39.5**	**+0.4**
KAN01	**Argonia South**	**2.41**	**152**			**Pn**	**08 02 41.2**	**+0.4**
KAN01				IAmb_Lg			08 03 18.7	
	comp=Z,53nm,0.9s							
KAN09	**Caldwell North**	**2.48**	**149**			**Pn**	**08 02 42.9**	**+1.2**
KAN17	**Caldwell West**	**2.50**	**153**	Pn		**Pn**	**08 02 43.8**	**+1.7**
KAN14	**Manchester OK**	**2.52**	**157**	Pn		**Pn**	**08 02 43.5**	**+1.3**
OK032	**Salt Plains WL**	**2.59**	**162**	Pn		**Pn**	**08 02 43.9**	**+0.6**
GC02	**Grant County #**	**2.65**	**156**	Pn		**Pn**	**08 02 45.1**	**+1.1**
KSCO	**Kaye Shedlock'**	**2.68**	**265**			**Pn**	**08 02 46.7**	**+2.1**
KSCO	**Kaye Shedlock'**	**2.68**	**265**	P		**Pn**	**08 02 46.8**	**+2.1**
	baz=83,SNR=8.4							
OGNE	**Ogallala**	**2.74**	**308**	Pn		**Pn**	**08 02 47.0**	**+1.6**
OGNE				IAmb_Lg			08 03 29.8	
	comp=Z,19nm,0.9s							
OGNE	**Ogallala**	**2.74**	**308**	P		**Pn**	**08 02 47.3**	**+1.9**
	baz=126,SNR=19							
N35A	**Tabor**	**3.15**	**59**	Pn		**Pn**	**08 02 51.4**	**+0.4**
T35A	**Sooner Cattle**	**3.17**	**137**	IAmb_Lg			08 03 48.3	
	comp=Z,18nm,0.9s							
T35B	**Sooner Cattle**	**3.17**	**137**	P		**Pn**	**08 02 51.8**	**+0.6**
	baz=320							
ELIS	**Ellis County**	**3.21**	**183**	Pn		**Pn**	**08 02 53.0**	**+1.1**
K30B	**Basset**	**3.40**	**355**			**Pn**	**08 02 55.4**	**+0.9**
K30B	**Basset**	**3.40**	**355**	P		**Pn**	**08 02 55.8**	**+1.4**
	baz=174,SNR=12							
L34A	**Svendsen Farm,**	**3.43**	**38**			**Pn**	**08 02 55.0**	**+0.1**
L34A	**Svendsen Farm,**	**3.43**	**38**	P		**Pn**	**08 02 55.2**	**+0.3**
	baz=219,SNR=36							
QUOK	**Quay**	**3.68**	**147**	Pn		**Pn**	**08 02 58.4**	**+0.2**
RTBA	**Rita Blanca**	**3.99**	**226**	IAmb_Lg			08 04 12.1	
	comp=Z,27nm,0.7s							
OKCSW	**OKLAHOMA CITY**	**4.11**	**160**	IAmb_Lg			08 04 20.9	
	comp=Z,14nm,0.8s							
BRIGG	**Briggsdale**	**4.15**	**290**	IAmb_Lg			08 04 17.6	
	comp=Z,24nm,0.9s							
SMWD	**Samnorwood**	**4.25**	**192**	Pn		**Pn**	**08 03 06.8**	**+0.6**
SMWD				IAmb_Lg			08 04 20.8	
	comp=Z,13nm,0.7s							
TUL3	**Leonard**	**4.32**	**140**	P		**Pn**	**08 03 07.5**	**+0.6**
	baz=323							
P38A	**Dawn**	**4.40**	**84**	IAmb_Lg			08 04 29.2	
	comp=Z,12nm,1.0s							
W35A	**Tecumseh**	**4.52**	**155**	IAmb_Lg			08 04 35.3	
	comp=Z,16nm,0.8s							
RLO	**Rose Lookout**	**4.54**	**132**	Pn		**Pn**	**08 03 10.7**	**+0.7**
RLO				IAmb_Lg			08 04 28.8	
	comp=Z,24nm,0.9s							
WMOK	**Wichita Mounta**	**4.55**	**176**	Pn		**Pn**	**08 03 10.5**	**+0.3**
WMOK				IAmb_Lg			08 04 33.3	
	comp=Z,10nm,0.8s							
WMOK	**Wichita Mounta**	**4.55**	**176**	P		**Pn**	**08 03 11.3**	**+1.1**
	baz=357							
U38A	**Gravette**	**4.75**	**125**	P		**Pn**	**08 03 13.9**	**+1.0**
	baz=309,SNR=11							
N38A	**Joes South For**	**4.82**	**70**	S		**Sn**	**08 04 08.9**	**-0.4**
	baz=254							
AMTX	**Amarillo**	**4.82**	**205**	Pn		**Pn**	**08 03 15.3**	**+1.3**
AMTX				IAmb_Lg			08 04 40.7	
	comp=Z,12nm,0.8s							
AMTX	**Amarillo**	**4.82**	**205**	P		**Pn**	**08 03 15.1**	**+1.1**
	baz=24,SNR=9.5							
AMTX				S		**Sn**	**08 04 10.7**	**+1.2**
	baz=24							
ECSD	**EROS Data Cent**	**4.85**	**23**	Pn		**Pn**	**08 03 15.3**	**+1.0**
S39A	**Bolivar**	**4.87**	**107**	IAmb_Lg			08 04 42.4	
	comp=Z,12nm,0.8s							
ISCO	**Idaho Springs**	**4.99**	**278**	P		**Pn**	**08 03 17.9**	**+1.4**
	baz=94,SNR=22							
ISCO				S		**Sn**	**08 04 15.0**	**+0.9**
	baz=94							
SUSD	**Miller**	**5.16**	**2**	IAmb_Lg			08 04 42.9	
	comp=Z,18nm,0.8s							
SUSD	**Miller**	**5.16**	**2**	P		**Pn**	**08 03 19.4**	**+0.8**
	baz=182,SNR=8.5							
SUSD				S		**Sn**	**08 04 17.2**	**-0.7**
	baz=182							
SDCO	**Great Sand Dun**	**5.18**	**255**	P		**Pn**	**08 03 21.0**	**+1.9**
	baz=71,SNR=9.4							
N23A	**Red Feather La**	**5.42**	**289**	Pn		**Pn**	**08 03 22.9**	**+0.5**
LOOK	**Love County**	**5.52**	**162**	IAmb_Lg			08 05 09.8	
	comp=Z,20nm,0.8s							
U40A	**Yellville**	**5.81**	**118**	P		**Pn**	**08 03 29.2**	**+1.7**
	baz=303,SNR=5.4							
U40A				P		**Pn**	**08 03 29.2**	**+1.7**
	baz=303,SNR=5.4							
APMT	**Aspermont**	**5.99**	**187**	Pn		**Pn**	**08 03 30.7**	**+0.7**
MSTX	**Muleshoe**	**6.03**	**210**	P		**Pn**	**08 03 31.7**	**+1.0**
	baz=28,SNR=6.6							
PDAR	**Pinedale Array**	**8.57**	**297**	Pn		**Pn**	**08 04 05.8**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=115,slow=14,SNR=11							
PDAR				Sn		**Sn**	**08 05 39.6**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=137,slow=22,SNR=1.6							
PDAR				Lg		Lg	08 06 25.7	
	comp=Z,0.2nm,0.3s,baz=116,slow=20,SNR=2.0							
	comp=Z,0.6nm,0.3s							
TXAR	**Lajitas Array**	**10.59**	**202**	Pn		**Pn**	**08 04 33.4**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=32,slow=11,SNR=21							
TXAR				Pg			08 05 17.7	
	comp=Z,0.1nm,0.3s,baz=25,slow=15,SNR=2.6							
TXAR				Sn		**Sn**	**08 06 29.5**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=34,slow=18,SNR=2.3							
TXAR				Lg		Lg	08 07 35.9	
	comp=Z,0.2nm,0.3s,baz=24,slow=29,SNR=6.2							
	comp=Z,0.2nm,0.3s							
ULM	**Lac du Bonnet**	**11.22**	**11**	Pn		Pn	08 04 33.8	-7.8
	comp=Z,0.5nm,0.3s,baz=188,slow=12,SNR=2.2							
ULM				Sn		Sn	08 06 34.5	-12
	comp=Z,0.1nm,0.3s,baz=178,slow=11,SNR=1.5							
ULM				Lg		Lg	08 07 37.5	
	baz=135,slow=14							

*SOME **17** 08:04:59.3,43°.93N×85°.38E,h5km*
*IDC **17** 08:05:09.7±1.3,44°.23N×84°.90E,h0km,mb3.5/3, mbtmp3.5/9,ML3.2/6,MS3.5/1,Error ellipse: s-maj=20.7km s-min=13.6km az=57.0*
*NNC **17** 08:05:14.1±1.8,44°.47N×84°.99E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=16.9km s-min=9.0km az=107.0*
ISC 17 08:05:10.6±0.8,44°.28N±0°.04×84°.83E±0°.03,h10km,n30, σt2.5≥15/41,mb3.5/3,12C-8D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.12**	**102**	Pg		**Pg**	**08 05 49.6**	**-1.6**
WMQ				Sg		**Sg**	**08 06 18.4**	**-0.3**
WMQ				smax		smax		
	comp=N,630nm,0.9s							
WMQ				smax		smax		
	comp=E,390nm,0.9s							
MK31	**Makanchi Array**	**3.08**	**326**	⇓Pn		**Pn**	**08 06 02.0**	**+2.7**
	comp=E,1.1nm,0.3s,baz=139,slow=13,SNR=857							
MK31				⇑Pg		**Pg**	**08 06 09.1**	**-0.5**
	comp=E,17nm,0.4s,baz=139,slow=17,SNR=76							
MK31				⇑Lg		Lg	08 06 50.3	
	comp=E,115nm,0.7s,baz=144,slow=30,SNR=12							
MKAR	**Makanchi Array**	**3.08**	**326**	Pn		**Pb**	**08 06 02.8**	**-2.6**
	comp=E,2.0nm,0.3s,baz=140,slow=14,SNR=126							
MKAR				Pg		**Pg**	**08 06 09.0**	**-0.6**
	comp=E,17nm,0.3s,baz=139,slow=17,SNR=100							
MKAR				Lg		Lg	08 06 50.6	
	comp=E,65nm,0.3s,baz=137,slow=30,SNR=14							
	comp=E,2.8nm,0.3s							
ZSN	**Zaisan**	**3.17**	**0**	*eP*		**Pb**	**08 06 05.3**	**-1.6**
	comp=E,6.6nm,0.2s							
ZSN				*eS*		**Sg**	**08 06 53.5**	**+1.2**
	comp=E,117nm,0.5s							
MAKZ	**Makanchi**	**3.22**	**323**	⇑Pn		**Pb**	**08 06 05.4**	**-2.5**
	comp=E,0.6nm,0.3s							
MAKZ				⇑Pg		**Pg**	**08 06 11.6**	**-0.7**
	comp=E,6.4nm,0.4s							
MAKZ				⇑Lg		Lg	08 06 55.0	
	comp=E,25nm,0.8s							
KTMS	**Ketmen**	**3.34**	**257**	*eP*		**Pb**	**08 06 07.5**	**-2.5**
	comp=E,0.7nm,0.3s							
KTMS				*eS*		**Sg**	**08 06 57.3**	**-0.5**
	comp=E,155nm,0.4s							
DJR	**Jarkent**	**3.62**	**273**	*eP*		**Pb**	**08 06 13.8**	**-0.8**
	comp=E,4.4nm,0.4s							
DJR				*eS*		**Sg**	**08 07 08.4**	**+1.8**
	comp=E,183nm,0.5s							
PDGK	**Podgornoye**	**3.98**	**258**	⇓Pn		**Pb**	**08 06 19.4**	**-1.4**
	comp=E,8.6nm,0.5s							
PDGK				⇓Pg		**Pg**	**08 06 29.3**	**+2.5**
	comp=E,33nm,0.7s							
PDGK				⇓Lg		Lg	08 07 23.0	
	comp=E,129nm,0.6s							
KAPS	**Kapalarasan**	**4.02**	**286**	*eP*		**Pb**	**08 06 22.6**	**+1.1**
	comp=E,5.1nm,0.4s							
KAPS				*eS*		**Sg**	**08 07 23.4**	**+3.8**
	comp=E,113nm,0.7s							
SHLS	**Shalkode**	**4.05**	**256**	*eP*		**Pn**	**08 06 14.1**	**+1.4**
	comp=E,30nm,0.4s							
SHLS				*eS*		**Sb**	**08 07 08.4**	**-2.6**
	comp=E,465nm,0.5s							
SATY	**Saty**	**4.81**	**258**	*eP*		**Pb**	**08 06 34.6**	**-0.5**
	comp=E,5.3nm,0.2s							
SATY				*eS*		**Sg**	**08 07 44.0**	**-1.1**
	comp=E,84nm,0.4s							
KURS	**Kuram**	**4.88**	**263**	*eP*		**Pb**	**08 06 35.7**	**-0.4**
	comp=E,5.8nm,0.5s							
KURS				*eS*		**Sg**	**08 07 46.3**	**-0.8**
	comp=E,52nm,1.0s							
ARXS	**Arharly**	**5.03**	**272**	*eP*		**Pb**	**08 06 40.1**	**+1.4**
	comp=E,4.1nm,0.2s							
ARXS				*eS*		**Sg**	**08 07 53.3**	**+1.3**
	comp=E,128nm,0.6s							
MDOK	**Medeo**	**5.75**	**261**	Pn		Pn	08 06 42.2	+6.2
	comp=E,3.0nm,0.4s							
MDOK				Lg		Lg	08 08 24.4	
	comp=E,88nm,0.7s							
TKM2	**Tokmak 2**	**6.84**	**262**	⇑Pn		Pb	08 07 01.3	-8.3
	comp=E,2.5nm,0.6s							
TKM2				⇓Pg		**Pg**	**08 07 18.1**	**-3.3**
	comp=E,11nm,0.7s							
TKM2				⇑Lg		Lg	08 08 57.5	
	comp=E,44nm,0.9s							
CHMS	**Chumysh**	**7.42**	**264**	⇑Pg		**Pg**	**08 07 28.3**	**-4.3**
	comp=E,1.4nm,0.4s							
CHMS				⇑Lg		Lg	08 09 12.8	
	comp=E,23nm,0.8s							
KURBB	**Kurchatov Arra**	**7.64**	**328**	Pn		**Pn**	**08 07 04.3**	**+2.4**
	comp=E,0.8nm,0.3s,baz=139,slow=12,SNR=46							
KURBB				Sn		**Sn**	**08 08 28.6**	**+0.1**
	comp=E,0.1nm,0.3s,baz=139,slow=19,SNR=4.0							
KURBB				Lg		Lg	08 09 14.2	
	comp=E,0.6nm,0.3s,baz=213,slow=19,SNR=7.9							
	comp=E,3.4nm,0.4s							
KURBB	**Kurchatov Arra**	**7.64**	**328**	⇑Pn		**Pn**	**08 07 03.8**	**+2.0**
	comp=E,6.3nm,0.3s							
KURBB				⇑Lg		Lg	08 09 13.2	
	comp=E,73nm,0.7s							
KURK	**Kurchatov**	**7.68**	**329**	⇑Pn		**Pn**	**08 07 04.1**	**+1.6**
	comp=E,0.7nm,0.3s							
KURK				⇓Lg		Lg	08 09 15.2	
	comp=E,88nm,0.9s							
AAK	**Ala-Archa**	**7.70**	**261**	Pn		**Pn**	**08 07 06.2**	**+3.4**
	comp=E,0.4nm,0.3s,baz=101,slow=13,SNR=2.2							
AAK				Lg		Lg	08 09 16.9	
	comp=E,0.6nm,0.3s,baz=282,slow=21,SNR=1.6							
	comp=E,0.8nm,0.4s							
OTUK	**Ortayu**	**9.51**	**299**	⇓Lg		Lg	08 10 18.5	
	comp=E,27nm,1.0s							
ZALV	**Zalesovo Beam**	**9.67**	**360**	Pn		**Pn**	**08 07 30.7**	**+1.0**
	comp=E,0.7nm,0.3s,baz=184,slow=14,SNR=15							
ZALV				Sn		**Sn**	**08 09 17.6**	**-0.7**
	comp=E,0.4nm,0.3s,baz=192,slow=28,SNR=1.3							
ZALV				Lg		Lg	08 10 21.1	
	comp=E,0.3nm,0.3s,baz=193,slow=25,SNR=2.1							
	comp=E,4.1nm,0.5s							
KK31	**Karatay Array**	**10.44**	**268**	⇓Lg		Lg	08 10 46.1	
	comp=E,12nm,0.8s,baz=75,slow=28,SNR=8.3							
GOMU	**GeErMu**	**11.11**	**133**	Pn		Pn	08 07 57.0	+7.3
GOMU				Sn		Sn	08 09 42.3	-12
GOMU				smax		smax		
	comp=N,15nm,1.0s							
GOMU				smax		smax		
	comp=E,14nm,1.1s							
GOMU				LR		LR		
	comp=N,140nm,11.2s							
GOMU				LR		LR		
	comp=E,250nm,11.1s							
GOMU				LR		LR		
	comp=Z,160nm,11.2s							
BVAR	**Borovoye Array**	**12.93**	**318**	Pn		**Pn**	**08 08 14.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=113,slow=14,SNR=8.2							
BVAR				Sn		**Sn**	**08 10 32.1**	**-5.9**
	baz=128,slow=19,SNR=1.7							
BVAR				Lg		Lg	08 12 02.9	
	baz=105,slow=26,SNR=2.4							
	comp=Z,1.6nm,0.6s							
SONM	**Songino Array**	**15.38**	**69**	Pn		**Pn**	**08 08 46.4**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=264,slow=11,SNR=2.8							
SONM				Lg		Lg	08 13 18.8	
	comp=Z,0.1nm,0.3s,baz=245,slow=34,SNR=3.5							
	comp=Z,0.2nm,0.4s							
OBN	**Obninsk**	**32.41**	**307**	LR		LR	08 24 47.3	
	comp=Z,7.1nm,19.4s,baz=199,slow=36							
NOA	**NORSAR Array B**	**45.05**	**319**	P		**P**	**08 13 28.5**	**+2.3**
	comp=Z,0.4nm,0.6s,baz=76,slow=8.7,SNR=1.8							
	comp=Z,0.4nm,0.6s							
TORD	**Torodi Ar. Bea**	**76.06**	**275**	P		**P**	**08 16 59.6**	**+1.1**
	comp=Z,0.5nm,1.0s,baz=38,slow=5.4,SNR=2.3							
	comp=Z,0.5nm,1.0s							
ASAR	**Alice Springs**	**81.16**	**135**	P		**P**	**08 17 26.8**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=328,slow=6.2,SNR=1.5							
	comp=Z,0.1nm,0.3s							

*IDC **17** 08:12:10.3±0.8,14°.15N×146°.73E,h0km,mb4.1/15, mbtmp4.1/15,MS3.4/3,Error ellipse: s-maj=27.0km s-min=18.2km az=90.0*
*NEIC **17** 08:12:14.3±1.4,14°.1N±0°.1×146°.8E±0°.1,h24km±7km, mb4.6/27,Error ellipse: s-maj=17.7km s-min=12.6km az=223.0*
ISC 17 08:12:11.3±0.6,14°.0N±0°.1×146°.8E±0°.1,h10km,n52, σt0.96/48,mb4.5/29,MS3.3/3,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PATS	**Pohnpei**	**13.36**	**121**	Pn		**Pn**	**08 15 19.5**	**-1.7**
H11N1	**WAKE ISLAND Hy**	**20.00**	**71**	T		T	08 37 21.9	
	baz=257							
H11N2	**WAKE ISLAND Hy**	**20.01**	**71**	T		T	08 37 22.7	
	baz=257							
H11N3	**WAKE ISLAND Hy**	**20.02**	**71**	T		T	08 37 25.8	
	baz=257							
JOW	**Kunigami**	**21.51**	**309**	P		**P**	**08 17 00.3**	**-0.3**
FAKI	**Fak Fak**	**22.21**	**222**	P		**P**	**08 17 09.6**	**+1.4**
FAKI				IAmb		IAmb	08 17 36.0	
	comp=Z,33nm,1.2s							
JNU	**Nakatsue**	**23.91**	**325**	P		**P**	**08 17 24.1**	**-1.4**
JNU				IAmb		IAmb	08 17 30.4	
	comp=Z,26nm,1.3s							
JNU	**Nakatsue**	**23.91**	**325**	P		**P**	**08 17 23.6**	**-1.8**
	comp=Z,6.3nm,0.8s,baz=132,slow=12,SNR=1.7							
	comp=Z,6.3nm,0.8s							
KSRS	**Korea Array**	**28.76**	**328**	P		**P**	**08 18 07.7**	**-1.5**
	comp=Z,1.7nm,0.6s,baz=148,slow=11,SNR=7.5							
	comp=Z,1.7nm,0.6s							
WB0	**Warramunga Ar**	**35.76**	**200**	P		**P**	**08 19 09.4**	**-1.3**
WB0				IAmb		IAmb	08 19 30.0	
	comp=Z,8.3nm,1.1s							
WB2	**Warramunga Arr**	**35.94**	**200**	P		**P**	**08 19 12.2**	**0.0**
WRA	**Warramunga Arr**	**35.94**	**200**	P		**P**	**08 19 11.7**	**-0.5**
WRA	**Warramunga Arr**	**35.94**	**200**	P		**P**	**08 19 13.0**	**+0.7**
	comp=Z,3.6nm,0.7s,baz=25,slow=9.6,SNR=16							
	comp=Z,3.6nm,0.7s							
ASAR	**Alice Springs**	**39.55**	**199**	P		**P**	**08 19 43.3**	**+0.5**
ASAR	**Alice Springs**	**39.55**	**199**	P		**P**	**08 19 43.5**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=15,slow=9.3,SNR=8.4							
	comp=Z,0.9nm,0.7s							
SHEM	**Shemya Is, Ala**	**44.27**	**24**	LR		LR	08 36 15.4	
	comp=Z,126nm,19.6s,baz=154,slow=33							
CMAR	**Chiang Mai Arr**	**46.09**	**282**	P		**P**	**08 20 36.0**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=82,slow=5.1,SNR=4.5							
	comp=Z,1.4nm,0.3s							
SONM	**Songino Array**	**47.48**	**324**	P		**P**	**08 20 46.5**	**-0.2**
SONM	**Songino Array**	**47.48**	**324**	P		**P**	**08 20 47.3**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=142,slow=7.0,SNR=8.0							
SONM				PcP		**PcP**	**08 22 16.3**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=145,slow=4.4,SNR=2.4							
	comp=Z,1.3nm,0.7s							
YAK	**Yakutsk**	**49.47**	**349**	LR		LR	08 44 06.4	
	comp=Z,14nm,20.7s,baz=307,slow=39							
N17K	**Nushagak Hills**	**61.44**	**28**	P		**P**	**08 22 28.7**	**+0.9**
M17K	**Holitna River**	**61.69**	**27**	P		**P**	**08 22 30.1**	**+0.7**
K17K	**Iditarod**	**61.88**	**25**	P		**P**	**08 22 31.2**	**+0.5**
K17K				IAmb		IAmb	08 22 40.5	
	comp=Z,7.2nm,1.3s							
O18K	**Koktuh Hills**	**62.09**	**29**	P		**P**	**08 22 33.1**	**+0.9**
O18K				IAmb		IAmb	08 22 58.0	
	comp=Z,6.0nm,1.2s							
OHAK	**Old Harbor**	**62.15**	**32**	P		**P**	**08 22 33.4**	**+0.8**
H17K	**Granite Mounta**	**62.26**	**23**	P		**P**	**08 22 33.8**	**+0.6**
H17K				IAmb		IAmb	08 23 09.0	
	comp=Z,5.3nm,1.4s							
ZALV	**Zalesovo Beam**	**62.38**	**324**	P		**P**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.55**	**18**	Pn	Pn	08 22 52.9	-1.2
	20nm,0.3s,baz=276,slow=23,SNR=25						
JCJ				Sn	Sg	08 23 16.9	+1.9
	34nm,0.3s,baz=122,slow=23,SNR=12						
WRA	**Warramunga Arr**	**45.84**	**190**	P	P	08 30 48.6	-0.5
	0.3nm,0.6s,baz=8.1,slow=8.7,SNR=1.3						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**51.04**	**311**	P	P	08 31 28.9	-0.2
	0.1nm,0.4s,baz=99,slow=9.3,SNR=2.1						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**53.73**	**315**	P	P	08 31 47.8	-1.0
	0.5nm,0.6s,baz=99,slow=7.6,SNR=4.7						
	0.5nm,0.6s						
FINES	**FINESS Array B**	**79.05**	**334**	P	P	08 34 32.8	+1.9
	2.8nm,1.1s,baz=62,slow=3.3,SNR=3.6						
	2.8nm,1.1s						

*SJA **17** 08:52:34.6±0.6,23˚.91S×66˚.60W,h248km±5km,ML3.6, MW3.6*
*GUC **17** 08:52:38.9±0.7,23˚.84S×66˚.80W,h230km±14km,ML3.9*
ISC 17 08:52:34.7±2.3,**23˚.88S**±0˚.05×**66˚.66W**±0˚.07, **h242**km±19km,**n29,**σ1s**64**/52,**3C-1D,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.34**	**129**	*e*P	**Pn**	**08 53 11.4**	**+0.2**
YJA	**Yavi**	**2.00**	**32**	*e*P	**Pn**	**08 53 18.2**	**+1.2**
FSA	**Cafayete**	**2.30**	**165**	*e*P	**Pn**	**08 53 20.2**	**+0.6**
LVC	**Limon Verde**	**2.43**	**301**	*e*P	**Pn**	**08 53 22.5**	**+1.4**
LVC				*e*S	**S**	**08 53 58.1**	**+0.6**
LVC				IAML		08 54 00.8	
	comp=Z,51nm,0.7s						
PB15	**IPOC Station P**	**2.67**	**284**	*e*P	**Pn**	**08 53 25.1**	**+1.7**
PB15				*e*S	**S**	**08 54 01.5**	**-0.1**
PB15				IAML		08 54 05.2	
	comp=Z,487nm,0.3s						
PB15	**IPOC Station P**	**2.67**	**284**	*e*P	**Pn**	**08 53 24.9**	**+1.6**
PB15				*i* S	**S**	**08 54 00.0**	**-1.6**
PB06	**IPOC Station P**	**2.93**	**293**	*e*P	**Pn**	**08 53 27.7**	**+1.6**
PB06				*e*S	**S**	**08 54 06.2**	**-0.4**
PB06				IAML		08 54 07.7	
	comp=Z,93nm,0.3s						
PB06	**IPOC Station P**	**2.93**	**293**	*i* P	**Pn**	**08 53 27.6**	**+1.6**
PB06				*i* S	**S**	**08 54 04.9**	**-1.6**
PB06				IAML		08 54 06.9	
	comp=N,349nm,0.1s						
GO02	**Mina Guanaco**	**2.96**	**244**	*e*P	**Pn**	**08 53 28.1**	**+1.5**
GO02				*e*S	**S**	**08 54 07.2**	**-0.3**
GO02	**Mina Guanaco**	**2.96**	**244**	⇑*i* P	**Pn**	**08 53 28.1**	**+1.5**
GO02				*i* S	**S**	**08 54 06.8**	**-0.7**
GO02				IAML		08 54 07.5	
	comp=N,194nm,0.3s						
PB09	**IPOC Station P**	**3.16**	**310**	*e*P	**Pn**	**08 53 30.7**	**+1.9**
PB09				*e*S	**S**	**08 54 11.3**	**0.0**
PB09				IAML		08 54 16.7	
	comp=Z,64nm,0.2s						
PB09	**IPOC Station P**	**3.16**	**310**	*e*P	**Pn**	**08 53 30.9**	**+2.2**
PB09				*i* S	**S**	**08 54 11.2**	**-0.1**
PB09				IAML		08 54 13.7	
	comp=N,73nm,0.4s						
PB05	**IPOC Station P**	**3.42**	**287**	*e*P	**Pn**	**08 53 32.8**	**+1.3**
PB05				IAML		08 54 21.3	
	comp=Z,34nm,0.5s						
PB05	**IPOC Station P**	**3.42**	**287**	*e*P	**Pn**	**08 53 32.9**	**+1.3**
PB05				*i* S	**S**	**08 54 13.7**	**-2.6**
PB14	**IPOC Station P**	**3.50**	**257**	*e*P	**Pn**	**08 53 33.9**	**+1.2**
PB14				*e*S	**S**	**08 54 17.7**	**-0.7**
PB14				IAML		08 54 18.3	
	comp=Z,44nm,0.6s						
PB04	**IPOC Station P**	**3.57**	**295**	*e*P	**Pn**	**08 53 34.5**	**+1.3**
PB04				*e*S	**S**	**08 54 18.2**	**-1.3**
PB04				IAML		08 54 24.1	
	comp=Z,80nm,0.2s						
PB04	**IPOC Station P**	**3.57**	**295**⇓	*e*P	**Pn**	**08 53 34.6**	**+1.3**
PB04				*i* S	**S**	**08 54 16.9**	**-2.6**
PB10	**IPOC Station P**	**3.59**	**275**⇑	*e*P	**Pn**	**08 53 34.8**	**+1.4**
PB10				*e*S	**S**	**08 54 17.6**	**-2.2**
PB07	**IPOC Station P**	**3.67**	**305**	*e*P	**Pn**	**08 53 35.9**	**+1.3**
PB07				*e*S	**S**	**08 54 19.7**	**-2.1**
PB07				IAML		08 54 22.4	
	comp=Z,80nm,0.1s						
PB07	**IPOC Station P**	**3.67**	**305**⇑	*i*P	**Pn**	**08 53 35.8**	**+1.3**
PB07				*i* S	**S**	**08 54 19.4**	**-2.3**
AC02	**Maricunga**	**3.70**	**217**	*e*P	**Pn**	**08 53 37.2**	**+2.1**
PB01	**IPOC Station P**	**3.85**	**317**	*e*P	**Pn**	**08 53 37.9**	**+1.3**
PB01				*e*S	**S**	**08 54 24.5**	**-1.0**
PB01				IAML		08 54 25.3	
	comp=Z,74nm,0.2s						
PB01	**IPOC Station P**	**3.85**	**317**	*e*P	**Pn**	**08 53 37.9**	**+1.3**
PB01				*i* S	**S**	**08 54 23.1**	**-2.4**
PB02	**IPOC Station P**	**3.93**	**310**	*e*P	**Pn**	**08 53 38.8**	**+1.3**
PB02				*e*S	**S**	**08 54 25.0**	**-2.2**
PB02				IAML		08 54 26.1	
	comp=Z,127nm,0.4s						
PB02	**IPOC Station P**	**3.93**	**310**	*e*P	**Pn**	**08 53 38.5**	**+1.0**
PB02				*i* S	**S**	**08 54 23.9**	**-3.3**
AC01	**Pan de Azucar**	**4.23**	**237**	*e*P	**Pn**	**08 53 41.7**	**+0.8**
AC01				*e*S	**S**	**08 54 30.7**	**-2.7**
AC01				IAML		08 54 34.9	
	comp=Z,24nm,0.3s						
PB08	**IPOC Station P**	**4.38**	**328**	*e*P	**Pn**	**08 53 45.4**	**+2.2**
PB08				*i* S	**S**	**08 54 36.6**	**-0.9**
TA01	**Diego Aracena**	**4.64**	**315**	*e*P	**Pn**	**08 53 46.7**	**+0.8**
TA01				IAML		08 54 44.9	
	comp=Z,24nm,1.1s						
PB11	**IPOC Station P**	**4.96**	**325**	*e*P	**Pn**	**08 53 51.0**	**+1.0**
PB11				*e*S	**S**	**08 54 48.0**	**-1.8**
PB11				IAML		08 54 49.7	
	comp=Z,47nm,1.3s						

*TAP **17** 08:54:16.3,25˚.65N×122˚.82E,h267km±1km,ML3.5,D*
*JMA **17** 08:54:20.1±0.2,26˚N±2˚×122˚.8E±0˚.5,h232km±2km, MV3.5/17,NW OFF ISHIGAKIJIMA IS*
ISC 17 08:54:18.4±2.1,**25˚.59N**±0˚.07×**122˚.79E**±0˚.04, **h243**km±13km,**n59,**σ**0s78**/110,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCYT	**Pengchaiyu**	**0.65**	**274**	*e*P	**Pn**	**08 54 51.5**	**+0.4**
	baz=267						
TWB1	**Santiao Chiao**	**0.93**	**232**	P	**Pn**	**08 54 53.2**	**+0.8**
	baz=229						
SXI1	**Grass Mountain**	**0.96**	**239**	P	**Pn**	**08 54 53.7**	**+1.1**
	baz=236						
SXI1				*e*S	**S**	**08 55 20.3**	**+0.9**
	baz=236						
NWF	**Wu-fen Shan**	**1.05**	**241**	*e*P	**Pn**	**08 54 53.4**	**+0.2**
	baz=238						
NWF				S	**S**	**08 55 20.6**	**+0.2**
	baz=238						
WFSB	**Wu-fen Shan**	**1.05**	**241**	*e*S	**S**	**08 55 20.7**	**+0.6**
	baz=238						
TIPB	**Shuangxi**	**1.07**	**235**	*e*P	**Pn**	**08 54 54.0**	**+0.7**
	baz=233						
TIPB				*e*S	**S**	**08 55 20.8**	**+0.3**
	baz=233						
YOJ	**Yonaguni jima**	**1.14**	**170**	*e*P	**Pn**	**08 54 54.1**	**+0.5**
	baz=171						
YOJ	**Yonaguni jima**	**1.14**	**170**	*e*P	**Pn**	**08 54 53.9**	**+0.3**
YOJ				*e*S	**S**	**08 55 19.2**	**-2.1**
JYNG	**Yonagunijimaku**	**1.14**	**173**	S	**S**	**08 55 19.5**	**-1.8**
YM08	**YM08**	**1.16**	**250**	*e*P	**Pn**	**08 54 52.3**	**-1.4**
	baz=247						
YM01	**YM01**	**1.19**	**248**	*e*P	**Pn**	**08 54 54.1**	**+0.1**
	baz=245						
YM01				*e*S	**S**	**08 55 21.9**	**+0.1**
	baz=245						
EOS2	**EOS2**	**1.27**	**204**	*e*P	**Pn**	**08 54 54.6**	**+0.3**
	baz=203						
EOS2				*e*S	**S**	**08 55 23.2**	**+0.7**
	baz=203						
TWC	**Suao**	**1.30**	**221**	*e*P	**Pn**	**08 54 53.4**	**-1.3**
	baz=219						
TWC				*e*S	**S**	**08 55 22.4**	**-0.6**
	baz=219						
ESAO	**Su ao**	**1.32**	**220**	*e*P	**Pn**	**08 54 53.0**	**-1.8**
	baz=219						
EOS3	**EOS3**	**1.37**	**198**	*i* P	**Pn**	**08 54 55.6**	**+0.6**
	baz=198						
EOS3				*e*S	**S**	**08 55 24.8**	**+1.1**
	baz=198						
FUSB	**Fushanzhiwuyua**	**1.37**	**233**	*e*P	**Pn**	**08 54 55.2**	**0.0**
	baz=231						
FUSB				*e*S	**S**	**08 55 24.7**	**+0.6**
	baz=231						
NWLT	**Wulai**	**1.42**	**235**	*e*P	**Pn**	**08 54 55.6**	**0.0**
	baz=233						
NWLT				*e*S	**S**	**08 55 25.2**	**+0.5**
	baz=233						
EWUT	**Wuta**	**1.46**	**219**	*e*P	**Pn**	**08 54 56.0**	**+0.2**
	baz=218						
EWUT				*e*S	**S**	**08 55 24.6**	**-0.6**
	baz=218						
ENA	**Nanau**	**1.50**	**220**	*e*P	**Pn**	**08 54 56.7**	**+0.6**
	baz=218						
ENA				*i* S	**S**	**08 55 26.0**	**+0.3**
	baz=218						
NDT	**Datong Townshi**	**1.52**	**230**	*e*P	**Pn**	**08 54 56.6**	**+0.3**
	baz=228						
NDT				*e*S	**S**	**08 55 26.5**	**+0.5**
	baz=228						
EOS4	**EOS4**	**1.52**	**196**	*i* P	**Pn**	**08 54 56.9**	**+1.0**
	baz=196						
EOS4				*e*S	**S**	**08 55 25.2**	**-0.2**
	baz=196						
LATG	**Datong**	**1.55**	**228**	*e*P	**Pn**	**08 54 57.4**	**+0.7**
	baz=226						
LATG				*e*S	**S**	**08 55 27.4**	**+0.7**
	baz=226						
YHNB	**Yeheng**	**1.57**	**235**	*i* P	**Pn**	**08 54 57.2**	**+0.4**
	baz=233						
YHNB				*e*S	**S**	**08 55 26.9**	**-0.1**
	baz=233						
NSK	**Sanguang**	**1.58**	**235**	*i* P	**Pn**	**08 54 57.1**	**+0.3**
	baz=233						
NSK				*e*S	**S**	**08 55 26.9**	**-0.2**
	baz=233						
JISG	**Ishigakijimahi**	**1.70**	**126**	*e*S	**S**	**08 55 27.8**	**-0.8**
NNSB	**Datong**	**1.72**	**228**	P	**Pn**	**08 54 58.5**	**+0.4**
	baz=226						
NNSB				S	**S**	**08 55 29.0**	**-0.2**
	baz=226						
JIJ	**Ishigaki jima**	**1.73**	**135**	P	**Pn**	**08 54 58.1**	**+0.1**
JIJ				S	**S**	**08 55 27.2**	**-1.9**
JKRS	**Kuro-shima**	**1.74**	**140**	P	**Pn**	**08 54 58.6**	**+0.5**
JKRS				S	**S**	**08 55 28.4**	**-0.9**
NACB	**Ninganchiao**	**1.78**	**218**	*e*P	**Pn**	**08 54 58.4**	**0.0**
	baz=217						
NACB				*e*S	**S**	**08 55 28.3**	**-1.6**
	baz=217						
HATJ	**Hateruma jima**	**1.79**	**149**	*e*P	**Pn**	**08 54 58.7**	**+0.2**
HATJ				*e*S	**S**	**08 55 29.1**	**-0.8**
ETLH	**Xiulin Townshi**	**1.82**	**221**	P	**Pn**	**08 54 59.1**	**+0.2**
	baz=220						
ETLH				*e*S	**S**	**08 55 30.1**	**-0.5**
	baz=220						
TWD	**Chiawan**	**1.85**	**216**	*e*P	**Pn**	**08 54 58.6**	**-0.5**
	baz=215						
TWD				*e*S	**S**	**08 55 30.4**	**-0.6**
	baz=215						
LIOB	**Emei**	**1.86**	**240**	*i* P	**Pn**	**08 54 59.5**	**+0.4**
	baz=238						
LIOB				*e*S	**S**	**08 55 31.5**	**+0.3**
	baz=238						
NSTT	**Nanjuang**	**1.88**	**240**	*e*P	**Pn**	**08 54 59.3**	**0.0**
	baz=238						
NSTT				*e*S	**S**	**08 55 31.7**	**+0.3**
	baz=238						
FUSS	**Fushou**	**1.94**	**227**	*e*P	**Pn**	**08 55 00.7**	**+0.6**
	baz=225						
FUSS				*e*S	**S**	**08 55 32.6**	**-0.2**
	baz=225						
JTJ	**Tarama**	**1.98**	**118**	P	**Pn**	**08 55 00.9**	**+0.8**
JTJ				*e*S	**S**	**08 55 31.9**	**-1.0**
TDCB	**Techi**	**1.99**	**228**	P	**Pn**	**08 55 00.9**	**+0.4**
	baz=227						
TDCB				*e*S	**S**	**08 55 33.5**	**0.0**
	baz=227						
WHF	**Hehuan Shan**	**2.00**	**224**	*e*P	**Pn**	**08 55 01.4**	**+0.6**
	baz=223						
WHF				*e*S	**S**	**08 55 33.6**	**-0.5**
	baz=223						
ETM	**Tongmen**	**2.00**	**216**	*e*P	**Pn**	**08 55 00.1**	**-0.3**
	baz=215						
ETM				*e*S	**S**	**08 55 32.6**	**-0.8**
	baz=215						
LXIB	**Xiulin Townshi**	**2.00**	**219**	*e*P	**Pn**	**08 55 00.1**	**-0.5**
	baz=218						
LXIB				*e*S	**S**	**08 55 32.9**	**-0.8**
	baz=218						
SHUL	**Shoufeng**	**2.11**	**212**	P	**Pn**	**08 55 01.7**	**+0.3**
	baz=211						
SHUL				S	**S**	**08 55 35.4**	**+0.2**
	baz=211						
CHGB	**Renai**	**2.12**	**224**	*e*P	**Pn**	**08 55 02.6**	**+0.9**
	baz=223						
CHGB				*e*S	**S**	**08 55 35.8**	**+0.1**
	baz=223						
WHP	**Taichung City**	**2.12**	**232**	*e*P	**Pn**	**08 55 02.5**	**+0.8**
	baz=231						
WHP				*e*S	**S**	**08 55 35.7**	**+0.1**
	baz=231						
OWD	**Renai**	**2.19**	**222**	*e*P	**Pn**	**08 55 03.2**	**+0.9**
	baz=221						
OWD				S	**S**	**08 55 36.6**	**-0.3**
	baz=221						
WUSB	**Renai**	**2.20**	**224**	*e*P	**Pn**	**08 55 03.0**	**+0.6**
	baz=223						
WUSB				*e*S	**S**	**08 55 37.0**	**0.0**
	baz=223						
WARBT	**Fenglin Townsh**	**2.26**	**215**	*e*P	**Pn**	**08 55 02.1**	**-0.8**
	baz=214						
WARBT				*e*S	**S**	**08 55 35.7**	**-2.2**
	baz=214						
JIRB	**Irabujima**	**2.29**	**109**	*e*P	**Pn**	**08 55 03.6**	**+0.6**
JIRB				*e*S	**S**	**08 55 37.1**	**-1.1**
WCS	**Beigang Elemen**	**2.29**	**229**	P	**Pn**	**08 55 03.3**	**+0.2**
	baz=227						
WCS				*i* S	**S**	**08 55 38.1**	**-0.2**
	baz=227						
JIKM	**Ikemajima**	**2.32**	**106**	*e*P	**Pn**	**08 55 04.5**	**+1.0**
JIKM				*e*S	**S**	**08 55 38.5**	**-0.3**
VWDT	**VWDT**	**2.36**	**220**	*e*P	**Pn**	**08 55 05.2**	**+1.3**
	baz=218						
VWDT				*e*S	**S**	**08 55 40.5**	**+0.9**
	baz=218						
JMJ	**Miyako jima 2**	**2.40**	**108**	*e*P	**Pn**	**08 55 05.9**	**+1.7**
	baz=110						
JMJ				*e*S	**S**	**08 55 40.2**	**+0.1**
	baz=110						
TYC	**Yuchr**	**2.43**	**227**	*e*P	**Pn**	**08 55 05.0**	**+0.5**
	baz=225						
TYC				*e*S	**S**	**08 55 40.9**	**+0.1**
	baz=225						
HGSD	**Ruisui**	**2.43**	**211**	*e*P	**Pn**	**08 55 05.5**	**+0.9**
	baz=210						
HGSD				*e*S	**S**	**08 55 41.6**	**+0.7**
	baz=210						
JMJ2	**Miyako jima3**	**2.45**	**110**	P	**Pn**	**08 55 05.7**	**+1.0**
JMJ2				*e*S	**S**	**08 55 40.4**	**-0.7**
SSLB	**Suanglung**	**2.45**	**223**	*i* P	**Pn**	**08 55 05.1**	**+0.3**
	baz=222						
SSLB				S	**S**	**08 55 41.0**	**-0.2**
	baz=222						
EHY	**Hungye**	**2.47**	**213**	P	**Pn**	**08 55 05.0**	**+0.1**
	baz=212						
EHY				*e*S	**S**	**08 55 41.3**	**-0.2**
	baz=212						
JOGS	**Gusukube**	**2.51**	**109**	P	**Pn**	**08 55 06.4**	**+1.1**
JOGS				*e*S	**S**	**08 55 41.8**	**-0.4**
YULB	**Yu-li**	**2.58**	**212**	*e*P	**Pn**	**08 55 05.1**	**-1.0**
	baz=211						
YULB				*e*S	**S**	**08 55 42.8**	**-0.8**
	baz=211						
LYJJ	**Jianjiangzhen**	**2.89**	**290**	P	**Pn**	**08 55 08.8**	**-0.4**
	baz=288						
LYJJ				*i* S	**S**	**08 55 47.5**	**-1.8**
	baz=288						

*IDC **17** 09:15:07.5±0.8,9˚.73S×126˚.84E,h0km,mb4.2/12, mbtmp4.2/13,ML4.3/1,MS3.7/2,Error ellipse: s-maj=25.5km s-min=19.2km az=68.0*
*NEIC **17** 09:15:07.2±1.7,9˚.93S±0˚.07×126˚.81E±0˚.07,h10km±1km, mb4.4/15,Error ellipse: s-maj=13.9km s-min=10.6km az=221.0*
*DJA **17** 09:15:11.8±1.0,10˚S±3˚×12˚7E±˚,h25km±9km,M4.5/14, mb4.6/14,mB5.0/7,MLv4.6/10,Mw(mB)4.3/7*
ISC 17 09:15:07.5±0.4,**10˚.03S**±0˚.05×**126˚.80E**±0˚.05,**h10**km,**n75, σ2s06/76,mb4.3/22,1C,Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.51**	**276**		**Pn**	**09 15 49.2**	**+0.7**
SOEI	**Soe**	**2.51**	**276**	P	**Pb**	**09 15 52.3**	**-0.5**
SOEI	**Soe**	**2.51**	**276**	P	**Pb**	**09 15 52.4**	**-0.4**
SOEI				S	**Sb**	**09 16 24.8**	**+1.0**
BATI	**Baumata**	**3.09**	**266**	Pn	**Pb**	**09 16 00.3**	**-2.4**
	35nm,0.3s,baz=115,slow=2.5,SNR=13						
BATI				Sn	**Sb**	**09 16 38.1**	**-2.3**
	95nm,0.3s,baz=132,slow=21,SNR=14						
	90nm,0.4s						
BATI	**Baumata**	**3.09**	**266**	P	**Pb**	**09 16 00.7**	**-2.0**
BATI				S	**Sb**	**09 16 37.5**	**-3.0**
MMRI	**Maumere**	**4.71**	**287**		**Pn**	**09 16 17.2**	**-1.5**
MMRI	**Maumere**	**4.71**	**287**	P	**Pn**	**09 16 21.7**	**+3.0**
MTN	**Manton Dam**	**5.09**	**124**		**Pn**	**09 16 24.9**	**+1.0**
MTN	**Manton Dam**	**5.09**	**124**	P	**Pn**	**09 16 28.3**	**+4.4**
EDFI	**Ende, Flores**	**5.20**	**284**	P	**Pn**	**09 16 28.7**	**+3.2**
	35nm,0.6s,968nm0.3nm						
KNRA	**Kununurra**	**5.93**	**161**		**Pn**	**09 16 36.7**	**+1.2**
KNRA	**Kununurra**	**5.93**	**161**	P	**Pn**	**09 16 39.5**	**+4.0**
BASI	**Baing, Sumba**	**6.13**	**268**	P	**Pn**	**09 16 40.6**	**+2.4**
	94nm,0.5s,1μm1.1nm						
BBSI	**Bau Bau**	**6.16**	**317**	P	**Pn**	**09 16 41.0**	**+2.4**
	75nm,1.0s,0.2nm						
KDU	**Kakadu**	**6.16**	**116**	P	**Pn**	**09 16 42.8**	**+4.2**
FITZ	**Fitzroy Crossi**	**8.10**	**188**	Pn	**Pn**	**09 17 07.0**	**+1.7**
BKSI	**Bulukumba**	**8.10**	**305**	P	**Pn**	**09 17 07.9**	**+2.6**
	15nm,0.9s,546nm						
FAKI	**Fak Fak**	**8.90**	**38**	Pn	**Pn**	**09 17 14.3**	**-2.0**
FAKI	**Fak Fak**	**8.90**	**38**	P	**Pn**	**09 17 17.3**	**+1.0**
	29nm,1.0s						
PLAI	**Plampang**	**8.98**	**277**	P	**Pn**	**09 17 20.9**	**+3.5**
PLAI	**Plampang**	**8.98**	**277**	P	**Pn**	**09 17 20.7**	**+3.3**
	74nm,0.7s,747nm						
TWSI	**Taliwang, Sumb**	**9.87**	**277**	P	**Pn**	**09 17 31.7**	**+2.1**
	25nm,0.6s						
SWI	**Sorong**	**10.13**	**26**	P	**Pn**	**09 17 33.1**	**-0.1**
	25nm,0.8s						
TNTI	**Ternate**	**10.75**	**3**	P	**Pn**	**09 17 42.4**	**+0.8**
	39nm,1.1s						
WB0	**Warramunga Arr**	**12.14**	**144**		**Pn**	**09 18 00.7**	**-0.1**
WRAB	**Tennant Creek**	**12.25**	**144**		**Pn**	**09 18 02.0**	**-0.2**
WRA	**Warramunga Arr**	**12.25**	**144**	Pn	**Pn**	**09 18 01.5**	**-0.7**
WRA	**Warramunga Arr**	**12.25**	**144**	P	**Pn**	**09 18 01.8**	**-0.4**
	2.4nm,0.3s,baz=319,slow=13,SNR=74						
WRA				Sn	**Sn**	**09 20 12.8**	**-6.2**
	3.6nm,0.3s,baz=321,slow=24,SNR=6.2						
WB2	**Warramunga Arr**	**12.26**	**144**		**Pn**	**09 18 02.0**	**-0.3**
WR0	**Warramunga Arr**	**12.38**	**144**		**Pn**	**09 18 03.8**	**-0.2**
TOLI2	**Tolitoli**	**12.59**	**331**	Pn	**Pn**	**09 18 05.5**	**-1.2**
MBWA	**Marble Bar**	**12.98**	**211**	Pn	**Pn**	**09 18 13.6**	**+1.3**
MBWA	**Marble Bar**	**12.98**	**211**	P	**Pn**	**09 18 15.8**	**+3.6**
PSA00	**Pilbara Seismi**	**13.28**	**209**		**Pn**	**09 18 16.9**	**+0.6**
PSA00	**Pilbara Seismi**	**13.28**	**209**	P	**Pn**	**09 18 19.2**	**+3.0**
AS31	**Alice Springs**	**15.16**	**154**		**Pn**	**09 18 42.0**	**0.0**
ASAR	**Alice Springs**	**15.16**	**154**		**Pn**	**09 18 42.4**	**+0.4**
ASAR	**Alice Springs**	**15.16**	**154**	Pn	**Pn**	**09 18 42.1**	**+0.1**
	2.7nm,0.3s,baz=321,slow=10,SNR=200						
ASAR				Sn	**Sn**	**09 21 26.1**	**-4.0**
	1.9nm,0.3s,baz=333,slow=22,SNR=9.0						
ASAR				LR	LR	09 25 30.2	
	comp=Z,178nm,18.9s,baz=352,slow=40						
COEN	**Coen**	**16.49**	**105**		**Pn**	**09 18 59.7**	**+0.6**
KKM	**Kota Kinabalu**	**19.14**	**326**	P	**P**	**09 19 28.9**	**-2.2**
KKM				IAmb	IAmb	09 19 42.2	
	comp=Z,15nm,0.9s						
PMG	**Port Moresby**	**20.08**	**90**	P	Pn	09 19 47.4	+4.2
	comp=Z,8.6nm,0.9s,baz=178,slow=22,SNR=1.4						
FORT	**Forrest**	**20.68**	**177**	P	**P**	**09 19 48.2**	**+0.5**
FORT				IAmb	IAmb	09 19 52.8	
	comp=Z,49nm,1.1s						
CTA	**Charters Tower**	**21.26**	**120**	P	P	09 20 02.1	+8.0
	comp=Z,15nm,1.0s,baz=270,slow=8.9,SNR=7.1						
MORW	**Morawa**	**21.45**	**207**	P	**P**	**09 19 56.1**	**0.0**
MORW				IAmb	IAmb	09 20 04.6	
	comp=Z,10nm,1.1s						
BBOO	**Buckleboo**	**24.23**	**161**	P	**P**	**09 20 23.7**	**-1.0**
BBOO				IAmb	IAmb	09 20 38.8	
	comp=Z,18nm,1.1s						
STKA	**Stephens Creek**	**25.70**	**150**	P	**P**	**09 20 38.0**	**0.0**
STKA	**Stephens Creek**	**25.70**	**150**	P	**P**	**09 20 42.4**	**+4.4**
	comp=Z,9.7nm,0.9s,baz=326,slow=10,SNR=8.4						
	comp=Z,9.7nm,0.9s						
GSI	**Gunungsitoli**	**31.19**	**290**	P	**P**	**09 21 25.5**	**-1.7**
CMAR	**Chiang Mai Arr**	**39.46**	**316**	P	**P**	**09 22 37.2**	**-1.1**
CMAR	**Chiang Mai Arr**	**39.46**	**316**	P	**P**	**09 22 38.9**	**+0.5**
	comp=Z,5.2nm,0.7s,baz=145,slow=6.5,SNR=19						
	comp=Z,5.2nm,0.7s						
CRAI	**Chiangrai**	**39.76**	**319**	P	**P**	**09 22 39.8**	**-1.0**
CRAI				IAmb	IAmb	09 22 42.5	
	comp=Z,6.5nm,0.8s						
WHN	**Wuhan**	**42.08**	**344**	⇑P	**P**	**09 23 00.6**	**+0.9**
PZH	**PanZhiHua**	**43.72**	**327**	P	**P**	**09 23 15.3**	**+2.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,90nm,7.1s						
INU	**Inuyama**	**46.16**	**12**	P	**P**	**09 23 29.4**	**-2.9**
JGF	**Kuroka**	**46.47**	**12**	P	P	09 23 28.9	-6.0
KSRS	**Korea Array**	**47.24**	**1**	P	**P**	**09 23 40.2**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=179,slow=10,SNR=4.8						
	comp=Z,1.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**52.54**	**345**	*e*P	**P**	**09 24 22.9**	**+1.6**
HHC				sP	sP	09 24 29.0	+3.7
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,72nm,6.0s						
USRK	**Ussuriysk Ar.**	**54.18**	**5**	P	**P**	**09 24 32.6**	**-0.4**
	comp=Z,3.3nm,0.7s,baz=207,slow=3.8,SNR=5.8						
	comp=Z,3.3nm,0.7s						
XLT	**XiLinHaoTe**	**54.55**	**351**	*e*P	**P**	**09 24 35.8**	**-0.1**
XLT				pP	sP	09 24 39.8	-0.1
XLT				pmax	pmax		
	comp=Z,9.0

IDC ***17*** *09:23:48.1±0.5,9.64S±0.126°81E,h0km,mb4.4/18, mbtmp4.5/20,ML4.9/2,MS3.8/44,Error ellipse: s-maj=19.4km s-min=12.8km az=69.0*

NEIC ***17*** *09:23:48.4±0.9,9.76S±0.06×126.91E±0.06,h10km±1km, mb4.8/47,Error ellipse: s-maj=11.2km s-min=9.5km az=198.0*

GCMT ***17*** *09:23:51.4±0.3,9.95S±0.03×127.01E±0.04,h18km±1km, MW4.8/75,Moment Tensor Solution. s18,c18; s75,c94; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.75±.18; Mθθ1.17±.10; Mϕϕ0.58±.11; Mrθ=0.74±.26; Mθϕ1.07±.07; Mϕr=1.00±.35; Best double couple: Mo2.24800×10¹⁶ NP1:ϕs43.00000°,δ62.00000°,λ=100.00000°. NP2: ϕs243.00000°,δ30.00000°,λ=72.00000°. Principal axes: T 2.3410, Plg16.0000°, Azm140.0000°; N -0.1800, Plg9.0000°, Azm48.0000°; P -2.1560, Plg71.0000°, Azm291.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***17*** *09:23:52.6±0.2,10°S±2°×12°7E±°,h45km±4km,M4.6/30, mb5.0/30,mB5.1/8,MLv4.8/10,Mw(mB)4.4/14, MwMwp4.6/1,Mwp5.0/1*

ISC 17 09:23:48.7±0.3,**9.89S**±0.04×**126.93E**±0.05,**h10**km,**n213,** σ1**875**/167,**mb4.7**/43,**MS3.8**/42,**1C,Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.63**	**273**		**Pn**	**09 24 30.4**	**-0.9**
SOEI	**Soe**	**2.63**	**273**	P	**Pn**	**09 24 32.2**	**+0.9**
SOEI	**Soe**	**2.63**	**273**	P	**Pn**	**09 24 31.8**	**+0.5**
BATI	**Baumata**	**3.23**	**264**	Pn	**Pn**	**09 24 40.3**	**+0.7**
	130nm,0.3s,baz=120,slow=0.5,SNR=34						
BATI				Sn	**Sn**	**09 25 19.6**	**+1.4**
	183nm,0.3s,baz=138,slow=18,SNR=9.8						
	287nm,0.4s						
BATI	**Baumata**	**3.23**	**264**	P	**Pn**	**09 24 40.3**	**+0.7**
BATI				S	**Sn**	**09 25 19.2**	**+1.0**
SAUI	**Saumlaki**	**4.71**	**67**	Pn	**Pn**	**09 24 59.2**	**-0.8**
MMRI	**Maumere**	**4.80**	**285**		**Pn**	**09 25 00.0**	**-1.1**
MMRI	**Maumere**	**4.80**	**285**	P	**Pn**	**09 25 03.3**	**+2.2**
MMRI	**Maumere**	**4.80**	**285**	P	**Pn**	**09 25 03.3**	**+2.2**
MTN	**Manton Dam**	**5.06**	**126**	P	**Pn**	**09 25 07.3**	**+2.6**
	baz=5.0,SNR=259						
MTN	**Manton Dam**	**5.06**	**126**	Pn	**Pn**	**09 25 07.2**	**+2.4**
MTN	**Manton Dam**	**5.06**	**126**	P	**Pn**	**09 25 07.9**	**+3.2**
EDFI	**Ende, Flores**	**5.29**	**282**	P	**Pn**	**09 25 07.9**	**-0.1**
	72nm,0.8s,2μm0.4nm						
KNRA	**Kununurra**	**6.03**	**163**	P	**Pn**	**09 25 18.8**	**+0.8**
	baz=6.0,SNR=88						
KNRA	**Kununurra**	**6.03**	**163**	Pn	**Pn**	**09 25 18.6**	**+0.6**
KNRA	**Kununurra**	**6.03**	**163**	P	**Pn**	**09 25 19.1**	**+1.1**
BNDI	**Bandanaira**	**6.09**	**29**	P	**Pn**	**09 25 22.1**	**+3.2**
	147nm,0.5s,28μm1.3nm						
KDU	**Kakadu**	**6.11**	**118**	P	**Pn**	**09 25 21.0**	**+1.9**
	baz=6.1,SNR=74						
KDU	**Kakadu**	**6.11**	**118**	P	**Pn**	**09 25 21.4**	**+2.3**
BBSI	**Bau Bau**	**6.14**	**315**	P	**Pn**	**09 25 19.2**	**-0.4**
	140nm,0.9s,2μm0.5nm						
BASI	**Baing, Sumba**	**6.26**	**266**	P	**Pn**	**09 25 20.7**	**-0.6**
	225nm,0.7s,3μm1.9nm						
NLAI	**Namlea**	**6.61**	**1**	P	**Pn**	**09 25 29.6**	**+3.7**
	179nm,0.8s,0.6nm						
SANI	**Sanana**	**7.84**	**353**	P	Pn	09 25 48.5	+5.6
BKSI	**Bulukumba**	**8.13**	**303**	P	**Pn**	**09 25 47.5**	**+0.6**
	58nm,0.7s,586nm						
FITZ	**Fitzroy Crossi**	**8.26**	**189**	P	**Pn**	**09 25 48.1**	**-0.5**
	baz=8.2,SNR=73						
FITZ	**Fitzroy Crossi**	**8.26**	**189**	Pn	**Pn**	**09 25 49.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**8.26**	**189**	P	**Pn**	**09 25 48.2**	**-0.5**
KAPI	**Kappang**	**8.61**	**304**	Pn	**Pn**	**09 25 52.0**	**-1.5**
KAPI	**Kappang**	**8.61**	**304**	P	**Pn**	**09 25 55.2**	**+1.8**
FAKI	**Fak Fak**	**8.71**	**38**	Pn	Pn	09 25 53.0	-1.8
FAKI	**Fak Fak**	**8.71**	**38**	P	**Pn**	**09 25 55.0**	**+0.2**
FAKI	**Fak Fak**	**8.71**	**38**	P	**Pn**	**09 25 55.5**	**+0.7**
PLAI	**Plampang**	**9.10**	**276**	P	**Pn**	**09 26 00.9**	**+0.8**
PLAI	**Plampang**	**9.10**	**276**	P	**Pn**	**09 26 00.7**	**+0.6**
	116nm,0.8s,1μm						
LBMI	**Labuha**	**9.21**	**4**	P	**Pn**	**09 26 03.8**	**+2.1**
	79nm,0.9s,2μm						
SWI	**Sorong**	**9.95**	**26**	P	**Pn**	**09 26 15.2**	**+3.4**
	63nm,0.7s						
TWSI	**Taliwang, Sumb**	**9.98**	**276**	P	**Pn**	**09 26 11.7**	**-0.6**
	55nm,0.7s						
WB0	**Warramunga Arr**	**12.18**	**145**	Pn	**Pn**	**09 26 40.7**	**-1.8**
WRAB	**Tennant Creek**	**12.29**	**145**		**Pn**	**09 26 42.0**	**-1.9**
WRA	**Warramunga Arr**	**12.29**	**145**	Pn	Pn	09 26 41.0	-2.9
WRA	**Warramunga Arr**	**12.29**	**145**	Pn	Pn	09 26 41.3	-2.7
	9.8nm,0.3s,baz=324,slow=13,SNR=134						
WRA				Sn	Sn	09 28 53.3	-7.8
	15nm,0.3s,baz=316,slow=28,SNR=9.2						
WRA				LR	LR	09 32 12.2	
	comp=Z,1μm,18.6s,baz=314,slow=40						
WB2	**Warramunga Arr**	**12.30**	**145**	Pn	Pn	09 26 41.4	-2.6
WB1	**Warramunga Ar.**	**12.31**	**145**	P	**Pn**	**09 26 42.2**	**-2.0**
WR0	**Warramunga Arr**	**12.42**	**145**		Pn	09 26 43.1	-2.6
TOLI2	**Tolitoli**	**12.52**	**330**	Pn	Pn	09 26 43.4	-3.8
MBWA	**Marble Bar**	**13.18**	**211**	Pn	Pn	09 26 53.0	-3.0
MBWA	**Marble Bar**	**13.18**	**211**	P	**Pn**	**09 26 54.0**	**-2.0**
PSA00	**Pilbara Seismi**	**13.47**	**210**	Pn	Pn	09 26 57.1	-2.8
PSA00	**Pilbara Seismi**	**13.47**	**210**	P	Pn	09 26 57.6	-2.4
PWJI	**Pagerwojo**	**15.06**	**276**	P	**Pn**	**09 27 20.1**	**-1.6**
	49nm,0.9s						
WRKA	**Warakurna**	**15.12**	**175**	P	**Pn**	**09 27 19.7**	**-2.9**
	baz=15,SNR=26						
WRKA	**Warakurna**	**15.12**	**175**	P	**Pn**	**09 27 20.4**	**-2.2**
AS31	**Alice Springs**	**15.24**	**155**	Pn	**Pn**	**09 27 21.9**	**-2.2**
ASAR	**Alice Springs**	**15.24**	**155**	Pn	**Pn**	**09 27 21.5**	**-2.6**
ASAR	**Alice Springs**	**15.24**	**155**	Pn	**Pn**	**09 27 21.1**	**-3.0**
	8.3nm,0.3s,baz=325,slow=10,SNR=168						
ASAR				Sn	**Sn**	**09 30 05.3**	**-7.8**
	5.8nm,0.3s,baz=318,slow=20,SNR=12						
ASAR				LR	LR	09 34 25.2	
	comp=Z,2μm,20.1s,baz=329,slow=41						
AS01	**Alice Springs**	**15.26**	**155**	P	**Pn**	**09 27 23.0**	**-1.3**
NGJI	**Ngawi**	**15.50**	**278**	P	**Pn**	**09 27 32.2**	**+4.7**
QIS	**Mount Isa**	**16.18**	**132**	P	**Pn**	**09 27 34.7**	**-1.6**
	baz=16,SNR=17						
QIS	**Mount Isa**	**16.18**	**132**	P	**Pn**	**09 27 35.4**	**-0.9**
UGM	**Wanagama**	**16.33**	**276**	P	**Pn**	**09 27 39.2**	**+0.9**
UGM	**Wanagama**	**16.33**	**276**	P	**Pn**	**09 27 37.4**	**-0.9**
	135nm,1.1s						
COEN	**Coen**	**16.40**	**106**	P	**Pn**	**09 27 37.3**	**-1.9**
	baz=16,SNR=14						
COEN	**Coen**	**16.40**	**106**	Pn	**Pn**	**09 27 37.0**	**-2.2**
COEN	**Coen**	**16.40**	**106**	P	**Pn**	**09 27 39.2**	**0.0**
SMRI	**Semarang**	**16.55**	**279**	P	**Pn**	**09 27 41.4**	**+0.3**
	105nm,1.0s						
DAV	**Davao City (W)**	**16.90**	**355**	LR	LR	09 34 55.7	
	comp=Z,429nm,20.3s,baz=182,slow=40						
GIRL	**Giralia**	**17.57**	**222**	P	**Pn**	**09 27 56.1**	**+2.2**
KPJI	**Karang Pucung**	**17.98**	**277**	P	**Pn**	**09 27 59.6**	**+0.7**
	44nm,0.6s						
MEEK	**Meekatharra**	**18.43**	**204**	P	**P**	**09 28 04.4**	**0.0**
	baz=18,SNR=14						
MEEK	**Meekatharra**	**18.43**	**204**	P	**P**	**09 28 03.3**	**-1.1**
MTSU	**Mount Surprise**	**18.74**	**118**	P	**P**	**09 28 06.7**	**-1.2**
	baz=19,SNR=15						
MTSU	**Mount Surprise**	**18.74**	**118**	P	**P**	**09 28 08.9**	**+1.0**
KKM	**Kota Kinabalu**	**19.09**	**326**		**P**	**09 28 08.8**	**-3.0**
KKM				IAmb	IAmb	09 28 19.8	
	comp=Z,55nm,1.0s						
BBJI	**Bungbulang**	**19.21**	**276**	P	**P**	**09 28 12.6**	**-0.5**
LEM	**Lembang**	**19.35**	**278**	P	**P**	**09 28 13.0**	**-1.8**
	comp=Z,4.5nm,0.3s,baz=80,slow=12,SNR=5.4						
LEM				LR	LR	09 36 40.3	
	comp=Z,451nm,19.9s,baz=90,slow=40						
	comp=Z,40nm,0.7s						
LEM	**Lembang**	**19.35**	**278**	P	**P**	**09 28 13.2**	**-1.5**
	comp=Z,45nm,0.8s						
OOD	**Oodnadatta**	**19.63**	**156**	P	**P**	**09 28 17.5**	**0.0**
PMG	**Port Moresby**	**19.95**	**90**	P	**P**	**09 28 19.8**	**-1.4**
PMG				IAmb	IAmb	09 28 35.7	
	comp=Z,53nm,0.9s						
PMG	**Port Moresby**	**19.95**	**90**	LR	LR	09 36 55.4	
	comp=Z,634nm,18.4s,baz=252,slow=39						
KSM	**Kuching**	**20.03**	**303**	P	**P**	**09 28 20.3**	**-1.8**
DBJI	**Dramaga**	**20.24**	**278**	P	**P**	**09 28 22.6**	**-1.8**
	comp=Z,70nm,0.6s						
SKJI	**Sukabumi**	**20.35**	**276**	P	**P**	**09 28 22.7**	**-2.9**
	comp=Z,322nm,1.2s						
FORT	**Forrest**	**20.82**	**177**	P	**P**	**09 28 30.5**	**+0.1**
	baz=21,SNR=12						
FORT	**Forrest**	**20.82**	**177**		**P**	**09 28 30.8**	**+0.4**
FORT				IAmb	IAmb	09 28 36.1	
	comp=Z,54nm,0.8s						
FORT	**Forrest**	**20.82**	**177**	P	**P**	**09 28 33.1**	**+2.7**
XMI	**Christmas Isla**	**20.92**	**267**	P	**P**	**09 28 32.7**	**+1.0**
XMIS	**Christmas Isla**	**20.95**	**267**	P	**P**	**09 28 31.0**	**-1.0**
XMIS				IAmb	IAmb	09 28 41.3	
	comp=Z,41nm,0.8s						
CTA	**Charters Tower**	**21.22**	**121**	P	**P**	**09 28 38.4**	**+3.5**
	comp=Z,7.3nm,0.6s,baz=270,slow=9.6,SNR=10.0						
CTA				LR	LR	09 36 44.2	
	comp=Z,489nm,21.1s,baz=359,slow=36						
	comp=Z,7.3nm,0.6s						
CTAO	**Charters Tower**	**21.22**	**121**	P	**P**	**09 28 35.1**	**+0.2**
CTAO				IAmb	IAmb	09 28 48.7	
	comp=Z,64nm,1.2s						
CTAO	**Charters Tower**	**21.22**	**121**	P	**P**	**09 28 38.2**	**+3.3**
MULG	**Mulgathing**	**21.36**	**163**	P	**P**	**09 28 38.6**	**+2.4**
MORW	**Morawa**	**21.64**	**207**	P	**P**	**09 28 39.9**	**+0.5**
	baz=22,SNR=7.0						
MORW	**Morawa**	**21.64**	**207**	P	**P**	**09 28 41.3**	**+2.0**
KMBL	**Kambalda**	**21.88**	**192**	P	**P**	**09 28 42.9**	**+1.0**
PPBI	**Pangkal Pinang**	**22.04**	**289**	P	**P**	**09 28 41.8**	**-2.0**
BLDU	**Ballidu**	**22.72**	**203**	P	**P**	**09 28 51.6**	**+0.7**
LCRK	**Leigh Creek**	**23.00**	**154**	P	**P**	**09 28 56.4**	**+2.5**
KLBR	**Kellerberrin**	**23.22**	**200**	P	**P**	**09 28 56.9**	**+0.9**
QLP	**Quilpie**	**23.31**	**138**	P	**P**	**09 28 58.0**	**+0.9**
	baz=23,SNR=11						
QLP	**Quilpie**	**23.31**	**138**	P	**P**	**09 28 58.1**	**+1.0**
MUN	**Mundaring**	**24.12**	**203**	P	**P**	**09 29 06.7**	**+1.9**
	baz=24,SNR=5.7						
BBOO	**Buckleboo**	**24.32**	**161**	P	**P**	**09 29 07.4**	**+0.8**
	baz=24,SNR=13						
BBOO	**Buckleboo**	**24.32**	**161**	P	**P**	**09 29 08.5**	**+1.9**
BBOO				IAmb	IAmb	09 29 12.3	
	comp=Z,18nm,0.7s						
BBOO	**Buckleboo**	**24.32**	**161**	P	**P**	**09 29 07.6**	**+0.9**
TGY	**Tagaytay City**	**24.56**	**346**	LR	LR	09 40 35.9	
	comp=Z,165nm,19.9s,baz=141,slow=42						
NWAO	**Narrogin (SRO)**	**24.61**	**200**	P	**P**	**09 29 08.3**	**-1.0**
NWAO				IAmb	IAmb	09 29 33.8	
	comp=Z,61nm,1.4s						
NWAO	**Narrogin (SRO)**	**24.61**	**200**	LR	LR	09 39 37.3	
	comp=Z,319nm,18.8s,baz=198,slow=38						
KAVG	**Kabaw**	**24.80**	**75**	P	**P**	**09 29 13.3**	**+2.1**
MYKOM	**Kota Tinggi**	**25.74**	**296**	P	**P**	**09 29 17.9**	**-1.8**
MYKOM				IAmb	IAmb	09 29 23.2	
	comp=Z,38nm,1.3s						
STKA	**Stephens Creek**	**25.76**	**150**	P	**P**	**09 29 20.7**	**+1.0**
	baz=26,SNR=26						
STKA	**Stephens Creek**	**25.76**	**150**	P	**P**	**09 29 20.4**	**+0.7**
STKA	**Stephens Creek**	**25.76**	**150**	P	**P**	**09 29 20.9**	**+1.2**
STKA	**Stephens Creek**	**25.76**	**150**	P	**P**	**09 29 22.1**	**+2.3**
	comp=Z,10nm,0.5s,baz=324,slow=8.9,SNR=18						
STKA				LR	LR	09 39 34.8	
	comp=Z,498nm,18.6s,baz=319,slow=36						
	comp=Z,10nm,0.5s						
HTT	**Hallett**	**25.90**	**157**	P	**P**	**09 29 22.5**	**+1.5**
	baz=26,SNR=10						
HTT	**Hallett**	**25.90**	**157**	P	**P**	**09 29 22.2**	**+1.1**
EIDS	**Eidsvold**	**27.62**	**127**	P	**P**	**09 29 36.0**	**-0.5**
EIDS				IAmb	IAmb	09 30 03.8	
	comp=Z,20nm,1.4s						
CMSA	**Cobar Meteorol**	**27.70**	**144**	P	**P**	**09 29 38.3**	**+1.1**
	baz=28,SNR=9.1						
CMSA	**Cobar Meteorol**	**27.70**	**144**	P	**P**	**09 29 39.0**	**+1.8**
ARPS	**Mount Arapiles**	**29.98**	**156**	P	**P**	**09 29 58.6**	**+1.2**
	baz=30,SNR=6.6						
YNG	**Young**	**31.26**	**144**	P	**P**	**09 30 09.7**	**+0.9**
	baz=31,SNR=8.1						
TOO	**Toolangi**	**32.24**	**152**	P	**P**	**09 30 18.6**	**+1.1**
	baz=32,SNR=5.3						
HNR	**Honiara**	**32.55**	**92**	LR	LR	09 43 43.0	
	comp=Z,3μm,20.2s,baz=232,slow=37						
QIZ	**Qiongzhong**	**33.31**	**330**	P	**P**	**09 30 26.3**	**-0.6**
QIZ				S	**S**	**09 35 46.8**	**-0.8**
QIZ				LR	LR		
	comp=N,120nm,12.6s						
QIZ				LR	LR		
	comp=E,140nm,15.1s						
QIZ				LR	LR		
	comp=Z,190nm,16.0s						
TPUB	**Ta-pu**	**33.55**	**349**	P	P	09 30 26.7	-2.3
CMAR	**Chiang Mai Arr**	**39.45**	**315**	P	P	09 31 17.4	-2.0
CMAR	**Chiang Mai Arr**	**39.45**	**315**	P	**P**	**09 31 18.7**	**-0.7**
	comp=Z,13nm,0.7s,baz=144,slow=6.9,SNR=27						
CMAR				LR	LR	09 49 36.1	
	comp=Z,172nm,19.8s,baz=130,slow=40						
	comp=Z,13nm,0.7s						
CRAI	**Chiangrai**	**39.73**	**319**	P	P	09 31 19.9	-1.9
CRAI				IAmb	IAmb	09 31 28.2	
	comp=Z,16nm,1.0s						
DZM	**Mont Dzumac**	**39.75**	**113**	LR	LR	09 48 59.5	
	comp=Z,312nm,18.3s,baz=284,slow=38						
LIFNC	**LIFOU**	**40.25**	**110**	P	**P**	**09 31 25.0**	**-1.1**
GYA	**Guiyang**	**41.15**	**332**	*eP*	**P**	**09 31 33.3**	**-0.2**
GYA				pmax	pmax		
	comp=Z,19nm,0.6s						
GYA				pmax	pmax		
	comp=Z,150nm,4.8s						
WHN	**Wuhan**	**41.98**	**344**	P	P	09 31 45.8	+5.7
NJ2	**Nanjing**	**42.41**	**350**	*eP*	**P**	**09 31 44.0**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
JNU	**Nakatsue**	**42.93**	**5**	LR	LR	09 49 25.8	
	comp=Z,17nm,20.0s,baz=174,slow=36						
ENH	**Enshi**	**43.31**	**338**	P	P	09 31 48.3	-2.7
ENH				IAmb	IAmb	09 31 57.2	
	comp=Z,11nm,0.8s						
PZH	**PanZhiHua**	**43.67**	**326**	P	**P**	**09 31 55.8**	**+1.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,160nm,4.9s						
TNCH	**TengChong**	**44.40**	**322**	*eP*	**P**	**09 32 04.0**	**+4.0**
TNCH				sP	sP	09 32 07.6	+3.6
TNCH				pmax	pmax		
	comp=Z,170nm,2.9s						
XAN	**Xi'an**	**46.91**	**339**	⇑P	P	09 32 17.3	-2.3
XAN				pmax	pmax		
	comp=Z,13nm,0.7s						
KSRS	**Korea Array**	**47.10**	**1**	P	**P**	**09 32 20.8**	**-0.1**
	comp=Z,3.3nm,0.9s,baz=176,slow=9.3,SNR=11						
KSRS				LR	LR	09 52 33.5	
	comp=Z,50nm,21.9s,baz=185,slow=37						
	comp=Z,3.3nm,0.9s						
MAJO	**Matsushiro**	**47.38**	**12**	P	P	09 32 21.2	-2.0
MAJO				IAmb	IAmb	09 32 22.5	
	comp=Z,14nm,1.2s						
MJAR	**Matsushiro Arr**	**47.38**	**12**	P	P	09 32 21.2	-2.0
	comp=Z,1.9nm,0.4s,baz=195,slow=9.1,SNR=14						
MJAR				LR	LR	09 51 21.7	
	comp=Z,58nm,20.2s,baz=200,slow=35						
	comp=Z,1.9nm,0.4s						
MJB9	**Matsu-Tunnel**	**47.39**	**12**	P	**P**	**09 32 22.3**	**-0.9**
PALK	**Pallekele**	**49.10**	**289**	LR	LR	09 54 38.2	
	comp=Z,149nm,19.6s,baz=220,slow=38						
HHC	**Hu-ho-hao-te**	**52.44**	**345**	*eP*	**P**	**09 33 03.0**	**+1.3**
HHC				pP	sP	09 33 08.3	+2.4
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,77nm,3.9s						
URZ	**Urewera**	**52.99**	**131**	LR	LR	09 56 17.4	
	comp=Z,283nm,18.2s,baz=307,slow=37						
USA0B	**Ussuriysk Arra**	**54.02**	**4**	P	**P**	**09 33 12.0**	**-1.1**
USA0B				IAmb	IAmb	09 33 19.5	
	comp=Z,7.7nm,0.8s						
USRK	**Ussuriysk Ar.**	**54.02**	**4**	P	**P**	**09 33 12.4**	**-0.7**
USRK	**Ussuriysk Ar.**	**54.02**	**4**	P	**P**	**09 33 12.6**	**-0.6**
	comp=Z,4.6nm,0.7s,baz=179,slow=5.6,SNR=9.7						
USRK				LR	LR	09 54 36.5	
	comp=Z,23nm,21.3s,baz=217,slow=34						
	comp=Z,4.6nm,0.7s						
MDJ	**Mudanjiang**	**54.30**	**2**	P	**P**	**09 33 15.1**	**0.0**
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,190nm,5.2s						
XLT	**XiLinHaoTe**	**54.43**	**350**	*eP*	**P**	**09 33 14.9**	**-1.3**
XLT				pP	pP	09 33 19.3	0.0
XLT				pmax	pmax		
	comp=Z,12nm,0.9s						
XLT				pmax	pmax		
	comp=Z,120nm,4.5s						
RAO	**Raoul Island**	**54.90**	**119**	LR	LR	09 56 02.2	
	comp=Z,126nm,20.2s,baz=127,slow=35						
KLR	**Kul'dur**	**59.01**	**4**	LR	LR	10 00 07.5	
	comp=Z,37nm,21.9s,baz=182,slow=37						
HEH	**HeiHe**	**59.89**	**0**	*eP*	**P**	**09 33 53.4**	**-1.2**
HEH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HEH				pmax	pmax		
	comp=Z,140nm,4.9s						
ULN	**Ulaanbaatar**	**60.14**	**345**	P	**P**	**09 33 55.5**	**-1.1**
ULN				IAmb	IAmb	09 33 57.6	
	comp=Z,8.4nm,1.1s						
SONM	**Songino Array**	**60.29**	**344**	P	**P**	**09 33 56.0**	**-1.6**
SONM	**Songino Array**	**60.29**	**344**	P	**P**	**09 33 56.9**	**-0.7**
	comp=Z,2.5nm,0.7s,baz=154,slow=7.4,SNR=12						
SONM				LR	LR	10 02 50.7	
	comp=Z,50nm,18.5s,baz=129,slow=39						
	comp=Z,2.5nm,0.7s						
WMQ	**Urumqi**	**64.23**	**329**	*eP*	**P**	**09 34 23.3**	**-0.8**
WMQ				PcP	**PcP**	**09 34 59.6**	**+0.7**
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
NIL	**Nilore**	**66.87**	**313**	P	P	09 34 39.4	-1.9
PETK	**Petropavlovsk-**	**68.02**	**19**	P	**P**	**09 34 48.1**	**0.0**
	comp=Z,5.0nm,0.6s,baz=178,slow=3.9,SNR=8.0						
PETK				LR	LR	10 05 19.8	
	comp=Z,5.8nm,19.8s,baz=133,slow=37						
	comp=Z,5.0nm,0.6s						
MK31	**Makanchi Array**	**69.04**	**329**	P	**P**	**09 34 52.9**	**-1.7**
MKAR	**Makanchi Array**	**69.04**	**329**	P	**P**	**09 34 53.0**	**-1.6**
MKAR	**Makanchi Array**	**69.04**	**329**	P	**P**	**09 34 53.8**	**-0.9**
	comp=Z,3.4nm,0.7s,baz=127,slow=7.7,SNR=32						
MKAR				LR	LR	10 06 01.9	
	comp=Z,66nm,21.6s,baz=138,slow=37						
	comp=Z,3.4nm,0.7s						
MAKZ	**Makanchi**	**69.21**	**329**	P	**P**	**09 34 54.0**	**-1.7**
MAKZ				IAmb	IAmb	09 34 56.7	
	comp=Z,8.6nm,1.6s						
VNDA	**Vanda**	**69.99**	**172**	P	**P**	**09 35 00.3**	**+0.3**
VNDA				IAmb	IAmb	09 36 35.7	
	comp=Z,13nm,1.9s						
VNDA	**Vanda**	**69.99**	**172**	P	**P**	**09 35 02.3**	**+2.3**
	comp=Z,0.9nm,0.5s,baz=327,slow=6.3,SNR=14						
VNDA				LR	LR	10 06 13.0	
	comp=Z,95nm,18.5s,baz=320,slow=36						
	comp=Z,0.9nm,0.5s						
KBL	**Kabul**	**70.36**	**312**	P	**P**	**09 35 01.5**	**-1.8**
AAK	**Ala-Archa**	**70.84**	**322**	P	**P**	**09 35 04.6**	**-1.4**
AAK				IAmb	IAmb	09 37 31.8	
	comp=Z,5.8nm,0.5s						
AAK	**Ala-Archa**	**70.84**	**322**	LR	LR	10 11 01.1	
	comp=Z,66nm,19.0s,baz=144,slow=40						
SBA	**Scott Base**	**70.91**	**172**	P	**P**	**09 35 06.1**	**+0.5**
RAR	**Rarotonga**	**71.00**	**109**	LR	LR	10 03 01.0	
	comp=Z,48nm,21.9s,baz=278,slow=33						
MAW	**Mawson**	**71.17**	**201**	LR	LR	10 02 45.9	
	comp=Z,138nm,18.8s,baz=78,slow=33						
MA2	**Magadan**	**71.83**	**13**	LR	LR	10 05 46.0	
	comp=Z,26nm,20.4s,baz=238,slow=35						
ZAA0	**Zalesovo Array**	**72.87**	**335**	P	**P**	**09 35 16.0**	**-1.8**
ZALV	**Zalesovo Beam**	**72.87**	**335**	P	P	09 35 15.8	-1.9
	comp=Z,3.7nm,0.8s,baz=130,slow=4.6,SNR=9.9						
ZALV				LR	LR	10 09 09.4	
	comp=Z,26nm,18.5s,baz=94,slow=38						
	comp=Z,3.7nm,0.8s						
KURBB	**Kurchatov Arra**	**73.43**	**330**	P	**P**	**09 35 19.6**	**-1.4**
	comp=Z,3.4nm,1.0s,baz=134,slow=4.8,SNR=29						
	comp=Z,3.4nm,1.0s						
KURK	**Kurchatov**	**73.44**	**330**	P	**P**	**09 35 20.6**	**-0.6**
KURK				IAmb	IAmb	09 35 27.7	
	comp=Z,7.5nm,1.1s						
KKAR	**Karatay Array**	**73.56**	**320**	P	**P**	**09 35 20.4**	**-1.6**
WSAR	**Wadi Sarin**	**74.44**	**297**	LR	LR	10 12 09.6	
	comp=Z,35nm,18.2s,baz=132,slow=39						
BVAR	**Borovoye Array**	**78.92**	**329**	P	**P**	**09 35 51.8**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=120,slow=8.8,SNR=9.3						
BVAR				LR	LR	10 16 01.1	
	comp=Z,39nm,18.1s,baz=143,slow=40						
	comp=Z,1.5nm,0.5s						
BRVK	**Borovoye**	**78.99**	**329**	P	**P**	**09 35 51.3**	**-1.4**
GEYT	**Alibeck**	**79.79**	**311**	P	**P**	**09 35 57.0**	**-0.5**
GEYT	**Alibeck**	**79.79**	**311**	P	**P**	**09 35 56.9**	**-0.5**
	comp=Z,3.5nm,0.7s,baz=145,slow=5.4,SNR=6.3						
GEYT				LR	LR	10 17 36.0	
	comp=Z,46nm,19.9s,baz=163,slow=41						
	comp=Z,3.5nm,0.7s						
QSPA	**South Pole Qui**	**80.11**	**180**	P	**P**	**09 36 00.3**	**+1.4**
QSPA				IAmb	IAmb	09

CHMS				⇑S		Sn	09 38 50.1	+0.1
	7.6nm,1.0s							
TKM2	**Tokmak 2**	**6.92**	**29**	⇓P		Pn	09 37 37.8	+0.1
	1.7nm,0.5s							
TKM2				⇑S		Sn	09 38 55.8	0.0
	2.8nm,0.9s							
AB31	**Akbulak array**	**14.73**	**330**	⇓P		Pn	09 39 17.9	-0.7
	0.3nm,0.3s,baz=158,slow=12,SNR=18							
AB31				⇑S		Sn	09 41 58.6	-3.9
	2.2nm,0.9s,baz=144,slow=23,SNR=11							
AKTO	**Aktyubinsk**	**16.43**	**329**	⇑P		P	09 39 38.8	-0.2
	0.2nm,0.3s							
AKTO				⇑S		Sn	09 42 44.6	+1.4
	1.8nm,0.9s							

DJA 17 09:39:23.9±0.6, 10°S±7'×12°7'E±', h10km, M3.9/6, mb3.9/5, MLv3.9/6, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.54**	**274**	P	Pn	09 40 05.3	-0.1
BATI	**Baumata**	**3.14**	**265**	P	Pn	09 40 14.1	+0.6
EDFI	**Ende, Flores**	**5.22**	**283**	P	Pn	09 40 42.3	+0.1
	6.4nm,0.5s,0.0nm						
BASI	**Baing, Sumba**	**6.17**	**267**	P	Pn	09 40 55.0	-0.2
	20nm,1.0s,0.2nm						

*VAO **17** 10:15:56.6±1.4, 12°.79N×72°.74W, h10km, mb4.8*
*NEIC **17** 10:16:09.2±1.7, 12°.04N±0°.06×72°.13W±0°.07, h30km±7km, mb4.5/23, Error ellipse: s-maj=9.7km s-min=9.3km az=74.0*
*RSNC **17** 10:16:12.0±0.0, 12°N±4°×7°2W±°, h30km±9km, mB5.5, mb5.3, mBc6.6, Mjma5.0, ML5.7, ML4.6, MLh5.2, MLv5.4, Ms(BB)4.8, Mw(mB)5.0, MwMwp5.4, Mwp5.6*
*IDC **17** 10:16:15.3±2.0, 11°.99N×71°.90W, h91km±18km, mb3.5/11, mbtmp4.0/14, MS3.5/30, Error ellipse: s-maj=20.2km s-min=12.4km az=54.0*

ISC 17 10:16:09.4±0.5, 12°.24N±0°.04×72°.05W±0°.04, h35km, n162, σ2s37/149, mb4.3/18, MS3.6/25, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRJC	**Cerrejon, Guaj**	**1.46**	**214**	P	**Pn**	**10 16 34.0**	**+0.6**
CRJC				S	**Sn**	**10 16 51.9**	**+0.6**
AUA1	**Aruba**	**2.01**	**82**	Pn	**Pn**	**10 16 41.9**	**+1.1**
SMRC	**Santa Marta, M**	**2.38**	**243**	P	**Pn**	**10 16 45.1**	**-0.8**
SMRC				S	**Sn**	**10 17 13.4**	**-0.5**
HATO	**Hato, Curacao**	**3.03**	**91**	P	**Pn**	**10 16 57.8**	**+3.0**
ARGC	**Ariguani, Magd**	**3.20**	**222**	P	**Pn**	**10 16 58.3**	**+1.1**
ARGC				S	**Sn**	**10 17 35.8**	**+1.6**
SDV	**Santo Domingo**	**3.62**	**157**	Pn	**Pn**	**10 17 02.0**	**-1.1**
SDV	**Santo Domingo**	**3.62**	**157**	P	**Pn**	**10 17 03.9**	**+0.8**
	251nm,0.3s,baz=5.8,slow=4.8,SNR=374						
SDV				S	**Sn**	**10 17 45.0**	**+0.3**
	696nm,0.3s,baz=235,slow=21,SNR=20						
SDV				LR	LR	10 18 56.6	
	comp=Z,910nm,19.7s,baz=312,slow=48						
SDV	**Santo Domingo**	**3.62**	**157**	P	**Pn**	**10 17 03.5**	**+0.4**
SDV				S	**Sn**	**10 17 42.2**	**-2.5**
SDV	**Santo Domingo**	**3.62**	**157**	*eP*	**Pn**	**10 17 03.4**	**+0.3**
SJCC	**San Jacinto, C**	**3.85**	**233**	P	**Pn**	**10 17 10.7**	**+4.5**
SJCC				S	**Sn**	**10 17 50.8**	**+0.4**
OCAC	**Ocana**	**4.17**	**197**	P	**Pn**	**10 17 11.2**	**+0.5**
OCAC				S	**Sn**	**10 18 01.3**	**+3.0**
PAMC	**Pamplona, Colo**	**4.91**	**187**	P	**Pn**	**10 17 22.2**	**+1.0**
PAMC				S	**Sn**	**10 18 18.9**	**+1.8**
BAUV	**El Baul**	**5.13**	**129**	Pn	**Pn**	**10 17 24.3**	**+0.5**
BARC	**Barichara**	**5.72**	**191**	P	**Pn**	**10 17 32.6**	**+0.5**
BARC				S	**Sn**	**10 18 43.5**	**+6.7**
TAMC	**Tame, Arauca**	**5.78**	**177**	P	**Pn**	**10 17 32.9**	**+0.2**
	256nm,0.6s,6μm3.9nm						
TAMC				S	**Sn**	**10 18 41.4**	**+3.6**
	256nm,0.6s,6μm3.9nm						
PTBC	**PUERTO BERRIO,**	**6.14**	**203**	P	**Pn**	**10 17 38.5**	**+0.8**
	683nm,0.8s,5μm3.2nm						
PTBC				S	**Sn**	**10 18 47.1**	**+0.3**
	683nm,0.8s,5μm3.2nm						
APAC	**Apartado, Choc**	**6.20**	**226**	P	Pn	10 17 45.3	+6.8
	182nm,0.6s,2.8nm						
APAC				S	**Sn**	**10 18 50.3**	**+2.0**
	182nm,0.6s,2.8nm						
PAPH	**Port-au-Prince**	**6.25**	**358**	Pn	**Pn**	**10 17 39.7**	**+0.6**
PAPH	**Port-au-Prince**	**6.25**	**358**	*eP*	**Pn**	**10 17 39.3**	**+0.2**
PAPH				*eS*	Sn	10 18 42.8	-6.6
PAPH				IAML		10 18 47.5	
	comp=E,161nm,0.6s						
PAPH				IAML		10 18 51.0	
	comp=N,192nm,0.4s						
RUSC	**La Rusia**	**6.39**	**189**	P	**Pn**	**10 17 42.8**	**+1.3**
	comp=N,268nm,0.6s,comp=N,6μmcomp=N,4.1nm						
RUSC				S	**Sn**	**10 18 54.7**	**+1.1**
	comp=N,268nm,0.6s,comp=N,6μmcomp=N,4.1nm						
DBBC	**Dabeiba**	**6.61**	**219**	P	**Pn**	**10 17 45.6**	**+1.4**
DBBC				S	**Sn**	**10 18 52.3**	**-6.2**
SDDR	**Presa de Saban**	**6.74**	**6**	Pn	**Pn**	**10 17 48.5**	**+2.6**
SDDR	**Presa de Saban**	**6.74**	**6**	*eP*	**Pn**	**10 17 49.2**	**+1.5**
SDDR				*eS*	**Sn**	**10 18 59.0**	**-2.6**
SDDR				IAML		10 19 01.4	
	comp=N,163nm,0.5s						
SDDR				IAML		10 19 06.0	
	comp=N,218nm,0.5s						
SDDR	**Presa de Saban**	**6.74**	**6**	P	**Pn**	**10 17 47.9**	**+2.0**
SDDR				S	**Sn**	**10 18 59.0**	**-2.6**
SPBC	**San Pablo de B**	**6.85**	**197**	P	**Pn**	**10 17 48.4**	**+1.0**
	comp=N,237nm,0.6s,comp=N,8μmcomp=N,2.2nm						
SPBC				S	**Sn**	**10 19 05.3**	**+1.1**
	comp=N,237nm,0.6s,comp=N,8μmcomp=N,2.2nm						
HELC	**Santa Helena**	**6.92**	**210**	P	**Pn**	**10 17 52.7**	**+4.0**
HELC				S	**Sn**	**10 19 06.1**	**-0.4**
NORC	**Norcasia**	**7.20**	**203**	P	**Pn**	**10 17 54.3**	**+2.1**
	comp=N,177nm,0.7s,comp=N,4μmcomp=N,2.5nm						
NORC				S	**Sn**	**10 19 09.1**	**-3.7**
	comp=N,177nm,0.7s,comp=N,4μmcomp=N,2.5nm						
PCRV	**Puerto La Cruz**	**7.56**	**105**	P	**Pn**	**10 17 55.2**	**-2.0**
	comp=N,28nm,0.5s,baz=299,slow=3.2,SNR=13						
PCRV				S	**Sn**	**10 19 22.8**	**+1.0**
	comp=N,91nm,0.8s,baz=189,slow=22,SNR=2.0						
PCRV				LR	LR	10 22 08.2	
	comp=N,290nm,18.7s,slow=48						
PTAC	**Punta Ardita,**	**7.60**	**229**	P	**Pn**	**10 17 59.3**	**+1.6**
	comp=N,72nm,0.7s,comp=N,3μmcomp=N,0.6nm						
PTAC				S	**Sn**	**10 19 17.3**	**-5.4**
	comp=N,72nm,0.7s,comp=N,3μmcomp=N,0.6nm						
ROSC	**El Rosal**	**7.69**	**197**	Pn	**Pn**	**10 17 57.5**	**-1.8**
ROSC	**El Rosal**	**7.69**	**197**	P	**Pn**	**10 18 02.5**	**+3.2**
	comp=N,118nm,0.5s,baz=27,slow=7.9,SNR=86						
ROSC				S	**Sn**	**10 19 27.1**	**+1.7**
	comp=N,100nm,0.5s,baz=186,slow=23,SNR=1.2						
ROSC				LR	LR	10 21 28.5	
	comp=N,459nm,21.8s,baz=250,slow=42						
ROSC	**El Rosal**	**7.69**	**197**	P	**Pn**	**10 18 03.3**	**+4.0**
	comp=N,291nm,1.1s,comp=N,3μmcomp=N,2.9nm						
ROSC				S	**Sn**	**10 19 27.9**	**+2.5**
	comp=N,291nm,1.1s,comp=N,3μmcomp=N,2.9nm						
GUY2C	**Guyana, Caldas**	**7.70**	**205**	P	**Pn**	**10 18 02.8**	**+3.3**
	comp=N,413nm,0.6s,comp=N,4μmcomp=N,3.1nm						
GUY2C				S	**Sn**	**10 19 25.4**	**-0.5**
	comp=N,413nm,0.6s,comp=N,4μmcomp=N,3.1nm						
CVER	**Cruz Verde, Cu**	**7.93**	**195**	P	**Pn**	**10 18 05.6**	**+3.0**
CVER				S	**Sn**	**10 19 35.1**	**+3.7**
RECRC	**Villamaria, Ca**	**7.94**	**205**	P	**Pn**	**10 18 06.5**	**+3.7**
RECRC				S	**Sn**	**10 19 35.1**	**+3.4**
PTGC	**Puerto Gaitan,**	**7.99**	**181**	P	**Pn**	**10 18 02.7**	**-0.4**
PTGC				S	**Sn**	**10 19 30.6**	**-1.8**
MASC	**Masc**	**8.16**	**345**	*eP*	**Pn**	**10 18 04.1**	**-1.2**
MASC				*eS*	Sn	10 19 26.5	-10
MASC				IAML		10 19 37.4	
	comp=N,30nm,0.7s						
MASC				IAML		10 19 45.1	
	comp=E,23nm,0.8s						
GTBY	**Guantanamo Bay**	**8.19**	**339**	*eP*	**Pn**	**10 18 04.7**	**-1.0**
GTBY				*eS*	Sn	10 19 27.9	-9.1
GTBY				IAML		10 19 32.7	
	comp=E,75nm,0.4s						
GTBY				IAML		10 19 33.0	
	comp=E,44nm,0.3s						
GTBY	**Guantanamo Bay**	**8.19**	**339**	P	**Pn**	**10 18 04.3**	**-1.4**
	comp=E,20nm,1.0s						
GTBY				S	Sn	10 19 28.9	-8.1
	comp=E,20nm,1.0s						
BCIP	**Isla Barro Col**	**8.24**	**249**		**Pn**	**10 18 04.6**	**-1.8**
BCIP	**Isla Barro Col**	**8.24**	**249**	P	**Pn**	**10 18 04.5**	**-1.9**
	comp=E,71nm,0.7s						
BCIP				S	Sn	10 19 27.9	-10
	comp=E,71nm,0.7s						
VILC	**Villavicencio,**	**8.24**	**191**	P	**Pn**	**10 18 08.0**	**+1.4**
VILC				S	**Sn**	**10 19 38.7**	**+0.1**
ANIL	**Santa Ana**	**8.38**	**204**	P	**Pn**	**10 18 12.3**	**+3.6**
ANIL				S	**Sn**	**10 19 46.3**	**+3.9**
PLMC	**San Jos del P**	**8.40**	**210**	P	**Pn**	**10 18 11.8**	**+3.0**
	comp=E,160nm,0.6s,comp=E,2μmcomp=E,15μm						
PLMC				S	**Sn**	**10 19 43.4**	**+0.8**
	comp=E,160nm,0.6s,comp=E,2μmcomp=E,15μm						
RCC	**Rio Carpintero**	**8.46**	**336**	*eP*	**Pn**	**10 18 08.5**	**-1.0**
RCC				*eS*	Sn	10 19 34.2	-10
RCC				IAML		10 19 38.8	
	comp=N,18nm,1.0s						
RCC				IAML		10 19 57.4	
	comp=E,16nm,0.7s						
MARVS	**Santiago de Cu**	**8.55**	**335**	*eP*	**Pn**	**10 18 08.8**	**-2.0**
MARVS				*eS*	Sn	10 19 36.0	-10
MARVS				IAML		10 19 41.4	
	comp=N,15nm,0.5s						
MARVS				IAML		10 19 43.5	
	comp=E,15nm,0.5s						
SABCS	**La Quijada**	**8.66**	**339**	*eP*	**Pn**	**10 18 11.7**	**-0.5**
SABCS				*eS*	Sn	10 19 39.6	-9.1
SABCS				IAML		10 19 47.5	
	comp=E,53nm,0.5s						
SABCS				IAML		10 20 00.6	
	comp=N,72nm,0.8s						
CHIV	**Chivirico**	**8.76**	**332**	*eP*	**Pn**	**10 18 12.2**	**-1.3**
CHIV				*eS*	Sn	10 19 41.2	-10
CHIV				IAML		10 19 45.3	
	comp=N,5.8nm,0.3s						
CHIV				IAML		10 19 47.0	
	comp=E,8.0nm,0.3s						
MOAC	**Moa**	**8.82**	**342**	*eP*	**Pn**	**10 18 13.3**	**-1.1**
MOAC				*eS*	Sn	10 19 42.5	-10
MOAC				IAML		10 19 50.7	
	comp=E,40nm,1.4s						
MOAC				IAML		10 19 53.3	
	comp=N,70nm,1.7s						
ORTC	**Ortega, Tolima**	**8.86**	**201**	P	**Pn**	**10 18 17.7**	**+2.6**
	comp=N,368nm,0.8s,comp=N,3μm						
ORTC				S	**Sn**	**10 19 58.9**	**+5.1**
	comp=N,368nm,0.8s,comp=N,3μm						
PINC	**Pinares de May**	**8.95**	**337**	*eP*	**Pn**	**10 18 14.5**	**-1.6**
PINC				*eS*	Sn	10 19 44.3	-11
PINC				IAML		10 19 55.7	
	comp=E,24nm,0.7s						
PINC				IAML		10 19 56.1	
	comp=N,24nm,0.3s						
YAR	**Yar**	**9.07**	**333**	*eP*	**Pn**	**10 18 17.5**	**-0.4**
YAR				*eS*	Sn	10 19 49.0	-10
YAR				IAML		10 19 53.1	
	comp=N,25nm,1.2s						
YAR				IAML		10 19 56.8	
	comp=E,38nm,1.2s						
LMGC	**Las Mercedes**	**9.11**	**329**	*eP*	**Pn**	**10 18 16.6**	**-1.8**
LMGC				*eS*	Sn	10 19 47.8	-12
LMGC				IAML		10 19 53.1	
	comp=E,6.3nm,0.4s						
LMGC				IAML		10 19 55.6	
	comp=N,9.0nm,0.3s						
PRVC	**Isla de Provid**	**9.15**	**278**	P	Pn	10 18 13.9	-5.1
	comp=N,62nm,0.8s						
PRVC				S	Sn	10 19 49.3	-11
	comp=N,62nm,0.8s						
AZU	**Azuero**	**9.22**	**242**	P	**Pn**	**10 18 22.5**	**+2.5**
	comp=N,48nm,1.2s						
AZU				S	**Sn**	**10 19 56.7**	**-5.9**
	comp=N,48nm,1.2s						
YOTC	**Yotoco, Valle**	**9.24**	**208**	P	**Pn**	**10 18 22.7**	**+2.4**
	comp=N,92nm,0.7s,comp=N,788nm						
YOTC				S	**Sn**	**10 19 59.7**	**-3.5**
	comp=N,92nm,0.7s,comp=N,788nm						
HLGC	**Holguin**	**9.42**	**336**	*eP*	**Pn**	**10 18 24.7**	**+2.1**
HLGC				*eS*	**Sn**	**10 20 03.5**	**-3.8**
HLGC				IAML		10 20 07.6	
	comp=N,49nm,0.7s						
HLGC				IAML		10 20 10.2	
	comp=E,45nm,1.1s						
GUVC	**San Jose del G**	**9.65**	**183**	P	**Pn**	**10 18 25.1**	**-0.8**
GUVC				S	**Sn**	**10 20 08.4**	**-4.8**
MALC	**Bahia Malaga**	**9.70**	**213**	P	Pn	10 18 31.7	+5.1
JAMC	**Jamundi, Valle**	**10.07**	**207**	P	**Pn**	**10 18 33.1**	**+1.3**
	comp=E,61nm,0.7s,comp=E,747nm						
BETC	**Betania**	**10.07**	**200**	P	**Pn**	**10 18 32.0**	**+0.3**
MACC	**Macarena, Meta**	**10.19**	**190**	P	**Pn**	**10 18 32.5**	**-0.8**
	comp=E,194nm,0.8s,comp=E,2μm						
GARC	**Garzon, Huila**	**10.56**	**199**	P	**Pn**	**10 18 38.4**	**-0.1**
POPC	**Popayan, Colom**	**10.67**	**206**	P	**Pn**	**10 18 40.4**	**+0.3**
	comp=E,44nm,0.7s,comp=E,559nm						
FLOC	**Florencia**	**11.18**	**199**	P	**Pn**	**10 18 46.6**	**-0.2**
	comp=E,144nm,1.1s,comp=E,1μm						
FSCY	**Frank Sound, G**	**11.25**	**310**	IAML		10 20 26.3	
	comp=N,109nm,2.7s						
BBAC	**Balboa, Cauca**	**11.38**	**207**	P	**Pn**	**10 18 51.7**	**+1.9**
	comp=N,30nm,0.9s						
CRUC	**La Cruz**	**11.66**	**205**	P	**Pn**	**10 18 56.7**	**+2.9**
LCR2	**La Lucha 2**	**11.99**	**259**		Pn	10 18 55.6	-2.6
PTLC	**Puerto Leguiza**	**12.30**	**193**	P	**Pn**	**10 19 05.6**	**+3.5**
	comp=N,78nm,0.8s,comp=N,797nm						
CMBC	**Cumbal**	**12.60**	**207**	P	**Pn**	**10 19 09.2**	**+2.5**
TULM	**Tulcn-Chalpat**	**12.79**	**207**		Pn	10 19 05.6	-3.6
JTS	**Las Juntas de**	**12.80**	**263**	Pn	**Pn**	**10 19 07.4**	**-1.5**
JTS	**Las Juntas de**	**12.80**	**263**	P	Pn	10 19 15.9	+6.9
	comp=N,3.7nm,0.6s,baz=105,slow=20,SNR=1.9						
JTS				S	Sn	10 21 22.6	-7.7
	comp=N,13nm,0.7s,baz=183,slow=21,SNR=5.7						
JTS				LR	LR	10 24 27.0	
	comp=N,125nm,18.6s,baz=86,slow=38						
IMBA	**Imbabura, San**	**13.36**	**208**		**Pn**	**10 19 15.9**	**-1.1**
OTAV	**Otavalo**	**13.51**	**208**	Pn	**Pn**	**10 19 16.5**	**-2.6**
OTAV	**Otavalo**	**13.51**	**208**	P	**Pn**	**10 19 19.3**	**+0.2**
PULU	**Pululahua**	**13.72**	**208**	Pn	Pn	10 19 19.0	-3.0
SLOR	**San Lorenzo -**	**14.39**	**207**		Pn	10 19 28.0	-3.1
BOAV	**Boa Vista**	**15.04**	**130**	Pn	**Pn**	**10 19 38.3**	**-1.1**
BOAV	**Boa Vista**	**15.04**	**130**	*eP*	**Pn**	**10 19 41.5**	**+2.1**
CHSH	**Refugio Sur-Vo**	**15.23**	**207**	P	**Pn**	**10 19 45.4**	**+2.8**
COHC	**Cochancay**	**16.27**	**207**		**Pn**	**10 19 52.4**	**-3.0**
TBTG	**Tabatinga, AM**	**16.46**	**172**	Pn	**Pn**	**10 19 54.2**	**-3.6**
ESQI	**Esquipulas**	**16.98**	**280**	Pn	**Pn**	**10 20 03.8**	**-0.5**
ESQI				IAmb	IAmb	10 20 25.2	
	comp=Z,58nm,1.3s						
MTO3	**Montecristo**	**16.98**	**279**		**Pn**	**10 20 03.6**	**-0.9**
MTO3				IAmb	IAmb	10 20 22.5	
	comp=Z,20nm,1.0s						
TEIG	**Tepich**	**17.47**	**299**	LR	LR	10 27 08.4	
	comp=Z,553nm,19.7s,slow=37						
ARNL	**Arenillas**	**17.59**	**207**	P	**Pn**	**10 20 10.4**	**-1.5**
ARNL				IAmb	IAmb	10 20 16.7	
	comp=Z,41nm,0.8s						
APG	**El Apazote**	**18.10**	**281**	LR	LR	10 27 21.8	
	comp=Z,11nm,20.2s,baz=88,slow=36						
MCRA	**Macar, Loja**	**18.28**	**206**	P	**P**	**10 20 18.3**	**-2.0**
MACA	**Manacapuru-AM**	**19.02**	**143**	P	**P**	**10 20 26.8**	**-1.7**
MACA				IAmb	IAmb	10 20 33.9	
	comp=Z,54nm,1.1s						
MACA	**Manacapuru-AM**	**19.02**	**143**	*eP*	**P**	**10 20 28.0**	**-0.5**
CZSB	**Cruzeiro do Su**	**19.85**	**182**	P	**P**	**10 20 35.0**	**-2.5**
CZSB	**Cruzeiro do Su**	**19.85**	**182**	*eP*	**P**	**10 20 34.2**	**-3.3**
ATAH	**Atahualpa**	**20.26**	**198**	P	**P**	**10 20 42.5**	**+0.1**
	comp=Z,74nm,0.9s,baz=358,slow=8.1,SNR=17						
ATAH				LR	LR	10 30 10.8	
	comp=Z,257nm,20.0s,baz=18,slow=42						
MDP	**Montagnes des**	**20.45**	**109**	P	**P**	**10 20 43.6**	**-0.4**
	comp=Z,24nm,1.1s,baz=285,slow=12,SNR=4.5						
MDP				LR	LR	10 28 35.8	
	comp=Z,82nm,21.5s,baz=290,slow=37						
	comp=Z,24nm,1.1s						
CMIG	**Matias Romero**	**22.60**	**285**	LR	LR	10 30 00.3	
	comp=Z,189nm,21.7s,baz=92,slow=36						
ETMB	**Extrema**	**22.67**	**165**	P	**P**	**10 21 05.2**	**-2.7**
ETMB				IAmb	IAmb	10 21 07.8	
	comp=Z,22nm,0.8s						
ETMB	**Extrema**	**22.67**	**165**	*eP*	**P**	**10 21 04.8**	**-3.0**
SAML	**Samuel**	**22.82**	**157**	P	**P**	**10 21 06.3**	**-3.2**
SAML	**Samuel**	**22.82**	**157**	*eP*	**P**	**10 21 06.5**	**-3.0**
ITTB	**Itaituba**	**23.14**	**135**	*eP*	**P**	**10 21 11.7**	**-1.0**
MCPB	**Macapa, AP**	**23.47**	**121**	*eP*	**P**	**10 21 15.1**	**-0.9**
NNA	**Nana**	**24.54**	**191**	LR	LR	10 32 38.2	
	comp=Z,222nm,18.8s,baz=345,slow=40						
NPGB	**Novo Progresso**	**25.35**	**138**	*eP*	**P**	**10 21 30.2**	**-3.1**
TKL	**Tuckaleechee C**	**25.61**	**337**	LR	LR	10 31 43.3	
	comp=Z,103nm,21.6s,baz=154,slow=36						
LPAZ	**La Paz**	**28.61**	**172**	P	P	10 22 01.0	-2.3
LPAZ	**La Paz**	**28.61**	**172**	P	**P**	**10 22 01.1**	**-2.2**
	comp=Z,1.4nm,0.4s,baz=340,slow=6.1,SNR=9.5						
	comp=Z,1.4nm,0.4s						
LPAZ	**La Paz**	**28.61**	**172**	*eP*	P	10 22 00.2	-3.1
SIV	**San Ignacio**	**30.08**	**159**	LR	LR	10 35 05.8	
	comp=Z,152nm,20.9s,baz=334,slow=38						
BBSD	**Serra de San D**	**31.35**	**159**	*eP*	P	10 22 23.9	-2.9
GO01	**Chusmiza**	**31.84**	**175**	P	P	10 22 28.3	-3.3
GO01				IAmb	IAmb	10 22 30.4	
	comp=Z,13nm,1.3s						
SADO	**Sadowa**	**32.98**	**351**	LR	LR	10 34 25.3	
	comp=Z,44nm,21.1s,baz=104,slow=33						
PB01	**IPOC Station P**	**33.17**	**176**	P	P	10 22 39.7	-3.2
PB01				IAmb	IAmb	10 22 54.0	
	comp=Z,14nm,1.4s						
TXAR	**Lajitas Array**	**33.94**	**305**	P	**P**	**10 22 52.2**	**+2.6**
	comp=Z,0.3nm,0.9s,baz=118,slow=11,SNR=2.3						
TXAR				PcP	**PcP**	**10 25 28.1**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=114,slow=5.6,SNR=3.6						
	comp=Z,0.3nm,0.9s						
LVC	**Limon Verde**	**34.77**	**175**	LR	LR	10 38 42.7	
	comp=Z,153nm,21.2s,baz=260,slow=39						
MSTX	**Muleshoe**	**35.35**	**313**	P	**P**	**10 23 02.9**	**+1.1**
MSTX				IAmb	IAmb	10 23 18.2	
	comp=Z,4.3nm,0.8s						
AQDB	**Aquidauana**	**36.28**	**154**	P	**P**	**10 23 08.0**	**-1.6**
AQDB				IAmb	IAmb	10 23 08.3	
	comp=Z,7.6nm,0.9s						
AQDB	**Aquidauana**	**36.28**	**154**	*eP*	**P**	**10 23 08.5**	**-1.1**
SDBA	**SÃO DESIDERIO**	**36.41**	**131**	*eP*	**P**	**10 23 08.7**	**-2.2**
BDFB	**Brasilia**	**36.52**	**139**	P	**P**	**10 23 10.9**	**-0.9**
BDFB				IAmb	IAmb	10 23 11.2	
	comp=Z,9.0nm,0.9s						
BDFB	**Brasilia**	**36.52**	**139**	P	**P**	**10 23 09.9**	**-1.9**
	comp=Z,7.6nm,0.8s,baz=300,slow=9.2,SNR=12						
	comp=Z,7.6nm,0.8s						
PB14	**IPOC Station P**	**36.68**	**177**	P	P	10 23 10.3	-3.0
LPIG	**La Paz**	**38.09**	**293**	LR	LR	10 39 31.8	
	comp=Z,52nm,21.1s,baz=194,slow=36						
JANB	**Januaria**	**38.61**	**134**	*eP*	P	10 23 26.7	-2.8
AMBA	**Amambai (Brazi**	**38.74**	**154**	*eP*	P	10 23 26.4	-4.1
AC02	**Maricunga**	**38.95**	**176**	P	P	10 23 30.4	-2.3
AC02				IAmb	IAmb	10 23 32.0	
	comp=Z,12nm,1.2s						
RCBR	**Riachuelo**	**40.18**	**115**	LR	LR	10 41 00.7	
	comp=Z,100nm,19.8s,baz=64,slow=37						
B35A	**Bob, Littlefor**	**40.28**	**338**	P	**P**	**10 23 45.9**	**+2.8**
B35A				IAmb	IAmb	10 23 57.8	
	comp=Z,5.5nm,0.8s						
LDASE	**Londrina, Braz**	**40.92**	**150**	*eP*	P	10 23 45.9	-2.7
CPUP	**Villa Florida**	**40.93**	**160**	P	P	10 23 45.9	-2.7
CPUP	**Villa Florida**	**40.93**	**160**	P	P	10 23 46.3	-2.3
	comp=Z,0.6nm,0.3s,baz=5.7,slow=10,SNR=3.1						
	comp=Z,0.6nm,0.3s						
LCO	**Las Campanas**	**41.03**	**178**	P	P	10 23 46.9	-2.9
LCO				IAmb	IAmb	10 24 02.6	
	comp=Z,6.0nm,0.9s						
GDU01	**Guandu, BA**	**41.26**	**128**	*eP*	**P**	**10 23 49.6**	**-1.9**
CMC01	**Camacan, BA**	**42.30**	**130**	*eP*	P	10 23 57.3	-2.7
ULM	**Lac du Bonnet**	**42.64**	**337**	P	**P**	**10 24 04.6**	**+2.3**
	comp=Z,1.5nm,0.6s,baz=138,slow=9.9,SNR=4.4						
	comp=Z,1.5nm,0.6s						
SCHQ	**Schefferville**	**42.69**	**4**	LR	LR	10 41 47.2	
	comp=Z,40nm,20.2s,baz=218,slow=36						
GUA01	**Guaratinga, BA**	**42.86**	**131**	*eP*	**P**	**10 24 02.7**	**-1.8**
PDAR	**Pinedale Array**	**44.47**	**320**	P	**P**	**10 24 19.7**	**+2.2**
	comp=Z,0.4nm,0.7s,baz=124,slow=9.2,SNR=4.1						
	comp=Z,0.4nm,0.7s						
PFO	**Pinyon Flats O**	**45.66**	**305**	LR	LR	10 46 18.3	
	comp=Z,40nm,20.7s,baz=181,slow=39						
ELK	**Elko**	**47.27**	**315**	LR	LR	10 46 33.9	
	comp=Z,29nm,19.5s,baz=126,slow=38						
NVAR	**Mina Array Bea**	**48.60**	**311**	P	**P**	**10 24 52.4**	**+2.5**
	comp=Z,0.2nm,0.6s,baz=99,slow=5.9,SNR=1.6						
	comp=Z,0.2nm,0.6s						
FRB	**Frobisher Bay**	**51.49**	**2**	LR	LR	10 46 07.7	
	comp=Z,61nm,21.8s,baz=182,slow=35						
PLCA	**Paso Flores**	**52.73**	**179**	P	P	10 25 18.3	-2.4
	comp=Z,1.7nm,0.5s,baz=349,slow=8.8,SNR=24						
	comp=Z,1.7nm,0.5s						
SFJD	**Kangerlussuaq**	**56.54**	**10**	LR	LR	10 47 58.2	
	comp=Z,26nm,21.7s,baz

PCDR IAML 10 26 13.5
comp=Z,116nm,1.9s
SDDR Presa de Saban 1.50 280 *i* P **Pn 10 25 50.6 0.0**
SDDR *e*S **Sn 10 26 11.5 +0.9**
SDDR IAML 10 26 18.0
comp=Z,16nm,0.3s
PODR Polo 1.59 249 *i* P **Pn 10 25 50.7 -1.0**
PODR *e*S **Sn 10 26 12.9 +0.1**

IDC ***17*** *10:35:58.9±1.3,55.°74S×27.°05W,h0km,mb3.9/2, mbtmp3.9/3,ML3.4/1,Error ellipse: s-maj=88.0km s-min=30.4km az=84.0*
ISC 17 10:36:03.8±1.4,**55.°7S**±0.°2×**26.°9W**±0.°6,**h35km,n9,σ0s86/6, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.96**	**157**	P		**Pn**	**10 40 22.4**	**0.0**
	0.1nm,0.3s,baz=331,slow=13,SNR=1.7							
	2.9nm,0.9s							
QSPA	**South Pole Qui**	**34.51**	**180**	P		**P**	**10 42 47.6**	**-0.7**
	1.0nm,0.6s,baz=227,slow=3.0,SNR=10							
	1.0nm,0.6s							
VNDA	**Vanda**	**46.89**	**183**	P		**P**	**10 44 30.7**	**+0.8**
	1.5nm,0.7s,baz=180,slow=5.1,SNR=9.0							
	1.5nm,0.7s							
H10N1	**ASCENSION HYDR**	**48.77**	**16**	T		T	11 37 33.8	
	baz=188							
H10N3	**ASCENSION HYDR**	**48.77**	**16**	T		T	11 37 33.0	
	baz=188,slow=74							
H10N2	**ASCENSION HYDR**	**48.79**	**16**	T		T	11 37 34.7	
	baz=188,slow=74							
NOA	**NORSAR Array B**	**120.26**	**20**	PKP		**PKiKP**	**10 54 50.4**	**+0.7**
	0.8nm,0.8s,baz=245,slow=2.0,SNR=3.5							
ILAR	**Eielson Array**	**150.03**	**312**	PKPbc		**PKiKP**	**10 55 49.3**	**-0.6**
	0.4nm,0.5s,baz=117,slow=1.2,SNR=8.7							
SONM	**Songino Array**	**150.54**	**86**	PKPbc		**PKiKP**	**10 55 51.2**	**-0.4**
	0.2nm,0.4s,baz=169,slow=1.5,SNR=1.5							

NEIC ***17*** *10:42:56.9±1.0,17.°9S±0.°1×178.°1W±0.°1,h641km±12km, mb4.0/23,Error ellipse: s-maj=23.3km s-min=10.0km az=129.0*
IDC ***17*** *10:42:58.6±5.6,17.°85S×178.°32W,h665km±69km,mb2.9/8, mbtmp4.0/9,Error ellipse: s-maj=32.3km s-min=22.3km az=76.0*
ISC 17 10:42:57.2±0.7,**17.°9S**±0.°1×**178.°2W**±0.°1,**h650km,n38, σ0s56/40,mb3.9/19,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.58**	**272**	P		**P**	**10 44 22.8**	**-1.1**
NIUE	**Niue**	**7.94**	**100**	P		**P**	**10 44 56.6**	**-1.2**
PINNC	**Pines Island,**	**14.27**	**248**	P		**P**	**10 45 56.4**	**-0.4**
DZM	**Mont Dzumac**	**15.02**	**251**	P		**P**	**10 46 04.2**	**+0.4**
DZM					IAmb	IAmb	10 46 27.4	
	comp=Z,22nm,1.3s							
DZM	**Mont Dzumac**	**15.02**	**251**	P		**P**	**10 46 04.8**	**+1.0**
	comp=Z,3.0nm,0.6s,baz=81,slow=19,SNR=1.9							
QRZ	**Quartz Range**	**24.21**	**197**	P		**P**	**10 47 25.2**	**-0.9**
EIDS	**Eidsvold**	**29.46**	**250**	P		**P**	**10 48 12.2**	**+0.3**
EIDS					IAmb	IAmb	10 48 18.2	
	comp=Z,3.7nm,0.9s							
ARMA	**Armidale**	**30.12**	**240**	P		**P**	**10 48 17.6**	**-0.1**
ARMA					IAmb	IAmb	10 48 18.9	
	comp=Z,3.9nm,0.8s							
WHZ	**Wether Hill Ro**	**30.21**	**199**	P		**P**	**10 48 18.1**	**+0.2**
CAN	**Canberra**	**33.88**	**233**	P		**P**	**10 48 49.6**	**+0.5**
TOO	**Toolangi**	**37.34**	**231**	P		**P**	**10 49 16.7**	**-0.6**
TOO					IAmb	IAmb	10 49 40.4	
	comp=Z,13nm,1.3s							
STKA	**Stephens Creek**	**38.81**	**241**	P		**P**	**10 49 29.9**	**+0.5**
STKA	**Stephens Creek**	**38.81**	**241**	P		**P**	**10 49 29.6**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=108,slow=10.0,SNR=6.2							
	comp=Z,1.3nm,0.3s							
BBOO	**Buckleboo**	**43.59**	**241**	P		**P**	**10 50 06.9**	**+0.1**
WR0	**Warramunga Arr**	**44.64**	**259**	P		**P**	**10 50 15.2**	**+0.2**
WB0	**Warramunga Arr**	**44.80**	**260**	P		**P**	**10 50 16.0**	**-0.2**
WB0					IAmb	IAmb	10 50 40.5	
	comp=Z,2.4nm,0.9s							
WB2	**Warramunga Arr**	**44.82**	**259**	P		**P**	**10 50 16.0**	**-0.3**
WB2					IAmb	IAmb	10 50 16.6	
	comp=Z,4.8nm,1.1s							
WRAB	**Tennant Creek**	**44.82**	**259**	P		**P**	**10 50 15.9**	**-0.4**
WRA	**Warramunga Arr**	**44.83**	**259**	P		**P**	**10 50 16.2**	**-0.2**
WRA	**Warramunga Arr**	**44.83**	**259**	P		**P**	**10 50 15.9**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=96,slow=7.3,SNR=34							
WRA				PcP		**PcP**	**10 51 43.6**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=91,slow=3.5,SNR=2.5							
	comp=Z,1.0nm,0.4s							
AS31	**Alice Springs**	**44.99**	**254**	P		**P**	**10 50 17.8**	**+0.2**
AS31					IAmb	IAmb	10 50 18.6	
	comp=Z,1.6nm,0.4s							
ASAR	**Alice Springs**	**44.99**	**254**	P		**P**	**10 50 17.1**	**-0.5**
ASAR	**Alice Springs**	**44.99**	**254**	P		**P**	**10 50 17.5**	**-0.1**
	comp=Z,3.7nm,0.4s,baz=90,slow=7.8,SNR=74							
ASAR				PcP		**PcP**	**10 51 43.8**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=104,slow=4.1,SNR=7.7							
	comp=Z,3.7nm,0.4s							
FORT	**Forrest**	**50.20**	**245**	P		**P**	**10 50 55.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**53.23**	**260**	P		**P**	**10 51 18.4**	**+0.5**
MBWA	**Marble Bar**	**58.27**	**256**	P		**P**	**10 51 52.1**	**-0.3**
MBWA					IAmb	IAmb	10 52 00.0	
	comp=Z,6.8nm,1.0s							
SBA	**Scott Base**	**60.45**	**184**	P		**P**	**10 52 06.5**	**+0.7**
VNDA	**Vanda**	**60.48**	**185**	P		**P**	**10 52 06.6**	**+0.5**
VNDA	**Vanda**	**60.48**	**185**	P		**P**	**10 52 06.9**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=356,slow=5.6,SNR=5.3							
	comp=Z,0.5nm,0.5s							
MJAR	**Matsushiro Arr**	**68.01**	**323**	P		**P**	**10 52 53.8**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=162,slow=6.2,SNR=5.0							
	comp=Z,0.6nm,0.4s							
QSPA	**South Pole Qui**	**72.17**	**180**	P		**P**	**10 53 18.7**	**+0.5**
QSPA					IAmb	IAmb	10 53 22.4	
	comp=Z,4.7nm,1.1s							
QSPA	**South Pole Qui**	**72.17**	**180**	P		**P**	**10 53 18.5**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=264,slow=1.1,SNR=5.5							
	comp=Z,2.2nm,0.7s							
BELA	**Belgrano 2**	**82.16**	**173**	P		**P**	**10 54 11.6**	**0.0**
BELA					IAmb	IAmb	10 54 12.0	
	comp=Z,3.6nm,0.9s							
GHO	**Glory Hole Cre**	**82.74**	**14**	P		**P**	**10 54 14.8**	**+0.2**
GHO					IAmb	IAmb	10 54 41.0	
	comp=Z,6.1nm,1.2s							
K20K	**Telida**	**83.15**	**11**	P		**P**	**10 54 17.6**	**+1.0**
K20K					IAmb	IAmb	10 54 27.7	
	comp=Z,5.5nm,1.5s							
MAW	**Mawson**	**83.95**	**200**	P		**P**	**10 54 20.5**	**-0.1**
MAW					IAmb	IAmb	10 54 22.8	
	comp=Z,7.0nm,1.1s							
TXAR	**Lajitas Array**	**85.82**	**58**	P		**P**	**10 54 31.4**	**+1.0**
	comp=Z,0.4nm,0.9s,baz=212,slow=5.0,SNR=3.8							
	comp=Z,0.4nm,0.9s							
ILAR	**Eielson Array**	**85.82**	**13**	P		**P**	**10 54 29.2**	**-0.3**
	comp=Z,0.1nm,0.4s,baz=220,slow=5.3,SNR=5.5							
	comp=Z,0.1nm,0.4s							

IDC ***17*** *11:10:06.6±6.2,17.°81S×178.°19W,h650km±72km,mb3.0/6, mbtmp4.0/7,Error ellipse: s-maj=40.1km s-min=25.8km az=65.0*
ISC 17 11:10:06.6±1.3,**17.°8S**±0.°2×**178.°2W**±0.°2,**h650km,n7, σ0s25/9,mb3.7/6,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.07**	**251**	P		**P**	**11 13 13.9**	**+0.3**
	3.2nm,0.7s,baz=98,slow=19,SNR=1.8							
STKA	**Stephens Creek**	**38.88**	**241**	P		**P**	**11 16 39.4**	**+0.2**
	1.7nm,0.5s,baz=84,slow=9.2,SNR=5.1							
	1.7nm,0.5s							
WRA	**Warramunga Arr**	**44.87**	**259**	P		**P**	**11 17 25.7**	**-0.3**
	1.4nm,0.5s,baz=96,slow=7.4,SNR=34							
WRA				PcP		**PcP**	**11 18 52.8**	**-0.3**
	0.5nm,0.8s,baz=92,slow=3.4,SNR=2.4							
	1.4nm,0.5s							
ASAR	**Alice Springs**	**45.03**	**254**	P		**P**	**11 17 27.2**	**-0.1**
	3.6nm,0.4s,baz=89,slow=7.9,SNR=62							
ASAR				PcP		**PcP**	**11 18 53.6**	**-0.1**
	0.5nm,0.5s,baz=102,slow=4.0,SNR=6.3							
	3.6nm,0.4s							
VNDA	**Vanda**	**60.59**	**185**	P		**P**	**11 19 16.2**	**+0.1**
	0.4nm,0.5s,baz=13,slow=6.6,SNR=1.9							
	0.4nm,0.5s							
QSPA	**South Pole Qui**	**72.27**	**180**	P		**P**	**11 20 28.0**	**-0.1**
	1.3nm,0.6s,baz=5.8,slow=0.9,SNR=13							
	1.3nm,0.6s							
ILAR	**Eielson Array**	**85.72**	**13**	P		**P**	**11 21 38.5**	**+0.1**
	0.3nm,0.9s,baz=224,slow=4.8,SNR=8.9							
	0.3nm,0.9s							

NEIC ***17*** *11:12:16.1±0.3,36.°697N±0.°010×97.°68W±0.°01,h6km±2km, Error ellipse: s-maj=1.7km s-min=1.3km az=62.0*
TUL 17 11:12:16.3±0.3,**36.°701N**±0.°010×**97.°68W**±0.°01,**h8km**±2km, **ML2.5,ML2.2**/48(NEIC),**Error ellipse: s-maj=1.7km s-min=1.3km az=83.0,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.21**	**316**	P	Pg	Pg	11 12 20.8	+0.2
GC02					Sg	Sg	11 12 23.9	+0.5
CROK	**Carrier**	**0.32**	**232**	P	Pg	Pg	11 12 22.5	0.0
CROK					Sg	Sg	11 12 27.2	+0.5
KAN14	**Manchester OK**	**0.34**	**318**	P	Pg	Pg	11 12 23.1	0.0
KAN14					Sg	Sg	11 12 28.1	+0.5
KAN14					IAML		11 12 32.1	
	comp=N,239nm,0.1s							
KAN14					IAML		11 12 32.6	
	comp=E,247nm,0.1s							
KAN13	**South Haven SW**	**0.35**	**27**			Pg	11 12 23.4	+0.2
KAN13					IAML		11 12 28.6	
	comp=E,210nm,0.3s							
KAN17	**Caldwell West**	**0.35**	**348**	Pg	Pg		11 12 23.3	+0.1
KAN17					IAML		11 12 28.7	
	comp=E,427nm,0.3s							
KAN17					IAML		11 12 30.4	
	comp=N,219nm,0.2s							
BLOK	**Blackwell**	**0.38**	**81**			Pg	11 12 23.9	+0.3
BLOK					IAML		11 12 30.0	
	comp=E,346nm,0.2s							
KAN09	**Caldwell North**	**0.44**	**6**			Pg	11 12 24.9	+0.1
KAN09					IAML		11 12 33.4	
	comp=E,304nm,0.2s							
KAN09					IAML		11 12 35.0	
	comp=N,298nm,0.2s							
OK032	**Salt Plains WL**	**0.44**	**284**			Pg	11 12 24.8	-0.1
OK032					IAML		11 12 34.0	
	comp=N,162nm,0.2s							
OK032					IAML		11 12 40.2	
	comp=N,157nm,0.1s							
OK048	**Pawnee Station**	**0.65**	**116**	Pg	Pg		11 12 28.6	-0.3
OK033	**Mehan**	**0.89**	**138**	Pg	Pg		11 12 32.9	-0.4
OK033					IAML		11 12 46.5	
	comp=N,86nm,0.1s							
OK033					IAML		11 12 50.8	
	comp=N,67nm,0.1s							
OK038	**West end E0370**	**0.89**	**256**			Pg	11 12 33.1	-0.3
OK029	**Liberty Lake**	**0.92**	**169**	Pg	Pg		11 12 33.5	-0.5
OK029					IAML		11 12 50.4	
	comp=N,82nm,0.5s							
QUOK	**Quay**	**0.94**	**124**	Pg	Pg		11 12 34.0	-0.4
QUOK					IAML		11 12 52.4	
	comp=E,108nm,0.2s							
T35A	**Sooner Cattle**	**0.96**	**77**	Pg	Pg		11 12 34.2	-0.5
T35A					IAML		11 12 49.1	
	comp=N,53nm,0.2s							
OK052	**Battle Ridge R**	**1.00**	**135**			Pg	11 12 34.9	-0.5
OK052					IAML		11 12 54.1	
	comp=N,88nm,0.1s							
OK052					IAML		11 12 54.3	
	comp=N,88nm,0.3s							
DEOK	**Depew**	**1.28**	**132**	Pg	Pg	Pn	11 12 39.7	-0.8
DEOK					IAML		11 12 57.5	
	comp=N,74nm,0.2s							
OKCSW	**OKLAHOMA CITY**	**1.31**	**171**	Pg		Pn	11 12 40.3	-0.5
CSTR	**Hydro, Custer**	**1.33**	**218**			Pn	11 12 41.1	-0.2
FNO	**Franklin**	**1.46**	**171**			Pn	11 12 42.7	-0.2
W35A	**Tecumseh**	**1.68**	**157**			Pn	11 12 46.0	0.0
TUL3	**Leonard**	**1.71**	**117**			Pn	11 12 46.8	+0.3
R32A	**Long Quarter,**	**1.91**	**335**			Pb	11 12 50.3	-1.0
WMOK	**Wichita Mounta**	**2.15**	**205**	Pn		Pn	11 12 53.0	+0.4
RLO	**Rose Lookout**	**2.21**	**103**			Pn	11 12 54.6	+1.4

NEIC ***17*** *11:22:04.3±2.7,29.°76N±0.°02×142.°6E±0.°2,h10km±1km, mb4.4/16,Error ellipse: s-maj=27.4km s-min=3.1km az=84.0*
IDC ***17*** *11:22:05.9±0.9,29.°52N×141.°65E,h0km,mb3.9/12, mbtmp3.9/13,MLB.3/2,MS3.1/7,Error ellipse: s-maj=36.6km s-min=15.0km az=75.0*
JMA ***17*** *11:22:07.7±0.3,29.°9N±0.°7×14.°3E±.°,h68km,MV3.9/26, NEAR TORISHIMA IS*
ISC 17 11:22:07.9±0.7,**29.°80N**±0.°05×**142.°5E**±0.°1,**h35km,n52, σ2s34/53,mb4.2/20,MS3.4/4,1C,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.71**	**185**	P		**Pn**	**11 22 51.2**	**+2.3**
CBIJ					*e*S	**Sn**	**11 23 24.2**	**+3.8**
JCJ	**Chichijima**	**2.71**	**185**			**Pn**	**11 22 47.6**	**-1.3**
JCJ	**Chichijima**	**2.71**	**185**	Pn		**Pn**	**11 22 47.8**	**-1.1**
	5.7nm,0.3s,baz=107,slow=20,SNR=6.3							
JCJ					Sn	**Sn**	**11 23 17.4**	**-3.1**
	16nm,0.3s,baz=277,slow=21,SNR=6.0							
BSO1	**Boso 1**	**5.00**	**346**	*e*P		**Pn**	**11 23 21.2**	**+1.2**
BSO1					S	**Sn**	**11 24 16.9**	**+0.7**
BSO3	**Boso 3**	**5.25**	**342**	P		**Pn**	**11 23 24.5**	**+0.9**
JOD2	**Odawara 2**	**6.15**	**333**	*e*P		**Pn**	**11 23 37.0**	**+0.7**
JHU	**Hanno**	**6.60**	**337**	P		**Pn**	**11 23 43.2**	**+0.8**
JHU					*e*S	**Sn**	**11 24 54.2**	**-2.3**
JRY	**Ryogami san**	**6.88**	**335**	P		**Pn**	**11 23 47.6**	**+1.2**
JRY					*e*S	**Sn**	**11 24 59.3**	**-4.2**
JHO	**Hitachi**	**6.97**	**347**	P		**Pn**	**11 23 47.6**	**0.0**
JHO					*e*S	**Sn**	**11 24 59.6**	**-6.0**
JAG	**Ashikaga**	**7.07**	**340**	P		**Pn**	**11 23 49.0**	**+0.1**
JAG					*e*S	**Sn**	**11 25 04.6**	**-3.5**
JGF	**Kuroka**	**7.21**	**325**	Pn		**Pn**	**11 23 53.0**	**+2.2**
MJAR	**Matsushiro Arr**	**7.61**	**333**	Pn		**Pn**	**11 23 56.7**	**+0.4**
	0.4nm,0.3s,baz=160,slow=12,SNR=24							
MJAR					LR	LR	11 26 58.6	
	comp=Z,76nm,19.9s,baz=194,slow=39							
	2.9nm,0.4s							
MAJO	**Matsushiro**	**7.61**	**333**	Pn		**Pn**	**11 23 56.5**	**+0.2**
MJB9	**Matsu-Tunnel**	**7.62**	**333**	Pn		**Pn**	**11 23 58.1**	**+1.7**
JMM	**Marumori**	**8.16**	**351**			**Pn**	**11 24 04.2**	**+0.4**
JMM					Sn	**Sn**	**11 25 29.3**	**-5.6**
JMK	**Ichinoseki**	**9.19**	**354**	*e*S		**Sn**	**11 25 53.5**	**-6.5**
JNU	**Nakatsue**	**10.44**	**291**	LR		LR	11 28 22.4	
	comp=Z,75nm,19.0s,baz=123,slow=38							
KSRS	**Korea Array**	**14.31**	**306**	Pn		**Pn**	**11 25 27.0**	**-0.9**
	0.1nm,0.3s,baz=162,slow=7.8,SNR=1.7							
KSRS					LR	LR	11 30 17.2	
	comp=Z,44nm,19.7s,baz=90,slow=35							
BNX	**BinXian**	**19.82**	**328**	↑P		**P**	**11 26 35.8**	**+0.4**
BNX					pmax	pmax		
	comp=Z,13nm,0.7s							
BNX					pmax	pmax		
	comp=Z,110nm,5.4s							
KLR	**Kul'dur**	**21.05**	**340**	P		**P**	**11 26 53.4**	**+4.7**
	comp=Z,1.9nm,0.6s,baz=151,slow=11,SNR=7.7							
	comp=Z,1.9nm,0.6s							
SONM	**Songino Array**	**32.99**	**313**	P		**P**	**11 28 39.0**	**-0.6**
SONM	**Songino Array**	**32.99**	**313**	P		**P**	**11 28 39.8**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=116,slow=8.3,SNR=4.4							
	comp=Z,0.5nm,0.6s							
CMAR	**Chiang Mai Arr**	**41.08**	**264**	LR		LR	11 48 36.5	
	comp=Z,21nm,18.1s,baz=180,slow=39							
COEN	**Coen**	**43.51**	**179**	P		**P**	**11 30 05.6**	**-2.5**
COEN					IAmb	IAmb	11 30 06.1	
	comp=Z,11nm,1.1s							
MTN	**Manton Dam**	**43.78**	**196**	P		**P**	**11 30 09.2**	**-1.2**
ZALV	**Zalesovo Beam**	**47.64**	**317**	P		**P**	**11 30 40.2**	**-0.2**
MKAR	**Makanchi Array**	**48.98**	**308**	P		**P**	**11 30 50.9**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=136,slow=6.3,SNR=3.8							
MKAR					LR	LR	11 50 41.6	
	comp=Z,28nm,19.1s,baz=260,slow=35							
	comp=Z,0.4nm,0.6s							
WB0	**Warramunga Arr**	**49.89**	**190**	P		**P**	**11 30 57.8**	**-0.2**
WR0	**Warramunga Arr**	**50.06**	**190**	P		**P**	**11 30 57.0**	**-2.3**
WB2	**Warramunga Arr**	**50.07**	**190**	P		**P**	**11 30 58.8**	**-0.6**
WRA	**Warramunga Arr**	**50.07**	**190**	P		**P**	**11 30 57.3**	**-2.1**
WRA	**Warramunga Arr**	**50.07**	**190**	P		**P**	**11 30 59.9**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=6.2,slow=7.6,SNR=11							
	comp=Z,1.0nm,0.5s							
KURBB	**Kurchatov Arra**	**51.36**	**313**	P		**P**	**11 31 09.2**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=90,slow=7.2,SNR=8.2							
	comp=Z,2.2nm,0.7s							
L19K	**White Mountain**	**51.40**	**32**	P		**P**	**11 31 09.5**	**+0.5**
L19K					IAmb	IAmb	11 31 35.5	
	comp=Z,2.6nm,0.8s							
IMAR	**Indian Mountai**	**52.53**	**28**	P		**P**	**11 31 20.8**	**+3.4**
CAST	**Castle Rocks**	**52.84**	**31**	P		**P**	**11 31 19.5**	**-0.1**
KTH	**Kantishna Hill**	**53.37**	**31**	P		**P**	**11 31 21.1**	**-2.6**
KTH					IAmb	IAmb	11 31 27.7	
	comp=Z,3.4nm,0.8s							
BPAW	**Bear Paw Mtn.**	**53.40**	**30**	P		**P**	**11 31 25.9**	**+2.0**
TRF	**Thorofare Moun**	**53.64**	**31**	P		P	11 31 19.9	-5.9
TRF					IAmb	IAmb	11 31 31.1	
	comp=Z,5.5nm,1.3s							
ASAR	**Alice Springs**	**53.79**	**190**	P		**P**	**11 31 27.6**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=5.0,slow=7.1,SNR=6.9							
	comp=Z,0.4nm,0.7s							
J25K	**Salcha River,**	**55.88**	**30**	P		**P**	**11 31 44.4**	**+2.6**
J25K					IAmb	IAmb	11 31 46.7	
	comp=Z,3.2nm,1.2s							
BVAR	**Borovoye Array**	**56.25**	**316**	P		**P**	**11 31 45.7**	**+1.1**
	comp=Z,1.8nm,0.7s,baz=94,slow=7.5,SNR=7.0							
	comp=Z,1.8nm,0.7s							
KK31	**Karatay Array**	**57.73**	**305**			**P**	**11 31 55.3**	**0.0**
KK31					IAmb	IAmb	11 31 56.6	
	comp=Z,2.9nm,0.6s							
KKAR	**Karatay Array**	**57.73**	**305**			**P**	**11 31 54.9**	**-0.4**
KKAR					IAmb	IAmb	11 31 56.6	
	comp=Z,2.8nm,0.6s							
ABKAR	**Akbulak array**	**63.41**	**313**	P		**P**	**11 32 33.6**	**-0.2**
ABKAR					IAmb	IAmb	11 32 44.7	
	comp=Z,6.4nm,1.5s							
AKTO	**Aktyubinsk**	**64.28**	**315**	LR		LR	12 01 01.7	
	comp=Z,30nm,18.8s,baz=114,slow=36							
YKA	**Yellowknife Ar**	**69.66**	**29**	P		P	11 33 21.4	+8.0
	comp=Z,0.4nm,1.0s,baz=291,slow=6.3,SNR=3.7							
	comp=Z,0.4nm,1.0s							
FINES	**FINESS Array B**	**75.64**	**334**	P		**P**	**11 33 51.1**	**+2.0**
	comp=Z,1.6nm,0.8s,baz=93,slow=8.4,SNR=4.4							
	comp=Z,1.6nm,0.8s							
KBZ	**Khabaz**	**76.36**	**313**	P		**P**	**11 33 55.5**	**+2.1**
	comp=Z,3.0nm,0.8s,baz=88,slow=5.5,SNR=6.6							
	comp=Z,3.0nm,0.8s							
AKASG	**Malin Array Be**	**80.59**	**324**	LR		LR	12 12 41.3	
	comp=Z,27nm,18.1s,baz=40,slow=38							
BRTR	**Keskin Array B**	**84.35**	**313**	P		**P**	**11 34 38.5**	**+1.8**
	comp=Z,2.0nm,0.8s,baz=102,slow=4.1,SNR=8.8							
	comp=Z,2.0nm,0.8s							
TXAR	**Lajitas Array**	**93.79**	**53**	P		P	11 35 27.2	+5.4
	comp=Z,0.3nm,0.9s,baz=282,slow=4.5,SNR=3.2							
	comp=Z,0.3nm,0.9s							

NNC ***17*** *11:27:39.0±2.5,51.°72N×75.°23E,h0km±29km,mb2.7, mpv2.3,Error ellipse: s-maj=27.5km s-min=13.2km az=61.0,Suspected Mining explosion.*
IDC ***17*** *11:27:40.1±1.1,51.°80N×75.°75E,h0km,mbtmp2.7/3, ML2.1/3,Error ellipse: s-maj=27.5km s-min=8.3km az=29.0*
ISC 17 11:27:37.8±0.9,**51.°87N**±0.°07×**75.°33E**±0.°06,**h0km,n11, σ0s81/13,7C-3D,Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.37**	**118**	⇑Pn		**Pn**	**11 28 17.9**	**+0.1**
	0.6nm,0.4s							
KURK				⇑Sn		**Sn**	**11 28 47.4**	**-0.2**
	7.9nm,0.9s							
KURBB	**Kurchatov Arra**	**2.37**	**121**	Pg		**Pn**	**11 28 17.8**	**0.0**
	0.4nm,0.3s,baz=304,slow=18,SNR=24							
KURBB					Lg	Lg	11 28 47.2	
	0.4nm,0.3s,baz=307,slow=30,SNR=9.7							
KURBB	**Kurchatov Arra**	**2.37**	**121**	⇓Pn		**Pn**	**11 28 18.9**	**+1.0**
	1.8nm,0.3s							
KURBB				⇓Sn		**Sn**	**11 28 47.5**	**0.0**
	32nm,0.7s							
BVA0	**Borovoye Array**	**3.24**	**293**	⇑Pg		**Pg**	**11 28 39.1**	**-0.7**
	0.6nm,0.5s,baz=251,slow=39,SNR=4.0							
BVA0				⇑Lg		Lg	11 29 21.5	
	6.4nm,0.8s,baz=109,slow=26,SNR=5.7							
BVAR	**Borovoye Array**	**3.24**	**293**	Pn		**Pb**	**11 28 35.1**	**-1.0**
	0.1nm,0.3s,baz=112,slow=16,SNR=6.1							
BVAR					Sn	**Sb**	**11 29 17.5**	**+1.4**
	0.2nm,0.3s,baz=104,slow=24,SNR=6.3							
	1.6nm,0.6s							
BRVK	**Borovoye**	**3.31**	**293**	⇑Pg		**Pb**	**11 28 37.8**	**+0.4**
	0.4nm,0.4s							
BRVK				⇑Lg		Lg	11 29 24.4	
	2.9nm,0.8s							
OTUK	**Ortayu**	**4.11**	**209**	⇑Pg		**Pb**	**11 28 51.1**	**0.0**
	0.1nm,0.3s							
OTUK				⇓Lg		Lg	11 29 44.5	
	4.3nm,0.8s							
I46RU	**ZALESOVO INFRA**	**6.11**	**66**	I		I	12 05 00.0	
	baz=251,slow=326,SNR=3.1							
ZALV	**Zalesovo Beam**	**6.11**	**66**	Pn		**Pn**	**11 29 10.1**	**+0.9**
	0.3nm,0.3s,baz=258,slow=14,SNR=5.0							
ZALV					Sn	**Sn**	**11 30 18.7**	**

comp=Z,76nm,19.1s,baz=15,slow=32
comp=Z,2.0nm,0.4s

EIDS	**Eidsvold**	**19.65**	**190**	P	**P**	**11**	**56**	**10.2**	**0.0**
EIDS				IAmb	IAmb	11	56	36.9	
	comp=Z,19nm,1.5s								
WR0	**Warramunga Arr**	**24.16**	**233**	P	**P**	**11**	**56**	**55.5**	**+0.1**
WR0				IAmb	IAmb	11	56	58.2	
	comp=Z,11nm,1.1s								
WB0	**Warramunga Arr**	**24.17**	**233**	P	**P**	**11**	**56**	**55.6**	**+0.1**
WB0				IAmb	IAmb	11	56	57.8	
	comp=Z,5.4nm,0.9s								
WRAB	**Tennant Creek**	**24.29**	**233**	P	**P**	**11**	**56**	**56.5**	**-0.2**
WRAB				IAmb	IAmb	11	57	11.2	
	comp=Z,9.2nm,1.2s								
WB2	**Warramunga Arr**	**24.30**	**233**	P	**P**	**11**	**56**	**57.2**	**+0.5**
WB2				IAmb	IAmb	11	57	26.3	
	comp=Z,14nm,1.4s								
WRA	**Warramunga Arr**	**24.31**	**233**	P	**P**	**11**	**56**	**56.9**	**+0.1**
WRA	**Warramunga Arr**	**24.31**	**233**	P	**P**	**11**	**56**	**57.4**	**+0.6**
	comp=Z,1.3nm,0.4s,baz=58,slow=9.9,SNR=11								
	comp=Z,1.3nm,0.4s								
AS31	**Alice Springs**	**26.77**	**227**	P	**P**	**11**	**57**	**17.9**	**-1.1**
ASAR	**Alice Springs**	**26.77**	**227**	P	**P**	**11**	**57**	**19.1**	**0.0**
ASAR	**Alice Springs**	**26.77**	**227**	P	**P**	**11**	**57**	**18.5**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=58,slow=9.1,SNR=14								
	comp=Z,0.5nm,0.4s								
FITZ	**Fitzroy Crossi**	**30.95**	**244**	P	**P**	**11**	**57**	**55.2**	**-0.9**
SONM	**Songino Array**	**68.37**	**327**	P	**P**	**12**	**02**	**37.5**	**-0.9**
MKAR	**Makanchi Array**	**82.52**	**319**	P	**P**	**12**	**03**	**59.3**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=104,slow=6.3,SNR=5.7								
	comp=Z,0.5nm,0.8s								
QSPA	**South Pole Qui**	**84.03**	**180**	P	**P**	**12**	**04**	**08.4**	**+1.9**

NNC 17 12:02:46.6±12.0, 37.01N×70.58E, h0km, mb3.6, mpv3.2, 2C-4D, Error ellipse: s-maj=97.9km s-min=83.5km az=171.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.08**	**360**	⇓P	Pn	12 04 20.2	+2.4
	0.6nm,0.3s,baz=181,slow=14,SNR=5.1						
KK31				⇑S	Sn	12 05 30.8	+2.6
	8.2nm,0.7s,baz=188,slow=23,SNR=13						
CHMS	**Chumysh**	**6.78**	**27**	⇓P	Pn	12 04 27.1	-0.3
	0.6nm,0.3s						
CHMS				⇑S	Sn	12 05 46.3	+1.0
	7.4nm,0.7s						
TKM2	**Tokmak 2**	**7.05**	**32**	⇓P	Pn	12 04 30.2	-1.0
	1.0nm,0.5s						
TKM2				⇓S	Sn	12 05 50.5	-1.7
	2.3nm,0.8s						

IDC 17 12:22:52.1±1.7, 24.55S×176.76W, h0km, mb4.0/3, mbtmp4.0/3, MS3.4/8, Error ellipse: s-maj=50.3km s-min=38.6km az=28.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**15.63**	**276**	LR	LR	12 31 38.3	
	comp=Z,100nm,18.2s,baz=96,slow=34						
PPT	**Papeete**	**26.27**	**80**	LR	LR	12 35 56.3	
	comp=Z,24nm,20.4s,baz=270,slow=30						
HNR	**Honiara**	**26.81**	**300**	LR	LR	12 36 49.4	
	comp=Z,435nm,21.4s,baz=115,slow=31						
STKA	**Stephens Creek**	**37.24**	**249**	LR	LR	12 43 39.0	
	comp=Z,30nm,18.6s,baz=215,slow=34						
ASAR	**Alice Springs**	**44.85**	**260**	P	P	12 31 08.3	-0.2
	0.5nm,0.4s,baz=100,slow=6.9,SNR=17						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**45.31**	**266**	P	P	12 31 12.1	-0.1
	1.9nm,0.4s,baz=104,slow=7.9,SNR=54						
	1.9nm,0.4s						
QSPA	**South Pole Qui**	**65.54**	**180**	P	P	12 33 37.3	0.0
	1.8nm,0.9s,baz=306,slow=1.1,SNR=6.4						
	1.8nm,0.9s						
PMSA	**Palmer Station**	**77.13**	**156**	LR	LR	13 01 56.4	
	comp=Z,51nm,19.4s,baz=110,slow=30						
KSRS	**Korea Array**	**80.67**	**318**	LR	LR	13 05 56.1	
	comp=Z,6.5nm,21.4s,baz=160,slow=32						
NEW	**Newport**	**89.99**	**35**	LR	LR	13 07 05.1	
	comp=Z,46nm,21.1s,baz=21,slow=30						
PDAR	**Pinedale Array**	**91.13**	**43**	LR	LR	13 08 48.3	
	comp=Z,22nm,21.1s,baz=40,slow=30						
ARCES	**ARCESS Array B**	**133.09**	**349**	PKP	PKiKP	12 42 09.7	-0.5
	2.1nm,0.8s,baz=38,slow=2.2,SNR=4.8						
HFS	**Hagfors**	**143.70**	**351**	PKP	PKPbc	12 42 26.0	-0.1
	2.6nm,0.9s,baz=64,slow=3.4,SNR=5.5						
AKASG	**Malin Array Be**	**147.08**	**329**	PKPbc	PKPbc	12 42 36.2	-0.6
	0.3nm,0.3s,baz=45,slow=4.3,SNR=1.8						

IDC 17 12:23:50.6±0.6, 35.52N×25.46E, h63km±8km, mb3.6/6, mbtmp3.8/10, Error ellipse: s-maj=28.8km s-min=13.1km az=155.0
ISK 17 12:23:51.8, 35.70N×25.40E, h28km, ML3.5/18
GII 17 12:23:51.6±0.7, 36.130N±0.007×26.496E±0.002, h1km, Md3.4/1, Mws3.6/2, confirmed
THE 17 12:23:52.9, 35.70N×25.37E, h65km±2km, ML3.2/15, Error ellipse: s-maj=2.4km s-min=0.5km az=192.0
AFAD 17 12:23:53.4±0.0, 35.65N×25.95E, h15km±2km, MW3.5
ATH 17 12:23:53.1, 35.70N×25.39E, h56km±3km, ML3.3/13, Error ellipse: s-maj=3.0km s-min=0.8km az=172.0
ISC 17 12:23:51.7±0.8, 35.65N±0.03×25.45E±0.03, h73km±6km, n138, σ1§53/205, mb3.7/6, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IACM	**Heraklion**	**0.46**	**222**	P	**Pn**	**12 24 04.5**	**0.0**
IACM	**Heraklion**	**0.46**	**222**	P	**Pn**	**12 24 04.2**	**-0.3**
KSTL	**Kastelli Herak**	**0.46**	**222**	P	**Pn**	**12 24 04.7**	**+0.2**
KSTL				S	**Sn**	**12 24 13.4**	**-0.5**
	938nm,0.4s						
KSTL	**Kastelli Herak**	**0.46**	**222**	P	**Pn**	**12 24 04.6**	**+0.1**
KSTL				S	**Sn**	**12 24 12.6**	**-1.3**
KSTL				AML	AML	12 24 16.3	
	comp=N,7064μm,0.4s						
KSTL				AML	AML	12 24 17.1	
	comp=E,3936μm,0.4s						
IDI	**Anoyia**	**0.58**	**232**	Pg	**Pn**	**12 24 05.4**	**-0.3**
IDI	**Anoyia**	**0.58**	**232**	P	**Pn**	**12 24 05.4**	**-0.3**
IDI				S	**Sn**	**12 24 14.4**	**-1.6**
	comp=E,2μm,0.1s						
IDI	**Anoyia**	**0.58**	**232**	P	**Pn**	**12 24 05.4**	**-0.3**
	comp=E,4.1nm,0.3s,baz=36,slow=6.4,SNR=643						
IDI				S	**Sn**	**12 24 14.4**	**-1.6**
	comp=E,15nm,0.2s,baz=261,slow=20,SNR=28						
IDI	**Anoyia**	**0.58**	**232**	P	**Pn**	**12 24 05.4**	**-0.3**
IDI				S	**Sn**	**12 24 13.9**	**-2.1**
IDI				AML	AML	12 24 15.4	
	comp=E,5070μm,0.1s						
IDI				AML	AML	12 24 15.4	
	comp=N,3886μm,0.2s						
FRMA	**Ierapetra Chan**	**0.68**	**160**	P	**Pn**	**12 24 08.5**	**+1.9**
FRMA				S	**Sn**	**12 24 19.8**	**+2.2**
	comp=N,748nm,0.4s						
FRMA	**Ierapetra Chan**	**0.68**	**160**	P	**Pn**	**12 24 08.3**	**+1.7**
FRMA				S	**Sn**	**12 24 18.7**	**+1.1**
FRMA				AML	AML	12 24 20.4	
	comp=E,3556μm,0.2s						
FRMA				AML	AML	12 24 21.8	
	comp=N,4236μm,0.4s						
THR6	**Thira Island,**	**0.70**	**357**	P	**Pn**	**12 24 06.7**	**-0.2**
THR6	**Thira Island,**	**0.70**	**357**	P	**Pn**	**12 24 06.9**	**0.0**
THR9	**Santorini-Faro**	**0.71**	**354**	P	**Pn**	**12 24 06.8**	**-0.2**
THR9	**Santorini-Faro**	**0.71**	**354**	P	**Pn**	**12 24 06.8**	**-0.2**
STAX	**Taxiarchis Har**	**0.75**	**357**	P	**Pn**	**12 24 07.2**	**-0.2**
STAX				S	**Sn**	**12 24 17.9**	**-1.1**
STAX	**Taxiarchis Har**	**0.75**	**357**	P	**Pn**	**12 24 07.3**	**-0.1**
STAX				S	**Sn**	**12 24 16.3**	**-2.7**
SNT5	**Nea Kammeni, S**	**0.75**	**357**	P	**Pn**	**12 24 07.4**	**0.0**
SNT5				S	**Sn**	**12 24 16.0**	**-3.1**
THR8	**Santorini-Mono**	**0.76**	**2**	P	**Pn**	**12 24 07.1**	**-0.4**
THR8	**Santorini-Mono**	**0.76**	**2**	P	**Pn**	**12 24 07.0**	**-0.4**
THR3	**Thira Island,**	**0.76**	**357**	P	**Pn**	**12 24 07.4**	**-0.1**
THR3	**Thira Island,**	**0.76**	**357**	P	**Pn**	**12 24 07.4**	**-0.1**
THR5	**Thira Island,**	**0.77**	**354**	P	**Pn**	**12 24 07.0**	**-0.6**
THR5	**Thira Island,**	**0.77**	**354**	P	**Pn**	**12 24 07.3**	**-0.4**
SFIR	**Foira Santorin**	**0.77**	**359**	P	**Pn**	**12 24 07.5**	**-0.2**
SFIR				S	**Sn**	**12 24 18.3**	**-1.2**
	comp=N,8μm,0.5s						
THT2	**Imerovigli**	**0.78**	**358**	P	**Pn**	**12 24 07.8**	**0.0**
THT2				S	**Sn**	**12 24 18.8**	**-1.0**
THR2	**Thira island,**	**0.79**	**359**	P	**Pn**	**12 24 07.6**	**-0.4**
TMBK	**Timbaki Herakl**	**0.80**	**224**	P	**Pn**	**12 24 08.5**	**+0.5**
TMBK				S	**Sn**	**12 24 20.1**	**0.0**
TMBK	**Timbaki Herakl**	**0.80**	**224**	P	**Pn**	**12 24 08.3**	**+0.3**
TMBK				S	**Sn**	**12 24 19.2**	**-0.9**
CMBO	**Columbo, Santo**	**0.82**	**358**	P	**Pn**	**12 24 08.2**	**-0.1**
CMBO				S	**Sn**	**12 24 20.2**	**-0.2**
	comp=N,5μm,0.5s						
CMBO	**Columbo, Santo**	**0.82**	**358**	P	**Pn**	**12 24 08.1**	**-0.1**
CMBO				S	**Sn**	**12 24 18.2**	**-2.2**
CMBO				AML	AML	12 24 21.1	
	comp=E,9303μm,0.5s						
CMBO				AML	AML	12 24 21.4	
	comp=N,13784μm,0.5s						
PRNS	**Prines Rethymn**	**0.82**	**250**	P	**Pn**	**12 24 08.1**	**-0.1**
PRNS				S	**Sn**	**12 24 20.2**	**-0.3**
	comp=N,355nm,0.2s						
ZKR	**Zakros**	**0.82**	**130**	Pg	**Pn**	**12 24 09.8**	**+1.5**
ZKR	**Zakros**	**0.82**	**130**	P	**Pn**	**12 24 09.9**	**+1.6**
ZKR				S	**Sn**	**12 24 22.6**	**+2.0**
	comp=N,712nm,0.4s						
ZKR	**Zakros**	**0.82**	**130**	P	**Pn**	**12 24 09.7**	**+1.4**
ZKR				S	**Sn**	**12 24 21.9**	**+1.3**
ZKR				AML	AML	12 24 24.5	
	comp=N,959μm,0.3s						
ZKR				AML	AML	12 24 28.6	
	comp=E,1882μm,0.4s						
CHAN	**Chania**	**1.15**	**264**	P	**Pn**	**12 24 11.9**	**-0.3**
CHAN				S	**Sn**	**12 24 26.5**	**-1.2**
CHAN				AML	AML	12 24 30.4	
	comp=E,2792μm,0.5s						
CHAN				AML	AML	12 24 30.5	
	comp=N,2794μm,0.3s						
IMMV	**Iera Moni Meta**	**1.21**	**261**	Pn	**Pn**	**12 24 12.9**	**-0.1**
IMMV				Sn	**Sn**	**12 24 28.2**	**-0.8**
IMMV	**Iera Moni Meta**	**1.21**	**261**	P	**Pn**	**12 24 13.0**	**-0.1**
IMMV				S	**Sn**	**12 24 27.8**	**-1.2**
	comp=N,1μm,0.4s						
IMMV	**Iera Moni Meta**	**1.21**	**261**	P	**Pn**	**12 24 13.1**	**+0.1**
IMMV				S	**Sn**	**12 24 28.0**	**-1.1**
IMMV				AML	AML	12 24 33.2	
	comp=E,2538μm,0.3s						
IMMV				AML	AML	12 24 36.5	
	comp=N,2176μm,0.4s						
MHLO	**Agia Marina, M**	**1.34**	**321**	P	**Pn**	**12 24 14.5**	**-0.2**
MHLO				S	**Sn**	**12 24 30.7**	**-1.2**
	comp=N,4μm,0.4s						
MHLO	**Agia Marina, M**	**1.34**	**321**	P	**Pn**	**12 24 14.4**	**-0.2**
MHLO				S	**Sn**	**12 24 30.1**	**-1.8**
MHLO				AML	AML	12 24 36.3	
	comp=E,8097μm,0.4s						
MHLO				AML	AML	12 24 37.5	
	comp=N,6989μm,0.6s						
GVD	**Gavdhos**	**1.38**	**234**	Pn	**Pn**	**12 24 16.0**	**+0.8**
GVD	**Gavdhos**	**1.38**	**234**	P	**Pn**	**12 24 15.9**	**+0.8**
GVD				S	**Sn**	**12 24 33.0**	**+0.2**
	comp=N,778nm,0.5s						
GVD	**Gavdhos**	**1.38**	**234**	P	**Pn**	**12 24 16.1**	**+0.8**
GVD				AML	AML	12 24 43.4	
	comp=N,1664μm,0.5s						
GVD				AML	AML	12 24 47.4	
	comp=E,1440μm,0.6s						
RODP	**Rodopos**	**1.38**	**267**	Pn	**Pn**	**12 24 15.4**	**+0.2**
RODP	**Rodopos**	**1.38**	**267**	P	**Pn**	**12 24 15.1**	**-0.1**
RODP				S	**Sn**	**12 24 31.3**	**-1.6**
	comp=E,300nm,0.6s						
KARP	**Karpathos**	**1.40**	**94**	Pn	**Pn**	**12 24 16.7**	**+1.2**
KARP				Sn	**Sn**	**12 24 35.2**	**+1.8**
KARP	**Karpathos**	**1.40**	**94**	P	**Pn**	**12 24 16.3**	**+0.8**
KARP				S	**Sn**	**12 24 34.6**	**+1.2**
	comp=E,1μm,0.4s						
KARP	**Karpathos**	**1.40**	**94**	P	**Pn**	**12 24 16.5**	**+1.0**
KARP				S	**Sn**	**12 24 34.8**	**+1.4**
KARP				AML	AML	12 24 38.7	
	comp=E,3005μm,0.4s						
KARP				AML	AML	12 24 39.6	
	comp=N,1990μm,0.2s						
APE	**Apeiranthos**	**1.42**	**3**	Pn	**Pn**	**12 24 15.3**	**-0.4**
APE				Sn	**Sn**	**12 24 32.6**	**-1.2**
APE	**Apeiranthos**	**1.42**	**3**	P	**Pn**	**12 24 15.6**	**-0.1**
APE				S	**Sn**	**12 24 32.9**	**-0.9**
	comp=N,405nm,0.4s						
APE	**Apeiranthos**	**1.42**	**3**	P	**Pn**	**12 24 15.7**	**0.0**
APE	**Apeiranthos**	**1.42**	**3**	P	**Pn**	**12 24 15.6**	**-0.1**
APE				S	**Sn**	**12 24 32.7**	**-1.1**
APE				AML	AML	12 24 33.7	
	comp=N,789μm,0.2s						
APE				AML	AML	12 24 35.7	
	comp=E,725μm,0.4s						
NISR	**Nisiros**	**1.66**	**54**	P	**Pn**	**12 24 19.7**	**+0.8**
NISR				S	**Sn**	**12 24 40.7**	**+1.2**
	comp=E,932nm,0.3s						
NISR	**Nisiros**	**1.66**	**54**	P	**Pn**	**12 24 19.7**	**+0.8**
NISR				S	**Sn**	**12 24 40.1**	**+0.5**
ANKY	**Antikythira Is**	**1.76**	**278**	P	**Pn**	**12 24 19.8**	**-0.4**
ANKY				S	**Sn**	**12 24 40.0**	**-1.8**
	comp=E,508nm,0.8s						
ANKY	**Antikythira Is**	**1.76**	**278**	P	**Pn**	**12 24 19.9**	**-0.3**
ANKY				S	**Sn**	**12 24 40.2**	**-1.6**
ANKY				AML	AML	12 24 47.6	
	comp=E,933μm,0.5s						
ANKY				AML	AML	12 24 51.2	
	comp=N,1008μm,0.7s						
KLNA	**Kalymnos**	**1.79**	**43**	P	**Pn**	**12 24 21.3**	**+0.6**
YAZI	**Mula-Dat§a-**	**1.92**	**57**	P	**Pn**	**12 24 22.9**	**+0.6**
YAZI				S	**Sn**	**12 24 45.5**	**-0.2**
DAT	**Datca**	**2.03**	**57**	Pn	**Pn**	**12 24 24.6**	**+0.7**
DAT				Sn	**Sn**	**12 24 48.9**	**+0.4**
DAT	**Datca**	**2.03**	**57**	P	**Pn**	**12 24 24.8**	**+0.9**
DAT				S	**Sn**	**12 24 48.9**	**+0.4**
DAT	**Datca**	**2.03**	**57**	P	**Pn**	**12 24 24.7**	**+0.7**
DAT				S	**Sn**	**12 24 48.7**	**+0.2**
DAT				*i* AML	AML	12 24 49.0	
	comp=N,179nm,0.4s						
BODT	**Bodrum**	**2.06**	**46**	Pn	**Pn**	**12 24 24.8**	**+0.6**
BODT				Sn	**Sn**	**12 24 49.3**	**+0.3**
BODT	**Bodrum**	**2.06**	**46**	P	**Pn**	**12 24 24.9**	**+0.7**
BODT				S	**Sn**	**12 24 48.9**	**-0.1**
MNVA	**Monemvasia**	**2.21**	**299**	P	**Pn**	**12 24 26.9**	**+0.7**
ARG	**Arkhangelos**	**2.25**	**75**	Pn	**Pn**	**12 24 28.1**	**+1.4**
ARG				Sn	**Sn**	**12 24 54.9**	**+1.4**
ARG	**Arkhangelos**	**2.25**	**75**	P	**Pn**	**12 24 28.1**	**+1.4**
ARG				S	**Sn**	**12 24 54.2**	**+0.7**
ARG	**Arkhangelos**	**2.25**	**75**	P	**Pn**	**12 24 28.0**	**+1.4**
ARG				AML	AML	12 24 56.7	
	comp=E,1693μm,0.3s						
ARG				AML	AML	12 24 57.2	
	comp=N,770μm,0.3s						
VLI	**Veliai**	**2.29**	**298**	P	**Pn**	**12 24 27.0**	**-0.4**
VLI				S	**Sn**	**12 24 52.0**	**-2.7**
VLI	**Veliai**	**2.29**	**298**	P	**Pn**	**12 24 27.3**	**-0.1**
SMG	**Samos**	**2.34**	**28**	P	**Pn**	**12 24 28.4**	**+0.4**
SMG				S	**Sn**	**12 24 56.0**	**+0.3**
SMG	**Samos**	**2.34**	**28**	P	**Pn**	**12 24 28.2**	**+0.2**
MLSB	**Milas**	**2.49**	**48**	Pn	**Pn**	**12 24 30.9**	**+0.8**
MLSB				Sn	**Sn**	**12 24 59.9**	**+0.4**
GCAM	**G?zelcaml?**	**2.50**	**35**	P	**Pn**	**12 24 29.4**	**-0.7**
GCAM				S	**Sn**	**12 24 59.2**	**-0.4**
GCAM				*i* AML	AML	12 25 07.0	
	comp=N,88nm,1.0s						
TURN	**Turunc**	**2.52**	**63**	Pn	**Pn**	**12 24 31.7**	**+1.3**
TURN				Sn	**Sn**	**12 25 01.1**	**+0.9**
TURN	**Turunc**	**2.52**	**63**	P	**Pn**	**12 24 32.1**	**+1.6**
TURN				S	**Sn**	**12 25 01.8**	**+1.6**
KRND	**KRANIDI**	**2.53**	**314**	P	**Pn**	**12 24 31.0**	**+0.4**
KRND	**KRANIDI**	**2.53**	**314**	P	**Pn**	**12 24 31.2**	**+0.6**
ATH	**Athens Observa**	**2.70**	**330**	P	**Pn**	**12 24 33.6**	**+0.8**
DION	**Dionisos Attik**	**2.71**	**334**	P	**Pn**	**12 24 34.5**	**+1.5**
DION				S	**Sn**	**12 25 04.5**	**-0.3**
DION	**Dionisos Attik**	**2.71**	**334**	P	**Pn**	**12 24 34.5**	**+1.5**
PTL	**Penteli**	**2.71**	**333**	P	**Pn**	**12 24 34.4**	**+1.4**
CHOS	**Chios island**	**2.77**	**10**	P	**Pn**	**12 24 35.1**	**+1.2**
MULA	**Mugla, Merkez-**	**2.81**	**54**	P	**Pn**	**12 24 35.5**	**+1.0**
MULA				S	**Sn**	**12 25 09.9**	**+2.5**
DALY	**Dalyan (Mula)**	**2.84**	**65**	Pn	**Pn**	**12 24 36.2**	**+1.5**
LTK	**Loutraki**	**3.09**	**321**	P	**Pn**	**12 24 38.7**	**+0.4**
VIL2	**Platees**	**3.10**	**326**	P	**Pn**	**12 24 37.8**	**-0.5**
FETY	**Fethiye**	**3.10**	**70**	Pn	**Pn**	**12 24 40.0**	**+1.7**
FETY	**Fethiye**	**3.10**	**70**	P	Pn	12 24 43.0	+4.7
FETY				S	**Sn**	**12 25 15.0**	**+0.7**
IZZE	**Mula-Seydike**	**3.16**	**75**	P	**Pn**	**12 24 40.4**	**+1.3**
IZZE				S	**Sn**	**12 25 14.4**	**-1.2**
ESEN	**Aydn-Nazilli**	**3.17**	**47**	P	**Pn**	**12 24 41.5**	**+2.3**
ESEN				S	Sn	12 25 04.7	-11
KYMI	**Kymi, Euboea I**	**3.17**	**340**	P	**Pn**	**12 24 40.0**	**+0.8**
PYL	**PYLOS**	**3.24**	**294**	P	**Pn**	**12 24 39.7**	**-0.5**
DNZT	**Denizli-Tavas-**	**3.31**	**60**	P	**Pn**	**12 24 44.4**	**+3.2**
DNZT				S	**Sn**	**12 25 20.8**	**+1.4**
TAVA	**DENIZLI_Tavas**	**3.33**	**56**	P	**Pn**	**12 24 43.8**	**+2.3**
TAVA				S	**Sn**	**12 25 19.0**	**-0.8**
CAME	**Cameli-Denizli**	**3.37**	**66**	Pn	**Pn**	**12 24 44.3**	**+2.2**
CAME				Sn	**Sn**	**12 25 21.5**	**+0.5**
GUR	**Goura**	**3.38**	**313**	P	**Pn**	**12 24 41.9**	**-0.3**
GUR				S	**Sn**	**12 25 20.5**	**-0.7**
GUR	**Goura**	**3.38**	**313**	P	**Pn**	**12 24 42.5**	**+0.3**
KSL	**Kastellorizon**	**3.39**	**80**	P	**Pn**	**12 24 43.9**	**+1.6**
AKAS	**Kas**	**3.42**	**79**	Pn	**Pn**	**12 24 44.7**	**+1.9**
AKAS	**Kas**	**3.42**	**79**	P	**Pn**	**12 24 43.8**	**+1.0**
AKAS				S	**Sn**	**12 25 21.8**	**-0.5**
AKAS				*i* AML	AML	12 25 28.0	
	comp=N,75nm,0.4s						
DNIZ	**Denizli-Tavas-**	**3.50**	**55**	P	**Pn**	**12 24 45.6**	**+1.9**
DNIZ				S	**Sn**	**12 25 24.3**	**+0.3**
DNIZ				*i* AML	AML	12 25 34.0	
	comp=N,50nm,0.4s						
KNIK	**Mula-Seydike**	**3.54**	**69**	P	**Pn**	**12 24 48.2**	**+3.8**
KNIK				S	**Sn**	**12 25 23.5**	**-1.6**
KLV	**Kalavryta, Ach**	**3.56**	**313**	P	**Pn**	**12 24 44.9**	**+0.3**
APMY	**Acipayam-Deniz**	**3.59**	**59**	Pn	**Pn**	**12 24 46.3**	**+1.2**
GOLH	**Golhisar**	**3.67**	**63**	P	**Pn**	**12 24 48.2**	**+2.0**
GOLH				S	**Sn**	**12 25 28.9**	**+0.5**
GOLH				*i* AML	AML	12 25 38.0	
	comp=N,64nm,0.7s						
ELL	**Elmali**	**3.77**	**72**	Pn	**Pn**	**12 24 49.7**	**+2.2**
DRO	**Drossia**	**3.78**	**309**	P	**Pn**	**12 24 48.6**	**+1.1**
EFP	**Efpalio**	**3.96**	**315**	P	**Pn**	**12 24 51.4**	**+1.4**
AKUM	**Antalya-Kumluc**	**4.03**	**79**	P	**Pn**	**12 24 51.7**	**+0.8**
AKUM				S	**Sn**	**12 25 35.1**	**-1.7**
KORT	**Korkueli**	**4.18**	**70**	Pn	**Pn**	**12 24 54.9**	**+1.8**
KORT	**Korkueli**	**4.18**	**70**	P	**Pn**	**12 24 56.1**	**+2.9**
KORT				S	**Sn**	**12 25 36.8**	**-4.0**
PASA	**Karahalli, USA**	**4.21**	**49**	P	**Pn**	**12 24 54.6**	**+1.2**
PASA				S	**Sn**	**12 25 40.3**	**-1.0**
KEPZ	**Antalya-Kepez**	**5.13**	**74**	P	**Pn**	**12 25 06.8**	**+0.8**
KEPZ				S	**Sn**	**12 26 00.8**	**-3.0**
KEPZ				*i* AML	AML	12 26 10.0	
	comp=N,16nm,0.9s						
SEDI	**Konya, Seydise**	**5.38**	**69**	P	**Pn**	**12 25 12.1**	**+2.5**
SEDI				S	**Sn**	**12 26 08.7**	**-1.6**
SEDI				*i* AML	AML	12 26 15.0	
	comp=N,12nm,0.5s						
GAZI	**Gazipasa**	**5.60**	**82**	P	**Pn**	**12 25 11.9**	**-0.5**
GAZI				S	**Sn**	**12 26 08.5**	**-6.9**
CSS	**Mathiatis**	**6.48**	**94**	P	Pn	12 25 16.6	-7.8
BRTR	**Keskin Array B**	**7.66**	**56**	P	**Pn**	**12 25 40.8**	**+0.1**
	comp=N,0.6nm,0.8s,baz=242,slow=11,SNR=2.2						
BRTR				S	**Sn**	**12 27 08.2**	**+2.3**
	comp=N,0.8nm,0.8s,baz=245,slow=24,SNR=2.5						
MMA0B	**Mount Meron ar**	**8.64**	**105**	P	Pn	**12 25 51.9**	**-2.1**
MMA0B	**Mount Meron ar**	**8.64**	**105**	S	Sn	12 27 22.2	-7.7
MMAI	**Mount Meron Ar**	**8.64**	**105**	P	**Pn**	**12 25 51.8**	**-2.3**
	comp=N,1.5nm,0.3s,baz=294,slow=14,SNR=7.9						
MMAI				S	**Sn**	**12 27 24.8**	**-5.2**
	comp=N,1.3nm,0.3s,baz=328,slow=24,SNR=7.2						
GEM	**Giv'at Ha'Em**	**8.78**	**103**	P	**Pn**	**12 25 53.9**	**-2.0**
KZIT	**Kziot**	**8.86**	**120**	S	**Sn**	**12 27 31.5**	**-3.7**
KZIT	**Kziot**	**8.86**	**120**	P	**Pn**	**12 25 54.6**	**-2.4**
KSHT	**Keshet**	**8.97**	**104**	P	Pn	12 25 54.3	-4.2
YTIR	**Yattir**	**9.13**	**115**	P	**Pn**	**12 25 58.0**	**-2.8**
DSI	**Dead Sea**	**9.23**	**113**	S	**Sn**	**12 27 38.2**	**-5.9**
DSI	**Dead Sea**	**9.23**	**113**	P	**Pn**	**12 25 59.1**	**-2.9**
MSBI	**Mazada**	**9.34**	**115**	P	**Pn**	**12 26 02.2**	**-1.3**
PRNI	**Paran**	**9.61**	**121**	P	**Pn**	**12 26 04.2**	**-2.9**
EIL	**Elat**	**9.98**	**124**	P	**Pn**	**12 26 09.9**	**-2.3**
	comp=N,1.9nm,0.3s,baz=312,slow=16,SNR=12						
EIL				S	Sn	12 27 55.0	-7.6
	comp=N,5.8nm,0.3s,baz=24,slow=19,SNR=1.3						
AKASG	**Malin Array Be**	**15.29**	**9**	P	**Pn**	**12 27 25.6**	**+2.5**
	comp=N,0.5nm,0.3s,baz=201,slow=11,SNR=13						
ESDC	**Sonseca Array**	**23.58**	**289**	P	**P**	**12 28 55.6**	**-0.2**
	comp=N,0.5nm,0.6s,baz=93,slow=11,SNR=2.2						
	comp=N,0.5nm,0.6s						
TORD	**Torodi Ar. Bea

CEPE Semis' Perret 4.18 274 Pn Pn 12 44 35.0 +1.1
AMKA Amchitka 4.45 266 Pn Pn 12 44 39.5 +1.9
MAPS Pakushin South 4.47 62 Pn 12 44 41.4 +3.5
MGOD Makushin Gods 4.50 62 Pn 12 44 41.6 +3.3
MNAT Makushin Natee 4.64 62 Pn 12 44 43.6 +3.5
UNV Unalaska Valle 4.72 63 Pn 12 44 44.9 +3.7
UNV Unalaska Valle 4.72 63 P Pn 12 44 44.9 +3.7
ZRO Akutan Zero 5.10 61 Pn 12 44 50.7 +4.2
AKBBA Akutan Broad B 5.13 61 Pn 12 44 51.0 +4.2
AKUT Akutan 5.23 61 Pn Pn 12 44 53.2 +5.0
AKUT Akutan 5.23 61 P Pn 12 44 51.2 +3.0
P08K Saint George I 5.28 25 Pn 12 44 51.0 +2.1
ISNN Isanotski Nort 6.57 60 Pn 12 45 10.1 +3.4
S12K Black Hills 7.82 56 Pn Pn 12 45 27.4 +3.7
SDPT Sand Point 8.53 61 Pn Pn 12 45 34.5 +1.1
SDPT Sand Point 8.53 61 P Pn 12 45 34.8 +1.4
CHGN Chignik 9.95 58 Pn Pn 12 45 53.8 +1.1
O14K Tigyukauivet M 10.14 39 Pn Pn 12 45 58.3 +2.9
N15K Kwethluk River 11.20 37 Pn Pn 12 46 12.2 +2.4
O16K Kokwok River B 11.63 42 Pn Pn 12 46 17.9 +2.2
L16K Owhat River 12.49 33 Pn Pn 12 46 29.5 +2.2
N17K Nushagak Hills 12.55 40 Pn P 12 46 33.1 -5.0
P18K Big Mountain, 12.78 47 Pn P 12 46 36.6 -4.1
OHAK Old Harbor 12.92 58 P Pn 12 46 33.1 -0.1
O18K Koktuh Hills 13.01 45 Pn P 12 46 39.5 -3.8
L19K White Mountain 14.44 37 P P 12 46 58.9 -0.2
HOM Homer 14.54 49 P Pn 12 46 57.1 +2.1
H17K Granite Mounta 14.86 23 P Pn 12 47 00.3 +1.1
CAST Castle Rocks 16.20 36 P 12 47 18.8 +0.2
KTH Kantishna Hill 16.71 37 P 12 47 23.7 -0.6
KTH IAmb IAmb 12 47 27.9
comp=Z,9.8nm,1.3s
TRF Thorofare Moun 16.89 38 P Pn 12 47 25.2 +0.2
TRF IAmb IAmb 12 47 25.9
comp=Z,7.8nm,1.4s
BPAW Bear Paw Mtn. 16.99 35 P 12 47 27.7 +0.3
HIN Hinchinbrook I 17.22 50 P Pn 12 47 27.3 -1.8
I21K Tanana 17.32 31 P Pn 12 47 30.1 -0.1
IMAR Indian Mountai 17.32 28 P Pn 12 47 30.4 +0.2
SCM Sheep Creek Mo 17.34 45 P Pn 12 47 28.7 -2.0
SCM IAmb IAmb 12 47 57.6
comp=Z,8.9nm,1.2s
RND Reindeer 17.42 39 P Pn 12 47 29.8 -1.7
E19K Redstone River 17.56 21 P Pn 12 47 32.7 -0.5
MLY Manley 17.64 33 P 12 47 35.3 +0.9
MLY IAmb IAmb 12 47 38.3
comp=Z,4.1nm,0.8s
C18K Utukok River 17.83 15 P Pn 12 47 36.0 -0.5
KLU Klutina 17.84 47 P Pn 12 47 36.0 -0.8
KLU IAmb IAmb 12 47 57.9
comp=Z,5.9nm,1.2s
DHY Denali Highway 17.85 41 P Pn 12 47 35.2 -1.7
DHY IAmb IAmb 12 47 39.1
comp=Z,5.1nm,1.0s
M24K Tolsona, Glenn 17.95 45 P Pn 12 47 36.5 -1.6
M24K IAmb IAmb 12 48 00.9
comp=Z,10nm,1.0s
NEA2 Nenana 17.96 36 P Pn 12 47 36.7 -1.4
RAGM Ragged Mountai 18.09 51 P P 12 47 38.1 -1.4
I23K Minto, Yukon-K 18.18 34 P Pn 12 47 40.9 +0.2
I23K IAmb IAmb 12 47 44.1
comp=Z,3.9nm,0.7s
D19K Kuna River 18.24 18 P P 12 47 40.6 -0.5
HMT Hamilton 18.27 51 P P 12 47 40.6 -0.9
CCB Clear Creek Bu 18.45 36 P P 12 47 41.5 -1.9
CCB IAmb IAmb 12 47 45.1
comp=Z,3.1nm,0.6s
MDM Murphy Dome 18.46 35 P P 12 47 41.7 -1.8
MDM IAmb IAmb 12 48 07.8
comp=Z,8.2nm,1.5s
N25K Chitina, Valde 18.48 47 P P 12 47 42.9 -0.9
HDA Harding Lake 18.65 38 P P 12 47 44.5 -1.1
GLB Gilahina Butte 18.79 48 P P 12 47 45.3 -1.9
IL31 18.85 37 P P 12 47 47.0 -0.7
IL31 IAmb IAmb 12 47 47.7
comp=Z,4.7nm,0.5s
ILAR Eielson Array 18.85 37 P P 12 47 46.3 -1.5
ILAR Eielson Array 18.85 37 P P 12 47 44.9 -2.9
comp=Z,1.1nm,0.3s,baz=232,slow=10,SNR=70
comp=Z,1.9nm,0.5s
VRDI Verde Repeater 18.89 49 P P 12 47 46.2 -2.2
WAX Waxell Ridge 18.98 51 P P 12 47 47.5 -1.8
WAX IAmb IAmb 12 47 51.1
comp=Z,6.8nm,0.8s
H24K Noodor Dome 19.08 33 P P 12 47 49.7 -0.6
H24K IAmb IAmb 12 47 51.5
comp=Z,6.2nm,1.0s
MCARA McCarthy VSAT 19.13 48 P P 12 47 49.7 -1.2
MCARA IAmb IAmb 12 48 02.2
comp=Z,4.3nm,1.0s
ISLE Juniper Island 19.26 51 P P 12 47 50.5 -1.9
ISLE IAmb IAmb 12 48 09.7
comp=Z,5.9nm,1.0s
MENT Mentasta 19.32 44 P P 12 47 52.5 -0.4
J25K Salcha River, 19.35 38 P P 12 47 51.6 -1.7
M26K Nabesna, AK 19.45 45 P P 12 47 52.2 -2.2
SCRK Sand Creek 19.61 41 P 12 47 54.5 -1.7
D22K Ayikyak River 19.73 23 P P 12 47 56.5 -0.8
D22K IAmb IAmb 12 48 30.3
comp=Z,7.4nm,1.2s
M27K Edge Creek, AK 19.93 46 P Pn 12 48 02.0 +0.2
M27K IAmb IAmb 12 48 03.5
comp=Z,5.1nm,0.8s
J26L Joseph Creek 20.00 39 P P 12 47 58.8 -1.6
E24K Your Creek 20.26 27 P P 12 48 03.3 +0.1
E24K IAmb IAmb 12 48 29.8
comp=Z,4.4nm,1.1s
TOLK Toolik Lake Re 20.34 25 P P 12 48 03.4 -0.6
TOLK IAmb IAmb 12 48 04.3
comp=Z,3.2nm,0.8s
K27K Chicken 20.41 41 P P 12 48 03.1 -1.5
K27K IAmb IAmb 12 48 05.0
comp=Z,3.3nm,0.7s
I26K Coal Creek Min 20.50 37 P P 12 48 04.3 -1.4
I26K IAmb IAmb 12 48 04.8
comp=Z,6.8nm,1.2s
D24K Happy Valley 20.89 25 P P 12 48 11.0 +1.1
D24K IAmb IAmb 12 48 30.4
comp=Z,5.8nm,1.2s
C23K Itkillik River 20.94 22 P P 12 48 09.3 -1.0
C23K IAmb IAmb 12 48 12.9
comp=Z,6.1nm,0.9s
EGAK Eagle 21.06 40 P P 12 48 10.3 -1.4
BMAR Burnt Mountain 21.06 31 P P 12 48 11.9 +0.2
SEY Seymchan 21.11 315 P P 12 48 10.9 -1.3
comp=Z,1.5nm,0.6s,baz=110,slow=12,SNR=6.7
MA2 Magadan 21.26 305 LR LR 12 55 23.2
comp=Z,27nm,18.9s,baz=100,slow=34
DAWY Dawson 21.53 42 P P 12 48 16.1 -0.6
DAWY IAmb IAmb 12 48 17.5
comp=Z,3.4nm,0.7s
HYT Haines Junctio 21.64 52 P P 12 48 17.1 -1.0
HYT IAmb IAmb 12 48 26.7
comp=Z,5.6nm,1.3s
I28M Miner Creek 21.79 39 P P 12 48 18.2 -1.4
I28M IAmb IAmb 12 48 42.2
comp=Z,5.4nm,1.1s
J30M Hart River 22.95 42 P P 12 48 30.1 -1.9
J30M IAmb IAmb 12 48 33.5
comp=Z,4.9nm,1.1s
I30M Mount Dempster 23.12 40 P P 12 48 30.9 -2.7
I30M IAmb IAmb 12 48 32.3
comp=Z,3.4nm,0.7s
LTY Liberty 34.00 76 P P 12 50 10.8 0.0
HAWA Hanford 35.10 77 P P 12 50 20.5 +0.2
H11N2 WAKE ISLAND Hy 35.55 213 T T 13 28 32.5
baz=21,slow=76,SNR=17
H11N3 WAKE ISLAND Hy 35.55 213 T T 13 28 32.5
baz=21,slow=76,SNR=20
H11N1 WAKE ISLAND Hy 35.56 213 T T 13 28 32.1
baz=21,slow=76,SNR=22
EDM Edmonton 35.71 63 P P 12 50 24.8 -0.6
H11S1 WAKE ISLAND Hy 36.75 212 T T 13 29 40.6
baz=20,slow=76,SNR=45
H11S2 WAKE ISLAND Hy 36.76 212 T T 13 29 43.1
baz=20,slow=76,SNR=48
H11S3 WAKE ISLAND Hy 36.77 212 T T 13 29 42.2
baz=20,slow=76,SNR=39
MJAR Matsushiro Arr 37.06 265 P P 12 50 36.4 -0.8
comp=Z,1.6nm,0.8s,baz=50,slow=6.6,SNR=8.8
comp=Z,1.6nm,0.8s
LYMT Lyon Mountain 39.13 72 P P 12 50 55.0 +0.3
NVAR Mina Array Bea 40.28 87 P P 12 51 06.0 +1.7
comp=Z,0.7nm,0.8s,baz=293,slow=11,SNR=6.1
comp=Z,0.7nm,0.8s
YHH Holmes Hill 41.14 74 P P 12 51 11.7 +0.2
PD31 Pinedale Array 43.05 76 P P 12 51 27.0 0.0
PDAR Pinedale Array 43.05 76 P P 12 51 27.3 +0.3
comp=Z,3.2nm,0.7s,baz=308,slow=4.3,SNR=23
comp=Z,3.2nm,0.7s
O20A White River Ci 45.41 78 P P 12 51 45.4 -0.4
ULM Lac du Bonnet 46.66 60 P P 12 51 54.0 -1.2
comp=Z,0.7nm,0.3s,baz=313,slow=7.0,SNR=2.7
comp=Z,0.7nm,0.3s
TXAR Lajitas Array 55.37 85 P P 12 53 01.5 +0.5
comp=Z,0.9nm,0.8s,baz=294,slow=4.9,SNR=9.2
comp=Z,0.9nm,0.8s
BVAR Borovoye Array 62.53 322 P P 12 53 47.1 -3.0
comp=Z,1.0nm,0.5s,baz=42,slow=5.9,SNR=7.1
comp=Z,1.0nm,0.5s
BATI Baumata 81.88 242 LR LR 13 36 13.5
comp=Z,40nm,18.6s,baz=293,slow=39

*NEIC **17** 12:48:12.9±2.1,3˚.37N±0˚.09×122˚.43E±0˚.09,h542km±8km, mb4.7/78, Error ellipse: s-maj=14.2km s-min=11.9km az=223.0*
*DJA **17** 12:48:13.2±0.2,3˚N±3˚×12˚3E±˚, h547km±3km, M4.7/66, mb5.0/66, mB5.2/40, MLv5.1/15, Mw(mB)4.6/40, MwMwp5.4/1, Mwp5.6/1*
*IDC **17** 12:48:13.1±0.8,3˚.27N×122˚.45E, h558km±8km, mb3.8/29, mbtmp4.7/30, Error ellipse: s-maj=11.8km s-min=5.7km az=65.0*

ISC 17 12:48:13.2±0.5,3˚.30N±0˚.04×122˚.46E±0˚.06, h556km±6km, n305, σ1§04/329, mb4.6/81, 2C-3D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**2.70**	**168**	P	**P**	**12 49 23.9**	**-3.2**
TOLI2	**Tolitoli**	**2.75**	**218**		**P**	**12 49 25.9**	**-1.5**
TOLI2	**Tolitoli**	**2.75**	**218**	P	**P**	**12 49 25.7**	**-1.6**
MRSI	**Marisa**	**2.85**	**191**	P	**P**	**12 49 26.7**	**-1.2**
SGSI	**Sangihe**	**3.08**	**83**	P	**P**	**12 49 28.5**	**-0.8**
KMSI	**Cibinong**	**3.10**	**151**	P	**P**	**12 49 29.7**	**+0.3**
LUWI	**Luwuk**	**4.32**	**176**	P	**P**	**12 49 35.8**	**-2.3**
LUWI	**Luwuk**	**4.32**	**176**	P	**P**	**12 49 36.1**	**-1.9**
LUWI	**Luwuk**	**4.32**	**176**	P	**P**	**12 49 36.2**	**-1.8**
DAV	**Davao City (W)**	**4.86**	**39**	P	**P**	**12 49 42.2**	**-0.1**
DAV	**Davao City (W)**	**4.86**	**39**	P	**P**	**12 49 43.1**	**+0.8**
	522nm,0.5s,baz=107,slow=2.1,SNR=34						
DAV				S	**S**	**12 50 56.2**	**+1.1**
	119nm,0.3s,baz=278,slow=21,SNR=1.4						
TNTI	**Ternate**	**5.50**	**117**		**P**	**12 49 46.2**	**-1.6**
TNTI	**Ternate**	**5.50**	**117**	P	**P**	**12 49 46.2**	**-1.6**
TNTI	**Ternate**	**5.50**	**117**	P	**P**	**12 49 46.2**	**-1.6**
	205nm,0.8s,4µm2.0nm						
LBMI	**Labuha**	**6.37**	**128**	P	**P**	**12 49 54.2**	**-1.4**
	154nm,0.8s,2µm2.9nm						
SANI	**Sanana**	**6.37**	**146**	P	**P**	**12 49 52.9**	**-2.7**
SANI	**Sanana**	**6.37**	**146**	P	**P**	**12 49 52.9**	**-2.7**
	121nm,0.7s,3µm0.9nm						
SMKI	**Samarinda**	**6.44**	**235**	P	**P**	**12 49 56.8**	**+0.6**
	961nm,1.0s,3.3nm						
KKM	**Kota Kinabalu**	**6.80**	**294**	P	**P**	**12 49 58.7**	**-1.0**
KKM	**Kota Kinabalu**	**6.80**	**294**	P	**P**	**12 49 58.7**	**-1.0**
TTSI	**Tana Toraja**	**6.83**	**203**	P	**P**	**12 50 00.5**	**+0.6**
	455nm,1.0s,4µm1.3nm						
BKB	**Balikpapan**	**7.17**	**231**		**P**	**12 50 04.0**	**+0.9**
BKB	**Balikpapan**	**7.17**	**231**	P	**P**	**12 50 00.9**	**-2.3**
BKB	**Balikpapan**	**7.17**	**231**	P	**P**	**12 50 04.0**	**+0.9**
	1µm,0.9s,9µm4.2nm						
NLAI	**Namlea**	**7.98**	**144**	P	**P**	**12 50 11.6**	**+0.6**
	293nm,0.9s,13µm1.1nm						
MTKI	**Muara Teweh, K**	**8.66**	**241**	P	**P**	**12 50 18.1**	**+0.3**
	164nm,1.4s						
BBSI	**Bau Bau**	**8.73**	**179**	P	**P**	**12 50 19.0**	**+0.6**
	177nm,0.9s,1µm						
BKSI	**Bulukumba**	**8.88**	**195**	P	**P**	**12 50 20.6**	**+0.7**
	67nm,0.8s,540nm						
SWI	**Sorong**	**9.71**	**115**	P	**P**	**12 50 27.9**	**-0.5**
	60nm,0.5s						
BNDI	**Bandanaira**	**10.75**	**136**	P	**P**	**12 50 39.6**	**+0.6**
BNDI	**Bandanaira**	**10.75**	**136**	P	**P**	**12 50 38.7**	**-0.3**
	839nm,0.9s,10µm						
TGY	**Tagaytay City**	**10.84**	**352**	P	**P**	**12 50 40.0**	**0.0**
	221nm,0.4s,baz=180,slow=6.2,SNR=6.1						
STKI	**Sintang**	**11.44**	**254**	P	**P**	**12 50 47.1**	**+1.0**
	310nm,0.8s,13µm						
FAKI	**Fak Fak**	**11.57**	**122**	P	**P**	**12 50 46.9**	**-0.5**
FAKI	**Fak Fak**	**11.57**	**122**	P	**P**	**12 50 47.2**	**-0.2**
FAKI	**Fak Fak**	**11.57**	**122**	P	**P**	**12 50 46.5**	**-0.9**
	61nm,0.4s,889nm						
EDFI	**Ende, Flores**	**11.99**	**184**	P	**P**	**12 50 50.8**	**-1.1**
	94nm,0.6s,1µm						
KSM	**Kuching**	**12.28**	**262**	P	**P**	**12 50 54.4**	**-0.3**
PLAI	**Plampang**	**12.92**	**201**	P	**P**	**12 51 02.0**	**+0.6**
PLAI	**Plampang**	**12.92**	**201**	P	**P**	**12 51 01.6**	**+0.2**
	193nm,0.9s,2µm						
SOEI	**Soe**	**13.09**	**172**	P	**P**	**12 51 03.4**	**+0.1**
SOEI	**Soe**	**13.09**	**172**	P	**P**	**12 51 03.2**	**-0.1**
	121nm,0.7s,1µm						
TWSI	**Taliwang, Sumb**	**13.19**	**205**	P	**P**	**12 51 03.3**	**-0.8**
	115nm,0.8s,860nm						
KMMI	**Kalianget**	**13.33**	**220**	P	**P**	**12 51 05.9**	**+0.3**
	245nm,0.7s,2µm						
BWJI	**Bawean**	**13.36**	**227**	P	**P**	**12 51 06.1**	**+0.2**
	612nm,1.1s						
SRBI	**Singaraja**	**13.42**	**213**	P	**P**	**12 51 06.6**	**+0.1**
	158nm,1.2s,1µm						
BATI	**Baumata**	**13.47**	**175**	P	**P**	**12 51 06.5**	**-0.5**
	325nm,0.4s,baz=66,slow=2.2,SNR=74						
BATI				S	**S**	**12 53 30.2**	**+0.1**
	112nm,0.9s,baz=45,slow=22,SNR=18						
BATI	**Baumata**	**13.47**	**175**	P	**P**	**12 51 06.4**	**-0.6**
	447nm,0.9s,7µm						
BASI	**Baing, Sumba**	**13.56**	**188**	P	**P**	**12 51 06.6**	**-1.3**
	111nm,0.6s						
ABJI	**Asem Bagus**	**13.74**	**217**	P	**P**	**12 51 09.8**	**0.0**
	250nm,0.7s,2µm						
BLJI	**Banyuglugur**	**14.09**	**219**	P	**P**	**12 51 13.0**	**-0.4**
	133nm,0.7s						
SAUI	**Saumlaki**	**14.26**	**142**	P	**P**	**12 51 15.3**	**+0.1**
SAUI	**Saumlaki**	**14.26**	**142**	P	**P**	**12 51 16.4**	**+1.3**
SAUI	**Saumlaki**	**14.26**	**142**	P	**P**	**12 51 14.6**	**-0.5**
	194nm,1.0s						
JAGI	**Jajag, Banyuwa**	**14.33**	**215**	P	**P**	**12 51 16.2**	**+0.4**
JAGI	**Jajag, Banyuwa**	**14.33**	**215**	P	**P**	**12 51 17.6**	**+1.7**
JAGI	**Jajag, Banyuwa**	**14.33**	**215**	P	**P**	**12 51 15.6**	**-0.3**
	134nm,1.0s,2µm						
GMJI	**Gumukmas**	**14.60**	**218**	P	**P**	**12 51 18.5**	**-0.1**
	309nm,1.1s						
NGJI	**Ngawi**	**15.26**	**226**	P	**P**	**12 51 26.0**	**+0.7**
	171nm,0.9s						
PWJI	**Pagerwojo**	**15.48**	**223**	P	**P**	**12 51 26.7**	**-0.8**
	93nm,0.6s						
UGM	**Wanagama**	**16.31**	**227**	P	**P**	**12 51 35.9**	**+0.3**
UGM	**Wanagama**	**16.31**	**227**	P	**P**	**12 51 36.5**	**+0.9**
	168nm,1.3s						
KPJI	**Karang Pucung**	**17.14**	**232**	P	**P**	**12 51 44.4**	**+1.3**
	308nm,1.0s,3µm						
JCJI	**Jatiwangi**	**17.19**	**236**	P	**P**	**12 51 45.9**	**+2.4**
	408nm,1.7s,7µm						
PPBI	**Pangkal Pinang**	**17.20**	**252**	P	**P**	**12 51 45.6**	**+2.0**
	129nm,0.9s,4µm						
DRS	**Darwin Rock St**	**17.73**	**152**	P	**P**	**12 51 49.3**	**+0.8**
CMJI	**Cimerak**	**17.80**	**232**	P	**P**	**12 51 49.6**	**+0.5**
	175nm,1.2s						
LEM	**Lembang**	**17.91**	**236**	P	**P**	**12 51 52.4**	**+2.0**
	138nm,0.8s,baz=66,slow=8.3,SNR=33						
LEM	**Lembang**	**17.91**	**236**	P	**P**	**12 51 51.9**	**+1.6**
	246nm,1.1s,3µm						
TPRI	**Tanjung Pinang**	**18.08**	**263**	P	**P**	**12 51 53.6**	**+1.9**
	312nm,1.1s,5µm						
MTN	**Manton Dam**	**18.20**	**152**	P	**P**	**12 51 51.8**	**-0.9**
	baz=18,SNR=259						
MTN	**Manton Dam**	**18.20**	**152**	P	**P**	**12 51 53.2**	**+0.5**
MTN	**Manton Dam**	**18.20**	**152**	P	**P**	**12 51 52.8**	**0.0**
BBJI	**Bungbulang**	**18.24**	**234**	P	**P**	**12 51 54.0**	**+0.7**
DSRI	**Dabo**	**18.27**	**258**	P	**P**	**12 51 55.0**	**+1.6**
	67nm,0.9s						
CBJI	**Citeko**	**18.34**	**238**	P	**P**	**12 51 57.2**	**+3.2**
	390nm,1.0s						
DBJI	**Dramaga**	**18.49**	**238**	P	**P**	**12 51 56.2**	**+0.7**
	93nm,1.2s,10µm						
MYKOM	**Kota Tinggi**	**18.66**	**266**	P	**P**	**12 51 57.8**	**+0.8**
KDU	**Kakadu**	**18.74**	**148**	P	**P**	**12 51 56.6**	**-1.1**
	baz=19,SNR=119						
KDU	**Kakadu**	**18.74**	**148**	P	**P**	**12 51 57.1**	**-0.5**
JAY	**Jayapura**	**19.12**	**107**	P	**P**	**12 52 01.3**	**0.0**
	32nm,0.8s						
TWGBT	**Beinan**	**19.45**	**356**	P	**P**	**12 52 05.8**	**+1.8**
TWG	**Pinlang**	**19.45**	**356**	P	**P**	**12 52 04.5**	**+0.4**
KNRA	**Kununurra**	**19.86**	**162**	P	**P**	**12 52 07.3**	**-0.5**
	baz=20,SNR=64						
KNRA	**Kununurra**	**19.86**	**162**	P	**P**	**12 52 08.4**	**+0.6**
KNRA	**Kununurra**	**19.86**	**162**	P	**P**	**12 52 07.8**	**0.0**
TPUB	**Ta-pu**	**19.96**	**355**	P	**P**	**12 52 08.9**	**+0.2**
TPUB	**Ta-pu**	**19.96**	**355**	P	**P**	**12 52 09.4**	**+0.7**
YULB	**Yu-li**	**20.01**	**357**	P	**P**	**12 52 08.0**	**-1.1**
YULB	**Yu-li**	**20.01**	**357**	P	**P**	**12 52 09.1**	**0.0**
LWLI	**Liwa**	**20.16**	**246**	P	**P**	**12 52 11.2**	**+0.5**
	271nm,1.0s,5µm						
LHSI	**Lahat**	**20.21**	**250**	P	**P**	**12 52 11.5**	**+0.4**
	82nm,1.0s						
SSLB	**Suanglung**	**20.42**	**356**	P	**P**	**12 52 12.1**	**-0.8**
SSLB				IAmb	IAmb	12 52 16.9	
	comp=Z,30nm,0.9s						
SSLB	**Suanglung**	**20.42**	**356**	P	**P**	**12 52 13.3**	**+0.4**
TABU	**Tabubil**	**20.58**	**114**	P	**P**	**12 52 16.4**	**+1.9**
YHNB	**Yeheng**	**21.27**	**357**	P	**P**	**12 52 22.7**	**+2.1**
IPM	**Ipoh**	**21.42**	**274**	P	**P**	**12 52 22.0**	**0.0**
IPM	**Ipoh**	**21.42**	**274**	P	**P**	**12 52 24.1**	**+2.1**
FITZ	**Fitzroy Crossi**	**21.49**	**172**	P	**P**	**12 52 21.9**	**-0.6**
	baz=22,SNR=34						
KULM	**Kulim**	**21.84**	**276**	P	**P**	**12 52 25.3**	**-0.5**
KULM				IAmb	IAmb	12 52 27.7	
	comp=Z,30nm,0.9s						
PDSI	**Padang**	**22.39**	**260**	P	**P**	**12 52 31.4**	**+0.7**
	comp=Z,45nm,0.7s						
SISI	**Saibi**	**23.81**	**259**	P	**P**	**12 52 43.8**	**+0.4**
	comp=Z,94nm,0.8s,comp=Z,1µm						
PBSI	**Pulau Batu**	**24.40**	**263**	P	**P**	**12 52 49.3**	**+0.7**
	comp=Z,44nm,0.8s						
MBWA	**Marble Bar**	**24.45**	**186**	P	**P**	**12 52 48.2**	**-0.7**
KCSI	**Kotacane, Aceh**	**24.65**	**271**	P	**P**	**12 52 51.1**	**+0.3**
	comp=Z,65nm,1.1s						
PSA00	**Pilbara Seismi**	**24.85**	**186**	P	**P**	**12 52 52.1**	**-0.3**
PSA00				IAmb	IAmb	12 52 54.1	
	comp=Z,44nm,1.4s						
PSA00	**Pilbara Seismi**	**24.85**	**186**	P	**P**	**12 52 52.7**	**+0.3**
GSI	**Gunungsitoli**	**24.95**	**266**	P	**P**	**12 52 53.5**	**+0.1**
GSI	**Gunungsitoli**	**24.95**	**266**	P	**P**	**12 52 53.8**	**+0.4**
GSI	**Gunungsitoli**	**24.95**	**266**	P	**P**	**12 52 53.4**	**0.0**
	comp=Z,142nm,0.8s,comp=Z,2µm						
WB0	**Warramunga Arr**	**25.75**	**153**	P	**P**	**12 52 59.2**	**-1.1**
WRAB	**Tennant Creek**	**25.87**	**154**	P	**P**	**12 53 00.4**	**-1.1**
WRA	**Warramunga Arr**	**25.88**	**154**	P	**P**	**12 52 59.7**	**-1.8**
WRA	**Warramunga Arr**	**25.88**	**154**	P	**P**	**12 53 00.0**	**-1.5**
	comp=Z,23nm,0.5s,baz=336,slow=9.5,SNR=655						
WRA				PcP	**PcP**	**12 56 11.2**	**-0.6**
	comp=Z,2.7nm,0.7s,baz=315,slow=2.5,SNR=5.2						
WRA				S	**S**	**12 56 48.3**	**-4.5**
	comp=Z,2.5nm,0.8s,baz=336,slow=15,SNR=4.9						
WRA				ScP	**ScP**	**12 58 58.2**	**-0.9**
	comp=Z,2.9nm,0.7s,baz=337,slow=3.1,SNR=8.4						
	comp=Z,23nm,0.5s						
WB2	**Warramunga Arr**	**25.88**	**154**	P	**P**	**12 53 00.6**	**-0.9**
WB1	**Warramunga Ar.**	**25.89**	**154**	P	**P**	**12 53 01.4**	**-0.3**
WR0	**Warramunga Arr**	**25.98**	**153**	P	**P**	**12 53 01.3**	**-1.1**
MLSI	**Meulaboh, Aceh**	**26.02**	**273**	P	**P**	**12 53 02.9**	**0.0**
	comp=Z,59nm,0.6s						
SNSI	**Sinabang, Aceh**	**26.12**	**269**	P	**P**	**12 53 04.4**	**+0.6**
	comp=Z,137nm,1.0s						
COEN	**Coen**	**26.76**	**130**	P	**P**	**12 53 08.0**	**-1.3**
	baz=27,SNR=18						
COEN	**Coen**	**26.76**	**130**	P	**P**	**12 53 08.0**	**-1.3**
COEN				IAmb	IAmb	12 53 12.3	
	comp=Z,16nm,1.2s						
COEN	**Coen**	**26.76**	**130**	P	**P**	**12 53 09.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**27.52**	**305**	P	**P**	**12 53 16.9**	**+1.0**
	comp=Z,3.0nm,0.8s,baz=135,slow=8.0,SNR=15						
CMAR				PcP	**PcP**	**12 56 15.5**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=178,slow=1.6,SNR=9.2						
CMAR				ScP	**ScP**	**12 59 04.8**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=157,slow=1.9,SNR=9.7						
	comp=Z,3.0nm,0.8s						
GYA	**Guiyang**	**27.56**	**328**	*e*P	**P**	**12 53 16.9**	**+0.5**
GYA				pmax	pmax		
	comp=Z,16nm,0.6s						
GYA				pmax	pmax		
	comp=Z,160nm,5.0s						
PMG	**Port Moresby**	**27.66**	**117**	P	**P**	**12 53 16.0**	**-1.2**
PMG				IAmb	IAmb	12 53 17.8	
	comp=Z,26nm,0.8s						
PMG	**Port Moresby**	**27.66**	**117**	P	**P**	**12 53 17.0**	**-0.2**
PMG	**Port Moresby**	**27.66**	**117**	P	**P**	**12 53 16.7**	**-0.5**
	comp=Z,13nm,0.6s,baz=25,slow=6.8,SNR=8.8						
	comp=Z,13nm,0.6s						
WHN	**Wuhan**	**28.16**	**345**	⇓P	**P**	**12 53 23.3**	**+1.9**
WHN				pmax	pmax		
	comp=Z,38nm,0.7s						
WRKA	**Warakurna**	**28.73**	**169**	P	**P**	**12 53 25.8**	**-0.6**
	baz=29,SNR=153						
WRKA	**Warakurna**	**28.73**	**169**	P	**P**	**12 53 26.2**	**-0.3**
NJ2	**Nanjing**	**28.80**	**354**	⇓P	**P**	**12 53 28.4**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
AS31	**Alice Springs**	**29.03**	**158**	P	**P**	**12 53 28.4**	**-0.6**
ASAR	**Alice Springs**	**29.03**	**158**	P	**P**	**12 53 28.2**	**-0.8**
	comp=Z,10nm,0.5s,baz=326,slow=8.6,SNR=359						
ASAR				PcP	**PcP**	**12 56 19.0**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=337,slow=1.6,SNR=5.7						
ASAR				S	**S**	**12 57 41.0**	**-0.9**
	comp=Z,3.9nm,0.8s,baz=331,slow=18,SNR=12						
ASAR				ScP	**ScP**	**12 59 07.7**	**-1.2**
	comp=Z,3.0nm,0.7s,baz=339,slow=2.9,SNR=11						
	comp=Z,10nm,0.5s						
AS01	**Alice Springs**	**29.04**	**158**	P	**P**	**12 53 29.9**	**+0.7**
QIS	**Mount Isa**	**29.07**	**145**	P	**P**	**12 53 28.9**	**-0.5**
	baz=29,SNR=111						
QIS	**Mount Isa**	**29.07**	**145**	P	**P**	**12 53 29.3**	**-0.1**
ENH	**Enshi**	**29.51**	**337**	P	**P**	**12 53 32.6**	**-0.5**
ENH				IAmb	IAmb	12 53 35.0	
	comp=Z,27nm,0.7s						
MEEK	**Meekatharra**	**29.99**	**187**	P	**P**	**12 53 36.9**	**-0.4**
	baz=30,SNR=6.1						
MEEK	**Meekatharra**	**29.99**	**187**	P	**P**	**12 53 37.8**	**+0.4**
JCJ	**Chichijima**	**30.26**	**37**	P	**P**	**12 53 39.1**	**-0.6**
MTSU	**Mount Surprise**	**30.29**	**135**	P	**P**	**12 53 39.4**	**-0.7**
	baz=30,SNR=38						
MTSU	**Mount Surprise**	**30.29**	**135**	P	**P**	**12 53 40.7**

FORT	**Forest**		**34.30**	**171**	P		**P**		**12 54 14.1**	**+0.2**
FORT	**Forest**		**34.30**	**171**	P		**P**		**12 54 14.7**	**+0.8**
KSRS	**Korea Array**		**34.36**	**8**	P		**P**		**12 54 14.8**	**+0.6**
	comp=Z,4.0nm,0.7s,baz=185,slow=9.3,SNR=21									
KSRS					ScP		**ScP**		**12 59 26.1**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=181,slow=4.4,SNR=4.4									
	comp=Z,4.0nm,0.7s									
KS19	**Wonju Array Si**		**34.40**	**8**	P		**P**		**12 54 14.8**	**+0.2**
KS19					IAmb		IAmb		12 54 47.7	
	comp=Z,11nm,1.1s									
KMBL	**Kambalda**		**34.48**	**181**	P		**P**		**12 54 14.8**	**-0.5**
	baz=35,SNR=13									
KMBL	**Kambalda**		**34.48**	**181**	P		**P**		**12 54 15.2**	**-0.1**
INU	**Inuyama**		**34.63**	**21**	P		**P**		**12 54 16.0**	**-0.5**
INU					IAmb		IAmb		12 54 16.9	
	comp=Z,20nm,1.2s									
INU	**Inuyama**		**34.63**	**21**	P		**P**		**12 54 16.1**	**-0.4**
JGF	**Kuroka**		**34.98**	**21**	P		**P**		**12 54 18.6**	**-0.9**
JGF					IAmb		IAmb		12 54 20.2	
	comp=Z,7.2nm,0.5s									
JGF	**Kuroka**		**34.98**	**21**	P		**P**		**12 54 19.1**	**-0.4**
KLBR	**Kellerberrin**		**34.98**	**187**	P		**P**		**12 54 18.9**	**-0.7**
	baz=35,SNR=27									
KLBR	**Kellerberrin**		**34.98**	**187**	P		**P**		**12 54 19.5**	**0.0**
MULG	**Mulgathing**		**35.18**	**162**	P		**P**		**12 54 22.1**	**+0.9**
INKA	**Innaminka**		**35.53**	**151**	P		**P**		**12 54 26.1**	**+2.0**
MUN	**Mundaring**		**35.58**	**189**	P		**P**		**12 54 25.2**	**+0.8**
	baz=36,SNR=4.0									
MUN	**Mundaring**		**35.58**	**189**	P		**P**		**12 54 25.8**	**+1.3**
MAJO	**Matsushiro**		**36.13**	**22**	P		**P**		**12 54 27.9**	**-1.1**
MAJO					IAmb		IAmb		12 54 28.1	
	comp=Z,8.8nm,0.5s									
MAJO	**Matsushiro**		**36.13**	**22**	P		**P**		**12 54 28.2**	**-0.8**
MJAR	**Matsushiro Arr**		**36.13**	**22**	P		**P**		**12 54 27.9**	**-1.1**
	comp=Z,5.6nm,0.5s,baz=190,slow=9.2,SNR=42									
MJAR					ScP		**ScP**		**12 59 33.8**	**+0.5**
	comp=Z,1.1nm,1.1s,baz=193,slow=4.5,SNR=4.7									
	comp=Z,5.6nm,0.5s									
MJB9	**Matsu-Tunnel**		**36.13**	**22**	P		**P**		**12 54 29.1**	**+0.1**
MJB9					IAmb		IAmb		12 54 29.1	
	comp=Z,8.3nm,0.5s									
NWAO	**Narrogin (SRO)**		**36.37**	**187**	P		**P**		**12 54 32.1**	**+1.2**
	baz=37,SNR=9.4									
NWAO					P		**P**		**12 54 32.1**	**+1.2**
	baz=37,SNR=9.4									
NWAO	**Narrogin (SRO)**		**36.37**	**187**	P		**P**		**12 54 32.3**	**+1.3**
QLP	**Quilpie**		**36.41**	**146**	P		**P**		**12 54 32.5**	**+1.1**
	baz=36,SNR=20									
QLP	**Quilpie**		**36.41**	**146**	P		**P**		**12 54 32.9**	**+1.5**
LCRK	**Leigh Creek**		**36.78**	**157**	P		**P**		**12 54 35.4**	**+1.0**
LZH	**Lanzhou**		**36.88**	**334**	⇑P		**P**		**12 54 37.1**	**+1.7**
LZH					pmax		pmax			
	comp=Z,15nm,1.4s									
BJT	**Baijiatuau**		**36.99**	**352**	P		**P**		**12 54 35.6**	**-0.4**
BJT					IAmb		IAmb		12 54 37.3	
	comp=Z,8.4nm,0.7s									
RK1H	**Rockhampton Ha**		**38.08**	**136**	P		**P**		**12 54 46.0**	**+0.9**
BBOO	**Buckleboo**		**38.15**	**161**	P		**P**		**12 54 46.4**	**+0.9**
	baz=38,SNR=37									
BBOO	**Buckleboo**		**38.15**	**161**	P		**P**		**12 54 45.7**	**+0.1**
BBOO					IAmb		IAmb		12 54 47.4	
	comp=Z,36nm,0.9s									
BBOO	**Buckleboo**		**38.15**	**161**	P		**P**		**12 54 45.6**	**+0.1**
JMM	**Marumori**		**38.28**	**24**	P		**P**		**12 54 46.9**	**+0.4**
JMM	**Marumori**		**38.28**	**24**	P		**P**		**12 54 47.1**	**+0.6**
HHC	**Hu-ho-hao-te**		**38.65**	**347**	*e*P		**P**		**12 54 51.9**	**+2.3**
HHC					pmax		pmax			
	comp=Z,8.0nm,0.6s									
HHC					pmax		pmax			
	comp=Z,91nm,6.0s									
STKA	**Stephens Creek**		**39.43**	**154**	P		**P**		**12 54 55.9**	**0.0**
	baz=40,SNR=64									
STKA	**Stephens Creek**		**39.43**	**154**	P		**P**		**12 54 55.9**	**0.0**
STKA					IAmb		IAmb		12 54 58.0	
	comp=Z,6.5nm,0.8s									
STKA	**Stephens Creek**		**39.43**	**154**	P		**P**		**12 54 57.0**	**+1.1**
STKA	**Stephens Creek**		**39.43**	**154**	P		**P**		**12 54 55.8**	**0.0**
	comp=Z,17nm,0.5s,baz=330,slow=8.8,SNR=97									
	comp=Z,17nm,0.5s									
HNR	**Honiara**		**39.43**	**109**	P		**P**		**12 54 55.6**	**-0.6**
	comp=Z,434nm,0.4s,baz=289,slow=4.1,SNR=4.2									
HTT	**Hallett**		**39.71**	**158**	P		**P**		**12 54 58.6**	**+0.4**
	baz=40,SNR=38									
HTT	**Hallett**		**39.71**	**158**	P		**P**		**12 54 59.3**	**+1.2**
EIDS	**Eidsvold**		**39.78**	**137**	P		**P**		**12 54 59.2**	**+0.4**
	baz=40,SNR=8.3									
EIDS	**Eidsvold**		**39.78**	**137**	P		**P**		**12 54 59.3**	**+0.4**
EIDS					IAmb		IAmb		12 55 00.1	
	comp=Z,35nm,1.2s									
EIDS	**Eidsvold**		**39.78**	**137**	P		**P**		**12 54 59.5**	**+0.7**
CMSA	**Cobar Meteorol**		**41.09**	**149**	P		**P**		**12 55 09.9**	**+0.7**
	baz=41,SNR=56									
CMSA	**Cobar Meteorol**		**41.09**	**149**	P		**P**		**12 55 10.8**	**+1.6**
GTA	**Gaotai**		**41.42**	**333**	*e*P		**P**		**12 55 12.3**	**+0.5**
GTA					PcP		**PcP**		**12 56 57.6**	**+1.1**
GTA					ScP		**ScP**		**12 59 55.0**	**+1.0**
GTA					ScS		**SS**		**13 04 11.6**	**-1.5**
GTA					pmax		pmax			
	comp=Z,9.0nm,1.1s									
USA0B	**Ussuriysk Arra**		**41.59**	**10**	P		**P**		**12 55 13.0**	**+0.1**
USA0B					IAmb		IAmb		12 55 13.7	
	comp=Z,15nm,0.7s									
USRK	**Ussuriysk Ar.**		**41.59**	**10**	P		**P**		**12 55 12.8**	**-0.1**
USRK	**Ussuriysk Ar.**		**41.59**	**10**	P		**P**		**12 55 13.2**	**+0.4**
	comp=Z,13nm,0.5s,baz=200,slow=6.4,SNR=34									
	comp=Z,13nm,0.5s									
MDJ	**Mudanjiang**		**41.62**	**8**	P		**P**		**12 55 13.1**	**-0.1**
MDJ					pmax		pmax			
	comp=Z,29nm,0.6s									
MDJ					pmax		pmax			
	comp=Z,170nm,4.3s									
MDJ	**Mudanjiang**		**41.62**	**8**	P		**P**		**12 55 12.9**	**-0.3**
MDJ					IAmb		IAmb		12 55 14.2	
	comp=Z,19nm,0.6s									
PALK	**Pallekele**		**41.76**	**277**	P		**P**		**12 55 15.2**	**+0.5**
PALK					IAmb		IAmb		12 55 17.4	
	comp=Z,19nm,0.8s									
PALK	**Pallekele**		**41.76**	**277**	P		**P**		**12 55 15.4**	**+0.6**
	comp=Z,17nm,0.7s,baz=184,slow=7.4,SNR=14									
	comp=Z,17nm,0.7s									
ARMA	**Armidale**		**43.59**	**142**	P		**P**		**12 55 30.8**	**+1.9**
	baz=44,SNR=5.6									
ARMA	**Armidale**		**43.59**	**142**	P		**P**		**12 55 31.0**	**+2.1**
ARMA	**Armidale**		**43.59**	**142**	P		**P**		**12 55 30.8**	**+1.9**
ARPS	**Mount Arapiles**		**43.76**	**157**	P		**P**		**12 55 29.8**	**-0.2**
	baz=44,SNR=98									
ARPS	**Mount Arapiles**		**43.76**	**157**	P		**P**		**12 55 30.3**	**+0.3**
JKA	**Kamikawa-asahi**		**44.38**	**21**	P		**P**		**12 55 34.7**	**+0.1**
JKA					IAmb		IAmb		12 55 35.5	
	comp=Z,21nm,0.7s									
YNG	**Young**		**44.66**	**149**	P		**P**		**12 55 37.6**	**+0.6**
	baz=45,SNR=35									
YNG	**Young**		**44.66**	**149**	P		**P**		**12 55 38.9**	**+1.9**
MGCD	**Mangrove Creek**		**45.30**	**146**	P		**P**		**12 55 43.2**	**+1.3**
	baz=46,SNR=12									
MGCD	**Mangrove Creek**		**45.30**	**146**	P		**P**		**12 55 42.6**	**+0.7**
SYDH	**Sydney Hard Ro**		**45.51**	**146**	P		**P**		**12 55 44.9**	**+1.5**
CAN	**Canberra**		**45.77**	**149**	P		**P**		**12 55 46.2**	**+0.7**
CAN	**Canberra**		**45.77**	**149**	P		**P**		**12 55 47.5**	**+2.0**
TOO	**Toolangi**		**45.94**	**154**	P		**P**		**12 55 48.3**	**+1.5**
TOO					IAmb		IAmb		12 55 49.8	
	comp=Z,30nm,1.1s									
CNB	**Canberra Magne**		**45.95**	**149**	P		**P**		**12 55 48.3**	**+1.4**
	baz=46,SNR=14									
CNB	**Canberra Magne**		**45.95**	**149**	P		**P**		**12 55 48.1**	**+1.2**
ULN	**Ulaanbaatar**		**46.34**	**346**	P		**P**		**12 55 50.3**	**+0.6**
SONM	**Songino Array**		**46.48**	**345**	P		**P**		**12 55 51.2**	**+0.4**
SONM	**Songino Array**		**46.48**	**345**	P		**P**		**12 55 50.3**	**-0.4**
	comp=Z,6.6nm,0.7s,baz=160,slow=8.3,SNR=49									
SONM					PcP		**PcP**		**12 57 13.5**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=168,slow=4.6,SNR=5.3									
SONM					ScP		**ScP**		**13 00 14.5**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=160,slow=5.5,SNR=3.8									
	comp=Z,6.6nm,0.7s									
HEH	**HeiHe**		**46.98**	**4**	*e*P		**P**		**12 55 53.8**	**-0.5**
HEH					pmax		pmax			
	comp=Z,21nm,0.7s									
HEH					pmax		pmax			
	comp=Z,210nm,5.0s									
KOUNC	**Koumac, New Ca**		**47.37**	**122**	P		**P**		**12 55 59.2**	**+1.5**
KOUNC					IAmb		IAmb		12 56 00.4	
	comp=Z,63nm,1.5s									
KOUNC	**Koumac, New Ca**		**47.37**	**122**	P		**P**		**12 55 59.6**	**+1.9**
DZM	**Mont Dzumac**		**49.83**	**123**	P		**P**		**12 56 16.4**	**+0.3**
DZM	**Mont Dzumac**		**49.83**	**123**	P		**P**		**12 56 16.5**	**+0.3**
	comp=Z,2.5nm,0.3s,baz=190,slow=3.6,SNR=20									
	comp=Z,2.5nm,0.3s									
WMQ	**Urumqi**		**50.72**	**328**	*e*P		**P**		**12 56 22.5**	**+0.3**
WMQ					pmax		pmax			
	comp=Z,13nm,0.7s									
MK31	**Makanchi Array**		**55.55**	**327**	P		**P**		**12 56 55.8**	**-0.6**
MKAR	**Makanchi Array**		**55.55**	**327**	P		**P**		**12 56 55.7**	**-0.7**
MKAR	**Makanchi Array**		**55.55**	**327**	P		**P**		**12 56 55.9**	**-0.5**
	comp=Z,4.4nm,0.4s,baz=122,slow=8.5,SNR=54									
MKAR					PcP		**PcP**		**12 57 47.7**	**-0.2**
	comp=Z,5.6nm,0.7s,baz=122,slow=4.6,SNR=16									
MKAR					ScP		**ScP**		**13 00 53.3**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=120,slow=4.9,SNR=6.8									
	comp=Z,4.4nm,0.4s									
MAKZ	**Makanchi**		**55.73**	**327**	P		**P**		**12 56 56.6**	**-1.0**
PETK	**Petropavlovsk-**		**57.51**	**24**	P		**P**		**12 57 09.3**	**-0.4**
	comp=Z,10nm,1.0s,baz=205,slow=6.6,SNR=11									
	comp=Z,10nm,1.0s									
YAK	**Yakutsk**		**58.84**	**4**	P		**P**		**12 57 18.6**	**+0.2**
YAK					IAmb		IAmb		12 57 19.6	
	comp=Z,37nm,0.8s									
ZAA0	**Zalesovo Array**		**59.11**	**335**	P		**P**		**12 57 20.0**	**-0.5**
ZALV	**Zalesovo Beam**		**59.11**	**335**	P		**P**		**12 57 19.1**	**-1.3**
ZALV	**Zalesovo Beam**		**59.11**	**335**	P		**P**		**12 57 18.6**	**-1.8**
	comp=Z,2.3nm,0.4s,baz=123,slow=6.5,SNR=14									
ZALV					PcP		**PcP**		**12 58 01.4**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=108,slow=6.2,SNR=3.6									
	comp=Z,2.3nm,0.4s									
KURBB	**Kurchatov Arra**		**59.87**	**329**	P		**P**		**12 57 24.8**	**-0.8**
	comp=Z,4.1nm,0.6s,baz=130,slow=6.0,SNR=26									
KURBB					PcP		**PcP**		**12 58 04.3**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=130,slow=4.4,SNR=4.4									
	comp=Z,4.1nm,0.6s									
KURK	**Kurchatov**		**59.88**	**329**	P		**P**		**12 57 24.8**	**-0.8**
KURK					IAmb		IAmb		12 57 26.6	
	comp=Z,15nm,0.5s									
MA2	**Magadan**		**60.23**	**16**	P		**P**		**12 57 29.0**	**+1.2**
MA2					IAmb		IAmb		12 57 29.7	
	comp=Z,16nm,0.9s									
MA2	**Magadan**		**60.23**	**16**	P		**P**		**12 57 28.6**	**+0.8**
	comp=Z,11nm,0.7s,baz=196,slow=7.4,SNR=14									
	comp=Z,11nm,0.7s									
QRZ	**Quartz Range**		**63.31**	**139**	P		**P**		**12 57 49.5**	**+1.3**
SEY	**Seymchan**		**63.47**	**15**	P		**P**		**12 57 49.3**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=210,slow=6.4,SNR=8.8									
SEY					PcP		**PcP**		**12 58 19.8**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=78,slow=7.6,SNR=7.0									
	comp=Z,2.9nm,0.8s									
RPZ	**Rata Peaks**		**63.93**	**143**	P		**P**		**12 57 54.7**	**+2.6**
KHZ	**Kahutara**		**64.78**	**140**	P		**P**		**12 57 58.0**	**+0.6**
SNZO	**South Karori**		**64.98**	**139**	P		**P**		**12 57 59.0**	**+0.3**
BKZ	**Black Stump Fm**		**65.17**	**136**	P		**P**		**12 57 59.9**	**-0.2**
BKZ					IAmb		IAmb		12 58 00.9	
	comp=Z,24nm,1.0s									
BKZ	**Black Stump Fm**		**65.17**	**136**	P		**P**		**12 58 00.1**	**0.0**
URZ	**Urewera**		**65.20**	**135**	P		**P**		**12 58 00.4**	**+0.2**
RTZ	**Ruatahuna**		**65.26**	**135**	P		**P**		**12 58 00.6**	**-0.1**
BRVK	**Borovoye**		**65.48**	**328**	P		**P**		**12 58 00.0**	**-1.7**
BFZ	**Birch Farm**		**65.70**	**138**	P		**P**		**12 58 03.7**	**+0.4**
GEYT	**Alibeck**		**67.87**	**310**	P		**P**		**12 58 16.3**	**-0.5**
	comp=Z,3.9nm,0.6s,baz=167,slow=8.7,SNR=4.8									
	comp=Z,3.9nm,0.6s									
TIXI	**Tiksi**		**68.38**	**2**	P		**P**		**12 58 18.4**	**-0.8**
TIXI					IAmb		IAmb		12 58 19.1	
	comp=Z,10nm,0.8s									
ABKAR	**Akbulak array**		**69.82**	**322**	P		**P**		**12 58 26.8**	**-1.4**
ABKAR	**Akbulak array**		**69.82**	**322**	P		**P**		**12 58 27.2**	**-1.0**
NRIK	**Noril'sk**		**69.88**	**348**	P		**P**		**12 58 28.1**	**-0.1**
NRIK	**Noril'sk**		**69.88**	**348**	P		**P**		**12 58 28.5**	**+0.3**
	comp=Z,4.8nm,0.6s,baz=141,slow=5.0,SNR=11									
	comp=Z,4.8nm,0.6s									
AKTO	**Aktyubinsk**		**71.38**	**322**	P		**P**		**12 58 36.5**	**-0.9**
	comp=Z,5.9nm,0.6s,baz=126,slow=5.2,SNR=8.9									
	comp=Z,5.9nm,0.6s									
ARU	**Arti**		**73.05**	**329**	P		**P**		**12 58 45.7**	**-1.3**
ARU	**Arti**		**73.05**	**329**	P		**P**		**12 58 46.1**	**-0.9**
	comp=Z,2.9nm,0.5s,baz=258,slow=3.9,SNR=6.6									
	comp=Z,2.9nm,0.5s									
RAYN	**Ar Rayn**		**76.74**	**293**	P		**P**		**12 59 07.5**	**-0.8**
VOI	**Vohitsoka**		**77.98**	**247**	P		**P**		**12 59 15.1**	**-0.1**
VOI					IAmb		IAmb		12 59 16.6	
	comp=Z,30nm,0.8s									
C16K	**Lisburne Hills**		**80.40**	**21**	P		**P**		**12 59 27.2**	**+0.4**
C16K					IAmb		IAmb		12 59 29.4	
	comp=Z,13nm,1.1s									
G16K	**Koyuk River**		**80.86**	**24**	P		**P**		**12 59 30.0**	**+0.7**
J16K	**Anvik River**		**81.20**	**26**	P		**P**		**12 59 33.0**	**+1.9**
J16K					IAmb		IAmb		12 59 34.2	
	comp=Z,19nm,1.0s									
L16K	**Owhat River**		**81.45**	**28**	P		**P**		**12 59 33.7**	**+1.3**
L16K					IAmb		IAmb		12 59 34.5	
	comp=Z,16nm,0.9s									
M16K	**Timber Creek**		**81.59**	**29**	P		**P**		**12 59 34.4**	**+1.3**
M16K					IAmb		IAmb		12 59 35.3	
	comp=Z,16nm,0.8s									
E18K	**Tukpahlearik C**		**81.96**	**22**	P		**P**		**12 59 36.5**	**+1.6**
E18K					IAmb		IAmb		12 59 37.4	
	comp=Z,12nm,0.8s									
C18K	**Utukok River**		**81.98**	**21**	P		**P**		**12 59 36.1**	**+1.1**
K17K	**Iditarod**		**82.15**	**27**	P		**P**		**12 59 36.8**	**+0.9**
K17K					IAmb		IAmb		12 59 38.4	
	comp=Z,10.0nm,0.8s									
D19K	**Kuna River**		**83.07**	**21**	P		**P**		**12 59 41.0**	**+0.5**
D19K					IAmb		IAmb		12 59 42.6	
	comp=Z,12nm,0.6s									
VNDA	**Vanda**		**83.56**	**172**	P		**P**		**12 59 43.1**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=325,slow=5.4,SNR=17									
	comp=Z,1.8nm,0.6s									
J20K	**Nowinta River**		**84.16**	**26**	P		**P**		**12 59 46.4**	**+0.5**
CAST	**Castle Rocks**		**85.03**	**27**	P		**P**		**12 59 50.7**	**+0.5**
E22K	**Anaktuvuk Pass**		**85.36**	**22**	P		**P**		**12 59 52.6**	**+0.9**
MMAI	**Mount Meron Ar**		**85.76**	**303**	P		**P**		**12 59 54.9**	**+0.5**
	comp=Z,2.1nm,0.5s,baz=79,slow=9.4,SNR=5.9									
	comp=Z,2.1nm,0.5s									
TOLK	**Toolik Lake Re**		**86.21**	**22**	P		**P**		**12 59 57.1**	**+1.3**
I23K	**Minto, Yukon-K**		**86.26**	**25**	P		**P**		**12 59 56.7**	**+0.7**
HDA	**Harding Lake**		**87.30**	**26**	P		**P**		**12 59 59.9**	**-1.0**
ILAR	**Eielson Array**		**87.32**	**25**	P		**P**		**12 59 59.6**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=241,slow=5.1,SNR=24									
	comp=Z,0.7nm,0.6s									
BMAR	**Burnt Mountain**		**88.12**	**23**	P		**P**		**13 00 04.8**	**+0.1**
I26K	**Coal Creek Min**		**88.86**	**25**	P		**P**		**13 00 08.1**	**-0.1**
I26K					IAmb		IAmb		13 00 09.2	
	comp=Z,3.3nm,0.8s									
ARCES	**ARCESS Array B**		**89.37**	**340**	P		**P**		**13 00 09.5**	**-1.0**
	comp=Z,3.6nm,0.8s,baz=79,slow=6.3,SNR=9.8									
	comp=Z,3.6nm,0.8s									
SPITS	**Spitsbergen Ar**		**90.07**	**349**	P		**P**		**13 00 11.8**	**-1.8**
	comp=Z,4.5nm,0.5s,baz=90,slow=9.2,SNR=24									
	comp=Z,4.5nm,0.5s									
FINES	**FINESS Array B**		**90.19**	**331**	P		**P**		**13 00 12.7**	**-1.7**
	comp=Z,2.2nm,0.6s,baz=60,slow=5.0,SNR=9.1									
	comp=Z,2.2nm,0.6s									
QSPA	**South Pole Qui**		**93.21**	**180**	P		**P**		**13 00 27.8**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=295,slow=1.7,SNR=2.7									
	comp=Z,1.1nm,0.7s									
TORD	**Torodi Ar. Bea**		**118.99**	**287**	PKP		**PKPdf**		**13 05 59.6**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=84,slow=1.9,SNR=8.1									
TXAR	**Lajitas Array**		**125.19**	**50**	PKP		**PKPdf**		**13 06 12.7**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=234,slow=1.4,SNR=10									
S39A	**Bolivar**		**127.42**	**36**			**PKPdf**		**13 06 15.5**	**-0.2**
R40A	**Maddies Statio**		**127.62**	**34**			**PKPdf**		**13 06 16.3**	**+0.3**
P53A	**Whipple**		**132.10**	**25**			**PKiKP**		**13 06 25.9**	**+0.3**
PLCA	**Paso Flores**		**140.93**	**164**	PKhKP		PKPpre		13 06 37.1	
	comp=Z,1.6nm,0.9s,baz=341,slow=3.5,SNR=4.0									
RGM0	**Gandoca**		**151.93**	**63**			**PKPdf**		**13 07 00.7**	**+1.0**

*IDC **17** 12:54:25.2±3.6, 37.39N×72.37E, h180km±26km, mb3.4/5, mbtmp3.9/12, Error ellipse: s-maj=44.0km s-min=22.5km az=137.0*
*NNC **17** 12:54:28.1±15.0, 37.91N×72.05E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=116.3km s-min=84.4km az=171.0*
ISC 17 12:54:28.1±1.6, 37.7N±0.1×72.3E±0.1, h200km, n21, σ1§17/25, mb3.6/5, 1C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
UCH	**Uchtor**	**4.88**	**20**	P		**Pn**	**12 55 42.1**	**+0.8**
	SNR=9.2							
EKS2	**Erkin-Say**	**5.13**	**12**	P		**Pn**	**12 55 45.9**	**+1.6**
	SNR=8.8							
AAK	**Ala-Archa**	**5.26**	**18**	P		**Pn**	**12 55 47.1**	**+1.2**
	SNR=10							
AAK	**Ala-Archa**	**5.26**	**18**	P		**Pn**	**12 55 47.1**	**+1.2**
	5.5nm,0.4s,baz=178,slow=6.0,SNR=30							
AAK					S		**Sn**	**12 56 47.4**	**0.0**
	4.7nm,0.3s,baz=328,slow=22,SNR=17							
ULHL	**Ulahol**	**5.50**	**32**	P		**Pn**	**12 55 49.7**	**+0.7**
	SNR=5.4							
KK31	**Karatay Array**	**5.62**	**346**	⇑P		**Pn**	**12 55 51.2**	**+0.8**
	0.7nm,0.3s,baz=167,slow=14,SNR=45							
KK31				⇓S		**Sn**	**12 56 53.6**	**-2.0**
	6.8nm,0.6s,baz=178,slow=26,SNR=10.0							
CHMS	**Chumysh**	**5.66**	**18**	⇓P		**Pn**	**12 55 51.2**	**+0.3**
	1.4nm,0.3s							
CHMS				⇓S		**Sn**	**12 56 54.3**	**-2.2**
	15nm,0.7s							
TKM2	**Tokmak 2**	**5.84**	**24**	P		**Pn**	**12 55 54.2**	**+0.8**
	SNR=7.4							
TKM2	**Tokmak 2**	**5.84**	**24**	⇓P		**Pn**	**12 55 53.3**	**-0.1**
	1.3nm,0.4s							
TKM2				⇓S		**Sn**	**12 56 59.7**	**-1.2**
	4.6nm,0.8s							
GEYT	**Alibeck**	**11.23**	**276**	P		**Pn**	**12 57 02.0**	**-1.2**
	1.1nm,0.4s,baz=123,slow=10,SNR=2.5							
MKAR	**Makanchi Array**	**11.75**	**36**	P		**Pn**	**12 57 09.3**	**-0.5**
	0.5nm,0.4s,baz=122,slow=8.1,SNR=5.5							
KURBB	**Kurchatov Arra**	**13.71**	**17**	P		**P**	**12 57 36.4**	**-0.1**
	1.7nm,0.7s,baz=203,slow=11,SNR=6.3							
BVAR	**Borovoye Array**	**15.44**	**356**	P		**Pn**	**12 57 56.9**	**+1.4**
	1.8nm,0.6s,baz=123,slow=9.0,SNR=14							
AKTO	**Aktyubinsk**	**16.36**	**326**	P		**Pn**	**12 58 07.7**	**+1.1**
	3.1nm,0.5s,baz=118,slow=11,SNR=7.1							
ZALV	**Zalesovo Beam**	**18.44**	**24**	P		**Pn**	**12 58 29.5**	**-1.6**
	5.1nm,0.5s,baz=221,slow=10,SNR=22							
FINES	**FINESS Array B**	**37.13**	**325**	P		**P**	**13 01 20.0**	**+0.8**
	0.9nm,0.6s,baz=116,slow=11,SNR=4.1							
	0.9nm,0.6s							
ARCES	**ARCESS Array B**	**40.49**	**337**	P		**P**	**13 01 48.2**	**+1.2**
	0.6nm,0.3s,baz=106,slow=7.7,SNR=6.5							
	0.6nm,0.3s							
HFS	**Hagfors**	**42.82**	**321**	P		**P**	**13 02 06.8**	**+0.8**
	1.6nm,0.5s,baz=98,slow=11,SNR=9.5							
	1.6nm,0.5s							
NB2	**NORSAR Subarra**	**44.10**	**322**	P		**P**	**13 02 16.8**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=94,slow=7.9							
NOA	**NORSAR Array B**	**44.10**	**322**	P		**P**	**13 02 16.9**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=105,slow=6.9,SNR=5.2							
	comp=Z,0.5nm,0.

DVHZ	Dannevirke	2.60	42	P		Pn	13 06 03.2	-1.5
ARCZ	Arundel	2.61	228	P		Pn	13 06 04.0	-0.8
WAZ	Wanganui	2.63	19	P		Pn	13 06 06.1	+1.1
TSZ	Takapari Road	2.69	36	P		Pn	13 06 05.1	-0.8
LREZ	Lake Rotokare	2.81	8	P		Pn	13 06 09.3	+1.8
GCSZ	Gaunt Creek Bo	2.83	247	P		Pn	13 06 07.8	+0.1
NMEZ	Namu Road	2.83	360	P		Pn	13 06 09.9	+2.1
PRHZ	Porangahau	2.87	47	P		Pn	13 06 07.0	-1.3
PREZ	Palmer Road	2.91	4	P		Pn	13 06 11.9	+3.0
WPHZ	Waipukurau	2.91	42	P		Pn	13 06 07.6	-1.4
PNHZ	Pukenui	2.92	38	P		Pn	13 06 07.8	-1.2
KHEZ	Kahui Hut	2.95	2	P		Pn	13 06 11.9	+2.4
KHEZ	Kahui Hut	2.95	2	P		Pn	13 06 11.5	+1.9
NBEZ	Newall Road No	2.98	360	P		Pn	13 06 11.4	+1.6
NEZ	North Egmont	2.98	3	P		Pn	13 06 12.1	+2.1
TMZ	Timaru	2.99	224	P		Pn	13 06 09.5	-0.6
PKE	Pukeiti	3.05	2	P		Pn	13 06 12.6	+1.7
DREZ	Durham Road	3.06	5	P		Pn	13 06 12.6	+1.5
MTVZ	Mangateitei	3.10	23	P		Pn	13 06 12.3	+0.7
PKVZ	Pokaka	3.16	21	P		Pn	13 06 13.1	+0.8
MOVZ	Moawhango	3.17	27	P		Pn	13 06 12.2	-0.4
MHEZ	Mangahewa	3.19	6	P		Pn	13 06 15.3	+2.6
VRZ	Vera Road	3.19	12	P		Pn	13 06 13.9	+1.1
WNVZ	Wahianoa	3.19	25	P		Pn	13 06 13.4	+0.5
TRVZ	Turoa	3.21	24	P		Pn	13 06 13.8	+0.7
KRHZ	Kereru	3.21	37	P		Pn	13 06 11.6	-1.4
BHHZ	Black Hill Sta	3.21	32	P		Pn	13 06 12.6	-0.5
WHVZ	Whangaehu Hut	3.23	24	P		Pn	13 06 14.4	+0.8
MAVZ	Matarangi	3.24	24	P		Pn	13 06 14.6	+0.9
FWVZ	Far West T-bar	3.25	24	P		Pn	13 06 14.2	+0.4
FOZ	Fox Glacier	3.25	245	P		Pn	13 06 14.0	+0.4
TUVZ	Tukino	3.27	25	P		Pn	13 06 14.2	+0.3
COVZ	Chateau Observ	3.29	23	P		Pn	13 06 14.7	+0.4
NGZ	Ngauruhoe	3.33	24	P		Pn	13 06 15.3	+0.4
KAHZ	Kahuranaki	3.34	44	P		Pn	13 06 12.8	-2.0
SNVZ	South Ngauruho	3.34	24	P		Pn	13 06 15.3	+0.4
OTVZ	Oturere	3.37	24	P		Pn	13 06 15.6	+0.3
NNVZ	North Ngauruho	3.38	24	P		Pn	13 06 15.9	+0.4
WTVZ	West Tongariro	3.39	23	P		Pn	13 06 15.9	+0.3
ETVZ	East Tongariro	3.41	25	P		Pn	13 06 16.3	+0.5
KWHZ	Kaweka Forest	3.42	35	P		Pn	13 06 14.3	-1.6
TMVZ	Te Maari	3.42	24	P		Pn	13 06 16.1	+0.1
KRVZ	Karewarewa	3.42	24	P		Pn	13 06 16.3	+0.2
NTVZ	North Tongarir	3.43	24	P		Pn	13 06 16.4	+0.3
LBZ	Lake Benmore	3.44	230	P		Pn	13 06 16.0	-0.2
MCHZ	McNeill Hill	3.52	38	P		Pn	13 06 15.8	-1.5
KATZ	Kakaramea	3.55	23	P		Pn	13 06 18.9	+1.1
RITZ	Rihia Road	3.60	25	P		Pn	13 06 19.7	+1.3
ODZ	Otahua Downs	3.65	219	P		Pn	13 06 18.3	-0.8
ODZ	Otahua Downs	3.65	219	P		Pn	13 06 18.2	-0.8
BKZ	Black Stump Fm	3.66	34	P		Pn	13 06 17.6	-1.7
BKZ	Black Stump Fm	3.66	34	P		Pn	13 06 17.8	-1.5
HIZ	Hauiti	3.80	12	P		Pn	13 06 22.2	+1.0
HIZ	Hauiti	3.80	12	P		Pn	13 06 22.0	+0.8
NMHZ	Naumai	3.85	36	P		Pn	13 06 20.1	-1.8
MTHZ	Maungataniwha	4.07	35	P		Pn	13 06 22.9	-2.0
TLZ	Tolley Road	4.11	18	P		Pn	13 06 25.5	+0.1
MUGZ	Murupara	4.36	31	P		Pn	13 06 27.0	-1.9
EAZ	Earnscleugh	4.46	226	P		Pn	13 06 29.5	-0.6
TOZ	Tahuroa Road	4.68	16	P		Pn	13 06 33.2	0.0
URZ	Urewera	4.69	33	P		Pn	13 06 31.1	-2.2
URZ	Urewera	4.69	33	P		Pn	13 06 30.8	-2.5
TUZ	Tuapeka	4.81	218	P		Pn	13 06 34.3	-0.6
TWGZ	Tauwhareparae	5.13	39	P		Pn	13 06 37.3	-2.2
AWAZ	Awhitu Peninsu	5.21	7	P		Pn	13 06 41.5	+1.0
MKAZ	Moumakai	5.23	11	P		Pn	13 06 40.8	+0.1
ETAZ	East Tamaki Re	5.35	9	P		Pn	13 06 43.0	+0.6
PKGZ	Pakihiroa	5.41	38	P		Pn	13 06 41.0	-2.3
SYZ	Scrubby Hill	5.47	217	P		Pn	13 06 44.3	+0.3
SYZ	Scrubby Hill	5.47	217	P		Pn	13 06 44.1	+0.1
RVAZ	Riverhead Bore	5.50	6	P		Pn	13 06 45.3	+0.9
MBAZ	Motutapu North	5.53	8	P		Pn	13 06 45.7	+0.8
OUZ	Omahuta	7.02	358	P		Pn	13 07 07.1	+1.7

IDC ***17*** *13:35:04.3±1.4,5˚.61S×142˚.27E, h0km, mb3.5/2, mbtmp3.4/5, ML3.4/2, Error ellipse: s-maj=43.4km s-min=29.6km az=95.0*

ISC 17 13:35:09.8±1.0,**5˚.87S**±0˚.09×**142˚.29E**±0˚.08,**h35**km,**n11,** σ2s**30**/14,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.22**	**299**	P	**Pn**	**13 35 30.2**	**-0.2**
PMG	**Port Moresby**	**5.97**	**126**	Pn	**Pn**	**13 36 35.1**	**-0.6**
	2.1nm,0.3s,baz=184,slow=14,SNR=1.3						
PMG				Sn	**Sn**	**13 37 44.0**	**+1.1**
	0.5nm,0.3s,baz=318,slow=23,SNR=1.4						
KDU	**Kakadu**	**11.82**	**234**	P	**Pn**	**13 37 56.9**	**+1.0**
MTN	**Manton Dam**	**13.00**	**237**	P	**Pn**	**13 38 13.8**	**+1.6**
WRA	**Warramunga Arr**	**15.98**	**208**	Pn	**Pn**	**13 38 53.0**	**+0.9**
	0.2nm,0.3s,baz=34,slow=13,SNR=8.5						
WRA				Sn	**Sn**	**13 41 43.2**	**-5.1**
	0.2nm,0.3s,baz=24,slow=21,SNR=2.2 0.7nm,0.8s						
KNRA	**Kununurra**	**16.47**	**233**	P	**Pn**	**13 38 58.0**	**-0.3**
AS01	**Alice Springs**	**19.43**	**204**	P	**Pn**	**13 39 38.4**	**+3.7**
ASAR	**Alice Springs**	**19.45**	**204**	P	**Pn**	**13 39 35.8**	**+0.9**
	0.1nm,0.3s,baz=30,slow=10.0,SNR=13						
ASAR				S	**S**	**13 43 10.0**	**-1.6**
	0.3nm,0.5s,baz=20,slow=28,SNR=4.4 0.4nm,0.5s						
WRKA	**Warakurna**	**23.31**	**214**	P	**P**	**13 40 16.9**	**+2.1**
MKAR	**Makanchi Array**	**74.46**	**322**	P	**P**	**13 46 42.7**	**-1.9**
	0.2nm,0.7s,baz=131,slow=4.4,SNR=1.9 0.2nm,0.7s						
ILAR	**Eielson Array**	**87.23**	**24**	P	**P**	**13 47 51.8**	**-0.5**
	0.5nm,0.7s,baz=258,slow=5.2,SNR=8.8 0.5nm,0.7s						

SDD ***17*** *13:35:58.5±2.3, 18˚.59N×69˚.54W, h98km±22km, MD2.8, ML2.9, MW3.9*

OSPL ***17*** *13:36:00.0±1.9, 17˚.97N×69˚.55W, h13km±999km, ML2.6*

ISC 17 13:35:57.1±4.5,**18˚.6N**±0˚.2×**69˚.6W**±0˚.2,**h104**km±24km,**n7,** σ1s**28**/13,**3C-6D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DR08	**Loma La Naviza**	**0.52**	**309**	*e*Pg	**Pn**	**13 36 13.0**	**-0.5**
DR08				*e*Sg	**Sn**	**13 36 24.6**	**-1.2**
DR08				IAML		13 36 25.8	
	comp=N,914nm,0.1s						
BANI	**BANI**	**0.77**	**252**	*e*Pg	**Pn**	**13 36 17.2**	**+1.6**
BANI				*e*Sg	**Sn**	**13 36 29.7**	**+0.2**
BANI				IAML		13 36 34.0	
	comp=N,180nm,0.2s						
ABDR	**Alto Bandera**	**1.00**	**280**	*e*Pg	**Pn**	**13 36 19.4**	**+1.2**
ABDR				*e*Sg	**Sn**	**13 36 34.6**	**+0.7**
ABDR				IAML		13 37 04.2	
	comp=N,2μm,0.3s						
LOBA2	**Hotel Casa Bon**	**1.53**	**249**	*e*Pg	**Pn**	**13 36 24.2**	**+0.3**
LOBA2				*e*Sg	**Sn**	**13 36 41.6**	**-2.7**
SDDR	**Presa de Saban**	**1.64**	**282**	*e*Sg	**Sn**	**13 36 46.8**	**-0.1**
SDDR				IAML		13 36 53.2	
	comp=N,24nm,0.6s						
PODR	**Polo**	**1.67**	**254**	*e*Pg	**Pn**	**13 36 26.0**	**+0.1**
PODR				*e*Sg	**Sn**	**13 36 46.7**	**-1.0**
PODR				IAML		13 36 54.3	
	comp=N,39nm,2.0s						
PODR	**Polo**	**1.67**	**254**	*i* P	**Pn**	**13 36 26.0**	**+0.1**
PODR				*e*S	**Sn**	**13 36 47.9**	**+0.1**

TAP 17 13:42:58.6,24˚.74N×122˚.39E, h109km, ML2.9, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EOS2	**EOS2**	**0.35**	**204**	*e*P	Pn	13 43 14.5	+0.1
	baz=216						
EOS2				*e*S	Sn	13 43 26.5	+0.4
	baz=216						
TWB1	**Santiao Chiao**	**0.45**	**306**	*e*P	Pn	13 43 14.9	-0.1
	baz=298						
TWB1				*e*S	Sn	13 43 27.3	-0.1
	baz=298						
EOS3	**EOS3**	**0.46**	**189**	P	Pn	13 43 15.2	+0.3
	baz=203						
EOS3				S	Sn	13 43 27.9	+0.8
	baz=203						
TWC	**Suao**	**0.51**	**255**	P	Pn	13 43 15.2	-0.2
	baz=251						
TWC				S	Sn	13 43 27.1	-0.9
	baz=251						
TIPB	**Shuangxi**	**0.56**	**294**	*i* P	Pn	13 43 16.1	+0.3
	baz=290						
TIPB				S	Sn	13 43 28.4	-0.4
	baz=290						
SXI1	**Grass Mountain**	**0.58**	**307**	P	Pn	13 43 16.3	+0.3
	baz=303						
SXI1				*e*S	Sn	13 43 30.0	+0.9
	baz=303						
EOS4	**EOS4**	**0.62**	**186**	*e*P	Pn	13 43 15.8	0.0
	baz=194						
EOS4				*e*S	Sn	13 43 28.2	-0.6
	baz=194						
NDS	**Dongshan**	**0.62**	**260**	P	Pn	13 43 16.6	+0.3
	baz=260						
EWUT	**Wuta**	**0.63**	**242**	*e*P	Pn	13 43 16.5	+0.2
	baz=242						
EWUT				*e*S	Sn	13 43 29.5	-0.1
	baz=242						
TWE	**Neicheng**	**0.66**	**268**	P	Pn	13 43 16.8	+0.3
	baz=271						
TWE				*e*S	Sn	13 43 30.0	0.0
	baz=271						
ENA	**Nanau**	**0.67**	**242**	P	Pn	13 43 16.8	+0.2
	baz=241						
ENA				S	Sn	13 43 30.1	0.0
	baz=241						
EAHA	**Aohua**	**0.72**	**235**	P	Pn	13 43 17.1	0.0
	baz=228						
EAHA				S	Sn	13 43 30.7	-0.3
	baz=228						
FUSB	**Fushanzhiwuyua**	**0.73**	**271**	P	Pn	13 43 17.5	+0.2
	baz=278						
TWA	**Mucha**	**0.77**	**288**	*e*P	Pn	13 43 17.4	-0.1
	baz=288						
NWLT	**Wulai**	**0.81**	**273**	P	Pn	13 43 18.2	+0.4
	baz=277						
NWLT				*e*S	Sn	13 43 32.6	+0.2
	baz=277						
NDT	**Datong Townshi**	**0.81**	**260**	P	Pn	13 43 18.9	+1.0
	baz=262						
NDT				*e*S	Sn	13 43 33.2	+0.8
	baz=262						
LATG	**Datong**	**0.81**	**255**	P	Pn	13 43 18.6	+0.6
	baz=250						
LATG				S	Sn	13 43 33.5	+0.9
	baz=250						
YM01	**YM01**	**0.85**	**298**	P	Pn	13 43 18.7	+0.5
	baz=290						
YM01				S	Sn	13 43 33.1	0.0
	baz=290						
YM08	**YM08**	**0.85**	**301**	P	Pn	13 43 18.5	+0.2
	baz=293						
YM08				S	Sn	13 43 32.5	-0.6
	baz=293						
ETL	**Fush Village**	**0.91**	**230**	*e*P	Pn	13 43 18.6	-0.3
	baz=225						
ETL				*e*S	Sn	13 43 33.2	-0.9
	baz=225						
NACB	**Ninganchiao**	**0.92**	**232**	P	Pn	13 43 18.6	-0.3
	baz=227						
NACB				S	Sn	13 43 33.0	-1.2
	baz=227						
YHNB	**Yeheng**	**0.93**	**266**	P	Pn	13 43 19.7	+0.7
	baz=272						
YHNB				S	Sn	13 43 34.8	+0.3
	baz=272						
NSK	**Sanguang**	**0.94**	**266**	P	Pn	13 43 19.8	+0.6
	baz=272						
NSK				S	Sn	13 43 34.9	+0.2
	baz=272						
TWS1	**Kuangyinshan**	**0.95**	**292**	*e*P	Pn	13 43 19.6	+0.4
	baz=286						
NNSB	**Datong**	**0.97**	**251**	*i* P	Pn	13 43 20.1	+0.5
	baz=247						
NNSB				S	Sn	13 43 35.4	0.0
	baz=247						
NNS	**Nan Shan**	**0.97**	**252**	*i* P	Pn	13 43 20.1	+0.5
	baz=247						
NNS				S	Sn	13 43 35.5	+0.1
	baz=247						
TWD	**Chiawan**	**0.98**	**228**	P	Pn	13 43 18.9	-0.6
	baz=227						
TWD				S	Sn	13 43 34.4	-0.9
	baz=227						
ETLH	**Xiulin Townshi**	**0.99**	**237**	*e*P	Pn	13 43 19.7	0.0
	baz=237						
ETLH				*e*S	Sn	13 43 34.5	-1.0
	baz=237						
NCUH	**Zhongli**	**1.12**	**282**	*e*P	Pn	13 43 21.7	+0.7
	baz=287						
NCUH				*e*S	Sn	13 43 38.9	+1.0
	baz=287						
ETM	**Tongmen**	**1.13**	**227**	P	Pn	13 43 20.7	-0.4
	baz=235						
ETM				S	Sn	13 43 36.5	-1.6
	baz=235						
LXIB	**Xiulin Townshi**	**1.15**	**231**	P	Pn	13 43 21.0	-0.5
	baz=222						
LXIB				*e*S	Sn	13 43 37.3	-1.4
	baz=222						
FUSS	**Fushou**	**1.16**	**245**	P	Pn	13 43 22.4	+0.7
	baz=240						
FUSS				*e*S	Sn	13 43 38.9	-0.2
	baz=240						
NFF	**Wufeng Townshi**	**1.16**	**265**	P	Pn	13 43 22.4	+0.9
	baz=273						
NFF				S	Sn	13 43 39.2	+0.3
	baz=273						
WHF	**Hehuan Shan**	**1.19**	**240**	P	Pn	13 43 22.5	+0.3
	baz=235						
WHF				S	Sn	13 43 39.3	-0.6
	baz=235						
TWT	**Tachien**	**1.21**	**246**	P	Pn	13 43 23.4	+1.2
	baz=240						
TWT				S	Sn	13 43 40.6	+0.7
	baz=240						
SHUL	**Shoufeng**	**1.22**	**219**	*e*P	Pn	13 43 21.4	-0.6
	baz=211						
SHUL				*e*S	Sn	13 43 38.9	-0.8
	baz=211						
TDCB	**Techi**	**1.23**	**247**	*e*P	Pn	13 43 23.2	+0.9
	baz=241						
TDCB				*e*S	Sn	13 43 40.3	+0.1
	baz=241						
LIOB	**Emei**	**1.26**	**266**	*e*P	Pn	13 43 23.2	+0.6
	baz=265						
LIOB				*e*S	Sn	13 43 41.2	+0.6
	baz=265						
NSTT	**Nanjuang**	**1.27**	**265**	P	Pn	13 43 23.4	+0.8
	baz=265						
NSTT				S	Sn	13 43 41.0	+0.1
	baz=265						
ESL	**Shilin**	**1.27**	**224**	*e*P	Pn	13 43 21.7	-1.0
	baz=230						
ESL				*e*S	Sn	13 43 38.7	-2.2
	baz=230						
CHGB	**Renai**	**1.30**	**239**	P	Pn	13 43 23.7	+0.5
	baz=233						
CHGB				*e*S	Sn	13 43 41.9	0.0
	baz=233						
OWD	**Renai**	**1.36**	**235**	P	Pn	13 43 24.1	+0.3
	baz=230						
OWD				S	Sn	13 43 42.4	-0.6
	baz=230						
WARBT	**Fenglin Townsh**	**1.37**	**222**	P	Pn	13 43 22.9	-1.0
	baz=228						
WARBT				S	Sn	13 43 40.9	-2.2
	baz=228						
WUSB	**Renai**	**1.38**	**238**	P	Pn	13 43 24.7	+0.6
	baz=233						
WUSB				*e*S	Sn	13 43 42.7	-0.7
	baz=233						
EGFH	**Guangfu**	**1.39**	**220**	*e*P	Pn	13 43 23.2	-0.8
	baz=228						
EGFH				*e*S	Sn	13 43 41.2	-2.0
	baz=228						
WHP	**Taichung City**	**1.40**	**251**	*e*P	Pn	13 43 25.9	+1.6
	baz=259						
WHP				*e*S	Sn	13 43 44.2	+0.6
	baz=259						
NMLH	**Miaoli**	**1.47**	**262**	*e*P	Pn	13 43 25.6	+0.6
	baz=262						
VWDT	**VWDT**	**1.51**	**229**	P	Pn	13 43 25.9	+0.4
	baz=224						
VWDT				S	Sn	13 43 45.6	-0.2
	baz=224						
WCS	**Beigang Elemen**	**1.51**	**243**	*e*P	Pn	13 43 26.8	+1.3
	baz=238						
WCS				*e*S	Sn	13 43 47.0	+1.0
	baz=238						
TWQ1	**Liyutan**	**1.53**	**255**	*e*P	Pn	13 43 26.6	+0.9
	baz=255						
TWQ1				*e*S	Sn	13 43 47.1	+0.9
	baz=255						
HGSD	**Ruisui**	**1.53**	**216**	*e*P	Pn	13 43 25.2	-0.5
	baz=210						
HGSD				*e*S	Sn	13 43 44.5	-1.7
	baz=210						
EHY	**Hungye**	**1.57**	**219**	*e*P	Pn	13 43 25.5	-0.8
	baz=226						
EHY				*e*S	Sn	13 43 44.7	-2.5
	baz=226						
SMLT	**Sun Moon Lake**	**1.61**	**238**	P	Pn	13 43 28.2	+1.4
	baz=234						
SMLT				*e*S	Sn	13 43 50.2	+2.0
	baz=234						
SSLB	**Suanglung**	**1.62**	**234**	*e*P	Pn	13 43 27.9	+1.0
	baz=231						
SSLB				*e*S	Sn	13 43 49.3	+0.9
	baz=231						
YULB	**Yu-li**	**1.68**	**217**	*e*P	Pn	13 43 26.2	-1.4
	baz=224						
YULB				*e*S	Sn	13 43 47.0	-2.5
	baz=224						
EYUL	**Yuli**	**1.70**	**215**	*e*P	Pn	13 43 27.6	-0.3
	baz=222						
TWF1	**Yuli**	**1.71**	**216**	*e*P	Pn	13 43 27.1	-0.9
	baz=222						
TWF1				*e*S	Sn	13 43 48.1	-2.1
	baz=222						
WHYT	**Xinyi Township**	**1.75**	**234**	*e*P	Pn	13 43 29.9	+1.4
	baz=227						
WHYT				*e*S	Sn	13 43 52.8	+1.7
	baz=227						
WJS	**Zhushan**	**1.77**	**239**	*e*S	Sn	13 43 53.7	+2.1
	baz=248						
FULB	**Fuli**	**1.84**	**213**	P	Pn	13 43 29.3	-0.2
	baz=221						
FULB				*e*S	Sn	13 43 52.5	-0.6
	baz=221						
ALS	**Alishan**	**1.90**	**230**	*e*P	Pn	13 43 31.5	+0.9
	baz=224						
ALS				*e*S	Sn	13 43 56.5	+1.6
	baz=224						
EHD	**Haiduan**	**1.92**	**215**	*e*P	Pn	13 43 30.6	0.0
	baz=214						
EHD				*e*S	Sn	13 43 52.4	-2.6
	baz=214						
CHN5	**Tsauling**	**1.94**	**234**	*e*P	Pn	13 43 32.0	+1.2
	baz=243						
CHN5				*e*S	Sn	13 43 56.5	+1.1
	baz=243						
ELDTW	**Lidau**	**1.99**	**219**	*e*P	Pn	13 43 31.5	-0.1
	baz=219						
ELDTW				*e*S	Sn	13 43 55.6	-1.2
	baz=219						
WRL	**Guolierlin Hig**	**2.02**	**246**	*e*P	Pn	13 43 31.9	+0.1
	baz=252						
WRL				*e*S	Sn	13 43 56.8	-0.4
	baz=252						
WCKO	**Fanlu**	**2.09**	**232**	*e*P	Pn	13 43 34.4	+1.7
	baz=231						
WCKO				*e*S	Sn	13 44 00.6	+1.9
	baz=231						
STYH	**Taoyuan**	**2.15**	**224**	*e*P	Pn	13 43 34.2	+0.7
	baz=223						
TPUB	**Ta-pu**	**2.16**	**229**	*e*P	Pn	13 43 35.5	+1.9
	baz=239						
TPUB				*e*S	Sn	13 44 01.6	+1.2
	baz=239						
LONT	**Longtian**	**2.16**	**213**	*e*P	Pn	13 43 31.8	-1.9
	baz=212						
LONT				*e*S	Sn	13 43 59.0	-1.4
	baz=212						
STYT	**Tauyuan**	**2.17**	**224**	*e*P	Pn	13 43 35.2	+1.4
	baz=216						
STYT				*e*S	Sn	13 44 02.1	+1.4
	baz=216						
WTP	**Ta-pu**	**2.21**	**228**	*e*P	Pn	13 43 35.8	+1.6
	baz=239						
WTP				*e*S	Sn	13 44 02.9	+1.4
	baz=239						
TWK	**Hsinying**	**2.28**	**230**	*e*P	Pn	13 43 34.8	-0.4
	baz=239						
TWK				*e*S	Sn	13 44 05.6	+2.4
	baz=239						

JMA 17 13:43:08.2±0.2,**24˚.2N**±0˚.4×**123˚.9E**±0˚.4,**h17**km±1km, **MV1.0/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKRS	**Kuro-shima**	**0.15**	**86**	*i* P	Pg	13 43 12.3	0.0
JKRS				*e*S	Sb	13 43 15.5	+0.1
IRIF	**Iriomote-Funau**	**0.15**	**315**	*e*P	Pg	13 43 12.4	0.0
IRIF				*e*S	Sg	13 43 15.0	-0.3
HATJ	**Hateruma jima**	**0.17**	**193**	*i* P	Pg	13 43 12.6	-0.1
JIJ	**Ishigaki jima**	**0.30**	**63**	*i* P	Pg	13 43 14.4	-0.3
JIJ				*e*S	Sg	13 43 19.0	-0.2
JISG	**Ishigakijimahi**	**0.55**	**50**	P	Pg	13 43 19.1	-0.1
JISG				S	Sb	13 43 27.6	+0.5
JTJ	**Tarama**	**0.88**	**62**	*e*S	Sn	13 43 37.6	-0.5

IDC ***17*** *14:14:08.3±0.8, 9˚.85S×126˚.96E, h0km, mb4.2/12, mbtmp4.3/17, ML4.5/4, MS3.3/9, Error ellipse: s-maj=21.4km s-min=17.4km az=41.0*

NEIC ***17*** *14:14:09.1±2.2, 9˚.99S±0˚.07×126˚.86E±0˚.04, h10km±1km, mb4.2/7, Error ellipse: s-maj=12.4km s-min=3.5km az=155.0*

DJA ***17*** *14:14:12.3±2.1, 10˚S±4˚×12˚7E±˚, h14km±17km, M4.7/7, mb4.7/6, MLv4.6/7*

ISC 17 14:14:10.1±0.5,**9˚.97S**±0˚.06×**126˚.94E**±0˚.05,**h10**km,**n66,** σ1s**89**/61,**mb4.2**/16,**MS3.2**/5,**Timor region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**2.64**	**274**		**Pn**	**14 14 53.1**	**+0.2**
SOEI	**Soe**	**2.64**	**274**	P	**Pn**	**14 14 53.1**	**+0.2**
BATI	**Baumata**	**3.23**	**265**	Pn	**Pn**	**14 15 01.5**	**+0.5**
	48nm,0.3s,baz=226,slow=1.5,SNR=44						
BATI				Sn	**Sn**	**14 15 40.4**	**+0.8**
	64nm,0.3s,baz=56,slow=22,SNR=7.2 106nm,0.3s						
BATI	**Baumata**	**3.23**	**265**	P	**Pn**	**14 15 01.4**	**+0.5**
MMRI	**Maumere**	**4.82**	**286**	Pn	**Pn**	**14 15 21.5**	**-1.3**
MMRI	**Maumere**	**4.82**	**286**	P	**Pn**	**14 15 25.5**	**+2.7**
MMRI	**Maumere**	**4.82**	**286**	P	**Pn**	**14 15 23.1**	**+0.3**
MTN	**Manton Dam**	**5.01**	**125**		**Pn**	**14 15 29.5**	**+4.1**
MTN	**Manton Dam**	**5.01**	**125**	P	**Pn**	**14 15 29.7**	**+4.3**
EDFI	**Ende, Flores**	**5.32**	**283**	P	**Pn**	**14 15 29.8**	**+0.1**
KNRA	**Kununurra**	**5.95**	**163**		**Pn**	**14 15 40.4**	**+2.2**
KNRA	**Kununurra**	**5.95**	**163**	P	**Pn**	**14 15 40.5**	**+2.2**
KDU	**Kakadu**	**6.07**	**117**	P	**Pn**	**14 15 42.4**	**+2.5**
BBSI	**Bau Bau**	**6.21**	**316**	P	**Pn**	**14 15 41.2**	**-0.6**
	61nm,0.8s,0.2nm						
BASI	**Baing, Sumba**	**6.26**	**267**	P	**Pn**	**14 15 43.7**	**+1.0**
	127nm,1.0s,0.7nm	

WRKA	**Warakurna**	**15.04**	**175**	P	**Pn**	**14 17 41.3**	**-1.6**
AS31	**Alice Springs**	**15.16**	**155**		**Pn**	**14 17 42.6**	**-1.9**
AS31				IAmb	IAmb	14 17 56.0	
	comp=Z,6.8nm,0.7s						
ASAR	**Alice Springs**	**15.16**	**155**		**Pn**	**14 17 42.6**	**-1.9**
ASAR	**Alice Springs**	**15.16**	**155**	Pn	**Pn**	**14 17 43.2**	**-1.3**
	comp=Z,2.6nm,0.3s,baz=321,slow=10,SNR=171						
ASAR				Sn	**Sn**	**14 20 28.1**	**-4.5**
	comp=Z,1.4nm,0.3s,baz=312,slow=20,SNR=6.0						
ASAR				LR	LR	14 23 55.4	
	comp=Z,125nm,20.0s,baz=330,slow=38 comp=Z,7.2nm,0.5s						
QIS	**Mount Isa**	**16.12**	**132**	P	**Pn**	**14 17 56.5**	**-0.5**
COEN	**Coen**	**16.37**	**106**	Pn	**Pn**	**14 17 56.8**	**-3.5**
COEN				IAmb	IAmb	14 18 32.6	
	comp=Z,39nm,1.4s						
COEN	**Coen**	**16.37**	**106**	P	**Pn**	**14 18 02.2**	**+2.0**
DAV	**Davao City (W)**	**16.98**	**355**	LR	LR	14 25 26.2	
	comp=Z,92nm,18.4s,baz=313,slow=40						
MEEK	**Meekatharra**	**18.35**	**204**	P	**Pn**	**14 18 25.0**	**+0.1**
MTSU	**Mount Surprise**	**18.70**	**118**	P	**Pn**	**14 18 31.7**	**+2.5**
	comp=Z,8.6nm,1.1s						
LEM	**Lembang**	**19.36**	**278**	P	**P**	**14 18 37.8**	**+1.5**
	comp=Z,4.0nm,0.3s,baz=70,slow=12,SNR=4.5						
LEM				LR	LR	14 26 50.6	
	comp=Z,98nm,18.8s,baz=94,slow=39 comp=Z,11nm,0.3s						
OOD	**Oodnadatta**	**19.56**	**156**	P	**P**	**14 18 38.7**	**+0.6**
PMG	**Port Moresby**	**19.94**	**90**	P	**P**	**14 18 43.3**	**+0.8**
	comp=Z,3.6nm,0.6s,baz=257,slow=19,SNR=1.3						
PMG				LR	LR	14 29 00.4	
	comp=Z,57nm,18.9s,baz=254,slow=45						
CTA	**Charters Tower**	**21.18**	**121**	P	**P**	**14 18 58.9**	**+3.1**
	comp=Z,5.6nm,1.0s,baz=270,slow=4.6,SNR=3.0						
CTA				LR	LR	14 26 53.9	
	comp=Z,76nm,22.0s,baz=181,slow=36						
NWAO	**Narrogin (SRO)**	**24.54**	**200**	LR	LR	14 29 41.5	
	comp=Z,76nm,18.3s,baz=142,slow=38						
STKA	**Stephens Creek**	**25.69**	**150**	P	**P**	**14 19 41.0**	**+0.6**
	comp=Z,3.9nm,0.7s,baz=315,slow=16,SNR=1.3						
STKA				LR	LR	14 30 47.7	
	comp=Z,78nm,18.8s,baz=18,slow=39 comp=Z,3.9nm,0.7s						
CM31	**Chiang Mai Arr**	**39.51**	**316**	P	P	14 21 38.1	-3.2
CM31				IAmb	IAmb	14 21 43.0	
	comp=Z,6.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**39.51**	**316**	P	**P**	**14 21 39.6**	**-1.7**
CMAR	**Chiang Mai Arr**	**39.51**	**316**	P	**P**	**14 21 40.0**	**-1.2**
	comp=Z,5.0nm,0.7s,baz=145,slow=6.7,SNR=24						
CMAR				LR	LR	14 39 03.5	
	comp=Z,32nm,21.1s,baz=175,slow=38 comp=Z,5.0nm,0.7s						
DZM	**Mont Dzumac**	**39.71**	**113**	LR	LR	14 38 29.8	
	comp=Z,41nm,19.7s,baz=250,slow=37						
CRAI	**Chiangrai**	**39.80**	**319**		P	14 21 41.2	-2.4
CRAI				IAmb	IAmb	14 21 45.7	
	comp=Z,4.7nm,0.8s						
MJAR	**Matsushiro Arr**	**47.46**	**12**	P	P	14 22 42.6	-2.6
	comp=Z,1.3nm,0.6s,baz=188,slow=8.5,SNR=8.9 comp=Z,1.3nm,0.6s						
USRK	**Ussuriysk Ar.**	**54.10**	**4**	P	**P**	**14 23 34.0**	**-1.1**
USRK	**Ussuriysk Ar.**	**54.10**	**4**	P	**P**	**14 23 34.3**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=176,slow=6.6,SNR=2.8 comp=Z,1.4nm,0.6s						
ASAJ	**Asahikawa**	**55.67**	**14**	P	**P**	**14 23 45.5**	**-1.0**
	comp=Z,16nm,1.1s,baz=288,slow=19,SNR=6.1 comp=Z,16nm,1.1s						
SONM	**Songino Array**	**60.37**	**344**	P	**P**	**14 24 18.4**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=155,slow=7.1,SNR=5.0 comp=Z,1.2nm,0.6s						
PETK	**Petropavlovsk-**	**68.09**	**19**	P	**P**	**14 25 09.7**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=159,slow=4.3,SNR=1.8 comp=Z,2.9nm,0.8s						
MK31	**Makanchi Array**	**69.11**	**329**	P	**P**	**14 25 15.7**	**-0.8**
MKAR	**Makanchi Array**	**69.11**	**329**	P	**P**	**14 25 14.9**	**-1.6**
MKAR	**Makanchi Array**	**69.11**	**329**	P	**P**	**14 25 15.1**	**-1.4**
	comp=Z,0.8nm,0.5s,baz=140,slow=5.7,SNR=13 comp=Z,0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**72.95**	**336**	P	**P**	**14 25 39.5**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=131,slow=6.1,SNR=5.2 comp=Z,0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**73.50**	**330**	P	**P**	**14 25 41.5**	**-1.4**
	comp=Z,1.5nm,0.9s,baz=130,slow=5.0,SNR=10 comp=Z,1.5nm,0.9s						
SEY	**Seymchan**	**75.28**	**12**	P	**P**	**14 25 53.0**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=182,slow=4.8,SNR=11 comp=Z,1.8nm,0.6s						
BVAR	**Borovoye Array**	**78.99**	**329**	P	**P**	**14 26 14.1**	**0.0**
	comp=Z,0.6nm,0.5s,baz=145,slow=5.4,SNR=3.9 comp=Z,0.6nm,0.5s						
QSPA	**South Pole Qui**	**80.03**	**180**	P	P	14 26 13.1	-6.7
QSPA				IAmb	IAmb	14 26 23.0	
	comp=Z,3.3nm,1.2s						
TORD	**Torodi Ar. Bea**	**126.34**	**279**	PKP	**PKPdf**	**14 33 15.0**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=52,slow=2.4,SNR=1.7						
LPAZ	**La Paz**	**149.95**	**150**	PKPbc	**PKPdf**	**14 34 02.2**	**+4.5**
	comp=Z,0.8nm,0.8s,baz=243,slow=4.5,SNR=2.0						

IDC 17 14:16:35.2±4.9, 9°47S×126°75E, h0km, mb3.8/4, mbtmp3.8/5, ML3.7/1, Error ellipse: s-maj=112.1km s-min=31.1km az=152.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.13**	**256**	Pn	Pn	14 17 26.1	+0.3
	9.9nm,0.3s,baz=22,slow=21,SNR=1.2						
BATI				Sn	Sn	14 18 04.4	+0.4
	28nm,0.3s,baz=124,slow=21,SNR=8.9 37nm,0.5s						
CMAR	**Chiang Mai Arr**	**39.02**	**315**	P	P	14 24 04.3	+0.5
	1.8nm,0.8s,baz=143,slow=6.6,SNR=9.0 1.8nm,0.8s						
SONM	**Songino Array**	**59.84**	**344**	P	P	14 26 42.3	-0.3
	0.4nm,0.5s,baz=156,slow=7.9,SNR=2.8 0.4nm,0.5s						
MKAR	**Makanchi Array**	**68.59**	**329**	P	P	14 27 39.1	-0.9
	0.5nm,0.8s,baz=130,slow=7.8,SNR=3.3 0.5nm,0.8s						
SEY	**Seymchan**	**74.83**	**12**	P	P	14 28 17.6	+0.5
	1.0nm,0.6s,baz=236,slow=5.2,SNR=4.2 1.0nm,0.6s						

*NEIC **17** 14:21:20.9±2.7, 6°0S±0°1×142°7E±0°1, h10km±1km, mb4.3/8, Error ellipse: s-maj=22.6km s-min=16.1km az=21.0*
*IDC **17** 14:21:21.7±1.1, 5°99S×142°69E, h0km, mb4.0/4, mbtmp4.0/7, ML4.1/2, Error ellipse: s-maj=33.2km s-min=22.3km az=78.0*
ISC 17 14:21:22.5±0.7, 6°16S±0°08×142°61E±0°07, h10km, n26, σ2°35/28, mb4.2/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**1.64**	**303**	P	**Pg**	**14 21 52.7**	**-1.3**
PMG	**Port Moresby**	**5.54**	**126**		**Pn**	**14 22 46.8**	**+1.7**
PMG	**Port Moresby**	**5.54**	**126**	Pn	**Pn**	**14 22 47.2**	**+2.0**
	12nm,0.4s,baz=344,slow=7.4,SNR=15						
PMG				Sn	**Sn**	**14 23 51.8**	**+2.8**
	1.5nm,0.3s,baz=298,slow=15,SNR=1.4						
FAKI	**Fak Fak**	**10.81**	**287**	Pn	**Pn**	**14 23 57.2**	**-0.4**
FAKI	**Fak Fak**	**10.81**	**287**	P	**Pn**	**14 23 59.8**	**+2.2**
KDU	**Kakadu**	**11.91**	**236**	P	**Pn**	**14 24 15.9**	**+3.3**
MTN	**Manton Dam**	**13.12**	**239**	Pn	**Pn**	**14 24 29.9**	**+0.8**
MTN	**Manton Dam**	**13.12**	**239**	P	**Pn**	**14 24 32.4**	**+3.4**
CTAO	**Charters Tower**	**14.29**	**166**	Pn	**Pn**	**14 24 42.2**	**-2.9**
WR0	**Warramunga Arr**	**15.80**	**209**	Pn	**Pn**	**14 25 04.4**	**-0.8**
WR0				IAmb	IAmb	14 25 18.0	
	comp=Z,45nm,1.4s						
WB2	**Warramunga Arr**	**15.87**	**210**	Pn	**Pn**	**14 25 06.5**	**+0.2**
WB2				IAmb	IAmb	14 25 18.5	
	comp=Z,24nm,1.1s						
WRA	**Warramunga Arr**	**15.88**	**210**	Pn	**Pn**	**14 25 07.6**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=32,slow=13,SNR=7.9						
WRA				Sn	**Sn**	**14 27 56.1**	**-6.4**
	comp=Z,0.4nm,0.3s,baz=40,slow=23,SNR=2.8						
WRA				Lg	Lg	14 29 52.1	
	comp=Z,0.3nm,0.3s,baz=31,slow=26,SNR=5.9 comp=Z,1.9nm,0.5s						
KNRA	**Kununurra**	**16.55**	**234**	Pn	**Pn**	**14 25 14.9**	**+0.1**
KNRA	**Kununurra**	**16.55**	**234**	P	**P**	**14 25 16.9**	**-0.5**
AS31	**Alice Springs**	**19.31**	**205**		**Pn**	**14 25 49.6**	**+0.6**
ASAR	**Alice Springs**	**19.31**	**205**		**Pn**	**14 25 51.0**	**+2.0**
ASAR	**Alice Springs**	**19.31**	**205**	P	**Pn**	**14 25 51.4**	**+2.4**
	comp=Z,0.9nm,0.3s,baz=34,slow=9.1,SNR=14						
ASAR				S	Sn	14 29 17.0	-8.7
	comp=Z,0.9nm,0.7s,baz=16,slow=28,SNR=3.1						
ASAR				Lg	Lg	14 31 41.1	
	comp=Z,0.1nm,0.3s,baz=26,slow=32,SNR=3.6 comp=Z,5.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.37**	**233**	P	**P**	**14 26 00.5**	**+1.0**
ARMA	**Armidale**	**25.58**	**162**	P	**P**	**14 26 50.0**	**-2.0**
ARMA				IAmb	IAmb	14 27 01.7	
	comp=Z,10nm,1.2s						
MKAR	**Makanchi Array**	**74.88**	**322**	P	**P**	**14 33 00.6**	**-3.0**
MKAR	**Makanchi Array**	**74.88**	**322**	P	**P**	**14 33 04.4**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=98,slow=8.7,SNR=5.0 comp=Z,0.5nm,0.8s						
QSPA	**South Pole Qui**	**83.81**	**180**	P	**P**	**14 33 50.8**	**-1.3**
QSPA	**South Pole Qui**	**83.81**	**180**	P	**P**	**14 33 53.4**	**+1.4**
	comp=Z,1.7nm,0.7s,baz=304,slow=1.2,SNR=12 comp=Z,1.7nm,0.7s						
BVAR	**Borovoye Array**	**84.35**	**325**	P	**P**	**14 33 55.6**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=98,slow=7.4,SNR=6.7 comp=Z,1.0nm,0.5s						
F20K	**Avaraart Lake**	**85.01**	**20**	P	**P**	**14 33 54.5**	**-3.4**
F20K				IAmb	IAmb	14 34 31.6	
	comp=Z,2.3nm,1.4s						
ILAR	**Eielson Array**	**87.37**	**24**	P	**P**	**14 34 08.9**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=267,slow=5.6,SNR=4.1 comp=Z,0.5nm,0.8s						

*SOME **17** 14:42:03.8, 39°45N×79°38E, h0km*
NNC 17 14:42:39.0±2.4, 41°26N×78°69E, h0km, mb2.8, mpv2.4, 2C, Error ellipse: s-maj=16.3km s-min=11.7km az=170.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**1.81**	**353**	*e*P	Pb	14 43 12.4	-0.6
	2.0nm,0.2s						
SATY				*e*S	Sb	14 43 36.5	+0.1
	3.2nm,0.1s						
SATY	**Saty**	**1.81**	**353**	P	Pg	14 43 13.4	-0.3
	1.1nm,0.2s						
SATY				S	Sg	14 43 38.4	+1.3
	2.3nm,0.2s						
UZB	**Uzynbulak**	**1.90**	**7**	*e*P	Pn	14 43 13.5	+0.7
	1.2nm,0.2s						
UZB				*e*S	Sb	14 43 38.3	-0.7
	1.5nm,0.3s						
UZB	**Uzynbulak**	**1.90**	**7**	P	Pn	14 43 13.5	+0.7
	1.2nm,0.2s						
UZB				S	Sb	14 43 38.3	-0.7
	1.5nm,0.3s						
PDGK	**Podgornoye**	**2.15**	**16**	Pg	Pn	14 43 17.3	+1.1
	0.9nm,0.7s						
PDGK				Lg	Lg	14 43 45.2	
	1.6nm,0.5s						
PDGK	**Podgornoye**	**2.15**	**16**	⇑Pg	Pn	14 43 16.8	+0.6
	0.4nm,0.3s						
PDGK				⇑Lg	Lg	14 43 46.9	
	3.5nm,0.9s						
TNSS	**Tian-Shan**	**2.20**	**324**	*e*P	Pb	14 43 20.0	+0.2
	0.9nm,0.3s						
TNSS				*e*S	Sg	14 43 49.6	-0.1
	1.0nm,0.3s						
TNSS	**Tian-Shan**	**2.20**	**324**	Pg	Pb	14 43 20.0	+0.2
	0.9nm,0.3s						
TNSS				Lg	Lg	14 43 49.6	
	1.0nm,0.3s						
MDOK	**Medeo**	**2.26**	**328**	*e*P	Pb	14 43 20.6	-0.2
	1.2nm,0.3s						
MDOK				*e*S	Sb	14 43 50.4	+1.1
	3.9nm,0.3s						
MDOK	**Medeo**	**2.26**	**328**	Pg	Pn	14 43 19.0	+1.3
	0.3nm,0.4s						
MDOK				Pg	Pb	14 43 19.2	-1.5
	2.9nm,0.9s						
MDOK				Lg	Lg	14 43 48.1	
	3.7nm,0.5s						
MDOK				Lg	Lg	14 43 50.6	
	4.2nm,0.8s						
KOTS	**Kotyrbulak**	**2.29**	**330**	*e*P	Pb	14 43 21.5	+0.2
	1.4nm,0.3s						
KOTS				*e*S	Sg	14 43 52.1	-0.6
	12nm,0.7s						
KOTS	**Kotyrbulak**	**2.29**	**330**	Pg	Pg	14 43 22.6	-0.4
	1.4nm,0.3s						
KOTS				Lg	Lg	14 43 54.3	
	12nm,0.9s						
MTBS	**Maitube**	**2.51**	**319**	*e*P	Pb	14 43 24.7	-0.3
	1.0nm,0.3s						
MTBS				*e*S	Sb	14 43 58.0	+1.5
	1.7nm,0.2s						
MTBS	**Maitube**	**2.51**	**319**	Pg	Pb	14 43 24.7	-0.3
	1.0nm,0.3s						
MTBS				Lg	Lg	14 43 58.0	
	1.7nm,0.2s						
KTBS	**Karatobe**	**2.87**	**329**	*e*P	Pb	14 43 31.5	+0.5
	0.7nm,0.2s						
KTBS				*e*S	Sg	14 44 09.2	-1.8
	3.1nm,0.4s						
KTBS	**Karatobe**	**2.87**	**329**	Pg	Pb	14 43 29.9	-1.1
	1.1nm,0.8s						
KTBS				Lg	Lg	14 44 06.9	
	2.5nm,0.5s						
CHKK	**Chushkaly**	**2.88**	**335**	*e*P	Pb	14 43 31.6	+0.4
	0.5nm,0.1s						
CHKK				*e*S	Sg	14 44 09.6	-2.0
	2.9nm,0.3s						
CHKK	**Chushkaly**	**2.88**	**335**	Pg	Pb	14 43 31.6	+0.4
	0.5nm,0.1s						
CHKK				Lg	Lg	14 44 09.6	
	2.9nm,0.3s						
KNOS	**Konyrlen**	**3.12**	**6**	Pg	Pb	14 43 35.8	+0.4
	1.8nm,0.9s						
KNOS				Lg	Lg	14 44 16.6	
	1.5nm,1.4s						

*KRNET **17** 15:02:02.4±0.1, 39°77N×75°32E, mb3.6*
*SOME **17** 15:02:02.9, 39°85N×75°38E, h5km*
*NNC **17** 15:02:05.8±0.7, 39°93N×75°44E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=5.7km s-min=4.2km az=159.0*
ISC 17 15:02:04.6±1.2, 39°78N±0°06×75°30E±0°03, h10km, n83, σ1°84/126, 46C-14D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.40**	**280**	⇑*i*P	**Pn**	**15 02 28.4**	**-2.1**
	baz=80						
SFK				⇑*i*S	**Sn**	**15 02 47.2**	**-1.9**
	baz=80						
NRN	**Naryn**	**1.74**	**18**	⇑*i*P	**Pn**	**15 02 33.9**	**-1.3**
	baz=17						
NRN				⇑*i*S	**Sn**	**15 02 56.7**	**-0.9**
	baz=17						
OHH	**Osh**	**2.06**	**292**	⇑*i*P	**Pn**	**15 02 39.1**	**-0.4**
	baz=92						
OHH				⇑*i*S	**Sn**	**15 03 05.9**	**+0.6**
	baz=92						
ARLS	**Aral**	**2.21**	**341**	⇑*i*P	**Pn**	**15 02 41.1**	**-0.4**
	baz=40						
ARLS				⇑*i*S	**Sn**	**15 03 09.2**	**+0.2**
	baz=40						
ARSB	**Arslanbob**	**2.34**	**312**	⇑*e*P	**Pn**	**15 02 43.2**	**-0.2**
	baz=12						
ARSB				⇑*e*S	**Sn**	**15 03 13.1**	**+0.8**
	baz=12						
UCH	**Uchtor**	**2.52**	**347**	P	**Pn**	**15 02 46.8**	**+0.7**
	SNR=100						
UCH	**Uchtor**	**2.52**	**347**	⇑*i*P	**Pn**	**15 02 45.7**	**-0.4**
	baz=46						
UCH				⇑*i*S	**Sn**	**15 03 17.3**	**+0.2**
	baz=46						
ULHL	**Ulahol**	**2.57**	**16**	P	**Pb**	**15 02 49.0**	**-2.0**
	SNR=10						
ULHL	**Ulahol**	**2.57**	**16**	⇑*i*P	**Pn**	**15 02 46.0**	**-0.5**
	baz=16						
ULHL				⇑*i*S	**Sn**	**15 03 17.9**	**0.0**
	baz=16						
DRK	**Karamyk**	**2.72**	**265**	⇓*i*P	**Pn**	**15 02 48.4**	**-0.2**
	baz=65						
DRK				⇓*i*S	**Sn**	**15 03 21.9**	**+0.2**
	baz=65						
KDJ	**Kajisay**	**2.75**	**31**	⇓*i*P	**Pn**	**15 02 48.3**	**-0.7**
	baz=31						
KDJ				⇓*i*S	**Sn**	**15 03 22.0**	**-0.4**
	baz=31						
KBK	**Karagaybulak**	**2.89**	**355**	P	**Pn**	**15 02 52.2**	**+1.3**
	SNR=47						
KBK	**Karagaybulak**	**2.89**	**355**	⇓*i*P	**Pn**	**15 02 50.6**	**-0.3**
	baz=55						
KBK				⇓*i*S	**Sn**	**15 03 25.8**	**0.0**
	baz=55						
AAK	**Ala-Archa**	**2.92**	**348**	P	**Pn**	**15 02 52.8**	**+1.5**
	SNR=73						
AAK	**Ala-Archa**	**2.92**	**348**	⇑*i*P	**Pn**	**15 02 51.2**	**-0.1**
	baz=48						
AAK				⇑*i*S	**Sn**	**15 03 26.4**	**-0.2**
	baz=48						
FRU1	**Bishkek**	**3.07**	**351**	⇑*i*P	**Pn**	**15 02 53.3**	**0.0**
	baz=51						
FRU1				⇑*i*S	**Sn**	**15 03 30.5**	**+0.4**
	baz=51						
EKS2	**Erkin-Say**	**3.10**	**339**	P	**Pn**	**15 02 55.0**	**+1.3**
	SNR=25						
EKS2	**Erkin-Say**	**3.10**	**339**	⇓*i*P	**Pn**	**15 02 53.5**	**-0.3**
	baz=39						
EKS2				⇓*i*S	**Sn**	**15 03 30.9**	**-0.1**
	baz=39						
TKM2	**Tokmak 2**	**3.15**	**4**	P	**Pn**	**15 02 55.7**	**+1.2**
	SNR=39						
TKM2	**Tokmak 2**	**3.15**	**4**	⇓Pn	**Pn**	**15 02 55.5**	**+1.0**
	28nm,0.3s						
TKM2				⇓Lg	Lg	15 03 40.9	
	65nm,0.7s						
TKM2	**Tokmak 2**	**3.15**	**4**	⇑*i*P	**Pn**	**15 02 54.3**	**-0.2**
	baz=4.0						
TKM2				⇑*i*S	**Sn**	**15 03 31.9**	**-0.4**
	baz=4.0						
ARK	**Arkit**	**3.24**	**310**	⇑*i*P	**Pn**	**15 02 55.5**	**-0.1**
	baz=10.0						
ARK				⇑*i*S	**Sn**	**15 03 34.3**	**0.0**
	baz=10.0						
CHMS	**Chumysh**	**3.25**	**353**	P	**Pn**	**15 02 57.0**	**+1.4**
	SNR=46						
CHMS	**Chumysh**	**3.25**	**353**	⇑Pn	**Pn**	**15 02 56.7**	**+1.0**
	40nm,0.4s						
CHMS				⇑Lg	Lg	15 03 44.9	
	49nm,0.9s						
CHMS	**Chumysh**	**3.25**	**353**	⇑*i*P	**Pn**	**15 02 55.3**	**-0.4**
	baz=53						
CHMS				⇑*i*S	**Sn**	**15 03 33.8**	**-0.6**
	baz=53						
KST	**Kastek**	**3.30**	**9**	*e*P	**Pb**	**15 03 03.2**	**-0.2**
	22nm,0.5s						
KST				*e*S	**Sb**	**15 03 46.9**	**+3.2**
	90nm,0.6s						
KST	**Kastek**	**3.30**	**9**	Pg	**Pb**	**15 03 03.2**	**-0.2**
	22nm,0.5s						
KST				Lg	Lg	15 03 46.9	
	90nm,0.6s						
MRKS	**Merke**	**3.35**	**333**	*e*P	**Pb**	**15 03 04.3**	**+0.1**
	17nm,0.5s						
MRKS				*e*S	**Sb**	**15 03 48.6**	**+3.5**
	51nm,0.7s						
MRKS	**Merke**	**3.35**	**333**	Pg	**Pb**	**15 03 04.3**	**+0.1**
	17nm,0.5s						
MRKS				Lg	Lg	15 03 48.6	
	51nm,0.7s						
IZV	**Izvestkoviy**	**3.40**	**16**	*e*P	**Pb**	**15 03 04.5**	**-0.6**
	24nm,0.2s						
IZV				*e*S	**Sb**	**15 03 48.5**	**+1.9**
	145nm,0.6s						
IZV	**Izvestkoviy**	**3.40**	**16**	Pg	**Pb**	**15 03 05.7**	**+0.6**
	22nm,0.3s						
IZV				Lg	Lg	15 03 50.8	
	145nm,0.7s						
MNAS	**Manas**	**3.43**	**323**	⇑*e*P	**Pn**	**15 02 58.0**	**-0.3**
	baz=23						
MNAS				⇑*e*S	**Sn**	**15 03 38.4**	**-0.7**
	baz=23						
BTK	**Batken**	**3.46**	**276**	⇑*e*P	**Pn**	**15 02 58.4**	**-0.2**
	baz=76						
BTK				⇑*i*S	**Sn**	**15 03 39.4**	**-0.2**
	baz=76						
MTBS	**Maitube**	**3.46**	**14**	*e*P	**Pb**	**15 03 06.1**	**+0.1**
	10nm,0.3s						
MTBS				*e*S	**Sg**	**15 03 51.6**	**-4.1**
	51nm,0.5s						
MTBS	**Maitube**	**3.46**	**14**	Pg	**Pb**	**15 03 06.1**	**+0.1**
	10nm,0.3s						
MTBS				Lg	Lg	15 03 51.6	
	51nm,0.5s						
DGS	**Degeres**	**3.48**	**6**	*e*P	**Pb**	**15 03 06.3**	**-0.1**
	20nm,0.5s						
DGS				*e*S	**Sb**	**15 03 52.0**	**+3.2**
	69nm,0.6s						
DGS	**Degeres**	**3.48**	**6**	Pg	**Pb**	**15 03 06.3**	**-0.1**
	20nm,0.5s						
DGS				Lg	Lg	15 03 52.0	
	69nm,0.6s						
TNSS	**Tian-Shan**	**3.48**	**20**	*e*P	**Pb**	**15 03 06.3**	**-0.4**
	22nm,0.2s						
TNSS				*e*S	**Sb**	**15 03 51.7**	**+2.5**
	54nm,0.4s						
TNSS	**Tian-Shan**	**3.48**	**20**	Pg	**Pb**	**15 03 06.3**	**-0.4**
	22nm,0.2s						
TNSS				Lg	Lg	15 03 51.7	
	54nm,0.4s						
ANVS	**Anan'yevo**	**3.49**	**30**	⇑*e*P	**Pn**	**15 02 58.7**	**-0.5**
	baz=30						
ANVS				⇑*e*S	**Sn**	**15 03 40.0**	**-0.7**
	baz=30						
USP	**Ospenovka**	**3.54**	**351**	P	**Pn**	**15 03 00.6**	**+0.9**
	SNR=25						
USP	**Ospenovka**	**3.54**	**351**	⇑*i*P	**Pn**	**15 02 59.4**	**-0.3**
	baz=50						
USP				⇑*i*S	**Sn**	**15 03 41.2**	**-0.4**
	baz=50						
PRZ	**Przheval'sk**	**3.58**	**40**	⇑*e*P	**Pn**	**15 03 00.0**	**-0.4**
	baz=40						
PRZ				⇑*i*S	**Sn**	**15 03 42.0**	**-0.8**
	baz=40						
TRKS	**Terek-Say**	**3.61**	**300**	⇑*e*P	**Pn**	**15 03 00.0**	**-0.9**
	baz=99						
TRKS				⇑*i*S	**Sn**	**15 03 42.0**	**-1.7**
	baz=99						
MDOK	**Medeo**	**3.63**	**21**	*e*P	**Pb**	**15 03 08.2**	**-0.8**
	16nm,0.5s						
MDOK				*e*S	**Sb**	**15 03 55.8**	**+2.7**
	57nm,0.7s						
MDOK	**Medeo**	**3.63**	**21**	Pn	**Pn**	**15 03 01.4**	**+0.3**
	10nm,0.4s						
MDOK				Pg	**Pb**	**15 03 08.2**	**-0.8**
	16nm,0.5s						
MDOK				Lg	Lg	15 03 55.0	
	71nm,0.9s						
MDOK				Lg	Lg	15 03 55.8	
	57nm,0.7s						
KNDC	**Almaty**	**3.66**	**19**	Pn	**Pn**	**15 03 02.2**	**+0.9**
	30nm,0.4s						
KNDC				⇑Lg	Lg	15 03 56.8	
	274nm,0.8s						
SGDS	**Sogindy**	**3.71**	**352**	Pg	**Pb**	**15 03 10.8**	**+0.6**

ZHN	**Zhinishke**	**4.13**	**34**	*e*P	**Pb**	**15 03 17.8**	**+0.4**
	9.9nm,0.7s						
ZHN				*e*S	**Sb**	**15 04 11.4**	**+4.0**
	28nm,0.4s						
ZHN	**Zhinishke**	**4.13**	**34**	Pg	**Pb**	**15 03 17.8**	**+0.4**
	9.9nm,0.7s						
ZHN				Lg	Lg	15 04 11.4	
	28nm,0.4s						
CHKK	**Chushkaly**	**4.26**	**17**	*e*P	**Pb**	**15 03 19.7**	**0.0**
	19nm,0.7s						
CHKK				*e*S	**Sb**	**15 04 15.5**	**+4.2**
	45nm,0.8s						
CHKK	**Chushkaly**	**4.26**	**17**	Pg	**Pb**	**15 03 19.7**	**0.0**
	19nm,0.7s						
CHKK				Lg	Lg	15 04 15.5	
	45nm,0.8s						
KURS	**Kuram**	**4.29**	**29**	*e*P	**Pb**	**15 03 19.9**	**-0.3**
	6.8nm,0.7s						
KURS				*e*S	**Sb**	**15 04 15.7**	**+3.8**
	22nm,0.7s						
KURS	**Kuram**	**4.29**	**29**	Pg	**Pb**	**15 03 19.8**	**-0.3**
	6.8nm,0.7s						
KURS				Lg	Lg	15 04 15.7	
	22nm,0.7s						
UZB	**Uzynbulak**	**4.38**	**39**	*e*P	**Pb**	**15 03 21.8**	**+0.1**
	12nm,0.8s						
UZB				*e*S	**Sb**	**15 04 19.1**	**+4.4**
	16nm,0.5s						
UZB	**Uzynbulak**	**4.38**	**39**	Pg	**Pb**	**15 03 21.8**	**+0.1**
	12nm,0.8s						
UZB				Lg	Lg	15 04 19.1	
	16nm,0.5s						
SHLS	**Shalkode**	**4.60**	**41**	*e*P	**Pg**	**15 03 31.2**	**-1.7**
	19nm,0.7s						
SHLS				*e*S	**Sg**	**15 04 34.3**	**+1.8**
	31nm,0.9s						
SHLS	**Shalkode**	**4.60**	**41**	Pg	**Pg**	**15 03 31.2**	**-1.7**
	19nm,0.7s						
SHLS				Lg	Lg	15 04 34.3	
	31nm,0.9s						
PDGK	**Podgornoye**	**4.74**	**40**	Pg	**Pb**	**15 03 28.2**	**+0.3**
	3.2nm,0.7s						
PDGK				Lg	Lg	15 04 30.1	
	14nm,0.5s						
PDGK	**Podgornoye**	**4.74**	**40**	Pn	**Pn**	**15 03 15.7**	**-0.6**
	0.5nm,0.5s						
PDGK				Pg	**Pb**	**15 03 27.7**	**-0.2**
	1.5nm,0.5s						
PDGK				⇓Lg	Lg	15 04 29.1	
	44nm,1.1s						
ARXS	**Arharly**	**4.82**	**22**	*e*P	**Pb**	**15 03 29.3**	**+0.1**
	17nm,0.7s						
ARXS				*e*S	**Sb**	**15 04 31.8**	**+4.6**
	15nm,0.6s						
ARXS	**Arharly**	**4.82**	**22**	Pg	**Pb**	**15 03 29.3**	**+0.1**
	17nm,0.7s						
ARXS				Lg	Lg	15 04 31.8	
	15nm,0.6s						
KK31	**Karatay Array**	**4.90**	**314**	⇓Pn	Pn	15 03 22.7	+4.3
	0.7nm,0.4s,baz=120,slow=12,SNR=3.5						
KK31				⇑Pg	**Pb**	**15 03 33.3**	**+2.9**
	1.4nm,0.5s,baz=129,slow=16,SNR=7.0						
KK31				⇑Lg	Lg	15 04 37.0	
	4.8nm,0.6s,baz=128,slow=28,SNR=4.6						
KKAR	**Karatay Array**	**4.90**	**314**	⇑*i*P	**Pn**	**15 03 18.4**	**+0.1**
	baz=14						
KKAR				⇑*i*S	**Sn**	**15 04 13.9**	**-1.2**
	baz=14						
BLB	**Baldybastay**	**4.92**	**28**	Pg	**Pb**	**15 03 32.0**	**+0.9**
	12nm,0.4s						
BLB				Lg	Lg	15 04 36.1	
	8.3nm,0.5s						
BRLS	**Borolday**	**5.24**	**310**	*e*P	**Pb**	**15 03 38.3**	**+2.1**
	1.5nm,0.6s						
BRLS				*e*S	**Sg**	**15 04 47.3**	**-5.4**
	5.7nm,0.5s						
BRLS	**Borolday**	**5.24**	**310**	Pg	**Pb**	**15 03 38.3**	**+2.1**
	1.5nm,0.6s						
BRLS				Lg	Lg	15 04 47.3	
	5.7nm,0.5s						
KTMS	**Ketmen**	**5.27**	**44**	*e*P	**Pb**	**15 03 37.9**	**+0.9**
	0.9nm,0.2s						
KTMS				*e*S	**Sb**	**15 04 45.8**	**+5.4**
	3.2nm,0.3s						
KTMS	**Ketmen**	**5.27**	**44**	Pg	**Pb**	**15 03 37.9**	**+0.9**
	0.9nm,0.2s						
KTMS				Lg	Lg	15 04 45.8	
	3.2nm,0.3s						
KNOS	**Konyrlen**	**5.41**	**31**	Pg	**Pb**	**15 03 41.0**	**+1.6**
	5.6nm,0.8s						
KNOS				Lg	Lg	15 04 51.9	
	7.1nm,0.4s						
KAPS	**Kapalarasan**	**6.27**	**27**	*e*P	**Pb**	**15 03 57.4**	**+3.6**
	3.3nm,0.5s						
KAPS				*e*S	**Sg**	**15 05 19.3**	**-6.4**
	11nm,0.6s						
KAPS	**Kapalarasan**	**6.27**	**27**	Pg	**Pb**	**15 03 57.4**	**+3.6**
	3.3nm,0.5s						
KAPS				Lg	Lg	15 05 19.3	
	11nm,0.6s						
MAKZ	**Makanchi**	**8.55**	**33**	⇑Pg	Pg	15 04 39.7	-8.5
	0.2nm,0.4s						
MAKZ				⇓Lg	Lg	15 06 30.9	
	2.3nm,1.1s						
MK31	**Makanchi Array**	**8.67**	**34**	⇓Pn	**Pn**	**15 04 07.0**	**-3.1**
	0.2nm,0.4s,baz=213,slow=11,SNR=4.0						
MK31				⇑Lg	Lg	15 06 37.4	
	1.1nm,0.7s						
OTUK	**Ortayu**	**8.73**	**347**	⇑Lg	Lg	15 06 38.8	
	16nm,1.1s						

*JMA **17** 15:04:39.0±0.2,34°N±2°×13°7E±°, h374km, MV3.1/22, SE OFF KII PENINSULA*
*IDC **17** 15:04:40.0±2.3,33°.19N×137°.18E, h320km±82km, mb2.8/2, mbtmp3.4/4, Error ellipse: s-maj=123.2km s-min=18.1km az=155.0*
ISC 17 15:04:40.3±1.1,**33°.5N**±0°.1×**137°.21E**±0°.07,**h350**km,**n15,**
σ1§**57**/22,**Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.99**	**335**	P		P	**Pn**	**15 05 27.6**	**+1.7**
JTNC	**Tanabenakahech**	**1.38**	**284**	P		P	**Pn**	**15 05 29.2**	**+1.4**
JWY	**Kouya**	**1.53**	**299**	P		P	**Pn**	**15 05 30.2**	**+1.5**
JWY				S		e S	**S**	**15 06 08.2**	**+0.8**
JYTA	**Yamagatataniai**	**2.13**	**349**	P		P	**Pn**	**15 05 33.4**	**+1.0**
JAI	**Aioi**	**2.32**	**278**	P		P	**Pn**	**15 05 35.2**	**+1.2**
JWT	**Wachi**	**2.33**	**321**	P		P	**Pn**	**15 05 34.8**	**+0.8**
JWT				S		e S	**S**	**15 06 16.3**	**-0.8**
JOD2	**Odawara 2**	**2.35**	**41**	P		P	**Pn**	**15 05 35.3**	**+1.1**
JRY	**Ryogami san**	**2.88**	**28**	P		P	**Pn**	**15 05 39.5**	**+0.9**
JRY				S		e S	**S**	**15 06 26.0**	**+0.6**
MAT	**Matsushiro**	**3.15**	**15**	P		P	**Pn**	**15 05 41.1**	**+0.1**
MJAR	**Matsushiro Arr**	**3.15**	**15**	P		P	**Pn**	**15 05 40.9**	**-0.1**
	6.9nm,0.7s,baz=187,slow=9.5,SNR=51								
MJAR				S			**S**	**15 06 31.3**	**+1.5**
	0.6nm,0.5s,baz=195,slow=24,SNR=1.1								
BSO1	**Boso 1**	**3.33**	**69**	P		P	**Pn**	**15 05 41.3**	**-0.8**
BSO1				S		P	**S**	**15 06 31.4**	**-0.4**
JAG	**Ashikaga**	**3.46**	**32**	P		P	**Pn**	**15 05 43.0**	**-0.9**
JAG				S		P	**S**	**15 06 31.7**	**-3.3**
JNU	**Nakatsue**	**5.32**	**268**	P		P	**Pn**	**15 06 03.6**	**+0.2**
	2.7nm,0.4s,baz=20,slow=1.1,SNR=8.1								
JNU				S			**S**	**15 07 06.5**	**-4.2**
	4.6nm,1.0s,baz=24,slow=7.4,SNR=1.6								
WRA	**Warramunga Arr**	**53.20**	**183**	P		P	**P**	**15 13 23.8**	**+0.1**
	0.3nm,0.3s,baz=360,slow=7.6,SNR=6.6								
	0.3nm,0.3s								
ASAR	**Alice Springs**	**56.93**	**184**	P		P	**P**	**15 13 50.5**	**+0.4**
	0.3nm,0.9s,baz=356,slow=5.1,SNR=7.2								
	0.3nm,0.9s								

*MEX **17** 15:10:24.1±0.8, 18°.09N×105°.84W, h5km, MD4.1*
*IDC **17** 15:10:38.5±14.0, 18°.32N×105°.07W, h133km±117km, mb2.8/3, mbtmp3.3/5, ML3.2/2, MS3.2/7, Error ellipse: s-maj=175.0km s-min=42.8km az=52.0*
ISC 17 15:10:26.7±2.0,**18°.3N**±0°.2×**105°.6W**±0°.1,**h10**km,**n21,**
σ1§**45**/14,**mb3.1**/3,**MS3.1**/4,**Off coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CIHU	**Emiliano Zapat**	**1.23**	**40**	*e*P		P	**Pn**	**15 10 48.0**	**-2.1**
CJM	**Chamela**	**1.27**	**23**	*e*P		P	**Pn**	**15 10 49.1**	**-1.5**
CJM				*i* S			**Sn**	**15 11 09.1**	**+1.3**
CEGR	**Campo Tres**	**1.94**	**57**	*e*P		P	**Pn**	**15 10 59.3**	**-0.7**
COIG	**Colima**	**1.98**	**64**	*e*P		P	**Pn**	**15 10 59.0**	**-1.4**
ESTA	**Talpa de Allen**	**2.17**	**18**	*e*P		P	**Pn**	**15 11 02.9**	**-0.2**
MNGA	**Volcan de Coli**	**2.17**	**58**	*e*P		P	**Pn**	**15 11 03.0**	**-0.3**
EZ5V		**2.19**	**58**	*e*P		P	**Pn**	**15 11 03.6**	**0.0**
SOMAC	**Volcano de Col**	**2.20**	**57**	*e*P		P	**Pn**	**15 11 03.5**	**-0.2**
JUBC	**Volcan de Coli**	**2.24**	**58**	*e*P		P	**Pn**	**15 11 04.1**	**-0.1**
LPIG	**La Paz**	**7.25**	**323**	LR		LR		15 14 26.2	
	comp=Z,269nm,21.4s,baz=180,slow=30								
CMIG	**Matias Romero**	**10.27**	**95**	P		P	**Pn**	**15 12 56.0**	**+1.8**
	0.2nm,0.3s,baz=135,slow=20,SNR=2.5								
CMIG				LR		LR		15 17 02.1	
	comp=Z,79nm,20.0s,baz=288,slow=39								
	0.8nm,0.3s								
TXAR	**Lajitas Array**	**11.10**	**9**	P		Pn		15 13 12.4	+6.7
	baz=183,slow=14,SNR=8.5								
	1.2nm,0.9s								
PFO	**Pinyon Flats O**	**18.08**	**329**	LR		LR		15 20 50.5	
	comp=Z,27nm,19.3s,baz=233,slow=33								
NVAR	**Mina Array Bea**	**22.90**	**334**	P		P	**P**	**15 15 33.6**	**+2.6**
	0.6nm,1.0s,baz=157,slow=12,SNR=1.9								
NVAR				LR		LR		15 24 37.2	
	comp=Z,62nm,18.4s,baz=124,slow=36								
	0.6nm,1.0s								
ELK	**Elko**	**23.84**	**342**	LR		LR		15 24 28.4	
	comp=Z,67nm,18.0s,baz=155,slow=35								
PDAR	**Pinedale Array**	**24.60**	**353**	P		P	**P**	**15 15 47.3**	**-0.1**
	0.5nm,1.0s,baz=167,slow=9.2,SNR=4.4								
PDAR				LR		LR		15 25 23.9	
	comp=Z,48nm,18.1s,baz=188,slow=36								
	0.5nm,1.0s								
NEW	**Newport**	**31.31**	**345**	LR		LR		15 29 21.9	
	comp=Z,52nm,18.2s,baz=141,slow=36								
ILAR	**Eielson Array**	**53.98**	**340**	P		P	**P**	**15 19 49.2**	**-1.4**
	0.5nm,1.0s,baz=148,slow=9.1,SNR=4.0								
	0.5nm,1.0s								
H03N2	**Juan Fernandez**	**57.42**	**154**	T		T		16 21 54.0	
	baz=326								
H03N1	**Juan Fernandez**	**57.42**	**154**	T		T		16 21 54.2	
	baz=326,slow=74								
H03N3	**Juan Fernandez**	**57.43**	**154**	T		T		16 21 55.0	
	baz=326,slow=74								

*IDC **17** 15:12:21.7±0.5, 16°.72S×35°.56E, h0km, mb4.3/30, mbtmp4.3/33, ML4.8/3, MS3.9/12, Error ellipse: s-maj=16.4km s-min=14.2km az=93.0*
*NEIC **17** 15:12:22.9±2.3, 16°.79S±0°.04×35°.43E±0°.08, h10km±1km, mb4.8/32, Error ellipse: s-maj=14.2km s-min=3.6km az=119.0*
*EAF **17** 15:12:24.5±3.8, 17°.15S×35°.73E, h0km±270km, MD4.1*
*BUL **17** 15:12:26.7±3.6, 17°.14S×35°.61E, h10km±119km, MD4.7*
ISC 17 15:12:22.6±0.3,**16°.82S**±0°.04×**35°.46E**±0°.04,**h10**km,**n152,**
σ1§**96**/165,**mb4.7**/59,**MS3.9**/8,**8C-14D,Malawi**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRI	**Karoi**	**5.60**	**269**	⇑*i*P		P	**Pn**	**15 13 46.9**	**+0.7**
KRI				⇓*i*S		S	**Sn**	**15 14 46.6**	**-3.9**
KRI	**Karoi**	**5.60**	**269**	*e*P		P	**Pn**	**15 13 46.4**	**+0.3**
KRI				*e*S		S	**Sn**	**15 14 48.4**	**-2.2**
KRI	**Karoi**	**5.60**	**269**	⇑*i*P		P	**Pn**	**15 13 46.9**	**+0.7**
KRI				⇓*i*S		S	**Sn**	**15 14 46.6**	**-3.9**
LSZ	**Lusaka**	**7.16**	**281**	Pn		Pn		**15 14 07.4**	**-0.2**
LSZ	**Lusaka**	**7.16**	**281**	Pn		Pn		**15 14 08.1**	**+0.6**
	10nm,0.3s,baz=98,slow=11,SNR=30								
LSZ				Sn		Sn		**15 15 22.9**	**-6.2**
	16nm,0.3s,baz=124,slow=8.3,SNR=3.7								
LSZ				Lg		Lg		15 16 04.1	
	30nm,0.3s,baz=13,slow=19,SNR=7.7								
	28nm,0.3s								
BLWY	**Bulawayo**	**7.29**	**242**	⇓*i*P		P	**Pn**	**15 14 10.1**	**+0.8**
BLWY	**Bulawayo**	**7.29**	**242**	⇓*i*P		P	**Pn**	**15 14 10.1**	**+0.8**
MUSN	**Musina, Limpop**	**7.58**	**223**	⇑*i*P		P	**Pn**	**15 14 15.7**	**+2.4**
MUSN				⇓*i*S		S	**Sn**	**15 15 32.7**	**-6.6**
MUSN	**Musina, Limpop**	**7.58**	**223**	*e*P		P	**Pn**	**15 14 14.4**	**+1.2**
MUSN				*e*S		S	**Sn**	**15 15 37.9**	**-1.4**
MUSN				IAML				15 16 25.5	
	comp=Z,490nm,0.7s								
MUSN	**Musina, Limpop**	**7.58**	**223**	⇑*i*P		P	**Pn**	**15 14 15.7**	**+2.4**
MUSN				⇓*i*S		S	**Sn**	**15 15 32.7**	**-6.6**
MOPA	**Mopani**	**7.68**	**209**	⇑*i*P		P	**Pn**	**15 14 15.7**	**+1.1**
MOPA				⇓*i*S		S	**Sn**	**15 15 35.4**	**-6.2**
MOPA	**Mopani**	**7.68**	**209**	*e*P		P	**Pn**	**15 14 15.6**	**+1.0**
MOPA				*e*S		S	**Sn**	**15 15 41.9**	**+0.2**
MOPA				IAML				15 16 29.6	
	comp=Z,354nm,0.7s								
MOPA	**Mopani**	**7.68**	**209**	⇑*i*P		P	**Pn**	**15 14 15.7**	**+1.1**
MOPA				⇓*i*S		S	**Sn**	**15 15 35.4**	**-6.2**
PDHT	**Panda Hill**	**8.08**	**344**	*i* P		P	**Pn**	**15 14 20.7**	**+0.4**
PDHT				*i* S		S	**Sn**	**15 15 52.1**	**+0.2**
HOED	**Hoedspruit, Li**	**8.66**	**209**	*e*P		P	**Pn**	**15 14 28.4**	**+0.3**
PILG	**Pilgrimsrest,**	**9.21**	**208**	*e*P		P	**Pn**	**15 14 35.6**	**-0.2**
DULL	**Dullstroom, Mp**	**9.83**	**209**	*e*P		P	**Pn**	**15 14 45.1**	**+0.9**
LEPH	**Lephalale, Lim**	**10.03**	**224**	*e*P		P	**Pn**	**15 14 45.6**	**-1.4**
CRLN	**Carolina, Mapu**	**10.44**	**208**	*e*P		P	**Pn**	**15 14 54.1**	**+1.5**
TEMBE	**Tembe Elephant**	**10.55**	**195**	*e*P		P	**Pn**	**15 14 55.6**	**+1.7**
DODT	**Dodoma, Tanzan**	**10.57**	**2**	*i* P		P	**Pn**	**15 14 56.5**	**+2.2**
DODT				*i* S		S	**Sn**	**15 16 45.7**	**-7.3**
TSWA	**Tswaing Meteor**	**10.98**	**218**	*e*P		P	**Pn**	**15 14 59.7**	**-0.3**
POGA	**Pongola**	**11.04**	**198**			P	**Pn**	**15 15 01.2**	**+0.6**
POGA	**Pongola**	**11.04**	**198**	*e*P		P	**Pn**	**15 15 03.1**	**+2.5**
NHAM	**Northam, North**	**11.08**	**222**	*e*P		P	**Pn**	**15 15 01.8**	**+0.5**
NYAT	**Nyati, Northwe**	**11.25**	**220**	*e*P		P	**Pn**	**15 15 03.2**	**-0.4**
OPO	**Ambohidratompo**	**11.31**	**101**	Pn		Pn		**15 15 02.6**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=268,slow=13,SNR=13								
OPO				Sn			**Sn**	**15 17 06.6**	**-4.6**
	comp=Z,0.6nm,0.3s,baz=323,slow=21,SNR=2.1								
OPO				LR		LR		15 19 30.8	
	comp=Z,197nm,18.3s,baz=314,slow=38								
	comp=Z,11nm,0.5s								
ABPO	**Ambohimpanom**	**11.41**	**103**	Pn		Pn		**15 15 08.0**	**+2.0**
HRAO	**HartRAO**	**11.57**	**217**	*e*P		P	**Pn**	**15 15 07.8**	**-0.3**
VOI	**Vohitsoka**	**11.83**	**117**	Pn		Pn		**15 15 11.2**	**-0.4**
VOI	**Vohitsoka**	**11.83**	**117**	*e*P		P	**Pn**	**15 15 11.3**	**-0.4**
KSR	**Koster**	**12.01**	**220**	*e*P		P	**Pn**	**15 15 15.6**	**+1.4**
NWCL	**Newcastle**	**12.02**	**204**	*e*P		P	**Pn**	**15 15 13.4**	**-0.8**
LBTB	**Lobatse**	**12.30**	**227**	Pn		Pn		**15 15 16.1**	**-1.9**
LBTB	**Lobatse**	**12.30**	**227**	⇓*i*P		P	**Pn**	**15 15 18.0**	**0.0**
LBTB	**Lobatse**	**12.30**	**227**	*e*P		P	**Pn**	**15 15 15.2**	**-2.8**
LBTB				*e*S		Sn		15 17 25.9	-9.3
LBTB				IAML				15 19 03.1	
	comp=Z,133nm,0.6s								
LBTB	**Lobatse**	**12.30**	**227**	Pn		Pn		**15 15 16.3**	**-1.7**
	comp=Z,2.0nm,0.3s,baz=37,slow=14,SNR=27								
LBTB				Sn		Sn		15 17 27.1	-8.2
	comp=Z,3.6nm,0.3s,baz=129,slow=22,SNR=5.1								
LBTB				Lg		Lg		15 18 46.2	
	comp=Z,12nm,0.3s,baz=134,slow=22,SNR=11								
LBTB				LR		LR		15 20 09.9	
	comp=Z,430nm,21.6s,baz=48,slow=38								
LBTB	**Lobatse**	**12.30**	**227**	⇓*i*P		Pn		**15 15 18.0**	**0.0**
PRYS	**Parys**	**12.55**	**215**	*e*P		Pn		**15 15 21.3**	**-0.2**
PMBG	**Pietermaritzbu**	**13.43**	**199**	*e*P		Pn		**15 15 35.3**	**+2.0**
SNKL	**Senekal, Frees**	**13.43**	**211**	*e*P		Pn		**15 15 33.2**	**-0.3**
SWZ	**Schweizer**	**13.94**	**221**	*e*P		Pn		**15 15 38.5**	**-1.9**
KIBK	**Kibwezi**	**14.61**	**10**			Pn		**15 15 46.6**	**-3.1**
KSTD	**Kokstad**	**14.84**	**201**	*e*P		Pn		**15 15 54.2**	**+1.5**
BOSA	**Boshof**	**15.03**	**217**	Pn		Pn		**15 15 52.9**	**-2.5**
BOSA	**Boshof**	**15.03**	**217**			Pn		**15 15 53.2**	**-2.2**
BOSA	**Boshof**	**15.03**	**217**	⇓*i*P		Pn		**15 15 55.2**	**-0.1**
BOSA	**Boshof**	**15.03**	**217**	Pn		Pn		**15 15 53.9**	**-1.4**
	comp=Z,1.2nm,0.3s,baz=41,slow=13,SNR=13								
BOSA				Sn		Sn		**15 18 38.9**	**-3.2**
	comp=Z,2.6nm,0.3s,baz=244,slow=20,SNR=3.6								
BOSA				Lg		Lg		15 20 11.4	
	comp=Z,4.5nm,0.3s,baz=306,slow=20,SNR=4.0								
BOSA	**Boshof**	**15.03**	**217**	⇓*i*P		Pn		**15 15 55.2**	**-0.1**
MBAR	**Mbarara**	**16.77**	**343**			Pn		**15 16 13.4**	**-4.5**
MBAR	**Mbarara**	**16.77**	**343**	Pn		Pn		**15 16 17.3**	**-0.7**
	comp=Z,2.8nm,0.3s,baz=153,slow=16,SNR=22								
MBAR				Sn		Sn		**15 19 23.8**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=297,slow=22,SNR=1.5								
MBAR				Lg		Lg		15 21 03.4	
	comp=Z,3.5nm,0.3s,baz=72,slow=23,SNR=8.5								
MBAR				LR		LR		15 22 44.6	
	comp=Z,663nm,18.1s,baz=163,slow=37								
	comp=Z,3.1nm,0.2s								
TSUM	**Tsumeb**	**17.17**	**259**	Pn		Pn		**15 16 19.5**	**-3.3**
TSUM	**Tsumeb**	**17.17**	**259**	P		Pn		**15 16 20.9**	**-2.0**
	comp=Z,10nm,0.8s,baz=103,slow=9.4,SNR=15								
TSUM				S			**Sn**	**15 19 35.6**	**+1.6**
	comp=Z,18nm,0.8s,baz=310,slow=16,SNR=2.7								
TSUM				LR		LR		15 23 03.2	
	comp=Z,585nm,18.3s,baz=104,slow=37								
SOE	**Somerset East**	**18.18**	**208**				**Pn**	**15 16 35.0**	**-0.3**
WIN	**Windhoek**	**18.20**	**249**				**Pn**	**15 16 31.5**	**-4.2**
WIN				IAmb		IAmb		15 16 43.0	
	comp=Z,71nm,0.8s								
GRAF	**Camdeboo Natio**	**18.32**	**211**	*e*P		P		**15 16 41.1**	**+4.0**
BFON	**Badsfontein, M**	**18.35**	**213**	*e*P		Pn		**15 16 40.9**	**+3.4**
BRAK	**Brakfontein**	**18.76**	**215**	*e*P		Pn		**15 16 44.7**	**+2.3**
ROOI	**Rooidraai Farm**	**18.97**	**212**	*e*P		Pn		**15 16 47.0**	**+2.2**
GRAN	**Grantham**	**19.56**	**216**	*e*P		Pn		**15 16 52.5**	**+0.5**
FRAZ	**Fraserburg**	**19.72**	**218**	*e*P		Pn		**15 16 57.2**	**+3.2**
LODK	**Lodwar**	**20.11**	**360**			P		**15 16 55.8**	**-1.1**
SUR	**Sutherland**	**20.39**	**218**			P		**15 16 59.6**	**-0.3**
SUR				IAmb		IAmb		15 17 15.4	
	comp=Z,47nm,0.8s								
SUR	**Sutherland**	**20.39**	**218**	*e*P		Pn		15 17 02.3	+0.3
SUR				IAmb		IAmb		15 17 15.1	
	comp=Z,44nm,0.7s								
SUR	**Sutherland**	**20.39**	**218**	P		P		**15 17 01.6**	**+1.6**
	comp=Z,36nm,0.9s,baz=58,slow=13,SNR=12								
SUR				S		S		**15 20 49.4**	**+0.9**
	comp=Z,11nm,0.7s,baz=72,slow=13,SNR=5.1								
SUR				LR		LR		15 24 55.6	
	comp=Z,470nm,20.1s,baz=22,slow=37								
	comp=Z,36nm,0.9s								
CVNA	**Calvinia**	**20.41**	**222**	*e*P		Pn		15 17 04.4	+2.2
MSEY	**Mahe Island**	**23.05**	**61**	P		P		**15 17 27.0**	**-1.3**
MSEY				IAmb		IAmb		15 17 37.6	
	comp=Z,26nm,1.1s								
TOA0	**Torodi Ar. Sit**	**44.72**	**310**	P		P		**15 20 35.9**	**-0.4**
TOA0				IAmb		IAmb		15 20 41.8	
	comp=Z,9.1nm,0.7s								
TORD	**Torodi Ar. Bea**	**44.72**	**310**	P		P		**15 20 36.0**	**-0.3**
TORD				IAmb		IAmb		15 20 41.8	
	comp=Z,7.8nm,0.8s								
TORD	**Torodi Ar. Bea**	**44.72**	**310**	P		P		**15 20 36.0**	**-0.3**
	comp=Z,11nm,0.9s,baz=118,slow=7.9,SNR=19								
TORD				PcP		PP		**15 22 24.7**	**+3.8**
	comp=Z,1.6nm,0.6s,baz=138,slow=5.0,SNR=4.7								
	comp=Z,11nm,0.9s								
UOSS	**Minazif**	**46.18**	**26**	P		P		**15 20 48.1**	**+0.4**
UOSS				IAmb		IAmb		15 20 49.5	
	comp=Z,16nm,1.0s								
DBIC	**Dimbokro**	**46.19**	**297**	P		P		**15 20 49.9**	**+1.8**
	comp=Z,4.5nm,0.8s,baz=127,slow=8.7,SNR=3.9								
DBIC				LR		LR		15 40 03.8	
	comp=Z,176nm,18.7s,baz=84,slow=36								
	comp=Z,4.5nm,0.8s								
MMAI	**Mount Meron Ar**	**49.55**	**360**	P		P		**15 21 15.3**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=174,slow=5.8,SNR=1.9								
	comp=Z,0.7nm,0.5s								
ELIB	**Princess Elisa**	**55.58**	**185**	*d*P		P		**15 21 56.2**	**-2.0**
	comp=Z,3.7nm,0.7s								
ARPR	**Arapgir-MALATY**	**55.68**	**3**	P		P		**15 21 59.0**	**-0.3**
ARPR				IAmb		IAmb		15 22 06.6	
	comp=Z,6.6nm,0.9s								
BR131	**Keskin Array S**	**56.27**	**358**	P		P		**15 22 04.2**	**+0.7**
BRTR	**Keskin Array B**	**56.27**	**358**	P		P		**15 22 04.2**	**+0.7**
BRTR	**Keskin Array B**	**56.27**	**358**	P		P		**15 22 03.6**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=171,slow=9.6,SNR=11								
	comp=Z,2.2nm,0.8s								
HRA	**Herat**	**56.95**	**26**	P		P		**15 22 06.7**	**-1.8**
HRA				IAmb		IAmb		15 22 09.6	
	comp=Z,6.9nm,0.8s								
MDUB	**Mudurnu**	**57.13**	**356**	P		P		**15 22 09.2**	**-0.3**
CEL	**Celeste**	**57.78**	**342**	P		P		**15 22 13.3**	**-0.8**
KEST	**Kesra**	**57.83**	**335**	P		P		**15 22 14.6**	**+0.1**
	comp=Z,3.6nm,0.7s,baz=159,slow=8.6,SNR=2.1								
KEST				LR		LR		15 49 01.4	
	comp=Z,98nm,19.3s,baz=280,slow=38					

	comp=Z,10.0nm,0.8s							
PZH					pmax	pmax		
FINES	**FINESS Array B**	**78.36**	**355**		P	**P**	**15 24 23.1**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=154,slow=7.6,SNR=6.4							
	comp=Z,2.9nm,0.8s							
HFS	**Hagfors**	**78.68**	**349**		P	**P**	**15 24 25.2**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=170,slow=12,SNR=4.5							
	comp=Z,1.4nm,0.6s							
EKA	**Eskdalemuir Ar**	**78.95**	**339**		P	**P**	**15 24 26.5**	**+0.2**
	comp=Z,4.8nm,1.0s,baz=113,slow=7.0,SNR=2.1							
	comp=Z,4.8nm,1.0s							
TWSI	**Taliwang, Sumb**	**79.36**	**96**		P	**P**	**15 24 30.1**	**+0.6**
BDFB	**Brasilia**	**79.52**	**257**		P	**P**	**15 24 32.5**	**+2.1**
	comp=Z,4.1nm,0.8s,baz=156,slow=8.9,SNR=5.9							
	comp=Z,4.1nm,0.8s							
NB2	**NORSAR Subarra**	**79.99**	**348**		P	**P**	**15 24 31.9**	**+0.1**
	comp=Z,4.9nm,1.0s,baz=156,slow=5.6							
NOA	**NORSAR Array B**	**79.99**	**348**		P	**P**	**15 24 32.4**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=150,slow=5.0,SNR=5.9							
	comp=Z,2.2nm,0.8s							
CD2	**Chengdu**	**80.94**	**54**	*eP*		**P**	**15 24 38.0**	**+0.3**
VNDA	**Vanda**	**80.96**	**170**		P	**P**	**15 24 38.4**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=245,slow=4.5,SNR=3.9							
	comp=Z,1.0nm,0.8s							
GYA	**Guiyang**	**81.42**	**59**	⇓*P*		**P**	**15 24 40.3**	**-0.1**
GYA					pmax	pmax		
	comp=Z,20nm,0.6s							
GYA					pmax	pmax		
	comp=Z,140nm,5.6s							
GTA	**Gaotai**	**82.00**	**45**	*eP*		**P**	**15 24 44.3**	**+1.1**
GTA					pmax	pmax		
	comp=Z,4.0nm,1.1s							
ZAA0	**Zalesovo Array**	**82.14**	**27**		P	**P**	**15 24 42.7**	**-0.7**
ZAA0					IAmb	IAmb	15 24 44.4	
	comp=Z,8.0nm,0.9s							
ZALV	**Zalesovo Beam**	**82.14**	**27**		P	**P**	**15 24 42.4**	**-1.0**
ZALV	**Zalesovo Beam**	**82.14**	**27**		P	**P**	**15 24 43.4**	**0.0**
	comp=Z,7.8nm,1.0s,baz=224,slow=4.1,SNR=23							
	comp=Z,7.8nm,1.0s							
LZH	**Lanzhou**	**83.27**	**49**	⇑*P*		**P**	**15 24 51.3**	**+1.4**
LZH					sP	sP	15 24 58.4	+3.9
LZH					pmax	pmax		
	comp=Z,17nm,1.4s							
CPUP	**Villa Florida**	**85.12**	**244**		P	**P**	**15 25 01.2**	**+1.8**
	comp=Z,0.5nm,0.4s,baz=90,slow=11,SNR=1.6							
CPUP					LR	LR	16 00 55.5	
	comp=Z,52nm,19.2s,baz=116,slow=34							
	comp=Z,0.5nm,0.4s							
XAN	**Xi'an**	**86.21**	**53**	⇑*P*		**P**	**15 25 05.3**	**+0.7**
XAN					pmax	pmax		
	comp=Z,14nm,1.5s							
ARCES	**ARCESS Array B**	**86.41**	**357**		P	**P**	**15 25 05.1**	**+0.3**
	comp=Z,4.5nm,1.0s,baz=151,slow=4.1,SNR=4.7							
	comp=Z,4.5nm,1.0s							
SONM	**Songino Array**	**90.10**	**40**		P	**P**	**15 25 25.0**	**+1.9**
	comp=Z,0.7nm,0.8s,baz=261,slow=5.1,SNR=4.7							
	comp=Z,0.7nm,0.8s							
HHC	**Hu-ho-hao-te**	**90.74**	**47**	*eP*		**P**	**15 25 27.8**	**+1.7**
HHC					pP	sP	15 25 31.8	+1.1
HHC					sP	pP	15 25 37.4	+7.9
HHC					pmax	pmax		
	comp=Z,18nm,0.6s							
HHC					pmax	pmax		
	comp=Z,120nm,4.0s							
ASAR	**Alice Springs**	**90.81**	**115**		P	**P**	**15 25 27.1**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=253,slow=4.4,SNR=7.7							
	comp=Z,1.4nm,0.9s							
WRA	**Warramunga Arr**	**92.38**	**112**		P	**P**	**15 25 33.9**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=257,slow=3.6,SNR=4.8							
	comp=Z,0.8nm,0.7s							
NJ2	**Nanjing**	**93.34**	**58**	*eP*		**P**	**15 25 39.5**	**+1.3**
NJ2					pP	**pP**	**15 25 41.9**	**+0.3**
NJ2					pmax	pmax		
	comp=Z,7.0nm,0.5s							
NRIK	**Noril'sk**	**93.44**	**16**		LR	LR	16 13 18.6	
	comp=Z,69nm,19.3s,baz=45,slow=39							
ULM	**Lac du Bonnet**	**128.80**	**322**		PKP	**PKPdf**	**15 31 30.3**	**0.0**
	comp=Z,2.4nm,0.9s,baz=56,slow=3.6,SNR=4.0							
YKA	**Yellowknife Ar**	**129.80**	**342**		PKP	**PKPdf**	**15 31 32.1**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=23,slow=1.8,SNR=9.0							
ILAR	**Eielson Array**	**132.06**	**1**		PKP	**PKPdf**	**15 31 35.5**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=331,slow=4.0,SNR=6.0							
PDAR	**Pinedale Array**	**140.57**	**318**		PKP	**PKPdf**	**15 31 50.9**	**-2.0**
	comp=Z,1.2nm,0.8s,baz=62,slow=2.1,SNR=10							
TXAR	**Lajitas Array**	**140.58**	**296**		PKhKP	PKPpre	15 31 49.7	
	comp=Z,0.6nm,1.0s,baz=147,slow=3.0,SNR=3.7							
TXAR					PKP	**PKiKP**	**15 31 55.4**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=75,slow=1.4,SNR=5.0							
NVAR	**Mina Array Bea**	**148.51**	**318**		PKPbc	**PKPbc**	**15 32 09.7**	**-0.6**
	comp=Z,4.7nm,0.8s,baz=76,slow=3.8,SNR=25							

HEL **17** *15:13:12.1±0.2,* **67.76N×33.57E, h0km, ML1.5,**
Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.43**	**70**	PG		Pg	15 13 20.4	0.0
LVZ				SG		Sg	15 13 24.6	-1.4
VRF	**Varrio**	**1.51**	**271**	PG		Pn	15 13 39.4	-1.0
VRF				MSG			15 13 57.5	
	comp=Z,4.2nm,0.2s							
VRF				SN		Sg	15 13 59.8	-0.7
RAJF	**Raja-Jooseppi**	**2.10**	**293**	PG		Pn	15 13 49.4	+0.9
RAJF				SG		Sb	15 14 17.2	-0.3
OLKF	**Oulanka, Finla**	**2.18**	**231**	PB		Pn	15 13 49.7	+0.1
OLKF				MSG			15 14 16.6	
	comp=Z,2.4nm,0.2s							
OLKF				SG		Sb	15 14 19.5	-0.4
KU6	**Riekki**	**2.27**	**222**	PN		Pn	15 13 50.6	-0.1
KU6				MSG			15 14 19.2	
	comp=Z,1.0nm,0.2s							
KU6				SB		Sn	15 14 20.3	+1.0
MSF	**Maaselka**	**2.58**	**226**	PB		Pn	15 13 56.4	+1.4
MSF				SG		Sb	15 14 32.0	+0.6
SGF	**Sodankyl**	**2.72**	**267**	PG		Pb	15 13 60.0	-1.5
SGF				SG		Sb	15 14 36.1	+0.8
KMNF	**Kaamanen**	**2.80**	**303**	PN		Pn	15 13 58.5	+0.4
KEV	**Kevo**	**3.12**	**313**	PB		Pn	15 14 03.5	+1.1
KEV				SB		Sn	15 14 43.3	+2.9
KEV				MSG			15 14 43.8	
	comp=Z,2.3nm,0.2s							
RNF	**Rovaniemi**	**3.16**	**252**	PN		Pn	15 14 02.4	-0.6
RANF	**Ranua**	**3.20**	**240**	PB		Pn	15 14 06.6	+3.0
RANF				SG		Sb	15 14 50.5	+1.4
ARA0	**ARCESS Array S**	**3.45**	**305**	PN		Pn	15 14 06.7	-0.3
	baz=120							
ARA0				SB		Sn	15 14 50.8	+2.3
HEF	**Hetta**	**3.77**	**285**	PB		Pn	15 14 15.1	+3.6
TOF	**Tornio**	**4.01**	**250**	SB		Sb	15 15 10.4	-2.1

HEL **17** *15:13:43.0±0.4,* **67.81N×20.18E, h0km, ML1.2,**
Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.73**	**70**	PG		Pg	15 13 55.5	-1.3
LANU				SG		Sg	15 14 04.9	-1.4
KIF	**Kilpisjarvi**	**1.22**	**10**	PG		Pg	15 14 05.4	-1.0
KIF				SG		Sg	15 14 20.9	-1.3
KIF				MSG			15 14 21.1	
	comp=Z,2.6nm,0.2s							
PAJU	**Pajala**	**1.38**	**124**	PG		Sg	15 14 26.3	-0.9
PAJU	**Pajala**	**1.38**	**124**	PG		Pg	15 14 06.9	-2.5
PAJU				SG		Sg	15 14 26.3	-0.9
HEF	**Hetta**	**1.44**	**64**	PG		Pn	15 14 08.4	-1.9
HEF				MSG			15 14 26.3	
	comp=Z,1.3nm,0.2s							
HEF				SB		Sg	15 14 27.7	-1.4
KLF	**Kolari**	**1.56**	**110**	PN		Pn	15 14 11.2	-0.8
KLF	**Kolari**	**1.56**	**110**	PG		Pn	15 14 11.2	-0.8
KLF				MSG			15 14 29.9	
	comp=Z,1.4nm,0.2s							
KLF				SN		Sn	15 14 32.6	-0.3
KTK1	**Kautokeino**	**1.65**	**42**	PN		Pn	15 14 13.0	-0.3
KTK1	**Kautokeino**	**1.65**	**42**	PG		Pn	15 14 13.0	-0.3
KTK1				SN		Sg	15 14 35.9	-0.1
TRO	**Tromso**	**1.89**	**347**	SG		Sb	15 14 42.0	-0.3
KALU	**Kalix**	**2.33**	**146**	PN		Pn	15 14 23.1	+0.7
KALU	**Kalix**	**2.33**	**146**	PB		Pn	15 14 23.1	+0.7
	baz=328							
KALU				SG		Sb	15 14 53.9	-1.0
TOF	**Tornio**	**2.38**	**135**	PB		Pn	15 14 24.2	+1.0
TOF				MSG			15 14 53.5	
	comp=Z,1.2nm,0.2s							
TOF				SG		Sb	15 14 57.0	+0.4
TOF	**Tornio**	**2.38**	**135**	PG		Pn	15 14 24.2	+1.0
RNF	**Rovaniemi**	**2.57**	**115**	PB		Pn	15 14 27.7	+1.9
RNF				SG		Sb	15 15 01.9	-0.1
ARA0	**ARCESS Array S**	**2.61**	**46**	SB		Sn	15 15 00.0	+1.4

CATAC **17** *15:21:39.7±1.1, 12.72N×88.75W, h20km±10km, ML3.6*
SNET **17** *15:21:41.1±0.7, 12.78N×88.77W, h37km, ML3.5*
ISC 17 15:21:39.9±1.8, 12.72N±0.07×88.78W±0.04, h27km±13km, n30, σ0s29/40, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.81**	**360**	*i* P		**Pb**	**15 21 55.4**	**-0.1**
TECO					IAML		15 22 08.1	
	comp=Z,1μm,1.0s							
RANC	**El Ranchito**	**0.85**	**34**	*i* P		**Pn**	**15 21 55.9**	**-0.4**
RANC				*i* S		**Sn**	**15 22 07.8**	**-0.2**
RANC					IAML		15 22 12.0	
	comp=Z,1μm,1.0s							
PACA	**Pacayal**	**0.87**	**31**	*eP*		**Pb**	**15 21 56.5**	**+0.1**
PACA				*eS*		**Sn**	**15 22 08.3**	**+0.1**
PACA	**Pacayal**	**0.87**	**31**	*i* P		**Pn**	**15 21 56.3**	**-0.1**
PACA					IAML		15 22 09.5	
	comp=Z,13μm,1.0s							
BLLM	**Bellamira**	**0.89**	**36**	*eP*		**Pb**	**15 21 56.7**	**-0.1**
COEG	**Centro de Oper**	**0.90**	**354**	*i* P		**Pb**	**15 21 57.1**	**+0.1**
COEG					IAML		15 22 14.3	
	comp=Z,840nm,1.0s							
UESV	**Universidad de**	**0.91**	**359**	*i* P		**Pn**	**15 21 57.0**	**0.0**
UESV					IAML		15 22 12.0	
	comp=Z,1μm,1.0s							
PQSS	**Presa 15 de Se**	**0.92**	**13**	*i* P		**Pb**	**15 21 57.2**	**-0.1**
PQSS				*i* S		**Sn**	**15 22 09.6**	**+0.1**
PQSS					IAML		15 22 11.1	
	comp=Z,1μm,1.0s							
SCLA	**Alcaldia de Sa**	**0.98**	**3**	*i* P		**Pb**	**15 21 58.1**	**-0.2**
SCLA				*i* S		**Sb**	**15 22 11.4**	**+0.6**
SCLA					IAML		15 22 12.4	
	comp=Z,710nm,1.0s							
LOMA	**Loma Larga**	**1.00**	**337**	*i* P		**Pn**	**15 21 58.4**	**+0.2**
LOMA					IAML		15 22 12.6	
	comp=Z,1μm,1.0s							
PAVA	**Las Pavas**	**1.00**	**351**	*eP*		**Pn**	**15 21 58.4**	**+0.2**
PAVA				*eS*		**Sb**	**15 22 11.6**	**+0.1**
PAVA	**Las Pavas**	**1.00**	**351**	*i* P		**Pn**	**15 21 58.4**	**+0.2**
PAVA					IAML		15 22 13.0	
	comp=Z,2μm,1.0s							
LCND	**La Caada**	**1.04**	**56**	*eP*		**Pn**	**15 21 58.6**	**-0.1**
LCND				*eS*		**Sb**	**15 22 12.4**	**-0.2**
LCND	**La Caada**	**1.04**	**56**	*i* P		**Pn**	**15 21 58.5**	**-0.2**
LCND					IAML		15 22 15.8	
	comp=Z,2μm,1.0s							
CNCH	**Conchagua**	**1.07**	**59**	*eP*		**Pb**	**15 21 59.6**	**-0.3**
CNCH				*eS*		**Sb**	**15 22 13.3**	**-0.2**
CNCH	**Conchagua**	**1.07**	**59**	*i* P		**Pn**	**15 21 59.1**	**-0.1**
CNCH					IAML		15 22 20.5	
	comp=Z,2μm,1.0s							
PMON	**Piamonte**	**1.12**	**332**	*i* P		**Pn**	**15 21 59.7**	**-0.2**
PMON					IAML		15 22 20.4	
	comp=Z,940nm,1.0s							
BOQS	**Boqueron**	**1.12**	**334**	*eP*		**Pb**	**15 22 01.0**	**+0.2**
JAYA	**Jayaque - finc**	**1.14**	**325**	*eP*		**Pn**	**15 21 59.9**	**-0.3**
JAYA				*eS*		**Sn**	**15 22 14.4**	**-0.5**
JAYA	**Jayaque - finc**	**1.14**	**325**	*i* P		**Pn**	**15 21 59.9**	**-0.3**
JAYA					IAML		15 22 18.1	
	comp=Z,4μm,1.0s							
AMPH	**Amapala**	**1.23**	**63**	*eP*		**Pn**	**15 22 01.5**	**+0.3**
AMPH				*eS*		**Sn**	**15 22 16.6**	**-0.4**
CEVE	**Cerro Verde**	**1.38**	**323**	*i* P		**Pb**	**15 22 04.8**	**-0.3**
CEVE					IAML		15 22 27.8	
	comp=Z,1μm,1.0s							
LLGN	**La Laguna**	**1.45**	**354**	*i* P		**Pn**	**15 22 04.7**	**+0.4**
LLGN					IAML		15 22 25.5	
	comp=Z,410nm,1.0s							
NUBE	**Las Nubes**	**1.53**	**320**	*i* P		**Pn**	**15 22 05.7**	**+0.2**
NUBE					IAML		15 22 26.0	
	comp=Z,1μm,1.0s							
CRIN	**San Cristobal**	**1.69**	**90**	*i* P		**Pn**	**15 22 07.7**	**+0.1**
CRIN				*i* S		**Sn**	**15 22 29.2**	**+0.8**
CRIN					IAML		15 22 34.0	
	comp=Z,2μm,1.0s							
MTO3	**Montecristo**	**1.76**	**341**	*i* P		**Pn**	**15 22 09.2**	**+0.4**
MTO3					IAML		15 22 33.4	
	comp=Z,110nm,1.0s							
HERN	**Volcan Telica**	**1.90**	**93**	*i* P		**Pn**	**15 22 10.8**	**+0.2**
HERN					IAML		15 23 10.8	
	comp=Z,2μm,1.0s							
MACN	**El Madrono**	**2.07**	**97**	*i* P		**Pn**	**15 22 13.2**	**+0.4**
MACN					IAML		15 22 42.6	
	comp=Z,210nm,1.0s							
COPN	**Copaltepe**	**2.20**	**104**	*i* P		**Pn**	**15 22 14.4**	**-0.2**
COPN					IAML		15 22 51.4	
	comp=Z,130nm,1.0s							
LIMN	**Finca el Limon**	**2.38**	**81**	*i* P		**Pn**	**15 22 17.1**	**0.0**
LIMN					IAML		15 22 49.1	
	comp=Z,90nm,1.0s							

IDC **17** *15:23:37.4±1.6, 6.38S×73.35E, h0km, mb3.6/10, mbtmp3.6/11, ML3.8/1, MS3.7/21, Error ellipse: s-maj=44.3km s-min=23.3km az=52.0*
ISC 17 15:23:38.7±1.3, 6.45S±0.2×73.36E±0.2, h10km, n37, σ0s76/12, mb3.8/10, MS3.7/20, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**15.46**	**28**	Pn		**Pn**	**15 27 17.0**	**0.0**
	0.4nm,0.3s,baz=88,slow=23,SNR=1.3							
PALK					Sn	**Sn**	**15 30 08.8**	**+0.2**
	0.3nm,0.3s,baz=328,slow=20,SNR=1.6							
PALK					LR	LR	15 32 02.7	
	comp=Z,192nm,19.3s,baz=316,slow=33							
	1.6nm,0.6s							
WSAR	**Wadi Sarin**	**32.80**	**334**	LR		LR	15 41 10.2	
	comp=Z,252nm,19.4s,baz=168,slow=32							
LEM	**Lembang**	**34.04**	**93**	LR		LR	15 42 51.1	
	comp=Z,97nm,19.6s,baz=254,slow=34							
CMAR	**Chiang Mai Arr**	**35.34**	**45**	P		**P**	**15 30 34.5**	**0.0**
	0.2nm,0.4s,baz=229,slow=6.9,SNR=1.7							
	0.2nm,0.4s							
MBAR	**Mbarara**	**42.90**	**276**	LR		LR	15 46 11.2	
	comp=Z,78nm,21.0s,baz=112,slow=32							
H04N2	**CROZET ISLANDS**	**43.75**	**202**	T		T	16 17 56.8	
	baz=30,slow=75,SNR=78							
H04N1	**CROZET ISLANDS**	**43.75**	**202**	T		T	16 17 58.0	
	baz=30,slow=75,SNR=86							
H04N3	**CROZET ISLANDS**	**43.77**	**202**	T		T	16 17 56.8	
	baz=30,slow=75,SNR=287							
LSZ	**Lusaka**	**45.13**	**255**	LR		LR	15 47 10.2	
	comp=Z,91nm,19.6s,baz=110,slow=31							
GEYT	**Alibeck**	**46.35**	**343**	LR		LR	15 50 05.4	
	comp=Z,123nm,19.2s,baz=190,slow=34							
H01W3	**Cape Leeuwin H**	**47.01**	**133**	T		T	16 22 45.9	
	baz=297,slow=75,SNR=24							
H01W2	**Cape Leeuwin H**	**47.02**	**133**	T		T	16 22 46.3	
	baz=297,slow=75,SNR=35							
H01W1	**Cape Leeuwin H**	**47.03**	**133**	T		T	16 22 47.2	
	baz=297,slow=75,SNR=32							
LBTB	**Lobatse**	**49.23**	**242**	LR		LR	15 49 12.6	
	comp=Z,87nm,21.2s,baz=93,slow=31							
EIL	**Elat**	**51.45**	**316**	LR		LR	15 50 58.6	
	comp=Z,91nm,19.4s,baz=67,slow=32							
MMAI	**Mount Meron Ar**	**53.26**	**320**	LR		LR	15 53 32.5	
	comp=Z,70nm,19.0s,baz=75,slow=34							
GNI	**Garni**	**53.32**	**333**	LR		LR	15 55 01.3	
	comp=Z,46nm,20.7s,baz=173,slow=35							
MKAR	**Makanchi Array**	**53.58**	**8**	P		**P**	**15 32 59.1**	**-0.8**
	0.2nm,0.6s,baz=184,slow=7.2,SNR=2.9							
	0.2nm,0.6s							
DAV	**Davao City (W)**	**53.81**	**76**	LR		LR	15 54 38.7	
	comp=Z,46nm,21.9s,baz=292,slow=35							
TSUM	**Tsumeb**	**55.61**	**251**	LR		LR	15 54 52.5	
	comp=Z,25nm,18.2s,baz=358,slow=34							
KURBB	**Kurchatov Arra**	**56.99**	**4**	P		**P**	**15 33 25.8**	**+1.4**
	0.6nm,0.4s,baz=200,slow=7.6,SNR=5.9							
	0.6nm,0.4s							
KBZ	**Khabaz**	**57.01**	**334**	P		**P**	**15 33 24.8**	**+0.2**
	1.1nm,0.8s,baz=143,slow=10,SNR=1.9							
	1.1nm,0.8s							
AKTO	**Aktyubinsk**	**58.16**	**349**	LR		LR	16 00 32.3	

	comp=Z,55nm,18.2s,baz=268,slow=38							
BRTR	**Keskin Array B**	**58.74**	**325**		P	**P**	**15 33 37.2**	**0.0**
	0.4nm,0.6s,baz=154,slow=11,SNR=2.3							
	0.4nm,0.6s							
BVAR	**Borovoye Array**	**59.27**	**358**		P	**P**	**15 33 40.4**	**0.0**
	0.6nm,0.7s,baz=170,slow=9.0,SNR=3.5							
	0.6nm,0.7s							
ASAR	**Alice Springs**	**60.51**	**113**		P	**P**	**15 33 49.1**	**-0.5**
	0.2nm,0.5s,baz=277,slow=6.8,SNR=2.4							
	0.2nm,0.5s							
WRA	**Warramunga Arr**	**60.59**	**109**		P	**P**	**15 33 51.0**	**+0.9**
	1.2nm,0.8s,baz=278,slow=7.3,SNR=9.9							
	1.2nm,0.8s							
ZALV	**Zalesovo Beam**	**60.92**	**8**		P	**P**	**15 33 50.5**	**-1.1**
	0.4nm,0.5s,baz=209,slow=8.3,SNR=2.3							
	0.4nm,0.5s							
SONM	**Songino Array**	**61.38**	**25**		P	**P**	**15 33 54.7**	**-0.3**
	0.6nm,0.8s,baz=212,slow=5.3,SNR=3.9							
	0.6nm,0.8s							
MAW	**Mawson**	**61.50**	**185**		LR	LR	15 56 38.0	
	comp=Z,178nm,19.8s,baz=57,slow=32							
ARU	**Arti**	**63.81**	**351**		LR	LR	16 01 40.0	
	comp=Z,63nm,21.1s,baz=206,slow=36							
KSRS	**Korea Array**	**66.98**	**45**		LR	LR	16 05 08.1	
	comp=Z,25nm,18.4s,baz=290,slow=37							
KIRV	**Kirov**	**67.60**	**347**		LR	LR	16 05 04.7	
	comp=Z,54nm,18.9s,baz=180,slow=37							
GUMO	**Guam**	**73.72**	**74**		LR	LR	16 05 56.6	
	comp=Z,14nm,21.9s,baz=196,slow=34							
TORD	**Torodi Ar. Bea**	**73.76**	**286**		LR	LR	16 07 07.9	
	comp=Z,40nm,18.6s,baz=112,slow=35							
FINES	**FINESS Array B**	**76.91**	**339**		LR	LR	16 12 45.6	
	comp=Z,34nm,18.2s,baz=208,slow=38							
ARCES	**ARCESS Array B**	**82.50**	**345**		LR	LR	16 14 53.7	
	comp=Z,51nm,18.1s,baz=136,slow=37							

IDC **17** *15:23:56.3±1.0, 5.27N×77.68W, h0km, mb3.9/6, mbtmp3.9/8, ML2.7/2, MS3.4/13, Error ellipse: s-maj=29.7km s-min=23.2km az=21.0*
VAO **17** *15:24:02.6±2.1, 5.07N×77.47W, h41km±15km, mb4.4*
ISC 17 15:24:00.3±0.8, 5.2N±0.1×77.64W±0.08, h28km, n27, σ0s96/18, mb3.8/6, MS3.2/6, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**3.32**	**95**		Pn	**Pn**	**15 24 52.4**	**+1.6**
	12nm,0.3s,baz=189,slow=21,SNR=17							
ROSC					Sn	**Sb**	**15 25 38.1**	**-0.9**
	baz=89,slow=22							
ROSC					LR	LR	15 25 51.4	
	comp=Z,547nm,19.2s,baz=288,slow=34							
	54nm,0.5s							
OTAV	**Otavalo**	**4.96**	**189**	*eP*		**Pn**	**15 25 13.7**	**+0.4**
SDV	**Santo Domingo**	**7.88**	**62**		Pn	**Pn**	**15 25 53.3**	**0.0**
	1.9nm,0.3s,baz=236,slow=14,SNR=11							
SDV					Sn	**Sn**	**15 27 22.5**	**+0.9**
	baz=252,slow=23							
SDV					LR	LR	15 29 13.1	
	comp=Z,477nm,18.7s,baz=216,slow=40							
	15nm,0.7s							
SDV	**Santo Domingo**	**7.88**	**62**	*eP*		**Pn**	**15 25 53.3**	**0.0**
JTS	**Las Juntas de**	**8.86**	**306**		LR	LR	15 29 25.2	
	comp=Z,140nm,21.3s,baz=98,slow=38							
ATAH	**Atahualpa**	**12.24**	**184**		LR	LR	15 32 47.6	
	comp=Z,289nm,21.0s,baz=7.1,slow=43							
PCRV	**Puerto La Cruz**	**13.81**	**68**		LR	LR	15 33 43.9	
	comp=Z,118nm,20.5s,baz=42							
NNA	**Nana**	**17.05**	**177**		LR	LR	15 36 25.1	
	comp=Z,161nm,20.3s,baz=354,slow=44							
BOAV	**Boa Vista**	**17.30**	**98**	*eP*		**Pn**	**15 27 59.0**	**-1.0**
TEIG	**Tepich**	**18.20**	**326**		LR	LR	15 35 02.6	
	comp=Z,591nm,20.2s,slow=37							
CMIG	**Matias Romero**	**20.64**	**306**		LR	LR	15 36 10.4	
	comp=Z,38nm,21.9s,baz=129,slow=36							
LPAZ	**La Paz**	**23.29**	**156**		P	**P**	**15 29 08.6**	**+1.8**
	0.4nm,0.4s,baz=342,slow=13,SNR=1.8							
	0.4nm,0.4s							
MDP	**Montagnes des**	**24.90**	**89**		LR	LR	15 39 49.8	
	comp=Z,170nm,20.6s,baz=253,slow=38							
VILB	**Vilhena**	**24.98**	**136**	*eP*		**P**	**15 29 21.6**	**-0.3**
NPGB	**Novo Progresso**	**25.33**	**118**	*eP*		**P**	**15 29 23.1**	**-1.9**
PDRB	**Porto dos Gac**	**26.65**	**129**	*eP*		**P**	**15 29 36.5**	**-0.5**
SIV	**San Ignacio**	**26.66**	**142**	LR		LR	15 40 34.6	
	comp=Z,122nm,18.4s,baz=156,slow=37							
SADO	**Sadowa**	**39.47**	**358**		LR	LR	15 48 39.3	
	comp=Z,36nm,18.5s,baz=92,slow=38							
PDAR	**Pinedale Array**	**46.92**	**328**		LR	LR	15 54 42.5	
	comp=Z,24nm,19.7s,baz=92,slow=39							
SCHQ	**Schefferville**	**50.29**	**8**		LR	LR	15 54 39.4	
	comp=Z,22nm,21.0s,baz=177,slow=37							
YKA	**Yellowknife Ar**	**63.35**	**342**		P	**P**	**15 34 26.3**	**-0.4**
	0.4nm,0.8s,baz=131,slow=6.6,

SOHO	SOHO	4.21 192	P	Pn	15 25 55.7	-1.0
SOHO			S	Sn	15 26 45.1	-0.9
AJN	Ajban	4.32 212	P	Pn	15 25 59.1	+1.0
AJN			S	Sn	15 26 48.7	+0.2
IKOO	Kooshah	4.34 17	Pn	Pn	15 25 59.9	+1.3
NGCH	Negor - Chabah	4.38 131	P	Pn	15 26 00.3	+1.2
NGCH			S	Sn	15 26 51.7	+1.5
ALNE	Al Ain	4.48 200	P	Pn	15 25 59.0	-1.4
ALNE			S	Sn	15 26 54.4	+1.8
HOQ	Hoqain	4.68 182	P	Pn	15 26 04.5	+1.4
BIDO	Bidbid	4.78 173	P	Pn	15 26 04.7	+0.2
ARQ	Araqi	5.00 190	P	Pn	15 26 09.4	+2.0
ARQ			P	Pn	15 26 09.5	+2.0
	SNR=13					
SMDO	Samad	5.23 174	P	Pn	15 26 12.6	+1.8
JRN	Qarnain Island	5.30 232	P	Pn	15 26 13.3	+1.6
DSBU	Dashti - Bushe	5.47 272	Pn	Pn	15 26 15.3	+1.2
BSY	Bisya	5.52 183	P	Pn	15 26 16.7	+2.0
IRAM	Ramesheh	5.64 310	Pn	Pn	15 26 18.5	+2.0
KLNJ	Kolanjah	5.79 299	Pn	Pn	15 26 20.0	+1.3
WBK	Wadi Bani Khal	5.81 166	P	Pn	15 26 18.4	-0.2
JMDO	Jabal Madar	5.91 174	P	Pn	15 26 19.9	-0.2
UMZA	Um Al Zommool	5.92 201	P	Pn	15 26 20.8	+0.7
GHWR	Ruwais	5.96 225	P	Pn	15 26 19.5	-1.2
SHMA	Al-Shehemyia	6.28 249	P	Pn	15 26 26.5	+1.5
	SNR=6.0					
JLN	Jalan Bani Buh	6.35 163	P	Pn	15 26 25.7	-0.3
SAKB	Bahrain	6.59 251	P	Pn	15 26 29.9	+0.7
TRNA	Turayna	6.62 239	P	Pn	15 26 29.8	0.0
SLWR	Sila	6.67 232	P	Pn	15 26 28.9	-1.5
SMRA	Abu-Samra	6.91 241	P	Pn	15 26 34.1	+0.4
MHTO	MHTO	7.28 176	P	Pn	15 26 40.7	+2.0
KBD	Kabd	8.63 278	P	Pn	15 26 58.0	+0.8
WHFO	Wadi Hawf	10.86 199	P	Pn	15 27 27.5	-0.4
RAYN	Ar Rayn	11.76 249	P	Pn	15 27 36.0	-4.3

IDC ***17*** *15:29:58.7±5.0,31°.07S×179°.99W,h431km±51km, mb3.3/4, mbtmp4.3/5, Error ellipse: s-maj=48.4km s-min=25.0km az=31.0*
WEL ***17*** *15:29:59.9±0.8,31°.S±7°.×17°.9W±1°.6,h377km±11km, M4.2/36, mB4.8/31, ML5.3/40, MLv5.2/36, Mw(mB)4.0/31, Error ellipse: s-maj=0.0km s-min=0.0km az=108.4*

ISC 17 15:29:55.8±0.8,30°.98S±0°.08×179°.6W±0°.1,h400km,n82, σ2ᵎ18/89,mb3.6/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	Green Lake	2.25	41	P	Pn	15 30 55.1	+1.6
GLKZ				S	S	15 31 40.4	+0.5
MXZ	Matakaoa Point	6.79	194	P	P	15 31 38.7	+1.1
MXZ	Matakaoa Point	6.79	194	P	P	15 31 38.5	+0.9
KUZ	Kuaotunu	6.94	213	P	P	15 31 43.4	+4.1
WMGZ	Waiomatatini S	7.02	193	P	P	15 31 44.0	+3.9
WCZ	Waipu Caves	7.08	224	P	P	15 31 43.6	+2.7
HAZ	Te Kaha	7.10	197	P	P	15 31 42.8	+1.8
HAZ				S	S	15 33 05.0	-1.0
OUZ	Omahuta	7.10	232	P	P	15 31 43.7	+2.6
OUZ	Omahuta	7.10	232	P	P	15 31 43.0	+1.9
PKGZ	Pakihiroa	7.15	195	P	P	15 31 44.9	+3.1
PKGZ				S	S	15 33 06.8	-0.5
PUZ	Puketiti	7.29	193	P	P	15 31 44.0	+0.8
RUGZ	Raukumara Rang	7.32	197	P	P	15 31 45.5	+1.8
RUGZ				S	S	15 33 09.2	-1.6
TWGZ	Tauwhareparae	7.45	195	P	P	15 31 48.8	+1.8
TWGZ				S	S	15 33 13.9	+0.5
TGRZ	Tauranga	7.55	206	P	P	15 31 49.4	+3.3
CNGZ	Carnagh Statio	7.70	193	P	P	15 31 48.9	+1.2
MWZ	Matawai	7.71	197	P	P	15 31 48.6	+0.7
EDRZ	Edgecumbe	7.72	202	P	P	15 31 51.2	+3.1
TKGZ	Te Karaka	7.73	195	P	P	15 31 48.5	+0.4
URZ	Urewera	7.75	200	P	Pn	15 31 47.6	-0.2
	89nm,0.5s,baz=56,slow=3.5,SNR=80						
URZ				S	S	15 33 17.8	-1.7
	35nm,0.3s,baz=325,slow=22,SNR=11						
URZ	Urewera	7.75	200	P	P	15 31 48.2	-0.1
URZ				S	S	15 33 17.2	-2.3
KMRZ	Kaimai	7.78	207	P	P	15 31 52.2	+3.6
KARZ	Kaharoa	7.81	205	P	P	15 31 52.5	+3.5
OMRZ	Omania	7.85	204	P	P	15 31 50.9	+4.4
TOZ	Tahuroa Road	7.86	210	P	P	15 31 53.6	+4.1
RAGZ	Rawiri	7.89	197	P	P	15 31 50.5	+0.5
TARZ	Mount Tarawera	7.92	203	P	P	15 31 53.4	+3.1
UTU	Utuhina	7.97	205	P	P	15 31 55.1	+4.3
HLRZ	Highlands Stat	7.98	204	P	P	15 31 53.9	+2.9
RIGZ	Rimuhau	8.01	195	P	P	15 31 51.5	+0.3
RRRZ	Republican Roa	8.01	202	P	P	15 31 54.0	+2.8
MUGZ	Murupara	8.05	201	P	P	15 31 52.9	+1.2
HSRZ	Hossack Road	8.07	204	P	P	15 31 55.8	+3.9
RTZ	Ruatahuna	8.12	199	P	P	15 31 54.0	+1.5
HRRZ	Handcock Road	8.13	204	P	P	15 31 55.3	+2.7
SNGZ	Shannon Statio	8.18	197	P	P	15 31 54.0	+0.9
PRGZ	Paritu Road	8.19	194	P	P	15 31 55.7	+2.5
PRRZ	Plateau Road	8.19	203	P	P	15 31 55.0	+1.7
WPRZ	Whakapapatarin	8.29	204	P	P	15 31 57.2	+2.8
RAHZ	Arahi	8.37	198	P	P	15 31 56.0	+0.8
MTHZ	Maungataniwha	8.38	199	P	P	15 31 57.3	+2.0
KUTZ	Kaahu Road	8.38	205	P	P	15 31 58.5	+3.1
MHGZ	Mahia Peninsul	8.41	193	P	P	15 31 57.9	+2.4
WHHZ	Waihua	8.48	197	P	P	15 31 58.5	+2.0
WATZ	Wairara	8.61	205	P	P	15 32 00.2	+2.3
NMHZ	Naumai	8.62	199	P	P	15 31 59.2	+1.2
ARHZ	Aropaoanui	8.72	198	P	P	15 32 00.8	+1.7
BKZ	Black Stump Fm	8.77	200	P	P	15 32 00.7	+1.0
BKZ	Black Stump Fm	8.77	200	P	P	15 31 60.0	+0.3
HIZ	Hauiti	8.79	210	P	P	15 32 04.6	+4.7
HIZ	Hauiti	8.79	210	P	P	15 32 04.6	+4.7
RITZ	Rihia Road	8.80	204	P	P	15 32 01.7	+1.7
KATZ	Kakaramea	8.86	205	P	P	15 32 03.4	+2.7
MCHZ	McNeill Hill	8.97	199	P	P	15 32 02.9	+1.1
NTVZ	North Tongariro	8.98	204	P	P	15 32 03.4	+1.3
TMVZ	Te Maari	8.98	204	P	P	15 32 03.7	+1.6
KRVZ	Karewarewa	8.98	204	P	P	15 32 03.8	+1.7
ETVZ	East Tongariro	9.00	204	P	P	15 32 03.2	+0.9
WTVZ	West Tongariro	9.02	205	P	P	15 32 03.9	+1.3
NNVZ	North Ngauruho	9.03	204	P	P	15 32 04.1	+1.5
KWHZ	Kaweka Forest	9.03	200	P	P	15 32 03.2	+0.6
TWVZ	Taurewa	9.04	205	P	P	15 32 05.1	+2.4
NGZ	Ngauruhoe	9.07	204	P	P	15 32 04.2	+1.0
CKHZ	Cape Kidnapper	9.07	196	P	Pn	15 32 05.0	+2.0
COVZ	Chateau Observ	9.11	205	P	Pn	15 32 05.0	+1.4
TUVZ	Tukino	9.13	204	P	Pn	15 32 04.8	+1.0
WHVZ	Whangaehu Hut	9.17	204	P	Pn	15 32 05.9	+1.5
TRVZ	Turoa	9.20	204	P	Pn	15 32 06.1	+1.4
KRHZ	Kereru	9.25	200	P	Pn	15 32 05.2	+0.1
KAHZ	Kahuranaki	9.25	197	P	Pn	15 32 05.4	+0.3
MTVZ	Mangateitei	9.30	204	P	Pn	15 32 07.2	+1.4
WPHZ	Waipukurau	9.62	198	P	Pn	15 32 09.8	+0.5
ANWZ	Angora Road	9.98	198	P	Pn	15 32 14.4	+0.9
BFZ	Birch Farm	10.25	198	P	P	15 32 16.0	0.0
SNZO	South Karori	11.29	202	P	P	15 32 27.1	-0.4
QRZ	Quartz Range	11.71	211	P	P	15 32 32.3	+0.1
KHZ	Kahutara	12.67	204	P	P	15 32 40.0	-2.6
STKA	Stephens Creek	33.01	258	P	P	15 35 54.6	-1.0
	2.7nm,0.8s,baz=101,slow=9.3,SNR=5.1						
	2.7nm,0.8s						
ASAR	Alice Springs	41.71	268	P	P	15 37 05.5	-2.3
	0.9nm,0.4s,baz=106,slow=7.6,SNR=23						
	0.9nm,0.4s						
WRA	Warramunga Arr	42.75	274	P	P	15 37 13.6	-2.5
	2.3nm,0.3s,baz=112,slow=8.1,SNR=77						
	2.3nm,0.3s						
QSPA	South Pole Qui	59.13	180	P	P	15 39 17.1	+1.2
	1.6nm,1.1s,baz=16,slow=7.4,SNR=1.9						
	1.6nm,1.1s						
FINES	FINESS Array B	145.20	339	PKPbc	PKPdf	15 48 44.6	-1.1
	1.2nm,0.4s,baz=62,slow=4.2,SNR=26						
HFS	Hagfors	149.52	347	PKPbc	PKPbc	15 48 56.4	-1.5
	1.0nm,0.5s,baz=40,slow=2.5,SNR=4.9						

TEH ***17*** *15:38:50.5,31°.81N×56°.73E,h11km±22km, ML3.9*
IDC ***17*** *15:38:52.1±1.5,31°.86N×57°.05E, h0km, mb3.4/7, mbtmp3.5/9, ML3.3/2, MS3.8/1, Error ellipse: s-maj=32.0km s-min=21.7km az=79.0*

ISC 17 15:38:51.3±0.7,31°.83N±0°.03×56°.73E±0°.03,h10km,n48, σ1ᵎ77/49,mb3.4/6,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IBAF	Bafgh	1.02	257	Pg	Pg	15 39 09.7	-1.2
TPRV	Parvadeh(Tabas	1.20	358	Pg	Pg	15 39 13.9	-0.4
KRM1	Kerman Provinc	1.40	161	Pg	Pg	15 39 17.5	-0.7
KRM1				Sg	Sg	15 39 37.4	+1.0
KHGB	Koh Gabri	1.47	189	Pg	Pg	15 39 18.9	-0.5
KHGB				Sg	Sg	15 39 38.7	+0.2
TKDS	Koohdasht(Taba	1.81	10	Pn	Pb	15 39 23.8	-0.7
TVBK	TV Kerman	1.84	179	Pn	Pg	15 39 25.6	-1.0
IMEH	Mehriz	1.86	257	Pn	Pg	15 39 25.7	-1.2
ITEG	Tejag	2.01	58	Pn	Pb	15 39 26.6	-1.5
ICHK	Chekchek	2.02	282	Pn	Pb	15 39 26.9	-1.3
IKOO	Kooshah	2.02	72	Pn	Pb	15 39 26.7	-1.6
BSRN	Basiran	2.04	86	Pn	Pn	15 39 26.5	+0.7
CHMN	Cheshme madani	2.08	160	Pn	Pb	15 39 27.6	-1.7
TNSJ	Nastanj	2.13	357	Pn	Pb	15 39 28.1	-1.9
NGRK	Negar Kerman	2.18	180	Pn	Pb	15 39 29.5	-1.5
AFRZ	Afriz	2.50	50	Pn	Pn	15 39 33.0	+0.9
IDAH	Dahanechah	2.81	70	Pn	Pn	15 39 37.3	+0.9
NHDN	Nehbandan	2.87	98	Pn	Pn	15 39 38.2	+1.0
ANAR	Anarak	2.88	299	Pn	Pn	15 39 38.1	+0.8
KBAM	BAM	3.07	151	Pn	Pn	15 39 40.1	+0.2
SHRT	Shahrakht	3.50	58	Pn	Pn	15 39 47.4	+1.6
IRAM	Ramesheh	3.70	271	Pn	Pn	15 39 50.3	+1.6
IANJ	Anjilo	4.32	328	Pn	Pn	15 39 58.3	+1.0
KRSH	Karshahi	4.41	300	Pn	Pn	15 39 59.5	+1.0
ISFB	Sefidab	4.53	305	Pn	Pn	15 40 01.2	+1.2
TBJM	Torbat-e-JAM	4.56	40	Pn	Pn	15 40 02.0	+1.5
IKLH	Kolahrood	4.59	290	Pn	Pn	15 40 03.0	+1.9
SBZV	Sabzevar	4.61	9	Pn	Pn	15 40 03.3	+2.1
QAMS	Qamsar	4.88	294	Pn	Pn	15 40 06.2	+1.2
IPAY	Payeh	4.98	22	Pn	Pn	15 40 08.0	+1.8
IFIR	Firoozkooh	5.04	320	Pn	Pn	15 40 08.3	+1.1
IAKL	Akhelmad	5.05	19	Pn	Pn	15 40 09.2	+1.9
IVRN	Varamin	5.24	308	Pn	Pn	15 40 11.7	+1.9
IMYA	Miami	5.30	31	Pn	Pn	15 40 12.7	+2.1
ISFR	Sfrayin	5.32	11	Pn	Pn	15 40 13.2	+2.3
IDMV	Damavand	5.41	315	Pn	Pn	15 40 14.4	+2.1
IEMG	Emamgholi	5.79	15	Pn	Pn	15 40 19.7	+2.2
MRVT	Maraveh tapeh	5.84	355	Pn	Pn	15 40 20.1	+2.1
GEYT	Alibeck	6.19	10	Pn	Pn	15 40 24.8	+2.0
	1.1nm,0.3s,baz=192,slow=17,SNR=9.7						
GEYT				Sn	Sn	15 41 33.9	+0.2
	baz=216,slow=15						
	2.5nm,0.4s						
WSAR	Wadi Sarin	8.72	168	Pn	Pn	15 40 58.2	+0.7
	0.3nm,0.3s,baz=97,slow=5.0,SNR=1.5						
WSAR				Sn	Sn	15 42 41.4	+5.4
	0.1nm,0.3s,baz=45,slow=2.9,SNR=2.0						
	0.8nm,0.4s						
KSH	Kashi	17.39	59	P	Pn	15 42 48.9	-5.3
KSH				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BRTR	Keskin Array B	20.29	299	P	Pn	15 43 30.7	+1.4
	comp=Z,0.5nm,0.8s,baz=125,slow=11,SNR=3.0						
	comp=Z,0.5nm,0.8s						
BVAR	Borovoye Array	23.38	21	P	P	15 44 00.6	+0.7
	comp=Z,1.1nm,0.7s,baz=198,slow=9.1,SNR=7.1						
	comp=Z,1.1nm,0.7s						
MKAR	Makanchi Array	24.64	45	P	P	15 44 12.0	+0.1
	comp=Z,0.2nm,0.6s,baz=232,slow=8.8,SNR=2.8						
	comp=Z,0.2nm,0.6s						
KURBB	Kurchatov Arra	24.77	34	P	P	15 44 13.6	+0.6
	comp=Z,0.2nm,0.3s,baz=233,slow=9.3,SNR=2.3						
	comp=Z,0.2nm,0.3s						
ZALV	Zalesovo Beam	29.86	34	P	P	15 44 59.3	+0.6
	comp=Z,0.4nm,0.5s,baz=231,slow=8.9,SNR=2.0						
	comp=Z,0.4nm,0.5s						
CMAR	Chiang Mai Arr	40.22	99	P	P	15 46 28.6	+0.4
	comp=Z,0.4nm,0.8s,baz=293,slow=9.6,SNR=1.3						
	comp=Z,0.4nm,0.8s						
ARCES	ARCESS Array B	41.64	344	P	P	15 46 43.7	+4.4
	comp=Z,4.1nm,0.9s,baz=141,slow=5.8,SNR=1.8						
	comp=Z,4.1nm,0.9s						
KLR	Kul'dur	57.28	49	LR	LR	16 15 40.5	
	comp=Z,67nm,18.0s,baz=254,slow=39						

IDC ***17*** *15:53:48.0±5.8,0°.11S×123°.88E,h94km±54km, mb3.5/13, mbtmp3.9/13, Error ellipse: s-maj=33.7km s-min=14.0km az=68.0*
NEIC ***17*** *15:53:49.0±2.1,0°.40S±0°.07×123°.95E±0°.07,h111km±6km, mb4.1/15, Error ellipse: s-maj=10.7km s-min=9.3km az=211.0*
DJA ***17*** *15:53:50.7±0.3,0°.S±3°.×12°.4E±°,h74km±11km, M4.4/19, mb4.5/12, mB5.0/6, MLv4.5/19, Mw(mB)4.3/6*

ISC 17 15:53:48.7±0.5,0°.29S±0°.06×124°.00E±0°.06,h100km,n59, σ1ᵎ74/62,mb3.9/22,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	Cibinong	0.86	359	P	Pn	15 54 08.7	+1.0
KMSI				S	Sn	15 54 23.7	+1.8
GTOI	Gorontalo	1.35	313	P	Pn	15 54 16.2	+3.0
GTOI				S	Sn	15 54 35.6	+3.9
LUWI	Luwuk	1.44	239		Pn	15 54 13.9	-0.3
LUWI	Luwuk	1.44	239	P	Pn	15 54 13.6	-0.6
MRSI	Marisa	2.20	290	P	Pn	15 54 24.2	+0.4
SANI	Sanana	2.64	131	P	Pn	15 54 28.8	-0.9
TOLI2	Tolitoli	3.51	293		Pn	15 54 42.3	+1.0
LBMI	Labuha	3.52	96	P	Pn	15 54 42.2	+0.8
TNTI	Ternate	3.53	73		Pn	15 54 43.0	+1.5
TNTI	Ternate	3.53	73	P	Pn	15 54 45.0	+3.5
NLAI	Namlea	4.26	133	P	Pn	15 54 52.6	+1.2
TTSI	Tana Toraja	5.00	237	P	Pn	15 55 02.2	+0.8
BBSI	Bau Bau	5.36	195	P	Pn	15 55 08.0	+1.7
	86nm,0.9s,0.2nm						
BKSI	Bulukumba	6.32	218	P	Pn	15 55 21.4	+2.0
KAPI	Kappang	6.33	222		Pn	15 55 21.2	+1.7
FAKI	Fak Fak	8.65	108	Pn	Pn	15 55 50.7	-0.4
FAKI	Fak Fak	8.65	108	P	Pn	15 55 54.7	+3.7
	25nm,2.2s						
EDFI	Ende, Flores	8.71	195	P	Pn	15 55 52.7	+0.7
	16nm,0.5s						
KKM	Kota Kinabalu	10.00	309	Pn	Pn	15 56 11.6	+2.1
KSM	Kuching	13.80	277	P	P	15 57 06.8	+1.6
MANT	Manton Dam	14.34	151	P	Pn	15 57 09.9	+2.9
FITZ	Fitzroy Crossi	17.77	175	P	P	15 57 46.7	-2.4
WB0	Warramunga Arr	21.87	153	P	P	15 58 33.7	+0.1
WRAB	Tennant Creek	22.00	153	P	P	15 58 35.0	+0.1
WRAB				IAmb	IAmb	15 58 54.7	
	comp=Z,5.4nm,1.1s						
WRA	Warramunga Arr	22.00	153	P	P	15 58 36.3	+1.4
	comp=Z,0.7nm,0.7s,baz=320,slow=11,SNR=6.7						
WRA				PcP	PcP	16 02 30.7	+0.9
	comp=Z,1.1nm,1.2s,baz=330,slow=6.8,SNR=1.3						
	comp=Z,0.7nm,0.7s						
WB2	Warramunga Arr	22.00	153	P	P	15 58 36.5	+1.5
WB2				IAmb	IAmb	15 58 54.5	
	comp=Z,4.0nm,1.1s						
WR0	Warramunga Arr	22.10	153	P	P	15 58 35.2	-0.8
WR0				IAmb	IAmb	15 58 36.1	
	comp=Z,4.8nm,1.1s						
TPUB	Ta-pu	23.68	352	P	P	15 58 51.1	-0.3
TPUB				IAmb	IAmb	15 58 54.9	
	comp=Z,31nm,1.1s						
AS31	Alice Springs	25.14	158	P	P	15 59 02.2	-2.5
ASAR	Alice Springs	25.15	158	P	P	15 59 04.6	-0.1
ASAR	Alice Springs	25.15	158	P	P	15 59 06.4	+1.7
	comp=Z,0.5nm,0.5s,baz=345,slow=10,SNR=11						
ASAR				PcP	PcP	16 02 37.3	+0.8
	comp=Z,0.6nm,0.5s,baz=355,slow=1.9,SNR=11						
	comp=Z,0.5nm,0.5s						
PHRA	Phrae	29.91	310	P	P	15 59 48.1	+0.8
CMAR	Chiang Mai Arr	30.88	308	P	P	15 59 55.4	-0.5
	comp=Z,1.2nm,0.8s,baz=133,slow=7.2,SNR=11						
	comp=Z,1.2nm,0.8s						
NWAO	Narrogin (SRO)	33.08	190	P	P	16 00 10.8	-4.2
BBOO	Buckleboo	34.28	162	P	P	16 00 22.3	-3.2
USRK	Ussuriysk Ar.	44.87	8	P	P	16 01 52.1	-0.9
	comp=Z,2.8nm,0.7s,baz=190,slow=6.2,SNR=5.0						
	comp=Z,2.8nm,0.7s						
KLR	Kul'dur	49.78	7	P	P	16 02 29.8	-1.3
	comp=Z,0.9nm,0.6s,baz=180,slow=6.4,SNR=4.1						
	comp=Z,0.9nm,0.6s						
SONM	Songino Array	50.32	345	P	P	16 02 34.2	-1.1
SONM	Songino Array	50.32	345	P	P	16 02 33.2	-2.2
	comp=Z,0.7nm,0.7s,baz=158,slow=11,SNR=4.6						
	comp=Z,0.7nm,0.7s						
MK31	Makanchi Array	59.39	328	P	P	16 03 39.4	-1.3
MK31				IAmb	IAmb	16 03 41.0	
	comp=Z,1.2nm,1.1s						
MKAR	Makanchi Array	59.39	328	P	P	16 03 39.4	-1.3
MKAR	Makanchi Array	59.39	328	P	P	16 03 38.9	-1.7
	comp=Z,0.8nm,0.3s,baz=124,slow=8.7,SNR=22						
	comp=Z,0.8nm,0.3s						
MAKZ	Makanchi	59.56	328	P	P	16 03 39.6	-2.2
MAKZ				IAmb	IAmb	16 03 48.5	
	comp=Z,1.0nm,0.9s						
PETK	Petropavlovsk-	60.16	23	P	P	16 03 46.2	+0.5
	comp=Z,5.0nm,0.9s,baz=224,slow=4.0,SNR=1.6						
	comp=Z,5.0nm,0.9s						
ZALV	Zalesovo Beam	62.99	335	P	P	16 04 01.7	-3.0
	comp=Z,0.3nm,0.3s,baz=128,slow=9.3,SNR=1.8						
	comp=Z,0.3nm,0.3s						
KURBB	Kurchatov Arra	63.72	330	P	P	16 04 07.8	-1.9
	comp=Z,1.2nm,0.8s,baz=118,slow=6.1,SNR=14						
	comp=Z,1.2nm,0.8s						
KURK	Kurchatov	63.73	330	P	P	16 04 07.7	-2.0
KURK				IAmb	IAmb	16 04 08.6	
	comp=Z,3.3nm,0.4s						
BVAR	Borovoye Array	69.25	329	P	P	16 04 42.4	-2.5
	comp=Z,0.3nm,0.4s,baz=128,slow=11,SNR=3.0						
	comp=Z,0.3nm,0.4s						
BRVK	Borovoye	69.32	329	P	P	16 04 43.2	-2.1
TIXI	Tiksi	71.89	2	P	P	16 04 59.5	-1.0
TIXI				IAmb	IAmb	16 05 00.6	
	comp=Z,5.7nm,1.1s						
ABKAR	Akbulak array	73.57	322	P	P	16 05 09.0	-1.9
IMAR	Indian Mountai	87.10	24	P	P	16 06 22.4	-0.6
QSPA	South Pole Qui	89.64	180	P	P	16 06 35.9	+0.7
QSPA	South Pole Qui	89.64	180	P	P	16 06 36.4	+1.2
	comp=Z,1.2nm,1.1s,baz=288,slow=6.4,SNR=1.9						
	comp=Z,1.2nm,1.1s						
ILAR	Eielson Array	89.88	25	P	P	16 06 34.8	-1.4
	comp=Z,0.4nm,1.0s,baz=251,slow=4.4,SNR=4.4						
	comp=Z,0.4nm,1.0s						
M24K	Tolsona, Glenn	90.17	28	P	P	16 06 37.6	0.0
M24K				IAmb	IAmb	16 06 37.7	
	comp=Z,6.2nm,1.1s						
BMAR	Burnt Mountain	90.81	23	P	P	16 06 41.6	+1.1
BCAR	Beaver Creek A	92.17	27	P	P	16 06 48.3	+1.4
TORD	Torodi Ar. Bea	121.45	285	PKP	PKPdf	16 12 30.7	-0.8
	comp=Z,0.5nm,0.5s,baz=76,slow=2.0,SNR=3.1						

IDC 17 16:02:02.6±6.0,4°.73S×133°.69E,h0km,mb3.3/1, mbtmp3.1/3,ML2.9/2,Error ellipse: s-maj=344.4km s-min=34.5km az=77.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	15.14	178	Pn	Pn	16 05 36.5	-1.4
	0.1nm,0.3s,baz=356,slow=13,SNR=4.8						
WRA				Sn	Sn	16 08 13.1	-13
	0.1nm,0.3s,baz=355,slow=24,SNR=1.7						
	0.5nm,1.0s						
ASAR	Alice Springs	18.83	179	P	Pn	16 06 24.7	+0.2
	baz=4.9,slow=10,SNR=2.6						
ASAR				S	Sn	16 09 42.8	-13
	0.6nm,1.0s,baz=300,slow=32,SNR=1.7						
	0.3nm,0.8s						
MKAR	Makanchi Array	68.42	325	P	P	16 13 06.4	0.0
	0.2nm,0.7s,baz=108,slow=7.9,SNR=2.1						
	0.2nm,0.7s						

GCG ***17*** *16:08:59.2±0.3, 14°.52N×95°.37W, h260km±999km, MD3.8*
IDC ***17*** *16:09:26.1±3.8, 14°.06N×93°.11W, h0km, mb3.8/2, mbtmp3.8/3, ML3.6/1, MS3.2/1, Error ellipse: s-maj=136.9km s-min=65.9km az=63.0*
MEX ***17*** *16:09:29.3±1.1, 14°.07N×93°.66W, h5km, MD4.0*

ISC 17 16:09:26.6±2.3,14°.18N±0°.08×93°.61W±0°.04,h3km±12km, n27,σ2ᵎ02/42,1D,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		1.49	61	eP	Pn	16 09 53.4	-0.8
THIG				eS	Sg	16 10 14.4	-0.1
PCIG		1.56	14	eP	Pg	16 09 57.0	+0.4
PCIG				i S	Sg	16 10 17.0	+0.1
PATR	El Naranjo	1.62	55	eP	Pn	16 09 56.3	0.0
PATR				i S	Sb	16 10 18.1	-0.2
CHUJ	Union Juarez	1.71	58	eP	Pn	16 09 57.3	-0.2
CHUJ				eS	Sb	16 10 19.6	-1.3
PAVE	Pavencul	1.71	54	eP	Pn	16 09 57.8	+0.3
PAVE				i S	Sb	16 10 20.6	-0.3
SULM	Suchitepequez,	1.98	86	eP	Pn	16 10 01.5	+0.5
STG3	Santiaguito 3,	2.04	75	eP	Pn	16 10 02.

2.0nm,0.8s,baz=182,slow=7.2,SNR=5.0
2.0nm,0.8s
MKAR Makanchi Array 75.10 322 P **P 16 21 26.6 +1.0**
0.8nm,0.6s,baz=103,slow=8.4,SNR=9.2
0.8nm,0.6s
ZALV Zalesovo Beam 77.08 329 P **P 16 21 36.6 -0.1**
0.5nm,0.6s,baz=134,slow=10,SNR=2.7
0.5nm,0.6s
KURBB Kurchatov Arra 78.99 324 P **P 16 21 47.8 +0.4**
0.9nm,0.9s,baz=113,slow=4.7,SNR=4.8
0.9nm,0.9s
QSPA South Pole Qui 83.62 180 P **P 16 22 13.6 +1.7**
1.2nm,0.8s,baz=18,slow=13,SNR=6.8
1.2nm,0.8s
BVAR Borovoye Array 84.57 325 P **P 16 22 17.7 +1.0**
5.0nm,0.8s,baz=113,slow=6.7,SNR=24
5.0nm,0.8s
ILAR Eielson Array 87.50 24 P **P 16 22 29.6 -1.4**
1.7nm,0.8s,baz=256,slow=5.1,SNR=16
1.7nm,0.8s

JMA 17 16:19:38.5±0.2, 24.3N±0.4×123.8E±0.5, h19km±1km, MV0.7/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.12**	**316**	*eP*	Pg	16 19 42.5	0.0
JKRS	**Kuro-shima**	**0.17**	**93**	*i* P	Pg	16 19 43.0	-0.1
JKRS				*eS*	Sg	16 19 46.3	+0.2
HATJ	**Hateruma jima**	**0.19**	**185**	P	Pg	16 19 43.2	-0.1
HATJ				*eS*	Sg	16 19 46.5	0.0
JIJ	**Ishigaki jima**	**0.31**	**68**	P	Pg	16 19 45.0	-0.3
JIJ				*eS*	Sg	16 19 49.6	-0.4
JISG	**Ishigakijimahi**	**0.56**	**52**	*eP*	Pb	16 19 49.6	0.0
JISG				*eS*	Sb	16 19 57.6	+0.4
JYNG	**Yonagunijimaku**	**0.83**	**285**	*eS*	Sb	16 20 03.3	-1.8

TAP 17 16:19:56.7, 24.1N×121.6E, h10km, ML1.4, 1C-2D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETL	**Fush Village**	**0.06**	**291**	⇓ *i* P	Pg	16 19 59.6	+0.8
	baz=290						
ETL				*i* S	Sg	16 20 01.2	+0.9
	baz=290						
NACB	**Ninganchiao**	**0.08**	**294**	⇓ *i* P	Pg	16 19 60.0	+0.9
	baz=294						
NACB				*i* S	Sg	16 20 01.8	+1.0
	baz=294						
TWD	**Chiawan**	**0.10**	**232**	*i* P	Pg	16 19 59.8	+0.6
	baz=229						
TWD				*i* S	Sg	16 20 01.6	+0.6
	baz=229						
ETLH	**Xiulin Townshi**	**0.19**	**291**	P	Pg	16 20 02.0	+1.1
	baz=290						
ETLH				S	Sg	16 20 05.2	+1.5
	baz=290						
EAHA	**Aohua**	**0.20**	**16**	P	Pg	16 20 01.7	+0.8
	baz=16						
EAHA				*eS*	Sg	16 20 05.9	+2.2
	baz=16						
ETM	**Tongmen**	**0.24**	**225**	P	Pg	16 20 02.1	+0.5
	baz=224						
ETM				S	Sg	16 20 05.9	+0.8
	baz=224						
LXIB	**Xiulin Townshi**	**0.27**	**244**	*eP*	Pb	16 20 03.1	-0.8
	baz=244						
LXIB				*i* S	Sb	16 20 07.3	-1.3
	baz=244						
ENA	**Nanau**	**0.29**	**11**	⇑ *i* P	Pb	16 20 03.7	-0.5
	baz=12						
ENA				*i* S	Sb	16 20 08.1	-1.0
	baz=12						
EWUT	**Wuta**	**0.32**	**17**	P	Pb	16 20 04.0	-0.6
	baz=16						
EWUT				S	Sg	16 20 08.6	+1.2
	baz=16						
SHUL	**Shoufeng**	**0.37**	**197**	*eP*	Pb	16 20 05.3	-0.1
	baz=196						
ESL	**Shilin**	**0.39**	**215**	*i* P	Pg	16 20 04.7	+0.2
	baz=213						
ESL				S	Sb	16 20 13.2	+1.2
	baz=213						
NNSB	**Datong**	**0.40**	**317**	*i* P	Pb	16 20 05.9	-0.1
	baz=316						
NNSB				*i* S	Sb	16 20 11.7	-0.5
	baz=316						
NNS	**Nan Shan**	**0.41**	**317**	*i* P	Pb	16 20 06.4	+0.2
	baz=317						
NNS				*i* S	Sb	16 20 12.0	-0.6
	baz=317						
FUSS	**Fushou**	**0.41**	**285**	*eP*	Pb	16 20 06.6	+0.3
	baz=285						
FUSS				S	Sb	16 20 12.3	-0.4
	baz=285						
LATG	**Datong**	**0.42**	**341**	P	Pb	16 20 06.2	-0.2
	baz=340						
LATG				S	Sb	16 20 12.7	-0.1
	baz=340						
ESAO	**Su ao**	**0.46**	**19**	*eP*	Pg	16 20 06.3	+0.6
	baz=19						
ESAO				*eS*	Sg	16 20 12.6	+0.8
	baz=19						
CHGB	**Renai**	**0.47**	**260**	*eP*	Pg	16 20 06.2	+0.3
	baz=260						
NDT	**Datong Townshi**	**0.49**	**342**	*eP*	Pb	16 20 07.9	+0.4
	baz=341						
NDT				*eS*	Sb	16 20 15.2	+0.6
	baz=341						
NDS	**Dongshan**	**0.49**	**4**	*eP*	Pb	16 20 07.8	+0.2
	baz=4.0						
NDS				*eS*	Sb	16 20 14.5	-0.4
	baz=4.0						
OWD	**Renai**	**0.49**	**248**	*eP*	Pb	16 20 07.8	+0.1
	baz=248						
OWD				*eS*	Sb	16 20 15.4	+0.3
	baz=248						
WARBT	**Fenglin Townsh**	**0.50**	**213**	*eP*	Pg	16 20 06.7	+0.2
	baz=212						
EGFH	**Guangfu**	**0.52**	**206**	*eP*	Pb	16 20 08.4	+0.4
	baz=206						
WUSB	**Renai**	**0.53**	**254**	*eP*	Pb	16 20 08.4	+0.1
	baz=254						
WUSB				*eS*	Sb	16 20 15.8	-0.4
	baz=254						
TWE	**Neicheng**	**0.58**	**359**	P	Pb	16 20 09.0	0.0
TWE				S	Sb	16 20 17.6	+0.2
YHNB	**Yeheng**	**0.60**	**332**	*eP*	Pb	16 20 09.9	+0.6
	baz=332						
YHNB				*eS*	Sb	16 20 18.7	+0.8
	baz=332						
FUSB	**Fushanzhiwuyua**	**0.62**	**352**	P	Pb	16 20 10.2	+0.4
	baz=352						
FUSB				*eS*	Sb	16 20 19.0	+0.3
	baz=352						
VWDT	**VWDT**	**0.62**	**232**	*eP*	Pb	16 20 10.2	+0.5
	baz=232						
VWDT				*eS*	Sb	16 20 19.6	+1.0
	baz=232						
NWLT	**Wulai**	**0.66**	**346**	*eP*	Pg	16 20 09.8	+0.3
	baz=345						
NWLT				*eS*	Sb	16 20 19.3	-0.2
	baz=345						
WHP	**Taichung City**	**0.68**	**282**	*eP*	Pn	16 20 11.9	-0.7
	baz=281						
WHP				*eS*	Sn	16 20 22.5	-0.9
	baz=281						
EHY	**Hungye**	**0.71**	**207**	*eP*	Pb	16 20 11.0	-0.2
	baz=206						
SSLB	**Suanglung**	**0.75**	**242**	*eP*	Pb	16 20 12.1	+0.2
	baz=242						
SSLB				*eS*	Sb	16 20 23.1	+0.8
	baz=242						
LIOB	**Emei**	**0.79**	**310**	*eP*	Pb	16 20 12.8	+0.2
	baz=309						
LIOB				*eS*	Sb	16 20 24.1	+0.7
	baz=309						
YULB	**Yu-li**	**0.82**	**205**	*eP*	Pb	16 20 13.1	-0.1
	baz=205						
YULB				*eS*	Sb	16 20 25.2	+0.9
	baz=205						

HEL 17 16:21:13.6±0.7, 69.43N×30.80E, h0km, ML1.1,
Suspected explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAJF	**Raja-Jooseppi**	**1.31**	**224**	PG	Pg	16 21 37.1	-1.6
RAJF				SN	Sn	16 21 57.2	-0.1
KEV	**Kevo**	**1.37**	**286**	PG	Pg	16 21 38.3	-1.6
KEV				MSG		16 21 55.1	
	comp=Z,0.7nm,0.2s						
KEV				SB	Sg	16 21 55.8	-1.8
KMNF	**Kaamanen**	**1.38**	**260**	PG	Pg	16 21 38.6	-1.4
KMNF				SG	Sg	16 21 56.0	-1.9
VRF	**Varrio**	**1.74**	**195**	MSG		16 22 05.4	
	comp=Z,1.5nm,0.2s						
VRF				SG	Sn	16 22 06.1	-1.8
ARA0	**ARCESS Array S**	**1.87**	**276**	PG	Pn	16 21 46.8	0.0
ARA0				SN	Sb	16 22 11.8	-0.7
KTK1	**Kautokeino**	**2.73**	**265**	SB	Sb	16 22 35.6	-1.6
HEF	**Hetta**	**2.78**	**252**	MSG		16 22 35.5	
	comp=Z,0.7nm,0.2s						
HEF				SB	Sb	16 22 36.8	-1.8

HEL 17 16:21:49.4±0.2, 67.15N×20.61E, h0km, ML0.8, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAJU	**Pajala**	**0.99**	**96**	SB	Sn	16 22 24.9	-0.3
KLF	**Kolari**	**1.31**	**85**	PG	Pg	16 22 12.7	-1.8
	baz=264						
KLF				MSG		16 22 29.1	
	comp=Z,0.5nm,0.2s						
KLF				SG	Sg	16 22 29.8	-1.6
HEF	**Hetta**	**1.71**	**41**	MSG		16 22 40.5	
	comp=Z,0.5nm,0.2s						
HEF				SN	Sn	16 22 42.8	-0.3
TOF	**Tornio**	**1.83**	**124**	PB	Pn	16 22 22.4	+0.3
TOF	**Tornio**	**1.83**	**124**	PG	Pn	16 22 22.4	+0.3
TOF				MSG		16 22 44.1	
	comp=Z,0.4nm,0.2s						
TOF				SG	Sb	16 22 47.6	+0.5
KIF	**Kilpisjarvi**	**1.86**	**2**	SN	Sb	16 22 48.1	0.0
KIF	**Kilpisjarvi**	**1.86**	**2**	PG	Pb	16 22 23.6	-0.7
KIF				MSG		16 22 45.9	
	comp=Z,0.8nm,0.2s						
KIF				SG	Sb	16 22 48.1	0.0
KTK1	**Kautokeino**	**2.11**	**27**	SG	Sb	16 22 54.5	-0.8
RNF	**Rovaniemi**	**2.20**	**102**	SG	Sb	16 22 56.9	-0.9
SGF	**Sodankyl**	**2.31**	**80**	SB	Pb	16 22 29.4	-2.5
SGF	**Sodankyl**	**2.31**	**80**	PB	Pn	16 22 29.4	+0.7
SGF				SG	Sb	16 23 00.9	-0.1
RANF	**Ranua**	**2.72**	**112**	SG	Sb	16 23 12.4	-0.3

IDC 17 16:28:24.9±10.0, 18.79S×177.19W, h421km±103km, mb3.1/6, mbtmp3.9/6, Error ellipse: s-maj=50.9km s-min=30.5km az=57.0
ISC 17 16:28:23.1±1.2, 18.8S±0.3×177.2W±0.3, h400km, n8, σ1s57/10, mb3.3/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.19**	**242**	P	**P**	**16 35 13.3**	**-1.3**
	5.0nm,1.0s,baz=120,slow=8.1,SNR=3.1						
	5.0nm,1.0s						
WRA	**Warramunga Arr**	**45.57**	**260**	P	**P**	**16 36 06.1**	**+0.7**
	0.5nm,0.4s,baz=97,slow=7.7,SNR=14						
WRA				PcP	**PcP**	**16 37 34.9**	**-1.4**
	0.6nm,1.1s,baz=101,slow=3.5,SNR=1.5						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**45.63**	**255**	P	**P**	**16 36 06.8**	**+0.9**
	1.2nm,0.7s,baz=89,slow=7.5,SNR=16						
ASAR				PcP	**PcP**	**16 37 35.1**	**-1.4**
	0.4nm,0.6s,baz=106,slow=3.3,SNR=6.5						
	1.2nm,0.7s						
QSPA	**South Pole Qui**	**71.27**	**180**	P	**P**	**16 39 00.4**	**+0.3**
	1.6nm,0.8s,baz=356,slow=13,SNR=7.9						
	1.6nm,0.8s						
ILAR	**Eielson Array**	**86.50**	**13**	P	**P**	**16 40 20.4**	**-1.0**
	0.5nm,1.1s,baz=224,slow=3.8,SNR=2.8						
	0.5nm,1.1s						
CMAR	**Chiang Mai Arr**	**90.22**	**289**	P	**P**	**16 40 40.5**	**+0.6**
	0.4nm,0.8s,baz=132,slow=3.8,SNR=4.7						
	0.4nm,0.8s						
BRTR	**Keskin Array B**	**146.19**	**315**	PKPbc	**PKPdf**	**16 47 16.6**	**+0.7**
	0.5nm,0.5s,baz=126,slow=6.3,SNR=4.2						
MMAI	**Mount Meron Ar**	**147.55**	**302**	PKPbc	**PKPdf**	**16 47 21.2**	**+2.9**
	1.2nm,0.6s,baz=53,slow=7.4,SNR=4.1						

IDC 17 16:29:27.0±2.0, 1.52N×127.03E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=183.2km s-min=22.8km az=67.0
DJA 17 16:29:33.5±0.5, 1.1N±8.1×126.6E±0.6, h10km, M3.2/6, MLv3.2/6
ISC 17 16:29:34.2±1.2, 1.0N±0.1×126.17E±0.06, h35km, n10, σ2s02/10, mb3.4/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.21**	**100**	P	**Pn**	**16 29 56.4**	**+1.7**
LBMI	**Labuha**	**2.09**	**140**	P	**Pn**	**16 30 08.7**	**+1.9**
KMSI	**Cibinong**	**2.23**	**260**	P	**Pn**	**16 30 09.6**	**+1.0**
SANI	**Sanana**	**3.02**	**183**	P	**Pn**	**16 30 19.8**	**+0.2**
GTOI	**Gorontalo**	**3.18**	**264**	P	**Pn**	**16 30 25.0**	**+3.3**
LUWI	**Luwuk**	**3.95**	**239**	P	**Pn**	**16 30 33.3**	**+0.9**
WRA	**Warramunga Arr**	**22.29**	**159**	P	**P**	**16 34 27.6**	**-1.1**
	1.0nm,0.8s,baz=340,slow=11,SNR=11						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**25.63**	**163**	P	**P**	**16 35 01.6**	**+1.0**
	0.3nm,0.5s,baz=346,slow=11,SNR=12						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**59.50**	**326**	P	**P**	**16 39 31.6**	**-2.3**
	0.2nm,0.6s,baz=127,slow=5.6,SNR=2.1						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**63.75**	**328**	P	**P**	**16 40 01.1**	**-1.4**
	0.3nm,0.6s,baz=126,slow=6.4,SNR=2.4						
	0.3nm,0.6s						

IDC 17 16:37:45.8±2.1, 59.56N×2.09E, h0km, mbtmp3.4/6, ML3.2/6, Error ellipse: s-maj=31.8km s-min=15.2km az=146.0
NAO 17 16:37:48.2±11.0, 59.68N×2.07E, h16km±91km, ML2.0
BGS 17 16:37:49.5±1.1, 59.74N×1.89E, h20km±6km, ML2.8
DNK 17 16:37:50.9±0.5, 59.79N×2.70E, h0km, ML2.1(UPP), Suspected explosion
BER 17 16:37:50.2±1.9, 59.74N×1.91E, h28km±6km, ML2.3, ML2.8(BGS), Confirmed Earthquake
UPP 17 16:37:53.9±2.9, 59.70N×2.95E, h0km, ML2.1
ISC 17 16:37:44.6±1.2, 59.71N±0.03×2.02E±0.02, h9km±10km, n78, σ2s00/133, 1C-3D, North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LRW	**Lerwick**	**1.67**	**286**	*eP*	**Pb**	**16 38 15.4**	**0.0**
LRW				*eS*	**Sn**	**16 38 34.3**	**-1.0**
LRW				IAML		16 38 39.3	
	comp=E,76nm,0.1s						
LRW				IAML		16 38 45.1	
	comp=N,86nm,0.4s						
LRW	**Lerwick**	**1.67**	**286**	*eP*	**Pg**	**16 38 16.6**	**+0.1**
LRW				*eS*	**Sg**	**16 38 37.7**	**-0.3**
LRW				IAML		16 38 40.2	
	comp=Z,75nm,0.4s						
LRW	**Lerwick**	**1.67**	**286**	Pn	**Pg**	**16 38 17.8**	**+1.3**
LRW				Sn	**Sg**	**16 38 37.8**	**-0.3**
KMY	**Karmoy**	**1.72**	**105**	Pn	**Pg**	**16 38 18.1**	**+0.6**
KMY				Sn	**Sg**	**16 38 39.1**	**-0.8**
ASK	**Askoy**	**1.77**	**63**	*i* P	**Pg**	**16 38 17.8**	**-0.7**
ASK				*eS*	**Sn**	**16 38 38.3**	**+0.3**
ASK	**Askoy**	**1.77**	**63**	⇓ *i* P	**Pg**	**16 38 17.8**	**-0.7**
ASK				*eS*	**Sn**	**16 38 38.3**	**+0.3**
ASK				IAML		16 38 49.9	
	comp=Z,81nm,0.2s						
ASK	**Askoy**	**1.77**	**63**	Pn	**Pg**	**16 38 18.0**	**-0.5**
ASK				Sn	**Sn**	**16 38 38.4**	**+0.4**
BER	**Bergen**	**1.80**	**66**	*eP*	**Pg**	**16 38 18.2**	**-0.8**
BER				IAML		16 38 41.1	
	comp=E,18nm,0.1s						
BER				IAML		16 38 50.7	
	comp=N,20nm,0.2s						
BER	**Bergen**	**1.80**	**66**	Pn	**Pg**	**16 38 18.4**	**-0.6**
BER				Sn	**Sn**	**16 38 39.0**	**+0.4**
SUE	**Sulen**	**1.92**	**44**	*eP*	**Pb**	**16 38 19.5**	**-0.2**
SUE				*eS*	**Sn**	**16 38 41.2**	**-0.4**
SUE	**Sulen**	**1.92**	**44**	*eP*	**Pb**	**16 38 19.5**	**-0.2**
SUE				*eS*	**Sn**	**16 38 41.2**	**-0.4**
SUE				IAML		16 38 42.6	
	comp=Z,57nm,0.2s						
SUE	**Sulen**	**1.92**	**44**	Pn	**Pb**	**16 38 19.5**	**-0.2**
SUE				Sn	**Sn**	**16 38 40.8**	**-0.8**
BLS5	**Blasjo**	**2.28**	**95**	*eP*	**Pb**	**16 38 25.8**	**0.0**
BLS5				*eS*	**Sn**	**16 38 51.5**	**+1.1**
BLS5	**Blasjo**	**2.28**	**95**	*eP*	**Pb**	**16 38 25.8**	**0.0**
BLS5				*eS*	**Sn**	**16 38 51.5**	**+1.1**
BLS5				IAML		16 38 58.4	
	comp=Z,25nm,0.5s						
ODD1	**Odda**	**2.34**	**83**	*i* P	**Pb**	**16 38 26.5**	**-0.4**
ODD1				*eS*	**Sn**	**16 38 52.9**	**+0.9**
ODD1	**Odda**	**2.34**	**83**	⇓ *i* P	**Pb**	**16 38 26.5**	**-0.4**
ODD1				*eS*	**Sn**	**16 38 52.9**	**+0.9**
ODD1				IAML		16 38 54.2	
	comp=Z,19nm,0.2s						
FOO	**Floro**	**2.41**	**37**	*eP*	**Pb**	**16 38 26.5**	**-1.5**
FOO				*eS*	**Sn**	**16 38 53.4**	**-0.3**
FOO	**Floro**	**2.41**	**37**	⇓ *eP*	**Pb**	**16 38 26.5**	**-1.5**
FOO				*eS*	**Sn**	**16 38 53.4**	**-0.3**
FOO				IAML		16 38 54.5	
	comp=Z,62nm,0.1s						
FOO	**Floro**	**2.41**	**37**	Pn	**Pb**	**16 38 26.5**	**-1.5**
FOO				Sn	**Sn**	**16 38 53.2**	**-0.5**
HYA	**Hoyanger**	**2.53**	**53**	*eP*	**Pb**	**16 38 28.3**	**-1.8**
HYA				*eS*	**Sn**	**16 38 57.0**	**+0.3**
HYA	**Hoyanger**	**2.53**	**53**	*eP*	**Pb**	**16 38 28.3**	**-1.8**
HYA				*eS*	**Sn**	**16 38 57.0**	**+0.3**
HYA				IAML		16 38 58.5	
	comp=Z,34nm,0.1s						
HYA	**Hoyanger**	**2.53**	**53**	Pn	**Pb**	**16 38 28.3**	**-1.8**
HYA				Sn	**Sn**	**16 38 56.8**	**+0.1**
SNART	**Snartemo**	**3.02**	**115**	*eP*	**Pb**	**16 38 36.4**	**-2.0**
SNART				*eS*	**Sn**	**16 39 09.8**	**+1.2**
SNART	**Snartemo**	**3.02**	**115**	*eP*	**Pb**	**16 38 36.4**	**-2.0**
SNART				*eS*	**Sn**	**16 39 09.8**	**+1.2**
SNART				IAML		16 39 29.4	
	comp=Z,32nm,0.3s						
SKAR	**Skarslia**	**3.29**	**70**	*eP*	**Pn**	**16 38 39.4**	**+3.2**
SKAR				*eS*	**Sn**	**16 39 15.6**	**+0.2**
SKAR				IAML		16 39 45.1	
	comp=Z,16nm,0.5s						
BIGH	**Upper Bighouse**	**3.29**	**251**	*eP*	**Pn**	**16 38 38.3**	**+2.1**
BIGH				*eS*	**Sn**	**16 39 13.5**	**-1.9**
BIGH				IAML		16 39 15.1	
	comp=N,17nm,0.3s						
BIGH				IAML		16 39 15.4	
	comp=E,17nm,0.1s						
BIGH	**Upper Bighouse**	**3.29**	**251**	⇑ *i* P	**Pn**	**16 38 38.3**	**+2.1**
BIGH				*eS*	**Sn**	**16 39 13.5**	**-1.9**
AKN	**Aaknes**	**3.47**	**42**	Pn	**Pn**	**16 38 41.6**	**+2.9**
AKN				Sn	**Sn**	**16 39 19.2**	**-0.6**
AKN	**Aaknes**	**3.47**	**42**	Pn	**Pn**	**16 38 41.6**	**+2.9**
AKN				Sn	**Sn**	**16 39 19.2**	**-0.6**
MCD	**Coleburn Disti**	**3.48**	**235**	*eP*	**Pn**	**16 38 40.8**	**+1.9**
MCD				*eS*	**Sn**	**16 39 18.0**	**-2.1**
MCD				IAML		16 39 19.1	
	comp=E,18nm,0.2s						
MCD				IAML		16 39 19.6	
	comp=N,25nm,0.1s						
HOMB	**Homborsund**	**3.65**	**110**	*eP*	**Pn**	**16 38 45.1**	**+3.9**
HOMB				*eS*	**Sn**	**16 39 24.9**	**+0.6**
HOMB				IAML		16 39 54.8	
	comp=Z,14nm,0.7s						
DRUM	**Mains of Drumt**	**3.67**	**222**	*eP*	**Pn**	**16 38 44.0**	**+2.5**
DRUM				*eS*	**Sn**	**16 39 22.6**	**-2.3**
DRUM				IAML		16 39 24.3	
	comp=E,29nm,0.2s						
DRUM				IAML		16 39 26.2	
	comp=N,43nm,0.3s						
DRUM	**Mains of Drumt**	**3.67**	**222**	*eP*	**Pn**	**16 38 44.0**	**+2.5**
DRUM				*eS*	**Sn**	**16 39 22.5**	**-2.3**
DRUM				IAML		16 39 24.3	
	comp=E,29nm,0.2s						
KON	**Kongsberg**	**3.84**	**88**	Pn	**Pn**	**16 38 47.3**	**+3.5**
KON				Sn	**Sn**	**16 39 29.8**	**+0.7**
MOL	**Molde**	**3.93**	**41**	Pn	**Pn**	**16 38 48.3**	**+3.3**
MOL				Sn	**Sn**	**16 39 30.1**	**-0.9**
LINV	**Loch Inver, As**	**4.05**	**250**	*eP*	**Pn**	**16 38 48.0**	**+1.3**
LINV	**Loch Inver, As**	**4.05**	**250**	*eP*	**Pn**	**16 38 48.0**	**+1.3**
DOMB	**Dombas**	**4.16**	**53**	*eP*	**Pn**	**16 38 51.8**	**+3.6**
DOMB				*eS*	**Sn**	**16 39 37.0**	**0.0**
DOMB	**Dombas**	**4.16**	**53**	*eP*	**Pn**	**16 38 51.8**	**+3.6**
DOMB				*eS*	**Sn**	**16 39 37.0**	**0.0**
DOMB				IAML		16 39 38.1	
	comp=Z,8.7nm,0.2s						
INVG	**Invergeldie, C**	**4.60**	**227**	*eP*	**Pn**	**16 38 56.0**	**+1.7**
INVG				IAML		16 39 46.3	
	comp=E,8.4nm,0.3s						
INVG				IAML		16 39 47.2	
	comp=N,12nm,0.3s						
INVG	**Invergeldie, C**	**4.60**	**227**	*eP*	**Pn**	**16 38 56.0**	**+1.7**
INVG				IAML		16 39 46.3	
	comp=E,8.4nm,0.3s						
KPL	**Plockton**	**4.67**	**243**	*eP*	**Pn**	**16 38 56.5**	**+1.3**
KPL	**Plockton**	**4.67**	**243**	*eP*	**Pn**	**16 38 56.5**	**+1.3**
KPL				*eS*	**Sn**	**16 39 45.8**	**-3.5**
EDI	**Edinburgh**	**4.71**	**218**	*eP*	**Pn**	**16 38 58.2**	**+2.6**
EDI				IAML		16 39 50.5	
	comp=E,16nm,0.5s						
EDI				IAML		16 39 51.7	
	comp=N,15nm,0.2s						
EDI	**Edinburgh**	**4.71**	**218**	*eP*	**Pn**	**16 38 58.2**	**+2.6**
EDI				*eS*	**Sn**	**16 39 48.0**	**-2.3**
EDI				IAML		16 39 50.5	
	comp=E,16nm,0.5s						
EDI	**Edinburgh**	**4.71**	**218**	Pn	**Pn**	**16 38 58.2**	**+2.6**
EDI				Sn	**Sn**	**16 39 47.7**	**-2.5**
STRU	**Stroemstad**	**4.74**	**94**	P	**Pn**	**16 38 58.8**	**+2.8**
STRU				S	**Sn**	**16 39 48.7**	**-2.2**
STRU	**Stroemstad**	**4.74**	**94**	P	**Pn**	**16 38 58.8**	**+2.8**
STRU				S	**Sn**	**16 39 48.7**	**-2.2**
NB2	**NORSAR Subarra**	**4.76**	**70**	Pn	**Pn**	**16 38 59.3**	**+2.9**
	baz=261,slow=12						
NB2	**NORSAR Subarra**	**4.76**	**70**	Pn	**Pn**	**16 38 59.3**	**+2.9**
	baz=261,slow=12						
NOA	**NORSAR Array B**	**4.76**	**70**	Pn	**Pn**	**16 38 57.8**	**+1.4**
	comp=E,0.1nm,0.3s,baz=259,slow=11,SNR=32						
NOA				Sn	**Sn**	**16 39 48.9**	**-2.7**
	comp=E,0.1nm,0.3s,baz=77,slow=7.2,SNR=1.4						
NOA				Lg	Lg	16 40 16.9	
	comp=E,0.1nm,0.3s,baz=253,slow=13,SNR=2.4						
	comp=E,0.2nm,0.2s						
NRA0	**NORESS Array S**	**4.86**	**74**	Pn	**Pn**	**16 39 00.3**	**+2.6**
	baz=262,slow=12						
NRA0				Sn	**Sn**	**16 39 52.8**	**-1.3**
	baz=270,slow=18						
NRA0	**NORESS Array S**	**4.86**	**74**	Pn	**Pn**	**16 39 00.3**	**+2.6**
	baz=262,slow=12						
NRA0				Sn	**Sn**	**16 39 52.8**	**-1.3**
	baz=270,slow=18						
LEWI	**Lewis, Hebride**	**4.87**	**255**	*eP*	**Pn**	**16 38 59.2**	**+1.4**
LEWI				IAML		16 39 51.6	
	comp=N,5.8nm,0.2s						
LEWI				IAML		16 39 55.8	
	comp=E,5.5nm,0.6s						
LEWI	**Lewis, Hebride**	**4.87**	**255**	*eP*	**Pn**	**16 38 59.2**	**+1.4**
LEWI				IAML		16 39 51.6	
	comp=N,5.8nm,0.2s						
EKA	**Eskdalemuir Ar**	**5.20**	**215**	Pn	**Pn**	**16 39 04.5

comp=E,12nm,0.3s
LAWE Loch Awe, Argy 5.25 232 *e*P **Pn** **16 39 03.9 +0.9**
LAWE IAML 16 40 01.0
comp=N,12nm,0.2s
TJOU Tjoern 5.26 104 P **Pn** **16 39 06.6 +3.3**
TJOU S **Sn** **16 40 02.3 -1.6**
TJOU Tjoern 5.26 104 P **Pn** **16 39 06.6 +3.3**
TJOU S **Sn** **16 40 02.3 -1.6**
VANU Vaenersborg 5.33 99 P **Pn** **16 39 07.5 +3.4**
VANU S **Sn** **16 40 03.5 -2.0**
VANU Vaenersborg 5.33 99 P **Pn** **16 39 07.5 +3.4**
VANU S **Sn** **16 40 03.5 -2.0**
FINU Finntorp 5.33 89 P **Pn** **16 39 07.5 +3.4**
FINU Finntorp 5.33 89 P **Pn** **16 39 07.5 +3.4**
NASU Vaermlandsnaes 5.77 93 P **Pn** **16 39 13.3 +3.1**
NASU Vaermlandsnaes 5.77 93 P **Pn** **16 39 13.3 +3.1**
HFS Hagfors 5.89 81 Pn **Pn** **16 39 14.5 +2.6**
baz=262,slow=14
HFS S **Sn** **16 40 16.7 -2.7**
baz=269,slow=37
HFS Hagfors 5.89 81 Pn **Pn** **16 39 14.5 +2.6**
baz=262,slow=14
HFS S **Sn** **16 40 16.7 -2.7**
baz=269,slow=37
HFS Hagfors 5.89 81 Pn **Pn** **16 39 14.3 +2.4**
comp=N,0.5nm,0.3s,baz=263,slow=13,SNR=18
HFS S **Sn** **16 40 17.4 -2.1**
comp=N,0.5nm,0.3s,baz=275,slow=24,SNR=6.2
HFS Lg Lg 16 40 50.8
comp=N,0.3nm,0.3s,baz=271,slow=31,SNR=1.4
comp=N,1.1nm,0.3s
FINES FINESS Array B 11.94 71 Pn **Pn** **16 40 35.8 +1.2**
comp=N,0.1nm,0.3s,baz=271,slow=13,SNR=6.1
comp=N,1.1nm,0.7s
GERES GERESS Array B 12.82 143 Pn **Pn** **16 40 43.8 -3.1**
comp=N,0.5nm,0.3s,baz=325,slow=20,SNR=2.3
comp=N,1.0nm,0.5s
ARA0 ARCESS Array S 13.97 36 Pn **Pn** **16 41 03.1 +0.7**
baz=227,slow=12
ARA0 ARCESS Array S 13.97 36 Pn **Pn** **16 41 03.1 +0.7**
baz=227,slow=12
ARCES ARCESS Array B 13.97 36 Pn **Pn** **16 41 03.3 +1.0**
comp=N,0.1nm,0.3s,baz=233,slow=8.9,SNR=0.9
comp=N,2.3nm,0.8s

CNRM ***17*** *16:48:53.9,35.˚79N×3.˚57W,h13km,ML3.0*
MDD ***17*** *16:48:55.2±0.5,35.˚69N×3.˚70W,h0km±3km,mb_Lg2.8/14, Error ellipse: s-maj=3.2km s-min=2.7km az=26.0*
INMG ***17*** *16:48:55.7±2.1,35.˚71N×3.˚69W,h2km±5km,ML2.4, Error ellipse: s-maj=4.0km s-min=3.0km az=52.0*
IGIL ***17*** *16:48:56.5,35.˚69N×3.˚70W,h0km,ML2.0*
SFS ***17*** *16:48:56.1,35.˚66N×3.˚64W,h27km,ML3.0/7,ML3.2/7, MLv2.9/7*

ISC 17 16:48:54.5±1.0,35.˚70N±0.˚02×3.˚69W±0.˚02,h11km±9km, n53,σ1§10/87,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.52**	**203**	P	**Pn**	**16 49 07.0**	**-0.9**
PALE	**Palemas**	**0.52**	**203**	S	**Sb**	**16 49 14.3**	**+1.1**
EALB	**Alboran**	**0.58**	**65**	Pg	**Pg**	**16 49 06.1**	**+0.3**
EALB				Sg	**Sg**	**16 49 15.1**	**+1.6**
WMELI	**Melilla**	**0.71**	**122**	Pg	**Pg**	**16 49 08.6**	**+0.3**
WMELI				Sg	**Sg**	**16 49 16.8**	**-0.8**
EMEL	**Melilla**	**0.71**	**124**	Pg	**Pg**	**16 49 08.8**	**+0.4**
EMEL				Sg	**Sg**	**16 49 18.1**	**+0.4**
EMLI	**Melilla**	**0.72**	**123**	Pg	**Pg**	**16 49 08.9**	**+0.4**
EMLI				Sg	**Sg**	**16 49 17.4**	**-0.5**
GOG	**Mont Gurugu**	**0.74**	**130**	P	**Pg**	**16 49 09.1**	**+0.3**
GOG	**Mont Gurugu**	**0.74**	**130**	S	**Sg**	**16 49 17.8**	**-0.7**
CHAS	**Isla Isabel II**	**1.15**	**116**	Pn	**Pb**	**16 49 15.5**	**-0.8**
CHAS				Sn	**Sb**	**16 49 27.7**	**-3.5**
ELGU	**Los Guajares,**	**1.17**	**2**	Pn	**Pb**	**16 49 16.1**	**-0.7**
ELGU				Sn	**Sg**	**16 49 31.6**	**-0.6**
ELGU	**Los Guajares,**	**1.17**	**2**	Pg	**Pb**	**16 49 16.6**	**-0.2**
ELGU				Sg	**Sg**	**16 49 32.9**	**+0.6**
ELGU				*i* Vmb_Lg		16 49 34.4	
AKLM	**AKL**	**1.20**	**187**	P	**Pn**	**16 49 18.1**	**+0.9**
AKLM	**AKL**	**1.20**	**187**	S	**Sn**	**16 49 34.8**	**+1.4**
EMAL	**Malaga-Limoner**	**1.22**	**331**	Pn	**Pb**	**16 49 16.9**	**-0.7**
EMAL				Sn	**Sb**	**16 49 32.3**	**-1.1**
EMIJ	**Mijas**	**1.23**	**315**	Pn	**Pb**	**16 49 17.3**	**-0.6**
EMIJ				Sn	**Sg**	**16 49 32.7**	**-1.6**
EMIJ	**Mijas**	**1.23**	**315**	Pg	**Pb**	**16 49 17.3**	**-0.6**
EMIJ				Sg	**Sb**	**16 49 33.3**	**-0.5**
EMIJ				*i* Vmb_Lg		16 49 34.8	
TAF	**Taforalt**	**1.36**	**130**	P	**Pn**	**16 49 18.9**	**-0.6**
TAF	**Taforalt**	**1.36**	**130**	S	**Sn**	**16 49 37.0**	**-0.6**
SMIR	**Smir Dam**	**1.38**	**270**	P	**Pg**	**16 49 21.0**	**-0.1**
SMIR	**Smir Dam**	**1.38**	**270**	S	**Sn**	**16 49 39.9**	**+2.0**
EGOR	**Sierra Gorda,**	**1.45**	**346**	Pn	**Pn**	**16 49 20.3**	**-0.5**
EGOR				Sn	**Sn**	**16 49 39.5**	**-0.3**
EGOR				*i* Vmb_Lg		16 49 48.6	
EQUE	**Quentar**	**1.52**	**7**	Pn	**Pn**	**16 49 22.6**	**+0.9**
EQUE				Sn	**Sn**	**16 49 41.3**	**-0.2**
EQUE				*i* Vmb_Lg		16 49 51.6	
EJIF	**Jimena Fronter**	**1.63**	**298**	Pn	**Pn**	**16 49 23.2**	**+0.1**
EJIF				Sn	**Sb**	**16 49 44.4**	**-0.7**
ENIJ	**Nijar**	**1.74**	**43**	Pn	**Pn**	**16 49 26.5**	**+1.7**
ENIJ				Sn	**Sn**	**16 49 46.8**	**-0.1**
ENIJ				*i* Vmb_Lg		16 50 02.1	
EQES	**Quesada**	**2.16**	**13**	Pn	**Pn**	**16 49 31.3**	**+0.8**
EQES				Sn	**Sn**	**16 49 57.6**	**+0.3**
EQES				*i* Vmb_Lg		16 50 12.6	
LCRM	**LCR**	**2.23**	**206**	S	**Sg**	**16 50 05.6**	**-0.5**
EADA	**Adamuz**	**2.57**	**344**	Pn	**Pn**	**16 49 37.7**	**+1.7**
EADA				Sn	**Sn**	**16 50 07.9**	**+0.6**
EADA				*i* Vmb_Lg		16 50 15.7	
ECAB	**El Cabril**	**2.75**	**330**	Pn	**Pn**	**16 49 39.9**	**+1.4**
ECAB				Sn	**Sn**	**16 50 11.7**	**0.0**
ECAB				*i* Vmb_Lg		16 50 22.3	
CART	**Cartagena**	**2.87**	**48**	P	Pn	16 49 36.5	-3.6
MD31	**MD31**	**2.96**	**198**	P	**Pn**	**16 49 43.5**	**+2.0**
MD31	**MD31**	**2.96**	**198**	S	**Sn**	**16 50 18.7**	**+1.6**
MDT	**Midelt**	**2.98**	**195**	P	**Pn**	**16 49 43.0**	**+1.3**
PSIM	**Granatula de C**	**3.12**	**359**	Pn	**Pn**	**16 49 44.5**	**+0.9**
PSIM				Sn	**Sn**	**16 50 21.5**	**+0.7**
ETOB	**Tobarra**	**3.40**	**30**	Pn	**Pn**	**16 49 49.7**	**+2.2**
ETOB				Sn	**Sn**	**16 50 27.7**	**-0.2**
ETOB				*i* Vmb_Lg		16 50 35.5	
EGRO	**El Granado**	**3.56**	**302**	Pn	**Pn**	**16 49 50.6**	**+0.9**
EGRO				Sn	**Sn**	**16 50 31.1**	**-0.6**
EGRO				*i* Vmb_Lg		16 50 38.0	
PBAR	**Barrancos**	**3.65**	**314**	*e*Pn	**Pn**	**16 49 52.2**	**+1.3**
PBAR				*e*Sn	**Sn**	**16 50 33.8**	**-0.1**
PBAR				A	A	16 50 38.5	
5.4nm,0.4s							
PVAQ	**Vaqueiros**	**3.67**	**299**	*e*Pn	**Pn**	**16 49 52.4**	**+1.3**
PVAQ				*e*Sn	**Sn**	**16 50 34.2**	**-0.1**
PVAQ				A	A	16 50 35.6	
6.9nm,0.6s							
PVAQ	**Vaqueiros**	**3.67**	**299**	P	**Pn**	**16 49 50.5**	**-0.6**
PBDV	**Barranco-do-Ve**	**3.75**	**295**	*e*Pn	**Pn**	**16 49 53.6**	**+1.3**
PBDV				*e*Sn	**Sn**	**16 50 36.0**	**-0.5**
PBDV				A	A	16 50 41.0	
9.5nm,0.8s							
PAB	**San Pablo**	**3.88**	**352**	Pn	**Pn**	**16 49 55.5**	**+1.4**
PAB				Sn	**Sn**	**16 50 39.6**	**-0.1**
PAB				*i* Vmb_Lg		16 50 55.8	
ESDC	**Sonseca Array**	**3.98**	**357**	Pn	**Pn**	**16 49 57.4**	**+2.0**
ESDC				Sn	**Sn**	**16 50 41.7**	**-0.3**
PCVE	**Castro Verde**	**4.00**	**300**	*e*Pn	**Pn**	**16 49 56.8**	**+1.1**
PCVE				*e*Sn	**Sn**	**16 50 42.7**	**+0.2**
PCVE				A	A	16 50 43.8	
5.8nm,0.7s							
EBAD	**Badajoz**	**4.04**	**320**	Pn	**Pn**	**16 49 57.7**	**+1.4**
EBAD				Sn	**Sn**	**16 50 43.6**	**-0.1**
EBAD				*i* Vmb_Lg		16 51 04.5	
PBEJ	**Beja**	**4.08**	**306**	*e*Sn	**Sn**	**16 50 44.8**	**+0.3**
PBEJ				A	A	16 50 47.5	
3.1nm,0.2s							
MESJ	**Messejana**	**4.22**	**302**	*e*Pn	**Pn**	**16 50 00.1**	**+1.3**
MESJ				*e*Sn	**Sn**	**16 50 48.6**	**+0.6**
MESJ				A	A	16 50 51.3	
5.4nm,0.9s							
MESJ	**Messejana**	**4.22**	**302**	*e*P	**Pn**	**16 49 60.0**	**+1.2**
MESJ				*e*S	**Sn**	**16 50 46.7**	**-1.3**
MESJ				IAML		16 50 50.1	
comp=E,3.0nm,0.2s							
PESTR	**Estremoz**	**4.44**	**317**	*e*Pn	**Pn**	**16 50 03.3**	**+1.5**
PESTR				*e*Sn	**Sn**	**16 50 52.8**	**-0.6**
PESTR				A	A	16 50 57.0	
comp=E,3.0nm,0.3s							
PESTR	**Estremoz**	**4.44**	**317**	P	**Pn**	**16 50 00.9**	**-0.8**
EVO	**Evora**	**4.47**	**311**	*e*Pn	**Pn**	**16 50 03.5**	**+1.4**
EVO				*e*Sn	**Sn**	**16 50 53.6**	**-0.5**
EVO				A	A	16 50 54.9	
comp=E,5.4nm,0.3s							
PNCL	**Nicolau / Gran**	**4.57**	**303**	*e*Pn	**Pn**	**16 50 05.0**	**+1.5**
PNCL				*e*Sn	**Sn**	**16 50 55.9**	**-0.6**
PNCL				A	A	16 50 58.1	
comp=E,2.5nm,0.3s							
PMRV	**Marv??o**	**4.75**	**323**	*e*Pn	**Pn**	**16 50 08.3**	**+2.3**
PMRV				*e*Sn	**Sn**	**16 51 00.5**	**-0.5**
PMRV				A	A	16 51 15.5	
comp=E,3.4nm,0.6s							
EPLA	**Plasencia**	**4.75**	**337**	Pn	**Pn**	**16 50 06.8**	**+0.7**
EPLA				Sn	**Sn**	**16 51 00.4**	**-0.8**
EPLA				*i* Vmb_Lg		16 51 17.8	
PMTG	**Montargil**	**4.94**	**314**	*e*Pn	**Pn**	**16 50 10.6**	**+2.0**
PMTG				*e*Sn	**Sn**	**16 51 04.6**	**-1.1**
PMTG				A	A	16 51 28.8	
comp=E,3.5nm,0.8s							

IDC ***17*** *16:53:06.4±2.4,4.˚54S×12.˚23W,h0km,mb3.7/6, mbtmp3.8/7,ML3.4/1,MS3.9/54,Error ellipse: s-maj=119.7km s-min=49.4km az=118.0*
GCMT ***17*** *16:53:18.0±0.3,3.˚92S±0.˚04×12.˚26W±0.˚02,h18km±1km, MW4.8/73,Moment Tensor Solution. s18,c18; s73,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.10±.20; $M_{\theta\theta}$0.20±.10; $M_{\phi\phi}$1.90±.13; $M_{r\theta}$-0.63±.29; $M_{\theta\phi}$0.37±.06; $M_{r\phi}$0.34±.23; Best double couple: $M_0$2.14500×10^{16} NP1:ϕs176.00000°,δ50.00000°,λ-111.00000°. NP2: ϕs27.00000°,δ44.00000°,λ-67.00000°. Principal axes: T 1.9860, Plg3.0000°, Azm281.0000°; N 0.3160, Plg16.0000°, Azm190.0000°; P -2.3040, Plg74.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 17 16:53:08.0±1.7,4.˚6S±0.˚4×12.˚1W±0.˚7,h10km,n61,σ0§84/9, mb3.8/6,MS3.9/54,North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**4.00**	**217**	T	T	16 59 10.5	
baz=30,slow=74							
H10N1	**ASCENSION HYDR**	**4.01**	**217**	T	T	16 59 11.5	
baz=30,slow=74							
H10N3	**ASCENSION HYDR**	**4.02**	**217**	T	T	16 59 16.2	
baz=30,slow=74							
DBIC	**Dimbokro**	**13.32**	**33**	Pn	**Pn**	**16 56 16.8**	**-0.6**
0.2nm,0.3s,baz=212,slow=12,SNR=5.1							
DBIC				LR	LR	17 00 15.7	
comp=Z,321nm,20.6s,baz=204,slow=32 4.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**22.32**	**38**	P	**P**	**16 58 05.7**	**-0.3**
2.6nm,0.8s,baz=226,slow=8.2,SNR=11							
TORD				LR	LR	17 05 38.1	
comp=Z,212nm,19.1s,baz=195,slow=34 2.6nm,0.8s							
RCBR	**Riachuo**	**23.78**	**266**	LR	LR	17 05 12.7	
comp=Z,311nm,21.2s,baz=63,slow=31							
TSUM	**Tsumeb**	**32.34**	**119**	LR	LR	17 10 25.0	
comp=Z,326nm,21.2s,baz=294,slow=32							
BDFB	**Brasilia**	**36.99**	**250**	LR	LR	17 12 58.7	
comp=Z,176nm,19.2s,baz=142,slow=32							
MDT	**Midelt**	**37.89**	**10**	LR	LR	17 15 24.2	
comp=Z,176nm,18.5s,baz=148,slow=35							
LSZ	**Lusaka**	**40.95**	**108**	LR	LR	17 15 23.8	
comp=Z,229nm,19.9s,baz=310,slow=32							
SUR	**Sutherland**	**41.32**	**136**	LR	LR	17 14 37.3	
comp=Z,185nm,18.6s,baz=306,slow=31							
LBTB	**Lobatse**	**41.44**	**123**	LR	LR	17 15 36.9	
comp=Z,160nm,21.4s,baz=284,slow=32							
MDP	**Montagnes des**	**41.67**	**283**	LR	LR	17 14 44.7	
comp=Z,76nm,21.2s,baz=100,slow=31							
MBAR	**Mbarara**	**42.92**	**86**	LR	LR	17 17 24.6	
comp=Z,387nm,19.6s,baz=262,slow=34							
ESDC	**Sonseca Array**	**44.70**	**9**	LR	LR	17 19 35.9	
comp=Z,136nm,18.8s,baz=176,slow=36							
KEST	**Kesra**	**44.88**	**25**	LR	LR	17 20 10.9	
comp=Z,73nm,18.3s,baz=319,slow=36							
CPUP	**Villa Florida**	**48.34**	**239**	LR	LR	17 19 42.4	
comp=Z,128nm,21.1s,baz=44,slow=33							
SIV	**San Ignacio**	**49.41**	**253**	LR	LR	17 21 27.2	
comp=Z,172nm,20.1s,baz=109,slow=34							
PCRV	**Puerto La Cruz**	**54.39**	**286**	LR	LR	17 24 43.1	
comp=Z,82nm,16.6s,slow=35							
DAVOX	**Davos/Dischmat**	**54.74**	**18**	LR	LR	17 26 40.3	
comp=Z,62nm,18.8s,baz=229,slow=37							
LPAZ	**La Paz**	**56.18**	**254**	LR	LR	17 25 56.8	
comp=Z,149nm,19.8s,baz=83,slow=35							
EIL	**Elat**	**56.48**	**50**	LR	LR	17 25 38.2	
comp=Z,42nm,20.2s,baz=247,slow=34							
ATD	**Arta Tunnel**	**56.92**	**73**	LR	LR	17 24 47.1	
comp=Z,6.0nm,21.4s,baz=236,slow=33							
LVC	**Limon Verde**	**57.71**	**246**	LR	LR	17 28 26.2	
comp=Z,67nm,18.8s,baz=121,slow=37							
GERES	**GERESS Array B**	**57.79**	**20**	P	**P**	**17 02 59.6**	**+0.1**
1.2nm,0.7s,baz=215,slow=6.7,SNR=1.5							
GERES				LR	LR	17 29 19.1	
comp=Z,64nm,18.2s,baz=34,slow=38 1.2nm,0.7s							
ASF	**Jabal al Asfar**	**59.15**	**48**	LR	LR	17 29 25.2	
comp=Z,31nm,18.8s,baz=304,slow=37							
VRAC	**Vranoy**	**59.20**	**21**	LR	LR	17 28 04.3	
comp=Z,49nm,20.5s,baz=180,slow=35							
SDV	**Santo Domingo**	**59.92**	**283**	LR	LR	17 26 53.3	
comp=Z,60nm,20.3s,baz=76,slow=34							
MLR	**Muntele Rosu**	**60.28**	**30**	LR	LR	17 29 52.2	
comp=Z,76nm,19.3s,baz=238,slow=37							
BRTR	**Keskin Array B**	**60.92**	**39**	P	**P**	**17 03 22.3**	**+0.8**
0.2nm,0.6s,baz=249,slow=7.6,SNR=1.7 0.2nm,0.6s							
ROSC	**El Rosal**	**62.90**	**278**	LR	LR	17 28 06.3	
comp=Z,221nm,21.9s,baz=88,slow=34							
PLCA	**Paso Flores**	**63.40**	**226**	LR	LR	17 29 47.8	
comp=Z,58nm,18.4s,baz=44,slow=35							
NNA	**Nana**	**64.41**	**259**	LR	LR	17 31 54.5	
comp=Z,147nm,18.0s,baz=66,slow=36							
AKASG	**Malin Array Be**	**65.50**	**27**	P	**P**	**17 03 52.4**	**+0.9**
0.2nm,0.4s,baz=234,slow=6.7,SNR=6.3							
AKASG				LR	LR	17 34 31.4	
comp=Z,45nm,18.7s,baz=240,slow=38 0.2nm,0.4s							
ATAH	**Atahualpa**	**66.00**	**264**	LR	LR	17 31 42.3	
comp=Z,198nm,20.3s,baz=100,slow=35							
SNAA	**Sanae**	**67.22**	**177**	LR	LR	17 26 35.2	
comp=Z,140nm,18.9s,baz=5.0,slow=30							
HFS	**Hagfors**	**67.66**	**14**	LR	LR	17 35 39.3	
comp=Z,63nm,18.1s,baz=238,slow=38							
NOA	**NORSAR Array B**	**67.93**	**12**	LR	LR	17 36 04.1	
comp=Z,21nm,18.0s,baz=250,slow=38							
BORG	**Borgarnes**	**69.53**	**356**	LR	LR	17 28 35.0	
comp=Z,50nm,21.0s,baz=149,slow=31							
FINES	**FINESS Array B**	**72.14**	**18**	P	**P**	**17 04 31.9**	**-0.8**
0.8nm,0.6s,baz=208,slow=6.5,SNR=7.5							
FINES				LR	LR	17 36 33.7	
comp=Z,58nm,20.0s,baz=226,slow=36 0.8nm,0.6s							
JTS	**Las Juntas de**	**74.08**	**282**	LR	LR	17 37 42.9	
comp=Z,45nm,19.2s,baz=122,slow=36							
WSAR	**Wadi Sarin**	**74.22**	**64**	LR	LR	17 37 20.7	
comp=Z,154nm,18.6s,baz=243,slow=36							
SCHQ	**Schefferville**	**74.49**	**331**	LR	LR	17 32 25.1	
comp=Z,40nm,19.1s,baz=91,slow=32							
SADO	**Sadowa**	**77.28**	**318**	LR	LR	17 31 56.5	
comp=Z,146nm,19.3s,baz=96,slow=30							
GEYT	**Alibeck**	**77.38**	**50**	LR	LR	17 40 32.1	
comp=Z,42nm,18.1s,baz=61,slow=37							
TKL	**Tuckaleechee C**	**77.98**	**308**	LR	LR	17 31 53.1	
comp=Z,114nm,20.5s,baz=88,slow=30							
TEIG	**Tepich**	**78.73**	**292**	LR	LR	17 35 06.9	
comp=Z,457nm,20.8s,slow=32							
MAW	**Mawson**	**80.02**	**158**	LR	LR	17 33 05.8	
comp=Z,42nm,21.9s,baz=52,slow=30							
FRB	**Frobisher Bay**	**80.03**	**338**	LR	LR	17 34 10.7	
comp=Z,34nm,18.9s,baz=160,slow=31							
CMIG	**Matias Romero**	**84.51**	**288**	LR	LR	17 44 58.5	
comp=Z,40nm,20.0s,baz=22,slow=37							
ULM	**Lac du Bonnet**	**89.57**	**320**	LR	LR	17 42 29.2	
comp=Z,77nm,19.3s,baz=20,slow=33							
AAK	**Ala-Archa**	**90.56**	**47**	LR	LR	17 50 50.4	
comp=Z,32nm,18.4s,baz=274,slow=38							
PALK	**Pallekele**	**93.30**	**83**	LR	LR	17 43 30.8	
comp=Z,104nm,21.9s,baz=357,slow=32							
TXAR	**Lajitas Array**	**93.64**	**299**	LR	LR	17 45 03.0	
comp=Z,21nm,20.5s,baz=76,slow=33							
RPN	**Rapa Nui**	**94.38**	**242**	LR	LR	17 42 52.5	
comp=Z,61nm,20.4s,baz=136,slow=32							
MKAR	**Makanchi Array**	**96.31**	**44**	P	**P**	**17 06 37.7**	**+0.6**
0.2nm,0.6s,baz=275,slow=5.4,SNR=1.2							
MKAR				LR	LR	17 56 31.1	
comp=Z,40nm,18.7s,baz=184,slow=40 0.2nm,0.6s							
VNDA	**Vanda**	**97.91**	**179**	LR	LR	17 44 20.1	
comp=Z,68nm,18.9s,baz=182,slow=31							
PDAR	**Pinedale Array**	**98.63**	**312**	LR	LR	17 47 24.7	
comp=Z,64nm,18.1s,baz=102,slow=33							
LPIG	**La Paz**	**99.40**	**294**	LR	LR	17 50 15.9	
comp=Z,33nm,18.2s,baz=119,slow=35							
ASAR	**Alice Springs**	**136.50**	**132**	PKhKP	PKPpre	17 12 26.5	
0.3nm,0.5s,baz=234,slow=3.3,SNR=5.7							
ASAR				PKP	**PKPdf**	**17 12 30.7**	**-0.6**
0.2nm,0.5s,baz=221,slow=3.0,SNR=1.6							
WRA	**Warramunga Arr**	**138.93**	**128**	PKP	**PKPdf**	**17 12 34.8**	**-1.1**
0.7nm,0.9s,baz=234,slow=2.5,SNR=5.4							

IDC ***17*** *17:35:40.8±2.2,5.˚28S×147.˚90E,h63km±20km,mb3.7/14, mbtmp4.0/17,MS3.4/17,Error ellipse: s-maj=27.4km s-min=10.4km az=105.0*
NEIC ***17*** *17:35:40.8±1.2,5.˚28S±0.˚07×147.˚9E±0.˚1,h70km±8km, mb4.6/49,Error ellipse: s-maj=15.5km s-min=9.7km az=83.0*
DJA ***17*** *17:35:42.1±1.9,5.˚5S±4.˚×148.˚8E±.˚,h23km±14km,M4.3/18, mB6.7/1,mb4.7/18,MLv4.1/1,Mw(mB)6.6/1*

ISC 17 17:35:38.8±0.4,5.˚26S±0.˚05×147.˚91E±0.˚08,h50km,n104, σ1§44/87,mb4.5/44,MS3.4/14,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.24**	**350**		**Pn**	**17 36 28.9**	**+1.8**
PMG	**Port Moresby**	**4.19**	**190**		**Pn**	**17 36 41.4**	**+1.3**
PMG	**Port Moresby**	**4.19**	**190**	P	**Pn**	**17 36 42.0**	**+1.8**
20nm,0.4s,baz=358,slow=9.2,SNR=12							
PMG				S	**Sn**	**17 37 31.7**	**+3.9**
102nm,0.6s,baz=353,slow=17,SNR=1.6							
PMG				LR	LR	17 38 36.0	
comp=Z,678nm,19.0s,baz=8.5,slow=42							
COEN	**Coen**	**9.82**	**208**	Pn	**Pn**	**17 37 57.5**	**0.0**
HNR	**Honiara**	**12.64**	**110**	Pn	**Pn**	**17 38 37.1**	**+1.1**
CTA	**Charters Tower**	**14.83**	**186**	P	**Pn**	**17 39 06.3**	**+0.8**
5.0nm,1.0s,baz=271,slow=1.8,SNR=2.3							
CTA				LR	LR	17 45 30.2	
comp=Z,102nm,19.2s,baz=359,slow=40							
CTAO	**Charters Tower**	**14.83**	**186**		**Pn**	**17 39 03.9**	**-1.7**
SWI	**Sorong**	**17.18**	**284**	P	**Pn**	**17 39 37.4**	**+2.0**
56nm,0.9s							
MTN	**Manton Dam**	**18.19**	**244**	P	**P**	**17 39 44.8**	**-2.7**
GUMO	**Guam**	**18.96**	**351**	LR	LR	17 46 53.1	
comp=Z,66nm,18.1s,baz=143,slow=35							
WB0	**Warramunga Arr**	**19.52**	**221**	P	**P**	**17 40 01.6**	**-0.6**
WR0	**Warramunga Arr**	**19.56**	**220**	P	**P**	**17 40 02.5**	**-0.2**
WR0				IAmb	IAmb	17 40 09.5	
comp=Z,43nm,1.4s							
WRAB	**Tennant Creek**	**19.67**	**221**	P	**P**	**17 40 03.1**	**-0.7**
WB2	**Warramunga Arr**	**19.67**	**221**		**P**	**17 40 03.1**	**-0.7**
WB2				IAmb	IAmb	17 40 12.1	
comp=Z,16nm,0.8s							
WRA	**Warramunga Arr**	**19.68**	**221**	P	**P**	**17 40 03.3**	**-0.6**
WRA	**Warramunga Arr**	**19.68**	**221**	P	**P**	**17 40 03.3**	**-0.6**
comp=Z,9.3nm,0.9s,baz=38,slow=12,SNR=28							
WRA				S	**S**	**17 43 44.4**	**+1.0**
comp=Z,2.0nm,1.0s,baz=45,slow=23,SNR=3.5							
EIDS	**Eidsvold**	**20.23**	**172**		**P**	**17 40 09.4**	**-0.5**
EIDS				IAmb	IAmb	17 40 22.6	
comp=Z,36nm,1.0s							
KNRA	**Kununurra**	**21.46**	**240**	P	**P**	**17 40 20.9**	**-2.3**
KNRA				IAmb	IAmb	17 40 21.3	
comp=Z,26nm,1.1s							
KOUNC	**Koumac, New Ca**	**22.01**	**135**	P	**P**	**17 40 28.9**	**-0.1**
SANI	**Sanana**	**22.10**	**277**	P	**P**	**17 40 32.3**	**+2.2**
comp=Z,11nm,1.0s							
AS31	**Alice Springs**	**22.74**	**215**	P	**P**	**17 40 36.3**	**-0.6**
ASAR	**Alice Springs**	**22.74**	**215**	P	**P**	**17 40 36.0**	**-0.9**
ASAR	**Alice Springs**	**22.74**	**215**	P	**P**	**17 40 36.6**	**-0.2**
comp=Z,1.2nm,0.5s,baz=52,slow=8.9,SNR=76							
ASAR				S	**S**	**17 44 42.7**	**+0.6**
comp=Z,0.5nm,0.8s,baz=35,slow=21,SNR=2.4							
ASAR				LR	LR	17 49 46.0	
comp=Z,148nm,21.2s,baz=46,slow=37 comp=Z,1.2nm,0.5s							
SOEI	**Soe**	**23.85**	**258**	P	**P**	**17 40 46.8**	**-1.0**
SOEI	**Soe**	**23.85**	**258**	P	**P**	**17 40 51.4**	**+3.5**
comp=Z,34nm,0.8s							
LIFNC	**LIFOU**	**24.30**	**131**	P	**P**	**17 40 50.8**	**-1.0**
BATI	**Baumata**	**24.51**	**257**	LR	LR	17 53 21.2	
comp=Z,214nm,18.1s,baz=110,slow=43							
BATI	**Baumata**	**24.51**	**257**	P	**P**	**17 40 56.0**	**+2.2**
comp=Z,47nm,1.2s							
DZM	**Mont Dzumac**	**24.52**	**135**	P	**P**	**

GYA	**Guiyang**	**50.88 310**	*eP*	**P**	**17 44 34.8**	**-0.4**
GYA			pmax	pmax		
	comp=Z,7.0nm,0.5s					
GYA			pmax	pmax		
	comp=Z,310nm,4.2s					
PHRA	**Phrae**	**52.58 298**	P	**P**	**17 44 46.9**	**-1.0**
CRAI	**Chiangrai**	**53.12 300**	P	**P**	**17 44 50.5**	**-1.4**
CRAI			IAmb	IAmb	17 45 00.1	
	comp=Z,12nm,1.3s					
CM31	**Chiang Mai Arr**	**53.70 297**	P	**P**	**17 44 54.7**	**-1.4**
CMAR	**Chiang Mai Arr**	**53.70 297**	P	**P**	**17 44 54.9**	**-1.2**
CMAR	**Chiang Mai Arr**	**53.70 297**	P	**P**	**17 44 56.8**	**+0.7**
	comp=Z,1.9nm,0.9s,baz=119,slow=5.7,SNR=8.0					
	comp=Z,1.9nm,0.9s					
PZH	**PanZhiHua**	**54.71 308**	P	**P**	**17 45 08.0**	**+4.5**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.6s					
PZH			pmax	pmax		
	comp=Z,90nm,5.5s					
KLR	**Kul'dur**	**56.06 347**	LR	LR	18 07 11.5	
	comp=Z,27nm,18.1s,baz=272,slow=34					
HHC	**Hu-ho-hao-te**	**56.69 327**	*eP*	**P**	**17 45 17.8**	**+0.4**
HHC			pP	pP	17 45 34.3	+3.7
HHC			pmax	pmax		
	comp=Z,12nm,0.7s					
HHC			pmax	pmax		
	comp=Z,110nm,4.7s					
GTA	**Gaotai**	**62.76 320**	P	P	17 46 06.1	+6.9
GTA			pmax	pmax		
	comp=Z,2.0nm,0.8s					
ULN	**Ulaanbaatar**	**63.90 331**	P	**P**	**17 46 06.2**	**-0.4**
SONM	**Songino Array**	**64.20 330**	P	**P**	**17 46 07.7**	**-0.9**
SONM	**Songino Array**	**64.20 330**	P	**P**	**17 46 08.4**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=134,slow=4.2,SNR=2.9					
	comp=Z,0.4nm,0.8s					
MA2	**Magadan**	**64.67 2**	LR	LR	18 12 55.4	
	comp=Z,12nm,19.5s,baz=252,slow=34					
SEY	**Seymchan**	**68.08 2**	LR	LR	18 16 04.6	
	comp=Z,26nm,19.4s,baz=269,slow=36					
VNDA	**Vanda**	**72.80 177**	P	**P**	**17 47 00.2**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=328,slow=5.5,SNR=5.2					
	comp=Z,0.8nm,0.8s					
MK31	**Makanchi Array**	**77.50 320**	P	**P**	**17 47 29.4**	**+0.2**
MKAR	**Makanchi Array**	**77.50 320**	P	**P**	**17 47 29.0**	**-0.3**
MKAR	**Makanchi Array**	**77.50 320**	P	**P**	**17 47 30.5**	**+1.3**
	comp=Z,1.1nm,0.9s,baz=101,slow=7.5,SNR=5.8					
	comp=Z,1.1nm,0.9s					
MAKZ	**Makanchi**	**77.71 320**	P	**P**	**17 47 30.6**	**+0.2**
MAKZ			IAmb	IAmb	17 47 38.7	
	comp=Z,6.1nm,0.9s					
ZAA0	**Zalesovo Array**	**78.87 328**	P	**P**	**17 47 35.8**	**-0.8**
ZALV	**Zalesovo Beam**	**78.87 328**	P	**P**	**17 47 34.6**	**-2.0**
ZALV	**Zalesovo Beam**	**78.87 328**	P	**P**	**17 47 38.2**	**+1.6**
	comp=Z,1.5nm,0.5s,baz=112,slow=5.7,SNR=4.5					
ZALV			LR	LR	18 22 43.5	
	comp=Z,20nm,20.2s,baz=43,slow=36					
	comp=Z,1.5nm,0.5s					
KSH	**Kashi**	**79.56 312**	P	P	17 47 47.0	+6.2
KSH			pmax	pmax		
	comp=Z,4.0nm,1.3s					
NIL	**Nilore**	**80.23 305**	P	P	17 47 41.4	-3.1
KURK	**Kurchatov**	**81.16 323**	P	**P**	**17 47 47.2**	**-1.8**
KURK			IAmb	IAmb	17 47 56.7	
	comp=Z,5.9nm,1.2s					
KURBB	**Kurchatov Arra**	**81.18 323**	P	**P**	**17 47 49.2**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=102,slow=4.3,SNR=1.1					
	comp=Z,0.6nm,0.3s					
AAK	**Ala-Archa**	**81.47 314**	P	**P**	**17 47 49.3**	**-1.8**
AAK			IAmb	IAmb	17 47 59.6	
	comp=Z,3.8nm,0.8s					
ARSB	**Arslanbob**	**82.23 313**	P	**P**	**17 47 54.6**	**-0.5**
C19K	**Lookout Ridge**	**82.39 17**	P	**P**	**17 47 56.4**	**+1.3**
C19K			IAmb	IAmb	17 48 10.0	
	comp=Z,8.1nm,1.3s					
KK31	**Karatay Array**	**84.42 314**	P	**P**	**17 48 05.0**	**-1.1**
KK31			IAmb	IAmb	17 48 14.4	
	comp=Z,16nm,1.4s					
KKAR	**Karatay Array**	**84.42 314**	P	**P**	**17 48 05.0**	**-1.1**
KKAR			IAmb	IAmb	17 48 14.4	
	comp=Z,15nm,1.4s					
ILAR	**Eielson Array**	**84.45 23**	P	**P**	**17 48 07.2**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=256,slow=5.5,SNR=5.4					
	comp=Z,0.5nm,0.6s					
SIMJ	**Simiganj**	**84.63 309**	P	**P**	**17 48 04.9**	**-2.6**
SIMJ			IAmb	IAmb	17 48 14.4	
	comp=Z,11nm,1.2s					
QSPA	**South Pole Qui**	**84.71 180**	P	**P**	**17 48 07.1**	**-0.2**
	comp=Z,2.5nm,1.0s,baz=346,slow=4.2,SNR=9.6					
	comp=Z,2.5nm,1.0s					
NRIK	**Noril'sk**	**84.85 342**	P	**P**	**17 48 07.4**	**-0.2**
NRIK			IAmb	IAmb	17 48 19.8	
	comp=Z,9.3nm,1.1s					
NRIK	**Noril'sk**	**84.85 342**	P	**P**	**17 48 08.8**	**+1.1**
	comp=Z,1.8nm,0.6s,baz=196,slow=7.3,SNR=3.8					
	comp=Z,1.8nm,0.6s					
L26K	**Log Cabin Wild**	**85.20 25**	P	**P**	**17 48 09.8**	**+0.1**
L26K			IAmb	IAmb	17 48 19.0	
	comp=Z,8.8nm,1.4s					
BVAR	**Borovoye Array**	**86.70 324**	P	**P**	**17 48 18.0**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=108,slow=4.8,SNR=8.2					
	comp=Z,1.6nm,0.7s					
BRVK	**Borovoye**	**86.77 324**	P	**P**	**17 48 15.2**	**-2.3**
BRVK			IAmb	IAmb	17 48 25.5	
	comp=Z,3.3nm,1.0s					
L29M	**L29M**	**87.48 26**	P	**P**	**17 48 19.1**	**-1.8**
L29M			IAmb	IAmb	17 48 41.8	
	comp=Z,3.5nm,0.9s					
INK	**Inuvik**	**90.64 21**	LR	LR	18 24 48.0	
	comp=Z,21nm,21.2s,baz=192,slow=32					
YKA	**Yellowknife Ar**	**98.10 28**	P	**P**	**17 49 10.2**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=279,slow=4.9,SNR=1.7					
	comp=Z,0.1nm,0.5s					
TORD	**Torodi Ar. Bea**	**145.77 286**	PKPbc	**PKPdf**	**17 55 14.0**	**+1.1**
	comp=Z,2.4nm,1.1s,baz=77,slow=3.5,SNR=5.9					

*ANF **17** 17:45:35.3±0.4,37.62N×118.83W,h6km±2km,ML2.8/13, Error ellipse: s-maj=4.4km s-min=2.9km az=174.0*
*REN **17** 17:45:35.6±1.2,37.65N±0.03×118.85W±0.03,h5km±5km, Error ellipse: s-maj=5.0km s-min=2.2km az=214.0*
*NCEDC **17** 17:45:35.5±1.0,37.66N±0.02×118.84W±0.02,h3km±4km, Md3.0/63,ML2.2/70(NEIC),ML2.1/5(REN), Error ellipse: s-maj=2.6km s-min=2.2km az=210.0*
*NEIC **17** 17:45:35.5±1.0,37.65N±0.03×118.84W±0.03,h4km±5km, Error ellipse: s-maj=5.4km s-min=2.0km az=212.0*

ISC 17 17:45:35.6±0.8,**37.66N**±0.02×**118.83W**±0.02,**h6**km±4km,
n133,σ0**8**2/137,**California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDRNC	**Doe Ridge**	**0.02**	**184**		**Pg**	**17 45 36.8**	**-0.3**
MLHM	**Little Hot Cre**	**0.03**	**37**		**Pg**	**17 45 37.0**	**-0.2**
MLAC	**Mammoth, Mammo**	**0.03**	**184**		**Pg**	**17 45 38.1**	**+1.0**
MLAC	**Mammoth, Mammo**	**0.03**	**184**	P	**Pg**	**17 45 36.8**	**-0.3**
	baz=350						
MLAC				S	**Sg**	**17 45 37.7**	**-0.5**
	baz=350						
MCBM	**Casa Benchmark**	**0.05**	**254**		**Pg**	**17 45 38.1**	**+0.8**
MCSM	**Casa Diablo Ho**	**0.06**	**266**		**Pg**	**17 45 37.2**	**-0.3**
MGPM	**Gravel Pit**	**0.06**	**240**		**Pg**	**17 45 37.6**	**+0.1**
MCVM	**Convict Lake**	**0.07**	**177**		**Pg**	**17 45 37.4**	**-0.2**
MLCM	**Laurel Creek C**	**0.08**	**235**		**Pg**	**17 45 37.5**	**-0.2**
MEMM	**East Mammoth H**	**0.09**	**275**		**Pg**	**17 45 37.7**	**-0.1**
MMLB	**Mammoth Lakes**	**0.12**	**270**		**Pg**	**17 45 38.3**	**0.0**
MDYM	**Dry Creek**	**0.14**	**270**		**Pg**	**17 45 38.8**	**+0.1**
ORC	**Owens River**	**0.14**	**99**		**Pg**	**17 45 39.0**	**+0.3**
MLIM	**Lincoln Peak**	**0.15**	**262**		**Pg**	**17 45 39.1**	**+0.3**
MMPM	**Mammoth Pass**	**0.16**	**253**		**Pg**	**17 45 39.0**	**0.0**
MDCM	**Deadman Creek**	**0.17**	**287**		**Pg**	**17 45 39.1**	**-0.1**
MINS	**Minaret Summit**	**0.18**	**269**		**Pg**	**17 45 39.2**	**-0.1**
MGNR	**McGee Canyon**	**0.19**	**35**		**Pg**	**17 45 39.9**	**+0.4**
MRDM	**Red Cones**	**0.19**	**251**		**Pg**	**17 45 39.5**	**0.0**
RCCR	**Rock Creek Can**	**0.19**	**153**		**Pg**	**17 45 39.7**	**+0.1**
MDPB	**Devils Postpil**	**0.20**	**262**		**Pg**	**17 45 39.5**	**-0.1**
MDPB					**Sg**	**17 45 42.7**	**+0.4**
MDPB	**Devils Postpil**	**0.20**	**262**	IAML		17 45 42.8	
	comp=E,2μm,0.2s						
MDPB				IAML		17 45 43.1	
	comp=N,3μm,0.5s						
BENR	**Benton**	**0.21**	**75**		**Pg**	**17 45 40.2**	**+0.3**
CASR	**Casa Diablo Mo**	**0.24**	**110**		**Pg**	**17 45 40.7**	**+0.4**
MRCM	**Red Rock Canyo**	**0.26**	**87**		**Pg**	**17 45 41.2**	**+0.4**
SCHCA	**Scheelite**	**0.32**	**159**		**Pg**	**17 45 42.0**	**+0.1**
MCDM	**Chidago Canyon**	**0.33**	**109**		**Pg**	**17 45 42.7**	**+0.7**
MTUM	**Tungsten Hills**	**0.37**	**145**		**Pg**	**17 45 43.1**	**+0.2**
MLNR	**Milner Canyon**	**0.39**	**99**		**Pg**	**17 45 43.8**	**+0.5**
MFBM	**Five Bridges**	**0.40**	**125**		**Pg**	**17 45 43.9**	**+0.6**
BHPR	**Bishop**	**0.45**	**142**		**Pg**	**17 45 44.6**	**+0.3**
HCK	**Huntoon Valley**	**0.46**	**25**		**Pg**	**17 45 44.9**	**+0.5**
KCC	**Kaiser Creek**	**0.51**	**229**		**Pg**	**17 45 45.2**	**-0.3**
KCC	**Kaiser Creek**	**0.51**	**229**		**Sg**	**17 45 51.8**	**-0.3**
BONR	**Boundary Peak**	**0.52**	**55**		**Pg**	**17 45 45.0**	**-0.6**
POCCA	**Poleta Canyon**	**0.53**	**124**		**Pg**	**17 45 45.9**	**+0.1**
LHV	**Little Huntoon**	**0.65**	**24**		**Pg**	**17 45 48.3**	**+0.3**
LHV	**Little Huntoon**	**0.65**	**24**	IAML		17 46 02.2	
	comp=E,95nm,0.5s						
LHV				IAML		17 46 03.0	
	comp=N,78nm,0.6s						
DSP	**Deep Springs**	**0.74**	**112**		**Pg**	**17 45 49.8**	**0.0**
DSP					**Sg**	**17 46 00.1**	**+0.6**
MMIM	**Miami Mountain**	**0.76**	**252**		**Pg**	**17 45 49.9**	**-0.4**
TIN	**Tinemaha, Big**	**0.77**	**141**		**Pg**	**17 45 50.5**	**+0.1**
TIN	**Tinemaha, Big**	**0.77**	**141**		**Sb**	**17 46 01.7**	**-0.4**
TIN	**Tinemaha, Big**	**0.77**	**141**	P	**Pg**	**17 45 50.2**	**-0.2**
	baz=321,SNR=6.7						
TIN				Sb	**Sb**	**17 46 01.8**	**-0.4**
	baz=321						
NV08	**Mina Array Sit**	**0.85**	**29**		**Pg**	**17 45 51.9**	**0.0**
NV09	**Mina Array Sit**	**0.87**	**27**		**Pg**	**17 45 52.3**	**0.0**
NVAR	**Mina Array Bea**	**0.88**	**28**		**Pg**	**17 45 52.3**	**-0.2**
NV11	**Mina Array Sit**	**0.94**	**35**		**Pg**	**17 45 53.5**	**-0.1**
FRI	**Friant**	**0.96**	**227**		**Pg**	**17 45 53.4**	**-0.7**
WAKR	**Walker**	**0.97**	**331**		**Pg**	**17 45 54.3**	**+0.1**
RYN	**Ryan**	**1.00**	**14**		**Pg**	**17 45 54.6**	**-0.1**
RYN					**Sg**	**17 46 08.4**	**+0.7**
RYN	**Ryan**	**1.00**	**14**	IAML		17 46 11.9	
	comp=E,52nm,0.6s						
MHDM	**Hidden Dam**	**1.00**	**238**		**Pg**	**17 45 54.2**	**-0.6**
LCH	**Last Change Ra**	**1.04**	**114**		**Pg**	**17 45 55.1**	**-0.3**
LCH	**Last Change Ra**	**1.04**	**114**	IAML		17 46 10.5	
	comp=N,42nm,0.3s						
LCH				IAML		17 46 10.5	
	comp=E,52nm,0.2s						
MZP	**Montezuma Peak**	**1.15**	**87**		**Pg**	**17 45 57.8**	**+0.1**
MZP				IAML		17 46 17.5	
	comp=E,37nm,0.6s						
MZP				IAML		17 46 17.6	
	comp=N,72nm,0.8s						
CMB	**Columbia Colle**	**1.28**	**287**		**Pg**	**17 45 58.8**	**-1.4**
CMB				IAML		17 46 16.4	
	comp=E,52nm,0.4s						
CMB				IAML		17 46 16.7	
	comp=N,71nm,0.4s						
MYLM	**Yosemite Lake**	**1.29**	**258**		**Pg**	**17 45 59.6**	**-0.7**
GMN	**Gold Mountain**	**1.30**	**105**		**Pg**	**17 46 00.7**	**+0.2**
GMN	**Gold Mountain**	**1.30**	**105**	IAML		17 46 23.2	
	comp=N,37nm,0.7s						
TPH	**Tonopah**	**1.34**	**71**		**Pg**	**17 46 01.0**	**-0.3**
GRAC	**Grapevine Rang**	**1.34**	**119**		**Pn**	**17 46 01.1**	**+0.3**
GRAC				IAML		17 46 22.5	
	comp=E,56nm,0.3s						
GRAC				IAML		17 46 23.5	
	comp=N,64nm,0.7s						
GRAC	**Grapevine Rang**	**1.34**	**119**	P	**Pn**	**17 46 00.9**	**0.0**
	baz=300,SNR=12						
GRAC				S	**Sg**	**17 46 18.5**	**-0.2**
	baz=300						
CWC	**Cottonwood Cre**	**1.36**	**153**		**Pn**	**17 46 00.8**	**-0.4**
CWC	**Cottonwood Cre**	**1.36**	**153**	P	**Pn**	**17 46 00.8**	**-0.4**
	baz=334						
CWC				S	**Sg**	**17 46 18.8**	**-0.4**
	baz=334						
YERR	**Yerington**	**1.36**	**347**		**Pg**	**17 46 01.3**	**-0.4**
YERR	**Yerington**	**1.36**	**347**	IAML		17 46 24.6	
	comp=E,69nm,0.6s						
CGO	**Cerro Gordo**	**1.38**	**143**		**Pg**	**17 46 01.2**	**-0.8**
MRHM	**Rocky Hill**	**1.38**	**189**		**Pn**	**17 46 00.8**	**-0.6**
VOG	**Valley Oaks Go**	**1.41**	**198**	P	**Pn**	**17 46 01.3**	**-0.3**
	baz=18						
VOG				S	**Sg**	**17 46 20.3**	**-0.5**
	baz=18						
SPG2	**Springville 2**	**1.46**	**178**		**Pn**	**17 46 02.3**	**-0.1**
KVN	**Kaiserville**	**1.50**	**22**		**Pn**	**17 46 03.7**	**+0.5**
PNTR	**Pine Nut**	**1.55**	**337**		**Pn**	**17 46 04.5**	**+0.6**
PNTR	**Pine Nut**	**1.55**	**337**	IAML		17 46 33.6	
	comp=E,31nm,1.0s						
PNTR				IAML		17 46 34.1	
	comp=N,30nm,0.8s						
SGV	**South Grapevin**	**1.59**	**115**		**Pn**	**17 46 05.1**	**+0.8**
EMB	**Emerald Bay**	**1.65**	**323**		**Pb**	**17 46 06.5**	**0.0**
EMB				IAML		17 46 31.7	
	comp=E,21nm,0.8s						
EMB				IAML		17 46 32.7	
	comp=N,26nm,1.0s						
Q09A	**Carvers**	**1.75**	**47**		**Pb**	**17 46 08.1**	**-0.1**
Q09A				IAML		17 46 40.9	
	comp=N,68nm,1.1s						
Q09A				IAML		17 47 11.3	
	comp=E,50nm,0.8s						
PDRM	**Domengine Ranc**	**1.80**	**223**		**Pb**	**17 46 08.8**	**-0.1**
VES	**Vestal, Richgr**	**1.82**	**186**	Pb	**Pn**	**17 46 08.7**	**+1.3**
	baz=6.0,SNR=8.7						
VES				Sb	**Sb**	**17 46 32.9**	**+0.5**
	baz=6.0						
PKEM	**Kettleman Hill**	**1.89**	**213**		**Pb**	**17 46 10.5**	**0.0**
MPMC	**Manual Prospec**	**1.93**	**146**	Pb	**Pb**	**17 46 10.9**	**-0.3**
	baz=326,SNR=6.7						
MPMC				Sb	**Sb**	**17 46 36.6**	**+1.0**
	baz=326						
WCT	**Wildcat Mounta**	**1.96**	**115**		**Pn**	**17 46 10.2**	**+0.7**
WCT	**Wildcat Mounta**	**1.96**	**115**	IAML		17 46 43.6	
	comp=E,20nm,0.5s						
WCT				IAML		17 46 43.8	
	comp=N,14nm,0.4s						
MTOS	**Mt Oso, Westle**	**1.99**	**266**		**Pb**	**17 46 11.3**	**-0.8**
SLD	**San Luis Dam**	**1.99**	**254**		**Pb**	**17 46 11.4**	**-0.7**
ISA	**Isabella, Lake**	**2.01**	**172**	Pn	**Pb**	**17 46 12.3**	**-0.3**
ISA	**Isabella, Lake**	**2.01**	**172**	Pb	**Pb**	**17 46 12.4**	**-0.2**
	baz=352,SNR=8.2						
ISA				Sb	**Sb**	**17 46 38.8**	**+0.9**
	baz=352						
WORM	**Onyx Ranch**	**2.02**	**166**		**Pb**	**17 46 12.4**	**-0.2**
BAVM	**Antelope Valle**	**2.02**	**241**		**Pb**	**17 46 11.9**	**-0.9**
HPCM	**Pacheco Lake**	**2.04**	**254**		**Pb**	**17 46 12.0**	**-0.9**
BBGB	**Big Mountain B**	**2.07**	**239**		**Pb**	**17 46 12.5**	**-1.0**
PAHR	**Pah Rah Range**	**2.09**	**348**		**Pb**	**17 46 13.9**	**0.0**
PAHR				IAML		17 46 44.2	
	comp=E,18nm,1.1s						
CTM	**Castle Mountai**	**2.10**	**215**		**Pb**	**17 46 13.3**	**-0.9**
CSTL	**Corral Hollow**	**2.12**	**270**		**Pb**	**17 46 13.8**	**-0.5**
AFDM	**Forest Hills D**	**2.12**	**308**	Pn	**Pn**	**17 46 12.9**	**+1.4**
AFDM				IAML		17 46 44.7	
	comp=N,29nm,0.4s						
AFDM				IAML		17 46 47.4	
	comp=E,26nm,0.4s						
PSMM	**Smith Mountain**	**2.12**	**222**		**Pn**	**17 46 13.2**	**+1.6**
BBNM	**San Benito**	**2.13**	**238**		**Pb**	**17 46 14.1**	**-0.4**
PMPB	**Monarch Peak**	**2.13**	**228**		**Pn**	**17 46 13.0**	**+1.2**
PEAR	**Peavine Mounta**	**2.14**	**336**		**Pb**	**17 46 15.0**	**+0.2**
PSRM	**Scobie Ranch**	**2.14**	**213**		**Pb**	**17 46 13.6**	**-1.1**
HFEM	**San Felipe**	**2.15**	**253**		**Pb**	**17 46 13.9**	**-1.1**
GHS	**Gilroy Hot Spr**	**2.16**	**256**		**Pb**	**17 46 14.2**	**-0.8**
BVL	**Bear Valley**	**2.17**	**241**		**Pb**	**17 46 14.6**	**-0.7**
PSTM	**Stockdale Moun**	**2.19**	**218**		**Pn**	**17 46 14.0**	**+1.5**
PKD	**Bear Valley Ra**	**2.19**	**219**		**Pn**	**17 46 13.9**	**+1.4**
PHPM	**Hope Ranch**	**2.20**	**221**		**Pn**	**17 46 14.1**	**+1.5**
PVCM	**Vineyard Canyo**	**2.21**	**219**		**Pn**	**17 46 14.1**	**+1.3**
PKLM	**Kerr Lake**	**2.24**	**213**		**Pn**	**17 46 14.6**	**+1.5**
SAO	**San Andreas Ge**	**2.27**	**248**	Pn	**Pn**	**17 46 15.1**	**+1.5**
GWY	**Greenwater Val**	**2.27**	**130**		**Pn**	**17 46 13.8**	**0.0**
GWY				IAML		17 47 09.2	
	comp=E,12nm,4.2s						
PWKM	**Work Ranch**	**2.28**	**217**		**Pn**	**17 46 13.8**	**+0.1**
NSP	**Numbskull Pass**	**2.29**	**113**		**Pn**	**17 46 14.8**	**+0.8**
TRAM	**Private Proper**	**2.29**	**211**		**Pn**	**17 46 15.8**	**+1.9**
PBPM	**Bitterwater Pu**	**2.30**	**206**		**Pn**	**17 46 15.8**	**+1.7**
QSM	**Queen of Sheba**	**2.31**	**136**		**Pn**	**17 46 14.4**	**+0.3**
QSM				IAML		17 46 54.0	
	comp=E,12nm,2.6s						
QSM				IAML		17 46 59.5	
	comp=N,8.9nm,3.3s						
LRMC	**Laurel Mtn Rad**	**2.36**	**157**	Sb	**Sb**	**17 46 49.6**	**+1.6**
	baz=337						
AMDNV	**Amargosa**	**2.37**	**120**		**Pn**	**17 46 15.8**	**+0.9**
S11A	**Rachel**	**2.45**	**89**		**Pn**	**17 46 17.0**	**+0.8**
S11A				IAML		17 47 07.0	
	comp=E,30nm,1.0s						
MCY	**Mercury**	**2.50**	**113**		**Pn**	**17 46 17.3**	**+0.5**
SMMC	**Simmler**	**2.52**	**202**	P	**Pn**	**17 46 17.9**	**+0.9**
	baz=21						
ARVC	**Arvin**	**2.53**	**180**	Pb	**Pb**	**17 46 20.6**	**-0.7**
	baz=360						
ARVC				Sb	**Sb**	**17 46 53.5**	**+0.9**
	baz=360						
CCAC	**Calif City Air**	**2.59**	**165**		**Pn**	**17 46 20.5**	**+2.5**
R11B	**Troy Canyon, C**	**2.66**	**74**		**Pb**	**17 46 23.3**	**-0.3**
R11B				IAML		17 47 01.0	
	comp=E,9.1nm,0.5s						
R11B				IAML		17 47 01.4	
	comp=N,12nm,0.2s						
R11B	**Troy Canyon, C**	**2.66**	**74**	Pb	**Pb**	**17 46 23.0**	**-0.7**
	baz=256						
BCW	**Bitter Crk WRg**	**2.75**	**190**		**Pn**	**17 46 20.0**	**-0.3**
EDW2	**Edwards Air Fo**	**2.85**	**166**	Sb	**Sb**	**17 47 03.8**	**+1.8**
	baz=346						
GSC	**Goldstone, Bar**	**2.86**	**145**	Pn	**Pn**	**17 46 21.2**	**-0.6**
GSC				IAML		17 47 13.0	
	comp=N,10nm,2.9s						
GSC				IAML		17 47 16.7	
	comp=E,10nm,1.0s						
BMN	**Battle Mountai**	**3.04**	**24**		**Pn**	**17 46 24.7**	**+0.4**
SHPR	**Sheep Range**	**3.15**	**110**	Pn	**Pn**	**17 46 25.1**	**-0.8**
Q12A	**Willow Creek R**	**3.44**	**65**		**Pn**	**17 46 30.6**	**+0.8**
SPR3	**Spring Creek 3**	**3.79**	**68**		**Pn**	**17 46 32.6**	**-2.0**
PSUT	**Pine Spring**	**4.02**	**76**	Pn	**Pn**	**17 46 36.3**	**-1.6**
ELK	**Elko**	**4.16**	**41**	Pn	**Pn**	**17 46 37.0**	**-2.7**
ELK				IAML		17 47 16.3	
	comp=E,2.4nm,5.0s						
ELK				IAML		17 47 46.8	
	comp=E,2.1nm,4.8s						
CCUT	**Cedar City**	**4.35**	**90**	Pn	**Pn**	**17 46 40.0**	**-2.3**

*IDC **17** 17:52:03.2±1.1,9.90S×127.07E,h0km,mb3.8/6, mbtmp3.9/9,ML4.1/3,MS2.8/1,Error ellipse: s-maj=35.7km s-min=20.4km az=52.0*
*NEIC **17** 17:52:06.2±2.9,9.84S±0.08×126.93E±0.07,h10km±2km, mb4.2/4,Error ellipse: s-maj=14.3km s-min=11.2km az=176.0*

ISC 17 17:52:04.4±0.6,**9.99S**±0.06×**126.97E**±0.06,**h10**km,**n37**,
σ2**5**08/**38**,**mb3.8/6**,**Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.67**	**275**		**Pn**	**17 52 49.6**	**+1.9**
SOEI	**Soe**	**2.67**	**275**	P	**Pn**	**17 52 49.9**	**+2.3**
BATI	**Baumata**	**3.26**	**266**	Pn	**Pn**	**17 52 57.6**	**+2.0**
	17nm,0.3s,baz=184,slow=1.7,SNR=29						
BATI				Sn	**Sn**	**17 53 37.2**	**+2.5**
	17nm,0.3s,baz=127,slow=20,SNR=13						
	56nm,0.4s						
SAUI	**Saumlaki**	**4.72**	**65**	Pn	**Pn**	**17 53 17.0**	**+1.3**
MMRI	**Maumere**	**4.86**	**286**	Pn	**Pn**	**17 53 19.3**	**+1.6**
MMRI				Sn	**Sn**	**17 54 11.5**	**-2.5**
MMRI	**Maumere**	**4.86**	**286**	P	**Pn**	**17 53 20.6**	**+3.0**
MTN	**Manton Dam**	**4.97**	**125**		**Pn**	17 53 24.8	+5.7
MTN	**Manton Dam**	**4.97**	**125**	P	**Pn**	17 53 24.3	+5.2
KNRA	**Kununurra**	**5.92**	**163**	Pn	**Pn**	**17 53 36.3**	**+4.1**
KNRA	**Kununurra**	**5.92**	**163**	P	**Pn**	**17 53 36.5**	**+4.3**
KDU	**Kakadu**	**6.03**	**117**	P	**Pn**	**17 53 38.2**	**+4.6**
FITZ	**Fitzroy Crossi**	**8.16**	**189**	Pn	**Pn**	**17 54 05.7**	**+2.6**
FITZ	**Fitzroy Crossi**	**8.16**	**189**	P	**Pn**	**17 54 06.1**	**+3.1**
FAKI	**Fak Fak**	**8.76**	**37**	Pn	**Pn**	**17 54 11.2**	**0.0**
FAKI	**Fak Fak**	**8.76**	**37**	P	**Pn**	**17 54 12.8**	**+1.5**
PLAI	**Plampang**	**9.14**	**276**	P	**Pn**	**17 54 18.1**	**+1.6**
WB0	**Warramunga Arr**	**12.08**	**144**	Pn	**Pn**	**17 54 57.4**	**+0.6**
WRAB	**Tennant Creek**	**12.19**	**145**		**Pn**	**17 54 58.5**	**+0.4**
WRA	**Warramunga Arr**	**12.19**	**145**	Pn	**Pn**	**17 54 58.2**	**+0.1**
WRA	**Warramunga Arr**	**12.19**	**145**	Pn	**Pn**	**17 54 59.1**	**+1.0**
	0.9nm,0.3s,baz=324,slow=13,SNR=50						
WRA				Sn	Sn	17 57 08.5	-5.8
	1.5nm,0.3s,baz=218,slow=27,SNR=2.1						
	7.1nm,0.7s						
WB2	**Warramunga Arr**	**12.19**	**145**		**Pn**	**17 54 58.5**	**+0.2**
WR0	**Warramunga Arr**	**12.31**	**144**		**Pn**	**17 55 00.5**	**+0.6**
JAGI	**Jajag, Banyuwa**	**12.74**	**276**	Pn	**Pn**	**17 55 02.6**	**-3.2**
MBWA	**Marble Bar**	**13.11**	**211**	Pn	**Pn**	**17 55 09.9**	**-0.8**
PSA00	**Pilbara Seismi**	**13.40**	**210

comp=Z,42nm,1.4s
NWAO Narrogin (SRO) 24.64 200 P **P** **17 58 28.7 +0.1**
STKA Stephens Creek 25.65 151 P **P** **17 58 36.9 -0.9**
STKA IAmb IAmb 17 58 56.3
comp=Z,3.9nm,1.4s
STKA Stephens Creek 25.65 151 P **P** **17 58 41.7 +3.9**
comp=Z,4.2nm,0.9s,baz=322,slow=16,SNR=3.0
comp=Z,4.2nm,0.9s
TPUB Ta-pu 33.61 349 P **P** **17 59 46.2 -2.3**
CMAR Chiang Mai Arr 39.58 315 P **P** **18 00 40.1 +0.6**
comp=Z,2.0nm,0.7s,baz=144,slow=6.8,SNR=14
comp=Z,2.0nm,0.7s
CRAI Chiangrai 39.86 319 P **P** **18 00 41.7 -0.2**
MJAR Matsushiro Arr 47.38 12 P **P** **18 01 42.0 -0.3**
comp=Z,0.5nm,0.5s,baz=201,slow=9.6,SNR=5.2
comp=Z,0.5nm,0.5s
CASY Casey 57.42 188 P **P** **18 02 57.8 +1.5**
SONM Songino Array 60.36 344 P **P** **18 03 17.8 +0.6**
comp=Z,0.5nm,0.6s,baz=154,slow=5.9,SNR=4.3
comp=Z,0.5nm,0.6s
PETK Petropavlovsk- 67.99 19 **P** **18 04 06.1 -0.9**
PETK Petropavlovsk- 67.99 19 P **P** **18 04 09.3 +2.3**
comp=Z,4.0nm,0.9s,baz=238,slow=8.3,SNR=1.7
comp=Z,4.0nm,0.9s
MKAR Makanchi Array 69.15 329 P **P** **18 04 14.0 -0.4**
MKAR Makanchi Array 69.15 329 P **P** **18 04 14.4 0.0**
comp=Z,0.5nm,0.6s,baz=128,slow=7.1,SNR=7.4
comp=Z,0.5nm,0.6s
VNDA Vanda 69.94 172 P **P** **18 04 20.8 +2.0**
KBL Kabul 70.50 312 P **P** **18 04 22.6 -0.6**
KBL IAmb IAmb 18 04 29.7
comp=Z,3.9nm,1.0s
AAK Ala-Archa 70.97 322 P **P** **18 04 24.2 -1.7**
AAK IAmb IAmb 18 04 32.9
comp=Z,5.1nm,1.4s
ZALV Zalesovo Beam 72.97 335 P **P** **18 04 37.1 -0.2**
comp=Z,0.6nm,0.5s,baz=116,slow=3.4,SNR=4.0
comp=Z,0.6nm,0.5s
KURBB Kurchatov Arra 73.53 330 P **P** **18 04 41.0 +0.2**
comp=Z,1.0nm,0.2s,baz=134,slow=5.0,SNR=4.1
comp=Z,1.0nm,0.2s
BVAR Borovoye Array 79.03 329 P **P** **18 05 11.8 -0.2**
comp=Z,0.4nm,0.5s,baz=156,slow=7.9,SNR=2.1
comp=Z,0.4nm,0.5s
QSPA South Pole Qui 80.08 180 P **P** **18 05 18.9 +1.2**
QSPA IAmb IAmb 18 05 34.5
comp=Z,3.4nm,1.3s
ABKAR Akbulak array 83.03 323 P **P** **18 05 34.0 +0.6**
SDPT Sand Point 88.31 33 P **P** **18 06 00.3 +0.9**

TAP 17 18:13:02.9,24°22N×121°80E,h15km,ML1.2,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.11**	**329**	*eP*	Pb	18 13 06.5	-0.2
	baz=331						
EAHA	**Aohua**	**0.12**	**333**	P	Pg	18 13 06.7	+0.2
	baz=332						
EAHA				S	Sb	18 13 10.1	+0.4
	baz=332						
ETL	**Fush Village**	**0.17**	**250**	*eP*	Pb	18 13 07.7	-0.1
	baz=249						
ETL				*eS*	Sb	18 13 11.7	+0.5
	baz=249						
NACB	**Ninganchiao**	**0.19**	**257**	P	Pb	18 13 08.0	-0.1
	baz=256						
NACB				S	Sb	18 13 11.7	0.0
	baz=256						
ENA	**Nanau**	**0.22**	**345**	*i* P	Pb	18 13 08.4	-0.2
	baz=346						
ENA				*i* S	Sb	18 13 12.5	+0.2
	baz=346						
EWUT	**Wuta**	**0.23**	**355**	*eP*	Pg	18 13 08.1	+0.1
	baz=354						
EWUT				*eS*	Sb	18 13 12.7	0.0
	baz=354						
ETLH	**Xiulin Townshi**	**0.29**	**268**	*eP*	Pb	18 13 09.6	-0.3
	baz=267						
ETLH				S	Sb	18 13 14.6	0.0
	baz=267						
TWC	**Suao**	**0.39**	**6**	*eS*	Sb	18 13 17.3	-0.1
	baz=7.0						
LATG	**Datong**	**0.40**	**322**	P	Pb	18 13 11.8	0.0
	baz=321						
LATG				S	Sb	18 13 18.2	+0.3
	baz=321						
NDS	**Dongshan**	**0.42**	**349**	*eP*	Pb	18 13 12.1	+0.1
	baz=349						
NDS				*eS*	Sb	18 13 19.4	+1.2
	baz=349						
NNSB	**Datong**	**0.44**	**299**	*i* P	Pb	18 13 12.5	+0.1
	baz=298						
NNSB				*i* S	Sb	18 13 19.1	+0.3
	baz=298						
NNS	**Nan Shan**	**0.45**	**300**	*i* P	Pb	18 13 12.5	-0.1
	baz=299						
NNS				*i* S	Sb	18 13 19.5	+0.3
	baz=299						
NDT	**Datong Townshi**	**0.47**	**326**	*eP*	Pb	18 13 12.8	0.0
	baz=325						
NDT				*eS*	Sb	18 13 20.1	+0.6
	baz=325						
WHF	**Hehuan Shan**	**0.50**	**262**	*eP*	Pb	18 13 13.5	0.0
	baz=261						
WHF				*eS*	Sb	18 13 21.2	+0.4
	baz=261						
FUSS	**Fushou**	**0.51**	**273**	*eP*	Pb	18 13 13.6	-0.1
	baz=273						
FUSS				*eS*	Sb	18 13 21.3	+0.2
	baz=273						
FUSB	**Fushanzhiwuyua**	**0.57**	**340**	*eP*	Pb	18 13 14.7	0.0
	baz=340						
FUSB				*eS*	Sb	18 13 22.9	+0.2
	baz=340						
YHNB	**Yeheng**	**0.59**	**319**	*eP*	Pb	18 13 15.4	+0.3
	baz=319						
YHNB				*eS*	Sb	18 13 24.0	+0.7
	baz=319						
NSK	**Sanguang**	**0.61**	**319**	*eP*	Pg	18 13 15.1	+0.2
	baz=318						
NSK				*eS*	Sb	18 13 23.7	-0.1
	baz=318						
NWLT	**Wulai**	**0.62**	**334**	*eS*	Sb	18 13 24.5	+0.5
	baz=333						

JMA 17 18:13:43.1±0.1,24°2N±0°3×123°9E±0°3,h15km±1km,
MV0.9/9,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.15**	**314**	*eP*	Pg	18 13 47.0	0.0
IRIF				*eS*	Sg	18 13 49.5	0.0
JKRS	**Kuro-shima**	**0.15**	**88**	*i* P	Pg	18 13 47.0	0.0
JKRS				*eS*	Sb	18 13 50.2	-0.4
HATJ	**Hateruma jima**	**0.18**	**192**	*i* P	Pg	18 13 47.2	-0.2
HATJ				*i* S	Sg	18 13 50.6	+0.3
JIJ	**Ishigaki jima**	**0.30**	**64**	P	Pg	18 13 49.2	-0.2
JIJ				*eS*	Sg	18 13 53.6	-0.2
JISG	**Ishigakijimahi**	**0.55**	**50**	*eP*	Pg	18 13 54.0	0.0
JISG				*eS*	Sg	18 14 01.6	+0.2
JYNG	**Yonagunijimaku**	**0.85**	**285**	*eS*	Sg	18 14 11.5	+0.7
JTJ	**Tarama**	**0.88**	**62**	*eP*	Pb	18 14 00.1	0.0
JTJ				*eS*	Sg	18 14 12.3	+0.6

*IDC **17** 18:18:37.2±0.7,24°.40S×65°.15W,h0km,mb4.0/9, mbtmp4.0/14,ML4.2/5,MS3.8/24,Error ellipse: s-maj=19.7km s-min=15.8km az=49.0*
*VAO **17** 18:18:39.8±0.4,24°.37S×65°.46W,h10km,mb4.7*
*SJA **17** 18:18:39.1±0.8,24°.49S×65°.15W,h17km±5km,ML4.7, MW4.4*
*NEIC **17** 18:18:43.5±2.4,24°.19S±0°.06×65°.21W±0°.07,h38km±8km, mb4.5/54,Error ellipse: s-maj=9.9km s-min=7.1km az=48.0*

ISC 17 18:18:39.5±0.4,24°30S±0°03×65°29W±0°05,h10km,n219,
s29d08/188,mb4.6/30,MS3.9/19,1D,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**0.47**	**205**	*i* P	**Pg**	**18 18 48.4**	**-0.3**
SLA				*i* S	**Sg**	**18 18 53.9**	**-1.0**
SLA				IAML		18 18 54.5	
	comp=Z,56μm,0.8s						

FSA	**Cafayete**	**1.91**	**199**	*i* S	**Sn**	**18 19 36.0 -0.6**
YJA	**Yavi**	**2.12**	**354**	*eP*	**Pb**	**18 19 20.4 +2.0**
YJA				*eS*	**Sg**	**18 19 50.4 +2.5**
YJA				IAML		18 19 54.4
	comp=Z,2μm,0.4s					
AF01	**San Pedro de A**	**2.97**	**296**		**Pn**	**18 19 28.9 +1.8**
LVC	**Limon Verde**	**3.73**	**296**	Pn	**Pn**	**18 19 39.7 +2.1**
	comp=Z,3.8nm,0.3s,baz=121,slow=19,SNR=16					
LVC				Lg	Lg	18 20 41.2
	comp=Z,1.8nm,0.3s,baz=111,slow=8.6,SNR=1.2					
LVC				LR	LR	18 21 28.6
	comp=Z,1μm,20.1s,baz=136,slow=44					
	comp=Z,15nm,0.5s					
LVC	**Limon Verde**	**3.73**	**296**	*eP*	**Pn**	**18 19 40.1 +2.6**
LVC				IAML		18 19 57.6
	comp=Z,122nm,0.4s					
PB15	**IPOC Station P**	**3.99**	**285**		**Pn**	**18 19 43.5 +2.5**
PB15	**IPOC Station P**	**3.99**	**285**	*eP*	**Pn**	**18 19 43.8 +2.8**
PB15				IAML		18 19 59.1
	comp=N,133nm,0.4s					
GO02	**Mina Guanaco**	**4.01**	**257**		**Pn**	**18 19 43.4 +2.0**
GO02	**Mina Guanaco**	**4.01**	**257**	*eP*	**Pn**	**18 19 44.0 +2.7**
GO02				IAML		18 19 54.7
	comp=E,120nm,0.6s					
CYA	**Choya**	**4.15**	**186**	*eP*	**Pn**	**18 19 42.8 -0.2**
CYA				*eP*	Pb	18 19 43.0 -10
CYA				IAML		18 21 14.6
	comp=Z,742nm,0.8s					
PB06	**IPOC Station P**	**4.24**	**291**		**Pn**	**18 19 45.9 +1.5**
PB06	**IPOC Station P**	**4.24**	**291**	*eP*	**Pn**	**18 19 47.3 +2.9**
PB06				IAML		18 19 59.8
	comp=E,30nm,0.5s					
AC02	**Maricunga**	**4.29**	**233**		**Pn**	**18 19 49.0 +3.5**
PB09	**IPOC Station P**	**4.42**	**304**		**Pn**	**18 19 50.5 +3.7**
PB14	**IPOC Station P**	**4.68**	**265**		**Pn**	**18 19 51.3 +0.8**
PB05	**IPOC Station P**	**4.74**	**287**		**Pn**	**18 19 51.0 -0.2**
PB05	**IPOC Station P**	**4.74**	**287**	*eP*	**Pn**	**18 19 53.5 +2.3**
PB04	**IPOC Station P**	**4.88**	**293**		**Pn**	**18 19 54.0 +0.8**
PB04	**IPOC Station P**	**4.88**	**293**	*eP*	**Pn**	**18 19 55.5 +2.3**
PB10	**IPOC Station P**	**4.88**	**278**		**Pn**	**18 19 54.2 +1.1**
TICA	**Tres Isletas**	**4.90**	**116**	*eP*	**Pn**	**18 19 55.6 +2.3**
PB07	**IPOC Station P**	**4.95**	**300**		**Pn**	**18 19 54.8 +0.6**
PB01	**IPOC Station P**	**5.06**	**309**		**Pn**	**18 19 57.5 +1.9**
VCA	**Vinchina**	**5.13**	**210**	*eP*	**Pn**	**18 19 58.5 +1.8**
VCA				IAML		18 21 45.1
	comp=Z,805nm,1.5s					
AC01	**Pan de Azucar**	**5.15**	**248**		**Pn**	**18 19 58.2 +1.4**
PB02	**IPOC Station P**	**5.19**	**304**		**Pn**	**18 19 59.3 +2.0**
ACLC	**CERRO LA CRUZ**	**5.32**	**196**	*eP*	**Pn**	**18 19 58.9 -0.3**
ACLC				IAML		18 21 39.3
	comp=Z,551nm,0.9s					
PB08	**IPOC Station P**	**5.47**	**318**	Pn	**Pn**	**18 20 04.0 +2.4**
AC06	**Mina Casimiro**	**5.49**	**235**		**Pn**	**18 20 03.0 +1.5**
GO03	**Copiap**	**5.53**	**233**		**Pn**	**18 20 05.0 +2.9**
TA01	**Diego Aracena**	**5.86**	**308**		**Pn**	**18 20 07.8 +1.4**
GO01	**Chusmiza**	**5.87**	**321**		**Pn**	**18 20 09.3 +2.3**
AGUA	**GUANDACOL**	**5.91**	**208**	*eP*	**Pn**	**18 20 10.1 +2.8**
AGUA				IAML		18 22 16.6
	comp=Z,308nm,1.3s					
TA02	**Huaiquique**	**6.02**	**311**		**Pn**	**18 20 09.6 +0.9**
PB11	**IPOC Station P**	**6.07**	**317**	Pn	**Pn**	**18 20 10.7 +1.1**
APLL	**PUNTA DE LOS L**	**6.17**	**190**	*eP*	**Pn**	**18 20 10.2 -0.7**
AC04	**Llanos de Chal**	**6.49**	**232**	Pn	**Pn**	**18 20 19.4 +4.2**
AVFE	**Valle Fertil**	**6.62**	**196**	*eP*	**Pn**	**18 20 17.1 0.0**
AVFE				IAML		18 22 07.0
	comp=Z,228nm,1.2s					
LCO	**Las Campanas**	**6.74**	**225**		**Pn**	**18 20 21.4 +2.5**
ACHE	**Chepes**	**6.94**	**190**	*eP*	**Pn**	**18 20 21.5 0.0**
TCA	**Tanti**	**7.04**	**175**	*eP*	Pn	18 20 21.7 -1.0
CO01	**Juntas del Tor**	**7.09**	**216**	Pn	**Pn**	**18 20 27.7 +4.0**
ACCO	**Cerro Coronel**	**7.11**	**207**	*eP*	**Pn**	**18 20 26.0 +2.1**
ACCO				IAML		18 22 26.1
	comp=Z,94nm,1.8s					
PB16	**IPOC Station P**	**7.12**	**326**		**Pn**	**18 20 26.8 +2.4**
CPUP	**Villa Florida**	**7.48**	**107**	Pn	**Pn**	**18 20 29.7 +1.0**
CPUP	**Villa Florida**	**7.48**	**107**	Pn	Pn	18 20 27.2 -1.5
	comp=Z,5.2nm,0.3s,baz=287,slow=11,SNR=50					
CPUP				Lg	Lg	18 22 35.5
	comp=Z,25nm,0.3s,baz=2.8,slow=18,SNR=1.7					
CPUP				LR	LR	18 23 54.3
	comp=Z,758nm,18.8s,baz=284,slow=43					
	comp=Z,22nm,0.5s					
CPUP	**Villa Florida**	**7.48**	**107**	*eP*	**Pn**	**18 20 29.6 +0.9**
GO04	**Tololo Observa**	**7.63**	**219**	Pn	Pn	18 20 36.3 +5.2
CO05	**La Serena**	**7.71**	**222**	Pn	**Pn**	**18 20 36.5 +4.7**
CO03	**El Pedregal**	**8.09**	**215**	Pn	**Pn**	**18 20 39.1 +1.9**
BBSD	**Serra de San D**	**8.32**	**33**	*eP*	**Pn**	**18 20 42.9 +2.6**
LPAZ	**La Paz**	**8.41**	**341**	Pn	**Pn**	**18 20 42.9 +0.9**
LPAZ	**La Paz**	**8.41**	**341**	Pn	**Pn**	**18 20 43.9 +1.8**
	comp=Z,0.4nm,0.3s,baz=149,slow=12,SNR=12					
LPAZ				Sn	**Sn**	**18 22 18.9 +1.5**
	comp=Z,0.5nm,0.3s,baz=216,slow=18,SNR=1.9					
LPAZ				LR	LR	18 24 48.1
	comp=Z,1μm,18.7s,baz=158,slow=43					
	comp=Z,6.9nm,0.8s					
CO06	**Fray Jorge**	**8.49**	**220**	Pn	Pn	18 20 47.6 +5.0
CO02	**Combarbal**	**8.54**	**215**	Pn	Pn	18 20 48.9 +5.5
BDQN	**Bodoquena, MS**	**8.78**	**66**	*eP*	**Pn**	**18 20 49.9 +3.3**
ASAL	**Salagasta**	**8.83**	**200**	*eP*	**Pn**	**18 20 47.4 0.0**
ASAL				IAML		18 23 41.8
	comp=Z,74nm,1.3s					
ANTJ	**Antonio Joao (**	**8.84**	**77**	*eP*	**Pn**	**18 20 49.8 +2.3**
SIV	**San Ignacio**	**9.16**	**26**	Pn	**Pn**	**18 20 53.3 +1.4**
	comp=Z,1.1nm,0.3s,baz=214,slow=9.2,SNR=75					
SIV				Sn	**Sn**	**18 22 33.0 -2.2**
	comp=Z,0.5nm,0.3s,baz=322,slow=20,SNR=1.8					
SIV				Lg	Lg	18 23 29.5
	comp=Z,0.2nm,0.3s,baz=304,slow=20,SNR=4.5					
SIV				LR	LR	18 25 20.2
	comp=Z,408nm,19.1s,baz=144,slow=44					
	comp=Z,28nm,0.5s					
AAGR	**Agrelo**	**9.29**	**199**	*eP*	**Pn**	**18 20 54.6 +0.9**
ITQB	**Itaqui**	**9.39**	**127**	Pn	**Pn**	**18 20 55.4 +0.4**
ITQB	**Itaqui**	**9.39**	**127**	*eP*	**Pn**	**18 20 55.7 +0.7**
AMBA	**Amambai (Brazi**	**9.54**	**84**	*eP*	**Pn**	**18 21 00.0 +3.0**
PSAL	**Palomas, Salto**	**9.59**	**137**	*eP*	**Pn**	**18 20 58.2 +0.6**
VA03	**San Esteban**	**9.62**	**208**		**Pn**	**18 21 01.2 +3.1**
AQDB	**Aquidauana**	**9.65**	**69**	Pn	**Pn**	**18 20 60.0 +1.4**
AQDB	**Aquidauana**	**9.65**	**69**	*eP*	**Pn**	**18 21 00.3 +1.8**
VA06	**Catapilco**	**9.78**	**211**	Pn	**Pn**	**18 21 04.4 +4.1**
PEL	**Peldehue**	**10.00**	**207**	Pn	**Pn**	**18 21 08.1 +4.7**
MT16	**CCHEN**	**10.19**	**206**		**Pn**	**18 21 08.7 +2.7**
MT03	**Universidad Ad**	**10.24**	**205**	Pn	**Pn**	**18 21 11.2 +4.5**
MT05	**Renca**	**10.24**	**207**	Pn	**Pn**	**18 21 10.3 +3.6**
UNIS	**Unistalda (Bra**	**10.29**	**120**	*eP*	**Pn**	**18 21 07.9 +0.5**
MT02	**Curacav**	**10.29**	**209**	Pn	**Pn**	**18 21 11.7 +4.3**
VA01	**Torpederas**	**10.33**	**211**	Pn	**Pn**	**18 21 11.0 +3.2**
MT13	**San Alfonso**	**10.38**	**204**	Pn	**Pn**	**18 21 10.5 +2.0**
LMEL	**Las Melosas**	**10.44**	**203**	Pn	**Pn**	**18 21 11.6 +2.2**
PTLB	**Pontes e Lacer**	**10.53**	**34**	Pn	**Pn**	**18 21 10.1 -0.6**
PTLB	**Pontes e Lacer**	**10.53**	**34**	*eP*	**Pn**	**18 21 12.3 +1.7**
CRSM	**Crissiumal (Br**	**10.61**	**110**	*eP*	**Pn**	**18 21 13.8 +2.1**
MT09	**Talagante**	**10.68**	**207**	Pn	**Pn**	**18 21 16.8 +4.1**
BO04	**La Punta**	**10.71**	**204**		**Pn**	**18 21 15.8 +2.6**
TBOT	**Tacuaremb**	**11.05**	**134**	*eP*	**Pn**	**18 21 18.6 +0.8**
BO02	**Sierra Bellavi**	**11.50**	**203**	Pn	**Pn**	**18 21 26.3 +2.5**
TRCB	**Terra Rica**	**11.70**	**85**	Pn	**Pn**	**18 21 26.4 -0.3**
TRCB	**Terra Rica**	**11.70**	**85**	*eP*	**Pn**	**18 21 27.6 +0.9**
ALGR	**Alto Alegre (B**	**11.85**	**115**	*eP*	**Pn**	**18 21 28.9 +0.2**
PTGB	**Pitanga**	**12.04**	**95**	*eP*	**Pn**	**18 21 34.1 +2.7**
GO05	**Huala**	**12.13**	**207**	Pn	**Pn**	**18 21 36.5 +4.0**
ITAB	**Concordia**	**12.21**	**107**		**Pn**	**18 21 34.5 +0.9**
ITAB	**Concordia**	**12.21**	**107**	*eP*	**Pn**	**18 21 36.4 +2.8**
VILB	**Vilhena**	**12.27**	**24**	Pn	**Pn**	**18 21 35.3 +0.8**
VILB	**Vilhena**	**12.27**	**24**	*eP*	**Pn**	**18 21 35.8 +1.3**
PLTB	**Pedras Altas**	**12.71**	**128**	Pn	Pn	18 21 38.4 -2.0
LDASE	**Londrina, Braz**	**13.00**	**89**	*eP*	**Pn**	**18 21 45.4 +1.0**
CNLB	**Canela**	**13.82**	**114**	*eP*	**Pn**	**18 21 56.7 +1.1**
TRQA	**Tornquist**	**14.00**	**169**	Pn	**Pn**	**18 21 58.7 +0.7**
BI05	**Punta Hualpn**	**14.14**	**207**	Pn	**Pn**	**18 22 01.7 +1.7**
FRTB	**Fartura**	**14.42**	**89**	*eP*	**Pn**	**18 22 04.3 +0.4**
ETMB	**Extrema**	**14.43**	**356**	Pn	**Pn**	**18 22 02.1 -1.9**
ETMB	**Extrema**	**14.43**	**356**	*eP*	**Pn**	**18 22 04.0 0.0**
VA04	**Juan Fernndez**	**15.06**	**229**	Pn	**Pn**	**18 22 14.2 +1.8**
TER01	**Tubaro-SC**	**15.07**	**110**	*eP*	**Pn**	**18 22 14.6 +1.9**
SAML	**Samuel**	**15.40**	**8**	Pn	**Pn**	**18 22 14.8 -2.2**
BB19B	**Bebedouro**	**15.80**	**82**	*eP*	**Pn**	**18 22 24.3 +2.1**
GO06	**Curarrehue**	**16.11**	**197**		**Pn**	**18 22 27.0 +0.7**
SPB	**Sao Paulo**	**16.34**	**91**	P	**Pn**	**18 22 29.3 +0.2**
SPB				IAmb	IAmb	18 23 02.7
	comp=Z,40nm,1.5s					
SPB	**Sao Paulo**	**16.34**	**91**	*eP*	**Pn**	**18 22 30.9 +1.7**

RCLB	**Rio Claro- Sao**	**16.41**	**87**	*eP*	**Pn**	**18 22 32.6 +2.5**
PET01	**Itanhaem-SP**	**16.42**	**94**	*eP*	**Pn**	**18 22 33.2 +3.0**
NNA	**Nana**	**16.43**	**316**	P	**Pn**	**18 22 31.7 +1.3**
NNA				IAmb	IAmb	18 22 43.9
	comp=Z,32nm,1.4s					
VAO	**Valinhos**	**16.84**	**89**	*eP*	**Pn**	**18 22 38.9 +3.3**
LR05	**Currie**	**16.86**	**198**		**Pn**	**18 22 38.5 +2.8**
LR05				IAmb	IAmb	18 22 44.4
	comp=Z,26nm,1.1s					
PLCA	**Paso Flores**	**16.97**	**194**	P	**Pn**	**18 22 41.2 +4.1**
PLCA	**Paso Flores**	**16.97**	**194**	Pn	**Pn**	**18 22 36.9 -0.3**
	comp=Z,0.2nm,0.3s,baz=80,slow=18,SNR=1.7					
PLCA				Lg	Lg	18 27 31.2
	baz=38,slow=19					
	comp=Z,0.6nm,0.4s					
PLCA	**Paso Flores**	**16.97**	**194**	*eP*	**Pn**	**18 22 37.5 +0.4**
IPMB	**Ipameri, GO**	**17.11**	**72**	*eP*	**Pn**	**18 22 41.7 +2.6**
LL03	**Petrohue**	**17.82**	**198**	P	**Pn**	**18 22 47.8 +0.2**
LL03				IAmb	IAmb	18 23 03.6
	comp=Z,39nm,0.9s					
CZSB	**Cruzeiro do Su**	**17.94**	**335**	P	**Pn**	**18 22 46.8 -2.5**
CZSB	**Cruzeiro do Su**	**17.94**	**335**	*eP*	**Pn**	**18 22 47.6 -1.7**
PARB	**Paraibuna**	**18.02**	**91**	*eP*	**Pn**	**18 22 53.3 +3.0**
SNDB	**Serra Nova Dou**	**18.06**	**50**	*eP*	**Pn**	**18 22 54.0 +3.2**
BDFB	**Brasilia**	**18.36**	**65**		**Pn**	**18 22 52.0 -2.6**
BDFB	**Brasilia**	**18.36**	**65**	P	**Pn**	**18 22 57.1 +2.5**
	comp=Z,4.8nm,0.9s,baz=248,slow=12,SNR=4.9					
BDFB				S	**Sn**	**18 26 15.7 -4.2**
	comp=Z,7.7nm,0.8s,baz=283,slow=19,SNR=2.4					
BDFB				Lg	Lg	18 28 18.9
	comp=Z,0.5nm,0.3s,baz=164,slow=18,SNR=2.5					
BDFB				LR	LR	18 30 52.5
	comp=Z,177nm,20.6s,baz=223,slow=40					
LL05	**Los Muermos**	**18.38**	**200**	P	**P**	**18 22 53.8 -0.7**
LL05				IAmb	IAmb	18 23 01.7
	comp=Z,75nm,1.4s					
PMNB	**Patos De Minas**	**18.45**	**76**	*eP*	**P**	**18 22 58.5 +2.9**
BSCB	**Bom Sucesso**	**19.21**	**84**	*eP*	**P**	**18 23 07.0 +3.0**
MAN01	**Angra dos Reis**	**19.59**	**90**	*eP*	**P**	**18 23 09.5 +1.4**
LL02	**Futaleuf**	**19.60**	**194**	P	**P**	**18 23 07.9 -0.1**
NPGB	**Novo Progresso**	**19.62**	**31**	*eP*	**P**	**18 23 10.7 +2.4**
VAS01	**Vassouras-RJ**	**20.16**	**89**	*eP*	**P**	**18 23 16.3 +2.1**
TBTG	**Tabatinga, AM**	**20.49**	**347**	P	**P**	**18 23 14.5 -3.3**
AY01	**Puyuhuapi**	**20.95**	**195**	P	**P**	**18 23 22.3 -0.3**
AY01				IAmb	IAmb	18 23 28.6
	comp=Z,27nm,0.8s					
DIAM	**Diamantina, MG**	**20.99**	**78**	*eP*	**P**	**18 23 25.7 +2.3**
DUB01	**Friburgo-RJ**	**21.17**	**89**	*eP*	**P**	**18 23 27.7 +2.5**
MACA	**Manacapuru-AM**	**21.48**	**13**	*eP*	**P**	**18 23 30.0 +1.6**
JANB	**Januaria**	**21.76**	**69**	*eP*	**P**	**18 23 33.6 +2.0**
CAM01	**Campos-RJ**	**21.87**	**88**	*eP*	**P**	**18 23 35.1 +2.4**
COYC	**Coyhaique**	**21.93**	**193**	P	**P**	**18 23 34.2 +1.2**
COYC				IAmb	IAmb	18 23 48.8
	comp=Z,28nm,1.0s					
SDBA	**SAO DESIDERIO**	**22.64**	**62**	*eP*	**P**	**18 23 42.8 +1.8**
ALF01	**Guarapari-ES**	**22.98**	**86**	*eP*	**P**	**18 23 47.2 +2.7**
SJMB	**Sao Joao De Ma**	**23.09**	**81**	*eP*	**P**	**18 23 48.3 +2.6**
RIB01	**Linhares ES**	**23.62**	**83**	*eP*	**P**	**18 23 52.6 +1.6**
MCRA	**Macar, Loja**	**24.34**	**322**	P	**P**	**18 23 56.4 -1.4**
MALB	**Monte Alegre**	**24.73**	**27**	*eP*	**P**	**18 24 03.2 +1.9**
GO08	**Villa O'Higgin**	**24.79**	**192**	P	**P**	**18 24 03.4 +1.8**
GO08				IAmb	IAmb	18 24 29.0
	comp=Z,15nm,0.9s					
GUA01	**Guaratinga, BA**	**25.05**	**77**	*eP*	**P**	**18 24 06.6 +2.4**
COHC	**Cochancay**	**25.56**	**326**	P	**P**	**18 24 08.8 0.0**
CMC01	**Camacan, BA**	**25.78**	**75**	*eP*	**P**	**18 24 13.0 +2.1**
CHSH	**Refugio Sur-Vo**	**26.21**	**328**	P	**P**	**18 24 15.4 +0.1**
CHSH				IAmb	IAmb	18 24 29.4
	comp=Z,26nm,1.1s					
GDU01	**Guandu, BA**	**26.44**	**71**	*eP*	**P**	**18 24 18.5 +1.6**
SLOR	**San Lorenzo -**	**26.70**	**329**	P	**P**	**18 24 18.9 -0.8**
SLOR				IAmb	IAmb	18 24 38.7
	comp=Z,26nm,1.3s					
OTAV	**Otavalo**	**27.53**	**330**	P	**P**	**18 24 27.3 +0.2**
NBLA	**Lagarto - SE**	**29.28**	**68**	*eP*	**P**	**18 24 45.0 +2.7**
ROSC	**El Rosal**	**30.27**	**342**	LR	LR	18 38 22.2
	comp=Z,385nm,18.7s,baz=248,slow=39					
MDP	**Montagnes des**	**31.71**	**25**	LR	LR	18 39 24.2
	comp=Z,96nm,19.1s,baz=310,slow=39					
BAUV	**El Baul**	**33.15**	**355**	P	P	18 25 14.0 -2.2
SDV	**Santo Domingo**	**33.39**	**350**	P	P	18 25 15.9 -2.8
SDV				IAmb	IAmb	18 25 29.9
	comp=Z,8.5nm,1.1s					
SDV	**Santo Domingo**	**33.39**	**350**	LR	LR	18 41 39.0
	comp=Z,122nm,18.2s,baz=196,slow=41					
RCBR	**Riachuelo**	**33.67**	**62**	LR	LR	18 38 08.3
	comp=Z,96nm,20.4s,baz=240,slow=35					
ORCD	**Orcadas**	**39.09**	**164**	P	**P**	**18 26 07.8 +1.2**
SOCE	**P

SRU	**San Rafael Swe**	**75.95 325**	P	**P**	**18 30 25.2**	**-1.7**
SRU			IAmb	IAmb	18 30 28.2	
	comp=Z,4.2nm,0.9s					
TSUM	**Tsumeb**	**76.06 105**	LR	LR	19 01 48.5	
	comp=Z,64nm,18.1s,baz=185,slow=34					
P18A	**Preston Nutter**	**76.19 326**	P	**P**	**18 30 27.0**	**-1.3**
P18A			IAmb	IAmb	18 30 29.6	
	comp=Z,3.7nm,0.9s					
CCUT	**Cedar City**	**76.34 323**	P	**P**	**18 30 27.9**	**-1.2**
CCUT			IAmb	IAmb	18 30 31.1	
	comp=Z,3.2nm,0.9s					
BSUT	**Blindstream Ca**	**77.13 326**	P	**P**	**18 30 33.1**	**-0.7**
BSUT			IAmb	IAmb	18 30 35.0	
	comp=Z,4.3nm,0.9s					
PSUT	**Pine Spring**	**77.31 323**	P	**P**	**18 30 34.0**	**-0.6**
PSUT			IAmb	IAmb	18 30 35.5	
	comp=Z,3.7nm,1.1s					
WCT	**Wildcat Mounta**	**77.67 320**	P	**P**	**18 30 36.2**	**-0.3**
PDAR	**Pinedale Array**	**78.22 328**	P	**P**	**18 30 40.1**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=92,slow=9.9,SNR=2.6					
	comp=Z,0.3nm,0.6s					
GMN	**Gold Mountain**	**78.39 320**	P	**P**	**18 30 39.9**	**-0.7**
SCHQ	**Schefferville**	**78.82 359**	P	**P**	**18 30 41.7**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=254,slow=15,SNR=3.6					
	comp=Z,1.3nm,0.6s					
NVAR	**Mina Array Bea**	**79.76 320**	P	**P**	**18 30 48.6**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=143,slow=5.4,SNR=4.2					
	comp=Z,0.6nm,0.8s					
KVN	**Kaiserville**	**80.06 321**	P	**P**	**18 30 48.4**	**-1.3**
LBTB	**Lobatse**	**80.83 113**	LR	LR	19 04 44.9	
	comp=Z,33nm,18.0s,baz=216,slow=34					
HLID	**Hailey**	**81.20 326**	P	**P**	**18 30 54.7**	**-1.0**
PLID	**Pearl Lake**	**83.08 326**	P	**P**	**18 31 04.0**	**-1.6**
PLID			IAmb	IAmb	18 31 31.3	
	comp=Z,3.5nm,1.1s					
NEW	**Newport**	**85.86 328**	LR	LR	19 13 42.8	
	comp=Z,41nm,18.2s,baz=92,slow=38					
LSZ	**Lusaka**	**86.92 105**	LR	LR	19 08 28.6	
	comp=Z,76nm,18.2s,baz=218,slow=34					
FRB	**Frobisher Bay**	**87.79 359**	LR	LR	19 12 49.6	
	comp=Z,40nm,19.1s,baz=211,slow=37					
YKA	**Yellowknife Ar**	**94.95 339**	P	**P**	**18 32 01.1**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=127,slow=4.0,SNR=9.6					
	comp=Z,0.4nm,0.6s					
BORG	**Borgarnes**	**95.04 17**	LR	LR	19 11 42.2	
	comp=Z,55nm,18.4s,baz=155,slow=34					
ASAR	**Alice Springs**	**128.81 203**	PKP	**PKPdf**	**18 37 45.9**	**-2.1**
	comp=Z,0.4nm,0.7s,baz=139,slow=1.5,SNR=1.6					
WRA	**Warramunga Arr**	**132.05 205**	PKP	**PKPdf**	**18 37 53.6**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=162,slow=1.5,SNR=1.6					
KURBB	**Kurchatov Arra**	**141.68 37**	PKP	**PKPdf**	**18 38 10.8**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=304,slow=2.3,SNR=3.5					
ZALV	**Zalesovo Beam**	**142.91 29**	PKP	**PKPdf**	**18 38 10.3**	**-2.8**
	comp=Z,0.5nm,0.5s,baz=321,slow=2.0,SNR=1.8					
MKAR	**Makanchi Array**	**145.74 41**	PKPbc	**PKPdf**	**18 38 17.6**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=306,slow=3.0,SNR=10.0					
SONM	**Songino Array**	**155.60 14**	PKPab	**PKPab**	**18 38 58.0**	**-1.5**
	comp=Z,0.4nm,0.8s,baz=11,slow=1.5,SNR=4.2					

IDC ***17*** *18:19:07.9±6.4,30.08S×179.21W,h212km±57km, mb3.2/4, mbtmp3.7/5, Error ellipse: s-maj=48.4km s-min=28.1km az=21.0*

ISC 17 18:19:07.0±0.9,30.2S±0.1×179.3W±0.2,h200km,n10, σ2.501/11,mb3.4/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.54**	**199**	P	**Pn**	**18 21 09.7**	**+2.6**
	1.8nm,0.3s,baz=357,slow=4.5,SNR=6.7						
URZ				S	**Sn**	**18 22 39.5**	**-3.5**
	3.8nm,0.3s,baz=0.0,slow=20,SNR=11						
ASAR	**Alice Springs**	**41.99**	**267**	P	**P**	**18 26 38.9**	**+0.1**
	0.7nm,1.1s,baz=106,slow=7.2,SNR=5.6						
	0.7nm,1.1s						
WRA	**Warramunga Arr**	**42.97**	**273**	P	**P**	**18 26 47.3**	**+0.6**
	0.8nm,0.9s,baz=110,slow=8.2,SNR=7.4						
	0.8nm,0.9s						
QSPA	**South Pole Qui**	**59.88**	**180**	P	**P**	**18 28 52.4**	**+1.0**
	1.2nm,1.1s,baz=54,slow=6.3,SNR=2.0						
	1.2nm,1.1s						
TXAR	**Lajitas Array**	**93.25**	**58**	P	**P**	**18 31 58.4**	**-0.6**
	0.4nm,0.6s,baz=216,slow=7.3,SNR=2.8						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**116.81**	**310**	PKP	**PKPdf**	**18 37 25.5**	**-1.8**
	0.2nm,0.7s,baz=144,slow=2.7,SNR=2.5						
BVAR	**Borovoye Array**	**125.50**	**316**	PKP	**PKPdf**	**18 37 42.5**	**-1.3**
	0.2nm,0.6s,baz=116,slow=1.1,SNR=1.6						
FINES	**FINESS Array B**	**144.60**	**339**	PKP	**PKPab**	**18 38 17.6**	**-0.4**
	2.2nm,0.5s,baz=62,slow=3.8,SNR=19						
NOA	**NORSAR Array B**	**148.41**	**350**	PKPbc	**PKPbc**	**18 38 28.1**	**-1.0**
	0.4nm,0.7s,baz=20,slow=3.8,SNR=1.7						
HFS	**Hagfors**	**148.85**	**347**	PKPbc	**PKPdf**	**18 38 28.3**	**+2.2**
	2.1nm,0.9s,baz=352,slow=2.9,SNR=1.7						

IDC ***17*** *18:45:56.7±0.9,9.92S×127.09E,h0km, mb3.7/9, mbtmp3.8/12, ML4.0/3, MS3.2/2, Error ellipse: s-maj=35.4km s-min=20.0km az=61.0*

DJA ***17*** *18:46:01.7±0.5,10.5±4°×12.7±1°,h10km,M4.1/8, mb4.2/7, MLv4.0/8*

ISC 17 18:46:01.8±0.6,10.06S±0.07×127.01E±0.07,h35km,n33, σ1.957/33,mb3.7/9,Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**2.72**	**276**	P	**Pn**	**18 46 43.6**	**+0.5**
SOEI	**Soe**	**2.72**	**276**	P	**Pn**	**18 46 43.7**	**+0.6**
BATI	**Baumata**	**3.30**	**267**	Pn	**Pn**	**18 46 51.8**	**+0.8**
	13nm,0.3s,baz=94,slow=1.2,SNR=27						
BATI				Sn	**Sn**	**18 47 27.7**	**-1.3**
	25nm,0.3s,baz=119,slow=21,SNR=16						
	29nm,0.3s						
BATI	**Baumata**	**3.30**	**267**	P	**Pn**	**18 46 51.8**	**+0.8**
MTN	**Manton Dam**	**4.90**	**125**	P	Pn	18 47 19.6	+6.5
MMRI	**Maumere**	**4.91**	**286**	P	**Pn**	**18 47 13.2**	**0.0**
MMRI	**Maumere**	**4.91**	**286**	P	**Pn**	**18 47 13.4**	**+0.2**
EDFI	**Ende, Flores**	**5.40**	**283**	P	**Pn**	**18 47 20.1**	**0.0**
	9.5nm,0.7s,0.1nm						
KNRA	**Kununurra**	**5.84**	**163**	P	**Pn**	**18 47 30.4**	**+4.4**
KDU	**Kakadu**	**5.96**	**117**	P	Pn	18 47 33.0	+5.4
BASI	**Baing, Sumba**	**6.33**	**268**	P	**Pn**	**18 47 33.7**	**+1.0**
	53nm,0.7s,0.3nm						
FITZ	**Fitzroy Crossi**	**8.10**	**189**	P	**Pn**	**18 48 00.1**	**+3.1**
FAKI	**Fak Fak**	**8.80**	**37**	P	**Pn**	**18 48 07.2**	**+0.6**
PLAI	**Plampang**	**9.19**	**277**	P	**Pn**	**18 48 11.8**	**-0.1**
PLAI	**Plampang**	**9.19**	**277**	P	**Pn**	**18 48 12.4**	**+0.5**
	15nm,0.7s						
TWSI	**Taliwang, Sumb**	**10.08**	**277**	P	**Pn**	**18 48 24.5**	**+0.4**
	7.6nm,1.2s						
WRA	**Warramunga Arr**	**12.11**	**145**	Pn	**Pn**	**18 48 51.7**	**-0.3**
	0.7nm,0.3s,baz=314,slow=15,SNR=33						
WRA				Sn	**Sn**	**18 51 02.9**	**-3.0**
	1.8nm,0.3s,baz=320,slow=25,SNR=8.4						
	6.4nm,0.7s						
WRKA	**Warakurna**	**14.95**	**175**	P	**Pn**	**18 49 31.5**	**+0.8**
ASAR	**Alice Springs**	**15.05**	**155**	Pn	**Pn**	**18 49 33.0**	**+0.9**
	0.9nm,0.3s,baz=320,slow=10,SNR=98						
ASAR				Sn	**Sn**	**18 52 14.3**	**-3.4**
	0.8nm,0.3s,baz=328,slow=22,SNR=9.1						
ASAR				LR	LR	18 56 36.1	
	comp=Z,79nm,19.0s,baz=297,slow=42						
	2.7nm,0.6s						
AS01	**Alice Springs**	**15.07**	**155**	P	**Pn**	**18 49 33.5**	**+1.2**
QIS	**Mount Isa**	**16.01**	**132**	P	**Pn**	**18 49 46.7**	**+2.2**
COEN	**Coen**	**16.28**	**105**	P	**Pn**	**18 49 48.2**	**+0.2**
CTA	**Charters Tower**	**21.07**	**120**	LR	LR	18 58 27.4	
	comp=Z,58nm,19.7s,baz=180,slow=36						
STKA	**Stephens Creek**	**25.57**	**150**	P	**P**	**18 51 27.6**	**-0.1**
	3.0nm,1.0s,baz=19,slow=12,SNR=1.6						
	3.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**39.62**	**316**	P	**P**	**18 53 29.9**	**-0.4**
	1.6nm,0.8s,baz=143,slow=6.6,SNR=18						
	1.6nm,0.8s						
KSRS	**Korea Array**	**47.27**	**1**	P	**P**	**18 54 32.4**	**+0.7**
	0.9nm,0.8s,baz=186,slow=10,SNR=2.2						
	0.9nm,0.8s						
MJAR	**Matsushiro Arr**	**47.53**	**12**	P	**P**	**18 54 32.5**	**-1.3**
	0.9nm,0.9s,baz=181,slow=8.8,SNR=2.5						
	0.9nm,0.9s						
SONM	**Songino Array**	**60.47**	**344**	P	**P**	**18 56 08.5**	**+0.3**
	0.2nm,0.4s,baz=160,slow=4.7,SNR=2.6						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**69.22**	**329**	P	**P**	**18 57 05.0**	**-0.1**
	0.5nm,0.7s,baz=112,slow=8.1,SNR=6.2						
	0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**73.06**	**335**	P	**P**	**18 57 26.5**	**-1.7**
	0.5nm,0.6s,baz=93,slow=8.7,SNR=2.3						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**73.61**	**330**	P	**P**	**18 57 29.9**	**-1.6**
	0.4nm,0.8s,baz=131,slow=4.8,SNR=5.7						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**79.10**	**329**	P	**P**	**18 58 02.6**	**+0.1**
	0.2nm,0.4s,baz=108,slow=9.5,SNR=2.5						
	0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**126.42**	**279**	PKP	**PKiKP**	**19 05 04.5**	**+1.9**
	0.3nm,0.7s,baz=130,slow=3.3,SNR=1.8						

JMA 17 19:14:07.5±0.3,26.7N±2.2×14.1E±.1,h158km,MV4.4/19, IOTO ISLANDS REGION,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**1.44**	**56**	*e*P	Pn	19 14 37.1	+0.1
JHH2				*e*S	Sn	19 15 00.1	+0.4
CBIJ	**Chichi jima**	**1.74**	**44**	*e*P	Pn	19 14 40.6	+0.5
CBIJ				*e*S	Sn	19 15 05.7	+0.2
BSO3	**Boso 3**	**8.94**	**358**	*e*P	Pn	19 16 10.9	-2.1
BSO4	**Boso 4**	**9.13**	**357**	*e*P	Pn	19 16 14.5	-1.2
JHU	**Hanno**	**10.07**	**353**	*e*P	Pn	19 16 25.9	-2.4
JAG	**Ashikaga**	**10.62**	**354**	*e*P	Pn	19 16 31.5	-4.0
JHO	**Hitachi**	**10.74**	**359**	*e*P	Pn	19 16 33.6	-3.5

SJA 17 19:17:14.1±0.6,27.96S×66.77W,h188km±3km,ML3.5, MW3.6,Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CYA	**Choya**	**0.98**	**120**	*e*P	Pn	19 17 42.7	+0.2
CYA				*e*S	Sn	19 18 01.8	-2.7
ACLC	**CERRO LA CRUZ**	**1.47**	**186**	*e*P	Pn	19 17 47.2	+0.5
VCA	**Vinchina**	**1.49**	**238**	*e*P	Pn	19 17 47.4	+0.6
VCA				*e*S	Sn	19 18 11.9	-0.3
VCA				IAML		19 18 14.4	
	comp=Z,473nm,0.3s						
FSA	**Cafayete**	**1.97**	**21**	*e*P	Pn	19 17 52.5	+0.9
AGUA	**GUANDACOL**	**2.15**	**224**	*e*P	Pn	19 17 54.0	+0.6
AGUA				*e*S	Sn	19 18 23.8	-0.3
AGUA				IAML		19 18 25.5	
	comp=Z,209nm,0.2s						
APLL	**PUNTA DE LOS L**	**2.44**	**175**	*e*P	Pn	19 17 57.4	+0.8
APLL				*e*S	Sn	19 18 28.9	-0.9
AVFE	**Valle Fertil**	**2.76**	**192**	*e*P	Pn	19 18 00.8	+0.5
AVFE				*e*S	Sn	19 18 35.0	-1.5
AVFE				IAML		19 18 39.1	
	comp=Z,88nm,0.5s						
ACDV	**Cuesta del Vie**	**3.02**	**223**	*e*P	Pn	19 18 04.9	+1.4
GO03	**Copiap**	**3.10**	**276**	*e*P	Pn	19 18 05.1	+0.8
GO03				*e*S	Sn	19 18 41.4	-2.1
ACHE	**Chepes**	**3.19**	**178**	*e*P	Pn	19 18 06.8	+1.2
AROD	**Rodeo**	**3.23**	**226**	*e*P	Pn	19 18 07.8	+1.5
ACCO	**Cerro Coronel**	**3.30**	**217**	*e*P	Pn	19 18 08.1	+1.0
ACCO				*e*S	Sn	19 18 48.7	+0.1
ACCO				IAML		19 18 48.8	
	comp=Z,63nm,0.5s						
CO01	**Juntas del Tor**	**3.54**	**235**	*e*P	Pn	19 18 11.8	+1.8
DOCA	**Reserva Natura**	**3.60**	**214**	*e*P	Pn	19 18 11.6	+0.8
DOCA				*e*S	Sn	19 18 54.3	-0.9
DOCA				IAML		19 18 55.9	
	comp=Z,127nm,0.9s						
LCO	**Las Campanas**	**3.62**	**252**	*e*P	Pn	19 18 11.5	+0.5
LCO				*e*S	Sn	19 18 54.3	-1.1
RTLL	**Cerro Villicun**	**3.67**	**203**	*e*P	Pn	19 18 12.2	+0.8
AC04	**Llanos de Chal**	**3.81**	**265**	*e*P	Pn	19 18 12.5	-0.6
AC04				IAML		19 19 12.4	
	comp=Z,30nm,1.6s						
AC01	**Pan de Azucar**	**3.87**	**297**	*e*P	Pn	19 18 14.2	+0.4
AC01				IAML		19 19 03.3	
	comp=Z,18nm,1.2s						
GO04	**Tololo Observa**	**4.16**	**237**	*e*P	Pn	19 18 18.4	+0.7
RTLS	**Leoncito**	**4.41**	**209**	*e*P	Pn	19 18 22.2	+1.2
RTLS				IAML		19 19 15.3	
	comp=Z,61nm,0.5s						
CO03	**El Pedregal**	**4.47**	**229**	*e*P	Pn	19 18 22.2	+0.7
CO03				*e*S	Sn	19 19 15.8	+1.4
CO03				IAML		19 19 16.2	
	comp=Z,30nm,0.2s						
CO02	**Combarbal**	**4.91**	**228**	*e*P	Pn	19 18 27.2	+0.1
CO02				IAML		19 19 26.3	
	comp=Z,22nm,0.6s						
ASAL	**Salagasta**	**4.95**	**201**	*e*P	Pn	19 18 28.8	+1.1
ASAL				*e*S	Sn	19 19 26.1	+0.5
ASAL				IAML		19 19 28.0	
	comp=Z,18nm,0.5s						
ARCO	**CERRO ARCO**	**5.21**	**201**	*e*P	Pn	19 18 32.6	+1.5
ARCO				IAML		19 20 00.4	
	comp=Z,23nm,0.5s						
AAGR	**Agrelo**	**5.41**	**199**	*e*P	Pn	19 18 34.8	+1.2
AAGR				IAML		19 19 43.4	
	comp=Z,14nm,1.6s						

IDC ***17*** *19:17:15.9±0.8,6.41S×143.62E,h0km,mb3.7/12, mbtmp3.8/14, ML4.3/1, MS3.3/5, Error ellipse: s-maj=23.1km s-min=15.8km az=82.0*

NEIC ***17*** *19:17:19.1±1.4,6.34S±0.09×143.45E±0.08,h10km±1km, mb4.6/28, Error ellipse: s-maj=15.9km s-min=13.5km az=28.0*

ISC 17 19:17:21.7±0.5,6.45S±0.06×143.43E±0.07,h35km,n69, σ1.947/67,mb4.2/22,1D,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.72**	**129**		**Pn**	**19 18 31.0**	**+0.5**
PMG	**Port Moresby**	**4.72**	**129**	P	**Pn**	**19 18 31.0**	**+0.5**
PMG	**Port Moresby**	**4.72**	**129**	P	**Pn**	**19 18 31.1**	**+0.6**
PMG	**Port Moresby**	**4.72**	**129**	Pn	**Pn**	**19 18 28.7**	**-1.8**
	51nm,0.6s,baz=352,slow=3.2,SNR=33						
PMG				Sn	**Sn**	**19 19 21.9**	**-2.1**
	6.0nm,0.3s,baz=308,slow=17,SNR=5.7						
COEN	**Coen**	**7.46**	**182**		**Pn**	**19 19 09.6**	**+1.4**
COEN	**Coen**	**7.46**	**182**	P	**Pn**	**19 19 10.1**	**+1.9**
MTSU	**Mount Surprise**	**11.65**	**176**	P	**Pn**	**19 20 08.8**	**+3.2**
FAKI	**Fak Fak**	**11.68**	**287**	Pn	**Pn**	**19 20 05.1**	**-0.9**
FAKI	**Fak Fak**	**11.68**	**287**	P	**Pn**	**19 20 05.1**	**-0.9**
SAUI	**Saumlaki**	**12.13**	**262**	Pn	**Pn**	**19 20 11.4**	**-0.7**
KDU	**Kakadu**	**12.45**	**239**	P	**Pn**	**19 20 14.9**	**-1.6**
CTA	**Charters Tower**	**13.83**	**169**	Lg	Lg	19 24 36.7	
	0.2nm,0.3s,baz=270,slow=22,SNR=2.3						
CTA				LR	LR	19 26 31.5	
	comp=Z,156nm,19.3s,baz=1.0,slow=40						
QIS	**Mount Isa**	**14.51**	**194**	P	**Pn**	**19 20 45.3**	**+0.7**
WB0	**Warramunga Arr**	**15.88**	**213**		**Pn**	**19 21 01.2**	**-1.6**
WRA	**Warramunga Arr**	**16.06**	**212**	Pn	**Pn**	**19 21 01.9**	**-3.0**
WRA	**Warramunga Arr**	**16.06**	**212**	Pn	**Pn**	**19 21 03.2**	**-1.8**
	1.1nm,0.3s,baz=21,slow=13,SNR=35						
WRA				Sn	**Sn**	**19 23 55.6**	**-6.4**
	0.3nm,0.3s,baz=40,slow=24,SNR=2.0						
WRA				Lg	Lg	19 25 49.4	
	0.5nm,0.3s,baz=42,slow=32,SNR=4.9						
	6.4nm,0.6s						
HNR	**Honiara**	**16.63**	**101**	Pn	**Pn**	**19 21 11.8**	**-0.4**
HNR				IAmb	IAmb	19 21 17.9	
	comp=Z,61nm,0.9s						
HNR	**Honiara**	**16.63**	**101**	Pn	**Pn**	**19 21 09.3**	**-3.0**
	comp=Z,32nm,0.3s,baz=191,slow=16,SNR=1.4						
KNRA	**Kununurra**	**17.05**	**236**		**Pn**	**19 21 15.8**	**-1.8**
KNRA	**Kununurra**	**17.05**	**236**	P	**Pn**	**19 21 16.0**	**-1.6**
SOEI	**Soe**	**19.25**	**259**	P	**P**	**19 21 43.2**	**-0.3**
SOEI				IAmb	IAmb	19 22 10.5	
	comp=Z,34nm,0.9s						
AS01	**Alice Springs**	**19.39**	**207**	P	**Pn**	**19 21 47.4**	**+1.3**
AS31	**Alice Springs**	**19.41**	**207**	P	**Pn**	**19 21 47.5**	**+1.1**
ASAR	**Alice Springs**	**19.41**	**207**	P	**Pn**	**19 21 47.6**	**+1.2**
ASAR	**Alice Springs**	**19.41**	**207**	P	**P**	**19 21 46.3**	**+1.2**
	comp=Z,42nm,0.7s,baz=34,slow=9.9,SNR=387						
ASAR				Lg	Lg	19 27 32.9	
	comp=Z,0.1nm,0.3s,baz=15,slow=28,SNR=4.1						
BATI	**Baumata**	**19.90**	**258**	P	**Pn**	**19 21 52.6**	**+0.3**
	comp=Z,7.1nm,0.6s,baz=139,slow=11,SNR=2.2						
BATI				LR	LR	19 31 21.1	
	comp=Z,302nm,21.3s,baz=89,slow=42						
	comp=Z,7.1nm,0.6s						
GUMO	**Guam**	**19.96**	**4**	LR	LR	19 29 58.3	
	comp=Z,27nm,19.0s,baz=140,slow=38						
QLP	**Quilpie**	**20.04**	**178**	P	Pn	19 21 55.1	+1.4
FITZ	**Fitzroy Crossi**	**20.86**	**235**		**P**	**19 22 01.0**	**+0.2**
OOD	**Oodnadatta**	**22.46**	**198**	P	**P**	**19 22 20.6**	**+2.7**
WRKA	**Warakurna**	**23.48**	**216**	P	**P**	**19 22 28.9**	**+0.4**
TOLI2	**Tolitoli**	**23.82**	**288**	P	**P**	**19 22 32.0**	**+0.3**
TOLI2				IAmb	IAmb	19 22 46.0	
	comp=Z,9.1nm,0.8s						
LCRK	**Leigh Creek**	**24.37**	**191**	P	**P**	**19 22 37.6**	**+1.0**
STKA	**Stephens Creek**	**25.36**	**184**	P	**P**	**19 22 46.1**	**+0.5**
STKA	**Stephens Creek**	**25.36**	**184**	P	**P**	**19 22 45.0**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=353,slow=12,SNR=3.5						
	comp=Z,2.7nm,0.9s						
PLAI	**Plampang**	**25.53**	**263**	P	**P**	**19 22 47.1**	**-0.2**
BBOO	**Buckleboo**	**27.11**	**194**	P	**P**	**19 23 02.8**	**+1.4**
MBWA	**Marble Bar**	**27.20**	**235**	P	**P**	**19 23 04.2**	**+1.8**
MBWA				IAmb	IAmb	19 23 06.5	
	comp=Z,12nm,1.0s						
FORT	**Forrest**	**28.17**	**209**	P	**P**	**19 23 10.3**	**-0.7**
CAN	**Canberra**	**29.19**	**171**	P	**P**	**19 23 21.4**	**+1.4**
CAN				IAmb	IAmb	19 23 35.8	
	comp=Z,20nm,1.5s						
JHJ	**Hachijo jima 2**	**39.50**	**355**	LR	LR	19 38 36.8	
	comp=Z,38nm,21.2s,baz=311,slow=32						
KSRS	**Korea Array**	**46.01**	**343**	P	**P**	**19 25 42.0**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=182,slow=5.8,SNR=3.4						
KSRS				LR	LR	19 42 40.8	
	comp=Z,26nm,21.2s,baz=355,slow=33						
	comp=Z,0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**50.37**	**300**	P	**P**	**19 26 15.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**50.37**	**300**	P	**P**	**19 26 16.8**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=120,slow=5.2,SNR=4.1						
	comp=Z,0.2nm,0.3s						
SONM	**Songino Array**	**63.13**	**333**	P	**P**	**19 27 45.7**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=125,slow=5.0,SNR=2.3						
	comp=Z,0.2nm,0.5s						
SEY	**Seymchan**	**69.52**	**4**	P	**P**	**19 28 24.9**	**-1.6**
	comp=Z,0.5nm,0.4s,baz=141,slow=13,SNR=2.0						
	comp=Z,0.5nm,0.4s						
MK31	**Makanchi Array**	**75.61**	**322**	P	**P**	**19 29 03.9**	**+0.7**
MKAR	**Makanchi Array**	**75.61**	**322**	P	**P**	**19 29 04.2**	**+1.0**
MKAR	**Makanchi Array**	**75.61**	**322**	P	**P**	**19 29 03.4**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=105,slow=6.7,SNR=8.9						
	comp=Z,0.4nm,0.6s						
MAKZ	**Makanchi**	**75.81**	**322**	P	**P**	**19 29 04.8**	**+0.5**
ZALV	**Zalesovo Beam**	**77.53**	**329**	P	**P**	**19 29 14.2**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=110,slow=6.5,SNR=1.3						
	comp=Z,0.4nm,0.6s						
L14K	**Kuka Creek**	**79.36**	**23**	P	**P**	**19 29 24.4**	**+0.7**
KURBB	**Kurchatov Arra**	**79.48**	**324**	P	**P**	**19 29 23.6**	**-1.1**
	comp=Z,0.4nm,1.0s,baz=116,slow=4.8,SNR=2.8						
	comp=Z,0.4nm,1.0s						
K15K	**Wolf Creek Mou**	**80.36**	**23**	P	**P**	**19 29 29.4**	**+0.2**
K15K				IAmb	IAmb	19 29 39.5	
	comp=Z,12nm,1.4s						
M16K	**Timber Creek**	**80.69**	**25**	P	**P**	**19 29 31.7**	**+0.7**
M16K				IAmb	IAmb	19 29 46.0	
	comp=Z,8.9nm,1.2s						
TTA	**Tatalina**	**82.86**	**24**	P	**P**	**19 29 43.6**	**+1.1**
TTA				IAmb	IAmb	19 29 57.4	
	comp=Z,4.5nm,1.4s						
QSPA	**South Pole Qui**	**83.52**	**180**	P	**P**	**19 29 46.8**	**+0.8**
QSPA	**South Pole Qui**	**83.52**	**180**	P	**P**	**19 29 45.2**	**-0.8**
	comp=Z,2.0nm,1.1s,baz=280,slow=8.8,SNR=8.4						
	comp=Z,2.0nm,1.1s						
BVAR	**Borovoye Array**	**85.06**	**325**	P	**P**	**19 29 54.8**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=100,slow=6.7,SNR=2.7						
	comp=Z,0.5nm,0.8s						
SML	**Sawmill**	**85.60**	**26**	P	**P**	**19 29 56.2**	**-0.2**
SML				IAmb	IAmb	19 30 18.5	
	comp=Z,4.6nm,1.1s						
RND	**Reindeer**	**85.99**	**25**	P	**P**	**19 29 57.4**	**-0.9**
RND				IAmb	IAmb	19 30 14.3	
	comp=Z,6.7nm,1.2s						
ILAR	**Eielson Array**	**87.31**	**24**	P	**P**	**19 30 03.2**	**-1.4**
	comp=Z,0.9nm,0.9s,baz=261,slow=5.6,SNR=6.0						
	comp=Z,0.9nm,0.9s						
VRDI	**Verde Repeater**	**87.60**	**28**	P	**P**	**19 30 05.8**	**-0.5**
VRDI				IAmb	IAmb	19 30 18.1	
	comp=Z,4.7nm,1.4s						
C23K	**Itkillik River**	**87.95**	**18**	P	**P**	**19 30 08.3**	**+0.7**
BARN	**Barnard Glacie**	**88.38**	**28**	P	**P**	**19 30 10.3**

	baz=119							
EOS3				S	Sn	19 19 30.1	-0.7	
	baz=119							
ETLH	**Xiulin Townshi**	**0.45**	**237**	*eP*	Pn	19 19 25.2	+0.3	
	baz=236							
ETLH				*eS*	Sn	19 19 33.2	+1.3	
	baz=236							
TWD	**Chiawan**	**0.46**	**216**	P	Pn	19 19 25.1	+0.1	
	baz=215							
TWD				S	Sn	19 19 33.5	+1.5	
	baz=215							
NNSB	**Datong**	**0.47**	**267**	*eP*	Pn	19 19 26.0	+0.8	
	baz=267							
NNSB				*eS*	Sn	19 19 34.0	+1.6	
	baz=267							
NNSH	**Datong**	**0.47**	**267**	*eP*	Pn	19 19 26.5	+1.3	
	baz=267							
NNS	**Nan Shan**	**0.48**	**269**	*eP*	Pn	19 19 26.3	+1.0	
	baz=265							
NNS				*eS*	Sn	19 19 34.2	+1.5	
	baz=265							
NWLT	**Wulai**	**0.48**	**312**	*eP*	Pn	19 19 26.9	+1.5	
	baz=312							
NWLT				*eS*	Sn	19 19 34.1	+1.5	
	baz=312							
EOS4	**EOS4**	**0.51**	**131**	*eP*	Pn	19 19 24.4	-1.0	
	baz=131							
EOS4				*eS*	Sn	19 19 31.8	-0.9	
	baz=131							
TIPB	**Shuangxi**	**0.52**	**353**	P	Pn	19 19 27.0	+0.9	
	baz=358							
TIPB				*eS*	Sn	19 19 34.5	+0.8	
	baz=358							
YHNB	**Yeheng**	**0.52**	**295**	P	Pn	19 19 27.6	+1.6	
YHNB	**Yeheng**	**0.52**	**295**	*eP*	Pn	19 19 27.4	+1.3	
	baz=294							
YHNB				*eS*	Sn	19 19 35.7	+2.0	
	baz=294							
NSK	**Sanguang**	**0.54**	**295**	P	Pn	19 19 27.5	+1.2	
	baz=294							
NSK				*eS*	Sn	19 19 35.7	+1.6	
	baz=294							
TWB1	**Santiao Chiao**	**0.56**	**9**	*eS*	Sn	19 19 35.8	+1.2	
	baz=10.0							
TWA	**Mucha**	**0.60**	**332**	*eP*	Pn	19 19 29.0	+1.8	
	baz=332							
ETM	**Tongmen**	**0.61**	**217**	P	Pn	19 19 27.2	-0.1	
	baz=225							
ETM				*eS*	Sn	19 19 37.2	+1.4	
	baz=225							
LXIB	**Xiulin Townshi**	**0.61**	**226**	*eP*	Pn	19 19 27.2	-0.3	
	baz=225							
LXIB				*eS*	Sn	19 19 36.8	+0.6	
	baz=225							
FUSS	**Fushou**	**0.63**	**251**	P	Pn	19 19 28.8	+1.1	
	baz=251							
FUSS				*eS*	Sn	19 19 38.8	+2.2	
	baz=251							
TATO	**Taipei**	**0.64**	**325**	P	Pn	19 19 30.5	+2.8	
TATO	**Taipei**	**0.64**	**325**	*eP*	Pn	19 19 29.7	+2.0	
	baz=324							
TATO				*eS*	Sn	19 19 38.8	+2.3	
	baz=324							
SXI1	**Grass Mountain**	**0.64**	**358**	P	Pn	19 19 29.0	+1.3	
	baz=347							
WHF	**Hehuan Shan**	**0.65**	**242**	P	Pn	19 19 28.8	+0.6	
	baz=249							
WHF				*eS*	Sn	19 19 39.1	+1.7	
	baz=249							
TWT	**Tachien**	**0.69**	**253**	*eP*	Pn	19 19 29.9	+1.5	
	baz=252							
TWT				*eS*	Sn	19 19 40.7	+2.8	
	baz=252							
SHUL	**Shoufeng**	**0.73**	**205**	*eP*	Pn	19 19 29.7	+0.9	
	baz=194							
SHUL				*eS*	Sn	19 19 41.6	+3.0	
	baz=194							
NFF	**Wufeng Townshi**	**0.73**	**284**	*eP*	Pn	19 19 31.2	+2.4	
	baz=281							
YM01	**YM01**	**0.75**	**337**	*eP*	Pn	19 19 31.4	+2.3	
	baz=324							
ESL	**Shilin**	**0.76**	**214**	*eP*	Pn	19 19 29.1	-0.1	
	baz=223							
ESL				*eS*	Sn	19 19 40.2	+0.6	
	baz=223							
CHGB	**Renai**	**0.77**	**239**	P	Pn	19 19 30.7	+1.2	
	baz=246							
CHGB				*eS*	Sn	19 19 42.4	+2.5	
	baz=246							
TWS1	**Kuangyinshan**	**0.78**	**326**	*eP*	Pn	19 19 32.0	+2.6	
	baz=326							
LIOB	**Emei**	**0.82**	**284**	*eP*	Pn	19 19 33.0	+2.9	
	baz=283							
OWD	**Renai**	**0.82**	**233**	*eP*	Pn	19 19 31.0	+0.8	
	baz=225							
NSTT	**Nanjuang**	**0.83**	**282**	*eP*	Pn	19 19 32.8	+2.5	
	baz=281							
WUSB	**Renai**	**0.84**	**237**	P	Pn	19 19 31.8	+1.2	
	baz=226							
WUSB				S	Sn	19 19 44.3	+2.5	
	baz=226							
WARBT	**Fenglin Townsh**	**0.87**	**213**	*eP*	Pn	19 19 30.3	-0.4	
	baz=221							
WHP	**Taichung City**	**0.88**	**259**	*eP*	Pn	19 19 33.5	+2.5	
	baz=251							
EGFH	**Guangfu**	**0.89**	**209**	*eP*	Pn	19 19 30.8	-0.2	
	baz=199							
VWDT	**VWDT**	**0.98**	**225**	*eP*	Pn	19 19 33.3	+1.2	
	baz=217							
WCS	**Beigang Elemen**	**0.98**	**246**	P	Pn	19 19 34.1	+1.9	
	baz=245							
HGSD	**Ruisui**	**1.05**	**204**	*eP*	Pn	19 19 33.6	+0.4	
	baz=216							
SMLT	**Sun Moon Lake**	**1.07**	**238**	*eP*	Pn	19 19 36.4	+2.8	
	baz=230							
EHY	**Hungye**	**1.08**	**209**	*eP*	Pn	19 19 33.0	-0.6	
	baz=207							
EHY				*eS*	Sn	19 19 49.1	+1.9	
	baz=207							
SSLB	**Suanglung**	**1.08**	**233**	P	Pn	19 19 35.2	+1.5	
SSLB	**Suanglung**	**1.08**	**233**	*eP*	Pn	19 19 35.0	+1.3	
	baz=223							
SSLB				*eS*	Sn	19 19 49.5	+2.0	
	baz=223							
TYC	**Yuchr**	**1.09**	**240**	*eP*	Pn	19 19 35.5	+1.8	
	baz=233							
YULB	**Yu-li**	**1.19**	**208**	P	Pn	19 19 36.7	+1.6	
YULB	**Yu-li**	**1.19**	**208**	*eP*	Pn	19 19 34.5	-0.6	
	baz=206							
YULB				*eS*	Sn	19 19 51.3	+1.2	
	baz=206							
WHYT	**Xinyi Township**	**1.21**	**232**	P	Pn	19 19 37.6	+2.1	
	baz=225							
EYUL	**Yuli**	**1.22**	**206**	*eP*	Pn	19 19 36.8	+1.3	
	baz=215							
TWF1	**Yuli**	**1.23**	**207**	*eP*	Pn	19 19 36.6	+1.0	
	baz=215							
WJS	**Zhushan**	**1.24**	**240**	*eP*	Pn	19 19 39.1	+3.4	
	baz=225							
WJS				*eS*	Sn	19 19 56.7	+5.5	
	baz=225							
WNT	**Mingjian**	**1.25**	**243**	*eP*	Pn	19 19 40.1	+4.2	
	baz=240							
WNT				*eS*	Sn	19 19 57.6	+6.2	
	baz=240							
FULB	**Fuli**	**1.36**	**204**	*eP*	Pn	19 19 38.7	+1.2	
	baz=213							
FULB				*eS*	Sn	19 19 57.8	+3.4	
	baz=213							
CHN5	**Tsauling**	**1.40**	**233**	*eP*	Pn	19 19 41.2	+3.1	
	baz=230							
CHN5				*eS*	Sn	19 20 01.1	+5.8	
	baz=230							
EHD	**Haiduan**	**1.44**	**206**	*eP*	Pn	19 19 38.1	-0.5	
	baz=205							
ELDTW	**Lidau**	**1.49**	**213**	*eP*	Pn	19 19 40.6	+1.3	
	baz=203							
WTK	**Tuku**	**1.57**	**241**	*eP*	Pn	19 19 43.0	+2.6	
	baz=238							
WTK				*eS*	Sn	19 20 05.0	+5.6	
	baz=238							
CHN4	**Tsaushan**	**1.62**	**228**	*eP*	Pn	19 19 44.7	+3.7	
	baz=225							
TPUB	**Ta-pu**	**1.63**	**226**	P	Pn	19 19 44.7	+3.5	
TPUB	**Ta-pu**	**1.63**	**226**	*eP*	Pn	19 19 44.2	+3.0	
	baz=210							
STYH	**Taoyuan**	**1.64**	**219**	*eP*	Pn	19 19 42.5	+1.2	
	baz=217							
WTP	**Ta-pu**	**1.68**	**225**	*eP*	Pn	19 19 44.9	+3.0	
	baz=221							
WTP				*eS*	Sn	19 20 08.0	+5.8	
	baz=221							
WSF	**Szhu**	**1.73**	**242**	*eP*	Pn	19 19 45.1	+2.6	
	baz=253							
TWK	**Hsinying**	**1.75**	**228**	*eP*	Pn	19 19 46.1	+3.3	
	baz=224							
TWK				*eS*	Sn	19 20 09.7	+5.8	
	baz=224							
CHN1	**Nanshi**	**1.78**	**225**	*eS*	Sn	19 20 10.6	+6.0	
	baz=221							
SGST	**Jiashian**	**1.82**	**222**	*eP*	Pn	19 19 45.5	+1.8	
	baz=208							
SGST				*eS*	Sn	19 20 10.4	+4.9	
	baz=208							
SLGT	**Liugui**	**1.85**	**218**	*eP*	Pn	19 19 46.4	+2.2	
	baz=216							
TSCK	**Chigu Township**	**2.11**	**232**	*eP*	Pn	19 19 50.4	+2.7	
	baz=228							
TSCK				*eS*	Sn	19 20 17.1	+4.5	
	baz=228							
MASBT	**Mashibuluo**	**2.17**	**213**	*eP*	Pn	19 19 51.7	+3.1	
	baz=201							

WEL 17 19:22:36.5,42°S±4°×17°4E±°, h15km±5km, M2.5/15, mB4.3/1, ML2.8/23, MLv2.5/15, Mw(mB)3.4/1, Error ellipse: s-maj=0.0km s-min=0.0km az=122.3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.09**	**66**	P	Pg	19 22 40.2	+0.5
BSWZ	**Blackbirch Sta**	**0.18**	**293**	P	Pg	19 22 41.2	+0.3
TUWZ	**Tuamarina**	**0.38**	**342**	P	Pb	19 22 44.9	0.0
TCW	**Tory Channel**	**0.59**	**13**	P	Pb	19 22 48.4	-0.1
BHW	**Baring Head**	**0.69**	**57**	P	Pn	19 22 51.3	-0.4
WEL	**Wellington**	**0.71**	**45**	P	Pb	19 22 50.5	-0.1
KHZ	**Kahutara**	**0.75**	**213**	P	Pn	19 22 52.0	-0.6
NNZ	**Nelson**	**0.79**	**316**	P	Pb	19 22 52.0	+0.1
PLWZ	**Palliser**	**0.89**	**76**	P	Pg	19 22 54.0	+0.1
THZ	**Tophouse**	**0.89**	**271**	P	Pg	19 22 54.2	+0.3
DUWZ	**D'Urville Isla**	**0.99**	**352**	P	Pb	19 22 55.5	+0.1
CAW	**Cannon Point**	**0.99**	**47**	P	Pn	19 22 56.1	+0.2
PAWZ	**Paruwai Farm**	**1.07**	**68**	P	Pb	19 22 56.7	-0.1
MRNZ	**Matariki Terra**	**1.08**	**291**	P	Pg	19 22 57.7	+0.3
KIW	**Kapiti Island**	**1.11**	**34**	P	Pg	19 22 57.9	0.0
TKNZ	**Takaka Hill**	**1.14**	**311**	P	Pg	19 22 58.5	-0.1
MTW	**Mount Morrison**	**1.23**	**60**	P	Pn	19 22 58.7	-0.4
OGWZ	**Otaki Gorge**	**1.26**	**40**	P	Pb	19 23 00.1	+0.1
GVZ	**Greta Valley S**	**1.42**	**213**	P	Pb	19 23 02.7	0.0
TMWZ	**Te Maipa**	**1.51**	**64**	P	Pn	19 23 02.3	-0.7
QRZ	**Quartz Range**	**1.52**	**309**	P	Pb	19 23 04.9	+0.4
MRZ	**Mangatainoka R**	**1.58**	**45**	P	Pn	19 23 04.0	0.0
LTZ	**Lake Taylor**	**1.68**	**233**	P	Pn	19 23 05.6	+0.2
TIWZ	**Tintock**	**1.68**	**54**	P	Pn	19 23 05.6	+0.1
DSZ	**Denniston Nort**	**1.72**	**271**	P	Pb	19 23 07.7	-0.1
WAZ	**Wanganui**	**2.14**	**19**	P	Pb	19 23 16.0	+1.1
INZ	**Inchbonnie**	**2.18**	**244**	P	Pn	19 23 13.6	+1.3
MQZ	**McQueen's Vall**	**2.19**	**209**	P	Pn	19 23 10.5	-1.9
KHEZ	**Kahui Hut**	**2.49**	**358**	P	Pb	19 23 21.6	+0.6
MHCZ	**Mount Hutt**	**2.56**	**226**	P	Pn	19 23 16.5	-0.9
PKE	**Pukeiti**	**2.59**	**358**	P	Pg	19 23 24.8	-1.5
WVZ	**Waitaha Valley**	**2.80**	**242**	P	Pn	19 23 21.7	+0.9
NGZ	**Ngauruhoe**	**2.85**	**24**	P	Pb	19 23 28.4	+1.3
OTVZ	**Oturere**	**2.88**	**25**	P	Pb	19 23 26.9	-0.8
NNVZ	**North Ngauruho**	**2.89**	**24**	P	Pb	19 23 28.8	+0.8
WTVZ	**West Tongariro**	**2.90**	**24**	P	Pb	19 23 29.5	+1.5
ETVZ	**East Tongariro**	**2.92**	**25**	P	Pb	19 23 29.6	+1.2
LBZ	**Lake Benmore**	**3.87**	**227**	P	Pn	19 23 38.6	+3.1
RVAZ	**Riverhead Bore**	**5.02**	**4**	P	Pn	19 23 56.1	+4.7

*IDC **17** 19:30:58.9±0.8, 28°.03N×104°.69E, h0km, mb4.0/14, mbtmp4.0/16, ML3.8/2, MS3.2/2, Error ellipse: s-maj=21.5km s-min=15.2km az=55.0*
*NEIC **17** 19:31:04.8±1.2, 28°.10N±0°.10×104°.69E±0°.09, h32km±6km, mb4.2/22, Error ellipse: s-maj=14.4km s-min=11.2km az=160.0*
ISC 17 19:31:01.9±0.5, 28°.11N±0°.04×104°.91E±0°.05, h10km, n53, σ1§68/58, mb4.1/24, 1C-1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.96**	**341**	Pn	**Pn**	**19 31 49.5**	**+0.5**
CD2				Pg	**Pb**	**19 31 56.8**	**+2.0**
CD2				Sn	**Sn**	**19 32 25.3**	**+0.6**
CD2				Sg	**Sb**	**19 32 33.0**	**+1.8**
CD2				smax	smax		
	comp=N,610nm,0.6s						
CD2				smax	smax		
	comp=E,1μm,0.7s						
PZH	**PanZhiHua**	**3.24**	**241**	Pn	**Pn**	**19 31 53.1**	**+0.3**
PZH				P*	**Pb**	**19 31 59.4**	**-0.1**
PZH				Pg	**Pg**	**19 32 03.9**	**0.0**
PZH				Sn	**Sn**	**19 32 32.8**	**+1.3**
PZH				Sg	**Sb**	**19 32 41.8**	**+2.8**
PZH				smax	smax		
	comp=N,150nm,1.1s						
PZH				smax	smax		
	comp=E,150nm,1.2s						
PZH				LR	LR		
	comp=N,480nm,4.1s						
PZH				LR	LR		
	comp=E,590nm,6.0s						
PZH				LR	LR		
	comp=Z,510nm,6.3s						
ENH	**Enshi**	**4.55**	**61**		**Pn**	**19 32 14.3**	**+3.5**
TNCH	**TengChong**	**6.49**	**243**	Pn	**Pn**	**19 32 38.0**	**+0.4**
TNCH				Pg	Pb	19 33 01.5	+6.5
TNCH				Sn	**Sn**	**19 33 58.3**	**+6.5**
TNCH				Sg	**Sb**	**19 34 14.4**	**+1.7**
TNCH				smax	smax		
	comp=N,66nm,1.4s						
TNCH				smax	smax		
	comp=E,41nm,1.6s						
TNCH				LR	LR		
	comp=N,260nm,4.8s						
TNCH				LR	LR		
	comp=E,180nm,5.6s						
CNSH	**ChangSha**	**7.09**	**88**	⇓P	**Pn**	**19 32 48.3**	**+2.7**
CNSH				S	**Sn**	**19 34 05.8**	**-0.5**
CNSH				smax	smax		
	comp=N,71nm,0.9s						
CNSH				smax	smax		
	comp=E,85nm,0.6s						
LZH	**Lanzhou**	**8.01**	**354**	Pn	**Pn**	**19 33 02.0**	**+3.6**
LZH				Pg	**Pb**	**19 33 21.0**	**+0.2**
LZH				Sg	Sb	19 35 11.0	+15
LZH				smax	smax		
	comp=N,34nm,1.4s						
LZH				smax	smax		
	comp=E,37nm,1.4s						
WHN	**Wuhan**	**8.59**	**71**	⇑P	**Pn**	**19 33 08.8**	**+2.5**
MND	**Mandalay**	**10.01**	**235**	Pn	**Pn**	**19 33 23.5**	**-2.2**
CMAR	**Chiang Mai Arr**	**11.05**	**211**	Pn	Pn	19 33 36.5	-3.6
	comp=E,0.1nm,0.3s,baz=16,slow=11,SNR=1.4						
CMAR				LR	LR	19 38 24.2	
	comp=E,40nm,18.3s,baz=230,slow=41						
	comp=E,0.3nm,0.3s						
LSA	**Lhasa**	**12.16**	**281**	Pn	Pn	19 33 52.0	-3.5
UBPT	**Khong Chiam**	**12.78**	**178**		**Pn**	**19 34 04.7**	**+1.1**
SONM	**Songino Array**	**19.73**	**3**		**P**	**19 35 32.5**	**+0.8**
SONM	**Songino Array**	**19.73**	**3**	P	**P**	**19 35 32.5**	**+0.8**
	comp=E,0.5nm,0.3s,baz=188,slow=11,SNR=17						
	comp=E,1.3nm,0.4s						
WMQ	**Urumqi**	**20.91**	**323**	*eP*	**P**	**19 35 45.1**	**+0.6**
KS19	**Wonju Array Si**	**21.41**	**58**	P	**P**	**19 35 50.2**	**+0.3**
KS19				IAmb	IAmb	19 36 04.5	
	comp=Z,12nm,1.3s						
KSRS	**Korea Array**	**21.44**	**58**	P	**P**	**19 35 49.8**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=241,slow=11,SNR=16						
	comp=Z,2.2nm,0.6s						
JNU	**Nakatsue**	**22.88**	**71**	P	**P**	**19 36 06.4**	**+0.8**
JNU				IAmb	IAmb	19 36 08.0	
	comp=Z,12nm,0.9s						
MK31	**Makanchi Array**	**25.73**	**323**	P	**P**	**19 36 31.3**	**-1.2**
MKAR	**Makanchi Array**	**25.73**	**323**	P	**P**	**19 36 31.3**	**-1.2**
MKAR	**Makanchi Array**	**25.73**	**323**	P	**P**	**19 36 31.4**	**-1.0**
	comp=Z,1.7nm,0.6s,baz=122,slow=12,SNR=16						
	comp=Z,1.7nm,0.6s						
MAKZ	**Makanchi**	**25.91**	**322**	P	**P**	**19 36 32.8**	**-1.3**
USRK	**Ussuriysk Ar.**	**26.96**	**46**	P	**P**	**19 36 43.8**	**+0.2**
	comp=Z,6.2nm,0.7s,baz=247,slow=8.6,SNR=8.2						
	comp=Z,6.2nm,0.7s						
ZALV	**Zalesovo Beam**	**29.72**	**336**	P	**P**	**19 37 06.4**	**-1.7**
ZALV	**Zalesovo Beam**	**29.72**	**336**	P	**P**	**19 37 06.8**	**-1.3**
	comp=Z,1.2nm,0.6s,baz=142,slow=8.0,SNR=5.7						
	comp=Z,1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**30.07**	**326**	P	**P**	**19 37 09.6**	**-1.6**
	comp=Z,1.3nm,0.8s,baz=132,slow=9.3,SNR=15						
	comp=Z,1.3nm,0.8s						
KURK	**Kurchatov**	**30.08**	**326**	P	**P**	**19 37 09.7**	**-1.6**
KURK				IAmb	IAmb	19 37 12.2	
	comp=Z,3.0nm,0.9s						
BVAR	**Borovoye Array**	**35.59**	**324**	P	**P**	**19 37 57.4**	**-2.0**
	comp=Z,0.4nm,0.5s,baz=120,slow=6.1,SNR=5.7						
	comp=Z,0.4nm,0.5s						
YAK	**Yakutsk**	**37.68**	**19**	LR	LR	19 55 58.6	
	comp=Z,93nm,18.9s,baz=118,slow=40						
GEYT	**Alibeck**	**40.08**	**296**	P	**P**	**19 38 35.2**	**-2.4**
GEYT				IAmb	IAmb	19 38 38.2	
	comp=Z,2.4nm,0.8s						
GEYT	**Alibeck**	**40.08**	**296**	P	P	19 38 34.5	-3.1
	comp=Z,1.2nm,0.6s,baz=116,slow=6.6,SNR=2.8						
	comp=Z,1.2nm,0.6s						
ABKAR	**Akbulak array**	**40.22**	**314**	P	**P**	**19 38 36.8**	**-1.7**
ABKAR	**Akbulak array**	**40.22**	**314**	P	**P**	**19 38 36.5**	**-1.9**
ABKAR				IAmb	IAmb	19 38 54.1	
	comp=Z,2.3nm,1.4s						
NRIK	**Noril'sk**	**42.49**	**351**		**P**	**19 38 56.1**	**-0.7**
NRIK	**Noril'sk**	**42.49**	**351**	P	**P**	**19 38 55.9**	**-0.9**
	comp=Z,6.2nm,0.3s,baz=134,slow=6.3,SNR=16						
	comp=Z,6.2nm,0.3s						
TIXI	**Tiksi**	**45.55**	**10**	P	**P**	**19 39 20.9**	**-0.5**
TIXI				IAmb	IAmb	19 39 21.8	
	comp=Z,4.7nm,0.7s						
KBZ	**Khabaz**	**51.44**	**305**	P	**P**	**19 40 05.1**	**-2.0**
	comp=Z,1.6nm,1.0s,baz=120,slow=8.5,SNR=3.5						
	comp=Z,1.6nm,1.0s						
WB0	**Warramunga Arr**	**55.49**	**146**	P	**P**	**19 40 36.2**	**-1.0**
WRA	**Warramunga Arr**	**55.61**	**146**	P	**P**	**19 40 37.6**	**-0.4**
WRA	**Warramunga Arr**	**55.61**	**146**	P	**P**	**19 40 36.6**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=334,slow=8.5,SNR=12						
	comp=Z,1.3nm,0.7s						
AS31	**Alice Springs**	**58.58**	**149**	P	**P**	**19 40 58.6**	**-0.4**
AS31				IAmb	IAmb	19 41 04.0	
	comp=Z,2.1nm,1.1s						
ASAR	**Alice Springs**	**58.58**	**149**	P	**P**	**19 40 58.3**	**-0.7**
ASAR	**Alice Springs**	**58.58**	**149**	P	**P**	**19 40 58.6**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=327,slow=6.7,SNR=15						
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**58.86**	**301**	P	P	19 40 57.8	-3.2
	comp=Z,0.6nm,0.8s,baz=120,slow=9.0,SNR=5.2						
	comp=Z,0.6nm,0.8s						
MLR	**Muntele Rosu**	**63.12**	**309**	P	**P**	**19 41 29.4**	**-0.5**
BURAR	**Bucovina Array**	**63.12**	**312**	P	P	19 41 27.3	-2.5
BURAR				IAmb	IAmb	19 41 46.2	
	comp=Z,3.0nm,1.4s						
C16K	**Lisburne Hills**	**64.12**	**24**	P	**P**	**19 41 35.8**	**-0.1**
C16K				IAmb	IAmb	19 41 39.9	
	comp=Z,4.3nm,1.5s						
C18K	**Utukok River**	**65.54**	**24**	P	**P**	**19 41 45.4**	**+0.2**
C18K				IAmb	IAmb	19 42 07.2	
	comp=Z,2.2nm,1.1s						
C19K	**Lookout Ridge**	**65.98**	**23**	P	**P**	**19 41 48.6**	**+0.5**
C19K				IAmb	IAmb	19 41 50.5	
	comp=Z,1.8nm,0.8s						
M17K	**Holitna River**	**69.25**	**31**	P	**P**	**19 42 09.8**	**+1.0**
NEA2	**Nenana**	**71.48**	**26**	P	**P**	**19 42 22.8**	**+0.4**
NEA2				IAmb	IAmb	19 42 24.1	
	comp=Z,2.0nm,0.8s						
BMAR	**Burnt Mountain**	**71.77**	**22**	P	**P**	**19 42 24.9**	**+0.7**
INK	**Inuvik**	**74.74**	**19**	P	**P**	**19 42 41.2**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=351,slow=4.9,SNR=3.3						
	comp=Z,1.3nm,0.7s						
YKA	**Yellowknife Ar**	**84.34**	**17**	P	**P**	**19 43 32.7**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=328,slow=4.2,SNR=7.3						
	comp=Z,0.4nm,0.5s						

*NEIC **17** 19:31:10.9±0.7, 53°.71N±0°.05×166°.23W±0°.04, h16km±10km, ML3.1(AEIC), Error ellipse: s-maj=8.3km s-min=1.4km az=157.0*
*AEIC **17** 19:31:10.9±2.1, 53°.79N±0°.04×166°.29W±0°.03, h7km±7km, Error ellipse: s-maj=5.7km s-min=1.1km az=159.0*
ISC 17 19:31:10.5±1.5, 53°.70N±0°.07×166°.21W±0°.04, h12km±10km, n36, σ0§99/43, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.23**	**311**		**Pb**	**19 31 17.9**	**+1.3**
UNV	**Unalaska Valle**	**0.23**	**311**	P	**Pg**	**19 31 15.1**	**-0.2**
	baz=114						
UNV				S	**Pb**	**19 31 17.9**	**+1.3**
	baz=114						
MSW	**Makushin Switc**	**0.41**	**303**		**Pg**	**19 31 18.5**	**0.0**
MSW					**Sb**	**19 31 23.7**	**-2.0**
MGOD	**Makushin Gods**	**0.41**	**284**		**Pg**	**19 31 18.8**	**+0.2**
ZRO	**Akutan Zero**	**0.42**	**19**		**Pg**	**19 31 18.9**	**+0.1**
AKBBA	**Akutan Broad B**	**0.44**	**22**		**Pg**	**19 31 19.4**	**+0.3**
AKRB	**Akutan Reef Bi**	**0.44**	**11**		**Pb**	**19 31 19.5**	**-0.7**
AKRB					**Sb**	**19 31 25.6**	**-1.3**
MAPS	**Pakushin South**	**0.45**	**285**		**Pg**	**19 31 19.5**	**+0.1**
LVA	**Lava Point**	**0.48**	**12**		**Pg**	**19 31 19.6**	**-0.2**
LVA					**Sb**	**19 31 26.2**	**-1.6**
AHB	**Akutan Harbor**	**0.48**	**29**		**Pg**	**19 31 20.3**	**+0.3**
AKUT	**Akutan**	**0.51**	**30**	Pg	**Pg**	**19 31 20.8**	**+0.3**
AKUT				Sg	**Sb**	**19 31 27.7**	**-1.1**
AKSA	**Akutan Strait**	**0.54**	**34**		**Pg**	**19 31 20.9**	**-0.1**
AKSA					**Sg**	**19 31 27.9**	**-0.2**
AKSA	**Akutan Strait**	**0.54**	**34**		**Pg**	**19 31 20.9**	**-0.1**
OKFG	**Magazine Ridge**	**1.06**	**255**		**Pb**	**19 31 30.5**	**-0.2**
OKFG					**Sn**	**19 31 45.5**	**-0.2**
OKER	**Okmok East Rim**	**1.13**	**258**		**Pb**	**19 31 31.8**	**-0.1**
OKNC	**Okmok New Cone**	**1.17**	**259**		**Pb**	**19 31 32.3**	**-0.3**
WECS	**Westdahl Cape**	**1.19**	**45**		**Pb**	**19 31 32.5**	**-0.5**
OKWE	**Okmok W'ng Wal**	**1.23**	**260**		**Pn**	**19 31 33.4**	**-0.2**
WESE	**West Dahl East**	**1.23**	**50**		**Pn**	**19 31 33.4**	**-0.2**
NIKH	**Nikolski High**	**1.75**	**247**		**Pn**	**19 31 40.9**	**+0.4**
**NIKH

baz=170
FALS S Sb 19 32 26.1 +1.2
baz=170
ISNN Isanotski Nort 1.45 341 Pb 19 32 07.4 -0.5
ISNN Sb 19 32 27.9 +2.0
WECS Westdahl Cape 1.51 316 Pn 19 32 07.2 -0.1
WECS Sb 19 32 27.4 -0.3
AKUT Akutan 1.80 293 Pn **Pn 19 32 10.1 -1.0**
AKUT **Sn** 19 32 32.8 -0.4
AKUT IAML 19 32 49.3
comp=E,693nm,0.8s
AKBBA Akutan Broad B 1.87 291 Pn 19 32 11.7 -0.5
LVA Lava Point 1.95 292 Pn 19 32 13.6 +0.3
PN7A Pavlof North-7 2.05 16 Pn 19 32 16.0 +1.4
PS1A Pavlof South-1 2.08 19 Pn 19 32 16.2 +1.1
UNV Unalaska Valle 2.14 282 Pn 19 32 14.6 -1.3
UNV Unalaska Valle 2.14 282 Sn 19 32 41.0 -0.7
UNV Unalaska Valle 2.14 282 P **Pn 19 32 15.0 -0.8**
baz=101
UNV S **Sn 19 32 41.0 -0.7**
baz=101
S12K Black Hills 2.30 13 Pn **Pn 19 32 19.1 +1.0**
S12K IAML 19 33 12.9
comp=N,607nm,0.7s
S12K Black Hills 2.30 13 P **Pn 19 32 19.4 +1.3**
baz=193
MSW Makushin Switc 2.32 283 Pn 19 32 18.4 +0.1
SDPT Sand Point 2.38 37 Pn **Pn 19 32 19.7 +0.6**
SDPT IAML 19 32 52.8
comp=E,964nm,0.7s
SDPT IAML 19 32 54.3
comp=N,916nm,1.3s
SDPT Sand Point 2.38 37 P **Pn 19 32 19.9 +0.8**
baz=218
CNBA Chernabura Isl 2.40 54 Pn 19 32 19.0 -0.4
CHNA Chernabura Isl 2.41 54 P **Pn 19 32 19.3 -0.2**
baz=235
VNKR Veniaminof 5 3.31 38 Pn 19 32 33.2 +1.3
VNSG Veniaminof 6 3.48 39 Pn 19 32 35.2 +0.9
NIKH Nikolski High 3.58 264 Pn 19 32 34.3 -1.3
NIKH Nikolski High 3.58 264 P **Pn 19 32 34.5 -1.0**
baz=81
CHGN Chignik 3.87 41 Pn **Pn 19 32 40.1 +0.6**
CHGN IAML 19 33 25.3
comp=N,165nm,0.5s
CHGN IAML 19 33 38.0
comp=E,208nm,0.7s
CHGN Chignik 3.87 41 P **Pn 19 32 40.6 +1.0**
baz=224
CLCO Concord Point, 4.13 263 Pn 19 32 42.1 -1.0
ANNW Aniakchak Nort 4.44 36 Pn 19 32 48.9 +1.5
CHIR Chirikof Islan 4.87 58 Pn 19 32 52.8 -0.6
CHIR Chirikof Islan 4.87 58 P **Pn 19 32 53.0 -0.3**
baz=243
O14K Tigyukauivet M 5.88 9 Pn 19 33 08.2 +1.1
O14K Tigyukauivet M 5.88 9 P **Pn 19 33 07.9 +0.8**
baz=190
SII Sitkinak Islan 5.92 55 Pn **Pn 19 33 07.4 -0.4**
SII Sitkinak Islan 5.92 55 P **Pn 19 33 07.7 -0.1**
O15K Ungalikthiuk R 5.98 16 Pn 19 33 09.3 +0.7
O15K Ungalikthiuk R 5.98 16 P **Pn 19 33 09.3 +0.7**
baz=198
P16K Nushagak River 6.23 24 Pn 19 33 13.0 +1.1
P16K Nushagak River 6.23 24 P **Pn 19 33 13.0 +1.1**
baz=208
Q17K Contact Creek 6.24 37 P **Pn 19 33 12.8 +0.6**
baz=222
CNTC Contact Creek 6.24 37 Pn 19 33 12.8 +0.6
ANCK Angle Creek 6.34 39 Pn 19 33 14.4 +0.9
ACHA Angle Creek He 6.41 39 Pn 19 33 15.1 +0.6
N14K Kuskokwak Cree 6.51 6 Pn 19 33 16.9 +1.1
N14K Kuskokwak Cree 6.51 6 P **Pn 19 33 16.9 +1.1**
baz=187
KVTA Katmai Vly 10 6.54 38 Pn 19 33 17.2 +1.0
KAKN Katmai Knife C 6.57 39 Pn 19 33 17.0 +0.3
OHAK Old Harbor 6.68 52 Pn **Pn 19 33 17.4 -0.6**
OHAK Old Harbor 6.68 52 P **Pn 19 33 17.1 -1.0**
O16K Kokwok River B 6.70 22 Pn 19 33 18.9 +0.5
O16K Kokwok River B 6.70 22 P **Pn 19 33 19.2 +0.8**
baz=206
P17K Kvichak River 6.79 30 Pn 19 33 20.1 +0.5
P17K Kvichak River 6.79 30 P **Pn 19 33 20.1 +0.5**
baz=215
N15K Kwethluk River 6.90 12 Pn **Pn 19 33 22.4 +1.2**
N15K Kwethluk River 6.90 12 P **Pn 19 33 22.5 +1.3**
baz=194
ATKA Atka Island 6.92 264 Pn 19 33 20.8 -0.7
M13K Dall Lake 6.97 358 Pn 19 33 21.1 -1.0
M13K Dall Lake 6.97 358 P **Pn 19 33 23.6 +1.5**
baz=178
O17K Koliganek Bris 7.10 25 Pn 19 33 24.9 +1.0
O17K Koliganek Bris 7.10 25 P **Pn 19 33 24.9 +1.0**
baz=209
KDAK Kodiak Island 7.29 49 Pn **Pn 19 33 25.1 -1.4**
KDAK Kodiak Island 7.29 49 Pn **Pn 19 33 24.0 -2.5**
comp=E,1.4nm,0.3s,baz=227,slow=5.9,SNR=16
KDAK Sn **Sn 19 34 43.8 -4.6**
comp=E,1.1nm,0.3s,baz=12,slow=23,SNR=7.2
comp=E,5.5nm,0.5s
P18K Big Mountain, 7.32 33 Pn 19 33 28.1 +1.1
P18K Big Mountain, 7.32 33 P **Pn 19 33 28.1 +1.1**
baz=219
M14K Bethel 7.32 4 Pn **Pn 19 33 27.9 +0.9**
M14K Bethel 7.32 4 P **Pn 19 33 27.7 +0.8**
baz=185
M15K Kasigluk River 7.35 9 Pn 19 33 28.2 +0.9
M15K Kasigluk River 7.35 9 P **Pn 19 33 28.3 +0.9**
baz=191
N16K Nishlik Lake 7.39 16 Pn 19 33 29.1 +1.2
N16K Nishlik Lake 7.39 16 P **Pn 19 33 29.1 +1.2**
baz=200
Q19K Cape Douglas, 7.54 40 Pn 19 33 29.4 -0.7
Q19K Cape Douglas, 7.54 40 P **Pn 19 33 30.6 +0.6**
baz=227
O18K Koktuh Hills 7.69 31 Pn 19 33 33.4 +1.4
O18K Koktuh Hills 7.69 31 P **Pn 19 33 33.3 +1.2**
baz=217
N17K Nushagak Hills 7.75 22 Pn 19 33 33.5 +0.7
N17K Nushagak Hills 7.75 22 P **Pn 19 33 33.8 +1.0**
baz=206
Q20K Shuyak Island 7.84 45 P **Pn 19 33 34.1 0.0**
baz=233
SYI Shuyak Island 7.84 45 Pn 19 33 34.2 +0.1
M16K Timber Creek 7.88 14 Pn 19 33 35.4 +0.9
M16K Timber Creek 7.88 14 P **Pn 19 33 35.3 +0.8**
baz=198
L14K Kuka Creek 7.90 1 Pn 19 33 36.2 +1.4
L14K Kuka Creek 7.90 1 P **Pn 19 33 35.9 +1.1**
baz=181
GSCK Great Sitkin C 8.15 265 Pn 19 33 36.9 -1.4
N18K Kilae Creek 8.19 25 Pn 19 33 40.3 +1.4
N18K Kilae Creek 8.19 25 P **Pn 19 33 39.8 +1.0**
baz=211
L15K Ungalak Mounta 8.27 5 Pn 19 33 40.6 +0.7
L15K Ungalak Mounta 8.27 5 P **Pn 19 33 40.6 +0.7**
baz=186
L16K Owhat River 8.47 11 Pn **Pn 19 33 42.7 0.0**
L16K Owhat River 8.47 11 P **Pn 19 33 42.8 +0.1**
baz=194
M17K Holitna River 8.49 18 Pn 19 33 43.8 +0.9
M17K Holitna River 8.49 18 P **Pn 19 33 43.8 +0.9**
baz=203
ADK Adak 8.49 265 Pn **Pn 19 33 42.5 -0.5**
ADK Adak 8.49 265 P **Pn 19 33 42.5 -0.5**
IVE Iliamna Volcan 8.53 36 Pn 19 33 44.3 +0.6
SVW2 Sparrevohn 8.62 25 Pn **Pn 19 33 45.4 +0.6**
SVW2 Sparrevohn 8.62 25 P **Pn 19 33 46.9 +2.1**
N19K Bonanza Creek 8.68 29 Pn 19 33 47.1 +1.4
KIWB Kanaga Island 8.78 265 Pn **Pn 19 33 46.6 -0.3**
K15K Wolf Creek Mou 8.88 4 Pn 19 33 49.2 +0.8
K15K Wolf Creek Mou 8.88 4 P **Pn 19 33 48.9 +0.5**
baz=186
M18K Stony River 8.91 23 Pn 19 33 49.1 +0.4
M18K Stony River 8.91 23 P **Pn 19 33 49.1 +0.4**
baz=208
L17K Donlin 9.04 14 Pn 19 33 50.8 +0.3
L17K Donlin 9.04 14 P **Pn 19 33 50.8 +0.3**
baz=198
RDT Redoubt 9.15 35 Pn 19 33 51.6 -0.4
J14K Nanvaranak Lak 9.31 358 Pn 19 33 53.9 -0.3
L18K Granite Mounta 9.39 18 Pn 19 33 55.9 +0.7
M19K Big River Lodg 9.61 25 Pn 19 33 59.4 +1.0
N20K Mount Spurr 9.68 33 P **Pn 19 33 59.1 -0.2**
baz=221
SPCR Spurr Chakacha 9.68 33 Pn 19 33 59.1 -0.2
L19K White Mountain 9.74 23 Pn 19 34 00.5 +0.4
L19K White Mountain 9.74 23 P **Pn 19 34 00.3 +0.2**
baz=210
SPCP Crater Peak Br 9.74 32 Pn 19 34 00.0 -0.3
J16K Anvik River 9.92 6 Pn 19 34 02.8 +0.2
TTA Tatalina 10.16 18 Pn 19 34 06.5 +0.5
TTA Tatalina 10.16 18 P **Pn 19 34 06.6 +0.6**
TTA Tatalina 10.16 18 P **Pn 19 34 06.5 +0.5**
SUA Susitna One 10.35 34 Pn **Pn 19 34 08.5 -0.1**
J18K Innoko River 10.54 15 Pn 19 34 11.4 +0.4
K20K Telida 10.94 22 Pn 19 34 16.9 +0.3
AMKA Amchitka 11.03 266 Pn **Pn 19 34 15.9 -1.9**
KNK Knik Glacier 11.13 39 Pn 19 34 18.0 -1.2
CUT Chulitna 11.19 32 Pn 19 34 19.8 -0.1
GHO Glory Hole Cre 11.20 36 Pn 19 34 18.3 -1.7
ANM Nome 11.20 355 Pn **Pn 19 34 20.1 +0.1**
ANM Nome 11.20 355 P **Pn 19 34 20.1 +0.1**
J19K Poorman 11.21 17 Pn 19 34 20.2 0.0
HIN Hinchinbrook I 11.34 46 Pn 19 34 20.9 -1.0
CAST Castle Rocks 11.47 25 Pn **Pn 19 34 24.2 +0.5**
J20K Nowinta River 11.65 19 Pn **Pn 19 34 26.0 -0.2**
SCM Sheep Creek Mo 11.82 39 Pn 19 34 26.2 -2.3
SCM Sheep Creek Mo 11.82 39 P **Pn 19 34 26.3 -2.3**
KTH Kantishna Hill 11.88 27 Pn **Pn 19 34 29.6 +0.1**
H18K Honhosa River 11.95 9 Pn 19 34 30.8 +0.5
G16K Koyuk River 11.97 1 Pn 19 34 31.4 +0.9
KAIM Kayak Island 12.04 50 Pn 19 34 30.5 -1.1
RAGM Ragged Mountai 12.13 48 Pn 19 34 31.9 -0.9
KLU Klutina 12.16 42 Pn 19 34 32.0 -1.3
HMT Hamilton 12.29 49 Pn 19 34 34.0 -0.9
F15K North Star Dit 12.31 357 Pn **Pn 19 34 36.4 +1.2**
N25K Chitina, Valde 12.76 43 Pn **Pn 19 34 40.3 -1.0**
SNH Sunshine Point 12.87 51 Pn **Pn 19 34 42.4 -0.5**
WAX Waxell Ridge 12.97 49 Pn 19 34 43.4 -0.9
I21K Tanana 12.99 21 Pn 19 34 44.4 0.0
GLB Gilahina Butte 13.00 44 Pn **Pn 19 34 43.1 -1.6**
VRDI Verde Repeater 13.05 46 Pn **Pn 19 34 44.5 -0.9**
MLY Manley 13.14 23 Pn **Pn 19 34 46.9 +0.4**
H21K Melozitna Rive 13.24 19 Pn 19 34 48.3 +0.5
ISLE Juniper Island 13.27 49 Pn 19 34 47.6 -0.8
MESA MESA 13.28 51 Pn **Pn 19 34 48.9 +0.2**
MCARA McCarthy VSAT 13.30 46 Pn 19 34 49.2 +0.4
IMAR Indian Mountai 13.36 16 Pn **Pn 19 34 47.2 -2.4**
WRH Wood River Hil 13.39 29 Pn **Pn 19 34 46.7 -3.2**
I23K Minto, Yukon-K 13.57 25 Pn 19 34 50.9 -1.4
F19K Shaleruckik Mo 13.65 9 Pn 19 34 53.6 +0.2
TABL Table Mountain 13.75 51 Pn 19 34 55.2 +0.1
BARN Barnard Glacie 13.76 48 Pn 19 34 54.5 -0.6
COLA College 13.76 28 *i* P **Pn 19 34 52.3 -2.6**
CTGM Chitina Glacie 13.86 49 Pn 19 34 55.5 -1.0
G21K Allakaket 13.89 16 Pn 19 34 58.6 +1.8
IL31 13.96 29 Pn 19 34 55.2 -2.4
ILAR Eielson Airray 13.96 29 Pn Pn 19 34 53.1 -4.6
comp=E,0.2nm,0.3s,baz=219,slow=12,SNR=11
ILAR PcP **PcP 19 40 18.5 +0.7**
comp=E,0.5nm,0.5s,baz=281,slow=3.5,SNR=5.5
ILAR LR LR 19 41 05.9
comp=E,353nm,18.6s,baz=232,slow=41
comp=E,1.1nm,0.7s
M27K Edge Creek, AK 14.24 43 Pn 19 35 01.6 -0.1
E19K Redstone River 14.31 9 Pn 19 35 05.1 +2.7
BCPM Bancas Point 14.31 54 Pn **Pn 19 35 02.5 0.0**
PNL Peninsula 14.35 55 P **Pn 19 35 03.4 +0.4**
SCRK Sand Creek 14.35 35 Pn **Pn 19 35 00.3 -2.9**
L27K Beaver Creek, 14.62 41 Pn 19 35 05.4 -1.4
BCAR Beaver Creek A 14.64 41 Pn **Pn 19 35 05.5 -1.5**
C16K Lisburne Hills 14.90 357 Pn 19 35 12.6 +2.2
O29M Mount Kennedy 14.92 53 Pn 19 35 11.5 +0.6
P29M Windy Craggy 15.15 56 Pn 19 35 14.8 +0.9
P29M IAmb IAmb 19 35 26.8
comp=Z,21nm,0.7s
HYT Haines Junctio 15.57 52 Pn **Pn 19 35 20.1 +0.5**
HYT IAmb IAmb 19 35 30.3
comp=Z,17nm,0.8s
E22K Anaktuvuk Pass 15.64 16 Pn **Pn 19 35 21.2 +1.0**
E22K IAmb IAmb 19 35 26.6
comp=Z,31nm,0.9s
S31K Pelican 15.66 63 Pn **Pn 19 35 19.8 -0.7**
S31K IAmb IAmb 19 35 21.6
comp=Z,16nm,0.8s
M29M Somme Creek 15.71 45 Pn 19 35 21.0 -0.3
M29M IAmb IAmb 19 35 30.6
comp=Z,43nm,0.8s
C19K Lookout Ridge 15.77 4 Pn 19 35 21.9 -0.1
EGAK Eagle 15.82 36 Pn **Pn 19 35 20.2 -2.3**
DAWY Dawson 16.07 39 Pn **Pn 19 35 24.6 -1.2**
O30N Mendenhall 16.23 53 Pn 19 35 28.4 +0.6
SKAG Skagway 16.32 57 Pn 19 35 30.4 +1.4
TOLK Toolik Lake Re 16.48 17 Pn **Pn 19 35 31.6 +0.7**
R32K Eaglecrest 16.60 62 Pn **Pn 19 35 33.0 +0.5**
JIS Juneau Island 16.67 62 Pn **Pn 19 35 33.9 +0.6**
K29M Barlow Dome 16.69 42 Pn **Pn 19 35 33.6 -0.1**
K29M IAmb IAmb 19 35 40.6
comp=Z,52nm,0.8s
WHY Whitehorse 16.78 53 Pn 19 35 35.5 +0.6
WHY IAmb IAmb 19 35 43.0
comp=Z,26nm,0.9s
D24K Happy Valley 17.06 17 Pn 19 35 38.2 0.0
D24K IAmb IAmb 19 35 51.7
comp=Z,32nm,0.8s
P32M Atlin 17.16 57 P **Pn 19 35 40.1 +0.6**
M31M Drury Creek, Y 17.41 49 P **Pn 19 35 43.4 +0.8**
M31M IAmb IAmb 19 35 59.4
comp=Z,27nm,0.8s
P33M Teslin, Yukon 17.70 56 P **P 19 35 47.7 +0.7**
P33M IAmb IAmb 19 36 02.4
comp=Z,42nm,0.8s
N32M Quiet Lake 17.74 52 Pn 19 35 46.1 -0.7
N32M IAmb IAmb 19 36 05.2
comp=Z,66nm,0.9s
WRAK Wrangell Islan 17.76 68 Pn 19 35 47.5 +0.6
E27K Coleen River 17.90 26 Pn **Pn 19 35 44.4 -4.2**
F28M Old Crow 17.99 29 Pn **Pn 19 35 46.2 -3.6**
G30M tAoh Zraii Nji 18.74 33 P **P 19 35 56.8 -1.6**
G30M IAmb IAmb 19 36 03.7
comp=Z,22nm,0.8s
H31M Peel River 18.80 38 P **P 19 35 58.0 -1.0**
H31M IAmb IAmb 19 36 03.9
comp=Z,53nm,0.8s
D27M Malcolm River 18.82 24 P **P 19 35 58.9 -0.4**
DLBC Dease Lake 18.97 62 P **Pn 19 36 03.8 +2.0**
comp=Z,4.9nm,0.9s,baz=268,slow=9.4,SNR=14
E29M Blow River 19.06 29 P **P 19 36 00.5 -1.4**
G31M Satah River 19.36 35 P **P 19 36 04.1 -1.0**
F31M Tsiigehtchic 19.80 34 P **P 19 36 08.4 -1.5**
INK Inuvik 20.33 32 P **P 19 36 14.9 -0.8**
INK IAmb IAmb 19 36 22.7
comp=Z,14nm,0.9s
INK Inuvik 20.33 32 P **P 19 36 13.3 -2.3**
comp=Z,10nm,0.8s,baz=235,slow=17,SNR=20
INK LR LR 19 45 16.0
comp=Z,203nm,18.6s,baz=343,slow=40
comp=Z,10nm,0.8s
BILL Bilibino 20.62 327 P **P 19 36 17.3 -1.5**
BILL Bilibino 20.62 327 *i* P **P 19 36 17.5 -1.3**
BILL pmax pmax
comp=Z,13nm,1.1s
BBB Bella Bella 20.97 79 P **P 19 36 22.8 0.0**
comp=Z,11nm,1.1s,baz=50,slow=16,SNR=2.2
comp=Z,11nm,1.1s
PEA0B Petropavlovsk- 23.32 285 P **P 19 36 47.6 0.0**
PEA0B Petropavlovsk- 23.32 285 P **P 19 36 47.6 0.0**
PEA0B pmax pmax
comp=Z,45nm,1.3s
PETK Petropavlovsk- 23.32 285 P **P 19 36 47.2 -0.5**
PETK Petropavlovsk- 23.32 285 P **P 19 36 46.9 -0.8**
comp=Z,4.2nm,0.5s,baz=79,slow=13,SNR=22
comp=Z,4.2nm,0.5s
C36M Paulatuk 23.86 33 P **P 19 36 51.7 -0.9**
SEY Seymchan 24.86 310 P **P 19 37 01.0 -0.9**
SEY Seymchan 24.86 310 P **P 19 37 00.9 -0.9**
comp=Z,2.6nm,0.9s,baz=101,slow=12,SNR=7.3
comp=Z,2.6nm,0.9s
MA2 Magadan 25.80 302 P **P 19 37 10.7 +0.2**
MA2 Magadan 25.80 302 P **P 19 37 08.3 -2.2**
comp=Z,3.6nm,0.7s,baz=91,slow=12,SNR=5.8
MA2 LR LR 19 47 03.5
comp=Z,70nm,19.3s,baz=94,slow=36
comp=Z,3.6nm,0.7s
YKA Yellowknife Ar 26.57 51 P **P 19 37 18.1 +0.7**
YKA Yellowknife Ar 26.57 51 P **P 19 37 18.1 +0.7**
YKA Yellowknife Ar 26.57 51 P **P 19 37 18.4 +1.1**
comp=Z,5.2nm,0.8s,baz=272,slow=8.9,SNR=78
YKA LR LR 19 49 34.0
comp=Z,137nm,18.0s,baz=318,slow=40
comp=Z,5.2nm,0.8s
C09A Chrisman Ranch 28.53 83 P **P 19 37 34.1 -1.0**
C09A IAmb IAmb 19 37 52.2
comp=Z,4.3nm,0.8s
NEW Newport 28.99 81 P **P 19 37 38.2 -1.1**
LYMT Lyon Mountain 32.48 81 P **P 19 38 09.9 -0.4**
RES Resolute Bay 33.68 26 LR LR 19 53 28.9
comp=Z,82nm,18.3s,baz=8.0,slow=39
TIXI Tiksi 33.83 328 P **P 19 38 20.6 -0.9**
TIXI IAmb IAmb 19 38 21.8
comp=Z,6.8nm,1.1s
TIXI Tiksi 33.83 328 *ce* P **P 19 38 20.0 -1.4**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
TIXI Tiksi 33.83 328 LR LR 19 54 22.3
comp=Z,167nm,18.5s,baz=34,slow=41
NVAR Mina Array Bea 33.88 98 P **P 19 38 21.9 -0.7**
NVAR Mina Array Bea 33.88 98 P **P 19 38 24.4 +1.9**
comp=Z,0.6nm,0.6s,baz=312,slow=9.5,SNR=4.7
comp=Z,0.6nm,0.6s
ELK Elko 34.23 92 P **P 19 38 25.0 -0.6**
ELK IAmb IAmb 19 38 41.0
comp=Z,3.8nm,0.9s
ELK Elko 34.23 92 P **P 19 38 25.0 -0.6**
ELK pmax pmax
comp=Z,4.0nm,1.0s
YNR Norris Junctio 34.63 83 P **P 19 38 29.1 +0.1**
YNR IAmb IAmb 19 38 57.3
comp=Z,6.7nm,0.9s
HVU Hansel Valley 35.08 89 P **P 19 38 32.2 -0.6**
HVU IAmb IAmb 19 38 47.5
comp=Z,4.2nm,0.7s
HVU Hansel Valley 35.08 89 P **P 19 38 32.2 -0.6**
HVU pmax pmax
comp=Z,4.0nm,0.7s
YAK Yakutsk 35.37 311 *ce* P **P 19 38 33.1 -1.8**
YAK pmax pmax
comp=Z,8.0nm,1.0s
BGU Big Grassy Mou 35.44 90 P **P 19 38 34.8 -1.2**
BGU IAmb IAmb 19 38 53.1
comp=Z,12nm,1.5s
R11B Troy Canyon, C 35.55 96 P **P 19 38 36.4 -0.5**
Q12A Willow Creek R 35.55 94 P **P 19 38 36.4 -0.5**
Q12A IAmb IAmb 19 39 02.5
comp=Z,8.6nm,0.8s
DUG Dugway, Tooele 36.02 91 P **P 19 38 40.9 0.0**
DUG IAmb IAmb 19 39 00.7
comp=Z,8.7nm,0.9s
DUG Dugway, Tooele 36.02 91 P **P 19 38 40.9 0.0**
DUG pmax pmax
comp=Z,9.0nm,1.0s
JKA Kamikawa-asahi 36.24 278 P **P 19 38 42.4 -0.2**
ASAJ Asahikawa 36.25 278 P **P 19 38 42.4 -0.2**
ASAJ pmax pmax
comp=Z,54nm,1.5s
PDAR Pinedale Array 36.41 85 P **P 19 38 45.1 +0.8**
comp=Z,0.8nm,0.6s,baz=299,slow=3.1,SNR=3.2
comp=Z,0.8nm,0.6s
FCC Fort Churchill 37.21 54 P **P 19 38 51.6 +1.0**
FCC IAmb IAmb 19 39 05.6
comp=Z,9.1nm,1.1s
FCC Fort Churchill 37.21 54 P **P 19 38 51.6 +1.0**
FCC pmax pmax
comp=Z,9.0nm,1.1s
O20A White River Ci 38.79 87 P **P 19 39 04.5 0.0**
KLR Kul'dur 39.72 291 *ce* P **P 19 39 10.4 -1.4**
KLR pmax pmax
comp=Z,11nm,2.5s
ZEA Zeya 39.87 300 *e* P **P 19 39 12.5 -0.5**
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ULM Lac du Bonnet 40.18 66 P **P 19 39 16.2 +0.6**
ULM IAmb IAmb 19 39 18.0
comp=Z,7.0nm,0.8s
ULM Lac du Bonnet 40.18 66 P **P 19 39 16.2 +0.6**
comp=Z,6.9nm,0.7s,baz=301,slow=7.9,SNR=18
comp=Z,6.9nm,0.7s
H11N2 WAKE ISLAND Hy 40.88 226 T T 20 23 37.2
baz=26,slow=76,SNR=10
H11N3 WAKE ISLAND Hy 40.89 226 T T 20 23 44.8
baz=26,slow=76,SNR=8.9
H11N1 WAKE ISLAND Hy 40.90 226 T T 20 23 33.4
baz=26,slow=76,SNR=9.7
HEH HeiHe 41.56 295 *e* P **P 19 39 25.6 -1.4**
HEH pmax pmax
comp=Z,10.0nm,0.9s
HEH pmax pmax
comp=Z,180nm,4.1s
H11S1 WAKE ISLAND Hy 42.05 226 T T 20 25 15.2
baz=25,slow=76,SNR=16
H11S2 WAKE ISLAND Hy 42.06 226 T T 20 25 10.4
baz=25,slow=76,SNR=2.5
H11S3 WAKE ISLAND Hy 42.07 226 T T 20 25 15.1
baz=25,slow=76,SNR=14
NEEM North Greenlan 42.83 17 *i* P **P 19 39 37.9 +0.5**
NEEM IAmb IAmb 19 39 41.2
comp=Z,13nm,0.9s
MAJO Matsushiro 43.58 272 P **P 19 39 44.9 +1.3**
MAJO IAmb IAmb 19 39 57.6
comp=Z,9.0nm,1.1s
MAJO Matsushiro 43.58 272 P **P 19 39 44.9 +1.3**
MAJO pmax pmax
comp=Z,9.0nm,1.1s
MJAR Matsushiro Arr 43.58 272 P **P 19 39 42.6 -1.0**
comp=Z,0.9nm,0.7s,baz=48,slow=2.2,SNR=4.1
comp=Z,0.9nm,0.7s
EYMN Ely 43.85 67 P **P 19 39 46.0 +0.4**
EYMN IAmb IAmb 19 39 58.0
comp=Z,11nm,1.0s
NOR Nord 43.97 7 *i* P **P 19 39 46.4 +0.3**
NOR IAmb IAmb 19 39 48.1
comp=Z,7.9nm,0.9s
E38A The Farm, Brul 44.60 69 P **P 19 39 51.3 -0.3**
JGF Kuroka 44.72 271 P **P 19 39 51.8 -1.0**
JGF IAmb IAmb 19 40 12.6
comp=Z,6.2nm,1.0s
NUUG Nuugaatsiaq 45.94 25 *i* P **P 19 40 03.1 +1.2**
NUUG IAmb IAmb 19 40 04.4
comp=Z,12nm,0.8s
G40A Rib Lake 46.16 69 P **P 19 40 03.9 -0.1**
G40A IAmb IAmb 19 40 16.1
comp=Z,6.0nm,0.9s
COWI Conover 46.24 68 P **P 19 40 04.7 0.0**
COWI IAmb IAmb 19 40 05.9
comp=Z,4.4nm,0.7s
UMMG Ummannaq 46.76 25 *i* P **P 19 40 09.1 +0.8**
UMMG IAmb IAmb 19 40 11.1
comp=Z,19nm,1.1s
E43A Lone Tree Farm 47.25 66 P **P 19 40 12.9 +0.3**
NRIK Noril'sk 47.26 333 *ce* P **P 19 40 11.4 -0.9**
NRIK pmax pmax
comp=Z,6.0nm,1.0s
NRIK Noril'sk 47.26 333 P **P 19 40 10.9 -1.4**
comp=Z,3.9nm,0.7s,baz=87,slow=5.7,SNR=5.0
comp=Z,3.9nm,0.7s
DAG Danmarks Havn 48.07 10 *i* P **P 19 40 19.3 +0.8**
DAG IAmb IAmb 19 40 20.0
comp=Z,15nm,0.8s
SUMG Summit 48.52 19 P **P 19 40 22.6 +0.2**
SUMG Summit 48.52 19 P **P 19 40 22.7 +0.2**
SUMG pmax pmax
comp=Z,19nm,1.0s
SUMG Summit 48.52 19 *i* P **P 19 40 23.8 +1.3**
SUMG IAmb IAmb 19 40 25.5
comp=Z,16nm,1.0s
SPITS Spitsbergen Ar 48.62 0 P **P 19 40 19.8 -2.9**
comp=Z,24nm,1.1s,baz=22,slow=8.1,SNR=2.5
comp=Z,24nm,1.1s
TXAR Lajitas Array 48.91 95 P **P 19 40 26.9 +1.2**
TXAR Lajitas Array 48.91 95 P **P 19 40 26.7 +1.1**
comp=Z,1.4nm,0.6s,baz=306,slow=5.8,SNR=12
comp=Z,1.4nm,0.6s
KSRS Korea Array 49.08 280 P **P 19 40 27.2 +0.5**
comp=Z,3.2nm,0.7s,baz=51,slow=6.9,SNR=17
comp=Z,3.2nm,0.7s
KSAR Wonju Array Be 49.11 280 P **P 19 40 27.1 +0.1**
KSAR Wonju Array Be 49.11 280 P **P 19 40 27.1 +0.1**
SFJD Kangerlussuaq 49.63 29 *i* P **P 19 40 31.5 +1.0**
SFJD IAmb IAmb 19 40 33.4

comp=Z,13nm,0.8s
SFJD Kangerlussuaq 49.63 29 P **P** **19 40 31.0 +0.6**
comp=Z,12nm,0.7s,baz=320,slow=10,SNR=9.9
SFJD LR LR 20 04 42.4
comp=Z,58nm,18.0s,baz=178,slow=40
comp=Z,12nm,0.7s
DBG Daneborg 50.07 12 *i* P **P** **19 40 33.7 -0.1**
DBG IAmb IAmb 19 40 35.9
comp=Z,12nm,1.0s
TJN Taejon 50.14 280 *ce* P **P** **19 40 35.7 +0.9**
ICESG Greenland Ices 50.93 23 *i* P **P** **19 40 40.9 +0.1**
WVT Waverly 53.50 77 P **P** **19 41 00.0 +0.1**
WVT IAmb IAmb 19 41 01.3
comp=Z,5.8nm,0.7s
WVT Waverly 53.50 77 P **P** **19 41 00.0 +0.1**
WVT pmax pmax
comp=Z,6.0nm,0.7s
ULN Ulaanbaatar 53.65 303 P **P** **19 41 00.9 -0.1**
ULN IAmb IAmb 19 41 12.6
comp=Z,4.8nm,0.8s
ULN Ulaanbaatar 53.65 303 *ce* P **P** **19 41 01.0 -0.1**
ULN pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 54.00 304 P **P** **19 41 03.8 +0.2**
SONM IAmb IAmb 19 41 15.0
comp=Z,2.8nm,1.0s
SONM Songino Array 54.00 304 P **P** **19 41 03.8 +0.2**
SONM pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 54.00 304 P **P** **19 41 03.9 +0.4**
comp=Z,2.1nm,0.7s,baz=44,slow=6.7,SNR=16
SONM PcP **PcP** **19 42 09.6 +1.1**
comp=Z,0.6nm,0.4s,baz=34,slow=4.1,SNR=2.1
comp=Z,2.1nm,0.7s
HHC Hu-ho-hao-te 56.08 294 *e* P **P** **19 41 21.8 +3.1**
HHC pmax pmax
comp=Z,11nm,0.5s
HHC pmax pmax
comp=Z,150nm,5.3s
ARCES ARCESS Array B 57.15 356 P **P** **19 41 25.2 -0.6**
ARCES ARCESS Array B 57.15 356 P **P** **19 41 25.2 -0.6**
ARCES ARCESS Array B 57.15 356 P **P** **19 41 23.6 -2.1**
comp=Z,2.0nm,0.7s,baz=2.0,slow=7.6,SNR=1.1
comp=Z,2.0nm,0.7s
BORG Borgarnes 58.47 18 LR LR 20 07 49.2
comp=Z,43nm,19.6s,baz=158,slow=37
ZALV Zalesovo Beam 59.14 320 P **P** **19 41 39.8 -0.1**
ZALV Zalesovo Beam 59.14 320 P **P** **19 41 37.2 -2.6**
comp=Z,1.0nm,0.6s,baz=46,slow=6.2,SNR=2.4
ZALV PcP **PcP** **19 42 29.0 +0.8**
comp=Z,1.5nm,0.7s,baz=42,slow=4.8,SNR=4.7
comp=Z,1.0nm,0.6s
DGZ Jazzator, Alta 61.36 316 *i* P **P** **19 41 55.9 +0.6**
DGZ pmax pmax
comp=Z,2.0nm,0.8s
GTA Gaotai 63.34 301 P **P** **19 42 09.4 +0.7**
GTA pmax pmax
comp=Z,3.0nm,0.8s
LZH Lanzhou 63.70 296 *e* P **P** **19 42 07.5 -3.7**
LZH pP pP 19 42 14.5 -2.6
LZH pmax pmax
comp=Z,13nm,1.4s
KURK Kurchatov 64.03 322 P **P** **19 42 12.7 -0.2**
KURK IAmb IAmb 19 42 15.2
comp=Z,6.0nm,1.0s
KURK Kurchatov 64.03 322 *ce* P **P** **19 42 14.3 +1.4**
KURK pmax pmax
comp=Z,5.0nm,0.8s
KURBB Kurchatov Arra 64.14 322 P **P** **19 42 13.0 -0.6**
comp=Z,3.6nm,1.0s,baz=351,slow=7.5,SNR=10
comp=Z,3.6nm,1.0s
KLMR Klimovskoe 64.62 348 *e* P **P** **19 42 15.3 -1.3**
KLMR pmax pmax
comp=Z,15nm,1.2s
BVAR Borovoye Array 64.96 328 P **P** **19 42 18.7 -0.2**
comp=Z,6.9nm,0.8s,baz=38,slow=7.5,SNR=36
comp=Z,6.9nm,0.8s
BRVK Borovoye 64.97 328 P **P** **19 42 18.7 -0.3**
BRVK IAmb IAmb 19 42 21.4
comp=Z,5.6nm,0.9s
BRVK Borovoye 64.97 328 *ce* P **P** **19 42 20.1 +1.1**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
FIA1 FINESS Array S 65.21 355 P **P** **19 42 20.9 +0.5**
FINES FINESS Array B 65.21 355 P **P** **19 42 20.8 +0.4**
FINES FINESS Array B 65.21 355 P **P** **19 42 20.8 +0.4**
FINES FINESS Array B 65.21 355 P **P** **19 42 20.2 -0.2**
comp=Z,9.6nm,0.8s,baz=28,slow=8.6,SNR=18
comp=Z,9.6nm,0.8s
KIRV Kirov 65.27 342 *ce* P **P** **19 42 21.8 +1.0**
ARU Arti 65.30 336 P **P** **19 42 20.8 -0.2**
ARU Arti 65.30 336 *c i* P **P** **19 42 21.7 +0.6**
ARU 19 44 43.9
ARU S **S** **19 51 04.8 +1.8**
ARU SS **SS** **19 55 14.0 -0.9**
ARU pmax pmax
comp=Z,11nm,1.0s
NC303 NORSAR Array S 65.57 3 P **P** **19 42 23.3 +0.6**
NB2 NORSAR Subarra 65.75 3 P **P** **19 42 24.5 +0.6**
comp=Z,7.0nm,0.9s,baz=358,slow=6.5
NOA NORSAR Array B 65.75 3 P **P** **19 42 23.0 -0.9**
comp=Z,4.9nm,0.8s,baz=357,slow=6.6,SNR=16
NOA LR LR 20 11 34.8
comp=Z,14nm,18.1s,baz=240,slow=37
comp=Z,4.9nm,0.8s
MK31 Makanchi Array 65.77 317 P **P** **19 42 24.7 +0.4**
MK31 Makanchi Array 65.77 317 *ce* P **P** **19 42 25.0 +0.7**
MKAR Makanchi Array 65.77 317 P **P** **19 42 24.5 +0.2**
MKAR Makanchi Array 65.77 317 *i* P **P** **19 42 25.2 +0.9**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 65.77 317 P **P** **19 42 23.2 -1.1**
comp=Z,1.5nm,0.7s,baz=47,slow=6.2,SNR=17
comp=Z,1.5nm,0.7s
HFS Hagfors 66.72 2 P **P** **19 42 29.6 -0.5**
comp=Z,12nm,0.8s,baz=25,slow=4.9,SNR=13
comp=Z,12nm,0.8s
KONO Kongsberg 67.08 4 P **P** **19 42 32.7 +0.3**
KONO Kongsberg 67.08 4 P **P** **19 42 32.7 +0.3**
KONO pmax pmax
comp=Z,30nm,1.4s
VSU Vasula 68.15 355 *ce* P **P** **19 42 39.8 +0.6**
VSU pmax pmax
comp=Z,16nm,1.3s
EKA Eskdalemuir Ar 70.29 12 P **P** **19 42 52.2 -0.3**
comp=Z,3.1nm,0.8s,baz=344,slow=4.7,SNR=4.1
comp=Z,3.1nm,0.8s
OBN Obninsk 70.59 348⇑ *e* P **P** **19 42 53.6 -0.7**
OBN *e* 19 43 20.9
OBN pmax pmax
comp=Z,7.0nm,0.9s
OBN MLR MLR
comp=Z,56nm,18.0s
ABKAR Akbulak array 71.42 332 P **P** **19 43 00.4 +1.0**
ABKAR Akbulak array 71.42 332 P **P** **19 43 00.1 +0.7**
ABKAR IAmb IAmb 19 43 11.3
comp=Z,7.2nm,0.6s
BELG Belogornoye 71.45 341 *i* P **P** **19 43 01.0 +1.4**
BELG pmax pmax
comp=Z,2.0nm,0.9s
MNK Minsk 72.02 353 *i* P **P** **19 43 02.5 -0.5**
MNK *i* 19 43 22.0
MNK *i* 19 45 40.6
MNK *i* PPP PPP 19 47 23.8
MNK *i* S **S** **19 52 21.2 -1.6**
MNK *i* 19 53 07.2
MNK *i* SS **SS** **19 56 56.5 -2.0**
MNK *i* SSS SSS 20 00 15.7
MNK pmax pmax
comp=E,12nm,1.1s
MNK pmax pmax
comp=Z,12nm,0.8s
MNK pmax pmax
comp=N,14nm,0.9s
PZH PanZhiHua 72.16 290 P P 19 42 58.0 -6.5
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,150nm,5.4s
AAK Ala-Archa 72.32 319 P **P** **19 43 05.6 +0.3**
AAK IAmb IAmb 19 43 08.6
comp=Z,5.0nm,0.7s
AAK Ala-Archa 72.32 319 *ce* P **P** **19 43 06.5 +1.3**
AAK pmax pmax
comp=Z,5.0nm,0.7s
KK31 Karatay Array 73.43 322 P **P** **19 43 12.0 +0.4**
KK31 IAmb IAmb 19 43 13.6
comp=Z,4.0nm,0.8s
KK31 Karatay Array 73.43 322 P **P** **19 43 12.0 +0.4**
KK31 pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 73.43 322 P **P** **19 43 11.9 +0.3**
KKAR IAmb IAmb 19 43 13.6
comp=Z,3.9nm,0.8s
KKAR Karatay Array 73.43 322 P **P** **19 43 11.9 +0.3**
KKAR pmax pmax
comp=Z,4.0nm,0.8s
ARSB Arslanbob 74.03 320 P **P** **19 43 15.8 +0.5**
ARSB Arslanbob 74.03 320 P **P** **19 43 15.8 +0.5**
ARSB pmax pmax
comp=Z,1.0nm,0.9s
KSH Kashi 74.37 317 P **P** **19 43 21.8 +4.5**
KSH pP sP 19 43 25.6 0.0
KSH sP PcP 19 43 31.3 -0.7
KSH pmax pmax
comp=Z,5.0nm,0.9s
LSA Lhasa 75.36 300 P **P** **19 43 23.3 -0.3**
LSA IAmb IAmb 19 43 26.6
comp=Z,5.2nm,0.7s
LSA Lhasa 75.36 300 P **P** **19 43 23.3 -0.3**
LSA pmax pmax
comp=Z,5.0nm,0.7s
CLL Collm 75.54 3 *e* P **P** **19 43 24.0 +0.3**
CLL Collm 75.54 3 *e* P **P** **19 43 24.0 +0.3**
AKASG Malin Array Be 75.70 352 P **P** **19 43 24.5 -0.1**
comp=Z,7.4nm,0.8s,baz=8.5,slow=5.6,SNR=20
comp=Z,7.4nm,0.8s
AKBB Malin Array Si 75.70 352 P **P** **19 43 24.5 -0.1**
AKBB Malin Array Si 75.70 352 P **P** **19 43 24.5 -0.1**
AKBB pmax pmax
comp=Z,11nm,0.9s
KIEV Kiev 75.71 352 P **P** **19 43 24.5 -0.1**
KIEV Kiev 75.71 352 P **P** **19 43 24.5 -0.1**
KIEV pmax pmax
comp=Z,10.0nm,0.9s
BTK Batken 75.95 320 P **P** **19 43 26.2 -0.2**
BTK IAmb IAmb 19 43 28.7
comp=Z,7.0nm,1.0s
BTK Batken 75.95 320 P **P** **19 43 26.2 -0.2**
BTK pmax pmax
comp=Z,7.0nm,1.0s
DRK Karamyk 76.08 319 P **P** **19 43 28.3 +0.9**
GAR Garm 77.06 320 P **P** **19 43 32.6 -0.1**
GRF Grafenberg Arr 77.10 4 *e* P **P** **19 43 35.0 +2.4**
comp=Z,5.5nm,1.0s,baz=354,slow=5.0
STHS Stebnicka Huta 77.43 357 *e* P **P** **19 43 36.1 +1.7**
STHS Stebnicka Huta 77.43 357 *e* P **P** **19 43 36.1 +1.7**
KHC Kasperske Hory 77.73 2 *ce* P **P** **19 43 39.3 +3.1**
KHC pmax pmax
comp=Z,39nm,2.5s
SIMJ Simiganj 77.86 321 P **P** **19 43 37.0 -0.1**
GERES GERESS Array B 78.02 2 P **P** **19 43 38.6 +0.7**
comp=Z,1.2nm,0.6s,baz=352,slow=6.0,SNR=3.1
comp=Z,1.2nm,0.6s
BFO Black Forest 78.31 6 *i* P **P** **19 43 41.2 +1.8**
VYHS Vyhne 78.40 359 *e* P **P** **19 43 42.1 +2.2**
VYHS Vyhne 78.40 359 *e* P **P** **19 43 42.0 +2.2**
MODS Modra-Piesok 78.53 360 *e* P **P** **19 43 43.4 +2.8**
MODS Modra-Piesok 78.53 360 *e* P **P** **19 43 43.4 +2.8**
UBPT Khong Chiam 78.81 280 P **P** **19 43 42.4 -0.1**
CONA Conrad Observa 78.97 1 *i* PcP **P** **19 43 44.9 +1.8**
comp=Z,2.3nm,0.7s
BUR08 Bucovina Ar. S 79.03 354 P **P** **19 43 44.1 +0.7**
BUR08 IAmb IAmb 19 43 46.1
comp=Z,6.0nm,1.0s
BURAR Bucovina Array 79.05 354 P **P** **19 43 44.5 +1.0**
BURAR IAmb IAmb 19 44 00.5
comp=Z,3.9nm,0.8s
MOTA Moosalm 79.44 4 *i* PcP **P** **19 43 47.1 +1.4**
comp=Z,2.1nm,0.7s
WATA Walderalm 79.47 4 *i* PcP **P** **19 43 48.0 +2.1**
comp=Z,3.4nm,1.1s
WTTA Wattenberg 79.54 4 *i* PcP **P** **19 43 48.0 +1.7**
comp=Z,3.3nm,0.6s
SQTA Sankt Quirin 79.57 4 *i* PcP **P** **19 43 48.3 +1.9**
comp=Z,1.4nm,0.4s
FETA Feichten 79.74 4 *i* PcP **P** **19 43 49.5 +2.1**
comp=Z,2.9nm,0.8s
KBA Koelnbreinsper 79.78 3 *i* PcP **P** **19 43 49.6 +2.0**
comp=Z,1.4nm,0.4s
CMAR Chiang Mai Arr 80.08 287 P **P** **19 43 49.5 +0.1**
CMAR Chiang Mai Arr 80.08 287 P **P** **19 43 50.2 +0.8**
comp=Z,1.1nm,0.9s,baz=19,slow=5.0,SNR=7.5
comp=Z,1.1nm,0.9s
OBKA Obir 80.38 2 *i* PcP **P** **19 43 52.3 +1.6**
comp=Z,6.8nm,0.6s
PRED Cave del Predi 80.42 2 P **P** **19 43 50.6 -0.4**
PRED IAmb IAmb 19 44 13.4
comp=Z,8.4nm,1.1s
KIV Kislovodsk 80.49 342 *e* P **P** **19 43 53.9 +2.5**
KIV pmax pmax
comp=Z,8.0nm,1.0s
NIL Nilore 80.52 315 P **P** **19 43 51.6 -0.1**
NIL Nilore 80.52 315 P **P** **19 43 51.6 -0.1**
NIL pmax pmax
comp=Z,9.0nm,0.8s
KBZ Khabaz 80.67 341 *ce* P **P** **19 43 54.1 +1.9**
KBZ Khabaz 80.67 341 P **P** **19 43 52.8 +0.6**
comp=Z,4.5nm,0.9s,baz=59,slow=0.9,SNR=12
comp=Z,4.5nm,0.9s
NCK Nalchik 80.76 341 *i* P **P** **19 43 54.9 +2.1**
NCK pmax pmax
comp=Z,9.0nm,0.9s
BNI Bardonecchia 81.46 7 P **P** **19 43 57.1 +0.5**
BNI IAmb IAmb 19 44 05.4
comp=Z,12nm,1.3s
BNI Bardonecchia 81.46 7 P **P** **19 43 57.1 +0.5**
BNI pmax pmax
comp=Z,12nm,1.3s
GEYT Alibeck 82.28 328 P **P** **19 44 01.6 +0.7**
GEYT IAmb IAmb 19 44 04.9
comp=Z,5.0nm,0.9s
GEYT Alibeck 82.28 328 P **P** **19 44 02.0 +1.1**
comp=Z,4.1nm,0.9s,baz=318,slow=6.2,SNR=8.7
comp=Z,4.1nm,0.9s
GNI Garni 83.74 339 *i* P **P** **19 44 11.6 +3.0**
GNI pmax pmax
comp=Z,3.0nm,0.9s
ESDC Sonseca Array 85.47 16 P **P** **19 44 17.6 +0.4**
comp=Z,1.1nm,0.8s,baz=338,slow=4.8,SNR=5.7
comp=Z,1.1nm,0.8s
RDO Rodhopi 85.48 354 P **P** **19 44 17.8 +0.7**
BAUV El Baul 85.81 81 P **P** **19 44 18.9 -0.3**
BR131 Keskin Array S 86.08 347 P **P** **19 44 20.6 +0.3**
BR131 IAmb IAmb 19 44 41.6
comp=Z,7.1nm,1.2s
BR131 Keskin Array S 86.08 347 P **P** **19 44 20.7 +0.3**
BRTR Keskin Array B 86.08 347 P **P** **19 44 21.2 +0.9**
BRTR Keskin Array B 86.08 347 *i* P **P** **19 44 21.7 +1.3**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 86.08 347 P **P** **19 44 21.0 +0.6**
comp=Z,2.2nm,0.8s,baz=26,slow=2.1,SNR=15
comp=Z,2.2nm,0.8s
ASAR Alice Springs 94.14 235 P **P** **19 44 58.1 -0.1**
comp=Z,0.5nm,0.8s,baz=32,slow=4.8,SNR=4.9
comp=Z,0.5nm,0.8s
H03N2 Juan Fernandez 112.81 116 T T 21 54 31.2
baz=321,slow=77,SNR=8.9
H03N1 Juan Fernandez 112.82 116 T T 21 54 34.2
baz=321,slow=77,SNR=9.0
H03N3 Juan Fernandez 112.83 116 T T 21 54 31.8
baz=321,slow=77,SNR=8.6
ELIB Princess Elisa 161.25 186 *d* PKP **PKPab** **19 52 21.3 -1.3**

KSR *e* S **Sg** **19 42 47.9 -2.4**
KSR IAML 19 43 02.4
comp=Z,1μm,0.2s
LBTB Lobatse 2.24 308 Pn **Pb** **19 43 05.8 +0.2**
LBTB Sn **Sn** **19 43 30.0 -0.7**
LBTB Lobatse 2.24 308⇓ *i* P **Pb** **19 43 06.2 +0.6**
LBTB *i* S **Sb** **19 43 35.9 +2.2**
LBTB Lobatse 2.24 308 *e* P **Pn** **19 43 02.3 -0.2**
LBTB *e* S **Sn** **19 43 29.9 -0.7**
LBTB IAML 19 43 38.5
comp=Z,307nm,0.2s
LBTB Lobatse 2.24 308 Pn **Pb** **19 43 05.8 +0.2**
comp=Z,69nm,0.3s,baz=126,slow=15,SNR=712
LBTB Lg Lg 19 43 36.6
comp=Z,114nm,0.3s,baz=217,slow=20,SNR=22
comp=Z,153nm,0.3s
LBTB Lobatse 2.24 308⇓ *i* P **Pb** **19 43 06.2 +0.6**
LBTB *i* S **Sb** **19 43 35.9 +2.2**
CRLN Carolina, Mapu 2.27 80 *e* P **Pn** **19 43 04.9 +2.0**
CRLN *e* S **Sb** **19 43 34.3 -0.3**
CRLN IAML 19 43 34.5
comp=Z,53nm,0.4s
NWCL Newcastle 2.47 123 *e* P **Pn** **19 43 07.2 +1.4**
NWCL *e* S **Sb** **19 43 39.7 -0.8**
NWCL IAML 19 43 45.0
comp=Z,148nm,0.5s
LEPH Lephalale, Lim 2.56 5 *e* P **Pn** **19 43 08.0 +1.2**
LEPH *e* S **Sn** **19 43 39.5 +1.0**
LEPH IAML 19 43 47.2
comp=Z,86nm,0.3s
BOSA Boshof 2.99 222 Pn **Pn** **19 43 14.6 +1.8**
comp=Z,9.8nm,0.3s,baz=45,slow=13,SNR=201
BOSA Sn **Sn** **19 43 49.6 +0.4**
baz=355,slow=14
BOSA Lg Lg 19 43 57.8
baz=336,slow=20
comp=Z,29nm,0.3s
POGA Pongola 3.83 105 Pn **Pn** **19 43 25.1 +0.8**
KSTD Kokstad 4.47 160 *e* P **Pn** **19 43 34.8 +1.6**
KSTD *e* S **Sn** **19 44 26.2 +0.5**
KSTD IAML 19 44 49.3
comp=Z,41nm,0.4s
MOPA Mopani 4.54 51⇑ *i* P **Pn** **19 43 34.9 +0.9**
MOPA ⇑ *i* S **Sn** **19 44 21.1 -6.2**
MOPA Mopani 4.54 51 *e* P **Pn** **19 43 36.2 +2.2**
MOPA *e* S **Sn** **19 44 28.6 +1.4**
MOPA IAML 19 45 01.9
comp=Z,58nm,0.4s
MOPA Mopani 4.54 51⇑ *i* P **Pn** **19 43 34.9 +0.9**
MOPA ⇑ *i* S **Sn** **19 44 21.1 -6.2**
MUSN Musina, Limpop 4.62 28⇑ *i* P **Pn** **19 43 37.2 +2.0**
MUSN ⇓ *i* S **Sn** **19 44 25.1 -4.3**
MUSN Musina, Limpop 4.62 28 *e* P **Pn** **19 43 36.8 +1.6**
MUSN *e* S **Sn** **19 44 29.8 +0.4**
MUSN IAML 19 44 54.7
comp=Z,31nm,0.5s
MUSN Musina, Limpop 4.62 28⇑ *i* P **Pn** **19 43 37.2 +2.0**
MUSN ⇓ *i* S **Sn** **19 44 25.1 -4.3**
BLWY Bulawayo 6.32 9⇑ *i* P **Pn** **19 44 00.3 +1.6**
BLWY ⇑ *i* S **Sn** **19 45 06.7 -4.8**
BLWY Bulawayo 6.32 9⇑ *i* P **Pn** **19 44 00.3 +1.6**
BLWY ⇑ *i* S **Sn** **19 45 06.7 -4.8**
BFON Badsfontein, M 6.33 211 *e* P **Pn** **19 43 59.0 +0.2**
BFON *e* S **Sn** **19 45 08.1 -3.7**
BFON IAML 19 45 45.1
comp=Z,23nm,0.4s
GRAF Camdeboo Natio 6.42 204 *e* P **Pn** **19 44 00.0 +0.1**
GRAF *e* S **Sn** **19 45 10.5 -3.3**
GRAF IAML 19 45 26.7
comp=Z,9.5nm,0.4s
SOE Somerset East 6.51 195 Pn **Pn** **19 44 01.8 +0.7**
BRAK Brakfontein 6.72 216 *e* P **Pn** **19 44 04.0 0.0**
BRAK *e* S **Sn** **19 45 17.6 -3.5**
BRAK IAML 19 45 23.8
comp=Z,11nm,0.3s
GRHM Grahamstown, E 6.91 188 Pn **Pn** **19 44 05.5 -1.1**
GRHM Grahamstown, E 6.91 188 *e* P **Pn** **19 44 07.9 +1.2**
GRHM *e* S **Sn** **19 45 22.8 -3.1**
GRHM IAML 19 45 31.5
comp=Z,5.1nm,0.3s
GRAN Grantham 7.51 217 *e* P **Pn** **19 44 14.7 -0.2**
GRAN *e* S **Sn** **19 45 36.2 -4.3**
GRAN IAML 19 45 53.9
comp=Z,7.9nm,0.3s
FRAZ Fraserburg 7.68 223 *e* P **Pn** **19 44 16.9 -0.3**
FRAZ *e* S **Sn** **19 45 39.6 -5.2**
FRAZ IAML 19 45 58.1
comp=Z,9.9nm,0.4s
SUR Sutherland 8.35 223 Pn **Pn** **19 44 27.7 +1.1**
SUR Sutherland 8.35 223 Pn **Pn** **19 44 27.9 +1.3**
comp=Z,2.3nm,0.3s,baz=50,slow=9.1,SNR=38
SUR Sn **Sn** **19 45 58.3 -3.2**
comp=Z,3.0nm,0.3s,baz=136,slow=20,SNR=7.5
SUR Lg Lg 19 46 43.0
comp=Z,2.2nm,0.3s,baz=329,slow=23,SNR=1.6
comp=Z,9.3nm,0.5s
KRI Karoi 9.73 12⇑ *i* P **Pn** **19 44 44.1 -1.3**
KRI ⇓ *i* S Sn 19 46 13.9 -21
KRI Karoi 9.73 12⇑ *i* P **Pn** **19 44 44.1 -1.3**
KRI ⇓ *i* S Sn 19 46 13.9 -21
CER Ceres 9.96 224 *e* P **Pn** **19 44 48.5 +0.1**
CER *e* S **Sn** **19 46 34.6 -6.0**
WIN Windhoek 10.25 290 Pn **Pn** **19 44 53.2 +0.6**
LSZ Lusaka 11.10 3 **Pn** **19 45 04.3 +0.1**
LSZ Lusaka 11.10 3 Pn **Pn** **19 45 04.5 +0.3**
comp=Z,0.6nm,0.3s,baz=185,slow=13,SNR=8.0
LSZ Sn **Sn** **19 47 04.3 -4.7**
comp=Z,0.3nm,0.3s,baz=254,slow=9.0,SNR=4.1
LSZ Lg Lg 19 48 10.1
comp=Z,0.3nm,0.3s,baz=253,slow=19,SNR=1.3
comp=Z,3.3nm,0.5s
TSUM Tsumeb 11.65 306 **Pn** **19 45 12.3 +0.6**
TSUM Tsumeb 11.65 306 Pn **Pn** **19 45 13.0 +1.2**
comp=Z,4.2nm,0.5s,baz=125,slow=10,SNR=12
TSUM Lg Lg 19 48 24.8
comp=Z,0.5nm,0.3s,baz=66,slow=20,SNR=3.8
DBIC Dimbokro 45.49 312 P **P** **19 50 46.2 +1.0**
comp=Z,2.9nm,0.9s,baz=117,slow=9.6,SNR=2.8
comp=Z,2.9nm,0.9s
TOA0 Torodi Ar. Sit 46.67 324 P **P** **19 50 55.1 +0.6**
TOA0 IAmb IAmb 19 50 57.3
comp=Z,2.2nm,0.8s
TORD Torodi Ar. Bea 46.67 324 P **P** **19 50 55.8 +1.2**
TORD IAmb IAmb 19 51 00.3
comp=Z,0.7nm,0.9s
TORD Torodi Ar. Bea 46.67 324 P **P** **19 50 55.0 +0.5**
comp=Z,0.6nm,0.5s,baz=124,slow=6.0,SNR=12
comp=Z,0.6nm,0.5s
ESDC Sonseca Array 72.02 335 P **P** **19 53 51.5 +1.9**
comp=Z,0.8nm,0.7s,baz=156,slow=6.0,SNR=6.4
comp=Z,0.8nm,0.7s
BVAR Borovoye Array 87.45 24 P **P** **19 55 14.3 +1.4**
comp=Z,0.2nm,0.4s,baz=235,slow=4.7,SNR=2.1
comp=Z,0.2nm,0.4s
FINES FINESS Array B 87.55 359 P **P** **19 55 14.8 +1.7**
FINES FINESS Array B 87.55 359 P **P** **19 55 15.1 +2.0**
comp=Z,2.4nm,1.0s,baz=141,slow=5.3,SNR=4.0
comp=Z,2.4nm,1.0s
MKAR Makanchi Array 88.04 34 P **P** **19 55 17.4 +1.4**
MKAR Makanchi Array 88.04 34 P **P** **19 55 17.5 +1.6**
comp=Z,0.3nm,0.6s,baz=187,slow=2.0,SNR=3.1
comp=Z,0.3nm,0.6s

PRE **17** *19:42:24.2±0.7, 26°.42S×27°.42E, h2km, ML2.9*
IDC **17** *19:42:25.3±1.2, 26°.45S×27°.52E, h0km, mb3.9/6, mbtmp4.0/11, ML4.1/4, Error ellipse: s-maj=19.3km s-min=15.3km az=115.0*
NEIC **17** *19:42:25.7±1.5, 26°.40S±0°.06×27°.57E±0°.06, h5km±1km, mb4.0/2, Error ellipse: s-maj=10.6km s-min=8.6km az=220.0*
BUL **17** *19:42:30.8±2.9, 26°.44S×27°.75E, h10km±52km, MD4.0*
EAF **17** *19:42:30.7±2.9, 26°.48S×27°.77E, h38km±59km, MD3.7*
ISC 17 19:42:24.4±1.6**, 26°.42S**±0°.04×**27°.54E**±0°.04**, h3**km±10km**, n48, σ2°.41/75, mb3.9/7, 12C-6D, South Africa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSR	**Koster**	**0.81**	**314**	*eP*	**Pg**	**19 42 38.7**	**-1.2**

IDC **17** *19:47:47.5±4.9, 7°.35S×128°.85E, h127km±43km, mb3.4/8, mbtmp3.7/10, Error ellipse: s-maj=60.6km s-min=16.1km az=63.0*
ISC 17 19:47:50.8±0.8**, 7°.51S**±0°.10×**128°.60E**±0°.08**, h150**km**, n30, σ1°.55/30, mb3.5/8, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.71**	**100**	P	Pn	19 48 39.9	+5.3
SOEI	**Soe**	**4.83**	**242**	P	**Pn**	**19 49 03.0**	**+0.8**
BATI	**Baumata**	**5.57**	**241**	P	**Pn**	**19 49 12.2**	**+0.3**
	160nm,0.4s,baz=115,slow=4.1,SNR=79						
BATI				S	**Sn**	**19 50 13.0**	**-2.1**
	40nm,0.4s,baz=42,slow=17,SNR=3.4						
MTN	**Manton Dam**	**5.86**	**155**	P	**Pn**	**19 49 15.4**	**-0.2**
KDU	**Kakadu**	**6.40**	**144**	P	**Pn**	**19 49 22.3**	**-0.6**
KNRA	**Kununurra**	**8.12**	**179**	P	**Pn**	**19 49 44.4**	**-1.4**
PLAI	**Plampang**	**10.80**	**262**	P	**Pn**	**19 50 24.9**	**+3.5**
FITZ	**Fitzroy Crossi**	**10.91**	**195**	P	**Pn**	**19 50 20.1**	**-2.8**
WRA	**Warramunga Arr**	**13.55**	**156**	P	**Pn**	**19 50 54.0**	**-3.1**
	0.8nm,0.9s,baz=343,slow=13,SNR=22						

WRA				S		Sn	19 53 17.5	-10
	2.2nm,0.5s,baz=323,slow=25,SNR=8.3							
COEN	**Coen**	**15.68**	**115**	P		**P**	**19 51 26.4**	**+1.7**
QIS	**Mount Isa**	**16.78**	**142**	P		**Pn**	**19 51 37.3**	**+0.1**
ASAR	**Alice Springs**	**16.85**	**163**	P		**Pn**	**19 51 38.2**	**+0.2**
	2.5nm,0.6s,baz=338,slow=9.8,SNR=71							
ASAR				S		S	19 54 33.7	-12
	0.3nm,0.4s,baz=349,slow=27,SNR=2.0							
AS01	**Alice Springs**	**16.86**	**163**	P		**Pn**	**19 51 38.5**	**+0.4**
WRKA	**Warakurna**	**17.43**	**181**	P		**Pn**	**19 51 45.5**	**+0.5**
OOD	**Oodnadatta**	**21.26**	**162**	P		**P**	**19 52 27.2**	**+1.9**
MULG	**Mulgathing**	**23.23**	**168**	P		**P**	**19 52 45.8**	**+1.1**
LCRK	**Leigh Creek**	**24.53**	**160**	P		**P**	**19 52 57.7**	**+1.1**
BBOO	**Buckleboo**	**26.11**	**166**	P		**P**	**19 53 11.5**	**+0.7**
STKA	**Stephens Creek**	**27.10**	**155**	P		**P**	**19 53 20.5**	**+0.8**
STKA	**Stephens Creek**	**27.10**	**155**	P		**P**	**19 53 19.1**	**-0.6**
	1.4nm,0.5s,baz=342,slow=9.3,SNR=5.5 1.4nm,0.5s							
HTT	**Hallett**	**27.51**	**161**	P		**P**	**19 53 25.8**	**+2.5**
CMSA	**Cobar Meteorol**	**28.74**	**149**	P		**P**	**19 53 35.6**	**+1.4**
ARPS	**Mount Arapiles**	**31.52**	**159**	P		**P**	**19 54 00.6**	**+1.9**
SONM	**Songino Array**	**58.50**	**343**	P		**P**	**19 57 30.1**	**-1.3**
	0.4nm,0.7s,baz=130,slow=7.8,SNR=2.2 0.4nm,0.7s							
MKAR	**Makanchi Array**	**67.90**	**328**	P		**P**	**19 58 32.7**	**-0.5**
	0.3nm,0.3s,baz=114,slow=8.5,SNR=11 0.3nm,0.3s							
ZALV	**Zalesovo Beam**	**71.43**	**334**	P		**P**	**19 58 53.2**	**-1.5**
	0.5nm,0.5s,baz=118,slow=8.3,SNR=2.2 0.5nm,0.5s							
VNDA	**Vanda**	**72.11**	**173**	P		**P**	**19 58 58.4**	**0.0**
	0.6nm,0.8s,baz=315,slow=2.9,SNR=1.8 0.6nm,0.8s							
KURBB	**Kurchatov Arra**	**72.23**	**329**	P		**P**	**19 58 58.7**	**-0.7**
	0.5nm,0.6s,baz=128,slow=5.1,SNR=8.0 0.5nm,0.6s							
BVAR	**Borovoye Array**	**77.76**	**328**	P		**P**	**19 59 30.4**	**-0.8**
	0.3nm,0.5s,baz=116,slow=11,SNR=4.6 0.3nm,0.5s							
QSPA	**South Pole Qui**	**82.47**	**180**	P		**P**	**19 59 56.3**	**-0.1**
	1.0nm,0.8s,baz=248,slow=2.9,SNR=6.8 1.0nm,0.8s							

ISN ***17*** *19:55:13.1±1.0,34˚.10N×46˚.30E,h16km±6km, ML2.6*
TEH ***17*** *19:55:13.2,34˚.07N×46˚.33E,h7km±79km, ML2.5*
ISC 17 19:55:14.1±1.1**,34˚.08N**±0˚.04×**46˚.32E**±0˚.04**,h10**km**,n12,** σ**0**$**92/15,Western Iran**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.33**	**40**		Pg		**Pg**	**19 55 20.5**	**-0.2**
ILBA	**Ilam Banvizeh**	**0.46**	**191**		Pg		**Pg**	**19 55 22.4**	**-0.7**
IDHR	**Dehrash**	**0.62**	**5**		Pg		**Pg**	**19 55 24.9**	**-1.3**
KCHF	**Cheshme Sefid,**	**0.63**	**72**		Pg		**Pg**	**19 55 25.1**	**-1.3**
KGS1	**Ghasr-e-Shirin**	**0.74**	**306**		Pg		**Pg**	**19 55 28.2**	**-0.2**
ILIN	**Lien**	**1.00**	**32**		Pg		**Pg**	**19 55 32.9**	**-0.4**
IBDR	**Badra**	**1.02**	**199**	*e*Pg			**Pg**	**19 55 33.0**	**-0.6**
IBDR				*e*Sg			**Sg**	**19 55 46.0**	**-0.8**
IBDR				AML		AML	AML	19 55 54.0	
	comp=N,172nm,0.5s								
IBDR				AML		AML	AML	19 55 54.4	
	comp=E,178nm,0.4s								
IBZA	**Bozab**	**1.34**	**73**		Pg		**Pn**	**19 55 39.2**	**+0.1**
IKFM	**Kafar-mosalman**	**1.39**	**113**		Pg		**Pn**	**19 55 39.5**	**+0.1**
BHD	**Baghdad**	**1.80**	**244**	*e*Pn			**Pn**	**19 55 45.0**	**-0.2**
BHD				*e*Sn			**Sn**	**19 56 09.0**	**+0.9**
HSAM	**Samen**	**1.90**	**85**	Pn			**Pn**	**19 55 48.4**	**+1.5**
RAFI	**Al-Rafai**	**2.35**	**184**	*e*Pn			**Pn**	**19 55 53.0**	**+0.3**
RAFI				*e*Sn			**Sn**	**19 56 23.0**	**+1.3**

BJI ***17*** *19:58:59.7±0.0, 18˚.03N×95˚.93E, h24km, mb4.7/76, mB5.0/45, ML5.1/3, Ms4.8/74, Ms7 4.4/71*
IDC ***17*** *19:59:00.2±0.4, 18˚.30N×96˚.07E, h0km, mb4.8/39, mbtmp4.7/42, ML4.2/3, MS3.9/54, Error ellipse: s-maj=12.3km s-min=9.3km az=25.0*
MOS ***17*** *19:59:01.0±0.8, 18˚.38N×96˚.08E, h14km, mb5.2/66, Error ellipse: s-maj=6.8km s-min=3.7km az=116.5*
GCMT ***17*** *19:59:01.9±0.3, 18˚.24N±0˚.04×96˚.21E±0˚.02, h18km±1km, MW4.8/79, Moment Tensor Solution. s15,c17; s79,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.13±.16; $M_{\theta\theta}$-0.28±.09; $M_{\phi\phi}$-1.85±.10; $M_{r\theta}$-0.37±.28; $M_{r\phi}$0.41±.05; $M_{\theta\phi}$0.06±.16; Best double couple: M_o2.07000×10^{16} NP1:*ϕ_s*338.00000°,*δ*48.00000°,*λ*79.00000°. NP2: ϕ_s174.00000°,δ44.00000°,λ102.00000°. Principal axes: T 2.1850, Plg82.0000°, Azm180.0000°; N -0.2290, Plg8.0000°, Azm346.0000°; P -1.9550, Plg2.0000°, Azm76.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***17*** *19:59:03.8±1.5, 18˚.N±3˚×9˚.6E±˚, h17km±10km, M5.4/39, mb4.9/39, mB5.7/12, MLv5.8/4, Mw(mB)5.2/12, MwMwp7.7/1, Mwp7.3/1*
NEIC ***17*** *19:59:03.9±1.2, 18˚.39N±0˚.06×96˚.15E±0˚.07, h19km±3km, mb5.1/153, Error ellipse: s-maj=10.0km s-min=8.0km az=224.0*
BGR ***17*** *19:59:16.1, 21˚.03N×96˚.77E, h33km, mb5.0*
ISC 17 19:59:03.1±0.9**,18˚.32N**±0˚.04×**96˚.09E**±0˚.04**,h17**km±5km**, n857,** σ**1**$**07/873,mb5.0**/205**,MS4.0**/69**,29C-16D, Myanmar**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**2.71**	**87**				**Pn**	**19 59 44.8**	**-1.1**
CMAR	**Chiang Mai Arr**	**2.71**	**87**	Pn			**Pn**	**19 59 44.9**	**-1.0**
CMAR	**Chiang Mai Arr**	**2.71**	**87**	Pn			**Pn**	**19 59 45.2**	**-0.7**
	8.0nm,0.3s,baz=264,slow=14,SNR=314								
CMAR					Pg		**Pb**	**19 59 51.8**	**+0.6**
	185nm,0.3s,baz=263,slow=18,SNR=87								
CMAR					Lg		Lg	20 00 25.8	
	485nm,0.3s,baz=207,slow=34,SNR=6.5								
CMAR					LR		LR	20 00 59.6	
	comp=Z,5μm,19.6s,baz=260,slow=44 28nm,0.5s								
MND	**Mandalay**	**3.68**	**0**				**Pn**	**19 59 58.1**	**-1.0**
PHRA	**Phrae**	**3.94**	**87**	Pn			**Pn**	**20 00 02.1**	**-0.6**
CRAI	**Chiangrai**	**4.47**	**64**	Pn			**Pn**	**20 00 10.1**	**-0.1**
DGPR	**DIGLIPUR**	**5.95**	**211**	*e*P			**Pn**	**20 00 30.0**	**-0.4**
BRDH	**Bariadhala**	**6.01**	**317**	Pn			**Pn**	**20 00 32.4**	**+1.1**
	23nm,0.3s,baz=90,slow=12,SNR=11 118nm,0.3s								
TNCH	**TengChong**	**7.05**	**18**	Pn			**Pn**	**20 00 47.4**	**+1.7**
TNCH				Sn			**Sn**	**20 02 09.5**	**+4.0**
TNCH				Sg			**Sg**	**20 02 45.1**	**-4.2**
TNCH				smax		smax			
	comp=N,2μm,1.3s								
TNCH				smax		smax			
	comp=E,2μm,1.5s								
TNCH				LR		LR			
	comp=N,4μm,4.6s								
TNCH				LR		LR			
	comp=E,4μm,3.0s								
TNCH				LR		LR			
	comp=Z,3μm,5.3s								
PBA	**Port Blair**	**7.37**	**206**	*e*P			**Pn**	**20 00 50.0**	**+0.1**
SLVN	**Son La**	**7.94**	**67**	Pn			**Pn**	**20 00 57.2**	**-0.7**
SHL	**Shillong**	**8.20**	**332**	*e*P			**Pn**	**20 01 01.3**	**-0.1**
SHL				*e*S			**Sn**	**20 02 31.4**	**-2.4**
KMI	**Kunming**	**9.17**	**41**	P			Pn	20 01 21.1	+6.3
KMI				smax		smax			
	comp=N,240nm,1.2s								
KMI				smax		smax			
	comp=E,200nm,1.2s								
KMI				LR		LR			
	comp=Z,1μm,6.6s								
UBPT	**Khong Chiam**	**9.48**	**107**				**Pn**	**20 01 19.0**	**+0.1**
PZH	**PanZhiHua**	**9.68**	**32**	P			Pn	20 01 27.6	+5.9
PZH				S			**Sn**	**20 03 17.0**	**+6.9**
PZH				sS				20 03 25.9	
PZH				pmax		pmax			
	comp=Z,60nm,1.4s								
PZH				pmax		pmax			
	comp=Z,230nm,4.6s								
PZH				LR		LR			
	comp=N,3μm,11.8s								
PZH				LR		LR			
	comp=E,6μm,10.3s								
PZH				LR		LR			
	comp=Z,3μm,7.5s								
SRIT	**Nakonsritamara**	**10.25**	**160**	Pn			**Pn**	**20 01 30.7**	**+1.2**
BOK	**Bokaro**	**10.97**	**302**	*e*P			**Pn**	**20 01 40.2**	**+0.8**
LSA	**Lhasa**	**12.19**	**339**				**Pn**	**20 01 55.2**	**-1.2**
LSA	**Lhasa**	**12.19**	**339**	P			**Pn**	**20 01 55.3**	**-1.2**
LSA	**Lhasa**	**12.19**	**339**	*i* P			**Pn**	**20 01 55.9**	**-0.5**
	SNR=10								
GYA	**Guiyang**	**12.69**	**48**	⇓*i*P			**Pn**	**20 02 03.5**	**+0.5**
GYA				sP				20 02 16.4	
GYA				pmax		pmax			
	comp=Z,5.0nm,0.8s								
GYA				pmax		pmax			
	comp=Z,220nm,4.6s								
GYA				LR		LR			
	comp=N,1μm,7.2s								
GYA				LR		LR			
	comp=E,2μm,8.4s								
GYA				LR		LR			
	comp=Z,2μm,9.4s								
QIZ	**Qiongzhong**	**13.05**	**85**	P			**Pn**	**20 02 08.6**	**+0.7**
QIZ				PcP			**PcP**	**20 07 39.8**	**-0.7**
QIZ				pmax		pmax			
	comp=Z,190nm,3.8s								
QIZ				LR		LR			
	comp=N,2μm,13.1s								
QIZ				LR		LR			
	comp=E,800nm,8.6s								
QIZ				LR		LR			
	comp=Z,1μm,11.5s								
KULM	**Kulim**	**13.70**	**160**	Pn			**Pn**	**20 02 15.7**	**-0.9**
MLSI	**Meulaboh, Aceh**	**13.97**	**179**	P			**Pn**	**20 02 21.8**	**+1.4**
	46nm,0.7s								
CD2	**Chengdu**	**14.34**	**28**	P			**Pn**	**20 02 27.3**	**+1.9**
CD2				S			**Sn**	**20 05 06.4**	**+2.4**
CD2				pmax		pmax			
	comp=Z,40nm,0.8s								
CD2				LR		LR			
	comp=N,3μm,8.2s								
CD2				LR		LR			
	comp=E,3μm,6.8s								
CD2				LR		LR			
	comp=Z,2μm,7.6s								
KCSI	**Kotacane, Aceh**	**14.80**	**173**	P			**Pn**	**20 02 32.9**	**+1.2**
	98nm,1.1s,1μm								
SNSI	**Sinabang, Aceh**	**15.81**	**179**	P			**Pn**	**20 02 46.7**	**+1.6**
	49nm,1.1s								
HYB	**Hyderabad**	**16.72**	**270**	*e*P			**Pn**	**20 02 57.6**	**+0.9**
HYB	**Hyderabad**	**16.72**	**270**	*e*P			**P**	**20 03 01.9**	**+3.0**
GSI	**Gunungsitoli**	**16.97**	**175**				**Pn**	**20 02 58.3**	**-1.6**
GSI	**Gunungsitoli**	**16.97**	**175**	P			**Pn**	**20 02 58.7**	**-1.2**
	39nm,0.8s								
ENH	**Enshi**	**17.03**	**43**				**Pn**	**20 03 00.7**	**+0.2**
GOMU	**GeErMu**	**17.84**	**357**	P			**Pn**	**20 03 11.3**	**+0.3**
GOMU				sP			sP	20 03 18.5	-0.3
GOMU				pmax		pmax			
	comp=Z,19nm,1.1s								
GOMU				LR		LR			
	comp=N,330nm,11.9s								
GOMU				LR		LR			
	comp=E,370nm,12.1s								
GOMU				LR		LR			
	comp=Z,320nm,11.9s								
MYKOM	**Kota Tinggi**	**18.11**	**154**	P			**Pn**	**20 03 13.9**	**0.0**
LGTI	**Lohaghat**	**18.21**	**310**	*e*P			**Pn**	**20 03 15.3**	**+0.1**
PTH	**Pithoragarh**	**18.29**	**311**	*e*P			**Pn**	**20 03 15.6**	**-0.7**
CNSH	**ChangSha**	**18.31**	**55**	⇓P			**Pn**	**20 03 18.8**	**+2.5**
CNSH				eS			**Sn**	**20 06 39.5**	**-0.9**
CNSH				LR		LR			
	comp=N,1μm,7.2s								
CNSH				LR		LR			
	comp=E,1μm,8.1s								
PBSI	**Pulau Batu**	**18.39**	**173**	P			**Pn**	**20 03 17.9**	**+0.6**
	79nm,1.1s								
SALM	**Salem**	**18.50**	**251**	*e*P			**P**	**20 03 21.6**	**+3.0**
BKNI	**Bangkinang**	**18.53**	**164**				**P**	**20 03 18.1**	**-0.8**
BKNI	**Bangkinang**	**18.53**	**164**	P			**P**	**20 03 20.3**	**+1.4**
	48nm,0.5s,2μm								
PALK	**Pallekele**	**18.57**	**236**	P			**P**	**20 03 19.7**	**+0.3**
PALK	**Pallekele**	**18.57**	**236**	Pn			**P**	**20 03 19.9**	**+0.5**
	0.3nm,0.3s,baz=142,slow=12,SNR=1.6								
PALK					Sn		Sn	20 06 35.9	-11
	0.3nm,0.3s,baz=81,slow=19,SNR=1.6								
PALK					LR		LR	20 10 45.6	
	comp=Z,367nm,19.5s,baz=164,slow=38 3.5nm,0.7s								
LZH	**Lanzhou**	**18.98**	**20**	⇓P			**Pn**	**20 03 27.4**	**+2.8**
LZH				sP			sP	20 03 40.9	+10
LZH				S			**Sn**	**20 06 56.8**	**0.0**
LZH				pmax		pmax			
	comp=Z,45nm,1.4s								
LZH				pmax		pmax			
	comp=Z,360nm,5.5s								
LZH				LR		LR			
	comp=N,1μm,6.9s								
LZH				LR		LR			
	comp=E,1μm,7.9s								
LZH				LR		LR			
	comp=Z,1μm,7.9s								
XAN	**Xi'an**	**19.40**	**34**	⇓P			**P**	**20 03 29.4**	**+1.0**
XAN				pP			pP	20 03 33.4	0.0
XAN				sP			sP	20 03 37.3	+1.6
XAN				pmax		pmax			
	comp=Z,38nm,1.1s								
XAN				pmax		pmax			
	comp=Z,280nm,4.1s								
XAN				LR		LR			
	comp=N,3μm,12.0s								
XAN				LR		LR			
	comp=E,3μm,11.7s								
XAN				LR		LR			
	comp=Z,1μm,17.9s								
PDSI	**Padang**	**19.59**	**167**	P			**P**	**20 03 31.4**	**+0.9**
	15nm,1.0s								
KOD	**Kodaikanal**	**19.74**	**249**	*e*P			**P**	**20 03 34.7**	**+2.2**
KOD				IAmb		IAmb	IAmb	20 03 36.5	
	comp=Z,15nm,1.0s								
SISI	**Saibi**	**19.75**	**171**	P			**P**	**20 03 33.1**	**+0.9**
	comp=Z,30nm,1.5s								
DSRI	**Dabo**	**20.46**	**155**	P			**P**	**20 03 41.3**	**+1.3**
	comp=Z,48nm,1.0s								
KUDL	**Kundal**	**20.47**	**302**	*e*P			**P**	**20 03 40.6**	**+0.6**
WHN	**Wuhan**	**20.57**	**50**	⇓P			**P**	**20 03 43.3**	**+2.2**
WHN				S			**S**	**20 07 23.8**	**-6.7**
WHN				pmax		pmax			
	comp=Z,140nm,1.1s								
WHN				LR		LR			
	comp=Z,2μm,5.6s								
WHN				LR		LR			
	comp=Z,2μm,8.6s								
WHN				LR		LR			
	comp=Z,2μm,9.9s								
KRJI	**Kerinci**	**20.96**	**165**	P			**P**	**20 03 46.2**	**+0.7**
	comp=Z,28nm,0.6s								
JMBI	**JAMBI**	**21.18**	**159**	P			**P**	**20 03 48.8**	**+1.1**
GTA	**Gaotai**	**21.26**	**8**	⇑P			**P**	**20 03 49.8**	**+1.1**
GTA				sP			sP	20 04 02.6	+6.7
GTA				sS			sS	20 07 50.8	-1.6
GTA				PcP			**PcP**	**20 07 54.8**	**+1.5**
GTA				PcS			**PcS**	**20 11 32.3**	**+0.8**
GTA				pmax		pmax			
	comp=Z,37nm,0.9s								
GTA				LR		LR			
	comp=Z,400nm,8.7s								
GTA				LR		LR			
	comp=Z,410nm,8.4s								
GTA				LR		LR			
	comp=Z,390nm,9.5s								
SMLA	**Simla**	**21.36**	**310**	*e*P			**P**	**20 03 50.1**	**+0.5**
AJM	**Ajmer**	**21.41**	**296**	*e*P			**P**	**20 03 51.9**	**+1.7**
AJM				IAmb		IAmb	IAmb	20 03 55.3	
	comp=Z,79nm,1.0s								
LYN	**LuoYang**	**21.78**	**39**	⇓P			**P**	**20 03 56.1**	**+2.0**
LYN				pP			pP	20 03 59.3	+0.2
LYN				sP			sP	20 04 03.4	+2.1
LYN				PP			**PnPn**	**20 04 22.4**	**+7.0**
LYN				SS			Sn	20 08 31.1	+27
LYN				pmax		pmax			
	comp=Z,55nm,0.8s								
LYN				pmax		pmax			
	comp=Z,240nm,4.6s								
LYN				LR		LR			
	comp=Z,5μm,13.9s								
LYN				LR		LR			
	comp=Z,4μm,12.4s								
LYN				LR		LR			
	comp=Z,2μm,16.8s								
KSM	**Kuching**	**21.80**	**139**	P			**P**	**20 03 53.7**	**-0.7**
BHK	**Bhakra**	**22.06**	**310**	*e*P			**P**	**20 03 57.8**	**+0.7**
BHK				IAmb		IAmb	IAmb	20 03 58.3	
	comp=Z,65nm,0.8s								
DHRM	**DHARAMSHALA**	**22.59**	**312**	*e*P			**P**	**20 04 01.8**	**-1.3**
PPBI	**Pangkal Pinang**	**22.63**	**153**	P			**P**	**20 04 04.6**	**+1.3**
	comp=Z,23nm,0.5s,comp=Z,3μm								
PMBI	**Palembang**	**22.78**	**157**	P			**P**	**20 04 04.2**	**-0.7**
PMBI	**Palembang**	**22.78**	**157**	P			**P**	**20 04 04.9**	**0.0**
	comp=Z,96nm,0.5s								
THN	**Thein Dam**	**23.10**	**311**	*e*P			**P**	**20 04 07.3**	**-0.8**
THN				IAmb		IAmb	IAmb	20 04 11.7	
	comp=Z,83nm,0.9s								
STKI	**Sintang**	**23.62**	**139**	P			**P**	**20 04 14.0**	**+0.6**
	comp=Z,46nm,1.2s								
TWG	**Pinlang**	**23.80**	**75**	P			**P**	**20 04 13.1**	**-2.1**
TWG				IAmb		IAmb	IAmb	20 04 24.1	
	comp=Z,87nm,1.4s								
TIY	**Taiyuan**	**24.04**	**33**	P			**P**	**20 04 18.4**	**+1.0**
TIY				pmax		pmax			
	comp=Z,38nm,1.1s								
TIY				LR		LR			
	comp=Z,1μm,12.4s								
TIY				LR		LR			
	comp=Z,1μm,12.4s								
TIY				LR		LR			
	comp=Z,680nm,12.4s								
YULB	**Yu-li**	**24.08**	**74**	P			**P**	**20 04 16.8**	**-1.0**
YULB				IAmb		IAmb	IAmb	20 04 21.6	
	comp=Z,44nm,1.0s								
NJ2	**Nanjing**	**24.66**	**52**	*e*P			**P**	**20 04 24.3**	**+1.3**
NJ2				sP			sP	20 04 35.8	+5.3
NJ2				S			**S**	**20 08 45.0**	**+1.2**
NJ2				sS			sS	20 08 59.0	+6.5
NJ2				pmax		pmax			
	comp=Z,8.0nm,0.6s								
NJ2				pmax		pmax			
	comp=Z,290nm,4.8s								
NJ2				LR		LR			
	comp=Z,920nm,7.1s								
NJ2				LR		LR			
	comp=Z,640nm,6.2s								
NJ2				LR		LR			
	comp=Z,740nm,9.2s								
HNS	**HongShan**	**25.06**	**37**	⇑P			**P**	**20 04 28.4**	**+1.9**
HNS				S			**S**	**20 08 53.3**	**+3.2**
HNS				pmax		pmax			
	comp=Z,50nm,1.1s								
HNS				LR		LR			
	comp=Z,1μm,16.3s								
HNS				LR		LR			
	comp=Z,1μm,15.7s								
HNS				LR		LR			
	comp=Z,710nm,11.7s								
BTO	**Baotou**	**25.24**	**25**	⇑*i*P			**P**	**20 04 30.0**	**+1.7**
BTO				S			**S**	**20 08 56.8**	**+3.6**
BTO				LR		LR			
	comp=Z,1μm,11.3s								
BTO				LR		LR			
	comp=Z,1μm,8.6s								
BTO				LR		LR			
	comp=Z,1μm,10.4s								
NIL	**Nilore**	**25.50**	**311**	P			**P**	**20 04 30.5**	**-0.2**
NIL				IAmb		IAmb	IAmb	20 04 32.8	
	comp=Z,48nm,0.9s								
NIL	**Nilore**	**25.50**	**311**	P			**P**	**20 04 30.5**	**-0.2**
NIL				pmax		pmax			
	comp=Z,48nm,1.0s								
NIL	**Nilore**	**25.50**	**311**	P			**P**	**20 04 31.1**	**+0.5**
TIA	**Tai'an**	**25.73**	**42**	P			**P**	**20 04 33.4**	**+0.7**
TIA				pmax		pmax			
	comp=Z,7.0nm,0.9s								
TIA				LR		LR			
	comp=Z,440nm,9.9s								
TIA				LR		LR			
	comp=Z,340nm,11.8s								
TIA				LR		LR			
	comp=Z,610nm,10.5s								
SSE	**Sheshan**	**26.04**	**56**	P			**P**	**20 04 36.3**	**+0.8**
SSE				S			**S**	**20 09 08.8**	**+3.0**
SSE				pmax		pmax			
	comp=Z,6.0nm,0.8s								
SSE				pmax		pmax			
	comp=Z,190nm,6.5s								
SSE				LR		LR			
	comp=Z,390nm,10.9s								
SSE				LR		LR			
	comp=Z,430nm,10.1s								
HHC	**Hu-ho-hao-te**	**26.09**	**27**	⇑P			**P**	**20 04 37.8**	**+1.7**
HHC				pP			sP	20 04 46.3	+2.7
HHC				sP			pP	20 04 48.8	+7.4
HHC				sS			sS	20 09 18.3	+2.7
HHC				pmax		pmax			
	comp=Z,24nm,0.5s								
HHC				pmax		pmax			
	comp=Z,140nm,4.4s								
HHC				LR		LR			
	comp=Z,710nm,11.4s								
HHC				LR		LR			
	comp=Z,740nm,10.2s								
HHC				LR		LR			
	comp=Z,960nm,12.5s								
WMQ	**Urumqi**	**26.39**	**346**	⇑*i*P			**P**	**20 04 39.5**	**+0.9**
WMQ				pmax		pmax			
	comp=Z,55nm,1.7s								
WMQ				pmax		pmax			
	comp=Z,230nm,3.8s								
KSH	**Kashi**	**27.38**	**325**	P			**P**	**20 04 46.9**	**-0.8**
KSH				sP			sP	20 05 00.1	+4.8
KSH				pmax		pmax			
	comp=Z,34nm,0.7s								
KSH				LR		LR			
	comp=Z,230nm,12.0s								
KSH				LR		LR			
	comp=Z,370nm,11.6s								
KSH				LR		LR			
	comp=Z,220nm,12.4s								
BJT	**Baijiatuau**	**27.71**	**35**	P			**P**	**20 04 50.4**	**-0.1**
BJT	**Baijiatuau**	**27.71**	**35**	P			**P**	**20 04 50.4**	**-0.1**
BJT				pmax		pmax			
	comp=Z,10.0nm,1.2s								
BJI	**Beijing**	**27.73**	**35**	P			**P**	**20 04 52.3**	**+1.6**
BJI				pmax		pmax			
	comp=Z,4.0nm,0.8s								
BJI				pmax		pmax			
	comp=Z,110nm,5.1s								
BJI				LR		LR			
	comp=Z,360nm,13.5s								
BJI				LR		LR			
	comp=Z,340nm,12.9s								
BJI				LR		LR			
	comp=Z,220nm,12.9s								
TARG	**Taragay, Kyrgy**	**28.08**	**330**	P			**P**	**20 04 53.5**	**-0.7**
TARG				IAmb		IAmb	IAmb	20 05 22.4	
	comp=Z,25nm,1.0s								
TARG	**Taragay, Kyrgy**	**28.08**	**330**	P			**P**	**20 04 53.5**	**-0.7**
TARG				pmax		pmax			
	comp=Z,25nm,1.0s								
SHLS	**Shalkode**	**28.48**	**334**	*e*P			**P**	**20 04 56.0**	**-1.4**
SHLS	**Shalkode**	**28.48**	**334**	*e*P			**P**	**20 04 56.0**	**-1.4**
	baz=334								
UZB	**Uzynbulak**	**28.65**	**333**	*e*P			**P**	**20 04 59.0**	**0.0**
UZB	**Uzynbulak**	**28.65**	**333**	*e*P			**P**	**20 04 59.1**	**0.0**
	baz=333								
NRN	**Naryn**	**28.74**	**328**	P			**P**	**20 04 59.0**	**-1.0**
NRN	**Na

baz=331
MDOK Medeo 29.54 331 *e*P **P** **20 05 06.9 0.0**
MDOK Medeo 29.54 331 *e*P **P** **20 05 07.0 0.0**
baz=331
AAA Alma-Ata 29.64 331 *e*P **P** **20 05 07.7 0.0**
AAA pmax pmax
comp=Z,12nm,1.0s
AAA Alma-Ata 29.64 331 *e*P **P** **20 05 07.7 0.0**
comp=Z,12nm,1.0s,baz=331
DRK Karamyk 29.78 320 P **P** **20 05 08.4 -0.9**
DRK IAmb IAmb 20 05 12.9
comp=Z,21nm,0.8s
CHKK Chushkaly 30.11 332 *e*P **P** **20 05 11.6 -0.2**
CHKK Chushkaly 30.11 332 *e*P **P** **20 05 11.6 -0.2**
baz=332
DL2 Dalian 30.21 42 P **P** **20 05 12.3 -0.4**
DL2 S **S** **20 10 09.8 -1.6**
DL2 pmax pmax
comp=Z,18nm,1.0s
DL2 pmax pmax
comp=Z,190nm,5.9s
DL2 LR LR
comp=Z,730nm,14.7s
DL2 LR LR
comp=Z,350nm,11.6s
DL2 LR LR
comp=Z,830nm,12.4s
ARSB Arslanbob 30.28 324 P **P** **20 05 13.2 -0.3**
ARSB Arslanbob 30.28 324 P **P** **20 05 13.2 -0.3**
ARSB pmax pmax
comp=Z,3.0nm,1.1s
AAK Ala-Archa 30.39 328 P **P** **20 05 14.1 -0.3**
AAK IAmb IAmb 20 05 16.6
comp=Z,24nm,1.4s
AAK Ala-Archa 30.39 328*ce*P **P** **20 05 13.6 -0.8**
AAK pmax pmax
comp=Z,26nm,1.7s
AAK Ala-Archa 30.39 328 *i* P **P** **20 05 14.9 +0.5**
SNR=13
AAK Ala-Archa 30.39 328 LR LR 20 20 36.2
comp=Z,138nm,21.7s,baz=144,slow=43
AAK Ala-Archa 30.39 328 P **P** **20 05 15.3 +0.9**
GAR Garm 30.41 318 P **P** **20 05 14.0 -0.7**
GAR IAmb IAmb 20 05 17.7
comp=Z,47nm,1.3s
TDK Taldyqorghan 30.43 335 *e*P **P** **20 05 14.9 +0.3**
TDK Taldyqorghan 30.43 335 *e*P **P** **20 05 14.9 +0.3**
baz=335
FRU1 Bishkek 30.44 328 P **P** **20 05 14.7 -0.1**
FRU1 Bishkek 30.44 328 P **P** **20 05 14.7 -0.1**
FRU1 pmax pmax
comp=Z,13nm,1.0s
ZSN Zaisan 30.48 345 *e*P **P** **20 05 15.3 +0.3**
ZSN pmax pmax
comp=Z,12nm,1.0s
ZSN Zaisan 30.48 345 *e*P **P** **20 05 15.3 +0.3**
comp=Z,12nm,1.0s,baz=345
XLT XiLinHaoTe 30.55 29 *e*P P 20 05 13.5 -2.3
XLT pmax pmax
comp=Z,14nm,1.0s
XLT pmax pmax
comp=Z,180nm,5.4s
XLT LR LR
comp=Z,47nm,9.2s
XLT LR LR
comp=Z,360nm,10.4s
XLT LR LR
comp=Z,610nm,13.5s
MK31 Makanchi Array 30.59 341 P **P** **20 05 15.2 -0.8**
MK31 Makanchi Array 30.59 341*ce*P **P** **20 05 16.2 +0.2**
MKAR Makanchi Array 30.59 341 P **P** **20 05 15.7 -0.3**
MKAR Makanchi Array 30.59 341 P **P** **20 05 16.1 +0.1**
comp=Z,6.9nm,0.6s,baz=152,slow=9.1,SNR=106
MKAR PcP **PcP** **20 08 14.4 0.0**
comp=Z,1.5nm,0.8s,baz=112,slow=2.0,SNR=4.8
comp=Z,6.9nm,0.6s
SONM Songino Array 30.62 14 P **P** **20 05 16.2 -0.2**
SONM Songino Array 30.62 14 P **P** **20 05 17.0 +0.6**
comp=Z,6.2nm,1.0s,baz=201,slow=11,SNR=18
SONM PcP **PcP** **20 08 15.2 +0.6**
comp=Z,1.0nm,0.7s,baz=190,slow=4.4,SNR=3.0
SONM LR LR 20 18 59.9
comp=Z,473nm,18.6s,baz=192,slow=39
comp=Z,6.2nm,1.0s
MAKZ Makanchi 30.70 341 P **P** **20 05 15.9 -1.0**
MAKZ Makanchi 30.70 341 P **P** **20 05 16.9 -0.1**
BTK Batken 30.73 320 P **P** **20 05 16.8 -0.6**
BTK Batken 30.73 320 P **P** **20 05 16.8 -0.6**
BTK pmax pmax
comp=Z,10.0nm,0.9s
ULN Ulaanbaatar 30.80 14 P **P** **20 05 17.5 -0.6**
ULN Ulaanbaatar 30.80 14*ce*P **P** **20 05 17.4 -0.6**
ULN pmax pmax
comp=Z,15nm,1.7s
DAV Davao City (W) 30.81 107 LR LR 20 17 23.4
comp=Z,248nm,20.1s,baz=314,slow=36
JOW Kunigami 30.84 68 LR LR 20 18 40.9
comp=Z,159nm,18.2s,baz=174,slow=38
SGDS Sogindy 30.91 329 *e*P **P** **20 05 19.3 +0.4**
SGDS pmax pmax
comp=Z,10.0nm,0.8s
SGDS Sogindy 30.91 329 *e*P **P** **20 05 19.4 +0.4**
comp=Z,10nm,0.8s,baz=329
SIMJ Simiganj 31.07 316 P **P** **20 05 19.8 -0.7**
SIMJ IAmb IAmb 20 05 23.7
comp=Z,28nm,1.1s
DGZ Jazzator, Alta 32.07 349*c* *i*P **P** **20 05 29.8 +0.6**
DGZ pmax pmax
comp=Z,13nm,0.7s
DZA Taraz 32.24 325 *e*P **P** **20 05 30.3 -0.3**
DZA Taraz 32.24 325 *e*P **P** **20 05 30.4 -0.3**
baz=325
BTLS Baital 32.37 330 *e*P **P** **20 05 31.3 -0.3**
BTLS Baital 32.37 330 *e*P **P** **20 05 31.4 -0.3**
baz=330
ZAK Zakamensk 32.50 9 *e*P **P** **20 05 33.6 +0.7**
ZAK *e* 20 08 19.3
ZAK pmax pmax
comp=Z,8.0nm,1.0s
ZAK pmax pmax
comp=Z,5.0nm,1.0s
LUWI Luwuk 32.54 123 P **P** **20 05 32.3 -1.2**
KK31 Karatay Array 32.83 324 P **P** **20 05 35.3 -0.5**
KK31 Karatay Array 32.83 324 P **P** **20 05 35.3 -0.5**
KK31 pmax pmax
comp=Z,4.0nm,1.0s
KKAR Karatay Array 32.83 324 P **P** **20 05 35.1 -0.7**
KKAR Karatay Array 32.83 324 P **P** **20 05 35.1 -0.7**
KKAR pmax pmax
comp=Z,4.0nm,1.0s
TJN Taejon 32.89 50*ce*P **P** **20 05 36.1 -0.2**
KAPI Kappang 32.90 133 P **P** **20 05 36.3 -0.3**
KAPI IAmb IAmb 20 05 41.4
comp=Z,37nm,1.1s
KAPI Kappang 32.90 133 P **P** **20 05 36.3 -0.3**
KAPI pmax pmax
comp=Z,37nm,1.1s
BRLS Borolday 33.16 324 *e*P **P** **20 05 37.5 -1.1**
BRLS Borolday 33.16 324 *e*P **P** **20 05 37.5 -1.1**
baz=323
MOY Mondy 33.50 6 *e*P **P** **20 05 42.8 +1.2**
MOY pmax pmax
comp=Z,10.0nm,1.4s
KSRS Korea Array 33.75 49 P **P** **20 05 42.9 -0.9**
comp=Z,1.8nm,0.8s,baz=241,slow=8.7,SNR=10
KSRS LR LR 20 20 47.4
comp=Z,304nm,18.6s,baz=240,slow=39
comp=Z,1.8nm,0.8s
HRA Herat 34.09 305 P **P** **20 05 46.4 -0.7**
SEM Semipalatinsk 34.43 342 *e*P **P** **20 05 48.8 -1.0**
SEM Semipalatinsk 34.43 342 *e*P **P** **20 05 48.9 -1.0**
baz=342
JNU Nakatsue 34.45 58 LR LR 20 20 17.1
comp=Z,212nm,19.4s,baz=244,slow=37
IRK Irkutsk 34.46 9 *e*P **P** **20 05 51.5 +1.7**
IRK pmax pmax
comp=Z,23nm,1.0s
JLN Jalan Bani Buh 34.57 283 P **P** **20 05 52.5 +1.3**
JLN P **P** **20 05 52.5 +1.3**
WBK Wadi Bani Khal 34.98 283 P **P** **20 05 57.0 +2.3**
KURBB Kurchatov Arra 35.14 340 P **P** **20 05 55.2 -0.4**
comp=Z,10nm,0.6s,baz=150,slow=8.6,SNR=124
KURBB PcP **PcP** **20 08 26.9 0.0**
comp=Z,5.0nm,0.8s,baz=157,slow=2.3,SNR=15
KURBB LR LR 20 24 24.0
comp=Z,82nm,18.4s,baz=172,slow=43
comp=Z,10nm,0.6s
KURK Kurchatov 35.19 341 P **P** **20 05 55.1 -1.1**
KURK IAmb IAmb 20 05 56.6
comp=Z,17nm,0.8s
KURK Kurchatov 35.19 341*ce*P **P** **20 05 56.1 0.0**
KURK pmax pmax
comp=Z,35nm,1.7s
KURK Kurchatov 35.19 341 P **P** **20 05 55.9 -0.2**
BIDO Bidbid 35.76 285 P **P** **20 06 03.8 +2.4**
JMDO Jabal Madar 35.78 283 P **P** **20 06 03.5 +1.9**
JMDO P **P** **20 06 03.5 +1.9**
SMDO Samad 35.83 284 P **P** **20 06 04.2 +2.1**
SNR=10
SMDO P **P** **20 06 04.2 +2.1**
SNR=10
MHTO MHTO 35.94 281 P **P** **20 06 04.8 +1.8**
MHTO P **P** **20 06 04.8 +1.8**
HIA Hailar 36.29 26 P **P** **20 06 05.6 0.0**
HIA IAmb IAmb 20 06 08.3
comp=Z,39nm,1.0s
HIA Hailar 36.29 26 P **P** **20 06 05.6 0.0**
HIA pmax pmax
comp=Z,39nm,1.0s
HOQ Hoqain 36.51 285 P **P** **20 06 09.8 +2.0**
SNR=5.3
HOQ P **P** **20 06 09.8 +2.0**
SNR=5.3
ZAA0 Zalesovo Array 36.61 349 P **P** **20 06 08.1 -0.2**
ZAA0 IAmb IAmb 20 06 09.7
comp=Z,43nm,0.9s
ZALV Zalesovo Beam 36.61 349 P **P** **20 06 08.4 +0.1**
ZALV Zalesovo Beam 36.61 349 *i* P **P** **20 06 08.6 +0.4**
ZALV pmax pmax
comp=Z,33nm,0.8s
ZALV Zalesovo Beam 36.61 349 P **P** **20 06 08.1 -0.1**
comp=Z,33nm,0.8s,baz=174,slow=8.7,SNR=140
ZALV LR LR 20 24 12.0
comp=Z,75nm,19.2s,baz=144,slow=41
comp=Z,33nm,0.8s
BSY Bisya 36.61 284 P **P** **20 06 11.0 +2.3**
SNR=8.9
BSY P **P** **20 06 11.0 +2.3**
SNR=8.9
BRZS Berezniki 36.74 335 *e*P **P** **20 06 09.5 +0.1**
BRZS Berezniki 36.74 335 *e*P **P** **20 06 09.5 +0.1**
baz=335
EDFI Ende, Flores 36.91 135 P **P** **20 06 10.4 -0.9**
comp=Z,16nm,0.8s
MMRI Maumere 37.20 134 P **P** **20 06 12.7 -1.0**
MMRI IAmb IAmb 20 06 15.5
comp=Z,42nm,1.0s
SOHO SOHO 37.23 286 P **P** **20 06 15.5 +1.6**
SOHO SOHO 37.23 286 P **P** **20 06 15.7 +1.7**
SOHO P **P** **20 06 15.7 +1.7**
ARQ Araqi 37.23 285 P **P** **20 06 15.6 +1.6**
ARQ P **P** **20 06 15.6 +1.6**
MDH Madha 37.48 288 P **P** **20 06 16.9 +0.8**
MDH Madha 37.48 288 P **P** **20 06 16.3 +0.2**
UOSS Minazif 37.56 287 P **P** **20 06 17.6 +0.9**
UOSS Minazif 37.56 287 P **P** **20 06 19.0 +2.3**
MASF Masafi 37.61 288 P **P** **20 06 19.8 +2.5**
HATD Hatta, Dubai 37.62 287 P **P** **20 06 19.6 +2.4**
HATD Hatta, Dubai 37.62 287 P **P** **20 06 20.1 +2.9**
HATD P **P** **20 06 20.1 +2.9**
ASHO Ashiyiah 37.68 287 *i* P **P** **20 06 20.1 +2.3**
SNR=14
ASHO Ashiyiah 37.68 287 P **P** **20 06 20.1 +2.3**
BNX BinXian 37.69 37 ⇓P **P** **20 06 18.5 +1.0**
BNX pmax pmax
comp=Z,24nm,0.5s
BNX pmax pmax
comp=Z,160nm,5.7s
ALNE Al Ain 37.95 286 *i* P **P** **20 06 21.6 +1.6**
SNR=7.7
ALNE Al Ain 37.95 286 P **P** **20 06 21.9 +1.9**
SNR=5.7
ALNE P **P** **20 06 21.9 +1.9**
SNR=5.7
FAQ Al Faqa, Dubai 38.11 287 *i* P **P** **20 06 23.0 +1.7**
SNR=7.2
FAQ Al Faqa, Dubai 38.11 287 P **P** **20 06 23.3 +1.9**
SNR=7.2
FAQ P **P** **20 06 23.3 +1.9**
SNR=7.2
MDJ Mudanjiang 38.34 39 P **P** **20 06 23.6 +0.6**
MDJ pP sP 20 06 32.0 +1.4
MDJ PP **PP** **20 07 52.4 +1.7**
MDJ sS sS 20 12 32.8 +7.1
MDJ ScS **ScS** **20 16 33.8 +0.1**
MDJ pmax pmax
comp=Z,7.0nm,2.2s
MDJ pmax pmax
comp=Z,140nm,5.2s
MDJ LR LR
comp=Z,590nm,16.5s
MDJ LR LR
comp=Z,690nm,16.5s
MDJ LR LR
comp=Z,520nm,14.8s
ASUD Al Ashush, Dub 38.34 287 P **P** **20 06 25.3 +2.0**
GEYT Alibeck 38.43 308 P **P** **20 06 24.3 +0.4**
GEYT IAmb IAmb 20 06 26.6
comp=Z,46nm,0.9s
GEYT Alibeck 38.43 308 P **P** **20 06 25.5 +1.6**
comp=Z,35nm,0.9s,baz=145,slow=8.8,SNR=51
GEYT LR LR 20 25 26.5
comp=Z,141nm,21.9s,baz=136,slow=41
comp=Z,35nm,0.9s
GYA0B ALIBECK ARRAY 38.43 308 P **P** **20 06 24.4 +0.5**
GYA0B IAmb IAmb 20 06 29.2
comp=Z,41nm,0.9s
UMZA Um Al Zommool 38.49 284 P **P** **20 06 25.6 +1.0**
UMZA P **P** **20 06 25.6 +1.0**
AJN Ajban 38.65 287 P **P** **20 06 27.5 +1.6**
VLA Vladivostok 39.02 43 *i* P **P** **20 06 28.8 +0.1**
VLA pmax pmax
comp=Z,27nm,1.1s
DMTO DMTO 39.07 276 P **P** **20 06 31.2 +1.7**
BATI Baumata 39.30 134 P **P** **20 06 31.2 -0.2**
comp=Z,23nm,0.9s
SOEI Soe 39.39 133 P **P** **20 06 31.0 -1.3**
SOEI Soe 39.39 133 P **P** **20 06 32.0 -0.3**
comp=Z,76nm,0.9s
USA0B Ussuriysk Arra 39.60 41 *i* P **P** **20 06 34.2 +0.6**
USRK Ussuriysk Ar. 39.60 41 P **P** **20 06 33.4 -0.1**
USRK Ussuriysk Ar. 39.60 41 P **P** **20 06 34.0 +0.5**
comp=Z,6.1nm,0.9s,baz=240,slow=7.2,SNR=6.8
USRK LR LR 20 24 27.1
comp=Z,246nm,18.4s,baz=224,slow=38
comp=Z,6.1nm,0.9s
MZWR Madinat Zayed 39.66 285 P **P** **20 06 35.2 +0.9**
MZWR P **P** **20 06 35.2 +0.9**
DOK Doka 39.73 277 P **P** **20 06 36.2 +1.2**
DOK P **P** **20 06 36.2 +1.2**
INU Inuyama 39.95 57 P **P** **20 06 35.4 -1.2**
BVAR Borovoye Array 40.00 336 P **P** **20 06 36.4 -0.5**
comp=Z,5.9nm,0.8s,baz=134,slow=8.8,SNR=27
BVAR PcP **PcP** **20 08 42.3 +0.5**
comp=Z,5.5nm,0.7s,baz=140,slow=3.3,SNR=12
BVAR LR LR 20 27 08.7
comp=Z,110nm,19.6s,baz=122,slow=42
comp=Z,5.9nm,0.8s
BRVK Borovoye 40.07 336 P **P** **20 06 36.7 -0.7**
BRVK Borovoye 40.07 336*ce*P **P** **20 06 36.9 -0.4**
BRVK pmax pmax
comp=Z,13nm,1.7s
BRVK Borovoye 40.07 336 P **P** **20 06 37.0 -0.3**
WHFO Wadi Hawf 40.16 276 P **P** **20 06 39.3 +0.7**
JGF Kuroka 40.28 56 P **P** **20 06 38.5 -0.9**
HEH HeiHe 40.49 31 *e*P **P** **20 06 41.5 +0.6**
HEH pmax pmax
comp=Z,13nm,1.2s
HEH pmax pmax
comp=Z,190nm,5.3s
HEH LR LR
comp=Z,620nm,12.9s
HEH LR LR
comp=Z,440nm,12.6s
HEH LR LR
comp=Z,640nm,13.8s
JRN Qarnain Island 40.60 287 P **P** **20 06 42.8 +0.6**
ABTO Aybut 40.68 276 P **P** **20 06 43.9 +0.9**
ABTO P **P** **20 06 43.9 +0.9**
MJB9 Matsu-Tunnel 41.18 55 P **P** **20 06 46.3 -0.5**
MAJO Matsushiro 41.18 55 P **P** **20 06 46.4 -0.4**
MAJO Matsushiro 41.18 55 *i* P **P** **20 06 47.4 +0.6**
MAJO pmax pmax
comp=Z,13nm,0.9s
MJAR Matsushiro Arr 41.18 55 P **P** **20 06 48.1 +1.3**
comp=Z,9.3nm,1.0s,baz=266,slow=9.5,SNR=32
MJAR LR LR 20 25 48.5
comp=Z,166nm,19.2s,baz=231,slow=39
comp=Z,9.3nm,1.0s
BOD Bodaibo 41.61 14 *e*P **P** **20 06 50.9 +0.9**
BOD pmax pmax
comp=Z,12nm,1.4s
SLWR Sila 41.66 286 P **P** **20 06 51.2 +0.4**
SLWR P **P** **20 06 51.2 +0.4**
JHJ Hachijo jima 2 41.73 61 LR LR 20 25 55.8
comp=Z,101nm,18.4s,baz=270,slow=39
TRNA Turayna 42.09 287 P **P** **20 06 54.9 +0.5**
KLR Kul'dur 42.11 35*ce*P **P** **20 06 53.4 -0.8**
KLR pmax pmax
comp=Z,16nm,1.7s
KLR Kul'dur 42.11 35 LR LR 20 24 51.1
comp=Z,270nm,21.3s,baz=233,slow=37
ABKAR Akbulak array 42.38 325 P **P** **20 06 56.2 -0.2**
ABKAR IAmb IAmb 20 06 57.6
comp=Z,27nm,0.8s
ABKAR Akbulak array 42.38 325 P **P** **20 06 56.2 -0.2**
SMRA Abu-Samra 42.44 287 P **P** **20 06 58.0 +0.7**
SAKB Bahrain 42.70 289 P **P** **20 06 59.6 +0.3**
ZEA Zeya 42.76 27 *e*P **P** **20 07 00.7 +1.3**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
JCJ Chichijima 43.21 70 LR LR 20 23 48.1
comp=Z,134nm,21.4s,baz=106,slow=34
JMM Marumori 43.50 54 P **P** **20 07 05.0 -0.6**
JMM IAmb IAmb 20 07 10.0
comp=Z,46nm,1.1s
AKTO Aktyubinsk 44.08 325 P **P** **20 07 09.9 -0.2**
comp=Z,19nm,0.7s,baz=116,slow=6.3,SNR=78
AKTO PcP **PP** **20 08 55.1 +2.3**
comp=Z,6.6nm,0.9s,baz=133,slow=1.2,SNR=3.7
AKTO LR LR 20 27 28.7
comp=Z,78nm,21.2s,baz=74,slow=39
comp=Z,19nm,0.7s
FITZ Fitzroy Crossi 46.41 140 P **P** **20 07 28.4 -0.5**
FITZ IAmb IAmb 20 08 30.0
comp=Z,30nm,2.0s
ASAJ Asahikawa 46.56 46 LR LR 20 28 44.0
comp=Z,92nm,18.5s,baz=294,slow=38
SVE Sverdlovsk 46.66 334*de*P **P** **20 07 30.6 +0.1**
SVE pmax pmax
comp=Z,47nm,0.9s
KNRA Kununurra 46.66 134 P **P** **20 07 30.6 -0.3**
ARU Arti 47.29 333 P **P** **20 07 34.8 -0.6**
ARU IAmb IAmb 20 07 36.0
comp=Z,18nm,0.9s
ARU Arti 47.29 333*c* *i*P **P** **20 07 34.9 -0.6**
ARU 20 09 06.1
ARU 20 09 23.0
ARU S **S** **20 14 28.6 +0.7**
ARU SS **SS** **20 17 49.5 -5.8**
ARU pmax pmax
comp=Z,20nm,0.9s
ARU Arti 47.29 333 P **P** **20 07 35.0 -0.4**
comp=Z,14nm,0.7s,baz=110,slow=5.1,SNR=28
ARU LR LR 20 32 31.1
comp=Z,88nm,19.0s,baz=129,slow=42
comp=Z,14nm,0.7s
RAYN Ar Rayn 47.34 285 P **P** **20 07 36.4 0.0**
RAYN Ar Rayn 47.34 285 P **P** **20 07 36.4 0.0**
RAYN pmax pmax
comp=Z,9.0nm,1.0s
RAYN Ar Rayn 47.34 285 *i* P **P** **20 07 36.4 0.0**
SNR=13
RAYN Ar Rayn 47.34 285 P **P** **20 07 36.2 -0.2**
YSS Yuzh-Sakhalins 47.61 42 *e*P **P** **20 07 36.7 -1.4**
YSS pmax pmax
comp=Z,10.0nm,1.2s
YSS MLR MLR
comp=Z,400nm,19.0s
MAK Makhachkala 47.66 312 *e*P P 20 07 32.8 -5.7
MAK *e* 20 09 24.2
MAK *e*PPP PPP 20 10 13.1
MAK *e*S S 20 14 26.0 -7.7
MAK *e*SS **SS** **20 17 58.6 -3.2**
MAK *e*SSS SSS 20 19 07.7
MAK pmax pmax
comp=Z,265nm,1.5s
MAK MLR MLR
comp=Z,106nm,17.0s
GROC Groznyy 48.94 312 *e*P **P** **20 07 49.1 +0.7**
GROC *e* 20 09 12.1
GROC *e*S **S** **20 14 53.9 +2.2**
GROC pmax pmax
comp=Z,43nm,1.0s
GNI Garni 49.05 308 P **P** **20 07 50.4 +0.9**
GNI IAmb IAmb 20 07 54.4
comp=Z,12nm,1.0s
GNI Garni 49.05 308*ce*P **P** **20 07 49.8 +0.3**
GNI pmax pmax
comp=Z,24nm,1.7s
GNI Garni 49.05 308 LR LR 20 33 03.0
comp=Z,94nm,19.6s,baz=123,slow=42
GNI Garni 49.05 308 P **P** **20 07 50.2 +0.7**
GNI P **P** **20 07 50.2 +0.7**
YAK Yakutsk 49.56 20 P **P** **20 07 52.9 0.0**
YAK Yakutsk 49.56 20*ce*P **P** **20 07 52.6 -0.2**
YAK pmax pmax
comp=Z,30nm,0.7s
YAK Yakutsk 49.56 20 P **P** **20 07 53.1 +0.3**
comp=Z,29nm,0.7s,baz=246,slow=0.6,SNR=21
YAK LR LR 20 30 17.2
comp=Z,271nm,18.1s,baz=256,slow=38
comp=Z,29nm,0.7s
KARS Kars 50.38 308 P **P** **20 08 00.1 +0.5**
KARS Kars 50.38 308 P **P** **20 08 00.1 +0.5**
KARS pmax pmax
comp=Z,106nm,0.8s
ONI Oni 50.48 310 P **P** **20 08 01.2 +1.0**
ONI IAmb IAmb 20 08 08.1
comp=Z,12nm,0.8s
ONI Oni 50.48 310 P **P** **20 08 01.2 +1.0**
ONI pmax pmax
comp=Z,12nm,0.8s
NCK Nalchik 50.57 312 *i* P **P** **20 08 00.5 -0.3**
NCK pmax pmax
comp=Z,11nm,1.0s
BELG Belogornoye 50.74 324 *i* P **P** **20 08 02.0 +0.1**
BELG pmax pmax
comp=Z,6.0nm,1.0s
BELG Belogornoye 50.74 324 P **P** **20 08 01.2 -0.6**
comp=Z,25nm,0.8s,baz=148,slow=0.6,SNR=13
BELG PcP **PcP** **20 09 19.1 +0.2**
comp=Z,22nm,0.9s,baz=120,slow=2.6,SNR=4.2
BELG LR LR 20 32 26.9
comp=Z,109nm,18.8s,baz=343,slow=40
comp=Z,25nm,0.8s
GURO Guroymak-BITLI 50.87 305 P **P** **20 08 04.3 +1.0**
GURO IAmb IAmb 20 08 06.0
comp=Z,35nm,0.9s
KBZ Khabaz 51.11 312*ce*P **P** **20 08 05.7 +0.9**
KBZ pmax pmax
comp=Z,13nm,1.1s
KBZ Khabaz 51.11 312 P **P** **20 08 05.8 +0.9**
comp=Z,6.0nm,0.9s,baz=125,slow=7.7,SNR=16
comp=Z,6.0nm,0.9s
NEUR Neytrino 51.15 311 *i* P **P** **20 08 07.6 +2.1**
NEUR pmax pmax
comp=Z,40nm,1.7s
NRIK Noril'sk 51.28 356 P **P** **20 08 05.7 0.0**
NRIK Noril'sk 51.28 356 P **P** **20 08 05.9 +0.2**
comp=Z,6.6nm,0.6s,baz=164,slow=4.6,SNR=12
comp=Z,6.6nm,0.6s
GOF Gofitskoye 51.30 313*ce*P **P** **20 08 07.0 +0.7**
KIV Kislovodsk 51.31 312 P **P** **20 08 06.1 -0.4**
KIV Kislovodsk 51.31 312 *e*P **P** **20 08 07.1 +0.6**
KIV pmax pmax
comp=Z,45nm,1.1s
KIV MLR MLR
comp=Z,31nm,16.0s
KIV Kislovodsk 51.31 312 *i* P **P** **20 08 07.2 +0.7**
SNR=9.7
KIV Kislovodsk 51.31 312 P **P** **20 08 07.4 +0.8**
KIRV Kirov 52.59 331 P **P** **20 08 15.7 +0.1**
comp=Z,14nm,0.6s,baz=174,slow=3.6,SNR=7.4
KIRV LR LR 20 33 27.2
comp=Z,128nm,21.1s,baz=133,slow=39
comp=Z,14nm,0.6s

WB0 Warramunga Arr 53.34 133 P **P** 20 08 20.7 -1.1
WB0 lAmb lAmb 20 08 22.8
comp=Z,30nm,0.9s
SOC Sochi 53.35 311 *e*P P 20 08 18.8 -2.7
SOC *e* 20 10 19.3
SOC *e*PPP PPP 20 11 24.7
SOC *e*S **S** **20 15 51.3 -1.4**
SOC *e*SS **SS** **20 19 32.3 -0.3**
SOC *e*SSS SSS 20 21 22.0
SOC pmax pmax
comp=Z,12nm,0.7s
WRA Warramunga Arr 53.42 134 P **P** **20 08 21.8 -0.6**
WRA Warramunga Arr 53.42 134 P **P** **20 08 22.5 +0.1**
comp=Z,23nm,0.8s,baz=319,slow=7.4,SNR=66
WRA PcP **PcP** **20 09 29.9 +0.4**
comp=Z,2.6nm,0.9s,baz=328,slow=3.7,SNR=3.0
comp=Z,23nm,0.8s
WR0 Warramunga Arr 53.58 133 P **P** **20 08 23.1 -0.4**
VRH Novokhopyorsk 53.77 321 *e*P **P** **20 08 24.1 -0.4**
VRH pmax pmax
comp=Z,26nm,1.0s
ARPR Arapgir-MALATY 53.80 305 P **P** **20 08 25.3 +0.2**
GAZ Gaziantep 54.54 303 P **P** **20 08 30.4 -0.1**
GAZ lAmb lAmb 20 08 32.2
comp=Z,22nm,1.0s
ASF Jabal al Asfar 54.68 297 LR LR 20 35 21.5
comp=Z,60nm,21.8s,baz=138,slow=40
VORR Voronezh 55.41 321 *e*P **P** **20 08 36.3 -0.1**
VORR pmax pmax
comp=Z,38nm,1.1s
AS31 Alice Springs 55.71 137 P **P** **20 08 38.6 -0.3**
ASAR Alice Springs 55.71 137 P **P** **20 08 38.9 0.0**
ASAR Alice Springs 55.71 137 P **P** **20 08 39.4 +0.4**
comp=Z,14nm,0.8s,baz=319,slow=7.2,SNR=100
comp=Z,14nm,0.8s
BNN Bunyan 55.71 305 P **P** **20 08 39.3 +0.3**
BNN lAmb lAmb 20 08 40.5
comp=Z,22nm,1.0s
LPSR Galich'ya Gora 55.82 322 *e*P P 20 08 36.9 -2.4
LPSR pmax pmax
comp=Z,20nm,0.9s
MMAI Mount Meron Ar 55.93 298 P **P** **20 08 41.2 +0.7**
comp=Z,5.7nm,0.8s,baz=95,slow=10,SNR=11
MMAI LR LR 20 39 23.2
comp=Z,120nm,18.3s,baz=32,slow=43
comp=Z,5.7nm,0.8s
EIL Elat 56.43 294 LR LR 20 36 53.5
comp=Z,65nm,20.3s,baz=67,slow=40
TIXI Tiksi 56.68 12 P **P** **20 08 44.3 -0.8**
TIXI Tiksi 56.68 12 P **P** **20 08 44.6 -0.5**
comp=Z,4.1nm,0.5s,baz=239,slow=4.3,SNR=27
comp=Z,4.1nm,0.5s
MA2 Magadan 56.74 30 P **P** **20 08 46.0 +0.2**
MA2 lAmb lAmb 20 08 47.3
comp=Z,25nm,0.8s
MA2 Magadan 56.74 30 *i*P **P** **20 08 46.1 +0.3**
MA2 pmax pmax
comp=Z,25nm,0.9s
MA2 Magadan 56.74 30 P **P** **20 08 46.6 +0.9**
comp=Z,22nm,0.8s,baz=250,slow=7.1,SNR=30
MA2 LR LR 20 35 36.1
comp=Z,131nm,18.3s,baz=269,slow=39
comp=Z,22nm,0.8s
MOS Moscow 57.41 325 *e*P **P** **20 08 49.3 -1.2**
MOS pmax pmax
comp=Z,35nm,1.2s
PMG Port Moresby 57.44 114 P **P** **20 08 51.6 +0.3**
PMG lAmb lAmb 20 08 54.3
comp=Z,12nm,0.9s
PMG Port Moresby 57.44 114 P **P** **20 08 51.6 +0.3**
PMG pmax pmax
comp=Z,12nm,0.9s
PMG Port Moresby 57.44 114 LR LR 20 37 29.4
comp=Z,34nm,18.2s,baz=256,slow=40
BR131 Keskin Array S 57.47 306 P **P** **20 08 51.8 +0.3**
BR131 Keskin Array S 57.47 306 P **P** **20 08 51.8 +0.3**
BR131 pmax pmax
comp=Z,9.0nm,1.0s
BRTR Keskin Array B 57.47 306 P **P** **20 08 51.4 -0.1**
BRTR Keskin Array B 57.47 306 P **P** **20 08 51.2 -0.2**
comp=Z,5.4nm,0.9s,baz=111,slow=6.8,SNR=30
BRTR LR LR 20 39 40.9
comp=Z,131nm,19.3s,baz=111,slow=42
comp=Z,5.4nm,0.9s
CSS Mathiatis 57.63 300 P **P** **20 08 52.3 -0.2**
OBN Obninsk 57.82 324 P **P** **20 08 52.6 -0.8**
OBN lAmb lAmb 20 08 54.7
comp=Z,30nm,1.1s
OBN Obninsk 57.82 324 *ce*P **P** **20 08 53.6 +0.2**
OBN *e* 20 09 51.1
OBN *e* 20 11 01.5
OBN pmax pmax
comp=Z,31nm,1.1s
OBN MLR MLR
comp=Z,92nm,20.0s
OBN Obninsk 57.82 324 LR LR 20 38 09.8
comp=Z,83nm,20.2s,baz=174,slow=41
KLMR Klimovskoe 58.09 331 *e*P P 20 08 53.3 -1.9
KLMR pmax pmax
comp=Z,35nm,1.0s
ANTO Ankara 58.13 306 P **P** **20 08 54.8 -1.2**
BR231 Keskin MP Arra 58.14 306 P **P** **20 08 56.1 0.0**
BR231 lAmb lAmb 20 09 00.0
comp=Z,13nm,0.8s
PETK Petropavlovsk- 58.56 38 LR LR 20 36 27.9
comp=Z,254nm,18.3s,baz=257,slow=38
SEY Seymchan 58.74 26 *i*P **P** **20 09 00.0 +0.3**
SEY pmax pmax
comp=Z,13nm,1.6s
SEY Seymchan 58.74 26 LR LR 20 36 40.8
comp=Z,119nm,18.3s,baz=286,slow=38
MDUB Mudurnu 59.37 307 P **P** **20 09 04.8 +0.1**
ELL Elmali 60.38 302 P **P** **20 09 11.6 -0.1**
ELL Elmali 60.38 302 P **P** **20 09 11.6 -0.1**
ELL pmax pmax
comp=Z,199nm,0.9s
LODK Lodwar 61.17 264 P **P** **20 09 17.6 +0.2**
LODK Lodwar 61.17 264 P **P** **20 09 18.3 +0.9**
SNR=10.0
AKASG Malin Array Be 61.41 318 P **P** **20 09 17.3 -1.0**
AKASG Malin Array Be 61.41 318 *i*P **P** **20 09 17.2 -1.1**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKASG Malin Array Be 61.41 318 P **P** **20 09 16.8 -1.6**
comp=Z,3.6nm,0.7s,baz=83,slow=6.3,SNR=26
comp=Z,3.6nm,0.7s
AKBB Malin Array Si 61.41 318 P **P** **20 09 17.2 -1.0**
AKBB lAmb lAmb 20 09 18.3
comp=Z,42nm,1.6s
AKBB Malin Array Si 61.41 318 P **P** **20 09 17.3 -1.0**
AKBB pmax pmax
comp=Z,42nm,1.7s
KIEV Kiev 61.42 318 ⇑P **P** **20 09 17.7 -0.7**
KIEV Kiev 61.42 318 P **P** **20 09 17.0 -1.4**
KIEV lAmb lAmb 20 09 18.3
comp=Z,37nm,1.6s
KIEV Kiev 61.42 318 P **P** **20 09 17.7 -0.7**
KIEV Kiev 61.42 318 *i*P **P** **20 09 17.2 -1.2**
SNR=6.4
TIRR Tirgusor 61.55 311 P **P** **20 09 19.0 -0.3**
TIRR Tirgusor 61.55 311 P **P** **20 09 19.0 -0.3**
TIRR pmax pmax
comp=Z,152nm,2.0s
ICOR Ion Corvin 61.98 311 ⇑P **P** **20 09 23.1 +0.8**
JOF Joensuu 62.41 332 *e*P **P** **20 09 25.4 +0.6**
MNK Minsk 62.65 322 *i*P **P** **20 09 26.0 -0.5**
MNK *i* 20 10 04.7
MNK *i* 20 11 43.7
MNK *i*PPP PPP 20 13 10.9
MNK *i*S **S** **20 17 54.8 +0.8**
MNK *i* 20 19 18.4
MNK *i*SS **SS** **20 22 00.4 +2.2**
MNK pmax pmax
comp=N,22nm,1.1s
MNK pmax pmax
comp=Z,35nm,0.9s
MNK pmax pmax
comp=E,10.0nm,0.9s
MNK MLR MLR
comp=Z,66nm,15.0s
MNK MLR MLR
comp=N,165nm,22.0s
MNK MLR MLR
comp=E,47nm,22.0s
KARP Karpathos 62.65 301 P **P** **20 09 26.6 -0.4**

VRI Vrincioaia 62.78 313 ⇓P **P** **20 09 28.6 +0.9**
VRI Vrincioaia 62.78 313 P **P** **20 09 28.5 +0.9**
PLOR Plostina 62.83 313 ⇓P **P** **20 09 28.1 +0.1**
PLOR Plostina 62.83 313 P **P** **20 09 28.1 +0.1**
TESR Tescani 62.85 313 ⇑P **P** **20 09 28.4 +0.4**
COVR Voineasa-Covas 63.14 313 ⇓P **P** **20 09 30.7 +0.6**
MLR Muntele Rosu 63.32 312 ⇑P **P** **20 09 31.9 +0.6**
MLR Muntele Rosu 63.32 312 P **P** **20 09 31.6 +0.3**
MLR lAmb lAmb 20 09 33.2
comp=Z,19nm,0.9s
MLR Muntele Rosu 63.32 312 P **P** **20 09 31.6 +0.3**
MLR pmax pmax
comp=Z,19nm,0.9s
MLR Muntele Rosu 63.32 312 LR LR 20 45 14.8
comp=Z,75nm,19.1s,baz=44,slow=44
ISAL Salakas 63.77 323 *e*P **P** **20 09 35.2 +1.2**
BURAR Bucovina Array 63.85 315 ⇑P **P** **20 09 34.9 +0.1**
BURAR Bucovina Array 63.85 315 P **P** **20 09 34.7 -0.1**
BURAR Bucovina Array 63.85 315 P **P** **20 09 35.1 +0.3**
BUR08 Bucovina Ar. S 63.87 315 P **P** **20 09 34.8 -0.1**
VOIR 63.95 312 ⇓P **P** **20 09 36.5 +1.1**
VOIR 63.95 312 P **P** **20 09 36.5 +1.1**
ARR Arges 64.24 312 ⇓P **P** **20 09 37.2 -0.2**
IDI Anoyia 64.52 301 P **P** **20 09 38.8 -0.6**
FIA1 FINESS Array S 64.53 330 P **P** **20 09 38.8 0.0**
FINES FINESS Array B 64.53 330 P **P** **20 09 38.9 +0.1**
comp=Z,12nm,0.7s,baz=100,slow=7.9,SNR=33
FINES LR LR 20 39 27.6
comp=Z,117nm,18.4s,baz=77,slow=38
comp=Z,12nm,0.7s
CJR Cluj-Napoca 64.95 314 ⇑P **P** **20 09 43.3 +1.3**
CJR Cluj-Napoca 64.95 314 P **P** **20 09 43.2 +1.3**
PABE Paberze 64.98 323 P **P** **20 09 40.9 -1.0**
PABE Paberze 64.98 323 *e*P **P** **20 09 41.7 -0.2**
MEF Metsahovi 65.19 329 *e*P **P** **20 09 43.0 -0.1**
KEF Keuruu 65.20 331 *e*P **P** **20 09 43.6 +0.4**
MARR Marisel-Cluj 65.28 314 ⇓P **P** **20 09 45.0 +0.9**
SUW Suwalki 65.36 322 P **P** **20 09 43.6 -0.7**
SUW Suwalki 65.36 322 P **P** **20 09 43.6 -0.7**
SUW pmax pmax
comp=Z,41nm,0.9s
SUW Suwalki 65.36 322 *e*P **P** **20 09 45.3 +0.9**
DEV Deva 65.45 313 ⇑P **P** **20 09 45.8 +0.6**
DEV Deva 65.45 313 P **P** **20 09 45.7 +0.6**
KWP Kalwaria Pacla 65.54 317 P **P** **20 09 45.6 -0.1**
KWP Kalwaria Pacla 65.54 317 P **P** **20 09 45.6 -0.1**
KWP pmax pmax
comp=Z,79nm,1.4s
BILL Bilibino 65.76 23 P **P** **20 09 46.3 -0.4**
BILL lAmb lAmb 20 09 53.7
comp=Z,9.1nm,1.0s
BILL Bilibino 65.76 23 *i*P **P** **20 09 46.8 +0.1**
BILL pmax pmax
comp=Z,10.0nm,1.1s
HERR Herculane 65.82 312 ⇑P **P** **20 09 48.5 +0.9**
SURR Surduc 66.00 313 ⇑P **P** **20 09 49.4 +0.7**
ARCES ARCESS Array B 66.20 339 P **P** **20 09 49.6 0.0**
ARCES ARCESS Array B 66.20 339 P **P** **20 09 49.6 0.0**
ARCES pmax pmax
comp=Z,144nm,1.9s
ARCES ARCESS Array B 66.20 339 P **P** **20 09 50.0 +0.4**
comp=Z,9.4nm,0.7s,baz=90,slow=7.3,SNR=15
ARCES LR LR 20 41 27.8
comp=Z,89nm,18.7s,baz=111,slow=38
comp=Z,9.4nm,0.7s
STKA Stephens Creek 66.28 138 P **P** **20 09 50.8 +0.2**
STKA Stephens Creek 66.28 138 P **P** **20 09 50.8 +0.2**
STKA pmax pmax
comp=Z,3.0nm,1.0s
STKA Stephens Creek 66.28 138 P **P** **20 09 50.6 0.0**
comp=Z,5.3nm,0.8s,baz=337,slow=4.8,SNR=9.4
comp=Z,5.3nm,0.8s
SIRR Siria 66.30 313 ⇑P **P** **20 09 51.2 +0.6**
VAF Ylistaro 66.32 332 *e*P **P** **20 09 51.1 +0.8**
BZS Buzias 66.36 312 ⇓P **P** **20 09 50.9 -0.1**
BZS Buzias 66.36 312 P **P** **20 09 50.9 -0.1**
CRVS Cervenica-Dubn 66.36 316 *e*P **P** **20 09 52.1 +1.1**
CRVS pmax pmax
comp=Z,71nm,1.7s
CRVS Cervenica-Dubn 66.36 316 *e*P **P** **20 09 52.1 +1.1**
RAF Rauma 66.56 329 *e*P **P** **20 09 52.0 +0.1**
MBAR Mbarara 66.86 261 P **P** **20 09 54.7 -0.2**
MBAR lAmb lAmb 20 09 56.9
comp=Z,18nm,0.8s
MBAR Mbarara 66.86 261 P **P** **20 09 54.7 -0.2**
MBAR pmax pmax
comp=Z,18nm,0.8s
MBAR Mbarara 66.86 261 LR LR 20 38 01.8
comp=Z,68nm,20.7s,baz=49,slow=35
MBAR Mbarara 66.86 261 P **P** **20 09 55.5 +0.6**
VYHS Vyhne 68.12 316 *e*P **P** **20 10 02.0 -0.1**
VYHS pmax pmax
comp=Z,6.0nm,1.3s
VYHS Vyhne 68.12 316 *e*P **P** **20 10 02.0 -0.1**
SRO Srobarova 68.51 315 *e*P **P** **20 10 05.3 +0.8**
SRO pmax pmax
comp=Z,11nm,1.2s
SRO Srobarova 68.51 315 *e*P **P** **20 10 05.3 +0.8**
UPP Uppsala 68.56 328 *e*P **P** **20 10 04.8 +0.3**
HNR Honiara 68.77 108 LR LR 20 39 26.4
comp=Z,311nm,20.9s,baz=106,slow=35
VRAC Vranov 69.54 317 ⇓P **P** **20 10 11.3 +0.4**
VRAC Vranov 69.54 317 P **P** **20 10 11.3 +0.4**
VRAC Vranov 69.54 317 LR LR 20 46 57.0
comp=Z,60nm,19.5s,baz=162,slow=41
DPC Dobruska-Polom 69.63 318 *e*P **P** **20 10 12.2 +0.6**
DPC Dobruska-Polom 69.63 318 *e*P **P** **20 10 12.2 +0.6**
RONA Rosalia, Austr 69.87 315 *e*P **P** **20 10 13.7 +0.6**
comp=Z,5.0nm,1.1s
SPITS Spitsbergen Ar 70.08 348 P **P** **20 10 13.4 -0.4**
SPITS pmax pmax
comp=Z,212nm,1.7s
SPITS Spitsbergen Ar 70.08 348 P **P** **20 10 13.8 0.0**
comp=Z,12nm,0.8s,baz=110,slow=7.4,SNR=5.1
comp=Z,12nm,0.8s
CONA Conrad Observa 70.14 315 *e*P **P** **20 10 15.8 +1.0**
comp=Z,13nm,1.4s
KIJV Kijevo 70.18 311 *i*P **P** **20 10 13.4 -1.6**
ARSA Arzberg 70.44 315 *i*P **P** **20 10 17.5 +1.0**
comp=Z,4.7nm,1.3s
HFS Hagfors 70.52 328 P **P** **20 10 16.7 -0.1**
comp=Z,9.8nm,0.6s,baz=114,slow=6.6,SNR=33
HFS LR LR 20 44 50.7
comp=Z,50nm,18.2s,baz=89,slow=39
comp=Z,9.8nm,0.6s
UDBI Udbina 70.58 312 *i*P **P** **20 10 16.8 -0.7**
MORI Morici 70.70 311 *i*P P 20 10 16.4 -1.8
ZIRJ Zirje 70.77 311 *i*P **P** **20 10 17.6 -0.9**
SOKA Soboth 70.84 314 *e*P **P** **20 10 19.4 +0.3**
comp=Z,4.4nm,0.8s
CKRC Cesky Krumlov 71.08 316 *e*P **P** **20 10 20.9 +0.5**
CKRC Cesky Krumlov 71.08 316 *e*P **P** **20 10 20.9 +0.5**
ZVC Zvikov 71.09 317 *e*P **P** **20 10 20.6 +0.2**
BRG Berggiesshubel 71.10 318 *i*P **P** **20 10 20.9 +0.5**
BRG 20 10 42.0
BRG pmax pmax
comp=Z,8.0nm,0.8s
BRG pmax pmax
comp=Z,9.0nm,1.1s
BRG Berggiesshubel 71.10 318 *i*P **P** **20 10 20.9 +0.5**
BRG Amp 20 10 21.9
comp=Z,8.4nm,0.8s
VIRC Vir 71.11 311 *i*P **P** **20 10 19.4 -1.2**
DUGI Dugi Otok 71.15 311 *i*P **P** **20 10 20.1 -0.8**
OBKA Obir 71.19 314 *e*P **P** **20 10 21.2 0.0**
comp=Z,12nm,1.7s
NVLJ Novalja 71.21 312 *i*P **P** **20 10 24.9 +3.7**
MOA Molln 71.22 315 *e*P **P** **20 10 21.4 +0.1**
comp=Z,6.4nm,0.8s
NC405 NORSAR Array S 71.44 329 P **P** **20 10 21.7 -0.6**
GEC2 GERESS Array S 71.48 316 P **P** **20 10 23.0 +0.1**
GEC2 lAmb lAmb 20 10 24.2
comp=Z,8.5nm,0.8s
GERES GERESS Array B 71.48 316 P **P** **20 10 22.7 -0.2**
GERES GERESS Array B 71.48 316 P **P** **20 10 22.7 -0.2**
GERES GERESS Array B 71.48 316 P **P** **20 10 23.2 +0.3**
comp=Z,6.0nm,0.7s,baz=47,slow=8.0,SNR=10
GERES LR LR 20 48 13.6
comp=Z,64nm,19.7s,baz=96,slow=41
comp=Z,6.0nm,0.7s
KHC Kasperske Hory 71.52 317 *e*P **P** **20 10 22.8 -0.3**
KHC Kasperske Hory 71.52 317 *e*P **P** **20 10 22.8 -0.3**
NC602 NORSAR Array S 71.55 329 P **P** **20 10 22.6 -0.4**
CLL Collm 71.64 319 *e*P **P** **20 10 24.0 +0.3**

CLL Collm 71.64 319 *e*P **P** **20 10 24.0 +0.3**
BIOA Bad Ischl, Aus 71.66 315 *e*P **P** **20 10 24.0 +0.1**
comp=Z,10.0nm,1.5s
NB2 NORSAR Subarra 71.69 329 P **P** **20 10 23.3 -0.5**
comp=Z,10nm,0.8s,baz=86,slow=6.5
NOA NORSAR Array B 71.69 329 P **P** **20 10 23.4 -0.5**
comp=Z,6.7nm,0.7s,baz=90,slow=5.8,SNR=22
NOA LR LR 20 47 02.1
comp=Z,58nm,18.1s,baz=95,slow=40
comp=Z,6.7nm,0.7s
KBA Koelnbreinsper 71.94 315 *i*P **P** **20 10 25.2 -0.6**
comp=Z,5.0nm,0.8s
ARMA Armidale 72.13 132 P **P** **20 10 28.1 +1.0**
ARMA lAmb lAmb 20 10 30.4
comp=Z,16nm,1.0s
LESA Schwarzleotal 72.34 315 *i*P **P** **20 10 27.4 -0.7**
comp=Z,5.3nm,0.6s
STAL STALIGIAL 72.48 314 P **P** **20 10 28.3 -0.6**
STAL lAmb lAmb 20 10 43.7
comp=Z,15nm,1.1s
GRF Grafenberg Arr 72.98 317 *e*P **P** **20 10 32.7 +1.0**
comp=Z,15nm,1.3s,baz=88,slow=5.6
WTTA Wattenberg 73.06 315 *i*P **P** **20 10 31.8 -0.7**
comp=Z,11nm,0.9s,SNR=6.2
WATA Walderalm 73.09 315 *i*P **P** **20 10 31.2 -1.5**
comp=Z,10.0nm,1.2s
CAN Canberra 73.22 137 P **P** **20 10 33.4 0.0**
CAN lAmb lAmb 20 12 25.3
comp=Z,31nm,1.4s
CAN Canberra 73.22 137 P **P** **20 10 33.4 0.0**
CAN pmax pmax
comp=Z,31nm,1.4s
SQTA Sankt Quirin 73.36 315 *i*P **P** **20 10 33.6 -0.6**
comp=Z,7.1nm,0.7s,SNR=6.2
MOTA Moosalm 73.41 315 *i*P **P** **20 10 34.0 -0.5**
comp=Z,16nm,1.1s,SNR=8.5
RETA Reutte 73.61 315 *e*P **P** **20 10 35.4 -0.3**
comp=Z,8.9nm,0.7s,SNR=8.4
FETA Feichten 73.71 315 *i*P **P** **20 10 35.8 -0.5**
comp=Z,5.4nm,0.8s
FUORN Ofenpass-Fuorn 74.10 314 P **P** **20 10 38.3 -0.4**
FUORN lAmb lAmb 20 12 31.9
comp=Z,32nm,2.0s
DAVA Damuels 74.24 315 *i*P **P** **20 10 39.1 -0.3**
comp=Z,17nm,1.0s
DAVOX Davos/Dischmat 74.33 315 LR LR 20 50 52.9
comp=Z,56nm,18.5s,baz=82,slow=42
GAMB Gambell 74.71 27 P P 20 10 39.4 -2.1
baz=280
LSZ Lusaka 74.75 248 P **P** **20 10 43.5 +0.7**
LSZ Lusaka 74.75 248 P **P** **20 10 43.5 +0.7**
LSZ pmax pmax
comp=Z,29nm,0.8s
LSZ Lusaka 74.75 248 LR LR 20 40 50.8
comp=Z,102nm,19.6s,baz=80,slow=34
LSZ Lusaka 74.75 248 P **P** **20 10 43.9 +1.2**
TUE Stuetta 74.75 314 P **P** **20 10 41.6 -0.9**
TUE lAmb lAmb 20 10 44.2
comp=Z,14nm,1.2s
NOR Nord 75.23 352 *i*P **P** **20 10 44.0 -0.3**
NOR lAmb lAmb 20 10 45.0
comp=Z,14nm,0.8s
TNA Tin City 75.94 25 P **P** **20 10 47.1 -1.6**
baz=283
SENIN Lac Senin/Sane 76.16 315 P **P** **20 10 50.7 +0.1**
C16K Lisburne Hills 76.27 22 P **P** **20 10 50.4 -0.1**
C16K lAmb lAmb 20 10 51.4
comp=Z,16nm,1.1s
C16K Lisburne Hills 76.27 22 P **P** **20 10 48.8 -1.6**
baz=285
F14K Arctic Creek 76.61 25 P P 20 10 50.5 -2.0
baz=284
SPIA Saint Paul Isl 76.76 34 P **P** **20 10 51.9 -1.5**
baz=283
KEST Kesra 76.96 304 P **P** **20 10 55.8 +0.6**
comp=Z,15nm,1.1s,baz=80,slow=5.5,SNR=4.3
comp=Z,15nm,1.1s
C17K DeLong Mountai 76.99 22 P **P** **20 10 53.2 -1.4**
baz=287
POGA Pongola 77.14 235 P **P** **20 10 56.6 +0.5**
POGA lAmb lAmb 20 12 01.6
comp=Z,31nm,1.1s
A19K Wainwright 77.18 20 P **P** **20 10 55.1 -0.5**
baz=288
B18K Kokolik River 77.20 21 P **P** **20 10 55.0 -0.7**
baz=288
RDOG Red Dog Mine 77.21 22 P **P** **20 10 55.4 -0.4**
RDOG lAmb lAmb 20 11 00.3
comp=Z,29nm,1.8s
RDOG Red Dog Mine 77.21 22 P **P** **20 10 54.5 -1.4**
baz=287
F15K North Star Dit 77.22 25 P **P** **20 10 55.6 -0.3**
F15K lAmb lAmb 20 10 57.4
comp=Z,17nm,1.2s
F15K North Star Dit 77.22 25 P **P** **20 10 55.2 -0.7**
baz=286
ANM Nome 77.24 26 P **P** **20 10 56.0 0.0**
ANM lAmb lAmb 20 10 57.9
comp=Z,22nm,1.4s
ANM Nome 77.24 26 P **P** **20 10 56.0 0.0**
ANM pmax pmax
comp=Z,22nm,1.4s
ANM Nome 77.24 26 P **P** **20 10 55.1 -1.0**
baz=286
D17K Noatak River 77.25 23 P **P** **20 10 55.2 -0.8**
baz=287,SNR=13
P08K Saint George I 77.27 34 P **P** **20 10 55.1 -1.2**
baz=284
C18K Utukok River 77.64 21 P **P** **20 10 58.3 +0.1**
C18K lAmb lAmb 20 11 02.2
comp=Z,37nm,1.8s
C18K Utukok River 77.64 21 P **P** **20 10 58.1 -0.2**
baz=288,SNR=7.0
G15K Niukluk 77.67 25 P **P** **20 10 57.4 -1.0**
baz=287
DAG Danmarks Havn 77.73 348 *i*P P 20 10 56.8 -1.8
DAG lAmb lAmb 20 10 59.0
comp=Z,13nm,1.1s
M11K Mekoryuk 78.00 30 P **P** **20 10 59.4 -0.9**
baz=286
C19K Lookout Ridge 78.03 21 P **P** **20 10 59.6 -0.9**
baz=290
A21K Barrow 78.18 18 P **P** **20 10 59.6 -1.5**
baz=292
G16K Koyuk River 78.23 25 P **P** **20 10 59.9 -1.6**
baz=288
E18K Tukpahlearik C 78.24 23 P **P** **20 11 01.2 -0.4**
baz=289
F17K Baldwin Pennin 78.32 24 P **P** **20 11 01.0 -1.0**
baz=289
B20K Meade River 78.51 20 P **P** **20 11 02.3 -0.6**
baz=292
H16K Elim 78.51 25 P **P** **20 11 02.4 -0.6**
baz=288,SNR=7.0
J14K Nanvaranak Lak 78.54 28 P **P** **20 11 02.4 -0.9**
baz=288
NIKH Nikolski High 78.57 38 P **P** **20 11 02.2 -1.4**
baz=285
D19K Kuna River 78.75 21 P **P** **20 11 03.9 -0.5**
baz=291
A22K Sinclair Lake 78.80 18 P **P** **20 11 04.4 -0.2**
baz=294
G17K Kiwalik Mounta 78.86 24 P **P** **20 11 04.5 -0.5**
baz=290
F18K Selawik 78.87 23 P **P** **20 11 04.7 -0.3**
baz=290,SNR=8.3
D20K Etivluk River 79.18 21 P **P** **20 11 06.5 -0.3**
baz=293
DBG Daneborg 79.28 346 *i*P P 20 11 05.4 -1.7
DBG lAmb lAmb 20 11 08.0
comp=Z,6.6nm,0.9s
M13K Dall Lake 79.35 30 P **P** **20 11 06.8 -0.9**
baz=288
H17K Granite Mounta 79.35 25 P **P** **20 11 06.7 -1.0**
baz=290
L14K Kuka Creek 79.36 29 P **P** **20 11 07.3 -0.5**
baz=289
I17K Unalakleet 79.39 26 P **P** **20 11 07.4 -0.5**
baz=290
E19K Redstone River 79.45 22 P **P** **20 11 07.7 -0.5**
baz=292
B21K Ikpikpuk River 79.47 20 P **P** **20 11 07.4 -0.9**
baz=294
F19K Shaleruckik Mo 79.49 23 P **P** **20 11 07.4 -1.0**
baz=292
E20K Nigu River 79.50 21 P **P** **20 11 07.4 -1.2**
baz=293

G18K Tagagawik 79.50 24 P P 20 11 07.3 -1.2
baz=291
B22K Teshekpuk Lake 79.55 19 P P 20 11 08.2 -0.4
baz=295
K15K Wolf Creek Mou 79.57 28 P P 20 11 08.1 -0.8
baz=289
C21K Knifeblade Rid 79.61 20 P P 20 11 08.2 -0.8
baz=294
J16K Anvik River 79.64 27 P P 20 11 07.9 -1.4
baz=290
L15K Ungalak Mounta 79.80 28 P P 20 11 08.7 -1.5
baz=290
H18K Honhosa River 79.89 24 P P 20 11 09.5 -1.2
baz=292
M14K Bethel 79.89 29 P P 20 11 09.8 -0.8
baz=289
G19K Purcell Mounta 80.00 23 P P 20 11 10.1 -1.1
baz=293
F20K Avaraart Lake 80.15 22 P P 20 11 11.1 -0.8
baz=294
E21K Killik River 80.18 21 P P 20 11 11.4 -0.8
baz=295
EKA Eskdalemuir Ar 80.26 325 P P 20 11 13.1 +0.3
comp=Z,7.3nm,0.7s,baz=84,slow=5.8,SNR=15
comp=Z,7.3nm,0.7s
ESK Eskdalemuir 80.29 325 P P 20 11 13.0 0.0
ESK Eskdalemuir 80.29 325 P P 20 11 13.0 0.0
ESK pmax pmax
comp=Z,154nm,1.8s
N14K Kuskokwak Cree 80.30 30 P P 20 11 12.0 -0.8
baz=290
D22K Ayikyak River 80.41 20 P P 20 11 12.9 -0.5
baz=296
H19K Roundabout Mou 80.49 24 P P 20 11 13.4 -0.4
baz=293
M15K Kasigluk River 80.50 29 P P 20 11 13.2 -0.8
baz=290
GCSA Galena City Sc 80.63 25 P P 20 11 14.4 -0.2
baz=293
C23K Itkillik River 80.63 19 P P 20 11 14.3 -0.2
baz=298
L16K Owhat River 80.68 28 P P 20 11 14.4 -0.5
baz=291
O14K Tigyukauivet M 80.72 31 P P 20 11 14.2 -1.0
baz=290
K17K Iditarod 80.82 27 P P 20 11 14.8 -0.9
baz=292,SNR=9.4
F21K Alatna River 80.87 22 P P 20 11 15.8 -0.1
baz=296
N15K Kwethluk River 80.96 29 P P 20 11 15.0 -1.5
baz=291
LBTB Lobatse 81.00 240 P P 20 11 18.2 +0.8
LBTB Lobatse 81.00 240 P P 20 11 18.2 +0.8
LBTB pmax pmax
comp=Z,63nm,1.9s
LBTB Lobatse 81.00 240 LR LR 20 44 04.0
comp=Z,77nm,18.3s,baz=58,slow=33
D23K Nanushuk River 81.02 20 P P 20 11 15.8 -0.9
baz=298
E22K Anaktuvuk Pass 81.04 21 P P 20 11 16.3 -0.5
baz=297
L17K Donlin 81.05 27 P P 20 11 16.4 -0.5
baz=292
H20K Anotleneega Mo 81.10 24 P P 20 11 16.3 -0.8
baz=295
M16K Timber Creek 81.17 28 P P 20 11 16.9 -0.7
baz=292
G21K Allakaket 81.17 22 P P 20 11 16.6 -0.9
baz=296
J18K Innoko River 81.20 26 P P 20 11 17.4 -0.3
baz=293
C24K Franklin Bluff 81.27 19 P P 20 11 17.3 -0.6
baz=300
IMAR Indian Mountai 81.31 23 P P 20 11 18.2 -0.1
J19K Poorman 81.43 25 P P 20 11 18.4 -0.5
baz=294
O15K Ungalikthiuk R 81.44 30 P P 20 11 18.1 -0.9
baz=291
N16K Nishlik Lake 81.46 29 P P 20 11 18.8 -0.4
baz=292
D24K Happy Valley 81.52 19 P P 20 11 19.0 -0.3
baz=300
TOLK Toolik Lake Re 81.53 20 P P 20 11 18.1 -1.3
baz=299,SNR=8.0
S12K Black Hills 81.54 34 P P 20 11 18.9 -0.8
baz=290
I20K Naaghedeneel 81.55 24 P P 20 11 19.1 -0.3
baz=295
M17K Holitna River 81.70 28 P P 20 11 20.1 -0.3
baz=293
L18K Granite Mounta 81.71 27 P P 20 11 20.2 -0.2
baz=294
TTA Tatalina 81.71 26 P P 20 11 20.2 -0.3
TTA Tatalina 81.71 26 P P 20 11 20.2 -0.3
TTA pmax pmax
comp=Z,10.0nm,1.2s
TTA Tatalina 81.71 26 P P 20 11 20.2 -0.3
baz=294
SCO Scoresbysund 81.71 343 P P 20 11 20.1 -0.2
SCO Scoresbysund 81.71 343 P P 20 11 20.1 -0.2
SCO pmax pmax
comp=Z,9.0nm,0.9s
SCO Scoresbysund 81.71 343 *i* P P 20 11 20.8 +0.6
EUNU Eureka 81.80 0 P P 20 11 20.8 +0.1
E23K Chandalar 81.80 20 P P 20 11 21.1 +0.2
baz=299
H21K Melozitna Rive 81.81 23 P P 20 11 20.6 -0.3
baz=296
J20K Nowinta River 81.94 25 P P 20 11 20.6 -1.0
baz=296
COLD Coldfoot 82.00 21 P P 20 11 21.3 -0.6
baz=299
O16K Kokwok River B 82.11 30 P P 20 11 21.7 -0.8
baz=293
E24K Your Creek 82.16 20 P P 20 11 21.7 -1.1
baz=300
N17K Nushagak Hills 82.16 29 P P 20 11 22.0 -0.8
baz=293
D25K Kavik River 82.18 19 P P 20 11 22.6 -0.3
baz=302
H22K Ishtalitna Cre 82.22 23 P P 20 11 23.0 -0.1
baz=298
C26K Camden Bay 82.29 18 P P 20 11 23.6 +0.3
baz=303
G23K Bananza Creek 82.31 22 P P 20 11 23.3 -0.3
baz=299
K20K Telida 82.33 25 P P 20 11 23.0 -0.7
baz=296
I21K Tanana 82.33 23 P P 20 11 23.7 +0.1
baz=297
P16K Nushagak River 82.38 30 P P 20 11 23.4 -0.6
baz=293
M18K Stony River 82.38 27 P P 20 11 23.0 -0.9
baz=294
O17K Koliganek Bris 82.50 29 P P 20 11 23.8 -0.8
baz=294
L19K White Mountain 82.51 27 P P 20 11 23.9 -0.7
baz=295
SDPT Sand Point 82.51 34 P P 20 11 24.3 -0.4
baz=291
NEEM North Greenlan 82.52 353 *i* P P 20 11 23.5 -1.3
NEEM IAmb IAmb 20 11 25.6
comp=Z,23nm,1.0s
F24K Squaw Lake 82.64 20 P P 20 11 25.2 -0.1
baz=301,SNR=8.3
N18K Kilae Creek 82.69 28 P P 20 11 25.0 -0.6
baz=294
L20K Farewell, AK 82.79 26 P P 20 11 25.5 -0.6
baz=296
BOSA Boshof 82.80 237 P P 20 11 27.2 +0.3
BOSA Boshof 82.80 237 P P 20 11 26.9 0.0
comp=Z,13nm,0.8s,baz=80,slow=3.7,SNR=17
comp=Z,13nm,0.8s
M19K Big River Lodg 82.82 27 P P 20 11 25.8 -0.5
baz=296
MLY Manley 82.86 23 P P 20 11 26.7 +0.3
MLY IAmb IAmb 20 11 28.0
comp=Z,9.1nm,0.8s
MLY Manley 82.86 23 P P 20 11 26.0 -0.5
baz=298,SNR=11
P17K Kvichak River 83.05 30 P P 20 11 27.2 -0.3
baz=294
E25K Arctic Village 83.07 19 P P 20 11 27.3 -0.2
baz=303
CAST Castle Rocks 83.10 25 P P 20 11 27.7 0.0
CAST IAmb IAmb 20 11 29.2
comp=Z,15nm,1.0s
CAST Castle Rocks 83.10 25 P P 20 11 27.6 -0.2
baz=297,SNR=18
CHNA Chernabura Isl 83.17 34 P P 20 11 28.2 0.0
baz=292
G24K Hadweenzic Riv 83.20 21 P P 20 11 27.7 -0.4
baz=301,SNR=7.2
BPAW Bear Paw Mtn. 83.21 24 P P 20 11 28.4 +0.1
BPAW IAmb IAmb 20 11 32.9
comp=Z,11nm,1.0s
BPAW Bear Paw Mtn. 83.21 24 P P 20 11 27.8 -0.5
baz=298,SNR=10
CHGN Chignik 83.23 33 P P 20 11 26.8 -1.7
N19K Bonanza Creek 83.25 28 P P 20 11 27.7 -1.0
baz=296
PPLA Purkeypile 83.30 25 P P 20 11 28.0 -0.9
baz=297
I23K Minto, Yukon-K 83.32 23 P P 20 11 28.4 -0.3
baz=300
F25K Christian Rive 83.33 20 P P 20 11 28.5 -0.4
baz=303
O18K Koktuh Hills 83.34 29 P P 20 11 28.9 -0.1
O18K IAmb IAmb 20 11 30.3
comp=Z,28nm,1.6s
O18K Koktuh Hills 83.34 29 P P 20 11 28.6 -0.4
baz=295
M20K Styx River 83.37 26 P P 20 11 28.5 -0.7
baz=297
H24K Noodoo Dome 83.50 22 P P 20 11 29.1 -0.7
baz=301
P18K Big Mountain, 83.53 29 P P 20 11 29.3 -0.7
baz=295
O19K Port Alsworth 83.60 28 P P 20 11 29.4 -0.8
baz=296
G25K Bearman Lake 83.63 21 P P 20 11 29.7 -0.6
baz=302
Q17K Contact Creek 83.69 30 P P 20 11 29.9 -1.0
baz=295
NEA2 Nenana 83.70 23 P P 20 11 30.4 -0.4
NEA2 IAmb IAmb 20 11 33.6
comp=Z,10nm,1.1s
NEA2 Nenana 83.70 23 P P 20 11 29.4 -1.4
baz=300,SNR=6.0
F26K Sheenjek River 83.76 19 P P 20 11 30.2 -0.8
baz=304
BMAR Burnt Mountain 83.77 20 P P 20 11 31.9 +0.8
TRF Thorofare Moun 83.80 24 P P 20 11 30.0 -1.5
baz=299
D27M Malcolm River 83.82 18 P P 20 11 30.2 -1.1
baz=307,SNR=6.4
MDM Murphy Dome 83.83 23 P P 20 11 31.5 +0.1
H25L Birch Creek 83.99 21 P P 20 11 31.2 -1.0
baz=303
SKT Skwentna 84.00 26 P P 20 11 31.5 -0.8
SKT IAmb IAmb 20 11 32.8
comp=Z,16nm,1.0s
SKT Skwentna 84.00 26 P P 20 11 31.0 -1.3
baz=298,SNR=12
POKR Poker Plat Res 84.04 22 P P 20 11 31.7 -0.8
POKR IAmb IAmb 20 11 33.9
comp=Z,14nm,1.1s
POKR Poker Plat Res 84.04 22 P P 20 11 31.5 -0.9
baz=301,SNR=6.1
N20K Mount Spurr 84.07 27 P P 20 11 31.4 -1.4
baz=298
MCK McKinley 84.19 24 P P 20 11 32.5 -0.7
baz=300,SNR=7.9
E27K Coleen River 84.26 19 P P 20 11 33.6 0.0
E27K Coleen River 84.26 19 P P 20 11 32.8 -0.8
baz=306
G26K Porcupine Rive 84.29 20 P P 20 11 32.5 -1.2
baz=304
D28M Stokes Point 84.39 17 P P 20 11 33.2 -0.9
baz=309
IL31 84.42 23 P P 20 11 32.8 -1.5
ILAR Eielson Array 84.42 23 P P 20 11 32.9 -1.5
comp=Z,2.3nm,0.8s,baz=297,slow=4.0,SNR=28
ILAR LR LR 20 52 29.5
comp=Z,87nm,18.9s,baz=267,slow=38
comp=Z,2.3nm,0.8s
SUMG Summit 84.42 348 P P 20 11 34.4 -0.4
SUMG IAmb IAmb 20 11 35.6
comp=Z,18nm,0.9s
SUMG Summit 84.42 348 P P 20 11 34.4 -0.4
SUMG pmax pmax
comp=Z,18nm,0.9s
SUMG Summit 84.42 348 *i* P P 20 11 33.6 -1.2
SUMG IAmb IAmb 20 11 35.5
comp=Z,18nm,0.9s
PRP Porcupine Dome 84.50 22 P P 20 11 34.7 -0.3
PRP IAmb IAmb 20 11 36.6
comp=Z,17nm,0.9s
PRP Porcupine Dome 84.50 22 P P 20 11 33.7 -1.3
baz=303,SNR=15
BORG Borgarnes 84.57 338 LR LR 20 51 56.8
comp=Z,42nm,19.6s,baz=94,slow=38
SUA Susitna One 84.57 26 P P 20 11 34.7 -0.7
SUA IAmb IAmb 20 11 36.4
comp=Z,9.2nm,0.8s
SUA Susitna One 84.57 26 P P 20 11 34.2 -1.1
baz=299,SNR=8.2
HDA Harding Lake 84.58 23 P P 20 11 34.5 -0.7
baz=302
E28M Babbage River 84.62 18 P P 20 11 35.0 -0.3
baz=308
M22K Willow 84.69 26 P P 20 11 35.1 -0.6
M22K Willow 84.69 26 P P 20 11 35.8 0.0
baz=299
CAPN Captain Cook N 84.73 27 P P 20 11 35.5 -0.5
baz=298
WAT1 Susitna Watana 84.79 25 P P 20 11 35.9 -0.4
baz=300
CASY Casey 85.04 174 P P 20 11 37.4 +0.1
J25K Salcha River, 85.05 22 P P 20 11 36.8 -0.9
baz=303
G27K Doyon Strip 85.06 20 P P 20 11 37.5 -0.2
baz=306
DHY Denali Highway 85.12 24 P P 20 11 37.7 -0.5
DHY IAmb IAmb 20 12 28.8
comp=Z,30nm,2.0s
DHY Denali Highway 85.12 24 P P 20 11 37.5 -0.7
baz=302
F28M Old Crow 85.13 19 P P 20 11 37.0 -0.9
baz=308,SNR=5.1
GHO Glory Hole Cre 85.18 26 P P 20 11 37.9 -0.5
GHO IAmb IAmb 20 11 48.8
comp=Z,9.8nm,1.0s
RC01 Rabbit Creek A 85.18 26 P P 20 11 37.8 -0.5
RC01 IAmb IAmb 20 11 38.7
comp=Z,11nm,0.8s
RC01 Rabbit Creek A 85.18 26 P P 20 11 37.4 -0.9
baz=300,SNR=5.9
PMR Palmer 85.18 26 P P 20 11 37.3 -0.9
baz=300
Q20K Shuyak Island 85.19 29 P P 20 11 37.8 -0.6
baz=298
E29M Blow River 85.22 17 P P 20 11 37.8 -0.5
baz=310
WAT6 Susitna Watana 85.24 25 P P 20 11 37.8 -1.0
baz=301
BRLK Bradley Lake 85.33 28 P P 20 11 38.3 -0.8
BRLK IAmb IAmb 20 11 39.0
comp=Z,14nm,0.6s
K24K Donnelly Dome 85.34 23 P P 20 11 38.5 -0.7
baz=303,SNR=16
OHAK Old Harbor 85.40 31 P P 20 11 38.4 -1.0
baz=297
SML Sawmill 85.40 25 P P 20 11 39.1 -0.3
SML IAmb IAmb 20 11 40.5
comp=Z,11nm,0.8s
SML Sawmill 85.40 25 P P 20 11 38.7 -0.7
baz=301
BRSE Bradley Lake S 85.40 28 P P 20 11 38.4 -1.1
baz=299
I26K Coal Creek Min 85.44 21 P P 20 11 38.8 -0.7
baz=305
H27K Steamboat Moun 85.45 20 P P 20 11 39.0 -0.6
baz=306
KDAK Kodiak Island 85.48 30 P P 20 11 39.3 -0.5
KDAK Kodiak Island 85.48 30 P P 20 11 39.3 -0.5
KDAK pmax pmax
comp=Z,40nm,1.6s
KDAK Kodiak Island 85.48 30 P P 20 11 38.1 -1.7
baz=297
KDAK Kodiak Island 85.48 30 LR LR 20 52 53.6
comp=Z,68nm,18.2s,baz=275,slow=38
O22K Cooper Landing 85.49 27 P P 20 11 38.0 -1.8
baz=300
KNK Knik Glacier 85.55 26 P P 20 11 40.0 -0.2
KNK IAmb IAmb 20 11 41.2
comp=Z,9.6nm,0.7s
KNK Knik Glacier 85.55 26 P P 20 11 39.1 -1.0
baz=301,SNR=6.7
TSUM Tsumeb 85.60 248 LR LR 20 44 59.3
comp=Z,56nm,19.9s,baz=342,slow=32
M23K Glacier View 85.66 25 P P 20 11 40.0 -0.7
baz=301,SNR=5.6
A36M Sachs Harbour 85.70 12 P P 20 11 40.5 -0.1
A36M Sachs Harbour 85.70 12 P P 20 11 39.6 -1.0
baz=321
KULLO Kullorsuaq 85.76 353 *i* P P 20 11 40.1 -0.8
KULLO IAmb IAmb 20 11 41.5
comp=Z,24nm,0.9s
J26L Joseph Creek 85.76 22 P P 20 11 40.3 -1.0
baz=305
I27K Kandik River 85.79 21 P P 20 11 40.5 -0.8
baz=306
SEW Seward 85.79 27 P P 20 11 40.9 -0.4
baz=300
SCM Sheep Creek Mo 85.80 25 P P 20 11 41.3 -0.2
baz=302
SCRK Sand Creek 85.91 23 P P 20 11 41.9 -0.1
SCRK IAmb IAmb 20 11 45.5
comp=Z,11nm,1.0s
SCRK Sand Creek 85.91 23 P P 20 11 42.5 +0.5
baz=304,SNR=11
PAX Paxson 85.92 24 P P 20 11 41.9 -0.2
baz=303
ESDC Sonseca Array 85.94 310 P P 20 11 41.9 -0.8
comp=Z,2.1nm,0.9s,baz=47,slow=5.0,SNR=9.8
comp=Z,2.1nm,0.9s
M24K Tolsona, Glenn 86.11 25 P P 20 11 43.2 +0.2
baz=303
G29M Pine Creek 86.13 19 P P 20 11 42.7 -0.3
baz=310
F30M Barrier River 86.33 18 P P 20 11 43.6 -0.3
baz=312
HARP HAARP 86.35 24 P P 20 11 43.9 -0.2
baz=303
EGAK Eagle 86.44 21 P P 20 11 44.7 +0.2
baz=307
I28M Miner Creek 86.44 20 P P 20 11 44.7 +0.1
baz=308
H29M Whitestone 86.47 19 P P 20 11 44.3 -0.3
baz=309
INK Inuvik 86.49 16 P P 20 11 44.0 -0.6
INK IAmb IAmb 20 11 48.8
comp=Z,37nm,2.0s
INK Inuvik 86.49 16 P P 20 11 44.1 -0.6
INK pmax pmax
comp=Z,37nm,2.0s
INK Inuvik 86.49 16 P P 20 11 44.6 -0.1
baz=314
INK Inuvik 86.49 16 P P 20 11 44.0 -0.6
comp=Z,4.1nm,0.9s,baz=327,slow=5.6,SNR=11
INK LR LR 20 56 23.6
comp=Z,138nm,18.1s,baz=356,slow=40
comp=Z,4.1nm,0.9s
KLU Klutina 86.55 25 P P 20 11 45.3 +0.1
baz=303,SNR=7.9
K27K Chicken 86.57 22 P P 20 11 44.9 -0.2
baz=306
MENT Mentasta 86.60 23 P P 20 11 45.1 -0.3
MENT IAmb IAmb 20 11 57.8
comp=Z,13nm,0.9s
G30M tAoh Zraii Nji 86.63 18 P P 20 11 45.1 -0.3
baz=311
L26K Log Cabin Wild 86.69 23 P P 20 11 45.7 0.0
baz=305,SNR=15
P23K Montague Islan 86.73 27 P P 20 11 46.1 +0.1
baz=302
EPYK Eagle Plains 86.88 19 P P 20 11 46.4 -0.2
baz=311
RES Resolute Bay 86.94 3 P P 20 11 46.5 -0.3
RES IAmb IAmb 20 13 20.4
comp=Z,4.7nm,0.6s
RES Resolute Bay 86.94 3 P P 20 11 46.5 -0.3
comp=Z,4.6nm,0.8s,baz=352,slow=4.4,SNR=19
comp=Z,4.6nm,0.8s
N25K Chitina, Valde 87.01 25 P P 20 11 47.0 -0.5
baz=304,SNR=10.0
F31M Tsiigehtchic 87.03 17 P P 20 11 47.5 +0.3
baz=313
EYAK Cordova Ski Ar 87.13 26 P P 20 11 47.3 -0.6
baz=303
M26K Nabesna, AK 87.18 24 P P 20 11 48.1 -0.1
baz=305
WIN Windhoek 87.22 245 P P 20 11 49.6 +0.3
WIN Windhoek 87.22 245 P P 20 11 49.6 +0.3
WIN pmax pmax
comp=Z,36nm,1.5s
L27K Beaver Creek, 87.23 23 P P 20 11 49.2 +0.7
baz=306,SNR=7.0
G31M Satah River 87.24 18 P P 20 11 47.7 -0.5
baz=313
BCAR Beaver Creek A 87.24 23 P P 20 11 48.8 +0.3
ICESG Greenland Ices 87.28 345 *i* P P 20 11 47.5 -1.4
ICESG IAmb IAmb 20 11 49.8
comp=Z,27nm,0.8s
BMRM Bremner River 87.37 25 P P 20 11 48.7 -0.4
baz=304,SNR=18
DAWY Dawson 87.48 21 P P 20 11 49.6 0.0
baz=308
M27K Edge Creek, AK 87.63 23 P P 20 11 50.1 -0.4
baz=306,SNR=9.0
VRDI Verde Repeater 87.68 25 P P 20 11 50.8 0.0
VRDI IAmb IAmb 20 11 52.4
comp=Z,7.2nm,0.9s
I30M Mount Dempster 87.74 20 P P 20 11 49.8 -1.2
baz=311
MCARA McCarthy VSAT 87.76 24 P P 20 11 51.4 +0.4
MCARA McCarthy VSAT 87.76 24 P P 20 11 50.6 -0.4
baz=305,SNR=13
SUR Sutherland 87.84 235 P P 20 11 52.1 0.0
SUR Sutherland 87.84 235 LR LR 20 51 12.1
comp=Z,87nm,18.9s,baz=84,slow=36
HMT Hamilton 87.86 26 P P 20 11 51.0 -0.5
HMT IAmb IAmb 20 11 53.2
comp=Z,14nm,0.9s
BVCY Beaver Creek 87.97 23 P P 20 11 51.9 -0.1
baz=307
H31M Peel River 87.98 19 P P 20 11 50.9 -1.0
baz=313
C36M Paulatuk 88.02 13 P P 20 11 51.2 -0.8
C36M IAmb IAmb 20 11 51.8
comp=Z,10nm,0.8s
C36M Paulatuk 88.02 13 P P 20 11 51.8 -0.2
baz=322
BERG Berg Lake 88.06 25 P P 20 11 53.1 +0.7
J30M Hart River 88.18 20 P P 20 11 53.0 0.0
baz=311
K29M Barlow Dome 88.27 21 P P 20 11 53.4 0.0
baz=310
BARN Barnard Glacie 88.49 24 P P 20 11 54.7 0.0
BARN IAmb IAmb 20 12 00.6
comp=Z,22nm,1.5s
YUK3 Moose Creek 88.51 23 P P 20 11 55.0 +0.2
baz=308
L29M L29M 88.53 22 P P 20 11 54.9 +0.2
baz=310
CTG Chitna Glacier 88.67 24 P P 20 11 55.0 -0.5
baz=307
CTGM Chitina Glacie 88.67 24 P P 20 11 55.9 +0.4
CTGM IAmb IAmb 20 12 00.1
comp=Z,17nm,1.2s
M29M Somme Creek 88.83 22 P P 20 11 55.4 -0.8
baz=309
YUK8 Steele Glacier 89.08 24 P P 20 11 57.6 +0.1
baz=308
M30M Minto, Yukon 89.34 22 P P 20 11 58.9 +0.5
baz=311
YUK4 Talbot Arm 89.46 23 P P 20 11 58.9 -0.3
baz=309
YUK6 Outpost Mounta 89.83 23 P P 20 12 00.6 -0.4
baz=309
N30M Aishikik Lake 89.97 23 P P 20 12 01.7 +0.3
baz=310
TORD Torodi Ar. Bea 90.02 284 P P 20 12 02.5 0.0
TORD IAmb IAmb 20 12 23.6
comp=Z,21nm,1.9s
TORD Torodi Ar. Bea 90.02 284 P P 20 12 00.6 -1.9
comp=Z,1.5nm,0.8s,baz=42,slow=3.0,SNR=6.3
TORD PP PP 20 15 34.5 -1.0
comp=Z,2.9nm,1.2s,baz=52,slow=9.3,SNR=5.3
TORD LR LR 20 55 19.6
comp=Z,69nm,21.5s,baz=118,slow=38
comp=Z,1.5nm,0.8s

O29M	Mount Kennedy	90.15	24	P		P	20 12 02.2	-0.2
	baz=309							
HYT	Haines Junctio	90.22	23	P		P	20 12 02.7	0.0
	baz=310							
PNL	Peninsula	90.23	25	P		P	20 12 02.6	0.0
	baz=308							
M31M	Drury Creek, Y	90.42	21	P		P	20 12 03.8	+0.3
	baz=313							
FARO	Faro, Yukon	90.76	21	P		P	20 12 05.5	+0.4
	baz=314							
O30N	Mendenhall	90.78	23	P		P	20 12 04.7	-0.5
	baz=311							
P30M	Million Dollar	90.89	24	P		P	20 12 05.2	-0.5
	baz=311							
P29M	Windy Craggy	90.91	24	P		P	20 12 05.8	0.0
	baz=310							
MMPY	Sheldon Lake,	91.18	20	P		P	20 12 07.1	+0.1
	baz=316							
WHY	Whitehorse	91.30	22	P		P	20 12 08.0	+0.3
	baz=312							
SFJD	Kangerlussuaq	91.42	348	LR		LR	21 00 02.8	
	comp=Z,44nm,18.0s,baz=37,slow=40							
PLBC	Pleasant Camp	91.55	24	P		P	20 12 09.0	+0.3
	baz=311							
N32M	Quiet Lake	91.60	22	P		P	20 12 09.5	+0.5
	baz=314							
SKAG	Skagway	91.94	24	P		P	20 12 10.9	+0.3
	baz=312							
P33M	Teslin, Yukon	92.35	22	P		P	20 12 11.8	-0.7
	baz=314							
P32M	Atlin	92.46	23	P		P	20 12 12.3	-0.7
	baz=313							
TGTN	Hyland Airport	92.94	20	P		P	20 12 14.8	-0.4
	baz=318							
R32K	Eaglecrest	93.06	24	P		P	20 12 14.5	-1.2
	baz=313							
R33M	Jennings River	93.59	22	P		P	20 12 17.4	-1.0
	baz=316							
DLBC	Dease Lake	94.63	22	P		P	20 12 22.1	-0.9
	baz=317							
U33K	Whale Pass	95.09	25	P		P	20 12 24.1	-0.9
	baz=314							
KOTAN	Kotaneelee Air	95.34	19	P		P	20 12 25.1	-1.1
	baz=322							
T35M	Bob Quinn	95.60	23	P		P	20 12 26.5	-0.9
	baz=316							
YKA	Yellowknife Ar	95.89	14	*i* P		P	20 12 28.2	-0.4
YKA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
YKA	Yellowknife Ar	95.89	14	P		P	20 12 27.8	-0.8
	comp=Z,0.8nm,0.8s,baz=328,slow=4.3,SNR=12							
YKA				PP		PP	20 16 19.7	-0.2
	comp=Z,0.5nm,0.9s,baz=333,slow=7.9,SNR=3.7							
YKA				LR		LR	21 00 44.0	
	comp=Z,43nm,19.5s,baz=330,slow=39							
	comp=Z,0.8nm,0.8s							
QSPA	South Pole Qui	108.16	180	PKiKP		PKiKP	20 17 29.3	-0.3
	comp=Z,2.8nm,1.0s,baz=294,slow=2.3,SNR=5.9							
EGMT	Eagleton	110.02	18	P		PKiKP	20 17 32.7	-1.2
	baz=334							
EYMN	Ely	113.69	6	P		PKiKP	20 17 39.6	-1.1
	baz=352							
BW06	Boulder Array	114.79	21	P		PKiKP	20 17 41.6	-1.7
	baz=333							
PDAR	Pinedale Array	114.79	21	PKP		PKiKP	20 17 42.9	-0.4
	comp=Z,0.8nm,0.7s,baz=17,slow=1.5,SNR=6.2							
NVAR	Mina Array Bea	114.98	29	PKP		PKiKP	20 17 44.0	+0.2
	comp=Z,1.2nm,1.0s,baz=82,slow=3.1,SNR=5.8							
RSSD	Black Hills	115.19	16	P		PKiKP	20 17 42.3	-1.7
	baz=339							
PKME	Peaks-Kenny Pk	115.34	349	P		PKiKP	20 17 42.6	-1.3
	baz=15							
SUSD	Miller	116.05	12	P		PKiKP	20 17 44.5	-0.9
	baz=344							
R11B	Troy Canyon, C	116.27	27	P		PKiKP	20 17 44.7	-1.5
	baz=326							
MPMC	Manual Prospec	117.27	30	P		PKPdf	20 17 46.6	-1.7
	baz=324							
O20A	White River Ci	117.58	21	P		PKPdf	20 17 48.3	-0.5
	baz=334							
SCZ2	Santa Cruz Isl	117.83	33	P		PKPdf	20 17 47.4	-1.7
	baz=321							
PPT2	Papeete2	117.85	101	*e*LR		LR	20 53 48.5	
	comp=Z,56nm,25.2s							
GSC	Goldstone, Bar	118.21	30	P		PKPdf	20 17 48.1	-1.8
	baz=324							
SNCC	San Nicolas Is	118.47	34	P		PKPdf	20 17 48.5	-1.8
	baz=321							
BFSC	Mount Baldy Ra	118.65	32	P		PKPdf	20 17 49.1	-1.8
	baz=323							
L61B	Northampton	118.65	351	P		PKPdf	20 17 49.1	-1.4
	baz=12							
OGNE	Ogallala	118.68	16	P		PKPdf	20 17 49.1	-1.6
	baz=340							
ISCO	Idaho Springs	118.73	19	P		PKPdf	20 17 49.7	-1.5
	baz=336							
BGNE	Belgrade	119.13	12	P		PKPdf	20 17 50.5	-0.9
	baz=344							
M65A	Busby, Falmout	119.17	349	P		PKPdf	20 17 50.6	-0.8
	baz=14							
GMRC	Granite Mounta	119.17	30	P		PKPdf	20 17 50.5	-1.3
	baz=325							
BINY	Binghamton	119.34	353	P		PKPdf	20 17 50.7	-1.1
	baz=8.5							
SCIA	State Center	119.46	8	P		PKPdf	20 17 51.5	-0.5
	baz=350							
Q24A	Divide	119.64	19	P		PKPdf	20 17 51.7	-1.1
	baz=337							
TPFO	Pinon Flats	119.75	31	P		PKPdf	20 17 51.3	-1.7
	baz=324							
IRM	Iron Mountain	119.93	30	P		PKPdf	20 17 52.2	-1.0
	baz=326							
MVCO	Mesa Verde	120.10	23	P		PKPdf	20 17 52.1	-1.6
	baz=333							
PAL	Palisades	120.25	351	P		PKPdf	20 17 52.4	-1.2
	baz=11							
MONP2	Monument Peak	120.34	32	P		PKPdf	20 17 52.4	-1.8
	baz=324							
SSPA	Standing Stone	121.08	355	P		PKPdf	20 17 54.0	-1.1
	baz=6.6							
CBKS	Cedar Bluff	121.26	14	P		PKPdf	20 17 54.5	-1.2
	baz=342							
SFIN	Lafayette	121.53	3	P		PKPdf	20 17 54.8	-1.3
	baz=356							
T25A	Trinidad	121.55	19	P		PKPdf	20 17 54.8	-1.7
	baz=337							
KSU1	Kansas State U	121.66	12	P		PKPdf	20 17 55.2	-1.1
	baz=346							
O53A	New Philadelph	121.68	358	P		PKPdf	20 17 55.0	-1.4
	baz=2.9							
O48B	Farmland	121.72	1	P		PKPdf	20 17 55.0	-1.4
	baz=359							
ACSO	Alum Creek Sta	121.75	359	P		PKPdf	20 17 55.0	-1.5
	baz=1.0							
MCWV	Mont Chateau	122.20	356	P		PKPdf	20 17 55.7	-1.6
	baz=4.5							
P52A	Corning	122.33	358	P		PKPdf	20 17 56.5	-1.1
	baz=1.9							
P49A	Miami Univ. Ec	122.44	1	P		PKPdf	20 17 56.6	-1.2
	baz=359							
ANMO	Albuquerque	122.86	22	PKPdf		PKPdf	20 17 59.0	-0.1
ANMO	Albuquerque	122.86	22	PKIKP		PKPdf	20 17 59.0	-0.1
ANMO	Albuquerque	122.86	22	P		PKPdf	20 17 57.2	-1.8
	baz=334							
CBN	Corbin Frederi	123.44	354	P		PKPdf	20 17 58.6	-1.2
	baz=7.3							
TUC	Tucson	123.46	27	P		PKPdf	20 17 59.0	-1.1
	baz=329							
CCM	Cathedral Cave	123.50	7	P		PKPdf	20 17 59.0	-0.9
	baz=352							
S39A	Bolivar	123.59	9			PKPdf	20 17 59.0	-1.0
WCI	Wyandotte Cave	123.71	2	P		PKPdf	20 17 59.8	-0.4
	baz=357							
121A	Cookes Peak, D	124.51	25	P		PKPdf	20 18 01.5	-0.7
	baz=332							
BLA	Blacksburg	124.67	357	P		PKPdf	20 18 01.5	-0.8
	baz=3.9							
HHAR	Hobbs	124.87	10			PKPdf	20 18 01.5	-1.1
TUL3	Leonard	124.90	12	P		PKPdf	20 18 00.9	-1.8
	baz=346							
MSTX	Muleshoe	124.98	19	P		PKPdf	20 18 02.2	-0.8
	baz=338							
WMOK	Wichita Mounta	125.37	15	P		PKPdf	20 18 02.7	-0.9
	baz=343							
TZTN	Tazewell	125.43	360	P		PKPdf	20 18 02.9	-0.8
	baz=0.3							
WVT	Waverly	125.72	4	PKPdf		PKPdf	20 18 03.2	-1.0
WVT	Waverly	125.72	4	PKIKP		PKPdf	20 18 03.2	-1.0
	baz=355							
MNTX	Cornudas Mount	126.17	23	P		PKPdf	20 18 03.8	-1.5
	baz=335							
TKL	Tuckaleechee C	126.32	360	PKP		PKPdf	20 18 04.6	-0.8
	comp=Z,2.5nm,0.7s,baz=350,slow=11,SNR=5.6							
MIAR	Mount Ida	126.63	10	P		PKPdf	20 18 05.2	-0.8
	baz=348							
KMSC	Kings Mountain	126.78	357	P		PKPdf	20 18 05.4	-0.9
	baz=3.0							
ABTX	Abilene, Hawle	127.15	17	P		PKPdf	20 18 06.5	-0.6
	baz=341							
WHTX	Lake Whitney,	128.32	15	P		PKPdf	20 18 08.5	-0.8
	baz=344							
TXAR	Lajitas Array	128.93	22	PKP		PKPdf	20 18 10.9	+0.2
	comp=Z,1.4nm,0.8s,baz=316,slow=3.5,SNR=7.0							
JCT	Junction City	129.13	18	P		PKPdf	20 18 10.3	-0.7
	baz=340							
TIGA	Tifton	130.53	360	P		PKPdf	20 18 12.9	-0.6
	baz=0.3							
833A	Chaparral WMA,	131.27	18	P		PKPdf	20 18 15.1	+0.1
	baz=340							
BDFB	Brasilia	145.60	269	PKPbc		PKPdf	20 18 41.9	+0.4
	comp=Z,20nm,0.9s,baz=83,slow=4.8,SNR=24							
BAUV	El Baul	148.71	329			PKPdf	20 18 49.3	+2.6
BOAV	Boa Vista	149.11	309			PKPdf	20 18 50.4	+3.1
CPUP	Villa Florida	154.19	247	PKP		PKPdf	20 18 53.2	-1.4
	comp=Z,3.0nm,1.0s,baz=162,slow=6.4,SNR=4.5							
CPUP				PKPbc		sPKPdf	20 19 02.0	-0.7
	comp=Z,2.9nm,0.7s,baz=86,slow=4.2,SNR=5.5							
CPUP				PKPab		PKPab	20 19 15.8	-0.8
	comp=Z,2.7nm,0.8s,baz=95,slow=3.6,SNR=4.3							
PLCA	Paso Flores	154.88	204	PKPbc		PKPbc	20 19 04.8	+0.8
	comp=Z,2.2nm,1.0s,baz=167,slow=9.2,SNR=3.5							
PLCA				PKPab		PKPab	20 19 17.3	-1.8
	comp=Z,3.5nm,0.9s,baz=106,slow=4.8,SNR=4.6							
LPAZ	La Paz	164.79	275	PKP		PKPdf	20 19 06.6	-1.2
	comp=Z,0.8nm,0.8s,baz=78,slow=0.7,SNR=4.4							

*AEIC **17** 20:01:39.4±2.1,53.82N±0.05×166.31W±0.06,h12km±6km, Error ellipse: s-maj=8.5km s-min=3.3km az=151.0*
*NEIC **17** 20:01:39.1±0.8,53.72N±0.04×166.26W±0.04,h12km±8km, mb3.4/6,ML3.3/10,ML3.5(AEIC),Error ellipse: s-maj=6.4km s-min=3.1km az=165.0*

ISC 17 20:01:39.2±1.2,53.75N±0.06×166.26W±0.04,h14km±7km, n105,σ0§99/114,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UNV	Unalaska Valle	0.17	302		Pg	20 01 43.2	0.0
UNV				Sg	Sg	20 01 46.0	0.0
UNV	Unalaska Valle	0.17	302	P	Pg	20 01 43.2	0.0
	baz=131						
UNV				S	Sg	20 01 46.1	+0.1
	baz=131						
MNAT	Makushin Natee	0.28	298		Pb	20 01 45.3	-0.7
MNAT					Sb	20 01 49.6	-1.0
MSW	Makushin Switc	0.35	298		Pb	20 01 46.5	-0.7
MSW					Sb	20 01 51.7	-0.8
MGOD	Makushin Gods	0.36	277		Pg	20 01 46.8	+0.2
ZRO	Akutan Zero	0.38	26		Pg	20 01 47.2	+0.3
AKRB	Akutan Reef Bi	0.39	17		Pb	20 01 47.5	-0.4
AKRB					Sb	20 01 53.6	-0.2
AKBBA	Akutan Broad B	0.40	29		Pg	20 01 47.4	+0.2
AKBBA					Sb	20 01 53.3	-0.6
MAPS	Pakushin South	0.41	278		Pg	20 01 47.5	+0.1
LVA	Lava Point	0.43	18		Pg	20 01 48.0	+0.2
LVA					Sb	20 01 54.3	-0.6
AKUT	Akutan	0.48	37		Pg	20 01 48.8	+0.1
AKUT				Sg	Sb	20 01 55.7	-0.6
AKSA	Akutan Strait	0.51	41		Pg	20 01 48.9	-0.4
AKSA					Sg	20 01 56.0	0.0
OKFG	Magazine Ridge	1.04	251		Sg	20 02 13.0	+0.2
OKER	Okmok East Rim	1.11	255		Pb	20 01 59.9	-0.2
WECS	Westdahl Cape	1.17	48		Pb	20 02 00.4	-0.8
OKCE	Okmok Cone E	1.18	255		Pb	20 02 01.1	-0.3
OKWE	Okmok W'ng Wal	1.21	257		Pn	20 02 01.3	-0.4
WEBT	Westdahl Beart	1.22	46		Pn	20 02 01.3	-0.5
NIKH	Nikolski High	1.74	244		Pn	20 02 08.7	-0.2
NIKH	Nikolski High	1.74	244	P	Pn	20 02 08.8	-0.2
	baz=63						
ISLZ	Isanotski Laza	1.79	56		Pn	20 02 10.0	+0.4
FALS	False Pass	2.00	55		Pn	20 02 12.8	+0.3
FALS	False Pass	2.00	55	P	Pn	20 02 13.4	+0.9
	baz=237						
PN7A	Pavlof North-7	3.00	54		Pn	20 02 27.6	+1.3
PS1A	Pavlof South-1	3.12	56		Pn	20 02 29.0	+1.1
S12K	Black Hills	3.12	50		Pn	20 02 28.3	+0.4
S12K				IAML		20 03 20.6	
	comp=E,74nm,0.5s						
S12K				IAML		20 03 27.3	
	comp=N,83nm,0.5s						
S12K	Black Hills	3.12	50	P	Pn	20 02 28.4	+0.5
	baz=232						
P08K	Saint George I	3.42	328		Pn	20 02 32.2	+0.2
P08K	Saint George I	3.42	328	P	Pn	20 02 32.2	+0.2
	baz=146						
SDPT	Sand Point	3.73	62		Pn	20 02 36.5	+0.3
SDPT				IAML		20 03 37.9	
	comp=E,64nm,0.7s						
SDPT				IAML		20 03 46.6	
	comp=N,70nm,1.3s						
SDPT	Sand Point	3.73	62	P	Pn	20 02 37.3	+1.0
	baz=246						
CNBA	Chernabura Isl	4.05	72	Pn	Pn	20 02 40.9	+0.2
CHGN	Chignik	5.19	57	Pn	Pn	20 02 57.7	+1.4
CHGN				IAML		20 04 26.6	
	comp=E,17nm,0.9s						
CHGN				IAML		20 05 07.7	
	comp=N,14nm,1.5s						
O14K	Tigyukauivet M	6.17	25		Pn	20 03 10.5	+0.8
O14K	Tigyukauivet M	6.17	25	P	Pn	20 03 10.6	+0.9
	baz=209						
CHIR	Chirikof Island	6.49	67	Pn	Pn	20 03 14.5	+0.3
O15K	Ungalikthiuk R	6.50	31		Pn	20 03 15.3	+1.0
O15K	Ungalikthiuk R	6.50	31	P	Pn	20 03 15.3	+1.0
	baz=216						
M11K	Mekoryuk	6.65	0		Pn	20 03 17.6	+1.4
M11K	Mekoryuk	6.65	0	P	Pn	20 03 17.6	+1.4
	baz=180						
N14K	Kuskokwak Cree	6.67	20		Pn	20 03 18.3	+1.6
N14K	Kuskokwak Cree	6.67	20	P	Pn	20 03 18.3	+1.6
	baz=204						
M13K	Dall Lake	6.86	12		Pn	20 03 19.9	+0.7
M13K	Dall Lake	6.86	12	P	Pn	20 03 21.3	+2.1
	baz=194						
P16K	Nushagak River	7.00	38		Pn	20 03 22.5	+1.3
P16K	Nushagak River	7.00	38	P	Pn	20 03 22.5	+1.3
	baz=224						
N15K	Kwethluk River	7.26	25		Pn	20 03 24.7	0.0
N15K	Kwethluk River	7.26	25	P	Pn	20 03 26.6	+1.9
	baz=210						
O16K	Kokwok River B	7.38	34		Pn	20 03 26.2	-0.2
O16K	Kokwok River B	7.38	34	P	Pn	20 03 27.4	+1.0
	baz=221						
M14K	Bethel	7.39	17		Pn	20 03 27.2	+0.7
M14K	Bethel	7.39	17	P	Pn	20 03 28.0	+1.5
	baz=200						
M15K	Kasigluk River	7.58	21		Pn	20 03 30.0	+0.9
M15K	Kasigluk River	7.58	21	P	Pn	20 03 30.0	+0.9
	baz=206						
P17K	Kvichak River	7.70	41		Pn	20 03 32.4	+1.7
P17K	Kvichak River	7.70	41	P	Pn	20 03 32.4	+1.7
	baz=229						
L14K	Kuka Creek	7.85	13		Pn	20 03 33.9	+1.2
L14K	Kuka Creek	7.85	13	P	Pn	20 03 34.1	+1.3
	baz=196						
O17K	Koliganek Bris	7.85	36		Pn	20 03 33.7	+0.9
O17K	Koliganek Bris	7.85	36	P	Pn	20 03 33.7	+0.9
	baz=224						
N16K	Nishlik Lake	7.87	28		Pn	20 03 34.7	+1.6
N16K	Nishlik Lake	7.87	28	P	Pn	20 03 34.7	+1.6
	baz=214						
OHAK	Old Harbor	8.14	60	Pn	Pn	20 03 37.6	+0.7
M16K	Timber Creek	8.28	25		Pn	20 03 39.5	+0.8
M16K	Timber Creek	8.28	25	P	Pn	20 03 40.2	+1.5
	baz=211						
P18K	Big Mountain,	8.30	43		Pn	20 03 40.3	+1.3
P18K	Big Mountain,	8.30	43	P	Pn	20 03 40.6	+1.6
	baz=232						
L15K	Ungalak Mounta	8.34	16		Pn	20 03 40.9	+1.4
L15K	Ungalak Mounta	8.34	16	P	Pn	20 03 40.9	+1.4
	baz=200						
N17K	Nushagak Hills	8.39	32		Pn	20 03 40.5	+0.4
N17K	Nushagak Hills	8.39	32	P	Pn	20 03 41.0	+0.9
	baz=220						
O18K	Koktuh Hills	8.60	40		Pn	20 03 44.3	+1.1
O18K	Koktuh Hills	8.60	40	P	Pn	20 03 44.5	+1.3
	baz=229						
KDAK	Kodiak Island	8.70	57	Pn	Pn	20 03 44.7	+0.3
L16K	Owhat River	8.76	22	Pn	Pn	20 03 46.6	+1.4
K15K	Wolf Creek Mou	8.92	14		Pn	20 03 49.0	+1.5
K15K	Wolf Creek Mou	8.92	14	P	Pn	20 03 49.0	+1.5
	baz=198						
N18K	Kilae Creek	8.93	35		Pn	20 03 47.8	+0.2
N18K	Kilae Creek	8.93	35	P	Pn	20 03 48.6	+1.0
	baz=223						
M17K	Holitna River	9.01	28		Pn	20 03 49.3	+0.6
M17K	Holitna River	9.01	28	P	Pn	20 03 49.8	+1.1
	baz=215						
SYI	Shuyak Island	9.13	52	Pn	Pn	20 03 50.4	0.0
SVW2	Sparrevohn	9.34	34	Pn	Pn	20 03 53.1	-0.1
N19K	Bonanza Creek	9.51	37	Pn	Pn	20 03 56.3	+0.7
L18K	Granite Mounta	9.88	27	Pn	Pn	20 04 00.9	+0.3
K17K	Iditarod	9.91	22	Pn	Pn	20 04 03.0	+2.0
J16K	Anvik River	10.00	15	Pn	Pn	20 04 03.5	+1.3
M19K	Big River Lodg	10.32	33	Pn	Pn	20 04 06.5	-0.1
TTA	Tatalina	10.64	26	Pn	Pn	20 04 10.8	-0.4
ANM	Nome	10.85	2	Pn	Pn	20 04 14.6	+0.7
J19K	Poorman	11.63	24	Pn	Pn	20 04 25.8	+1.3
G16K	Koyuk River	11.84	8	Pn	Pn	20 04 28.3	+1.0
F15K	North Star Dit	12.02	3	Pn	Pn	20 04 30.8	+1.0
HIN	Hinchinbrook I	12.61	50	Pn	Pn	20 04 37.6	-0.3
KLU	Klutina	13.32	46	Pn	Pn	20 04 47.4	-0.3
IMAR	Indian Mountai	13.74	22	Pn	Pn	20 04 54.5	+1.2
BERG	Berg Lake	13.90	52	Pn	Pn	20 04 54.8	-0.8
WAX	Waxell Ridge	14.32	53	Pn	Pn	20 05 02.8	+1.4
E19K	Redstone River	14.42	14	Pn	Pn	20 05 04.0	+1.4
LOGN	Logan Glacier	15.30	52		Pn	20 05 16.6	+1.9
E22K	Anaktuvuk Pass	15.97	20		P	20 05 25.7	-0.9
E22K				IAmb	IAmb	20 05 29.4	
	comp=Z,3.9nm,1.4s						
I26K	Coal Creek Min	16.34	36		P	20 05 29.7	-1.0
H29M	Whitestone	18.50	37	P	P	20 05 53.8	-0.8
H29M				IAmb	IAmb	20 06 11.0	
	comp=Z,7.4nm,1.5s						
M31M	Drury Creek, Y	18.72	50	P	P	20 05 57.5	+0.5
M31M				IAmb	IAmb	20 06 16.1	
	comp=Z,2.8nm,1.1s						
MMPY	Sheldon Lake,	20.23	50	P	P	20 06 13.6	+0.1
MMPY				IAmb	IAmb	20 06 27.8	
	comp=Z,1.9nm,0.9s						

*IDC **17** 20:04:07.6±1.7,43.57N×105.34W,h0km,mb3.9/7, mbtmp3.6/12,ML2.9/4,MS1.9/1,Error ellipse: s-maj=46.9km s-min=7.2km az=149.0*
*NEIC **17** 20:04:08.2±1.2,43.73N±0.05×105.29W±0.07,h0km±1km, ML3.4/70,Error ellipse: s-maj=9.2km s-min=8.2km az=312.0*

ISC 17 20:04:09.2±0.8,43.79N±0.06×105.25W±0.06,h0km,n59, σ1§06/57,mb3.9/7,Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	Black Hills	0.94	69		Pb	20 04 29.0	+0.5
K22A	Casper	1.47	220		Pn	20 04 34.8	-2.4
K22A				IAML		20 04 57.4	
	comp=E,658nm,0.9s						
K22A				IAML		20 04 59.4	
	comp=N,567nm,0.7s						
PHWY	Pilot Hill	2.49	184	Pn	Pn	20 04 50.8	-0.5
PHWY				IAML		20 05 27.1	
	comp=N,122nm,0.4s						
RWWY	Rawlins	2.55	215	Pn	Pn	20 04 52.4	+0.4
N23A	Red Feather La	2.94	190	Pn	Pn	20 04 57.6	+0.2
N23A				IAML		20 05 47.6	
	comp=N,99nm,0.9s						
N23A				IAML		20 06 08.2	
	comp=E,97nm,1.1s						
LAO	LASA Array	2.98	347		Pn	20 04 59.0	+1.3
RLMT	Red Lodge	3.17	296		Pn	20 05 01.5	+1.0
RLMT				IAML		20 05 57.4	
	comp=E,106nm,0.6s						
RLMT				IAML		20 05 58.8	
	comp=E,101nm,0.8s						
PD31	Pinedale Array	3.31	253		Pn	20 05 02.3	-0.2
PDAR	Pinedale Array	3.31	253		Pn	20 05 02.2	-0.2
PDAR	Pinedale Array	3.31	253	Pn	Pn	20 05 01.5	-0.9
	comp=E,4.8nm,0.3s,baz=68,slow=16,SNR=45						
PDAR				Lg	Lg	20 05 46.9	
	comp=E,12nm,0.3s,baz=65,slow=35,SNR=5.6						
PDAR				LR	LR	20 05 50.2	
	comp=E,20nm,20.7s,baz=125,slow=32						
YMP	Mirror Lake Pl	3.65	287		Pn	20 05 07.3	+0.2
OGNE	Ogallala	3.71	139	Pn	Pn	20 05 08.4	+0.5
LKWY	Lake	3.78	284		Pn	20 05 10.3	+1.3
LKWY				IAML		20 05 35.9	
	comp=E,58nm,0.7s						
LKWY				IAML		20 06 20.3	
	comp=E,49nm,1.3s						
H17A	Grant Village	3.88	281		Pn	20 05 11.6	+1.2
H17A				IAML		20 06 13.2	
	comp=E,43nm,0.6s						
H17A				IAML		20 06 21.9	
	comp=N,50nm,0.9s						
LOHW	Long Hollow	3.88	269		Pn	20 05 11.1	+0.7
LOHW				IAML		20 06 16.8	
	comp=N,41nm,1.1s						
FLWY	Flagg Ranch	3.94	276		Pn	20 05 11.9	+0.8
FLWY				IAML		20 06 19.3	
	comp=N,54nm,2.0s						
FLWY				IAML		20 06 20.8	
	comp=N,62nm,1.1s						
MOOW	Moose Ponds	3.98	271		Pn	20 05 12.0	+0.4
ISCO	Idaho Springs	4.00	184	Pn	Pn	20 05 11.8	-0.2
REDW	Red Top Meadow	4.09	266		Pn	20 05 13.4	+0.3
YHH	Holmes Hill	4.14	286		Pn	20 05 14.2	+0.3
FXWY	Fox Creek	4.19	270		Pn	20 05 14.3	-0.2
E28A	Huff	4.26	48		Pn	20 05 17.2	+1.9
O20A	White River Ci	4.28	212		Pn	20 05 15.2	-0.5
O20A				IAML		20 06 36.9	
	comp=N,82nm,1.0s						
O20A				IAML		20 06 46.4	
	comp=E,76nm,1.1s						
YHL	Hebgen Lake	4.39	286		Pn	20 05 17.6	+0.3
YHL

comp=E,0.1nm,0.3s,baz=73,slow=15,SNR=2.7
ELK Lg Lg 20 08 17.8
baz=106,slow=20,SNR=1.7
comp=E,0.9nm,0.8s
I10CA LAC DU BONNET 8.99 41 I I 20 56 50.0
comp=E,0.1nm,1.0s,baz=224,slow=326,SNR=4.9
ULM Lac du Bonnet 9.09 41 Pn **Pn 20 06 20.2 -1.3**
comp=E,1.4nm,0.3s,baz=228,slow=12,SNR=11
ULM Sn **Sn 20 08 00.5 -4.1**
comp=E,0.4nm,0.3s,baz=270,slow=20,SNR=3.5
ULM Lg Lg 20 08 52.1
comp=E,0.5nm,0.3s,baz=320,slow=22,SNR=1.6
comp=E,2.7nm,0.3s
NEW Newport 9.39 303 Lg Lg 20 09 00.2
comp=E,0.2nm,0.3s,baz=43,slow=20,SNR=1.5
NVAR Mina Array Bea 11.20 246 Pn **Pn 20 06 49.8 -1.0**
comp=E,0.1nm,0.3s,baz=58,slow=14,SNR=3.7
comp=E,0.3nm,0.5s
TXAR Lajitas Array 14.48 174 Lg Lg 20 11 31.2
comp=E,0.1nm,0.3s,baz=0.0,slow=33,SNR=1.6
YKA Yellowknife Ar 19.52 347 P **P 20 08 38.5 +0.7**
comp=E,0.1nm,0.3s,baz=205,slow=8.7,SNR=4.4
comp=E,0.2nm,0.7s
ARCES ARCESS Array B 61.36 18 P **P 20 14 26.1 -0.2**
comp=E,4.1nm,0.8s,baz=19,slow=7.7,SNR=5.6
comp=E,4.1nm,0.8s
FINES FINESS Array B 67.98 23 P **P 20 15 10.1 +0.6**
comp=E,1.3nm,0.7s,baz=346,slow=15,SNR=3.4
comp=E,1.3nm,0.7s
ZALV Zalesovo Beam 82.26 354 P **P 20 16 31.7 -0.3**
comp=E,1.0nm,0.7s,baz=347,slow=6.1,SNR=4.6
comp=E,1.0nm,0.7s
BVAR Borovoye Array 83.49 3 P **P 20 16 38.8 +0.3**
comp=E,0.6nm,0.7s,baz=336,slow=3.3,SNR=3.6
comp=E,0.6nm,0.7s
SONM Songino Array 84.59 339 P **P 20 16 45.2 +0.8**
comp=E,0.4nm,0.7s,baz=20,slow=4.6,SNR=2.9
comp=E,0.4nm,0.7s
KURBB Kurchatov Arra 85.91 358 P **P 20 16 50.5 -0.2**
comp=E,0.1nm,0.4s,baz=359,slow=3.8,SNR=5.0
comp=E,0.1nm,0.4s
MKAR Makanchi Array 89.55 355 P **P 20 17 08.6 +0.2**
comp=E,0.4nm,0.7s,baz=338,slow=4.0,SNR=4.2
comp=E,0.4nm,0.7s

*ISK **17** 20:11:25.2, 36˚.59N×26˚.09E, h26km, ML2.9/9*
*AFAD **17** 20:11:25.4±0.0, 34˚.76N×28˚.09E, h4km±3km, ML2.7*
*ATH **17** 20:11:32.8±0.8, 35˚.07N×27˚.97E, h10km, ML2.8/5, Manual Solution by N.Liadopoulou This location: 2020/05/19 10:25:55 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 6 km; Longitude uncertainty: 3 km*
*THE **17** 20:11:33.8, 35˚.13N×27˚.97E, h2km±3km, ML2.8/3, Error ellipse: s-maj=3.7km s-min=1.5km az=146.0*

ISC 17 20:11:32.3±2.2, 34°99N±0°.08×28°.00E±0°.06, h10km±12km, n26, σ1§26/31, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.88**	**309**	Pn	**Pg**	**20 11 49.1**	**-0.2**
KARP				Sn	**Sn**	**20 12 06.1**	**+2.4**
KARP	**Karpathos**	**0.88**	**309**	P	**Pg**	**20 11 48.7**	**-0.6**
KARP				S	**Sg**	**20 12 01.4**	**+0.6**
	1µm,0.8s						
KARP	**Karpathos**	**0.88**	**309**	P	**Pg**	**20 11 49.0**	**-0.4**
KARP				S	**Sg**	**20 12 00.1**	**-0.7**
ARG	**Arkhangelos**	**1.23**	**5**	Pn	**Pn**	**20 11 53.7**	**-1.8**
ARG	**Arkhangelos**	**1.23**	**5**	P	**Pn**	**20 11 54.1**	**-1.4**
ARG				S	**Sb**	**20 12 10.5**	**-1.0**
	430nm,1.0s						
ARG	**Arkhangelos**	**1.23**	**5**	P	**Pn**	**20 11 54.6**	**-0.9**
ZKR	**Zakros**	**1.47**	**275**	Pn	Pn	20 11 50.8	-8.0
ZKR	**Zakros**	**1.47**	**275**	P	**Pb**	**20 11 59.6**	**0.0**
ZKR				S	**Sb**	**20 12 18.2**	**-0.1**
	158nm,0.7s						
ZKR	**Zakros**	**1.47**	**275**	P	**Pn**	**20 11 58.6**	**-0.2**
KSL	**Kastellorizon**	**1.74**	**48**	P	**Pn**	**20 12 01.6**	**-0.9**
KSL	**Kastellorizon**	**1.74**	**48**	P	**Pn**	**20 12 02.1**	**-0.4**
YAZI	**Mula-Dat§a-**	**1.75**	**346**	P	**Pn**	**20 12 02.0**	**-0.7**
YAZI				S	**Sg**	**20 12 30.3**	**+1.9**
YAZI				*i* AML	AML	20 12 39.0	
	comp=N,59nm,1.4s						
YAZI				*i* AML	AML	20 12 40.0	
	comp=E,51nm,1.3s						
IZZE	**Mula-Seydike**	**1.76**	**34**	P	**Pn**	**20 12 01.4**	**-1.5**
DAT	**Datca**	**1.77**	**349**	P	**Pn**	**20 12 01.7**	**-1.4**
DAT	**Datca**	**1.77**	**349**	P	**Pn**	**20 12 02.1**	**-1.0**
DAT				S	**Sg**	**20 12 30.1**	**+0.9**
DAT				*i* AML	AML	20 12 38.0	
	comp=E,61nm,0.8s						
DAT				*i* AML	AML	20 12 43.0	
	comp=N,68nm,0.7s						
TURN	**Turunc**	**1.79**	**6**	Pn	Pn	20 11 54.5	-8.8
TURN	**Turunc**	**1.79**	**6**	P	**Pn**	**20 12 03.4**	**+0.1**
TURN				S	**Sg**	**20 12 32.2**	**+2.2**
TURN				*i* AML	AML	20 12 41.0	
	comp=E,64nm,0.8s						
TURN				*i* AML	AML	20 12 42.0	
	comp=N,59nm,1.2s						
FRMA	**Ierapetra Chan**	**1.86**	**271**	P	**Pn**	**20 12 04.2**	**+0.1**
FRMA	**Ierapetra Chan**	**1.86**	**271**	P	**Pn**	**20 12 02.9**	**-1.3**
FETY	**Fethiye**	**1.87**	**28**	Pn	Pn	**20 12 03.9**	**-0.4**
DALY	**Dalyan (Mula)**	**1.90**	**16**	Pn	Pn	20 11 59.2	-5.6
BDRM	**Kayabasi**	**2.12**	**348**	P	**Pb**	**20 12 10.7**	**-0.1**
CAME	**Cameli-Denizli**	**2.22**	**28**	Pn	**Pn**	**20 12 06.7**	**-2.6**
DNZT	**Denizli-Tavas-**	**2.43**	**20**	P	**Pn**	**20 12 12.0**	**-0.2**
DNZT				S	**Sn**	**20 12 41.8**	**-0.2**
APMY	**Acipayam-Deniz**	**2.69**	**23**	Pn	Pn	20 12 08.4	-7.4
KORT	**Korkueli**	**2.77**	**43**	Pn	**Pn**	**20 12 18.8**	**+1.9**

*NEIC **17** 20:12:43.6±1.2, 53˚.36N±0˚.05×162˚.97W±0˚.08, h16km±6km, mb3.5/18, ML3.1/12, ML3.1(AEIC), Error ellipse: s-maj=6.9km s-min=6.6km az=155.0*
*AEIC **17** 20:12:45.3±1.6, 53˚.35N±0˚.03×163˚.04W±0˚.08, h13km±6km, Error ellipse: s-maj=7.8km s-min=3.1km az=118.0*

ISC 17 20:12:45.1±1.1, 53°31N±0°.09×162°.93W±0°.07, h32km, n97, σ1§90/102, South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISLZ	**Isanotski Laza**	**1.49**	**342**		**Pn**	**20 13 08.6**	**-1.2**
ISLZ					**Sn**	**20 13 28.1**	**0.0**
FALS	**False Pass**	**1.58**	**350**		**Pn**	**20 13 09.8**	**-0.9**
FALS				Sn	**Sn**	**20 13 29.8**	**-0.3**
FALS	**False Pass**	**1.58**	**350**		**Sn**	**20 13 30.4**	**+0.4**
FALS	**False Pass**	**1.58**	**350**	P	**Pn**	**20 13 09.9**	**-0.9**
ISNN	**Isanotski Nort**	**1.61**	**342**		**Pn**	**20 13 10.7**	**-0.6**
WECS	**Westdahl Cape**	**1.64**	**319**		**Pn**	**20 13 10.8**	**-1.0**
WECS					**Sn**	**20 13 31.1**	**-0.7**
AKSA	**Akutan Strait**	**1.84**	**298**		**Pn**	**20 13 13.7**	**-0.8**
AKUT	**Akutan**	**1.88**	**297**		**Pn**	**20 13 14.2**	**-0.8**
AKUT					**Sn**	**20 13 36.6**	**-1.0**
AKUT				IAML		20 13 37.5	
	comp=N,136nm,0.6s						
AKUT	**Akutan**	**1.88**	**297**	P	**Pn**	**20 13 14.7**	**-0.3**
AKBBA	**Akutan Broad B**	**1.95**	**295**		**Pn**	**20 13 15.4**	**-0.6**
AKBBA					**Sn**	**20 13 38.9**	**-0.5**
ZRO	**Akutan Zero**	**1.98**	**295**		**Pn**	**20 13 15.8**	**-0.5**
LVA	**Lava Point**	**2.03**	**296**		**Pn**	**20 13 16.6**	**-0.5**
PVV	**Pavlof Volcano**	**2.17**	**17**		**Pn**	**20 13 18.8**	**-0.3**
UNV	**Unalaska Valle**	**2.20**	**286**		**Pn**	**20 13 18.4**	**-0.9**
MNAT	**Makushin Natee**	**2.31**	**286**		**Pn**	**20 13 20.3**	**-0.6**
MSW	**Makushin Switc**	**2.38**	**286**		**Pn**	**20 13 21.3**	**-0.5**
MGOD	**Makushin Gods**	**2.40**	**283**		**Pn**	**20 13 21.9**	**-0.3**
MAPS	**Pakushin South**	**2.44**	**283**		**Pn**	**20 13 22.5**	**-0.3**
S12K	**Black Hills**	**2.45**	**12**		**Pn**	**20 13 22.6**	**-0.2**
S12K				IAML		20 13 54.5	
	comp=N,120nm,0.6s						
CNBA	**Chernabura Isl**	**2.48**	**51**		**Pn**	**20 13 23.1**	**-0.2**
SDPT	**Sand Point**	**2.50**	**34**		**Pn**	**20 13 23.2**	**-0.2**
SDPT				IAML		20 13 53.9	
	comp=N,88nm,0.4s						
SDPT				IAML		20 14 21.1	
	comp=E,92nm,1.2s						
SDPT	**Sand Point**	**2.50**	**34**	P	**Pn**	**20 13 23.4**	**0.0**
NIKH	**Nikolski High**	**3.58**	**267**		**Pn**	**20 13 38.0**	**-0.4**
NIKH	**Nikolski High**	**3.58**	**267**	P	**Pn**	**20 13 38.5**	**+0.1**
CHGN	**Chignik**	**3.98**	**39**		**Pn**	**20 13 44.0**	**+0.3**
CHGN				IAML		20 14 32.4	
	comp=E,30nm,0.9s						
CHGN				IAML		20 16 16.4	
	comp=N,21nm,2.7s						
CHIR	**Chirikof Islan**	**4.94**	**56**		**Pn**	**20 13 56.1**	**-0.9**
SII	**Sitkinak Islan**	**6.00**	**54**	P	**Pn**	**20 14 10.6**	**-1.0**
O14K	**Tigyukauivet M**	**6.03**	**8**		**Pn**	**20 14 11.8**	**-0.2**
O15K	**Ungalikthiuk R**	**6.13**	**15**		**Pn**	**20 14 12.7**	**-0.7**
CNTC	**Contact Creek**	**6.36**	**36**		**Pn**	**20 14 16.1**	**-0.4**
P16K	**Nushagak River**	**6.36**	**24**		**Pn**	**20 14 16.1**	**-0.4**
ANCK	**Angle Creek**	**6.45**	**38**		**Pn**	**20 14 17.6**	**-0.1**
OHAK	**Old Harbor**	**6.76**	**51**	Pn	**Pn**	**20 14 20.4**	**-1.5**
OHAK	**Old Harbor**	**6.76**	**51**	P	**Pn**	**20 14 20.4**	**-1.5**
O16K	**Kokwok River B**	**6.84**	**21**		**Pn**	**20 14 22.7**	**-0.5**
ATKA	**Atka Island**	**6.93**	**265**	Pn	**Pn**	**20 14 24.2**	**-0.1**
N15K	**Kwethluk River**	**7.05**	**12**		**Pn**	**20 14 25.9**	**-0.1**
KDAK	**Kodiak Island**	**7.38**	**48**		**Pn**	**20 14 29.1**	**-1.4**
P18K	**Big Mountain,**	**7.44**	**32**	Pn	**Pn**	**20 14 31.7**	**+0.3**
M14K	**Bethel**	**7.48**	**4**	Pn	**Pn**	**20 14 31.6**	**-0.2**
M15K	**Kasigluk River**	**7.50**	**8**		**Pn**	**20 14 31.4**	**-0.8**
N16K	**Nishlik Lake**	**7.54**	**16**		**Pn**	**20 14 32.8**	**+0.1**
Q19K	**Cape Douglas,**	**7.65**	**39**		**Pn**	**20 14 33.4**	**-0.9**
O18K	**Koktuh Hills**	**7.82**	**30**		**Pn**	**20 14 36.7**	**+0.2**
N17K	**Nushagak Hills**	**7.88**	**21**	Pn	**Pn**	**20 14 36.8**	**-0.6**
M16K	**Timber Creek**	**8.03**	**14**	Pn	**Pn**	**20 14 36.6**	**-2.7**
L14K	**Kuka Creek**	**8.06**	**1**	Pn	**Pn**	**20 14 39.5**	**-0.2**
N18K	**Kilae Creek**	**8.32**	**25**	Pn	**Pn**	**20 14 43.4**	**0.0**
ADK	**Adak**	**8.50**	**266**	Pn	**Pn**	**20 14 45.5**	**-0.3**
L16K	**Owhat River**	**8.63**	**11**	Pn	**Pn**	**20 14 46.6**	**-0.9**
M17K	**Holitna River**	**8.63**	**18**	Pn	**Pn**	**20 14 47.2**	**-0.5**
KIWB	**Kanaga Island**	**8.79**	**266**	Pn	**Pn**	**20 14 50.3**	**+0.5**
N19K	**Bonanza Creek**	**8.81**	**28**	Pn	**Pn**	**20 14 50.0**	**-0.2**
CNPM	**China Poot**	**8.98**	**41**		**Pn**	**20 14 52.0**	**-0.4**
K15K	**Wolf Creek Mou**	**9.04**	**4**	Pn	**Pn**	**20 14 52.8**	**-0.4**
RSO	**Redoubt South**	**9.07**	**34**	Pn	**Pn**	**20 14 51.6**	**-2.1**
L18K	**Granite Mounta**	**9.53**	**18**	Pn	**Pn**	**20 14 58.4**	**-1.5**
M20K	**Styx River**	**10.06**	**27**	Pn	**Pn**	**20 15 07.1**	**-0.2**
J16K	**Anvik River**	**10.08**	**6**	Pn	**Pn**	**20 15 05.8**	**-1.6**
SUA	**Susitna One**	**10.47**	**34**	Pn	**Pn**	**20 15 11.7**	**-1.2**
RC01	**Rabbit Creek A**	**10.56**	**37**	Pn	**Pn**	**20 15 13.4**	**-0.6**
SKT	**Skwentna**	**10.61**	**30**	Pn	**Pn**	**20 15 14.9**	**+0.3**
GHO	**Glory Hole Cre**	**11.31**	**36**	Pn	**Pn**	**20 15 22.1**	**-2.3**
HIN	**Hinchinbrook I**	**11.43**	**45**	Pn	**Pn**	**20 15 24.4**	**-1.6**
KLU	**Klutina**	**12.27**	**41**	Pn	**Pn**	**20 15 35.3**	**-2.1**
M24K	**Tolsona, Glenn**	**12.53**	**39**	Pn	**Pn**	**20 15 39.2**	**-1.7**
N25K	**Chitina, Valde**	**12.86**	**42**	Pn	**Pn**	**20 15 44.3**	**-1.2**
I21K	**Tanana**	**13.13**	**21**	Pn	**Pn**	**20 15 48.6**	**-0.5**
ISLE	**Juniper Island**	**13.36**	**49**	Pn	**Pn**	**20 15 50.8**	**-1.5**
H21K	**Melozitna Rive**	**13.38**	**18**	Pn	**Pn**	**20 15 51.9**	**-0.7**
I23K	**Minto, Yukon-K**	**13.71**	**25**	Pn	**Pn**	**20 15 55.2**	**-1.8**
LOGN	**Logan Glacier**	**14.05**	**49**	Pn	**Pn**	**20 16 02.8**	**+1.0**
J25K	**Salcha River,**	**14.44**	**31**	Pn	**Pn**	**20 16 03.6**	**-3.3**
YUK2	**White River**	**14.51**	**45**		**Pn**	**20 16 05.2**	**-2.9**
G23K	**Bananza Creek**	**14.86**	**20**	Pn	**Pn**	**20 16 11.9**	**-0.7**
O29M	**Mount Kennedy**	**15.00**	**53**	Pn	**Pn**	**20 16 14.2**	**-0.4**
P29M	**Windy Craggy**	**15.23**	**55**	Pn	**Pn**	**20 16 18.2**	**+0.7**
C18K	**Utukok River**	**15.41**	**2**	Pn	**Pn**	**20 16 21.0**	**+1.0**
C18K				IAmb	IAmb	20 16 24.8	
	comp=Z,2.7nm,1.2s						
M29M	**Somme Creek**	**15.81**	**45**	Pn	**Pn**	**20 16 24.8**	**-0.3**
M29M				IAmb	IAmb	20 16 52.0	
	comp=Z,3.5nm,0.9s						
O30N	**Mendenhall**	**16.31**	**52**	Pn	**Pn**	**20 16 32.6**	**+1.1**
O30N				IAmb	IAmb	20 16 50.5	
	comp=Z,5.5nm,1.4s						
E24K	**Your Creek**	**16.34**	**19**	Pn	**Pn**	**20 16 31.0**	**-0.8**
E24K				IAmb	IAmb	20 16 35.5	
	comp=Z,3.1nm,0.7s						
M30M	**Minto, Yukon**	**16.57**	**46**		**Pn**	**20 16 36.1**	**+1.3**
TOLK	**Toolik Lake Re**	**16.62**	**17**	Pn	**Pn**	**20 16 35.6**	**+0.2**
TOLK				IAmb	IAmb	20 16 52.9	
	comp=Z,5.5nm,0.9s						
BMAR	**Burnt Mountain**	**16.70**	**25**	Pn	**Pn**	**20 16 35.7**	**-0.7**
I28M	**Miner Creek**	**16.75**	**34**	Pn	**Pn**	**20 16 36.8**	**-0.3**
WHY	**Whitehorse**	**16.86**	**53**	Pn	**Pn**	**20 16 38.6**	**+0.1**
J30M	**Hart River**	**17.60**	**40**		**Pn**	**20 16 47.4**	**-0.3**
J30M				IAmb	IAmb	20 17 15.2	
	comp=Z,5.4nm,1.3s						
H29M	**Whitestone**	**17.72**	**34**	Pn	**Pn**	**20 16 48.3**	**-0.8**
I30M	**Mount Dempster**	**17.89**	**38**		**Pn**	**20 16 51.5**	**+0.3**
I30M				IAmb	IAmb	20 16 56.5	
	comp=Z,2.1nm,0.7s						
G29M	**Pine Creek**	**18.24**	**32**		**Pn**	**20 16 54.9**	**-0.5**
G29M				IAmb	IAmb	20 17 19.3	
	comp=Z,3.6nm,1.2s						
MMPY	**Sheldon Lake,**	**19.01**	**48**		**Pn**	**20 17 05.9**	**+1.1**
MMPY				IAmb	IAmb	20 17 17.9	
	comp=Z,2.3nm,0.8s						
G31M	**Satah River**	**19.48**	**35**	P	**P**	**20 17 08.6**	**-0.4**
G31M				IAmb	IAmb	20 17 31.8	
	comp=Z,5.3nm,1.5s						
KURK	**Kurchatov**	**64.17**	**322**	P	**P**	**20 23 17.1**	**+1.1**
MKAR	**Makanchi Array**	**65.89**	**317**	P	**P**	**20 23 27.9**	**+0.5**
MAKZ	**Makanchi**	**66.01**	**317**	P	**P**	**20 23 27.3**	**-0.8**
ABKAR	**Akbulak array**	**71.57**	**332**	P	**P**	**20 24 04.0**	**+1.3**
ABKAR	**Akbulak array**	**71.57**	**332**	P	**P**	**20 24 03.7**	**+1.1**
ABKAR				IAmb	IAmb	20 24 14.2	
	comp=Z,2.9nm,1.4s						

*RSNC **17** 20:23:31.5±0.0, 10˚.N±2˚×7˚.1W±˚, h11km±3km, mb3.6, mB4.6, ML2.7, Mw(mB)3.8*
*FUNV **17** 20:23:31.0, 10˚.28N×70˚.89W, h5km, MW3.2*

ISC 17 20:23:29.2±1.5, 10°.31N±0°.04×70°.86W±0°.03, h11km±11km, n22, σ1§47/38, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CURV	**Curarigua**	**0.93**	**108**	*e*P	**Pn**	**20 23 48.1**	**-0.3**
CURV				*e*S	**Sn**	**20 24 01.4**	**-0.4**
SIQV	**Siquisique**	**1.09**	**72**	*e*P	**Pn**	**20 23 51.7**	**+1.2**
SIQV				*e*S	**Sn**	**20 24 07.2**	**+1.5**
SDV	**Santo Domingo**	**1.43**	**171**	P	**Pn**	**20 23 56.5**	**+1.1**
SDV				S	**Sn**	**20 24 15.5**	**+1.2**
SANV	**Sanarito**	**1.53**	**121**	*e*P	**Pg**	**20 23 58.3**	**+0.7**
SANV				*e*S	**Sg**	**20 24 19.6**	**+1.0**
TEPV	**Terepaima**	**1.68**	**102**	*e*P	**Pg**	**20 24 01.1**	**-0.3**
TEPV				*e*S	**Sg**	**20 24 23.1**	**-0.2**
SOCV	**Socops**	**2.01**	**180**	*e*P	**Pn**	**20 24 04.9**	**+1.7**
SOCV				*e*S	**Sn**	**20 24 29.7**	**+1.2**
CRJC	**Cerrejon, Guaj**	**2.11**	**290**	P	**Pn**	**20 24 05.0**	**+0.4**
CRJC				S	**Sn**	**20 24 31.2**	**+0.3**
JACV	**Jacura**	**2.14**	**69**	*e*P	**Pb**	**20 24 07.4**	**-0.7**
CAPV	**Capacho**	**2.82**	**211**	*e*P	**Pn**	**20 24 15.6**	**+1.0**
CAPV				*e*S	**Sn**	**20 24 48.7**	**+0.1**
TURV	**Turiamo**	**2.98**	**87**	*e*P	**Pn**	**20 24 17.2**	**+0.8**
TURV				*e*S	**Sn**	**20 24 53.1**	**+0.9**
BAUV	**El Baul**	**3.09**	**116**	*e*P	**Pn**	**20 24 19.8**	**+1.8**
BAUV				*e*S	**Sn**	**20 24 55.5**	**+0.4**
OCAC	**Ocana**	**3.18**	**230**	P	**Pn**	**20 24 20.5**	**+1.1**
OCAC				S	**Sb**	**20 25 03.7**	**-1.1**
BENV	**Beln**	**3.23**	**96**	*e*P	**Pn**	**20 24 21.7**	**+1.7**
BENV				*e*S	**Sn**	**20 25 00.6**	**+2.0**
ARGC	**Ariguani, Magd**	**3.36**	**263**	P	**Pn**	**20 24 22.2**	**+0.4**
ARGC				S	**Sb**	**20 25 07.0**	**-2.9**
SMRC	**Santa Marta, M**	**3.41**	**285**	P	**Pn**	**20 24 25.5**	**+3.0**
SMRC				S	**Sn**	**20 25 02.4**	**-0.6**
PAMC	**Pamplona, Colo**	**3.46**	**212**	P	**Pn**	**20 24 24.5**	**+0.9**
PAMC				S	**Sn**	**20 25 06.1**	**+1.2**
SJCC	**San Jacinto, C**	**4.27**	**265**	P	**Pn**	**20 24 36.0**	**+1.6**
SJCC				S	**Sn**	**20 25 24.9**	**+0.6**
RUSC	**La Rusia**	**4.91**	**207**	P	**Pn**	**20 24 44.6**	**+1.1**
CACV	**CAICARA DEL OR**	**5.07**	**122**	*e*P	Pb	20 24 52.6	-5.3
CACV				*e*S	**Sb**	**20 25 54.5**	**-4.4**
PTBC	**PUERTO BERRIO,**	**5.17**	**224**	P	**Pn**	**20 24 46.1**	**-0.5**
	5.2nm,0.6s,521nm						
VILC	**Villavicencio,**	**6.77**	**205**	P	**Pn**	**20 25 08.9**	**+0.2**
ORTC	**Ortega, Tolima**	**7.70**	**215**	P	**Pn**	**20 25 22.8**	**+1.3**

TAP 17 20:25:54.1, 24˚.50N×122˚.01E, h68km, ML2.0, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESAO	**Su ao**	**0.17**	**297**	P	Pn	20 26 04.7	+0.4
	baz=297						
ESAO				*e*S	Sn	20 26 12.2	+0.4
	baz=297						
TWC	**Suao**	**0.18**	**307**	P	Pn	20 26 04.7	+0.4
	baz=315						
TWC				*e*S	Sn	20 26 12.4	+0.5
	baz=315						
EOS2	**EOS2**	**0.22**	**112**	*e*P	Pn	20 26 04.2	-0.2
	baz=127						
EOS2				*e*S	Sn	20 26 12.5	+0.6
	baz=127						
EWUT	**Wuta**	**0.22**	**256**	P	Pn	20 26 04.8	+0.2
	baz=250						
EWUT				*e*S	Sn	20 26 12.9	+0.7
	baz=250						
ENA	**Nanau**	**0.26**	**254**	P	Pn	20 26 05.0	+0.3
	baz=253						
ENA				S	Sn	20 26 13.3	+0.7
	baz=253						
EOS3	**EOS3**	**0.35**	**127**	P	Pn	20 26 04.9	-0.3
	baz=136						
EOS3				S	Sn	20 26 13.2	-0.1
	baz=136						
TWE	**Neicheng**	**0.38**	**305**	P	Pn	20 26 06.7	+1.1
	baz=310						
TWE				*e*S	Sn	20 26 15.9	+1.7
	baz=310						
LATG	**Datong**	**0.44**	**275**	P	Pn	20 26 07.0	+0.6
	baz=269						
LATG				S	Sn	20 26 16.9	+1.6
	baz=269						
FUSB	**Fushanzhiwuyua**	**0.47**	**304**	P	Pn	20 26 07.7	+1.3
	baz=310						
FUSB				S	Sn	20 26 17.4	+1.8
	baz=310						
NDT	**Datong Townshi**	**0.47**	**283**	*e*P	Pn	20 26 07.6	+1.2
	baz=277						
NDT				S	Sn	20 26 17.4	+1.9
	baz=277						
EOS4	**EOS4**	**0.47**	**143**	*e*P	Pn	20 26 05.1	-0.9
	baz=151						
EOS4				*e*S	Sn	20 26 14.0	-0.8
	baz=151						
NACB	**Ninganchiao**	**0.50**	**230**	*e*S	Sn	20 26 16.0	0.0
	baz=224						
TIPB	**Shuangxi**	**0.50**	**340**	P	Pn	20 26 06.9	+0.2
	baz=350						
TIPB				*e*S	Sn	20 26 15.6	-0.4
	baz=350						
NWLT	**Wulai**	**0.54**	**301**	P	Pn	20 26 08.4	+1.3
	baz=301						
NWLT				S	Sn	20 26 18.8	+2.0
	baz=301						
ETLH	**Xiulin Townshi**	**0.56**	**239**	P	Pn	20 26 07.7	+0.2
	baz=239						
ETLH				*e*S	Sn	20 26 17.6	+0.4
	baz=239						
NNSB	**Datong**	**0.58**	**263**	*e*P	Pn	20 26 08.3	+0.6
	baz=256						
NNSB				*e*S	Sn	20 26 18.7	+1.1
	baz=256						
NNS	**Nan Shan**	**0.58**	**264**	*e*S	Sn	20 26 18.4	+0.6
	baz=257						
YHNB	**Yeheng**	**0.60**	**286**	*e*P	Pn	20 26 09.0	+1.1
	baz=278						
YHNB				*e*S	Sn	20 26 19.6	+1.6
	baz=278						
NSK	**Sanguang**	**0.62**	**287**	P	Pn	20 26 09.1	+1.1
	baz=279						
NSK				*e*S	Sn	20 26 19.8	+1.5
	baz=279						
ETM	**Tongmen**	**0.71**	**222**	*e*P	Pn	20 26 08.9	-0.1
	baz=231						
ETM				*e*S	Sn	20 26 20.0	0.0
	baz=231						
LXIB	**Xiulin Townshi**	**0.72**	**229**	P	Pn	20 26 09.1	-0.2
	baz=218						
LXIB				*e*S	Sn	20 26 20.2	-0.3
	baz=218						
FUSS	**Fushou**	**0.74**	**250**	*e*P	Pn	20 26 10.2	+0.7
	baz=246						
FUSS				*e*S	Sn	20 26 22.0	+1.0
	baz=246						
NFF	**Wufeng Townshi**	**0.82**	**279**	P	Pn	20 26 11.8	+1.5
	baz=288						
NFF				S	Sn	20 26 24.4	+2.0
	baz=288						
ESL	**Shilin**	**0.86**	**218**	*e*P	Pn	20 26 09.7	-1.0
	baz=225						
ESL				*e*S	Sn	20 26 22.4	-0.7
	baz=225						
CHGB	**Renai**	**0.88**	**240**	P	Pn	20 26 12.1	+0.9
	baz=232						
CHGB				*e*S	Sn	20 26 25.5	+1.6
	baz=232						
LIOB	**Emei**	**0.92**	**279**	*e*P	Pn	20 26 12.8	+1.3
	baz=280						
LIOB				*e*S	Sn	20 26 27.3	+2.9
	baz=280						
NSTT	**Nanjuang**	**0.93**	**278**	*e*S	Sn	20 26 27.5	+2.9
	baz=279						
WUSB	**Renai**	**0.96**	**238**	P	Pn	20 26 13.1	+1.0
	baz=232						
WUSB				S	Sn	20 26 27.0	+1.6
	baz=232						
WARBT	**Fenglin Townsh**	**0.96**	**216**	P	Pn	20 26 11.2	-0.9
	baz=216						
WARBT				*e*S	Sn	20 26 24.2	-1.2
	baz=216						
EGFH	**Guangfu**	**0.98**	**213**	*e*P	Pn	20 26 11.0	-1.3
	baz=221						
EGFH				*e*S	Sn	20 26 24.9	-0.9
	baz=221						
WHP	**Taichung City**	**1.00**	**257**	*e*P	Pn	20 26 15.3	+2.8
	baz=256				

ϕ_0=284.00000°,δ26.00000°,λ-3.00000°. Principal axes: T 3.4260, Plg38.0000°, Azm130.0000°; N -0.2550, Plg26.0000°, Azm17.0000°; P -3.1710, Plg40.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 17 20:34:20.1±0.3,18.74S±0.03×69.01W±0.04,h131km±2km, h131km:pP-P,n849,σ1s12/913,mb5.2/113,17C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.62**	**310**				**Pn**	**20 34 41.3**	**+0.6**
PB16					Sn		**Sn**	**20 34 56.4**	**+0.3**
PB16	**IPOC Station P**	**0.62**	**310**	*i*	P		**Pn**	**20 34 40.6**	**-0.1**
PB16					IAML			20 35 00.5	
	comp=Z,11μm,0.4s								
PB16	**IPOC Station P**	**0.62**	**310**	⇑*i*	P		**Pn**	**20 34 41.3**	**+0.6**
PB16				*i*	S		**Sn**	**20 34 56.7**	**+0.6**
PB16					IAML			20 34 58.3	
	comp=E,18μm,0.5s								
GO01	**Chusmiza**	**0.94**	**191**				**Pn**	**20 34 44.3**	**+1.2**
GO01					Sn		**Sn**	**20 35 01.3**	**+0.8**
GO01	**Chusmiza**	**0.94**	**191**	*i*	P		**Pn**	**20 34 44.5**	**+1.5**
GO01				*e*	S		**Sn**	**20 35 01.9**	**+1.4**
GO01					IAML			20 35 03.3	
	comp=Z,7μm,0.8s								
GO01	**Chusmiza**	**0.94**	**191**	⇑*i*	P		**Pn**	**20 34 44.2**	**+1.2**
GO01				*i*	S		**Sn**	**20 35 01.0**	**+0.5**
GO01					IAML			20 35 02.9	
	comp=N,15μm,0.3s								
PX02	**IPOC Station P**	**1.15**	**259**	⇑*i*	P		**Pn**	**20 34 43.5**	**-1.0**
PX02				*e*	S		**Sn**	**20 35 01.3**	**-1.9**
PX02					IAML			20 35 03.2	
	comp=N,17μm,0.6s								
PB11	**IPOC Station P**	**1.19**	**211**				**Pn**	**20 34 45.5**	**+0.5**
PB11					Sn		**Sn**	**20 35 04.1**	**+0.1**
PB11	**IPOC Station P**	**1.19**	**211**	*i*	P		**Pn**	**20 34 45.6**	**+0.5**
PB11				*e*	S		**Sn**	**20 35 03.9**	**-0.1**
PB11					IAML			20 35 05.0	
	comp=Z,20μm,0.3s								
PB11	**IPOC Station P**	**1.19**	**211**	⇑*i*	P		**Pn**	**20 34 45.6**	**+0.6**
PB11				*i*	S		**Sn**	**20 35 04.0**	**-0.1**
PB11					IAML			20 35 05.8	
	comp=E,47μm,0.4s								
PB18	**Visviri**	**1.23**	**339**	⇑*i*	P		**Pn**	**20 34 47.8**	**+2.0**
PB18				*i*	S		**Sn**	**20 35 07.7**	**+2.3**
PB12	**IPOC Station P**	**1.25**	**275**				**Pn**	**20 34 45.4**	**-0.2**
PB12					Sn		**Sn**	**20 35 04.4**	**-0.7**
PB12	**IPOC Station P**	**1.25**	**275**	*i*	P		**Pn**	**20 34 45.4**	**-0.2**
PB12				*e*	S		**Sn**	**20 35 04.6**	**-0.5**
PB12					IAML			20 35 08.8	
	comp=Z,18μm,0.3s								
PB12	**IPOC Station P**	**1.25**	**275**	⇑*i*	P		**Pn**	**20 34 45.4**	**-0.2**
PB12				*i*	S		**Sn**	**20 35 04.2**	**-0.9**
PB12					IAML			20 35 09.3	
	comp=E,31μm,0.5s								
PB08	**IPOC Station P**	**1.40**	**185**				**Pn**	**20 34 48.9**	**+1.4**
PB08					Sn		**Sn**	**20 35 09.5**	**+1.0**
PB08	**IPOC Station P**	**1.40**	**185**	*i*	P		**Pn**	**20 34 49.1**	**+1.5**
PB08				*e*	S		**Sn**	**20 35 10.4**	**+1.9**
PB08					IAML			20 35 11.8	
	comp=Z,13μm,0.4s								
PB08	**IPOC Station P**	**1.40**	**185**	⇓*i*	P		**Pn**	**20 34 49.0**	**+1.4**
PB08				*i*	S		**Sn**	**20 35 09.9**	**+1.4**
PB08					IAML			20 35 13.8	
	comp=E,12μm,0.4s								
TA02	**Huaiquique**	**1.85**	**215**				**Pn**	**20 34 52.0**	**-0.3**
TA02					Sn		**Sn**	**20 35 15.8**	**-1.2**
TA02	**Huaiquique**	**1.85**	**215**	*e*	P		**Pn**	**20 34 52.3**	**0.0**
TA02				*i*	S		**Sn**	**20 35 15.4**	**-1.6**
TA02					IAML			20 35 17.0	
	comp=E,17μm,0.3s								
TA01	**Diego Aracena**	**2.13**	**211**		Pn		**Pn**	**20 34 55.5**	**-0.2**
TA01	**Diego Aracena**	**2.13**	**211**	*i*	P		**Pn**	**20 34 55.6**	**0.0**
TA01				*e*	S		**Sn**	**20 35 20.9**	**-2.1**
TA01					IAML			20 35 27.9	
	comp=Z,3μm,0.3s								
TA01	**Diego Aracena**	**2.13**	**211**	⇑*i*	P		**Pn**	**20 34 55.4**	**-0.3**
TA01				*i*	S		**Sn**	**20 35 20.8**	**-2.1**
TA01					IAML			20 35 25.1	
	comp=N,4μm,0.3s								
PB01	**IPOC Station P**	**2.34**	**191**				**Pn**	**20 34 58.9**	**+0.5**
PB01	**IPOC Station P**	**2.34**	**191**	*i*	P		**Pn**	**20 34 59.1**	**+0.7**
PB01				*e*	S		**Sn**	**20 35 27.2**	**-0.5**
PB01					IAML			20 35 31.8	
	comp=Z,2μm,0.3s								
PB01	**IPOC Station P**	**2.34**	**191**	⇑*i*	P		**Pn**	**20 34 59.0**	**+0.7**
PB01				*i*	S		**Sn**	**20 35 27.3**	**-0.5**
PB01					IAML			20 35 34.0	
	comp=N,5μm,0.3s								
LPAZ	**La Paz**	**2.58**	**19**				**Pn**	**20 35 03.7**	**+1.9**
LPAZ	**La Paz**	**2.58**	**19**	*e*	P		**Pn**	**20 35 03.8**	**+1.9**
LPAZ					pmax		pmax		
	comp=Z,886nm,0.5s								
LPAZ	**La Paz**	**2.58**	**19**	*i*	P		**Pn**	**20 35 03.9**	**+2.0**
LPAZ					IAML			20 35 39.5	
	comp=Z,313nm,0.7s								
LPAZ	**La Paz**	**2.58**	**19**	P			**Pn**	**20 35 03.0**	**+1.1**
	comp=Z,886nm,0.5s,baz=199,slow=6.5,SNR=3258								
LPAZ					S		Sn	20 35 22.8	-11
	comp=Z,251nm,0.6s,baz=218,slow=17,SNR=8.1								
LPAZ					LR		LR	20 36 03.6	
	comp=Z,342nm,19.1s,baz=248,slow=43								
LPAZ	**La Paz**	**2.58**	**19**	⇑*i*	P		**Pn**	**20 35 03.8**	**+1.9**
PB02	**IPOC Station P**	**2.70**	**198**				**Pn**	**20 35 03.7**	**+0.7**
PB02	**IPOC Station P**	**2.70**	**198**	*i*	P		**Pn**	**20 35 04.2**	**+1.3**
PB02					IAML			20 35 45.1	
	comp=Z,6μm,0.5s								
PB02	**IPOC Station P**	**2.70**	**198**	*e*	P		**Pn**	**20 35 03.4**	**+0.4**
PB02				*i*	S		**Sn**	**20 35 34.3**	**-1.7**
PB02					IAML			20 35 46.2	
	comp=E,5μm,0.3s								
PB09	**IPOC Station P**	**3.05**	**184**				**Pn**	**20 35 08.9**	**+1.3**
PB09	**IPOC Station P**	**3.05**	**184**	*i*	P		**Pn**	**20 35 08.7**	**+1.2**
PB09					IAML			20 35 51.6	
	comp=Z,2μm,0.5s								
PB09	**IPOC Station P**	**3.05**	**184**	*e*	P		**Pn**	**20 35 08.8**	**+1.2**
PB07	**IPOC Station P**	**3.08**	**195**				**Pn**	**20 35 08.9**	**+0.9**
PB07	**IPOC Station P**	**3.08**	**195**	*i*	P		**Pn**	**20 35 08.9**	**+0.9**
PB07					IAML			20 35 57.0	
	comp=Z,2μm,0.4s								
PB07	**IPOC Station P**	**3.08**	**195**	*e*	P		**Pn**	**20 35 08.7**	**+0.8**
PB04	**IPOC Station P**	**3.73**	**196**				**Pn**	**20 35 16.5**	**0.0**
PB04	**IPOC Station P**	**3.73**	**196**	*i*	P		**Pn**	**20 35 17.1**	**+0.6**
PB04					IAML			20 36 04.6	
	comp=Z,1μm,0.4s								
PB04	**IPOC Station P**	**3.73**	**196**	*e*	P		**Pn**	**20 35 16.5**	**0.0**
LVC	**Limon Verde**	**3.85**	**179**				**Pn**	**20 35 19.5**	**+1.2**
LVC	**Limon Verde**	**3.85**	**179**	P			**Pn**	**20 35 19.5**	**+1.2**
LVC	**Limon Verde**	**3.85**	**179**	*i*	P		**Pn**	**20 35 19.6**	**+1.4**
LVC					IAML			20 36 15.7	
	comp=Z,437nm,0.4s								
LVC	**Limon Verde**	**3.85**	**179**	P			**Pn**	**20 35 19.9**	**+1.7**
	comp=Z,67nm,0.3s,baz=358,slow=9.1,SNR=36								
LVC					S		**Sn**	**20 35 59.9**	**-3.4**
	comp=Z,278nm,0.3s,baz=0.3,slow=12,SNR=6.7								
LVC	**Limon Verde**	**3.85**	**179**	*e*	P		**Pn**	**20 35 19.1**	**+0.8**
PB06	**IPOC Station P**	**3.98**	**187**				**Pn**	**20 35 19.7**	**-0.1**
PB06	**IPOC Station P**	**3.98**	**187**	*i*	P		**Pn**	**20 35 20.5**	**+0.7**
PB06					IAML			20 36 23.8	
	comp=Z,830nm,0.4s								
PB06	**IPOC Station P**	**3.98**	**187**	*e*	P		**Pn**	**20 35 20.0**	**+0.2**
PB05	**IPOC Station P**	**4.24**	**195**	Pn			**Pn**	**20 35 22.6**	**-0.5**
PB05	**IPOC Station P**	**4.24**	**195**	*i*	P		**Pn**	**20 35 22.7**	**-0.5**
PB05					IAML			20 36 28.3	
	comp=Z,535nm,0.6s								
PB05	**IPOC Station P**	**4.24**	**195**	*e*	P		**Pn**	**20 35 22.8**	**-0.4**
AF01	**San Pedro de A**	**4.26**	**170**				**Pn**	**20 35 25.0**	**+1.3**
PB15	**IPOC Station P**	**4.47**	**185**				**Pn**	**20 35 26.2**	**0.0**
PB15	**IPOC Station P**	**4.47**	**185**	*i*	P		**Pn**	**20 35 28.2**	**+1.9**
PB15					IAML			20 36 28.9	
	comp=Z,2μm,0.2s								
YJA	**Yavi**	**4.74**	**137**	*i*	P		**Pn**	**20 35 32.8**	**+2.7**
YJA					IAML			20 36 35.2	
	comp=Z,36nm,1.2s								
PB10	**IPOC Station P**	**4.96**	**197**				**Pn**	**20 35 31.5**	**-1.2**
PB10	**IPOC Station P**	**4.96**	**197**	*i*	P		**Pn**	**20 35 31.5**	**-1.2**
PB14	**IPOC Station P**	**6.00**	**192**	Pn			**Pn**	**20 35 44.8**	**-2.1**
GO02	**Mina Guanaco**	**6.42**	**185**	Pn			**Pn**	**20 35 51.5**	**-1.0**
AC01	**Pan de Azucar**	**7.52**	**191**				**Pn**	**20 36 04.4**	**-2.7**
SIV	**San Ignacio**	**8.06**	**71**	P			**Pn**	**20 36 11.6**	**-2.8**
	comp=Z,158nm,0.4s,baz=258,slow=10,SNR=391								
SIV					S		Sn	20 37 34.5	-10
	comp=Z,37nm,0.6s,baz=336,slow=22,SNR=1.2								
AC02	**Maricunga**	**8.06**	**181**	Pn			**Pn**	**20 36 13.7**	**-1.1**
BBSD	**Serra de San D**	**8.14**	**80**	*e*P			**Pn**	**20 36 13.6**	**-1.9**
ETMB	**Extrema**	**9.27**	**17**				**Pn**	**20 36 29.9**	**-0.8**
ETMB	**Extrema**	**9.27**	**17**	*e*P			**Pn**	**20 36 28.5**	**-2.2**
PTLB	**Pontes e Lacer**	**9.99**	**72**	Pn			**Pn**	**20 36 38.5**	**-1.8**
PTLB	**Pontes e Lacer**	**9.99**	**72**	*e*P			**Pn**	**20 36 37.6**	**-2.7**
NNA	**Nana**	**10.10**	**311**	Pn			**Pn**	**20 36 40.0**	**-1.9**
NNA	**Nana**	**10.10**	**311**	P			**Pn**	**20 36 40.0**	**-1.9**
	comp=Z,48nm,0.3s,baz=136,slow=12,SNR=26								
NNA					S		**Sn**	**20 38 25.3**	**-8.2**
	comp=Z,91nm,0.4s,baz=193,slow=19,SNR=7.9								
VILB	**Vilhena**	**10.24**	**57**	Pn			**Pn**	**20 36 41.8**	**-2.0**
VILB	**Vilhena**	**10.24**	**57**	*e*P			**Pn**	**20 36 41.6**	**-2.1**
TICA	**Tres Isletas**	**11.02**	**135**	*e*P			**Pn**	**20 36 54.4**	**+0.4**
MURT	**Porto Murtinho**	**11.09**	**107**	*e*P			**Pn**	**20 36 52.7**	**-2.3**
SAML	**Samuel**	**11.25**	**31**	Pn			**Pn**	**20 36 54.3**	**-2.9**
SAML	**Samuel**	**11.25**	**31**	P			**Pn**	**20 36 54.3**	**-2.9**
SAML	**Samuel**	**11.25**	**31**	*e*P			**Pn**	**20 36 54.2**	**-2.9**
CZSB	**Cruzeiro do Su**	**11.52**	**341**	Pn			**Pn**	**20 36 57.9**	**-2.7**
BDQN	**Bodoquena, MS**	**11.68**	**100**	*e*P			**Pn**	**20 36 59.9**	**-2.9**
ANTJ	**Antonio Joao (**	**12.62**	**107**	*e*P			**Pn**	**20 37 13.5**	**-1.6**
AQDB	**Aquidauana**	**12.66**	**100**	Pn			**Pn**	**20 37 13.8**	**-1.9**
AQDB	**Aquidauana**	**12.66**	**100**	*e*P			**Pn**	**20 37 12.8**	**-2.8**
SALV	**Santo Antonio**	**13.03**	**80**	*e*P			**Pn**	**20 37 16.5**	**-3.8**
CPUP	**Villa Florida**	**13.17**	**127**	Pn			**Pn**	**20 37 20.8**	**-1.3**
CPUP	**Villa Florida**	**13.17**	**127**	P			**Pn**	**20 37 20.8**	**-1.3**
CPUP	**Villa Florida**	**13.17**	**127**	P			**Pn**	**20 37 20.5**	**-1.6**
	comp=Z,24nm,0.8s,baz=304,slow=12,SNR=55								
CPUP					LR		LR	20 43 44.3	
	comp=Z,138nm,18.4s,baz=318,slow=43								
CPUP	**Villa Florida**	**13.17**	**127**	*e*P			**Pn**	**20 37 20.7**	**-1.4**
VA03	**San Esteban**	**14.04**	**185**				**Pn**	**20 37 30.4**	**-2.9**
MT02	**Curacav**	**14.59**	**187**				**Pn**	**20 37 37.6**	**-2.6**
MT16	**CCHEN**	**14.69**	**185**				**Pn**	**20 37 40.0**	**-1.6**
ATAH	**Atahualpa**	**14.71**	**320**	P			**Pn**	**20 37 42.9**	**+0.7**
	comp=Z,18nm,0.8s,baz=134,slow=11,SNR=5.4								
MT03	**Universidad Ad**	**14.76**	**185**				**Pn**	**20 37 41.3**	**-1.1**
CLDB	**Colider**	**14.97**	**60**	*e*P			**Pn**	**20 37 44.0**	**-1.2**
MT13	**San Alfonso**	**14.99**	**184**				**Pn**	**20 37 44.7**	**-0.6**
MT09	**Talagante**	**15.08**	**186**				**Pn**	**20 37 44.7**	**-1.8**
LMEL	**Las Melosas**	**15.09**	**184**				**Pn**	**20 37 46.0**	**-0.6**
ITQB	**Itaqui**	**15.68**	**136**	Pn			**Pn**	**20 37 52.2**	**-1.6**
ITQB	**Itaqui**	**15.68**	**136**	*e*P			**Pn**	**20 37 52.4**	**-1.4**
TEFE	**Tefe**	**15.73**	**16**	*e*P			**P**	**20 37 55.7**	**-0.1**
TRCB	**Terra Rica**	**15.84**	**108**	Pn			**Pn**	**20 37 56.4**	**+0.5**
TRCB	**Terra Rica**	**15.84**	**108**	*e*P			**Pn**	**20 37 55.7**	**-0.2**
PSAL	**Palomas, Salto**	**16.05**	**142**	*e*P			**Pn**	**20 37 56.9**	**-1.4**
BO02	**Sierra Bellavi**	**16.07**	**185**				**Pn**	**20 37 58.2**	**-0.4**
CRSM	**Crissiumal (Br**	**16.28**	**125**	*e*P			**Pn**	**20 37 59.7**	**-1.5**
UNIS	**Unistalda (Bra**	**16.36**	**132**	*e*P			**Pn**	**20 38 01.2**	**-1.0**
PTGB	**Pitanga**	**16.82**	**114**	*e*P			**P**	**20 38 08.1**	**+0.1**
PCMB	**Pacaembu**	**16.91**	**103**	*e*P			**P**	**20 38 07.8**	**-1.0**
RODS	**Rosario do Sul**	**17.05**	**135**	*e*P			**P**	**20 38 09.1**	**-1.2**
MLO2	**Panimavida**	**17.09**	**187**				**P**	**20 38 10.6**	**-0.1**
LDASE	**Londrina, Braz**	**17.33**	**109**	*e*P			**P**	**20 38 13.0**	**-0.4**
TBOT	**Tacuaremb**	**17.47**	**140**	*e*P			**P**	**20 38 14.3**	**-0.6**
MACA	**Manacapuru-AM**	**17.50**	**29**	P			**P**	**20 38 14.1**	**-1.2**
MACA	**Manacapuru-AM**	**17.50**	**29**	*e*P			**P**	**20 38 14.0**	**-1.3**
ITRB	**Iturama**	**17.64**	**96**	*e*P			**P**	**20 38 17.4**	**+0.5**
NPGB	**Novo Progresso**	**17.65**	**51**	*e*P			**P**	**20 38 15.8**	**-1.2**
ITAB	**Concordia**	**17.68**	**122**	P			**P**	**20 38 16.5**	**-0.7**
ITAB	**Concordia**	**17.68**	**122**	*e*P			**P**	**20 38 16.8**	**-0.4**
ALGR	**Alto Alegre (B**	**17.71**	**127**	*e*P			**P**	**20 38 17.3**	**-0.3**
MCRA	**Macar, Loja**	**17.84**	**322**	P			**P**	**20 38 19.6**	**+0.5**
CPSB	**Cacapava Do Su**	**18.29**	**132**	*e*P			**P**	**20 38 23.3**	**-0.6**
SNDB	**Serra Nova Dou**	**18.35**	**71**	*e*P			**P**	**20 38 24.7**	**0.0**
ARNL	**Arenillas**	**18.57**	**323**	P			**P**	**20 38 27.4**	**+0.3**
FRTB	**Fartura**	**18.72**	**108**	*e*P			**P**	**20 38 28.0**	**-0.6**
PLTB	**Pedras Altas**	**19.01**	**136**	P			**P**	**20 38 30.5**	**-1.2**
PLTB	**Pedras Altas**	**19.01**	**136**	*e*P			**P**	**20 38 30.6**	**-1.1**
COHC	**Cochancay**	**19.03**	**327**	P			**Pn**	**20 38 33.7**	**-0.6**
ITTB	**Itaituba**	**19.29**	**44**	*e*P			**P**	**20 38 37.7**	**-1.3**
BB19B	**Bebedouro**	**19.40**	**100**	*e*P			**P**	**20 38 35.5**	**-0.6**
CNLB	**Canela**	**19.62**	**126**	*e*P			**P**	**20 38 36.9**	**-1.5**
CHSH	**Refugio Sur-Vo**	**19.68**	**329**	P			**P**	**20 38 40.9**	**+1.2**
IPMB	**Ipameri, GO**	**19.76**	**91**	*e*P			**P**	**20 38 39.4**	**-0.6**
SLOR	**San Lorenzo -**	**20.17**	**331**	P			Pn	20 38 47.4	-0.7
TRQA	**Tornquist**	**20.20**	**164**	P			**P**	**20 38 44.2**	**-0.4**
TRQA	**Tornquist**	**20.20**	**164**	P			**P**	**20 38 44.2**	**-0.4**
TRQA	**Tornquist**	**20.20**	**164**	*e*P			**P**	**20 38 45.9**	**+1.3**
SALI	**Salinas**	**20.21**	**323**	P			**P**	**20 38 45.4**	**+0.6**
BDFB	**Brasilia**	**20.29**	**84**	P			**P**	**20 38 45.2**	**-0.6**
BDFB	**Brasilia**	**20.29**	**84**	P			**P**	**20 38 45.2**	**-0.6**
BDFB	**Brasilia**	**20.29**	**84**	P			**P**	**20 38 44.5**	**-1.3**
	comp=Z,44nm,0.5s,baz=254,slow=12,SNR=30								
	comp=Z,44nm,0.5s								
RCLB	**Rio Claro- Sao**	**20.44**	**104**	*e*P			**P**	**20 38 46.0**	**-1.3**
SPB	**Sao Paulo**	**20.69**	**107**	P			**P**	**20 38 48.6**	**-1.3**
SPB	**Sao Paulo**	**20.69**	**107**	*e*P			**P**	**20 38 48.9**	**-1.0**
PULU	**Pululahua**	**20.84**	**332**	P			**P**	**20 38 52.7**	**+0.7**
GO06	**Curarrehue**	**20.88**	**185**	P			**P**	**20 38 51.9**	**0.0**
IMBA	**Imbabura, San**	**20.94**	**333**	P			**P**	**20 38 53.4**	**+0.3**
PET01	**Itanhaem-SP**	**20.95**	**109**	*e*P			**P**	**20 38 51.6**	**-1.1**
OTAV	**Otavalo**	**21.01**	**333**	P			**P**	**20 38 54.5**	**+0.5**
OTAV	**Otavalo**	**21.01**	**333**	P			**P**	**20 38 54.5**	**+0.5**
OTAV	**Otavalo**	**21.01**	**333**	*e*P			**P**	**20 38 55.7**	**+1.8**
VAO	**Valinhos**	**21.02**	**105**	*e*P			**P**	**20 38 51.5**	**-2.1**
TULM	**Tulcn-Chalpat**	**21.17**	**335**	P			**P**	**20 38 57.0**	**+1.4**
PMNB	**Patos De Minas**	**21.39**	**93**	*e*P			**P**	**20 38 56.6**	**-1.0**
PLCA	**Paso Flores**	**21.96**	**183**	P			**P**	**20 39 03.1**	**-0.3**
PLCA	**Paso Flores**	**21.96**	**183**	*e*P			**P**	**20 39 05.1**	**+1.7**
PLCA					pmax		pmax		
	comp=Z,9.0nm,0.8s								
PLCA	**Paso Flores**	**21.96**	**183**	P			**P**	**20 39 04.2**	**+0.8**
	comp=Z,8.8nm,0.8s,baz=359,slow=11,SNR=17								
	comp=Z,8.8nm,0.8s								
PLCA	**Paso Flores**	**21.96**	**183**	*e*P			**P**	**20 39 04.8**	**+1.4**
MALB	**Monte Alegre**	**22.15**	**42**	*e*P			**P**	**20 39 03.4**	**-2.0**
PARB	**Paraibuna**	**22.30**	**106**	*e*P			**P**	**20 39 05.2**	**-1.7**
BOAV	**Boa Vista**	**22.60**	**23**	P			**P**	**20 39 09.2**	**-0.7**
BSCB	**Bom Sucesso**	**22.90**	**100**	*e*P			**P**	**20 39 11.7**	**-1.2**
JANB	**Januaria**	**23.91**	**85**	*e*P			**P**	**20 39 20.6**	**-1.5**
ROSC	**El Rosal**	**24.01**	**347**	P			**P**	**20 39 23.1**	**-0.2**
ROSC	**El Rosal**	**24.01**	**347**	P			**P**	**20 39 23.1**	**-0.2**
ROSC					pmax		pmax		
	comp=Z,26nm,1.1s								
ROSC	**El Rosal**	**24.01**	**347**	P			**P**	**20 39 21.8**	**-1.6**
	comp=Z,9.5nm,0.3s,baz=180,slow=20,SNR=1.2								
	comp=Z,9.5nm,0.3s								
DIAM	**Diamantina, MG**	**24.03**	**93**	*e*P			**P**	**20 39 21.6**	**-1.6**
SDBA	**SAO DESIDERIO**	**24.05**	**78**	*e*P			**P**	**20 39 21.9**	**-1.5**
VAS01	**Vassouras-RJ**	**24.20**	**103**	*e*P			**P**	**20 39 23.6**	**-1.0**
MCPB	**Macapa, AP**	**24.71**	**44**	*e*P			**P**	**20 39 28.2**	**-1.1**
DUB01	**Friburgo-RJ**	**25.17**	**102**	*e*P			**P**	**20 39 33.1**	**-0.5**
SJMB	**Sao Joao De Ma**	**26.34**	**94**	*e*P			**P**	**20 39 43.2**	**-0.8**
ALF01	**Guarapari-ES**	**26.69**	**99**	*e*P			**P**	**20 39 46.3**	**-0.8**
RIB01	**Linhares ES**	**27.05**	**96**	*e*P			**P**	**20 39 49.5**	**-0.9**
SDV	**Santo Domingo**	**27.50**	**357**	P			**P**	**20 39 53.0**	**-1.5**
SDV	**Santo Domingo**	**27.50**	**357**	LR			LR	20 52 08.5	
	comp=Z,131nm,18.8s,baz=181,slow=39								
SDV	**Santo Domingo**	**27.50**	**357**	*e*P			**P**	**20 39 52.8**	**-1.8**
BAUV	**El Baul**	**27.52**	**2**	P			**P**	**20 39 53.5**	**-1.1**
BAUV					IAmb		IAmb	20 40 27.1	
	comp=Z,94nm,1.2s								
GUA01	**Guaratinga, BA**	**27.90**	**90**	*e*P			**P**	**20 39 57.6**	**-0.4**
BCIP	**Isla Barro Col**	**29.71**	**338**	P			**P**	**20 40 15.5**	**+1.5**
BCIP					IAmb		IAmb	20 40 16.9	
	comp=Z,37nm,0.7s								
BCIP	**Isla Barro Col**	**29.71**	**338**	P			**P**	**20 40 15.5**	**+1.5**
BCIP					pmax		pmax		
	comp=Z,37nm,0.7s								
NBLA	**Lagarto - SE**	**31.11**	**80**	*e*P			**P**	**20 40 25.4**	**-1.0**
DRK0	**Durika**	**31.17**	**332**	P			**P**	**20 40 29.1**	**+2.1**
DRK0					IAmb		IAmb	20 40 32.0	
	comp=Z,55nm,0.6s								
SRBA	**San Rafael, Bu**	**31.19**	**332**	P			**P**	**20 40 29.4**	**+2.3**
NBPB	**Pedra_Branca-C**	**31.55**	**69**	*e*P			**P**	**20 40 29.2**	**-1.1**
LCR2	**La Lucha 2**	**31.93**	**331**	P			**P**	**20 40 35.5**	**+1.7**
LCR2					IAmb		IAmb	20 40 37.2	
	comp=Z,26nm,0.7s								
SOCE	**Pocosol**	**32.78**	**331**	P			**P**	**20 40 43.5**	**+2.5**
SOCE					IAmb		IAmb	20 40 46.0	
	comp=Z,75nm,0.7s								
JTS	**Las Juntas de**	**32.85**	**330**	P			**P**	**20 40 43.0**	**+1.4**
JTS	**Las Juntas de**	**32.85**	**330**	P			**P**	**20 40 43.0**	**+1.4**
JTS					pmax		pmax		
	comp=Z,19nm,0.8s								
JTS	**Las Juntas de**	**32.85**	**330**	P			**P**	**20 40 44.4**	**+2.8**
NBAN	**Anadia - AL**	**32.94**	**79**	*e*P			**P**	**20 40 40.3**	**-2.1**
ORTG	**Ortega, Santa**	**33.16**	**329**	P			**P**	**20 40 45.2**	**+0.9**
ORTG					IAmb		IAmb	20 40 48.8	
	comp=Z,85nm,1.6s								
NBCL	**Cascavel-CE**	**33.30**	**68**	*e*P			**P**	**20 40 45.2**	**-0.3**
HZTE	**Horizontes, Gu**	**33.53**	**329**	P			**P**	**20 40 48.5**	**+1.0**
NBCA	**Caruaru-PE**	**33.68**	**76**	*e*P			**P**	**20 40 48.2**	**-0.7**
EFI	**East Falkland**	**33.98**	**168**	P			**P**	**20 40 51.6**	**+0.7**
EFI	**East Falkland**	**33.98**	**168**	P			**P**	**20 40 51.6**	**+0.7**
EFI					pmax		pmax		
	comp=Z,439nm,2.0s								
RCBR	**Riachuelo**	**34.72**	**73**	P			**P**	**20 40 56.4**	**-1.5**
RCBR	**Riachuelo**	**34.72**	**73**	P			**P**	**20 40 56.4**	**-1.5**
RCBR					pmax		pmax		
	comp=Z,22nm,1.1s								
RCBR	**Riachuelo**	**34.72**	**73**	P			**P**	**20 40 55.7**	**-2.2**
	comp=Z,12nm,0.7s,baz=248,slow=9.9,SNR=9.4								
	comp=Z,12nm,0.7s								
RCBR	**Riachuelo**	**34.72**	**73**	*e*P			**P**	**20 40 56.5**	**-1.5**
BOAB	**BOACO BROADBAN**	**36.07**	**331**	P			**P**	**20 41 02.0**	**+1.2**
BOAB					IAmb		IAmb	20 41 07.2	
	comp=Z,42nm,0.9s								
MATN	**Matagalpa**	**35.61**	**331**	P			**P**	**20 41 05.8**	**+0.3**
MLPR	**Magueyes Islan**	**36.53**	**3**	P			**P**	**20 41 11.6**	**-1.5**
OBIP	**Obispado Ponce**	**36.63**	**4**	P			**P**	**20 41 12.4**	**-1.5**
OBIP					IAmb		IAmb	20 41 13.5	
	comp=Z,28nm,0.9s								
CELP	**Cerrillos**	**36.66**	**4**	P			**P**	**20 41 13

baz=160,SNR=10
HKT Hockley 54.88 331 P **P** **20 43 37.8 +0.8**
HKT IAmb IAmb 20 43 39.5
comp=Z,33nm,1.3s
HKT Hockley 54.88 331 P **P** **20 43 37.8 +0.8**
HKT pmax pmax
comp=Z,33nm,1.3s
HKT Hockley 54.88 331 P **P** **20 43 38.3 +1.3**
baz=149
HKT Hockley 54.88 331 P **P** **20 43 38.3 +1.3**
CASEE Lake Jocassee 55.05 346 P **P** **20 43 38.4 +0.2**
baz=164
X51A Calhoun 55.11 344 P **P** **20 43 38.7 +0.1**
baz=162,SNR=7.0
X51A P **P** **20 43 38.7 +0.1**
baz=162,SNR=7.0
833A Chaparral WMA, 55.25 327 P **P** **20 43 40.8 +1.0**
baz=144,SNR=25
833A Chaparral WMA, 55.25 327 P **P** **20 43 40.8 +1.0**
baz=144,SNR=25
W52A Murphy 55.38 345 P **P** **20 43 40.5 -0.1**
baz=163
HNVL Huntsville, TX 55.40 332 P **P** **20 43 42.0 +1.2**
HNVL IAmb IAmb 20 43 43.6
comp=Z,44nm,0.8s
V55A Taylorsville 55.51 348 P **P** **20 43 41.4 -0.1**
V55A Taylorsville 55.51 348 P **P** **20 43 42.0 +0.5**
baz=166,SNR=12
V55A P **P** **20 43 42.0 +0.5**
baz=166,SNR=12
X48A Hartselle 55.61 342 P **P** **20 43 42.0 -0.2**
baz=159,SNR=24
V53A Saluda 55.67 346 P **P** **20 43 42.3 -0.4**
baz=164,SNR=7.2
V53A P **P** **20 43 42.3 -0.4**
baz=164,SNR=7.2
W50A Signal Mountai 55.83 344 P **P** **20 43 43.0 -0.9**
baz=161,SNR=16
U56A King 55.83 349 P **P** **20 43 44.3 +0.5**
baz=167,SNR=5.2
U56A P **P** **20 43 44.3 +0.5**
baz=167,SNR=5.2
CPCT Cooper Cave 55.86 345 P **P** **20 43 43.8 -0.3**
TKL Tuckaleechee C 55.88 345 P **P** **20 43 43.6 -0.6**
TKL IAmb IAmb 20 43 44.6
comp=Z,23nm,0.8s
TKL Tuckaleechee C 55.88 345 P **P** **20 43 43.6 -0.6**
baz=163,SNR=9.6
TKL Tuckaleechee C 55.88 345 P **P** **20 43 43.6 -0.6**
comp=Z,20nm,0.8s,baz=162,slow=9.8,SNR=24
comp=Z,20nm,0.8s
NATX Nacogdoches 55.91 334 P **P** **20 43 44.8 +0.4**
NATX Nacogdoches 55.91 334 P **P** **20 43 45.9 +1.5**
baz=150,SNR=6.8
NATX Nacogdoches 55.91 334 P **P** **20 43 46.0 +1.5**
baz=150,SNR=6.8
T59A Double "B" Far 55.99 352 P **P** **20 43 44.5 -0.4**
baz=170,SNR=6.0
T59A P **P** **20 43 44.5 -0.4**
baz=170,SNR=6.0
V52A Sevierville 56.01 346 P **P** **20 43 44.8 -0.3**
baz=163,SNR=15
T57A Hurt 56.27 350 P **P** **20 43 46.8 -0.1**
baz=168
T57A P **P** **20 43 46.8 -0.1**
baz=168
U54A Nelsons Funny 56.28 348 P **P** **20 43 47.0 0.0**
baz=166,SNR=9.7
U54A P **P** **20 43 47.0 0.0**
baz=166,SNR=9.7
435B Jarrell 56.38 330 P **P** **20 43 48.7 +0.9**
baz=147
435B Jarrell 56.38 330 P **P** **20 43 49.1 +1.3**
baz=147
OXF Oxford 56.40 340 P **P** **20 43 47.3 -0.6**
baz=157
Z41A Richland Creek 56.48 336 P **P** **20 43 48.7 +0.3**
Z41A IAmb IAmb 20 43 51.0
comp=Z,25nm,0.8s
237A Washetta, Mont 56.61 333 P **P** **20 43 51.2 +1.8**
baz=149,SNR=9.5
TZTN Tazewell 56.67 346 P **P** **20 43 49.5 -0.3**
TZTN IAmb IAmb 20 45 54.4
comp=Z,54nm,1.8s
TZTN Tazewell 56.67 346 P **P** **20 43 49.9 +0.1**
baz=164
BLA Blacksburg 56.68 349 P **P** **20 43 49.9 +0.1**
BLA IAmb IAmb 20 45 54.2
comp=Z,76nm,1.9s
BLA Blacksburg 56.68 349 P **P** **20 43 49.9 +0.1**
BLA pmax pmax
comp=Z,76nm,1.9s
BLA Blacksburg 56.68 349 P **P** **20 43 50.3 +0.4**
baz=167
CCAR Cane Creek 56.68 337 P **P** **20 43 50.9 +1.0**
baz=154
V48A Smith Brothers 56.75 343 P **P** **20 43 49.8 -0.6**
baz=160
R58B Mineral 57.01 352 P **P** **20 43 51.5 -0.6**
baz=170,SNR=5.4
R58B P **P** **20 43 51.5 -0.6**
baz=170,SNR=5.4
U49A Red Boiling Sp 57.19 344 P **P** **20 43 52.7 -0.8**
baz=161,SNR=9.3
JCT Junction City 57.21 328 P **P** **20 43 54.0 +0.3**
JCT IAmb IAmb 20 43 55.7
comp=Z,27nm,0.8s
JCT Junction City 57.21 328 P **P** **20 43 54.0 +0.3**
JCT pmax pmax
comp=Z,27nm,0.8s
JCT Junction City 57.21 328 P **P** **20 43 54.4 +0.6**
baz=145,SNR=12
JCT Junction City 57.21 328 P **P** **20 43 54.3 +0.6**
baz=145,SNR=12
WHTX Lake Whitney, 57.34 331 P **P** **20 43 55.3 +0.8**
WHTX Lake Whitney, 57.34 331 P **P** **20 43 55.4 +0.8**
baz=148,SNR=22
WHTX Lake Whitney, 57.34 331 P **P** **20 43 55.6 +1.1**
baz=148,SNR=22
Z38A Mt. Pleasant 57.35 334 P **P** **20 43 56.0 +1.5**
baz=151,SNR=7.6
WVT Waverly 57.40 342 P **P** **20 43 53.8 -1.1**
WVT Waverly 57.40 342 P **P** **20 43 53.8 -1.1**
WVT pmax pmax
comp=Z,55nm,0.8s
WVT Waverly 57.40 342 P **P** **20 43 54.0 -0.8**
baz=159
WVT Waverly 57.40 342 P **P** **20 43 54.1 -0.8**
baz=159,SNR=37
WVT Waverly 57.40 342 P **P** **20 43 53.9 -1.1**
WVT pP **pP** **20 44 27.1 -0.3**
S54A Dingess, Beckl 57.41 348 P **P** **20 43 55.0 0.0**
baz=166,SNR=8.9
S54A P **P** **20 43 55.0 0.0**
baz=166,SNR=8.9
R55A Marlinton 57.67 350 P **P** **20 43 57.4 +0.6**
baz=168,SNR=5.9
R55A P **P** **20 43 57.4 +0.6**
baz=168,SNR=5.9
S51A Beattyville 57.73 346 P **P** **20 43 56.5 -0.7**
baz=164
S51A P **P** **20 43 56.5 -0.7**
baz=164
MIAR Mount Ida 57.91 336 P **P** **20 43 58.8 +0.3**
MIAR IAmb IAmb 20 43 59.6
comp=Z,23nm,0.6s
MIAR Mount Ida 57.91 336 P **P** **20 43 58.8 +0.3**
MIAR pmax pmax
comp=Z,23nm,0.6s
MIAR Mount Ida 57.91 336 P **P** **20 43 58.6 +0.1**
baz=152,SNR=23
MIAR Mount Ida 57.91 336 P **P** **20 43 58.9 +0.4**
baz=152,SNR=23
GNAR Gosnell 57.93 340 P **P** **20 43 58.5 0.0**
T47A Sharon Grove 58.00 343 P **P** **20 43 58.7 -0.3**
baz=160,SNR=31
SLBS Sierra La Lagu 58.08 315 P **P** **20 44 02.2 +2.2**
SLBS pP **pP** **20 44 34.0 +1.9**
TXAR Lajitas Array 58.33 324 P **P** **20 44 02.3 +0.6**
TXAR Lajitas Array 58.33 324 P **P** **20 44 01.8 +0.2**
comp=Z,7.1nm,0.6s,baz=151,slow=8.5,SNR=44
TXAR PcP **PcP** **20 44 53.0 +1.7**
comp=Z,1.4nm,0.6s,baz=154,slow=9.0,SNR=2.1
comp=Z,7.1nm,0.6s
TX31 Lajitas Ar. Si 58.33 324 P **P** **20 44 02.4 +0.7**
baz=141,SNR=26
Z35A Perchaven, San 58.38 332 P **P** **20 44 03.1 +1.3**
baz=148,SNR=7.0
LCAR Lake Charles 58.40 339 P **P** **20 44 01.5 -0.4**
baz=155,SNR=22
T45B Paducah 58.47 342 P **P** **20 44 02.1 -0.2**
baz=158,SNR=14
Q54A Coxs Mills 58.48 349 P **P** **20 44 02.6 +0.2**
baz=167,SNR=5.6
Q54A P **P** **20 44 02.6 +0.2**
baz=167,SNR=5.6
R50A Paris 58.51 346 P **P** **20 44 02.2 -0.4**
baz=163,SNR=5.8
R50A P **P** **20 44 02.2 -0.4**
baz=163,SNR=5.8
P57A Homestead Farm 58.52 352 P **P** **20 44 03.1 +0.5**
baz=170
P57A P **P** **20 44 03.1 +0.5**
baz=170
GEDE Greenville 58.57 354 P **P** **20 44 02.5 -0.4**
baz=173
X37A Clayton 58.66 335 P **P** **20 44 04.8 +1.1**
baz=151,SNR=15
WUPA West Chester U 58.69 354 P **P** **20 44 03.6 -0.2**
PBMO Poplar Bluff 58.81 340 P **P** **20 44 04.4 -0.2**
PBMO Poplar Bluff 58.81 340 P **P** **20 44 04.6 0.0**
baz=156,SNR=29
MVL Millersville 58.83 353 P **P** **20 44 04.8 0.0**
MVL IAmb IAmb 20 44 05.5
comp=Z,17nm,0.7s
ABTX Abilene, Hawle 58.88 330 P **P** **20 44 05.7 +0.3**
ABTX IAmb IAmb 20 44 07.0
comp=Z,45nm,0.8s
ABTX Abilene, Hawle 58.88 330 P **P** **20 44 06.0 +0.6**
baz=146,SNR=20
WCI Wyandotte Cave 58.95 344 P **P** **20 44 04.7 -0.9**
WCI IAmb IAmb 20 44 05.7
comp=Z,26nm,0.8s
WCI Wyandotte Cave 58.95 344 P **P** **20 44 04.7 -0.9**
WCI pmax pmax
comp=Z,26nm,0.9s
WCI Wyandotte Cave 58.95 344 P **P** **20 44 04.9 -0.7**
baz=161
WCI Wyandotte Cave 58.95 344 P **P** **20 44 05.0 -0.6**
baz=161,SNR=14
WCI Wyandotte Cave 58.95 344 P **P** **20 44 04.6 -0.9**
WCI pP **pP** **20 44 38.7 +0.4**
WCI sP **sP** **20 44 53.0 -0.2**
MCWV Mont Chateau 58.97 350 P **P** **20 44 05.7 0.0**
MCWV IAmb IAmb 20 44 07.0
comp=Z,26nm,0.8s
MCWV Mont Chateau 58.97 350 P **P** **20 44 05.7 0.0**
baz=168,SNR=6.9
MCWV Mont Chateau 58.97 350 P **P** **20 44 06.3 +0.6**
baz=168,SNR=6.9
CGM3 Cape Girardeau 59.04 341 P **P** **20 44 06.0 -0.3**
PANJ Princeton 59.05 355 P **P** **20 44 06.1 -0.1**
baz=174
P53A Whipple 59.06 349 P **P** **20 44 07.0 +0.6**
baz=166,SNR=8.4
P53A P **P** **20 44 07.0 +0.6**
baz=166,SNR=8.4
U40A Yellville 59.25 338 P **P** **20 44 07.6 -0.1**
baz=154,SNR=35
U40A P **P** **20 44 07.6 -0.1**
baz=154,SNR=35
S44A Carbondale 59.28 341 P **P** **20 44 07.7 -0.2**
baz=158,SNR=21
P52A Corning 59.35 348 P **P** **20 44 07.9 -0.4**
baz=166,SNR=6.4
MNHN Monahans 59.41 326 P **P** **20 44 09.5 +0.5**
MNHN IAmb IAmb 20 44 10.8
comp=Z,49nm,0.9s
PAL Palisades 59.61 356 P **P** **20 44 09.9 -0.1**
baz=175
SSPA Standing Stone 59.64 352 P **P** **20 44 10.5 +0.1**
SSPA IAmb IAmb 20 44 31.6
comp=Z,66nm,1.9s
SSPA Standing Stone 59.64 352 P **P** **20 44 10.5 +0.1**
baz=170
SSPA Standing Stone 59.64 352 P **P** **20 44 10.5 +0.1**
SSPA PcP **PcP** **20 44 55.9 -0.2**
N58A Sunbury 59.70 353 P **P** **20 44 10.9 +0.1**
baz=172
N58A P **P** **20 44 10.9 +0.1**
baz=172
W35A Tecumseh 59.77 334 **P** **20 44 11.3 0.0**
W35A IAmb IAmb 20 44 12.2
comp=Z,56nm,1.2s
O53A New Philadelph 59.77 349 P **P** **20 44 11.2 0.0**
O53A IAmb IAmb 20 44 11.6
comp=Z,14nm,0.7s
O53A New Philadelph 59.77 349 P **P** **20 44 11.2 0.0**
baz=167
P49A Miami Univ. Ec 59.80 346 P **P** **20 44 10.7 -0.8**
P49A IAmb IAmb 20 44 11.3
comp=Z,34nm,1.1s
P49A Miami Univ. Ec 59.80 346 P **P** **20 44 10.5 -0.9**
baz=163,SNR=7.2
UPAO U. Pittsburgh 59.80 350 P **P** **20 44 11.9 +0.4**
baz=168
P48A Milroy 59.89 345 P **P** **20 44 11.6 -0.5**
baz=162,SNR=6.3
P48A P **P** **20 44 11.6 -0.5**
baz=162,SNR=6.3
U38A Gravette 59.89 336 P **P** **20 44 12.2 0.0**
baz=152,SNR=7.2
FVM French Village 59.91 341 P **P** **20 44 12.3 +0.1**
baz=157,SNR=69
TUL3 Leonard 59.98 335 **P** **20 44 13.2 +0.5**
TUL3 IAmb IAmb 20 44 14.1
comp=Z,44nm,1.1s
TUL3 Leonard 59.98 335 P **P** **20 44 13.2 +0.5**
baz=151,SNR=8.9
M65A Busby, Falmout 60.01 359 P **P** **20 44 13.6 +0.8**
baz=178
FNO Franklin 60.08 333 **P** **20 44 13.7 +0.2**
ACSO Alum Creek Sta 60.09 348 P **P** **20 44 13.9 +0.5**
ACSO IAmb IAmb 20 44 14.6
comp=Z,28nm,0.9s
ACSO Alum Creek Sta 60.09 348 P **P** **20 44 12.9 -0.5**
baz=165,SNR=7.7
CCM Cathedral Cave 60.23 340 P **P** **20 44 14.1 -0.3**
CCM Cathedral Cave 60.23 340 P **P** **20 44 14.1 -0.3**
CCM pmax pmax
comp=Z,51nm,0.7s
CCM Cathedral Cave 60.23 340 P **P** **20 44 14.2 -0.2**
baz=156
CCM Cathedral Cave 60.23 340 P **P** **20 44 14.3 -0.2**
baz=156,SNR=44
CCM Cathedral Cave 60.23 340 P **P** **20 44 14.2 -0.2**
CCM pP **pP** **20 44 47.7 +0.4**
PSDB Penn State Uni 60.24 352 P **P** **20 44 15.6 +1.2**
baz=170
WMOK Wichita Mounta 60.24 332 **P** **20 44 14.0 -0.6**
WMOK Wichita Mounta 60.24 332 P **P** **20 44 14.0 -0.6**
WMOK pmax pmax
comp=Z,6.0nm,0.7s
WMOK Wichita Mounta 60.24 332 P **P** **20 44 14.6 0.0**
baz=147,SNR=10
PAMR Moraine State 60.26 350 P **P** **20 44 14.7 +0.1**
baz=168
Q44A Meyer Farm, Va 60.33 342 P **P** **20 44 14.3 -0.7**
baz=158,SNR=13
O49A Covington 60.34 347 P **P** **20 44 14.2 -0.9**
baz=163,SNR=5.5
O49A P **P** **20 44 14.2 -0.9**
baz=163,SNR=5.5
P46A Rosedale 60.49 344 P **P** **20 44 15.3 -0.9**
baz=160,SNR=5.9
M55A Ridgway 60.58 352 P **P** **20 44 16.7 -0.1**
baz=170,SNR=5.2
M55A P **P** **20 44 16.7 -0.1**
baz=170,SNR=5.2
O48B Farmland 60.59 346 P **P** **20 44 16.0 -0.8**
baz=162
O48B Farmland 60.59 346 P **P** **20 44 15.9 -0.9**
baz=162
S39A Bolivar 60.61 338 P **P** **20 44 17.1 0.0**
baz=154,SNR=38
R40A Maddies Statio 60.79 339 P **P** **20 44 17.9 -0.3**
baz=155,SNR=33
M53A WI Miller and 60.84 350 P **P** **20 44 18.5 0.0**
baz=167,SNR=5.0
WES Weston 60.85 358 P **P** **20 44 18.2 -0.3**
WES Weston 60.85 358 P **P** **20 44 18.2 -0.3**
WES pmax pmax
comp=Z,130nm,1.7s
ALLY Alegheny Colle 60.96 350 P **P** **20 44 19.4 +0.1**
baz=168
BINY Binghamton 60.97 354 P **P** **20 44 19.7 +0.3**
baz=173
BINY Binghamton 60.97 354 P **P** **20 44 19.7 +0.3**
baz=173
L61B Northampton 60.97 357 P **P** **20 44 18.9 -0.5**
baz=176
HRV Adam Dziewonsk 60.98 358 P **P** **20 44 19.6 +0.2**
HRV IAmb IAmb 20 44 20.4
comp=Z,37nm,0.7s
HRV Adam Dziewonsk 60.98 358 P **P** **20 44 19.6 +0.2**
HRV pmax pmax
comp=Z,37nm,0.7s
HRV Adam Dziewonsk 60.98 358 P **P** **20 44 19.0 -0.4**
baz=177
HRV Adam Dziewonsk 60.98 358 P **P** **20 44 19.4 0.0**
N49A Columbus Grove 61.01 347 P **P** **20 44 19.2 -0.4**
baz=164,SNR=14
N49A P **P** **20 44 19.2 -0.4**
baz=164,SNR=14
L56A Greenwood 61.08 353 P **P** **20 44 20.3 +0.2**
baz=171
L56A P **P** **20 44 20.3 +0.2**
baz=171
MNTX Cornudas Mount 61.09 325 P **P** **20 44 20.3 -0.1**
MNTX IAmb IAmb 20 44 21.4
comp=Z,15nm,0.8s
MNTX Cornudas Mount 61.09 325 P **P** **20 44 20.5 +0.1**
baz=140,SNR=25
T35B Sooner Cattle 61.14 335 P **P** **20 44 20.9 +0.3**
baz=150,SNR=20
P43A Skaggs, Pawnee 61.16 342 P **P** **20 44 20.1 -0.5**
baz=158,SNR=40
SFIN Lafayette 61.18 344 P **P** **20 44 19.5 -1.2**
baz=160,SNR=12
SFIN Lafayette 61.18 344 P **P** **20 44 19.8 -1.0**
baz=160,SNR=12
BLOK Blackwell 61.29 334 **P** **20 44 22.1 +0.5**
N47A Urbana 61.31 346 P **P** **20 44 20.6 -1.0**
baz=162,SNR=8.7
N47A P **P** **20 44 20.6 -1.0**
baz=162,SNR=8.7
HCNY Howe Caverns 61.33 355 P **P** **20 44 21.8 +0.1**
baz=174
O44A Mansfield 61.33 343 P **P** **20 44 20.8 -1.0**
baz=159,SNR=18
ERPA Erie 61.39 351 P **P** **20 44 22.2 0.0**
baz=168
ERPA Erie 61.39 351 P **P** **20 44 22.5 +0.3**
baz=168
MSTX Muleshoe 61.50 328 P **P** **20 44 23.7 +0.4**
baz=143,SNR=27
AMTX Amarillo 61.70 330 P **P** **20 44 24.3 -0.3**
AMTX IAmb IAmb 20 44 25.6
comp=Z,12nm,0.6s
AMTX Amarillo 61.70 330 P **P** **20 44 24.8 +0.2**
baz=145
AMTX Amarillo 61.70 330 P **P** **20 44 24.8 +0.2**
baz=145,SNR=5.9
U32A Winter Ranch, 61.72 333 P **P** **20 44 25.4 +0.8**
baz=148,SNR=9.1
KAN17 Caldwell West 61.76 334 **P** **20 44 25.0 +0.2**
KAN17 IAmb IAmb 20 44 26.3
comp=Z,37nm,0.7s
P40A Paris 61.83 340 P **P** **20 44 25.0 -0.2**
baz=155,SNR=25
HDIL Hopedale 61.94 343 P **P** **20 44 25.2 -0.7**
HDIL Hopedale 61.94 343 P **P** **20 44 25.2 -0.7**
baz=158,SNR=23
AAM Ann Arbor 62.22 348 P **P** **20 44 27.3 -0.4**
baz=164
HSIG 62.40 319 P **P** **20 44 29.7 +0.5**
HSIG IAmb IAmb 20 44 31.6
comp=Z,26nm,1.3s
P38A Dawn 62.42 339 P **P** **20 44 29.0 -0.1**
baz=154,SNR=28
K50A Casco 62.48 349 P **P** **20 44 28.9 -0.6**
baz=166,SNR=5.1
K50A P **P** **20 44 28.9 -0.6**
baz=166,SNR=5.1
N41A Harden Midland 62.53 341 P **P** **20 44 29.4 -0.5**
baz=157,SNR=6.6
VNA3 Neumayer Olymp 62.71 162 ⇑P **P** **20 44 30.0 -0.7**
comp=Z,21nm,0.8s
LBNH Lisbon 62.73 358 P **P** **20 44 31.5 +0.4**
baz=177
121A Cookes Peak, D 63.05 324 P **P** **20 44 34.8 +1.1**
121A IAmb IAmb 20 44 36.3
comp=Z,24nm,0.6s
121A Cookes Peak, D 63.05 324 P **P** **20 44 35.3 +1.6**
baz=138,SNR=17
121A Cookes Peak, D 63.05 324 P **P** **20 44 35.3 +1.6**
baz=138,SNR=17
319A Douglas 63.06 322 P **P** **20 44 35.0 +1.3**
KSU1 Kansas State U 63.07 336 P **P** **20 44 33.0 -0.4**
KSU1 IAmb IAmb 20 44 34.5
comp=Z,52nm,0.8s
KSU1 Kansas State U 63.07 336 P **P** **20 44 33.6 +0.2**
baz=151,SNR=11
KSU1 Kansas State U 63.07 336 P **P** **20 44 33.2 -0.3**
baz=151,SNR=11
LONY Lake Ozonia 63.25 356 P **P** **20 44 35.0 +0.4**
baz=174
VNA2 Neumayer--Watz 63.28 161 ⇑P **P** **20 44 34.7 +0.2**
comp=Z,18nm,0.8s,baz=288,slow=5.0
R32A Long Quarter, 63.32 334 P **P** **20 44 36.0 +0.8**
baz=148,SNR=17
J47A Sunmer 63.36 347 P **P** **20 44 34.8 -0.5**
baz=163,SNR=6.6
J47A P **P** **20 44 34.8 -0.5**
baz=163,SNR=6.6
N38A Joes South For 63.36 340 P **P** **20 44 35.3 -0.1**
baz=154,SNR=14
L42A Oliver, Polo 63.38 343 P **P** **20 44 34.9 -0.5**
baz=158,SNR=8.3
BMNY Brushton-Moira 63.47 356 P **P** **20 44 36.4 +0.5**
baz=174
GGN Saint George 63.58 2 P **P** **20 44 37.0 +0.4**
Y22A Socorro 63.66 325 P **P** **20 44 38.6 +0.9**
baz=140,SNR=9.9
K43A Burlington 63.68 344 P **P** **20 44 36.9 -0.4**
baz=160,SNR=9.5
WBO Williamsburg 63.69 355 P **P** **20 44 37.3 0.0**
WBO IAmb IAmb 20 46 55.3
comp=Z,72nm,1.8s
PKME Peaks-Kenny Pk 63.69 360 P **P** **20 44 38.1 +0.7**
baz=180
SADO Sadowa 63.87 352 P **P** **20 44 37.8 -0.8**
SADO IAmb IAmb 20 44 59.8
comp=Z,42nm,1.6s
SADO Sadowa 63.87 352 P **P** **20 44 38.1 -0.5**
comp=Z,4.4nm,0.6s,baz=189,slow=7.0,SNR=6.2
comp=Z,4.4nm,0.6s
L40A Anamosa 63.88 342 P **P** **20 44 38.3 -0.4**
baz=157,SNR=14
CBKS Cedar Bluff 64.08 334 P **P** **20 44 40.4 +0.2**
CBKS Cedar Bluff 64.08 334 P **P** **20 44 40.4 +0.2**
CBKS pmax pmax
comp=Z,55nm,0.7s
CBKS Cedar Bluff 64.08 334 P **P** **20 44 41.0 +0.9**
baz=148,SNR=13
CBKS Cedar Bluff 64.08 334 P **P** **20 44 40.9 +0.7**
baz=148,SNR=13
ANMO Albuquerque 64.15 326 P **P** **20 44 41.8 +0.9**
ANMO Albuquerque 64.15 326 P **P** **20 44 41.8 +0.9**
ANMO pmax pmax
comp=Z,11nm,0.7s
ANMO Albuquerque 64.15 326 P **P** **20 44 41.9 +1.1**
baz=140
ANMO Albuquerque 64.15 326 P **P** **20 44 42.0 +1.1**
baz=140,SNR=26
N35A Tabor 64.25 338 P **P** **20 44 41.2 0.0**
baz=152
SCIA State Center 64.36 340 P **P** **20 44 41.8 0.0**
SCIA State Center 64.36 340 P **P** **20 44 41.8 0.0**
baz=155,SNR=22
SCIA State Center 64.36 340 P **P** **20 44 42.0 +0.2**
baz=155,SNR=22
JFWS Jewell Farm 64.39 343 P **P** **20 44 41.9 -0.1**
JFWS Jewell Farm 64.39 343 P **P** **20 44 41.9 -0.1**
JFWS pmax pmax
comp=Z,79nm,0.7s
JFWS Jewell Farm 64.39 343 P **P** **20 44 42.0 0.0**
baz=158,SNR=29
LMN Caledonia Moun 64.39 3 P **P** **20 44 41.6 -0.4**
TUC Tucson 64.62 321 P **P** **20 44 44.6 +0.7**
TUC Tucson 64.62 321 P **P** **20 44 44.6 +0.7**

TUC pmax pmax
comp=Z,6.0nm,0.7s
TUC Tucson 64.62 321 P **P** **20 44 45.0 +1.2**
baz=136
TUC Tucson 64.62 321 P **P** **20 44 45.2 +1.4**
N33B J Bar K, Exete 64.81 336 P **P** **20 44 45.5 +0.7**
baz=150,SNR=5.3
T25A Trinidad 64.83 329 P **P** **20 44 45.8 +0.5**
T25A Trinidad 64.83 329 P **P** **20 44 46.5 +1.2**
baz=143,SNR=11
GLMI Grayling 64.84 348 P **P** **20 44 44.9 0.0**
baz=164
GLMI Grayling 64.84 348 P **P** **20 44 45.5 +0.6**
baz=164
K38A Parkersburg 64.89 341 P **P** **20 44 45.2 -0.1**
baz=155,SNR=13
SNAA Sanae 64.91 161 P **P** **20 44 46.3 +1.2**
SNAA IAmb IAmb 20 44 47.7
comp=Z,44nm,1.4s
SNAA Sanae 64.91 161 ⇑P **P** **20 44 46.7 +1.6**
comp=Z,311nm,0.7s
SNAA Sanae 64.91 161 P **P** **20 44 46.6 +1.4**
comp=Z,11nm,0.6s,baz=286,slow=8.1,SNR=20
comp=Z,11nm,0.6s
I42A Draeger Farm, 64.94 344 P **P** **20 44 45.7 +0.2**
baz=159,SNR=40
H43A Windswept, Lux 65.20 345 P **P** **20 44 47.0 -0.2**
baz=160,SNR=27
I40A Norwalk 65.39 343 P **P** **20 44 48.3 -0.2**
baz=158,SNR=19
L34A Svendsen Farm, 65.49 338 P **P** **20 44 49.5 +0.3**
baz=152,SNR=44
KSCO Kaye Shedlock' 65.50 332 P **P** **20 44 50.5 +1.0**
baz=145
214A Organ Pipe Nat 65.59 320 P **P** **20 44 52.3 +2.2**
baz=134,SNR=12
BGNE Belgrade 65.66 336 P **P** **20 44 51.0 +0.8**
BGNE Belgrade 65.66 336 P **P** **20 44 51.1 +0.8**
baz=150,SNR=42
SDCO Great Sand Dun 65.84 329 P **P** **20 44 53.2 +1.3**
baz=142
SDCO Great Sand Dun 65.84 329 P **P** **20 44 53.4 +1.5**
baz=142
W18A Petrified Fore 66.05 324 P **P** **20 44 54.5 +1.3**
baz=138,SNR=6.5
E46A Sault Ste Mari 66.26 348 P **P** **20 44 53.5 -0.4**
baz=164,SNR=7.6
I37B Waseca 66.32 341 P **P** **20 44 54.8 +0.3**
baz=155,SNR=24
F42A Maple Grove Ba 66.50 346 P **P** **20 44 55.4 -0.2**
baz=160,SNR=5.5
G40A Rib Lake 66.56 344 P **P** **20 44 56.0 0.0**
baz=158,SNR=17
TROLL Troll, Antarti 66.62 161 ⇑P **P** **20 44 58.2 +1.9**
comp=Z,1µm,0.6s
Q24A Divide 66.63 330 P **P** **20 44 57.7 +0.8**
Q24A IAmb IAmb 20 44 59.2
comp=Z,21nm,0.8s
Q24A Divide 66.63 330 P **P** **20 44 58.3 +1.4**
baz=143,SNR=17
E43A Lone Tree Farm 66.82 347 P **P** **20 44 57.2 -0.3**
baz=162,SNR=18
OGNE Ogallala 66.83 333 P **P** **20 44 58.7 +0.9**
OGNE IAmb IAmb 20 44 59.7
comp=Z,26nm,0.6s
OGNE Ogallala 66.83 333 P **P** **20 44 59.0 +1.1**
baz=146
OGNE Ogallala 66.83 333 P **P** **20 44 58.3 +0.4**
baz=146
MVCO Mesa Verde 66.94 327 P **P** **20 45 00.1 +1.2**
MVCO IAmb IAmb 20 45 01.1
comp=Z,19nm,0.7s
MVCO Mesa Verde 66.94 327 P **P** **20 45 00.1 +1.2**
baz=139,SNR=18
VLDQ Val d'Or 66.97 354 P **P** **20 44 58.5 0.0**
COWI Conover 67.06 345 P **P** **20 44 59.0 -0.1**
baz=159
ECSD EROS Data Cent 67.12 339 P **P** **20 44 59.6 0.0**
ECSD IAmb IAmb 20 45 00.9
comp=Z,49nm,1.5s
SPMN Marine on St. 67.24 342 P **P** **20 45 00.2 -0.1**
baz=156,SNR=31
WUAZ Wupatki 67.26 323 P **P** **20 45 03.0 +2.2**
baz=136,SNR=6.9
K30B Basset 67.30 336 P **P** **20 45 01.3 +0.5**
K30B Basset 67.30 336 P **P** **20 45 01.8 +1.1**
baz=149,SNR=13
ISCO Idaho Springs 67.51 330 P **P** **20 45 03.5 +1.0**
ISCO Idaho Springs 67.51 330 P **P** **20 45 03.5 +1.0**
ISCO pmax pmax
comp=Z,15nm,0.9s
ISCO Idaho Springs 67.51 330 P **P** **20 45 03.8 +1.3**
baz=142,SNR=16
ISCO Idaho Springs 67.51 330 P **P** **20 45 03.2 +0.7**
baz=142,SNR=16
BRIGG Briggsdale 67.54 332 P **P** **20 45 03.5 +1.0**
BRIGG IAmb IAmb 20 45 05.0
comp=Z,43nm,1.1s
LIC Lamto 67.74 75⇑*i*P **P** **20 45 03.1 -0.9**
comp=Z,36nm,0.3s
D41A Chassel 67.82 346 P **P** **20 45 04.2 +0.4**
baz=160,SNR=20
TIC Toumodi 67.91 74⇑*i*P **P** **20 45 04.3 -0.8**
comp=Z,16nm,0.3s
PDMCI Parker Dam,Lak 68.02 321 P **P** **20 45 07.0 +1.7**
baz=134,SNR=5.4
F36A Milaca 68.03 342 P **P** **20 45 05.2 0.0**
baz=155,SNR=20
KIC Kosan Boka 68.05 75⇑*i*P **P** **20 45 05.4 -0.6**
comp=Z,121nm,0.5s
DBIC Dimbokro 68.07 75 P **P** **20 45 05.6 -0.5**
DBIC Dimbokro 68.07 75 P **P** **20 45 05.6 -0.5**
DBIC pmax pmax
comp=Z,79nm,0.8s
DBIC Dimbokro 68.07 75 P **P** **20 45 05.3 -0.8**
comp=Z,84nm,0.7s,baz=236,slow=6.1,SNR=98
comp=Z,84nm,0.7s
DBIC Dimbokro 68.07 75 P **P** **20 45 05.5 -0.7**
IKP In-Ko-Pah, Jac 68.11 318 P **P** **20 45 08.0 +1.8**
baz=132
SWSC Sam W. Stewart 68.11 319 P **P** **20 45 07.9 +1.9**
baz=132
E38A The Farm, Brul 68.15 343 P **P** **20 45 05.9 0.0**
baz=157,SNR=20
BC3 Big Chuckawall 68.38 319 P **P** **20 45 09.8 +2.0**
baz=133,SNR=7.1
MONP2 Monument Peak 68.47 318 P **P** **20 45 09.6 +1.1**
baz=132
IRM Iron Mountain 68.53 320 P **P** **20 45 10.8 +2.2**
baz=133,SNR=11
N23A Red Feather La 68.53 331 P **P** **20 45 10.2 +1.5**
baz=142,SNR=14
F33A 5 Mile Ranch, 68.87 340 P **P** **20 45 10.4 0.0**
baz=152,SNR=19
109C Camp Elliot, M 68.90 318 P **P** **20 45 12.3 +1.4**
baz=131
BELC Belle Mtn. Jos 68.94 319 P **P** **20 45 13.5 +2.2**
baz=132
TPFO Pinon Flats 68.96 319 P **P** **20 45 13.6 +2.1**
baz=132
PFO Pinyon Flats O 68.97 319 P **P** **20 45 12.5 +1.1**
PFO Pinyon Flats O 68.97 319 P **P** **20 45 13.6 +2.2**
baz=132,SNR=5.2
PFO Pinyon Flats O 68.97 319 P **P** **20 45 12.9 +1.5**
comp=Z,9.7nm,0.9s,baz=121,slow=5.0,SNR=12
comp=Z,9.7nm,0.9s
PFO Pinyon Flats O 68.97 319 P **P** **20 45 13.5 +2.0**
PFO pP **pP** **20 45 46.6 +1.6**
O20A White River Ci 69.04 329 P **P** **20 45 12.8 +1.0**
O20A IAmb IAmb 20 45 14.3
comp=Z,24nm,0.9s
O20A White River Ci 69.04 329 P **P** **20 45 13.4 +1.5**
baz=140,SNR=11
KNB Kanab 69.15 324 P **P** **20 45 14.4 +1.8**
KNB IAmb IAmb 20 45 16.1
comp=Z,49nm,0.9s
KNB Kanab 69.15 324 P **P** **20 45 14.4 +1.8**
KNB pmax pmax
comp=Z,49nm,0.9s
GMRC Granite Mounta 69.26 320 P **P** **20 45 15.6 +2.3**
baz=133,SNR=18
EYMN Ely 69.37 344 P **P** **20 45 13.2 -0.3**
baz=157,SNR=19
V12A Nelson 69.42 321 P **P** **20 45 15.6 +1.4**
MURC Murrieta 69.42 318 P **P** **20 45 15.9 +1.8**
baz=131
NVL N'lazarevskaya 69.44 160 *e*P **P** **20 45 13.8 +0.2**

NVL pmax pmax
comp=Z,36nm,1.2s
HEC Hector,Ludlow 69.70 320 P **P** **20 45 18.2 +2.3**
baz=132,SNR=7.7
MVU Marysvale 69.88 325 P **P** **20 45 18.5 +1.4**
BFSC Mount Baldy Ra 70.13 319 P **P** **20 45 20.4 +1.8**
baz=131
K22A Casper 70.18 331 P **P** **20 45 20.1 +1.3**
baz=142
K22A Casper 70.18 331 P **P** **20 45 20.4 +1.6**
baz=142
FMP Fort Macarthur 70.19 318 P **P** **20 45 20.7 +2.0**
baz=130
D32B Dogwood Acres, 70.25 340 P **P** **20 45 19.4 +0.6**
baz=152,SNR=7.4
RSSD Black Hills 70.28 334 P **P** **20 45 20.2 +0.8**
RSSD IAmb IAmb 20 45 21.5
comp=Z,18nm,0.8s
RSSD Black Hills 70.28 334 P **P** **20 45 20.2 +0.8**
RSSD pmax pmax
comp=Z,18nm,0.8s
RSSD Black Hills 70.28 334 P **P** **20 45 20.7 +1.3**
baz=145
RSSD Black Hills 70.28 334 P **P** **20 45 20.7 +1.3**
baz=145,SNR=14
RSSD Black Hills 70.28 334 P **P** **20 45 20.4 +1.0**
RSSD pP **pP** **20 45 54.9 +1.8**
GSC Goldstone, Bar 70.31 320 P **P** **20 45 21.7 +2.1**
baz=132,SNR=8.2
B35A Bob, Littlefor 70.36 343 P **P** **20 45 19.5 0.0**
baz=155,SNR=32
DECC Green Verdugo 70.57 318 P **P** **20 45 23.1 +2.0**
baz=130
EDW2 Edwards Air Fo 70.76 319 P **P** **20 45 24.2 +1.9**
baz=131,SNR=5.6
AGMN Agassiz Nation 70.92 341 P **P** **20 45 22.9 0.0**
AGMN IAmb IAmb 20 45 23.9
comp=Z,34nm,0.9s
AGMN Agassiz Nation 70.92 341 P **P** **20 45 23.2 +0.3**
baz=153,SNR=13
E28A Huff 71.03 337 P **P** **20 45 24.9 +1.3**
baz=148,SNR=6.1
FURC Furnace Creek, 71.12 321 P **P** **20 45 27.0 +2.7**
baz=132,SNR=7.4
MPMC Manual Prospec 71.22 320 P **P** **20 45 26.7 +1.5**
baz=132,SNR=10
SCZ2 Santa Cruz Isl 71.23 317 P **P** **20 45 27.0 +1.9**
baz=130
DUG Dugway, Tooele 71.42 326 P **P** **20 45 28.3 +2.0**
baz=136,SNR=18
QSPA South Pole Qui 71.44 180 P **P** **20 45 27.8 +1.8**
QSPA South Pole Qui 71.44 180 P **P** **20 45 28.3 +2.2**
comp=Z,2.0nm,0.6s,baz=117,slow=4.5,SNR=19
QSPA pP **pP** **20 46 01.9 +2.3**
comp=Z,3.7nm,0.7s,baz=163,slow=3.9,SNR=4.8
comp=Z,2.0nm,0.6s
SBC Santa Barbara 71.56 318 P **P** **20 45 28.9 +1.8**
baz=130
ISA Isabella, Lake 71.57 319 P **P** **20 45 29.5 +2.3**
baz=131,SNR=9.7
R11B Troy Canyon, C 71.65 323 P **P** **20 45 30.1 +2.4**
baz=134,SNR=25
PD31 Pinedale Array 71.69 330 P **P** **20 45 28.5 +0.5**
PDAR Pinedale Array 71.69 330 P **P** **20 45 28.4 +0.5**
PDAR Pinedale Array 71.69 330 P **P** **20 45 28.6 +0.7**
comp=Z,4.4nm,0.7s,baz=122,slow=8.5,SNR=55
PDAR pP **pP** **20 46 03.0 +1.4**
comp=Z,1.5nm,0.6s,baz=122,slow=8.7,SNR=2.6
comp=Z,4.4nm,0.7s
BW06 Boulder Array 71.69 330 P **P** **20 45 28.5 +0.6**
baz=140,SNR=8.7
MDND Maddock 71.73 339 P **P** **20 45 28.9 +1.1**
baz=150,SNR=7.5
MDND Maddock 71.73 339 P **P** **20 45 29.1 +1.3**
baz=150,SNR=7.5
HWUT Hardware Ranch 71.80 328 P **P** **20 45 29.2 +0.6**
CWC Cottonwood Cre 71.83 320 P **P** **20 45 30.9 +2.0**
baz=131
PKM Mcpherson Peak 71.91 318 P **P** **20 45 31.6 +2.2**
baz=130,SNR=7.1
VES Vestal, Richgr 72.06 319 P **P** **20 45 31.9 +1.9**
baz=130
SMMC Simmler 72.30 318 P **P** **20 45 34.1 +2.6**
baz=130,SNR=6.8
TIN Tinemaha, Big 72.33 321 P **P** **20 45 33.9 +2.2**
baz=131
TPH Tonopah 72.41 322 P **P** **20 45 33.4 +1.1**
TPH IAmb IAmb 20 45 35.4
comp=Z,62nm,1.0s
TPH Tonopah 72.41 322 P **P** **20 45 33.4 +1.1**
TPH pmax pmax
comp=Z,62nm,1.0s
AHID Auburn Hatcher 72.43 329 P **P** **20 45 33.0 +0.6**
ULM Lac du Bonnet 72.67 342 P **P** **20 45 33.3 0.0**
ULM IAmb IAmb 20 45 34.1
comp=Z,35nm,0.7s
ULM Lac du Bonnet 72.67 342 P **P** **20 45 33.3 0.0**
comp=Z,32nm,0.6s,baz=154,slow=5.9,SNR=80
ULM pP **pP** **20 46 08.2 +1.0**
comp=Z,11nm,0.5s,baz=144,slow=5.4,SNR=5.8
comp=Z,32nm,0.6s
ELIB Princess Elisa 73.07 161 *d*P **P** **20 45 37.5 +1.8**
comp=Z,11nm,0.6s
ELIB *d*PcP **PcP** **20 45 54.2 +2.5**
ELK Elko 73.11 325 P **P** **20 45 37.6 +1.1**
ELK Elko 73.11 325 P **P** **20 45 37.6 +1.1**
ELK pmax pmax
comp=Z,11nm,0.9s
ELK Elko 73.11 325 P **P** **20 45 37.5 +1.0**
comp=Z,8.4nm,0.8s,baz=138,slow=3.9,SNR=40
comp=Z,8.4nm,0.8s
LAO LASA Array 73.27 334 P **P** **20 45 37.5 +0.5**
LAO IAmb IAmb 20 45 39.1
comp=Z,40nm,1.4s
LAO LASA Array 73.27 334 P **P** **20 45 38.3 +1.3**
baz=143,SNR=9.0
NVAR Mina Array Bea 73.28 322 P **P** **20 45 39.1 +1.7**
NVAR Mina Array Bea 73.28 322 P **P** **20 45 38.7 +1.3**
comp=Z,9.4nm,0.8s,baz=152,slow=6.2,SNR=60
NVAR pP **pP** **20 46 12.6 +1.3**
comp=Z,1.9nm,0.7s,baz=138,slow=5.9,SNR=2.7
comp=Z,9.4nm,0.8s
SCHQ Schefferville 73.30 1 P **P** **20 45 36.7 -0.2**
comp=Z,6.1nm,0.6s,baz=183,slow=4.7,SNR=12
comp=Z,6.1nm,0.6s
RLMT Red Lodge 73.35 331 P **P** **20 45 39.3 +1.6**
baz=140,SNR=24
H17A Grant Village 73.40 330 P **P** **20 45 40.5 +2.4**
baz=139,SNR=14
YHH Holmes Hill 73.83 330 P **P** **20 45 42.7 +2.0**
DGMT Dagmar 73.91 336 P **P** **20 45 42.5 +1.8**
baz=146
HLID Hailey 74.67 328 P **P** **20 45 47.2 +1.8**
HLID Hailey 74.67 328 P **P** **20 45 47.6 +2.2**
baz=136,SNR=28
BOZ Bozeman (W) 74.80 330 P **P** **20 45 46.6 +0.6**
BOZ Bozeman (W) 74.80 330 P **P** **20 45 46.7 +0.6**
BOZ pmax pmax
comp=Z,8.0nm,1.0s
BOZ Bozeman (W) 74.80 330 P **P** **20 45 47.5 +1.5**
baz=138,SNR=14
EGMT Eagleton 75.80 333 P **P** **20 45 52.6 +1.0**
EGMT Eagleton 75.80 333 P **P** **20 45 52.7 +1.0**
baz=140,SNR=12
ORV Oroville 75.90 321 P **P** **20 45 53.9 +1.6**
ORV IAmb IAmb 20 45 55.5
comp=Z,30nm,1.0s
ORV Oroville 75.90 321 P **P** **20 45 53.9 +1.6**
ORV pmax pmax
comp=Z,30nm,1.0s
OVMT Ovando 76.52 331 P **P** **20 45 56.7 +0.9**
TOA0 Torodi Ar. Sit 76.53 71 P **P** **20 45 55.6 -0.8**
TOA0 IAmb IAmb 20 45 56.1
comp=Z,27nm,0.6s
TORD Torodi Ar. Bea 76.53 71 P **P** **20 45 55.6 -0.8**
TORD IAmb IAmb 20 45 56.5
comp=Z,31nm,0.9s
TORD Torodi Ar. Bea 76.53 71 P **P** **20 45 55.6 -0.8**
comp=Z,21nm,0.5s,baz=252,slow=5.2,SNR=162
TORD S **S** **20 55 26.8 -5.3**
comp=Z,1.8nm,0.9s,baz=257,slow=10.0,SNR=6.5
comp=Z,21nm,0.5s
J08A Circle Bar Ran 76.66 325 P **P** **20 45 57.8 +1.2**
J05D Fort Rock, OR 78.13 324 P **P** **20 46 06.0 +1.2**
G08A Pilot Rock 78.21 326 P **P** **20 46 06.8 +1.5**
AVE Averroes 78.28 49 P **P** **20 46 06.6 +0.9**
FFC Flin Flon 78.40 341 P **P** **20 46 06.4 +0.5**

FFC Flin Flon 78.40 341 P **P** **20 46 06.4 +0.5**
FFC pmax pmax
comp=Z,9.0nm,1.0s
NEW Newport 79.33 330 P **P** **20 46 11.5 +0.3**
NEW Newport 79.33 330 P **P** **20 46 11.5 +0.3**
NEW pmax pmax
comp=Z,4.0nm,0.7s
NEW Newport 79.33 330 P **P** **20 46 12.2 +1.0**
baz=134
WIN Windhoek 79.56 110 P **P** **20 46 13.4 +0.1**
WIN IAmb IAmb 20 47 22.8
comp=Z,72nm,2.0s
WIN Windhoek 79.56 110 P **P** **20 46 13.4 +0.1**
WIN pmax pmax
comp=Z,72nm,2.0s
MORF Marmelete 79.57 45 P **P** **20 46 13.4 +0.7**
MORF Marmelete 79.57 45 P **P** **20 46 13.4 +0.7**
MORF pmax pmax
comp=Z,128nm,1.3s
SUR Sutherland 80.06 121 P **P** **20 46 17.0 +1.2**
SUR IAmb IAmb 20 47 27.8
comp=Z,156nm,2.0s
MESJ Messejana 80.15 45 P **P** **20 46 16.2 +0.4**
MESJ IAmb IAmb 20 47 50.7
comp=Z,90nm,1.4s
MESJ Messejana 80.15 45 P **P** **20 46 16.2 +0.4**
MESJ pmax pmax
comp=Z,90nm,1.4s
TSUM Tsumeb 80.93 107 P **P** **20 46 21.1 +0.4**
TSUM Tsumeb 80.93 107 P **P** **20 46 20.8 +0.1**
comp=Z,8.2nm,0.6s,baz=235,slow=5.7,SNR=13
TSUM LR LR 21 20 07.6
comp=Z,51nm,18.5s,baz=173,slow=34
comp=Z,8.2nm,0.6s
PESTR Estremoz 81.12 44 P **P** **20 46 21.8 +0.9**
PESTR IAmb IAmb 20 48 36.4
comp=Z,76nm,1.5s
IVI Ivigtut 81.41 10 P **P** **20 46 22.5 +0.6**
IVI IAmb IAmb 20 46 57.0
comp=Z,73nm,1.4s
PAB San Pablo 83.62 45 P **P** **20 46 35.0 +1.0**
PAB IAmb IAmb 20 46 35.8
comp=Z,19nm,0.7s
PAB San Pablo 83.62 45 P **P** **20 46 35.0 +1.0**
PAB pmax pmax
comp=Z,19nm,0.7s
TAM Tamanrasset 83.67 63 P **P** **20 46 35.1 +0.3**
TAM Tamanrasset 83.67 63 P **P** **20 46 35.1 +0.3**
TAM pmax pmax
comp=Z,20nm,1.6s
SOE Somerset East 83.80 122 P **P** **20 46 36.2 +1.0**
SOE IAmb IAmb 20 46 37.1
comp=Z,44nm,0.7s
ESDC Sonseca Array 83.94 45 P **P** **20 46 36.4 +0.7**
ESDC Sonseca Array 83.94 45 P **P** **20 46 36.6 +0.9**
comp=Z,11nm,0.9s,baz=253,slow=5.3,SNR=39
ESDC pP **pP** **20 47 11.9 +1.8**
comp=Z,4.6nm,0.9s,baz=253,slow=4.8,SNR=3.8
comp=Z,11nm,0.9s
ESBB Sonseca Array 83.94 45 P **P** **20 46 36.6 +1.0**
ESBB IAmb IAmb 20 46 58.4
comp=Z,53nm,1.6s
LBTB Lobatse 86.26 115 P **P** **20 46 47.6 0.0**
LBTB Lobatse 86.26 115 P **P** **20 46 47.7 0.0**
LBTB Lobatse 86.26 115 LR LR 21 21 29.4
comp=Z,39nm,19.7s,baz=214,slow=33
DY2G Dye2 86.65 9 *i* P **P** **20 46 47.5 -1.2**
DY2G IAmb IAmb 20 46 50.0
comp=Z,28nm,0.7s
YKA Yellowknife Ar 88.56 341 P **P** **20 46 58.1 +0.5**
comp=Z,19nm,0.7s,baz=133,slow=4.5,SNR=270
YKA pP **pP** **20 47 31.7 -1.0**
comp=Z,15nm,0.7s,baz=133,slow=4.5,SNR=16
comp=Z,19nm,0.7s
TOAD Toad River Com 89.94 334 P **P** **20 47 05.5 +1.4**
baz=128
ICESG Greenland Ices 90.09 10 *i* P **P** **20 47 03.5 -1.6**
ICESG IAmb IAmb 20 47 06.8
comp=Z,11nm,0.9s
KOTAN Kotaneelee Air 90.27 336 P **P** **20 47 07.3 +1.7**
baz=129
WRAK Wrangell Islan 91.67 330 P **P** **20 47 13.8 +1.7**
baz=122
DLBC Dease Lake 91.72 333 P **P** **20 47 14.0 +1.5**
baz=124
LSZ Lusaka 91.78 107 LR LR 21 26 37.3
comp=Z,27nm,18.9s,baz=152,slow=34
S34M Telegraph Cree 91.92 332 P **P** **20 47 15.2 +1.9**
baz=123
WRGLY Wrigley 92.02 338 P **P** **20 47 15.4 +1.7**
baz=130
WTLY Watson Lake, Y 92.15 334 P **P** **20 47 15.8 +1.3**
baz=125
R33M Jennings River 92.66 333 P **P** **20 47 18.1 +1.2**
baz=123
TGTN Hyland Airport 92.76 336 P **P** **20 47 19.2 +2.0**
baz=126
Q32M Nakina River 92.99 332 P **P** **20 47 19.7 +1.1**
baz=122
S32K Killisnoo 93.26 330 P **P** **20 47 20.3 +0.8**
baz=120
SUMG Summit 93.36 9 P **P** **20 47 21.2 +1.0**
SUMG Summit 93.36 9 P **P** **20 47 21.2 +1.0**
SUMG pmax pmax
comp=Z,7.0nm,0.9s
SUMG Summit 93.36 9 *i* P **P** **20 47 20.4 +0.2**
SUMG IAmb IAmb 20 47 22.3
comp=Z,8.3nm,1.0s
SIT Sitka 93.41 330 P **P** **20 47 21.1 +0.9**
baz=120
KULLO Kullorsuaq 93.41 3 *i* P **P** **20 47 18.4 -1.4**
P33M Tesiln, Yukon 93.89 333 P **P** **20 47 23.6 +1.1**
baz=122
P32M Atlin 93.95 333 P **P** **20 47 23.7 +0.9**
baz=121
MMPY Sheldon Lake, 94.54 336 P **P** **20 47 26.4 +1.0**
baz=123
WHY Whitehorse 95.00 333 P **P** **20 47 28.7 +1.1**
baz=120
FARO Faro, Yukon 95.16 335 P **P** **20 47 29.4 +1.2**
baz=121
O30N Mendenhall 95.57 333 P **P** **20 47 30.9 +0.8**
baz=119
P29M Windy Craggy 95.76 332 P **P** **20 47 31.3 +0.3**
baz=118
DAVOX Davos/Dischmat 96.11 43 LR LR 21 29 36.7
comp=Z,34nm,19.7s,baz=258,slow=35
HYT Haines Junctio 96.21 333 P **P** **20 47 33.9 +0.7**
baz=118
N30M Aishikik Lake 96.33 333 P **P** **20 47 34.2 +0.6**
baz=118
O29M Mount Kennedy 96.44 332 P **P** **20 47 34.8 +0.6**
baz=117
NEEM North Greenlan 96.57 4 *i* P **P** **20 47 34.4 -0.3**
M30M Minto, Yukon 96.73 334 P **P** **20 47 35.8 +0.4**
baz=118
YUK4 Talbot Arm 96.94 333 P **P** **20 47 37.3 +0.8**
baz=117
H31M Peel River 97.35 338 P Pdif 20 47 38.9 +0.8
baz=120
M29M Somme Creek 97.35 334 P Pdif 20 47 39.3 +1.0
baz=117
YUK8 Steele Glacier 97.40 333 P Pdif 20 47 39.1 +0.4
baz=116
J30M Hart River 97.49 336 P Pdif 20 47 39.9 +1.0
baz=118
L29M L29M 97.52 335 P Pdif 20 47 39.9 +1.0
baz=117
K29M Barlow Dome 97.61 335 P Pdif 20 47 39.7 +0.3
baz=117
I30M Mount Dempster 97.81 337 P Pdif 20 47 40.9 +0.7
baz=118
G31M Satah River 97.88 339 P Pdif 20 47 41.3 +0.9
baz=120
YUK3 Moose Creek 97.91 333 P Pdif 20 47 41.4 +0.5
baz=115
MESA MESA 97.91 331 P Pdif 20 47 41.5 +0.5
baz=114
A36M Sachs Harbour 98.03 345 P Pdif 20 47 41.8 +0.9
baz=127
INK Inuvik 98.33 340 P Pdif 20 47 42.6 +0.3
baz=120
DAWY Dawson 98.45 335 P Pdif 20 47 43.4 +0.3
baz=116
G30M tAoh Zraii Nji 98.58 338 P Pdif 20 47 44.0 +0.4
baz=118
F30M Barrier River 98.73 339 P Pdif 20 47 45.1 +1.0

baz=118
M27K Edge Creek, AK 98.76 333 P Pdif 20 47 44.7 +0.2
baz=114
H29M Whitestone 99.00 337 P Pdif 20 47 46.3 +0.9
baz=116
L27K Beaver Creek, 99.02 334 P **Pdif** **20 47 46.5 +0.9**
baz=114
MBAR Mbarara 99.04 94 LR LR 21 31 36.0
comp=Z,48nm,18.5s,baz=236,slow=35
G29M Pine Creek 99.18 338 P **Pdif** **20 47 47.3 +1.1**
baz=116
GERES GERESS Array B 99.22 42 Pdiff **Pdif** **20 47 43.5 -3.4**
comp=Z,0.5nm,0.5s,baz=307,slow=3.6,SNR=0.9
KHC Kasperske Hory 99.23 41 *i* P **Pdif** **20 47 46.7 -0.2**
KHC pmax pmax
comp=Z,5.0nm,1.1s
M26K Nabesna, AK 99.25 333 P **Pdif** **20 47 47.4 +0.7**
baz=113
EGAK Eagle 99.44 336 P **Pdif** **20 47 47.8 +0.4**
baz=114
K27K Chicken 99.51 335 P **Pdif** **20 47 48.0 +0.3**
baz=113
N25K Chitina, Valde 99.66 332 P **Pdif** **20 47 49.5 +0.9**
baz=112
Q23K Middleton Isla 99.69 330 P **Pdif** **20 47 49.6 +1.0**
baz=110
E29M Blow River 99.80 339 P **Pdif** **20 47 50.2 +1.3**
baz=116
I27K Kandik River 99.95 336 P **Pdif** **20 47 50.8 +1.1**
baz=113
F28M Old Crow 100.13 338 P **Pdif** **20 47 51.6 +1.2**
baz=115
H27K Steamboat Moun 100.17 337 P **Pdif** **20 47 51.8 +1.1**
baz=113
HARP HAARP 100.19 333 P **Pdif** **20 47 51.5 +0.7**
baz=111
KLU Klutina 100.21 332 P **Pdif** **20 47 51.6 +0.6**
baz=110
SCRK Sand Creek 100.27 334 P **Pdif** **20 47 51.7 +0.5**
baz=112
J26L Joseph Creek 100.29 335 P **Pdif** **20 47 51.7 +0.4**
baz=112
P23K Montague Islan 100.38 330 P **Pdif** **20 47 52.3 +0.6**
baz=109
I26K Coal Creek Min 100.43 336 P **Pdif** **20 47 52.2 +0.5**
baz=112
E28M Babbage River 100.43 339 P **Pdif** **20 47 52.7 +1.0**
baz=115
G27K Doyon Strip 100.44 337 P **Pdif** **20 47 52.9 +1.0**
baz=113
D28M Stokes Point 100.48 340 P **Pdif** **20 47 53.3 +1.5**
baz=115
PAX Paxson 100.53 333 P **Pdif** **20 47 53.5 +1.1**
baz=110
M24K Tolsona, Glenn 100.53 332 P **Pdif** **20 47 53.5 +1.1**
baz=110
K24K Donnelly Dome 100.94 334 P **Pdif** **20 47 55.0 +0.9**
baz=110
SCM Sheep Creek Mo 100.95 332 P **Pdif** **20 47 54.9 +0.7**
baz=109
E27K Coleen River 100.96 339 P **Pdif** **20 47 55.2 +1.1**
baz=113
J25K Salcha River, 101.06 335 P **Pdif** **20 47 55.3 +0.6**
baz=110
M23K Glacier View 101.12 332 P **Pdif** **20 47 55.6 +0.6**
baz=109
D27M Malcolm River 101.17 340 P **Pdif** **20 47 55.8 +0.8**
baz=113
G26K Porcupine Rive 101.28 337 P **Pdif** **20 47 56.4 +0.9**
baz=111
SEW Seward 101.39 330 P **Pdif** **20 47 56.8 +0.7**
baz=108
F26K Sheenjek River 101.67 338 P **Pdif** **20 47 58.1 +0.8**
baz=111
ILAR Eielson Array 101.72 335 Pdiff **Pdif** **20 47 54.8 -2.8**
comp=Z,0.2nm,0.8s,baz=114,slow=2.3,SNR=2.1
ILAR PP PP 20 51 59.4 -10
comp=Z,1.0nm,0.7s,baz=104,slow=6.8,SNR=11
H25L Birch Creek 101.80 336 P **Pdif** **20 47 58.3 +0.5**
baz=110
POKR Poker Flat Res 102.06 335 P **Pdif** **20 47 59.5 +0.5**
baz=108
F25K Christian Rive 102.18 338 P **Pdif** **20 48 00.2 +0.6**
baz=110
KDAK Kodiak Island 102.29 327 P **Pdif** **20 48 00.5 +0.3**
baz=106
E25K Arctic Village 102.33 338 P **Pdif** **20 48 00.8 +0.6**
baz=110
SUA Susitna One 102.40 331 P **Pdif** **20 48 01.0 +0.2**
baz=106
H24K Noodor Dome 102.46 336 P **Pdif** **20 48 01.4 +0.5**
baz=108
G24K Hadweenzic Riv 102.57 336 P **Pdif** **20 48 01.6 +0.3**
baz=108
I23K Minto, Yukon-K 102.84 335 P **Pdif** **20 48 03.6 +1.1**
baz=107
SKT Skwentna 102.90 331 P **Pdif** **20 48 03.3 +0.4**
baz=106
O20K Slope Mountain 102.91 329 P **Pdif** **20 48 03.6 +0.6**
baz=105
F24K Squaw Lake 102.97 337 P **Pdif** **20 48 03.8 +0.7**
baz=108
D25K Kavik River 103.00 339 P **Pdif** **20 48 04.3 +1.1**
baz=108
N20K Mount Spurr 103.00 330 P **Pdif** **20 48 04.1 +0.6**
baz=105
P19K Oil Pt 103.10 329 P **Pdif** **20 48 04.6 +0.8**
baz=105
Q19K Cape Douglas, 103.12 328 P **Pdif** **20 48 05.0 +1.1**
baz=104
E24K Your Creek 103.35 338 P **Pdif** **20 48 05.4 +0.6**
baz=107
MLY Manley 103.37 334 P **Pdif** **20 48 05.6 +0.7**
baz=106
CHIR Chirikof Islan 103.42 325 P **Pdif** **20 48 05.6 +0.4**
baz=104
PPLA Purkeypile 103.43 332 P **Pdif** **20 48 06.3 +0.9**
baz=105
CAST Castle Rocks 103.52 333 P **Pdif** **20 48 06.7 +1.1**
baz=105
G23K Bananza Creek 103.54 336 P **Pdif** **20 48 06.5 +0.9**
baz=106
H22K Ishtalitna Cre 103.85 335 P **Pdif** **20 48 07.7 +0.7**
baz=105
C24K Franklin Bluff 103.89 339 P **Pdif** **20 48 08.6 +1.6**
baz=106
Q17K Contact Creek 104.11 327 P **Pdif** **20 48 09.3 +0.9**
baz=103
O18K Koktuh Hills 104.12 329 P **Pdif** **20 48 08.7 +0.4**
baz=103
M19K Big River Lodg 104.19 331 P **Pdif** **20 48 08.6 0.0**
baz=103
H21K Melozitna Rive 104.37 335 P **Pdif** **20 48 09.7 +0.4**
baz=104
D23K Nanushuk River 104.37 338 P **Pdif** **20 48 10.5 +1.2**
baz=105
K20K Telida 104.37 332 P **Pdif** **20 48 10.1 +0.7**
baz=103
L19K White Mountain 104.46 331 P **Pdif** **20 48 10.7 +0.9**
baz=103
E22K Anaktuvuk Pass 104.57 337 P **Pdif** **20 48 10.9 +0.7**
baz=104
P17K Kvichak River 104.59 328 P **Pdif** **20 48 10.9 +0.6**
baz=102
G21K Allakaket 104.84 336 P **Pdif** **20 48 12.4 +1.0**
baz=103
D22K Ayikyak River 105.06 338 P **PKiKP** **20 52 26.4 +0.2**
baz=103
TTA Tatalina 105.14 332 P **PKiKP** **20 52 27.0 +0.4**
baz=101
J19K Poorman 105.18 333 P **PKiKP** **20 52 26.7 +0.2**
baz=102
N17K Nushagak Hills 105.23 329 P **PKiKP** **20 52 26.7 0.0**
baz=101
L18K Granite Mounta 105.31 331 P **PKiKP** **20 52 27.1 +0.3**
baz=101
CHNA Chernabura Isl 105.42 323 P **PKiKP** **20 52 27.4 +0.3**
baz=101
M17K Holitna River 105.51 330 P **PKiKP** **20 52 27.0 -0.2**
baz=101
J18K Innoko River 105.56 332 P **PKiKP** **20 52 27.1 -0.2**
baz=101
B22K Teshekpuk Lake 105.62 340 P **PKiKP** **20 52 27.2 +0.1**
baz=102
F20K Avaraart Lake 105.81 336 P **PKiKP** **20 52 28.3 +0.8**
baz=101
H19K Roundabout Mou 105.82 334 P **PKiKP** **20 52 27.8 +0.1**
baz=100
C21K Knifeblade Rid 105.85 338 P **PKiKP** **20 52 27.9 +0.3**
baz=101
K17K Iditarod 106.14 331 P **PKiKP** **20 52 28.6 +0.2**
baz=100
G19K Purcell Mounta 106.19 335 P **PKiKP** **20 52 28.5 +0.2**
baz=100
E20K Nigu River 106.20 337 P **PKiKP** **20 52 29.1 +0.8**
baz=100
A22K Sinclair Lake 106.25 340 P **PKiKP** **20 52 28.9 +0.6**
baz=100
O15K Ungalikthiuk R 106.30 328 P **PKiKP** **20 52 28.5 -0.2**
baz=99
D20K Etivluk River 106.43 338 P **PKiKP** **20 52 28.2 -0.5**
baz=99
E19K Redstone River 106.46 336 P **PKiKP** **20 52 28.5 -0.3**
baz=99
L16K Owhat River 106.52 330 P **PKiKP** **20 52 28.1 -0.9**
baz=99
F19K Shaleruckik Mo 106.57 336 P **PKiKP** **20 52 28.2 -0.7**
baz=99
G18K Tagagawik 106.78 335 P **PKiKP** **20 52 29.5 +0.1**
baz=98
H16K Elim 108.13 333 P **PKiKP** **20 52 31.4 -0.6**
baz=96
BRTR Keskin Array B 111.30 54 PP PP 20 53 12.1 -9.0
comp=Z,0.4nm,0.6s,baz=243,slow=5.4,SNR=3.9
OBN Obninsk 114.05 377 *i* ePKIKP **PKiKP** **20 52 43.6 +0.2**
OBN *e* 20 53 20.4
OBN *e* 20 53 44.5
OBN *e*PPP PPP 20 56 02.2
OBN pmax pmax
comp=Z,3.0nm,0.8s
KIV Kislovodsk 118.29 50 *i* PKIKP **PKPdf** **20 52 51.7 -0.4**
KIV pmax pmax
comp=Z,3.0nm,1.1s
KIV MLR MLR
comp=Z,33nm,22.0s
BILL Bilibino 119.93 339 *i* PKIKP **PKiKP** **20 52 58.4 +3.9**
BILL pmax pmax
comp=Z,3.0nm,1.3s
ARU Arti 125.91 33 *i* PKIKP **PKiKP** **20 53 07.6 +1.0**
ARU pmax pmax
comp=Z,2.0nm,1.0s
ARU Arti 125.91 33 PKP **PKiKP** **20 53 07.1 +0.5**
comp=Z,2.0nm,0.5s,baz=27,slow=2.3,SNR=3.3
NRIK Noril'sk 127.38 10 *i* PKIKP **PKiKP** **20 53 09.8 +0.6**
NRIK pmax pmax
comp=Z,1.0nm,1.1s
SEY Seymchan 127.53 338 *i* PKIKP **PKiKP** **20 53 10.1 +0.4**
SEY pmax pmax
comp=Z,6.0nm,0.9s
PETK Petropavlovsk- 130.28 325 PKP **PKiKP** **20 53 15.8 +0.3**
comp=Z,8.1nm,0.9s,baz=92,slow=3.2,SNR=7.0
GEYT Alibeck 130.37 56 PKP **PKPdf** **20 53 15.3 -0.1**
comp=Z,0.7nm,0.4s,baz=216,slow=4.8,SNR=1.6
ASAR Alice Springs 132.29 209 PKP **PKPdf** **20 53 19.9 +0.5**
comp=Z,1.0nm,0.5s,baz=136,slow=2.0,SNR=19
ASAR pPKP **pPKPdf** **20 53 56.3 +0.2**
comp=Z,0.7nm,0.5s,baz=140,slow=2.1,SNR=3.4
ASAR SKPbc **SKPbc** **20 56 34.4 +0.1**
comp=Z,1.6nm,0.8s,baz=141,slow=3.9,SNR=8.4
BVAR Borovoye Array 133.56 33 PKP **PKPdf** **20 53 21.2 +0.3**
comp=Z,0.4nm,0.6s,baz=329,slow=1.7,SNR=2.5
BVAR SKPbc **SKPbc** **20 56 38.1 +0.6**
comp=Z,1.6nm,0.6s,baz=266,slow=1.6,SNR=9.3
YAK Yakutsk 134.81 348 *i* PKIKP **PKPdf** **20 53 23.1 +0.2**
YAK pmax pmax
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 135.25 212 PKP **PKiKP** **20 53 26.3 -0.4**
comp=Z,3.0nm,0.8s,baz=147,slow=1.7,SNR=13
WRA pPKP **pPKPdf** **20 54 02.0 +0.3**
comp=Z,1.5nm,0.7s,baz=149,slow=2.0,SNR=3.4
WRA SKPbc **SKPbc** **20 56 44.0 -0.1**
comp=Z,2.1nm,0.7s,baz=144,slow=3.2,SNR=7.8
KURK Kurchatov 139.05 31 *i* PKIKP **PKiKP** **20 53 32.3 -1.0**
KURK pmax pmax
comp=Z,2.0nm,1.1s
KURBB Kurchatov Arra 139.07 31 PKP **PKPdf** **20 53 31.0 -0.1**
comp=Z,0.4nm,0.6s,baz=307,slow=2.7,SNR=7.6
KURBB pPKP **pPKPdf** **20 54 05.1 -2.5**
comp=Z,0.4nm,0.8s,baz=7.8,slow=2.1,SNR=1.6
KURBB SKPbc **SKPbc** **20 56 53.9 -0.3**
comp=Z,1.3nm,0.8s,baz=304,slow=3.3,SNR=12
ZALV Zalesovo Beam 139.49 24 *e*PKIKP **PKiKP** **20 53 33.6 -0.5**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 139.49 24 PKP **PKPdf** **20 53 31.4 -0.4**
comp=Z,2.1nm,0.6s,baz=307,slow=2.6,SNR=13
ZALV pPKP **pPKPdf** **20 54 06.0 -2.3**
comp=Z,1.2nm,0.6s,baz=300,slow=4.7,SNR=1.6
ZALV SKPbc **SKPbc** **20 56 55.9 +0.6**
comp=Z,3.8nm,0.8s,baz=316,slow=4.1,SNR=10
AAK Ala-Archa 141.05 44 SKPbc **SKPbc** **20 57 00.5 +0.5**
comp=Z,4.1nm,0.9s,baz=308,slow=6.9,SNR=7.4
KSH Kashi 143.39 48 PKP PKPbc 20 53 37.8 +0.8
KSH PP **PP** **20 56 53.0 +1.0**
MKAR Makanchi Array 143.43 34 PKP PKPbc 20 53 37.4 +0.7
comp=Z,0.5nm,0.5s,baz=352,slow=3.0,SNR=7.4
MKAR pPKP pPKPdf 20 54 14.1 -1.6
comp=Z,1.6nm,0.8s,baz=304,slow=2.2,SNR=4.6
MKAR SKP 20 57 00.9
comp=Z,0.5nm,0.6s,baz=267,slow=6.8,SNR=3.4
MKAR SKPbc **SKiKP** **20 57 06.2 -0.4**
comp=Z,2.1nm,0.7s,baz=343,slow=2.3,SNR=11
HEH HeiHe 145.93 341 *e*PKPbc **PKPab** **20 53 44.6 -0.3**
HEH AMB AMB
comp=Z,150nm,5.7s
MOY Mondy 146.21 11 *e*PKP2 **PKPab** **20 53 46.5 +0.4**
MOY pmax pmax
comp=Z,10.0nm,0.9s
ZAK Zakamensk 147.83 9 *e*PKP2 **PKPbc** **20 53 49.6 -0.1**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
WMQ Urumqi 148.25 33 *e*PKPbc **PKPdf** **20 53 47.8 +0.3**
BATI Baumata 148.64 205 PKPbc **PKPbc** **20 53 53.0 +0.2**
comp=Z,8.4nm,0.6s,baz=158,slow=5.4,SNR=3.6
USRK Ussuriysk Ar. 149.11 330 PKPbc **PKiKP** **20 53 54.6 +0.4**
comp=Z,21nm,0.7s,baz=320,slow=0.9,SNR=3.7
USRK pPKPbc **pPKPbc** **20 54 30.1 +0.7**
comp=Z,18nm,0.9s,baz=22,slow=2.4,SNR=8.6
HYB Hyderabad 149.16 87 *e*PKPab **PKPab** **20 53 58.0 -0.7**
HYB *e*pPKPab **pPKPab** **20 54 32.3 -1.8**
BNX BinXian 149.83 337 PKPbc **PKPbc** **20 53 55.1 +0.3**
MDJ Mudanjiang 149.88 333 PKPbc **PKPdf** **20 53 49.0 -1.0**
MDJ SS SS 21 16 37.8 +3.6
MDJ AMB AMB
comp=Z,200nm,4.3s
MDJ Mudanjiang 149.88 333 **PKiKP** **20 53 55.7 -0.1**
MJAR Matsushiro Art 150.22 312 PKP **PKPdf** **20 53 49.8 -1.0**
comp=Z,0.2nm,0.4s,baz=112,slow=2.4,SNR=4.1
MJAR PKPbc **PKiKP** **20 53 57.2 +0.4**
comp=Z,16nm,0.7s,baz=100,slow=1.2,SNR=5.1
MJAR pPKPbc **pPKPbc** **20 54 33.1 +0.7**
comp=Z,9.7nm,0.9s,baz=89,slow=0.9,SNR=6.8
SONM Songino Array 150.74 6 PKP **PKPdf** **20 53 51.8 +0.4**
comp=Z,1.5nm,0.9s,baz=5.2,slow=1.6,SNR=7.7
SONM PKPbc **PKiKP** **20 53 58.3 +0.7**
comp=Z,13nm,0.7s,baz=320,slow=1.5,SNR=77
SONM pPKPbc **pPKPbc** **20 54 32.5 -0.8**
comp=Z,3.0nm,0.6s,baz=316,slow=1.7,SNR=3.2
INU Inuyama 151.65 311 PKPbc **PKiKP** **20 54 00.3 +0.6**
KSRS Korea Array 156.18 325 PKPbc PKPbc 20 54 10.7
comp=Z,1.2nm,0.5s,baz=6.2,slow=1.5,SNR=8.3
KSRS PKPab **PKPab** **20 54 28.6 +1.0**
comp=Z,3.4nm,0.9s,baz=62,slow=4.3,SNR=7.6
KSRS pPKPbc sPKPdf 20 54 46.0 -3.8
comp=Z,1.7nm,0.8s,baz=98,slow=0.8,SNR=3.2
HHC Hu-ho-hao-te 157.96 359 *e*PKP **PKPdf** **20 53 58.8 -2.8**
NJ2 Nanjing 164.97 333 *e*PKP **PKPdf** **20 54 07.8 -1.2**
CD2 Chengdu 166.22 27 PKP **PKPdf** **20 54 09.0 -1.2**
PZH PanZhiHua 168.49 46 PKP **PKPdf** **20 54 10.5 -1.6**
CMAR Chiang Mai Arr 168.57 89 PKPab **PKPab** **20 55 21.6 -1.1**
comp=Z,1.2nm,0.8s,baz=268,slow=5.4,SNR=9.6
CMAR pPKPab **pPKPab** **20 55 57.8 +0.2**
comp=Z,0.7nm,0.8s,baz=291,slow=4.5,SNR=2.1

SRBI Singaraja 4.26 295 P Pn 20 36 35.7 +0.6
BATI Baumata 4.48 94 P Pn 20 36 37.9 -0.2
BKSI Bulukumba 4.64 12 P Pn 20 36 39.7 -0.7
SOEI Soe 5.07 89 P Pn 20 36 46.2 -0.1
30nm,1.2s,0.1nm
JAGI Jajag, Banyuwa 5.11 286 P Pn 20 36 47.6 +0.8
10nm,1.1s,0.1nm

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*JMA **17** 20:35:53.4±0.1, 24°.3N±0°.3×123°.8E±0°.3, h14km±1km, MV2.6/10, NEAR ISHIGAKIJIMA ISLAND*
ISC 17 20:35:53.7±0.9, 24°.25N±0°.05×123°.83E±0°.03, h12km±7km, n16, σ0.962, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.12**	**312**	P	**Pg**	**20 35 56.8**	**0.0**
IRIF				S	**Sg**	**20 35 59.5**	**+0.3**
JKRS	**Kuro-shima**	**0.17**	**95**	P	**Pg**	**20 35 57.5**	**0.0**
JKRS				S	**Sg**	**20 36 00.3**	**+0.2**
HATJ	**Hateruma jima**	**0.20**	**187**	P	**Pg**	**20 35 57.6**	**-0.3**
HATJ				S	**Sg**	**20 36 01.0**	**+0.1**
JIJ	**Ishigaki jima**	**0.31**	**69**	P	**Pg**	**20 35 59.5**	**-0.4**
JIJ				S	**Sg**	**20 36 04.0**	**-0.1**
JISG	**Ishigakijimahi**	**0.55**	**53**	*e*P	**Pg**	**20 36 04.3**	**-0.1**
JISG				*e*S	**Sb**	**20 36 12.2**	**-1.0**
YOJ	**Yonaguni jima**	**0.78**	**286**	P	**Pb**	**20 36 08.8**	**-0.3**
YOJ	**Yonaguni jima**	**0.78**	**286**	P	**Pb**	**20 36 08.7**	**-0.3**
YOJ				*e*S	**Sb**	**20 36 19.1**	**-0.5**
JYNG	**Yonagunijimaku**	**0.83**	**284**	*e*P	**Pg**	**20 36 09.6**	**-0.2**
JYNG				*e*S	**Sg**	**20 36 20.7**	**+0.1**
JTJ	**Tarama**	**0.88**	**64**	P	**Pg**	**20 36 10.5**	**-0.3**
JTJ				*e*S	**Sb**	**20 36 22.8**	**0.0**
JMJ	**Miyako jima 2**	**1.45**	**67**	P	**Pg**	**20 36 22.2**	**+0.7**
NACB	**Ninganchiao**	**2.04**	**268**	P	**Pn**	**20 36 28.0**	**+0.1**
TATO	**Taipei**	**2.25**	**289**	P	**Pn**	**20 36 31.1**	**+0.4**
YHNB	**Yeheng**	**2.27**	**281**	P	**Pn**	**20 36 31.4**	**+0.3**
YULB	**Yu-li**	**2.47**	**250**	P	**Pn**	**20 36 33.0**	**-0.8**
SSLB	**Suanglung**	**2.67**	**261**	P	**Pn**	**20 36 37.3**	**+0.8**
TPUB	**Ta-pu**	**3.08**	**253**	P	**Pn**	**20 36 44.1**	**+1.9**

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*ISU **17** 20:43:54.7, 41°.39N×71°.92E, h13km*
*NNC **17** 20:43:56.4±4.8, 41°.22N×71°.95E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=42.1km s-min=16.8km az=176.0*
*SOME **17** 20:43:57.3, 41°.32N×71°.97E, h15km*
ISC 17 20:43:56.4±1.3, 41°.32N±0°.04×71°.96E±0°.05, h16km±13km, n11, σ1.970, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANR	**Andizhan**	**0.64**	**152**	P	**Pg**	**20 44 08.9**	**0.0**
ANR				S	**Sb**	**20 44 19.4**	**+1.6**
TSTA	**Tashata**	**0.83**	**152**	P	**Pg**	**20 44 12.3**	**-0.3**
TSTA				S	**Sn**	**20 44 25.4**	**-0.2**
CHRV	**Charvak**	**1.55**	**283**	P	**Pn**	**20 44 22.3**	**-1.1**
CHRV				S	**Sn**	**20 44 42.8**	**-0.4**
MRKS	**Merke**	**1.71**	**33**	*e*P	**Pg**	**20 44 29.5**	**+0.2**
	5.7nm,0.4s						
MRKS				*e*S	**Sg**	**20 44 52.5**	**+1.0**
	9.4nm,0.3s						
MRKS	**Merke**	**1.71**	**33**	P	**Pg**	**20 44 30.0**	**+0.8**
	5.6nm,0.5s						
MRKS				S	**Sg**	**20 44 53.6**	**+2.1**
	4.0nm,0.3s						
BRLS	**Borolday**	**2.33**	**318**	*e*P	**Pb**	**20 44 38.3**	**+0.3**
	2.9nm,0.5s						
BRLS				*e*S	**Sb**	**20 45 08.1**	**+1.4**
	6.9nm,0.4s						
BRLS	**Borolday**	**2.33**	**318**	Pg	**Pb**	**20 44 38.3**	**+0.3**
	2.9nm,0.5s						
BRLS				Lg	Lg	20 45 08.1	
	6.9nm,0.4s						
DGS	**Degeres**	**3.42**	**54**	*e*P	**Pb**	**20 44 58.6**	**+2.0**
	0.5nm,0.5s						
DGS				*e*S	**Sg**	**20 45 42.9**	**-3.3**
	1.5nm,1.0s						
DGS	**Degeres**	**3.42**	**54**	Pg	**Pb**	**20 44 58.7**	**+2.0**
	0.5nm,0.5s						
DGS				Lg	Lg	20 45 42.9	
	1.5nm,1.0s						
KST	**Kastek**	**3.44**	**59**	*e*P	**Pg**	**20 45 00.0**	**-2.2**
	1.7nm,0.5s						
KST				*e*S	**Sg**	**20 45 45.0**	**-1.8**
	1.6nm,0.4s						
KST	**Kastek**	**3.44**	**59**	Pg	**Pg**	**20 45 00.0**	**-2.2**
	1.7nm,0.5s						
KST				Lg	Lg	20 45 45.0	
	1.6nm,0.4s						

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*IDC **17** 20:54:18.6±0.6, 3°.43N×126°.01E, h0km, mb4.3/16, mbtmp4.3/17, ML4.4/1, MS3.1/7, Error ellipse: s-maj=49.0km s-min=10.8km az=68.0*
*DJA **17** 20:54:23.4±1.0, 4°.9°N±9°×12°.7E±°, h10km, M4.4/13, mB4.9/6, mb4.6/13, MLv4.5/13, Mw(mB)4.2/6*
*NEIC **17** 20:54:25.7±0.9, 3°.73N±0°.08×126°.72E±0°.09, h48km±7km, mb4.5/47, Error ellipse: s-maj=13.2km s-min=10.2km az=58.0*
ISC 17 20:54:20.8±0.4, 3°.73N±0°.04×126°.75E±0°.08, h10km, n103, σ1.984/100, mb4.5/39, MS2.9/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.22**	**268**	P	**Pn**	**20 54 45.6**	**+1.7**
TNTI	**Ternate**	**3.01**	**168**	Pn	**Pn**	**20 55 10.2**	**+1.7**
TNTI				Sn	**Sn**	**20 55 45.0**	**+0.4**
TNTI	**Ternate**	**3.01**	**168**	P	**Pn**	**20 55 11.0**	**+2.5**
DAV	**Davao City (W)**	**3.51**	**341**	Pn	**Pb**	**20 55 23.9**	**+0.7**
	14nm,0.3s,baz=76,slow=22,SNR=1.3						
DAV				Sn	**Sg**	**20 56 16.1**	**+2.3**
	16nm,0.3s,baz=272,slow=23,SNR=4.7						
KMSI	**Cibinong**	**4.18**	**221**	P	Pn	20 55 30.1	+5.4
LBMI	**Labuha**	**4.41**	**170**	P	**Pn**	**20 55 31.1**	**+3.3**
GTOI	**Gorontalo**	**4.84**	**231**	P	**Pn**	**20 55 37.8**	**+4.1**
MRSI	**Marisa**	**5.79**	**236**	P	**Pn**	**20 55 50.9**	**+4.1**
	89nm,0.5s,1μm0.4nm						
SANI	**Sanana**	**5.79**	**188**	P	**Pn**	**20 55 48.3**	**+1.4**
	17nm,0.6s,1μm0.1nm						
LUWI	**Luwuk**	**6.19**	**220**	Pn	**Pn**	**20 55 54.6**	**+2.3**
LUWI	**Luwuk**	**6.19**	**220**	P	Pn	20 55 58.3	+6.0
	106nm,1.0s,2μm0.5nm						
SWI	**Sorong**	**6.42**	**135**	P	**Pn**	**20 55 59.2**	**+3.7**
	23nm,0.5s,793nm0.1nm						
TOLI2	**Tolitoli**	**6.50**	**247**	Pn	**Pn**	**20 55 58.3**	**+1.7**
NLAI	**Namlea**	**6.93**	**177**	P	**Pn**	**20 56 06.0**	**+3.4**
	42nm,0.6s,0.2nm						
FAKI	**Fak Fak**	**8.60**	**140**	Pn	**Pn**	**20 56 27.5**	**+2.0**
FAKI	**Fak Fak**	**8.60**	**140**	P	**Pn**	**20 56 29.4**	**+4.0**
	30nm,1.2s						
TTSI	**Tana Toraja**	**9.66**	**226**	P	**Pn**	**20 56 43.1**	**+3.1**
	24nm,1.1s						
KKM	**Kota Kinabalu**	**10.74**	**283**	Pn	**Pn**	**20 56 57.7**	**+2.8**
TGY	**Tagaytay City**	**11.79**	**331**	LR	LR	21 02 07.8	
	comp=Z,240nm,21.3s,baz=128,slow=40						
EDFI	**Ende, Flores**	**13.38**	**202**	P	**Pn**	**20 57 35.0**	**+3.9**
	33nm,0.6s						
SOEI	**Soe**	**13.62**	**190**	P	**Pn**	**20 57 39.1**	**+4.7**
	33nm,1.1s						
BATI	**Baumata**	**14.18**	**192**	Pn	Pn	20 57 34.2	-7.7
	1.8nm,0.3s,baz=65,slow=22,SNR=3.4						
	4.1nm,0.4s						
BATI	**Baumata**	**14.18**	**192**	P	**Pn**	**20 57 45.8**	**+3.8**
	13nm,0.7s						
MTN	**Manton Dam**	**17.04**	**165**	Pn	**Pn**	**20 58 17.5**	**-1.9**
MTN				IAmb	IAmb	20 58 28.1	
	comp=Z,73nm,1.4s						
JAGI	**Jajag, Banyuwa**	**17.46**	**226**	P	**P**	**20 58 27.2**	**+1.4**
JAGI				IAmb	IAmb	20 58 29.5	
	comp=Z,14nm,0.6s						
KNRA	**Kununurra**	**19.39**	**174**		**P**	**20 58 46.9**	**-0.1**
TWG	**Pinlang**	**19.75**	**344**		**P**	**20 58 49.9**	**-1.2**
TWG				IAmb	IAmb	20 59 04.2	
	comp=Z,66nm,1.5s						
UGM	**Wanagama**	**19.89**	**234**	P	**P**	**20 58 53.0**	**+0.3**
YULB	**Yu-li**	**20.24**	**345**	P	**P**	**20 58 54.8**	**-1.6**
YULB				IAmb	IAmb	20 59 17.2	
	comp=Z,28nm,1.3s						
TPUB	**Ta-pu**	**20.33**	**344**	P	**P**	**20 58 56.9**	**-0.5**
GUMO	**Guam**	**20.40**	**60**	LR	LR	21 05 49.0	
	comp=Z,36nm,21.3s,baz=178,slow=33						
FITZ	**Fitzroy Crossi**	**21.72**	**183**	P	**P**	**20 59 11.8**	**-0.6**
LEM	**Lembang**	**21.79**	**241**	LR	LR	21 07 55.2	
	comp=Z,105nm,20.3s,baz=316,slow=39						

DJA 17 20:35:30.1±0.4, 10°S±6°×11°9E±°, h10km, M3.7/12, mb4.0/4, MLv3.6/12, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BASI	**Baing, Sumba**	**1.46**	**103**	P	Pn	20 35 55.8	-0.8
PLAI	**Plampang**	**1.70**	**308**	P	Pn	20 35 59.5	-0.4
TWSI	**Taliwang, Sumb**	**2.50**	**297**	P	Pn	20 36 10.0	-0.8
EDFI	**Ende, Flores**	**2.77**	**66**	P	Pn	20 36 15.4	+0.7
MMRI	**Maumere**	**3.31**	**68**	P	Pn	20 36 22.2	+0.2

JOW Kunigami 23.02 3 LR LR 21 07 32.8
comp=Z,31nm,21.9s,baz=174,slow=34
UBPT Khong Chiam 23.88 300 P **P** **20 59 34.1 -0.8**
UBPT IAmb IAmb 20 59 35.8
comp=Z,28nm,1.4s
PMG Port Moresby 24.17 123 LR LR 21 09 29.6
comp=Z,42nm,20.6s,baz=267,slow=37
WB0 Warramunga Arr 24.53 162 **P** **20 59 39.5 -1.3**
WRA Warramunga Arr 24.68 163 P **P** **20 59 40.0 -2.2**
WRA Warramunga Arr 24.68 163 P **P** **20 59 40.6 -1.6**
comp=Z,12nm,0.5s,baz=344,slow=9.9,SNR=82
WRA PcP **PcP** **21 03 19.4 -0.2**
comp=Z,0.5nm,0.6s,baz=337,slow=2.2,SNR=2.0
WRA S **S** **21 04 03.8 -0.2**
comp=Z,0.7nm,0.7s,baz=336,slow=20,SNR=3.6
comp=Z,12nm,0.5s
MBWA Marble Bar 25.68 195 P **P** **20 59 50.7 -0.5**
MBWA IAmb IAmb 21 00 01.5
comp=Z,36nm,1.4s
PSA00 Pilbara Seismi 26.04 195 P **P** **20 59 54.1 -0.3**
PSA00 IAmb IAmb 20 59 55.2
comp=Z,11nm,0.8s
KULM Kulim 26.06 274 P **P** **20 59 53.8 -1.0**
AS31 Alice Springs 28.11 166 P **P** **21 00 12.5 -0.6**
ASAR Alice Springs 28.11 166 P **P** **21 00 12.4 -0.7**
ASAR Alice Springs 28.11 166 P **P** **21 00 11.4 -1.7**
comp=Z,1.1nm,0.3s,baz=342,slow=8.2,SNR=36
ASAR PcP **PcP** **21 03 27.3 -0.2**
comp=Z,1.1nm,0.6s,baz=353,slow=2.1,SNR=9.3
comp=Z,1.1nm,0.3s
NJ2 Nanjing 29.13 346 *e*P **P** **21 00 24.8 +2.8**
NJ2 pmax pmax
comp=Z,4.0nm,0.6s
GSI Gunungsitoli 29.24 266 P **P** **21 00 21.7 -1.6**
GSI IAmb IAmb 21 00 22.0
comp=Z,7.4nm,0.7s
PHRA Phrae 29.80 302 P **P** **21 00 27.9 -0.3**
CRAI Chiangrai 30.48 305 P **P** **21 00 33.3 -0.9**
CMAR Chiang Mai Arr 30.89 300 P P 21 00 32.8 -5.0
comp=Z,0.3nm,0.3s,baz=110,slow=6.9,SNR=1.7
comp=Z,0.3nm,0.3s
JHJ Hachijo jima 2 31.68 21 LR LR 21 12 29.7
comp=Z,26nm,21.9s,baz=66,slow=34
PZH PanZhiHua 32.95 316 P **P** **21 00 58.3 +2.3**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,120nm,5.9s
KSRS Korea Array 33.58 2 P **P** **21 01 02.6 +1.5**
comp=Z,1.6nm,0.6s,baz=183,slow=9.9,SNR=9.7
comp=Z,1.6nm,0.6s
FORT Forrest 34.34 178 P **P** **21 01 07.0 -0.9**
TNCH TengChong 34.43 311 *e*P **P** **21 01 12.9 +3.9**
TNCH sP sP 21 01 26.3 +13
TNCH pmax pmax
comp=Z,3.0nm,2.1s
BJT Baijiatuau 37.37 347 P **P** **21 01 33.0 -0.7**
BJI Beijing 37.39 347 P **P** **21 01 35.3 +1.4**
BJI pmax pmax
comp=Z,6.0nm,0.8s
BJI pmax pmax
comp=Z,52nm,5.2s
BBOO Buckleboo 37.40 167 P **P** **21 01 33.6 -0.5**
NWAO Narrogin (SRO) 37.56 193 P **P** **21 01 34.6 -0.9**
STKA Stephens Creek 38.13 159 P **P** **21 01 39.4 -0.8**
STKA Stephens Creek 38.13 159 P **P** **21 01 39.4 -0.8**
comp=Z,8.0nm,0.7s,baz=12,slow=8.4,SNR=15
STKA PcP **PcP** **21 03 55.1 -0.1**
comp=Z,3.9nm,1.0s,baz=358,slow=4.7,SNR=3.4
comp=Z,8.0nm,0.7s
HHC Hu-ho-hao-te 39.40 342 *e*P **P** **21 01 53.6 +2.6**
HHC pP sP 21 02 03.5 +8.5
HHC pmax pmax
comp=Z,8.0nm,0.5s
HHC pmax pmax
comp=Z,97nm,5.1s
MDJ Mudanjiang 40.79 3 P **P** **21 02 03.8 +1.5**
MDJ pP sP 21 02 14.0 +7.7
MDJ PcP **PcP** **21 04 02.6 -0.8**
MDJ S **S** **21 08 15.4 +2.2**
MDJ sS sS 21 08 32.1 +14
MDJ Mudanjiang 40.79 3 ScS ScS 21 12 04.6 -3.3
MDJ pmax pmax
comp=Z,8.0nm,1.0s
MDJ pmax pmax
comp=Z,220nm,4.6s
MDJ LR LR
comp=N,160nm,7.0s
MDJ LR LR
comp=E,180nm,6.4s
MDJ LR LR
comp=Z,260nm,5.1s
ARMA Armidale 41.46 147 P **P** **21 02 07.6 -0.6**
ARMA IAmb IAmb 21 02 23.9
comp=Z,14nm,1.4s
LSA Lhasa 42.45 311 P **P** **21 02 16.3 -0.4**
CAN Canberra 44.11 154 P **P** **21 02 29.6 +0.1**
CAN IAmb IAmb 21 02 42.0
comp=Z,23nm,1.5s
KLR Kul'dur 45.53 5 LR LR 21 24 36.3
comp=Z,17nm,18.1s,baz=208,slow=40
HEH HeiHe 46.36 1 *e*P **P** **21 02 47.9 +0.8**
HEH pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 47.30 341 P **P** **21 02 54.8 +0.1**
comp=Z,0.9nm,0.6s,baz=161,slow=7.9,SNR=5.6
comp=Z,0.9nm,0.6s
MK31 Makanchi Array 57.56 325 P **P** **21 04 09.7 -1.1**
MKAR Makanchi Array 57.56 325 P **P** **21 04 09.8 -0.9**
MKAR Makanchi Array 57.56 325 P **P** **21 04 09.4 -1.4**
comp=Z,2.4nm,0.5s,baz=118,slow=7.3,SNR=33
MKAR PcP **PcP** **21 05 01.6 -2.6**
comp=Z,0.8nm,0.6s,baz=120,slow=5.7,SNR=3.8
comp=Z,2.4nm,0.5s
NIL Nilore 57.94 308 P **P** **21 04 12.2 -1.5**
NIL IAmb IAmb 21 04 13.4
comp=Z,9.3nm,1.2s
AAK Ala-Archa 60.37 318 P **P** **21 04 30.2 -0.3**
AAK IAmb IAmb 21 04 52.8
comp=Z,3.2nm,1.4s
ZALV Zalesovo Beam 60.59 333 P **P** **21 04 30.7 -0.9**
ZALV Zalesovo Beam 60.59 333 P **P** **21 04 30.3 -1.3**
comp=Z,0.5nm,0.3s,baz=106,slow=4.8,SNR=3.7
comp=Z,0.5nm,0.3s
ARSB Arslanbob 60.87 316 P **P** **21 04 33.0 -0.9**
KURBB Kurchatov Arra 61.75 327 P **P** **21 04 37.9 -1.6**
comp=Z,3.0nm,0.6s,baz=130,slow=6.2,SNR=52
comp=Z,3.0nm,0.6s
KURK Kurchatov 61.75 327 P **P** **21 04 38.3 -1.1**
GAR Garm 61.93 313 P **P** **21 04 39.9 -1.2**
KK31 Karatay Array 63.24 317 P **P** **21 04 48.8 -0.9**
KK31 IAmb IAmb 21 04 50.2
comp=Z,2.8nm,0.8s
KKAR Karatay Array 63.24 317 P **P** **21 04 48.6 -1.1**
KKAR IAmb IAmb 21 04 50.2
comp=Z,2.7nm,0.8s
BVAR Borovoye Array 67.33 327 P **P** **21 05 14.6 -1.3**
comp=Z,4.9nm,0.9s,baz=75,slow=4.0,SNR=16
comp=Z,4.9nm,0.9s
BRVK Borovoye 67.40 327 P **P** **21 05 15.2 -1.2**
BRVK IAmb IAmb 21 05 17.9
comp=Z,5.4nm,0.8s
CASY Casey 70.82 187 P **P** **21 05 37.2 -0.1**
ABKAR Akbulak array 72.16 321 **P** **21 05 44.6 -1.2**
ABKAR IAmb IAmb 21 05 46.7
comp=Z,3.4nm,0.8s
ABKAR Akbulak array 72.16 321 P **P** **21 05 44.5 -1.2**
AKTO Aktyubinsk 73.67 322 P **P** **21 05 52.6 -2.1**
comp=Z,2.2nm,0.8s,baz=126,slow=3.5,SNR=4.4
comp=Z,2.2nm,0.8s
ARU Arti 74.94 328 P **P** **21 06 00.8 -1.2**
ARU IAmb IAmb 21 06 03.7
comp=Z,3.2nm,0.9s
ARU Arti 74.94 328 P **P** **21 06 00.2 -1.8**
comp=Z,1.7nm,0.3s,baz=90,slow=2.9,SNR=7.1
comp=Z,1.7nm,0.3s
E19K Redstone River 81.22 22 P **P** **21 06 37.8 +1.1**
E19K IAmb IAmb 21 06 39.5
comp=Z,4.1nm,0.9s
IMAR Indian Mountai 82.33 24 P **P** **21 06 43.7 +1.1**
H21K Melozitna Rive 82.68 24 P **P** **21 06 45.5 +1.1**
H21K IAmb IAmb 21 06 47.3
comp=Z,6.5nm,1.5s
CAST Castle Rocks 82.72 27 P **P** **21 06 45.5 +0.8**
SKT Skwentna 82.83 28 P **P** **21 06 45.8 +0.5**
SKT IAmb IAmb 21 07 04.8
comp=Z,7.9nm,1.5s
VNDA Vanda 83.43 173 P **P** **21 06 47.7 -0.3**
VNDA Vanda 83.43 173 P **P** **21 06 47.4 -0.6**
comp=Z,0.8nm,0.6s,baz=314,slow=5.6,SNR=6.5
comp=Z,0.8nm,0.6s
MLY Manley 83.47 25 P **P** **21 06 49.0 +0.4**
MLY IAmb IAmb 21 06 51.2
comp=Z,6.6nm,1.5s
BRTR Keskin Array B 90.03 310 P **P** **21 07 17.9 -3.4**
comp=Z,0.8nm,0.8s,baz=130,slow=5.8,SNR=6.5
comp=Z,0.8nm,0.8s
ARCES ARCESS Array B 90.45 340 P **P** **21 07 21.0 -1.4**
comp=Z,4.0nm,0.7s,baz=79,slow=6.5,SNR=9.0
comp=Z,4.0nm,0.7s
FINES FINESS Array B 91.84 332 P **P** **21 07 28.4 -0.6**
comp=Z,2.1nm,0.9s,baz=5.7,slow=1.9,SNR=5.4
comp=Z,2.1nm,0.9s
TORD Torodi Ar. Bea 122.93 288 PKP **PKPdf** **21 13 17.3 -1.2**
comp=Z,0.3nm,0.6s,baz=104,slow=2.2,SNR=1.9

*SKHL **17** 21:10:26.3±0.4, 42.°20N×142.°60E, h26km±4km, mb4.3/3*
*JMA **17** 21:10:27.2±0.2, 42.°3N±0.°8×142.°6E±0.°8, h27km±1km,*
MD3.5/20, MV3.0/20, HIDAKA REGION
ISC 17 21:10:26.8±1.3, 42.°26N±0.°08×142.°60E±0.°05, h30km±7km, n16, σ0°69/18, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNBK	**Urakawa-nobuka**	**0.11**	**78**	P	**Pb**	**21 10 31.9**	**-0.4**
JNBK				*e*S	**Sb**	**21 10 36.5**	**+0.5**
JNBK	**Urakawa-nobuka**	**0.11**	**78**	A	A	21 10 31.9	
	comp=E,17nm,0.4s,comp=N,11nm,0.4s						
JSHD	**Hidakashinhida**	**0.18**	**327**	*i* P	**Pb**	**21 10 32.7**	**-0.1**
JSHD	**Hidakashinhida**	**0.18**	**327**	A	A	21 10 32.7	
	comp=E,7.0nm,0.4s,comp=N,10.0nm,0.9s						
JEM	**Erimo**	**0.48**	**120**	*e*P	**Pb**	**21 10 36.5**	**-0.4**
JEM				*e*S	**Sb**	**21 10 43.4**	**-0.4**
JTHR	**Tokachihiroo**	**0.52**	**86**	*i* P	**Pb**	**21 10 37.1**	**-0.4**
JBT2	**Biratori 2**	**0.55**	**341**	*i* P	**Pb**	**21 10 37.3**	**-0.8**
JIAM	**Iburiatsuma**	**0.62**	**306**	*e*P	**Pn**	**21 10 39.9**	**+0.4**
JIAM	**Iburiatsuma**	**0.62**	**306**	A	A	21 10 39.9	
	comp=E,5.0nm,0.6s,comp=N,8.0nm,1.3s						
JCH	**Churui**	**0.67**	**57**	*i* P	**Pb**	**21 10 39.3**	**-0.7**
JFR	**Furan**	**0.91**	**360**	*i* P	**Pn**	**21 10 43.1**	**-0.4**
JEW	**Eniwo**	**1.03**	**305**	P	**Pn**	**21 10 45.4**	**+0.1**
JOB	**Onbets**	**1.12**	**54**	*i* P	**Pn**	**21 10 46.5**	**+0.2**
AKK	**Akkeshi**	**1.82**	**65**	*e*P	**Pn**	**21 10 55.8**	**-0.2**
AKK				AMB	AMB	21 10 57.8	
	comp=N,80nm,0.3s						
AKK				*e*S	**Sn**	**21 11 18.0**	**0.0**
AKK				A	A	21 11 21.6	
	comp=N,320nm,0.4s						
AKK				A	A	21 11 21.6	
	comp=N,180nm,0.4s						
NMR	**Nemuro--Hokkai**	**2.55**	**63**	*e*P	**Pn**	**21 11 06.2**	**+0.1**
NMR				*e*S	**Sn**	**21 11 35.7**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**2.97**	**52**	*e*P	**Pn**	**21 11 13.0**	**+1.1**
YUK				AMB	AMB	21 11 14.5	
	comp=N,80nm,0.4s						
YUK				*e*S	**Sn**	**21 11 48.2**	**+1.7**
YUK				A	A	21 11 51.6	
	comp=N,190nm,0.4s						
YUK				A	A	21 11 51.6	
	comp=N,160nm,0.4s						

*IDC **17** 21:16:00.3±1.4, 29.°68N×50.°63E, h0km, mb3.6/11,*
mbtmp3.6/16, ML3.1/5, MS2.9/3, Error ellipse:
s-maj=29.2km s-min=20.7km az=171.0
*TEH **17** 21:16:03.8, 29.°69N×50.°71E, h19km±24km, ML3.5*
*DSN **17** 21:16:10.7±0.5, 28.°92N×50.°71E, h15km, ML3.1/5, Error*
ellipse: s-maj=6.1km s-min=3.1km az=11.0
ISC 17 21:16:04.0±0.6, 29.°63N±0.°05×50.°69E±0.°05, h25km, n46, σ2§27/50, mb3.6/11, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAZ2	**Kazeron-Fars-I**	**0.85**	**91**	Pg	**Pb**	**21 16 19.2**	**-0.9**
ABEH	**Behbahan**	**1.04**	**339**	Pg	**Pn**	**21 16 23.0**	**0.0**
DSBU	**Dashti - Bushe**	**1.36**	**158**	Pg	**Pb**	**21 16 30.4**	**+1.7**
DSBU				Sg	**Sb**	**21 16 50.5**	**+4.9**
KLNJ	**Kolanjah**	**1.59**	**29**	Pg	**Pn**	**21 16 32.0**	**+1.2**
SHI	**Shiraz**	**1.59**	**89**	Pg	**Pb**	**21 16 33.2**	**+0.3**
IBRJ	**Brojen**	**2.33**	**12**	Pn	**Pn**	**21 16 42.6**	**+1.6**
ZNGN	**Zangian**	**2.49**	**3**	Pn	**Pn**	**21 16 45.3**	**+2.1**
JHBN	**Jahan bin**	**2.60**	**360**	Pn	**Pn**	**21 16 46.5**	**+1.9**
IRAM	**Ramesheh**	**2.62**	**33**	Pn	**Pn**	**21 16 46.7**	**+1.7**
IGAR	**Gharneh**	**3.00**	**22**	Pn	**Pn**	**21 16 52.2**	**+2.0**
IPIR	**Pirpir**	**3.05**	**3**	Pn	**Pn**	**21 16 52.9**	**+1.9**
IZEF	**Zefreh**	**3.55**	**23**	Pn	**Pn**	**21 16 59.3**	**+1.5**
IMEH	**Mehriz**	**3.82**	**62**	Pn	**Pn**	**21 17 03.2**	**+1.7**
ANAR	**Anarak**	**4.40**	**35**	Pn	**Pn**	**21 17 10.8**	**+1.4**
KRSH	**Karshahi**	**4.50**	**16**	Pn	**Pn**	**21 17 12.7**	**+2.0**
IKFM	**Kafar-mosalman**	**4.58**	**329**	Pn	**Pn**	**21 17 13.2**	**+1.6**
IBAF	**Bafgh**	**4.64**	**64**	Pn	**Pn**	**21 17 14.1**	**+1.5**
ISFB	**Sefidab**	**4.89**	**15**	Pn	**Pn**	**21 17 17.5**	**+1.5**
KHGB	**Koh Gabri**	**5.08**	**80**	Pn	**Pn**	**21 17 20.6**	**+1.9**
IQOM	**Qom**	**5.21**	**3**	Pn	**Pn**	**21 17 21.8**	**+1.2**
ILBA	**Ilam Banvizeh**	**5.52**	**317**	Pn	**Pn**	**21 17 25.8**	**+1.2**
ILIN	**Lien**	**6.15**	**330**	Pn	**Pn**	**21 17 35.2**	**+1.8**
IDHR	**Dehrash**	**6.23**	**325**	Pn	**Pn**	**21 17 36.4**	**+1.8**
FAQ	**Al Faqa, Dubai**	**6.54**	**137**	P	**Pn**	**21 17 39.5**	**+1.0**
TKDS	**Koohdasht(Taba**	**6.78**	**52**	Pn	**Pn**	**21 17 42.9**	**+0.9**
HATD	**Hatta, Dubai**	**6.81**	**133**	P	**Pn**	**21 17 43.4**	**+1.1**
ASHO	**Ashiyiah**	**6.87**	**135**	P	**Pn**	**21 17 44.1**	**+1.0**
ALNE	**Al Ain**	**7.16**	**140**	P	**Pn**	**21 17 47.9**	**+0.8**
RAYN	**Ar Rayn**	**7.64**	**219**	P	**Pn**	**21 17 54.6**	**+0.7**
WSAR	**Wadi Sarin**	**9.54**	**130**	Pn	**Pn**	**21 18 20.1**	**+0.2**
	0.1nm,0.3s,baz=264,slow=17,SNR=1.5						
WSAR				Sn	**Sn**	**21 19 59.6**	**-6.8**
	0.1nm,0.3s,baz=247,slow=20,SNR=1.7						
	1.7nm,0.6s						
GEYT	**Alibeck**	**10.33**	**35**	Pn	**Pn**	**21 18 28.7**	**-1.9**
	0.3nm,0.3s,baz=234,slow=17,SNR=2.4						
GEYT				LR	LR	21 22 30.2	
	comp=Z,29nm,19.1s,baz=52,slow=38						
	1.9nm,0.7s						
ASF	**Jabal al Asfar**	**12.11**	**286**	Pn	**Pn**	**21 18 54.4**	**-0.6**
	0.3nm,0.3s,baz=152,slow=9.7,SNR=1.7						
ASF				Sn	**Sn**	**21 21 02.4**	**-6.9**
	0.1nm,0.3s,baz=151,slow=5.0,SNR=2.0						
	0.6nm,0.4s						
KBZ	**Khabaz**	**15.39**	**338**	Pn	**Pn**	**21 19 40.5**	**+1.2**
	baz=89,slow=19,SNR=3.9						
KBZ				Sn	**Sn**	**21 22 35.7**	**+6.7**
	baz=208,slow=10,SNR=2.7						
KBZ				LR	LR	21 26 08.4	
	comp=Z,42nm,20.6s,baz=154,slow=40						
	1.9nm,0.8s						
BRTR	**Keskin Array B**	**17.24**	**310**	P	**Pn**	**21 20 03.4**	**+0.3**
	0.1nm,0.3s,baz=132,slow=12,SNR=4.3						
	0.4nm,0.6s						
AKTO	**Aktyubinsk**	**21.51**	**13**	P	**P**	**21 20 49.0**	**-1.9**
	1.5nm,0.6s,baz=206,slow=9.9,SNR=6.0						
	1.5nm,0.6s						
AKASG	**Malin Array Be**	**26.51**	**329**	P	**P**	**21 21 39.0**	**-0.3**
	0.6nm,0.6s,baz=133,slow=8.6,SNR=6.6						
AKASG				LR	LR	21 36 09.7	
	comp=Z,51nm,18.0s,baz=68,slow=46						
	0.6nm,0.6s						
BVAR	**Borovoye Array**	**27.49**	**26**	P	**P**	**21 21 49.1**	**+1.0**
	0.7nm,0.5s,baz=220,slow=6.9,SNR=6.3						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**29.60**	**37**	P	**P**	**21 22 06.9**	**0.0**
	0.5nm,0.9s,baz=238,slow=9.1,SNR=4.4						
	0.5nm,0.9s						
MKAR	**Makanchi Array**	**29.91**	**46**	P	**P**	**21 22 10.0**	**+0.3**
	0.4nm,0.9s,baz=231,slow=11,SNR=2.7						
	0.4nm,0.9s						
ZALV	**Zalesovo Beam**	**34.64**	**36**	P	**P**	**21 22 52.3**	**+1.2**
	0.9nm,0.7s,baz=282,slow=8.9,SNR=4.2						
	0.9nm,0.7s						
HFS	**Hagfors**	**39.30**	**332**	P	**P**	**21 23 29.5**	**-1.1**
	1.4nm,0.8s,baz=139,slow=9.5,SNR=1.4						
	1.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**48.11**	**261**	P	**P**	**21 24 42.5**	**+0.5**
	0.3nm,0.7s,baz=64,slow=6.6,SNR=1.9						
	0.3nm,0.7s						
SEY	**Seymchan**	**69.11**	**29**	P	**P**	**21 27 08.3**	**+0.7**
	0.9nm,0.6s,baz=296,slow=6.3,SNR=4.5						
	0.9nm,0.6s						
ILAR	**Eielson Array**	**84.92**	**7**	P	**P**	**21 28 35.2**	**-1.2**
	0.3nm,0.5s,baz=353,slow=4.6,SNR=4.1						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	**87.44**	**353**	P	**P**	**21 28 49.1**	**+0.2**
	0.3nm,0.8s,baz=7.0,slow=5.6,SNR=2.2						
	0.3nm,0.8s						
TXAR	**Lajitas Array**	**116.47**	**335**	PKP	**PKPdf**	**21 34 44.9**	**-1.3**
	0.2nm,0.5s,baz=2.9,slow=3.6,SNR=1.4						

*IDC **17** 21:16:22.6±2.6, 23.°84S×66.°62W, h209km±28km, mb3.4/2,*
mbtmp3.6/6, Error ellipse: s-maj=31.6km s-min=20.2km
az=122.0
ISC 17 21:16:21.7±1.2, 23.°9S±0.°1×66.°6W±0.°2, h195km, n6, σ0§80/6, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**7.69**	**349**	P	**Pn**	**21 18 11.9**	**+0.4**
	0.4nm,0.3s,baz=169,slow=6.1,SNR=1.9						
CPUP	**Villa Florida**	**8.76**	**108**	P	**Pn**	**21 18 25.3**	**+0.4**
	1.2nm,0.8s,baz=276,slow=14,SNR=2.9						
PLCA	**Paso Flores**	**17.13**	**190**	P	**P**	**21 20 08.6**	**+0.3**
	0.5nm,0.5s,baz=39,slow=12,SNR=0.9						
BDFB	**Brasilia**	**19.32**	**68**	P	**P**	**21 20 32.7**	**+0.4**
	3.4nm,0.6s,baz=243,slow=10.0,SNR=7.5						
QSPA	**South Pole Qui**	**66.32**	**180**	P	**P**	**21 26 49.0**	**-0.1**
	2.4nm,1.2s,baz=90,slow=6.1,SNR=7.0						
	2.4nm,1.2s						
TORD	**Torodi Ar. Bea**	**76.20**	**69**	P	**P**	**21 27 47.7**	**-1.2**
	0.4nm,0.5s,baz=260,slow=5.4,SNR=4.9						
	0.4nm,0.5s						

*IDC **17** 21:19:14.4±8.0, 12.°53N×91.°05W, h0km, mb3.6/6,*
mbtmp3.6/7, ML3.0/1, MS3.7/2, Error ellipse:
s-maj=143.5km s-min=43.4km az=2.0
*SNET **17** 21:19:24.6±2.7, 13.°12N×91.°31W, h31km, ML2.7*
*GCG **17** 21:19:31.8±0.3, 13.°78N×91.°25W, h79km±19km, MD3.7*
ISC 17 21:19:23.0±1.6, 13.°0N±0.°1×91.°40W±0.°06, h35km, n19, σ1§46/22, mb4.0/5, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SULM	**Suchitepequez,**	**1.36**	**353**	*e*P	**Pn**	**21 19 46.4**	**+1.0**
FUG	**Fuego 3**	**1.59**	**20**	*e*P	**Pn**	**21 19 48.8**	**+0.1**
STG3	**Santiaguito 3,**	**1.76**	**355**	*e*P	**Pn**	**21 19 51.2**	**+0.1**
NUBE	**Las Nubes**	**1.84**	**59**	*e*P	**Pn**	**21 19 50.9**	**-1.4**
NUBE				IAML		21 20 05.9	
	comp=Z,53nm,0.3s						
NUBE				*e*S	**Sn**	**21 20 13.7**	**-0.8**
NBG	**Las Nubes**	**1.93**	**32**	*e*P	**Pn**	**21 19 54.2**	**+0.6**
CEVE	**Cerro Verde**	**1.94**	**63**	*e*P	**Pn**	**21 19 52.5**	**-1.1**
SNJE	**San Jose**	**1.97**	**62**	*e*P	**Pn**	**21 19 53.3**	**-0.9**
JAYA	**Jayaque - finc**	**2.03**	**70**	*e*P	**Pn**	**21 19 53.8**	**-1.1**
JAYA				*e*S	**Sn**	**21 20 20.2**	**+1.2**
JAYA				IAML		21 20 21.8	
	comp=Z,252nm,0.2s						
MTO3	**Montecristo**	**2.45**	**54**	*e*P	**Pn**	**21 20 00.3**	**-0.4**
MTO3				IAML		21 20 12.8	
	comp=Z,16nm,0.3s						
MTO3				*e*S	**Sn**	**21 20 30.9**	**+1.3**
PACA	**Pacayal**	**3.04**	**80**	*e*P	**Pn**	**21 20 08.9**	**+0.1**
PACA				*e*S	**Sn**	**21 20 45.6**	**+1.5**
CMIG	**Matias Romero**	**5.32**	**321**	Pn	**Pn**	**21 20 41.4**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=146,slow=7.3,SNR=4.6						
CMIG				Sn	**Sn**	**21 21 35.7**	**-4.3**
	comp=Z,0.8nm,0.3s,baz=140,slow=14,SNR=4.6						
	comp=Z,0.9nm,0.3s						
TEIG	**Tepich**	**7.83**	**22**	LR	LR	21 24 32.2	
	comp=Z,662nm,20.8s,slow=39						
TXAR	**Lajitas Array**	**19.89**	**327**	P	**Pn**	**21 23 55.4**	**+2.1**
	comp=Z,0.4nm,0.6s,baz=147,slow=12,SNR=2.4						
	comp=Z,0.4nm,0.6s						
TKL	**Tuckaleechee C**	**23.64**	**16**	P	**P**	**21 24 30.6**	**-0.4**
	comp=Z,4.5nm,0.7s,baz=194,slow=10,SNR=7.6						
	comp=Z,4.5nm,0.7s						
NVAR	**Mina Array Bea**	**34.85**	**322**	P	**P**	**21 26 11.8**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=122,slow=8.6,SNR=2.7						
	comp=Z,0.2nm,0.6s						
ULM	**Lac du Bonnet**	**37.38**	**355**	P	**P**	**21 26 31.1**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=186,slow=6.8,SNR=3.4						
	comp=Z,1.1nm,0.5s						
SCHQ	**Schefferville**	**46.01**	**20**	P	**P**	**21 27 41.7**	**-1.1**
	comp=Z,4.0nm,0.8s,baz=226,slow=9.1,SNR=8.8						
	comp=Z,4.0nm,0.8s						
YKA	**Yellowknife Ar**	**52.17**	**347**	P	**P**	**21 28 30.5**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=145,slow=6.8,SNR=1.3						
	comp=Z,0.2nm,0.6s						
BORG	**Borgarnes**	**69.90**	**25**	LR	LR	21 58 48.8	
	comp=Z,35nm,18.4s,baz=132,slow=34						

*NSSP **17** 21:21:01.4, 38.°57N×43.°53E, h13km, Ms3.7*
*ISK **17** 21:21:04.6, 38.°85N×43.°54E, h5km, ML3.4/21*
*AFAD **17** 21:21:05.9±0.0, 38.°92N×43.°54E, h13km±1km, MW3.6*
*TEH **17** 21:21:05.6, 38.°86N×43.°52E, h5km±88km, ML3.2*
ISC 17 21:21:06.3±1.0, 38.°86N±0.°02×43.°52E±0.°02, h6km±9km, n52, σ1§80/69, 5C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.14**	**17**	P	**Pg**	**21 21 08.2**	**-1.0**
VMUR				S	**Sg**	**21 21 11.1**	**-0.1**
VMUR				*i* AML	AML	21 21 13.0	
	comp=N,9μm,0.4s						
VMUR				*i* AML	AML	21 21 17.0	
	comp=E,9μm,0.4s						
ERCV	**ERCIS-VAN**	**0.21**	**318**	Pg	**Pg**	**21 21 10.0**	**-0.6**
ERCV	**ERCIS-VAN**	**0.21**	**318**	Pg	**Pg**	**21 21 10.0**	**-0.6**
VANB	**Van**	**0.28**	**202**	Pg	**Pg**	**21 21 12.8**	**+0.9**
TVAN	**Van**	**0.34**	**195**	P	**Pg**	**21 21 12.5**	**-0.6**
TVAN				S	**Sb**	**21 21 20.9**	**+0.1**
OZAP	**Van, Ozalp-Mer**	**0.42**	**118**	P	**Pg**	**21 21 14.3**	**-0.1**
OZAP				S	**Sb**	**21 21 23.6**	**+0.6**
OZAP				*i* AML	AML	21 21 26.0	
	comp=N,3μm,0.8s						
OZAP				*i* AML	AML	21 21 34.0	
	comp=E,3μm,0.9s						
ADCV	**BITLIS_Adilcev**	**0.62**	**266**	P	**Pg**	**21 21 18.4**	**0.0**
ADCV				S	**Sb**	**21 21 28.8**	**-0.1**
GEVA	**Gevas**	**0.66**	**214**	P	**Pg**	**21 21 18.4**	**-0.6**
GEVA				S	**Sg**	**21 21 28.6**	**+1.1**
AKDM	**Akdamar-Van**	**0.68**	**219**	Pg	**Pg**	**21 21 18.9**	**-0.5**
AKDM	**Akdamar-Van**	**0.68**	**219**	Pg	**Pg**	**21 21 18.9**	**-0.5**
DYDN	**Diyadin**	**0.69**	**11**	P	**Pb**	**21 21 19.0**	**-2.0**
DYDN				S	**Sg**	**21 21 27.2**	**-1.6**
DORK	**Agr/Tutak/Do**	**0.78**	**313**	P	**Pg**	**21 21 20.3**	**-1.0**
DORK				S	**Sb**	**21 21 32.2**	**-1.2**
MLAZ	**Malazgirt-MUS**	**0.81**	**291**	Pg	**Pb**	**21 21 21.9**	**-1.0**
MLAZ	**Malazgirt-MUS**	**0.81**	**291**	Pg	**Pg**	**21 21 21.3**	**-0.6**
AGRB	**Hanur-Agry**	**0.82**	**330**	Pg	**Pb**	**21 21 21.4**	**-1.8**
AGRB	**Hanur-Agry**	**0.82**	**330**	Pg	**Pb**	**21 21 21.4**	**-1.8**
KOTA	**Agri, Merkez-K**	**0.97**	**345**	P	**Pb**	**21 21 24.2**

KARO	Karliova-Bingo	1.98	284	Pn	Pb	21 21 41.1	-1.7
ITBZ	Tabriz	2.15	106	Pn	Pb	21 21 43.6	-2.2
BNGB	Bingl	2.22	274	Pn	Pn	21 21 44.3	+0.5
IAZR	Azarshahr	2.27	121	Pn	Pb	21 21 46.5	-1.3
GRS	Goris	2.28	73	⇓*i*P	Pb	21 21 47.0	-0.9
GRS				⇑*i*S	Sg	21 22 20.0	+0.5
MAHB	Mahabad	2.71	140	Pn	Pb	21 21 52.8	-2.5
MAZI	Mazidag	2.80	241	Pn	Pn	21 21 52.4	+0.6
DYBB	Diyarbakir	2.81	252	Pn	Pn	21 21 52.5	+0.7
BCA	Borcka	2.96	331	Pn	Pn	21 21 55.0	+1.0
BAYT	Aydıntepe-Bayb	3.03	301	Pn	Pn	21 21 55.9	+0.9
PTK	Pertek	3.22	272	Pn	Pn	21 21 58.7	+1.0
GRMI	Germi	3.41	89	Pn	Pn	21 22 01.0	+0.8
ISRB	Sarab	3.42	106	Pn	Pn	21 22 01.5	+1.2

*NEIC **17** 21:25:30.6±1.3,56°.12N±0°.10×148°.6W±0°.1, h22km±9km, ML3.4/38, ML3.0(AEIC), Error ellipse: s-maj=14.5km s-min=7.8km az=163.0*
*IDC **17** 21:25:32.0±3.4,56°.27N×148°.53W, h0km, mb3.4/1, mbtmp3.1/3, ML2.6/2, MS3.0/6, Error ellipse: s-maj=53.6km s-min=38.5km az=132.0*
*AEIC **17** 21:25:33.6±1.4,56°.2N±0°.1×148°.6W±0°.1, h4km±7km, Error ellipse: s-maj=14.6km s-min=9.1km az=175.0*

ISC 17 21:25:32.5±1.6, 56°.4N±0°.1×148°.63W±0°.06, h10km, n63, σ1§18/56, MS3.3/3, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.57	304			Pn	Pn	21 26 13.4	-0.6
KDAK							Sn	21 26 43.8	-1.5
KDAK	Kodiak Island	2.57	304	LR		LR	LR	21 26 44.9	
	comp=Z,55nm,21.0s,baz=149,slow=27								
OHAK	Old Harbor	2.69	290				Pn	21 26 14.2	-1.6
OHAK							Sn	21 26 46.1	-2.3
SYI	Shuyak Island	3.01	319				Pn	21 26 20.3	+0.1
SYI							Sn	21 26 55.9	-0.3
SII	Sitkinak Islan	3.09	275	Pn			Pn	21 26 18.1	-3.2
SII				IAML				21 26 58.2	
	comp=E,85nm,1.2s								
SII				IAML				21 27 01.4	
	comp=N,86nm,0.7s								
CNPM	China Poot	3.43	337				Pn	21 26 26.3	+0.3
CNPM				IAML				21 27 12.5	
	comp=N,27nm,1.3s								
CNPM				IAML				21 27 13.4	
	comp=E,27nm,0.5s								
BRSE	Bradley Lake S	3.54	342				Pn	21 26 27.3	-0.1
BRSE							Sn	21 27 09.7	+0.4
BRLK	Bradley Lake	3.58	341				Pn	21 26 28.1	0.0
BRLK				IAML				21 27 14.4	
	comp=N,25nm,1.0s								
BRLK				IAML				21 27 15.4	
	comp=E,30nm,0.7s								
P23K	Montague Islan	3.67	10				Pn	21 26 29.5	+0.2
Q19K	Cape Douglas,	3.70	315				Pn	21 26 30.0	+0.3
Q19K				IAML				21 27 48.2	
	comp=N,78nm,0.9s								
P19K	Oil Pt	4.08	325	Pn			Pn	21 26 35.0	+0.1
P19K				IAML				21 27 29.3	
	comp=E,68nm,0.5s								
P19K				IAML				21 27 32.5	
	comp=N,71nm,0.5s								
ANCK	Angle Creek	4.14	299				Pn	21 26 35.0	-0.8
HIN	Hinchinbrook I	4.17	15				Pn	21 26 36.0	0.0
KAIM	Kayak Island	4.18	30				Pn	21 26 36.6	+0.3
KAIM				IAML				21 27 33.0	
	comp=E,58nm,1.5s								
O20K	Slope Mountain	4.26	332				Pn	21 26 36.2	-1.1
IVE	Iliamna Volcan	4.31	329				Pn	21 26 38.0	-0.1
ILSW	Iliamna Southw	4.32	328				Pn	21 26 37.3	-1.0
ILSW				IAML				21 27 35.0	
	comp=E,19nm,0.5s								
ILSW				IAML				21 27 37.9	
	comp=N,24nm,1.0s								
CNTC	Contact Creek	4.36	298				Pn	21 26 38.2	-0.6
EYAK	Cordova Ski Ar	4.43	19				Pn	21 26 40.1	+0.4
SUCK	Suckling Hills	4.49	33				Pn	21 26 40.8	+0.3
SUCK				IAML				21 27 38.0	
	comp=E,38nm,1.0s								
SUCK				IAML				21 27 45.6	
	comp=N,53nm,1.3s								
RAGM	Ragged Mountai	4.51	26				Pn	21 26 41.4	+0.5
NICHA	Nichawak Mount	4.57	31				Pn	21 26 41.7	+0.1
HMT	Hamilton	4.57	28				Pn	21 26 41.6	-0.1
RSO	Redoubt South	4.62	334				Pn	21 26 41.1	-1.4
P18K	Big Mountain,	4.63	313				Pn	21 26 41.4	-1.1
RC01	Rabbit Creek A	4.74	353				Pn	21 26 44.5	+0.5
RC01				IAML				21 27 46.6	
	comp=E,35nm,0.7s								
RC01				IAML				21 27 49.9	
	comp=N,24nm,0.7s								
BERG	Berg Lake	4.77	31	Pn			Pn	21 26 44.5	+0.1
BERG				IAML				21 27 49.3	
	comp=N,46nm,0.6s								
SNH	Sunshine Point	4.87	36	Pn			Pn	21 26 45.5	-0.2
SNH				IAML				21 27 52.2	
	comp=E,22nm,0.8s								
SNH				IAML				21 28 10.4	
	comp=N,26nm,1.4s								
O18K	Koktuh Hills	4.92	318				Pn	21 26 44.8	-1.6
O18K				IAML				21 28 05.3	
	comp=N,8.7nm,0.8s								
SUA	Susitna One	5.20	349	Pn			Pn	21 26 51.6	+1.2
KLU	Klutina	5.30	14	Pn			Pn	21 26 51.9	+0.2
ISLE	Juniper Island	5.35	85				Pn	21 26 52.5	0.0
N19K	Bonanza Creek	5.38	328	Pn			Pn	21 26 52.5	-0.3
SCM	Sheep Creek Mo	5.50	6				Pn	21 26 55.1	+0.8
N25K	Chitina, Valde	5.62	20				Pn	21 26 55.8	-0.3
GLB	Gilahina Butte	5.64	24				Pn	21 26 56.1	-0.2
N18K	Kilae Creek	5.74	321	Pn			Pn	21 26 57.5	-0.1
M24K	Tolsona, Glenn	5.87	11				Pn	21 27 00.5	+1.1
BCPM	Bancas Point	5.94	49	Pn			Pn	21 27 00.4	-0.1
O29M	Mount Kennedy	6.58	49				Pn	21 27 08.9	-0.4
S31K	Pelican	6.92	72	Pn			Pn	21 27 10.8	-3.0
N15K	Kwethluk River	7.13	307	Pn			Pn	21 27 15.7	-1.0
S32K	Killisnoo	7.76	76	Pn			Pn	21 27 22.8	-2.6
ILAR	Eielson Array	8.45	5	Pn			Pn	21 27 34.9	+0.1
	comp=N,0.1nm,0.3s,baz=186,slow=14,SNR=5.8								
ILAR					Sn		Sn	21 29 06.5	-3.6
	comp=N,0.2nm,0.3s,baz=187,slow=23,SNR=8.9								
	comp=N,0.3nm,0.3s								
J26L	Joseph Creek	8.51	15	Pn			Pn	21 27 36.4	+0.8
U33K	Whale Pass	8.64	85	Pn			Pn	21 27 33.0	-4.4
P33M	Teslin, Yukon	9.15	59	Pn			Pn	21 27 42.6	-1.9
J16K	Anvik River	9.15	324	Pn			Pn	21 27 43.4	-1.1
M31M	Drury Creek, Y	9.31	45	Pn			Pn	21 27 46.8	+0.2
G24K	Hadweenzic Riv	10.36	3	Pn			Pn	21 28 01.1	+0.2
MMPY	Sheldon Lake,	10.78	48	Pn			Pn	21 28 07.0	+0.2
INK	Inuvik	13.79	24	LR			LR	21 33 31.1	
	comp=N,39nm,21.2s,baz=195,slow=34								
YKA	Yellowknife Ar	18.17	56	P			Pn	21 29 45.4	+0.8
	baz=261,slow=12,SNR=2.6								
YKA					LR		LR	21 36 32.4	
	comp=N,54nm,19.6s,baz=319,slow=36								
	comp=N,0.2nm,0.8s								
MA2	Magadan	31.31	301	LR			LR	21 45 27.4	
	comp=N,32nm,19.7s,baz=111,slow=38								
LPIG	La Paz	42.59	123	LR			LR	21 48 45.2	
	comp=N,37nm,18.6s,baz=38,slow=33								
TKL	Tuckaleechee C	47.56	87	LR			LR	21 53 32.1	
	comp=N,37nm,18.9s,baz=104,slow=35								
H11N2	WAKE ISLAND Hy	49.26	241	T			T	22 27 42.2	
	baz=31								
H11N3	WAKE ISLAND Hy	49.26	241	T			T	22 27 42.4	
	baz=31								
H11N1	WAKE ISLAND Hy	49.27	241	T			T	22 27 49.0	
	baz=31								
H11S1	WAKE ISLAND Hy	50.40	240	T			T	22 29 18.2	
	baz=29								
H11S2	WAKE ISLAND Hy	50.41	240	T			T	22 29 25.2	
	baz=29								
H11S3	WAKE ISLAND Hy	50.41	240	T			T	22 29 30.6	
	baz=29								
SONM	Songino Array	58.84	310	P			P	21 35 32.8	+1.8
	comp=N,0.4nm,0.8s,baz=47,slow=6.3,SNR=2.5								
	comp=N,0.4nm,0.8s								

*IDC **17** 21:28:02.5±1.1,41°.30N×83°.61E, h0km, mb4.0/5, mbtmp3.6/13, ML3.1/7, MS3.1/3, Error ellipse: s-maj=18.2km s-min=13.0km az=58.0*

*NNC **17** 21:28:13.7±1.7,41°.52N×83°.49E, h28km±8km, mb4.3, mpv4.0, Error ellipse: s-maj=11.6km s-min=8.8km az=151.0*
*SOME **17** 21:28:14.9,41°.42N×83°.33E, h25km*

ISC 17 21:28:04.2±0.8, 41°.24N±0°.05×83°.66E±0°.04, h10km, n66, σ2§27/89, mb4.0/6, 16C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	3.30	313	*e*P			Pg	21 29 10.8	+3.4
	47nm,0.7s								
KTMS				*e*S			Sg	21 29 51.3	+1.2
	78nm,0.4s								
KTMS	Ketmen	3.30	313	Pg			Pg	21 29 10.8	+3.4
	47nm,0.7s								
KTMS				Lg			Lg	21 29 51.3	
	78nm,0.4s								
SHLS	Shalkode	3.66	303	*e*P			Pb	21 29 11.6	+2.5
	60nm,0.3s								
SHLS				*e*S			Sb	21 29 52.0	-1.6
	324nm,0.5s								
SHLS	Shalkode	3.66	303	Pg			Pb	21 29 11.6	+2.5
	60nm,0.3s								
SHLS				Lg			Lg	21 29 52.0	
	324nm,0.5s								
PDGK	Podgornoye	3.73	305	Pg			Pg	21 29 16.2	+0.5
	23nm,0.6s								
PDGK				Lg			Lg	21 30 00.8	
	78nm,0.6s								
PDGK	Podgornoye	3.73	305	⇑Pn			Pn	21 29 05.1	+3.1
	7.1nm,0.3s								
PDGK				⇓Pg			Pg	21 29 16.5	+0.7
	30nm,0.4s								
PDGK				⇑Lg			Lg	21 30 07.8	
	142nm,0.6s								
UZB	Uzynbulak	3.94	300	*e*P			Pg	21 29 20.8	+1.1
	28nm,0.5s								
UZB				*e*S			Sg	21 30 08.0	-2.6
	267nm,0.7s								
UZB	Uzynbulak	3.94	300	Pg			Pg	21 29 20.8	+1.1
	28nm,0.5s								
UZB				Lg			Lg	21 30 08.0	
	267nm,0.7s								
SATY	Saty	4.31	297	*e*P			Pg	21 29 27.5	+0.8
	38nm,0.6s								
SATY				*e*S			Sg	21 30 19.8	-2.8
	178nm,0.3s								
SATY	Saty	4.31	297	Pg			Pg	21 29 27.5	+0.8
	38nm,0.6s								
SATY				Lg			Lg	21 30 19.7	
	178nm,0.3s								
ZHN	Zhinishke	4.33	298	*e*P			Pg	21 29 28.2	+1.0
	15nm,0.6s								
ZHN				*e*S			Sg	21 30 21.1	-2.3
	139nm,0.3s								
ZHN	Zhinishke	4.33	298	Pg			Pg	21 29 28.2	+1.0
	15nm,0.6s								
ZHN				Lg			Lg	21 30 21.1	
	139nm,0.3s								
KNOS	Konyrlen	4.54	315	Pg			Pg	21 29 33.4	+2.3
	66nm,1.0s								
KNOS				Lg			Lg	21 30 29.7	
	40nm,0.6s								
KURS	Kuram	4.65	301	*e*P			Pg	21 29 34.2	+1.0
	8.9nm,0.3s								
KURS				*e*S			Sg	21 30 30.8	-2.6
	53nm,0.7s								
KURS	Kuram	4.65	301	Pg			Pg	21 29 36.5	+3.3
	29nm,0.9s								
KURS				Lg			Lg	21 30 35.5	
	105nm,0.8s								
BLB	Baldybastay	4.77	308	Pg			Pg	21 29 36.5	+0.9
	54nm,0.5s								
BLB				Lg			Lg	21 30 35.4	
	29nm,0.6s								
KAPS	Kapalarasan	5.12	324	*e*P			Pg	21 29 44.2	+1.9
	29nm,0.5s								
KAPS				*e*S			Sg	21 30 48.4	-0.2
	32nm,0.6s								
KAPS	Kapalarasan	5.12	324	Pg			Pg	21 29 44.2	+1.9
	29nm,0.5s								
KAPS				Lg			Lg	21 30 48.4	
	32nm,0.6s								
ARXS	Arharly	5.22	307	*e*P			Pg	21 29 45.8	+1.6
	6.3nm,0.4s								
ARXS				*e*S			Sg	21 30 50.6	-1.3
	51nm,0.5s								
ARXS	Arharly	5.22	307	Pg			Pg	21 29 46.3	+2.0
	17nm,0.6s								
ARXS				Lg			Lg	21 30 52.3	
	51nm,0.5s								
KOTS	Kotyrbulak	5.25	294	*e*P			Pg	21 29 45.0	+0.1
	14nm,0.4s								
KOTS				*e*S			Sg	21 30 49.4	-3.4
	94nm,0.4s								
KOTS	Kotyrbulak	5.25	294	Pg			Pg	21 29 46.3	+1.5
	26nm,0.4s								
KOTS				Lg			Lg	21 30 52.3	
	136nm,0.6s								
MDOK	Medeo	5.27	294	*e*P			Pg	21 29 45.8	+0.6
	13nm,0.6s								
MDOK				*e*S			Sg	21 30 51.3	-2.2
	79nm,0.7s								
MDOK	Medeo	5.27	294	Pn			Pn	21 29 26.4	+3.1
	6.0nm,0.5s								
MDOK				Pg			Pg	21 29 45.8	+0.6
	13nm,0.6s								
MDOK				Lg			Lg	21 30 51.3	
	79nm,0.7s								
MDOK				Lg			Lg	21 30 59.0	
	34nm,1.1s								
TNSS	Tian-Shan	5.30	292	*e*P			Pg	21 29 46.7	+0.8
	13nm,0.4s								
TNSS				*e*S			Sg	21 30 53.0	-1.6
	36nm,0.9s								
TNSS	Tian-Shan	5.30	292	Pg			Pg	21 29 46.7	+0.8
	13nm,0.4s								
TNSS				Lg			Lg	21 30 53.0	
	36nm,0.9s								
KNDC	Almaty	5.35	294	⇓Pn			Pn	21 29 28.5	+4.3
	11nm,0.4s								
KNDC				⇑Pg			Pg	21 29 49.8	+3.1
	23nm,0.5s								
KNDC				⇑Lg			Lg	21 30 58.5	
	188nm,0.7s								
TDK	Taldyqorghan	5.38	316	*e*P			Pg	21 29 48.7	+1.5
	62nm,0.5s								
TDK				*e*S			Sg	21 30 55.8	-1.0
	68nm,0.6s								
TDK	Taldyqorghan	5.38	316	Pg			Pg	21 29 51.4	+4.2
	122nm,0.9s								
TDK				Lg			Lg	21 31 00.4	
	133nm,0.9s								
CHKK	Chushkaly	5.58	300	*e*P			Pg	21 29 50.8	-0.2
	9.9nm,0.6s								
CHKK				*e*S			Sg	21 30 59.8	-3.5
	36nm,0.6s								
CHKK	Chushkaly	5.58	300	Pg			Pg	21 29 50.8	-0.2
	9.9nm,0.6s								
CHKK				Lg			Lg	21 30 59.8	
	36nm,0.6s								
MK31	Makanchi Array	5.64	350	⇑Pn			Pn	21 29 30.2	+2.1
	0.5nm,0.3s,baz=140,slow=13,SNR=114								
MK31				⇑Pg			Pg	21 29 50.7	-1.5
	3.0nm,0.4s,baz=173,slow=16,SNR=5.0								
MK31				⇑Lg			Lg	21 31 03.7	
	38nm,0.7s,baz=161,slow=31,SNR=5.2								
MKAR	Makanchi Array	5.64	350	Pn			Pn	21 29 29.8	+1.7
	1.0nm,0.3s,baz=150,slow=13,SNR=61								
MKAR					Pg		Pb	21 29 44.5	+1.8
	1.7nm,0.3s,baz=175,slow=15,SNR=13								
MKAR					Sn		Sn	21 30 33.6	+0.6
	4.7nm,0.3s,baz=170,slow=23,SNR=6.8								
MKAR					Lg		Lg	21 31 00.6	
	6.3nm,0.3s,baz=164,slow=24,SNR=5.5								
	1.3nm,0.3s								
MTBS	Maitube	5.70	292	*e*P			Pg	21 29 53.2	-0.1
	9.8nm,0.4s								
MTBS				*e*S			Sg	21 31 03.7	-3.3
	47nm,0.7s								
MTBS	Maitube	5.70	292	Pg			Pg	21 29 53.2	-0.1
	9.8nm,0.4s								
MTBS				Lg			Lg	21 31 03.7	
	47nm,0.7s								
MAKZ	Makanchi	5.70	348	⇓Pn			Pn	21 29 31.3	+2.4
	0.5nm,0.3s								
MAKZ				⇑Pg			Pb	21 29 47.8	+4.1
	2.1nm,0.4s								
MAKZ				⇑Sn			Sn	21 30 35.5	+1.1
	4.3nm,0.5s								
MAKZ				⇑Lg			Lg	21 31 07.8	
	46nm,0.9s								
KTBS	Karatobe	5.72	298	*e*P			Pg	21 29 52.9	-0.8
	18nm,0.6s								
KTBS				*e*S			Sg	21 31 03.1	-4.7
	44nm,0.8s								
KTBS	Karatobe	5.72	298	Pg			Pg	21 29 52.9	-0.8
	18nm,0.6s								
KTBS				Lg			Lg	21 31 03.1	
	44nm,0.8s								
KST	Kastek	6.00	290	*e*P			Pg	21 29 59.0	-0.1
	14nm,0.5s								
KST				*e*S			Sg	21 31 13.7	-3.0
	103nm,0.8s								
KST	Kastek	6.00	290	Pg			Pg	21 29 59.0	-0.1
	14nm,0.5s								
KST				Lg			Lg	21 31 13.7	
	103nm,0.8s								
KSH	Kashi	6.12	256	Pn			Pb	21 29 44.0	-6.9
KSH				Sn			Sb	21 31 05.8	+1.6
KSH				smax			smax		
	comp=N,73nm,0.7s								
KSH				smax			smax		
	comp=E,89nm,1.0s								
DGS	Degeres	6.19	291	*e*P			Pg	21 30 02.0	-0.7
	comp=E,5.3nm,0.4s								
DGS				*e*S			Sg	21 31 18.8	-4.0
	comp=E,54nm,0.7s								
DGS	Degeres	6.19	291	Pg			Pg	21 30 00.8	-1.9
	comp=E,9.6nm,1.0s								
DGS				Lg			Lg	21 31 17.0	
	comp=E,51nm,1.1s								
TKM2	Tokmak 2	6.23	288	⇓Pn			Pn	21 29 40.4	+3.9
	comp=E,4.5nm,0.3s								
TKM2				⇓Sn			Sn	21 30 51.1	+3.4
	comp=E,14nm,0.6s								
TKM2				⇑Lg			Lg	21 31 28.4	
	comp=E,47nm,0.6s								
KRBS	Karabastau	6.39	295	*e*P			Pg	21 30 05.1	-1.6
	comp=E,5.2nm,0.7s								
KRBS				*e*S			Sg	21 31 24.2	-5.2
	comp=E,22nm,0.4s								
KRBS	Karabastau	6.39	295	Pg			Pg	21 30 05.1	-1.6
	comp=E,5.2nm,0.7s								
KRBS				Lg			Lg	21 31 24.2	
	comp=E,22nm,0.4s								
CHMS	Chumysh	6.85	288	⇑Pg			Pg	21 30 16.9	+1.5
	comp=E,1.5nm,0.5s								
CHMS				⇓Lg			Lg	21 31 46.2	
	comp=E,20nm,0.6s								
AAK	Ala-Archa	6.98	285	Pn			Pn	21 29 47.9	+1.3
	comp=E,0.7nm,0.3s,baz=125,slow=7.4,SNR=13								
AAK				Pg			Pb	21 30 11.5	+5.9
	comp=E,0.9nm,0.3s,baz=168,slow=21,SNR=6.9								
AAK				Lg			Lg	21 31 43.3	
	comp=E,1.5nm,0.3s,baz=9.7,slow=21,SNR=1.8								
AAK				LR			LR	21 32 59.1	
	comp=E,60nm,18.4s,baz=91,slow=43								
	comp=E,1.4nm,0.3s								
KK31	Karatay Array	9.94	285	⇑Pg			Pn	21 31 15.3	+48
	comp=E,0.4nm,0.5s,baz=93,slow=16,SNR=4.3								
KK31				⇑Lg			Lg	21 33 24.5	
	comp=E,8.0nm,0.8s,baz=99,slow=28,SNR=3.7								
KURBB	Kurchatov Arra	10.04	341	Pn			Pn	21 30 27.3	-1.0
	comp=E,0.1nm,0.3s,baz=157,slow=12,SNR=10								
KURBB					Sn		Sn	21 32 17.8	-3.1
	comp=E,0.1nm,0.3s,baz=168,slow=19,SNR=2.3								
KURBB					Lg		Lg	21 33 20.7	
	comp=E,0.1nm,0.3s,baz=226,slow=6.5,SNR=4.5								
	comp=E,0.5nm,0.5s								
KURBB	Kurchatov Arra	10.04	341	⇑Lg			Lg	21 33 19.0	
	comp=E,35nm,0.7s								
GOMU	GeErMu	10.06	116	P			Pn	21 30 29.5	+0.4
GOMU				pP				21 30 33.5	
GOMU				sP				21 30 37.8	
GOMU				pmax			pmax		
	comp=Z,11nm,0.5s								
KURK	Kurchatov	10.10	341	⇓Lg			Lg	21 33 25.2	
	comp=Z,21nm,0.7s								
OTUK	Ortayu	10.66	315	⇑Lg			Lg	21 33 43.6	
	comp=Z,7.9nm,0.8s								
ZALV	Zalesovo Beam	12.74	3	Pn			Pn	21 31 04.5	-0.8
	comp=Z,0.4nm,0.3s,baz=181,slow=13,SNR=17								
ZALV					Sn		Sn	21 33 20.2	-6.8
	comp=Z,0.6nm,0.3s,baz=171,slow=25,SNR=4.3								
ZALV					Lg		Lg	21 34 43.2	
	baz=186,slow=24								
	comp=Z,2.9nm,0.6s								
BVAR	Borovoye Array	14.82	327	Pn			Pn	21 31 29.5	-4.2
	baz=117,slow=12,SNR=3.8								
BVAR					Lg		Lg	21 35 48.4	
	baz=144,slow=23,SNR=4.5								
BVAR					LR		LR	21 37 38.1	
	comp=Z,81nm,18.9s,baz=108,slow=39								
	comp=Z,0.1nm,0.4s								
SONM	Songino Array	17.46	60	P			Pn	21 32 07.4	-0.5
	comp=Z,0.1nm,0.3s,baz=245,slow=14,SNR=3.8								
SONM					Lg		Lg	21 37 19.6	
	comp=Z,0.1nm,0.3s,baz=288,slow=29,SNR=1.6								
	comp=Z,0.4nm,0.7s								
GEYT	Alibeck	19.94	269	P			P	21 32 35.7	-0.6
	comp=Z,0.8nm,0.8s,baz=70,slow=6.3,SNR=1.1								
AKTO	Aktyubinsk	20.01	306	P			P	21 32 36.5	-0.4
	comp=Z,0.1nm,0.3s,baz=82,slow=12,SNR=1.7								
	comp=Z,0.8nm,0.6s								
CMAR	Chiang Mai Arr	26.21	145	P			P	21 33 39.9	+0.7
	comp=Z,0.5nm,0.5s,baz=342,slow=5.7,SNR=7.0								
	comp=Z,0.5nm,0.5s								
KSRS	Korea Array	34.16	82	P			P	21 34 47.9	-1.5
	comp=Z,0.6nm,0.4s,baz=337,slow=18,SNR=3.9								
	comp=Z,0.6nm,0.4s								
FINES	FINESS Array B	39.63	321	P			P	21 35 36.1	+0.5
	comp=Z,3.6nm,1.1s,baz=106,slow=10,SNR=2.5								
	comp=Z,3.6nm,1.1s								
ARCES	ARCESS Array B	41.00	333	P			P	21 35 47.5	+0.6
	comp=Z,4.4nm,1.0s,baz=105,slow=9.5,SNR=1.5								
	comp=Z,4.4nm,1.0s								
SPITS	Spitsbergen Ar	45.36	344	P			P	21 36 22.3	+0.2
	comp=Z,34nm,1.1s,baz=112,slow=1.6,SNR=2.5								
HFS	Hagfors	45.75	319	P			P	21 36 23.3	-2.1
	comp=Z,2.9nm,0.9s,baz=126,slow=7.3,SNR=2.3								
	comp=Z,2.9nm,0.9s								
RES	Resolute Bay	64.

DJA 17 21:34:34.8±0.5,4°S±5°×12°9E±°, h108km±9km, M3.9/9, mb4.2/2, MLv3.8/9
ISC 17 21:34:34.4±1.2,**3°56S**±0°10×**128°78E**±0°06,**h100**km,**n13,** σ1**1**s**53**/13,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.48**	**130**	P	**Pn**	**21 35 01.8**	**+1.5**
BNDI	**Bandanaira**	**1.48**	**130**	P	**Pn**	**21 35 01.0**	**+0.7**
NLAI	**Namlea**	**1.71**	**281**	P	**Pn**	**21 35 05.3**	**+2.1**
SANI	**Sanana**	**3.17**	**298**	P	**Pn**	**21 35 22.6**	**+0.3**
SANI	**Sanana**	**3.17**	**298**	P	**Pn**	**21 35 22.0**	**-0.3**
LBMI	**Labuha**	**3.17**	**336**	P	**Pn**	**21 35 24.3**	**+1.8**
FAKI	**Fak Fak**	**3.52**	**80**	P	**Pn**	**21 35 28.4**	**+1.2**
FAKI	**Fak Fak**	**3.52**	**80**	P	**Pn**	**21 35 27.8**	**+0.6**
SWI	**Sorong**	**3.65**	**43**	P	**Pn**	**21 35 29.6**	**+0.7**
MTN	**Manton Dam**	**9.51**	**166**	P	**Pn**	**21 36 50.4**	**+1.9**
JAGI	**Jajag, Banyuwa**	**15.34**	**251**	P	**P**	**21 38 07.3**	**-0.7**
COEN	**Coen**	**17.57**	**127**	P	**P**	**21 38 31.2**	**-1.5**
QIS	**Mount Isa**	**19.92**	**149**	P	**P**	**21 38 56.3**	**-2.0**

IDC 17 21:36:05.3±2.8,38°17N×27°65E, h0km, mb3.5/3, mbtmp3.4/5, ML3.2/2, Error ellipse: s-maj=37.1km s-min=33.7km az=3.0
ISK 17 21:36:07.2, 38°38N×27°72E, h1km, ML3.2/39
THE 17 21:36:07.5, 38°39N×27°76E, h2km±2km, ML3.2/4, Error ellipse: s-maj=2.8km s-min=1.2km az=111.0
AFAD 17 21:36:08.0±0.0, 38°37N×27°76E, h7km±2km, MW3.5
ISC 17 21:36:07.8±0.7,**38°37N**±0°02×**27°75E**±0°02,**h10**km±5km, **n72,** σ0**s87**/99,**mb3.5**/3,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZMR	**zmir-demi**	**0.28**	**146**	P	**Pb**	**21 36 14.3**	**-0.6**
IZMR				S	**Sg**	**21 36 18.0**	**+0.8**
GOMA	**Golmarmara-Man**	**0.36**	**21**	Pg	**Pg**	**21 36 14.9**	**0.0**
AKHS	**Akhisar**	**0.51**	**5**	P	**Pg**	**21 36 17.7**	**0.0**
AKS	**Akhisar**	**0.51**	**5**	Pg	**Pg**	**21 36 17.1**	**-0.6**
KIRA	**zmir-Kiraz**	**0.54**	**109**	P	**Pb**	**21 36 18.8**	**-0.5**
KIRA				S	**Sg**	**21 36 25.1**	**-0.2**
BLCB	**Balcova**	**0.56**	**272**	Pg	**Pg**	**21 36 18.8**	**+0.1**
BLCB				Sg	**Sg**	**21 36 26.9**	**+0.9**
BLCB	**Balcova**	**0.56**	**272**	P	**Pg**	**21 36 18.6**	**-0.1**
BLCB				S	**Sg**	**21 36 26.0**	**0.0**
MANT	**Manisa**	**0.64**	**79**	P	**Pb**	**21 36 21.0**	**-0.2**
MANT				S	**Sg**	**21 36 28.6**	**-0.1**
GMLD	**Gumuldur**	**0.72**	**246**	Pg	**Pb**	**21 36 22.3**	**-0.1**
KULA	**Kula-Manisa**	**0.73**	**78**	Pg	**Pb**	**21 36 22.7**	**+0.2**
KULA	**Kula-Manisa**	**0.73**	**78**	P	**Pg**	**21 36 22.1**	**+0.3**
KULA				S	**Sg**	**21 36 31.2**	**-0.1**
ESEN	**Aydn-Nazilli**	**0.74**	**140**	P	**Pg**	**21 36 22.3**	**+0.3**
ESEN				S	**Sb**	**21 36 32.9**	**+0.1**
ESEN	comp=N,1μm,0.9s			*i* AML	AML	21 36 36.0	
ESEN	comp=E,1μm,0.6s			*i* AML	AML	21 36 36.0	
DGB	**zmir**	**0.76**	**245**	P	**Pb**	**21 36 23.0**	**0.0**
DGB				S	**Sg**	**21 36 31.3**	**-0.9**
DGB	comp=N,888nm,0.9s			*i* AML	AML	21 36 35.0	
GCAM	**G?zelcaml?**	**0.79**	**212**	Pg	**Pg**	**21 36 23.1**	**+0.2**
GCAM	**G?zelcaml?**	**0.79**	**212**	P	**Pg**	**21 36 23.0**	**+0.2**
ZEDA	**zmir-Bergama**	**0.80**	**319**	P	**Pg**	**21 36 23.4**	**+0.2**
ZEDA				S	**Sg**	**21 36 32.6**	**-1.0**
FOCM	**Foa**	**0.87**	**293**	Pg	**Pg**	**21 36 24.5**	**-0.1**
URLA	**Izmir**	**0.91**	**270**	Pg	**Pg**	**21 36 25.2**	**-0.1**
URLA	**Izmir**	**0.91**	**270**	P	**Pn**	**21 36 26.4**	**-0.2**
URLA	comp=N,819nm,0.5s			*i* AML	AML	21 36 41.0	
URLA	comp=E,1μm,0.7s			*i* AML	AML	21 36 41.0	
DKL	**Dikili**	**0.96**	**317**	Pg	**Pg**	**21 36 26.3**	**0.0**
SMG	**Samos**	**0.98**	**228**	P	**Pg**	**21 36 26.7**	**+0.1**
SMG	1μm,0.5s			S	**Sb**	**21 36 40.4**	**+0.6**
STEP	**BALIKESIR_Sava**	**1.01**	**358**	P	**Pg**	**21 36 27.1**	**0.0**
STEP				S	**Sg**	**21 36 40.3**	**+0.1**
STEP	comp=E,720nm,0.4s			*i* AML	AML	21 36 42.0	
DEMI	**Demirci**	**1.01**	**48**	P	**Pg**	**21 36 27.2**	**+0.1**
DEMI				S	**Sg**	**21 36 38.8**	**-1.5**
DEMI	comp=E,847nm,0.4s			*i* AML	AML	21 36 42.0	
DEMI	comp=N,612nm,0.3s			*i* AML	AML	21 36 43.0	
USAK	**Uak-Merkez**	**1.05**	**70**	P	**Pb**	**21 36 28.1**	**+0.1**
USAK				S	**Sg**	**21 36 40.3**	**-1.3**
MLSB	**Milas**	**1.07**	**179**	Pn	**Pn**	**21 36 28.9**	**0.0**
CESE	**eme**	**1.14**	**268**	Pn	**Pb**	**21 36 29.6**	**0.0**
SIMA	**Simav-Kutahya**	**1.20**	**53**	Pn	**Pg**	**21 36 31.4**	**+0.6**
MULA	**Mugla, Merkez-**	**1.20**	**158**	P	**Pg**	**21 36 31.4**	**+0.6**
MULA				S	**Sb**	**21 36 46.0**	**-0.1**
SMAA	**Simav-Kutahya**	**1.21**	**52**	Pn	**Pg**	**21 36 31.6**	**+0.7**
DNIZ	**Denizli-Tavas-**	**1.26**	**126**	P	**Pg**	**21 36 32.0**	**+0.1**
DNIZ				S	**Sn**	**21 36 48.6**	**+0.1**
DNIZ	comp=N,682nm,0.4s			*i* AML	AML	21 36 52.0	
DNIZ	comp=E,632nm,0.4s			*i* AML	AML	21 36 52.0	
TAVA	**DENIZLI_Tavas**	**1.29**	**134**	P	**Pb**	**21 36 32.1**	**0.0**
YKAV	**Yalikavak-Bodr**	**1.30**	**197**	Pn	**Pg**	**21 36 33.1**	**+0.4**
CHOS	**Chios island**	**1.34**	**271**	P	**Pn**	**21 36 32.6**	**+0.1**
CHOS	595nm,0.6s			S	**Sn**	**21 36 50.7**	**+0.3**
BODT	**Bodrum**	**1.35**	**195**	Pn	**Pg**	**21 36 33.9**	**+0.2**
BODT	**Bodrum**	**1.35**	**195**	P	**Pn**	**21 36 32.4**	**-0.3**
KHL	**Karahalli**	**1.39**	**91**	Pn	**Pg**	**21 36 34.9**	**+0.4**
DST	**Dursunbey**	**1.40**	**28**	Pn	**Pg**	**21 36 34.9**	**+0.2**
PRK	**Paraskevi**	**1.45**	**308**	P	**Pn**	**21 36 34.3**	**+0.3**
PRK	1μm,0.7s			S	**Sb**	**21 36 53.5**	**+0.1**
GEDZ	**Gediz**	**1.46**	**62**	Pn	**Pg**	**21 36 36.1**	**+0.3**
APMY	**Acipayam-Deniz**	**1.52**	**126**	Pn	**Pg**	**21 36 36.6**	**-0.3**
TURN	**Turunc**	**1.64**	**166**	Pn	**Pb**	**21 36 38.2**	**+0.2**
DAT	**Datca**	**1.64**	**185**	Pn	**Pb**	**21 36 38.2**	**0.0**
DAT	**Datca**	**1.64**	**185**	P	**Pn**	**21 36 36.7**	**-0.1**
DAT				S	**Sb**	**21 36 59.2**	**+0.2**
GONE	**Gonen-Balikesi**	**1.68**	**358**	Pn	**Pb**	**21 36 38.5**	**-0.2**
SIGR	**SIGRI**	**1.71**	**300**	Pn	**Pb**	**21 36 38.6**	**-0.6**
SIGR	**SIGRI**	**1.71**	**300**	P	**Pn**	**21 36 38.0**	**+0.5**
SIGR	375nm,0.5s			S	**Sn**	**21 36 59.8**	**+0.5**
DALY	**Dalyan (Mula)**	**1.71**	**155**	Pn	**Pb**	**21 36 39.2**	**0.0**
TVSB	**Tavsanli**	**1.71**	**50**	Pn	**Pb**	**21 36 39.5**	**+0.1**
CANM	**Can-anakkale**	**1.73**	**342**	Pn	**Pn**	**21 36 38.8**	**+1.0**
EZN	**Ezine**	**1.83**	**323**	Pn	**Pn**	**21 36 40.4**	**+1.2**
BASM	**Basmaki-Afyon**	**1.86**	**103**	Pn	**Pb**	**21 36 41.1**	**-0.9**
CAME	**Cameli-Denizli**	**1.88**	**139**	Pn	**Pb**	**21 36 41.8**	**-0.5**
ORLT	**Orhaneli**	**1.89**	**28**	Pn	**Pb**	**21 36 41.7**	**-0.7**
KCTX	**Karacabey (Bur**	**1.95**	**14**	Pn	**Pb**	**21 36 42.4**	**-1.0**
EDC	**Edincik**	**1.98**	**2**	Pn	**Pb**	**21 36 43.0**	**-0.8**
COMU	**Canakkale**	**1.99**	**330**	Pn	**Pn**	**21 36 42.8**	**+1.3**
KRBG	**Karabiga-Canak**	**2.05**	**350**	Pn	**Pn**	**21 36 43.8**	**+1.5**
MDNY	**Mudanya-Bursa**	**2.18**	**23**	Pn	**Pb**	**21 36 45.8**	**-1.5**
SHUT	**Suhut-Afyon**	**2.20**	**84**	Pn	**Pn**	**21 36 46.1**	**+1.6**
MRMT	**Marmara Adasi**	**2.23**	**357**	Pn	**Pb**	**21 36 46.8**	**-1.4**
GELI	**Tayfur-Gelibol**	**2.25**	**334**	Pn	**Pn**	**21 36 46.6**	**+1.5**
GADA	**Gvkgeada**	**2.32**	**322**	Pn	**Pn**	**21 36 47.5**	**+1.5**
RKY	**Sarkoy-Tekirda**	**2.36**	**349**	Pn	**Pn**	**21 36 48.2**	**+1.7**
CAVI	**Cavuskoy**	**2.44**	**41**	Pn	**Pn**	**21 36 49.6**	**+1.9**
ERIK	**Erikli-Kesan**	**2.49**	**338**	Pn	**Pn**	**21 36 49.9**	**+1.6**
ADVT	**Abdulvahap**	**2.57**	**36**	Pn	**Pn**	**21 36 51.5**	**+2.1**
BRTR	**Keskin Array B**	**4.78**	**72**	Pn	**Pn**	**21 37 21.4**	**+1.6**
BRTR	0.3nm,0.3s,baz=246,slow=13,SNR=11			Pg	**Pg**	**21 37 37.6**	**-1.7**
BRTR	0.2nm,0.3s,baz=248,slow=15,SNR=13			Sn	**Sn**	**21 38 13.6**	**-1.8**
BRTR	0.1nm,0.3s,baz=255,slow=15,SNR=1.1			Lg	Lg	21 38 41.3	
MMAI	**Mount Meron Ar**	**8.20**	**128**	Pn	**Pn**	**21 38 05.9**	**-0.9**
MMAI	1.3nm,0.3s,baz=317,slow=12,SNR=8.7			Sn	**Sn**	**21 39 36.5**	**-3.0**
MNK	1.1nm,0.3s,baz=309,slow=28,SNR=2.3 1.0nm,0.3s	**16.14**	**0**	*i* P	**Pn**	**21 39 53.6**	**-0.9**
MNK	comp=E,13nm,0.9s comp=N,82nm,0.7s			*i* P	**Pn**	**21 39 53.6**	**-0.9**
MNK	comp=E,19nm,0.7s,baz=181			*i* P	**Pn**	**21 39 53.6**	**-0.9**
MNK				*i* PP	**sP**	**21 40 02.3**	**+0.2**
MNK				*i* PPP	PPP	21 40 09.9	
MNK				*i* S	**Sn**	**21 42 54.0**	**+0.6**
MNK				*i* SS	**S**	**21 43 08.3**	**+1.6**
MNK				*i* SSS	SSS	21 43 20.9	
MNK				*i* LR	LR	21 45 40.1	
KURBB	**Kurchatov Arra**	**37.52**	**54**	P	**P**	**21 43 22.5**	**+0.8**
MKAR	comp=Z,0.5nm,0.6s,baz=281,slow=8.5,SNR=5.5 comp=Z,0.5nm,0.6s **Makanchi Array**	**40.31**	**60**	P	**P**	**21 43 46.1**	**+0.9**
ZALV	comp=Z,0.2nm,0.5s,baz=271,slow=6.9,SNR=2.9 comp=Z,0.2nm,0.5s **Zalesovo Beam**	**41.30**	**49**	P	**P**	**21 43 53.2**	**0.0**
	comp=Z,0.6nm,0.5s,baz=289,slow=9.0,SNR=3.7 comp=Z,0.6nm,0.5s						

IDC 17 21:46:06.5±2.1,5°41S×147°10E, h192km±20km, mb3.8/15, mbtmp4.3/17, Error ellipse: s-maj=19.5km s-min=12.5km az=95.0
NEIC 17 21:46:08.3±1.9,5°51S±0°07×146°99E±0°09, h198km±7km, mb4.6/31, Error ellipse: s-maj=12.9km s-min=10.0km az=78.0
ISC 17 21:46:07.5±0.4,**5°51S**±0°05×**147°00E**±0°06,**h195**km,**n108,** σ1**1**s**13**/110,**mb4.4**/37,**2C-2D,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.46**	**6**	Pn	**Pn**	**21 47 02.5**	**0.0**
PMG	**Port Moresby**	**3.87**	**178**	P	**Pn**	**21 47 06.9**	**-0.6**
PMG	**Port Moresby**	**3.87**	**178**	P	**Pn**	**21 47 06.7**	**-0.9**
PMG	**Port Moresby**	**3.87**	**178**	P	**Pn**	**21 47 06.6**	**-0.9**
PMG	159nm,0.3s,baz=4.2,slow=5.2,SNR=134			S	**Sn**	**21 47 51.0**	**-3.7**
KAVG	**Kavieng**	**4.79**	**53**	P	**Pn**	**21 47 19.1**	**+0.1**
TABU	**Tabubil**	**5.75**	**272**	P	**Pn**	**21 47 32.1**	**+0.5**
COEN	**Coen**	**9.20**	**204**	Pn	**Pn**	**21 48 16.6**	**+0.2**
COEN	**Coen**	**9.20**	**204**	P	**Pn**	**21 48 18.2**	**+1.8**
MTSU	**Mount Surprise**	**12.82**	**192**	P	**Pn**	**21 49 05.2**	**+2.3**
HNR	**Honiara**	**13.42**	**108**	Pn	**Pn**	**21 49 08.7**	**-1.7**
HNR	**Honiara**	**13.42**	**108**	P	**Pn**	**21 49 10.7**	**+0.2**
TV1H	**Townsville Har**	**13.67**	**181**	P	**P**	**21 49 15.8**	**-0.2**
CTA	**Charters Tower**	**14.51**	**183**	P	**P**	**21 49 25.4**	**+0.1**
CTAO	28nm,0.8s,baz=89,slow=1.2,SNR=25 **Charters Tower**	**14.51**	**183**		**Pn**	**21 49 25.1**	**+1.1**
CTAO	**Charters Tower**	**14.51**	**183**	P	**P**	**21 49 25.5**	**+0.1**
FAKI	**Fak Fak**	**14.93**	**279**	Pn	**Pn**	**21 49 27.1**	**-2.1**
FAKI	**Fak Fak**	**14.93**	**279**	P	**Pn**	**21 49 29.0**	**-0.2**
KDU	**Kakadu**	**16.01**	**243**	P	**P**	**21 49 42.3**	**+0.4**
QIS	**Mount Isa**	**16.59**	**205**	P	**Pn**	**21 49 50.3**	**+1.1**
MTN	**Manton Dam**	**17.27**	**244**	P	**P**	**21 49 56.4**	**+0.7**
MTN	comp=Z,61nm,0.8s			lAmb	lAmb	21 49 57.3	
MTN	**Manton Dam**	**17.27**	**244**	P	**P**	**21 49 56.8**	**+1.1**
DRS	**Darwin Rock St**	**17.32**	**246**	P	**P**	**21 49 57.5**	**+1.2**
WB0	**Warramunga Arr**	**18.74**	**220**	P	**P**	**21 50 13.0**	**+1.2**
WRA	**Warramunga Arr**	**18.91**	**220**	P	**P**	**21 50 13.1**	**-0.4**
WRA	**Warramunga Arr**	**18.91**	**220**	P	**P**	**21 50 14.3**	**+0.8**
WRA	comp=Z,60nm,0.3s,baz=38,slow=11,SNR=785			S	**S**	**21 53 36.5**	**-1.6**
EIDS	comp=Z,14nm,0.9s,baz=40,slow=20,SNR=6.0 **Eidsvold**	**20.13**	**169**	P	**P**	**21 50 27.7**	**+1.0**
EIDS				lAmb	lAmb	21 51 00.2	
KNRA	comp=Z,5.5nm,0.8s **Kununurra**	**20.55**	**239**	P	**P**	**21 50 30.6**	**-0.6**
KNRA	**Kununurra**	**20.55**	**239**	P	**P**	**21 50 31.1**	**-0.1**
QLP	**Quilpie**	**21.12**	**187**	P	**P**	**21 50 39.2**	**+2.1**
AS01	**Alice Springs**	**21.99**	**214**	P	**P**	**21 50 47.4**	**+1.2**
AS31	**Alice Springs**	**22.02**	**214**	P	**P**	**21 50 47.8**	**+1.4**
ASAR	**Alice Springs**	**22.02**	**214**	P	**P**	**21 50 47.7**	**+1.3**
ASAR	comp=Z,48nm,0.6s,baz=47,slow=8.3,SNR=839			S	**S**	**21 54 35.3**	**0.0**
INKA	comp=Z,2.0nm,0.7s,baz=38,slow=17,SNR=4.2 comp=Z,48nm,0.6s **Innaminka**	**22.89**	**194**	P	**P**	**21 50 56.1**	**+1.8**
SOEI	**Soe**	**22.91**	**258**	P	**P**	**21 50 56.1**	**+1.3**
SOEI	comp=Z,36nm,1.1s			lAmb	lAmb	21 51 15.3	
SOEI	**Soe**	**22.91**	**258**	P	**P**	**21 50 55.5**	**+0.7**
BATI	**Baumata**	**23.57**	**257**	P	**P**	**21 51 01.5**	**+0.8**
FITZ	comp=Z,17nm,0.5s,baz=142,slow=2.0,SNR=6.2 comp=Z,17nm,0.5s **Fitzroy Crossi**	**24.32**	**237**	P	**P**	**21 51 08.0**	**+0.6**
FITZ	comp=Z,10nm,0.8s			lAmb	lAmb	21 51 10.8	
FITZ	**Fitzroy Crossi**	**24.32**	**237**	P	**P**	**21 51 08.0**	**+0.6**
OOD	**Oodnadatta**	**24.63**	**205**	P	**P**	**21 51 11.8**	**+1.7**
LIFNC	**LIFOU**	**24.82**	**130**	P	**P**	**21 51 12.0**	**0.0**
DZM	**Mont Dzumac**	**25.00**	**133**	P	**P**	**21 51 12.9**	**-0.7**
DZM	comp=Z,25nm,1.5s			lAmb	lAmb	21 51 16.0	
DZM	**Mont Dzumac**	**25.00**	**133**	P	**P**	**21 51 15.2**	**+1.6**
ARMA	**Armidale**	**25.16**	**171**	P	**P**	**21 51 15.6**	**+0.6**
ARMA	comp=Z,4.8nm,0.9s			lAmb	lAmb	21 51 25.0	
ARMA	**Armidale**	**25.16**	**171**	P	**P**	**21 51 16.6**	**+1.6**
LCRK	**Leigh Creek**	**26.15**	**197**	P	**P**	**21 51 24.8**	**+1.0**
WRKA	**Warakurna**	**26.43**	**221**	P	**P**	**21 51 27.2**	**+0.7**
STKA	**Stephens Creek**	**26.71**	**190**	P	**P**	**21 51 28.3**	**-0.5**
MULG	comp=Z,2.9nm,0.9s,baz=356,slow=13,SNR=1.9 comp=Z,2.9nm,0.9s **Mulgathing**	**27.49**	**205**	P	**P**	**21 51 36.7**	**+0.9**
HTT	**Hallett**	**28.78**	**194**	P	**P**	**21 51 48.4**	**+1.2**
MBWA	**Marble Bar**	**30.67**	**237**	P	**P**	**21 52 03.7**	**-0.3**
MBWA	comp=Z,39nm,1.4s			lAmb	lAmb	21 52 06.2	
MBWA	**Marble Bar**	**30.67**	**237**	P	**P**	**21 52 04.6**	**+0.6**
PSA00	**Pilbara Seismi**	**30.76**	**236**	P	**P**	**21 52 04.6**	**-0.2**
PSA00	comp=Z,18nm,0.8s			lAmb	lAmb	21 52 05.9	
PSA00	**Pilbara Seismi**	**30.76**	**236**	P	**P**	**21 52 05.2**	**+0.4**
FORT	**Forrest**	**30.80**	**213**	P	**P**	**21 52 06.2**	**+1.2**
MSVF	**Nonsavu**	**32.69**	**114**	P	**P**	**21 52 23.8**	**+2.1**
JAGI	**Jajag, Banyuwa**	**32.73**	**263**	P	**P**	**21 52 19.2**	**-2.8**
JAGI	comp=Z,12nm,1.2s			lAmb	lAmb	21 52 24.3	
JCJ	**Chichijima**	**32.75**	**352**	P	**P**	**21 52 22.2**	**+0.2**
JCJ	**Chichijima**	**32.75**	**352**	P	**P**	**21 52 22.4**	**+0.4**
MEEK	**Meekatharra**	**34.27**	**229**	P	**P**	**21 52 36.2**	**+0.9**
KMBL	**Kambalda**	**34.88**	**219**	P	**P**	**21 52 41.1**	**+0.7**
GIRL	**Giralia**	**35.92**	**238**	P	**P**	**21 52 50.4**	**+1.0**
MORW	**Morawa**	**37.49**	**228**	P	**P**	**21 53 02.6**	**0.0**
MORW	comp=Z,26nm,1.4s			lAmb	lAmb	21 53 31.1	
MORW	**Morawa**	**37.49**	**228**	P	**P**	**21 53 03.3**	**+0.7**
KLBR	**Kellerberrin**	**37.73**	**223**	P	**P**	**21 53 04.7**	**+0.2**
BLDU	**Ballidu**	**37.87**	**225**	P	**P**	**21 53 06.3**	**+0.5**
YULB	**Yu-li**	**38.15**	**320**	P	**P**	**21 53 07.0**	**-1.1**
YULB	comp=Z,29nm,1.3s			lAmb	lAmb	21 53 42.3	
OUZ	**Omahuta**	**38.41**	**144**	P	**P**	**21 53 11.0**	**+0.8**
TPUB	**Ta-pu**	**38.51**	**319**	P	**P**	**21 53 09.8**	**-1.4**
TPUB	**Ta-pu**	**38.51**	**319**	P	**P**	**21 53 10.6**	**-0.6**
SSLB	**Suanglung**	**38.65**	**320**	P	**P**	**21 53 11.9**	**-0.4**
SSLB	comp=Z,31nm,1.4s			lAmb	lAmb	21 53 32.1	
MUN	**Mundaring**	**39.01**	**224**	P	**P**	**21 53 16.1**	**+0.9**
BBJI	**Bungbulang**	**39.13**	**265**	P	**P**	**21 53 15.6**	**-1.0**
AFI	**Afiamalu**	**41.43**	**105**	P	**P**	**21 53 34.9**	**-0.5**
AFI	comp=Z,30nm,0.9s			lAmb	lAmb	21 53 36.6	
MRNZ	**Matariki Terra**	**42.50**	**151**	P	**P**	**21 53 44.4**	**+0.8**
NNZ	**Nelson**	**42.66**	**150**	P	**P**	**21 53 45.3**	**+0.5**
RTZ	**Ruatahuna**	**42.71**	**145**	P	**P**	**21 53 46.0**	**+0.6**
RTZ	comp=Z,20nm,1.0s			lAmb	lAmb	21 53 47.1	
TUWZ	**Tuamarina**	**43.10**	**150**	P	**P**	**21 53 49.1**	**+0.7**
NJ2	**Nanjing**	**45.97**	**326**	*e*P	**P**	**21 54 13.8**	**+2.6**
NJ2	comp=Z,8.0nm,0.5s			pmax	pmax		
KSRS	**Korea Array**	**46.30**	**339**	P	**P**	**21 54 13.5**	**-0.1**
GYA	comp=Z,0.5nm,0.5s,baz=169,slow=7.3,SNR=2.4 comp=Z,0.5nm,0.5s **Guiyang**	**50.36**	**311**	*e*P	**P**	**21 54 45.4**	**+0.3**
GYA	comp=Z,6.0nm,1.4s			pmax	pmax		
MDJ	**Mudanjiang**	**52.30**	**344**	P	**P**	**21 55 01.1**	**+2.2**
MDJ	comp=Z,8.0nm,2.3s			pmax	pmax		
MDJ	comp=Z,200nm,4.0s			pmax	pmax		
PZH	**PanZhiHua**	**54.16**	**308**	P	**P**	**21 55 15.6**	**+2.6**
PZH	comp=Z,10.0nm,0.5s			pmax	pmax		
PZH	comp=Z,100nm,5.0s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**56.42**	**328**	*e*P	**P**	**21 55 30.5**	**+1.6**
HHC	comp=Z,8.0nm,0.5s			pmax	pmax		
HHC	comp=Z,97nm,4.5s			pmax	pmax		
PETK	**Petropavlovsk-**	**59.10**	**7**	P	**P**	**21 55 45.8**	**-1.3**
SONM	comp=Z,2.3nm,0.7s,baz=170,slow=8.5,SNR=4.7 comp=Z,2.3nm,0.7s **Songino Array**	**63.98**	**331**	P	**P**	**21 56 20.4**	**+0.3**
SONM	**Songino Array**	**63.98**	**331**	P	**P**	**21 56 19.5**	**-0.6**
SEY	comp=Z,1.1nm,0.9s,baz=154,slow=5.2,SNR=6.3 comp=Z,1.1nm,0.9s **Seymchan**	**68.37**	**3**	P	**P**	**21 56 45.5**	**-2.0**
VNDA	comp=Z,1.5nm,0.8s,baz=168,slow=6.6,SNR=4.5 comp=Z,1.5nm,0.8s **Vanda**	**72.40**	**177**	P	**P**	**21 57 12.3**	**+0.5**
VNDA	**Vanda**	**72.40**	**177**	P	**P**	**21 57 12.0**	**+0.2**
M14K	comp=Z,1.4nm,0.6s,baz=337,slow=6.8,SNR=17 comp=Z,1.4nm,0.6s **Bethel**	**77.04**	**23**	P	**P**	**21 57 38.9**	**+0.3**
M14K				lAmb	lAmb	21 57 43.5	
MK31	comp=Z,16nm,1.4s **Makanchi Array**	**77.12**	**320**	⇓Pg	**P**	**21 57 39.3**	**-0.1**
MK31	comp=Z,0.1nm,0.3s,baz=134,slow=15,SNR=5.2			⇑Lg	Lg	21 58 21.2	
MKAR	comp=Z,0.7nm,0.8s,baz=111,slow=6.7,SNR=7.6 **Makanchi Array**	**77.12**	**320**	P	**P**	**21 57 38.7**	**-0.7**
MKAR	**Makanchi Array**	**77.12**	**320**	P	**P**	**21 57 38.9**	**-0.5**
MAKZ	comp=Z,0.2nm,0.4s,baz=96,slow=8.5,SNR=5.5 comp=Z,0.2nm,0.4s **Makanchi**	**77.33**	**320**	P	**P**	**21 57 40.8**	**+0.2**
MAKZ	**Makanchi**	**77.33**	**320**	⇑Pg	**P**	**21 57 40.2**	**-0.4**
MAKZ	comp=Z,0.1nm,0.5s			⇓Lg	Lg	21 58 24.6	
TIXI	comp=Z,0.8nm,0.9s **Tiksi**	**77.93**	**354**	P	**P**	**21 57 42.7**	**-0.6**
L16K	comp=Z,3.1nm,0.2s,baz=226,slow=1.4,SNR=4.0 comp=Z,3.1nm,0.2s **Owhat River**	**78.58**	**23**	P	**P**	**21 57 46.8**	**-0.3**
L16K				lAmb	lAmb	21 58 12.9	
ZALV	comp=Z,7.1nm,1.3s **Zalesovo Beam**	**78.60**	**328**	P	**P**	**21 57 46.5**	**-0.9**
ZALV	**Zalesovo Beam**	**78.60**	**328**	P	**P**	**21 57 46.2**	**-1.2**
TTA	comp=Z,1.6nm,0.6s,baz=108,slow=7.1,SNR=6.9 comp=Z,1.6nm,0.6s **Tatalina**	**80.60**	**23**	P	**P**	**21 57 58.4**	**+0.3**
CNPM	**China Poot**	**80.91**	**27**	P	**P**	**21 57 59.7**	**-0.1**
CNPM	comp=Z,14nm,1.3s			lAmb	lAmb	21 58 29.0	
E19K	**Redstone River**	**82.65**	**19**	P	**P**	**21 58 09.3**	**+0.6**
QSPA	**South Pole Qui**	**84.45**	**180**	P	**P**	**21 58 17.7**	**-0.3**
ILAR	comp=Z,1.7nm,0.5s,baz=278,slow=7.1,SNR=38 comp=Z,1.7nm,0.5s **Eielson Array**	**85.03**	**23**	P	**P**	**21 58 19.1**	**-1.6**
BVAR	comp=Z,1.1nm,0.5s,baz=252,slow=4.9,SNR=16 comp=Z,1.1nm,0.5s **Borovoye Array**	**86.37**	**324**	P	**P**	**21 58 26.6**	**-1.0**
NVAR	comp=Z,0.4nm,0.5s,baz=92,slow=10,SNR=2.0 comp=Z,0.4nm,0.5s **Mina Array Bea**	**97.07**	**52**	P	**P**	**21 59 16.7**	**-1.2**
PLCA	comp=Z,1.0nm,0.8s,baz=247,slow=6.2,SNR=4.6 comp=Z,1.0nm,0.8s **Paso Flores**	**122.53**	**147**	PKP	**PKPdf**	**22 04 39.6**	**-0.6**
TORD	comp=Z,1.3nm,0.9s,baz=265,slow=7.0,SNR=3.6 **Torodi Ar. Bea**	**144.97**	**285**	PKPbc	PKPbc	22 05 20.9	-1.2
	comp=Z,0.6nm,0.5s,baz=56,slow=3.6,SNR=14						

DJA 17 21:54:13.3±0.5,6°S±6°×10°6E±°, h175km±7km, M3.8/13, mb3.9/2, MLv3.7/13
IDC 17 21:54:41.5±3.4, 10°24S×110°07E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=190.1km s-min=29.0km az=49.0
ISC 17 21:54:13.6±1.2,**6°6S**±0°2×**106°2E**±0°1,**h150**km,**n15,** σ2**s68**/15,**mb3.4**/3,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBJI	**Serang**	**0.44**	**355**	P	**Pn**	**21 54 36.3**	**+1.6**
DBJI	**Dramaga**	**0.58**	**89**	P	**Pn**	**21 54 38.5**	**+3.2**
SKJI	**Sukabumi**	**0.59**	**139**	P	**Pn**	**21 54 39.8**	**+4.4**
CBJI	**Citeko**	**0.69**	**78**	P	**Pn**	**21 54 39.9**	**+3.9**
LEM	**Lembang**	**1.46**	**101**	P	**Pn**	**21 54 45.9**	**+3.0**
CMJI	**Cimerak**	**2.57**	**118**	P	**Pn**	**21 54 57.6**	**+2.1**
LWLI	**Liwa**	**2.60**	**306**	P	**Pn**	**21 54 57.6**	**+1.5**
KPJI	**Karang Pucung**	**2.85**	**106**	P	**Pn**	**21 55 01.5

KDAK **Kodiak Island** 1.40 79 Pn Pn 22 02 44.6 +0.7
KDAK Sn Sn 22 03 01.8 -0.1
KDAK IAML 22 03 10.2
comp=E,449nm,0.6s
KDAK IAML 22 03 10.6
comp=E,616nm,0.6s
KDAK **Kodiak Island** 1.40 79 P Pn 22 02 44.5 +0.7
comp=E,92nm,0.5s,baz=226,slow=2.0,SNR=1286
KDAK S Sn 22 03 01.5 -0.4
comp=E,283nm,0.5s,baz=317,slow=13,SNR=15
Q19K **Cape Douglas,** 1.60 29 Pn 22 02 47.3 +0.8
Q19K Sn Sn 22 03 07.5 +0.8
Q19K IAML 22 03 18.0
comp=N,786nm,1.0s
Q19K **Cape Douglas,** 1.60 29 P Pn 22 02 47.4 +0.8
baz=210
ANNE **Aniakchak Nort** 1.70 250 Pn 22 02 48.4 +0.5
CHIR **Chirikof Islan** 1.74 189 Pn Pn 22 02 48.4 0.0
CHIR Sn Sn 22 03 08.9 -1.0
CHIR **Chirikof Islan** 1.74 189 P Pn 22 02 48.3 0.0
baz=8.9
CHIR S Sn 22 03 08.9 -1.0
baz=8.9
ANNW **Aniakchak Nort** 1.76 252 Pn 22 02 50.2 +1.5
P17K **Kvichak River** 1.79 338 P Pn 22 02 49.8 +0.8
baz=157
Q20K **Shuyak Island** 1.81 53 P Pn 22 02 50.5 +1.3
baz=234
Q20K S Sn 22 03 11.8 +0.2
baz=234
SYI **Shuyak Island** 1.82 53 Pn 22 02 50.5 +1.3
SYI Sn Sn 22 03 11.9 +0.3
SYI IAML 22 03 13.2
comp=N,418nm,0.6s
SYI IAML 22 03 13.4
comp=E,292nm,0.4s
P18K **Big Mountain,** 1.86 359 Pn Pn 22 02 50.4 +0.5
P18K **Big Mountain,** 1.86 359 P Pn 22 02 50.4 +0.5
baz=178
AUCH **Augustine Cone** 2.04 25 Pn 22 02 53.7 +1.4
AUL **Augustine Lava** 2.06 25 Pn 22 02 53.7 +1.2
AU22 **Augustine Moun** 2.06 26 Pn 22 02 53.6 +1.0
P16K **Nushagak River** 2.12 316 Pn 22 02 54.1 +0.8
P16K **Nushagak River** 2.12 316 P Pn 22 02 54.1 +0.8
baz=134
CHGN **Chignik** 2.18 237 Pn 22 02 54.8 +0.6
CHGN Sn Sn 22 03 19.8 -0.4
CHGN IAML 22 03 22.1
comp=E,413nm,0.2s
CHGN IAML 22 03 22.9
comp=N,533nm,0.1s
CHGN **Chignik** 2.18 237 P Pn 22 02 54.7 +0.6
baz=55
O18K **Koktuh Hills** 2.32 359 Pn Pn 22 02 56.9 +0.8
O18K IAML 22 03 25.4
comp=N,179nm,0.8s
O18K **Koktuh Hills** 2.32 359 P Pn 22 02 56.9 +0.8
baz=179
P19K **Oil Pt** 2.34 25 Pn Pn 22 02 57.8 +1.4
P19K IAML 22 03 29.7
comp=E,268nm,0.6s
P19K IAML 22 03 39.5
comp=N,190nm,0.6s
P19K **Oil Pt** 2.34 25 P Pn 22 02 57.8 +1.4
baz=206
O17K **Koliganek Bris** 2.46 336 P Pn 22 02 58.7 +0.8
baz=155
VNHG **Veniaminof 1** 2.57 241 Pn 22 03 00.8 +1.3
O16K **Kokwok River B** 2.57 324 Pn 22 03 00.2 +0.7
O16K IAML 22 03 30.8
comp=N,219nm,0.8s
O16K **Kokwok River B** 2.57 324 P Pn 22 02 59.7 +0.3
baz=142
O19K **Port Alsworth** 2.70 9 Pn Pn 22 03 02.1 +1.1
O19K IAML 22 03 38.9
comp=N,294nm,0.5s
O19K **Port Alsworth** 2.70 9 P Pn 22 03 02.0 +0.9
baz=189
IVE **Iliamna Volcan** 2.72 23 Pn 22 03 02.8 +1.2
VNKR **Veniaminof 5** 2.77 239 Pn 22 03 03.2 +1.1
HOM **Homer** 2.81 39 Pn 22 03 04.0 +1.4
HOM **Homer** 2.81 39 P Pn 22 03 04.0 +1.4
baz=222
CNPM **China Poot** 2.86 44 Pn Pn 22 03 04.3 +1.0
CNPM IAML 22 03 37.0
comp=N,206nm,0.8s
CNPM IAML 22 03 46.6
comp=E,151nm,0.7s
O20K **Slope Mountain** 2.87 26 P Pn 22 03 05.1 +1.6
baz=208
O15K **Ungalikthiuk R** 2.96 306 Pn 22 03 05.6 +1.0
O15K **Ungalikthiuk R** 2.96 306 P Pn 22 03 05.6 +1.0
baz=122
RED **Redoubt Volcan** 3.14 22 Pn 22 03 08.6 +1.4
BRLK **Bradley Lake** 3.15 43 Pn Pn 22 03 07.6 +0.4
BRLK IAML 22 03 42.1
comp=N,216nm,0.7s
BRLK IAML 22 03 43.6
comp=E,176nm,0.5s
N18K **Kilae Creek** 3.17 353 Pn 22 03 08.4 +0.8
N18K **Kilae Creek** 3.17 353 P Pn 22 03 08.4 +0.8
baz=173
N17K **Nushagak Hills** 3.18 341 Pn 22 03 08.4 +0.9
N17K IAML 22 04 05.7
comp=N,86nm,0.7s
N17K **Nushagak Hills** 3.18 341 P Pn 22 03 08.2 +0.7
baz=160
RSO **Redoubt South** 3.18 22 Pn 22 03 09.4 +1.6
BRSE **Bradley Lake S** 3.19 44 P Pn 22 03 08.3 +0.6
baz=228
NCT **North Crescent** 3.24 20 Pn 22 03 10.1 +1.5
N19K **Bonanza Creek** 3.30 6 Pn 22 03 10.9 +1.5
N19K **Bonanza Creek** 3.30 6 P Pn 22 03 10.7 +1.4
baz=186
RDT **Redoubt** 3.36 24 Pn 22 03 11.3 +1.3
N16K **Nishlik Lake** 3.49 329 Pn 22 03 12.9 +1.1
N16K **Nishlik Lake** 3.49 329 P Pn 22 03 12.9 +1.1
baz=146
SVW2 **Sparrevohn** 3.58 357 Pn Pn 22 03 14.0 +1.0
SVW2 IAML 22 04 09.7
comp=N,71nm,1.1s
SVW2 IAML 22 04 09.9
comp=E,64nm,0.8s
O14K **Tigyukauivet M** 3.65 301 Pn Pn 22 03 15.2 +1.2
O14K **Tigyukauivet M** 3.65 301 P Pn 22 03 14.7 +0.8
baz=116
CHNA **Chernabura Isl** 3.68 224 P Pn 22 03 14.5 +0.1
baz=41
N15K **Kwethluk River** 3.68 318 Pn 22 03 15.9 +1.4
N15K IAML 22 04 14.3
comp=N,79nm,0.7s
N15K IAML 22 04 16.5
comp=E,100nm,0.8s
N15K **Kwethluk River** 3.68 318 P Pn 22 03 15.6 +1.2
baz=134
SDPT **Sand Point** 3.68 236 Pn Pn 22 03 15.2 +0.8
SDPT IAML 22 04 02.8
comp=N,109nm,1.0s
SDPT **Sand Point** 3.68 236 P Pn 22 03 14.6 +0.2
baz=52
CNBA **Chernabura Isl** 3.69 224 Pn Pn 22 03 13.4 -1.0
CAPN **Captain Cook N** 3.84 31 Pn 22 03 18.6 +2.1
SLKM **Skilak Lake** 3.92 38 Pn 22 03 17.8 +0.1
SEW **Seward** 3.92 47 Pn 22 03 17.1 -0.5
SEW **Seward** 3.92 47 P Pn 22 03 17.3 -0.3
baz=231
N20K **Mount Spurr** 3.97 21 P Pn 22 03 19.4 +1.1
baz=203
SPCR **Spurr Chakacha** 3.97 21 Pn 22 03 19.4 +1.1
M18K **Stony River** 3.98 355 Pn 22 03 19.5 +1.0
M18K **Stony River** 3.98 355 P Pn 22 03 19.5 +1.0
baz=175
M16K **Timber Creek** 4.00 332 Pn 22 03 20.2 +1.4
M16K IAML 22 04 06.2
comp=E,78nm,0.8s
M16K IAML 22 04 06.9
comp=N,50nm,1.1s
M16K **Timber Creek** 4.00 332 P Pn 22 03 19.9 +1.1
baz=149
SPCP **Crater Peak Br** 4.04 21 Pn 22 03 21.0 +1.6
M17K **Holitna River** 4.05 344 Pn 22 03 20.5 +1.2
M17K IAML 22 04 08.8
comp=N,107nm,0.8s
M17K **Holitna River** 4.05 344 P Pn 22 03 20.6 +1.2
baz=162
SPCG **Spurr Capps Gl** 4.09 22 Pn 22 03 21.5 +1.4

N14K **Kuskokwak Cree** 4.16 308 Pn 22 03 22.5 +1.6
N14K **Kuskokwak Cree** 4.16 308 P Pn 22 03 22.5 +1.6
baz=122
PS1A **Pavlof South-1** 4.23 243 Pn 22 03 22.9 +1.1
S12K **Black Hills** 4.24 247 Pn 22 03 23.2 +1.2
S12K IAML 22 04 11.7
comp=E,79nm,0.8s
S12K IAML 22 04 12.0
comp=N,84nm,0.6s
S12K **Black Hills** 4.24 247 P Pn 22 03 23.2 +1.2
baz=62
M15K **Kasigluk River** 4.26 320 Pn 22 03 23.4 +1.2
M15K **Kasigluk River** 4.26 320 P Pn 22 03 23.4 +1.2
baz=136
PN7A **Pavlof North-7** 4.34 244 Pn 22 03 24.9 +1.4
M19K **Big River Lodg** 4.39 5 Pn 22 03 25.3 +1.2
M19K **Big River Lodg** 4.39 5 P Pn 22 03 25.3 +1.2
baz=185
FIS **Fire Island** 4.41 33 Pn 22 03 24.9 +0.6
M20K **Styx River** 4.47 12 Pn 22 03 27.0 +1.8
M20K **Styx River** 4.47 12 P Pn 22 03 26.7 +1.5
baz=194
RC01 **Rabbit Creek A** 4.51 36 Pn Pn 22 03 26.4 +0.7
RC01 IAML 22 04 17.8
comp=N,58nm,0.4s
RC01 IAML 22 04 20.4
comp=E,63nm,0.5s
RC01 **Rabbit Creek A** 4.51 36 P Pn 22 03 26.5 +0.8
baz=220
SUA **Susitna One** 4.53 28 Pn Pn 22 03 27.3 +1.2
SUA **Susitna One** 4.53 28 P Pn 22 03 27.2 +1.1
baz=211
L19K **White Mountain** 4.66 2 Pn 22 03 29.2 +1.5
L19K IAML 22 04 22.3
comp=N,60nm,0.9s
L19K IAML 22 04 53.4
comp=E,36nm,0.9s
L19K **White Mountain** 4.66 2 P Pn 22 03 28.8 +1.1
baz=182
L16K **Owhat River** 4.72 334 Pn Pn 22 03 29.1 +0.5
L16K IAML 22 04 08.6
comp=N,33nm,0.8s
L16K IAML 22 04 37.2
comp=E,36nm,1.4s
L16K **Owhat River** 4.72 334 P Pn 22 03 29.3 +0.7
baz=150
P23K **Montague Islan** 4.72 55 P Pn 22 03 28.9 +0.3
baz=242
L18K **Granite Mounta** 4.76 351 Pn 22 03 30.1 +1.0
L18K IAML 22 04 24.7
comp=N,65nm,1.1s
L18K IAML 22 05 03.8
comp=E,29nm,1.4s
L18K **Granite Mounta** 4.76 351 P Pn 22 03 30.2 +1.1
baz=170
M14K **Bethel** 4.76 315 Pn Pn 22 03 30.4 +1.3
M14K IAML 22 04 37.5
comp=E,39nm,1.4s
M14K IAML 22 04 55.1
comp=N,51nm,1.4s
M14K **Bethel** 4.76 315 P Pn 22 03 30.4 +1.3
baz=130
SKT **Skwentna** 4.81 21 Pn Pn 22 03 30.5 +0.6
SKT **Skwentna** 4.81 21 P Pn 22 03 30.6 +0.8
baz=204
L17K **Donlin** 4.88 342 Pn 22 03 31.4 +0.7
L17K **Donlin** 4.88 342 P Pn 22 03 31.4 +0.7
baz=160
M22K **Willow** 4.94 29 Pn Pn 22 03 32.4 +1.0
L20K **Farewell, AK** 5.00 7 Pn 22 03 33.4 +1.0
L20K **Farewell, AK** 5.00 7 P Pn 22 03 33.4 +1.0
baz=188
PMR **Palmer** 5.09 34 Pn 22 03 34.0 +0.5
PMR IAML 22 04 28.9
comp=E,27nm,0.6s
PMR IAML 22 04 30.4
comp=N,35nm,0.7s
M13K **Dall Lake** 5.13 308 Pn 22 03 35.4 +1.3
M13K IAML 22 05 25.6
comp=N,20nm,1.4s
M13K **Dall Lake** 5.13 308 P Pn 22 03 35.3 +1.2
baz=121
KNK **Knik Glacier** 5.17 38 Pn 22 03 34.8 +0.1
KNK IAML 22 04 33.4
comp=N,47nm,0.5s
KNK **Knik Glacier** 5.17 38 P Pn 22 03 34.6 0.0
baz=224
L15K **Ungalak Mounta** 5.25 325 Pn 22 03 36.7 +0.9
L15K **Ungalak Mounta** 5.25 325 P Pn 22 03 36.7 +0.9
baz=140
HIN **Hinchinbrook I** 5.31 54 Pn Pn 22 03 36.8 +0.1
L14K **Kuka Creek** 5.41 318 Pn Pn 22 03 39.1 +1.2
L14K **Kuka Creek** 5.41 318 P Pn 22 03 39.1 +1.2
baz=132
TTA **Tatalina** 5.43 356 Pn Pn 22 03 39.3 +1.1
TTA **Tatalina** 5.43 356 P Pn 22 03 39.4 +1.2
baz=175
K17K **Iditarod** 5.43 344 Pn Pn 22 03 39.5 +1.4
K17K **Iditarod** 5.43 344 P Pn 22 03 39.3 +1.1
baz=162
CUT **Chulitna** 5.46 25 Pn 22 03 39.7 +1.1
SML **Sawmill** 5.50 36 Pn Pn 22 03 39.5 +0.4
SML **Sawmill** 5.50 36 P Pn 22 03 39.4 +0.2
baz=222
ISLZ **Isanotski Laza** 5.56 243 Pn 22 03 41.0 +1.0
PPLA **Purkeypile** 5.57 14 Pn 22 03 42.1 +1.8
PPLA **Purkeypile** 5.57 14 P Pn 22 03 41.7 +1.4
baz=196
M23K **Glacier View** 5.69 38 Pn 22 03 42.3 +0.6
M23K **Glacier View** 5.69 38 P Pn 22 03 42.3 +0.6
baz=224
EYAK **Cordova Ski Ar** 5.71 54 P Pn 22 03 42.5 +0.5
baz=242
K15K **Wolf Creek Mou** 5.75 329 Pn Pn 22 03 44.0 +1.5
K15K **Wolf Creek Mou** 5.75 329 P Pn 22 03 43.4 +0.9
baz=143
SCM **Sheep Creek Mo** 5.85 39 Pn 22 03 44.2 +0.3
SCM **Sheep Creek Mo** 5.85 39 P Pn 22 03 44.0 +0.1
baz=226
K20K **Telida** 5.86 5 Pn 22 03 45.4 +1.3
K20K **Telida** 5.86 5 P Pn 22 03 44.9 +0.8
baz=186
DIV **Divide** 6.00 49 Pn 22 03 45.9 0.0
J18K **Innoko River** 6.00 353 Pn Pn 22 03 47.0 +1.1
J18K **Innoko River** 6.00 353 P Pn 22 03 47.0 +1.1
baz=172
KAIM **Kayak Island** 6.08 62 Pn Pn 22 03 48.0 +1.0
KAIM **Kayak Island** 6.08 62 P Pn 22 03 47.3 +0.2
baz=251
CAST **Castle Rocks** 6.09 13 Pn Pn 22 03 48.4 +1.2
CAST **Castle Rocks** 6.09 13 P Pn 22 03 48.3 +1.1
baz=196
RAGM **Ragged Mountai** 6.12 58 Pn 22 03 47.9 +0.2
KLU **Klutina** 6.14 46 Pn Pn 22 03 48.5 +0.5
KLU **Klutina** 6.14 46 P Pn 22 03 48.2 +0.2
baz=234
WAT7 **Susitna Watana** 6.17 28 Pn 22 03 48.1 -0.3
GOAT **Goat Mountain** 6.18 56 Pn 22 03 48.9 +0.4
WAT1 **Susitna Watana** 6.24 29 P Pn 22 03 49.2 -0.1
baz=214
WAT6 **Susitna Watana** 6.27 33 P Pn 22 03 49.6 -0.2
baz=219
HMT **Hamilton** 6.29 59 Pn 22 03 50.3 +0.3
J16K **Anvik River** 6.36 337 Pn 22 03 51.8 +1.0
J16K **Anvik River** 6.36 337 P Pn 22 03 51.9 +1.0
baz=152
KTH **Kantishna Hill** 6.38 17 Pn Pn 22 03 51.6 +0.3
NICHA **Nichawak Mount** 6.39 60 Pn 22 03 51.7 +0.3
TRF **Thorofare Moun** 6.40 20 Pn Pn 22 03 51.9 +0.4
TRF **Thorofare Moun** 6.40 20 P Pn 22 03 51.4 -0.1
baz=204
BMRM **Bremner River** 6.41 53 Pn 22 03 51.4 -0.2
BMRM **Bremner River** 6.41 53 P Pn 22 03 51.4 -0.2
baz=242
SUCK **Suckling Hills** 6.43 62 Pn 22 03 52.5 +0.6
M24K **Tolsona, Glenn** 6.43 41 Pn Pn 22 03 52.2 +0.2
M24K **Tolsona, Glenn** 6.43 41 P Pn 22 03 52.0 0.0
baz=228
J19K **Poorman** 6.48 358 Pn 22 03 53.4 +0.9
J19K **Poorman** 6.48 358 P Pn 22 03 53.3 +0.8
baz=178
BERG **Berg Lake** 6.57 59 Pn 22 03 54.0 +0.2
J20K **Nowinta River** 6.68 4 Pn 22 03 56.7 +1.5
J20K **Nowinta River** 6.68 4 P Pn 22 03 55.9 +0.7
baz=185

J14K **Nanvaranak Lak** 6.70 325 Pn 22 03 56.5 +1.1
J14K **Nanvaranak Lak** 6.70 325 P Pn 22 03 56.5 +1.1
baz=138
GRIN **Grindle Hills** 6.71 61 Pn 22 03 56.3 +0.5
N25K **Chitina, Valde** 6.73 48 P Pn 22 03 56.1 +0.1
baz=237
DHY **Denali Highway** 6.76 32 Pn Pn 22 03 56.4 -0.1
DHY **Denali Highway** 6.76 32 P Pn 22 03 56.2 -0.3
baz=218
BPAW **Bear Paw Mtn.** 6.89 15 Pn Pn 22 03 58.1 0.0
BPAW **Bear Paw Mtn.** 6.89 15 P Pn 22 03 58.0 -0.1
baz=199
SNH **Sunshine Point** 6.91 62 Pn Pn 22 03 59.2 +0.8
I17K **Unalakleet** 6.92 339 Pn Pn 22 03 59.8 +1.3
GLB **Gilahina Butte** 6.97 51 Pn Pn 22 03 59.1 -0.1
HARP **HAARP** 6.99 42 Pn 22 04 00.5 +1.0
HARP **HAARP** 6.99 42 P Pn 22 04 00.4 +1.0
baz=230
WAX **Waxell Ridge** 6.99 60 Pn 22 04 00.2 +0.7
VRDI **Verde Repeater** 7.02 53 Pn Pn 22 04 00.3 +0.2
WACK **Wrangell Chich** 7.05 46 Pn 22 04 01.0 +0.5
BARK **Barkley Ridge** 7.14 61 Pn 22 04 02.3 +0.6
PAX **Paxson** 7.26 37 Pn 22 04 03.5 +0.2
PAX **Paxson** 7.26 37 P Pn 22 04 03.5 +0.2
baz=226
MCARA **McCarthy VSAT** 7.28 53 Pn 22 04 03.6 +0.2
MCARA **McCarthy VSAT** 7.28 53 P Pn 22 04 04.0 +0.6
baz=243
ISLE **Juniper Island** 7.28 60 Pn 22 04 04.1 +0.6
I20K **Naaghedeneel** 7.29 2 Pn 22 04 03.3 -0.2
MESA **MESA** 7.34 63 Pn 22 04 04.8 +0.5
MESA **MESA** 7.34 63 P Pn 22 04 04.7 +0.3
baz=254
BAGL **Bagley Icefiel** 7.36 61 Pn 22 04 05.3 +0.9
KIAG **Kiagna River** 7.38 57 Pn 22 04 05.4 +0.4
UNV **Unalaska Valle** 7.41 245 Pn 22 04 05.1 -0.1
UNV **Unalaska Valle** 7.41 245 P Pn 22 04 05.8 +0.6
baz=56
PTPK **Patty Peak** 7.44 55 Pn 22 04 06.6 +0.8
MSW **Makushin Switc** 7.50 246 Pn 22 04 07.0 +0.5
NEA2 **Nenana** 7.66 20 Pn 22 04 07.4 -1.3
NEA2 **Nenana** 7.66 20 P Pn 22 04 07.5 -1.1
baz=205
BARN **Barnard Glacie** 7.75 57 Pn 22 04 10.0 0.0
WRH **Wood River Hil** 7.75 23 Pn Pn 22 04 08.2 -1.6
H17K **Granite Mounta** 7.77 345 Pn 22 04 11.8 +1.7
H18K **Honhosa River** 7.79 350 Pn Pn 22 04 11.7 +1.3
M26K **Nabesna, AK** 7.80 46 Pn 22 04 11.5 +1.0
MLY **Manley** 7.81 14 Pn Pn 22 04 09.8 -0.9
I21K **Tanana** 7.82 10 Pn 22 04 10.8 +0.1
MENT **Mentasta** 7.84 42 Pn 22 04 12.0 +0.8
CTGM **Chitina Glacie** 7.87 58 Pn 22 04 12.3 +0.7
HDA **Harding Lake** 7.96 27 Pn 22 04 12.0 -0.6
LOGN **Logan Glacier** 7.97 60 Pn 22 04 13.3 +0.3
L26K **Log Cabin Wild** 8.03 42 Pn Pn 22 04 15.1 +1.4
H19K **Roundabout Mou** 8.04 356 Pn 22 04 14.6 +0.9
I23K **Minto, Yukon-K** 8.12 18 Pn 22 04 13.9 -1.0
MDM **Murphy Dome** 8.15 21 Pn 22 04 14.3 -1.0
M27K **Edge Creek, AK** 8.22 48 Pn Pn 22 04 17.1 +0.8
H21K **Melozitna Rive** 8.22 7 Pn 22 04 17.2 +1.0
IL31 8.28 25 Pn Pn 22 04 15.6 -1.3
ILAR **Eielson Array** 8.28 25 Pn Pn 22 04 15.3 -1.7
ILAR **Eielson Array** 8.28 25 P Pn 22 04 15.4 -1.6
comp=N,0.7nm,0.3s,baz=217,slow=13,SNR=29
ILAR S Sn 22 05 41.9 -6.8
comp=N,1.3nm,0.5s,baz=146,slow=16,SNR=8.0
comp=N,2.8nm,0.6s
IMAR **Indian Mountai** 8.50 4 Pn Pn 22 04 20.6 +0.6
G18K **Tagagawik** 8.55 350 Pn 22 04 22.0 +1.3
ANM **Nome** 8.61 329 Pn Pn 22 04 22.5 +1.0
L27K **Beaver Creek,** 8.61 44 Pn 22 04 22.2 +0.6
BCAR **Beaver Creek A** 8.63 45 Pn Pn 22 04 22.5 +0.6
G19K **Purcell Mounta** 8.68 355 Pn 22 04 23.6 +1.1
J26L **Joseph Creek** 8.95 34 Pn 22 04 27.1 +0.8
PRP **Porcupine Dome** 9.22 26 Pn 22 04 29.4 -0.5
E18K **Tukpahlearik C** 10.23 348 Pn 22 04 46.7 +3.1
E24K **Your Creek** 10.99 13 Pn Pn 22 04 53.0 -1.0
BMAR **Burnt Mountain** 11.04 22 Pn Pn 22 04 52.6 -2.0
G27K **Doyon Strip** 11.20 28 Pn Pn 22 04 55.1 -1.7
D22K **Ayikyak River** 11.44 5 Pn Pn 22 05 00.8 +0.8
J30M **Hart River** 11.49 44 Pn Pn 22 05 02.3 +1.5
G29M **Pine Creek** 12.28 33 Pn Pn 22 05 12.2 +0.8
C23K **Itkillik River** 12.50 7 Pn Pn 22 05 13.1 -1.3
E28M **Babbage River** 13.10 26 Pn Pn 22 05 22.3 -0.2
G31M **Satah River** 13.45 37 Pn Pn 22 05 26.2 -0.8
INK **Inuvik** 14.50 33 P Pn 22 05 40.3 -0.4
comp=N,0.1nm,0.3s,baz=217,slow=13,SNR=2.0
INK LR LR 22 11 09.4
comp=N,23nm,18.7s,baz=188,slow=36
comp=N,0.5nm,0.4s
C36M **Paulatuk** 17.97 36 P P 22 06 22.9 -0.6
C36M IAmb IAmb 22 06 39.3
comp=Z,4.9nm,1.1s
YKA **Yellowknife Ar** 20.59 59 P P 22 06 53.5 +1.4
comp=Z,0.1nm,0.3s,baz=272,slow=9.7,SNR=3.5
SEY **Seymchan** 25.96 304 P P 22 07 41.6 -2.9
comp=Z,1.2nm,0.5s,baz=86,slow=10,SNR=6.2
comp=Z,1.2nm,0.5s
PETK **Petropavlovsk-** 26.75 281 P P 22 07 48.5 -3.3
comp=Z,4.5nm,0.8s,baz=72,slow=12,SNR=5.3
comp=Z,4.5nm,0.8s
PDAR **Pinedale Array** 32.04 97 P P 22 08 41.4 +2.4
comp=Z,0.2nm,0.6s,baz=305,slow=3.2,SNR=2.4
comp=Z,0.2nm,0.6s
KLR **Kul'dur** 42.38 291 P P 22 10 04.7 -1.3
comp=Z,1.3nm,0.7s,baz=76,slow=6.4,SNR=6.2
comp=Z,1.3nm,0.7s
MJAR **Matsushiro Arr** 47.82 274 P P 22 10 48.8 -0.5
comp=Z,0.9nm,0.8s,baz=32,slow=7.2,SNR=3.1
comp=Z,0.9nm,0.8s
KSRS **Korea Array** 52.63 283 P P 22 11 24.7 -0.8
comp=Z,0.6nm,0.5s,baz=40,slow=7.4,SNR=3.0
comp=Z,0.6nm,0.5s
ARCES **ARCESS Array B** 53.23 360 P P 22 11 28.6 -0.8
comp=Z,5.2nm,1.0s,baz=10,slow=7.6,SNR=3.9
comp=Z,5.2nm,1.0s
SONM **Songino Array** 55.33 306 P P 22 11 45.6 +0.5
comp=Z,1.7nm,0.7s,baz=42,slow=6.4,SNR=16
SONM PcP PcP 22 12 43.5 -1.3
comp=Z,0.2nm,0.5s,baz=82,slow=3.9,SNR=2.5
comp=Z,1.7nm,0.7s
ZALV **Zalesovo Beam** 58.69 323 P P 22 12 08.8 +0.2
comp=Z,1.1nm,0.6s,baz=51,slow=7.1,SNR=5.4
comp=Z,1.1nm,0.6s
NOA **NORSAR Array B** 61.28 8 P P 22 12 26.4 +0.2
comp=Z,0.9nm,0.7s,baz=359,slow=7.5,SNR=2.8
comp=Z,0.9nm,0.7s
FINES **FINESS Array B** 61.35 359 P P 22 12 26.7 +0.1
FINES **FINESS Array B** 61.35 359 P P 22 12 26.4 -0.3
comp=Z,0.6nm,0.4s,baz=4.1,slow=8.7,SNR=11
comp=Z,0.6nm,0.4s
HFS **Hagfors** 62.34 6 P P 22 12 33.7 +0.4
comp=Z,1.9nm,0.7s,baz=53,slow=7.6,SNR=7.9
comp=Z,1.9nm,0.7s
KURBB **Kurchatov Arra** 63.53 325 P P 22 12 40.8 -0.6
comp=Z,0.6nm,0.2s,baz=28,slow=6.2,SNR=1.5
comp=Z,0.6nm,0.2s
BVAR **Borovoye Array** 63.71 331 P P 22 12 42.1 -0.4
comp=Z,1.5nm,0.5s,baz=32,slow=8.7,SNR=6.7
comp=Z,1.5nm,0.5s
EKA **Eskdalemuir Ar** 65.22 17 P P 22 12 53.0 +0.7
comp=Z,1.5nm,0.5s,baz=335,slow=5.3,SNR=11
comp=Z,1.5nm,0.5s
MKAR **Makanchi Array** 65.64 321 P P 22 12 55.2 -0.1
MKAR **Makanchi Array** 65.64 321 P P 22 12 55.0 -0.2
comp=Z,1.0nm,0.5s,baz=42,slow=7.3,SNR=19
comp=Z,1.0nm,0.5s
MAKZ **Makanchi** 65.74 321 P P 22 12 55.8 0.0
ABKAR **Akbulak array** 69.69 336 P P 22 13 20.3 -0.2
ABKAR **Akbulak array** 69.69 336 P P 22 13 20.4 -0.1
ABKAR IAmb IAmb 22 13 21.0
comp=Z,0.9nm,0.6s
AKASG **Malin Array Be** 72.06 357 P P 22 13 34.5 -0.4
comp=Z,1.3nm,0.4s,baz=4.3,slow=5.8,SNR=11
comp=Z,1.3nm,0.4s
KK31 **Karatay Array** 72.70 327 P P 22 13 38.6 -0.3
KK31 IAmb IAmb 22 13 39.6
comp=Z,1.8nm,1.1s
GERES **GERESS Array B** 73.58 8 P P 22 13 44.2 +0.1
comp=Z,1.6nm,0.6s,baz=357,slow=16,SNR=4.9
comp=Z,1.6nm,0.6s
KBZ **Khabaz** 77.97 347 P P 22 14 10.0 +1.0
comp=Z,1.6nm,0.7s,baz=330,slow=3.8,SNR=4.7
comp=Z,1.6nm,0.7s
ESDC **Sonseca Array** 80.17 22 P P 22 14 22.9 +1.7
comp=Z,0.8nm,0.8s,baz=341,slow=5.0,SNR=5.4

comp=Z,0.8nm,0.8s
BRTR Keskin Array B 82.82 353 P **P** **22 14 35.8 +0.5**
comp=Z,0.8nm,0.6s,baz=16,slow=3.7,SNR=7.0
comp=Z,0.8nm,0.6s
CMAR Chiang Mai Arr 82.84 293 P **P** **22 14 35.1 -0.4**
comp=Z,1.8nm,0.3s,baz=19,slow=6.2,SNR=6.0
comp=Z,1.8nm,0.3s
KEST Kesra 86.17 13 P **P** **22 14 54.0 +1.9**
comp=Z,2.6nm,0.8s,baz=288,slow=9.6,SNR=1.9
comp=Z,2.6nm,0.8s
QSPA South Pole Qui 147.33 180 PKPbc **PKPbc** **22 21 53.4 +0.6**
comp=Z,1.0nm,1.0s,baz=25,slow=7.4,SNR=1.6

IDC 17 22:12:28.5±2.0, 0.38N×124.83E, h0km, mb3.1/3, mbtmp3.1/3, Error ellipse: s-maj=200.9km s-min=28.7km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.24**	**156**	P	P	22 17 27.6	+0.5
	1.0nm,0.9s,baz=334,slow=11,SNR=8.5						
	1.0nm,0.9s						
ASAR	**Alice Springs**	**25.48**	**160**	P	P	22 17 58.0	-0.5
	0.3nm,0.9s,baz=340,slow=10,SNR=1.7						
	0.3nm,0.9s						
MKAR	**Makanchi Array**	**59.27**	**327**	P	P	22 22 32.0	0.0
	0.1nm,0.4s,baz=133,slow=6.4,SNR=1.7						
	0.1nm,0.4s						

IDC 17 22:12:34.1±5.7, 17.55S×178.84W, h507km±64km, mb3.1/9, mbtmp4.0/10, Error ellipse: s-maj=32.6km s-min=24.1km az=139.0
NEIC 17 22:12:38.9±0.9, 17.9S±0.2×179.0W±0.1, h543km±12km, mb4.2/12, Error ellipse: s-maj=28.3km s-min=9.3km az=154.0

ISC 17 22:12:36.5±0.7, 17.6S±0.1×178.9W±0.1, h539km, n34, σ0.975/34, mb3.8/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.93**	**268**	P	**P**	**22 13 52.2**	**+1.9**
PINNC	**Pines Island,**	**13.77**	**247**	P	**P**	**22 15 33.9**	**+0.5**
DZM	**Mont Dzumac**	**14.50**	**250**	P	**P**	**22 15 40.0**	**-1.1**
	2.4nm,0.7s,baz=90,slow=19,SNR=1.5						
KOUNC	**Koumac, New Ca**	**16.18**	**257**	P	**P**	**22 15 56.9**	**-1.3**
KOUNC				IAmb	IAmb	22 16 00.1	
	comp=Z,7.9nm,0.8s						
LTZ	**Lake Taylor**	**26.18**	**195**	P	**P**	**22 17 27.3**	**-0.8**
FOZ	**Fox Glacier**	**27.54**	**198**	P	**P**	**22 17 38.5**	**-1.4**
EIDS	**Eidsvold**	**28.95**	**249**	P	**P**	**22 17 52.4**	**-0.1**
EIDS				IAmb	IAmb	22 17 53.3	
	comp=Z,4.3nm,0.9s						
ARMA	**Armidale**	**29.70**	**239**	P	**P**	**22 17 59.9**	**+0.8**
ARMA				IAmb	IAmb	22 18 07.1	
	comp=Z,7.7nm,1.1s						
MLZ	**Mavora Lakes**	**29.71**	**199**	P	**P**	**22 17 58.4**	**-0.6**
CTAO	**Charters Tower**	**33.05**	**260**	P	**P**	**22 18 28.0**	**+0.1**
CTAO				IAmb	IAmb	22 18 29.3	
	comp=Z,7.1nm,1.1s						
CAN	**Canberra**	**33.52**	**232**	P	**P**	**22 18 31.5**	**-0.2**
TOO	**Toolangi**	**37.00**	**230**	P	**P**	**22 19 01.3**	**+0.7**
STKA	**Stephens Creek**	**38.37**	**241**	P	**P**	**22 19 12.6**	**+0.7**
STKA	**Stephens Creek**	**38.37**	**241**	P	**P**	**22 19 12.5**	**+0.7**
	comp=Z,2.5nm,0.4s,baz=91,slow=11,SNR=8.0						
	comp=Z,2.5nm,0.4s						
BBOO	**Buckleboo**	**43.15**	**241**	P	**P**	**22 19 49.7**	**-0.1**
WB0	**Warramunga Arr**	**44.21**	**260**	P	**P**	**22 19 58.3**	**0.0**
WB0				IAmb	IAmb	22 20 02.5	
	comp=Z,18nm,1.5s						
WRA	**Warramunga Arr**	**44.24**	**259**	P	**P**	**22 19 57.6**	**-0.9**
WRA	**Warramunga Arr**	**44.24**	**259**	P	**P**	**22 19 57.8**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=94,slow=7.6,SNR=13						
	comp=Z,0.9nm,0.7s						
AS31	**Alice Springs**	**44.44**	**254**	P	**P**	**22 20 00.0**	**0.0**
AS31				IAmb	IAmb	22 20 00.8	
	comp=Z,3.4nm,0.6s						
ASAR	**Alice Springs**	**44.44**	**254**	P	**P**	**22 19 59.5**	**-0.4**
ASAR	**Alice Springs**	**44.44**	**254**	P	**P**	**22 20 00.2**	**+0.2**
	comp=Z,7.5nm,0.4s,baz=89,slow=8.1,SNR=139						
	comp=Z,7.5nm,0.4s						
MJAR	**Matsushiro Arr**	**67.42**	**324**	P	**P**	**22 22 38.5**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=144,slow=7.3,SNR=4.5						
	comp=Z,0.9nm,0.6s						
QSPA	**South Pole Qui**	**72.42**	**180**	P	**P**	**22 23 08.2**	**+0.1**
QSPA	**South Pole Qui**	**72.42**	**180**	P	**P**	**22 23 08.4**	**+0.4**
	comp=Z,1.6nm,1.1s,baz=87,slow=2.1,SNR=1.6						
	comp=Z,1.6nm,1.1s						
NVAR	**Mina Array Bea**	**79.53**	**44**	P	**P**	**22 23 48.7**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=230,slow=9.0,SNR=4.1						
	comp=Z,0.3nm,0.6s						
ILAR	**Eielson Array**	**85.72**	**13**	P	**P**	**22 24 17.1**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=223,slow=5.2,SNR=10						
	comp=Z,0.4nm,0.4s						
TXAR	**Lajitas Array**	**86.22**	**58**	P	**P**	**22 24 21.4**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=212,slow=3.2,SNR=4.8						
	comp=Z,0.5nm,0.8s						
PDAR	**Pinedale Array**	**87.46**	**44**	P	**P**	**22 24 27.5**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=199,slow=2.8,SNR=3.6						
	comp=Z,0.3nm,0.6s						
BURAR	**Bucovina Array**	**144.16**	**332**	PKPbc	**PKPdf**	**22 31 12.0**	**+0.8**
BRTR	**Keskin Array B**	**144.27**	**315**	PKP	**PKPab**	**22 31 11.3**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=121,slow=5.9,SNR=3.7						
MMAI	**Mount Meron Ar**	**145.62**	**303**	PKPbc	**PKPab**	**22 31 16.6**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=50,slow=5.6,SNR=4.2						
FUORN	**Ofenpass-Fuorn**	**150.12**	**347**	PKPbc	**PKiKP**	**22 31 27.7**	**+0.2**
TUE	**Stuetta**	**150.44**	**348**	PKPbc	**PKiKP**	**22 31 28.1**	**0.0**
FNA	**Florina**	**151.07**	**327**	PKPbc	**PKPbc**	**22 31 28.4**	**-0.7**

MEX 17 22:23:49.4±0.7, 15.27N×96.48W, h16km±999km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.61**	**36**	*eP*	Pg	22 23 58.8	-2.7
HUIG				*eS*	Sg	22 24 07.3	-2.3
HUIG	**Huatulco**	**0.61**	**36**	*eP*	Pg	22 23 58.8	-2.7
HUIG				*eS*	Sg	22 24 07.0	-2.5
PEIG	**Puerto Escondi**	**0.97**	**318**	*eP*	Pb	22 24 04.7	-3.0
PEIG				*eS*	Sb	22 24 15.7	-4.6
VHO	**Vista Hermosa**	**1.81**	**352**	*eS*	Sn	22 24 39.0	-3.6
YOIG	**Yosondua**	**1.88**	**327**	*eP*	Pn	22 24 18.5	-2.6
YOIG				*eS*	Sn	22 24 40.3	-4.3
PNIG	**Pinotepa**	**1.94**	**305**	*eP*	Pn	22 24 18.8	-2.9
PNIG				*eS*	Sn	22 24 39.9	-5.8
TXIG	**Tlaxiaco**	**2.33**	**328**	*eP*	Pn	22 24 24.9	-2.3
TXIG				*eS*	Sn	22 24 49.4	-6.3
HLIG	**Huajuapan de L**	**2.84**	**334**	*eP*	Pn	22 24 30.8	-3.5
HLIG				*eS*	Sn	22 25 04.0	-4.3
MGIG	**Malinaltepec**	**2.84**	**314**	*eP*	Pb	22 24 38.0	-1.9
MGIG				*eS*	Sn	22 25 03.8	-4.5
CRIG	**Cruz Grande**	**2.94**	**300**	*eP*	Pn	22 24 31.9	-3.5
CRIG				*eS*	Sn	22 25 02.3	-8.0
DAIG	**Los Arroyos**	**3.51**	**300**	*eS*	Sn	22 25 16.9	-7.6
TGIG		**3.56**	**65**	*eS*	Sn	22 25 20.8	-5.0

MEX 17 22:24:04.9±0.4, 16.43N×95.06W, h34km±48km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.45**	**72**	*eP*	Pb	22 24 09.8	-5.0
NILT				*eS*	Sb	22 24 16.1	-5.4
CMIG	**Matias Romero**	**0.68**	**14**	*eP*	Pn	22 24 13.1	-5.0
CMIG				*eS*	Sn	22 24 21.2	-6.3
UXUV	**UXUV**	**1.24**	**45**	*eP*	Pn	22 24 23.5	-2.3
UXUV				*eS*	Sn	22 24 39.3	-2.2
NEUV	**Arroyo Zacate**	**1.46**	**331**	*eP*	Pn	22 24 27.2	-1.6
NEUV				*eS*	Sn	22 24 44.3	-2.5
PCIG		**1.91**	**112**	*eP*	Pn	22 24 35.2	+0.1
PCIG				*eS*	Sn	22 24 59.2	+1.3
TOIG	**Toxpalan**	**2.53**	**311**	*eP*	Pn	22 24 38.1	-5.6
TOIG				*eS*	Sn	22 25 05.2	-8.3
PATR	**El Naranjo**	**3.02**	**115**	*eP*	Pn	22 24 47.8	-2.7
PATR				*eS*	Sn	22 25 27.8	+2.1
PAVE	**Pavencul**	**3.04**	**114**	*eP*	Pn	22 24 50.3	-0.4
PAVE				*eS*	Sn	22 25 29.2	+3.1
CHUJ	**Union Juarez**	**3.14**	**115**	*eP*	Pn	22 24 43.5	-8.7
CHUJ				*eS*	Sn	22 25 29.3	+0.7
JAUV	**Jalcomulco**	**3.36**	**331**	*eS*	Sn	22 25 34.3	+0.5

IDC 17 22:24:56.5±1.6, 82.95N×73.42E, h0km, mb3.4/5, mbtmp3.6/7, ML3.8/2, Error ellipse: s-maj=35.0km s-min=27.6km az=143.0
FCIAR 17 22:25:00.0, 79.99N×71.09E, h10km, station OMEGA has station magnitude of 3.40 station ZFI2 has station magnitude of 3.40 station SVZ has station magnitude of 3.10

ISC 17 22:24:57.2±1.0, 82.8N±0.1×72.05E±0.07, h10km, n13, σ2.991/19, mb3.6/5, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-**	**4.00**	**252**	*eP*	**Pn**	**22 26 01.1**	**+2.7**
ZFI2				*eS*	**Sn**	**22 26 45.4**	**+0.1**
	42nm,1.6s						
OMEGA	**Omega**	**4.01**	**252**	*eP*	**Pn**	**22 26 01.1**	**+2.6**
OMEGA				*eS*	**Sn**	**22 26 45.3**	**-0.2**
	44nm,2.6s						
SVZ	**Severnaya Zeml**	**5.75**	**112**	*eP*	**Pn**	**22 26 19.7**	**-2.7**
SVZ				*eS*	Sn	22 27 18.8	-9.4
	10nm,1.8s						
KBS	**Kingsbay**	**9.78**	**279**	P	**Pn**	**22 27 18.6**	**+1.0**
KBS				S	**Sn**	**22 29 03.8**	**-3.4**
SPA0	**Spitsbergen Ar**	**9.81**	**272**	*eP*	**Pn**	**22 27 19.1**	**+1.0**
SPA0				*eS*	**Sn**	**22 29 02.6**	**-5.6**
SPITS	**Spitsbergen Ar**	**9.81**	**272**	Pn	**Pn**	**22 27 19.3**	**+1.2**
	baz=56,slow=16						
SPITS				Sn	**Sn**	**22 29 04.8**	**-3.4**
	baz=48,slow=20						
	7.1nm,0.8s						
NRIK	**Noril'sk**	**13.97**	**157**	Pn	**Pn**	**22 28 11.8**	**-3.0**
	0.3nm,0.3s,baz=0.6,slow=17,SNR=2.1						
NRIK				Sn	Sn	22 30 37.8	-12
	0.3nm,0.3s,baz=260,slow=19,SNR=1.7						
ARCES	**ARCESS Array B**	**16.45**	**244**	Pn	**Pn**	**22 28 47.7**	**0.0**
	0.2nm,0.3s,baz=17,slow=10,SNR=13						
ARCES				Sn	**Sn**	**22 31 44.5**	**-5.4**
	0.1nm,0.3s,baz=37,slow=24,SNR=1.8						
	1.2nm,0.4s						
FINES	**FINESS Array B**	**24.22**	**237**	P	**P**	**22 30 16.0**	**+2.5**
	0.9nm,0.4s,baz=11,slow=11,SNR=15						
	0.9nm,0.4s						
AKASG	**Malin Array Be**	**34.49**	**230**	P	**P**	**22 31 47.7**	**+2.9**
	0.4nm,0.5s,baz=8.4,slow=8.9,SNR=2.3						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**36.32**	**168**	P	**P**	**22 32 01.9**	**+1.3**
	0.1nm,0.5s,baz=21,slow=7.4,SNR=2.1						
	0.1nm,0.5s						
TXAR	**Lajitas Array**	**68.02**	**356**	P	**P**	**22 35 56.8**	**+0.5**
	0.1nm,0.4s,baz=9.8,slow=5.9,SNR=2.0						
	0.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**74.61**	**252**	P	**P**	**22 36 38.0**	**+1.8**
	0.5nm,0.6s,baz=1.6,slow=5.4,SNR=4.2						
	0.5nm,0.6s						

IDC 17 22:33:23.2±0.6, 6.07S×142.65E, h0km, mb4.1/13, mbtmp4.2/18, ML4.1/4, MS3.4/19, Error ellipse: s-maj=21.6km s-min=14.1km az=79.0
NEIC 17 22:33:26.1±1.4, 6.08S±0.06×142.69E±0.09, h10km±1km, mb4.5/31, Error ellipse: s-maj=16.8km s-min=7.9km az=65.0
DJA 17 22:33:30.0±0.7, 6.5S×14.3E±°, h93km±18km, M5.0/5, mb4.5/5, MLv5.2/4

ISC 17 22:33:27.8±0.5, 6.24S±0.05×142.59E±0.06, h28km, n89, σ1.885/70, mb4.4/33, MS3.5/15, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPI	**Merauke**	**3.11**	**225**	P	**Pb**	**22 34 19.7**	**-2.8**
JAY	**Jayapura**	**4.15**	**333**	P	**Pn**	**22 34 30.0**	**+0.6**
GENI	**Genyem**	**4.36**	**326**	P	Pn	22 34 34.5	+2.3
GENI	**Genyem**	**4.36**	**326**	P	**Pn**	**22 34 33.7**	**+1.5**
PMG	**Port Moresby**	**5.51**	**125**		**Pn**	**22 34 48.5**	**+0.4**
PMG	**Port Moresby**	**5.51**	**125**	P	**Pn**	**22 34 48.8**	**+0.7**
PMG	**Port Moresby**	**5.51**	**125**	Pn	**Pn**	**22 34 48.6**	**+0.5**
	33nm,0.4s,baz=326,slow=4.4,SNR=23						
PMG				Sn	**Sn**	**22 35 51.5**	**+0.9**
	6.2nm,0.3s,baz=231,slow=21,SNR=9.7						
COEN	**Coen**	**7.69**	**176**	Pn	**Pn**	**22 35 20.2**	**+2.2**
FAKI	**Fak Fak**	**10.82**	**287**	Pn	**Pn**	**22 35 59.9**	**-1.1**
FAKI	**Fak Fak**	**10.82**	**287**	P	**Pn**	**22 36 02.8**	**+1.8**
	27nm,0.9s						
SAUI	**Saumlaki**	**11.34**	**261**		**Pn**	**22 36 09.5**	**+1.4**
SAUI	**Saumlaki**	**11.34**	**261**	P	Pn	22 36 13.9	+5.8
	143nm,1.4s						
MTN	**Manton Dam**	**13.06**	**239**	Pn	**Pn**	**22 36 31.0**	**-0.6**
CTA	**Charters Tower**	**14.22**	**166**	Pn	**Pn**	**22 36 48.1**	**+0.7**
	0.1nm,0.3s,baz=271,slow=2.5,SNR=1.2						
CTA				Lg	Lg	22 40 54.5	
	0.5nm,0.3s,baz=270,slow=19,SNR=1.7						
CTA				LR	LR	22 42 41.3	
	comp=Z,178nm,18.6s,baz=1.0,slow=39						
	1.9nm,0.5s						
QIS	**Mount Isa**	**14.52**	**191**	P	**P**	**22 36 59.2**	**+1.3**
WB0	**Warramunga Arr**	**15.63**	**210**		**Pn**	**22 37 06.1**	**-0.2**
WB0				IAmb	IAmb	22 37 19.6	
	comp=Z,13nm,0.8s						
WRA	**Warramunga Arr**	**15.80**	**210**	Pn	**Pn**	**22 37 07.1**	**-1.4**
WRA	**Warramunga Arr**	**15.80**	**210**	Pn	**Pn**	**22 37 07.6**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=27,slow=13,SNR=19						
WRA				Sn	**Sn**	**22 39 57.0**	**-6.0**
	comp=Z,0.4nm,0.3s,baz=34,slow=22,SNR=2.5						
WRA				Lg	Lg	22 41 46.8	
	comp=Z,0.2nm,0.3s,baz=32,slow=24,SNR=1.8						
	comp=Z,1.6nm,0.5s						
KNRA	**Kununurra**	**16.49**	**234**	Pn	**Pn**	**22 37 16.6**	**-0.7**
KNRA				IAmb	IAmb	22 37 41.7	
	comp=Z,69nm,1.4s						
HNR	**Honiara**	**17.48**	**102**	P	**P**	**22 37 27.7**	**-3.1**
	comp=Z,594nm,0.5s,baz=252,slow=6.8,SNR=0.8						
SOEI	**Soe**	**18.47**	**258**	P	**Pn**	**22 37 43.5**	**+1.4**
SOEI				IAmb	IAmb	22 38 04.0	
	comp=Z,42nm,0.9s						
SOEI	**Soe**	**18.47**	**258**	P	**Pn**	**22 37 47.9**	**+5.8**
SOEI	**Soe**	**18.47**	**258**	P	**Pn**	**22 37 42.2**	**+0.1**
BATI	**Baumata**	**19.14**	**257**	P	**P**	**22 37 47.9**	**-1.1**
	comp=Z,2.1nm,0.3s,baz=0.0,slow=20,SNR=1.9						
BATI				LR	LR	22 46 55.0	
	comp=Z,222nm,18.4s,baz=92,slow=42						
	comp=Z,7.7nm,0.4s						
AS31	**Alice Springs**	**19.23**	**205**	P	**Pn**	**22 37 52.5**	**+1.4**
ASAR	**Alice Springs**	**19.23**	**205**	P	**Pn**	**22 37 52.5**	**+1.3**
ASAR	**Alice Springs**	**19.23**	**205**	P	**Pn**	**22 37 51.9**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=30,slow=9.9,SNR=36						
ASAR				S	**S**	**22 41 21.3**	**-5.1**
	comp=Z,0.8nm,0.6s,baz=19,slow=28,SNR=4.3						
ASAR				Lg	Lg	22 43 39.6	
	comp=Z,0.1nm,0.3s,baz=23,slow=29,SNR=2.7						
ASAR				LR	LR	22 46 08.4	
	comp=Z,236nm,20.6s,baz=33,slow=39						
	comp=Z,6.1nm,0.7s						
GUMO	**Guam**	**19.83**	**7**	LR	LR	22 45 03.1	
	comp=Z,42nm,20.4s,baz=29,slow=36						
QLP	**Quilpie**	**20.29**	**176**	P	Pn	22 38 06.1	+2.5
FITZ	**Fitzroy Crossi**	**20.31**	**233**		Pn	22 38 03.0	-0.9
FITZ	**Fitzroy Crossi**	**20.31**	**233**	P	Pn	22 38 09.2	+5.3
	comp=Z,0.7nm,1.4s						
KAPI	**Kappang**	**22.76**	**272**	P	**P**	**22 38 29.1**	**+0.9**
KAPI				IAmb	IAmb	22 38 37.2	
	comp=Z,24nm,0.8s						
TOLI2	**Tolitoli**	**22.96**	**288**	P	**P**	**22 38 31.1**	**+0.8**
TOLI2				IAmb	IAmb	22 38 33.9	
	comp=Z,8.6nm,0.8s						
WRKA	**Warakurna**	**23.17**	**215**	P	**P**	**22 38 37.8**	**+5.5**
STKA	**Stephens Creek**	**25.52**	**182**	P	**P**	**22 38 55.8**	**+1.7**
STKA	**Stephens Creek**	**25.52**	**182**	P	**P**	**22 38 55.5**	**+1.5**
	comp=Z,3.5nm,0.8s,baz=354,slow=10.0,SNR=3.2						
STKA				LR	LR	22 50 07.8	
	comp=Z,138nm,20.6s,baz=25,slow=39						
	comp=Z,3.5nm,0.8s						
DZM	**Mont Dzumac**	**27.90**	**127**	LR	LR	22 50 30.1	
	comp=Z,129nm,18.4s,baz=311,slow=37						
LEM	**Lembang**	**34.74**	**267**	LR	LR	22 57 28.5	
	comp=Z,42nm,20.4s,baz=328,slow=42						
JHJ	**Hachijo jima 2**	**39.23**	**356**	LR	LR	22 53 51.8	
	comp=Z,97nm,21.6s,baz=36,slow=32						
JNU	**Nakatsue**	**40.70**	**345**	LR	LR	22 54 36.0	
	comp=Z,32nm,19.2s,baz=170,slow=31						
MJAR	**Matsushiro Arr**	**42.76**	**355**	LR	LR	22 57 24.5	
	comp=Z,27nm,20.1s,baz=178,slow=34						
NJ2	**Nanjing**	**44.30**	**331**	*eP*	**P**	**22 41 37.0**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KSRS	**Korea Array**	**45.58**	**344**	P	**P**	**22 41 44.9**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=165,slow=11,SNR=5.5						
KSRS				LR	LR	23 01 36.2	
	comp=Z,10nm,18.2s,baz=145,slow=37						
	comp=Z,0.9nm,0.7s						
GYA	**Guiyang**	**47.64**	**315**	*eP*	P	22 42 04.9	+2.9
GYA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**49.55**	**301**	P	**P**	**22 42 16.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**49.55**	**301**	P	**P**	**22 42 16.1**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=122,slow=6.2,SNR=10.0						
	comp=Z,0.8nm,0.3s						
ASAJ	**Asahikawa**	**50.12**	**0**	LR	LR	23 06 53.2	
	comp=Z,13nm,19.4s,baz=0.0,slow=40						
USRK	**Ussuriysk Ar.**	**51.11**	**350**	P	**P**	**22 42 24.9**	**-3.0**
	comp=Z,1.8nm,0.7s,baz=121,slow=17,SNR=3.8						
	comp=Z,1.8nm,0.7s						
PZH	**PanZhiHua**	**51.25**	**311**	P	P	22 42 32.3	+2.8
PZH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
PZH				pmax	pmax		
	comp=Z,100nm,4.9s						
BJT	**Baijiatuau**	**52.08**	**334**	P	**P**	**22 42 35.3**	**-0.1**
BJT				IAmb	IAmb	22 42 41.0	
	comp=Z,3.4nm,0.6s						
HHC	**Hu-ho-hao-te**	**54.84**	**331**	*eP*	P	22 42 58.0	+2.3
HHC				sP	sP	22 43 05.0	-2.9
HHC				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,86nm,5.9s						
RAR	**Rarotonga**	**57.63**	**111**	LR	LR	23 05 57.8	
	comp=Z,31nm,19.1s,baz=22,slow=34						
GTA	**Gaotai**	**60.20**	**323**	P	P	22 43 36.6	+3.0
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PETK	**Petropavlovsk-**	**60.50**	**10**	P	**P**	**22 43 32.4**	**-2.8**
	comp=Z,4.4nm,0.9s,baz=162,slow=11,SNR=1.4						
	comp=Z,4.4nm,0.9s						
LSA	**Lhasa**	**60.93**	**309**	P	**P**	**22 43 39.7**	**+0.5**
LSA				IAmb	IAmb	22 43 43.8	
	comp=Z,4.2nm,1.1s						
ULN	**Ulaanbaatar**	**62.30**	**334**	P	**P**	**22 43 48.2**	**+0.6**
ULN				IAmb	IAmb	22 43 52.9	
	comp=Z,2.2nm,0.9s						
SONM	**Songino Array**	**62.56**	**333**	P	**P**	**22 43 49.6**	**+0.2**
SONM	**Songino Array**	**62.56**	**333**	P	**P**	**22 43 48.9**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=162,slow=7.7,SNR=5.4						
SONM				LR	LR	23 11 11.9	
	comp=Z,28nm,19.2s,baz=179,slow=36						
	comp=Z,0.5nm,0.6s						
CASY	**Casey**	**63.92**	**194**	P	**P**	**22 44 00.6**	**+2.7**
WMQ	**Urumqi**	**70.17**	**321**	*eP*	P	22 44 41.9	+3.8
WMQ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MK31	**Makanchi Array**	**74.93**	**322**	P	**P**	**22 45 06.2**	**-0.1**
MKAR	**Makanchi Array**	**74.93**	**322**	P	**P**	**22 45 06.2**	**-0.2**
MKAR	**Makanchi Array**	**74.93**	**322**	P	**P**	**22 45 06.4**	**0.0**
	comp=Z,1.5nm,0.7s,baz=108,slow=6.8,SNR=14						
MKAR				LR	LR	23 20 30.7	
	comp=Z,24nm,19.4s,baz=264,slow=38						
	comp=Z,1.5nm,0.7s						
KSH	**Kashi**	**76.30**	**313**	P	P	22 45 18.8	+4.3
KSH				pP	pP	22 45 21.0	-2.6
KSH				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NIL	**Nilore**	**76.52**	**307**	P	**P**	**22 45 16.9**	**+1.1**
ZALV	**Zalesovo Beam**	**76.92**	**329**	P	**P**	**22 45 15.6**	**-1.9**
	comp=Z,0.7nm,0.6s,baz=72,slow=4.8,SNR=4.0						
	comp=Z,0.7nm,0.6s						
KURK	**Kurchatov**	**78.81**	**324**	P	**P**	**22 45 27.7**	**-0.4**
KURK				IAmb	IAmb	22 45 38.7	
	comp=Z,4.9nm,1.2s						
KURBB	**Kurchatov Arra**	**78.83**	**324**	P	**P**	**22 45 27.4**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=116,slow=4.9,SNR=9.7						
	comp=Z,0.6nm,0.5s						
L14K	**Kuka Creek**	**79.51**	**24**	P	**P**	**22 45 31.8**	**+0.2**
OHAK	**Old Harbor**	**81.64**	**30**	P	**P**	**22 45 42.5**	**-0.7**
OHAK				IAmb	IAmb	22 46 09.6	
	comp=Z,5.6nm,1.2s						
SVW2	**Sparrevohn**	**82.32**	**26**	P	**P**	**22 45 46.2**	**-0.6**
SVW2				IAmb	IAmb	22 45 59.4	
	comp=Z,8.4nm,1.4s						
CNPM	**China Poot**	**83.58**	**28**	P	**P**	**22 45 52.9**	**-0.4**
QSPA	**South Pole Qui**	**83.73**	**180**	P	**P**	**22 45 55.0**	**+0.9**
QSPA				IAmb	IAmb	22 46 00.7	
	comp=Z,6.5nm,1.3s						
QSPA	**South Pole Qui**	**83.73**	**180**	P	**P**	**22 45 54.8**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=272,slow=0.6,SNR=10						
QSPA				LR	LR	23 22 04.6	
	comp=Z,45nm,18.4s,baz=261,slow=35						
	comp=Z,2.5nm,0.7s						
NRIK	**Noril'sk**	**84.19**	**343**	P	**P**	**22 45 55.8**	**-0.4**
	comp=Z,1.2nm,0.4s,baz=105,slow=3.8,SNR=3.6						
	comp=Z,1.2nm,0.4s						
BVAR	**Borovoye Array**	**84.41**	**325**	P	**P**	**22 45 57.5**	**-0.2**
	comp=Z,4.5nm,0.8s,baz=109,slow=6.5,SNR=18						
	comp=Z,4.5nm,0.8s						
BRVK

KNEL					Sg		22 35 46.9	+3.0
BRKS	**Brookside Elem**	**0.19**	**355**		Pg		22 35 42.5	+0.9
VVHS	**Vashon High Sc**	**0.19**	**222**		Pg		22 35 41.5	-0.1
SCCW	**Shoreline CC**	**0.19**	**341**		Pg		22 35 42.6	+1.0
LEOT	**Leota Junior H**	**0.23**	**27**		Pg		22 35 43.1	+0.8
LEOT					Sg		22 35 48.6	+3.4
EARN	**East Ridge Ele**	**0.23**	**41**		Pg		22 35 43.2	+0.9
EARN					Sg		22 35 48.7	+3.3
LYNC	**Lynnwood City**	**0.26**	**356**		Pg		22 35 43.5	+0.6
EVGW	**Everett Gatewa**	**0.30**	**14**		Pg		22 35 44.1	+0.5
BLH	**Bald Hill**	**0.31**	**30**		Pg		22 35 43.8	-0.1
RATT	**Rattlesnake La**	**0.34**	**114**		Pg		22 35 44.2	-0.2
CDMR	**Cedar Moraine**	**0.37**	**113**		Pg		22 35 45.1	+0.1
PAYL	**Puyallup Schoo**	**0.38**	**185**		Pg		22 35 45.0	0.0
GNW	**Green Mountain**	**0.38**	**270**		Pg		22 35 44.4	-0.7
GNW				Sg	Sg		22 35 50.5	+0.4
GNW				IAML			22 35 51.7	
	comp=E,854nm,0.3s							
GNW				IAML			22 35 52.3	
	comp=N,534nm,0.7s							
C05A	**Tolt Reservoir**	**0.41**	**72**		Pg		22 35 45.4	-0.3
D05A	**Enumclaw**	**0.42**	**154**		Pg		22 35 46.2	+0.2
D05A				Sg	Sg		22 35 53.0	+1.5
D05A				IAML			22 35 53.9	
	comp=N,817nm,0.6s							
D05A				IAML			22 35 54.0	
	comp=E,608nm,0.5s							
GSM	**Grass Mountain**	**0.48**	**138**		Pg		22 35 46.7	-0.4
B013	**Quilcene**	**0.50**	**300**		Pg		22 35 46.3	-1.2
B013					Sg		22 35 53.8	-0.1
B013	**Quilcene**	**0.50**	**300**		Pg		22 35 46.3	-1.2
C04A	**Brinnon**	**0.50**	**288**		Pg		22 35 46.3	-1.1
C04A					Sg		22 35 53.8	-0.1
GHW	**Garrison Hill**	**0.53**	**181**		Pg		22 35 47.1	-0.8
HDW	**Hoodsport**	**0.54**	**279**		Pg		22 35 47.1	-1.1
B941	**Kapowsin**	**0.58**	**177**		Pg		22 35 47.8	-1.1
B941					Sg		22 35 56.6	+0.1
PCFR	**Pierce County**	**0.59**	**192**		Pg		22 35 48.2	-0.9
RVC	**Mount Rainier-**	**0.66**	**162**		Pg		22 35 49.5	-0.9
JCW	**Jim Creek**	**0.67**	**20**		Pg		22 35 49.8	-0.9
OBSR	**Observation Ro**	**0.73**	**155**		Pg		22 35 50.9	-1.0
LON	**Longmire**	**0.87**	**159**		Pg		22 35 52.8	-1.8
LON				Sg	Sg		22 35 52.8	-1.8
LON	**Longmire**	**0.87**	**159**		Pg		22 35 52.8	-1.8
GPW	**Glacier Peak**	**0.94**	**54**		Pg		22 35 54.8	-1.0
LCW	**Lucas Creek**	**0.94**	**199**		Pg		22 35 54.1	-1.9
RPW	**Rockport**	**1.02**	**29**		Pg		22 35 56.0	-1.3
NLWA	**Neilton Lookou**	**1.10**	**261**		Pg		22 35 56.4	-2.5
NLWA				IAML			22 36 16.8	
	comp=E,123nm,0.4s							
NLWA				IAML			22 36 17.4	
	comp=E,139nm,0.8s							
WISH	**Wishkah**	**1.12**	**247**		Pg		22 35 57.1	-2.1
LTY	**Liberty**	**1.13**	**105**		Pg		22 35 57.9	-1.6
LTY				IAML			22 36 14.5	
	comp=E,109nm,0.5s							
MCW	**Mount Constitu**	**1.18**	**341**		Pg		22 35 58.1	-2.3
MBW	**Mount Baker**	**1.24**	**11**		Pg		22 35 59.9	-1.8
B011	**North Saanich**	**1.34**	**324**		Pn		22 36 00.3	-2.9
PGC	**Sidney**	**1.34**	**324**		Pn		22 36 00.4	-2.8
PGC				IAML			22 36 22.6	
	comp=N,82nm,0.6s							
E03A	**Lebam**	**1.35**	**221**	Pn	Pn		22 36 00.8	-2.5
E03A				IAML			22 36 26.3	
	comp=E,123nm,0.4s							
E03A				IAML			22 36 26.7	
	comp=N,97nm,0.5s							
NLW	**Nelson Butte**	**1.40**	**68**		Pn		22 36 03.8	-0.4
RADR	**Rader Ridge**	**1.55**	**223**		Pn		22 36 04.0	-2.2
RADR				IAML			22 36 37.2	
	comp=N,78nm,1.3s							
RADR				IAML			22 36 44.1	
	comp=E,66nm,1.2s							
F04D	**Rainier, OR**	**1.57**	**199**		Pn		22 36 04.3	-2.1
C03A	**Quillayute Air**	**1.60**	**285**	Pn	Pn		22 36 07.0	+0.3
C03A				IAML			22 36 31.9	
	comp=N,92nm,2.1s							
C03A				IAML			22 36 36.2	
	comp=E,70nm,2.8s							
MXC	**Moxie City**	**1.67**	**126**		Pn		22 36 07.0	-0.8
MXC				IAML			22 36 31.2	
	comp=N,76nm,0.5s							
CLRS	**Cowichan Lake**	**1.77**	**316**	Pn	Pn		22 36 06.3	-2.8
BVW	**Beverly**	**1.79**	**114**		Pn		22 36 09.9	+0.4
F03A	**Seaside**	**1.86**	**209**		Pn		22 36 08.4	-2.1
E07A	**Sunnyside**	**1.93**	**121**	Pn	Pn		22 36 11.0	-0.4
B08A	**Colville Reser**	**2.12**	**67**	Pn	Pn		22 36 12.8	-1.2
HAWA	**Hanford**	**2.21**	**121**	Pn	Pn		22 36 14.5	-0.6
HAWA				IAML			22 36 46.5	
	comp=N,51nm,0.7s							
HAWA				IAML			22 36 48.6	
	comp=N,38nm,0.6s							
HOOD	**Mount Hood Mea**	**2.29**	**169**	Pn	Pn		22 36 15.3	-1.1
HOOD				IAML			22 36 48.9	
	comp=E,44nm,0.7s							
HOOD				IAML			22 36 53.7	
	comp=N,40nm,0.7s							
SHB	**Sechelt**	**2.30**	**333**		Pn		22 36 15.9	-0.5
D08A	**Wollman Farm,**	**2.33**	**101**		Pn		22 36 16.5	-0.4
G05A	**Wamic**	**2.42**	**164**		Pn		22 36 16.8	-1.3
G05A				IAML			22 36 57.6	
	comp=N,49nm,4.5s							
G05A				IAML			22 37 08.1	
	comp=E,35nm,4.2s							
E08A	**Dider Farm, El**	**2.44**	**115**	Pn	Pn		22 36 17.4	-1.0
E08A				IAML			22 36 53.8	
	comp=N,43nm,0.3s							
E08A				IAML			22 36 54.5	
	comp=E,32nm,0.4s							
G03D	**McMinnville, O**	**2.46**	**197**	Pn	Pn		22 36 17.1	-1.4
G03D				IAML			22 37 07.4	
	comp=E,44nm,0.7s							
G06A	**Carlson Farm,**	**2.59**	**154**		Pn		22 36 19.7	-0.8
C09A	**Chrisman Ranch**	**2.71**	**84**		Pn		22 36 20.7	-1.4
H04D	**Lebanon**	**3.06**	**186**	Pn	Pn		22 36 25.4	-1.5
G08A	**Pilot Rock**	**3.23**	**134**		Pn		22 36 28.6	-0.7
G08A				IAML			22 37 19.6	
	comp=N,13nm,0.5s							
G08A				IAML			22 37 29.6	
	comp=E,12nm,0.7s							
NEW	**Newport**	**3.53**	**77**	Pn	Pn		22 36 32.1	-1.3
F10A	**Beach Ranch, E**	**3.81**	**113**		Pn		22 36 36.7	-0.6
F10A				IAML			22 37 45.1	
	comp=N,15nm,0.8s							
I03D	**Drain, OR**	**3.94**	**192**	Pn	Pn		22 36 38.8	-0.2
I07A	**Izee**	**3.98**	**150**	Pn	Pn		22 36 39.3	-0.4
I07A				IAML			22 38 29.5	
	comp=E,12nm,4.6s							
I07A				IAML			22 38 51.3	
	comp=N,9.2nm,4.8s							
BMO	**Blue Mountains**	**4.38**	**126**	Pn	Pn		22 36 43.8	-1.4
BMO				IAML			22 39 21.1	
	comp=N,7.1nm,4.5s							
BMO				IAML			22 39 22.6	
	comp=N,7.2nm,4.4s							
PLID	**Pearl Lake**	**5.00**	**117**	Pn	Pn		22 36 53.1	-0.6
PLID				IAML			22 39 55.7	
	comp=N,4.5nm,4.8s							

*IDC **17** 22:55:05.3±1.2, 42°.41N×85°.19E, h0km, mb3.5/3, mbtmp3.3/8, ML2.5/4, Error ellipse: s-maj=42.8km s-min=14.7km az=60.0*
*NNC **17** 22:55:14.3±1.7, 42°.72N×85°.06E, h4km±6km, mb3.8, mpv3.5, Error ellipse: s-maj=11.7km s-min=7.9km az=134.0*
*SOME **17** 22:55:14.1, 42°.58N×85°.08E, h25km*

ISC 17 22:55:07.1±1.0, 42°.46N±0°.06×85°.24E±0°.05, h10km, n46, σ1§85/64, mb3.4/3, 8C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.72**	**287**	*eP*	**Pg**	**22 56 18.7**	**+0.3**
	3.3nm,0.3s						
KTMS				*eS*	**Sg**	**22 57 05.1**	**-1.5**
	42nm,0.4s						
KTMS	**Ketmen**	**3.72**	**287**	Pg	**Pg**	**22 56 18.7**	**+0.3**
	3.3nm,0.3s						
KTMS				Lg	Lg	22 57 05.1	
	42nm,0.4s						
SHLS	**Shalkode**	**4.31**	**281**	*eP*	**Pb**	**22 56 23.3**	**+0.4**
	12nm,0.6s						
SHLS				*eS*	**Sb**	**22 57 13.2**	**-1.8**
	42nm,0.4s						
PDGK	**Podgornoye**	**4.31**	**284**	Pg	**Pg**	**22 56 28.4**	**-1.3**
	3.1nm,0.7s						
PDGK				Lg	Lg	22 57 22.2	
	8.5nm,0.8s						
PDGK	**Podgornoye**	**4.31**	**284**	⇑Pg	**Pg**	**22 56 31.2**	**+1.6**
	7.4nm,0.6s						
PDGK				⇑Lg	Lg	22 57 25.3	
	19nm,0.5s						
UZB	**Uzynbulak**	**4.63**	**281**	*eP*	**Pg**	**22 56 35.4**	**-0.3**
	4.3nm,0.3s						
UZB				*eS*	**Sg**	**22 57 33.8**	**-1.8**
	20nm,0.4s						
UZB	**Uzynbulak**	**4.63**	**281**	Pg	**Pg**	**22 56 35.4**	**-0.3**
	4.3nm,0.3s						
UZB				Lg	Lg	22 57 34.3	
	15nm,0.7s						
KNOS	**Konyrlen**	**4.81**	**295**	Pg	**Pg**	**22 56 38.5**	**-0.6**
	11nm,0.5s						
KNOS				Lg	Lg	22 57 39.1	
	10nm,0.6s						
MK31	**Makanchi Array**	**4.82**	**335**	⇓Pn	**Pn**	**22 56 22.3**	**+2.6**
	0.4nm,0.3s,baz=152,slow=14,SNR=71						
MK31				⇑Pg	**Pb**	**22 56 34.6**	**+3.0**
	1.8nm,0.4s,baz=145,slow=16,SNR=16						
MK31				⇑Sn	**Sn**	**22 57 18.5**	**+2.9**
	3.5nm,0.5s,baz=150,slow=23,SNR=4.0						
MK31				⇓Lg	Lg	22 57 38.9	
	12nm,0.7s,baz=151,slow=31,SNR=5.8						
MKAR	**Makanchi Array**	**4.82**	**335**	Pn	**Pn**	**22 56 22.1**	**+2.3**
	0.6nm,0.3s,baz=149,slow=15,SNR=34						
MKAR				Pg	**Pb**	**22 56 32.9**	**+1.2**
	3.0nm,0.3s,baz=149,slow=17,SNR=23						
MKAR				Sn	**Sn**	**22 57 18.1**	**+2.4**
	3.0nm,0.3s,baz=151,slow=23,SNR=9.3						
MKAR				Lg	Lg	22 57 35.2	
	4.9nm,0.3s,baz=144,slow=27,SNR=8.5						
	0.8nm,0.3s						
MAKZ	**Makanchi**	**4.94**	**333**	⇑Pg	**Pb**	**22 56 36.7**	**+3.2**
	2.5nm,0.5s						
MAKZ				⇑Sn	**Sn**	**22 57 21.0**	**+2.6**
	3.2nm,0.5s						
MAKZ				⇓Lg	Lg	22 57 39.5	
	8.7nm,0.7s						
ZHN	**Zhinishke**	**5.06**	**280**	*eP*	**Pg**	**22 56 43.0**	**-0.9**
	3.8nm,0.5s						
ZHN				*eS*	**Sg**	**22 57 47.1**	**-2.2**
	20nm,0.3s						
ZHN	**Zhinishke**	**5.06**	**280**	Pg	**Pg**	**22 56 43.0**	**-0.9**
	3.8nm,0.5s						
ZHN				Lg	Lg	22 57 47.1	
	20nm,0.3s						
SATY	**Saty**	**5.07**	**279**	*eP*	**Pg**	**22 56 44.7**	**+0.6**
	2.5nm,0.2s						
SATY				*eS*	**Sg**	**22 57 49.4**	**-0.3**
	26nm,0.2s						
SATY	**Saty**	**5.07**	**279**	Pg	**Pg**	**22 56 45.4**	**+1.3**
	4.5nm,0.5s						
SATY				Lg	Lg	22 57 51.3	
	21nm,0.4s						
KAPS	**Kapalarasan**	**5.11**	**306**	*eP*	**Pg**	**22 56 43.5**	**-1.3**
	3.9nm,0.5s						
KAPS				*eS*	**Sg**	**22 57 47.4**	**-3.6**
	8.1nm,0.3s						
KAPS	**Kapalarasan**	**5.11**	**306**	Pg	**Pg**	**22 56 43.5**	**-1.3**
	3.9nm,0.5s						
KAPS				Lg	Lg	22 57 47.4	
	8.1nm,0.3s						
BLB	**Baldybastay**	**5.20**	**291**	Pg	**Pg**	**22 56 46.0**	**-0.6**
	8.7nm,0.3s						
BLB				Lg	Lg	22 57 51.7	
	8.9nm,0.5s						
KURS	**Kuram**	**5.29**	**284**	*eP*	**Pg**	**22 56 47.8**	**-0.6**
	2.0nm,0.2s						
KURS				*eS*	**Sg**	**22 57 54.6**	**-2.2**
	5.1nm,0.7s						
KURS	**Kuram**	**5.29**	**284**	Pg	**Pg**	**22 56 48.9**	**+0.5**
	3.1nm,0.8s						
KURS				Lg	Lg	22 57 57.2	
	7.1nm,0.7s						
TDK	**Taldyqorghan**	**5.57**	**300**	*eP*	**Pg**	**22 56 54.4**	**+0.7**
	16nm,0.5s						
TDK				*eS*	**Sg**	**22 58 06.1**	**+0.4**
	36nm,0.6s						
TDK	**Taldyqorghan**	**5.57**	**300**	Pg	**Pg**	**22 56 54.4**	**+0.7**
	16nm,0.5s						
TDK				Lg	Lg	22 58 06.1	
	36nm,0.6s						
MDOK	**Medeo**	**6.07**	**279**	*eP*	**Pg**	**22 57 03.3**	**+0.1**
	2.2nm,0.6s						
MDOK				*eS*	**Sg**	**22 58 21.7**	**-0.1**
	8.7nm,0.5s						
MDOK	**Medeo**	**6.07**	**279**	Pg	**Pg**	**22 57 01.4**	**-1.8**
	1.9nm,0.5s						
MDOK				Pg	Pb	22 57 03.3	+10
	2.2nm,0.6s						
MDOK				Lg	Lg	22 58 19.6	
	14nm,0.6s						
MDOK				Lg	Lg	22 58 21.7	
	8.7nm,0.5s						
TNSS	**Tian-Shan**	**6.13**	**278**	*eP*	**Pg**	**22 57 04.8**	**+0.3**
	1.6nm,0.4s						
TNSS				*eS*	**Sg**	**22 58 24.0**	**0.0**
	6.0nm,0.5s						
TNSS	**Tian-Shan**	**6.13**	**278**	Pg	**Pg**	**22 57 03.9**	**-0.6**
	3.0nm,0.7s						
TNSS				Lg	Lg	22 58 22.8	
	2.4nm,0.4s						
CHKK	**Chushkaly**	**6.20**	**286**	*eP*	**Pg**	**22 57 05.2**	**-0.5**
	1.0nm,0.2s						
CHKK				*eS*	**Sg**	**22 58 24.5**	**-1.4**
	7.3nm,0.5s						
CHKK	**Chushkaly**	**6.20**	**286**	Pg	**Pg**	**22 57 05.2**	**-0.5**
	1.0nm,0.2s						
CHKK				Lg	Lg	22 58 24.5	
	7.3nm,0.5s						
KTBS	**Karatobe**	**6.39**	**284**	*eP*	**Pg**	**22 57 10.8**	**+1.4**
	1.1nm,0.6s						
KTBS				*eS*	**Sg**	**22 58 34.8**	**+2.6**
	14nm,0.7s						
KTBS	**Karatobe**	**6.39**	**284**	Pg	**Pg**	**22 57 10.8**	**+1.4**
	1.1nm,0.6s						
KTBS				Lg	Lg	22 58 34.8	
	14nm,0.7s						
MTBS	**Maitube**	**6.52**	**279**	*eP*	**Pg**	**22 57 11.2**	**-0.6**
	1.6nm,0.4s						
MTBS				*eS*	**Sg**	**22 58 35.4**	**-0.8**
	7.6nm,0.3s						
MTBS	**Maitube**	**6.52**	**279**	Pg	**Pg**	**22 57 11.2**	**-0.6**
	1.6nm,0.4s						
MTBS				Lg	Lg	22 58 35.4	
	7.6nm,0.3s						
KRBS	**Karabastau**	**7.11**	**283**	*eP*	**Pg**	**22 57 22.4**	**-0.8**
	1.1nm,0.4s						
KRBS				*eS*	**Sg**	**22 58 54.1**	**-1.2**
	3.1nm,0.9s						
KRBS	**Karabastau**	**7.11**	**283**	Pg	**Pg**	**22 57 22.4**	**-0.8**
	1.1nm,0.4s						
KRBS				Lg	Lg	22 58 54.1	
	3.1nm,0.9s						
TKM2	**Tokmak 2**	**7.12**	**277**	⇓Pn	**Pn**	**22 56 54.4**	**+2.9**
	1.8nm,0.6s						
TKM2				⇓Sn	**Sn**	**22 58 17.3**	**+4.7**
	1.4nm,0.5s						
TKM2				⇓Lg	Lg	22 58 54.4	
	4.3nm,0.5s						
KURBB	**Kurchatov Arra**	**9.38**	**333**	Pn	**Pn**	**22 57 23.2**	**+1.0**
	0.1nm,0.3s,baz=145,slow=13,SNR=1.7						
	0.4nm,0.2s						
KURBB	**Kurchatov Arra**	**9.38**	**333**	⇓Lg	Lg	22 59 59.6	
	14nm,0.7s						
KURK	**Kurchatov**	**9.43**	**333**	⇑Lg	Lg	23 00 05.1	
	4.7nm,0.7s						
OTUK	**Ortayu**	**10.76**	**307**	⇑Lg	Lg	23 00 49.5	
	4.2nm,1.1s						
ZALV	**Zalesovo Beam**	**11.51**	**359**	Pn	**Pn**	**22 57 49.7**	**-1.6**
	0.2nm,0.3s,baz=194,slow=11,SNR=3.0						
ZALV				Sn	**Sn**	**22 59 53.6**	**-6.1**
	0.4nm,0.3s,baz=163,slow=27,SNR=6.2						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**14.52**	**322**	Pn	**Pn**	**22 58 28.6**	**-3.9**
	baz=126,slow=12,SNR=1.1						
	0.2nm,0.3s						
SONM	**Songino Array**	**15.85**	**63**	Pn	**Pn**	**22 58 51.1**	**+0.8**
	0.1nm,0.5s,baz=248,slow=12,SNR=1.9						
TORD	**Torodi Ar. Bea**	**76.52**	**276**	P	**P**	**23 06 57.3**	**-0.3**
	0.1nm,0.4s,baz=52,slow=7.5,SNR=1.7						
	0.1nm,0.4s						
WRA	**Warramunga Arr**	**76.83**	**133**	P	**P**	**23 06 58.9**	**-0.2**
	0.6nm,0.7s,baz=336,slow=6.0,SNR=2.8						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**79.65**	**136**	P	**P**	**23 07 14.4**	**-0.3**
	0.3nm,0.8s,baz=345,slow=6.7,SNR=1.6						
	0.3nm,0.8s						

*HEL **17** 23:03:17.4±0.2, 67°.18N×20°.60E, h0km, ML1.3, Suspected explosion*
*UPP **17** 23:03:17.3±0.0, 67°.19N×20°.67E, h0km, ML2.5, Suspected explosion*

ISC 17 23:03:17.3±0.8, 67°.19N±0°.03×20°.72E±0°.03, h0km, n24, σ0§64/37, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.09**	**221**	P	**Pg**	**23 03 19.1**	**+0.1**
DUNU				S	**Sg**	**23 03 20.5**	**+0.4**
MASU	**Masugnsbyn**	**0.56**	**61**	P	**Pg**	**23 03 28.4**	**+0.3**
RATU	**Laukkuluspa**	**0.77**	**326**	P	**Pg**	**23 03 31.6**	**-0.5**
KUA	**Kurravaara**	**0.78**	**349**	P	**Pg**	**23 03 31.8**	**-0.5**
SALU	**Saltoluokta**	**0.88**	**284**	P	**Pg**	**23 03 33.4**	**-0.7**
PAJU	**Pajala**	**0.95**	**99**	P	**Pg**	**23 03 35.2**	**-0.2**
PAJU	**Pajala**	**0.95**	**99**	PG	**Pg**	**23 03 35.4**	**-0.1**
PAJU				SG	**Sg**	**23 03 48.2**	**+0.4**
LANU	**Lannavaara**	**0.99**	**29**	P	**Pg**	**23 03 35.9**	**-0.4**
LANU	**Lannavaara**	**0.99**	**29**	PG	**Pg**	**23 03 35.8**	**-0.4**
LANU				SN	**Sn**	**23 03 53.8**	**+0.6**
KOVU	**Salmi**	**1.06**	**349**	P	**Pg**	**23 03 37.0**	**-0.5**
KLF	**Kolari**	**1.26**	**86**	PG	**Pg**	**23 03 40.8**	**-0.6**
	baz=272						
KLF				MSG		23 03 57.1	
	comp=Z,1.1nm,0.2s						
KLF				SG	**Sg**	**23 03 57.9**	**+0.1**
HEF	**Hetta**	**1.66**	**41**	PG	**Pn**	**23 03 47.6**	**0.0**
HEF				MSG		23 04 07.9	
	comp=Z,2.1nm,0.2s						
HEF				SN	**Sn**	**23 04 09.4**	**-0.1**
KALU	**Kalix**	**1.70**	**140**	PG	**Pn**	**23 03 48.3**	**+0.1**
	baz=323						
KALU				SN	**Sb**	**23 04 11.2**	**-0.1**
TOF	**Tornio**	**1.82**	**126**	PG	**Pb**	**23 03 50.5**	**-0.9**
	baz=304						
TOF				MSG		23 04 12.6	
	comp=Z,1.5nm,0.2s						
TOF				SN	**Sb**	**23 04 14.8**	**+0.2**
KIF	**Kilpisjarvi**	**1.82**	**1**	PG	**Pb**	**23 03 50.8**	**-0.6**
KIF				MSG		23 04 13.1	
	comp=Z,4.1nm,0.2s						
KIF				SG	**Sg**	**23 04 16.3**	**+0.5**
KTK1	**Kautokeino**	**2.06**	**26**	PG	**Pb**	**23 03 55.1**	**-0.4**
KTK1				SG	**Sb**	**23 04 21.8**	**+0.2**
RNF	**Rovaniemi**	**2.17**	**103**	PG	**Pb**	**23 03 56.8**	**-0.5**
RNF				SG	**Sb**	**23 04 25.1**	**+0.4**
SGF	**Sodankyl**	**2.27**	**81**	PG	**Pb**	**23 03 58.7**	**-0.3**
SGF				SG	**Sb**	**23 04 27.7**	**+0.2**
TRO	**Tromso**	**2.54**	**346**	SG	**Sb**	**23 04 36.0**	**+0.6**
RANF	**Ranua**	**2.69**	**113**	PG	**Pb**	**23 04 07.0**	**+0.7**
RANF				SG	**Sb**	**23 04 40.5**	**+0.6**
ARA0	**ARCESS Array S**	**2.95**	**35**	PN	**Pn**	**23 04 05.9**	**+0.6**
ARA0				SB	**Sn**	**23 04 43.0**	**+1.6**
KMNF	**Kaamanen**	**3.06**	**47**	SN	**Sn**	**23 04 44.7**	**+0.5**
MSF	**Maaselka**	**3.56**	**107**	SG	**Sg**	**23 05 10.2**	**-1.4**
KU6	**Riekki**	**3.84**	**103**	SG	**Sg**	**23 05 18.9**	**-1.6**

IDC 17 23:03:37.6±6.5, 6°.15S×141°.55E, h0km, mb3.6/1, mbtmp3.4/3, ML3.2/2, Error ellipse: s-maj=231.0km s-min=35.7km az=94.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.40**	**206**	Pn	Pn	23 07 15.6	-0.8
	0.1nm,0.3s,baz=27,slow=13,SNR=1.9						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**18.91**	**202**	P	P	23 08 00.2	+0.1
	0.1nm,0.3s,baz=32,slow=9.7,SNR=7.3						
	0.1nm,0.6s						
MKAR	**Makanchi Array**	**74.22**	**322**	P	P	23 15 16.6	+0.1
	0.4nm,0.7s,baz=101,slow=6.3,SNR=4.6						
	0.4nm,0.7s						

*IDC **17** 23:11:13.5±1.5, 67°.75N×34°.15E, h0km, mb2.9/1, mbtmp3.5/6, ML2.5/5, MS3.0/1, Error ellipse: s-maj=18.4km s-min=10.8km az=77.0*
*HEL **17** 23:11:14.1±0.1, 67°.68N×33°.67E, h0km, ML2.2, Explosion*
*KOLA **17** 23:11:14.2, 67°.68N×33°.73E, h0km, ML2.2, Error ellipse: s-maj=3.0km s-min=1.2km az=140.0, Khibiny, mines Kirovsk, Yukspor*

ISC 17 23:11:12.7±0.8, 67°.67N±0°.04×33°.72E±0°.03, h0km, n30, σ1§69/47, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.16**	**229**	P	**Pg**	**23 11 17.2**	**+1.5**
APA				S	**Sg**	**23 11 19.6**	**+1.9**
APA0	**Apatity Array**	**0.28**	**257**	P	**Pg**	**23 11 19.4**	**+1.2**
APA0				S	**Sg**	**23 11 23.2**	**+1.4**
LVZ	**Lovozero**	**0.42**	**57**	P	**Pg**	**23 11 21.8**	**+0.9**
LVZ				S	**Sg**	**23 11 27.2**	**+1.0**
LVZ	**Lovozero**	**0.42**	**57**	*eP*	**Pg**	**23 11 21.9**	**+1.0**
LVZ				*eS*	**Sg**	**23 11 27.6**	**+1.3**
VRF	**Varrio**	**1.57**	**275**	*eP*	**Pn**	**23 11 42.0**	**+0.2**
VRF				*eS*	**Sn**	**23 12 01.7**	**-1.1**
VRF				MSG		23 12 05.1	
	comp=Z,21nm,0.2s						
TERR	**Teriberka**	**1.62**	**18**	P	**Pn**	**23 11 43.0**	**+0.4**
TERR				S	**Sn**	**23 12 04.2**	**+0.1**
OLKF	**Oulanka, Finla**	**2.17**	**233**	*e*PG	**Pb**	**23 11 52.9**	**0.0**
OLKF				*e*SG	**Sb**	**23 12 20.7**	**+0.4**
OLKF				MSG		23 12 24.6	
	comp=Z,10nm,0.2s						
RAJF	**Raja-Jooseppi**	**2.18**	**294**	*eP*	**Pn**	**23 11 51.2**	**+1.0**
RAJF				*eS*	**Sn**	**23 12 18.8**	**+0.8**
KU6	**Riekki**	**2.24**	**224**	*e*PG	**Pb**	**23 11 54.0**	**0.0**
KU6				*e*SG	**Sb**	**23 12 22.9**	**+0.7**
MSF	**Maaselka**	**2.56**	**229**	*e*PG	**Pb**	**23 12 00.1**	**+0.6**
SGF	**Sodankyl**	**2.77**	**269**	*e*PB	**Pn**	**23 12 01.1**	**+2.8**
SGF				*e*SG	**Sb**	**23 12 38.1**	**+0.7**
VADS	**Vadso**	**2.92**	**329**	P	**Pn**	**23 12 01.8**

	comp=Z,15nm,1.0s							
NOA	**NORSAR Array B**	**11.73**	**246**	Pn	**Pn**	**23 14 00.6**	**-0.6**
	baz=50,slow=13,SNR=4.2							
NOA				Sn	**Sn**	**23 16 04.9**	**-7.9**
	baz=55,slow=22,SNR=1.5							
NOA				Lg	Lg	23 17 21.2		
	baz=349,slow=19,SNR=1.9							
	comp=Z,0.4nm,0.8s							
BVAR	**Borovoye Array**	**22.84**	**112**	P	**P**	**23 16 15.2**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=328,slow=11,SNR=1.5							
	comp=Z,0.2nm,0.4s							
TIXI	**Tiksi**	**30.04**	**39**	LR	LR	23 33 11.7		
	comp=Z,24nm,18.2s,baz=155,slow=44							

*UPP **17** 23:12:25.5±0.0, 67.92N×20.06E, h0km, ML2.5, Confirmed Induced event*
*HEL **17** 23:12:28.7±0.4, 67.91N×20.00E, h0km, ML1.5, Suspected explosion*
ISC 17 23:12:25.9±0.9, 67.87N±0.03×20.08E±0.03, h0km, n17, σ0s79/22, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**50**	P	**Pg**	**23 12 27.8**	**-0.5**
KUA				S	**Sg**	**23 12 29.4**	**-0.6**
RATU	**Laukkuluspa**	**0.19**	**255**	P	**Pg**	**23 12 29.5**	**0.0**
KOVU	**Salmi**	**0.35**	**5**	P	**Pg**	**23 12 31.5**	**-1.2**
LANU	**Lannavaara**	**0.74**	**76**	P	**Pg**	**23 12 39.8**	**-0.4**
LANU	**Lannavaara**	**0.74**	**76**	SG	**Sb**	**23 12 51.7**	**-0.8**
DUNU	**Dundret**	**0.78**	**166**	P	**Pg**	**23 12 40.8**	**0.0**
SALU	**Saltoluokta**	**0.78**	**231**	P	**Pg**	**23 12 40.7**	**-0.2**
KIF	**Kilpisjarvi**	**1.17**	**13**	PG	**Pn**	**23 12 49.7**	**+0.2**
KIF				MSG		23 13 04.2	
	comp=Z,6.6nm,0.2s						
KIF				SG	**Sb**	**23 13 04.8**	**+0.2**
HEF	**Hetta**	**1.45**	**67**	SG	**Sb**	**23 13 12.4**	**-0.2**
HEF				MSG		23 13 12.5	
	comp=Z,3.7nm,0.2s						
PAJU	**Pajala**	**1.45**	**125**	P	**Pn**	**23 12 51.9**	**-1.4**
KLF	**Kolari**	**1.62**	**111**	PG	**Pg**	**23 12 58.5**	**+1.5**
KLF				MSG		23 13 18.5	
	comp=Z,2.9nm,0.2s						
KTK1	**Kautokeino**	**1.63**	**44**	PG	**Pg**	**23 12 58.0**	**+0.8**
KTK1				SG	**Sg**	**23 13 18.8**	**+0.5**
TRO	**Tromso**	**1.82**	**347**	PG	**Pb**	**23 13 00.2**	**+0.2**
TRO				SG	**Sg**	**23 13 25.3**	**+1.1**
KALU	**Kalix**	**2.40**	**146**	PN	**Pn**	**23 13 07.5**	**+1.1**
KALU				SN	**Sb**	**23 13 40.1**	**0.0**
TOF	**Tornio**	**2.46**	**135**	SN	**Sb**	**23 13 41.5**	**-0.1**
TOF				MSG		23 13 42.8	
	comp=Z,2.1nm,0.2s						
RNF	**Rovaniemi**	**2.63**	**116**	SN	**Sb**	**23 13 46.4**	**-0.3**
UMAU	**Umeaa**	**4.02**	**176**	SG	**Sg**	**23 14 33.7**	**-1.1**

IDC 17 23:16:12.2±2.2, 2.24N×125.86E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=189.9km s-min=28.0km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.56**	**160**	P	P	23 21 24.3	-0.3
	1.1nm,0.8s,baz=338,slow=10,SNR=8.7						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**26.91**	**164**	P	P	23 21 55.6	+0.2
	0.3nm,0.6s,baz=339,slow=7.2,SNR=5.7						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**58.29**	**326**	P	P	23 26 08.9	0.0
	0.3nm,1.0s,baz=134,slow=6.2,SNR=1.5						
	0.3nm,1.0s						

IDC 17 23:27:37.8±2.5, 7.32S×127.61E, h0km, mb3.1/1, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=276.5km s-min=33.1km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.14**	**153**	Pn	Pn	23 30 58.9	-0.7
	0.2nm,0.3s,baz=328,slow=14,SNR=10						
WRA				Sn	Sn	23 33 22.0	-15
	0.3nm,0.3s,baz=64,slow=14,SNR=7.6						
	0.3nm,0.2s						
ASAR	**Alice Springs**	**17.34**	**160**	P	Pn	23 31 42.0	+0.5
	0.2nm,0.3s,baz=351,slow=11,SNR=13						
ASAR				S	Sn	23 34 43.3	-12
	0.2nm,0.5s,baz=353,slow=23,SNR=1.3						
	0.9nm,0.8s						
MKAR	**Makanchi Array**	**67.21**	**328**	P	P	23 38 34.0	0.0
	0.1nm,0.6s,baz=149,slow=5.9,SNR=1.7						
	0.1nm,0.6s						

*IDC **17** 23:32:15.0±1.1, 14.26N×147.67E, h0km, mb3.6/7, mbtmp3.7/8, ML3.8/1, Error ellipse: s-maj=32.6km s-min=21.3km az=116.0*
ISC 17 23:32:16.4±1.1, 14.2N±0.2×147.7E±0.1, h10km, n14, σ1s15/9, mb3.6/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.86**	**257**	Pn	**Pn**	**23 33 02.0**	**-0.1**
	14nm,0.3s,baz=90,slow=6.6,SNR=5.5						
GUMO				Sn	**Sn**	**23 33 37.5**	**+0.9**
	35nm,0.3s,baz=37,slow=20,SNR=8.6						
	32nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**18.67**	**74**	T	T	23 55 26.8	
	baz=259,slow=73,SNR=15						
H11S1	**WAKE ISLAND Hy**	**18.68**	**74**	T	T	23 55 29.6	
	baz=259,slow=73,SNR=9.3						
H11S2	**WAKE ISLAND Hy**	**18.68**	**74**	T	T	23 55 28.0	
	baz=259,slow=73,SNR=12						
H11N1	**WAKE ISLAND Hy**	**19.11**	**71**	T	T	23 55 59.6	
	baz=256,slow=75,SNR=13						
H11N2	**WAKE ISLAND Hy**	**19.12**	**71**	T	T	23 56 06.3	
	baz=256,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**19.12**	**71**	T	T	23 56 00.8	
	baz=256,slow=75,SNR=15						
WRA	**Warramunga Arr**	**36.43**	**202**	P	**P**	**23 39 21.5**	**-0.1**
	1.2nm,0.7s,baz=25,slow=9.5,SNR=5.9						
	1.2nm,0.7s						
ASAR	**Alice Springs**	**40.02**	**200**	P	**P**	**23 39 51.6**	**-0.2**
	0.3nm,0.6s,baz=23,slow=7.0,SNR=5.0						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**62.98**	**315**	P	**P**	**23 42 43.9**	**+0.4**
	0.1nm,0.5s,baz=95,slow=12,SNR=4.1						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**65.95**	**319**	P	**P**	**23 43 02.2**	**-0.6**
	0.9nm,0.6s,baz=97,slow=6.5,SNR=12						
	0.9nm,0.6s						
ILAR	**Eielson Array**	**66.80**	**25**	P	**P**	**23 43 08.6**	**+0.5**
	0.2nm,0.4s,baz=260,slow=3.2,SNR=1.5						
	0.2nm,0.4s						
YKA	**Yellowknife Ar**	**81.00**	**28**	P	**P**	**23 44 32.7**	**+1.5**
	0.1nm,0.3s,baz=283,slow=5.5,SNR=2.4						
	0.1nm,0.3s						
FINES	**FINESS Array B**	**91.74**	**336**	P	**P**	**23 45 22.1**	**-2.0**
	2.1nm,1.0s,baz=50,slow=7.4,SNR=4.6						
	2.1nm,1.0s						

DJA 17 23:41:06.8±0.3, 8°S±3°×10°8E±°, h10km, M3.8/11, mb4.0/1, MLv3.7/11, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**0.85**	**48**	P	Pg	23 41 23.1	-0.2
KPJI	**Karang Pucung**	**1.51**	**48**	P	Pn	23 41 33.4	-0.5
LEM	**Lembang**	**1.54**	**353**	P	Pb	23 41 35.1	-0.4
SKJI	**Sukabumi**	**1.83**	**317**	P	Pn	23 41 39.0	+0.6
SKJI				S	Sn	23 42 01.3	-0.3
UGM	**Wanagama**	**2.72**	**81**	P	Pn	23 41 50.0	-0.7
SMRI	**Semarang**	**2.91**	**64**	P	Pn	23 41 53.3	0.0
PWJI	**Pagerwojo**	**3.97**	**85**	P	Pn	23 42 07.5	-0.3

*TRN **17** 23:49:25.2, 15.86N×60.97W, h65km, MD4.1, East of Marie-Galante.*
*IDC **17** 23:49:26.2±1.5, 15.92N×61.05W, h68km±21km, mb3.0/3, mbtmp3.3/3, MS3.2/1, Error ellipse: s-maj=94.2km s-min=20.9km az=81.0*
ISC 17 23:49:26.1±1.0, 15.87N±0.04×60.95W±0.08, h73km±7km, n37, σ0s51/51, mb3.5/3, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAGL	**Barre de l'ile**	**0.33**	**284**	*e*P	**Pn**	**23 49 38.1**	**+0.3**
H05N1	**Guadeloupe/Mar**	**0.45**	**347**	P	**Pn**	**23 49 39.1**	**+0.3**
H05N1				S	**Sn**	**23 49 48.4**	**+0.2**
TDBA	**Terre de Bas,**	**0.66**	**268**	*e*P	**Pn**	**23 49 41.3**	**+0.5**
CBE	**Ff, Capester**	**0.66**	**287**	*e*P	**Pn**	**23 49 41.2**	**+0.4**
CBE				*e*S	**Sn**	**23 49 52.0**	**+0.2**
ABD	**La Joyeuse, An**	**0.79**	**319**	*i* P	**Pn**	**23 49 42.4**	**+0.1**
ABD				*e*S	**Sn**	**23 49 54.1**	**-0.1**
SVN	**Savane Anatole**	**1.04**	**192**	*e*P	**Pn**	**23 49 45.2**	**-0.2**
SVN				*e*S	**Sn**	**23 49 58.9**	**-0.8**
BAMF	**Morne Balai**	**1.07**	**190**	*e*P	**Pn**	**23 49 45.8**	**+0.1**
PCM	**Pelee Case Pet**	**1.08**	**193**	*e*P	**Pn**	**23 49 45.7**	**-0.1**
GBMF	**Grand Be**	**1.09**	**191**	*e*P	**Pn**	**23 49 45.9**	**-0.1**
ILAM	**Ilet Lapin Mar**	**1.09**	**176**	*e*P	**Pn**	**23 49 45.9**	**0.0**
ILAM				*e*S	**Sn**	**23 50 00.2**	**-0.5**
PML	**Morne Lenard**	**1.11**	**192**	*e*P	**Pn**	**23 49 46.1**	**0.0**
FDF	**Fort de France**	**1.15**	**190**	*e*P	**Pn**	**23 49 46.7**	**0.0**
LPMF	**Morne Lapointe**	**1.29**	**181**	*e*P	**Pn**	**23 49 48.2**	**-0.2**
ZAM	**Aeronautique**	**1.29**	**183**	*e*P	**Pn**	**23 49 48.4**	**-0.1**
MVM	**Montagne Vaucl**	**1.31**	**178**	*e*P	**Pn**	**23 49 49.1**	**+0.3**
TRMF	**Trois Ilets**	**1.33**	**184**	*e*P	**Pn**	**23 49 49.0**	**+0.1**
BIM	**Bigot**	**1.35**	**185**	*e*P	**Pn**	**23 49 49.4**	**+0.1**
BIM				*e*S	**Sn**	**23 50 06.4**	**-0.3**
ANBD	**Bethesda, Anti**	**1.41**	**326**	*i* P	**Pn**	**23 49 50.0**	**+0.1**
ANBD				*e*S	**Sn**	**23 50 07.6**	**-0.3**
MPOM	**Morne Pois Mar**	**1.42**	**176**	*i* P	**Pn**	**23 49 50.4**	**+0.2**
MPOM				*e*S	**Sn**	**23 50 08.4**	**+0.2**
H05S1	**Guadeloupe/Mar**	**1.44**	**176**	P	**Pn**	**23 49 50.8**	**+0.4**
H05S1				S	**Sn**	**23 50 08.8**	**0.0**
MBFL	**Flemmings, Mon**	**1.49**	**306**	*e*P	**Pn**	**23 49 51.4**	**+0.3**
MBFL				*e*S	**Sn**	**23 50 10.3**	**+0.4**
ANDO	**Antigua, Disas**	**1.49**	**326**	*e*P	**Pn**	**23 49 51.2**	**+0.1**
ANDO				*e*S	**Sn**	**23 50 09.3**	**-0.6**
SLBI	**Saint Lucia, B**	**1.84**	**181**	*e*P	**Pn**	**23 49 55.9**	**+0.2**
SLBI				*e*S	**Sn**	**23 50 17.9**	**-0.2**
SVB	**Belmont**	**2.60**	**186**	*e*P	**Pn**	**23 50 06.8**	**+0.8**
SVB				*e*S	**Sn**	**23 50 37.2**	**+0.7**
SVT	**Saint Vincent**	**2.70**	**186**	*e*P	**Pn**	**23 50 07.8**	**+0.5**
SVT				*e*S	**Sn**	**23 50 38.0**	**-0.9**
SVOC	**Richmond Hill,**	**2.71**	**186**	*e*P	**Pn**	**23 50 08.1**	**+0.6**
SVOC				*e*S	**Sn**	**23 50 39.5**	**+0.2**
BBGH	**Gun Hill**	**3.03**	**153**	*e*P	**Pn**	**23 50 12.5**	**+0.7**
BBGH				*e*S	**Sn**	**23 50 47.0**	**+0.1**
GCMP	**Grenada, Carri**	**3.40**	**188**	*e*P	**Pn**	**23 50 17.9**	**+1.1**
GCMP				*e*S	**Sn**	**23 50 54.6**	**-1.3**
GRW	**Mount Saint Ca**	**3.75**	**191**	*e*P	**Pn**	**23 50 23.3**	**+1.6**
GRW				*e*S	**Sn**	**23 51 04.9**	**+0.1**
GRGR	**Grenville**	**3.78**	**190**	*e*P	**Pn**	**23 50 22.3**	**+0.3**
LPAZ	**La Paz**	**32.73**	**193**	LR	LR	00 10 29.2	
	comp=Z,47nm,21.1s,baz=246,slow=39						
TXAR	**Lajitas Array**	**41.42**	**296**	P	**P**	**23 57 05.2**	**-0.6**
	0.2nm,0.7s,baz=110,slow=7.8,SNR=4.4						
	0.2nm,0.7s						
PDAR	**Pinedale Array**	**49.27**	**313**	P	**P**	**23 58 08.1**	**+0.3**
	0.4nm,0.5s,baz=116,slow=11,SNR=3.9						
	0.4nm,0.5s						
H10N3	**ASCENSION HYDR**	**51.68**	**114**	T	T	00 53 54.0	
	baz=297,slow=75,SNR=9.0						
H10N2	**ASCENSION HYDR**	**51.68**	**114**	T	T	00 53 52.8	
	baz=297,slow=75,SNR=7.6						
H10N1	**ASCENSION HYDR**	**51.70**	**114**	T	T	00 53 53.9	
	baz=297,slow=75,SNR=12						
YKA	**Yellowknife Ar**	**59.63**	**334**	P	**P**	**23 59 22.1**	**-0.2**
	0.2nm,0.5s,baz=111,slow=7.5,SNR=4.3						
	0.2nm,0.5s						

*IDC **17** 23:53:29.6±6.5, 56.75S×26.57W, h101km±56km, mb3.8/6, mbtmp4.1/7, Error ellipse: s-maj=38.6km s-min=18.5km az=60.0*
*NEIC **17** 23:53:31.5±1.5, 56.9S±0.1×26.9W±0.2, h115km±8km, mb4.4/23, Error ellipse: s-maj=17.1km s-min=12.6km az=223.0*
ISC 17 23:53:29.1±0.5, 56.84S±0.09×26.75W±0.09, h100km, n46, σ0s95/43, mb4.4/15, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**6.09**	**291**	Pn	**Pn**	**23 54 58.6**	**+2.2**
HOPE				Sn	**Sn**	**23 56 03.9**	**-0.8**
SNAA	**Sanae**	**17.92**	**155**	P	**Pn**	**23 57 31.5**	**0.0**
SNAA	**Sanae**	**17.92**	**155**	P	**Pn**	**23 57 31.6**	**+0.1**
	2.2nm,0.7s,baz=290,slow=14,SNR=5.6						
EFI	**East Falkland**	**18.90**	**273**	P	**Pn**	**23 57 41.9**	**-1.4**
EFI				IAmb	IAmb	23 58 08.7	
	comp=Z,58nm,1.2s						
PMSA	**Palmer Station**	**19.58**	**231**	P	**P**	**23 57 48.2**	**-0.6**
BELA	**Belgrano 2**	**21.31**	**185**	P	**P**	**23 58 07.2**	**-0.1**
BELA				IAmb	IAmb	23 58 10.2	
	comp=Z,5.6nm,0.6s						
PLTB	**Pedras Altas**	**31.21**	**312**	P	**P**	**23 59 38.7**	**0.0**
PLTB				IAmb	IAmb	23 59 49.4	
	comp=Z,18nm,1.4s						
QSPA	**South Pole Qui**	**33.41**	**180**	P	**P**	**23 59 59.0**	**+1.2**
QSPA				IAmb	IAmb	23 59 59.8	
	comp=Z,4.0nm,0.6s						
QSPA	**South Pole Qui**	**33.41**	**180**	ScP	**ScP**	**00 06 11.0**	**-0.6**
	comp=Z,2.1nm,1.1s,baz=254,slow=1.2,SNR=5.7						
CPUP	**Villa Florida**	**37.52**	**311**	P	**P**	**00 00 32.6**	**-0.5**
CPUP				IAmb	IAmb	00 00 33.1	
	comp=Z,1.5nm,0.6s						
CPUP	**Villa Florida**	**37.52**	**311**	P	**P**	**00 00 32.5**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=176,slow=9.3,SNR=3.9						
CPUP				PcP	**PcP**	**00 02 49.1**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=0.0,slow=3.0,SNR=4.9						
	comp=Z,0.9nm,0.4s						
MT09	**Talagante**	**37.79**	**288**	P	**P**	**00 00 34.8**	**-0.7**
CO01	**Juntas del Tor**	**40.35**	**293**	P	**P**	**00 00 57.4**	**+0.4**
AC02	**Maricunga**	**42.45**	**297**	P	**P**	**00 01 15.0**	**+0.5**
AC02				IAmb	IAmb	00 01 20.5	
	comp=Z,8.1nm,1.2s						
BDFB	**Brasilia**	**44.17**	**330**	P	**P**	**00 01 28.6**	**+0.7**
BDFB				IAmb	IAmb	00 01 32.2	
	comp=Z,4.8nm,1.4s						
BDFB	**Brasilia**	**44.17**	**330**	P	**P**	**00 01 29.1**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=100,slow=11,SNR=3.4						
	comp=Z,0.8nm,0.3s						
VNDA	**Vanda**	**45.80**	**183**	P	**P**	**00 01 41.1**	**+1.1**
VNDA	**Vanda**	**45.80**	**183**	P	**P**	**00 01 41.1**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=187,slow=8.4,SNR=6.5						
	comp=Z,0.9nm,0.6s						
LVC	**Limon Verde**	**45.91**	**300**	P	**P**	**00 01 42.3**	**+0.4**
LVC				IAmb	IAmb	00 01 46.3	
	comp=Z,7.0nm,0.9s						
PB09	**IPOC Station P**	**46.76**	**300**	P	**P**	**00 01 49.9**	**+1.5**
PB09				IAmb	IAmb	00 02 14.0	
	comp=Z,18nm,1.3s						
PB07	**IPOC Station P**	**47.13**	**300**	P	**P**	**00 01 51.6**	**+0.4**
H10S2	**ASCENSION HYDR**	**48.69**	**16**	T	T	00 54 50.8	
	baz=32,slow=74,SNR=7.3						
H10S3	**ASCENSION HYDR**	**48.69**	**16**	T	T	00 54 47.4	
	baz=188,slow=74,SNR=16						
LBTB	**Lobatse**	**49.01**	**72**	P	**P**	**00 02 06.6**	**+1.0**
LBTB				IAmb	IAmb	00 02 30.2	
	comp=Z,16nm,1.4s						
H10N1	**ASCENSION HYDR**	**49.80**	**16**	T	T	00 56 17.7	
	baz=193,slow=75,SNR=6.8						
H10N3	**ASCENSION HYDR**	**49.81**	**16**	T	T	00 56 17.3	
	baz=193,slow=75,SNR=17						
H10N2	**ASCENSION HYDR**	**49.82**	**16**	T	T	00 56 16.5	
	baz=193,slow=75,SNR=12						
LPAZ	**La Paz**	**51.03**	**305**	P	**P**	**00 02 22.5**	**+0.9**
LPAZ	**La Paz**	**51.03**	**305**	P	**P**	**00 02 22.3**	**+0.7**
	comp=Z,7.2nm,0.4s,baz=88,slow=4.5,SNR=42						
LPAZ				PcP	**PcP**	**00 03 37.1**	**+0.9**
	comp=Z,2.1nm,0.5s,baz=100,slow=1.8,SNR=4.6						
	comp=Z,7.2nm,0.4s						
SAML	**Samuel**	**55.53**	**315**	P	**P**	**00 02 54.0**	**+0.2**
SAML				IAmb	IAmb	00 02 54.9	
	comp=Z,2.9nm,0.8s						
BOAV	**Boa Vista**	**65.05**	**322**	P	**P**	**00 03 58.1**	**-0.5**
BOAV				IAmb	IAmb	00 04 12.8	
	comp=Z,10nm,1.4s						
MCRA	**Macar, Loja**	**66.95**	**300**	P	**P**	**00 04 10.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**73.62**	**29**	P	**P**	**00 04 52.3**	**+0.9**
TORD	**Torodi Ar. Bea**	**73.62**	**29**	P	**P**	**00 04 50.6**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=210,slow=5.5,SNR=3.7						
	comp=Z,0.4nm,0.4s						
BAUV	**El Baul**	**73.80**	**317**	P	**P**	**00 04 52.8**	**+0.4**
BAUV				IAmb	IAmb	00 04 55.8	
	comp=Z,18nm,1.3s						
DSZ	**Denniston Nort**	**80.55**	**194**	P	**P**	**00 05 28.9**	**-1.1**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**98.16**	**162**	P	Pdif	00 06 54.2	-0.6
	comp=Z,0.3nm,0.7s,baz=179,slow=4.5,SNR=1.2						
	comp=Z,0.3nm,0.7s						
WRA	**Warramunga Arr**	**101.88**	**162**	P	**Pdif**	**00 07 12.6**	**+1.4**
	comp=Z,0.4nm,1.0s,baz=189,slow=4.2,SNR=6.4						
PDAR	**Pinedale Array**	**120.97**	**302**	PKP	**PKPdf**	**00 12 07.8**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=148,slow=5.7,SNR=3.8						
NVAR	**Mina Array Bea**	**121.93**	**292**	PKP	**PKiKP**	**00 12 11.4**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=151,slow=7.6,SNR=4.5						
FINES	**FINESS Array B**	**124.97**	**28**	PKP	**PKiKP**	**00 12 15.7**	**-0.5**
	comp=Z,3.0nm,1.0s,baz=276,slow=5.6,SNR=4.9						
ARCES	**ARCESS Array B**	**131.58**	**22**	PKP	**PKiKP**	**00 12 28.6**	**-0.7**
	comp=Z,2.7nm,0.8s,baz=297,slow=0.8,SNR=4.6						
MKAR	**Makanchi Array**	**136.90**	**72**	PKP	**PKiKP**	**00 12 38.9**	**-1.9**
	comp=Z,0.2nm,0.6s,baz=232,slow=8.9,SNR=2.1						
YKA	**Yellowknife Ar**	**136.92**	**317**	PKP	**PKiKP**	**00 12 38.5**	**-1.7**
	comp=Z,0.7nm,0.6s,baz=130,slow=2.1,SNR=14						
SONM	**Songino Array**	**150.52**	**88**	PKPbc	**PKiKP**	**00 13 08.2**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=221,slow=3.7,SNR=11						
ILAR	**Eielson Array**	**150.82**	**311**	PKPbc	**PKiKP**	**00 13 08.4**	**-0.4**
	comp=Z,6.8nm,0.9s,baz=135,slow=1.7,SNR=45						

IDC 18 00:06:51.3±1.6, 0.07S×125.83E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=178.5km s-min=22.3km az=65.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.44**	**158**	P	P	00 11 40.2	-1.2
	0.5nm,0.5s,baz=336,slow=11,SNR=8.0						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**24.74**	**162**	P	P	00 12 15.5	+0.8
	0.3nm,0.4s,baz=346,slow=12,SNR=10.0						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**60.18**	**327**	P	P	00 17 00.3	-0.8
	0.2nm,0.4s,baz=118,slow=7.4,SNR=8.4						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**64.46**	**329**	P	P	00 17 30.6	+1.0
	0.2nm,0.7s,baz=135,slow=6.4,SNR=2.8						
	0.2nm,0.7s						

*SCB **18** 00:13:30.1±1.2, 21.32S×67.29W, h178km±10km, ML3.3/4, MW3.5, Error ellipse: s-maj=6.1km s-min=2.8km az=0.0*
ISC 18 00:13:30.3±2.2, 21.29S±0.06×67.32W±0.05, h180km±20km, n22, σ0s94/34, 2C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.57**	**89**	Pg	**Pn**	**00 14 03.4**	**0.0**
MOCB				Sg	**Sn**	**00 14 28.2**	**-0.8**
MOCB				IAML		00 14 29.1	
	170nm,0.6s						
PB09	**IPOC Station P**	**1.86**	**254**	Pg	**Pn**	**00 14 07.0**	**+1.0**
PB01	**IPOC Station P**	**2.04**	**276**	*e*P	**Pn**	**00 14 08.1**	**+0.2**
PB01				*e*S	**Sn**	**00 14 36.8**	**-0.1**
PB01				IAML		00 14 39.2	
	comp=N,179nm,0.3s						
PB01	**IPOC Station P**	**2.04**	**276**	Pg	**Pn**	**00 14 08.2**	**+0.4**
PB01				Sg	**Sn**	**00 14 37.1**	**+0.2**
PB01				IAML		00 14 38.7	
	comp=N,152nm,0.3s						
PB08	**IPOC Station P**	**2.06**	**303**	*e*P	**Pn**	**00 14 09.1**	**+0.7**
PB08				*e*S	**Sn**	**00 14 39.0**	**+1.1**
PB08	**IPOC Station P**	**2.06**	**303**	Pg	**Pn**	**00 14 09.4**	**+1.0**
PB08				Sg	**Sn**	**00 14 39.0**	**+1.1**
PB08				IAML		00 14 40.4	
	comp=N,44nm,0.2s						
GO01	**Chusmiza**	**2.38**	**312**	*i* P	**Pn**	**00 14 12.4**	**+0.3**
GO01				*i* S	**Sn**	**00 14 44.9**	**+0.3**
GO01				IAML		00 14 55.9	
	comp=E,184nm,0.2s						
GO01	**Chusmiza**	**2.38**	**312**	Pg	**Pn**	**00 14 12.8**	**+0.7**
PB02	**IPOC Station P**	**2.40**	**269**	*e*P	**Pn**	**00 14 11.8**	**-0.2**
PB02				*e*S	**Sn**	**00 14 43.4**	**-0.9**
PB02				IAML		00 14 45.8	
	comp=E,297nm,0.1s						
PB02	**IPOC Station P**	**2.40**	**269**	Pg	**Pn**	**00 14 12.4**	**+0.5**
PB02				Sg	**Sn**	**00 14 43.8**	**-0.5**
PB02				IAML		00 14 44.9	
	comp=E,249nm,0.5s						
PB07	**IPOC Station P**	**2.43**	**259**	*i* P	**Pn**	**00 14 12.0**	**-0.4**
PB07				*i* S	**Sn**	**00 14 44.2**	**-0.7**
PB07				IAML		00 14 45.3	
	comp=N,126nm,0.2s						
PB06	**IPOC Station P**	**2.52**	**235**	*e*P	**Pn**	**00 14 13.6**	**+0.2**
PB06				*i* S	**Sn**	**00 14 47.0**	**0.0**
PB06				IAML		00 14 49.5	
	comp=N,68nm,0.1s						
PB11	**IPOC Station P**	**2.66**	**304↑**	*e*P	**Pn**	**00 14 14.7**	**-0.4**
PB11				*e*S	**Sn**	**00 14 48.5**	**-1.4**
PB11				IAML		00 14 51.6	
	comp=N,370nm,0.2s						
PB11	**IPOC Station P**	**2.66**	**304**	Pg	**Pn**	**00 14 14.9**	**-0.2**
PB15	**I

ML2.9, Mw(mB)3.9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.21**	**172**	P	Pg	00 36 27.8	-0.7
DBBC				S	Sg	00 36 31.8	+0.5
APAC	**Apartado, Choc**	**0.75**	**333**	P	Pg	00 36 38.2	-0.5
APAC				S	Sb	00 36 50.2	-0.8
HELC	**Santa Helena**	**1.25**	**146**	P	Pg	00 36 45.1	-3.3
HELC				S	Sg	00 37 02.4	-2.3
CBOC	**Ciudad Bolivar**	**1.38**	**171**	P	Pg	00 36 47.9	-2.9
CBOC				S	Sg	00 37 08.6	-0.1
PTAC	**Punta Ardita,**	**1.56**	**267**	P	Pn	00 36 49.4	-4.0
PTAC				S	Sn	00 37 11.8	-2.5
CAPC	**Capurgana**	**1.78**	**322**	P	Pn	00 36 51.9	-4.5
CAPC				S	Sn	00 37 13.8	-6.0
PTBC	**PUERTO BERRIO,**	**1.90**	**111**	P	Pn	00 36 55.1	-3.0
PTBC				S	Sn	00 37 21.1	-1.7
NORC	**Norcasia**	**2.14**	**140**	P	Pn	00 37 00.2	-1.3
NORC				S	Sn	00 37 28.6	-0.3
NORC				S	Sn	00 37 28.6	-0.3
GUY2C	**Guyana, Caldas**	**2.17**	**156**	P	Pn	00 37 01.2	-1.1
GUY2C				S	Sb	00 37 32.9	+0.3
UPD2	**Meteti**	**2.19**	**307**	P	Pn	00 36 59.7	-2.4
UPD2				S	Sn	00 37 27.8	-2.2
PLMC	**San Jos del P**	**2.31**	**181**	P	Pn	00 37 02.5	-1.3
PLMC				S	Sb	00 37 35.8	-0.4
SPBC	**San Pablo de B**	**2.66**	**126**	P	Pn	00 37 07.1	-1.6
SPBC				S	Sn	00 37 42.2	+0.4
SJCC	**San Jacinto, C**	**2.85**	**22**	P	Pn	00 37 06.6	-4.6
SJCC				S	Sn	00 37 39.0	-7.3
ROSC	**El Rosal**	**3.05**	**141**	P	Pn	00 37 16.3	+2.1
OCAC	**Ocana**	**3.06**	**71**	P	Pn	00 37 10.6	-3.7
OCAC				S	Sn	00 37 47.6	-4.1
BARC	**Barichara**	**3.10**	**102**	P	Pn	00 37 13.6	-1.3
YOTC	**Yotoco, Valle**	**3.23**	**182**	P	Pn	00 37 14.5	-2.0
YOTC				S	Sn	00 37 52.9	-2.8
MALC	**Bahia Malaga**	**3.38**	**199**	P	Pn	00 37 20.1	+1.7
RUSC	**La Rusia**	**3.41**	**113**	P	Pn	00 37 17.2	-2.1
RUSC				S	Sn	00 38 01.5	+0.9
ORTC	**Ortega, Tolima**	**3.44**	**163**	P	Pn	00 37 19.9	+0.5
CVER	**Cruz Verde, Cu**	**3.45**	**141**	P	Pn	00 37 20.2	+0.4
PAMC	**Pamplona, Colo**	**3.51**	**88**	P	Pn	00 37 18.8	-2.0
PAMC				S	Sn	00 38 00.3	-3.0
VILC	**Villavicencio,**	**4.00**	**141**	P	Pn	00 37 27.8	+0.6
BCIP	**Isla Barro Col**	**4.05**	**299**	P	Pn	00 37 24.7	-3.0
BCIP				S	Sn	00 38 12.2	-3.6
TAMC	**Tame, Arauca**	**4.49**	**100**	P	Pn	00 37 33.0	-0.8
CACAO	**El Cacao, Vera**	**4.59**	**272**	P	Pn	00 37 31.1	-4.0
POPC	**Popayan, Colom**	**4.68**	**185**	P	Pn	00 37 36.6	0.0
CRJC	**Cerrejon, Guaj** 23nm,0.8s,997nm	**5.02**	**41**	P	Pn	00 37 38.5	-2.6
CRJC	23nm,0.8s,997nm			S	Sn	00 38 30.4	-9.5
PTGC	**Puerto Gaitan,** 24nm,0.4s,536nm	**5.08**	**126**	P	Pn	00 37 40.1	-1.7
PTGC	24nm,0.4s,536nm			S	Sn	00 38 39.1	-2.1
MACC	**Macarena, Meta**	**5.58**	**155**	P	Pn	00 37 48.0	-0.8

IDC 18 01:10:49.5±2.6, 0.63S×129.81E, h0km, mb3.4/2, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=174.7km s-min=27.3km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=347,slow=11,SNR=5.7 0.7nm,0.7s	**19.70**	**167**	P	P	01 15 19.6	-1.0
ASAR	**Alice Springs** 0.8nm,0.5s,baz=351,slow=11,SNR=16 0.8nm,0.5s	**23.25**	**170**	P	P	01 15 59.2	+0.6
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=126,slow=3.7,SNR=4.3 0.3nm,0.6s	**62.87**	**325**	P	P	01 21 17.4	0.0

*SKHL **18** 01:26:40.7±0.1, 42.10N×144.90E, h43km±4km, mb5.2/5*
*MOS **18** 01:26:41.9±1.0, 42.29N×144.64E, h45km, mb4.3/17, Error ellipse: s-maj=9.3km s-min=5.6km az=90.4*
*JMA **18** 01:26:42.5±0.1, 42.3N±0.3×144.7E±0.6, h36km±1km, MD4.0/37, MV4.2/37, SE OFF TOKACHI*
JMA Felt I J1 at SE OFF TOKACHI .
*NIED **18** 01:26:42.5, 42.33N×144.65E, h36km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.47; Mθθ-0.59; Mϕϕ-0.88; Mrθ0.49; Mϕθ-0.64; Mϕr0.31; Fault plane solution: M₀1.55000×10¹⁵ NP1:φs45.00000°, δ56.00000°, λ97.00000°. NP2:φs212.00000°, δ35.00000°, λ79.00000°.*
*NEIC **18** 01:26:43.3±1.3, 42.29N±0.0 08×144.6E±0.1, h32km±5km, mb4.2/123, Mwr3.9/10 Error ellipse: s-maj=14.3km s-min=9.9km az=119.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr0.74; Mθθ-0.34; Mϕϕ-0.41; Mrθ0.56; Mϕθ-0.53; Mϕr0.27; Fault plane solution: M₀1.04000×10¹⁵ NP1:φs57.07000°, δ64.13000°, λ104.41000°. NP2:φs206.58000°, δ29.37000°, λ62.84000°. Principal axes: T 0.9847, Plg68.0000°, Azm355.0000°; N 0.1095, Plg13.0000°, Azm231.0000°; P -1.0942, Plg18.0000°, Azm136.0000°;*
*IDC **18** 01:26:43.6±0.7, 42.3N±144.58E, h40km±5km, mb4.0/20, mbtmp4.2/24, ML4.5/2, MS3.2/12 Error ellipse: s-maj=18.0km s-min=13.4km az=173.0*
*NEIC **18** 01:26:44.4, 42.31N×144.60E, h42km*

ISC 18 01:26:45.0±0.9, 42.45N±0.08×144.67E±0.04, h44km±6km, n256, σ1§18/237, mb4.2/96, MS3.5/6, 10C-13D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.55**	**2**	⇓P	**Pn**	**01 26 55.4**	**-1.3**
JAK				⇓*e*S	**Sn**	**01 27 05.7**	**+0.8**
JAK	**Akkeshi** comp=E,8.0nm,1.3s,comp=N,10.0nm,0.5s	**0.55**	**2**	A	A	01 26 55.4	
AKK	**Akkeshi** comp=N,2μm,0.5s	**0.59**	**13**	*i* P AMB	**Pn** AMB	**01 26 56.0** 01 26 57.2	**-1.1**
AKK				*e*S	**Sn**	**01 27 06.2**	**+0.5**
AKK	comp=N,10μm,0.5s			A	A	01 27 09.1	
AKK	comp=N,6μm,0.5s			A	A	01 27 09.1	
JKHN	**Kushirohamanak**	**0.73**	**30**	⇓P	**Pn**	**01 26 58.5**	**-0.6**
JKHN				⇓*e*S	**Sn**	**01 27 10.8**	**+1.6**
JKHN	**Kushirohamanak** comp=E,14nm,0.9s,comp=N,21nm,1.2s	**0.73**	**30**	A	A	01 26 58.5	
JOB	**Onbets**	**0.77**	**307**	⇓P	**Pn**	**01 26 58.0**	**-1.4**
JOB				⇓*e*S	**Sn**	**01 27 10.1**	**+0.3**
JOB	**Onbets** comp=E,10.0nm,1.1s,comp=N,12nm,2.8s	**0.77**	**307**	A	A	01 26 58.0	
JCH	**Churui**	**0.98**	**280**	⇓P	Pn	01 27 00.4	-1.9
JCH				⇓*e*S	**Sn**	**01 27 13.7**	**-1.3**
JCH	**Churui** comp=E,7.0nm,0.7s,comp=N,9.0nm,0.7s	**0.98**	**280**	A	A	01 27 00.4	
JTHR	**Tokachihiroo** comp=E,5.0nm,2.2s,comp=N,7.0nm,3.5s	**1.02**	**262**	A	A	01 27 00.4	
JAR	**Ashorobuto**	**1.08**	**323**	⇓*e*P	**Pn**	**01 27 02.3**	**-1.4**
JAR	**Ashorobuto** comp=E,10.0nm,0.8s,comp=N,5.0nm,0.7s	**1.08**	**323**	A	A	01 27 02.3	
JNK	**Nakash**	**1.14**	**2**	⇓*e*P	**Pn**	**01 27 03.4**	**-1.2**
JNK	**Nakash** comp=E,6.0nm,1.1s,comp=N,5.0nm,0.5s	**1.14**	**2**	A	A	01 27 03.4	
ERM	**Erimo**	**1.20**	**250**	Pn	Pn	01 27 03.4	-2.0
ERM	**Erimo** comp=Z,990nm,1.3s	**1.20**	**250**	*ce*PN pmax	Pn pmax	01 27 03.9	-1.4
JEM	**Erimo**	**1.20**	**250**	*e*P	Pn	01 27 03.1	-2.2
JEM	**Erimo** comp=E,5.0nm,3.2s,comp=N,7.0nm,1.0s	**1.20**	**250**	A	A	01 27 03.1	
NMR	**Nemuro--Hokkai**	**1.21**	**40**	⇓*i* PN	**Pn**	**01 27 04.4**	**-1.0**
NMR				*e*S	**Sn**	**01 27 21.4**	**+0.7**
NMR	**Nemuro--Hokkai**	**1.21**	**40**	*i* P	**Pn**	**01 27 04.5**	**-1.0**
NMR				*e*S	**Sn**	**01 27 21.4**	**+0.7**
NEM2	**Nemuro 2**	**1.21**	**40**	*e*P	**Pn**	**01 27 04.5**	**-1.1**
JNBK	**Urakawa-nobuka**	**1.43**	**264**	*e*P	Pn	01 27 06.2	-2.3
JNBK	**Urakawa-nobuka** comp=E,6.0nm,2.4s,comp=N,7.0nm,1.0s	**1.43**	**264**	A	A	01 27 06.2	
JRA	**Rausu**	**1.53**	**12**	⇓*e*P	**Pn**	**01 27 09.3**	**-0.6**
JTKR	**Abashiri--Toko** comp=E,2.0nm,0.8s,comp=N,2.0nm,1.1s	**1.62**	**340**	A	A	01 27 11.2	
RUSJ	**Misakicho**	**1.71**	**14**	⇓*i* PN	**Pn**	**01 27 12.0**	**-0.4**
RUSJ				*e*S	**Sn**	**01 27 34.6**	**+1.6**
YUK	**Yuzh-Kuril'sk**	**1.81**	**28**	*c i* PN	**Pn**	**01 27 13.4**	**-0.3**
YUK				*e*S	**Sn**	**01 27 35.8**	**+0.3**
YUK	comp=E,77nm,0.3s			pmax	pmax		
YUK	comp=Z,568nm,0.3s			pmax	pmax		
YUK	comp=N,176nm,0.2s			pmax	pmax		
YUK	comp=N,2μm,0.4s			smax	smax		
YUK	comp=E,2μm,0.4s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**1.81**	**28**	*i* P	**Pn**	**01 27 13.5**	**-0.3**
YUK	comp=E,780nm,0.4s			AMB	AMB	01 27 15.3	
YUK				*i* S	**Sn**	**01 27 38.0**	**+2.5**
YUK	comp=E,3μm,0.5s			A	A	01 27 39.0	
YUK	comp=E,3μm,0.5s			A	A	01 27 39.0	
JMP	**Maruseppu** comp=E,5.0nm,0.6s,comp=N,6.0nm,1.0s	**1.83**	**329**	A	A	01 27 14.0	
JKA	**Kamikawa-asahi**	**2.25**	**319**		**Pn**	**01 27 19.3**	**-0.5**
JKA	**Kamikawa-asahi**	**2.25**	**319**	*e*P	**Pn**	**01 27 20.2**	**+0.4**
ASAJ	**Asahikawa** comp=N,29nm,0.3s,baz=135,slow=14,SNR=37	**2.25**	**319**	P	**Pn**	**01 27 20.2**	**+0.4**
ASAJ	comp=N,1μm,0.8s,baz=262,slow=14,SNR=15			S LR	**Sn** LR	**01 27 52.5** 01 28 34.7	**+6.2**
ASAJ	comp=N,436nm,20.1s,baz=334,slow=48 comp=N,87nm,0.3s						
JTM	**Tenmabayashi**	**3.17**	**240**	Pn	Pn	01 27 29.4	-3.0
KUR	**Kuril'sk**	**3.62**	**39**	*e*PN	**Pn**	**01 27 39.2**	**+0.7**
KUR				*e*S	**Sn**	**01 28 21.8**	**+1.7**
KUR	comp=Z,121nm,0.7s			pmax	pmax		
KUR	comp=N,49nm,0.3s			pmax	pmax		
KUR	comp=E,99nm,0.3s			smax	smax		
KUR	comp=E,248nm,0.4s			smax	smax		
KUR	comp=N,160nm,0.5s			smax	smax		
KUR	**Kuril'sk**	**3.62**	**39**	*e*P	**Pn**	**01 27 39.3**	**+0.7**
KUR				AMB	AMB	01 27 42.3	
KUR	comp=N,140nm,0.5s			*e*S	**Sn**	**01 28 21.4**	**+1.3**
KUR				A	A	01 28 28.6	
KUR	comp=N,240nm,0.4s			A	A	01 28 28.6	
KUR	comp=N,280nm,0.4s			A	A	01 28 28.6	
YSS	**Yuzh-Sakhalins**	**4.71**	**344**	Pn	**Pn**	**01 27 54.2**	**+0.7**
YSS	**Yuzh-Sakhalins**	**4.71**	**344**	*e*PN	**Pn**	**01 27 54.7**	**+1.2**
YSS	comp=Z,20nm,0.8s			pmax	pmax		
YSS	comp=Z,500nm,14.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**4.71**	**344**	*e*P	**Pn**	**01 27 55.3**	**+1.8**
YSS	comp=Z,50nm,0.3s			AMB	AMB	01 27 57.4	
YSS				*e*S	Sn	01 28 50.8	+4.0
YSS	comp=Z,30nm,0.4s			A	A	01 28 55.2	
YSS	comp=Z,30nm,0.4s			A	A	01 28 55.2	
JMM	**Marumori**	**5.45**	**214**	Pn	Pn	01 27 59.8	-3.9
MJAR	**Matsushiro Arr** comp=Z,2.9nm,0.5s,baz=29,slow=15,SNR=18	**7.72**	**222**	P	Pn	01 28 31.6	-3.3
MJAR	comp=Z,147nm,19.9s,baz=41,slow=42			LR	LR	01 32 02.6	
MJB9	**Matsu-Tunnel**	**7.72**	**222**	Pn	Pn	01 28 32.1	-2.8
MAJO	**Matsushiro**	**7.72**	**222**		Pn	01 28 31.6	-3.3
MAJO	**Matsushiro**	**7.72**	**222**	*c i* PN	Pn	01 28 32.0	-2.9
TYV	**Tymovskoe**	**8.53**	**351**	*e*PN	**Pn**	**01 28 47.8**	**+1.9**
TYV	comp=Z,4.0nm,0.9s			pmax	pmax		
TYV	**Tymovskoe**	**8.53**	**351**	*e*P	**Pn**	**01 28 47.8**	**+1.9**
JGF	**Kuroka**	**8.89**	**222**	Pn	Pn	01 28 47.6	-3.2
INU	**Inuyama**	**9.26**	**223**	Pn	Pn	01 28 53.1	-2.8
JHJ	**Hachijo jima 2** comp=Z,56nm,20.4s,baz=104,slow=36	**10.08**	**204**	LR	LR	01 32 36.0	
KLR	**Kul'dur**	**11.27**	**311**	*ce*PN	**Pn**	**01 29 23.5**	**+0.1**
KLR	comp=Z,12nm,2.5s			pmax	pmax		
KLR	**Kul'dur** comp=Z,2.3nm,0.7s,baz=118,slow=14,SNR=12	**11.27**	**311**	P	**Pn**	**01 29 25.4**	**+2.0**
KLR	comp=Z,184nm,18.8s,baz=142,slow=39			LR	LR	01 34 06.9	
KLR	**Kul'dur**	**11.27**	**311**	*e*P	**Pn**	**01 29 23.5**	**+0.1**
KSRS	**Korea Array** comp=Z,0.6nm,0.4s,baz=66,slow=13,SNR=1.9	**13.77**	**254**	P	**Pn**	**01 30 00.0**	**+2.4**
KSRS	comp=Z,86nm,18.3s,baz=30,slow=38			LR	LR	01 35 17.4	
PETK	**Petropavlovsk-** comp=Z,7.9nm,1.0s,baz=239,slow=15,SNR=2.7	**13.78**	**35**	P	**Pn**	**01 29 57.5**	**-0.2**
PET	**Petropavlovsk** comp=Z,91nm,1.7s	**14.13**	**37**	*i* P pmax	**Pn** pmax	**01 30 00.1**	**-2.3**
PET	**Petropavlovsk**	**14.13**	**37**	*e*P	**Pn**	**01 30 00.1**	**-2.3**
JNU	**Nakatsue** comp=Z,86nm,19.2s,baz=20,slow=39	**14.32**	**234**	LR	LR	01 36 01.7	
MA2	**Magadan**	**17.56**	**10**	*i* P	**P**	**01 30 45.7**	**-1.2**
MA2	comp=Z,29nm,3.5s			pmax	pmax		
MA2	**Magadan** comp=Z,0.4nm,0.3s,baz=185,slow=9.1,SNR=3.8	**17.56**	**10**	P	**Pn**	**01 30 45.3**	**-1.0**
MA2	comp=Z,30nm,19.2s,baz=228,slow=38 comp=Z,1.9nm,0.4s			LR	LR	01 37 53.6	
MA2	**Magadan**	**17.56**	**10**	*i* P	**P**	**01 30 45.7**	**-1.2**
HIA	**Hailar**	**18.60**	**300**	*i* P	**P**	**01 30 57.5**	**-1.0**
HIA	comp=Z,4.0nm,1.0s			pmax	pmax		
SEY	**Seymchan** comp=Z,1.5nm,0.5s,baz=184,slow=11,SNR=12	**21.02**	**10**	P	**P**	**01 31 21.8**	**-2.7**
YAK	**Yakutsk**	**21.55**	**341**	*ce*P	**P**	**01 31 28.8**	**-1.5**
YAK	comp=Z,9.0nm,0.6s			pmax	pmax		
YAK	**Yakutsk** comp=Z,52nm,21.1s,baz=70,slow=36	**21.55**	**341**	LR	LR	01 39 43.3	
ULN	**Ulaanbaatar**	**26.88**	**295**	*ce*P	**P**	**01 32 21.7**	**0.0**
ULN	comp=Z,3.0nm,1.0s			pmax	pmax		
ULN	**Ulaanbaatar**	**26.88**	**295**	*e*P	**P**	**01 32 21.7**	**0.0**
SONM	**Songino Array**	**27.33**	**295**	P	**P**	**01 32 25.3**	**-0.4**
SONM	**Songino Array** comp=Z,3.0nm,0.9s	**27.33**	**295**	P pmax	**P** pmax	**01 32 25.3**	**-0.4**
SONM	**Songino Array** comp=Z,2.6nm,0.7s,baz=98,slow=8.6,SNR=19	**27.33**	**295**	P	**P**	**01 32 24.8**	**-0.9**
SONM	comp=Z,52nm,18.3s,baz=20,slow=39 comp=Z,2.6nm,0.7s			LR	LR	01 44 22.7	
H11N2	**WAKE ISLAND Hy** baz=327,slow=75,SNR=241	**29.41**	**133**	T	T	02 03 57.0	
H11N1	**WAKE ISLAND Hy** baz=327,slow=75,SNR=185	**29.43**	**134**	T	T	02 04 03.5	
H11N3	**WAKE ISLAND Hy** baz=327,slow=75,SNR=185	**29.43**	**133**	T	T	02 04 04.1	
TIXI	**Tiksi** comp=Z,1.0nm,0.9s	**30.30**	**350**	*i* P pmax	**P** pmax	**01 32 51.9**	**+0.3**
H11S1	**WAKE ISLAND Hy** baz=328,slow=76,SNR=199	**30.32**	**135**	T	T	02 05 08.3	
H11S3	**WAKE ISLAND Hy** baz=328,slow=76,SNR=151	**30.32**	**135**	T	T	02 05 11.2	
H11S2	**WAKE ISLAND Hy** baz=328,slow=76,SNR=136	**30.34**	**135**	T	T	02 05 08.8	
J14K	**Nanvaranak Lak**	**36.13**	**38**	P	**P**	**01 33 42.7**	**+0.3**
J14K	comp=Z,1.8nm,0.8s			IAmb	IAmb	01 33 59.0	
F15K	**North Star Dit**	**36.28**	**33**	P	**P**	**01 33 44.5**	**+0.8**
M14K	**Bethel**	**36.62**	**41**	P	**P**	**01 33 47.3**	**+0.7**
C16K	**Lisburne Hills**	**36.75**	**28**	P	**P**	**01 33 45.4**	**-2.2**
C16K	comp=Z,2.4nm,1.0s			IAmb	IAmb	01 33 48.4	
K15K	**Wolf Creek Mou**	**36.99**	**39**	P	**P**	**01 33 50.4**	**+0.6**
K15K	comp=Z,3.6nm,1.1s			IAmb	IAmb	01 34 02.2	
G16K	**Koyuk River**	**37.13**	**34**	P	**P**	**01 33 51.6**	**+0.7**
N15K	**Kwethluk River**	**37.50**	**42**	P	**P**	**01 33 55.3**	**+1.1**
J16K	**Anvik River**	**37.54**	**37**	P	**P**	**01 33 55.8**	**+1.4**
I17K	**Unalakleet**	**37.58**	**36**	P	**P**	**01 33 56.2**	**+1.5**
I17K				IAmb	IAmb	01 34 09.1	
	comp=Z,3.3nm,1.0s						
L16K	**Owhat River**	**37.90**	**40**	P	**P**	**01 33 57.9**	**+0.4**
L16K	comp=Z,4.3nm,1.0s			IAmb	IAmb	01 34 02.6	
M16K	**Timber Creek**	**38.10**	**41**	P	**P**	**01 33 59.9**	**+0.6**
O16K	**Kokwok River B**	**38.50**	**43**	P	**P**	**01 34 03.4**	**+0.8**
O16K	comp=Z,3.0nm,0.9s			IAmb	IAmb	01 34 16.0	
M17K	**Holitna River**	**38.86**	**41**	P	**P**	**01 34 06.7**	**+1.1**
M17K	comp=Z,4.7nm,1.0s			IAmb	IAmb	01 34 25.1	
G19K	**Purcell Mounta**	**39.40**	**33**	P	**P**	**01 34 09.9**	**-0.2**
DGZ	**Jazzator, Alta**	**39.51**	**301**	*i* P	**P**	**01 34 12.4**	**+1.0**
DGZ	comp=Z,8.0nm,1.8s			pmax	pmax		
NRIK	**Noril'sk**	**39.53**	**332**	*i* P	**P**	**01 34 13.0**	**+1.9**
NRIK	comp=Z,1.0nm,1.1s			pmax	pmax		
TTA	**Tatalina**	**39.59**	**38**	P	**P**	**01 34 12.1**	**+0.4**
TTA	**Tatalina**	**39.59**	**38**	P	**P**	**01 34 12.1**	**+0.4**
TTA	comp=Z,3.0nm,1.0s			pmax	pmax		
SVW2	**Sparrevohn**	**39.75**	**41**	P	**P**	**01 34 13.8**	**+0.7**
J19K	**Poorman**	**39.82**	**36**	P	**P**	**01 34 13.3**	**-0.2**
O18K	**Koktuh Hills**	**39.95**	**43**	P	**P**	**01 34 15.1**	**+0.4**
O18K	comp=Z,3.8nm,1.0s			IAmb	IAmb	01 34 16.4	
P18K	**Big Mountain,**	**39.96**	**44**	P	**P**	**01 34 15.3**	**+0.5**
P18K	comp=Z,3.6nm,0.9s			IAmb	IAmb	01 34 16.6	
L19K	**White Mountain**	**40.10**	**39**	P	**P**	**01 34 15.5**	**-0.4**
L19K	comp=Z,3.6nm,1.1s			IAmb	IAmb	01 34 28.6	
ZAA0	**Zalesovo Array**	**40.35**	**308**	P	**P**	**01 34 17.5**	**-0.5**
ZAA0	comp=Z,3.2nm,0.7s			IAmb	IAmb	01 34 18.2	
ZALV	**Zalesovo Beam**	**40.35**	**308**	P	**P**	**01 34 17.7**	**-0.3**
ZALV	**Zalesovo Beam**	**40.35**	**308**	*i* P	**P**	**01 34 17.1**	**-0.9**
ZALV	comp=Z,4.0nm,0.7s			pmax	pmax		
ZALV	**Zalesovo Beam** comp=Z,3.7nm,0.7s,baz=89,slow=7.3,SNR=17	**40.35**	**308**	P	**P**	**01 34 17.3**	**-0.7**
ZALV	comp=Z,1.3nm,0.5s,baz=66,slow=3.7,SNR=5.8 comp=Z,3.7nm,0.7s			PcP	**PcP**	**01 36 20.3**	**-0.2**
J20K	**Nowinta River**	**40.47**	**36**	P	**P**	**01 34 19.7**	**+0.8**
J20K	comp=Z,3.4nm,0.7s			IAmb	IAmb	01 34 22.4	
IMAR	**Indian Mountai**	**40.74**	**33**	P	**P**	**01 34 21.4**	**+0.3**
Q19K	**Cape Douglas,**	**40.80**	**44**	P	**P**	**01 34 21.9**	**+0.1**
B21K	**Ikpikpuk River**	**40.83**	**28**	P	**P**	**01 34 21.6**	**-0.2**
B21K	comp=Z,2.4nm,0.8s			IAmb	IAmb	01 34 21.9	
G21K	**Allakaket**	**40.88**	**33**	P	**P**	**01 34 22.7**	**+0.4**
F21K	**Alatna River**	**40.95**	**32**	P	**P**	**01 34 23.3**	**+0.4**
H21K	**Melozitna Rive**	**41.11**	**34**	P	**P**	**01 34 24.5**	**+0.3**
OHAK	**Old Harbor**	**41.15**	**47**	P	**P**	**01 34 23.8**	**-0.8**
OHAK	comp=Z,3.5nm,0.9s			IAmb	IAmb	01 34 25.0	
CAST	**Castle Rocks**	**41.38**	**37**	P	**P**	**01 34 27.3**	**+0.9**
CAST	comp=Z,4.3nm,0.8s			IAmb	IAmb	01 34 30.1	
I21K	**Tanana**	**41.44**	**35**	P	**P**	**01 34 27.3**	**+0.5**
I21K	comp=Z,3.2nm,1.1s			IAmb	IAmb	01 34 33.6	
KDAK	**Kodiak Island**	**41.47**	**46**	P	**P**	**01 34 27.1**	**0.0**
KDAK	comp=Z,6.5nm,0.9s			IAmb	IAmb	01 34 27.4	
KDAK	**Kodiak Island**	**41.47**	**46**	P	**P**	**01 34 27.2**	**0.0**
KDAK	comp=Z,7.0nm,1.0s			pmax	pmax		
SYI	**Shuyak Island**	**41.48**	**45**	P	**P**	**01 34 26.7**	**-0.6**
SYI	comp=Z,7.3nm,1.0s			IAmb	IAmb	01 34 43.1	
SKT	**Skwentna**	**41.67**	**40**	P	**P**	**01 34 28.7**	**-0.2**
BPAW	**Bear Paw Mtn.**	**41.86**	**36**	P	**P**	**01 34 30.4**	**+0.1**
KTH	**Kantishna Hill**	**41.90**	**37**	P	**P**	**01 34 31.2**	**+0.4**
KTH	comp=Z,6.0nm,0.9s			IAmb	IAmb	01 34 34.3	
MLY	**Manley**	**41.96**	**35**	P	**P**	**01 34 31.8**	**+0.6**
SUA	**Susitna One**	**42.07**	**40**	P	**P**	**01 34 34.2**	**+1.9**
SUA	comp=Z,2.0nm,0.6s			IAmb	IAmb	01 34 34.9	
BRLK	**Bradley Lake**	**42.14**	**43**	P	**P**	**01 34 33.4**	**+0.7**
BRLK	comp=Z,3.3nm,1.0s			IAmb	IAmb	01 34 34.8	
TRF	**Thorofare Moun**	**42.18**	**37**	P	**P**	**01 34 33.4**	**+0.2**
TRF	comp=Z,6.1nm,1.2s			IAmb	IAmb	01 34 37.3	
C23K	**Itkillik River**	**42.24**	**28**	P	**P**	**01 34 32.8**	**-0.5**
G23K	**Bananza Creek**	**42.28**	**32**	P	**P**	**01 34 33.6**	**-0.1**
G23K	comp=Z,2.4nm,0.8s			IAmb	IAmb	01 34 34.5	
TOLK	**Toolik Lake Re**	**42.52**	**30**	P	**P**	**01 34 36.1**	**+0.3**
I23K	**Minto, Yukon-K**	**42.54**	**35**	P	**P**	**01 34 36.6**	**+0.7**
RND	**Reindeer**	**42.83**	**37**	P	**P**	**01 34 38.4**	**+0.1**
RND	comp=Z,2.8nm,0.7s			IAmb	IAmb	01 34 41.3	
RND	**Reindeer**	**42.83**	**37**	P	**P**	**01 34 38.4**	**+0.1**
RND	comp=Z,3.0nm,0.7s			pmax	pmax		
E24K	**Your Creek**	**42.91**	**30**	P	**P**	**01 34 39.4**	**+0.5**
GHO	**Glory Hole Cre**	**42.91**	**40**	P	**P**	**01 34 40.3**	**+1.2**
GHO	comp=Z,6.8nm,1.1s			IAmb	IAmb	01 34 43.9	
MDM	**Murphy Dome**	**43.03**	**35**	P	**P**	**01 34 39.8**	**0.0**
MDM	comp=Z,3.0nm,1.0s			IAmb	IAmb	01 34 42.7	
WRH	**Wood River Hil**	**43.11**	**36**	P	**P**	**01 34 40.8**	**+0.3**
WRH	comp=Z,5.1nm,1.2s			IAmb	IAmb	01 34 55.2	
H24K	**Noodor Dome**	**43.15**	**34**	P	**P**	**01 34 41.5**	**+0.7**
H24K	comp=Z,3.5nm,1.1s			IAmb	IAmb	01 34 43.1	
KNK	**Knik Glacier**	**43.17**	**40**	P	**P**	**01 34 42.8**	**+1.7**
KNK	comp=Z,3.1nm,0.8s			IAmb	IAmb	01 34 48.7	
SML	**Sawmill**	**43.19**	**40**		**P**	**01 34 41.8**	**+0.5**
CCB	**Clear Creek Bu**	**43.22**	**36**	P	**P**	**01 34 42.8**	**+1.5**
POKR	**Poker Plat Res**	**43.36**	**35**	P	**P**	**01 34 43.2**	**+0.7**
DHY	**Denali Highway**	**43.52**	**38**	P	**P**	**01 34 43.9**	**-0.1**
DHY	comp=Z,2.8nm,0.8s			IAmb	IAmb	01 34 47.3	
MK31	**Makanchi Array**	**43.58**	**298**	P	**P**	**01 34 43.1**	**-1.5**
MK31	comp=Z,2.3nm,0.8s			IAmb	IAmb	01 34 49.2	
MK31	**Makanchi Array**	**43.58**	**298**	*ce*P	**P**	**01 34 43.7**	**-0.9**
MKAR	**Makanchi Array**	**43.58**	**298**	P	**P**	**01 34 44.0**	**-0.6**
MKAR	**Makanchi Array**	**43.58**	**298**	P	**P**	**01 34 44.0**	**-0.6**
MKAR	**Makanchi Array** comp=Z,1.5nm,0.7s,baz=85,slow=9.7,SNR=12	**43.58**	**298**	P	**P**	**01 34 43.5**	**-1.1**
MKAR	comp=Z,1.1nm,0.9s,baz=80,slow=2.7,SNR=3.7 comp=Z,1.5n

KLU IAmb IAmb 01 34 56.0
comp=Z,5.7nm,1.2s
BMAR Burnt Mountain 44.40 31 P **P** **01 34 52.1 +1.3**
KURK Kurchatov 44.76 304 P **P** **01 34 53.0 -0.8**
KURK IAmb IAmb 01 35 03.8
comp=Z,4.4nm,1.0s
KURK Kurchatov 44.76 304 *ce*P **P** **01 34 54.0 +0.1**
KURK pmax pmax
comp=Z,3.0nm,0.7s
KURK Kurchatov 44.76 304 *e*P **P** **01 34 54.0 +0.1**
KURBB Kurchatov Arra 44.84 304 P **P** **01 34 53.6 -0.9**
comp=Z,2.3nm,0.5s,baz=73,slow=8.9,SNR=14
comp=Z,2.3nm,0.5s
SCRK Sand Creek 44.94 36 P **P** **01 34 54.8 -0.5**
SCRK IAmb IAmb 01 34 57.6
comp=Z,3.3nm,0.8s
N25K Chitina, Valde 44.98 40 P **P** **01 34 55.6 -0.1**
RAGM Ragged Mountai 45.14 41 P **P** **01 34 58.0 +1.1**
L26K Log Cabin Wild 45.35 38 P **P** **01 34 57.5 -0.9**
E27K Coleen River 45.48 30 P **P** **01 35 00.2 +0.8**
VRDI Verde Repeater 45.59 40 P **P** **01 35 01.4 +0.8**
VRDI IAmb IAmb 01 35 15.7
comp=Z,2.6nm,0.8s
G27K Doyon Strip 45.59 32 P **P** **01 35 01.0 +0.7**
M26K Nabesna, AK 45.60 38 P **P** **01 35 01.4 +0.9**
BERG Berg Lake 45.62 41 P **P** **01 35 01.2 +0.6**
D27M Malcolm River 45.63 29 P **P** **01 35 00.7 +0.1**
K27K Chicken 45.77 36 P **P** **01 35 02.2 +0.5**
K27K IAmb IAmb 01 35 05.2
comp=Z,3.8nm,0.8s
WAX Waxell Ridge 46.02 41 P **P** **01 35 03.8 0.0**
L27K Beaver Creek, 46.03 37 P **P** **01 35 04.9 +1.1**
BCAR Beaver Creek A 46.05 37 P **P** **01 35 04.3 +0.3**
EGAK Eagle 46.05 35 P **P** **01 35 05.5 +1.6**
EGAK IAmb IAmb 01 35 06.4
comp=Z,2.2nm,0.8s
M27K Edge Creek, AK 46.12 38 P **P** **01 35 05.9 +1.2**
F28M Old Crow 46.19 31 P **P** **01 35 05.6 +0.6**
F28M IAmb IAmb 01 35 08.1
comp=Z,3.1nm,1.1s
E28M Babbage River 46.20 30 P **P** **01 35 05.4 +0.3**
E28M IAmb IAmb 01 35 06.9
comp=Z,1.2nm,0.6s
I28M Miner Creek 46.46 34 P **P** **01 35 08.0 +0.7**
I28M IAmb IAmb 01 35 09.9
comp=Z,3.8nm,1.1s
CTGM Chitina Glacie 46.65 40 P **P** **01 35 10.0 +1.1**
CTGM IAmb IAmb 01 35 11.2
comp=Z,2.6nm,0.7s
E29M Blow River 46.83 30 P **P** **01 35 11.4 +1.4**
E29M IAmb IAmb 01 35 12.9
comp=Z,2.0nm,0.7s
H29M Whitestone 46.97 33 P **P** **01 35 12.4 +1.2**
H29M IAmb IAmb 01 35 14.9
comp=Z,1.5nm,0.8s
G29M Pine Creek 47.00 32 P **P** **01 35 12.4 +1.0**
EPYK Eagle Plains 47.60 32 P **P** **01 35 17.0 +0.9**
L29M L29M 47.67 37 P **P** **01 35 17.9 +1.3**
G30M tAoh Zraii Nji 47.69 31 P **P** **01 35 17.1 +0.4**
K29M Barlow Dome 47.78 36 P **P** **01 35 18.4 +0.8**
K29M IAmb IAmb 01 35 21.3
comp=Z,1.7nm,0.9s
I30M Mount Dempster 47.97 34 P **P** **01 35 19.6 +0.5**
I30M IAmb IAmb 01 35 33.8
comp=Z,2.5nm,0.7s
J30M Hart River 48.13 35 P **P** **01 35 20.8 +0.5**
M30M Minto, Yukon 48.39 37 P **P** **01 35 24.1 +1.9**
M30M IAmb IAmb 01 35 27.2
comp=Z,2.8nm,1.0s
INK Inuvik 48.44 29 P **P** **01 35 22.7 +0.3**
INK IAmb IAmb 01 35 24.5
comp=Z,1.4nm,0.8s
INK Inuvik 48.44 29 P **P** **01 35 22.7 +0.3**
INK pmax pmax
comp=Z,1.0nm,0.8s
G31M Satah River 48.45 31 P **P** **01 35 22.8 +0.3**
HYT Haines Junctio 48.50 40 P **P** **01 35 24.8 +1.6**
F31M Tsiigehtchic 48.54 31 P **P** **01 35 23.3 +0.1**
F31M IAmb IAmb 01 35 23.8
comp=Z,3.1nm,0.9s
H31M Peel River 48.67 33 P **P** **01 35 25.2 +0.9**
P29M Windy Craggy 48.71 41 P **P** **01 35 26.6 +1.9**
BVAR Borovoye Array 48.93 310 P **P** **01 35 25.5 -0.9**
comp=Z,3.0nm,0.5s,baz=78,slow=9.6,SNR=24
comp=Z,3.0nm,0.5s
BRVK Borovoye 48.98 310 P **P** **01 35 26.5 -0.3**
BRVK Borovoye 48.98 310 *ce*P **P** **01 35 26.2 -0.6**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 48.98 310 *e*P **P** **01 35 26.2 -0.6**
M31M Drury Creek, Y 49.57 37 P **P** **01 35 32.1 +0.9**
M31M IAmb IAmb 01 35 48.3
comp=Z,2.5nm,1.0s
WHY Whitehorse 49.78 39 P **P** **01 35 34.0 +1.0**
FARO Faro, Yukon 50.03 37 P **P** **01 35 35.5 +0.8**
FARO IAmb IAmb 01 35 39.3
comp=Z,2.7nm,1.1s
R32K Eaglecrest 50.71 42 P **P** **01 35 41.2 +1.3**
R32K IAmb IAmb 01 35 44.2
comp=Z,2.2nm,0.9s
MMPY Sheldon Lake, 50.83 36 P **P** **01 35 42.0 +1.2**
P33M Teslin, Yukon 50.90 40 P **P** **01 35 42.4 +1.0**
P33M IAmb IAmb 01 35 47.7
comp=Z,2.3nm,0.9s
C36M Paulatuk 51.47 27 P **P** **01 35 45.5 +0.1**
C36M IAmb IAmb 01 35 48.3
comp=Z,1.7nm,0.5s
R33M Jennings River 52.06 40 P **P** **01 35 51.5 +1.4**
S34M Telegraph Cree 52.52 42 P **P** **01 35 53.4 0.0**
KK31 Karatay Array 52.71 298 P **P** **01 35 53.2 -1.9**
KK31 Karatay Array 52.71 298 P **P** **01 35 53.2 -1.9**
KK31 pmax pmax
comp=Z,1.0nm,0.9s
KKAR Karatay Array 52.71 298 P **P** **01 35 54.2 -0.9**
KKAR Karatay Array 52.71 298 P **P** **01 35 54.2 -0.9**
KKAR pmax pmax
comp=Z,1.0nm,0.9s
SVE Sverdlovsk 52.84 317 *e*P **P** **01 35 54.8 -1.0**
SVE pmax pmax
comp=Z,9.0nm,0.8s
DLBC Dease Lake 52.86 41 P **P** **01 35 57.2 +1.2**
T35M Bob Quinn 53.32 43 P **P** **01 36 01.4 +2.1**
T35M IAmb IAmb 01 36 14.1
comp=Z,2.8nm,1.1s
ARU Arti 54.05 317 P **P** **01 36 03.2 -1.4**
ARU Arti 54.05 317 *c i*P **P** **01 36 03.4 -1.2**
ARU 01 37 06.9
ARU 01 38 04.1
ARU S **S** **01 43 39.2 +1.8**
ARU SS **SS** **01 47 14.9 -3.7**
ARU pmax pmax
comp=Z,8.0nm,0.9s
SPITS Spitsbergen Ar 55.71 349 P **P** **01 36 14.8 -1.6**
comp=Z,9.2nm,0.8s,baz=105,slow=9.1,SNR=1.3
comp=Z,9.2nm,0.8s
ABKAR Akbulak array 56.45 308 P **P** **01 36 21.4 -0.7**
ABKAR IAmb IAmb 01 36 21.5
comp=Z,1.8nm,0.6s
HOLB Holberg 57.22 49 P **P** **01 36 27.5 0.0**
KIRV Kirov 57.50 322 LR LR 02 05 04.3
comp=Z,46nm,18.3s,baz=323,slow=40
YKA Yellowknife Ar 57.89 33 P **P** **01 36 32.0 0.0**
YKA Yellowknife Ar 57.89 33 P **P** **01 36 31.9 0.0**
comp=Z,0.7nm,0.8s,baz=302,slow=7.3,SNR=9.0
comp=Z,0.7nm,0.8s
WRA Warramunga Arr 62.80 191 P P 01 37 03.4 -2.6
comp=Z,1.0nm,0.8s,baz=27,slow=6.3,SNR=3.2
WRA pP pP 01 37 15.1 -3.0
comp=Z,0.4nm,0.4s,baz=7.6,slow=6.7,SNR=1.9
comp=Z,1.0nm,0.8s
NEW Newport 64.56 47 LR LR 02 05 42.1
comp=Z,24nm,19.4s,baz=71,slow=36
FINES FINESS Array B 65.20 332 P **P** **01 37 20.1 -1.1**
comp=Z,3.9nm,0.5s,baz=51,slow=7.5,SNR=59
comp=Z,3.9nm,0.5s
OBN Obninsk 65.28 323 *i*P **P** **01 37 22.3 +0.5**
OBN pmax pmax
comp=Z,3.0nm,0.9s
OBN Obninsk 65.28 323 *e*P **P** **01 37 22.3 +0.5**
KIV Kislovodsk 69.26 311 *e*P **P** **01 37 47.1 -0.3**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,49nm,17.0s
KBZ Khabaz 69.28 311 P **P** **01 37 46.9 -0.5**
comp=Z,1.8nm,0.8s,baz=74,slow=2.7,SNR=4.8
comp=Z,1.8nm,0.8s
KVN Kaiserville 69.55 56 P **P** **01 37 49.9 +0.4**
KVN IAmb IAmb 01 37 51.0
comp=Z,2.8nm,1.0s
KVN Kaiserville 69.55 56 P **P** **01 37 49.9 +0.4**
KVN pmax pmax
comp=Z,3.0nm,1.0s
NVAR Mina Array Bea 69.81 56 P **P** **01 37 51.0 -0.1**
comp=Z,0.7nm,0.6s,baz=287,slow=7.5,SNR=7.8
NVAR pP **pP** **01 38 04.4 +0.8**
comp=Z,0.7nm,0.7s,baz=285,slow=6.0,SNR=4.6
comp=Z,0.7nm,0.6s
NC405 NORSAR Array S 69.94 338 P **P** **01 37 50.5 -0.7**
NC405 IAmb IAmb 01 38 10.4
comp=Z,1.4nm,0.5s
NC204 NORSAR Array S 70.07 338 P **P** **01 37 51.2 -0.8**
NB201 NORSAR Array S 70.11 338 P **P** **01 37 51.8 -0.5**
NB2 NORSAR Subarra 70.14 338 P **P** **01 37 51.3 -1.2**
comp=Z,1.7nm,0.9s,baz=33,slow=6.5
NOA NORSAR Array B 70.14 338 P **P** **01 37 51.3 -1.2**
comp=Z,1.5nm,0.8s,baz=291,slow=8.2,SNR=7.6
comp=Z,1.5nm,0.8s
HFS Hagfors 70.17 336 P **P** **01 37 51.7 -0.9**
comp=Z,3.1nm,0.6s,baz=32,slow=7.0,SNR=12
comp=Z,3.1nm,0.6s
AKASG Malin Array Be 71.53 323 P **P** **01 37 59.7 -1.3**
comp=Z,1.0nm,0.5s,baz=41,slow=6.2,SNR=13
comp=Z,1.0nm,0.5s
PDAR Pinedale Array 72.14 48 P **P** **01 38 05.3 +0.2**
comp=Z,1.1nm,0.8s,baz=269,slow=2.6,SNR=6.2
comp=Z,1.1nm,0.8s
ULM Lac du Bonnet 73.63 36 P **P** **01 38 12.7 -0.8**
comp=Z,1.4nm,0.5s,baz=323,slow=6.5,SNR=4.8
comp=Z,1.4nm,0.5s
EKA Eskdalemuir Ar 78.82 342 P **P** **01 38 42.6 -0.3**
comp=Z,2.0nm,0.7s,baz=1.6,slow=5.0,SNR=3.7
EKA pP **PcP** **01 38 54.4 +2.9**
comp=Z,1.1nm,0.4s,baz=22,slow=4.4,SNR=2.3
comp=Z,2.0nm,0.7s
GERES GERESS Array B 79.38 330 LR LR 02 17 32.2
comp=Z,54nm,18.6s,baz=75,slow=38
MMAI Mount Meron Ar 80.82 307 P **P** **01 38 54.4 +0.2**
comp=Z,1.3nm,0.6s,baz=40,slow=6.6,SNR=4.9
comp=Z,1.3nm,0.6s
TXAR Lajitas Array 84.89 55 P **P** **01 39 14.8 -0.6**
comp=Z,0.7nm,0.6s,baz=294,slow=3.5,SNR=12
TXAR pP **pP** **01 39 27.7 -0.6**
comp=Z,0.8nm,0.7s,baz=296,slow=3.3,SNR=6.1
comp=Z,0.7nm,0.6s
TORD Torodi Ar. Bea 115.06 320 PKP **PKiKP** **01 45 21.3 -0.3**
comp=Z,0.9nm,1.1s,baz=38,slow=1.6,SNR=3.3
H03N2 Juan Fernandez 144.79 90 T T 04 27 56.1
baz=301,slow=77,SNR=6.7
H03N3 Juan Fernandez 144.80 90 T T 04 27 57.2
baz=301,slow=77,SNR=7.7
H03N1 Juan Fernandez 144.80 90 T T 04 27 59.5
baz=301,slow=77,SNR=7.6
SIV San Ignacio 145.63 48 PKPbc **PKPbc** **01 46 18.1 -0.9**
comp=Z,1.5nm,0.6s,baz=303,slow=3.6,SNR=12
SIV pPKPbc **PKiKP** **01 46 29.7 +6.9**
comp=Z,2.6nm,0.8s,baz=316,slow=5.0,SNR=7.4

IDC ***18*** *01:41:44.1±1.2,55.˝13N×162.˝68E,h0km,mb3.5/7, mbtmp3.5/8,ML2.9/1,Error ellipse: s-maj=36.0km s-min=19.0km az=146.0*
KRSC ***18*** *01:41:45.4±0.9,55.˝15N×162.˝78E,h39km±27km,Ml3.7*
ISC 18 01:41:49.3±0.8,55.˝24N±0.˝05×162.˝69E±0.˝05,h35km,n37, σ1§45/39,mb3.3/7,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBG	**Krutoberegovo**	**1.02**	**0**	*e*P	**Pn**	**01 42 06.2**	**-0.8**
KBG				*e*S	**Sn**	**01 42 20.9**	**+0.8**
TUMD	**Tumrok D**	**1.31**	**269**	*e*P	**Pn**	**01 42 08.6**	**-2.6**
TUMD				*e*S	**Sn**	**01 42 25.3**	**-2.2**
ZLN	**Zelenaya**	**1.33**	**307**	*e*P	**Pn**	**01 42 09.6**	**-1.8**
BZGR	**Bezymyannyi-Gr**	**1.33**	**303**	*e*P	**Pn**	**01 42 09.7**	**-1.8**
BZGR				*e*S	**Sn**	**01 42 28.0**	**-0.1**
BZP	**Bezymyannyi-Pe**	**1.40**	**300**	*e*P	**Pn**	**01 42 10.5**	**-1.9**
CIRR	**Tsirk**	**1.41**	**309**	*e*P	**Pn**	**01 42 12.2**	**-0.4**
LGNR	**Loginova**	**1.42**	**308**	*e*P	**Pn**	**01 42 12.0**	**-0.8**
LGNR				*e*S	**Sn**	**01 42 32.0**	**+1.6**
BZMR	**Bezymyannaya**	**1.43**	**300**	*e*P	**Pn**	**01 42 11.2**	**-1.7**
BZWR	**Bezymyannyi-We**	**1.44**	**301**	*e*P	**Pn**	**01 42 11.5**	**-1.5**
TUMR	**Tumrok**	**1.46**	**273**	*e*P	**Pn**	**01 42 11.2**	**-2.1**
KMNR	**Kamenistaya**	**1.49**	**291**	*e*P	**Pn**	**01 42 12.2**	**-1.5**
KIRR	**Kirishev**	**1.52**	**299**	*e*P	**Pn**	**01 42 12.7**	**-1.3**
KRSR	**Krestovskiy**	**1.55**	**310**	*e*P	**Pn**	**01 42 12.6**	**-1.9**
BDR	**Baidarnaya**	**1.57**	**320**	*e*P	**Pn**	**01 42 15.6**	**+0.8**
KLY	**Klyuchi**	**1.58**	**314**	*e*P	**Pn**	**01 42 11.9**	**-2.8**
KPT	**Kopyto**	**1.58**	**299**	*e*P	**Pn**	**01 42 16.6**	**-1.2**
KOZ	**Kozyrevsk**	**1.80**	**298**	*e*P	**Pn**	**01 42 16.8**	**-0.9**
BKI	**Bering**	**1.88**	**90**	*e*S	**Sn**	**01 42 38.1**	**-3.2**
SRDR	**Sredinnyy**	**2.00**	**304**	*e*P	**Pn**	**01 42 20.0**	**-0.6**
KII	**Karymskiy**	**2.24**	**239**	*e*P	**Pn**	**01 42 23.3**	**-0.6**
ESO	**Esso**	**2.37**	**289**	*e*P	**Pn**	**01 42 24.2**	**-1.5**
SMAR	**Somma**	**3.02**	**231**	*e*P	**Pn**	**01 42 34.7**	**-0.1**
KRX	**Arik**	**3.02**	**233**	*e*P	**Pn**	**01 42 34.4**	**-0.3**
AVH	**Avacha**	**3.05**	**231**	*e*P	**Pn**	**01 42 34.9**	**-0.1**
KOK	**Koryaka**	**3.08**	**232**	*e*P	**Pn**	**01 42 35.5**	**+0.1**
PETK	**Petropavlovsk-** 5.3nm,0.3s,baz=73,slow=19,SNR=46	**3.63**	**236**	Pn	**Pn**	**01 42 42.1**	**-0.8**
PETK				Sn	**Sn**	**01 43 25.8**	**+1.3**
	0.6nm,0.3s,baz=81,slow=20,SNR=2.0 8.4nm,0.3s						
ASAK	**Asacha**	**4.03**	**227**	*e*P	**Pn**	**01 42 49.3**	**+0.8**
TIXI	**Tiksi** 1.5nm,0.3s,baz=126,slow=6.0,SNR=4.1 1.5nm,0.3s	**21.84**	**332**	P	**P**	**01 46 38.8**	**+0.6**
MJAR	**Matsushiro Arr** 1.2nm,0.6s,baz=24,slow=7.9,SNR=6.3 1.2nm,0.6s	**25.08**	**232**	P	**P**	**01 47 08.8**	**-1.5**
ILAR	**Eison Array** 0.5nm,0.9s,baz=264,slow=8.1,SNR=3.1 0.5nm,0.9s	**26.23**	**48**	P	**P**	**01 47 21.2**	**+0.7**
H11N2	**WAKE ISLAND Hy** baz=355,slow=76,SNR=7.9	**35.59**	**173**	T	T	02 26 07.8	
H11N3	**WAKE ISLAND Hy** baz=355,slow=76,SNR=8.3	**35.60**	**173**	T	T	02 26 09.2	
H11N1	**WAKE ISLAND Hy** baz=355,slow=76,SNR=7.3	**35.61**	**173**	T	T	02 26 10.2	
YKA	**Yellowknife Ar** 0.1nm,0.5s,baz=300,slow=8.5,SNR=2.0 0.1nm,0.5s	**40.55**	**45**	P	**P**	**01 49 26.1**	**+1.5**
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=35,slow=5.3,SNR=1.7 0.1nm,0.4s	**48.61**	**295**	P	**P**	**01 50 29.6**	**+0.4**
FINES	**FINESS Array B** 3.2nm,1.1s,baz=17,slow=8.0,SNR=4.5 3.2nm,1.1s	**58.74**	**337**	P	**P**	**01 51 43.0**	**+0.1**
TXAR	**Lajitas Array** 0.2nm,0.7s,baz=300,slow=7.2,SNR=2.2 0.2nm,0.7s	**68.42**	**70**	P	**P**	**01 52 47.6**	**+0.1**

IDC 18 01:48:29.5±3.5,4.˝92S×152.˝85E,h0km,mb3.5/2, mbtmp3.5/2,MS2.5/1,Error ellipse: s-maj=148.2km s-min=49.6km az=122.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** comp=Z,35nm,18.4s,baz=38,slow=37	**7.20**	**231**	LR	LR	01 52 57.1	
WRA	**Warramunga Arr** 0.8nm,0.4s,baz=55,slow=10,SNR=11 0.8nm,0.4s	**23.40**	**229**	P	P	01 53 40.3	0.0
ASAR	**Alice Springs** 0.3nm,0.4s,baz=56,slow=8.5,SNR=2.3 0.3nm,0.4s	**26.10**	**223**	P	P	01 54 05.5	+0.2
TORD	**Torodi Ar. Bea** 0.1nm,0.3s,baz=91,slow=1.0,SNR=4.2	**150.40**	**288**	PKPbc	PKPbc	02 08 23.5	-0.6

CNRM ***18*** *01:56:20.4,36.˝46N×8.˝35W,h5km,ML2.4*
MDD ***18*** *01:56:23.7±0.6,36.˝59N×8.˝36W,h18km±4km,mb_Lg2.8/8, Error ellipse: s-maj=4.7km s-min=3.2km az=79.0*
SFS ***18*** *01:56:23.1,36.˝58N×8.˝39W,h19km,ML2.9/14,ML3.0/13, MLv2.4/14*
INMG ***18*** *01:56:23.4±1.5,36.˝57N×8.˝39W,h14km±3km,ML2.2,Error ellipse: s-maj=3.8km s-min=2.6km az=84.0*
IGIL ***18*** *01:56:24.0,36.˝58N×8.˝38W,h18km,ML2.3*
ISC 18 01:56:20.5±1.5,36.˝56N±0.˝04×8.˝35W±0.˝03,h14km±9km,

n63,σ1§23/107,1C-1D,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**0.69**	**326**	‖*e*Pg	**Pn**	**01 56 35.5**	**-0.4**
PFVI				*e*Sg	**Sb**	**01 56 44.5**	**+0.8**
PFVI				A	A	01 56 46.4	
	87nm,0.3s						
PFVI	**Vila Bisbo**	**0.69**	**326**	Pg	**Pb**	**01 56 34.8**	**+0.5**
PFVI				Sg	**Sb**	**01 56 44.4**	**+0.8**
PFVI	**Vila Bisbo**	**0.69**	**326**	P	**Pn**	**01 56 35.6**	**-0.3**
PFVI	**Vila Bisbo**	**0.69**	**326**	S	**Sn**	**01 56 46.4**	**+0.1**
PBDV	**Barranco-do-Ve**	**0.76**	**26**	*e*Pg	**Pn**	**01 56 37.8**	**+0.9**
PBDV				*e*Sg	**Sn**	**01 56 47.5**	**-0.7**
PBDV				A	A	01 56 50.1	
	34nm,0.3s						
MORF	**Marmelete**	**0.78**	**342**	*e*Pg	**Pn**	**01 56 37.7**	**+0.5**
MORF				*e*Sg	**Sb**	**01 56 47.5**	**+1.1**
MORF				A	A	01 56 49.3	
	126nm,0.1s						
MORF	**Marmelete**	**0.78**	**342**	*e*P	**Pn**	**01 56 37.5**	**+0.3**
MORF				*e*S	**Sb**	**01 56 47.3**	**+0.9**
MORF				IAML		01 56 49.0	
	comp=E,173nm,0.1s						
PVAQ	**Vaqueiros**	**0.98**	**31**	*e*P	**Pn**	**01 56 40.9**	**+1.0**
PVAQ				*e*S	**Sn**	**01 56 53.9**	**+0.3**
PVAQ				A	A	01 56 55.9	
	comp=E,34nm,0.2s						
PVAQ	**Vaqueiros**	**0.98**	**31**	Pn	**Pn**	**01 56 40.7**	**+0.8**
PVAQ				Sn	**Sn**	**01 56 53.6**	**0.0**
PVAQ	**Vaqueiros**	**0.98**	**31**	P	**Pn**	**01 56 41.0**	**+1.1**
PVAQ	**Vaqueiros**	**0.98**	**31**	S	**Sn**	**01 56 54.9**	**+1.3**
PTEO	**Sao Teotonio**	**1.03**	**343**	*e*P	**Pn**	**01 56 41.5**	**+1.0**
PTEO				*e*S	**Sn**	**01 56 54.8**	**+0.1**
PTEO				A	A	01 56 56.5	
	comp=E,71nm,0.4s						
PCVE	**Castro Verde**	**1.10**	**13**	*e*P	**Pn**	**01 56 42.6**	**+1.1**
PCVE				*e*S	**Sn**	**01 56 56.9**	**+0.4**
PCVE				A	A	01 56 59.8	
	comp=E,25nm,0.5s						
PCVE	**Castro Verde**	**1.10**	**13**	Pn	**Pn**	**01 56 42.8**	**+1.3**
PCVE				Sn	**Sn**	**01 56 56.7**	**+0.2**
EGRO	**El Granado**	**1.19**	**35**	Pn	**Pn**	**01 56 43.6**	**+0.8**
EGRO				Sn	**Sb**	**01 56 58.7**	**+0.5**
EGRO	**El Granado**	**1.19**	**35**	⇑P	**Pn**	**01 56 44.0**	**+1.2**
EGRO				S	**Sn**	**01 56 59.2**	**+0.4**
EGRO				*i* Vmb_Lg		01 57 02.9	
MESJ	**Messejana**	**1.28**	**5**	*e*P	**Pg**	**01 56 45.0**	**-0.1**
MESJ				*e*S	**Sg**	**01 57 00.6**	**-1.2**
MESJ				A	A	01 57 07.1	
	comp=E,17nm,0.1s						
MESJ	**Messejana**	**1.28**	**5**	*e*P	**Pg**	**01 56 45.0**	**-0.1**
MESJ				*e*S	**Sg**	**01 57 00.5**	**-1.2**
MESJ				IAML		01 57 01.2	
	comp=N,23nm,0.1s						
PBEJ	**Beja**	**1.51**	**15**	*e*Pn	**Pb**	**01 56 48.1**	**-0.3**
PBEJ	**Beja**	**1.51**	**15**	*e*Pg	**Pg**	**01 56 49.7**	**+0.1**
PBEJ				*e*Sg	**Sg**	**01 57 09.0**	**-0.2**
PBEJ				A	A	01 57 12.6	
	comp=N,15nm,0.1s						
PNCL	**Nicolau / Gran**	**1.55**	**355**	*e*Pn	**Pb**	**01 56 48.5**	**-0.6**
PNCL	**Nicolau / Gran**	**1.55**	**355**	*e*Pg	**Pg**	**01 56 51.5**	**+1.1**
PNCL				*e*Sg	**Sg**	**01 57 10.6**	**0.0**
PNCL				A	A	01 57 12.9	
	comp=N,22nm,0.1s						
PNCL	**Nicolau / Gran**	**1.55**	**355**	Pn	**Pn**	**01 56 48.3**	**+0.5**
PBAR	**Barrancos**	**1.92**	**33**	*e*Pn	**Pn**	**01 56 53.6**	**+0.8**
PBAR				*e*Sg	**Sg**	**01 57 23.4**	**+1.2**
PBAR				A	A	01 57 25.5	
	comp=N,6.7nm,0.4s						
PBAR	**Barrancos**	**1.92**	**33**	Pn	**Pn**	**01 56 53.7**	**+0.9**
EVO	**Evora**	**1.98**	**8**	*e*Pn	**Pn**	**01 56 54.4**	**+0.7**
EVO				*e*Sn	**Sn**	**01 57 17.5**	**-0.9**
EVO				*e*Sg	**Sg**	**01 57 24.9**	**+0.5**
EVO				A	A	01 57 27.5	
	comp=N,17nm,0.1s						
EVO	**Evora**	**1.98**	**8**	Pn	**Pn**	**01 56 53.8**	**+0.1**
ESPR	**Espera**	**2.02**	**81**	P	**Pb**	**01 56 56.4**	**-0.7**
ESPR				S	**Sn**	**01 57 20.3**	**+0.9**
ESPR				*i* Vmb_Lg		01 57 21.1	
PESTR	**Estremoz**	**2.38**	**14**	*e*Pn	**Pn**	**01 57 00.1**	**+1.0**
PESTR				*e*Sn	**Sn**	**01 57 28.3**	**+0.2**
PESTR				*e*Sg	**Sg**	**01 57 37.3**	**+0.3**
PESTR				A	A	01 57 42.5	
	comp=N,4.7nm,0.5s						
PESTR	**Estremoz**	**2.38**	**14**	Pn	**Pn**	**01 56 59.7**	**+0.6**
PESTR				Sn	**Sn**	**01 57 27.5**	**-0.7**
PESTR	**Estremoz**	**2.38**	**14**	P	**Pn**	**01 57 01.0**	**+1.8**
PESTR	**Estremoz**	**2.38**	**14**	S	**Sb**	**01 57 33.1**	**+0.7**
EBAD	**Badajoz**	**2.43**	**25**	Pn	**Pn**	**01 57 00.3**	**+0.5**
EBAD	**Badajoz**	**2.43**	**25**	P	**Pn**	**01 57 00.4**	**+0.5**
EBAD				S	**Sg**	**01 57 38.1**	**-0.6**
EBAD				*i* Vmb_Lg		01 57 40.1	
PMAFR	**Mafra**	**2.50**	**343**	*e*Pn	**Pn**	**01 57 02.7**	**+1.9**
PMAFR				*e*Sn	**Sn**	**01 57 31.1**	**-0.1**
PMAFR				*e*Sg	**Sg**	**01 57 40.1**	**-0.8**
PMAFR	**Mafra**	**2.50**	**343**	Pn	**Pn**	**01 57 01.4**	**+0.5**
PMTG	**Montargil**	**2.50**	**2**	*e*Pn	**Pn**	**01 57 01.8**	**+0.9**
PMTG				*e*Sn	**Sn**	**01 57 30.8**	**-0.4**
PMTG				*e*Sg	**Sg**	**01 57 40.5**	**-0.5**
PMTG				A	A	01 57 45.5	
	comp=N,9.1nm,0.7s						
ECAB	**El Cabril**	**2.78**	**56**	Pn	**Pn**	**01 57 06.0**	**+1.4**
ECAB	**El Cabril**	**2.78**	**56**	P	**Pn**	**01 57 06.3**	**+1.6**
ECAB				S	**Sn**	**01 57 36.5**	**-1.6**
ECAB				*i* Vmb_Lg		01 57 54.1	
PMRV	**Marv??o**	**2.96**	**14**	*e*Pn	**Pn**	**01 57 07.9**	**+0.8**
PMRV				*e*Sn	**Sn**	**01 57 42.0**	**-0.5**
PMRV				*e*Sg	**Sg**	**01 57 52.7**	**-2.9**
PMRV				A	A	01 57 57.9	
	comp=N,11nm,0.8s						
PCBR	**Castelo Branco**	**3.34**	**12**	*e*Pn	**Pn**	**01 57 13.3**	**+0.9**
PCBR				*e*Sn	**Sn**	**01 57 51.1**	**-0.8**
PCBR				*e*Sg	**Sg**	**01 58 06.3**	**-1.6**
PCBR				A	A	01 58 10.4	
	comp=N,3.4nm,0.6s						
EADA	**Adamuz**	**3.41**	**61**	Pn	**Pn**	**01 57 14.4**	**+1.2**
EADA				Sn	**Sn**	**01 57 52.2**	**-1.3**
EADA	**Adamuz**	**3.41**	**61**	P	**Pn**	**01 57 14.8**	**+1.6**
EADA				S	**Sn**	**01 57 52.6**	**-0.9**
EADA				*i* Vmb_Lg		01 58 09.0	
PCAS	**Casmilo, Conde**	**3.49**	**358**	*e*Pn	**Pn**	**01 57 15.7**	**+1.3**
PCAS				*e*Sn	**Sn**	**01 57 54.4**	**-1.1**
PCAS				*e*Sg	**Sg**	**01 58 12.3**	**-0.2**
PCAS				A	A	01 58 19.5	
	comp=N,3.4nm,0.4s						
MTE	**Manteigas**	**3.88**	**9**	*e*Sn	**Sn**	**01 58 03.3**	**-2.0**
MTE				*e*Sg	**Sg**	**01 58 23.3**	**-1.9**
MTE				A	A	01 58 28.9	
	comp=N,5.3nm,0.5s						
EPLA	**Plasencia**	**3.92**	**26**	P	**Pn**	**01 57 22.1**	**+1.7**
EPLA				S	**Sn**	**01 58 05.2**	**-1.2**
EPLA				*i* Vmb_Lg		01 58 35.7	
PVIS	**Viseu**	**4.16**	**5**	*e*Sn	**Sn**	**01 58 10.1**	**-2.1**
PVIS				*e*Sg	**Sg**	**01 58 32.2**	**-2.0**
PVIS				A	A	01 58 37.3	
	comp=N,2.9nm,0.6s						
PSIM	**Granatula de C**	**4.28**	**57**	P	**Pn**	**01 57 26.8**	**+1.5**
PSIM				S	**Sn**	**01 58 11.6**	**-3.5**
PAB	**San Pablo**	**4.34**	**45**	P	**Pn**	**01 57 27.5**	**+1.3**
PAB				S	**Sn**	**01 58 13.3**	**-3.3**
PAB				*i* Vmb_Lg		01 58 54.4	
EQES	**Quesada**	**4.39**	**72**	S	**Sn**	**01 58 19.0**	**+1.0**
ESDC	**Sonseca Array**	**4.65**	**47**	P	**Pn**	**01 57 31.6**	**+1.2**
ESDC				S	**Sn**	**01 58 22.5**	**-1.6**
ESDC	

mbtmp3.9/4,MS3.5/4,Error ellipse: s-maj=129.9km s-min=40.7km az=176.0
NEIC ***18*** *02:01:17.0±0.9, 17°00S±0°09×35°42E±0°09,h10km±1km, mb4.1/8,Error ellipse: s-maj=14.8km s-min=14.1km az=36.0*
PRE ***18*** *02:01:22.3±0.7, 16°85S×34°51E,h5km,ML3.7*

ISC 18 02:01:16.6±0.7,16°98S±0°06×35°44E±0°06,h10km,n41, σ1°92/44,mb3.9/5,6C-2D,Malawi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	h	m	s	Res ISC
KRI	**Karoi**	**5.57**	**271**	⇓*iP*		**Pn**	**02**	**02**	**42.8**	**+3.0**
KRI				⇑*iS*		Sn	02	03	35.8	-8.3
KRI	**Karoi**	**5.57**	**271**	*i* P		**Pn**	**02**	**02**	**42.5**	**+2.7**
KRI				*i* S		**Sn**	**02**	**03**	**40.5**	**-3.6**
LSZ	**Lusaka**	**7.17**	**283**			**Pn**	**02**	**03**	**01.6**	**-0.2**
LSZ					Sn	**Sn**	**02**	**04**	**22.1**	**-1.3**
BLWY	**Bulawayo**	**7.20**	**243**	*i* P		**Pn**	**02**	**03**	**05.1**	**+2.9**
BLWY				⇑*iS*		**Sn**	**02**	**04**	**19.6**	**-4.5**
BLWY	**Bulawayo**	**7.20**	**243**	*i* P		**Pn**	**02**	**03**	**05.9**	**+3.7**
BLWY				*i* S		**Sn**	**02**	**04**	**24.1**	**0.0**
MUSN	**Musina, Limpop**	**7.45**	**224**	⇓*iP*		Pn	02	03	11.2	+5.7
MUSN	**Musina, Limpop**	**7.45**	**224**	*eP*		**Pn**	**02**	**03**	**06.9**	**+1.4**
MUSN				*eS*		Sn	02	04	21.8	-8.4
MUSN					IAML		02	05	21.1	
	comp=Z,84nm,0.5s									
MUSN	**Musina, Limpop**	**7.45**	**224**	*i* P		**Pn**	**02**	**03**	**08.6**	**+3.1**
MUSN				*i* S		**Sn**	**02**	**04**	**29.2**	**-1.0**
MOPA	**Mopani**	**7.53**	**210**	⇑*iP*		Pn	02	03	12.0	+5.4
MOPA				⇑*iS*		**Sn**	**02**	**04**	**31.5**	**-0.6**
MOPA	**Mopani**	**7.53**	**210**	*eP*		**Pn**	**02**	**03**	**09.8**	**+3.2**
MOPA				*eS*		**Sn**	**02**	**04**	**29.3**	**-2.8**
MOPA					IAML		02	05	26.1	
	comp=Z,74nm,0.7s									
MOPA	**Mopani**	**7.53**	**210**	*i* P		**Pn**	**02**	**03**	**10.2**	**+3.6**
MOPA				*i* S		**Sn**	**02**	**04**	**31.9**	**-0.1**
PDHT	**Panda Hill**	**8.23**	**345**	*i* P		**Pn**	**02**	**03**	**18.9**	**+2.6**
PDHT				*i* S		**Sn**	**02**	**04**	**47.6**	**-1.9**
LEPH	**Lephalale, Lim**	**9.90**	**225**	*eP*		**Pn**	**02**	**03**	**40.0**	**+0.8**
LEPH				*eS*		Sn	02	05	20.5	-10
LEPH					IAML		02	06	34.7	
	comp=Z,139nm,0.6s									
POGA	**Pongola**	**10.88**	**198**		Pn	**Pn**	**02**	**03**	**50.5**	**-2.1**
ABPO	**Ambohimpanom**	**11.40**	**102**		Pn	**Pn**	**02**	**03**	**59.4**	**-0.4**
VOI	**Vohitsoka**	**11.78**	**116**		Pn	**Pn**	**02**	**04**	**04.7**	**-0.3**
LBTB	**Lobatse**	**12.18**	**227**			**Pn**	**02**	**04**	**09.6**	**-0.8**
LBTB	**Lobatse**	**12.18**	**227**	⇑*iP*		**Pn**	**02**	**04**	**10.9**	**+0.6**
LBTB				⇑*iS*		Sn	02	06	13.4	-13
LBTB	**Lobatse**	**12.18**	**227**	*eP*		**Pn**	**02**	**04**	**10.7**	**+0.3**
LBTB				*eS*		Sn	02	06	13.4	-13
LBTB					IAML		02	07	51.4	
	comp=Z,34nm,0.6s									
LBTB	**Lobatse**	**12.18**	**227**	LR		LR	02	08	58.1	
	comp=Z,145nm,19.6s,baz=54,slow=38									
LBTB	**Lobatse**	**12.18**	**227**	*i* P		**Pn**	**02**	**04**	**11.5**	**+1.1**
LBTB				*i* S		Sn	02	06	17.8	-8.5
PRYS	**Parys**	**12.41**	**216**	*eP*		**Pn**	**02**	**04**	**15.5**	**+1.9**
PRYS				*eS*		Sn	02	06	22.4	-10
PRYS					IAML		02	06	48.1	
	comp=Z,4.0nm,0.4s									
SWZ	**Schweizer**	**13.80**	**221**	*eP*		**Pn**	**02**	**04**	**34.3**	**+1.7**
SWZ				*eS*		Sn	02	06	55.7	-10
SWZ					IAML		02	08	36.7	
	comp=Z,17nm,0.6s									
KIBK	**Kibwezi**	**14.77**	**10**			**Pn**	**02**	**04**	**43.8**	**-2.1**
MBAR	**Mbarara**	**16.92**	**344**	LR		LR	02	11	49.0	
	comp=Z,118nm,18.8s,baz=176,slow=37									
TSUM	**Tsumeb**	**17.11**	**260**	P		**P**	**02**	**05**	**18.3**	**+0.3**
TSUM					IAmb	IAmb	02	05	38.9	
	comp=Z,7.5nm,0.6s									
TSUM	**Tsumeb**	**17.11**	**260**	LR		LR	02	12	20.3	
	comp=Z,95nm,19.8s,baz=130,slow=39									
WIN	**Windhoek**	**18.12**	**249**	P		**Pn**	**02**	**05**	**28.9**	**0.0**
WIN					IAmb	IAmb	02	05	46.4	
	comp=Z,14nm,0.9s									
SUR	**Sutherland**	**20.25**	**218**			**P**	**02**	**05**	**52.2**	**-0.3**
SUR					IAmb	IAmb	02	06	06.3	
	comp=Z,23nm,1.2s									
TORD	**Torodi Ar. Bea**	**44.80**	**310**	P		**P**	**02**	**09**	**31.9**	**+0.9**
TORD	**Torodi Ar. Bea**	**44.80**	**310**	P		**P**	**02**	**09**	**31.8**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=125,slow=7.1,SNR=10									
	comp=Z,0.7nm,0.5s									
KK31	**Karatay Array**	**67.91**	**27**	P		**P**	**02**	**12**	**15.7**	**+0.2**
KKAR	**Karatay Array**	**67.91**	**27**	P		**P**	**02**	**12**	**15.5**	**0.0**
MAKZ	**Makanchi**	**76.04**	**31**	P		**P**	**02**	**13**	**05.0**	**+0.7**
MAKZ					IAmb	IAmb	02	13	12.0	
	comp=Z,1.5nm,0.8s									
MK31	**Makanchi Array**	**76.19**	**31**	P		**P**	**02**	**13**	**05.3**	**+0.2**
MKAR	**Makanchi Array**	**76.19**	**31**	P		**P**	**02**	**13**	**05.2**	**+0.2**
MKAR	**Makanchi Array**	**76.19**	**31**	P		**P**	**02**	**13**	**06.1**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=211,slow=6.2,SNR=8.8									
	comp=Z,0.8nm,0.7s									
KURBB	**Kurchatov Arra**	**77.21**	**27**	P		**P**	**02**	**13**	**11.7**	**+1.1**
	comp=Z,1.0nm,0.9s,baz=228,slow=6.5,SNR=8.5									
	comp=Z,1.0nm,0.9s									
ZALV	**Zalesovo Beam**	**82.29**	**27**	P		**P**	**02**	**13**	**39.1**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=213,slow=7.1,SNR=4.1									
	comp=Z,0.8nm,0.6s									
LVC	**Limon Verde**	**96.21**	**244**	LR		LR	02	57	14.5	
	comp=Z,96nm,18.2s,baz=305,slow=35									
NVAR	**Mina Array Bea**	**148.61**	**318**	PKPbc		**PKPbc**	**02**	**21**	**04.7**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=77,slow=1.9,SNR=7.1									

NOU ***18*** *02:11:12.5, 10°05S×161°19E,h0km,mb4.7/10,Solomon Islands*
IDC ***18*** *02:11:13.7±0.6,10°10S×161°23E,h46km±4km,mb4.4/25, mbtmp4.6/26,MS3.5/28,Error ellipse: s-maj=12.0km s-min=7.2km az=27.0*
BJI ***18*** *02:11:14.7±0.0,9°87S×161°46E,h71km,mb4.8/45, mB5.3/26,Ms4.7/3,Ms7 4.4/3*
NEIC ***18*** *02:11:17±1.1, 10°11S±0°06×161°03E±0°08,h65km±6km, mb4.8/240,Error ellipse: s-maj=11.2km s-min=7.9km az=74.0*

ISC 18 02:11:15.6±0.4,10°08S±0°05×161°11E±0°06,h59km±3km, h60km:pP-P,n673,σ0°89/638,mb4.8/157,MS3.7/26,1C-2D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	h	m	s	Res ISC
HNR	**Honiara**	**1.31**	**299**			**Pn**	**02**	**11**	**37.6**	**-0.2**
HNR						Sn	**02**	**11**	**54.9**	**+0.5**
HNR	**Honiara**	**1.31**	**299**	P		**Pn**	**02**	**37**	**8.8**	**0.0**
HNR	**Honiara**	**1.31**	**299**	P		**Pn**	**02**	**11**	**38.0**	**+0.2**
	33μm,0.4s,baz=177,slow=5.1,SNR=87									
HNR				S		**Sn**	**02**	**11**	**55.0**	**+0.6**
	124μm,0.3s,baz=164,slow=20,SNR=16									
HNR				LR		LR	02	12	19.5	
	comp=Z,154μm,21.7s,baz=148,slow=46									
KOUNC	**Koumac, New Ca**	**10.85**	**164**	Pn		**Pn**	**02**	**13**	**48.4**	**+0.2**
KOUNC	**Koumac, New Ca**	**10.85**	**164**	P		**Pn**	**02**	**13**	**48.5**	**+0.3**
LIFNC	**LIFOU**	**12.16**	**152**	Pn		**Pn**	**02**	**14**	**05.3**	**-0.8**
NOUC	**Port Laguerre**	**12.95**	**158**	P		**Pn**	**02**	**14**	**18.0**	**+1.1**
DZM	**Mont Dzumac**	**12.97**	**157**	P		**Pn**	**02**	**14**	**18.2**	**+0.9**
DZM	**Mont Dzumac**	**12.97**	**157**	*eP*		**Pn**	**02**	**14**	**19.2**	**+1.9**
	70nm,1.1s									
DZM					*e*LR	LR	02	17	05.4	
	538nm,25.9s									
DZM	**Mont Dzumac**	**12.97**	**157**	P		**Pn**	**02**	**14**	**18.0**	**+0.7**
	11nm,0.4s,baz=323,slow=9.2,SNR=30									
DZM				S		**Sn**	**02**	**16**	**37.8**	**-2.3**
	5.7nm,0.5s,baz=90,slow=20,SNR=2.9									
DZM				LR		LR	02	18	17.7	
	comp=Z,243nm,21.8s,baz=282,slow=33									
MARNC	**Mare, Loyalty**	**13.14**	**150**			**Pn**	**02**	**14**	**19.7**	**+0.2**
PMG	**Port Moresby**	**13.76**	**272**	Pn		**Pn**	**02**	**14**	**25.5**	**-2.5**
PMG	**Port Moresby**	**13.76**	**272**	P		**P**	**02**	**14**	**31.8**	**-2.9**
	7.3nm,0.4s,baz=137,slow=6.3,SNR=7.5									
PMG				LR		LR	02	19	32.4	
	comp=Z,229nm,20.9s,baz=105,slow=36									
PINNC	**Pines Island,**	**13.86**	**155**	Pn		**Pn**	**02**	**14**	**30.3**	**+1.1**
TARA	**Tarawa**	**16.35**	**47**	Pn		**Pn**	**02**	**15**	**02.2**	**+0.7**
TV1H	**Townsville Har**	**16.57**	**235**	P		**P**	**02**	**15**	**07.7**	**+1.9**
	26nm,1.0s									
RK1H	**Rockhampton Ha**	**16.67**	**216**	P		**P**	**02**	**15**	**09.0**	**+2.1**
PATS	**Pohnpei**	**17.04**	**350**	Pn		**Pn**	**02**	**15**	**09.6**	**-0.3**
CTA	**Charters Tower**	**17.44**	**234**	P		**P**	**02**	**15**	**16.7**	**+1.3**
	30nm,0.7s,baz=90,slow=9.2,SNR=31									
CTA				LR		LR	02	21	17.3	
	comp=Z,216nm,21.0s,baz=181,slow=34									
CTAO	**Charters Tower**	**17.44**	**234**			**Pn**	**02**	**15**	**15.4**	**+0.4**
CTAO					IAmb	IAmb	02	15	20.1	
	comp=Z,34nm,0.7s									
CTAO	**Charters Tower**	**17.44**	**234**	P		**P**	**02**	**15**	**18.1**	**+2.7**
	comp=Z,52nm,1.1s									
EIDS	**Eidsvold**	**17.94**	**211**	P		**P**	**02**	**15**	**21.0**	**+0.1**
EIDS	**Eidsvold**	**17.94**	**211**	P		**Pn**	**02**	**15**	**24.6**	**+3.6**
COEN	**Coen**	**17.95**	**256**	P		**P**	**02**	**15**	**21.3**	**+0.1**
MTSU	**Mount Surprise**	**18.13**	**242**	P		**Pn**	**02**	**15**	**26.5**	**+3.0**
ARMA	**Armidale**	**22.08**	**202**	P		**P**	**02**	**16**	**05.7**	**-0.2**
WR0	**Warramunga Arr**	**27.43**	**246**	P		**P**	**02**	**16**	**56.1**	**0.0**
CAN	**Canberra**	**27.44**	**202**	P		**P**	**02**	**16**	**56.4**	**+0.3**
CAN					IAmb	IAmb	02	17	06.2	
	comp=Z,21nm,1.1s									
WB0	**Warramunga Arr**	**27.51**	**246**	P		**P**	**02**	**16**	**56.6**	**-0.2**
WB0					IAmb	IAmb	02	17	03.8	
	comp=Z,21nm,0.8s									
WB2	**Warramunga Arr**	**27.60**	**246**	P		**P**	**02**	**16**	**57.6**	**0.0**
WB2					IAmb	IAmb	02	17	04.6	
	comp=Z,16nm,0.9s									
WRA	**Warramunga Arr**	**27.61**	**246**	P		**P**	**02**	**16**	**57.5**	**-0.2**
	comp=Z,9.5nm,0.8s,baz=76,slow=9.4,SNR=35									
	comp=Z,9.5nm,0.8s									
STKA	**Stephens Creek**	**28.23**	**217**	P		**P**	**02**	**17**	**03.8**	**+0.8**
STKA	**Stephens Creek**	**28.23**	**217**	P		**P**	**02**	**17**	**03.5**	**+0.5**
	comp=Z,3.4nm,0.6s,baz=49,slow=12,SNR=7.3									
STKA					LR	LR	02	27	57.6	
	comp=Z,106nm,20.2s,baz=38,slow=36									
	comp=Z,3.4nm,0.6s									
GUMO	**Guam**	**28.51**	**325**	LR		LR	02	27	45.4	
	comp=Z,102nm,21.4s,baz=98,slow=35									
AS31	**Alice Springs**	**29.25**	**239**	P		**P**	**02**	**17**	**11.4**	**-0.9**
ASAR	**Alice Springs**	**29.25**	**239**	P		**P**	**02**	**17**	**12.0**	**-0.4**
ASAR	**Alice Springs**	**29.25**	**239**	P		**P**	**02**	**17**	**11.2**	**-1.1**
	comp=Z,4.3nm,0.7s,baz=68,slow=9.6,SNR=34									
ASAR					LR	LR	02	28	03.6	
	comp=Z,225nm,20.9s,baz=79,slow=34									
	comp=Z,4.3nm,0.7s									
MTN	**Manton Dam**	**29.50**	**262**	P		**P**	**02**	**17**	**14.5**	**0.0**
TOO	**Toolangi**	**30.77**	**205**	P		**P**	**02**	**17**	**24.7**	**-0.9**
TOO					IAmb	IAmb	02	17	27.0	
	comp=Z,46nm,1.5s									
URZ	**Urewera**	**31.52**	**155**	P		**P**	**02**	**17**	**32.7**	**+0.7**
	comp=Z,10nm,0.8s,baz=72,slow=7.9,SNR=2.4									
URZ					LR	LR	02	29	19.6	
	comp=Z,80nm,18.2s,baz=116,slow=34									
	comp=Z,10nm,0.8s									
RTZ	**Ruatahuna**	**31.77**	**156**	P		**P**	**02**	**17**	**34.8**	**+0.4**
KNRA	**Kununurra**	**31.99**	**257**	P		**P**	**02**	**17**	**36.6**	**+0.1**
BKZ	**Black Stump Fm**	**32.06**	**157**	P		**P**	**02**	**17**	**36.3**	**-0.6**
BKZ					IAmb	IAmb	02	17	38.8	
	comp=Z,36nm,1.4s									
BBOO	**Buckleboo**	**32.32**	**222**	P		**P**	**02**	**17**	**39.1**	**-0.1**
MRNZ	**Matariki Terra**	**32.84**	**164**	P		**P**	**02**	**17**	**43.8**	**+0.2**
MRZ	**Mangatainoka R**	**33.04**	**160**	P		**P**	**02**	**17**	**46.0**	**+0.6**
MRZ					IAmb	IAmb	02	17	54.5	
	comp=Z,21nm,1.3s									
TCW	**Tory Channel**	**33.11**	**162**	P		**P**	**02**	**17**	**46.2**	**+0.2**
THZ	**Tophouse**	**33.22**	**164**	P		**P**	**02**	**17**	**48.0**	**+0.9**
THZ					IAmb	IAmb	02	17	49.0	
	comp=Z,20nm,1.0s									
INZ	**Inchbonnie**	**33.75**	**166**	P		**P**	**02**	**17**	**50.7**	**-0.8**
LTZ	**Lake Taylor**	**34.01**	**165**	P		**P**	**02**	**17**	**53.8**	**0.0**
LTZ					IAmb	IAmb	02	17	58.9	
	comp=Z,21nm,1.2s									
FOZ	**Fox Glacier**	**34.17**	**169**	P		**P**	**02**	**17**	**55.2**	**0.0**
GVZ	**Greta Valley S**	**34.38**	**164**	P		**P**	**02**	**17**	**57.5**	**+0.5**
OXZ	**Oxford**	**34.46**	**166**	P		**P**	**02**	**17**	**56.8**	**-0.9**
AMCZ	**Amberley**	**34.47**	**165**	P		**P**	**02**	**17**	**56.8**	**-1.0**
RPZ	**Rata Peaks**	**34.60**	**167**	P		**P**	**02**	**17**	**58.5**	**-0.5**
RPZ					IAmb	IAmb	02	18	06.0	
	comp=Z,19nm,1.1s									
MQZ	**McQueen's Vall**	**34.97**	**165**	P		**P**	**02**	**18**	**01.3**	**-0.7**
LBZ	**Lake Benmore**	**35.07**	**169**	P		**P**	**02**	**18**	**01.6**	**-1.3**
FITZ	**Fitzroy Crossi**	**35.26**	**253**	P		**P**	**02**	**18**	**04.5**	**-0.4**
DCZ	**Deep Cove**	**35.64**	**173**	P		**P**	**02**	**18**	**08.0**	**+0.3**
MLZ	**Mavora Lakes**	**35.67**	**172**	P		**P**	**02**	**18**	**07.9**	**-0.2**
RAR	**Rarotonga**	**39.16**	**111**	LR		LR	02	34	20.2	
	comp=Z,24nm,18.6s,baz=301,slow=36									
DAV	**Davao City (WI**	**39.27**	**294**	LR		LR	02	33	16.5	
	comp=Z,31nm,21.7s,baz=334,slow=34									
PSA00	**Pilbara Seismi**	**41.18**	**249**	P		**P**	**02**	**18**	**54.0**	**-0.7**
PSA00	**Pilbara Seismi**	**41.18**	**249**	P		**P**	**02**	**18**	**54.5**	**-0.2**
PSA00					IAmb	IAmb	02	18	56.8	
	comp=Z,17nm,1.0s									
MBWA	**Marble Bar**	**41.22**	**249**			**P**	**02**	**18**	**54.6**	**-0.4**
MBWA					IAmb	IAmb	02	19	11.2	
	comp=Z,22nm,1.2s									
MBWA	**Marble Bar**	**41.22**	**249**	P		**P**	**02**	**18**	**54.6**	**-0.4**
MBWA				pP		**pP**	**02**	**19**	**10.8**	**+1.0**
MORW	**Morawa**	**46.14**	**239**			**P**	**02**	**19**	**34.3**	**-0.2**
NWAO	**Narrogin (SRO)**	**46.28**	**234**	P		**P**	**02**	**19**	**34.9**	**-0.7**
JAGI	**Jajag, Banyuwa**	**46.34**	**268**	P		**P**	**02**	**19**	**34.4**	**-1.8**
JHJ	**Hachijo jima**	**47.52**	**336**	LR		LR	02	38	06.5	
	comp=Z,21nm,21.2s,baz=22,slow=34									
PPT	**Papeete**	**48.35**	**105**	LR		LR	02	35	42.0	
	comp=Z,49nm,20.6s,baz=198,slow=30									
PPT2	**Papeete2**	**48.35**	**105**	*e*LR		LR	02	33	30.4	
	comp=Z,163nm,25.8s									
PPT2					*e*LR	LR	02	33	43.3	
	comp=Z,164nm,26.5s									
TBI	**Tubuai**	**48.92**	**112**	*e*LR		LR	02	33	45.8	
	comp=Z,907nm,28.5s									
TBI					*e*LR	LR	02	33	58.1	
	comp=Z,566nm,26.8s									
JMN	**Monobe**	**50.68**	**330**	P		**P**	**02**	**20**	**09.5**	**+0.3**
MJAR	**Matsushiro Arr**	**51.14**	**336**	P		**P**	**02**	**20**	**11.1**	**-1.6**
	comp=Z,0.9nm,0.5s,baz=174,slow=7.5,SNR=5.7									
MJAR				pP		**pP**	**02**	**20**	**24.4**	**-3.6**
	comp=Z,1.8nm,0.7s,baz=174,slow=7.9,SNR=4.5									
	comp=Z,0.9nm,0.5s									
MAJO	**Matsushiro**	**51.14**	**336**	P		**P**	**02**	**20**	**13.5**	**+0.9**
YULB	**Yu-li**	**51.22**	**311**	P		**P**	**02**	**20**	**12.9**	**-0.5**
SSLB	**Suanglung**	**51.70**	**311**	P		**P**	**02**	**20**	**16.9**	**-0.2**
JNU	**Nakatsue**	**51.73**	**327**	P		**P**	**02**	**20**	**16.7**	**-0.4**
JNU	**Nakatsue**	**51.73**	**327**	LR		LR	02	42	51.0	
	comp=Z,8.1nm,18.1s,baz=160,slow=37									
XMIS	**Christmas Isla**	**54.50**	**264**	P		**P**	**02**	**20**	**36.8**	**-1.1**
TJN	**Taejon**	**56.07**	**327**	P		**P**	**02**	**20**	**47.8**	**-1.0**
JKA	**Kamikawa-asahi**	**56.50**	**344**	P		**P**	**02**	**20**	**52.4**	**+0.8**
ASAJ	**Asahikawa**	**56.50**	**344**	LR		LR	02	42	04.3	
	comp=Z,58nm,22.0s,baz=142,slow=33									
KSRS	**Korea Array**	**56.59**	**329**	P		**P**	**02**	**20**	**52.2**	**-0.2**
	comp=Z,3.8nm,0.7s,baz=140,slow=7.2,SNR=17									
KSRS				pP		**pP**	**02**	**21**	**04.8**	**-3.2**
	comp=Z,2.7nm,0.9s,baz=147,slow=7.8,SNR=2.7									
KSRS				LR		LR	02	43	26.1	
	comp=Z,22nm,20.7s,baz=135,slow=34									
	comp=Z,3.8nm,0.7s									
NJ2	**Nanjing**	**58.19**	**318**	*eP*		**P**	**02**	**21**	**06.3**	**+2.5**
NJ2				pP		**pP**	**02**	**21**	**20.1**	**+0.6**
NJ2				sP		**sP**	**02**	**21**	**28.0**	**+1.8**
NJ2				pmax		pmax				
	comp=Z,9.0nm,0.6s									
NJ2				pmax		pmax				
	comp=Z,190nm,4.5s									
USA0B	**Ussuriysk Arra**	**60.14**	**336**	P		**P**	**02**	**21**	**17.1**	**+0.1**
USRK	**Ussuriysk Ar.**	**60.14**	**336**	P		**P**	**02**	**21**	**17.7**	**+0.7**
USRK	**Ussuriysk Ar.**	**60.14**	**336**	P		**P**	**02**	**21**	**16.9**	**-0.1**
	comp=Z,8.5nm,0.9s,baz=148,slow=7.1,SNR=11									
USRK				pP		**pP**	**02**	**21**	**30.4**	**-2.3**
	comp=Z,3.4nm,0.7s,baz=144,slow=6.4,SNR=3.6									
	comp=Z,8.5nm,0.9s									
MDJ	**Mudanjiang**	**61.46**	**335**	P		**P**	**02**	**21**	**25.8**	**-0.2**
MDJ				pP		pP	02	21	43.6	+1.7
MDJ				PcP		**PcP**	**02**	**22**	**05.3**	**-2.2**
MDJ				S		**S**	**02**	**29**	**43.8**	**+1.0**
MDJ				pmax		pmax				
	comp=Z,170nm,2.4s									
MDJ				pmax		pmax				
	comp=Z,240nm,5.2s									
MDJ				LR		LR				
	comp=Z,200nm,15.6s									
MDJ				LR		LR				
	comp=Z,220nm,15.4s									
MDJ				LR		LR				
	comp=Z,200nm,16.6s									
CN2	**Changchun**	**62.65**	**332**	P		**P**	**02**	**21**	**34.1**	**+0.1**
CN2				pmax		pmax				
	comp=Z,20nm,0.6s									
PEA0B	**Petropavlovsk-**	**63.01**	**358**	P		**P**	**02**	**21**	**36.3**	**+0.2**
PETK	**Petropavlovsk-**	**63.01**	**358**	P		**P**	**02**	**21**	**36.7**	**+0.5**
	comp=Z,4.0nm,0.8s,baz=156,slow=5.2,SNR=2.2									
PETK				LR		LR	02	44	50.5	
	comp=Z,59nm,21.4s,baz=137,slow=32									
	comp=Z,4.0nm,0.8s									
BNX	**BinXian**	**63.28**	**334**	⇓*iP*		**P**	**02**	**21**	**38.0**	**-0.1**
BNX				pmax		pmax				
	comp=Z,11nm,0.4s									
BNX				pmax		pmax				
	comp=Z,92nm,4.6s									
LYN	**LuoYang**	**63.97**	**316**	⇑P		**P**	**02**	**21**	**43.3**	**+0.4**
LYN				pmax		pmax				
	comp=Z,11nm,0.5s									
GYA	**Guiyang**	**64.13**	**306**	*e*P		**P**	**02**	**21**	**45.8**	**+1.5**
GYA				pmax		pmax				
	comp=Z,14nm,0.5s									
KLR	**Kul'dur**	**64.45**	**339**	P		**P**	**02**	**21**	**46.0**	**+0.2**
	comp=Z,3.0nm,0.7s,baz=141,slow=8.7,SNR=10									
KLR				pP		**pP**	**02**	**21**	**59.2**	**-2.3**
	comp=Z,3.2nm,0.6s,baz=156,slow=6.3,SNR=5.5									
KLR				LR		LR	02	50	08.3	
	comp=Z,18nm,19.0s,baz=44,slow=36									
	comp=Z,3.0nm,0.7s									
KIWB	**Kanaga Island**	**64.47**	**15**	P		**P**	**02**	**21**	**46.6**	**+0.8**
ADK	**Adak**	**64.62**	**15**	P		**P**	**02**	**21**	**46.5**	**-0.2**
ADK	**Adak**	**64.62**	**15**	P		**P**	**02**	**21**	**48.0**	**+1.2**
ATKA	**Atka Island**	**65.57**	**16**	P		**P**	**02**	**21**	**53.2**	**+0.3**
XAN	**Xi'an**	**66.14**	**314**	⇓P		**P**	**02**	**21**	**56.8**	**-0.3**
XAN				pP		pP	02	22	13.5	+0.4
XAN				pmax		pmax				
	comp=Z,18nm,0.7s									
XAN	**Xi'an**	**66.14**	**314**	P		**P**	**02**	**21**	**56.6**	**-0.5**
XAN				pP		**pP**	**02**	**22**	**13.4**	**+0.3**
HEH	**HeiHe**	**66.88**	**337**	*eP*		**P**	**02**	**22**	**01.1**	**-0.3**
HEH				pmax		pmax				
	comp=Z,12nm,0.7s									
HEH				pmax		pmax				
	comp=Z,350nm,5.5s									
VNDA	**Vanda**	**67.42**	**180**	P		**P**	**02**	**22**	**04.6**	**+0.2**
VNDA	**Vanda**	**67.42**	**180**	P		**P**	**02**	**22**	**04.5**	**0.0**
	comp=Z,4.9nm,0.7s,baz=339,slow=6.9,SNR=35									
VNDA				LR		LR	02	45	46.5	
	comp=Z,39nm,21.6s,baz=298,slow=31									
	comp=Z,4.9nm,0.7s									
VNDA	**Vanda**	**67.42**	**180**	P		**P**	**02**	**22**	**04.4**	**-0.1**
VNDA				pP		**pP**	**02**	**22**	**21.4**	**+1.3**
XLT	**XiLinHaoTe**	**67.48**	**326**	*eP*		**P**	**02**	**22**	**06.3**	**+0.8**
XLT				sP		PcP	02	22	31.8	-0.7
XLT				pmax		pmax				
	comp=Z,21nm,0.7s									
XLT				pmax		pmax				
	comp=Z,130nm,5.3s									
CMAR	**Chiang Mai Arr**	**67.56**	**295**	P		**P**	**02**	**22**	**06.8**	**+0.4

baz=221
M15K **Kasigluk River** 76.75 18 P P 02 23 01.1 +0.7
baz=219
OHAK **Old Harbor** 76.77 24 P P 02 23 00.7 +0.2
baz=226
P17K **Kvichak River** 77.01 21 P P 02 23 02.1 +0.3
baz=223
N16K **Nishlik Lake** 77.18 19 P P 02 23 03.7 +0.9
baz=221
O17K **Koliganek Bris** 77.21 20 P P 02 23 03.9 +0.9
baz=222
L15K **Ungalak Mounta** 77.28 17 P P 02 23 04.6 +1.3
baz=218
KDAK **Kodiak Island** 77.44 23 P P 02 23 05.0 +0.8
KDAK IAmb IAmb 02 23 05.6
comp=Z,13nm,0.8s
KDAK **Kodiak Island** 77.44 23 P P 02 23 04.9 +0.6
baz=227
KDAK **Kodiak Island** 77.44 23 LR LR 02 53 51.8
comp=Z,55nm,19.4s,baz=241,slow=33
M16K **Timber Creek** 77.54 19 P P 02 23 05.9 +1.1
M16K IAmb IAmb 02 23 07.3
comp=Z,17nm,1.1s
M16K **Timber Creek** 77.54 19 P P 02 23 05.9 +1.1
baz=220
J14K **Nanvaranak Lak** 77.56 16 P P 02 23 06.6 +1.8
J14K IAmb IAmb 02 23 24.0
comp=Z,12nm,1.0s
J14K **Nanvaranak Lak** 77.56 16 P P 02 23 06.1 +1.2
baz=216
P18K **Big Mountain,** 77.58 21 P P 02 23 05.0 -0.1
P18K IAmb IAmb 02 23 05.7
comp=Z,13nm,1.1s
P18K **Big Mountain,** 77.58 21 P P 02 23 05.1 0.0
baz=224,SNR=6.4
N17K **Nushagak Hills** 77.74 20 P P 02 23 06.8 +0.9
N17K **Nushagak Hills** 77.74 20 P P 02 23 06.2 +0.3
baz=222
K15K **Wolf Creek Mou** 77.76 17 IAmb IAmb 02 23 07.4
comp=Z,12nm,1.1s
K15K **Wolf Creek Mou** 77.76 17 P P 02 23 06.9 +1.0
baz=218
Q19K **Cape Douglas,** 77.83 22 P P 02 23 07.0 +0.5
Q19K **Cape Douglas,** 77.83 22 P P 02 23 07.5 +1.0
baz=226
L16K **Owhat River** 77.91 18 P P 02 23 07.2 +0.4
L16K **Owhat River** 77.91 18 P P 02 23 07.9 +1.1
baz=220
O18K **Koktuh Hills** 77.92 21 P P 02 23 07.0 0.0
O18K **Koktuh Hills** 77.92 21 P P 02 23 07.3 +0.4
baz=224
Q20K **Shuyak Island** 78.08 23 P P 02 23 08.6 +0.8
baz=227
N18K **Kilae Creek** 78.28 20 P P 02 23 09.8 +0.9
N18K IAmb IAmb 02 23 10.8
comp=Z,19nm,1.3s
N18K **Kilae Creek** 78.28 20 P P 02 23 10.0 +1.0
baz=223
M17K **Holitna River** 78.31 19 P P 02 23 09.8 +0.7
M17K IAmb IAmb 02 23 19.6
comp=Z,14nm,1.3s
M17K **Holitna River** 78.31 19 P P 02 23 09.1 +0.1
baz=222
O19K **Port Alsworth** 78.48 21 P P 02 23 10.4 +0.4
baz=225
P19K **Oil Pt** 78.48 22 P P 02 23 10.3 +0.2
P19K **Oil Pt** 78.48 22 P P 02 23 09.8 -0.3
baz=226
L17K **Donlin** 78.59 18 P P 02 23 11.2 +0.6
baz=221
ANM **Nome** 78.60 14 P P 02 23 11.1 +0.5
baz=214
SVW2 **Sparrevohn** 78.69 20 P P 02 23 12.2 +1.0
J16K **Anvik River** 78.80 17 P P 02 23 12.9 +1.2
J16K **Anvik River** 78.80 17 P P 02 23 12.0 +0.2
baz=218
N19K **Bonanza Creek** 78.86 20 P P 02 23 12.1 -0.1
N19K IAmb IAmb 02 23 13.6
comp=Z,9.2nm,1.1s
N19K **Bonanza Creek** 78.86 20 P P 02 23 12.3 +0.1
baz=225
TNA **Tin City** 78.86 13 P P 02 23 12.1 +0.2
baz=211
M18K **Stony River** 78.90 20 P P 02 23 12.8 +0.5
baz=223
O20K **Slope Mountain** 79.00 22 P P 02 23 13.5 +0.5
baz=226
K17K **Iditarod** 79.03 18 P P 02 23 13.2 +0.2
baz=221
HOM **Homer** 79.08 22 P P 02 23 14.1 +0.8
HOM **Homer** 79.08 22 P P 02 23 13.7 +0.5
baz=227
CNPM **China Poot** 79.14 23 P P 02 23 14.5 +0.8
CNPM IAmb IAmb 02 23 15.7
comp=Z,21nm,1.1s
F14K **Arctic Creek** 79.14 13 P P 02 23 14.1 +0.5
baz=213
L18K **Granite Mounta** 79.16 19 P P 02 23 15.2 +1.5
L18K IAmb IAmb 02 23 16.0
comp=Z,13nm,0.9s
L18K **Granite Mounta** 79.16 19 P P 02 23 14.3 +0.6
baz=222
I17K **Unalakleet** 79.25 16 P P 02 23 14.7 +0.6
baz=218
BRLK **Bradley Lake** 79.43 22 P P 02 23 15.8 +0.6
BRLK IAmb IAmb 02 23 16.5
comp=Z,14nm,0.9s
H16K **Elim** 79.44 15 P P 02 23 15.9 +0.7
baz=217
BRSE **Bradley Lake S** 79.47 23 P P 02 23 16.0 +0.5
baz=228
M19K **Big River Lodg** 79.67 20 P P 02 23 17.8 +1.3
M19K IAmb IAmb 02 23 18.6
comp=Z,16nm,0.8s
M19K **Big River Lodg** 79.67 20 P P 02 23 16.9 +0.3
baz=224
L19K **White Mountain** 79.72 19 P P 02 23 17.7 +0.9
L19K IAmb IAmb 02 23 18.8
comp=Z,12nm,0.8s
L19K **White Mountain** 79.72 19 P P 02 23 18.2 +1.4
baz=224
F15K **North Star Dit** 79.72 14 P P 02 23 17.6 +0.9
baz=214
TTA **Tatalina** 79.89 18 P P 02 23 18.1 +0.3
TTA **Tatalina** 79.89 18 P P 02 23 18.3 +0.5
baz=223
QSPA **South Pole Qui** 79.91 180 P P 02 23 17.5 -0.5
QSPA IAmb IAmb 02 23 18.3
comp=Z,13nm,0.8s
QSPA **South Pole Qui** 79.91 180 P P 02 23 17.3 -0.7
comp=Z,13nm,0.8s,baz=348,slow=0.9,SNR=74
comp=Z,13nm,0.8s
N20K **Mount Spurr** 79.92 21 P P 02 23 18.9 +0.9
baz=227
CAPN **Captain Cook N** 80.01 22 P P 02 23 19.5 +1.2
baz=228
G16K **Koyuk River** 80.02 15 P P 02 23 18.7 +0.5
G16K IAmb IAmb 02 23 20.0
comp=Z,10nm,1.1s
G16K **Koyuk River** 80.02 15 P P 02 23 18.8 +0.5
baz=216
J18K **Innoko River** 80.07 18 P P 02 23 19.4 +0.7
J18K **Innoko River** 80.07 18 P P 02 23 19.1 +0.4
baz=222
M20K **Styx River** 80.08 20 P P 02 23 18.8 0.0
baz=226
SEW **Seward** 80.20 23 P P 02 23 19.7 +0.3
baz=229
L20K **Farewell, AK** 80.25 19 P P 02 23 20.0 +0.3
baz=225
H17K **Granite Mounta** 80.29 16 P P 02 23 20.8 +1.1
baz=219
O22K **Cooper Landing** 80.34 22 P P 02 23 20.7 +0.6
baz=229
G17K **Kiwalik Mounta** 80.54 15 P P 02 23 21.5 +0.4
baz=218
SUA **Susitna One** 80.62 21 IAmb IAmb 02 23 39.8
comp=Z,8.4nm,0.9s
SUA **Susitna One** 80.62 21 P P 02 23 21.8 +0.1
baz=228,SNR=9.0
SKT **Skwentna** 80.69 21 P P 02 23 21.5 -0.6
baz=227
RC01 **Rabbit Creek A** 80.74 22 IAmb IAmb 02 23 26.5
comp=Z,12nm,1.1s
RC01 **Rabbit Creek A** 80.74 22 P P 02 23 22.2 -0.1
baz=229,SNR=6.3
J19K **Poorman** 80.79 18 P P 02 23 22.6 +0.1
baz=223
K20K **Telida** 80.81 19 IAmb IAmb 02 23 24.6
comp=Z,15nm,1.3s
K20K **Telida** 80.81 19 P P 02 23 23.1 +0.4
baz=225,SNR=7.2
H18K **Honhosa River** 80.87 16 P P 02 23 23.1 +0.2
H18K **Honhosa River** 80.87 16 P P 02 23 23.4 +0.5
baz=220
M22K **Willow** 81.04 21 P P 02 23 24.4 +0.6
baz=229
PPLA **Purkeypile** 81.10 20 P P 02 23 24.7 +0.4
baz=226
F17K **Baldwin Pennin** 81.13 14 P P 02 23 24.1 -0.1
baz=218
PMR **Palmer** 81.29 22 P P 02 23 26.2 +1.1
PMR **Palmer** 81.29 22 P P 02 23 25.0 -0.1
baz=230,SNR=5.6
J20K **Nowinta River** 81.38 18 P P 02 23 26.5 +0.9
CUT **Chulitna** 81.42 21 P P 02 23 26.6 +0.8
baz=228
KNK **Knik Glacier** 81.42 22 P P 02 23 26.8 +0.9
KNK **Knik Glacier** 81.42 22 P P 02 23 25.9 0.0
baz=230
GHO **Glory Hole Cre** 81.48 22 P P 02 23 27.0 +0.7
GHO IAmb IAmb 02 23 27.5
comp=Z,7.7nm,0.8s
CAST **Castle Rocks** 81.50 19 P P 02 23 26.1 -0.1
CAST IAmb IAmb 02 23 26.8
comp=Z,10nm,0.8s
CAST **Castle Rocks** 81.50 19 P P 02 23 27.0 +0.7
baz=226,SNR=14
F18K **Selawik** 81.65 15 P P 02 23 27.3 +0.3
baz=219
H19K **Roundabout Mou** 81.69 17 P P 02 23 27.7 +0.6
C16K **Lisburne Hills** 81.71 12 P P 02 23 27.8 +0.5
C16K **Lisburne Hills** 81.71 12 P P 02 23 27.6 +0.4
baz=213
D17K **Noatak River** 81.72 13 P P 02 23 27.9 +0.6
baz=216
SML **Sawmill** 81.72 22 P P 02 23 27.5 -0.1
baz=230
I20K **Naaghedeneel** 81.72 18 P P 02 23 28.2 +0.8
baz=224
CHUM **Lake Minchumin** 81.74 19 P P 02 23 28.1 +0.6
baz=226,SNR=7.6
EYAK **Cordova Ski Ar** 81.91 24 P P 02 23 30.0 +1.5
baz=233
M23K **Glacier View** 81.93 22 P P 02 23 29.7 +1.1
baz=231
KTH **Kantishna Hill** 81.97 20 P P 02 23 28.6 -0.3
KTH IAmb IAmb 02 23 29.5
comp=Z,16nm,1.0s
G19K **Purcell Mounta** 81.97 16 P P 02 23 29.3 +0.6
G19K **Purcell Mounta** 81.97 16 P P 02 23 29.6 +0.9
baz=222
RDOG **Red Dog Mine** 82.05 13 P P 02 23 29.9 +0.9
baz=216
E18K **Tukpahlearik C** 82.07 14 P P 02 23 29.8 +0.7
E18K IAmb IAmb 02 23 31.0
comp=Z,17nm,1.4s
E18K **Tukpahlearik C** 82.07 14 P P 02 23 30.0 +0.8
baz=218
KAIM **Kayak Island** 82.07 24 P P 02 23 30.0 +0.6
baz=234
SCM **Sheep Creek Mo** 82.11 22 P P 02 23 30.0 +0.4
SCM IAmb IAmb 02 23 48.9
comp=Z,10nm,1.2s
SCM **Sheep Creek Mo** 82.11 22 P P 02 23 30.1 +0.6
baz=231
H20K **Anotleneega Mo** 82.11 17 P P 02 23 30.0 +0.5
baz=224
TRF **Thorofare Moun** 82.11 20 IAmb IAmb 02 23 30.4
comp=Z,9.4nm,1.1s
TRF **Thorofare Moun** 82.11 20 P P 02 23 29.4 -0.3
baz=228,SNR=5.5
WAT1 **Susitna Watana** 82.30 21 P P 02 23 30.6 +0.1
baz=230
F19K **Shaleruckik Mo** 82.31 15 IAmb IAmb 02 23 31.6
comp=Z,8.2nm,1.1s
F19K **Shaleruckik Mo** 82.31 15 P P 02 23 30.6 +0.2
baz=221
BPAW **Bear Paw Mtn.** 82.32 19 IAmb IAmb 02 23 31.0
comp=Z,11nm,1.3s
BPAW **Bear Paw Mtn.** 82.32 19 P P 02 23 30.5 -0.1
baz=228,SNR=5.0
C17K **DeLong Mountai** 82.33 13 P P 02 23 31.4 +0.8
baz=216
KLU **Klutina** 82.42 23 P P 02 23 31.9 +0.7
baz=232
WAT6 **Susitna Watana** 82.43 21 P P 02 23 31.8 +0.5
baz=231
RND **Reindeer** 82.57 20 IAmb IAmb 02 23 33.2
comp=Z,24nm,1.5s
BMRM **Bremner River** 82.61 24 P P 02 23 32.8 +0.6
baz=234
BGLC **Bering Glacier** 82.65 25 P P 02 23 32.7 +0.4
baz=235
M24K **Tolsona, Glenn** 82.70 22 P P 02 23 33.4 +0.7
M24K IAmb IAmb 02 23 34.6
comp=Z,15nm,0.8s
I21K **Tanana** 82.75 18 P P 02 23 33.2 +0.4
I21K IAmb IAmb 02 23 35.7
comp=Z,11nm,1.0s
I21K **Tanana** 82.75 18 P P 02 23 32.9 +0.2
baz=226,SNR=10
MCK **McKinley** 82.75 20 P P 02 23 32.9 +0.1
baz=229,SNR=24
IMAR **Indian Mountai** 82.79 17 P P 02 23 33.2 +0.3
H21K **Melozitna Rive** 82.83 18 P P 02 23 33.5 +0.3
baz=226
DHY **Denali Highway** 82.87 21 P P 02 23 34.5 +0.9
baz=231
C18K **Utukok River** 82.91 13 IAmb IAmb 02 23 34.7
comp=Z,14nm,1.3s
C18K **Utukok River** 82.91 13 P P 02 23 34.3 +0.7
baz=217
E19K **Redstone River** 82.92 15 P P 02 23 34.5 +0.8
E19K IAmb IAmb 02 23 35.3
comp=Z,10nm,0.9s
E19K **Redstone River** 82.92 15 P P 02 23 34.4 +0.8
baz=221
N25K **Chitina, Valde** 83.00 23 IAmb IAmb 02 23 37.6
comp=Z,11nm,0.9s
N25K **Chitina, Valde** 83.00 23 P P 02 23 34.7 +0.5
baz=234,SNR=12
F20K **Avaraart Lake** 83.01 16 P P 02 23 34.5 +0.5
baz=223
MLY **Manley** 83.03 19 P P 02 23 35.0 +0.8
MLY IAmb IAmb 02 23 35.8
comp=Z,8.6nm,1.0s
MLY **Manley** 83.03 19 P P 02 23 34.6 +0.4
baz=228,SNR=9.8
GLB **Gilahina Butte** 83.20 23 P P 02 23 36.4 +1.1
GLB IAmb IAmb 02 23 37.1
comp=Z,19nm,1.4s
VRDI **Verde Repeater** 83.22 24 P P 02 23 36.3 +0.8
MESA **MESA** 83.23 25 P P 02 23 36.8 +1.2
MESA **MESA** 83.23 25 P P 02 23 35.1 -0.5
baz=236
G21K **Allakaket** 83.23 17 P P 02 23 35.0 -0.3
baz=225
HARP **HAARP** 83.26 22 P P 02 23 35.8 +0.3
baz=233
NEA2 **Nenana** 83.27 19 IAmb IAmb 02 23 36.3
comp=Z,9.8nm,0.9s
NEA2 **Nenana** 83.27 19 P P 02 23 35.5 0.0
baz=229,SNR=11
ISLE **Juniper Island** 83.31 24 IAmb IAmb 02 23 38.2
comp=Z,13nm,0.8s
B18K **Kokolik River** 83.35 12 P P 02 23 36.1 +0.4
baz=217
H22K **Ishtalitna Cre** 83.42 18 P P 02 23 36.8 +0.6
baz=227
MCARA **McCarthy VSAT** 83.48 24 P P 02 23 37.0 +0.4
baz=235,SNR=7.9
PAX **Paxson** 83.49 22 P P 02 23 36.9 +0.2
baz=233
D19K **Kuna River** 83.50 14 IAmb IAmb 02 23 37.8
comp=Z,10nm,1.1s
D19K **Kuna River** 83.50 14 P P 02 23 37.5 +0.9
baz=220
WRH **Wood River Hil** 83.52 20 IAmb IAmb 02 23 37.1
comp=Z,8.8nm,1.0s
I23K **Minto, Yukon-K** 83.54 19 P P 02 23 37.6 +0.7
I23K IAmb IAmb 02 23 56.4
comp=Z,10.0nm,1.3s
I23K **Minto, Yukon-K** 83.54 19 P P 02 23 37.8 +0.9
baz=229
C19K **Lookout Ridge** 83.63 13 P P 02 23 37.9 +0.6
baz=219
TABL **Table Mountain** 83.71 25 IAmb IAmb 02 23 39.7
comp=Z,13nm,0.8s
CCB **Clear Creek Bu** 83.72 20 P P 02 23 38.1 +0.3
F21K **Alatna River** 83.74 16 P P 02 23 38.6 +0.7
baz=220
MDM **Murphy Dome** 83.78 19 IAmb IAmb 02 23 39.0
comp=Z,10nm,1.1s
BARN **Barnard Glacie** 83.84 24 P P 02 23 39.8 +1.1
BARN IAmb IAmb 02 23 40.8
comp=Z,8.7nm,0.7s
COLA **College** 83.85 20 P P 02 23 39.7 +1.3
baz=230
HDA **Harding Lake** 83.86 20 P P 02 23 38.9 +0.4
HDA IAmb IAmb 02 23 39.8
comp=Z,16nm,1.0s
HDA **Harding Lake** 83.86 20 P P 02 23 38.7 +0.2
baz=231,SNR=14
MAW **Mawson** 83.88 202 P P 02 23 37.8 -0.8
comp=Z,8.4nm,1.0s,baz=97,slow=8.1,SNR=3.7
comp=Z,8.4nm,1.0s
K24K **Donnelly Dome** 83.89 21 P P 02 23 39.2 +0.5
baz=232
CTG **Chitna Glacier** 83.92 24 P P 02 23 39.3 +0.3
baz=237,SNR=9.9
CTGM **Chitna Glacie** 83.92 24 IAmb IAmb 02 23 40.8
comp=Z,10.0nm,0.7s
D20K **Etivluk River** 84.02 14 P P 02 23 39.4 +0.2
baz=222
PNL **Peninsula** 84.04 26 P P 02 23 39.8 +0.2
baz=238
M26K **Nabesna, AK** 84.08 23 IAmb IAmb 02 23 41.7
comp=Z,8.3nm,0.9s
M26K **Nabesna, AK** 84.08 23 P P 02 23 40.2 +0.5
baz=235
IL31 **** 84.11 20 IAmb IAmb 02 23 40.6
comp=Z,11nm,1.2s
ILAR **Eielson Array** 84.11 20 P P 02 23 40.0 +0.3
ILAR **Eielson Array** 84.11 20 P P 02 23 39.4 -0.4
comp=Z,1.9nm,0.5s,baz=241,slow=4.7,SNR=42
ILAR LR LR 02 56 10.2
comp=Z,44nm,21.1s,baz=158,slow=32
comp=Z,1.9nm,0.5s
POKR **Poker Plat Res** 84.15 19 P P 02 23 40.2 +0.2
baz=231
A19K **Wainwright** 84.17 12 P P 02 23 40.7 +0.7
baz=217
L26K **Log Cabin Wild** 84.30 22 IAmb IAmb 02 23 42.5
comp=Z,5.9nm,0.8s
L26K **Log Cabin Wild** 84.30 22 P P 02 23 40.9 +0.1
baz=235,SNR=6.7
TIXI **Tiksi** 84.33 350 P P 02 23 40.3 -0.4
comp=Z,2.5nm,0.4s,baz=109,slow=2.2,SNR=7.3
comp=Z,2.5nm,0.4s
G23K **Bananza Creek** 84.38 18 P P 02 23 42.1 +1.0
G23K **Bananza Creek** 84.38 18 P P 02 23 42.0 +0.8
baz=228
H24K **Noodor Dome** 84.46 19 P P 02 23 42.0 +0.4
baz=230
M27K **Edge Creek, AK** 84.48 23 IAmb IAmb 02 23 43.9
comp=Z,8.1nm,0.8s
M27K **Edge Creek, AK** 84.48 23 P P 02 23 42.0 +0.1
baz=236
E21K **Killik River** 84.49 15 P P 02 23 42.2 +0.6
baz=224
J25K **Salcha River,** 84.52 20 IAmb IAmb 02 23 43.1
comp=Z,7.8nm,0.9s
J25K **Salcha River,** 84.52 20 P P 02 23 42.3 +0.3
baz=233
S31K **Pelican** 84.61 28 P P 02 23 43.1 +0.7
baz=241
SIT **Sitka** 84.62 29 P P 02 23 42.9 +0.5
baz=242
SCRK **Sand Creek** 84.63 21 IAmb IAmb 02 23 44.0
comp=Z,6.8nm,0.8s
SCRK **Sand Creek** 84.63 21 P P 02 23 42.8 +0.2
baz=234,SNR=9.6
COLD **Coldfoot** 84.67 17 P P 02 23 43.4 +0.8
baz=228
YUK3 **Moose Creek** 84.72 24 P P 02 23 43.8 +0.6
baz=237,SNR=8.8
O29M **Mount Kennedy** 84.72 26 P P 02 23 44.0 +0.9
baz=239
YUK8 **Steele Glacier** 84.74 25 P P 02 23 43.9 +0.5
baz=238,SNR=16
P29M **Windy Craggy** 84.75 27 P P 02 23 43.9 +0.8
baz=240
C21K **Knifeblade Rid** 84.80 14 P P 02 23 44.2 +1.1
baz=224
E22K **Anaktuvuk Pass** 84.84 16 P P 02 23 44.1 +0.7
E22K **Anaktuvuk Pass** 84.84 16 P P 02 23 44.1 +0.7
baz=226
B20K **Meade River** 84.87 13 P P 02 23 42.7 -0.8
B20K IAmb IAmb 02 23 56.3
comp=Z,8.9nm,0.9s
B20K **Meade River** 84.87 13 P P 02 23 43.8 +0.3
baz=221
L27K **Beaver Creek,** 84.89 23 P P 02 23 44.3 +0.5
baz=236,SNR=6.8
BVCY **Beaver Creek** 84.91 23 P P 02 23 44.7 +0.8
baz=237
BCAR **Beaver Creek A** 84.91 23 P P 02 23 44.6 +0.7
CRAG **Craig** 85.00 31 P P 02 23 45.1 +0.7
baz=244
PRP **Porcupine Dome** 85.02 20 P P 02 23 45.3 +0.8
baz=232
R31K **City Hall, Gus** 85.06 28 P P 02 23 45.5 +0.9
baz=242
J26L **Joseph Creek** 85.08 21 P P 02 23 45.3 +0.5
baz=234
KMPM **Mount Pierce** 85.12 48 P P 02 23 45.6 +0.1
D22K **Ayikyak River** 85.13 15 IAmb IAmb 02 23 46.8
comp=Z,10nm,0.8s
D22K **Ayikyak River** 85.13 15 P P 02 23 46.2 +1.3
baz=226
G24K **Hadweenzic Riv** 85.14 18 IAmb IAmb 02 23 47.1
comp=Z,7.0nm,1.1s
G24K **Hadweenzic Riv** 85.14 18 P P 02 23 45.8 +0.8
baz=231
YUK6 **Outpost Mounta** 85.14 25 P P 02 23 45.9 +0.5
baz=239
S32K **Killisnoo** 85.17 29 P P 02 23 46.1 +0.9
baz=243
B21K **Ikpikpuk River** 85.18 14 IAmb IAmb 02 23 46.6
comp=Z,8.2nm,0.8s
B21K **Ikpikpuk River** 85.18 14 P P 02 23 46.1 +1.1
baz=224
WMQ **Urumqi** 85.21 316 eP P 02 23 44.6 -1.3
WMQ pmax pmax
comp=Z,11nm,0.9s
YUK4 **Talbot Arm** 85.23 25 P P 02 23 46.7 +1.0
baz=239,SNR=21
PLBC **Pleasant Camp** 85.27 27 P P 02 23 46.3 +0.6
baz=241
U33K **Whale Pass** 85.28 31 P P 02 23 46.8 +1.0
baz=244
KCPM **Cahto Peak** 85.29 48 P P 02 23 47.7 +1.2
P30M **Million Dollar** 85.33 26 P P 02 23 46.7 +0.6
baz=241
K27K **Chicken** 85.35 22 IAmb IAmb 02 23 49.2
comp=Z,6.8nm,1.0s
K27K **Chicken** 85.35 22 P P 02 23 47.1 +1.1
baz=236
KMRM **Mail Ridge** 85.36 48 P P 02 23 48.1 +1.4
H25L **Birch Creek** 85.39 19 P P 02 23 47.6 +1.5
baz=232
E23K **Chandalar** 85.40 17 P P 02 23 47.5 +1.2
baz=228
HYT **Haines Junctio** 85.44 26 P P 02 23 47.4 +0.6
baz=240,SNR=5.1
KHMM **Horse Mountain** 85.53 47 P P 02 23 49.0 +1.4
F24K **Squaw Lake** 85.54 17 P P 02 23 48.1 +1.2
baz=230
R32K **Eaglecrest** 85.56 29 P P 02 23 48.0 +0.8
baz=243
KBO **Bosley Butte** 85.58 46 P P 02 23 48.4 +0.6
KRMB **Red Mountain** 85.60 47 P P 02 23 48.1 +0.2
G25K **Bearman Lake** 85.61 18 P P 02 23 48.1 +0.9
baz=232
T33K **Petersburg** 85.67 30 P P 02 23 48.7 +1.0
baz=244
I26K **Coal Creek Min** 85.70 20 P P 02 23 48.4 +0.7
baz=235
D23K **Nanushuk River** 85.72 16 P P 02 23 49.5 +1.7
baz=227
KSXB **Camp Six Broad** 85.72 46 P P 02 23 48.9 +0.4

V35K	Ketchikan	85.72	32	P	P	02 23 48.7 +0.7
	baz=246					
E24K	Your Creek	85.73	17	P	P	02 23 49.3 +1.4
	baz=230					
SKAG	Skagway	85.74	27	P	P	02 23 49.3 +1.3
	baz=242					
TOLK	Toolik Lake Re	85.80	16	P	P	02 23 48.6 +0.4
	baz=228					
WRAK	Wrangell Islan	85.80	31	P	P	02 23 49.1 +0.7
	baz=245					
HOLB	Holberg	85.84	37	P	P	02 23 49.4 +0.6
M29M	Somme Creek	85.87	24	IAmb	IAmb	02 23 50.7
	comp=Z,9.3nm,1.1s					
M29M	Somme Creek	85.87	24	P	P	02 23 48.9 +0.1
	baz=239					
N30M	Aishikik Lake	85.94	25	P	P	02 23 48.6 -0.4
	baz=240					
A21K	Barrow	85.98	13	P	P	02 23 49.2 +0.2
	baz=222					
B22K	Teshekpuk Lake	85.98	14	IAmb	IAmb	02 23 50.4
	comp=Z,6.6nm,0.9s					
B22K	Teshekpuk Lake	85.98	14	P	P	02 23 49.5 +0.5
	baz=225					
O30N	Mendenhall	86.02	26	P	P	02 23 50.3 +0.8
O30N	Mendenhall	86.02	26	P	P	02 23 50.1 +0.6
	baz=241					
J01E	Myrtle Point	86.08	45	P	P	02 23 51.2 +1.1
EGAK	Eagle	86.09	21	P	P	02 23 49.3 -0.3
	baz=237,SNR=11					
A22K	Sinclair Lake	86.10	13	P	P	02 23 50.5 +1.0
	baz=223					
F25K	Christian River	86.26	18	P	P	02 23 51.2 +0.6
	baz=232					
C23K	Itkillik River	86.33	15	IAmb	IAmb	02 23 56.0
	comp=Z,12nm,1.4s					
C23K	Itkillik River	86.33	15	P	P	02 23 51.6 +0.9
	baz=227					
D24K	Happy Valley	86.34	16	IAmb	IAmb	02 23 55.9
	comp=Z,12nm,1.4s					
D24K	Happy Valley	86.34	16	P	P	02 23 52.3 +1.5
	baz=229					
L29M	L29M	86.34	23	P	P	02 23 51.4 +0.4
	baz=239					
BBGB	Big Mountain B	86.35	52	P	P	02 23 53.0 +1.2
DAWY	Dawson	86.36	22	IAmb	IAmb	02 23 53.8
	comp=Z,14nm,1.2s					
DAWY	Dawson	86.36	22	P	P	02 23 51.9 +0.8
	baz=238,SNR=10					
I27K	Kandik River	86.39	20	P	P	02 23 52.7 +1.5
	baz=236					
BBB	Bella Bella	86.42	36	LR	LR	02 55 10.6
	comp=Z,33nm,20.2s,baz=209,slow=30					
G26K	Porcupine Rive	86.45	19	P	P	02 23 52.2 +0.8
	baz=234					
BMAR	Burnt Mountain	86.48	18	P	P	02 23 52.9 +1.2
WHY	Whitehorse	86.50	26	P	P	02 23 52.8 +0.9
	baz=242					
P32M	Atlin	86.53	28	P	P	02 23 53.4 +1.4
	baz=244					
HUMO	Hull Mountain	86.60	46	P	P	02 23 54.1 +1.4
HUMO				IAmb	IAmb	02 23 54.9
	comp=Z,8.7nm,1.0s					
E25K	Arctic Village	86.61	18	P	P	02 23 53.4 +1.2
	baz=232					
M30M	Minto, Yukon	86.61	24	P	P	02 23 53.5 +1.2
	baz=241,SNR=6.5					
I03D	Drain, OR	86.64	45	P	P	02 23 53.6 +0.7
I03D				IAmb	IAmb	02 24 01.5
	comp=Z,8.9nm,1.0s					
SNCC	San Nicolas Is	86.71	56	P	P	02 23 54.4 +1.0
	baz=256					
C24K	Franklin Bluff	86.74	16	P	P	02 23 53.7 +0.9
	baz=229					
H27K	Steamboat Moun	86.78	20	P	P	02 23 54.0 +0.9
	baz=236					
F26K	Sheenjek River	86.78	18	P	P	02 23 54.2 +1.2
	baz=234					
SCZ2	Santa Cruz Isl	86.81	55	P	P	02 23 54.5 +0.5
	baz=256					
SMMC	Simmler	86.85	53	P	P	02 23 54.0 -0.1
	baz=255					
SBC	Santa Barbara	86.86	54	P	P	02 23 54.5 +0.4
	baz=256					
PKM	Mcpherson Peak	86.89	54	P	P	02 23 54.4 -0.1
	baz=256					
I28M	Miner Creek	86.90	21	P	P	02 23 54.1 +0.4
	baz=238					
Q32M	Nakina River	86.92	28	P	P	02 23 54.0 -0.1
Q32M				IAmb	IAmb	02 24 11.5
	comp=Z,6.1nm,1.2s					
Q32M	Nakina River	86.92	28	P	P	02 23 54.1 -0.1
	baz=245					
L04D	Klamath Falls	86.95	46	P	P	02 23 55.1 +0.5
K29M	Barlow Dome	86.95	23	P	P	02 23 54.8 +0.7
	baz=240					
J29N	Klondike Camp	87.00	22	P	P	02 23 55.2 +1.0
	baz=239					
S34M	Telegraph Cree	87.03	30	P	P	02 23 55.0 +0.6
S34M				IAmb	IAmb	02 24 01.4
	comp=Z,8.4nm,1.4s					
S34M	Telegraph Cree	87.03	30	P	P	02 23 54.4 0.0
	baz=246					
G27K	Doyon Strip	87.06	19	P	P	02 23 55.9 +1.5
G27K	Doyon Strip	87.06	19	P	P	02 23 54.5 0.0
	baz=236					
T35M	Bob Quinn	87.09	31	P	P	02 23 54.8 0.0
	baz=247					
D25K	Kavik River	87.12	16	P	P	02 23 55.6 +0.9
	baz=232					
P33M	Teslin, Yukon	87.21	27	P	P	02 23 56.2 +0.9
	baz=244					
CMB	Columbia Colle	87.24	51	P	P	02 23 56.4 +0.4
M31M	Drury Creek, Y	87.42	25	P	P	02 23 56.6 +0.3
	baz=243					
SCI2	San Clemente I	87.45	56	P	P	02 23 56.5 -0.6
	baz=256					
MAYO	Mayo, Yukon	87.46	24	P	P	02 23 56.5 +0.1
	baz=241					
N32M	Quiet Lake	87.50	26	P	P	02 23 56.4 -0.3
	baz=244					
VOG	Valley Oaks Go	87.58	53	P	P	02 23 56.7 -0.9
	baz=256					
CIS	Catalina Islan	87.65	56	P	P	02 23 57.6 -0.5
	baz=256					
VES	Vestal, Richgr	87.70	53	P	P	02 23 57.9 -0.3
	baz=256					
R33M	Jennings River	87.71	28	P	P	02 23 58.2 +0.3
R33M	Jennings River	87.71	28	P	P	02 23 58.0 +0.1
	baz=246					
ARVC	Arvin	87.73	54	P	P	02 23 58.0 -0.3
	baz=256					
J30M	Hart River	87.77	23	P	P	02 23 57.7 -0.3
	baz=241					
DLBC	Dease Lake	87.78	29	P	P	02 23 58.4 +0.3
	baz=247					
DLBC	Dease Lake	87.78	29	LR	LR	03 03 44.8
	comp=Z,37nm,18.4s,baz=246,slow=36					
FMP	Fort Macarthur	87.82	55	P	P	02 23 58.7 -0.1
	baz=256					
E27K	Coleen River	87.85	18	IAmb	IAmb	02 24 01.1
	comp=Z,13nm,1.2s					
E27K	Coleen River	87.85	18	P	P	02 23 58.9 +0.7
	baz=236					
H29M	Whitestone	87.85	21	P	P	02 23 59.3 +1.1
H29M	Whitestone	87.85	21	P	P	02 23 58.2 0.0
	baz=239					
FARO	Faro, Yukon	87.86	25	P	P	02 23 59.0 +0.7
	baz=244					
C26K	Camden Bay	87.89	16	P	P	02 23 59.9 +1.6
	baz=233					
DECC	Green Verdugo	87.92	55	P	P	02 23 59.8 +0.5
	baz=256					
J05D	Fort Rock, OR	88.00	46	P	P	02 23 59.6 -0.1
J05D				IAmb	IAmb	02 24 01.8
	comp=Z,10nm,1.0s					
I30M	Mount Dempster	88.06	22	IAmb	IAmb	02 24 01.0
	comp=Z,4.2nm,0.7s					
I30M	Mount Dempster	88.06	22	P	P	02 24 00.7 +1.3
	baz=241					
WAKR	Walker	88.08	51	P	P	02 24 00.7 +0.6
F28M	Old Crow	88.08	19	P	P	02 24 00.2 +0.9
	baz=238					
K05A	Summer Lake	88.09	46	P	P	02 24 00.1 0.0
K05A				IAmb	IAmb	02 24 02.6
	comp=Z,9.4nm,1.0s					
PNTR	Pine Nut	88.10	50	P	P	02 24 00.8 +0.5
PNTR				IAmb	IAmb	02 24 01.7
	comp=Z,4.2nm,0.8s					
GNW	Green Mountain	88.13	41	P	P	02 24 00.8 +0.9
GNW				IAmb	IAmb	02 24 02.7
	comp=Z,3.7nm,0.8s					
ISA	Isabella, Lake	88.14	53	P	P	02 24 00.8 +0.4
	baz=256					
MDPB	Devils Postpil	88.14	51	P	P	02 24 01.0 +0.4
MLAC	Mammoth, Mammo	88.32	51	P	P	02 24 01.3 -0.1
	baz=256					
G29M	Pine Creek	88.33	20	IAmb	IAmb	02 24 02.1
	comp=Z,7.4nm,1.1s					
G29M	Pine Creek	88.33	20	P	P	02 24 01.4 +0.9
	baz=239					
EDW2	Edwards Air Fo	88.34	54	P	P	02 24 01.7 +0.4
	baz=256					
PINE	Pine Mountain	88.34	45	P	P	02 24 01.7 +0.4
PINE				IAmb	IAmb	02 24 03.9
	comp=Z,4.7nm,0.9s					
YERR	Yerington	88.35	50	P	P	02 24 01.9 +0.5
PAHR	Pah Rah Range	88.42	49	P	P	02 24 02.1 +0.4
PAHR				IAmb	IAmb	02 24 04.3
	comp=Z,10.0nm,1.4s					
BFSC	Mount Baldy Ra	88.46	55	P	P	02 24 01.9 -0.1
	baz=257					
EPYK	Eagle Plains	88.50	21	P	P	02 24 02.0 +0.7
EPYK				IAmb	IAmb	02 24 03.5
	comp=Z,6.7nm,0.8s					
EPYK	Eagle Plains	88.50	21	P	P	02 24 02.3 +1.0
	baz=241					
109C	Camp Elliot, M	88.61	56	P	P	02 24 02.2 -0.4
	baz=257					
CWC	Cottonwood Cre	88.63	53	P	P	02 24 02.3 -0.5
	baz=256					
D27M	Malcolm River	88.63	18	P	P	02 24 03.0 +1.0
	baz=237					
MURC	Murrieta	88.69	56	P	P	02 24 02.9 -0.1
	baz=257					
E28M	Babbage River	88.72	18	P	P	02 24 03.6 +1.3
	baz=238					
LHV	Little Huntoon	88.73	51	P	P	02 24 03.4 +0.5
LHV				IAmb	IAmb	02 24 06.6
	comp=Z,12nm,1.3s					
RYN	Ryan	88.80	51	P	P	02 24 03.0 -0.5
RYN				IAmb	IAmb	02 24 06.7
	comp=Z,4.0nm,0.8s					
MMPY	Sheldon Lake,	88.91	25	P	P	02 24 04.0 +0.7
MMPY	Sheldon Lake,	88.91	25	P	P	02 24 04.4 +1.1
	baz=246					
NVAR	Mina Array Bea	88.92	51	P	P	02 24 05.2 +1.0
	comp=Z,3.7nm,0.8s,baz=236,slow=6.5,SNR=24					
	comp=Z,3.7nm,0.8s					
DSP	Deep Springs	88.93	52	P	P	02 24 05.0 +1.1
G30M	tAoh Zraii Nji	88.98	20	P	P	02 24 04.6 +1.1
G30M				IAmb	IAmb	02 24 07.4
	comp=Z,12nm,1.5s					
G30M	tAoh Zraii Nji	88.98	20	P	P	02 24 04.0 +0.5
	baz=241					
WTLY	Watson Lake, Y	89.01	28	P	P	02 24 04.2 +0.4
	baz=248					
MPMC	Manual Prospec	89.01	53	P	P	02 24 04.4 -0.2
	baz=257,SNR=9.3					
NV11	Mina Array Sit	89.04	51	P	P	02 24 04.9 +0.3
NV11				IAmb	IAmb	02 24 07.3
	comp=Z,9.3nm,1.2s					
BBRC	Big Bear Solar	89.06	55	P	P	02 24 04.0 -0.9
	baz=257					
H31M	Peel River	89.09	22	P	P	02 24 04.4 +0.3
	baz=243					
E29M	Blow River	89.12	19	P	P	02 24 05.3 +1.2
	baz=240					
RRX	Edison Barstow	89.13	54	P	P	02 24 05.3 +0.3
	baz=257					
LCH	Last Change Ra	89.15	52	P	P	02 24 05.4 +0.2
LCH				IAmb	IAmb	02 24 06.6
	comp=Z,5.6nm,1.3s					
MONP2	Monument Peak	89.17	57	P	P	02 24 04.7 -0.7
	baz=258					
KVN	Kaiserville	89.22	50	P	P	02 24 06.0 +0.5
KVN				IAmb	IAmb	02 24 07.5
	comp=Z,5.0nm,0.7s					
PFO	Pinyon Flats O	89.29	56	P	P	02 24 06.4 +0.5
	baz=257					
PFO	Pinyon Flats O	89.29	56	LR	LR	02 56 08.6
	comp=Z,57nm,20.3s,baz=248,slow=30					
TPFO	Pinon Flats	89.29	56	P	P	02 24 06.6 +0.7
	baz=257					
GRAC	Grapevine Rang	89.31	52	P	P	02 24 06.3 +0.5
	baz=257					
D28M	Stokes Point	89.35	18	P	P	02 24 07.4 +2.2
	baz=239					
IKP	In-Ko-Pah, Jac	89.37	57	P	P	02 24 06.6 +0.3
	baz=258					
GSC	Goldstone, Bar	89.38	54	P	P	02 24 06.7 +0.5
	baz=257					
I07A	Izee	89.42	45	P	P	02 24 07.1 +0.8
I07A				IAmb	IAmb	02 24 08.9
	comp=Z,8.6nm,1.3s					
F30M	Barrier River	89.43	20	P	P	02 24 07.7 +2.1
	baz=241					
LTY	Liberty	89.45	42	P	P	02 24 06.4 +0.1
MZP	Montezuma Peak	89.46	52	P	P	02 24 07.2 +0.4
MZP				IAmb	IAmb	02 24 07.8
	comp=Z,2.7nm,0.6s					
GMN	Gold Mountain	89.47	52	P	P	02 24 07.1 +0.3
YUH	Yuha Desert	89.53	57	P	P	02 24 06.8 0.0
YUH				IAmb	IAmb	02 24 08.8
	comp=Z,7.7nm,0.9s					
FURC	Furnace Creek,	89.59	53	P	P	02 24 08.3 +1.2
	baz=257,SNR=7.3					
G31M	Satah River	89.63	21	P	P	02 24 06.8 +0.3
G31M				IAmb	IAmb	02 24 09.1
	comp=Z,3.6nm,0.9s					
G31M	Satah River	89.63	21	P	P	02 24 08.2 +1.7
	baz=243					
HEC	Hector,Ludlow	89.65	55	P	P	02 24 08.5 +1.0
	baz=258					
GWY	Greenwater Val	89.68	53	P	P	02 24 07.0 -0.7
GWY				IAmb	IAmb	02 24 09.9
	comp=Z,4.0nm,0.7s					
SWSC	Sam W. Stewart	89.69	57	P	P	02 24 07.9 +0.3
	baz=258					
MK31	Makanchi Array	89.72	318	P	P	02 24 07.1 -0.4
MKAR	Makanchi Array	89.72	318	P	P	02 24 06.9 -0.6
	comp=Z,1.9nm,0.7s,baz=90,slow=7.8,SNR=23					
	comp=Z,1.9nm,0.7s					
BELC	Belle Mtn. Jos	89.75	56	P	P	02 24 09.4 +1.3
	baz=258,SNR=7.1					
TGTN	Hyland Airport	89.77	27	P	P	02 24 08.9 +1.5
	baz=248					
WCT	Wildcat Mounta	89.85	53	P	P	02 24 09.2 +0.8
WCT				IAmb	IAmb	02 24 10.2
	comp=Z,11nm,1.2s					
SHOC	Shoshone, Teco	89.93	54	P	P	02 24 08.4 -0.3
	baz=258					
J08A	Circle Bar Ran	89.97	46	P	P	02 24 09.8 +0.9
F31M	Tsiigehtchic	90.05	20	P	P	02 24 09.6 +1.1
	baz=243					
TUQ	Turquoise Moun	90.11	54	P	P	02 24 10.5 +0.7
	baz=258					
BC3	Big Chuckawall	90.12	56	P	P	02 24 10.5 +0.7
	baz=258					
ZALV	Zalesovo Beam	90.13	325	P	P	02 24 07.3 -1.8
	comp=Z,0.6nm,0.4s,baz=112,slow=3.5,SNR=4.4					
	comp=Z,0.6nm,0.4s					
GMRC	Granite Mounta	90.19	55	P	P	02 24 10.3 +0.3
	baz=258,SNR=6.7					
BMN	Battle Mountai	90.20	49	P	P	02 24 10.7 +0.7
BMN				IAmb	IAmb	02 24 12.0
	comp=Z,5.7nm,0.7s					
TOAD	Toad River Com	90.26	30	P	P	02 24 10.7 +1.0
	baz=251					
IRM	Iron Mountain	90.47	56	P	P	02 24 11.3 0.0
	baz=258					
INK	Inuvik	90.51	20	P	P	02 24 11.4 +0.9
	baz=244					
INK	Inuvik	90.51	20	LR	LR	03 01 03.9
	comp=Z,48nm,18.9s,baz=175,slow=33					
GLA	Glamis	90.51	57	P	P	02 24 11.0 -0.5
	baz=258					
SHPR	Sheep Range	90.94	53	P	P	02 24 15.0 +1.4
SHPR				IAmb	IAmb	02 24 15.6
	comp=Z,3.7nm,0.8s					
R11B	Troy Canyon, C	90.99	51	P	P	02 24 14.2 +0.4
R11B				IAmb	IAmb	02 24 15.5
	comp=Z,4.6nm,1.0s					
R11B	Troy Canyon, C	90.99	51	P	P	02 24 14.9 +1.1
	baz=258,SNR=8.8					
NEE2	Needles Airpor	91.02	55	P	P	02 24 14.9 +1.1
	baz=258					
V12A	Nelson	91.03	54	P	P	02 24 13.9 -0.1
V12A				IAmb	IAmb	02 24 15.7
	comp=Z,4.0nm,0.7s					
BMO	Blue Mountains	91.13	45	P	P	02 24 14.4 +0.2
BMO				IAmb	IAmb	02 24 16.4
	comp=Z,4.6nm,1.0s					
KOTAN	Kotaneelee Air	91.24	29	P	P	02 24 15.6 +1.4
	baz=252					
PDMCI	Parker Dam,Lak	91.32	56	P	P	02 24 15.6 +0.4
	baz=259					
113A	Mohawk Valley,	91.33	57	P	P	02 24 15.2 0.0
113A				IAmb	IAmb	02 24 17.1
	comp=Z,5.2nm,1.0s					
F10A	Beach Ranch, E	91.44	44	P	P	02 24 16.3 +0.8
W13A	Hualapai Mount	91.68	55	P	P	02 24 17.9 +0.7
W13A				IAmb	IAmb	02 24 18.8
	comp=Z,3.8nm,0.8s					
Q12A	Willow Creek R	91.71	51	P	P	02 24 17.4 +0.3
ELK	Elko	91.74	49	P	P	02 24 18.1 +0.8
ELK	Elko	91.74	49	LR	LR	03 06 32.9
	comp=Z,25nm,18.2s,baz=220,slow=36					
MFID	Camas Ranch	91.86	46	P	P	02 24 18.3 +0.7
MFID				IAmb	IAmb	02 24 20.2
	comp=Z,4.9nm,1.1s					
214A	Organ Pipe Nat	91.97	58	P	P	02 24 19.4 +1.1
	baz=259					
NEW	Newport	92.02	41	P	P	02 24 18.6 +0.5
NEW	Newport	92.02	41	P	P	02 24 18.2 0.0
	baz=257,SNR=6.8					
NEW	Newport	92.02	41	LR	LR	02 59 22.5
	comp=Z,36nm,19.4s,baz=288,slow=31					
SPR3	Spring Creek 3	92.08	51	P	P	02 24 19.8 +0.8
SPR3				IAmb	IAmb	02 24 20.4
	comp=Z,3.1nm,0.7s					
PLID	Pearl Lake	92.09	45	P	P	02 24 18.6 -0.2
PLID				IAmb	IAmb	02 24 19.9
	comp=Z,4.3nm,0.8s					
PSUT	Pine Spring	92.36	51	P	P	02 24 22.2 +2.0
PSUT				IAmb	IAmb	02 24 25.9
	comp=Z,2.2nm,0.8s					
CCUT	Cedar City	92.55	52	P	P	02 24 21.3 +0.2
CCUT				IAmb	IAmb	02 24 24.1
	comp=Z,6.7nm,1.4s					
LPIG	La Paz	92.78	66	LR	LR	02 56 53.9
	comp=Z,35nm,20.2s,baz=254,slow=30					
KNB	Kanab	92.88	53	P	P	02 24 23.3 +0.7
HLID	Hailey	92.90	46	P	P	02 24 23.2 +0.6
HLID	Hailey	92.90	46	P	P	02 24 23.1 +0.6
	baz=259,SNR=13					
KURBB	Kurchatov Arra	93.04	321	P	P	02 24 20.9 -1.8
	comp=Z,1.2nm,0.8s,baz=104,slow=3.3,SNR=6.3					
KURBB				pP	pP	02 24 35.0 -4.3
	comp=Z,1.6nm,0.8s,baz=103,slow=3.6,SNR=6.4					
	comp=Z,1.2nm,0.8s					
DUG	Dugway, Tooele	93.45	50	P	P	02 24 23.9 -1.2
DUG				IAmb	IAmb	02 24 24.6
	comp=Z,5.3nm,1.4s					
DUG	Dugway, Tooele	93.45	50	P	P	02 24 25.8 +0.7
	baz=260					
TUC	Tucson	93.73	58		P	02 24 26.7 +0.3
TUC				IAmb	IAmb	02 24 28.2
	comp=Z,3.3nm,1.0s					
TUC	Tucson	93.73	58	P	P	02 24 27.1 +0.6
	baz=260					
WUAZ	Wupatki	93.77	55	P	P	02 24 26.4 -0.3
	baz=260					
C36M	Paulatuk	94.08	20	P	P	02 24 26.4 -0.6
C36M				IAmb	IAmb	02 24 27.7
	comp=Z,5.4nm,0.9s					
C36M	Paulatuk	94.08	20	P	P	02 24 27.4 +0.3
	baz=252					
A36M	Sachs Harbour	94.53	17	P	P	02 24 28.6 -0.5
A36M	Sachs Harbour	94.53	17	P	P	02 24 29.2 +0.1
	baz=251					
W18A	Petrified Fore	95.03	55	P	P	02 24 32.8 +0.3
	baz=261					
BOZ	Bozeman (W)	95.21	45	P	P	02 24 34.1 +1.1
	baz=261					
FXWY	Fox Creek	95.34	47	P	P	02 24 33.5 -0.3
FXWY				IAmb	IAmb	02 24 36.1
	comp=Z,2.3nm,0.8s					
H17A	Grant Village	95.77	46	P	P	02 24 36.0 +0.2
H17A				IAmb	IAmb	02 24 39.7
	comp=Z,3.4nm,1.1s					
H17A	Grant Village	95.77	46	P	P	02 24 36.1 +0.3
	baz=262					
YKA	Yellowknife Ar	96.23	28	P	P	02 24 36.5 -0.6
	comp=Z,2.0nm,0.7s,baz=263,slow=4.7,SNR=37					
	comp=Z,2.0nm,0.7s					
121A	Cookes Peak, D	96.27	58	P	P	02 24 37.9 -0.3
	baz=262					
BW06	Boulder Array	96.27	48	P	P	02 24 38.9 +0.8
	baz=262					
PDAR	Pinedale Array	96.27	48	P	P	02 24 38.5 +0.4
	comp=Z,1.2nm,0.9s,baz=242,slow=3.2,SNR=4.0					
	comp=Z,1.2nm,0.9s					
MVCO	Mesa Verde	96.32	53	P	P	02 24 38.7 +0.2
	baz=262					
RLMT	Red Lodge	96.79	45	P	P	02 24 40.4 +0.1
	baz=263					
EGMT	Eagleton	96.83	43	P	P	02 24 39.7 -0.6
EGMT	Eagleton	96.83	43	P	P	02 24 40.6 +0.3
	baz=263					
Y22D	IRIS PASSCAL I	97.19	57	P	P	02 24 41.5 -0.8
	baz=263					
Y22F	Passcal Instru	97.19	57	P	P	02 24 41.4 -0.9
	baz=263					
ANMO	Albuquerque	97.68	56	P	P	02 24 44.1 -0.4
	baz=263					
MNTX	Cornudas Mount	98.18	59	P	P	02 24 46.4 -0.3
	baz=263					
K22A	Casper	98.48	48	P	P	02 24 47.4 -0.6
	baz=264					
N23A	Red Feather La	98.73	50	P	Pdif	02 24 49.7 +0.5
	baz=264					
ISCO	Idaho Springs	98.88	51	P	Pdif	02 24 50.4 +0.4
	baz=264					
Q24A	Divide	99.15	52	P	Pdif	02 24 51.1 -0.1
	baz=264					
TXAR	Lajitas Array	99.39	62	LR	LR	03 03 03.9
	comp=Z,27nm,19.2s,baz=262,slow=31					
T25A	Trinidad	99.56	54	P	Pdif	02 24 52.5 -0.5
	baz=265					
RSSD	Black Hills	100.41	47	P	Pdif	02 24 56.4 -0.2
	baz=266					
DGMT	Dagmar	100.57	42	P	Pdif	02 24 56.3 -0.7
	baz=267					
MSTX	Muleshoe	100.60	57	P	Pdif	02 24 56.7 -0.8
	baz=265					
KSCO	Kaye Shedlock'	101.11	52	P	Pdif	02 25 00.0 +0.3
	baz=266					
AMTX	Amarillo	101.58	56	P	Pdif	02 25 00.9 -0.9
	baz=266					
OGNE	Ogallala	101.69	50	P	Pdif	02 25 02.2 +0.1
	baz=267					
JCT	Junction City	102.83	61	P	Pdif	02 25 07.4 -0.1
	baz=266					
833A	Chaparral WMA,	103.03	63	P	Pdif	02 25 07.8 -0.5
	baz=266					
ABTX	Abilene, Hawle	103.11	59	P	Pdif	02 25 07.8 -0.8
	baz=266					
MDND	Maddock	103.63	43	P	Pdif	02 25 10.1 -0.5
	baz=270					
WMOK	Wichita Mounta	103.95	57	P	Pdif	02 25 12.4 +0.1
	baz=267					
SUSD	Miller	104.07	47	P	Pdif	02 25 12.9 +0.4
	baz=270					
BGNE	Belgrade	104.64	50	P	Pdif	02 25 15.2 0.0
	baz=269					
435B	Jarrell	104.76	61	P	Pdif	02 25 16.0 +0.1
	baz=267					
KSU1	Kansas State U	105.80	52	P	PKiKP	02 29 32.6 -0.3
	baz=270					
AGMN	Agassiz Nation	106.13	43	P	PKiKP	02 29 32.9 -0.4
	baz=273					
TUL3	Leonard	106.43	56	P	PKiKP	02 29 34.1 -0.1
	baz=269					
MIAR	Mount Ida	108.23	57	P	PKiKP	02 29 36.8 -0.8
	baz=270					
SPMN	Marine on St.	108.42	46	P	PKiKP	02 29 37.5 -0.1
	baz=274					
EYMN	Ely	109.07	43	P	PKiKP	02 29 38.5 -0.3
	baz=276					
CCM	Cathedral Cave	110.03	53	P	PKiKP	02 29 41.0 +0.1
	baz=273					

JFWS	Jewell Farm	110.44	48	P		PKiKP	02 29 40.7	-0.7
	baz=275							
HDIL	Hopedale	111.37	50	P		PKiKP	02 29 42.5	-0.8
	baz=275							
OXF	Oxford	111.67	57	P		PKiKP	02 29 43.5	-0.6
	baz=273							
L44A	Lake County Fo	112.24	49	P		PKiKP	02 29 44.2	-0.7
	baz=277							
WVT	Waverly	112.87	55	P		PKiKP	02 29 45.8	-0.5
	baz=274							
SFIN	Lafayette	113.05	50	P		PKiKP	02 29 46.6	+0.1
	baz=276							
ARCES	ARCESS Array B	114.22	344	PKP		PKPdf	02 29 45.4	-2.5
	comp=Z,3.3nm,0.9s,baz=46,slow=2.6,SNR=3.7							
P49A	Miami Univ. Ec	114.97	51	P		PKPdf	02 29 50.1	-0.1
	baz=278							
AAM	Ann Arbor	115.35	48	P		PKPdf	02 29 50.9	+0.1
	baz=280							
P52A	Corning	116.93	51	P		PKPdf	02 29 53.4	-0.6
	baz=280							
O53A	New Philadelph	117.52	50	P		PKiKP	02 29 54.9	-0.3
	baz=280							
M53A	WI Miller and	117.69	48	P		PKiKP	02 29 55.3	-0.1
	baz=282							
ERPA	Erie	118.06	48	P		PKiKP	02 29 56.6	+0.5
	baz=282							
KMSC	Kings Mountain	118.23	56	P		PKiKP	02 29 56.5	-0.2
	baz=278							
BLA	Blacksburg	118.66	53	P		PKiKP	02 29 57.6	+0.1
	baz=280							
MCWV	Mont Chateau	118.66	50	P		PKiKP	02 29 57.4	0.0
	baz=281							
SSPA	Standing Stone	119.93	49	P		PKiKP	02 29 59.8	0.0
	baz=283							
BINY	Binghamton	120.93	47	P		PKPdf	02 30 01.4	-0.3
	baz=286							
CNNC	Cliffs of the	121.00	55	P		PKiKP	02 30 01.8	-0.3
	baz=280							
LONY	Lake Ozonia	121.21	44	P		PKiKP	02 30 02.1	-0.1
	baz=288							
SCHQ	Schefferville	121.57	30	PKP		PKPdf	02 30 01.0	-1.5
	comp=Z,1.3nm,0.6s,baz=214,slow=3.6,SNR=3.8							
PAL	Palisades	122.75	48	P		PKiKP	02 30 05.1	-0.2
	baz=286							
LBNH	Lisbon	123.13	43	P		PKPdf	02 30 05.4	-0.4
	baz=290							
L61B	Northampton	123.20	46	P		PKiKP	02 30 06.0	-0.2
	baz=288							
HRV	Adam Dziewonsk	123.97	45	P		PKiKP	02 30 07.7	0.0
	baz=289							
PKME	Peaks-Kenny Pk	124.50	41	P		PKiKP	02 30 08.9	+0.2
	baz=293							
M65A	Busby, Falmout	124.92	46	P		PKiKP	02 30 09.2	-0.4
	baz=290							
CLL	Collm	131.31	334	*e*PKPdf		PKiKP	02 30 22.0	-0.1
KEST	Kesra	143.80	319	PKP		PKPbc	02 30 42.7	+0.3
	comp=Z,4.6nm,1.0s,baz=284,slow=1.4,SNR=6.0							
ESDC	Sonseca Array	147.67	338	PKPbc		PKPbc	02 30 53.0	-1.0
	comp=Z,1.2nm,0.8s,baz=13,slow=3.8,SNR=6.3							
ESDC				pPKPbc		pPKPdf	02 31 10.5	+2.3
	comp=Z,0.7nm,0.7s,baz=23,slow=4.2,SNR=2.7							
TORD	Torodi Ar. Bea	159.61	281	PKPab		PKPab	02 31 47.3	0.0
	comp=Z,0.7nm,1.0s,baz=94,slow=2.6,SNR=3.5							

NEIC ***18*** *02:17:12.9±1.2,38.02N±0.02×97.94W±0.03,h5km±1km, mb_Lg2.9/94,ML3.1/17,Error ellipse: s-maj=4.2km s-min=3.1km az=79.0*

ANF ***18*** *02:17:13.3±0.7,38.02N×97.99W,h2km±5km,ML3.7/14, Error ellipse: s-maj=3.4km s-min=3.0km az=47.0*

ISC 18 02:17:13.0±1.3,38.00N±0.02×98.02W±0.03,h2km±12km, n100,σ0s83/74,Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
R32A	**Long Quarter,**	**0.69**	**308**	Pg	**Pb**	**02 17 26.8**	**-1.0**
R32A				IAML		02 17 36.9	
	comp=N,981nm,0.6s						
R32A				IAML		02 17 41.1	
	comp=E,1μm,0.4s						
R32A	**Long Quarter,**	**0.69**	**308**	P	**Pg**	**02 17 26.5**	**+0.2**
	baz=124,SNR=33						
R32A				S	**Sb**	**02 17 36.0**	**-1.7**
	baz=124						
KAN12	**Harper NE Stat**	**0.70**	**178**		**Pg**	**02 17 26.7**	**+0.3**
KAN12				Sg	**Sb**	**02 17 37.0**	**-0.9**
KAN06	**Argonia West S**	**0.76**	**170**		**Pg**	**02 17 26.8**	**-0.8**
KAN06				Sg	**Sb**	**02 17 38.6**	**-1.0**
KAN06				IAML		02 17 38.8	
	comp=N,744nm,0.3s						
KS21	**Milan North St**	**0.76**	**158**	IAML		02 17 38.8	
	comp=N,535nm,0.3s						
KS21				IAML		02 17 39.0	
	comp=N,443nm,0.5s						
KS21	**Milan North St**	**0.76**	**158**	Pg	**Pb**	**02 17 28.3**	**-0.8**
KAN08	**Anthony NE Sta**	**0.77**	**177**		**Pb**	**02 17 28.3**	**-0.9**
KAN08				Sg	**Sg**	**02 17 38.6**	**+0.8**
KAN01	**Argonia South**	**0.87**	**166**	Pg	**Pb**	**02 17 30.1**	**-0.7**
KAN01				Sg	**Sg**	**02 17 41.7**	**+0.9**
KAN10	**Anthony SW Sta**	**0.87**	**184**		**Pg**	**02 17 30.1**	**+0.3**
KAN05	**Bluff City Nor**	**0.89**	**172**		**Pb**	**02 17 30.6**	**-0.6**
KAN09	**Caldwell North**	**0.92**	**159**	Pg	**Pg**	**02 17 30.4**	**-0.2**
KAN17	**Caldwell West**	**0.97**	**168**	Pg	**Pb**	**02 17 32.0**	**-0.6**
KAN17				IAML		02 18 00.5	
	comp=N,541nm,0.3s						
KAN14	**Manchester OK**	**1.04**	**177**		**Pb**	**02 17 33.1**	**-0.6**
KAN14				IAML		02 17 52.9	
	comp=E,343nm,0.6s						
KAN13	**South Haven SW**	**1.07**	**156**		**Pg**	**02 17 33.6**	**0.0**
GC02	**Grant County #**	**1.15**	**173**		**Pb**	**02 17 35.2**	**-0.4**
OK032	**Salt Plains WL**	**1.20**	**187**		**Pg**	**02 17 35.9**	**-0.1**
OK032				IAML		02 17 57.2	
	comp=E,368nm,0.5s						
OK032				IAML		02 18 00.2	
	comp=E,328nm,0.2s						
BLOK	**Blackwell**	**1.39**	**152**		**Pn**	**02 17 39.2**	**-0.2**
OK035	**E0210 Rd and N**	**1.40**	**203**	Pg	**Pb**	**02 17 39.9**	**0.0**
CROK	**Carrier**	**1.49**	**179**		**Pb**	**02 17 41.0**	**-0.4**
KSU1	**Kansas State U**	**1.56**	**45**	Pg	**Pn**	**02 17 41.7**	**-0.1**
KSU1	**Kansas State U**	**1.56**	**45**	P	**Pn**	**02 17 41.4**	**-0.4**
	baz=224,SNR=26						
KSU1				S	**Sn**	**02 18 01.7**	**-1.0**
	baz=224						
CBKS	**Cedar Bluff**	**1.58**	**302**		**Pb**	**02 17 42.6**	**-0.3**
CBKS	**Cedar Bluff**	**1.58**	**302**	P	**Pb**	**02 17 42.6**	**-0.3**
	baz=119,SNR=22						
CBKS				S	**Sg**	**02 18 03.6**	**-0.1**
	baz=119						
T35A	**Sooner Cattle**	**1.61**	**131**	Pg	**Pb**	**02 17 43.1**	**-0.4**
T35A				IAmb_Lg		02 18 05.2	
	comp=Z,51nm,0.7s						
T35B	**Sooner Cattle**	**1.61**	**131**	P	**Pn**	**02 17 41.7**	**-0.8**
	baz=315,SNR=36						
T35B				S	**Sn**	**02 18 04.1**	**+0.3**
	baz=315						
OK038	**West end E0370**	**1.62**	**201**		**Pg**	**02 17 43.8**	**-0.3**
U32A	**Winter Ranch,**	**1.79**	**206**	Pn	**Pg**	**02 17 46.8**	**-0.6**
U32A	**Winter Ranch,**	**1.79**	**206**	P	**Pg**	**02 17 46.8**	**-0.6**
	baz=27,SNR=14						
U32A				S	**Sg**	**02 18 11.4**	**+0.8**
	baz=27						
OK048	**Pawnee Station**	**1.80**	**151**		**Pn**	**02 17 44.4**	**-0.6**
QUOK	**Quay**	**2.10**	**150**		**Pn**	**02 17 49.8**	**+0.5**
OK033	**Mehan**	**2.13**	**156**		**Pn**	**02 17 50.0**	**+0.4**
OK052	**Battle Ridge R**	**2.22**	**154**	Pn	**Pn**	**02 17 51.3**	**+0.4**
OK029	**Liberty Lake**	**2.24**	**168**		**Pn**	**02 17 51.6**	**+0.5**
CSTR	**Hydro, Custer**	**2.41**	**193**		**Pn**	**02 17 54.6**	**+1.2**
DEOK	**Depew**	**2.47**	**150**	Pn	**Pn**	**02 17 54.7**	**+0.4**
OKCSW	**OKLAHOMA CITY**	**2.63**	**170**		**Pn**	**02 17 56.3**	**-0.2**
OKCSW				IAmb_Lg		02 18 42.7	
	comp=Z,42nm,0.8s						
TUL3	**Leonard**	**2.74**	**139**		**Pn**	**02 17 58.2**	**+0.2**
TUL3				IAmb_Lg		02 18 46.0	
	comp=Z,35nm,0.8s						
TUL3	**Leonard**	**2.74**	**139**	P	**Pn**	**02 17 58.3**	**+0.2**
	baz=322						
N33B	**J Bar K, Exete**	**2.77**	**9**	P	**Pn**	**02 17 57.9**	**-0.6**
	baz=188,SNR=8.0						
N33A	**J Bar K, Exete**	**2.77**	**9**		**Pn**	**02 17 58.2**	**-0.3**
FNO	**Franklin**	**2.78**	**169**	Pg	**Pg**	**02 18 06.3**	**0.0**
W35A	**Tecumseh**	**2.98**	**162**	Pn	**Pn**	**02 18 01.7**	**+0.3**
RLO	**Rose Lookout**	**3.02**	**126**		**Pn**	**02 18 02.4**	**+0.6**
U38A	**Gravette**	**3.29**	**117**	Pn	**Pn**	**02 18 06.3**	**+0.7**
U38A	**Gravette**	**3.29**	**117**	P	**Pn**	**02 18 06.0**	**+0.4**
	baz=300						

WMOK	Wichita Mounta	3.31	191	Pn		**Pn**	**02 18 06.8**	**+1.0**
SMWD	Samnorwood	3.39	212	Pn		**Pn**	**02 18 07.2**	**+0.1**
SMWD				Pg		**Pg**	**02 18 17.4**	**-0.7**
SMWD				IAmb_Lg			02 19 06.9	
	comp=Z,31nm,0.8s							
N35A	**Tabor**	**3.40**	**32**			**Pn**	**02 18 08.6**	**+1.5**
N35A	**Tabor**	**3.40**	**32**	P		**Pn**	**02 18 08.0**	**+0.9**
	baz=213							
N35A				S		**Sn**	**02 18 50.1**	**+2.1**
	baz=213							
BGNE	**Belgrade**	**3.41**	**358**			**Pn**	**02 18 07.7**	**+0.5**
HHAR	**Hobbs**	**3.68**	**116**			**Pn**	**02 18 11.9**	**+0.9**
S39A	**Bolivar**	**3.73**	**93**			**Pn**	**02 18 11.7**	**+0.1**
S39A				IAmb_Lg			02 19 15.9	
	comp=Z,23nm,0.8s							
S39A	**Bolivar**	**3.73**	**93**	P		**Pn**	**02 18 11.6**	**-0.1**
	baz=276,SNR=30							
KSCO	**Kaye Shedlock'**	**3.75**	**287**			**Pn**	**02 18 12.8**	**+0.8**
KSCO				IAmb_Lg			02 19 22.6	
	comp=Z,37nm,1.0s							
P38A	**Dawn**	**3.87**	**64**	Pn		**Pn**	**02 18 13.5**	**0.0**
P38A				IAmb_Lg			02 19 22.3	
	comp=Z,24nm,0.7s							
P38A	**Dawn**	**3.87**	**64**	P		**Pn**	**02 18 13.5**	**0.0**
	baz=246							
X37A	**Clayton**	**4.02**	**147**	P		**Pn**	**02 18 15.9**	**+0.4**
	baz=330,SNR=13							
LOOK	**Love County**	**4.05**	**170**	Pg		**Pb**	**02 18 27.4**	**+2.2**
L34A	**Svendsen Farm,**	**4.16**	**17**			**Pn**	**02 18 20.7**	**+3.2**
WTFS	**Witchita Falls**	**4.24**	**185**	Pg		**Pg**	**02 18 32.6**	**-1.6**
AMTX	**Amarillo**	**4.28**	**225**	IAmb_Lg			02 19 38.4	
	comp=Z,32nm,0.8s							
U40A	**Yellville**	**4.44**	**110**	P		**Pn**	**02 18 21.4**	**0.0**
U40A								
	baz=294			P		**Pn**	**02 18 21.4**	**0.0**
	baz=294							
R40A	**Maddies Statio**	**4.55**	**85**	P		**Pn**	**02 18 23.2**	**+0.4**
	baz=268,SNR=10							
N38A	**Joes South For**	**4.64**	**52**	P		**Pn**	**02 18 24.2**	**+0.1**
	baz=234,SNR=13							
MGMO	**Mountain Grove**	**4.65**	**99**	IAmb_Lg			02 19 42.4	
	comp=Z,25nm,0.8s							
K30B	**Basset**	**4.83**	**346**	IAmb_Lg			02 19 54.2	
	comp=Z,18nm,0.8s							
P40A	**Paris**	**4.91**	**70**	IAmb_Lg			02 19 56.3	
	comp=Z,16nm,0.7s							
DKNS	**Dickens**	**4.92**	**209**	IAmb_Lg			02 19 54.3	
	comp=Z,22nm,0.8s							
T25A	**Trinidad**	**5.15**	**262**	IAmb_Lg			02 20 02.6	
	comp=Z,21nm,0.8s							
FCAR	**Ozark Folk Cen**	**5.17**	**112**	IAmb_Lg			02 19 59.7	
	comp=Z,18nm,0.9s							
Z38A	**Mt. Pleasant**	**5.33**	**151**	IAmb_Lg			02 20 16.5	
	comp=Z,24nm,0.7s							
SN07	**Snyder 07**	**5.42**	**206**	IAmb_Lg			02 20 19.1	
	comp=Z,18nm,0.9s							
X40A	**Basin Creek Fa**	**5.46**	**128**	IAmb_Lg			02 20 10.8	
	comp=Z,25nm,0.9s							
BRIGG	**Briggsdale**	**5.53**	**300**	IAmb_Lg			02 20 21.7	
	comp=Z,27nm,0.8s							
Q24A	**Divide**	**5.67**	**282**	IAmb_Lg			02 20 16.3	
	comp=Z,19nm,0.8s							
POST	**Post**	**5.68**	**211**	IAmb_Lg			02 20 25.2	
	comp=Z,16nm,0.9s							
LCAR	**Lake Charles**	**5.82**	**107**	IAmb_Lg			02 20 20.9	
	comp=Z,18nm,0.8s							
WLAR	**White Oak Lake**	**5.86**	**136**	IAmb_Lg			02 20 23.0	
	comp=Z,20nm,0.9s							
PBMO	**Poplar Bluff**	**6.17**	**99**	IAmb_Lg			02 20 31.6	
	comp=Z,23nm,0.8s							
ISCO	**Idaho Springs**	**6.19**	**289**	IAmb_Lg			02 20 45.6	
	comp=Z,12nm,0.8s							
Z41A	**Richland Creek**	**6.36**	**136**	IAmb_Lg			02 20 38.3	
	comp=Z,14nm,0.8s							
SGCY	**Sterling City**	**6.58**	**204**	IAmb_Lg			02 20 56.0	
	comp=Z,19nm,0.8s							
L40A	**Anamosa**	**6.61**	**50**	IAmb_Lg			02 20 44.1	
	comp=Z,20nm,0.9s							
PHWY	**Pilot Hill**	**6.62**	**302**	IAmb_Lg			02 20 45.9	
	comp=Z,10nm,0.7s							
CGM3	**Cape Girardeau**	**6.67**	**93**	IAmb_Lg			02 20 46.2	
	comp=Z,13nm,0.9s							
S44A	**Carbondale**	**6.95**	**90**	IAmb_Lg			02 20 51.4	
	comp=Z,13nm,0.8s							
435B	**Jarrell**	**7.20**	**177**	IAmb_Lg			02 21 17.9	
	comp=Z,15nm,1.1s							
OZNA	**Ozona**	**7.51**	**201**	IAmb_Lg			02 21 27.3	
	comp=Z,11nm,1.0s							
L42A	**Oliver, Polo**	**7.56**	**55**	IAmb_Lg			02 21 18.9	
	comp=Z,16nm,1.0s							
RSSD	**Black Hills**	**7.62**	**325**	IAmb_Lg			02 21 26.5	
	comp=Z,8.5nm,0.9s							
JCT	**Junction City**	**7.64**	**192**	IAmb_Lg			02 21 33.7	
	comp=Z,15nm,0.9s							
MNHN	**Monahans**	**7.70**	**212**	IAmb_Lg			02 21 27.0	
	comp=Z,10nm,1.0s							
RWWY	**Rawlins**	**7.97**	**300**	IAmb_Lg			02 21 46.5	
	comp=Z,14nm,0.9s							
K22A	**Casper**	**7.99**	**308**	IAmb_Lg			02 21 36.2	
	comp=Z,16nm,0.8s							
SPMN	**Marine on St.**	**8.21**	**27**	IAmb_Lg			02 21 44.0	
	comp=Z,12nm,1.1s							
HNDO	**Hondo**	**8.51**	**187**	IAmb_Lg			02 22 05.6	
	comp=Z,7.5nm,0.8s							
SAND	**Sanderson**	**8.71**	**204**	IAmb_Lg			02 21 58.9	
	comp=Z,14nm,1.2s							
DRIO	**Del Rio**	**8.82**	**195**	IAmb_Lg			02 22 00.6	
	comp=Z,8.0nm,0.8s							
D32A	**Dogwood Acres,**	**9.16**	**4**	IAmb_Lg			02 22 28.4	
	comp=Z,14nm,0.7s							
G40A	**Rib Lake**	**9.33**	**36**	IAmb_Lg			02 22 13.3	
	comp=Z,6.6nm,1.0s							

IDC ***18*** *02:31:08.7±11.0,16.26N×94.51W,h0km,mb3.4/2, mbtmp3.3/3,ML3.4/1,MS2.8/2,Error ellipse: s-maj=214.2km s-min=117.2km az=11.0*

NEIC ***18*** *02:31:09.5±2.9,15.68N±0.06×95.06W±0.03,h34km±9km, mb4.1/30,Md4.4/83(MEX),Error ellipse: s-maj=8.9km s-min=4.5km az=188.0*

MEX ***18*** *02:31:11.1±0.5,15.78N×95.03W,h24km±44km,MD4.4*

ISC 18 02:31:08.4±1.8,15.72N±0.04×95.05W±0.02,h24km±16km, n110,σ2s52/167,mb3.6/3,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NILT	**Santiago Nilte**	**0.94**	**26**	*e*P	**Pn**	**02 31 24.6**	**-1.5**
NILT				*e*S	**Sb**	**02 31 34.9**	**-3.1**
HUIG	**Huatulco**	**1.02**	**273**		**Pn**	**02 31 27.1**	**-0.2**
HUIG					**Sb**	**02 31 39.6**	**-0.9**
HUIG	**Huatulco**	**1.02**	**273**	*e*P	**Pn**	**02 31 27.1**	**-0.2**
HUIG				*e*S	**Sb**	**02 31 39.6**	**-0.9**
CARR	**Arriaga**	**1.21**	**64**	*e*P	**Pn**	**02 31 28.4**	**-1.4**
CARR				*e*S	**Sn**	**02 31 41.5**	**-4.0**
CMIG	**Matias Romero**	**1.37**	**6**		**Pn**	**02 31 31.2**	**-0.9**
CMIG					**Sn**	**02 31 47.0**	**-2.6**
CMIG	**Matias Romero**	**1.37**	**6**	*e*P	**Pn**	**02 31 31.2**	**-0.9**
CMIG				*e*S	**Sn**	**02 31 47.0**	**-2.6**
PCIG		**1.76**	**90**		**Pn**	**02 31 37.3**	**-0.1**
PCIG					**Sn**	**02 31 57.3**	**-1.8**
PCIG		**1.76**	**90**	*e*P	**Pn**	**02 31 37.3**	**-0.1**
PCIG				*e*S	**Sn**	**02 31 57.3**	**-1.8**
UXUV	**UXUV**	**1.81**	**28**	*e*P	**Pn**	**02 31 38.0**	**-0.2**
UXUV				*e*S	**Sn**	**02 31 58.2**	**-2.1**
PEIG	**Puerto Escondi**	**2.04**	**278**		**Pn**	**02 31 41.0**	**-0.3**
PEIG					**Sn**	**02 32 03.0**	**-3.2**
PEIG	**Puerto Escondi**	**2.04**	**278**	*e*P	**Pn**	**02 31 41.0**	**-0.3**
PEIG				*e*S	**Sn**	**02 32 03.0**	**-3.2**
OXIG	**Oaxaca**	**2.10**	**310**		**Pn**	**02 31 43.9**	**+1.5**
OXIG					**Sn**	**02 32 07.4**	**-0.5**
VHO	**Vista Hermosa**	**2.10**	**310**	*e*P	**Pn**	**02 31 43.9**	**+1.5**
VHO				*e*S	**Sn**	**02 32 07.4**	**-0.5**
NEUV	**Arroyo Zacate**	**2.11**	**340**	*e*P	**Pn**	**02 31 41.9**	**-0.4**
NEUV				*e*S	**Sn**	**02 32 06.0**	**-1.7**
TGIG		**2.13**	**60**		**Pn**	**02 31 42.7**	**+0.1**
TGIG					**Sn**	**02 32 07.7**	**-0.6**
TGIG		**2.13**	**60**	*e*P	**Pn**	**02 31 42.7**	**+0.1**
TGIG				*e*S	**Sn**	**02 32 07.7**	**-0.6**
TUIG	**Tuzandepetl**	**2.38**	**14**	*e*P	**Pn**	**02 31 46.0**	**0.0**
TUIG				*e*S	**Sn**	**02 32 12.5**	**-1.9**
YOIG	**Yosondua**	**2.65**	**296**		**Pn**	**02 31 51.5**	**+1.5**
YOIG					**Sn**	**02 32 19.7**	**-1.9**
YOIG	**Yosondua**	**2.65**	**296**	*e*P	**Pn**	**02 31 51.5**	**+1.5**
YOIG				*e*S	**Sn**	**02 32 19.7**	**-1.9**

PATR	El Naranjo	2.78	102	*e*P		**Pn**	**02 31 52.3**	**+0.6**
PATR				*e*S		**Sn**	**02 32 23.2**	**-1.4**
THIG		2.80	106			**Pn**	**02 31 55.5**	**+3.8**
THIG						**Sn**	**02 32 22.1**	**-2.8**
THIG		2.80	106	*e*P		**Pn**	**02 31 55.5**	**+3.8**
THIG				*e*S		**Sn**	**02 32 22.1**	**-2.8**
PMUV	Sontecomapan	2.81	359	*e*P		**Pn**	**02 31 50.4**	**-1.6**
PMUV				*e*S		**Sn**	**02 32 23.6**	**-1.6**
PAVE	Pavencul	2.82	100	*e*P		**Pn**	**02 31 53.1**	**+0.9**
PAVE				*e*S		**Sn**	**02 32 24.6**	**-1.0**
CCIG	Comitan	2.85	78	Pn		**Pn**	**02 31 52.2**	**-0.4**
CHUJ	Union Juarez	2.90	102	*e*P		**Pn**	**02 31 54.2**	**+0.8**
CHUJ				*e*S		**Sn**	**02 32 26.2**	**-1.4**
TXIG	Tlaxiaco	3.02	301			**Pn**	**02 31 57.0**	**+1.9**
TXIG						**Sn**	**02 32 26.9**	**-3.9**
TXIG	Tlaxiaco	3.02	301	*e*P		**Pn**	**02 31 57.0**	**+1.9**
TXIG				*e*S		**Sn**	**02 32 26.9**	**-3.9**
PNIG	Pinotepa	3.04	283			**Pn**	**02 31 55.2**	**+0.2**
PNIG						**Sn**	**02 32 25.5**	**-5.2**
PNIG	Pinotepa	3.04	283	*e*P		**Pn**	**02 31 55.2**	**+0.2**
PNIG				*e*S		**Sn**	**02 32 25.5**	**-5.2**
TOIG	Toxpalan	3.05	321			**Pn**	**02 31 58.4**	**+3.0**
TOIG						**Sn**	**02 32 32.4**	**+1.2**
TOIG	Toxpalan	3.05	321	*e*P		**Pn**	**02 31 58.4**	**+3.0**
TOIG				*e*S		**Sn**	**02 32 32.4**	**+1.2**
HLIG	Huajuapan de L	3.37	309			**Pn**	**02 32 01.9**	**+2.0**
HLIG						**Sn**	**02 32 37.9**	**-1.4**
HLIG	Huajuapan de L	3.37	309	*e*P		**Pn**	**02 32 01.9**	**+2.0**
HLIG				*e*S		**Sn**	**02 32 37.9**	**-1.4**
HUEH	Huehuetenango	3.44	96			**Pn**	**02 32 02.1**	**+1.4**
HUEH	Huehuetenango	3.44	96	*e*P		**Pn**	**02 32 01.8**	**+1.0**
HUEH				*e*S		**Sn**	**02 32 43.6**	**+2.7**
RTAL	Retalhuleu	3.45	110	Pn		**Pn**	**02 32 00.2**	**-0.5**
RTAL	Retalhuleu	3.45	110	*e*P		**Pn**	**02 32 04.1**	**+3.4**
RTAL				*e*S		**Sn**	**02 32 38.8**	**-2.0**
TPIG	Tehuac#an	3.48	321			**Pn**	**02 32 05.9**	**+4.6**
TPIG						**Sn**	**02 32 43.2**	**+1.3**
TPIG	Tehuac#an	3.48	321	*e*P		**Pn**	**02 32 05.9**	**+4.6**
TPIG				*e*S		**Sn**	**02 32 43.2**	**+1.3**
FTIG	Fresnillo de T	3.67	307			**Pn**	**02 32 06.2**	**+2.4**
FTIG						**Sn**	**02 32 44.6**	**-1.9**
FTIG	Fresnillo de T	3.67	307	*e*P		**Pn**	**02 32 06.2**	**+2.4**
FTIG				*e*S		**Sn**	**02 32 44.6**	**-1.9**
MGIG	Malinaltepec	3.76	294			**Pn**	**02 32 06.9**	**+1.7**
MGIG						**Sn**	**02 32 45.0**	**-3.7**
MGIG	Malinaltepec	3.76	294	*e*P		**Pn**	**02 32 06.9**	**+1.7**
MGIG				*e*S		**Sn**	**02 32 45.0**	**-3.7**
TLIG	Tlapa	3.84	299	*e*P		**Pn**	**02 32 08.5**	**+2.3**
TLIG				*e*S		**Sn**	**02 32 46.0**	**-4.7**
JAUV	Jalcomulco	4.00	335	*e*P		**Pn**	**02 32 07.1**	**-1.1**
JAUV				*e*S		**Sn**	**02 32 47.9**	**-6.5**
CRIG	Cruz Grande	4.05	285			**Pn**	**02 32 09.6**	**+0.6**
CRIG	Cruz Grande	4.05	285	*e*P		**Pn**	**02 32 09.6**	**+0.6**
CRIG				*e*P		**Pn**	**02 32 09.6**	**+0.6**
CRIG				*e*S		**Sn**	**02 32 49.3**	**-6.4**
CRIG				*e*S		**Sn**	**02 32 49.5**	**-6.3**
LVIG	Laguna Verde	4.19	342	*e*P		**Pn**	**02 32 08.8**	**-2.1**
LVIG				*e*S		**Sn**	**02 32 51.8**	**-7.3**
DAIG	Los Arroyos	4.61	287			**Pn**	**02 32 16.5**	**-0.1**
DAIG						**Sn**	**02 33 03.2**	**-6.2**
DAIG	Los Arroyos	4.61	287	*e*P		**Pn**	**02 32 16.5**	**-0.1**
DAIG				*e*S		**Sn**	**02 33 03.2**	**-6.2**
PPM	Popocatepetl	4.77	315	*e*P		Pn	02 32 23.7	+4.3
PPM				*e*S		**Sn**	**02 33 12.7**	**-1.5**
PPIG	Popocatepetl	4.77	315			**Pn**	**02 32 23.7**	**+4.3**
PPIG						**Sn**	**02 33 12.7**	**-1.5**
MEIG	Mezcala	4.90	297			**Pn**	**02 32 23.4**	**+2.7**
MEIG						**Sn**	**02 33 13.6**	**-3.2**
MEIG	Mezcala	4.90	297	*e*P		**Pn**	**02 32 23.4**	**+2.7**
MEIG				*e*S		**Sn**	**02 33 13.6**	**-3.2**
SCIG	Sabancuy	4.90	48	*e*P		**Pn**	**02 32 20.4**	**-0.3**
SCIG				*e*S		**Sn**	**02 33 10.4**	**-6.3**
YAIG	Yautepec	4.95	310			**Pn**	**02 32 24.2**	**+2.7**
YAIG						**Sn**	**02 33 14.9**	**-3.2**
YAIG	Yautepec	4.95	310	*e*P		**Pn**	**02 32 24.2**	**+2.7**
YAIG				*e*S		**Sn**	**02 33 14.9**	**-3.2**
PLIG	Platanillo	5.02	303			**Pn**	**02 32 24.5**	**+2.0**
PLIG						**Sn**	**02 33 16.0**	**-3.9**
PLIG	Platanillo	5.02	303	*e*P		**Pn**	**02 32 24.5**	**+2.0**
PLIG				*e*S		**Sn**	**02 33 16.0**	**-3.9**
PETF	Flores	5.11	76	Pn		**Pn**	**02 32 23.3**	**-0.3**
PETF	Flores	5.11	76	*e*P		**Pn**	**02 32 25.2**	**+1.6**
PETF		

T35A			IAmb	IAmb	02 36 03.1	
	comp=Z,11nm,1.1s					
N38A	**Joes South For**	**25.03 3**	P	**P**	**02 36 29.6**	**-1.2**
NVAR	**Mina Array Bea**	**30.50 322**	P	**P**	**02 37 23.2**	**+3.2**
	comp=Z,0.4nm,0.7s,baz=144,slow=6.4,SNR=3.3					
	comp=Z,0.4nm,0.7s					
YKA	**Yellowknife Ar**	**48.71 348**	P	**P**	**02 39 51.4**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=159,slow=6.4,SNR=6.2					
	comp=Z,0.5nm,0.8s					

*NNC **18** 02:44:30.9±0.7, 46°.85N×68°.89E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=6.3km s-min=4.9km az=45.0*
*SOME **18** 02:44:30.8, 46°.82N×69°.10E, h0km*
*IDC **18** 02:44:31.2±0.7, 46°.74N×68°.79E, h0km, mb3.5/3, mbtmp3.7/12, ML3.2/9, Error ellipse: s-maj=11.0km s-min=7.0km az=29.0*
ISC 18 02:44:33.4±0.6, 46°.88N±0°.03×68°.76E±0°.04, h10km, n58, σ3°06/84, mb3.6/3, 17C-11D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTUK	**Ortayu**	**2.78**	**59**	Pg	**Pn**	**02 45 18.5**	**+0.6**
	7.6nm,0.4s						
OTUK				Lg	Lg	02 45 51.9	
	17nm,0.3s						
OTUK	**Ortayu**	**2.78**	**59**	⇑Pn	**Pn**	**02 45 18.2**	**+0.3**
	8.0nm,0.3s						
OTUK				⇑Sn	**Sn**	**02 45 51.5**	**-0.1**
	53nm,0.8s						
BRLS	**Borolday**	**3.92**	**168**	*e*P	**Pb**	**02 45 45.8**	**+3.2**
	4.8nm,0.4s						
BRLS				*e*S	**Sg**	**02 46 39.8**	**+0.5**
	25nm,0.8s						
KK31	**Karatay Array**	**3.97**	**161**	⇓Pg	**Pb**	**02 45 44.1**	**+0.6**
	3.4nm,0.5s,baz=314,slow=13,SNR=4.2						
KK31				⇑Lg	Lg	02 46 34.9	
	42nm,0.6s,baz=354,slow=25,SNR=17						
BRZS	**Berezniki**	**4.06**	**39**	*e*P	Pn	02 45 41.6	+6.1
	11nm,0.4s						
BRZS				*e*S	**Sb**	**02 46 32.0**	**-1.9**
	25nm,0.5s						
BTLS	**Baital**	**4.12**	**115**	*e*P	**Pb**	**02 45 44.6**	**-1.4**
	7.4nm,0.4s						
BTLS				*e*S	**Sb**	**02 46 37.7**	**+2.0**
	38nm,0.6s						
IUG	**Iuzhnay**	**4.82**	**169**	*e*P	**Pb**	**02 45 59.3**	**+1.4**
	8.8nm,0.6s						
IUG				*e*S	**Sg**	**02 47 01.9**	**-6.1**
	77nm,0.8s						
MRKS	**Merke**	**5.21**	**141**	*e*P	**Pb**	**02 46 04.3**	**-0.3**
	2.3nm,0.4s						
MRKS				*e*S	**Sb**	**02 47 11.2**	**+3.9**
	27nm,0.8s						
MRKS	**Merke**	**5.21**	**141**	Pg	**Pb**	**02 46 04.3**	**-0.3**
	2.3nm,0.4s						
MRKS				Lg	Lg	02 47 11.2	
	27nm,0.8s						
CHMS	**Chumysh**	**5.75**	**130**	⇑Sn	**Sn**	**02 47 01.6**	**-3.3**
	25nm,0.9s						
CHMS				⇓Lg	Lg	02 47 30.4	
	32nm,0.7s						
AAK	**Ala-Archa**	**5.88**	**134**	Pn	**Pn**	**02 45 59.4**	**-1.3**
	0.8nm,0.3s,baz=296,slow=3.6,SNR=9.7						
AAK				Sn	**Sn**	**02 47 05.9**	**-2.4**
	1.3nm,0.3s,baz=210,slow=18,SNR=4.3						
AAK				Lg	Lg	02 47 33.2	
	1.4nm,0.3s,baz=14,slow=16,SNR=5.7						
	2.1nm,0.4s						
DGS	**Degeres**	**6.15**	**124**	*e*P	**Pb**	**02 46 22.1**	**+1.4**
	3.6nm,0.6s						
DGS				*e*S	**Sb**	**02 47 41.2**	**+6.9**
	51nm,0.8s						
DGS	**Degeres**	**6.15**	**124**	Pg	**Pb**	**02 46 22.1**	**+1.4**
	3.6nm,0.6s						
DGS				Lg	Lg	02 47 41.2	
	51nm,0.8s						
BVA0	**Borovoye Array**	**6.24**	**9**	⇑Pn	**Pn**	**02 46 05.9**	**+0.4**
	2.7nm,0.6s,baz=179,slow=11,SNR=35						
BVA0				Pg	**Pb**	**02 46 26.0**	**+3.9**
	2.4nm,0.5s,baz=181,slow=16,SNR=4.0						
BVA0				⇓Sn	**Sn**	**02 47 16.3**	**-0.5**
	6.2nm,0.7s,baz=7.3,slow=20,SNR=2.8						
BVA0				⇓Lg	Lg	02 47 48.1	
	20nm,0.8s,baz=180,slow=27,SNR=6.3						
BVAR	**Borovoye Array**	**6.24**	**9**	Pn	**Pn**	**02 46 05.8**	**+0.4**
	0.3nm,0.3s,baz=193,slow=13,SNR=29						
BVAR				Pg	**Pb**	**02 46 23.6**	**+1.5**
	0.2nm,0.3s,baz=178,slow=16,SNR=8.4						
BVAR				Sn	**Sn**	**02 47 18.8**	**+2.0**
	0.2nm,0.3s,baz=176,slow=20,SNR=6.7						
BVAR				Lg	Lg	02 47 48.0	
	0.3nm,0.3s,baz=174,slow=28,SNR=8.7						
	3.0nm,0.4s						
TKM2	**Tokmak 2**	**6.26**	**127**	⇓Lg	Lg	02 47 45.5	
	24nm,0.7s						
BRVK	**Borovoye**	**6.26**	**8**	⇑Pn	**Pn**	**02 46 06.0**	**+0.3**
	3.0nm,0.6s						
BRVK				⇓Pg	**Pb**	**02 46 25.1**	**+2.6**
	4.8nm,0.8s						
BRVK				⇑Sn	**Sn**	**02 47 15.6**	**-1.7**
	4.6nm,0.6s						
BRVK				⇑Lg	Lg	02 47 50.2	
	22nm,1.0s						
AB31	**Akbulak array**	**6.37**	**295**	Pn	**Pn**	**02 46 08.3**	**+1.1**
	3.5nm,0.5s,baz=108,slow=13,SNR=69						
AB31				⇑Sn	**Sn**	**02 47 20.3**	**+0.3**
	0.9nm,0.4s,baz=298,slow=16,SNR=5.4						
AB31				⇑Lg	Lg	02 47 55.5	
	7.2nm,0.9s,baz=105,slow=26,SNR=3.6						
KST	**Kastek**	**6.39**	**124**	*e*P	**Pb**	**02 46 27.2**	**+2.5**
	3.0nm,0.5s						
KST				*e*S	**Sg**	**02 47 49.4**	**-8.9**
	41nm,1.0s						
KST	**Kastek**	**6.39**	**124**	Pg	**Pb**	**02 46 27.2**	**+2.5**
	3.0nm,0.5s						
KST				Lg	Lg	02 47 49.4	
	41nm,1.0s						
KTBS	**Karatobe**	**6.42**	**117**	*e*P	**Pb**	**02 46 26.0**	**+0.8**
	1.9nm,0.3s						
KTBS				*e*S	**Sb**	**02 47 47.3**	**+5.3**
	33nm,0.9s						
KTBS	**Karatobe**	**6.42**	**117**	Pg	**Pb**	**02 46 26.0**	**+0.8**
	1.9nm,0.3s						
KTBS				Lg	Lg	02 47 47.3	
	33nm,0.9s						
MTBS	**Maitube**	**6.60**	**122**	*e*P	**Pb**	**02 46 29.6**	**+1.3**
	2.3nm,0.4s						
MTBS				*e*S	**Sb**	**02 47 54.7**	**+7.5**
	32nm,0.7s						
MTBS	**Maitube**	**6.60**	**122**	Pg	**Pb**	**02 46 29.6**	**+1.3**
	2.3nm,0.4s						
MTBS				Lg	Lg	02 47 54.7	
	32nm,0.7s						
AAA	**Alma-Ata**	**6.84**	**119**	*e*P	**Pb**	**02 46 35.8**	**+3.4**
	18nm,0.3s						
AAA				*e*S	**Sg**	**02 48 05.3**	**-7.6**
	50nm,0.8s						
ARXS	**Arharly**	**6.90**	**109**	*e*P	**Pb**	**02 46 34.2**	**+0.8**
	1.7nm,0.4s						
ARXS				*e*S	**Sb**	**02 48 01.8**	**+6.0**
	14nm,0.8s						
ARXS	**Arharly**	**6.90**	**109**	Pg	**Pb**	**02 46 34.2**	**+0.8**
	1.7nm,0.4s						
ARXS				Lg	Lg	02 48 01.8	
	14nm,0.8s						
KOTS	**Kotyrbulak**	**6.95**	**119**	*e*P	**Pb**	**02 46 36.6**	**+2.5**
	1.6nm,0.5s						
KOTS				*e*S	Sb	02 48 05.7	+8.5
	38nm,0.6s						
KOTS	**Kotyrbulak**	**6.95**	**119**	Pg	**Pb**	**02 46 36.6**	**+2.5**
	1.6nm,0.5s						
KOTS				Lg	Lg	02 48 05.7	
	38nm,0.6s						
MDOK	**Medeo**	**6.95**	**119**	*e*P	**Pb**	**02 46 35.1**	**+0.9**
	3.2nm,0.3s						
MDOK				*e*S	**Sb**	**02 48 02.9**	**+5.6**
	31nm,0.8s						
TNSS	**Tian-Shan**	**6.96**	**121**	*e*P	**Pb**	**02 46 35.7**	**+1.1**
	1.2nm,0.3s						
TNSS				*e*S	**Sb**	**02 48 03.9**	**+6.0**
	10nm,0.8s						
TNSS	**Tian-Shan**	**6.96**	**121**	Pg	**Pb**	**02 46 35.7**	**+1.1**
	1.2nm,0.3s						
TNSS				Lg	Lg	02 48 03.9	
	10nm,0.8s						
KURS	**Kuram**	**7.46**	**114**	*e*P	**Pb**	**02 46 43.3**	**+0.4**
KURS				*e*S	**Sb**	**02 48 18.0**	**+6.1**
KURBB	**Kurchatov Arra**	**7.46**	**56**	Pn	**Pn**	**02 46 21.2**	**-1.1**
	0.1nm,0.3s,baz=245,slow=13,SNR=11						
KURBB				Sn	**Sn**	**02 47 43.0**	**-3.9**
	0.1nm,0.3s,baz=250,slow=19,SNR=4.5						
KURBB				Lg	Lg	02 48 26.0	
	0.2nm,0.3s,baz=223,slow=31,SNR=8.5						
	1.4nm,0.5s						
KURBB	**Kurchatov Arra**	**7.46**	**56**	⇓Pn	**Pn**	**02 46 20.4**	**-1.8**
	3.0nm,0.6s						
KURBB				⇑Lg	Lg	02 48 25.8	
	51nm,0.8s						
KAPS	**Kapalarasan**	**7.54**	**98**	*e*P	**Pb**	**02 46 47.8**	**+3.6**
	0.5nm,0.0s						
KAPS				*e*S	Sg	02 48 25.2	-10
	15nm,0.5s						
KAPS	**Kapalarasan**	**7.54**	**98**	Pg	**Pb**	**02 46 47.8**	**+3.6**
	0.5nm,0.0s						
KAPS				Lg	Lg	02 48 25.2	
	15nm,0.5s						
KURK	**Kurchatov**	**7.56**	**56**	⇓Pn	**Pn**	**02 46 21.5**	**-2.0**
	5.1nm,0.7s						
KURK				⇑Sn	**Sn**	**02 47 48.7**	**-0.5**
	4.2nm,0.7s						
KURK				⇑Lg	Lg	02 48 28.2	
	21nm,0.9s						
KNOS	**Konyrlen**	**7.73**	**105**	Pg	**Pb**	**02 46 50.8**	**+3.3**
	0.9nm,0.3s						
KNOS				Lg	Lg	02 48 30.6	
	13nm,0.8s						
ZHN	**Zhinishke**	**7.79**	**115**	*e*P	**Pb**	**02 46 51.0**	**+2.4**
ZHN				*e*S	Sb	02 48 30.0	+8.6
ZHN	**Zhinishke**	**7.79**	**115**	Pg	**Pb**	**02 46 51.0**	**+2.4**
ZHN				Lg	Lg	02 48 30.0	
SATY	**Saty**	**7.83**	**116**	*e*P	**Pb**	**02 46 52.3**	**+3.0**
	3.2nm,1.1s						
SATY				*e*S	Sb	02 48 32.3	+10
	18nm,0.6s						
SATY	**Saty**	**7.83**	**116**	Pg	**Pb**	**02 46 52.3**	**+3.0**
	3.2nm,1.1s						
SATY				Lg	Lg	02 48 32.3	
	18nm,0.6s						
AKTO	**Aktyubinsk**	**7.95**	**301**	Pn	**Pn**	**02 46 28.9**	**-0.1**
	0.7nm,0.3s,baz=110,slow=11,SNR=14						
AKTO				Sn	**Sn**	**02 47 58.4**	**-0.5**
	0.4nm,0.3s,baz=207,slow=21,SNR=3.8						
AKTO				Lg	Lg	02 48 42.9	
	0.2nm,0.3s,baz=321,slow=9.5,SNR=4.4						
	3.1nm,0.5s						
AKTO	**Aktyubinsk**	**7.95**	**301**	⇑Pn	**Pn**	**02 46 31.2**	**+2.3**
	1.5nm,0.6s						
AKTO				⇑Sn	**Sn**	**02 47 59.1**	**+0.2**
	2.1nm,0.8s						
AKTO				⇑Lg	Lg	02 48 44.3	
	11nm,1.1s						
DJR	**Jarkent**	**8.14**	**104**	*e*P	**Pb**	**02 46 59.2**	**+4.8**
	1.8nm,0.7s						
DJR				*e*S	Sg	02 48 44.6	-10
	16nm,0.9s						
UZB	**Uzynbulak**	**8.17**	**113**	*e*P	**Pb**	**02 46 56.2**	**+1.2**
	2.9nm,0.6s						
UZB				*e*S	Sb	02 48 38.9	+6.6
	3.5nm,0.7s						
PDGK	**Podgornoye**	**8.38**	**111**	Pg	**Pb**	**02 47 01.6**	**+3.1**
	1.1nm,0.9s						
PDGK				Lg	Lg	02 48 49.4	
	7.1nm,0.8s						
PDGK	**Podgornoye**	**8.38**	**111**	⇓Lg	Lg	02 48 57.2	
	19nm,0.8s						
MK31	**Makanchi Array**	**9.28**	**86**	⇓Pn	**Pn**	**02 46 45.2**	**-1.9**
	1.7nm,0.6s,baz=264,slow=14,SNR=4.3						
MK31				⇓Sn	**Sn**	**02 48 30.2**	**-1.4**
	3.1nm,0.7s,baz=254,slow=21,SNR=6.0						
MK31				⇑Lg	Lg	02 49 24.6	
	25nm,1.3s,baz=281,slow=25,SNR=3.9						
MKAR	**Makanchi Array**	**9.28**	**86**	Pn	**Pn**	**02 46 45.6**	**-1.5**
	0.4nm,0.3s,baz=265,slow=16,SNR=23						
MKAR				Sn	**Sn**	**02 48 26.9**	**-4.7**
	0.3nm,0.3s,baz=256,slow=24,SNR=7.6						
MKAR				Lg	Lg	02 49 17.3	
	0.3nm,0.3s,baz=258,slow=20,SNR=2.4						
	1.0nm,0.5s						
ARU	**Arti**	**11.46**	**330**	Pn	**Pn**	**02 47 16.1**	**-0.8**
	baz=132,slow=7.8,SNR=12						
	3.6nm,0.4s						
GEYT	**Alibeck**	**11.90**	**225**	Pn	**Pn**	**02 47 20.7**	**-2.4**
	0.3nm,0.3s,baz=45,slow=6.3,SNR=2.3						
	0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**12.43**	**49**	Pn	**Pn**	**02 47 28.4**	**-1.8**
	0.2nm,0.3s,baz=246,slow=14,SNR=6.5						
ZALV				Sn	Sn	02 49 39.3	-9.3
	0.2nm,0.3s,baz=242,slow=24,SNR=6.4						
	1.0nm,0.5s						
KBZ	**Khabaz**	**18.44**	**270**	P	**P**	**02 48 48.6**	**-0.2**
	0.4nm,0.3s,baz=125,slow=4.4,SNR=15						
	3.4nm,0.6s						
NOA	**NORSAR Array B**	**35.44**	**315**	P	**P**	**02 51 29.9**	**+0.6**
	0.9nm,1.0s,baz=102,slow=6.1,SNR=1.5						
	0.9nm,1.0s						
ILAR	**Eielson Array**	**65.26**	**16**	P	**P**	**02 55 15.7**	**+1.0**
	0.2nm,0.7s,baz=308,slow=4.4,SNR=1.9						
	0.2nm,0.7s						
YKA	**Yellowknife Ar**	**70.95**	**2**	P	**P**	**02 55 50.6**	**+0.3**
	0.4nm,0.6s,baz=356,slow=6.6,SNR=8.1						
	0.4nm,0.6s						

*NNC **18** 02:53:11.3±3.9, 37°.02N×54°.72E, h0km, mb4.2, Error ellipse: s-maj=40.4km s-min=18.1km az=15.0*
*IDC **18** 02:53:12.9±0.8, 36°.74N×55°.08E, h0km, mb4.1/19, mbtmp4.2/28, ML3.8/9, MS3.5/21, Error ellipse: s-maj=18.0km s-min=10.7km az=10.0*
*TEH **18** 02:53:13.6, 36°.81N×55°.21E, h9km, ML4.4*
*THR **18** 02:53:14.9±1.7, 36°.80N×55°.31E, h15km±9km, ML4.5*
*NEIC **18** 02:53:15.4±1.9, 36°.87N±0°.09×55°.19E±0°.07, h10km±1km, mb4.3/27, Error ellipse: s-maj=14.8km s-min=10.1km az=178.0*
*MOS **18** 02:53:18.0±2.0, 37°.18N×55°.19E, h33km, mb4.7/15, Error ellipse: s-maj=6.0km s-min=3.7km az=44.6*
ISC 18 02:53:16.0±0.4, 36°.94N±0°.04×55°.11E±0°.03, h15km, n302, σ2°09/318, mb4.3/54, MS3.7/16, 26C-11D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMND	**Minoodasht**	**0.40**	**37**	Pg	**Pg**	**02 53 22.1**	**-1.9**
IMND				Sg	**Sg**	**02 53 29.3**	**-0.1**
MRVT	**Maraveh tapeh**	**1.06**	**47**	*e*Pg	**Pb**	**02 53 34.0**	**-2.1**
MRVT	**Maraveh tapeh**	**1.06**	**47**	Pg	**Pb**	**02 53 33.9**	**-2.1**
IGLO	**Ghaloghah**	**1.11**	**247**	Pg	**Pb**	**02 53 34.9**	**-2.2**
SHRO	**Shahrood**	**1.20**	**142**	*e*Pg	Pb	02 53 32.8	-5.7
IANJ	**Anjilo**	**1.76**	**214**	Pg	**Pn**	**02 53 44.6**	**-1.6**
BJRD	**Bojnurd**	**1.98**	**67**	*e*Pn	**Pn**	**02 53 49.1**	**-0.1**
IALA	**Alasht**	**2.04**	**246**	Pn	**Pn**	**02 53 51.0**	**+1.0**
SBZV	**Sabzevar**	**2.09**	**105**	Pn	**Pn**	**02 53 49.4**	**-1.2**
IFIR	**Firoozkooh**	**2.30**	**236**	Pn	**Pn**	**02 53 54.6**	**+0.9**
ILAS	**Lasjerd**	**2.33**	**229**	Pn	**Pn**	**02 53 54.4**	**+0.4**
IPRN	**Peran**	**2.33**	**253**	Pn	**Pn**	**02 53 55.8**	**+1.8**
GEYT	**Alibeck**	**2.59**	**67**	Pn	**Pn**	**02 53 57.4**	**0.0**
GEYT	**Alibeck**	**2.59**	**67**	P	**Pn**	**02 53 57.4**	**0.0**
GEYT	**Alibeck**	**2.59**	**67**	Pn	**Pn**	**02 53 58.0**	**+0.7**
	27nm,0.3s,baz=255,slow=14,SNR=103						
GEYT				LR	LR	02 54 35.2	
	comp=Z,127nm,20.3s,baz=271,slow=30						
GEYT				Lg	Lg	02 54 35.2	
	37nm,0.3s,baz=258,slow=26,SNR=5.7						
	290nm,0.6s						
GYA0B	**ALIBECK ARRAY**	**2.59**	**67**		**Pn**	**02 53 57.5**	**+0.2**
GYA0B	**ALIBECK ARRAY**	**2.59**	**67**	⇑Pn	**Pn**	**02 53 57.6**	**+0.2**
GYA0B				⇑Sn	**Sb**	**02 54 34.4**	**+0.6**
IDMV	**Damavand**	**2.83**	**242**	Pn	**Pn**	**02 54 01.8**	**+0.9**
DAMV	**Damavand**	**2.85**	**244**	*e*Pn	**Pn**	**02 54 03.8**	**+2.7**
DAMV				*e*Sg	**Sg**	**02 54 46.0**	**-1.6**
DAMV				IAML		02 54 49.2	
	comp=E,756nm,0.7s						
IEMG	**Emamgholi**	**2.87**	**79**	Pn	**Pn**	**02 54 01.2**	**-0.2**
MZPU	**Pul - Mazandar**	**2.89**	**261**	Pn	**Pn**	**02 54 03.4**	**+1.8**
IAKL	**Akhelmad**	**2.95**	**96**	Pn	**Pn**	**02 54 01.8**	**-0.8**
IPAY	**Payeh**	**3.17**	**98**	Pn	**Pn**	**02 54 05.0**	**-0.4**
TNSJ	**Nastanj**	**3.22**	**157**	Pn	**Pn**	**02 54 04.2**	**-1.8**
KLST	**Kelardasht - M**	**3.28**	**264**	Pn	**Pn**	**02 54 09.3**	**+2.2**
IVRN	**Varamin**	**3.36**	**236**	Pn	**Pn**	**02 54 09.2**	**+1.2**
CHTH	**Charan**	**3.37**	**253**	*e*Pn	**Pn**	**02 54 11.7**	**+3.4**
IHSB	**Hasanabad**	**3.44**	**245**	Pn	**Pn**	**02 54 11.4**	**+2.2**
ISFB	**Sefidab**	**3.48**	**223**	Pn	**Pn**	**02 54 09.3**	**-0.4**
IMOG	**Moghan**	**3.51**	**102**	Pn	**Pn**	**02 54 08.9**	**-1.4**
IKRD	**Kardeh**	**3.54**	**91**	Pn	**Pn**	**02 54 10.4**	**-0.3**
THKV	**Tehran--Karaj**	**3.56**	**255**	*e*Pn	**Pb**	**02 54 15.1**	**-3.6**
THKV				IAML		02 55 20.1	
	comp=E,734nm,0.4s						
THKV				IAML		02 55 20.1	
	comp=N,657nm,0.4s						
TBHD	**Torbat heydari**	**3.67**	**113**	Pn	**Pn**	**02 54 11.6**	**-0.8**
TABS	**Tabas**	**3.68**	**153**	*e*Pn	**Pn**	**02 54 10.6**	**-1.7**
TKDS	**Koohdasht(Taba**	**3.71**	**153**	Pn	**Pn**	**02 54 11.0**	**-1.9**
KRSH	**Karshahi**	**3.83**	**220**	Pn	**Pn**	**02 54 14.4**	**-0.2**
IQOM	**Qom**	**3.89**	**239**	Pn	**Pn**	**02 54 16.4**	**+0.9**
ANAR	**Anarak**	**3.91**	**197**	Pn	**Pn**	**02 54 14.3**	**-1.3**
GHVR	**GHOM**	**3.96**	**233**	*e*Pn	**Pn**	**02 54 18.0**	**+1.8**
GHVR				IAML		02 55 33.0	
	comp=E,634nm,0.5s						
IMYA	**Miami**	**4.06**	**97**	Pn	**Pn**	**02 54 16.7**	**-1.0**
TPRV	**Parvadeh(Tabas**	**4.12**	**161**	Pn	**Pn**	**02 54 16.4**	**-2.0**
GIDE	**GILAN DEYLAMAN**	**4.16**	**271**	*e*Pn	**Pn**	**02 54 20.0**	**+0.9**
GIDE				IAML		02 55 43.0	
	comp=N,382nm,0.6s						
GIDE				IAML		02 55 52.5	
	comp=E,426nm,0.6s						
QAMS	**Qamsar**	**4.41**	**225**	Pn	**Pn**	**02 54 22.3**	**-0.3**
IRAZ	**Razeghan**	**4.46**	**251**	Pn	**Pn**	**02 54 25.3**	**+2.1**
NASN	**Na'in**	**4.54**	**205**	*e*Pn	**Pn**	**02 54 23.6**	**-0.9**
TBJM	**Torbat-e-JAM**	**4.55**	**110**	Pn	**Pn**	**02 54 23.4**	**-1.1**
YZKH	**Yazd**	**4.56**	**185**	*e*Pn	**Pn**	**02 54 24.1**	**-0.5**
YZKH				IAML		02 55 55.5	
	comp=E,248nm,0.6s						
IKLH	**Kolahrood**	**4.63**	**220**	Pn	**Pn**	**02 54 25.2**	**-0.4**
IZEF	**Zefreh**	**4.64**	**210**	Pn	**Pn**	**02 54 24.9**	**-0.8**
AFRZ	**Afriz**	**4.75**	**136**	Pn	**Pn**	**02 54 25.7**	**-1.4**
ASAO	**Ashtian**	**4.77**	**241**	*e*Pn	**Pn**	**02 54 28.9**	**+1.3**
ITEG	**Tejag**	**5.03**	**142**	Pn	**Pn**	**02 54 29.6**	**-1.4**
ISAD	**Sadrabad**	**5.15**	**194**	Pn	**Pn**	**02 54 31.7**	**-1.1**
IGAR	**Gharneh**	**5.18**	**210**	Pn	**Pn**	**02 54 32.6**	**-0.6**
KHMZ	**Khomeyn**	**5.28**	**234**	*e*Pn	**Pn**	**02 54 36.4**	**+1.8**
HAGD	**Aghdareh**	**5.29**	**248**	Pn	**Pn**	**02 54 37.3**	**+2.7**
LKRN	**Lenkeran, Azer**	**5.31**	**291**	P	**Pn**	**02 54 34.0**	**-0.7**
IBAF	**Bafgh**	**5.35**	**176**	Pn	**Pn**	**02 54 34.4**	**-1.1**
SHRT	**Shahrakht**	**5.37**	**126**	*e*Pn	**Pn**	**02 54 33.4**	**-2.2**
SHRT	**Shahrakht**	**5.37**	**126**	Pn	**Pn**	**02 54 33.5**	**-2.1**
IPIR	**Pirpir**	**5.48**	**220**	Pn	**Pn**	**02 54 38.8**	**+1.4**
IKOO	**Kooshah**	**5.54**	**143**	Pn	**Pn**	**02 54 36.2**	**-1.8**
IMEH	**Mehriz**	**5.55**	**184**	Pn	**Pn**	**02 54 37.4**	**-0.9**
IRAM	**Ramesheh**	**5.59**	**205**	Pn	**Pn**	**02 54 38.8**	**0.0**
IDAH	**Dahanechah**	**5.74**	**136**	Pn	**Pn**	**02 54 38.1**	**-2.8**
IBRJ	**Brojen**	**5.94**	**213**	Pn	**Pn**	**02 54 44.4**	**+0.7**
ZNGN	**Zangian**	**5.96**	**217**	Pn	**Pn**	**02 54 44.5**	**+0.6**
JHBN	**Jahan bin**	**5.96**	**219**	Pn	**Pn**	**02 54 44.5**	**+0.6**
BSRN	**Basiran**	**5.97**	**145**	*e*Pn	**Pn**	**02 54 42.1**	**-1.9**
BSRN	**Basiran**	**5.97**	**145**	Pn	**Pn**	**02 54 41.9**	**-2.0**
GRMI	**Germi**	**6.00**	**290**	*e*Pn	**Pn**	**02 54 44.5**	**+0.2**
HRA	**Herat**	**6.34**	**112**	Pn	**Pn**	**02 54 46.5**	**-2.7**
SNGE	**Sanandaj**	**6.55**	**256**	*e*Pn	**Pn**	**02 54 55.0**	**+3.0**
KLNJ	**Kolanjah**	**6.60**	**207**	Pn	**Pn**	**02 54 53.4**	**+0.6**
KHGB	**Koh Gabri**	**6.65**	**170**	Pn	**Pn**	**02 54 52.3**	**-1.0**
KRM1	**Kerman Provinc**	**6.67**	**164**	Pn	**Pn**	**02 54 52.7**	**-1.0**
IKFM	**Kafar-mosalman**	**6.85**	**242**	Pn	**Pn**	**02 54 58.3**	**+2.5**
NHDN	**Nehbandan**	**6.89**	**142**	Pn	**Pn**	**02 54 54.8**	**-1.7**
KRBR	**Kerman**	**7.08**	**168**	*e*Pn	**Pn**	**02 55 00.7**	**+1.4**
MNGR	**Mingechevir, A**	**7.33**	**304**	P	**Pn**	**02 55 03.6**	**+1.1**
SEKA	**Sheki**	**7.48**	**307**	P	**Pn**	**02 55 04.8**	**+0.2**
GANJ	**Ganja**	**7.79**	**301**	P	**Pn**	**02 55 07.6**	**-1.2**
SRSL	**SARDASHT**	**7.82**	**268**	*e*Pn	**Pn**	**02 55 13.7**	**+4.4**
NAX	**Nakhchivan**	**7.90**	**289**	P	**Pn**	**02 55 11.6**	**+1.2**
ILBA	**Ilam Banvizeh**	**7.99**	**248**	*e*Pn	**Pn**	**02 55 13.7**	**+2.0**
ILBA	**Ilam Banvizeh**	**7.99**	**248**	Pn	**Pn**	**02 55 13.4**	**+1.8**
VSHL	**Vashlovani**	**8.01**	**305**	P	**Pn**	**02 55 12.9**	**+1.2**
VSHL				S	**Sn**	**02 56 42.0**	**-0.1**
ZKTA	**Zakatala**	**8.08**	**308**	P	**Pn**	**02 55 12.9**	**+0.2**
MAK	**Makhachkala**	**8.38**	**318**	*e*P	**Pn**	**02 55 13.0**	**-3.7**
MAK				*e*S	**Sn**	**02 56 45.6**	**-5.4**
MAK				pmax	pmax		
	comp=Z,92nm,1.3s						
MAK				MLR	MLR		
	comp=Z,66nm,15.0s						
LGD	**Lagodekhi**	**8.42**	**308**	P	**Pn**	**02 55 17.6**	**+0.2**
LGD				S	**Sn**	**02 56 47.9**	**-4.3**
LGD	**Lagodekhi**	**8.42**	**308**	P	**Pn**	**02 55 17.6**	**+0.2**
LGD				S	**Sn**	**02 56 47.9**	**-4.3**
MAKU	**Maku**	**8.56**	**289**	*e*Pn	**Pn**	**02 55 20.5**	**+1.0**
ZHSF	**Zahedan**	**8.71

KKAR Karatay Array 13.31 58 P **Pn** 02 56 21.1 -3.1
DRK Karamyk 13.37 74 Pn **Pn** 02 56 23.9 -1.5
SOC Sochi 13.48 304 *e*P **Pn** 02 56 26.1 -0.6
SOC *e* 02 58 56.3
SOC MLR MLR
comp=Z,196nm,20.0s
AKTO Aktyubinsk 13.65 8 Pn **Pn** 02 56 27.9 -1.0
comp=Z,1.2nm,0.3s,baz=180,slow=12,SNR=22
AKTO Sn **Sn** 02 58 55.3 -4.8
comp=Z,0.3nm,0.3s,baz=240,slow=20,SNR=2.1
AKTO LR LR 03 03 15.7
comp=Z,153nm,21.6s,baz=264,slow=44
comp=Z,5.5nm,0.4s
AKTO Aktyubinsk 13.65 8 ⇓Pn **Pn** 02 56 27.1 -1.8
comp=Z,8.2nm,0.7s
AKTO ⇑Sn **Sn** 02 58 57.8 -2.4
comp=Z,15nm,1.4s
ARSB Arslanbob 14.54 67 **Pn** 02 56 39.5 -1.8
ARSB Arslanbob 14.54 67 P **Pn** 02 56 39.5 -1.8
NIL Nilore 15.18 97 P **P** 02 56 54.3 -0.5
NIL IAmb IAmb 02 57 01.0
comp=Z,18nm,1.1s
NIL Nilore 15.18 97 P **P** 02 56 54.3 -0.5
NIL pmax pmax
comp=Z,18nm,1.1s
BNN Bunyan 15.33 283 P **P** 02 56 56.7 +0.1
BNN IAmb IAmb 02 57 03.1
comp=Z,42nm,1.2s
RAYN Ar Rayn 15.73 214 Pn **Pn** 02 56 53.9 -3.1
RAYN IAmb IAmb 02 57 03.0
comp=Z,21nm,0.7s
ASF Jabal al Asfar 15.73 258 LR LR 03 04 07.3
comp=Z,214nm,18.3s,baz=154,slow=42
AAK Ala-Archa 15.94 63 Pn **Pn** 02 56 58.6 -1.2
AAK Ala-Archa 15.94 63 *i* P **Pn** 02 56 59.2 -0.6
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 15.94 63 Pn **Pn** 02 56 57.9 -1.9
comp=Z,0.4nm,0.3s,baz=245,slow=8.9,SNR=12
comp=Z,4.2nm,0.6s
BELG Belogornoye 16.32 344 *i* P **Pn** 02 57 03.9 -0.6
BELG pmax pmax
comp=Z,5.0nm,0.9s
BELG Belogornoye 16.32 344 Pn **Pn** 02 57 03.8 -0.6
comp=Z,1.2nm,0.3s,baz=300,slow=4.4,SNR=5.6
BELG Sn **Sn** 02 59 57.7 -7.4
comp=Z,0.8nm,0.3s,baz=288,slow=19,SNR=1.8
BELG LR LR 03 04 37.8
comp=Z,60nm,18.4s,baz=301,slow=42
comp=Z,12nm,0.6s
KSH Kashi 16.59 75 P **Pn** 02 57 01.8 -6.4
KSH sP P 02 57 10.1 -0.5
KSH PP **sP** 02 57 18.5 +1.2
KSH pmax pmax
comp=Z,8.0nm,0.7s
KSH LR LR
comp=N,280nm,11.0s
KSH LR LR
comp=E,310nm,7.8s
KSH LR LR
comp=Z,360nm,13.1s
NRN Naryn 16.80 68 Pn **Pn** 02 57 08.3 -2.6
NRN Naryn 16.80 68 P **Pn** 02 57 08.3 -2.6
NRN pmax pmax
comp=Z,6.0nm,0.8s
BOOM Boomskoye usch 16.95 64 Pn **Pn** 02 57 11.6 -1.0
BOOM Boomskoye usch 16.95 64 P **Pn** 02 57 11.6 -1.0
BOOM pmax pmax
comp=Z,8.0nm,1.0s
BR131 Keskin Array S 17.07 286 P **P** 02 57 16.4 +0.5
BR131 Keskin Array S 17.07 286 P **P** 02 57 16.4 +0.5
BR131 pmax pmax
comp=Z,5.0nm,1.1s
BRTR Keskin Array B 17.07 286 *ce*P **P** 02 57 21.0 +5.1
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 17.07 286 P **P** 02 57 17.1 +1.2
comp=Z,1.5nm,0.7s,baz=113,slow=12,SNR=12
BRTR LR LR 03 05 22.9
comp=Z,61nm,18.4s,baz=80,slow=43
GHAJ Ghor Haditha 17.12 257 **P** 02 57 16.3 0.0
GHAJ IAmb IAmb 02 57 24.1
comp=Z,16nm,1.0s
VRH Novokhopyorsk 17.15 330 *e*P **Pn** 02 57 13.2 -1.8
VRH pmax pmax
comp=Z,26nm,0.7s
SIM Simferopol' 17.73 303 *e*P **P** 02 57 25.9 +3.0
SIM pmax pmax
comp=Z,25nm,0.8s
CSS Mathiatis 17.74 270 **P** 02 57 24.9 +1.7
VSR Storozhevoye 18.24 326 *e*P **Pn** 02 57 25.1 -3.2
VSR pmax pmax
comp=Z,20nm,0.9s
EIL Elat 18.32 253 P **Pn** 02 57 31.0 +1.4
comp=Z,7.6nm,0.8s,baz=340,slow=9.0,SNR=6.4
VORR Voronezh 18.55 328 *e*P **P** 02 57 28.9 -3.0
VORR pmax pmax
comp=Z,20nm,0.8s
BRVK Borovoye 19.29 29 P **Pn** 02 57 40.7 -0.4
BRVK Borovoye 19.29 29 *ce*P **Pn** 02 57 41.2 +0.1
BRVK pmax pmax
comp=Z,14nm,1.7s
BRVK Borovoye 19.29 29 ⇑Pn **P** 02 57 40.0 -0.1
comp=Z,5.8nm,0.9s
BVA0 Borovoye Array 19.31 29 *i* P **P** 02 57 39.8 -0.5
BVA0 Borovoye Array 19.31 29 Pn **P** 02 57 40.1 -0.2
comp=Z,10.0nm,0.9s,baz=212,slow=4.5,SNR=41
BVAR Borovoye Array 19.31 29 P **Pn** 02 57 40.7 -0.7
comp=Z,0.1nm,0.3s,baz=214,slow=9.2,SNR=20
comp=Z,7.1nm,0.7s
LPSR Galich'ya Gora 19.34 329 *e*P **P** 02 57 41.2 +0.6
LPSR pmax pmax
comp=Z,100nm,0.8s
ISP Isparta 19.55 280 P **P** 02 57 43.0 -0.1
ISP IAmb IAmb 02 57 59.2
comp=Z,10nm,0.8s
ISP Isparta 19.55 280 P **P** 02 57 43.0 -0.1
ISP pmax pmax
comp=Z,10.0nm,0.8s
ARU Arti 19.63 6 P **Pn** 02 57 44.7 -0.4
ARU IAmb IAmb 02 57 55.4
comp=Z,19nm,1.3s
ARU Arti 19.63 6 *i* P **Pn** 02 57 45.0 -0.2
ARU pmax pmax
comp=Z,8.0nm,1.0s
ARU Arti 19.63 6 P **Pn** 02 57 45.2 +0.1
baz=188,slow=5.1,SNR=12
ARU LR LR 03 06 53.8
comp=Z,109nm,21.4s,baz=184,slow=41
comp=Z,8.7nm,0.6s
ELL Elmali 20.16 277 P Pn 02 57 51.8 +0.1
ELL Elmali 20.16 277 P Pn 02 57 51.8 +0.1
ELL pmax pmax
comp=Z,78nm,0.8s
SVE Sverdlovsk 20.23 9 *e*P Pn 02 57 55.2 +2.9
KURBB Kurchatov Arra 21.63 43 P **P** 02 58 05.8 +0.4
comp=Z,2.8nm,0.8s,baz=243,slow=11,SNR=12
KURBB LR LR 03 07 42.0
comp=Z,130nm,18.0s,baz=168,slow=40
comp=Z,2.8nm,0.8s
KURK Kurchatov 21.73 43 P **P** 02 58 06.8 +0.3
KURK IAmb IAmb 02 58 22.4
comp=Z,7.8nm,1.0s
KURK Kurchatov 21.73 43 *ce*P **P** 02 58 10.1 +3.7
KURK pmax pmax
comp=Z,14nm,1.7s
KIRV Kirov 21.97 352 *ce*P **P** 02 58 11.3 +2.3
KIRV Kirov 21.97 352 P **P** 02 58 10.3 +1.3
comp=Z,13nm,0.5s,baz=174,slow=2.9,SNR=8.6
comp=Z,13nm,0.5s
OBN Obninsk 22.15 331 P **P** 02 58 12.6 +1.7
OBN IAmb IAmb 02 58 15.5
comp=Z,27nm,0.8s
OBN Obninsk 22.15 331 *i* P **P** 02 58 12.3 +1.4
OBN *i* 02 58 25.1
OBN pmax pmax
comp=Z,29nm,0.8s
OBN Obninsk 22.15 331 P **P** 02 58 11.2 +0.3
comp=Z,21nm,0.6s,baz=78,slow=4.1,SNR=4.3
comp=Z,21nm,0.6s
MAKZ Makanchi 22.21 55 P **P** 02 58 11.7 -0.1
MAKZ IAmb IAmb 02 58 17.6
comp=Z,16nm,0.9s
MAKZ Makanchi 22.21 55 P **P** 02 58 11.7 -0.1
MAKZ pmax pmax
comp=Z,16nm,0.9s

MOS Moscow 22.22 333 *e*P **P** 02 58 13.9 +2.2
MOS *e* 02 58 38.7
MOS pmax pmax
comp=Z,33nm,0.6s
MK31 Makanchi Array 22.41 55 P **P** 02 58 14.0 +0.1
MK31 IAmb IAmb 02 58 21.7
comp=Z,5.4nm,0.8s
MK31 Makanchi Array 22.41 55 P **P** 02 58 14.0 +0.1
MK31 pmax pmax
comp=Z,5.0nm,0.9s
MKAR Makanchi Array 22.41 55 P **P** 02 58 13.8 -0.1
MKAR Makanchi Array 22.41 55 P **P** 02 58 13.8 -0.1
MKAR Makanchi Array 22.41 55 P **P** 02 58 14.2 +0.3
comp=Z,2.8nm,0.7s,baz=248,slow=12,SNR=20
MKAR LR LR 03 08 10.4
comp=Z,241nm,18.1s,baz=248,slow=40
comp=Z,2.8nm,0.7s
SORM Soroca 22.55 308 ⇑P **P** 02 58 18.1 +2.7
VRI Vrincioaia 22.98 302 ⇓P **P** 02 58 20.0 +0.1
PLOR Plostina 23.03 302 ⇓P **P** 02 58 23.2 +2.8
AKASG Malin Array Be 23.04 315 P **P** 02 58 21.0 +0.6
AKASG IAmb IAmb 02 58 23.8
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 23.04 315 P **P** 02 58 21.0 +0.6
AKASG pmax pmax
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 23.04 315 P **P** 02 58 20.6 +0.1
comp=Z,10nm,0.7s,baz=121,slow=9.1,SNR=56
comp=Z,10nm,0.7s
AKBB Malin Array Si 23.04 315 P **P** 02 58 21.3 +0.8
AKBB Malin Array Si 23.04 315 *ce*P **P** 02 58 20.9 +0.5
AKBB pmax pmax
comp=Z,31nm,0.8s
KIEV Kiev 23.05 315 P **P** 02 58 21.3 +0.8
KIEV Kiev 23.05 315 P **P** 02 58 21.3 +0.8
KIEV pmax pmax
comp=Z,32nm,0.8s
COVR Voineasa-Covas 23.33 301 ⇑P **P** 02 58 26.8 +3.2
MLR Muntele Rosu 23.44 300 ⇑P **P** 02 58 28.0 +3.3
MLR Muntele Rosu 23.44 300 P **P** 02 58 27.6 +2.9
MLR IAmb IAmb 02 58 33.9
comp=Z,16nm,1.0s
MLR Muntele Rosu 23.44 300 P **P** 02 58 27.6 +2.9
MLR pmax pmax
comp=Z,16nm,1.0s
VOIR 24.05 300 ⇑P **P** 02 58 33.0 +2.5
VOIR 24.05 300 ⇑P **P** 02 58 33.0 +2.5
BURAR Bucovina Array 24.41 305 ⇑P **P** 02 58 35.1 +1.3
BURAR Bucovina Array 24.41 305 P **P** 02 58 36.3 +2.5
BURAR IAmb IAmb 02 58 47.3
comp=Z,5.7nm,0.8s
BURAR Bucovina Array 24.41 305 ⇑P **P** 02 58 35.1 +1.3
BUR08 Bucovina Ar. S 24.43 305 P **P** 02 58 35.3 +1.3
BUR08 IAmb IAmb 02 58 56.3
comp=Z,16nm,1.3s
KSV Kosov 24.69 307 P **P** 02 58 38.1 +1.8
LOT Lotru 24.94 300 ⇑P **P** 02 58 41.6 +2.9
CJR Cluj-Napoca 25.28 303 ⇑P **P** 02 58 44.9 +3.3
CJR Cluj-Napoca 25.28 303 ⇑P **P** 02 58 44.9 +3.3
MARR Marisel-Cluj 25.59 302 ⇓P **P** 02 58 46.9 +2.4
DEV Deva 25.61 301 ⇓P **P** 02 58 47.6 +3.0
DEV Deva 25.61 301 ⇓P **P** 02 58 47.6 +3.0
GZR Gura Zlata 25.62 299 ⇓P **P** 02 58 50.0 +5.2
MNK Minsk 25.63 322 *i* P **P** 02 58 46.2 +1.5
MNK *i* P **P** 02 58 46.2 +1.5
MNK *i* P **P** 02 58 46.2 +1.5
comp=Z,29nm,0.9s,baz=122
MNK *i* PP **PnPn** 02 59 21.1 +0.4
MNK *i* PPP PPP 02 59 29.2
MNK *i* S **S** 03 03 12.9 +0.8
MNK *i* SS **SnSn** 03 04 08.1 +1.9
MNK *i* SSS SSS 03 04 22.4
MNK *i* LQ LQ 03 06 51.3
MNK *i* LR LR 03 08 24.6
MNK *i* LRM MLR 03 09 16.3
comp=Z,73nm,13.2s
MNK *i* LRM MLR 03 09 35.2
MNK *i* LRM MLR 03 09 40.3
comp=E,37nm,10.2s
MNK Minsk 25.63 322 *i* P **P** 02 58 46.1 +1.5
MNK *i* 02 59 21.0
MNK *i* PPP PPP 02 59 29.2
MNK *i* S **S** **03 03 12.9 +0.8**
MNK *i* SS **SnSn** **03 04 08.0 +1.9**
MNK *i* SSS SSS 03 04 22.3
MNK pmax pmax
comp=Z,29nm,0.9s
MNK MLR MLR
comp=Z,73nm,13.0s
MNK MLR MLR
comp=E,37nm,10.0s
WMQ Urumqi 25.64 64 *e*P **P** 02 58 45.1 +0.1
WMQ pmax pmax
comp=Z,16nm,1.1s
LVV L'vov 25.79 310 *e*P **P** 02 58 48.5 +2.3
AGG Agios Georgios 25.84 285 P **P** 02 58 47.6 +0.8
AGG Agios Georgios 25.84 285 P **P** 02 58 47.6 +0.8
AGG pmax pmax
comp=Z,42nm,1.5s
KLMR Klimovskoe 25.89 342 *e*P **P** 02 58 49.4 +2.4
KLMR pmax pmax
comp=Z,16nm,1.7s
SURR Surduc 26.13 300 ⇓P **P** 02 58 52.4 +3.1
MDVR Moldovita 26.30 298 ⇑P **P** 02 58 54.0 +3.0
NACGM Naroch 26.38 322 *e*P **P** 02 58 55.5 +4.0
comp=Z,13nm,0.9s,baz=122
BZS Buzias 26.46 300 ⇓P **P** 02 58 55.1 +2.8
BZS Buzias 26.46 300 ⇓P **P** 02 58 55.1 +2.8
DGZ Jazzator, Alta 26.53 51 *i* P **P** 02 58 56.9 +3.8
DGZ pmax pmax
comp=Z,3.0nm,0.8s
ZALV Zalesovo Beam 26.62 41 *i* P **P** 02 58 59.0 +5.4
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 26.62 41 P **P** 02 58 54.9 +1.3
comp=Z,0.6nm,0.3s,baz=251,slow=9.0,SNR=2.7
ZALV LR LR 03 10 50.9
comp=Z,86nm,19.8s,baz=223,slow=40
comp=Z,0.6nm,0.3s
KOLS Kolonicke sedl 26.64 307 *e*P **P** 02 58 57.0 +3.1
KOLS Kolonicke sedl 26.64 307 *e*P **P** 02 58 57.0 +3.1
SUW Suwalki 27.82 318 P **P** 02 59 04.2 -0.2
SUW Suwalki 27.82 318 P **P** 02 59 04.2 -0.2
SUW pmax pmax
comp=Z,28nm,0.8s
VYHS Vyhne 28.78 305 *e*P **P** 02 59 16.1 +3.1
VYHS Vyhne 28.78 305 *e*P **P** 02 59 16.1 +3.1
MODS Modra-Piesok 29.78 305 *e*P **P** 02 59 26.0 +4.0
MODS Modra-Piesok 29.78 305 *e*P **P** 02 59 26.0 +4.0
MORC Moravsky Berou 29.85 307 *e*P **P** 02 59 24.1 +1.5
RONA Rosalia, Austr 30.35 303 *e*pP pP 02 59 30.3 -1.6
comp=Z,1.6nm,0.4s
VRAC Vranov 30.37 306 *e*P **P** 02 59 28.9 +1.7
FINES FINESS Array B 30.52 333 *ce*P **P** 02 59 29.8 +1.5
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 30.52 333 P **P** 02 59 29.9 +1.6
comp=Z,2.2nm,0.8s,baz=112,slow=13,SNR=6.4
comp=Z,2.2nm,0.8s
CONA Conrad Observa 30.66 303 *e*pP **P** 02 59 32.2 +2.3
comp=Z,0.4nm,0.3s
ARSA Arzberg 30.82 302 *e*P **P** 02 59 32.3 +1.1
comp=Z,2.6nm,0.6s
MOA Molln 31.73 303 *e*pP pP 02 59 42.0 -1.9
comp=Z,0.5nm,0.3s
GERES GERESS Array B 32.20 305 P **P** 02 59 44.5 +1.2
comp=Z,1.9nm,0.6s,baz=40,slow=7.7,SNR=3.3
comp=Z,1.9nm,0.6s
LESA Schwarzleotal 32.77 302 *e*P **P** 02 59 49.7 +1.3
comp=Z,3.6nm,0.6s
CLL Collm 32.97 309 *i* P **P** 02 59 53.4 +3.5
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 32.97 309 *i* P **P** 02 59 53.4 +3.5
comp=Z,9.0nm,1.0s
CLL *e*PP **PP** 03 01 06.0 +1.6
WTTA Wattenberg 33.47 302 *i* P **P** 02 59 55.4 +0.8
comp=Z,4.7nm,0.6s
WATA Walderalm 33.51 302 *i* P **P** 02 59 55.9 +1.0
comp=Z,2.2nm,0.6s
SQTA Sankt Quirin 33.76 302 *e*P **P** 02 59 57.8 +0.8
comp=Z,0.8nm,0.3s
MOTA Moosalm 33.83 302 *e*P **P** 02 59 58.4 +0.7
comp=Z,1.5nm,0.6s

RETA Reutte 34.07 302 *e*pP pP 03 00 03.7 -0.8
comp=Z,1.9nm,0.6s
DAVA Damuels 34.66 302 *e*P **P** 03 00 05.3 +0.4
comp=Z,2.3nm,0.5s
GTA Gaotai 34.96 72 P **P** 03 00 10.8 +3.2
GTA pmax pmax
comp=Z,6.0nm,1.2s
HFS Hagfors 35.03 325 P **P** 03 00 09.7 +2.0
comp=Z,8.2nm,0.7s,baz=108,slow=9.5,SNR=13
comp=Z,8.2nm,0.7s
ARCES ARCESS Array B 36.37 343 P **P** 03 00 21.4 +2.3
comp=Z,5.3nm,1.0s,baz=142,slow=9.1,SNR=2.3
comp=Z,5.3nm,1.0s
NB2 NORSAR Subarra 36.51 325 P **P** 03 00 21.6 +1.2
comp=Z,2.9nm,0.8s,baz=113,slow=8.6
NB2 PP PnPn 03 01 31.2 -12
comp=Z,2.2nm,0.8s,baz=122,slow=11
NOA NORSAR Array B 36.51 325 P **P** 03 00 21.8 +1.4
comp=Z,2.6nm,0.8s,baz=114,slow=8.1,SNR=8.4
comp=Z,2.6nm,0.8s
NRIK Noril'sk 36.92 18 LR LR 03 18 39.5
comp=Z,126nm,18.2s,baz=246,slow=41
PALK Pallekele 37.62 135 LR LR 03 16 28.1
comp=Z,64nm,20.5s,baz=67,slow=37
SONM Songino Array 38.76 57 LR LR 03 17 10.7
comp=Z,91nm,18.3s,baz=208,slow=37
ULN Ulaanbaatar 39.20 57 *ce*P **P** 03 00 46.8 +3.3
ULN pmax pmax
comp=Z,8.0nm,1.9s
PZH PanZhiHua 40.66 91 P **P** 03 00 56.3 +0.4
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,160nm,5.7s
CMAR Chiang Mai Arr 42.54 103 P **P** 03 01 10.0 -1.2
CMAR Chiang Mai Arr 42.54 103 P **P** 03 01 09.9 -1.2
comp=Z,3.2nm,0.7s,baz=300,slow=9.0,SNR=15
comp=Z,3.2nm,0.7s
EKA Eskdalemuir Ar 42.95 315 P **P** 03 01 14.8 +0.7
comp=Z,1.5nm,0.6s,baz=100,slow=7.7,SNR=5.8
comp=Z,1.5nm,0.6s
XAN Xi'an 43.43 77 ⇓P **P** 03 01 20.3 +2.0
XAN pmax pmax
comp=Z,10.0nm,1.1s
XAN LR LR
comp=N,290nm,16.5s
XAN LR LR
comp=E,180nm,13.7s
HHC Hu-ho-hao-te 43.47 67 *e*P **P** 03 01 18.8 +0.2
HHC S **S** 03 07 51.4 +4.8
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,130nm,6.5s
PHRA Phrae 43.52 102 P **P** 03 01 18.2 -0.8
ESDC Sonseca Array 45.70 292 P **P** 03 01 37.1 +0.7
comp=Z,3.1nm,0.7s,baz=66,slow=7.8,SNR=31
comp=Z,3.1nm,0.7s
TIXI Tiksi 50.31 23 LR LR 03 26 53.4
comp=Z,82nm,18.9s,baz=318,slow=40
YAK Yakutsk 51.08 36 *i* P **P** 03 02 19.9 +2.5
YAK pmax pmax
comp=Z,5.0nm,0.7s
YAK Yakutsk 51.08 36 LR LR 03 23 47.9
comp=Z,43nm,20.2s,baz=304,slow=36
HEH HeiHe 52.04 51 *e*P **P** 03 02 24.1 -0.6
HEH pmax pmax
comp=Z,5.0nm,0.8s
TORD Torodi Ar. Bea 53.10 258 P **P** 03 02 31.4 -1.6
comp=Z,1.9nm,0.9s,baz=42,slow=8.6,SNR=8.8
comp=Z,1.9nm,0.9s
KSRS Korea Array 56.58 66 P **P** 03 02 57.0 -1.0
comp=Z,2.0nm,0.7s,baz=282,slow=6.8,SNR=9.8
comp=Z,2.0nm,0.7s
USRK Ussuriysk Ar. 56.87 57 LR LR 03 29 27.0
comp=Z,76nm,18.7s,baz=201,slow=38
ASAJ Asahikawa 63.87 53 LR LR 03 33 40.5
comp=Z,88nm,19.3s,baz=102,slow=38
MJAR Matsushiro Arr 64.39 62 LR LR 03 33 56.8
comp=Z,40nm,19.8s,baz=238,slow=38
LBTB Lobatse 67.61 209 LR LR 03 35 53.3
comp=Z,75nm,18.1s,baz=52,slow=38
SUR Surlari 76.05 209 LR LR 03 40 54.1
comp=Z,88nm,20.3s,baz=62,slow=38
ILAR Eielson Array 77.16 9 P **P** 03 05 09.1 +0.5
comp=Z,0.5nm,0.8s,baz=346,slow=6.5,SNR=4.1
comp=Z,0.5nm,0.8s
YKA Yellowknife Ar 80.56 355 *i* P **P** 03 05 31.8 +4.5
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 80.56 355 P **P** 03 05 27.7 +0.4
comp=Z,0.4nm,0.8s,baz=38,slow=7.1,SNR=2.6
comp=Z,0.4nm,0.8s
BBB Bella Bella 91.20 2 LR LR 03 56 22.5
comp=Z,27nm,18.2s,baz=243,slow=42
ASAR Alice Springs 95.52 115 P **P** 03 06 38.0 -2.6
ASAR Alice Springs 95.52 115 P **P** 03 06 38.0 -2.6
comp=Z,0.4nm,0.7s,baz=316,slow=5.2,SNR=2.7
comp=Z,0.4nm,0.7s
QSPA South Pole Qui 126.76 180 PKP **PKiKP** 03 12 17.9 -0.5
comp=Z,0.9nm,0.7s,baz=261,slow=1.7,SNR=8.0

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*JMA **18** 02:59:09.5±0.1, 23.2N±0.1×121.5E±0.4, h19km, MV3.9/19, TAIWAN REGION*
*ASIES **18** 02:59:10.2, 23.20N×121.38E, h18km, ML4.3, Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}5.55; $M_{\theta\theta}$-1.40; $M_{\phi\phi}$-4.15; $M_{r\theta}$-0.88; $M_{\theta\phi}$-2.64; $M_{\phi r}$3.31; Fault plane solution: $M_0$6.61068×10^{21} NP1:ϕ_s11.05000°, δ59.80000°, λ68.42000°. NP2:ϕ_s229.23000°, δ36.52000°, λ122.29000°. Principal axes: T Plg67.5170°, Azm238.1940°; N Plg18.5360°, Azm22.3060°; P Plg12.2710°, Azm116.4890°;*
*TAP **18** 02:59:10.2, 23.20N×121.38E, h18km, ML4.3, B*
*IDC **18** 02:59:20.4±9.2, 23.46N×122.29E, h131km±99km, mb3.3/7, mbtmp3.7/8, ML3.5/1, MS3.3/1, Error ellipse: s-maj=103.6km s-min=15.7km az=65.0*
ISC 18 02:59:09.3±0.7, 23.17N±0.01×121.46E±0.02, h18km±2km, n196, σ0s92/371, mb3.7/7, 4C-26D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHKH	**Chenggong** baz=116	**0.06**	**288**	⇑P		**Pg**	**02 59 13.6**	**+0.9**
CHKH				S		**Sg**	**02 59 16.0**	**+0.9**
CHKT	**Chengkung** baz=182	**0.12**	**231**	⇑*i*P		**Pg**	**02 59 14.3**	**+1.2**
CHKT				*i* S		**Sg**	**02 59 17.3**	**+1.5**
ECBN	**Changbin** baz=31	**0.14**	**356**	⇑P		**Pg**	**02 59 14.8**	**+1.2**
ECBN				S		**Sg**	**02 59 18.1**	**+1.7**
FULB	**Fuli** baz=267	**0.16**	**280**	P		**Pb**	**02 59 13.9**	**+1.1**
FULB				S		**Sg**	**02 59 17.6**	**+0.9**
EYUL	**Yuli** baz=333	**0.22**	**323**	⇓P		**Pg**	**02 59 15.2**	**+0.6**
EYUL				S		**Sg**	**02 59 19.3**	**+1.1**
TWF1	**Yuli** baz=330	**0.23**	**320**	⇓*i*P		**Pb**	**02 59 15.1**	**+0.2**
TWF1				*i* S		**Sb**	**02 59 19.1**	**+0.6**
ECS	**Chishang** baz=244	**0.24**	**251**	P		**Pg**	**02 59 15.8**	**+0.9**
ECS				*e*S		**Sg**	**02 59 20.4**	**+1.8**
EHD	**Haiduan** baz=262	**0.24**	**265**	⇓P		**Pb**	**02 59 14.9**	**+0.1**
EHD				S		**Sb**	**02 59 18.4**	**-0.2**
YULB	**Yu-li** baz=329	**0.27**	**325**	P		**Pb**	**02 59 15.6**	**0.0**
YULB	**Yu-li** baz=329	**0.27**	**325**	⇓P		**Pb**	**02 59 15.5**	**0.0**
YULB				S		**Sb**	**02 59 19.6**	**0.0**
HGSD	**Ruisui** baz=13	**0.32**	**354**	⇑P		**Pb**	**02 59 16.9**	**+0.3**
HGSD				*e*S		**Sb**	**02 59 22.9**	**+1.5**
EHYH	**Wanrong** baz=339	**0.34**	**341**	P		**Pg**	**02 59 17.1**	**+0.5**
EHYH				S		**Sb**	**02 59 22.4**	**+0.5**

	baz=339								
EHY	**Hungye**	**0.36**	**339**	⇓	*i*	P	**Pg**	02 59 17.2	+0.3
	baz=337								
EHY					*i*	S	**Sg**	02 59 22.4	+0.4
	baz=337								
LONT	**Longtian**	**0.40**	**229**			P	**Pg**	02 59 18.1	+0.4
	baz=228								
LONT						S	**Sb**	02 59 24.6	+0.7
	baz=228								
ELDTW	**Lidau**	**0.41**	**273**	⇓	*i*	P	**Pg**	02 59 17.1	-0.8
	baz=268								
ELDTW						S	**Sg**	02 59 22.7	-0.9
	baz=268								
EGFH	**Guangfu**	**0.50**	**356**			P	**Pb**	02 59 19.6	0.0
	baz=350								
EGFH						S	**Sb**	02 59 28.0	+1.6
	baz=350								
LDUT	**Ludao**	**0.50**	**179**			P	**Pg**	02 59 20.3	+1.0
	baz=171								
LDUT						S	**Sn**	02 59 28.7	-0.9
	baz=171								
TWGBT	**Beinan**	**0.50**	**225**			P	**Pb**	02 59 19.7	+0.2
TWGBT	**Beinan**	**0.50**	**225**	⇓		P	**Pb**	02 59 19.4	-0.2
	baz=227								
TWGBT						S	**Sb**	02 59 26.4	-0.1
	baz=227								
TWG	**Pinlang**	**0.50**	**226**		*i*	P	**Pb**	02 59 19.4	-0.2
	baz=227								
TWG					*i*	S	**Sb**	02 59 26.3	-0.2
	baz=227								
TTN	**Taitung**	**0.51**	**215**		*i*	P	**Pn**	02 59 21.0	-0.6
	baz=206								
TTN						S	**Sn**	02 59 29.1	-0.7
	baz=206								
WARBT	**Fenglin Townsh**	**0.55**	**353**			P	**Pb**	02 59 19.8	-0.5
	baz=348								
WARBT					*e*	S	**Sb**	02 59 28.0	+0.1
	baz=348								
SHUL	**Shoufeng**	**0.62**	**9**			P	**Pn**	02 59 22.8	-0.5
SHUL					*e*	S	**Sn**	02 59 32.4	-0.3
STYH	**Taoyuan**	**0.63**	**270**			P	**Pb**	02 59 21.1	-0.6
	baz=267								
STYH						S	**Sb**	02 59 28.9	-1.3
	baz=267								
ESL	**Shilin**	**0.64**	**358**		*i*	P	**Pb**	02 59 21.5	-0.5
	baz=354								
ESL					*e*	S	**Sb**	02 59 30.8	+0.3
	baz=354								
STYT	**Tauyuan**	**0.65**	**269**	⇓	*i*	P	**Pb**	02 59 21.4	-0.7
	baz=266								
STYT					*i*	S	**Sb**	02 59 29.4	-1.4
	baz=266								
VWDT	**VWDT**	**0.65**	**333**			P	**Pb**	02 59 22.1	0.0
	baz=350								
VWDT						S	**Sb**	02 59 30.4	-0.4
	baz=350								
ALS	**Alishan**	**0.69**	**299**	⇓	*i*	P	**Pb**	02 59 22.6	-0.4
	baz=293								
ALS					*i*	S	**Sb**	02 59 31.7	-0.6
	baz=293								
ECL	**Taimali**	**0.74**	**219**			P	**Pb**	02 59 22.7	-0.9
	baz=221								
ECL						S	**Sb**	02 59 32.4	-1.1
	baz=221								
WHYT	**Xinyi Township**	**0.77**	**313**	⇓		P	**Pb**	02 59 24.0	-0.2
	baz=315								
WHYT						S	**Sb**	02 59 34.2	0.0
	baz=315								
SSLB	**Suanglung**	**0.77**	**323**			P	**Pb**	02 59 23.8	-0.4
SSLB	**Suanglung**	**0.77**	**323**	⇓		P	**Pb**	02 59 23.7	-0.6
	baz=334								
SSLB						S	**Sb**	02 59 33.8	-0.6
	baz=334								
SLGT	**Liugui**	**0.77**	**257**	⇓		P	**Pb**	02 59 24.1	-0.1
	baz=257								
SLGT						S	**Sb**	02 59 33.4	-1.0
	baz=257								
TPUB	**Ta-pu**	**0.78**	**280**			P	**Pb**	02 59 24.5	+0.2
TPUB	**Ta-pu**	**0.78**	**280**	⇓		P	**Pb**	02 59 24.2	-0.1
	baz=284								
TPUB						S	**Sb**	02 59 34.6	+0.1
	baz=284								
WTP	**Ta-pu**	**0.78**	**276**	⇓	*i*	P	**Pb**	02 59 24.4	-0.1
	baz=273								
WTP					*i*	S	**Sb**	02 59 34.6	-0.1
	baz=273								
ETM	**Tongmen**	**0.79**	**2**			P	**Pb**	02 59 24.5	0.0
	baz=7.0								
ETM					*e*	S	**Sb**	02 59 35.0	0.0
	baz=7.0								
HWA	**Hwalien**	**0.81**	**9**		*i*	P	**Pn**	02 59 26.1	+0.3
	baz=1.0								
HWA					*e*	S	**Sn**	02 59 37.4	0.0
	baz=1.0								
SGST	**Jiashian**	**0.81**	**264**	⇓	*i*	P	**Pb**	02 59 23.9	-1.0
	baz=258								
SGST						S	**Sb**	02 59 36.0	+0.4
	baz=258								
CHN4	**Tsaushan**	**0.82**	**283**	⇓	*i*	P	**Pb**	02 59 25.1	0.0
	baz=281								
CHN4						S	**Sb**	02 59 36.2	+0.5
	baz=281								
OWD	**Renai**	**0.82**	**341**			P	**Pb**	02 59 24.4	-0.7
	baz=345								
OWD					*e*	S	**Sb**	02 59 36.1	+0.1
	baz=345								
WCKO	**Fanlu**	**0.83**	**289**	⇓		P	**Pb**	02 59 25.2	0.0
	baz=288								
WCKO						S	**Sb**	02 59 36.9	+0.8
	baz=288								
CHN5	**Tsauling**	**0.84**	**301**	⇓	*i*	P	**Pb**	02 59 25.5	+0.2
	baz=301								
CHN5					*e*	S	**Sb**	02 59 36.5	+0.3
	baz=301								
LXIB	**Xiulin Townshi**	**0.85**	**357**			P	**Pb**	02 59 24.5	-1.1
	baz=2.0								
LXIB					*e*	S	**Sb**	02 59 37.0	+0.3
	baz=2.0								
CHN1	**Nanshi**	**0.86**	**271**	⇓	*i*	P	**Pb**	02 59 26.0	+0.3
	baz=268								
CHN1					*i*	S	**Sb**	02 59 37.4	+0.4
	baz=268								
SMLT	**Sun Moon Lake**	**0.88**	**324**	⇓	*i*	P	**Pb**	02 59 25.9	-0.2
	baz=333								
SMLT						S	**Sb**	02 59 37.9	+0.4
	baz=333								
WUSB	**Renai**	**0.88**	**339**			P	**Pb**	02 59 25.6	-0.4
	baz=342								
WUSB						S	**Sb**	02 59 37.0	-0.5
	baz=342								
TSMG	**Majia**	**0.89**	**239**			P	**Pb**	02 59 25.9	-0.3
	baz=230								
TSMG					*e*	S	**Sb**	02 59 36.9	-0.7
	baz=230								
SNST	**Tainan City**	**0.89**	**273**			P	**Pb**	02 59 26.4	+0.2
	baz=271								
SNST						S	**Sb**	02 59 38.3	+0.6
	baz=271								
TWK	**Hsinying**	**0.90**	**276**	⇓	*i*	P	**Pb**	02 59 26.4	0.0
	baz=274								
TWK					*i*	S	**Sb**	02 59 38.9	+0.8
	baz=274								
TWD	**Chiawan**	**0.91**	**8**		*i*	P	**Pb**	02 59 26.1	-0.5
	baz=360								
TWD					*e*	S	**Sg**	02 59 39.6	+0.5
	baz=360								
TYC	**Yuchr**	**0.92**	**323**		*i*	P	**Pb**	02 59 26.6	-0.1
	baz=336								
TYC					*i*	S	**Sb**	02 59 39.3	+0.8
	baz=336								
CHGB	**Renai**	**0.92**	**343**			P	**Pb**	02 59 26.4	-0.6
	baz=347								
CHGB						S	**Sn**	02 59 40.7	+0.2
	baz=347								
WJS	**Zhushan**	**0.94**	**314**	⇓		P	**Pn**	02 59 27.8	+0.2
	baz=315								
WJS						S	**Sg**	02 59 40.7	+0.8
	baz=315								
SCST	**Cishan**	**0.94**	**252**			P	**Pb**	02 59 27.6	+0.6
	baz=249								
SCST						S	**Sn**	02 59 43.0	+2.5
	baz=249								
MASBT	**Mashibuluo**	**0.95**	**234**			P	**Pb**	02 59 26.5	-0.7
	baz=226								
MASBT					*e*	S	**Sb**	02 59 39.6	+0.3
	baz=226								
WPL	**Puli Township**	**0.96**	**331**			P	**Pb**	02 59 27.6	+0.2
	baz=342								
WPL					*e*	S	**Sb**	02 59 39.7	0.0
	baz=342								
TAW	**Tawu**	**0.96**	**213**		*i*	P	**Pb**	02 59 26.6	-0.9
	baz=216								
TAW					*i*	S	**Sb**	02 59 39.1	-0.8
	baz=216								
EAST	**Anshuo**	**0.97**	**216**		*i*	P	**Pb**	02 59 26.5	-1.1
	baz=212								
EAST						S	**Sb**	02 59 40.0	-0.1
	baz=212								
WGK	**Gukeng**	**0.97**	**302**		*i*	P	**Pb**	02 59 28.2	+0.6
	baz=302								
WGK					*i*	S	**Sg**	02 59 42.8	+1.7
	baz=302								
TAWH	**Dawu Township**	**0.98**	**213**			P	**Pb**	02 59 27.0	-0.8
	baz=217								
TAWH						S	**Sb**	02 59 40.0	-0.4
	baz=217								
WHF	**Hehuan Shan**	**0.99**	**349**		*i*	P	**Pb**	02 59 27.9	-0.3
	baz=5.0								
WHF						S	**Sn**	02 59 42.6	+0.3
	baz=5.0								
DPDB	**Guoxing**	**0.99**	**330**			P	**Pb**	02 59 28.0	0.0
	baz=342								
DPDB					*e*	S	**Sb**	02 59 40.9	+0.2
	baz=342								
WDLH	**Douliu**	**0.99**	**301**			P	**Pn**	02 59 28.7	+0.4
	baz=301								
WDLH						S	**Sg**	02 59 43.7	+2.0
	baz=301								
ETL	**Fush Village**	**0.99**	**8**			P	**Pb**	02 59 28.3	+0.3
	baz=359								
ETL					*e*	S	**Sg**	02 59 42.8	+1.0
	baz=359								
SGLT	**Jiouru**	**1.00**	**244**		*i*	P	**Pg**	02 59 29.3	+0.5
	baz=238								
SGLT					*e*	S	**Sg**	02 59 42.8	+0.9
	baz=238								
WNT	**Mingjian**	**1.00**	**315**	⇓	*i*	P	**Pn**	02 59 28.9	+0.4
	baz=315								
WNT					*i*	S	**Sg**	02 59 43.0	+0.9
	baz=315								
NACB	**Ninganchiao**	**1.00**	**7**			P	**Pb**	02 59 28.2	0.0
NACB	**Ninganchiao**	**1.00**	**7**			P	**Pb**	02 59 27.3	-0.9
	baz=10.0								
NACB						S	**Sn**	02 59 42.0	-0.2
	baz=10.0								
CHY	**Chiayi**	**1.01**	**289**			P	**Pb**	02 59 28.7	+0.5
	baz=288								
CHY						S	**Sg**	02 59 43.0	+0.8
	baz=288								
CHN3	**Shinhua**	**1.01**	**265**		*i*	P	**Pg**	02 59 29.8	+0.8
	baz=271								
CHN3					*i*	S	**Sg**	02 59 44.9	+2.5
	baz=271								
WCS	**Beigang Elemen**	**1.02**	**330**			P	**Pb**	02 59 28.5	+0.1
	baz=341								
WCS						S	**Sb**	02 59 41.6	+0.2
	baz=341								
TSPT	**Pingtung City**	**1.02**	**241**			P	**Pg**	02 59 29.8	+0.7
	baz=237								
TSPT					*e*	S	**Sg**	02 59 43.5	+1.0
	baz=237								
TWM1	**Shoushan**	**1.02**	**250**		*i*	P	**Pg**	02 59 29.9	+0.7
	baz=257								
TWM1						S	**Sg**	02 59 45.6	+3.0
	baz=257								
WNT1	**Nantou City**	**1.02**	**316**			P	**Pn**	02 59 29.4	+0.6
	baz=316								
WNT1						S	**Sg**	02 59 43.6	+0.8
	baz=316								
ETLH	**Xiulin Townshi**	**1.03**	**1**			P	**Pb**	02 59 27.7	-1.0
	baz=4.0								
ETLH						S	**Sn**	02 59 42.8	-0.2
	baz=4.0								
SHHT	**Tainan City**	**1.04**	**262**	⇓		P	**Pg**	02 59 30.4	+1.0
	baz=259								
SHHT						S	**Sg**	02 59 45.3	+2.2
	baz=259								
SSHA	**Shanhua**	**1.08**	**268**			P	**Pg**	02 59 31.1	+0.8
	baz=275								
SSHA						S	**Sg**	02 59 47.2	+2.7
	baz=275								
FUSS	**Fushou**	**1.09**	**349**			P	**Pb**	02 59 29.6	-0.2
	baz=352								
FUSS					*e*	S	**Sb**	02 59 43.9	+0.1
	baz=352								
ICHU	**Yijhu**	**1.10**	**280**	⇓		P	**Pn**	02 59 30.2	+0.4
	baz=279								
ICHU						S	**Sg**	02 59 45.8	+0.5
	baz=279								
TWT	**Tachien**	**1.11**	**346**		*i*	P	**Pb**	02 59 30.4	+0.3
	baz=348								
TWT					*e*	S	**Sb**	02 59 44.3	0.0
	baz=348								
SCZT	**Fangliau**	**1.11**	**224**	⇓	*i*	P	**Pn**	02 59 29.7	-0.3
	baz=216								
SCZT					*e*	S	**Sn**	02 59 45.6	+0.7
	baz=216								
TDCB	**Techi**	**1.11**	**346**			P	**Pn**	02 59 30.2	0.0
	baz=348								
TDCB					*e*	S	**Sb**	02 59 44.6	+0.3
	baz=348								
WTK	**Tuku**	**1.11**	**298**			P	**Pb**	02 59 30.6	+0.6
	baz=297								
WTK						S	**Sg**	02 59 46.0	+0.5
	baz=297								
WWF	**Wufeng**	**1.11**	**321**			P	**Pb**	02 59 31.0	+0.9
	baz=321								
WWF						S	**Sg**	02 59 47.0	+1.4
	baz=321								
SNJT	**Kaohsiung City**	**1.12**	**248**			P	**Pg**	02 59 32.2	+1.2
	baz=247								
SNJT						S	**Sg**	02 59 49.4	+3.7
	baz=247								
WYL	**Yuanlin Townsh**	**1.13**	**314**			P	**Pg**	02 59 31.3	+0.1
	baz=314								
WYL						S	**Sg**	02 59 46.3	+0.3
	baz=314								
LAY	**Lan-yu**	**1.13**	**176**		*i*	P	**Pn**	02 59 29.3	-0.9
	baz=160								
LAY						S	**Sb**	02 59 44.7	0.0
	baz=160								
SLIU	**Shizi**	**1.13**	**213**			P	**Pn**	02 59 29.1	-1.2
	baz=199								
SLIU						S	**Sb**	02 59 44.6	-0.1
	baz=199								
TAI1	**Yung-k'ang**	**1.14**	**264**			P	**Pg**	02 59 31.9	+0.4
	baz=262								
TAI1						S	**Sg**	02 59 47.6	+1.1
	baz=262								
CHN8	**Yiju**	**1.16**	**279**		*i*	P	**Pb**	02 59 31.2	+0.3
	baz=277								
CHN8					*i*	S	**Sg**	02 59 47.7	+0.5
	baz=277								
SCLT	**Jiali**	**1.17**	**270**		*i*	P	**Pb**	02 59 31.6	+0.7
	baz=285								
SCLT					*i*	S	**Sg**	02 59 48.2	+1.0
	baz=285								
LYUB	**Lan-yu**	**1.17**	**174**			P	**Pn**	02 59 29.1	-1.7
	baz=160								
LYUB					*e*	S	**Sb**	02 59 45.4	-0.4
	baz=160								
EAHA	**Aohua**	**1.18**	**12**			P	**Pb**	02 59 31.2	0.0
	baz=358								
EAHA						S	**Sn**	02 59 46.5	-0.1
	baz=358								
WSL	**Shuilin Townsh**	**1.19**	**287**			P	**Pb**	02 59 31.7	+0.4
	baz=286								
WSL						S	**Sg**	02 59 48.6	+0.8
	baz=286								
WHP	**Taichung City**	**1.20**	**337**			P	**Pg**	02 59 33.0	+0.4
	baz=346								
WHP					*e*	S	**Sg**	02 59 48.2	0.0
	baz=346								
TCU	**Taichung**	**1.21**	**324**		*i*	P	**Pg**	02 59 32.9	+0.1
	baz=324								
TCU					*i*	S	**Sg**	02 59 49.8	+1.2
	baz=324								
KAU	**Kaohsiung**	**1.22**	**241**		*i*	P	**Pg**	02 59 33.6	+0.6
	baz=259								
KAU					*i*	S	**Sg**	02 59 53.1	+4.1
	baz=259								
WCHH	**Zhanghua**	**1.23**	**318**			P	**Pb**	02 59 33.0	+1.0
	baz=317								
WCHH						S	**Sg**	02 59 50.5	+1.3
	baz=317								
WSSB	**Gushan**	**1.23**	**245**			P	**Pg**	02 59 33.9	+0.8
	baz=245								
WSSB						S	**Sg**	02 59 52.5	+3.4
	baz=245								
EOS4	**EOS4**	**1.23**	**40**			P	**Pb**	02 59 32.2	+0.4
	baz=44								
EOS4						S	**Sn**	02 59 47.9	+0.7
	baz=44								
WSF	**Szhu**	**1.23**	**292**		*i*	P	**Pn**	02 59 32.2	+0.6
	baz=291								
WSF					*i*	S	**Sn**	02 59 48.5	+0.8
	baz=291								
WRL	**Guolierlin Hig**	**1.23**	**306**			P	**Pb**	02 59 32.5	+0.4
	baz=306								
WRL						S	**Sn**	02 59 48.3	+0.5
	baz=306								
RLNB	**Erlin**	**1.24**	**306**			P	**Pb**	02 59 32.8	+0.6
	baz=305								
RLNB						S	**Sn**	02 59 49.2	+1.3
	baz=305								
NNSB	**Datong**	**1.25**	**357**			P	**Pn**	02 59 31.6	-0.5
	baz=10.0								
NNSB					*e*	S	**Sb**	02 59 48.0	-0.3
	baz=10.0								
NNSH	**Datong**	**1.25**	**357**			P	**Pn**	02 59 31.8	-0.3
	baz=10.0								
NNSH					*e*	S	**Sb**	02 59 48.0	-0.3
	baz=10.0								
NNS	**Nan Shan**	**1.27**	**356**		*i*	P	**Pb**	02 59 33.4	+0.6
	baz=10.0								
NNS						S	**Sb**	02 59 48.8	0.0
	baz=10.0								
TSCK	**Chigu Township**	**1.27**	**269**			P	**Pb**	02 59 32.8	+0.2
	baz=267								
TSCK						S	**Sg**	02 59 50.5	0.0
	baz=267								
ENA	**Nanau**	**1.28**	**11**		*i*	P	**Pb**	02 59 32.8	-0.1
	baz=1.0								
ENA					*e*	S	**Sn**	02 59 48.6	-0.3
	baz=1.0								
SMST	**Manzhou Townsh**	**1.28**	**207**			P	**Pn**	02 59 32.8	+0.4
	baz=195								
SMST						S	**Sn**	02 59 49.3	+0.3
	baz=195								
WTCT	**Ta-ch'eng**	**1.28**	**303**			P	**Pn**	02 59 32.8	+0.4
	baz=302								
WTCT					*i*	S	**Sb**	02 59 50.1	+0.9
	baz=302								
EWUT	**Wuta**	**1.30**	**13**			P	**Pb**	02 59 33.6	+0.3
	baz=1.0								
EWUT						S	**Sb**	02 59 49.7	+0.1
	baz=1.0								
TWP	**Hsiaoliuchiu**	**1.31**	**231**		*i*	P	**Pg**	02 59 35.4	+0.9
	baz=233								
TWP						S	**Sg**	02 59 53.9	+2.3
	baz=233								
TWQ1	**Liyutan**	**1.33**	**332**		*i*	P	**Pg**	02 59 34.8	-0.2
	baz=332								
TWQ1					*i*	S	**Sg**	02 59 52.6	+0.2
	baz=332								
HEN	**Hengchun**	**1.34**	**210**		*i*	P	**Pg**	02 59 35.0	-0.2
	baz=199								
HEN						S	**Sb**	02 59 51.1	+0.4
	baz=199								
EOS3	**EOS3**	**1.36**	**35**			P	**Pn**	02 59 33.7	+0.5
	baz=52								
EOS3						S	**Sb**	02 59 51.9	+0.8
	baz=52								
LATG	**Datong**	**1.36**	**2**			P	**Pn**	02 59 33.2	-0.3
	baz=4.0								
LATG					*e*	S	**Sb**	02 59 51.6	+0.2
	baz=4.0								
TWKBT	**Hengchun**	**1.36**	**206**			P	**Pn**	02 59 33.1	-0.4
	baz=196								
TWKBT					*e*	S	**Sn**	02 59 51.0	0.0
	baz=196								
TWK1	**Hengchun**	**1.36**	**207**		*i*	P	**Pn**	02 59 33.3	-0.1
	baz=196								
TWK1					*i*	S	**Sb**	02 59 52.3	+0.9
	baz=196								
SNW	**Nanwan**	**1.37**	**209**		*e*	P	**Pb**	02 59 34.8	+0.3
	baz=199								
SNW					*e*	S	**Sb**	02 59 52.9	+1.2
	baz=199								
WDJ	**Dajia District**	**1.39**	**327**			P	**Pb**	02 59 35.7	+0.9
	baz=327								
WDJ						S	**Sg**	02 59 55.2	+0.8
	baz=327								
NSY	**Sanyi**	**1.40**	**333**		*i*	P	**Pg**	02 59 36.0	-0.3
	baz=333								
NSY					*i*	S	**Sg**	02 59 55.2	+0.7
	baz=333								
NDT	**Datong Townshi**	**1.43**	**2**			P	**Pb**	02 59 35.1	-0.2
	baz=4.0								
NDT					*e*	S	**Sb**	02 59 53.1	-0.1
	baz=4.0								
ESAO	**Su ao**	**1.44**	**14**			P	**Pb**	02 59 35.3	-0.3
	baz=2.0								
ESAO					*e*	S	**Sb**	02 59 53.3	-0.3
	baz=2.0								
NDS	**Dongshan**	**1.47**	**9**			P	**Pb**	02 59 36.8	+0.6
	baz=10.0								
NDS					*e*	S	**Sn**	02 59 53.4	-0.4
	baz=10.0								
TWC	**Suao**	**1.47**	**14**		*i*	P	**Pb**	02 59 35.7	-0.5
	baz=2.0								
TWC						S	**Sb**	02 59 54.4	-0.2
	baz=2.0								
NFF	**Wufeng Townshi**	**1.49**	**348**			P	**Pb**	02 59 37.4	+1.0
	baz=348								
NFF						S	**Sb**	02 59 55.9	+0.8
	baz=348								
NMLH	**Miaoli**	**1.49**	**336**			P	**Pb**	02 59 36.7	+0.2
	baz=351								
NMLH						S	**Sg**	02 59 57.8	+0.2
	baz=351								
YHNB	**Yeheng**	**1.49**	**357**			P	**Pn**	02 59 36.1	+0.8
YHNB	**Yeheng**	**1.49**	**357**			P	**Pn**	02 59 35.8	+0.4
	baz=12								
YHNB					*e*	S	**Sb**	02 59 55.3	+0.1
	baz=12								
NSK	**Sanguang**	**1.50**	**356**		*i*	P	**Pn**	02 59 36.0	+0.6
	baz=11								
NSK					*i*	S	**Sb**	02 59 56.4	+1.0
	baz=11								
NSTT	**Nanjuang**	**1.51**	**344**		*i*	P	**Pb**	02 59 36.8	0.0
	baz=344								
NSTT						S	**Sg**	02 59 58.2	-0.1
	baz=344								
LIOB	**Emei**	**1.52**	**345**			P	**Pb**	02 59 36.9	-0.2
	baz=344								
LIOB						S	**Sg**	02 59 58.3	-0.3
	baz=344								
TWE	**Neicheng**	**1.55**	**7**		*i*	P	**Pb**	02 59 37.2	-0.3
	baz=8.0								
TWE						S	**Sn**	02 59 55.8	+0.1
	baz=8.0								
FUSB	**Fushanzhiwuyua**	**1.58**	**4**			P	**Pn**	02 59 37.1	+0.6
	baz=5.0								
FUSB					*e*	S	**Sb**	02 59 58.0	+0.1
	baz=5.0								
NJD	**Zhudong**	**1.59**	**348**		*e*	P	**Pg**	02 59 40.0	-0.1
	baz=347								
NJD					*e*	S	**Sg**	03 00 01.5	+0.6
	baz=347								
NWLT	**Wulai**	**1.60**	**1**			P	**Pn**	02 59 37.5	+0.8
	baz=14								
NWLT						S	**Sn**	02 59 57.5	+0.6
	baz=14								
WDGT	**Dungji**	**1.66**	**273**		*i*	P	**Pn**	02 59 37.7	+0.2
	baz=272								
WDGT					*i*	S	**Sn**	02 59 57.7	-0.7
	baz=272								
SBCB	**Hsinchu**	**1.67**	**345**		*e*	P	**Pb**	02 59 40.1	+0.5
	baz=344								
SBCB					*e*	S	**Sb**	03 00 01.7	+1.4
	baz=344								
HSN	**Hsinchu**	**1.69**	**345**		*e*	P	**Pb**	02 59 41.0	+1.2
	baz=346								
HSN					*e*	S	**Sb**	03 00 02.0	+1.4
	baz=346								
PHUB	**P'eng-hu**	**1.77**	**281**			P	**Pn**	02 59 39.1	+0.1
	baz=280								
PHUB						S

TATO	**Taipei**	**1.80**	**1**	P		**Pn**	02 59 40.6	+1.2
TWA	**Mucha**	**1.80**	**4**	*i* P		**Pb**	02 59 42.7	+0.8
	baz=16							
TWA				S		**Sn**	03 00 03.0	+1.1
	baz=16							
NCUH	**Zhongli**	**1.81**	**352**	P		**Pb**	02 59 42.9	+1.0
	baz=350							
NCUH				S		**Sg**	03 00 06.2	-1.4
	baz=350							
NCU	**National Centr**	**1.81**	**352**	*e*P		**Pb**	02 59 42.6	+0.7
	baz=351							
NCU				*e*S		**Sb**	03 00 06.0	+1.8
	baz=351							
TIPB	**Shuangxi**	**1.82**	**10**	P		**Pn**	02 59 41.0	+1.2
	baz=10.0							
TIPB				*e*S		**Sn**	03 00 03.3	+0.9
	baz=10.0							
JYNG	**Yonaguni jima**	**1.86**	**47**	P		**Pn**	02 59 40.6	+0.3
JYNG				S		**Sn**	03 00 04.1	+0.8
VCHM	**Qimei**	**1.87**	**272**	P		**Pn**	02 59 40.6	+0.2
	baz=270							
VCHM				S		**Sn**	03 00 03.0	-0.5
	baz=270							
TWB1	**Santiao Chiao**	**1.89**	**15**	P		**Pb**	02 59 42.6	-0.7
	baz=3.0							
TWB1				S		**Sb**	03 00 06.3	-0.3
	baz=3.0							
NWF	**Wu-fen Shan**	**1.91**	**9**	*i* P		**Pn**	02 59 42.4	+1.3
	baz=9.0							
NWF				S		**Sn**	03 00 05.6	+0.9
	baz=9.0							
WFSB	**Wu-fen Shan**	**1.91**	**9**	P		**Pb**	02 59 42.8	-0.9
	baz=9.0							
WFSB				*e*S		**Sn**	03 00 05.8	+1.2
	baz=9.0							
YOJ	**Yonaguni jima**	**1.91**	**48**	P		**Pn**	02 59 41.8	+0.8
YOJ	**Yonaguni jima**	**1.91**	**48**	P		**Pn**	02 59 42.0	+1.0
	baz=65							
YOJ				S		**Sb**	03 00 06.2	-1.0
	baz=65							
YOJ	**Yonaguni jima**	**1.91**	**48**	*e*P		**Pn**	02 59 42.0	+1.0
YOJ				*e*S		**Sn**	03 00 04.8	+0.1
TWS1	**Kuangyinshan**	**1.92**	**359**	*e*P		**Pb**	02 59 44.6	+0.8
	baz=13							
TWS1				S		**Sb**	03 00 09.4	+1.9
	baz=13							
SXI1	**Grass Mountain**	**1.95**	**11**	P		**Pn**	02 59 42.9	+1.3
	baz=11							
SXI1				S		**Sb**	03 00 07.9	-0.5
	baz=11							
YM01	**YM01**	**1.97**	**3**	P		**Pb**	02 59 43.7	-1.0
YM01				*e*S		**Sn**	03 00 07.2	+1.1
NTST	**Danshui**	**1.98**	**360**	P		**Pb**	02 59 43.9	-1.0
	baz=14							
NTST				S		**Sb**	03 00 10.3	+1.0
	baz=14							
TNOU	**National Taiwa**	**1.99**	**8**	*e*P		**Pb**	02 59 44.7	-0.3
	baz=7.0							
TNOU				*e*S		**Sn**	03 00 07.5	+1.0
	baz=7.0							
ANP	**Anpu**	**2.01**	**1**	*e*P		**Pb**	02 59 45.2	-0.2
	baz=14							
ANP				*e*S		**Sb**	03 00 09.1	-0.9
	baz=14							
YM08	**YM08**	**2.01**	**3**	*e*P		**Pb**	02 59 44.6	-0.8
	baz=1.0							
YM08				*e*S		**Sb**	03 00 09.0	-1.1
	baz=1.0							
TWY	**Chenhua**	**2.10**	**3**	*i* P		**Pb**	02 59 46.4	-0.5
	baz=1.0							
TWY				*e*S		**Sn**	03 00 10.2	+1.0
	baz=1.0							
HATJ	**Hateruma jima**	**2.32**	**67**	P		**Pn**	02 59 47.4	+0.7
HATJ				S		**Sn**	03 00 15.3	+0.6
IRIF	**Iriomote-Funau**	**2.38**	**60**	P		**Pn**	02 59 48.7	+1.3
IRIF				*e*S		**Sn**	03 00 17.3	+1.2
JKRS	**Kuro-shima**	**2.56**	**65**	P		**Pn**	02 59 51.5	+1.6
JKRS				*e*S		**Sn**	03 00 21.4	+0.7
VWUC	**VWUC**	**2.58**	**315**	*e*P		**Pn**	02 59 50.2	0.0
	baz=313							
VWUC				*e*S		**Sn**	03 00 20.9	-0.2
	baz=313							
JIJ	**Ishigaki jima**	**2.73**	**64**	P		**Pn**	02 59 53.4	+1.2
JIJ				S		**Sn**	03 00 24.3	-0.4
PTMZ	**Houxiangcun**	**2.84**	**311**	P		**Pn**	02 59 53.8	+0.1
	baz=310							
PTMZ				S		**Sn**	03 00 26.5	-0.9
	baz=310							
JISG	**Ishigakijimahi**	**2.96**	**61**	P		**Pn**	02 59 56.2	+0.8
JISG				*e*S		**Sn**	03 00 30.5	-0.1
KNM	**Kinmen**	**3.04**	**295**	*i* P		**Pn**	02 59 58.0	+1.5
	baz=291							
KNM				*i* S		**Sn**	03 00 33.0	+0.6
	baz=291							
KNMB	**Chin-men Tao**	**3.10**	**295**	P		**Pn**	02 59 56.9	-0.4
	baz=293							
KNMB				S		**Sn**	03 00 31.9	-1.9
	baz=293							
MATB	**Ma-tsu**	**3.27**	**335**	P		**Pn**	02 59 59.5	-0.2
	baz=332							
MATB				S		**Sn**	03 00 37.9	-0.3
	baz=332							
JTJ	**Tarama**	**3.31**	**63**	P		**Pn**	03 00 01.1	+1.0
JTJ				*e*S		**Sn**	03 00 39.5	+0.6
ZPLA	**Ao Xicun**	**3.49**	**283**	P		**Pn**	03 00 02.8	+0.1
	baz=280							
ZPLA				S		**Sn**	03 00 42.6	-0.9
	baz=280							
MHZQ	**Yeshan**	**3.66**	**323**	P		**Pn**	03 00 05.5	+0.5
	baz=322							
MHZQ				S		**Sn**	03 00 47.5	-0.2
	baz=322							
LYJJ	**Jianjiangzhen**	**3.70**	**336**	P		**Pn**	03 00 06.2	+0.6
	baz=333							
LYJJ				*e*S		**Sn**	03 00 49.6	+0.9
	baz=333							
DSXP	**Dongshan**	**3.75**	**279**	P		**Pn**	03 00 06.6	+0.4
	baz=276							
DSXP				S		**Sn**	03 00 48.7	-1.1
	baz=276							
JIRB	**Irabujima**	**3.77**	**63**	P		**Pn**	03 00 07.4	+0.8
JIRB				*e*S		**Sn**	03 00 50.8	+0.2
JMJ2	**Miyako jima3**	**3.87**	**65**	P		**Pn**	03 00 09.3	+1.4
JMJ2				S		**Sn**	03 00 54.2	+1.4
JMJ	**Miyako jima 2**	**3.87**	**64**	P		**Pn**	03 00 09.4	+1.5
JIKM	**Ikemajima**	**3.88**	**62**	P		**Pn**	03 00 09.2	+1.3
JIKM				S		**Sn**	03 00 54.3	+1.3
XPSS	**Dashiqiu**	**3.92**	**343**	P		**Pn**	03 00 05.2	-3.3
	baz=340							
XPSS				*e*S		**Sn**	03 00 54.2	+0.1
	baz=340							
JOGS	**Gusukube**	**3.94**	**66**	P		**Pn**	03 00 10.7	+1.8
JOGS				S		**Sn**	03 00 55.9	+1.3
SXFK	**Yanhouchang**	**4.73**	**314**	P		**Pn**	03 00 20.0	+0.3
	baz=315							
SXFK				*e*S		**Sn**	03 01 11.9	-2.2
	baz=315							
JOW	**Kunigami**	**7.17**	**58**	P		**Pn**	03 00 52.5	-0.8
	2.4nm,0.3s,baz=137,slow=24,SNR=6.1							
	5.0nm,0.3s							
TIA	**Tai'an**	**13.53**	**345**	P		**Pn**	03 02 17.9	-2.4
TIA				pmax		pmax		
	comp=Z,1.0nm,0.4s							
KSRS	**Korea Array**	**15.28**	**20**	P		**P**	03 02 48.6	-0.2
	comp=Z,1.2nm,0.8s,baz=192,slow=14,SNR=6.4							
SONM	**Songino Array**	**27.40**	**338**	P		**P**	03 04 52.7	-1.2
	comp=Z,0.4nm,0.5s,baz=150,slow=9.3,SNR=1.8							
	comp=Z,0.4nm,0.5s							
BATI	**Baumata**	**33.24**	**176**	LR		LR	03 20 37.4	
	comp=Z,51nm,18.3s,baz=3.5,slow=38							
MKAR	**Makanchi Array**	**39.24**	**317**	P		**P**	03 06 39.8	+3.1
	comp=Z,0.7nm,0.6s,baz=112,slow=9.3,SNR=4.7							
	comp=Z,0.7nm,0.6s							
ZALV	**Zalesovo Beam**	**41.23**	**328**	P		**P**	03 06 52.7	-0.3
	comp=Z,0.7nm,0.3s,baz=114,slow=10,SNR=2.1							
	comp=Z,0.7nm,0.3s							
WRA	**Warramunga Arr**	**44.66**	**163**	P		**P**	03 07 19.9	-1.2
	comp=Z,0.4nm,0.3s,baz=345,slow=8.3,SNR=7.3							
	comp=Z,0.4nm,0.3s							
ASAR	**Alice Springs**	**48.10**	**165**	P		**P**	03 07 48.0	-0.2
	comp=Z,0.2nm,0.3s,baz=344,slow=7.3,SNR=10							
	comp=Z,0.2nm,0.3s							
BVAR	**Borovoye Array**	**48.62**	**321**	P		**P**	03 07 51.9	+0.1
	comp=Z,0.5nm,0.5s,baz=103,slow=8.1,SNR=4.2							
	comp=Z,0.5nm,0.5s							
FINES	**FINESS Array B**	**72.44**	**330**	P		**P**	03 10 33.7	-0.6
	comp=Z,1.9nm,1.0s,baz=5.7,slow=3.8,SNR=4.8							
	comp=Z,1.9nm,1.0s							

IDC 18 03:07:27.9±1.1,6°02'S×142°70'E,h0km,mb4.1/8, mbtmp4.1/9,ML4.0/1,MS3.2/2,Error ellipse: s-maj=58.8km s-min=20.2km az=85.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**14.41**	**166**	LR	LR	03 16 41.2	
	comp=Z,41nm,18.3s,baz=181,slow=38						
WRA	**Warramunga Arr**	**16.05**	**210**	Pn	Pn	03 11 08.9	-6.3
	0.5nm,0.3s,baz=30,slow=13,SNR=15						
WRA				Sn	Sn	03 13 57.8	-16
	0.4nm,0.3s,baz=22,slow=22,SNR=2.3						
WRA				Lg	Lg	03 15 50.5	
	0.3nm,0.3s,baz=30,slow=24,SNR=4.6						
ASAR	**Alice Springs**	**19.48**	**205**	P	P	03 11 56.2	-0.4
	0.5nm,0.3s,baz=32,slow=11,SNR=44						
ASAR				S	Sn	03 15 23.0	-14
	1.0nm,0.7s,baz=17,slow=28,SNR=3.5						
ASAR				Lg	Lg	03 17 31.8	
	0.1nm,0.3s,baz=27,slow=23,SNR=4.6						
ASAR				LR	LR	03 20 02.4	
	comp=Z,146nm,21.9s,baz=26,slow=39						
	4.0nm,0.6s						
STKA	**Stephens Creek**	**25.75**	**182**	P	P	03 13 01.6	+1.3
	6.0nm,1.0s,baz=356,slow=10.0,SNR=3.3						
	6.0nm,1.0s						
KSRS	**Korea Array**	**45.39**	**343**	P	P	03 15 49.0	+0.8
	0.7nm,0.6s,baz=166,slow=9.3,SNR=5.4						
	0.7nm,0.6s						
SONM	**Songino Array**	**62.42**	**333**	P	P	03 17 53.7	+0.8
	0.6nm,0.8s,baz=154,slow=6.9,SNR=4.5						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**74.83**	**322**	P	P	03 19 09.9	-0.4
	2.6nm,0.9s,baz=112,slow=8.0,SNR=14						
	2.6nm,0.9s						
KURBB	**Kurchatov Arra**	**78.71**	**324**	P	P	03 19 31.9	-0.2
	1.2nm,0.8s,baz=120,slow=4.5,SNR=6.4						
	1.2nm,0.8s						
QSPA	**South Pole Qui**	**83.95**	**180**	P	P	03 19 59.3	-0.5
	1.7nm,1.1s,baz=332,slow=1.2,SNR=7.3						
	1.7nm,1.1s						
BVAR	**Borovoye Array**	**84.29**	**325**	P	P	03 20 01.4	-0.2
	2.8nm,0.8s,baz=106,slow=5.3,SNR=11						
	2.8nm,0.8s						
ILAR	**Eielson Array**	**87.20**	**24**	P	P	03 20 15.4	-0.4
	0.9nm,0.7s,baz=258,slow=4.5,SNR=8.9						
	0.9nm,0.7s						

IDC 18 03:20:19.9±0.7,20°10'N×121°30'E,h0km,mb3.9/13, mbtmp3.9/14,ML3.4/1,MS3.4/8,Error ellipse: s-maj=34.7km s-min=14.9km az=68.0
NEIC 18 03:20:20.9±1.8,20°09'N±0°10'×121°1'E±0°1,h10km±1km, mb4.5/41,Error ellipse: s-maj=18.8km s-min=16.0km az=260.0

ISC 18 03:20:21.5±0.7,20°09'N±0°09'×121°2'E±0°1,h10km,n82, σ0°83/60,mb4.4/33,MS3.3/7,1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWG	**Pinlang**	**2.72**	**358**		**Pn**	03 21 03.9	-1.4
TPUB	**Ta-pu**	**3.24**	**351**	Pn	**Pn**	03 21 10.8	-1.6
YULB	**Yu-li**	**3.29**	**2**	Pn	**Pn**	03 21 12.2	-0.9
SSLB	**Suanglung**	**3.69**	**357**	Pn	**Pn**	03 21 17.9	-0.7
YHNB	**Yeheng**	**4.56**	**2**	Pn	**Pn**	03 21 30.5	-0.1
YOJ	**Yonaguni jima**	**4.67**	**21**	Pn	**Pn**	03 21 32.0	0.0
KNMB	**Chin-men Tao**	**5.07**	**330**	Pn	Pn	03 21 35.8	-1.7
TGY	**Tagaytay City**	**5.96**	**182**	LR	LR	03 24 49.9	
	comp=Z,275nm,19.0s,baz=136,slow=45						
JOW	**Kunigami**	**9.35**	**43**	Pn	**Pn**	03 22 36.6	+0.3
TIA	**Tai'an**	**16.45**	**348**	P	**Pn**	03 24 13.8	+1.3
TIA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HNS	**HongShan**	**18.15**	**343**	⇓P	**Pn**	03 24 35.8	+2.2
HNS				pmax	pmax		
	comp=Z,12nm,1.5s						
KSRS	**Korea Array**	**18.27**	**17**	P	**Pn**	03 24 34.9	-0.2
	comp=Z,0.1nm,0.3s,baz=199,slow=13,SNR=10						
	comp=Z,2.6nm,1.0s						
BJT	**Baijiatuan**	**20.32**	**349**	P	**P**	03 24 57.1	-0.6
BJT				IAmb	IAmb	03 25 01.9	
	comp=Z,14nm,0.8s						
CMAR	**Chiang Mai Arr**	**21.06**	**269**	LR	LR	03 33 07.3	
	comp=Z,40nm,20.5s,baz=80,slow=36						
MJAR	**Matsushiro Arr**	**22.15**	**39**	P	**P**	03 25 16.8	-0.7
	comp=Z,0.7nm,0.7s,baz=237,slow=8.4,SNR=2.7						
	comp=Z,0.7nm,0.7s						
SONM	**Songino Array**	**30.16**	**340**	P	**P**	03 26 33.2	+1.3
	comp=Z,0.4nm,0.8s,baz=154,slow=11,SNR=2.7						
SONM				LR	LR	03 39 24.7	
	comp=Z,62nm,18.1s,baz=190,slow=38						
	comp=Z,0.4nm,0.8s						
MK31	**Makanchi Array**	**41.35**	**319**	P	**P**	03 28 07.8	+0.2
MKAR	**Makanchi Array**	**41.35**	**319**	P	**P**	03 28 07.9	+0.3
MKAR	**Makanchi Array**	**41.35**	**319**	P	**P**	03 28 08.7	+1.1
	comp=Z,0.8nm,0.6s,baz=110,slow=10,SNR=8.7						
MKAR				PcP	**PcP**	03 30 05.6	-0.3
	comp=Z,1.1nm,0.7s,baz=90,slow=7.3,SNR=6.1						
	comp=Z,0.8nm,0.6s						
WB0	**Warramunga Arr**	**41.67**	**161**	P	**P**	03 28 09.3	-1.1
WB0				IAmb	IAmb	03 28 10.3	
	comp=Z,9.2nm,1.2s						
WRA	**Warramunga Arr**	**41.82**	**161**	P	P	03 28 10.1	-1.5
WRA	**Warramunga Arr**	**41.82**	**161**	P	**P**	03 28 10.7	-1.0
	comp=Z,1.2nm,0.5s,baz=342,slow=9.0,SNR=20						
	comp=Z,1.2nm,0.5s						
WB2	**Warramunga Arr**	**41.82**	**161**	P	P	03 28 09.9	-1.8
WB2				IAmb	IAmb	03 28 31.9	
	comp=Z,17nm,1.4s						
WR0	**Warramunga Arr**	**41.90**	**161**	P	P	03 28 10.7	-1.5
WR0				IAmb	IAmb	03 28 38.8	
	comp=Z,18nm,1.4s						
YAK	**Yakutsk**	**42.32**	**6**	LR	LR	03 48 11.1	
	comp=Z,60nm,18.2s,baz=270,slow=40						
H11N1	**WAKE ISLAND Hy**	**42.87**	**82**	T	T	04 14 00.5	
	baz=280,slow=74,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**42.87**	**82**	T	T	04 13 59.2	
	baz=280						
H11S3	**WAKE ISLAND Hy**	**42.88**	**84**	T	T	04 13 48.2	
	baz=280,slow=74,SNR=6.1						
H11S1	**WAKE ISLAND Hy**	**42.88**	**84**	T	T	04 13 39.5	
	baz=280,slow=74,SNR=6.5						
H11N3	**WAKE ISLAND Hy**	**42.89**	**82**	T	T	04 14 00.3	
	baz=280,slow=74,SNR=3.2						
H11S2	**WAKE ISLAND Hy**	**42.89**	**84**	T	T	04 13 47.8	
	baz=280,slow=74,SNR=5.5						
PETK	**Petropavlovsk-**	**43.29**	**32**	LR	LR	03 46 34.7	
	comp=Z,36nm,18.6s,baz=109,slow=36						
ZALV	**Zalesovo Beam**	**43.72**	**330**	P	**P**	03 28 26.8	+0.1
	comp=Z,1.2nm,0.6s,baz=132,slow=8.9,SNR=5.6						
ZALV				LR	LR	03 46 57.4	
	comp=Z,26nm,18.3s,baz=176,slow=36						
	comp=Z,1.2nm,0.6s						
AAK	**Ala-Archa**	**45.08**	**311**	LR	LR	03 50 23.3	
	comp=Z,66nm,18.6s,baz=110,slow=40						
AS31	**Alice Springs**	**45.22**	**163**	P	**P**	03 28 39.0	-0.1
ASAR	**Alice Springs**	**45.22**	**163**	P	**P**	03 28 39.1	0.0
ASAR	**Alice Springs**	**45.22**	**163**	P	**P**	03 28 39.2	+0.2
	comp=Z,0.9nm,0.4s,baz=345,slow=6.9,SNR=38						
	comp=Z,0.9nm,0.4s						
KURK	**Kurchatov**	**45.28**	**323**	P	P	03 28 35.8	-3.4
KURBB	**Kurchatov Arra**	**45.29**	**323**	P	**P**	03 28 40.2	+0.9
	comp=Z,2.0nm,0.6s,baz=123,slow=7.5,SNR=16						
	comp=Z,2.0nm,0.6s						
BVAR	**Borovoye Array**	**50.88**	**323**	P	**P**	03 29 23.3	+0.7
	comp=Z,1.3nm,0.6s,baz=102,slow=7.3,SNR=6.9						
BVAR				PcP	**PcP**	03 30 38.5	-0.6
	comp=Z,3.0nm,0.7s,baz=88,slow=3.7,SNR=10						
	comp=Z,1.3nm,0.6s						
STKA	**Stephens Creek**	**55.25**	**159**	P	**P**	03 29 55.9	+0.9
	comp=Z,2.4nm,0.8s,baz=315,slow=7.1,SNR=3.0						
	comp=Z,2.4nm,0.8s						
ABKAR	**Akbulak array**	**56.34**	**316**	P	**P**	03 30 03.2	+0.6
K15K	**Wolf Creek Mou**	**66.51**	**30**	P	P	03 31 09.6	-1.7
C18K	**Utukok River**	**66.95**	**23**	P	**P**	03 31 13.5	-0.5
C18K				IAmb	IAmb	03 31 16.6	
	comp=Z,6.6nm,1.4s						
L16K	**Owhat River**	**67.48**	**30**	P	**P**	03 31 16.8	-0.5
K17K	**Iditarod**	**68.01**	**29**	P	**P**	03 31 20.7	0.0
D19K	**Kuna River**	**68.07**	**23**	P	**P**	03 31 20.1	-1.0
G19K	**Purcell Mounta**	**68.47**	**26**	P	**P**	03 31 24.0	+0.4
G19K				IAmb	IAmb	03 31 30.3	
	comp=Z,4.8nm,1.4s						
H19K	**Roundabout Mou**	**68.75**	**26**	P	**P**	03 31 24.9	-0.4
TTA	**Tatalina**	**69.05**	**29**	P	**P**	03 31 27.1	-0.2
TTA				IAmb	IAmb	03 31 41.7	
	comp=Z,6.0nm,1.5s						
O18K	**Koktuh Hills**	**69.66**	**32**	P	**P**	03 31 31.2	+0.1
J20K	**Nowinta River**	**69.80**	**28**	P	**P**	03 31 31.5	-0.4
J20K				IAmb	IAmb	03 31 42.9	
	comp=Z,5.8nm,1.4s						
K20K	**Telida**	**69.90**	**29**	P	P	03 31 30.6	-1.9
K20K				IAmb	IAmb	03 31 46.4	
	comp=Z,3.2nm,1.1s						
CAST	**Castle Rocks**	**70.79**	**28**	P	**P**	03 31 37.4	-0.6
CAST				IAmb	IAmb	03 31 40.6	
	comp=Z,6.5nm,1.3s						
OHAK	**Old Harbor**	**70.95**	**35**	P	P	03 31 37.1	-1.9
SKT	**Skwentna**	**71.21**	**30**	P	**P**	03 31 39.3	-1.3
SKT				IAmb	IAmb	03 32 03.6	
	comp=Z,4.6nm,1.4s						
KTH	**Kantishna Hill**	**71.29**	**28**	P	**P**	03 31 41.2	+0.2
KTH				IAmb	IAmb	03 31 45.2	
	comp=Z,6.2nm,1.4s						
SUA	**Susitna One**	**71.66**	**30**	P	**P**	03 31 42.5	-0.8
SUA				IAmb	IAmb	03 31 48.0	
	comp=Z,5.2nm,1.0s						
E24K	**Your Creek**	**71.67**	**23**	P	**P**	03 31 42.4	-0.9
E24K				IAmb	IAmb	03 32 20.4	
	comp=Z,3.7nm,1.3s						
RND	**Reindeer**	**72.23**	**28**	P	P	03 31 44.8	-1.9
RND				IAmb	IAmb	03 31 49.2	
	comp=Z,3.5nm,1.1s						
GHO	**Glory Hole Cre**	**72.47**	**30**	P	P	03 31 46.4	-1.7
GHO				IAmb	IAmb	03 31 51.4	
	comp=Z,5.2nm,1.2s						
KNK	**Knik Glacier**	**72.75**	**30**	P	**P**	03 31 48.4	-1.4
SCM	**Sheep Creek Mo**	**73.20**	**30**	P	P	03 31 50.4	-2.1
BMAR	**Burnt Mountain**	**73.25**	**24**	P	**P**	03 31 52.5	-0.2
KLU	**Klutina**	**73.93**	**30**	P	**P**	03 31 56.0	-0.8
KLU				IAmb	IAmb	03 32 31.7	
	comp=Z,5.8nm,1.4s						
SCRK	**Sand Creek**	**74.24**	**27**	P	P	03 31 56.9	-1.8
FINES	**FINESS Array B**	**74.98**	**330**	P	**P**	03 32 02.6	-0.2
FINES	**FINESS Array B**	**74.98**	**330**	P	**P**	03 32 03.2	+0.5
	comp=Z,1.9nm,0.9s,baz=64,slow=4.4,SNR=6.9						
	comp=Z,1.9nm,0.9s						
M26K	**Nabesna, AK**	**75.06**	**29**	P	**P**	03 32 02.6	-0.7
EGAK	**Eagle**	**75.23**	**26**	P	**P**	03 32 03.0	-1.2
EGAK				IAmb	IAmb	03 32 33.7	
	comp=Z,6.1nm,1.5s						
BCAR	**Beaver Creek A**	**75.43**	**28**	P	**P**	03 32 05.7	+0.2
I28M	**Miner Creek**	**75.55**	**25**	P	**P**	03 32 05.8	-0.4
G29M	**Pine Creek**	**75.86**	**24**	P	**P**	03 32 06.7	-1.1
DAWY	**Dawson**	**76.17**	**27**	P	**P**	03 32 08.3	-1.4
DAWY				IAmb	IAmb	03 32 46.2	
	comp=Z,4.7nm,1.5s						
CTGM	**Chitina Glacie**	**76.21**	**30**	P	P	03 32 06.9	-3.2
CTGM				IAmb	IAmb	03 32 13.4	
	comp=Z,5.5nm,1.2s						
L29M	**L29M**	**77.00**	**27**	P	**P**	03 32 13.4	-1.0
L29M				IAmb	IAmb	03 32 43.6	
	comp=Z,5.0nm,1.3s						
M29M	**Somme Creek**	**77.07**	**28**	P	**P**	03 32 14.9	0.0
A36M	**Sachs Harbour**	**78.02**	**17**	P	**P**	03 32 19.4	-0.4
HFS	**Hagfors**	**81.13**	**331**	P	**P**	03 32 36.3	-0.7
	comp=Z,2.2nm,0.7s,baz=73,slow=9.8,SNR=2.0						
	comp=Z,2.2nm,0.7s						
NC405	**NORSAR Array S**	**81.58**	**332**	P	**P**	03 32 38.3	-1.1
NOA	**NORSAR Array B**	**81.83**	**332**	P	**P**	03 32 39.8	-0.9
	comp=Z,1.2nm,0.8s,baz=55,slow=5.5,SNR=4.1						
NOA				LR	LR	04 13 28.5	
	comp=Z,52nm,18.5s,baz=250,slow=39						
	comp=Z,1.2nm,0.8s						
YKA	**Yellowknife Ar**	**86.73**	**23**	P	**P**	03 33 05.2	-0.2
	comp=Z,0.6nm,0.9s,baz=315,slow=4.7,SNR=9.2						
	comp=Z,0.6nm,0.9s						

IDC 18 03:30:00.2±0.7,5°71S×142°53E,h0km,mb4.2/14, mbtmp4.2/16,ML1.8/1,MS3.4/10,Error ellipse: s-maj=31.7km s-min=14.6km az=75.0
NEIC 18 03:30:01.9±1.1,5°79S±0°03×142°35E±0°09,h10km±1km, mb4.7/47,Error ellipse: s-maj=14.9km s-min=5.5km az=99.0

ISC 18 03:30:05.0±0.4,5°92S±0°05×142°33E±0°06,h35km,n95, σ1°82/93,mb4.5/39,MS3.6/6,1D,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.28**	**300**	P	**Pn**	03 30 26.9	+0.5
GENI	**Genyem**	**3.94**	**327**	P	**Pn**	03 31 05.0	+2.0
PMG	**Port Moresby**	**5.91**	**126**	Pn	**Pn**	03 31 27.7	-2.4
PMG	**Port Moresby**	**5.91**	**126**	Pn	**Pn**	03 31 30.5	+0.5
	1.6nm,0.3s,baz=248,slow=1.8,SNR=5.5						
PMG				Sn	**Sn**	03 32 36.0	-0.5
	2.1nm,0.3s,baz=198,slow=20,SNR=2.2						
PMG				LR	LR	03 33 47.3	
	comp=Z,146nm,18.8s,baz=314,slow=39						
	9.9nm,0.4s						
MANU	**Manus Island**	**6.32**	**53**	Pn	**Pn**	03 31 35.0	-0.7
COEN	**Coen**	**8.03**	**174**	Pn	**Pn**	03 32 00.1	+0.8
COEN	**Coen**	**8.03**	**174**	P	**Pn**	03 32 02.9	+3.6
FAKI	**Fak Fak**	**10.48**	**286**	Pn	**Pn**	03

comp=Z,11nm,0.5s
NJ2 pmax pmax
KSRS Korea Array 45.19 344 P **P** **03 38 18.6 0.0**
comp=Z,380nm,5.2s
comp=Z,0.9nm,0.8s,baz=106,slow=18,SNR=1.7
comp=Z,0.9nm,0.8s
TUWZ Tuamarina 45.21 146 P **P** **03 38 20.3 +1.6**
GVZ Greta Valley S 45.78 148 P **P** **03 38 24.2 +0.9**
GYA Guiyang 47.23 315 *e*P **P** **03 38 37.0 +2.0**
GYA pmax pmax
comp=Z,13nm,0.6s
TIA Tai'an 48.12 332 P **P** **03 38 37.5 -4.0**
TIA pmax pmax
comp=Z,4.0nm,2.2s
CMAR Chiang Mai Arr 49.16 300 P **P** **03 38 51.0 +1.1**
comp=Z,2.3nm,0.3s,baz=122,slow=5.8,SNR=4.7
CMAR LR LR 04 01 49.3
comp=Z,12nm,18.9s,baz=120,slow=39
comp=Z,2.3nm,0.3s
USRK Ussuriysk Ar. 50.75 350 P **P** **03 39 00.7 -0.7**
USRK Ussuriysk Ar. 50.75 350 P **P** **03 39 01.8 +0.3**
comp=Z,1.9nm,0.7s,baz=195,slow=8.4,SNR=5.6
comp=Z,1.9nm,0.7s
HHC Hu-ho-hao-te 54.43 332 *e*P **P** **03 39 32.4 +3.5**
HHC pmax pmax
comp=Z,12nm,0.9s
HHC pmax pmax
comp=Z,130nm,5.6s
HEH HeiHe 57.42 349 *e*P P 03 39 54.9 +4.9
HEH pmax pmax
comp=Z,4.0nm,0.9s
ULN Ulaanbaatar 61.89 334 P **P** **03 40 20.9 -0.1**
ULN IAmb IAmb 03 40 27.9
comp=Z,3.7nm,0.9s
SONM Songino Array 62.16 333 P **P** **03 40 23.1 +0.3**
SONM Songino Array 62.16 333 P **P** **03 40 21.0 -1.8**
comp=Z,0.3nm,0.5s,baz=156,slow=8.0,SNR=4.0
comp=Z,0.3nm,0.5s
CASY Casey 64.17 194 P **P** **03 40 37.7 +2.0**
SEY Seymchan 69.08 5 P **P** **03 41 07.0 -0.1**
comp=Z,1.5nm,0.8s,baz=116,slow=0.7,SNR=4.3
comp=Z,1.5nm,0.8s
VNDA Vanda 72.31 176 P **P** **03 41 28.5 +1.9**
VNDA IAmb IAmb 03 41 29.2
comp=Z,4.2nm,0.8s
VNDA Vanda 72.31 176 P **P** **03 41 28.6 +2.1**
comp=Z,3.0nm,0.8s,baz=331,slow=6.4,SNR=20
comp=Z,3.0nm,0.8s
MK31 Makanchi Array 74.52 322 P **P** **03 41 40.8 +0.7**
MKAR Makanchi Array 74.52 322 P **P** **03 41 41.0 +0.8**
comp=Z,1.8nm,0.7s,baz=107,slow=7.8,SNR=15
comp=Z,1.8nm,0.7s
MAKZ Makanchi 74.72 322 P **P** **03 41 40.9 -0.4**
MAKZ IAmb IAmb 03 41 48.6
comp=Z,4.3nm,1.1s
NIL Nilore 76.13 307 P **P** **03 41 49.1 -0.5**
NIL IAmb IAmb 03 42 00.8
comp=Z,5.8nm,0.7s
ZAA0 Zalesovo Array 76.51 329 P **P** **03 41 51.0 -0.3**
ZALV Zalesovo Beam 76.51 329 P **P** **03 41 51.1 -0.2**
ZALV Zalesovo Beam 76.51 329 P **P** **03 41 51.2 -0.1**
comp=Z,0.5nm,0.4s,baz=64,slow=13,SNR=2.3
comp=Z,0.5nm,0.4s
BOOM Boomskoye usch 76.95 316 P **P** **03 41 55.5 +1.2**
BOOM IAmb IAmb 03 41 56.3
comp=Z,3.1nm,0.8s
KURK Kurchatov 78.40 324 P **P** **03 42 02.8 +0.8**
KURBB Kurchatov Arra 78.42 324 P **P** **03 42 01.9 -0.1**
comp=Z,0.9nm,0.8s,baz=117,slow=4.5,SNR=5.6
comp=Z,0.9nm,0.8s
M14K Bethel 79.28 24 P **P** **03 42 07.1 +0.6**
L14K Kuka Creek 79.31 24 P **P** **03 42 06.8 +0.1**
K15K Wolf Creek Mou 80.30 23 P **P** **03 42 12.6 +0.5**
K15K IAmb IAmb 03 42 19.6
comp=Z,12nm,1.1s
O16K Kokwok River B 80.32 26 P **P** **03 42 12.1 -0.2**
O16K IAmb IAmb 03 42 18.8
comp=Z,12nm,0.8s
M16K Timber Creek 80.67 25 P **P** **03 42 13.8 -0.3**
M16K IAmb IAmb 03 42 21.1
comp=Z,13nm,0.9s
F15K North Star Dit 81.12 20 P **P** **03 42 16.1 -0.3**
F15K IAmb IAmb 03 42 30.7
comp=Z,3.3nm,1.0s
M17K Holitna River 81.49 25 P **P** **03 42 19.4 +0.9**
K17K Iditarod 81.79 24 P **P** **03 42 20.0 0.0**
N18K Kilae Creek 81.81 26 P **P** **03 42 20.2 0.0**
N18K IAmb IAmb 03 42 27.4
comp=Z,7.7nm,0.9s
P19K Oil Pt 82.54 28 P **P** **03 42 22.8 -1.2**
CNPM China Poot 83.42 28 P **P** **03 42 28.3 -0.3**
J19K Poorman 83.47 23 P **P** **03 42 28.6 -0.2**
J19K IAmb IAmb 03 42 35.3
comp=Z,2.5nm,0.8s
K20K Telida 83.80 24 P **P** **03 42 30.7 +0.2**
K20K IAmb IAmb 03 42 36.9
comp=Z,8.2nm,1.1s
NRIK Noril'sk 83.81 343 P **P** **03 42 30.1 -0.3**
comp=Z,1.1nm,0.3s,baz=129,slow=4.4,SNR=1.5
comp=Z,1.1nm,0.3s
H19K Roundabout Mou 83.89 22 P **P** **03 42 30.4 -0.4**
H19K IAmb IAmb 03 42 37.6
comp=Z,5.6nm,0.9s
BVAR Borovoye Array 83.99 325 P **P** **03 42 32.1 +0.5**
comp=Z,3.1nm,0.8s,baz=106,slow=7.9,SNR=14
comp=Z,3.1nm,0.8s
QSPA South Pole Qui 84.05 180 P **P** **03 42 33.3 +1.4**
QSPA South Pole Qui 84.05 180 P **P** **03 42 33.2 +1.4**
comp=Z,8.4nm,0.9s,baz=318,slow=1.2,SNR=37
QSPA LR LR 04 20 11.0
comp=Z,46nm,18.9s,baz=250,slow=36
comp=Z,8.4nm,0.9s
BRVK Borovoye 84.06 325 P **P** **03 42 31.4 -0.6**
BRVK IAmb IAmb 03 42 33.6
comp=Z,7.6nm,1.1s
J20K Nowinta River 84.13 23 P **P** **03 42 32.8 +0.7**
J20K IAmb IAmb 03 42 39.1
comp=Z,4.9nm,0.9s
E19K Redstone River 84.56 20 P **P** **03 42 34.1 -0.1**
E19K IAmb IAmb 03 42 41.1
comp=Z,7.1nm,0.9s
CAST Castle Rocks 84.63 24 P **P** **03 42 34.4 -0.3**
CAST IAmb IAmb 03 42 40.5
comp=Z,3.7nm,0.9s
C19K Lookout Ridge 84.66 18 P **P** **03 42 35.1 +0.4**
C19K IAmb IAmb 03 42 48.2
comp=Z,6.5nm,0.9s
KNK Knik Glacier 85.41 27 P **P** **03 42 38.5 -0.1**
IL31 87.26 24 P **P** **03 42 45.8 -1.8**
IL31 IAmb IAmb 03 42 52.3
comp=Z,4.8nm,0.8s
ILAR Eielson Array 87.26 24 P **P** **03 42 46.2 -1.4**
comp=Z,1.1nm,0.8s,baz=250,slow=5.3,SNR=11
comp=Z,1.1nm,0.8s
WAX Waxell Ridge 87.69 29 P **P** **03 42 49.6 -0.3**
EGAK Eagle 89.60 25 P **P** **03 42 57.9 -0.8**
EGAK IAmb IAmb 03 43 05.2
comp=Z,4.4nm,0.8s
ELIB Princess Elisa 93.04 196 *d*P **P** **03 43 15.0 +0.2**
TORD Torodi Ar. Bea 140.56 283 PKhKP PKPpre 03 49 28.6
comp=Z,0.4nm,0.8s,baz=56,slow=4.5,SNR=2.9
TORD PKP **PKiKP** **03 49 33.7 -0.7**
comp=Z,0.7nm,0.8s,baz=70,slow=2.0,SNR=4.6
DBIC Dimbokro 147.38 273 PKPbc **PKPab** **03 49 47.5 -0.6**
comp=Z,3.0nm,0.6s,baz=103,slow=3.6,SNR=4.7

IDC ***18*** *03:35:49.4±2.2,32˚.46S×178˚.15W, h0km, mb4.3/3, mbtmp4.2/4, ML3.4/1, Error ellipse: s-maj=56.8km s-min=41.6km az=137.0*
WEL ***18*** *03:35:53.8±0.7,32˚S±9˚×17˚9W±2˚,3, h33km, M4.6/11, mB4.8/5, ML4.9/16, MLv4.9/11, Mw(mB)4.0/5, Error ellipse: s-maj=0.0km s-min=0.0km az=110.8*
ISC 18 03:35:52.2±1.6**, 32˚.68S**±0˚.09×**177˚.9W**±0˚.2**, h35km, n41, σ1f70/61, mb4.5/3, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.40**	**360**	P	**Pn**	**03 36 42.0**	**-0.8**
GLKZ				S	**Sn**	**03 37 19.8**	**-2.1**
MXZ	**Matakaoa Point**	**5.78**	**211**	P	**Pn**	**03 37 16.5**	**+1.1**
MXZ				S	**Sn**	**03 38 22.1**	**+1.7**
WMGZ	**Waiomatatini S**	**5.95**	**209**	P	**Pn**	**03 37 19.1**	**+1.4**
WMGZ				S	**Sn**	**03 38 26.1**	**+1.5**
PKGZ	**Pakihiroa**	**6.15**	**211**	P	**Pn**	**03 37 22.0**	**+1.5**
PKGZ				S	**Sn**	**03 38 31.3**	**+1.6**
HAZ	**Te Kaha**	**6.17**	**214**	P	**Pn**	**03 37 22.5**	**+1.7**
PUZ	**Puketiti**	**6.23**	**209**	P	**Pn**	**03 37 22.7**	**+1.2**
PUZ				S	**Sn**	**03 38 33.2**	**+1.6**
RUGZ	**Raukumara Rang**	**6.39**	**213**	P	**Pn**	**03 37 25.5**	**+1.5**
RUGZ				S	**Sn**	**03 38 36.9**	**+1.2**
TWGZ	**Tauwhareparae**	**6.43**	**210**	P	**Pn**	**03 37 25.6**	**+1.2**
TWGZ				S	**Sn**	**03 38 39.3**	**+2.6**
CNGZ	**Carnagh Statio**	**6.60**	**208**	P	**Pn**	**03 37 27.5**	**+0.8**
TKGZ	**Te Karaka**	**6.71**	**210**	S	**Sn**	**03 38 43.8**	**+0.5**
MWZ	**Matawai**	**6.76**	**212**	P	**Pn**	**03 37 28.8**	**-0.1**
MWZ				S	**Sn**	**03 38 44.3**	**-0.4**
URZ	**Urewera**	**6.89**	**215**	Pn	**Pn**	**03 37 31.4**	**+0.7**
	0.8nm,0.3s,baz=343,slow=5.6,SNR=10.0						
URZ				Sn	**Sn**	**03 38 47.6**	**-0.2**
	6.7nm,0.3s,baz=199,slow=18,SNR=17						
	2.2nm,0.3s						
URZ	**Urewera**	**6.89**	**215**	P	**Pn**	**03 37 31.6**	**+0.9**
URZ				S	**Sn**	**03 38 48.1**	**+0.3**
RIGZ	**Rimuhau**	**6.97**	**209**	P	**Pn**	**03 37 32.5**	**+0.7**
RIGZ				S	**Sn**	**03 38 51.6**	**+1.8**
MUGZ	**Murupara**	**7.23**	**215**	P	**Pn**	**03 37 36.2**	**+0.9**
MUGZ				S	**Sn**	**03 38 55.1**	**-1.1**
RTZ	**Ruatahuna**	**7.24**	**214**	P	**Pn**	**03 37 36.2**	**+0.6**
MTHZ	**Maungataniwha**	**7.49**	**213**	P	**Pn**	**03 37 40.5**	**+1.5**
MTHZ				S	**Sn**	**03 39 02.7**	**0.0**
ARHZ	**Aropaoanui**	**7.76**	**211**	P	**Pn**	**03 37 43.4**	**+0.8**
ARHZ				S	**Sn**	**03 39 08.1**	**-1.1**
TLZ	**Tolley Road**	**7.77**	**222**	P	**Pn**	**03 37 43.9**	**+1.1**
KWHZ	**Kaweka Forest**	**8.15**	**213**	P	**Pn**	**03 37 49.1**	**+1.1**
KWHZ				S	**Sn**	**03 39 17.3**	**-1.5**
KAHZ	**Kahuranaki**	**8.26**	**209**	P	**Pn**	**03 37 47.9**	**-1.5**
KAHZ				S	**Sn**	**03 39 19.5**	**-2.0**
OTVZ	**Oturere**	**8.31**	**217**	P	**Pn**	**03 37 51.1**	**+0.8**
OTVZ				S	**Sn**	**03 39 22.5**	**-0.5**
BFZ	**Birch Farm**	**9.26**	**209**	P	**Pn**	**03 38 00.7**	**-2.5**
BFZ				S	**Sn**	**03 39 42.4**	**-3.8**
TIWZ	**Tintock**	**9.49**	**210**	P	**Pn**	**03 38 05.7**	**-0.7**
TIWZ				S	**Sn**	**03 39 46.9**	**-4.9**
MRZ	**Mangatainoka R**	**9.53**	**211**	P	**Pn**	**03 38 05.0**	**-1.9**
MRZ				S	**Sn**	**03 39 46.7**	**-5.9**
MRNZ	**Matariki Terra**	**11.46**	**218**	P	**Pn**	**03 38 31.9**	**-1.4**
THZ	**Tophouse**	**11.65**	**216**	P	**Pn**	**03 38 35.1**	**-0.8**
KHZ	**Kahutara**	**11.85**	**212**	P	**Pn**	**03 38 37.5**	**-1.1**
DSZ	**Dennison Nort**	**12.20**	**219**	P	**Pn**	**03 38 42.2**	**-1.3**
LTZ	**Lake Taylor**	**12.72**	**215**	P	**Pn**	**03 38 49.0**	**-1.6**
INZ	**Inchbonnie**	**13.09**	**217**	P	**Pn**	**03 38 55.4**	**-0.2**
OXZ	**Oxford**	**13.25**	**214**	P	**Pn**	**03 38 55.9**	**-1.8**
MHCZ	**Mount Hutt**	**13.63**	**214**	P	**Pn**	**03 39 02.4**	**-0.5**
GCSZ	**Gaunt Creek Bo**	**14.09**	**218**	P	**Pn**	**03 39 09.2**	**+0.1**
ARCZ	**Arundel**	**14.13**	**214**	P	**Pn**	**03 39 09.4**	**-0.4**
FOZ	**Fox Glacier**	**14.50**	**218**	P	**Pn**	**03 39 13.6**	**-1.2**
CTA	**Charters Tower**	**34.30**	**282**	P	**P**	**03 42 35.1**	**-0.3**
	3.6nm,0.6s,baz=89,slow=5.5,SNR=2.1						
	3.6nm,0.6s						
ASAR	**Alice Springs**	**43.11**	**269**	P	**P**	**03 43 50.1**	**+0.8**
	2.0nm,0.7s,baz=109,slow=7.7,SNR=6.5						
	2.0nm,0.7s						
WRA	**Warramunga Arr**	**44.30**	**274**	P	**P**	**03 43 59.4**	**+0.5**
	2.4nm,0.3s,baz=114,slow=8.0,SNR=29						
	2.4nm,0.3s						
FINES	**FINESS Array B**	**147.30**	**339**	PKPbc	**PKPbc**	**03 55 32.1**	**+1.0**
	2.5nm,0.8s,baz=46,slow=5.5,SNR=15						
MMAI	**Mount Meron Ar**	**152.07**	**280**	PKPbc	**PKiKP**	**03 55 46.8**	**+2.4**
	1.2nm,0.5s,baz=63,slow=5.8,SNR=4.4						

JMA ***18*** *03:59:04.8±0.2,35˚.6N±0˚.6×140˚.1E±0˚.8, h71km±1km, MD3.9/40, MV4.0/40, CENTRAL CHIBA PREF*
JMA Felt II J1 at CENTRAL CHIBA PREF .
NIED ***18*** *03:59:04.8, 35˚.59N×140˚.09E, h71km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.61; Mθθ-0.22; Mϕϕ-1.39; Mrθ0.55; Mθϕ0.57; Mϕr1.44; Fault plane solution: M₀2.21000×10¹⁵ NP1:φs4.00000°, δ67.00000°, λ110.00000°. NP2:φs140.00000°, δ30.00000°, λ51.00000°.*
IDC ***18*** *03:59:05.8±1.8, 35˚.55N×140˚.07E, h72km±15km, mb3.9/22, mbtmp4.2/26 Error ellipse: s-maj=17.4km s-min=11.6km az=75.0*
NEIC ***18*** *03:59:05.3±1.6, 35˚.53N±0˚.05×140˚.15E±0˚.08, h64km±7km, mb4.4/58, Error ellipse: s-maj=9.9km s-min=7.9km az=103.0*
ISC 18 03:59:05.8±0.6**, 35˚.54N**±0˚.03×**140˚.11E**±0˚.04**, h72**km±5km, **n177, σ0s95/159, mb4.4/50, 14D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.14**	**148**	*i* P	**Pn**	**03 59 16.1**	**-0.2**
JCN				S	**Sn**	**03 59 24.8**	**+0.8**
JCN	**Nagara**	**0.14**	**148**	A	A	03 59 16.1	
	comp=E,54nm,0.4s,comp=N,28nm,0.2s						
JSMT	**Sammumatsuo**	**0.29**	**68**	*i* P	**Pn**	**03 59 16.6**	**-0.5**
JSMT				S	**Sn**	**03 59 25.9**	**+0.5**
JSMT	**Sammumatsuo**	**0.29**	**68**	A	A	03 59 16.6	
	comp=E,21nm,1.8s,comp=N,20nm,1.8s						
TOK	**Tokyo**	**0.33**	**298**	*i* P	**Pn**	**03 59 17.0**	**-0.3**
TOK				S	**Sn**	**03 59 26.1**	**+0.4**
TOK	**Tokyo**	**0.33**	**298**	A	A	03 59 17.0	
	comp=E,117nm,1.1s,comp=N,132nm,0.3s						
JKUC	**kamogawauchiur**	**0.38**	**169**	*i* P	**Pn**	**03 59 17.2**	**-0.6**
JKUC				S	**Sn**	**03 59 26.2**	**-0.3**
JKUC	**kamogawauchiur**	**0.38**	**169**	A	A	03 59 17.2	
	comp=E,21nm,1.5s,comp=N,15nm,0.6s						
JYO	**Yokosk**	**0.48**	**230**	A	A	03 59 17.8	
	comp=E,47nm,0.3s,comp=N,49nm,0.3s						
TATJ	**Tateyama 2**	**0.53**	**200**	A	A	03 59 18.5	
	comp=E,24nm,1.6s,comp=N,21nm,0.8s						
JIHU	**Itakohorinouch**	**0.55**	**38**	A	A	03 59 17.9	
	comp=E,30nm,3.4s,comp=N,29nm,2.6s						
JYT	**Yasato**	**0.69**	**5**	A	A	03 59 19.2	
	comp=E,15nm,0.5s,comp=N,12nm,0.4s						
JSGW	**Sagamiharawaka**	**0.74**	**275**	A	A	03 59 20.1	
	comp=E,9.0nm,0.9s,comp=N,11nm,0.7s						
JHU	**Hanno**	**0.75**	**295**	A	A	03 59 20.0	
	comp=E,8.0nm,1.6s,comp=N,5.0nm,0.4s						
BSO3	**Boso 3**	**0.80**	**156**	*i* P	**Pn**	**03 59 21.4**	**-0.3**
BSO3				*eX*		03 59 34.6	
JOD2	**Odawara 2**	**0.88**	**252**	⇓*i* P	**Pn**	**03 59 22.1**	**-0.8**
JOD2				⇓S	**Sn**	**03 59 34.2**	**-1.4**
JOD2	**Odawara 2**	**0.88**	**252**	A	A	03 59 22.1	
	comp=E,14nm,0.4s,comp=N,10.0nm,0.5s						
JHYU	**Hitachinakayam**	**0.89**	**25**	A	A	03 59 21.6	
	comp=E,7.0nm,1.9s,comp=N,4.0nm,1.9s						
JIM2	**Oshima 3**	**0.99**	**215**	*i* P	**Pn**	**03 59 23.0**	**-1.2**
JIM2				S	**Sn**	**03 59 36.9**	**-1.1**
JIM2	**Oshima 3**	**0.99**	**215**	A	A	03 59 23.0	
	comp=E,20nm,0.3s,comp=N,25nm,0.4s						
JAG	**Ashikaga**	**1.04**	**329**	⇓*i* P	**Pn**	**03 59 23.6**	**-1.3**
JAG				⇓S	**Sn**	**03 59 37.0**	**-2.0**
JAG	**Ashikaga**	**1.04**	**329**	A	A	03 59 23.6	
	comp=E,3.0nm,1.8s,comp=N,7.0nm,0.4s						
JHTM	**Izuhatsuma**	**1.07**	**238**	A	A	03 59 24.6	
	comp=E,30nm,0.3s,comp=N,30nm,0.3s						
JRY	**Ryogami san**	**1.09**	**296**	⇓*i* P	**Pn**	**03 59 25.1**	**-0.5**
JRY				⇓*e*S	**Sn**	**03 59 40.2**	**-0.2**
BSO1	**Boso 1**	**1.13**	**141**	*i* P	**Pn**	**03 59 24.9**	**-0.6**
BSO1				S	**Sn**	**03 59 40.8**	**+0.5**
JHO	**Hitachi**	**1.14**	**19**	A	A	03 59 24.7	
	comp=E,3.0nm,1.8s,comp=N,3.0nm,1.7s						
JFNN	**Fujinakano**	**1.22**	**254**	⇓*i* P	**Pn**	**03 59 26.6**	**-0.5**
JFNN				⇓S	**Sn**	**03 59 42.7**	**-0.4**
JFNN	**Fujinakano**	**1.22**	**254**	A	A	03 59 26.6	
	comp=E,7.0nm,0.7s,comp=N,1.0nm,1.4s						
JTHY	**Toshimahigashi**	**1.22**	**214**	A	A	03 59 26.8	
	comp=E,9.0nm,2.5s,comp=N,12nm,1.7s						
JYN	**Shimob**	**1.28**	**269**	⇓*i* P	**Pn**	**03 59 27.3**	**-0.7**
JYN				⇓*e*S	**Sn**	**03 59 43.8**	**-0.9**
JIZS	**Izushimoda**	**1.30**	**231**	⇓*i* P	**Pn**	**03 59 27.5**	**-0.7**
JIZS				⇓S	**Sn**	**03 59 43.8**	**-1.1**
JIZS	**Izushimoda**	**1.30**	**231**	A	A	03 59 27.5	
	comp=E,6.0nm,1.2s,comp=N,5.0nm,0.3s						
JNIO	**Nijimaoohara**	**1.36**	**211**	A	A	03 59 28.8	
	comp=E,9.0nm,1.4s,comp=N,7.0nm,0.9s						
JSKK	**Shikinejimakit**	**1.41**	**212**	A	A	03 59 29.4	
	comp=E,4.0nm,0.9s,comp=N,3.0nm,0.3s						
JKT	**Katashina**	**1.41**	**331**	⇓*i* P	**Pn**	**03 59 28.4**	**-1.3**
JKT				⇓S	**Sn**	**03 59 46.2**	**-1.5**
JSB	**Shiboa**	**1.44**	**354**	A	A	03 59 28.6	
	comp=E,3.0nm,2.4s,comp=N,4.0nm,0.9s						
JMYK	**Miyake Tsubota**	**1.54**	**198**	A	A	03 59 31.4	
	comp=E,6.0nm,1.6s,comp=N,6.0nm,0.4s						
JGK	**Kuni**	**1.57**	**311**	A	A	03 59 30.6	
	comp=E,3.0nm,1.9s,comp=N,2.0nm,3.7s						
SHZ3	**Shizuoka 3**	**1.62**	**254**	A	A	03 59 31.9	
	comp=E,7.0nm,0.8s,comp=N,10.0nm,0.6s						
JSG	**Sagara**	**1.80**	**242**		**Pn**	**03 59 34.9**	**+0.2**
JSG	**Sagara**	**1.80**	**242**	P	**Pn**	**03 59 35.2**	**+0.5**
MJAR	**Matsushiro Arr**	**1.84**	**304**	P	**Pn**	**03 59 34.2**	**-1.1**
	comp=N,246nm,0.4s,baz=156,slow=14,SNR=712						
MJAR				S	**Sn**	**04 00 00.4**	**+2.6**
	comp=N,130nm,0.4s,baz=136,slow=10,SNR=5.0						
MAJO	**Matsushiro**	**1.84**	**304**		**Pn**	**03 59 35.1**	**-0.3**
MAJO	**Matsushiro**	**1.84**	**304**	P	**Pn**	**03 59 35.1**	**-0.3**
MJB9	**Matsu-Tunnel**	**1.85**	**304**	Pn	**Pn**	**03 59 35.1**	**-0.3**
JNG	**Nsakai**	**1.85**	**299**	A	A	03 59 34.5	
	comp=E,1.0nm,5.2s,comp=N,2.0nm,2.8s						
JGF	**Kuroka**	**2.25**	**272**		**Pn**	**03 59 41.3**	**+0.5**
JGF	**Kuroka**	**2.25**	**272**	P	**Pn**	**03 59 41.9**	**+1.1**
JMM	**Marumori**	**2.39**	**13**	Pn	**Pn**	**03 59 42.3**	**-0.4**
JMM	**Marumori**	**2.39**	**13**	P	**Pn**	**03 59 42.7**	**0.0**
JHJ	**Hachijo jima 2**	**2.42**	**187**	P	**Pn**	**03 59 43.1**	**-0.1**
	comp=N,420nm,0.3s,baz=327,slow=22,SNR=55						
JHJ				S	**Sn**	**04 00 10.0**	**-1.8**
	comp=N,1μm,0.4s,baz=274,slow=23,SNR=20						
JHJ2	**Mitsune**	**2.43**	**186**	Pn	**Pn**	**03 59 43.2**	**0.0**
JHJ2	**Mitsune**	**2.43**	**186**	P	**Pn**	**03 59 43.6**	**+0.4**
JHJ2	**Mitsune**	**2.43**	**186**	A	A	03 59 43.7	
	comp=E,3.0nm,0.4s,comp=N,1.0nm,0.4s						
INU	**Inuyama**	**2.53**	**267**		**Pn**	**03 59 44.6**	**0.0**
INU	**Inuyama**	**2.53**	**267**	P	**Pn**	**03 59 45.0**	**+0.4**
JSD	**Sado**	**2.91**	**330**		**Pn**	**03 59 48.8**	**-0.9**
JSD	**Sado**	**2.91**	**330**	P	**Pn**	**03 59 49.2**	**-0.5**
JTM	**Tenmabayashi**	**5.30**	**8**	Pn	**Pn**	**04 00 21.9**	**-0.4**
JTM	**Tenmabayashi**	**5.30**	**8**	P	**Pn**	**04 00 22.4**	**+0.1**
JMN	**Monobe**	**5.45**	**252**	Pn	**Pn**	**04 00 24.8**	**+0.4**
JMN	**Monobe**	**5.45**	**252**	P	**Pn**	**04 00 25.6**	**+1.2**
ERM	**Erimo**	**6.89**	**19**	Pn	**Pn**	**04 00 41.9**	**-2.2**
ERM	**Erimo**	**6.89**	**19**	P	**Pn**	**04 00 43.2**	**-0.9**
JEM	**Erimo**	**6.89**	**19**	P	**Pn**	**04 00 43.3**	**-0.8**
JNU	**Nakatsue**	**8.01**	**255**	Pn	**Pn**	**04 01 00.2**	**+0.8**
JNU	**Nakatsue**	**8.01**	**255**	P	**Pn**	**04 01 01.7**	**+2.3**
JNU	**Nakatsue**	**8.01**	**255**	P	**Pn**	**04 01 00.5**	**+1.1**
	comp=N,7.4nm,0.6s,baz=66,slow=4.0,SNR=13						
JCJ	**Chichijima**	**8.60**	**168**	Pn	**Pn**	**04 01 04.8**	**-2.7**
JCJ	**Chichijima**	**8.60**	**168**	P	**Pn**	**04 01 06.1**	**-1.4**
JCJ	**Chichijima**	**8.60**	**168**	P	Pn	04 01 00.4	-7.1
	comp=N,66nm,0.5s,baz=301,slow=22,SNR=6.4						
KSRS	**Korea Array**	**10.00**	**285**	P	**Pn**	**04 01 29.6**	**+3.1**
	comp=N,5.3nm,0.7s,baz=101,slow=14,SNR=20						
KSAR	**Wonju Array Be**	**10.03**	**285**	Pn	**Pn**	**04 01 25.7**	**-1.3**
USRK	**Ussuriysk Ar.**	**10.66**	**327**	P	**Pn**	**04 01 36.9**	**+1.3**
	comp=N,1.2nm,0.5s,baz=138,slow=13,SNR=2.2						
KLR	**Kul'dur**	**15.00**	**338**	P	**Pn**	**04 02 32.2**	**-1.3**
	comp=N,0.8nm,0.2s,baz=202,slow=8.3,SNR=5.9						
TIA	**Tai'an**	**18.64**	**279**	*e*P	**Pn**	**04 03 21.5**	**+2.8**
TIA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NACB	**Ninganchiao**	**19.61**	**240**	P	**P**	**04 03 27.2**	**-1.2**
NACB				IAmb	IAmb	04 03 50.6	
	comp=Z,32nm,1.2s						
TPUB	**Ta-pu**	**20.85**	**239**	P	**P**	**04 03 41.6**	**-0.2**
TPUB				IAmb	IAmb	04 03 48.9	
	comp=Z,30nm,1.3s						
HHC	**Hu-ho-hao-te**	**23.00**	**292**	*e*P	**P**	**04 04 05.4**	**+0.8**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,4.9s						
HHC				LR	LR		
	comp=N,210nm,13.8s						
HHC				LR	LR		
	comp=E,160nm,13.6s						
HHC				LR	LR		
	comp=Z,140nm,13.8s						
MA2	**Magadan**	**25.04**	**13**	P	**P**	**04 04 21.3**	**-1.6**
	comp=Z,4.8nm,0.7s,baz=205,slow=10,SNR=5.4						
	comp=Z,4.8nm,0.7s						
SONM	**Songino Array**	**27.79**	**307**	P	**P**	**04 04 47.1**	**-0.9**
SONM	**Songino Array**	**27.79**	**307**	P	**P**	**04 04 46.9**	**-1.1**
	comp=Z,1.9nm,0.9s,baz=112,slow=8.6,SNR=9.6						
	comp=Z,1.9nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**28.35**	**117**	T	T	04 34 38.4	
	baz=308,slow=75,SNR=72						
H11N1	**WAKE ISLAND Hy**	**28.36**	**117**	T	T	04 34 43.0	
	baz=308,slow=75,SNR=64						
H11N3	**WAKE ISLAND Hy**	**28.37**	**117**	T	T	04 34 38.5	
	baz=308,slow=75,SNR=56						
H11S1	**WAKE ISLAND Hy**	**29.00**	**119**	T	T	04 34 55.2	
	baz=314,slow=74,SNR=88						
H11N3	**WAKE ISLAND Hy**	**29.00**	**119**	T	T	04 34 58.8	
	baz=314,slow=74,SNR=68						
H11S2	**WAKE ISLAND Hy**	**29.01**	**119**	T	T	04 35 01.1	
	baz=314,slow=74,SNR=50						
PZH	**PanZhiHua**	**33.92**	**265**	P	**P**	**04 05 44.4**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,120nm,5.8s						
ZAA0	**Zalesovo Array**	**42.17**	**314**	P	**P**	**04 06 50.9**	**-0.1**
ZAA0				IAmb	IAmb	04 06 52.1	
	comp=Z,4.5nm,0.9s						
ZALV	**Zalesovo Beam**	**42.17**	**314**	P	**P**	**04 06 51.0**	**0.0**
ZALV	**Zalesovo Beam**	**42.17**	**314**	P	**P**	**04 06 51.0**	**0.0**
	comp=Z,2.1nm,0.4s,baz=90,slow=7.4,SNR=16						
ZALV				PcP	**PcP**	**04 08 43.9**	**-0.1**
	comp=Z,1.5nm,0.5s,baz=112,slow=2.3,SNR=4.5						
	comp=Z,2.1nm,0.4s						
MK31	**Makanchi Array**	**44.04**	**303**	P

comp=Z,5.1nm,1.4s
L26K Log Cabin Wild 53.02 34 P P 04 08 13.7 -1.3
L26K IAmb IAmb 04 08 37.8
comp=Z,5.3nm,1.4s
WAX Waxell Ridge 53.61 37 P P 04 08 19.8 +0.4
BCAR Beaver Creek A 53.72 34 P P 04 08 21.1 +0.9
M27K Edge Creek, AK 53.78 34 P P 04 08 21.6 +0.9
M27K IAmb IAmb 04 08 46.5
comp=Z,5.4nm,1.4s
I28M Miner Creek 54.19 30 P P 04 08 24.9 +1.3
G29M Pine Creek 54.74 29 P P 04 08 28.9 +1.4
G29M IAmb IAmb 04 08 37.3
comp=Z,7.7nm,1.4s
FITZ Fitzroy Crossi 55.08 197 P P 04 08 30.4 +0.1
FITZ IAmb IAmb 04 08 45.7
comp=Z,6.6nm,1.4s
WB0 Warramunga Arr 55.27 187 P P 04 08 31.0 -0.7
M29M Somme Creek 55.33 34 P P 04 08 33.1 +1.2
EPYK Eagle Plains 55.34 29 P P 04 08 33.4 +1.6
EPYK IAmb IAmb 04 08 34.2
comp=Z,3.4nm,0.8s
WR0 Warramunga Arr 55.44 186 P P 04 08 32.1 -0.8
WB2 Warramunga Arr 55.44 187 P P 04 08 31.2 -1.8
WRA Warramunga Arr 55.44 187 P P 04 08 32.3 -0.7
WRA Warramunga Arr 55.44 187 P P 04 08 32.4 -0.7
comp=Z,1.5nm,0.4s,baz=0.4,slow=7.5,SNR=39
comp=Z,1.5nm,0.4s
I30M Mount Dempster 55.70 30 P P 04 08 35.4 +0.9
I30M IAmb IAmb 04 08 57.9
comp=Z,4.0nm,1.1s
M30M Minto, Yukon 56.06 34 P P 04 08 37.3 +0.2
INK Inuvik 56.19 27 P P 04 08 38.0 +0.2
G31M Satah River 56.20 28 P P 04 08 38.1 +0.3
ARU Arti 56.79 319 P P 04 08 42.0 -0.2
FARO Faro, Yukon 57.70 34 P P 04 08 50.1 +1.5
FARO IAmb IAmb 04 09 03.4
comp=Z,3.5nm,1.2s
HUH Hualalai 57.99 88 P P 04 08 50.8 -0.8
A36M Sachs Harbour 58.04 21 P P 04 08 51.7 +1.0
A36M IAmb IAmb 04 08 54.9
comp=Z,6.0nm,1.0s
ABKAR Akbulak array 58.10 311 P P 04 08 51.8 +0.2
AS31 Alice Springs 59.17 187 P P 04 08 58.5 -0.7
ASAR Alice Springs 59.17 187 P P 04 08 59.8 +0.6
ASAR Alice Springs 59.17 187 P P 04 08 58.9 -0.4
comp=Z,0.7nm,0.8s,baz=21,slow=10,SNR=9.5
comp=Z,0.7nm,0.8s
C36M Paulatuk 59.23 24 P P 04 08 59.1 +0.1
C36M IAmb IAmb 04 09 00.3
comp=Z,2.6nm,0.9s
MBWA Marble Bar 59.60 202 P P 04 09 02.1 0.0
SPITS Spitsbergen Ar 61.79 349 P P 04 09 16.5 +0.2
comp=Z,16nm,1.1s,baz=62,slow=3.9,SNR=1.5
comp=Z,16nm,1.1s
ARCES ARCESS Array B 65.03 339 P P 04 09 38.0 +0.2
ARCES ARCESS Array B 65.03 339 P P 04 09 37.6 -0.2
comp=Z,2.1nm,0.7s,baz=60,slow=7.2,SNR=7.4
comp=Z,2.1nm,0.7s
YKA Yellowknife Ar 65.63 29 P P 04 09 41.4 -0.4
comp=Z,0.4nm,0.8s,baz=304,slow=7.0,SNR=8.0
comp=Z,0.4nm,0.8s
FORT Forrest 66.93 191 P P 04 09 50.0 -0.4
STKA Stephens Creek 67.07 179 P P 04 09 51.9 +0.6
comp=Z,6.1nm,1.0s,baz=3.2,slow=21,SNR=2.9
comp=Z,6.1nm,1.0s
FIA1 FINESS Array S 69.64 332 P P 04 10 06.4 -0.7
FINES FINESS Array B 69.65 332 P P 04 10 06.6 -0.5
FINES FINESS Array B 69.65 332 P P 04 10 07.1 0.0
comp=Z,2.8nm,0.4s,baz=66,slow=5.9,SNR=35
comp=Z,2.8nm,0.4s
KBZ Khabaz 71.08 311 P P 04 10 16.1 0.0
comp=Z,2.8nm,0.9s,baz=99,slow=4.3,SNR=7.3
comp=Z,2.8nm,0.9s
SUMG Summit 72.18 360 P P 04 10 23.0 +0.2
SUMG IAmb IAmb 04 10 51.2
comp=Z,3.7nm,1.0s
SCO Scoresbysund 73.49 354 P P 04 10 31.1 +1.0
AKASG Malin Array Be 74.83 322 P P 04 10 37.7 -0.5
comp=Z,3.0nm,0.6s,baz=48,slow=6.0,SNR=20
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 74.83 322 P P 04 10 37.5 -0.7
AKBB IAmb IAmb 04 10 38.7
comp=Z,8.9nm,0.9s
KIEV Kiev 74.84 322 P P 04 10 37.4 -0.9
KIEV IAmb IAmb 04 10 38.7
comp=Z,8.7nm,1.0s
NC405 NORSAR Array S 74.94 337 P P 04 10 38.5 -0.2
HFS Hagfors 75.01 335 P P 04 10 39.1 0.0
comp=Z,0.5nm,0.3s,baz=87,slow=3.1,SNR=9.3
comp=Z,0.5nm,0.3s
NB2 NORSAR Subarra 75.16 337 P P 04 10 39.9 -0.1
comp=Z,0.8nm,0.4s,baz=42,slow=5.9
NOA NORSAR Array B 75.16 337 P P 04 10 39.4 -0.6
comp=Z,1.2nm,0.5s,baz=61,slow=8.2,SNR=10
comp=Z,1.2nm,0.5s
NVAR Mina Array Bea 76.73 52 P P 04 10 51.0 +1.4
comp=Z,0.5nm,0.7s,baz=293,slow=5.1,SNR=4.8
comp=Z,0.5nm,0.7s
BUR08 Bucovina Ar. S 78.82 321 P P 04 11 00.8 -0.1
BUR08 IAmb IAmb 04 11 15.6
comp=Z,9.9nm,1.4s
BURAR Bucovina Array 78.83 321 P P 04 11 00.7 -0.2
BRTR Keskin Array B 79.05 311 P P 04 11 03.1 +0.8
comp=Z,0.9nm,0.8s,baz=60,slow=4.9,SNR=4.8
comp=Z,0.9nm,0.8s
PDAR Pinedale Array 79.47 45 P P 04 11 05.2 +0.5
PDAR Pinedale Array 79.47 45 P P 04 11 05.3 +0.6
comp=Z,0.5nm,0.6s,baz=254,slow=2.1,SNR=6.6
comp=Z,0.5nm,0.6s
RAYN Ar Rayn 80.24 292 P P 04 11 08.6 -0.3
RAYN IAmb IAmb 04 11 09.5
comp=Z,3.6nm,0.5s
CLL Collm 81.86 330 eP P 04 11 17.0 0.0
TORD Torodi Ar. Bea 117.61 313 PKP PKPdf 04 17 43.2 -0.8
comp=Z,0.3nm,0.5s,baz=11,slow=1.2,SNR=7.3
QSPA South Pole Qui 125.28 180 PKP PKiKP 04 17 57.6 -0.1
comp=Z,1.8nm,1.1s,baz=152,slow=2.0,SNR=2.3
LPAZ La Paz 148.35 60 PKPbc PKiKP 04 18 46.2 -0.5
comp=Z,0.9nm,0.7s,baz=315,slow=4.3,SNR=3.8

JMA 18 03:59:18.8±0.0, 36°.73N±0°.09×140°.6E±0°.1, h8km, MV-0.1/5, NORTHERN IBARAKI PREF, Near east coast of eastern Honshu

*NIED **18** 03:59:45.3, 36°.20N×141°.77E, h11km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.55; $M_{\theta\theta}$-0.40; $M_{\phi\phi}$-1.15; $M_{r\theta}$0.48; $M_{\theta\phi}$-0.56; $M_{r\phi}$0.94; Fault plane solution: $M_0$1.83000×10^{15} NP1:ϕ_s27.00000°, δ63.00000°, λ89.00000°. NP2:ϕ_s209.00000°, δ27.00000°, λ91.00000°.*
*JMA **18** 03:59:45.3±0.2, 36°.2N±0°.4×141°.8E±0°.9, h11km±3km, MD4.4/18, MV4.0/18, FAR E OFF IBARAKI PREF*
*IDC **18** 03:59:47.2±0.7, 36°.16N×141°.77E, h33km±4km, mb3.9/17, mbtmp4.2/21, ML4.2/3, MS3.4/3, Error ellipse: s-maj=17.1km s-min=15.8km az=33.0*
*NEIC **18** 03:59:49.2±1.8, 36°.29N±0°.09×141°.7E±0°.1, h41km±7km, mb4.4/43, Error ellipse: s-maj=16.1km s-min=11.1km az=126.0*

ISC 18 03:59:47.6±0.6, 36°.15N±0°.06×141°.79E±0°.08, h36km±2km, h36km:pP-P, n88, σ1°.07/96, mb4.3/39, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHYU	**Hitachinakayam**	**0.99**	**282**	*eP*		**Pn**	**04 00 03.5**	**-1.4**
JHYU				*eS*		**Sn**	**04 00 16.7**	**-0.9**
JIHU	**Itakohorinouch**	**1.04**	**260**	*eP*		**Pn**	**04 00 04.9**	**-0.6**
JIHU				*eS*		**Sn**	**04 00 18.5**	**-0.3**
JIHU	**Itakohorinouch**	**1.04**	**260**	A		A	04 00 04.9	
	comp=E,22nm,1.0s,comp=N,23nm,3.6s							
JSMT	**Sammumatsuo**	**1.20**	**246**	*eP*		**Pn**	**04 00 07.8**	**+0.1**
JSMT				*eS*		**Sn**	**04 00 23.2**	**+0.4**
JOTO	**OTAMA OYAMA**	**1.83**	**321**	*eP*		**Pn**	**04 00 16.2**	**-0.2**
JOU	**Okura**	**2.39**	**338**	A		A	04 00 24.5	
	comp=E,5.0nm,1.0s,comp=N,4.0nm,1.8s							
MJAR	**Matsushiro Arr**	**2.92**	**279**	Pn		**Pn**	**04 00 31.0**	**-0.4**
	comp=N,51nm,0.5s,baz=107,slow=8.5,SNR=2.2							
JSD	**Sado**	**3.39**	**305**			**Pn**	**04 00 36.1**	**-1.8**
JHJ	**Hachijo jima 2**	**3.44**	**209**	Sn		**Sn**	**04 01 15.2**	**-3.0**
	comp=N,127nm,0.3s,baz=198,slow=20,SNR=1.5							
JGF	**Kuroka**	**3.64**	**263**			**Pn**	**04 00 43.5**	**+2.1**
ERM	**Erimo**	**5.96**	**10**	Pn		**Pn**	**04 01 10.6**	**-2.5**
ASAJ	**Asahikawa**	**7.98**	**4**	Pn		**Pn**	**04 01 40.4**	**-0.5**
	comp=N,3.0nm,0.3s,baz=247,slow=20,SNR=5.0							
	comp=N,6.8nm,0.3s							
JKA	**Kamikawa-asahi**	**7.98**	**4**	Pn		**Pn**	**04 01 40.0**	**-0.9**
JCJ	**Chichijima**	**9.03**	**178**	Pn		**Pn**	**04 01 55.4**	**0.0**
	comp=N,17nm,0.3s,baz=282,slow=20,SNR=2.5							
	comp=N,117nm,0.7s							
USRK	**Ussuriysk Ar.**	**10.99**	**320**	Pn		**Pn**	**04 02 22.6**	**+0.5**
	comp=N,0.4nm,0.3s,baz=131,slow=32,SNR=1.5							
USRK				LR		LR	04 06 17.6	
	comp=N,178nm,20.6s,baz=142,slow=36							
	comp=N,2.0nm,0.5s							
KSRS	**Korea Array**	**11.20**	**281**			**Pn**	**04 02 28.4**	**+3.5**
KSRS	**Korea Array**	**11.20**	**281**	Pn		**Pn**	**04 02 28.4**	**+3.5**
	comp=N,0.1nm,0.3s,baz=90,slow=14,SNR=4.4							
KSRS				LR		LR	04 06 47.7	
	comp=N,132nm,18.2s,baz=90,slow=38							
JOW	**Kunigami**	**14.79**	**235**	P		**P**	**04 03 19.1**	**-0.4**
ENH	**Enshi**	**27.57**	**267**	P		**P**	**04 05 29.2**	**-2.1**
ULN	**Ulaanbaatar**	**28.11**	**305**	P		**P**	**04 05 35.6**	**-0.4**
SONM	**Songino Array**	**28.54**	**305**	P		**P**	**04 05 39.0**	**-0.8**
SONM	**Songino Array**	**28.54**	**305**	P		**P**	**04 05 39.7**	**-0.1**
	comp=N,5.1nm,0.9s,baz=106,slow=8.9,SNR=14							
	comp=N,5.1nm,0.9s							
CMAR	**Chiang Mai Arr**	**41.58**	**257**	P		**P**	**04 07 31.7**	**-0.3**
	comp=N,1.9nm,0.3s,baz=40,slow=5.9,SNR=5.0							
	comp=N,1.9nm,0.3s							
ZAA0	**Zalesovo Array**	**42.74**	**313**	P		**P**	**04 07 40.3**	**-0.7**
ZAA0				IAmb		IAmb	04 07 41.6	
	comp=Z,4.0nm,0.7s							
ZALV	**Zalesovo Beam**	**42.74**	**313**	P		**P**	**04 07 40.4**	**-0.6**
ZALV	**Zalesovo Beam**	**42.74**	**313**	P		**P**	**04 07 41.2**	**+0.2**
	comp=Z,3.4nm,0.6s,baz=92,slow=6.4,SNR=8.3							
ZALV				pP		**pP**	**04 07 50.9**	**0.0**
	comp=Z,2.9nm,0.5s,baz=90,slow=8.0,SNR=4.3							
	comp=Z,3.4nm,0.6s							
K15K	**Wolf Creek Mou**	**43.37**	**35**	P		**P**	**04 07 47.3**	**+1.3**
L16K	**Owhat River**	**44.24**	**36**	P		**P**	**04 07 53.6**	**+0.7**
MK31	**Makanchi Array**	**44.85**	**303**	P		**P**	**04 07 58.2**	**0.0**
MK31				IAmb		IAmb	04 08 10.3	
	comp=Z,4.1nm,0.9s							
MKAR	**Makanchi Array**	**44.85**	**303**	P		**P**	**04 07 57.9**	**-0.2**
MKAR	**Makanchi Array**	**44.85**	**303**	P		**P**	**04 07 58.0**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=86,slow=9.3,SNR=7.1							
	comp=Z,2.0nm,0.6s							
MAKZ	**Makanchi**	**45.06**	**303**	P		**P**	**04 07 59.2**	**-0.6**
MAKZ				IAmb		IAmb	04 08 02.5	
	comp=Z,5.1nm,1.0s							
M17K	**Holitna River**	**45.17**	**36**	P		**P**	**04 08 01.2**	**+0.8**
M17K				IAmb		IAmb	04 08 04.4	
	comp=Z,9.4nm,1.4s							
E19K	**Redstone River**	**46.11**	**28**	P		**P**	**04 08 07.7**	**-0.1**
E19K				IAmb		IAmb	04 08 11.1	
	comp=Z,2.8nm,0.7s							
J19K	**Poorman**	**46.26**	**33**	P		**P**	**04 08 09.8**	**+0.8**
J19K				IAmb		IAmb	04 08 34.0	
	comp=Z,4.0nm,1.2s							
KURK	**Kurchatov**	**46.72**	**309**	P		**P**	**04 08 12.1**	**-0.7**
KURBB	**Kurchatov Arra**	**46.79**	**309**	P		**P**	**04 08 12.6**	**-0.7**
	comp=Z,3.9nm,0.4s,baz=84,slow=8.1,SNR=6.5							
	comp=Z,3.9nm,0.4s							
K20K	**Telida**	**46.89**	**34**	P		**P**	**04 08 15.5**	**+1.5**
J20K	**Nowinta River**	**46.92**	**33**	P		**P**	**04 08 14.9**	**+0.7**
J20K				IAmb		IAmb	04 08 32.0	
	comp=Z,4.8nm,1.2s							
M20K	**Styx River**	**47.25**	**36**	P		**P**	**04 08 17.1**	**+0.2**
M20K				IAmb		IAmb	04 08 34.5	
	comp=Z,4.6nm,1.5s							
B21K	**Ikpikpuk River**	**47.46**	**25**	P		**P**	**04 08 17.8**	**-0.5**
B21K				IAmb		IAmb	04 08 20.3	
	comp=Z,3.5nm,0.6s							
SUA	**Susitna One**	**48.39**	**36**	P		**P**	**04 08 26.8**	**+1.0**
SUA				IAmb		IAmb	04 08 38.4	
	comp=Z,2.7nm,0.9s							
C23K	**Itkillik River**	**48.87**	**25**	P		**P**	**04 08 29.7**	**+0.6**
C23K				IAmb		IAmb	04 08 31.5	
	comp=Z,4.2nm,0.8s							
D24K	**Happy Valley**	**49.43**	**26**	P		**P**	**04 08 34.5**	**+1.0**
D24K				IAmb		IAmb	04 08 35.3	
	comp=Z,2.8nm,0.6s							
ILAR	**Eielson Array**	**50.08**	**32**	P		**P**	**04 08 38.5**	**0.0**
	comp=Z,0.9nm,0.6s,baz=265,slow=5.8,SNR=7.2							
	comp=Z,0.9nm,0.6s							
SCRK	**Sand Creek**	**51.38**	**33**	P		**P**	**04 08 48.6**	**+0.2**
BVAR	**Borovoye Array**	**51.39**	**313**	P		**P**	**04 08 48.5**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=75,slow=6.4,SNR=6.4							
BVAR				PcP		**PcP**	**04 10 03.0**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=116,slow=3.4,SNR=2.5							
	comp=Z,1.9nm,0.6s							
BRVK	**Borovoye**	**51.45**	**313**	P		**P**	**04 08 48.5**	**-0.5**
BRVK				IAmb		IAmb	04 08 49.9	
	comp=Z,4.1nm,1.0s							
E27K	**Coleen River**	**52.07**	**27**	P		**P**	**04 08 52.7**	**-0.7**
D27M	**Malcolm River**	**52.24**	**26**	P		**P**	**04 08 55.0**	**+0.3**
E28M	**Babbage River**	**52.80**	**27**	P		**P**	**04 08 57.8**	**-1.0**
E28M				IAmb		IAmb	04 09 01.4	
	comp=Z,3.8nm,1.1s							
E29M	**Blow River**	**53.42**	**27**	P		**P**	**04 09 04.3**	**+1.0**
E29M				IAmb		IAmb	04 09 06.2	
	comp=Z,2.9nm,0.9s							
LEM	**Lembang**	**53.44**	**224**	LR		LR	04 31 00.5	
	comp=Z,73nm,20.2s,baz=182,slow=35							
G29M	**Pine Creek**	**53.55**	**29**	P		**P**	**04 09 06.0**	**+1.6**
G29M				IAmb		IAmb	04 09 23.4	
	comp=Z,7.8nm,1.1s							
GSI	**Gunungsitoli**	**53.61**	**240**	P		**P**	**04 09 04.8**	**-0.6**
KK31	**Karatay Array**	**53.83**	**301**	P		**P**	**04 09 07.2**	**+0.5**
KK31				IAmb		IAmb	04 09 11.7	
	comp=Z,5.6nm,1.1s							
KKAR	**Karatay Array**	**53.83**	**301**	P		**P**	**04 09 07.4**	**+0.6**
KKAR				IAmb		IAmb	04 09 11.7	
	comp=Z,5.5nm,1.1s							
L29M	**L29M**	**54.09**	**34**	P		**P**	**04 09 09.8**	**+1.4**
L29M				IAmb		IAmb	04 09 34.0	
	comp=Z,5.6nm,1.4s							
EPYK	**Eagle Plains**	**54.15**	**29**	P		**P**	**04 09 10.2**	**+1.5**
G30M	**tAoh Zraii Nji**	**54.24**	**29**	P		**P**	**04 09 10.5**	**+1.1**
I30M	**Mount Dempster**	**54.48**	**31**	P		**P**	**04 09 12.5**	**+1.2**
I30M				IAmb		IAmb	04 09 29.5	
	comp=Z,4.5nm,1.0s							
G31M	**Satah River**	**55.01**	**29**	P		**P**	**04 09 15.9**	**+1.0**
INK	**Inuvik**	**55.04**	**27**	P		**P**	**04 09 15.8**	**+0.7**
INK				IAmb		IAmb	04 09 43.4	
	comp=Z,6.5nm,1.4s							
WB2	**Warramunga Arr**	**56.23**	**188**	P		**P**	**04 09 25.2**	**+1.0**
WRA	**Warramunga Arr**	**56.23**	**188**	P		**P**	**04 09 26.7**	**+2.5**
WRA	**Warramunga Arr**	**56.23**	**188**	P		**P**	**04 09 23.1**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=6.7,slow=7.2,SNR=1.4							
	comp=Z,0.8nm,0.5s							
ABKAR	**Akbulak array**	**58.74**	**311**	P		**P**	**04 09 41.1**	**-0.6**
ASAR	**Alice Springs**	**59.96**	**188**	P		**P**	**04 09 48.8**	**-1.5**
ASAR	**Alice Springs**	**59.96**	**188**	P		**P**	**04 09 50.4**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=12,slow=13,SNR=4.8							
	comp=Z,0.6nm,0.6s							
YKA	**Yellowknife Ar**	**64.32**	**30**	P		**P**	**04 10 19.0**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=301,slow=7.5,SNR=4.4							
YKA				pP		**pP**	**04 10 30.4**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=306,slow=7.7,SNR=5.0							
	comp=Z,0.3nm,0.6s							
ARCES	**ARCESS Array B**	**64.93**	**340**	P		**P**	**04 10 21.2**	**-1.7**
	comp=Z,5.6nm,1.0s,baz=46,slow=6.9,SNR=1.5							
ARCES				pP		**pP**	**04 10 32.8**	**-0.6**
	comp=Z,8.7nm,1.1s,baz=36,slow=6.8,SNR=2.4							
	comp=Z,5.6nm,1.0s							
FIA1	**FINESS Array S**	**69.74**	**333**	P		**P**	**04 10 52.3**	**-1.2**
FINES	**FINESS Array B**	**69.74**	**333**	P		**P**	**04 10 53.0**	**-0.5**
FINES	**FINESS Array B**	**69.74**	**333**	P		**P**	**04 10 52.9**	**-0.6**
	comp=Z,2.1nm,0.6s,baz=50,slow=6.0,SNR=4.6							
	comp=Z,2.1nm,0.6s							
NC405	**NORSAR Array S**	**74.91**	**337**	P		**P**	**04 11 24.4**	**0.0**
HFS	**Hagfors**	**75.02**	**336**	P		**P**	**04 11 24.5**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=71,slow=9.6,SNR=1.8							
	comp=Z,1.5nm,0.6s							
NB2	**NORSAR Subarra**	**75.12**	**338**	P		**P**	**04 11 25.6**	**0.0**
	comp=Z,1.1nm,0.5s,baz=40,slow=6.2							
NOA	**NORSAR Array B**	**75.12**	**338**	P		**P**	**04 11 25.7**	**+0.1**
NOA						**pP**	**04 11 36.8**	**+0.7**
NOA	**NORSAR Array B**	**75.12**	**338**	P		**P**	**04 11 25.7**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=39,slow=5.8,SNR=4.3							
NOA				pP		**pP**	**04 11 36.8**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=38,slow=5.8,SNR=3.0							
	comp=Z,1.9nm,0.8s							
AKASG	**Malin Array Be**	**75.18**	**323**	P		**P**	**04 11 25.9**	**-0.1**
	comp=Z,1.5nm,0.4s,baz=46,slow=6.0,SNR=8.8							
AKASG				pP		**pP**	**04 11 36.3**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=47,slow=5.9,SNR=3.0							
	comp=Z,1.5nm,0.4s							
AKBB	**Malin Array Si**	**75.18**	**323**	P		**P**	**04 11 25.9**	**-0.2**
KIEV	**Kiev**	**75.19**	**323**	P		**P**	**04 11 25.6**	**-0.5**
KIEV				IAmb		IAmb	04 11 39.7	
	comp=Z,6.6nm,1.4s							
PDAR	**Pinedale Array**	**78.07**	**45**	P		**P**	**04 11 42.5**	**-0.4**
PDAR	**Pinedale Array**	**78.07**	**45**	P		**P**	**04 11 43.5**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=264,slow=2.2,SNR=3.6							
PDAR				pP		**PcP**	**04 11 53.0**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=267,slow=1.9,SNR=5.0							
	comp=Z,0.3nm,0.5s							
BURAR	**Bucovina Array**	**79.19**	**322**	P		**P**	**04 11 48.0**	**-0.9**
TXAR	**Lajitas Array**	**90.42**	**53**	P		**P**	**04 12 46.3**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=290,slow=3.6,SNR=4.7							
	comp=Z,0.5nm,0.8s							
QSPA	**South Pole Qui**	**125.89**	**180**	pPKP		pPKPdf	04 18 55.3	-0.3
	comp=Z,0.9nm,0.6s,baz=293,slow=2.5,SNR=2.3							
LPAZ	**La Paz**	**146.87**	**61**	PKPbc		**PKPbc**	**04 19 27.5**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=327,slow=0.9,SNR=5.8							
LPAZ				pPKPbc		**pPKPdf**	**04 19 37.2**	**+0.9**
	comp=Z,2.4nm,0.5s,baz=38,slow=4.7,SNR=5.5							

IDC 18 04:19:24.1±1.9, 14°.68S×179°.21W, h0km, mb3.7/6, mbtmp3.7/6, MS3.5/14, Error ellipse: s-maj=98.6km s-min=26.1km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAR	**Rarotonga**	**19.59**	**112**	LR		LR	04 29 54.4	
	comp=Z,183nm,20.9s,baz=311,slow=32							
URZ	**Urewera**	**23.71**	**187**	LR		LR	04 31 51.0	
	comp=Z,154nm,20.8s,baz=123,slow=32							
PPT	**Papeete**	**28.60**	**100**	LR		LR	04 33 58.7	
	comp=Z,59nm,21.3s,baz=302,slow=31							
PMG	**Port Moresby**	**33.28**	**275**	LR		LR	04 38 09.1	
	comp=Z,48nm,18.9s,baz=167,slow=34							
STKA	**Stephens Creek**	**39.61**	**237**	LR		LR	04 40 55.0	
	comp=Z,79nm,20.4s,baz=35,slow=33							
WRA	**Warramunga Arr**	**44.55**	**256**	P		P	04 27 38.6	+0.4
	1.2nm,1.0s,baz=89,slow=9.7,SNR=2.9							
	1.2nm,1.0s							
ASAR	**Alice Springs**	**45.01**	**251**	P		P	04 27 41.1	-0.7
	1.2nm,0.8s,baz=80,slow=8.6,SNR=7.5							
ASAR				LR		LR	04 45 29.1	
	comp=Z,89nm,18.1s,baz=71,slow=35							
	1.2nm,0.8s							
RPN	**Rapa Nui**	**65.73**	**113**	LR		LR	04 52 53.5	
	comp=Z,33nm,21.4s,baz=166,slow=31							
ASAJ	**Asahikawa**	**68.09**	**331**	LR		LR	04 58 13.0	
	comp=Z,37nm,18.5s,baz=105,slow=34							
PFO	**Pinyon Flats O**	**76.64**	**50**	LR		LR	04 57 50.3	
	comp=Z,33nm,18.4s,baz=194,slow=30							
NVAR	**Mina Array Bea**	**77.66**	**45**	P		P	04 31 22.3	-0.6
	0.3nm,0.6s,baz=240,slow=10,SNR=4.2							
NVAR				LR		LR	04 57 49.6	
	comp=Z,38nm,19.5s,baz=233,slow=30							
	0.3nm,0.6s							
BBB	**Bella Bella**	**79.88**	**29**	LR		LR	05 01 47.3	
	comp=Z,40nm,19.2s,baz=225,slow=32							
ELK	**Elko**	**80.85**	**44**	LR		LR	05 02 06.2	
	comp=Z,30nm,19.2s,baz=247,slow=32							
ILAR	**Eielson Array**	**82.93**	**13**	P		P	04 31 50.4	-0.2
	0.6nm,0.9s,baz=236,slow=6.4,SNR=8.2							
ILAR				LR		LR	05 02 00.5	
	comp=Z,29nm,20.1s,baz=328,slow=31							
	0.6nm,0.9s							
TXAR	**Lajitas Array**	**84.94**	**58**	P		P	04 32 02.5	+0.8
	0.4nm,0.8s,baz=242,slow=5.3,SNR=3.8							
	0.4nm,0.8s							
CMAR	**Chiang Mai Arr**	**87.08**	**290**	LR		LR	05 08 11.0	
	comp=Z,13nm,19.9s,baz=125,slow=34							
SONM	**Songino Array**	**90.61**	**320**	P		P	04 32 29.0	+0.4
	0.9nm,1.0s,baz=111,slow=3.3,SNR=4.3							
	0.9nm,1.0s							

*IDC **18** 04:22:50.8±0.5, 5°.87S×154°.71E, h161km±4km, mb4.2/19, mbtmp4.7/20, MS3.0/4, Error ellipse: s-maj=13.3km s-min=9.8km az=103.0*
*DJA **18** 04:22:53.3±0.8, 6°.5S×154°.5E±°, h195km±5km, M4.5/31, mB5.0/7, mb4.9/31, Mw(mB)4.4/7*
*NEIC **18** 04:22:53.3±1.4, 5°.93S±0°.09×154°.78E±0°.09, h177km±7km, mb4.6/164, Error ellipse: s-maj=13.9km s-min=12.8km az=60.0*
*BJI **18** 04:22:54.1±0.0, 5°.75S×154°.56E, h183km, mb4.4/19, mB5.0/9*

ISC 18 04:22:52.2±0.4, 5°.92S±0°.05×154°.83E±0°.06, h172km±3km, h173km:pP-P, n287, σ1°.23/284, mb4.6/110, 1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**6.16**	**125**	Pn		**Pn**	**04 24 22.4**	**+1.2**
PMG	**Port Moresby**	**8.36**	**245**	Pn		**Pn**	**04 24 50.4**	**+0.1**
PMG	**Port Moresby**	**8.36**	**245**	P		**Pn**	**04 24 52.0**	**+1.7**
	51nm,0.7s,baz=31,slow=12,SNR=10							
PMG				LR		LR	04 28 28.9	
	comp=Z,68nm,18.9s,baz=310,slow=41							
PATS	**Pohnpei**	**13.14**	**15**	Pn		**Pn**	**04 25 52.3**	**-0.1**
COEN	**Coen**	**13.98**	**234**	P		**P**	**04 26 05.5**	**-0.2**
	baz=14,SNR=16							
COEN	**Coen**	**13.98**	**234**			**P**	**04 26 05.3**	**-0.4**
COEN	**Coen**	**13.98**	**234**	P		**P**	**04 26 05.8**	**+0.1**
**

MTN Manton Dam 24.36 252 P **P** **04 27 54.6 0.0**
baz=24,SNR=22
MTN Manton Dam 24.36 252 P **P** **04 27 54.5 0.0**
MTN Manton Dam 24.36 252 P **P** **04 27 55.8 +1.3**
ARMA Armidale 24.56 187 P **P** **04 27 57.1 +0.8**
baz=25,SNR=6.2
ARMA Armidale 24.56 187 P **P** **04 27 56.6 +0.3**
ARMA IAmb IAmb 04 28 01.6
comp=Z,9.8nm,0.7s
ARMA Armidale 24.56 187 P **P** **04 27 57.3 +1.0**
INKA Innaminka 25.50 210 P **P** **04 28 05.7 +1.0**
MSVF Nonsavu 25.54 119 P **P** **04 28 05.1 -0.2**
MSVF IAmb IAmb 04 28 22.2
comp=Z,27nm,1.4s
AS01 Alice Springs 26.74 227 P **P** **04 28 14.8 -1.2**
comp=Z,14nm,0.7s
AS31 Alice Springs 26.77 227 P **P** **04 28 15.2 -1.1**
AS31 IAmb IAmb 04 28 16.2
comp=Z,8.0nm,0.3s
ASAR Alice Springs 26.78 227 P **P** **04 28 15.1 -1.2**
ASAR Alice Springs 26.78 227 P **P** **04 28 15.9 -0.4**
comp=Z,9.2nm,0.5s,baz=57,slow=9.0,SNR=85
ASAR PcP **PcP** **04 31 34.5 -0.4**
comp=Z,1.9nm,0.5s,baz=48,slow=2.8,SNR=4.8
ASAR S **S** **04 32 42.5 +2.8**
comp=Z,1.0nm,0.7s,baz=57,slow=16,SNR=4.3
comp=Z,9.2nm,0.5s
CMSA Cobar Meteorol 26.89 197 P **P** **04 28 17.2 +0.1**
baz=27,SNR=6.7
CMSA Cobar Meteorol 26.89 197 P **P** **04 28 20.6 +3.5**
H11S3 WAKE ISLAND Hy 26.93 26 T T 04 56 28.2
baz=207,slow=73,SNR=11
H11S2 WAKE ISLAND Hy 26.93 26 T T 04 56 30.5
baz=207,slow=73,SNR=8.5
H11S1 WAKE ISLAND Hy 26.95 26 T T 04 56 29.6
baz=207,slow=73,SNR=9.7
KNRA Kununurra 27.35 247 P **P** **04 28 20.5 -0.9**
baz=27,SNR=8.1
KNRA Kununurra 27.35 247 P **P** **04 28 20.4 -1.0**
KNRA Kununurra 27.35 247 P **P** **04 28 21.4 0.0**
MGCD Mangrove Creek 27.38 187 P **P** **04 28 22.0 +0.5**
baz=28,SNR=4.4
MGCD Mangrove Creek 27.38 187 P **P** **04 28 25.1 +3.6**
comp=Z,22nm,0.8s
LBMI Labuha 27.77 280 P **P** **04 28 26.0 +0.7**
comp=Z,106nm,0.8s
OOD Oodnadatta 28.36 218 P **P** **04 28 30.5 +0.3**
STKA Stephens Creek 28.64 204 P **P** **04 28 32.5 -0.2**
baz=29,SNR=4.5
STKA Stephens Creek 28.64 204 P **P** **04 28 32.3 -0.4**
STKA Stephens Creek 28.64 204 P **P** **04 28 32.1 -0.6**
STKA Stephens Creek 28.64 204 P **P** **04 28 32.3 -0.4**
comp=Z,5.9nm,0.8s,baz=359,slow=9.7,SNR=5.6
comp=Z,5.9nm,0.8s
LCRK Leigh Creek 28.98 211 P **P** **04 28 35.2 -0.5**
FITZ Fitzroy Crossi 30.95 244 P **P** **04 28 52.2 -1.1**
baz=31,SNR=9.4
FITZ Fitzroy Crossi 30.95 244 P **P** **04 28 52.2 -1.1**
FITZ IAmb IAmb 04 28 53.1
comp=Z,5.3nm,0.7s
FITZ Fitzroy Crossi 30.95 244 P **P** **04 28 51.8 -1.5**
HTT Hallett 31.11 206 P **P** **04 28 54.4 -0.2**
baz=31,SNR=6.7
HTT Hallett 31.11 206 P **P** **04 28 54.3 -0.3**
MULG Mulgathing 31.14 216 P **P** **04 28 53.5 -1.3**
KMSI Cibinong 31.47 281 P **P** **04 29 00.7 +2.8**
WRKA Warakurna 31.75 230 P **P** **04 28 59.1 -1.2**
baz=32,SNR=12
WRKA Warakurna 31.75 230 P **P** **04 28 58.8 -1.4**
DAV Davao City (W) 31.91 293 LR LR 04 42 59.2
comp=Z,36nm,18.3s,baz=1.5,slow=38
BBOO Buckleboo 31.97 211 P **P** **04 29 01.3 -0.7**
baz=32,SNR=8.2
BBOO Buckleboo 31.97 211 P **P** **04 29 01.4 -0.7**
BBOO Buckleboo 31.97 211 P **P** **04 29 01.1 -0.9**
EDFI Ende, Flores 32.98 263 P **P** **04 29 09.9 -1.3**
comp=Z,27nm,0.8s
TOLI2 Tolitoli 34.71 281 P **P** **04 29 24.8 -1.2**
TOLI2 IAmb IAmb 04 29 27.5
comp=Z,16nm,0.6s
TOLI2 Tolitoli 34.71 281 P **P** **04 29 26.0 0.0**
FORT Forrest 35.26 222 P **P** **04 29 30.0 -0.6**
FORT Forrest 35.26 222 P **P** **04 29 32.9 +2.4**
TOZ Tahuroa Road 36.84 152 P **P** **04 29 45.0 +1.2**
PLAI Plampang 36.85 263 P **P** **04 29 43.1 -1.2**
PLAI Plampang 36.85 263 P **P** **04 29 42.3 -2.0**
comp=Z,46nm,0.6s,comp=Z,563nm
PLAI pP **pP** **04 30 23.0 +4.3**
comp=Z,46nm,0.6s,comp=Z,563nm
HIZ Hauiti 37.18 154 P **P** **04 29 47.8 +1.1**
HIZ Hauiti 37.18 154 P **P** **04 29 48.0 +1.3**
comp=Z,68nm,1.6s
MBWA Marble Bar 37.21 243 P **P** **04 29 45.9 -1.3**
MBWA IAmb IAmb 04 29 46.8
comp=Z,12nm,0.7s
MBWA Marble Bar 37.21 243 P **P** **04 29 47.0 -0.2**
PSA00 Pilbara Seismi 37.25 242 P **P** **04 29 46.3 -1.2**
PSA00 IAmb IAmb 04 30 05.8
comp=Z,8.9nm,1.2s
PSA00 Pilbara Seismi 37.25 242 P **P** **04 29 45.8 -1.7**
PSA00 IAmb IAmb 04 29 51.3
comp=Z,11nm,0.5s
PSA00 Pilbara Seismi 37.25 242 P **P** **04 29 47.0 -0.5**
URZ Urewera 38.02 151 P **P** **04 29 53.9 +0.1**
comp=Z,48nm,0.9s
URZ Urewera 38.02 151 P **P** **04 29 53.8 +0.1**
comp=Z,28nm,0.7s,baz=22,slow=1.4,SNR=19
comp=Z,28nm,0.7s
MXZ Matakaoa Point 38.07 149 P **P** **04 29 54.7 +0.6**
MXZ Matakaoa Point 38.07 149 P **P** **04 29 54.8 +0.6**
comp=Z,73nm,1.1s
QRZ Quartz Range 38.20 158 P **P** **04 29 56.4 +1.2**
QRZ Quartz Range 38.20 158 P **P** **04 29 56.7 +1.5**
RTZ Ruatahuna 38.24 151 P **P** **04 29 55.9 +0.2**
BKZ Black Stump Fm 38.45 153 P **P** **04 29 56.9 -0.5**
BKZ IAmb IAmb 04 30 00.2
comp=Z,38nm,1.4s
BKZ Black Stump Fm 38.45 153 P **P** **04 29 58.4 +1.0**
TKNZ Takaka Hill 38.54 158 P **P** **04 29 58.8 +0.7**
DSZ Denniston Nort 38.75 160 P **P** **04 30 00.4 +0.5**
MRNZ Matariki Terra 38.78 158 P **P** **04 30 00.8 +0.7**
NNZ Nelson 38.86 158 P **P** **04 30 00.7 0.0**
THZ Tophouse 39.16 158 P **P** **04 30 03.2 -0.1**
SNZO South Karori 39.46 156 P **P** **04 30 05.5 -0.1**
SNZO South Karori 39.46 156 P **P** **04 30 05.8 +0.2**
INZ Inchbonnie 39.50 161 P **P** **04 30 05.2 -0.8**
BFZ Birch Farm 39.58 154 P **P** **04 30 05.8 -0.8**
BFZ Birch Farm 39.58 154 P **P** **04 30 06.9 +0.2**
CMWZ Cape Campbell 39.64 157 P **P** **04 30 07.2 0.0**
FOZ Fox Glacier 39.72 163 P **P** **04 30 07.8 +0.1**
FOZ IAmb IAmb 04 30 08.7
comp=Z,25nm,1.0s
LTZ Lake Taylor 39.83 160 P **P** **04 30 08.8 +0.1**
PLWZ Pallisey 39.90 156 P **P** **04 30 08.8 -0.6**
KMBL Kambalda 39.91 226 P **P** **04 30 09.0 -0.5**
baz=40,SNR=19
KMBL Kambalda 39.91 226 P **P** **04 30 09.6 0.0**
JCZ Jackson Bay 39.93 164 P **P** **04 30 11.1 +1.5**
KHZ Kahutara 39.96 158 P **P** **04 30 08.7 -1.0**
KHZ Kahutara 39.96 158 P **P** **04 30 09.6 -0.1**
MEEK Meekatharra 40.18 235 P **P** **04 30 11.1 -0.8**
baz=40,SNR=14
MEEK Meekatharra 40.18 235 P **P** **04 30 12.3 +0.4**
OXZ Oxford 40.23 160 P **P** **04 30 11.1 -0.9**
GVZ Greta Valley S 40.26 159 P **P** **04 30 11.6 -0.7**
RPZ Rata Peaks 40.26 162 P **P** **04 30 12.4 +0.1**
RPZ Rata Peaks 40.26 162 P **P** **04 30 12.8 +0.5**
AMCZ Amberley 40.31 160 P **P** **04 30 12.2 -0.4**
JAGI Jajag, Banyuwa 40.43 264 P **P** **04 30 11.9 -2.1**
JAGI IAmb IAmb 04 30 12.4
comp=Z,17nm,0.6s
JAGI Jajag, Banyuwa 40.43 264 P **P** **04 30 12.2 -1.9**
comp=Z,24nm,0.8s
JAGI Jajag, Banyuwa 40.43 264 P **P** **04 30 11.8 -2.3**
comp=Z,24nm,0.8s
LBZ Lake Benmore 40.61 163 P **P** **04 30 14.0 -1.1**
MQZ McQueen's Vall 40.77 160 P **P** **04 30 16.2 -0.2**
DCZ Deep Cove 40.83 167 P **P** **04 30 17.3 +0.5**
DCZ IAmb IAmb 04 30 41.3
comp=Z,48nm,1.4s
MLZ Mavora Lakes 40.97 166 P **P** **04 30 18.1 +0.1**
MLZ IAmb IAmb 04 30 19.0
comp=Z,23nm,0.9s
ODZ Otahua Downs 41.34 163 **P** **04 30 20.7 -0.4**
ODZ IAmb IAmb 04 30 35.7
comp=Z,45nm,1.4s
ODZ Otahua Downs 41.34 163 P **P** **04 30 20.7 -0.4**
WHZ Wether Hill Ro 41.42 166 P **P** **04 30 21.6 0.0**
WHZ IAmb IAmb 04 30 35.5
comp=Z,28nm,1.2s
SYZ Scrubby Hill 42.31 165 P **P** **04 30 29.9 +1.0**
GIRL Giralia 42.52 243 P **P** **04 30 31.2 +0.2**
KLBR Kellerberrin 43.06 229 P **P** **04 30 34.0 -1.2**
baz=43,SNR=9.7
KLBR Kellerberrin 43.06 229 P **P** **04 30 34.2 -1.0**
MORW Morawa 43.26 233 P **P** **04 30 35.9 -1.0**
baz=43,SNR=11
MORW Morawa 43.26 233 P **P** **04 30 36.0 -0.9**
MORW IAmb IAmb 04 30 36.1
comp=Z,47nm,1.4s
MORW Morawa 43.26 233 P **P** **04 30 36.3 -0.6**
BLDU Ballidu 43.40 231 P **P** **04 30 36.9 -1.1**
baz=44,SNR=20
BLDU Ballidu 43.40 231 P **P** **04 30 37.2 -0.8**
NWAO Narrogin (SRO) 44.09 228 P **P** **04 30 42.7 -0.7**
JMN Monobe 44.14 335 P **P** **04 30 45.1 +1.3**
JMN IAmb IAmb 04 30 56.7
comp=Z,31nm,1.1s
TPUB Ta-pu 44.26 312 P **P** **04 30 44.9 0.0**
TPUB IAmb IAmb 04 31 05.8
comp=Z,43nm,1.3s
MUN Mundaring 44.40 229 P **P** **04 30 44.5 -1.5**
baz=44,SNR=3.4
KPJI Karang Pucung 45.60 266 P **P** **04 30 55.1 -0.5**
comp=Z,51nm,0.8s
CMJI Cimerak 46.07 265 P **P** **04 30 57.4 -1.9**
comp=Z,69nm,0.8s
BBJI Bungbulang 46.87 265 P **P** **04 31 04.7 -0.9**
KSRS Korea Array 49.92 332 P **P** **04 31 27.1 -1.3**
comp=Z,0.3nm,0.3s,baz=141,slow=7.2,SNR=1.4
NJ2 Nanjing 50.99 320 *eP* **P** **04 31 37.8 +1.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,98nm,3.8s
TIA Tai'an 54.81 323 *eP* **P** **04 32 03.4 -1.1**
TIA pmax pmax
comp=Z,4.0nm,1.4s
TIA pmax pmax
comp=Z,78nm,2.9s
LYN LuoYang 56.71 318 *eP* **P** **04 32 21.4 +3.4**
LYN pmax pmax
comp=Z,11nm,0.8s
PETK Petropavlovsk- 58.85 2 P **P** **04 32 31.6 -0.9**
comp=Z,3.0nm,0.7s,baz=169,slow=6.2,SNR=4.1
comp=Z,3.0nm,0.7s
CMAR Chiang Mai Arr 60.18 295 P **P** **04 32 40.3 -2.0**
comp=Z,0.9nm,0.3s,baz=120,slow=6.4,SNR=1.7
CMAR pP **pP** **04 33 19.8 -2.4**
comp=Z,1.1nm,0.4s,baz=122,slow=6.8,SNR=1.9
comp=Z,0.9nm,0.3s
PZH PanZhiHua 60.67 305 P **P** **04 32 48.0 +2.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,4.0s
HHC Hu-ho-hao-te 61.13 324 *eP* **P** **04 32 49.9 +1.4**
HHC pmax pmax
comp=Z,8.0nm,0.8s
HHC pmax pmax
comp=Z,110nm,6.1s
BTO Baotou 61.91 323 *eP* **P** **04 32 56.4 +2.7**
BTO pP **pwP** **04 33 37.8 +1.3**
BTO sP **sP** **04 33 57.4 +5.9**
BTO PP **PP** **04 35 12.0 -0.2**
BTO S **S** **04 41 05.9 +1.9**
BTO SS **SS** **04 45 11.1 +1.5**
BTO pmax pmax
comp=Z,16nm,0.5s
BTO pmax pmax
comp=Z,320nm,5.2s
BTO LR LR
comp=Z,230nm,5.0s
BTO LR LR
comp=Z,210nm,5.7s
BTO LR LR
comp=Z,240nm,5.2s
KIWB Kanaga Island 62.33 19 P **P** **04 32 57.8 +1.7**
ADK Adak 62.51 19 P **P** **04 32 57.9 +0.6**
ATKA Atka Island 63.63 21 P **P** **04 33 05.2 +0.5**
SONM Songino Array 68.35 327 P **P** **04 33 35.9 +0.8**
SONM Songino Array 68.35 327 P **P** **04 33 33.4 -1.7**
comp=Z,1.0nm,0.7s,baz=149,slow=5.2,SNR=6.2
SONM pP **pP** **04 34 13.7 -1.7**
comp=Z,0.9nm,0.8s,baz=151,slow=3.4,SNR=2.9
comp=Z,1.0nm,0.7s
VNDA Vanda 71.66 178 P **P** **04 33 54.3 -0.3**
VNDA Vanda 71.66 178 P **P** **04 33 55.0 +0.4**
comp=Z,3.2nm,0.9s,baz=0.1,slow=5.2,SNR=9.7
comp=Z,3.2nm,0.9s
SBA Scott Base 72.17 177 P **P** **04 33 58.2 +0.6**
SBA IAmb IAmb 04 33 59.8
comp=Z,22nm,1.4s
M13K Dall Lake 73.80 20 P **P** **04 34 09.0 +1.6**
M13K IAmb IAmb 04 34 36.0
comp=Z,15nm,1.2s
M14K Bethel 74.52 20 P **P** **04 34 12.5 +1.0**
M14K IAmb IAmb 04 34 14.1
comp=Z,11nm,0.8s
L14K Kuka Creek 74.70 20 IAmb IAmb 04 34 15.2
comp=Z,8.9nm,0.8s
SII Sitkinak Islan 74.84 26 P **P** **04 34 14.3 +0.7**
SII IAmb IAmb 04 34 22.3
comp=Z,18nm,1.0s
K15K Wolf Creek Mou 75.76 19 P **P** **04 34 20.4 +1.7**
K15K IAmb IAmb 04 34 21.4
comp=Z,11nm,0.7s
M16K Timber Creek 75.77 21 IAmb IAmb 04 34 21.5
comp=Z,9.8nm,0.8s
ANM Nome 76.25 17 P **P** **04 34 22.9 +1.5**
ANM IAmb IAmb 04 34 24.0
comp=Z,6.9nm,0.8s
N18K Kilae Creek 76.69 23 P **P** **04 34 24.3 +0.3**
N18K IAmb IAmb 04 34 26.8
comp=Z,7.4nm,0.8s
G16K Koyuk River 77.73 17 IAmb IAmb 04 34 32.2
comp=Z,7.4nm,0.8s
CNPM China Poot 77.86 25 P **P** **04 34 31.1 +0.6**
CNPM IAmb IAmb 04 34 32.5
comp=Z,30nm,1.4s
L19K White Mountain 78.02 22 IAmb IAmb 04 34 33.9
comp=Z,6.4nm,0.7s
TTA Tatalina 78.08 21 P **P** **04 34 32.5 +0.8**
RC01 Rabbit Creek A 79.35 24 IAmb IAmb 04 34 40.4
comp=Z,5.8nm,0.6s
J20K Nowinta River 79.52 20 P **P** **04 34 40.5 +1.1**
KNK Knik Glacier 80.05 24 IAmb IAmb 04 34 43.9
comp=Z,12nm,1.4s
SML Sawmill 80.31 24 IAmb IAmb 04 35 26.2
comp=Z,13nm,1.2s
HIN Hinchinbrook I 80.33 25 P **P** **04 34 43.8 -0.1**
HIN IAmb IAmb 04 35 00.9
comp=Z,9.6nm,1.1s
E19K Redstone River 80.65 17 IAmb IAmb 04 34 48.0
comp=Z,6.1nm,0.8s
SCM Sheep Creek Mo 80.73 24 P **P** **04 34 46.8 +0.7**
SCM IAmb IAmb 04 35 30.8
comp=Z,9.3nm,1.2s
IMAR Indian Mountai 80.77 19 P **P** **04 34 47.1 +1.0**
I21K Tanana 80.86 20 IAmb IAmb 04 34 48.9
comp=Z,7.6nm,1.1s
D19K Kuna River 81.10 16 P **P** **04 34 48.5 +0.7**
D19K IAmb IAmb 04 34 49.8
comp=Z,14nm,1.4s
KLU Klutina 81.13 25 P **P** **04 34 48.6 +0.4**
KLU IAmb IAmb 04 35 32.8
comp=Z,11nm,1.2s
G21K Allakaket 81.17 19 P **P** **04 34 49.2 +1.0**
MLY Manley 81.20 20 P **P** **04 34 49.3 +0.8**
HMT Hamilton 81.27 26 P **P** **04 34 50.2 +1.3**
HMT IAmb IAmb 04 35 11.1
comp=Z,17nm,1.4s
M24K Tolsona, Glenn 81.34 24 P **P** **04 34 49.4 +0.1**
M24K IAmb IAmb 04 34 51.9
comp=Z,30nm,1.4s
DHY Denali Highway 81.36 23 P **P** **04 34 50.1 +0.6**
NEA2 Nenana 81.55 21 P **P** **04 34 50.0 -0.3**
N25K Chitina, Valde 81.74 25 P **P** **04 34 52.7 +1.3**
I23K Minto, Yukon-K 81.75 21 P **P** **04 34 52.4 +1.1**
WAX Waxell Ridge 81.94 26 P **P** **04 34 53.6 +1.1**
WAX IAmb IAmb 04 34 54.8
comp=Z,9.7nm,1.2s
GLB Gilahina Butte 81.99 25 P **P** **04 34 52.8 +0.1**
GLB IAmb IAmb 04 35 36.1
comp=Z,14nm,1.3s
CCB Clear Creek Bu 82.04 21 P **P** **04 34 52.4 -0.4**
VRDI Verde Repeater 82.04 25 P **P** **04 34 54.4 +1.2**
MDM Murphy Dome 82.05 21 P **P** **04 34 52.2 -0.7**
HDA Harding Lake 82.22 22 P **P** **04 34 53.5 -0.3**
ISLE Juniper Island 82.24 26 P **P** **04 34 54.4 +0.3**
MCARA McCarthy VSAT 82.30 25 P **P** **04 34 54.7 +0.5**
MCARA IAmb IAmb 04 35 37.8
comp=Z,6.9nm,1.1s
IL31 82.44 22 P **P** **04 34 54.6 -0.2**
ILAR Eielson Array 82.44 22 P **P** **04 34 54.0 -0.9**
ILAR Eielson Array 82.44 22 P **P** **04 34 54.2 -0.7**
comp=Z,1.0nm,0.4s,baz=236,slow=5.3,SNR=26
ILAR pP **pP** **04 35 35.2 -1.4**
comp=Z,1.5nm,0.9s,baz=246,slow=5.6,SNR=4.1
comp=Z,1.0nm,0.4s
MK31 Makanchi Array 82.49 319 P **P** **04 34 55.7 +0.1**
MKAR Makanchi Array 82.49 319 P **P** **04 34 55.7 +0.1**
MKAR Makanchi Array 82.49 319 P **P** **04 34 56.3 +0.7**
comp=Z,7.4nm,0.8s,baz=102,slow=6.1,SNR=33
MKAR pP **pP** **04 35 35.6 -2.2**
comp=Z,1.9nm,0.9s,baz=99,slow=7.7,SNR=2.2
MKAR LR LR 05 13 28.6
comp=Z,8.6nm,19.5s,baz=250,slow=37
comp=Z,7.4nm,0.8s
TABL Table Mountain 82.70 27 P **P** **04 34 57.2 +0.6**
TABL IAmb IAmb 04 35 40.1
comp=Z,7.0nm,1.0s
MAKZ Makanchi 82.70 319 P **P** **04 34 56.5 -0.2**
MAKZ IAmb IAmb 04 34 58.1
comp=Z,6.7nm,0.8s
CTGM Chitina Glacie 82.84 26 P **P** **04 34 58.3 +1.1**
CTGM IAmb IAmb 04 35 40.8
comp=Z,5.7nm,0.9s
J25K Salcha River, 82.92 22 IAmb IAmb 04 34 59.0
comp=Z,7.9nm,1.2s
LOGN Logan Glacier 82.93 26 P **P** **04 34 58.8 +1.1**
LOGN IAmb IAmb 04 35 42.3
comp=Z,11nm,1.4s
L26K Log Cabin Wild 82.93 24 P **P** **04 34 58.0 +0.5**
SCRK Sand Creek 83.13 23 P **P** **04 34 59.1 +0.5**
ZAA0 Zalesovo Array 83.20 326 P **P** **04 34 58.1 -0.9**
ZALV Zalesovo Beam 83.20 326 P **P** **04 34 58.2 -0.8**
ZALV Zalesovo Beam 83.20 326 P **P** **04 34 58.6 -0.4**
comp=Z,3.7nm,0.7s,baz=117,slow=4.4,SNR=16
ZALV pP **pP** **04 35 36.9 -4.1**
comp=Z,1.3nm,0.7s,baz=86,slow=6.4,SNR=2.3
comp=Z,3.7nm,0.7s
M27K Edge Creek, AK 83.23 25 IAmb IAmb 04 35 43.1
comp=Z,16nm,1.2s
BCAR Beaver Creek A 83.58 24 P **P** **04 35 01.6 +0.7**
FYU Fort Yukon 83.95 20 P **P** **04 35 03.1 +0.6**
C23K Itkillik River 84.03 17 P **P** **04 35 03.6 +0.7**
QSPA South Pole Qui 84.05 180 P **P** **04 35 02.9 -0.4**
QSPA IAmb IAmb 04 35 03.6
comp=Z,8.6nm,0.6s
QSPA South Pole Qui 84.05 180 P **P** **04 35 03.1 -0.3**
comp=Z,7.3nm,0.5s,baz=205,slow=0.8,SNR=138
comp=Z,7.3nm,0.5s
HYT Haines Junctio 84.49 27 P **P** **04 35 06.9 +1.3**
HYT IAmb IAmb 04 35 49.8
comp=Z,7.5nm,1.1s
BMAR Burnt Mountain 84.60 20 P **P** **04 35 07.1 +1.2**
DAWY Dawson 84.98 24 P **P** **04 35 08.8 +0.9**
MAW Mawson 85.32 203 P **P** **04 35 09.3 -0.1**
comp=Z,6.3nm,0.5s,baz=95,slow=6.4,SNR=8.6
comp=Z,6.3nm,0.5s
J29N Klondike Camp 85.61 24 P **P** **04 35 11.4 +0.4**
J29N IAmb IAmb 04 35 54.4
comp=Z,6.9nm,1.4s
K29M Barlow Dome 85.65 24 P **P** **04 35 12.5 +1.2**
KURBB Kurchatov Area 85.92 322 P **P** **04 35 11.8 -0.9**
comp=Z,1.0nm,0.6s,baz=99,slow=4.7,SNR=12
comp=Z,1.0nm,0.6s
E27K Coleen River 85.96 20 IAmb IAmb 04 35 15.3
comp=Z,4.7nm,0.9s
F28M Old Crow 86.29 20 P **P** **04 35 14.9 +0.6**
M31M Drury Creek, Y 86.38 26 P **P** **04 35 14.6 -0.2**
J30M Hart River 86.41 24 IAmb IAmb 04 35 59.1
comp=Z,5.7nm,1.1s
G29M Pine Creek 86.66 21 P **P** **04 35 17.2 +1.1**
G29M IAmb IAmb 04 35 18.3
comp=Z,6.4nm,1.1s
EPYK Eagle Plains 86.93 22 P **P** **04 35 18.1 +0.7**
EPYK IAmb IAmb 04 35 20.2
comp=Z,10nm,1.1s
NRIK Noril'sk 87.67 341 P **P** **04 35 20.5 -0.3**
comp=Z,1.0nm,0.3s,baz=107,slow=4.6,SNR=1.7
comp=Z,1.0nm,0.3s
J05D Fort Rock, OR 89.61 47 P **P** **04 35 30.6 -0.2**
J05D IAmb IAmb 04 35 32.9
comp=Z,3.6nm,0.9s
LHV Little Huntoon 91.01 52 P **P** **04 35 38.3 +1.2**
LHV IAmb IAmb 04 35 40.2
comp=Z,10nm,1.0s
NVAR Mina Array Bea 91.18 52 P **P** **04 35 39.2 +1.0**
NVAR Mina Array Bea 91.18 52 P **P** **04 35 39.9 +1.6**
comp=Z,7.1nm,0.9s,baz=254,slow=6.6,SNR=31
comp=Z,7.1nm,0.9s
NV11 Mina Array Sit 91.30 52 P **P** **04 35 39.9 +1.2**
NV11 IAmb IAmb 04 35 41.9
comp=Z,10nm,1.1s
DSP Deep Springs 91.33 53 P **P** **04 35 39.4 +0.8**
DSP IAmb IAmb 04 35 41.6
comp=Z,5.0nm,0.9s
BVAR Borovoye Array 91.34 323 P **P** **04 35 37.2 -1.1**
comp=Z,2.8nm,0.8s,baz=109,slow=5.7,SNR=12
BVAR pP **pP** **04 36 16.9 -4.5**
comp=Z,0.9nm,0.6s,baz=90,slow=4.4,SNR=3.1
comp=Z,2.8nm,0.8s
KVN Kaiserville 91.41 51 P **P** **04 35 40.2 +0.9**
KVN IAmb IAmb 04 35 41.7
comp=Z,5.2nm,0.8s
MZP Montezuma Peak 91.83 52 IAmb IAmb 04 35 43.8
comp=Z,4.1nm,0.9s
WCT Wildcat Mounta 92.34 53 P **P** **04 35 44.0 +0.6**
WCT IAmb IAmb 04 35 46.2
comp=Z,5.6nm,0.9s
BMO Blue Mountains 92.61 45 P **P** **04 35 44.0 -0.5**
BMO IAmb IAmb 04 35 46.0
comp=Z,3.1nm,1.1s
NEW Newport 93.07 42 P **P** **04 35 46.2 -0.3**
NEW IAmb IAmb 04 35 47.8
comp=Z,6.2nm,1.1s
R11B Troy Canyon, C 93.30 52 P **P** **04 35 49.2 +1.2**
R11B IAmb IAmb 04 35 51.2
comp=Z,5.0nm,1.1s
SHPR Sheep Range 93.48 54 P **P** **04 35 49.9 +1.0**
SHPR IAmb IAmb 04 35 52.0
comp=Z,2.5nm,1.0s
PRN Pahroc Range 93.64 53 P **P** **04 35 50.9 +1.4**
PRN IAmb IAmb 04 35 52.6
comp=Z,6.7nm,1.1s
V12A Nelson 93.67 55 P **P** **04 35 50.0 +0.4**
V12A IAmb IAmb 04 35 52.1
comp=Z,2.4nm,0.8s
Q12A Willow Creek R 93.95 51 P **P** **04 35 50.3 -0.6**
Q12A IAmb IAmb 04 35 53.7
comp=Z,11nm,1.4s
SPR3 Spring Creek 3 94.33 51 P **P** **04 35 53.5 +0.6**
SPR3 IAmb IAmb 04 35 55.6
comp=Z,6.8nm,1.1s
W13A Hualapai Mount 94.41 55 P **P** **04 35 54.0 +0.8**
W13A IAmb IAmb 04 35 56.2
comp=Z,3.2nm,0.9s
PSUT Pine Spring 94.67 52 IAmb IAmb 04 35 59.7
comp=Z,2.7nm,0.9s
CCUT Cedar City 95.00 53 P **P** **04 35 55.7 -0.1**
CCUT IAmb IAmb 04 35 58.4
comp=Z,3.7nm,1.3s
LCMT Little Creek M 95.06 53 P **P** **04 35 55.4 -0.6**
LCMT IAmb IAmb 04 35 59.9
comp=Z,2.3nm,1.0s
YKA Yellowknife Ar 95.47 28 P **P** **04 35 57.0 0.0**
YKA Yellowknife Ar 95.47 28 P **P** **04 35 57.9 +0.9**
comp=Z,0.8nm,0.7s,baz=268,slow=4.7,SNR=15
YKA pP **pP** **04 36 38.0 -2.1**
comp=Z,0.4nm,0.7s,baz=271,slow=5.1,SNR=3.6
comp=Z,0.8nm,0.7s
EDM Edmonton 95.79 37 P **P** **04 35 58.9 +0.1**
U15A North Rim 95.79 54 P **P** **04 35 60.0 +0.5**
U15A IAmb IAmb 04 36 02.4

comp=Z,3.3nm,1.0s
PKCU **Pink Cliffs** 95.82 53 P P 04 35 57.1 -2.6
ELIB **Princess Elisa** 96.21 194 *dP* P 04 35 59.6 -0.9
PDAR **Pinedale Array** 98.10 48 P Pdif 04 36 09.9 +0.2
comp=Z,0.8nm,0.7s,baz=224,slow=1.5,SNR=7.7
comp=Z,0.8nm,0.7s
LPAZ **La Paz** 132.11 118 PKP PKPdf 04 41 47.4 +0.2
comp=Z,1.1nm,0.7s,baz=260,slow=4.7,SNR=6.1
BDFB **Brasilia** 148.84 134 PKPbc PKPbc 04 42 19.2 -1.4
comp=Z,4.9nm,0.8s,baz=206,slow=3.3,SNR=11
TORD **Torodi Ar. Bea** 152.57 287 PKPbc PKPbc 04 42 28.0 -1.3
comp=Z,1.3nm,0.7s,baz=32,slow=2.8,SNR=20
TORD pPKPbc pPKPdf 04 43 10.2 +2.7
comp=Z,1.6nm,0.7s,baz=46,slow=3.8,SNR=5.8

JMA 18 04:29:05.8±0.2, 28°.9N±0°.9×12°.8E±°, h234km, MV3.0/13, NW OFF AMAMI-OSHIMA IS, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAMN	**Amaminishikomi**	1.61	113	*eP*	Pn	04 29 43.6	+0.2
JAMN				*eS*	S	04 30 13.0	+0.1
JTK	**Tokunoshima**	1.69	130	*eP*	Pn	04 29 44.4	+0.2
JTK				S	S	04 30 14.5	+0.4
JOKE	**Okinoerabujima**	1.79	148	*eP*	Pn	04 29 45.2	+0.1
JOKE				*eS*	S	04 30 16.2	+0.3
JIH	**Iheya**	1.89	167	*eP*	Pn	04 29 46.1	+0.1
JIH				*eS*	S	04 30 17.5	0.0
JYRO	**Yoronjima**	2.04	155	*eP*	Pn	04 29 47.7	+0.3
JYRO				*eS*	S	04 30 18.9	-1.0
JOW	**Kunigami**	2.16	161	*eP*	Pn	04 29 48.5	-0.1
JOW				S	S	04 30 21.1	-1.0
JOW	**Kunigami**	2.16	161	P	S	04 30 20.9	-1.2
JYAK	**Yakushimahirau**	2.94	62	*eS*	S	04 30 34.3	-2.4
JMTN	**Minamitane**	3.32	62	*eS*	S	04 30 40.9	-3.4
JTZ	**Takazaki**	4.31	45	*eP*	Pn	04 30 13.0	+0.3
JTZ				*eS*	S	04 31 05.2	-0.4
JTO	**Tosashimizu**	6.03	48	*eP*	Pn	04 30 30.4	-3.6

IDC 18 04:29:26.6±1.2, 32°.92N×103°.43E, h0km, mb3.6/5, mbtmp3.6/5, MS3.0/6, Error ellipse: s-maj=190.6km s-min=20.9km az=55.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	14.96	197	LR	LR	04 39 27.5	
	comp=Z,22nm,20.8s,baz=25,slow=40						
SONM	**Songino Array**	15.06	8	LR	LR	04 38 59.0	
	comp=Z,87nm,18.6s,baz=92,slow=38						
KSRS	**Korea Array**	20.50	70	LR	LR	04 41 18.5	
	comp=Z,18nm,21.0s,baz=220,slow=35						
MKAR	**Makanchi Array**	21.25	317	P	P	04 34 14.1	-0.1
	2.0nm,0.9s,baz=116,slow=11,SNR=12						
	2.0nm,0.9s						
AAK	**Ala-Archa**	24.74	301	LR	LR	04 46 30.4	
	comp=Z,63nm,21.0s,baz=110,slow=41						
ZALV	**Zalesovo Beam**	24.84	333	P	P	04 34 51.7	+1.2
	0.5nm,0.5s,baz=141,slow=9.3,SNR=2.0						
ZALV				LR	LR	04 45 56.7	
	comp=Z,20nm,18.9s,baz=249,slow=40						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	25.45	321	P	P	04 34 55.1	-0.9
	0.8nm,0.7s,baz=124,slow=11,SNR=5.2						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	60.30	146	P	P	04 39 35.3	-1.9
	0.7nm,0.6s,baz=339,slow=7.0,SNR=2.4						
	0.7nm,0.6s						
ASAR	**Alice Springs**	63.34	149	P	P	04 39 59.0	+1.3
	0.3nm,0.5s,baz=337,slow=6.6,SNR=6.2						
	0.3nm,0.5s						
FRB	**Frobisher Bay**	83.45	356	LR	LR	05 19 60.0	
	comp=Z,33nm,18.1s,baz=338,slow=36						

IDC 18 04:30:21.0±2.1, 6°.75S×150°.12E, h0km, mb3.2/3, mbtmp3.4/4, ML1.9/1, MS3.1/1, Error ellipse: s-maj=124.5km s-min=28.0km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	3.94	228	Pn	Pn	04 31 23.9	+1.0
	6.0nm,0.3s,baz=348,slow=5.4,SNR=9.0						
PMG				Sn	Sn	04 32 03.1	-6.8
	17nm,0.3s,baz=216,slow=6.3,SNR=9.7						
	14nm,0.3s						
WRA	**Warramunga Arr**	20.16	228	P	P	04 34 55.5	-1.8
	0.3nm,0.4s,baz=52,slow=11,SNR=5.3						
	0.3nm,0.4s						
ASAR	**Alice Springs**	22.93	221	P	P	04 35 26.2	-0.7
	0.5nm,0.7s,baz=57,slow=9.2,SNR=4.6						
	0.5nm,0.7s						
KSRS	**Korea Array**	48.61	336	LR	LR	04 56 47.3	
	comp=Z,23nm,21.1s,baz=135,slow=33						
ILAR	**Eielson Array**	84.96	23	P	P	04 42 57.0	-0.9
	0.5nm,1.0s,baz=256,slow=7.3,SNR=4.1						
	0.5nm,1.0s						
TORD	**Torodi Ar. Bea**	148.28	284	PKPbc	PKiKP	04 50 12.1	+0.1
	0.2nm,0.3s,baz=65,slow=4.0,SNR=2.3						

*IDC **18** 04:38:51.6±0.8, 12°.15N×143°.65E, h0km, mb4.1/13, mbtmp4.1/13, MS3.3/2, Error ellipse: s-maj=24.6km s-min=18.4km az=120.0*
*NEIC **18** 04:38:56.5±1.2, 12°.2N±0°.1×143°.6E±0°.2, h27km±7km, mb4.4/39, Error ellipse: s-maj=25.9km s-min=16.1km az=124.0*

ISC 18 04:38:55.7±0.7, 12°.2N±0°.1×143°.7E±0°.1, h25km, n65, σ0s72/59, mb4.4/34, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	1.84	40	Pn	Pn	04 39 25.9	+0.2
	77nm,0.3s,baz=66,slow=2.3,SNR=23						
GUMO				Sn	Sb	04 39 50.0	-1.2
	162nm,0.3s,baz=27,slow=22,SNR=13						
GUMO				LR	LR	04 40 20.7	
	comp=Z,284nm,19.3s,baz=78,slow=48						
PMG	**Port Moresby**	21.73	171	LR	LR	04 51 59.0	
	comp=Z,72nm,19.0s,baz=68,slow=36						
H11S3	**WAKE ISLAND Hy**	23.07	71	T	T	05 07 55.9	
	baz=253,slow=74,SNR=3.3						
H11S1	**WAKE ISLAND Hy**	23.09	71	T	T	05 07 53.4	
	baz=253						
H11S2	**WAKE ISLAND Hy**	23.09	71	T	T	05 07 54.3	
	baz=253,slow=74,SNR=4.9						
H11N1	**WAKE ISLAND Hy**	23.55	69	T	T	05 08 32.5	
	baz=255,slow=75,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	23.56	68	T	T	05 08 32.0	
	baz=255,slow=75,SNR=3.2						
H11N3	**WAKE ISLAND Hy**	23.57	69	T	T	05 08 31.7	
	baz=255,slow=75,SNR=3.1						
COEN	**Coen**	25.98	181	P	P	04 44 25.5	-1.1
COEN				IAmb	IAmb	04 44 37.2	
	comp=Z,12nm,1.2s						
WB0	**Warramunga Arr**	33.03	196	P	P	04 45 30.4	+1.1
WR0	**Warramunga Arr**	33.17	196	P	P	04 45 31.8	+1.2
WB2	**Warramunga Arr**	33.21	196	P	P	04 45 29.7	-1.1
WRA	**Warramunga Arr**	33.21	196	P	P	04 45 29.9	-0.9
	comp=Z,0.7nm,0.6s,baz=18,slow=9.7,SNR=6.2						
	comp=Z,0.7nm,0.6s						
ASAR	**Alice Springs**	36.88	195	P	P	04 46 02.2	-0.3
	comp=Z,0.2nm,0.6s,baz=16,slow=11,SNR=1.4						
	comp=Z,0.2nm,0.6s						
PETK	**Petropavlovsk-**	42.34	13	LR	LR	05 05 05.0	
	comp=Z,48nm,19.7s,baz=117,slow=37						
SONM	**Songino Array**	47.21	326	P	P	04 47 27.4	+0.7
SONM	**Songino Array**	47.21	326	P	P	04 47 27.5	+0.9
	comp=Z,1.0nm,0.6s,baz=147,slow=7.7,SNR=7.4						
	comp=Z,1.0nm,0.6s						
MK31	**Makanchi Array**	61.68	317	P	P	04 49 11.5	-0.3
MKAR	**Makanchi Array**	61.68	317	P	P	04 49 11.3	-0.5
MKAR	**Makanchi Array**	61.68	317	P	P	04 49 12.6	+0.8
	comp=Z,0.6nm,0.6s,baz=88,slow=9.3,SNR=8.3						
	comp=Z,0.6nm,0.6s						
ZAA0	**Zalesovo Array**	62.08	325	P	P	04 49 13.7	-0.5
ZAA0				IAmb	IAmb	04 49 48.4	
	comp=Z,3.7nm,1.4s						
ZALV	**Zalesovo Beam**	62.08	325	P	P	04 49 13.7	-0.5
ZALV	**Zalesovo Beam**	62.08	325	P	P	04 49 14.2	0.0
	comp=Z,1.1nm,0.5s,baz=118,slow=7.1,SNR=6.1						
ZALV				PcP	PcP	04 49 53.1	-1.3
	comp=Z,0.9nm,0.5s,baz=134,slow=5.2,SNR=3.8						
	comp=Z,1.1nm,0.5s						

F15K	**North Star Dit**	63.80	21	P	P	04 49 24.6	-0.8
F15K				IAmb	IAmb	04 49 57.1	
	comp=Z,5.5nm,1.4s						
SII	**Sitkinak Islan**	64.70	33	P	P	04 49 31.8	+0.2
KURK	**Kurchatov**	64.89	320	P	P	04 49 32.8	-0.1
KURBB	**Kurchatov Arra**	64.93	320	P	P	04 49 33.3	+0.1
	comp=Z,3.1nm,0.8s,baz=103,slow=6.7,SNR=20						
	comp=Z,3.1nm,0.8s						
O18K	**Koktuh Hills**	65.22	29	P	P	04 49 35.3	+0.4
H18K	**Honhosa River**	65.86	23	P	P	04 49 38.2	-0.7
H18K				IAmb	IAmb	04 49 41.8	
	comp=Z,6.4nm,1.4s						
N19K	**Bonanza Creek**	65.87	28	P	P	04 49 39.5	+0.3
N19K				IAmb	IAmb	04 50 16.2	
	comp=Z,6.0nm,1.5s						
C18K	**Utukok River**	66.44	19	P	P	04 49 42.8	+0.1
G19K	**Purcell Mounta**	66.75	22	P	P	04 49 44.2	-0.4
G19K				IAmb	IAmb	04 49 45.6	
	comp=Z,3.0nm,0.9s						
K20K	**Telida**	66.91	26	P	P	04 49 45.6	-0.2
K20K				IAmb	IAmb	04 49 53.0	
	comp=Z,5.8nm,1.4s						
C19K	**Lookout Ridge**	67.17	19	P	P	04 49 47.7	+0.4
CAST	**Castle Rocks**	67.78	26	P	P	04 49 50.9	-0.3
CAST				IAmb	IAmb	04 49 52.0	
	comp=Z,3.5nm,1.0s						
I21K	**Tanana**	68.37	24	P	P	04 49 55.6	+0.7
I21K				IAmb	IAmb	04 50 24.5	
	comp=Z,6.6nm,1.5s						
MLY	**Manley**	68.83	24	P	P	04 49 57.2	-0.6
MLY				IAmb	IAmb	04 50 33.8	
	comp=Z,3.7nm,1.4s						
D22K	**Ayikyak River**	69.35	20	P	P	04 50 01.8	+0.8
D22K				IAmb	IAmb	04 50 02.7	
	comp=Z,3.2nm,0.7s						
I23K	**Minto, Yukon-K**	69.42	25	P	P	04 50 01.6	+0.2
I23K				IAmb	IAmb	04 50 02.4	
	comp=Z,3.0nm,0.9s						
BVAR	**Borovoye Array**	70.29	322	P	P	04 50 07.5	+0.4
	comp=Z,2.7nm,0.4s,baz=106,slow=7.7,SNR=20						
	comp=Z,2.7nm,0.4s						
ILAR	**Eielson Array**	70.34	25	P	P	04 50 05.5	-1.6
	comp=Z,1.5nm,0.7s,baz=248,slow=5.7,SNR=20						
	comp=Z,1.5nm,0.7s						
TOLK	**Toolik Lake Re**	70.35	21	P	P	04 50 07.8	+0.7
TOLK				IAmb	IAmb	04 50 24.1	
	comp=Z,4.2nm,1.1s						
SCRK	**Sand Creek**	71.41	26	P	P	04 50 13.6	-0.1
E25K	**Arctic Village**	71.64	22	P	P	04 50 14.7	-0.2
J26L	**Joseph Creek**	71.68	26	P	P	04 50 14.9	-0.5
J26L				IAmb	IAmb	04 50 17.4	
	comp=Z,2.6nm,0.8s						
BCAR	**Beaver Creek A**	72.23	27	P	P	04 50 18.3	-0.3
EGAK	**Eagle**	72.75	26	P	P	04 50 21.7	+0.1
E27K	**Coleen River**	73.11	22	P	P	04 50 24.0	+0.3
E27K				IAmb	IAmb	04 50 25.7	
	comp=Z,5.1nm,1.1s						
DAWY	**Dawson**	73.42	27	P	P	04 50 26.2	+0.5
DAWY				IAmb	IAmb	04 50 38.2	
	comp=Z,5.7nm,1.5s						
M29M	**Somme Creek**	73.68	28	P	P	04 50 28.3	+1.0
M29M				IAmb	IAmb	04 50 46.3	
	comp=Z,7.1nm,1.4s						
H29M	**Whitestone**	74.08	24	P	P	04 50 29.7	+0.2
H29M				IAmb	IAmb	04 50 41.3	
	comp=Z,5.1nm,1.4s						
G29M	**Pine Creek**	74.30	24	P	P	04 50 31.4	+0.7
G29M				IAmb	IAmb	04 50 33.5	
	comp=Z,5.3nm,1.0s						
I30M	**Mount Dempster**	74.82	25	P	P	04 50 34.1	+0.2
M31M	**Drury Creek, Y**	75.56	29	P	P	04 50 38.3	+0.2
FARO	**Faro, Yukon**	76.05	29	P	P	04 50 41.5	+0.6
ABKAR	**Akbulak array**	76.78	318	P	P	04 50 44.9	-0.3
R33M	**Jennings River**	77.27	32	P	P	04 50 49.1	+1.1
R33M				IAmb	IAmb	04 51 03.2	
	comp=Z,5.3nm,1.5s						
A36M	**Sachs Harbour**	78.85	18	P	P	04 50 55.6	-0.6
C36M	**Paulatuk**	79.50	21	P	P	04 50 59.5	-0.4
C36M				IAmb	IAmb	04 51 00.5	
	comp=Z,3.2nm,0.8s						
YKA	**Yellowknife Ar**	84.65	27	P	P	04 51 27.1	+0.1
	comp=Z,1.0nm,0.6s,baz=290,slow=5.5,SNR=14						
	comp=Z,1.0nm,0.6s						
L04D	**Klamath Falls**	84.89	48	P	P	04 51 29.6	+0.6
ARCES	**ARCESS Array B**	88.05	342	P	P	04 51 43.4	-0.2
	comp=Z,7.8nm,1.0s,baz=69,slow=6.6,SNR=11						
	comp=Z,7.8nm,1.0s						
NVAR	**Mina Array Bea**	88.72	51	P	P	04 51 49.3	+1.5
	comp=Z,1.7nm,0.6s,baz=266,slow=5.0,SNR=14						
	comp=Z,1.7nm,0.6s						
FINES	**FINESS Array B**	91.92	335	P	P	04 52 00.4	-1.5
	comp=Z,1.4nm,0.3s,baz=65,slow=5.2,SNR=35						
	comp=Z,1.4nm,0.3s						
PDAR	**Pinedale Array**	93.79	45	P	P	04 52 12.2	+0.9
	comp=Z,0.2nm,0.5s,baz=222,slow=4.0,SNR=4.1						
	comp=Z,0.2nm,0.5s						

*CATAC **18** 05:01:29.2±0.4, 13°.04N×89°.47W, h25km±2km, ML3.9*
*SNET **18** 05:01:30.4±1.0, 13°.08N×89°.47W, h40km, ML4.1*
*GCG **18** 05:01:49.3±0.6, 14°.67N×90°.25W, h48km, MD3.7*

ISC 18 05:01:29.4±1.5, 13°.04N±0°.05×89°.46W±0°.03, h25km±12km, n82, σ0s38/137, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	0.46	17	*eP*	Pn	05 01 40.7	+0.3
LALI				*eS*	Sn	05 01 48.4	+0.5
LALI	**Alcalda de L**	0.46	17	*i* P	Pn	05 01 40.6	+0.2
LALI				*i* S	Sn	05 01 48.4	+0.5
LALI				IAML		05 01 50.5	
	comp=Z,2μm,1.0s						
JAYA	**Jayaque - finc**	0.61	1	*eP*	Pn	05 01 42.3	-0.3
JAYA				*eS*	Sn	05 01 51.0	-0.7
JAYA	**Jayaque - finc**	0.61	1	*i* P	Pn	05 01 42.0	-0.6
JAYA				*i* S	Sn	05 01 50.8	-0.9
JAYA				IAML		05 01 52.7	
	comp=Z,20μm,1.0s						
PANCS	**Alcalda de**	0.63	26	*eP*	Pn	05 01 42.5	-0.3
PANCS	**Alcalda de**	0.63	26	*i* P	Pn	05 01 42.4	-0.4
PANCS				*i* S	Sn	05 01 51.4	-0.7
PANCS				IAML		05 01 52.9	
	comp=Z,14μm,1.0s						
MAGS	**Ministerio de**	0.66	15	*eP*	Pn	05 01 43.1	-0.2
MAGS				*eS*	Sn	05 01 53.2	+0.3
SNET	**Serv Nac Est T**	0.68	19	*eP*	Pn	05 01 43.3	-0.2
SNET	**Serv Nac Est T**	0.68	19	*i* P	Pn	05 01 43.1	-0.4
SNET				IAML		05 01 45.7	
	comp=Z,7μm,1.0s						
SNET				*i* S	Sn	05 01 52.9	-0.4
PMON	**Piamonte**	0.68	12	*eP*	Pn	05 01 43.4	-0.2
PMON	**Piamonte**	0.68	12	*i* P	Pn	05 01 43.4	-0.2
PMON				*i* S	Sn	05 01 53.1	-0.3
PMON				IAML		05 01 59.3	
	comp=Z,7μm,1.0s						
LFRS	**El Faro**	0.70	34	*eP*	Pn	05 01 43.9	+0.1
UTEC	**Universidad Te**	0.70	21	*eP*	Pn	05 01 43.7	-0.1
UTEC				*eS*	Sn	05 01 54.1	+0.3
UTEC	**Universidad Te**	0.70	21	*i* P	Pn	05 01 43.6	-0.2
UTEC				*i* S	Sn	05 01 53.6	-0.3
UTEC				IAML		05 01 56.6	
	comp=Z,5μm,1.0s						
UEES	**Universidad Ev**	0.70	18	*eP*	Pn	05 01 43.7	-0.1
UEES	**Universidad Ev**	0.70	18	*i* P	Pn	05 01 43.5	-0.3
UEES				*i* S	Sn	05 01 53.6	-0.4
UEES				IAML		05 01 56.4	
	comp=Z,4μm,1.0s						
BOQS	**Boqueron**	0.71	14	*eP*	Pn	05 01 44.0	-0.1
UESS	**Universidad de**	0.72	21	*eP*	Pn	05 01 44.1	0.0
UESS				*eS*	Sn	05 01 55.0	+0.7
SJTE	**Alcalda de S**	0.72	38	*eP*	Pn	05 01 44.0	0.0
SJTE				*eS*	Sn	05 01 55.0	+0.6
SJTE	**Alcalda de S**	0.72	38	*i* P	Pn	05 01 43.9	-0.2
SJTE				*i* S	Sn	05 01 54.6	+0.2
SJTE				IAML		05 01 55.4	
	comp=Z,9μm,1.0s						
IGN	**Direccin Gen**	0.72	23	*eP*	Pn	05 01 44.0	-0.1
IGN				*eS*	Sn	05 01 55.1	+0.7
IGN	**Direccin Gen**	0.72	23	*i* P	Pn	05 01 43.6	+0.1
IGN				*i* S	Sn	05 01 54.5	+0.1
IGN				IAML		05 01 57.7	
	comp=Z,14μm,1.0s						
PIC2	**El Picacho**	0.72	16	*eP*	Pn	05 01 44.2	0.0
AEIL	**Aeropuerto Ilo**	0.73	27	*eP*	Pn	05 01 44.5	+0.3
AEIL				*eS*	Sn	05 01 53.9	-0.7
UDBS	**Universidad Do**	0.73	24	*eP*	Pn	05 01 44.2	0.0
UDBS				*eS*	Sb	05 01 53.8	+0.6
UDBS	**Universidad Do**	0.73	24	*i* P	Pn	05 01 44.0	-0.2
UDBS				*i* S	Sn	05 01 54.6	0.0
UDBS				IAML		05 01 59.2	
	comp=Z,6μm,1.0s						
CEDA	**San Andres**	0.76	5	*eP*	Pn	05 01 44.4	-0.2
CEDA				*eS*	Sb	05 01 54.0	+0.1
CEDA	**San Andres**	0.76	5	*i* P	Pn	05 01 44.2	-0.4
CEDA				*i* S	Sn	05 01 55.2	0.0
CEDA				IAML		05 01 58.8	
	comp=Z,11μm,1.0s						
LFU	**La Fuente**	0.78	26	*eP*	Pn	05 01 45.0	+0.1
CEVE	**Cerro Verde**	0.80	349	*eP*	Pn	05 01 45.0	-0.2
CEVE				*eS*	Sn	05 01 56.9	+0.4
CEVE	**Cerro Verde**	0.80	349	*i* P	Pn	05 01 45.1	-0.2
CEVE				*i* S	Sn	05 01 56.8	+0.4
CEVE				IAML		05 02 01.8	
	comp=Z,5μm,1.0s						
COEG	**Centro de Oper**	0.81	45	*eP*	Pn	05 01 45.0	-0.2
COEG	**Centro de Oper**	0.81	45	*i* P	Pb	05 01 44.8	0.0
COEG				*i* S	Sn	05 01 56.5	0.0
COEG				IAML		05 01 58.8	
	comp=Z,2μm,1.0s						
SBLS	**San Blas**	0.81	349	*eP*	Pn	05 01 45.2	-0.2
QUEZ	**Alcaldia de Qu**	0.81	13	*eP*	Pn	05 01 45.3	0.0
QUEZ				*eS*	Sn	05 01 56.6	+0.2
QUEZ	**Alcaldia de Qu**	0.81	13	*i* P	Pn	05 01 45.1	-0.1
QUEZ				*i* S	Sn	05 01 56.7	+0.2
QUEZ				IAML		05 02 06.0	
	comp=Z,8μm,1.0s						
TECO	**Alcaldia de Te**	0.82	53	*eP*	Pb	05 01 45.0	-0.1
TECO				*eS*	Sn	05 01 57.0	+0.1
TECO	**Alcaldia de Te**	0.82	53	*i* P	Pb	05 01 44.7	-0.4
TECO				*i* S	Sn	05 01 56.4	-0.5
TECO				IAML		05 01 58.8	
	comp=Z,2μm,1.0s						
SNVI	**San Vicente**	0.83	47	*eP*	Pn	05 01 45.4	-0.2
SNJE	**San Jose**	0.83	350	*eP*	Pb	05 01 45.3	0.0
SNJE				*eP*	Pn	05 01 45.4	-0.3
PAVA	**Las Pavas**	0.84	37	*eP*	Pn	05 01 45.9	+0.1
PAVA	**Las Pavas**	0.84	37	*i* P	Pn	05 01 45.7	0.0
PAVA				*i* S	Sn	05 01 58.0	+0.7
PAVA				IAML		05 01 59.2	
	comp=Z,10μm,1.0s						
RTR	**El Retiro**	0.87	348	*eP*	Pn	05 01 46.1	-0.1
UESV	**Universidad de**	0.88	48	*eP*	Pb	05 01 46.0	-0.2
UESV				*eS*	Sn	05 01 58.4	+0.1
UESV	**Universidad de**	0.88	48	*i* P	Pb	05 01 45.9	-0.2
UESV				*i* S	Sn	05 01 58.2	-0.1
UESV				IAML		05 02 01.8	
	comp=Z,2μm,1.0s						
NUBE	**Las Nubes**	0.91	340	*eP*	Pb	05 01 46.0	-0.6
NUBE				*eS*	Sb	05 01 58.5	+0.1
NUBE	**Las Nubes**	0.91	340	*i* P	Pb	05 01 45.9	-0.7
NUBE				*i* S	Sb	05 01 58.4	+0.1
NUBE				IAML		05 01 59.7	
	comp=Z,3μm,1.0s						
UNIC	**Universidad Ca**	0.94	355	*eP*	Pn	05 01 46.9	-0.2
UNIC	**Universidad Ca**	0.94	355	*i* P	Pn	05 01 46.8	-0.2
UNIC				*i* S	Sn	05 01 59.8	+0.1
UNIC				IAML		05 02 02.3	
	comp=Z,620nm,1.0s						
SCLA	**Alcalda de Sa**	0.97	47	*eP*	Pb	05 01 47.6	0.0
SCLA	**Alcalda de Sa**	0.97	47	*i* P	Pn	05 01 47.2	-0.3
SCLA				*i* S	Sn	05 02 00.3	-0.1
SCLA				IAML		05 02 01.9	
	comp=Z,670nm,1.0s						
LOAL	**Lomas de Alarc**	1.00	342	*eP*	Pn	05 01 47.7	-0.2
LOAL	**Lomas de Alarc**	1.00	342	*i* P	Pn	05 01 47.7	-0.2
LOAL				*i* S	Sn	05 02 01.8	+0.6
LOAL				IAML		05 02 05.4	
	comp=Z,3μm,1.0s						
SLOZ	**Alcaldia de Sa**	1.03	342	*eP*	Pn	05 01 48.0	-0.3
SLOZ				*eS*	Sn	05 02 02.3	+0.5
TECA	**Tecapa**	1.04	64	*eP*	Pn	05 01 48.4	-0.2
PACA	**Pacayal**	1.19	69	*eP*	Pb	05 01 51.1	-0.2
PACA				*eS*	Sb	05 02 07.0	+0.7
PACA	**Pacayal**	1.19	69	*i* P	Pn	05 01 50.6	+0.1
PACA				*i* S	Sb	05 02 06.9	+0.6
PACA				IAML		05 02 07.9	
	comp=Z,33μm,1.0s						
LCY	**Lacayo**	1.20	71	*eP*	Pb	05 01 51.1	-0.4
RANC	**El Ranchito**	1.21	71	*eP*	Pb	05 01 51.2	-0.4
RANC				*eS*	Sb	05 02 06.7	-0.2
RANC	**El Ranchito**	1.21	71	*i* P	Pb	05 01 51.3	-0.4
RANC				*i* S	Sb	05 02 07.2	+0.3
RANC				IAML		05 02 08.9	
	comp=Z,4μm,1.0s						
VSM	**San Miguel**	1.22	72	*eP*	Pn	05 01 51.3	+0.2
LLGN	**La Laguna**	1.22	24	*eP*	Pn	05 01 50.7	-0.2
LLGN				*eS*	Sn	05 02 06.0	-0.8
LLGN	**La Laguna**	1.22	24	*i* P	Pn	05 01 50.5	-0.5
LLGN				IAML		05 01 51.1	
	comp=Z,890nm,1.0s						
LLGN				*i* S	Sb	05 02 07.8	+0.5
BLLM	**Bellamira**	1.26	71	*eP*	Pn	05 01 51.8	+0.4
JUAM	**Asuncion Mita**	1.31	350	*i* P	Pn	05 01 51.7	-0.4
JUAM				IAML		05 01 53.0	
	comp=Z,810nm,1.0s						
JUAM				*i* S	Sn	05 02 08.9	+0.1
CNRM	**Centro Naciona**	1.33	71	*i* P	Pn	05 01 52.6	+0.2
CNRM				*i* S	Sb	05 02 10.2	-0.1
CNRM				IAML		05 02 29.6	
	comp=Z,8μm,1.0s	

WRA	Warramunga Arr	18.75	221	P		P	05 08 06.2	-0.8
	0.6nm,0.3s,baz=42,slow=12,SNR=32							
	4.3nm,0.6s							
ASAR	Alice Springs	21.82	215	P		P	05 08 40.1	0.0
	3.2nm,0.6s,baz=51,slow=8.9,SNR=85							
	3.2nm,0.6s							
STKA	Stephens Creek	26.36	191	P		P	05 09 23.1	+0.1
	2.1nm,0.4s,baz=43,slow=12,SNR=5.7							
	2.1nm,0.4s							
RAO	Raoul Island	40.24	129	LR		LR	05 25 09.6	
	comp=Z,234nm,20.3s,baz=131,slow=32							
SONM	Songino Array	64.46	331	P		P	05 14 22.6	+0.1
	0.2nm,0.4s,baz=150,slow=6.0,SNR=2.5							
	0.2nm,0.4s							
MKAR	Makanchi Array	77.60	320	P		P	05 15 42.7	+0.8
	0.1nm,0.4s,baz=90,slow=5.8,SNR=2.1							
	0.1nm,0.4s							
QSPA	South Pole Qui	84.04	180	P		P	05 16 16.4	+0.4
	0.7nm,0.6s,baz=225,slow=1.3,SNR=15							
	0.7nm,0.6s							
ILAR	Eielson Array	85.31	23	P		P	05 16 21.6	-0.6
	0.5nm,0.6s,baz=245,slow=5.0,SNR=6.7							
	0.5nm,0.6s							
TORD	Torodi Ar. Bea	145.31	284	PKPbc		PKPbc	05 23 23.4	-0.5
	0.4nm,0.5s,baz=69,slow=4.4,SNR=7.2							

*IDC **18** 05:04:19.1±5.5, 19.°71S×178.°56W, h656km±68km, mb3.0/9, mbtmp4.0/9, Error ellipse: s-maj=28.9km s-min=23.2km az=87.0*

ISC 18 05:04:18.6±0.8, **19.°7S**±0.°2×**178.°6W**±0.°2, **h650**km, **n14**, σ0.°67/13, **mb3.5/9, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	33.05	263	P	P	05 10 04.0	+0.3
	1.8nm,0.4s,baz=92,slow=10,SNR=1.7						
	1.8nm,0.4s						
WRA	Warramunga Arr	44.19	261	P	P	05 11 32.8	-0.1
	0.8nm,0.5s,baz=98,slow=8.0,SNR=8.2						
	0.8nm,0.5s						
ASAR	Alice Springs	44.20	256	P	P	05 11 33.3	+0.3
	1.5nm,0.7s,baz=87,slow=8.1,SNR=9.4						
	1.5nm,0.7s						
MJAR	Matsushiro Arr	69.23	324	P	P	05 14 23.1	+0.4
	1.5nm,0.7s,baz=150,slow=5.5,SNR=5.9						
	1.5nm,0.7s						
QSPA	South Pole Qui	70.40	180	P	P	05 14 29.1	-0.2
	1.2nm,0.7s,baz=297,slow=0.9,SNR=11						
	1.2nm,0.7s						
NVAR	Mina Array Bea	80.79	44	P	P	05 15 27.4	+0.5
	0.3nm,0.5s,baz=219,slow=9.8,SNR=4.5						
	0.3nm,0.5s						
TXAR	Lajitas Array	87.06	58	P	P	05 15 58.6	+1.0
	0.5nm,0.9s,baz=215,slow=7.6,SNR=5.0						
	0.5nm,0.9s						
ILAR	Eielson Array	87.63	13	P	P	05 15 58.5	-0.8
	1.3nm,0.8s,baz=216,slow=5.7,SNR=16						
	1.3nm,0.8s						
PDAR	Pinedale Array	88.72	43	P	P	05 16 05.0	-0.3
	0.6nm,0.8s,baz=197,slow=2.5,SNR=4.3						
	0.6nm,0.8s						
BVAR	Borovoye Array	118.10	320	PKP	PKPdf	05 21 53.0	-0.2
	0.4nm,0.4s,baz=338,slow=1.6,SNR=2.5						
ARCES	ARCESS Array B	128.01	350	PKP	PKPdf	05 22 11.7	-0.1
	2.6nm,0.8s,baz=345,slow=2.8,SNR=1.3						
FINES	FINESS Array B	134.83	344	PKP	PKPdf	05 22 23.4	-1.4
	2.4nm,1.0s,baz=249,slow=1.2,SNR=4.0						
AKASG	Malin Array Be	142.03	331	PKhKP	PKPpre	05 22 34.5	
	1.1nm,0.4s,baz=42,slow=3.9,SNR=7.8						
BRTR	Keskin Array B	145.89	313	PKPbc	PKPbc	05 22 47.4	-0.2
	0.8nm,0.6s,baz=115,slow=3.7,SNR=4.2						

*WEL **18** 05:32:57.3±0.8, 49.°5S±7.°×16.°5E±.°, h33km, M4.8/14, mB4.5/2, ML4.9/19, MLv4.8/14, Mw(mB)3.7/2, Error ellipse: s-maj=0.0km s-min=0.0km az=132.7*

*IDC **18** 05:32:57.3±2.9, 46.°98S×165.°59E, h0km, mb3.7/2, mbtmp3.7/2, MS3.6/12, Error ellipse: s-maj=238.8km s-min=49.2km az=25.0*

ISC 18 05:32:57.5±1.2, **48.°7S**±0.°1×**164.°81E**±0.°07, **h35**km, **n62**, σ1.°33/73, **MS3.6**/12, **Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	Puysegur Point	2.85	27	P	Pn	05 33 39.8	-0.7
PYZ	Puysegur Point	2.85	27	P	Pn	05 33 38.6	-1.9
PYZ				S	Sn	05 34 11.9	-1.6
APZ	The Paps	2.85	50	P	Pn	05 33 40.0	-0.5
APZ				S	Sn	05 34 13.3	-0.4
RRKS	Rarakau	3.14	36	P	Pn	05 33 44.2	-0.2
ICCS	Invercargill C	3.32	47	P	Pn	05 33 48.1	+1.1
ICCS				S	Sn	05 34 27.1	+2.0
WHZ	Wether Hill Ro	3.54	38	P	Pn	05 33 49.4	-0.5
WHZ				S	Sn	05 34 29.7	-0.9
DCZ	Deep Cove	3.62	27	P	Pn	05 33 49.8	-1.3
DCZ				S	Sn	05 34 33.4	+0.8
SYZ	Scrubby Hill	3.65	55	P	Pn	05 33 51.1	-0.3
SYZ	Scrubby Hill	3.65	55	P	Pn	05 33 51.1	-0.3
SYZ				S	Sn	05 34 32.0	-1.2
GODC	Gore District	3.83	49	S	Sn	05 34 39.2	+1.4
MOSS	Mossburn Schoo	3.84	39	P	Pn	05 33 55.0	+0.9
MOSS				S	Sn	05 34 39.8	+1.8
MLZ	Mavora Lakes	4.04	35	P	Pn	05 33 57.9	+1.0
MLZ				S	Sn	05 34 44.4	+1.4
BDCS	Balclutha Dist	4.14	55	P	Pn	05 33 60.0	+1.8
BDCS				S	Sn	05 34 44.7	-0.6
TUZ	Tuapeka	4.29	52	P	Pn	05 34 00.2	0.0
TUZ				S	Sn	05 34 49.6	+0.7
TMBS	Taieri Mouth B	4.51	56	P	Pn	05 34 03.7	+0.5
TMBS				S	Sn	05 34 53.0	-1.5
MSZ	Milford Sound	4.58	29	P	Pn	05 34 05.9	+1.7
EAZ	Earnscleugh	4.65	43	P	Pn	05 34 04.4	-0.8
EAZ				S	Sn	05 35 00.3	+2.4
WKZ	Wanaka	4.85	38	P	Pn	05 34 08.9	+1.0
WKZ				S	Sn	05 35 05.5	+2.7
HHSZ	Highcliff Hill	4.85	56	P	Pn	05 34 07.7	-0.2
ODZ	Otahua Downs	5.43	50	P	Pn	05 34 14.7	-1.2
ODZ	Otahua Downs	5.43	50	P	Pn	05 34 14.8	-1.2
ODZ				S	Sn	05 35 16.1	-1.0
LBZ	Lake Benmore	5.70	43	P	Pn	05 34 17.2	-2.4
LBZ				S	Sn	05 35 23.1	-0.7
TMZ	Timaru	6.08	47	P	Pn	05 34 23.8	-1.2
FOZ	Fox Glacier	6.24	36	P	Pn	05 34 27.6	+0.5
FOZ				S	Sn	05 35 36.9	-0.2
ARCZ	Arundel	6.49	45	P	Pn	05 34 28.0	-2.5
ARCZ				S	Sn	05 35 41.2	-2.1
RPZ	Rata Peaks	6.62	43	P	Pn	05 34 29.5	-2.7
RPZ	Rata Peaks	6.62	43	P	Pn	05 34 29.4	-2.8
RPZ				S	Sn	05 35 45.5	-0.9
GCSZ	Gaunt Creek Bo	6.62	37	P	Pn	05 34 32.5	+0.2
GCSZ				S	Sn	05 35 46.9	+0.4
WACZ	Wakanui South	6.81	48	P	Pn	05 34 33.5	-1.4
WACZ				S	Sn	05 35 50.5	-0.7
MHCZ	Mount Hutt	6.99	45	P	Pn	05 34 38.9	+1.5
MHCZ				S	Sn	05 35 53.3	-2.4
WVZ	Waitaha Valley	6.99	38	P	Pn	05 34 37.6	+0.3
WVZ				S	Sn	05 35 55.9	+0.3
RACZ	Rakaia	7.12	48	P	Pn	05 34 38.7	-0.4
OXZ	Oxford	7.37	46	P	Pn	05 34 41.5	-1.0
MQZ	McQueen's Vall	7.39	50	P	Pn	05 34 41.7	-1.2
INZ	Inchbonnie	7.58	40	P	Pn	05 34 45.6	+0.2
LTZ	Lake Taylor	7.90	44	P	Pn	05 34 47.4	-2.5
DSZ	Denniston Nort	8.54	38	P	Pn	05 34 57.8	-0.8
KHZ	Kahutara	8.78	47	P	Pn	05 35 01.2	-0.7
THZ	Tophouse	8.99	42	P	Pn	05 35 04.5	-0.4
MRNZ	Matariki Terra	9.22	40	P	Pn	05 35 08.3	+0.4
QRZ	Quartz Range	9.61	38	P	Pn	05 35 12.1	-1.1
QRZ	Quartz Range	9.61	38	P	Pn	05 35 12.3	-0.9
NNZ	Nelson	9.64	42	P	Pn	05 35 15.2	+1.5
KHEZ	Kahui Hut	11.51	38	P	Pn	05 35 39.2	-0.1
HIZ	Hauiti	12.52	39	P	Pn	05 35 52.6	-0.4
TAU	Tasmania Unive	13.50	289	P	Pn	05 36 04.9	-1.5
MOO	Moorlands	13.83	290	P	Pn	05 36 10.0	-0.9
STKA	Stephens Creek	24.27	305	LR	LR	05 46 01.2	
	comp=Z,114nm,18.7s,baz=203,slow=33						
DZM	Mont Dzumac	26.62	3	LR	LR	05 46 34.4	
	comp=Z,121nm,18.5s,baz=158,slow=33						
VNDA	Vanda	28.93	181	LR	LR	05 48 04.3	
	comp=Z,97nm,18.8s,baz=341,slow=30						
ASAR	Alice Springs	34.91	305	P	P	05 39 46.1	+0.3
	0.9nm,0.9s,baz=136,slow=8.5,SNR=8.0						
ASAR				LR	LR	05 54 19.5	
	comp=Z,132nm,18.2s,baz=154,slow=37						
	0.9nm,0.9s						
WRA	Warramunga Arr	37.72	309	P	P	05 40 09.3	-0.4
	0.8nm,0.8s,baz=140,slow=8.2,SNR=3.0						
	0.8nm,0.8s						
NWAO	Narrogin (SRO)	38.64	276	LR	LR	05 52 56.0	
	comp=Z,112nm,19.9s,baz=46,slow=31						
RAR	Rarotonga	39.36	58	LR	LR	05 53 30.3	
	comp=Z,56nm,20.7s,baz=190,slow=32						
QSPA	South Pole Qui	41.41	180	LR	LR	05 55 03.9	
	comp=Z,67nm,18.5s,baz=26,slow=31						
PPT	Papeete	48.19	66	LR	LR	05 59 03.4	
	comp=Z,73nm,19.2s,baz=200,slow=33						
MAW	Mawson	50.24	209	LR	LR	06 01 29.9	
	comp=Z,120nm,18.8s,baz=114,slow=33						
RPN	Rapa Nui	67.51	106	LR	LR	06 08 32.6	
	comp=Z,30nm,18.1s,baz=146,slow=32						
CMAR	Chiang Mai Arr	88.78	300	LR	LR	06 27 17.5	
	comp=Z,26nm,19.5s,baz=300,slow=37						
PALK	Pallekele	91.54	279	LR	LR	06 25 34.4	
	comp=Z,25nm,18.4s,baz=201,slow=34						
YKA	Yellowknife Ar	127.83	35	PKP	PKiKP	05 52 00.0	+1.5
	0.2nm,0.9s,baz=231,slow=1.4,SNR=3.8						
BRTR	Keskin Array B	144.41	274	PKP	PKiKP	05 52 35.2	+2.0
	0.9nm,0.7s,baz=148,slow=5.1,SNR=4.8						

*NEIC **18** 05:38:18.1±1.2, 18.°8N±0.°2×64.°4W±0.°1, h35km±2km, ML2.5/16, Md3.4/3(RSPR), Error ellipse: s-maj=29.3km s-min=14.5km az=152.0*

*RSPR **18** 05:38:19.1, 18.°90N×64.°46W, h74km±14km, MD3.4/3*

ISC 18 05:38:16.1±2.9, **18.°9N**±0.°3×**64.°27W**±0.°07, **h42**km, **n17**, σ0.°79/22, **3C, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	Col San Antoni	1.66	245	⇑eP	Pn	05 38 44.2	+1.5
HUMP	Col San Antoni	1.66	245	eS	Sn	05 39 02.8	0.0
HUMP	Col San Antoni	1.66	245		Pn	05 38 43.4	+0.7
HUMP					Sn	05 39 02.4	-0.4
HUMP				IAML		05 39 06.0	
	comp=E,38nm,0.2s						
GCPR	Guaynabo City	1.81	253	⇑eP	Pn	05 38 45.7	+1.0
GCPR	Guaynabo City	1.81	253	eS	Sn	05 39 06.2	-0.2
GCPR	Guaynabo City	1.81	253		Pn	05 38 45.7	+1.0
GCPR					Sn	05 39 06.2	-0.2
IGPR	InterUniversit	1.96	244	Pn	Pn	05 38 46.9	+0.1
IGPR				IAML		05 39 09.9	
	comp=E,37nm,0.2s						
IGPR				IAML		05 39 11.1	
	comp=N,46nm,0.3s						
CELP	Cerrillos	2.33	251	⇑eP	Pn	05 38 52.1	+0.3
CELP	Cerrillos	2.33	251	eS	Sn	05 39 19.3	0.0
CELP	Cerrillos	2.33	251		Pn	05 38 52.2	+0.3
CELP					Sn	05 39 28.8	
	comp=N,25nm,3.0s			IAML			
OBIP	Obispado Ponce	2.36	251	Pn	Pn	05 38 51.5	-0.9
OBIP				IAML		05 40 17.3	
	comp=E,19nm,3.3s						
OBIP				IAML		05 40 19.6	
	comp=N,22nm,3.4s						
UUPR	Utuado, UPR, P	2.40	256	eS	Sn	05 39 20.3	-0.9
UUPR	Utuado, UPR, P	2.40	256	Pn	Pn	05 38 52.7	-0.2
UUPR					Sn	05 39 20.4	-0.7
AOPR	Arecibo Observ	2.41	258	eS	Sn	05 39 20.6	-0.8
AOPR	Arecibo Observ	2.41	258	Pn	Pn	05 38 53.5	+0.5
AOPR					Sn	05 39 20.4	-0.9
AOPR				IAML		05 39 22.8	
	comp=N,36nm,0.4s						
CRPR	Cabo Rojo, PR	2.83	253	Pn	Pn	05 38 58.6	-0.1
CRPR				IAML		05 40 14.7	
	comp=N,18nm,3.0s						
ANBD	Bethesda, Anti	2.98	127	eP	Pn	05 39 01.7	+0.9
ANBD				eS	Sn	05 39 33.9	-1.4

*IDC **18** 05:49:31.9±2.2, 18.°68S×69.°03W, h128km±14km, mb3.2/2, mbtmp3.5/5, Error ellipse: s-maj=52.3km s-min=9.5km az=100.0*

*GUC **18** 05:49:33.2±0.8, 18.°66S×69.°61W, h105km±6km, ML3.0*

ISC 18 05:49:29.4±1.2, **18.°63S**±0.°04×**69.°5W**±0.°1, **h133**km±9km, **n14**, σ1.°58/23, **3C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	IPOC Station P	0.30	3	⇑iP	Pn	05 49 49.0	+0.4
PB16				iS	Sn	05 50 02.2	-0.9
PB16				IAML		05 50 04.0	
	comp=E,1μm,0.5s						
PX02	IPOC Station P	0.72	243	eP	Pn	05 49 50.3	0.0
PX02				iS	Sn	05 50 05.6	-0.7
PX02				IAML		05 50 09.6	
	comp=N,383nm,0.2s						
PB12	IPOC Station P	0.77	271	⇑iP	Pn	05 49 51.3	+0.6
PB12				iS	Sn	05 50 07.1	+0.3
PB12				IAML		05 50 07.7	
	comp=N,547nm,0.2s						
PB18	Visviri	1.04	2	⇓iP	Pn	05 49 55.4	+1.8
PB18				iS	Sn	05 50 13.0	+1.1
GO01	Chusmiza	1.08	163	eP	Pn	05 49 55.2	+1.4
GO01				iS	Sn	05 50 12.8	+0.4
PB11	IPOC Station P	1.13	186	⇑iP	Pn	05 49 55.1	+1.1
PB11				iS	Sn	05 50 13.3	+0.5
PB11				IAML		05 50 14.3	
	comp=E,1μm,0.4s						
PB08	IPOC Station P	1.54	167	eP	Pn	05 50 00.1	+1.5
PB08				iS	Sn	05 50 21.3	+0.5
PB08				IAML		05 50 23.2	
	comp=E,251nm,0.4s						
PB01	IPOC Station P	2.40	179	eP	Pn	05 50 06.9	-1.6
PB01				iS	Sn	05 50 38.3	-0.4
LPAZ	La Paz	2.68	30	P	Pn	05 50 14.4	+1.8
	comp=E,13nm,0.3s,baz=206,slow=6.8,SNR=118						
LPAZ				S	Sn	05 50 44.5	-1.4
	comp=E,2.0nm,0.4s,baz=54,slow=19,SNR=1.5						
PB02	IPOC Station P	2.70	187	eP	Pn	05 50 11.3	-1.0
PB02				iS	Sn	05 50 42.4	-3.0
LVC	Limon Verde	4.00	172	P	Pn	05 50 31.9	+2.4
	comp=E,3.4nm,0.4s,baz=8.3,slow=7.0,SNR=15						
LVC				S	Sn	05 51 16.1	0.0
	comp=E,8.8nm,0.3s,baz=131,slow=14,SNR=19						
SIV	San Ignacio	8.49	73	P	Pn	05 51 26.3	-3.2
	comp=E,0.7nm,0.3s,baz=254,slow=11,SNR=8.2						
BDFB	Brasilia	20.77	85	P	P	05 53 58.7	-1.3
	comp=E,0.9nm,0.3s,baz=243,slow=8.7,SNR=5.2						
	comp=E,0.9nm,0.3s						
TORD	Torodi Ar. Bea	76.96	71	P	P	06 01 08.1	+0.3
	comp=E,0.2nm,0.4s,baz=253,slow=4.8,SNR=4.8						
	comp=E,0.2nm,0.4s						

*NEIC **18** 05:54:28.2±1.6, 5.°24N±0.°05×94.°35E±0.°08, h35km±2km, mb4.5/37, Error ellipse: s-maj=15.2km s-min=3.0km az=237.0*

*DJA **18** 05:54:29.3±1.3, 5.°1N±4.°×97.°4E±1.°3, h56km±60km, M4.8/10, mb4.8/7, mB5.5/5, MLv4.6/10, Mw(mB)5.0/5*

*IDC **18** 05:54:31.8±4.6, 5.°22N×94.°31E, h74km±42km, mb4.1/17, mbtmp4.4/19, ML4.5/2, MS3.3/4, Error ellipse: s-maj=28.4km s-min=14.8km az=48.0*

ISC 18 05:54:28.2±0.5, **5.°24N**±0.°06×**94.°38E**±0.°07, **h43**km, **n99**, σ0.°93/92, **mb4.5**/47, **1C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	Meulaboh, Aceh	2.24	116	P	Pn	05 55 04.4	+1.6
LHMI	Lhok Sumawe	2.56	90		Pn	05 55 06.8	-0.3
LHMI	Lhok Sumawe	2.56	90	P	Pn	05 55 09.2	+2.1
SNSI	Sinabang, Aceh	3.42	145	P	Pn	05 55 19.1	+0.1
SNSI				S	Sn	05 55 57.4	-1.0
KCSI	Kotacane, Aceh	3.79	117	P	Pn	05 55 25.5	+1.4
GSI	Gunungsitoli	5.05	141	Pn	Pn	05 55 41.3	-0.2
GSI	Gunungsitoli	5.05	141	P	Pn	05 55 41.9	+0.5
RPSI	Rantau Prapat	5.19	119	Pn	Pn	05 55 43.8	+0.4
SRIT	Nakonsritamara	6.16	57	Pn	Pn	05 55 57.3	+0.6
KULM	Kulim	6.24	89		Pn	05 55 57.3	-0.5
IPM	Ipoh	6.67	96	Pn	Pn	05 56 04.6	+0.9
PDSI	Padang	8.62	135	P	Pn	05 56 31.6	+1.1
	13nm,0.5s,2μm						
MNAI	Manna	12.82	138	Pn	Pn	05 57 27.9	0.0
PALK	Pallekele	13.74	279	Pn	Pn	05 57 38.6	-2.0
PALK	Pallekele	13.74	279	P	Pn	05 57 42.6	+2.0
	0.5nm,0.3s,baz=205,slow=16,SNR=1.5						
PALK				S	Sn	05 59 58.3	-14
	11nm,0.8s,baz=290,slow=20,SNR=8.0						
PALK				LR	LR	06 02 25.8	
	comp=Z,126nm,21.3s,baz=208,slow=35						
	1.6nm,0.3s						
CM31	Chiang Mai Arr	13.87	18		Pn	05 57 43.0	+0.7
CMAR	Chiang Mai Arr	13.87	18	Pn	Pn	05 57 41.7	-0.6
CMAR	Chiang Mai Arr	13.87	18	P	P	05 57 46.7	-2.9
	1.9nm,0.3s,baz=207,slow=14,SNR=37						
CMAR				LR	LR	06 02 59.9	
	comp=Z,72nm,19.1s,baz=205,slow=36						
	7.9nm,0.5s						
PHRA	Phrae	14.36	23	Pn	Pn	05 57 48.1	-0.8
UBPT	Khong Chiam	14.77	47		Pn	05 57 54.9	+0.5
KKM	Kota Kinabalu	21.74	87	P	P	05 59 15.3	-1.0
PZH	PanZhiHua	22.28	18	P	P	05 59 25.1	+3.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
KAPI	Kappang	27.31	112	P	P	06 00 08.5	-0.7
KAPI				IAmb	IAmb	06 00 29.2	
	comp=Z,13nm,1.0s						
XAN	Xi'an	31.67	23	⇑P	P	06 00 46.8	-0.9
XAN				pmax	pmax		
	comp=Z,18nm,0.7s						
GTA	Gaotai	34.37	7	P	P	06 01 11.0	-0.2
GTA				sP	pwP	06 01 25.1	-0.5
GTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
TIA	Tai'an	37.23	31	P	P	06 01 32.8	-2.9
TIA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HHC	Hu-ho-hao-te	38.66	21	eP	P	06 01 50.0	+2.2
HHC				pmax	pmax		
	comp=Z,22nm,0.7s						
HHC				pmax	pmax		
	comp=Z,74nm,5.0s						
FAKI	Fak Fak	38.69	101	P	P	06 01 48.1	-0.2
FAKI				IAmb	IAmb	06 02 03.2	
	comp=Z,12nm,0.8s						
JOW	Kunigami	38.79	53	P	P	06 01 50.0	+1.0
WMQ	Urumqi	38.87	352	eP	P	06 01 50.6	+1.2
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
DRK	Karamyk	39.72	332	P	P	06 01 57.2	+0.3
KNRA	Kununurra	39.89	122	P	P	06 01 57.3	-0.9
KNRA				IAmb	IAmb	06 02 25.3	
	comp=Z,14nm,1.0s						
BOOM	Boomskoye usch	40.55	339	P	P	06 02 03.9	+0.3
BTK	Batken	40.64	332	P	P	06 02 03.3	-0.9
BTK				IAmb	IAmb	06 02 26.1	
	comp=Z,6.0nm,1.0s						
MTN	Manton Dam	40.70	116	P	P	06 02 04.3	-0.7
MTN				IAmb	IAmb	06 02 11.7	
	comp=Z,13nm,0.8s						
ARSB	Arslanbob	40.70	335	P	P	06 02 05.1	+0.3
ARSB				IAmb	IAmb	06 02 09.2	
	comp=Z,2.4nm,0.5s						
AAK	Ala-Archa	41.21	338	P	P	06 02 08.7	-0.3
AAK	Ala-Archa	41.21	338	LR	LR	06 20 43.6	
	comp=Z,46nm,19.4s,baz=100,slow=38						
MK31	Makanchi Array	42.69	348	P	P	06 02 21.0	+0.2
MK31				IAmb	IAmb	06 02 22.0	
	comp=Z,8.8nm,0.6s						
MKAR	Makanchi Array	42.69	348	P	P	06 02 21.2	+0.3
MKAR	Makanchi Array	42.69	348	P	P	06 02 21.4	+0.5
	comp=Z,12nm,0.5s,baz=169,slow=7.7,SNR=176						
	comp=Z,12nm,0.5s						
MAKZ	Makanchi	42.77	347	P	P	06 02 21.8	+0.3
KK31	Karatay Array	43.21	334	P	P	06 02 25.2	+0.1
KK31				IAmb	IAmb	06 02 28.8	
	comp=Z,2.3nm,0.6s						
KKAR	Karatay Array	43.21	334	P	P	06 02 25.4	+0.2
KKAR				IAmb	IAmb	06 02 28.8	
	comp=Z,2.3nm,0.6s						
SONM	Songino Array	43.67	12	P	P	06 02 28.5	-0.3
SONM	Songino Array	43.67	12	P	P	06 02 28.6	-0.3
	comp=Z,1.3nm,0.4s,baz=192,slow=8.4,SNR=12						
SONM				PcP	PcP	06 04 16.1	+0.6
	comp=Z,1.1nm,0.5s,baz=196,slow=4.0,SNR=6.8						
	comp=Z,1.3nm,0.4s						
ULN	Ulaanbaatar	43.83	12	P	P	06 02 29.6	-0.6
KSRS	Korea Array	44.31	39	P	P	06 02 35.0	+0.9
	comp=Z,0.7nm,0.5s,baz=174,slow=36,SNR=1.3						
	comp=Z,0.7nm,0.5s						
GEYT	Alibeck	46.33	320	P	P	06 02 50.9	+0.8
	comp=Z,1.7nm,0.5s,baz=155,slow=7.2,SNR=2.7						
	comp=Z,1.7nm,0.5s						
WB0	Warramunga Arr	46.54	123	P	P	06 02 51.8	-0.2
WB0				IAmb	IAmb	06 03 09.7	
	comp=Z,3.9nm,0.7s						
WRA	Warramunga Arr	46.58	124	P	P	06 02 52.2	0.0
WRA	Warramunga Arr	46.58	124	P	P	06 02 52.8	+0.5
	comp=Z,2.7nm,0.6s,baz=304,slow=8.2,SNR=26						
	comp=Z,2.7nm,0.6s						
WRAB	Tennant Creek	46.59	124	P	P	06 02 53.0	+0.7
WRAB				IAmb	IAmb	06 03 04.2	
	comp=Z,5.4nm,0.8s						
WB2	Warramunga Arr	46.59	124	P	P	06 02 53.0	+0.6
WB2				IAmb	IAmb	06 03 11.0	
	comp=Z,6.2nm,0.9s						
WR0	Warramunga Arr	46.76	124	P	P	06 02 54.3	+0.6
WR0				IAmb	IAmb	06 02 54.7	
	comp=Z,11nm,1.1s						
KURBB	Kurchatov Arra	47.14	346	P	P	06 02 57.0	+0.9
	comp=Z,5.2nm,0.4s,baz=170,slow=7.0,SNR=107						
	comp=Z,5.2nm,0.4s						
KURK	Kurchatov	47.20	346	P	P	06 02 57.4	+0.8
AS31	Alice Springs	48.08	128	P	P	06 03 03.4	-0.5
ASAR	Alice Springs	48.08	128	P	P	06 03 04.5	+0.5
	comp=Z,0.9nm,0.4s,baz=300,slow=7.7,SN

comp=Z,18nm,1.3s
GERES **GERESS Array B 79.94 319** P **P** **06 06 34.1 +1.2**
comp=Z,2.8nm,0.7s,baz=90,slow=7.8,SNR=3.7
comp=Z,2.8nm,0.7s
KBA **Koelnbreinsper 80.08 317** *e*P **P** **06 06 33.7 -0.1**
comp=Z,0.4nm,0.3s
LESA **Schwarzleotal 80.55 317** *i* P **P** **06 06 36.1 -0.1**
comp=Z,3.3nm,0.5s
HFS **Hagfors 80.83 330** P **P** **06 06 37.1 -0.2**
comp=Z,3.1nm,0.9s,baz=104,slow=6.3,SNR=8.5
comp=Z,3.1nm,0.9s
WTTA **Wattenberg 81.25 317** *e*P **P** **06 06 40.0 -0.1**
comp=Z,2.8nm,0.5s
WATA **Walderalm 81.29 317** *e*P **P** **06 06 39.9 -0.3**
comp=Z,1.2nm,0.5s
SQTA **Sankt Quirin 81.54 317** *i* P **P** **06 06 41.6 0.0**
comp=Z,3.6nm,0.5s
MOTA **Moosalm 81.61 317** *i* P **P** **06 06 41.8 -0.2**
comp=Z,4.5nm,0.9s
RETA **Reutte 81.85 317** *e*P **P** **06 06 43.2 +0.1**
comp=Z,2.8nm,0.5s
FETA **Feichten 81.86 317** *i* P **P** **06 06 43.6 +0.3**
comp=Z,2.9nm,0.7s
FUORN **Ofenpass-Fuorn 82.17 316** P **P** **06 06 45.6 +0.5**
SPITS **Spitsbergen Ar 82.44 348** P **P** **06 06 45.7 +0.1**
comp=Z,17nm,1.0s,baz=114,slow=10,SNR=4.6
comp=Z,17nm,1.0s
SENIN **Lac Senin/Sane 84.22 316** P **P** **06 06 56.1 +0.5**
TXAR **Lajitas Array 141.49 26** PKhKP PKPpre 06 13 49.6
comp=Z,0.3nm,0.4s,baz=246,slow=1.1,SNR=8.1

BJI ***18*** *06:01:40.7±0.0, 11°.79N×142°.82E, h43km, mb5.0/57, mB5.1/29, Ms4.5/6, Ms7 4.1/6*
NEIC ***18*** *06:01:42.7±1.2, 11°.94N±0°.07×142°.44E±0°.09, h21km±5km, mb4.8/187, Error ellipse: s-maj=12.7km s-min=9.0km az=112.0*
IDC ***18*** *06:01:43.8±4.5, 12°.02N×142°.46E, h33km±34km, mb4.4/24, mbtmp4.6/26, ML5.1/2, MS3.7/25, Error ellipse: s-maj=17.2km s-min=11.9km az=82.0*
DJA ***18*** *06:01:55.7±0.7, 13°N±5°×14°1E±1°1, h34km±4km, M4.8/12, mB5.1/3, mb4.9/12, Mw(mB)4.5/3*
ISC 18 06:01:44.6±0.3, 11°.91N±0°.05×142°.48E±0°.06, h42km, n229, σ1§**03**/170, **mb4.7**/132, **MS3.8**/25, **6C, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.87**	**54**	P	**Pn**	**06 02 27.7**	**-0.2**
GUMO	**Guam**	**2.87**	**54**	Pn	**Pn**	**06 02 27.8**	**-0.1**
	220nm,0.3s,baz=203,slow=4.6,SNR=77						
GUMO				Sn	**Sn**	**06 02 59.0**	**-2.2**
	88nm,0.3s,baz=75,slow=19,SNR=2.2						
	1μm,0.7s						
GENI	**Genyem**	**14.59**	**189**	P	P	06 05 27.6	+13
	72nm,1.7s						
JCJ	**Chichijima**	**15.11**	**359**	Pn	**Pn**	**06 05 14.4**	**-0.9**
PATS	**Pohnpei**	**16.42**	**106**	Pn	**Pn**	**06 05 30.7**	**-1.4**
FAKI	**Fak Fak**	**17.90**	**215**	Pn	**Pn**	**06 05 47.4**	**-3.2**
FAKI				IAmb	IAmb	06 06 01.6	
	comp=Z,54nm,0.8s						
FAKI	**Fak Fak**	**17.90**	**215**	P	**P**	**06 05 52.0**	**+1.2**
FAKI	**Fak Fak**	**17.90**	**215**	P	P	06 06 00.3	+9.5
	comp=Z,81nm,0.8s,comp=Z,817nm						
TNTI	**Ternate**	**18.63**	**235**	P	**P**	**06 05 56.2**	**-2.7**
SGSI	**Sangihe**	**18.66**	**245**	P	**P**	**06 05 57.8**	**-1.4**
	comp=Z,191nm,1.0s						
JOW	**Kunigami**	**19.96**	**320**	Pn	**Pn**	**06 06 15.3**	**0.0**
	comp=Z,8.2nm,0.3s,baz=121,slow=20,SNR=14						
JOW				LR	LR	06 14 21.7	
	comp=Z,109nm,18.3s,baz=293,slow=38						
	comp=Z,36nm,0.5s						
JHJ	**Hachijo jima 2**	**21.25**	**354**	LR	LR	06 13 27.2	
	comp=Z,270nm,19.2s,baz=275,slow=33						
PMG	**Port Moresby**	**21.68**	**167**	P	**P**	**06 06 31.5**	**-0.5**
PMG				IAmb	IAmb	06 06 41.5	
	comp=Z,48nm,1.4s						
PMG	**Port Moresby**	**21.68**	**167**	P	**P**	**06 06 31.2**	**-0.8**
	comp=Z,4.1nm,0.5s,baz=291,slow=8.6,SNR=1.8						
	comp=Z,4.1nm,0.5s						
GTOI	**Gorontalo**	**22.33**	**241**	P	**P**	**06 06 38.7**	**-0.3**
	comp=Z,8.9nm,0.9s						
JMN	**Monobe**	**23.09**	**341**	P	**P**	**06 06 46.1**	**-0.7**
YULB	**Yu-li**	**23.15**	**302**	P	**P**	**06 06 46.3**	**-1.2**
YULB				IAmb	IAmb	06 06 49.0	
	comp=Z,19nm,0.8s						
YULB	**Yu-li**	**23.15**	**302**	P	**P**	**06 06 47.5**	**0.0**
SSLB	**Suanglung**	**23.61**	**303**	P	**P**	**06 06 51.2**	**-0.8**
SSLB	**Suanglung**	**23.61**	**303**	P	**P**	**06 06 52.6**	**+0.7**
JNU	**Nakatsue**	**23.64**	**335**	P	**P**	**06 06 51.9**	**-0.3**
JNU				IAmb	IAmb	06 06 54.3	
	comp=Z,37nm,0.8s						
JNU	**Nakatsue**	**23.64**	**335**	P	**P**	**06 06 53.4**	**+1.3**
JNU	**Nakatsue**	**23.64**	**335**	LR	LR	06 16 05.3	
	comp=Z,80nm,18.4s,baz=168,slow=37						
YHNB	**Yeheng**	**23.67**	**305**	P	**P**	**06 06 52.0**	**-0.5**
YHNB				IAmb	IAmb	06 06 55.0	
	comp=Z,30nm,0.9s						
YHNB	**Yeheng**	**23.67**	**305**	P	**P**	**06 06 52.5**	**-0.1**
INU	**Inuyama**	**23.85**	**349**	P	**P**	**06 06 53.2**	**-0.9**
INU	**Inuyama**	**23.85**	**349**	P	**P**	**06 06 54.6**	**+0.6**
JGF	**Kuroka**	**24.04**	**350**	P	**P**	**06 06 54.4**	**-1.5**
TOLI2	**Tolitoli**	**24.05**	**245**	P	**P**	**06 06 55.5**	**-0.6**
H11N1	**WAKE ISLAND Hy**	**24.72**	**69**	T	T	06 32 56.5	
	baz=255,slow=75,SNR=8.4						
H11N2	**WAKE ISLAND Hy**	**24.73**	**69**	T	T	06 32 49.2	
	baz=255,slow=75,SNR=9.4						
H11N3	**WAKE ISLAND Hy**	**24.74**	**69**	T	T	06 32 54.0	
	baz=255,slow=75,SNR=12						
MJAR	**Matsushiro Arr**	**24.82**	**352**	P	**P**	**06 07 02.1**	**-0.8**
	comp=Z,2.8nm,0.6s,baz=166,slow=7.9,SNR=11						
MJAR				PcP	**PcP**	**06 10 38.6**	**0.0**
	comp=Z,1.4nm,0.8s,baz=160,slow=2.5,SNR=4.7						
	comp=Z,2.8nm,0.6s						
MAJO	**Matsushiro**	**24.82**	**352**	P	**P**	**06 07 01.5**	**-1.5**
MAJO	**Matsushiro**	**24.82**	**352**	P	**P**	**06 07 04.1**	**+1.1**
MJB9	**Matsu-Tunnel**	**24.83**	**352**	P	**P**	**06 07 01.2**	**-1.8**
MPSI	**Mapaga**	**25.19**	**244**	P	**P**	**06 07 07.1**	**+0.7**
	comp=Z,12nm,0.9s						
KKM	**Kota Kinabalu**	**26.57**	**260**	P	**P**	**06 07 19.1**	**0.0**
KKM				IAmb	IAmb	06 07 21.9	
	comp=Z,16nm,0.8s						
MTN	**Manton Dam**	**27.05**	**205**	P	**P**	**06 07 23.4**	**+0.2**
KSRS	**Korea Array**	**28.59**	**335**	P	**P**	**06 07 35.8**	**-1.0**
	comp=Z,2.3nm,0.6s,baz=153,slow=9.7,SNR=13						
KSRS				PcP	**PcP**	**06 10 48.3**	**+1.0**
	comp=Z,1.1nm,0.9s,baz=180,slow=2.1,SNR=4.5						
	comp=Z,2.3nm,0.6s						
NJ2	**Nanjing**	**29.57**	**316**	*e*P	**P**	**06 07 47.5**	**+2.0**
NJ2				pP	**pwP**	**06 07 58.4**	**-1.3**
NJ2				sP	**sP**	**06 08 01.3**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,100nm,4.7s						
WHN	**Wuhan**	**31.96**	**310**	P	**P**	**06 08 07.6**	**+0.9**
WHN				pmax	pmax		
	comp=Z,36nm,0.7s						
ASAJ	**Asahikawa**	**32.09**	**0**	LR	LR	06 24 12.5	
	comp=Z,51nm,19.0s,baz=112,slow=42						
QIS	**Mount Isa**	**32.39**	**185**	P	**P**	**06 08 12.1**	**+1.6**
WB0	**Warramunga Arr**	**32.47**	**194**	P	**P**	**06 08 10.8**	**-0.5**
WB0				IAmb	IAmb	06 08 31.5	
	comp=Z,16nm,1.4s						
WR0	**Warramunga Arr**	**32.62**	**194**	P	**P**	**06 08 12.3**	**-0.2**
WR0				IAmb	IAmb	06 08 16.1	
	comp=Z,13nm,1.1s						
WRAB	**Tennant Creek**	**32.64**	**194**	P	**P**	**06 08 13.4**	**+0.7**
WRAB				IAmb	IAmb	06 08 14.8	
	comp=Z,12nm,1.1s						
WB2	**Warramunga Arr**	**32.65**	**194**	P	**P**	**06 08 13.3**	**+0.5**
WB2				IAmb	IAmb	06 08 14.9	
	comp=Z,6.7nm,0.8s						
WRA	**Warramunga Arr**	**32.65**	**194**	P	**P**	**06 08 12.2**	**-0.6**
WRA	**Warramunga Arr**	**32.65**	**194**	P	**P**	**06 08 13.4**	**+0.5**
	comp=Z,2.6nm,0.4s,baz=16,slow=9.4,SNR=31						
	comp=Z,2.6nm,0.4s						
TIA	**Tai'an**	**33.29**	**321**	⇑P	**P**	**06 08 18.4**	**+0.1**
TIA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**33.42**	**346**	P	**P**	**06 08 19.5**	**+0.2**
	comp=Z,16nm,0.6s,baz=180,slow=9.0,SNR=41						
USRK				LR	LR	06 21 01.3	
	comp=Z,84nm,19.0s,baz=179,slow=35						
	comp=Z,16nm,0.6s						

USA0B Ussuriysk Arra 33.42 346 P **P** **06 08 18.4 -0.8**
BLJI Banyuglugur 34.73 237 P P 06 08 45.1 +14
CN2 Changchun 35.01 338 P **P** **06 08 32.1 -1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
LYN LuoYang 35.38 315 ⇑P **P** **06 08 36.8 +0.4**
LYN pmax pmax
comp=Z,57nm,0.7s
ENH Enshi 35.60 306 P **P** **06 08 39.3 +0.9**
ENH Enshi 35.60 306 P **P** **06 08 39.8 +1.4**
BNX BinXian 36.08 342 ⇑P **P** **06 08 41.8 -0.4**
BNX pmax pmax
comp=Z,65nm,0.6s
BNX pmax pmax
comp=Z,150nm,4.1s
AS31 Alice Springs 36.34 193 P **P** **06 08 45.6 +0.9**
AS31 IAmb IAmb 06 08 46.8
comp=Z,3.9nm,0.5s
ASAR Alice Springs 36.34 193 P **P** **06 08 45.5 +0.8**
ASAR Alice Springs 36.34 193 P **P** **06 08 45.8 +1.1**
comp=Z,3.3nm,0.5s,baz=20,slow=12,SNR=48
ASAR PcP **PcP** **06 11 10.0 +1.1**
comp=Z,2.4nm,0.9s,baz=17,slow=2.7,SNR=11
ASAR LR LR 06 24 33.2
comp=Z,148nm,18.1s,baz=18,slow=38
comp=Z,3.3nm,0.5s
BJT Baijiatuan 36.38 325 P **P** **06 08 45.0 +0.2**
BJT Baijiatuan 36.38 325 P **P** **06 08 46.0 +1.1**
BJI Beijing 36.39 325 P **P** **06 08 44.8 -0.1**
BJI pP **pP** **06 08 53.3 -2.3**
BJI pmax pmax
comp=Z,14nm,0.7s
BJI pmax pmax
comp=Z,63nm,5.0s
GYA Guiyang 36.64 298 ⇑P **P** **06 08 48.6 +1.1**
GYA pmax pmax
comp=Z,27nm,0.8s
GYA pmax pmax
comp=Z,210nm,4.5s
TIY Taiyuan 37.17 319 P **P** **06 08 52.8 +1.1**
TIY pmax pmax
comp=Z,49nm,0.5s
XAN Xi'an 37.67 311 ⇑P **P** **06 08 55.8 -0.2**
XAN sP sP 06 09 10.6 -0.7
XAN pmax pmax
comp=Z,35nm,0.6s
SLVN Son La 38.04 289 P **P** **06 08 59.2 -0.1**
SLVN IAmb IAmb 06 09 01.3
comp=Z,13nm,1.4s
KLR Kul'dur 38.26 349 LR LR 06 22 56.2
comp=Z,105nm,21.9s,baz=233,slow=33
XLT XiLinHaoTe 39.15 329 *e*P **P** **06 09 08.3 -0.1**
XLT pmax pmax
comp=Z,19nm,0.7s
XLT pmax pmax
comp=Z,55nm,3.7s
LEM Lembang 39.35 244 LR LR 06 27 32.0
comp=Z,63nm,18.9s,baz=228,slow=39
HHC Hu-ho-hao-te 39.59 322 *e*P **P** **06 09 13.5 +1.4**
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,200nm,5.8s
HEH HeiHe 40.19 345 *e*P **P** **06 09 16.4 -0.3**
HEH pmax pmax
comp=Z,36nm,0.7s
HEH pmax pmax
comp=Z,220nm,4.4s
BTO Baotou 40.38 321 *e*P **P** **06 09 20.6 +1.9**
BTO pP **pP** **06 09 29.3 -0.2**
BTO sP **sP** **06 09 35.3 +1.2**
BTO S **S** **06 15 29.1 +5.0**
BTO SS **SS** **06 18 23.9 -0.2**
BTO pmax pmax
comp=Z,66nm,0.9s
BTO pmax pmax
comp=Z,340nm,4.8s
BTO LR LR
comp=Z,290nm,9.2s
BTO LR LR
comp=Z,290nm,5.1s
BTO LR LR
comp=Z,470nm,13.1s
PZH PanZhiHua 40.92 297 P **P** **06 09 24.3 +1.0**
PZH pmax pmax
comp=Z,20nm,0.6s
PZH pmax pmax
comp=Z,140nm,5.1s
DZM Mont Dzumac 41.15 145 P **P** **06 09 25.1 -0.1**
DZM Mont Dzumac 41.15 145 LR LR 06 23 22.9
comp=Z,141nm,20.5s,baz=46,slow=32
PHRA Phrae 41.22 284 P **P** **06 09 25.3 -0.4**
PHRA IAmb IAmb 06 09 27.4
comp=Z,37nm,1.1s
IPM Ipoh 41.64 263 P **P** **06 09 28.4 -0.9**
IPM IAmb IAmb 06 09 30.3
comp=Z,13nm,0.8s
KULM Kulim 41.84 265 P **P** **06 09 30.0 -0.8**
KULM IAmb IAmb 06 09 32.5
comp=Z,13nm,0.8s
SRIT Nakonsritamara 42.29 270 P **P** **06 09 34.7 +0.2**
SRIT IAmb IAmb 06 09 36.8
comp=Z,16nm,0.7s
SRIT Nakonsritamara 42.29 270 P **P** **06 09 35.9 +1.4**
LZH Lanzhou 42.30 311 ⇑P **P** **06 09 35.6 +1.0**
LZH sP sP 06 09 49.1 -0.9
LZH pmax pmax
comp=Z,35nm,1.2s
CM31 Chiang Mai Arr 42.43 284 P **P** **06 09 36.2 +0.5**
CM31 IAmb IAmb 06 09 37.6
comp=Z,11nm,1.0s
CMAR Chiang Mai Arr 42.43 284 P **P** **06 09 36.2 +0.5**
CMAR Chiang Mai Arr 42.43 284 P **P** **06 09 36.5 +0.9**
comp=Z,5.7nm,0.8s,baz=84,slow=6.4,SNR=27
comp=Z,5.7nm,0.8s
MNAI Manna 42.49 250 P **P** **06 09 35.6 -0.6**
PETK Petropavlovsk- 42.86 13 P **P** **06 09 40.5 +1.9**
comp=Z,3.5nm,0.8s,baz=229,slow=15,SNR=2.0
PETK PcP **PcP** **06 11 28.9 -0.1**
comp=Z,2.2nm,0.7s,baz=176,slow=2.1,SNR=4.4
PETK LR LR 06 24 06.0
comp=Z,119nm,20.3s,baz=190,slow=31
STKA Stephens Creek 43.55 181 P **P** **06 09 43.2 -1.1**
STKA Stephens Creek 43.55 181 P **P** **06 09 44.4 0.0**
comp=Z,3.2nm,0.8s,baz=330,slow=6.3,SNR=4.2
comp=Z,3.2nm,0.8s
PDSI Padang 43.62 256 P **P** **06 09 44.0 -1.4**
FORT Forrest 44.65 198 P **P** **06 09 53.5 +0.3**
BBOO Buckleboo 44.89 188 P **P** **06 09 55.5 +0.3**
KCSI Kotacane, Aceh 45.02 263 P **P** **06 09 56.8 +0.2**
SISI Saibi 45.06 256 P **P** **06 09 56.0 -0.8**
MND Mandalay 45.31 289 P **P** **06 09 59.6 +0.8**
comp=Z,12nm,0.9s
GSI Gunungsitoli 45.75 260 P **P** **06 10 01.8 -0.6**
GSI Gunungsitoli 45.75 260 P **P** **06 10 01.6 -0.8**
MSVF Nonsavu 45.84 129 P **P** **06 10 05.1 +2.0**
ULN Ulaanbaatar 46.48 327 P **P** **06 10 07.7 0.0**
ULN IAmb IAmb 06 10 09.1
comp=Z,7.9nm,1.2s
GTA Gaotai 46.59 314 *e*P **P** **06 10 09.1 +0.4**
GTA pmax pmax
comp=Z,27nm,0.8s
SONM Songino Array 46.80 327 P **P** **06 10 10.8 +0.5**
SONM IAmb IAmb 06 10 13.5
comp=Z,9.4nm,1.4s
SONM Songino Array 46.80 327 P **P** **06 10 10.5 +0.2**
comp=Z,3.2nm,0.6s,baz=148,slow=7.6,SNR=20
SONM PcP **PcP** **06 11 42.5 -0.5**
comp=Z,0.9nm,0.8s,baz=166,slow=5.8,SNR=3.1
SONM LR LR 06 30 43.2
comp=Z,75nm,18.8s,baz=162,slow=37
comp=Z,3.2nm,0.6s
GOMU GeErMu 49.17 308 P **P** **06 10 30.1 +1.0**
GOMU pmax pmax
comp=Z,9.0nm,0.7s
YAK Yakutsk 50.89 352 P **P** **06 10 40.6 -0.6**
TCW Tory Channel 60.46 153 P **P** **06 11 50.9 +0.8**
MK31 Makanchi Array 61.09 317 P **P** **06 11 55.1 +0.6**
MK31 IAmb IAmb 06 11 55.8
comp=Z,11nm,1.1s
MKAR Makanchi Array 61.09 317 P **P** **06 11 54.9 +0.4**
MKAR Makanchi Array 61.09 317 P **P** **06 11 54.7 +0.2**
comp=Z,5.5nm,0.7s,baz=95,slow=9.0,SNR=56
MKAR LR LR 06 41 00.3
comp=Z,42nm,18.8s,baz=66,slow=39
comp=Z,5.5nm,0.7s

MAKZ Makanchi 61.31 317 P **P** **06 11 55.9 -0.1**
ZAA0 Zalesovo Array 61.65 325 P **P** **06 11 57.5 -0.6**
ZALV Zalesovo Beam 61.65 325 P **P** **06 11 57.5 -0.6**
ZALV Zalesovo Beam 61.65 325 P **P** **06 11 57.2 -0.8**
comp=Z,2.7nm,0.5s,baz=108,slow=7.2,SNR=16
comp=Z,2.7nm,0.5s
SDPT Sand Point 61.81 33 P **P** **06 11 59.2 +0.1**
L14K Kuka Creek 63.17 26 P **P** **06 12 09.2 +1.2**
L14K IAmb IAmb 06 12 12.0
comp=Z,8.3nm,1.1s
KURK Kurchatov 64.38 321 P **P** **06 12 16.1 -0.1**
KURBB Kurchatov Arra 64.41 321 P **P** **06 12 16.1 -0.3**
comp=Z,9.3nm,0.6s,baz=106,slow=6.7,SNR=77
comp=Z,9.3nm,0.6s
KSH Kashi 64.42 308 P **P** **06 12 19.3 +2.4**
KSH pmax pmax
comp=Z,9.0nm,0.8s
CHIR Chirikof Islan 64.57 33 P **P** **06 12 18.1 +0.7**
NRN Naryn 64.60 310 P **P** **06 12 18.3 0.0**
NRN IAmb IAmb 06 12 19.3
comp=Z,8.8nm,1.1s
L16K Owhat River 64.72 27 P **P** **06 12 18.7 +0.5**
L16K IAmb IAmb 06 12 40.0
comp=Z,12nm,1.4s
BOOM Boomskoye usch 64.77 311 P **P** **06 12 19.0 -0.2**
BOOM IAmb IAmb 06 12 20.2
comp=Z,10nm,1.3s
SII Sitkinak Islan 65.55 33 P **P** **06 12 24.5 +0.7**
AAK Ala-Archa 65.85 311 P **P** **06 12 26.1 -0.1**
AAK IAmb IAmb 06 12 27.1
comp=Z,5.3nm,1.0s
AAK Ala-Archa 65.85 311 LR LR 06 43 29.4
comp=Z,68nm,18.9s,baz=82,slow=38
O18K Koktuh Hills 66.01 29 P **P** **06 12 27.1 +0.3**
O18K IAmb IAmb 06 12 39.9
comp=Z,11nm,1.4s
NIL Nilore 66.25 302 P **P** **06 12 28.8 0.0**
E18K Tukpahlearik C 66.71 21 IAmb IAmb 06 12 32.6
comp=Z,3.4nm,0.7s
KDAK Kodiak Island 66.72 32 LR LR 06 39 14.1
comp=Z,40nm,20.7s,baz=260,slow=34
ARSB Arslanbob 66.85 310 P **P** **06 12 33.0 +0.3**
P19K Oil Pt 66.91 30 P **P** **06 12 32.2 -0.2**
P19K IAmb IAmb 06 12 57.5
comp=Z,11nm,1.1s
NRIK Noril'sk 66.96 342 P **P** **06 12 31.5 -1.0**
NRIK IAmb IAmb 06 12 32.7
comp=Z,12nm,1.3s
NRIK Noril'sk 66.96 342 P **P** **06 12 31.3 -1.2**
comp=Z,3.3nm,0.6s,baz=113,slow=8.8,SNR=5.4
comp=Z,3.3nm,0.6s
G19K Purcell Munta 67.43 23 IAmb IAmb 06 12 37.0
comp=Z,3.9nm,0.7s
C19K Lookout Ridge 67.80 19 P **P** **06 12 38.4 +0.4**
E19K Redstone River 67.90 21 IAmb IAmb 06 12 40.1
comp=Z,4.2nm,0.7s
BTK Batken 68.42 308 IAmb IAmb 06 12 42.8
comp=Z,4.5nm,0.6s
CAST Castle Rocks 68.52 26 P **P** **06 12 42.8 +0.2**
CAST IAmb IAmb 06 12 43.2
comp=Z,3.7nm,0.6s
KK31 Karatay Array 68.80 312 P **P** **06 12 44.6 -0.1**
KK31 IAmb IAmb 06 12 45.5
comp=Z,6.1nm,1.0s
KKAR Karatay Array 68.80 312 P **P** **06 12 44.6 -0.1**
KKAR IAmb IAmb 06 12 45.5
comp=Z,6.1nm,1.0s
B20K Meade River 68.96 19 IAmb IAmb 06 13 03.0
comp=Z,10nm,1.4s
MLY Manley 69.55 25 IAmb IAmb 06 12 49.7
comp=Z,4.1nm,0.7s
KBL Kabul 69.75 303 P **P** **06 12 49.9 -1.1**
KBL IAmb IAmb 06 12 52.6
comp=Z,13nm,1.0s
SIMJ Simiganj 69.78 307 P **P** **06 12 50.5 -0.5**
BVAR Borovoye Array 69.80 322 P **P** **06 12 50.6 0.0**
comp=Z,20nm,0.6s,baz=104,slow=8.0,SNR=130
BVAR LR LR 06 46 10.3
comp=Z,91nm,18.2s,baz=92,slow=38
comp=Z,20nm,0.6s
BRVK Borovoye 69.87 322 P **P** **06 12 50.8 -0.3**
E22K Anaktuvuk Pass 70.07 21 IAmb IAmb 06 12 53.3
comp=Z,11nm,1.4s
G23K Bananza Creek 70.30 23 IAmb IAmb 06 12 55.2
comp=Z,3.9nm,0.8s
WRH Wood River Hil 70.50 25 IAmb IAmb 06 13 15.3
comp=Z,6.2nm,1.2s
C23K Itkillik River 71.01 20 IAmb IAmb 06 12 59.6
comp=Z,6.2nm,0.9s
IL31 71.07 25 P **P** **06 12 56.9 -1.3**
IL31 IAmb IAmb 06 12 57.3
comp=Z,3.4nm,0.6s
ILAR Eielson Array 71.07 25 P **P** **06 12 56.4 -1.8**
comp=Z,2.5nm,0.5s,baz=246,slow=5.8,SNR=55
ILAR LR LR 06 42 18.9
comp=Z,56nm,20.6s,baz=228,slow=34
comp=Z,2.5nm,0.5s
D24K Happy Valley 71.41 21 IAmb IAmb 06 13 02.1
comp=Z,6.6nm,0.8s
SCRK Sand Creek 72.16 26 P **P** **06 13 05.0 +0.1**
L26K Log Cabin Wild 72.29 27 P **P** **06 13 05.8 +0.2**
BCAR Beaver Creek A 73.00 27 P **P** **06 13 09.9 +0.1**
LOGN Logan Glacier 73.11 30 P **P** **06 13 11.1 +0.4**
DAWY Dawson 74.18 27 P **P** **06 13 16.8 +0.1**
E28M Babbage River 74.60 22 IAmb IAmb 06 13 20.5
comp=Z,4.9nm,0.8s
L29M L29M 74.66 28 IAmb IAmb 06 13 21.1
comp=Z,5.8nm,0.7s
K29M Barlow Dome 74.98 27 IAmb IAmb 06 13 23.3
comp=Z,6.0nm,0.8s
G29M Pine Creek 75.00 24 IAmb IAmb 06 13 22.7
comp=Z,6.8nm,0.9s
HRA Herat 75.37 303 IAmb IAmb 06 13 25.3
comp=Z,14nm,1.0s
MAYO Mayo, Yukon 75.69 27 IAmb IAmb 06 13 29.6
comp=Z,6.3nm,0.8s
ABKAR Akbulak array 76.22 318 P **P** **06 13 28.3 -0.3**
ABKAR IAmb IAmb 06 13 28.8
comp=Z,5.7nm,0.7s
M31M Drury Creek, Y 76.35 29 IAmb IAmb 06 13 30.1
comp=Z,5.4nm,1.0s
G31M Satah River 76.48 24 IAmb IAmb 06 13 30.4
comp=Z,6.0nm,0.8s
INK Inuvik 76.80 22 P **P** **06 13 31.3 -0.2**
ARU Arti 76.81 325 LR LR 06 51 02.6
comp=Z,45nm,18.2s,baz=136,slow=39
N32M Quiet Lake 76.98 30 IAmb IAmb 06 13 34.1
comp=Z,5.7nm,0.8s
AKTO Aktyubinsk 77.40 319 LR LR 06 49 12.3
comp=Z,53nm,20.0s,baz=166,slow=37
GEYT Alibeck 78.37 307 P **P** **06 13 41.3 +0.3**
GEYT IAmb IAmb 06 13 42.3
comp=Z,11nm,0.9s
GEYT Alibeck 78.37 307 P **P** **06 13 39.8 -1.3**
comp=Z,7.9nm,0.9s,baz=98,slow=3.0,SNR=11
comp=Z,7.9nm,0.9s
DLBC Dease Lake 78.64 32 P **P** **06 13 42.5 +0.3**
WTLY Watson Lake, Y 79.14 31 IAmb IAmb 06 13 46.3
comp=Z,9.5nm,0.7s
A36M Sachs Harbour 79.47 18 IAmb IAmb 06 13 47.1
comp=Z,5.6nm,0.9s
BBB Bella Bella 80.34 39 LR LR 06 43 20.7
comp=Z,59nm,19.5s,baz=278,slow=31
KIRV Kirov 81.53 328 LR LR 06 52 43.9
comp=Z,26nm,18.5s,baz=343,slow=38
GNW Green Mountain 84.46 43 P **P** **06 14 13.9 +0.9**
GNW IAmb IAmb 06 14 14.8
comp=Z,6.4nm,0.8s
SPITS Spitsbergen Ar 85.31 350 P **P** **06 14 16.1 -0.7**
comp=Z,6.7nm,0.8s,baz=80,slow=8.1,SNR=1.5
comp=Z,6.7nm,0.8s
YKA Yellowknife Ar 85.41 27 P **P** **06 14 17.4 -0.1**
comp=Z,2.0nm,0.6s,baz=284,slow=5.1,SNR=68
YKA LR LR 06 51 31.6
comp=Z,50nm,20.5s,baz=286,slow=35
comp=Z,2.0nm,0.6s
YBH Yreka Blue Hor 85.73 48 IAmb IAmb 06 14 21.3
comp=Z,4.6nm,0.8s
LTY Liberty 85.95 43 IAmb IAmb 06 14 21.6
comp=Z,5.6nm,0.8s
MXC Moxie City 86.36 43 IAmb IAmb 06 14 24.0
comp=Z,9.2nm,0.9s
J05D Fort Rock, OR 86.46 47 IAmb IAmb 06 14 25.0
comp=Z,11nm,1.0s
RES Resolute Bay 86.71 13 P **P** **06 14 23.8 +0.1**
RES IAmb IAmb 06 14 24.6
comp=Z,8.2nm,1.2s

K05A	**Summer Lake**	**86.83**	**47**	IAmb	IAmb	06 14 26.9		
	comp=Z,8.5nm,1.1s							
HAWA	**Hanford**	**86.92**	**43**	IAmb	IAmb	06 14 26.6		
	comp=Z,8.1nm,0.8s							
D08A	**Wollman Farm,**	**87.16**	**43**	IAmb	IAmb	06 14 27.3		
	comp=Z,7.5nm,0.8s							
E08A	**Dider Farm, El**	**87.21**	**43**	IAmb	IAmb	06 14 28.1		
	comp=Z,5.9nm,0.9s							
I07A	**Izee**	**87.49**	**46**	IAmb	IAmb	06 14 29.2		
	comp=Z,4.1nm,1.0s							
G08A	**Pilot Rock**	**87.57**	**44**	IAmb	IAmb	06 14 29.9		
	comp=Z,4.3nm,0.9s							
ARCES	**ARCESS Array B**	**87.94**	**342**	P	**P**	**06 14 28.3**	**-1.4**	
	comp=Z,3.3nm,0.5s,baz=63,slow=5.9,SNR=20 comp=Z,3.3nm,0.5s							
NEW	**Newport**	**88.02**	**41**	IAmb	IAmb	06 14 31.7		
	comp=Z,5.0nm,0.9s							
CMB	**Columbia Colle**	**88.29**	**52**	P	**P**	**06 14 32.1**	**0.0**	
CMB				IAmb	IAmb	06 14 33.5		
	comp=Z,4.0nm,0.9s							
F10A	**Beach Ranch, E**	**88.57**	**43**	IAmb	IAmb	06 14 46.0		
	comp=Z,4.1nm,1.0s							
PNTR	**Pine Nut**	**88.64**	**50**	IAmb	IAmb	06 14 35.7		
	comp=Z,5.8nm,0.9s							
YERR	**Yerington**	**88.94**	**50**	IAmb	IAmb	06 14 37.0		
	comp=Z,5.5nm,1.0s							
MDPB	**Devils Postpil**	**89.39**	**52**	IAmb	IAmb	06 14 39.1		
	comp=Z,4.3nm,0.8s							
RYN	**Ryan**	**89.57**	**51**	IAmb	IAmb	06 14 40.0		
	comp=Z,4.9nm,0.9s							
LHV	**Little Huntoon**	**89.68**	**51**	IAmb	IAmb	06 14 40.7		
	comp=Z,4.5nm,1.0s							
KVN	**Kaiserville**	**89.78**	**50**	IAmb	IAmb	06 14 40.9		
	comp=Z,4.8nm,1.0s							
NVAR	**Mina Array Bea**	**89.78**	**51**	P	**P**	**06 14 40.2**	**+0.9**	
	comp=Z,5.9nm,0.8s,baz=262,slow=6.2,SNR=49 comp=Z,5.9nm,0.8s							
NV11	**Mina Array Sit**	**89.90**	**51**	IAmb	IAmb	06 14 41.5		
	comp=Z,4.8nm,0.9s							
DSP	**Deep Springs**	**90.31**	**52**	P	**P**	**06 14 42.8**	**+1.3**	
DSP				IAmb	IAmb	06 14 43.6		
	comp=Z,3.3nm,0.9s							
GMN	**Gold Mountain**	**90.88**	**52**	IAmb	IAmb	06 14 46.1		
	comp=Z,2.9nm,0.8s							
HLID	**Hailey**	**91.18**	**45**	IAmb	IAmb	06 14 47.2		
	comp=Z,3.2nm,0.8s							
WCT	**Wildcat Mounta**	**91.50**	**52**	IAmb	IAmb	06 14 48.9		
	comp=Z,4.0nm,0.9s							
GWY	**Greenwater Val**	**91.64**	**53**	IAmb	IAmb	06 14 49.5		
	comp=Z,5.4nm,1.1s							
FINES	**FINESS Array B**	**91.68**	**334**	P	**P**	**06 14 45.2**	**-2.1**	
	comp=Z,3.9nm,0.6s,baz=63,slow=4.8,SNR=32 comp=Z,3.9nm,0.6s							
PFO	**Pinyon Flats O**	**92.51**	**55**	LR	LR	06 48 33.4		
	comp=Z,31nm,22.0s,baz=242,slow=30							
HVU	**Hansel Valley**	**92.88**	**46**	IAmb	IAmb	06 14 55.2		
	comp=Z,5.3nm,1.1s							
PSUT	**Pine Spring**	**93.11**	**50**	IAmb	IAmb	06 15 02.8		
	comp=Z,2.4nm,0.8s							
IMW	**Indian Meadow**	**93.46**	**44**	IAmb	IAmb	06 14 58.1		
	comp=Z,4.1nm,0.8s							
H17A	**Grant Village**	**93.53**	**43**	IAmb	IAmb	06 15 00.3		
	comp=Z,6.5nm,1.0s							
MOOW	**Moose Ponds**	**93.64**	**44**	IAmb	IAmb	06 14 58.5		
	comp=Z,1.9nm,0.8s							
RLMT	**Red Lodge**	**94.14**	**42**	IAmb	IAmb	06 15 02.3		
	comp=Z,3.6nm,0.7s							
FFC	**Flin Flon**	**94.46**	**32**	P	**P**	**06 15 00.1**	**-0.2**	
FFC				IAmb	IAmb	06 15 01.6		
	comp=Z,9.1nm,1.4s							
PDAR	**Pinedale Array**	**94.80**	**45**	P	**P**	**06 15 02.3**	**-0.1**	
	comp=Z,0.3nm,0.6s,baz=248,slow=2.1,SNR=4.0 comp=Z,0.3nm,0.6s							
AKASG	**Malin Array Be**	**95.02**	**324**	LR	LR	06 59 56.7		
	comp=Z,57nm,18.1s,baz=46,slow=37							
NOA	**NORSAR Array B**	**97.76**	**338**	P	**P**	**06 15 12.9**	**-2.3**	
	comp=Z,0.7nm,0.8s,baz=49,slow=4.9,SNR=2.1							
NOA				LR	LR	07 01 00.8		
	comp=Z,29nm,21.2s,baz=260,slow=36 comp=Z,0.7nm,0.8s							
MLR	**Muntele Rosu**	**99.31**	**320**	LR	LR	07 06 17.9		
	comp=Z,57nm,18.0s,baz=24,slow=39							
ULM	**Lac du Bonnet**	**99.93**	**34**	P	**Pdif**	**06 15 24.3**	**-0.8**	
	comp=Z,0.9nm,0.6s,baz=333,slow=4.5,SNR=3.1 comp=Z,0.9nm,0.6s							
TORD	**Torodi Ar. Bea**	**133.81**	**301**	PKP	**PKPdf**	**06 20 58.0**	**0.0**	
	comp=Z,1.7nm,1.0s,baz=42,slow=2.8,SNR=7.1							
PLCA	**Paso Flores**	**139.19**	**141**	PKP	**PKPdf**	**06 21 05.8**	**-1.6**	
	comp=Z,1.8nm,0.8s,baz=222,slow=3.8,SNR=5.5							
DBIC	**Dimbokro**	**142.63**	**298**	PKhKP	PKPpre	06 21 09.3		
	comp=Z,2.4nm,0.7s,baz=35,slow=2.8,SNR=4.8							
LPAZ	**La Paz**	**150.02**	**102**	PKP	**PKPdf**	**06 21 29.5**	**+2.1**	
	comp=Z,12nm,0.7s,baz=268,slow=2.3,SNR=9.7							
LPAZ				PKPbc	**PKiKP**	**06 21 34.1**	**+0.9**	
	comp=Z,12nm,0.7s,baz=232,slow=3.0,SNR=35							
BDFB	**Brasilia**	**169.16**	**111**	PKP	**PKPdf**	**06 21 49.2**	**+0.8**	
	comp=Z,2.1nm,0.7s,baz=115,slow=5.0,SNR=4.7							

IDC 18 06:02:17.4±2.1, 6°23S×143°14E, h0km, mb3.9/2, mbtmp3.7/4, ML3.4/2, Error ellipse: s-maj=107.3km s-min=32.6km az=110.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.10**	**211**	Pn	Pn	06 06 03.1	-2.2
	0.1nm,0.3s,baz=32,slow=13,SNR=1.9 0.4nm,0.6s						
ASAR	**Alice Springs**	**19.49**	**206**	P	Pn	06 06 47.0	-0.4
	0.3nm,0.3s,baz=35,slow=10.0,SNR=20 1.9nm,0.7s						
BVAR	**Borovoye Array**	**84.71**	**325**	P	P	06 14 53.6	+0.3
	1.7nm,0.8s,baz=101,slow=7.5,SNR=3.8 1.7nm,0.8s						
ILAR	**Eielson Array**	**87.21**	**24**	P	P	06 15 05.0	-0.4
	0.3nm,0.6s,baz=253,slow=5.7,SNR=1.8 0.3nm,0.6s						

*IDC **18** 06:16:19.4±7.6, 4°86S×151°98E, h149km±51km, mb3.5/7, mbtmp3.9/8, Error ellipse: s-maj=86.3km s-min=28.0km az=99.0*
*NEIC **18** 06:16:19.2±0.6, 4°65S±0°1×151°84E±0°07, h148km±14km, mb4.4/12, Error ellipse: s-maj=21.1km s-min=5.0km az=156.0*

ISC 18 06:16:20.4±1.0, 4°71S±0°09×151°8E±0°1, h153km, n25, σ0°93/26, mb4.2/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**5.12**	**301**	Pn	**Pn**	**06 17 34.0**	**-1.6**
PMG	**Port Moresby**	**6.53**	**224**	Pn	**Pn**	**06 17 54.8**	**+0.6**
PMG	**Port Moresby**	**6.53**	**224**	P	**Pn**	**06 17 55.0**	**+0.8**
	18nm,0.6s,baz=26,slow=9.6,SNR=5.7						
PMG				S	**Sn**	**06 19 06.6**	**-1.1**
	54nm,0.5s,baz=16,slow=11,SNR=12						
WB0	**Warramunga Arr**	**22.59**	**227**	P	**P**	**06 21 07.9**	**-0.3**
WB0				IAmb	IAmb	06 21 09.5	
	comp=Z,7.2nm,0.8s						
WR0	**Warramunga Arr**	**22.60**	**226**	P	**P**	**06 21 08.6**	**+0.3**
WR0				IAmb	IAmb	06 21 10.2	
	comp=Z,12nm,1.1s						
WRAB	**Tennant Creek**	**22.73**	**227**	P	**P**	**06 21 09.7**	**+0.2**
WRAB				IAmb	IAmb	06 21 11.2	
	comp=Z,11nm,0.6s						
WB2	**Warramunga Arr**	**22.73**	**227**	P	**P**	**06 21 09.7**	**+0.1**
WRA	**Warramunga Arr**	**22.74**	**227**	P	**P**	**06 21 08.8**	**-0.9**
WRA	**Warramunga Arr**	**22.74**	**227**	P	**P**	**06 21 09.9**	**+0.2**
	comp=Z,6.8nm,0.4s,baz=50,slow=10,SNR=97 comp=Z,6.8nm,0.4s						
PINNC	**Pines Island,**	**23.39**	**141**	P	**P**	**06 21 14.4**	**-1.1**
PINNC				IAmb	IAmb	06 21 24.5	
	comp=Z,19nm,0.9s						
KNRA	**Kununurra**	**25.09**	**243**	P	**P**	**06 21 31.9**	**+0.9**
KNRA				IAmb	IAmb	06 21 42.4	
	comp=Z,32nm,1.1s						
AS31	**Alice Springs**	**25.53**	**221**	P	**P**	**06 21 34.1**	**-0.9**
ASAR	**Alice Springs**	**25.53**	**221**	P	**P**	**06 21 34.9**	**-0.2**
ASAR	**Alice Springs**	**25.53**	**221**	P	**P**	**06 21 35.1**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=51,slow=8.9,SNR=29 comp=Z,0.9nm,0.4s						
FITZ	**Fitzroy Crossi**	**28.80**	**240**	P	**P**	**06 22 03.9**	**-0.4**
BBOO	**Buckleboo**	**31.57**	**206**	P	**P**	**06 22 28.2**	**-0.3**
FORT	**Forrest**	**34.21**	**218**	P	**P**	**06 22 51.0**	**-0.5**
MORW	**Morawa**	**41.60**	**230**	P	**P**	**06 23 53.2**	**-0.3**
MORW				IAmb	IAmb	06 24 18.5	
	comp=Z,14nm,1.1s						

CMAR	**Chiang Mai Arr**	**56.90**	**295**	P	**P**	**06 25 51.9**	**+2.0**	
	comp=Z,1.0nm,0.4s,baz=102,slow=6.8,SNR=4.4 comp=Z,1.0nm,0.4s							
SONM	**Songino Array**	**65.70**	**328**	P	**P**	**06 26 50.3**	**+1.6**	
	comp=Z,0.4nm,0.7s,baz=130,slow=4.4,SNR=3.0 comp=Z,0.4nm,0.7s							
MKAR	**Makanchi Array**	**79.58**	**319**	P	**P**	**06 28 11.2**	**+0.6**	
	comp=Z,0.4nm,0.7s,baz=108,slow=4.0,SNR=4.1 comp=Z,0.4nm,0.7s							
ZALV	**Zalesovo Beam**	**80.50**	**327**	P	**P**	**06 28 15.5**	**+0.2**	
	comp=Z,0.3nm,0.4s,baz=132,slow=8.7,SNR=1.9 comp=Z,0.3nm,0.4s							
QSPA	**South Pole Qui**	**85.25**	**180**	P	**P**	**06 28 39.5**	**-0.2**	
BVAR	**Borovoye Array**	**88.55**	**323**	P	**P**	**06 28 55.7**	**-0.1**	
	comp=Z,0.5nm,0.7s,baz=116,slow=9.8,SNR=3.6 comp=Z,0.5nm,0.7s							
TORD	**Torodi Ar. Bea**	**149.29**	**288**	PKPbc	**PKiKP**	**06 35 51.3**	**-2.0**	
	comp=Z,0.3nm,0.4s,baz=50,slow=2.2,SNR=4.1							

*IDC **18** 06:25:37.2±5.1, 55°38N×149°41W, h0km, mb4.1/1, mbtmp3.3/5, ML2.7/4, Error ellipse: s-maj=75.7km s-min=43.6km az=13.0*
*NEIC **18** 06:25:39.3±1.1, 55°73N±0°09×149°3W±0°1, h7km±8km, ML3.1/40, ML3.1(AEIC), Error ellipse: s-maj=14.7km s-min=6.4km az=153.0*
*AEIC **18** 06:25:42.6±1.0, 55°7N±0°1×149°3W±0°1, h0km±8km, Error ellipse: s-maj=15.2km s-min=9.9km az=167.0*

ISC 18 06:25:40.2±1.4, 55.77N±0°09×149.31W±0°06, h10km, n134, σ0°89/141, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.64**	**305**		**Pn**	**06 26 22.4**	**-0.4**
OHAK	**Old Harbor**	**2.64**	**305**	P	**Pn**	**06 26 22.4**	**-0.4**
OHAK	**Old Harbor**	**2.64**	**305**	P	**Pn**	**06 26 22.4**	**-0.4**
	baz=123						
OHAK				S	**Sn**	**06 26 53.6**	**-1.2**
	baz=123						
KDAK	**Kodiak Island**	**2.71**	**320**		**Pn**	**06 26 23.6**	**0.0**
KDAK	**Kodiak Island**	**2.71**	**320**	S	**Sn**	**06 26 55.1**	**-1.3**
	baz=138						
KDAK	**Kodiak Island**	**2.71**	**320**	Pn	**Pn**	**06 26 23.6**	**0.0**
	1.2nm,0.3s,baz=131,slow=5.4,SNR=54						
KDAK				Sn	**Sn**	**06 26 54.8**	**-1.6**
	0.9nm,0.3s,baz=193,slow=23,SNR=5.6 2.8nm,0.3s						
SII	**Sitkinak Islan**	**2.84**	**288**		**Pn**	**06 26 24.8**	**-0.6**
SII				IAML		06 27 04.9	
	comp=N,54nm,0.6s						
SII				IAML		06 27 06.3	
	comp=E,83nm,0.6s						
SII	**Sitkinak Islan**	**2.84**	**288**	P	**Pn**	**06 26 24.9**	**-0.6**
SII	**Sitkinak Islan**	**2.84**	**288**	P	**Pn**	**06 26 24.9**	**-0.6**
	baz=106						
SII				S	**Sn**	**06 26 58.3**	**-1.5**
	baz=106						
Q20K	**Shuyak Island**	**3.31**	**331**	P	**Pn**	**06 26 31.8**	**-0.1**
	baz=149						
Q20K				S	**Sn**	**06 27 11.3**	**0.0**
	baz=149						
SYI	**Shuyak Island**	**3.31**	**331**		**Pn**	**06 26 31.9**	**0.0**
SYI					**Sn**	**06 27 11.6**	**+0.4**
CHIR	**Chirikof Islan**	**3.56**	**273**		**Pn**	**06 26 35.1**	**-0.4**
CHIR				IAML		06 27 23.2	
	comp=N,46nm,1.3s						
CHIR				IAML		06 27 35.2	
	comp=E,48nm,1.4s						
CHIR	**Chirikof Islan**	**3.56**	**273**	P	**Pn**	**06 26 35.1**	**-0.4**
	baz=89						
CHIR				S	**Sn**	**06 27 15.6**	**-1.9**
	baz=89						
CNPM	**China Poot**	**3.91**	**345**		**Pn**	**06 26 39.7**	**-0.5**
CNPM				IAML		06 27 27.5	
	comp=E,12nm,0.6s						
Q19K	**Cape Douglas,**	**3.94**	**325**		**Pn**	**06 26 41.3**	**+0.6**
Q19K				IAML		06 27 36.0	
	comp=N,52nm,1.3s						
Q19K	**Cape Douglas,**	**3.94**	**325**	P	**Pn**	**06 26 41.6**	**+0.9**
	baz=142						
MID	**Middleton Isla**	**4.00**	**22**	Pn	**Pn**	**06 26 40.8**	**-0.7**
MID	**Middleton Isla**	**4.00**	**22**	P	**Pn**	**06 26 41.3**	**-0.2**
Q23K	**Middleton Isla**	**4.00**	**22**	Pn	**Pn**	**06 26 40.6**	**-0.8**
Q23K				IAML		06 27 40.5	
	comp=N,58nm,1.3s						
KAKN	**Katmai Knife C**	**4.04**	**311**		**Pn**	**06 26 42.8**	**+0.8**
BRSE	**Bradley Lake S**	**4.06**	**350**		**Pn**	**06 26 41.7**	**-0.6**
BRSE					**Sn**	**06 27 28.6**	**-1.3**
BRSE	**Bradley Lake S**	**4.06**	**350**	P	**Pn**	**06 26 41.7**	**-0.6**
	baz=168						
BRSE				S	**Sn**	**06 27 28.6**	**-1.3**
	baz=168						
BRLK	**Bradley Lake**	**4.10**	**349**		**Pn**	**06 26 42.3**	**-0.5**
BRLK				IAML		06 27 32.4	
	comp=E,13nm,0.6s						
BRLK				IAML		06 27 36.5	
	comp=N,10nm,0.6s						
ANCK	**Angle Creek**	**4.17**	**308**		**Pn**	**06 26 43.5**	**-0.3**
AUL	**Augustine Lava**	**4.25**	**330**		**Pn**	**06 26 45.6**	**+0.7**
SEW	**Seward**	**4.35**	**359**		**Pn**	**06 26 45.2**	**-1.0**
SEW	**Seward**	**4.35**	**359**	P	**Pn**	**06 26 45.4**	**-0.8**
	baz=179						
P23K	**Montague Islan**	**4.36**	**13**		**Pn**	**06 26 45.6**	**-0.8**
P23K	**Montague Islan**	**4.36**	**13**	P	**Pn**	**06 26 45.6**	**-0.8**
	baz=194						
CNTC	**Contact Creek**	**4.38**	**308**		**Pn**	**06 26 47.7**	**+0.9**
Q17K	**Contact Creek**	**4.38**	**308**	P	**Pn**	**06 26 47.7**	**+0.9**
	baz=123						
P19K	**Oil Pt**	**4.43**	**333**		**Pn**	**06 26 47.4**	**+0.1**
P19K				IAML		06 27 42.6	
	comp=N,25nm,0.6s						
P19K				IAML		06 27 50.3	
	comp=E,22nm,1.2s						
P19K	**Oil Pt**	**4.43**	**333**	P	**Pn**	**06 26 47.7**	**+0.3**
	baz=150						
ILSW	**Iliamna Southw**	**4.70**	**336**		**Pn**	**06 26 51.1**	**0.0**
ILSW				IAML		06 27 51.8	
	comp=N,9.0nm,1.3s						
ILSW				IAML		06 27 57.6	
	comp=E,9.5nm,0.7s						
SLKM	**Skilak Lake**	**4.78**	**355**		**Pn**	**06 26 51.5**	**-0.7**
P18K	**Big Mountain,**	**4.83**	**321**		**Pn**	**06 26 53.1**	**+0.2**
P18K	**Big Mountain,**	**4.83**	**321**	P	**Pn**	**06 26 53.0**	**+0.2**
	baz=137						
HIN	**Hinchinbrook I**	**4.88**	**17**		**Pn**	**06 26 52.7**	**-0.8**
HIN				IAML		06 27 47.2	
	comp=E,27nm,0.6s						
KAIM	**Kayak Island**	**4.92**	**30**		**Pn**	**06 26 53.4**	**-0.7**
KAIM				IAML		06 27 52.4	
	comp=E,28nm,1.2s						
KAIM	**Kayak Island**	**4.92**	**30**	P	**Pn**	**06 26 53.4**	**-0.7**
	baz=214						
RDT	**Redoubt**	**5.09**	**343**		**Pn**	**06 26 56.6**	**+0.1**
EYAK	**Cordova Ski Ar**	**5.15**	**20**		**Pn**	**06 26 57.0**	**-0.3**
EYAK	**Cordova Ski Ar**	**5.15**	**20**	P	**Pn**	**06 26 57.7**	**+0.5**
EYAK	**Cordova Ski Ar**	**5.15**	**20**	P	**Pn**	**06 26 56.9**	**-0.3**
	baz=203						
P17K	**Kvichak River**	**5.16**	**315**		**Pn**	**06 26 58.2**	**+1.0**
P17K	**Kvichak River**	**5.16**	**315**	P	**Pn**	**06 26 58.3**	**+1.0**
	baz=129						
O18K	**Koktuh Hills**	**5.17**	**325**	Pn	**Pn**	**06 26 57.1**	**-0.4**
O18K				IAML		06 28 25.1	
	comp=N,5.6nm,1.4s						
SUCK	**Suckling Hills**	**5.23**	**32**		**Pn**	**06 26 57.7**	**-0.6**
SUCK				IAML		06 27 57.4	
	comp=E,19nm,0.6s						
SUCK				IAML		06 28 08.5	
	comp=N,20nm,1.1s						
RAGM	**Ragged Mountai**	**5.25**	**26**		**Pn**	**06 26 58.6**	**0.0**
NICHA	**Nichawak Mount**	**5.31**	**30**		**Pn**	**06 26 59.2**	**-0.2**
HMT	**Hamilton**	**5.31**	**28**		**Pn**	**06 26 59.0**	**-0.4**
RC01	**Rabbit Creek A**	**5.34**	**358**		**Pn**	**06 26 59.4**	**-0.5**
RC01				IAML		06 28 05.8	
	comp=E,10nm,0.5s						
RC01				IAML		06 28 10.6	
	comp=N,7.8nm,0.8s						
GOAT	**Goat Mountain**	**5.40**	**25**		**Pn**	**06 27 00.5**	**-0.3**
BERG	**Berg Lake**	**5.51**	**30**		**Pn**	**06 27 01.8**	**-0.4**
GRIN	**Grindle Hills**	**5.53**	**33**		**Pn**	**06 27 02.2**	**-0.3**
SNH	**Sunshine Point**	**5.61**	**35**	Pn	**Pn**	**06 27 02.6**	**-0.9**
KNK	**Knik Glacier**	**5.68**	**4**	Pn	**Pn**	**06 27 04.6**	**0.0**
KHIT	**Khitrov Hills**	**5.68**	**32**		**Pn**	**06 27 04.0**	**-0.7**
P16K	**Nushagak River**	**5.72**	**308**		**Pn**	**06 27 05.8**	**+0.8**
P16K	**Nushagak River**	**5.72**	**308**	P	**Pn**	**06 27 05.8**	**+0.8**
	baz=122						

SUA	**Susitna One**	**5.76**	**353**	Pn	**Pn**	**06 27 04.5**	**-1.2**	
BMRM	**Bremner River**	**5.77**	**23**		**Pn**	**06 27 05.5**	**-0.4**	
BMRM	**Bremner River**	**5.77**	**23**	P	**Pn**	**06 27 05.5**	**-0.4**	
	baz=207							
WAX	**Waxell Ridge**	**5.81**	**33**		**Pn**	**06 27 05.7**	**-0.6**	
PMR	**Palmer**	**5.84**	**1**	Pn	**Pn**	**06 27 06.7**	**0.0**	
BARK	**Barkley Ridge**	**5.89**	**35**		**Pn**	**06 27 07.0**	**-0.5**	
MESA	**MESA**	**5.91**	**38**		**Pn**	**06 27 06.9**	**-0.9**	
MESA	**MESA**	**5.91**	**38**	P	**Pn**	**06 27 07.0**	**-0.7**	
	baz=224							
KLU	**Klutina**	**6.01**	**16**		**Pn**	**06 27 09.2**	**+0.1**	
KLU	**Klutina**	**6.01**	**16**	P	**Pn**	**06 27 08.9**	**-0.2**	
	baz=198							
GHO	**Glory Hole Cre**	**6.03**	**2**		**Pn**	**06 27 09.5**	**+0.1**	
N18K	**Kilae Creek**	**6.03**	**328**	Pn	**Pn**	**06 27 08.7**	**-0.6**	
SML	**Sawmill**	**6.08**	**4**		**Pn**	**06 27 10.3**	**+0.3**	
BAGL	**Bagley Icefiel**	**6.09**	**36**		**Pn**	**06 27 09.5**	**-0.6**	
ISLE	**Juniper Island**	**6.09**	**34**		**Pn**	**06 27 09.6**	**-0.6**	
SCM	**Sheep Creek Mo**	**6.17**	**9**	P	**Pn**	**06 27 11.7**	**+0.3**	
	baz=190							
VRDI	**Verde Repeater**	**6.28**	**27**		**Pn**	**06 27 11.9**	**-0.9**	
SAMH	**Samovar Hills**	**6.30**	**43**		**Pn**	**06 27 12.9**	**-0.2**	
KIAG	**Kiagna River**	**6.33**	**32**		**Pn**	**06 27 13.1**	**-0.6**	
SKT	**Skwentna**	**6.34**	**350**	Pn	**Pn**	**06 27 13.1**	**-0.5**	
N25K	**Chitina, Valde**	**6.35**	**21**		**Pn**	**06 27 13.8**	**0.0**	
N25K	**Chitina, Valde**	**6.35**	**21**	P	**Pn**	**06 27 14.1**	**+0.3**	
	baz=204							
GLB	**Gilahina Butte**	**6.37**	**25**		**Pn**	**06 27 13.7**	**-0.4**	
TABL	**Table Mountain**	**6.38**	**39**		**Pn**	**06 27 13.7**	**-0.6**	
PTPK	**Patty Peak**	**6.51**	**31**		**Pn**	**06 27 15.7**	**-0.4**	
MCARA	**McCarthy VSAT**	**6.52**	**28**		**Pn**	**06 27 16.4**	**+0.4**	
MCARA	**McCarthy VSAT**	**6.52**	**28**	P	**Pn**	**06 27 16.1**	**+0.1**	
	baz=213							
PNL	**Peninsula**	**6.59**	**50**		**Pn**	**06 27 16.5**	**-0.5**	
PNL	**Peninsula**	**6.59**	**50**	P	**Pn**	**06 27 16.8**	**-0.3**	
PNL	**Peninsula**	**6.59**	**50**	P	**Pn**	**06 27 16.5**	**-0.5**	
	baz=237							
O15K	**Unigalikthiuk R**	**6.62**	**305**		**Pn**	**06 27 18.1**	**+0.7**	
O15K	**Unigalikthiuk R**	**6.62**	**305**	P	**Pn**	**06 27 18.1**	**+0.7**	
	baz=117							
BCPM	**Bancas Point**	**6.65**	**47**		**Pn**	**06 27 17.3**	**-0.5**	
BARN	**Barnard Glacie**	**6.66**	**34**		**Pn**	**06 27 17.4**	**-0.7**	
CTG	**Chitna Glacier**	**6.69**	**36**	P	**Pn**	**06 27 17.9**	**-0.5**	
	baz=222							
CTGM	**Chitina Glacie**	**6.69**	**36**		**Pn**	**06 27 17.8**	**-0.7**	
LOGN	**Logan Glacier**	**6.70**	**37**		**Pn**	**06 27 17.7**	**-0.9**	
M17K	**Holitna River**	**7.06**	**326**		**Pn**	**06 27 23.4**	**-0.1**	
M17K	**Holitna River**	**7.06**	**326**	P	**Pn**	**06 27 24.0**	**+0.5**	
	baz=140							
O29M	**Mount Kennedy**	**7.29**	**47**		**Pn**	**06 27 26.4**	**-0.2**	
O29M	**Mount Kennedy**	**7.29**	**47**	P	**Pn**	**06 27 26.3**	**-0.3**	
	baz=236							
P29M	**Windy Craggy**	**7.31**	**53**		**Pn**	**06 27 26.2**	**-0.7**	
P29M	**Windy Craggy**	**7.31**	**53**	P	**Pn**	**06 27 26.2**	**-0.7**	
	baz=242							
YUK8	**Steele Glacier**	**7.45**	**38**		**Pn**	**06 27 30.1**	**+1.0**	
YUK8	**Steele Glacier**	**7.45**	**38**	P	**Pn**	**06 27 30.0**	**+1.0**	
	baz=226							
YUK2	**White River**	**7.47**	**33**		**Pn**	**06 27 29.8**	**+0.7**	
S31K	**Pelican**	**7.50**	**68**	Pn	Pn	06 27 26.0	-3.4	
YUK3	**Moose Creek**	**7.58**	**34**		**Pn**	**06 27 31.2**	**+0.5**	
YUK3	**Moose Creek**	**7.58**	**34**	P	**Pn**	**06 27 31.2**	**+0.5**	
	baz=221							
YUK6	**Outpost Mounta**	**7.75**	**43**	P	**Pn**	**06 27 33.9**	**+0.8**	
	baz=232							
YUK4	**Talbot Arm**	**7.89**	**41**	P	**Pn**	**06 27 37.2**	**+2.2**	
	baz=229							
TTA	**Tatalina**	**7.95**	**337**	Pn	**Pn**	**06 27 35.3**	**-0.5**	
HYT	**Haines Junctio**	**8.02**	**46**	Pn	**Pn**	**06 27 36.8**	**+0.1**	
S32K	**Killisnoo**	**8.30**	**72**	Pn	Pn	06 27 37.0	-3.4	
BESE	**Bessie Mountai**	**8.35**	**64**	Pn	**Pn**	**06 27 39.1**	**-2.0**	
SKAG	**Skagway**	**8.37**	**58**	P	Pn	**06 27 42.7**	**+1.4**	
P32K	**Eaglecrest**	**8.45**	**67**	Pn	**Pn**	**06 27 42.4**	**-0.2**	
N30M	**Aishikik Lake**	**8.55**	**43**		**Pn**	**06 27 44.0**	**+0.1**	
M29M	**Somme Creek**	**8.71**	**35**		**Pn**	**06 27 47.0**	**+0.9**	
WHY	**Whitehorse**	**9.05**	**51**	Pn	**Pn**	**06 27 50.9**	**0.0**	
IL31		**9.11**	**7**	Pn	**Pn**	**06 27 50.4**	**-1.1**	
ILAR	**Eielson Array**	**9.11**	**7**	Pn	**Pn**	**06 27 53.5**	**+1.9**	
	comp=N,0.1nm,0.3s,baz=188,slow=13,SNR=6.0							
ILAR				Sn	**Sn**	**06 29 29.4**	**-4.7**	

comp=E,1μm,0.9s

ADCV	**BITLIS_Adilcev**	**0.57**	**264**	P	**Pb**	**07 06 11.0**	**-0.5**
ADCV				S	**Sn**	**07 06 21.6**	**-1.2**
GEVA	**Gevas**	**0.64**	**209**	P	**Pg**	**07 06 11.1**	**-1.2**
GEVA				S	**Sn**	**07 06 23.5**	**-0.8**
AKDM	**Akdamar-Van**	**0.66**	**215**	Pg	**Pb**	**07 06 11.8**	**-1.1**
AKDM				Sg	**Sn**	**07 06 22.8**	**-1.9**
DORK	**Agr/Tutak/Do**	**0.74**	**315**	P	**Pb**	**07 06 13.1**	**-1.3**
DORK				S	**Sb**	**07 06 25.1**	**+0.8**
MLAZ	**Malazgirt-MUS**	**0.76**	**291**	Pg	**Pn**	**07 06 15.1**	**-0.9**
MLAZ				Sg	**Sn**	**07 06 26.9**	**-0.3**
AGRB	**Hanur-Agry**	**0.79**	**333**	Pg	**Pb**	**07 06 14.2**	**-1.1**
AGRB				Sg	**Sn**	**07 06 27.6**	**-0.6**
KOTA	**Agri, Merkez-K**	**0.95**	**348**	P	**Pb**	**07 06 16.9**	**-1.2**
KOTA				S	**Sb**	**07 06 29.5**	**-1.0**
BLIS	**Bitlis-Merkez**	**1.14**	**247**	P	**Pb**	**07 06 20.6**	**-0.6**
BLIS				S	**Sg**	**07 06 39.2**	**+2.4**
BLIS				*i* AML	AML	07 06 40.0	

comp=E,298nm,0.5s

GURO	**Guroymak-BITLI**	**1.16**	**255**	Pn	**Pg**	**07 06 21.4**	**-0.7**
GURO				Sn	**Sg**	**07 06 39.3**	**+2.1**
VNNZ	**Vanand**	**1.27**	**13**	*e*P	**Pg**	**07 06 24.0**	**-0.2**
VNNZ				*e*S	**Sg**	**07 06 44.6**	**+3.9**
TASB	**TASBURUN-IGDIR**	**1.27**	**28**	Pn	**Pb**	**07 06 23.1**	**-0.3**
HAKT	**HAKKARI**	**1.32**	**171**	P	**Pb**	**07 06 22.7**	**-1.7**
HAKT				S	**Sg**	**07 06 46.2**	**+3.7**
NRKZ	**NAREK**	**1.47**	**39**	*e*P	**Pb**	**07 06 26.2**	**-0.5**
NRKZ				*e*S	**Sg**	**07 06 47.5**	**+0.5**
ARUZ	**Aruch**	**1.50**	**19**	*e*P	**Pg**	**07 06 29.4**	**+0.8**
ARUZ				*e*S	**Sg**	**07 06 53.5**	**+5.5**
VRTB	**Varto-Mus**	**1.58**	**281**	Pn	**Pb**	**07 06 28.8**	**0.0**
GNI	**Garni**	**1.62**	**37**	Pn	**Pb**	**07 06 28.3**	**-1.1**
GNI	**Garni**	**1.62**	**37**	⇑*i*P	**Pb**	**07 06 29.1**	**-0.4**
GNI				⇓*i*S	**Sg**	**07 06 52.1**	**+0.1**
CUKT	**Cukurca**	**1.62**	**176**	Pn	**Pb**	**07 06 28.0**	**-1.4**
AMBZ	**Amberd**	**1.64**	**22**	*e*P	**Pb**	**07 06 29.9**	**+0.1**
AMBZ				*e*S	**Sg**	**07 06 54.9**	**+2.2**
KOPR	**Koprukoy-ERZUR**	**1.67**	**313**	Pn	**Pb**	**07 06 29.9**	**-0.4**
KAPZ	**Kaputan**	**1.74**	**33**	*e*P	**Pb**	**07 06 31.3**	**-0.2**
KAPZ				*e*S	**Sg**	**07 06 56.6**	**+0.8**
SENK	**Senkaya-Erzuru**	**1.89**	**334**	Pn	**Pb**	**07 06 32.9**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.91**	**249**	Pn	**Pb**	**07 06 33.1**	**-1.2**
BNGB	**Bingl**	**2.17**	**274**	Pn	**Pb**	**07 06 36.9**	**-1.8**
MAZI	**Mazidag**	**2.76**	**240**	Pn	**Pn**	**07 06 45.2**	**+1.7**

*THE **18** 07:07:49.6,38˚.10N×20˚.42E,h18km,ML2.7/6,Error ellipse: s-maj=0.8km s-min=0.4km az=245.0*
*ATH **18** 07:07:50.5,38˚.15N×20˚.42E,h15km±1km,ML2.6/1,Error ellipse: s-maj=3.7km s-min=1.5km az=208.0*
ISC 18 07:07:50.2±1.2,38˚.12N±0˚.05×20˚.44E±0˚.04,h11km,n19,
σ0°99/32,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LXRA	**Lixouri, Kepha**	**0.08**	**356**	P	**Pg**	**07 07 53.4**	**+0.8**
LXRA				S	**Sg**	**07 07 55.7**	**+1.3**
LXR1	**Lixouri, Cepha**	**0.08**	**357**	P	**Pg**	**07 07 53.4**	**+0.8**
LXR1				S	**Sg**	**07 07 56.3**	**+1.8**

4μm,0.2s

PSDA	**Pessada-Kefalo**	**0.11**	**93**	P	**Pb**	**07 07 53.7**	**-0.6**
PSDA				S	**Sg**	**07 07 56.6**	**+1.5**

4μm,0.2s

KEF3	**Kipouria, Keph**	**0.11**	**318**	P	**Pg**	**07 07 53.5**	**+0.4**
KEF3				S	**Sg**	**07 07 56.4**	**+1.3**

12μm,0.1s

KEF3	**Kipouria, Keph**	**0.11**	**318**	P	**Pg**	**07 07 53.5**	**+0.4**
KEF3				S	**Sg**	**07 07 55.8**	**+0.7**
VLS	**Valsamata**	**0.13**	**64**	P	**Pb**	**07 07 53.9**	**-0.8**
VLS				S	**Sg**	**07 07 57.0**	**+1.4**

3μm,0.1s

VLS	**Valsamata**	**0.13**	**64**	P	**Pb**	**07 07 53.9**	**-0.8**
VLS				S	**Sg**	**07 07 56.8**	**+1.3**
VLS				AML	AML	07 07 57.2	

comp=N,4860μm,0.1s

VLS				AML	AML	07 07 57.5	

comp=E,6196μm,0.1s

DMLN	**Damoulianata-K**	**0.13**	**335**	P	**Pb**	**07 07 53.7**	**-1.0**
DMLN				S	**Sg**	**07 07 56.8**	**+1.2**

comp=E,5μm,0.1s

DMLN	**Damoulianata-K**	**0.13**	**335**	P	**Pb**	**07 07 53.7**	**-1.0**
DMLN				S	**Sg**	**07 07 56.4**	**+0.8**
KEF5	**Kardakata, Kep**	**0.16**	**7**	P	**Pb**	**07 07 54.2**	**-1.0**
KEF5				S	**Sg**	**07 07 57.6**	**+1.3**

comp=E,3μm,0.1s

KEF5	**Kardakata, Kep**	**0.16**	**7**	P	**Pb**	**07 07 54.2**	**-1.0**
KEF5				S	**Sg**	**07 07 56.9**	**+0.6**
VSK1	**VASILIKIADES**	**0.30**	**18**	P	**Pb**	**07 07 56.5**	**-1.2**
VSK1				S	**Sb**	**07 08 02.0**	**-0.7**
LTHK	**Lithakia**	**0.51**	**143**	P	**Pg**	**07 07 59.5**	**-0.7**
EVGI	**Lefkada island**	**0.53**	**18**	P	**Pg**	**07 08 00.1**	**-0.4**
EVGI				S	**Sb**	**07 08 08.9**	**-0.2**
EVGI	**Lefkada island**	**0.53**	**18**	P	**Pg**	**07 08 00.1**	**-0.4**
DRAG	**Dragano-Lefkad**	**0.57**	**10**	P	**Pg**	**07 08 00.9**	**-0.4**
LKD2	**Lefkada island**	**0.69**	**14**	P	**Pb**	**07 08 03.3**	**-0.9**
TSLK	**Tsoukalades, L**	**0.72**	**13**	P	**Pb**	**07 08 03.9**	**-0.9**
PVO	**Paravola**	**0.98**	**59**	P	**Pb**	**07 08 09.1**	**-0.1**

*IDC **18** 07:09:44.5±3.0,21˚.06S×175˚.97W,h0km,mb4.0/3,mbtmp4.0/3,MS3.5/1,Error ellipse: s-maj=168.5km s-min=45.7km az=149.0*
*NEIC **18** 07:09:56.6±0.7,21˚.4S±0˚.2×176˚.0W±0˚.1,h87km±12km,mb4.3/16,Error ellipse: s-maj=24.9km s-min=17.0km az=182.0*
ISC 18 07:09:57.0±0.8,21˚.3S±0˚.1×176˚.0W±0˚.1,h100km,n26,
σ0°65/26,mb4.1/11,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**6.10**	**70**	Pn	**Pn**	**07 11 24.5**	**-0.2**
RAO	**Raoul Island**	**8.12**	**192**	LR	LR	07 14 07.2	

comp=Z,299nm,20.9s,baz=148,slow=32

AFI	**Afiamalu**	**8.36**	**29**	Pn	**Pn**	**07 11 55.4**	**-0.2**
LIFNC	**LIFOU**	**15.67**	**269**	Pn	**Pn**	**07 13 32.0**	**-0.2**
THZ	**Tophouse**	**22.46**	**202**	P	**P**	**07 14 46.9**	**-1.0**
THZ				IAmb	IAmb	07 15 05.2	

comp=Z,11nm,0.9s

ARMA	**Armidale**	**30.44**	**246**	P	**P**	**07 16 00.8**	**+0.5**
ARMA				IAmb	IAmb	07 16 05.4	

comp=Z,4.4nm,1.1s

EIDS	**Eidsvold**	**30.47**	**256**	P	**P**	**07 16 02.1**	**+1.6**
EIDS				IAmb	IAmb	07 16 05.3	

comp=Z,4.5nm,1.1s

CAN	**Canberra**	**33.66**	**238**	P	**P**	**07 16 27.4**	**-1.0**
CTAO	**Charters Tower**	**35.29**	**265**	P	**P**	**07 16 42.5**	**-0.1**
CTAO				IAmb	IAmb	07 16 54.7	

comp=Z,6.2nm,1.1s

PMG	**Port Moresby**	**37.35**	**283**	P	**P**	**07 17 00.2**	**0.0**
STKA	**Stephens Creek**	**39.16**	**245**	P	**P**	**07 17 15.1**	**0.0**
STKA	**Stephens Creek**	**39.16**	**245**	P	**P**	**07 17 15.6**	**+0.5**

comp=Z,2.8nm,0.9s,baz=93,slow=15,SNR=5.2
comp=Z,2.8nm,0.9s

COEN	**Coen**	**39.51**	**274**	P	**P**	**07 17 18.9**	**+0.7**
COEN				IAmb	IAmb	07 17 48.2	

comp=Z,5.3nm,0.9s

BBOO	**Buckleboo**	**43.90**	**244**	P	**P**	**07 17 53.1**	**-0.7**
BBOO				IAmb	IAmb	07 17 54.4	

comp=Z,8.7nm,1.0s

WR0	**Warramunga Arr**	**46.17**	**262**	P	**P**	**07 18 12.1**	**+0.1**
AS31	**Alice Springs**	**46.17**	**257**	P	**P**	**07 18 11.0**	**-1.1**
ASAR	**Alice Springs**	**46.18**	**257**	P	**P**	**07 18 11.9**	**-0.1**
ASAR	**Alice Springs**	**46.18**	**257**	P	**P**	**07 18 11.8**	**-0.3**

comp=Z,1.9nm,0.7s,baz=97,slow=7.6,SNR=16

ASAR				PcP	**PcP**	**07 19 46.7**	**+0.3**

comp=Z,0.7nm,0.6s,baz=107,slow=3.7,SNR=5.4
comp=Z,1.9nm,0.7s

WB0	**Warramunga Arr**	**46.34**	**263**	P	**P**	**07 18 12.9**	**-0.5**
WB0				IAmb	IAmb	07 18 34.3	

comp=Z,2.8nm,1.1s

WB2	**Warramunga Arr**	**46.35**	**262**	P	**P**	**07 18 13.2**	**-0.2**
WB2				IAmb	IAmb	07 18 35.8	

comp=Z,3.4nm,1.1s

WRA	**Warramunga Arr**	**46.36**	**262**	P	**P**	**07 18 13.2**	**-0.3**
WRA	**Warramunga Arr**	**46.36**	**262**	P	**P**	**07 18 12.6**	**-0.9**

comp=Z,0.8nm,0.6s,baz=100,slow=9.4,SNR=6.3
comp=Z,0.8nm,0.6s

MORW	**Morawa**	**61.27**	**248**	P	**P**	**07 20 02.3**	**+0.3**
QSPA	**South Pole Qui**	**68.78**	**180**	P	**P**	**07 20 51.2**	**+1.0**
BVAR	**Borovoye Array**	**120.89**	**320**	PKP	**PKiKP**	**07 28 37.3**	**-0.1**

comp=Z,0.8nm,0.6s,baz=29,slow=3.3,SNR=4.3

BRTR	**Keskin Array B**	**148.76**	**313**	PKPbc	**PKiKP**	**07 29 34.4**	**-0.1**

comp=Z,0.7nm,0.7s,baz=75,slow=6.1,SNR=3.3

*IDC **18** 07:14:56.1±6.6,36˚.25N×112˚.37E,h0km,mb3.8/5,mbtmp3.7/6,ML3.1/1,MS2.2/1,Error ellipse: s-maj=124.3km s-min=79.4km az=106.0*
ISC 18 07:15:03.5±6.1,36˚.5N±0˚.3×112˚.2E±0˚.8,h35km,n8,
σ0°66/7,mb3.8/6,Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**12.09**	**341**	Pn	**Pn**	**07 17 52.9**	**-0.3**

0.1nm,0.3s,baz=165,slow=6.0,SNR=2.5
0.4nm,0.7s

KSRS	**Korea Array**	**12.63**	**81**	LR	LR	07 22 58.7	

comp=Z,11nm,21.8s,baz=95,slow=39

MKAR	**Makanchi Array**	**24.44**	**304**	P	**P**	**07 20 18.9**	**+0.1**

1.2nm,0.5s,baz=102,slow=12,SNR=14
1.2nm,0.5s

ZALV	**Zalesovo Beam**	**25.73**	**321**	P	**P**	**07 20 31.3**	**+0.9**

0.7nm,0.5s,baz=130,slow=7.7,SNR=4.5
0.7nm,0.5s

KURBB	**Kurchatov Arra**	**27.88**	**311**	P	**P**	**07 20 50.3**	**+0.6**

0.4nm,0.3s,baz=115,slow=10,SNR=2.0

BVAR	**Borovoye Array**	**33.38**	**313**	P	**P**	**07 21 38.7**	**+0.4**

0.9nm,0.5s,baz=108,slow=8.8,SNR=7.8
0.9nm,0.5s

BRTR	**Keskin Array B**	**59.95**	**299**	P	**P**	**07 25 05.9**	**-0.5**

0.8nm,0.8s,baz=75,slow=7.6,SNR=3.9
0.8nm,0.8s

HFS	**Hagfors**	**63.03**	**326**	P	**P**	**07 25 26.7**	**+0.1**

1.4nm,0.8s,baz=82,slow=10,SNR=4.4
1.4nm,0.8s

*IDC **18** 07:22:38.8±1.8,9˚.82S×127˚.16E,h0km,mb3.8/2,mbtmp4.0/5,ML3.9/3,MS2.8/2,Error ellipse: s-maj=52.2km s-min=28.1km az=52.0*
ISC 18 07:22:38.8±1.1,10˚.0S±0˚.1×127˚.19E±0˚.10,h10km,n12,
σ2°55/12,Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**2.90**	**275**	P	**Pn**	**07 23 25.4**	**+0.3**
BATI	**Baumata**	**3.48**	**267**	Pn	**Pn**	**07 23 33.4**	**+0.4**

16nm,0.3s,baz=166,slow=1.7,SNR=18

BATI				Sn	**Sn**	**07 24 12.9**	**-1.5**

13nm,0.3s,baz=130,slow=20,SNR=7.3

BATI				LR	LR	07 24 39.9	

comp=Z,102nm,18.5s,baz=314,slow=35
37nm,0.3s

MTN	**Manton Dam**	**4.77**	**126**	P	**Pb**	**07 24 00.8**	**-1.7**
KDU	**Kakadu**	**5.81**	**118**	P	Pb	07 24 14.8	-5.5
KNRA	**Kununurra**	**5.82**	**165**	P	Pn	07 24 12.4	+7.2
FITZ	**Fitzroy Crossi**	**8.16**	**190**	P	**Pn**	**07 24 42.1**	**+4.7**
FAKI	**Fak Fak**	**8.67**	**36**	P	Pn	07 24 55.0	+11
PLAI	**Plampang**	**9.37**	**277**	P	**Pn**	**07 24 53.4**	**-0.6**
WRA	**Warramunga Arr**	**12.03**	**146**	Pn	**Pn**	**07 25 34.2**	**+3.7**

0.8nm,0.3s,baz=324,slow=13,SNR=44

WRA				Sn	**Sn**	**07 27 43.4**	**-1.4**

1.5nm,0.3s,baz=315,slow=26,SNR=9.9
5.5nm,0.8s

ASAR	**Alice Springs**	**15.00**	**156**	Pn	**P**	**07 26 15.1**	**-1.5**

0.4nm,0.3s,baz=319,slow=11,SNR=33

ASAR				Sn	**Sn**	**07 28 53.9**	**-3.5**

0.1nm,0.3s,baz=327,slow=17,SNR=3.3

ASAR				LR	LR	07 31 34.5	

comp=Z,58nm,20.4s,baz=3.5,slow=35
2.8nm,0.7s

CMAR	**Chiang Mai Arr**	**39.73**	**315**	P	**P**	**07 30 11.8**	**0.0**

1.2nm,0.4s,baz=140,slow=6.6,SNR=11
1.2nm,0.4s

MKAR	**Makanchi Array**	**69.29**	**329**	P	**P**	**07 33 47.0**	**+0.7**

0.3nm,0.7s,baz=147,slow=5.5,SNR=3.9
0.3nm,0.7s

*IDC **18** 07:47:22.9±0.8,16˚.67N×94˚.37W,h81km±8km,mb3.6/9,mbtmp3.9/11,Error ellipse: s-maj=37.6km s-min=14.1km az=47.0*
*CATAC **18** 07:47:23.1±0.2,16˚.85N×94˚.48W,h90km±9km,MB4.9,mb4.5,ML4.7*
*MEX **18** 07:47:23.7±0.9,16˚.54N×94˚.67W,h97km±5km,MD4.7*
*NEIC **18** 07:47:23.5±2.1,16˚.56N±0˚.06×94˚.64W±0˚.02,h97km±8km,mb4.2/34,Md4.8/116(MEX),Error ellipse: s-maj=9.2km s-min=2.7km az=185.0*
*GCG **18** 07:47:25.3±0.3,17˚.08N×94˚.21W,h50km,MD4.6*
ISC 18 07:47:23.2±0.6,16˚.54N±0˚.03×94˚.64W±0˚.03,h99km±6km,
n209,σ2°42/304,mb3.9/11,Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NILT	**Santiago Nilte**	**0.04**	**48**	*e*P	**Pn**	**07 47 36.3**	**-0.6**
NILT				*e*S	**Sn**	**07 47 46.2**	**-0.9**
CMIG	**Matias Romero**	**0.59**	**337**		**Pn**	**07 47 39.1**	**-0.5**
CMIG					**Sn**	**07 47 50.5**	**-1.4**
CMIG	**Matias Romero**	**0.59**	**337**	P	**Pn**	**07 47 39.1**	**-0.5**

1μm,0.3s,baz=170,slow=8.6,SNR=2335

CMIG				S	**Sn**	**07 47 50.9**	**-1.0**

1μm,0.3s,baz=300,slow=20,SNR=14

CMIG	**Matias Romero**	**0.59**	**337**	*e*P	**Pn**	**07 47 39.1**	**-0.5**
CMIG				*e*S	**Sn**	**07 47 50.5**	**-1.4**
CARR	**Arriaga**	**0.76**	**113**	*e*P	**Pn**	**07 47 41.1**	**0.0**
CARR				*e*S	**Sn**	**07 47 53.7**	**-0.8**
UXUV	**UXUV**	**0.91**	**32**	*e*P	**Pn**	**07 47 42.4**	**-0.2**
UXUV				*e*S	**Sn**	**07 47 55.9**	**-1.2**
MIHL	**Minatitlan**	**1.44**	**4**	*i*P	**Pn**	**07 47 48.5**	**-0.2**
MIHL				*i*S	**Sn**	**07 48 06.7**	**-1.3**
TGIG		**1.48**	**81**		**Pn**	**07 47 49.0**	**-0.2**
TGIG					**Sn**	**07 48 07.3**	**-1.5**
TGIG		**1.48**	**81**	*e*P	**Pn**	**07 47 49.0**	**-0.2**
TGIG				*e*S	**Sn**	**07 48 07.3**	**-1.5**
TUIG	**Tuzandepetl**	**1.50**	**8**	*e*P	**Pn**	**07 47 49.0**	**-0.4**
TUIG				*e*S	**Sn**	**07 48 08.2**	**-1.0**
PCIG		**1.60**	**121**		**Pn**	**07 47 50.6**	**0.0**
PCIG					**Sn**	**07 48 12.1**	**+0.6**
PCIG		**1.60**	**121**	*e*P	**Pn**	**07 47 50.6**	**0.0**
PCIG				*e*S	**Sn**	**07 48 12.1**	**+0.6**
HUIG	**Huatulco**	**1.60**	**242**		**Pn**	**07 47 48.9**	**-1.8**
HUIG					**Sn**	**07 48 09.7**	**-1.9**
HUIG	**Huatulco**	**1.60**	**242**	*e*P	**Pn**	**07 47 48.9**	**-1.8**
HUIG				*e*S	**Sn**	**07 48 09.7**	**-1.9**
NEUV	**Arroyo Zacate**	**1.61**	**317**	*e*P	**Pn**	**07 47 49.7**	**-1.0**
NEUV				*e*S	**Sn**	**07 48 10.0**	**-1.6**
PMUV	**Sontecomapan**	**2.04**	**347**	*e*P	**Pn**	**07 47 54.6**	**-1.8**
PMUV				*e*S	**Sn**	**07 48 18.3**	**-3.4**
OXIG	**Oaxaca**	**2.07**	**285**		**Pn**	**07 47 57.8**	**+1.0**
OXIG					**Sn**	**07 48 23.1**	**+0.6**
VHO	**Vista Hermosa**	**2.07**	**285**	*e*P	**Pn**	**07 47 57.8**	**+1.0**
VHO				*e*S	**Sn**	**07 48 23.1**	**+0.6**
VHSA	**Villahermosa**	**2.17**	**48**	*i*P	**Pn**	**07 47 57.8**	**-0.1**
VHSA				*e*S	**Sn**	**07 48 23.2**	**-1.2**
CCIG	**Comitan**	**2.42**	**96**		**Pn**	**07 48 01.4**	**+0.1**
CCIG				Sn	**Sn**	**07 48 26.8**	**-3.8**
CCIG	**Comitan**	**2.42**	**96**	*e*P	**Pn**	**07 48 01.6**	**+0.2**
CCIG				*e*S	**Sn**	**07 48 26.9**	**-3.7**
CCIG	**Comitan**	**2.42**	**96**	*i*P	**Pn**	**07 48 01.6**	**+0.2**
CCIG				*i*S	**Sn**	**07 48 25.0**	**-5.6**
CCIG				IAML		07 48 34.4	

comp=Z,2μm,1.0s

PEIG	**Puerto Escondi**	**2.46**	**258**		**Pn**	**07 47 60.0**	**-1.8**
PEIG					**Sn**	**07 48 26.5**	**-5.0**
PEIG	**Puerto Escondi**	**2.46**	**258**	*e*P	**Pn**	**07 47 60.0**	**-1.8**
PEIG				*e*S	**Sn**	**07 48 26.5**	**-5.0**
PATR	**El Naranjo**	**2.72**	**121**	*e*P	**Pn**	**07 48 05.8**	**+0.4**
PATR				*e*S	**Sn**	**07 48 36.8**	**-1.0**
PAVE	**Pavencul**	**2.73**	**119**	*e*P	**Pn**	**07 48 06.5**	**+1.0**
PAVE				*e*S	**Sn**	**07 48 36.0**	**-2.0**
TOIG	**Toxpalan**	**2.78**	**304**		**Pn**	**07 48 06.1**	**0.0**
TOIG	**Toxpalan**	**2.78**	**304**	*e*P	**Pn**	**07 48 06.1**	**0.0**
TOIG				*e*		07 48 29.6	
YOIG	**Yosondua**	**2.80**	**277**		**Pn**	**07 48 06.6**	**+0.1**
YOIG					**Sn**	**07 48 38.0**	**-1.8**
YOIG	**Yosondua**	**2.80**	**277**	*e*P	**Pn**	**07 48 06.6**	**+0.1**
YOIG				*e*S	**Sn**	**07 48 38.0**	**-1.8**
THIG		**2.81**	**125**		**Pn**	**07 48 07.8**	**+1.5**
THIG					**Sn**	**07 48 39.9**	**+0.3**
THIG		**2.81**	**125**	*e*P	**Pn**	**07 48 07.8**	**+1.5**
THIG				*e*S	**Sn**	**07 48 39.9**	**+0.3**
CHUJ	**Union Juarez**	**2.83**	**120**	*e*P	**Pn**	**07 48 07.9**	**+0.9**
CHUJ				*e*S	**Sn**	**07 48 37.0**	**-3.6**
TXIG	**Tlaxiaco**	**3.07**	**284**		**Pn**	**07 48 10.9**	**+0.8**
TXIG					**Sn**	**07 48 41.8**	**-4.6**
TXIG	**Tlaxiaco**	**3.07**	**284**	*e*P	**Pn**	**07 48 10.9**	**+0.8**
TXIG				*e*S	**Sn**	**07 48 41.8**	**-4.6**
SMSP	**San Marcos**	**3.17**	**119**	*e*P	**Pn**	**07 48 13.2**	**+1.7**
SMSP				*e*S	**Sn**	**07 48 50.1**	**+1.5**
SMSP	**San Marcos**	**3.17**	**119**	*i*P	**Pn**	**07 48 12.9**	**+1.5**
SMSP				*i*S	**Sn**	**07 48 50.4**	**+1.8**
SMSP				IAML		07 48 54.5	

comp=Z,3μm,1.0s

TPIG	**Tehuac#an**	**3.20**	**306**		**Pn**	**07 48 12.2**	**+0.5**
TPIG					**Sn**	**07 48 47.5**	**-1.6**
TPIG	**Tehuac#an**	**3.20**	**306**	*e*P	**Pn**	**07 48 12.2**	**+0.5**
TPIG				*e*S	**Sn**	**07 48 47.5**	**-1.6**
HUEH	**Huehuetenango**	**3.26**	**111**		**Pn**	**07 48 12.1**	**-0.5**
HUEH	**Huehuetenango**	**3.26**	**111**	*e*P	**Pn**	**07 48 12.2**	**-0.3**
HUEH				*e*S	Sn	07 48 40.4	-10
HUEH	**Huehuetenango**	**3.26**	**111**	*i*P	**Pn**	**07 48 13.2**	**+0.6**
HUEH				*i*S	**Sn**	**07 48 48.6**	**-2.1**
HUEH				IAML		07 48 58.3	

comp=Z,3μm,1.0s

HLIG	**Huajuapan de L**	**3.28**	**293**		**Pn**	**07 48 14.1**	**+1.2**
HLIG					**Sn**	**07 48 43.0**	**-8.2**
HLIG	**Huajuapan de L**	**3.28**	**293**	*e*P	**Pn**	**07 48 14.1**	**+1.2**
HLIG				*e*S	**Sn**	**07 48 43.0**	**-8.2**
OZST	**Orizaba**	**3.28**	**315**	*e*P	**Pn**	**07 48 12.0**	**-0.9**
OZST				*i*S	**Sn**	**07 48 47.0**	**-4.2**
PNIG	**Pinotepa**	**3.34**	**268**		**Pn**	**07 48 12.1**	**-1.4**
PNIG					**Sn**	**07 48 48.2**	**-4.3**
PNIG	**Pinotepa**	**3.34**	**268**	*e*P	**Pn**	**07 48 12.1**	**-1.4**
PNIG				*e*S	**Sn**	**07 48 48.2**	**-4.3**
STG3	**Santiaguito 3,**	**3.48**	**121**	*e*P	**Pn**	**07 48 17.8**	**+2.3**
RTAL	**Retalhuleu**	**3.48**	**125**		**Pn**	**07 48 16.2**	**+0.9**
RTAL	**Retalhuleu**	**3.48**	**125**	*e*P	**Pn**	**07 48 16.4**	**+1.1**
RTAL				*e*S	**Sn**	**07 48 49.3**	**-6.4**
RTAL	**Retalhuleu**	**3.48**	**125**	*i*P	**Pn**	**07 48 16.7**	**+1.3**
RTAL				*i*S	**Sn**	**07 48 58.2**	**+2.5**
RTAL				IAML		07 49 33.5	

comp=Z,590nm,1.0s

JAUV	**Jalcomulco**	**3.48**	**324**	*e*P	**Pn**	**07 48 13.9**	**-1.5**
JAUV				*e*S	**Sn**	**07 48 52.0**	**-3.7**
LVIG	**Laguna Verde**	**3.59**	**332**	*e*P	**Pn**	**07 48 14.8**	**-2.0**
LVIG				*e*S	**Sn**	**07 48 52.0**	**-6.2**
FTIG	**Fresnillo de T**	**3.60**	**293**		**Pn**	**07 48 18.4**	**+1.3**
FTIG					Sn	07 48 47.4	-11
FTIG	**Fresnillo de T**	**3.60**	**293**	*e*P	**Pn**	**07 48 17.2**	**+0.1**
FTIG				*e*S	**Sn**	**07 48 57.0**	**-1.8**
XALA	**Xalapa**	**3.67**	**324**	*i*P	**Pn**	**07 48 16.1**	**-1.9**
XALA				*e*S	**Sn**	**07 48 57.4**	**-3.0**
MGIG	**Malinaltepec**	**3.88**	**281**		**Pn**	**07 48 21.6**	**+0.7**
MGIG					**Sn**	**07 49 03.6**	**-2.1**
MGIG	**Malinaltepec**	**3.88**	**281**	*e*P	**Pn**	**07 48 21.6**	**+0.7**
MGIG				*e*S	**Sn**	**07 49 03.6**	**-2.1**
TLIG	**Tlapa**	**3.89**	**286**	Pn	**Pn**	**07 48 21.7**	**+0.8**
TLIG	**Tlapa**	**3.89**	**286**	*e*P	**Pn**	**07 48 22

DEIG	**Demacu**	**5.60**	**313**	*eP*	**Pn**	**07 48 44.1**	**-0.1**
DEIG				*e*		07 49 40.8	
ARIG	**Puente Sto Nin**	**5.71**	**288**		**Pn**	**07 48 47.5**	**+1.9**
ARIG					**Sn**	**07 49 47.1**	**-2.8**
ARIG	**Puente Sto Nin**	**5.71**	**288**	*i* P	**Pn**	**07 48 47.5**	**+1.9**
ARIG				*e*S	**Sn**	**07 49 47.1**	**-2.8**
JAYA	**Jayaque - finc**	**5.78**	**119**	*i* P	**Pn**	**07 48 48.3**	**+1.6**
JAYA				IAmb	IAmb	07 49 02.0	
	comp=Z,59nm,1.0s						
JAYA				IVmB_BB		07 49 08.7	
	comp=Z,2µm,1.0s						
JAYA				*i* S	**Sn**	**07 49 53.0**	**+1.2**
JAYA				IAML		07 50 05.3	
	comp=Z,290nm,1.0s						
PMON	**Piamonte**	**5.87**	**118**	*i* P	**Pn**	**07 48 50.1**	**+2.3**
PMON				IAmb	IAmb	07 49 19.7	
	comp=Z,58nm,0.6s						
PMON				IVmB_BB		07 49 23.8	
	comp=Z,1µm,1.0s						
PMON				IAML		07 49 30.8	
	comp=Z,130nm,1.0s						
PMON				*i* S	**Sn**	**07 49 54.2**	**+0.4**
IZABA	**Izabal, Puerto**	**5.88**	**97**	*i* P	**Pn**	**07 48 46.2**	**-1.6**
IZABA				IAML		07 48 55.0	
	comp=Z,4.0nm,1.0s						
IZABA				IVmB_BB		07 49 44.9	
	comp=Z,100nm,1.0s						
IZABA				*i* S	**Sn**	**07 49 48.6**	**-5.3**
ATVM	**ATLACOMULCO**	**5.89**	**304**	*eP*	**Pn**	**07 48 50.4**	**+2.2**
CTUV	**Llano Grande**	**6.03**	**325**	*eP*	**Pn**	**07 48 48.1**	**-1.8**
CTUV				*e*S	**Sn**	**07 49 52.4**	**-5.2**
ACIG	**Acambay**	**6.04**	**305**	*eP*	**Pn**	**07 48 52.2**	**+2.1**
ACIG				*e*S	**Sn**	**07 49 58.5**	**+0.5**
COEG	**Centro de Oper**	**6.28**	**117**	*i* P	**Pn**	**07 48 53.8**	**+0.4**
COEG				IAML		07 49 08.3	
	comp=Z,100nm,1.0s						
COEG				IVmB_BB		07 49 08.3	
	comp=Z,7µm,1.0s						
COEG				IAmb	IAmb	07 49 09.9	
	comp=Z,15nm,0.5s						
COEG				*i* S	**Sn**	**07 50 02.3**	**-1.5**
SCLA	**Alcaldia de Sa**	**6.37**	**116**	*i* P	**Pn**	**07 48 56.3**	**+1.7**
SCLA				IAmb	IAmb	07 49 13.3	
	comp=Z,15nm,0.8s						
SCLA				IVmB_BB		07 49 36.0	
	comp=Z,250nm,1.0s						
SCLA				*i* S	**Sn**	**07 50 03.9**	**-2.1**
SCLA				IAML		07 50 50.6	
	comp=Z,39nm,1.0s						
ZIIG	**Zihuatanejo**	**6.61**	**280**		**Pn**	**07 48 58.8**	**+1.0**
ZIIG					**Sn**	**07 50 06.8**	**-4.9**
ZIIG	**Zihuatanejo**	**6.61**	**280**	*i* P	**Pn**	**07 48 58.8**	**+1.0**
ZIIG				*i* S	**Sn**	**07 50 06.8**	**-4.9**
JRQG	**Juriquilla Cam**	**6.88**	**308**	*eP*	Pn	07 49 06.2	+4.4
JRQG				*e*S	**Sn**	**07 50 18.2**	**-0.5**
MOIG	**Morelia**	**6.96**	**298**	Pn	**Pn**	**07 49 06.2**	**+3.4**
MOIG	**Morelia**	**6.96**	**298**	*eP*	**Pn**	**07 49 02.1**	**-0.7**
MOIG	**Morelia**	**6.96**	**298**	*i* P	**Pn**	**07 49 06.0**	**+3.2**
MOIG				IAML		07 49 06.5	
	comp=Z,170nm,1.0s						
MOIG				IAmb	IAmb	07 49 06.5	
	comp=Z,110nm,0.7s						
MOIG				*i* S	**Sn**	**07 50 18.1**	**-2.5**
TEIG	**Tepich**	**7.07**	**58**	Pn	**Pn**	**07 49 02.7**	**-1.3**
RPIG	**Rio Verde**	**7.33**	**317**	*eP*	**Pn**	**07 49 09.3**	**+1.7**
RPIG				*e*S	**Sn**	**07 50 27.8**	**-1.5**
TGUH	**Tegucigalpa,Un**	**7.53**	**108**		**Pn**	**07 49 09.6**	**-0.9**
MMIG	**Aquila**	**8.49**	**283**		**Pn**	**07 49 24.4**	**+1.0**
MMIG	**Aquila**	**8.49**	**283**	*i* P	**Pn**	**07 49 24.4**	**+1.0**
MACN	**El Madrono**	**8.71**	**117**	*i* P	**Pn**	**07 49 28.4**	**+1.9**
MACN				IVmB_BB		07 49 31.9	
	comp=Z,280nm,1.0s						
LIMN	**Finca el Limon**	**8.72**	**112**	*i* P	**Pn**	**07 49 27.2**	**+0.6**
LIMN				IAmb	IAmb	07 49 28.5	
	comp=Z,31nm,1.1s						
JUBC	**Volcan de Coli**	**8.99**	**291**	*eP*	Pn	07 49 34.3	+3.8
JUBC				*e*S	**Sn**	**07 51 12.3**	**+2.2**
COIG	**Colima**	**9.00**	**288**	*eP*	**Pn**	**07 49 34.0**	**+3.5**
COIG				*e*S	**Sn**	**07 51 10.4**	**+0.2**
EZ5V		**9.01**	**290**		Pn	07 49 34.4	+3.7
EZ5V		**9.01**	**290**	*eP*	Pn	07 49 34.4	+3.7
EZ5V				*e*S	**Sn**	**07 51 08.4**	**-2.2**
MNGA	**Volcan de Coli**	**9.02**	**290**	*eP*	**Pn**	**07 49 34.3**	**+3.4**
MNGA				*e*S	**Sn**	**07 51 12.1**	**+1.2**
INCO	**Volcan de Coli**	**9.03**	**291**	*eP*	**Pn**	**07 49 34.5**	**+3.4**
INCO				*e*S	**Sn**	**07 51 11.2**	**+0.1**
SOMAC	**Volcano de Col**	**9.05**	**290**	*e*	**Pn**	**07 49 34.7**	**+3.4**
SOMAC				*e*		07 51 16.4	
MATN	**Matagalpa**	**9.17**	**112**		**Pn**	**07 49 32.6**	**-0.1**
CEGR	**Campo Tres**	**9.21**	**289**	*eP*	**Pn**	**07 49 36.8**	**+3.4**
CEGR				*e*S	**Sn**	**07 51 18.4**	**+2.9**
CDAR	**Ciudad de Arme**	**9.24**	**286**	*eP*	**Pn**	**07 49 35.7**	**+2.1**
CDAR				*e*S	**Sn**	**07 51 12.9**	**-2.8**
BOAB	**BOACO BROADBAN**	**9.60**	**114**	Pn	**Pn**	**07 49 38.3**	**-0.2**
HZTE	**Horizontes, Gu**	**10.53**	**122**	Pn	**Pn**	**07 49 52.0**	**+0.8**
SAJU	**San Juanillo,**	**10.81**	**125**	*i* P	**Pn**	**07 49 56.0**	**+0.9**
SAJU				IAmb	IAmb	07 49 57.3	
	comp=Z,22nm,0.9s						
ORTG	**Ortega, Santa**	**10.84**	**123**	Pn	**Pn**	**07 49 55.5**	**0.0**
ORTG	**Ortega, Santa**	**10.84**	**123**	*i* P	**Pn**	**07 49 55.9**	**+0.4**
ORTG				IAmb	IAmb	07 49 57.8	
	comp=Z,36nm,0.8s						
HBVL	**Hebbronville**	**11.12**	**341**	Pn	**Pn**	**07 49 58.7**	**-0.4**
JTS	**Las Juntas de**	**11.29**	**122**	Pn	**Pn**	**07 50 01.6**	**+0.1**
JTS	**Las Juntas de**	**11.29**	**122**	P	**Pn**	**07 50 01.0**	**-0.4**
	comp=Z,5.2nm,0.3s,baz=290,slow=22,SNR=17						
JTS				S	**Sn**	**07 52 04.0**	**-1.7**
	comp=Z,1.3nm,0.3s,baz=24,slow=20,SNR=1.4						
ARE1	**Arenal 1**	**11.38**	**121**	Pn	**Pn**	**07 50 03.1**	**+0.3**
SOCE	**Pocosol**	**11.51**	**121**	Pn	**Pn**	**07 50 04.7**	**+0.2**
CPMI	**Catarata Coope**	**11.76**	**121**	*i* P	**Pn**	**07 50 08.5**	**+0.5**
CPMI				IAmb	IAmb	07 50 11.5	
	comp=Z,11nm,0.5s						
JACO	**JACO, Garabito**	**11.88**	**124**	Pn	**Pn**	**07 50 09.3**	**-0.1**
JACO	**JACO, Garabito**	**11.88**	**124**	*i* P	**Pn**	**07 50 09.8**	**+0.4**
JACO				IAmb	IAmb	07 50 20.9	
	comp=Z,17nm,1.2s						
LCR2	**La Lucha 2**	**12.37**	**122**		**Pn**	**07 50 16.2**	**+0.1**
LCR2	**La Lucha 2**	**12.37**	**122**	*i* P	**Pn**	**07 50 16.4**	**+0.3**
LCR2				IAmb	IAmb	07 50 26.8	
	comp=Z,24nm,0.5s						
VTCV	**VTCV, Calle Va**	**12.46**	**120**	*i* P	**Pn**	**07 50 19.2**	**+1.9**
VTCV				IAmb	IAmb	07 50 28.9	
	comp=Z,22nm,0.8s						
RIMA	**Rio Macho**	**12.47**	**121**		**Pn**	**07 50 17.8**	**+0.4**
RIMA	**Rio Macho**	**12.47**	**121**	*i* P	**Pn**	**07 50 17.0**	**-0.4**
833A	**Chaparral WMA,**	**12.52**	**340**		**Pn**	**07 50 17.7**	**-0.1**
CDM	**Cerro de Muert**	**12.67**	**122**	*i* P	**Pn**	**07 50 19.7**	**-0.6**
CDM				IAmb	IAmb	07 50 29.1	
	comp=Z,22nm,0.5s						
PEZE	**Perez Zeledon,**	**12.84**	**122**		**Pn**	**07 50 22.2**	**0.0**
OCHAL	**Ojochal**	**13.02**	**123**	*i* P	**Pn**	**07 50 25.5**	**+1.0**
OCHAL				IAmb	IAmb	07 50 26.7	
	comp=Z,26nm,1.4s						
DRK0	**Durika**	**13.25**	**122**	Pn	**Pn**	**07 50 27.9**	**+0.2**
MLDN	**Muldoon**	**13.37**	**351**	Pn	**P**	**07 50 31.8**	**-3.0**
POTG	**Potrero Grande**	**13.47**	**122**	*i* P	**Pn**	**07 50 29.3**	**-1.2**
POTG				IAmb	IAmb	07 50 33.2	
	comp=Z,21nm,0.7s						
POTG				IVmB_BB		07 50 37.9	
	comp=Z,3µm,1.0s						
HNDO	**Hondo**	**13.61**	**343**		**Pn**	**07 50 33.1**	**+1.0**
DRIO	**Del Rio**	**13.95**	**338**	Pn	**Pn**	**07 50 37.4**	**+0.9**
435B	**Jarrell**	**14.43**	**350**	P	**P**	**07 50 46.2**	**-0.5**
JCT	**Junction City**	**14.65**	**342**		**P**	**07 50 47.0**	**-2.2**
NATX	**Nacogdoches**	**15.15**	**360**	Pn	**Pn**	**07 50 52.2**	**+0.4**
NATX				IAmb	IAmb	07 51 09.9	
	comp=Z,7.7nm,0.5s						
TXAR	**Lajitas Array**	**15.19**	**328**	P	**P**	**07 50 55.1**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=139,slow=17,SNR=6.1						
BRDY	**Brady**	**15.21**	**346**	P	**P**	**07 50 55.8**	**+0.5**
BRDY				IAmb	IAmb	07 51 06.1	
	comp=Z,10nm,0.7s						
WHTX	**Lake Whitney,**	**15.59**	**351**	P	**P**	**07 51 00.1**	**+0.5**
FW14	**Alvarado**	**15.96**	**352**	P	**P**	**07 51 05.5**	**+1.9**
FW14				IAmb	IAmb	07 51 10.0	
	comp=Z,19nm,0.8s						
FW07	**Weatherford**	**16.34**	**351**	IAmb	IAmb	07 51 23.1	
	comp=Z,18nm,0.9s						
MNHN	**Monahans**	**16.48**	**335**		**P**	**07 51 12.3**	**+2.7**
ABTX	**Abilene, Hawle**	**16.64**	**345**	P	**P**	**07 51 12.7**	**+1.5**
ABTX				IAmb	IAmb	07 51 18.4	
	comp=Z,27nm,1.5s						
Z38A	**Mt. Pleasant**	**16.65**	**359**	Pn	**P**	**07 51 14.2**	**+2.9**
Z38A				IAmb	IAmb	07 51 26.5	
	comp=Z,10.0nm,0.6s						
FW03	**Perrin-Whitt E**	**16.71**	**350**	P	**P**	**07 51 13.1**	**+1.1**
FW03				IAmb	IAmb	07 51 37.1	
	comp=Z,16nm,1.1s						
DWPF	**Disney Wildern**	**16.77**	**44**	Pn	**Pn**	**07 51 10.2**	**-1.9**
Z35A	**Perchaven, San**	**16.88**	**352**		**P**	**07 51 17.1**	**+3.3**
Z35A				IAmb	IAmb	07 51 31.0	
	comp=Z,12nm,0.5s						
PECS	**Pecos**	**16.98**	**332**	P	**P**	**07 51 15.5**	**+0.4**
SN07	**Snyder 07**	**17.42**	**342**	P	**Pn**	**07 51 21.7**	**+1.7**
APMT	**Aspermont**	**17.43**	**345**	IAmb	IAmb	07 51 37.8	
	comp=Z,7.9nm,0.6s						
WTFS	**Witchita Falls**	**17.49**	**349**	IAmb	IAmb	07 51 32.5	
	comp=Z,11nm,0.7s						
Z47A	**Carrollton**	**17.62**	**18**	P	**Pn**	**07 51 22.4**	**+0.1**
Z47A				IAmb	IAmb	07 51 34.4	
	comp=Z,20nm,1.4s						
MIAR	**Mount Ida**	**17.95**	**3**	P	**Pn**	**07 51 26.5**	**+0.1**
DKNS	**Dickens**	**17.97**	**343**	IAmb	IAmb	07 51 36.4	
	comp=Z,11nm,0.8s						
X37A	**Clayton**	**17.98**	**358**	IAmb	IAmb	07 51 55.6	
	comp=Z,8.4nm,0.6s						
Y49A	**Blount Mountai**	**18.77**	**22**	P	**P**	**07 51 32.6**	**-1.9**
Y49A				IAmb	IAmb	07 51 40.8	
	comp=Z,16nm,1.4s						
255A	**Hazlehurst**	**18.89**	**34**	P	**P**	**07 51 34.8**	**-1.1**
TKL	**Tuckaleechee C**	**21.36**	**25**	P	**P**	**07 52 00.5**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=216,slow=8.7,SNR=1.3						
	comp=Z,0.6nm,0.3s						
PULU	**Pululahua**	**22.86**	**134**	P	**P**	**07 52 17.0**	**-1.9**
IMBA	**Imbabura, San**	**22.89**	**133**	P	**P**	**07 52 19.4**	**+0.2**
N38A	**Joes South For**	**24.20**	**3**	P	**P**	**07 52 30.1**	**-0.3**
COHC	**Cochancay**	**24.24**	**140**	P	**P**	**07 52 31.8**	**+0.7**
SDV	**Santo Domingo**	**24.61**	**105**	P	**P**	**07 52 34.1**	**-0.6**
	comp=Z,1.9nm,0.4s,baz=327,slow=12,SNR=3.5						
	comp=Z,1.9nm,0.4s						
NVAR	**Mina Array Bea**	**30.10**	**321**	P	**P**	**07 53 26.8**	**+3.1**
	comp=Z,0.4nm,0.6s,baz=130,slow=9.5,SNR=5.6						
	comp=Z,0.4nm,0.6s						
AGMN	**Agassiz Nation**	**31.68**	**358**	P	**P**	**07 53 37.0**	**-0.2**
AGMN				IAmb	IAmb	07 53 37.1	
	comp=Z,4.5nm,0.7s						
LPAZ	**La Paz**	**41.81**	**140**	P	**P**	**07 55 04.4**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=323,slow=7.8,SNR=6.4						
	comp=Z,1.2nm,0.7s						
PTLB	**Pontes e Lacer**	**47.31**	**130**	P	**P**	**07 55 47.0**	**-0.2**
PTLB				IAmb	IAmb	07 55 48.2	
	comp=Z,5.3nm,1.1s						
BDFB	**Brasilia**	**56.03**	**122**	P	**P**	**07 56 52.4**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=291,slow=5.3,SNR=5.0						
	comp=Z,1.2nm,0.4s						
ILAR	**Eielson Array**	**59.51**	**337**	P	**P**	**07 57 17.4**	**+1.7**
	comp=Z,0.2nm,0.8s,baz=141,slow=5.8,SNR=2.7						
	comp=Z,0.2nm,0.8s						
EKA	**Eskdalemuir Ar**	**77.41**	**36**	P	**P**	**07 59 06.5**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=262,slow=4.9,SNR=5.5						
	comp=Z,0.6nm,0.4s						
NOA	**NORSAR Array B**	**83.13**	**28**	P	**P**	**07 59 39.8**	**+1.8**
	comp=Z,1.0nm,0.9s,baz=300,slow=4.9,SNR=3.9						
	comp=Z,1.0nm,0.9s						
ARCES	**ARCESS Array B**	**84.52**	**18**	P	**P**	**07 59 45.8**	**+0.9**
	comp=Z,5.9nm,0.9s,baz=298,slow=4.0,SNR=6.4						
	comp=Z,5.9nm,0.9s						
ASAR	**Alice Springs**	**134.04**	**253**	PKP	**PKiKP**	**08 06 30.5**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=110,slow=2.4,SNR=1.7						

*IDC **18** 07:47:35.0±3.4, 16°.83N×94°.02W, h0km, mb3.5/5, mbtmp3.6/6, ML4.3/1, Error ellipse: s-maj=63.4km s-min=56.1km az=153.0*

ISC 18 07:47:48.3±2.5, 17°.1N±0°.3×94°.0W±0°.3, h100km, n7, σ1°.58/7, mb3.5/4, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**15.06**	**326**	Pn		**Pn**	**Pn**	**07 51 15.3**	**-0.6**
	0.3nm,0.3s,baz=154,slow=13,SNR=10								
	0.5nm,0.4s								
TKL	**Tuckaleechee C**	**20.60**	**24**	P		**P**	**P**	**07 52 17.8**	**-1.6**
	2.8nm,0.6s,baz=219,slow=10.0,SNR=2.5								
	2.8nm,0.6s								
PDAR	**Pinedale Array**	**28.82**	**336**	P		**P**	**P**	**07 53 39.0**	**+1.7**
	0.2nm,0.5s,baz=151,slow=9.9,SNR=2.6								
	0.2nm,0.5s								
NVAR	**Mina Array Bea**	**30.07**	**320**	P		**P**	**P**	**07 53 46.9**	**-1.5**
	0.8nm,0.7s,baz=126,slow=9.0,SNR=6.6								
	0.8nm,0.7s								
YKA	**Yellowknife Ar**	**47.59**	**347**	P		**P**	**P**	**07 56 14.2**	**+0.5**
	0.5nm,0.8s,baz=153,slow=7.2,SNR=4.5								
	0.5nm,0.8s								
ILAR	**Eielson Array**	**59.24**	**337**	P		**P**	**P**	**07 57 40.1**	**+1.1**
	0.4nm,0.8s,baz=138,slow=4.7,SNR=4.8								
	0.4nm,0.8s								
ASAR	**Alice Springs**	**134.79**	**253**	PKP			**PKPdf**	**08 06 56.0**	**-0.2**
	0.2nm,0.8s,baz=72,slow=3.0,SNR=1.4								

*NIC **18** 08:00:01.1, 36°.48N×31°.17E, h12km±31km, Ml3.1/6*
*ISK **18** 08:00:03.1, 36°.08N×31°.08E, h11km, ML3.0/41*
*AFAD **18** 08:00:03.7±0.0, 36°.12N×31°.13E, h36km±5km, ML2.9*
*IDC **18** 08:00:05.2±1.5, 36°.12N×30°.90E, h42km±26km, mb3.3/2, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=15.6km s-min=12.1km az=171.0*

ISC 18 08:00:03.9±1.1, 36°.12N±0°.03×31°.09E±0°.02, h19km±3km, n64, σ1°.39/85, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.64**	**289**	P		P	**Pg**	**08 00 16.6**	**+0.1**
AKUM				S		S	**Sn**	**08 00 28.6**	**+1.2**
AKUM				*i* AML		AML	AML	08 00 31.0	
	comp=N,552nm,0.3s								
AKUM				*i* AML		AML	AML	08 00 32.0	
	comp=E,683nm,0.5s								
MNVG	**Manavgat-Antal**	**0.72**	**21**	Pg		**Pn**	**Pn**	**08 00 18.5**	**-0.5**
MNVG				Sg		**Sn**	**Sn**	**08 00 29.7**	**+0.2**
ANTB	**Antalya**	**0.85**	**336**	Pg		**Pg**	**Pg**	**08 00 20.8**	**+0.3**
ANTB				Sg		**Sn**	**Sn**	**08 00 33.5**	**+0.8**
ALAN	**Alanya-ANTALYA**	**0.88**	**60**	Pg		**Pg**	**Pg**	**08 00 20.6**	**-0.4**
DEMR	**Demre-Antalya**	**0.96**	**277**	Pg		**Pb**	**Pb**	**08 00 22.3**	**+0.4**
GAZI	**Gazipasa**	**1.00**	**83**	Pg		**Pb**	**Pb**	**08 00 22.7**	**+0.2**
KORT	**Korkuteli**	**1.06**	**326**	Pn		**Pg**	**Pg**	**08 00 24.7**	**+0.2**
ELL	**Elmali**	**1.14**	**304**	Pn		**Pn**	**Pn**	**08 00 25.9**	**+1.0**
AKAS	**Kas**	**1.21**	**276**	Pn		**Pn**	**Pn**	**08 00 26.3**	**+0.5**
AKAS				Sn		**Sb**	**Sb**	**08 00 43.4**	**+2.0**
BCK	**Bucak**	**1.40**	**343**	Pn		**Pb**	**Pb**	**08 00 29.9**	**+0.6**
HDMB	**Hadim**	**1.40**	**53**	Pn		**Pb**	**Pb**	**08 00 29.7**	**+0.1**
SEYD	**Seydisehir-KON**	**1.42**	**25**	Pn		**Pb**	**Pb**	**08 00 29.9**	**+0.2**
SEYD				Sn		**Sg**	**Sg**	**08 00 49.6**	**-0.1**
SEDI	**Konya, Seydise**	**1.43**	**22**	P		**P**	**Pb**	**08 00 30.1**	**+0.1**
SEDI				S		**Sg**	**Sg**	**08 00 48.6**	**-1.6**
SEDI				*i* AML		AML	AML	08 00 55.0	
	comp=E,169nm,0.5s								
SEDI				*i* AML		AML	AML	08 00 55.0	
	comp=N,147nm,0.3s								
AKMS	**Akamas**	**1.50**	**137**	P		**P**	**Pn**	**08 00 31.2**	**+1.5**
AKMS				S		**S**	**Sg**	**08 00 53.6**	**+1.3**
AKMS				AML		AML	AML	08 01 00.4	
	0.9nm,0.4s								
AKMS				AML		AML	AML	08 01 03.4	
	0.6nm,0.4s								
BOZY	**Bozyazi-Mersin**	**1.53**	**90**	Pn		**Pb**	**Pb**	**08 00 31.3**	**-0.2**
ALFC	**Alefka**	**1.56**	**128**	P		**Pn**	**Pn**	**08 00 29.5**	**-1.1**
ALFC				S		**Sg**	**Sg**	**08 00 54.4**	**0.0**
ALFC				AML		AML	AML	08 01 00.8	
	0.6nm,0.2s								
ALFC				AML		AML	AML	08 01 00.8	
	0.9nm,0.5s								
TEKE	**Tekeli-Mersin**	**1.64**	**89**	Pn		**Pn**	**Pn**	**08 00 32.7**	**+1.1**
CAME	**Cameli-Denizli**	**1.66**	**300**	Pn		**Pn**	**Pn**	**08 00 33.3**	**+1.3**
FETY	**Fethiye**	**1.70**	**288**	Pn		**Pn**	**Pn**	**08 00 33.5**	**+1.0**
FETI	**Fethiye-Mugla**	**1.71**	**290**	Pn		**Pn**	**Pn**	**08 00 33.6**	**+1.1**
AKDN	**Akdeniz- Kıbrı**	**1.73**	**118**	Pn		**Pn**	**Pn**	**08 00 33.7**	**+0.8**
ISP	**Isparta**	**1.76**	**345**	Pn		**Pb**	**Pb**	**08 00 35.3**	**-0.2**
LEF	**Lefka**	**1.77**	**124**	Pn		**Pn**	**Pn**	**08 00 33.7**	**+0.2**
KKBE	**Karaman, Kazim**	**1.85**	**53**	P		**Pb**	**Pb**	**08 00 37.1**	**0.0**
KKBE				S		**Sb**	**Sb**	**08 00 59.2**	**-0.7**
KKBE				*i* AML		AML	AML	08 01 06.0	
	comp=E,142nm,0.5s								
TROD	**Troodos**	**1.86**	**128**	P		**Pn**	**Pn**	**08 00 34.0**	**-0.9**
TROD				S		**Sb**	**Sb**	**08 01 02.6**	**+2.2**
TROD				AML		AML	AML	08 01 13.8	
	0.3nm,0.4s								
TROD				AML		AML	AML	08 01 15.6	
	0.2nm,0.6s								
OREN	**Orenkoy-Mersin**	**1.92**	**87**	Pn		**Pn**	**Pn**	**08 00 36.8**	**+1.3**
TEVE	**Tevekalti-Mers**	**1.93**	**80**	Pn		**Pn**	**Pn**	**08 00 36.9**	**+1.2**
KMER	**Konya-Meram**	**1.94**	**32**	P		**Pb**	**Pb**	**08 00 38.3**	**-0.3**
KMER				S		**Sn**	**Sn**	**08 00 59.0**	**-0.7**
APMY	**Acipayam-Deniz**	**1.97**	**314**	Pn		**Pn**	**Pn**	**08 00 38.2**	**+2.0**
BASM	**Basmaki-Afyon**	**1.98**	**335**	Pn		**Pn**	**Pn**	**08 00 38.2**	**+1.8**
AKK1	**Akkuyu-Mersin**	**1.98**	**89**	Pn		**Pn**	**Pn**	**08 00 37.8**	**+1.5**
GULN	**MERSIN_Gulnar**	**1.99**	**88**	P		**Pn**	**Pn**	**08 00 38.1**	**+1.7**
GULN				S		**Sn**	**Sn**	**08 01 01.9**	**+1.1**
TEPK	**Tepekoy-MERSIN**	**1.99**	**86**	Pn		**Pn**	**Pn**	**08 00 37.6**	**+1.1**
AKKU	**Akkuyu-Mersin**	**1.99**	**88**	Pn		**Pn**	**Pn**	**08 00 38.0**	**+1.5**
AKKU				Sn		**Sb**	**Sb**	**08 01 03.2**	**-0.7**
DOGA	**KONYA_Doganhis**	**2.03**	**13**	P		**Pb**	**Pb**	**08 00 39.6**	**-0.6**
DOGA				S		**Sb**	**Sb**	**08 01 03.5**	**-1.7**
DOGA				*i* AML		AML	AML	08 01 07.0	
	comp=N,122nm,0.4s								
DOGA				*i* AML		AML	AML	08 01 09.0	
	comp=E,138nm,0.5s								
YESI	**Yesilovacik-Me**	**2.07**	**87**	Pn		**Pn**	**Pn**	**08 00 39.3**	**+1.8**
DALY	**Dalyan (Mula)**	**2.08**	**290**	Pn		**Pn**	**Pn**	**08 00 38.5**	**+0.8**
KONT	**Konya--Tatoy**	**2.08**	**29**	Pn		**Pb**	**Pb**	**08 00 39.4**	**-1.7**
KONT	**Konya--Tatoy**	**2.08**	**29**	P		**Pb**	**Pb**	**08 00 40.1**	**-1.0**
TISA	**Tisan-Mersin**	**2.10**	**88**	Pn		**Pn**	**Pn**	**08 00 39.6**	**+1.7**
IKL	**Isikli**	**2.10**	**86**	Pn		**Pn**	**Pn**	**08 00 39.5**	**+1.5**
ATHAL	**Athalassa**	**2.12**	**117**	P		**Pn**	**Pn**	**08 00 38.4**	**+0.2**
ATHAL				S		**Sb**	**Sb**	**08 01 07.1**	**-0.4**
ATHAL				AML		AML	AML	08 01 15.6	
	0.4nm,0.4s								
ATHAL				AML		AML	AML	08 01 27.6	
	0.5nm,0.6s								
KARG	**Kargicak-Mersi**	**2.12**	**87**	Pn		**Pn**	**Pn**	**08 00 39.9**	**+1.6**
LFK	**Lefkose**	**2.16**	**112**	Pn		**Pn**	**Pn**	**08 00 39.9**	**+1.1**
CSS	**Mathiatis**	**2.16**	**122**	Pn		**Pn**	**Pn**	**08 00 39.5**	**+0.6**
CSS	**Mathiatis**	**2.16**	**122**	P		**Pn**	**Pn**	**08 00 38.5**	**-0.3**
CSS				S		**Sb**	**Sb**	**08 01 08.9**	**0.0**
CSS				AML		AML	AML	08 01 20.8	
	0.2nm,0.4s								
CSS				AML		AML	AML	08 01 22.0	
	0.2nm,0.5s								
ASGA	**Asgata**	**2.21**	**126**	P		**Pn**	**Pn**	**08 00 40.9**	**+1.4**
ASGA				S		**Sb**	**Sb**	**08 01 10.9**	**+0.8**
ASGA				AML		AML	AML	08 01 21.4	
	0.3nm,0.5s								
ASGA				AML		AML	AML	08 01 23.4	
	0.3nm,0.6s								
SILI	**Silifke-Mersin**	**2.30**	**83**	Pn		**Pn**	**Pn**	**08 00 42.4**	**+1.6**
LADK	**Ladik-KONYA**	**2.31**	**26**	Pn		**Pn**	**Pb**	**08 00 42.9**	**-2.1**
MVOU	**Mavrovouni**	**2.35**	**117**	P		**Pn**	**Pn**	**08 00 34.3**	**-1.0**
SHUT	**Suhut-Afyon**	**2.46**	**350**	Pn		**Pn**	**Pn**	**08 00 45.1**	**+2.0**
KIZK	**Mersin**	**2.49**	**81**	Pn		**Pn**	**Pn**	**08 00 45.4**	**+2.0**
YESY	**Yesilyurt**	**2.69**	**51**	Pn		**Pn**	**Pn**	**08 00 48.1**	**+1.8**
KIZT	**Kizilcal**	**2.82**	**13**	Pn

CO03 IAML 08 07 25.7
comp=E,2µm,0.3s
AROD Rodeo 2.26 127 *eP* **Pb 08 06 52.6 -0.7**
AROD *eS* **Sn 08 07 14.4 -1.9**
CO02 Combarbal 2.43 169 Pn **Pn 08 06 52.8 +1.6**
CO02 Combarbal 2.43 169 *eP* **Pn 08 06 51.8 +0.6**
CO02 *eS* **Sb 08 07 32.5 +6.8**
CO02 IAML 08 07 33.0
comp=Z,2µm,0.3s
CO02 Combarbal 2.43 169 *eP* **Pn 08 06 52.8 +1.6**
ACDV Cuesta del Vie 2.52 123 *eP* **Pb 08 06 56.2 -1.4**
ACDV *eS* **Sn 08 07 24.4 +2.0**
ACDV IAML 08 07 30.2
comp=Z,1µm,0.5s
AGUA GUANDACOL 2.76 105 *eP* **Pb 08 07 00.1 -1.6**
AGUA *eS* **Sb 08 07 33.4 -1.8**
AGUA IAML 08 07 39.7
comp=Z,881nm,0.3s
AC01 Pan de Azucar 2.79 18 Pn **Pn 08 06 56.9 +0.9**
AC01 Pan de Azucar 2.79 18 *eP* **Pn 08 06 57.0 +1.1**
AC01 *eS* **Sb 08 07 42.0 +6.2**
AC01 IAML 08 07 44.4
comp=Z,519nm,0.4s
AC01 Pan de Azucar 2.79 18 *eP* **Pn 08 06 56.9 +0.9**
AC01 IAML 08 07 45.3
comp=E,653nm,0.3s
ACCO Cerro Coronel 2.80 130 *eP* **Pb 08 06 59.8 -2.6**
ACCO *eS* **Sn 08 07 32.9 +3.4**
AC02 Maricunga 2.91 48 Pn **Pn 08 07 00.6 +2.5**
AC02 Maricunga 2.91 48 *eP* **Pn 08 07 00.0 +1.9**
AC02 *eP* **Pn 08 07 00.9 +2.8**
AC02 *eS* **Sb 08 07 36.9 -3.0**
AC02 IAML 08 07 48.0
comp=Z,744nm,0.5s
AC02 Maricunga 2.91 48⇓*iP* **Pn 08 07 00.7 +2.5**
AC02 IAML 08 07 50.0
comp=E,962nm,0.6s
VCA Vinchina 2.94 89 *eP* **Pb 08 07 02.6 -2.1**
VCA *eS* **Sn 08 07 33.9 +1.1**
VCA IAML 08 07 47.1
comp=Z,590nm,0.2s
DOCA Reserva Natura 3.02 135 *eP* **Pb 08 07 03.6 -2.7**
RTLS Leoncito 3.56 147 *eP* **Pb 08 07 11.8 -3.6**
RTLS *eS* **Sb 08 07 55.9 -2.4**
RTLS IAML 08 08 14.2
comp=Z,734nm,0.5s
RTLL Cerro Villicun 3.66 134 *eP* **Pn 08 07 11.1 +3.1**
VA06 Catapilco 3.74 177 **Pn 08 07 10.6 +1.4**
VA06 Catapilco 3.74 177 *eP* **Pn 08 07 10.5 +1.4**
VA03 San Esteban 4.03 168 **Pn 08 07 15.0 +1.8**
VA03 San Esteban 4.03 168 *eP* **Pn 08 07 15.6 +2.4**
VA03 *eS* **Sn 08 08 00.9 +1.2**
VA03 IAML 08 08 20.1
comp=Z,273nm,0.5s
VA03 San Esteban 4.03 168 *eP* **Pn 08 07 15.6 +2.4**
GO02 Mina Guanaco 4.04 26 **Pn 08 07 14.8 +1.4**
GO02 Mina Guanaco 4.04 26 *eP* **Pn 08 07 14.3 +0.9**
GO02 *eS* **Sb 08 08 16.4 +4.4**
GO02 IAML 08 08 25.9
comp=E,484nm,0.6s
GO02 Mina Guanaco 4.04 26 *eP* **Pn 08 07 14.7 +1.3**
ACLC CERRO LA CRUZ 4.07 100 *eP* **Pn 08 07 16.7 +2.9**
ACLC *eS* **Sn 08 07 59.4 -1.4**
ACLC *eS* **Sn 08 08 05.9 +5.1**
ACLC IAML 08 08 11.2
comp=Z,590nm,0.6s
ROCH El Roble 4.17 174 *eP* **Pn 08 07 16.8 +1.5**
VA01 Torpederas 4.20 181 **Pn 08 07 16.1 +0.7**
PB14 IPOC Station P 4.29 14 **Pn 08 07 17.1 +0.1**
PB14 IPOC Station P 4.29 14 *eP* **Pn 08 07 17.1 +0.1**
PEL Peldehue 4.38 170 **Pn 08 07 20.0 +2.1**
PEL Peldehue 4.38 170 *eP* **Pn 08 07 19.7 +1.8**
ASAL Salagasta 4.43 149 *eP* **Pn 08 07 22.9 +4.2**
ASAL *eS* **Sn 08 08 14.4 +4.8**
ASAL IAML 08 08 38.3
comp=Z,105nm,0.6s
MT02 Curacav 4.45 175 **Pn 08 07 19.9 +1.1**
MT02 Curacav 4.45 175 *eP* **Pn 08 07 19.3 +0.5**
MT02 *eS* **Sb 08 08 21.4 -2.1**
MT02 *eS* **Sb 08 08 22.9 -0.6**
MT02 IAML 08 08 32.1
comp=Z,166nm,0.6s
MT02 Curacav 4.45 175 *eP* **Pn 08 07 19.5 +0.7**
MT10 Hacienda Santa 4.53 169 *eP* **Pn 08 07 22.2 +2.2**
ARCO CERRO ARCO 4.61 151 *eP* **Pn 08 07 25.5 +4.4**
ARCO *eS* **Sn 08 08 18.4 +4.5**
ARCO IAML 08 08 29.4
comp=Z,136nm,0.5s
MT05 Renca 4.62 171 *eP* **Pn 08 07 24.3 +3.2**
MT05 *eP* **Pn 08 07 24.4 +3.2**
MT05 *eS* **Sn 08 08 18.4 +4.3**
MT05 IAML 08 08 39.7
comp=Z,180nm,0.3s
MT05 Renca 4.62 171 *eP* **Pn 08 07 23.3 +2.1**
MT14 Cerro Cal¡n 4.65 169 *eP* **Pn 08 07 24.1 +2.4**
MT16 CCHEN 4.69 169 *eP* **Pn 08 07 24.5 +2.3**
MT04 Ro Olivares 4.74 165 *eP* **Pn 08 07 26.2 +3.2**
MT03 Universidad Ad 4.75 169 *eP* **Pn 08 07 25.4 +2.3**
MT12 Pirque 4.98 170 *eP* **Pn 08 07 27.9 +1.8**
MT13 San Alfonso 5.04 168 *eP* **Pn 08 07 30.6 +3.6**
MT01 Popeta 5.04 177 **Pn 08 07 28.3 +1.3**
PB05 IPOC Station P 6.06 12 Pn **Pn 08 07 40.3 -0.8**
GO05 Huala 6.19 183 **Pn 08 07 42.7 -0.1**
PB06 IPOC Station P 6.34 17 Pn **Pn 08 07 45.0 +0.1**
LVC Limon Verde 6.62 22 Pn **Pn 08 07 49.0 0.0**
comp=Z,0.7nm,0.3s,baz=188,slow=7.2,SNR=19
LVC Lg Lg 08 09 27.6
comp=Z,4.3nm,0.3s,baz=143,slow=20,SNR=3.8
LVC LR LR 08 10 38.5
comp=Z,157nm,19.5s,baz=280,slow=41
comp=Z,2.7nm,0.2s
ML02 Panimavida 6.93 179 **Pn 08 07 53.5 +0.6**
H03N1 Juan Fernandez 7.81 232 T T 08 15 58.9
baz=60,slow=72,SNR=4047
H03N2 Juan Fernandez 7.83 232 T T 08 15 58.7
baz=60,slow=72,SNR=3422
H03N3 Juan Fernandez 7.83 232 T T 08 16 04.4
baz=60,slow=72,SNR=3933
GO01 Chusmiza 9.35 14 Pn **Pn 08 08 27.5 +0.9**
GO06 Curarrehue 10.75 180 Pn **Pn 08 08 45.0 -0.3**
LR05 Currie 11.40 182 Pn **Pn 08 08 53.8 -0.3**
PLCA Paso Flores 11.92 176 Pn **Pn 08 09 01.6 +0.3**
PLCA Paso Flores 11.92 176 Pn **Pn 08 09 01.5 +0.1**
comp=Z,0.1nm,0.3s,baz=170,slow=13,SNR=1.8
PLCA LR LR 08 13 59.8
comp=Z,111nm,20.1s,baz=347,slow=39
comp=Z,1.5nm,1.0s
TRQA Tornquist 12.20 142 Pn **Pn 08 09 05.0 -0.1**
LL05 Los Muermos 12.66 187 Pn **Pn 08 09 12.1 +0.7**
LPAZ La Paz 12.86 15 Pn **Pn 08 09 14.0 -0.8**
LPAZ La Paz 12.86 15 Pn **Pn 08 09 13.9 -0.8**
comp=Z,0.1nm,0.3s,baz=178,slow=12,SNR=1.4
comp=Z,0.3nm,0.4s
CPUP Villa Florida 12.86 82 Pn **Pn 08 09 12.3 -1.8**
CPUP Villa Florida 12.86 82 Pn **Pn 08 09 16.6 +2.4**
comp=Z,0.1nm,0.3s,baz=278,slow=14,SNR=1.7
CPUP LR LR 08 14 41.6
comp=Z,78nm,20.7s,baz=224,slow=39
comp=Z,1.3nm,0.7s
ITQB Itaqui 13.07 97 Pn **Pn 08 09 16.6 -0.3**
SIV San Ignacio 16.01 39 Pn **Pn 08 09 58.2 +1.6**
baz=196,slow=8.8,SNR=5.6
comp=Z,0.7nm,0.5s
ITAB Concordia 17.22 89 P **Pn 08 10 11.8 -0.1**
ITAB IAmb IAmb 08 10 20.4
comp=Z,22nm,1.4s
ETMB Extrema 19.55 16 P **P 08 10 38.6 -0.3**
BDFB Brasilia 25.37 64 P **P 08 11 37.9 -0.4**
BDFB IAmb IAmb 08 11 44.2
comp=Z,7.3nm,1.4s
BDFB Brasilia 25.37 64 P **P 08 11 38.0 -0.4**
comp=Z,0.8nm,0.5s,baz=206,slow=27,SNR=1.5
comp=Z,0.8nm,0.5s
OTAV Otavalo 29.63 346 P **P 08 12 17.3 +0.3**
OTAV IAmb IAmb 08 12 18.1
comp=Z,1.9nm,1.1s
BOAV Boa Vista 32.78 21 P **P 08 12 44.7 +0.5**
BOAV IAmb IAmb 08 12 58.2
comp=Z,11nm,1.5s
MDP Montagnes des 38.32 31 LR LR 08 30 10.9
comp=Z,52nm,19.3s,baz=170,slow=38
SNAA Sanae 56.25 159 P **P 08 15 50.2 -0.6**
QSPA South Pole Qui 61.41 180 P **P 08 16 28.1 +1.3**
QSPA IAmb IAmb 08 16 44.6
comp=Z,5.5nm,1.3s
QSPA South Pole Qui 61.41 180 P **P 08 16 27.6 +0.8**
comp=Z,0.6nm,0.6s,baz=191,slow=3.8,SNR=13
comp=Z,0.6nm,0.6s
TXAR Lajitas Array 65.46 329 P **P 08 16 51.7 -2.3**
baz=150,slow=9.3,SNR=1.4
TORD Torodi Ar. Bea 82.07 70 P **P 08 18 30.5 -1.0**
comp=Z,0.3nm,0.8s,baz=238,slow=2.7,SNR=1.9
comp=Z,0.3nm,0.8s
WRA Warramunga Arr 125.46 210 PKP **PKPdf 08 25 09.8 -2.7**
comp=Z,0.4nm,0.6s,baz=160,slow=1.8,SNR=1.7
H11S2 WAKE ISLAND Hyl 126.11 273 T T 10 44 16.7
baz=115,slow=75,SNR=15
H11S1 WAKE ISLAND Hyl 126.12 273 T T 10 44 09.4
baz=115,slow=75,SNR=19
H11S3 WAKE ISLAND Hyl 126.12 273 T T 10 44 13.6
baz=115,slow=75,SNR=13
H11N3 WAKE ISLAND Hyl 126.39 274 T T 10 44 31.1
baz=112,slow=75,SNR=9.3
H11N1 WAKE ISLAND Hyl 126.40 274 T T 10 44 31.9
baz=112,slow=75,SNR=4.5
H11N2 WAKE ISLAND Hyl 126.40 274 T T 10 44 33.6
baz=112,slow=75,SNR=13
ZALV Zalesovo Beam 149.54 28 PKPbc **PKiKP 08 26 00.7 +0.1**
comp=Z,0.4nm,0.3s,baz=316,slow=4.0,SNR=2.1
MKAR Makanchi Array 152.82 42 PKPbc **PKPbc 08 26 07.5 -0.1**
comp=Z,0.2nm,0.6s,baz=321,slow=2.6,SNR=2.8

IDC 18 08:39:48.0±2.2, 3°.82N×125°.77E, **h0**km, **mb 3.4**/3, **mbtmp 3.4**/3, **Error ellipse: s-maj=207.0km s-min=26.5km az=65.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.07**	**161**	P	P	08 45 13.8	-0.6
	0.7nm,0.9s,baz=339,slow=10,SNR=4.5						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**28.44**	**164**	P	P	08 45 45.5	+0.6
	0.2nm,0.7s,baz=359,slow=10,SNR=1.3						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**56.94**	**326**	P	P	08 49 35.2	0.0
	0.4nm,0.4s,baz=113,slow=8.3,SNR=8.6						
	0.4nm,0.4s						

NIED ***18*** *08:41:48.8, 35°.61N×141°.04E, h13km, MW 3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-1.92; Mθθ-0.32; Mφφ 2.25; Mrθ-0.34; Mθφ-0.03; Mφr-0.04; Fault plane solution: Mo 2.12000×10¹⁴ NP1: φs 11.00000°, δ 47.00000°, λ-74.00000°. NP2: φs 168.00000°, δ 46.00000°, λ-106.00000°.*

JMA 18 08:41:48.8±0.3, **35°.6N**±0°.6×**14°1E**±°, **h13**km±1km, **MV 3.5**/32, **3D, NEAR CHOSHI CITY, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSMT	**Sammumatsuo**	**0.49**	**274**	P	Pg	08 41 58.6	+0.3
JSMT				*eS*	Sb	08 42 06.7	+0.6
JIHU	**Itakohorinouch**	**0.55**	**310**	P	Pb	08 42 00.1	-0.2
JIHU				S	Sb	08 42 08.5	+0.4
JCN	**Nagara**	**0.71**	**255**	P	Pb	08 42 03.3	+0.3
JCN				S	Sn	08 42 14.4	-0.9
BSO4	**Boso 4**	**0.85**	**223**	P	Pn	08 42 05.8	-0.4
BSO3	**Boso 3**	**0.92**	**209**	⇓P	Pb	08 42 06.3	0.0
JYT	**Yasato**	**0.93**	**312**	P	Pb	08 42 05.6	-1.0
JYT				*eS*	Sg	08 42 17.5	-1.3
BSO1	**Boso 1**	**0.96**	**183**	P	Pb	08 42 06.3	-0.6
JHO	**Hitachi**	**1.07**	**339**	⇓P	Pb	08 42 08.0	-1.1
JHO				⇓*eS*	Sb	08 42 22.4	-0.6

UPP ***18*** *09:01:05.3*±*0.1, 67°.82N×20°.08E, h0km, ML 2.6, Confirmed Induced event*
HEL ***18*** *09:01:08.2*±*0.3, 67°.86N×20°.34E, h0km, ML 1.4, Explosion*

ISC 18 09:01:05.3±0.9, **67°.80N**±0°.03×**20°.12E**±0°.03, **h0**km, **n19, σ1°03/30, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.18**	**27**	P	**Pg**	**09 01 08.7**	**-0.1**
KUA				S	**Sg**	**09 01 10.9**	**-0.1**
RATU	**Laukkuluspa**	**0.20**	**278**	P	**Pg**	**09 01 09.0**	**-0.2**
RATU				S	**Sg**	**09 01 11.1**	**-0.7**
KOVU	**Salmi**	**0.43**	**2**	P	**Pg**	**09 01 13.4**	**-0.2**
LANU	**Lannavaara**	**0.75**	**70**	P	**Pg**	**09 01 19.8**	**+0.1**
LANU	**Lannavaara**	**0.75**	**70**	PG	**Pg**	**09 01 19.8**	**+0.1**
LANU				SG	**Sg**	**09 01 28.7**	**-0.8**
KIF	**Kilpisjarvi**	**1.24**	**11**	PG	**Pn**	**09 01 29.9**	**0.0**
KIF				MSG		09 01 44.8	
	comp=Z,4.4nm,0.2s						
KIF				SG	**Sg**	**09 01 45.4**	**+0.3**
HEF	**Hetta**	**1.46**	**64**	PG	**Pn**	**09 01 32.8**	**-0.1**
HEF				MSG		09 01 49.2	
	comp=Z,2.2nm,0.2s						
HEF				SN	**Sg**	**09 01 51.9**	**-0.4**
KLF	**Kolari**	**1.58**	**109**	PG	**Pg**	**09 01 35.7**	**+0.1**
	baz=300						
KLF				MSG		09 01 54.1	
	comp=Z,2.4nm,0.2s						
KLF				SN	**Sg**	**09 01 56.9**	**+0.8**
KTK1	**Kautokeino**	**1.68**	**42**	PG	**Pb**	**09 01 36.6**	**-0.5**
KTK1				SN	**Sb**	**09 01 58.4**	**-0.3**
TRO	**Tromso**	**1.90**	**347**	SG	**Sb**	**09 02 05.2**	**+0.3**
KALU	**Kalix**	**2.33**	**145**	PN	**Pb**	**09 01 47.2**	**-0.9**
	baz=328						
KALU				SB	**Sb**	**09 02 18.1**	**+0.8**
TOF	**Tornio**	**2.39**	**134**	PN	**Pb**	**09 01 48.1**	**-1.0**
TOF				MSG		09 02 18.4	
	comp=Z,1.7nm,0.2s						
TOF				SG	**Sg**	**09 02 20.7**	**-1.3**
SGF	**Sodankyl**	**2.48**	**95**	PG	**Pb**	**09 01 50.4**	**-0.2**
SGF				SG	**Sb**	**09 02 20.2**	**-1.4**
RNF	**Rovaniemi**	**2.59**	**115**	PB	**Pb**	**09 01 51.4**	**-1.1**
RNF				SB	**Sb**	**09 02 22.9**	**-1.9**
KMNF	**Kaamanen**	**2.88**	**59**	SB	**Sn**	**09 02 30.2**	**+2.5**
RAJF	**Raja-Jooseppi**	**3.14**	**74**	SG	**Sb**	**09 02 40.3**	**-0.4**
KEV	**Kevo**	**3.19**	**49**	SB	**Sn**	**09 02 36.2**	**+1.0**
KEV				MSG		09 02 38.9	
	comp=Z,0.9nm,0.2s						
VRF	**Varrio**	**3.61**	**86**	SG	**Sb**	**09 02 55.6**	**+1.5**
UMAU	**Umeaa**	**3.94**	**176**	SG	**Sg**	**09 03 13.9**	**+2.3**

IDC 18 09:10:12.4±4.7, **0°.41S×131°.11E, h0**km, **mb 3.3**/2, **mbtmp 3.4**/3, **ML 3.4**/1, **Error ellipse: s-maj=322.1km s-min=29.1km az=72.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.67**	**171**	P	P	09 14 42.4	-0.7
	0.1nm,0.3s,baz=353,slow=12,SNR=2.8						
	1.2nm,0.8s						
ASAR	**Alice Springs**	**23.28**	**173**	P	P	09 15 21.8	-0.1
	1.5nm,0.9s,baz=351,slow=7.1,SNR=12						
	1.5nm,0.9s						
MKAR	**Makanchi Array**	**63.43**	**325**	P	P	09 20 44.5	+0.4
	0.1nm,0.5s,baz=123,slow=5.3,SNR=1.7						
	0.1nm,0.5s						

IDC ***18*** *09:14:23.8*±*1.2, 19°.60N×109°.24W, h0km, mb 3.4/5, mbtmp 3.5/8, ML 3.6/3, MS 3.3/12, Error ellipse: s-maj=23.9km s-min=16.7km az=124.0*

ISC 18 09:14:26.7±0.8, **19°.57N**±0°.07×**109°.23W**±0°.08, **h26**km, **n20, σ1°01/14, mb 3.3/4, MS 3.3/9, Revilla Gigedo Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H06E1	**SOCORRO T-PHAS**	**1.79**	**244**	Pn	**Pn**	**09 14 55.7**	**-0.3**
H06E1				T	T	09 17 10.6	
	SNR=30						
H06N1	**SOCORRO T-PHAS**	**1.81**	**247**	Pn	**Pn**	**09 14 56.0**	**-0.2**
H06N1				Sn	**Sn**	**09 15 18.3**	**0.0**
H06N1				T	T	09 17 09.1	
	SNR=8.7						
H06S1	**SOCORRO T**	**1.83**	**243**	Pn	**Pn**	**09 14 56.2**	**-0.4**
H06S1				Sn	**Sn**	**09 15 18.4**	**-0.6**
H06S1				T	T	09 17 09.6	
	SNR=14						
LPIG	**La Paz**	**4.62**	**348**	Pn	**Pn**	**09 15 34.9**	**0.0**
	5.6nm,0.3s,baz=165,slow=4.5,SNR=11						
LPIG				Sn	**Sn**	**09 16 26.8**	**-0.8**
	1.4nm,0.3s,baz=168,slow=19,SNR=1.7						
LPIG				LR	LR	09 17 03.9	
	comp=Z,321nm,20.6s,baz=122,slow=35						
	28nm,0.5s						
TXAR	**Lajitas Array**	**10.96**	**26**	Pn	**Pn**	**09 17 00.9**	**-1.0**
	0.1nm,0.3s,baz=206,slow=14,SNR=4.2						
TXAR				LR	LR	09 20 47.5	
	comp=Z,74nm,20.1s,baz=206,slow=35						
	0.4nm,0.6s						
CMIG	**Matias Romero**	**13.84**	**98**	Pn	**Pn**	**09 17 40.5**	**-0.9**
	0.2nm,0.3s,baz=283,slow=13,SNR=3.6						
	1.5nm,0.5s						
PFO	**Pinyon Flats O**	**15.40**	**337**	LR	LR	09 23 08.6	
	comp=Z,170nm,21.9s,baz=173,slow=34						
NVAR	**Mina Arroyo Bea**	**20.37**	**339**	P	**P**	**09 19 03.2**	**+1.5**
	0.9nm,0.8s,baz=170,slow=12,SNR=7.7						
NVAR				LR	LR	09 25 55.1	
	comp=Z,102nm,21.5s,baz=178,slow=34						
	0.9nm,0.8s						
ELK	**Elko**	**21.72**	**348**	P	**P**	**09 19 17.4**	**+1.2**
	1.1nm,0.6s,baz=161,slow=8.1,SNR=7.0						
ELK				LR	LR	09 27 22.7	
	comp=Z,52nm,18.1s,baz=106,slow=36						
	1.1nm,0.6s						
PDAR	**Pinedale Array**	**23.12**	**359**	P	**P**	**09 19 31.6**	**+0.5**
	0.5nm,0.6s,baz=168,slow=12,SNR=7.9						
PDAR				LR	LR	09 28 00.8	
	comp=Z,44nm,19.7s,baz=174,slow=35						
	0.5nm,0.6s						
NEW	**Newport**	**29.33**	**349**	LR	LR	09 32 22.1	
	comp=Z,31nm,18.1s,baz=147,slow=37						
YKA	**Yellowknife Ar**	**43.05**	**356**	P	**P**	**09 22 23.6**	**-0.4**
	0.4nm,0.7s,baz=174,slow=7.6,SNR=9.0						
YKA				LR	LR	09 41 51.5	
	comp=Z,40nm,19.1s,baz=320,slow=38						
	0.4nm,0.7s						
RPN	**Rapa Nui**	**46.42**	**180**	LR	LR	09 37 31.0	
	comp=Z,42nm,20.8s,baz=40,slow=30						
LPAZ	**La Paz**	**53.87**	**129**	P	**P**	**09 23 50.8**	**+2.0**
	1.0nm,0.9s,baz=276,slow=9.2,SNR=4.1						
	1.0nm,0.9s						
PPT	**Papeete**	**54.15**	**230**	LR	LR	09 41 41.8	
	comp=Z,31nm,20.6s,baz=32,slow=30						
RES	**Resolute Bay**	**55.68**	**5**	LR	LR	09 48 10.2	
	comp=Z,57nm,18.9s,baz=16,slow=36						
SFJD	**Kangerlussuaq**	**60.05**	**23**	LR	LR	09 48 48.1	
	comp=Z,42nm,18.4s,baz=256,slow=34						
H03N2	**Juan Fernandez**	**60.13**	**151**	T	T	10 29 57.6	
	baz=329,slow=77,SNR=33						
H03N1	**Juan Fernandez**	**60.14**	**151**	T	T	10 29 56.0	
	baz=329,slow=77,SNR=48						
H03N3	**Juan Fernandez**	**60.14**	**151**	T	T	10 29 54.2	
	baz=329,slow=77,SNR=41						

IDC ***18*** *09:21:59.9*±*0.7, 17°.10N×94°.25W, h0km, mb 4.0/11, mbtmp 4.0/12, ML 3.6/1, MS 3.3/6, Error ellipse: s-maj=17.0km s-min=8.1km az=1.0*
MEX ***18*** *09:22:00.6*±*2.0, 16°.61N×95°.20W, h60km*±*47km, MD 5.1*
NEIC ***18*** *09:22:04.9*±*1.5, 16°.71N*±*0°.06×94°.87W*±*0°.07, h39km*±*6km, mb 4.5/55, Md 5.1/179(MEX), Error ellipse: s-maj=11.5km s-min=6.2km az=224.0*
GCG ***18*** *09:22:12.1*±*0.7, 15°.99N×94°.62W, h21km, MD 4.8*

ISC 18 09:22:00.8±0.9, **16°.49N**±0°.03×**95°.09W**±0°.02, **h19**km±3km, **n482, σ1°81/568, mb 4.4**/33, **MS 3.2**/5, **7C-17D, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NILT	**Santiago Nilte**	**0.46**	**80**	*eP*	**Pg**	**09 22 09.3**	**-1.0**
NILT				*i* S	**Sb**	**09 22 17.2**	**+0.3**
CMIG	**Matias Romero**	**0.63**	**18**	Pg	**Pb**	**09 22 11.6**	**-1.6**
	427nm,0.3s,baz=211,slow=14,SNR=2036						
CMIG				LR	LR	09 22 19.0	
	comp=Z,131nm,18.8s,baz=172,slow=31						
CMIG				Lg	Lg	09 22 20.6	
	3µm,0.3s,baz=334,slow=18,SNR=60						
CMIG	**Matias Romero**	**0.63**	**18**⇑	*iP*	**Pb**	**09 22 11.8**	**-1.4**
	baz=216,slow=16						
CMIG				*eS*	**Sb**	**09 22 20.6**	**-1.0**
CARR	**Arriaga**	**1.16**	**102**	*eP*	**Pn**	**09 22 21.6**	**-0.4**
CARR				*eS*	**Sg**	**09 22 38.2**	**-0.2**
HUIG	**Huatulco**	**1.21**	**234**⇓	*eP*	**Pn**	**09 22 20.1**	**-2.7**
	baz=50,slow=16						
HUIG				*eS*	**Sb**	**09 22 35.4**	**-3.1**
UXUV	**UXUV**	**1.23**	**48**⇓	*eP*	**Pn**	**09 22 22.7**	**-0.2**
UXUV				*eS*	**Sg**	**09 22 40.0**	**-0.7**
NEUV	**Arroyo Zacate**	**1.39**	**331**⇓	*eP*	**Pn**	**09 22 23.8**	**-1.5**
NEUV				*eS*	**Sn**	**09 22 42.4**	**-0.8**
MIHL	**Minatitlan**	**1.58**	**19**	*eP*	**Pn**	**09 22 26.6**	**-1.2**
MIHL				*eS*	**Sg**	**09 22 51.7**	**-0.3**
TUIG	**Tuzandepetl**	**1.66**	**22**⇓	*iP*	**Pn**	**09 22 29.5**	**+0.5**
TUIG				*eS*	**Sb**	**09 22 52.0**	**+0.6**
OXIG	**Oaxaca**	**1.68**	**291**		**Pn**	**09 22 28.1**	**-1.2**
OXIG					**Sn**	**09 22 49.7**	**-0.7**
VHO	**Vista Hermosa**	**1.68**	**290**⇓	*eP*	**Pn**	**09 22 28.1**	**-1.2**
VHO				*eS*	**Sn**	**09 22 49.7**	**-0.7**
TGIG		**1.91**	**81**		**Pb**	**09 22 34.9**	**-0.2**
TGIG					**Sb**	**09 22 60.0**	**+1.4**
TGIG		**1.91**	**81**⇑	*eP*	**Pb**	**09 22 34.9**	**-0.2**
TGIG				*eS*	**Sb**	**09 22 60.0**	**+1.4**
PCIG		**1.96**	**113**		**Pn**	**09 22 33.3**	**+0.2**
PCIG					**Sb**	**09 22 59.5**	**-0.5**
PCIG		**1.96**	**113**⇑	*eP*	**Pn**	**09 22 33.3**	**+0.2**
PCIG				*eS*	**Sb**	**09 22 59.5**	**-0.5**
PEIG	**Puerto Escondi**	**2.04**	**256**		**Sn**	**09 22 58.8**	**-0.2**
PEIG	**Puerto Escondi**	**2.04**	**256**⇓	*eP*	**Pn**	**09 22 31.5**	**-2.6**
PEIG				*eS*	**Sn**	**09 22 58.8**	**-0.2**
PMUV	**Sontecomapan**	**2.04**	**359**⇓	*eP*	**Pn**	**09 22 32.7**	**-1.6**
PMUV				*eS*	**Sn**	**09 22 56.3**	**-3.1**
YOIG	**Yosondua**	**2.38**	**279**		**Pn**	**09 22 38.4**	**-0.7**
YOIG					**Sn**	**09 23 09.3**	**+1.4**
YOIG	**Yosondua**	**2.38**	**279**⇓	*eP*	**Pn**	**09 22 38.4**	**-0.7**
YOIG				*eS*	**Sn**	**09 23 09.3**	**+1.4**
TOIG	**Toxpalan**	**2.47**	**311**		**Pn**	**09 22 40.2**	**0.0**
TOIG					**Sn**	**09 23 11.0**	**+1.1**
TOIG	**Toxpalan**	**2.47**	**311**⇓	*eP*	**Pn**	**09 22 40.2**	**0.0**
TOIG				*eS*	**Sn**	**09 23 11.0**	**+1.1**
TXIG	**Tlaxiaco**	**2.67**	**287**		**Pn**	**09 22 43.4**	**+0.2**
TXIG					**Sb**	**09 23 18.8**	**-2.0**
TXIG	**Tlaxiaco**	**2.67**	**287**⇓	*eP*	**Pn**	**09 22 43.4**	**+0.2**
TXIG				*eS*	**Sb**	**09 23 18.8**	**-2.0**
CCIG	**Comitan**	**2.84**	**94**		**Pn**	**09 22 45.7**	**+0.4**
CCIG				Sn	**Sb**	**09 23 28.9**	**+3.3**
CCIG	**Comitan**	**2.84**	**94**⇓	*eP*	**Pn**	**09 22 46.5**	**+1.2**
CCIG				*i* S	**Sb**	**09 23 25.1**	**-0.5**
TPIG	**Tehuac#an**	**2.90**	**312**		**Pn**	**09 22 46.5**	**+0.4**
TPIG					**Sn**	**09 23 22.3**	**+1.9**
TPIG	**Tehuac#an**	**2.90**	**312**⇑	*eP*	**Pn**	**09 22 46.5**	**+0.4**
TPIG				*eS*	**Sn**	**09 23 22.3**	**+1.9**
PNIG	**Pinotepa**	**2.92**	**269**		**Sn**	**09 23 15.7**	**-5.1**
PNIG	**Pinotepa**	**2.92**	**269**	*eP*	**Pn**	**09 22 44.0**	**-2.2**
PNIG				*eS*	**Sn**	**09 23 15.7**	**-5.1**
HLIG	**Huajuapan de L**	**2.92**	**298**		**Pn**	**09 22 47.3**	**+0.9**
HLIG					**Sn**	**09 23 21.6**	**+0.5**
HLIG	**Huajuapan de L**	**2.92**	**298**	*eP*	**Pn**	**09 22 47.3**	**+0.9**
HLIG				*eS*	**Sn**	**09 23 21.6**	**+0.5**
OZST	**Orizaba**	**3.04**	**321**	*eP*	**Pn**	**09 22 46.6**	**-1.3**
OZST				*eS*	**Sn**	**09 23 23.4**	**-0.5**
PATR	**El Naranjo**	**3.07**	**116**	*eP*	**Pn**	**09 22 49.2**	**+0.6**
PATR				*

TLIG Tlapa 3.49 288 Pn Pn 09 22 54.5 +0.3
TLIG Tlapa 3.49 288 eP Pn 09 22 54.5 +0.3
TLIG eS Sb 09 23 44.5 +0.3
HMTT Tlapaneco 3.56 292 Pb 09 23 03.2 -0.1
HMTT Sn 09 23 34.7 -2.1
HMTT Tlapaneco 3.56 292 eP Pb 09 23 03.2 -0.1
HMTT eS Sn 09 23 34.7 -2.1
HUEH Huehuetenango 3.64 108 Pn 09 22 58.5 +2.1
RTAL Retalhuleu 3.81 120 Pn 09 23 00.3 +1.8
STG3 Santiaguito 3, 3.83 117 eP Pn 09 23 01.5 +2.6
PHPU Puebla 3.88 311 Pn 09 23 01.4 +1.6
PHPU Sn 09 23 50.0 +5.1
PHPU Puebla 3.88 311 eP Pn 09 23 01.4 +1.6
PHPU eS Sn 09 23 50.0 +5.1
CRIG Cruz Grande 3.88 274 Sn 09 23 45.2 +0.7
CRIG Cruz Grande 3.88 274⇓eP Pn 09 22 57.6 -1.9
CRIG eS Sn 09 23 45.2 +0.7
SULM Suchitepequez, 4.04 122 eP Pn 09 23 03.9 +2.3
PPM Popocatepetl 4.23 308⇑eP Pn 09 23 07.0 +2.2
PPM eS Sn 09 23 54.3 +0.4
PPIG Popocatepetl 4.24 308 Pn 09 23 07.0 +2.1
PPIG Sn 09 23 54.3 +0.3
AMVM AMECAMECA 4.39 307 Pn 09 23 10.2 +3.4
AMVM Sn 09 23 59.4 +1.8
AMVM AMECAMECA 4.39 307 eP Pn 09 23 10.2 +3.4
AMVM eS Sn 09 23 59.4 +1.8
DAIG Los Arroyos 4.40 278 Pn 09 23 05.2 -1.5
DAIG Sn 09 24 00.3 +2.9
DAIG Los Arroyos 4.40 278⇓eP Pn 09 23 05.2 -1.5
DAIG eS Sn 09 24 00.3 +2.9
SCIG Sabancuy 4.46 56 eP Pn 09 23 08.2 +0.7
SCIG eS Sn 09 23 56.0 -2.9
YAIG Yautepec 4.46 303 Pn 09 23 08.8 +1.1
YAIG Yautepec 4.46 303⇓eP Pn 09 23 08.8 +1.1
YAIG e 09 24 12.0
MEIG Mezcala 4.56 289 Pn 09 23 09.3 +0.5
MEIG Sn 09 24 01.1 -0.3
MEIG Mezcala 4.56 289⇓eP Pn 09 23 09.3 +0.5
MEIG eS Sn 09 24 01.1 -0.3
FUG Fuego 3 4.57 116 eP Pn 09 23 12.7 +3.6
ACP2 Acapulco 4.61 275 e Sb 09 24 14.2 -2.2
PLIG Platanillo 4.62 295 Pn 09 23 11.9 +2.2
PLIG Sn 09 24 03.6 +0.7
PLIG Platanillo 4.62 295 eP Pn 09 23 11.9 +2.2
PLIG eS Sn 09 24 03.6 +0.7
THVM De Xico 4.64 308 eP Pb 09 23 24.0 +2.2
THVM eS Sb 09 24 13.8 -3.7
TXVM Universitario 4.67 309 eP Pb 09 23 18.3 -4.1
TXVM eS Sn 09 24 10.9 +6.4
XCVM Xochimilco 4.72 306 eP Pn 09 23 08.8 -2.4
XCVM eP Pn 09 23 14.8 +3.5
XCVM eS Sn 09 24 01.6 -3.9
VTVM Tizayuca 4.79 314 Pn 09 23 17.4 +5.2
VTVM Sn 09 24 08.9 +1.6
VTVM Tizayuca 4.79 314 eP Pn 09 23 17.4 +5.2
VTVM eS Sn 09 24 08.9 +1.6
PBVM Pinon 4.80 308 Sb 09 24 15.6 -6.3
PBVM Pinon 4.80 308 eP Pb 09 23 27.0 +2.6
PBVM eS Sb 09 24 15.6 -6.3
COVM Coyoacan 4.80 307 eP Pb 09 23 24.0 -0.6
COVM eS Sb 09 24 26.4 +4.2
UNM Universidad Na 4.81 307 Pn Pn 09 23 12.3 -0.2
UNM Universidad Na 4.81 307 eP Pb 09 23 20.3 -4.4
UNM eS Sn 09 24 10.3 +2.4
VRVM Mexico City 4.81 308 eP Pb 09 23 20.3 -4.4
VRVM eS Sn 09 24 12.2 +4.2
BJVM Benito Juarez 4.83 307 eP Pb 09 23 26.7 +1.7
BJVM eS Sb 09 24 22.6 -0.3
CTVM Cuauhtemoc 4.87 308 eP Pg 09 23 38.6 +4.5
CTVM eS Sb 09 24 27.0 +3.1
MHVM Bosque de Chap 4.88 307 eP Pb 09 23 27.3 +1.4
MHVM eS Sn 09 24 16.8 +7.2
AOVM Tlapan 4.88 305 eP Pn 09 23 17.1 +3.4
AOVM eS Sn 09 24 11.6 +1.6
CJVM Cuajimalpa 4.91 306 eP Pb 09 23 26.7 +0.3
CJVM eS Sb 09 24 22.4 -2.8
PTVM Pico Tres Padr 4.92 310 Sn 09 24 13.9 +3.4
PTVM Pico Tres Padr 4.92 310 eP Pb 09 23 27.0 +0.5
PTVM eS Sn 09 24 13.9 +3.4
APVM Azcapotzalco 4.92 308 eP Pb 09 23 28.9 +2.3
APVM eS Sn 09 24 11.6 +0.9
INVM La Marquesa 4.95 305 eP Pb 09 23 18.9 +4.4
INVM eS Sn 09 24 13.8 +2.5
NBG Las Nubes 4.95 112 eP Pb 09 23 23.2 -3.8
CAIG El Cayaco 4.99 277 Pn 09 23 13.3 -1.5
CAIG Sn 09 24 08.9 -3.0
CAIG El Cayaco 4.99 277⇓eP Pn 09 23 13.3 -1.5
CAIG eS Sn 09 24 08.9 -3.0
PETF Flores 5.03 84 Pn 09 23 17.2 +2.0
AZVM Cuida Lopez Ma 5.04 308 Sn 09 24 10.5 -3.0
AZVM Cuida Lopez Ma 5.04 308 eP Pb 09 23 32.5 +3.9
AZVM eS Sn 09 24 10.5 -3.0
ZUVM ZUMPANGO 5.04 312 Pn 09 23 18.6 +3.0
ZUVM Sn 09 24 13.7 +0.2
ZUVM LR 09 24 16.8
ZUVM ZUMPANGO 5.04 312 eP Pn 09 23 18.6 +3.0
ZUVM eS Sn 09 24 13.7 +0.2
ZUVM eS Sn 09 24 16.8 +3.3
ATYC Atoyac 5.17 279 e 09 24 32.4
ARIG Puente Sto Nin 5.33 290 Pn 09 23 20.3 +1.0
ARIG Sn 09 24 20.0 -0.3
ARIG Puente Sto Nin 5.33 290 eP Pn 09 23 20.3 +1.0
ARIG eS Sn 09 24 20.0 -0.3
DEIG Demacu 5.33 316 eP Pn 09 23 22.1 +2.5
DEIG e 09 24 42.2
DHIG Demacu 5.33 316 Pn 09 23 22.1 +2.5
MRL Marmol 5.39 104 eP Pn 09 23 24.9 +4.4
ATVM ATLACOMULCO 5.57 306 Sn 09 24 28.4 +1.8
ATVM ATLACOMULCO 5.57 306 eP Pb 09 23 39.0 +1.3
ATVM eS Sn 09 24 28.4 +1.8
ACIG Acambay 5.72 308 Sn 09 24 32.5 +2.2
ACIG Acambay 5.72 308 eP Pb 09 23 41.8 +1.6
ACIG eS Sn 09 24 32.5 +2.2
CTUV Llano Grande 5.84 329 eP Pn 09 23 24.9 -1.5
CTUV eS Sn 09 24 31.2 -1.7
ESQI Esquipulas 5.86 108 Pn 09 23 28.4 +1.5
MTO3 Montecristo 5.90 110 Pn 09 23 28.6 +1.1
ZIIG Zihuatanejo 6.20 281 Sn 09 24 49.8 +8.1
ZIIG Zihuatanejo 6.20 281 eS Sn 09 24 49.8 +8.1
JRQG Juriquilla Cam 6.58 310 eP Pn 09 23 42.7 +5.8
JRQG 09 25 12.9
MOIG Morelia 6.61 300 Pn Pn 09 23 39.2 +1.9
MYIG Mrida 6.74 48 eP Pn 09 23 40.1 +1.3
MYIG eS Sn 09 24 52.6 -2.5
RPIG Rio Verde 7.08 320 Pn 09 23 41.9 -1.7
RPIG Sn 09 25 03.2 -0.5
RPIG Rio Verde 7.08 320 eP Pn 09 23 41.9 -1.7
RPIG eS Sn 09 25 03.2 -0.5
TEIG Tepich 7.46 59 Pn Pn 09 23 48.5 -0.2
GTIG Gomez Farias 7.59 330 Pn 09 23 50.1 -0.3
GTIG Sn 09 25 12.0 -3.9
GTIG Gomez Farias 7.59 330 eP Pn 09 23 50.1 -0.3
GTIG eS Sn 09 25 12.0 -3.9
TGUH Tegucigalpa,Un 7.92 107 Pn Pn 09 23 55.9 +0.8
JUBC Volcan de Coli 8.61 292 eP Pn 09 24 11.0 +6.3
JUBC eS Sn 09 25 33.8 -7.7
COIG Colima 8.62 289 eP Pn 09 24 08.2 +3.6
COIG eS Sn 09 25 48.0 +6.6
EZ5V 8.63 291 Pn 09 24 08.6 +3.6
EZ5V 8.63 291 eP Pn 09 24 08.6 +3.6
EZ5V eS Sn 09 25 39.2 -2.8
MNGA Volcan de Coli 8.64 291 eP Pn 09 24 08.4 +3.3
MNGA eS Sn 09 25 40.1 -2.1
INCO Volcan de Coli 8.64 292 eP Pn 09 24 08.6 +3.3
INCO eS Sn 09 25 36.6 -6.0
SOMAC Volcano de Col 8.67 292 eP Pn 09 24 09.0 +3.4
SOMAC eS Sn 09 25 37.2 -5.8
CEGR Campo Tres 8.83 290 eP Pn 09 24 10.1 +2.4
CEGR eS Sn 09 25 45.3 -1.5
CDAR Ciudad de Arme 8.84 287 eP Pn 09 24 09.5 +1.8
CDAR eS Sn 09 25 47.5 +0.6
LNIG Linares 9.31 335 eP Pn 09 24 09.9 -4.2
CIHU Emiliano Zapat 9.59 288 eP Pn 09 24 19.4 +1.4
CIHU eS Sn 09 26 08.7 +3.5
BOAB BOACO BROADBAN 9.97 113 Pn Pn 09 24 23.7 +0.5
ESTA Talpa de Allen 10.04 294 eP Pn 09 24 20.3 -3.9
ESTA eS Sn 09 26 17.8 +1.3
HZTE Horizontes, Gu 10.87 121 Pn Pn 09 24 36.3 +0.8
ORTG Ortega, Santa 11.17 122 Pn Pn 09 24 41.3 +1.6

JTS Las Juntas de 11.63 121 Pn Pn 09 24 42.5 -3.4
0.4nm,0.3s,baz=310,slow=22,SNR=1.8
1.6nm,0.3s
833A Chaparral WMA, 12.43 342 P Pn 09 24 59.2 +2.4
baz=160
LCR2 La Lucha 2 12.71 120 Pn 09 25 01.7 +0.8
SOR Soroa 12.99 59 Pn Pn 09 25 03.2 -1.3
SRBA San Rafael, Bu 13.52 121 Pn 09 25 13.3 +1.5
HNDO Hondo 13.54 344 Pn 09 25 09.4 -2.5
435B Jarrell 14.41 351 P Pn 09 25 25.3 +1.5
baz=170
JCT Junction City 14.58 344 P Pn 09 25 28.4 +2.2
baz=161,SNR=22
SAND Sanderson 14.87 336 Pn Pn 09 25 31.8 +1.6
TXAR Lajitas Array 15.02 330 P P 09 25 37.4 -0.1
TXAR Lajitas Array 15.02 330 Pn Pn 09 25 28.6 -3.7
0.1nm,0.3s,baz=142,slow=14,SNR=2.0
TX31 Lajitas Ar. Si 15.02 330 P 09 25 35.0 -2.5
BRDY Brady 15.16 347 Pn 09 25 34.3 +0.4
NATX Nacogdoches 15.21 1 Pn 09 25 35.4 +0.7
NATX Nacogdoches 15.21 1 P Pn 09 25 35.1 +0.5
baz=181
WHTX Lake Whitney, 15.58 352 P Pn 09 25 40.9 +1.4
WHTX Lake Whitney, 15.58 352 P Pn 09 25 40.4 +0.8
baz=171,SNR=28
FW13 Cleburne 15.94 353 P Pn 09 25 45.1 +1.0
FW13 IAmb IAmb 09 25 49.3
comp=Z,30nm,0.6s
FW14 Alvarado 15.96 354 P Pn 09 25 45.5 +1.2
LPIG La Paz 16.15 300 LR LR 09 32 00.9
comp=Z,67nm,18.4s,baz=104,slow=36
SGCY Sterling City 16.31 341 P 09 25 51.2 -0.5
SGCY IAmb IAmb 09 25 56.3
comp=Z,33nm,1.3s
FW07 Weatherford 16.33 352 P P 09 25 50.7 -1.2
MNHN Monahans 16.35 336 P P 09 25 52.7 +0.4
MNHN IAmb IAmb 09 25 58.9
comp=Z,51nm,0.9s
ABTX Abilene, Hawle 16.59 346 P 09 25 54.0 -0.8
ABTX IAmb IAmb 09 26 00.2
comp=Z,24nm,0.8s
ABTX Abilene, Hawle 16.59 346 P Pn 09 25 53.6 +1.2
baz=164,SNR=12
FW03 Perrin-Whitt E 16.70 351 P P 09 25 55.7 -0.3
FW03 IAmb IAmb 09 26 00.6
comp=Z,23nm,0.6s
PECS Pecos 16.83 333 P P 09 25 59.2 +1.6
PECS IAmb IAmb 09 26 04.6
comp=Z,33nm,0.8s
DWPF Disney Wildern 17.11 45 P Pn 09 25 57.8 -1.2
baz=230
MNTX Cornudas Mount 17.80 330 P P 09 26 09.5 +1.3
baz=145
LRAL Lakeview Retre 18.03 22 P Pn 09 26 09.6 -0.7
baz=206
MIAR Mount Ida 18.03 4 P 09 26 11.3 +0.5
MIAR Mount Ida 18.03 4 P P 09 26 10.7 0.0
baz=184
WMOK Wichita Mounta 18.47 350 P P 09 26 15.1 -0.5
WMOK Wichita Mounta 18.47 350 P Pn 09 26 16.1 +0.3
baz=168
OXF Oxford 18.66 15 P P 09 26 17.4 -0.2
baz=197
MSTX Muleshoe 18.73 340 P Pn 09 26 19.9 +0.9
baz=156
AMTX Amarillo 19.25 343 P Pn 09 26 25.4 +0.1
baz=160
TUL3 Leonard 19.35 358 P P 09 26 25.1 -0.2
baz=177,SNR=5.4
FCAR Ozark Folk Cen 19.50 7 P P 09 26 26.9 0.0
121A Cookes Peak, D 19.68 327 P Pn 09 26 30.1 -0.4
121A Cookes Peak, D 19.68 327 P Pn 09 26 30.6 0.0
baz=141,SNR=13
GOGA Godfrey 19.85 30 P P 09 26 29.6 -1.1
baz=214
Y52A Lilburn 19.95 28 P P 09 26 30.1 -1.7
T35A Sooner Cattle 20.39 357 P 09 26 35.0 -1.5
T35A IAmb IAmb 09 26 41.1
comp=Z,25nm,0.8s
DUN6 Lazy B Ranch 20.41 324 P Pn 09 26 38.8 -0.3
Y22D IRIS PASSCAL I 20.49 331 P P 09 26 38.3 +0.5
baz=145
Y22F Passcal Instru 20.49 331 P Pn 09 26 39.1 -0.9
baz=145
WVT Waverly 20.60 17 P P 09 26 37.8 -1.0
baz=200
PBMO Poplar Bluff 20.63 11 P P 09 26 38.2 -0.9
ANMO Albuquerque 21.01 333 P P 09 26 44.4 +0.9
baz=148
S39A Bolivar 21.18 4 P P 09 26 43.6 -1.5
TUC Tucson 21.23 321 P P 09 26 46.9 +1.1
baz=134
TKL Tuckaleechee C 21.60 26 P P 09 26 46.7 -2.8
comp=Z,6.7nm,1.0s,baz=202,slow=11,SNR=4.8
CCM Cathedral Cave 21.75 8 P P 09 26 50.3 -0.9
CCM Cathedral Cave 21.75 8 P P 09 26 49.5 -1.7
baz=190
R40A Maddies Statio 21.86 6 P P 09 26 53.1 +0.7
T25A Trinidad 22.16 340 P P 09 26 56.6 +0.7
baz=155,SNR=10
214A Organ Pipe Nat 22.27 317 P P 09 26 59.1 +2.2
baz=129
KMSC Kings Mountain 22.28 31 P P 09 26 56.5 -0.4
baz=217
KSU1 Kansas State U 22.57 357 P P 09 26 59.4 -0.6
baz=176,SNR=9.4
CBKS Cedar Bluff 22.61 351 P P 09 27 00.8 +0.3
baz=168
WCI Wyandotte Cave 23.00 18 P P 09 27 03.2 -1.3
WCI IAmb IAmb 09 27 06.6
comp=Z,10nm,0.7s
WCI Wyandotte Cave 23.00 18 P P 09 27 03.9 -0.6
baz=202
SDCO Great Sand Dun 23.08 339 P P 09 27 05.6 -0.1
baz=153,SNR=15
KSCO Kaye Shedlock' 23.39 345 P P 09 27 09.2 +0.6
baz=161
MVCO Mesa Verde 23.80 333 P P 09 27 12.1 -0.7
baz=146
WUAZ Wupatki 23.88 326 P P 09 27 14.3 +0.8
baz=138
Q24A Divide 24.06 340 P P 09 27 15.6 +0.3
baz=155
O44A Mansfield 24.27 12 P P 09 27 15.2 -1.6
O44A IAmb IAmb 09 27 16.8
comp=Z,9.9nm,0.7s
BLA Blacksburg 24.38 29 P P 09 27 15.9 -2.0
baz=216
P48A Milroy 24.39 18 P P 09 27 16.1 -1.9
P48A IAmb IAmb 09 27 16.7
comp=Z,11nm,0.9s
HDIL Hopedale 24.50 11 P P 09 27 17.4 -1.5
HDIL Hopedale 24.50 11 P P 09 27 16.7 -2.2
baz=193,SNR=5.1
PDMCI Parker Dam,Lak 24.64 320 P P 09 27 21.1 +0.8
baz=131
P49A Miami Univ. Ec 24.68 19 P P 09 27 18.6 -2.0
baz=204
SFIN Lafayette 24.80 15 P P 09 27 20.3 -1.3
baz=198
IKP In-Ko-Pah, Jac 24.91 314 P P 09 27 23.5 +0.7
baz=125
ISCO Idaho Springs 24.97 341 P P 09 27 23.2 -0.3
baz=155
BGNE Belgrade 24.97 355 P P 09 27 22.8 -0.4
baz=173
SDV Santo Domingo 25.01 105 LR LR 09 37 32.1
comp=Z,68nm,19.6s,baz=292,slow=38
BC3 Big Chuckawall 25.07 317 P P 09 27 25.1 +0.8
baz=128
OGNE Ogallala 25.10 348 P P 09 27 24.9 +0.5
baz=164
O48B Farmland 25.21 18 P P 09 27 23.6 -1.8
baz=203,SNR=6.8
MONP2 Monument Peak 25.27 314 P P 09 27 26.8 +0.7
baz=125
SCIA State Center 25.38 3 P P 09 27 26.1 -0.8
SCIA State Center 25.38 3 P P 09 27 25.2 -1.7
baz=184,SNR=14
BELC Belle Mtn. Jos 25.64 317 P P 09 27 30.2 +0.8
baz=127
P52A Corning 25.68 24 P P 09 27 27.7 -1.9
baz=210
TPFO Pinon Flats 25.70 315 P P 09 27 31.2 +1.1
baz=126
PFO Pinyon Flats O 25.71 315 LR LR 09 37 52.4
comp=Z,67nm,19.7s,baz=88,slow=37

L42A Oliver, Polo 25.85 9 P P 09 27 29.5 -1.7
L42A IAmb IAmb 09 27 31.6
comp=Z,18nm,0.9s
ACSO Alum Creek Sta 25.89 22 P P 09 27 29.9 -1.7
baz=207
GMRC Granite Mounta 25.91 319 P P 09 27 32.6 +0.7
baz=129
N23A Red Feather La 26.07 341 P P 09 27 33.1 -0.4
baz=155
L44A Lake County Fo 26.33 12 P P 09 27 34.5 -1.0
baz=195
TUQ Turquoise Moun 26.49 319 P P 09 27 37.7 +0.5
baz=130
JFWS Jewell Farm 26.66 8 P P 09 27 37.4 -1.0
JFWS Jewell Farm 26.66 8 P P 09 27 36.7 -1.7
baz=190,SNR=14
K43A Burlington 26.76 11 P P 09 27 36.9 -2.5
K43A IAmb IAmb 09 27 39.3
comp=Z,19nm,0.9s
GSC Goldstone, Bar 26.96 318 P P 09 27 42.5 +1.1
baz=128
DECC Green Verdugo 27.35 315 P P 09 27 47.2 +2.4
baz=124
LRMC Laurel Mtn Rad 27.63 317 P P 09 27 48.6 +1.1
baz=127
M53A WI Miller and 27.80 24 P P 09 27 48.2 -0.5
baz=211
MPMC Manual Prospec 27.87 319 P P 09 27 51.0 +1.4
baz=128
SUSD Miller 28.06 354 P P 09 27 50.9 -0.1
baz=172,SNR=6.9
GRAC Grapevine Rang 28.38 320 P P 09 27 54.7 +0.7
baz=130
PKM Mcpherson Peak 28.72 314 P P 09 27 59.3 +2.1
baz=123
BW06 Boulder Array 28.96 338 P P 09 27 59.2 -0.2
baz=150
PDAR Pinedale Array 28.96 338 P P 09 27 58.2 -1.2
comp=Z,0.5nm,0.7s,baz=169,slow=11,SNR=3.8
PDAR LR LR 09 43 05.2
comp=Z,30nm,18.4s,baz=123,slow=44
comp=Z,0.5nm,0.7s
SMMC Simmler 29.08 315 P P 09 28 01.0 +0.7
baz=123
F36A Milaca 29.32 2 P P 09 28 00.4 -1.8
F36A IAmb IAmb 09 28 01.4
comp=Z,5.9nm,0.8s
GLMI Grayling 29.60 15 P P 09 28 03.8 -0.8
baz=200
ELK Elko 29.80 328 P P 09 28 08.3 +1.4
comp=Z,0.6nm,0.6s,baz=144,slow=9.7,SNR=4.6
comp=Z,0.6nm,0.6s
NVAR Mina Array Bea 29.88 322 P P 09 28 09.3 +1.8
comp=Z,3.2nm,0.7s,baz=136,slow=8.7,SNR=34
comp=Z,3.2nm,0.7s
MDND Maddock 31.49 354 P P 09 28 20.6 -0.8
baz=171
EYMN Ely 31.51 5 P P 09 28 19.9 -1.6
EYMN IAmb IAmb 09 28 20.4
comp=Z,7.3nm,0.7s
EYMN Ely 31.51 5 P P 09 28 19.8 -1.7
baz=186,SNR=6.1
HLID Hailey 31.59 333 P P 09 28 22.4 -0.1
baz=142
AGMN Agassiz Nation 31.73 359 P P 09 28 22.6 -0.8
baz=178,SNR=16
B35A Bob, Littlefor 31.80 2 P P 09 28 22.8 -1.3
B35A IAmb IAmb 09 28 23.3
comp=Z,8.5nm,0.8s
DGMT Dagmar 32.76 349 P P 09 28 32.6 +0.1
baz=163
HRV Adam Dziewonsk 32.83 33 P P 09 28 31.1 -2.0
baz=225
LONY Lake Ozonia 32.95 27 P P 09 28 33.2 -1.0
baz=218
EGMT Eagleton 33.68 342 P P 09 28 41.6 +1.0
baz=154
ULM Lac du Bonnet 33.68 359 P P 09 28 39.1 -1.5
ULM IAmb IAmb 09 28 39.6
comp=Z,7.1nm,0.8s
ULM Lac du Bonnet 33.68 359 P P 09 28 39.0 -1.5
comp=Z,5.2nm,0.8s,baz=183,slow=9.0,SNR=9.5
comp=Z,5.2nm,0.8s
LBNH Lisbon 33.89 30 P P 09 28 41.4 -1.1
baz=222
F10A Beach Ranch, E 34.72 333 P P 09 28 48.7 -1.0
F10A IAmb IAmb 09 28 56.4
comp=Z,9.4nm,1.0s
FFC Flin Flon 38.53 354 P P 09 29 21.6 -0.3
FFC IAmb IAmb 09 29 26.7
comp=Z,3.4nm,0.6s
ETMB Extrema 38.72 130 P P 09 29 26.0 +2.0
ETMB IAmb IAmb 09 29 29.8
comp=Z,11nm,1.5s
EDM Edmonton 39.36 343 P P 09 29 29.1 +0.2
EDM IAmb IAmb 09 29 32.7
comp=Z,4.0nm,0.7s
SAML Samuel 40.44 126 P P 09 29 38.1 -0.3
LPAZ La Paz 42.05 139 P P 09 29 53.1 +0.9
LPAZ La Paz 42.05 139 P P 09 29 53.6 +1.4
comp=Z,1.1nm,0.6s,baz=317,slow=9.0,SNR=7.5
comp=Z,1.1nm,0.6s
FCC Fort Churchill 42.21 1 P P 09 29 51.4 -0.9
LVC Limon Verde 46.55 146 LR LR 09 48 20.2
comp=Z,86nm,19.1s,baz=298,slow=34
PTLB Pontes e Lacer 47.60 130 P P 09 30 36.8 +0.9
PTLB IAmb IAmb 09 30 42.0
comp=Z,3.2nm,0.9s
YKA Yellowknife Ar 47.96 348 P P 09 30 37.6 -0.3
YKA Yellowknife Ar 47.96 348 P P 09 30 37.1 -0.8
comp=Z,1.8nm,0.7s,baz=152,slow=7.0,SNR=28
comp=Z,1.8nm,0.7s
T35M Bob Quinn 48.28 335 P P 09 30 42.0 +1.4
baz=132
KOTAN Kotaneelee Air 48.37 341 P P 09 30 41.2 +0.1
baz=141
CRAG Craig 48.53 332 P P 09 30 43.4 +0.9
baz=128
WRAK Wrangell Islan 48.79 333 P P 09 30 44.7 +0.3
baz=129
DLBC Dease Lake 49.19 337 P P 09 30 48.3 +0.7
DLBC IAmb IAmb 09 30 50.0
comp=Z,5.6nm,1.1s
DLBC Dease Lake 49.19 337 P P 09 30 47.7 +0.1
baz=133
S34M Telegraph Cree 49.26 336 P P 09 30 48.5 +0.4
baz=132
R33M Jennings River 50.20 337 P P 09 30 55.4 +0.1
baz=133
Q32M Nakina River 50.41 336 P P 09 30 57.1 +0.1
baz=131
SIT Sitka 50.47 333 P P 09 30 57.1 -0.2
baz=126
WRGLY Wrigley 50.67 344 P P 09 30 58.7 0.0
baz=144
TGTN Hyland Airport 50.77 340 P P 09 31 00.3 +0.7
baz=137
P32M Atlin 51.38 336 P P 09 31 04.9 +0.7
baz=130
P33M Teslin, Yukon 51.44 337 P P 09 31 05.6 +1.0
baz=131
WHY Whitehorse 52.51 337 P P 09 31 13.1 +0.4
baz=129
FARO Faro, Yukon 52.98 339 P P 09 31 17.1 +1.1
baz=132
P30M Million Dollar 53.00 335 P P 09 31 17.4 +1.2
baz=126
M31M Drury Creek, Y 53.33 338 P P 09 31 18.8 +0.2
baz=130
YUK6 Outpost Mounta 54.04 336 P P 09 31 25.0 +0.9
baz=125
YUK4 Talbot Arm 54.39 336 P P 09 31 27.1 +0.6
baz=126
M30M Minto, Yukon 54.43 338 P P 09 31 27.1 +0.5
baz=128
M29M Somme Creek 54.97 337 P P 09 31 31.3 +0.7
M29M Somme Creek 54.97 337 P P 09 31 31.3 +0.7
baz=126
L29M L29M 55.24 338 P P 09 31 32.9 +0.4
baz=127
J30M Hart River 55.54 340 P P 09 31 35.1 +0.4
baz=130
BGLC Bering Glacier 55.64 333 P P 09 31 35.9 +0.6
baz=120
H31M Peel River 55.72 342 P P 09 31 36.3 +0.4
baz=132
C36M Paulatuk 55.84 348 P P 09 31 36.5 -0.1
baz=146

BVCY	**Beaver Creek**	55.86	336	P	P	09 31 37.5 +0.5
	baz=124					
I30M	**Mount Dempster**	55.97	340	P	P	09 31 38.0 +0.2
	baz=130					
MCARA	**McCarthy VSAT**	56.17	335	P	P	09 31 40.0 +0.8
	baz=121					
DAWY	**Dawson**	56.27	338	P	P	09 31 40.2 +0.4
	baz=126					
BDFB	**Brasilia**	56.37	122	P	P	09 31 42.1 +0.8
	comp=Z,2.4nm,0.7s,baz=312,slow=10,SNR=6.2					
	comp=Z,2.4nm,0.7s					
G31M	**Satah River**	56.47	343	P	P	09 31 41.3 +0.2
	baz=133,SNR=5.0					
L27K	**Beaver Creek,**	56.59	337	P	P	09 31 41.9 -0.3
	baz=123					
EPYK	**Eagle Plains**	56.82	341	P	P	09 31 40.9 -2.8
	baz=130					
EYAK	**Cordova Ski Ar**	56.92	333	P	P	09 31 43.6 -0.8
	baz=117					
N25K	**Chitina, Valde**	56.94	334	P	P	09 31 43.2 -1.5
	baz=119					
G30M	**tAoh Zraii Nji**	57.08	342	P	P	09 31 44.4 -1.1
	baz=131					
L26K	**Log Cabin Wild**	57.16	336	P	P	09 31 46.2 +0.1
	baz=121					
K27K	**Chicken**	57.22	337	P	P	09 31 47.5 +0.9
	baz=123					
INK	**Inuvik**	57.23	344	P	P	09 31 46.1 -0.4
INK				IAmb	IAmb	09 31 51.7
	comp=Z,11nm,1.5s					
INK	**Inuvik**	57.23	344	P	P	09 31 46.9 +0.4
	baz=135					
INK	**Inuvik**	57.23	344	LR	LR	09 59 37.4
	comp=Z,34nm,18.5s,baz=177,slow=40					
H29M	**Whitestone**	57.24	341	P	P	09 31 46.0 -0.7
	baz=128					
I28M	**Miner Creek**	57.28	340	P	P	09 31 47.1 0.0
	baz=126					
EGAK	**Eagle**	57.31	338	P	P	09 31 46.9 -0.3
	baz=125					
F30M	**Barrier River**	57.37	343	P	P	09 31 47.9 +0.3
	baz=132					
P23K	**Montague Islan**	57.41	332	P	P	09 31 49.8 +1.9
	baz=115					
KLU	**Klutina**	57.44	334	P	P	09 31 49.0 +0.7
	baz=118					
HARP	**HAARP**	57.56	335	P	P	09 31 49.5 +0.6
	baz=119					
G29M	**Pine Creek**	57.57	341	P	P	09 31 49.8 +0.8
	baz=129					
SCRK	**Sand Creek**	57.90	337	P	P	09 31 52.3 +0.8
	baz=121					
I27K	**Kandik River**	57.94	339	P	P	09 31 52.3 +0.6
	baz=124					
PAX	**Paxson**	57.97	335	P	P	09 31 52.5 +0.6
	baz=119					
J26L	**Joseph Creek**	58.02	338	P	P	09 31 52.8 +0.5
	baz=122					
SCM	**Sheep Creek Mo**	58.19	334	P	P	09 31 53.9 +0.4
	baz=116					
A36M	**Sachs Harbour**	58.25	349	P	P	09 31 52.8 -0.8
A36M				IAmb	IAmb	09 31 54.9
	comp=Z,3.5nm,0.8s					
A36M	**Sachs Harbour**	58.25	349	P	P	09 31 53.5 -0.1
	baz=145,SNR=6.4					
H27K	**Steamboat Moun**	58.27	340	P	P	09 31 54.6 +0.6
	baz=125					
I26K	**Coal Creek Min**	58.31	338	P	P	09 31 54.6 +0.4
	baz=123					
M23K	**Glacier View**	58.34	334	P	P	09 31 54.0 -0.5
	baz=116					
SEW	**Seward**	58.39	331	P	P	09 31 55.1 +0.4
	baz=114					
E29M	**Blow River**	58.48	343	P	P	09 31 55.4 +0.1
	baz=130					
KNK	**Knik Glacier**	58.49	333	P	P	09 31 56.3 +0.7
	baz=115					
K24K	**Donnelly Dome**	58.50	336	P	P	09 31 56.2 +0.7
	baz=119					
F28M	**Old Crow**	58.57	342	P	P	09 31 56.0 0.0
F28M				IAmb	IAmb	09 31 57.2
	comp=Z,2.8nm,0.8s					
F28M	**Old Crow**	58.57	342	P	P	09 31 56.1 0.0
	baz=127					
SML	**Sawmill**	58.61	334	P	P	09 31 56.6 +0.2
	baz=116					
G27K	**Doyon Strip**	58.65	340	P	P	09 31 56.4 -0.2
	baz=125					
O22K	**Cooper Landing**	58.66	332	P	P	09 31 56.1 -0.6
	baz=113					
WAT6	**Susitna Watana**	58.70	334	P	P	09 31 57.4 +0.3
	baz=116					
J25K	**Salcha River,**	58.75	337	P	P	09 31 57.2 -0.1
	baz=120					
DHY	**Denali Highway**	58.78	335	P	P	09 31 57.3 -0.4
	baz=117					
BRSE	**Bradley Lake S**	58.84	331	P	P	09 31 58.3 +0.3
	baz=112					
PMR	**Palmer**	58.86	333	P	P	09 31 58.0 0.0
	baz=115					
RC01	**Rabbit Creek A**	58.92	332	P	P	09 31 58.0 -0.4
	baz=114					
E28M	**Babbage River**	59.09	343	P	P	09 31 58.6 -0.9
	baz=128					
WAT1	**Susitna Watana**	59.15	335	P	P	09 31 59.3 -0.8
	baz=116					
Q20K	**Shuyak Island**	59.23	329	P	P	09 31 59.2 -1.5
	baz=110					
HDA	**Harding Lake**	59.24	337	P	P	09 31 59.3 -1.4
	baz=118					
PRP	**Porcupine Dome**	59.26	338	P	P	09 32 00.4 -0.6
	baz=120					
ILAR	**Eielson Array**	59.39	337	P	P	09 32 00.5 -1.2
	comp=Z,0.9nm,0.9s,baz=123,slow=6.5,SNR=11					
	comp=Z,0.9nm,0.9s					
G26K	**Porcupine Rive**	59.43	340	P	P	09 31 59.6 -2.2
	baz=123					
E27K	**Coleen River**	59.44	342	P	P	09 32 01.8 -0.2
	baz=126					
SUA	**Susitna One**	59.51	333	P	P	09 32 03.0 +0.3
SUA	**Susitna One**	59.51	333	P	P	09 32 03.5 +0.7
	baz=113,SNR=5.3					
RND	**Reindeer**	59.53	335	P	P	09 32 02.9 +0.1
CUT	**Chulitna**	59.69	334	P	P	09 32 04.2 +0.5
	baz=114					
MCK	**McKinley**	59.70	335	P	P	09 32 03.8 -0.1
	baz=116					
H25L	**Birch Creek**	59.75	339	P	P	09 32 03.8 -0.3
	baz=120					
O20K	**Slope Mountain**	59.85	331	P	P	09 32 05.7 +0.7
	baz=110					
D27M	**Malcolm River**	59.89	343	P	P	09 32 04.8 -0.4
	baz=127					
F26K	**Sheenjek River**	59.95	341	P	P	09 32 05.2 -0.4
	baz=123					
P19K	**Oil Pt**	59.99	330	P	P	09 32 06.3 +0.4
	baz=110					
CHIR	**Chirikof Islan**	60.05	325	P	P	09 32 07.5 +1.1
	baz=105					
SKT	**Skwentna**	60.06	333	P	P	09 32 06.4 0.0
SKT				IAmb	IAmb	09 32 07.5
	comp=Z,2.8nm,0.7s					
SKT	**Skwentna**	60.06	333	P	P	09 32 06.4 0.0
	baz=112					
N20K	**Mount Spurr**	60.06	332	P	P	09 32 06.8 +0.3
	baz=111					
G25K	**Bearman Lake**	60.10	339	P	P	09 32 05.3 -1.2
	baz=120					
BWN	**Browne**	60.11	336	P	P	09 32 06.2 -0.5
TRF	**Thorofare Moun**	60.13	335	P	P	09 32 07.4 +0.4
TRF	**Thorofare Moun**	60.13	335	P	P	09 32 07.3 +0.2
	baz=114					
NEA2	**Nenana**	60.14	336	P	P	09 32 07.0 +0.2
	baz=116					
H24K	**Noodor Dome**	60.27	338	P	P	09 32 07.3 -0.5
	baz=118					
F25K	**Christian Rive**	60.38	340	P	P	09 32 08.9 +0.4
	baz=121					
KTH	**Kantishna Hill**	60.43	335	P	P	09 32 08.8 -0.2
I23K	**Minto, Yukon-K**	60.50	337	P	P	09 32 08.5 -0.8
	baz=116					
BPAW	**Bear Paw Mtn.**	60.68	335	P	P	09 32 10.4 -0.2
	baz=114					
O19K	**Port Alsworth**	60.69	331	P	P	09 32 10.2 -0.5
	baz=109					
PPLA	**Purkeypile**	60.70	334	P	P	09 32 11.1 +0.3
	baz=112					
M20K	**Styx River**	60.73	333	P	P	09 32 10.9 -0.1
	baz=111					
CAST	**Castle Rocks**	60.85	334	P	P	09 32 12.0 +0.2
	baz=113					
N19K	**Bonanza Creek**	60.97	331	P	P	09 32 12.8 +0.1
	baz=109					
MLY	**Manley**	60.98	336	P	P	09 32 12.2 -0.4
MLY				IAmb	IAmb	09 32 13.6
	comp=Z,2.8nm,0.8s					
MLY	**Manley**	60.98	336	P	P	09 32 12.7 +0.1
	baz=115					
O18K	**Koktuh Hills**	61.00	330	P	P	09 32 13.6 +0.7
	baz=108					
F24K	**Squaw Lake**	61.09	340	P	P	09 32 13.5 +0.1
	baz=119					
CHUM	**Lake Minchumin**	61.13	335	P	P	09 32 13.8 +0.2
	baz=113					
L20K	**Farewell, AK**	61.27	333	P	P	09 32 14.5 -0.1
	baz=110					
M19K	**Big River Lodg**	61.29	332	P	P	09 32 15.0 +0.2
	baz=110					
PLCA	**Paso Flores**	61.32	159	P	P	09 32 18.1 +2.9
	comp=Z,2.8nm,0.9s,baz=326,slow=8.9,SNR=5.3					
	comp=Z,2.8nm,0.9s					
Q16K	**King Salmon**	61.37	328	P	P	09 32 16.1 +0.8
	baz=106					
C26K	**Camden Bay**	61.41	343	P	P	09 32 15.3 -0.1
	baz=123					
G23K	**Bananza Creek**	61.45	338	P	P	09 32 16.3 +0.6
	baz=116					
I21K	**Tanana**	61.52	336	P	P	09 32 16.4 +0.2
	baz=114					
R16K	**Pilot Point**	61.55	327	P	P	09 32 16.6 +0.1
	baz=104					
E24K	**Your Creek**	61.56	340	P	P	09 32 17.3 +0.7
	baz=109					
N18K	**Kilae Creek**	61.58	331	P	P	09 32 17.0 +0.2
	baz=108					
H22K	**Ishtalitna Cre**	61.58	337	P	P	09 32 16.4 -0.2
	baz=115					
L19K	**White Mountain**	61.59	333	P	P	09 32 16.4 -0.4
	baz=109					
K20K	**Telida**	61.66	334	P	P	09 32 17.4 +0.2
	baz=111					
CHGN	**Chignik**	61.69	326	P	P	09 32 17.4 -0.1
	baz=103					
M18K	**Stony River**	61.80	332	P	P	09 32 16.5 -1.7
	baz=108					
O17K	**Koliganek Bris**	61.89	330	P	P	09 32 17.9 -0.8
	baz=106					
E23K	**Chandalar**	61.92	340	P	P	09 32 18.5 -0.5
	baz=117					
J20K	**Nowinta River**	61.99	335	P	P	09 32 18.8 -0.6
J20K				IAmb	IAmb	09 32 19.9
	comp=Z,4.1nm,0.9s					
J20K	**Nowinta River**	61.99	335	P	P	09 32 19.1 -0.3
	baz=111					
H21K	**Melozitna Rive**	62.02	337	P	P	09 32 18.4 -1.3
	baz=113					
CHNA	**Chernabura Isl**	62.03	324	P	P	09 32 18.3 -1.5
	baz=101					
N17K	**Nushagak Hills**	62.15	330	P	P	09 32 20.5 0.0
	baz=106					
TOLK	**Toolik Lake Re**	62.18	340	P	P	09 32 19.9 -0.8
	baz=118					
S14K	**Fog Glacier**	62.30	325	P	P	09 32 21.0 -0.7
	baz=102					
O16K	**Kokwok River B**	62.33	329	P	P	09 32 21.7 -0.1
	baz=105					
TTA	**Tatalina**	62.34	333	P	P	09 32 21.2 -0.7
	baz=108					
L18K	**Granite Mounta**	62.42	332	P	P	09 32 22.4 +0.1
	baz=108					
C24K	**Franklin Bluff**	62.43	342	P	P	09 32 22.6 +0.3
	baz=119					
J19K	**Poorman**	62.53	334	P	P	09 32 22.5 -0.5
J19K				IAmb	IAmb	09 32 23.4
	comp=Z,5.1nm,0.8s					
J19K	**Poorman**	62.53	334	P	P	09 32 23.2 +0.2
	baz=110					
G21K	**Allakaket**	62.62	337	P	P	09 32 23.1 -0.6
	baz=113					
D23K	**Nanushuk River**	62.69	340	P	P	09 32 24.8 +0.8
E22K	**Anaktuvuk Pass**	62.70	339	P	P	09 32 24.0 -0.1
	baz=115					
H20K	**Anotleneega Mo**	62.76	336	P	P	09 32 24.9 +0.4
	baz=111					
J18K	**Innoko River**	62.82	334	P	P	09 32 25.4 +0.4
	baz=108					
N16K	**Nishlik Lake**	62.89	330	P	P	09 32 25.2 -0.3
	baz=105					
F21K	**Alatna River**	62.90	338	P	P	09 32 25.5 +0.1
	baz=113					
C23K	**Itkillik River**	63.07	341	P	P	09 32 26.1 -0.4
	baz=117					
O15K	**Ungalikthiuk R**	63.09	329	P	P	09 32 26.4 -0.4
	baz=103					
L17K	**Donlin**	63.12	332	P	P	09 32 27.0 +0.1
	baz=106					
M16K	**Timber Creek**	63.12	331	P	P	09 32 26.5 -0.5
	baz=105					
K17K	**Iditarod**	63.28	333	P	P	09 32 27.2 -0.8
	baz=106					
D22K	**Ayikyak River**	63.30	340	P	P	09 32 28.0 -0.1
	baz=115					
H19K	**Roundabout Mou**	63.38	336	P	P	09 32 28.1 -0.6
	baz=109					
F20K	**Avaraart Lake**	63.64	338	P	P	09 32 30.6 +0.2
	baz=111					
O14K	**Tigyukauivet M**	63.82	328	P	P	09 32 30.8 -0.9
	baz=102					
G19K	**Purcell Mounta**	63.84	336	P	P	09 32 31.8 +0.1
	baz=109					
M15K	**Kasigluk River**	63.86	330	P	P	09 32 30.5 -1.4
	baz=103					
H18K	**Honhosa River**	64.03	335	P	P	09 32 31.4 -1.6
	baz=107					
C21K	**Knifebiade Rid**	64.11	340	P	P	09 32 33.4 0.0
	baz=113					
FALS	**False Pass**	64.21	323	P	P	09 32 34.8 +0.5
	baz=98					
E20K	**Nigu River**	64.25	339	P	P	09 32 34.3 -0.1
	baz=111					
F19K	**Shaleruckik Mo**	64.33	337	P	P	09 32 35.2 +0.4
	baz=109					
E19K	**Redstone River**	64.33	338	P	P	09 32 34.3 -0.7
	baz=110					
J16K	**Avik River**	64.45	333	P	P	09 32 36.1 +0.4
	baz=104					
L15K	**Ungalak Mounta**	64.46	331	P	P	09 32 36.5 +0.7
	baz=103					
M14K	**Bethel**	64.48	330	P	P	09 32 35.7 -0.2
	baz=102					
D20K	**Etivluk River**	64.56	339	P	P	09 32 36.9 +0.5
	baz=111					
K15K	**Wolf Creek Mou**	64.62	332	P	P	09 32 37.6 +0.7
	baz=103					
I17K	**Unalakleet**	64.64	334	P	P	09 32 36.3 -0.6
	baz=104					
F18K	**Selawik**	64.96	337	P	P	09 32 39.9 +0.9
	baz=107					
D19K	**Kuna River**	65.00	339	P	P	09 32 38.7 -0.6
	baz=109					
G17K	**Kiwalik Mounta**	65.05	335	P	P	09 32 39.7 +0.1
	baz=105					
M13K	**Dall Lake**	65.09	329	P	P	09 32 39.2 -0.7
	baz=100					
H16K	**Elim**	65.48	334	P	P	09 32 42.5 +0.1
	baz=103					
F17K	**Baldwin Pennin**	65.53	336	P	P	09 32 42.0 -0.7
	baz=105					
E18K	**Tukpahlearik C**	65.56	337	P	P	09 32 43.0 +0.1
	baz=106					
J14K	**Nanvaranak Lak**	65.64	332	P	P	09 32 44.6 +1.2
	baz=101					
C19K	**Lookout Ridge**	65.70	339	P	P	09 32 42.1 -1.7
	baz=108					
G16K	**Koyuk River**	65.71	335	P	P	09 32 43.2 -0.6
	baz=104					
G15K	**Niukluk**	66.31	334	P	P	09 32 47.5 -0.2
	baz=102					
M11K	**Mekoryuk**	66.48	329	P	P	09 32 48.3 -0.6
	baz=98					
A19K	**Wainwright**	66.53	340	P	P	09 32 49.6 +0.6
	baz=107					
B18K	**Kokolik River**	66.53	339	P	P	09 32 48.9 -0.2
	baz=106					
D17K	**Noatak River**	66.55	337	P	P	09 32 49.2 -0.1
	baz=104					
F15K	**North Star Dit**	66.71	335	P	P	09 32 50.2 -0.1
	baz=102					
C17K	**DeLong Mountai**	66.78	338	P	P	09 32 49.5 -1.3
	baz=104					
F14K	**Arctic Creek**	67.35	335	P	P	09 32 54.0 -0.4
	baz=100					
C16K	**Lisburne Hills**	67.51	338	P	P	09 32 55.6 +0.3
	baz=102					
P08K	**Saint George I**	67.84	325	P	P	09 32 57.6 0.0
	baz=93					
TNA	**Tin City**	68.02	335	P	P	09 32 58.4 -0.1
	baz=98					
EKA	**Eskdalemuir Ar**	77.70	36	P	P	09 33 52.9 -3.4
	comp=Z,0.8nm,0.5s,baz=291,slow=7.0,SNR=3.7					
	comp=Z,0.8nm,0.5s					
ESDC	**Sonseca Array**	80.52	51	P	P	09 34 10.3 -1.7
	comp=Z,1.3nm,0.9s,baz=302,slow=7.3,SNR=5.1					
	comp=Z,1.3nm,0.9s					
WRA	**Warramunga Arr**	133.05	258	PKhKP	PKPpre	09 41 16.0
	comp=Z,0.4nm,0.6s,baz=88,slow=2.8,SNR=2.2					
ASAR	**Alice Springs**	133.61	253	PKhKP	PKPpre	09 41 16.9
	comp=Z,0.3nm,0.7s,baz=75,slow=2.2,SNR=2.3					

AUST ***18*** *09:32:36.4±0.4,27.92S×122.31E,h10km, Error ellipse: s-maj=6.7km s-min=4.0km az=167.0, Mining explosion.*
NOU ***18*** *09:32:36.4,28.00S×122.28E,h0km,mb4.1/6, Western Australia*

ISC 18 09:32:32.9±0.9,27.80S±0.08×122.13E±0.06,h0km,n17,
σ2s14/24,Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEEK	**Meekatharra**	**3.33**	**289**	P	**Pb**	**09 33 32.6**	**-0.4**
	baz=3.5						
MEEK				S	**Sb**	**09 34 13.1**	**-1.0**
	baz=3.5						
MEEK	**Meekatharra**	**3.33**	**289**	P	**Pb**	**09 33 32.9**	**-0.1**
KMBL	**Kambalda**	**3.57**	**183**	P	**Pn**	**09 33 30.4**	**+0.9**
	baz=3.5						
KMBL	**Kambalda**	**3.57**	**183**	P	**Pn**	**09 33 31.0**	**+1.4**
KLBR	**Kellerberrin**	**5.36**	**224**	P	**Pn**	**09 33 57.0**	**+2.7**
	baz=5.4						
KLBR				S	**Sn**	**09 34 56.8**	**0.0**
	baz=5.4						
KLBR	**Kellerberrin**	**5.36**	**224**	P	**Pn**	**09 33 56.8**	**+2.5**
BLDU	**Ballidu**	**5.50**	**238**	P	**Pn**	**09 33 58.8**	**+2.6**
	baz=5.6						
BLDU	**Ballidu**	**5.50**	**238**	P	**Pn**	**09 33 58.8**	**+2.6**
FORT	**Forrest**	**5.97**	**121**	P	**Pn**	**09 34 02.8**	**+0.1**
	baz=5.8						
FORT	**Forrest**	**5.97**	**121**	P	**Pn**	**09 34 02.9**	**+0.3**
WRKA	**Warakurna**	**6.18**	**65**	P	**Pn**	**09 34 07.9**	**+2.4**
	baz=6.1						
WRKA				S	**Sn**	**09 35 16.3**	**-0.6**
	baz=6.1						
WRKA	**Warakurna**	**6.18**	**65**	P	**Pn**	**09 34 08.2**	**+2.7**
MUN	**Mundaring**	**6.62**	**230**	P	**Pn**	**09 34 14.3**	**+2.9**
	baz=6.7						
NWAO	**Narrogin (SRO)**	**6.63**	**218**	P	**Pn**	**09 34 13.4**	**+1.7**
	baz=6.6						
NWAO				P	**Pn**	**09 34 13.4**	**+1.7**
	baz=6.6						
NWAO				S	**Sn**	**09 35 26.1**	**-2.0**
	baz=6.6						
NWAO				S	**Sn**	**09 35 26.1**	**-2.0**
	baz=6.6						
RKGY	**Rocky Gully**	**8.10**	**212**	P	**Pn**	**09 34 35.0**	**+3.2**
	baz=8.1						
RKGY				S	**Sn**	**09 36 00.6**	**-3.4**
	baz=8.1						
MULG	**Mulgathing**	**10.73**	**106**	P	**Pn**	**09 35 06.6**	**-1.3**
	baz=10						
OOD	**Oodnadatta**	**12.01**	**93**	P	**Pn**	**09 35 22.9**	**-2.5**
	baz=12						

SJA ***18*** *09:46:57.4±0.9,21.57S×69.59W,h26km±2km, ML3.9, MW3.9*
NEIC ***18*** *09:46:58.9±1.7,21.54S±0.03×69.62W±0.02,h26km±6km, mb4.2/8, Error ellipse: s-maj=4.7km s-min=2.2km az=197.0*
GUC ***18*** *09:46:59.7±0.9,21.56S×69.57W,h18km±4km,ML4.0*
IDC ***18*** *09:47:03.8±2.4,21.59S×69.21W,h54km±18km,mb3.5/3, mbtmp3.7/5,ML3.3/2,MS3.1/1, Error ellipse: s-maj=39.7km s-min=15.3km az=100.0*

ISC 18 09:46:56.9±1.1,21.55S±0.01×69.55W±0.03,h12km±8km,
n82,σ1s35/104,mb4.0/4,2C-5D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB07	**IPOC Station P**	**0.36**	**240**		**Pb**	**09 47 06.1**	**+0.8**
PB07				Sg	**Sb**	**09 47 11.4**	**+0.5**
PB07	**IPOC Station P**	**0.36**	**240**	*eP*	**Pb**	**09 47 05.5**	**+0.2**
PB07				IAML		09 47 19.4	
	comp=Z,6μm,0.3s						
PB07	**IPOC Station P**	**0.36**	**240**	⇑*iP*	**Pb**	**09 47 06.3**	**+1.0**
PB07				*eS*	**Sb**	**09 47 11.6**	**+0.6**
PB07				IAML		09 47 12.1	
	comp=N,16μm,0.3s						
PB09	**IPOC Station P**	**0.38**	**130**		**Pn**	**09 47 07.5**	**-0.9**
PB09				Sg	**Sb**	**09 47 13.7**	**+2.1**
PB09	**IPOC Station P**	**0.38**	**130**	*eP*	**Pb**	**09 47 06.9**	**+1.3**
PB09				*eP*	**Pn**	**09 47 07.5**	**-0.9**
PB09				IAML		09 47 14.0	
	comp=Z,5μm,0.5s						
PB09	**IPOC Station P**	**0.38**	**130**	⇓*iP*	**Pn**	**09 47 07.7**	**-0.7**
PB09				*eS*	**Sb**	**09 47 13.8**	**+2.1**
PB02	**IPOC Station P**	**0.39**	**305**		**Pb**	**09 47 06.8**	**+0.9**
PB02	**IPOC Station P**	**0.39**	**305**	*eP*	**Pb**	**09 47 06.6**	**+0.8**
PB02				IAML		09 47 16.3	
	comp=Z,14μm,0.3s						
PB02	**IPOC Station P**	**0.39**	**305**	⇑*iP*	**Pb**	**09 47 06.8**	**+0.9**
PB02				*eS*	**Sb**	**09 47 12.3**	**+0.4**
PB02				IAML		09 47 13.2	
	comp=E,36μm,0.1s						
PB01	**IPOC Station P**	**0.51**	**7**	Pn	**Pn**	**09 47 09.0**	**-1.0**
PB01	**IPOC Station P**	**0.51**	**7**	*eP*	**Pn**	**09 47 09.0**	**-1.0**
PB01				*eS*	**Sb**	**09 47 16.8**	**+1.7**
PB01				IAML		09 47 17.5	
	comp=Z,5μm,0.4s						
PB01	**IPOC Station P**	**0.51**	**7**	⇓*iP*	**Pn**	**09 47 09.1**	**-1.0**
PB01				*eS*	**Sb**	**09 47 16.2**	**+1.0**
PB01				IAML		09 47 16.6	
	comp=E,10μm,0.1s						
PB04	**IPOC Station P**	**0.96**	**215**		**Pb**	**09 47 15.7**	**+0.1**
PB04	**IPOC Station P**	**0.96**	**215**	*eP*	**Pb**	**09 47 15.5**	**0.0**
PB04				IAML		09 47 30.6	
	comp=Z,4μm,0.2s						
PB04	**IPOC Station P**	**0.96**	**215**	⇓*iP*	**Pb**	**09 47 15.7**	**+0.1**
PB04				*eS*	**Sb**	**09 47 28.1**	**-0.1**
PB04				IAML		09 47 29.1	
	comp=E,11μm,0.3s						
TA01	**Diego Aracena**	**1.14**	**329**		**Pb**	**09 47 18.4**	**-0.2**
TA01	**Diego Aracena**	**1.14**	**329**	*eP*	**Pn**	**09 47 18.6**	**0.0**
TA01				*eS*	**Sn**	**09 47 34.1**	**-0.2**
TA01	**Diego Aracena**	**1.14**	**329**	*eP*	**Pb**	**09 47 18.4**	**-0.2**
TA01				*eS*	**Sb**	**09 47 33.4**	**+0.1**
PX03	**IPOC Station P**	**1.14**	**356**	*eP*	**Pb**	**09 47 18.2**	**-0.4**
PB06	**IPOC Station P**	**1.15**	**181**	Pn	**Pn**	**09 47 18.9**	**-0.1**
PB06	**IPOC Station P**	**1.15**	**181**	*eP*	**Pn**	**09 47 18.9**	**-0.1**
PB06				*eS*	**Sn**	**09 47 34.9**	**+0.1**
PB06				IAML		09 47 38.5	
	comp=Z,2μm,0.5s						
PB06	**IPOC Station P**	**1.15**	**181**	⇓*iP*	**Pn**	**09 47 18.9**	**-0.1**
PB06				*eS*	**Sn**	**09 47 34.2**	**-0.6**
LVC	**Limon Verde**	**1.21**	**151**	*eP*	**Pb**	**09 47 15.5**	**-4.5**
LVC				*eP*	**Pg**	**09 47 20.5**	**+0.3**
LVC				*eP*		09 47 21.0	
LVC				*eS*	**Sn**	**09 47 37.6**	**+1.0**
LVC	**Limon Verde**	**1.21**	**151**	P	**Pg**	**09 47 21.3**	**+1.0**
	comp=Z,223nm,0.3s,baz=351,slow=11,SNR=1154						
LVC				S	**Sn**	**09 47 37.1**	**+0.5**
	comp=Z,1μm,0.4s,baz=72,slow=20,SNR=28						
LVC	**Limon Verde**	**1.21**	**151**	*eP*	**Pg**	**09 47 21.1**	**+0.8**
LVC				*eS*	**Sn**	**09 47 37.0**	**+0.4**
LVC				IAML		09 47 38.0	
	comp=Z,13μm,0.2s						
TA02	**Huaiquique**	**1.38**	**337**		**Pb**	**09 47 22.6**	**-0.1**
TA02	**Huaiquique**	**1.38**	**337**	*eP*	**Pg**	**09 47 23.0**	**-0.4**
TA02				*eS*	**Sg**	**09 47 41.7**	**+0.3**
TA02				IAML		09 47 47.5	
	comp=Z,2μm,0.2s						

TA02	**Huaiquique**	**1.38**	**337**	*e*P		**Pb**	**09 47 22.6**	**-0.1**
TA02				*e*S		**Sb**	**09 47 40.6**	**+0.4**
PB05	**IPOC Station P**	**1.43**	**205**	Pn		**Pb**	**09 47 23.1**	**-0.4**
PB05	**IPOC Station P**	**1.43**	**205**	*e*P		**Pb**	**09 47 23.1**	**-0.4**
PB05				*e*S		**Sg**	**09 47 42.9**	**-0.1**
PB05				IAML			09 47 44.6	
	comp=Z,1µm,0.3s							
PB05	**IPOC Station P**	**1.43**	**205**	*i* P		**Pb**	**09 47 23.1**	**-0.5**
PB05				*e*S		**Sn**	**09 47 41.4**	**-0.3**
PB05				IAML			09 47 46.4	
	comp=E,2µm,0.4s							
PB08	**IPOC Station P**	**1.45**	**15**	*e*P		**Pg**	**09 47 24.8**	**0.0**
PB08				*e*S		**Sg**	**09 47 44.8**	**+1.2**
PB08				IAML			09 47 46.5	
	comp=Z,2µm,0.2s							
PB08	**IPOC Station P**	**1.45**	**15**	*i* P		**Pg**	**09 47 24.6**	**-0.1**
PB08				*e*S		**Sg**	**09 47 43.9**	**+0.3**
PB08				IAML			09 47 47.8	
	comp=E,2µm,0.3s							
PB15	**IPOC Station P**	**1.65**	**177**	*e*P		**Pn**	**09 47 26.5**	**+0.5**
PB15				*e*S		**Sg**	**09 47 50.0**	**-0.1**
PB15				IAML			09 47 55.3	
	comp=Z,5µm,0.2s							
PB15	**IPOC Station P**	**1.65**	**177**	*e*P		**Pb**	**09 47 26.9**	**-0.5**
PB15				*e*S		**Sg**	**09 47 49.2**	**-1.0**
PB11	**IPOC Station P**	**1.78**	**357**	Pn		**Pb**	**09 47 29.0**	**-0.6**
PB11	**IPOC Station P**	**1.78**	**357**	*e*P		**Pb**	**09 47 29.0**	**-0.6**
PB11				*e*S		**Sb**	**09 47 52.9**	**+1.0**
PB11				IAML			09 47 53.8	
	comp=Z,2µm,0.2s							
PB11	**IPOC Station P**	**1.78**	**357**	*i* P		**Pb**	**09 47 29.0**	**-0.6**
PB11				*e*S		**Sb**	**09 47 52.3**	**+0.3**
PB11				IAML			09 47 55.1	
	comp=E,3µm,0.4s							
AF01	**San Pedro de A**	**1.89**	**138**	*e*P		**Pg**	**09 47 34.1**	**+0.9**
AF01				*e*S		**Sg**	**09 47 60.0**	**+2.3**
GO01	**Chusmiza**	**1.90**	**10**	P		**Pb**	**09 47 31.8**	**-0.1**
GO01	**Chusmiza**	**1.90**	**10**	*e*P		**Pb**	**09 47 31.3**	**-0.5**
GO01				*e*S		**Sb**	**09 47 57.0**	**+1.3**
GO01				IAML			09 47 57.6	
	comp=Z,3µm,0.6s							
GO01	**Chusmiza**	**1.90**	**10**	*i* P		**Pb**	**09 47 31.9**	**+0.1**
GO01				*e*S		**Sb**	**09 47 56.5**	**+0.8**
GO01				IAML			09 47 57.8	
	comp=E,7µm,0.1s							
PX02	**IPOC Station P**	**2.64**	**347**	*e*P		**Pn**	**09 47 40.0**	**+0.6**
PB12	**IPOC Station P**	**3.01**	**346**	*e*P		**Pn**	**09 47 46.1**	**+1.6**
PB12				*e*S		**Sn**	**09 48 19.5**	**-1.0**
PB12				IAML			09 48 35.7	
	comp=Z,400nm,0.5s							
PB12	**IPOC Station P**	**3.01**	**346**	*i* P		**Pn**	**09 47 46.0**	**+1.5**
PB12				IAML			09 48 36.9	
	comp=E,666nm,0.4s							
PB14	**IPOC Station P**	**3.16**	**194**	Pn		**Pn**	**09 47 47.6**	**+0.8**
PB14	**IPOC Station P**	**3.16**	**194**	*e*P		**Pn**	**09 47 48.0**	**+1.2**
PB14				IAML			09 48 41.4	
	comp=E,213nm,0.5s							
PB16	**IPOC Station P**	**3.20**	**1**	*e*P		**Pn**	**09 47 50.4**	**+2.9**
PB16				*e*S		**Sn**	**09 48 29.0**	**+3.1**
PB16				IAML			09 48 44.2	
	comp=Z,221nm,0.5s							
PB16	**IPOC Station P**	**3.20**	**1**	*e*P		**Pb**	**09 47 50.9**	**-3.1**
PB16				IAML			09 48 35.5	
	comp=E,269nm,0.6s							
GO02	**Mina Guanaco**	**3.60**	**181**	Pn		**Pn**	**09 47 55.1**	**+2.4**
GO02	**Mina Guanaco**	**3.60**	**181**	*e*P		**Pn**	**09 47 55.4**	**+2.6**
PB18	**Visviri**	**3.94**	**1**	*e*P		**Pb**	**09 48 04.7**	**-1.9**
AC01	**Pan de Azucar**	**4.68**	**192**	Pn		**Pn**	**09 48 08.3**	**+0.9**
AC01	**Pan de Azucar**	**4.68**	**192**	*e*P		**Pn**	**09 48 09.5**	**+2.2**
AC01				*e*S		**Sg**	**09 49 21.0**	**-6.1**
AC02	**Maricunga**	**5.28**	**176**	*e*P		**Pn**	**09 48 18.8**	**+2.7**
AC02				*e*S		Sn	09 49 07.5	-10
LPAZ	**La Paz**	**5.40**	**15**	P		Pn	09 48 23.2	+5.3
	comp=E,0.2nm,0.3s,baz=206,slow=8.6,SNR=4.7							
	comp=E,1.6nm,0.3s							
AC04	**Llanos de Chal**	**6.77**	**191**	Pn		**Pn**	**09 48 35.9**	**-0.2**
LCO	**Las Campanas**	**7.50**	**188**	Pn		**Pn**	**09 48 44.3**	**-2.1**
SIV	**San Ignacio**	**9.75**	**57**	P		**Pn**	**09 49 17.9**	**+0.8**
	comp=E,0.1nm,0.3s,baz=239,slow=11,SNR=23							
	comp=E,3.6nm,0.6s							
BO02	**Sierra Bellavi**	**13.24**	**184**	Pn		**Pn**	**09 50 02.5**	**-2.2**
H03N1	**Juan Fernandez**	**14.46**	**213**	T		T	10 04 46.1	
	baz=36,slow=72,SNR=17							
H03N2	**Juan Fernandez**	**14.47**	**213**	T		T	10 04 45.4	
	baz=36,slow=72,SNR=8.2							
H03N3	**Juan Fernandez**	**14.47**	**213**	T		T	10 04 45.4	
	baz=36,slow=72,SNR=11							
TRCB	**Terra Rica**	**15.72**	**98**			**Pn**	**09 50 38.5**	**+0.1**
TRCB				IAmb		IAmb	09 50 44.3	
	comp=Z,24nm,0.9s							
ITAB	**Concordia**	**16.84**	**113**			**Pn**	**09 50 51.9**	**-0.7**
MACA	**Manacapuru-AM**	**20.21**	**26**	P		**P**	**09 51 30.8**	**-1.0**
MACA				IAmb		IAmb	09 51 33.5	
	comp=Z,7.9nm,0.7s							
BDFB	**Brasilia**	**21.23**	**78**	P		**P**	**09 51 43.0**	**0.0**
BDFB	**Brasilia**	**21.23**	**78**	P		**P**	**09 51 42.6**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=254,slow=11,SNR=5.0							
	comp=Z,1.4nm,0.5s							
BOAV	**Boa Vista**	**25.38**	**21**	P		**P**	**09 52 23.9**	**-0.4**
BOAV				IAmb		IAmb	09 52 54.4	
	comp=Z,8.5nm,1.3s							
MDP	**Montagnes des**	**31.25**	**34**	LR		LR	10 07 26.6	
	comp=Z,34nm,19.2s,baz=198,slow=39							
WLAR	**White Oak Lake**	**59.34**	**337**	P		**P**	**09 56 57.9**	**-1.0**
QSPA	**South Pole Qui**	**68.64**	**180**	P		**P**	**09 58 00.5**	**+0.6**
QSPA	**South Pole Qui**	**68.64**	**180**	P		**P**	**09 58 01.2**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=153,slow=2.3,SNR=5.6							
	comp=Z,0.8nm,0.7s							
TORD	**Torodi Ar. Bea**	**77.94**	**71**	P		**P**	**09 58 54.7**	**-0.7**
TORD				IAmb		IAmb	09 59 11.8	
	comp=Z,3.8nm,1.4s							
TORD	**Torodi Ar. Bea**	**77.94**	**71**	P		**P**	**09 58 54.7**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=251,slow=5.8,SNR=4.0							
	comp=Z,0.3nm,0.4s							
H11S2	**WAKE ISLAND Hy**	**27.29**	**277**	T		T	12 25 36.9	
	baz=103,slow=75,SNR=21							
H11S1	**WAKE ISLAND Hy**	**27.30**	**277**	T		T	12 25 36.8	
	baz=103,slow=75,SNR=21							
H11S3	**WAKE ISLAND Hy**	**27.31**	**277**	T		T	12 25 35.0	
	baz=103,slow=75,SNR=21							
H11N3	**WAKE ISLAND Hy**	**27.37**	**279**	T		T	12 25 52.4	
	baz=103,slow=75,SNR=14							
H11N2	**WAKE ISLAND Hy**	**27.39**	**279**	T		T	12 25 54.7	
	baz=103,slow=75,SNR=9.3							
H11N1	**WAKE ISLAND Hy**	**27.39**	**279**	T		T	12 25 55.0	
	baz=103,slow=75,SNR=7.6							
MKAR	**Makanchi Array**	**146.02**	**35**	PKPbc		**PKPdf**	**10 06 36.2**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=301,slow=2.4,SNR=4.3							

*IDC **18** 10:05:50.7±0.6,27.87N×140.48E,h0km,mb3.7/12, mbtmp3.7/14,ML2.8/2,MS3.1/8,Error ellipse: s-maj=27.8km s-min=16.2km az=83.0*

ISC 18 10:05:52.2±0.7,27.9N±0.1×140.6E±0.2,h10km,n26, σ0s98/17,mb3.7/13,MS3.1/7,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**1.65**	**118**	Pn		Pn	10 06 14.8	-6.4
	92nm,0.3s,baz=9.6,slow=17,SNR=42							
JCJ				Sn		Sn	10 06 32.1	-10
	688nm,0.3s,baz=109,slow=22,SNR=20							
MJAR	**Matsushiro Arr**	**8.86**	**348**	Pn		**Pn**	**10 07 58.9**	**-1.4**
	0.1nm,0.3s,baz=158,slow=12,SNR=1.8							
	0.4nm,0.4s							
JOW	**Kunigami**	**10.97**	**267**	LR		LR	10 12 03.7	
	comp=Z,134nm,21.8s,baz=74,slow=34							
KSRS	**Korea Array**	**14.28**	**315**	Pn		**Pn**	**10 09 14.5**	**+0.1**
	0.1nm,0.3s,baz=125,slow=11,SNR=1.7							
KSRS				LR		LR	10 14 37.9	
	comp=Z,22nm,20.1s,baz=135,slow=37							
	0.3nm,0.6s							
DAV	**Davao City (W)**	**25.09**	**217**	LR		LR	10 19 02.6	
	comp=Z,27nm,21.9s,baz=100,slow=32							
CMAR	**Chiang Mai Arr**	**39.23**	**265**	LR		LR	10 29 11.6	
	comp=Z,24nm,21.2s,baz=60,slow=36							
WRA	**Warramunga Arr**	**47.92**	**188**	P		**P**	**10 14 31.6**	**+0.7**
	14nm,0.8s,baz=8.5,slow=8.3,SNR=59							
MKAR	**Makanchi Array**	**48.86**	**309**	P		**P**	**10 14 38.4**	**+0.5**
	0.4nm,0.7s,baz=92,slow=10,SNR=2.9							
	0.4nm,0.7s							
KURBB	**Kurchatov Arra**	**51.46**	**314**	P		**P**	**10 14 56.7**	**-0.8**
	0.4nm,0.7s,baz=90,slow=8.4,SNR=2.6							
	0.4nm,0.7s							
ASAR	**Alice Springs**	**51.65**	**188**	P		**P**	**10 14 59.5**	**+0.3**
	0.9nm,0.7s,baz=1.4,slow=5.4,SNR=17							
	0.9nm,0.7s							
KDAK	**Kodiak Island**	**54.61**	**37**	LR		LR	10 35 15.6	
	comp=Z,17nm,21.8s,baz=217,slow=32							
BVAR	**Borovoye Array**	**56.48**	**317**	P		**P**	**10 15 34.9**	**+0.7**
	0.6nm,0.6s,baz=88,slow=10,SNR=3.4							
	0.6nm,0.6s							
ILAR	**Eielson Array**	**57.73**	**29**	P		**P**	**10 15 43.6**	**+0.8**
	0.7nm,0.9s,baz=237,slow=6.6,SNR=4.5							
	0.7nm,0.9s							
STKA	**Stephens Creek**	**59.43**	**179**	P		**P**	**10 15 53.4**	**-1.6**
	2.9nm,0.9s,baz=32,slow=8.6,SNR=5.9							
	2.9nm,0.9s							
PALK	**Pallekele**	**60.03**	**262**	LR		LR	10 43 12.5	
	comp=Z,34nm,18.1s,baz=36,slow=37							
RAO	**Raoul Island**	**69.33**	**142**	LR		LR	10 42 58.9	
	comp=Z,228nm,19.7s,baz=98,slow=32							
YKA	**Yellowknife Ar**	**72.14**	**28**	P		**P**	**10 17 16.2**	**-0.4**
	0.3nm,0.8s,baz=292,slow=6.4,SNR=4.0							
	0.3nm,0.8s							
FINES	**FINESS Array B**	**76.60**	**333**	P		**P**	**10 17 42.3**	**-0.4**
	3.3nm,1.0s,baz=32,slow=5.0,SNR=5.2							
	3.3nm,1.0s							
NVAR	**Mina Array Bea**	**81.17**	**51**	P		**P**	**10 18 08.8**	**+0.3**
	0.3nm,0.6s,baz=298,slow=7.1,SNR=4.3							
	0.3nm,0.6s							
HFS	**Hagfors**	**82.13**	**336**	P		**P**	**10 18 12.5**	**-0.3**
	2.0nm,0.9s,baz=68,slow=13,SNR=4.3							
	2.0nm,0.9s							
NOA	**NORSAR Array B**	**82.34**	**338**	P		**P**	**10 18 13.7**	**-0.3**
	0.3nm,0.5s,baz=48,slow=4.7,SNR=1.6							
	0.3nm,0.5s							
PDAR	**Pinedale Array**	**84.67**	**44**	P		**P**	**10 18 28.9**	**+2.4**
	0.1nm,0.4s,baz=345,slow=4.6,SNR=4.5							
	0.1nm,0.4s							
PFO	**Pinyon Flats O**	**84.82**	**55**	LR		LR	10 51 11.5	
	comp=Z,20nm,19.2s,baz=200,slow=32							
LPIG	**La Paz**	**94.38**	**60**	LR		LR	10 52 34.2	
	comp=Z,6.5nm,21.8s,baz=262,slow=30							
LPAZ	**La Paz**	**151.10**	**73**	PKPbc		**PKiKP**	**10 25 47.3**	**-0.3**
	0.9nm,0.7s,baz=2.1,slow=6.8,SNR=3.9							
PLCA	**Paso Flores**	**151.44**	**125**	PKPbc		**PKiKP**	**10 25 46.6**	**-0.3**
	3.4nm,1.0s,baz=222,slow=3.2,SNR=6.0							

IDC 18 10:13:48.0±2.6,1.60N×126.90E,h0km,mb3.1/3, mbtmp3.2/3,Error ellipse: s-maj=218.2km s-min=29.1km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.61**	**162**	P		P	10 18 50.0	-0.7
	0.6nm,0.9s,baz=340,slow=11,SNR=1.1							
	0.6nm,0.9s							
ASAR	**Alice Springs**	**26.02**	**165**	P		P	10 19 23.4	+0.4
	0.1nm,0.3s,baz=342,slow=11,SNR=5.4							
	0.1nm,0.3s							
MKAR	**Makanchi Array**	**59.40**	**326**	P		P	10 23 52.4	0.0
	0.1nm,0.4s,baz=121,slow=6.7,SNR=2.1							
	0.1nm,0.4s							

*IDC **18** 10:19:30.4±2.1,30.99N×49.38E,h0km,mb3.7/9, mbtmp3.7/11,ML3.1/2,MS3.3/1,Error ellipse: s-maj=44.5km s-min=22.2km az=30.0*

*TEH **18** 10:19:37.9,31.49N×49.64E,h18km±20km,ML3.4*

ISC 18 10:19:36.8±0.8,31.50N±0.05×49.63E±0.05,h10km,n43, σ1s77/40,mb3.9/9,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AHWZ	**Ahwaz**	**0.86**	**259**	Pg		**Pb**	**10 19 54.8**	**+0.9**
ABEH	**Behbahan**	**1.05**	**149**	Pg		**Pg**	**10 19 57.4**	**+0.5**
JHBN	**Jahan bin**	**1.14**	**50**	Pg		**Pb**	**10 19 58.5**	**-0.3**
ZNGN	**Zangian**	**1.21**	**59**	Pg		**Pn**	**10 20 00.9**	**+0.8**
IBRJ	**Brojen**	**1.45**	**73**	Pg		**Pn**	**10 20 05.0**	**+1.7**
IPIR	**Pirpir**	**1.59**	**42**	Pg		**Pn**	**10 20 07.8**	**+2.5**
KLNJ	**Kolanjah**	**1.75**	**106**	Pg		**Pn**	**10 20 09.1**	**+1.6**
IGAR	**Gharneh**	**2.24**	**66**	Pn		**Pn**	**10 20 16.3**	**+2.2**
IRAM	**Ramesheh**	**2.36**	**82**	Pn		**Pn**	**10 20 18.1**	**+2.2**
IKLH	**Kolahrood**	**2.45**	**42**	Pn		**Pn**	**10 20 19.3**	**+2.2**
IKFM	**Kafar-mosalman**	**2.52**	**324**	Pn		**Pn**	**10 20 19.6**	**+1.9**
KAZ2	**Kazeron-Fars-I**	**2.57**	**137**	Pn		**Pn**	**10 20 19.6**	**+0.9**
IZEF	**Zefreh**	**2.67**	**58**	Pn		**Pn**	**10 20 22.2**	**+2.0**
HSAM	**Samen**	**2.84**	**342**	Pn		**Pn**	**10 20 24.3**	**+1.9**
KRSH	**Karshahi**	**3.24**	**40**	Pn		**Pn**	**10 20 29.5**	**+1.6**
IBZA	**Bozab**	**3.31**	**334**	Pn		**Pn**	**10 20 30.6**	**+1.6**
HAGD	**Aghdareh**	**3.33**	**353**	Pn		**Pn**	**10 20 30.7**	**+1.5**
ISAD	**Sadrabad**	**3.48**	**82**	Pn		**Pn**	**10 20 32.9**	**+1.7**
IQOM	**Qom**	**3.54**	**20**	Pn		**Pn**	**10 20 33.6**	**+1.5**
ISFB	**Sefidab**	**3.59**	**37**	Pn		**Pn**	**10 20 33.5**	**+0.9**
ANAR	**Anarak**	**3.85**	**63**	Pn		**Pn**	**10 20 38.4**	**+2.1**
IRAZ	**Razeghan**	**3.90**	**4**	Pn		**Pn**	**10 20 39.1**	**+2.2**
IVRN	**Varamin**	**3.90**	**26**	Pn		**Pn**	**10 20 39.1**	**+2.3**
ILIN	**Lien**	**4.08**	**327**	Pn		**Pn**	**10 20 40.9**	**+1.4**
IDMV	**Damavand**	**4.53**	**26**	Pn		**Pn**	**10 20 47.8**	**+2.0**
ILAS	**Lasjerd**	**4.76**	**35**	Pn		**Pn**	**10 20 50.8**	**+1.9**
KLST	**Kelardasht - M**	**5.14**	**13**	Pn		**Pn**	**10 20 56.5**	**+2.4**
TPRV	**Parvadeh(Tabas**	**6.17**	**74**	Pn		**Pn**	**10 21 09.6**	**+1.6**
TKDS	**Koohdasht(Taba**	**6.66**	**70**	Pn		**Pn**	**10 21 16.4**	**+1.5**
IKOO	**Kooshah**	**8.02**	**81**	Pn		**Pn**	**10 21 35.4**	**+1.8**
SBZV	**Sabzevar**	**8.22**	**52**	Pn		**Pn**	**10 21 38.4**	**+2.0**
GEYT	**Alibeck**	**9.48**	**45**	Pn		**Pn**	**10 21 56.2**	**+2.8**
	0.5nm,0.3s,baz=232,slow=9.3,SNR=7.9							
	7.3nm,0.8s							
WSAR	**Wadi Sarin**	**11.47**	**134**	Pn		Pn	10 22 11.6	-9.2
	0.1nm,0.3s,baz=274,slow=16,SNR=1.0							
	1.0nm,0.7s							
AKASG	**Malin Array Be**	**24.44**	**328**	P		**P**	**10 24 53.8**	**-1.8**
	0.2nm,0.4s,baz=132,slow=9.0,SNR=4.3							
	0.2nm,0.4s							
BVAR	**Borovoye Array**	**26.25**	**29**	P		**P**	**10 25 12.0**	**+0.1**
	0.4nm,0.5s,baz=243,slow=6.3,SNR=2.7							
	0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**28.69**	**40**	P		**P**	**10 25 33.3**	**-0.6**
	0.4nm,0.8s,baz=345,slow=20,SNR=4.0							
	0.4nm,0.8s							
MKAR	**Makanchi Array**	**29.32**	**49**	P		**P**	**10 25 39.6**	**+0.1**
	0.2nm,0.3s,baz=247,slow=7.3,SNR=6.4							
	0.2nm,0.3s							
FINES	**FINESS Array B**	**33.67**	**340**	P		**P**	**10 26 15.9**	**-1.6**
	0.8nm,0.4s,baz=147,slow=9.4,SNR=14							
	0.8nm,0.4s							
ZALV	**Zalesovo Beam**	**33.69**	**38**	P		**P**	**10 26 16.4**	**-1.5**
	0.6nm,0.4s,baz=248,slow=7.8,SNR=3.6							
	0.6nm,0.4s							
MBAR	**Mbarara**	**36.61**	**213**	LR		LR	10 42 32.6	
	comp=Z,43nm,18.1s,baz=299,slow=38							
HFS	**Hagfors**	**37.22**	**331**	P		**P**	**10 26 46.7**	**-1.4**
	1.5nm,0.7s,baz=98,slow=10,SNR=1.6							
	1.5nm,0.7s							
ARCES	**ARCESS Array B**	**40.45**	**347**	P		**P**	**10 27 13.6**	**-1.6**
	3.1nm,0.9s,baz=132,slow=1.8,SNR=4.0							
	3.1nm,0.9s							
CMAR	**Chiang Mai Arr**	**46.19**	**94**	P		P	10 27 59.3	-2.9
	0.7nm,0.5s,baz=304,slow=8.4,SNR=4.1							
	0.7nm,0.5s							

*NEIC **18** 10:23:41.5±1.5,56.03N±0.07×149.76W±0.1,h22km±7km, ML3.8/50,ML3.5(AEIC),Error ellipse: s-maj=11.1km s-min=7.7km az=145.0*

*AEIC **18** 10:23:43.9±1.8,55.97N±0.07×149.47W±0.10,h12km±7km, Error ellipse: s-maj=10.2km s-min=7.4km az=208.0*

ISC 18 10:23:39.5±1.4,56.00N±0.08×149.61W±0.06,h10km, n248,σ0s78/247,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OHAK	**Old Harbor**	**2.37**	**303**			**Pn**	**10 24 18.6**	**+0.2**
OHAK	**Old Harbor**	**2.37**	**303**			**Sn**	**10 24 46.0**	**-1.6**
OHAK	**Old Harbor**	**2.37**	**303**	P		**Pn**	**10 24 18.8**	**+0.4**
OHAK	**Old Harbor**	**2.37**	**303**	P		**Pn**	**10 24 18.8**	**+0.4**
	baz=120							
OHAK				S		**Sn**	**10 24 46.0**	**-1.6**
	baz=120							
KDAK	**Kodiak Island**	**2.42**	**319**			**Pn**	**10 24 19.1**	**+0.1**
KDAK	**Kodiak Island**	**2.42**	**319**			**Sn**	**10 24 47.1**	**-1.6**
KDAK	**Kodiak Island**	**2.42**	**319**	S		**Sn**	**10 24 47.1**	**-1.6**
	baz=136							
SII	**Sitkinak Islan**	**2.61**	**284**			**Pn**	**10 24 22.0**	**+0.3**
SII				IAML			10 24 52.7	
	comp=E,209nm,0.7s							
SII	**Sitkinak Islan**	**2.61**	**284**	P		**Pn**	**10 24 22.5**	**+0.8**
SII	**Sitkinak Islan**	**2.61**	**284**	P		**Pn**	**10 24 22.3**	**+0.6**
	baz=101							
SII				S		**Sn**	**10 24 52.4**	**-1.1**
	baz=101							
SYI	**Shuyak Island**	**3.02**	**331**	Pn		**Pn**	**10 24 27.6**	**+0.3**
SYI	**Shuyak Island**	**3.02**	**331**			**Sn**	**10 25 02.6**	**-0.9**
Q20K	**Shuyak Island**	**3.02**	**331**	P		**Pn**	**10 24 27.7**	**+0.4**
	baz=149							
Q20K				S		**Sn**	**10 25 03.0**	**-0.5**
	baz=149							
CHIR	**Chirikof Islan**	**3.39**	**269**	Pn		**Pn**	**10 24 32.7**	**+0.3**
CHIR				IAML			10 25 10.9	
	comp=N,127nm,0.4s							
CHIR				IAML			10 25 11.4	
	comp=E,129nm,0.4s							
CHIR	**Chirikof Islan**	**3.39**	**269**			**Sn**	**10 25 09.9**	**-2.7**
CHIR	**Chirikof Islan**	**3.39**	**269**	P		**Pn**	**10 24 32.9**	**+0.5**
	baz=85							
CHIR				S		**Sn**	**10 25 10.4**	**-2.2**
	baz=85							
CNPM	**China Poot**	**3.64**	**347**	Pn		**Pn**	**10 24 35.7**	**-0.2**
CNPM				IAML			10 25 19.3	
	comp=N,99nm,0.3s							
CNPM				IAML			10 25 20.1	
	comp=E,95nm,0.5s							
CNPM	**China Poot**	**3.64**	**347**			**Sn**	**10 25 17.2**	**-1.6**
Q19K	**Cape Douglas,**	**3.66**	**325**			**Pn**	**10 24 37.2**	**+1.1**
Q19K						**Sn**	**10 25 19.2**	**0.0**
Q19K	**Cape Douglas,**	**3.66**	**325**	IAML			10 25 27.1	
	comp=N,208nm,0.7s							
Q19K				IAML			10 25 27.1	
	comp=E,209nm,1.1s							
Q19K	**Cape Douglas,**	**3.66**	**325**	P		**Pn**	**10 24 37.2**	**+1.1**
	baz=142							
Q19K				S		**Sn**	**10 25 19.2**	**0.0**
	baz=142							
KAKN	**Katmai Knife C**	**3.76**	**310**			**Pn**	**10 24 38.8**	**+1.3**
BRSE	**Bradley Lake S**	**3.80**	**351**			**Pn**	**10 24 37.4**	**-0.6**
BRSE	**Bradley Lake S**	**3.80**	**351**	P		**Pn**	**10 24 37.5**	**-0.6**
	baz=170							
ACHA	**Angle Creek He**	**3.82**	**308**			**Pn**	**10 24 39.7**	**+1.2**
HOM	**Homer**	**3.83**	**344**			**Pn**	**10 24 36.8**	**-1.6**
HOM				IAML			10 25 24.4	
	comp=N,199nm,0.5s							
HOM				IAML			10 25 24.9	
	comp=E,194nm,0.4s							
BRLK	**Bradley Lake**	**3.83**	**350**			**Pn**	**10 24 38.0**	**-0.6**
BRLK				IAML			10 25 23.2	
	comp=E,139nm,0.2s							
BRLK				IAML			10 25 23.3	
	comp=N,92nm,0.2s							
Q23K	**Middleton Isla**	**3.86**	**26**			**Pn**	**10 24 38.0**	**-0.8**
Q23K	**Middleton Isla**	**3.86**	**26**	IAML			10 25 25.5	
	comp=E,81nm,1.2s							
Q23K				IAML			10 25 58.9	
	comp=N,76nm,1.1s							
Q23K	**Middleton Isla**	**3.86**	**26**	P		**Pn**	**10 24 38.2**	**-0.6**
	baz=208							
MID	**Middleton Isla**	**3.86**	**26**			**Pn**	**10 24 38.0**	**-0.8**
MID	**Middleton Isla**	**3.86**	**26**	IAML			10 25 21.9	
	comp=E,78nm,0.3s							
MID	**Middleton Isla**	**3.86**	**26**	P		**Pn**	**10 24 38.3**	**-0.5**
ANCK	**Angle Creek**	**3.89**	**307**			**Pn**	**10 24 40.9**	**+1.6**
AU22	**Augustine Moun**	**3.93**	**331**			**Pn**	**10 24 40.8**	**+1.0**
AUCH	**Augustine Cone**	**3.95**	**330**			**Pn**	**10 24 41.0**	**+0.9**
KAHC	**Katmai Hardscr**	**3.95**	**314**			**Pn**	**10 24 41.4**	**+1.2**
KAHC	**Katmai Hardscr**	**3.95**	**314**	P		**Pn**	**10 24 41.8**	**+1.6**
	baz=130							
AUL	**Augustine Lava**	**3.96**	**330**			**Pn**	**10 24 41.2**	**+0.9**
CNTC	**Contact Creek**	**4.10**	**306**			**Pn**	**10 24 43.5**	**+1.2**
Q17K	**Contact Creek**	**4.10**	**306**	P		**Pn**	**10 24 43.5**	**+1.2**
	baz=121							
SEW	**Seward**	**4.12**	**1**			**Pn**	**10 24 41.2**	**-1.1**
SEW	**Seward**	**4.12**	**1**	P		**Pn**	**10 24 41.5**	**-

SUA	Susitna One	5.51	354	Pn		Pn	10 25 01.2	-0.4
SUA	Susitna One baz=173	5.51	354	P		Pn	10 25 00.9	-0.7
SNH	Sunshine Point	5.52	38	Pn		Pn	10 25 01.7	0.0
DIV	Divide	5.52	20			Pn	10 25 01.6	-0.1
KHIT	Khitrov Hills	5.58	34			Pn	10 25 02.3	-0.3
PMR	Palmer	5.61	2			Pn	10 25 03.7	+0.8
PMR	Palmer	5.61	2	P		Pn	10 25 03.4	+0.5
SPNN	North Nagishla	5.62	345			Pn	10 25 02.9	-0.2
BMRM	Bremner River	5.63	26			Pn	10 25 03.2	+0.1
BMRM	Bremner River baz=210	5.63	26	P		Pn	10 25 03.2	+0.1
STLK	Strandline Lak	5.63	349			Pn	10 25 02.9	-0.4
WAX	Waxell Ridge	5.71	36			Pn	10 25 04.0	-0.3
N18K	Kilae Creek	5.74	327	Pn		Pn	10 25 04.4	-0.3
N18K	Kilae Creek baz=142	5.74	327	P		Pn	10 25 04.7	0.0
O16K	Kokwok River B	5.79	312	Pn		Pn	10 25 05.8	+0.5
O16K	Kokwok River B baz=125	5.79	312	P		Pn	10 25 06.4	+1.1
BARK	Barkley Ridge	5.80	38			Pn	10 25 05.6	0.0
GHO	Glory Hole Cre	5.80	3			Pn	10 25 05.5	-0.1
CNBA	Chernabura Isl	5.81	262	Pn		Pn	10 25 05.6	+0.1
KLU	Klutina	5.83	18	Pn		Pn	10 25 06.4	+0.4
KLU	Klutina baz=201	5.83	18	P		Pn	10 25 06.1	+0.1
MESA	MESA	5.83	41			Pn	10 25 06.0	-0.2
MESA	MESA baz=227	5.83	41	P		Pn	10 25 06.5	+0.4
SML	Sawmill	5.86	6			Pn	10 25 06.2	-0.2
SML	Sawmill baz=187	5.86	6	P		Pn	10 25 06.7	+0.3
SCM	Sheep Creek Mo	5.97	10	Pn		Pn	10 25 08.6	+0.7
SCM	Sheep Creek Mo baz=192	5.97	10	P		Pn	10 25 08.5	+0.7
SVW2	Sparrevohn	5.99	331	Pn		Pn	10 25 08.0	-0.1
SVW2	Sparrevohn	5.99	331	P		Pn	10 25 07.9	-0.2
ISLE	Juniper Island	6.00	37			Pn	10 25 08.4	+0.1
BAGL	Bagley Icefiel	6.00	38			Pn	10 25 08.2	0.0
N17K	Nushagak Hills	6.05	322	Pn		Pn	10 25 08.0	-0.8
SKT	Skwentna	6.08	351			Pn	10 25 09.0	-0.3
VRDI	Verde Repeater	6.15	29			Pn	10 25 10.4	-0.1
M20K	Styx River	6.17	344			Pn	10 25 10.1	-0.6
SDPT	Sand Point	6.18	268	Pn		Pn	10 25 11.7	+1.0
SDPT	Sand Point	6.18	268	P		Pn	10 25 11.7	+1.0
N25K	Chitina, Valde	6.19	23			Pn	10 25 11.3	+0.4
N25K	Chitina, Valde baz=207	6.19	23	P		Pn	10 25 11.5	+0.6
KIAG	Kiagna River	6.23	35			Pn	10 25 11.2	-0.3
GLB	Gilahina Butte	6.24	27			Pn	10 25 11.3	-0.2
SAMH	Samovar Hills	6.25	45			Pn	10 25 12.1	+0.3
TABL	Table Mountain	6.31	42			Pn	10 25 12.9	+0.3
O15K	Ungalikthiuk R	6.35	304			Pn	10 25 14.3	+1.3
O15K	Ungalikthiuk R baz=116	6.35	304	P		Pn	10 25 14.3	+1.3
M24K	Tolsona, Glenn	6.38	15			Pn	10 25 14.1	+0.7
M24K	Tolsona, Glenn baz=198	6.38	15	P		Pn	10 25 14.1	+0.7
M18K	Stony River	6.38	332			Pn	10 25 13.2	-0.3
M18K	Stony River baz=147	6.38	332	P		Pn	10 25 13.2	-0.3
MCARA	McCarthy VSAT	6.39	30			Pn	10 25 14.2	+0.6
MCARA	McCarthy VSAT baz=215	6.39	30	P		Pn	10 25 14.2	+0.6
PTPK	Patty Peak	6.40	33			Pn	10 25 14.1	+0.2
M19K	Big River Lodg	6.42	339			Pn	10 25 13.6	-0.3
BARN	Barnard Glacie	6.56	36			Pn	10 25 16.3	+0.3
PNL	Peninsula	6.58	52			Pn	10 25 16.2	0.0
PNL	Peninsula baz=240	6.58	52	P		Pn	10 25 16.5	+0.3
N16K	Nishlik Lake	6.59	317			Pn	10 25 17.2	+0.8
N16K	Nishlik Lake baz=129	6.59	317	P		Pn	10 25 17.2	+0.8
WACK	Wrangell Chich	6.59	22			Pn	10 25 17.2	+0.7
CTG	Chitna Glacier baz=224	6.60	38	P		Pn	10 25 16.5	0.0
CTGM	Chitina Glacie	6.60	38			Pn	10 25 16.1	-0.5
LOGN	Logan Glacier	6.62	40			Pn	10 25 16.9	+0.1
BCPM	Bancas Point	6.62	49			Pn	10 25 17.1	+0.4
WAT6	Susitna Watana	6.67	7			Pn	10 25 17.8	+0.3
WAT6	Susitna Watana baz=189	6.67	7	P		Pn	10 25 17.8	+0.3
L19K	White Mountain	6.76	339	Pn		Pn	10 25 18.0	-0.7
M17K	Holitna River	6.78	326			Pn	10 25 19.0	+0.2
M17K	Holitna River baz=140	6.78	326	P		Pn	10 25 19.3	+0.4
HARP	HAARP	6.81	18			Pn	10 25 20.3	+0.9
HARP	HAARP baz=201	6.81	18	P		Pn	10 25 20.3	+0.9
WAT7	Susitna Watana	6.87	3			Pn	10 25 20.5	+0.3
WAT1	Susitna Watana	6.87	4			Pn	10 25 21.0	+0.8
WAT1	Susitna Watana baz=185	6.87	4	P		Pn	10 25 21.0	+0.8
PS1A	Pavlof South-1	6.88	270			Pn	10 25 21.1	+0.8
PVV	Pavlof Volcano	6.92	270			Pn	10 25 21.6	+0.8
N15K	Kwethluk River	6.95	311			Pn	10 25 22.8	+1.5
M16K	Timber Creek	7.02	320	Pn		Pn	10 25 23.1	+0.9
PN7A	Pavlof North-7	7.02	270			Pn	10 25 23.3	+1.0
DHY	Denali Highway	7.19	8			Pn	10 25 26.2	+1.5
L18K	Granite Mounta	7.22	333	Pn		Pn	10 25 24.6	-0.3
O29M	Mount Kennedy	7.25	49			Pn	10 25 25.4	-0.1
O29M	Mount Kennedy baz=238	7.25	49	P		Pn	10 25 25.9	+0.4
M26K	Nabesna, AK	7.26	25	Pn		Pn	10 25 26.0	+0.5
M26K	Nabesna, AK baz=211	7.26	25	P		Pn	10 25 25.8	+0.3
P29M	Windy Craggy	7.31	55			Pn	10 25 26.0	-0.2
P29M	Windy Craggy baz=245	7.31	55	P		Pn	10 25 26.0	-0.2
RND	Reindeer	7.44	3			Pn	10 25 28.5	+0.5
TRF	Thorofare Moun	7.48	358	Pn		Pn	10 25 28.9	+0.2
M27K	Edge Creek, AK	7.51	29			Pn	10 25 30.1	+1.1
N14K	Kuskokwak Cree	7.53	306			Pn	10 25 30.7	+1.5
CAST	Castle Rocks	7.55	351	Pn		Pn	10 25 30.9	+1.4
CAST	Castle Rocks baz=169	7.55	351	P		Pn	10 25 30.2	+0.8
S31K	Pelican	7.57	69			Pn	10 25 27.1	-2.6
MENT	Mentasta	7.57	21	Pn		Pn	10 25 30.5	+0.7
L17K	Donlin	7.60	328			Pn	10 25 30.8	+0.6
L17K	Donlin baz=140	7.60	328	P		Pn	10 25 31.0	+0.8
KTH	Kantishna Hill	7.61	356			Pn	10 25 31.2	+0.9
L16K	Owhat River	7.67	322	Pn		Pn	10 25 31.2	+0.1
TTA	Tatalina	7.67	338	Pn		Pn	10 25 28.8	-2.4
K20K	Telida	7.71	345	Pn		Pn	10 25 31.1	-0.7
L26K	Log Cabin Wild	7.73	22	Pn		Pn	10 25 32.6	+0.7
BVCY	Beaver Creek	7.84	31			Pn	10 25 34.1	+0.7
BVCY	Beaver Creek baz=219	7.84	31	P		Pn	10 25 34.1	+0.7
FALS	False Pass	7.94	267			Pn	10 25 36.0	+1.2
FALS	False Pass baz=76	7.94	267	P		Pn	10 25 36.0	+1.2
HYT	Haines Junctio	7.98	48			Pn	10 25 36.3	+0.8
K17K	Iditarod	8.06	330	Pn		Pn	10 25 36.6	+0.1
L27K	Beaver Creek,	8.11	26	Pn		Pn	10 25 37.2	+0.1
BCAR	Beaver Creek A	8.12	26	Pn		Pn	10 25 37.8	+0.5
RIDG	Independent Ri	8.12	15			Pn	10 25 38.4	+1.1
ISLZ	Isanotski Laza	8.14	267			Pn	10 25 38.3	+0.7
ISNN	Isanotski Nort	8.15	268			Pn	10 25 39.1	+1.4
BPAW	Bear Paw Mtn.	8.15	356	Pn		Pn	10 25 37.3	-0.5
BPAW	Bear Paw Mtn. baz=174	8.15	356	P		Pn	10 25 36.9	-0.9
SKAG	Skagway	8.39	60	Pn		Pn	10 25 41.4	+0.4
S32K	Killisnoo	8.40	74			Pn	10 25 38.9	-2.1
BESE	Bessie Mountai	8.40	66			Pn	10 25 40.1	-1.0
N30M	Aishikik Lake	8.50	45			Pn	10 25 42.7	+0.2
N30M	Aishikik Lake baz=235	8.50	45	P		Pn	10 25 42.9	+0.3
J20K	Nowinta River	8.51	346	Pn		Pn	10 25 41.5	-1.1
WRH	Wood River Hil	8.53	4	Pn		Pn	10 25 41.8	-1.1
O30N	Mendenhall	8.55	50			Pn	10 25 43.5	+0.2
O30N	Mendenhall baz=242	8.55	50	P		Pn	10 25 43.5	+0.2
JIS	Juneau Island	8.59	68			Pn	10 25 42.7	-1.0
M29M	Somme Creek	8.62	37			Pn	10 25 44.7	+0.5
M29M	Somme Creek baz=226	8.62	37	P		Pn	10 25 44.7	+0.5
L14K	Kuka Creek	8.65	314	Pn		Pn	10 25 46.1	+1.6
CCB	Clear Creek Bu	8.72	5	Pn		Pn	10 25 47.2	+1.7
K15K	Wolf Creek Mou	8.78	321	Pn		Pn	10 25 47.5	+1.2
WECS	Westdahl Cape	8.79	267			Pn	10 25 47.9	+1.4
MDM	Murphy Dome	9.01	4	Pn		Pn	10 25 50.1	+0.6
J26L	Joseph Creek	9.04	17			Pn	10 25 50.9	+0.9
WHY	Whitehorse	9.04	53			Pn	10 25 50.4	+0.4
WHY	Whitehorse baz=245	9.04	53	P		Pn	10 25 50.4	+0.4
MLY	Manley	9.08	357	Pn		Pn	10 25 51.0	+0.5
J16K	Anvik River	9.17	327	Pn		Pn	10 25 52.3	+0.6
I23K	Minto, Yukon-K	9.18	1	Pn		Pn	10 25 51.8	0.0
L29M	L29M	9.19	35			Pn	10 25 53.3	+1.2
P32M	Atlin	9.21	60	Pn		Pn	10 25 52.0	-0.3
I21K	Tanana	9.28	354	Pn		Pn	10 25 53.6	+0.4
M30M	Minto, Yukon	9.29	40	Pn		Pn	10 25 53.2	-0.1
DAWY	Dawson	9.56	28	Pn		Pn	10 25 57.3	+0.3
EGAK	Eagle	9.74	22	Pn		Pn	10 26 00.4	+1.0
Q32M	Nakina River	9.79	65	Pn		Pn	10 26 00.3	-0.1
H21K	Melozitna Rive	9.81	352	Pn		Pn	10 26 00.4	0.0
P33M	Teslin, Yukon	9.83	58	Pn		Pn	10 26 00.7	-0.1
H24K	Noodor Dome	9.91	4			Pn	10 26 01.5	-0.3
K29M	Barlow Dome	9.92	33			Pn	10 26 03.2	+1.2
J29N	Klondike Camp	10.18	29	Pn		Pn	10 26 06.9	+1.4
IMAR	Indian Mountai	10.21	350	Pn		Pn	10 26 05.5	-0.4
J30M	Hart River	10.81	32	Pn		Pn	10 26 15.2	+1.0
DLBC	Dease Lake	10.89	69	Pn		Pn	10 26 14.8	-0.5

IDC 18 10:32:44.7±1.4, 6°15S×142°38E, h0km, mb3.9/2, mbtmp3.7/5, ML3.3/2, MS2.3/1, Error ellipse: s-maj=44.2km s-min=30.8km az=96.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	5.34	128	Pn	Pn	10 34 06.5	+0.8
	4.8nm,0.6s,baz=304,slow=16,SNR=1.4						
PMG				Sn	Sn	10 35 06.0	-1.9
	1.1nm,0.3s,baz=217,slow=15,SNR=2.0						
WRA	Warramunga Arr	16.03	210	Pn	Pn	10 36 29.5	-2.2
	0.1nm,0.3s,baz=32,slow=13,SNR=3.0						
WRA				Sn	Sn	10 39 16.8	-14
	0.1nm,0.3s,baz=22,slow=26,SNR=2.0						
	0.6nm,0.7s						
ASAR	Alice Springs	19.44	205	P	P	10 37 13.3	+0.3
	0.3nm,0.3s,baz=35,slow=10,SNR=22						
	1.8nm,0.7s						
GUMO	Guam	19.70	6	LR	LR	10 44 55.8	
	comp=Z,9.4nm,19.6s,baz=81,slow=37						
BVAR	Borovoye Array	84.49	325	P	P	10 45 20.2	+0.8
	1.1nm,0.7s,baz=96,slow=5.8,SNR=5.9						
	1.1nm,0.7s						
ILAR	Eielson Array	87.25	24	P	P	10 45 32.0	-0.9
	0.4nm,0.8s,baz=242,slow=6.2,SNR=4.8						
	0.4nm,0.8s						

IDC 18 10:34:29.3±2.5, 7°90S×120°08E, h0km, mb3.3/2, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=268.3km s-min=27.7km az=53.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	18.29	132	P	Pn	10 38 44.1	-0.6
	0.1nm,0.3s,baz=311,slow=11,SNR=2.1						
	0.6nm,0.7s						
ASAR	Alice Springs	20.54	141	P	P	10 39 09.8	+0.2
	0.5nm,0.7s,baz=316,slow=11,SNR=6.0						
	0.5nm,0.7s						
MKAR	Makanchi Array	63.98	332	P	P	10 45 04.5	0.0
	0.4nm,0.5s,baz=135,slow=8.1,SNR=7.0						
	0.4nm,0.5s						

*IDC **18** 10:50:07.1±1.0, 28°.02N×140°.03E, h390km±11km, mb3.1/13, mbtmp3.9/17, Error ellipse: s-maj=21.6km s-min=11.2km az=77.0*
*JMA **18** 10:50:09.0±0.2, 28°№2'×14°1E±', h419km, MV3.4/23, W OFF OGASAWARA*

ISC 18 10:50:07.6±0.7, 28°.04N±0°.07×140°.3E±0°.1, h400km, n27, σ1°70/33, mb3.4/13, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	Chichi jima	1.96	118	eP	Pn	10 51 06.0	+2.7
CBIJ				eS	S	10 51 50.4	+2.1
JCJ	Chichijima	1.96	118	P	Pn	10 51 01.7	-1.7
	84nm,0.6s,baz=278,slow=23,SNR=9.9						
JCJ				S	S	10 51 46.4	-1.9
	137nm,0.4s,baz=268,slow=23,SNR=17						
JHJ2	Mitsuno	5.07	356	P	Pn	10 51 32.2	+1.9
JHJ	Hachijo jima 2	5.08	356	P	Pn	10 51 31.1	+0.8
	34nm,0.2s,baz=253,slow=18,SNR=11						
JHJ				S	S	10 52 36.0	-1.7
	53nm,0.8s,baz=239,slow=19,SNR=1.2						
BSO1	Boso 1	6.63	5	eP	P	10 51 48.6	+1.6
BSO1				eS	S	10 53 07.8	+0.5
BSO3	Boso 3	6.75	2	eP	P	10 51 50.0	+1.3
BSO3				eS	S	10 53 09.5	-0.7
JIE	Ise	7.02	335	eP	P	10 51 54.1	+2.1
JKN2	Miekihoku	7.06	332	eP	P	10 51 54.6	+2.2
HMMJ	Hamamatsu 2	7.13	343	eP	P	10 51 54.4	+1.1
JYT	Yasato	8.17	360	eS	S	10 53 35.5	-4.5
JHO	Hitachi	8.56	2	eP	P	10 52 10.2	+1.2
JHO				eS	S	10 53 45.4	-2.9
MJAR	Matsushiro Arr	8.66	349	P	Pn	10 52 09.0	-0.9
	0.8nm,0.5s,baz=164,slow=11,SNR=3.3						
USRK	Ussuriysk Ar.	17.44	340	P	P	10 53 46.7	+0.8
	1.6nm,0.5s,baz=156,slow=8.8,SNR=5.5						
SONM	Songino Array	32.85	316	P	P	10 56 05.8	-0.1
	0.2nm,0.4s,baz=122,slow=8.7,SNR=2.9						
	0.2nm,0.4s						
ZALV	Zalesovo Beam	47.65	319	P	P	10 58 03.1	-2.2
	0.3nm,0.3s,baz=98,slow=10,SNR=2.0						
	0.3nm,0.3s						
WRA	Warramunga Arr	48.04	187	P	P	10 58 08.7	+0.1
	0.5nm,0.4s,baz=2.3,slow=8.1,SNR=12						
	0.5nm,0.4s						
MKAR	Makanchi Array	48.55	309	PcP	PcP	10 59 29.5	-1.4
	0.3nm,0.7s,baz=72,slow=4.7,SNR=3.1						
KURBB	Kurchatov Arra	51.15	314	P	P	10 58 31.0	-0.5
	0.5nm,0.6s,baz=93,slow=7.5,SNR=5.9						
	0.5nm,0.6s						
ASAR	Alice Springs	51.76	187	P	P	10 58 36.5	+0.3
	0.3nm,0.5s,baz=357,slow=4.8,SNR=9.7						
	0.3nm,0.5s						
BVAR	Borovoye Array	56.19	317	P	P	10 59 07.4	-0.1
	2.0nm,0.5s,baz=89,slow=7.3,SNR=15						
	2.0nm,0.5s						
ARCES	ARCESS Array B	72.09	340	P	P	11 00 49.1	-0.1
	2.5nm,0.8s,baz=64,slow=4.2,SNR=4.8						
	2.5nm,0.8s						
YKA	Yellowknife Ar	72.13	28	P	P	11 00 50.3	+0.7
	1.1nm,1.0s,baz=297,slow=5.8,SNR=7.9						
	1.1nm,1.0s						
KBZ	Khabaz	76.11	312	P	P	11 01 12.7	0.0
	1.7nm,0.7s,baz=83,slow=4.1,SNR=4.5						
	1.7nm,0.7s						
FINES	FINESS Array B	76.34	333	P	P	11 01 13.2	-0.3
	0.9nm,0.4s,baz=74,slow=5.6,SNR=13						
	0.9nm,0.4s						
NVAR	Mina Array Bea	81.28	51	P	P	11 01 43.2	+2.3
	0.2nm,0.3s,baz=170,slow=22,SNR=17						
	0.2nm,0.3s						
HFS	Hagfors	81.88	336	P	P	11 01 42.3	-0.9
	1.1nm,0.6s,baz=269,slow=5.9,SNR=5.9						
	1.1nm,0.6s						
NOA	NORSAR Array B	82.10	338	P	P	11 01 43.9	-0.5
	0.4nm,0.5s,baz=49,slow=4.8,SNR=1.2						
	0.4nm,0.5s						

*NORS **18** 10:51:27.3, 42°.86N×45°.73E, h49km, MPVA4.1*
*DRS **18** 10:51:28.9, 43°.03N×45°.31E, h28km*

MOS 18 10:51:26.4, 42°.93N×45°.73E, h78km±2km, MPVA4.0, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GROC	Groznyy	0.28	10	i Pg	Pn	10 51 40.1	+1.7
GROC				eSg	Sn	10 51 50.0	+2.7
DVE	Vedeno	0.29	84	i Pg	Pn	10 51 39.3	+0.8
DVE				eSg	Sn	10 51 48.3	+0.8
KMGR	Komgaron	0.65	282	ePg	Pn	10 51 43.2	+1.7
KMGR				eSg	Sn	10 51 55.5	+2.9
DLMR	Dylym	0.68	77	ePg	Pn	10 51 42.5	+0.8
DLMR				eSg	Sn	10 51 55.0	+2.0
VLKR	Vladikavkaz	0.78	279	ePg	Pn	10 51 44.8	+1.9
VLKR				ePg		10 51 45.0	
VLKR				eSg	Sn	10 51 57.5	+2.4
VLKR				eSg		10 51 57.8	
UNCR	Uncukul	0.81	105	ePg	Pn	10 51 44.5	+1.3
UNCR				eSg	Sn	10 51 57.2	+1.5
DBC	Dubki	0.81	83	ePg	Pn	10 51 44.6	+1.3
DBC				eSg	Sn	10 51 57.5	+1.7
XNZR	Khunzakh	0.81	118	ePg	Pn	10 51 44.6	+1.2
XNZR				i Pg		10 51 44.7	
XNZR				eSg	Sn	10 51 57.1	+1.1
XNZR				eSg		10 51 57.4	
KRNR	Karanay	0.87	96	ePg	Pn	10 51 45.1	+1.2
KRNR				eSg	Sn	10 51 58.3	+1.3
BTKR	Batakoyurt	0.98	298	ePg	Pn	10 51 47.3	+2.2
BTKR				eSg	Sn	10 52 01.8	+2.8
ARKR	Arakani	0.98	109	ePg	Pn	10 51 46.7	+1.5
ARKR				eSg	Sn	10 52 01.9	+2.7
BUJR	Buynaksk	1.02	95	ePg	Pn	10 51 47.4	+1.8
BUJR				eSg	Sn	10 52 02.7	+2.8
GUDG	Gudauri	1.03	244	ePg	Pn	10 51 48.6	+2.7
GUDG				eSg	Sn	10 52 01.9	+1.3
GNBR	Gunib	1.06	120	ePg	Pn	10 51 47.7	+1.6
GNBR				eSg	Sn	10 52 03.2	+2.4
LACR	Lac	1.06	265	ePg	Pn	10 51 46.7	+0.5
LACR				eSg	Sn	10 52 01.1	+0.1
TRKR	Terskaya	1.08	318	i Pg	Pn	10 51 48.4	+2.1
TRKR				eSg	Sn	10 52 05.2	+4.0
ARNR	Ardon	1.09	284	ePg	Pn	10 51 48.2	+1.8
ARNR				eSg	Sn	10 52 04.1	+2.7
KORR	Kora	1.23	278	i Pg	Pn	10 51 49.7	+1.4
KORR				eSg	Sn	10 52 07.0	+2.4
KMKR	Kumukh	1.29	128	ePg	Pn	10 51 51.0	+1.9
KMKR				eSg	Sn	10 52 09.0	+2.8
STDR	Stavd-Durt	1.30	291	ePg	Pn	10 51 50.9	+1.9
STDR				eSg	Sn	10 52 09.4	+3.3
MAK	Makhachkala	1.30	88	ePg	Pn	10 51 52.0	+3.0
MAK				eSg	Sn	10 52 07.7	+1.5
PRTR	Priterechnaya	1.34	309	ePg	Pn	10 51 51.7	+2.1
PRTR				eSg	Sn	10 52 09.6	+2.6
LSNR	Lesken	1.44	285	ePg	Pn	10 51 52.5	+1.6
LSNR				eSg	Sn	10 52 11.3	+2.0
SGKR	Sergokala	1.50	107	ePg	Pn	10 51 54.1	+2.5
SGKR				eSg	Sn	10 52 14.2	+3.6
DIGR	Digorskoe uzhe	1.58	270	ePg	Pn	10 51 53.3	+0.4
DIGR				eSg	Sn	10 52 12.2	-0.6
ONI	Oni	1.71	259	ePg	Pn	10 51 57.2	+2.8
ONI				eSg	Sn	10 52 18.1	+2.4
KBTC	Kuba-Taba	1.91	299	ePg	Pn	10 51 58.5	+1.4
KBTC				eSg	Sn	10 52 21.8	+1.3
AKT	Akhty	2.07	134	ePg	Pn	10 52 00.8	+1.5
AKT				eSg	Sn	10 52 25.1	+0.7
KBZ	Khabaz	2.22	292	ePg	Pn	10 52 01.8	+0.7
KBZ				eSg	Sn	10 52 26.9	-0.8
PYA1	Pyatigorsk	2.23	302	ePg	Pn	10 52 02.1	+0.8
PYA1				eSg	Sn	10 52 27.7	-0.3
NEUR	Neytrino	2.24	280	ePg	Pn	10 52 02.8	+1.1
NEUR				eSg	Sn	10 52 28.4	-0.2
BEYR	Belyy Ugol+	2.38	298	ePn	Pn	10 52 04.1	+0.7
BEYR				eSn	Sn	10 52 31.4	-0.4
SHA1	Shidzhatmaz	2.38	291	ePn	Pn	10 52 04.3	+0.7
SHA1				eSn	Sn	10 52 31.5	-0.6
KIV	Kislovodsk	2.44	296	ePn	Pn	10 52 05.0	+0.7
KIV				eSn	Sn	10 52 33.3	0.0
ALER	Alexandrovskoy	2.74	313	ePn	Pn	10 52 09.9	+1.7
ALER				eSn	Sn	10 52 42.0	+1.6
GNI	Garni	2.87	195	eSn	Sn	10 52 44.5	+0.8
GOF	Gofitskoye	2.88	319	ePn	Pn	10 52 12.1	+2.0
GOF				eSn	Sn	10 52 46.0	+2.3

IDC 18 10:51:56.0±1.5, 14°42S×166°60E, h0km, mb3.9/3, mbtmp3.9/4, ML3.5/1, MS3.2/2, Error ellipse: s-maj=57.2km s-min=29.1km az=123.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	7.62	181	Pn	Pn	10 53 48.3	-0.1
	0.7nm,0.3s,baz=323,slow=20,SNR=13						
DZM				Sn	Sn	10 55 09.3	-6.2
	baz=288,slow=20						
	2.9nm,0.4s						
STKA	Stephens Creek	28.71	228	P	P	10 57 53.7	-1.4
	1.0nm,0.5s,baz=32,slow=9.7,SNR=2.8						
STKA				LR	LR	11 08 11.8	
	comp=Z,31nm,19.9s,baz=25,slow=34						
	1.0nm,0.5s						
ASAR	Alice Springs	32.18	248	P	P	10 58 26.8	+0.8
	1.1nm,0.7s,baz=71,slow=9.7,SNR=21						
ASAR				LR	LR	11 10 45.5	
	comp=Z,58nm,18.0s,baz=158,slow=35						
	1.1nm,0.7s						
ILAR	Eielson Array	86.43	18	P	P	11 04 40.0	0.0
	0.4nm,0.7s,baz=236,slow=4.7,SNR=7.6						
	0.4nm,0.7s						
ARCES	ARCESS Array B	119.78	345	PKP	PKPdf	11 10 47.6	-0.1
	6.1nm,0.9s,baz=51,slow=2.3,SNR=2.8						

*IDC **18** 11:07:23.5±1.0, 30°.33N×140°.61E, h0km, mb3.5/5, mbtmp3.5/9, ML2.9/4, MS3.0/5, Error ellipse: s-maj=30.6km s-min=19.0km az=89.0*

ISC 18 11:07:28.1±0.8, 30°.33N±0°.07×140°.7E±0°.1, h35km, n18, σ1°04/11, mb3.5/5, Southeast of Honshu

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

IRIF				*e*S	Sg	11 08 26.7	-0.2
JKRS	**Kuro-shima**	**0.21**	**78**	P	Pg	11 08 24.8	+0.1
JKRS				*e*S	Sg	11 08 28.2	0.0
JIJ	**Ishigaki jima**	**0.37**	**63**	P	Pg	11 08 26.9	-0.3
JIJ				*e*S	Sg	11 08 31.5	-1.0
JISG	**Ishigakijimahi**	**0.62**	**51**	P	Pb	11 08 31.4	-0.1
JISG				*e*S	Sb	11 08 39.6	-0.2
JTJ	**Tarama**	**0.95**	**62**	*e*S	Sb	11 08 48.0	-1.2

IDC 18 11:08:29.5±4.8, 23°58N×123°36E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=325.8km s-min=29.2km az=60.0, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**40.16**	**316**	P	P	11 16 07.2	-0.1
	0.4nm,0.9s,baz=115,slow=6.5,SNR=2.5 0.4nm,0.9s						
WRA	**Warramunga Arr**	**44.56**	**165**	P	P	11 16 43.2	-0.1
	0.9nm,0.8s,baz=346,slow=8.5,SNR=5.7 0.9nm,0.8s						
ASAR	**Alice Springs**	**48.07**	**167**	P	P	11 17 11.2	+0.3
	0.2nm,0.5s,baz=349,slow=6.8,SNR=9.1 0.2nm,0.5s						
STKA	**Stephens Creek**	**57.84**	**162**	P	P	11 18 22.2	-0.7
	2.3nm,0.9s,baz=332,slow=17,SNR=1.6 2.3nm,0.9s						

*IDC **18** 11:19:17.2±1.2, 0°.07S×123°.00E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=152.5km s-min=20.4km az=64.0*

*DJA **18** 11:19:20.4±0.2, 1°.S±2°×12°.2E±°, h10km, M4.2/13, mb4.4/5, mB5.0/1, MLv4.0/13, Mw(mB)4.3/1*

ISC 18 11:19:19.4±0.8, 0°.54S±0°.06×121°.72E±0°.05, h10km, n18, σ1§21/20, mb3.7/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**1.04**	**12**	P	**Pb**	**11 19 39.5**	**0.0**
MRSI				S	**Sg**	**11 19 52.2**	**-0.7**
LUWI	**Luwuk**	**1.16**	**115**	P	**Pn**	**11 19 42.5**	**+0.8**
GTOI	**Gorontalo**	**1.74**	**48**	P	**Pn**	**11 19 49.9**	**+0.2**
MPSI	**Mapaga**	**2.02**	**296**	P	**Pn**	**11 19 53.3**	**-0.4**
KMSI	**Cibinong**	**2.52**	**64**	P	**Pn**	**11 20 00.5**	**+0.1**
KMSI				S	**Sg**	**11 20 41.2**	**+0.8**
TTSI	**Tana Toraja**	**3.13**	**217**	P	**Pn**	**11 20 10.5**	**+1.6**
SANI	**Sanana**	**4.52**	**109**	P	**Pn**	**11 20 27.9**	**-0.1**
BBSI	**Bau Bau**	**4.98**	**170**	P	**Pn**	**11 20 35.2**	**+0.8**
	77nm,0.8s,0.3nm						
BKSI	**Bulukumba**	**5.01**	**199**	P	**Pn**	**11 20 35.0**	**+0.3**
	17nm,0.9s,0.1nm						
LBMI	**Labuha**	**5.78**	**91**	P	**Pn**	**11 20 45.6**	**+0.3**
	32nm,0.9s,1μm0.4nm						
NLAI	**Namlea**	**6.00**	**117**	P	**Pn**	**11 20 49.8**	**+1.4**
	57nm,0.8s,0.2nm						
EDFI	**Ende, Flores**	**8.15**	**180**	P	**Pn**	**11 21 18.0**	**0.0**
WRA	**Warramunga Arr**	**22.90**	**148**	P	**P**	**11 24 19.9**	**-3.6**
	1.2nm,0.8s,baz=330,slow=10,SNR=6.0 1.2nm,0.8s						
ASAR	**Alice Springs**	**25.85**	**154**	P	**P**	**11 24 50.9**	**-0.5**
	0.4nm,0.8s,baz=337,slow=12,SNR=4.3 0.4nm,0.8s						
MKAR	**Makanchi Array**	**58.41**	**329**	P	**P**	**11 29 17.1**	**+1.8**
	0.4nm,0.6s,baz=120,slow=8.8,SNR=7.2 0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**62.29**	**336**	P	**P**	**11 29 41.5**	**-0.2**
	0.3nm,0.3s,baz=126,slow=7.4,SNR=1.8 0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**62.80**	**331**	P	**P**	**11 29 46.0**	**+0.8**
	0.5nm,0.8s,baz=140,slow=5.9,SNR=4.1 0.5nm,0.8s						
QSPA	**South Pole Qui**	**89.39**	**180**	P	**P**	**11 32 16.1**	**-0.2**
	0.6nm,0.9s,baz=29,slow=18,SNR=1.2 0.6nm,0.9s						

TRN 18 11:21:39.8, 15°.86N×61°.22W, h86km, MD3.6, North-east of Dominica., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAGL	**Barre de l'ile**	**0.11**	**325**	*e*P	Pn	11 21 53.1	+1.1
TDBA	**Terre de Bas,**	**0.41**	**269**	*e*P	Pn	11 21 54.6	+1.2
CBE	**Ff, Capester**	**0.43**	**299**	*e*P	Pn	11 21 54.7	+1.0
CBE				*e*S	Sn	11 22 04.7	+0.8
ABD	**La Joyeuse, An**	**0.67**	**337**	*e*P	Pn	11 21 56.5	+0.8
ABD				*e*S	Sn	11 22 08.5	+1.1
SVN	**Savane Anatole**	**1.01**	**177**	*e*P	Pn	11 22 00.1	+0.6
SVN				*e*S	Sn	11 22 14.8	+0.8
PCM	**Pelee Case Pet**	**1.03**	**180**	*e*P	Pn	11 22 00.3	+0.7
BAMF	**Morne Balai**	**1.04**	**176**	*e*P	Pn	11 22 00.4	+0.6
GBMF	**Grand Be**	**1.05**	**177**	*e*P	Pn	11 22 00.7	+0.7
PML	**Morne Lenard**	**1.07**	**178**	*e*P	Pn	11 22 00.8	+0.7
FDF	**Fort de France**	**1.12**	**177**	*e*P	Pn	11 22 01.4	+0.7
ILAM	**Ilet Lapin Mar**	**1.12**	**163**	*e*P	Pn	11 22 01.5	+0.8
ILAM				*e*S	Sn	11 22 16.2	-0.1
ZAM	**Aeronautique**	**1.29**	**172**	*e*P	Pn	11 22 03.3	+0.5
ANBD	**Bethesda, Anti**	**1.30**	**336**	*e*P	Pn	11 22 03.4	+0.6
ANBD				*e*S	Sn	11 22 20.4	+0.3
LPMF	**Morne Lapointe**	**1.30**	**169**	*e*P	Pn	11 22 03.3	+0.4
MBFL	**Flemmings, Mon**	**1.30**	**313**	*e*P	Pn	11 22 03.4	+0.4
MBFL				*e*S	Sn	11 22 21.0	+0.7
MVM	**Montagne Vaucl**	**1.33**	**167**	*e*P	Pn	11 22 04.2	+0.9
BIM	**Bigot**	**1.34**	**174**	*e*P	Pn	11 22 04.5	+1.1
BIM				*e*S	Sn	11 22 22.2	+1.0
ANDO	**Antigua, Disas**	**1.38**	**335**	*e*P	Pn	11 22 04.4	+0.6
ANDO				*e*S	Sn	11 22 22.1	+0.1
MPOM	**Morne Pois Mar**	**1.45**	**166**	*e*P	Pn	11 22 05.5	+0.9
MPOM				*e*S	Sn	11 22 24.3	+0.8
SLBI	**Saint Lucia, B**	**1.84**	**173**	*e*P	Pn	11 22 10.6	+0.8
SLBI				*e*S	Sn	11 22 32.9	+0.4

*BJI **18** 11:34:59.0±0.0, 0°.10S×121°.94E, h109km, mb5.4/90, mB5.4/57*

*DJA **18** 11:35:05.4±0.1, 1°.N±1°×12°.2E±°, h105km±2km, M5.2/100, mb5.4/100, mB5.7/68, MLv5.7/20, Mw(mB)5.2/68, MwMwp4.9/23, Mwp5.2/23*

*NEIC **18** 11:35:05.8±2.2, 0°.49N±0°.06×121°.47E±0°.06, h105km±4km, mb5.5/120, Mww5.3/36, Error ellipse: s-maj=9.9km s-min=8.3km az=215.0*

*IDC **18** 11:35:05.0±0.4, 0°.52N×121°.57E, h107km±2km, mb4.8/27, mbtmp5.2/31, MS3.9/55, Error ellipse: s-maj=13.6km s-min=7.8km az=65.0*

*MOS **18** 11:35:05.9±0.9, 0°.49N×121°.51E, h130km, mb5.2/51, Error ellipse: s-maj=7.9km s-min=4.0km az=110.1*

*NEIC **18** 11:35:05.4, 0°.40N×121°.57E, h110km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.24; $M_{\theta\theta}$-0.17; $M_{\phi\phi}$-0.07; $M_{r\theta}$-0.98; $M_{\theta\phi}$0.03; $M_{\phi r}$-0.25; Fault plane solution: $M_0$1.03000×10^{17} NP1: ϕ_s256.10000°, δ84.56000°, λ87.07000°. NP2: ϕ_s104.51000°, δ6.18000°, λ118.27000°. Principal axes: T 1.0740, Plg50.0000°, Azm163.0000°; N -0.0878, Plg3.0000°, Azm256.0000°; P -0.9862, Plg39.0000°, Azm349.0000°;*

*GCMT **18** 11:35:05.8±0.1, 0°.53N±0°.01×121°.49E±0°.01, h117km±1km, MW5.3/146, Moment Tensor Solution. s122,c209; s146,c251; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.30±.02; $M_{\theta\theta}$-0.10±.02; $M_{\phi\phi}$-0.20±.02; $M_{r\theta}$-1.17±.01; $M_{\theta\phi}$0.08±.02; $M_{\phi r}$-0.36±.01; Best double couple: $M_0$1.23900×10^{17} NP1:ϕ_s253.00000°, δ86.00000°, λ88.00000°. NP2:ϕ_s93.00000°, δ5.00000°, λ110.00000°. Principal axes: T 1.3600, Plg49.0000°, Azm162.0000°; N -0.2420, Plg2.0000°, Azm253.0000°; P -1.1180, Plg41.0000°, Azm345.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **18** 11:35:05.4, 0°.50N×121°.47E, h110km*

ISC 18 11:35:05.1±0.2, 0°.43N±0°.03×121°.50E±0°.03, h107km±1km, h107km:pP-P, n1115, σ1§22/1242, mb5.3/174, 18C-45D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.45**	**84**	P	**Pn**	**11 35 21.2**	**-0.1**
TOLI2	**Tolitoli**	**0.98**	**313**		**Pn**	**11 35 24.9**	**-1.0**
TOLI2				Sn	**Sn**	**11 35 40.4**	**-1.2**
TOLI2	**Tolitoli**	**0.98**	**313**	P	**Pn**	**11 35 25.2**	**-0.7**
GTOI	**Gorontalo**	**1.53**	**82**	P	**Pn**	**11 35 31.3**	**-0.8**
MPSI	**Mapaga**	**1.60**	**267**	P	**Pn**	**11 35 33.7**	**+0.8**
LUWI	**Luwuk**	**1.94**	**139**		**Pn**	**11 35 39.5**	**+2.2**
LUWI	**Luwuk**	**1.94**	**139**	P	**Pn**	**11 35 39.8**	**+2.6**
LUWI	**Luwuk**	**1.94**	**139**	P	**Pn**	**11 35 39.1**	**+1.9**
KMSI	**Cibinong**	**2.49**	**87**	P	**Pn**	**11 35 46.2**	**+1.9**
TTSI	**Tana Toraja**	**3.84**	**206**	P	**Pn**	**11 36 03.3**	**+1.1**
SMKI	**Samarinda**	**4.38**	**259**	P	**Pn**	**11 36 10.6**	**+1.1**
BKB	**Balikpapan**	**4.90**	**250**	Pn	**Pn**	**11 36 16.8**	**+0.3**
BKB	**Balikpapan**	**4.90**	**250**	P	**Pn**	**11 36 17.1**	**+0.6**
BKB	**Balikpapan**	**4.90**	**250**	P	**Pn**	**11 36 16.3**	**-0.2**
SANI	**Sanana**	**5.12**	**119**	P	**Pn**	**11 36 20.2**	**+0.6**
SANI	**Sanana**	**5.12**	**119**	P	**Pn**	**11 36 18.6**	**-1.0**
	324nm,0.7s,15μm11μm8.5nm						
SGSI	**Sangihe**	**5.17**	**51**	P	**Pn**	**11 36 18.5**	**-1.7**
	925nm,0.7s,24μm3μm22nm						
KAPI	**Kappang**	**5.68**	**198**	Pn	**Pn**	**11 36 28.0**	**+0.8**
KAPI	**Kappang**	**5.68**	**198**	P	**Pn**	**11 36 29.1**	**+1.9**
KAPI	**Kappang**	**5.68**	**198**	P	**Pn**	**11 36 28.0**	**+0.8**
KAPI	**Kappang**	**5.68**	**198**	P	**Pn**	**11 36 28.5**	**+1.3**
BKSI	**Bulukumba**	**5.88**	**193**	P	**Pn**	**11 36 30.1**	**+0.3**
	626nm,0.8s,6μm4μm1.9nm						
TNTI	**Ternate**	**5.88**	**87**	Pn	**Pn**	**11 36 29.7**	**-0.1**
TNTI	**Ternate**	**5.88**	**87**	P	**Pn**	**11 36 30.4**	**+0.6**
TNTI	**Ternate**	**5.88**	**87**	P	**Pn**	**11 36 29.5**	**-0.3**
	365nm,1.0s,4μm3μm1.4nm						
BBSI	**Bau Bau**	**5.98**	**170**	P	**Pn**	**11 36 33.5**	**+2.3**
	1μm,0.9s,10μm4μm3.6nm						
LBMI	**Labuha**	**6.10**	**100**	P	**Pn**	**11 36 33.2**	**+0.4**
	2μm,1.0s,14μm34nm						
NLAI	**Namlea**	**6.68**	**123**	P	**Pn**	**11 36 42.4**	**+1.7**
	588nm,0.9s,11μm6.9nm						
NLAI				S	**Sn**	**11 37 56.0**	**+0.5**
	588nm,0.9s,11μm6.9nm						
MTKI	**Muara Teweh, K**	**6.74**	**258**	P	**Pn**	**11 36 42.1**	**+0.6**
KKM	**Kota Kinabalu**	**7.67**	**317**	Pn	**Pn**	**11 36 54.4**	**+0.1**
KKM	**Kota Kinabalu**	**7.67**	**317**	P	**Pn**	**11 36 55.0**	**+0.7**
DAV	**Davao City (W)**	**7.75**	**32**		**Pn**	**11 36 57.3**	**+2.1**
DAV	**Davao City (W)**	**7.75**	**32**	P	**Pn**	**11 36 56.8**	**+1.5**
DAV	**Davao City (W)**	**7.75**	**32**	P	**Pn**	**11 36 55.2**	**0.0**
	141nm,0.4s,baz=235,slow=22,SNR=2.2						
DAV				S	**Sn**	**11 38 18.5**	**-3.0**
	465nm,0.6s,baz=80,slow=23,SNR=3.5						
DAV				LR	LR	11 40 57.4	
	comp=Z,675nm,18.0s,baz=178,slow=46						
DAV	**Davao City (W)**	**7.75**	**32**	i P	**Pn**	**11 36 59.0**	**+3.7**
DAV	**Davao City (W)**	**7.75**	**32**	i S	**Sn**	**11 38 29.0**	**+7.5**
DAV	**Davao City (W)**	**7.75**	**32**	P	Pn	11 37 00.4	+5.1
MMRI	**Maumere**	**9.04**	**175**	Pn	**Pn**	**11 37 15.5**	**+2.8**
MMRI	**Maumere**	**9.04**	**175**	P	**Pn**	**11 37 15.5**	**+2.8**
MMRI	**Maumere**	**9.04**	**175**	P	**Pn**	**11 37 14.9**	**+2.2**
	445nm,0.7s,4μm4μm						
EDFI	**Ende, Flores**	**9.12**	**179**	P	**Pn**	**11 37 15.5**	**+1.5**
	191nm,0.6s,2μm3μm						
BNDI	**Bandanaira**	**9.73**	**120**	P	**Pn**	**11 37 24.2**	**+2.0**
BNDI	**Bandanaira**	**9.73**	**120**	P	**Pn**	**11 37 22.2**	**0.0**
	1μm,1.3s,19μm3μm						
SWI	**Sorong**	**9.85**	**98**	P	**Pn**	**11 37 23.7**	**0.0**
	341nm,1.2s,3μm2μm						
PLAI	**Plampang**	**9.92**	**202**	P	**Pn**	**11 37 27.3**	**+2.6**
PLAI	**Plampang**	**9.92**	**202**	P	**Pn**	**11 37 26.0**	**+1.3**
	165nm,0.7s,2μm3μm						
STKI	**Sintang**	**10.03**	**268**	P	**Pn**	**11 37 27.0**	**+0.8**
	105nm,1.2s						
TWSI	**Taliwang, Sumb**	**10.20**	**207**	P	**Pn**	**11 37 28.7**	**+0.1**
	257nm,1.0s,2μm3μm						
SOEI	**Soe**	**10.49**	**165**	Pn	Pn	11 37 38.1	+5.5
SOEI	**Soe**	**10.49**	**165**	P	**Pn**	**11 37 34.5**	**+1.9**
SOEI	**Soe**	**10.49**	**165**	P	**Pn**	**11 37 34.4**	**+1.9**
	403nm,1.1s,4μm5μm						
SRBI	**Singaraja**	**10.53**	**216**	P	**Pn**	**11 37 33.8**	**+0.9**
	255nm,1.0s,2μm2μm						
KMMI	**Kalianget**	**10.57**	**225**	P	**Pn**	**11 37 36.4**	**+2.9**
	130nm,0.9s,3μm						
BASI	**Baing, Sumba**	**10.62**	**185**	P	**Pn**	**11 37 35.7**	**+1.5**
	393nm,1.1s,6μm4μm						
BATI	**Baumata**	**10.79**	**169**	P	**Pn**	**11 37 39.0**	**+2.5**
	142nm,0.9s,baz=330,slow=3.2,SNR=14						
BATI				LR	LR	11 43 01.4	
	comp=Z,2μm,20.4s,baz=24,slow=44						
BATI	**Baumata**	**10.79**	**169**	P	**Pn**	**11 37 38.5**	**+2.0**
	395nm,1.2s,4μm4μm						
ABJI	**Asem Bagus**	**10.92**	**221**	P	**Pn**	**11 37 40.6**	**+2.3**
	55nm,0.9s,263μm						
KSM	**Kuching**	**11.23**	**275**	Pn	**Pn**	**11 37 42.7**	**+0.2**
KSM	**Kuching**	**11.23**	**275**	P	**Pn**	**11 37 43.6**	**+1.1**
FAKI	**Fak Fak**	**11.25**	**107**	Pn	**Pn**	**11 37 41.5**	**-1.3**
FAKI	**Fak Fak**	**11.25**	**107**	P	**Pn**	**11 37 43.4**	**+0.6**
FAKI	**Fak Fak**	**11.25**	**107**	P	**Pn**	**11 37 41.3**	**-1.5**
	175nm,1.1s,2μm2μm						
BLJI	**Banyuglugur**	**11.31**	**224**	P	**Pn**	**11 37 45.4**	**+1.8**
	53nm,1.2s,3μm						
JAGI	**Jajag, Banyuwa**	**11.48**	**219**	Pn	**Pn**	**11 37 48.3**	**+2.4**
JAGI	**Jajag, Banyuwa**	**11.48**	**219**	P	**Pn**	**11 37 48.2**	**+2.4**
JAGI	**Jajag, Banyuwa**	**11.48**	**219**	P	**Pn**	**11 37 48.2**	**+2.4**
	287nm,1.0s,2μm2μm						
GRJI	**Gresik**	**11.58**	**231**	P	**Pn**	**11 37 49.0**	**+1.8**
	191nm,1.2s,2μm						
GMJI	**Gumukmas**	**11.80**	**223**	P	**Pn**	**11 37 52.4**	**+2.4**
	64nm,0.9s						
NGJI	**Ngawi**	**12.66**	**232**	P	**Pn**	**11 38 02.8**	**+1.5**
	77nm,1.1s						
PWJI	**Pagerwojo**	**12.80**	**229**	P	**Pn**	**11 38 04.8**	**+1.6**
	101nm,1.1s,1μm						
SAUI	**Saumlaki**	**12.86**	**131**		**Pn**	**11 38 06.3**	**+2.3**
SAUI	**Saumlaki**	**12.86**	**131**	P	**Pn**	**11 38 06.3**	**+2.3**
SAUI	**Saumlaki**	**12.86**	**131**	P	**Pn**	**11 38 06.1**	**+2.1**
	1μm,1.2s,12μm						
SMRI	**Semarang**	**13.30**	**236**	P	**Pn**	**11 38 11.7**	**+1.9**
SMRI	**Semarang**	**13.30**	**236**	P	**Pn**	**11 38 11.5**	**+1.7**
	118nm,1.0s						
TGY	**Tagaytay City**	**13.59**	**358**	P	**Pn**	**11 38 14.5**	**+0.9**
	113nm,0.4s,baz=252,slow=3.2,SNR=1.8						
UGM	**Wanagama**	**13.72**	**233**		**Pn**	**11 38 15.3**	**-0.1**
UGM	**Wanagama**	**13.72**	**233**	P	**Pn**	**11 38 17.1**	**+1.8**
UGM	**Wanagama**	**13.72**	**233**	P	**Pn**	**11 38 14.9**	**-0.4**
	99nm,1.1s,3μm						
KPJI	**Karang Pucung**	**14.72**	**238**	P	**P**	**11 38 30.6**	**-0.7**
	356nm,1.2s,3μm						
CMJI	**Cimerak**	**15.36**	**238**	P	**P**	**11 38 37.7**	**-0.7**
	187nm,1.2s,2μm2μm						
PPBI	**Pangkal Pinang**	**15.57**	**260**	P	**P**	**11 38 40.3**	**-0.5**
	61nm,1.6s						
LEM	**Lembang**	**15.61**	**242**	P	**P**	**11 38 41.7**	**+0.3**
	152nm,1.1s,baz=57,slow=9.7,SNR=27						
LEM	**Lembang**	**15.61**	**242**	P	**P**	**11 38 42.1**	**+0.7**
	110nm,1.0s,2μm						
BBJI	**Bungbulang**	**15.88**	**240**	P	**P**	**11 38 45.1**	**+0.8**
DBJI	**Dramaga**	**16.27**	**245**	P	**P**	**11 38 49.1**	**+0.6**
	77nm,0.7s						
MTN	**Manton Dam**	**16.29**	**144**	P	**P**	**11 38 48.8**	**+0.1**
	baz=16,SNR=38						
MTN	**Manton Dam**	**16.29**	**144**		**P**	**11 38 49.1**	**+0.4**
MTN	**Manton Dam**	**16.29**	**144**	P	**P**	**11 38 49.9**	**+1.2**
SKJI	**Sukabumi**	**16.64**	**243**	P	**P**	**11 38 52.6**	**0.0**
	217nm,0.7s,4μm						
SBJI	**Serang**	**16.66**	**247**	P	**P**	**11 38 54.1**	**+1.2**
	173nm,0.8s						
DSRI	**Dabo**	**16.94**	**267**	P	**P**	**11 38 56.4**	**+0.4**
	84nm,1.5s						
TPRI	**Tanjung Pinang**	**16.98**	**272**	P	**P**	**11 38 56.7**	**+0.4**
	73nm,0.9s						
KDU	**Kakadu**	**16.98**	**140**	P	**P**	**11 38 56.7**	**+0.3**
	baz=17,SNR=207						
KDU	**Kakadu**	**16.98**	**140**	P	**P**	**11 38 57.3**	**+0.9**
SZP	**Santa**	**17.04**	**357**	P	**P**	**11 38 58.1**	**+1.1**
DLV	**T Lat**	**17.25**	**312**	P	**Pn**	**11 38 59.7**	**0.0**
DLV	**T Lat**	**17.25**	**312**	P	**Pn**	**11 39 00.6**	**+0.9**
KNRA	**Kununurra**	**17.54**	**156**	P	**Pn**	**11 39 04.2**	**+1.2**
KNRA	**Kununurra**	**17.54**	**156**	P	**Pn**	**11 39 04.9**	**+1.9**
LWLI	**Liwa**	**18.24**	**253**	P	**Pn**	**11 39 12.4**	**+0.9**
	189nm,1.0s						
GENI	**Genyem**	**18.91**	**99**	P	**Pn**	**11 39 19.6**	**+0.3**
GENI	**Genyem**	**18.91**	**99**	P	**Pn**	**11 39 18.6**	**-0.7**
	459nm,1.3s,6μm						
XMI	**Christmas Isla**	**19.08**	**235**	P	**P**	**11 39 19.5**	**+0.1**
MNAI	**Manna**	**19.13**	**255**	P	**Pn**	**11 39 22.3**	**+0.4**
MNAI	**Manna**	**19.13**	**255**	P	**Pn**	**11 39 22.0**	**+0.1**
	219nm,0.8s,5μm						
XMIS	**Christmas Isla**	**19.13**	**235**	P	**P**	**11 39 19.6**	**-0.4**
XMIS	**Christmas Isla**	**19.13**	**235**	P	**Pn**	**11 39 21.1**	**-0.8**
JAY	**Jayapura**	**19.43**	**99**	P	**P**	**11 39 24.3**	**+1.1**
	113nm,1.1s,1μm						
KRJI	**Kerinci**	**20.19**	**263**	P	Pn	11 39 34.3	-0.1
	380nm,1.2s,8μm						
BKNI	**Bangkinang**	**20.46**	**270**	P	**P**	**11 39 35.8**	**+1.4**
MMPI	**Merauke**	**20.79**	**116**	P	**P**	**11 39 39.0**	**+1.1**
	648nm,0.9s						
PDSI	**Padang**	**21.08**	**266**	P	**P**	**11 39 42.0**	**+1.0**
	116nm,1.1s,4μm						
KULM	**Kulim**	**21.37**	**283**	P	**P**	**11 39 44.8**	**+0.7**
MBWA	**Marble Bar**	**21.53**	**184**	P	**P**	**11 39 46.3**	**+0.6**
MBWA	**Marble Bar**	**21.53**	**184**	P	**P**	**11 39 46.7**	**+1.0**
MBWA	**Marble Bar**	**21.53**	**184**	P	**P**	**11 39 46.8**	**+1.0**
UBPT	**Khong Chiam**	**21.64**	**314**	P	**P**	**11 39 47.4**	**+0.4**
UBPT	**Khong Chiam**	**21.64**	**314**	P	**P**	**11 39 47.9**	**+0.9**
PPSI	**Pulau Pagai**	**21.71**	**261**	P	**P**	**11 39 49.0**	**+1.2**
	366nm,1.2s,3μm						
QIZ	**Qiongzhong**	**21.73**	**329**	P	**P**	**11 39 47.9**	**0.0**
QIZ				pP	**pP**	**11 40 07.0**	**-1.4**
QIZ				sP	**sP**	**11 40 20.3**	**-1.4**
QIZ				S	**S**	**11 43 43.1**	**+0.9**
QIZ				SS	**SnSn**	**11 44 28.8**	**+12**
QIZ				pmax	pmax		
	comp=Z,150nm,1.4s						
QIZ	**Qiongzhong**	**21.73**	**329**	P	**P**	**11 39 48.5**	**+0.6**
SKLT	**Songkhla**	**21.87**	**288**	P	**P**	**11 39 48.5**	**-0.9**
PSA00	**Pilbara Seismi**	**21.93**	**184**	P	**P**	**11 39 50.3**	**+0.3**
PSA00	**Pilbara Seismi**	**21.93**	**184**	P	**P**	**11 39 51.4**	**+1.4**
TWGBT	**Beinan**	**22.26**	**359**	P	**P**	**11 39 54.8**	**+1.4**
TWG	**Pinlang**	**22.26**	**359**	P	**P**	**11 39 51.9**	**-1.5**
SISI	**Saibi**	**22.47**	**266**	P	**P**	**11 39 56.4**	**+0.7**
	136nm,1.1s,3μm						
TPUB	**Ta-pu**	**22.75**	**358**	P	**P**	**11 39 57.5**	**-0.9**
TPUB	**Ta-pu**	**22.75**	**358**	P	**P**	**11 39 59.8**	**+1.4**
YULB	**Yu-li**	**22.82**	**360**	P	**P**	**11 39 57.5**	**-1.7**
YULB	**Yu-li**	**22.82**	**360**	P	**P**	**11 39 58.2**	**-0.9**
HKPS	**Hong Kong Po S**	**22.87**	**342**	P	**P**	**11 39 59.1**	**-0.5**
HKPS	**Hong Kong Po S**	**22.87**	**342**	P	**P**	**11 40 00.5**	**+1.0**
PBSI	**Pulau Batu**	**23.22**	**269**	P	**P**	**11 40 03.0**	**0.0**
	113nm,1.5s,2μm						
SSLB	**Suanglung**	**23.22**	**359**	P	**P**	**11 40 02.2**	**-0.8**
SSLB	**Suanglung**	**23.22**	**359**	P	**P**	**11 40 02.7**	**-0.3**
SRIT	**Nakonsritamara**	**23.27**	**291**	P	**P**	**11 40 04.1**	**+0.6**
SRIT	**Nakonsritamara**	**23.27**	**291**	P	**P**	**11 40 04.7**	**+1.2**
SURA	**Surathani**	**23.43**	**292**	P	**P**	**11 40 06.2**	**+1.2**
NACB	**Ninganchiao**	**23.60**	**0**	P	**P**	**11 40 03.7**	**-2.6**
NACB	**Ninganchiao**	**23.60**	**0**	P	**P**	**11 40 08.0**	**+1.6**
WB0	**Warramunga Arr**	**23.72**	**149**	P	**P**	**11 40 07.1**	**-0.5**
WRAB	**Tennant Creek**	**23.84**	**149**	P	**P**	**11 40 08.3**	**-0.3**
WRAB	**Tennant Creek**	**23.84**	**149**	P	**P**	**11 40 08.3**	**-0.3**
WRA	**Warramunga Arr**	**23.84**	**149**	P	**P**	**11 40 08.9**	**+0.3**
	495nm,1.0s,baz=324,slow=11,SNR=494						
WRA				S	**S**	**11 44 15.3**	**-1.5**
	15nm,1.1s,baz=328,slow=16,SNR=4.6						
WRA				ScP	**ScP**	**11 47 15.6**	**-2.4**
	2.0nm,0.8s,baz=324,slow=2.7,SNR=7.2						
WB2	**Warramunga Arr**	**23.85**	**149**	P	**P**	**11 40 07.9**	**-0.7**
KCSI	**Kotacane, Aceh**	**23.91**	**278**	P	**P**	**11 40 09.1**	**-0.2**
	88nm,0.7s,2μm						
GSI	**Gunungsitoli**	**23.93**	**272**	P	**P**	**11 40 08.9**	**-0.7**
GSI	**Gunungsitoli**	**23.93**	**272**	P	**P**	**11 40 11.6**	**+2.1**
GSI	**Gunungsitoli**	**23.93**	**272**	P	**P**	**11 40 10.6**	**+1.1**
	216nm,1.2s,4μm						
YOJ	**Yonaguni jima**	**23.93**	**3**	P	**P**	**11 40 09.8**	**+0.5**
YOJ	**Yonaguni jima**	**23.93**	**3**	P	**P**	**11 40 10.7**	**+1.4**
YOJ	**Yonaguni jima**	**23.93**	**3**	P	**P**	**11 40 09.8**	**+0.5**
WR0	**Warramunga Arr**	**23.96**	**148**	P	**P**	**11 40 09.2**	**-0.4**
GIRL	**Giralia**	**24.00**	**197**	P	**P**	**11 40 11.3**	**+1.4**
GIRL	**Giralia**	**24.00**	**197**	P	**P**	**11 40 12.4**	**+2.4**
KNMB	**Chin-men Tao**	**24.08**	**353**	P	**

SSE pmax pmax
comp=Z,170nm,3.6s
SSE LR LR
comp=Z,210nm,22.2s
SSE LR LR
comp=Z,200nm,23.0s
KMI Kunming 30.52 325 ⇓P **P** **11 41 10.8 +2.2**
KMI pP pP 11 41 33.4 +0.7
KMI sP sP 11 41 45.4 +0.2
KMI S **S** **11 46 05.3 +2.7**
KMI ScP **ScP** **11 47 38.1 -0.1**
KMI pmax pmax
comp=Z,120nm,1.2s
KMI pmax pmax
comp=Z,350nm,3.5s
KMI LR LR
comp=Z,230nm,19.8s
KMI LR LR
comp=Z,240nm,14.1s
KMI LR LR
comp=Z,940nm,35.3s
KMI Kunming 30.52 325 P **P** **11 41 10.6 +2.1**
WHN Wuhan 30.71 348 P **P** **11 41 11.8 +1.9**
WHN pP **pP** **11 41 34.5 +0.8**
WHN sP **sP** **11 41 48.0 +1.9**
WHN S **S** **11 46 07.9 +3.0**
WHN ScP **ScP** **11 47 37.8 -0.6**
WHN pmax pmax
comp=Z,820nm,2.0s
WHN pmax pmax
comp=Z,1μm,2.6s
OOD Oodnadatta 31.20 155 P **P** **11 41 15.5 +1.2**
BLDU Ballidu 31.21 188 P **P** **11 41 14.6 +0.3**
NJ2 Nanjing 31.55 356 ⇓P **P** **11 41 18.9 +1.6**
NJ2 pP **pP** **11 41 43.1 +1.9**
NJ2 sP **sP** **11 41 53.0 -0.6**
NJ2 PP **PP** **11 42 30.6 0.0**
NJ2 S **S** **11 46 21.9 +3.8**
NJ2 ScP **ScP** **11 47 40.8 -0.4**
NJ2 pmax pmax
comp=Z,57nm,1.1s
NJ2 pmax pmax
comp=Z,430nm,3.6s
TV1H Townsville Har 31.61 130 P **P** **11 41 19.4 +1.4**
KMBL Kambalda 31.63 179 P **P** **11 41 18.3 +0.3**
FORT Forrest 31.66 169 P **P** **11 41 18.4 +0.2**
FORT IAmb IAmb 11 41 19.9
comp=Z,156nm,0.9s
FORT Forrest 31.66 169 P **P** **11 41 19.7 +1.4**
CTA Charters Tower 31.69 131 P **P** **11 41 20.2 +1.5**
CTA Charters Tower 31.69 131 P **P** **11 41 19.9 +1.2**
comp=Z,96nm,1.0s,baz=270,slow=6.6,SNR=43
CTA LR LR 11 54 55.2
comp=Z,313nm,19.5s,baz=0.0,slow=38
comp=Z,96nm,1.0s
CTAO Charters Tower 31.69 131 P **P** **11 41 19.4 +0.8**
CTAO IAmb IAmb 11 41 21.1
comp=Z,137nm,1.1s
CTAO Charters Tower 31.69 131 P **P** **11 41 20.0 +1.2**
CTAO Charters Tower 31.69 131 P **P** **11 41 19.5 +0.8**
CTAO pmax pmax
comp=Z,137nm,1.1s
CTAO Charters Tower 31.69 131 P **P** **11 41 19.6 +0.9**
ENH Enshi 31.80 340 P **P** **11 41 21.0 +1.4**
ENH Enshi 31.80 340 P **P** **11 41 20.8 +1.2**
ENH pP **pP** **11 41 43.8 +0.2**
KLBR Kellerberrin 32.05 186 P **P** **11 41 22.1 +0.4**
PZH PanZhiHua 32.15 325 P **P** **11 41 23.8 +1.0**
PZH pP **pP** **11 41 47.5 +0.5**
PZH sP **sP** **11 41 58.6 -0.9**
PZH PP **PP** **11 42 36.4 -1.1**
PZH S **S** **11 46 28.3 +0.4**
PZH sS **sS** **11 47 13.0 +3.6**
PZH ScP **ScP** **11 47 42.0 -1.6**
PZH pmax pmax
comp=Z,190nm,0.8s
PZH pmax pmax
comp=Z,400nm,3.5s
AUAYR Ayr State High 32.27 129 P **P** **11 41 25.8 +2.0**
MUN Mundaring 32.62 188 P **P** **11 41 27.3 +0.6**
MND Mandalay 32.74 313 P **P** **11 41 29.2 +1.3**
MULG Mulgathing 32.80 160 P **P** **11 41 29.0 +0.7**
TNCH TengChong 33.04 319 ⇓P **P** **11 41 31.8 +1.2**
TNCH pP pP 11 41 55.3 +0.5
TNCH sP sP 11 42 07.3 +0.1
TNCH PP **PnPn** **11 42 44.5 +0.4**
TNCH S **S** **11 46 45.1 +3.3**
TNCH ScS **ScS** **11 51 47.1 -0.4**
TNCH pmax pmax
comp=Z,52nm,1.2s
JCJ Chichijima 33.14 35 LR LR 11 53 48.4
comp=Z,99nm,21.6s,baz=142,slow=34
NWAO Narrogin (SRO) 33.42 187 P **P** **11 41 34.2 +0.5**
NWAO Narrogin (SRO) 33.42 187 P **P** **11 41 34.7 +1.0**
NWAO Narrogin (SRO) 33.42 187 P **P** **11 41 34.2 +0.5**
NWAO pmax pmax
comp=Z,190nm,0.8s
NWAO Narrogin (SRO) 33.42 187 LR LR 11 54 43.8
comp=Z,405nm,19.5s,baz=359,slow=35
NWAO Narrogin (SRO) 33.42 187 P **P** **11 41 34.7 +1.0**
NWAO Narrogin (SRO) 33.42 187 P **P** **11 41 34.3 +0.7**
INKA Innaminka 33.56 148 P **P** **11 41 36.3 +1.4**
JNU Nakatsue 33.70 14 LR LR 11 55 60.0
comp=Z,100nm,21.6s,baz=198,slow=37
LCRK Leigh Creek 34.59 154 P **P** **11 41 44.9 +1.1**
QLP Quilpie 34.66 143 P **P** **11 41 46.5 +2.0**
CD2 Chengdu 34.67 333 P **P** **11 41 45.0 +0.4**
CD2 S **S** **11 47 08.0 +1.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,330nm,6.0s
LYN LuoYang 34.98 347 ⇓P **P** **11 41 48.3 +1.2**
LYN pP pP 11 42 11.8 +0.6
LYN S **S** **11 47 13.5 +2.4**
LYN ScP **ScP** **11 47 52.9 -0.2**
LYN pmax pmax
comp=Z,200nm,1.3s
LYN pmax pmax
comp=Z,830nm,4.7s
RKGY Rocky Gully 35.11 186 P **P** **11 41 50.0 +1.8**
XAN Xi'an 35.45 342 ⇓P **P** **11 41 51.8 +0.6**
XAN sP sP 11 42 28.6 +0.8
XAN S **S** **11 47 15.3 -3.2**
XAN ScP **ScP** **11 47 53.9 -1.0**
XAN sS sS 11 48 04.5 +4.1
XAN pmax pmax
comp=Z,94nm,1.4s
XAN LR LR
comp=Z,960nm,17.9s
XAN LR LR
comp=Z,2μm,19.9s
XAN LR LR
comp=Z,1μm,20.1s
XAN Xi'an 35.45 342 P **P** **11 41 51.7 +0.4**
BBOO Buckleboo 35.80 159 P **P** **11 41 54.4 +0.2**
BBOO Buckleboo 35.80 159 P **P** **11 41 54.7 +0.5**
TIA Tai'an 35.83 354 ⇓P **P** **11 41 54.8 +0.4**
TIA PP **PnPn** **11 43 20.8 +2.6**
TIA S **S** **11 47 25.4 +1.2**
TIA ScP **ScP** **11 47 55.4 -0.8**
TIA ScS **ScS** **11 51 59.3 -2.3**
TIA pmax pmax
comp=Z,34nm,1.1s
TIA pmax pmax
comp=Z,200nm,4.4s
TIA LR LR
comp=Z,130nm,15.1s
TIA LR LR
comp=Z,97nm,14.4s
TIA LR LR
comp=Z,210nm,15.8s
TJN Taejon 36.18 8 P **P** **11 41 56.4 -0.9**
TJN Taejon 36.18 8 P **P** **11 41 57.6 +0.3**
TJN Taejon 36.18 8 *c*eP **P** **11 41 56.9 -0.4**
WHYH Whyalla 36.57 157 P **P** **11 42 01.5 +0.8**
JHJ Hachijo jima 2 36.79 26 LR LR 11 55 22.4
comp=Z,172nm,21.1s,baz=284,slow=33
RK1H Rockhampton Ha 36.81 132 P **P** **11 42 03.6 +0.7**
KSAR Wonju Array Be 37.30 8 P **P** **11 42 07.2 +0.4**
KSAR Wonju Array Be 37.30 8 P **P** **11 42 07.2 +0.4**
KSRS Korea Array 37.31 8 P **P** **11 42 06.8 -0.1**
comp=Z,11nm,0.7s,baz=186,slow=11,SNR=58
KSRS PcP **PcP** **11 44 23.4 -0.8**
comp=Z,4.0nm,0.8s,baz=192,slow=2.9,SNR=8.1
KSRS ScP **ScP** **11 47 59.9 -1.8**
comp=Z,2.6nm,0.8s,baz=183,slow=4.0,SNR=12
KSRS LR LR 11 56 14.4
comp=Z,172nm,21.5s,baz=185,slow=34
comp=Z,11nm,0.7s
HNS HongShan 37.32 351 ⇓P **P** **11 42 07.8 +0.9**
HNS sP **sP** **11 42 42.8 -0.8**
HNS PP **PnPn** **11 43 37.6 +1.5**
HNS S **S** **11 47 46.4 -0.3**
HNS sS **sS** **11 48 31.8 +3.0**
HNS pmax pmax
comp=Z,83nm,1.5s
HNS LR LR
comp=Z,320nm,14.8s
HNS LR LR
comp=Z,330nm,13.9s
STKA Stephens Creek 37.34 151 P **P** **11 42 08.0 +0.7**
STKA Stephens Creek 37.34 151 P **P** **11 42 08.0 +0.7**
STKA Stephens Creek 37.34 151 *c* *i*P **P** **11 42 07.5 +0.2**
STKA Stephens Creek 37.34 151 P **P** **11 42 07.9 +0.6**
comp=Z,46nm,0.7s,baz=327,slow=8.8,SNR=60
STKA PP **PP** **11 43 33.8 -0.9**
comp=Z,26nm,1.0s,baz=324,slow=10,SNR=4.7
STKA LR LR 11 58 43.7
comp=Z,244nm,19.0s,baz=347,slow=38
comp=Z,46nm,0.7s
KS19 Wonju Array Si 37.35 8 P **P** **11 42 07.3 0.0**
HTT Hallett 37.46 156 P **P** **11 42 09.6 +1.3**
GD1S Gladstone Soft 37.58 132 P **P** **11 42 10.6 +1.3**
HJU Haeju 37.63 5 P **P** **11 42 09.7 +0.2**
HJU S **S** **11 47 53.7 +2.3**
HJU AmB
comp=Z,442nm,3.5s
INU Inuyama 37.63 21 P **P** **11 42 07.8 -1.8**
INU Inuyama 37.63 21 P **P** **11 42 09.6 -0.1**
INU Inuyama 37.63 21 P **P** **11 42 08.7 -1.0**
INU pP **pP** **11 42 33.6 -0.5**
JGF Kuroka 37.98 21 P **P** **11 42 11.1 -1.5**
JGF Kuroka 37.98 21 P **P** **11 42 13.6 +0.9**
TIY Taiyuan 38.03 348 P **P** **11 42 14.1 +1.0**
TIY PP **PnPn** **11 43 45.8 +1.0**
TIY S **S** **11 47 57.3 -0.4**
TIY pmax pmax
comp=Z,97nm,1.2s
TIY pmax pmax
comp=Z,310nm,4.9s
DL2 Dalian 38.29 0 P **P** **11 42 15.1 0.0**
DL2 PP **PnPn** **11 43 49.0 +1.2**
DL2 S **S** **11 48 01.3 -0.1**
DL2 sS **sS** **11 48 46.8 +3.2**
DL2 ScS **ScS** **11 52 11.1 -4.2**
DL2 pmax pmax
comp=Z,67nm,1.1s
DL2 pmax pmax
comp=Z,310nm,7.0s
EIDS Eidsvold 38.42 134 P **P** **11 42 16.4 0.0**
EIDS IAmb IAmb 11 42 17.4
comp=Z,78nm,1.2s
EIDS Eidsvold 38.42 134 P **P** **11 42 16.5 0.0**
PYAG Pyongyang 38.63 5 P **P** **11 42 18.6 +0.7**
PYAG S **S** **11 48 07.7 +1.2**
PYAG AmB
comp=Z,138nm,1.3s
AULRC Lightning Ridg 39.00 142 P **P** **11 42 22.6 +1.4**
LZH Lanzhou 39.08 337 ⇓P **P** **11 42 23.6 +1.6**
LZH pmax pmax
comp=Z,130nm,1.4s
LZH pmax pmax
comp=Z,540nm,6.5s
LZH LR LR
comp=Z,530nm,16.8s
LZH LR LR
comp=Z,600nm,16.8s
LZH LR LR
comp=Z,820nm,19.3s
MJAR Matsushiro Arr 39.13 22 P **P** **11 42 20.4 -1.8**
comp=Z,12nm,0.8s,baz=193,slow=8.6,SNR=34
MJAR PcP **PcP** **11 44 29.9 0.0**
comp=Z,2.6nm,0.8s,baz=158,slow=12,SNR=4.4
MJAR ScP **ScP** **11 48 06.9 -1.8**
comp=Z,21nm,1.3s,baz=216,slow=4.1,SNR=13
MJAR LR LR 11 56 30.9
comp=Z,299nm,21.8s,baz=194,slow=33
comp=Z,12nm,0.8s
MAJO Matsushiro 39.13 22 P **P** **11 42 20.5 -1.7**
MAJO IAmb IAmb 11 42 47.2
comp=Z,130nm,1.8s
MAJO Matsushiro 39.13 22 P **P** **11 42 21.1 -1.1**
MAJO Matsushiro 39.13 22 *d* *i*P **P** **11 42 20.1 -2.1**
MAJO pmax pmax
comp=Z,21nm,1.1s
MAJO Matsushiro 39.13 22 P **P** **11 42 20.5 -1.7**
MAJO pP **pP** **11 42 45.1 -1.7**
MAJO sP **sP** **11 42 56.5 -2.5**
MJB9 Matsu-Tunnel 39.13 22 P **P** **11 42 20.8 -1.5**
MJB9 IAmb IAmb 11 42 48.2
comp=Z,118nm,1.8s
CMSA Cobar Meteorol 39.20 146 P **P** **11 42 24.2 +1.3**
HNR Honiara 39.52 105 P **P** **11 42 24.9 -0.9**
comp=Z,1μm,0.5s,baz=198,slow=2.0,SNR=3.7
SUJ Sinuiju 39.58 4 P **P** **11 42 25.1 -0.8**
HHU Hamhung 39.69 7 P **P** **11 42 27.5 +0.7**
BJT Baijiatuan 39.70 354 P **P** **11 42 27.9 +1.0**
BJT Baijiatuan 39.70 354 P **P** **11 42 27.3 +0.5**
BJT pP **pP** **11 42 52.0 +0.7**
BJT sP **sP** **11 43 03.3 -0.3**
BJI Beijing 39.72 354 P **P** **11 42 27.6 +0.6**
BJI sP **sP** **11 43 03.5 -0.3**
BJI ScP **ScP** **11 48 10.1 -0.7**
BJI S **S** **11 48 21.0 -1.8**
BJI pmax pmax
comp=Z,38nm,0.7s
BJI pmax pmax
comp=Z,140nm,5.0s
LSA Lhasa 41.02 318 P **P** **11 42 39.5 +1.0**
LSA Lhasa 41.02 318 P **P** **11 42 40.7 +2.2**
HHC Hu-ho-hao-te 41.23 349 *e*P **P** **11 42 40.1 +0.5**
HHC pP pP 11 43 05.6 +1.3
HHC sP sP 11 43 15.6 -0.9
HHC pmax pmax
comp=Z,82nm,1.2s
PALK Pallekele 41.24 281 P **P** **11 42 40.1 +0.1**
PALK IAmb IAmb 11 43 18.4
comp=Z,83nm,1.3s
PALK Pallekele 41.24 281 *de*P **P** **11 42 40.4 +0.4**
PALK pmax pmax
comp=Z,22nm,1.1s
PALK Pallekele 41.24 281 LR LR 12 01 05.1
comp=Z,107nm,18.3s,baz=206,slow=38
PALK Pallekele 41.24 281 P **P** **11 42 40.4 +0.4**
SNY Shenyang 41.25 2 ⇓P **P** **11 42 39.1 -0.5**
SNY S **S** **11 48 44.3 -1.2**
SNY pmax pmax
comp=Z,53nm,1.2s
SNY pmax pmax
comp=Z,240nm,4.6s
SNY LR LR
comp=Z,150nm,13.5s
SNY LR LR
comp=Z,120nm,7.7s
SNY LR LR
comp=Z,430nm,20.4s
JMM Marumori 41.28 23 P **P** **11 42 38.6 -1.2**
JMM Marumori 41.28 23 P **P** **11 42 39.9 0.0**
BTO Baotou 41.33 347 *e*P **P** **11 42 42.8 +2.4**
BTO pP **pP** **11 43 02.0 -3.1**
BTO sP **sP** **11 43 18.6 +1.3**
BTO PP **PP** **11 44 20.8 +2.8**
BTO S **S** **11 48 50.0 +3.1**
BTO SS **SS** **11 52 01.1 +6.2**
BTO pmax pmax
comp=Z,220nm,1.3s
BTO pmax pmax
comp=Z,1μm,6.5s
BTO LR LR
comp=Z,680nm,16.1s
BTO LR LR
comp=Z,2μm,17.8s
BTO LR LR
comp=Z,1μm,23.0s
AUDCS Dubbo College 41.39 144 P **P** **11 42 42.5 +1.6**
ARPS Mount Arapiles 41.55 155 P **P** **11 42 43.7 +1.6**
GC1S Gold Coast 1 S 41.83 135 P **P** **11 42 47.0 +2.4**
AUPHS Peel High Scho 41.97 141 P **P** **11 42 47.5 +1.8**
ARMA Armidale 41.99 140 P **P** **11 42 47.1 +1.2**
ARMA IAmb IAmb 11 42 49.5
comp=Z,129nm,0.9s
ARMA Armidale 41.99 140 P **P** **11 42 47.9 +1.9**
AUMAG Moama Anglican 42.30 152 P **P** **11 42 50.3 +2.1**
YNG Young 42.77 147 P **P** **11 42 53.5 +1.4**
MSHR Mys Shultsa 42.85 11 *de*P **P** **11 42 52.5 -0.1**
MSHR pmax pmax
comp=Z,33nm,1.0s
PSTR Posyet 42.86 10 *ce*P **P** **11 42 52.6 0.0**
BRAT Ballarat 43.11 154 P **P** **11 42 56.4 +1.7**
CN2 Changchun 43.33 4 P **P** **11 42 55.8 -0.6**
CN2 PcP **PcP** **11 44 42.3 -1.1**
CN2 ScP **ScP** **11 48 24.0 -1.1**
CN2 S **S** **11 49 15.8 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
GOMU GeErMu 43.36 328 P **P** **11 42 59.0 +1.7**
GOMU pmax pmax
comp=Z,39nm,1.0s
GOMU LR LR
comp=Z,300nm,17.0s
GOMU LR LR
comp=Z,210nm,16.8s
GOMU LR LR
comp=Z,350nm,16.7s
VLA Vladivostok 43.51 11 ⇑ *e*P **P** **11 42 59.0 +1.1**
VLA pmax pmax
comp=Z,19nm,1.2s
XLT XiLinHaoTe 43.55 354 *e*P **P** **11 42 58.1 -0.2**
XLT pP pP 11 43 22.6 -0.6
XLT sP sP 11 43 35.1 -0.3
XLT S **S** **11 49 17.8 -1.6**
XLT sS sS 11 50 02.8 +0.5
XLT ScS **ScS** **11 52 44.5 -2.6**
XLT pmax pmax
comp=Z,72nm,1.4s
XLT pmax pmax
comp=Z,120nm,4.4s
MGCD Mangrove Creek 43.55 143 P **P** **11 42 59.8 +1.4**
GTA Gaotai 43.56 335 ⇓P **P** **11 43 00.0 +1.4**
GTA pP pP 11 43 25.5 +1.8
GTA ScP **ScP** **11 48 26.6 +0.2**
GTA S **S** **11 49 21.0 +1.1**
GTA pmax pmax
comp=Z,120nm,1.2s
GTA pmax pmax
comp=Z,410nm,7.6s
GTA LR LR
comp=Z,160nm,17.4s
GTA LR LR
comp=Z,240nm,18.2s
GTA LR LR
comp=Z,260nm,19.3s
NTLH Newcastle Hard 43.70 142 P **P** **11 43 02.1 +2.5**
SYDH Sydney Hard Ro 43.72 144 P **P** **11 43 02.3 +2.6**
GEXS Deakin Univers 43.80 154 P **P** **11 43 02.9 +2.6**
TOO Toolangi 43.83 152 P **P** **11 43 01.7 +1.0**
TOO Toolangi 43.83 152 P **P** **11 43 02.5 +1.8**
TOO Toolangi 43.83 152 P **P** **11 43 01.7 +1.0**
TOO pmax pmax
comp=Z,228nm,1.4s
CAN Canberra 43.86 147 P **P** **11 43 02.5 +1.6**
CAN Canberra 43.86 147 P **P** **11 43 02.7 +1.8**
CAN Canberra 43.86 147 P **P** **11 43 02.5 +1.6**
CAN pmax pmax
comp=Z,271nm,0.8s
CAN Canberra 43.86 147 P **P** **11 43 02.5 +1.6**
JTM Tenmabayashi 43.92 22 P **P** **11 43 00.0 -1.2**
JTM IAmb IAmb 11 43 02.1
comp=Z,146nm,1.4s
CNB Canberra Magne 44.06 147 P **P** **11 43 04.2 +1.7**
WOLH Wollongong Har 44.25 144 P **P** **11 43 06.1 +2.1**
AUSMG Snowy Mountain 44.48 148 P **P** **11 43 07.8 +1.9**
USA0B Ussuriysk Arra 44.57 11 P **P** **11 43 05.3 -1.0**
USA0B IAmb IAmb 11 43 07.3
comp=Z,74nm,1.4s
USA0B Ussuriysk Arra 44.57 11 *d* *i*P **P** **11 43 05.8 -0.5**
USRK Ussuriysk Ar. 44.57 11 P **P** **11 43 05.8 -0.5**
comp=Z,22nm,0.5s,baz=198,slow=6.8,SNR=86
USRK LR LR 12 00 20.8
comp=Z,131nm,21.3s,baz=163,slow=34
comp=Z,22nm,0.5s
MDJ Mudanjiang 44.58 8 P **P** **11 43 06.3 -0.1**
MDJ pP pP 11 43 31.6 +0.1
MDJ sP sP 11 43 43.1 -0.5
MDJ S **S** **11 49 35.8 +1.6**
MDJ sS sS 11 50 18.6 +1.4
MDJ pmax pmax
comp=Z,76nm,1.3s
MDJ pmax pmax
comp=Z,300nm,3.8s
MDJ Mudanjiang 44.58 8 P **P** **11 43 06.6 +0.2**
MDJ Mudanjiang 44.58 8 P **P** **11 43 06.3 -0.1**
MDJ pP **pP** **11 43 31.3 -0.2**
MDJ sP **sP** **11 43 42.1 -1.5**
AUUHS Ulladulla High 44.70 146 P **P** **11 43 09.9 +2.3**
BNX BinXian 45.42 6 ⇑P **P** **11 43 12.6 -0.4**
BNX pmax pmax
comp=Z,14nm,0.6s
BNX pmax pmax
comp=Z,150nm,5.4s
HYB Hyderabad 45.48 294 *e*P **P** **11 43 14.6 +0.5**
HYB IVmB_BB 11 43 15.3
comp=Z,741nm,1.3s
HYB *ep*P **pP** **11 43 38.8 -0.7**
HYB *es*P **sP** **11 43 50.8 -0.9**
HYB *e*S **S** **11 49 48.8 +0.7**
HYB *es*S **sS** **11 50 30.3 -1.0**
HYB *e*ScS **ScS** **11 52 59.6 -0.7**
HYB *e*SS **SS** **11 53 17.5 +3.8**
KOUNC Koumac, New Ca 46.76 119 P **P** **11 43 24.8 +0.8**
KOUNC IAmb IAmb 11 43 26.7
comp=Z,63nm,1.1s
KOUNC Koumac, New Ca 46.76 119 P **P** **11 43 26.2 +2.2**
ASAJ Asahikawa 47.38 21 P **P** **11 43 27.7 -0.7**
ASAJ pmax pmax
comp=Z,97nm,1.5s
ASAJ Asahikawa 47.38 21 LR LR 12 01 31.6
comp=Z,142nm,22.0s,baz=171,slow=34
JKA Kamikawa-asahi 47.38 21 P **P** **11 43 27.7 -0.7**
JKA IAmb IAmb 11 43 29.4
comp=Z,97nm,1.5s
LHI Lord Howe Isla 47.70 135 P **P** **11 43 32.5 +1.4**
LHI IAmb IAmb 11 43 34.5
comp=Z,99nm,1.1s
LHI Lord Howe Isla 47.70 135 P **P** **11 43 33.5 +2.4**
HMDM Hanimaadhoo 48.60 279 P **P** **11 43 37.2 -1.1**
SNR=6.1
HIA Hailar 48.67 358 P **P** **11 43 39.2 +0.9**
HIA Hailar 48.67 358 P **P** **11 43 38.4 +0.1**
HIA pP **pP** **11 44 02.8 -0.9**
HIA sP **sP** **11 44 15.1 -0.6**
ULN Ulaanbaatar 48.88 347 P **P** **11 43 41.1 +0.9**
ULN IAmb IAmb 11 43 42.4
comp=Z,109nm,0.9s
ULN Ulaanbaatar 48.88 347 *d* *i*P **P** **11 43 40.8 +0.7**
ULN *i* *PP **pP** **11 44 06.6 +1.1**
ULN pmax pmax
comp=Z,235nm,1.7s
ULN Ulaanbaatar 48.88 347 P **P** **11 43 40.9 +0.8**
ULN Ulaanbaatar 48.88 347 ⇓P **P** **11 43 41.0 +0.8**
ULN pP **pP** **11 44 06.1 +0.6**
ULN sP **sP** **11 44 18.1 +0.6**
TAU Tasmania Unive 48.99 155 P **P** **11 43 43.2 +2.4**
SONM Songino Array 49.01 347 P **P** **11 43 41.7 +0.7**
SONM IAmb IAmb 11 43 43.2
comp=Z,88nm,1.0s
SONM Songino Array 49.01 347 P **P** **11 43 41.7 +0.7**
SONM pmax pmax
comp=Z,88nm,1.0s
SONM Songino Array 49.01 347 P **P** **11 43 41.6 +0.5**
comp=Z,72nm,0.9s,baz=167,slow=8.5,SNR=223
SONM pP **pP** **11 44 07.2 +0.8**
comp=Z,41nm,0.9s,baz=164,slow=8.7,SNR=7.8
SONM ScP **ScP** **11 48 46.8 -2.0**
comp=Z,0.9nm,0.7s,baz=209,slow=2.9,SNR=2.9
SONM LR LR 12 05 55.9
comp=Z,198nm,19.1s,baz=161,slow=38
comp=Z,72nm,0.9s
NOUC Port Laguerre 49.07 120 P **P** **11 43 43.5 +1.7**
NOUC Port Laguerre 49.07 120 P **P** **11 43 43.3 +1.5**
DZM Mont Dzumac 49.18 120 P **P** **11 43 43.5 +0.8**

DZM IAmb IAmb 11 43 45.7
comp=Z,78nm,1.2s
DZM Mont Dzumac 49.18 120 P **P** **11 43 45.0 +2.2**
DZM Mont Dzumac 49.18 120 *e*P **P** **11 43 40.0 -2.8**
comp=Z,104nm,26.8s
DZM Mont Dzumac 49.18 120 LR LR 12 04 50.1
comp=Z,122nm,18.4s,baz=280,slow=36
DZM Mont Dzumac 49.18 120 P **P** **11 43 44.2 +1.5**
ONTNC Ouen Toro 49.27 120 P **P** **11 43 44.6 +1.3**
KLR Kul'dur 49.41 9*de*P **P** **11 43 42.8 -1.1**
KLR pmax pmax
comp=Z,35nm,1.7s
KLR Kul'dur 49.41 9 LR LR 12 04 30.0
comp=Z,103nm,21.3s,baz=214,slow=36
DGAR Diego Garcia 49.53 260 P **P** **11 43 44.4 -1.0**
HEH HeiHe 49.89 5⇓*i*P **P** **11 43 47.3 -0.2**
HEH pP **pP** **11 44 12.3 -0.7**
HEH ScP **ScP** **11 48 50.0 -2.4**
HEH S **S** **11 50 48.0 -1.4**
HEH SS **SS** **11 54 24.8 +1.1**
HEH pmax pmax
comp=Z,260nm,5.4s
YSS Yuzh-Sakhalins 49.92 19 *e*P **P** **11 43 47.9 +0.1**
YSS *e* 11 45 06.7
YSS *e*S **S** **11 50 48.0 -1.9**
YSS pmax pmax
comp=Z,10.0nm,0.9s
YSS MLR MLR
comp=Z,400nm,12.0s
PINNC Pines Island, 50.24 120 P **P** **11 43 51.8 +1.2**
PINNC Pines Island, 50.24 120 P **P** **11 43 52.3 +1.7**
TARA Tarawa 51.43 89 P **P** **11 43 59.6 -0.2**
GRNR Gornyy 51.73 12⇓*i*P **P** **11 44 01.2 -0.2**
GRNR pmax pmax
comp=N,10.0nm,1.2s
GRNR pmax pmax
comp=Z,20nm,1.1s
CIT Chita 51.84 354 *e*P **P** **11 44 02.9 +0.7**
CIT pmax pmax
comp=Z,155nm,1.9s
ZAK Zakamensk 52.13 345 *e*P **P** **11 44 04.5 0.0**
ZAK pmax pmax
comp=Z,35nm,1.4s
WMQ Urumqi 52.66 330 ⇓P **P** **11 44 09.8 +1.4**
WMQ pP pP 11 44 34.5 +0.3
WMQ pmax pmax
comp=Z,94nm,1.1s
WMQ pmax pmax
comp=Z,390nm,3.7s
WMQ LR LR
comp=Z,320nm,23.3s
WMQ LR LR
comp=Z,320nm,24.5s
ZEA Zeya 53.34 4 *e*P **P** **11 44 12.6 -0.5**
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,20nm,0.8s
TYV Tymovskoe 53.36 17 *e*P **P** **11 44 12.9 -0.4**
TYV *e*S **S** **11 51 35.9 -1.1**
TYV pmax pmax
comp=Z,200nm,3.8s
TYV pmax pmax
comp=Z,10.0nm,1.3s
TYV smax smax
comp=N,100nm,4.6s
TYV smax smax
comp=E,200nm,4.6s
IRK Irkutsk 53.62 347 *e*P **P** **11 44 14.2 -1.0**
IRK pmax pmax
comp=Z,144nm,2.2s
MOY Mondy 53.90 344 *e*P **P** **11 44 18.3 +0.9**
MOY *e* 11 44 44.0
MOY pmax pmax
comp=Z,113nm,1.6s
WUS Wushi 55.72 322 P **P** **11 44 32.3 +1.5**
NIL Nilore 55.97 311 P **P** **11 44 32.9 +0.3**
NIL Nilore 55.97 311 P **P** **11 44 32.9 +0.3**
NIL pmax pmax
comp=Z,185nm,1.5s
NIL Nilore 55.97 311 P **P** **11 44 33.0 +0.4**
ZSN Zaisan 56.62 331 *e*P **P** **11 44 37.2 +0.3**
ZSN pmax pmax
comp=Z,11nm,1.1s
ZSN Zaisan 56.62 331 *e*P **P** **11 44 37.2 +0.3**
comp=Z,11nm,1.1s,baz=331
PDGK Podgornoye 56.82 324 P **P** **11 44 39.2 +0.7**
KSH Kashi 56.86 319 P **P** **11 44 40.8 +1.9**
KSH sP sP 11 45 16.3 -0.7
KSH S **S** **11 52 26.0 +1.5**
KSH pmax pmax
comp=Z,58nm,1.2s
TARG Taragay, Kyrgy 56.90 322 P **P** **11 44 40.5 +1.0**
TARG IAmb IAmb 11 44 52.7
comp=Z,80nm,1.3s
TARG Taragay, Kyrgy 56.90 322 P **P** **11 44 40.5 +1.0**
TARG pmax pmax
comp=Z,80nm,1.3s
PRZ Przheval'sk 56.96 323 P **P** **11 44 41.1 +1.4**
PRZ Przheval'sk 56.96 323 P **P** **11 44 41.1 +1.4**
PRZ pmax pmax
comp=Z,108nm,0.6s
UZB Uzynbulak 56.98 324 *e*P **P** **11 44 39.7 0.0**
UZB pmax pmax
comp=Z,9.0nm,0.7s
UZB Uzynbulak 56.98 324 *e*P **P** **11 44 39.8 0.0**
comp=Z,8.7nm,0.7s,baz=324
DGZ Jazzator, Alta 57.07 334*d i*P **P** **11 44 41.1 +0.8**
DGZ pmax pmax
comp=Z,50nm,1.0s
SATY Saty 57.30 323 *e*P **P** **11 44 41.9 0.0**
SATY Saty 57.30 323 *e*P **P** **11 44 41.9 0.0**
baz=323
ZHN Zhinishke 57.34 324 *e*P **P** **11 44 42.1 -0.1**
ZHN pmax pmax
comp=Z,9.0nm,0.7s
ZHN Zhinishke 57.34 324 *e*P **P** **11 44 42.2 -0.1**
comp=Z,9.0nm,0.7s,baz=324
MK31 Makanchi Array 57.47 329 P **P** **11 44 43.2 +0.3**
MK31 IAmb IAmb 11 44 45.2
comp=Z,52nm,0.9s
MK31 Makanchi Array 57.47 329*d i*P **P** **11 44 43.7 +0.8**
MKAR Makanchi Array 57.47 329 P **P** **11 44 43.6 +0.7**
comp=Z,27nm,0.5s,baz=127,slow=9.0,SNR=410
MKAR pP **pP** **11 45 09.1 0.0**
comp=Z,31nm,1.0s,baz=123,slow=8.8,SNR=4.7
MKAR ScP **ScP** **11 49 23.9 -1.7**
comp=Z,1.8nm,1.0s,baz=134,slow=6.2,SNR=2.9
MKAR S **S** **11 52 31.3 -0.6**
comp=Z,1.0nm,1.0s,baz=139,slow=13,SNR=1.3
MKAR LR LR 12 10 11.4
comp=Z,111nm,21.0s,baz=108,slow=37
comp=Z,27nm,0.5s
BOD Bodaibo 57.53 355⇑*i*P **P** **11 44 43.0 -0.1**
BOD pmax pmax
comp=Z,143nm,1.5s
MAKZ Makanchi 57.64 329 P **P** **11 44 44.5 +0.4**
MAKZ IAmb IAmb 11 44 46.3
comp=Z,67nm,1.0s
MAKZ Makanchi 57.64 329 P **P** **11 44 44.5 +0.4**
MAKZ pmax pmax
comp=Z,67nm,1.0s
MAKZ Makanchi 57.64 329 ⇓P **P** **11 44 45.0 +0.8**
MAKZ pP **pP** **11 45 10.7 +0.4**
MAKZ sP **sP** **11 45 22.5 +0.2**
SKR Severo-Kuril's 58.04 25⇓*e*P **P** **11 44 47.4 +0.6**
ULHL Ulahol 58.15 322 P **P** **11 44 49.5 +1.4**
SNR=27
TNSS Tian-Shan 58.16 323 *e*P **P** **11 44 48.2 -0.1**
TNSS Tian-Shan 58.16 323 *e*P **P** **11 44 48.3 -0.1**
baz=323
MDOK Medeo 58.17 323 P **P** **11 44 49.1 +1.0**
MDOK Medeo 58.17 323 *e*P **P** **11 44 48.1 +0.1**
baz=323
FUNA Funafuti 58.17 100 P **P** **11 44 49.3 +0.9**
FUNA Funafuti 58.17 100 P **P** **11 44 49.5 +1.1**
AAA Alma-Ata 58.27 323 *e*P **P** **11 44 49.1 +0.4**
AAA Alma-Ata 58.27 323 *e*P **P** **11 44 49.2 +0.4**
baz=323
TDK Taldyqorghan 58.44 325 *e*P **P** **11 44 49.8 +0.1**
TDK Taldyqorghan 58.44 325 *e*P **P** **11 44 49.9 +0.1**
baz=325
MSVF Nonsavu 58.47 111 P **P** **11 44 52.1 +1.7**
MSVF Nonsavu 58.47 111 P **P** **11 44 52.1 +1.7**
MSVF Nonsavu 58.47 111*ce*P **P** **11 44 52.5 +2.0**
MSVF pmax pmax
comp=Z,77nm,1.0s
MSVF Nonsavu 58.47 111 P **P** **11 44 52.4 +2.0**
BOOM Boomskoye usch 58.47 322 P **P** **11 44 51.0 +0.8**
BOOM Boomskoye usch 58.47 322 P **P** **11 44 51.0 +0.8**
BOOM pmax pmax
comp=Z,106nm,1.3s
CHKK Chushkaly 58.60 324 *e*P **P** **11 44 50.9 0.0**
CHKK Chushkaly 58.60 324 *e*P **P** **11 44 50.9 0.0**
baz=324
TKM2 Tokmak 2 58.92 322 P **P** **11 44 54.8 +1.4**
SNR=116
TKM2 Tokmak 2 58.92 322 P **P** **11 44 54.7 +1.4**
KBK Karagaybulak 59.18 321 P **P** **11 44 56.8 +1.7**
SNR=35
UCH Uchtor 59.22 321 P **P** **11 44 57.3 +1.6**
SNR=63
AAK Ala-Archa 59.45 321 P **P** **11 44 58.6 +1.6**
SNR=57
AAK Ala-Archa 59.45 321 P **P** **11 44 58.1 +1.1**
AAK IAmb IAmb 11 44 59.9
comp=Z,47nm,0.7s
AAK Ala-Archa 59.45 321*d i*P **P** **11 44 58.4 +1.4**
AAK pmax pmax
comp=Z,130nm,1.7s
AAK Ala-Archa 59.45 321 P **P** **11 44 57.5 +0.5**
AAK Ala-Archa 59.45 321 P **P** **11 44 58.5 +1.6**
AAK pP **pP** **11 45 24.9 +1.6**
AAK sP **sP** **11 45 36.9 +1.7**
CHMS Chumysh 59.48 322 P **P** **11 44 58.0 +1.0**
SNR=9.6
KBL Kabul 59.52 311 P **P** **11 44 58.0 +0.3**
KBL Kabul 59.52 311 P **P** **11 44 58.0 +0.3**
KBL pmax pmax
comp=Z,86nm,0.9s
KBL Kabul 59.52 311 P **P** **11 44 56.9 -0.7**
SNR=56
DRK Karamyk 59.65 317 P **P** **11 44 59.1 +0.6**
ARSB Arslanbob 59.75 319 P **P** **11 44 59.5 +0.5**
ARSB Arslanbob 59.75 319 P **P** **11 44 59.5 +0.5**
ARSB pmax pmax
comp=Z,20nm,0.9s
DGTI Dogotuki 59.78 109 P **P** **11 45 01.8 +2.4**
USP Ospenovka 59.78 322 P **P** **11 45 00.3 +1.2**
SNR=48
SGDS Sogindy 59.80 322 *e*P **P** **11 44 59.7 +0.5**
SGDS pmax pmax
comp=Z,10.0nm,0.8s
SGDS Sogindy 59.80 322 *e*P **P** **11 44 59.7 +0.5**
comp=Z,10nm,0.8s,baz=322
EKS2 Erkin-Say 59.91 321 P **P** **11 45 01.7 +1.6**
SNR=22
TAVE Taveuni 60.19 109 P **P** **11 45 04.6 +2.4**
GAR Garm 60.45 316 P **P** **11 45 04.0 +0.2**
PEA0B Petropavlovsk- 60.50 24⇑*e*P **P** **11 45 01.8 -1.9**
PETK Petropavlovsk- 60.50 24 P **P** **11 45 03.9 +0.2**
PETK Petropavlovsk- 60.50 24 P **P** **11 45 03.9 +0.2**
PETK Petropavlovsk- 60.50 24 P **P** **11 45 03.2 -0.5**
comp=Z,34nm,1.0s,baz=205,slow=4.3,SNR=14
PETK pP **pP** **11 45 28.8 -1.4**
comp=Z,17nm,0.9s,baz=212,slow=5.3,SNR=4.1
PETK LR LR 12 09 11.4
comp=Z,72nm,21.6s,baz=223,slow=34
comp=Z,34nm,1.0s
BTK Batken 60.59 317 P **P** **11 45 05.5 +0.8**
BTK IAmb IAmb 11 45 07.1
comp=Z,97nm,1.3s
BTK Batken 60.59 317 P **P** **11 45 05.5 +0.8**
BTK pmax pmax
comp=Z,97nm,1.3s
SEM Semipalatinsk 60.87 331 *e*P **P** **11 45 06.1 -0.4**
SEM pmax pmax
comp=Z,7.0nm,0.7s
SEM Semipalatinsk 60.87 331 *e*P **P** **11 45 06.2 -0.4**
comp=Z,6.9nm,0.7s,baz=331
BTLS Baital 61.01 323*d i*P **P** **11 45 07.8 +0.5**
BTLS pmax pmax
comp=Z,7.0nm,0.8s
BTLS Baital 61.01 323⇓*i*P **P** **11 45 07.9 +0.5**
comp=Z,6.9nm,0.8s,baz=323
JCZ Jackson Bay 61.07 143 P **P** **11 45 09.9 +2.0**
SIMJ Simiganj 61.22 315 P **P** **11 45 09.0 -0.1**
SIMJ Simiganj 61.22 315 P **P** **11 45 09.2 +0.1**
ZAA0 Zalesovo Array 61.31 336 P **P** **11 45 08.3 -0.8**
ZAA0 IAmb IAmb 11 45 10.1
comp=Z,110nm,1.4s
ZALV Zalesovo Beam 61.31 336 P **P** **11 45 09.0 -0.2**
ZALV Zalesovo Beam 61.31 336 P **P** **11 45 08.7 -0.4**
comp=Z,27nm,0.6s,baz=130,slow=6.0,SNR=94
ZALV pP **pP** **11 45 34.4 -1.3**
comp=Z,15nm,0.8s,baz=134,slow=6.4,SNR=4.8
ZALV LR LR 12 12 39.4
comp=Z,53nm,18.8s,baz=124,slow=37
comp=Z,27nm,0.6s
MLZ Mavora Lakes 61.39 144 P **P** **11 45 10.8 +0.9**
MLZ IAmb IAmb 11 45 11.7
comp=Z,45nm,0.9s
DZA Taraz 61.59 320 *e*P **P** **11 45 11.3 0.0**
DZA pmax pmax
comp=Z,7.0nm,0.5s
DZA Taraz 61.59 320 *e*P **P** **11 45 11.4 0.0**
comp=Z,6.6nm,0.5s,baz=320
WHZ Wether Hill Ro 61.59 145 P **P** **11 45 11.7 +0.5**
WHZ IAmb IAmb 11 45 12.8
comp=Z,62nm,1.0s
YAK Yakutsk 61.76 4 P **P** **11 45 11.4 -0.6**
YAK Yakutsk 61.76 4*d i*P **P** **11 45 11.1 -0.9**
YAK *e* 11 45 52.0
YAK *e* 11 47 25.8
YAK *e*PPP PPP 11 48 55.5
YAK *e*S **S** **11 53 24.5 -1.9**
YAK *e* 11 54 47.9
YAK *e*SS **SS** **11 57 28.8 -1.2**
YAK pmax pmax
comp=Z,58nm,0.9s
YAK pmax pmax
comp=N,29nm,1.1s
YAK pmax pmax
comp=E,11nm,1.1s
YAK pmax pmax
comp=Z,142nm,4.4s
YAK pmax pmax
comp=N,105nm,2.7s
YAK pmax pmax
comp=E,47nm,2.6s
YAK smax smax
comp=N,283nm,3.9s
YAK smax smax
comp=E,158nm,4.1s
YAK Yakutsk 61.76 4 LR LR 12 11 51.1
comp=E,68nm,21.9s,baz=172,slow=36
YAK Yakutsk 61.76 4 P **P** **11 45 11.1 -0.9**
YAK pP **pP** **11 45 37.2 -1.2**
DSZ Denniston Nort 61.77 139 P **P** **11 45 13.8 +1.2**
QRZ Quartz Range 61.81 138 P **P** **11 45 14.3 +1.4**
KURBB Kurchatov Arra 61.84 331 P **P** **11 45 12.7 -0.1**
KURBB Kurchatov Arra 61.84 331 P **P** **11 45 13.2 +0.4**
comp=E,17nm,0.5s,baz=185,slow=1.0,SNR=191
KURBB pP **pP** **11 45 37.9 -1.5**
comp=E,28nm,1.1s,baz=129,slow=6.2,SNR=5.9
KURBB S **S** **11 53 26.2 -1.7**
comp=E,1.1nm,0.3s,baz=138,slow=12,SNR=4.7
comp=E,17nm,0.5s
KURK Kurchatov 61.86 331 P **P** **11 45 12.9 0.0**
KURK Kurchatov 61.86 331 P **P** **11 45 12.9 0.0**
KURK pmax pmax
comp=Z,79nm,0.7s
KURK Kurchatov 61.86 331 P **P** **11 45 13.0 +0.1**
KURK Kurchatov 61.86 331 P **P** **11 45 13.3 +0.4**
KURK pP **pP** **11 45 38.7 -0.8**
KURK sP **sP** **11 45 50.4 -0.9**
INZ Inchbonnie 62.02 140 P **P** **11 45 14.8 +0.6**
INZ IAmb IAmb 11 45 17.6
comp=Z,75nm,1.1s
IUG Iuzhnay 62.08 319 *e*P **P** **11 45 14.7 0.0**
IUG pmax pmax
comp=Z,16nm,0.9s
IUG Iuzhnay 62.08 319 *e*P **P** **11 45 14.7 0.0**
comp=Z,16nm,0.9s,baz=319
LBZ Lake Benmore 62.09 142 P **P** **11 45 15.5 +0.9**
LBZ IAmb IAmb 11 45 16.4
comp=Z,100nm,1.3s
KK31 Karatay Array 62.22 320 P **P** **11 45 15.1 -0.4**
KK31 IAmb IAmb 11 45 18.1
comp=Z,32nm,0.9s
KK31 Karatay Array 62.22 320 P **P** **11 45 15.1 -0.4**
KK31 pmax pmax
comp=Z,32nm,0.9s
KKAR Karatay Array 62.22 320 P **P** **11 45 15.3 -0.2**
KKAR IAmb IAmb 11 45 18.1
comp=Z,31nm,0.9s
KKAR Karatay Array 62.22 320 P **P** **11 45 15.3 -0.2**
KKAR pmax pmax
comp=Z,31nm,0.9s
MRNZ Matariki Terra 62.23 138 P **P** **11 45 16.4 +0.8**
RPZ Rata Peaks 62.28 141 P **P** **11 45 16.3 +0.4**
RPZ Rata Peaks 62.28 141 LR LR 12 10 58.2
comp=Z,292nm,22.0s,baz=326,slow=35
CHM Chimkent 62.44 319 *e*P **P** **11 45 17.3 +0.3**
CHM pmax pmax
comp=Z,8.0nm,0.5s
CHM Chimkent 62.44 319 *e*P **P** **11 45 17.4 +0.3**
comp=Z,8.1nm,0.5s,baz=319
THZ Tophouse 62.51 139 P **P** **11 45 17.8 +0.3**
THZ IAmb IAmb 11 45 19.5
comp=Z,98nm,1.3s
TOZ Tahuroa Road 62.52 134 P **P** **11 45 19.0 +1.4**
TOZ IAmb IAmb 11 45 20.9
comp=Z,132nm,1.4s
NNZ Nelson 62.56 138 P **P** **11 45 19.3 +1.5**
NNZ IAmb IAmb 11 45 21.1
comp=Z,132nm,1.5s
BRLS Boroldoy 62.62 320*d i*P **P** **11 45 18.5 +0.3**
BRLS pmax pmax
comp=Z,12nm,1.3s
BRLS Boroldoy 62.62 320⇓*i*P **P** **11 45 18.5 +0.3**
comp=Z,12nm,1.3s,baz=319
BSWZ Blackbirch Sta 63.12 138 P **P** **11 45 21.5 -0.1**
TCW Tory Channel 63.16 138 P **P** **11 45 21.9 +0.1**
NGCH Negor - Chabah 63.22 298 P **P** **11 45 22.2 -0.2**
KHZ Kahutara 63.23 139 P **P** **11 45 22.4 +0.2**
KHZ IAmb IAmb 11 45 23.9
comp=Z,114nm,1.2s
MA2 Magadan 63.23 16 P **P** **11 45 21.7 -0.2**
MA2 IAmb IAmb 11 45 23.5
comp=Z,90nm,1.2s
MA2 Magadan 63.23 16 P **P** **11 45 22.7 +0.8**
MA2 Magadan 63.23 16*d i*P **P** **11 45 22.0 +0.1**
MA2 pmax pmax
comp=Z,121nm,1.7s
MA2 Magadan 63.23 16 LR LR 12 10 50.2
comp=Z,57nm,21.9s,baz=256,slow=34
MA2 Magadan 63.23 16 P **P** **11 45 22.2 +0.3**
MA2 pP **pP** **11 45 48.3 -0.2**
MA2 sP **PcP** **11 45 58.7 +0.4**
SNZO South Karori 63.50 138 P **P** **11 45 23.8 -0.2**
SNZO South Karori 63.50 138 P **P** **11 45 24.7 +0.7**
SNZO South Karori 63.50 138 P **P** **11 45 24.3 +0.3**
BHW Baring Head 63.65 138 P **P** **11 45 24.5 -0.5**
BHW IAmb IAmb 11 45 25.8
comp=Z,40nm,0.7s
OTUK Ortayu 63.72 326 P **P** **11 45 26.0 +0.6**
MRZ Mangatainoka R 63.81 137 P **P** **11 45 26.2 +0.1**
BKZ Black Stump Fm 63.82 135 P **P** **11 45 26.7 +0.4**
BKZ IAmb IAmb 11 45 28.0
comp=Z,138nm,1.5s
BKZ Black Stump Fm 63.82 135 P **P** **11 45 27.7 +1.5**
URZ Urewera 63.90 134 LR LR 12 13 40.2
comp=Z,109nm,19.7s,baz=304,slow=36
RTZ Ruatahuna 63.95 134 P **P** **11 45 27.3 +0.2**
JLN Jalan Bani Buh 64.10 294 P **P** **11 45 26.6 -1.7**
BRZS Berezniki 64.48 327*d i*P **P** **11 45 30.8 +0.5**
BRZS pmax pmax
comp=Z,15nm,0.7s
BRZS Berezniki 64.48 327⇓*i*P **P** **11 45 30.9 +0.5**
comp=Z,14nm,0.7s,baz=327
WBK Wadi Bani Khal 64.59 295 P **P** **11 45 31.0 -0.5**
HRA Herat 64.72 308 P **P** **11 45 32.5 +0.1**
WSAR Wadi Sarin 65.01 295 LR LR 12 14 02.7
comp=Z,76nm,21.9s,baz=106,slow=36
MHTO MHTO 65.22 293 P **P** **11 45 34.6 -1.0**
SNR=7.0
JMDO Jabal Madar 65.33 294 P **P** **11 45 35.1 -1.3**
SNR=5.1
DQM DQM 65.44 292 P **P** **11 45 36.6 -0.5**
SMDO Samad 65.50 295 P **P** **11 45 35.3 -2.2**
BIDO Bidbid 65.52 296 P **P** **11 45 36.4 -1.1**
SNR=7.8
JASK Jask - Hormozg 66.21 298 P **P** **11 45 42.9 +1.0**
BSY Bisya 66.22 295 P **P** **11 45 42.7 +0.7**
SNR=6.5
HOQ Hoqain 66.27 296 P **P** **11 45 41.5 -0.8**
SEY Seymchan 66.47 15⇓*e*P **P** **11 45 42.9 +0.1**
SEY pmax pmax
comp=Z,56nm,1.7s
SEY Seymchan 66.47 15 LR LR 12 13 03.4
comp=Z,96nm,21.8s,baz=250,slow=34
ARQ Araqi 66.94 295 P **P** **11 45 44.7 -1.9**
CASY Casey 67.03 185 P **P** **11 45 46.4 +0.1**
CASY Casey 67.03 185 P **P** **11 45 46.6 +0.4**
CASY pP **pP** **11 46 12.9 +0.1**
SOHO SOHO 67.07 296 P **P** **11 45 44.8 -2.6**
BVA0 Borovoye Array 67.34 329 P **P** **11 45 48.0 -0.6**
BVAR Borovoye Array 67.34 329 P **P** **11 45 48.7 +0.1**
comp=Z,16nm,0.5s,baz=128,slow=9.5,SNR=81
BVAR pP **PcP** **11 46 14.1 -1.3**
comp=Z,19nm,1.0s,baz=119,slow=9.2,SNR=4.0
BVAR S **S** **11 54 33.8 -1.8**
comp=Z,0.4nm,0.7s,baz=161,slow=7.9,SNR=1.8
comp=Z,16nm,0.5s
BRVK Borovoye 67.42 329 P **P** **11 45 48.5 -0.6**
BRVK IAmb IAmb 11 45 50.6
comp=Z,37nm,0.9s
BRVK Borovoye 67.42 329*de*P **P** **11 45 49.0 0.0**
BRVK pmax pmax
comp=Z,82nm,1.7s
BRVK Borovoye 67.42 329 P **P** **11 45 49.2 +0.2**
BRVK pP **PcP** **11 46 15.2 -0.5**
MDH Madha 67.49 297 P **P** **11 45 51.3 +1.2**
HATD Hatta, Dubai 67.55 297 P **P** **11 45 50.4 0.0**
AFI Afiamalu 67.55 105 P **P** **11 45 51.7 +1.0**
AFI IAmb IAmb 11 45 53.9
comp=Z,158nm,1.6s
AFI Afiamalu 67.55 105 P **P** **11 45 52.8 +2.1**
AFI Afiamalu 67.55 105 P **P** **11 45 51.7 +1.0**
AFI pmax pmax
comp=Z,158nm,1.7s
DMTO DMTO 67.57 289 P **P** **11 45 51.0 +0.4**
ALNE Al Ain 67.76 296 P **P** **11 45 52.8 +1.0**
SNR=6.0
SHEM Shemya Is, Ala 67.96 31 LR LR 12 18 08.8
comp=Z,19nm,18.7s,baz=269,slow=38
UMZA Um Al Zommool 68.07 294 P **P** **11 45 53.3 -0.5**
DRV Dumont d'Urvil 68.23 172 P **P** **11 45 54.0 +0.2**
DOK Doka 68.45 290 P **P** **11 45 55.3 -0.9**
SNR=7.1
WHFO Wadi Hawf 68.71 289 P **P** **11 45 56.9 -1.0**
SNR=6.6
GEYT Alibeck 68.97 311 P **P** **11 45 59.6 +0.6**
GEYT IAmb IAmb 11 46 28.9
comp=Z,63nm,0.9s
GEYT Alibeck 68.97 311 P **P** **11 46 00.0 +0.9**
comp=Z,12nm,0.7s,baz=121,slow=7.1,SNR=19
GEYT pP **pP** **11 46 25.4 -1.0**
comp=Z,47nm,0.9s,baz=129,slow=4.0,SNR=18
GEYT LR LR 12 22 22.8
comp=Z,80nm,18.8s,baz=112,slow=41
comp=Z,12nm,0.7s
GYA0B ALIBECK ARRAY 68.97 311 P **P** **11 45 59.9 +0.8**
GYA0B IAmb IAmb 11 46 28.8
comp=Z,54nm,0.9s
ABTO Aybut 69.09 288 P **P** **11 45 59.1 -1.1**
SNR=9.6
NIUE Niue 69.94 110 P **P** **11 46 08.1 +2.8**
TIXI Tiksi 71.26 2 P **P** **11 46 10.9 -1.5**
TIXI IAmb IAmb 11 46 12.1
comp=Z,89nm,1.4s
TIXI Tiksi 71.26 2*de*P **P** **11 46 10.7 -1.7**
TIXI pmax pmax
comp=Z,80nm,1.7s
TIXI Tiksi 71.26 2 LR LR 12 19 03.3
comp=Z,175nm,21.2s,baz=203,slow=37
TIXI Tiksi 71.26 2 P **P** **11 46 10.6 -1.7**
TIXI pP **pP** **11 46 36.8 -2.7**
TIXI sP **sP** **11 46 48.6 -2.5**
AB31 Akbulak array 71.47 323 P **P** **11 46 13.5 -0.6**
ABKAR Akbulak array 71.47 323 P **P** **11 46 13.7 -0.4**
ABKAR Akbulak array 71.47 323 P **P** **11 46 13.7 -0.4**
ABKAR IAmb IAmb 11 46 44.5
comp=Z,40nm,1.0s

NRIK Noril'sk 72.46 348 P **P** 11 46 19.1 -0.4
NRIK IAmb IAmb 11 46 21.5
comp=Z,178nm,1.9s

NRIK Noril'sk 72.46 348 P **P** 11 46 19.1 -0.4
NRIK pmax pmax
comp=Z,179nm,2.0s

NRIK Noril'sk 72.46 348 P **P** 11 46 19.1 -0.4
comp=Z,13nm,0.7s,baz=142,slow=5.8,SNR=28
NRIK pP **pP** 11 46 46.5 -0.3
comp=Z,11nm,0.8s,baz=119,slow=5.6,SNR=4.9
NRIK LR LR 12 20 14.9
comp=Z,137nm,19.1s,baz=154,slow=37
comp=Z,13nm,0.7s

AKTO Aktyubinsk 73.06 323 P **P** 11 46 23.0 -0.5
AKTO Aktyubinsk 73.06 323 LR LR 12 22 31.9
comp=Z,102nm,18.6s,baz=100,slow=39

BILL Bilibino 74.10 16 P **P** 11 46 28.6 -0.6
BILL Bilibino 74.10 16‖ *e*P **P** 11 46 28.6 -0.6
BILL pmax pmax
comp=Z,34nm,1.7s

SVE Sverdlovsk 74.10 330 *ce*P **P** 11 46 29.1 -0.3
SVE *e*S **S** 11 55 52.3 -1.4
SVE pmax pmax
comp=Z,75nm,1.5s

ARU Arti 74.99 329 P **P** 11 46 33.7 -0.9
ARU IAmb IAmb 11 46 35.1
comp=Z,94nm,1.7s

ARU Arti 74.99 329 *de*P **P** 11 46 33.7 -0.9
ARU pmax pmax
comp=Z,58nm,1.7s

RAYN Ar Rayn 76.99 294 P **P** 11 46 45.7 -1.0
RAYN Ar Rayn 76.99 294 P **P** 11 46 45.7 -1.0
RAYN pmax pmax
comp=Z,74nm,1.6s

NIKH Nikolski High 77.51 36 P **P** 11 46 49.1 +0.2
baz=254

SPIA Saint Paul Isl 77.99 31 P **P** 11 46 51.8 +0.3
baz=252

P08K Saint George I 78.18 32 P **P** 11 46 53.1 +0.6
baz=252

MAW Mawson 78.90 199 pP **pP** 11 47 24.5 +1.0
comp=Z,10nm,1.0s,baz=81,slow=16,SNR=4.4
MAW LR LR 12 16 04.1
comp=Z,94nm,21.1s,baz=54,slow=31

UNV Unalaska Valle 79.10 35 P **P** 11 46 58.1 +0.5
baz=256

GROC Groznyy 79.30 314 *e*P **P** 11 46 59.3 +0.3
GROC *e**PP **pP** 11 47 28.1 +1.3
GROC *e* 11 49 59.6
GROC *e*S **S** 11 56 49.4 -1.4
GROC pmax pmax
comp=Z,34nm,1.4s

GAMB Gambell 79.53 25 P **P** 11 47 00.4 +0.7
baz=249

GNI Garni 79.61 311 *ce*P **P** 11 47 02.0 +1.0
GNI pmax pmax
comp=Z,11nm,1.3s

GNI Garni 79.61 311 LR LR 12 29 19.1
comp=Z,34nm,18.4s,baz=86,slow=41

BELG Belogornoye 79.86 323‖ *e*P **P** 11 47 01.1 -0.7
BELG pmax pmax
comp=Z,5.0nm,0.9s

BELG Belogornoye 79.86 323 LR LR 12 25 59.4
comp=Z,57nm,18.6s,baz=138,slow=38

KIRV Kirov 80.36 330 *ce*P **P** 11 47 03.7 -0.6
VNDA Vanda 80.88 172 P **P** 11 47 02.6 -4.2
VNDA Vanda 80.88 172 P **P** 11 47 06.8 0.0
comp=Z,13nm,0.7s,baz=315,slow=6.7,SNR=76
VNDA LR LR 12 21 07.3
comp=Z,109nm,21.9s,baz=318,slow=34
comp=Z,13nm,0.7s

ONI Oni 80.91 313 P **P** 11 47 08.1 +0.3
ONI Oni 80.91 313 P **P** 11 47 08.1 +0.3
ONI pmax pmax
comp=Z,28nm,1.3s

M11K Mekoryuk 80.94 29 P **P** 11 47 07.7 +0.3
baz=255

FALS False Pass 81.09 34 P **P** 11 47 08.4 +0.1
baz=258

KBZ Khabaz 81.46 314‖ *e*P **P** 11 47 10.6 +0.1
KBZ pmax pmax
comp=Z,8.0nm,0.9s

KBZ Khabaz 81.46 314 P **P** 11 47 10.8 +0.3
comp=Z,5.2nm,0.8s,baz=126,slow=6.0,SNR=8.4
KBZ pP **pP** 11 47 39.8 +1.2
comp=Z,14nm,1.0s,baz=183,slow=3.6,SNR=8.1
comp=Z,5.2nm,0.8s

GURO Guroymak-BITLI 81.49 309 P **P** 11 47 11.3 +0.3
GURO IAmb IAmb 11 47 42.0
comp=Z,71nm,1.1s

NEUR Neytrino 81.54 314‖ *e*P **P** 11 47 11.6 +0.3
NEUR pmax pmax
comp=Z,11nm,1.6s

KIV Kislovodsk 81.64 314 *e*P **P** 11 47 11.0 -0.7
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,62nm,19.0s

TNA Tin City 81.66 23 P **P** 11 47 11.4 +0.3
baz=252

S12K Black Hills 82.02 34 P **P** 11 47 12.9 -0.3
baz=259

F14K Arctic Creek 82.27 24 P **P** 11 47 14.9 +0.6
baz=254

M13K Dall Lake 82.32 29 P **P** 11 47 15.4 +0.7
baz=257

ANM Nome 82.41 25 P **P** 11 47 15.0 -0.1
ANM Nome 82.41 25 P **P** 11 47 15.0 -0.1
ANM pmax pmax
comp=Z,22nm,1.4s

ANM Nome 82.41 25 P **P** 11 47 15.5 +0.4
baz=255

J14K Nanvaranak Lak 82.75 27 P **P** 11 47 17.6 +0.7
baz=257,SNR=8.6

L14K Kuka Creek 82.84 28 P **P** 11 47 17.6 +0.3
L14K IAmb IAmb 11 47 19.4
comp=Z,68nm,1.1s

L14K Kuka Creek 82.84 28 P **P** 11 47 18.5 +1.2
baz=258

SDPT Sand Point 82.84 34 P **P** 11 47 18.4 +0.9
baz=260

F15K North Star Dit 83.00 24 P **P** 11 47 19.1 +1.0
baz=255,SNR=21

N14K Kuskokwak Cree 83.03 30 P **P** 11 47 18.9 +0.6
baz=259,SNR=5.5

M14K Bethel 83.06 29 P **P** 11 47 18.8 +0.3
M14K IAmb IAmb 11 47 20.4
comp=Z,74nm,0.9s

M14K Bethel 83.06 29 P **P** 11 47 19.2 +0.7
baz=258,SNR=18

G15K Niukluk 83.07 24 P **P** 11 47 19.0 +0.5
baz=256

O14K Tigyukauivet M 83.11 30 P **P** 11 47 19.5 +0.7
baz=259

VRH Novokhopyorsk 83.25 321 *e*P **P** 11 47 17.5 -2.2
VRH *e**PP **pP** 11 47 51.2 +3.5
VRH pmax pmax
comp=Z,9.0nm,1.0s

CHNA Chernabura Isl 83.26 35 P **P** 11 47 20.5 +0.8
baz=261

C16K Lisburne Hills 83.41 21 P **P** 11 47 20.8 +0.7
baz=254

L15K Ungalak Mounta 83.47 28 P **P** 11 47 21.2 +0.6
baz=259

KIBK Kibwezi 83.47 268 P **P** 11 47 21.5 -0.2
S14K Fog Glacier 83.51 33 P **P** 11 47 21.3 +0.2
baz=261

K15K Wolf Creek Mou 83.57 27 P **P** 11 47 22.0 +0.9
baz=259

M15K Kasigluk River 83.67 29 P **P** 11 47 22.2 +0.6
baz=260

H16K Elim 83.74 25 P **P** 11 47 22.4 +0.4
baz=258,SNR=64

O15K Ungalikthiuk R 83.83 31 P **P** 11 47 23.0 +0.5
baz=260

G16K Koyuk River 83.86 24 P **P** 11 47 23.0 +0.5
G16K IAmb IAmb 11 47 24.4
comp=Z,56nm,0.9s

G16K Koyuk River 83.86 24 P **P** 11 47 23.5 +1.0
baz=258

N15K Kwethluk River 83.86 30 P **P** 11 47 23.2 +0.5
N15K IAmb IAmb 11 47 53.6
comp=Z,68nm,1.1s

N15K Kwethluk River 83.86 30 P **P** 11 47 23.5 +0.8
baz=260

D17K Noatak River 84.09 22 P **P** 11 47 24.7 +1.1
baz=257,SNR=64

CHGN Chignik 84.14 34 P **P** 11 47 24.6 +0.5
baz=262

J16K Anvik River 84.18 26 P **P** 11 47 25.2 +1.0
baz=259,SNR=27

C17K DeLong Mountai 84.24 21 P **P** 11 47 25.1 +0.7
baz=256

RDOG Red Dog Mine 84.24 21 P **P** 11 47 25.0 +0.6
RDOG Red Dog Mine 84.24 21 P **P** 11 47 25.1 +0.7
baz=257,SNR=10

I17K Unalakleet 84.25 26 P **P** 11 47 25.1 +0.6
I17K IAmb IAmb 11 47 55.9
comp=Z,87nm,1.4s

I17K Unalakleet 84.25 26 P **P** 11 47 25.6 +1.1
baz=259,SNR=14

ARPR Arapgir-MALATY 84.41 309 P **P** 11 47 25.2 -0.9
ARPR IAmb IAmb 11 47 57.4
comp=Z,115nm,1.7s

L16K Owhat River 84.42 28 P **P** 11 47 25.1 -0.3
L16K IAmb IAmb 11 47 55.7
comp=Z,45nm,1.1s

L16K Owhat River 84.42 28 P **P** 11 47 26.0 +0.6
baz=261,SNR=11

F17K Baldwin Pennin 84.52 23 P **P** 11 47 26.4 +0.6
baz=258,SNR=6.9

M16K Timber Creek 84.56 29 P **P** 11 47 27.0 +0.8
baz=261

N16K Nishlik Lake 84.56 29 P **P** 11 47 26.3 +0.1
baz=261

G17K Kiwalik Mounta 84.58 24 P **P** 11 47 26.2 0.0
baz=259

P16K Nushagak River 84.74 31 P **P** 11 47 27.0 -0.1
baz=262

R16K Pilot Point 84.77 32 P **P** 11 47 27.7 +0.5
baz=263

O16K Kokwok River B 84.77 30 P **P** 11 47 27.4 +0.2
baz=262

H17K Granite Mounta 84.78 25 P **P** 11 47 27.7 +0.5
baz=257,SNR=15

VSR Storozhevoye 84.85 321 *e*P **P** 11 47 25.0 -2.8
VSR pmax pmax
comp=Z,30nm,0.9s

VORR Voronezh 84.87 322 *e*P **P** 11 47 25.3 -2.6
VORR pmax pmax
comp=Z,50nm,0.9s

B18K Kokolik River 84.92 20 P **P** 11 47 28.4 +0.6
baz=258

E18K Tukpahlearik C 84.96 22 P **P** 11 47 28.4 +0.4
baz=259

C18K Utukok River 84.99 21 P **P** 11 47 28.6 +0.4
baz=258

L17K Donlin 85.04 28 P **P** 11 47 29.0 +0.5
baz=262

K17K Iditarod 85.12 27 P **P** 11 47 29.6 +0.6
baz=262

LPSR Galich'ya Gora 85.14 323 *e*P **P** 11 47 27.0 -2.2
LPSR pmax pmax
comp=Z,30nm,0.9s

F18K Selawik 85.18 23 P **P** 11 47 29.7 +0.6
baz=260,SNR=8.4

ASF Jabal al Asfar 85.19 302 LR LR 12 33 01.3
comp=Z,53nm,18.1s,baz=144,slow=41

O17K Koliganek Bris 85.30 30 P **P** 11 47 30.2 +0.4
baz=263

M17K Holitna River 85.34 28 P **P** 11 47 30.6 +0.6
baz=262

A19K Wainwright 85.34 19 P **P** 11 47 30.6 +0.7
baz=258

N17K Nushagak Hills 85.34 29 P **P** 11 47 30.4 +0.4
baz=263

Q16K King Salmon 85.39 31 P **P** 11 47 30.7 +0.4
baz=263

G18K Tagagawik 85.46 24 P **P** 11 47 30.8 +0.2
baz=261

H18K Honhosa River 85.46 25 P **P** 11 47 30.3 -0.3
H18K Honhosa River 85.46 25 P **P** 11 47 31.0 +0.4
baz=261

P17K Kvichak River 85.56 31 P **P** 11 47 31.6 +0.4
baz=263

CHIR Chirikof Islan 85.64 34 P **P** 11 47 31.9 +0.3
baz=264

C19K Lookout Ridge 85.64 21 P **P** 11 47 31.8 +0.3
C19K IAmb IAmb 11 48 02.0
comp=Z,70nm,1.1s

C19K Lookout Ridge 85.64 21 P **P** 11 47 32.2 +0.8
baz=260

KLMR Klimovskoe 85.71 331 *e*P **P** 11 47 27.6 -4.3
KLMR *e**PP **pP** 11 47 56.6 -3.5
KLMR *e* 11 50 46.4
KLMR pmax pmax
comp=Z,124nm,1.6s

Q17K Contact Creek 85.74 32 P **P** 11 47 32.1 -0.2
baz=264

L18K Granite Mounta 85.80 28 P **P** 11 47 32.7 +0.4
baz=263,SNR=5.6

J18K Innoko River 85.94 26 P **P** 11 47 33.1 +0.1
baz=263

F19K Shaleruckik Mo 85.95 23 P **P** 11 47 31.8 -1.1
F19K Shaleruckik Mo 85.95 23 P **P** 11 47 33.1 +0.1
baz=262

N18K Kilae Creek 86.00 29 P **P** 11 47 33.3 0.0
baz=264

GCSA Galena City Sc 86.03 25 P **P** 11 47 33.6 +0.2
baz=263

D19K Kuna River 86.07 21 P **P** 11 47 33.7 +0.1
D19K IAmb IAmb 11 47 35.5
comp=Z,33nm,0.7s

D19K Kuna River 86.07 21 P **P** 11 47 33.8 +0.1
baz=261

LODK Lodwar 86.12 273 P **P** 11 47 35.5 +0.4
M18K Stony River 86.12 28 P **P** 11 47 34.0 +0.1
baz=264

G19K Purcell Mounta 86.13 24 P **P** 11 47 34.0 +0.2
baz=262,SNR=19

MOS Moscow 86.18 326 *e*P **P** 11 47 32.1 -2.2
MOS *e* 11 50 55.9
MOS *e*S **SKSac** 11 57 48.9 -1.6
MOS *e*SS **SS** 12 03 43.9 +2.7
MOS pmax pmax
comp=Z,40nm,0.7s

TTA Tatalina 86.19 27 P **P** 11 47 33.8 -0.5
TTA Tatalina 86.19 27 P **P** 11 47 34.9 +0.6
TTA Tatalina 86.19 27 P **P** 11 47 33.8 -0.5
TTA pmax pmax
comp=Z,34nm,1.8s

TTA Tatalina 86.19 27 P **P** 11 47 34.2 -0.1
baz=264,SNR=6.1

SVW2 Sparrevohn 86.19 29 P **P** 11 47 33.7 -0.6
P18K Big Mountain, 86.20 31 P **P** 11 47 34.5 +0.1
baz=264

E19K Redstone River 86.25 22 P **P** 11 47 34.6 +0.1
baz=262,SNR=34

O18K Koktuh Hills 86.25 30 P **P** 11 47 33.8 -0.9
O18K Koktuh Hills 86.25 30 P **P** 11 47 34.4 -0.2
baz=264

GHAJ Ghor Haditha 86.30 301 P **P** 11 47 35.3 -0.1
GHAJ IAmb IAmb 11 48 14.8
comp=Z,112nm,1.5s

H19K Roundabout Mou 86.31 24 P **P** 11 47 35.0 +0.3
baz=263

BNN Bunyan 86.34 309 P **P** 11 47 35.7 0.0
J19K Poorman 86.48 26 P **P** 11 47 35.5 -0.1
baz=264,SNR=9.8

MMAI Mount Meron Ar 86.49 303 P **P** 11 47 37.1 +0.6
comp=Z,12nm,0.9s,baz=48,slow=5.0,SNR=8.4
MMAI pP **pP** 11 48 05.1 +0.4
comp=Z,14nm,1.1s,baz=112,slow=10.0,SNR=3.6
MMAI LR LR 12 33 41.9
comp=Z,46nm,18.2s,baz=55,slow=41
comp=Z,12nm,0.9s

SII Sitkinak Islan 86.50 34 P **P** 11 47 35.8 -0.1
baz=266

B20K Meade River 86.63 20 P **P** 11 47 36.6 +0.4
baz=262

L19K White Mountain 86.65 28 P **P** 11 47 36.2 -0.3
baz=265

D20K Etivluk River 86.65 21 P **P** 11 47 36.2 -0.2
baz=263

N19K Bonanza Creek 86.70 29 P **P** 11 47 36.5 -0.4
baz=265

O19K Port Alsworth 86.73 30 P **P** 11 47 36.4 -0.4
baz=265

OBN Obninsk 86.74 325 *i* P **P** 11 47 35.7 -1.3
OBN *i* *PP **sP** 11 48 12.3 -4.4
OBN *i* 11 50 57.1
OBN pmax pmax
comp=Z,23nm,1.1s

OBN Obninsk 86.74 325 LR LR 12 29 28.0
comp=Z,72nm,20.7s,baz=358,slow=38

E20K Nigu River 86.75 22 P **P** 11 47 36.7 -0.3
baz=263,SNR=27

F20K Avaraart Lake 86.78 23 P **P** 11 47 36.8 -0.2
baz=264

EIL Elat 86.78 300 LR LR 12 31 36.4
comp=Z,43nm,18.7s,baz=72,slow=39

M19K Big River Lodg 86.84 28 P **P** 11 47 36.8 -0.6
baz=265

H20K Anotleneega Mo 86.95 25 P **P** 11 47 37.8 -0.1
baz=264,SNR=6.4

Q19K Cape Douglas, 86.97 31 P **P** 11 47 37.8 -0.3
baz=266

A21K Barrow 86.99 19 P **P** 11 47 38.0 +0.1
baz=262,SNR=9.3

OHAK Old Harbor 87.04 33 P **P** 11 47 38.2 -0.3
baz=266

I20K Naaghedeneel 87.06 25 P **P** 11 47 37.8 -0.6
baz=265

K20K Telida 87.11 27 P **P** 11 47 38.7 -0.1
baz=265

L20K Farewell, AK 87.13 28 P **P** 11 47 38.6 -0.3
baz=266

J20K Nowinta River 87.15 26 P **P** 11 47 38.5 -0.4
baz=265,SNR=9.5

P19K Oil Pt 87.23 30 P **P** 11 47 38.5 -0.9
baz=266

C21K Knifeblade Rid 87.36 21 P **P** 11 47 39.7 -0.1
baz=264,SNR=9.7

M20K Styx River 87.43 28 P **P** 11 47 39.9 -0.5
M20K Styx River 87.43 28 P **P** 11 47 40.0 -0.4
baz=266

KDAK Kodiak Island 87.45 32 P **P** 11 47 39.9 -0.5
baz=267

KDAK Kodiak Island 87.45 32 LR LR 12 23 48.4
comp=Z,33nm,20.1s,baz=273,slow=34

B21K Ikpikpuk River 87.46 20 P **P** 11 47 39.8 -0.5
B21K IAmb IAmb 11 48 09.2
comp=Z,28nm,0.9s

B21K Ikpikpuk River 87.46 20 P **P** 11 47 39.9 -0.3
baz=264

IMAR Indian Mountai 87.47 24 P **P** 11 47 39.6 -0.8
A22K Sinclair Lake 87.48 19 P **P** 11 47 40.3 +0.1
baz=264

O20K Slope Mountain 87.56 30 P **P** 11 47 40.9 -0.2
baz=267

E21K Killik River 87.58 22 P **P** 11 47 40.9 0.0
baz=265

Q20K Shuyak Island 87.60 32 P **P** 11 47 41.2 0.0
baz=267

G21K Allakaket 87.61 24 P **P** 11 47 40.9 -0.1
baz=266,SNR=5.9

F21K Alatna River 87.67 23 P **P** 11 47 41.4 +0.1
baz=266

H21K Melozitna Rive 87.83 24 P **P** 11 47 42.2 +0.1
baz=266

N20K Mount Spurr 87.83 29 P **P** 11 47 42.2 -0.1
baz=267

CHUM Lake Minchumin 87.93 26 P **P** 11 47 42.7 +0.1
baz=267,SNR=13

PPLA Purkeypile 87.93 27 P **P** 11 47 42.5 -0.4
baz=267

B22K Teshekpuk Lake 87.94 20 P **P** 11 47 42.8 +0.3
baz=266,SNR=14

CAST Castle Rocks 88.01 27 P **P** 11 47 42.4 -0.6
baz=267,SNR=15

BR131 Keskin Array S 88.08 310 P **P** 11 47 43.0 -1.0
BR131 Keskin Array S 88.08 310 P **P** 11 47 43.0 -1.0
BR131 pmax pmax
comp=Z,17nm,1.0s

BRTR Keskin Array B 88.08 310 P **P** 11 47 42.6 -1.4
BRTR Keskin Array B 88.08 310 P **P** 11 47 43.2 -0.8
comp=Z,7.1nm,0.9s,baz=130,slow=5.9,SNR=31
BRTR pP **pP** 11 48 10.7 -1.7
comp=Z,13nm,0.9s,baz=116,slow=5.6,SNR=11
comp=Z,7.1nm,0.9s

D22K Ayikyak River 88.09 21 P **P** 11 47 43.5 +0.2
baz=266

I21K Tanana 88.14 25 P **P** 11 47 43.8 +0.3
I21K Tanana 88.14 25 P **P** 11 47 43.9 +0.3
baz=267,SNR=11

SKT Skwentna 88.19 28 P **P** 11 47 43.9 0.0
baz=268

CAPN Captain Cook N 88.33 29 P **P** 11 47 44.5 0.0
baz=268

E22K Anaktuvuk Pass 88.36 22 P **P** 11 47 44.5 -0.2
baz=267,SNR=9.7

H22K Ishtalitna Cre 88.43 24 P **P** 11 47 45.0 0.0
baz=268

BRSE Bradley Lake S 88.50 30 P **P** 11 47 44.9 -0.5
baz=268

BPAW Bear Paw Mtn. 88.53 26 P **P** 11 47 45.5 0.0
baz=268,SNR=9.7

SUA Susitna One 88.55 29 P **P** 11 47 45.0 -0.7
baz=268,SNR=7.9

MLY Manley 88.66 25 P **P** 11 47 45.5 -0.6
baz=268,SNR=18

CUT Chulitna 88.80 28 P **P** 11 47 45.9 -0.8
baz=269

D23K Nanushuk River 88.81 21 P **P** 11 47 46.1 -0.6
baz=268

TRF Thorofare Moun 88.81 27 P **P** 11 47 45.9 -1.1
baz=269,SNR=6.5

M22K Willow 88.85 28 P **P** 11 47 45.9 -1.1
baz=269,SNR=5.3

C23K Itkillik River 88.87 20 P **P** 11 47 46.2 -0.7
baz=268

APA Apatity 88.87 337‖ *i*P **P** 11 47 46.3 -0.6
APA pmax pmax
comp=Z,10.0nm,1.1s

COLD Coldfoot 88.94 23 P **P** 11 47 46.9 -0.4
baz=269

G23K Bananza Creek 89.00 23 P **P** 11 47 46.9 -0.8
baz=269

O22K Cooper Landing 89.02 30 P **P** 11 47 47.0 -0.8
baz=269

RC01 Rabbit Creek A 89.03 29 P **P** 11 47 46.9 -0.9
baz=269,SNR=6.0

PPT2 Papeete2 89.11 107 *e*P **P** 11 47 46.9 -2.3
comp=Z,78nm,25.8s

PPT2 Papeete2 89.11 107 *e*PP **PP** 11 51 20.6 -0.2
comp=Z,51nm,24.8s
PPT2 *e*S **S** 11 58 31.5 +1.8
comp=Z,120nm,28.0s

PPT2 Papeete2 89.11 107 *e*LR LR 12 16 24.9
comp=Z,199nm,38.2s
PPT2 *e*LR LR 12 16 25.5
comp=Z,283nm,39.5s

SEW Seward 89.15 30 P **P** 11 47 47.5 -0.9
baz=269

E23K Chandalar 89.19 22 P **P** 11 47 47.9 -0.6
baz=269

TOLK Toolik Lake Re 89.21 21 P **P** 11 47 48.7 +0.1
TOLK Toolik Lake Re 89.21 21 P **P** 11 47 47.7 -0.9
baz=269,SNR=7.9

I23K Minto, Yukon-K 89.25 25 P **P** 11 47 48.4 -0.3
baz=270,SNR=12

TBI Tubuai 89.29 113 *e*P P 11 47 56.6 +6.7
comp=Z,1µm,37.0s

PMR Palmer 89.32 29 P **P** 11 47 48.1 -1.1
baz=270

NEA2 Nenana 89.37 26 P **P** 11 47 48.4 -0.9
baz=270,SNR=7.7

MCK McKinley 89.42 26 P **P** 11 47 48.6 -1.1
baz=270,SNR=9.1

D24K Happy Valley 89.49 21 P **P** 11 47 49.3 -0.5
baz=270

C24K Franklin Bluff 89.53 20 P **P** 11 47 49.7 -0.3
baz=270

WAT1 Susitna Watana 89.60 27 P **P** 11 47 49.4 -1.1
baz=270

E24K Your Creek 89.61 22 P **P** 11 47 49.7 -0.8
baz=270

KNK Knik Glacier 89.65 29 P **P** 11 47 50.2 -0.6
baz=270,SNR=8.4

JOF Joensuu 89.70 333 *e*P **P** 11 47 48.9 -2.1
SML Sawmill 89.70 28 P **P** 11 47 50.4 -0.7
baz=270,SNR=10

F24K Squaw Lake 89.84 23 P **P** 11 47 51.4 -0.2
baz=271

H24K Noodor Dome 89.87 24 P **P** 11 47 51.7 0.0
baz=271

COLA College 89.89 25 P **P** 11 47 50.7 -1.0
COLA College 89.89 25‖ *e*P **P** 11 47 50.9 -0.8
COLA pmax pmax
comp=Z,3.0nm,0.9s

COLA College 89.89 25 P **P** 11 47 51.6 -0.2
baz=271

WAT6 Susitna Watana 89.97 28 P **P** **11 47 51.7 -0.7**
baz=271,SNR=13
M23K Glacier View 89.99 28 P **P** **11 47 51.3 -1.0**
baz=271,SNR=11
G24K Hadweenzic Riv 90.02 23 P **P** **11 47 52.0 -0.3**
baz=271
POKR Poker Plat Res 90.06 25 P **P** **11 47 52.4 -0.2**
baz=271
DHY Denali Highway 90.13 27 P **P** **11 47 52.8 -0.4**
baz=271,SNR=9.5
SCM Sheep Creek Mo 90.18 28 P **P** **11 47 52.6 -0.7**
baz=271
P23K Montague Islan 90.18 30 P **P** **11 47 53.1 -0.2**
baz=271
HDA Harding Lake 90.29 26 P **P** **11 47 52.3 -1.4**
baz=272,SNR=14
IL31 90.31 25 P **P** **11 47 51.3 -2.4**
ILAR Eielson Array 90.31 25 P **P** **11 47 51.8 -2.0**
comp=Z,1.4nm,0.7s,baz=240,slow=4.7,SNR=30
ILAR pP **pP** **11 48 21.2 -0.8**
comp=Z,1.0nm,0.7s,baz=242,slow=5.1,SNR=3.5
ILAR PKKPbc **PKKPdf** **12 05 21.6 +1.0**
comp=Z,0.5nm,0.7s,baz=106,slow=1.9,SNR=7.4
ILAR LR LR 12 27 10.2
comp=Z,22nm,22.0s,baz=268,slow=35
comp=Z,1.4nm,0.7s
D25K Kavik River 90.36 21 P **P** **11 47 52.8 -1.1**
baz=272
QSPA South Pole Qui 90.36 180 P **P** **11 47 53.5 -0.6**
QSPA IAmb IAmb 11 47 55.8
comp=Z,21nm,0.8s
QSPA South Pole Qui 90.36 180 P **P** **11 47 53.9 -0.2**
comp=Z,16nm,0.6s,baz=302,slow=0.9,SNR=196
QSPA PKKPbc **PKKPdf** **12 05 21.3 +0.1**
comp=Z,0.8nm,0.8s,baz=319,slow=1.0,SNR=6.4
QSPA LR LR 12 29 15.2
comp=Z,83nm,19.4s,baz=337,slow=36
comp=Z,16nm,0.6s
G25K Bearman Lake 90.56 23 P **P** **11 47 54.1 -0.7**
baz=272
H25L Birch Creek 90.69 24 P **P** **11 47 55.0 -0.5**
baz=273
F25K Christian Rive 90.70 23 P **P** **11 47 55.8 +0.2**
baz=273
E25K Arctic Village 90.70 22 P **P** **11 47 55.9 +0.4**
baz=273,SNR=6.8
M24K Tolsona, Glenn 90.72 28 P **P** **11 47 55.2 -0.6**
baz=272,SNR=9.3
MBAR Mbarara 90.76 269 LR LR 12 28 16.7
comp=Z,31nm,18.0s,baz=326,slow=35
K24K Donnelly Dome 90.83 26 P **P** **11 47 55.9 -0.3**
baz=273
C26K Camden Bay 90.84 20 P **P** **11 47 56.3 +0.2**
baz=274
PRP Porcupine Dome 90.85 25 P **P** **11 47 56.3 -0.2**
baz=273
KLU Klutina 90.86 29 P **P** **11 47 55.8 -0.7**
baz=272,SNR=6.7
J25K Salcha River, 90.96 25 P **P** **11 47 56.1 -0.8**
baz=273,SNR=7.1
EYAK Cordova Ski Ar 90.99 30 P **P** **11 47 56.8 -0.1**
baz=273
PAX Paxson 91.00 27 P **P** **11 47 56.3 -0.8**
baz=273
AKASG Malin Array Be 91.11 321 P **P** **11 47 56.1 -1.6**
comp=Z,3.9nm,0.8s,baz=72,slow=4.4,SNR=18
AKASG pP **pP** **11 48 25.2 -0.9**
comp=Z,9.4nm,1.1s,baz=77,slow=4.2,SNR=4.4
AKASG PP **PP** **11 51 40.1 +4.4**
comp=Z,4.0nm,1.1s,baz=68,slow=6.9,SNR=6.4
AKASG LR LR 12 33 27.7
comp=Z,59nm,18.9s,baz=43,slow=38
comp=Z,3.9nm,0.8s
AKBB Malin Array Si 91.11 321 *e*P **P** **11 47 55.9 -1.9**
HARP HAARP 91.18 28 P **P** **11 47 57.6 -0.3**
baz=273
F26K Sheenjek River 91.27 22 P **P** **11 47 58.6 +0.4**
baz=274
G26K Porcupine Rive 91.46 23 P **P** **11 47 59.2 +0.2**
baz=275
N25K Chitina, Valde 91.49 28 P **P** **11 47 58.9 -0.5**
baz=274,SNR=7.3
BMRM Bremner River 91.53 29 P **P** **11 47 58.9 -0.6**
baz=274
SCRK Sand Creek 91.61 26 P **P** **11 47 59.2 -0.8**
baz=274
KAIM Kayak Island 91.69 30 P **P** **11 48 00.0 -0.2**
baz=274
ARCES ARCESS Array B 91.70 340 P **P** **11 47 59.8 -0.4**
comp=Z,6.6nm,0.9s,baz=68,slow=4.3,SNR=10
comp=Z,6.6nm,0.9s
J26L Joseph Creek 91.75 26 P **P** **11 48 00.3 -0.3**
baz=275
MNK Minsk 91.76 324 *e*P **P** **11 47 57.7 -3.0**
MNK *i* *PP **pP** **11 48 27.2 -1.8**
MNK *i* 11 51 36.2
MNK *i* S **SKSac** **11 58 19.4 -4.2**
MNK *i* SS **SS** **12 04 58.0 -4.1**
MNK *i* SSS SSS 12 08 36.6
MNK pmax pmax
comp=Z,9.0nm,0.7s
MNK MLR MLR
comp=Z,122nm,13.0s
MNK MLR MLR
comp=N,102nm,10.0s
MNK MLR MLR
comp=E,60nm,11.0s
MENT Mentasta 91.81 27 P **P** **11 48 02.4 +1.6**
I26K Coal Creek Min 91.86 25 P **P** **11 48 00.4 -0.5**
baz=275
L26K Log Cabin Wild 91.97 27 P **P** **11 48 01.6 +0.1**
baz=275
VSU Vasula 92.14 328 *e*P **P** **11 48 01.3 -1.0**
VSU pmax pmax
comp=Z,8.0nm,0.8s
E27K Coleen River 92.18 22 P **P** **11 48 02.1 -0.3**
baz=277
M26K Nabesna, AK 92.18 28 P **P** **11 48 02.4 -0.1**
baz=275,SNR=6.3
FINES FINESS Array B 92.22 331 P **P** **11 48 01.4 -1.2**
comp=Z,3.0nm,0.6s,baz=46,slow=5.5,SNR=16
FINES pP **pP** **11 48 29.1 -1.8**
comp=Z,4.5nm,0.8s,baz=72,slow=6.2,SNR=3.8
FINES LR LR 12 33 37.1
comp=Z,87nm,19.0s,baz=38,slow=38
comp=Z,3.0nm,0.6s
MCARA McCarthy VSAT 92.26 29 P **P** **11 48 02.9 0.0**
baz=275
D27M Malcolm River 92.28 21 P **P** **11 48 03.5 +0.6**
baz=277
G27K Doyon Strip 92.31 23 P **P** **11 48 03.8 +0.7**
baz=276
H27K Steamboat Moun 92.43 24 P **P** **11 48 03.7 +0.1**
baz=277,SNR=7.3
K27K Chicken 92.44 26 P **P** **11 48 04.4 +0.7**
baz=276
I27K Kandik River 92.47 24 P **P** **11 48 04.4 +0.6**
baz=276
L27K Beaver Creek, 92.65 27 P **P** **11 48 05.2 +0.5**
baz=276
SPITS Spitsbergen Ar 92.67 349 P **P** **11 48 02.6 -1.9**
comp=Z,12nm,0.8s,baz=83,slow=6.8,SNR=7.4
SPITS pP **pP** **11 48 30.9 -1.8**
comp=Z,23nm,0.9s,baz=112,slow=22,SNR=4.6
comp=Z,12nm,0.8s
ISAL Salakas 92.69 326 *e*P **P** **11 48 06.5 +1.5**
M27K Edge Creek, AK 92.70 28 P **P** **11 48 04.9 -0.2**
baz=276
EGAK Eagle 92.75 25 P **P** **11 48 05.0 -0.1**
baz=277
E28M Babbage River 92.88 21 P **P** **11 48 05.7 +0.1**
baz=279
F28M Old Crow 92.90 22 P **P** **11 48 05.1 -0.6**
baz=278,SNR=8.9
MESA MESA 92.90 30 P **P** **11 48 05.7 -0.4**
baz=276
ELIB Princess Elisa 92.94 198 *d*P **P** **11 48 06.6 +0.7**
comp=Z,8.3nm,1.0s
ELIB *d*pP **pP** **11 48 35.0 +1.3**
D28M Stokes Point 93.05 21 P **P** **11 48 06.4 +0.1**
baz=279
CTG Chitna Glacier 93.11 29 P **P** **11 48 07.1 +0.1**
baz=276,SNR=18
BVCY Beaver Creek 93.17 28 P **P** **11 48 06.6 -0.5**
baz=277,SNR=12
I28M Miner Creek 93.18 24 P **P** **11 48 06.5 -0.7**
baz=278,SNR=22
LSZ Lusaka 93.31 255 LR LR 12 28 10.2
comp=Z,53nm,18.5s,baz=134,slow=34
YUK3 Moose Creek 93.44 28 P **P** **11 48 08.4 -0.2**
baz=277,SNR=5.6
E29M Blow River 93.51 21 P **P** **11 48 08.7 +0.2**
baz=280
MLR Muntele Rosu 93.60 315 LR LR 12 36 55.0
comp=Z,43nm,19.6s,baz=69,slow=40
DAWY Dawson 93.61 26 P **P** **11 48 09.1 0.0**
baz=278,SNR=7.7
VAF Ylistaro 93.63 333 *e*P **P** **11 48 07.6 -1.5**
H29M Whitestone 93.70 24 P **P** **11 48 09.6 +0.2**
baz=280,SNR=8.6
G29M Pine Creek 93.72 23 P **P** **11 48 09.5 0.0**
baz=280,SNR=7.6
YUK8 Steele Glacier 93.83 29 P **P** **11 48 10.7 +0.3**
baz=278,SNR=11
VSVD Vaisvydziai 93.89 326 *e*P **P** **11 48 10.0 -0.4**
PABE Paberze 93.92 326 *e*P **P** **11 48 10.2 -0.4**
J29N Klondike Camp 94.05 25 P **P** **11 48 11.7 +0.6**
baz=280,SNR=7.7
PNL Peninsula 94.24 30 P **P** **11 48 12.8 +0.8**
baz=278
M29M Somme Creek 94.27 27 P **P** **11 48 12.6 +0.4**
baz=279,SNR=24
L29M L29M 94.31 27 P **P** **11 48 12.8 +0.4**
baz=280,SNR=19
EPYK Eagle Plains 94.33 23 P **P** **11 48 12.5 +0.2**
baz=281,SNR=5.5
YUK4 Talbot Arm 94.36 28 P **P** **11 48 13.3 +0.5**
baz=279,SNR=6.8
G30M tAoh Zraii Nji 94.40 23 P **P** **11 48 12.5 -0.2**
baz=282
F30M Barrier River 94.44 22 P **P** **11 48 12.4 -0.3**
baz=282,SNR=5.4
K29M Barlow Dome 94.46 26 P **P** **11 48 13.0 -0.1**
baz=280
O29M Mount Kennedy 94.55 29 P **P** **11 48 13.6 -0.1**
baz=279
YUK6 Outpost Mounta 94.56 29 P **P** **11 48 13.1 -0.6**
baz=279
I30M Mount Dempster 94.69 24 P **P** **11 48 13.8 -0.3**
baz=281,SNR=12
J30M Hart River 94.83 25 P **P** **11 48 14.8 0.0**
baz=281
HYT Haines Junctio 94.99 29 P **P** **11 48 16.1 +0.6**
baz=280,SNR=19
M30M Minto, Yukon 95.01 27 P **P** **11 48 15.3 -0.3**
baz=281,SNR=13
P29M Windy Craggy 95.08 30 P **P** **11 48 15.6 -0.3**
baz=280
N30M Aishikik Lake 95.08 28 P **P** **11 48 15.6 -0.3**
baz=280
INK Inuvik 95.08 28 P **P** **11 48 15.6 -0.3**
baz=284,SNR=6.3
INK Inuvik 95.11 21 LR LR 12 33 24.2
comp=Z,29nm,21.2s,baz=8.5,slow=37
G31M Satah River 95.17 23 P **P** **11 48 15.2 -0.8**
baz=283,SNR=8.4
MAYO Mayo, Yukon 95.22 26 P **P** **11 48 17.0 +0.6**
baz=282
P30M Million Dollar 95.38 30 P **P** **11 48 17.1 -0.2**
baz=280
H31M Peel River 95.39 24 P **P** **11 48 17.2 0.0**
baz=283
LBTB Lobatse 95.53 245 LR LR 12 33 02.2
comp=Z,33nm,18.0s,baz=98,slow=36
O30N Mendenhall 95.68 29 P **P** **11 48 18.2 -0.5**
baz=281,SNR=10
PLBC Pleasant Camp 95.80 30 P **P** **11 48 19.2 +0.1**
baz=281
S31K Pelican 96.14 32 P **P** **11 48 20.7 +0.1**
baz=281
M31M Drury Creek, Y 96.18 27 P **P** **11 48 20.9 0.0**
baz=283,SNR=5.4
WHY Whitehorse 96.29 29 P **P** **11 48 21.2 -0.2**
baz=282,SNR=23
SKAG Skagway 96.31 30 P **P** **11 48 22.7 +1.3**
SKAG Skagway 96.31 30 P **P** **11 48 21.6 +0.2**
baz=282,SNR=12
A36M Sachs Harbour 96.65 17 P **P** **11 48 22.1 -0.6**
baz=292
FARO Faro, Yukon 96.65 27 P **P** **11 48 23.3 +0.3**
baz=284,SNR=23
SIT Sitka 96.80 32 P **P** **11 48 24.0 +0.4**
baz=281
R32K Eaglecrest 96.97 31 P **P** **11 48 24.7 +0.2**
baz=282,SNR=5.1
N32M Quiet Lake 97.03 28 P Pdif 11 48 25.1 +0.3
baz=284
P32M Atlin 97.09 30 P Pdif 11 48 25.9 +0.7
baz=283
P33M Teslin, Yukon 97.38 29 P Pdif 11 48 26.9 +0.4
baz=284,SNR=7.2
Q32M Nakina River 97.96 30 P **P** **11 48 29.2 0.0**
baz=284
C36M Paulatuk 98.03 19 P Pdif 11 48 29.3 +0.3
baz=293
VYHS Vyhne 98.06 319 *e*PP **PP** **11 52 31.8 +2.0**
U33K Whale Pass 98.19 33 P Pdif 11 48 30.2 +0.2
baz=283
CRAG Craig 98.33 34 P Pdif 11 48 31.3 +0.7
baz=283
HFS Hagfors 98.43 331 LR LR 12 34 57.4
comp=Z,111nm,21.4s,baz=58,slow=36
R33M Jennings River 98.50 30 P Pdif 11 48 32.0 +0.5
baz=286
WRAK Wrangell Islan 98.53 33 P Pdif 11 48 32.3 +0.8
baz=284
S34M Telegraph Cree 98.80 31 P Pdif 11 48 33.7 +1.0
baz=285
TGTN Hyland Airport 99.16 27 P **Pdif** **11 48 35.1 +0.8**
baz=288
V35K Ketchikan 99.20 34 P **Pdif** **11 48 35.2 +0.8**
baz=284
DLBC Dease Lake 99.23 30 P **Pdif** **11 48 35.3 +0.6**
baz=286
SUR Sutherland 99.26 237 LR LR 12 29 11.1
comp=Z,66nm,20.0s,baz=131,slow=33
NB2 NORSAR Subarra 99.33 332 P **Pdif** **11 48 33.4 -1.7**
comp=Z,1.2nm,0.8s,baz=76,slow=4.6
NOA NORSAR Array B 99.33 332 P **Pdif** **11 48 33.3 -1.7**
comp=Z,1.0nm,0.8s,baz=75,slow=4.4,SNR=4.9
NOA PP **PP** **11 52 39.6 +0.5**
comp=Z,3.1nm,1.1s,baz=70,slow=7.4,SNR=3.5
NOA LR LR 12 37 50.2
comp=Z,70nm,18.7s,baz=75,slow=38
comp=Z,1.0nm,0.8s
WTLY Watson Lake, Y 99.35 29 P **Pdif** **11 48 35.9 +0.7**
baz=288
VRAC Vranov 99.36 320 LR LR 12 37 29.4
comp=Z,38nm,19.4s,baz=80,slow=38
BRG Berggiesshubel 100.68 322 *e*PKP **PP** **11 52 53.2 +3.6**
BRG Amp 11 52 54.5
comp=Z,18nm,1.5s
KOTAN Kotaneelee Air 101.58 28 P **Pdif** **11 48 46.0 +1.0**
baz=292
FLDN Fort Liard 101.81 28 P **Pdif** **11 48 47.2 +1.2**
baz=292
GRF Grafenberg Arr 102.67 321 *e*PP **PKiKP** **11 53 08.5 -2.0**
YKA Yellowknife Ar 104.61 23 Pdiff **Pdif** **11 48 58.0 -0.5**
comp=Z,0.4nm,0.7s,baz=300,slow=4.8,SNR=6.1
YKA PKiKP **PKiKP** **11 53 13.0 -0.6**
comp=Z,0.4nm,0.5s,baz=315,slow=2.3,SNR=14
YKA PKKPbc **PKKPbc** **12 04 41.0 -4.7**
comp=Z,0.8nm,0.8s,baz=114,slow=2.1,SNR=9.2
NEW Newport 110.02 37 P **PKiKP** **11 53 25.3 +1.0**
baz=295
SMMC Simmler 112.71 51 P **PKiKP** **11 53 30.7 +0.9**
baz=288
PKM Mcpherson Peak 112.98 52 P **PKiKP** **11 53 30.6 +0.2**
baz=288
NVAR Mina Array Bea 112.98 48 PKiKP **PKiKP** **11 53 31.2 +0.8**
comp=Z,1.3nm,0.6s,baz=273,slow=2.0,SNR=11
NVAR PKKPbc **PKKPbc** **12 04 16.1 -2.5**
comp=Z,0.4nm,0.6s,baz=129,slow=6.6,SNR=3.9
VES Vestal, Richgr 113.25 50 P **PKiKP** **11 53 30.7 0.0**
baz=289
ARVC Arvin 113.67 51 P **PKiKP** **11 53 31.7 +0.2**
baz=289
SNCC San Nicolas Is 113.70 53 P **PKiKP** **11 53 31.9 +0.3**
baz=287
HLID Hailey 113.72 41 P **PKiKP** **11 53 32.3 +0.7**
baz=295
ISA Isabella, Lake 113.78 50 P **PKiKP** **11 53 32.3 +0.4**
baz=289
CWC Cottonwood Cre 113.82 49 P **PKiKP** **11 53 31.5 -0.5**
baz=290
GRAC Grapevine Rang 114.17 49 P PKPdf 11 53 32.1 -0.4
baz=290
EDW2 Edwards Air Fo 114.40 51 P PKPdf 11 53 32.1 -0.9
baz=289
MPMC Manual Prospec 114.40 50 P PKPdf 11 53 32.3 -0.9
baz=290,SNR=5.2
LRMC Laurel Mtn Rad 114.45 50 P **PKiKP** **11 53 33.9 +0.7**
baz=290
EGMT Eagleton 114.50 35 P PKPdf 11 53 33.1 +0.2
baz=301
FMP Fort Macarthur 114.54 52 P **PKiKP** **11 53 33.5 +0.3**
baz=288
BOZ Bozeman (W) 114.58 38 P PKPdf 11 53 33.5 +0.3
baz=298
FURC Furnace Creek, 114.74 49 P PKPdf 11 53 34.2 +0.7
baz=290
BFSC Mount Baldy Ra 114.87 52 P PKPdf 11 53 34.2 +0.2
baz=289
R11B Troy Canyon, C 115.00 47 P **PKPdf** **11 53 35.0 +0.8**
baz=292
GSC Goldstone, Bar 115.18 50 P **PKPdf** **11 53 35.3 +0.7**
baz=290
SHOC Shoshone, Teco 115.38 49 P **PKPdf** **11 53 35.7 +0.8**
baz=291
MURC Murrieta 115.44 52 P **PKPdf** **11 53 35.6 +0.5**
baz=289
FRB Frobisher Bay 115.54 5 PKiKP **PKiKP** **11 53 33.0 -1.2**
FRB Frobisher Bay 115.54 5 PKP **PKiKP** **11 53 33.0 -1.2**
comp=Z,3.4nm,1.0s,baz=288,slow=2.1,SNR=4.0
HVU Hansel Valley 115.58 42 **PKiKP** **11 53 34.3 -0.9**
HVU Hansel Valley 115.58 42 PKiKP **PKiKP** **11 53 34.3 -0.9**
TUQ Turquoise Moun 115.81 50 P **PKiKP** **11 53 36.5 +0.7**
baz=291
H17A Grant Village 115.81 39 P **PKPdf** **11 53 35.9 +0.2**
baz=299
PFO Pinyon Flats O 116.02 52 P **PKPdf** **11 53 36.2 0.0**
baz=290
TPFO Pinon Flats 116.02 52 P **PKPdf** **11 53 35.2 -1.1**
baz=290
REDW Red Top Meadow 116.13 40 **PKiKP** **11 53 36.8 +0.5**
DUG Dugway, Tooele 116.24 44 P **PKPdf** **11 53 36.2 -0.3**
baz=295
GMRC Granite Mounta 116.24 50 P **PKiKP** **11 53 37.1 +0.4**
baz=291,SNR=5.2
BELC Belle Mtn. Jos 116.25 51 P **PKPdf** **11 53 36.4 -0.3**
baz=290
MONP2 Monument Peak 116.28 53 P **PKPdf** **11 53 36.5 -0.4**
baz=289
ESDC Sonseca Array 116.29 315 PKP **PKPdf** **11 53 36.3 -0.2**
comp=Z,0.4nm,0.7s,baz=13,slow=3.9,SNR=2.1
IKP In-Ko-Pah, Jac 116.61 53 P **PKPdf** **11 53 37.1 -0.2**
baz=289
SWSC Sam W. Stewart 116.76 52 P **PKPdf** **11 53 37.5 0.0**
baz=290
BC3 Big Chuckawall 116.79 52 P **PKPdf** **11 53 37.0 -0.7**
baz=290
IRM Iron Mountain 116.86 51 P **PKiKP** **11 53 37.8 +0.1**
baz=291
LAO LASA Array 117.24 35 PKPdf **PKiKP** **11 53 38.5 +0.3**
LAO LASA Array 117.24 35 P **PKiKP** **11 53 38.4 +0.3**
baz=304
LAO LASA Array 117.24 35 P **PKiKP** **11 53 39.0 +0.8**
baz=304
BW06 Boulder Array 117.25 40 P **PKiKP** **11 53 39.1 +0.6**
baz=299
PDAR Pinedale Array 117.25 40 PKP **PKPdf** **11 53 38.2 -0.2**
comp=Z,1.1nm,0.8s,baz=292,slow=0.8,SNR=7.6
PDAR pPKP **pPKPdf** **11 54 06.2 -1.6**
comp=Z,0.9nm,0.9s,baz=121,slow=2.6,SNR=3.1
PDAR SKP **SKPdf** **11 57 01.8 -2.6**
comp=Z,0.9nm,1.0s,baz=243,slow=1.7,SNR=4.5
PDAR PKKPbc **PKKPbc** **12 04 00.9 -3.1**
comp=Z,1.0nm,0.7s,baz=158,slow=3.3,SNR=4.6
DGMT Dagmar 117.34 32 P **PKiKP** **11 53 38.7 +0.5**
baz=306
DGMT Dagmar 117.34 32 P **PKPdf** **11 53 37.5 -0.8**
baz=306
W13A Hualapai Mount 117.49 50 **PKiKP** **11 53 39.2 0.0**
GLA Glamis 117.49 52 P **PKiKP** **11 53 39.4 +0.4**
baz=290
PDMCI Parker Dam,Lak 117.58 50 P **PKPdf** **11 53 39.0 -0.1**
baz=292
U15A North Rim 118.17 48 **PKiKP** **11 53 41.4 +0.8**
P18A Preston Nutter 118.26 44 **PKiKP** **11 53 40.9 +0.2**
TOA0 Torodi Ar. Sit 118.84 285 PKPdf **PKPdf** **11 53 41.1 -0.8**
TORD Torodi Ar. Bea 118.84 285 PKPdf **PKPdf** **11 53 40.7 -1.3**
TORD Torodi Ar. Bea 118.84 285 PKP **PKPdf** **11 53 41.3 -0.7**
comp=Z,2.6nm,0.6s,baz=54,slow=2.7,SNR=18
TORD pPKP **pPKPdf** **11 54 09.3 -1.9**
comp=Z,1.9nm,0.8s,baz=39,slow=3.9,SNR=5.4
TORD PP **PP** **11 55 05.5 +3.4**
comp=Z,3.5nm,1.1s,baz=49,slow=6.7,SNR=5.6
TORD PKKPbc **PKKPbc** **12 03 58.5 +1.4**
comp=Z,1.9nm,0.7s,baz=285,slow=3.7,SNR=12
WUAZ Wupatki 119.22 48 P **PKiKP** **11 53 42.5 +0.1**
baz=294
K22A Casper 119.24 39 P **PKPdf** **11 53 42.0 -0.2**
baz=302
K22A Casper 119.24 39 P **PKPdf** **11 53 41.9 -0.3**
baz=302
O20A White River Ci 119.38 42 P **PKPdf** **11 53 42.3 -0.3**
baz=299
214A Organ Pipe Nat 119.47 52 P **PKPdf** **11 53 42.8 0.0**
baz=291
RSSD Black Hills 119.95 36 P **PKPdf** **11 53 43.4 -0.3**
baz=305
RSSD Black Hills 119.95 36 P **PKPdf** **11 53 43.2 -0.4**
baz=305
MDND Maddock 120.14 31 P **PKiKP** **11 53 43.9 +0.2**
baz=311
MDND Maddock 120.14 31 P **PKPdf** **11 53 43.5 -0.1**
baz=311
ULM Lac du Bonnet 120.30 27 PKPdf **PKPdf** **11 53 42.8 -1.0**
ULM Lac du Bonnet 120.30 27 PKP **PKPdf** **11 53 42.2 -1.6**
comp=Z,5.6nm,0.7s,baz=320,slow=1.1,SNR=15
N23A Red Feather La 120.52 40 P **PKPdf** **11 53 44.2 -0.7**
baz=301
MVCO Mesa Verde 120.58 45 P **PKiKP** **11 53 45.6 +0.4**
baz=297
W18A Petrified Fore 120.60 48 P **PKPdf** **11 53 44.5 -0.6**
baz=295,SNR=6.6
TUC Tucson 120.94 51 P **PKiKP** **11 53 46.2 +0.4**
baz=293
ISCO Idaho Springs 121.30 41 P **PKPdf** **11 53 46.4 0.0**
baz=301
ISCO Idaho Springs 121.30 41 P **PKiKP** **11 53 46.8 +0.2**
baz=301
AGMN Agassiz Nation 121.68 28 P **PKiKP** **11 53 46.8 +0.2**
baz=315
Q24A Divide 122.04 42 P **PKiKP** **11 53 48.1 0.0**
baz=301
SDCO Great Sand Dun 122.42 43 P **PKPdf** **11 53 48.6 -0.1**
baz=300
SUSD Miller 122.67 34 P **PKPdf** **11 53 49.0 +0.2**
baz=310
OGNE Ogallala 122.98 38 P **PKPdf** **11 53 49.4 0.0**
baz=305
ANMO Albuquerque 123.09 47 P **PKPdf** **11 53 49.8 -0.1**
baz=298
ANMO Albuquerque 123.09 47 P **PKiKP** **11 53 51.2 +1.0**
baz=298
Y22D IRIS PASCAL I 123.14 48 P **PKiKP** **11 53 50.2 0.0**
baz=297
Y22F Passcal Instru 123.14 48 P **PKiKP** **11 53 50.1 -0.1**
baz=297
121A Cookes Peak, D 123.16 50 P **PKPdf** **11 53 50.0 -0.1**
baz=295
121A Cookes Peak, D 123.16 50 P **PKiKP** **11 53 51.2 +0.9**
baz=295
F33A 5 Mile Ranch, 123.17 31 P **PKPdf** **11 53 49.2 -0.3**
baz=313
Y22A Socorro 123.17 48 P **PKiKP** **11 53 51.1 +0.8**
baz=297
K30B Basset 123.41 36 P **PKPdf** **11 53 49.7 -0.4**
baz=308
T25A Trinidad 123.47 43 P **PKPdf** **11 53 50.6 0.0**
baz=301
KSCO Kaye Shedlock' 123.68 41 P **PKPdf** **11 53 50.2 -0.7**
baz=303
EYMN Ely 123.94 26 P **PKiKP** **11 53 51.2 +0.1**
baz=319
EYMN Ely 123.94 26 P **PKPdf** **11 53 50.6 -0.3**
baz=319
SCHQ Schefferville 124.50 6 PKPdf **PKPdf** **11 53 50.7 -1.1**
SCHQ Schefferville 124.50 6 PKP **PKPdf** **11 53 51.2 -0.5**
comp=Z,6.8nm,0.7s,baz=325,slow=1.1,SNR=12
F36A Milaca 124.53 29 PKPdf **PKPdf** **11 53 51.2 -0.9**
F36A Milaca 124.53 29 P **PKPdf** **11 53 51.6 -0.5**
baz=316

BGNE	Belgrade	125.05	36	P		PKiKP	11 53 53.5	-0.1	
	baz=309,SNR=6.9								
BGNE	Belgrade	125.05	36	P		PKPdf	11 53 52.9	-0.4	
	baz=309								
SPMN	Marine on St.	125.35	29	P		PKiKP	11 53 53.9	-0.1	
	baz=316								
MNTX	Cornudas Mount	125.36	50	P		PKPdf	11 53 53.4	-0.7	
	baz=297								
MNTX	Cornudas Mount	125.36	50	P		PKiKP	11 53 54.4	0.0	
	baz=297								
CBKS	Cedar Bluff	125.65	39	P		PKPdf	11 53 54.1	-0.4	
	baz=306								
L34A	Svendsen Farm,	125.71	34	P		PKPdf	11 53 54.4	-0.1	
	baz=311								
I37B	Waseca	125.91	31	P		PKiKP	11 53 55.1	-0.1	
	baz=315								
DBIC	Dimbokro	126.01	279	PKP		PKPdf	11 53 55.8	0.0	
	comp=Z,5.8nm,0.9s,baz=78,slow=7.6,SNR=4.5								
MSTX	Muleshoe	126.22	46	P		PKPdf	11 53 55.3	-0.6	
	baz=300								
COWI	Conover	126.39	26	P		PKPdf	11 53 55.6	-0.1	
	baz=321								
R32A	Long Quarter,	126.53	39	P		PKPdf	11 53 56.4	+0.2	
	baz=307								
AMTX	Amarillo	126.53	44	P		PKPdf	11 53 56.1	-0.3	
	baz=302								
G40A	Rib Lake	126.55	28	P		PKPdf	11 53 55.7	-0.3	
	baz=319								
KSU1	Kansas State U	127.41	37	P		PKPdf	11 53 57.8	0.0	
	baz=309,SNR=7.3								
KSU1	Kansas State U	127.41	37	P		PKiKP	11 53 58.6	+0.3	
	baz=309								
SCIA	State Center	127.49	32	P		PKiKP	11 53 58.6	+0.2	
	baz=314								
TX31	Lajitas Ar. Si	127.73	52	PKPdf		PKPdf	11 53 58.6	-0.2	
TXAR	Lajitas Array	127.73	52	PKP		PKPdf	11 53 58.8	0.0	
	comp=Z,1.9nm,0.7s,baz=248,slow=1.3,SNR=15								
TXAR				pPKP		pPKPdf	11 54 26.8	-1.4	
	comp=Z,1.8nm,0.8s,baz=90,slow=0.1,SNR=4.9								
TXAR				SKPbc		SKPbc	11 57 04.1		
	comp=Z,2.0nm,0.9s,baz=320,slow=3.7,SNR=5.9								
E46A	Sault Ste Mari	128.17	23	PKPdf		PKPdf	11 53 59.2	+0.2	
E46A	Sault Ste Mari	128.17	23	P		PKPdf	11 53 59.3	+0.3	
	baz=326								
JFWS	Jewell Farm	128.29	30	P		PKPdf	11 53 59.4	+0.1	
	baz=318,SNR=5.1								
JFWS	Jewell Farm	128.29	30	P		PKPdf	11 53 58.8	-0.6	
	baz=318								
L40A	Anamosa	128.43	31	P		PKPdf	11 53 59.4	-0.3	
	baz=317								
WMOK	Wichita Mounta	128.61	43	P		PKPdf	11 54 00.0	-0.3	
	baz=304								
WMOK	Wichita Mounta	128.61	43	P		PKPdf	11 54 00.5	+0.2	
	baz=304								
P38A	Dawn	128.88	35	P		PKPdf	11 54 00.7	+0.1	
	baz=313								
ABTX	Abilene, Hawle	129.16	46	P		PKPdf	11 54 01.1	-0.3	
	baz=302								
GLMI	Grayling	129.32	24	P		PKPdf	11 54 00.9	-0.4	
	baz=326,SNR=7.2								
GLMI	Grayling	129.32	24	P		PKPdf	11 54 00.8	-0.5	
	baz=326								
TUL3	Leonard	129.90	40	P		PKPdf	11 54 02.2	-0.5	
	baz=308								
L44A	Lake County Fo	129.98	28	P		PKPdf	11 54 02.5	-0.1	
	baz=320								
JCT	Junction City	130.15	48	P		PKPdf	11 54 02.8	-0.5	
	baz=300								
JCT	Junction City	130.15	48	P		PKPdf	11 54 03.5	+0.1	
	baz=300								
S39A	Bolivar	130.29	36	P		PKPdf	11 54 02.6	-0.7	
	baz=312								
R40A	Maddies Statio	130.51	35			PKPdf	11 54 03.8	0.0	
R40A	Maddies Statio	130.51	35	P		PKPdf	11 54 03.7	0.0	
	baz=313								
HDIL	Hopedale	130.52	31	P		PKPdf	11 54 03.2	-0.5	
	baz=318								
LDAQ	Lac Daran	130.54	11	PKPdf		PKPdf	11 54 03.5	-0.1	
WHTX	Lake Whitney,	131.06	45	P		PKPdf	11 54 04.6	-0.3	
	baz=304								
P43A	Skaggs, Pawnee	131.07	32	P		PKPdf	11 54 03.7	-1.0	
	baz=317								
CCM	Cathedral Cave	131.25	35	PKPdf		PKiKP	11 54 05.7	-0.4	
CCM	Cathedral Cave	131.25	35	PKiKP		PKiKP	11 54 05.7	-0.4	
CCM	Cathedral Cave	131.25	35	P		PKPdf	11 54 05.1	0.0	
	baz=314								
SADO	Sadowa	131.40	20	PKhKP		PKPpre	11 53 54.7		
	comp=Z,4.6nm,1.0s,baz=4.7,slow=5.8,SNR=3.1								
SADO				PKP		PKPdf	11 54 04.7	-0.5	
	comp=Z,4.0nm,0.6s,baz=328,slow=4.7,SNR=9.7								
SADO				SKPbc		SKPbc	11 57 17.7	-3.0	
	comp=Z,7.5nm,1.0s,baz=287,slow=6.8,SNR=3.9								
833A	Chaparral WMA,	131.52	50	PKPdf		PKiKP	11 54 06.9	0.0	
833A	Chaparral WMA,	131.52	50	P		PKPdf	11 54 05.4	-0.5	
	baz=299								
L48A	N Adams	131.75	26	P		PKPdf	11 54 05.5	-0.4	
	baz=324								
L48A				P		PKPdf	11 54 05.5	-0.4	
	baz=324								
MIAR	Mount Ida	132.17	40	PKPdf		PKiKP	11 54 08.1	+0.1	
MIAR	Mount Ida	132.17	40	PKiKP		PKiKP	11 54 08.1	+0.1	
MIAR	Mount Ida	132.17	40	P		PKPdf	11 54 06.6	-0.4	
	baz=309								
PBMO	Poplar Bluff	132.61	35	P		PKPdf	11 54 08.2	+0.4	
	baz=314								
O48B	Farmland	132.78	28	P		PKPdf	11 54 08.3	+0.3	
	baz=322								
LONY	Lake Ozonia	132.92	16	P		PKPdf	11 54 07.8	-0.3	
	baz=338								
NATX	Nacogdoches	133.15	44	P		PKPdf	11 54 08.7	-0.1	
	baz=306								
ERPA	Erie	133.42	22	P		PKPdf	11 54 09.4	+0.3	
	baz=330								
PKME	Peaks-Kenny Pk	133.51	11	P		PKPdf	11 54 09.5	+0.4	
	baz=345								
P49A	Miami Univ. Ec	133.56	28	P		PKPdf	11 54 09.8	+0.4	
	baz=323								
M53A	WI Miller and	133.74	23	P		PKPdf	11 54 09.9	+0.2	
	baz=329								
ACSO	Alum Creek Sta	133.78	26	P		PKPdf	11 54 10.1	+0.3	
	baz=325								
WCI	Wyandotte Cave	133.80	31	P		PKPdf	11 54 10.5	+0.6	
	baz=320								
LBNH	Lisbon	133.94	13	P		PKPdf	11 54 10.2	+0.2	
	baz=341								
O53A	New Philadelph	134.52	24	P		PKPdf	11 54 11.3	0.0	
	baz=327								
WVT	Waverly	134.54	34	P		PKPdf	11 54 11.5	+0.1	
	baz=317								
WVT	Waverly	134.54	34	P		PKiKP	11 54 12.6	-0.2	
	baz=317								
P52A	Corning	134.65	26	P		PKPdf	11 54 11.3	-0.2	
	baz=326								
BINY	Binghamton	134.72	18	P		PKPdf	11 54 11.5	-0.1	
	baz=335								
OXF	Oxford	134.77	37	P		PKPdf	11 54 10.9	-0.9	
	baz=314								
PLAL	Pickwick Lake	135.22	35			PKPdf	11 54 12.3	-0.4	
L61B	Northampton	135.44	15	P		PKPdf	11 54 11.8	-1.1	
	baz=340								
SSPA	Standing Stone	135.48	21	P		PKPdf	11 54 13.1	+0.1	
	baz=332								
MCWV	Mont Chateau	135.58	24	P		PKPdf	11 54 13.3	+0.1	
	baz=329								
VBMS	Vicksburg	135.62	40	P		PKPdf	11 54 13.2	-0.3	
	baz=311								
HRV	Adam Dziewonsk	135.67	14	P		PKPdf	11 54 13.0	-0.3	
	baz=341								
PAL	Palisades	136.45	17	P		PKPdf	11 54 14.4	-0.3	
	baz=338								
TZTN	Tazewell	136.48	30	P		PKPdf	11 54 14.2	-0.8	
	baz=322								
M65A	Busby, Falmout	136.78	13	P		PKPdf	11 54 14.5	-0.9	
	baz=342								
TKL	Tuckaleechee C	137.06	31	PKhKP		PKPpre	11 54 03.3		
	comp=Z,2.2nm,0.6s,baz=182,slow=9.2,SNR=5.3								
TKL				PKP		PKPdf	11 54 16.2	+0.1	
	comp=Z,8.5nm,0.6s,baz=326,slow=9.9,SNR=11								
TKL				SKPbc		SKPbc	11 57 36.1	-3.5	
	comp=Z,3.7nm,0.6s,baz=176,slow=5.8,SNR=6.4								
LRAL	Lakeview Retre	137.24	36	P		PKPdf	11 54 15.6	-0.9	
	baz=316								
BLA	Blacksburg	137.40	26	P		PKPdf	11 54 16.1	-0.6	
	baz=327								
CBN	Corbin Frederi	137.80	22	P		PKPdf	11 54 17.6	+0.3	
	baz=331								
KMSC	Kings Mountain	138.68	29	P		PKPdf	11 54 18.3	-0.8	
	baz=324								
GOGA	Godfrey	138.95	33	P		PKPdf	11 54 19.5	-0.2	
	baz=320								
CNNC	Cliffs of the	140.16	25	P		PKPdf	11 54 21.0	-0.7	
	baz=329								
TIGA	Tifton	140.37	35	P		PKPdf	11 54 22.2	-0.1	
	baz=319								
BO02	Sierra Bellavi	143.94	163	PKPdf		PKPbc	11 54 26.9	+0.3	
DWPF	Disney Wildern	144.10	36	P		PKPdf	11 54 28.5	-0.5	
	baz=319								
PETF	Flores	144.61	59			PKPbc	11 54 29.3	+0.2	
VA05	Santo Domingo	144.73	161			PKPab	11 54 28.6	-0.3	
MT09	Talagante	144.82	162			PKPab	11 54 28.5	-0.9	
VA06	Catapilco	145.84	161			PKPbc	11 54 32.6	+0.1	
BOAB	BOACO BROADBA	150.16	64			PKPdf	11 54 37.6	-1.8	
BOAB				PKPbc		PKPbc	11 54 44.9	+0.4	
BOAB				PKPab		PKPab	11 54 52.0	+1.2	
AC02	Maricunga	151.83	160	PKPdf		PKPdf	11 54 41.4	-1.0	
CPUP	Villa Florida	154.23	182	PKP		PKPdf	11 54 45.0	-0.1	
	comp=Z,2.6nm,0.8s,baz=103,slow=1.8,SNR=5.5								
CPUP				PKPbc		PKPbc	11 54 53.1	-0.3	
	comp=Z,3.0nm,0.8s,baz=158,slow=1.7,SNR=4.3								
CPUP				PKPab		PKPab	11 55 07.9	+0.5	
	comp=Z,6.2nm,0.7s,baz=173,slow=4.2,SNR=10								
LPAZ	La Paz	161.60	149	PKP		PKPdf	11 54 56.0	+0.8	
	comp=Z,3.4nm,0.9s,baz=46,slow=2.5,SNR=12								
LPAZ				PKPab		PKPab	11 55 41.0	+0.6	
	comp=Z,2.4nm,0.7s,baz=29,slow=3.1,SNR=5.8								
BDFB	Brasilia	161.68	214	PKP		PKPdf	11 54 54.7	0.0	
	comp=Z,1.1nm,0.4s,baz=179,slow=6.8,SNR=4.9								
BDFB				PKPab		PKPab	11 55 40.5	+0.5	
	comp=Z,8.2nm,0.6s,baz=122,slow=2.9,SNR=17								
ROSC	El Rosal	163.36	71	PKIKP		PKPdf	11 54 57.0	+0.2	
ROSC							11 55 49.0		
ROSC	El Rosal	163.36	71	PKP		PKPdf	11 54 57.0	+0.2	
	comp=Z,5.2nm,0.5s,baz=117,slow=23,SNR=3.6								
ROSC				PKPab		PKPab	11 55 49.0	+0.9	
	comp=Z,5.3nm,0.4s,baz=261,slow=19,SNR=6.0								
SAML	Samuel	170.34	151			PKPdf	11 55 00.0	-1.5	
SAML				PKPab		PKPab	11 56 17.8	-0.3	
SAML	Samuel	170.34	151	PKP2		PKPab	11 56 17.8	-0.3	
SAML							12 55 00.0		
BOAV	Boa Vista	176.54	36			PKPdf	11 55 02.5	-1.3	
BOAV				PKPab		PKPab	11 56 43.5	-2.2	

*IDC **18** 12:51:27.6±1.0,50.70N×171.01W,h0km,mb4.1/15, mbtmp4.1/16,ML3.2/1,MS3.2/14,Error ellipse: s-maj=29.0km s-min=16.3km az=2.0*
*NEIC **18** 12:51:29.8±2.2,50.8N±0.1×171.02W±0.08,h15km±7km, mb4.1/95,ML3.8/8,ML3.6(AEIC),Error ellipse: s-maj=16.3km s-min=6.9km az=167.0*
*AEIC **18** 12:51:30.9±6.5,50.9N±0.1×171.0W±0.1,h93km±8km, Error ellipse: s-maj=16.3km s-min=8.2km az=160.0*

ISC 18 12:51:31.3±0.7,50.84N±0.09×171.02W±0.05,h23km, n167,σ1$24/155,mb4.2/37,MS3.2/11,South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLES	Cleveland East	2.10	19	Pn	Pn	12 52 04.2	-0.9
CLES				IAML		12 52 33.9	
	comp=E,824nm,0.3s						
CLCO	Concord Point,	2.11	22		Pn	12 52 04.3	-0.8
CLCO					Sn	12 52 30.6	0.0
KOFP	Korovin Flat P	2.40	308		Pn	12 52 08.9	-0.2
ATKA	Atka Island	2.40	306	Pn	Pn	12 52 08.3	-0.8
ATKA	Atka Island	2.40	306		Sn	12 52 36.5	-1.4
KOKI	Mount Kliuchef	2.48	308		Pn	12 52 10.0	-0.3
NIKH	Nikolski High	2.52	31		Pn	12 52 09.2	-1.6
NIKH					Sn	12 52 38.8	-1.9
OKCE	Okmok Cone E	3.13	33		Pn	12 52 18.6	-0.6
GSMY	Great Sitkin M	3.37	293		Pn	12 52 21.9	-0.6
GSTR	Great Sitkin T	3.39	294	Pn	Pn	12 52 22.9	+0.2
GSCK	Great Sitkin C	3.42	292		Pn	12 52 22.9	-0.3
ADK	Adak	3.70	289		Pn	12 52 25.9	-1.0
ADK				IAML		12 53 08.3	
	comp=E,265nm,0.2s						
MAPS	Pakushin South	3.88	39		Pn	12 52 28.6	-1.0
MAPS					Sn	12 53 11.7	-2.7
KIWB	Kanaga Island	3.97	287	Pn	Pn	12 52 29.9	-0.8
MNAT	Makushin Natee	4.04	39		Pn	12 52 31.2	-0.5
TAFP	Tanaga Falls P	4.49	286		Pn	12 52 37.7	-0.1
TASE	Tanaga Southea	4.51	285		Pn	12 52 38.5	+0.4
AKUT	Akutan	4.60	42	Pn	Pn	12 52 39.0	-0.3
AKUT				IAML		12 54 16.8	
	comp=N,62nm,3.4s						
AKUT				IAML		12 54 56.1	
	comp=E,63nm,3.0s						
CEPE	Semis' Perret	5.95	285		Pn	12 52 58.0	+0.2
FALS	False Pass	6.11	46		Pn	12 53 01.5	+1.4
AMKA	Amchitka	6.12	279	Pn	Pn	12 52 57.5	-2.7
SDPT	Sand Point	7.79	51	Pn	Pn	12 53 22.5	-0.6
CNBA	Chernabura Isl	7.99	56	Pn	Pn	12 53 25.5	-0.3
CHGN	Chignik	9.28	49	Pn	Pn	12 53 42.8	-0.6
OHAK	Old Harbor	12.21	52	Pn	Pn	12 54 21.5	-2.0
P18A	Big Mountain,	12.42	40		Pn	12 54 25.4	-1.1
L16K	Owhat River	12.62	26	Pn	Pn	12 54 29.2	+0.1
O18K	Koktuh Hills	12.71	39	Pn	Pn	12 54 30.6	+0.2
KDAK	Kodiak Island	12.79	50	LR	LR	12 59 36.2	
	comp=E,54nm,20.6s,baz=235,slow=38						
Q19K	Cape Douglas,	12.84	44	Pn	Pn	12 54 30.0	-2.2
SYI	Shuyak Island	13.25	47	Pn	Pn	12 54 34.6	-3.1
SVW2	Sparrevohn	13.39	34	Pn	Pn	12 54 39.3	-0.4
M19K	Big River Lodg	14.36	33		Pn	12 54 50.8	-2.1
F15K	North Star Dit	15.27	10	P	P	12 55 11.5	+1.7
F15K				IAmb	IAmb	12 55 12.6	
	comp=Z,9.1nm,0.9s						
O22K	Cooper Landing	15.34	43		Pn	12 55 02.7	-3.4
SUA	Susitna One	15.44	39	Pn	Pn	12 55 04.2	-3.3
K20K	Telida	15.49	29		Pn	12 55 06.7	-1.3
RC01	Rabbit Creek A	15.64	41	Pn	Pn	12 55 06.5	-3.5
PMR	Palmer	16.16	40	Pn	Pn	12 55 15.6	-1.0
CAST	Castle Rocks	16.17	32	Pn	Pn	12 55 15.9	-0.9
CAST				IAmb	IAmb	12 55 23.9	
	comp=Z,6.9nm,0.7s						
GHO	Glory Hole Cre	16.34	39		Pn	12 55 18.4	-0.5
GHO				IAmb	IAmb	12 55 22.8	
	comp=Z,6.4nm,0.6s						
KNK	Knik Glacier	16.34	41		Pn	12 55 18.3	-0.7
SML	Sawmill	16.59	40		Pn	12 55 20.5	-1.8
KTH	Kantishna Hill	16.65	32		Pn	12 55 22.3	-0.6
KTH				IAmb	IAmb	12 55 26.1	
	comp=Z,23nm,1.5s						
HIN	Hinchinbrook I	16.73	46		Pn	12 55 20.9	-3.0
TRF	Thorofare Moun	16.80	33		Pn	12 55 24.5	-0.5
BPAW	Bear Paw Mtn.	16.99	31		Pn	12 55 27.1	-0.1
BPAW				IAmb	IAmb	12 55 29.6	
	comp=Z,20nm,1.2s						
SCM	Sheep Creek Mo	17.02	41		Pn	12 55 25.2	-2.4
SCM				IAmb	IAmb	12 55 31.2	
	comp=Z,23nm,0.9s						
RND	Reindeer	17.29	35	Pn	Pn	12 55 30.1	-0.9
I21K	Tanana	17.44	27		Pn	12 55 31.7	-1.0
I21K				IAmb	IAmb	12 55 36.5	
	comp=Z,14nm,1.0s						
KLU	Klutina	17.45	43		Pn	12 55 29.4	-3.6
M24K	Tolsona, Glenn	17.63	41		Pn	12 55 32.7	-2.5
M24K				IAmb	IAmb	12 55 40.4	
	comp=Z,14nm,0.7s						
DHY	Denali Highway	17.65	37	Pn	Pn	12 55 34.2	-1.3
MLY	Manley	17.71	29		P	12 55 36.2	-0.6
MLY				IAmb	IAmb	12 55 38.6	
	comp=Z,9.7nm,0.8s						
HMT	Hamilton	17.74	47		Pn	12 55 34.7	-1.8
HMT				IAmb	IAmb	12 55 43.0	
	comp=Z,17nm,0.8s						
NEA2	Nenana	17.95	32	P	Pn	12 55 37.7	-1.3
BERG	Berg Lake	18.02	47	P	Pn	12 55 38.2	-1.8
BERG				IAmb	IAmb	12 55 47.4	
	comp=Z,13nm,0.8s						
E19K	Redstone River	18.02	17	P	P	12 55 40.9	+0.7
N25K	Chitina, Valde	18.07	43	P	Pn	12 55 37.8	-2.9
N25K				IAmb	IAmb	12 55 47.6	
	comp=Z,8.4nm,0.7s						
WRH	Wood River Hil	18.20	33	P	Pn	12 55 40.1	-2.0
I23K	Minto, Yukon-K	18.21	30	P	Pn	12 55 40.1	-2.1
I23K				IAmb	IAmb	12 55 46.1	
	comp=Z,8.4nm,0.8s						
GLB	Gilahina Butte	18.35	44	P	P	12 55 42.6	-1.4
GLB				IAmb	IAmb	12 55 47.4	
	comp=Z,17nm,0.7s						
CCB	Clear Creek Bu	18.41	33		P	12 55 42.4	-2.0
VRDI	Verde Repeater	18.43	45	P	P	12 55 42.9	-2.1
WAX	Waxell Ridge	18.44	48	P	P	12 55 44.3	-0.6
WAX				IAmb	IAmb	12 55 50.8	
	comp=Z,14nm,1.0s						
MDM	Murphy Dome	18.46	31	P	P	12 55 43.9	-1.2
C18K	Utukok River	18.49	11		Pn	12 55 45.9	+0.3
HDA	Harding Lake	18.56	34	P	P	12 55 44.7	-1.4
F21K	Alatna River	18.61	22		Pn	12 55 47.7	+0.5
MCARA	McCarthy VSAT	18.68	45	P	Pn	12 55 48.2	+0.2
ISLE	Juniper Island	18.73	48	P	P	12 55 47.5	-0.7
ISLE				IAmb	IAmb	12 56 07.0	
	comp=Z,8.0nm,0.9s						
D19K	Kuna River	18.79	15	P	Pn	12 55 49.2	-0.1
IL31		18.80	33	P	P	12 55 47.0	-1.7
ILAR	Eielson Array	18.80	33	P	P	12 55 46.8	-2.0
	comp=Z,4.9nm,0.9s,baz=215,slow=9.3,SNR=29						
ILAR				LR	LR	13 03 12.7	
	comp=Z,47nm,20.4s,baz=216,slow=37						
MENT	Mentasta	19.03	40	P	P	12 55 50.5	-0.8
M26K	Nabesna, AK	19.09	42	P	P	12 55 51.4	-0.7
M26K				IAmb	IAmb	12 55 55.9	
	comp=Z,24nm,1.5s						
G23K	Bananza Creek	19.11	26	P	Pn	12 55 53.2	+0.1
G23K				IAmb	IAmb	12 55 56.7	
	comp=Z,9.1nm,0.8s						
H24K	Noodor Dome	19.14	30	P	Pn	12 55 53.0	-0.5
H24K				IAmb	IAmb	12 55 56.6	
	comp=Z,17nm,1.0s						
L26K	Log Cabin Wild	19.22	40	P	P	12 55 53.0	-0.4
L26K				IAmb	IAmb	12 55 55.0	
	comp=Z,5.0nm,0.6s						
J25K	Salcha River,	19.24	34	P	P	12 55 52.4	-1.3
TABL	Table Mountain	19.24	49	P	Pn	12 55 54.1	-0.8
TABL				IAmb	IAmb	12 56 15.6	
	comp=Z,15nm,0.8s						
CTGM	Chitina Glacie	19.31	47	P	P	12 55 54.0	-0.6
PETK	Petropavlovsk-	19.32	289	P	Pn	12 55 55.0	-0.8
	comp=Z,0.3nm,0.3s,baz=77,slow=16,SNR=12						
PETK				LR	LR	13 03 07.4	
	comp=Z,25nm,21.8s,baz=94,slow=36						
SCRK	Sand Creek	19.42	37	P	P	12 55 55.1	-0.6
SCRK				IAmb	IAmb	12 56 00.2	
	comp=Z,14nm,1.4s						
LOGN	Logan Glacier	19.42	48	P	Pn	12 55 57.1	+0.1
M27K	Edge Creek, AK	19.55	43		Pn	12 55 58.1	-0.5
M27K				IAmb	IAmb	12 56 08.4	
	comp=Z,22nm,1.2s						
PRP	Porcupine Dome	19.70	32	P	P	12 55 58.4	-0.4
PRP				IAmb	IAmb	12 56 00.8	
	comp=Z,9.7nm,0.8s						
E22K	Anaktuvuk Pass	19.73	21	P	P	12 55 59.3	+0.3
J26L	Joseph Creek	19.84	36	P	P	12 56 00.1	-0.2
J26L				IAmb	IAmb	12 56 02.2	
	comp=Z,10nm,0.8s						
BCAR	Beaver Creek A	19.88	41	P	P	12 56 00.8	+0.2
D22K	Ayikyak River	20.14	19	P	P	12 56 03.7	+0.3
D22K				IAmb	IAmb	12 56 11.2	
	comp=Z,6.5nm,0.8s						
B21K	Ikpikpuk River	20.39	17	P	P	12 56 05.7	-0.3
B21K				IAmb	IAmb	12 56 10.7	
	comp=Z,12nm,1.1s						
I26K	Coal Creek Min	20.41	34	P	P	12 56 05.3	-1.0
FYU	Fort Yukon	20.43	30		Pn	12 56 07.4	-1.3
O29M	Mount Kennedy	20.44	50	P	Pn	12 56 09.4	+0.4
E24K	Your Creek	20.50	24	P	P	12 56 07.7	+0.3
E24K				IAmb	IAmb	12 56 11.8	
	comp=Z,8.8nm,1.1s						
BILL	Bilibino	20.52	336	P	P	12 56 08.1	+0.5
TOLK	Toolik Lake Re	20.65	22	P	P	12 56 09.6	+0.6
TOLK				IAmb	IAmb	12 56 16.1	
	comp=Z,7.7nm,0.8s						
EGAK	Eagle	20.88	37		P	12 56 12.0	+0.6
HYT	Haines Junctio	21.07	49	P	P	12 56 15.8	+2.1
BMAR	Burnt Mountain	21.17	28		P	12 56 14.7	+0.1
D24K	Happy Valley	21.22	22		P	12 56 15.0	0.0
D24K				IAmb	IAmb	12 56 20.5	
	comp=Z,5.5nm,0.7s						
DAWY	Dawson	21.26	39	P	P	12 56 17.1	+1.5
DAWY				IAmb	IAmb	12 56 27.0	
	comp=Z,4.2nm,0.8s						
C23K	Itkillik River	21.35	19	P	P	12 56 16.7	+0.3
C23K				IAmb	IAmb	12 56 17.9	
	comp=Z,12nm,0.8s						
N30M	Aishikik Lake	21.42	47	P	P	12 56 18.9	+1.6
N30M				IAmb	IAmb	12 56 22.4	
	comp=Z,12nm,0.9s						
L29M	L29M	21.44	43	P	P	12 56 19.4	+1.9
L29M				IAmb	IAmb	12 56 23.1	
	comp=Z,12nm,1.1s						
I28M	Miner Creek	21.65	36	P	P	12 56 20.2	+0.4
G27K	Doyon Strip	21.73	32	P	P	12 56 19.9	-0.7
O30N	Mendenhall	21.74	49	P	P	12 56 22.6	+1.8
O30N				IAmb	IAmb	12 56 23.4	
	comp=Z,9.7nm,0.9s						
M30M	Minto, Yukon	21.85	44	P	P	12 56 22.2	+0.2
M30M				IAmb	IAmb	12 56 58.2	
	comp=Z,4.8nm,0.9s						
J29N	Klondike Camp	21.89	39	P	P	12 56 23.4	+1.1
J29N				IAmb	IAmb

HEH	**HeiHe**	**38.12**	**294**	*e*P		**P**		**12 58 47.3**	**-0.8**
HEH				pmax		pmax			
	comp=Z,6.0nm,0.8s								
RES	**Resolute Bay**	**38.19**	**25**	LR		LR		13 16 55.9	
	comp=Z,34nm,19.5s,baz=10,slow=40								
MJAR	**Matsushiro Arr**	**38.61**	**268**	P		**P**		**12 58 53.0**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=46,slow=8.6,SNR=5.8								
	comp=Z,1.3nm,0.7s								
NVAR	**Mina Array Bea**	**38.71**	**88**	PcP		**PcP**		**13 01 05.3**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=316,slow=3.4,SNR=7.8								
EGMT	**Eagleton**	**38.94**	**69**	P		**P**		**12 58 55.2**	**0.0**
EGMT				IAmb		IAmb		12 58 56.0	
	comp=Z,4.3nm,0.8s								
PD31	**Pinedale Array**	**41.74**	**76**	P		**P**		**12 59 18.6**	**0.0**
PD31				IAmb		IAmb		12 59 19.6	
	comp=Z,6.2nm,1.4s								
PDAR	**Pinedale Array**	**41.74**	**76**	P		**P**		**12 59 18.1**	**-0.5**
PDAR	**Pinedale Array**	**41.74**	**76**	P		**P**		**12 59 18.8**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=304,slow=4.9,SNR=15								
	comp=Z,1.4nm,0.7s								
O20A	**White River Ci**	**44.04**	**79**	P		**P**		**12 59 37.2**	**-0.1**
SONM	**Songino Array**	**51.20**	**301**	P		**P**		**13 00 33.1**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=45,slow=7.4,SNR=4.6								
SONM				LR		LR		13 22 18.7	
	comp=Z,22nm,20.3s,baz=5.5,slow=36								
	comp=Z,0.5nm,0.5s								
HHC	**Hu-ho-hao-te**	**52.51**	**291**	*e*P		**P**		**13 00 42.4**	**0.0**
HHC				pmax		pmax			
	comp=Z,12nm,0.8s								
HHC				pmax		pmax			
	comp=Z,150nm,5.8s								
SUMG	**Summit**	**52.54**	**16**	*i* P		**P**		**13 00 43.0**	**+0.4**
TXAR	**Lajitas Array**	**53.84**	**87**	P		**P**		**13 00 51.9**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=300,slow=5.5,SNR=10								
	comp=Z,1.1nm,0.7s								
ZALV	**Zalesovo Beam**	**57.85**	**317**	P		**P**		**13 01 20.8**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=15,slow=6.2,SNR=6.4								
	comp=Z,1.0nm,0.8s								
ARCES	**ARCESS Array B**	**59.33**	**353**	P		**P**		**13 01 31.8**	**+1.0**
	comp=Z,4.2nm,0.9s,baz=23,slow=6.6,SNR=3.5								
	comp=Z,4.2nm,0.9s								
KURBB	**Kurchatov Arra**	**62.93**	**318**	P		**P**		**13 01 56.2**	**+0.8**
	comp=Z,1.8nm,0.6s,baz=44,slow=6.8,SNR=14								
KURBB				LR		LR		13 31 03.1	
	comp=Z,21nm,20.5s,baz=172,slow=38								
	comp=Z,1.8nm,0.6s								
MKAR	**Makanchi Array**	**64.10**	**313**	P		**P**		**13 02 03.5**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=52,slow=7.9,SNR=13								
	comp=Z,0.9nm,0.7s								
BVAR	**Borovoye Array**	**64.34**	**324**	P		**P**		**13 02 06.0**	**+1.4**
	comp=Z,5.3nm,0.8s,baz=48,slow=8.0,SNR=18								
	comp=Z,5.3nm,0.8s								
FINES	**FINESS Array B**	**67.23**	**351**	P		**P**		**13 02 23.7**	**+0.6**
	comp=Z,4.5nm,0.8s,baz=15,slow=8.9,SNR=8.7								
	comp=Z,4.5nm,0.8s								
PZH	**PanZhiHua**	**68.24**	**285**	P		**P**		**13 02 30.6**	**+0.4**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.6s								
PZH				pmax		pmax			
	comp=Z,110nm,5.7s								
NOA	**NORSAR Array B**	**68.45**	**359**	P		**P**		**13 02 32.0**	**+1.1**
	comp=Z,1.4nm,0.9s,baz=6.0,slow=6.8,SNR=2.9								
	comp=Z,1.4nm,0.9s								
HFS	**Hagfors**	**69.31**	**357**	P		**P**		**13 02 37.3**	**+1.1**
	comp=Z,2.2nm,0.6s,baz=38,slow=2.6,SNR=18								
HFS				LR		LR		13 34 55.8	
	comp=Z,60nm,18.1s,baz=6.5,slow=38								
	comp=Z,2.2nm,0.6s								
AKASG	**Malin Array Be**	**77.37**	**347**	P		**P**		**13 03 24.0**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=16,slow=5.9,SNR=4.4								
AKASG				LR		LR		13 40 07.1	
	comp=Z,31nm,21.3s,baz=46,slow=38								
	comp=Z,1.3nm,0.6s								
KBZ	**Khabaz**	**81.30**	**336**	LR		LR		13 45 47.5	
	comp=Z,20nm,18.3s,baz=12,slow=40								
MLR	**Muntele Rosu**	**82.93**	**348**	LR		LR		13 48 26.5	
	comp=Z,37nm,18.3s,baz=352,slow=41								
ASAR	**Alice Springs**	**88.62**	**229**	P		**P**		**13 04 21.7**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=34,slow=4.9,SNR=11								
	comp=Z,0.7nm,0.7s								

DJA ***18*** *12:58:36.0±0.3,8˚S±.5˚×10˚8E±˚, h94km±4km, M4.2/12, mb4.3/7, mB5.5/2, MLv4.1/12, Mw(mB)5.0/2*

ISC 18 12:58:36.0±1.3**,8˚1S**±0˚.1**×108˚.00E**±0˚.07**, h70**km**, n19, σ2s.01/19, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.55**	**54**	P	**Pn**	**12 58 51.8**	**+2.5**
CMJI				S	**Sn**	**12 59 02.8**	**+3.7**
BBJI	**Bungbulang**	**0.73**	**332**	P	**Pn**	**12 58 54.4**	**+3.1**
KPJI	**Karang Pucung**	**1.20**	**50**	P	**Pn**	**12 58 57.3**	**+0.2**
LEM	**Lembang**	**1.32**	**343**	P	**Pn**	**12 59 01.0**	**+2.1**
SKJI	**Sukabumi**	**1.80**	**307**	P	**Pn**	**12 59 05.8**	**+0.8**
UGM	**Wanagama**	**2.51**	**86**	Pn	**Pn**	**12 59 14.1**	**-0.5**
SMRI	**Semarang**	**2.64**	**67**	P	**Pn**	**12 59 16.9**	**+0.6**
SMRI	**Semarang**	**2.64**	**67**	P	**Pn**	**12 59 15.9**	**-0.4**
XMI	**Christmas Isla**	**3.26**	**224**	P	**Pn**	**12 59 27.4**	**+2.6**
XMIS	**Christmas Isla**	**3.31**	**224**	P	**Pn**	**12 59 27.7**	**+2.3**
PWJI	**Pagerwojo**	**3.77**	**89**	P	**Pn**	**12 59 31.6**	**-0.1**
GMJI	**Gumukmas** 13nm,0.8s	**5.39**	**92**	P	**Pn**	**12 59 54.0**	**+0.1**
PMBI	**Palembang**	**6.06**	**328**	P	Pn	12 59 54.8	-8.3
JAGI	**Jajag, Banyuwa**	**6.10**	**94**	P	**Pn**	**13 00 04.6**	**+1.0**
JAGI	**Jajag, Banyuwa** 26nm,0.4s,2μm0.2nm	**6.10**	**94**	P	**Pn**	**13 00 03.9**	**+0.3**
SRBI	**Singaraja** 31nm,1.0s,0.1nm	**7.14**	**90**	P	**Pn**	**13 00 17.7**	**-0.2**
PPSI	**Pulau Pagai** 70nm,0.8s	**9.56**	**303**	P	**Pn**	**13 00 48.3**	**-2.6**
PLAI	**Plampang** 15nm,1.2s	**9.70**	**95**	P	**Pn**	**13 00 50.6**	**-2.3**
PDSI	**Padang** 16nm,1.4s	**10.37**	**313**	P	**Pn**	**13 01 00.0**	**-2.0**

IDC ***18*** *13:20:04.8±0.5,24˚.48S×175˚.93W, h0km, mb4.7/21, mbtmp4.7/21, MS4.1/46, Error ellipse: s-maj=20.3km s-min=15.9km az=97.0*

BJI ***18*** *13:20:05.4±0.0,23˚.96S×175˚.62W, h5km, mb5.3/44, mB5.5/23, Ms4.9/3, Ms7 4.6/3*

MOS ***18*** *13:20:06.6±1.1,24˚.48S×175˚.92W, h21km, mb5.2/25, Error ellipse: s-maj=12.7km s-min=9.6km az=112.7*

NEIC ***18*** *13:20:06.4±1.9,24˚.5S±0˚.1×175˚.8W±0˚.1, h10km±1km, mb5.1/219, Error ellipse: s-maj=19.7km s-min=17.1km az=62.0*

GCMT ***18*** *13:20:09.4±0.2,24˚.51S±0˚.03×175˚.40W±0˚.02, h21km, MW5.0/87, Moment Tensor Solution. s45,c64; s87,c132; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.06±.17; Mθθ-0.06±.13; Mϕϕ-3.00±.11; Mrθ-0.09±.26; Mϕθ-1.37±.07; Mϕr1.77±.18; Best double couple: M0 3.75800×10^16 NP1:ϕ9.00000°, δ59.00000°, λ76.00000°. NP2: ϕ215.00000°, δ33.00000°, λ112.00000°. Principal axes: T 3.5960, Plg72.0000°, Azm246.0000°; N 0.3250, Plg12.0000°, Azm16.0000°; P -3.9200, Plg13.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 13:20:06.1±0.3**,24˚.61S**±0˚.07**×175˚.89W**±0˚.08**, h10**km**, n655**,σ0**89**/530**,mb5.1**/159**,MS4.2**/49**,14C-16D, South of Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.81**	**46**	Pn	Pn	13 21 50.9	-8.9
MSVF	**Nonsavu**	**8.88**	**319**	Pn	**Pn**	**13 22 15.7**	**+1.1**
MSVF	**Nonsavu**	**8.88**	**319**	P	**Pn**	**13 22 15.7**	**+1.1**
AFI	**Afiamalu**	**11.33**	**21**	Pn	Pn	13 22 39.2	-8.9
AFI	**Afiamalu**	**11.33**	**21**	P	Pn	13 22 39.3	-8.9
URZ	**Urewera** 5.8nm,0.3s,baz=26,slow=3.2,SNR=14	**14.85**	**202**	Pn	**P**	**13 23 42.0**	**0.0**
URZ				Sn	Sn	13 26 11.3	-9.5
	0.3nm,0.3s,baz=352,slow=15,SNR=1.6						
RAR	**Rarotonga**	**15.23**	**80**	Pn	Pn	13 23 31.8	-10
RAR				lAmb	lAmb	13 23 48.8	
	comp=Z,71nm,0.9s						
RAR	**Rarotonga**	**15.23**	**80**	P	Pn	13 23 31.8	-9.5
RAR				pmax	pmax		
	comp=Z,71nm,0.9s						
RAR	**Rarotonga**	**15.23**	**80**	Pn	Pn	13 23 32.6	-8.7
	comp=Z,4.8nm,0.3s,baz=287,slow=14,SNR=10						
RAR				Sn	Sn	13 26 05.5	-25
	comp=Z,1.2nm,0.3s,baz=341,slow=23,SNR=1.7						
RAR				LR	LR	13 28 57.9	
	comp=Z,502nm,19.2s,baz=250,slow=35						
PINNC	**Pines Island,**	**15.41**	**274**		**Pn**	**13 23 44.8**	**+1.1**
OUENC	**Ouen Island, N**	**15.99**	**274**		**Pn**	**13 23 51.8**	**+0.5**
DZM	**Mont Dzumac**	**16.42**	**275**	P	**Pn**	**13 23 58.9**	**+2.0**
DZM	**Mont Dzumac**	**16.42**	**275**	Pn	**P**	**13 24 00.8**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=87,slow=17,SNR=10						
SNZO	**South Karori**	**18.41**	**203**	P	**P**	**13 24 19.7**	**-1.7**
KOUNC	**Koumac, New Ca**	**18.75**	**278**	P	**P**	**13 24 24.2**	**-1.0**
BSWZ	**Blackbirch Sta**	**19.07**	**204**	P	**P**	**13 24 28.5**	**-0.1**
PPT	**Papeete**	**25.50**	**79**	LR	LR	13 34 45.4	
	comp=Z,400nm,18.0s,baz=252,slow=34						
HNR	**Honiara**	**27.53**	**299**	LR	LR	13 35 21.0	
	comp=Z,9μm,19.2s,baz=150,slow=33						
EIDS	**Eidsvold**	**29.91**	**261**	P	**P**	**13 26 12.8**	**-1.5**
CTA	**Charters Tower**	**35.23**	**270**	LR	LR	13 40 13.6	
	comp=Z,467nm,18.7s,baz=179,slow=34						
CTAO	**Charters Tower**	**35.23**	**270**	P	**P**	**13 27 00.3**	**-0.7**
CTAO	**Charters Tower**	**35.23**	**270**	P	**P**	**13 27 00.3**	**-0.7**
CTAO				pmax	pmax		
	comp=Z,11nm,0.9s						
STKA	**Stephens Creek**	**37.96**	**249**	P	**P**	**13 27 22.6**	**-1.5**
STKA	**Stephens Creek**	**37.96**	**249**	P	**P**	**13 27 24.6**	**+0.5**
	comp=Z,2.7nm,0.9s,baz=92,slow=12,SNR=3.2						
	comp=Z,2.7nm,0.9s						
PMG	**Port Moresby**	**38.28**	**287**	P	**P**	**13 27 24.4**	**-2.5**
PMG				lAmb	lAmb	13 27 29.4	
	comp=Z,44nm,1.0s						
PMG	**Port Moresby**	**38.28**	**287**	⇓*e*P	**P**	**13 27 26.3**	**-0.7**
PMG				pmax	pmax		
	comp=Z,48nm,1.0s						
PMG	**Port Moresby**	**38.28**	**287**	LR	LR	13 40 13.9	
	comp=Z,388nm,19.7s,baz=122,slow=32						
AS31	**Alice Springs**	**45.62**	**260**	P	**P**	**13 28 25.6**	**-1.4**
ASAR	**Alice Springs**	**45.62**	**260**	P	**P**	**13 28 25.3**	**-1.7**
ASAR	**Alice Springs**	**45.62**	**260**	P	**P**	**13 28 25.8**	**-1.2**
	comp=Z,11nm,1.0s,baz=98,slow=6.8,SNR=42						
ASAR				PcP	**PcP**	**13 30 05.4**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=116,slow=4.1,SNR=3.2						
ASAR				LR	LR	13 47 20.7	
	comp=Z,858nm,18.0s,baz=114,slow=36						
	comp=Z,11nm,1.0s						
WR0	**Warramunga Arr**	**45.91**	**266**	P	**P**	**13 28 26.9**	**-2.3**
WR0				lAmb	lAmb	13 28 40.1	
	comp=Z,46nm,1.9s						
WRA	**Warramunga Arr**	**46.10**	**265**	P	**P**	**13 28 28.3**	**-2.4**
WRA	**Warramunga Arr**	**46.10**	**265**	P	**P**	**13 28 28.9**	**-1.9**
	comp=Z,9.4nm,0.9s,baz=98,slow=6.3,SNR=32						
WRA				PcP	**PcP**	**13 30 06.4**	**-0.6**
	comp=Z,3.4nm,1.0s,baz=104,slow=3.3,SNR=6.1						
WRA				LR	LR	13 46 34.2	
	comp=Z,778nm,21.6s,baz=110,slow=34						
	comp=Z,9.4nm,0.9s						
FORT	**Forrest**	**49.59**	**250**	P	**P**	**13 28 56.1**	**-1.6**
FORT				lAmb	lAmb	13 30 32.1	
	comp=Z,26nm,0.9s						
KNRA	**Kununurra**	**52.43**	**269**	P	**P**	**13 29 17.4**	**-1.8**
GUMO	**Guam**	**53.93**	**310**	LR	LR	13 49 56.7	
	comp=Z,187nm,21.8s,baz=131,slow=33						
SBA	**Scott Base**	**53.93**	**184**	P	**P**	**13 29 31.3**	**+1.9**
SBA	**Scott Base**	**53.93**	**184**	P	**P**	**13 29 31.3**	**+1.9**
SBA				pmax	pmax		
	comp=Z,109nm,1.8s						
VNDA	**Vanda**	**54.02**	**186**	P	**P**	**13 29 29.3**	**-0.8**
VNDA	**Vanda**	**54.02**	**186**	P	**P**	**13 29 32.7**	**+2.6**
	comp=Z,8.2nm,1.1s,baz=5.7,slow=6.4,SNR=13						
VNDA				LR	LR	13 48 23.8	
	comp=Z,109nm,21.6s,baz=16,slow=31						
	comp=Z,8.2nm,1.1s						
NWAO	**Narrogin (SRO)**	**58.36**	**245**	LR	LR	13 53 55.0	
	comp=Z,158nm,18.3s,baz=98,slow=35						
SOEI	**Soe**	**58.64**	**273**	P	**P**	**13 30 03.6**	**-0.5**
BATI	**Baumata**	**59.02**	**273**	LR	LR	13 54 31.7	
	comp=Z,624nm,20.7s,baz=163,slow=35						
RPN	**Rapa Nui**	**59.30**	**108**	LR	LR	13 52 44.0	
	comp=Z,24nm,18.3s,baz=255,slow=33						
MORW	**Morawa**	**60.15**	**249**	P	**P**	**13 30 13.4**	**-0.8**
CASY	**Casey**	**61.13**	**206**	P	**P**	**13 30 21.0**	**+0.8**
DAV	**Davao City (W)**	**65.11**	**291**	LR	LR	13 58 08.7	
	comp=Z,112nm,18.9s,baz=114,slow=35						
QSPA	**South Pole Qui**	**65.48**	**180**	P	**P**	**13 30 50.2**	**+1.0**
QSPA	**South Pole Qui**	**65.48**	**180**	P	**P**	**13 30 50.5**	**+1.2**
	comp=Z,15nm,1.0s,baz=30,slow=2.7,SNR=21						
QSPA				LR	LR	13 56 24.5	
	comp=Z,251nm,19.6s,baz=44,slow=33						
	comp=Z,15nm,1.0s						
JOW	**Kunigami**	**74.29**	**310**	LR	LR	14 03 36.5	
	comp=Z,113nm,18.1s,baz=124,slow=35						
MJA0	**Matsu Arr-Jizo**	**74.64**	**323**	*e*P	**P**	**13 31 44.7**	**-1.0**
MJA0				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MJAR	**Matsushiro Arr**	**74.66**	**323**	P	**P**	**13 31 44.8**	**-1.0**
	comp=Z,3.5nm,0.8s,baz=157,slow=5.4,SNR=10.0						
MJAR				LR	LR	13 59 22.5	
	comp=Z,95nm,21.1s,baz=142,slow=32						
	comp=Z,3.5nm,0.8s						
MAJO	**Matsushiro**	**74.66**	**323**	*ce*P	**P**	**13 31 43.8**	**-2.0**
MAJO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
LEM	**Lembang**	**74.93**	**269**	LR	LR	14 05 20.7	
	comp=Z,350nm,19.6s,baz=170,slow=36						
JNU	**Nakatsue**	**76.59**	**316**	P	**P**	**13 31 55.9**	**-1.1**
	comp=Z,6.4nm,0.9s,baz=200,slow=9.0,SNR=3.7						
JNU				LR	LR	14 01 45.6	
	comp=Z,110nm,20.6s,baz=120,slow=33						
	comp=Z,6.4nm,0.9s						
NIKH	**Nikolski High** baz=186	**77.49**	**4**	P	**P**	**13 32 02.7**	**+1.2**
SHEM	**Shemya Is, Ala**	**77.50**	**354**	LR	LR	14 00 40.9	
	comp=Z,173nm,19.2s,baz=312,slow=32						
ASAJ	**Asahikawa**	**78.25**	**331**	P	**P**	**13 32 07.2**	**+1.3**
	comp=Z,18nm,1.0s,baz=218,slow=12,SNR=3.7						
ASAJ				LR	LR	14 05 18.4	
	comp=Z,82nm,18.3s,baz=246,slow=35						
	comp=Z,18nm,1.0s						
MAW	**Mawson**	**78.37**	**200**	P	**P**	**13 32 07.1**	**+0.8**
MAW	**Mawson**	**78.37**	**200**	P	**P**	**13 32 07.6**	**+1.2**
	comp=Z,5.0nm,0.7s,baz=152,slow=9.4,SNR=6.0						
MAW				LR	LR	14 07 50.6	
	comp=Z,198nm,18.2s,baz=106,slow=36						
	comp=Z,5.0nm,0.7s						
UNV	**Unalaska Valle** baz=189	**78.55**	**6**	P	**P**	**13 32 09.0**	**+1.7**
SNCC	**San Nicolas Is** baz=230	**78.67**	**45**	P	**P**	**13 32 09.1**	**+0.5**
SCZ2	**Santa Cruz Isl** baz=230	**79.07**	**45**	P	**P**	**13 32 10.8**	**+0.1**
SCI2	**San Clemente I** baz=231	**79.13**	**46**	P	**P**	**13 32 11.2**	**+0.1**
SBC	**Santa Barbara** baz=230	**79.30**	**44**	P	**P**	**13 32 11.6**	**-0.3**
CIS	**Catalina Islan** baz=231	**79.48**	**46**	P	**P**	**13 32 12.7**	**-0.3**
PKM	**Mcpherson Peak** baz=230	**79.52**	**44**	P	**P**	**13 32 13.6**	**+0.2**
SMMC	**Simmler** baz=230	**79.68**	**43**	P	**P**	**13 32 14.6**	**+0.5**
FMP	**Fort Macarthur** baz=231	**79.76**	**46**	P	**P**	**13 32 14.6**	**+0.2**
FALS	**False Pass** baz=192	**79.86**	**7**	P	**P**	**13 32 15.9**	**+1.4**
LPIG	**La Paz**	**79.88**	**58**	LR	LR	14 01 35.8	
	comp=Z,127nm,18.4s,baz=225,slow=31						
109C	**Camp Elliot, M** baz=232	**80.03**	**47**	P	**P**	**13 32 16.9**	**+0.9**
OSI	**Osito Audit: C** baz=231	**80.04**	**45**	P	**P**	**13 32 16.5**	**+0.4**
ARVC	**Arvin** baz=231	**80.30**	**44**	P	**P**	**13 32 18.1**	**+0.8**
MURC	**Murrieta** baz=232	**80.41**	**46**	P	**P**	**13 32 18.2**	**+0.2**
YSS	**Yuzh-Sakhalins**	**80.43**	**333**	P	**P**	**13 32 17.4**	**-0.4**
YSS	**Yuzh-Sakhalins**	**80.43**	**333**	⇓*e*P	**P**	**13 32 18.7**	**+1.0**
YSS				pmax	pmax		
	comp=Z,44nm,1.3s						
MONP2	**Monument Peak** baz=233	**80.49**	**47**	P	**P**	**13 32 18.7**	**-0.1**
BFSC	**Mount Baldy Ra** baz=232	**80.50**	**46**	P	**P**	**13 32 18.6**	**0.0**
IKP	**In-Ko-Pah, Jac** baz=233	**80.55**	**48**	P	**P**	**13 32 19.0**	**+0.1**
VES	**Vestal, Richgr** baz=230,SNR=6.8	**80.59**	**44**	P	**P**	**13 32 19.2**	**+0.3**
KMPM	**Mount Pierce**	**80.64**	**37**	P	**P**	**13 32 17.9**	**-1.3**
EDW2	**Edwards Air Fo** baz=231,SNR=7.2	**80.68**	**45**	P	**P**	**13 32 19.5**	**0.0**
PETK	**Petropavlovsk-**	**80.73**	**344**	P	**P**	**13 32 19.1**	**-0.2**
PETK	**Petropavlovsk-**	**80.73**	**344**	P	**P**	**13 32 18.5**	**-0.7**
	comp=Z,9.1nm,0.9s,baz=152,slow=7.6,SNR=6.7						
PETK				LR	LR	14 04 46.8	
	comp=Z,154nm,19.2s,baz=159,slow=33						
	comp=Z,9.1nm,0.9s						
KMRM	**Mail Ridge**	**80.73**	**38**	P	**P**	**13 32 18.7**	**-1.0**
KMRM				lAmb	lAmb	13 32 21.4	
	comp=Z,26nm,1.1s						
CCAC	**Calif City Air**	**80.83**	**45**	P	**P**	**13 32 17.0**	**-3.3**
S12K	**Black Hills** baz=193	**80.86**	**8**	P	**P**	**13 32 21.2**	**+1.3**
ISA	**Isabella, Lake**	**80.86**	**44**	P	**P**	**13 32 19.9**	**-0.6**
ISA				lAmb	lAmb	13 32 22.5	
	comp=Z,23nm,1.2s						
ISA	**Isabella, Lake**	**80.86**	**44**	P	**P**	**13 32 19.9**	**-0.6**
ISA				pmax	pmax		
	comp=Z,23nm,1.3s						
ISA	**Isabella, Lake** baz=231,SNR=11	**80.86**	**44**	P	**P**	**13 32 20.5**	**0.0**
PFO	**Pinyon Flats O**	**80.90**	**47**	⇓*e*P	**P**	**13 32 19.5**	**-1.3**
PFO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PFO	**Pinyon Flats O** baz=232	**80.90**	**47**	P	**P**	**13 32 21.0**	**+0.2**
PFO	**Pinyon Flats O**	**80.90**	**47**	LR	LR	14 06 31.0	
	comp=Z,110nm,18.2s,baz=246,slow=34						
TPFO	**Pinon Flats** baz=232	**80.90**	**47**	P	**P**	**13 32 20.9**	**+0.1**
SWSC	**Sam W. Stewart** baz=233	**80.94**	**48**	P	**P**	**13 32 21.1**	**+0.3**
BBRC	**Big Bear Solar** baz=232	**80.99**	**46**	P	**P**	**13 32 21.7**	**+0.3**
P08K	**Saint George I** baz=186	**81.07**	**4**	P	**P**	**13 32 22.6**	**+1.7**
CMB	**Columbia Colle**	**81.20**	**41**	P	**P**	**13 32 21.8**	**-0.4**
CMB	**Columbia Colle**	**81.20**	**41**	P	**P**	**13 32 21.8**	**-0.4**
CMB				pmax	pmax		
	comp=Z,12nm,1.2s						
KSRS	**Korea Array**	**81.24**	**318**	P	**P**	**13 32 23.6**	**+1.3**
	comp=Z,5.9nm,1.0s,baz=135,slow=5.9,SNR=21						
KSRS				LR	LR	14 04 10.9	
	comp=Z,86nm,20.4s,baz=135,slow=33						
	comp=Z,5.9nm,1.0s						
LRMC	**Laurel Mtn Rad** baz=231	**81.25**	**45**	P	**P**	**13 32 23.6**	**+0.9**
KSAR	**Wonju Array Be**	**81.26**	**318**	P	**P**	**13 32 20.4**	**-2.0**
KSAR	**Wonju Array Be**	**81.26**	**318**	P	**P**	**13 32 20.4**	**-2.0**
RRX	**Edison Barstow** baz=232	**81.32**	**45**	P	**P**	**13 32 23.2**	**+0.3**
BELC	**Belle Mtn. Jos** baz=233	**81.44**	**47**	P	**P**	**13 32 23.9**	**+0.3**
AFDM	**Forest Hills D**	**81.45**	**40**	P	**P**	**13 32 20.9**	**-2.5**
ORV	**Oroville**	**81.54**	**39**	P	**P**	**13 32 23.3**	**-0.6**
ORV	**Oroville**	**81.54**	**39**	P	**P**	**13 32 23.3**	**-0.6**
ORV				pmax	pmax		
	comp=Z,8.0nm,1.4s						
BC3	**Big Chuckawall** baz=233,SNR=5.6	**81.59**	**47**	P	**P**	**13 32 24.7**	**+0.3**
CWC	**Cottonwood Cre** baz=231	**81.60**	**44**	P	**P**	**13 32 24.5**	**0.0**
SPIA	**Saint Paul Isl** baz=185	**81.60**	**3**	P	**P**	**13 32 24.9**	**+1.2**
GLA	**Glamis** baz=234	**81.66**	**48**	P	**P**	**13 32 24.8**	**+0.1**
GSC	**Goldstone, Bar** baz=232,SNR=7.5	**81.70**	**45**	P	**P**	**13 32 25.0**	**0.0**
HEC	**Hector,Ludlow** baz=232	**81.72**	**46**	P	**P**	**13 32 24.4**	**-0.6**
MDPB	**Devils Postpil**	**81.73**	**42**	P	**P**	**13 32 24.9**	**-0.4**
MDPB				lAmb	lAmb	13 32 27.1	
	comp=Z,17nm,1.2s						
MPMC	**Manual Prospec** baz=232,SNR=15	**81.73**	**44**	P	**P**	**13 32 24.8**	**-0.4**
S14K	**Fog Glacier** baz=195	**81.76**	**9**	P	**P**	**13 32 25.4**	**+0.6**
MLAC	**Mammoth, Mammo** baz=230	**81.88**	**42**	P	**P**	**13 32 25.5**	**-0.5**
TIN	**Tinemaha, Big** baz=231	**81.89**	**43**	P	**P**	**13 32 26.2**	**+0.2**
CHGN	**Chignik** baz=196	**81.94**	**10**	P	**P**	**13 32 25.8**	**+0.2**
CHIR	**Chirikof Islan** baz=198	**81.95**	**11**	P	**P**	**13 32 26.7**	**+1.1**
INCN	**Inchon**	**82.05**	**317**	P	**P**	**13 32 26.0**	**-0.7**
INCN	**Inchon**	**82.05**	**317**	P	**P**	**13 32 26.0**	**-0.7**
INCN				pmax	pmax		
	comp=Z,93nm,1.9s						
WAKR	**Walker**	**82.07**	**41**	P	**P**	**13 32 26.9**	**-0.1**
WAKR				lAmb	lAmb	13 32 29.2	
	comp=Z,27nm,1.3s						
IRM	**Iron Mountain** baz=233	**82.10**	**47**	P	**P**	**13 32 27.0**	**-0.1**
GMRC	**Granite Mounta** baz=233	**82.14**	**46**	P	**P**	**13 32 27.7**	**+0.4**
YBH	**Yreka Blue Hor**	**82.32**	**37**	P	**P**	**13 32 28.1**	**0.0**
YBH	**Yreka Blue Hor**	**82.32**	**37**	P	**P**	**13 32 28.1**	**0.0**
YBH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
TUQ	**Turquoise Moun** baz=233,SNR=5.6	**82.36**	**46**	P	**P**	**13 32 28.5**	**+0.1**
FURC	**Furnace Creek,** baz=232	**82.38**	**44**	P	**P**	**13 32 28.7**	**+0.4**
GRAC	**Grapevine Rang** baz=232,SNR=12	**82.39**	**44**	P	**P**	**13 32 28.4**	**-0.1**
214A	**Organ Pipe Nat**

NJ2 pmax pmax
comp=Z,12nm,0.7s
NJ2 pmax pmax
comp=Z,110nm,4.7s
TUC Tucson 84.02 51 P **P 13 32 36.0 -1.1**
TUC IAmb IAmb 13 32 39.5
comp=Z,12nm,1.4s
TUC Tucson 84.02 51 P **P 13 32 36.0 -1.1**
TUC pmax pmax
comp=Z,12nm,1.4s
TUC Tucson 84.02 51 P **P 13 32 36.4 -0.7**
baz=236
Q17K Contact Creek 84.23 10 P **P 13 32 38.5 +0.9**
baz=198
R11B Troy Canyon, C 84.34 43 P **P 13 32 38.4 -0.3**
baz=232,SNR=7.7
KDAK Kodiak Island 84.37 12 P **P 13 32 39.2 +1.1**
baz=201
KDAK Kodiak Island 84.37 12 LR LR 14 03 00.4
comp=Z,129nm,20.6s,baz=218,slow=31
O14K Tigyukauivet M 84.42 7 P **P 13 32 38.7 +0.4**
baz=193
Q16K King Salmon 84.50 10 P **P 13 32 39.5 +0.8**
baz=198
O15K Ungalikthiuk R 84.53 8 P **P 13 32 39.3 +0.5**
baz=195
BMN Battle Mountai 84.62 41 IAmb IAmb 13 32 41.7
comp=Z,13nm,1.2s
P16K Nushagak River 84.64 9 P **P 13 32 39.7 +0.3**
baz=196
X16A Lo Mia Camp, P 84.75 49 IAmb IAmb 13 32 43.4
comp=Z,17nm,1.3s
I05D Terrebonne, OR 84.81 36 IAmb IAmb 13 32 42.0
comp=Z,12nm,1.1s
MDJ Mudanjiang 84.98 324 P **P 13 32 42.6 +1.1**
MDJ pmax pmax
comp=Z,23nm,1.1s
MDJ pmax pmax
comp=Z,200nm,5.6s
MDJ LR LR
comp=Z,140nm,15.2s
MDJ LR LR
comp=Z,180nm,16.7s
MDJ LR LR
comp=Z,190nm,15.7s
N14K Kuskokwak Cree 85.03 7 P **P 13 32 41.6 +0.3**
baz=193
P17K Kvichak River 85.03 10 P **P 13 32 41.5 +0.1**
baz=198
LCMT Little Creek M 85.03 46 IAmb IAmb 13 32 44.4
comp=Z,16nm,1.2s
PLCA Paso Flores 85.05 133 LR LR 14 04 38.3
comp=Z,59nm,18.9s,baz=235,slow=31
M11K Mekoryuk 85.05 5 P **P 13 32 41.5 0.0**
baz=189
WVOR Wild Horse Val 85.06 39 IAmb IAmb 13 32 43.3
comp=Z,15nm,1.3s
O16K Kokwok River B 85.16 9 P **P 13 32 42.0 0.0**
baz=196
Q20K Shuyak Island 85.18 12 P **P 13 32 42.1 0.0**
baz=201
Q12A Willow Creek R 85.22 43 IAmb IAmb 13 32 48.3
comp=Z,14nm,1.3s
Q19K Cape Douglas, 85.25 11 P **P 13 32 42.2 -0.3**
baz=200
CCUT Cedar City 85.27 45 IAmb IAmb 13 32 45.9
comp=Z,14nm,1.2s
KNB Kanab 85.31 46 IAmb IAmb 13 32 46.1
comp=Z,20nm,1.2s
F04A Amboy 85.32 34 IAmb IAmb 13 32 45.0
comp=Z,18nm,1.0s
M13K Dall Lake 85.33 6 P **P 13 32 43.0 +0.1**
baz=191
P18K Big Mountain, 85.41 10 P **P 13 32 43.8 +0.5**
baz=199
WUAZ Wupatki 85.41 48 P **P 13 32 43.3 -0.8**
baz=235
N15K Kwethluk River 85.45 8 P **P 13 32 43.6 +0.1**
baz=194
O17K Koliganek Bris 85.48 9 P **P 13 32 43.7 +0.1**
baz=197
J08A Circle Bar Ran 85.74 38 IAmb IAmb 13 32 46.6
comp=Z,14nm,1.3s
G06A Carlson Farm, 85.78 36 IAmb IAmb 13 32 49.0
comp=Z,14nm,1.4s
M14K Bethel 85.81 7 P **P 13 32 45.3 +0.1**
M14K Bethel 85.81 7 P **P 13 32 45.3 +0.1**
baz=193
X18A Snowflake 85.83 49 IAmb IAmb 13 32 48.6
comp=Z,12nm,1.2s
O18K Koktuh Hills 85.85 10 IAmb IAmb 13 32 45.9
comp=Z,16nm,1.1s
O18K Koktuh Hills 85.85 10 P **P 13 32 45.1 -0.4**
baz=199,SNR=5.5
M15K Kasigluk River 85.89 7 P **P 13 32 46.0 +0.4**
baz=194
N16K Nishlik Lake 85.92 8 P **P 13 32 45.7 -0.2**
baz=196
P19K Oil Pt 86.00 11 P **P 13 32 46.1 -0.2**
baz=200
ELK Elko 86.00 42 LR LR 14 08 36.0
comp=Z,144nm,18.0s,baz=238,slow=34
GRNR Gornyy 86.03 332 ⇑P **P 13 32 47.1 +0.5**
GRNR pmax pmax
comp=Z,8.0nm,1.2s
GRNR MLR MLR
comp=E,120nm,20.0s
GRNR MLR MLR
comp=N,260nm,15.0s
GRNR MLR MLR
comp=Z,160nm,14.0s
N17K Nushagak Hills 86.19 9 P **P 13 32 46.8 -0.3**
baz=197
121A Cookes Peak, D 86.27 52 IAmb IAmb 13 32 54.4
comp=Z,22nm,1.6s
121A Cookes Peak, D 86.27 52 P **P 13 32 47.3 -1.2**
baz=238
121A Cookes Peak, D 86.27 52 P **P 13 32 49.3 +0.8**
baz=238
HOM Homer 86.30 12 P **P 13 32 47.3 -0.3**
baz=202
W18A Petrified Fore 86.30 49 P **P 13 32 47.7 -0.9**
baz=236
L14K Kuka Creek 86.31 6 IAmb IAmb 13 32 49.1
comp=Z,14nm,1.1s
L14K Kuka Creek 86.31 6 P **P 13 32 47.3 -0.3**
baz=192
MTPU Mount Pierson 86.31 45 IAmb IAmb 13 32 51.0
comp=Z,25nm,1.4s
O19K Port Alsworth 86.32 11 P **P 13 32 46.9 -0.9**
baz=200,SNR=9.0
ILSW Iliamna Southw 86.33 11 IAmb IAmb 13 32 48.0
comp=Z,18nm,1.1s
M16K Timber Creek 86.43 8 IAmb IAmb 13 32 50.2
comp=Z,24nm,1.2s
M16K Timber Creek 86.43 8 P **P 13 32 48.1 -0.2**
baz=195
WHN Wuhan 86.43 306 ⇑P **P 13 32 50.8 +1.7**
WHN pmax pmax
comp=Z,46nm,0.8s
O20K Slope Mountain 86.51 11 P **P 13 32 48.8 -0.1**
baz=201
N18K Kilae Creek 86.53 10 P **P 13 32 48.5 -0.3**
baz=198
BRSE Bradley Lake S 86.55 12 P **P 13 32 48.6 -0.4**
baz=203
G08A Pilot Rock 86.72 36 IAmb IAmb 13 32 51.4
comp=Z,15nm,1.4s
CN2 Changchun 86.73 322 P **P 13 32 50.6 +0.4**
CN2 pmax pmax
comp=Z,20nm,1.2s
L15K Ungalak Mounta 86.76 7 P **P 13 32 50.0 +0.1**
baz=193
N19K Bonanza Creek 86.88 10 P **P 13 32 50.4 -0.3**
baz=199
BNX BinXian 86.89 324 ⇓P **P 13 32 51.0 +0.1**
BNX pmax pmax
comp=Z,25nm,1.0s
BNX pmax pmax
comp=Z,140nm,4.3s
M17K Holitna River 87.00 9 IAmb IAmb 13 32 52.7
comp=Z,14nm,1.1s
M17K Holitna River 87.00 9 P **P 13 32 50.9 -0.2**
baz=197
L16K Owhat River 87.03 8 IAmb IAmb 13 32 52.0
comp=Z,11nm,1.2s
L16K Owhat River 87.03 8 P **P 13 32 51.3 0.0**
baz=195

KLR Kul'dur 87.04 329 *de*P **P 13 32 52.5 +0.9**
KLR pmax pmax
comp=Z,12nm,1.3s
KLR Kul'dur 87.04 329 P **P 13 32 52.8 +1.2**
comp=Z,5.0nm,0.9s,baz=119,slow=6.5,SNR=9.8
KLR LR LR 14 06 15.6
comp=Z,101nm,20.3s,baz=279,slow=32
comp=Z,5.0nm,0.9s
LTY Liberty 87.11 34 IAmb IAmb 13 35 53.1
comp=Z,23nm,1.9s
HAWA Hanford 87.12 35 IAmb IAmb 13 32 53.4
comp=Z,13nm,1.4s
SEW Seward 87.14 13 P **P 13 32 51.9 +0.1**
baz=204
DUG Dugway, Tooele 87.16 43 P **P 13 32 51.6 -1.0**
baz=234
Q23K Middleton Isla 87.20 15 P **P 13 32 52.2 +0.1**
baz=207
M18K Stony River 87.31 9 P **P 13 32 52.3 -0.3**
baz=198
K15K Wolf Creek Mou 87.36 7 P **P 13 32 53.0 +0.1**
baz=193
GSI Gunungsitoli 87.39 273 P **P 13 32 53.8 -0.4**
VHRN Van Horn 87.40 54 P **P 13 32 53.4 -0.5**
VHRN IAmb IAmb 13 32 55.8
comp=Z,12nm,1.3s
CAPN Captain Cook N 87.42 12 P **P 13 32 53.5 +0.4**
baz=202
O22K Cooper Landing 87.43 13 P **P 13 32 53.4 +0.2**
baz=204
TIA Tai'an 87.47 312 ⇓P **P 13 32 54.8 +0.8**
TIA pmax pmax
comp=Z,20nm,1.0s
P23K Montague Islan 87.48 14 P **P 13 32 53.9 +0.4**
baz=206
MNTX Cornudas Mount 87.57 54 P **P 13 32 53.7 -0.9**
baz=239
MNTX Cornudas Mount 87.57 54 P **P 13 32 54.2 -0.4**
baz=239
L17K Donlin 87.59 8 P **P 13 32 54.5 +0.6**
baz=196
Y22A Socorro 87.59 51 P **P 13 32 54.3 -0.6**
baz=238
J14K Nanvaranak Lak 87.61 6 P **P 13 32 54.3 +0.3**
baz=191
GRNB Grenville Isla 87.62 25 IAmb IAmb 13 32 56.6
comp=Z,14nm,1.3s
N20K Mount Spurr 87.63 11 P **P 13 32 54.1 -0.1**
baz=201
TX31 Lajitas Ar. Si 87.66 56 IAmb IAmb 13 33 02.4
comp=Z,16nm,1.7s
TX31 Lajitas Ar. Si 87.66 56 P **P 13 32 55.4 +0.1**
baz=240
TXAR Lajitas Array 87.66 56 P **P 13 32 55.0 -0.2**
TXAR Lajitas Array 87.66 56 P **P 13 32 55.0 -0.2**
comp=Z,2.9nm,1.1s,baz=215,slow=6.1,SNR=16
TXAR LR LR 14 07 13.7
comp=Z,70nm,18.5s,baz=226,slow=32
comp=Z,2.9nm,1.1s
Y22D IRIS PASSCAL I 87.69 51 P **P 13 32 54.4 -1.0**
baz=238
Y22F Passcal Instru 87.69 51 P **P 13 32 54.7 -0.6**
baz=238
CRAG Craig 87.70 23 P **P 13 32 54.7 +0.1**
baz=218
D08A Wollman Farm, 87.88 35 IAmb IAmb 13 32 56.9
comp=Z,10nm,1.2s
L18K Granite Mounta 87.89 9 IAmb IAmb 13 32 56.7
comp=Z,17nm,1.3s
L18K Granite Mounta 87.89 9 P **P 13 32 55.9 +0.6**
baz=197
M19K Big River Lodg 87.93 10 P **P 13 32 55.9 +0.3**
baz=199
RC01 Rabbit Creek A 87.99 12 IAmb IAmb 13 32 56.5
comp=Z,17nm,1.2s
RC01 Rabbit Creek A 87.99 12 P **P 13 32 55.9 0.0**
baz=204
SRU San Rafael Swe 87.99 45 P **P 13 32 56.2 -0.5**
SRU IAmb IAmb 13 32 58.2
comp=Z,11nm,1.2s
SRU San Rafael Swe 87.99 45 P **P 13 32 56.2 -0.5**
SRU pmax pmax
comp=Z,11nm,1.2s
F10A Beech Ranch, E 88.09 37 IAmb IAmb 13 32 59.5
comp=Z,21nm,1.7s
KAIM Kayak Island 88.10 15 P **P 13 32 56.2 -0.2**
baz=208
M20K Styx River 88.11 11 P **P 13 32 56.7 +0.1**
baz=201
L19K White Mountain 88.12 10 P **P 13 32 56.5 0.0**
baz=199
V35K Ketchikan 88.13 24 P **P 13 32 56.8 +0.2**
baz=219
SUA Susitna One 88.14 12 IAmb IAmb 13 32 56.5
comp=Z,11nm,1.3s
SUA Susitna One 88.14 12 P **P 13 32 56.9 +0.2**
baz=203
K17K Iditarod 88.15 8 P **P 13 32 56.7 +0.1**
baz=196
GAMB Gambell 88.15 2 P **P 13 32 56.7 +0.1**
baz=184
HLID Hailey 88.19 40 P **P 13 32 56.6 -0.9**
baz=233
ALPN Alpine 88.20 55 IAmb IAmb 13 33 05.4
comp=Z,21nm,1.7s
PLID Pearl Lake 88.21 38 IAmb IAmb 13 33 09.4
comp=Z,16nm,1.9s
U33K Whale Pass 88.21 22 P **P 13 32 57.6 +0.6**
baz=218
SIT Sitka 88.22 21 P **P 13 32 57.7 +0.6**
baz=216
MA2 Magadan 88.25 344 P **P 13 32 56.3 -0.9**
MA2 IAmb IAmb 13 32 58.8
comp=Z,15nm,1.2s
MA2 Magadan 88.25 344 ⇑*e*P **P 13 32 55.9 -1.3**
MA2 pmax pmax
comp=Z,20nm,1.7s
MA2 Magadan 88.25 344 LR LR 14 08 43.8
comp=Z,154nm,18.9s,baz=122,slow=33
MVCO Mesa Verde 88.28 48 P **P 13 32 57.4 -0.8**
baz=237
EYAK Ceclova Ski Ar 88.34 14 P **P 13 32 58.0 +0.5**
baz=207
J16K Anvik River 88.43 7 IAmb IAmb 13 32 59.2
comp=Z,13nm,1.2s
J16K Anvik River 88.43 7 P **P 13 32 57.9 0.0**
baz=194
ANMO Albuquerque 88.48 50 P **P 13 32 59.0 -0.1**
ANMO IAmb IAmb 13 33 01.1
comp=Z,11nm,1.2s
ANMO Albuquerque 88.48 50 P **P 13 32 59.0 -0.1**
ANMO pmax pmax
comp=Z,11nm,1.2s
ANMO Albuquerque 88.48 50 P **P 13 32 58.5 -0.6**
baz=238
ANMO Albuquerque 88.48 50 P **P 13 32 59.0 -0.1**
baz=238
SKT Skwentna 88.48 11 P **P 13 32 57.9 -0.3**
baz=202
M22K Willow 88.53 12 P **P 13 32 58.2 -0.2**
baz=203
KNK Knik Glacier 88.54 13 IAmb IAmb 13 32 59.2
comp=Z,11nm,1.2s
KNK Knik Glacier 88.54 13 P **P 13 32 58.3 -0.2**
baz=205
L20K Farewell, AK 88.55 10 P **P 13 32 58.3 -0.3**
baz=200
TCUT Toone Canyon 88.57 43 IAmb IAmb 13 33 02.8
comp=Z,16nm,1.2s
PMR Palmer 88.57 12 IAmb IAmb 13 32 59.1
comp=Z,16nm,1.4s
PMR Palmer 88.57 12 P **P 13 32 58.4 -0.2**
baz=204,SNR=5.6
BSUT Blindstream Ca 88.64 44 IAmb IAmb 13 33 01.6
comp=Z,12nm,1.2s
TTA Tatalina 88.66 9 IAmb IAmb 13 33 00.2
comp=Z,13nm,1.3s
TTA Tatalina 88.66 9 P **P 13 32 59.5 +0.4**
baz=198,SNR=5.1
S31K Pelican 88.67 20 P **P 13 32 59.8 +0.6**
baz=216
BERG Berg Lake 88.68 15 IAmb IAmb 13 33 00.5
comp=Z,19nm,1.3s
WRAK Wrangell Islan 88.72 23 P **P 13 33 00.5 +1.2**
baz=219
S32K Killisnoo 88.80 21 P **P 13 32 59.9 +0.2**
baz=217
SML Sawmill 88.92 13 IAmb IAmb 13 33 13.3
comp=Z,15nm,1.3s
SML Sawmill 88.92 13 P **P 13 33 00.8 +0.5**
baz=205
MESA MESA 88.92 16 P **P 13 33 00.6 0.0**
baz=210
BMRM Bremner River 88.97 15 P **P 13 33 00.6 0.0**
baz=208,SNR=6.3
I17K Unalakleet 89.00 7 P **P 13 33 00.6 0.0**
baz=194
M23K Glacier View 89.03 13 P **P 13 33 00.9 0.0**
baz=205
J18K Innoko River 89.07 8 P **P 13 33 00.8 -0.2**
baz=197
CUT Chulitna 89.10 12 P **P 13 33 00.7 -0.3**
baz=203,SNR=5.6
CMIG Matias Romero 89.13 71 LR LR 14 05 39.8
comp=Z,84nm,18.4s,baz=188,slow=31
KLU Klutina 89.14 14 IAmb IAmb 13 33 02.9
comp=Z,10nm,1.2s
KLU Klutina 89.14 14 P **P 13 33 01.7 +0.3**
baz=207
SCM Sheep Creek Mo 89.15 13 P **P 13 33 01.5 0.0**
baz=206
PNL Peninsula 89.17 18 P **P 13 33 01.2 -0.3**
baz=213
ISLE Juniper Island 89.19 16 IAmb IAmb 13 33 14.8
comp=Z,17nm,1.1s
PPLA Purkeypile 89.22 11 P **P 13 33 01.5 -0.3**
baz=201
ANM Nome 89.26 5 P **P 13 33 01.8 0.0**
baz=190
K20K Telida 89.35 10 P **P 13 33 02.2 -0.1**
baz=200
R32K Eaglecrest 89.46 20 P **P 13 33 03.0 +0.1**
baz=217
VRDI Verde Repeater 89.47 15 IAmb IAmb 13 33 04.8
comp=Z,18nm,1.3s
N25K Chitina, Valde 89.54 14 IAmb IAmb 13 33 05.0
comp=Z,24nm,1.4s
N25K Chitina, Valde 89.54 14 P **P 13 33 03.1 -0.2**
baz=208,SNR=7.3
GLB Gilahina Butte 89.57 15 IAmb IAmb 13 33 05.1
comp=Z,22nm,1.4s
NEW Newport 89.58 35 P **P 13 33 03.7 -0.1**
baz=231
NEW Newport 89.58 35 LR LR 14 13 48.6
comp=Z,144nm,18.3s,baz=217,slow=36
H16K Elim 89.59 6 P **P 13 33 02.8 -0.5**
baz=192
P29M Windy Craggy 89.60 18 P **P 13 33 03.8 +0.3**
baz=214
M24K Tolsona, Glenn 89.64 13 P **P 13 33 03.9 +0.2**
baz=207
MCARA McCarthy VSAT 89.71 15 P **P 13 33 03.6 -0.4**
baz=210,SNR=7.8
LOGN Logan Glacier 89.72 16 IAmb IAmb 13 33 06.6
comp=Z,10nm,1.1s
CAST Castle Rocks 89.72 10 P **P 13 33 03.6 -0.5**
baz=202
J19K Poorman 89.73 9 IAmb IAmb 13 33 11.4
comp=Z,22nm,1.9s
J19K Poorman 89.73 9 P **P 13 33 04.1 +0.1**
baz=198
HNS HongShan 89.74 312 ⇓P **P 13 33 05.9 +1.2**
HNS pmax pmax
comp=Z,17nm,1.4s
WAT6 Susitna Watana 89.74 13 P **P 13 33 04.4 0.0**
baz=205,SNR=9.7
CTG Chitna Glacier 89.76 16 P **P 13 33 05.1 +0.7**
baz=211,SNR=5.6
CTGM Chitina Glacie 89.76 16 IAmb IAmb 13 33 29.1
comp=Z,13nm,1.2s
G15K Niukluk 89.78 5 P **P 13 33 03.6 -0.6**
baz=191
WAT1 Susitna Watana 89.81 12 P **P 13 33 03.4 -1.1**
baz=205
HEH HeiHe 89.81 328 *e*P **P 13 33 04.9 +0.2**
HEH pmax pmax
comp=Z,12nm,1.3s
HEH pmax pmax
comp=Z,300nm,5.2s
LYN LuoYang 89.84 308 ⇓P **P 13 33 06.8 +1.6**
LYN pmax pmax
comp=Z,40nm,1.0s
PLBC Pleasant Camp 89.85 19 P **P 13 33 03.9 -0.7**
baz=215
T35M Bob Quinn 89.89 23 IAmb IAmb 13 33 08.5
comp=Z,17nm,1.6s
T35M Bob Quinn 89.89 23 P **P 13 33 04.9 -0.1**
baz=220
O29M Mount Kennedy 89.92 18 IAmb IAmb 13 33 06.7
comp=Z,14nm,1.4s
O29M Mount Kennedy 89.92 18 P **P 13 33 04.7 -0.5**
baz=213
O20A White River Ci 90.03 45 P **P 13 33 05.7 -0.6**
baz=237
KTH Kantishna Hill 90.05 11 IAmb IAmb 13 33 09.4
comp=Z,19nm,1.5s
TRF Thorofare Moun 90.06 11 IAmb IAmb 13 33 10.0
comp=Z,12nm,1.2s
TRF Thorofare Moun 90.06 11 P **P 13 33 05.4 -0.4**
baz=203
TNA Tin City 90.09 3 P **P 13 33 05.1 -0.5**
baz=187
F14K Arctic Creek 90.09 4 P **P 13 33 05.6 0.0**
baz=189
H17K Granite Mounta 90.11 7 P **P 13 33 06.0 +0.2**
baz=194
J20K Nowinta River 90.11 9 P **P 13 33 06.0 +0.2**
baz=200
CHUM Lake Minchumin 90.12 10 P **P 13 33 05.3 -0.5**
baz=201
BJI Beijing 90.17 315 P **P 13 33 07.1 +0.5**
BJI pP **pwP 13 33 18.8 +4.8**
BJI pmax pmax
comp=Z,5.0nm,1.4s
BJI pmax pmax
comp=Z,23nm,3.9s
SKAG Skagway 90.17 19 P **P 13 33 06.4 +0.3**
baz=216,SNR=6.3
P30M Million Dollar 90.23 18 P **P 13 33 06.5 0.0**
baz=215
DHY Denali Highway 90.26 13 IAmb IAmb 13 33 45.2
comp=Z,22nm,1.8s
DHY Denali Highway 90.26 13 P **P 13 33 06.2 -0.5**
baz=206
RND Reindeer 90.28 12 IAmb IAmb 13 33 07.9
comp=Z,19nm,1.2s
SNOW Snow King Moun 90.30 41 IAmb IAmb 13 33 11.9
comp=Z,12nm,1.2s
S34M Telegraph Cree 90.30 22 IAmb IAmb 13 33 09.9
comp=Z,13nm,1.2s
S34M Telegraph Cree 90.30 22 P **P 13 33 06.6 -0.2**
baz=220,SNR=6.6
SLVN Son La 90.31 293 IAmb IAmb 13 33 10.3
comp=Z,11nm,1.2s
G16K Koyuk River 90.32 6 P **P 13 33 07.3 +0.6**
baz=192
SMCO Snowmass 90.34 46 IAmb IAmb 13 33 11.7
comp=Z,20nm,1.8s
GYA Guiyang 90.36 299 ⇓P **P 13 33 09.3 +1.3**
GYA pmax pmax
comp=Z,12nm,0.5s
GYA pmax pmax
comp=Z,260nm,4.6s
YUK8 Steele Glacier 90.43 17 P **P 13 33 07.7 0.0**
baz=212
F15K North Star Dit 90.44 5 P **P 13 33 07.6 +0.3**
baz=190
833A Chaparral WMA, 90.46 59 P **P 13 33 07.8 -0.5**
baz=242
MOOW Moose Ponds 90.46 41 IAmb IAmb 13 33 09.3
comp=Z,13nm,1.8s
H18K Honhosa River 90.49 7 P **P 13 33 07.8 +0.2**
baz=196
YUK6 Outpost Mounta 90.52 17 P **P 13 33 07.8 -0.3**
baz=214
BPAW Bear Paw Mtn. 90.54 11 P **P 13 33 07.0 -0.8**
baz=202
PAX Paxson 90.56 13 P **P 13 33 08.1 0.0**
baz=207
MCK McKinley 90.56 12 P **P 13 33 07.5 -0.4**
baz=204,SNR=6.2
G17K Kiwalik Mounta 90.58 6 P **P 13 33 07.8 -0.2**
baz=194
SDCO Great Sand Dun 90.59 48 P **P 13 33 08.0 -1.0**
baz=239
SDCO Great Sand Dun 90.59 48 P **P 13 33 08.9 -0.1**

baz=239
M26K Nabesna, AK 90.60 15 P P 13 33 07.5 -0.7
baz=210
MSTX Muleshoe 90.61 53 P P 13 33 07.5 -1.5
baz=240
BW06 Boulder Array 90.63 42 P P 13 33 07.8 -1.3
baz=236
PDAR Pinedale Array 90.63 42 P P 13 33 08.4 -0.7
comp=Z,1.9nm,1.1s,baz=202,slow=3.2,SNR=10
PDAR LR LR 14 11 36.6
comp=Z,65nm,18.4s,baz=266,slow=34
comp=Z,1.9nm,1.1s
I20K Naaghedeneel 90.65 9 P P 13 33 08.1 -0.2
baz=199
HYT Haines Junctio 90.65 18 IAmb IAmb 13 33 10.9
comp=Z,13nm,1.4s
HYT Haines Junctio 90.65 18 P P 13 33 08.2 -0.4
baz=214,SNR=5.8
YUK3 Moose Creek 90.67 16 P P 13 33 08.1 -0.7
baz=212,SNR=17
FLWY Flagg Ranch 90.68 41 IAmb IAmb 13 33 11.3
comp=Z,11nm,1.2s
Q32M Nakina River 90.73 21 P P 13 33 08.8 -0.3
baz=219
P32M Atlin 90.77 20 IAmb IAmb 13 35 05.4
comp=Z,29nm,1.9s
P32M Atlin 90.77 20 P P 13 33 08.7 -0.3
baz=218
YUK4 Talbot Arm 90.78 17 P P 13 33 09.4 +0.1
baz=214
SEY Seymchan 90.81 346 ||*e*P P 13 33 09.0 0.0
SEY pmax pmax
comp=Z,13nm,1.4s
SEY Seymchan 90.81 346 LR LR 14 13 18.1
comp=Z,66nm,18.1s,baz=266,slow=35
M27K Edge Creek, AK 90.83 15 P P 13 33 09.2 -0.1
baz=211
MENT Mentasta 90.91 14 IAmb IAmb 13 33 10.7
comp=Z,10nm,1.2s
H17A Grant Village 90.93 41 P P 13 33 09.7 -0.7
baz=236
BOZ Bozeman (W) 90.99 39 IAmb IAmb 13 33 12.3
comp=Z,17nm,1.3s
BOZ Bozeman (W) 90.99 39 P P 13 33 09.7 -0.9
baz=235
O30N Mendenhall 91.01 18 IAmb IAmb 13 33 12.3
comp=Z,10nm,1.3s
O30N Mendenhall 91.01 18 P P 13 33 09.8 -0.3
baz=216,SNR=8.0
T25A Trinidad 91.02 49 P P 13 33 10.3 -0.7
baz=240
L26K Log Cabin Wild 91.07 14 IAmb IAmb 13 33 11.5
comp=Z,8.4nm,1.1s
L26K Log Cabin Wild 91.07 14 P P 13 33 10.0 -0.3
baz=209
DLBC Dease Lake 91.08 22 P P 13 33 11.0 +0.5
baz=221
H19K Roundabout Mou 91.08 8 IAmb IAmb 13 33 21.1
comp=Z,18nm,1.4s
H19K Roundabout Mou 91.08 8 P P 13 33 10.9 +0.7
baz=198
BVCY Beaver Creek 91.12 16 P P 13 33 11.0 +0.4
baz=211
JCT Junction City 91.15 57 P P 13 33 11.3 -0.2
baz=242
G18K Tagagawik 91.18 7 P P 13 33 10.8 0.0
baz=196
K24K Donnelly Dome 91.24 13 P P 13 33 11.3 +0.2
baz=207
H20K Anotleneega Mo 91.26 9 P P 13 33 11.5 +0.4
baz=199
WHY Whitehorse 91.27 19 P P 13 33 11.4 0.0
baz=217
N30M Aishikik Lake 91.29 18 P P 13 33 11.7 +0.2
baz=215
NEA2 Nenana 91.33 11 P P 13 33 11.8 +0.4
baz=204
I21K Tanana 91.39 10 P P 13 33 11.9 +0.2
baz=202
WRH Wood River Hil 91.39 12 IAmb IAmb 13 33 12.1
comp=Z,10.0nm,1.1s
F17K Baldwin Pennin 91.44 6 P P 13 33 12.2 +0.3
baz=193
L27K Beaver Creek, 91.45 15 IAmb IAmb 13 33 13.7
comp=Z,10nm,1.4s
L27K Beaver Creek, 91.45 15 P P 13 33 11.9 -0.2
baz=211
MLY Manley 91.45 10 P P 13 33 11.7 -0.4
baz=203
Q24A Divide 91.45 47 P P 13 33 11.8 -1.2
baz=239
R33M Jennings River 91.49 21 IAmb IAmb 13 33 14.8
comp=Z,15nm,1.4s
R33M Jennings River 91.49 21 P P 13 33 12.3 -0.2
baz=220,SNR=7.5
P33M Teslin, Yukon 91.53 20 P P 13 33 12.7 +0.1
baz=218
HDA Harding Lake 91.55 12 P P 13 33 12.1 -0.4
baz=206
ISCO Idaho Springs 91.57 47 P P 13 33 12.5 -1.1
baz=239
G19K Purcell Mounta 91.60 8 P P 13 33 12.9 +0.3
baz=197
H21K Melozitna Rive 91.71 9 IAmb IAmb 13 35 29.1
comp=Z,12nm,1.6s
H21K Melozitna Rive 91.71 9 P P 13 33 13.2 0.0
baz=201
M29M Somme Creek 91.74 16 IAmb IAmb 13 33 14.7
comp=Z,8.2nm,1.2s
M29M Somme Creek 91.74 16 P P 13 33 13.5 -0.1
baz=214
F18K Selawik 91.75 6 P P 13 33 13.2 -0.2
baz=195
SCRK Sand Creek 91.76 13 P P 13 33 12.9 -0.7
baz=209
I23K Minto, Yukon-K 91.78 11 IAmb IAmb 13 35 20.0
comp=Z,19nm,1.9s
I23K Minto, Yukon-K 91.78 11 P P 13 33 12.8 -0.8
baz=204
COLA College 91.80 12 ||*e*P P 13 33 12.9 -0.7
COLA pmax pmax
comp=Z,11nm,1.1s
COLA College 91.80 12 P P 13 33 12.8 -0.7
baz=205
MDM Murphy Dome 91.81 11 IAmb IAmb 13 33 13.8
comp=Z,12nm,1.3s
ILAR Eielson Array 91.89 12 P P 13 33 12.2 -1.9
comp=Z,3.4nm,1.2s,baz=223,slow=5.6,SNR=9.7
comp=Z,3.4nm,1.2s
N23A Red Feather La 91.92 45 P P 13 33 13.2 -1.9
baz=239
J25K Salcha River, 92.04 13 P P 13 33 14.2 -0.7
baz=208
POKR Poker Plat Res 92.10 12 P P 13 33 15.4 +0.3
baz=206
RLMT Red Lodge 92.11 41 P P 13 33 14.2 -1.6
baz=237
H22K Ishtalitna Cre 92.14 10 P P 13 33 15.6 +0.3
baz=202
XAN Xi'an 92.15 307 ⇑P P 13 33 16.9 +0.8
XAN pmax pmax
comp=Z,25nm,0.9s
F19K Shaleruckik Mo 92.18 7 P P 13 33 15.6 +0.3
baz=196
N32M Quiet Lake 92.19 19 P P 13 33 16.0 +0.4
baz=218
PHRA Phrae 92.21 289 P P 13 33 17.2 +0.6
K27K Chicken 92.23 14 IAmb IAmb 13 33 17.7
comp=Z,12nm,1.4s
K27K Chicken 92.23 14 P P 13 33 15.0 -0.6
baz=210
ABTX Abilene, Hawle 92.27 55 P P 13 33 15.0 -1.6
baz=242
M30M Minto, Yukon 92.29 17 IAmb IAmb 13 33 17.0
comp=Z,11nm,1.5s
M30M Minto, Yukon 92.29 17 P P 13 33 15.4 -0.6
baz=215
J26L Joseph Creek 92.31 13 P P 13 33 15.6 -0.5
baz=209
L29M L29M 92.39 16 P P 13 33 16.0 -0.5
baz=214
G21K Allakaket 92.41 9 P P 13 33 16.2 -0.3
baz=200
K22A Casper 92.46 44 P P 13 33 16.9 -0.5
baz=238
E18K Tukpahlearik C 92.46 6 IAmb IAmb 13 33 18.8
comp=Z,11nm,1.4s
E18K Tukpahlearik C 92.46 6 P P 13 33 16.8 +0.1
baz=194
D17K Noatak River 92.52 5 P P 13 33 16.9 0.0
baz=192
F20K Avaraart Lake 92.63 8 P P 13 33 17.4 0.0
baz=198
M31M Drury Creek, Y 92.65 18 P P 13 33 17.5 -0.2
baz=217
H24K Noodor Dome 92.67 11 P P 13 33 17.8 +0.1
baz=205
WTLY Watson Lake, Y 92.76 22 IAmb IAmb 13 33 20.1
comp=Z,14nm,1.5s
WTLY Watson Lake, Y 92.76 22 P P 13 33 18.0 -0.2
baz=222
PRP Porcupine Dome 92.82 12 IAmb IAmb 13 33 19.6
comp=Z,8.9nm,1.4s
PRP Porcupine Dome 92.82 12 P P 13 33 18.7 +0.1
baz=207
E19K Redstone River 92.84 7 IAmb IAmb 13 33 19.9
comp=Z,7.8nm,1.3s
E19K Redstone River 92.84 7 P P 13 33 18.8 +0.3
baz=197
DAWY Dawson 92.88 15 IAmb IAmb 13 33 20.5
comp=Z,9.8nm,1.3s
DAWY Dawson 92.88 15 P P 13 33 19.2 +0.5
baz=213
RDOG Red Dog Mine 92.89 5 P P 13 33 18.9 +0.3
baz=192
KMI Kunming 92.93 296 ⇑P P 13 33 21.4 +1.3
KMI pmax pmax
comp=Z,22nm,1.1s
C16K Lisburne Hills 92.93 4 IAmb IAmb 13 33 21.3
comp=Z,11nm,1.4s
C16K Lisburne Hills 92.93 4 P P 13 33 18.7 -0.1
baz=190
FARO Faro, Yukon 92.97 18 P P 13 33 19.2 0.0
baz=218
EGAK Eagle 93.08 14 P P 13 33 18.6 -0.9
EGAK IAmb IAmb 13 33 20.5
comp=Z,10nm,1.4s
EGAK Eagle 93.08 14 P P 13 33 20.4 +0.9
baz=211
F21K Alatna River 93.08 9 P P 13 33 19.8 +0.3
baz=200
I26K Coal Creek Min 93.10 13 IAmb IAmb 13 33 20.8
comp=Z,8.3nm,1.4s
I26K Coal Creek Min 93.10 13 P P 13 33 20.5 +0.9
baz=210
G23K Bananza Creek 93.11 10 P P 13 33 20.4 +0.7
baz=203
NNA Nana 93.13 105 LR LR 14 07 29.5
comp=Z,126nm,18.8s,baz=211,slow=30
K29M Barlow Dome 93.15 16 P P 13 33 20.6 +0.6
baz=214
KSCO Kaye Shedlock' 93.17 48 P P 13 33 20.5 -0.3
baz=241
C17K DeLong Mountai 93.28 5 P P 13 33 20.7 +0.3
baz=192
CM31 Chiang Mai Arr 93.30 289 P P 13 33 22.5 +0.8
CMAR Chiang Mai Arr 93.30 289 P P 13 33 20.0 -1.7
CMAR Chiang Mai Arr 93.30 289 *e*P P 13 33 23.6 +1.9
CMAR pmax pmax
comp=Z,14nm,0.9s
CMAR Chiang Mai Arr 93.30 289 P P 13 33 23.4 +1.7
comp=Z,13nm,0.9s,baz=137,slow=3.3,SNR=84
CMAR LR LR 14 15 35.8
comp=Z,24nm,18.9s,baz=135,slow=36
comp=Z,13nm,0.9s
BILL Bilibino 93.31 353 P P 13 33 20.0 -0.6
BILL Bilibino 93.31 353 ||*e*P P 13 33 19.4 -1.2
BILL pmax pmax
comp=Z,3.0nm,1.0s
EGMT Eagleton 93.42 38 P P 13 33 21.8 +0.2
baz=236
H25L Birch Creek 93.43 12 P P 13 33 21.7 +0.5
baz=207
J29N Klondike Camp 93.48 15 P P 13 33 21.5 0.0
baz=214
COLD Coldfoot 93.56 10 P P 13 33 22.1 +0.4
baz=203
HHC Hu-ho-hao-te 93.60 314 *e*P P 13 33 24.4 +1.7
HHC pmax pmax
comp=Z,25nm,0.8s
HHC LR LR
comp=Z,110nm,16.6s
HHC LR LR
comp=Z,150nm,16.8s
HHC LR LR
comp=Z,130nm,16.8s
C18K Utukok River 93.61 5 P P 13 33 20.1 -1.8
C18K IAmb IAmb 13 33 27.4
comp=Z,18nm,1.7s
C18K Utukok River 93.61 5 P P 13 33 22.5 +0.5
baz=193
WHTX Lake Witney, 93.62 57 P P 13 33 21.9 -0.9
baz=243
I27K Kandik River 93.69 14 P P 13 33 22.9 +0.4
baz=211
E20K Nigu River 93.73 7 P P 13 33 22.9 +0.4
baz=198
D19K Kuna River 93.75 6 P P 13 33 22.5 -0.1
baz=196
ATAH Atahualpa 93.82 100 LR LR 14 08 09.0
comp=Z,118nm,18.3s,baz=251,slow=31
G25K Beman Lake 93.83 11 P P 13 33 22.6 -0.3
baz=207
WMOK Wichita Mounta 93.88 54 P P 13 33 23.0 -1.0
baz=243
I28M Miner Creek 93.92 14 P P 13 33 23.3 -0.2
baz=212
TGTN Hyland Airport 93.98 21 P P 13 33 23.6 -0.3
baz=222
J30M Hart River 94.05 16 P P 13 33 23.9 -0.3
baz=216
D20K Etivluk River 94.12 7 P P 13 33 24.1 -0.2
baz=198
E22K Anaktuvuk Pass 94.17 9 P P 13 33 24.7 +0.1
baz=202
C19K Lookout Ridge 94.19 6 P P 13 33 24.9 +0.2
baz=195
F24K Squaw Lake 94.20 10 P P 13 33 24.9 +0.2
baz=205
H27K Stuboat Moun 94.25 13 P P 13 33 25.0 +0.1
baz=211
B18K Kokolik River 94.26 5 P P 13 33 24.8 0.0
baz=193
PZH PanZhiHua 94.33 297 P P 13 33 27.4 +1.0
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,90nm,4.1s
KOTAN Kotaneelee Air 94.41 23 P P 13 33 26.6 +0.8
baz=226
E23K Chandalar 94.42 10 P P 13 33 26.6 +0.9
baz=204
G26K Porcupine Rive 94.42 12 P P 13 33 26.6 +1.0
baz=209
EDM Edmonton 94.50 32 P P 13 33 25.5 -0.9
EDM IAmb IAmb 13 33 27.8
comp=Z,14nm,1.3s
EDM Edmonton 94.50 32 P P 13 33 25.5 -0.9
EDM pmax pmax
comp=Z,14nm,1.3s
I30M Mount Dempster 94.57 16 IAmb IAmb 13 33 28.0
comp=Z,11nm,1.6s
I30M Mount Dempster 94.57 16 P P 13 33 26.6 0.0
baz=216
E24K Your Creek 94.61 10 P P 13 33 27.0 +0.4
baz=205
CD2 Chengdu 94.62 302 *e*P P 13 33 27.0 -0.6
CD2 pmax pmax
comp=Z,10.0nm,0.5s
F25K Christian Rive 94.65 11 P P 13 33 27.9 +1.1
baz=207
G27K Doyon Strip 94.72 13 P P 13 33 28.1 +1.0
baz=211
LAO LASA Array 94.74 40 P P 13 33 27.7 0.0
baz=239
LAO LASA Array 94.74 40 P P 13 33 28.0 +0.2
baz=239
C21K Knifeblade Rid 94.75 7 P P 13 33 27.6 +0.5
baz=199
D22K Ayikyak River 94.75 8 P P 13 33 28.2 +1.0
baz=201
RSSD Black Hills 94.77 43 P P 13 33 26.8 -1.3
RSSD IAmb IAmb 13 33 28.4
comp=Z,9.4nm,1.2s
RSSD Black Hills 94.77 43 P P 13 33 26.8 -1.3
RSSD pmax pmax
comp=Z,9.0nm,1.3s
RSSD Black Hills 94.77 43 P P 13 33 27.8 -0.3
baz=240
RSSD Black Hills 94.77 43 P P 13 33 27.2 -0.9
baz=240
H29M Whitestone 94.92 14 P P 13 33 28.6 +0.6
baz=214
TOLK Toolik Lake Re 94.96 9 P P 13 33 29.3 +1.1
baz=204
F26K Sheenjek River 95.01 12 P P 13 33 29.1 +0.7
baz=209
LVC Limon Verde 95.01 117 LR LR 14 09 40.4
comp=Z,62nm,18.0s,baz=272,slow=31
JTS Las Juntas de 95.06 81 LR LR 14 06 41.6
comp=Z,45nm,21.3s,baz=245,slow=29
D23K Nanushuk River 95.10 9 P P 13 33 29.7 +0.9
baz=203
E25K Arctic Village 95.13 11 P P 13 33 29.7 +0.8
baz=207
A19K Wainwright 95.14 5 P P 13 33 29.7 +0.9
baz=194
B21K Ikpikpuk River 95.21 7 IAmb IAmb 13 33 46.8
comp=Z,6.6nm,0.7s
B21K Ikpikpuk River 95.21 7 P P 13 33 29.4 +0.2
baz=199
B20K Meade River 95.30 6 P P 13 33 29.8 +0.2
baz=197
EPYK Eagle Plains 95.42 15 P P 13 33 30.3 -0.1
baz=215
G29M Pine Creek 95.58 14 P P 13 33 31.6 +0.6
baz=214
NATX Nacogdoches 95.66 58 P P 13 33 31.4 -0.8
baz=245
F28M Old Crow 95.77 13 P P 13 33 32.6 +0.7
baz=212
C23K Itkillik River 95.91 9 P P 13 33 32.6 +0.1
baz=203
E27K Coleen River 95.92 12 P P 13 33 32.3 -0.2
baz=211
G30M tAoh Zraii Nji 96.04 15 P P 13 33 32.5 -0.6
baz=216
D25K Kavik River 96.07 10 P P 13 33 33.0 -0.2
baz=207
C24K Franklin Bluff 96.08 9 P P 13 33 33.0 -0.1
baz=205
TEIG Tepich 96.12 71 LR LR 14 11 06.7
comp=Z,628nm,18.5s,slow=32
TNCH TengChong 96.36 294 *e*P P 13 33 35.9 +0.1
TNCH pmax pmax
comp=Z,19nm,3.5s
G31M Satah River 96.45 15 P P 13 33 34.6 -0.3
baz=217
TUL3 Leonard 96.59 54 P P 13 33 35.3 -1.1
baz=244
YAK Yakutsk 96.64 337 LR LR 14 16 29.0
comp=Z,42nm,19.0s,baz=148,slow=35
F30M Barrier River 96.65 14 P P 13 33 35.5 -0.4
baz=216
E28M Babbage River 96.67 13 IAmb IAmb 13 33 36.6
comp=Z,6.9nm,1.4s
E28M Babbage River 96.67 13 P P 13 33 35.8 -0.1
baz=213
WRGLY Wrigley 96.77 21 P P 13 33 36.7 +0.3
baz=226
LZH Lanzhou 96.79 306 *e*P P 13 33 38.9 +1.4
LZH pmax pmax
comp=Z,20nm,1.3s
DGMT Dagmar 96.82 40 P P 13 33 36.9 -0.2
baz=240
E29M Blow River 96.83 13 P P 13 33 36.4 -0.2
baz=214
C26K Camden Bay 96.84 10 P P 13 33 37.0 +0.4
baz=208
D27M Malcolm River 96.94 12 P P 13 33 37.7 +0.5
baz=212
MIAR Mount Ida 97.66 56 P P 13 33 40.5 -0.7
baz=246
INK Inuvik 97.72 15 P Pdif 13 33 40.7 0.0
baz=218
LPAZ La Paz 98.69 112 LR LR 14 10 53.3
comp=Z,87nm,18.6s,baz=245,slow=31
YKA Yellowknife Ar 99.42 24 P Pdif 13 33 47.5 -0.9
comp=Z,0.6nm,1.0s,baz=235,slow=4.2,SNR=4.4
comp=Z,0.6nm,1.0s
ULN Ulaanbaatar 99.72 316 ⇑*e*P Pdif 13 33 50.1 -0.2
ULN pmax pmax
comp=Z,1.0nm,1.0s
SONM Songino Array 100.11 318 P Pdif 13 33 52.4 +0.3
comp=Z,0.5nm,0.9s,baz=66,slow=4.9,SNR=2.5
SONM LR LR 14 11 54.4
comp=Z,55nm,20.3s,baz=136,slow=31
comp=Z,0.5nm,0.9s
GTA Gaotai 101.06 308 P Pdif 13 34 01.4 +4.9
A36M Sachs Harbour 102.36 14 P Pdif 13 34 01.3 +0.1
baz=226
WCI Wyandotte Cave 104.48 54 P Pdif 13 34 10.4 -1.1
baz=250
WMQ Urumqi 111.06 310 *e*PKP PKiKP 13 38 39.8 -0.1
BINY Binghamton 113.17 53 P PKiKP 13 38 42.2 -1.7
baz=257
PAL Palisades 114.44 54 P PKPdf 13 38 44.8 -1.5
baz=258
LONY Lake Ozonia 114.66 50 P PKPdf 13 38 45.3 -1.4
baz=259
MKAR Makanchi Array 115.41 312 PKP PKPdf 13 38 47.3 -0.7
comp=Z,0.4nm,0.8s,baz=191,slow=1.0,SNR=5.3
HRV Adam Dziewonsk 116.45 53 P PKPdf 13 38 48.9 -1.2
baz=260
LBNH Lisbon 116.47 51 P PKPdf 13 38 48.8 -1.3
baz=261
KURK Kurchatov 118.31 316 PKiKP PKPdf 13 38 52.5 -1.0
KURBB Kurchatov Arra 118.36 316 PKP PKPdf 13 38 52.5 -1.1
comp=Z,0.6nm,0.2s,baz=93,slow=1.9,SNR=5.3
BOOM Boomskoye usch 119.25 306 PKPdf 13 38 55.1 -0.7
BOOM Boomskoye usch 119.25 306 PKiKP PKPdf 13 38 55.1 -0.7
BVAR Borovoye Array 123.45 318 PKP PKPdf 13 39 02.5 -0.9
comp=Z,0.6nm,0.5s,baz=153,slow=1.3,SNR=3.8
BRVK Borovoye 123.52 319 ||*i*PKiKP PKPdf 13 39 02.8 -0.6
BRVK pmax pmax
comp=Z,10.0nm,2.5s
LODK Lodwar 143.26 240 PKPbc 13 39 38.9 +0.4
NOA NORSAR Array B 143.26 354 PKhKP PKPpre 13 39 36.9
comp=Z,0.9nm,0.9s,baz=17,slow=4.3,SNR=2.2
HFS Hagfors 143.88 352 PKhKP PKPpre 13 39 37.3
comp=Z,1.6nm,0.5s,baz=73,slow=10,SNR=4.8
MBAR Mbarara 144.03 230 PKPab 13 39 40.8 +0.3
MBAR Mbarara 144.03 230 ||*e*PKiKP PKPbc 13 39 42.0 +1.0
PABE Paberze 145.86 340 PKPdf 13 39 44.6 -0.1
SUW Suwalki 147.36 339 *e*PKP PKPbc 13 39 49.5 -0.2
AKASG Malin Array Be 147.53 330 PKPdf 13 39 48.0 +0.3
AKASG Malin Array Be 147.53 330 *e*PKP2 PKPbc 13 39 49.5 -0.8
AKASG pmax pmax
comp=Z,6.0nm,0.8s
AKASG Malin Array Be 147.53 330 PKPbc PKPdf 13 39 49.1 +1.4
comp=Z,2.6nm,0.8s,baz=39,slow=3.8,SNR=17
AKBB Malin Array Si 147.53 330 PKPdf 13 39 46.1 -1.5
AKBB Malin Array Si 147.53 330 ⇑*e*PKiKP PKPdf 13 39 48.0 +0.3
KIEV Kiev 147.55 330 PKPdf 13 39 46.3 -1.4
KIEV Kiev 147.55 330 PKiKP PKPdf 13 39 46.3 -1.4
ARPR Arapgir-MALATY 147.75 305 PKPbc 13 39 50.7 -0.8
LVV L'vov 150.44 333 *e*PKiKP PKPbc 13 39 57.7 0.0
BR131 Keskin Array S 150.98 308 PKPbc 13 39 58.1 -1.4
BR131 Keskin Array S 150.98 308 PKiKP PKPbc 13 39 58.1 -1.4
BRTR Keskin Array B 150.98 308 PKPdf 13 39 52.1 -1.7
BRTR Keskin Array B 150.98 308 PKPbc PKPbc 13 39 58.8 -0.8
comp=Z,4.0nm,1.0s,baz=132,slow=3.5,SNR=11
MMAI Mount Meron Ar 151.41 294 PKPbc PKiKP 13 40 01.2 +0.1
comp=Z,1.2nm,0.2s,baz=133,slow=37,SNR=2.6
KOLS Kolonicke sedl 151.84 334 *e*PKiKP PKiKP 13 40 01.9 +0.5
KOLS Kolonicke sedl 151.84 334 *e*PKP PKiKP 13 40 01.9 +0.5
CLL Collm 152.48 348 *e*PKiKP PKPdf 13 39 56.0 +0.5
CLL *i* 13 40 02.1
CLL *i* 13 40 11.6
CLL pmax pmax
comp=Z,20nm,1.3s
CLL pmax pmax
comp=Z,10.0nm,0.9s
CLL Collm 152.48 348 *e*PKPdf PKPdf 13 39 56.0 +0.5
CLL *i* PKPbc PKPbc 13 40 02.1 -0.3
comp=Z,20nm,1.3s
CLL *i* sPKPbc sPKPbc 13 40 07.5 +2.4
CLL *i* PKPab PKPab 13 40 11.6 -1.0
comp=Z,10.0nm,0.9s
BRG Berggiesshubel 152.70 346 *e*PKiKP PKPbc 13 40 03.1 +0.2
BRG 13 40 13.4
BRG pmax pmax
comp=Z,12nm,1.2s

BRG				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BRG	**Berggiesshubel**	**152.70**	**346**	*e*PKP	**PKPbc**	**13 40 03.1**	**+0.2**
BRG				Amp		13 40 04.5	
	comp=Z,12nm,1.2s						
BRG	**Berggiesshubel**	**152.70**	**346**	Amp		13 40 14.3	
	comp=Z,8.6nm,1.0s						
BRG	**Berggiesshubel**	**152.70**	**346**	P	**PKPab**	**13 40 13.4**	**-0.1**
MORC	**Moravsky Berou**	**152.78**	**341**	*e*PKP	**PKPbc**	**13 40 03.1**	**-0.1**
VRAC	**Vranov**	**153.48**	**342**	*e*PKP	**PKiKP**	**13 40 05.3**	**+0.5**
VYHS	**Vyhne**	**153.48**	**338**	*e*PKP2	**PKPab**	**13 40 17.6**	**+0.6**
VYHS	**Vyhne**	**153.48**	**338**	*e*PKP	**PKPab**	**13 40 17.6**	**+0.6**
KRUC	**Moravsky**	**153.76**	**342**	*e*PKP	**PKPbc**	**13 40 05.4**	**+0.1**
MODS	**Modra-Piesok**	**154.10**	**340**	*e*PKP2	**PKPab**	**13 40 19.0**	**-0.6**
MODS	**Modra-Piesok**	**154.10**	**340**	*e*PKP	**PKPab**	**13 40 19.0**	**-0.6**
ZST	**Bratislava**	**154.31**	**340**	*e*PKP2	**PKPab**	**13 40 22.3**	**+1.8**
ZST	**Bratislava**	**154.31**	**340**	*e*PKP	**PKPab**	**13 40 22.2**	**+1.8**
KHC	**Kasperske Hory**	**154.42**	**346**	*e*PKP2	**PKPab**	**13 40 18.6**	**-2.3**
KHC	**Kasperske Hory**	**154.42**	**346**	*e*PKPAB	**PKPab**	**13 40 18.6**	**-2.3**
CKRC	**Cesky Krumlov**	**154.54**	**344**	*e*PKPAB	**PKPab**	**13 40 17.2**	**-4.2**
CONA	**Conrad Observa**	**154.93**	**341**	*e*PKP	**PKPab**	**13 40 23.8**	**+0.6**
	comp=Z,5.6nm,1.1s						
RONA	**Rosalia, Austr**	**155.01**	**340**	*e*PKP	**PKPab**	**13 40 24.0**	**+0.5**
	comp=Z,11nm,1.1s						
MOA	**Molln**	**155.45**	**343**	*e*PKP	**PKPab**	**13 40 25.4**	**+0.1**
	comp=Z,5.9nm,1.3s						
ARSA	**Arzberg**	**155.64**	**341**	*e*PKP	**PKPab**	**13 40 25.5**	**-0.6**
	comp=Z,5.3nm,1.7s						
BIOA	**Bad Ischl, Aus**	**155.75**	**344**	*e*PKP	**PKPab**	**13 40 26.1**	**-0.6**
	comp=Z,7.2nm,1.1s						
LESA	**Schwarzleotal**	**156.23**	**345**	*e*PKP	**PKPab**	**13 40 29.1**	**+0.4**
	comp=Z,13nm,1.6s						
SOKA	**Soboth**	**156.30**	**341**	*e*PKP	**PKPab**	**13 40 29.4**	**+0.3**
	comp=Z,8.6nm,1.2s						
WATA	**Walderalm**	**156.55**	**347**	*e*PKP	**PKPab**	**13 40 30.6**	**+0.3**
	comp=Z,4.0nm,1.2s						
RETA	**Reutte**	**156.56**	**349**	*e*PKP	**PKPab**	**13 40 30.2**	**+0.1**
	comp=Z,11nm,1.5s						
WTTA	**Wattenberg**	**156.61**	**347**	*e*PKP	**PKPab**	**13 40 30.6**	**+0.1**
	comp=Z,8.9nm,1.3s						
MOTA	**Moosalm**	**156.64**	**348**	*e*PKP	**PKPab**	**13 40 30.4**	**-0.2**
	comp=Z,10nm,1.4s						
MYKA	**Terra Mystica**	**156.74**	**343**	*e*PKP	**PKPab**	**13 40 31.5**	**+0.5**
	comp=Z,16nm,1.3s						
ABTA	**Abfaltersbach**	**156.91**	**345**	*e*PKP	**PKPab**	**13 40 31.0**	**-0.6**
	comp=Z,6.8nm,1.2s						
TORD	**Torodi Ar. Bea**	**168.37**	**168**	PKP	**PKPdf**	**13 40 13.1**	**-0.8**
	comp=Z,3.7nm,1.2s,baz=124,slow=3.9,SNR=9.6						
TORD				PKPab	**PKPab**	**13 41 23.1**	**+0.6**
	comp=Z,1.0nm,1.0s,baz=228,slow=2.4,SNR=4.3						

VIE 18 13:39:18.9±0.2, 47°.53N×15°.61E, h4km, mb1.0/1, ml0.4/1, Error ellipse: s-maj=2.1km s-min=1.2km az=132.0, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSA	**Arzberg**	**0.28**	**193**	*i* Pg	Pg	13 39 24.5	+0.2
	0.3nm,0.1s						
ARSA				*e*Sg	Sg	13 39 28.3	+0.3
	1.0nm,0.1s						
CONA	**Conrad Observa**	**0.44**	**22**	*e*Pg	Pg	13 39 27.4	+0.1
	0.1nm,0.1s						
CONA				Sg	Sg	13 39 33.9	+0.9
	0.4nm,0.3s						

*DJA **18** 13:54:06.9±0.5, 3°.S±2°.×10°.1E±°, h26km±4km, M4.3/13, mb4.2/6, mB4.8/2, MLv4.4/13, Mw(mB)4.1/2*
*IDC **18** 13:54:06.1±1.1, 2°.83S×101°.12E, h46km±7km, mb3.9/18, mbtmp4.2/18, MS3.8/2, Error ellipse: s-maj=35.4km s-min=14.0km az=54.0*
*NEIC **18** 13:54:07.0±0.9, 2°.84S±0°.09×101°.11E±0°.10, h49km±9km, mb4.3/23, Error ellipse: s-maj=16.5km s-min=8.7km az=50.0*

ISC 18 13:54:06.7±0.8, 2°.87S±0°.05×101°.06E±0°.05, h53km±7km, n75, σ1§04/71, mb4.4/32, 1C-1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRJI	**Kerinci**	**0.88**	**28**	P	**Pn**	**13 54 23.9**	**+0.9**
KRJI				S	**Sn**	**13 54 36.8**	**+1.9**
PPSI	**Pulau Pagai**	**1.05**	**276**	P	**Pn**	**13 54 26.0**	**+0.8**
PPSI				S	**Sn**	**13 54 40.6**	**+1.7**
PDSI	**Padang**	**2.04**	**343**	P	**Pn**	**13 54 39.3**	**+0.6**
PDSI				S	**Sn**	**13 55 03.3**	**+0.3**
MNAI	**Manna**	**2.40**	**128**		**Pn**	**13 54 43.3**	**-0.3**
MNAI				Sn	**Sn**	**13 55 10.8**	**-1.1**
MNAI	**Manna**	**2.40**	**128**	P	**Pn**	**13 54 44.2**	**+0.5**
MNAI				S	**Sn**	**13 55 14.9**	**+3.0**
LHSI	**Lahat**	**2.64**	**111**	P	Pn	13 54 49.9	+3.0
BKNI	**Bangkinang**	**3.18**	**360**	Pn	**Pn**	**13 54 53.0**	**-1.3**
BKNI	**Bangkinang**	**3.18**	**360**	P	**Pn**	**13 54 55.0**	**+0.7**
LWLI	**Liwa**	**3.68**	**125**	P	**Pn**	**13 55 02.7**	**+1.5**
PMBI	**Palembang**	**3.71**	**91**	P	**Pn**	**13 55 02.3**	**+0.7**
PBSI	**Pulau Batu**	**3.94**	**315**	P	**Pn**	**13 55 06.1**	**+1.3**
DSRI	**Dabo**	**4.25**	**56**	P	**Pn**	**13 55 10.3**	**+1.3**
TPRI	**Tanjung Pinang**	**5.12**	**43**	P	**Pn**	**13 55 22.8**	**+1.8**
	137nm,0.6s,0.5nm						
MYKOM	**Kota Tinggi**	**5.41**	**31**	Pn	**Pn**	**13 55 24.3**	**-0.6**
GSI	**Gunungsitoli**	**5.42**	**320**	Pn	**Pn**	**13 55 25.1**	**+0.1**
GSI	**Gunungsitoli**	**5.42**	**320**	P	**Pn**	**13 55 25.2**	**+0.2**
	25nm,0.7s,1μm0.2nm						
RPSI	**Rantau Prapat**	**5.93**	**339**	Pn	**Pn**	**13 55 32.0**	**0.0**
UBPT	**Khong Chiam**	**18.56**	**13**	P	**P**	**13 58 18.2**	**-1.2**
TOLI2	**Tolitoli**	**20.11**	**79**	Pn	Pn	13 58 37.7	-0.9
TOLI2				IAmb	IAmb	13 58 42.2	
	comp=Z,6.6nm,0.8s						
PHRA	**Phrae**	**21.25**	**358**	P	**P**	**13 58 47.8**	**-0.9**
PHRA				IAmb	IAmb	13 58 52.5	
	comp=Z,50nm,1.4s						
CMAR	**Chiang Mai Arr**	**21.30**	**354**	P	**P**	**13 58 46.9**	**-2.2**
	comp=Z,1.4nm,0.8s,baz=182,slow=9.0,SNR=9.0						
	comp=Z,1.4nm,0.8s						
CRAI	**Chiangrai**	**22.97**	**358**	P	**P**	**13 59 05.7**	**-1.2**
H08S2	**Diego Garcia H**	**28.82**	**259**	T	T	14 29 19.8	
	baz=82,slow=75,SNR=10						
H08S3	**Diego Garcia H**	**28.83**	**259**	T	T	14 29 19.9	
	baz=82,slow=75,SNR=9.5						
H08S1	**Diego Carcia H**	**28.84**	**259**	T	T	14 29 23.9	
	baz=82,slow=75,SNR=7.6						
PZH	**PanZhiHua**	**29.21**	**1**	P	**P**	**14 00 06.8**	**+3.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,130nm,5.3s						
WB0	**Warramunga Arr**	**36.62**	**120**	P	**P**	**14 01 06.8**	**-1.6**
WB0				IAmb	IAmb	14 01 08.4	
	comp=Z,6.9nm,1.0s						
WRA	**Warramunga Arr**	**36.64**	**120**	P	**P**	**14 01 07.0**	**-1.5**
WRA	**Warramunga Arr**	**36.64**	**120**	P	**P**	**14 01 07.7**	**-0.8**
	comp=Z,1.9nm,0.4s,baz=300,slow=8.8,SNR=30						
	comp=Z,1.9nm,0.4s						
XAN	**Xi'an**	**37.46**	**11**	⇑P	**P**	**14 01 14.3**	**-0.9**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
AS31	**Alice Springs**	**37.89**	**126**	P	**P**	**14 01 18.7**	**-0.4**
ASAR	**Alice Springs**	**37.89**	**126**	P	**P**	**14 01 18.8**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=300,slow=7.7,SNR=37						
	comp=Z,1.0nm,0.5s						
LYN	**LuoYang**	**38.74**	**15**	⇓P	**P**	**14 01 26.6**	**+0.6**
LYN				pmax	pmax		
	comp=Z,23nm,0.5s						
HHC	**Hu-ho-hao-te**	**44.56**	**11**	*e*P	**P**	**14 02 15.4**	**+1.8**
HHC				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC				pmax	pmax		
	comp=Z,95nm,5.4s						
NIL	**Nilore**	**44.81**	**326**	P	**P**	**14 02 15.5**	**-0.2**
KSRS	**Korea Array**	**47.24**	**29**	P	**P**	**14 02 34.1**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=220,slow=7.6,SNR=2.3						
	comp=Z,0.6nm,0.8s						
STKA	**Stephens Creek**	**47.78**	**132**	P	**P**	**14 02 38.9**	**-0.1**
STKA				IAmb	IAmb	14 03 00.6	
	comp=Z,3.0nm,1.5s						
STKA	**Stephens Creek**	**47.78**	**132**	P	**P**	**14 02 39.5**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=315,slow=9.5,SNR=3.9						
	comp=Z,2.0nm,0.6s						
WMQ	**Urumqi**	**48.01**	**347**	*e*P	**P**	**14 02 42.3**	**+1.7**
WMQ				pP	pP	14 02 54.3	-0.2
WMQ				pmax	pmax		
	comp=Z,13nm,1.1s						
KSH	**Kashi**	**48.08**	**334**	P	**P**	**14 02 40.8**	**-0.5**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.8s						
DRK	**Karamyk**	**50.00**	**330**	P	**P**	**14 02 56.2**	**+0.1**
BOOM	**Boomskoye usch**	**50.55**	**336**	P	**P**	**14 03 00.2**	**0.0**
BOOM				IAmb	IAmb	14 03 02.1	
	comp=Z,1.5nm,0.7s						
SONM	**Songino Array**	**50.72**	**5**	P	**P**	**14 03 01.6**	**+0.4**
SONM				IAmb	IAmb	14 03 02.8	
	comp=Z,3.2nm,0.8s						
SONM	**Songino Array**	**50.72**	**5**	P	**P**	**14 03 01.6**	**+0.4**
	comp=Z,8.3nm,1.1s,baz=185,slow=9.8,SNR=28						
	comp=Z,8.3nm,1.1s						
ARSB	**Arslanbob**	**50.88**	**333**	P	**P**	**14 03 03.2**	**+0.6**
ARSB				IAmb	IAmb	14 03 04.5	
	comp=Z,1.9nm,1.0s						
AAK	**Ala-Archa**	**51.27**	**335**	LR	LR	14 28 46.3	
	comp=Z,42nm,19.5s,baz=99,slow=41						
MK31	**Makanchi Array**	**52.15**	**344**	P	**P**	**14 03 12.0**	**+0.1**
MK31				IAmb	IAmb	14 03 12.9	
	comp=Z,2.7nm,0.7s						
MKAR	**Makanchi Array**	**52.15**	**344**	P	**P**	**14 03 12.0**	**+0.1**
MKAR	**Makanchi Array**	**52.15**	**344**	P	**P**	**14 03 12.3**	**+0.4**
	comp=Z,3.5nm,0.5s,baz=150,slow=8.1,SNR=46						
MKAR				pP	**pP**	**14 03 25.0**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=144,slow=7.8,SNR=5.8						
	comp=Z,3.5nm,0.5s						
MJAR	**Matsushiro Arr**	**52.30**	**38**	P	**P**	**14 03 12.3**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=193,slow=7.6,SNR=4.7						
	comp=Z,1.0nm,0.8s						
KK31	**Karatay Array**	**53.41**	**332**	P	**P**	**14 03 21.4**	**+0.1**
USRK	**Ussuriysk Ar.**	**54.44**	**27**	P	**P**	**14 03 28.5**	**-0.2**
USRK	**Ussuriysk Ar.**	**54.44**	**27**	P	**P**	**14 03 28.2**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=211,slow=6.7,SNR=3.7						
	comp=Z,1.9nm,0.6s						
KURBB	**Kurchatov Arra**	**56.68**	**343**	P	**P**	**14 03 44.6**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=159,slow=7.0,SNR=9.4						
	comp=Z,0.7nm,0.5s						
KURK	**Kurchatov**	**56.74**	**343**	P	**P**	**14 03 44.9**	**-0.2**
KURK				IAmb	IAmb	14 03 46.0	
	comp=Z,1.6nm,0.7s						
ZAA0	**Zalesovo Array**	**58.22**	**349**	P	**P**	**14 03 55.2**	**-0.2**
ZALV	**Zalesovo Beam**	**58.22**	**349**	P	**P**	**14 03 55.0**	**-0.5**
ZALV	**Zalesovo Beam**	**58.22**	**349**	P	**P**	**14 03 55.5**	**+0.1**
	comp=Z,10nm,0.7s,baz=172,slow=5.4,SNR=41						
	comp=Z,10nm,0.7s						
JKA	**Kamikawa-asahi**	**59.74**	**34**	P	**P**	**14 04 06.2**	**0.0**
H04N2	**CROZET ISLANDS**	**60.73**	**217**	T	T	15 09 22.0	
	baz=59,slow=75,SNR=18						
H04N1	**CROZET ISLANDS**	**60.74**	**217**	T	T	15 09 20.2	
	baz=59,slow=75,SNR=19						
H04N3	**CROZET ISLANDS**	**60.75**	**217**	T	T	15 09 18.9	
	baz=59,slow=75,SNR=21						
BVAR	**Borovoye Array**	**61.37**	**339**	P	**P**	**14 04 16.4**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=138,slow=9.5,SNR=12						
BVAR				pP	**pP**	**14 04 30.0**	**-1.5**
	comp=Z,1.6nm,0.7s,baz=147,slow=8.5,SNR=5.9						
	comp=Z,1.1nm,0.3s						
BRVK	**Borovoye**	**61.43**	**339**	P	**P**	**14 04 16.6**	**-0.9**
BRVK				IAmb	IAmb	14 04 18.1	
	comp=Z,3.4nm,1.2s						
ABKAR	**Akbulak array**	**62.91**	**331**	P	**P**	**14 04 27.3**	**-0.2**
NRIK	**Noril'sk**	**72.66**	**355**	P	**P**	**14 05 27.4**	**-1.0**
	comp=Z,1.2nm,0.3s,baz=135,slow=5.9,SNR=2.1						
	comp=Z,1.2nm,0.3s						
MA2	**Magadan**	**73.39**	**24**	P	**P**	**14 05 33.1**	**+0.1**
	comp=Z,3.0nm,0.8s,baz=216,slow=5.3,SNR=5.7						
	comp=Z,3.0nm,0.8s						
BRTR	**Keskin Array B**	**74.69**	**312**	P	**P**	**14 05 41.0**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=132,slow=6.1,SNR=3.2						
	comp=Z,0.5nm,0.5s						
SEY	**Seymchan**	**76.04**	**22**	P	**P**	**14 05 47.9**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=202,slow=23,SNR=10						
	comp=Z,1.1nm,0.6s						
TIXI	**Tiksi**	**76.55**	**9**	P	**P**	**14 05 49.8**	**-1.1**
TIXI				IAmb	IAmb	14 05 52.5	
	comp=Z,4.8nm,1.1s						
MLR	**Muntele Rosu**	**81.66**	**317**	LR	LR	14 49 16.9	
	comp=Z,105nm,18.9s,baz=36,slow=40						
KOLS	**Kolonicke sedl**	**84.80**	**319**	*e*P	**P**	**14 06 36.5**	**+0.9**
FINES	**FINESS Array B**	**85.37**	**332**	P	**P**	**14 06 38.6**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=104,slow=4.7,SNR=5.3						
	comp=Z,1.2nm,0.8s						
ARCES	**ARCESS Array B**	**87.65**	**340**	P	**P**	**14 06 49.0**	**-0.1**
	comp=Z,3.9nm,0.9s,baz=77,slow=5.1,SNR=3.6						
	comp=Z,3.9nm,0.9s						
TXAR	**Lajitas Array**	**144.73**	**39**	PKP	PKPbc	14 13 37.9	+0.4
	comp=Z,1.1nm,0.5s,baz=241,slow=0.8,SNR=25						
TXAR				pPKP	pPKPdf	14 13 52.0	-2.3
	comp=Z,1.1nm,0.5s,baz=254,slow=0.7,SNR=8.8						

RSNC 18 13:54:41.9±0.0, 7°N±1°×7°.3W±°, h142km±3km, mb3.5, ML2.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.23**	**195**	P	Pn	13 55 00.2	-1.4
BARC				S	Sn	13 55 15.2	-1.4
PAMC	**Pamplona, Colo**	**0.66**	**39**	P	Pn	13 55 03.0	-0.9
PAMC				S	Sn	13 55 20.3	-0.3
RUSC	**La Rusia**	**0.92**	**178**	P	Pn	13 55 04.1	-1.7
RUSC				S	Sn	13 55 22.9	-1.1
PTBC	**PUERTO BERRIO,**	**1.36**	**258**	P	Pn	13 55 07.6	-1.8
PTBC				S	Sn	13 55 28.3	-2.0
TAMC	**Tame, Arauca**	**1.37**	**106**	P	Pn	13 55 08.6	-1.0
TAMC				S	Sn	13 55 30.2	-0.5
OCAC	**Ocana**	**1.42**	**352**	P	Pn	13 55 08.3	-1.9
OCAC				S	Sn	13 55 30.6	-1.3
SPBC	**San Pablo de B**	**1.50**	**219**	P	Pn	13 55 09.3	-1.7
SPBC				S	Sn	13 55 31.8	-1.3
NORC	**Norcasia**	**2.14**	**234**	P	Pn	13 55 16.2	-2.1
NORC				S	Sn	13 55 43.9	-2.3
ROSC	**El Rosal**	**2.30**	**211**	P	Pn	13 55 20.3	-0.3
ROSC				S	Sn	13 55 50.4	+0.1
CVER	**Cruz Verde, Cu**	**2.47**	**203**	P	Pn	13 55 21.5	-1.3
CVER				S	Sn	13 55 53.0	-1.2
HELC	**Santa Helena**	**2.47**	**256**	P	Pn	13 55 22.3	-0.4
HELC				S	Sn	13 55 52.5	-1.5
GUY2C	**Guyana, Caldas**	**2.74**	**235**	P	Pn	13 55 24.4	-1.7
GUY2C				S	Sn	13 55 59.0	-1.1
PTGC	**Puerto Gaitan,**	**2.78**	**159**	P	Pn	13 55 23.2	-3.0
PTGC				S	Sn	13 55 56.7	-3.7
CBOC	**Ciudad Bolivar**	**3.03**	**252**	P	Pn	13 55 28.6	-0.9
CBOC				S	Sn	13 56 05.1	-1.1
DBBC	**Dabeiba**	**3.07**	**274**	P	Pn	13 55 27.7	-2.3
DBBC				S	Sn	13 56 04.3	-2.8
ARGC	**Ariguani, Magd**	**3.22**	**340**	P	Pn	13 55 35.9	+4.1
ARGC				S	Sn	13 56 09.9	-0.5
ANIL	**Santa Ana**	**3.24**	**225**	P	Pn	13 55 31.3	-1.1
ANIL				S	Sn	13 56 11.4	0.0
ORTC	**Ortega, Tolima**	**3.58**	**216**	P	Pn	13 55 34.4	-2.2
ORTC				S	Sn	13 56 18.0	-0.9
APAC	**Apartado, Choc**	**3.60**	**288**	P	Pn	13 55 34.2	-2.5
APAC				S	Sn	13 56 16.5	-2.6
SJCC	**San Jacinto, C**	**3.67**	**326**	P	Pn	13 55 34.0	-3.8
SJCC				S	Sn	13 56 17.7	-3.4
PLMC	**San Jos del P**	**3.68**	**239**	P	Pn	13 55 35.8	-2.0
PLMC				S	Sn	13 56 16.6	-4.5
YOTC	**Yotoco, Valle**	**4.27**	**229**	P	Pn	13 55 43.2	-2.5
YOTC				S	Sn	13 56 33.9	-1.3
SMRC	**Santa Marta, M**	**4.45**	**346**	P	Pn	13 55 45.1	-2.8
SMRC				S	Sn	13 56 33.7	-5.6
MACC	**Macarena, Meta**	**4.70**	**189**	P	Pn	13 55 47.5	-3.8
MACC				S	Sn	13 56 39.1	-6.2
JAMC	**Jamundi, Valle**	**5.04**	**225**	P	Pn	13 55 54.7	-1.2
	3.1nm,0.5s						
MALC	**Bahia Malaga**	**5.04**	**237**	P	Pn	13 55 54.7	-1.0
MALC				S	Sn	13 56 51.9	-1.4
GARC	**Garzon, Huila**	**5.17**	**207**	P	Pn	13 55 54.1	-3.7
GARC				S	Sn	13 56 52.5	-4.4
POPC	**Popayan, Colom**	**5.54**	**220**	P	Pn	13 56 00.1	-2.5
	4.1nm,1.0s						
FLOC	**Florencia**	**5.78**	**206**	P	Pn	13 56 03.0	-2.7
	6.5nm,0.6s						
FLOC				S	Sn	13 57 09.0	-2.2
	6.5nm,0.6s						

IDC 18 13:57:11.2±1.9, 2°.83N×127°.43E, h0km, mb3.4/4, mbtmp3.4/4, MS3.4/1, Error ellipse: s-maj=161.2km s-min=22.9km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**23.11**	**122**	LR	LR	14 11 38.7	
	comp=Z,85nm,19.4s,baz=254,slow=38						

WRA	**Warramunga Arr**	**23.62**	**164**	P	P	14 02 24.1	0.0
	1.1nm,0.5s,baz=344,slow=11,SNR=8.5						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**27.08**	**167**	P	P	14 02 55.7	0.0
	0.2nm,0.3s,baz=345,slow=7.7,SNR=5.1						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**58.69**	**325**	P	P	14 07 10.3	-0.4
	0.2nm,0.5s,baz=131,slow=9.0,SNR=2.4						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**62.87**	**327**	P	P	14 07 39.2	+0.3
	0.2nm,0.5s,baz=129,slow=6.5,SNR=4.4						
	0.2nm,0.5s						

*ISN **18** 14:04:19.2±0.4, 33°.75N×45°.71E, h2km±1km, ML2.7*
*TEH **18** 14:04:20.9, 33°.72N×45°.69E, h10km±29km, ML2.7*
ISC 18 14:04:19.9±1.8, 33°.74N±0°.04×45°.72E±0°.04, h1km±16km, n11, σ0§82/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.42**	**105**	Pg	**Pb**	**14 04 29.7**	**-0.5**
ILBA				Sg	**Sb**	**14 04 36.4**	**-0.7**
IBDR	**Badra**	**0.65**	**164**	*e*Pg	**Pg**	**14 04 33.0**	**+0.7**
IBDR				*e*Sg	**Sb**	**14 04 42.5**	**-1.0**
IGHG	**Ghaleghazi**	**0.92**	**50**	Pg	**Pn**	**14 04 39.5**	**-0.7**
IDHR	**Dehrash**	**1.11**	**30**	Pg	**Pn**	**14 04 42.9**	**+0.2**
BHD	**Baghdad**	**1.21**	**248**	*e*Pg	**Pn**	**14 04 44.0**	**+0.1**
BHD				*e*Sg	**Sn**	**14 05 02.0**	**+1.1**
KCHF	**Cheshme Sefid,**	**1.22**	**64**	Pg	**Pn**	**14 04 45.0**	**+0.7**
ILIN	**Lien**	**1.57**	**41**	Pg	**Pg**	**14 04 50.4**	**+0.4**
IKFM	**Kafar-mosalman**	**1.79**	**96**	Pn	**Pg**	**14 04 54.6**	**+0.3**
IBZA	**Bozab**	**1.92**	**67**	Pn	**Pb**	**14 04 55.8**	**-0.1**
IKRK	**Kirkuk**	**2.01**	**326**	*e*Pn	**Pb**	**14 04 56.0**	**-1.2**
IKRK				*e*Sn	**Sb**	**14 05 23.0**	**+0.2**
IKRK				AML	AML	14 05 24.8	
	comp=N,59nm,0.3s						
IKRK				AML	AML	14 05 35.7	
	comp=E,90nm,0.5s						
RAFI	**Al-Rafai**	**2.04**	**170**	*e*Pn	**Pb**	**14 04 56.5**	**-1.1**
RAFI				*e*Sn	**Sb**	**14 05 24.0**	**+0.6**

*IDC **18** 14:07:45.9±1.4, 6°.17S×143°.15E, h0km, mb3.6/3, mbtmp3.8/5, ML1.5/1, Error ellipse: s-maj=45.7km s-min=31.6km az=74.0*
ISC 18 14:07:50.8±0.8, 6°.55S±0°.07×143°.05E±0°.07, h35km, n16, σ1§94/19, mb3.6/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**2.22**	**305**	P	**Pn**	**14 08 25.4**	**+0.2**
PMG	**Port Moresby**	**4.96**	**125**	P	**Pn**	**14 09 03.3**	**+0.5**
PMG	**Port Moresby**	**4.96**	**125**	P	**Pn**	**14 09 03.1**	**+0.3**
PMG	**Port Moresby**	**4.96**	**125**	Pn	**Pn**	**14 09 03.2**	**+0.3**
	1.1nm,0.3s,baz=250,slow=17,SNR=2.0						
PMG				Sn	**Sn**	**14 09 59.0**	**0.0**
	3.6nm,0.3s,baz=225,slow=23,SNR=5.6						
	12nm,0.8s						
COEN	**Coen**	**7.36**	**179**	P	**Pn**	**14 09 37.3**	**+1.4**
FAKI	**Fak Fak**	**11.35**	**288**	P	**Pn**	**14 10 31.6**	**+0.9**
KDU	**Kakadu**	**12.08**	**239**	P	**Pn**	**14 10 40.8**	**+0.2**
MTN	**Manton Dam**	**13.31**	**241**	P	**Pn**	**14 10 57.2**	**-0.1**
WRA	**Warramunga Arr**	**15.77**	**212**	Pn	**Pn**	**14 11 30.4**	**-0.1**
	0.4nm,0.3s,baz=29,slow=13,SNR=15						
WRA				Sn	**Sn**	**14 14 19.1**	**-5.1**
	0.4nm,0.3s,baz=34,slow=22,SNR=4.7						
WRA				Lg	Lg	14 16 06.0	
	baz=36,slow=31						
KNRA	**Kununurra**	**16.69**	**236**	P	**Pn**	**14 11 42.8**	**+0.7**
AS01	**Alice Springs**	**19.13**	**206**	P	**Pn**	**14 12 13.4**	**+1.2**
ASAR	**Alice Springs**	**19.16**	**206**	P	**Pn**	**14 12 15.2**	**+2.7**
	4.3nm,0.7s,baz=30,slow=10,SNR=61						
ASAR				S	**Sn**	**14 15 42.6**	**-3.7**
	0.7nm,0.7s,baz=16,slow=27,SNR=4.4						
ASAR				Lg	Lg	14 17 53.1	
	0.1nm,0.3s,baz=12,slow=30,SNR=1.0						
WRKA	**Warakurna**	**23.18**	**216**	P	**P**	**14 12 56.5**	**+1.9**
MKAR	**Makanchi Array**	**75.46**

NDS	**Dongshan**	**0.28**	**312**	P	**Pb**	**14 39 08.9**	**-0.1**
	baz=319							
NDS				S	**Sb**	**14 39 13.3**	**-0.1**
	baz=319							
ILA	**Ilan**	**0.36**	**331**	*i* P	**Pb**	**14 39 10.6**	**+0.1**
	baz=330							
ILA				*i* S	**Sb**	**14 39 16.4**	**+0.6**
	baz=330							
TWE	**Neicheng**	**0.37**	**317**	⇑*i* P	**Pb**	**14 39 10.3**	**-0.3**
	baz=324							
TWE				*i* S	**Sb**	**14 39 15.6**	**-0.4**
	baz=324							
EOS3	**EOS3**	**0.38**	**115**	P	**Pb**	**14 39 11.3**	**+0.7**
	baz=108							
EOS3				S	**Sb**	**14 39 18.4**	**+2.3**
	baz=108							
LATG	**Datong**	**0.39**	**283**	⇓P	**Pg**	**14 39 10.3**	**-0.3**
	baz=287							
LATG				S	**Sg**	**14 39 15.8**	**-0.3**
	baz=287							
EGS		**0.40**	**358**	⇑*i* P	**Pb**	**14 39 11.3**	**+0.2**
	baz=4.0							
EGS				*i* S	**Sb**	**14 39 17.1**	**+0.3**
	baz=4.0							
ETL	**Fush Village**	**0.41**	**226**	P	**Pg**	**14 39 10.3**	**-0.6**
	baz=228							
ETL				S	**Sg**	**14 39 17.1**	**+0.4**
	baz=228							
NTC	**Toucheng**	**0.42**	**346**	P	**Pb**	**14 39 11.6**	**+0.2**
	baz=350							
NTC				S	**Sb**	**14 39 18.1**	**+0.7**
	baz=350							
NACB	**Ninganchiao**	**0.42**	**229**	P	**Pg**	**14 39 10.4**	**-0.7**
NACB	**Ninganchiao**	**0.42**	**229**	⇓P	**Pg**	**14 39 10.2**	**-0.8**
	baz=232							
NACB				S	**Sg**	**14 39 16.3**	**-0.5**
	baz=232							
NDT	**Datong Townshi**	**0.42**	**291**	⇓P	**Pb**	**14 39 11.0**	**-0.4**
	baz=295							
NDT				S	**Sg**	**14 39 16.5**	**-0.4**
	baz=295							
FUSB	**Fushanzhiwuyua**	**0.45**	**314**	⇑P	**Pb**	**14 39 11.6**	**-0.4**
	baz=318							
FUSB				S	**Sb**	**14 39 17.7**	**-0.7**
	baz=318							
EOS4	**EOS4**	**0.47**	**134**	P	**Pb**	**14 39 12.2**	**+0.1**
	baz=123							
EOS4				S	**Sb**	**14 39 19.9**	**+1.3**
	baz=123							
TWD	**Chiawan**	**0.48**	**221**	⇑*i* P	**Pg**	**14 39 11.7**	**-0.5**
	baz=219							
TWD				*i* S	**Sg**	**14 39 18.7**	**-0.1**
	baz=219							
ETLH	**Xiulin Townshi**	**0.49**	**240**	⇓P	**Pg**	**14 39 11.3**	**-0.9**
	baz=244							
ETLH				S	**Sg**	**14 39 18.7**	**-0.1**
	baz=244							
NNSB	**Datong**	**0.51**	**268**	⇓P	**Pg**	**14 39 12.1**	**-0.7**
	baz=276							
NNSB				S	**Sg**	**14 39 19.2**	**-0.5**
	baz=276							
NNSH	**Datong**	**0.51**	**268**	P	**Pg**	**14 39 12.3**	**-0.4**
	baz=273							
NNSH				S	**Sg**	**14 39 19.0**	**-0.7**
	baz=273							
NWLT	**Wulai**	**0.52**	**309**	P	**Pb**	**14 39 12.7**	**-0.4**
	baz=313							
NWLT				S	**Sb**	**14 39 19.7**	**-0.7**
	baz=313							
NNS	**Nan Shan**	**0.52**	**269**	⇓*i* P	**Pg**	**14 39 12.2**	**-0.8**
	baz=271							
NNS				*i* S	**Sg**	**14 39 19.4**	**-0.6**
	baz=271							
TIPB	**Shuangxi**	**0.53**	**348**	⇑P	**Pb**	**14 39 13.2**	**-0.1**
	baz=357							
TIPB				S	**Sb**	**14 39 20.5**	**-0.3**
	baz=357							
TWB1	**Santiao Chiao**	**0.56**	**4**	⇑*i* P	**Pb**	**14 39 13.8**	**0.0**
	baz=3.0							
TWB1				*i* S	**Sb**	**14 39 21.5**	**0.0**
	baz=3.0							
HWA	**Hwalien**	**0.56**	**213**	*i* P	**Pb**	**14 39 14.0**	**+0.2**
	baz=218							
HWA				*e*S	**Sb**	**14 39 23.4**	**+1.8**
	baz=218							
YHNB	**Yeheng**	**0.56**	**293**	P	**Pb**	**14 39 13.7**	**-0.2**
YHNB	**Yeheng**	**0.56**	**293**	⇓P	**Pb**	**14 39 13.4**	**-0.5**
	baz=296							
YHNB				S	**Sg**	**14 39 20.5**	**-0.8**
	baz=296							
NSK	**Sanguang**	**0.58**	**293**	*i* P	**Pg**	**14 39 13.6**	**-0.4**
	baz=296							
NSK				*i* S	**Sg**	**14 39 20.9**	**-0.9**
	baz=296							
TWA	**Mucha**	**0.62**	**328**	*i* P	**Pb**	**14 39 14.8**	**-0.2**
	baz=323							
TWA				S	**Sb**	**14 39 23.9**	**+0.5**
	baz=323							
ETM	**Tongmen**	**0.63**	**221**	P	**Pg**	**14 39 14.2**	**-0.8**
	baz=228							
ETM				S	**Sb**	**14 39 24.9**	**+1.2**
	baz=228							
NWF	**Wu-fen Shan**	**0.64**	**347**	⇑*i* P	**Pb**	**14 39 15.4**	**+0.2**
	baz=343							
NWF				S	**Sb**	**14 39 24.9**	**+1.0**
	baz=343							
WFSB	**Wu-fen Shan**	**0.64**	**347**	⇑P	**Pb**	**14 39 15.4**	**+0.3**
	baz=343							
WFSB				S	**Sb**	**14 39 24.6**	**+0.8**
	baz=343							
LXIB	**Xiulin Townshi**	**0.65**	**229**	⇑P	**Pg**	**14 39 14.2**	**-1.1**
	baz=228							
LXIB				*e*S	**Sb**	**14 39 24.9**	**+0.7**
	baz=228							
SXI1	**Grass Mountain**	**0.65**	**354**	⇑P	**Pb**	**14 39 15.5**	**+0.1**
	baz=360							
SXI1				S	**Sb**	**14 39 25.0**	**+0.9**
	baz=360							
FUSS	**Fushou**	**0.67**	**253**	⇑P	**Pg**	**14 39 15.0**	**-0.7**
	baz=258							
FUSS				S	**Sg**	**14 39 24.1**	**-0.6**
	baz=258							
TATO	**Taipei**	**0.67**	**322**	P	**Pb**	**14 39 16.1**	**+0.4**
TATO	**Taipei**	**0.67**	**322**	P	**Pb**	**14 39 15.6**	**-0.1**
	baz=318							
TATO				S	**Sb**	**14 39 24.6**	**-0.1**
	baz=318							
NHY	**Taipei**	**0.68**	**330**	P	**Pn**	**14 39 16.8**	**-0.5**
	baz=327							
NHY				S	**Sb**	**14 39 25.8**	**+0.8**
	baz=327							
WHF	**Hehuan Shan**	**0.69**	**244**	⇑*i* P	**Pg**	**14 39 15.2**	**-0.9**
	baz=251							
WHF				S	**Sg**	**14 39 25.5**	**+0.1**
	baz=251							
TAP	**Taipei**	**0.71**	**326**	S	**Sb**	**14 39 27.0**	**+1.1**
	baz=329							
BACT	**New Taipei Cit**	**0.71**	**320**	*e*P	**Pb**	**14 39 16.6**	**+0.2**
	baz=317							
BACT				*e*S	**Sb**	**14 39 25.9**	**-0.1**
	baz=317							
TNOU	**National Taiwa**	**0.72**	**347**	P	**Pn**	**14 39 16.9**	**-0.9**
	baz=346							
TNOU				S	**Sb**	**14 39 26.5**	**+0.5**
	baz=346							
TWT	**Tachien**	**0.73**	**255**	*i* P	**Pg**	**14 39 16.6**	**-0.2**
	baz=255							
TWT				*i* S	**Sg**	**14 39 26.8**	**+0.3**
	baz=255							
TDCB	**Techi**	**0.74**	**255**	P	**Pg**	**14 39 16.7**	**-0.3**
	baz=251							
TDCB				S	**Sg**	**14 39 26.6**	**-0.3**
	baz=251							
SHUL	**Shoufeng**	**0.74**	**208**	P	**Pb**	**14 39 17.4**	**+0.4**
	baz=198							
SHUL				*e*S	**Sb**	**14 39 29.1**	**+2.3**
	baz=198							
NFF	**Wufeng Townshi**	**0.77**	**284**	P	**Pb**	**14 39 17.3**	**-0.2**
	baz=290							
NFF				S	**Sg**	**14 39 27.6**	**-0.3**
	baz=290							
YM01	**YM01**	**0.77**	**334**	⇑P	**Pb**	**14 39 17.7**	**+0.2**
	baz=337							
YM01				S	**Sb**	**14 39 28.7**	**+0.9**
	baz=337							
ESL	**Shilin**	**0.79**	**217**	⇑*i* P	**Pg**	**14 39 16.6**	**-1.2**
	baz=229							
ESL				S	**Sb**	**14 39 29.5**	**+1.5**
	baz=229							
NWRT	**Kuosheng**	**0.79**	**341**	*e*P	**Pn**	**14 39 19.6**	**+0.7**
	baz=344							
NWRT				*e*S	**Sn**	**14 39 30.0**	**-0.3**
	baz=344							
CHGB	**Renai**	**0.80**	**241**	P	**Pg**	**14 39 17.4**	**-0.8**
	baz=247							
CHGB				S	**Sg**	**14 39 28.8**	**-0.1**
	baz=247							
NTY	**Taoyuan**	**0.80**	**313**	P	**Pn**	**14 39 19.1**	**+0.1**
	baz=320							
NTY				*e*S	**Sb**	**14 39 29.4**	**+0.9**
	baz=320							
YM08	**YM08**	**0.80**	**336**	⇑P	**Pb**	**14 39 17.8**	**-0.2**
	baz=339							
TWS1	**Kuangyinshan**	**0.81**	**324**	*i* P	**Pn**	**14 39 18.4**	**-0.7**
	baz=327							
TWS1				*i* S	**Sn**	**14 39 30.0**	**-0.6**
	baz=327							
ANP	**Anpu**	**0.83**	**332**	*i* P	**Pb**	**14 39 18.5**	**0.0**
	baz=335							
ANP				*i* S	**Sn**	**14 39 30.7**	**-0.7**
	baz=335							
NJD	**Zhudong**	**0.83**	**290**	*e*P	**Pg**	**14 39 17.2**	**-1.5**
	baz=290							
NJD				*e*S	**Sb**	**14 39 29.5**	**+0.2**
	baz=290							
NTST	**Danshui**	**0.84**	**328**	P	**Pn**	**14 39 19.1**	**-0.4**
	baz=340							
NTST				S	**Sn**	**14 39 31.2**	**-0.3**
	baz=340							
OWD	**Renai**	**0.86**	**235**	P	**Pg**	**14 39 18.4**	**-0.9**
	baz=235							
OWD				S	**Sb**	**14 39 31.4**	**+1.2**
	baz=235							
NCU	**National Centr**	**0.86**	**307**	P	**Pn**	**14 39 19.4**	**-0.4**
	baz=294							
NCU				S	**Sb**	**14 39 31.2**	**+0.9**
	baz=294							
NCUH	**Zhongli**	**0.86**	**307**	P	**Pn**	**14 39 19.3**	**-0.5**
	baz=294							
NCUH				S	**Sn**	**14 39 32.0**	**0.0**
	baz=294							
NSTT	**Nanjuang**	**0.88**	**282**	*i* P	**Pb**	**14 39 19.4**	**+0.1**
	baz=284							
NSTT				*i* S	**Sb**	**14 39 31.8**	**+1.1**
	baz=284							
TWY	**Chenhua**	**0.88**	**339**	*i* P	**Pn**	**14 39 19.9**	**-0.2**
	baz=342							
TWY				S	**Sn**	**14 39 31.9**	**-0.6**
	baz=342							
WUSB	**Renai**	**0.88**	**239**	P	**Pg**	**14 39 18.7**	**-0.9**
	baz=245							
WUSB				*e*S	**Sg**	**14 39 31.5**	**+0.2**
	baz=245							
WARBT	**Fenglin Townsh**	**0.89**	**215**	P	**Pg**	**14 39 18.0**	**-1.8**
	baz=227							
WARBT				*e*S	**Sg**	**14 39 31.4**	**-0.1**
	baz=227							
NSM	**Shimen**	**0.90**	**339**	*e*P	**Pn**	**14 39 21.4**	**+1.2**
	baz=341							
NSM				*e*S	**Sn**	**14 39 36.0**	**+3.2**
	baz=341							
HSN1	**Hsinchu**	**0.91**	**291**	*e*P	**Pn**	**14 39 20.5**	**+0.1**
	baz=292							
HSN1				*e*S	**Sb**	**14 39 32.5**	**+1.1**
	baz=292							
EGFH	**Guangfu**	**0.91**	**211**	P	**Pg**	**14 39 18.6**	**-1.5**
	baz=225							
EGFH				*e*S	**Sg**	**14 39 32.1**	**0.0**
	baz=225							
JYNG	**Yonaguni jima**	**0.91**	**90**	P	**Pb**	**14 39 19.5**	**-0.3**
JYNG				S	**Sn**	**14 39 32.5**	**-0.7**
WHP	**Taichung City**	**0.93**	**260**	P	**Pg**	**14 39 20.2**	**-0.3**
	baz=266							
WHP				*e*S	**Sg**	**14 39 32.1**	**-0.6**
	baz=266							
SBCB	**Hsinchu**	**0.94**	**292**	⇓P	**Pn**	**14 39 20.8**	**-0.1**
	baz=294							
SBCB				S	**Sb**	**14 39 33.4**	**+1.0**
	baz=294							
HSN	**Hsinchu**	**0.95**	**292**	*i* P	**Pg**	**14 39 20.3**	**-0.7**
	baz=296							
HSN				S	**Sn**	**14 39 34.1**	**-0.2**
	baz=296							
YOJ	**Yonaguni jima**	**0.97**	**89**	P	**Pn**	**14 39 21.1**	**-0.2**
YOJ	**Yonaguni jima**	**0.97**	**89**	P	**Pb**	**14 39 20.7**	**-0.1**
	baz=75							
YOJ				S	**Sn**	**14 39 34.4**	**-0.3**
	baz=75							
YOJ	**Yonaguni jima**	**0.97**	**89**	P	**Pb**	**14 39 20.7**	**-0.1**
YOJ				*e*S	**Sn**	**14 39 34.1**	**-0.6**
NJN	**Zhunan**	**1.00**	**284**	P	**Pb**	**14 39 21.7**	**+0.3**
	baz=279							
NJN				*e*S	**Sn**	**14 39 36.0**	**+0.4**
	baz=279							
VWDT	**VWDT**	**1.01**	**227**	P	**Pb**	**14 39 20.8**	**-0.6**
	baz=226							
VWDT				*e*S	**Sg**	**14 39 34.5**	**-0.8**
	baz=226							
DPDB	**Guoxing**	**1.02**	**246**	P	**Pg**	**14 39 21.6**	**-0.6**
	baz=247							
DPDB				*e*S	**Sg**	**14 39 35.0**	**-0.6**
	baz=247							
WCS	**Beigang Elemen**	**1.02**	**248**	P	**Pb**	**14 39 21.6**	**-0.1**
	baz=248							
WCS				*e*S	**Sg**	**14 39 35.3**	**-0.3**
	baz=248							
NMLH	**Miaoli**	**1.05**	**275**	P	**Pn**	**14 39 23.3**	**+0.8**
	baz=276							
NMLH				S	**Sn**	**14 39 38.3**	**+1.5**
	baz=276							
HGSD	**Ruisui**	**1.06**	**207**	P	**Pb**	**14 39 21.5**	**-0.9**
	baz=221							
HGSD				*e*S	**Sn**	**14 39 37.9**	**+0.9**
	baz=221							
TWQ1	**Liyutan**	**1.07**	**265**	*i* P	**Pn**	**14 39 23.0**	**+0.3**
	baz=266							
TWQ1				*i* S	**Sn**	**14 39 39.1**	**+1.9**
	baz=266							
NSY	**Sanyi**	**1.08**	**269**	*i* P	**Pn**	**14 39 23.6**	**+0.8**
	baz=269							
NSY				*i* S	**Sn**	**14 39 40.0**	**+2.6**
	baz=269							
EHY	**Hungye**	**1.10**	**211**	*i* P	**Pb**	**14 39 20.6**	**-2.4**
	baz=209							
EHY				*e*S	**Sb**	**14 39 36.9**	**-0.1**
	baz=209							
EHYH	**Wanrong**	**1.10**	**210**	P	**Pb**	**14 39 22.4**	**-0.6**
	baz=208							
EHYH				*e*S	**Sb**	**14 39 37.0**	**0.0**
	baz=208							
SSLB	**Suanglung**	**1.12**	**234**	P	**Pb**	**14 39 22.7**	**-0.7**
SSLB	**Suanglung**	**1.12**	**234**	P	**Pb**	**14 39 22.5**	**-0.9**
	baz=234							
SSLB				*e*S	**Sb**	**14 39 38.0**	**+0.3**
	baz=234							
TYC	**Yuchr**	**1.13**	**242**	*i* P	**Pb**	**14 39 23.1**	**-0.4**
	baz=250							
TYC				*e*S	**Sb**	**14 39 38.8**	**+0.8**
	baz=250							
PCYT	**Pengchaiyu**	**1.18**	**6**	*i* P	**Pb**	**14 39 23.3**	**-1.1**
	baz=8.0							
PCYT				*e*S	**Sn**	**14 39 41.6**	**+1.7**
	baz=8.0							
WDJ	**Dajia District**	**1.19**	**265**	*e*P	**Pg**	**14 39 25.7**	**+0.2**
	baz=266							
WDJ				*i* S	**Sn**	**14 39 41.4**	**+1.2**
	baz=266							
TCU	**Taichung**	**1.20**	**256**	*i* P	**Pg**	**14 39 25.4**	**-0.1**
	baz=256							
TCU				S	**Sn**	**14 39 41.9**	**+1.7**
	baz=256							
YULB	**Yu-li**	**1.21**	**210**	P	**Pn**	**14 39 24.5**	**-0.1**
YULB	**Yu-li**	**1.21**	**210**	P	**Pn**	**14 39 22.6**	**-1.9**
	baz=208							
YULB				*e*S	**Sb**	**14 39 39.4**	**-0.8**
	baz=208							
ECBN	**Changbin**	**1.21**	**202**	*e*P	**Pn**	**14 39 23.0**	**-1.7**
	baz=185							
ECBN				*e*S	**Sb**	**14 39 41.4**	**+1.1**
	baz=185							
EYUL	**Yuli**	**1.24**	**208**	P	**Pn**	**14 39 24.7**	**-0.3**
	baz=220							
EYUL				*e*S	**Sb**	**14 39 40.9**	**-0.1**
	baz=220							
TWF1	**Yuli**	**1.24**	**209**	*i* P	**Pn**	**14 39 23.1**	**-2.0**
	baz=206							
TWF1				*e*S	**Sb**	**14 39 40.1**	**-1.1**
	baz=206							
WHYT	**Xinyi Township**	**1.25**	**233**	P	**Pn**	**14 39 25.4**	**+0.2**
	baz=220							
WHYT				S	**Sg**	**14 39 43.0**	**+0.1**
	baz=220							
WJS	**Zhushan**	**1.27**	**241**	P	**Pb**	**14 39 26.2**	**+0.2**
	baz=243							
WJS				S	**Sg**	**14 39 45.4**	**+1.7**
	baz=243							
WNT1	**Nantou City**	**1.27**	**245**	P	**Pg**	**14 39 27.6**	**+0.5**
	baz=245							
WNT1				S	**Sg**	**14 39 46.2**	**+2.5**
	baz=245							
WNT	**Mingjian**	**1.28**	**244**	*i* P	**Pb**	**14 39 26.4**	**+0.2**
	baz=244							
WNT				*i* S	**Sg**	**14 39 45.9**	**+1.8**
	baz=244							
WCHH	**Zhanghua**	**1.32**	**254**	P	**Pg**	**14 39 27.8**	**-0.1**
	baz=269							
WCHH				*e*S	**Sg**	**14 39 44.8**	**-0.3**
	baz=269							
CHKH	**Chenggong**	**1.35**	**202**	P	**Pn**	**14 39 25.5**	**-1.0**
	baz=182							
CHKH				*e*S	**Sn**	**14 39 45.0**	**+1.0**
	baz=182							
FULB	**Fuli**	**1.38**	**206**	P	**Pn**	**14 39 26.4**	**-0.6**
	baz=218							
FULB				*e*S	**Sn**	**14 39 45.4**	**+0.5**
	baz=218							
ALS	**Alishan**	**1.40**	**228**	*i* P	**Pn**	**14 39 27.6**	**+0.1**
	baz=215							
ALS				S	**Sn**	**14 39 47.0**	**+1.3**
	baz=215							
CHKT	**Chengkung**	**1.44**	**202**	*i* P	**Pn**	**14 39 28.1**	**+0.3**
	baz=184							
CHKT				S	**Sb**	**14 39 47.9**	**+0.9**
	baz=184							
EHD	**Haiduan**	**1.46**	**208**	P	**Pn**	**14 39 27.6**	**-0.5**
	baz=206							
EHD				*e*S	**Sn**	**14 39 45.9**	**-0.9**
	baz=206							
WGK	**Gukeng**	**1.47**	**239**	*i* P	**Pb**	**14 39 29.4**	**0.0**
	baz=239							
WGK				*i* S	**Sg**	**14 39 50.9**	**+0.8**
	baz=239							
WDLH	**Douliu**	**1.49**	**240**	P	**Pb**	**14 39 30.3**	**+0.6**
	baz=240							
WDLH				S	**Sg**	**14 39 50.8**	**+0.2**
	baz=240							
ECS	**Chishang**	**1.50**	**206**	P	**Pn**	**14 39 29.4**	**+0.8**
	baz=218							
ECS				*e*S	**Sn**	**14 39 48.0**	**+0.2**
	baz=218							
ELDTW	**Lidau**	**1.51**	**214**	*i* P	**Pn**	**14 39 28.4**	**-0.5**
	baz=199							
ELDTW				S	**Sn**	**14 39 48.0**	**-0.3**
	baz=199							
WRL	**Guolierlin Hig**	**1.53**	**249**	P	**Pn**	**14 39 29.4**	**+0.3**
	baz=267							
WRL				S	**Sb**	**14 39 50.7**	**+1.2**
	baz=267							
WCKO	**Fanlu**	**1.58**	**231**	P	**Pb**	**14 39 31.1**	**-0.2**
	baz=218							
WCKO				S	**Sg**	**14 39 53.4**	**-0.3**
	baz=218							
WTK	**Tuku**	**1.61**	**242**	P	**Pn**	**14 39 30.7**	**+0.6**
	baz=242							
WTK				S	**Sb**	**14 39 53.6**	**+1.8**
	baz=242							
CHN2	**Minshiung**	**1.62**	**236**	*e*P	**Pg**	**14 39 33.1**	**-0.6**
	baz=236							
CHN2				S	**Sb**	**14 39 54.0**	**+1.9**
	baz=236							
IRIF	**Iriomote-Funau**	**1.63**	**94**	*e*P	**Pn**	**14 39 30.1**	**-0.3**
IRIF				S	**Sn**	**14 39 50.9**	**-0.1**
CHN4	**Tsaushan**	**1.65**	**229**	*i* P	**Pn**	**14 39 31.9**	**+1.3**
	baz=228							
CHN4				S	**Sb**	**14 39 54.6**	**+1.7**
	baz=228							
TPUB	**Ta-pu**	**1.66**	**227**	P	**Pn**	**14 39 31.8**	**+1.0**
TPUB	**Ta-pu**	**1.66**	**227**	P	**Pn**	**14 39 31.7**	**+1.0**
	baz=226							
TPUB				S	**Sb**	**14 39 54.0**	**+0.7**
	baz=226							
STYH	**Taoyuan**	**1.66**	**220**	P	**Pn**	**14 39 31.2**	**+0.4**
	baz=219							
STYH				S	**Sb**	**14 39 53.8**	**+0.5**
	baz=219							
LONT	**Longtian**	**1.71**	**206**	P	**Pn**	**14 39 30.4**	**-1.1**
	baz=204							
LONT				*e*S	**Sn**	**14 39 52.9**	**0.0**
	baz=204							
WTP	**Ta-pu**	**1.71**	**226**	*i* P	**Pn**	**14 39 32.8**	**+1.3**
	baz=225							
WTP				S	**Sb**	**14 39 55.6**	**+0.9**
	baz=225							
WSF	**Szhu**	**1.77**	**243**	*i* P	**Pn**	**14 39 32.9**	**+0.7**
	baz=243							
WSF				*i* S	**Sb**	**14 39 57.4**	**+1.1**
	baz=243							
TWK	**Hsinying**	**1.78**	**229**	*i* P	**Pn**	**14 39 33.6**	**+1.1**
	baz=228							
TWK				S	**Sb**	**14 39 58.0**	**+1.3**
	baz=228							
SNST	**Tainan City**	**1.80**	**228**	P	**Pn**	**14 39 33.7**	**+0.9**
	baz=227							
SNST				S	**Sb**	**14 39 57.7**	**+0.4**
	baz=227							
CHN1	**Nanshi**	**1.81**	**226**	*i* P	**Pn**	**14 39 34.4**	**+1.5**
	baz=225							
CHN1				S	**Sb**	**14 39 58.5**	**+1.0**
	baz=225							
TWG	**Pinlang**	**1.81**	**206**	*i* P	**Pn**	**14 39 31.9**	**-0.9**
	baz=205							
TWG				*e*S	**Sn**	**14 39 54.8**	**-0.5**
	baz=205							
TWGBT	**Beinan**	**1.81**	**206**	P	**Pb**	**14 39 34.9**	**-0.2**
TWGBT	**Beinan**	**1.81**	**206**	P	**Pn**	**14 39 31.2**	**-1.6**
	baz=205							
TWGBT				*e*S	**Sn**	**14 39 55.4**	**+0.1**
	baz=205							
LDUT	**Ludao**	**1.82**	**194**	*e*P	Pn	14 39 28.5	-4.5
	baz=181							
LDUT				*e*S	**Sn**	**14 39 53.9**	**-1.8**
	baz=181							
WSL	**Shuilin Townsh**	**1.82**	**240**	*e*P	**Pn**	**14 39 34.5**	**+1.6**
	baz=256							
WSL				*e*S	**Sb**	**14 39 59.5**	**+1.7**
	baz=256							
SGST	**Jiashian**	**1.84**	**223**	*i* P	**Pn**	**14 39 33.5**	**+0.2**
	baz=222							
SGST				S	**Sb**	**14 40 00.7**	**+2.1**
	baz=222							
ICHU	**Yijhu**	**1.87**	**235**	P	**Pn**	**14 39 34.5**	**+0.9**
	baz=218							
ICHU				S	**Sb**	**14 40 00.8**	**+1.5**
	baz=218							
SLGT	**Liugui**	**1.87**	**220**	P	**Pn**	**14 39 34.6**	**+0.9**
	baz=219							
SLGT				*e*S	**Sb**	**14 39 59.6**	**+0.2**
	baz=219							
JKRS	**Kuro-shima**	**1.90**	**96**	P	**Pn**	**14 39 34.5**	**+0.5**
JKRS				*e*S	**Sn**	**14 39 57.6**	**+0.1**
CHN8	**Yiju**	**1.93**	**236**	*i* P	**Pn**	**14 39 35.3**	**+0.8**
	baz=234							
CHN8				S	**Sb**	**14 40 01.9**	**+1.0**
	baz=234							
JIJ	**Ishigaki jima**	**2.01**	**92**	P	**Pn**	**14 39 35.2**	**-0.3**
JIJ				S	**Sn**	**14 39 59.1**	**-1.1**
SHHT	**Tainan City**	**2.04**	**226**	P	**Pb**	**14 39 39.3**	**+0.3**
	baz=224							
SHHT				*e*S	**Sb**	**14 40 05.9**	**+1.7**
	baz=224							
SCLT	**Jiali**	**2.04**	**232**	*e*P	**Pn**	**14 39 38.0**	**+1.9**
	baz=231							
SCLT				S	**Sb**	**14 40 04.2**	**0.0**
	baz=231							
ECL	**Taimali**	**2.06**	**206**	*e*P	**Pn**	**14 39 35.6**	**-0.6**
	baz=193							
ECL				*e*S	**Sn**	**14 40 00.3**	**-1.1**
	baz=193							
SSD	**Sandimen**	**2.08**	**216**	*i* P	**Pn**	**14 39 38.3**	**+1.7**
	baz=225							
SSD				S	**Sb**	**14 40 06.1**	**+0.8**
	baz=225							
TSMG	**Majia**	**2.10**	**215**	P	**Pn**	**14 39 38.5**	**+1.6**
	baz=213							

TSMG				*e*S		**Sb**	**14 40 06.4**	**+0.3**
	baz=213								
TSCK	**Chigu Township**	**2.14**	**233**	P		**Pn**	**14 39 38.4**	**+1.0**
	baz=232								
TSCK				S		**Sb**	**14 40 06.9**	**-0.1**
	baz=232								
JISG	**Ishigakijimahi**	**2.16**	**86**	*e*P		**Pn**	**14 39 37.3**	**-0.4**
JISG				*e*S		**Sn**	**14 40 04.3**	**+0.3**
MASBT	**Mashibuluo**	**2.19**	**214**	P		**Pn**	**14 39 39.7**	**+1.6**
	baz=212								
MASBT				S		**Sb**	**14 40 09.4**	**+0.9**
	baz=212								
EAST	**Anshuo**	**2.29**	**206**	P		**Pn**	**14 39 39.2**	**-0.3**
	baz=194								
EAST				*e*S		**Sn**	**14 40 06.0**	**-1.3**
	baz=194								
VWUC	**VWUC**	**2.33**	**284**	P		**Pn**	**14 39 39.1**	**-1.0**
	baz=285								
VWUC				S		**Sn**	**14 40 06.9**	**-1.4**
	baz=285								
PNG	**Penghu**	**2.35**	**249**	*i* P		**Pn**	**14 39 39.7**	**-0.6**
	baz=248								
PNG				*i* S		**Sn**	**14 40 09.0**	**+0.2**
	baz=248								
PHUB	**P'eng-hu**	**2.36**	**247**	P		**Pn**	**14 39 38.9**	**-1.5**
	baz=246								
PHUB				*e*S		**Sn**	**14 40 07.7**	**-1.3**
	baz=246								
SCZT	**Fangliau**	**2.40**	**211**	*i* P		**Pn**	**14 39 42.9**	**+1.9**
	baz=209								
SCZT				S		**Sb**	**14 40 13.7**	**-0.8**
	baz=209								
WDGT	**Dungji**	**2.40**	**241**	*i* P		**Pn**	**14 39 41.0**	**0.0**
	baz=239								
WDGT				S		**Sn**	**14 40 10.6**	**+0.5**
	baz=239								
LAY	**Lan-yu**	**2.43**	**189**	P		**Pn**	**14 39 39.8**	**-1.5**
	baz=177								
LAY				*e*S		**Sn**	**14 40 08.4**	**-2.2**
	baz=177								
LYUB	**Lan-yu**	**2.46**	**188**	*e*P		**Pn**	**14 39 41.2**	**-0.6**
	baz=177								
LYUB				*e*S		**Sn**	**14 40 09.0**	**-2.4**
	baz=177								
SLIU	**Shizi**	**2.46**	**206**	P		**Pn**	**14 39 43.1**	**+1.3**
	baz=196								
SLIU				*e*S		**Sn**	**14 40 12.2**	**+0.8**
	baz=196								
MATB	**Ma-tsu**	**2.48**	**314**	P		**Pn**	**14 39 41.4**	**-0.6**
	baz=314								
MATB				*e*S		**Sn**	**14 40 12.5**	**+0.5**
	baz=314								
JTJ	**Tarama**	**2.52**	**85**	*e*P		**Pn**	**14 39 43.6**	**+1.0**
JTJ				*e*S		**Sn**	**14 40 13.4**	**+0.5**
VCHM	**Qimei**	**2.61**	**242**	*e*P		**Pn**	**14 39 43.8**	**-0.1**
	baz=240								
VCHM				S		**Sn**	**14 40 15.9**	**+0.7**
	baz=240								
PTMZ	**Houxiangcun**	**2.63**	**284**	P		**Pn**	**14 39 43.9**	**-0.3**
	baz=285								
PTMZ				S		**Sn**	**14 40 14.7**	**-1.0**
	baz=285								
LYJJ	**Jianjiangzhen**	**2.88**	**317**	P		**Pn**	**14 39 46.7**	**-0.8**
	baz=318								
LYJJ				*e*S		**Sn**	**14 40 22.5**	**+0.7**
	baz=318								
XPSS	**Dashiqiu**	**2.93**	**328**	P		**Pn**	**14 39 46.8**	**-1.5**
	baz=328								
XPSS				*e*S		**Sn**	**14 40 23.3**	**+0.2**
	baz=328								
MHZQ	**Yeshan**	**3.11**	**303**	*e*P		**Pn**	**14 39 50.1**	**-0.6**
	baz=303								
MHZQ				*e*S		**Sn**	**14 40 27.5**	**0.0**
	baz=303								
KNM	**Kinmen**	**3.20**	**270**	P		**Pn**	**14 39 54.0**	**+2.1**
	baz=269								
KNM				*e*S		**Sn**	**14 40 31.8**	**+2.1**
	baz=269								
KNMB	**Chin-men Tao**	**3.24**	**271**	P		**Pn**	**14 39 51.7**	**-0.8**
	baz=271								
KNMB				S		**Sn**	**14 40 30.1**	**-0.6**
	baz=271								
ZPLA	**Ao Xicun**	**3.87**	**263**	*e*P		**Pn**	**14 40 01.4**	**+0.3**
	baz=262								
ZPLA				*e*S		**Sn**	**14 40 46.2**	**+0.1**
	baz=262								

IDC ***18*** *14:44:04.8±2.2,1.˝25N×127.˝49E,h0km,mb3.1/3, mbtmp3.2/3,Error ellipse: s-maj=142.3km s-min=28.0km az=67.0*

DJA ***18*** *14:44:10.4±0.5,1˚N±2˝×12˚7E±˚,h62km±11km,M3.3/8, MLv3.3/8*

ISC 18 14:44:11.9±1.0,**0˚85N**±0.˝05×**126˚62E**±0.˝04,**h50**km,**n11**, σ1§19/19,**mb3.1/3**,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
TNTI	**Ternate**	**0.76**	**96**	P		**Pn**	**14 44 27.2**			**+0.9**
TNTI				S		**Sn**	**14 44 37.6**			**+0.7**
LBMI	**Labuha**	**1.73**	**149**	P		**Pn**	**14 44 38.9**			**-0.6**
LBMI				S		**Sn**	**14 45 00.1**			**-0.3**
KMSI	**Cibinong**	**2.65**	**264**	P		**Pn**	**14 44 52.2**			**+0.1**
KMSI				S		**Sn**	**14 45 23.4**			**+0.3**
SANI	**Sanana**	**2.95**	**192**	P		**Pn**	**14 44 55.5**			**-0.8**
SANI				S		**Sn**	**14 45 30.4**			**-0.1**
SGSI	**Sangihe**	**3.02**	**339**	P		**Pn**	**14 44 55.6**			**-1.7**
SGSI				S		**Sn**	**14 45 30.4**			**-1.7**
GTOI	**Gorontalo**	**3.61**	**267**	P		**Pn**	**14 45 04.8**			**-0.5**
GTOI				S		**Sn**	**14 45 49.1**			**+2.4**
NLAI	**Namlea**	**4.09**	**173**	P		**Pn**	**14 45 10.1**			**-1.9**
NLAI				S		**Sn**	**14 45 57.9**			**-0.7**
LUWI	**Luwuk**	**4.28**	**244**	P		**Pn**	**14 45 14.2**			**-0.3**
LUWI				S		**Sn**	**14 46 03.0**			**-0.2**
WRA	**Warramunga Arr**	**22.01**	**160**	P		**P**	**14 49 01.0**			**-1.2**
	0.3nm,0.4s,baz=342,slow=12,SNR=12 0.3nm,0.4s									
ASAR	**Alice Springs**	**25.38**	**164**	P		**P**	**14 49 36.2**			**+1.5**
	0.2nm,0.4s,baz=347,slow=10,SNR=13 0.2nm,0.4s									
MKAR	**Makanchi Array**	**59.85**	**326**	P		**P**	**14 54 13.4**			**+1.0**
	0.1nm,0.5s,baz=128,slow=6.9,SNR=1.9 0.1nm,0.5s									

IDC ***18*** *14:46:59.0±0.9,50.˝71N×170.˝97W,h0km,mb4.0/20, mbtmp4.0/21,ML2.8/1,MS2.7/1,Error ellipse: s-maj=26.1km s-min=16.8km az=179.0*

NEIC ***18*** *14:46:59.5±2.3,50.˝8N±0.˝1×171.˝02W±0.˝08,h10km±5km, mb3.9/67,ML3.7/8,ML3.5(AEIC),Error ellipse: s-maj=15.6km s-min=7.1km az=169.0*

AEIC ***18*** *14:47:04.2±2.5,50.˝73N±0.˝09×171.˝03W±0.˝07,h12km±5km, Error ellipse: s-maj=12.5km s-min=6.6km az=178.0*

ISC 18 14:47:02.5±0.7,**50˚88N**±0.˝09×**170˚98W**±0.˝05,**h23**km, **n139,σ1§34/126,mb4.0/34,South of Aleutian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
CLES	**Cleveland East**	**2.06**	**19**	Pn		**Pn**	**14 47 35.1**			**-0.6**
CLES				Sn		**Sn**	**14 48 01.1**			**+0.4**
CLCO	**Concord Point,**	**2.07**	**22**			**Pn**	**14 47 36.1**			**+0.3**
CLCO						**Sn**	**14 48 01.8**			**+1.1**
KOFP	**Korovin Flat P**	**2.40**	**307**			**Pn**	**14 47 40.0**			**-0.3**
ATKA	**Atka Island**	**2.41**	**305**	Pn		**Pn**	**14 47 39.2**			**-1.2**
ATKA				Sn		**Sn**	**14 48 07.5**			**-1.6**
KOKL	**Mount Kliuchef**	**2.48**	**307**			**Pn**	**14 47 41.2**			**-0.3**
NIKH	**Nikolski High**	**2.48**	**31**			**Pn**	**14 47 42.0**			**+0.6**
OKWR	**Okmok West Rim**	**3.08**	**33**			**Pn**	**14 47 50.2**			**+0.4**
OKTU	**Okmok Mt. Tuli**	**3.10**	**35**			**Pn**	**14 47 49.7**			**-0.3**
OKTU						**Sn**	**14 48 26.8**			**+0.5**
OKFG	**Magazine Ridge**	**3.17**	**35**			**Pn**	**14 47 50.6**			**-0.2**
OKFG						**Sn**	**14 48 26.2**			**-1.6**
GSMY	**Great Sitkin M**	**3.38**	**292**			**Pn**	**14 47 52.5**			**-1.4**
GSCK	**Great Sitkin C**	**3.44**	**291**			**Pn**	**14 47 53.5**			**-1.1**
ADK	**Adak**	**3.71**	**288**	Pn		**Pn**	**14 47 57.0**			**-1.3**
ADK				IAML			14 48 39.1			
	147nm,0.3s									
ADK				IAML			14 48 39.5			
	125nm,0.6s									
MAPS	**Pakushin South**	**3.84**	**39**			**Pn**	**14 47 59.7**			**-0.4**
MGOD	**Makushin Gods**	**3.86**	**39**			**Pn**	**14 48 00.2**			**-0.2**
MSW	**Makushin Switc**	**3.98**	**39**			**Pn**	**14 48 02.3**			**+0.1**
KIWB	**Kanaga Island**	**3.99**	**287**	Pn		**Pn**	**14 48 01.1**			**-1.1**
MNAT	**Makushin Natee**	**4.00**	**39**			**Pn**	**14 48 03.6**			**+1.2**

UNV	**Unalaska Valle**	**4.04**	**41**			**Pn**	**14 48 02.8**	**-0.1**
UNV	**Unalaska Valle**	**4.04**	**41**	P		**Pn**	**14 48 03.0**	**+0.1**
AKRB	**Akutan Reef Bi**	**4.43**	**41**			**Pn**	**14 48 09.1**	**+0.9**
AKBBA	**Akutan Broad B**	**4.46**	**42**			**Pn**	**14 48 09.6**	**+0.8**
LVA	**Lava Point**	**4.47**	**41**			**Pn**	**14 48 09.5**	**+0.7**
TAFP	**Tanaga Falls P**	**4.50**	**286**			**Pn**	**14 48 08.7**	**-0.5**
AKUT	**Akutan**	**4.56**	**42**	Pn		**Pn**	**14 48 10.2**	**+0.2**
AKUT				IAML			14 50 19.5		
	comp=E,58nm,2.1s								
AKUT				IAML			14 51 01.1		
	comp=N,64nm,2.8s								
AKUT	**Akutan**	**4.56**	**42**	P		**Pn**	**14 48 10.8**	**+0.9**
AKSA	**Akutan Strait**	**4.59**	**43**			**Pn**	**14 48 11.8**	**+1.4**
WECS	**Westdahl Cape**	**5.25**	**43**			**Pn**	**14 48 20.4**	**+0.8**
ISLZ	**Isanotski Laza**	**5.86**	**46**			**Pn**	**14 48 28.0**	**+0.1**
FALS	**False Pass**	**6.07**	**46**			**Pn**	**14 48 31.3**	**+0.6**
FALS	**False Pass**	**6.07**	**46**	P		**Pn**	**14 48 32.1**	**+1.4**
AMKA	**Amchitka**	**6.14**	**278**	Pn		**Pn**	**14 48 30.0**	**-1.7**
SDPT	**Sand Point**	**7.74**	**51**	Pn		**Pn**	**14 48 53.5**	**-0.2**
SDPT	**Sand Point**	**7.74**	**51**	P		**Pn**	**14 48 54.0**	**+0.3**
CHGN	**Chignik**	**9.23**	**49**	Pn		**Pn**	**14 49 14.7**	**+0.6**
OHAK	**Old Harbor**	**12.16**	**52**	Pn		**Pn**	**14 49 52.5**	**-1.7**
P18K	**Big Mountain,**	**12.38**	**40**	Pn		**Pn**	**14 49 57.1**	**0.0**
L16K	**Owhat River**	**12.57**	**26**	Pn		**Pn**	**14 49 59.6**	**-0.1**
O18K	**Koktuh Hills**	**12.67**	**39**	Pn		**Pn**	**14 50 00.2**	**-0.9**
KDAK	**Kodiak Island**	**12.74**	**50**	Pn		**Pn**	**14 49 59.9**	**-2.1**
KDAK	**Kodiak Island**	**12.74**	**50**	Pn		**Pn**	**14 50 00.0**	**-2.1**
	comp=N,0.8nm,0.3s,baz=258,slow=9.3,SNR=32								
KDAK				Sn		**Sn**	**14 52 15.4**	**-7.6**
	comp=N,0.1nm,0.3s,baz=214,slow=13,SNR=1.3								
Q19K	**Cape Douglas,**	**12.79**	**44**	Pn		**Pn**	**14 50 01.9**	**-0.9**
SYI	**Shuyak Island**	**13.20**	**47**	Pn		**Pn**	**14 50 06.1**	**-2.3**
CNPM	**China Poot**	**14.17**	**45**	Pn		**Pn**	**14 50 19.3**	**-2.2**
J18K	**Innoko River**	**14.75**	**26**	Pn		**Pn**	**14 50 30.0**	**+0.6**
O22K	**Cooper Landing**	**15.30**	**43**			**Pn**	**14 50 34.2**	**-2.5**
J19K	**Poorman**	**15.47**	**26**	Pn		**Pn**	**14 50 39.2**	**+0.3**
H18K	**Honhosa River**	**15.75**	**20**	P		**P**	**14 50 45.2**	**-1.1**
H18K				IAmb		IAmb	14 50 49.3		
	comp=Z,8.2nm,0.7s								
CAST	**Castle Rocks**	**16.13**	**32**			**Pn**	**14 50 48.1**	**+0.7**
CAST				IAmb		IAmb	14 50 54.6		
	comp=Z,7.0nm,1.1s								
GHO	**Glory Hole Cre**	**16.29**	**40**			**Pn**	**14 50 48.1**	**-1.6**
GHO				IAmb		IAmb	14 50 52.9		
	comp=Z,5.1nm,0.7s								
KNK	**Knik Glacier**	**16.30**	**41**			**Pn**	**14 50 47.2**	**-2.4**
KTH	**Kantishna Hill**	**16.61**	**33**			**Pn**	**14 50 52.5**	**-1.1**
HIN	**Hinchinbrook I**	**16.69**	**46**			**Pn**	**14 50 52.3**	**-2.3**
BPAW	**Bear Paw Mtn.**	**16.95**	**31**	Pn		**Pn**	**14 50 57.4**	**-0.4**
BPAW				IAmb		IAmb	14 51 04.4		
	comp=Z,5.6nm,0.8s								
SCM	**Sheep Creek Mo**	**16.98**	**41**			**Pn**	**14 50 56.0**	**-2.3**
SCM				IAmb		IAmb	14 51 18.3		
	comp=Z,7.3nm,0.8s								
I21K	**Tanana**	**17.40**	**27**			**Pn**	**14 51 02.1**	**-1.3**
KLU	**Klutina**	**17.41**	**43**	Pn		**Pn**	**14 51 00.9**	**-2.7**
KLU				IAmb		IAmb	14 51 18.8		
	comp=Z,12nm,1.5s								
H21K	**Melozitna Rive**	**17.52**	**25**	P		**P**	**14 51 05.1**	**-0.9**
IMAR	**Indian Mountai**	**17.52**	**24**			**P**	**14 51 05.4**	**-0.6**
M24K	**Tolsona, Glenn**	**17.59**	**41**			**Pn**	**14 51 04.2**	**-1.6**
M24K				IAmb		IAmb	14 51 11.7		
	comp=Z,10nm,0.8s								
MLY	**Manley**	**17.66**	**29**			**P**	**14 51 07.0**	**-0.5**
MLY				IAmb		IAmb	14 51 10.0		
	comp=Z,5.2nm,0.8s								
HMT	**Hamilton**	**17.70**	**47**			**Pn**	**14 51 05.0**	**-2.1**
HMT				IAmb		IAmb	14 51 23.9		
	comp=Z,18nm,1.3s								
BERG	**Berg Lake**	**17.98**	**48**	IAmb		IAmb	14 51 17.3		
	comp=Z,13nm,1.1s								
G21K	**Allakaket**	**18.00**	**23**			**Pn**	**14 51 09.8**	**-1.1**
N25K	**Chitina, Valde**	**18.03**	**43**			**Pn**	**14 51 09.2**	**-2.1**
WRH	**Wood River Hil**	**18.16**	**33**			**Pn**	**14 51 11.1**	**-1.7**
I23K	**Minto, Yukon-K**	**18.17**	**30**	P		**P**	**14 51 12.5**	**-0.6**
I23K				IAmb		IAmb	14 51 17.4		
	comp=Z,4.6nm,0.8s								
GLB	**Gilahina Butte**	**18.31**	**44**	P		**P**	**14 51 13.5**	**-1.2**
GLB				IAmb		IAmb	14 51 18.8		
	comp=Z,7.9nm,0.7s								
CCB	**Clear Creek Bu**	**18.36**	**33**			**P**	**14 51 13.3**	**-1.9**
VRDI	**Verde Repeater**	**18.39**	**45**			**P**	**14 51 14.1**	**-1.6**
VRDI				IAmb		IAmb	14 51 21.3		
	comp=Z,9.3nm,0.8s								
HDA	**Harding Lake**	**18.52**	**34**	P		**P**	**14 51 15.8**	**-1.2**
ILAR	**Eielson Array**	**18.75**	**33**	P		**P**	**14 51 18.2**	**-1.3**
ILAR	**Eielson Array**	**18.75**	**33**	P		**P**	**14 51 18.1**	**-1.4**
	comp=Z,1.2nm,0.5s,baz=216,slow=9.8,SNR=22								
ILAR				LR		LR	14 57 42.9		
	comp=Z,27nm,21.5s,baz=291,slow=34								
BARN	**Barnard Glacie**	**19.14**	**47**	P		**Pn**	**14 51 25.1**	**+0.1**
CTGM	**Chitina Glacier**	**19.27**	**47**	P		**Pn**	**14 51 25.8**	**-0.6**
PETK	**Petropavlovsk-**	**19.34**	**289**	P		**Pn**	**14 51 26.0**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=81,slow=13,SNR=6.4 comp=Z,1.7nm,0.7s								
PRP	**Porcupine Dome**	**19.66**	**32**			**P**	**14 51 29.0**	**-0.6**
PRP				IAmb		IAmb	14 51 31.7		
	comp=Z,4.8nm,0.6s								
E22K	**Anaktuvuk Pass**	**19.69**	**21**	P		**Pn**	**14 51 30.0**	**-1.2**
E22K				IAmb		IAmb	14 52 00.9		
	comp=Z,8.3nm,1.5s								
BCAR	**Beaver Creek A**	**19.83**	**41**	P		**Pn**	**14 51 31.9**	**-1.2**
B20K	**Meade River**	**20.27**	**14**	IAmb		IAmb	14 51 37.5		
	comp=Z,3.9nm,0.8s								
B21K	**Ikpikpuk River**	**20.34**	**16**	IAmb		IAmb	14 51 38.2		
	comp=Z,4.1nm,0.7s								
FYU	**Fort Yukon**	**20.39**	**30**			Pn	14 51 37.6	-1.9	
FYU				IAmb		IAmb	14 51 42.5		
	comp=Z,13nm,1.4s								
BILL	**Bilibino**	**20.50**	**335**	P		**P**	**14 51 38.7**	**+0.2**
TOLK	**Toolik Lake Re**	**20.61**	**22**	P		Pn	14 51 40.3	-1.8	
TOLK				IAmb		IAmb	14 51 47.4		
	comp=Z,3.9nm,0.8s								
P29M	**Windy Craggy**	**20.67**	**52**	IAmb		IAmb	14 51 50.2		
	comp=Z,8.7nm,0.7s								
EGAK	**Eagle**	**20.84**	**37**			Pn	14 51 42.6	-2.1	
EGAK				IAmb		IAmb	14 51 46.4		
	comp=Z,7.3nm,0.8s								
HYT	**Haines Junctio**	**21.03**	**49**	Pn		**P**	**14 51 46.9**	**+2.4**
BMAR	**Burnt Mountain**	**21.12**	**28**			**P**	**14 51 45.2**	**-0.1**
D24K	**Happy Valley**	**21.18**	**22**	IAmb		IAmb	14 51 52.3		
	comp=Z,5.0nm,1.1s								
DAWY	**Dawson**	**21.22**	**40**			**P**	**14 51 48.0**	**+1.6**
E25K	**Arctic Village**	**21.29**	**26**	IAmb		IAmb	14 51 53.5		
	comp=Z,4.5nm,0.7s								
C23K	**Itkillik River**	**21.31**	**19**	IAmb		IAmb	14 51 49.0		
	comp=Z,4.7nm,0.6s								
D25K	**Kavik River**	**21.90**	**23**	IAmb		IAmb	14 51 58.6		
	comp=Z,5.6nm,0.8s								
K29M	**Barlow Dome**	**21.90**	**41**	P		**P**	**14 51 55.1**	**+1.3**
K29M				IAmb		IAmb	14 51 58.1		
	comp=Z,3.2nm,0.8s								
E27K	**Coleen River**	**22.49**	**29**	P		**P**	**14 51 58.6**	**-1.4**
E27K				IAmb		IAmb	14 52 04.3		
	comp=Z,4.9nm,1.0s								
J30M	**Hart River**	**22.65**	**40**	P		**P**	**14 52 01.9**	**+0.1**
P33M	**Teslin, Yukon**	**23.21**	**52**	P		**P**	**14 52 07.8**	**+0.3**
P33M				IAmb		IAmb	14 52 23.5		
	comp=Z,3.0nm,0.9s								
E28M	**Babbage River**	**23.36**	**29**	P		**P**	**14 52 09.3**	**+0.5**
E28M				IAmb		IAmb	14 52 13.1		
	comp=Z,5.2nm,0.9s								
Q32M	**Nakina River**	**23.38**	**55**	P		**P**	**14 52 09.4**	**0.0**
Q32M				IAmb		IAmb	14 52 21.1		
	comp=Z,3.7nm,0.9s								
G30M	**tAoh Zraii Nji**	**23.64**	**34**	IAmb		IAmb	14 52 19.6		
	comp=Z,4.9nm,1.1s								
E29M	**Blow River**	**23.75**	**30**	IAmb		IAmb	14 52 16.6		
	comp=Z,4.3nm,0.8s								
G31M	**Satah River**	**24.32**	**35**	IAmb		IAmb	14 52 56.2		
	comp=Z,8.0nm,1.2s								
YKA	**Yellowknife Ar**	**31.99**	**47**	P		**P**	**14 53 27.6**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=275,slow=9.3,SNR=11								
YKA				PcP		**PcP**	**14 56 15.9**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=214,slow=4.5,SNR=4.5 comp=Z,0.7nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**35.66**	**217**	T		T	15 31 35.3		
	baz=24,slow=76,SNR=5.1								
H11N3	**WAKE ISLAND Hy**	**35.66**	**217**	T		T	15 31 35.3		
	baz=24,slow=76,SNR=5.5								
H11N1	**WAKE ISLAND Hy**	**35.67**	**217**	T		T	15 31 36.5		
	baz=24,slow=76,SNR=4.9								
H11S1	**WAKE ISLAND Hy**	**36.84**	**217**	T		T	15 33 06.2		
	baz=24,slow=76,SNR=5.4								
H11S2	**WAKE ISLAND Hy**	**36.86**	**217**	T		T	15 33 07.3		
	baz=24,slow=76,SNR=6.7								
H11S3	**WAKE ISLAND Hy**	**36.86**	**217**	T		T	15 33 06.4		
	baz=24,slow=76,SNR=6.4								
LYMT	**Lyon Mountain**	**37.88**	**72**	P		**P**	**14 54 17.3**	**-0.5**
MJAR	**Matsushiro Arr**	**38.64**	**268**	P		**P**	**14 54 24.3**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=54,slow=8.5,SNR=2.4 comp=Z,0.7nm,0.7s								
EGMT	**Eagleton**	**38.91**	**70**	P		**P**	**14 54 26.5**	**+0.3**
EGMT				IAmb		IAmb	14 54 43.7		
	comp=Z,3.0nm,0.9s								
PDAR	**Pinedale Array**	**41.70**	**76**	P		**P**	**14 54 49.7**	**+0.1**
PDAR	**Pinedale Array**	**41.70**	**76**	P		**P**	**14 54 50.2**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=303,slow=3.3,SNR=8.6 comp=Z,0.5nm,0.4s								
SPITS	**Spitsbergen Ar**	**51.13**	**358**	P		**P**	**14 56 04.0**	**+1.2**
	comp=Z,4.5nm,0.8s,baz=358,slow=7.4,SNR=1.2 comp=Z,4.5nm,0.8s								
SONM	**Songino Array**	**51.20**	**301**	P		**P**	**14 56 04.5**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=42,slow=6.7,SNR=3.2 comp=Z,0.4nm,0.7s								
TXAR	**Lajitas Array**	**53.81**	**87**	P		**P**	**14 56 23.0**	**-0.4**
TXAR	**Lajitas Array**	**53.81**	**87**	P		**P**	**14 56 22.8**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=300,slow=5.8,SNR=7.2 comp=Z,0.5nm,0.6s								
ARCES	**ARCESS Array B**	**59.30**	**353**	P		**P**	**14 57 02.9**	**+1.2**
	comp=Z,6.5nm,1.0s,baz=18,slow=12,SNR=2.2 comp=Z,6.5nm,1.0s								
KURK	**Kurchatov**	**62.82**	**318**	P		**P**	**14 57 26.1**	**+0.2**
KURBB	**Kurchatov Arra**	**62.92**	**318**	P		**P**	**14 57 27.5**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=45,slow=6.9,SNR=8.0 comp=Z,1.0nm,0.6s								
MK31	**Makanchi Array**	**64.09**	**313**	P		**P**	**14 57 34.4**	**-0.1**
MK31				IAmb		IAmb	14 57 35.0		
	comp=Z,1.2nm,1.1s								
MKAR	**Makanchi Array**	**64.09**	**313**	P		**P**	**14 57 34.6**	**+0.1**
MKAR	**Makanchi Array**	**64.09**	**313**	P		**P**	**14 57 34.8**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=55,slow=6.6,SNR=7.9 comp=Z,0.5nm,0.6s								
BVAR	**Borovoye Array**	**64.33**	**324**	P		**P**	**14 57 37.5**	**+1.7**
	comp=Z,2.1nm,0.5s,baz=52,slow=7.9,SNR=14 comp=Z,2.1nm,0.5s								
ARU	**Arti**	**65.48**	**332**	P		**P**	**14 57 44.4**	**+1.1**
	comp=Z,3.4nm,0.6s,baz=90,slow=6.1,SNR=3.0 comp=Z,3.4nm,0.6s								
FIA1	**FINESS Array S**	**67.20**	**351**	P		**P**	**14 57 54.5**	**+0.4**
FINES	**FINESS Array B**	**67.20**	**351**	P		**P**	**14 57 55.1**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=359,slow=7.6,SNR=7.4 comp=Z,1.9nm,0.7s								
NOA	**NORSAR Array B**	**68.42**	**359**	P		**P**	**14 58 03.0**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=6.0,slow=5.3,SNR=1.8 comp=Z,0.7nm,0.8s								
HFS	**Hagfors**	**69.28**	**358**	P		**P**	**14 58 08.5**	**+1.3**
	comp=Z,2.4nm,0.7s,baz=48,slow=4.4,SNR=12 comp=Z,2.4nm,0.7s								
BOOM	**Boomskoye usch**	**70.31**	**314**	P		**P**	**14 58 14.7**	**+0.7**
AKTO	**Aktyubinsk**	**70.79**	**329**	P		**P**	**14 58 18.2**	**+1.5**
	comp=Z,1.7nm,0.6s,baz=13,slow=5.5,SNR=4.9 comp=Z,1.7nm,0.6s								
AAK	**Ala-Archa**	**70.85**	**315**	P		**P**	**14 58 18.3**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=221,slow=3.9,SNR=5.7 comp=Z,1.4nm,0.7s								
ABKAR	**Akbulak array**	**71.17**	**327**	P		**P**	**14 58 19.5**	**+0.6**
ABKAR	**Akbulak array**	**71.17**	**327**	P		**P**	**14 58 19.9**	**+0.9**
ABKAR				IAmb		IAmb	14 58 36.4		
	comp=Z,3.8nm,1.5s								
EKA	**Eskdalemuir Ar**	**73.67**	**7**	P		**P**	**14 58 35.0**	**+1.2**
	comp=Z,2.8nm,0.9s,baz=222,slow=42,SNR=1.6 comp=Z,2.8nm,0.9s								
CMAR	**Chiang Mai Arr**	**75.96**	**282**	P		**P**	**14 58 47.9**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=33,slow=5.8,SNR=4.1 comp=Z,0.5nm,0.6s								
AKASG	**Malin Array Be**	**77.35**	**347**	P		**P

USRK	**Ussuriysk Ar.**	**53.28**	**29**	P		**P**	**15 11 14.2**	**+1.3**
KURBB	**Kurchatov Arra**	**53.87**	**344**	P		**P**	**15 11 17.1**	**0.0**
	comp=Z,0.5nm,0.4s,baz=161,slow=7.3,SNR=4.6 comp=Z,0.5nm,0.4s							
ZALV	**Zalesovo Beam**	**55.54**	**350**	P		**P**	**15 11 29.2**	**0.0**
ZALV	**Zalesovo Beam**	**55.54**	**350**	P		**P**	**15 11 29.5**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=168,slow=7.9,SNR=6.7 comp=Z,1.2nm,0.4s							
BVAR	**Borovoye Array**	**58.48**	**340**	P		**P**	**15 11 49.8**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=136,slow=9.4,SNR=5.1 comp=Z,1.1nm,0.6s							
ABKAR	**Akbulak array**	**59.90**	**331**	P		**P**	**15 11 59.6**	**-0.3**
ABKAR				IAmb		IAmb	15 12 22.3	
	comp=Z,2.2nm,1.2s							
ABKAR	**Akbulak array**	**59.90**	**331**	P		**P**	**15 11 59.4**	**-0.5**
H04N2	**CROZET ISLANDS**	**61.47**	**216**	T		T	16 18 09.5	
	baz=56,slow=75,SNR=19							
H04N1	**CROZET ISLANDS**	**61.48**	**216**	T		T	16 18 09.9	
	baz=56,slow=75,SNR=13							
H04N3	**CROZET ISLANDS**	**61.49**	**216**	T		T	16 18 11.9	
	baz=56,slow=75,SNR=22							
H04S1	**CROZET ISLANDS**	**61.78**	**215**	T		T	16 18 34.5	
	baz=56							
H04S3	**CROZET ISLANDS**	**61.79**	**215**	T		T	16 18 47.1	
	baz=56							
H04S2	**CROZET ISLANDS**	**61.80**	**215**	T		T	16 18 49.3	
	baz=56							

*IDC **18** 15:29:09.5±0.9,5˚.98S×143˚.54E, h0km, mb4.0/8, mbtmp4.0/10, ML1.8/1, MS3.3/11, Error ellipse: s-maj=34.3km s-min=19.1km az=71.0*

ISC 18 15:29:11.1±0.7, 6˚.1S±0˚.1×143˚.3E±0˚.1, h10km, n19, σ1§32/12, mb3.9/8, MS3.2/7, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.03**	**131**	Pn	**Pn**	**15 30 26.3**	**-0.3**
	2.7nm,0.3s,baz=6.5,slow=4.3,SNR=9.4						
PMG				Sn	**Sn**	**15 31 25.8**	**+0.9**
	1.7nm,0.3s,baz=263,slow=16,SNR=1.7						
PMG				LR	LR	15 32 31.0	
	comp=Z,386nm,18.5s,baz=334,slow=41 15nm,0.6s						
CTA	**Charters Tower**	**14.19**	**169**	LR	LR	15 37 49.7	
	comp=Z,152nm,18.5s,baz=180,slow=36						
WRA	**Warramunga Arr**	**16.30**	**212**	Pn	**Pn**	**15 32 57.8**	**-2.5**
	0.4nm,0.3s,baz=30,slow=13,SNR=12						
WRA				Sn	Sn	15 35 49.2	-12
	0.1nm,0.3s,baz=24,slow=20,SNR=2.6						
WRA				Lg	Lg	15 37 45.6	
	0.1nm,0.3s,baz=32,slow=28,SNR=2.9						
GUMO	**Guam**	**19.62**	**4**	LR	LR	15 40 08.9	
	comp=Z,47nm,21.2s,baz=126,slow=34						
ASAR	**Alice Springs**	**19.68**	**206**	P	**P**	**15 33 42.6**	**+2.0**
	13nm,0.7s,baz=33,slow=9.8,SNR=200						
ASAR				Lg	Lg	15 39 44.2	
	baz=20,slow=28,SNR=3.0						
ASAR				LR	LR	15 40 44.9	
	comp=Z,125nm,20.3s,baz=34,slow=35						
DAV	**Davao City (W)**	**22.01**	**306**	LR	LR	15 44 42.0	
	comp=Z,37nm,18.1s,baz=86,slow=42						
STKA	**Stephens Creek**	**25.70**	**183**	LR	LR	15 46 12.0	
	comp=Z,178nm,19.2s,baz=1.2,slow=40						
JOW	**Kunigami**	**35.84**	**337**	LR	LR	15 48 40.9	
	comp=Z,36nm,20.2s,baz=131,slow=33						
JNU	**Nakatsue**	**40.76**	**344**	LR	LR	15 50 29.6	
	comp=Z,32nm,21.8s,baz=112,slow=31						
KSRS	**Korea Array**	**45.65**	**343**	P	**P**	**15 37 31.6**	**-0.3**
	0.7nm,0.7s,baz=153,slow=8.2,SNR=3.9 0.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**50.10**	**300**	P	**P**	**15 38 08.2**	**+1.4**
	0.5nm,0.7s,baz=125,slow=5.7,SNR=5.4 0.5nm,0.7s						
PPT	**Papeete**	**66.38**	**106**	LR	LR	16 06 42.4	
	comp=Z,20nm,18.1s,baz=305,slow=34						
YAK	**Yakutsk**	**68.75**	**353**	LR	LR	16 09 18.7	
	comp=Z,12nm,18.1s,baz=67,slow=35						
MKAR	**Makanchi Array**	**75.27**	**322**	P	**P**	**15 40 55.2**	**+0.8**
	1.2nm,0.8s,baz=107,slow=7.8,SNR=8.1 1.2nm,0.8s						
KURBB	**Kurchatov Arra**	**79.14**	**324**	P	**P**	**15 41 15.4**	**-0.7**
	1.0nm,1.1s,baz=116,slow=4.3,SNR=4.1 1.0nm,1.1s						
QSPA	**South Pole Qui**	**83.87**	**180**	P	**P**	**15 41 40.8**	**-0.2**
	2.4nm,0.7s,baz=336,slow=1.0,SNR=22						
QSPA				LR	LR	16 20 04.7	
	comp=Z,60nm,18.2s,baz=258,slow=36 2.4nm,0.7s						
NRIK	**Noril'sk**	**84.27**	**343**	P	**P**	**15 41 42.2**	**-0.5**
	2.0nm,0.7s,baz=83,slow=6.5,SNR=3.9 2.0nm,0.7s						
BVAR	**Borovoye Array**	**84.71**	**325**	P	**P**	**15 41 45.9**	**+0.5**
	3.5nm,0.8s,baz=117,slow=7.3,SNR=13 3.5nm,0.8s						
ILAR	**Eielson Array**	**87.03**	**24**	P	**P**	**15 41 55.8**	**-0.8**
	0.3nm,0.7s,baz=256,slow=5.5,SNR=3.0 0.3nm,0.7s						

*IDC **18** 15:33:43.4±0.8, 54˚.30N×169˚.22E, h0km, mb3.7/16, mbtmp3.8/19, ML3.4/3, MS3.1/8, Error ellipse: s-maj=25.2km s-min=12.8km az=3.0*
*KRSC **18** 15:33:44.8±2.3, 53˚.96N×169˚.06E, h64km±50km, Ml4.5*
*MOS **18** 15:33:47.8±0.8, 54˚.02N×168˚.99E, h67km, mb4.5/4, Error ellipse: s-maj=8.7km s-min=6.3km az=14.3*
*NEIC **18** 15:33:47.1±1.4, 54˚.0N±0˚.1×169˚.1E±0˚.1, h30km±3km, mb4.0/40, Error ellipse: s-maj=16.0km s-min=8.6km az=184.0*

ISC 18 15:33:48.2±0.5, 53˚.96N±0˚.06×169˚.12E±0˚.04, h50km, n158, σ1§29/164, mb4.0/28, MS3.1/6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.21**	**306**	eS	**Sn**	**15 34 45.6**	**-2.9**
SHEM	**Shemya Is, Ala**	**3.23**	**110**	Pn	**Pn**	**15 34 36.2**	**-0.2**
	14nm,0.3s,baz=358,slow=6.0,SNR=5.2						
SHEM				Sn	**Sn**	**15 35 12.9**	**-0.7**
	17nm,0.3s,baz=85,slow=23,SNR=1.8 45nm,0.4s						
KBG	**Krutoberegovo**	**4.34**	**305**	eP	**Pn**	**15 34 52.4**	**+0.9**
KBG				eS	**Sn**	**15 35 39.4**	**-1.4**
ZLN	**Zelenaya**	**5.21**	**297**	eS	**Sn**	**15 36 03.2**	**+0.8**
TUMD	**Tumrok D**	**5.22**	**287**	eP	**Pn**	**15 35 03.7**	**+0.1**
TUMD				eS	**Sn**	**15 36 01.2**	**-1.4**
BZGR	**Bezymyannyi-Gr**	**5.24**	**296**	PN	**Pn**	**15 35 05.5**	**+1.5**
BZGR				S	**Sn**	**15 36 02.5**	**-0.7**
BZGR	**Bezymyannyi-Gr**	**5.24**	**296**	eP	**Pn**	**15 35 04.7**	**+0.7**
BZGR				eS	**Sn**	**15 36 01.5**	**-1.7**
BZMR	**Bezymyannaya**	**5.35**	**295**	PN	**Pn**	**15 35 07.7**	**+2.1**
BZMR	**Bezymyannaya**	**5.35**	**295**	eP	**Pn**	**15 35 06.2**	**+0.6**
BZMR				eS	**Sn**	**15 36 05.6**	**-0.3**
BZWR	**Bezymyannyi-We**	**5.36**	**295**	PN	**Pn**	**15 35 07.0**	**+1.3**
BZWR	**Bezymyannyi-We**	**5.36**	**295**	eP	**Pn**	**15 35 06.0**	**+0.3**
TUMR	**Tumrok**	**5.38**	**288**	PN	**Pn**	**15 35 03.4**	**-2.5**
TUMR	**Tumrok**	**5.38**	**288**	eP	**Pn**	**15 35 06.3**	**+0.4**
KLY	**Klyuchi**	**5.40**	**299**	eS	**Sn**	**15 36 03.3**	**-3.5**
KRSR	**Krestovskiy**	**5.41**	**298**	PN	**Pn**	**15 35 07.1**	**+0.8**
KRSR				S	**Sn**	**15 36 05.9**	**-1.3**
KRSR	**Krestovskiy**	**5.41**	**298**	eS	**Sn**	**15 36 06.6**	**-0.6**
KMNR	**Kamenistaya**	**5.43**	**293**	PN	**Pn**	**15 35 07.3**	**+0.6**
KMNR	**Kamenistaya**	**5.43**	**293**	eP	**Pn**	**15 35 07.3**	**+0.6**
KIRR	**Kirishev**	**5.44**	**295**	PN	**Pn**	**15 35 07.2**	**+0.5**
KIRR				S	**Sn**	**15 36 07.2**	**-0.8**
KIRR	**Kirishev**	**5.44**	**295**	eP	**Pn**	**15 35 07.9**	**+1.2**
KIRR				eS	**Sn**	**15 36 08.0**	**0.0**
SPN	**Mys Shipunski**	**5.49**	**265**	PN	**Pn**	**15 35 07.3**	**-0.1**
SPN	**Mys Shipunski**	**5.49**	**265**	eP	**Pn**	**15 35 07.1**	**-0.3**
SPN				eS	**Sn**	**15 36 05.9**	**-3.2**
KPT	**Kopyto**	**5.50**	**295**	PN	**Pn**	**15 35 08.2**	**+0.6**
KPT				S	**Sn**	**15 36 08.2**	**-1.4**
KPT	**Kopyto**	**5.50**	**295**	eP	**Pn**	**15 35 08.5**	**+0.9**
KPT				eS	**Sn**	**15 36 10.3**	**+0.7**
KOZ	**Kozyrevsk**	**5.72**	**295**	PN	**Pn**	**15 35 11.9**	**+1.4**
KOZ				S	**Sn**	**15 36 13.5**	**-1.2**
KOZ	**Kozyrevsk**	**5.72**	**295**	eS	**Sn**	**15 36 14.8**	**+0.1**
NLC	**Nalytchevo**	**5.88**	**266**	PN	**Pn**	**15 35 12.4**	**-0.2**
NLC	**Nalytchevo**	**5.88**	**266**	eP	**Pn**	**15 35 11.9**	**-0.7**
NLC				eS	**Sn**	**15 36 14.6**	**-3.9**
SRDR	**Sredinnyy**	**5.88**	**297**	PN	**Pn**	**15 35 14.0**	**+1.2**
SRDR	**Sredinnyy**	**5.88**	**297**	eP	**Pn**	**15 35 13.6**	**+0.8**
SMAR	**Somma**	**6.18**	**268**	PN	**Pn**	**15 35 17.1**	**+0.1**
SMAR	**Somma**	**6.18**	**268**	eP	**Pn**	**15 35 17.1**	**+0.1**
KRER	**Koryakskii**	**6.20**	**268**	PN	**Pn**	**15 35 17.7**	**+0.4**
KRER	**Koryakskii**	**6.20**	**268**	eP	**Pn**	**15 35 17.7**	**+0.4**
KRER				eS	**Sn**	**15 36 26.2**	**-0.7**
AVH	**Avacha**	**6.22**	**268**	PN	**Pn**	**15 35 17.8**	**+0.4**
AVH	**Avacha**	**6.22**	**268**	eP	**Pn**	**15 35 17.8**	**+0.4**
AVH				eS	**Sn**	**15 36 26.6**	**-0.5**
KRX	**Arik**	**6.25**	**269**	PN	**Pn**	**15 35 17.9**	**0.0**
KRX	**Arik**	**6.25**	**269**	eP	**Pn**	**15 35 18.1**	**+0.2**
KRX				eS	**Sn**	**15 36 26.5**	**-1.5**
DALK	**Dalny**	**6.25**	**266**	PN	**Pn**	**15 35 17.7**	**-0.1**
DALK	**Dalny**	**6.25**	**266**	eP	**Pn**	**15 35 17.8**	**-0.1**
DALK				eS	**Sn**	**15 36 25.8**	**-2.0**
OSSR	**Ossora**	**6.27**	**330**	PN	**Pn**	**15 35 15.8**	**-2.1**
OSSR	**Ossora**	**6.27**	**330**	eP	**Pn**	**15 35 16.5**	**-1.5**
KOK	**Koryaka**	**6.27**	**268**	PN	**Pn**	**15 35 18.3**	**+0.2**
KOK	**Koryaka**	**6.27**	**268**	eP	**Pn**	**15 35 18.4**	**+0.2**
PET	**Petropavlovsk**	**6.32**	**266**		**Pn**	**15 35 18.6**	**0.0**
PET	**Petropavlovsk**	**6.32**	**266**	ePN	**Pn**	**15 35 19.0**	**+0.3**
PET				eS	**Sn**	**15 36 28.4**	**-0.9**
PET				pmax	pmax		
	comp=Z,23nm,0.4s						
PET				smax	smax		
	comp=N,71nm,0.5s						
PET				smax	smax		
	comp=E,80nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,14.0s						
PET	**Petropavlovsk**	**6.32**	**266**	eP	**Pn**	**15 35 18.9**	**+0.3**
PET				eS	**Sn**	**15 36 27.5**	**-1.8**
ESO	**Esso**	**6.32**	**292**	PN	**Pn**	**15 35 18.5**	**-0.1**
ESO	**Esso**	**6.32**	**292**	eP	**Pn**	**15 35 18.6**	**-0.1**
ESO				eS	**Sn**	**15 36 27.4**	**-2.0**
RUS	**Russkaya**	**6.55**	**261**	PN	**Pn**	**15 35 21.8**	**0.0**
RUS	**Russkaya**	**6.55**	**261**	eP	**Pn**	**15 35 21.9**	**0.0**
GNL	**Ganaly**	**6.62**	**272**	PN	**Pn**	**15 35 24.0**	**+1.0**
GNL	**Ganaly**	**6.62**	**272**	eP	**Pn**	**15 35 23.8**	**+0.9**
KRMR	**Karymshinskiy**	**6.67**	**265**	PN	**Pn**	**15 35 23.8**	**+0.3**
KRMR	**Karymshinskiy**	**6.67**	**265**	eP	**Pn**	**15 35 23.9**	**+0.4**
KRMR				eS	**Sn**	**15 36 35.7**	**-2.3**
TILK	**Tilichiki**	**6.70**	**347**	PN	**Pn**	**15 35 21.4**	**-2.5**
TILK	**Tilichiki**	**6.70**	**347**	eP	**Pn**	**15 35 21.6**	**-2.3**
MTVR	**Mutnovka**	**6.73**	**262**	PN	**Pn**	**15 35 25.0**	**+0.5**
MTVR	**Mutnovka**	**6.73**	**262**	eP	**Pn**	**15 35 25.0**	**+0.5**
MTVR				eS	**Sn**	**15 36 37.9**	**-1.9**
PEA0B	**Petropavlovsk-**	**6.86**	**267**	Pn	**Pn**	**15 35 26.8**	**+0.7**
PEA0B	**Petropavlovsk-**	**6.86**	**267**	PN	**Pn**	**15 35 26.8**	**+0.7**
PETK	**Petropavlovsk-**	**6.86**	**267**	Pn	**Pn**	**15 35 25.9**	**-0.2**
PETK	**Petropavlovsk-**	**6.86**	**267**	PN	**Pn**	**15 35 25.9**	**-0.2**
PETK	**Petropavlovsk-**	**6.86**	**267**	Pn	**Pn**	**15 35 26.9**	**+0.8**
	comp=Z,4.9nm,0.3s,baz=93,slow=18,SNR=10						
PETK				Sn	**Sn**	**15 36 43.7**	**+0.9**
	comp=Z,3.2nm,0.3s,baz=197,slow=28,SNR=6.8						
PETK				LR	LR	15 38 07.6	
	comp=Z,80nm,18.8s,baz=71,slow=38 comp=Z,8.6nm,0.4s						
ASAK	**Asacha**	**6.93**	**261**	PN	**Pn**	**15 35 27.9**	**+0.8**
ASAK	**Asacha**	**6.93**	**261**	eP	**Pn**	**15 35 28.0**	**+1.0**
ASAK				eS	**Sn**	**15 36 42.2**	**-2.2**
KDTR	**Khodutka, Kamc**	**7.02**	**257**	PN	**Pn**	**15 35 28.1**	**-0.2**
KDTR	**Khodutka, Kamc**	**7.02**	**257**	eP	**Pn**	**15 35 28.1**	**-0.2**
KDTR				eS	**Sn**	**15 36 42.4**	**-4.2**
APC	**Apacha**	**7.22**	**267**	PN	**Pn**	**15 35 32.5**	**+1.5**
PAU	**Pauzhetka**	**7.88**	**257**	PN	**Pn**	**15 35 42.8**	**+2.8**
SKR	**Severo-Kuril's**	**8.61**	**253**	ePN	**Pn**	**15 35 50.8**	**+0.7**
SKR				pmax	pmax		
	comp=Z,28nm,1.0s						
SKR				MLR	MLR		
	comp=Z,100nm,11.0s						
SKR	**Severo-Kuril's**	**8.61**	**253**	eS	**Sn**	**15 37 21.9**	**-3.8**
KMSK	**Kamenskaya**	**8.67**	**351**	PN	**Pn**	**15 35 47.7**	**-3.1**
ADK	**Adak**	**8.83**	**98**	Pn	**Pn**	**15 35 51.8**	**-1.3**
ADK	**Adak**	**8.83**	**98**	PN	**Pn**	**15 35 51.8**	**-1.3**
GSTR	**Great Sitkin T**	**9.13**	**96**	Pn	**Pn**	**15 35 55.5**	**-1.7**
ATKA	**Atka Island**	**10.20**	**93**	Pn	**Pn**	**15 36 10.2**	**-1.5**
MA2	**Magadan**	**11.51**	**307**	LR	LR	15 40 35.3	
	comp=Z,40nm,20.9s,baz=34,slow=36						
SEY	**Seymchan**	**12.52**	**323**	Pn	**Pn**	**15 36 40.1**	**-3.2**
	baz=92,slow=11,SNR=2.5 comp=Z,0.6nm,0.6s						
BILL	**Bilibino**	**14.19**	**356**		**Pn**	**15 37 05.0**	**-1.1**
AKUT	**Akutan**	**14.73**	**79**	P	**P**	**15 37 19.6**	**+1.3**
M13K	**Dall Lake**	**16.18**	**55**	Pn	**P**	**15 37 31.9**	**-2.4**
M13K				lAmb	lAmb	15 37 43.3	
	comp=Z,24nm,1.2s						
ANM	**Nome**	**16.68**	**40**		**P**	**15 37 39.5**	**-0.3**
ANM	**Nome**	**16.68**	**40**	P	**P**	**15 37 39.5**	**-0.3**
ANM				pmax	pmax		
	comp=Z,8.0nm,1.2s						
L14K	**Kuka Creek**	**16.70**	**52**		**P**	**15 37 39.3**	**-0.7**
M14K	**Bethel**	**16.91**	**55**		**P**	**15 37 41.9**	**-0.5**
M14K				lAmb	lAmb	15 37 43.6	
	comp=Z,26nm,1.3s						
K15K	**Wolf Creek Mou**	**17.46**	**50**		**P**	**15 37 48.2**	**-0.3**
K15K				lAmb	lAmb	15 37 50.5	
	comp=Z,9.7nm,0.9s						
F15K	**North Star Dit**	**17.50**	**37**	Pn	**P**	**15 37 47.3**	**-1.6**
N15K	**Kwethluk River**	**17.74**	**57**	P	**P**	**15 37 52.6**	**+1.0**
N15K				lAmb	lAmb	15 38 14.5	
	comp=Z,11nm,1.1s						
G16K	**Koyuk River**	**18.20**	**40**	P	**Pn**	**15 37 57.0**	**+0.2**
M16K	**Timber Creek**	**18.41**	**55**	P	**Pn**	**15 37 59.5**	**+0.1**
K17K	**Iditarod**	**19.02**	**50**	P	**Pn**	**15 38 06.5**	**-0.2**
K17K				lAmb	lAmb	15 38 08.9	
	comp=Z,12nm,1.1s						
M17K	**Holitna River**	**19.19**	**54**	P	**Pn**	**15 38 07.8**	**-0.9**
M17K				lAmb	lAmb	15 38 18.4	
	comp=Z,16nm,1.4s						
N17K	**Nushagak Hills**	**19.21**	**56**	P	**Pn**	**15 38 07.5**	**-1.6**
N17K				lAmb	lAmb	15 38 10.5	
	comp=Z,14nm,1.5s						
G18K	**Tagagawik**	**19.81**	**40**	P	**Pn**	**15 38 13.3**	**-2.7**
G18K				lAmb	lAmb	15 38 15.4	
	comp=Z,5.9nm,0.8s						
TTA	**Tatalina**	**20.09**	**50**	P	Pn	15 38 18.1	-1.4
TTA				lAmb	lAmb	15 38 18.8	
	comp=Z,10nm,1.0s						
TTA	**Tatalina**	**20.09**	**50**	P	Pn	15 38 18.1	-1.4
TTA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
P18K	**Big Mountain,**	**20.15**	**60**	P	Pn	15 38 18.6	-1.6
P18K				lAmb	lAmb	15 38 19.1	
	comp=Z,8.7nm,1.0s						
C18K	**Utukok River**	**20.17**	**32**	P	Pn	15 38 17.5	-2.9
F19K	**Shaleruckik Mo**	**20.49**	**38**	P	Pn	15 38 21.5	-2.6
M19K	**Big River Lodg**	**20.69**	**53**	P	**P**	**15 38 21.7**	**-2.0**
C19K	**Lookout Ridge**	**20.91**	**31**	P	Pn	15 38 26.2	-2.9
C19K				lAmb	lAmb	15 38 42.6	
	comp=Z,4.8nm,0.9s						
E19K	**Redstone River**	**20.93**	**37**	P	Pn	15 38 26.5	-2.8
Q19K	**Cape Douglas,**	**20.98**	**61**	P	Pn	15 38 26.5	-3.5
D19K	**Kuna River**	**21.08**	**34**	P	**P**	**15 38 27.5**	**-0.4**
D19K				lAmb	lAmb	15 38 43.9	
	comp=Z,8.3nm,1.1s						
OHAK	**Old Harbor**	**21.31**	**66**	P	**P**	**15 38 29.4**	**-1.0**
KDAK	**Kodiak Island**	**21.62**	**64**	P	**P**	**15 38 32.6**	**-1.1**
KDAK	**Kodiak Island**	**21.62**	**64**	P	**P**	**15 38 32.6**	**-1.1**
KDAK				pmax	pmax		
	comp=Z,14nm,1.3s						
KDAK	**Kodiak Island**	**21.62**	**64**	P	**P**	**15 38 32.1**	**-1.7**
	comp=Z,3.9nm,0.8s,baz=307,slow=10,SNR=5.8 comp=Z,3.9nm,0.8s						
YAK	**Yakutsk**	**22.09**	**307**	P	**P**	**15 38 39.5**	**+0.9**
YAK	**Yakutsk**	**22.09**	**307**	eP	**P**	**15 38 37.7**	**-1.0**
YAK				pmax	pmax		
	comp=Z,26nm,0.9s						
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK	**Yakutsk**	**22.09**	**307**	P	**P**	**15 38 38.1**	**-0.5**
	comp=E,16nm,0.4s,baz=98,slow=0.7,SNR=12 comp=E,16nm,0.4s						
E22K	**Anaktuvuk Pass**	**23.10**	**37**	P	**P**	**15 38 49.2**	**-0.1**
E22K				lAmb	lAmb	15 39 15.3	
	comp=Z,4.9nm,1.1s						
KLR	**Kul'dur**	**23.50**	**274**	P	**P**	**15 38 54.1**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=50,slow=11,SNR=4.4 comp=Z,1.2nm,0.7s						
TOLK	**Toolik Lake Re**	**24.04**	**36**	P	**P**	**15 38 57.4**	**-0.8**
TOLK				lAmb	lAmb	15 38 59.0	
	comp=Z,4.2nm,0.8s						
C23K	**Itkillik River**	**24.08**	**33**	P	**P**	**15 38 57.8**	**-0.6**
C23K				lAmb	lAmb	15 39 29.7	
	comp=Z,4.7nm,1.2s						
E24K	**Your Creek**	**24.28**	**38**	P	**P**	**15 39 00.5**	**+0.1**
E24K				lAmb	lAmb	15 39 01.6	
	comp=Z,4.6nm,1.0s						
ILAR	**Eielson Array**	**24.35**	**46**	P	**P**	**15 38 59.4**	**-1.6**
	comp=Z,1.3nm,0.9s,baz=259,slow=8.8,SNR=5.8						
ILAR				LR	LR	15 48 25.8	
	comp=Z,40nm,18.7s,baz=240,slow=37 comp=Z,1.3nm,0.9s						
D24K	**Happy Valley**	**24.45**	**35**	P	**P**	**15 39 01.9**	**0.0**
D24K				lAmb	lAmb	15 39 14.3	
	comp=Z,11nm,1.4s						
TIXI	**Tiksi**	**24.76**	**331**	P	**P**	**15 39 04.1**	**-0.6**
TIXI	**Tiksi**	**24.76**	**331**	P	**P**	**15 39 04.1**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
E25K	**Arctic Village**	**25.36**	**38**	P	**P**	**15 39 10.6**	**+0.4**
BMAR	**Burnt Mountain**	**25.61**	**40**	P	**P**	**15 39 13.0**	**+0.5**
G29M	**Pine Creek**	**28.11**	**42**	P	**P**	**15 39 35.2**	**+0.3**
G29M				lAmb	lAmb	15 39 51.3	
	comp=Z,4.9nm,1.1s						
K29M	**Barlow Dome**	**28.43**	**48**	P	**P**	**15 39 37.5**	**-0.3**
G31M	**Satah River**	**29.59**	**42**	P	**P**	**15 39 47.8**	**-0.1**
G31M				lAmb	lAmb	15 40 12.5	
	comp=Z,6.6nm,1.5s						
INK	**Inuvik**	**29.84**	**39**	LR	LR	15 51 57.2	
	comp=Z,35nm,18.8s,baz=211,slow=37						
H11N2	**WAKE ISLAND Hy**	**34.21**	**184**	T	T	16 17 07.9	
	baz=1.5,slow=76,SNR=700						
H11N3	**WAKE ISLAND Hy**	**34.22**	**184**	T	T	16 17 27.1	
	baz=1.5,slow=76,SNR=432						
H11N1	**WAKE ISLAND Hy**	**34.23**	**184**	T	T	16 17 27.5	
	baz=1.5,slow=76,SNR=628						
H11S1	**WAKE ISLAND Hy**	**35.43**	**184**	T	T	16 19 01.9	
	baz=1.6,slow=76,SNR=55						
H11S3	**WAKE ISLAND Hy**	**35.45**	**184**	T	T	16 18 37.7	
	baz=1.6,slow=76,SNR=39						
H11S2	**WAKE ISLAND Hy**	**35.45**	**184**	T	T	16 19 01.8	
	baz=1.6,slow=76,SNR=65						
YKA	**Yellowknife Ar**	**38.78**	**46**	P	**P**	**15 41 07.1**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=297,slow=8.2,SNR=4.2 comp=Z,0.3nm,0.6s						
SONM	**Songino Array**	**38.87**	**287**	P	**P**	**15 41 10.5**	**+2.0**
	comp=Z,0.7nm,0.6s,baz=54,slow=7.3,SNR=3.1						
SONM				LR	LR	15 58 49.0	
	comp=Z,50nm,18.8s,baz=4.0,slow=39 comp=Z,0.7nm,0.6s						
NEW	**Newport**	**44.72**	**66**	LR	LR	16 00 35.9	
	comp=Z,19nm,18.2s,baz=306,slow=36						
FCC	**Fort Churchill**	**49.30**	**43**	P	**P**	**15 42 32.0**	**+0.4**
FCC	**Fort Churchill**	**49.30**	**43**	P	**P**	**15 42 32.0**	**+0.4**
FCC				pmax	pmax		
	comp=Z,4.0nm,1.3s						
NVAR	**Mina Array Bea**	**50.34**	**77**	P	**P**	**15 42 41.6**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=297,slow=8.5,SNR=5.1 comp=Z,0.5nm,0.6s						
KURK	**Kurchatov**	**51.72**	**306**	eP	**P**	**15 42 50.5**	**+0.5**
KURBB	**Kurchatov Arra**	**51.83**	**306**	P	**P**	**15 42 50.5**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=52,slow=7.6,SNR=10 comp=Z,1.3nm,0.8s						
PDAR	**Pinedale Array**	**52.31**	**67**	P	**P**	**15 42 55.4**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=328,slow=6.4,SNR=3.9 comp=Z,0.3nm,0.7s						
MKAR	**Makanchi Array**	**52.51**	**300**	P	**P**	**15 42 55.6**	**-0.3**
MKAR	**Makanchi Array**	**52.51**	**300**	P	**P**	**15 42 56.0**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=49,slow=5.6,SNR=5.2 comp=Z,0.6nm,0.7s						
BVAR	**Borovoye Array**	**53.93**	**312**	P	**P**	**15 43 06.6**	**+0.3**
	comp=Z,3.6nm,0.7s,baz=55,slow=7.8,SNR=10 comp=Z,3.6nm,0.7s						
BRVK	**Borovoye**	**53.95**	**312**	P	**P**	**15 43 06.6**	**+0.2**
BRVK	**Borovoye**	**53.95**	**312**	P	**P**	**15 43 06.6**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ABKAR	**Akbulak array**	**61.17**	**315**	P	**P**	**15 43 57.3**	**+0.2**
CMAR	**Chiang Mai Arr**	**63.63**	**265**	P	P	15 44 17.6	+3.5
	comp=Z,0.2nm,0.3s,baz=16,slow=6.7,SNR=1.5						
CMAR				LR	LR	16 15 27.0	
	comp=Z,11nm,18.1s,baz=280,slow=39 comp=Z,0.2nm,0.3s						
NOA	**NORSAR Array B**	**64.01**	**348**	P	**P**	**15 44 15.8**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=16,slow=6.7

KRSH	Karshahi	5.05	1	Pn		Pn		15 35 17.0	+0.8
NAZ	Nazwa, Dubai	5.05	140	P		Pn		15 35 17.8	+1.6
NAZ	Nazwa, Dubai	5.05	140	P		Pn		15 35 17.9	+1.7
NAZ				S		Sn		15 36 13.4	-0.4
AJN	Ajban	5.05	148	P		Pn		15 35 17.9	+1.8
AJN				S		Sn		15 36 13.5	-0.3
MASF	Masafi	5.07	133	P		Pn		15 35 17.9	+1.5
MASF				S		Sn		15 36 13.7	-0.6
MSFE	Esma-Masafi	5.08	133	P		Pn		15 35 17.0	+0.5
MSFE				S		Sn		15 36 12.9	-1.6
MDH	Madha	5.21	133	P		Pn		15 35 18.4	+0.1
MDH	Madha	5.21	133	P		Pn		15 35 19.2	+0.9
MDH				S		Sn		15 36 16.9	-0.8
MZWR	Madinat Zayed	5.38	162	P		Pn		15 35 21.4	+0.9
MZWR				S		Sn		15 36 20.9	-0.8
UOSS	Minazif	5.41	136	Pn		Pn		15 35 20.6	-0.4
UOSS	Minazif	5.41	136	P		Pn		15 35 21.9	+1.0
UOSS				S		Sn		15 36 20.6	-1.9
ISFB	Sefidab	5.43	2	Pn		Pn		15 35 21.8	+0.4
HATD	Hatta, Dubai	5.45	137	P		Pn		15 35 22.9	+1.3
HATD	Hatta, Dubai	5.45	137	P		Pn		15 35 22.7	+1.1
HATD				S		Sn		15 36 21.0	-2.6
ASHO	Ashiyiah	5.52	139	P		Pn		15 35 23.6	+1.0
ASHO	Ashiyiah SNR=13	5.52	139	P		Pn		15 35 23.8	+1.3
ASHO				S		Sn		15 36 23.9	-1.4
KBAM	BAM	5.60	86	Pn		Pn		15 35 25.8	+2.0
TPRV	Parvadeh(Tabas	5.71	43	Pn		Pn		15 35 26.6	+1.3
IKFM	Kafar-mosalman	5.85	323	Pn		Pn		15 35 28.3	+1.3
ALNE	Al Ain	5.85	145	P		Pn		15 35 28.5	+1.4
ALNE	Al Ain	5.85	145	P		Pn		15 35 27.8	+0.7
ALNE				S		Sn		15 36 32.7	-0.8
IQOM	Qom	5.98	352	Pn		Pn		15 35 29.1	0.0
JASK	Jask - Hormozg	5.98	119	P		Pn		15 35 29.8	+0.9
JASK				S		Sn		15 36 35.4	-1.3
MZR	Muzera	6.01	167	P		Pn		15 35 30.0	+0.6
HSAM	Samen	6.06	332	Pn		Pn		15 35 31.2	+1.1
IVRN	Varamin	6.08	357	Pn		Pn		15 35 30.6	+0.3
SOHO	SOHO	6.21	139	P		Pn		15 35 32.9	+0.8
SOHO	SOHO	6.21	139	P		Pn		15 35 32.7	+0.7
SOHO				S		Sn		15 36 41.1	-1.3
TNSJ	Nastanj	6.37	36	Pn		Pn		15 35 35.0	+0.8
TKDS	Koohdasht(Taba	6.39	41	Pn		Pn		15 35 35.4	+0.9
IDMV	Damavand	6.65	360	Pn		Pn		15 35 38.5	+0.2
UMZA	Um Al Zommool	6.77	155	P		Pn		15 35 40.9	+1.2
UMZA				S		Sn		15 36 54.5	-1.6
ARQ	Araqi SNR=9.0	6.84	143	P		Pn		15 35 41.8	+1.0
ARQ				S		Sn		15 36 56.0	-1.9
HOQ	Hoqain	7.09	137	P		Pn		15 35 44.4	+0.3
HOQ				S		Sn		15 37 01.1	-2.9
IGHG	Ghaleghazi	7.15	320	Pn		Pn		15 35 46.3	+1.1
IPRN	Peran	7.32	2	Pn		Pn		15 35 48.7	+1.3
ILIN	Lien	7.40	325	Pn		Pn		15 35 49.2	+0.7
AFRZ	Afriz	7.47	51	Pn		Pn		15 35 50.4	+1.0
MZPU	Pul - Mazandar	7.53	357	Pn		Pn		15 35 51.0	+0.8
IDHR	Dehrash	7.53	322	Pn		Pn		15 35 51.4	+1.1
KLST	Kelardasht - M	7.64	354	Pn		Pn		15 35 52.7	+0.8
BIDO	Bidbid	7.64	133	P		Pn		15 35 51.5	-0.2
BIDO				S		Sn		15 37 15.2	-2.4
BSY	Bisya	7.68	142	P		Pn		15 35 52.4	+0.1
BSY				S		Sn		15 37 15.9	-2.8
SMDO	Samad	7.93	136	P		Pn		15 35 55.8	+0.1
SMDO				S		Sn		15 37 21.5	-3.4
RAYN	Ar Rayn	7.96	229			Pn		15 35 54.0	-2.1
RAYN	Ar Rayn	7.96	229	P		Pn		15 35 54.0	-2.1
RAYN	Ar Rayn	7.96	229	P		Pn		15 35 55.1	-1.1
RAYN	Ar Rayn	7.96	229	P		Pn		15 35 56.7	+0.6
RAYN				S		Sn		15 37 26.8	+1.3
WSAR	Wadi Sarin 0.5nm,0.3s,baz=318,slow=7.8,SNR=12	8.17	132	Pn		Pn		15 35 58.8	-0.1
WSAR	0.7nm,0.3s,baz=204,slow=20,SNR=1.7 2.9nm,0.5s			Sn		Sn		15 37 26.1	-4.4
JMDO	Jabal Madar	8.49	139	P		Pn		15 36 03.2	-0.1
JMDO				S		Sn		15 37 34.6	-3.8
SBZV	Sabzevar	8.81	31	Pn		Pn		15 36 08.7	+0.9
NGCH	Negor - Chabah	8.82	111	P		Pn		15 36 07.4	-0.5
NGCH				S		Sn		15 37 43.1	-3.4
WBK	Wadi Bani Khal	8.83	134	P		Pn		15 36 07.5	-0.5
WBK				S		Sn		15 37 42.8	-4.1
JLN	Jalan Bani Buh	9.45	134	P		Pn		15 36 15.5	-0.9
JLN				S		Sn		15 37 56.9	-5.1
MHTO	MHTO	9.53	144	P		Pn		15 36 17.3	-0.2
MHTO				S		Sn		15 37 59.7	-4.3
IMYA	Miami	10.04	40	Pn		Pn		15 36 26.3	+1.5
DQM	DQM	10.23	150	P		Pn		15 36 26.3	-0.9
DQM				S		Sn		15 38 16.7	-4.6
GEYT	Alibeck	10.32	28			Pn		15 36 29.2	+0.8
GEYT	Alibeck	10.32	28	P		Pn		15 36 29.2	+0.8
GEYT	Alibeck 0.9nm,0.3s,baz=203,slow=10,SNR=8.3	10.32	28	Pn		Pn		15 36 27.9	-0.6
GEYT				LR		LR		15 40 35.6	
	comp=Z,60nm,18.1s,baz=222,slow=39 3.7nm,0.5s								
GYA0B	ALIBECK ARRAY	10.32	28	Pn		Pn		15 36 29.6	+1.2
DOK	Doka	10.41	169	P		Pn		15 36 28.6	-1.1
WHFO	Wadi Hawf SNR=9.6	11.05	171	P		Pn		15 36 38.0	-0.4
SHAO	Shalim SNR=9.4	11.31	162	P		Pn		15 36 41.0	-1.0
SHAO				S		Sn		15 38 43.3	-4.5
DMTO	DMTO	11.45	166	P		Pn		15 36 42.8	-1.1
DMTO				S		Sn		15 38 44.6	-6.4
RBK	Rabkut	11.52	170	P		Pn		15 36 43.9	-1.0
RBK				S		Sn		15 38 46.1	-6.8
ABTO	Aybut	11.55	174	P		Pn		15 36 43.9	-1.4
GNI	Garni	12.73	334	LR		LR		15 42 32.2	
	comp=Z,59nm,19.2s,baz=101,slow=41								
NEUR	Neytrino	16.19	335	*eP*		P		15 37 52.7	+1.8
NEUR	comp=Z,5.0nm,1.3s			pmax		pmax			
KBZ	Khabaz	16.52	336	*eP*		P		15 37 57.5	+3.2
KBZ	Khabaz comp=Z,0.1nm,0.3s,baz=130,slow=14,SNR=2.2 comp=Z,1.0nm,0.5s	16.52	336	Pn		Pn		15 37 51.0	-0.8
KIV	Kislovodsk	16.79	336	*eP*		P		15 37 58.8	+1.4
KIV	comp=Z,9.0nm,1.1s			pmax		pmax			
GAR	Garm	18.16	52	P		Pn		15 38 11.4	-1.1
BR131	Keskin Array S	18.62	310	P		P		15 38 17.7	0.0
BR131	Keskin Array S	18.62	310	*eP*		Pn		15 38 20.3	+2.2
BRTR	Keskin Array B	18.62	310	P		P		15 38 16.9	-0.8
BRTR	Keskin Array B	18.62	310	*eP*		P		15 38 19.3	+1.6
BRTR	Keskin Array B comp=Z,0.1nm,0.3s,baz=137,slow=13,SNR=7.2 comp=Z,1.1nm,0.8s	18.62	310	P		P		15 38 17.4	-0.3
KK31	Karatay Array	20.52	41	P		P		15 38 38.3	0.0
KK31	Karatay Array	20.52	41	P		P		15 38 38.3	0.0
KK31	comp=Z,5.0nm,1.2s			pmax		pmax			
KKAR	Karatay Array	20.52	41	P		P		15 38 38.3	0.0
KKAR	Karatay Array	20.52	41	P		P		15 38 38.3	0.0
KKAR	comp=Z,5.0nm,1.2s			pmax		pmax			
ARSB	Arslanbob	21.07	48	P		P		15 38 44.2	-0.2
ARSB	Arslanbob	21.07	48	P		P		15 38 44.2	-0.2
ARSB	comp=Z,1.0nm,1.0s			pmax		pmax			
ABKAR	Akbulak array	21.20	14	P		P		15 38 45.8	+0.2
AKTO	Aktyubinsk comp=Z,5.0nm,0.9s,baz=205,slow=11,SNR=8.6 comp=Z,5.0nm,0.9s	21.97	10	P		P		15 38 53.4	-0.5
KARP	Karpathos	22.05	294	P		P		15 38 52.4	-2.4
AAK	Ala-Archa	22.70	47	*eP*		P		15 39 01.5	-0.4
AAK	comp=Z,11nm,3.2s			pmax		pmax			
NRN	Naryn	23.14	51	P		P		15 39 06.6	0.0
NRN	Naryn	23.14	51	P		P		15 39 06.6	0.0
NRN	comp=Z,9.0nm,1.4s			pmax		pmax			
BOOM	Boomskoye usch	23.56	49	P		P		15 39 11.4	+0.7
BOOM	Boomskoye usch	23.56	49	P		P		15 39 11.4	+0.7
BOOM	comp=Z,3.0nm,0.7s			pmax		pmax			
VRH	Novokhopyorsk	23.59	344	*eP*		P		15 39 08.2	-2.4
VRH	comp=Z,20nm,0.6s			pmax		pmax			
BELG	Belogornoye	23.70	353	*eP*		P		15 39 12.3	+0.7
LPSR	Galich'ya Gora	25.60	341	*eP*		P		15 39 26.8	-2.2
LPSR	comp=Z,20nm,1.2s			pmax		pmax			
BRVK	Borovoye	27.62	24	*eP*		P		15 39 46.3	-1.0
BRVK	comp=Z,1.0nm,1.0s			pmax		pmax			
BVAR	Borovoye Array comp=Z,1.2nm,0.5s,baz=215,slow=7.6,SNR=6.5 comp=Z,1.2nm,0.5s	27.63	24	P		P		15 39 47.4	+0.1
AKASG	Malin Array Be	27.75	328	*eP*		P		15 39 46.3	-2.2
AKASG	Malin Array Be comp=Z,0.3nm,0.4s,baz=114,slow=7.1,SNR=4.7 comp=Z,0.3nm,0.4s	27.75	328	P		P		15 39 47.6	-0.9
KURBB	Kurchatov Arra comp=Z,1.4nm,0.8s,baz=234,slow=9.1,SNR=12 comp=Z,1.4nm,0.8s	29.47	35	P		P		15 40 04.3	+0.6
MK31	Makanchi Array	29.55	45	P		P		15 40 05.1	+0.5
MK31	Makanchi Array	29.55	45	*i P*		P		15 40 05.2	+0.6
MKAR	Makanchi Array	29.55	45	P		P		15 40 05.1	+0.5
MKAR	Makanchi Array comp=Z,1.1nm,0.7s,baz=233,slow=7.5,SNR=15 comp=Z,1.1nm,0.7s	29.55	45	P		P		15 40 05.3	+0.6
KURK	Kurchatov	29.57	35	*eP*		P		15 40 05.2	+0.6
KIRV	Kirov	29.73	357	*eP*		P		15 40 07.0	+1.1
KOLS	Kolonicke sedl	30.31	320	*eP*		P		15 40 13.7	+2.4
KOLS	Kolonicke sedl	30.31	320	*eP*		P		15 40 13.7	+2.4
SGRT	San Giovanni R	32.05	303	P		P		15 40 26.5	-0.3
VYHS	Vyhne	32.12	317	*eP*		P		15 40 28.2	+1.0
VYHS	Vyhne	32.12	317	*eP*		P		15 40 28.2	+1.0
DGZ	Jazzator, Alta	33.91	42	*eP*		P		15 40 42.8	-0.2
DGZ	comp=Z,11nm,4.0s			pmax		pmax			
ZAA0	Zalesovo Array	34.54	34	P		P		15 40 47.6	-0.6
ZAA0	comp=Z,2.4nm,0.7s			IAmb		IAmb		15 40 48.8	
ZALV	Zalesovo Beam comp=Z,2.0nm,0.6s,baz=241,slow=10,SNR=11 comp=Z,2.0nm,0.6s	34.54	34	P		P		15 40 47.6	-0.6
KBA	Koelnbreinsper comp=Z,1.1nm,0.4s	35.06	312	*eP*		P		15 40 53.2	+0.2
KHC	Kasperske Hory comp=Z,8.0nm,1.5s	35.57	315	P		P		15 40 57.4	+0.2
KHC				IAmb		IAmb		15 40 57.5	
KHC	Kasperske Hory comp=Z,8.0nm,1.5s	35.57	315	P		P		15 40 57.4	+0.2
KHC				pmax		pmax			
LESA	Schwarzleotal comp=Z,1.1nm,0.4s	35.59	312	*eP*		P		15 40 57.2	-0.3
WTTA	Wattenberg comp=Z,1.3nm,0.4s	36.23	312	*i P*		P		15 41 03.0	-0.1
WATA	Walderalm comp=Z,0.8nm,0.3s	36.28	312	*i P*		P		15 41 03.4	-0.1
SQTA	Sankt Quirin comp=Z,2.1nm,0.5s	36.49	311	*eP*		P		15 41 05.0	-0.3
MOTA	Moosalm comp=Z,2.5nm,0.7s	36.60	312	*eP*		P		15 41 05.5	-0.6
FETA	Feichten comp=Z,1.7nm,0.6s	36.76	311	*eP*		P		15 41 07.5	-0.1
FIA1	FINESS Array S	36.83	339	P		P		15 41 07.3	-0.5
FINES	FINESS Array B	36.83	339	P		P		15 41 07.4	-0.4
FINES	FINESS Array B comp=Z,2.2nm,0.5s,baz=145,slow=10,SNR=29 comp=Z,2.2nm,0.5s	36.83	339	P		P		15 41 07.1	-0.7
DAVA	Damuels comp=Z,2.7nm,0.5s	37.39	311	*i P*		P		15 41 12.4	-0.5
SENIN	Lac Senin/Sane	38.92	309	P		P		15 41 24.6	-1.3
GTA	Gaotai	40.47	62	P		P		15 41 40.1	+1.3
GTA	comp=Z,5.0nm,0.8s			pmax		pmax			
HFS	Hagfors comp=Z,2.2nm,0.5s,baz=134,slow=8.6,SNR=20 comp=Z,2.2nm,0.5s	40.50	331	P		P		15 41 37.9	-0.7
NC405	NORSAR Array S	41.85	332	P		P		15 41 48.9	-0.8
NC405	comp=Z,6.7nm,1.1s			IAmb		IAmb		15 42 27.6	
NB2	NORSAR Subarra comp=Z,0.3nm,0.4s,baz=122,slow=8.6	42.02	332	P		P		15 41 49.7	-1.4
NOA	NORSAR Array B comp=Z,0.3nm,0.4s,baz=128,slow=8.7,SNR=4.3 comp=Z,0.3nm,0.4s	42.02	332	P		P		15 41 49.6	-1.6
ARCES	ARCESS Array B comp=Z,3.8nm,0.9s,baz=139,slow=8.4,SNR=5.2 comp=Z,3.8nm,0.9s	43.45	347	P		P		15 42 02.3	-0.2
CMAR	Chiang Mai Arr comp=Z,0.2nm,0.4s,baz=293,slow=9.3,SNR=2.4 comp=Z,0.2nm,0.4s	43.93	93	P		P		15 42 09.6	+2.5
NRIK	Noril'sk comp=Z,12nm,2.8s	45.34	17	*eP*		P		15 42 18.5	+0.9
NRIK				pmax		pmax			
SONM	Songino Array comp=Z,0.4nm,0.6s,baz=289,slow=10,SNR=2.3 comp=Z,0.4nm,0.6s	45.59	50	P		P		15 42 20.7	+0.6
ULN	Ulaanbaatar comp=Z,6.0nm,2.5s	46.03	50	*eP*		P		15 42 23.8	+0.1
ULN				pmax		pmax			
EKA	Eskdalemuir Ar comp=Z,1.5nm,0.6s,baz=104,slow=9.0,SNR=1.9 comp=Z,1.5nm,0.6s	47.12	320	P		P		15 42 31.7	-0.1
TOA0	Torodi Ar. Sit comp=Z,2.6nm,0.9s	49.19	262	P		P		15 42 46.8	-1.6
TOA0				IAmb		IAmb		15 42 58.2	
TORD	Torodi Ar. Bea	49.19	262	P		P		15 42 46.8	-1.6
TORD	Torodi Ar. Bea comp=Z,0.8nm,0.5s,baz=56,slow=8.8,SNR=11 comp=Z,0.8nm,0.5s	49.19	262	P		P		15 42 48.9	+0.4
SPB2	Spitsbergen Ar	51.87	351	P		P		15 43 08.1	+0.3
SPITS	Spitsbergen Ar	51.88	351	P		P		15 43 08.7	+0.9
SPITS	comp=Z,99nm,1.4s			pmax		pmax			
SPITS	Spitsbergen Ar comp=Z,18nm,0.9s,baz=129,slow=12,SNR=5.5 comp=Z,18nm,0.9s	51.88	351	P		P		15 43 08.5	+0.6
SCO	Scoresbysund	57.72	338	P		P		15 43 50.8	+0.6
SCO	Scoresbysund	57.72	338	P		P		15 43 50.8	+0.6
SCO	comp=Z,10.0nm,1.4s			pmax		pmax			
KSRS	Korea Array comp=Z,1.5nm,0.5s,baz=281,slow=6.7,SNR=11 comp=Z,1.5nm,0.5s	62.51	60	P		P		15 44 22.9	-0.6
A36M	Sachs Harbour comp=Z,3.5nm,0.8s	79.37	359	P		P		15 46 05.6	+0.3
A36M				IAmb		IAmb		15 46 10.5	
C18K	Utukok River comp=Z,4.1nm,1.4s	79.69	12	P		P		15 46 07.5	+0.3
C18K				IAmb		IAmb		15 46 25.8	
C23K	Itkillik River comp=Z,3.4nm,0.9s	80.18	8	P		P		15 46 10.3	+0.6
C23K				IAmb		IAmb		15 46 11.3	
D22K	Ayikyak River comp=Z,5.5nm,1.4s	80.82	9	P		P		15 46 13.6	+0.3
D22K				IAmb		IAmb		15 46 36.7	
E19K	Redstone River comp=Z,2.9nm,1.1s	81.44	11	P		P		15 46 16.6	0.0
E19K				IAmb		IAmb		15 46 44.5	
TOLK	Toolik Lake Re comp=Z,4.8nm,1.4s	81.44	8	P		P		15 46 17.0	+0.4
TOLK				IAmb		IAmb		15 46 42.0	
SCHQ	Schefferville comp=Z,4.2nm,0.8s	81.54	329	P		P		15 46 17.4	+0.1
SCHQ				IAmb		IAmb		15 46 22.1	
SCHQ	Schefferville comp=Z,4.4nm,0.8s,baz=29,slow=3.9,SNR=4.0 comp=Z,4.4nm,0.8s	81.54	329	P		P		15 46 17.4	+0.1
F15K	North Star Dit	81.55	14	P		P		15 46 17.6	+0.5
E22K	Anaktuvuk Pass	81.63	9	P		P		15 46 17.4	-0.2
E22K	comp=Z,5.3nm,1.4s			IAmb		IAmb		15 46 36.0	
G19K	Purcell Mounta comp=Z,4.9nm,1.5s	82.66	12	P		P		15 46 22.9	0.0
G19K				IAmb		IAmb		15 46 36.4	
G21K	Allakaket comp=Z,5.7nm,1.5s	82.90	10	P		P		15 46 24.6	+0.3
G21K				IAmb		IAmb		15 47 02.8	
INK	Inuvik	83.00	2	P		P		15 46 24.8	+0.2
INK	Inuvik	83.00	2	P		P		15 46 24.8	+0.2
INK	comp=Z,2.0nm,1.3s			pmax		pmax			
BMAR	Burnt Mountain	83.15	6	P		P		15 46 26.6	+1.1
IMAR	Indian Mountai	83.36	10	P		P		15 46 26.6	0.0
H21K	Melozitna Rive	83.81	10	P		P		15 46 29.6	+0.6
H21K	comp=Z,4.4nm,1.5s			IAmb		IAmb		15 47 08.8	
G30M	tAoh Zrail Nji	84.21	3	P		P		15 46 30.9	-0.1
G31M	Satah River	84.35	3	P		P		15 46 31.8	+0.2
G31M	comp=Z,2.1nm,0.8s			IAmb		IAmb		15 46 33.1	
H29M	Whitestone	84.84	4	P		P		15 46 34.4	+0.2
H29M	comp=Z,3.4nm,1.4s			IAmb		IAmb		15 46 48.8	
ILAR	Eielson Array comp=Z,0.4nm,0.8s,baz=319,slow=4.9,SNR=6.9 comp=Z,0.4nm,0.8s	85.47	8	P		P		15 46 36.8	-0.4
BPAW	Bear Paw Mtn.	85.55	10	P		P		15 46 37.9	+0.2
L14K	Kuka Creek	85.76	16	P		P		15 46 38.8	+0.1
I30M	Mount Dempster	85.95	4	P		P		15 46 39.9	+0.1
I30M	comp=Z,3.0nm,1.3s			IAmb		IAmb		15 47 06.4	
CAST	Castle Rocks	86.01	11	P		P		15 46 40.5	+0.4
CAST	comp=Z,3.6nm,1.0s			IAmb		IAmb		15 46 45.3	
L16K	Owhat River	86.17	14	P		P		15 46 41.0	+0.2
L16K	comp=Z,4.8nm,1.1s			IAmb		IAmb		15 46 50.6	
SCRK	Sand Creek	86.57	7	P		P		15 46 43.3	+0.4
SCRK	comp=Z,3.0nm,1.0s			IAmb		IAmb		15 46 44.5	
J30M	Hart River	86.60	4	P		P		15 46 43.4	+0.3
J30M	comp=Z,2.3nm,1.2s			IAmb		IAmb		15 47 12.6	
K27K	Chicken	86.71	6	P		P		15 46 44.0	+0.6
K29M	Barlow Dome	87.26	4	P		P		15 46 46.6	+0.3
K29M	comp=Z,3.5nm,1.2s			IAmb		IAmb		15 46 50.7	
SKT	Skwentna	87.45	11	P		P		15 46 47.2	+0.1
SKT	comp=Z,3.7nm,1.2s			IAmb		IAmb		15 46 52.9	
BCAR	Beaver Creek A	87.68	6	P		P		15 46 48.4	+0.2
YKA	Yellowknife Ar comp=Z,0.9nm,1.0s,baz=5.9,slow=5.3,SNR=9.3 comp=Z,0.9nm,1.0s	88.29	354	P		P		15 46 51.7	+0.6
RC01	Rabbit Creek A	88.59	10	P		P		15 46 52.7	+0.3
ASAR	Alice Springs comp=Z,0.5nm,0.7s,baz=303,slow=5.0,SNR=5.8 comp=Z,0.5nm,0.7s	94.47	114	P		P		15 47 19.5	-0.9
ULM	Lac du Bonnet comp=Z,17nm,20.9s,baz=36,slow=35	96.22	340	LR		LR		16 30 28.1	

WEL 18 15:36:33.3±0.6,33°S±9°×18°0W±2°0, h193km±13km, M4.1/16, mB4.5/8, ML4.8/18, MLv4.4/16, Mw(mB)3.7/8, Error ellipse: s-maj=0.0km s-min=0.0km az=112.2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.82	25	S	Sn	15 38 16.1	-3.1
MXZ	Matakaoa Point	5.05	198	P	Pn	15 37 52.3	+4.2
MXZ				S	Sn	15 38 48.9	+1.8
WMGZ	Waiomatatini S	5.27	196	P	Pn	15 37 51.2	+0.3
WMGZ				S	Sn	15 38 56.7	+4.5
HAZ	Te Kaha	5.38	201	P	Pn	15 37 53.9	+1.6
HAZ				S	Sn	15 38 55.6	+0.9
PKGZ	Pakihiroa	5.42	198	P	Pn	15 37 53.3	+0.4
PKGZ				S	Sn	15 38 58.4	+2.6
PUZ	Puketiti	5.55	196	P	Pn	15 37 53.9	-0.6
PUZ				S	Sn	15 38 60.0	+1.3
RUGZ	Raukumara Rang	5.60	201	P	Pn	15 37 56.4	+1.0
RUGZ				S	Sn	15 38 59.8	-0.4
TWGZ	Tauwhareparae	5.72	198	P	Pn	15 37 56.0	-0.7
TWGZ				S	Sn	15 39 05.5	+2.9
CNGZ	Carnagh Statio	5.95	195	P	Pn	15 37 58.7	-1.0
MWZ	Matawai	5.99	201	P	Pn	15 37 59.8	-0.5
MWZ				S	Sn	15 39 07.5	-1.6
TKGZ	Te Karaka	6.00	198	P	Pn	15 37 59.2	-1.1
TKGZ				S	Sn	15 39 09.9	+0.8
URZ	Urewera	6.05	204	P	Pn	15 38 00.2	-0.9
URZ				S	Sn	15 39 09.9	-0.6
RAGZ	Rawiri	6.17	201	P	Pn	15 38 04.9	+2.3
WTAZ	Waiatarua	6.25	227	P	Pn	15 38 07.2	+3.6
RIGZ	Rimuhau	6.27	198	P	Pn	15 38 05.5	+1.6
RIGZ				S	Sn	15 39 16.2	+0.6
MUGZ	Murupara	6.37	205	P	Pn	15 38 06.4	+1.3
SNGZ	Shannon Statio	6.46	200	P	Pn	15 38 07.8	+1.5
SNGZ				S	Sn	15 39 19.6	-0.4
RAHZ	Arahi	6.66	202	P	Pn	15 38 10.0	+1.0
RAHZ				S	Sn	15 39 23.0	-1.8
MTHZ	Maungataniwha	6.68	203	P	Pn	15 38 09.6	+0.3
MTHZ				S	Sn	15 39 22.0	-3.3
NMHZ	Naumai	6.91	203	P	Pn	15 38 14.2	+1.8
NMHZ				S	Sn	15 39 31.3	+0.4
ARHZ	Aropaoanui	7.01	201	P	Pn	15 38 15.0	+1.6
ARHZ				S	Sn	15 39 32.0	-0.9
MCHZ	McNeill Hill	7.26	202	P	Pn	15 38 18.1	+1.2
MCHZ				S	Sn	15 39 38.5	-0.5
NTVZ	North Tongarir	7.33	209	P	Pn	15 38 19.4	+1.6
NTVZ				S	Sn	15 39 41.2	+0.4
TMVZ	Te Maari	7.33	209	P	Pn	15 38 19.2	+1.4
KWHZ	Kaweka Forest	7.34	204	P	Pn	15 38 17.2	-0.4
KWHZ				S	Sn	15 39 39.6	-1.2
KAHZ	Kahuranaki	7.53	200	P	Pn	15 38 19.6	-0.7
KAHZ				S	Sn	15 39 46.8	+1.4
PXZ	Pawanui	7.75	200	P	Pn	15 38 22.3	-0.9
PXZ				S	Sn	15 39 48.1	-2.5
PNHZ	Pukenui	7.85	203	P	Pn	15 38 23.7	-0.8
PRHZ	Porangahau	8.04	200	P	Pn	15 38 26.4	-0.5
PRHZ				S	Sn	15 39 55.7	-1.7
TSZ	Takapari Road	8.06	204	P	Pn	15 38 26.4	-0.8
TSZ				S	Sn	15 39 55.1	-2.9
DVHZ	Dannevirke	8.21	202	P	Pn	15 38 28.7	-0.5
DVHZ				S	Sn	15 39 58.3	-3.2
POWZ	Post Office Ro	8.43	204	P	Pn	15 38 30.8	-1.2
PRWZ	Pori Road	8.51	202	P	Pn	15 38 32.4	-0.7
BFZ	Birch Farm	8.54

IL31		**70.59**	**25**	P		**P**	**15 58 00.7**	**-1.6**
ILAR	**Eielson Array**	**70.59**	**25**	P		**P**	**15 58 00.8**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=253,slow=5.9,SNR=17							
	comp=Z,0.7nm,0.6s							
E24K	**Your Creek**	**70.81**	**22**	P		**P**	**15 58 04.2**	**+0.6**
E24K				IAmb		IAmb	15 58 42.2	
	comp=Z,3.4nm,1.4s							
FYU	**Fort Yukon**	**71.66**	**24**	P		**P**	**15 58 09.3**	**+0.6**
FYU				IAmb		IAmb	15 58 28.2	
	comp=Z,3.9nm,1.3s							
J26L	**Joseph Creek**	**71.94**	**26**	P		**P**	**15 58 10.1**	**-0.5**
J26L				IAmb		IAmb	15 58 43.6	
	comp=Z,2.6nm,1.2s							
BMAR	**Burnt Mountain**	**72.10**	**23**	P		**P**	**15 58 11.7**	**+0.3**
BCAR	**Beaver Creek A**	**72.49**	**27**	P		**P**	**15 58 13.2**	**-0.6**
I28M	**Miner Creek**	**73.61**	**25**	P		**P**	**15 58 20.5**	**0.0**
H29M	**Whitestone**	**74.33**	**24**	P		**P**	**15 58 24.6**	**0.0**
G31M	**Satah River**	**76.02**	**24**	P		**P**	**15 58 34.2**	**0.0**
G31M				IAmb		IAmb	15 58 45.8	
	comp=Z,6.1nm,1.4s							
ABKAR	**Akbulak array**	**76.79**	**318**	P		**P**	**15 58 38.2**	**-0.8**
A36M	**Sachs Harbour**	**79.09**	**18**	P		**P**	**15 58 51.2**	**-0.1**
YKA	**Yellowknife Ar**	**84.90**	**27**	P		**P**	**15 59 22.2**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=292,slow=5.5,SNR=4.5							
	comp=Z,0.2nm,0.5s							
NVAR	**Mina Array Bea**	**88.99**	**51**	P		**P**	**15 59 44.0**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=271,slow=5.2,SNR=4.5							
	comp=Z,0.5nm,0.6s							

SKO 18 15:52:13.5, 41.78N×22.82E, h15km, ML1.3,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKB	**Krupnik**	**0.24**	**75**	*i* Pg	Pg	15 52 18.3	-0.5
KKB				*i* Sg	Sg	15 52 21.3	-1.1
STIP	**Stip**	**0.48**	**260**	*i* Pg	Pg	15 52 19.6	-3.5
STIP				*i* Sg	Sg	15 52 24.0	-5.6
VAY	**Valandovo**	**0.49**	**202**	*i* Pg	Pg	15 52 23.6	+0.2
VAY				*i* Sg	Sb	15 52 32.0	+1.1
VAY				*e*Lg	Lg	15 52 32.2	
	comp=N,8.3nm,0.6s						
VAY				*e*Lg	Lg	15 52 32.3	
	comp=E,9.8nm,0.5s						
KNT	**Kendrikon**	**0.62**	**175**	*i* Pg	Pb	15 52 26.1	0.0
KNT				*i* Sg	Sb	15 52 35.0	+0.4
MMB	**Musomishta**	**0.73**	**108**	*i* Pg	Pg	15 52 27.6	-0.2
MMB				*i* Sg	Sg	15 52 37.5	-0.1
SRS	**Serrai**	**0.88**	**139**	*i* Pg	Pg	15 52 30.6	0.0
SRS				*i* Sg	Sn	15 52 44.3	+0.4

*IDC **18** 16:13:41.5±1.2,5.°95S×143.°37E, h0km, mb3.7/3, mbtmp3.8/5, ML1.5/1, MS3.5/2, Error ellipse: s-maj=42.1km s-min=26.4km az=62.0*
ISC 18 16:13:46.3±0.9, 6.°2S±0.°1×143.°08E±0.°09, h35km, n14,
σ1§24/13, mb3.8/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**2.06**	**296**	P		**Pn**	**16 14 18.7**	**+0.1**
PMG	**Port Moresby**	**5.15**	**129**	P		**Pn**	**16 15 01.4**	**+0.4**
PMG	**Port Moresby**	**5.15**	**129**	P		**Pn**	**16 15 01.3**	**+0.3**
PMG	**Port Moresby**	**5.15**	**129**	Pn		**Pn**	**16 15 00.3**	**-0.7**
	1.2nm,0.3s,baz=285,slow=5.9,SNR=6.4							
PMG				Sn		**Sn**	**16 15 59.7**	**+0.5**
	0.6nm,0.3s,baz=91,slow=22,SNR=2.4							
	3.7nm,0.4s							
KDU	**Kakadu**	**12.29**	**238**	P		**Pn**	**16 16 37.7**	**-1.3**
MTN	**Manton Dam**	**13.51**	**240**	P		**Pn**	**16 16 54.6**	**-1.0**
WRA	**Warramunga Arr**	**16.09**	**211**	Pn		**Pn**	**16 17 28.2**	**-1.8**
	0.2nm,0.3s,baz=28,slow=11,SNR=5.8							
WRA				Lg		Lg	16 22 15.2	
	0.3nm,0.3s,baz=53,slow=30,SNR=2.4							
KNRA	**Kununurra**	**16.91**	**235**	P		**Pn**	**16 17 40.1**	**-0.3**
	33nm,0.4s							
ASAR	**Alice Springs**	**19.49**	**206**	P		**Pn**	**16 18 13.4**	**+1.5**
	6.3nm,0.8s,baz=36,slow=7.0,SNR=69							
DZM	**Mont Dzumac**	**27.54**	**127**	LR		LR	16 29 50.9	
	comp=Z,166nm,19.1s,baz=71,slow=35							
SHEM	**Shemya Is, Ala**	**64.33**	**20**	LR		LR	16 52 05.7	
	comp=Z,16nm,18.2s,baz=306,slow=36							
MKAR	**Makanchi Array**	**75.20**	**322**	P		**P**	**16 25 27.2**	**+1.8**
	0.3nm,0.6s,baz=111,slow=6.6,SNR=5.2							
	0.3nm,0.6s							
BVAR	**Borovoye Array**	**84.65**	**325**	P		**P**	**16 26 16.2**	**-0.1**
	0.6nm,0.7s,baz=99,slow=8.9,SNR=4.9							
	0.6nm,0.7s							
ILAR	**Eielson Array**	**87.21**	**24**	P		**P**	**16 26 27.1**	**-1.7**
	0.6nm,0.9s,baz=267,slow=4.6,SNR=5.1							
	0.6nm,0.9s							

*IDC **18** 16:20:18.4±1.1,24.°66S×175.°97W, h0km, mb4.1/8, mbtmp4.1/8, MS3.0/2, Error ellipse: s-maj=38.8km s-min=27.8km az=155.0*
ISC 18 16:20:23.4±1.1, 24.°7S±0.°2×176.°0W±0.°2, h30km, n13,
σ1§24/10, mb4.1/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**15.35**	**80**	LR	LR	16 30 46.5	
	comp=Z,53nm,18.1s,baz=316,slow=41						
PPT	**Papeete**	**25.63**	**79**	LR	LR	16 33 45.0	
	comp=Z,31nm,19.8s,baz=296,slow=32						
HNR	**Honiara**	**27.45**	**299**	LR	LR	16 35 35.4	
	comp=Z,1μm,18.0s,baz=176,slow=33						
CTA	**Charters Tower**	**35.11**	**270**	P		**P**	**16 27 14.2**	**-0.2**
	3.8nm,0.9s,baz=90,slow=11,SNR=6.6							
	3.8nm,0.9s							
ASAR	**Alice Springs**	**45.50**	**260**	P		**P**	**16 28 39.8**	**-0.7**
	1.8nm,1.0s,baz=92,slow=7.0,SNR=12							
	1.8nm,1.0s							
WRA	**Warramunga Arr**	**45.98**	**266**	P		**P**	**16 28 42.5**	**-1.7**
	1.5nm,0.7s,baz=99,slow=8.2,SNR=9.1							
	1.5nm,0.7s							
QSPA	**South Pole Qui**	**65.42**	**180**	P		**P**	**16 31 03.8**	**+0.6**
	1.9nm,1.1s,baz=35,slow=3.6,SNR=3.0							
	1.9nm,1.1s							
KSRS	**Korea Array**	**81.20**	**318**	P		**P**	**16 32 38.0**	**+1.6**
	0.9nm,0.9s,baz=123,slow=4.4,SNR=3.6							
	0.9nm,0.9s							
NVAR	**Mina Array Bea**	**82.83**	**42**	P		**P**	**16 32 44.2**	**-1.0**
	1.1nm,0.9s,baz=228,slow=8.9,SNR=6.5							
	1.1nm,0.9s							
USRK	**Ussuriysk Ar.**	**83.42**	**325**	P		**P**	**16 32 48.2**	**+0.4**
	4.2nm,0.9s,baz=114,slow=6.5,SNR=9.7							
	4.2nm,0.9s							
CMAR	**Chiang Mai Arr**	**93.21**	**289**	P		**P**	**16 33 37.0**	**+1.5**
	2.2nm,0.8s,baz=132,slow=3.3,SNR=18							
	2.2nm,0.8s							
AKASG	**Malin Array Be**	**147.53**	**330**	PKPbc		**PKPdf**	**16 40 01.6**	**-0.1**
	1.5nm,0.8s,baz=42,slow=3.5,SNR=7.8							
BRTR	**Keskin Array B**	**150.92**	**308**	PKPbc		**PKPbc**	**16 40 12.6**	**-1.0**
	0.6nm,0.8s,baz=138,slow=0.8,SNR=3.3							

*IDC **18** 16:32:10.7±1.3,27.°92N×55.°00E, h0km, mb3.7/8, mbtmp3.7/9, ML3.2/1, Error ellipse: s-maj=25.2km s-min=22.5km az=13.0*
*TEH **18** 16:32:14.5, 27.°99N×55.°02E, h17km±30km, ML3.3*
ISC 18 16:32:14.7±0.8, 27.°88N±0.°05×54.°95E±0.°04, h26km, n28,
σ1§07/29, mb3.6/8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAR1	**LAR**	**0.55**	**248**	Pg		**Pn**	**16 32 27.0**	**+0.1**
GENO	**Geno**	**1.18**	**113**	Pg		**Pn**	**16 32 36.2**	**+0.4**
JHRM	**Jahrom**	**1.36**	**298**	Pg		**Pb**	**16 32 40.6**	**+1.0**
IBND	**Bandar-abas**	**1.47**	**106**	Pg		**Pb**	**16 32 42.5**	**+1.1**
LMD1	**Lamerd**	**1.67**	**252**	Pg		**Pb**	**16 32 46.5**	**+1.7**
QIR1	**Qir**	**1.79**	**290**	Pn		**Pb**	**16 32 46.5**	**-0.3**
NGRK	**Negar Kerman**	**2.35**	**41**	Pn		**Pn**	**16 32 51.7**	**-0.3**
KHNJ	**Kahnooj**	**2.44**	**88**	Pn		**Pn**	**16 32 54.3**	**+1.4**
TVBK	**TV Kerman**	**2.63**	**37**	Pn		**Pn**	**16 32 56.5**	**+0.6**
KHGB	**Koh Gabri**	**2.83**	**28**	Pn		**Pn**	**16 32 59.2**	**+0.8**
CHMN	**Cheshme madani**	**3.01**	**48**	Pn		**Pn**	**16 33 01.6**	**+0.5**
KBAM	**BAM**	**3.33**	**67**	Pn		**Pn**	**16 33 06.4**	**+1.2**
ZRDN	**Zarand Kerman**	**3.38**	**24**	Pn		**Pn**	**16 33 06.3**	**+0.3**
IMEH	**Mehriz**	**3.51**	**355**	Pn		**Pn**	**16 33 08.8**	**+0.9**
IBAF	**Bafgh**	**3.74**	**8**	Pn		**Pn**	**16 33 11.5**	**+0.6**
KLNJ	**Kolanjah**	**4.28**	**318**	Pn		**Pn**	**16 33 19.4**	**+0.9**
IRAM	**Rameshеh**	**4.51**	**331**	Pn		**Pn**	**16 33 23.5**	**+1.9**
IZEF	**Zefreh**	**5.49**	**336**	Pn		**Pn**	**16 33 35.3**	**+0.2**
WSAR	**Wadi Sarin**	**5.69**	**143**	Pn		**Pn**	**16 33 38.1**	**+0.5**
	0.6nm,0.3s,baz=351,slow=11,SNR=14							
WSAR				Sn		**Sn**	**16 34 41.0**	**-1.2**
	0.5nm,0.3s,baz=111,slow=22,SNR=1.9							
	1.8nm,0.3s							
IKLH	**Kolahrood**	**6.15**	**333**	Pn		**Pn**	**16 33 47.1**	**+2.9**
BRTR	**Keskin Array B**	**21.23**	**309**	P		**P**	**16 36 59.2**	**+0.4**
	0.9nm,0.6s,baz=130,slow=14,SNR=6.3							
	0.9nm,0.6s							
AAK	**Ala-Archa**	**21.64**	**42**	P		**P**	**16 37 02.6**	**-0.6**
	1.0nm,0.6s,baz=223,slow=8.9,SNR=5.2							
	1.0nm,0.6s							
BVAR	**Borovoye Array**	**27.61**	**20**	P		**P**	**16 37 58.7**	**-1.1**
	0.6nm,0.7s,baz=202,slow=6.4,SNR=3.5							
	0.6nm,0.7s							
MKAR	**Makanchi Array**	**28.57**	**41**	P		**P**	**16 38 07.8**	**-0.7**
	0.2nm,0.5s,baz=229,slow=8.7,SNR=2.2							
	0.2nm,0.5s							
ZALV	**Zalesovo Beam**	**34.01**	**32**	P		**P**	**16 38 55.2**	**-1.0**
	1.6nm,0.4s,baz=243,slow=10.0,SNR=9.9							
	1.6nm,0.4s							
FINES	**FINESS Array B**	**38.70**	**338**	P		**P**	**16 39 35.8**	**-0.4**
	1.1nm,0.5s,baz=149,slow=9.2,SNR=10							
	1.1nm,0.5s							
HFS	**Hagfors**	**42.63**	**331**	P		**P**	**16 40 08.0**	**-0.6**
	1.2nm,0.8s,baz=120,slow=6.0,SNR=4.3							
	1.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**51.61**	**265**	P		**P**	**16 41 19.2**	**-0.1**
	0.7nm,0.6s,baz=56,slow=8.0,SNR=6.2							
	0.7nm,0.6s							

*NEIC **18** 16:36:25.3±1.4,20.°96S±0.°10×178.°4W±0.°1, h566km±7km, mb4.3/125, Error ellipse: s-maj=16.8km s-min=14.2km az=112.0*
*IDC **18** 16:36:27.8±2.1,20.°82S×178.°66W, h587km±23km, mb3.6/18, mbtmp4.5/18, Error ellipse: s-maj=15.4km s-min=13.7km az=84.0*
ISC 18 16:36:26.4±0.4, 20.°95S±0.°05×178.°53W±0.°07, h579km,
n204, σ1§16/207, mb4.3/80, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.55**	**314**	P		**P**	**16 37 55.3**	**+0.6**
RAO	**Raoul Island**	**8.28**	**176**	S		**S**	**16 40 06.0**	**-1.1**
	205nm,0.3s,baz=105,slow=23,SNR=1.8							
GLKZ	**Green Lake**	**8.29**	**176**	P		**P**	**16 38 29.4**	**+1.7**
GLKZ				S		**S**	**16 40 05.8**	**-1.5**
NIUE	**Niue**	**8.30**	**78**	P		**P**	**16 38 26.7**	**-1.3**
AFI	**Afiamalu**	**9.52**	**44**	P		**P**	**16 38 37.4**	**-2.9**
FUNA	**Funafuti**	**12.55**	**350**	P		**P**	**16 39 09.9**	**-0.9**
OUZ	**Omahuta**	**15.81**	**204**	P		**P**	**16 39 45.2**	**+2.4**
KOUNC	**Koumac, New Ca**	**16.08**	**268**	P		**P**	**16 39 46.4**	**+0.9**
WIAZ	**Waiheke Island**	**16.72**	**198**	P		**P**	**16 39 53.6**	**+2.4**
MBAZ	**Motutapu North**	**16.77**	**199**	P		**P**	**16 39 54.5**	**+2.9**
ETAZ	**East Tamaki Re**	**16.93**	**198**	P		**P**	**16 39 52.6**	**-0.4**
MKAZ	**Moumakai**	**17.00**	**197**	P		**P**	**16 39 56.0**	**+2.3**
HAZ	**Te Kaha**	**17.05**	**190**	P		**P**	**16 39 55.0**	**+0.9**
HAZ				S		**S**	**16 42 36.3**	**-6.8**
AWAZ	**Awhitu Peninsu**	**17.12**	**199**	P		**P**	**16 39 57.4**	**+2.7**
RUGZ	**Raukumara Rang**	**17.27**	**190**	P		**P**	**16 39 56.5**	**+0.3**
KMRZ	**Kaimai**	**17.50**	**195**	P		**P**	**16 40 02.2**	**+3.9**
TOZ	**Tahuroa Road**	**17.50**	**196**	P		**P**	**16 40 00.6**	**+2.4**
MWZ	**Matawai**	**17.65**	**190**	P		**P**	**16 39 59.4**	**-0.3**
MWZ				S		**S**	**16 42 50.8**	**-2.3**
URZ	**Urewera**	**17.65**	**191**	P		**P**	**16 39 58.1**	**-1.5**
	12nm,0.5s,baz=35,slow=2.3,SNR=21							
URZ				S		**S**	**16 42 49.3**	**-3.7**
	15nm,0.9s,baz=125,slow=17,SNR=2.4							
URZ	**Urewera**	**17.65**	**191**	P		**P**	**16 39 58.4**	**-1.2**
URZ				S		**S**	**16 42 48.7**	**-4.3**
TKGZ	**Te Karaka**	**17.70**	**189**	P		**P**	**16 40 01.0**	**+0.9**
RTZ	**Ruatahuna**	**18.02**	**191**	P		**P**	**16 40 01.7**	**-1.4**
MRZ	**Mangatainoka R**	**20.27**	**193**	P		**P**	**16 40 22.2**	**-1.2**
TCW	**Tory Channel**	**21.09**	**195**	P		**P**	**16 40 29.9**	**-0.9**
NNZ	**Nelson**	**21.33**	**197**	P		**P**	**16 40 33.2**	**+0.2**
TUWZ	**Tuamarina**	**21.39**	**196**	P		**P**	**16 40 32.5**	**-0.9**
THZ	**Tophouse**	**21.97**	**197**	P		**P**	**16 40 37.8**	**-0.9**
KHZ	**Kahutara**	**22.41**	**196**	P		**P**	**16 40 42.0**	**-0.6**
LTZ	**Lake Taylor**	**23.09**	**197**	P		**P**	**16 40 47.6**	**-1.1**
OXZ	**Oxford**	**23.66**	**197**	P		**P**	**16 40 52.7**	**-0.9**
EIDS	**Eidsvold**	**28.25**	**255**	P		**P**	**16 41 34.1**	**-0.2**
EIDS				IAmb		IAmb	16 41 35.6	
	comp=Z,9.6nm,1.4s							
CTA	**Charters Tower**	**32.95**	**265**	P		**P**	**16 42 14.7**	**+0.1**
	comp=Z,12nm,0.4s,baz=90,slow=8.3,SNR=71							
	comp=Z,12nm,0.4s							
CTAO	**Charters Tower**	**32.95**	**265**	P		**P**	**16 42 14.5**	**-0.1**
PMG	**Port Moresby**	**34.96**	**284**	P		**P**	**16 42 31.3**	**-0.1**
PMG	**Port Moresby**	**34.96**	**284**	P		**P**	**16 42 31.2**	**-0.3**
	comp=Z,49nm,0.8s,baz=65,slow=7.9,SNR=15							
	comp=Z,49nm,0.8s							
PATS	**Pohnpei**	**35.78**	**318**	P		**P**	**16 42 38.4**	**+0.3**
COEN	**Coen**	**37.12**	**274**			**P**	**16 42 49.6**	**+0.4**
STKA	**Stephens Creek**	**37.14**	**245**	P		**P**	**16 42 49.8**	**+0.6**
STKA	**Stephens Creek**	**37.14**	**245**	P		**P**	**16 42 49.6**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=76,slow=12,SNR=3.7							
	comp=Z,1.3nm,0.5s							
MANU	**Manus Island**	**38.18**	**295**	P		**P**	**16 42 58.1**	**+0.3**
BBOO	**Buckleboo**	**41.90**	**244**	P		**P**	**16 43 27.3**	**+0.1**
WR0	**Warramunga Arr**	**43.86**	**263**	P		**P**	**16 43 41.1**	**-1.6**
WR0				IAmb		IAmb	16 43 46.2	
	comp=Z,14nm,1.1s							
AS31	**Alice Springs**	**43.93**	**257**	P		**P**	**16 43 42.9**	**-0.4**
ASAR	**Alice Springs**	**43.93**	**257**	P		**P**	**16 43 42.5**	**-0.8**
ASAR	**Alice Springs**	**43.93**	**257**	P		**P**	**16 43 43.1**	**-0.1**
	comp=Z,11nm,0.6s,baz=89,slow=8.4,SNR=76							
	comp=Z,11nm,0.6s							
WB2	**Warramunga Arr**	**44.03**	**263**	P		**P**	**16 43 42.6**	**-1.5**
WRAB	**Tennant Creek**	**44.04**	**263**	P		**P**	**16 43 42.5**	**-1.6**
WRAB				IAmb		IAmb	16 43 44.2	
	comp=Z,20nm,1.0s							
WRA	**Warramunga Arr**	**44.05**	**263**	P		**P**	**16 43 42.9**	**-1.2**
WRA	**Warramunga Arr**	**44.05**	**263**	P		**P**	**16 43 43.3**	**-0.8**
	comp=Z,5.5nm,0.4s,baz=99,slow=7.8,SNR=24							
	comp=Z,5.5nm,0.4s							
HMH	**Humu'ula Sheep**	**46.19**	**31**	P		**P**	**16 44 00.6**	**-0.2**
FORT	**Forrest**	**48.66**	**247**	P		**P**	**16 44 18.5**	**-0.3**
MTN	**Manton Dam**	**48.67**	**271**	P		**P**	**16 44 18.6**	**-0.5**
KNRA	**Kununurra**	**50.13**	**267**	P		**P**	**16 44 29.5**	**-0.3**
FAKI	**Fak Fak**	**51.12**	**284**	P		**P**	**16 44 36.5**	**-0.6**
FAKI				IAmb		IAmb	16 44 37.4	
	comp=Z,14nm,1.0s							
FITZ	**Fitzroy Crossi**	**52.47**	**263**	P		**P**	**16 44 46.9**	**+0.2**
SOEI	**Soe**	**56.02**	**272**	P		**P**	**16 45 12.5**	**+0.7**
PSA00	**Pilbara Seismi**	**57.08**	**257**	P		**P**	**16 45 17.7**	**-1.1**
PSA00				IAmb		IAmb	16 45 18.7	
	comp=Z,15nm,0.7s							
MBWA	**Marble Bar**	**57.27**	**258**	P		**P**	**16 45 19.5**	**-0.5**
MBWA				IAmb		IAmb	16 45 20.3	
	comp=Z,20nm,0.9s							
SBA	**Scott Base**	**57.39**	**184**	P		**P**	**16 45 23.4**	**+3.5**
SBA				IAmb		IAmb	16 45 24.5	
	comp=Z,16nm,1.2s							
VNDA	**Vanda**	**57.42**	**185**	P		**P**	**16 45 22.6**	**+2.5**
VNDA	**Vanda**	**57.42**	**185**	P		**P**	**16 45 22.4**	**+2.3**
	comp=Z,1.8nm,0.8s,baz=3.1,slow=7.1,SNR=12							
	comp=Z,1.8nm,0.8s							
NWAO	**Narrogin (SRO)**	**57.72**	**244**	P		**P**	**16 45 22.7**	**-0.3**
NWAO				IAmb		IAmb	16 45 28.7	
	comp=Z,33nm,1.3s							
MORW	**Morawa**	**59.20**	**248**	P		**P**	**16 45 32.7**	**-0.3**
MORW				IAmb		IAmb	16 45 34.1	
	comp=Z,23nm,1.2s							
LUWI	**Luwuk**	**60.53**	**281**	P		**P**	**16 45 42.0**	**+0.1**
GIRL	**Giralia**	**61.95**	**255**	P		**P**	**16 45 52.1**	**+0.9**
TOLI2	**Tolitoli**	**63.21**	**282**	P		**P**	**16 45 59.6**	**+0.2**
TOLI2				IAmb		IAmb	16 45 59.7	
	comp=Z,8.1nm,1.0s							
JHJ2	**Mitsune**	**66.87**	**323**	P		**P**	**16 46 21.7**	**-0.2**
QSPA	**South Pole Qui**	**69.12**	**180**	P		**P**	**16 46 36.6**	**+1.4**
QSPA				IAmb		IAmb	16 46 37.8	
	comp=Z,9.0nm,1.0s							
QSPA	**South Pole Qui**	**69.12**	**180**	P		**P**	**16 46 36.6**	**+1.4**
	comp=Z,6.3nm,0.9s,baz=352,slow=1.2,SNR=32							
	comp=Z,6.3nm,0.9s							
KKM	**Kota Kinabalu**	**69.39**	**285**	P		**P**	**16 46 37.6**	**-0.1**
UGM	**Wanagama**	**69.46**	**269**	P		**P**	**16 46 37.4**	**-0.6**
JGF	**Kuroka**	**70.07**	**323**	P		**P**	**16 46 40.6**	**-0.6**
MJAR	**Matsushiro Arr**	**70.28**	**324**	P		**P**	**16 46 41.1**	**-1.3**
	comp=Z,2.4nm,0.6s,baz=164,slow=5.6,SNR=12							
	comp=Z,2.4nm,0.6s							
MJB9	**Matsu-Tunnel**	**70.29**	**324**	P		**P**	**16 46 42.9**	**+0.4**
JNU	**Nakatsue**	**72.27**	**317**	P		**P**	**16 46 53.2**	**-0.8**
JNU				IAmb		IAmb	16 46 59.2	
	comp=Z,13nm,1.1s							
LEM	**Lembang**	**72.53**	**269**	P		**P**	**16 46 56.2**	**0.0**
	comp=Z,17nm,0.7s,baz=131,slow=20,SNR=7.8							
	comp=Z,17nm,0.7s							
ADK	**Adak**	**72.54**	**1**	P		**P**	**16 46 55.0**	**-0.1**
YULB	**Yu-li**	**73.33**	**304**	P		**P**	**16 46 59.2**	**-1.1**
YULB				IAmb		IAmb	16 47 12.6	
	comp=Z,28nm,1.4s							
NACB	**Ninganchiao**	**73.52**	**305**	P		**P**	**16 47 00.2**	**-1.2**
NACB				IAmb		IAmb	16 47 35.0	
	comp=Z,13nm,1.1s							
TPUB	**Ta-pu**	**73.81**	**303**	P		**P**	**16 47 01.4**	**-1.6**
SSLB	**Suanglung**	**73.81**	**304**	P		**P**	**16 47 01.4**	**-1.6**
SSLB				IAmb		IAmb	16 47 02.8	
	comp=Z,11nm,1.0s							
JKA	**Kamikawa-asahi**	**73.89**	**332**	P		**P**	**16 47 03.7**	**+0.7**
PETK	**Petropavlovsk-**	**76.58**	**346**	P		**P**	**16 47 17.7**	**-0.1**
PETK	**Petropavlovsk-**	**76.58**	**346**	P		**P**	**16 47 17.6**	**-0.2**
	comp=Z,4.9nm,0.7s,baz=119,slow=5.7,SNR=8.9							
	comp=Z,4.9nm,0.7s							
KSRS	**Korea Array**	**76.90**	**319**	P		**P**	**16 47 20.5**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=135,slow=6.5,SNR=7.3							
	comp=Z,1.7nm,0.8s							
USA0B	**Ussuriysk Arra**	**79.06**	**326**	P		**P**	**16 47 32.1**	**+0.8**
USRK	**Ussuriysk Ar.**	**79.06**	**326**	P		**P**	**16 47 32.0**	**+0.7**
USRK	**Ussuriysk Ar.**	**79.06**	**326**	P		**P**	**16 47 32.2**	**+0.9**
	comp=Z,5.3nm,0.8s,baz=129,slow=2.5,SNR=12							
	comp=Z,5.3nm,0.8s							
BELA	**Belgrano 2**	**79.17**	**173**	P		**P**	**16 47 31.9**	**+0.5**
SII	**Sitkinak Islan**	**79.90**	**13**	P		**P**	**16 47 36.6**	**+1.2**
MDJ	**Mudanjiang**	**80.60**	**325**	P		**P**	**16 47 39.8**	**+0.5**
O14K	**Tigyukauivet M**	**81.17**	**9**	P		**P**	**16 47 41.9**	**0.0**
DSP	**Deep Springs**	**81.31**	**45**	P		**P**	**16 47 43.8**	**+0.7**
YERR	**Yerington**	**81.42**	**43**	P		**P**	**16 47 44.3**	**+0.3**
GWY	**Greenwater Val**	**81.51**	**46**	P		**P**	**16 47 45.2**	**+0.7**
NVAR	**Mina Array Bea**	**81.70**	**44**	P		**P**	**16 47 46.5**	**+1.1**
	comp=Z,1.1nm,0.5s,baz=228,slow=8.0,SNR=8.5							
	comp=Z,1.1nm,0.5s							
O16K	**Kokwok River B**	**81.99**	**10**	P		**P**	**16 47 45.4**	**-0.6**
KVN	**Kaiserville**	**82.18**	**43**	P		**P**	**16 47 48.5**	**+0.6**
N15K	**Kwethluk River**	**82.22**	**9**	P		**P**	**16 47 48.2**	**+1.0**
N15K				IAmb		IAmb	16 47 49.0	
	comp=Z,12nm,0.9s							
P18K	**Big Mountain,**	**82.31**	**12**	P		**P**	**16 47 47.6**	**-0.2**
M14K	**Bethel**	**82.52**	**8**	P		**P**	**16 47 49.5**	**+0.9**
M14K				IAmb		IAmb	16 47 57.8	
	comp=Z,22nm,1.4s							
O18K	**Koktuh Hills**	**82.75**	**12**	P		**P**	**16 47 49.7**	**-0.3**
O18K				IAmb		IAmb	16 47 50.6	
	comp=Z,9.6nm,0.8s							
J05D	**Fort Rock, OR**	**82.77**	**38**	P		**P**	**16 47 52.0**	**+1.3**
J05D				IAmb		IAmb	16 47 53.2	
	comp=Z,6.9nm,0.8s							
UBPT	**Khong Chiam**	**82.81**	**289**	P		**P**	**16 47 51.7**	**+0.5**
P19K	**Oil Pt**	**82.95**	**13**	P		**P**	**16 47 50.9**	**-0.1**
P19K				IAmb		IAmb	16 47 59.7	
	comp=Z,10nm,0.9s							
L14K	**Kuka Creek**	**83.00**	**8**	P		**P**	**16 47 51.5**	**+0.4**
L14K				IAmb		IAmb	16 47 52.5	
	comp=Z,9.3nm,1.1s							
M16K	**Timber Creek**	**83.20**	**9**	P

comp=Z,4.9nm,0.7s
L27K Beaver Creek, 88.58 16 P **P** 16 48 18.4 +0.5
BCAR Beaver Creek A 88.59 16 P **P** 16 48 18.2 +0.3
IMAR Indian Mountai 88.69 10 P **P** 16 48 18.1 -0.1
I23K Minto, Yukon-K 88.70 12 P **P** 16 48 17.6 -0.7
I23K IAmb IAmb 16 48 39.2
comp=Z,5.0nm,1.4s
MDM Murphy Dome 88.75 12 P **P** 16 48 18.0 -0.6
MDM IAmb IAmb 16 48 18.6
comp=Z,5.0nm,0.9s
ILAR Eielson Array 88.87 13 P **P** 16 48 18.1 -1.0
comp=Z,1.5nm,0.8s,baz=222,slow=5.3,SNR=18
comp=Z,1.5nm,0.8s
M29M Somme Creek 88.97 17 P **P** 16 48 20.4 +0.6
M29M IAmb IAmb 16 48 21.2
comp=Z,3.8nm,0.8s
J25K Salcha River, 89.06 14 P **P** 16 48 19.9 -0.2
J25K IAmb IAmb 16 48 31.5
comp=Z,4.2nm,1.2s
G21K Allakaket 89.22 10 P **P** 16 48 21.0 +0.3
G21K IAmb IAmb 16 48 21.6
comp=Z,2.9nm,0.8s
K27K Chicken 89.33 15 P **P** 16 48 22.2 +0.9
K27K IAmb IAmb 16 48 22.9
comp=Z,3.6nm,0.9s
J26L Joseph Creek 89.37 14 P **P** 16 48 22.0 +0.4
J26L IAmb IAmb 16 48 23.0
comp=Z,5.1nm,0.9s
F20K Avaraart Lake 89.38 9 P **P** 16 48 21.7 +0.3
F20K IAmb IAmb 16 48 22.4
comp=Z,3.0nm,0.9s
M30M Minto, Yukon 89.55 18 P **P** 16 48 22.8 +0.4
M30M IAmb IAmb 16 48 24.1
comp=Z,3.0nm,0.8s
E19K Redstone River 89.56 8 P **P** 16 48 22.4 +0.2
E19K IAmb IAmb 16 48 23.3
comp=Z,3.7nm,0.8s
L29M L29M 89.60 17 P **P** 16 48 23.1 +0.4
L29M IAmb IAmb 16 48 24.3
comp=Z,4.2nm,0.9s
PDAR Pinedale Array 89.63 43 P **P** 16 48 24.4 +0.8
comp=Z,1.1nm,0.6s,baz=216,slow=4.4,SNR=14
comp=Z,1.1nm,0.6s
CMAR Chiang Mai Arr 89.80 290 P **P** 16 48 25.2 +0.7
CMAR Chiang Mai Arr 89.80 290 P **P** 16 48 26.1 +1.6
comp=Z,3.8nm,0.9s,baz=123,slow=2.9,SNR=29
comp=Z,3.8nm,0.9s
DAWY Dawson 90.03 16 P **P** 16 48 24.8 +0.2
DAWY IAmb IAmb 16 48 25.8
comp=Z,2.8nm,0.9s
EGAK Eagle 90.17 15 P **P** 16 48 25.1 -0.1
EGAK IAmb IAmb 16 48 26.1
comp=Z,2.9nm,0.8s
C19K Lookout Ridge 90.84 7 P **P** 16 48 28.2 0.0
C19K IAmb IAmb 16 48 29.2
comp=Z,4.3nm,1.0s
YKA Yellowknife Ar 97.13 25 P Pdif 16 48 56.9 0.0
comp=Z,0.2nm,0.8s,baz=257,slow=4.4,SNR=2.3
comp=Z,0.2nm,0.8s
ZALV Zalesovo Beam 110.53 321 PKiKP **PKiKP** 16 53 52.2 -1.2
comp=Z,0.6nm,0.5s,baz=132,slow=2.1,SNR=2.6
MKAR Makanchi Array 111.15 313 PKiKP **PKiKP** 16 53 53.5 -1.4
comp=Z,0.5nm,0.7s,baz=106,slow=2.1,SNR=5.3
KURBB Kurchatov Arra 114.04 317 PKiKP **PKiKP** 16 53 58.2 -2.0
comp=Z,1.0nm,0.9s,baz=97,slow=1.9,SNR=7.9
BVAR Borovoye Array 119.10 320 PKP **PKPdf** 16 54 08.8 -1.1
comp=Z,1.5nm,0.5s,baz=110,slow=2.5,SNR=13
FINES FINESS Array B 136.06 343 PKP **PKiKP** 16 54 44.0 +0.4
comp=Z,0.3nm,0.3s,baz=122,slow=1.9,SNR=7.0
FINES SKPbc **SKPbc** 16 57 19.1 -0.9
comp=Z,2.7nm,0.8s,baz=17,slow=2.0,SNR=5.9
HFS Hagfors 139.91 351 PKhKP PKPpre 16 54 41.3
comp=Z,0.7nm,0.3s,baz=56,slow=3.6,SNR=12
AKASG Malin Array Be 143.16 330 PKPpre PKPpre 16 54 52.0
AKASG Malin Array Be 143.16 330 PKP PKPab 16 54 52.3 -0.7
comp=Z,3.5nm,0.3s,baz=42,slow=4.3,SNR=65
AKBB Malin Array Si 143.16 330 PKPpre PKPpre 16 54 52.0
KIEV Kiev 143.18 330 PKPpre PKPpre 16 54 52.1
ARPR Arapgir-MALATY 143.63 308 PKPbc 16 54 56.0 +0.5
GAZ Gaziantep 145.07 305 PKPdf **PKPdf** 16 54 59.4 +0.5
EKA Eskdalemuir Ar 145.50 5 PKPbc **PKPdf** 16 54 59.2 +0.3
comp=Z,3.1nm,0.8s,baz=45,slow=3.9,SNR=3.6
BNN Bunyan 145.53 309 PKPdf **PKPdf** 16 55 00.1 +0.4
BR131 Keskin Array S 146.77 311 **PKPbc** 16 55 03.8 -0.8
BRTR Keskin Array B 146.77 311 **PKPbc** 16 55 04.0 -0.6
BRTR Keskin Array B 146.77 311 PKPbc **PKPbc** 16 55 03.9 -0.8
comp=Z,2.7nm,0.7s,baz=132,slow=4.7,SNR=15
MMAI Mount Meron Ar 147.60 299 PKPbc **PKPbc** 16 55 07.1 +0.2
comp=Z,5.1nm,0.5s,baz=54,slow=4.2,SNR=13
MMAI PKPab **PKPab** 16 55 12.2 +1.0
comp=Z,5.8nm,0.8s,baz=56,slow=4.4,SNR=6.5
GERES GERESS Array B 150.50 343 PKPbc **PKPbc** 16 55 11.9 -1.5
comp=Z,2.1nm,0.7s,baz=45,slow=5.8,SNR=4.3
CONA Conrad Observa 150.69 340 *e*PKP **PKPbc** 16 55 13.9 +0.1
comp=Z,2.1nm,0.7s
CONA *i* PKP **PKPab** 16 55 24.2 +0.7
comp=Z,0.4nm,0.3s
RONA Rosalia, Austr 150.75 339 *i* PKP **PKPbc** 16 55 13.9 0.0
comp=Z,2.6nm,0.6s
MOA Molln 151.25 342 *i* PKP **PKPbc** 16 55 14.4 -0.6
comp=Z,0.2nm,0.2s
ARSA Arzberg 151.40 340 *e*PKP **PKPab** 16 55 26.5 +0.1
comp=Z,0.5nm,0.4s
SOKA Soboth 152.06 340 *e*PKP **PKPbc** 16 55 15.9 -1.0
comp=Z,0.7nm,0.4s
KBA Koelnbreinsper 152.21 342 *e*PKP **PKPbc** 16 55 16.9 -0.5
comp=Z,1.2nm,0.6s
KBA *i* PKP **PKPab** 16 55 30.5 +0.4
comp=Z,1.2nm,0.6s
WATA Walderalm 152.43 345 *e*PKP **PKPab** 16 55 30.7 -0.2
comp=Z,2.7nm,0.6s
WTTA Wattenberg 152.49 345 *e*PKP **PKPbc** 16 55 17.4 -0.6
comp=Z,1.1nm,0.3s
WTTA *e*PKP **PKPab** 16 55 31.1 -0.1
comp=Z,3.8nm,0.9s
MOTA Moosalm 152.54 346 *i* PKP **PKPbc** 16 55 17.7 -0.4
comp=Z,1.4nm,0.6s
ABTA Abfaltersbach 152.74 343 *e*PKP **PKPbc** 16 55 17.5 -0.9
comp=Z,1.3nm,0.5s
FETA Feichten 152.93 346 *e*PKP **PKPbc** 16 55 18.7 -0.2
comp=Z,1.4nm,0.6s
FUORN Ofenpass-Fuorn 153.41 346 PKPab **PKPab** 16 55 35.3 0.0

*NEIC **18** 16:38:19.6±1.8, 7°.26S±0°.09×129°.37E±0°.09, h138km±7km, mb4.1/5, Error ellipse: s-maj=13.6km s-min=11.3km az=135.0*
*IDC **18** 16:38:20.0±8.1, 7°.48S×129°.33E, h153km±86km, mb3.1/3, mbtmp3.8/6, Error ellipse: s-maj=79.0km s-min=24.6km az=35.0*

ISC 18 16:38:19.4±0.7, 7°.33S±0°.08×129°.37E±0°.07, h150km, n31, σ1°52/32, mb3.4/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAUI	**Saumlaki**	**2.02**	**109**			**Pn**	**16 38 55.3**	**+0.6**
FAKI	**Fak Fak**	**5.24**	**33**			**Pn**	**16 39 34.1**	**-1.9**
FAKI	**Fak Fak**	**5.24**	**33**	P		**Pn**	**16 39 34.0**	**-1.9**
SOEI	**Soe**	**5.59**	**244**			**Pn**	**16 39 41.0**	**+0.2**
SOEI	**Soe**	**5.59**	**244**	P		**Pn**	**16 39 41.3**	**+0.5**
MTN	**Manton Dam**	**5.74**	**163**			**Pn**	**16 39 42.7**	**0.0**
MTN	**Manton Dam**	**5.74**	**163**	P		**Pn**	**16 39 42.8**	**+0.1**
KDU	**Kakadu**	**6.13**	**150**	P		**Pn**	**16 39 48.0**	**+0.1**
BATI	**Baumata**	**6.33**	**243**	P		**Pn**	**16 39 50.9**	**+0.4**
	67nm,0.4s,baz=90,slow=3.9,SNR=25							
BATI				S		**Sn**	**16 40 59.5**	**-2.3**
	47nm,0.4s,baz=51,slow=12,SNR=9.6							
KNRA	**Kununurra**	**8.31**	**184**	Pn		**Pn**	**16 40 15.7**	**-1.3**
KNRA	**Kununurra**	**8.31**	**184**	P		**Pn**	**16 40 15.6**	**-1.3**
FITZ	**Fitzroy Crossi**	**11.30**	**198**	Pn		**Pn**	**16 40 54.6**	**-1.9**
FITZ	**Fitzroy Crossi**	**11.30**	**198**	P		**Pn**	**16 40 54.9**	**-1.7**
PLAI	**Plampang**	**11.58**	**262**	P		**Pn**	**16 41 00.8**	**+0.6**
WB0	**Warramunga Arr**	**13.29**	**159**	Pn		**Pn**	**16 41 20.0**	**-2.3**
WRAB	**Tennant Creek**	**13.42**	**159**	Pn		**Pn**	**16 41 21.5**	**-2.6**
WRA	**Warramunga Arr**	**13.43**	**159**	Pn		**Pn**	**16 41 22.0**	**-2.1**
WRA	**Warramunga Arr**	**13.43**	**159**	P		**Pn**	**16 41 21.4**	**-2.7**
	1.1nm,0.4s,baz=344,slow=12,SNR=42							
WRA				S		Sn	16 43 38.4	-14
	7.8nm,0.6s,baz=336,slow=22,SNR=19							
WB2	**Warramunga Arr**	**13.43**	**159**	Pn		**Pn**	**16 41 22.3**	**-1.9**
WR0	**Warramunga Arr**	**13.52**	**159**	Pn		**Pn**	**16 41 23.1**	**-2.1**
COEN	**Coen**	**15.07**	**117**	Pn		**Pn**	**16 41 44.9**	**+0.1**
COEN				IAmb		IAmb	16 42 02.8	
	comp=Z,18nm,1.3s							
AS31	**Alice Springs**	**16.81**	**165**	P		**Pn**	**16 42 07.1**	**+1.0**
ASAR	**Alice Springs**	**16.81**	**166**	P		**Pn**	**16 42 07.2**	**+1.1**
ASAR	**Alice Springs**	**16.81**	**166**	P		**P**	**16 42 06.4**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=343,slow=10,SNR=23							
ASAR				S		S	16 44 59.1	-14
	comp=Z,0.9nm,0.9s,baz=325,slow=16,SNR=4.1							
PSA00	**Pilbara Seismi**	**16.89**	**212**	P		**P**	**16 42 06.7**	**+0.2**
PSA00				IAmb		IAmb	16 42 08.8	
	comp=Z,25nm,1.4s							
MORW	**Morawa**	**25.01**	**209**	P		**P**	**16 43 31.9**	**+2.4**
CMAR	**Chiang Mai Arr**	**39.47**	**311**	P		**P**	**16 45 36.8**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=138,slow=7.3,SNR=5.3							
	comp=Z,0.5nm,0.7s							
MKAR	**Makanchi Array**	**68.17**	**327**	P		**P**	**16 49 04.1**	**+0.7**
MKAR	**Makanchi Array**	**68.17**	**327**	P		**P**	**16 49 04.0**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=131,slow=7.0,SNR=5.4							
	comp=Z,0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**72.47**	**329**	P		**P**	**16 49 30.3**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=131,slow=5.2,SNR=5.3							
	comp=Z,0.3nm,0.5s							
ABKAR	**Akbulak array**	**82.38**	**322**	P		**P**	**16 50 24.9**	**+0.3**

RSNC 18 16:38:20.7±0.0, 9°N±2°×7°8W±°, h19km±2km, mb3.7, ML2.0, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CAPC	**Capurgana**	**0.19**	**113**	P		Pg	16 38 26.6	+1.0
CAPC				S		Sg	16 38 32.7	+3.7
UPD2	**Meteti**	**0.51**	**251**	P		Pg	16 38 29.5	-1.5
UPD2				S		Sg	16 38 37.7	-0.1
APAC	**Apartado, Choc**	**1.24**	**130**	P		Pn	16 38 41.6	-1.4
APAC				S		Sg	16 39 02.8	+1.9
PTAC	**Punta Ardita,**	**1.58**	**190**	P		Pn	16 38 44.6	-3.1
PTAC				S		Sn	16 39 04.9	-2.7
DBBC	**Dabeiba**	**2.13**	**142**	P		Pn	16 38 53.5	-1.9
DBBC				S		Sb	16 39 23.9	-1.0
BCIP	**Isla Barro Col**	**2.32**	**281**	P		Pn	16 38 54.8	-3.2
BCIP				S		Sn	16 39 23.8	-2.2
SJCC	**San Jacinto, C**	**2.60**	**63**	P		Pn	16 38 59.0	-2.9
SJCC				S		Sn	16 39 29.3	-3.7
CBOC	**Ciudad Bolivar**	**3.20**	**152**	P		Pn	16 39 10.2	0.0
PTBC	**PUERTO BERRIO,**	**3.73**	**125**	P		Pn	16 39 14.7	-2.7
PTBC				S		Sn	16 39 57.5	-3.4
GUY2C	**Guyana, Caldas**	**4.08**	**148**	P		Pn	16 39 23.1	+0.6
GUY2C				S		Sn	16 40 14.0	+4.0
NORC	**Norcasia**	**4.09**	**140**	P		Pn	16 39 22.2	-0.1
NORC				S		Sb	16 40 16.3	-5.1
PAMC	**Pamplona, Colo**	**4.97**	**106**	P		Pn	16 39 32.4	-2.5
PAMC				S		Sn	16 40 29.7	-2.4
CRJC	**Cerrejon, Guaj**	**5.12**	**63**	P		Pn	16 39 33.7	-2.9
	18nm,0.9s							
CRJC				S		Sn	16 40 27.4	-7.9
	18nm,0.9s							
RUSC	**La Rusia**	**5.22**	**122**	P		Pn	16 39 35.4	-2.9
RUSC				S		Sn	16 40 33.6	-4.7

IDC 18 16:44:27.7±7.7, 30°.57S×178°.56W, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=316.1km s-min=62.0km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAR	**Alice Springs**	**42.62**	**267**	P		P	16 52 26.0	0.0
	0.1nm,0.3s,baz=107,slow=7.7,SNR=4.9							
	0.1nm,0.3s							
WRA	**Warramunga Arr**	**43.62**	**273**	P		P	16 52 33.8	-0.3
	0.6nm,0.8s,baz=111,slow=8.1,SNR=6.3							
	0.6nm,0.8s							
FINES	**FINESS Array B**	**145.13**	**339**	PKPbc		PKPbc	17 04 05.1	-0.8
	1.8nm,0.9s,baz=46,slow=4.0,SNR=3.9							

TAP 18 16:45:13.4, 22°.33N×120°.81E, h11km, ML1.1, 1C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EAST	**Anshuo**	**0.07**	**33**	↑P		Pg	16 45 16.1	+0.4
	baz=38							
EAST				S		Sg	16 45 17.8	+0.4
	baz=38							
TAWH	**Dawu Township**	**0.07**	**79**	P		Pg	16 45 16.2	+0.5
	baz=78							
TAWH				*i* S		Sg	16 45 18.3	+0.9
	baz=78							
SLIU	**Shizi**	**0.11**	**184**	*i* P		Pg	16 45 16.7	+0.5
	baz=184							
SLIU				*e*S		Sg	16 45 18.5	+0.4
	baz=184							
SCZT	**Fangliau**	**0.18**	**285**	*e*P		Pg	16 45 17.9	+0.6
	baz=285							
SCZT				*i* S		Sg	16 45 20.9	+0.9
	baz=285							
ECL	**Taimali**	**0.30**	**26**	*e*P		Pg	16 45 20.1	+0.6
	baz=18							
ECL				*e*S		Sg	16 45 24.0	+0.4
	baz=18							
MASBT	**Mashibuluo**	**0.33**	**330**	P		Pg	16 45 19.8	-0.1
	baz=339							
MASBT				S		Sg	16 45 25.2	+0.8
	baz=339							
TSMG	**Majia**	**0.41**	**338**	P		Pg	16 45 21.9	+0.4
	baz=342							
TSMG				*i* S		Sb	16 45 28.0	-0.9
	baz=342							
SSD	**Sandimen**	**0.45**	**339**	*e*P		Pg	16 45 22.6	+0.3
	baz=340							
SSD				S		Sg	16 45 29.0	+0.8
	baz=340							
TWGBT	**Beinan**	**0.55**	**27**	P		Pg	16 45 23.9	-0.2
	baz=22							
TWGBT				*e*S		Sg	16 45 31.7	+0.3
	baz=22							

TAP 18 16:45:19.0, 21°.86N×121°.01E, h12km, ML2.1, 1D, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWKBT	**Hengchun**	**0.20**	**293**	‖*e*P		Pg	16 45 23.9	+0.6
	baz=178							
TWKBT				*i* S		Sg	16 45 27.9	+1.6
	baz=178							
TWKBT	**Hengchun**	**0.20**	**293**	*i* P		Pb	16 45 24.2	-0.4
	baz=292							
TWKBT				*i* S		Sg	16 45 27.8	+1.5
	baz=292							
TWK1	**Hengchun**	**0.20**	**293**	*e*P		Pb	16 45 24.3	-0.4
	baz=178							
TWK1				S		Sg	16 45 27.8	+1.2
	baz=178							
TWK1	**Hengchun**	**0.20**	**293**	*i* P		Pb	16 45 24.1	-0.6
	baz=292							
TWK1				*i* S		Sg	16 45 27.7	+1.2
	baz=292							
SMST	**Manzhou Townsh**	**0.22**	**315**	*i* P		Pb	16 45 24.7	-0.3
	baz=314							
SMST				*e*S		Sg	16 45 28.9	+1.9
	baz=314							
HEN	**Hengchun**	**0.29**	**299**	*i* P		Pg	16 45 25.5	+0.6
	baz=299							
HEN				*i* S		Sb	16 45 30.4	-0.5
	baz=299							
SLIU	**Shizi**	**0.40**	**331**	*i* P		Pb	16 45 27.7	-0.4
	baz=331							
SLIU				S		Sb	16 45 33.6	-0.5
	baz=331							
TAWH	**Dawu Township**	**0.49**	**347**	P		Pb	16 45 29.4	-0.1
	baz=346							
TAWH				*i* S		Sb	16 45 36.8	+0.2
	baz=346							
LAY	**Lan-yu**	**0.53**	**71**	*e*P		Pb	16 45 30.5	+0.1
	baz=71							
LAY				*i* S		Sb	16 45 38.5	+0.4
	baz=71							
EAST	**Anshuo**	**0.54**	**344**	P		Pb	16 45 30.3	-0.1
	baz=344							
EAST				*i* S		Sb	16 45 38.4	+0.2
	baz=344							
LYUB	**Lan-yu**	**0.55**	**76**	*e*P		Pg	16 45 29.9	0.0
	baz=75							
LYUB				*e*S		Sb	16 45 38.3	-0.2
	baz=75							
SCZT	**Fangliau**	**0.62**	**325**	*i* P		Pb	16 45 31.6	-0.2
	baz=325							
SCZT				*e*S		Sb	16 45 41.4	+0.9
	baz=325							
ECL	**Taimali**	**0.73**	**356**	*e*P		Pg	16 45 33.4	+0.2
	baz=356							
ECL				*e*S		Sg	16 45 41.6	-1.3
	baz=356							
MASBT	**Mashibuluo**	**0.82**	**335**	*e*P		Pb	16 45 35.6	+0.4
	baz=334							
MASBT				*e*S		Sb	16 45 46.5	+0.3
	baz=334							
TSMG	**Majia**	**0.90**	**338**	P		Pb	16 45 36.8	+0.2
	baz=338							
TSMG				*e*S		Sb	16 45 49.3	+0.7
	baz=338							
LDUT	**Ludao**	**0.91**	**28**	*e*P		Pg	16 45 35.1	-1.6
	baz=27							
SSD	**Sandimen**	**0.94**	**338**	P		Pn	16 45 37.8	-0.3
	baz=338							
SSD				S		Sb	16 45 50.5	+0.6
	baz=338							
TWGBT	**Beinan**	**0.95**	**4**	*e*P		Pn	16 45 38.5	+0.3
	baz=4.0							
TWGBT				*e*S		Sn	16 45 51.5	-0.2
	baz=4.0							
TWG	**Pinlang**	**0.95**	**4**	*e*P		Pn	16 45 39.2	+1.0
	baz=4.0							
TWG				*e*S		Sn	16 45 51.3	-0.5
	baz=4.0							
SLGT	**Liugui**	**1.17**	**344**	*e*P		Pg	16 45 41.9	+0.2
	baz=343							
SLGT				S		Sn	16 45 57.8	+0.6
	baz=343							

*IDC **18** 16:49:04.0±1.2, 49°.74S×121°.64E, h0km, mb3.9/5, mbtmp3.9/5, MS3.6/10, Error ellipse: s-maj=71.5km s-min=20.6km az=93.0*
*NEIC **18** 16:49:04.8±0.6, 49°.75S±0°.2×121°.2E±0°.4, h10km±2km, mb4.5/8, Error ellipse: s-maj=44.0km s-min=25.2km az=277.0*

ISC 18 16:49:05.2±0.9, 49°.75S±0°.1×121°.6E±0°.3, h10km, n26, σ0°59/16, mb4.1/8, MS3.5/9, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**15.79**	**337**	T		T	17 08 56.5	
	baz=161,slow=74,SNR=66							
H01W2	**Cape Leeuwin H**	**15.79**	**337**	T		T	17 08 56.5	
	baz=161,slow=74,SNR=62							
H01W3	**Cape Leeuwin H**	**15.80**	**337**	T		T	17 08 58.7	
	baz=161,slow=74,SNR=72							
NWAO	**Narrogin (SRO)**	**17.09**	**347**	LR		LR	16 57 59.4	
	comp=Z,184nm,21.6s,baz=180,slow=31							
STKA	**Stephens Creek**	**23.26**	**47**	LR		LR	17 02 14.0	
	comp=Z,75nm,18.2s,baz=205,slow=34							
ASAR	**Alice Springs**	**27.74**	**25**	P		**P**	**16 54 54.0**	**+0.2**
	2.5nm,1.2s,baz=211,slow=8.7,SNR=6.8							
ASAR				LR		LR	17 04 44.9	
	comp=Z,137nm,21.0s,baz=188,slow=34							
	2.5nm,1.2s							
MLZ	**Mavora Lakes**	**31.31**	**100**	P		**P**	**16 55 25.7**	**+0.3**
WRA	**Warramunga Arr**	**31.40**	**23**	P		**P**	**16 55 26.6**	**+0.3**
WRA	**Warramunga Arr**	**31.40**	**23**	P		**P**	**16 55 26.5**	**+0.1**
	1.7nm,1.1s,baz=198,slow=7.8,SNR=3.3							
	1.7nm,1.1s							
WB2	**Warramunga Arr**	**31.41**	**23**	P		**P**	**16 55 26.3**	**0.0**
WRAB	**Tennant Creek**	**31.41**	**23**	P		**P**	**16 55 26.1**	**-0.3**
WRAB				IAmb		IAmb	16 56 03.5	
	comp=Z,12nm,1.5s							
WB0	**Warramunga Arr**	**31.59**	**23**	P		**P**	**16 55 27.7**	**-0.2**
WB0				IAmb		IAmb	16 55 56.9	
	comp=Z,11nm,1.4s							
VNDA	**Vanda**	**31.76**	**165**	P		**P**	**16 55 29.1**	**+0.2**
VNDA				IAmb		IAmb	16 55 30.7	
	comp=Z,3.3nm,0.8s							
VNDA	**Vanda**	**31.76**	**165**	P		**P**	**16 55 29.0**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=313,slow=8.8,SNR=12							
VNDA				LR		LR	17 06 53.8	
	comp=Z,83nm,21.4s,baz=310,slow=34							
	comp=Z,2.4nm,0.7s							
SBA	**Scott Base**	**32.82**	**164**	P		**P**	**16 55 39.0**	**+0.8**
BATI	**Baumata**	**39.42**	**3**	LR		LR	17 12 09.5	
	comp=Z,70nm,20.6s,baz=255,slow=35							
QSPA	**South Pole Qui**	**40.41**	**180**	P		**P**	**16 56 43.1**	**0.0**
QSPA	**South Pole Qui**	**40.41**	**180**	P		**P**	**16 56 43.2**	**0.0**
	comp=Z,1.5nm,0.8s,baz=274,slow=2.4,SNR=7.7							
QSPA				LR		LR	17 13 00.3	
	comp=Z,92nm,18.1s,baz=348,slow=36							
	comp=Z,1.5nm,0.8s							
RAO	**Raoul Island**	**49.52**	**89**	LR		LR	17 15 08.6	
	comp=Z,363nm,20.9s,baz=111,slow=32							
BELA	**Belgrano 2**	**51.83**	**186**	P		**P**	**16 58 12.2**	**-0.5**
BELA				IAmb		IAmb	16 58 20.4	
	comp=Z,7.7nm,1.3s							
SNAA	**Sanae**	**52.73**	**199**	LR		LR	17 19 38.6	
	comp=Z,101nm,18.1s,baz=359,slow=35							
PMSA	**Palmer Station**	**65.76**	**177**	LR		LR	17 27 40.5	
	comp=Z,41nm,18.1s,baz=231,slow=35							
GUMO	**Guam**	**66.28**	**25**	LR		LR	17 27 25.2	
	comp=Z,17nm,21.0s,baz=61,slow=35							
CMAR	**Chiang Mai Arr**	**70.78**	**337**	P		**P**	**17 00 22.3**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=184,slow=5.2,SNR=2.8							
	comp=Z,0.4nm,0.6s							
LYMT	**Lyon Mountain**	**144.72**	**73**	PKPdf		**PKPdf**	**17 08 41.3**	**-0.3**
YKA	**Yellowknife Ar**	**147.29**	**46**	PKPbc		**PKPab**	**17 08 47.9**	**-1.6**
	comp=Z,1.9nm,0.8s,baz=273,slow=2.8,SNR=23							

*IDC **18** 16:50:07.0±2.9, 21°.70N×144°.01E, h100km±25km, mb3.6/14, mbtmp4.0/16, Error ellipse: s-maj=20.6km s-min=15.1km az=88.0*
*NEIC **18** 16:50:12.1±1.5, 21°.7N±0°.1×144°.0E±0°.1, h141km±5km, mb4.3/59, Error ellipse: s-maj=18.0km s-min=14.1km az=117.0*

ISC 18 16:50:06.8±0.6, 21°.70N±0°.09×144°.0E±0°.1, h100km, n83, σ1°13/83, mb4.3/43, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**5.63**	**343**	Pn		Pn	16 51 33.4	+5.3
JCJ	**Chichijima**	**5.63**	**343**	P		**Pn**	**16 51 28.4**	**+0.3**
	37nm,0.3s,baz=284,slow=22,SNR=16							
JCJ				S		**Sn**	**16 52 30.8**	**-0.5**
	40nm,0.3s,baz=236,slow=20,SNR=2.4							
JHJ2	**Mitsune**	**11.96**	**343**	Pn		**Pn**	**16 52 51.7**	**-2.3**
MJAR	**Matsushiro Arr**	**15.63**	**342**	P		**Pn**	**16 53 42.0**	**+0.5**
	0.5nm,0.4s,baz=161,slow=12,SNR=2.6							
MAJO	**Matsshiro**	**15.63**	**342**	Pn		**Pn**	**16 53 38.2**	**-3.3**
MJB9	**Matsu-Tunnel**	**15.64**	**342**	Pn		**Pn**	**16 53 38.7**	**-2.8**
JMM	**Marumori**	**16.35**	**351**	P		**P**	**16 53 53.9**	**+2.4**
JMM				IAmb		IAmb	16 54 17.4	
	comp=Z,32nm,1.3s							
KSRS	**Korea Array**	**20.98**	**322**	P		Pn	16 54 44.0	-1.6
	comp=Z,2.3nm,0.9s,baz=147,slow=8.8,SNR=12							
	comp=Z,2.3nm,0.9s							
JKA	**Kamikawa-asahi**	**22.39**	**357**	P		**P**	**16 54 56.7**	**-0.2**
SONM	**Songino Array**	**39.83**	**320**	P		**P**	**16 57 31.0**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=138,slow=10,SNR=4.5							
	comp=Z

	comp=Z,0.8nm,0.3s							
MK31	**Makanchi Array**	**55.26**	**313**	P	**P**	**16 59 30.2**	**+0.5**
MKAR	**Makanchi Array**	**55.26**	**313**	P	**P**	**16 59 30.1**	**+0.3**
MKAR	**Makanchi Array**	**55.26**	**313**	P	**P**	**16 59 30.2**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=91,slow=9.0,SNR=18							
MKAR				PcP	**PcP**	**17 00 29.0**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=82,slow=5.3,SNR=5.0							
	comp=Z,1.1nm,0.5s							
L16K	**Owhat River**	**55.42**	**29**	P	**P**	**16 59 31.7**	**+1.1**
L16K				IAmb	IAmb	16 59 33.9		
	comp=Z,9.9nm,1.4s							
K17K	**Iditarod**	**56.27**	**28**	P	**P**	**16 59 38.7**	**+2.1**
K17K				IAmb	IAmb	16 59 57.6		
	comp=Z,7.2nm,1.3s							
F17K	**Baldwin Pennin**	**56.47**	**23**	P	**P**	**16 59 39.9**	**+1.9**
F17K				IAmb	IAmb	16 59 46.7		
	comp=Z,3.6nm,1.1s							
HATHI	**Halema'uma'u T**	**56.59**	**80**	P	**P**	**16 59 38.4**	**-1.3**
O18K	**Koktuh Hills**	**56.88**	**32**	P	**P**	**16 59 42.9**	**+1.8**
H18K	**Honhosa River**	**57.08**	**25**	P	**P**	**16 59 43.6**	**+1.3**
H18K				IAmb	IAmb	17 00 06.0		
	comp=Z,4.4nm,1.4s							
G18K	**Tagagawik**	**57.23**	**24**	P	**P**	**16 59 44.6**	**+1.2**
G18K				IAmb	IAmb	17 00 14.9		
	comp=Z,3.3nm,1.4s							
Q19K	**Cape Douglas,**	**57.45**	**33**	P	**P**	**16 59 44.9**	**-0.1**
KDAK	**Kodiak Island**	**57.77**	**34**	P	**P**	**16 59 47.9**	**+0.7**
P19K	**Oil Pt**	**57.81**	**32**	P	**P**	**16 59 48.6**	**+1.0**
G19K	**Purcell Mounta**	**57.92**	**24**	P	**P**	**16 59 49.5**	**+1.3**
SYI	**Shuyak Island**	**58.02**	**34**	P	**P**	**16 59 49.2**	**+0.2**
KURBB	**Kurchatov Arra**	**58.05**	**317**	P	**P**	**16 59 49.5**	**+0.1**
	comp=Z,3.3nm,0.6s,baz=94,slow=7.6,SNR=34							
	comp=Z,3.9nm,0.6s							
M20K	**Styx River**	**58.36**	**30**	P	**P**	**16 59 52.9**	**+1.5**
M20K				IAmb	IAmb	17 00 07.4		
	comp=Z,6.2nm,1.4s							
D19K	**Kuna River**	**58.40**	**22**	P	**P**	**16 59 52.6**	**+1.0**
D19K				IAmb	IAmb	17 00 17.1		
	comp=Z,6.6nm,1.5s							
CNPM	**China Poot**	**58.78**	**33**	P	**P**	**16 59 54.7**	**+0.4**
BRLK	**Bradley Lake**	**58.99**	**32**	P	**P**	**16 59 55.8**	**-0.1**
BRLK				IAmb	IAmb	17 00 26.5		
	comp=Z,6.5nm,1.0s							
SKT	**Skwentna**	**59.12**	**30**	P	**P**	**16 59 56.8**	**+0.2**
SKT				IAmb	IAmb	17 00 39.4		
	comp=Z,2.9nm,0.6s							
IMAR	**Indian Mountai**	**59.16**	**25**	P	**P**	**16 59 57.9**	**+1.1**
CAST	**Castle Rocks**	**59.19**	**28**	P	**P**	**16 59 58.4**	**+1.3**
H21K	**Melozitna River**	**59.45**	**25**	P	**P**	**17 00 00.2**	**+1.4**
H21K				IAmb	IAmb	17 00 21.2		
	comp=Z,4.2nm,1.4s							
TRF	**Thorofare Moun**	**59.98**	**28**	P	**P**	**17 00 03.0**	**+0.3**
TRF				IAmb	IAmb	17 00 04.1		
	comp=Z,2.6nm,0.8s							
GHO	**Glory Hole Cre**	**60.29**	**30**	P	**P**	**17 00 05.6**	**+0.8**
GHO				IAmb	IAmb	17 00 10.0		
	comp=Z,2.8nm,1.1s							
KNK	**Knik Glacier**	**60.45**	**31**	P	**P**	**17 00 06.1**	**+0.4**
KNK				IAmb	IAmb	17 00 07.6		
	comp=Z,4.3nm,0.8s							
SML	**Sawmill**	**60.57**	**30**	P	**P**	**17 00 06.8**	**+0.2**
WRH	**Wood River Hil**	**61.13**	**27**	P	**P**	**17 00 09.7**	**-0.6**
WRH				IAmb	IAmb	17 00 40.9		
	comp=Z,4.6nm,1.4s							
C23K	**Itkillik River**	**61.38**	**21**	P	**P**	**17 00 13.4**	**+1.6**
KLU	**Klutina**	**61.67**	**31**	P	**P**	**17 00 14.7**	**+0.6**
KLU				IAmb	IAmb	17 00 34.2		
	comp=Z,4.2nm,1.3s							
ILAR	**Eielson Array**	**61.69**	**27**	P	**P**	**17 00 13.8**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=260,slow=5.2,SNR=15							
	comp=Z,1.0nm,0.8s							
J25K	**Salcha River,**	**62.31**	**27**	P	**P**	**17 00 18.0**	**-0.3**
J25K				IAmb	IAmb	17 00 52.2		
	comp=Z,6.0nm,1.4s							
SCRK	**Sand Creek**	**62.83**	**28**			**17 00 22.1**	**+0.3**
SCRK				IAmb	IAmb	17 00 23.2		
	comp=Z,1.8nm,0.7s							
BMAR	**Burnt Mountain**	**63.03**	**24**	P	**P**	**17 00 25.1**	**+2.0**
BVAR	**Borovoye Array**	**63.17**	**320**	P	**P**	**17 00 24.3**	**+0.2**
	comp=Z,3.1nm,0.5s,baz=91,slow=7.6,SNR=31							
	comp=Z,3.1nm,0.5s							
BRVK	**Borovoye**	**63.23**	**320**	P	**P**	**17 00 24.9**	**+0.3**
BRVK				IAmb	IAmb	17 00 25.8		
	comp=Z,3.4nm,1.1s							
ISLE	**Juniper Island**	**63.33**	**32**	P	**P**	**17 00 26.1**	**+0.9**
ISLE				IAmb	IAmb	17 00 42.6		
	comp=Z,6.3nm,1.2s							
L27K	**Beaver Creek,**	**63.72**	**29**	P	**P**	**17 00 28.5**	**+0.9**
BCAR	**Beaver Creek A**	**63.74**	**29**	P	**P**	**17 00 28.6**	**+0.9**
TABL	**Table Mountain**	**63.92**	**32**	P	**P**	**17 00 29.9**	**+0.8**
TABL				IAmb	IAmb	17 00 46.5		
	comp=Z,5.5nm,1.1s							
EGAK	**Eagle**	**64.13**	**27**	P	**P**	**17 00 30.9**	**+0.7**
EGAK				IAmb	IAmb	17 00 34.6		
	comp=Z,3.2nm,1.4s							
I28M	**Miner Creek**	**64.69**	**27**	P	**P**	**17 00 34.2**	**+0.2**
F28M	**Old Crow**	**64.85**	**24**	P	**P**	**17 00 36.1**	**+1.2**
F28M				IAmb	IAmb	17 00 55.8		
	comp=Z,4.8nm,1.5s							
DAWY	**Dawson**	**64.86**	**28**	P	**P**	**17 00 36.1**	**+1.0**
E28M	**Babbage River**	**65.05**	**23**	P	**P**	**17 00 37.9**	**+1.8**
H29M	**Whitestone**	**65.37**	**26**	P	**P**	**17 00 39.4**	**+1.2**
H29M				IAmb	IAmb	17 00 50.9		
	comp=Z,5.9nm,1.4s							
I30M	**Mount Dempster**	**66.17**	**27**	P	**P**	**17 00 44.4**	**+0.8**
G30M	**tAoh Zrail Nji**	**66.24**	**25**	P	**P**	**17 00 44.9**	**+1.0**
G31M	**Satah River**	**67.01**	**25**	P	**P**	**17 00 49.6**	**+0.9**
G31M				IAmb	IAmb	17 00 50.4		
	comp=Z,3.6nm,0.7s							
INK	**Inuvik**	**67.26**	**24**	P	**P**	**17 00 50.7**	**+0.5**
INK	**Inuvik**	**67.26**	**24**	P	**P**	**17 00 50.8**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=290,slow=6.0,SNR=6.1							
	comp=Z,1.1nm,0.7s							
ABKAR	**Akbulak array**	**70.08**	**316**	P	**P**	**17 01 07.6**	**-0.5**
C36M	**Paulatuk**	**70.58**	**22**	P	**P**	**17 01 10.8**	**+0.1**
YKA	**Yellowknife Ar**	**76.10**	**28**	P	**P**	**17 01 43.5**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=293,slow=5.7,SNR=11							
	comp=Z,0.5nm,0.5s							
NVAR	**Mina Array Bea**	**82.54**	**52**	P	**P**	**17 02 19.9**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=272,slow=6.0,SNR=8.6							
	comp=Z,1.1nm,0.7s							
KBZ	**Khabaz**	**82.92**	**314**	P	**P**	**17 02 21.3**	**+0.7**
	comp=Z,2.5nm,0.9s,baz=118,slow=3.6,SNR=5.2							
	comp=Z,2.5nm,0.9s							
FIA1	**FINESS Array S**	**83.51**	**335**	P	**P**	**17 02 21.9**	**-1.4**
FINES	**FINESS Array B**	**83.51**	**335**	P	**P**	**17 02 21.9**	**-1.4**
	comp=Z,1.1nm,0.4s,baz=69,slow=4.9,SNR=16							
	comp=Z,1.1nm,0.4s							
FCC	**Fort Churchill**	**86.70**	**26**	P	**P**	**17 02 39.2**	**-0.1**
HFS	**Hagfors**	**89.02**	**338**	P	**P**	**17 02 48.2**	**-2.1**
	comp=Z,1.2nm,0.6s,baz=42,slow=2.3,SNR=5.5							
LPAZ	**La Paz**	**149.18**	**86**	PKPbc	**PKPbc**	**17 09 45.0**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=360,slow=3.4,SNR=5.6							

IDC ***18*** *17:07:10.5±1.8, 0.°03S×98.°49E, h0km, mb3.7/7, mbtmp3.6/8, ML3.5/1, Error ellipse: s-maj=68.8km s-min=19.7km az=60.0*

DJA ***18*** *17:07:16.2±0.3, 0.°1N±2.°×9.°8E±.°, h60km±9km, M4.2/13, mb4.3/5, mB4.5/1, MLv4.2/13, Mw(mB)3.7/1*

ISC 18 17:07:16.6±0.8, 0.°01S±0.°05×98.°32E±0.°07, h48km±, n28, σ0°92/28, mb3.8/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.50**	**330**	P		**Pn**		**17 07 41.3**	**+0.1**
GSI				S		**Sn**		**17 07 59.3**	**-0.3**
SBSI	**Sibolga**	**1.65**	**20**	P		**Pn**		**17 07 43.9**	**+0.7**
SBSI				S		**Sn**		**17 08 05.5**	**+2.2**
PDSI	**Padang**	**2.32**	**113**	P		**Pn**		**17 07 52.2**	**-0.2**
PDSI				S		**Sn**		**17 08 19.8**	**0.0**
BKNI	**Bangkinang**	**2.74**	**83**	P		**Pn**		**17 07 57.8**	**-0.3**
BKNI				S		**Sn**		**17 08 29.4**	**-0.6**
SNSI	**Sinabang, Aceh**	**3.12**	**320**	P		**Pn**		**17 08 03.2**	**-0.2**
SNSI				S		**Sn**		**17 08 39.5**	**0.0**
PPSI	**Pulau Pagai**	**3.21**	**148**	P		**Pn**		**17 08 04.5**	**-0.1**
PPSI				S		**Sn**		**17 08 42.4**	**+0.7**
KCSI	**Kotacane, Aceh**	**3.55**	**351**	P		**Pn**		**17 08 08.7**	**-0.6**
KCSI				S		**Sn**		**17 08 47.8**	**-2.3**
KRJI	**Kerinci**	**3.76**	**123**	P		**Pn**		**17 08 11.8**	**-0.4**
KRJI				S		**Sn**		**17 08 55.5**	**+0.2**
MLSI	**Meulaboh, Aceh**	**4.66**	**336**	P		**Pn**		**17 08 24.0**	**-0.5**
LHMI	**Lhok Sumawe**	**5.38**	**345**	P		**Pn**		**17 08 33.4**	**-1.0**
	69nm,1.3s,0.4nm								

MNAI	**Manna**	**6.33**	**133**	P		**Pn**	**17 08 48.1**	**+0.6**
	79nm,0.9s,0.5nm							
CMAR	**Chiang Mai Arr**	**18.36**	**2**	P		**Pn**	**17 11 27.4**	**-0.4**
	0.1nm,0.3s,baz=188,slow=12,SNR=6.5							
	0.5nm,0.7s							
H08S2	**Diego Garcia H**	**26.84**	**253**	T		T	17 40 21.4	
	baz=73,slow=75,SNR=73							
H08S3	**Diego Garcia H**	**26.85**	**253**	T		T	17 40 29.9	
	baz=73,slow=75,SNR=86							
H08S1	**Diego Garcia H**	**26.86**	**253**	T		T	17 40 34.5	
	baz=73,slow=75,SNR=75							
WRA	**Warramunga Arr**	**40.45**	**121**	P		**P**	**17 14 49.6**	**-1.2**
	0.6nm,0.7s,baz=304,slow=9.0,SNR=2.5							
	0.6nm,0.7s							
ASAR	**Alice Springs**	**41.78**	**127**	P		**P**	**17 15 00.7**	**-1.1**
	0.4nm,0.8s,baz=301,slow=7.5,SNR=14							
ASAR				PcP		**PcP**	**17 16 58.6**	**+1.2**
	0.2nm,0.6s,baz=286,slow=2.8,SNR=1.4							
	0.4nm,0.8s							
KSRS	**Korea Array**	**46.22**	**33**	P		**P**	**17 15 36.2**	**-0.9**
	0.8nm,0.8s,baz=224,slow=8.8,SNR=4.2							
	0.8nm,0.8s							
SONM	**Songino Array**	**48.17**	**7**	P		**P**	**17 15 53.1**	**+0.9**
	1.1nm,0.5s,baz=192,slow=8.7,SNR=9.6							
	1.5s							
MKAR	**Makanchi Array**	**48.68**	**345**	P		**P**	**17 15 57.1**	**+1.0**
	0.8nm,0.5s,baz=153,slow=8.3,SNR=13							
	0.8nm,0.5s							
ZALV	**Zalesovo Beam**	**54.93**	**350**	P		**P**	**17 16 42.8**	**+0.3**
	0.7nm,0.7s,baz=175,slow=6.8,SNR=3.6							
	0.7nm,0.7s							
BVAR	**Borovoye Array**	**57.76**	**340**	P		**P**	**17 17 03.1**	**+0.5**
	0.4nm,0.5s,baz=119,slow=8.4,SNR=2.1							
	0.4nm,0.5s							
H04N2	**CROZET ISLANDS**	**61.42**	**215**	T		T	18 24 02.5	
	baz=55,slow=74,SNR=58							
H04N1	**CROZET ISLANDS**	**61.43**	**215**	T		T	18 24 03.2	
	baz=55,slow=74,SNR=63							
H04N3	**CROZET ISLANDS**	**61.44**	**215**	T		T	18 24 01.8	
	baz=55,slow=74,SNR=61							
H04S1	**CROZET ISLANDS**	**61.74**	**214**	T		T	18 24 30.2	
	baz=54,slow=75,SNR=3.9							
H04S3	**CROZET ISLANDS**	**61.75**	**214**	T		T	18 24 19.7	
	baz=54,slow=75,SNR=5.1							
H04S2	**CROZET ISLANDS**	**61.76**	**214**	T		T	18 24 20.1	
	baz=54,slow=75,SNR=3.2							

SDD ***18*** *17:07:41.8±2.8, 19.°12N×69.°50W, h22km±21km, MD3.6, ML3.2, MW3.8*

OSPL ***18*** *17:07:42.7±3.5, 19.°10N×69.°49W, h0km±11km, ML2.9*

SSNC ***18*** *17:07:43.0±3.0, 17.°50N×70.°40W, h99km±182km, MD3.7*

ISC 18 17:07:39.6±1.1, 19.°09N±0.°03×69.°50W±0.°02, h14km±10km, n30, σ1°65/51, 14C-15D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SMDR	**Samana, DR**	**0.36**	**56**	*e*Pg		**Pb**		**17 07 48.6**	**+0.8**
SMDR				IAML				17 07 56.2	
	comp=N,3μm,0.2s								
NADR	**Nagua**	**0.42**	**308**	*e*Pg		**Pb**		**17 07 49.7**	**+0.7**
NADR				*e*Sg		**Sb**		**17 07 56.7**	**+1.5**
NADR				IAML				17 07 57.8	
	comp=N,5μm,0.5s								
MIDR	**Miches**	**0.44**	**104**	*e*Pg		**Pb**		**17 07 50.2**	**+1.0**
MIDR				*e*Sg		**Sb**		**17 07 56.9**	**+1.2**
MIDR				IAML				17 07 59.8	
	comp=N,645nm,0.4s								
LONA1	**Toro Cenizo, N**	**0.45**	**310**	*i* P		**Pb**		**17 07 50.4**	**+1.1**
LONA1				*e*S		**Sb**		**17 07 58.0**	**+2.1**
LONA1				IAML				17 08 04.0	
	comp=Z,2μm,1.2s								
SDD	**Santo Domingo**	**0.74**	**212**	*e*Pg		**Pb**		**17 07 55.0**	**+0.7**
SDD				*e*Sg		**Sb**		**17 08 05.3**	**+1.0**
SDD				IAML				17 08 07.7	
	comp=N,83nm,0.2s								
SDD	**Santo Domingo**	**0.74**	**212**	*i* P		**Pb**		**17 07 55.0**	**+0.7**
SDD				*e*S		**Sb**		**17 08 05.6**	**+1.2**
BANI	**BANI**	**1.07**	**230**	*e*Pg		**Pg**		**17 08 00.3**	**0.0**
BANI				*e*Sg		**Sg**		**17 08 14.4**	**+0.2**
BANI				IAML				17 08 15.2	
	comp=N,2μm,0.4s								
SADR	**Isla Saona**	**1.13**	**142**	*e*Pg		**Pn**		**17 08 02.1**	**+1.1**
SADR				*e*Sg		**Sn**		**17 08 17.1**	**+0.7**
SADR				IAML				17 08 25.8	
	comp=N,396nm,0.5s								
SC01	**Santiago de lo**	**1.21**	**286**	*e*Pg		**Pg**		**17 08 03.2**	**+0.3**
SC01				IAML				17 08 24.4	
	comp=N,962nm,0.8s								
SC01	**Santiago de lo**	**1.21**	**286**	*i* P		**Pg**		**17 08 03.6**	**+0.8**
SC01				*e*S		**Sn**		**17 08 21.5**	**+3.2**
SC01				IAML				17 08 25.6	
	comp=Z,274nm,0.5s								
PCDR	**Punta Cana, DR**	**1.21**	**118**	*e*Pg		**Pb**		**17 08 02.5**	**+0.2**
PCDR				*e*Sg		**Sn**		**17 08 20.5**	**+2.2**
PCDR				IAML				17 08 27.5	
	comp=N,409nm,0.8s								
PCDR	**Punta Cana, DR**	**1.21**	**118**	*i* P		**Pg**		**17 08 02.8**	**-0.1**
PCDR				*e*S		**Sn**		**17 08 20.0**	**+1.7**
PCDR				IAML				17 08 27.4	
	comp=Z,201nm,0.6s								
SODR	**Sosua Marina B**	**1.21**	**303**	*i*				17 10 28.9	
MADR	**Mao Valverde**	**1.58**	**288**	*e*Pg		**Pb**		**17 08 08.7**	**0.0**
MADR				*e*Sg		**Sg**		**17 08 31.4**	**+0.8**
MADR				IAML				17 08 36.2	
	comp=N,809nm,0.5s								
SDDR	**Presa de Saban**	**1.69**	**267**	*e*Pg		**Pb**		**17 08 11.2**	**+0.6**
SDDR				*e*Sg		**Sg**		**17 08 33.6**	**-0.5**
SDDR				IAML				17 08 42.8	
	comp=N,152nm,0.4s								
SDDR	**Presa de Saban**	**1.69**	**267**	*e*P		**Pb**		**17 08 10.5**	**-0.1**
SDDR				*e*S		**Sb**		**17 08 32.1**	**+0.2**
SDDR	**Presa de Saban**	**1.69**	**267**	*i* P		**Pb**		**17 08 11.3**	**+0.6**
SDDR				*e*S		**Sg**		**17 08 33.7**	**-0.5**
SDDR				IAML				17 08 43.5	
	comp=Z,127nm,0.3s								
REDR	**Restauracion**	**1.79**	**273**	IAML				17 08 43.1	
	comp=N,380nm,0.2s								
LOBA2	**Hotel Casa Bon**	**1.81**	**237**	*e*Pg		**Pb**		**17 08 13.3**	**+0.7**
LOBA2				*e*Sg		**Sg**		**17 08 37.7**	**-0.3**
PODR	**Polo**	**1.92**	**242**	*e*Pg		**Pb**		**17 08 15.2**	**+0.6**
PODR				*e*Sg		**Sg**		**17 08 41.8**	**+0.3**
PODR				IAML				17 08 43.7	
	comp=N,122nm,0.5s								
MCDR	**Montecristi**	**2.18**	**292**	*e*Pg		**Pn**		**17 08 17.1**	**+1.5**
MCDR				IAML				17 08 59.2	
	comp=N,257nm,0.3s								
JIDR	**Jimani**	**2.30**	**255**	*e*Pg		**Pb**		**17 08 21.1**	**+0.1**
JIDR				*e*Sg		**Sb**		**17 08 48.5**	**-0.9**
JIDR				IAML				17 09 00.1	
	comp=N,130nm,0.3s								
AGPR	**Aguadilla, PR**	**2.35**	**105**	*e*Pg		**Pb**		**17 08 20.9**	**-0.9**
AGPR				*e*Sg		**Sb**		**17 08 51.5**	**+0.8**
AGPR				IAML				17 09 05.1	
	comp=N,223nm,0.6s								
AGPR	**Aguadilla, PR**	**2.35**	**105**	*i* P		**Pb**		**17 08 20.9**	**-0.9**
AGPR				*e*S		**Sb**		**17 08 51.4**	**+0.8**
AGPR				IAML				17 09 04.4	
	comp=Z,92nm,0.3s								
CRPR	**Cabo Rojo, PR**	**2.51**	**115**	*e*Pg		**Pb**		**17 08 25.2**	**+0.7**
CRPR				*e*Sg		**Sg**		**17 08 58.4**	**-2.0**
CRPR				IAML				17 09 11.8	
	comp=N,54nm,0.9s								
GRTK	**Grand Turk**	**2.85**	**328**	*i* P		**Pn**		**17 08 24.6**	**-0.2**
CELP	**Cerrillos**	**2.95**	**110**	*e*Pg		**Pb**		**17 08 31.3**	**-0.8**
CELP				*e*Sg		**Sg**		**17 09 11.7**	**-2.9**
MASC	**Masc**	**4.58**	**284**	*e*P		**Pn**		**17 08 48.7**	**+0.1**
MASC				*e*S		**Sn**		**17 09 40.2**	**-1.5**
GTBY	**Guantanamo Bay**	**5.36**	**280**	*e*P		**Pn**		**17 08 56.6**	**-2.6**
RCC	**Rio Carpintero**	**5.91**	**280**	*e*P		**Pn**		**17 09 04.8**	**-2.0**
RCC				*e*S		**Sn**		**17 10 06.8**	**-7.6**

IDC 18 17:20:06.5±5.3, 49.°98N×114.°21W, h0km, mbtmp3.4/1, ML3.5/1, Error ellipse: s-maj=87.0km s-min=40.4km az=77.0, British Columbia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I56US	**NEWPORT INFRAS**	**2.58**	**229**	I		I	I	17 38 30.0	
	baz=47,slow=295,SNR=5.0								
I10CA	**LAC DU BONNET**	**11.68**	**82**	I		I	I	18 34 10.0	
	baz=273,slow=319,SNR=2.7								
YKA	**Yellowknife Ar**	**12.54**	**359**	Pn		Pn		17 23 02.0	-4.1
	0.3nm,0.3s,baz=170,slow=15,SNR=16								
YKA				Sn		Sn		17 25 16.3	-10
	0.1nm,0.3s,baz=178,slow=22,SNR=5.3								
YKA				Lg		Lg		17 26 34.8	
	baz=166,slow=27,SNR=4.0								
	0.4nm,0.5s								

ASRS 18 17:28:27.9±0.5, 53.°N±3.°×10.°0E±.°, h5km, MLh3.8/4, 1C, Error ellipse: s-maj=7.2km s-min=3.5km az=36.7, confirmed, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MOY	**Mondy**	**1.26**	**142**	↑Pg		Pn		17 28 52.2	0.0
MOY				Sg		Sg		17 29 07.8	-0.5
IRK	**Irkutsk**	**2.80**	**97**	Sg		Sn		17 29 43.3	-4.1
KZLR	**Kyzyl**	**3.40**	**256**	Pg		Pg		17 29 35.3	+2.3
KZLR				Sg		Sg		17 30 21.7	+4.6
MINR	**Mina**	**3.98**	**306**	Pg		Pg		17 29 47.0	+2.8
MINR				Sg		Sg		17 30 42.4	+6.7
CERR	**Cheremushki**	**5.07**	**275**	Sg		Sg		17 31 13.6	+3.1
GZLN	**Zheleznogorsk**	**5.10**	**319**	Pg		Pg		17 30 09.1	+3.7
GZLN				Sg		Sg		17 31 13.3	+1.9
DJO	**Djoy, Khakassi**	**5.19**	**275**	Pg		Pg		17 30 08.2	+1.0
DJO				Sg		Sg		17 31 18.5	+4.0
VEH	**Verkhnyaya Baz**	**5.73**	**280**	Pg		Pg		17 30 15.7	-1.9
VEH				Sg		Sg		17 31 37.2	+5.3

IDC 18 17:38:35.3±29.0, 20.°50S×172.°98W, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=533.6km s-min=174.1km az=74.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.16**	**263**	P		P	P	17 45 56.9	+0.2
	1.2nm,0.3s,baz=91,slow=9.3,SNR=6.2								
	1.2nm,0.3s								
STKA	**Stephens Creek**	**42.04**	**245**	P		P	P	17 46 28.6	-0.1
	2.3nm,0.8s,baz=87,slow=14,SNR=3.7								
	2.3nm,0.8s								
ASAR	**Alice Springs**	**49.09**	**256**	P		P	P	17 47 24.6	-0.3
	0.8nm,0.7s,baz=88,slow=8.4,SNR=25								
	0.8nm,0.7s								
WRA	**Warramunga Arr**	**49.25**	**261**	P		P	P	17 47 25.9	-0.2
	0.7nm,0.3s,baz=102,slow=8.2,SNR=49								
	0.7nm,0.3s								

AFAD ***18*** *17:41:33.6±0.0, 36.°87N×44.°20E, h7km±1km, ML2.5*

TEH ***18*** *17:41:36.6, 36.°83N×44.°25E, h10km±72km, MD2.5*

ISN ***18*** *17:41:37.0±1.2, 36.°84N×44.°26E, h20km, ML2.5*

ISC 18 17:41:35.1±1.4, 36.°93N±0.°05×44.°18E±0.°04, h7km±12km, n13, σ1°911/19, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CUKT	**Cukurca**	**0.56**	**305**	P		**Pg**		**17 41 45.4**	**-0.5**
CUKT				S		**Sg**		**17 41 54.4**	**+1.2**
CUKT				*i* AML		AML		17 41 56.0	
	comp=E,502nm,0.6s								
YOVA	**Hakkari_Yksek**	**0.66**	**8**	P		**Pg**		**17 41 47.5**	**-0.4**
YOVA				S		**Sb**		**17 41 58.0**	**-0.7**
HAKT	**HAKKARI**	**0.73**	**329**	P		**Pg**		**17 41 48.6**	**-0.6**
HAKT				S		**Sg**		**17 42 00.0**	**+1.2**
HAKT				*i* AML		AML		17 42 02.0	
	comp=N,215nm,0.6s								
HAKT				*i* AML		AML		17 42 02.0	
	comp=E,186nm,0.3s								
MAHB	**Mahabad**	**1.23**	**97**	Pg		**Pn**		**17 41 59.8**	**+0.9**
MAHB				Sg		**Sn**		**17 42 16.2**	**+0.3**
SIRN	**Sırnak**	**1.52**	**292**	P		**Pn**		**17 42 03.7**	**+0.9**
SIRN				S		**Sn**		**17 42 23.3**	**+0.4**
SIRN				*i* AML		AML		17 42 27.0	
	comp=E,58nm,0.4s								
IKRK	**Kirkuk**	**1.53**	**175**	*e*Pg		**Pn**		**17 42 02.0**	**-0.9**
	baz=357								
IKRK				*e*Sg		**Sn**		**17 42 22.3**	**-0.7**
IKRK				AML		AML		17 42 27.7	
	comp=E,85nm,0.6s								
IKRK				AML		AML		17 42 31.4	
	comp=N,68nm,0.2s								
IAZR	**Azarshahr**	**1.62**	**62**	Pg		**Pg**		**17 42 06.4**	**+0.3**
PERV	**Siirt/Pervari-**	**1.65**	**308**	P		**Pn**		**17 42 05.5**	**+0.8**
IMRD	**Marand**	**2.15**	**34**	Pn		**Pg**		**17 42

FNA				*i* Sg	**Sn**	**17 46 10.5**	**+0.2**
FNA	**Florina**	**1.39**	**137**	P	**Pn**	**17 45 50.8**	**-0.6**
FNA				S	**Sn**	**17 46 10.5**	**+0.2**
SJES	**Sjenica**	**1.46**	**355**	*e*Pg	**Pg**	**17 45 53.2**	**+0.3**
SJES				*e*Sg	**Sn**	**17 46 12.9**	**+0.8**
SJES	**Sjenica**	**1.46**	**355**	*e*Pg	**Pn**	**17 45 52.4**	**0.0**
SJES				*e*Sg	**Sn**	**17 46 12.9**	**+0.8**
STIP	**Stip**	**1.54**	**94**	*i* Pn	**Pg**	**17 45 55.2**	**+0.6**
STIP	**Stip**	**1.54**	**94**	*i* Pn	**Pg**	**17 45 55.1**	**+0.6**
NEST	**Nestorio**	**1.56**	**153**	P	**Pn**	**17 45 53.6**	**-0.1**
NEST				S	**Sg**	**17 46 15.6**	**+0.6**
SELS	**Selova**	**1.58**	**27**	*e*Pg	**Pn**	**17 45 53.8**	**-0.3**
SELS				*e*Sg	**Sg**	**17 46 17.4**	**+1.4**
BARS	**Barje**	**1.60**	**51**	*e*Pg	**Pg**	**17 45 56.4**	**+0.7**
BARS				*e*Sg	**Sg**	**17 46 16.7**	**+0.2**
PRVS	**Prvonek**	**1.60**	**64**	*e*Pg	**Pg**	**17 45 56.0**	**+0.3**
PRVS				*e*Sg	**Sg**	**17 46 17.6**	**+1.1**
TREB	**Trebinje**	**1.60**	**305**	*e*Pn	**Pn**	**17 45 54.3**	**-0.1**
TREB				*e*Sn	**Sg**	**17 46 16.7**	**+0.1**
BRY	**Bratogost**	**1.61**	**313**	*e*Pn	**Pn**	**17 45 54.8**	**+0.2**
BRY				*e*Sn	**Sg**	**17 46 17.1**	**+0.3**
BRY	**Bratogost**	**1.61**	**313**	⇓*i*Pn	**Pn**	**17 45 54.2**	**-0.4**
BRY				*i* Sn	**Sg**	**17 46 17.0**	**+0.3**
UPM	**Unac-Piva**	**1.66**	**327**	*e*Pn	**Pn**	**17 45 55.2**	**-0.1**
UPM				*e*Sn	**Sb**	**17 46 17.8**	**-0.1**
DBRK	**Dubrovnik**	**1.71**	**301**	*e*Pn	**Pn**	**17 45 55.5**	**-0.3**
DBRK				Sn	**Sg**	**17 46 21.9**	**+2.0**
IVAS	**Ivanjica**	**1.77**	**0**	*e*Pn	**Pn**	**17 45 56.8**	**+0.2**
IVAS				*e*Sg	**Sg**	**17 46 21.6**	**-0.2**
VAY	**Valandovo**	**1.89**	**104**	*e*Pg	**Pg**	**17 46 01.2**	**-0.1**
VAY				*e*Sg	**Sg**	**17 46 25.2**	**-0.6**
RUDO	**Rudo**	**1.89**	**343**	*e*Pn	**Pn**	**17 45 58.9**	**+0.6**
RUDO				*e*Sn	**Sb**	**17 46 23.7**	**-0.7**
GRG	**Griva**	**1.91**	**116**	P	**Pn**	**17 45 57.2**	**-1.4**
KPRO	**Kipourio**	**2.07**	**153**	P	**Pn**	**17 46 00.9**	**0.0**
KEK	**Kerkira**	**2.11**	**187**	P	**Pn**	**17 46 00.8**	**-0.6**
NEVS	**Nevesinje**	**2.11**	**315**	*e*Sn	**Sb**	**17 46 29.9**	**-0.9**
GRUS	**Gruza**	**2.12**	**11**	*e*Pn	**Pb**	**17 46 03.3**	**-0.9**
GRUS				*e*Sn	**Sb**	**17 46 30.6**	**-0.3**
KNT	**Kendrikon**	**2.17**	**106**	P	**Pn**	**17 46 00.8**	**-1.4**
IGT	**Igoumenitsa**	**2.28**	**176**	P	**Pn**	**17 46 04.6**	**+0.9**
HAPS	**Han Pijesak,BI**	**2.44**	**339**	*e*Pn	**Pn**	**17 46 06.1**	**+0.2**
HAPS				*e*Sn	**Sn**	**17 46 37.3**	**+1.0**
RICI	**Ricice**	**2.78**	**308**	*e*Pn	**Pn**	**17 46 11.1**	**+0.5**
RICI				Sn	**Sb**	**17 46 49.9**	**0.0**
KIJV	**Kijevo**	**3.51**	**310**	*e*Pn	**Pn**	**17 46 21.7**	**+1.1**
KIJV				Sn	**Sn**	**17 47 05.3**	**+2.6**
A050A	**Klekovaca**	**3.75**	**317**	*e*Pn	**Pn**	**17 46 23.2**	**-0.8**
A050A				*e*Sn	**Sn**	**17 47 08.4**	**-0.3**
A051A	**Mrakovica**	**3.97**	**325**	*e*Pn	**Pn**	**17 46 26.6**	**-0.4**

IDC ***18*** *17:47:44.7±1.1,6˚.96S×131˚.87E, h0km, mb4.1/9, mbtmp4.2/12, ML4.6/3, MS3.1/1, Error ellipse: s-maj=41.7km s-min=21.1km az=82.0*

DJA ***18*** *17:47:52.5±0.2,7˚S×13˚2E±˚, h55km±5km, M4.9/21, mB5.5/7, mb4.5/21, MLv4.9/12, Mw(mB)5.0/7*

ISC 18 17:47:50.8±0.7,7.00S±0.05×131.74E±0.07, h35km, n38, σ1§94/41, mb4.1/9, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.07**	**204**	P	Pn	17 48 14.8	+5.5
SAUI	**Saumlaki**	**1.07**	**204**	P	**Pn**	**17 48 12.0**	**+2.7**
SAUI				S	**Sn**	**17 48 26.6**	**+3.7**
BNDI	**Bandanaira**	**3.07**	**323**	P	**Pn**	**17 48 39.8**	**+3.0**
BNDI	**Bandanaira**	**3.07**	**323**	P	**Pn**	**17 48 39.1**	**+2.3**
BNDI				S	**Sn**	**17 49 12.8**	**+0.6**
FAKI	**Fak Fak**	**4.09**	**7**	P	**Pn**	**17 48 53.4**	**+2.6**
FAKI	**Fak Fak**	**4.09**	**7**	P	**Pn**	**17 48 53.0**	**+2.2**
FAKI				S	**Sn**	**17 49 38.0**	**+0.5**
KDU	**Kakadu**	**5.70**	**173**	P	**Pn**	**17 49 15.6**	**+2.7**
MTN	**Manton Dam**	**5.84**	**186**	P	**Pn**	**17 49 17.8**	**+2.9**
NLAI	**Namlea** 21nm,1.4s,10μm0.2nm	**5.94**	**309**	P	**Pn**	**17 49 18.6**	**+2.3**
NLAI	21nm,1.4s,10μm0.2nm			S	**Sn**	**17 50 26.3**	**+3.1**
SWI	**Sorong** 80nm,0.5s,3μm1.4nm	**6.12**	**355**	P	**Pn**	**17 49 19.6**	**+0.9**
SANI	**Sanana**	**7.55**	**310**	P	**Pn**	**17 49 41.7**	**+3.2**
SANI	**Sanana** 21nm,1.1s,0.1nm	**7.55**	**310**	P	**Pn**	**17 49 41.5**	**+3.0**
LBMI	**Labuha** 33nm,1.1s,1μm0.3nm	**7.61**	**326**	P	**Pn**	**17 49 40.6**	**+1.4**
SOEI	**Soe**	**7.88**	**249**	P	**Pn**	**17 49 45.9**	**+2.8**
SOEI	**Soe** 75nm,0.8s,2.0nm	**7.88**	**249**	P	**Pn**	**17 49 44.8**	**+1.7**
BATI	**Baumata** 6.6nm,0.3s,baz=90,slow=1.3,SNR=9.0	**8.60**	**248**	Pn	**Pn**	**17 49 54.2**	**+1.4**
BATI	11nm,0.3s,baz=185,slow=21,SNR=8.3 21nm,0.4s			Sn	**Sn**	**17 51 25.9**	**-2.8**
BATI	**Baumata** 45nm,0.7s	**8.60**	**248**	P	**Pn**	**17 49 53.4**	**+0.6**
TNTI	**Ternate** 10nm,1.5s	**8.87**	**330**	P	**Pn**	**17 49 57.4**	**+0.9**
KNRA	**Kununurra**	**9.10**	**198**	P	**Pn**	**17 50 00.8**	**+1.1**
BBSI	**Bau Bau** 100nm,1.0s	**9.24**	**279**	P	**Pn**	**17 50 01.6**	**0.0**
MMRI	**Maumere** 29nm,0.8s	**9.55**	**260**	P	**Pn**	**17 50 06.3**	**+0.4**
JAY	**Jayapura** 14nm,0.8s	**9.98**	**64**	P	**Pn**	**17 50 13.7**	**+1.9**
EDFI	**Ende, Flores** 9.4nm,0.8s	**10.11**	**259**	P	**Pn**	**17 50 15.5**	**+1.9**
LUWI	**Luwuk** 23nm,1.1s	**10.72**	**303**	P	**Pn**	**17 50 22.8**	**+0.8**
BASI	**Baing, Sumba** 122nm,1.2s	**11.49**	**253**	P	**Pn**	**17 50 32.1**	**-0.4**
WRA	**Warramunga Arr** 3.2nm,0.3s,baz=345,slow=15,SNR=92	**13.11**	**169**	Pn	**Pn**	**17 50 52.4**	**-2.2**
WRA	5.4nm,0.3s,baz=347,slow=22,SNR=10 9.4nm,0.5s			Sn	Sn	17 53 08.8	-10
PMG	**Port Moresby** comp=Z,66nm,20.3s,baz=275,slow=40	**15.45**	**100**	LR	LR	17 57 52.9	
ASAR	**Alice Springs** 2.2nm,0.3s,baz=354,slow=10,SNR=133	**16.70**	**173**	Pn	**Pn**	**17 51 40.7**	**-1.5**
ASAR	1.1nm,0.3s,baz=355,slow=27,SNR=6.8 4.0nm,0.4s			Sn	Sn	17 54 36.7	-10
PWJI	**Pagerwojo** 8.9nm,1.1s	**19.79**	**266**	P	**P**	**17 52 18.7**	**+0.4**
CMAR	**Chiang Mai Arr** 0.3nm,0.4s,baz=134,slow=6.4,SNR=5.1 0.3nm,0.4s	**41.07**	**309**	P	**P**	**17 55 29.9**	**-1.5**
MJAR	**Matsushiro Arr** 1.1nm,0.7s,baz=188,slow=9.7,SNR=4.6 1.1nm,0.7s	**43.74**	**8**	P	**P**	**17 55 51.6**	**-1.2**
SONM	**Songino Array** 2.2nm,0.9s,baz=154,slow=6.9,SNR=9.7 2.2nm,0.9s	**59.01**	**340**	P	**P**	**17 57 47.4**	**+0.3**
MKAR	**Makanchi Array** 3.1nm,0.6s,baz=119,slow=8.3,SNR=40 3.1nm,0.6s	**69.18**	**326**	P	**P**	**17 58 53.6**	**-0.2**
ZALV	**Zalesovo Beam** 1.4nm,0.7s,baz=111,slow=4.7,SNR=8.7 1.4nm,0.7s	**72.36**	**333**	P	**P**	**17 59 12.2**	**-0.7**
KURBB	**Kurchatov Arra** 2.2nm,0.7s,baz=128,slow=4.6,SNR=26 2.2nm,0.7s	**73.42**	**328**	P	**P**	**17 59 19.1**	**-0.2**
BVAR	**Borovoye Array** 1.3nm,0.6s,baz=116,slow=6.8,SNR=8.2 1.3nm,0.6s	**78.99**	**327**	P	**P**	**17 59 50.5**	**-0.5**
GEYT	**Alibeck** 0.8nm,0.3s,baz=134,slow=4.2,SNR=4.4 0.8nm,0.3s	**81.54**	**310**	P	**P**	**18 00 04.8**	**-0.3**
QSPA	**South Pole Qui** 1.7nm,0.9s,baz=41,slow=0.4,SNR=5.7 1.7nm,0.9s	**82.97**	**180**	P	**P**	**18 00 11.8**	**-0.4**

BJI ***18*** *18:00:10.1±0.0,45˚.40N×150˚.08E, h86km, mb5.3/79, mB5.2/47, Ms4.5/56, Ms7 4.2/55*

NEIC ***18*** *18:00:10.5,45˚.13N×150˚.58E, h90km, Moment Tensor Solution. Duration: 2ŝ2 Moment tensor: Scale 10¹⁶Nm; Mrr=4.73; Mθθ=2.21; Mφφ=2.52; Mrθ=4.65; Mθφ=3.24; Mφr=2.71; Fault plane solution: M₀7.48000×10¹⁶ NP1: φs=235.98000°, δ=68.53000°, λ=-79.27000°. NP2:φs=28.62000°, δ=23.89000°, λ=-115.32000°. Principal axes: T 7.7879, Plg23.0000°, Azm318.0000°; N -0.6129, Plg10.0000°, Azm52.0000°; P -7.1750, Plg65.0000°, Azm164.0000°;*

NEIC ***18*** *18:00:10.5,45˚.33N×150˚.29E, h90km*

SKHL ***18*** *18:00:11.8±0.1,45˚.20N×150˚.40E, h102km±5km, mb6.3/13, mbv6.6/5, msh6.2/7, msha6.8/10*

MOS ***18*** *18:00:11.8±1.3,45˚.39N×150˚.12E, h103km, mb5.6/82, MS4.2/9, Error ellipse: s-maj=5.1km s-min=3.5km az=116.2*

MOS Felt (III-IV) at Gornyy, Goryachiye Klyuchi; (III) at Kuril'sk.

NEIC ***18*** *18:00:11.2±2.6,45˚.37N±0˚.07×150˚.25E±0˚.09, h80km±4km, mb5.5/644, Mww5.2/17, Error ellipse: s-maj=10.0km s-min=9.3km az=143.0*

IDC ***18*** *18:00:13.0±0.4,45˚.48N×150˚.00E, h96km±3km, mb5.1/33, mbtmp5.4/40, MS3.9/51, Error ellipse: s-maj=9.0km s-min=7.6km az=89.0*

JMA ***18*** *18:00:13.2±0.8, 45˚N±2˚×15˚0E±˚, h30km, MD5.0/18, MW5.1/18, KURILE ISLANDS REGION*

JMA Felt I J1 at KURILE ISLANDS REGION .

NIED ***18*** *18:00:13.2, 45˚.39N×150˚.04E, h30km, MW5.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr=5.47; Mθθ5.95; Mφφ=0.48; Mrθ5.21; Mθφ2.72; Mφr2.34; Fault plane solution: M₀8.44000×10¹⁶ NP1: φs247.00000°, δ66.00000°, λ-93.00000°. NP2:φs75.00000°, δ24.00000°, λ-83.00000°.*

GCMT ***18*** *18:00:14.2±0.1,45˚.41N±0˚.01×150˚.23E±0˚.01, h102km±1km, MW5.2/152, Moment Tensor Solution. s115,c178; s152,c257; Duration: 1ŝ0 Moment tensor: Scale 10¹⁷Nm; Mrr=0.58±.01; Mθθ0.46±.02; Mφφ0.11±.02; Mrθ0.63±.01; Mθφ0.27±.01; Mφr0.36±.01; Best double couple: M₀0.93800×10¹⁷ NP1:φs241.00000°, δ70.00000°, λ-90.00000°. NP2:φs62.00000°, δ20.00000°, λ-89.00000°. Principal axes: T 0.9540, Plg25.0000°, Azm331.0000°; N -0.0330, Plg0.0000°, Azm241.0000°; P -0.9210, Plg65.0000°, Azm150.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***18*** *18:00:30.0,47˚.33N×148˚.16E, h134km, mb5.7*

ISC 18 18:00:12.6±0.2, 45˚.40N±0˚.03×150˚.04E±0˚.03, h96km±1km, h95km:pP-P, n1975, σ1§41/1858, mb5.5/592, 72C-116D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.54**	**264**	*d i*PN	**Pn**	**18 00 41.8**	**+2.7**
KUR				*i* S	**Sn**	**18 01 03.2**	**+4.0**
KUR	comp=Z,41μm,0.6s			pmax	pmax		
KUR	comp=N,10μm,0.5s			pmax	pmax		
KUR	comp=E,4μm,0.7s			smax	smax		
KUR	comp=N,195μm,1.4s			smax	smax		
KUR	comp=E,412μm,1.4s			smax	smax		
KUR	comp=N,100μm,0.6s			smax	smax		
KUR	comp=E,122μm,0.6s			smax	smax		
KUR	**Kuril'sk**	**1.54**	**264**	*i* P	**Pn**	**18 00 41.8**	**+2.7**
KUR				AMB	AMB	18 00 42.9	
KUR	comp=E,10μm,0.6s			AMB	AMB	18 00 42.9	
KUR	comp=E,4μm,0.6s			AMB	AMB	18 00 42.9	
KUR	comp=E,41μm,0.6s			*i* S	**Sn**	**18 01 03.4**	**+4.2**
KUR				A	A	18 01 04.0	
KUR	comp=E,275μm,1.0s			A	A	18 01 04.0	
KUR	comp=E,367μm,1.0s			A	A	18 01 04.1	
KUR	comp=E,174μm,0.7s			A	A	18 01 04.1	
KUR	comp=E,239μm,0.7s			A	A	18 01 04.1	
SHO	**Shikotan**	**2.76**	**237**	⇓*i*PN	**Pn**	**18 00 55.1**	**+0.2**
SHO				*i* S	**Sn**	**18 01 25.7**	**-1.8**
SHO	comp=Z,981nm,0.4s			pmax	pmax		
SHO	comp=E,623nm,0.1s			pmax	pmax		
SHO	comp=N,16μm,0.4s			smax	smax		
SHO	comp=E,9μm,0.3s			smax	smax		
SHO	**Shikotan**	**2.76**	**237**	*i* P	**Pn**	**18 00 55.1**	**+0.2**
SHO				AMB	AMB	18 01 00.1	
SHO	comp=E,980nm,0.4s			*i* S	**Sn**	**18 01 25.7**	**-1.8**
SHO				A	A	18 01 30.8	
SHO	comp=E,16μm,0.4s			A	A	18 01 30.8	
SHO	comp=E,9μm,0.4s			A	A	18 01 30.8	
YUK	**Yuzh-Kuril'sk**	**3.28**	**247**	*d i*PN	**Pn**	**18 01 03.6**	**+1.7**
YUK				*i* S	**Sn**	**18 01 41.2**	**+1.2**
YUK	comp=Z,3μm,0.2s			pmax	pmax		
YUK	comp=N,12μm,1.1s			smax	smax		
YUK	comp=E,10μm,0.8s			smax	smax		
YUK	comp=N,5μm,0.5s			smax	smax		
YUK	comp=E,14μm,0.5s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**3.28**	**247**	*i* P	**Pn**	**18 01 04.0**	**+2.1**
YUK				AMB	AMB	18 01 06.8	
YUK	comp=E,3μm,0.2s			*e*S	**Sn**	**18 01 42.1**	**+2.1**
YUK				A	A	18 01 45.6	
YUK	comp=E,12μm,1.0s			A	A	18 01 45.6	
YUK	comp=E,10μm,1.0s			A	A	18 01 47.2	
YUK	comp=E,19μm,0.6s			A	A	18 01 47.2	
YUK	comp=E,23μm,0.6s			A	A	18 01 47.2	
RUSJ	**Misakicho**	**3.65**	**251**	⇓*i*PN	**Pn**	**18 01 09.2**	**+2.3**
RUSJ				*e*S	**Sn**	**18 01 53.7**	**+4.7**
NEM2	**Nemuro 2**	**3.69**	**238**	*e*P	**Pn**	**18 01 07.4**	**-0.1**
NEM2				*e*S	**Sn**	**18 01 47.0**	**-3.0**
NEM2	**Nemuro 2** comp=E,6.0nm,2.1s,comp=N,7.0nm,3.0s	**3.69**	**238**	A	A	18 01 07.4	
NMR	**Nemuro--Hokkai**	**3.70**	**238**	*e*PN	**Pn**	**18 01 07.4**	**-0.2**
NMR				*e*S	**Sn**	**18 01 47.5**	**-2.7**
NMR	**Nemuro--Hokkai**	**3.70**	**238**	*e*P	**Pn**	**18 01 07.4**	**-0.2**
JRA	**Rausu**	**3.80**	**249**	*e*P	**Pn**	**18 01 11.3**	**+2.3**
JRA	**Rausu** comp=E,10.0nm,1.9s,comp=N,12nm,3.9s	**3.80**	**249**	A	A	18 01 11.3	
JNSB	**Nemuroshibetsu** comp=E,15nm,3.3s,comp=N,15nm,1.7s	**3.95**	**247**	A	A	18 01 10.7	
JKHN	**Kushirohamanak** comp=E,11nm,5.6s,comp=N,10.0nm,2.8s	**4.20**	**238**	A	A	18 01 14.2	
JNK	**Nakash**	**4.22**	**246**	*e*P	**Pn**	**18 01 16.1**	**+1.5**
JNK	**Nakash** comp=E,6.0nm,0.8s,comp=N,7.0nm,5.2s	**4.22**	**246**	A	A	18 01 16.1	
AKK	**Akkeshi**	**4.43**	**239**	*e*P	**Pn**	**18 01 17.3**	**-0.2**
JAK	**Akkeshi**	**4.53**	**240**	*e*P	**Pn**	**18 01 18.8**	**-0.1**
JAK				*e*S	**Sn**	**18 02 07.7**	**-2.6**
JAK	**Akkeshi** comp=E,10.0nm,1.4s,comp=N,7.0nm,1.0s	**4.53**	**240**	A	A	18 01 18.8	
JTKR	**Abashiri--Toko**	**4.60**	**254**	*e*P	**Pn**	**18 01 22.3**	**+2.6**
JMP	**Maruseppu** comp=E,3.0nm,1.9s,comp=N,3.0nm,1.3s	**4.96**	**256**	A	A	18 01 24.8	
JAR	**Ashorobuto**	**4.96**	**247**	*e*P	**Pn**	**18 01 26.7**	**+1.9**
JAR	**Ashorobuto** comp=E,5.0nm,1.0s,comp=N,5.0nm,0.5s	**4.96**	**247**	A	A	18 01 26.7	
JOB	**Onbets**	**5.12**	**243**	*e*P	**Pn**	**18 01 27.6**	**+0.8**
JOB				*e*S	**Sn**	**18 02 23.0**	**-1.5**
JOB	**Onbets** comp=E,6.0nm,1.0s,comp=N,7.0nm,1.0s	**5.12**	**243**	A	A	18 01 27.6	
YSS	**Yuzh-Sakhalins**	**5.29**	**290**	Pn	**Pn**	**18 01 33.1**	**+4.0**
YSS				Sn	**Sn**	**18 02 33.7**	**+4.9**
YSS	**Yuzh-Sakhalins**	**5.29**	**290**	*de*PN	**Pn**	**18 01 33.3**	**+4.2**
YSS	comp=Z,3μm,1.0s			pmax	pmax		
YSS	comp=Z,4μm,2.8s			pmax	pmax		
YSS	comp=Z,5μm,12.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**5.29**	**290**	*e*P	**Pn**	**18 01 33.3**	**+4.2**
YSS	comp=Z,3μm,0.6s			AMB	AMB	18 01 33.9	
YSS	comp=Z,4μm,2.8s			AMB	AMB	18 01 38.4	
YSS	comp=Z,910nm,0.9s			*e*S	**Sn**	**18 02 34.7**	**+6.0**
YSS	comp=Z,2μm,0.9s			A	A	18 02 38.6	
YSS	comp=Z,4μm,2.5s			A	A	18 02 38.8	
YSS	comp=Z,6μm,2.5s			A	A	18 02 38.8	
YSS	comp=Z,5μm,12.0s			AMS	AMS	18 03 34.5	
JKK2	**Kamakawa 2**	**5.42**	**256**	*e*P	**Pn**	**18 01 34.0**	**+3.0**
JKA	**Kamikawa-asahi**	**5.45**	**259**	Pn	**Pn**	**18 01 34.2**	**+2.9**
JKA	**Kamikawa-asahi**	**5.45**	**259**	*e*P	**Pn**	**18 01 34.2**	**+2.9**
ASAJ	**Asahikawa**	**5.45**	**259**	PN	**Pn**	**18 01 34.2**	**+2.8**
ASAJ	**Asahikawa** comp=Z,369nm,0.9s,baz=92,slow=14,SNR=68	**5.45**	**259**	P	**Pn**	**18 01 34.1**	**+2.7**
JCH	**Churui**	**5.56**	**242**	*e*P	**Pn**	**18 01 33.0**	**+0.1**
JCH				*e*S	**Sn**	**18 02 33.2**	**-2.2**
JCH	**Churui** comp=E,3.0nm,1.2s,comp=N,4.0nm,1.2s	**5.56**	**242**	A	A	18 01 33.0	
JWK2	**Keihoku**	**5.74**	**272**	*e*P	Pn	18 01 40.0	+4.8
JWK2	**Keihoku** comp=E,8.0nm,3.9s,comp=N,8.0nm,3.7s	**5.74**	**272**	A	A	18 01 40.0	
JAB	**Ashibetsu**	**5.91**	**254**	*e*P	**Pn**	**18 01 41.0**	**+3.4**
JAB	**Ashibetsu** comp=E,4.0nm,4.1s,comp=N,5.0nm,4.0s	**5.91**	**254**	A	A	18 01 41.0	
JEM	**Erimo**	**6.03**	**238**	P	**Pn**	**18 01 40.2**	**+1.0**
ERM	**Erimo**	**6.03**	**238**	Pn	**Pn**	**18 01 40.2**	**+1.0**
ERM	**Erimo**	**6.03**	**238**	P	**Pn**	**18 01 40.5**	**+1.3**
ERM	**Erimo**	**6.03**	**238**	*c* iPN	**Pn**	**18 01 40.5**	**+1.3**
JNBK	**Urakawa-nobuka**	**6.12**	**242**	*e*P	**Pn**	**18 01 40.3**	**-0.2**
JNBK	**Urakawa-nobuka** comp=E,5.0nm,0.6s,comp=N,4.0nm,8.5s	**6.12**	**242**	A	A	18 01 40.3	
JRBN	**Rebuntou**	**6.32**	**273**	*e*P	**Pn**	**18 01 47.1**	**+4.0**
JIAM	**Iburiatsuma** comp=E,8.0nm,5.8s,comp=N,8.0nm,5.7s	**6.48**	**247**	A	A	18 01 45.6	
UGL	**Uglegorsk**	**6.55**	**307**	⇓*e*PN	**Pn**	**18 01 50.9**	**+4.6**
UGL				*e*S	**Sn**	**18 03 06.4**	**+7.0**
UGL	comp=Z,9μm,1.2s			pmax	pmax		
UGL	comp=N,3μm,1.5s			pmax	pmax		
UGL	comp=E,4μm,1.5s			pmax	pmax		
UGL	comp=Z,5μm,0.9s			pmax	pmax		
UGL	comp=E,8μm,3.0s			smax	smax		
UGL	comp=E,2μm,1.0s			smax	smax		
UGL	comp=N,6μm,3.3s			smax	smax		
UGL	comp=N,1μm,0.9s			smax	smax		
UGL	**Uglegorsk**	**6.55**	**307**	*i* P	**Pn**	**18 01 50.9**	**+4.6**
UGL				AMB	AMB	18 01 52.0	
UGL	comp=N,9μm,1.2s			AMB	AMB	18 01 52.0	
UGL	comp=N,5μm,0.8s			*e*S	**Sn**	**18 03 05.7**	**+6.3**
UGL				A	A	18 03 09.7	
UGL	comp=N,1μm,0.9s			A	A	18 03 09.7	
UGL	comp=N,2μm,0.9s			A	A	18 03 10.1	
UGL	comp=N,6μm,3.3s			A	A	18 03 10.1	
UGL	comp=N,8μm,3.3s			A	A	18 03 10.1	
SKR	**Severo-Kuril's**	**6.67**	**35**	⇓*i*PN	**Pn**	**18 01 47.6**	**-0.2**
SKR				*e*S	**Sn**	**18 03 00.8**	**-1.4**
SKR	comp=Z,1μm,0.7s			pmax	pmax		
SKR	comp=E,527nm,0.5s			smax	smax		
SKR	comp=N,425nm,0.6s			smax	smax		
SKR	comp=Z,2μm,11.0s			MLR	MLR		
SKR	comp=N,1μm,10.0s			MLR	MLR		
SKR	comp=E,1μm,11.0s			MLR	MLR		
SKR	**Severo-Kuril's**	**6.67**	**35**	*i* P	**Pn**	**18 01 47.6**	**-0.2**
SKR				AMB	AMB	18 01 50.9	
SKR	comp=E,1μm,0.7s			*e*S	**Sn**	**18 03 00.8**	**-1.4**
SKR				A	A	18 03 05.2	
SKR	comp=E,430nm,0.5s			A	A	18 03 05.2	
SKR	comp=E,530nm,0.5s			AMS	AMS	18 04 51.8	
SKR	comp=E,1μm,11.0s			AMS	AMS	18 04 51.8	
SKR	comp=E,1μm,11.0s			AMS	AMS	18 04 51.8	
SKR	comp=E,2μm,11.0s			AMS	AMS	18 04 51.8	
TYV	**Tymovskoe**	**7.36**	**321**	*e*PN	**Pn**	**18 02 01.1**	**+3.8**
TYV				*e*S	**Sn**	**18 03 27.1**	**+8.0**
TYV	comp=Z,2μm,2.8s			pmax	pmax		
TYV	comp=Z,529nm,1.2s			pmax	pmax		
TYV	comp=N,271nm,1.0s			smax	smax		
TYV	comp=E,290nm,1.0s			smax	smax		
TYV	comp=N,800nm,4.0s			smax	smax		
TYV	comp=E,800nm,4.0s			smax	smax		
TYV	**Tymovskoe**	**7.36**	**321**	*i* P	**Pn**	**18 02 01.1**	**+3.8**
TYV				AMB	AMB	18 02 02.2	
TYV	comp=E,4μm,2.8s			AMB	AMB	18 02 02.3	
TYV	comp=E,880nm,0.8s			*e*S	**Sn**	**18 03 25.4**	**+6.3**
TYV				A	A	18 03 30.5	
TYV	comp=E,430nm,0.8s			A	A	18 03 30.5	
TYV	comp=E,600nm,0.8s			A	A	18 03 34.7	
TYV	comp=E,800nm,4.0s			A	A	18 03 34.7	
PAU	**Pauzhetka**	**7.55**	**34**	*i* P	**Pn**	**18 02 00.1**	**+0.2**
PAU				*e*S	**Sn**	**18 03 21.1**	**-2.7**
JTM	**Tenmabayashi**	**8.02**	**238**	Pn	**Pn**	**18 02 05.3**	**-1.0**
JTM	**Tenmabayashi**	**8.02**	**238**	P	**Pn**	**18 02 05.6**	**-0.7**
JANG	**Nango**	**8.03**	**234**	*e*P	**Pn**	**18 02 03.7**	**-2.6**
JANG				*e*S	**Sn**	**18 03 27.4**	**-8.1**
JANG	**Nango** comp=E,2.0nm,4.7s,comp=N,2.0nm,1.8s	**8.03**	**234**	A	A	18 02 03.7	
JTH	**Tanohata**	**8.13**	**231**	*e*P	**Pn**	**18 02 04.7**	**-3.1**
JTH				*e*S	Sn	18 03 28.8	-9.1
PEA0B	**Petropavlovsk-**	**9.19**	**30**	Pn	**Pn**	**18 02 21.8**	**-0.3**
PEA0B	**Petropavlovsk-**	**9.19**	**30**	*de*PN	**Pn**	**18 02 21.7**	**-0.4**
PETK	**Petropavlovsk-**	**9.19**	**30**	Pn	**Pn**	**18 02 21.3**	**-0.8**
PETK	**Petropavlovsk-**	**9.19**	**30**	PN	**Pn**	**18 02 21.3**	**-0.8**
PETK	**Petropavlovsk-** comp=N,108nm,0.7s,baz=202,slow=7.6,SNR=156	**9.19**	**30**	P	**Pn**	**18 02 21.1**	**-1.0**
OKH	**Okha**	**9.37**	**333**	*c* iPN	**Pn**	**18 02 27.1**	**+2.6**
OKH	comp=Z,1μm,9.5s			pmax	pmax		
OKH	comp=Z,2μm,13.0s			MLR	MLR		
OKH	comp=E,2μm,11.0s			MLR	MLR		
OKH	comp=N,1μm,10.0s			MLR	MLR		
OKH	**Okha**	**9.37**	**333**	*i* P	**Pn**	**18 02 27.1**	**+2.6**
OKH				AMB	AMB	18 02 32.7	
OKH	comp=N,1μm,9.5s			AMS	AMS	18 08 02.0	
OKH	comp=N,1μm,12.0s			AMS	AMS	18 08 02.0	
OKH	comp=N,2μm,12.0s			AMS	AMS	18 08 02.0	
OKH	comp=N,2μm,12.0s			AMS	AMS	18 08 02.0	
PET	**Petropavlovsk**	**9.48**	**33**		**Pn**	**18 02 24.6**	**-1.4**
PET	**Petropavlovsk**	**9.48**	**33**	P	**Pn**	**18 02 26.6**	**+0.6**
PET	**Petropavlovsk**	**9.48**	**33**	*e*PN	**Pn**	**18 02 24.2**	**-1.8**
PET				*e*S	**Sn**	**18 04 09.0**	**-1.6**
PET				pmax	pmax		

comp=Z,33nm,0.6s
PET MLR MLR
comp=Z,800nm,15.0s
PET MLR MLR
comp=Z,1µm,14.0s
PET Petropavlovsk 9.48 33 *e*P **Pn 18 02 24.7 -1.3**
PET AMB AMB 18 02 35.1
comp=Z,30nm,0.6s
PET *e*S **Sn 18 04 09.0 -1.6**
PET AMS AMS 18 06 49.7
comp=Z,1µm,14.0s
TEY Ternei 9.49 273⇑*e*PN **Pn 18 02 29.9 +3.6**
TEY *e* 18 04 15.5
TEY pmax pmax
comp=N,20nm,0.7s
TEY pmax pmax
comp=Z,190nm,0.8s
TEY pmax pmax
comp=E,190nm,0.8s
TEY Ternei 9.49 273 *e*P **Pn 18 02 29.9 +3.6**
TEY AMB AMB 18 02 30.6
comp=E,20nm,0.8s
TEY AMB AMB 18 02 30.6
comp=E,190nm,0.8s
TEY AMB AMB 18 02 30.6
comp=E,190nm,0.8s
NKL Nikolayevsk 9.87 325 *e*PN **Pn 18 02 30.6 -0.7**
NKL *e*S **Sn 18 04 24.4 +4.4**
NKL pmax pmax
comp=N,242nm,1.0s
NKL pmax pmax
comp=E,3µm,1.0s
NKL pmax pmax
comp=Z,3µm,1.1s
NKL smax smax
comp=E,1µm,1.4s
NKL smax smax
comp=N,906nm,1.2s
NKL Nikolayevsk 9.87 325 *i* P **Pn 18 02 33.9 +2.6**
NKL AMB AMB 18 02 35.6
comp=N,2µm,1.5s
NKL AMB AMB 18 02 36.6
comp=N,860nm,0.8s
NKL *e*S **Sn 18 04 22.9 +2.9**
NKL A A 18 04 30.2
comp=N,900nm,1.3s
NKL A A 18 04 30.2
comp=N,1µm,1.3s
NKL A A 18 04 32.8
comp=N,250nm,0.8s
NKL A A 18 04 32.8
comp=N,210nm,0.8s
JMM Marumori 10.22 226 Pn **Pn 18 02 34.7 -1.6**
JMM Marumori 10.22 226 P **Pn 18 02 36.0 -0.3**
GRNR Gornyy 10.57 305⇑*i*PN **Pn 18 02 44.7 +3.8**
GRNR *e*S **Sn 18 04 46.0 +8.8**
GRNR pmax pmax
comp=N,90nm,0.9s
GRNR pmax pmax
comp=E,180nm,0.9s
GRNR pmax pmax
comp=Z,230nm,0.9s
GRNR smax smax
comp=E,30nm,0.9s
GRNR MLR MLR
comp=Z,580nm,16.0s
GRNR Gornyy 10.57 305 *e*P **Pn 18 02 44.4 +3.5**
GRNR AMB AMB 18 02 45.4
comp=Z,90nm,0.9s
GRNR AMB AMB 18 02 45.4
comp=Z,180nm,0.9s
GRNR AMB AMB 18 02 45.4
comp=Z,230nm,0.9s
GRNR AMS AMS 18 06 35.8
comp=Z,800nm,16.0s
GRNR AMS AMS 18 06 35.8
comp=Z,600nm,16.0s
KHBR Khabarovsk 10.70 292 *e*P **Pn 18 02 46.3 +3.7**
JSD Sado 11.46 234 Pn 18 02 52.5 -0.6
JSD Sado 11.46 234 P **Pn 18 02 51.7 -1.4**
MJB9 Matsu-Tunnel 12.57 229 Pn **Pn 18 03 06.6 -1.3**
MAJO Matsushiro 12.57 229 Pn 18 03 05.5 -2.4
MAJO Matsushiro 12.57 229 P **Pn 18 03 06.8 -1.1**
MAJO Matsushiro 12.57 229*c i*PN **Pn 18 03 06.2 -1.7**
MJAR Matsushiro Arr 12.57 229 P **Pn 18 03 06.7 -1.2**
comp=Z,14nm,0.7s,baz=33,slow=13,SNR=90
MJAR LR LR 18 08 11.0
comp=Z,245nm,19.3s,baz=40,slow=38
USA0B Ussuriysk Arra 12.88 271 Pn 18 03 12.7 +0.8
USA0B Ussuriysk Arra 12.88 271*c i*PN **Pn 18 03 12.6 +0.7**
USRK Ussuriysk Ar. 12.88 271 PN **Pn 18 03 13.0 +1.1**
USRK Ussuriysk Ar. 12.88 271 P **Pn 18 03 12.9 +1.1**
comp=Z,67nm,0.8s,baz=89,slow=12,SNR=50
USRK LR LR 18 08 09.0
comp=Z,346nm,19.6s,baz=79,slow=37
KLR Kul'dur 12.98 294*c i*PN **Pn 18 03 15.9 +2.7**
KLR pmax pmax
comp=Z,158nm,1.3s
KLR Kul'dur 12.98 294 P **Pn 18 03 16.1 +2.8**
comp=Z,84nm,1.0s,baz=98,slow=13,SNR=104
KLR LR LR 18 08 37.7
comp=Z,703nm,20.6s,baz=96,slow=39
KLR Kul'dur 12.98 294 *i* P **Pn 18 03 15.9 +2.7**
VLA Vladivostok 13.21 266 *i* PN **Pn 18 03 15.9 -0.4**
VLA pmax pmax
comp=Z,111nm,1.0s
VLA Vladivostok 13.21 266 *i* P **Pn 18 03 15.9 -0.4**
VLA AMB AMB 18 03 19.6
comp=Z,110nm,1.0s
EKMR Ekimchan 13.52 311 *e*P **Pn 18 03 22.3 +2.0**
EKMR AMB AMB 18 03 23.3
comp=Z,200nm,2.0s
EKMR AMB AMB 18 03 23.3
comp=Z,300nm,2.0s
EKMR AMB AMB 18 03 23.4
comp=Z,60nm,0.9s
EKMR AMB AMB 18 03 23.4
comp=Z,80nm,0.9s
EKMR AMB AMB 18 03 23.4
comp=Z,110nm,0.9s
EKMR AMS AMS 18 12 56.0
comp=Z,1µm,13.0s
EKMR AMS AMS 18 12 56.0
comp=Z,1µm,13.0s
JGF Kuroka 13.73 229 Pn 18 03 22.6 -0.6
JGF Kuroka 13.73 229 P **Pn 18 03 22.9 -0.3**
MSHR Mys Shultsa 13.88 265⇓*e*P **Pn 18 03 22.8 -2.2**
MSHR pmax pmax
comp=Z,131nm,1.3s
JSG Sagara 14.03 224 Pn 18 03 25.4 -1.5
INU Inuyama 14.10 229 Pn **Pn 18 03 27.6 -0.3**
INU Inuyama 14.10 229 P **Pn 18 03 28.4 +0.5**
PSTR Posyet 14.11 266*d i*P **Pn 18 03 27.9 0.0**
MA2 Magadan 14.20 2 Pn **Pn 18 03 28.6 -0.4**
MA2 Magadan 14.20 2 P **Pn 18 03 29.2 +0.2**
MA2 Magadan 14.20 2 P **Pn 18 03 28.3 -0.7**
comp=Z,120nm,1.0s,baz=179,slow=10,SNR=78
MA2 LR LR 18 09 23.6
comp=Z,553nm,19.7s,baz=185,slow=39
MDJ Mudanjiang 14.49 274 P **Pn 18 03 32.6 -0.2**
MDJ sP P 18 03 55.3 +19
MDJ S **Sn 18 06 10.8 -1.5**
MDJ ScS **ScS 18 15 42.8 -0.3**
MDJ pmax pmax
comp=Z,47nm,1.0s
MDJ pmax pmax
comp=Z,360nm,3.5s
MDJ LR LR
comp=Z,880nm,8.2s
MDJ LR LR
comp=Z,380nm,7.9s
MDJ LR LR
comp=Z,2µm,11.5s
MDJ Mudanjiang 14.49 274 Pn 18 03 33.9 +1.0
MDJ Mudanjiang 14.49 274 P **Pn 18 03 34.0 +1.2**
JHJ2 Mitsune 14.59 216 P **Pn 18 03 40.5 +2.5**
JHJ2 Mitsune 14.59 216 P **Pn 18 03 35.1 +0.9**
JHJ Hachijo jima 2 14.60 216 P **P 18 03 39.9 +1.8**
comp=Z,1µm,0.8s,baz=158,slow=3.6,SNR=33
JHJ S Sn 18 06 03.2 -12
comp=Z,319nm,0.4s,baz=286,slow=22,SNR=12
BNX BinXian 15.85 279 ⇓P **Pn 18 03 50.1 +0.1**
BNX S **Sn 18 06 44.3 -0.9**
BNX ScS **ScS 18 15 46.1 -0.5**
BNX pmax pmax
comp=Z,62nm,0.7s

BNX pmax pmax
comp=Z,220nm,3.8s
BNX LR LR
comp=Z,1µm,16.8s
BNX LR LR
comp=Z,760nm,14.9s
BNX LR LR
comp=Z,880nm,15.7s
OCTB Oktyabr'skiy 15.88 306 *e*P **P 18 03 52.3 +0.1**
OCTB AMB AMB 18 03 53.3
comp=Z,270nm,1.0s
OCTB AMB AMB 18 03 53.3
comp=Z,200nm,1.0s
OCTB AMB AMB 18 03 53.3
comp=Z,370nm,1.0s
HEH HeiHe 15.93 296 *e*P **Pn 18 03 51.6 +0.6**
HEH pP **pP 18 04 02.8 -7.5**
HEH S **Sn 18 06 47.5 +0.5**
HEH pmax pmax
comp=Z,220nm,0.8s
HEH pmax pmax
comp=Z,1µm,4.0s
HEH LR LR
comp=Z,1µm,13.3s
HEH LR LR
comp=Z,480nm,12.3s
HEH LR LR
comp=Z,1µm,13.2s
BMKR Bomnak 16.43 312 *e*P **P 18 04 00.5 +2.2**
BMKR AMB AMB 18 04 02.5
comp=Z,270nm,0.9s
ZEA Zeya 16.91 308 *e*P **P 18 04 04.5 +0.9**
ZEA *e*S **Sn 18 07 01.6 -9.1**
ZEA pmax pmax
comp=N,400nm,1.7s
ZEA pmax pmax
comp=E,500nm,1.9s
ZEA pmax pmax
comp=Z,900nm,1.9s
ZEA pmax pmax
comp=E,150nm,1.2s
ZEA pmax pmax
comp=N,150nm,0.8s
ZEA pmax pmax
comp=Z,270nm,1.1s
ZEA smax smax
comp=E,300nm,7.5s
ZEA MLR MLR
comp=Z,300nm,15.0s
ZEA Zeya 16.91 308 *e*P **P 18 04 04.5 +0.9**
ZEA AMB AMB 18 04 05.2
comp=Z,400nm,1.8s
ZEA AMB AMB 18 04 05.2
comp=Z,500nm,1.8s
ZEA AMB AMB 18 04 05.2
comp=Z,900nm,1.8s
ZEA AMB AMB 18 04 05.4
comp=Z,150nm,0.8s
ZEA AMB AMB 18 04 05.4
comp=Z,150nm,0.8s
ZEA AMB AMB 18 04 05.4
comp=Z,270nm,0.8s
ZEA AMS AMS 18 13 38.0
comp=Z,300nm,15.0s
JMN Monobe 17.03 232 P **P 18 04 07.2 +2.2**
JMN Monobe 17.03 232 P **P 18 04 06.0 +1.0**
CN2 Changchun 17.57 274 P **P 18 04 10.0 -0.9**
CN2 S **Sn 18 07 19.0 -7.7**
CN2 sS SnSn 18 07 42.8 +1.0
CN2 pmax pmax
comp=Z,150nm,0.8s
SEY Seymchan 17.62 4 P **P 18 04 10.3 -0.9**
comp=Z,117nm,0.9s,baz=178,slow=8.7,SNR=92
SEY LR LR 18 11 32.6
comp=Z,323nm,21.2s,baz=184,slow=39
KSRS Korea Array 18.35 252 P **Pn 18 04 20.7 +0.1**
comp=Z,27nm,0.8s,baz=59,slow=12,SNR=44
KSRS PcP **PcP 18 08 47.2 +0.5**
comp=Z,7.9nm,0.9s,baz=51,slow=0.5,SNR=10
KSRS LR LR 18 11 07.1
comp=Z,140nm,18.1s,baz=55,slow=36
KSRS ScP **ScP 18 12 13.6 +0.3**
comp=Z,3.1nm,1.1s,baz=38,slow=1.6,SNR=6.0
KSAR Wonju Array Be 18.38 252 P **P 18 04 19.7 -0.1**
KSAR Wonju Array Be 18.38 252 P **P 18 04 19.7 -0.1**
JNU Nakatsue 19.19 237 P **P 18 04 28.9 +0.1**
JNU Nakatsue 19.19 237 P **Pn 18 04 31.0 +0.3**
JNU Nakatsue 19.19 237 P **Pn 18 04 30.4 -0.3**
comp=Z,100nm,1.0s,baz=48,slow=9.6,SNR=15
INCN Inchon 19.20 254 P **P 18 04 29.1 +0.2**
INCN Inchon 19.20 254 P **Pn 18 04 30.0 -0.8**
INCN Inchon 19.20 254 P **P 18 04 29.1 +0.2**
INCN Inchon 19.20 254 P **Pn 18 04 31.3 +0.6**
INCN S **S 18 08 00.2 -1.1**
TJN Taejon 19.32 250 P **Pn 18 04 32.0 -0.1**
TJN Taejon 19.32 250⇑*e*P **Pn 18 04 31.1 -1.0**
JCJ Chichijima 19.32 202 Pn **P 18 04 31.0 +0.9**
JCJ Chichijima 19.32 202 P **Pn 18 04 32.3 +0.1**
JCJ Chichijima 19.32 202 P **P 18 04 27.0 -3.1**
comp=Z,392nm,0.8s,baz=248,slow=24,SNR=8.1
JCJ S S 18 07 49.6 -14
comp=Z,172nm,0.4s,baz=269,slow=23,SNR=7.9
SNY Shenyang 19.46 269 ⇓P **Pn 18 04 32.8 -0.8**
SNY pP **pP 18 04 48.9 -0.9**
SNY sP **sP 18 05 01.3 -0.6**
SNY S **S 18 07 58.3 -7.9**
SNY pmax pmax
comp=Z,210nm,1.1s
SNY pmax pmax
comp=Z,770nm,3.5s
SNY LR LR
comp=Z,170nm,11.1s
SNY LR LR
comp=Z,300nm,9.5s
SNY LR LR
comp=Z,390nm,14.1s
YAK Yakutsk 20.40 332 P **P 18 04 41.3 -0.2**
YAK Yakutsk 20.40 332 *e*P **P 18 04 40.1 -1.4**
YAK *e*S **S 18 08 24.4 0.0**
YAK *e**SS **sS 18 08 53.2 -1.6**
YAK *e* 18 15 55.9
YAK pmax pmax
comp=Z,730nm,1.0s
YAK pmax pmax
comp=N,151nm,1.0s
YAK pmax pmax
comp=E,188nm,1.0s
YAK smax smax
comp=N,474nm,1.6s
YAK smax smax
comp=E,357nm,1.5s
YAK Yakutsk 20.40 332 P **P 18 04 40.3 -1.3**
comp=E,244nm,0.3s,baz=121,slow=4.8,SNR=139
YAK S **S 18 08 23.0 -1.5**
comp=E,18nm,0.5s,baz=63,slow=23,SNR=6.8
comp=E,244nm,0.3s
HIA Hailar 20.82 292 P **P 18 04 45.1 -1.1**
DL2 Dalian 21.97 263 P **P 18 04 58.9 +0.4**
DL2 pP **pP 18 05 20.8 +3.6**
DL2 S **S 18 08 56.8 +1.6**
DL2 pmax pmax
comp=E,120nm,1.0s
DL2 pmax pmax
comp=E,250nm,5.5s
DL2 LR LR
comp=E,180nm,9.0s
DL2 LR LR
comp=E,200nm,8.0s
DL2 LR LR
comp=E,300nm,12.2s
XLT XiLinHaoTe 24.11 279 *e*P **P 18 05 20.0 +0.7**
XLT S **S 18 09 28.5 -1.5**
XLT pmax pmax
comp=E,450nm,0.9s
BILL Bilibino 24.21 15 P **P 18 05 18.0 -1.9**
BILL Bilibino 24.21 15 *e*P **P 18 05 17.7 -2.2**
BILL pmax pmax
comp=Z,48nm,1.0s
CIT Chita 24.77 299 *e*P **P 18 05 23.4 -1.8**
CIT *e* 18 06 00.0
CIT *e* 18 06 07.2
CIT *e* 18 09 41.2
CIT pmax pmax
comp=Z,287nm,1.7s
BOD Bodaibo 25.26 312 *e*P **P 18 05 27.7 -1.8**
BOD pmax pmax

comp=Z,109nm,1.4s
BJI Beijing 25.33 270 P **P 18 05 31.5 +1.2**
BJI pP **pP 18 05 48.1 -3.2**
BJI S **S 18 09 49.6 +0.3**
BJI pmax pmax
comp=Z,31nm,0.8s
BJI pmax pmax
comp=Z,260nm,3.5s
BJT Baijiatuau 25.34 270 P **P 18 05 31.9 +1.5**
BJT IAmb IAmb 18 05 35.8
comp=Z,330nm,1.9s
BJT Baijiatuau 25.34 270 P **P 18 05 31.9 +1.5**
BJT Baijiatuau 25.34 270 P **P 18 05 31.9 +1.5**
BJT pmax pmax
comp=Z,330nm,1.9s
JOW Kunigami 25.41 231 P **P 18 05 31.4 +0.2**
JOW IAmb IAmb 18 05 33.1
comp=Z,249nm,0.9s
JOW Kunigami 25.41 231 P **P 18 05 32.2 +1.0**
TIA Tai'an 26.40 261 P **P 18 05 43.6 +3.6**
TIA PP **PnPn 18 06 29.6 +4.2**
TIA PcP **PcP 18 09 03.8 +0.7**
TIA S **S 18 10 04.6 -1.8**
TIA ScP **ScP 18 12 33.6 -0.5**
TIA ScS **ScS 18 16 23.1 -1.3**
TIA pmax pmax
comp=Z,91nm,1.6s
TIA LR LR
comp=Z,94nm,16.5s
TIA LR LR
comp=Z,110nm,19.4s
TIA LR LR
comp=Z,120nm,14.4s
SSE Sheshan 26.61 248 P **P 18 05 42.3 +0.4**
SSE S **S 18 10 09.8 +0.1**
SSE pmax pmax
comp=Z,16nm,0.9s
SSE pmax pmax
comp=Z,60nm,3.7s
SSE LR LR
comp=Z,210nm,12.7s
SSE LR LR
comp=Z,210nm,12.7s
SPIA Saint Paul Isl 27.08 50 P **P 18 05 43.9 -2.0**
baz=261
P08K Saint George I 27.38 51 P **P 18 05 46.7 -1.9**
baz=263
HNS HongShan 27.51 266 ⇑P **P 18 05 51.5 +1.6**
HNS S **S 18 10 26.3 +2.5**
HNS pmax pmax
comp=Z,51nm,1.2s
HNS LR LR
comp=Z,310nm,7.4s
HNS LR LR
comp=Z,380nm,7.5s
HNS LR LR
comp=Z,240nm,16.7s
NJ2 Nanjing 27.55 252 ⇑P **P 18 05 51.9 +1.6**
NJ2 pP **pP 18 06 08.6 -3.0**
NJ2 sP **sP 18 06 17.4 -5.3**
NJ2 PcP **PcP 18 09 06.9 +1.0**
NJ2 S **S 18 10 24.9 +0.4**
NJ2 pmax pmax
comp=Z,16nm,0.8s
NJ2 pmax pmax
comp=Z,230nm,4.8s
NIKH Nikolski High 27.59 59 P **P 18 05 48.4 -2.1**
baz=271
GAMB Gambell 28.16 36 P **P 18 05 52.3 -3.1**
baz=247
TIXI Tiksi 28.21 346 P **P 18 05 53.7 -2.1**
TIXI IAmb IAmb 18 05 54.7
comp=Z,100nm,0.8s
TIXI Tiksi 28.21 346*c i*P **P 18 05 53.5 -2.3**
TIXI *i* *PP **pP 18 06 15.3 -1.6**
TIXI pmax pmax
comp=Z,80nm,0.9s
TIXI MLR MLR
comp=Z,286nm,14.0s
TIXI Tiksi 28.21 346 LR LR 18 16 34.0
comp=Z,249nm,20.9s,baz=175,slow=35
HHC Hu-ho-hao-te 28.26 275 *e*P **P 18 05 58.3 +1.6**
HHC pP pP 18 06 16.6 -1.4
HHC S **S 18 10 36.3 +0.5**
HHC sS sS 18 11 13.6 +0.7
HHC pmax pmax
comp=Z,140nm,1.1s
HHC LR LR
comp=Z,260nm,13.0s
HHC LR LR
comp=Z,680nm,13.4s
HHC LR LR
comp=Z,760nm,13.8s
TIY Taiyuan 28.96 268 *e*P **P 18 06 06.8 +3.8**
TIY pP **pP 18 06 28.0 +3.8**
TIY S **S 18 10 50.9 +4.1**
TIY PcS **PcS 18 12 51.1 -1.1**
UNV Unalaska Valle 28.99 57 P **P 18 06 01.0 -1.9**
baz=271
H11N2 WAKE ISLAND Hy 29.16 146 T T 18 37 07.8
baz=335,slow=75,SNR=3247
H11N1 WAKE ISLAND Hy 29.17 146 T T 18 37 00.4
baz=335,slow=75,SNR=1570
H11N3 WAKE ISLAND Hy 29.17 146 T T 18 37 07.1
baz=335,slow=75,SNR=2868
ULN Ulaanbaatar 29.34 290 P **P 18 06 05.6 -0.7**
ULN IAmb IAmb 18 06 08.7
comp=Z,61nm,0.9s
ULN Ulaanbaatar 29.34 290*c i*P **P 18 06 05.7 -0.6**
ULN pmax pmax
comp=Z,72nm,0.9s
ULN Ulaanbaatar 29.34 290 P **P 18 06 05.8 -0.6**
BTO Baotou 29.44 275 *e*P **P 18 06 09.3 +2.1**
BTO pP **pP 18 06 29.8 +1.4**
BTO sP **sP 18 06 40.1 +0.7**
BTO S **S 18 10 57.9 +3.6**
BTO pmax pmax
comp=Z,91nm,1.7s
BTO pmax pmax
comp=Z,1µm,3.8s
BTO LR LR
comp=Z,2µm,15.3s
BTO LR LR
comp=Z,760nm,8.6s
BTO LR LR
comp=Z,1µm,16.9s
M11K Mekoryuk 29.69 44 P **P 18 06 07.3 -1.7**
baz=260
SONM Songino Array 29.78 291 P **P 18 06 09.7 -0.5**
SONM Songino Array 29.78 291 P **P 18 06 09.7 -0.5**
SONM pmax pmax
comp=Z,45nm,1.0s
SONM Songino Array 29.78 291 P **P 18 06 09.9 -0.2**
comp=Z,26nm,0.7s,baz=74,slow=7.9,SNR=112
SONM PcP **PcP 18 09 11.9 +0.5**
comp=Z,5.2nm,0.8s,baz=106,slow=3.1,SNR=3.1
SONM LR LR 18 19 21.0
comp=Z,505nm,18.1s,baz=82,slow=39
comp=Z,26nm,0.7s
H11S1 WAKE ISLAND Hy 30.19 147 T T 18 38 24.6
baz=336,slow=76,SNR=2572
H11S3 WAKE ISLAND Hy 30.20 147 T T 18 38 22.5
baz=336,slow=76,SNR=2311
H11S2 WAKE ISLAND Hy 30.21 147 T T 18 38 28.8
baz=336,slow=76,SNR=2839
TNA Tin City 30.34 33 P **P 18 06 15.6 +0.9**
TNA IAmb IAmb 18 06 20.7
comp=Z,51nm,0.8s
TNA Tin City 30.34 33 P **P 18 06 12.7 -1.9**
baz=249,SNR=40
IRK Irkutsk 30.47 300 *e*P **P 18 06 13.5 -2.6**
IRK pmax pmax
comp=Z,59nm,2.2s
LYN LuoYang 30.51 262 ⇑P **P 18 06 18.3 +1.8**
LYN pP pP 18 06 41.1 +3.1
LYN S **S 18 11 12.0 +1.1**
LYN sS sS 18 11 50.3 +2.1
LYN pmax pmax
comp=Z,25nm,0.8s
FALS False Pass 30.77 55 P **P 18 06 16.1 -2.5**
baz=272
F14K Arctic Creek 30.93 34 P **P 18 06 19.0 -1.0**
baz=251
YHNB Yeheng 31.02 238 P **P 18 06 23.8 +2.5**
ANM Nome 31.04 36 P **P 18 06 22.0 +1.1**
ANM Nome 31.04 36 P **P 18 06 22.0 +1.1**

ANM pmax pmax
comp=Z,33nm,1.2s
ANM Nome 31.04 36 P **P 18 06 19.7 -1.2**
baz=253,SNR=10.0
M13K Dall Lake 31.09 44 P **P 18 06 19.8 -1.6**
baz=262
ZAK Zakamensk 31.33 296 *e*P **P 18 06 23.0 -0.8**
ZAK pmax pmax
comp=Z,54nm,1.2s
J14K Nanvaranak Lak 31.39 40 P **P 18 06 24.9 +1.0**
J14K Nanvaranak Lak 31.39 40 P **P 18 06 22.3 -1.6**
baz=258
WHN Wuhan 31.51 254 ⇑*i*P **P 18 06 26.3 +0.9**
WHN sP **sP 18 06 57.9 0.0**
WHN PP **PnPn 18 07 31.8 -0.5**
WHN PcP **PcP 18 09 17.3 +1.3**
WHN S **S 18 11 27.9 +1.2**
WHN pmax pmax
comp=Z,48nm,0.8s
S12K Black Hills 31.52 53 P **P 18 06 22.5 -2.8**
baz=271
L14K Kuka Creek 31.55 43 P **P 18 06 26.4 +1.0**
L14K Kuka Creek 31.55 43 P **P 18 06 23.6 -1.8**
baz=262
F15K North Star Dit 31.67 34 P **P 18 06 26.4 0.0**
baz=252,SNR=24
G15K Niukluk 31.71 36 P **P 18 06 26.1 -0.7**
baz=254
M14K Bethel 31.82 44 P **P 18 06 27.7 0.0**
M14K Bethel 31.82 44 P **P 18 06 27.2 -0.6**
baz=263,SNR=7.5
N14K Kuskokwak Cree 31.87 45 P **P 18 06 26.9 -1.3**
baz=265
SSLB Suanglung 31.94 237 P **P 18 06 30.8 +1.6**
GUMO Guam 32.01 190 LR LR 18 17 34.3
comp=Z,271nm,20.1s,baz=3.5,slow=32
O14K Tigyukauivet M 32.03 47 P **P 18 06 30.4 +0.7**
O14K IAmb IAmb 18 06 58.1
comp=Z,104nm,1.9s
O14K Tigyukauivet M 32.03 47 P **P 18 06 28.6 -1.0**
baz=266
YULB Yu-li 32.04 236 P **P 18 06 29.2 -0.9**
YULB Yu-li 32.04 236 P **P 18 06 31.5 +1.4**
L15K Ungalak Mounta 32.16 42 P **P 18 06 30.2 -0.6**
baz=262
K15K Wolf Creek Mou 32.23 41 P **P 18 06 30.6 -0.8**
baz=261
C16K Lisburne Hills 32.29 29 IAmb IAmb 18 06 35.5
comp=Z,64nm,0.8s
C16K Lisburne Hills 32.29 29 P **P 18 06 30.9 -0.8**
baz=248,SNR=81
H16K Elim 32.37 37 P **P 18 06 32.6 +0.1**
baz=257,SNR=11
M15K Kasigluk River 32.43 44 P **P 18 06 31.7 -1.4**
baz=264,SNR=11
SDPT Sand Point 32.44 54 P **P 18 06 32.4 -0.9**
baz=273
TPUB Ta-pu 32.50 237 P **P 18 06 34.8 +0.6**
TPUB IAmb IAmb 18 06 36.3
comp=Z,91nm,0.8s
TPUB Ta-pu 32.50 237 P **P 18 06 35.2 +1.0**
G16K Koyuk River 32.50 35 P **P 18 06 32.3 -1.4**
baz=255
MOY Mondy 32.56 299 *e*P **P 18 06 33.8 -0.7**
MOY pmax pmax
comp=Z,37nm,1.6s
TWGBT Beinan 32.60 236 P **P 18 06 35.6 +0.5**
TWG Pinlang 32.61 236 P **P 18 06 35.0 -0.1**
TWG IAmb IAmb 18 06 43.9
comp=Z,69nm,0.9s
N15K Kwethluk River 32.68 45 P **P 18 06 34.5 -0.9**
baz=266,SNR=12
O15K Ungalikthiuk R 32.76 47 P **P 18 06 34.7 -1.4**
baz=268,SNR=12
J16K Anvik River 32.81 39 P **P 18 06 36.1 -0.4**
baz=260
I17K Unalakleet 32.87 38 P **P 18 06 36.9 -0.1**
baz=260
D17K Noatak River 32.88 31 P **P 18 06 35.7 -1.3**
baz=251,SNR=96
S14K Fog Glacier 32.91 52 P **P 18 06 35.3 -2.3**
baz=272
CHNA Chernabura Isl 32.98 55 P **P 18 06 35.1 -2.9**
baz=275
RDOG Red Dog Mine 33.06 30 P **P 18 06 39.0 +0.4**
RDOG IAmb IAmb 18 06 42.5
comp=Z,54nm,0.9s
RDOG Red Dog Mine 33.06 30 P **P 18 06 38.3 -0.2**
baz=251,SNR=25
C17K DeLong Mountai 33.11 29 P **P 18 06 38.9 -0.1**
baz=250,SNR=62
L16K Owhat River 33.12 42 P **P 18 06 39.6 +0.5**
L16K Owhat River 33.12 42 P **P 18 06 38.9 -0.2**
baz=264,SNR=12
F17K Baldwin Pennin 33.21 33 IAmb IAmb 18 06 45.9
comp=Z,61nm,0.8s
F17K Baldwin Pennin 33.21 33 P **P 18 06 40.1 +0.3**
baz=255,SNR=54
G17K Kiwalik Mounta 33.22 35 P **P 18 06 40.3 +0.4**
baz=257
XAN Xi'an 33.26 265 ⇑P **P 18 06 41.8 +1.0**
XAN pP pP 18 07 03.5 +1.3
XAN sP sP 18 07 15.9 +2.8
XAN S **S 18 11 54.8 +0.8**
XAN ScS **ScS 18 16 57.4 0.0**
XAN pmax pmax
comp=Z,31nm,1.1s
XAN Xi'an 33.26 265 P **P 18 06 41.8 +1.0**
XAN IAmb IAmb 18 06 52.5
comp=Z,80nm,1.6s
XAN Xi'an 33.26 265 P **P 18 06 41.8 +1.0**
XAN pmax pmax
comp=Z,80nm,1.6s
XAN Xi'an 33.26 265 P **P 18 06 41.6 +0.8**
M16K Timber Creek 33.30 44 P **P 18 06 40.8 0.0**
baz=266,SNR=12
N16K Nishlik Lake 33.36 45 P **P 18 06 39.8 -1.5**
baz=267,SNR=23
H17K Granite Mounta 33.41 36 P **P 18 06 40.8 -0.8**
baz=259,SNR=9.9
CHGN Chignik 33.55 52 P **P 18 06 43.0 +0.1**
CHGN Chignik 33.55 52 P **P 18 06 40.7 -2.1**
baz=273
O16K Kokwok River B 33.66 46 P **P 18 06 43.0 -0.9**
baz=268,SNR=6.9
P16K Nushagak River 33.71 47 P **P 18 06 42.9 -1.3**
baz=269,SNR=6.6
E18K Tukpahlearik C 33.71 32 P **P 18 06 42.7 -1.5**
baz=254
L17K Donlin 33.72 42 P **P 18 06 42.7 -1.6**
baz=264,SNR=11
K17K Iditarod 33.77 41 IAmb IAmb 18 07 09.4
comp=Z,44nm,1.0s
K17K Iditarod 33.77 41 P **P 18 06 45.1 +0.3**
baz=264,SNR=18
C18K Utukok River 33.85 30 IAmb IAmb 18 06 47.0
comp=Z,60nm,0.8s
C18K Utukok River 33.85 30 P **P 18 06 45.4 -0.1**
baz=252
F18K Selawik 33.87 33 P **P 18 06 46.2 +0.7**
baz=256,SNR=45
B18K Kokolik River 33.88 28 P **P 18 06 46.0 +0.3**
baz=250
R16K Pilot Point 33.95 50 P **P 18 06 45.2 -1.1**
baz=272
CNSH ChangSha 33.96 252 ⇓P **P 18 06 47.3 +0.5**
CNSH S **S 18 12 05.6 +0.9**
CNSH pmax pmax
comp=Z,28nm,1.1s
CNSH LR LR
comp=Z,250nm,12.9s
CNSH LR LR
comp=Z,200nm,12.4s
M17K Holitna River 34.07 43 IAmb IAmb 18 07 12.1
comp=Z,71nm,1.1s
M17K Holitna River 34.07 43 P **P 18 06 47.6 +0.3**
baz=266,SNR=20
H18K Honhosa River 34.09 36 IAmb IAmb 18 06 53.4
comp=Z,47nm,1.0s
G18K Tagagawik 34.11 35 IAmb IAmb 18 06 54.1
comp=Z,74nm,0.8s
G18K Tagagawik 34.11 35 P **P 18 06 47.7 0.0**
baz=259,SNR=108
N17K Nushagak Hills 34.15 45 P **P 18 06 48.3 +0.2**
baz=268,SNR=12
O17K Koliganek Bris 34.17 46 P **P 18 06 48.5 +0.3**
baz=269,SNR=16
Q16K King Salmon 34.40 48 P **P 18 06 50.3 0.0**
baz=271,SNR=8.4
A19K Wainwright 34.41 27 P **P 18 06 50.3 +0.2**
baz=250,SNR=49
L18K Granite Mounta 34.47 42 IAmb IAmb 18 07 15.8
comp=Z,42nm,1.1s
L18K Granite Mounta 34.47 42 P **P 18 06 51.1 +0.3**
baz=266,SNR=16
P17K Kvichak River 34.51 47 P **P 18 06 50.3 -0.8**
baz=270
C19K Lookout Ridge 34.55 29 IAmb IAmb 18 06 53.4
comp=Z,66nm,0.8s
C19K Lookout Ridge 34.55 29 P **P 18 06 51.3 -0.2**
baz=253
J18K Innoko River 34.57 39 P **P 18 06 50.8 -0.9**
baz=264,SNR=19
F19K Shaleruckik Mo 34.65 33 IAmb IAmb 18 06 57.9
comp=Z,54nm,0.9s
F19K Shaleruckik Mo 34.65 33 P **P 18 06 51.3 -0.9**
baz=258,SNR=62
GCSA Galena City Sc 34.65 37 P **P 18 06 51.9 -0.4**
baz=262
G19K Purcell Mounta 34.78 35 P **P 18 06 54.2 +0.7**
G19K IAmb IAmb 18 06 59.4
comp=Z,36nm,0.8s
G19K Purcell Mounta 34.78 35 P **P 18 06 53.1 -0.4**
baz=260,SNR=42
N18K Kilae Creek 34.79 44 IAmb IAmb 18 07 19.3
comp=Z,61nm,1.2s
N18K Kilae Creek 34.79 44 P **P 18 06 54.0 +0.4**
baz=269,SNR=19
Q17K Contact Creek 34.82 49 P **P 18 06 53.5 -0.5**
baz=272,SNR=9.7
TTA Tatalina 34.84 40 P **P 18 06 54.2 +0.1**
TTA IAmb IAmb 18 07 18.4
comp=Z,41nm,1.0s
TTA Tatalina 34.84 40 P **P 18 06 54.8 +0.7**
TTA Tatalina 34.84 40 P **P 18 06 54.2 +0.1**
TTA pmax pmax
comp=Z,41nm,1.0s
TTA Tatalina 34.84 40 P **P 18 06 53.9 -0.2**
baz=266,SNR=27
M18K Stony River 34.84 43 P **P 18 06 53.5 -0.5**
baz=268
D19K Kuna River 34.90 30 P **P 18 06 53.3 -1.2**
baz=255
H19K Roundabout Mou 34.94 36 IAmb IAmb 18 06 59.3
comp=Z,66nm,0.8s
H19K Roundabout Mou 34.94 36 P **P 18 06 54.7 -0.2**
baz=261
SVW2 Sparrevohn 34.95 44 P **P 18 06 55.3 +0.3**
SVW2 Sparrevohn 34.95 44 P **P 18 06 56.2 +1.2**
E19K Redstone River 34.98 32 P **P 18 06 54.8 -0.4**
baz=258
ENH Enshi 35.01 259 IAmb IAmb 18 07 07.5
comp=Z,40nm,0.9s
ENH Enshi 35.01 259 P **P 18 06 56.2 +0.3**
ENH Enshi 35.01 259 P **P 18 06 55.8 -0.1**
ENH pP **pP 18 07 17.0 -0.5**
ENH PcP **PcP 18 09 27.0 +1.1**
J19K Poorman 35.11 39 IAmb IAmb 18 07 20.3
comp=Z,44nm,0.9s
J19K Poorman 35.11 39 P **P 18 06 55.2 -1.1**
baz=264,SNR=34
P18K Big Mountain, 35.12 47 P **P 18 06 57.6 +1.1**
P18K IAmb IAmb 18 06 59.5
comp=Z,40nm,0.8s
P18K Big Mountain, 35.12 47 P **P 18 06 56.3 -0.3**
271,SNR=25
O18K Koktuh Hills 35.13 46 P **P 18 06 57.4 +0.9**
O18K Koktuh Hills 35.13 46 P **P 18 06 56.5 0.0**
baz=271,SNR=16
CHIR Chirikof Islan 35.15 53 P **P 18 06 55.3 -1.4**
baz=276
L19K White Mountain 35.33 42 P **P 18 06 57.5 -0.8**
baz=268,SNR=14
F20K Avaraart Lake 35.48 33 P **P 18 06 59.4 0.0**
baz=260,SNR=32
N19K Bonanza Creek 35.48 44 P **P 18 07 00.1 +0.5**
baz=270,SNR=17
D20K Etivluk River 35.48 30 P **P 18 06 59.1 -0.4**
baz=257
E20K Nigu River 35.54 31 P **P 18 06 59.8 -0.2**
baz=258
M19K Big River Lodg 35.54 42 P **P 18 07 00.4 +0.4**
baz=268,SNR=9.2
O19K Port Alsworth 35.57 45 P **P 18 07 01.2 +1.0**
baz=271,SNR=8.3
H20K Anotleneega Mo 35.59 36 P **P 18 06 59.9 -0.5**
baz=263,SNR=29
B20K Meade River 35.62 28 P **P 18 07 01.4 +0.9**
baz=254,SNR=467
I20K Naaghedeneel 35.68 37 IAmb IAmb 18 07 21.1
comp=Z,53nm,1.1s
I20K Naaghedeneel 35.68 37 P **P 18 07 01.4 +0.3**
baz=264
K20K Telida 35.75 40 IAmb IAmb 18 07 26.4
comp=Z,44nm,1.2s
K20K Telida 35.75 40 P **P 18 07 01.8 0.0**
baz=267,SNR=19
J20K Nowinta River 35.77 38 IAmb IAmb 18 07 26.4
comp=Z,39nm,0.9s
J20K Nowinta River 35.77 38 P **P 18 07 02.2 +0.3**
baz=266,SNR=25
LZH Lanzhou 35.79 271 ⇑P **P 18 07 04.4 +1.8**
LZH PcP **PcP 18 09 30.0 +1.7**
LZH S **S 18 12 34.9 +1.9**
LZH pmax pmax
comp=Z,180nm,1.4s
LZH pmax pmax
comp=Z,370nm,4.8s
LZH LR LR
comp=Z,510nm,13.4s
LZH LR LR
comp=Z,310nm,13.7s
LZH LR LR
comp=Z,490nm,13.1s
L20K Farewell, AK 35.80 41 P **P 18 07 03.6 +1.3**
baz=268,SNR=13
SII Sitkinak Islan 35.87 51 P **P 18 07 02.0 -0.9**
baz=276
Q19K Cape Douglas, 35.96 47 P **P 18 07 03.5 -0.2**
Q19K IAmb IAmb 18 07 45.1
comp=Z,107nm,1.6s
Q19K Cape Douglas, 35.96 47 P **P 18 07 03.2 -0.5**
baz=273,SNR=5.3
IMAR Indian Mountai 36.11 35 P **P 18 07 05.7 +0.8**
P19K Oil Pt 36.13 46 P **P 18 07 04.9 -0.3**
baz=273
M20K Styx River 36.14 42 P **P 18 07 06.3 +1.1**
M20K IAmb IAmb 18 07 17.7
comp=Z,32nm,0.9s
M20K Styx River 36.14 42 P **P 18 07 06.5 +1.3**
baz=270
A21K Barrow 36.16 26 P **P 18 07 05.7 +0.5**
baz=253,SNR=67
ILSW Iliamna Southw 36.16 45 P **P 18 07 06.3 +0.8**
C21K Kniteblade Rid 36.23 30 P **P 18 07 05.9 +0.1**
baz=258
G21K Allakaket 36.27 34 P **P 18 07 07.3 +1.0**
G21K IAmb IAmb 18 07 12.4
comp=Z,73nm,1.0s
G21K Allakaket 36.27 34 P **P 18 07 06.2 0.0**
baz=263
OHAK Old Harbor 36.29 50 P **P 18 07 06.0 -0.4**
OHAK Old Harbor 36.29 50 P **P 18 07 06.4 0.0**
OHAK Old Harbor 36.29 50 P **P 18 07 05.2 -1.2**
baz=276,SNR=8.5
F21K Alatna River 36.37 33 P **P 18 07 07.1 0.0**
baz=262
E21K Killik River 36.38 31 IAmb IAmb 18 07 11.9
comp=Z,56nm,0.9s
E21K Killik River 36.38 31 P **P 18 07 06.9 -0.2**
baz=260
B21K Ikpikpuk River 36.38 29 P **P 18 07 07.5 +0.4**
baz=258,SNR=409
O20K Slope Mountain 36.42 45 P **P 18 07 06.1 -1.5**
baz=272,SNR=8.1
H21K Melozitna Rive 36.46 36 IAmb IAmb 18 07 13.6
comp=Z,32nm,0.8s
H21K Melozitna Rive 36.46 36 P **P 18 07 05.2 -2.7**
baz=265
CHUM Lake Minchumin 36.56 39 P **P 18 07 06.2 -2.5**
baz=268,SNR=21
N20K Mount Spurr 36.59 43 P **P 18 07 08.3 -0.7**
baz=271,SNR=30
PPLA Purkeypile 36.59 41 P **P 18 07 08.4 -0.7**
baz=269,SNR=20
A22K Sinclair Lake 36.59 27 P **P 18 07 08.5 -0.3**
baz=255,SNR=144
KDAK Kodiak Island 36.61 49 P **P 18 07 09.2 0.0**
KDAK IAmb IAmb 18 07 10.2
comp=Z,51nm,0.7s
KDAK PcP **PcP 18 09 30.6 +0.4**
KDAK Kodiak Island 36.61 49*c i*P **P 18 07 08.7 -0.4**
KDAK pmax pmax
comp=Z,59nm,0.9s
KDAK Kodiak Island 36.61 49 P **P 18 07 07.7 -1.4**
baz=276
KDAK Kodiak Island 36.61 49 P **P 18 07 08.8 -0.4**
KDAK pP **pP 18 07 30.9 +0.2**
KDAK PcP **PcP 18 09 30.6 +0.4**
Q20K Shuyak Island 36.63 48 P **P 18 07 08.7 -0.6**
baz=275,SNR=7.1
SYI Shuyak Island 36.63 48 P **P 18 07 09.2 -0.2**
SYI IAmb IAmb 18 07 20.1
comp=Z,66nm,1.0s
CAST Castle Rocks 36.64 40 P **P 18 07 10.2 +0.7**
CAST IAmb IAmb 18 07 34.4
comp=Z,46nm,1.0s
CAST Castle Rocks 36.64 40 P **P 18 07 10.0 +0.6**
baz=268,SNR=30
I21K Tanana 36.77 37 IAmb IAmb 18 07 35.2
comp=Z,52nm,1.0s
I21K Tanana 36.77 37 P **P 18 07 10.3 -0.1**
baz=266,SNR=26
SKT Skwentna 36.89 42 P **P 18 07 12.2 +0.6**
SKT Skwentna 36.89 42 P **P 18 07 11.1 -0.4**
baz=271,SNR=24
D22K Ayikyak River 36.92 31 P **P 18 07 11.7 0.0**
baz=261
B22K Teshekpuk Lake 36.94 28 P **P 18 07 11.8 +0.1**
baz=258,SNR=82
HOM Homer 36.94 46 P **P 18 07 09.2 -2.7**
baz=274
GTA Gaotai 37.06 279 ⇑P **P 18 07 14.8 +1.4**
GTA PcP **PcP 18 09 33.8 +1.7**
GTA S **S 18 12 54.5 +2.2**
GTA ScP **ScP 18 13 10.3 +0.1**
GTA ScS **ScS 18 17 18.3 +0.3**
GTA pmax pmax
comp=Z,220nm,0.7s
GTA pmax pmax
comp=Z,480nm,4.4s
GTA LR LR
comp=Z,170nm,16.0s
GTA LR LR
comp=Z,170nm,15.6s
GTA LR LR
comp=Z,270nm,15.6s
H22K Ishtalitna Cre 37.07 36 P **P 18 07 12.7 -0.3**
baz=266,SNR=46
G22K Bettles 37.10 34 P **P 18 07 13.5 +0.3**
baz=264
CAPN Captain Cook N 37.12 44 P **P 18 07 12.0 -1.4**
baz=273
E22K Anaktuvuk Pass 37.13 32 P **P 18 07 13.8 +0.3**
baz=262,SNR=149
SZP Santa 37.14 231 P **P 18 07 15.7 +1.7**
BPAW Bear Paw Mtn. 37.15 39 P **P 18 07 14.9 +1.2**
BPAW IAmb IAmb 18 07 38.4
comp=Z,35nm,1.0s
BPAW Bear Paw Mtn. 37.15 39 P **P 18 07 13.7 0.0**
baz=268,SNR=31
SUA Susitna One 37.28 43 IAmb IAmb 18 07 26.0
comp=Z,38nm,0.9s
SUA PcP **PcP 18 09 32.1 -0.2**
SUA Susitna One 37.28 43 P **P 18 07 13.6 -1.4**
baz=272,SNR=20
MLY Manley 37.29 37 P **P 18 07 16.3 +1.4**
MLY IAmb IAmb 18 07 39.7
comp=Z,42nm,0.9s
MLY Manley 37.29 37 P **P 18 07 14.9 0.0**
baz=268,SNR=37
BRLK Bradley Lake 37.31 46 **PcP 18 09 32.5 +0.1**
BRSE Bradley Lake S 37.39 46 P **P 18 07 16.3 +0.5**
baz=274,SNR=9.9
TRF Thorofare Moun 37.45 40 P **P 18 07 17.3 +0.9**
TRF IAmb IAmb 18 07 42.1
comp=Z,44nm,1.1s
TRF Thorofare Moun 37.45 40 P **P 18 07 16.4 0.0**
baz=270,SNR=6.7
CUT Chulitna 37.48 41 IAmb IAmb 18 07 40.9
comp=Z,59nm,0.9s
CUT Chulitna 37.48 41 P **P 18 07 16.1 -0.4**
baz=271,SNR=11
M22K Willow 37.57 42 IAmb IAmb 18 07 22.4
comp=Z,52nm,1.0s
GULI GuiLin 37.59 251 P **P 18 07 18.4 +0.6**
COLD Coldfoot 37.64 33 P **P 18 07 18.7 +0.9**
baz=265,SNR=94
D23K Nanushuk River 37.65 31 P **P 18 07 17.4 -0.5**
baz=262
G23K Bananza Creek 37.67 34 IAmb IAmb 18 07 23.9
comp=Z,59nm,0.9s
G23K Bananza Creek 37.67 34 P **P 18 07 17.6 -0.6**
baz=266,SNR=64
RC01 Rabbit Creek A 37.79 44 IAmb IAmb 18 07 30.3
comp=Z,60nm,0.8s
RC01 PcP **PcP 18 09 34.2 +0.5**
RC01 Rabbit Creek A 37.79 44 P **P 18 07 18.4 -0.7**
baz=274,SNR=30
C23K Itkillik River 37.79 29 **ScP 18 13 11.2 -1.0**
C23K Itkillik River 37.79 29 P **P 18 07 19.3 +0.3**
baz=261
O22K Cooper Landing 37.84 44 P **P 18 07 19.3 -0.2**
O22K Cooper Landing 37.84 44 P **P 18 07 19.3 -0.2**
baz=274
I23K Minto, Yukon-K 37.87 37 IAmb IAmb 18 07 44.6
comp=Z,48nm,1.1s
I23K ScP **ScP 18 13 13.4 +0.9**
I23K Minto, Yukon-K 37.87 37 P **P 18 07 20.0 +0.3**
baz=269,SNR=30
E23K Chandalar 37.94 32 P **P 18 07 21.3 +0.9**
baz=265
NEA2 Nenana 37.99 38 P **P 18 07 20.9 +0.2**
NEA2 IAmb IAmb 18 07 45.3
comp=Z,48nm,1.0s
NEA2 Nenana 37.99 38 P **P 18 07 21.0 +0.2**
baz=270,SNR=48
SEW Seward 38.00 45 P **P 18 07 21.0 +0.1**
SEW IAmb IAmb 18 07 31.1
comp=Z,43nm,1.1s
SEW Seward 38.00 45 P **P 18 07 19.7 -1.2**
baz=275,SNR=11
TOLK Toolik Lake Re 38.01 31 IAmb IAmb 18 07 25.7
comp=Z,71nm,0.8s
TOLK Toolik Lake Re 38.01 31 P **P 18 07 20.6 -0.3**
baz=264,SNR=93
PMR Palmer 38.05 43 PcP **PcP 18 09 34.8 +0.3**
PMR Palmer 38.05 43 P **P 18 07 22.2 +1.0**
PMR Palmer 38.05 43 P **P 18 07 20.4 -0.8**
baz=273,SNR=17
MCK McKinley 38.05 39 P **P 18 07 21.1 -0.2**
baz=271,SNR=24
RND Reindeer 38.10 40 IAmb IAmb 18 07 46.2
comp=Z,80nm,1.0s
GHO Glory Hole Cre 38.13 42 IAmb IAmb 18 07 33.9
comp=Z,36nm,0.8s
WAT1 Susitna Watana 38.25 41 P **P 18 07 22.2 -0.9**
baz=272
D24K Happy Valley 38.33 30 P **P 18 07 24.6 +1.0**
baz=264
MDM Murphy Dome 38.35 37 IAmb IAmb 18 07 48.5
comp=Z,53nm,1.0s
E24K Your Creek 38.36 32 S **S 18 13 14.1 +3.0**
E24K Your Creek 38.36 32 P **P 18 07 24.7 +0.8**
baz=266,SNR=244
KNK Knik Glacier 38.38 43 P **P 18 07 24.2 +0.1**
baz=274,SNR=38
SML Sawmill 38.41 42 P **P 18 07 25.3 +0.8**
baz=274,SNR=72
WRH Wood River Hil 38.41 38 IAmb IAmb 18 07 36.0
comp=Z,161nm,1.8s
WRH PcP **PcP 18 09 34.6 -1.0**
C24K Franklin Bluff 38.44 29 P **P 18 07 25.0 +0.5**
baz=263
H24K Noodor Dome 38.50 36 IAmb IAmb 18 07 30.1
comp=Z,46nm,1.0s
H24K Noodor Dome 38.50 36 P **P 18 07 26.5 +1.4**
baz=269,SNR=54
COLA College 38.51 37 P **P 18 07 24.2 -0.9**
COLA IAmb IAmb 18 07 49.8
comp=Z,89nm,0.9s

COLA	College	38.51	37	P	P	18 07 26.7	+1.6	
COLA	College	38.51	37	*de*P	P	18 07 25.7	+0.6	
COLA				pmax	pmax			
	comp=Z,54nm,0.9s							
COLA	College	38.51	37	P	P	18 07 25.5	+0.4	
	baz=270							
COLA	College	38.51	37	P	P	18 07 26.0	+0.9	
COLA				pP	pP	18 07 48.4	+1.6	
COLA				sP	sP	18 07 58.3	+0.8	
F24K	Squaw Lake	38.55	33	IAmb	IAmb	18 07 34.0		
	comp=Z,27nm,0.8s							
F24K	Squaw Lake	38.55	33	P	P	18 07 25.3	-0.2	
	baz=267,SNR=47							
CD2	Chengdu	38.62	264	P	P	18 07 27.8	+1.3	
CD2				S	S	18 13 15.0	-0.9	
CD2				pmax	pmax			
	comp=Z,70nm,0.5s							
WAT6	Susitna Watana	38.64	41	P	P	18 07 26.7	+0.3	
	baz=273,SNR=19							
G24K	Hadweenzic Riv	38.68	34	P	P	18 07 26.8	+0.3	
G24K				IAmb	IAmb	18 07 33.3		
	comp=Z,80nm,0.8s							
G24K	Hadweenzic Riv	38.68	34	P	P	18 07 27.2	+0.6	
	baz=268							
POKR	Poker Plat Res	38.69	37	P	P	18 07 26.6	0.0	
	baz=270,SNR=39							
M23K	Glacier View	38.70	42	P	P	18 07 26.9	+0.1	
	baz=274,SNR=11							
DHY	Denali Highway	38.78	40	IAmb	IAmb	18 07 51.6		
	comp=Z,70nm,1.2s							
DHY				PcP	PcP	18 09 37.6	+0.6	
DHY	Denali Highway	38.78	40	P	P	18 07 27.8	+0.3	
	baz=273,SNR=20							
NRIK	Noril'sk	38.83	330	P	P	18 07 26.4	-1.3	
NRIK				ScP	ScP	18 13 15.7	-0.4	
NRIK	Noril'sk	38.83	330	*c i*P	P	18 07 25.8	-1.9	
NRIK				pmax	pmax			
	comp=Z,145nm,1.2s							
NRIK	Noril'sk	38.83	330	P	P	18 07 26.2	-1.5	
	comp=Z,90nm,1.0s,baz=99,slow=9.4,SNR=93							
NRIK				LR	LR	18 24 41.0		
	comp=Z,165nm,18.1s,baz=94,slow=38							
	comp=Z,90nm,1.0s							
SCM	Sheep Creek Mo	38.89	42	IAmb	IAmb	18 07 53.4		
	comp=Z,91nm,1.0s							
SCM	Sheep Creek Mo	38.89	42	P	P	18 07 28.6	+0.2	
	baz=275,SNR=23							
HDA	Harding Lake	38.91	38	P	P	18 07 28.4	-0.1	
HDA				IAmb	IAmb	18 07 52.9		
	comp=Z,45nm,1.0s							
HDA				ScP	ScP	18 13 15.7	-0.8	
HDA	Harding Lake	38.91	38	P	P	18 07 29.2	+0.7	
	baz=272,SNR=28							
IL31		38.93	37	IAmb	IAmb	18 07 53.3		
	comp=Z,52nm,1.1s							
ILAR	Eielson Array	38.93	37	P	P	18 07 28.6	0.0	
	comp=Z,27nm,1.0s,baz=251,slow=6.8,SNR=66							
	comp=Z,27nm,1.0s							
IL03	Eielson Array	38.94	37	P	P	18 07 29.4	+0.7	
P23K	Montague Islan	39.04	45	P	P	18 07 29.3	-0.3	
	baz=277,SNR=24							
D25K	Kavik River	39.22	30	P	P	18 07 31.9	+0.9	
	baz=266,SNR=75							
G25K	Bearman Lake	39.23	34	P	P	18 07 31.9	+0.8	
	baz=270,SNR=34							
GYA	Guiyang	39.33	256	⇓*i*P	P	18 07 32.8	+0.3	
GYA				pP	pP	18 07 52.1	-2.4	
GYA				PcP	PcP	18 09 40.5	+1.2	
GYA				S	S	18 13 28.0	+1.4	
GYA				pmax	pmax			
	comp=Z,20nm,0.9s							
GYA				pmax	pmax			
	comp=Z,120nm,5.6s							
H25L	Birch Creek	39.34	35	P	P	18 07 32.5	+0.4	
	baz=270							
M24K	Tolsona, Glenn	39.41	42	P	P	18 07 33.9	+1.2	
	baz=275,SNR=25							
F25K	Christian Rive	39.42	33	P	P	18 07 32.9	+0.2	
	baz=269,SNR=44							
HIN	Hinchinbrook I	39.44	44	IAmb	IAmb	18 07 57.9		
	comp=Z,58nm,0.9s							
K24K	Donnelly Dome	39.45	39	P	P	18 07 33.5	+0.5	
	baz=274,SNR=30							
E25K	Arctic Village	39.46	32	P	P	18 07 29.4	-3.6	
E25K	Arctic Village	39.46	32	P	P	18 07 33.4	+0.4	
	baz=268,SNR=50							
PRP	Porcupine Dome	39.48	36	P	P	18 07 33.5	+0.1	
PRP				IAmb	IAmb	18 07 58.2		
	comp=Z,54nm,1.0s							
PRP	Porcupine Dome	39.48	36	P	P	18 07 34.7	+1.4	
	baz=272,SNR=59							
FYU	Fort Yukon	39.58	35	IAmb	IAmb	18 07 41.0		
	comp=Z,91nm,0.9s							
J25K	Salcha River,	39.58	38	P	P	18 07 33.7	-0.5	
	baz=273,SNR=27							
KLU	Klutina	39.59	43	IAmb	IAmb	18 07 59.5		
	comp=Z,97nm,1.1s							
KLU	Klutina	39.59	43	P	P	18 07 34.8	+0.6	
	baz=276,SNR=40							
Q23K	Middleton Isla	39.64	46	P	P	18 07 33.4	-1.2	
	baz=278							
PAX	Paxson	39.65	40	P	P	18 07 35.8	+1.0	
	baz=275,SNR=11							
C26K	Camden Bay	39.77	29	P	P	18 07 36.5	+1.0	
	baz=267							
EYAK	Cordova Ski Ar	39.78	44	P	P	18 07 37.2	+1.5	
EYAK	Cordova Ski Ar	39.78	44	P	P	18 07 36.4	+0.7	
	baz=278,SNR=10							
BMAR	Burnt Mountain	39.83	33	P	P	18 07 35.2	-0.9	
BMAR				ScP	ScP	18 13 21.4	+1.3	
HARP	HAARP	39.85	41	P	P	18 07 36.8	+0.5	
	baz=276,SNR=18							
F26K	Sheenjek River	39.99	33	P	P	18 07 38.2	+0.8	
	baz=270,SNR=84							
G26K	Porcupine Rive	40.14	34	P	P	18 07 39.7	+1.0	
	baz=272,SNR=73							
N25K	Chitina, Valde	40.20	42	P	P	18 07 40.6	+1.2	
	baz=277,SNR=24							
SCRK	Sand Creek	40.23	39	P	P	18 07 37.8	-1.8	
SCRK	Sand Creek	40.23	39	P	P	18 07 39.8	+0.2	
	baz=275,SNR=36							
BMRM	Bremner River	40.28	43	P	P	18 07 40.8	+0.8	
	baz=278,SNR=42							
RAGM	Ragged Mountai	40.34	44	IAmb	IAmb	18 07 53.9		
	comp=Z,64nm,0.8s							
J26L	Joseph Creek	40.37	38	P	P	18 07 40.1	-0.6	
	baz=275,SNR=22							
MENT	Mentasta	40.45	40	P	P	18 07 43.1	+1.8	
I26K	Coal Creek Min	40.48	36	P	P	18 07 41.6	+0.2	
	baz=274							
KAIM	Kayak Island	40.53	45	P	P	18 07 42.6	+0.6	
KAIM				IAmb	IAmb	18 08 08.1		
	comp=Z,110nm,1.1s							
KAIM	Kayak Island	40.53	45	P	P	18 07 42.8	+0.8	
	baz=279,SNR=14							
HMT	Hamilton	40.55	44	IAmb	IAmb	18 08 07.3		
	comp=Z,131nm,1.4s							
L26K	Log Cabin Wild	40.61	40	IAmb	IAmb	18 08 07.9		
	comp=Z,58nm,1.3s							
L26K	Log Cabin Wild	40.61	40	P	P	18 07 43.3	+0.6	
	baz=276,SNR=13							
VRDI	Verde Repeater	40.80	43	IAmb	IAmb	18 08 09.4		
	comp=Z,48nm,1.1s							
BERG	Berg Lake	40.81	44	IAmb	IAmb	18 08 10.5		
	comp=Z,217nm,2.0s							
SUCK	Suckling Hills	40.83	45	IAmb	IAmb	18 08 10.2		
	comp=Z,90nm,1.2s							
M26K	Nabesna, AK	40.85	41	IAmb	IAmb	18 08 10.3		
	comp=Z,106nm,1.1s							
M26K	Nabesna, AK	40.85	41	P	P	18 07 45.4	+0.8	
	baz=278,SNR=60							
E27K	Coleen River	40.94	32	IAmb	IAmb	18 07 51.4		
	comp=Z,93nm,1.4s							
E27K	Coleen River	40.94	32	P	P	18 07 46.6	+1.3	
	baz=272,SNR=75							
MCARA	McCarthy VSAT	40.98	42	P	P	18 07 44.2	-1.5	
MCARA	McCarthy VSAT	40.98	42	P	P	18 07 46.1	+0.4	
	baz=279,SNR=28							
G27K	Doyon Strip	40.99	34	P	P	18 07 46.3	+0.6	
	baz=274							
BGLC	Bering Glacier	41.06	44	P	P	18 07 46.8	+0.5	
	baz=280							
K27K	Chicken	41.06	38	IAmb	IAmb	18 08 11.4		
	comp=Z,91nm,0.9s							
K27K	Chicken	41.06	38	P	P	18 07 46.6	+0.3	
	baz=276							
H27K	Steamboat Moun	41.08	35	P	P	18 07 47.3	+0.9	
	baz=274,SNR=79							
I27K	Kandik River	41.10	36	P	P	18 07 48.1	+1.5	
	baz=275							
D27M	Malcolm River	41.14	30	IAmb	IAmb	18 07 51.8		
	comp=Z,83nm,1.0s							
D27M	Malcolm River	41.14	30	P	P	18 07 48.2	+1.3	
	baz=271,SNR=88							
WAX	Waxell Ridge	41.22	44	IAmb	IAmb	18 08 00.2		
	comp=Z,68nm,0.7s							
L27K	Beaver Creek,	41.29	40	IAmb	IAmb	18 08 14.7		
	comp=Z,146nm,1.4s							
L27K	Beaver Creek,	41.29	40	P	P	18 07 49.4	+1.2	
	baz=278							
BCAR	Beaver Creek A	41.31	40	P	P	18 07 49.3	+0.9	
BCAR				ScP	ScP	18 13 27.6	+1.6	
M27K	Edge Creek, AK	41.37	41	IAmb	IAmb	18 08 14.7		
	comp=Z,100nm,1.1s							
M27K	Edge Creek, AK	41.37	41	P	P	18 07 48.7	-0.3	
	baz=278,SNR=36							
EGAK	Eagle	41.38	37	P	P	18 07 48.3	-0.5	
EGAK				IAmb	IAmb	18 08 13.0		
	comp=Z,82nm,1.1s							
EGAK	Eagle	41.38	37	P	P	18 07 49.1	+0.3	
	baz=276,SNR=58							
DGZ	Jazzator, Alta	41.39	299	*ce*P	P	18 07 49.5	+0.2	
DGZ				pmax	pmax			
	comp=Z,18nm,0.6s							
ISLE	Juniper Island	41.44	44	IAmb	IAmb	18 07 55.1		
	comp=Z,90nm,1.0s							
F28M	Old Crow	41.63	33	P	P	18 07 51.4	+0.5	
	baz=274,SNR=51							
ZAA0	Zalesovo Array	41.67	306	P	P	18 07 50.1	-1.2	
ZALV	Zalesovo Beam	41.67	306	P	P	18 07 50.2	-1.1	
ZALV	Zalesovo Beam	41.67	306	P	P	18 07 50.0	-1.3	
	comp=Z,16nm,0.5s,baz=74,slow=7.0,SNR=69							
ZALV				PcP	PcP	18 09 46.8	+0.6	
	comp=Z,15nm,0.8s,baz=102,slow=3.4,SNR=3.6							
ZALV				ScP	ScP	18 13 26.0	-1.6	
	comp=Z,0.9nm,0.7s,baz=86,slow=6.1,SNR=3.5							
ZALV				LR	LR	18 25 54.8		
	comp=Z,222nm,20.2s,baz=70,slow=37							
	comp=Z,16nm,0.5s							
E28M	Babbage River	41.69	31	IAmb	IAmb	18 07 56.5		
	comp=Z,72nm,0.9s							
E28M	Babbage River	41.69	31	P	P	18 07 52.2	+0.9	
	baz=273							
BARN	Barnard Glacie	41.69	43	IAmb	IAmb	18 08 17.1		
	comp=Z,111nm,1.2s							
MESA	MESA	41.71	44	IAmb	IAmb	18 08 04.4		
	comp=Z,69nm,0.9s							
MESA	MESA	41.71	44	P	P	18 07 52.4	+0.6	
	baz=281,SNR=13							
I28M	Miner Creek	41.81	36	IAmb	IAmb	18 08 17.6		
	comp=Z,50nm,0.8s							
I28M	Miner Creek	41.81	36	P	P	18 07 52.7	+0.2	
	baz=277,SNR=72							
BVCY	Beaver Creek	41.83	41	P	P	18 07 53.2	+0.6	
	baz=279,SNR=23							
CTG	Chitna Glacier	41.86	43	P	P	18 07 53.0	0.0	
	baz=280,SNR=55							
CTGM	Chitina Glacie	41.86	43	IAmb	IAmb	18 08 18.3		
	comp=Z,144nm,1.3s							
D28M	Stokes Point	41.93	30	P	P	18 07 53.7	+0.4	
	baz=273,SNR=26							
LOGN	Logan Glacier	42.05	43	IAmb	IAmb	18 08 24.0		
	comp=Z,100nm,1.2s							
TABL	Table Mountain	42.05	44	IAmb	IAmb	18 08 19.8		
	comp=Z,151nm,1.3s							
GOMU	GeErMu	42.07	277	P	P	18 07 56.5	+1.2	
GOMU				pmax	pmax			
	comp=Z,72nm,0.7s							
GOMU				LR	LR			
	comp=Z,290nm,13.2s							
GOMU				LR	LR			
	comp=Z,410nm,13.5s							
GOMU				LR	LR			
	comp=Z,490nm,13.4s							
YUK3	Moose Creek	42.13	42	P	P	18 07 55.6	+0.4	
	baz=280,SNR=26							
DAWY	Dawson	42.23	38	P	P	18 07 56.8	+1.0	
	baz=279,SNR=15							
E29M	Blow River	42.30	32	P	P	18 07 58.0	+1.6	
	baz=275,SNR=141							
QIZ	Qiongzhong	42.34	245	P	P	18 07 56.5	-0.7	
QIZ				S	S	18 14 11.8	+0.5	
QIZ				sS	sS	18 14 49.3	-0.3	
QIZ				ScS	ScS	18 17 47.6	-1.8	
QIZ				LR	LR			
	comp=Z,150nm,11.9s							
QIZ				LR	LR			
	comp=Z,140nm,12.5s							
QIZ				LR	LR			
	comp=Z,170nm,27.8s							
H29M	Whitestone	42.36	35	IAmb	IAmb	18 08 22.5		
	comp=Z,60nm,1.1s							
H29M	Whitestone	42.36	35	P	P	18 07 57.3	+0.5	
	baz=277,SNR=45							
G29M	Pine Creek	42.41	34	IAmb	IAmb	18 08 23.2		
	comp=Z,75nm,0.9s							
G29M	Pine Creek	42.41	34	P	P	18 07 58.1	+0.9	
	baz=277,SNR=48							
YUK8	Steele Glacier	42.55	42	P	P	18 07 59.8	+1.1	
	baz=281							
J29N	Klondike Camp	42.67	37	IAmb	IAmb	18 09 07.7		
	comp=Z,11nm,0.8s							
J29N	Klondike Camp	42.67	37	P	P	18 08 00.2	+0.8	
	baz=279							
PZH	PanZhiHua	42.69	261	P	P	18 08 00.8	+0.7	
PZH				S	S	18 14 15.3	-1.3	
PZH				ScS	ScS	18 17 46.4	-5.3	
PZH				pmax	pmax			
	comp=Z,30nm,0.8s							
PZH				pmax	pmax			
	comp=Z,100nm,4.9s							
KMI	Kunming	42.88	258	⇓P	P	18 08 02.8	+1.0	
KMI				S	S	18 14 18.8	-0.7	
KMI				SS	SS	18 17 29.1	-5.1	
KMI				pmax	pmax			
	comp=Z,29nm,0.8s							
BCPM	Bancas Point	42.89	44	IAmb	IAmb	18 09 12.0		
	comp=Z,79nm,0.8s							
M29M	Somme Creek	42.92	40	P	P	18 08 02.4	+0.9	
	baz=281,SNR=18							
L29M	L29M	42.95	39	IAmb	IAmb	18 08 12.6		
	comp=Z,44nm,0.8s							
L29M	L29M	42.95	39	P	P	18 08 03.8	+2.1	
	baz=281,SNR=40							
EPYK	Eagle Plains	43.00	34	IAmb	IAmb	18 08 27.4		
	comp=Z,84nm,1.1s							
EPYK	Eagle Plains	43.00	34	P	P	18 08 02.3	+0.3	
	baz=278,SNR=53							
YUK4	Talbot Arm	43.06	42	P	P	18 08 03.8	+1.0	
	baz=282,SNR=15							
PNL	Peninsula	43.07	44	P	P	18 08 04.2	+1.5	
PNL	Peninsula	43.07	44	P	P	18 08 01.6	-1.0	
	baz=283							
K29M	Barlow Dome	43.08	38	P	P	18 08 03.3	+0.5	
	baz=280,SNR=33							
G30M	tAoh Zraii Nji	43.10	34	IAmb	IAmb	18 08 07.6		
	comp=Z,70nm,1.0s							
G30M	tAoh Zraii Nji	43.10	34	P	P	18 08 04.1	+1.2	
	baz=278,SNR=82							
F30M	Barrier River	43.18	33	P	P	18 08 05.4	+2.0	
	baz=278,SNR=165							
YUK6	Outpost Mounta	43.28	43	P	P	18 08 06.1	+1.5	
	baz=283,SNR=7.2							
I30M	Mount Dempster	43.32	36	IAmb	IAmb	18 08 30.0		
	comp=Z,99nm,1.0s							
I30M	Mount Dempster	43.32	36	P	P	18 08 05.9	+1.2	
	baz=280,SNR=126							
O29M	Mount Kennedy	43.33	43	P	P	18 08 05.1	+0.3	
	baz=283							
WMQ	Urumqi	43.42	291	⇑P	P	18 08 06.5	+0.8	
WMQ				sP	sP	18 08 37.8	-1.1	
WMQ				pmax	pmax			
	comp=Z,190nm,0.9s							
WMQ				pmax	pmax			
	comp=Z,530nm,3.7s							
WMQ				LR	LR			
	comp=Z,610nm,17.3s							
WMQ				LR	LR			
	comp=Z,460nm,19.1s							
WMQ				LR	LR			
	comp=Z,340nm,24.3s							
J30M	Hart River	43.46	37	P	P	18 08 06.9	+1.1	
	baz=281,SNR=37							
M30M	Minto, Yukon	43.66	40	IAmb	IAmb	18 08 34.2		
	comp=Z,75nm,1.6s							
M30M	Minto, Yukon	43.66	40	P	P	18 08 08.9	+1.5	
	baz=282,SNR=19							
DAV	Davao City (W)	43.68	217	LR	LR	18 24 07.0		
	comp=Z,109nm,21.1s,baz=340,slow=33							
HYT	Haines Junctio	43.72	43	IAmb	IAmb	18 08 14.9		
	comp=Z,75nm,0.9s							
HYT	Haines Junctio	43.72	43	P	P	18 08 09.4	+1.4	
	baz=284,SNR=95							
N30M	Aishikik Lake	43.77	42	P	P	18 08 10.2	+1.9	
	baz=283,SNR=15							
ZSN	Zaisan	43.78	297	*e*P	P	18 08 09.2	+0.7	
ZSN	Zaisan	43.78	297	*e*P	P	18 08 08.5	0.0	
	baz=297							
G31M	Satah River	43.87	33	IAmb	IAmb	18 08 15.5		
	comp=Z,44nm,0.8s							
G31M	Satah River	43.87	33	P	P	18 08 09.8	+0.9	
	baz=280,SNR=48							
P29M	Windy Craggy	43.90	44	IAmb	IAmb	18 08 37.5		
	comp=Z,80nm,0.8s							
P29M	Windy Craggy	43.90	44	P	P	18 08 10.7	+1.4	
	baz=285							
INK	Inuvik	43.92	31	IAmb	IAmb	18 08 15.1		
	comp=Z,71nm,1.1s							
INK	Inuvik	43.92	31	P	P	18 08 10.5	+1.2	
	baz=279,SNR=77							
H31M	Peel River	44.05	35	IAmb	IAmb	18 08 17.9		
	comp=Z,64nm,0.8s							
H31M	Peel River	44.05	35	P	P	18 08 10.9	+0.5	
	baz=281							
P30M	Million Dollar	44.15	43	P	P	18 08 12.2	+0.8	
	baz=285							
O30N	Mendenhall	44.41	42	IAmb	IAmb	18 08 40.2		
	comp=Z,82nm,1.4s							
O30N	Mendenhall	44.41	42	P	P	18 08 15.3	+1.9	
	baz=285,SNR=29							
PLBC	Pleasant Camp	44.62	44	P	P	18 08 16.1	+1.1	
	baz=286							
M31M	Drury Creek, Y	44.83	40	IAmb	IAmb	18 08 43.5		
	comp=Z,127nm,1.6s							
M31M	Drury Creek, Y	44.83	40	P	P	18 08 18.0	+1.3	
	baz=284,SNR=52							
WHY	Whitehorse	45.01	42	P	P	18 08 17.2	-1.1	
WHY	Whitehorse	45.01	42	P	P	18 08 19.2	+1.0	
	baz=286,SNR=31							
S31K	Pelican	45.12	46	P	P	18 08 18.8	-0.1	
	baz=287							
SKAG	Skagway	45.13	44	P	P	18 08 21.3	+2.3	
SKAG	Skagway	45.13	44	P	P	18 08 20.4	+1.4	
	baz=286,SNR=12							
FARO	Faro, Yukon	45.30	40	P	P	18 08 20.9	+0.5	
	baz=285,SNR=32							
SEM	Semipalatinsk	45.48	303	*e*P	P	18 08 21.0	-1.3	
	baz=303							
MK31	Makanchi Array	45.66	297	P	P	18 08 23.5	+0.1	
MK31	Makanchi Array	45.66	297	*c i*P	P	18 08 22.9	-0.5	
MKAR	Makanchi Array	45.66	297	P	P	18 08 22.2	-1.3	
MKAR	Makanchi Array	45.66	297	P	P	18 08 22.2	-1.3	
MKAR	Makanchi Array	45.66	297	P	P	18 08 23.4	-0.1	
	comp=Z,92nm,0.7s,baz=72,slow=7.3,SNR=277							
	comp=Z,92nm,0.7s							
N32M	Quiet Lake	45.72	41	P	P	18 08 23.6	-0.2	
	baz=286							
MAKZ	Makanchi	45.85	297	P	P	18 08 25.0	0.0	
MAKZ	Makanchi	45.85	297	P	P	18 08 25.0	0.0	
MAKZ				pmax	pmax			
	comp=Z,89nm,0.9s							
MAKZ	Makanchi	45.85	297	P	P	18 08 24.9	0.0	
SIT	Sitka	45.86	47	P	P	18 08 26.7	+1.9	
TNCH	TengChong	45.87	262	⇓P	P	18 08 26.8	+1.3	
TNCH				pP	pP	18 08 45.3	-2.7	
TNCH				sP	sP	18 08 55.8	-3.0	
TNCH				PP	PP	18 10 10.5	-4.2	
TNCH				S	S	18 15 05.3	+2.5	
TNCH				sS	sS	18 15 38.1	-3.4	
TNCH				ScS	ScS	18 18 08.8	-3.2	
TNCH				SS	SS	18 18 20.1	-8.3	
TNCH				pmax	pmax			
	comp=Z,37nm,1.0s							
TNCH				LR	LR			
	comp=Z,100nm,4.5s							
TNCH				LR	LR			
	comp=Z,97nm,6.2s							
TNCH				LR	LR			
	comp=Z,190nm,15.5s							
P32M	Atlin	45.88	44	P	P	18 08 25.5	+0.5	
	baz=288,SNR=13							
R32K	Eaglecrest	45.88	45	IAmb	IAmb	18 08 53.2		
	comp=Z,43nm,0.8s							
R32K	Eaglecrest	45.88	45	P	P	18 08 26.3	+1.3	
	baz=288,SNR=9.8							
JIS	Juneau Island	45.95	45	IAmb	IAmb	18 08 53.4		
	comp=Z,54nm,0.9s							
JIS	Juneau Island	45.95	45	P	P	18 08 27.0	+1.5	
A36M	Sachs Harbour	46.00	26	P	P	18 08 24.4	-1.3	
A36M				IAmb	IAmb	18 08 32.3		
	comp=Z,79nm,0.8s							
A36M	Sachs Harbour	46.00	26	P	P	18 08 25.7	0.0	
	baz=283,SNR=59							
P33M	Teslin, Yukon	46.12	42	IAmb	IAmb	18 08 55.4		
	comp=Z,58nm,1.1s							
P33M	Teslin, Yukon	46.12	42	P	P	18 08 27.8	+0.8	
	baz=288,SNR=47							
MMPY	Sheldon Lake,	46.12	39	P	P	18 08 28.6	+1.7	
	baz=286,SNR=31							
KURK	Kurchatov	46.33	304	P	P	18 08 27.8	-0.8	
KURK	Kurchatov	46.33	304	*c i*P	P	18 08 27.6	-1.0	
KURK				pmax	pmax			
	comp=Z,119nm,1.0s							
KURK	Kurchatov	46.33	304	P	P	18 08 27.9	-0.7	
KURK				S	S	18 15 05.3	-3.0	
KURK	Kurchatov	46.33	304	P	P	18 08 28.1	-0.5	
KURBB	Kurchatov Arra	46.41	303	P	P	18 08 27.4	-1.9	
KURBB	Kurchatov Arra	46.41	303	P	P	18 08 28.7	-0.5	
	comp=Z,86nm,0.9s,baz=69,slow=8.6,SNR=369							
KURBB				S	S	18 15 08.1	-1.5	
	comp=Z,2.2nm,0.9s,baz=71,slow=14,SNR=5.3							
KURBB				LR	LR	18 29 13.9		
	comp=Z,192nm,18.1s,baz=167,slow=38							
	comp=Z,86nm,0.9s							
Q32M	Nakina River	46.78	44	P	P	18 08 34.6	+2.4	
	baz=289							
C36M	Paulatuk	47.04	29	P	P	18 08 33.7	-0.2	
C36M				IAmb	IAmb	18 08 38.3		
	comp=Z,86nm,0.9s							
C36M	Paulatuk	47.04	29	P	P	18 08 34.7	+0.9	
	baz=286,SNR=103							
R33M	Jennings River	47.27	43	IAmb	IAmb	18 09 04.0		
	comp=Z,59nm,1.1s							
R33M	Jennings River	47.27	43	P	P	18 08 36.7	+0.7	
	baz=290,SNR=28							
MANU	Manus Island	47.30	184	P	P	18 08 37.2	+0.7	
U33K	Whale Pass	47.33	48	P	P	18 08 36.4	+0.1	
	baz=291							
NONG	Nongkai	47.41	251	P	P	18 08 38.6	+1.2	
CRAG	Craig	47.56	49	P	P	18 08 38.2	+0.1	
	baz=292							
WRAK	Wrangell Islan	47.62	47	P	P	18 08 39.4	+0.9	
	baz=291							
S34M	Telegraph Cree	47.70	45	IAmb	IAmb	18 09 06.8		
	comp=Z,38

V35K Ketchikan 48.41 48 P P 18 08 45.0 +0.3
baz=293
JAY Jayapura 48.43 193 P P 18 08 45.8 +0.6
comp=Z,72nm,1.1s,comp=Z,755nm
T35M Bob Quinn 48.49 46 P P 18 08 46.3 +1.0
baz=292,SNR=19
GENI Genyem 48.59 193 P P 18 08 47.9 +1.5
GENI Genyem 48.59 193 P P 18 08 47.2 +0.8
comp=Z,291nm,1.0s,comp=Z,3µm
TNTI Ternate 48.74 211 P P 18 08 49.4 +1.8
TDK Taldyqorghan 48.88 297 eP P 18 08 49.2 +0.8
TDK pmax pmax
comp=Z,53nm,0.7s
TDK Taldyqorghan 48.88 297 eP P 18 08 49.2 +0.8
comp=Z,53nm,0.7s,baz=297
PDGK Podgornoye 48.97 294 P P 18 08 49.7 +0.4
SWI Sorong 48.98 205 P P 18 08 49.0 -0.4
comp=Z,57nm,0.8s
U35K Hyder 49.02 47 P P 18 08 49.3 +0.1
baz=293
PHRA Phrae 49.06 254 ScP ScP 18 14 00.1 +1.5
SHLS Shalkode 49.07 294 eP P 18 08 48.7 -1.3
SHLS pmax pmax
comp=Z,77nm,1.0s
SHLS Shalkode 49.07 294 eP P 18 08 48.8 -1.3
comp=Z,77nm,1.0s,baz=294
WRGLY Wrigley 49.29 37 IAmb IAmb 18 09 18.8
comp=Z,68nm,0.9s
WRGLY Wrigley 49.29 37 P P 18 08 50.9 -0.4
baz=292,SNR=14
UZB Uzynbulak 49.36 294 eP P 18 08 52.9 +0.6
UZB pmax pmax
comp=Z,104nm,1.3s
UZB Uzynbulak 49.36 294 eP P 18 08 52.8 +0.6
comp=Z,104nm,1.3s,baz=294
MND Mandalay 49.50 261 P P 18 08 54.3 +0.9
ARXS Arharly 49.61 296 eP P 18 08 54.1 0.0
ZHN Zhinishke 49.72 294 eP P 18 08 55.8 +0.8
ZHN pmax pmax
comp=Z,56nm,1.0s
ZHN Zhinishke 49.72 294 eP P 18 08 55.9 +0.9
comp=Z,56nm,1.0s,baz=294
SATY Saty 49.80 294 eP P 18 08 56.4 +0.8
SATY pmax pmax
comp=Z,108nm,1.3s
SATY Saty 49.80 294 eP P 18 08 56.4 +0.8
comp=Z,108nm,1.3s,baz=294
GRNB Grenville Isla 49.90 50 IAmb IAmb 18 09 09.2
comp=Z,38nm,0.9s
CM31 Chiang Mai Arr 49.96 255 IAmb IAmb 18 09 09.7
comp=Z,24nm,0.7s
CMAR Chiang Mai Arr 49.96 255 P P 18 08 57.3 +0.4
CMAR PcP PcP 18 10 17.3 +1.5
CMAR ScP ScP 18 14 03.6 +1.1
CMAR Chiang Mai Arr 49.96 255 P P 18 08 58.3 +1.3
comp=Z,6.2nm,0.8s,baz=40,slow=7.4,SNR=60
CMAR PcP PcP 18 10 17.1 +1.3
comp=Z,7.4nm,0.8s,baz=16,slow=2.7,SNR=6.5
CMAR ScP ScP 18 14 02.9 +0.3
comp=Z,2.3nm,1.0s,baz=24,slow=4.2,SNR=5.6
comp=Z,6.2nm,0.8s
LBMI Labuha 50.00 210 P P 18 08 55.8 -1.4
comp=Z,60nm,0.9s,comp=Z,2µm
BVA0 Borovoye Array 50.05 309 *i* P P 18 08 55.9 -1.3
BVAR Borovoye Array 50.05 309 P P 18 08 56.6 -0.7
comp=Z,51nm,0.8s,baz=52,slow=8.8,SNR=164
BVAR LR LR 18 31 03.2
comp=Z,192nm,19.3s,baz=61,slow=37
BVAR P4KPbc 18 46 31.9
comp=Z,0.9nm,0.6s,baz=36,slow=3.8,SNR=6.2
comp=Z,51nm,0.8s
PRZ Przheval'sk 50.08 294 P P 18 08 59.6 +1.8
BRZS Berezniki 50.09 305*c* iP P 18 08 57.1 -0.4
BRZS pmax pmax
comp=Z,64nm,1.1s
BRZS Berezniki 50.09 305⇑ *i*P P 18 08 57.2 -0.4
comp=Z,64nm,1.1s,baz=305
BRVK Borovoye 50.10 309 P P 18 08 56.4 -1.2
BRVK IAmb IAmb 18 08 58.1
comp=Z,68nm,0.9s
BRVK Borovoye 50.10 309*c* iP P 18 08 56.6 -0.9
BRVK *i* *PP pP 18 09 22.4 +1.9
BRVK pmax pmax
comp=Z,68nm,1.0s
BRVK Borovoye 50.10 309 P P 18 08 56.8 -0.8
BRVK S S 18 15 58.8 -2.6
BRVK Borovoye 50.10 309 P P 18 08 57.0 -0.5
WUS Wushi 50.18 292 P P 18 09 00.2 +1.7
KMSI Cibinong 50.21 215 P P 18 08 57.4 -1.4
comp=Z,147nm,0.8s
KOTAN Kotaneelee Air 50.24 41 P P 18 08 58.9 +0.3
baz=294
CHKK Chushkaly 50.31 296 eP P 18 08 59.6 +0.3
CHKK Chushkaly 50.31 296 eP P 18 08 59.6 +0.3
baz=296
ANVS Anan'yevo 50.40 294 P P 18 09 02.7 +2.4
GTOI Gorontalo 50.55 216 P P 18 08 59.7 -1.7
comp=Z,13nm,0.9s
MDOK Medeo 50.61 295 eP P 18 09 02.6 +0.8
MDOK Medeo 50.61 295 eP P 18 09 02.5 +0.7
baz=295
FAKI Fak Fak 50.65 203 P P 18 08 59.5 -2.5
FAKI Fak Fak 50.65 203 P P 18 09 02.8 +0.7
FAKI Fak Fak 50.65 203 P P 18 09 01.4 -0.7
comp=Z,104nm,1.1s,comp=Z,963nm
AAA Alma-Ata 50.67 295 eP P 18 09 02.8 +0.7
AAA pmax pmax
comp=Z,74nm,1.2s
AAA Alma-Ata 50.67 295 eP P 18 09 02.9 +0.8
comp=Z,74nm,1.2s,baz=295
AAA Alma-Ata 50.67 295 eP P 18 09 02.8 +0.7
TNSS Tian-Shan 50.74 295 eP P 18 09 03.4 +0.4
TNSS Tian-Shan 50.74 295 eP P 18 09 03.5 +0.5
baz=295
EUNU Eureka 50.86 11 P P 18 09 02.8 -0.2
TABU Tabubil 51.06 191 P P 18 09 06.0 +0.8
OTUK Ortayu 51.08 303 P P 18 09 03.9 -1.2
TOLI2 Tolitoli 51.08 219 P P 18 09 04.1 -1.3
TOLI2 IAmb IAmb 18 09 06.8
comp=Z,49nm,1.1s
TOLI2 Tolitoli 51.08 219 P P 18 09 05.9 +0.5
MRSI Marisa 51.15 217 P P 18 09 05.8 0.0
comp=Z,157nm,1.1s,comp=Z,2µm
ALE Alert 51.29 5 P P 18 09 05.2 -0.9
ALE pP pP 18 09 27.7 -1.4
POHA Pohakuloa 51.36 101 P P 18 09 04.4 -3.3
POHA Pohakuloa 51.36 101 P P 18 09 08.4 +0.7
POHA Pohakuloa 51.36 101 P P 18 09 08.0 +0.3
POHA pP pP 18 09 30.8 +0.5
POHA PcP PcP 18 10 21.7 +0.5
BTLS Baital 51.58 299*c* iP P 18 09 08.9 +0.1
BTLS Baital 51.58 299⇑ iP P 18 09 08.9 +0.1
baz=299
ULHL Ulahol 51.59 294 P P 18 09 11.1 +2.0
SNR=46
TKM2 Tokmak 2 51.66 296 P P 18 09 10.7 +1.1
SNR=159
TKM2 Tokmak 2 51.66 296 P P 18 09 10.7 +1.1
SANI Sanana 51.85 211 P P 18 09 10.6 -0.4
SANI Sanana 51.85 211 P P 18 09 09.4 -1.6
comp=Z,116nm,1.2s,comp=Z,1µm
SGDS Sogindy 52.00 297*c* iP P 18 09 12.8 +0.8
SGDS pmax pmax
comp=Z,76nm,1.1s
SGDS Sogindy 52.00 297⇑ iP P 18 09 12.9 +0.8
comp=Z,76nm,1.1s,baz=297
CHMS Chumysh 52.15 296 P P 18 09 14.1 +0.9
SNR=58
NRN Naryn 52.15 294 IAmb IAmb 18 09 16.2
comp=Z,78nm,1.1s
MPSI Mapaga 52.16 219 P P 18 09 12.9 -0.5
comp=Z,33nm,1.1s
LUWI Luwuk 52.17 215 IAmb IAmb 18 09 13.8
comp=Z,55nm,0.9s
LUWI Luwuk 52.17 215 P P 18 09 14.1 +0.7
LUWI Luwuk 52.17 215 P P 18 09 11.2 -2.2
comp=Z,70nm,1.0s,comp=Z,699nm
USP Ospenovka 52.18 296 P P 18 09 14.3 +1.0
SNR=178
KBK Karagaybulak 52.20 296 P P 18 09 15.5 +1.8
SNR=7.8
AAK Ala-Archa 52.50 296 P P 18 09 17.9 +2.1
SNR=10
AAK Ala-Archa 52.50 296 P P 18 09 17.3 +1.5
AAK Ala-Archa 52.50 296*c* iP P 18 09 16.4 +0.5
AAK pmax pmax
comp=Z,114nm,1.0s
AAK Ala-Archa 52.50 296 *i* P P 18 09 16.9 +1.0
SNR=177
AAK Ala-Archa 52.50 296 P P 18 09 16.9 +1.0
AAK Ala-Archa 52.50 296 P P 18 09 16.8 +1.0
UCH Uchtor 52.70 295 P P 18 09 19.5 +1.8
SNR=35
SRDT SRDT 52.75 251 P P 18 09 19.0 +1.2
RES Resolute Bay 52.78 18 LR LR 18 33 29.2
comp=Z,103nm,20.9s,baz=3.0,slow=38
EKS2 Erkin-Say 52.94 296 P P 18 09 20.8 +1.7
SNR=14
ARLS Aral 53.01 295 P P 18 09 21.3 +1.7
NOR Nord 53.05 358 *i* P P 18 09 16.4 -2.7
NOR IAmb IAmb 18 09 19.4
comp=Z,40nm,1.0s
KSH Kashi 53.17 292 P P 18 09 26.0 +5.2
KSH pP pP 18 09 46.9 +3.0
KSH S S 18 16 53.0 +8.7
KSH pmax pmax
comp=Z,170nm,1.0s
KSH LR LR
comp=Z,570nm,13.7s
KSH LR LR
comp=Z,220nm,9.6s
KSH LR LR
comp=Z,550nm,16.5s
YKA Yellowknife Ar 53.27 35 P P 18 09 22.0 +1.0
YKA Yellowknife Ar 53.27 35 P P 18 09 21.8 +0.8
comp=Z,28nm,0.9s,baz=299,slow=7.1,SNR=82
YKA pP pP 18 09 44.5 +0.8
comp=Z,35nm,0.9s,baz=299,slow=7.2,SNR=13
comp=Z,28nm,0.9s
SVE Sverdlovsk 53.35 317*d* iP P 18 09 21.4 -0.3
SVE *e*S S 18 16 44.3 -1.6
SVE pmax pmax
comp=Z,411nm,0.9s
SVE Sverdlovsk 53.35 317 eP P 18 09 21.4 -0.3
KBS Kingsbay 53.49 351 P P 18 09 22.2 -0.2
KBS Kingsbay 53.49 351*de*P P 18 09 21.5 -0.9
KBS pmax pmax
comp=Z,68nm,0.9s
KBS Kingsbay 53.49 351 P P 18 09 21.1 -1.3
SPB1 Spitsbergen Ar 53.54 349 P P 18 09 21.9 -1.0
SPB1 IAmb IAmb 18 09 23.8
comp=Z,94nm,1.2s
SPA1 Spitsbergen Ar 53.55 349 P P 18 09 21.6 -1.2
SPA0 Spitsbergen Ar 53.55 349 P P 18 09 21.8 -1.1
SPA0 IAmb IAmb 18 09 23.9
comp=Z,90nm,1.2s
SPA0 Spitsbergen Ar 53.55 349 eP P 18 09 21.8 -1.1
SPA0 IAmb IAmb 18 09 23.5
comp=Z,73nm,1.1s
SPITS Spitsbergen Ar 53.55 349 P P 18 09 22.5 -0.3
SPITS pmax pmax
comp=Z,87nm,1.2s
SPITS Spitsbergen Ar 53.55 349 P P 18 09 21.8 -1.1
comp=Z,12nm,0.5s,baz=61,slow=7.8,SNR=71
SPITS LR LR 18 33 01.3
comp=Z,76nm,20.2s,baz=356,slow=37
comp=Z,12nm,0.5s
SPA2 Spitsbergen Ar 53.55 349 P P 18 09 21.6 -1.2
SPA2 IAmb IAmb 18 09 23.9
comp=Z,92nm,1.2s
SPA3 Spitsbergen Ar 53.55 349 P P 18 09 21.8 -1.1
SPA3 IAmb IAmb 18 09 23.9
comp=Z,84nm,1.2s
DZA Taraz 54.36 298 eP P 18 09 30.2 +0.9
DZA pmax pmax
comp=Z,63nm,1.0s
DZA Taraz 54.36 298 eP P 18 09 30.2 +0.9
comp=Z,64nm,1.0s,baz=298
ARU Arti 54.55 317 P P 18 09 29.6 -0.8
ARU Arti 54.55 317*c* iP P 18 09 29.3 -1.1
ARU pmax pmax
comp=Z,323nm,0.9s
ARU Arti 54.55 317 LR LR 18 34 20.1
comp=Z,190nm,21.6s,baz=14,slow=38
ARU Arti 54.55 317 P P 18 09 29.6 -0.8
PMG Port Moresby 54.62 183⇓ eP P 18 09 30.7 -0.6
PMG pmax pmax
comp=Z,26nm,1.0s
PMG Port Moresby 54.62 183 P P 18 09 30.9 -0.3
comp=Z,19nm,0.8s,baz=335,slow=6.5,SNR=6.1
comp=Z,19nm,0.8s
KK31 Karatay Array 54.76 298 P P 18 09 32.6 +0.4
BKB Balikpapan 54.95 222 P P 18 09 34.3 +0.5
BKB Balikpapan 54.95 222 P P 18 09 34.3 +0.5
comp=Z,185nm,1.1s
TRKS Terek-Say 55.21 296 P P 18 09 36.9 +1.3
BRLS Borolday 55.22 298*c* iP P 18 09 37.6 +2.2
BRLS pmax pmax
comp=Z,49nm,1.5s
BRLS Borolday 55.22 298⇑ iP P 18 09 37.7 +2.2
comp=Z,49nm,1.5s,baz=298
TTSI Tana Toraja 55.22 218 P P 18 09 34.4 -1.3
comp=Z,11nm,1.3s
HNR Honiara 55.31 168 P P 18 09 37.5 +1.3
HNR Honiara 55.31 168 LR LR 18 31 48.0
comp=Z,3µm,20.1s,baz=344,slow=34
IUG Iuzhnay 55.57 297*c* iP P 18 09 38.9 +0.8
IUG pmax pmax
comp=Z,71nm,0.8s
IUG Iuzhnay 55.57 297⇑ iP P 18 09 38.9 +0.8
comp=Z,71nm,0.8s,baz=297
MTKI Muara Teweh, K 55.64 224 P P 18 09 39.0 +0.3
comp=Z,147nm,1.1s,comp=Z,2µm
CHM Chimkent 55.74 298 eP P 18 09 40.1 +0.9
CHM pmax pmax
comp=Z,53nm,0.8s
CHM Chimkent 55.74 298 eP P 18 09 40.1 +0.9
comp=Z,53nm,0.8s,baz=298
KSM Kuching 55.96 230 P P 18 09 42.4 +1.4
BJO1 Bjornoya 56.00 346 eP P 18 09 40.1 -0.4
BTK Batken 56.22 295 P P 18 09 43.8 +1.1
NLWA Neilten Lookou 56.40 54 IAmb IAmb 18 09 56.9
comp=Z,28nm,0.8s
STKI Sintang 56.52 228 P P 18 09 45.5 +0.5
comp=Z,98nm,1.1s
SRIT Nakonsritamara 56.69 246 IAmb IAmb 18 10 30.1
comp=Z,35nm,0.9s
SRIT Nakonsritamara 56.69 246 P P 18 09 47.6 +1.4
NEEM North Greenlan 56.72 5 *i* P P 18 09 44.9 -1.1
NEEM IAmb IAmb 18 09 46.3
comp=Z,240nm,1.0s
KAPI Kappang 57.02 217 P P 18 09 49.4 +1.0
VADS Vadso 57.05 339 eP P 18 09 47.2 -0.8
VADS IAmb IAmb 18 09 48.5
comp=Z,65nm,0.8s
BKSI Bulukumba 57.14 216 P P 18 09 48.5 -0.8
comp=Z,52nm,1.0s
LVZ Lovozero 57.14 336 P P 18 09 47.1 -1.7
LVZ Lovozero 57.14 336*de*P P 18 09 47.4 -1.3
LVZ pmax pmax
comp=Z,94nm,1.1s
LVZ Lovozero 57.14 336 P P 18 09 47.5 -1.3
LVZ pP pP 18 10 10.7 -1.6
KIRV Kirov 57.55 322*c* iP P 18 09 50.7 -1.0
KIRV Kirov 57.55 322 LR LR 18 36 58.8
comp=Z,349nm,18.1s,baz=46,slow=38
AB31 Akbulak array 57.63 309 P P 18 09 52.2 -0.2
ABKAR Akbulak array 57.63 309 P P 18 09 52.2 -0.2
ABKAR Akbulak array 57.63 309 IAmb IAmb 18 09 53.5
comp=Z,81nm,0.7s
APA Apatity 57.71 336⇓ iP P 18 09 49.6 -3.1
APA pmax pmax
comp=Z,51nm,1.0s
KEV Kevo 57.88 340 P P 18 09 53.0 -0.9
KEV Kevo 57.88 340 P P 18 09 53.0 -0.9
KEV pmax pmax
comp=Z,268nm,1.8s
KEV Kevo 57.88 340 P P 18 09 52.8 -1.1
DAG Danmarks Havn 57.89 357 *i* P P 18 09 51.7 -2.2
DAG IAmb IAmb 18 09 54.2
comp=Z,184nm,1.5s
HAMF Hammerfest 58.01 342 eP P 18 09 52.7 -2.0
AKTO Aktyubinsk 58.01 311 LR LR 18 36 07.2
comp=Z,329nm,21.3s,baz=3.0,slow=37
SIMJ Simiganj 58.16 294 P P 18 09 57.4 +0.9
SIMJ Simiganj 58.16 294 P P 18 09 57.5 +1.0
SIMJ pP pP 18 10 21.2 +1.1
COR Corvallis 58.27 57 P P 18 09 58.3 +1.3
COR pP pP 18 10 22.4 +2.1
NIL Nilore 58.28 287 P P 18 09 58.2 +0.9
NIL Nilore 58.28 287 P P 18 09 58.2 +0.9
NIL pmax pmax
comp=Z,441nm,0.9s
NIL Nilore 58.28 287 P P 18 09 59.0 +1.8
ARA0 ARCESS Array S 58.41 340 eP P 18 09 55.4 -2.1
ARA0 IAmb IAmb 18 09 58.6
comp=Z,67nm,1.2s
ARCES ARCESS Array B 58.41 340 P P 18 09 56.5 -1.1
ARCES ARCESS Array B 58.41 340 P P 18 09 56.5 -1.1
ARCES pmax pmax
comp=Z,164nm,1.8s
ARCES ARCESS Array B 58.41 340 P P 18 09 55.5 -2.0
comp=Z,19nm,0.6s,baz=41,slow=8.3,SNR=38
ARCES LR LR 18 37 59.8
comp=Z,65nm,20.2s,baz=66,slow=39
comp=Z,19nm,0.6s
KULM Kulim 58.56 242 IAmb IAmb 18 10 42.2
comp=Z,36nm,0.9s
H04D Lebanon 58.64 57 IAmb IAmb 18 10 13.1
comp=Z,42nm,0.9s
BUCK Buck Mountain 58.68 57 IAmb IAmb 18 10 11.9
comp=Z,60nm,1.1s
J01E Myrtle Point 58.71 59 IAmb IAmb 18 10 13.6
comp=Z,44nm,0.9s
I03D Drain, OR 58.75 58 IAmb IAmb 18 10 14.1
comp=Z,44nm,1.0s
MXC Moxie City 58.89 54 IAmb IAmb 18 10 03.3
comp=Z,26nm,1.2s
KULLO Kullorsuaq 58.92 8 *i* P P 18 09 59.9 -1.1
KULLO IAmb IAmb 18 10 01.4
comp=Z,172nm,0.9s
K02D Willamette Mer 59.13 59 IAmb IAmb 18 10 05.4
comp=Z,39nm,1.2s
E07A Sunnyside 59.15 53 IAmb IAmb 18 10 05.0
comp=Z,27nm,1.2s
I04A Tendick Farm, 59.25 57 IAmb IAmb 18 10 17.5
comp=Z,37nm,1.0s
MMRI Maumere 59.31 212 P P 18 10 04.2 -0.3
MMRI IAmb IAmb 18 10 05.3
comp=Z,48nm,0.8s
KTK1 Kautokeino 59.34 340 eP P 18 10 03.0 -1.0
KTK1 IAmb IAmb 18 10 04.6
comp=Z,87nm,0.7s
MYKOM Kota Tinggi 59.37 237 P P 18 10 06.4 +1.5
MYKOM IAmb IAmb 18 10 07.8
comp=Z,55nm,0.9s
COEN Coen 59.41 188 P P 18 10 05.5 +0.5
COEN Coen 59.41 188 P P 18 10 07.1 +2.1
F07A Phinny Hill Vi 59.49 54 IAmb IAmb 18 10 19.0
comp=Z,49nm,0.8s
JETT Jettan, Norway 59.56 342 eP P 18 10 04.7 -0.9
JETT IAmb IAmb 18 10 05.4
comp=Z,92nm,0.9s
I05D Terrebonne, OR 59.57 56 IAmb IAmb 18 10 18.8
comp=Z,26nm,0.8s
SOEI Soe 59.61 210 P P 18 10 08.0 +1.4
SOEI Soe 59.61 210 P P 18 10 06.1 -0.5
comp=Z,83nm,1.0s
EDFI Ende, Flores 59.63 213 P P 18 10 04.9 -1.8
comp=Z,55nm,1.0s,comp=Z,662nm
E08A Dider Farm, El 59.64 53 IAmb IAmb 18 10 08.0
comp=Z,24nm,1.1s
TPRI Tanjung Pinang 59.67 236 P P 18 10 07.0 0.0
comp=Z,104nm,1.2s,comp=Z,1µm
NEW Newport 59.69 51 IAmb IAmb 18 10 35.3
comp=Z,33nm,1.2s
NEW Newport 59.69 51 P P 18 10 06.5 -0.3
baz=305,SNR=14
TRO Tromso 59.83 342 eP P 18 10 06.2 -1.1
KDU Kakadu 59.96 200 P P 18 10 08.9 +0.1
PINE Pine Mountain 60.12 57 IAmb IAmb 18 10 12.5
comp=Z,52nm,0.9s
KLMR Klimovskoe 60.13 328 eP P 18 10 06.5 -3.0
KLMR *e* 18 12 19.4
KLMR pmax pmax
comp=Z,212nm,1.0s
E09A Wood Farm, Sta 60.14 53 IAmb IAmb 18 10 20.6
comp=Z,27nm,0.9s
KHMM Horse Mountain 60.15 61 IAmb IAmb 18 10 12.8
comp=Z,49nm,1.1s
BATI Baumata 60.24 210 LR LR 18 35 00.8
comp=Z,46nm,21.5s,baz=82,slow=35
J05D Fort Rock, OR 60.24 57 IAmb IAmb 18 10 24.4
comp=Z,45nm,0.9s
YBH Yreka Blue Hor 60.27 59 IAmb IAmb 18 10 13.4
comp=Z,26nm,1.1s
K04D Chiloquin, OR 60.32 58 IAmb IAmb 18 10 39.1
comp=Z,32nm,0.8s
DBG Daneborg 60.40 357 *i* P P 18 10 10.5 -0.6
DBG IAmb IAmb 18 10 12.4
comp=Z,30nm,0.8s
MTN Manton Dam 60.44 201 P P 18 10 12.1 0.0
MTN Manton Dam 60.44 201 P P 18 10 12.6 +0.5
KMRM Mail Ridge 60.54 61 IAmb IAmb 18 10 15.3
comp=Z,28nm,0.9s
KBL Kabul 60.55 291 P P 18 10 13.9 +0.8
KBL Kabul 60.55 291 P P 18 10 13.9 +0.8
KBL pmax pmax
comp=Z,223nm,0.9s
KBL Kabul 60.55 291 P P 18 10 13.2 +0.1
SNR=96
KBL S S 18 18 20.9 -0.8
UPNV Upernavik 60.71 9 *i* P P 18 10 12.9 -0.3
UPNV IAmb IAmb 18 10 14.3
comp=Z,228nm,1.0s
DSRI Dabo 60.78 235 P P 18 10 16.0 +1.5
comp=Z,77nm,1.2s,comp=Z,876nm
KCPM Cahto Peak 60.94 62 IAmb IAmb 18 10 29.0
comp=Z,33nm,0.8s
BWJI Bawean 60.98 224 P P 18 10 14.4 -1.5
comp=Z,116nm,1.4s
PPBI Pangkal Pinang 61.27 232 P P 18 10 18.2 +0.3
comp=Z,116nm,1.0s
PLAI Plampang 61.28 217 P P 18 10 16.5 -1.3
PLAI Plampang 61.28 217 P P 18 10 15.2 -2.6
comp=Z,52nm,0.9s
BASI Baing, Sumba 61.40 213 P P 18 10 17.9 -0.7
comp=Z,243nm,1.2s
KMMI Kalianget 61.40 222 P P 18 10 18.2 -0.5
comp=Z,53nm,1.0s
JOF Joensuu 61.57 333 eP P 18 10 17.3 -1.9
HOPS Hopland Field 61.67 62 IAmb IAmb 18 10 33.5
comp=Z,23nm,0.9s
SRBI Singaraja 61.74 220 P P 18 10 20.8 -0.1
comp=Z,231nm,1.0s,comp=Z,2µm
ABJI Asem Bagus 61.93 221 P P 18 10 22.3 +0.1
comp=Z,228nm,1.0s
STEI Steigen 62.00 342 eP P 18 10 21.1 -0.9
STEI IAmb IAmb 18 10 23.3
comp=Z,29nm,0.5s
BELG Belogornoye 62.09 317*c* iP P 18 10 22.1 -0.8
BELG pmax pmax
comp=Z,44nm,0.9s
SUMG Summit 62.17 3 *i* P P 18 10 22.1 -1.5
SUMG IAmb IAmb 18 10 25.3
comp=Z,315nm,1.0s
BLJI Banyuglugur 62.19 222 P P 18 10 23.3 -0.6
comp=Z,43nm,0.8s
LOF Lofoten 62.19 343 eP P 18 10 22.7 -0.6
NUUG Nuugaatsiaq 62.19 8 *i* P P 18 10 22.1 -1.1
NUUG IAmb IAmb 18 10 23.9
comp=Z,88nm,0.9s
PLID Pearl Lake 62.20 53 IAmb IAmb 18 10 36.5
comp=Z,48nm,1.0s
BKNI Bangkinang 62.21 239 P P 18 10 25.5 +1.3
BKNI Bangkinang 62.21 239 P P 18 10 25.3 +1.1
comp=Z,247nm,1.0s,comp=Z,2µm
JMBI JAMBI 62.25 235 P P 18 10 26.5 +2.1
comp=Z,153nm,0.7s
WVOR Wild Horse Val 62.29 57 IAmb IAmb 18 10 38.1
comp=Z,42nm,0.9s
FAUS Fauske 62.44 342 eP P 18 10 24.4 -0.6
JAGI Jajag, Banyuwa 62.56 221 P P 18 10 25.9 -0.6
JAGI Jajag, Banyuwa 62.56 221 P P 18 10 24.0 -2.5
comp=Z,23nm,1.0s
GMJI Gumukmas 62.72 222 P P 18 10 25.8 -1.7
comp=Z,22nm,1.0s
VALR Valaam 62.84 332*c* iP P 18 10 26.4 -1.3
VALR pmax pmax
comp=Z,247nm,0.9s
NGJI Ngawi 62.88 224 P P 18 10 29.2 +0.6
comp=Z,32nm,1.1s
SMRI Semarang 63.11 225 P P 18 10 31.2 +1.1
SMRI Semarang 63.11 225 P P 18 10 29.8 -0.3
comp=Z,228nm,0.9s,comp=Z,3µm
UMMG Uummannaq 63.12 8 *i* P P 18 10 29.4 -0.1
UMMG IAmb IAmb 18 10 30.3

comp=Z,106nm,1.0s
FFC Flin Flon 63.13 38 P P 18 10 30.3 +0.5
FFC IAmb IAmb 18 10 56.8
comp=Z,69nm,0.9s
FFC Flin Flon 63.13 38 P P 18 10 30.3 +0.5
FFC pmax pmax
comp=Z,69nm,1.0s
FFC Flin Flon 63.13 38 P P 18 10 30.2 +0.4
FFC pP pP 18 10 53.8 +0.4
FFC sP sP 18 11 04.7 +0.9
PWJI Pagerwojo 63.28 223 P P 18 10 29.9 -1.3
comp=Z,334nm,1.1s,comp=Z,3µm
MTSU Mount Surprise 63.45 186 P P 18 10 32.9 +0.7
EMB Emerald Bay 63.52 61 IAmb IAmb 18 10 45.9
comp=Z,30nm,0.8s
PDSI Padang 63.54 238 P P 18 10 32.3 -0.7
comp=Z,32nm,1.3s
FCC Fort Churchill 63.55 32 IAmb IAmb 18 10 58.2
comp=Z,83nm,1.1s
GSI Gunungsitoli 63.57 242 P P 18 10 33.8 +0.6
GSI IAmb IAmb 18 11 15.2
comp=Z,68nm,1.3s
GSI Gunungsitoli 63.57 242 P P 18 10 34.4 +1.2
GSI Gunungsitoli 63.57 242 P P 18 10 33.7 +0.6
comp=Z,18nm,0.7s
EGMT Eagleton 63.75 47 IAmb IAmb 18 11 01.4
comp=Z,42nm,0.8s
EGMT Eagleton 63.75 47 P P 18 10 34.6 +0.5
baz=309,SNR=14
PNTR Pine Nut 63.76 60 IAmb IAmb 18 10 47.7
comp=Z,38nm,0.8s
KNRA Kununurra 63.78 203 P P 18 10 35.6 +1.2
UGM Wanagama 63.81 225 P P 18 10 35.9 +1.1
UGM Wanagama 63.81 225 P P 18 10 33.4 -1.4
comp=Z,186nm,1.2s
KRJI Kerinci 63.89 237 P P 18 10 35.5 +0.1
comp=Z,444nm,0.9s,comp=Z,3µm
HLID Hailey 64.03 54 P P 18 10 36.5 +0.4
baz=309,SNR=26
YERR Yerington 64.04 60 IAmb IAmb 18 10 49.5
comp=Z,44nm,0.9s
VAF Ylistaro 64.10 336 eP P 18 10 34.8 -1.2
KPJI Karang Pucung 64.12 226 P P 18 10 35.0 -1.7
comp=Z,58nm,1.3s
KEF Keuruu 64.14 335 eP P 18 10 34.2 -2.0
PUL Pulkovo 64.18 331 ceP P 18 10 35.8 -0.8
PUL pmax pmax
comp=Z,194nm,0.9s
SCO Scoresbysund 64.28 357 i P P 18 10 36.6 -0.4
SCO IAmb IAmb 18 10 38.4
comp=Z,90nm,0.9s
BOZ Bozeman (W) 64.30 50 P P 18 10 38.0 +0.2
baz=309,SNR=32
MOS Moscow 64.32 325 eP P 18 10 36.0 -1.5
MOS e*PP pP 18 11 03.4 +1.9
MOS e 18 12 56.3
MOS eS S 18 19 04.0 -3.7
MOS e*SS sS 18 19 47.2 +0.3
MOS pmax pmax
comp=Z,125nm,1.1s
MOS pmax pmax
comp=N,70nm,0.8s
FINES FINESS Array B 64.32 334 P P 18 10 36.5 -1.0
comp=N,83nm,0.6s,baz=43,slow=7.2,SNR=323
FINES LR LR 18 42 07.7
comp=N,231nm,18.2s,baz=38,slow=39
comp=N,83nm,0.6s
BMN Battle Mountai 64.36 58 IAmb IAmb 18 10 51.4
comp=Z,36nm,0.9s
LEM Lembang 64.37 228 LR LR 18 38 59.2
comp=Z,50nm,20.1s,baz=174,slow=36
LEM Lembang 64.37 228 P P 18 10 37.7 -0.8
comp=Z,93nm,1.0s,comp=Z,916nm
TV1H Townsville Har 64.42 183 P P 18 10 39.1 +0.6
DBJI Dramaga 64.59 229 P P 18 10 39.0 -0.9
comp=Z,62nm,1.3s,comp=Z,2µm
ILULI Ilulissat 64.64 8 i P P 18 10 38.6 -0.8
ILULI IAmb IAmb 18 10 40.4
comp=Z,184nm,0.9s
KVN Kaiserville 64.69 59 IAmb IAmb 18 10 53.7
comp=Z,40nm,0.9s
LWLI Liwa 64.78 232 P P 18 10 39.8 -1.4
comp=Z,188nm,0.9s
HYB Hyderabad 64.87 270 eP P 18 10 42.3 +0.6
HYB IVmB_BB 18 10 52.2
comp=Z,242nm,0.8s
BBJI Bungbulang 64.89 228 P P 18 10 43.4 +1.6
LHV Little Huntoon 64.95 60 IAmb IAmb 18 10 44.4
comp=Z,64nm,1.0s
NVAR Mina Array Bea 64.96 60 P P 18 10 42.7 +0.4
NVAR Mina Array Bea 64.96 60 P P 18 10 42.9 +0.6
comp=Z,15nm,0.8s,baz=286,slow=6.8,SNR=116
NVAR PKPPKP P'P'df 18 39 26.4 -1.7
comp=Z,0.9nm,0.8s,baz=163,slow=3.4,SNR=5.3
comp=Z,15nm,0.8s
HRA Herat 65.08 294 IAmb IAmb 18 10 46.0
comp=Z,102nm,1.3s
MLAC Mammoth, Mammo 65.13 61 P P 18 10 43.8 +0.4
baz=309
OBN Obninsk 65.19 325 P P 18 10 42.3 -0.9
OBN Obninsk 65.19 325 i P P 18 10 42.0 -1.1
OBN i 18 11 16.6
OBN pmax pmax
comp=Z,142nm,1.1s
OBN MLR MLR
comp=Z,129nm,12.0s
OBN Obninsk 65.19 325 LR LR 18 40 23.3
comp=Z,142nm,19.1s,baz=5.0,slow=37
OBN Obninsk 65.19 325 P P 18 10 42.1 -1.0
CTA Charters Tower 65.27 184 P P 18 10 44.0 0.0
comp=Z,20nm,0.7s,baz=271,slow=1.6,SNR=34
CTA LR LR 18 38 13.4
comp=Z,81nm,19.7s,baz=1.0,slow=35
comp=Z,20nm,0.7s
CTAO Charters Tower 65.27 184 P P 18 10 43.8 -0.2
CTAO IAmb IAmb 18 10 44.6
comp=Z,28nm,0.8s
CTAO Charters Tower 65.27 184 P P 18 10 45.3 +1.3
CTAO Charters Tower 65.27 184 P P 18 10 43.8 -0.2
CTAO pmax pmax
comp=Z,28nm,0.8s
CTAO Charters Tower 65.27 184 P P 18 10 43.9 -0.1
CTAO sP sP 18 11 18.1 +0.6
PPSI Pulau Pagai 65.29 237 P P 18 10 45.2 +0.8
comp=Z,139nm,1.0s
ELK Elko 65.33 56 LR LR 18 37 46.6
comp=Z,17nm,19.1s,baz=318,slow=34
GEYT Alibeck 65.43 300 P P 18 10 46.3 +1.1
GEYT Alibeck 65.43 300 P P 18 10 46.3 +1.1
comp=Z,106nm,0.7s,baz=46,slow=4.3,SNR=210
comp=Z,106nm,0.7s
NSS Namsos 65.59 342 eP P 18 10 44.7 -0.9
NSS IAmb IAmb 18 10 46.1
comp=Z,66nm,0.5s
ICESG Greenland Ices 65.60 4 i P P 18 10 46.3 +0.2
ICESG IAmb IAmb 18 10 47.8
comp=Z,226nm,0.9s
VOG Valley Oaks Go 65.62 62 P P 18 10 46.2 -0.1
baz=309
H17A Grant Village 65.64 51 P P 18 10 47.3 +0.7
baz=310,SNR=22
VRH Novokhopyorsk 65.65 319 eP P 18 10 45.4 -0.8
VRH pmax pmax
comp=Z,144nm,1.1s
HEL Helsinki 65.65 333 P P 18 10 54.3 +8.2
HEL pmax pmax
comp=Z,36nm,0.8s
IMW Indian Meadow 65.76 52 IAmb IAmb 18 11 01.5
comp=Z,45nm,1.1s
MEF Metsahovi 65.80 334 eP P 18 10 45.2 -1.7
DSP Deep Springs 65.83 61 IAmb IAmb 18 11 01.3
comp=Z,32nm,0.9s
SMMC Simmler 65.87 64 P P 18 10 48.3 +0.3
baz=310,SNR=5.7
RLMT Red Lodge 65.88 50 P P 18 10 49.0 +0.9
baz=311,SNR=19
LPSR Galich'ya Gora 65.94 321 eP P 18 10 46.6 -1.5
LPSR pmax pmax
comp=Z,180nm,1.0s
RAF Rauma 65.96 335 eP P 18 10 46.6 -1.4
TPAW Teton Pass 66.02 52 IAmb IAmb 18 11 01.7
comp=Z,37nm,0.9s
VES Vestal, Richgr 66.11 63 P P 18 10 49.2 -0.3
baz=310,SNR=13
LOHW Long Hollow 66.13 52 IAmb IAmb 18 11 19.3
comp=Z,113nm,1.9s

PKM Mcpherson Peak 66.26 64 P P 18 10 50.8 +0.1
baz=310,SNR=7.0
DGMT Dagmar 66.28 44 IAmb IAmb 18 11 05.2
comp=Z,49nm,0.8s
DGMT Dagmar 66.28 44 P P 18 10 50.8 +0.4
baz=312,SNR=8.2
QIS Mount Isa 66.33 191 P P 18 10 50.8 -0.1
CWC Cottonwood Cre 66.36 62 P P 18 10 50.5 -0.7
baz=310
VSU Vasula 66.39 331 deP P 18 10 50.5 -0.4
VSU pmax pmax
comp=Z,79nm,0.9s
GRAC Grapevine Rang 66.44 61 IAmb IAmb 18 11 05.0
comp=Z,45nm,0.8s
GRAC Grapevine Rang 66.44 61 P P 18 10 52.5 +0.9
baz=310,SNR=18
LAO LASA Array 66.45 47 P P 18 10 51.5 -0.1
baz=312,SNR=5.2
LAO LASA Array 66.45 47 P P 18 10 52.5 +0.9
baz=312,SNR=5.2
VORR Voronezh 66.47 321 eP P 18 10 51.6 +0.2
VORR pmax pmax
comp=Z,84nm,0.5s
BCW Bitter Crk WRg 66.48 64 IAmb IAmb 18 10 54.0
comp=Z,52nm,1.2s
WR0 Warramunga Arr 66.56 196 IAmb IAmb 18 10 52.9
comp=Z,61nm,0.8s
WRAB Tennant Creek 66.57 196 P P 18 10 51.6 -0.8
WRAB IAmb IAmb 18 10 53.0
comp=Z,77nm,0.8s
WRAB Tennant Creek 66.57 196 P P 18 10 51.6 -0.8
WRAB pmax pmax
comp=Z,77nm,0.9s
WB2 Warramunga Arr 66.58 196 P P 18 10 52.2 -0.3
WRA Warramunga Arr 66.58 196 P P 18 10 51.1 -1.4
WRA Warramunga Arr 66.58 196 P P 18 10 51.1 -1.4
WRA Warramunga Arr 66.58 196 P P 18 10 52.1 -0.4
comp=Z,64nm,0.7s,baz=14,slow=6.4,SNR=131
WRA pP pP 18 11 16.9 +0.6
comp=Z,26nm,0.8s,baz=14,slow=6.5,SNR=6.3
WRA PKP2bc P'P'bc 18 39 25.2 +1.3
comp=Z,2.1nm,1.0s,baz=196,slow=2.7,SNR=5.6
comp=Z,64nm,0.7s
ISA Isabella, Lake 66.61 62 P P 18 10 51.6 -1.2
baz=310,SNR=12
SBC Santa Barbara 66.61 64 P P 18 10 51.2 -1.4
baz=310
R11B Troy Canyon, C 66.66 59 P P 18 10 52.3 -0.9
R11B Troy Canyon, C 66.66 59 P P 18 10 52.6 -0.6
baz=310,SNR=35
SOEG Soedalen 66.71 1 i P P 18 10 53.1 +0.3
SOEG IAmb IAmb 18 10 54.0
comp=Z,71nm,0.8s
ARVC Arvin 66.73 63 P P 18 10 52.8 -0.7
baz=310
VSR Storozhevoye 66.80 320 eP P 18 10 51.6 -2.0
VSR pmax pmax
comp=Z,150nm,1.1s
SFJD Kangerlussuaq 66.83 9 P P 18 10 52.9 -0.6
SFJD Kangerlussuaq 66.83 9 P P 18 10 52.9 -0.6
SFJD pmax pmax
comp=Z,101nm,1.0s
SFJD Kangerlussuaq 66.83 9 i P P 18 10 52.1 -1.4
SFJD IAmb IAmb 18 10 54.8
comp=Z,114nm,1.0s
SFJD Kangerlussuaq 66.83 9 LR LR 18 40 57.6
comp=Z,122nm,20.7s,baz=344,slow=37
SFJD Kangerlussuaq 66.83 9 P P 18 10 53.3 -0.2
SFJD pP pP 18 11 17.6 +0.2
KOUNC Koumac, New Ca 66.91 165 P P 18 10 55.7 +1.2
VORD Divnogorie 66.92 320 eP P 18 10 52.9 -1.4
VORD pmax pmax
comp=Z,120nm,1.1s
SCZ2 Santa Cruz Isl 66.94 65 P P 18 10 54.2 -0.7
baz=310
MPMC Manoal Prospec 66.97 62 P P 18 10 55.0 -0.1
baz=310,SNR=40
FITZ Fitzroy Crossi 66.98 205 P P 18 10 54.6 -0.4
FRB Frobisher Bay 67.00 18 LR LR 18 43 51.8
comp=Z,93nm,18.4s,baz=356,slow=39
S11A Rachel 67.01 59 IAmb IAmb 18 11 08.6
comp=Z,65nm,0.9s
DGTI Dogotuki 67.06 149 P P 18 10 57.1 +1.5
FURC Furnace Creek, 67.09 61 P P 18 10 56.5 +0.8
baz=310,SNR=11
DUG Dugway, Tooele 67.10 56 P P 18 10 56.4 +0.5
baz=311,SNR=20
AAL Aland 67.16 335 eP P 18 10 53.6 -2.1
LRMC Laurel Mtn Rad 67.22 62 P P 18 10 56.6 -0.1
baz=310,SNR=19
BW06 Boulder Array 67.26 52 P P 18 10 56.6 -0.5
baz=311,SNR=24
PDAR Pinedale Array 67.27 52 P P 18 10 57.1 +0.1
comp=Z,13nm,0.9s,baz=304,slow=2.7,SNR=67
PDAR pP pP 18 11 22.4 +1.5
comp=Z,18nm,0.7s,baz=274,slow=2.0,SNR=9.5
PDAR PKPPKP P'P'df 18 39 20.9 -3.4
comp=Z,1.1nm,1.0s,baz=108,slow=3.3,SNR=4.9
comp=Z,13nm,0.9s
TCUT Toone Canyon 67.31 54 IAmb IAmb 18 11 27.3
comp=Z,46nm,1.1s
GWY Greenwater Val 67.39 61 IAmb IAmb 18 11 25.4
comp=Z,31nm,0.7s
EDW2 Edwards Air Fo 67.41 63 P P 18 10 57.5 -0.3
baz=310,SNR=22
QSM Queen of Sheba 67.41 61 IAmb IAmb 18 11 10.7
comp=Z,34nm,0.9s
SNCC San Nicolas Is 67.49 65 P P 18 10 57.3 -1.0
baz=310
TAVE Taveuni 67.57 149 P P 18 11 01.3 +2.5
DECC Green Verdugo 67.60 64 P P 18 10 58.9 -0.1
baz=310
DY2G Dye2 67.75 7 i P P 18 10 58.4 -1.3
DY2G IAmb IAmb 18 11 01.8
comp=Z,224nm,1.2s
MSVF Nonsavu 67.80 151 P P 18 11 01.8 +1.5
MSVF Nonsavu 67.80 151 di P P 18 11 01.1 +0.8
MSVF pmax pmax
comp=Z,22nm,0.9s
MSVF Nonsavu 67.80 151 P P 18 11 01.5 +1.2
SHOC Shoshone, Teco 67.82 61 P P 18 11 00.0 -0.3
baz=311
GSC Goldstone, Bar 67.88 62 P P 18 11 00.2 -0.6
baz=311,SNR=14
FMP Fort Macarthur 67.98 64 P P 18 11 00.7 -0.6
baz=311
BFSC Mount Baldy Ra 68.04 63 P P 18 11 01.2 -0.6
baz=311,SNR=8.5
CIS Catalina Islan 68.10 64 P P 18 11 01.7 -0.5
baz=311
UPP Uppsala 68.11 336 eP P 18 11 00.0 -1.6
MOL Molde 68.27 342 eP P 18 11 02.5 -0.1
MOL IAmb IAmb 18 11 05.3
comp=Z,26nm,0.7s
SCI2 San Clemente I 68.29 65 P P 18 11 03.5 +0.2
baz=311
MAK Makhachkala 68.30 310 ci P P 18 11 04.2 +1.0
MAK e*PP pP 18 11 26.7 -0.6
MAK e*SP sP 18 11 37.0 -0.8
MAK e 18 13 35.3
MAK ePPP PPP 18 15 15.6
MAK eS S 18 19 59.1 +2.8
MAK e*SS sS 18 20 38.4 +2.5
MAK eSS SS 18 24 24.9 +4.5
MAK pmax pmax
comp=Z,393nm,0.9s
MAK MLR MLR
comp=Z,236nm,17.0s
TUQ Turquoise Moun 68.34 61 P P 18 11 03.3 -0.4
baz=311,SNR=8.0
AFI Afiamalu 68.40 140 P P 18 11 05.6 +1.5
DOMB Dombas 68.41 341 eP P 18 11 02.9 -0.7
DOMB IAmb IAmb 18 11 04.8
comp=Z,70nm,0.9s
RK1H Rockhampton Ha 68.46 180 P P 18 11 05.4 +1.2
HEC Hector,Ludlow 68.48 62 P P 18 11 04.4 -0.2
baz=311,SNR=9.7
BBRC Big Bear Solar 68.48 63 P P 18 11 04.4 -0.4
baz=311
SLIT Slitere, Latvi 68.52 333 eP P 18 11 03.2 -1.0
NC303 NORSAR Array S 68.58 340 IAmb IAmb 18 11 06.3
comp=Z,87nm,1.2s
NC204 NORSAR Array S 68.69 340 IAmb IAmb 18 11 07.1
comp=Z,78nm,0.8s
AKN Aaknes 68.74 342 eP P 18 11 05.6 0.0
MURC Murrieta 68.74 63 P P 18 11 05.9 -0.3
baz=311,SNR=10
NB2 NORSAR Subarra 68.78 340 P P 18 11 05.0 -0.9
comp=Z,59nm,0.7s,baz=30,slow=6.5
NB2 NORSAR Subarra 68.78 340 P P 18 11 05.0 -0.9
baz=30,slow=6.5
NOA NORSAR Array B 68.78 340 P P 18 11 05.5 -0.5
comp=Z,35nm,0.5s,baz=30,slow=6.7,SNR=297
NOA LR LR 18 44 26.2
comp=Z,65nm,20.2s,baz=30,slow=39
comp=Z,35nm,0.5s
DZM Mont Dzumac 68.79 164 P P 18 11 08.7 +2.3
DZM Mont Dzumac 68.79 164 eP P 18 11 08.1 +1.7
comp=Z,73nm,22.6s
DZM Mont Dzumac 68.79 164 LR LR 18 35 23.3
comp=Z,134nm,21.4s,baz=20,slow=31
DZM Mont Dzumac 68.79 164 P P 18 11 08.2 +1.7
NOUC Port Laguerre 68.80 164 P P 18 11 07.8 +1.5
NOUC Port Laguerre 68.80 164 P P 18 11 07.9 +1.5
V12A Nelson 68.81 60 IAmb IAmb 18 11 08.4
comp=Z,64nm,1.6s
ISAL Salakas 68.84 330 eP P 18 11 07.0 +0.7
NBO00 NORSAR Array S 68.90 340 IAmb IAmb 18 11 08.3
comp=Z,97nm,1.1s
ULM Lac du Bonnet 68.93 39 P P 18 11 06.7 -0.3
comp=Z,3.4nm,0.6s,baz=321,slow=8.6,SNR=7.5
ULM pP PcP 18 11 30.2 -0.4
comp=Z,14nm,0.8s,baz=317,slow=7.4,SNR=9.1
comp=Z,3.4nm,0.6s
GMRC Granite Mounta 68.93 62 P P 18 11 07.7 +0.3
baz=311,SNR=15
MDND Maddock 68.93 43 P P 18 11 06.9 -0.2
baz=315,SNR=10
MDND Maddock 68.93 43 P P 18 11 07.5 +0.5
baz=315,SNR=10
HFS Hagfors 68.94 338 P P 18 11 06.1 -0.8
comp=Z,36nm,0.3s,baz=42,slow=4.2,SNR=280
HFS LR LR 18 46 17.4
comp=Z,99nm,18.7s,baz=28,slow=40
comp=Z,36nm,0.3s
NC602 NORSAR Array S 68.97 340 IAmb IAmb 18 11 07.1
comp=Z,44nm,0.9s
NC602 NORSAR Array S 68.97 340 eP P 18 11 06.3 -0.7
NC602 IAmb IAmb 18 11 06.9
comp=Z,43nm,0.8s
K22A Casper 69.00 50 P P 18 11 07.0 -0.8
baz=313
K22A Casper 69.00 50 P P 18 11 08.6 +0.8
baz=313
MNK Minsk 69.03 328 i P P 18 11 07.6 +0.1
MNK i *PP pP 18 11 33.6 +1.8
MNK i 18 13 40.9
MNK i PPP PPP 18 15 22.3
MNK i S S 18 20 05.3 +0.7
MNK i *SS SKiKP 18 20 50.3 +1.9
MNK i SS SS 18 24 33.6 +2.6
MNK pmax pmax
comp=Z,90nm,0.9s
MNK pmax pmax
comp=E,18nm,1.1s
MNK pmax pmax
comp=N,51nm,1.0s
MNK MLR MLR
comp=N,208nm,12.0s
MNK MLR MLR
comp=Z,230nm,12.0s
MNK MLR MLR
comp=E,70nm,12.0s
SRU San Rafael Swe 69.14 55 IAmb IAmb 18 11 21.4
comp=Z,48nm,0.9s
ANGG Ammassalik, Gr 69.16 3 i P P 18 11 07.1 -1.0
ANGG IAmb IAmb 18 11 10.0
comp=Z,64nm,0.9s
ISOG Isortoq, Green 69.16 4 i P P 18 11 07.6 -0.5
ISOG IAmb IAmb 18 11 09.2
comp=Z,98nm,0.8s
PFO Pinyon Flats O 69.20 63⇑ eP P 18 11 08.4 -0.7
PFO pmax pmax
comp=Z,23nm,1.2s
PFO Pinyon Flats O 69.20 63 P P 18 11 08.3 -0.7
baz=311,SNR=7.4
PFO Pinyon Flats O 69.20 63 P P 18 11 09.0 -0.1
TPFO Pinon Flats 69.21 63 P P 18 11 09.1 0.0
baz=311,SNR=7.2
OUENC Ouen Island, N 69.21 163 IAmb IAmb 18 11 12.0
comp=Z,66nm,0.9s
OUENC Ouen Island, N 69.21 163 P P 18 11 10.4 +1.5
GOF Gofitskoye 69.22 314 ci P P 18 11 10.0 +1.1
BELC Belle Mtn. Jos 69.23 62 P P 18 11 08.1 -1.2
baz=311,SNR=9.1
109C Camp Elliot, M 69.27 64 P P 18 11 09.1 -0.2
baz=311
VSVD Vaisvydziai 69.29 331 eP P 18 11 07.8 -1.2
E28A Huff 69.30 44 P P 18 11 09.6 +0.2
baz=315
RSSD Black Hills 69.32 48 P P 18 11 09.0 -0.8
RSSD IAmb IAmb 18 11 37.1
comp=Z,53nm,1.2s
RSSD Black Hills 69.32 48 P P 18 11 09.0 -0.8
RSSD pmax pmax
comp=Z,53nm,1.3s
RSSD Black Hills 69.32 48 P P 18 11 09.1 -0.8
baz=314
RSSD Black Hills 69.32 48 P P 18 11 09.7 0.0
baz=314,SNR=10
RSSD Black Hills 69.32 48 P P 18 11 09.5 -0.3
NUUK Nuuk 69.42 10 i P P 18 11 09.5 -0.2
VIKU Vikbolandet 69.50 336 eP P 18 11 08.6 -1.7
NEE2 Needles Airpor 69.58 61 P P 18 11 10.7 -0.6
baz=312
PABE Paberze 69.65 331 eP P 18 11 09.9 -1.4
SEKA Sheki 69.66 308 P P 18 11 09.8 -1.9
IRM Iron Mountain 69.66 62 P P 18 11 11.5 -0.3
baz=312,SNR=6.8
FOO Floro 69.67 343 eP P 18 11 10.8 -0.5
ZKTA Zakatala 69.68 309 P P 18 11 10.2 -1.6
MONP2 Monument Peak 69.70 64 P P 18 11 11.6 -0.7
baz=312,SNR=6.0
O20A White River Ci 69.76 53 P P 18 11 12.4 -0.2
baz=313,SNR=14
SKAR Skarslia 69.78 341 eP P 18 11 11.8 -0.3
SKAR IAmb IAmb 18 11 14.7
comp=Z,32nm,1.0s
BC3 Big Chuckawall 69.80 62 P P 18 11 12.2 -0.6
baz=312,SNR=15
HMU Henry Mountain 69.80 56 IAmb IAmb 18 11 25.6
comp=Z,52nm,0.8s
HYA Hoyanger 69.82 342 eP P 18 11 11.8 -0.4
HYA IAmb IAmb 18 11 12.8
comp=Z,83nm,0.9s
OSL Oslo 69.86 340 eP P 18 11 12.7 +0.1
PBUR Paburge 69.93 332 eP P 18 11 11.8 -1.2
BORG Borgarnes 69.98 356 P P 18 11 15.0 +1.8
BORG Borgarnes 69.98 356 P P 18 11 15.0 +1.8
BORG pmax pmax
comp=Z,130nm,0.9s
BORG Borgarnes 69.98 356 LR LR 18 42 13.9
comp=Z,65nm,18.1s,baz=4.6,slow=36
BORG Borgarnes 69.98 356 P P 18 11 15.4 +2.2
MNGR Mingechevir, A 70.02 308 P P 18 11 12.4 -1.4
ERBR Yeremizino-Bor 70.05 315 ci P P 18 11 15.2 +1.2
ERBR pmax pmax
comp=Z,490nm,1.0s
IKP In-Ko-Pah, Jac 70.05 64 P P 18 11 14.8 +0.5
baz=312,SNR=6.9
SWSC Sam W. Stewart 70.05 63 P P 18 11 13.6 -0.6
baz=312
KIV Kislovodsk 70.17 313 ⇓P P 18 11 16.6 +1.7
KIV Kislovodsk 70.17 313 P P 18 11 16.2 +1.3
KIV Kislovodsk 70.17 313 eP P 18 11 15.9 +1.0
KIV eS S 18 20 19.7 +1.1
KIV pmax pmax
comp=Z,381nm,1.1s
KIV pmax pmax
comp=Z,155nm,4.4s
KIV MLR MLR
comp=Z,197nm,17.0s
KIV Kislovodsk 70.17 313 i P P 18 11 16.0 +1.1
SNR=117
KIV Kislovodsk 70.17 313 P P 18 11 16.3 +1.4
KIV S S 18 20 19.7 +1.1
KIV Kislovodsk 70.17 313 eP P 18 11 15.9 +1.0
KIV Kislovodsk 70.17 313 P P 18 11 16.2 +1.4
PDMCI Parker Dam,Lak 70.18 61 P P 18 11 13.7 -1.2
baz=312,SNR=21
SUE Sulen 70.22 343 eP P 18 11 13.8 -0.8
SUE IAmb IAmb 18 11 15.0

comp=Z,68nm,1.0s
KBZ Khabaz 70.22 313 *c i* P **P 18 11 16.2 +1.2**
KBZ pmax pmax
comp=Z,269nm,1.0s
KBZ Khabaz 70.22 313 P **P 18 11 16.5 +1.5**
comp=Z,208nm,0.9s,baz=49,slow=3.3,SNR=256
GUDG Gudauri 70.27 311 P **P 18 11 17.1 +1.4**
AS01 Alice Springs 70.28 196 P **P 18 11 16.6 +1.1**
ASAR Alice Springs 70.29 196 P **P 18 11 16.2 +0.6**
comp=Z,38nm,0.8s,baz=12,slow=5.2,SNR=383
ASAR pP **pP 18 11 41.3 +1.8**
comp=Z,17nm,0.8s,baz=14,slow=6.0,SNR=4.9
ASAR PKP2ab **P'P'df 18 39 15.2 +1.0**
comp=Z,1.9nm,1.1s,baz=174,slow=4.6,SNR=5.5
ASAR LR LR 18 42 09.1
comp=Z,30nm,19.6s,baz=17,slow=36
comp=Z,38nm,0.8s
AGMN Agassiz Nation 70.35 40 IAmb IAmb 18 11 42.3
comp=Z,38nm,1.0s
AGMN Agassiz Nation 70.35 40 P **P 18 11 14.1 -1.7**
baz=317,SNR=8.5
AGMN Agassiz Nation 70.35 40 P **P 18 11 15.2 -0.5**
baz=317,SNR=8.5
PALK Pallekele 70.37 260 P **P 18 11 16.8 +0.5**
PALK Pallekele 70.37 260 *de* P **P 18 11 16.4 0.0**
PALK pmax pmax
comp=Z,36nm,1.0s
PALK Pallekele 70.37 260 LR LR 18 44 49.0
comp=Z,36nm,19.1s,baz=158,slow=38
PALK Pallekele 70.37 260 P **P 18 11 16.9 +0.5**
PALK pP **pP 18 11 40.7 +0.1**
KONO Kongsberg 70.39 340 P **P 18 11 15.9 +0.1**
KONO IAmb IAmb 18 11 17.8
comp=Z,54nm,1.2s
KONO Kongsberg 70.39 340 ⇑ *e* P **P 18 11 15.2 -0.6**
KONO pmax pmax
comp=Z,57nm,1.3s
KONO Kongsberg 70.39 340 P **P 18 11 15.7 -0.1**
EIDS Eidsvold 70.44 179 P **P 18 11 18.3 +1.9**
LKRN Lenkeran, Azer 70.46 305 P **P 18 11 15.2 -1.4**
N23A Red Feather La 70.52 51 P **P 18 11 16.2 -1.1**
baz=314,SNR=16
GANJ Ganja 70.53 308 P **P 18 11 15.4 -1.6**
STRU Stroemstad 70.54 339 *e* P **P 18 11 16.1 -0.5**
STRU Stroemstad 70.54 339 *e* P **P 18 11 15.6 -1.1**
GLA Glamis 70.59 62 P **P 18 11 17.4 -0.1**
baz=312,SNR=12
ASK Askoy 70.65 342 *e* P **P 18 11 17.5 +0.2**
ASK IAmb IAmb 18 11 19.3
comp=Z,52nm,0.8s
NEUR Neytrino 70.65 312 *e* P **P 18 11 19.1 +1.2**
NEUR pmax pmax
comp=Z,69nm,1.2s
D32B Dogwood Acres, 70.67 42 P **P 18 11 17.8 +0.2**
baz=317
LABN Labinsk 70.69 314 *e* P **P 18 11 19.4 +1.5**
LABN pmax pmax
comp=Z,373nm,1.2s
BER Bergen 70.71 342 *e* P **P 18 11 17.3 -0.4**
BER IAmb IAmb 18 11 19.6
comp=Z,69nm,0.9s
ODD1 Odda 70.85 341 *e* P **P 18 11 18.3 -0.3**
WUAZ Wupatki 71.06 59 P **P 18 11 18.6 -1.8**
baz=313
SUW Suwalki 71.12 330 *e* P **P 18 11 19.6 -0.7**
SUW Suwalki 71.12 330 *e* P **P 18 11 19.4 -0.9**
B35A Bob, Littlefor 71.27 39 P **P 18 11 20.8 -0.5**
baz=318
TJOU Tjoern 71.30 338 *e* P **P 18 11 20.4 -0.8**
BLS5 Blasjo 71.33 341 *e* P **P 18 11 21.3 -0.2**
BLS5 IAmb IAmb 18 11 47.2
comp=Z,329nm,2.2s
BORU Boraas 71.34 337 *e* P **P 18 11 20.5 -1.0**
AKASG Malin Array Be 71.44 325 P **P 18 11 21.8 -0.5**
AKASG Malin Array Be 71.44 325 P **P 18 11 21.8 -0.5**
AKASG pmax pmax
comp=Z,122nm,0.9s
AKASG Malin Array Be 71.44 325 P **P 18 11 21.9 -0.5**
comp=Z,33nm,0.4s,baz=36,slow=6.1,SNR=298
AKASG LR LR 18 43 53.9
comp=Z,150nm,21.0s,baz=39,slow=37
comp=Z,33nm,0.4s
AKBB Malin Array Si 71.44 325 *ce* P **P 18 11 21.6 -0.7**
KIEV Kiev 71.45 325 ⇑ P **P 18 11 21.9 -0.4**
KIEV Kiev 71.45 325 P **P 18 11 21.9 -0.4**
KIEV Kiev 71.45 325 P **P 18 11 21.9 -0.4**
KIEV Kiev 71.45 325 *i* P **P 18 11 22.0 -0.4**
SNR=9.9
KIEV Kiev 71.45 325 P **P 18 11 22.0 -0.4**
ISCO Idaho Springs 71.46 52 IAmb IAmb 18 11 51.2
comp=Z,104nm,1.8s
ISCO Idaho Springs 71.46 52 P **P 18 11 22.5 -0.5**
baz=314,SNR=28
ISCO Idaho Springs 71.46 52 P **P 18 11 23.8 +0.8**
baz=314,SNR=28
MVCO Mesa Verde 71.60 56 P **P 18 11 22.7 -1.1**
baz=313,SNR=13
BLEU Blekinge 71.62 335 *e* P **P 18 11 21.7 -1.5**
KLNR Kaliningrad 71.66 332 *c i* P **P 18 11 22.6 -0.9**
KLNR pmax pmax
comp=Z,133nm,0.8s
SUSD Miller 71.68 45 P **P 18 11 23.1 -0.7**
baz=316
SUSD Miller 71.68 45 P **P 18 11 23.7 -0.2**
baz=316
GNI Garni 71.74 309 P **P 18 11 26.7 +2.2**
GNI Garni 71.74 309 *c i* P **P 18 11 26.5 +2.0**
GNI pmax pmax
comp=Z,190nm,1.2s
GNI Garni 71.74 309 P **P 18 11 26.8 +2.4**
GNI Garni 71.74 309 P **P 18 11 27.3 +2.8**
GNI Garni 71.74 309 P **P 18 11 27.0 +2.5**
MBWA Marble Bar 71.76 210 P **P 18 11 24.5 +0.1**
MBWA Marble Bar 71.76 210 P **P 18 11 24.2 -0.3**
ONAU Onsala 71.78 338 *e* P **P 18 11 22.6 -1.6**
KMY Karmoy 71.79 342 *e* P **P 18 11 24.1 -0.1**
QLP Quilpie 71.83 185 P **P 18 11 26.9 +2.1**
HOMB Homborsund 71.88 340 *e* P **P 18 11 24.6 -0.2**
F33A 5 Mile Ranch, 71.95 42 IAmb IAmb 18 11 52.4
comp=Z,56nm,1.1s
F33A 5 Mile Ranch, 71.95 42 P **P 18 11 25.3 -0.1**
baz=317,SNR=13
SOC Sochi 71.95 314 *e* P **P 18 11 24.0 -1.5**
SOC *e** PP **pP 18 11 49.8 -0.2**
SOC *e** SP **sP 18 12 01.3 +0.8**
SOC *e* 18 14 04.3
SOC *e* PPP PPP 18 15 49.4
SOC *e*S **S 18 20 37.9 -1.0**
SOC *e*SSS SSS 18 28 33.1
SOC pmax pmax
comp=Z,82nm,0.8s
NAX Nakhchivan 72.00 308 P **P 18 11 24.5 -1.5**
DEL Delary 72.04 336 *e* P **P 18 11 24.3 -1.4**
DEL Delary 72.04 336 *e* P **P 18 11 22.8 -2.9**
PSA00 Pilbara Seismi 72.10 209 P **P 18 11 26.9 +0.4**
PSA00 Pilbara Seismi 72.10 209 IAmb IAmb 18 11 27.5
comp=Z,71nm,0.9s
PSA00 Pilbara Seismi 72.10 209 P **P 18 11 26.8 +0.4**
SNART Snartemo 72.13 340 *e* P **P 18 11 26.1 -0.2**
SNART Snartemo 72.13 340 *e* P **P 18 11 26.1 -0.2**
ANN Anapa 72.20 316 *e* P **P 18 11 26.6 -0.3**
ANN pmax pmax
comp=Z,188nm,1.5s
LRW Lerwick 72.22 345 *e* P **P 18 11 26.6 -0.1**
LRW IAmb IAmb 18 11 29.0
comp=Z,55nm,0.8s
Q24A Divide 72.30 52 P **P 18 11 28.7 +0.6**
baz=314,SNR=8.0
W18A Petrified Fore 72.31 58 P **P 18 11 27.6 -0.4**
baz=313
BATM Batumi 72.35 312 P **P 18 11 25.9 -2.0**
BCA Borcka 72.50 312 ⇓ P **P 18 11 30.5 +1.6**
EYMN Ely 72.56 38 IAmb IAmb 18 11 55.8
comp=Z,87nm,1.1s
EYMN Ely 72.56 38 P **P 18 11 28.6 -0.5**
baz=320
EYMN Ely 72.56 38 P **P 18 11 28.7 -0.3**
baz=320
214A Organ Pipe Nat 72.59 62 P **P 18 11 29.1 -0.4**
baz=313,SNR=5.6
OGNE Ogallala 72.60 49 P **P 18 11 29.8 +0.3**
baz=315,SNR=6.5
K30B Basset 72.62 46 P **P 18 11 29.8 +0.3**
baz=316,SNR=5.7
IVI Ivigtut 72.72 9 *i* P **P 18 11 31.3 +1.6**
IVI IAmb IAmb 18 11 32.3
comp=Z,91nm,0.9s
WRKA Warakurna 72.85 201 P **P 18 11 31.5 +0.6**
LUNU Lund 72.88 336 *e* P **P 18 11 30.1 -0.7**
BSD Bornholm Skovb 72.90 335 *e* P **P 18 11 30.3 -0.6**
BSD IAmb IAmb 18 11 31.2
comp=Z,59nm,0.8s
BSD Bornholm Skovb 72.90 335 *e* P **P 18 11 29.3 -1.6**
SDCO Great Sand Dun 72.95 53 P **P 18 11 31.6 -0.3**
baz=315
NRS Narsarsuaq 73.05 8 *i* P **P 18 11 31.7 +0.1**
NRS IAmb IAmb 18 11 36.2
comp=Z,211nm,1.8s
COP Copenhagen 73.12 336 *i* P **P 18 11 31.3 -0.9**
COP IAmb IAmb 18 11 35.4
comp=Z,128nm,0.9s
F36A Milaca 73.23 41 P **P 18 11 32.4 -0.7**
baz=319
GC1S Gold Coast 1 S 73.28 177 P **P 18 11 34.9 +1.6**
INKA Innaminka 73.28 189 P **P 18 11 34.9 +1.6**
MUD Monsted U'grnd 73.33 339 *e* P **P 18 11 33.0 -0.4**
MUD IAmb IAmb 18 11 34.7
comp=Z,26nm,0.7s
ECSD EROS Data Cent 73.35 44 IAmb IAmb 18 12 00.7
comp=Z,66nm,0.9s
JASK Jask - Hormozg 73.51 290 P **P 18 11 37.0 +2.0**
E38A The Farm, Brul 73.56 39 IAmb IAmb 18 12 01.4
comp=Z,57nm,0.7s
E38A The Farm, Brul 73.56 39 P **P 18 11 34.0 -1.0**
baz=320,SNR=14
TUC Tucson 73.60 61 P **P 18 11 34.5 -1.0**
TUC Tucson 73.60 61 P **P 18 11 34.5 -1.0**
TUC pmax pmax
comp=Z,18nm,1.1s
TUC Tucson 73.60 61 P **P 18 11 35.1 -0.4**
baz=314
KSCO Kaye Shedlock' 73.66 51 P **P 18 11 34.5 -1.3**
baz=316
SIM Simferopol' 73.68 318 *e* P **P 18 11 36.2 +0.5**
SIM S **SKiKP 18 20 52.0 -3.6**
SIM MLR MLR
comp=Z,140nm,16.7s
BEL Belsk 73.74 330 *e* P **P 18 11 36.5 +0.6**
GKP Gorka Klasztor 73.74 333 *e* P **P 18 11 35.9 +0.1**
GKP Gorka Klasztor 73.74 333 *e* P **P 18 11 35.5 -0.4**
SORM Soroca 73.80 324 ⇓ P **P 18 11 36.6 +0.3**
SORM Soroca 73.80 324 P **P 18 11 36.5 +0.3**
RGN Rugen 73.86 335 *e* P **P 18 11 37.1 +0.7**
comp=Z,207nm,0.9s,baz=29,slow=5.7
T25A Trinidad 74.00 53 IAmb IAmb 18 11 50.4
comp=Z,31nm,0.8s
T25A Trinidad 74.00 53 P **P 18 11 37.6 -0.4**
baz=315,SNR=19
OOD Oodnadatta 74.01 193 P **P 18 11 38.7 +1.1**
SPMN Marine on St. 74.05 41 IAmb IAmb 18 12 04.7
comp=Z,61nm,1.2s
SPMN Marine on St. 74.05 41 P **P 18 11 36.9 -0.9**
baz=319
SPMN Marine on St. 74.05 41 P **P 18 11 37.8 0.0**
baz=319
LVV L'vov 74.19 327 *e* P **P 18 11 38.7 +0.1**
LVV pmax pmax
comp=Z,440nm,1.2s
BIGH Upper Bighouse 74.24 346 *e* P **P 18 11 38.7 +0.1**
BIGH IAmb IAmb 18 11 39.8
comp=Z,82nm,0.8s
BGNE Belgrade 74.29 47 P **P 18 11 38.1 -1.2**
baz=317
ANMO Albuquerque 74.36 56 P **P 18 11 39.9 -0.2**
ANMO Albuquerque 74.36 56 P **P 18 11 39.9 -0.2**
ANMO pmax pmax
comp=Z,16nm,0.8s
ANMO Albuquerque 74.36 56 P **P 18 11 39.7 -0.4**
baz=315
ANMO Albuquerque 74.36 56 P **P 18 11 40.6 +0.6**
baz=315,SNR=16
PURM Purcari 74.39 322 ⇓ P **P 18 11 40.4 +0.6**
AULRC Lightning Ridg 74.50 182 P **P 18 11 41.9 +1.5**
BANOM Banah 74.50 291 P **P 18 11 42.0 +1.2**
BANOM Banah 74.50 291 P **P 18 11 42.1 +1.3**
SHME Shamm 74.52 291 P **P 18 11 42.1 +1.2**
SHME Shamm 74.52 291 P **P 18 11 39.6 -1.2**
MILM Milestii Mici 74.55 323 ⇓ P **P 18 11 41.0 +0.3**
MILM Milestii Mici 74.55 323 P **P 18 11 41.0 +0.3**
I37B Waseca 74.68 42 P **P 18 11 41.6 +0.1**
baz=319,SNR=26
L34A Svendsen Farm, 74.78 45 IAmb IAmb 18 12 08.8
comp=Z,65nm,0.9s
L34A Svendsen Farm, 74.78 45 P **P 18 11 41.5 -0.6**
baz=318,SNR=5.9
WSAR Wadi Sarin 74.78 288 LR LR 18 48 37.7
comp=Z,46nm,21.3s,baz=58,slow=39
LINV Loch Inver, As 74.78 347 *e* P **P 18 11 41.7 -0.1**
LINV IAmb IAmb 18 11 42.9
comp=Z,95nm,1.2s
KWP Kalwaria Pacla 74.85 328 *e* P **P 18 11 43.5 +1.1**
IAS Iasi 74.87 323 ⇓ P **P 18 11 42.8 +0.3**
IAS Iasi 74.87 323 P **P 18 11 42.8 +0.3**
BIDO Bidbid 74.93 288 P **P 18 11 45.5 +2.2**
SNR=5.9
MDH Madha 74.93 291 P **P 18 11 43.4 +0.2**
MDH Madha 74.93 291 P **P 18 11 44.1 +0.9**
MASF Masafi 74.97 291 P **P 18 11 44.9 +1.4**
MSFE Esma-Masafi 74.98 291 P **P 18 11 43.7 +0.1**
WBK Wadi Bani Khal 74.98 287 P **P 18 11 45.9 +2.3**
SNR=8.3
MCD Coleburn Disti 74.99 345 *e* P **P 18 11 42.9 -0.2**
MCD IAmb IAmb 18 11 44.0
comp=Z,97nm,1.0s
JLN Jalan Bani Buh 75.00 286 P **P 18 11 45.6 +1.9**
SNR=9.8
COWI Conover 75.02 38 IAmb IAmb 18 12 10.2
comp=Z,120nm,1.7s
LEOM Leova 75.14 323 ⇓ P **P 18 11 44.9 +0.8**
LEOM Leova 75.14 323 P **P 18 11 44.8 +0.8**
319A Douglas 75.17 60 IAmb IAmb 18 11 46.3
comp=Z,70nm,0.9s
UMQ Umm Al-Quwin 75.19 291 P **P 18 11 45.2 +0.5**
G40A Rib Lake 75.19 39 P **P 18 11 44.2 -0.2**
baz=321,SNR=5.4
VASR Vaslui 75.20 323 ⇓ P **P 18 11 45.6 +1.1**
UOSS Minazif 75.23 290 P **P 18 11 45.1 +0.1**
UOSS IAmb IAmb 18 11 48.7
comp=Z,148nm,1.6s
UOSS Minazif 75.23 290 *i* P **P 18 11 45.9 +0.9**
SNR=7.3
UOSS Minazif 75.23 290 P **P 18 11 46.2 +1.2**
BSEG Bad Segeberg 75.25 337 *e* P **P 18 11 45.0 +0.4**
comp=Z,64nm,0.9s,baz=29,slow=5.7
121A Cookes Peak, D 75.27 59 IAmb IAmb 18 11 47.3
comp=Z,44nm,1.1s
121A Cookes Peak, D 75.27 59 P **P 18 11 44.9 -0.4**
baz=315,SNR=14
121A Cookes Peak, D 75.27 59 P **P 18 11 46.1 +0.8**
baz=315,SNR=14
PRAR RASCA 75.29 324 ⇓ P **P 18 11 45.6 +0.6**
SMDO Samad 75.29 288 P **P 18 11 47.4 +1.9**
SNR=6.6
SCHQ Schefferville 75.36 21 P **P 18 11 46.0 +0.8**
comp=Z,13nm,0.8s,baz=338,slow=10,SNR=22
SCHQ pP **pP 18 12 10.1 +0.5**
comp=Z,17nm,0.7s,baz=324,slow=6.2,SNR=4.8
comp=Z,13nm,0.8s
CBKS Cedar Bluff 75.36 49 P **P 18 11 43.4 -2.2**
baz=317
HATD Hatta, Dubai 75.36 290 *i* P **P 18 11 47.0 +1.3**
SNR=8.3
HATD Hatta, Dubai 75.36 290 P **P 18 11 47.3 +1.5**
HOQ Hoqain 75.43 289 P **P 18 11 47.8 +1.7**
SNR=8.4
ARMA Armidale 75.48 179 IAmb IAmb 18 11 49.0
comp=Z,40nm,0.8s
ARMA Armidale 75.48 179 P **P 18 11 48.8 +2.7**
DRUM Mains of Drumt 75.49 345 *e* P **P 18 11 45.9 0.0**
DRUM IAmb IAmb 18 11 46.8
comp=Z,265nm,1.4s
BURAR Bucovina Array 75.50 325 ⇑ P **P 18 11 46.7 +0.5**
BURAR Bucovina Array 75.50 325 P **P 18 11 46.7 +0.5**
BURAR Bucovina Array 75.50 325 P **P 18 11 46.7 +0.5**
ASHO Ashiyiah 75.51 290 P **P 18 11 47.2 +0.5**
ASHO Ashiyiah 75.51 290 P **P 18 11 48.0 +1.4**
RUE Ruedersdorf 75.51 334 *e* P **P 18 11 45.1 -0.9**
RUE Ruedersdorf 75.51 334 *e* P **P 18 11 46.4 +0.4**
comp=Z,132nm,0.9s,baz=29,slow=5.7
NAZ Nazwa, Dubai 75.56 291 P **P 18 11 48.2 +1.3**
SOHO SOHO 75.57 290 P **P 18 11 48.0 +1.1**
SOHO SOHO 75.57 290 P **P 18 11 48.2 +1.3**
STHS Stebnicka Huta 75.57 328 *e* P **P 18 11 46.9 +0.4**
STHS pmax pmax
comp=Z,180nm,1.6s
STHS Stebnicka Huta 75.57 328 *e* P **P 18 11 46.9 +0.4**
BIR Birlad 75.57 323 ⇓ P **P 18 11 47.9 +1.3**
BIR Birlad 75.57 323 P **P 18 11 47.9 +1.3**
KOLS Kolonicke sedl 75.58 327 *e* P **P 18 11 47.1 +0.5**
KOLS pmax pmax
comp=Z,84nm,0.8s
KOLS Kolonicke sedl 75.58 327 *e* P **P 18 11 47.1 +0.5**
DIKM Dikmen 75.61 315 ⇑ P **P 18 11 48.4 +1.5**
KPL Plockton 75.63 347 *e* P **P 18 11 47.0 +0.4**
KPL IAmb IAmb 18 11 47.9
comp=Z,188nm,0.9s
HLG Helgoland 75.69 338 *e* P **P 18 11 47.4 +0.4**
comp=Z,272nm,0.9s,baz=29,slow=5.7
VLDR Vladesti 75.71 322 ⇓ P **P 18 11 48.7 +1.4**
E43A Lone Tree Farm 75.72 37 IAmb IAmb 18 12 14.3
comp=Z,70nm,1.3s
E43A Lone Tree Farm 75.72 37 P **P 18 11 47.2 -0.2**
baz=322,SNR=5.4
JMDO Jabal Madar 75.73 287 P **P 18 11 49.5 +1.6**
SNR=12
VARL Varlezi 75.76 322 ⇓ P **P 18 11 49.0 +1.3**
FAQ Al Faqa, Dubai 75.77 291 *i* P **P 18 11 49.0 +1.0**
SNR=5.7
FAQ Al Faqa, Dubai 75.77 291 P **P 18 11 49.1 +1.0**
TESR Tescani 75.79 323 ⇓ P **P 18 11 48.8 +0.9**
GHRR 75.83 323 ⇓ P **P 18 11 49.6 +1.6**
SCTR Scanteiesti 75.88 322 ⇓ P **P 18 11 49.2 +0.9**
TLCR 75.91 321 ⇓ P **P 18 11 49.2 +0.8**
TLCR 75.91 321 P **P 18 11 49.2 +0.8**
CRVS Cervenica-Dubn 75.91 328 *e* P **P 18 11 49.3 +0.8**
CRVS pmax pmax
comp=Z,346nm,1.8s
CRVS Cervenica-Dubn 75.91 328 *e* P **P 18 11 49.3 +0.8**
NIE Niedzica 75.92 329 *e* P **P 18 11 49.6 +1.1**
TATR Tatarca 75.92 322 ⇓ P **P 18 11 49.7 +1.2**
GIUM Giurgiulesti 75.94 322 ⇓ P **P 18 11 49.8 +1.2**
N35A Tabor 75.97 45 P **P 18 11 48.8 -0.2**
baz=319,SNR=6.4
NEGRR Negrea 76.04 322 ⇓ P **P 18 11 50.7 +1.4**
I40A Norwalk 76.07 40 P **P 18 11 48.9 -0.6**
baz=321
BSY Bisya 76.08 288 P **P 18 11 51.2 +1.4**
SNR=8.8
BSY P **P 18 11 51.3 +1.4**
IZVR Izvoarele 76.08 322 ⇓ P **P 18 11 50.8 +1.4**
SCHL Schela 76.09 322 ⇓ P **P 18 11 50.9 +1.4**
SCHLR Schela 76.11 322 ⇓ P **P 18 11 50.1 +0.5**
ARQ Araqi 76.12 289 P **P 18 11 51.8 +1.7**
BMR Baia Mare 76.14 326 ⇓ P **P 18 11 51.2 +1.4**
BMR Baia Mare 76.14 326 P **P 18 11 51.1 +1.4**
ALNE Al Ain 76.14 290 P **P 18 11 50.9 +0.7**
AUPHS Peel High Scho 76.15 179 P **P 18 11 52.7 +2.9**
CFR Carcaliu 76.21 322 ⇓ P **P 18 11 51.1 +0.8**
CFR Carcaliu 76.21 322 P **P 18 11 51.0 +0.8**
ODBI Odobesti 76.21 323 ⇓ P **P 18 11 51.4 +1.2**
INVG Invergeldie, C 76.23 346 *e* P **P 18 11 49.4 -0.7**
INVG IAmb IAmb 18 11 51.0
comp=Z,58nm,0.9s
LCRK Leigh Creek 76.25 190 P **P 18 11 52.4 +2.0**
VRI Vrincioaia 76.27 323 ⇓ P **P 18 11 51.9 +1.3**
VRI Vrincioaia 76.27 323 P **P 18 11 51.8 +1.3**
ARCR ARCALIA 76.27 325 ⇓ P **P 18 11 52.5 +1.9**
AJN Ajban 76.30 291 P **P 18 11 51.4 +0.4**
PLOR Plostina 76.31 323 ⇓ P **P 18 11 51.9 +1.1**
PLOR Plostina 76.31 323 P **P 18 11 51.9 +1.1**
OKC Ostrava-Krasne 76.33 330 *e* P **P 18 11 51.7 +0.9**
OKC Ostrava-Krasne 76.33 330 *e* P **P 18 11 51.7 +0.9**
TPGR Topolog 76.34 321 ⇓ P **P 18 11 52.2 +1.2**
SCIA State Center 76.37 43 P **P 18 11 50.9 -0.3**
baz=320,SNR=8.7
SCIA State Center 76.37 43 P **P 18 11 51.3 +0.1**
baz=320,SNR=8.7
OSTC Ostas 76.38 332 *e* P **P 18 11 52.0 +0.9**
OSTC Ostas 76.38 332 *e* P **P 18 11 52.0 +0.9**
FLTG Flechtingen 76.41 335 *e* P **P 18 11 51.0 -0.1**
comp=Z,112nm,0.9s,baz=29,slow=5.7
CHVC Chvalec 76.41 332 *e* P **P 18 11 52.1 +0.8**
CHVC Chvalec 76.41 332 *e* P **P 18 11 52.1 +0.8**
TURR Turia 76.42 324 ⇓ P **P 18 11 53.4 +2.0**
OZUR 76.48 324 ⇓ P **P 18 11 53.7 +1.9**
UPC Upice 76.49 332 *e* P **P 18 11 52.4 +0.7**
UPC Upice 76.49 332 *e* P **P 18 11 52.4 +0.7**
COVR Voineasa-Covas 76.51 323 ⇓ P **P 18 11 53.4 +1.4**
DPC Dobruska-Polom 76.52 332 *e* P **P 18 11 52.8 +0.8**
DPC Dobruska-Polom 76.52 332 *e* P **P 18 11 52.8 +0.8**
BOSR Bodos 76.55 324 ⇓ P **P 18 11 54.0 +1.8**
RETH Rethem/Aller, 76.58 337 *e* P **P 18 11 52.6 +0.5**
comp=Z,85nm,1.0s,baz=29,slow=5.7
NRDL Niedersach Rie 76.59 336 *e* P **P 18 11 52.5 +0.4**
comp=Z,62nm,0.9s,baz=29,slow=5.7
MORC Moravsky Berou 76.59 331 ⇓ P **P 18 11 53.6 +1.2**
MORC Moravsky Berou 76.59 331 *e* P **P 18 11 53.1 +0.7**
MORC Moravsky Berou 76.59 331 P **P 18 11 53.6 +1.2**
KRLC Kraliky 76.60 331 *e* P **P 18 11 53.2 +0.8**
KRLC Kraliky 76.60 331 *e* P **P 18 11 53.2 +0.8**
KECS Kecovo 76.62 328 *e* P **P 18 11 53.4 +0.9**
KECS pmax pmax
comp=Z,62nm,0.9s
KECS Kecovo 76.62 328 *e* P **P 18 11 53.4 +0.9**
TIRR Tirgusor 76.65 321 ⇓ P **P 18 11 53.8 +1.0**
TIRR Tirgusor 76.65 321 P **P 18 11 53.7 +1.0**
CMSA Cobar Meteorol 76.68 184 P **P 18 11 54.4 +1.6**
HARR Harsova 76.68 322 ⇓ P **P 18 11 54.3 +1.3**
HARR Harsova 76.68 322 P **P 18 11 54.2 +1.3**
MULG Mulgathing 76.72 194 P **P 18 11 54.2 +1.2**
ASSE Asse, Remlinge 76.75 336 *e* P **P 18 11 53.5 +0.5**
comp=Z,32nm,0.9s,baz=29,slow=5.7
DOPR Dopca 76.75 324 ⇓ P **P 18 11 55.2 +1.9**
MHTO MHTO 76.77 286 P **P 18 11 55.7 +2.0**
SNR=20
CLL Collm 76.77 334 ⇑ *i* P **P 18 11 53.4 +0.1**
CLL *e* 18 12 25.0
CLL pmax pmax
comp=Z,189nm,0.8s
CLL Collm 76.77 334 ⇑ *i* P **P 18 11 53.4 +0.1**
comp=Z,189nm,0.8s
CLL *es* P **sP 18 12 25.0 -3.3**
CLL *ex* x 18 12 42.0
CLL *e*S **S 18 21 36.0 +3.6**
CLL Collm 76.77 334 *e* P **P 18 11 53.2 0.0**
comp=Z,162nm,0.8s,baz=29,slow=5.7
CLL *es* P sP 18 12 41.2 +13
MESR Meseseni 76.78 326 ⇓ P **P 18 11 55.1 +1.7**
KSU1 Kansas State U 76.79 47 P **P 18 11 52.2 -1.4**
baz=318
I42A Draeger Farm, 76.84 40 IAmb IAmb 18 12 20.6
comp=Z,36nm,0.9s
I42A Draeger Farm, 76.84 40 P **P 18 11 53.2 -0.6**
baz=322,SNR=5.7
MAUC Maruska 76.84 330 *e* P **P 18 11 54.9 +1.1**
BRG Berggiesshubel 76.85 333 *i* P **P 18 11 53.9 +0.2**
BRG 18 12 07.6
BRG pmax pmax
comp=Z,50nm,0.9s
BRG Berggiesshubel 76.85 333 *i* P **P 18 11 54.0 +0.2**
BRG Amp 18 11 55.1
comp=Z,50nm,0.9s
BRG Berggiesshubel 76.85 333 P P 18 12 01.9 +8.1
BRG Amp 18 12 03.4
comp=Z,18nm,1.0s
BRG Berggiesshubel 76.85 333 *e* P **P 18 11 53.9 +0.2**
comp=Z,51nm,0.9s,baz=29,slow=5.7
MFTR Murfatlar 76.87 321 ⇓ P **P 18 11 55.3 +1.3**
CJR Cluj-Napoca 76.88 325 ⇓ P **P 18 11 55.8 +1.7**
CJR Cluj-Napoca 76.88 325 P **P 18 11 55.7 +1.7**
PGBU Glenifferbraes 76.89 346 *e* P **P 18 11 54.1 +0.3**
PGBU IAmb IAmb 18 11 55.3
comp=Z,192nm,0.9s
H43A Windswept, Lux 76.89 38 IAmb IAmb 18 12 21.1
comp=Z,69nm,0.9s
MLR Muntele Rosu 76.90 323 ⇓ P **P 18 11 55.6 +1.3**
MLR Muntele Rosu 76.90 323 IAmb IAmb 18 11 57.0
comp=Z,74nm,0.8s
MLR Muntele Rosu 76.90 323 P **P 18 11 55.6 +1.3**
MLR Muntele Rosu 76.90 323 LR LR 18 47 36.4
comp=Z,173nm,18.3s,baz=55,slow=37
ISR Istrita 76.94 323 ⇓ P **P 18 11 56.1 +1.6**
ISR Istrita 76.94 323 P **P 18 11 56.0 +1.6**

PVCC **Panska Ves** 76.95 333 *e*P P 18 11 55.1 +0.8
PVCC **Panska Ves** 76.95 333 *e*P P 18 11 55.1 +0.8
JFWS **Jewell Farm** 77.00 41 P P 18 11 52.3 -2.4
baz=321
AMRR **Amara** 77.01 322 ⇓P P 18 11 56.5 +1.8
AMRR **Amara** 77.01 322 P P 18 11 56.5 +1.8
RICC **Richard** 77.09 333 *e*P P 18 11 55.9 +0.8
CLZ **Clausthal** 77.09 336 *e*P P 18 11 55.8 +0.7
comp=Z,127nm,1.0s,baz=29,slow=5.7
MARR **Marisel-Clui** 77.10 326 ⇓P P 18 11 56.4 +1.1
EKA **Eskdalemuir Ar** 77.11 345 P P 18 11 55.6 +0.6
comp=Z,45nm,0.7s,baz=17,slow=5.2,SNR=63
EKA pP pP 18 12 19.0 -0.7
comp=Z,7.3nm,0.7s,baz=17,slow=5.2,SNR=2.5
comp=Z,45nm,0.7s
ESK **Eskdalemuir** 77.13 345 P P 18 11 55.9 +0.7
ESK IAmb IAmb 18 11 56.6
comp=Z,72nm,0.9s
ESK **Eskdalemuir** 77.13 345 *e*P P 18 11 55.4 +0.1
ESK IAmb IAmb 18 11 56.4
comp=Z,80nm,0.9s
ESK **Eskdalemuir** 77.13 345 P P 18 11 55.9 +0.7
ESK pmax pmax
comp=Z,72nm,0.9s
AMTX **Amarillo** 77.15 53 IAmb IAmb 18 12 08.4
comp=Z,65nm,0.8s
AMTX **Amarillo** 77.15 53 P P 18 11 55.9 0.0
baz=317
AMTX **Amarillo** 77.15 53 P P 18 11 56.2 +0.4
baz=317,SNR=13
MSTX **Muleshoe** 77.19 55 P P 18 11 55.7 -0.4
baz=316,SNR=8.4
MSTX **Muleshoe** 77.19 55 P P 18 11 55.7 -0.4
baz=316,SNR=8.4
ICOR **Ion Corvin** 77.19 321 ⇓P P 18 11 57.7 +1.9
MEEK **Meekatharra** 77.20 209 P P 18 11 56.6 +0.7
L40A **Anamosa** 77.20 42 IAmb IAmb 18 12 22.5
comp=Z,46nm,0.9s
L40A **Anamosa** 77.20 42 P P 18 11 55.0 -0.9
baz=321,SNR=6.9
N38A **Joes South For** 77.21 44 P P 18 11 55.7 -0.3
baz=320,SNR=5.9
VYHS **Vyhne** 77.22 329 *e*P P 18 11 56.9 +1.0
VYHS pmax pmax
comp=Z,82nm,0.9s
VYHS **Vyhne** 77.22 329 *e*P P 18 11 56.8 +0.9
NEUB **Neuenburg** 77.23 335 *e*P P 18 11 56.1 +0.3
comp=Z,163nm,1.1s,baz=29,slow=5.7
HSKC **Hora Svate Kat** 77.24 333 *e*P P 18 11 56.5 +0.5
AUDCS **Dubbo College** 77.28 181 P P 18 11 57.9 +1.8
MNTX **Cornudas Mount** 77.29 58 P P 18 11 56.4 -0.2
baz=316,SNR=8.1
MNTX **Cornudas Mount** 77.29 58 P P 18 11 56.7 +0.1
baz=316,SNR=8.1
STKA **Stephens Creek** 77.30 187 P P 18 11 55.9 -0.4
STKA **Stephens Creek** 77.30 187 P P 18 11 57.7 +1.5
STKA **Stephens Creek** 77.30 187 ⇓*e*P P 18 11 56.5 +0.3
STKA **Stephens Creek** 77.30 187 P P 18 11 57.1 +0.9
comp=Z,15nm,0.9s,baz=335,slow=5.5,SNR=13
STKA LR LR 18 47 06.0
comp=Z,49nm,20.0s,baz=22,slow=36
comp=Z,15nm,0.9s
PSZ **Piszkesteto** 77.31 328 ⇓P P 18 11 57.9 +1.4
PSZ **Piszkesteto** 77.31 328 IAmb IAmb 18 11 58.7
comp=Z,82nm,0.9s
PSZ **Piszkesteto** 77.31 328 P P 18 11 57.8 +1.4
VOIR 77.32 324 ⇓P P 18 11 58.1 +1.5
VOIR 77.32 324 P P 18 11 58.0 +1.5
VRAC **Vranov** 77.32 331 ⇓P P 18 11 57.9 +1.4
VRAC **Vranov** 77.32 331 *e*P P 18 11 57.3 +0.9
VRAC **Vranov** 77.32 331 P P 18 11 57.8 +1.4
VRAC **Vranov** 77.32 331 LR LR 18 50 37.0
comp=Z,90nm,18.7s,baz=35,slow=39
JAVC **Velka Javorina** 77.33 330 *e*P P 18 11 58.2 +1.7
PRA **Prague** 77.39 332 *e*P P 18 11 57.8 +1.1
PRA **Prague** 77.39 332 *e*P P 18 11 57.8 +1.1
IBBN **Ibbenburen** 77.41 337 *e*P P 18 11 57.1 +0.3
comp=Z,110nm,0.8s,baz=29,slow=5.7
PRU **Pruhonice** 77.42 332 *e*P P 18 11 57.7 +0.7
PRU **Pruhonice** 77.42 332 *e*P P 18 11 57.7 +0.7
UMZA **Um Al Zommool** 77.46 290 P P 18 11 58.5 +0.9
GTTG **Gottingen** 77.47 336 *e*P P 18 11 57.8 +0.6
comp=Z,85nm,1.0s,baz=29,slow=5.7
MTUR **Matau** 77.48 324 ⇓P P 18 11 58.9 +1.3
MTUR **Matau** 77.48 324 P P 18 11 58.8 +1.3
ARR **Arges** 77.55 324 ⇓P P 18 11 60.0 +2.1
MZWR **Madinat Zayed** 77.58 291 P P 18 11 59.8 +1.6
KRUC **Moravsky** 77.60 331 *e*P P 18 11 58.7 +0.8
SMOL **Smolenice** 77.70 330 *e*P P 18 11 59.9 +1.3
TREC **Trest** 77.71 331 *e*P P 18 11 59.4 +0.8
TREC **Trest** 77.71 331 *e*P P 18 11 59.4 +0.8
TANN **Tannenbergstha** 77.72 334 *e*P P 18 11 59.0 +0.3
comp=Z,32nm,0.9s,baz=29,slow=5.7
KBD **Kabd** 77.73 299 P P 18 12 00.0 +1.0
PLN **Plauen** 77.75 334 *e*P P 18 11 59.2 +0.5
comp=Z,52nm,0.9s,baz=29,slow=5.7
MOX **Moxa** 77.78 334 *e*P P 18 11 59.4 +0.5
comp=Z,63nm,0.9s,baz=29,slow=5.7
DQM **DQM** 77.78 286 P P 18 12 03.1 +3.6
SMWD **Samnorwood** 77.80 52 IAmb IAmb 18 12 27.6
comp=Z,64nm,1.0s
KESW **Keswick, Cumbr** 77.80 344 *e*P P 18 11 59.5 +0.6
KESW IAmb IAmb 18 12 00.5
comp=Z,250nm,1.0s
DEV **Deva** 77.83 325 ⇓P P 18 12 00.4 +1.1
DEV **Deva** 77.83 325 P P 18 12 00.4 +1.1
LOT **Lotru** 77.84 325 ⇓P P 18 12 00.4 +0.9
BR131 **Keskin Array S** 77.87 315 IAmb IAmb 18 12 02.4
comp=Z,52nm,0.9s
BR131 **Keskin Array S** 77.87 315 *c i*P P 18 12 00.2 +0.4
BRTR **Keskin Array B** 77.87 315 P P 18 12 00.4 +0.6
BRTR **Keskin Array B** 77.87 315 P P 18 12 00.4 +0.6
BRTR **Keskin Array B** 77.87 315 P P 18 12 00.9 +1.1
comp=Z,28nm,0.8s,baz=80,slow=4.3,SNR=149
comp=Z,28nm,0.8s
CLGH **Cloghs, Cushen** 77.87 346 *e*P P 18 11 60.0 +0.7
CLGH IAmb IAmb 18 12 00.7
comp=Z,104nm,0.8s
MODS **Modra-Piesok** 77.88 330 *e*P P 18 12 00.9 +1.4
MODS pmax pmax
comp=Z,215nm,1.0s
MODS **Modra-Piesok** 77.88 330 *e*P P 18 12 00.8 +1.3
NKC **Novy Kostel** 77.88 334 *e*P P 18 12 00.3 +0.8
NKC **Novy Kostel** 77.88 334 *e*P P 18 12 00.3 +0.8
P38A **Dawn** 77.96 45 IAmb IAmb 18 12 27.2
comp=Z,60nm,1.0s
P38A **Dawn** 77.96 45 P P 18 11 59.8 -0.3
baz=320,SNR=5.5
GLMI **Grayling** 77.96 36 P P 18 11 59.3 -0.7
baz=324
SRO **Srobarova** 77.98 329 *e*P P 18 12 01.7 +1.6
SRO pmax pmax
comp=Z,88nm,0.8s
SRO **Srobarova** 77.98 329 *e*P P 18 12 01.7 +1.6
SIRR **Siria** 78.01 326 ⇓P P 18 12 01.5 +1.2
SHMA **Al-Shehemyia** 78.01 295 P P 18 12 01.7 +1.1
ZVC **Zvikov** 78.01 332 *e*P P 18 12 01.3 +1.1
K43A **Burlington** 78.04 40 IAmb IAmb 18 12 26.9
comp=Z,52nm,1.1s
HUMR **Humele** 78.08 323 ⇓P P 18 12 01.1 +0.4
ZST **Bratislava** 78.09 330 *e*P P 18 12 02.3 +1.6
ZST pmax pmax
comp=Z,236nm,1.1s
ZST **Bratislava** 78.09 330 *e*P P 18 12 02.3 +1.6
GHWR **Ruwais** 78.10 292 P P 18 12 04.1 +3.0
NEF **NEVSHA** 78.10 321 P P 18 12 02.1 +1.2
UBBA **Unterbreizbach** 78.10 335 *e*P P 18 12 01.0 +0.5
comp=Z,23nm,0.9s,baz=29,slow=5.7
UBBA *es*P sP 18 12 48.5 +13
HPK **Haverah Park** 78.11 343 *e*P P 18 12 01.3 +0.6
HPK IAmb IAmb 18 12 02.2
comp=Z,209nm,0.8s
ANTO **Ankara** 78.17 316 ⇓P P 18 12 03.1 +1.7
ANTO **Ankara** 78.17 316 P P 18 12 02.4 +1.0
ANTO **Ankara** 78.17 316 P P 18 12 02.4 +1.0
ANTO pmax pmax
comp=Z,94nm,0.7s
RAZG **Razgrad** 78.20 322 ⇓P P 18 12 02.6 +1.2
MANZ **Manzenberg** 78.20 334 *e*P P 18 12 01.8 +0.5
comp=Z,13nm,0.9s,baz=29,slow=5.7
KASTN **Kahler Asten** 78.22 336 *e*P P 18 12 02.0 +0.6
comp=Z,79nm,1.0s,baz=29,slow=5.7
SURR **Surduc** 78.25 326 ⇓P P 18 12 02.7 +1.1
GZR **Gura Zlata** 78.28 325 ⇓P P 18 12 02.7 +0.7
GZR **Gura Zlata** 78.28 325 P P 18 12 02.6 +0.7
COPA **Copaceanca** 78.30 323 ⇓P P 18 12 02.8 +0.9
AMBH **Ambrzfalva** 78.30 327 ⇓P P 18 12 03.4 +1.5
BUG **Bochum--Univer** 78.32 337 *e*P P 18 12 02.2 +0.3
comp=Z,99nm,1.0s,baz=29,slow=5.7
ROTZ **Rotzenmuhle** 78.36 334 *e*P P 18 12 02.9 +0.8
comp=Z,18nm,1.0s,baz=29,slow=5.7
MZR **Muzera** 78.37 291 P P 18 12 06.5 +3.9
FORT **Forrest** 78.41 199 P P 18 12 03.3 +0.9
FORT **Forrest** 78.41 199 P P 18 12 04.3 +1.9
DKNS **Dickens** 78.47 54 IAmb IAmb 18 12 31.1
comp=Z,46nm,1.0s
T35A **Sooner Cattle** 78.48 49 IAmb IAmb 18 12 14.9
comp=Z,68nm,0.8s
T35B **Sooner Cattle** 78.48 49 P P 18 12 02.9 -0.2
baz=319,SNR=14
KHC **Kasperske Hory** 78.48 332 *ce*P P 18 12 03.4 +0.6
KHC pmax pmax
comp=Z,230nm,0.9s
KHC **Kasperske Hory** 78.48 332 *e*P P 18 12 03.5 +0.6
KHC *ex* x 18 12 22.0
WIM **Isle of Man** 78.51 345 *e*P P 18 12 02.7 -0.2
BZS **Buzias** 78.56 326 ⇓P P 18 12 04.3 +0.9
BZS **Buzias** 78.56 326 P P 18 12 04.2 +0.9
POST **Post** 78.58 54 IAmb IAmb 18 12 31.8
comp=Z,48nm,0.9s
L44A **Lake County Fo** 78.64 40 P P 18 12 02.8 -1.1
baz=322
LBWR **Ladybower, Pea** 78.65 343 *e*P P 18 12 04.5 +0.8
LBWR IAmb IAmb 18 12 05.2
comp=Z,221nm,0.9s
SZH **Strazhitsa** 78.67 322 P P 18 12 05.2 +1.2
GEC2 **GERESS Array S** 78.69 332 IAmb IAmb 18 12 05.6
comp=Z,45nm,0.8s
GEC2 **GERESS Array S** 78.69 332 *e*P P 18 12 04.5 +0.4
comp=Z,45nm,0.7s,baz=29,slow=5.7
GERES **GERESS Array B** 78.69 332 P P 18 12 03.7 -0.4
GERES **GERESS Array B** 78.69 332 P P 18 12 03.7 -0.4
GERES **GERESS Array B** 78.69 332 P P 18 12 04.8 +0.6
comp=Z,35nm,0.7s,baz=32,slow=7.8,SNR=83
GERES LR LR 18 50 37.6
comp=Z,115nm,18.0s,baz=43,slow=38
comp=Z,35nm,0.7s
WET **Wettzell** 78.69 333 *e*P P 18 12 05.0 +1.0
comp=Z,107nm,0.9s,baz=29,slow=5.7
SRE **Strehaia** 78.71 324 ⇓P P 18 12 05.7 +1.5
SRE **Strehaia** 78.71 324 P P 18 12 05.6 +1.5
GRF **Grafenberg Arr** 78.73 334 *e*P P 18 12 05.1 +0.9
comp=Z,149nm,0.8s,baz=29,slow=5.7
GRF *es*P sP 18 12 52.9 +13
GRFO **Grafenberg** 78.74 334 P P 18 12 05.3 +1.1
GRFO **Grafenberg** 78.74 334 P P 18 12 05.3 +1.1
GRFO pmax pmax
comp=Z,145nm,0.9s
CONA **Conrad Observa** 78.75 331 *e*P P 18 12 05.4 +0.9
comp=Z,50nm,0.7s,SNR=33
P40A **Paris** 78.76 44 IAmb IAmb 18 12 31.9
comp=Z,68nm,1.0s
P40A **Paris** 78.76 44 P P 18 12 04.3 -0.2
baz=321,SNR=10
WACR **West Acre** 78.78 342 *e*P P 18 12 05.4 +1.0
WACR IAmb IAmb 18 12 06.3
comp=Z,500nm,1.0s
SLWR **Sila** 78.79 293 P P 18 12 06.0 +1.1
RONA **Rosalia, Austr** 78.80 330 *e*P P 18 12 05.8 +1.2
comp=Z,68nm,0.8s,SNR=29
HERR **Herculane** 78.85 325 ⇓P P 18 12 05.3 +0.3
WMOK **Wichita Mounta** 78.88 52 P P 18 12 04.2 -1.0
baz=318,SNR=20
WMOK **Wichita Mounta** 78.88 52 P P 18 12 05.1 -0.2
baz=318,SNR=20
SMRA **Abu-Samra** 78.88 294 P P 18 12 06.3 +0.9
WHYH **Whyalla** 78.88 191 P P 18 12 06.5 +1.5
BANR **Banloc** 78.95 326 ⇓P P 18 12 06.9 +1.5
ELND **Elena** 78.98 322 ⇓P P 18 12 07.0 +1.3
TNS **Taunus Mts** 79.09 336 *e*P P 18 12 06.7 +0.5
comp=Z,67nm,0.9s,baz=29,slow=5.7
HTT **Hallett** 79.11 189 P P 18 12 08.2 +1.9
PUNG **Punghina** 79.14 324 ⇓P P 18 12 07.4 +0.9
APMT **Aspermont** 79.17 53 IAmb IAmb 18 12 19.0
comp=Z,51nm,0.8s
AHRW **Bad Neuenahr-A** 79.19 337 *e*P P 18 12 07.3 +0.7
comp=Z,92nm,1.0s,baz=29,slow=5.7
CWF **Charnwood Fore** 79.19 343 *e*P P 18 12 06.7 0.0
M44A **Midewin, Midew** 79.21 41 P P 18 12 06.8 -0.2
baz=323,SNR=6.4
MDVR **Moldovita** 79.22 325 ⇓P P 18 12 07.3 +0.3
HDIL **Hopedale** 79.29 42 P P 18 12 06.1 -1.3
baz=322,SNR=9.4
HDIL **Hopedale** 79.29 42 P P 18 12 07.1 -0.3
baz=322,SNR=9.4
ELMS **Elmsett, Ipswi** 79.29 341 *e*P P 18 12 07.4 +0.3
BEBN **Eben Emael** 79.33 338 *d*P P 18 12 07.5 +0.1
YNG **Young** 79.34 181 P P 18 12 09.7 +2.2
MOA **Molln** 79.36 331 *e*P P 18 12 08.6 +0.8
comp=Z,29nm,0.8s,SNR=18
BTNL **Ternell** 79.40 338 *d*P P 18 12 07.9 0.0
comp=Z,60nm,1.0s
VALD **Valchedram** 79.41 324 P P 18 12 09.4 +1.4
MEM **Membach** 79.41 338 *d*P P 18 12 08.4 +0.5
comp=Z,98nm,0.9s
FOEL **Foel Wylfa** 79.43 344 *e*P P 18 12 08.9 +0.9
FOEL IAmb IAmb 18 12 09.7
comp=Z,128nm,1.0s
ARSA **Arzberg** 79.45 330 *e*P P 18 12 09.1 +0.9
comp=Z,19nm,0.8s,SNR=9.9
S39A **Bolivar** 79.54 46 IAmb IAmb 18 12 35.4
comp=Z,37nm,0.8s
S39A **Bolivar** 79.54 46 P P 18 12 07.6 -1.3
baz=320,SNR=14
BSTI **Sart Tilman** 79.55 338 *d*P P 18 12 09.6 +1.0
comp=Z,22nm,0.9s
MPEP **Malo Peshtene** 79.55 323 P P 18 12 09.2 +0.4
LLW **Llanuwychllyn** 79.56 344 *e*P P 18 12 09.7 +1.1
W35A **Tecumseh** 79.61 50 IAmb IAmb 18 12 37.0
comp=Z,118nm,1.6s
R40A **Maddies Statio** 79.61 45 IAmb IAmb 18 12 36.2
comp=Z,51nm,0.9s
R40A **Maddies Statio** 79.61 45 P P 18 12 08.5 -0.7
baz=321,SNR=16
TUL3 **Leonard** 79.61 49 IAmb IAmb 18 12 37.8
comp=Z,34nm,0.9s
TUL3 **Leonard** 79.61 49 P P 18 12 07.4 -1.8
baz=319
LPIG **La Paz** 79.62 66 LR LR 18 41 27.8
comp=Z,28nm,19.7s,baz=340,slow=31
SGCY **Sterling City** 79.63 55 IAmb IAmb 18 12 21.9
comp=Z,45nm,0.8s
FRGS **Fruska Gora** 79.65 327 ⇓P P 18 12 10.6 +1.3
FRGS **Fruska Gora** 79.65 327 ⇑*i*P P 18 12 09.1 -0.2
BIOA **Bad Ischl, Aus** 79.71 332 *e*P P 18 12 10.3 +0.7
comp=Z,43nm,1.0s,SNR=23
WTFS **Witchita Falls** 79.77 52 IAmb IAmb 18 12 22.1
comp=Z,35nm,0.8s
BCLA **Clavier** 79.77 338 *d*P P 18 12 10.6 +0.7
comp=Z,48nm,1.0s
RLO **Rose Lookout** 79.83 48 IAmb IAmb 18 12 37.2
comp=Z,32nm,0.7s
BGES **Gesves** 79.86 338 *d*P P 18 12 10.9 +0.6
comp=Z,49nm,1.0s
P43A **Skaggs, Pawnee** 79.90 43 P P 18 12 10.2 -0.5
baz=322
U38A **Gravette** 79.95 48 IAmb IAmb 18 12 37.7
comp=Z,29nm,0.8s
U38A **Gravette** 79.95 48 P P 18 12 10.4 -0.7
baz=320,SNR=9.1
ABTX **Abilene, Hawle** 79.96 53 P P 18 12 10.2 -1.0
baz=318,SNR=5.8
ABTX **Abilene, Hawle** 79.96 53 P P 18 12 11.3 +0.1
baz=318,SNR=5.8
IGLA **Glengowla, Co** 79.99 348 *e*P P 18 12 10.7 -0.2
O44A **Mansfield** 79.99 42 P P 18 12 10.9 -0.3
baz=322
TX31 **Lajitas Ar. Si** 80.02 58 IAmb IAmb 18 12 12.9
comp=Z,36nm,0.8s
TX31 **Lajitas Ar. Si** 80.02 58 P P 18 12 11.6 -0.1
baz=317,SNR=62
TXAR **Lajitas Array** 80.02 58 P P 18 12 11.8 +0.1
comp=Z,25nm,0.8s,baz=297,slow=4.3,SNR=170
TXAR pP pP 18 12 37.0 +0.7
comp=Z,21nm,0.8s,baz=296,slow=3.9,SNR=6.6
TXAR PKKPbc PKKPbc 18 30 55.2 +1.9
comp=Z,1.0nm,0.8s,baz=144,slow=4.7,SNR=8.2
comp=Z,25nm,0.8s
BMRD **Maredsous** 80.02 338 *d*P P 18 12 11.9 +0.7
comp=Z,68nm,1.0s
RCHB **Rochefort** 80.03 338 *d*P P 18 12 11.3 +0.1
comp=Z,41nm,1.0s
FUR **Furstenfeldbru** 80.06 333 *e*P P 18 12 12.4 +0.9
comp=Z,130nm,0.9s,baz=29,slow=5.7
KALN **Kalnik** 80.08 329 *i*P P 18 12 11.4 -0.2
SOKA **Soboth** 80.12 330 *e*P P 18 12 12.5 +0.6
comp=Z,52nm,0.8s,SNR=20
GROS **Grobnik** 80.14 330 *i*P P 18 12 12.1 +0.1
BOVS **Bovan** 80.17 325 ⇓P P 18 12 12.5 +0.4
LOBO **Lobor** 80.20 329 *i*P P 18 12 12.0 -0.3
SADO **Sadowa** 80.21 33 LR LR 18 49 17.4
comp=Z,35nm,19.9s,baz=328,slow=37
WLF **Walferdange** 80.23 337 IAmb IAmb 18 12 18.3
comp=Z,38nm,0.9s
WLF **Walferdange** 80.23 337 *d*P P 18 12 13.6 +1.3
comp=Z,26nm,1.0s
WLF **Walferdange** 80.23 337 *e*P P 18 12 14.5 +2.1
comp=Z,42nm,0.9s,baz=29,slow=5.7
MCH1 **Michaelchurch** 80.24 343 *e*P P 18 12 12.6 +0.3
MCH1 IAmb IAmb 18 12 14.4
comp=Z,70nm,1.0s
DOU **Dourbes** 80.25 338 *d*P P 18 12 13.1 +0.6
comp=Z,29nm,1.1s
LESA **Schwarzleotal** 80.26 332 *i*P P 18 12 13.2 +0.5
comp=Z,73nm,0.8s
TEKS **Tekeris** 80.27 327 *e*P P 18 12 12.4 -0.3
STRD **Stroud** 80.28 343 *e*P P 18 12 11.4 -1.1
STRD IAmb IAmb 18 12 14.7
comp=Z,218nm,1.3s
CCM **Cathedral Cave** 80.30 45 P P 18 12 11.7 -1.2
CCM IAmb IAmb 18 12 40.1
comp=Z,64nm,1.0s
CCM **Cathedral Cave** 80.30 45 P P 18 12 11.7 -1.2
CCM pmax pmax
comp=Z,64nm,1.0s
CCM **Cathedral Cave** 80.30 45 P P 18 12 11.7 -1.2
baz=321
CCM **Cathedral Cave** 80.30 45 P P 18 12 12.5 -0.4
baz=321,SNR=16
HHAR **Hobbs** 80.30 47 IAmb IAmb 18 12 40.1
comp=Z,37nm,0.9s
MORW **Morawa** 80.31 210 IAmb IAmb 18 12 14.1
comp=Z,80nm,1.1s
MORW **Morawa** 80.31 210 P P 18 12 13.6 +0.8
KBA **Koelnbreinsper** 80.34 332 *i*P P 18 12 14.1 +0.9
comp=Z,128nm,0.8s,SNR=32
VTS **Vitosha** 80.37 323 P P 18 12 14.2 +0.8
L48A **N Adams** 80.38 38 P P 18 12 13.8 +0.5
baz=324
L48A P P 18 12 13.8 +0.5
baz=324
BAIF **Baives** 80.39 338 *e*P P 18 12 13.2 +0.1
comp=Z,91nm,1.1s
SHAO **Shalim** 80.41 286 P P 18 12 15.3 +1.5
AAM **Ann Arbor** 80.42 37 P P 18 12 12.1 -1.4
baz=325
OBKA **Obir** 80.43 331 *e*P P 18 12 13.7 +0.2
comp=Z,36nm,0.7s,SNR=9.5
OBKA **Obir** 80.43 331 ⇑*i*P P 18 12 13.8 +0.2
SWN1 **Swindon** 80.45 343 *e*P P 18 12 13.6 +0.2
SWN1 IAmb IAmb 18 12 15.4
comp=Z,227nm,0.8s
SFIN **Lafayette** 80.45 41 IAmb IAmb 18 12 40.8
comp=Z,88nm,1.4s
SFIN **Lafayette** 80.45 41 P P 18 12 13.6 0.0
baz=323,SNR=5.5
SFIN **Lafayette** 80.45 41 P P 18 12 13.3 -0.4
baz=323,SNR=5.5
PTJ **Puntijarka** 80.45 329 P P 18 12 12.8 -0.9
RAR **Rarotonga** 80.47 133 LR LR 18 43 21.5
comp=Z,63nm,21.0s,baz=318,slow=32
GOLS **Golise** 80.48 330 *e*P P 18 12 14.1 +0.3
WOL **Wolverton** 80.51 342 *e*P P 18 12 13.9 +0.2
ALN **Alexandroupoli** 80.54 320 IAmb IAmb 18 12 16.4
comp=Z,69nm,0.9s
RDO **Rodhopi** 80.57 321 P P 18 12 15.8 +1.5
KMBL **Kambalda** 80.58 204 P P 18 12 15.3 +1.1
HMNX **Herstmonceux** 80.58 341 *e*P P 18 12 16.2 +2.0
HMNX IAmb IAmb 18 12 16.9
comp=Z,378nm,1.0s
MYKA **Terra Mystica** 80.64 331 *i*P P 18 12 15.0 +0.3
comp=Z,35nm,0.9s,SNR=8.4
TRQ **Mont Tremblant** 80.65 30 IAmb IAmb 18 12 41.4
comp=Z,72nm,1.1s
N47A **Urbana** 80.68 39 P P 18 12 14.5 -0.4
baz=324,SNR=7.3
N47A P P 18 12 14.5 -0.4
baz=324,SNR=7.3
WATA **Walderalm** 80.70 333 *i*P P 18 12 15.6 +0.5
comp=Z,92nm,0.9s,SNR=29
WTTA **Wattenberg** 80.74 333 *i*P P 18 12 16.1 +0.7
comp=Z,137nm,0.8s,SNR=24
FVM **French Village** 80.76 44 P P 18 12 15.1 -0.3
baz=322
Z35A **Perchaven, San** 80.77 51 P P 18 12 15.1 -0.4
baz=319
U40A **Yellville** 80.81 47 P P 18 12 15.2 -0.5
baz=321,SNR=26
U40A P P 18 12 15.2 -0.5
baz=321,SNR=26
BFO **Black Forest** 80.82 335 P P 18 12 16.1 +0.6
BFO IAmb IAmb 18 12 17.2
comp=Z,50nm,1.0s
BFO **Black Forest** 80.82 335 P P 18 12 16.1 +0.6
BFO pmax pmax
comp=Z,50nm,1.0s
BFO **Black Forest** 80.82 335 *e*P P 18 12 16.1 +0.6
comp=Z,43nm,1.0s,baz=29,slow=5.7
PRED **Cave del Predi** 80.83 331 IAmb IAmb 18 12 15.7
comp=Z,43nm,0.8s
RETA **Reutte** 80.83 333 *e*P P 18 12 16.2 +0.5
comp=Z,34nm,0.8s,SNR=11
LJU **Ljubljana** 80.84 330 *i*P P 18 12 16.0 +0.3
MOTA **Moosalm** 80.84 333 *i*P P 18 12 16.1 +0.2
comp=Z,72nm,0.8s,SNR=34
UBR **Ueberruh** 80.86 334 *e*P P 18 12 16.5 +0.7
comp=Z,29nm,0.9s,baz=29,slow=5.7
A051A **Mrakovica** 80.87 328 ⇑*i*P P 18 12 15.4 -0.5
ISP **Isparta** 80.88 316 IAmb IAmb 18 12 19.2
comp=Z,46nm,0.8s
HAPS **Han Pijesak,Bl** 80.89 327 ⇑*i*P P 18 12 16.4 +0.3
LMQ **La Malbaie** 80.89 26 IAmb IAmb 18 12 43.0
comp=Z,60nm,1.2s
BBLS **Lazi&#263i** 80.89 326 ⇑*i*P P 18 12 17.3 +1.2
ABTA **Abfaltersbach** 80.91 332 *i*P P 18 12 16.5 +0.3
comp=Z,25nm,1.0s,SNR=6.9
SQTA **Sankt Quirin** 80.92 333 *e*P P 18 12 16.7 +0.5
comp=Z,56nm,0.8s,SNR=22
BLY **Banja Luka** 81.00 328 ⇑*i*P P 18 12 16.6 +0.1
DOK **Doka** 81.00 287 P P 18 12 18.2 +1.3
SNR=7.6
P46A **Rosedale** 81.01 41 P P 18 12 16.6 0.0
baz=323,SNR=11
MMB **Musomishta** 81.03 322 P P 18 12 18.1 +1.3
CDF **Champ du Feu** 81.05 336 *e*P P 18 12 17.1 +0.3
BOJS **Bojanci** 81.05 330 ⇑*i*P P 18 12 17.0 +0.2
KKB **Krupnik** 81.05 323 P P 18 12 18.1 +1.2
DMTO **DMTO** 81.08 286 P P 18 12 18.3 +1.0
RUDO **Rudo** 81.12 326 *e*P P 18 12 15.8 -1.4
CEY **Cerknica** 81.14 330 ⇑*i*P P 18 12 16.3 -1.0
NVR **Nevrokopi** 81.14 322 P P 18 12 18.9 +1.5
SJES **Sjenica** 81.18 326 ⇑*i*P P 18 12 18.0 +0.4
T42A **Van Buren** 81.18 45 P P 18 12 16.8 -0.8
baz=321
KULA **Kula-Manisa** 81.24 317 P P 18 12 18.8 +0.8
FETA **Feichten** 81.25 333 *i*P P 18 12 18.4 +0.4
comp=Z,40nm,1.0s,SNR=15
STAL **STALIGIAL** 81.27 332 IAmb IAmb 18 12 18.9
comp=Z,41nm,0.7s
DAVA **Damuels** 81.28 334 *e*P P 18 12 17.9 -0.3
comp=Z,70nm,0.9s,SNR=12
OLIL **Olney** 81.29 42 P P 18 12 17.7 -0.5
baz=323
MGRS **Mrkonjic Grad** 81.31 328 ⇑*i*P P 18 12 19.8 +1.6
N49A **Columbus Grove** 81.32 38 IAmb IAmb 18 12 45.5
comp=Z,104nm,1.4s
N49A **Columbus Grove** 81.32 38 P P 18 12 18.1 -0.1
baz=325
N49A P P 18 12 18.1 -0.1
baz=325
PAGF **Fort de Pagny** 81.36 337 *e*P P 18 12 19.0 +0.6
comp=Z,243nm,0.9s
M50A **Fremont** 81.42 37 P P 18 12 18.6 -0.2
baz=325
M50A P P 18 12 18.6 -0.2
baz=325

O48B Farmland 81.43 39 IAmb IAmb 18 12 45.7
comp=Z,81nm,1.0s
O48B Farmland 81.43 39 P **P** **18 12 18.6 -0.2**
baz=324,SNR=8.4
SRS Serrai 81.45 322 P **P** **18 12 18.4 -0.6**
JCT Junction City 81.45 55 IAmb IAmb 18 12 47.2
comp=Z,110nm,1.5s
JCT Junction City 81.45 55 P **P** **18 12 18.6 -0.6**
baz=318,SNR=8.4
JCT Junction City 81.45 55 P **P** **18 12 19.1 -0.1**
baz=318,SNR=8.4
A050A Klekovaca 81.47 328 *e*P **P** **18 12 20.3 +1.2**
SAVF Savonnieres en 81.47 337 *e*P **P** **18 12 19.7 +0.8**
comp=Z,190nm,1.0s
BLDU Ballidu 81.50 209 P **P** **18 12 20.2 +1.1**
FCAR Ozark Folk Cen 81.54 47 IAmb IAmb 18 12 46.0
comp=Z,37nm,0.8s
S44A Carbondale 81.56 44 IAmb IAmb 18 12 47.1
comp=Z,90nm,1.1s
S44A Carbondale 81.56 44 P **P** **18 12 19.7 +0.1**
baz=322,SNR=8.4
SIUC Southern Illin 81.56 44 IAmb IAmb 18 12 47.1
comp=Z,106nm,1.1s
STIP Stip 81.57 323 *i* P **P** **18 12 19.0 -0.6**
MEZF Maizieres J'vi 81.59 337 *e*P **P** **18 12 20.2 +0.6**
SKO Skopje 81.66 324 *i* P **P** **18 12 21.6 +1.5**
WHTX Lake Whitney, 81.66 53 P **P** **18 12 20.3 +0.1**
baz=319,SNR=11
CSS Mathiatis 81.67 312 IAmb IAmb 18 12 23.0
comp=Z,58nm,0.7s
HAU Haudompre 81.68 336 *e*P **P** **18 12 20.7 +0.6**
PBMO Poplar Bluff 81.70 45 P **P** **18 12 20.0 -0.3**
baz=322,SNR=11
HINF Hinteralfeld 81.71 336 *e*P **P** **18 12 20.2 -0.1**
KNT Kendrikon 81.71 323 P **P** **18 12 21.4 +1.0**
VAY Valandovo 81.72 323 *i* P **P** **18 12 21.2 +0.9**
DAVOX Davos/Dischmat 81.73 334 LR LR 18 52 39.1
comp=Z,115nm,18.3s,baz=24,slow=38
WHFO Wadi Hawf 81.73 287 P **P** **18 12 21.2 +0.3**
SNR=7.4
FUORN Ofenpass-Fuorn 81.75 333 IAmb IAmb 18 12 23.1
comp=Z,44nm,1.0s
DRIO Del Rio 81.76 56 IAmb IAmb 18 12 33.3
comp=Z,61nm,0.8s
CTI Castel Tesino 81.81 332 IAmb IAmb 18 12 22.1
comp=Z,41nm,0.8s
MIAR Mount Ida 81.83 48 IAmb IAmb 18 12 48.4
comp=Z,49nm,0.8s
MIAR Mount Ida 81.83 48 P **P** **18 12 20.9 -0.2**
baz=320,SNR=19
O49A Covington 81.85 39 IAmb IAmb 18 12 47.7
comp=Z,39nm,1.0s
O49A Covington 81.85 39 P **P** **18 12 20.4 -0.7**
baz=325
O49A P **P** **18 12 20.4 -0.7**
baz=325
TREL Terrell 81.86 51 IAmb IAmb 18 12 48.4
comp=Z,49nm,0.8s
SFTF Sexfontaines 81.87 337 *e*P **P** **18 12 21.4 +0.4**
RABC Rab 81.87 330 *i* P **P** **18 12 21.3 +0.3**
ASF Jabal al Asfar 81.88 308 LR LR 18 53 35.7
comp=Z,80nm,20.3s,baz=17,slow=39
KIJV Kijevo 81.92 328 *i* P **P** **18 12 22.0 +0.6**
SBD Saint Breward 81.93 344 *e*P **P** **18 12 21.4 +0.1**
P48A Milroy 81.95 40 IAmb IAmb 18 12 48.7
comp=Z,81nm,1.2s
P48A Milroy 81.95 40 P **P** **18 12 21.4 -0.2**
baz=324
P48A P **P** **18 12 21.4 -0.2**
baz=324
LONY Lake Ozonia 82.03 30 P **P** **18 12 21.0 -0.9**
baz=330
BRY Bratogost 82.05 326⇑ *i*P **P** **18 12 22.1 -0.2**
KLBR Kellerberrin 82.05 207 P **P** **18 12 22.8 +0.8**
MMAI Mount Meron Ar 82.06 310 P **P** **18 12 23.9 +1.4**
comp=Z,63nm,0.7s,baz=40,slow=6.6,SNR=87
comp=Z,63nm,0.7s
RICI Ricice 82.08 327 *i* P **P** **18 12 22.0 -0.3**
GRG Griva 82.09 323 P **P** **18 12 23.0 +0.6**
ERPA Erie 82.10 35 P **P** **18 12 21.9 -0.4**
baz=327
N51A Ashland 82.10 37 P **P** **18 12 21.9 -0.5**
baz=326
N51A P **P** **18 12 21.9 -0.5**
baz=326
ARPS Mount Arapiles 82.13 187 P **P** **18 12 23.8 +1.6**
TUE Stuetta 82.17 334 IAmb IAmb 18 12 25.0
comp=Z,47nm,0.8s
P49A Miami Univ. Ec 82.21 40 IAmb IAmb 18 12 50.1
comp=Z,99nm,1.2s
P49A Miami Univ. Ec 82.21 40 P **P** **18 12 22.9 -0.1**
baz=325,SNR=5.5
PUK Puka 82.23 325 IAmb IAmb 18 12 25.9
comp=Z,43nm,0.8s
X40A Basin Creek Fa 82.26 48 IAmb IAmb 18 12 50.1
comp=Z,71nm,1.6s
TREB Trebinje 82.28 326 *e*P **P** **18 12 22.9 -0.4**
MAKA Makarska 82.30 327 *i* P **P** **18 12 22.7 -0.7**
M53A WI Miller and 82.38 36 P **P** **18 12 23.4 -0.5**
baz=327
DRME Dracevica, Mon 82.39 325⇑ *i*P **P** **18 12 23.2 -0.7**
STON Ston 82.40 327 *e*P **P** **18 12 23.3 -0.6**
ACSO Alum Creek Sta 82.41 38 IAmb IAmb 18 12 51.3
comp=Z,47nm,0.9s
ACSO Alum Creek Sta 82.41 38 P **P** **18 12 23.7 -0.3**
baz=326
BATG Bathurst New B 82.41 24 IAmb IAmb 18 12 51.8
comp=Z,41nm,1.0s
WVNY West Valley, N 82.41 34 IAmb IAmb 18 12 51.1
comp=Z,90nm,1.2s
HCY Herceg Novi 82.45 326⇑ *i*P **P** **18 12 24.0 -0.2**
ABTO Aybut 82.45 287 P **P** **18 12 25.6 +0.9**
F62A Pittston Farm, 82.47 27 IAmb IAmb 18 12 51.7
comp=Z,53nm,1.1s
435B Jarrell 82.50 53 P **P** **18 12 24.0 -0.6**
baz=319
WCI Wyandotte Cave 82.54 41 P **P** **18 12 24.9 +0.1**
baz=324
WCI Wyandotte Cave 82.54 41 P **P** **18 12 24.8 +0.1**
baz=324,SNR=7.2
HVAR Hvar 82.61 328 *i* P **P** **18 12 24.6 -0.4**
BALJ Balqa 82.64 309 IAmb IAmb 18 12 29.1
comp=Z,158nm,0.9s
OHR Ohrid 82.64 324 *i* P **P** **18 12 26.4 +1.1**
FNA Florina 82.67 323 IAmb IAmb 18 12 27.5
comp=Z,31nm,0.7s
FNA Florina 82.67 323 P **P** **18 12 26.0 +0.6**
JSA Saint Aubin 82.72 342 *e*P **P** **18 12 26.2 +0.8**
JSA IAmb IAmb 18 12 27.7
comp=Z,86nm,0.8s
WLAR White Oak Lake 82.73 49 IAmb IAmb 18 12 53.3
comp=Z,56nm,0.7s
BRAT Ballarat 82.76 185 P **P** **18 12 27.4 +1.9**
LIT Litokhoron 82.76 322 IAmb IAmb 18 12 27.7
comp=Z,33nm,0.9s
TIR Tirane 82.83 325 ⇓P **P** **18 12 27.5 +1.4**
TIR Tirane 82.83 325 P **P** **18 12 27.5 +1.4**
N53A Lisbon 82.84 36 IAmb IAmb 18 12 53.7
comp=Z,110nm,1.2s
N53A Lisbon 82.84 36 P **P** **18 12 26.3 0.0**
baz=327
N53A P **P** **18 12 26.3 0.0**
baz=327
MUN Mundaring 82.92 208 P **P** **18 12 27.7 +1.2**
O52A Adamsville 83.00 37 IAmb IAmb 18 12 54.3
comp=Z,81nm,1.1s
O52A Adamsville 83.00 37 P **P** **18 12 26.4 -0.6**
baz=326
O52A P **P** **18 12 26.4 -0.6**
baz=326
R49A Shelbyville 83.01 41 P **P** **18 12 27.0 -0.2**
baz=324
R49A P **P** **18 12 27.0 -0.2**
baz=324
CABF La Chapelle 83.02 336 *e*P **P** **18 12 28.1 +0.9**
PAMR Moraine State 83.04 36 P **P** **18 12 26.7 -0.6**
baz=327
LOR Lormes 83.04 338 *e*P **P** **18 12 27.5 +0.3**
L56A Greenwood 83.05 34 IAmb IAmb 18 12 53.8
comp=Z,42nm,1.1s
KBN Korca 83.05 324 IAmb IAmb 18 12 32.4
comp=Z,85nm,0.9s
M55A Ridgway 83.14 35 IAmb IAmb 18 12 54.6
comp=Z,54nm,0.9s
M55A Ridgway 83.14 35 P **P** **18 12 27.7 -0.1**
baz=328
M55A P **P** **18 12 27.7 -0.1**
baz=328
RAYN Ar Rayn 83.14 297 P **P** **18 12 27.3 -0.9**
RAYN Ar Rayn 83.14 297 P **P** **18 12 27.3 -0.9**
RAYN pmax pmax
comp=Z,33nm,1.1s
RAYN Ar Rayn 83.14 297 *i* P **P** **18 12 29.4 +1.3**
SNR=6.2
RAYN Ar Rayn 83.14 297 P **P** **18 12 29.2 +1.1**
O53A New Philadelph 83.15 37 IAmb IAmb 18 12 55.1
comp=Z,121nm,1.4s
O53A New Philadelph 83.15 37 P **P** **18 12 25.6 -2.3**
baz=326
PPT Papeete 83.16 123 LR LR 18 44 40.6
comp=Z,109nm,19.8s,baz=332,slow=32
T47A Sharon Grove 83.16 43 IAmb IAmb 18 12 55.8
comp=Z,98nm,1.3s
T47A Sharon Grove 83.16 43 P **P** **18 12 27.8 -0.1**
baz=324,SNR=11
PPT2 Papeete2 83.17 123 *e*P P 18 12 21.7 -6.5
comp=Z,23nm,22.2s
PPT2 Papeete2 83.17 123 *e*S **ScS** **18 22 59.6 +5.7**
comp=Z,126nm,29.2s
PPT2 Papeete2 83.17 123 *e*LR LR 18 38 08.3
comp=Z,341nm,35.2s
PPT2 *e*LR LR 18 38 24.1
comp=Z,417nm,29.8s
Q51A Peebles 83.24 39 P **P** **18 12 28.3 0.0**
baz=325,SNR=7.1
Q51A P **P** **18 12 28.3 0.0**
baz=325,SNR=7.1
PKME Peaks-Kenny Pk 83.24 27 P **P** **18 12 27.9 -0.3**
baz=333
H62A Milan 83.25 28 IAmb IAmb 18 12 55.9
comp=Z,51nm,1.1s
PENT Pentalofos 83.26 323 P **P** **18 12 29.1 +0.6**
P52A Corning 83.27 38 P **P** **18 12 27.0 -1.5**
baz=326
GHAJ Ghor Haditha 83.27 308 IAmb IAmb 18 12 32.4
comp=Z,78nm,1.1s
LBNH Lisbon 83.28 29 P **P** **18 12 27.2 -1.3**
baz=332
833A Chaparral WMA, 83.29 56 P **P** **18 12 28.2 -0.5**
baz=318
NATX Nacogdoches 83.38 51 P **P** **18 12 29.0 -0.2**
baz=320
NATX Nacogdoches 83.38 51 P **P** **18 12 30.1 +1.0**
baz=320
PRMA PARMA 83.39 332 IAmb IAmb 18 12 31.4
comp=Z,62nm,0.8s
R50A Paris 83.41 40 P **P** **18 12 29.0 -0.2**
baz=325
R50A P **P** **18 12 29.0 -0.2**
baz=325
NWAO Narrogin (SRO) 83.45 207 P **P** **18 12 28.0 -1.2**
NWAO Narrogin (SRO) 83.45 207 P **P** **18 12 30.0 +0.9**
NWAO Narrogin (SRO) 83.45 207 P **P** **18 12 30.1 +0.9**
NWAO Narrogin (SRO) 83.45 207 P **P** **18 12 28.0 -1.2**
NWAO pmax pmax
comp=Z,93nm,1.0s
NWAO Narrogin (SRO) 83.45 207 LR LR 18 50 01.5
comp=Z,23nm,20.4s,baz=258,slow=36
UPAO U. Pittsburgh 83.45 36 P **P** **18 12 29.5 +0.1**
baz=327
WVT Waverly 83.50 44 P **P** **18 12 28.1 -1.6**
WVT IAmb IAmb 18 12 57.5
comp=Z,55nm,1.1s
WVT Waverly 83.50 44 P **P** **18 12 28.1 -1.6**
WVT pmax pmax
comp=Z,55nm,1.1s
WVT Waverly 83.50 44 P **P** **18 12 29.2 -0.4**
baz=323
WVT Waverly 83.50 44 P **P** **18 12 29.6 0.0**
baz=323,SNR=7.9
LSK Leskovik 83.52 323 P **P** **18 12 31.3 +1.4**
ZCCA Zocca 83.53 332 IAmb IAmb 18 12 54.6
comp=Z,71nm,1.1s
O54A Avella 83.56 36 P **P** **18 12 30.5 +0.6**
baz=327
O54A P **P** **18 12 30.5 +0.6**
baz=327
BINY Binghamton 83.60 33 P **P** **18 12 29.4 -0.7**
baz=329
P53A Whipple 83.71 37 P **P** **18 12 30.3 -0.4**
baz=326
P53A P **P** **18 12 30.3 -0.4**
baz=326
AXAR Agios Charalam 83.79 321 P **P** **18 12 31.3 +0.1**
735A Kenedy 83.82 55 P **P** **18 12 32.2 +0.8**
baz=319
LPL La Plagne 83.83 335 *e*P **P** **18 12 32.6 +1.1**
JAN Janina 83.83 323 P **P** **18 12 33.8 +2.4**
LPG La Plagne 83.84 335 *e*P **P** **18 12 32.8 +1.1**
M57A Sunshine Farm, 83.90 34 IAmb IAmb 18 12 58.4
comp=Z,37nm,0.8s
L59A Walton 83.96 32 IAmb IAmb 18 12 59.1
comp=Z,112nm,1.4s
L59A Walton 83.96 32 P **P** **18 12 31.0 -1.1**
baz=330
L59A P **P** **18 12 31.0 -1.1**
baz=330
OXF Oxford 84.00 46 P **P** **18 12 31.1 -1.2**
baz=322
OXF Oxford 84.00 46 P **P** **18 12 32.2 -0.1**
baz=322
EVR Evrytania 84.03 322 P **P** **18 12 34.6 +2.1**
SGRT San Giovanni R 84.10 327 IAmb IAmb 18 12 34.2
comp=Z,58nm,0.8s
HKT Hockley 84.11 53 *de*P **P** **18 12 30.9 -1.9**
HKT pmax pmax
comp=Z,8.0nm,1.3s
QUIF Quistinic 84.14 342 *e*P **P** **18 12 33.5 +0.8**
U49A Red Boiling Sp 84.17 42 P **P** **18 12 33.2 +0.1**
baz=324,SNR=8.6
OSSC Osservatorio P 84.17 331 IAmb IAmb 18 12 35.0
comp=Z,35nm,0.8s
SSPA Standing Stone 84.19 35 P **P** **18 12 31.1 -2.1**
baz=328
T50A Nancy 84.20 41 P **P** **18 12 33.4 +0.2**
baz=325
T50A P **P** **18 12 33.4 +0.2**
baz=325
MCWV Mont Chateau 84.22 36 IAmb IAmb 18 13 00.7
comp=Z,49nm,1.0s
MCWV Mont Chateau 84.22 36 P **P** **18 12 32.4 -0.9**
baz=327
MCWV Mont Chateau 84.22 36 P **P** **18 12 34.1 +0.8**
baz=327
CLTN Cedars of Leba 84.25 43 IAmb IAmb 18 13 01.4
comp=Z,68nm,1.1s
ANX Ano Chora 84.25 322 P **P** **18 12 33.5 -0.1**
S51A Beattyville 84.26 40 IAmb IAmb 18 13 00.4
comp=Z,36nm,0.8s
S51A Beattyville 84.26 40 P **P** **18 12 33.1 -0.4**
baz=325
S51A P **P** **18 12 33.1 -0.4**
baz=325
BNI Bardonecchia 84.27 335 IAmb IAmb 18 12 36.1
comp=Z,25nm,0.8s
PLAL Pickwick Lake 84.29 44 IAmb IAmb 18 13 00.6
comp=Z,28nm,0.9s
V48A Smith Brothers 84.30 43 IAmb IAmb 18 13 00.8
comp=Z,35nm,0.8s
V48A Smith Brothers 84.30 43 P **P** **18 12 33.9 +0.1**
baz=324,SNR=6.7
Q54A Coxs Mills 84.37 37 P **P** **18 12 34.4 +0.3**
baz=327
Q54A P **P** **18 12 34.4 +0.3**
baz=327
EFP Efpalio 84.40 322 P **P** **18 12 35.3 +1.1**
CESX Cesi 84.52 330 IAmb IAmb 18 12 38.1
comp=Z,34nm,0.9s
MBDF Montbardon 84.53 335 *e*P **P** **18 12 35.9 +0.9**
L61B Northampton 84.60 30 P **P** **18 12 35.2 +0.1**
baz=331
GUR Goura 84.61 321 P **P** **18 12 35.6 +0.1**
ORIF Oris-en-Rattie 84.62 335 *e*P **P** **18 12 36.4 +1.0**
MATE Matera 84.68 326 ⇓P **P** **18 12 36.5 +0.9**
SSB Saint Sauveur 84.68 336 IAmb IAmb 18 12 38.5
comp=Z,40nm,1.0s
NYDR Nydri-Lefkada 84.68 323 P **P** **18 12 35.7 +0.1**
EVGI Lefkada island 84.78 323 P **P** **18 12 36.9 +0.8**
EIL Elat 84.86 308 LR LR 18 55 13.3
comp=Z,62nm,20.9s,baz=46,slow=39
DRO Drossia 84.88 321 P **P** **18 12 37.5 +0.8**
RLS Riolos of Patr 84.90 322 P **P** **18 12 37.6 +0.9**
HRV Adam Dziewonsk 84.94 30 P **P** **18 12 36.0 -0.9**
baz=332
S54A Dingess, Beckl 85.15 38 P **P** **18 12 38.0 -0.1**
baz=326
S54A P **P** **18 12 38.0 -0.1**
baz=326
VLS Valsamata 85.18 322 P **P** **18 12 38.0 -0.2**
TZTN Tazewell 85.18 41 IAmb IAmb 18 13 05.5
comp=Z,39nm,0.9s
TZTN Tazewell 85.18 41 P **P** **18 12 37.7 -0.5**
baz=325
X48A Hartselle 85.22 44 IAmb IAmb 18 13 05.1
comp=Z,32nm,0.8s
X48A Hartselle 85.22 44 P **P** **18 12 36.7 -1.7**
baz=324
VBMS Vicksburg 85.24 48 P **P** **18 12 37.4 -1.2**
baz=322
PAL Palisades 85.41 32 P **P** **18 12 36.6 -2.6**
baz=331
W50A Signal Mountai 85.45 43 IAmb IAmb 18 13 06.7
comp=Z,33nm,0.8s
CPCT Cooper Cave 85.63 42 IAmb IAmb 18 13 08.1
comp=Z,70nm,1.1s
146A Union 85.66 47 P **P** **18 12 41.6 +0.9**
baz=323,SNR=8.6
Z47A Carrollton 85.72 46 P **P** **18 12 41.5 +0.6**
baz=323,SNR=5.3
V52A Sevierville 85.74 41 IAmb IAmb 18 13 08.9
comp=Z,75nm,1.1s
V52A Sevierville 85.74 41 P **P** **18 12 41.1 +0.1**
baz=325
TKL Tuckaleechee C 85.81 41 IAmb IAmb 18 13 09.0
comp=Z,79nm,1.1s
TKL Tuckaleechee C 85.81 41 P **P** **18 12 39.0 -2.4**
baz=325,SNR=6.5
TKL Tuckaleechee C 85.81 41 LR LR 18 53 14.8
comp=Z,188nm,19.1s,baz=337,slow=37
FPAL Fort Paine 85.85 43 IAmb IAmb 18 13 09.2
comp=Z,68nm,1.2s
TIP Timpagrande 85.92 325 ⇓P **P** **18 12 43.5 +1.6**
U54A Nelsons Funny 85.98 39 P **P** **18 12 42.3 0.0**
baz=326
U54A P **P** **18 12 42.3 0.0**
baz=326
Y49A Blount Mountai 86.01 44 IAmb IAmb 18 13 09.3
comp=Z,38nm,1.0s
Y49A Blount Mountai 86.01 44 P **P** **18 12 42.0 -0.4**
baz=324
BLA Blacksburg 86.03 38 P **P** **18 12 42.5 0.0**
baz=327
M65A Busby, Falmout 86.09 29 P **P** **18 12 41.5 -1.1**
baz=333
LRAL Lakeview Retre 86.38 45 P **P** **18 12 43.8 -0.4**
baz=324
346A Big Creek Wild 86.44 48 P **P** **18 12 45.4 +0.9**
baz=323
CBN Corbin Frederi 86.47 36 P **P** **18 12 42.7 -1.8**
baz=329
T57A Hurt 86.71 37 P **P** **18 12 46.0 +0.3**
baz=328
T57A P **P** **18 12 46.0 +0.3**
baz=328
BG3 Lake Jocassee 86.74 41 IAmb IAmb 18 13 13.5
comp=Z,54nm,0.8s
CASEE Lake Jocassee 86.74 41 P **P** **18 12 46.1 +0.1**
baz=326
CEL Celeste 87.05 326 IAmb IAmb 18 12 49.6
comp=Z,36nm,0.8s
Y52A Lilburn 87.14 42 P **P** **18 12 48.3 +0.4**
baz=325
Y52A P **P** **18 12 48.3 +0.4**
baz=325
KMSC Kings Mountain 87.35 40 P **P** **18 12 47.8 -1.0**
baz=327
KMSC Kings Mountain 87.35 40 P **P** **18 12 49.1 +0.2**
baz=327
PAULI Pauline 87.40 40 IAmb IAmb 18 13 16.2
comp=Z,33nm,0.9s
PAULI Pauline 87.40 40 P **P** **18 12 48.4 -0.7**
baz=326
250A Grady 87.60 45 P **P** **18 12 50.0 -0.1**
baz=324,SNR=6.9
HODGE Hodges 87.68 41 IAmb IAmb 18 13 18.6
comp=Z,63nm,1.2s
TBI Tubuai 87.76 127 *e*LR LR 18 40 10.7
comp=Z,2μm,34.5s
TBI *e*LR LR 18 40 13.4
comp=Z,874nm,35.5s
GOGA Godfrey 87.79 42 IAmb IAmb 18 13 18.4
comp=Z,92nm,1.7s
GOGA Godfrey 87.79 42 P **P** **18 12 50.4 -0.6**
baz=326
GOGA Godfrey 87.79 42 P **P** **18 12 50.3 -0.6**
baz=326
152A Waverly Hall 87.80 44 IAmb IAmb 18 13 18.8
comp=Z,51nm,1.2s
152A Waverly Hall 87.80 44 P **P** **18 12 50.1 -0.9**
baz=325,SNR=7.3
CEST Esterri de Car 88.06 337 IAmb IAmb 18 12 59.2
comp=Z,41nm,1.0s
154A Montrose 88.62 42 P **P** **18 12 55.6 +0.7**
baz=326
CNNC Cliffs of the 88.78 37 P **P** **18 12 54.3 -1.4**
baz=328
DSZ Denniston Nort 88.92 164 IAmb IAmb 18 12 59.0
comp=Z,53nm,1.0s
TIGA Tifton 89.35 43 P **P** **18 12 57.8 -0.6**
baz=326
TIGA Tifton 89.35 43 P **P** **18 12 59.3 +0.9**
baz=326
255A Hazlehurst 89.49 42 P **P** **18 12 58.9 -0.1**
baz=326
RPZ Rata Peaks 90.68 165 IAmb IAmb 18 13 09.1
comp=Z,29nm,0.9s
PBRG Braganca 90.73 343 *e*P **P** **18 13 05.2 +0.5**
comp=Z,39nm,1.7s
PGAV Gavieira, Arco 90.88 344 *e*P **P** **18 13 06.9 +1.4**
comp=Z,92nm,1.6s
MVO Moncorvo 91.40 343 *e*P **P** **18 13 08.7 +0.9**
comp=Z,64nm,1.5s
PVRL Vila Real 91.44 343 *e*P **P** **18 13 08.3 +0.3**
comp=Z,58nm,1.4s
KEST Kesra 91.77 329 P **P** **18 13 09.9 +0.2**
comp=Z,43nm,0.9s,baz=303,slow=3.3,SNR=23
comp=Z,43nm,0.9s
PVIS Viseu 92.01 343 *e*P **P** **18 13 11.0 +0.4**
ESDC Sonseca Array 92.14 340 P **P** **18 13 10.6 -0.7**
ESDC IAmb IAmb 18 13 13.8
comp=Z,16nm,1.2s
ESDC Sonseca Array 92.14 340 P **P** **18 13 11.7 +0.4**
comp=Z,12nm,1.2s,baz=4.0,slow=4.8,SNR=18
ESDC PP **PP** **18 16 49.5 -2.0**
comp=Z,3.1nm,1.0s,baz=17,slow=7.2,SNR=4.2
ESDC LR LR 19 00 06.1
comp=Z,82nm,18.2s,baz=4.0,slow=39
comp=Z,12nm,1.2s
MTE Manteigas 92.25 343 *e*P **P** **18 13 11.4 -0.3**
PAB San Pablo 92.36 340 P **P** **18 13 13.8 +1.5**
PCBR Hostelo Branco 92.77 343 *e*P **P** **18 13 15.8 +1.7**
comp=Z,38nm,1.6s
PCAS Casmilo, Conde 92.77 344 *e*P **P** **18 13 14.7 +0.6**
PMRV Marv??o 93.15 343 *e*P **P** **18 13 17.2 +1.3**
comp=Z,39nm,1.8s
DWPF Disney Wildern 93.15 44 P **P** **18 13 15.2 -0.8**
baz=327
PMTG Montargil 93.67 343 *e*P **P** **18 13 19.5 +1.3**
PESTR Estremoz 93.73 343 *e*P **P** **18 13 18.8 +0.3**
comp=Z,33nm,1.6s
TATN Tataouine 94.13 327 IAmb IAmb 18 17 03.8
comp=Z,35nm,1.3s
MORF Marmelete 95.45 343 *e*P **P** **18 13 28.2 +1.7**
MDT Midelt 98.82 339 LR LR 19 08 24.9
comp=Z,45nm,18.6s,baz=346,slow=41
TORD Torodi Ar. Bea 115.07 326 PKP **PKiKP** **18 18 42.1 -0.7**
comp=Z,0.9nm,0.7s,baz=22,slow=2.4,SNR=5.9
TORD PP **PP** **18 19 37.8 -4.8**
comp=Z,7.0nm,0.9s,baz=16,slow=9.2,SNR=10.0
VNDA Vanda 122.87 177 **PKiKP** **18 18 56.0 -0.1**
VNDA Vanda 122.87 177 PKiKP **PKiKP** **18 18 56.0 -0.1**
VNDA Vanda 122.87 177 PKP **PKPdf** **18 18 55.3 -0.6**
comp=Z,9.4nm,0.8s,baz=313,slow=4.0,SNR=37
SBA Scott Base 123.41 176 **PKiKP** **18 18 57.6 +0.5**
SBA Scott Base 123.41 176 PKiKP **PKiKP** **18 18 57.6 +0.5**
DBIC Dimbokro 123.49 330 PKP **PKPdf** **18 18 57.8 -1.2**
comp=Z,3.8nm,0.8s,baz=48,slow=7.1,SNR=4.1
DBIC pPKP **pPKPdf** **18 19 25.5 +0.2**
comp=Z,3.9nm,0.6s,baz=55,slow=2.9,SNR=3.1
DBIC PP **PP** **18 20 35.2 -5.2**
comp=Z,14nm,1.0s,baz=16,slow=7.3,SNR=4.8

MAW	**Mawson**	**129.96**	**210**	PKP		**PKPdf**	18 19 09.8	**+0.2**
	comp=Z,8.9nm,0.7s,baz=74,slow=4.1,SNR=8.7							
LBTB	**Lobatse**	**131.29**	**275**			**PKPdf**	18 19 13.8	**+0.1**
LBTB	**Lobatse**	**131.29**	**275**	PKIKP		**PKPdf**	18 19 13.8	**+0.1**
QSPA	**South Pole Qui**	**135.14**	**180**	PKPdf		**PKiKP**	18 19 20.5	**-0.5**
QSPA	**South Pole Qui**	**135.14**	**180**	PKhKP		PKPpre	18 19 06.5	
	comp=Z,2.5nm,0.8s,baz=256,slow=0.8,SNR=8.2							
QSPA				PKP		**PKPdf**	18 19 19.2	**-0.3**
	comp=Z,24nm,0.9s,baz=298,slow=0.5,SNR=29							
LPAZ	**La Paz**	**136.86**	**60**			**PKPdf**	18 19 25.0	**0.0**
LPAZ	**La Paz**	**136.86**	**60**	PKIKP		**PKPdf**	18 19 25.0	**0.0**
LPAZ	**La Paz**	**136.86**	**60**	PKP		**PKPdf**	18 19 24.1	**-0.9**
	comp=Z,5.3nm,0.8s,baz=339,slow=4.2,SNR=14							
LPAZ	**La Paz**	**136.86**	**60**	*e*P		**PKPdf**	18 19 20.9	**-4.1**
VILB	**Vilhena**	**138.71**	**48**	*e*P		**PKPdf**	18 19 25.9	**-1.8**
H03N2	**Juan Fernandez**	**140.89**	**90**	T		T	20 56 30.8	
	baz=307,slow=77,SNR=337							
H03N3	**Juan Fernandez**	**140.91**	**90**	T		T	20 56 31.4	
	baz=307,slow=77,SNR=303							
H03N1	**Juan Fernandez**	**140.91**	**90**	T		T	20 56 35.1	
	baz=307,slow=77,SNR=368							
ELIB	**Princess Elisa**	**143.67**	**205**	*d*PKPdf		PKPbc	18 19 32.9	+0.1
ELIB				*d*PKiKP		**PKiKP**	18 19 36.9	**-1.6**
ELIB				*d*PKP		PKPdf	18 19 44.9	+10
ELIB				*d*pPKP		pPKPdf	18 19 59.6	-1.7
AC02	**Maricunga**	**143.78**	**73**			**PKPdf**	18 19 36.5	**-0.6**
CO06	**Fray Jorge**	**144.45**	**80**	PKPdf		**PKPab**	18 19 35.9	**-0.1**
SDBA	**SAO DESIDERIO**	**144.74**	**26**	*e*P		**PKPab**	18 19 36.4	**-1.1**
NBLA	**Lagarto - SE**	**145.06**	**14**	*e*P		**PKPbc**	18 19 37.8	**-0.7**
MT02	**Curacav**	**146.27**	**83**			**PKPdf**	18 19 41.1	**+0.5**
BDFB	**Brasilia**	**146.67**	**33**			**PKPbc**	18 19 44.0	**+0.4**
BDFB	**Brasilia**	**146.67**	**33**	PKP2		**PKPbc**	18 19 44.0	**+0.4**
BDFB	**Brasilia**	**146.67**	**33**	PKPbc		**PKPdf**	18 19 42.3	**+0.5**
	comp=Z,18nm,0.6s,baz=283,slow=2.5,SNR=38							
AQDB	**Aquidauana**	**147.33**	**49**	*e*P		**PKPdf**	18 19 42.2	**-0.4**
BELA	**Belgrano 2**	**147.36**	**178**			**PKPbc**	18 19 43.4	**-0.3**
JANB	**Januaria**	**147.42**	**26**	*e*P		**PKPdf**	18 19 42.8	**-0.2**
NVL	**N'lazarevskaya**	**147.53**	**204**	*e*PKiKP		**PKPdf**	18 19 40.2	**-1.2**
NVL				pmax		pmax		
	comp=Z,129nm,1.0s							
TROLL	**Troll, Antarti**	**149.23**	**199**	⇓PKPbc		**PKPbc**	18 19 49.2	**+0.4**
	comp=Z,6μm,1.1s							
PLCA	**Paso Flores**	**150.21**	**96**			**PKiKP**	18 19 52.6	**-0.2**
PLCA	**Paso Flores**	**150.21**	**96**	PKP		**PKPdf**	18 19 46.4	**-0.5**
	comp=Z,8.8nm,1.0s,baz=45,slow=1.3,SNR=8.6							
PLCA				PKPbc		**PKPbc**	18 19 52.1	**+0.1**
	comp=Z,79nm,0.8s,baz=272,slow=2.4,SNR=100							
SMAI	**San Martin Ant**	**150.28**	**153**			**PKPbc**	18 19 51.1	**-0.1**
SNAA	**Sanae**	**150.65**	**197**			**PKiKP**	18 19 52.6	**-0.1**
SNAA	**Sanae**	**150.65**	**197**	⇓PKPbc		**PKPbc**	18 19 51.9	**-0.2**
	comp=Z,2μm,0.8s							
SNAA	**Sanae**	**150.65**	**197**	PKPbc		**PKPbc**	18 19 51.9	**-0.2**
	comp=Z,75nm,0.8s,baz=174,slow=2.6,SNR=64							
DIAM	**Diamantina, MG**	**150.66**	**27**	*e*P		**PKPdf**	18 19 46.0	**-2.3**
TRCB	**Terra Rica**	**150.84**	**47**	*e*P		**PKPdf**	18 19 47.2	**-1.1**
CPUP	**Villa Florida**	**150.99**	**58**			**PKPbc**	18 19 54.4	**+0.2**
CPUP	**Villa Florida**	**150.99**	**58**	PKP		**PKPdf**	18 19 48.6	**+0.3**
	comp=Z,4.6nm,0.9s,baz=336,slow=2.2,SNR=8.1							
CPUP				PKPbc		**PKPbc**	18 19 53.9	**-0.3**
	comp=Z,20nm,0.8s,baz=344,slow=1.9,SNR=35							
VNA2	**Neumayer--Watz**	**152.15**	**196**	⇓PKPbc		**PKPbc**	18 19 55.5	**0.0**
	comp=Z,137nm,0.7s,baz=125,slow=1.4							
VNA3	**Neumayer Olymp**	**152.29**	**194**	⇓PKPbc		**PKPbc**	18 19 55.6	**-0.2**
	comp=Z,55nm,0.7s							
VNA1	**Neumayer--Stat**	**152.54**	**195**	⇓PKPbc		**PKiKP**	18 19 56.5	**-0.1**
	comp=Z,79nm,1.0s							
FRTB	**Fartura**	**152.82**	**42**	*e*P		**PKPdf**	18 19 51.6	**+0.3**

IDC ***18*** *18:37:17.4±1.1,38.87N×20.79E, h0km, mb3.6/9, mbtmp3.6/13, ML3.6/4, Error ellipse: s-maj=18.1km s-min=17.9km az=64.0*
BEO ***18*** *18:37:18.5±0.8,38.82N×20.70E, h0km, ML3.1/7*
THE ***18*** *18:37:18.9,38.92N×20.82E, h7km±2km, ML3.4/19, Error ellipse: s-maj=2.1km s-min=0.7km az=232.0*
ATH ***18*** *18:37:19.3,38.85N×20.86E, h9km±1km, ML3.2/20, Error ellipse: s-maj=2.0km s-min=0.6km az=221.0*
NAO ***18*** *18:37:31.6,39.48N×19.26E, h33km, mb3.1*
ISC 18 18:37:19.5±0.7,38.87N±0.02×20.83E±0.02, h15km±4km, n122,σ1§26/170, mb3.6/9, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TSLK	**Tsoukalades, L**	**0.14**	**252**	P		**Pg**	**18 37 22.6**	**-0.6**
TSLK				S		**Sg**	**18 37 25.4**	**-0.3**
	28μm,0.7s							
TSLK	**Tsoukalades, L**	**0.14**	**252**	P		**Pg**	**18 37 22.8**	**-0.5**
TSLK				S		**Sg**	**18 37 25.0**	**-0.7**
TSLK				AML		AML	18 37 28.5	
	comp=N,81788μm,0.7s							
TSLK				AML		AML	18 37 29.2	
	comp=E,40137μm,0.7s							
LKD2	**Lefkada island**	**0.15**	**239**	P		**Pg**	**18 37 22.6**	**-0.9**
LKD2				S		**Sg**	**18 37 25.8**	**-0.3**
	comp=E,25μm,0.5s							
LKD2	**Lefkada island**	**0.15**	**239**	P		**Pg**	**18 37 23.0**	**-0.5**
LKD2				S		**Sg**	**18 37 26.2**	**+0.2**
LKD2				AML		AML	18 37 28.7	
	comp=N,59691μm,0.6s							
LKD2				AML		AML	18 37 29.5	
	comp=E,42339μm,0.4s							
NYDR	**Nydri-Lefkada**	**0.18**	**213**	P		**Pg**	**18 37 22.6**	**-1.2**
NYDR				S		**Sg**	**18 37 27.3**	**+0.5**
	comp=E,16μm,0.3s							
NYDR	**Nydri-Lefkada**	**0.18**	**213**	P		**Pg**	**18 37 22.9**	**-0.9**
NYDR				S		**Sg**	**18 37 26.6**	**-0.1**
DRAG	**Dragano-Lefkad**	**0.27**	**227**	P		**Pg**	**18 37 24.8**	**-0.4**
DRAG				S		**Sb**	**18 37 29.7**	**-0.7**
DRAG	**Dragano-Lefkad**	**0.27**	**227**	P		**Pb**	**18 37 25.1**	**-0.9**
DRAG				S		**Sb**	**18 37 29.2**	**-1.2**
EVGI	**Lefkada island**	**0.28**	**208**	P		**Pg**	**18 37 24.4**	**-1.0**
EVGI				S		**Sb**	**18 37 30.1**	**-0.6**
	comp=E,15μm,0.3s							
EVGI	**Lefkada island**	**0.28**	**208**	P		**Pg**	**18 37 24.9**	**-0.6**
EVGI				S		**Sg**	**18 37 29.5**	**0.0**
AST1	**Astakos**	**0.39**	**147**	P		**Pg**	**18 37 26.1**	**-1.2**
AST1				S		**Sb**	**18 37 34.0**	**+0.3**
	comp=E,8μm,0.6s							
FSK	**Fiskardo**	**0.46**	**207**	P		**Pg**	**18 37 27.8**	**-0.8**
FSK				S		**Sb**	**18 37 36.7**	**+0.9**
FSK	**Fiskardo**	**0.46**	**207**	P		**Pg**	**18 37 28.0**	**-0.6**
FSK				S		**Sg**	**18 37 33.5**	**-1.2**
FSK				AML		AML	18 37 39.3	
	comp=N,8459μm,0.3s							
FSK				AML		AML	18 37 41.4	
	comp=E,10983μm,0.5s							
VSK1	**VASILIKIADES**	**0.50**	**204**	P		**Pg**	**18 37 28.7**	**-0.7**
VSK1				S		**Sb**	**18 37 37.9**	**+0.8**
	comp=E,3μm,0.4s							
PVO	**Paravola**	**0.60**	**114**	P		**Pg**	**18 37 29.9**	**-1.4**
PVO				S		**Sb**	**18 37 41.1**	**+1.1**
PVO	**Paravola**	**0.60**	**114**	P		**Pg**	**18 37 29.9**	**-1.4**
KEF5	**Kardakata, Kep**	**0.65**	**205**	P		**Pg**	**18 37 31.0**	**-1.2**
KEF5				S		**Sb**	**18 37 43.3**	**+1.9**
	comp=E,8μm,0.4s							
KEF5	**Kardakata, Kep**	**0.65**	**205**	P		**Pg**	**18 37 31.4**	**-0.8**
KEF5				S		**Sg**	**18 37 40.6**	**-0.3**
VLS	**Valsamata**	**0.71**	**195**	P		**Pg**	**18 37 31.8**	**-1.6**
VLS				S		**Sb**	**18 37 44.8**	**+1.6**
	comp=E,3μm,0.4s							
VLS	**Valsamata**	**0.71**	**195**	P		**Pg**	**18 37 32.2**	**-1.2**
VLS				S		**Sg**	**18 37 40.6**	**-2.2**
VLS				AML		AML	18 37 48.8	
	comp=E,6193μm,0.4s							
VLS				AML		AML	18 37 51.8	
	comp=N,4341μm,0.4s							
DMLN	**Damoulianata-K**	**0.72**	**210**	P		**Pg**	**18 37 32.3**	**-1.2**
DMLN				S		**Sb**	**18 37 44.0**	**+0.6**
	comp=N,3μm,0.4s							
DMLN	**Damoulianata-K**	**0.72**	**210**	P		**Pg**	**18 37 32.4**	**-1.2**
DMLN				S		**Sg**	**18 37 42.5**	**-0.6**
LXRA	**Lixouri, Kepha**	**0.73**	**205**	P		**Pg**	**18 37 33.3**	**-0.5**
LXRA				S		**Sb**	**18 37 43.3**	**-0.4**
LXRA				AML		AML	18 37 51.8	
	comp=E,9992μm,0.5s							
LXRA				AML		AML	18 37 58.6	
	comp=N,7568μm,0.8s							
KEF3	**Kipouria, Keph**	**0.76**	**210**	P		**Pg**	**18 37 32.5**	**-1.8**
KEF3				S		**Sn**	**18 37 46.8**	**0.0**
	comp=N,4μm,0.5s							
KEF3	**Kipouria, Keph**	**0.76**	**210**	P		**Pg**	**18 37 32.7**	**-1.6**
IGT	**Igoumenitsa**	**0.77**	**330**	P		**Pg**	**18 37 32.8**	**-1.6**
IGT				S		**Sg**	**18 37 42.1**	**-2.4**
	comp=N,878nm,0.5s							
IGT	**Igoumenitsa**	**0.77**	**330**	P		**Pg**	**18 37 33.0**	**-1.4**
IGT				S		**Sb**	**18 37 44.8**	**+0.1**
IGT				AML		AML	18 37 52.8	
	comp=E,1834μm,0.4s							
IGT				AML		AML	18 37 56.3	
	comp=N,1875μm,0.6s							
EVR	**Evrytania**	**0.77**	**86**	P		**Pg**	**18 37 34.0**	**-0.5**
EVR				S		**Sb**	**18 37 45.9**	**+1.0**
	comp=N,955nm,0.7s							
EVR	**Evrytania**	**0.77**	**86**	P		**Pg**	**18 37 33.9**	**-0.6**
EVR				AML		AML	18 37 51.3	
	comp=N,2002μm,0.6s							
EVR				AML		AML	18 37 54.3	
	comp=E,1824μm,0.9s							
PSDA	**Pessada-Kefalo**	**0.78**	**194**	P		**Pg**	**18 37 33.1**	**-1.4**
PSDA				S		**Sb**	**18 37 46.6**	**+1.6**
	comp=E,3μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.78**	**194**	P		**Pg**	**18 37 33.2**	**-1.4**
JAN	**Janina**	**0.79**	**1**	P		**Pb**	**18 37 34.8**	**0.0**
ANX	**Ano Chora**	**0.90**	**107**	P		**Pg**	**18 37 34.6**	**-2.3**
ANX				S		**Sb**	**18 37 49.9**	**+1.2**
	comp=E,2μm,0.5s							
ANX	**Ano Chora**	**0.90**	**107**	P		**Pg**	**18 37 35.0**	**-1.9**
ANX				S		**Sg**	**18 37 48.0**	**-0.8**
ANX				AML		AML	18 37 57.4	
	comp=E,3823μm,0.5s							
ANX				AML		AML	18 37 58.2	
	comp=N,4285μm,0.5s							
RLS	**Riolos of Patr**	**0.95**	**148**	P		**Pg**	**18 37 36.4**	**-1.5**
RLS				S		**Sn**	**18 37 52.6**	**+1.0**
	comp=N,782nm,0.8s							
RLS	**Riolos of Patr**	**0.95**	**148**	P		**Pg**	**18 37 36.5**	**-1.5**
RLS				S		**Sg**	**18 37 49.5**	**-0.9**
RLS				AML		AML	18 38 00.3	
	comp=N,1589μm,0.6s							
RLS				AML		AML	18 38 01.8	
	comp=E,1398μm,0.5s							
EFP	**Efpalio**	**0.95**	**117**	P		**Pg**	**18 37 36.2**	**-1.7**
EFP				S		**Sn**	**18 37 52.2**	**+0.6**
	comp=E,1μm,1.1s							
EFP	**Efpalio**	**0.95**	**117**	P		**Pg**	**18 37 36.6**	**-1.4**
EFP				AML		AML	18 37 59.5	
	comp=E,3170μm,1.0s							
EFP				AML		AML	18 38 00.8	
	comp=N,2168μm,1.2s							
MAKR	**Makrakomi, Fth**	**1.03**	**82**	P		**Pg**	**18 37 37.6**	**-1.8**
MAKR				S		**Sn**	**18 37 54.1**	**+0.6**
	comp=N,2μm,0.5s							
MAKR	**Makrakomi, Fth**	**1.03**	**82**	P		**Pg**	**18 37 37.7**	**-1.7**
MAKR				AML		AML	18 38 03.5	
	comp=N,3362μm,0.5s							
MAKR				AML		AML	18 38 04.0	
	comp=E,3240μm,0.6s							
TRIZ	**Trizonia**	**1.10**	**117**	P		**Pg**	**18 37 39.9**	**-0.7**
KASA	**Kassiopi**	**1.12**	**322**	P		**Pb**	**18 37 40.4**	**-0.1**
KASA				S		**Sb**	**18 37 55.1**	**+0.3**
DRO	**Drossia**	**1.15**	**142**	P		**Pg**	**18 37 39.5**	**-2.1**
DRO				S		**Sn**	**18 37 58.6**	**+2.1**
	comp=E,2μm,0.5s							
DRO	**Drossia**	**1.15**	**142**	P		**Pg**	**18 37 39.5**	**-2.1**
DRO				AML		AML	18 38 04.6	
	comp=N,2566μm,0.5s							
DRO				AML		AML	18 38 04.9	
	comp=E,4620μm,0.5s							
THL	**Klokotos Trika**	**1.16**	**53**	P		**Pg**	**18 37 39.5**	**-2.3**
THL	**Klokotos Trika**	**1.16**	**53**	P		**Pg**	**18 37 39.9**	**-1.8**
THL				S		**Sg**	**18 37 56.1**	**-0.8**
THL				AML		AML	18 38 04.7	
	comp=E,1008μm,0.4s							
THL				AML		AML	18 38 05.3	
	comp=N,560μm,0.7s							
KPRO	**Kipourio**	**1.16**	**21**	P		**Pg**	**18 37 39.8**	**-2.1**
KPRO	**Kipourio**	**1.16**	**21**	P		**Pg**	**18 37 40.0**	**-1.9**
KPRO				S		**Sb**	**18 37 57.1**	**+0.9**
ALIK	**Aliki, Aigiali**	**1.18**	**121**	P		**Pg**	**18 37 40.5**	**-1.7**
AGG	**Agios Georgios**	**1.18**	**82**	P		**Pg**	**18 37 40.2**	**-2.1**
AGG				S		**Sn**	**18 37 58.8**	**+1.4**
	comp=N,862nm,0.7s							
AGG	**Agios Georgios**	**1.18**	**82**	P		**Pg**	**18 37 40.4**	**-1.9**
AGG				S		**Sg**	**18 37 56.9**	**-0.9**
SRN	**Sarande**	**1.20**	**328**	P		**Pg**	**18 37 40.9**	**-1.6**
LSK	**Leskovik**	**1.29**	**352**	P		**Pb**	**18 37 43.6**	**+0.1**
KLV	**Kalavryta, Ach**	**1.33**	**128**	P		**Pn**	**18 37 42.3**	**-1.2**
KLV	**Kalavryta, Ach**	**1.33**	**128**	P		**Pn**	**18 37 42.9**	**-0.6**
PENT	**Pentalofos**	**1.35**	**10**	P		**Pn**	**18 37 44.2**	**+0.4**
PENT	**Pentalofos**	**1.35**	**10**	P		**Pg**	**18 37 44.7**	**-0.8**
TYRN	**Tyrnavos**	**1.38**	**52**	P		**Pn**	**18 37 43.4**	**-0.7**
TYRN	**Tyrnavos**	**1.38**	**52**	P		**Pn**	**18 37 43.5**	**-0.6**
AXAR	**Agios Charalam**	**1.44**	**93**	P		**Pn**	**18 37 45.2**	**+0.3**
AXAR	**Agios Charalam**	**1.44**	**93**	P		**Pn**	**18 37 45.2**	**+0.3**
AXAR				AML		AML	18 38 13.1	
	comp=N,3897μm,0.6s							
AXAR				AML		AML	18 38 13.4	
	comp=E,2148μm,0.6s							
LRSO	**Larissa Observ**	**1.46**	**56**	P		**Pn**	**18 37 44.5**	**-0.7**
GUR	**Goura**	**1.51**	**127**	P		**Pn**	**18 37 46.3**	**+0.2**
GUR	**Goura**	**1.51**	**127**	P		**Pn**	**18 37 45.6**	**-0.5**
GUR				AML		AML	18 38 15.8	
	comp=N,1672μm,0.6s							
GUR				AML		AML	18 38 17.4	
	comp=E,1659μm,0.6s							
NEST	**Nestorio**	**1.55**	**6**	P		**Pb**	**18 37 47.7**	**-0.3**
NEST				AML		AML	18 38 18.3	
	comp=E,1131μm,0.5s							
NEST				AML		AML	18 38 22.2	
	comp=N,992μm,0.5s							
THAL	**Thalero**	**1.67**	**119**	P		**Pn**	**18 37 47.1**	**-0.9**
THAL				AML		AML	18 38 19.4	
	comp=E,1617μm,0.8s							
THAL				AML		AML	18 38 26.3	
	comp=N,1363μm,0.8s							
LTK	**Loutraki**	**1.88**	**116**	P		**Pn**	**18 37 51.4**	**+0.3**
LTK				AML		AML	18 38 26.5	
	comp=E,531μm,1.6s							
LTK				AML		AML	18 38 30.3	
	comp=N,497μm,0.8s							
LOUT	**Loutraki**	**1.90**	**117**	P		**Pn**	**18 37 51.0**	**-0.4**
XOR	**Xorichti**	**1.91**	**74**	P		**Pn**	**18 37 51.6**	**+0.2**
NEO	**Neokhori**	**1.92**	**76**	P		**Pn**	**18 37 52.1**	**+0.5**
FNA	**Florina**	**1.96**	**12**	*e*Pn		**Pb**	**18 37 54.7**	**-0.2**
FNA				*e*Sn		**Sg**	**18 38 21.5**	**-1.0**
FNA	**Florina**	**1.96**	**12**	P		**Pn**	**18 37 53.3**	**+1.1**
FNA				AML		AML	18 38 30.6	
	comp=E,1073μm,0.6s							
FNA				AML		AML	18 38 31.0	
	comp=N,666μm,0.7s							
VIL2	**Platees**	**2.02**	**108**	P		**Pn**	**18 37 52.6**	**-0.4**
VIL2				AML		AML	18 38 33.1	
	comp=N,542μm,0.6s							
VIL2				AML		AML	18 38 36.4	
	comp=E,646μm,0.8s							
OHR	**Ohrid**	**2.24**	**360**	*i* Pn		**Pb**	**18 37 59.4**	**-0.3**
KRND	**KRANIDI**	**2.36**	**128**	P		**Pn**	**18 37 57.1**	**-0.5**
GRG	**Griva**	**2.41**	**30**	P		**Pn**	**18 37 59.6**	**+1.2**
HORT	**Hortiatis**	**2.46**	**45**	P		**Pn**	**18 38 00.3**	**+1.1**
TIR	**Tirane**	**2.58**	**344**	*e*Pn		**Pn**	**18 38 02.1**	**+1.4**
TIR				*e*Sn		**Sn**	**18 38 34.4**	**+2.6**
VLI	**Veliai**	**2.72**	**141**	P		**Pn**	**18 38 02.5**	**-0.1**
KNT	**Kendrikon**	**2.79**	**34**	P		**Pn**	**18 38 04.0**	**+0.4**
KNT	**Kendrikon**	**2.79**	**34**	P		**Pn**	**18 38 05.1**	**+1.5**
VAY	**Valandovo**	**2.79**	**28**	*i* Pn		**Pn**	**18 38 05.9**	**+2.3**
STIP	**Stip**	**3.01**	**20**	*i* Pn		**Pb**	**18 38 10.3**	**-2.4**
SRS	**Serrai**	**3.09**	**43**	*e*Pn		**Pn**	**18 38 08.3**	**+0.6**
SRS				*e*Sn		**Sn**	**18 38 47.1**	**+2.7**
PRVS	**Prvonek**	**3.76**	**14**	*e*Pn		**Pn**	**18 38 18.8**	**+1.9**
PRVS				*e*Sn		**Sn**	**18 39 03.9**	**+3.0**
BARS	**Barje**	**4.01**	**10**	*e*Pn		**Pn**	**18 38 22.3**	**+1.9**
DBRK	**Dubrovnik**	**4.31**	**333**	*e*Pn		**Pn**	**18 38 24.4**	**0.0**
SELS	**Selova**	**4.35**	**3**	*e*Pn		**Pn**	**18 38 26.3**	**+1.2**
SJES	**Sjenica**	**4.44**	**352**	*e*Pn		**Pn**	**18 38 27.8**	**+1.5**
SJES				*e*Sn		**Sn**	**18 39 18.1**	**+0.4**
ZAPS	**Zavoj**	**4.61**	**17**	*e*Pn		**Pn**	**18 38 30.9**	**+2.3**
IVAS	**Ivanjica**	**4.73**	**354**	*e*Pn		**Pn**	**18 39 29.7**	**-0.6**
IVAS				*e*Sn		**Sn**	**18 39 25.5**	**+0.6**
IDI	**Anoyia**	**4.83**	**136**	Pn		**Pn**	**18 38 33.3**	**+1.6**
	baz=350,slow=8.8,SNR=8.1							
IDI				Sn		**Sn**	**18 39 30.6**	**+3.3**
	baz=27,slow=23,SNR=1.1							
LSTV	**Lastovo**	**4.91**	**324**	*e*Pn		**Pn**	**18 38 32.4**	**-0.2**
GRUS	**Gruza**	**5.02**	**359**	*e*Pn		**Pn**	**18 38 35.3**	**+1.2**
DIVS	**Divibare**	**5.26**	**353**	*e*Pn		**Pn**	**18 38 38.2**	**+0.6**
DIVS				*e*Sn		**Sn**	**18 39 36.6**	**-1.4**
RICI	**Ricice**	**5.40**	**330**	*e*Pn		**Pn**	**18 38 38.7**	**-0.7**
HVAR	**Hvar**	**5.43**	**324**	*e*Pn		**Pn**	**18 38 39.7**	**-0.2**
KIJV	**Kijevo**	**6.11**	**329**	*e*Pn		**Pn**	**18 38 49.1**	**-0.1**
ZIRJ	**Zirje**	**6.17**	**322**	*e*Pn		**Pn**	**18 38 49.1**	**-0.9**
MORI	**Morici**	**6.30**	**324**	*e*Pn		**Pn**	**18 38 52.0**	**+0.2**
MORI				Sn		**Sn**	**18 40 00.7**	**-2.8**
FRGS	**Fruska Gora**	**6.33**	**353**	*e*Pn		**Pn**	**18 38 52.4**	**+0.2**
DUGI	**Dugi Otok**	**6.71**	**322**	*e*Pn		**Pn**	**18 38 56.9**	**-0.4**
UDBI	**Udbina**	**6.80**	**328**	*e*Pn		**Pn**	**18 38 59.7**	**+1.0**
VIRC	**Vir**	**6.93**	**323**	*e*Pn		**Pn**	**18 39 00.9**	**+0.5**
NVLJ	**Novalja**	**7.22**	**324**	*e*Pn		**Pn**	**18 39 04.5**	**+0.1**
MLR	**Muntele Rosu**	**7.63**	**28**	Pn		**Pn**	**18 39 13.3**	**+3.2**
	comp=E,0.4nm,0.3s,baz=330,slow=21,SNR=8.1							
	comp=E,3.5nm,0.8s							
BRTR	**Keskin Array B**	**9.97**	**81**	Pn		**Pn**	**18 39 45.6**	**+3.4**
	comp=E,0.1nm,0.3s,baz=262,slow=13,SNR=6.0							
	comp=E,0.5nm,0.5s							
MOA	**Molin**	**10.16**	**334**	*e*Pn		**Pn**	**18 39 44.8**	**+0.1**
	comp=E,0.4nm,0.2s							
WTTA	**Wattenberg**	**10.74**	**324**	*e*Pn		**Pn**	**18 39 52.4**	**-0.5**
	comp=E,1.8nm,0.5s							
WATA	**Walderalm**	**10.82**	**324**	*e*Pn		**Pn**	**18 39 53.9**	**-0.1**
	comp=E,0.4nm,0.2s							
MMAI	**Mount Meron Ar**	**13.17**	**112**	Pn		**Pn**	**18 40 26.1**	**+0.1**
	comp=E,0.3nm,0.3s,baz=311,slow=13,SNR=1.6							
	comp=E,0.3nm,0.3s							
ESDC	**Sonseca Array**	**19.20**	**280**	P		**P**	**18 41 43.2**	**+0.5**
	baz=68,slow=9.5,SNR=4.1							
	comp=E,0.4nm,0.8s							
HFS	**Hagfors**	**21.76**	**350**	P		**P**	**18 42 11.0**	**+0.8**
	comp=E,1.5nm,0.6s,baz=177,slow=13,SNR=5.8							
	comp=E,1.5nm,0.6s							
FINES	**FINESS Array B**	**22.84**	**7**	P		**P**	**18 42 20.6**	**-1.0**
	comp=E,0.9nm,0.4s,baz=173,slow=8.4,SNR=11							
	comp=E,0.9nm,0.4s							
NB2	**NORSAR Subarra**	**22.99**	**348**	P		**P**	**18 42 24.1**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=163,slow=11							
NOA	**NORSAR Array B**	**22.99**	**348**	P		**P**	**18 42 22.7**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=162,slow=11,SNR=3.9							
	comp=Z,0.7nm,0.8s							
EKA	**Eskdalemuir Ar**	**23.01**	**324**	P		**P**	**18 42 23.6**	**+0.1**
	comp=Z,3.4nm,0.9s,baz=123,slow=7.7,SNR=2.5							
	comp=Z,3.4nm,0.9s							
TORD	**Torodi Ar. Bea**	**30.72**	**219**	P		**P**	**18 43 34.1**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=35,slow=9.6,SNR=6.4							
	comp=Z,0.3nm,0.4s							
BVAR	**Borovoye Array**	**36.49**	**51**	P		**P**	**18 44 24.5**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=278,slow=8.9,SNR=4.2							
	comp=Z,0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**41.63**	**54**	P		**P**	**18 45 06.4**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=286,slow=9.6,SNR=8.5							
	comp=Z,0.3nm,0.4s							
MKAR	**Makanchi Array**	**44.74**	**59**	P		**P**	**18 45 32.1**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=279,slow=8.2,SNR=10							
	comp=Z,0.4nm,0.4s							
ZALV	**Zalesovo Beam**	**45.05**	**49**	P		**P**	**18 45 34.0**	**-0.4**
	comp=Z,2.3nm,0.3s,baz=279,slow=7.7,SNR=17							
	comp=Z,2.3nm,0.3s							

TAP 18 18:45:43.8,24.10N×121.84E, h7km, ML1.9, D, Taiwan

| Code | Station Name

FUSB	**Fushanzhiwuyua** baz=330	**0.70**	**341**	P	Pb	18 45 58.0	-0.3
FUSB	baz=330			*e*S	Sb	18 46 08.2	0.0
YHNB	**Yeheng** baz=323	**0.71**	**324**	P	Pb	18 45 58.4	-0.1
YHNB	baz=323			S	Sb	18 46 08.8	+0.3
VWDT	**VWDT** baz=239	**0.72**	**242**	*e*P	Pb	18 45 58.2	-0.4
VWDT	baz=239			*i* S	Sb	18 46 09.2	+0.5
NSK	**Sanguang** baz=323	**0.72**	**323**	*e*P	Pb	18 45 58.8	+0.1
NSK	baz=323			*i* S	Sb	18 46 09.3	+0.4
NWLT	**Wulai** baz=335	**0.74**	**336**	*e*P	Pb	18 45 59.5	+0.4
NWLT	baz=335			*e*S	Sb	18 46 09.5	+0.1
EHY	**Hungye** baz=228	**0.75**	**219**	*e*P	Pb	18 45 59.1	-0.1
WHP	**Taichung City** baz=291	**0.83**	**283**	*e*P	Pn	18 46 01.5	-0.4
WHP	baz=291			*e*S	Sb	18 46 13.1	+1.0
NFF	**Wufeng Townshi** baz=309	**0.85**	**309**	*e*P	Pn	18 46 01.7	-0.4
WCS	**Beigang Elemen** baz=266	**0.85**	**268**	*e*P	Pb	18 46 00.7	-0.1
YULB	**Yu-li** baz=223	**0.86**	**215**	*e*P	Pb	18 46 00.9	-0.1
SSLB	**Suanglung** baz=259	**0.86**	**249**	*i* P	Pb	18 46 01.4	+0.3
SSLB	baz=259			*e*S	Sb	18 46 12.7	-0.2
TIPB	**Shuangxi** baz=2.0°	**0.87**	**359**	*e*P	Pb	18 46 01.6	+0.3
TWF1	**Yuli** baz=222	**0.89**	**214**	*e*P	Pb	18 46 01.9	+0.3
NSTT	**Nanjuang** baz=304	**0.93**	**305**	*e*P	Pb	18 46 02.6	+0.4
NSTT	baz=304			*e*S	Sb	18 46 14.9	+0.2
WHYT	**Xinyi Township** baz=243	**0.98**	**246**	*e*P	Pb	18 46 03.1	0.0
SXI1	**Grass Mountain** baz=13	**0.99**	**2**	*e*P	Pn	18 46 03.9	-0.3
ALS	**Alishan** baz=234	**1.11**	**239**	*e*P	Pn	18 46 05.7	-0.2
CHN5	**Tsauling** baz=241	**1.17**	**245**	*e*P	Pg	18 46 05.8	-0.4
ELDTW	**Lidau** baz=212	**1.17**	**220**	*e*P	Pn	18 46 06.9	+0.2
TPUB	**Ta-pu** baz=229	**1.36**	**235**	*e*P	Pg	18 46 10.7	+0.8

JMA 18 18:46:35.0±0.3,24°2N±0.6°×123°8E±0.9,h17km±2km, NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.12**	**333**	S	Sb	18 46 41.3	0.0
HATJ	**Hateruma jima**	**0.17**	**175**	P	Pg	18 46 39.3	-0.2
HATJ				*e*S	Sb	18 46 42.9	-0.1
JKRS	**Kuro-shima**	**0.20**	**88**	P	Pg	18 46 39.9	0.0
JKRS				S	Sb	18 46 43.6	-0.2
JIJ	**Ishigaki jima**	**0.35**	**68**	P	Pg	18 46 42.1	-0.2
JIJ				S	Sg	18 46 46.9	-0.5
JISG	**Ishigakijimahi**	**0.59**	**53**	P	Pg	18 46 46.9	+0.1
JISG				*e*S	Sb	18 46 55.4	+0.3

*NEIC **18** 18:50:52.3±0.8,36°.073N±0°.008×97°.33W±0°.01,h8km±8km, Error ellipse: s-maj=1.5km s-min=1.1km az=116.0*
TUL 18 18:50:52.7±0.8,36°.081N±0°.010×97°.30W±0°.01,h8km±8km, ML2.4,mb_Lg2.6/8(NEIC),ML2.3/56(NEIC),Error ellipse: s-maj=1.4km s-min=1.2km az=204.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK033	**Mehan**	**0.30**	**97**	Pg	Pg	18 50 58.9	+0.3
OK033				Sg	Sg	18 51 03.2	+0.7
OK033				IAML		18 51 04.1	
	450nm,0.1s						
OK029	**Liberty Lake**	**0.31**	**204**	Pg	Pg	18 50 58.7	-0.1
OK029				IAML		18 51 05.5	
	335nm,0.3s						
OK029				IAML		18 51 07.4	
	325nm,0.4s						
OK052	**Battle Ridge R**	**0.41**	**102**	Pg	Pg	18 51 01.0	+0.3
OK052				IAML		18 51 09.1	
	254nm,0.2s						
ADOK	**Arcadia Dam**	**0.43**	**188**	Pg	Pg	18 51 01.0	-0.1
OK048	**Pawnee Station**	**0.44**	**41**	Pg	Pg	18 51 01.5	+0.2
QUOK	**Quay**	**0.49**	**79**	Pg	Pg	18 51 02.4	+0.2
QUOK				IAML		18 51 09.9	
	comp=N,174nm,0.1s						
OKCSW	**OKLAHOMA CITY**	**0.68**	**189**	Pg	Pg	18 51 04.1	-1.8
OKCSW				IAML		18 51 05.5	
	comp=N,88nm,0.3s						
OKCSW				IAML		18 51 17.7	
	comp=E,152nm,0.3s						
DEOK	**Depew**	**0.69**	**110**	Pg	Pg	18 51 04.6	-1.5
CROK	**Carrier**	**0.69**	**308**		Pg	18 51 03.9	-2.2
CROK				IAML		18 51 18.9	
	comp=E,165nm,0.3s						
CROK				IAML		18 51 19.6	
	comp=N,158nm,0.3s						
FNO	**Franklin**	**0.83**	**186**	Pg	Pg	18 51 08.4	-0.1
FNO				IAML		18 51 22.9	
	comp=N,71nm,0.1s						
GC02	**Grant County #**	**0.89**	**330**	Pg	Pg	18 51 09.0	-0.9
KAN13	**South Haven SW**	**0.94**	**351**	Pg	Pg	18 51 10.5	-0.3
W35A	**Tecumseh**	**0.99**	**159**	Pg	Pg	18 51 11.0	-0.7
KAN14	**Manchester OK**	**1.02**	**329**	Pg	Pg	18 51 11.5	-0.9
OK032	**Salt Plains WL**	**1.03**	**315**	Pg	Pg	18 51 10.9	-1.6
OK032				IAML		18 51 30.8	
	comp=N,92nm,0.1s						
OK032				IAML		18 51 31.4	
	comp=N,91nm,0.1s						
KAN17	**Caldwell West**	**1.03**	**339**	Pg	Pg	18 51 11.5	-1.0
T35A	**Sooner Cattle**	**1.05**	**37**		Pg	18 51 12.2	-0.7
T35A				IAML		18 51 27.6	
	comp=E,62nm,0.2s						
T35A				IAML		18 51 27.6	
	comp=N,57nm,0.2s						
KAN09	**Caldwell North**	**1.08**	**347**	Pg	Pg	18 51 12.8	-0.8
KAN01	**Argonia South**	**1.13**	**341**	Pg	Pg	18 51 13.3	-1.2
CSTR	**Hydro, Custer**	**1.21**	**249**	Pg	Pb	18 51 14.4	-1.4
KAN10	**Anthony SW Sta**	**1.22**	**329**	Pg	Pb	18 51 13.3	-2.7
OK038	**West end E0370**	**1.23**	**289**	Pg	Pb	18 51 15.1	-1.1
TUL3	**Leonard**	**1.24**	**97**	Pg	Pn	18 51 14.9	-1.3
TUL3				IAML		18 51 33.6	
	comp=E,70nm,0.4s						
TUL3				IAML		18 51 36.2	
	comp=N,50nm,0.3s						
KAN06	**Argonia West S**	**1.25**	**339**	Pg	Pn	18 51 14.4	-2.0
KAN08	**Anthony NE Sta**	**1.26**	**335**	Pg	Pn	18 51 15.6	-1.1
U32A	**Winter Ranch,**	**1.41**	**283**		Pn	18 51 17.5	-1.2
ELIS	**Ellis County**	**1.71**	**270**	Pn	Pn	18 51 21.6	-1.3
WMOK	**Wichita Mounta**	**1.80**	**222**		Pn	18 51 24.9	+0.7
RLO	**Rose Lookout**	**1.85**	**87**	Pn	Pn	18 51 23.7	-1.0
U38A	**Gravette**	**2.38**	**81**	Pn	Pn	18 51 30.9	-1.1
HHAR	**Hobbs**	**2.73**	**85**	Pn	Pn	18 51 36.0	-0.8
FW03	**Perrin-Whitt E** comp=Z,17nm,1.0s	**3.10**	**192**	IAmb_Lg		18 52 37.3	
S39A	**Bolivar**	**3.57**	**62**	Pn	Pn	18 51 49.7	+1.3
SN05	**Snyder 5** comp=Z,5.1nm,0.8s	**4.35**	**224**	IAmb_Lg		18 53 11.5	
PBMO	**Poplar Bluff** comp=Z,5.0nm,0.7s	**5.58**	**81**	IAmb_Lg		18 53 48.2	
PARMO	**Parma** comp=Z,28nm,0.7s	**6.12**	**82**	IAmb_Lg		18 54 10.1	

*IDC **18** 18:55:39.6±2.5,55°.51N×149°.08W,h0km,mb3.8/4, mbtmp3.6/8,ML3.1/4,Error ellipse: s-maj=50.8km s-min=31.3km az=154.0*
*NEIC **18** 18:55:40.8±2.1,55°.67N±0°.08×149°.2W±0°.1,h10km±2km, ML3.5/42,ML3.2(AEIC),Error ellipse: s-maj=13.9km s-min=10.3km az=172.0*

*AEIC **18** 18:55:45.0±2.1,55°.6N±0°.1×149°.2W±0°.1,h9km±7km,Error ellipse: s-maj=14.8km s-min=9.7km az=172.0*
ISC 18 18:55:42.5±1.1,55°.82N±0°.09×149°.29W±0°.06,h10km, n172,σ0679/172,mb3.9/4,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.62**	**304**	Pn	**Pn**	**18 56 24.0**	**-0.8**
OHAK	**Old Harbor**	**2.62**	**304**		**Sn**	**18 56 54.9**	**-1.9**
OHAK	**Old Harbor**	**2.62**	**304**	IAML		18 56 55.5	
	comp=N,56nm,0.8s						
OHAK				IAML		18 56 55.9	
	comp=E,46nm,0.4s						
OHAK	**Old Harbor** baz=123	**2.62**	**304**	P	**Pn**	**18 56 24.2**	**-0.6**
OHAK	baz=123			S	**Sn**	**18 56 54.9**	**-1.9**
KDAK	**Kodiak Island**	**2.67**	**319**	Pn	**Pn**	**18 56 25.0**	**-0.5**
KDAK	**Kodiak Island**	**2.67**	**319**		**Sn**	**18 56 57.0**	**-1.0**
KDAK	**Kodiak Island**	**2.67**	**319**	IAML		18 56 58.5	
	comp=E,26nm,0.6s						
KDAK				IAML		18 57 04.7	
	comp=E,24nm,1.1s						
KDAK	**Kodiak Island** baz=137	**2.67**	**319**	S	**Sn**	**18 56 57.0**	**-1.0**
KDAK	**Kodiak Island**	**2.67**	**319**	Pn	**Pn**	**18 56 25.4**	**-0.2**
	comp=E,2.5nm,0.3s,baz=134,slow=4.8,SNR=130						
KDAK				Sn	**Sn**	**18 56 56.8**	**-1.2**
	comp=E,3.9nm,0.3s,baz=39,slow=23,SNR=10						
	comp=E,6.2nm,0.3s						
SII	**Sitkinak Islan**	**2.83**	**287**	Pn	**Pn**	**18 56 26.7**	**-1.1**
SII				IAML		18 57 05.7	
	comp=E,162nm,0.4s						
SII				IAML		18 57 06.7	
	comp=N,116nm,0.6s						
SII	**Sitkinak Islan**	**2.83**	**287**		**Sn**	**18 56 59.6**	**-2.4**
SII	**Sitkinak Islan** baz=106	**2.83**	**287**	P	**Pn**	**18 56 26.7**	**-1.1**
SII	baz=106			S	**Sn**	**18 56 59.6**	**-2.4**
SYI	**Shuyak Island**	**3.27**	**330**	Pn	**Pn**	**18 56 33.9**	**+0.2**
SYI	**Shuyak Island**	**3.27**	**330**		**Sn**	**18 57 13.1**	**+0.5**
Q20K	**Shuyak Island** baz=148	**3.27**	**330**	P	**Pn**	**18 56 33.8**	**+0.1**
Q20K	baz=148			S	**Sn**	**18 57 13.1**	**+0.5**
CHIR	**Chirikof Islan**	**3.57**	**273**	Pn	Pn	18 56 35.9	-2.1
CHIR				IAML		18 58 07.5	
	comp=N,67nm,1.5s						
CHIR				IAML		18 58 11.6	
	comp=E,81nm,1.5s						
CNPM	**China Poot**	**3.86**	**345**	Pn	**Pn**	**18 56 41.5**	**-0.3**
CNPM				IAML		18 57 35.1	
	comp=N,24nm,1.2s						
CNPM	**China Poot**	**3.86**	**345**		**Sn**	**18 57 26.6**	**-0.7**
Q19K	**Cape Douglas,** baz=142	**3.91**	**325**	P	**Pn**	**18 56 43.1**	**+0.6**
Q23K	**Middleton Isla**	**3.95**	**22**	Pn	**Pn**	**18 56 41.8**	**-1.2**
Q23K				IAML		18 57 12.7	
	comp=E,88nm,1.2s						
Q23K				IAML		18 59 08.6	
	comp=N,78nm,1.4s						
MID	**Middleton Isla**	**3.95**	**22**	Pn	**Pn**	**18 56 41.9**	**-1.2**
MID				IAML		18 57 12.7	
	comp=E,81nm,1.2s						
MID				IAML		18 59 08.5	
	comp=N,68nm,1.3s						
BRSE	**Bradley Lake S**	**4.01**	**349**		**Sn**	**18 57 29.6**	**-1.3**
BRSE	**Bradley Lake S** baz=168	**4.01**	**349**	P	**Pn**	**18 56 43.5**	**-0.4**
BRSE	baz=168			S	**Sn**	**18 57 29.6**	**-1.3**
KAKN	**Katmai Knife C**	**4.01**	**311**		**Pn**	**18 56 44.6**	**+0.6**
KAKN					**Sn**	**18 57 31.4**	**+0.3**
BRLK	**Bradley Lake**	**4.04**	**348**		**Pn**	**18 56 43.9**	**-0.6**
BRLK				IAML		18 57 39.8	
	comp=E,20nm,0.6s						
HOM	**Homer**	**4.05**	**343**	Pn	**Pn**	**18 56 44.8**	**+0.3**
ACHA	**Angle Creek He**	**4.08**	**308**		**Pn**	**18 56 45.7**	**+0.8**
ANCK	**Angle Creek**	**4.15**	**308**		**Pn**	**18 56 46.7**	**+0.9**
AU22	**Augustine Moun**	**4.18**	**330**		**Pn**	**18 56 47.0**	**+0.9**
AUCH	**Augustine Cone**	**4.20**	**329**		**Pn**	**18 56 47.6**	**+1.1**
AUL	**Augustine Lava**	**4.21**	**330**		**Pn**	**18 56 47.6**	**+0.9**
PLK3	**Peulik 3**	**4.27**	**299**		**Pn**	**18 56 48.1**	**+0.5**
SEW	**Seward**	**4.29**	**359**		**Pn**	**18 56 46.9**	**-0.9**
SEW	**Seward** baz=178	**4.29**	**359**	P	**Pn**	**18 56 46.9**	**-0.9**
P23K	**Montague Islan**	**4.31**	**13**		**Pn**	**18 56 47.4**	**-0.6**
P23K	**Montague Islan** baz=193	**4.31**	**13**	P	**Pn**	**18 56 47.4**	**-0.6**
Q17K	**Contact Creek** baz=123	**4.36**	**307**	P	**Pn**	**18 56 49.4**	**+0.6**
P19K	**Oil Pt**	**4.38**	**333**	Pn	**Pn**	**18 56 49.1**	**0.0**
P19K				IAML		18 57 44.3	
	comp=N,46nm,0.6s						
P19K				IAML		18 57 48.6	
	comp=E,35nm,0.5s						
P19K	**Oil Pt** baz=150	**4.38**	**333**	P	**Pn**	**18 56 49.6**	**+0.5**
O20K	**Slope Mountain**	**4.63**	**339**		**Pn**	**18 56 52.6**	**+0.2**
O20K	**Slope Mountain** baz=156	**4.63**	**339**	P	**Pn**	**18 56 52.6**	**+0.2**
ILSW	**Iliamna Southw**	**4.65**	**335**	Pn	**Pn**	**18 56 52.1**	**-0.7**
ILSW				IAML		18 57 56.9	
	comp=N,15nm,0.4s						
ILSW				IAML		18 57 59.8	
	comp=E,14nm,0.7s						
IVE	**Iliamna Volcan**	**4.65**	**336**		**Pn**	**18 56 52.9**	**0.0**
O22K	**Cooper Landing**	**4.68**	**357**		**Pn**	**18 56 52.4**	**-0.7**
O22K	**Cooper Landing** baz=176	**4.68**	**357**	P	**Pn**	**18 56 53.1**	**0.0**
P18K	**Big Mountain,**	**4.80**	**321**	Pn	Pn	18 56 53.3	-1.5
P18K	**Big Mountain,** baz=136	**4.80**	**321**	P	**Pn**	**18 56 54.7**	**-0.1**
HIN	**Hinchinbrook I**	**4.82**	**17**		**Pn**	**18 56 54.9**	**-0.2**
HIN				IAML		18 57 48.9	
	comp=E,42nm,0.6s						
KAIM	**Kayak Island**	**4.87**	**30**	Pn	**Pn**	**18 56 55.6**	**-0.1**
KAIM				IAML		18 57 56.9	
	comp=E,36nm,0.6s						
KAIM	**Kayak Island** baz=213	**4.87**	**30**	P	**Pn**	**18 56 55.2**	**-0.5**
RED	**Redoubt Volcan**	**4.96**	**340**		**Pn**	**18 56 56.0**	**-1.1**
RSO	**Redoubt South**	**5.00**	**340**		**Pn**	**18 56 57.3**	**-0.4**
RDT	**Redoubt**	**5.04**	**342**		**Pn**	**18 56 57.1**	**-1.0**
EYAK	**Cordova Ski Ar**	**5.09**	**20**		**Pn**	**18 56 59.0**	**+0.2**
EYAK	**Cordova Ski Ar** baz=202	**5.09**	**20**	P	**Pn**	**18 56 59.0**	**+0.2**
P17K	**Kvichak River** baz=129	**5.13**	**314**	P	**Pn**	**18 57 00.1**	**+0.9**
O18K	**Koktuh Hills** baz=140	**5.13**	**324**	P	**Pn**	**18 56 59.1**	**-0.2**
O19K	**Port Alsworth**	**5.14**	**331**		**Pn**	**18 56 59.9**	**+0.6**
O19K				IAML		18 58 00.6	
	comp=N,41nm,0.5s						
O19K				IAML		18 58 08.7	
	comp=E,45nm,0.4s						
O19K	**Port Alsworth** baz=147	**5.14**	**331**	P	**Pn**	**18 56 59.1**	**-0.2**
CHGN	**Chignik**	**5.14**	**279**	Pn	**Pn**	**18 56 58.3**	**-1.1**
CHGN				IAML		18 57 57.7	
	comp=E,37nm,0.3s						
CHGN				IAML		18 57 58.0	
	comp=N,46nm,0.4s						
SUCK	**Suckling Hills**	**5.17**	**32**	Pn	**Pn**	**18 56 59.7**	**-0.2**
SUCK				IAML		18 57 58.5	
	comp=N,32nm,0.4s						
SUCK				IAML		18 57 59.1	
	comp=E,35nm,0.6s						
RAGM	**Ragged Mountai**	**5.19**	**26**		**Pn**	**18 57 00.0**	**-0.1**
HMT	**Hamilton**	**5.25**	**28**		**Pn**	**18 57 01.1**	**+0.1**
RC01	**Rabbit Creek A**	**5.29**	**358**	Pn	**Pn**	**18 57 00.1**	**-1.4**
GOAT	**Goat Mountain**	**5.34**	**25**		**Pn**	**18 57 02.1**	**-0.2**
BERG	**Berg Lake**	**5.46**	**31**		**Pn**	**18 57 03.2**	**-0.6**
SNH	**Sunshine Point**	**5.55**	**35**		**Pn**	**18 57 04.5**	**-0.6**
VNHG	**Veniaminof 1**	**5.56**	**278**		**Pn**	**18 57 05.2**	**0.0**
N20K	**Mount Spurr** baz=163	**5.61**	**345**	P	**Pn**	**18 57 04.9**	**-1.0**
SPCR	**Spurr Chakacha**	**5.61**	**345**		**Pn**	**18 57 04.9**	**-1.0**
KNK	**Knik Glacier**	**5.62**	**4**	Pn	**Pn**	**18 57 06.2**	**+0.1**
KHIT	**Khitrov Hills**	**5.63**	**32**		**Pn**	**18 57 05.1**	**-1.2**
P16K	**Nushagak River**	**5.70**	**308**		**Pn**	**18 57 07.5**	**+0.5**
P16K	**Nushagak River** baz=122	**5.70**	**308**	P	**Pn**	**18 57 07.5**	**+0.5**
N19K	**Bonanza Creek**	**5.70**	**333**		**Pn**	**18 57 06.7**	**-0.6**
N19K	**Bonanza Creek**	**5.70**	**333**	P	**Pn**	**18 57 06.7**	**-0.6**
	baz=149						
SUA	**Susitna One**	**5.71**	**353**	Pn	**Pn**	**18 57 07.1**	**-0.3**
BMRM	**Bremner River**	**5.72**	**24**		**Pn**	**18 57 07.1**	**-0.3**
BMRM	**Bremner River** baz=206	**5.72**	**24**	P	**Pn**	**18 57 07.1**	**-0.3**
WAX	**Waxell Ridge**	**5.75**	**34**		**Pn**	**18 57 07.2**	**-0.8**
BARK	**Barkley Ridge**	**5.83**	**35**		**Pn**	**18 57 08.6**	**-0.5**
STLK	**Strandline Lak**	**5.85**	**348**		**Pn**	**18 57 08.7**	**-0.4**
MESA	**MESA**	**5.85**	**39**		**Pn**	**18 57 09.0**	**-0.4**
KLU	**Klutina**	**5.95**	**16**	Pn	**Pn**	**18 57 10.7**	**0.0**
KLU	**Klutina** baz=198	**5.95**	**16**	P	**Pn**	**18 57 10.7**	**0.0**
GHO	**Glory Hole Cre**	**5.97**	**2**		**Pn**	**18 57 10.6**	**-0.3**
N18K	**Kilae Creek**	**5.99**	**327**	Pn	**Pn**	**18 57 10.3**	**-0.7**
N18K	**Kilae Creek** baz=142	**5.99**	**327**	P	**Pn**	**18 57 10.8**	**-0.3**
SML	**Sawmill**	**6.02**	**4**		**Pn**	**18 57 12.1**	**+0.5**
SML	**Sawmill** baz=185	**6.02**	**4**	P	**Pn**	**18 57 11.9**	**+0.3**
BAGL	**Bagley Icefiel**	**6.03**	**36**		**Pn**	**18 57 11.2**	**-0.5**
ISLE	**Juniper Island**	**6.04**	**35**		**Pn**	**18 57 12.1**	**+0.2**
O16K	**Kokwok River B**	**6.05**	**312**	Pn	**Pn**	**18 57 11.3**	**-0.6**
O16K	**Kokwok River B** baz=126	**6.05**	**312**	P	**Pn**	**18 57 12.2**	**+0.3**
SCM	**Sheep Creek Mo**	**6.11**	**9**		**Pn**	**18 57 13.4**	**+0.5**
VRDI	**Verde Repeater**	**6.22**	**27**		**Pn**	**18 57 14.8**	**+0.4**
SVW2	**Sparrevohn**	**6.23**	**331**	Pn	**Pn**	**18 57 13.8**	**-0.7**
KIAG	**Kiagna River**	**6.28**	**33**		**Pn**	**18 57 14.7**	**-0.5**
SKT	**Skwentna**	**6.29**	**350**	Pn	**Pn**	**18 57 15.8**	**+0.7**
N25K	**Chitina, Valde**	**6.29**	**21**		**Pn**	**18 57 16.0**	**+0.7**
N25K	**Chitina, Valde** baz=204	**6.29**	**21**	P	**Pn**	**18 57 15.7**	**+0.4**
GLB	**Gilahina Butte**	**6.32**	**25**		**Pn**	**18 57 15.5**	**-0.1**
TABL	**Table Mountain**	**6.33**	**40**		**Pn**	**18 57 16.6**	**+0.7**
PTPK	**Patty Peak**	**6.46**	**31**		**Pn**	**18 57 17.6**	**-0.1**
MCARA	**McCarthy VSAT**	**6.46**	**28**		**Pn**	**18 57 17.8**	**+0.2**
MCARA	**McCarthy VSAT** baz=212	**6.46**	**28**	P	**Pn**	**18 57 18.1**	**+0.5**
M24K	**Tolsona, Glenn**	**6.50**	**13**	Pn	**Pn**	**18 57 19.3**	**+1.1**
M24K	**Tolsona, Glenn** baz=195	**6.50**	**13**	P	**Pn**	**18 57 18.6**	**+0.4**
PNL	**Peninsula** baz=237	**6.55**	**50**	P	**Pn**	**18 57 18.5**	**-0.3**
O15K	**Ungalikthiuk R**	**6.60**	**305**		**Pn**	**18 57 20.0**	**+0.6**
O15K	**Ungalikthiuk R** baz=117	**6.60**	**305**	P	**Pn**	**18 57 20.0**	**+0.6**
M18K	**Stony River**	**6.63**	**332**		**Pn**	**18 57 19.1**	**-0.7**
M18K	**Stony River** baz=146	**6.63**	**332**	P	**Pn**	**18 57 19.1**	**-0.7**
CTG	**Chitna Glacier** baz=221	**6.63**	**36**	P	**Pn**	**18 57 19.7**	**-0.3**
CTGM	**Chitina Glacie**	**6.63**	**36**		**Pn**	**18 57 20.8**	**+0.7**
LOGN	**Logan Glacier**	**6.64**	**38**		**Pn**	**18 57 20.8**	**+0.5**
WAT6	**Susitna Watana**	**6.83**	**6**		**Pn**	**18 57 23.1**	**+0.3**
WAT6	**Susitna Watana** baz=187	**6.83**	**6**	P	**Pn**	**18 57 23.1**	**+0.3**
N16K	**Nishlik Lake**	**6.85**	**317**		**Pn**	**18 57 23.7**	**+0.8**
N16K	**Nishlik Lake** baz=129	**6.85**	**317**	P	**Pn**	**18 57 23.7**	**+0.8**
HARP	**HAARP**	**6.93**	**16**		**Pn**	**18 57 24.8**	**+0.8**
HARP	**HAARP** baz=199	**6.93**	**16**	P	**Pn**	**18 57 24.8**	**+0.8**
M17K	**Holitna River**	**7.03**	**326**		**Pn**	**18 57 25.3**	**0.0**
M17K	**Holitna River** baz=140	**7.03**	**326**	P	**Pn**	**18 57 25.3**	**0.0**
N15K	**Kwethluk River**	**7.20**	**312**		**Pn**	**18 57 28.9**	**+1.1**
N15K	**Kwethluk River** baz=123	**7.20**	**312**	P	**Pn**	**18 57 28.9**	**+1.1**
S12K	**Black Hills**	**7.21**	**274**	Pn	**Pn**	**18 57 28.1**	**+0.3**
M16K	**Timber Creek**	**7.27**	**320**	Pn	**Pn**	**18 57 28.9**	**+0.2**
DHY	**Denali Highway**	**7.34**	**7**		**Pn**	**18 57 30.8**	**+1.0**
S31K	**Pelican**	**7.46**	**68**	Pn	Pn	18 57 28.6	-2.6
RND	**Reindeer**	**7.61**	**1**	Pn	**Pn**	**18 57 33.7**	**+0.3**
TRF	**Thorofare Moun**	**7.67**	**357**	Pn	**Pn**	**18 57 34.2**	**0.0**
CAST	**Castle Rocks**	**7.75**	**351**	Pn	**Pn**	**18 57 36.7**	**+1.4**
KTH	**Kantishna Hill**	**7.80**	**355**	Pn	**Pn**	**18 57 36.2**	**+0.2**
TTA	**Tatalina**	**7.91**	**337**	Pn	**Pn**	**18 57 36.5**	**-1.0**
L16K	**Owhat River**	**7.92**	**322**	Pn	**Pn**	**18 57 38.0**	**+0.4**
BCAR	**Beaver Creek A**	**8.20**	**25**	Pn	**Pn**	**18 57 42.0**	**+0.5**
K17K	**Iditarod**	**8.30**	**330**	Pn	**Pn**	**18 57 42.0**	**-0.8**
BPAW	**Bear Paw Mtn.**	**8.35**	**355**	Pn	**Pn**	**18 57 42.9**	**-0.6**
BWN	**Browne**	**8.38**	**359**	Pn	**Pn**	**18 57 43.8**	**0.0**
N30M	**Aishikik Lake**	**8.50**	**43**		**Pn**	**18 57 45.6**	**0.0**
M29M	**Somme Creek**	**8.65**	**35**		**Pn**	**18 57 48.4**	**+0.6**
HDA	**Harding Lake**	**8.69**	**7**	Pn	**Pn**	**18 57 49.3**	**+1.2**
M13K	**Dall Lake**	**8.74**	**308**	Pn	**Pn**	**18 57 49.9**	**+1.1**
NEA2	**Nenana**	**8.80**	**1**	Pn	**Pn**	**18 57 50.2**	**+0.5**
CCB	**Clear Creek Bu**	**8.88**	**4**	Pn	**Pn**	**18 57 51.4**	**+0.7**
WHY	**Whitehorse**	**9.00**	**52**	Pn	**Pn**	**18 57 53.6**	**+1.1**
IL31		**9.06**	**7**	Pn	**Pn**	**18 57 54.1**	**+1.0**
ILAR	**Eielson Array**	**9.06**	**7**	Pn	**Pn**	**18 57 54.3**	**+1.2**
	comp=E,0.2nm,0.3s,baz=191,slow=13,SNR=7.7						
ILAR				Sn	**Sn**	**18 59 32.5**	**-2.5**
	comp=E,0.1nm,0.3s,baz=184,slow=21,SNR=7.7						
	comp=E,0.7nm,0.8s						
U33K	**Whale Pass**	**9.07**	**81**	Pn	Pn	18 57 51.2	-2.1
P32M	**Atlin**	**9.14**	**59**		**Pn**	**18 57 52.8**	**-1.6**
J26L	**Joseph Creek**	**9.16**	**16**		**Pn**	**18 57 54.5**	**-0.1**
MDM	**Murphy Dome**	**9.18**	**3**	Pn	**Pn**	**18 57 55.1**	**+0.2**
L29M	**L29M**	**9.24**	**33**		**Pn**	**18 57 56.0**	**+0.3**
M30M	**Minto, Yukon**	**9.31**	**38**	Pn	**Pn**	**18 57 56.8**	**+0.2**
I21K	**Tanana**	**9.48**	**353**	Pn	**Pn**	**18 57 57.9**	**-1.0**
K29M	**Barlow Dome**	**9.97**	**31**		**Pn**	**18 58 07.0**	**+1.2**
I26K	**Coal Creek Min**	**9.98**	**15**	Pn	**Pn**	**18 58 04.8**	**-0.9**
M31M	**Drury Creek, Y**	**9.98**	**44**		**Pn**	**18 58 06.2**	**+0.5**
H21K	**Melozitna Rive**	**10.02**	**352**		**Pn**	**18 58 07.4**	**+1.2**
J29N	**Klondike Camp**	**10.25**	**28**		**Pn**	**18 58 10.8**	**+1.3**
FARO	**Faro, Yukon**	**10.41**	**45**	Pn	**Pn**	**18 58 12.8**	**+1.1**
IMAR	**Indian Mountai**	**10.42**	**350**	Pn	**Pn**	**18 58 11.0**	**-0.8**
DLBC	**Dease Lake**	**10.78**

MMPI	**Merauke**	**3.25**	**225**	P	**Pn**	19 51 28.5	**+2.0**
MMPI				S	**Sn**	19 52 08.4	**+4.4**
JAY	**Jayapura**	**4.14**	**331**	P	**Pn**	19 51 40.2	**+1.3**
JAY				S	**Sn**	19 52 26.2	**+0.1**
GENI	**Genyem**	**4.36**	**324**	P	**Pn**	19 51 42.0	**+0.2**
GENI				S	**Sn**	19 52 31.2	**-0.3**
PMG	**Port Moresby**	**5.46**	**126**	Pn	**Pn**	19 51 57.9	**+1.0**
	7.0nm,0.3s,baz=308,slow=17,SNR=24						
PMG				Sn	**Sn**	19 52 59.6	**+1.0**
	10nm,0.3s,baz=192,slow=22,SNR=14 34nm,0.5s						
FAKI	**Fak Fak**	**10.91**	**287**	P	**Pn**	19 53 10.9	**-1.0**
	18nm,1.1s,1μm						
SAUI	**Saumlaki**	**11.47**	**260**	P	**Pn**	19 53 19.8	**+0.4**
CTA	**Charters Tower**	**14.26**	**166**	Lg	Lg	19 58 13.5	
	0.1nm,0.3s,baz=270,slow=17,SNR=1.5						
CTA				LR	LR	20 00 04.0	
	comp=Z,86nm,18.4s,baz=359,slow=40						
WRA	**Warramunga Arr**	**15.93**	**210**	Pn	**Pn**	19 54 18.3	**-1.4**
	0.7nm,0.3s,baz=31,slow=13,SNR=25						
WRA				Sn	**Sn**	19 57 09.3	**-6.0**
	0.9nm,0.3s,baz=26,slow=21,SNR=5.1						
WRA				Lg	Lg	19 58 59.0	
	0.1nm,0.3s,baz=29,slow=29,SNR=2.1						
BATI	**Baumata**	**19.27**	**257**	LR	LR	20 02 51.9	
	comp=Z,80nm,20.4s,baz=91,slow=38						
ASAR	**Alice Springs**	**19.36**	**205**	P	**Pn**	19 55 03.8	**+1.7**
	0.5nm,0.3s,baz=35,slow=9.6,SNR=24						
ASAR				S	**S**	19 58 31.6	**-6.4**
	1.5nm,0.7s,baz=16,slow=25,SNR=4.3						
ASAR				Lg	Lg	20 00 55.0	
	0.1nm,0.3s,baz=29,slow=33,SNR=2.2 2.6nm,0.6s						
DAV	**Davao City (W)**	**21.56**	**307**	LR	LR	20 04 52.6	
	comp=Z,19nm,18.1s,baz=254,slow=40						
STKA	**Stephens Creek**	**25.60**	**182**	P	**P**	19 56 05.7	**+1.6**
	2.4nm,0.8s,baz=346,slow=10,SNR=4.1 2.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**49.61**	**300**	LR	LR	20 21 13.4	
	comp=Z,7.3nm,19.7s,baz=135,slow=37						
MKAR	**Makanchi Array**	**74.95**	**322**	P	**P**	20 02 16.1	**+0.4**
	0.4nm,0.8s,baz=134,slow=6.2,SNR=2.6 0.4nm,0.8s						
QSPA	**South Pole Qui**	**83.80**	**180**	P	**P**	20 03 04.7	**+1.0**
	3.1nm,1.1s,baz=63,slow=2.3,SNR=6.3 3.1nm,1.1s						
BVAR	**Borovoye Array**	**84.41**	**325**	P	**P**	20 03 07.6	**+0.7**
	0.9nm,0.8s,baz=115,slow=5.5,SNR=3.0 0.9nm,0.8s						
ILAR	**Eielson Array**	**87.33**	**24**	P	**P**	20 03 19.5	**-1.6**
	0.3nm,0.4s,baz=255,slow=4.9,SNR=4.1 0.3nm,0.4s						

DJA 18 19:52:00.4±0.7, 11°S±4°×11°4E±°, h10km, M3.6/10, MLv3.6/10, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.33**	**360**	P	Pn	19 52 39.8	+0.9
JAGI				S	Sn	19 53 08.1	+0.4
GMJI	**Gumukmas**	**2.63**	**344**	P	Pn	19 52 43.8	+0.9
GMJI				S	Sn	19 53 14.2	-0.7
SRBI	**Singaraja**	**2.91**	**21**	P	Pn	19 52 46.2	-0.5
SRBI				S	Sn	19 53 23.0	+1.2
ABJI	**Asem Bagus**	**3.01**	**1**	P	Pn	19 52 47.8	-0.3
ABJI				S	Sn	19 53 26.0	+1.8
BLJI	**Banyuglugur**	**3.11**	**349**	P	Pn	19 52 49.2	-0.3
BLJI				S	Sn	19 53 27.8	+1.1
PWJI	**Pagerwojo**	**3.63**	**320**	P	Pn	19 52 56.5	-0.2
KMMI	**Kalianget**	**3.75**	**357**	P	Pn	19 52 57.6	-0.8
PLAI	**Plampang**	**4.07**	**61**	P	Pn	19 53 02.5	-0.3
GRJI	**Gresik**	**4.22**	**337**	P	Pn	19 53 05.2	+0.3
UGM	**Wanagama**	**4.62**	**308**	P	Pn	19 53 11.4	+1.1

*IDC **18** 20:05:46.4±3.2, 36°18S×97°06W, h0km, mb3.9/6, mbtmp3.9/6, MS3.6/13, Error ellipse: s-maj=89.9km s-min=28.9km az=25.0*

ISC 18 20:05:48.3±3.1, 36°2S±0°5×97°0W±0°3, h10km, n23, σ0s85/6, mb3.8/6, MS3.7/12, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**13.82**	**307**	LR	LR	20 12 47.3	
	comp=Z,219nm,21.6s,baz=128,slow=30						
H03N2	**Juan Fernandez**	**15.09**	**85**	T	T	20 25 03.1	
	baz=257,slow=73,SNR=34						
H03N3	**Juan Fernandez**	**15.09**	**85**	T	T	20 25 03.6	
	baz=257,slow=73,SNR=26						
H03N1	**Juan Fernandez**	**15.11**	**85**	T	T	20 24 59.0	
	baz=257,slow=73,SNR=57						
PLCA	**Paso Flores**	**21.18**	**110**	P	**P**	20 10 34.4	**+0.5**
	2.3nm,1.0s,baz=289,slow=12,SNR=3.0						
PLCA				LR	LR	20 16 19.6	
	comp=Z,63nm,18.4s,baz=294,slow=30 2.3nm,1.0s						
LVC	**Limon Verde**	**27.83**	**69**	LR	LR	20 20 43.3	
	comp=Z,46nm,18.8s,baz=226,slow=32						
NNA	**Nana**	**30.16**	**42**	LR	LR	20 21 10.3	
	comp=Z,157nm,19.7s,baz=200,slow=31						
LPAZ	**La Paz**	**32.39**	**60**	P	**P**	20 12 19.8	**+0.8**
	3.7nm,0.8s,baz=212,slow=5.9,SNR=9.6						
LPAZ				LR	LR	20 22 08.4	
	comp=Z,72nm,20.1s,baz=240,slow=30 3.7nm,0.8s						
ATAH	**Atahualpa**	**33.52**	**35**	LR	LR	20 23 43.1	
	comp=Z,35nm,18.1s,baz=227,slow=32						
SIV	**San Ignacio**	**37.71**	**67**	P	**P**	20 13 03.7	**-0.5**
	0.9nm,0.6s,baz=270,slow=8.1,SNR=3.3 0.9nm,0.6s						
ROSC	**El Rosal**	**45.98**	**32**	LR	LR	20 30 56.8	
	comp=Z,111nm,19.9s,baz=110,slow=33						
JTS	**Las Juntas de**	**47.56**	**16**	LR	LR	20 30 02.2	
	comp=Z,63nm,18.6s,baz=67,slow=31						
BDFB	**Brasilia**	**48.00**	**78**	P	**P**	20 14 27.2	**-0.6**
	1.9nm,0.6s,baz=233,slow=7.3,SNR=4.3 1.9nm,0.6s						
SDV	**Santo Domingo**	**51.21**	**34**	LR	LR	20 34 13.6	
	comp=Z,70nm,20.4s,baz=170,slow=33						
PCRV	**Puerto La Cruz**	**55.25**	**40**	LR	LR	20 37 40.3	
	comp=Z,134nm,18.8s,slow=35						
TEIG	**Tepich**	**56.67**	**10**	LR	LR	20 34 59.7	
	comp=Z,225nm,18.6s,slow=31						
MDP	**Montagnes des**	**58.36**	**55**	LR	LR	20 38 35.4	
	comp=Z,71nm,19.0s,baz=178,slow=34						
NVAR	**Mina Array Bea**	**76.78**	**343**	P	**P**	20 17 40.6	**+0.5**
	0.5nm,0.7s,baz=180,slow=7.8,SNR=4.3 0.5nm,0.7s						
PDAR	**Pinedale Array**	**79.37**	**351**	P	**P**	20 17 53.8	**-0.6**
	0.6nm,0.6s,baz=165,slow=6.4,SNR=9.5 0.6nm,0.6s						
STKA	**Stephens Creek**	**92.88**	**227**	LR	LR	20 51 12.0	
	comp=Z,54nm,21.2s,baz=206,slow=29						
H01W1	**Cape Leeuwin H**	**103.59**	**206**	T	T	22 15 59.2	
	baz=160						
H01W2	**Cape Leeuwin H**	**103.59**	**206**	T	T	22 16 02.8	
	baz=160						
H01W3	**Cape Leeuwin H**	**103.60**	**206**	T	T	22 16 11.3	
	baz=160						

*IDC **18** 20:56:21.2±2.1, 29°79N×50°62E, h0km, mb3.6/8, mbtmp3.6/11, ML3.1/3, Error ellipse: s-maj=46.7km s-min=24.9km az=163.0*
*TEH **18** 20:56:21.0, 29°60N×50°73E, h8km±58km, ML3.4*

ISC 18 20:56:23.4±0.8, 29°49N±0°07×50°65E±0°06, h25km, n46, σ0s79/47, mb3.6/8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABEH	**Behbahan**	**1.16**	**343**	Pg	**Pn**	20 56 42.8	**-1.2**
DSBU	**Dashti - Bushe**	**1.25**	**154**	Pg	**Pb**	20 56 45.7	**-0.6**
SHI	**Shiraz**	**1.63**	**84**	Pg	**Pn**	20 56 50.5	**-0.2**
SHI				Sg	**Sb**	20 57 13.8	**+0.7**
KLNJ	**Kolanjah**	**1.72**	**28**	Sg	**Sn**	20 57 13.8	**+0.4**
IBRJ	**Brojen**	**2.46**	**12**	Pn	**Pn**	20 57 02.7	**+0.4**
ZNGN	**Zangian**	**2.62**	**4**	Pn	**Pn**	20 57 05.2	**+0.8**
JHBN	**Jahan bin**	**2.73**	**0**	Pn	**Pn**	20 57 06.5	**+0.6**
IGAR	**Gharneh**	**3.14**	**22**	Pn	**Pn**	20 57 12.1	**+0.6**
IPIR	**Pirpir**	**3.19**	**4**	Pn	**Pn**	20 57 13.0	**+0.8**
ISAD	**Sadrabad**	**3.56**	**47**	Pn	**Pn**	20 57 18.0	**+0.7**
IZEF	**Zefreh**	**3.69**	**23**	Pn	**Pn**	20 57 19.3	**+0.3**
IKLH	**Kolahrood**	**3.90**	**12**	Pn	**Pn**	20 57 22.9	**+0.9**
QAMS	**Qamsar**	**4.28**	**8**	Pn	**Pn**	20 57 28.0	**+0.8**
ANAR	**Anarak**	**4.53**	**35**	Pn	**Pn**	20 57 30.3	**-0.2**
KRSH	**Karshahi**	**4.64**	**15**	Pn	**Pn**	20 57 32.8	**+0.7**
IKFM	**Kafar-mosalman**	**4.68**	**330**	Pn	**Pn**	20 57 33.0	**+0.6**
IBAF	**Bafgh**	**4.73**	**63**	Pn	**Pn**	20 57 33.9	**+0.6**
HSAM	**Samen**	**5.02**	**340**	Pn	**Pn**	20 57 37.3	**0.0**
ISFB	**Sefidab**	**5.03**	**15**	Pn	**Pn**	20 57 37.2	**-0.1**
KHGB	**Koh Gabri**	**5.13**	**79**	Pn	**Pn**	20 57 40.1	**+1.2**
NGRK	**Negar Kerman**	**5.30**	**87**	Pn	**Pn**	20 57 41.4	**+0.1**
IQOM	**Qom**	**5.35**	**4**	Pn	**Pn**	20 57 41.6	**-0.3**
HAGD	**Aghdareh**	**5.47**	**347**	Pn	**Pn**	20 57 43.9	**+0.4**
IVRN	**Varamin**	**5.56**	**9**	Pn	**Pn**	20 57 44.8	**+0.2**
ILBA	**Ilam Banvizeh**	**5.60**	**319**	Pn	**Pn**	20 57 45.9	**+0.7**
IGHG	**Ghaleghazi**	**5.94**	**325**	Pn	**Pn**	20 57 50.9	**+0.9**
IDMV	**Damavand**	**6.18**	**11**	Pn	**Pn**	20 57 53.2	**-0.1**
ILIN	**Lien**	**6.25**	**331**	Pn	**Pn**	20 57 54.9	**+0.7**
TPRV	**Parvadeh(Tabas**	**6.25**	**54**	Pn	**Pn**	20 57 54.6	**+0.4**
IDHR	**Dehrash**	**6.33**	**326**	Pn	**Pn**	20 57 55.9	**+0.7**
IPRN	**Peran**	**6.88**	**11**	Pn	**Pn**	20 58 03.6	**+0.8**
TKDS	**Koohdasht(Taba**	**6.88**	**52**	Pn	**Pn**	20 58 03.0	**+0.2**
MZPU	**Pul - Mazandar**	**6.97**	**6**	Pn	**Pn**	20 58 05.1	**+0.9**
KLST	**Kelardasht - M**	**7.01**	**3**	Pn	**Pn**	20 58 05.5	**+0.7**
IGLO	**Ghaloghah**	**7.48**	**20**	Pn	**Pn**	20 58 11.9	**+0.7**
GEYT	**Alibeck**	**10.46**	**34**	Pn	**Pn**	20 58 50.8	**-1.0**
	0.2nm,0.3s,baz=225,slow=18,SNR=3.3 3.7nm,0.9s						
KBZ	**Khabaz**	**15.50**	**339**	Pn	**Pn**	21 00 01.0	**+0.8**
	0.1nm,0.3s,baz=136,slow=12,SNR=4.7 2.4nm,0.9s						
BRTR	**Keskin Array B**	**17.30**	**311**	P	**Pn**	21 00 22.7	**-0.7**
	0.1nm,0.3s,baz=129,slow=13,SNR=4.0 0.6nm,0.6s						
AKASG	**Malin Array Be**	**26.61**	**329**	P	**P**	21 01 57.6	**-2.0**
	0.9nm,0.6s,baz=132,slow=9.1,SNR=5.0 0.9nm,0.6s						
BVAR	**Borovoye Array**	**27.62**	**26**	P	**P**	21 02 08.2	**-0.5**
	0.8nm,0.6s,baz=221,slow=6.0,SNR=5.0 0.8nm,0.6s						
MKAR	**Makanchi Array**	**30.02**	**46**	P	**P**	21 02 29.6	**-0.6**
	0.4nm,0.9s,baz=236,slow=10,SNR=2.7 0.4nm,0.9s						
ZALV	**Zalesovo Beam**	**34.77**	**36**	P	**P**	21 03 11.1	**-0.5**
	1.0nm,0.7s,baz=232,slow=9.0,SNR=6.2 1.0nm,0.7s						
HFS	**Hagfors**	**39.40**	**332**	P	**P**	21 03 50.0	**-0.8**
	2.7nm,1.0s,baz=119,slow=12,SNR=4.7 2.7nm,1.0s						
TORD	**Torodi Ar. Bea**	**48.06**	**261**	P	**P**	21 05 03.2	**+2.1**
	0.3nm,0.6s,baz=54,slow=8.2,SNR=2.2 0.3nm,0.6s						
ILAR	**Eielson Array**	**85.05**	**7**	P	**P**	21 08 56.5	**-0.1**
	0.3nm,0.8s,baz=320,slow=2.4,SNR=4.1 0.3nm,0.8s						
YKA	**Yellowknife A**	**87.57**	**353**	P	**P**	21 09 09.5	**+0.5**
	0.2nm,0.7s,baz=8.9,slow=5.3,SNR=4.6 0.2nm,0.7s						

TEH 18 21:30:20.9, 29°68N×50°91E, h24km±27km, ML3.7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAZ2	**Kazeron-Fars-I**	**0.66**	**96**	Pg	Pb	21 30 33.9	0.0
AHBU	**AHRAM**	**0.88**	**157**	Pg	Pb	21 30 37.6	+0.1
ABEH	**Behbahan**	**1.08**	**328**	Pg	Pb	21 30 41.6	+0.7
DSBU	**Dashti - Bushe**	**1.35**	**167**	Pg	Pb	21 30 45.5	-0.1
SHI	**Shiraz**	**1.40**	**91**	Pg	Pb	21 30 47.2	+0.8
KLNJ	**Kolanjah**	**1.45**	**24**	Pg	Pb	21 30 47.0	-0.4
IBRJ	**Brojen**	**2.24**	**8**	Pn	Pn	21 30 58.1	+1.3
ZNGN	**Zangian**	**2.43**	**359**	Pn	Pn	21 31 00.9	+1.5
JHBN	**Jahan bin**	**2.55**	**355**	Pn	Pn	21 31 02.3	+1.2
QAMS	**Qamsar**	**4.07**	**6**	Pn	Pn	21 31 23.1	+1.2
ANAR	**Anarak**	**4.25**	**34**	Pn	Pn	21 31 26.1	+1.8
KRSH	**Karshahi**	**4.40**	**13**	Pn	Pn	21 31 28.0	+1.6
ISFB	**Sefidab**	**4.79**	**13**	Pn	Pn	21 31 32.7	+1.0
KHGB	**Koh Gabri**	**4.88**	**80**	Pn	Pn	21 31 34.9	+1.9
NGRK	**Negar Kerman**	**5.07**	**89**	Pn	Pn	21 31 37.2	+1.5
IQOM	**Qom**	**5.15**	**2**	Pn	Pn	21 31 37.3	+0.6
IVRN	**Varamin**	**5.34**	**7**	Pn	Pn	21 31 40.0	+0.7

*IDC **18** 21:30:42.8±1.1, 29°68N×50°67E, h0km, mb3.9/16, mbtmp3.9/22, ML3.5/6, MS2.9/2, Error ellipse: s-maj=23.5km s-min=15.1km az=170.0*
*SGS **18** 21:30:46.1, 29°81N×50°83E, h8km, Ml3.5*
*NAO **18** 21:31:05.1, 31°41N×49°05E, h33km, mb3.5*

ISC 18 21:30:44.2±0.5, 29°64N±0°06×50°80E±0°06, h10km, n33, σ1s64/35, mb3.9/16, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QYSM	**Um Kedad**	**3.88**	**244**	S	**Sn**	21 32 31.6	**+2.2**
QYSM				P	**Pn**	21 31 46.0	**+2.1**
SMAN	**Sihmah**	**4.21**	**216**	P	**Pn**	21 31 49.3	**+0.8**
SMAN	**Sihmah**	**4.21**	**216**	S	**Sn**	21 32 37.8	**0.0**
RQBS	**RQBS**	**4.83**	**243**	P	**Pn**	21 31 58.4	**+1.4**
NHRD	**Haradh**	**5.15**	**198**	S	**Sn**	21 33 02.0	**+1.1**
NHRD				P	**Pn**	21 32 03.8	**+2.4**
RMAH	**Rumah**	**5.51**	**220**	P	**Pn**	21 32 08.2	**+1.8**
SHBH1	**SHBH1**	**6.13**	**173**	P	**Pn**	21 32 16.8	**+2.0**
KHRJ	**Al Kharj**	**6.42**	**206**	P	**Pn**	21 32 20.0	**+1.2**
WSAR	**Wadi Sarin**	**9.48**	**130**	Pn	**Pn**	21 33 02.8	**+1.9**
	0.1nm,0.3s,baz=306,slow=14,SNR=1.5						
WSAR				Sn	**Sn**	21 34 43.1	**-4.3**
	0.4nm,0.3s,baz=71,slow=15,SNR=1.3 2.4nm,0.5s						
GEYT	**Alibeck**	**10.27**	**34**	Pn	**Pn**	21 33 13.6	**+2.0**
	2.1nm,0.3s,baz=212,slow=35,SNR=4.4 6.0nm,0.7s						
ASF	**Jabal al Asfar**	**12.20**	**285**	Pn	**Pn**	21 33 35.5	**-2.6**
	0.3nm,0.3s,baz=154,slow=18,SNR=2.1						
ASF				Sn	Sn	21 35 44.8	-10
	0.4nm,0.3s,baz=152,slow=22,SNR=2.7						
ASF				Lg	Lg	21 37 10.6	
	0.1nm,0.3s,baz=153,slow=5.8,SNR=1.7 0.8nm,0.4s						
MMAI	**Mount Meron Ar**	**13.58**	**288**	Pn	**Pn**	21 33 54.5	**-2.5**
	0.5nm,0.3s,baz=106,slow=19,SNR=2.5 1.5nm,0.7s						
EIL	**Elat**	**13.78**	**274**	Lg	Lg	21 38 00.2	
	0.2nm,0.3s,baz=325,slow=19,SNR=2.0						
EIL				LR	LR	21 40 11.6	
	comp=Z,28nm,18.3s,baz=90,slow=42						
KBZ	**Khabaz**	**15.41**	**338**	Pn	**Pn**	21 34 23.0	**+1.3**
	0.1nm,0.3s,baz=156,slow=17,SNR=5.5 4.7nm,1.0s						
BRTR	**Keskin Array B**	**17.30**	**310**	P	**Pn**	21 34 45.5	**-0.5**
	0.2nm,0.3s,baz=129,slow=13,SNR=8.1 0.6s						
AKTO	**Aktyubinsk**	**21.47**	**13**	P	**P**	21 35 32.9	**+0.1**
	3.5nm,0.8s,baz=201,slow=11,SNR=8.1 3.5nm,0.8s						
AKASG	**Malin Array Be**	**26.55**	**328**	P	**P**	21 36 21.0	**-1.1**
	1.8nm,0.7s,baz=133,slow=8.9,SNR=9.5 1.8nm,0.7s						
BVAR	**Borovoye Array**	**27.43**	**26**	P	**P**	21 36 30.9	**+0.9**
	1.8nm,0.5s,baz=217,slow=6.9,SNR=12 1.8nm,0.5s						
KURBB	**Kurchatov Arra**	**29.53**	**37**	P	**P**	21 36 50.0	**+1.3**
	0.5nm,0.5s,baz=240,slow=9.0,SNR=4.6 0.5nm,0.5s						
MKAR	**Makanchi Array**	**29.83**	**46**	P	**P**	21 36 51.7	**+0.3**
	0.5nm,0.8s,baz=250,slow=8.4,SNR=5.3						
MKAR				PcP	**PcP**	21 39 53.8	**-0.8**
	0.1nm,0.5s,baz=255,slow=2.8,SNR=1.7 0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**34.58**	**36**	P	**P**	21 37 33.7	**+0.8**
	1.2nm,0.6s,baz=244,slow=8.7,SNR=7.6 1.2nm,0.6s						
FINES	**FINESS Array B**	**35.76**	**340**	P	**P**	21 37 41.6	**-1.4**
	2.5nm,1.1s,baz=168,slow=8.5,SNR=3.9 2.5nm,1.1s						
HFS	**Hagfors**	**39.33**	**332**	P	**P**	21 38 12.3	**-1.0**
	2.5nm,0.8s,baz=101,slow=7.5,SNR=5.1 2.5nm,0.8s						
NB2	**NORSAR Subarra**	**40.85**	**332**	P	**P**	21 38 24.4	**-1.6**
	comp=Z,0.6nm,0.6s,baz=123,slow=8.6						
NOA	**NORSAR Array B**	**40.85**	**332**	P	**P**	21 38 24.1	**-1.9**
	comp=Z,0.5nm,0.8s,baz=123,slow=8.3,SNR=3.8 comp=Z,0.6nm,0.6s						
SONM	**Songino Array**	**45.97**	**51**	P	**P**	21 39 08.7	**+1.1**
	comp=Z,0.4nm,1.0s,baz=298,slow=6.2,SNR=3.0 comp=Z,0.4nm,1.0s						
TORD	**Torodi Ar. Bea**	**48.21**	**261**	P	**P**	21 39 25.1	**-0.1**
	comp=Z,0.9nm,0.8s,baz=52,slow=9.2,SNR=6.6 comp=Z,0.9nm,0.8s						
LSZ	**Lusaka**	**49.70**	**209**	LR	LR	22 02 48.4	
	comp=Z,22nm,21.6s,baz=119,slow=39						
SPITS	**Spitsbergen Ar**	**50.99**	**351**	P	**P**	21 39 46.2	**+0.5**
	comp=Z,11nm,1.0s,baz=85,slow=6.5,SNR=1.8 comp=Z,11nm,1.0s						
DBIC	**Dimbokro**	**57.00**	**258**	P	**P**	21 40 30.2	**-0.2**
	comp=Z,1.4nm,0.5s,baz=27,slow=6.8,SNR=5.1 comp=Z,1.4nm,0.5s						
KSRS	**Korea Array**	**63.11**	**60**	P	**P**	21 41 11.2	**-0.9**
	comp=Z,0.6nm,0.6s,baz=289,slow=6.2,SNR=2.1 comp=Z,0.6nm,0.6s						
ILAR	**Eielson Array**	**84.89**	**8**	P	**P**	21 43 18.6	**-0.4**
	comp=Z,0.4nm,0.6s,baz=321,slow=4.5,SNR=6.1 comp=Z,0.4nm,0.6s						
YKA	**Yellowknife Ar**	**87.44**	**353**	P	**P**	21 43 31.5	**-0.1**
	comp=Z,0.7nm,0.8s,baz=8.2,slow=5.5,SNR=8.9 comp=Z,0.7nm,0.8s						

*JMA **18** 21:38:00.6±0.2, 24°5N±0°5×122°0E±0°4, h64km±2km, MV3.3/15, TAIWAN REGION*
*TAP **18** 21:38:00.9, 24°55N×121°98E, h60km, ML3.6, B*

ISC 18 21:38:00.2±1.2, 24°56N±0°02×122°04E±0°02, h69km±4km, n154, σ1s26/294, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESAO	**Su ao**	**0.17**	**274**	eP	**Pn**	21 38 10.8	**+0.2**
	baz=281						
ESAO				S	**Sn**	21 38 17.9	**-0.2**
	baz=281						
TWC	**Suao**	**0.18**	**285**	*i* P	**Pn**	21 38 10.7	**+0.1**
	baz=297						
TWC				S	**Sn**	21 38 17.7	**-0.5**
	baz=297						
EOS2	**EOS2**	**0.23**	**129**	*e*P	**Pn**	21 38 11.6	**+0.9**
	baz=121						
EOS2				*e*S	**Sn**	21 38 20.1	**+1.8**
	baz=121						
EWUT	**Wuta**	**0.26**	**243**	*i* P	**Pn**	21 38 10.9	**-0.1**
	baz=234						
EWUT				*i* S	**Sn**	21 38 18.3	**-0.6**
	baz=234						
EGS		**0.30**	**341**	*i* P	**Pn**	21 38 11.5	**+0.2**
	baz=1.0						
EGS				*e*S	**Sn**	21 38 19.1	**-0.3**
	baz=1.0						
NDS	**Dongshan**	**0.30**	**284**	*i* P	**Pn**	21 38 11.5	**+0.2**
	baz=289						
NDS				*e*S	**Sn**	21 38 19.6	**+0.3**
	baz=289						
ENA	**Nanau**	**0.30**	**243**	*i* P	**Pn**	21 38 11.2	**-0.1**
	baz=234						
ENA				*e*S	**Sn**	21 38 18.9	**-0.4**
	baz=234						
ILA	**Ilan**	**0.33**	**308**	*i* P	**Pn**	21 38 12.1	**+0.6**
	baz=316						
ILA				*e*S	**Sn**	21 38 20.7	**+1.0**
	baz=316						
NTC	**Toucheng**	**0.34**	**327**	P	**Pn**	21 38 12.0	**+0.4**
	baz=340						
NTC				*e*S	**Sn**	21 38 19.9	**0.0**
	baz=340						
EAHA	**Aohua**	**0.36**	**229**	P	**Pn**	21 38 11.4	**-0.3**
	baz=220						
EAHA				S	**Sn**	21 38 19.9	**-0.2**
	baz=220						
EHP	**Heping Village**	**0.37**	**227**	*i* P	**Pn**	21 38 11.8	**0.0**
	baz=221						
EHP				*e*S	**Sn**	21 38 20.0	**-0.2**
	baz=221						
TWE	**Neicheng**	**0.37**	**295**	*i* P	**Pn**	21 38 12.3	**+0.5**
	baz=301						
TWE				S	**Sn**	21 38 20.6	**+0.4**
	baz=301						
EOS3	**EOS3**	**0.38**	**137**	*e*P	**Pn**	21 38 12.5	**+0.9**
	baz=139						
EOS3				*e*S	**Sn**	21 38 20.9	**+0.8**
	baz=139						
TWB1	**Santiao Chiao**	**0.45**	**354**	P	**Pn**	21 38 12.3	**-0.1**
	baz=10.0						
TWB1				S	**Sn**	21 38 20.5	**-0.9**
	baz=10.0						
TIPB	**Shuangxi**	**0.45**	**335**	*i* P	**Pn**	21 38 12.7	**+0.1**
	baz=351						
TIPB				S	**Sn**	21 38 20.9	**-0.6**
	baz=351						
FUSB	**Fushanzhiwuyua**	**0.45**	**296**	P	**Pn**	21 38 13.2	**+0.6**
	baz=301						
FUSB				*i* S	**Sn**	21 38 21.8	**+0.2**
	baz=301						
LATG	**Datong**	**0.47**	**267**	*i* P	**Pn**	21 38 12.8	**+0.1**
	baz=265						
LATG				*e*S	**Sn**	21 38 22.1	**+0.2**
	baz=265						
NDT	**Datong Townshi**	**0.48**	**275**	*i* P	**Pn**	21 38 13.2	**+0.4**
	baz=274						
NDT				*i* S	**Sn**	21 38 21.9	**-0.1**
	baz=274						
EOS4	**EOS4**	**0.51**	**150**	*i* P	**Pn**	21 38 12.9	**+0.3**
	baz=153						
EOS4				S	**Sn**	21 38 22.5	**+0.7**
	baz=153						
NWLT	**Wulai**	**0.53**	**294**	P	**Pn**	21 38 13.9	**+0.7**
	baz=297						
NWLT				*e*S	**Sn**	21 38 23.2	**+0.3**
	baz=297						
SXI1	**Grass Mountain**	**0.55**	**345**	*e*P	**Pn**	21 38 13.7	**+0.1**
	baz=350						
SXI1				*e*S	**Sn**	21 38 23.1	**-0.2**
	baz=350						
ETL	**Fush Village**	**0.55**	**223**	P	**Pn**	21 38 13.1	**-0.4**
	baz=212

YM08	**YM08**		**0.74**	**327**	P		**Pn**	**21 38 15.6**	**0.0**
	baz=331								
YM08					*e*S		**Sn**	**21 38 25.9**	**-1.0**
	baz=331								
ETM	**Tongmen**		**0.77**	**220**	P		**Pn**	**21 38 15.6**	**-0.3**
	baz=217								
ETM					*e*S		**Sn**	**21 38 25.9**	**-1.6**
	baz=217								
TWS1	**Kuangyinshan**		**0.78**	**314**	*i* P		**Pn**	**21 38 16.7**	**+0.7**
	baz=325								
TWS1					*i* S		**Sn**	**21 38 28.2**	**+0.7**
	baz=325								
ANP	**Anpu**		**0.78**	**323**	*i* P		**Pn**	**21 38 16.2**	**+0.1**
	baz=336								
ANP					*e*S		**Sn**	**21 38 28.2**	**+0.5**
	baz=336								
LXIB	**Xiulin Townshi**		**0.78**	**227**	*e*P		**Pn**	**21 38 15.7**	**-0.5**
	baz=213								
LXIB					*e*S		**Sn**	**21 38 27.4**	**-0.6**
	baz=213								
FUSS	**Fushou**		**0.79**	**247**	P		**Pn**	**21 38 16.9**	**+0.6**
	baz=242								
FUSS					*i* S		**Sn**	**21 38 28.0**	**-0.2**
	baz=242								
NTST	**Danshui**		**0.80**	**318**	P		**Pn**	**21 38 16.5**	**+0.3**
	baz=329								
NTST					*e*S		**Sn**	**21 38 28.7**	**+0.7**
	baz=329								
TWY	**Chenhua**		**0.81**	**331**	*e*P		**Pn**	**21 38 15.8**	**-0.6**
	baz=345								
TWY					*e*S		**Sn**	**21 38 28.6**	**+0.4**
	baz=345								
WHF	**Hehuan Shan**		**0.82**	**240**	*i* P		**Pn**	**21 38 16.9**	**0.0**
	baz=238								
WHF					S		**Sn**	**21 38 28.5**	**-0.6**
	baz=238								
JYNG	**Yonagunijimaku**		**0.84**	**97**	*i* P		**Pn**	**21 38 17.1**	**+0.5**
JYNG					*e*S		**Sn**	**21 38 28.9**	**+0.2**
NFF	**Wufeng Townshi**		**0.84**	**275**	P		**Pn**	**21 38 17.5**	**+0.7**
	baz=284								
NFF					*i* S		**Sn**	**21 38 28.9**	**-0.1**
	baz=284								
TWT	**Tachien**		**0.84**	**249**	*i* P		**Pn**	**21 38 17.7**	**+0.8**
	baz=240								
TWT					*i* S		**Sn**	**21 38 29.9**	**+0.6**
	baz=240								
TDCB	**Techi**		**0.86**	**249**	P		**Pn**	**21 38 17.9**	**+0.8**
	baz=240								
TDCB					*i* S		**Sn**	**21 38 29.4**	**-0.1**
	baz=240								
NCU	**National Centr**		**0.87**	**298**	P		**Pn**	**21 38 17.8**	**+0.7**
	baz=301								
NCU					*e*S		**Sn**	**21 38 30.5**	**+0.9**
	baz=301								
NCUH	**Zhongli**		**0.87**	**298**	P		**Pn**	**21 38 17.8**	**+0.7**
	baz=300								
NCUH					S		**Sn**	**21 38 30.1**	**+0.6**
	baz=300								
SHUL	**Shoufeng**		**0.89**	**209**	P		**Pn**	**21 38 17.3**	**0.0**
	baz=199								
SHUL					*i* S		**Sn**	**21 38 29.9**	**+0.1**
	baz=199								
YOJ	**Yonaguni jima**		**0.89**	**96**	P		**Pn**	**21 38 17.6**	**+0.3**
YOJ	**Yonaguni jima**		**0.89**	**96**	*e*P		**Pn**	**21 38 16.4**	**-1.0**
	baz=87								
YOJ					*e*S		**Sn**	**21 38 28.4**	**-1.6**
	baz=87								
YOJ	**Yonaguni jima**		**0.89**	**96**	P		**Pn**	**21 38 17.8**	**+0.4**
YOJ					*e*S		**Sn**	**21 38 29.8**	**-0.2**
ESL	**Shilin**		**0.93**	**217**	P		**Pn**	**21 38 17.1**	**-0.7**
	baz=222								
ESL					S		**Sn**	**21 38 29.0**	**-1.7**
	baz=222								
CHGB	**Renai**		**0.93**	**238**	P		**Pn**	**21 38 18.6**	**+0.5**
	baz=228								
CHGB					*e*S		**Sn**	**21 38 32.1**	**+0.8**
	baz=228								
NSTT	**Nanjuang**		**0.94**	**274**	P		**Pn**	**21 38 18.7**	**+0.8**
	baz=286								
NSTT					S		**Sn**	**21 38 31.7**	**+0.5**
	baz=286								
SBCB	**Hsinchu**		**0.98**	**284**	*e*P		**Pn**	**21 38 19.7**	**+1.2**
	baz=285								
SBCB					*e*S		**Sn**	**21 38 32.9**	**+0.9**
	baz=285								
OWD	**Renai**		**0.99**	**233**	P		**Pn**	**21 38 19.1**	**+0.4**
	baz=224								
OWD					*e*S		**Sn**	**21 38 31.6**	**-0.8**
	baz=224								
HSN	**Hsinchu**		**1.00**	**284**	P		**Pn**	**21 38 18.9**	**+0.3**
	baz=288								
HSN					*e*S		**Sn**	**21 38 32.2**	**-0.1**
	baz=288								
WUSB	**Renai**		**1.01**	**236**	*i* P		**Pn**	**21 38 19.6**	**+0.6**
	baz=227								
WUSB					S		**Sn**	**21 38 32.9**	**0.0**
	baz=227								
WARBT	**Fenglin Townsh**		**1.03**	**215**	*e*P		**Pn**	**21 38 18.2**	**-0.9**
	baz=213								
WARBT					*e*S		**Sn**	**21 38 31.0**	**-2.1**
	baz=213								
WHP	**Taichung City**		**1.03**	**254**	P		**Pn**	**21 38 20.8**	**+1.6**
	baz=253								
WHP					*i* S		**Sn**	**21 38 34.2**	**+0.9**
	baz=253								
EGFH	**Guangfu**		**1.05**	**212**	*e*P		**Pn**	**21 38 18.6**	**-0.7**
	baz=219								
EGFH					S		**Sn**	**21 38 33.1**	**-0.4**
	baz=219								
PCYT	**Pengchaiyu**		**1.06**	**2**	P		**Pn**	**21 38 20.4**	**+0.9**
	baz=6.0								
PCYT					*e*S		**Sn**	**21 38 32.2**	**-1.6**
	baz=6.0								
NMLH	**Miaoli**		**1.13**	**269**	*e*P		**Pn**	**21 38 21.5**	**+1.1**
	baz=270								
NMLH					S		**Sn**	**21 38 36.2**	**+0.8**
	baz=270								
WCS	**Beigang Elemen**		**1.14**	**244**	*e*P		**Pn**	**21 38 21.9**	**+1.4**
	baz=236								
WCS					*e*S		**Sn**	**21 38 35.5**	**-0.2**
	baz=236								
VWDT	**VWDT**		**1.15**	**226**	P		**Pn**	**21 38 21.1**	**+0.5**
	baz=215								
VWDT					S		**Sn**	**21 38 35.6**	**-0.1**
	baz=215								
NSY	**Sanyi**		**1.17**	**263**	P		**Pn**	**21 38 21.5**	**+0.6**
	baz=263								
NSY					S		**Sn**	**21 38 37.6**	**+1.3**
	baz=263								
TWQ1	**Liyutan**		**1.17**	**260**	P		**Pn**	**21 38 21.9**	**+1.1**
	baz=260								
TWQ1					S		**Sn**	**21 38 37.0**	**+0.7**
	baz=260								
HGSD	**Ruisui**		**1.20**	**208**	P		**Pn**	**21 38 21.2**	**-0.1**
	baz=215								
HGSD					*e*S		**Sn**	**21 38 36.8**	**-0.2**
	baz=215								
EHY	**Hungye**		**1.24**	**212**	P		**Pn**	**21 38 21.2**	**-0.6**
	baz=210								
EHY					*e*S		**Sn**	**21 38 35.7**	**-2.2**
	baz=210								
EHYH	**Wanrong**		**1.24**	**211**	*e*P		**Pn**	**21 38 21.9**	**+0.2**
	baz=209								
EHYH					*i* S		**Sn**	**21 38 36.6**	**-1.2**
	baz=209								
SMLT	**Sun Moon Lake**		**1.24**	**237**	*i* P		**Pn**	**21 38 22.9**	**+1.1**
	baz=229								
SMLT					*e*S		**Sn**	**21 38 39.7**	**+1.7**
	baz=229								
SSLB	**Suanglung**		**1.25**	**232**	P		**Pn**	**21 38 23.1**	**+1.1**
SSLB	**Suanglung**		**1.25**	**232**	P		**Pn**	**21 38 22.7**	**+0.7**
	baz=225								
SSLB					*e*S		**Sn**	**21 38 39.1**	**+0.9**
	baz=225								
TYC	**Yuchr**		**1.26**	**239**	P		**Pn**	**21 38 23.6**	**+1.5**
	baz=238								
TYC					*e*S		**Sn**	**21 38 40.2**	**+1.9**
	baz=238								
WDJ	**Dajia District**		**1.29**	**261**	*i* P		**Pn**	**21 38 23.0**	**+0.6**
	baz=261								
WDJ					*e*S		**Sn**	**21 38 39.8**	**+0.8**
	baz=261								
YULB	**Yu-li**		**1.35**	**210**	P		**Pn**	**21 38 22.8**	**-0.4**
YULB	**Yu-li**		**1.35**	**210**	*e*P		**Pn**	**21 38 22.6**	**-0.5**
	baz=208								
YULB					*e*S		**Sn**	**21 38 40.9**	**+0.5**
	baz=208								
ECBN	**Changbin**		**1.35**	**203**	*e*S		**Sn**	**21 38 39.1**	**-1.3**
	baz=191								
EYUL	**Yuli**		**1.38**	**209**	*e*P		**Pn**	**21 38 24.9**	**+1.3**
	baz=216								
TWF1	**Yuli**		**1.38**	**209**	*e*P		**Pn**	**21 38 22.9**	**-0.7**
	baz=216								
TWF1					*e*S		**Sn**	**21 38 41.2**	**0.0**
	baz=216								
WHYT	**Xinyi Township**		**1.38**	**232**	P		**Pn**	**21 38 25.1**	**+1.4**
	baz=223								
WHYT					*e*S		**Sn**	**21 38 42.3**	**+1.1**
	baz=223								
WJS	**Zhushan**		**1.40**	**239**	*e*P		**Pn**	**21 38 26.4**	**+2.5**
	baz=251								
WJS					*e*S		**Sn**	**21 38 43.6**	**+1.9**
	baz=251								
WNT	**Mingjian**		**1.41**	**241**	P		**Pn**	**21 38 24.8**	**+0.9**
	baz=253								
WNT					*i* S		**Sn**	**21 38 43.8**	**+1.9**
	baz=253								
WCHH	**Zhanghua**		**1.43**	**251**	P		**Pn**	**21 38 25.2**	**+1.0**
	baz=262								
WCHH					*e*S		**Sn**	**21 38 43.4**	**+1.1**
	baz=262								
CHKH	**Chenggong**		**1.49**	**203**	*e*P		**Pn**	**21 38 24.7**	**-0.3**
	baz=211								
CHKH					*e*S		**Sn**	**21 38 43.4**	**-0.2**
	baz=211								
FULB	**Fuli**		**1.52**	**207**	*i* P		**Pn**	**21 38 25.6**	**+0.1**
	baz=213								
FULB					*e*S		**Sn**	**21 38 45.9**	**+1.4**
	baz=213								
ALS	**Alishan**		**1.54**	**227**	*i* P		**Pn**	**21 38 27.5**	**+1.5**
	baz=217								
ALS					*e*S		**Sn**	**21 38 47.7**	**+2.4**
	baz=217								
IRIF	**Iriomote-Funau**		**1.56**	**98**	P		**Pn**	**21 38 26.5**	**+0.5**
IRIF					S		**Sn**	**21 38 45.1**	**-0.2**
CHN5	**Tsauling**		**1.57**	**232**	P		**Pn**	**21 38 28.1**	**+1.9**
	baz=243								
CHN5					S		**Sn**	**21 38 47.4**	**+1.6**
	baz=243								
CHKT	**Chengkung**		**1.58**	**203**	*e*P		**Pn**	**21 38 25.0**	**-1.3**
	baz=192								
CHKT					*e*S		**Sn**	**21 38 43.1**	**-2.8**
	baz=192								
EHD	**Haiduan**		**1.60**	**209**	*e*P		**Pn**	**21 38 26.9**	**+0.4**
	baz=213								
EHD					*e*S		**Sn**	**21 38 47.0**	**+0.6**
	baz=213								
WGK	**Gukeng**		**1.60**	**237**	*i* P		**Pn**	**21 38 28.0**	**+1.4**
	baz=247								
WGK					S		**Sn**	**21 38 48.9**	**+2.4**
	baz=247								
WDLH	**Douliu**		**1.62**	**238**	*e*P		**Pn**	**21 38 28.5**	**+1.7**
	baz=248								
WDLH					*i* S		**Sn**	**21 38 49.0**	**+2.2**
	baz=248								
ECS	**Chishang**		**1.64**	**207**	*e*P		**Pn**	**21 38 27.2**	**+0.2**
	baz=213								
ECS					*e*S		**Sn**	**21 38 47.0**	**-0.3**
	baz=213								
WRL	**Guolierlin Hig**		**1.65**	**247**	P		**Pn**	**21 38 27.9**	**+0.7**
	baz=257								
WRL					*e*S		**Sn**	**21 38 47.4**	**-0.1**
	baz=257								
ELDTW	**Lidau**		**1.66**	**214**	*i* P		**Pn**	**21 38 27.5**	**+0.1**
	baz=206								
ELDTW					*e*S		**Sn**	**21 38 47.3**	**-0.6**
	baz=206								
HATJ	**Hateruma jima**		**1.69**	**107**	P		**Pn**	**21 38 28.6**	**+0.9**
HATJ					*e*S		**Sn**	**21 38 49.4**	**+0.9**
WCKO	**Fanlu**		**1.72**	**230**	*e*P		**Pn**	**21 38 31.1**	**+2.9**
	baz=238								
WCKO					*e*S		**Sn**	**21 38 52.1**	**+2.8**
	baz=238								
WTK	**Tuku**		**1.74**	**240**	P		**Pn**	**21 38 29.9**	**+1.6**
	baz=239								
WTK					S		**Sn**	**21 38 51.3**	**+1.7**
	baz=239								
CHN4	**Tsaushan**		**1.79**	**228**	*i* P		**Pn**	**21 38 31.0**	**+1.9**
	baz=218								
CHN4					*e*S		**Sn**	**21 38 54.5**	**+3.6**
	baz=218								
TPUB	**Ta-pu**		**1.80**	**226**	P		**Pn**	**21 38 31.1**	**+1.9**
TPUB	**Ta-pu**		**1.80**	**226**	*e*P		**Pn**	**21 38 31.2**	**+1.9**
	baz=237								
TPUB					S		**Sn**	**21 38 54.0**	**+2.9**
	baz=237								
STYH	**Taoyuan**		**1.80**	**220**	*e*P		**Pn**	**21 38 30.8**	**+1.5**
	baz=209								
STYH					*e*S		**Sn**	**21 38 51.2**	**0.0**
	baz=209								
CHY	**Chiayi**		**1.82**	**235**	*e*S		**Sn**	**21 38 53.6**	**+2.1**
	baz=245								
JKRS	**Kuro-shima**		**1.83**	**100**	P		**Pn**	**21 38 30.6**	**+1.1**
JKRS					*e*S		**Sn**	**21 38 52.4**	**+0.6**
LONT	**Longtian**		**1.85**	**207**	P		**Pn**	**21 38 29.4**	**-0.4**
	baz=197								
LONT					*e*S		**Sn**	**21 38 51.0**	**-1.2**
	baz=197								
WTP	**Ta-pu**		**1.85**	**225**	*e*P		**Pn**	**21 38 32.3**	**+2.4**
	baz=237								
WTP					*e*S		**Sn**	**21 38 55.4**	**+3.1**
	baz=237								
WSF	**Szhu**		**1.90**	**241**	*i* S		**Sn**	**21 38 54.3**	**+0.9**
	baz=240								
JIJ	**Ishigaki jima**		**1.93**	**95**	P		**Pn**	**21 38 31.3**	**+0.3**
JIJ					S		**Sn**	**21 38 53.7**	**-0.6**
SNST	**Tainan City**		**1.94**	**227**	*e*P		**Pn**	**21 38 30.9**	**-0.2**
	baz=214								
SNST					*e*S		**Sn**	**21 38 57.6**	**+3.1**
	baz=214								
CHN1	**Nanshi**		**1.95**	**225**	*e*P		**Pn**	**21 38 33.8**	**+2.6**
	baz=225								
CHN1					*e*S		**Sn**	**21 38 57.7**	**+3.0**
	baz=225								
TWGBT	**Beinan**		**1.95**	**207**	P		**Pn**	**21 38 30.2**	**-1.0**
TWGBT	**Beinan**		**1.95**	**207**	*e*P		**Pn**	**21 38 30.0**	**-1.1**
	baz=198								
TWGBT					S		**Sn**	**21 38 53.8**	**-0.9**
	baz=198								
TWG	**Pinlang**		**1.95**	**207**	*i* P		**Pn**	**21 38 31.1**	**-0.1**
	baz=198								
TWG					*e*S		**Sn**	**21 38 52.9**	**-1.8**
	baz=198								
WSL	**Shuilin Townsh**		**1.95**	**238**	P		**Pn**	**21 38 32.7**	**+1.5**
	baz=247								
WSL					*e*S		**Sn**	**21 38 57.1**	**+2.3**
	baz=247								
LDUT	**Ludao**		**1.95**	**196**	*e*P		**Pn**	**21 38 30.4**	**-0.8**
	baz=188								
LDUT					*e*S		**Sn**	**21 38 51.8**	**-3.0**
	baz=188								
TTN	**Taitung**		**1.98**	**205**	*e*S		**Sn**	**21 38 54.5**	**-0.9**
	baz=203								
SGST	**Jiashian**		**1.99**	**222**	*i* P		**Pn**	**21 38 33.6**	**+1.9**
	baz=221								
SGST					*e*S		**Sn**	**21 38 56.8**	**+1.1**
	baz=221								
ICHU	**Yijhu**		**2.00**	**234**	*i* P		**Pn**	**21 38 33.4**	**+1.5**
	baz=233								
ICHU					*e*S		**Sn**	**21 38 57.4**	**+1.4**
	baz=233								
SLGT	**Liugui**		**2.02**	**219**	*i* P		**Pn**	**21 38 34.2**	**+2.1**
	baz=210								
SLGT					*e*S		**Sn**	**21 38 59.3**	**+3.0**
	baz=210								
CHN8	**Yiju**		**2.06**	**234**	P		**Pn**	**21 38 34.1**	**+1.4**
	baz=233								
CHN8					*e*S		**Sn**	**21 38 59.6**	**+2.1**
	baz=233								
JISG	**Ishigakijimahi**		**2.07**	**89**	P		**Pn**	**21 38 33.5**	**+0.7**
JISG					*e*S		**Sn**	**21 38 57.7**	**+0.1**
ECL	**Taimali**		**2.19**	**207**	*e*P		**Pn**	**21 38 35.0**	**+0.5**
	baz=199								
ECL					*e*S		**Sn**	**21 38 59.8**	**-0.9**
	baz=199								
TSMG	**Majia**		**2.25**	**215**	P		**Pn**	**21 38 37.5**	**+2.3**
	baz=206								
TSMG					*e*S		**Sn**	**21 39 01.9**	**-0.1**
	baz=206								
TSCK	**Chigu Township**		**2.27**	**232**	P		**Pn**	**21 38 36.9**	**+1.3**
	baz=231								
TSCK					*e*S		**Sn**	**21 39 04.0**	**+1.4**
	baz=231								
MASBT	**Mashibuluo**		**2.33**	**214**	*e*P		**Pn**	**21 38 39.2**	**+2.8**
	baz=214								
MASBT					*e*S		**Sn**	**21 39 06.9**	**+2.9**
	baz=214								
VWUC	**VWUC**		**2.39**	**281**	*e*P		**Pn**	**21 38 37.2**	**+0.1**
	baz=281								
VWUC					*e*S		**Sn**	**21 39 03.1**	**-2.3**
	baz=281								
JTJ	**Tarama**		**2.43**	**88**	P		**Pn**	**21 38 39.4**	**+1.7**
JTJ					*e*S		**Sn**	**21 39 07.5**	**+1.2**
EAST	**Anshuo**		**2.43**	**207**	*e*P		**Pn**	**21 38 39.5**	**+1.8**
	baz=201								
EAST					*e*S		**Sn**	**21 39 06.8**	**+0.4**
	baz=201								
MATB	**Ma-tsu**		**2.46**	**310**	*e*P		**Pn**	**21 38 38.4**	**+0.2**
	baz=312								
MATB					*e*S		**Sn**	**21 39 06.2**	**-1.0**
	baz=312								
PNG	**Penghu**		**2.48**	**247**	P		**Pn**	**21 38 38.0**	**-0.3**
	baz=245								
PNG					S		**Sn**	**21 39 05.6**	**-1.9**
	baz=245								
PHUB	**P'eng-hu**		**2.48**	**246**	*i* P		**Pn**	**21 38 38.1**	**-0.3**
	baz=244								
PHUB					*i* S		**Sn**	**21 39 06.1**	**-1.5**
	baz=244								
WDGT	**Dungji**		**2.53**	**240**	*e*P		**Pn**	**21 38 39.9**	**+0.8**
	baz=238								
WDGT					*e*S		**Sn**	**21 39 08.0**	**-0.8**
	baz=238								
SCZT	**Fangliau**		**2.54**	**211**	*e*P		**Pn**	**21 38 40.4**	**+1.2**
	baz=212								
SCZT					*e*S		**Sn**	**21 39 08.1**	**-0.9**
	baz=212								
LAY	**Lan-yu**		**2.55**	**190**	P		**Pn**	**21 38 38.8**	**-0.6**
	baz=189								
LAY					*e*S		**Sn**	**21 39 06.3**	**-3.1**
	baz=189								
LYUB	**Lan-yu**		**2.58**	**189**	*i* P		**Pn**	**21 38 39.4**	**-0.4**
	baz=188								
LYUB					*e*S		**Sn**	**21 39 04.6**	**-5.5**
	baz=188								
PTMZ	**Houxiangcun**		**2.69**	**281**	*e*P		**Pn**	**21 38 41.4**	**+0.1**
	baz=281								
PTMZ					*e*S		**Sn**	**21 39 10.2**	**-2.5**
	baz=281								
VCHM	**Qimei**		**2.74**	**241**	P		**Pn**	**21 38 42.0**	**+0.1**
	baz=238								
VCHM					*e*S		**Sn**	**21 39 12.6**	**-1.4**
	baz=238								
TWKBT	**Hengchun**		**2.84**	**204**	*e*P		**Pn**	**21 38 44.2**	**+0.9**
	baz=204								
TWKBT					*e*S		**Sn**	**21 39 15.3**	**-1.1**
	baz=204								
LYJJ	**Jianjiangzhen**		**2.85**	**314**	*e*P		**Pn**	**21 38 44.0**	**+0.5**
	baz=317								
LYJJ					*e*S		**Sn**	**21 39 16.0**	**-0.7**
	baz=317								
JIRB	**Irabujima**		**2.87**	**84**	*e*S		**Sn**	**21 39 18.5**	**+1.5**
XPSS	**Dashiqiu**		**2.88**	**325**	*e*P		**Pn**	**21 38 44.4**	**+0.5**
	baz=329								
XPSS					*e*S		**Sn**	**21 39 16.4**	**-1.0**
	baz=329								
MHZQ	**Yeshan**		**3.12**	**300**	*e*P		**Pn**	**21 38 47.4**	**+0.4**
	baz=301								
MHZQ					*e*S		**Sn**	**21 39 21.5**	**-1.7**
	baz=301								
KNM	**Kinmen**		**3.29**	**268**	*e*P		**Pn**	**21 38 50.3**	**+1.0**
	baz=267								
KNM					*e*S		**Sn**	**21 39 27.1**	**-0.2**
	baz=267								
KNMB	**Chin-men Tao**		**3.32**	**269**	*e*P		**Pn**	**21 38 49.2**	**-0.7**
	baz=268								
KNMB					*e*S		**Sn**	**21 39 24.4**	**-3.8**
	baz=268								
ZPLA	**Ao Xicun**		**3.96**	**262**	*e*P		**Pn**	**21 38 58.6**	**0.0**
	baz=259								
ZPLA					*e*S		**Sn**	**21 39 39.8**	**-4.0**
	baz=259								
DSXP	**Dongshan**		**4.30**	**260**	*e*P		**Pn**	**21 39 03.8**	**+0.6**
	baz=257								
DSXP					*e*S		**Sn**	**21 39 50.3**	**-1.7**
	baz=257								
SXFK	**Yanhouchang**		**4.37**	**296**	*e*P		**Pn**	**21 39 03.7**	**-0.5**
	baz=294								
SXFK					*e*S		**Sn**	**21 39 51.8**	**-2.1**
	baz=294								

TIR ***18*** *21:55:09.0, 40°.27N× 19°.78E, h2km, Md2.6*
ATH ***18*** *21:55:09.6, 40°.34N× 19°.76E, h4km± 1km, ML2.1/5, Manual Solution by S.Liakopoulos This location: 2020/05/30 23:16:35 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
THE ***18*** *21:55:09.8, 40°.25N× 19°.73E, h13km±2km, ML2.0/3, Error ellipse: s-maj=2.3km s-min=0.7km az=248.0*
ISC 18 21:55:10.0±1.1, **40°.27N**±0°.03×**19.76E**±0°.03, **h4**km±11km, **n30**, σ0=**86**/46, **Albania**

Code	Station Name	Δ°	AZ°	Phase	Op	ID		Time h m s	Res ISC
VLO	**Vlora**		**0.28**	**314**	P		**Pg**	**21 55 15.5**	**0.0**
	baz=313								
VLO					S		**Sb**	**21 55 21.7**	**-1.1**
	baz=313								
VLO	**Vlora**		**0.28**	**314**	P		**Pg**	**21 55 15.4**	**-0.1**
VLO					S		**Sg**	**21 55 20.2**	**+0.9**
	1μm,0.4s								
SRN	**Sarande**		**0.43**	**155**	P		**Pg**	**21 55 18.3**	**+0.1**
	baz=156								
SRN					S		**Sb**	**21 55 25.4**	**-1.5**
	baz=156								
SRN	**Sarande**		**0.43**	**155**	P		**Pg**	**21 55 17.7**	**-0.6**
SRN					S		**Sg**	**21 55 24.9**	**+1.0**
	140nm,0.4s								
KASA	**Kassiopi**		**0.54**	**166**	P		**Pb**	**21 55 20.7**	**-1.3**
KASA					S		**Sb**	**21 55 29.4**	**-0.7**
LSK	**Leskovik**		**0.65**	**100**	P		**Pg**	**21 55 21.9**	**-0.6**
	baz=100								
LSK					S		**Sb**	**21 55 32.9**	**-0.5**
	baz=100								
LSK	**Leskovik**		**0.65**	**100**	P		**Pg**	**21 55 21.9**	**-0.6**
LSK					S		**Sb**	**21 55 32.7**	**-0.7**
IGT	**Igoumenitsa**		**0.86**	**149**	P		**Pg**	**21 55 26.2**	**-0.2**
	baz=149								
IGT					S		**Sb**	**21 55 39.7**	**+0.4**
	baz=149								
IGT	**Igoumenitsa**		**0.86**	**149**	P		**Pg**	**21 55 25.9**	**-0.5**
IGT					S		**Sb**	**21 55 39.0**	**-0.3**
IGT	**Igoumenitsa**		**0.86**	**149**	P		**Pg**	**21 55 25.9**	**-0.5**
IGT					S		**Sb**	**21 55 38.9**	**-0.3**
KBN	**Korca**		**0.86**	**65**	P		**Pb**	**21 55 27.1**	**-0.3**
	baz=64								
KBN					S		**Sb**	**21 55 39.6**	**+0.3**
	baz=64								
KBN	**Korca**		**0.86**	**65**	P		**Pb**	**21 55 26.8**	**-0.7**
KBN					S		**Sb**	**21 55 40.1**	**+0.7**
	72nm,0.5s								
NEST	**Nestorio**		**0.99**	**81**	P		**Pg**	**21 55 29.0**	**-0.1**
NEST					S		**Sb**	**21 55 43.0**	**-0.3**
NEST	**Nestorio**		**0.99**	**81**	P		**Pg**	**21 55 28.3**	**-0.8**
NEST					S		**Sg**	**21 55 41.8**	**-0.1**
SCTE	**Santa Cesarea**		**1.01**	**259**	P		**Pb**	**21 55

ML3.2/1, Error ellipse: s-maj=86.1km s-min=52.8km az=64.0, Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I56US	**NEWPORT INFRAS**	**2.96**	**223**	I	I	22 42 21.6	
	baz=40,slow=314,SNR=9.0						
I10CA	**LAC DU BONNET**	**11.56**	**84**	I	I	23 36 40.0	
	baz=274,slow=319,SNR=2.7						
YKA	**Yellowknife Ar**	**12.06**	**359**	Pn	Pn	22 24 32.8	-3.8
	0.2nm,0.3s,baz=180,slow=17,SNR=8.1						
YKA				Lg	Lg	22 27 55.9	
	baz=176,slow=30,SNR=1.8						
	0.2nm,0.6s						

IDC ***18*** *22:23:24.0±1.1, 42.01N×82.66E, h0km, mb3.8/9, mbtmp3.7/16, ML3.2/7, Error ellipse: s-maj=18.1km s-min=14.5km az=85.0*

SOME ***18*** *22:23:27.1, 42.10N×82.47E, h10km*

NNC ***18*** *22:23:29.0±0.9, 42.09N×82.45E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=6.9km s-min=4.5km az=153.0*

ISC 18 22:23:26.5±0.9, 42.00N±0.05×82.60E±0.04, h13km, n70, σ2s58/98, mb3.8/9, 9C-13D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.20**	**312**	*eP*	**Pb**	**22 24 06.0**	**-0.2**
	171nm,0.5s						
KTMS				*eS*	**Sg**	**22 24 34.6**	**-2.6**
	392nm,0.4s						
KTMS	**Ketmen**	**2.20**	**312**	Pg	**Pb**	**22 24 06.0**	**-0.2**
	171nm,0.5s						
KTMS				Lg	Lg	22 24 34.6	
	392nm,0.4s						
SHLS	**Shalkode**	**2.59**	**298**	*eP*	**Pn**	**22 24 09.5**	**+1.3**
	383nm,0.2s						
SHLS				*eS*	**Sn**	**22 24 40.7**	**+1.1**
	2μm,0.5s						
SHLS	**Shalkode**	**2.59**	**298**	Pg	**Pn**	**22 24 09.5**	**+1.3**
	383nm,0.2s						
SHLS				Lg	Lg	22 24 40.7	
	2μm,0.5s						
PDGK	**Podgornoye**	**2.65**	**301**	Pg	**Pb**	**22 24 14.2**	**+0.3**
	45nm,0.4s						
PDGK				Lg	Lg	22 24 48.1	
	211nm,0.4s						
PDGK	**Podgornoye**	**2.65**	**301**	⇓Pn	**Pn**	**22 24 11.9**	**+2.9**
	35nm,0.3s						
PDGK				⇓Lg	Lg	22 24 48.1	
	484nm,0.8s						
UZB	**Uzynbulak**	**2.88**	**295**	*eP*	**Pb**	**22 24 18.9**	**+1.1**
	53nm,0.2s						
UZB				*eS*	**Sg**	**22 24 56.8**	**-2.3**
	335nm,0.7s						
UZB	**Uzynbulak**	**2.88**	**295**	Pg	**Pb**	**22 24 18.9**	**+1.1**
	53nm,0.2s						
UZB				Lg	Lg	22 24 56.8	
	335nm,0.7s						
DJR	**Jarkent**	**3.11**	**320**	*eP*	**Pb**	**22 24 23.2**	**+1.6**
	22nm,0.3s						
DJR				*eS*	**Sg**	**22 25 03.4**	**-2.9**
	138nm,0.6s						
DJR	**Jarkent**	**3.11**	**320**	Pg	**Pb**	**22 24 23.2**	**+1.6**
	22nm,0.3s						
DJR				Lg	Lg	22 25 03.4	
	138nm,0.6s						
SATY	**Saty**	**3.28**	**290**	*eP*	**Pb**	**22 24 27.2**	**+2.7**
	76nm,0.3s						
SATY				*eS*	**Sg**	**22 25 10.6**	**-1.1**
	354nm,0.5s						
ZHN	**Zhinishke**	**3.29**	**292**	*eP*	**Pb**	**22 24 25.6**	**+0.8**
	53nm,0.3s						
ZHN				*eS*	**Sg**	**22 25 08.2**	**-4.0**
	197nm,0.2s						
ZHN	**Zhinishke**	**3.29**	**292**	Pg	**Pb**	**22 24 25.6**	**+0.8**
	53nm,0.3s						
ZHN				Lg	Lg	22 25 08.1	
	197nm,0.2s						
KNOS	**Konyrlen**	**3.44**	**314**	Pg	**Pb**	**22 24 29.0**	**+1.7**
	46nm,0.4s						
KNOS				Lg	Lg	22 25 14.0	
	72nm,0.6s						
KURS	**Kuram**	**3.59**	**296**	*eP*	**Pg**	**22 24 33.5**	**-1.7**
	26nm,0.4s						
KURS				*eS*	**Sg**	**22 25 21.1**	**-0.6**
	106nm,1.0s						
KAPS	**Kapalarasan**	**4.04**	**325**	*eP*	**Pg**	**22 24 41.3**	**-2.5**
	65nm,0.5s						
KAPS				*eS*	**Sg**	**22 25 35.0**	**-1.2**
	176nm,0.6s						
KAPS	**Kapalarasan**	**4.04**	**325**	Pg	**Pg**	**22 24 41.3**	**-2.5**
	65nm,0.5s						
KAPS				Lg	Lg	22 25 35.0	
	176nm,0.6s						
ARXS	**Arharly**	**4.14**	**304**	*eP*	**Pb**	**22 24 41.9**	**+2.7**
	35nm,0.4s						
ARXS				*eS*	**Sg**	**22 25 36.2**	**-3.0**
	161nm,0.7s						
ARXS	**Arharly**	**4.14**	**304**	Pg	**Pb**	**22 24 41.9**	**+2.7**
	35nm,0.4s						
ARXS				Lg	Lg	22 25 36.3	
	161nm,0.7s						
KOTS	**Kotyrbulak**	**4.24**	**289**	*eP*	**Pb**	**22 24 42.0**	**+1.1**
	28nm,0.4s						
KOTS				*eS*	**Sb**	**22 25 36.0**	**+4.0**
	234nm,1.0s						
KOTS	**Kotyrbulak**	**4.24**	**289**	Pg	**Pb**	**22 24 42.0**	**+1.1**
	28nm,0.4s						
KOTS				Lg	Lg	22 25 36.0	
	234nm,1.0s						
MDOK	**Medeo**	**4.26**	**288**	*eP*	**Pb**	**22 24 43.6**	**+2.2**
	14nm,0.3s						
MDOK				*eS*	**Sg**	**22 25 38.7**	**-4.6**
	109nm,0.7s						
MDOK	**Medeo**	**4.26**	**288**	Pn	**Pn**	**22 24 33.7**	**+2.5**
	26nm,0.6s						
MDOK				Pg	**Pb**	**22 24 43.6**	**+2.2**
	14nm,0.3s						
MDOK				Lg	Lg	22 25 38.7	
	109nm,0.7s						
MDOK				Lg	Lg	22 25 39.9	
	119nm,0.7s						
TDK	**Taldyqorghan**	**4.28**	**316**	*eP*	**Pb**	**22 24 44.8**	**+3.3**
	121nm,0.6s						
TDK				*eS*	**Sg**	**22 25 40.7**	**-3.2**
	304nm,0.8s						
TDK	**Taldyqorghan**	**4.28**	**316**	Pg	**Pb**	**22 24 44.8**	**+3.3**
	121nm,0.6s						
TDK				Lg	Lg	22 25 40.7	
	304nm,0.8s						
TNSS	**Tian-Shan**	**4.31**	**286**	*eP*	**Pb**	**22 24 43.2**	**+1.0**
	17nm,0.2s						
TNSS				*eS*	**Sb**	**22 25 37.8**	**+3.5**
	49nm,0.7s						
TNSS	**Tian-Shan**	**4.31**	**286**	Pg	**Pb**	**22 24 43.2**	**+1.0**
	17nm,0.2s						
TNSS				Lg	Lg	22 25 37.8	
	49nm,0.7s						
KNDC	**Almaty**	**4.33**	**288**	⇑Pn	**Pn**	**22 24 35.2**	**+3.1**
	43nm,0.5s						
KNDC				⇑Lg	Lg	22 25 40.0	
	256nm,0.8s						
AAA	**Alma-Ata**	**4.37**	**288**	*eP*	**Pb**	**22 24 47.0**	**+3.9**
	26nm,0.3s						
AAA				*eS*	**Sg**	**22 25 44.3**	**-2.4**
	150nm,0.9s						
AAA	**Alma-Ata**	**4.37**	**288**	Pg	**Pb**	**22 24 47.0**	**+3.9**
	26nm,0.3s						
AAA				Lg	Lg	22 25 44.3	
	150nm,0.9s						
CHKK	**Chushkaly**	**4.52**	**296**	*eP*	**Pb**	**22 24 49.6**	**+4.0**
	19nm,0.4s						
CHKK				*eS*	**Sg**	**22 25 48.7**	**-2.8**
	62nm,0.5s						
CHKK	**Chushkaly**	**4.52**	**296**	Pg	**Pb**	**22 24 49.6**	**+4.0**
	19nm,0.4s						
CHKK				Lg	Lg	22 25 48.7	
	62nm,0.5s						
IZV	**Izvestkoviy**	**4.55**	**285**	Pg	**Pb**	**22 24 48.3**	**+2.1**
IZV				Lg	Lg	22 25 46.7	
KASK	**Kaskelen**	**4.56**	**287**	⇓Pg	**Pg**	**22 24 52.0**	**-1.9**
KASK				⇓Lg	Lg	22 25 52.6	
KTBS	**Karatobe**	**4.68**	**293**	*eP*	**Pb**	**22 24 51.4**	**+3.0**
	21nm,0.5s						
KTBS				*eS*	**Sg**	**22 25 52.5**	**-4.1**
	185nm,0.7s						
KTBS	**Karatobe**	**4.68**	**293**	Pg	**Pb**	**22 24 51.4**	**+3.0**
	21nm,0.5s						
KTBS				Lg	Lg	22 25 52.5	
	185nm,0.7s						
MTBS	**Maitube**	**4.70**	**286**	*eP*	**Pb**	**22 24 49.0**	**+0.3**
	17nm,0.4s						
MTBS				*eS*	**Sb**	**22 25 48.0**	**+2.8**
	45nm,0.7s						
MK31	**Makanchi Array**	**4.80**	**357**	Pn	**Pn**	**22 24 40.9**	**+2.5**
	0.8nm,0.2s,baz=195,slow=14,SNR=208						
MK31				Pg	**Pg**	**22 24 54.1**	**-4.3**
	8.5nm,0.3s,baz=178,slow=15,SNR=17						
MK31				⇓Lg	Lg	22 25 57.2	
	38nm,0.6s,baz=175,slow=27,SNR=5.4						
MKAR	**Makanchi Array**	**4.80**	**357**	Pn	**Pn**	**22 24 40.9**	**+2.4**
	2.8nm,0.3s,baz=186,slow=12,SNR=127						
MKAR				Lg	Lg	22 25 56.5	
	12nm,0.3s,baz=172,slow=30,SNR=5.6						
	4.5nm,0.3s						
MAKZ	**Makanchi**	**4.83**	**355**	⇓Pn	**Pn**	**22 24 41.0**	**+2.1**
	3.2nm,0.2s						
MAKZ				⇓Pg	**Pg**	**22 24 54.8**	**-4.1**
	9.4nm,0.5s						
MAKZ				⇓Sn	**Sn**	**22 25 39.0**	**+4.3**
	26nm,0.6s						
MAKZ				⇑Lg	Lg	22 25 57.9	
	46nm,0.9s						
KST	**Kastek**	**5.02**	**284**	*eP*	**Pb**	**22 24 54.0**	**-0.1**
	30nm,0.4s						
KST				*eS*	**Sb**	**22 25 56.3**	**+1.8**
	105nm,0.8s						
DGS	**Degeres**	**5.19**	**286**	*eP*	**Pb**	**22 24 59.8**	**+2.7**
	9.4nm,0.5s						
DGS				*eS*	**Sg**	**22 26 06.5**	**-6.6**
	114nm,0.7s						
DGS	**Degeres**	**5.19**	**286**	Pg	**Pb**	**22 24 59.8**	**+2.7**
	9.4nm,0.5s						
DGS				Lg	Lg	22 26 06.5	
	114nm,0.7s						
TKM2	**Tokmak 2**	**5.26**	**282**	⇑Pn	**Pn**	**22 24 46.9**	**+1.9**
	5.2nm,0.4s						
TKM2				⇓Pg	**Pg**	**22 25 05.4**	**-1.8**
	23nm,0.8s						
TKM2				⇓Lg	Lg	22 26 11.1	
	44nm,0.6s						
KRBS	**Karabastau**	**5.37**	**291**	*eP*	**Pg**	**22 25 06.0**	**-3.2**
	10nm,0.3s						
KRBS				*eS*	**Sg**	**22 26 17.5**	**-1.2**
	36nm,0.7s						
ZSN	**Zaisan**	**5.68**	**16**	*eP*	**Pb**	**22 25 09.8**	**+4.3**
	20nm,0.5s						
ZSN				*eS*	**Sg**	**22 26 24.1**	**-4.7**
	88nm,0.8s						
ZSN	**Zaisan**	**5.68**	**16**	Pg	**Pb**	**22 25 09.8**	**+4.3**
	20nm,0.5s						
ZSN				Lg	Lg	22 26 24.1	
	88nm,0.8s						
CHMS	**Chumysh**	**5.89**	**282**	⇑Pg	Pb	22 25 14.8	+5.8
	16nm,0.8s						
CHMS				⇑Lg	Lg	22 26 30.6	
	54nm,1.1s						
AAK	**Ala-Archa**	**6.04**	**279**	Pn	**Pn**	**22 24 58.3**	**+2.6**
	0.8nm,0.3s,baz=124,slow=8.6,SNR=12						
AAK				Lg	Lg	22 26 36.1	
	1.1nm,0.3s,baz=315,slow=20,SNR=3.7						
	1.4nm,0.3s						
SGDS	**Sogindy**	**6.05**	**287**	Pg	Pb	22 25 16.9	+5.1
	6.8nm,0.6s						
SGDS				Lg	Lg	22 26 36.0	
	30nm,0.8s						
BTLS	**Baital**	**6.92**	**299**	*eP*	**Pg**	**22 25 35.5**	**-3.5**
	3.8nm,0.2s						
BTLS				*eS*	**Sg**	**22 27 08.8**	**+0.3**
	13nm,0.4s						
MRKS	**Merke**	**6.98**	**279**	*eP*	Pg	22 25 35.7	-4.4
	4.3nm,0.5s						
MRKS				*eS*	**Sg**	**22 27 08.3**	**-2.2**
	10nm,0.6s						
KK31	**Karatay Array**	**8.99**	**281**	Pg	Pg	22 26 10.6	-8.0
	2.5nm,0.7s,baz=87,slow=16,SNR=5.7						
KK31				Lg	Lg	22 28 11.8	
	3.1nm,0.5s,baz=77,slow=29,SNR=4.8						
KURBB	**Kurchatov Arra**	**9.07**	**343**	Pn	**Pn**	**22 25 36.5**	**-0.6**
	0.2nm,0.3s,baz=166,slow=12,SNR=14						
KURBB				Sn	**Sn**	**22 27 18.1**	**-0.9**
	0.1nm,0.3s,baz=167,slow=20,SNR=2.5						
KURBB				Lg	Lg	22 28 14.6	
	0.2nm,0.3s,baz=176,slow=29,SNR=3.0						
	1.0nm,0.5s						
KURK	**Kurchatov**	**9.14**	**344**	⇑Pn	**Pn**	**22 25 38.7**	**+0.8**
	2.7nm,0.5s						
KURK				⇓Sn	**Sn**	**22 27 23.3**	**+2.7**
	11nm,1.0s						
KURK				⇓Lg	Lg	22 28 16.8	
	49nm,1.1s						
OTUK	**Ortayu**	**9.57**	**314**	⇑Pn	**Pn**	**22 25 45.2**	**+1.4**
	1.8nm,0.5s						
OTUK				⇑Sn	**Sn**	**22 27 36.5**	**+5.3**
	4.9nm,0.6s						
OTUK				⇓Lg	Lg	22 28 29.0	
	14nm,0.9s						
ZALV	**Zalesovo Beam**	**12.05**	**6**	Pn	**Pn**	**22 26 16.8**	**-0.9**
	0.5nm,0.3s,baz=182,slow=12,SNR=6.2						
ZALV				Sn	**Sn**	**22 28 31.3**	**-0.6**
	0.2nm,0.3s,baz=183,slow=22,SNR=1.8						
ZALV				Lg	Lg	22 29 42.3	
	0.1nm,0.3s,baz=194,slow=24,SNR=2.7						
	0.9nm,0.3s						
BVAR	**Borovoye Array**	**13.75**	**327**	Pn	**Pn**	**22 26 39.8**	**-1.3**
	baz=133,slow=15,SNR=1.3						
BVAR				Lg	Lg	22 30 43.7	
	baz=136,slow=27,SNR=2.9						
	0.4nm,0.4s						
SONM	**Songino Array**	**17.80**	**63**	P	**Pn**	**22 27 31.8**	**-2.1**
	0.1nm,0.3s,baz=267,slow=11,SNR=5.4						
	0.5nm,0.5s						
AKTO	**Aktyubinsk**	**18.92**	**305**	P	**P**	**22 27 46.8**	**0.0**
	0.2nm,0.3s,baz=104,slow=11,SNR=5.0						
	1.1nm,0.5s						
ARU	**Arti**	**21.18**	**321**	P	**P**	**22 28 10.2**	**-1.1**
	1.1nm,0.3s,baz=128,slow=19,SNR=1.8						
	1.1nm,0.3s						
BRTR	**Keskin Array B**	**36.70**	**283**	P	**P**	**22 30 34.0**	**+0.8**
	0.7nm,0.9s,baz=80,slow=8.0,SNR=3.2						
	0.7nm,0.9s						
FINES	**FINESS Array B**	**38.54**	**320**	P	**P**	**22 30 47.8**	**-0.5**
	2.1nm,1.0s,baz=110,slow=12,SNR=3.5						
	2.1nm,1.0s						
ARCES	**ARCESS Array B**	**39.96**	**333**	P	**P**	**22 31 00.4**	**+0.2**
	2.4nm,0.5s,baz=88,slow=9.1,SNR=12						
	2.4nm,0.5s						
HFS	**Hagfors**	**44.65**	**318**	P	**P**	**22 31 38.2**	**-0.3**
	1.6nm,0.6s,baz=104,slow=6.1,SNR=7.5						
	1.6nm,0.6s						
NB2	**NORSAR Subarra**	**45.72**	**320**	P	**P**	**22 31 46.7**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=81,slow=7.9						
NOA	**NORSAR Array B**	**45.72**	**320**	P	**P**	**22 31 46.4**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=85,slow=6.3,SNR=4.2						
	comp=Z,0.4nm,0.4s						
TORD	**Torodi Ar. Bea**	**74.61**	**274**	P	**P**	**22 35 05.0**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=40,slow=5.1,SNR=9.3						
	comp=Z,0.5nm,0.5s						
YKA	**Yellowknife Ar**	**74.94**	**8**	P	**P**	**22 35 06.3**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=340,slow=6.1,SNR=7.0						
	comp=Z,0.6nm,0.8s						
WRA	**Warramunga Arr**	**77.98**	**131**	P	**P**	**22 35 24.5**	**0.0**
	comp=Z,0.7nm,0.7s,baz=324,slow=5.6,SNR=2.6						
	comp=Z,0.7nm,0.7s						

GCG ***18*** *22:30:32.2±0.3, 15.85N×92.01W, h184km±45km, MD4.1*

MEX ***18*** *22:30:33.7±0.8, 15.50N×92.03W, h207km±6km, MD4.5*

NEIC ***18*** *22:30:33.9±1.8, 15.41N±0.08×92.03W±0.07, h209km±6km, mb4.6/53, Md4.5/140(MEX), Error ellipse: s-maj=12.1km s-min=8.6km az=210.0*

IDC ***18*** *22:30:34.0±0.8, 15.54N×91.67W, h207km±7km, mb3.6/13, mbtmp4.1/15, Error ellipse: s-maj=23.5km s-min=9.1km az=54.0*

ISC 18 22:30:33.0±0.5, 15.44N±0.05×92.11W±0.04, h209km±4km, n176, σ2s45/252, mb4.4/29, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAVE	**Pavencul**	**0.25**	**195**	*eP*	**Pn**	**22 30 60.0**	**-1.0**
PAVE				*eS*	**S**	**22 31 20.2**	**-2.5**
PATR	**El Naranjo**	**0.34**	**201**	*eP*	**Pn**	**22 30 59.5**	**-1.6**
PATR				*eS*	**S**	**22 31 21.6**	**-1.4**
CHUJ	**Union Juarez**	**0.34**	**180**	*eP*	**Pn**	**22 30 59.7**	**-1.4**
CHUJ				*eS*	**S**	**22 31 22.0**	**-1.1**
THIG		**0.55**	**196**		**Pn**	**22 31 00.9**	**-0.6**
THIG					**S**	**22 31 23.0**	**-0.6**
THIG		**0.55**	**196**	*eP*	**Pn**	**22 31 00.9**	**-0.6**
THIG				*eS*	**S**	**22 31 23.0**	**-0.6**
SMSP	**San Marcos**	**0.56**	**146**	*eP*	**Pn**	**22 31 01.2**	**-0.7**
SMSP				*eS*	**S**	**22 31 26.0**	**+1.7**
HUEH	**Huehuetenango**	**0.60**	**102**		**Pn**	**22 31 00.8**	**-1.1**
HUEH	**Huehuetenango**	**0.60**	**102**	*eP*	**Pn**	**22 31 00.6**	**-1.3**
HUEH				*eS*	**S**	**22 31 20.6**	**-3.7**
CCIG	**Comitan**	**0.84**	**358**		**Pn**	**22 31 02.8**	**-0.3**
CCIG	**Comitan**	**0.84**	**358**	*eP*	**Pn**	**22 31 02.6**	**-0.5**
CCIG				*eS*	**S**	**22 31 23.2**	**-3.3**
STG3	**Santiaguito 3,**	**0.89**	**144**	*eP*	**Pn**	**22 31 03.1**	**-0.3**
RTAL	**Retalhuleu**	**0.99**	**156**	Pn	**Pn**	**22 31 03.5**	**-0.3**
RTAL	**Retalhuleu**	**0.99**	**156**	*eP*	**Pn**	**22 31 03.0**	**-0.8**
RTAL				*eS*	**S**	**22 31 25.5**	**-2.1**
PCIG		**1.10**	**284**		**Pn**	**22 31 04.1**	**-0.3**
PCIG		**1.10**	**284**	*eP*	**Pn**	**22 31 04.1**	**-0.3**
PCIG				*eS*	**S**	**22 31 27.7**	**-1.0**
SULM	**Suchitepequez,**	**1.25**	**155**	*eP*	**Pn**	**22 31 05.9**	**+0.3**
TGIG		**1.65**	**324**		**Pn**	**22 31 09.0**	**0.0**
TGIG		**1.65**	**324**	*eP*	**Pn**	**22 31 09.0**	**0.0**
TGIG				*eS*	**S**	**22 31 35.8**	**-0.9**
NBG	**Las Nubes**	**1.90**	**116**	*eP*	**Pn**	**22 31 11.6**	**0.0**
CARR	**Arriaga**	**1.91**	**295**	*eP*	**Pn**	**22 31 11.6**	**+0.2**
CARR				*eS*	**S**	**22 31 38.7**	**-2.2**
MRL	**Marmol**	**2.37**	**98**	*eP*	**Pn**	**22 31 15.2**	**-1.1**
PETF	**Flores**	**2.61**	**55**		**Pn**	**22 31 16.9**	**-1.8**
PETF	**Flores**	**2.61**	**55**	*eP*	**Pn**	**22 31 17.1**	**-1.6**
PETF				*eS*	**S**	**22 31 49.1**	**-4.8**
NILT	**Santiago Nilte**	**2.66**	**295**	*eP*	**Pn**	**22 31 19.8**	**+0.6**
NILT				*eS*	**S**	**22 31 52.5**	**-2.5**
UXUV	**UXUV**	**2.70**	**314**	*eP*	**Pn**	**22 31 19.7**	**-0.1**
UXUV				*eS*	**S**	**22 31 53.7**	**-2.3**
ESQI	**Esquipulas**	**2.81**	**108**		Pn	22 31 16.3	-4.8
MTO3	**Montecristo**	**2.85**	**111**		**Pn**	**22 31 20.8**	**-0.9**
CMIG	**Matias Romero**	**3.13**	**302**	P	**Pn**	**22 31 24.6**	**0.0**
	193nm,0.4s,baz=115,slow=11,SNR=782						
CMIG				S	**S**	**22 32 02.1**	**-2.6**
	295nm,0.4s,baz=350,slow=20,SNR=25						
CMIG	**Matias Romero**	**3.13**	**302**	*eP*	**Pn**	**22 31 24.7**	**0.0**
CMIG				*eS*	**S**	**22 32 02.3**	**-2.4**
TUIG	**Tuzandepetl**	**3.40**	**320**	*e*	**S**	**22 32 09.6**	**-0.9**
SCIG	**Sabancuy**	**3.62**	**14**	*eP*	**Pn**	**22 31 29.0**	**-1.5**
SCIG				*eP*	**Pn**	**22 31 29.1**	**-1.5**
HUIG	**Huatulco**	**3.87**	**275**		**Pn**	**22 31 33.2**	**-0.4**
HUIG	**Huatulco**	**3.87**	**275**	*eP*	**Pn**	**22 31 33.2**	**-0.4**
HUIG				*eP*	**Pn**	**22 31 33.2**	**-0.4**
NEUV	**Arroyo Zacate**	**4.20**	**303**	*eP*	**Pn**	**22 31 37.5**	**-0.1**
NEUV				*eS*	**S**	**22 32 23.9**	**-4.3**
PMUV	**Sontecomapan**	**4.22**	**317**	*eP*	**Pn**	**22 31 38.3**	**+0.2**
PMUV				*eP*	**Pn**	**22 31 38.3**	**+0.2**
OXIG	**Oaxaca**	**4.73**	**291**		**Pn**	**22 31 46.3**	**+1.9**
VHO	**Vista Hermosa**	**4.73**	**291**	*eP*	**Pn**	**22 31 46.3**	**+1.9**
VHO				*eS*	**S**	**22 32 37.9**	**-2.5**
TGUH	**Tegucigalpa,Un**	**4.88**	**106**		**Pn**	**22 31 45.2**	**-1.1**
PEIG	**Puerto Escondi**	**4.88**	**277**		**Pn**	**22 31 46.6**	**+0.4**
PEIG	**Puerto Escondi**	**4.88**	**277**	*eP*	**Pn**	**22 31 46.6**	**+0.4**
PEIG				*eP*	**Pn**	**22 31 46.6**	**+0.4**
PEIG				*eS*	**S**	**22 32 38.8**	**-4.9**
PEIG				*eS*	**S**	**22 32 38.8**	**-4.9**
YOIG	**Yosondua**	**5.41**	**286**		**Pn**	**22 31 54.8**	**+1.6**
YOIG	**Yosondua**	**5.41**	**286**	*eP*	**Pn**	**22 31 54.8**	**+1.6**
YOIG				*eP*	**Pn**	**22 31 54.8**	**+1.6**
YOIG				*eS*	**S**	**22 32 52.6**	**-3.6**
YOIG				*eS*	**S**	**22 32 52.6**	**-3.6**
TOIG	**Toxpalan**	**5.43**	**300**		**Pn**	**22 31 54.4**	**+1.1**
TOIG	**Toxpalan**	**5.43**	**300**	*eP*	**Pn**	**22 31 54.4**	**+1.1**
TOIG				*eP*	**Pn**	**22 31 54.4**	**+1.1**
TOIG				*eS*	**S**	**22 32 50.8**	**-5.7**
TOIG				*eS*	**S**	**22 32 50.8**	**-5.7**
TXIG	**Tlaxiaco**	**5.72**	**289**		**Pn**	**22 31 59.4**	**+2.2**
TXIG	**Tlaxiaco**	**5.72**	**289**	*eP*	**Pn**	**22 31 59.4**	**+2.2**
TXIG				*eP*	**Pn**	**22 31 59.4**	**+2.2**
TXIG				*eS*	**S**	**22 33 00.7**	**-2.8**
TXIG				*eS*	**S**	**22 33 00.7**	**-2.8**
TPIG	**Tehuac#an**	**5.83**	**301**		**Pn**	**22 32 00.3**	**+1.8**
TPIG	**Tehuac#an**	**5.83**	**301**	*eP*	**Pn**	**22 32 00.3**	**+1.8**
TPIG				*eP*	**Pn**	**22 32 00.3**	**+1.8**
TPIG				*eS*	**S**	**22 33 01.2**	**-4.8**
TPIG				*eS*	**S**	**22 33 01.2**	**-4.8**
PNIG	**Pinotepa**	**5.87**	**280**		**Pn**	**22 32 00.1**	**+1.3**
PNIG	**Pinotepa**	**5.87**	**280**	*eP*	**Pn**	**22 32 00.1**	**+1.3**
PNIG				*eP*	**Pn**	**22 32 00.1**	**+1.3**
PNIG				*eS*	**S**	**22 33 04.1**	**-2.3**
PNIG				*eS*	**S**	**22 33 04.1**	**-2.3**
LVIG	**Laguna Verde**	**5.92**	**317**	*eP*	**Pn**	**22 32 00.8**	**+1.4**
LVIG				*eP*	**Pn**	**22 32 00.8**	**+1.4**
LVIG				*eS*	**S**	**22 33 01.7**	**-5.9**
LVIG				*eS*	**S**	**22 33 01.7**	**-5.9**
JAUV	**Jalcomulco**	**5.94**	**312**	*eP*	**Pn**	**22 31 59.1**	**-0.6**
JAUV				*eP*	**Pn**	**22 31 59.1**	**-0.6**
JAUV				*eS*	**S**	**22 33 01.4**	**-6.9**
JAUV				*eS*	**S**	**22 33 01.4**	**-6.9**
HLIG	**Huajuapan de L**	**5.95**	**294**		**Pn**	**22 32 02.3**	**+2.2**
HLIG	**Huajuapan de L**	**5.95**	**294**	*eP*	**Pn**	**22 32 02.3**	**+2.2**
HLIG				*eP*	**Pn**	**22 32 02.3**	**+2.2**
HLIG				*eS*	**S**	**22 33 04.2**	**-4.6**
HLIG				*eS*	**S**	**22 33 04.2**	**-4.6**
TEIG	**Tepich**	**6.00**	**37**		**Pn**	**22 31 58.2**	**-2.3**
CNGN	**Cerro Negro**	**6.01**	**118**	Pn	**Pn**	**22 31 58.9**	**-1.7**
FTIG	**Fresnillo de T**	**6.27**	**294**		**Pn**	**22 32 06.8**	**+2.7**
FTIG	**Fresnillo de T**	**6.27**	**294**	*eP*	**Pn**	**22 32 06.8**	**+2.7**
FTIG				*eP*	**Pn**	**22 32 06.8**	**+2.7**
FTIG				*eS*	**S**	**22 33 11.6**	**-4.5**
FTIG				*eS*	**S**	**22 33 11.6**	**-4.5**
MGIG	**Malinaltepec**	**6.51**	**287**		**

10nm,0.3s,baz=337,slow=18,SNR=14
JTS S S 22 34 00.9 -11
2.1nm,0.4s,baz=280,slow=20,SNR=1.1
ACIG Acambay 8.67 303 *eP* **Pn 22 32 38.7 +3.5**
ACIG *eS* S 22 34 03.4 -10
ARE1 Arenal 1 8.74 124 Pn 22 32 36.0 0.0
ZIIG Zihuatanejo 9.23 285 P 22 32 47.4 -3.6
ZIIG Zihuatanejo 9.23 285 *eP* **P 22 32 47.4 -3.6**
MOIG Morelia 9.63 297 Pn 22 32 48.5 +0.9
MOIG Morelia 9.63 297 *eP* **Pn 22 32 50.0 +2.4**
LCR2 La Lucha 2 9.73 125 Pn 22 32 48.2 -0.8
PEZE Perez Zeledon, 10.20 125 Pn **Pn 22 32 54.1 -0.8**
SRBA San Rafael, Bu 10.54 125 Pn 22 32 58.3 -1.0
DRK0 Durika 10.61 124 Pn 22 32 59.3 -0.9
MMIG Aquila 11.12 286 *eP* **P 22 33 12.1 -0.3**
BRU2 Volcan 11.33 125 Pn **Pn 22 33 08.7 -0.8**
JUBC Volcan de Coli 11.66 292 *eP* **P 22 33 19.1 +0.5**
JUBC *eS* **S 22 35 19.8 -3.3**
EZ5V 11.68 292 *e* **P 22 33 21.7 +2.9**
MNGA Volcan de Coli 11.69 292 *eP* **P 22 33 23.2 +4.3**
MNGA *eS* S 22 35 13.5 -10
INCO Volcan de Coli 11.69 292 *eP* **P 22 33 20.8 +1.6**
SOMAC Volcano de Col 11.72 292 *eP* **P 22 33 21.5 +2.1**
SOMAC *eS* **S 22 35 24.6 +0.1**
CEGR Campo Tres 11.88 291 *e* **P 22 33 24.1 +3.1**
441A DeRidder 15.27 356 P **P 22 33 58.4 +0.1**
TXAR Lajitas Array 17.46 324 P **Pn 22 34 26.1 +1.7**
0.6nm,0.5s,baz=142,slow=10,SNR=10.0
Z47A Carrollton 18.06 11 Pn **Pn 22 34 31.5 +0.3**
PLPT Palo Pinto 18.19 343 Pn 22 34 31.8 -1.0
PLPT IAmb IAmb 22 34 34.0
comp=Z,12nm,0.9s
152A Waverly Hall 18.42 20 P **P 22 34 33.8 +1.0**
MNHN Monahans 18.58 330 P **P 22 34 36.0 +1.4**
APMT Aspermont 19.23 339 P **P 22 34 42.5 +0.9**
X48A Hartselle 19.47 13 P **P 22 34 44.7 +0.6**
X48A IAmb IAmb 22 34 48.1
comp=Z,18nm,1.1s
PLAL Pickwick Lake 19.80 10 P **P 22 34 48.0 +0.5**
PLAL IAmb IAmb 22 34 50.7
comp=Z,7.7nm,0.6s
FPAL Fort Paine 19.90 16 P **P 22 34 48.3 -0.4**
FPAL IAmb IAmb 22 34 51.5
comp=Z,18nm,1.0s
SDDR Presa de Saban 20.20 77 P **P 22 34 53.2 +1.1**
SDDR IAmb IAmb 22 34 55.7
comp=Z,24nm,0.8s
OTAV Otavalo 20.25 137 P **P 22 34 54.3 +1.2**
OTAV IAmb IAmb 22 34 58.1
comp=Z,15nm,1.4s
PULU Pululahua 20.38 138 P **P 22 34 52.2 -2.3**
ROSC El Rosal 20.41 119 P **P 22 34 54.2 -0.6**
ROSC IAmb IAmb 22 34 56.0
comp=Z,9.6nm,0.5s
ROSC El Rosal 20.41 119 P **P 22 34 53.5 -1.2**
comp=Z,7.4nm,0.4s,baz=322,slow=19,SNR=3.6
comp=Z,7.4nm,0.4s
SWET Sewanee 20.46 15 P **P 22 34 55.4 +0.7**
SWET IAmb IAmb 22 34 56.8
comp=Z,18nm,1.0s
LCAR Lake Charles 20.56 2 P **P 22 34 56.2 +0.5**
V48A Smith Brothers 20.76 12 P **P 22 34 58.3 +0.4**
V48A IAmb IAmb 22 35 00.0
comp=Z,18nm,0.7s
SMWD Samnorwood 20.90 341 P **P 22 35 01.1 +1.7**
SMWD IAmb IAmb 22 35 02.4
comp=Z,29nm,1.5s
SLOR San Lorenzo - 20.96 139 P **P 22 35 00.1 -0.5**
WVT Waverly 20.96 10 P **P 22 34 59.7 -0.2**
CLTN Cedars of Leba 21.20 13 P **P 22 35 03.2 +0.7**
CLTN IAmb IAmb 22 35 04.3
comp=Z,18nm,0.7s
PBMO Poplar Bluff 21.31 4 P **P 22 35 02.9 -0.6**
PBMO IAmb IAmb 22 35 04.5
comp=Z,12nm,0.4s
CHSH Refugio Sur-Vo 21.32 141 P **P 22 35 04.1 -0.4**
CHSH IAmb IAmb 22 35 09.7
comp=Z,18nm,0.8s
TKL Tuckaleechee C 21.47 19 P **P 22 35 05.1 -0.1**
comp=Z,11nm,0.9s,baz=160,slow=12,SNR=10
comp=Z,11nm,0.9s
T42A Van Buren 21.52 2 P **P 22 35 05.3 -0.4**
V52A Sevierville 21.70 19 P **P 22 35 08.6 +1.1**
U49A Red Boiling Sp 21.73 14 P **P 22 35 08.6 +0.7**
U49A IAmb IAmb 22 35 09.5
comp=Z,29nm,1.1s
COHC Cochancay 21.87 143 P **P 22 35 09.5 +0.2**
KMSC Kings Mountain 21.88 24 P **P 22 35 10.3 +1.1**
KMSC IAmb IAmb 22 35 11.1
comp=Z,10.0nm,0.8s
CGM3 Cape Girardeau 21.88 5 P **P 22 35 10.2 +1.0**
CGM3 IAmb IAmb 22 35 10.7
comp=Z,10nm,0.7s
T47A Sharon Grove 21.92 11 P **P 22 35 10.3 +0.7**
SDV Santo Domingo 21.97 105 P **P 22 35 08.9 -1.7**
SDV Santo Domingo 21.97 105 P **P 22 35 08.4 -2.1**
comp=Z,2.6nm,0.4s,baz=323,slow=5.1,SNR=7.3
comp=Z,2.6nm,0.4s
S39A Bolivar 22.19 357 P **P 22 35 12.7 +0.5**
S44A Carbondale 22.31 6 P **P 22 35 14.6 +1.3**
SIUC Southern Illin 22.34 6 P **P 22 35 14.7 +1.2**
CCM Cathedral Cave 22.54 2 P **P 22 35 15.8 +0.4**
CCM IAmb IAmb 22 35 18.6
comp=Z,6.2nm,0.7s
U54A Nelsons Funny 22.91 22 P **P 22 35 19.7 +0.9**
U54A IAmb IAmb 22 35 20.9
comp=Z,18nm,0.9s
MCRA Macar, Loja 23.07 148 P **P 22 35 18.2 -2.3**
WCI Wyandotte Cave 23.27 12 P **P 22 35 22.8 +0.8**
OLIL Olney 23.47 8 P **P 22 35 24.9 +1.1**
R49A Shelbyville 23.57 14 P **P 22 35 25.0 +0.3**
R49A IAmb IAmb 22 35 26.5
comp=Z,14nm,0.8s
R50A Paris 23.77 15 P **P 22 35 26.9 +0.4**
R50A IAmb IAmb 22 35 29.1
comp=Z,8.1nm,0.8s
BLO Bloomington 24.15 11 P **P 22 35 30.6 +0.7**
BLO IAmb IAmb 22 35 58.0
comp=Z,18nm,0.7s
P46A Rosedale 24.47 9 P **P 22 35 33.3 +0.5**
P48A Milroy 24.64 12 P **P 22 35 34.7 +0.3**
P48A IAmb IAmb 22 35 35.0
comp=Z,13nm,0.7s
Q51A Peebles 24.73 16 P **P 22 35 35.5 +0.3**
Q51A IAmb IAmb 22 35 37.1
comp=Z,16nm,0.8s
SFIN Lafayette 25.23 9 P **P 22 35 40.3 +0.6**
SFIN IAmb IAmb 22 35 40.9
comp=Z,14nm,0.7s
O48B Farmland 25.46 12 P **P 22 35 42.1 +0.3**
O48B IAmb IAmb 22 35 42.9
comp=Z,21nm,1.2s
P57A Homestead Farm 26.95 25 P **P 22 35 55.4 +0.3**
P57A IAmb IAmb 22 35 57.4
comp=Z,12nm,0.9s
L48A N Adams 27.23 13 P **P 22 35 57.6 -0.1**
HMU Henry Mountain 27.81 327 P **P 22 36 04.5 +1.4**
HMU IAmb IAmb 22 36 05.0
comp=Z,8.1nm,0.8s
J56A Wolcott 30.66 22 P **P 22 36 28.1 +0.3**
PDAR Pinedale Array 31.08 335 P **P 22 36 33.5 +1.6**
comp=Z,0.2nm,0.5s,baz=138,slow=12,SNR=2.3
comp=Z,0.2nm,0.5s
NVAR Mina Array Bea 32.50 320 P **P 22 36 48.4 +4.0**
comp=Z,0.7nm,0.6s,baz=125,slow=7.8,SNR=7.7
NVAR pP **pP 22 37 27.6 +0.3**
comp=Z,1.5nm,0.8s,baz=140,slow=8.2,SNR=4.2
NVAR sP **sP 22 37 54.5 +2.9**
comp=Z,0.9nm,0.7s,baz=133,slow=9.4,SNR=3.0
NVAR ScP **ScP 22 42 53.5 +3.4**
comp=Z,0.2nm,0.3s,baz=139,slow=5.6,SNR=2.2
comp=Z,0.7nm,0.6s
SAML Samuel 37.53 128 P **P 22 37 25.4 -1.9**
LPAZ La Paz 39.42 142 P **P 22 37 44.5 +0.8**
LPAZ La Paz 39.42 142 P **P 22 37 44.3 +0.6**
comp=Z,5.6nm,0.7s,baz=318,slow=9.7,SNR=21
comp=Z,5.6nm,0.7s
SCHQ Schefferville 43.92 21 P **P 22 38 18.2 -0.7**
comp=Z,5.7nm,0.9s,baz=206,slow=7.2,SNR=5.3
comp=Z,5.7nm,0.9s
YKA Yellowknife Ar 49.61 347 P **P 22 39 03.7 +0.9**
comp=Z,1.3nm,0.6s,baz=146,slow=7.1,SNR=30
YKA pP **pP 22 39 48.1 -1.4**
comp=Z,0.3nm,0.9s,baz=146,slow=7.9,SNR=3.4
comp=Z,1.3nm,0.6s

BDFB Brasilia 53.39 123 P **P 22 39 29.9 -1.8**
comp=Z,3.6nm,0.6s,baz=272,slow=6.9,SNR=8.1
comp=Z,3.6nm,0.6s
CPUP Villa Florida 53.55 140 P **P 22 39 31.2 -1.3**
comp=Z,5.4nm,0.8s,baz=320,slow=5.2,SNR=9.2
comp=Z,5.4nm,0.8s
ILAR Eielson Array 61.48 337 P **P 22 40 29.0 +1.7**
comp=Z,0.3nm,0.5s,baz=110,slow=8.4,SNR=2.5
ILAR pP **pP 22 41 17.2 +1.6**
comp=Z,0.8nm,1.1s,baz=134,slow=6.4,SNR=2.7
comp=Z,0.3nm,0.5s
ESDC Sonseca Array 78.91 52 P **P 22 42 11.6 -2.0**
comp=Z,0.7nm,0.6s,baz=284,slow=6.0,SNR=8.4
comp=Z,0.7nm,0.6s
FINES FINESS Array B 89.25 25 P **P 22 43 03.9 -1.2**
comp=Z,1.0nm,0.7s,baz=294,slow=5.6,SNR=1.3
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 135.63 257 PKhKP PKPpre 22 49 21.8
comp=Z,0.4nm,0.8s,baz=90,slow=3.4,SNR=1.8
WRA PKP **PKiKP 22 49 31.6 +0.7**
comp=Z,0.7nm,0.9s,baz=90,slow=3.3,SNR=2.8

*IDC **18** 22:36:27.4±0.6,23°10S×175°46W,h0km,mb4.3/13, mbtmp4.3/15,ML3.8/2,MS3.8/24, Error ellipse: s-maj=23.6km s-min=18.0km az=122.0*
*NEIC **18** 22:36:29.6±1.3,23°1S±0°1×175°4W±0°2,h10km±1km, mb4.8/92, Error ellipse: s-maj=29.8km s-min=17.5km az=118.0*
ISC 18 22:36:29.0±0.5,23°16S±0°08×175°3W±0°1,h10km,n142, σ0s99/120,mb4.8/57,MS3.8/23,1C-1D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**6.48**	**52**	Pn	Pn	22 37 57.7	-6.8
MSVF	**Nonsavu**	**8.22**	**310**	Pn	**Pn**	**22 38 31.9**	**+3.5**
AFI	**Afiamalu**	**9.80**	**21**	Pn	**Pn**	**22 38 48.0**	**-2.1**
RAR	**Rarotonga**	**14.55**	**85**	Pn	Pn	22 39 47.1	-7.9
RAR	**Rarotonga**	**14.55**	**85**	Pn	Pn	22 39 46.7	-8.3
	3.4nm,0.3s,baz=266,slow=7.2,SNR=15						
RAR				Sn	Sn	22 42 14.6	-22
	0.6nm,0.3s,baz=5.2,slow=15,SNR=1.1						
RAR				LR	LR	22 44 44.9	
	comp=Z,172nm,20.9s,baz=264,slow=34						
URZ	**Urewera**	**16.38**	**202**	Pn	**Pn**	**22 40 18.2**	**-0.8**
	0.7nm,0.3s,baz=223,slow=20,SNR=2.7						
URZ				Sn	Sn	22 43 03.8	-17
	0.6nm,0.3s,baz=142,slow=21,SNR=1.2						
	6.6nm,0.5s						
DZM	**Mont Dzumac**	**16.86**	**270**	Pn	**Pn**	**22 40 23.4**	**-1.9**
	0.2nm,0.3s,baz=55,slow=20,SNR=1.4						
	7.4nm,1.0s						
THZ	**Tophouse**	**21.00**	**205**		**P**	**22 41 14.1**	**+1.5**
THZ				IAmb	IAmb	22 41 27.5	
	comp=Z,57nm,1.7s						
INZ	**Inchbonnie**	**22.39**	**206**	P	**P**	**22 41 25.8**	**-1.7**
INZ				IAmb	IAmb	22 41 41.2	
	comp=Z,50nm,1.5s						
PPT	**Papeete**	**24.77**	**82**	LR	LR	22 50 50.8	
	comp=Z,136nm,18.1s,baz=254,slow=35						
CTAO	**Charters Tower**	**35.77**	**267**	P	**P**	**22 43 28.4**	**-0.1**
STKA	**Stephens Creek**	**38.96**	**248**	LR	LR	22 59 24.4	
	comp=Z,224nm,18.4s,baz=57,slow=35						
ASAR	**Alice Springs**	**46.38**	**259**	P	**P**	**22 44 54.8**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=92,slow=7.6,SNR=12						
ASAR				LR	LR	23 03 57.5	
	comp=Z,261nm,18.7s,baz=119,slow=36						
	comp=Z,0.9nm,0.5s						
WR0	**Warramunga Arr**	**46.55**	**264**	P	**P**	**22 44 55.3**	**-1.9**
WB2	**Warramunga Arr**	**46.72**	**264**	P	**P**	**22 44 56.9**	**-1.7**
WB0	**Warramunga Arr**	**46.72**	**264**	P	**P**	**22 44 56.6**	**-2.0**
WRA	**Warramunga Arr**	**46.73**	**264**	P	**P**	**22 44 56.8**	**-1.9**
WRA	**Warramunga Arr**	**46.73**	**264**	P	**P**	**22 44 56.9**	**-1.8**
	comp=Z,2.5nm,0.5s,baz=92,slow=8.3,SNR=91						
	comp=Z,2.5nm,0.5s						
KNRA	**Kununurra**	**52.98**	**267**	P	**P**	**22 45 45.3**	**-1.0**
GUMO	**Guam**	**53.39**	**309**	LR	LR	23 06 21.0	
	comp=Z,55nm,19.5s,baz=68,slow=34						
FITZ	**Fitzroy Crossi**	**55.16**	**264**	P	**P**	**22 46 01.1**	**-1.0**
FITZ				IAmb	IAmb	22 46 17.2	
	comp=Z,16nm,1.4s						
SBA	**Scott Base**	**55.41**	**185**	P	**P**	**22 46 05.9**	**+2.9**
VNDA	**Vanda**	**55.51**	**186**	P	**P**	**22 46 04.8**	**+1.1**
	comp=Z,1.4nm,0.9s,baz=0.9,slow=6.2,SNR=5.1						
	comp=Z,1.4nm,0.9s						
RPN	**Rapa Nui**	**59.27**	**109**	LR	LR	23 08 12.1	
	comp=Z,37nm,19.0s,baz=258,slow=32						
NWAO	**Narrogin (SRO)**	**59.42**	**244**	LR	LR	23 09 32.2	
	comp=Z,79nm,20.2s,baz=257,slow=33						
BATI	**Baumata**	**59.46**	**272**	LR	LR	23 12 36.5	
	comp=Z,281nm,19.2s,baz=102,slow=36						
MORW	**Morawa**	**61.14**	**249**	P	**P**	**22 46 43.1**	**-0.8**
QSPA	**South Pole Qui**	**66.92**	**180**	P	**P**	**22 47 22.3**	**+0.8**
QSPA	**South Pole Qui**	**66.92**	**180**	P	**P**	**22 47 22.0**	**+0.6**
	comp=Z,7.8nm,0.9s,baz=59,slow=19,SNR=30						
	comp=Z,7.8nm,0.9s						
MJAR	**Matsushiro Arr**	**73.81**	**323**	P	**P**	**22 48 03.2**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=172,slow=5.5,SNR=2.1						
MJAR				LR	LR	23 14 17.5	
	comp=Z,29nm,20.9s,baz=156,slow=31						
	comp=Z,1.1nm,0.8s						
SAO	**San Andreas Ge**	**78.32**	**41**	P	**P**	**22 48 30.4**	**+1.0**
SAO				IAmb	IAmb	22 48 31.4	
	comp=Z,6.7nm,0.9s						
KMPM	**Mount Pierce**	**79.19**	**37**	P	**P**	**22 48 35.7**	**+1.4**
KMPM				IAmb	IAmb	22 48 36.7	
	comp=Z,10nm,0.8s						
KMRM	**Mail Ridge**	**79.29**	**38**	P	**P**	**22 48 35.6**	**+0.9**
ISA	**Isabella, Lake**	**79.47**	**44**	P	**P**	**22 48 36.4**	**+0.5**
PETK	**Petropavlovsk-**	**79.48**	**344**	P	**P**	**22 48 36.5**	**+1.0**
	comp=Z,3.9nm,0.7s,baz=142,slow=7.5,SNR=4.9						
PETK				LR	LR	23 23 44.5	
	comp=Z,35nm,18.4s,baz=130,slow=36						
	comp=Z,3.9nm,0.7s						
CMB	**Columbia Colle**	**79.78**	**41**	P	**P**	**22 48 37.8**	**+0.3**
MAW	**Mawson**	**79.90**	**199**	P	**P**	**22 48 38.0**	**+0.3**
	comp=Z,3.7nm,0.7s,baz=111,slow=8.6,SNR=3.3						
	comp=Z,3.7nm,0.7s						
AFDM	**Forest Hills D**	**80.02**	**40**	P	**P**	**22 48 38.8**	**0.0**
ORV	**Oroville**	**80.11**	**39**	P	**P**	**22 48 39.4**	**+0.2**
MDPB	**Devils Postpil**	**80.32**	**42**	P	**P**	**22 48 39.1**	**-1.6**
MDPB				IAmb	IAmb	22 48 42.1	
	comp=Z,6.7nm,0.8s						
GSC	**Goldstone, Bar**	**80.33**	**45**	P	**P**	**22 48 39.2**	**-1.3**
KSRS	**Korea Array**	**80.51**	**318**	P	**P**	**22 48 41.6**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=145,slow=7.4,SNR=2.9						
KSRS				LR	LR	23 19 45.1	
	comp=Z,37nm,21.2s,baz=115,slow=32						
	comp=Z,0.5nm,0.4s						
WAKR	**Walker**	**80.66**	**41**	P	**P**	**22 48 43.3**	**+0.9**
WAKR				IAmb	IAmb	22 48 44.1	
	comp=Z,7.8nm,0.9s						
MPK	**Martis Peak**	**80.80**	**40**	P	**P**	**22 48 43.3**	**0.0**
MPK				IAmb	IAmb	22 48 44.7	
	comp=Z,7.2nm,0.7s						
DSP	**Deep Springs**	**80.85**	**43**	P	**P**	**22 48 43.7**	**+0.6**
YBH	**Yreka Blue Hor**	**80.86**	**37**	P	**P**	**22 48 44.2**	**+0.9**
YBH				IAmb	IAmb	22 48 45.0	
	comp=Z,5.5nm,0.8s						
PNTR	**Pine Nut**	**80.93**	**41**	P	**P**	**22 48 44.7**	**+0.8**
PNTR				IAmb	IAmb	22 48 45.8	
	comp=Z,10nm,0.8s						
LCH	**Last Change Ra**	**80.97**	**43**	P	**P**	**22 48 44.6**	**+0.6**
LHV	**Little Huntoon**	**81.06**	**42**	P	**P**	**22 48 44.7**	**+0.4**
YERR	**Yerington**	**81.08**	**41**	P	**P**	**22 48 45.2**	**+0.6**
YERR				IAmb	IAmb	22 48 45.9	
	comp=Z,5.6nm,0.7s						
GMN	**Gold Mountain**	**81.25**	**43**	P	**P**	**22 48 45.9**	**+0.2**
NVAR	**Mina Array Bea**	**81.30**	**42**	P	**P**	**22 48 46.3**	**+0.4**
NVAR	**Mina Array Bea**	**81.30**	**42**	P	**P**	**22 48 46.5**	**+0.7**
	comp=Z,4.6nm,0.7s,baz=223,slow=8.6,SNR=41						
	comp=Z,4.6nm,0.7s						
WCT	**Wildcat Mounta**	**81.34**	**44**	P	**P**	**22 48 46.7**	**+0.7**
NV11	**Mina Array Sit**	**81.39**	**42**	P	**P**	**22 48 47.0**	**+0.7**
MZP	**Montezuma Peak**	**81.42**	**43**	P	**P**	**22 48 47.0**	**+0.4**
TPH	**Tonopah**	**81.75**	**43**	P	**P**	**22 48 48.4**	**+0.2**
KVN	**Kaiserville**	**81.81**	**41**	P	**P**	**22 48 49.1**	**+0.6**
W13A	**Hualapai Mount**	**82.14**	**47**	P	**P**	**22 48 50.6**	**+0.2**
K05A	**Summer Lake**	**82.53**	**37**	P	**P**	**22 48 52.7**	**+0.5**
K05A				IAmb	IAmb	22 48 54.5	
	comp=Z,11nm,1.0s						
J05D	**Fort Rock, OR**	**82.71**	**37**	P	**P**	**22 48 54.3**	**+1.2**
J05D				IAmb	IAmb	22 48 55.2	
	comp=Z,7.8nm,0.9s						
R11B	**Troy Canyon, C**	**82.94**	**43**	P	**P**	**22 48 55.1**	**+0.7**

BMN Battle Mountai 83.20 41 P **P 22 48 56.3 +0.6**
BMN IAmb IAmb 22 48 56.9
comp=Z,3.7nm,0.8s
PINE Pine Mountain 83.20 36 P **P 22 48 56.5 +0.8**
X16A Lo Mia Camp, P 83.41 48 P **P 22 48 56.8 -0.2**
WVOR Wild Horse Val 83.62 39 P **P 22 48 57.2 -0.5**
WVOR IAmb IAmb 22 48 59.5
comp=Z,6.7nm,1.0s
LCMT Little Creek M 83.66 45 P **P 22 48 58.2 +0.1**
LCMT IAmb IAmb 22 48 59.8
comp=Z,5.6nm,0.9s
CCUT Cedar City 83.89 45 P **P 22 48 59.6 +0.2**
CCUT IAmb IAmb 22 49 01.4
comp=Z,5.8nm,0.8s
U15A North Rim 83.96 46 P **P 22 48 59.9 +0.1**
SZCU Shurtz Canyon 84.10 45 P **P 22 49 00.5 +0.1**
SZCU IAmb IAmb 22 49 02.3
comp=Z,4.4nm,0.8s
I07A Izee 84.18 37 P **P 22 49 01.0 +0.4**
I07A IAmb IAmb 22 49 02.5
comp=Z,5.8nm,1.0s
J08A Circle Bar Ran 84.29 38 P **P 22 49 01.8 +0.6**
J08A IAmb IAmb 22 49 03.0
comp=Z,5.5nm,0.8s
ELK Elko 84.59 41 P **P 22 49 02.8 -0.1**
O19K Port Alsworth 84.81 10 P **P 22 49 02.7 -0.4**
ILSW Iliamna Southw 84.81 11 P **P 22 49 03.6 +0.2**
MTPU Mount Pierson 84.94 45 P **P 22 49 05.2 +0.3**
MTPU IAmb IAmb 22 49 07.2
comp=Z,7.3nm,0.8s
TROLL Troll, Antarti 85.07 179 ⇑P **P 22 49 05.1 +0.3**
comp=Z,409nm,0.8s
G08A Pilot Rock 85.25 36 P **P 22 49 05.7 -0.2**
G08A IAmb IAmb 22 49 08.3
comp=Z,7.2nm,1.1s
BBB Bella Bella 85.60 27 LR LR 23 21 40.7
comp=Z,46nm,18.3s,baz=202,slow=32
PLCA Paso Flores 85.66 133 LR LR 23 17 08.2
comp=Z,37nm,21.1s,baz=204,slow=28
MFID Camas Ranch 85.84 39 P **P 22 49 08.7 -0.3**
KLR Kul'dur 86.07 328 LR LR 23 24 09.8
comp=Z,62nm,19.2s,baz=284,slow=33
TXAR Lajitas Array 86.44 56 P **P 22 49 12.7 +0.4**
comp=Z,2.2nm,0.9s,baz=205,slow=8.3,SNR=7.0
comp=Z,2.2nm,0.9s
SRU San Rafael Swe 86.62 45 P **P 22 49 12.8 -0.2**
SRU IAmb IAmb 22 49 14.4
comp=Z,4.9nm,0.8s
SUA Susitna One 86.63 12 P **P 22 49 12.8 +0.4**
SUA IAmb IAmb 22 49 19.6
comp=Z,5.8nm,1.0s
MA2 Magadan 87.01 343 LR LR 23 23 32.8
comp=Z,28nm,19.2s,baz=308,slow=32
P18A Preston Nutter 87.08 45 P **P 22 49 14.6 -0.8**
TCUT Toone Canyon 87.17 43 P **P 22 49 15.4 -0.3**
TCUT IAmb IAmb 22 49 18.1
comp=Z,4.4nm,0.8s
BSUT Blindstream Ca 87.25 44 P **P 22 49 15.3 -1.0**
BSUT IAmb IAmb 22 49 17.3
comp=Z,3.6nm,0.7s
WAX Waxell Ridge 87.41 15 P **P 22 49 17.0 +0.8**
J18K Innoko River 87.57 8 P **P 22 49 16.6 -0.2**
J18K IAmb IAmb 22 49 30.0
comp=Z,8.8nm,1.1s
VRDI Verde Repeater 87.95 15 P **P 22 49 19.5 +0.6**
VRDI IAmb IAmb 22 49 31.3
comp=Z,4.9nm,1.0s
N25K Chitina, Valde 88.02 14 P **P 22 49 18.7 -0.3**
N25K IAmb IAmb 22 49 32.2
comp=Z,4.5nm,0.9s
GLB Gilahina Butte 88.05 15 P **P 22 49 19.2 +0.1**
NEW Newport 88.11 35 LR LR 23 28 08.9
comp=Z,74nm,18.3s,baz=216,slow=35
CMIG Matias Romero 88.18 71 LR LR 23 19 41.3
comp=Z,27nm,21.1s,baz=188,slow=29
J19K Poorman 88.23 9 P **P 22 49 20.5 +0.6**
J19K IAmb IAmb 22 49 32.7
comp=Z,8.3nm,1.2s
TRF Thorofare Moun 88.55 11 P **P 22 49 21.2 -0.4**
TRF IAmb IAmb 22 49 28.6
comp=Z,5.6nm,0.8s
J20K Nowinta River 88.61 9 P **P 22 49 21.0 -0.6**
RND Reindeer 88.77 12 P **P 22 49 21.4 -1.1**
RND IAmb IAmb 22 49 34.9
comp=Z,9.4nm,1.2s
S34M Telegraph Cree 88.77 22 P **P 22 49 24.1 +1.6**
S34M IAmb IAmb 22 49 53.8
comp=Z,6.9nm,1.3s
SMCO Snowmass 88.98 46 P **P 22 49 23.8 -0.8**
SMCO IAmb IAmb 22 49 25.8
comp=Z,12nm,1.6s
PD31 Pinedale Array 89.23 42 P **P 22 49 24.8 -0.7**
PDAR Pinedale Array 89.23 42 P **P 22 49 25.4 -0.1**
PDAR Pinedale Array 89.23 42 P **P 22 49 25.0 -0.4**
comp=Z,1.2nm,0.8s,baz=218,slow=3.6,SNR=12
comp=Z,1.2nm,0.8s
M27K Edge Creek, AK 89.30 15 P **P 22 49 25.9 +0.8**
SEY Seymchan 89.53 346 LR LR 23 25 58.9
comp=Z,53nm,19.9s,baz=282,slow=33
H19K Roundabout Mou 89.59 8 P **P 22 49 27.2 +1.1**
H19K IAmb IAmb 22 49 38.4
comp=Z,6.8nm,1.2s
WRH Wood River Hil 89.88 11 P **P 22 49 27.6 0.0**
WRH IAmb IAmb 22 49 40.9
comp=Z,9.0nm,1.2s
L27K Beaver Creek, 89.92 15 P **P 22 49 28.7 +0.8**
L27K IAmb IAmb 22 50 32.3
comp=Z,15nm,1.9s
BCAR Beaver Creek A 89.94 15 P **P 22 49 27.8 -0.2**
G19K Purcell Mounta 90.10 7 P **P 22 49 28.8 +0.2**
G19K IAmb IAmb 22 49 42.7
comp=Z,6.8nm,1.2s
M29M Somme Creek 90.22 16 P **P 22 49 30.4 +1.0**
M29M IAmb IAmb 22 49 44.2
comp=Z,7.5nm,1.4s
ILAR Eielson Array 90.37 12 P **P 22 49 30.9 +1.0**
ILAR Eielson Array 90.37 12 P **P 22 49 29.4 -0.6**
comp=Z,0.5nm,0.6s,baz=224,slow=5.8,SNR=7.5
comp=Z,0.5nm,0.6s
IMAR Indian Mountai 90.38 9 P **P 22 49 29.9 0.0**
F19K Shaleruckik Mo 90.69 7 P **P 22 49 31.7 +0.4**
F19K IAmb IAmb 22 49 43.6
comp=Z,5.1nm,0.9s
J26L Joseph Creek 90.79 13 P **P 22 49 33.0 +0.9**
L29M L29M 90.86 16 P **P 22 49 32.0 -0.3**
E18K Tukpahlearik C 90.97 6 P **P 22 49 32.6 -0.1**
E18K IAmb IAmb 22 49 45.8
comp=Z,8.5nm,1.2s
E19K Redstone River 91.35 7 P **P 22 49 35.6 +1.2**
E19K IAmb IAmb 22 49 47.5
comp=Z,7.0nm,1.1s
DAWY Dawson 91.35 15 P **P 22 49 35.1 +0.5**
DAWY IAmb IAmb 22 49 48.6
comp=Z,6.6nm,1.1s
EGAK Eagle 91.55 14 P **P 22 49 36.0 +0.6**
EGAK IAmb IAmb 22 49 48.6
comp=Z,7.6nm,1.2s
K29M Barlow Dome 91.62 16 P **P 22 49 36.5 +0.6**
XAN Xi'an 91.70 306 ⇓P **P 22 49 38.4 +1.5**
XAN pmax pmax
comp=Z,12nm,1.0s
CMAR Chiang Mai Arr 93.32 289 P **P 22 49 43.2 -1.4**
CMAR Chiang Mai Arr 93.32 289 P **P 22 49 45.4 +0.7**
comp=Z,3.9nm,0.8s,baz=133,slow=3.1,SNR=24
CMAR LR LR 23 29 03.5
comp=Z,25nm,20.7s,baz=115,slow=34
comp=Z,3.9nm,0.8s
ATAH Atahualpa 93.56 99 LR LR 23 24 09.7
comp=Z,50nm,19.0s,baz=259,slow=31
B22K Teshekpuk Lake 94.53 7 P **P 22 49 50.6 +1.6**
TEIG Tepich 95.17 70 LR LR 23 26 43.8
comp=Z,193nm,18.4s,slow=32
LVC Limon Verde 95.22 117 LR LR 23 24 51.7
comp=Z,45nm,18.1s,baz=260,slow=30
YAK Yakutsk 95.50 337 LR LR 23 30 27.0
comp=Z,20nm,19.4s,baz=138,slow=34
INK Inuvik 96.20 14 LR LR 23 32 13.8
comp=Z,34nm,18.1s,baz=192,slow=35
YKA Yellowknife Ar 97.90 24 P **P 22 50 03.6 -0.9**
baz=240,slow=4.8,SNR=4.2
MKAR Makanchi Array 114.81 312 PKP PKPdf 22 55 09.1 -0.8
comp=Z,0.2nm,0.6s,baz=48,slow=2.1,SNR=1.7
KURBB Kurchatov Arra 117.67 316 PKP **PKPdf 22 55 13.3 -1.9**
comp=Z,0.5nm,0.7s,baz=91,slow=1.7,SNR=5.7
BVAR Borovoye Array 122.70 319 PKP **PKPdf 22 55 22.3 -2.5**
comp=Z,0.5nm,0.6s,baz=48,slow=2.1,SNR=2.6

ARCES **ARCESS Array B** 131.96 350 PKP **PKPdf** 22 55 42.5 +0.5
comp=Z,6.1nm,1.0s,baz=28,slow=2.1,SNR=5.1

AKASG **Malin Array Be** 146.52 331 PKPbc **PKPdf** 22 56 09.1 +0.1
comp=Z,2.5nm,0.6s,baz=38,slow=4.0,SNR=11

BRTR **Keskin Array B** 150.45 311 PKPbc **PKPbc** 22 56 20.6 -0.6
comp=Z,1.5nm,0.8s,baz=140,slow=2.5,SNR=9.4

MMAI **Mount Meron Ar** 151.25 297 PKPbc **PKPbc** 22 56 23.3 +0.1
comp=Z,3.0nm,0.7s,baz=70,slow=9.3,SNR=4.2

TORD **Torodi Ar. Bea** 169.65 164 PKP **PKPdf** 22 56 36.2 -1.5
comp=Z,0.3nm,0.8s,baz=197,slow=1.5,SNR=1.9

NNC 18 22:40:04.5±6.5, 37.65N×71.35E, h0km, mb3.8, mpv3.4, 4C-2D, Error ellipse: s-maj=50.4km s-min=39.0km az=175.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.49**	**354**	⇓Pn	Pn	22 41 29.0	+1.5
	4.5nm,0.3s,baz=177,slow=13,SNR=55						
KK31				⇑Sn	Sn	22 42 33.1	+1.8
	1.1nm,0.3s,baz=177,slow=24,SNR=4.9						
CHMS	**Chumysh**	**5.94**	**25**	⇑Pn	Pn	22 41 33.5	-0.3
	1.3nm,0.5s						
CHMS				⇑Sn	Sn	22 42 42.3	-0.3
	6.6nm,0.6s						
TKM2	**Tokmak 2**	**6.19**	**30**	⇑Pn	Pn	22 41 36.6	-0.7
	1.6nm,0.7s						
TKM2				⇓Sn	Sn	22 42 50.2	+1.3
	1.7nm,0.8s						

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*IDC **18** 22:46:12.5±1.1, 29.68N×50.71E, h0km, mb3.9/15, mbtmp3.9/20, ML3.3/5, MS3.0/3, Error ellipse: s-maj=24.6km s-min=15.6km az=168.0*
*SGS **18** 22:46:13.3, 30.10N×50.96E, h19km, Ml4.0*
*TEH **18** 22:46:15.7, 29.67N×50.76E, h19km±11km, ML3.8*
ISC 18 22:46:14.4±0.5, 29.66N±0.04×50.77E±0.04, h10km, n81, σ1°82/81, mb3.9/15, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAZ2	**Kazeron-Fars-I**	**0.78**	**93**	Pg	**Pg**	**22 46 30.7**	**+1.2**
AHBU	**AHRAM**	**0.92**	**150**	Pg	**Pg**	**22 46 33.4**	**+1.3**
ABEH	**Behbahan**	**1.04**	**335**	Pg	**Pg**	**22 46 35.3**	**+0.8**
DSBU	**Dashti - Bushe**	**1.36**	**161**	Pg	**Pg**	**22 46 41.9**	**+1.4**
SHI	**Shiraz**	**1.52**	**90**	Pg	**Pb**	**22 46 44.4**	**+1.5**
KLNJ	**Kolanjah**	**1.52**	**28**	Pg	**Pn**	**22 46 43.6**	**+1.5**
IBRJ	**Brojen**	**2.28**	**11**	Pn	**Pn**	**22 46 54.5**	**+2.1**
QIR1	**Qir**	**2.31**	**120**	Pn	**Pn**	**22 46 54.5**	**+1.8**
ZNGN	**Zangian**	**2.45**	**2**	Pn	**Pn**	**22 46 57.0**	**+2.1**
IRAM	**Rameshed**	**2.56**	**33**	Pn	**Pn**	**22 46 58.2**	**+2.0**
JHBN	**Jahan bin**	**2.57**	**358**	Pn	**Pn**	**22 46 58.4**	**+2.0**
IGAR	**Gharneh**	**2.95**	**21**	Pn	**Pn**	**22 47 03.4**	**+1.9**
IPIR	**Pirpir**	**3.02**	**2**	Pn	**Pn**	**22 47 04.8**	**+2.1**
ISAD	**Sadrabad**	**3.37**	**47**	Pn	**Pn**	**22 47 09.6**	**+2.2**
IZEF	**Zefreh**	**3.49**	**22**	Pn	**Pn**	**22 47 11.3**	**+2.2**
IKLH	**Kolahrood**	**3.71**	**11**	Pn	**Pn**	**22 47 14.4**	**+2.3**
IMEH	**Mehriz**	**3.74**	**62**	Pn	**Pn**	**22 47 15.2**	**+2.7**
QYSM	**Um Kedad**	**3.86**	**243**	S	**Sn**	**22 48 01.7**	**+2.3**
QYSM	**Um Kedad**	**3.86**	**243**	P	**Pn**	**22 47 15.4**	**+1.4**
ICHK	**Chekchek**	**4.05**	**50**	Pn	**Pn**	**22 47 19.0**	**+2.2**
QAMS	**Qamsar**	**4.10**	**7**	Pn	**Pn**	**22 47 19.7**	**+2.3**
SMAN	**Sihmah**	**4.21**	**215**	P	**Pn**	**22 47 19.2**	**+0.4**
ANAR	**Anarak**	**4.34**	**35**	Pn	**Pn**	**22 47 22.6**	**+2.0**
KRSH	**Karshahi**	**4.45**	**15**	Pn	**Pn**	**22 47 24.2**	**+2.0**
IBAF	**Bafgh**	**4.56**	**64**	Pn	**Pn**	**22 47 25.7**	**+2.0**
IKFM	**Kafar-mosalman**	**4.59**	**328**	Pn	**Pn**	**22 47 26.0**	**+2.1**
IDOB	**Doab**	**4.67**	**332**	Pn	**Pn**	**22 47 27.0**	**+1.7**
RQBS	**RQBS**	**4.82**	**243**	P	**Pn**	**22 47 28.0**	**+0.9**
ISFB	**Sefidab**	**4.84**	**15**	Pn	**Pn**	**22 47 29.3**	**+1.8**
HSAM	**Samen**	**4.90**	**338**	Pn	**Pn**	**22 47 29.6**	**+1.2**
KHGB	**Koh Gabri**	**5.00**	**80**	Pn	**Pn**	**22 47 31.7**	**+1.9**
NHRD	**Haradh**	**5.16**	**198**	P	**Pn**	**22 47 34.0**	**+2.2**
IQOM	**Qom**	**5.18**	**3**	Pn	**Pn**	**22 47 33.7**	**+1.5**
NGRK	**Negar Kerman**	**5.19**	**89**	Pn	**Pn**	**22 47 34.6**	**+2.1**
HAGD	**Aghdareh**	**5.33**	**345**	Pn	**Pn**	**22 47 35.9**	**+1.6**
IVRN	**Varamin**	**5.38**	**8**	Pn	**Pn**	**22 47 36.7**	**+1.8**
IBZA	**Bozab**	**5.39**	**334**	Pn	**Pn**	**22 47 36.6**	**+1.4**
RMAH	**Rumah**	**5.51**	**220**	P	**Pn**	**22 47 38.2**	**+1.5**
SHBH2	**SHBH2**	**5.56**	**175**	P	**Pn**	**22 47 38.8**	**+1.5**
KCHF	**Cheshme Sefid,**	**5.59**	**326**	Pn	**Pn**	**22 47 39.5**	**+1.7**
KRM1	**Kerman Provinc**	**5.70**	**80**	Pn	**Pn**	**22 47 41.5**	**+2.1**
IRAZ	**Razeghan**	**5.77**	**353**	Pn	**Pn**	**22 47 42.1**	**+1.7**
IHSB	**Hasanabad**	**5.78**	**4**	Pn	**Pn**	**22 47 41.8**	**+1.5**
IGHG	**Ghaleghazi**	**5.87**	**324**	Pn	**Pn**	**22 47 43.4**	**+1.7**
IDMV	**Damavand**	**6.00**	**10**	Pn	**Pn**	**22 47 45.1**	**+1.5**
ILAS	**Lasjerd**	**6.00**	**17**	Pn	**Pn**	**22 47 44.8**	**+1.2**
TPRV	**Parvadeh(Tabas**	**6.08**	**55**	Pn	**Pn**	**22 47 46.4**	**+2.0**
SHBH1	**SHBH1**	**6.15**	**173**	P	**Pn**	**22 47 46.8**	**+1.3**
ILIN	**Lien**	**6.16**	**329**	Pn	**Pn**	**22 47 46.7**	**+1.1**
KHRJ	**Al Kharj**	**6.42**	**206**	P	**Pn**	**22 47 51.0**	**+1.9**
TNSJ	**Nastanj**	**6.57**	**48**	Pn	**Pn**	**22 47 53.3**	**+2.1**
IPRN	**Peran**	**6.70**	**11**	Pn	**Pn**	**22 47 55.3**	**+2.3**
TKDS	**Koohdasht(Taba**	**6.70**	**52**	Pn	**Pn**	**22 47 54.8**	**+1.8**
MZPU	**Pul - Mazandar**	**6.80**	**5**	Pn	**Pn**	**22 47 56.7**	**+2.2**
KLST	**Kelardasht - M**	**6.85**	**2**	Pn	**Pn**	**22 47 56.9**	**+1.7**
IGLO	**Ghaloghah**	**7.29**	**20**	Pn	**Pn**	**22 48 03.6**	**+2.3**
LHJ2	**Lahijan - Gila**	**7.51**	**356**	Pn	**Pn**	**22 48 05.4**	**+1.4**
MRVT	**Maraveh tapeh**	**9.13**	**28**	Pn	**Pn**	**22 48 28.4**	**+2.1**
WSAR	**Wadi Sarin**	**9.51**	**130**	Pn	**Pn**	**22 48 30.3**	**-1.2**
	0.1nm,0.3s,baz=300,slow=8.1,SNR=1.2						
WSAR				Sn	**Sn**	**22 50 12.8**	**-5.7**
	0.3nm,0.3s,baz=360,slow=14,SNR=2.3						
	1.4nm,0.7s						
GEYT	**Ailbeck**	**10.27**	**35**	Pn	**Pn**	**22 48 42.9**	**+1.0**
	0.6nm,0.3s,baz=216,slow=12,SNR=11						
	6.8nm,0.7s						
ASF	**Jabal al Asfar**	**12.17**	**285**	Pn	**Pn**	**22 49 07.2**	**-0.8**
	0.4nm,0.3s,baz=136,slow=1.4,SNR=2.5						
ASF				Sn	Sn	22 51 16.3	-7.5
	0.3nm,0.3s,baz=332,slow=23,SNR=2.1						
ASF				Lg	Lg	22 52 42.0	
	0.2nm,0.3s,baz=332,slow=17,SNR=1.7						
	1.1nm,0.4s						
MMAI	**Mount Meron Ar**	**13.55**	**288**	Pn	**Pn**	**22 49 25.8**	**-1.0**
	0.3nm,0.3s,baz=104,slow=18,SNR=1.5						
	0.7nm,0.5s						
EIL	**Elat**	**13.76**	**274**	Pn	**Pn**	**22 49 32.4**	**+2.8**
	0.2nm,0.3s,baz=40,slow=5.8,SNR=1.5						
EIL				Lg	Lg	22 53 42.7	
	0.2nm,0.3s,baz=306,slow=18,SNR=1.4						
EIL				LR	LR	22 55 54.5	
	comp=Z,35nm,20.3s,baz=344,slow=42						
KBZ	**Khabaz**	**15.38**	**338**	Pn	**Pn**	**22 49 53.6**	**+2.1**
	0.1nm,0.3s,baz=149,slow=11,SNR=5.7						
	3.9nm,1.0s						
BRTR	**Keskin Array B**	**17.27**	**310**	P	**Pn**	**22 50 17.1**	**+1.2**
	0.9nm,0.5s,baz=136,slow=13,SNR=8.3						
AKTO	**Aktyubinsk**	**21.46**	**13**	P	**P**	**22 51 02.6**	**-0.3**
	2.9nm,0.5s,baz=195,slow=12,SNR=7.6						
	2.9nm,0.5s						
AAK	**Ala-Archa**	**23.04**	**49**	LR	LR	23 00 43.1	
	comp=Z,46nm,20.6s,baz=283,slow=38						
AKASG	**Malin Array Be**	**26.52**	**328**	P	**P**	**22 51 50.8**	**-1.2**
	0.5nm,0.3s,baz=136,slow=9.6,SNR=9.3						
	0.5nm,0.3s						
BVAR	**Borovoye Array**	**27.43**	**26**	P	**P**	**22 52 00.4**	**+0.1**
	1.9nm,0.5s,baz=220,slow=6.9,SNR=14						
	1.9nm,0.5s						
KURBB	**Kurchatov Arra**	**29.53**	**37**	P	**P**	**22 52 19.4**	**+0.4**
	1.1nm,0.9s,baz=238,slow=9.1,SNR=5.7						
	1.1nm,0.9s						
MKAR	**Makanchi Array**	**29.83**	**46**	P	**P**	**22 52 21.5**	**-0.2**
	0.2nm,0.6s,baz=238,slow=7.5,SNR=4.5						
MKAR				LR	LR	23 06 00.1	
	comp=Z,55nm,18.1s,baz=234,slow=40						
	0.2nm,0.6s						
GERES	**GERESS Array B**	**34.06**	**315**	P	**P**	**22 52 57.3**	**-1.6**
	0.4nm,0.3s,baz=132,slow=7.3,SNR=2.1						
	0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**34.58**	**36**	P	**P**	**22 53 03.0**	**-0.1**
	1.7nm,0.6s,baz=245,slow=7.9,SNR=8.0						
	1.7nm,0.6s						
FINES	**FINESS Array B**	**35.73**	**340**	P	**P**	**22 53 11.0**	**-2.0**
	1.5nm,0.9s,baz=116,slow=3.2,SNR=4.8						
	1.5nm,0.9s						
HFS	**Hagfors**	**39.30**	**332**	P	**P**	**22 53 42.4**	**-0.9**
	3.0nm,0.7s,baz=134,slow=12,SNR=7.8						
	3.0nm,0.7s						
NOA	**NORSAR Array B**	**40.83**	**332**	P	**P**	**22 53 54.2**	**-1.8**
	0.6nm,0.6s,baz=124,slow=8.5,SNR=3.3						
	0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**48.19**	**261**	P	**P**	**22 54 54.7**	**-0.6**
	0.6nm,0.6s,baz=56,slow=10,SNR=6.3						
DBIC	**Dimbokro**	**56.98**	**258**	P	**P**	**22 56 00.7**	**+0.1**
	1.6nm,0.5s,baz=47,slow=6.9,SNR=4.6						
	1.6nm,0.5s						
KSRS	**Korea Array**	**63.12**	**60**	P	**P**	**22 56 41.9**	**-0.5**
	0.8nm,0.5s,baz=279,slow=7.1,SNR=2.1						
	0.8nm,0.5s						
ILAR	**Eielson Array**	**84.88**	**7**	P	**P**	**22 58 48.5**	**-0.7**
	0.5nm,0.7s,baz=324,slow=3.8,SNR=5.2						
	0.5nm,0.7s						
YKA	**Yellowknife Ar**	**87.42**	**353**	P	**P**	**22 59 00.7**	**-1.0**
	0.6nm,0.8s,baz=5.0,slow=5.7,SNR=8.1						
	0.6nm,0.8s						

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*IDC **18** 22:51:33.7±1.6, 17.69S×178.80W, h549km±16km, mb3.7/16, mbtmp4.5/16, Error ellipse: s-maj=20.2km s-min=10.3km az=146.0*
*NEIC **18** 22:51:34.5±1.3, 17.8S±0.2×178.7W±0.1, h552km±7km, mb4.3/174, Error ellipse: s-maj=25.3km s-min=15.1km az=154.0*
*NOU **18** 22:51:35.0, 17.83S×178.48W, h564km, mb4.7/42, Fiji Islands Region*
ISC 18 22:51:33.7±0.4, 17.75S±0.1×178.65W±0.07, h547km, n567, σ0°92/516, mb4.3/98, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**0.59**	**196**	P	**P**	**22 52 41.9**	**+3.0**
TAVE	**Taveuni**	**1.53**	**308**	P	**P**	**22 52 44.7**	**+3.4**
DGTI	**Dogotuki**	**2.05**	**311**	P	**P**	**22 52 47.5**	**+4.0**
MSVF	**Nonsavu**	**3.15**	**268**	P	**P**	**22 52 52.8**	**+3.2**
MSVF	**Nonsavu**	**3.15**	**268**	P	**P**	**22 52 53.5**	**+3.9**
AFI	**Afiamalu**	**7.59**	**62**	P	**P**	**22 53 28.3**	**+0.8**
AFI	**Afiamalu**	**7.59**	**62**	P	**P**	**22 53 29.0**	**+1.5**
NIUE	**Niue**	**8.40**	**101**	P	**P**	**22 53 36.3**	**+0.9**
DZM	**Mont Dzumac**	**14.70**	**250**	P	**P**	**22 54 38.9**	**-1.4**
DZM	**Mont Dzumac**	**14.70**	**250**	P	**P**	**22 54 41.2**	**+0.9**
NOUC	**Port Laguerre**	**14.83**	**250**	P	**P**	**22 54 44.1**	**+2.6**
KOUNC	**Koumac, New Ca**	**16.39**	**257**	P	**P**	**22 54 56.7**	**-0.4**
KOUNC	**Koumac, New Ca**	**16.39**	**257**	P	**P**	**22 54 59.7**	**+2.6**
EIDS	**Eidsvold**	**29.14**	**249**	P	**P**	**22 56 50.3**	**-0.7**
PMG	**Port Moresby**	**34.20**	**279**		**P**	**22 57 35.1**	**+0.8**
PMG	**Port Moresby**	**34.20**	**279**	P	**P**	**22 57 37.2**	**+3.0**
PMG	**Port Moresby**	**34.20**	**279**	P	**P**	**22 57 37.4**	**+3.2**
CMSA	**Cobar Meteorol**	**35.08**	**240**	P	**P**	**22 57 41.6**	**+0.2**
MTSU	**Mount Surprise**	**35.21**	**263**	P	**P**	**22 57 43.0**	**+0.3**
MANU	**Manus Island**	**36.80**	**291**	P	**P**	**22 57 57.9**	**+2.0**
COEN	**Coen**	**36.88**	**270**	P	**P**	**22 57 56.5**	**0.0**
COEN	**Coen**	**36.88**	**270**	P	**P**	**22 57 57.2**	**+0.7**
TOO	**Toolangi**	**37.15**	**230**	P	**P**	**22 57 59.0**	**+0.5**
BRAT	**Ballarat**	**38.30**	**231**	P	**P**	**22 58 08.9**	**+1.2**
STKA	**Stephens Creek**	**38.55**	**241**	P	**P**	**22 58 10.0**	**+0.1**
STKA				IAmb	IAmb	22 58 11.2	
	comp=Z,8.0nm,1.1s						
STKA	**Stephens Creek**	**38.55**	**241**	P	**P**	**22 58 09.6**	**-0.4**
	comp=Z,16nm,0.7s,baz=81,slow=9.2,SNR=18						
	comp=Z,16nm,0.7s						
INKA	**Innaminka**	**38.63**	**248**	P	**P**	**22 58 11.0**	**+0.4**
QIS	**Mount Isa**	**39.48**	**259**	P	**P**	**22 58 18.6**	**+1.0**
HTT	**Hallett**	**41.08**	**239**	P	**P**	**22 58 31.2**	**+1.0**
LCRK	**Leigh Creek**	**41.16**	**244**	P	**P**	**22 58 31.7**	**+0.8**
WHYH	**Whyalla**	**42.11**	**240**	P	**P**	**22 58 38.9**	**+0.6**
GENI	**Genyem**	**43.08**	**286**	P	**P**	**22 58 48.7**	**+2.5**
OOD	**Oodnadatta**	**43.10**	**248**	P	**P**	**22 58 48.0**	**+1.9**
BBOO	**Buckleboo**	**43.33**	**241**	P	**P**	**22 58 48.3**	**+0.4**
HMH	**Humu'ula Sheep**	**43.46**	**33**	P	**P**	**22 58 50.6**	**+1.3**
WB0	**Warramunga Arr**	**44.42**	**260**	P	**P**	**22 58 55.6**	**-0.9**
WB2	**Warramunga Arr**	**44.44**	**259**	P	**P**	**22 58 55.6**	**-1.1**
WRAB	**Tennant Creek**	**44.45**	**259**	P	**P**	**22 58 56.5**	**-0.2**
WRA	**Warramunga Arr**	**44.46**	**259**	P	**P**	**22 58 55.4**	**-1.3**
WRA	**Warramunga Arr**	**44.46**	**259**	P	**P**	**22 58 55.1**	**-1.6**
	comp=Z,12nm,0.9s,baz=81,slow=5.6,SNR=68						
WRA				PcP	**PcP**	**23 00 27.4**	**-1.1**
	comp=Z,1.8nm,0.8s,baz=87,slow=3.4,SNR=4.9						
WRA				ScP	**ScP**	**23 03 28.4**	**-0.3**
	comp=Z,3.7nm,1.1s,baz=89,slow=3.6,SNR=5.8						
	comp=Z,12nm,0.9s						
AS01	**Alice Springs**	**44.60**	**254**	P	**P**	**22 58 57.4**	**-0.5**
AS31	**Alice Springs**	**44.64**	**254**	P	**P**	**22 58 57.6**	**-0.6**
ASAR	**Alice Springs**	**44.64**	**254**	P	**P**	**22 58 57.2**	**-0.9**
	comp=Z,72nm,0.7s,baz=86,slow=8.4,SNR=374						
ASAR				PcP	**PcP**	**23 00 28.3**	**-0.8**
	comp=Z,2.8nm,0.7s,baz=89,slow=4.4,SNR=4.4						
ASAR				ScP	**ScP**	**23 03 29.4**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=91,slow=4.5,SNR=8.5						
ASAR				S	**S**	**23 04 49.5**	**-5.4**
	comp=Z,0.8nm,0.7s,baz=91,slow=15,SNR=7.3						
	comp=Z,2nm,0.7s						
MULG	**Mulgathing**	**44.71**	**245**	P	**P**	**22 58 58.5**	**-0.1**
KDU	**Kakadu**	**47.34**	**269**	P	**P**	**22 59 19.3**	**+0.6**
WRKA	**Warakurna**	**49.71**	**252**	P	**P**	**22 59 37.2**	**+0.9**
SOEI	**Soe**	**55.84**	**270**	P	**P**	**23 00 20.5**	**+0.2**
SOEI	**Soe**	**55.84**	**270**	P	**P**	**23 00 21.2**	**+0.9**
SANI	**Sanana**	**56.48**	**279**	P	**P**	**23 00 25.2**	**+0.7**
KLBR	**Kellerberrin**	**58.74**	**243**	P	**P**	**23 00 39.2**	**-0.4**
LUWI	**Luwuk**	**59.84**	**279**	P	**P**	**23 00 47.4**	**+0.1**
LUWI	**Luwuk**	**59.84**	**279**	P	**P**	**23 00 49.0**	**+1.8**
PLAI	**Plampang**	**62.27**	**269**	P	**P**	**23 01 03.0**	**-0.2**
JAGI	**Jajag, Banyuwa**	**65.82**	**268**	P	**P**	**23 01 24.1**	**-1.7**
MJAR	**Matsushiro Arr**	**67.57**	**323**	P	**P**	**23 01 35.5**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=168,slow=5.8,SNR=6.0						
	comp=Z,2.2nm,0.6s						
NIKH	**Nikolski High**	**70.84**	**6**	P	**P**	**23 01 53.1**	**-2.1**
	baz=190						
UNV	**Unalaska Valle**	**71.97**	**8**	P	**P**	**23 01 59.8**	**-2.0**
	baz=192						
BBJI	**Bungbulang**	**72.29**	**268**	P	**P**	**23 02 04.3**	**-0.4**
QSPA	**South Pole Qui**	**72.39**	**180**	P	**P**	**23 02 04.8**	**+0.4**
QSPA				IAmb	IAmb	23 02 06.0	
	comp=Z,16nm,1.2s						
QSPA	**South Pole Qui**	**72.39**	**180**	P	**P**	**23 02 03.8**	**-0.6**
	comp=Z,6.7nm,0.9s,baz=37,slow=2.4,SNR=20						
	comp=Z,6.7nm,0.9s						
KSM	**Kuching**	**72.43**	**277**	P	**P**	**23 02 05.5**	**+0.1**
KSM	**Kuching**	**72.43**	**277**	P	**P**	**23 02 06.1**	**+0.7**
PETK	**Petropavlovsk-**	**73.38**	**345**	P	**P**	**23 02 09.8**	**-0.2**
	comp=Z,4.0nm,0.7s,baz=120,slow=5.8,SNR=6.6						
	comp=Z,4.0nm,0.7s						
CHNA	**Chernabura Isl**	**74.01**	**11**	P	**P**	**23 02 11.7**	**-1.7**
	baz=199						
SDPT	**Sand Point**	**74.34**	**11**	P	**P**	**23 02 13.8**	**-1.5**
	baz=198						
P08K	**Saint George I**	**74.37**	**5**	P	**P**	**23 02 13.2**	**-2.2**
	baz=189						
S12K	**Black Hills**	**74.41**	**10**	P	**P**	**23 02 14.4**	**-1.4**
	baz=196						
SPIA	**Saint Paul Isl**	**74.88**	**5**	P	**P**	**23 02 16.7**	**-1.6**
	baz=188						
S14K	**Fog Glacier**	**75.39**	**11**	P	**P**	**23 02 20.2**	**-1.1**
	baz=199						
CHGN	**Chignik**	**75.62**	**11**	P	**P**	**23 02 21.5**	**-0.9**
	baz=200						
CHIR	**Chirikof Islan**	**75.74**	**13**	P	**P**	**23 02 22.3**	**-0.8**
	baz=203						
SNCC	**San Nicolas Is**	**75.79**	**48**	P	**P**	**23 02 24.7**	**+0.7**
	baz=237						
SCZ2	**Santa Cruz Isl**	**76.11**	**47**	P	**P**	**23 02 26.2**	**+0.4**
	baz=237						
SBC	**Santa Barbara**	**76.30**	**47**	P	**P**	**23 02 26.6**	**-0.1**
	baz=237						
SCI2	**San Clemente I**	**76.34**	**49**	P	**P**	**23 02 27.5**	**+0.5**
	baz=238						
SAO	**San Andreas Ge**	**76.40**	**44**	P	**P**	**23 02 28.2**	**+0.9**
SAO				IAmb	IAmb	23 02 29.4	
	comp=Z,13nm,1.0s						
PKM	**Mcpherson Peak**	**76.47**	**46**	P	**P**	**23 02 27.8**	**-0.1**
	baz=237						
SMMC	**Simmler**	**76.57**	**46**	P	**P**	**23 02 28.8**	**+0.5**
	baz=237						
CIS	**Catalina Islan**	**76.65**	**48**	P	**P**	**23 02 28.9**	**+0.1**
	baz=238						
SII	**Sitkinak Islan**	**76.73**	**14**	P	**P**	**23 02 27.9**	**-0.8**
	baz=204						
FMP	**Fort Macarthur**	**76.90**	**48**	P	**P**	**23 02 30.1**	**+0.1**
	baz=238						
KMRM	**Mail Ridge**	**76.97**	**40**	P	**P**	**23 02 31.2**	**+0.8**
OSI	**Osito Audit: C**	**77.08**	**47**	P	**P**	**23 02 31.3**	**+0.2**
	baz=238						
ARVC	**Arvin**	**77.28**	**47**	P	**P**	**23 02 32.5**	**+0.5**
	baz=238						
109C	**Camp Elliot, M**	**77.33**	**49**	P	**P**	**23 02 32.4**	**0.0**
	baz=239						
VES	**Vestal, Richgr**	**77.48**	**46**	P	**P**	**23 02 33.3**	**+0.2**
	baz=237						
OHAK	**Old Harbor**	**77.54**	**14**	P	**P**	**23 02 32.2**	**-0.8**
	baz=205						
MURC	**Murrieta**	**77.63**	**49**	P	**P**	**23 02 34.4**	**+0.3**
	baz=239						
BFSC	**Mount Baldy Ra**	**77.63**	**48**	P	**P**	**23 02 34.7**	**+0.5**
	baz=238						
EDW2	**Edwards Air Fo**	**77.73**	**47**	P	**P**	**23 02 35.0**	**+0.4**
	baz=238,SNR=8.7						
ISA	**Isabella, Lake**	**77.81**	**46**		**P**	**23 02 35.2**	**+0.2**
ISA				IAmb	IAmb	23 02 37.1	
	comp=Z,13nm,1.1s						
ISA	**Isabella, Lake**	**77.81**	**46**	P	**P**	**23 02 36.0**	**+1.0**
	baz=238,SNR=7.9						
CMB	**Columbia Colle**	**77.81**	**43**		**P**	**23 02 35.1**	**+0.1**
MONP2	**Monument Peak**	**77.83**	**50**	P	**P**	**23 02 35.7**	**+0.4**
	baz=240						
IKP	**In-Ko-Pah, Jac**	**77.93**	**50**	P	**P**	**23 02 35.9**	**+0.1**
	baz=240						
O14K	**Tigyukauivet M**	**77.94**	**9**	P	**P**	**23 02 33.8**	**-1.3**
	baz=197						
AFDM	**Forest Hills D**	**77.95**	**42**		**P**	**23 02 36.4**	**+0.7**
Q17K	**Contact Creek**	**77.95**	**12**	P	**P**	**23 02 34.7**	**-0.6**
	baz=202						
ORV	**Oroville**	**77.95**	**42**		**P**	**23 02 36.4**	**+0.8**
ORV				IAmb	IAmb	23 02 37.3	
	comp=Z,13nm,1.5s						
O15K	**Ungalikthiuk R**	**78.09**	**10**	P	**P**	**23 02 34.9**	**-1.0**
	baz=198						
PFO	**Pinyon Flats O**	**78.16**	**49**	P	**P**	**23 02 37.6**	**+0.5**
	baz=239						
TPFO	**Pinon Flats**	**78.16**	**49**	P	**P**	**23 02 37.2**	**+0.1**
	baz=239						
BBRC	**Big Bear Solar**	**78.16**	**48**	P	**P**	**23 02 38.0**	**+0.8**
	baz=239						
KDAK	**Kodiak Island**	**78.21**	**14**		**P**	**23 02 37.5**	**+0.9**
KDAK	**Kodiak Island**	**78.21**	**14**	P	**P**	**23 02 36.1**	**-0.5**
	baz=205						
LRMC	**Laurel Mtn Rad**	**78.26**	**47**	P	**P**	**23 02 37.8**	**+0.2**
	baz=238						
P16K	**Nushagak River**	**78.27**	**11**	P	**P**	**23 02 35.9**	**-1.0**
	baz=200						
SWSC	**Sam W. Stewart**	**78.30**	**50**	P	**P**	**23 02 38.3**	**+0.6**
	baz=240						
M11K	**Mekoryuk**	**78.42**	**6**	P	**P**	**23 02 36.4**	**-1.1**
	baz=192						
RRX	**Edison Barstow**	**78.42**	**48**	P	**P**	**23 02 38.6**	**+0.3**
	baz=239						
MDPB	**Devils Postpil**	**78.45**	**44**	P	**P**	**23 02 39.5**	**+0.7**
MDPB				IAmb	IAmb	23 02 40.6	
	comp=Z,8.5nm,0.9s						
CWC	**Cottonwood Cre**	**78.49**	**46**	P	**P**	**23 02 38.8**	**0.0**
	baz=238						
N14K	**Kuskokwak Cree**	**78.53**	**9**	P	**P**	**23 02 37.5**	**-0.7**
	baz=196						
MLAC	**Mammoth, Mammo**	**78.62**	**44**	P	**P**	**23 02 39.5**	**0.0**
	baz=237						
BELC	**Belle Mtn. Jos**	**78.69**	**49**	P	**P**	**23 02 40.5**	**+0.6**
	baz=240						
MPMC	**Manual Prospec**	**78.69**	**46**	P	**P**	**23 02 40.2**	**+0.2**
	baz=238,SNR=7.3						
WAKR	**Walker**	**78.69**	**43**	P	**P**	**23 02 41.0**	**+1.1**
WAKR				IAmb	IAmb	23 02 42.1	
	comp=Z,8.7nm,0.9s						
P17K	**Kvichak River**	**78.71**	**11**	P	**P**	**23 02 38.3**	**-0.8**
	baz=202						
MPK	**Martis Peak**	**78.75**	**42**	P	**P**	**23 02 41.2**	**+0.9**
MPK				IAmb	IAmb	23 02 42.2	
	comp=Z,12nm,

	baz=241								
N18K	**Kilae Creek**	80.19	11	P	P	23 02 46.7	-0.4		
	baz=202								
L15K	**Ungalak Mounta**	80.24	8	P	P	23 02 47.0	-0.2		
	baz=197								
J05D	**Fort Rock, OR**	80.27	39	P	P	23 02 48.2	+0.2		
J05D				IAmb	IAmb	23 02 50.1			
	comp=Z,11nm,0.8s								
O20K	**Slope Mountain**	80.29	13	P	P	23 02 47.1	-0.5		
	baz=205								
V12A	**Nelson**	80.37	48	P	P	23 02 49.1	+0.4		
BRSE	**Bradley Lake S**	80.40	14	P	P	23 02 48.0	-0.2		
	baz=207								
SHPR	**Sheep Range**	80.54	47	P	P	23 02 49.7	+0.1		
L16K	**Owhat River**	80.56	9	P	P	23 02 49.6	+0.8		
L16K				IAmb	IAmb	23 02 50.6			
	comp=Z,13nm,1.1s								
L16K	**Owhat River**	80.56	9	P	P	23 02 48.9	+0.1		
	baz=198								
N19K	**Bonanza Creek**	80.58	12	P	P	23 02 48.6	-0.6		
	baz=203								
M17K	**Holitna River**	80.59	10	P	P	23 02 50.4	+1.4		
M17K	**Holitna River**	80.59	10	P	P	23 02 48.6	-0.5		
	baz=200								
PINE	**Pine Mountain**	80.73	38	P	P	23 02 50.1	-0.4		
PINE				IAmb	IAmb	23 02 52.7			
	comp=Z,14nm,0.9s								
W13A	**Hualapai Mount**	80.75	49	P	P	23 02 51.0	+0.2		
K15K	**Wolf Creek Mou**	80.83	8	P	P	23 02 51.5	+1.2		
K15K	**Wolf Creek Mou**	80.83	8	P	P	23 02 49.5	-0.7		
	baz=196								
M18K	**Stony River**	80.96	11	P	P	23 02 50.0	-1.0		
	baz=202								
J14K	**Nanvaranak Lak**	81.02	7	P	P	23 02 50.6	-0.6		
J14K				IAmb	IAmb	23 02 52.0			
	comp=Z,18nm,1.4s								
J14K	**Nanvaranak Lak**	81.02	7	P	P	23 02 49.9	-1.3		
	baz=194								
SEW	**Seward**	81.02	14	P	P	23 02 50.4	-0.8		
	baz=208								
BMN	**Battle Mountai**	81.18	43	P	P	23 02 52.8	-0.1		
BMN				IAmb	IAmb	23 02 54.7			
	comp=Z,9.6nm,1.0s								
R11B	**Troy Canyon, C**	81.18	45	P	P	23 02 52.7	-0.2		
R11B	**Troy Canyon, C**	81.18	45	P	P	23 02 53.4	+0.5		
	baz=239								
Q23K	**Middleton Isla**	81.21	16	P	P	23 02 51.7	-0.5		
	baz=211								
WVOR	**Wild Horse Val**	81.36	40	P	P	23 02 54.2	+0.5		
WVOR				IAmb	IAmb	23 02 55.6			
	comp=Z,9.8nm,1.0s								
N20K	**Mount Spurr**	81.39	13	P	P	23 02 52.0	-1.3		
	baz=205								
P23K	**Montague Islan**	81.43	15	P	P	23 02 52.4	-1.0		
	baz=210								
L18K	**Granite Mounta**	81.49	10	P	P	23 02 54.7	+1.1		
L18K				IAmb	IAmb	23 02 55.4			
	comp=Z,5.6nm,0.8s								
L18K	**Granite Mounta**	81.49	10	P	P	23 02 53.1	-0.6		
	baz=201,SNR=6.2								
M19K	**Big River Lodg**	81.61	11	P	P	23 02 54.5	+0.2		
M19K	**Big River Lodg**	81.61	11	P	P	23 02 53.8	-0.5		
	baz=203								
UBPT	**Khong Chiam**	81.64	289	P	P	23 02 55.4	-0.1		
UBPT				IAmb	IAmb	23 02 56.6			
	comp=Z,16nm,1.2s								
UBPT	**Khong Chiam**	81.64	289	P	P	23 02 56.2	+0.8		
K17K	**Iditarod**	81.70	9	P	P	23 02 54.3	-0.5		
	baz=200								
TUC	**Tucson**	81.73	52	P	P	23 02 55.5	-0.2		
TUC				IAmb	IAmb	23 02 58.5			
	comp=Z,7.9nm,1.1s								
TUC	**Tucson**	81.73	52	P	P	23 02 56.0	+0.3		
	baz=243								
I07A	**Izee**	81.75	39	P	P	23 02 55.7	+0.1		
I07A				IAmb	IAmb	23 02 57.6			
	comp=Z,8.9nm,1.0s								
L19K	**White Mountain**	81.78	11	P	P	23 02 55.8	+0.7		
L19K				IAmb	IAmb	23 02 56.5			
	comp=Z,8.8nm,1.2s								
L19K	**White Mountain**	81.78	11	P	P	23 02 54.6	-0.6		
	baz=203								
M20K	**Styx River**	81.83	12	P	P	23 02 55.2	-0.3		
	baz=204								
RC01	**Rabbit Creek A**	81.83	14	P	P	23 02 55.3	-0.1		
RC01				IAmb	IAmb	23 02 56.6			
	comp=Z,7.0nm,1.0s								
RC01	**Rabbit Creek A**	81.83	14	P	P	23 02 55.1	-0.3		
	baz=208								
GNW	**Green Mountain**	81.90	34	P	P	23 02 56.1	+0.1		
J16K	**Anvik River**	81.90	8	P	P	23 02 55.9	+0.2		
J16K				IAmb	IAmb	23 02 57.5			
	comp=Z,7.6nm,0.8s								
J16K	**Anvik River**	81.90	8	P	P	23 02 54.9	-0.9		
	baz=197								
SUA	**Susitna One**	81.94	13	P	P	23 02 55.6	-0.6		
SUA				IAmb	IAmb	23 02 57.2			
	comp=Z,10nm,0.8s								
SUA	**Susitna One**	81.94	13	P	P	23 02 55.0	-1.2		
	baz=207,SNR=11								
J08A	**Circle Bar Ran**	81.97	40	P	P	23 02 56.1	-0.7		
J08A				IAmb	IAmb	23 02 58.6			
	comp=Z,10nm,1.0s								
Q12A	**Willow Creek R**	82.04	45	P	P	23 02 57.6	+0.4		
Q12A				IAmb	IAmb	23 02 59.1			
	comp=Z,13nm,1.2s								
KAIM	**Kayak Island**	82.15	17	P	P	23 02 56.5	-0.6		
	baz=213								
IPM	**Ipoh**	82.17	277	P	P	23 02 56.9	-1.4		
IPM	**Ipoh**	82.17	277	P	P	23 02 58.8	+0.5		
X16A	**Lo Mia Camp, P**	82.20	50	IAmb	IAmb	23 03 00.6			
	comp=Z,7.0nm,1.0s								
L20K	**Farewell, AK**	82.23	11	P	P	23 02 56.1	-1.4		
	baz=204								
SKT	**Skwentna**	82.24	13	P	P	23 02 56.8	-0.8		
	baz=206								
TTA	**Tatalina**	82.27	10	P	P	23 02 57.0	-0.7		
	baz=202,SNR=5.4								
CCUT	**Cedar City**	82.31	47	IAmb	IAmb	23 03 01.0			
	comp=Z,7.9nm,1.1s								
EYAK	**Cordova Ski Ar**	82.33	16	P	P	23 02 57.0	-0.9		
	baz=211								
M22K	**Willow**	82.34	13	P	P	23 02 57.7	-0.3		
	baz=207								
CRAG	**Craig**	82.38	24	P	P	23 02 57.9	-0.4		
	baz=223								
KNK	**Knik Glacier**	82.41	14	P	P	23 02 57.4	-1.0		
	baz=209								
PMR	**Palmer**	82.41	14	P	P	23 02 58.0	-0.3		
	baz=208								
I17K	**Unalakleet**	82.47	8	P	P	23 02 57.6	-0.9		
	baz=197								
SZCU	**Shurtz Canyon**	82.52	47	IAmb	IAmb	23 03 02.0			
	comp=Z,12nm,1.4s								
U15A	**North Rim**	82.52	48	IAmb	IAmb	23 03 02.3			
	comp=Z,9.6nm,0.9s								
ANM	**Nome**	82.60	6	P	P	23 02 57.3	-1.9		
	baz=193								
ELK	**Elko**	82.63	43	P	P	23 03 00.7	+0.4		
	comp=Z,4.1nm,1.0s,baz=233,slow=5.9,SNR=11								
	comp=Z,4.1nm,1.0s								
J18K	**Innoko River**	82.65	10	IAmb	IAmb	23 03 00.6			
	comp=Z,8.1nm,0.9s								
J18K	**Innoko River**	82.65	10	P	P	23 02 58.2	-1.3		
	baz=201,SNR=8.5								
SIT	**Sitka**	82.73	22	P	P	23 02 59.5	-0.6		
	baz=221								
WUAZ	**Wupatki**	82.75	49	P	P	23 03 01.0	+0.1		
	baz=242								
SML	**Sawmill**	82.78	14	P	P	23 02 59.3	-1.0		
	baz=209								
U33K	**Whale Pass**	82.85	24	P	P	23 03 00.2	-0.5		
	baz=223								
V35K	**Ketchikan**	82.88	25	P	P	23 03 00.7	-0.1		
	baz=225								
PPLA	**Purkeypile**	82.94	12	P	P	23 03 00.3	-0.8		
	baz=205								
E07A	**Sunnyside**	82.95	36	IAmb	IAmb	23 03 03.2			
	comp=Z,9.6nm,1.0s								
BMRM	**Bremner River**	82.98	16	P	P	23 03 01.1	-0.2		
	baz=212								
H16K	**Elim**	83.00	7	P	P	23 02 59.8	-1.4		
	baz=196,SNR=7.1								
K20K	**Telida**	83.00	11	IAmb	IAmb	23 03 02.2			
	comp=Z,9.0nm,0.8s								
K20K	**Telida**	83.00	11	P	P	23 03 00.7	-0.6		
	baz=204,SNR=10								
HAWA	**Hanford**	83.04	37	IAmb	IAmb	23 03 03.6			
	comp=Z,7.6nm,0.9s								
SCM	**Sheep Creek Mo**	83.04	14	P	P	23 03 00.7	-0.9		
	baz=210,SNR=8.8								
MESA	**MESA**	83.05	18	P	P	23 03 01.7	-0.2		
	baz=215								
KLU	**Klutina**	83.09	15	IAmb	IAmb	23 03 02.4			
	comp=Z,8.4nm,1.2s								
KLU	**Klutina**	83.09	15	P	P	23 03 01.0	-0.9		
	baz=211								
S31K	**Pelican**	83.10	21	P	P	23 03 01.2	-0.6		
	baz=220								
G15K	**Niukluk**	83.15	6	P	P	23 03 00.8	-1.1		
	baz=194								
CRQM	**Cirque**	83.19	17	IAmb	IAmb	23 03 03.4			
	comp=Z,10nm,1.0s								
ISLE	**Juniper Island**	83.29	17	IAmb	IAmb	23 03 03.8			
	comp=Z,11nm,1.0s								
S32K	**Killisnoo**	83.31	22	P	P	23 03 02.9	0.0		
	baz=222								
J19K	**Poorman**	83.32	10	P	P	23 03 02.3	-0.6		
	baz=202								
MTPU	**Mount Pierson**	83.36	47	IAmb	IAmb	23 03 07.0			
	comp=Z,8.5nm,1.1s								
TNA	**Tin City**	83.36	4	P	P	23 03 01.8	-1.2		
	baz=190								
WRAK	**Wrangell Islan**	83.37	24	P	P	23 03 03.4	+0.2		
	baz=224								
PNL	**Peninsula**	83.40	19	P	P	23 03 02.8	-0.6		
	baz=217								
F14K	**Arctic Creek**	83.40	5	P	P	23 03 02.7	-0.5		
	baz=192								
CAST	**Castle Rocks**	83.43	12	IAmb	IAmb	23 03 02.8			
	comp=Z,11nm,1.0s								
CAST	**Castle Rocks**	83.43	12	P	P	23 03 02.1	-1.4		
	baz=205,SNR=13								
TABL	**Table Mountain**	83.50	18	IAmb	IAmb	23 03 05.0			
	comp=Z,10nm,0.8s								
VRDI	**Verde Repeater**	83.50	16	IAmb	IAmb	23 03 04.8			
	comp=Z,7.8nm,1.0s								
N25K	**Chitina, Valde**	83.52	16	IAmb	IAmb	23 03 04.8			
	comp=Z,9.0nm,0.8s								
N25K	**Chitina, Valde**	83.52	16	P	P	23 03 04.0	0.0		
	baz=212,SNR=10								
M24K	**Tolsona, Glenn**	83.56	15	P	P	23 03 04.3	+0.1		
	baz=211								
H17K	**Granite Mounta**	83.58	8	P	P	23 03 03.6	-0.6		
	baz=198								
GLB	**Gilahina Butte**	83.59	16	IAmb	IAmb	23 03 05.0			
	comp=Z,6.2nm,0.7s								
WAT6	**Susitna Watana**	83.60	14	P	P	23 03 03.7	-0.8		
	baz=210,SNR=9.3								
MFID	**Camas Ranch**	83.63	41	IAmb	IAmb	23 03 06.8			
	comp=Z,8.8nm,1.1s								
WAT1	**Susitna Watana**	83.63	13	P	P	23 03 04.3	-0.2		
	baz=209								
G16K	**Koyuk River**	83.72	7	P	P	23 03 04.2	-0.6		
	baz=196								
J20K	**Nowinta River**	83.74	11	P	P	23 03 03.6	-1.4		
	baz=203								
D08A	**Wollman Farm,**	83.76	36	IAmb	IAmb	23 03 07.1			
	comp=Z,8.0nm,1.0s								
W18A	**Petrified Fore**	83.77	50	P	P	23 03 05.9	-0.1		
	baz=243								
KTH	**Kantishna Hill**	83.78	12	IAmb	IAmb	23 03 06.0			
	comp=Z,7.0nm,1.0s								
F15K	**North Star Dit**	83.78	6	P	P	23 03 03.1	-2.0		
	baz=193								
CHUM	**Lake Minchumin**	83.81	11	P	P	23 03 04.5	-0.7		
	baz=205,SNR=5.0								
TRF	**Thorofare Moun**	83.81	12	P	P	23 03 04.7	-0.8		
	baz=207,SNR=8.7								
GCSA	**Galena City Sc**	83.83	9	P	P	23 03 03.9	-1.4		
	baz=201								
LOGN	**Logan Glacier**	83.85	18	IAmb	IAmb	23 03 06.7			
	comp=Z,6.6nm,0.9s								
BARN	**Barnard Glacie**	83.86	17	IAmb	IAmb	23 03 06.8			
	comp=Z,9.3nm,0.9s								
CTG	**Chitna Glacier**	83.87	17	P	P	23 03 05.2	-0.7		
	baz=216,SNR=5.8								
CTGM	**Chitna Glacie**	83.87	17	IAmb	IAmb	23 03 06.7			
	comp=Z,7.1nm,0.8s								
P29M	**Windy Craggy**	83.89	20	IAmb	IAmb	23 03 07.3			
	comp=Z,7.7nm,0.9s								
P29M	**Windy Craggy**	83.89	20	P	P	23 03 05.5	-0.3		
	baz=219								
R32K	**Eaglecrest**	83.93	22	P	P	23 03 06.0	0.0		
	baz=222								
ENH	**Enshi**	83.94	304	P	P	23 03 07.7	+0.9		
DUG	**Dugway, Tooele**	83.96	45	P	P	23 03 06.7	-0.1		
	baz=241								
H18K	**Honhosa River**	83.99	8	P	P	23 03 05.2	-1.0		
	baz=199								
G17K	**Kiwalik Mounta**	84.02	7	P	P	23 03 05.3	-1.0		
	baz=197								
HARP	**HAARP**	84.05	15	P	P	23 03 05.5	-1.0		
	baz=212								
121A	**Cookes Peak, D**	84.11	53	P	P	23 03 07.7	-0.1		
	baz=245								
DHY	**Denali Highway**	84.11	14	P	P	23 03 05.5	-1.5		
	baz=210								
F10A	**Beach Ranch, E**	84.14	38	IAmb	IAmb	23 03 08.6			
	comp=Z,12nm,1.1s								
O29M	**Mount Kennedy**	84.15	19	P	P	23 03 06.6	-0.6		
	baz=218								
BPAW	**Bear Paw Mtn.**	84.26	12	P	P	23 03 06.3	-1.3		
	baz=206								
I20K	**Naaghedeneel**	84.26	10	P	P	23 03 06.7	-0.8		
	baz=203								
MCK	**McKinley**	84.35	13	P	P	23 03 07.1	-0.9		
	baz=208,SNR=5.6								
PLID	**Pearl Lake**	84.40	39	IAmb	IAmb	23 03 11.2			
	comp=Z,7.8nm,1.4s								
PAX	**Paxson**	84.47	15	P	P	23 03 07.4	-1.3		
	baz=212								
P30M	**Million Dollar**	84.52	20	P	P	23 03 07.2	-1.7		
	baz=220								
SKAG	**Skagway**	84.55	21	P	P	23 03 08.0	-1.0		
	baz=221								
YUK8	**Steele Glacier**	84.58	18	P	P	23 03 08.6	-0.9		
	baz=217,SNR=6.6								
T35M	**Bob Quinn**	84.59	24	P	P	23 03 08.5	-0.9		
	baz=226								
HLID	**Hailey**	84.59	41	P	P	23 03 10.0	+0.1		
	baz=239,SNR=6.7								
M26K	**Nabesna, AK**	84.60	16	P	P	23 03 08.5	-0.8		
	baz=214								
H19K	**Roundabout Mou**	84.62	9	P	P	23 03 07.9	-1.4		
	baz=201								
G18K	**Tagagawik**	84.66	8	P	P	23 03 08.4	-1.0		
	baz=199								
NONG	**Nongkai**	84.70	291	P	P	23 03 11.2	+0.5		
YUK6	**Outpost Mounta**	84.72	18	P	P	23 03 09.5	-0.6		
	baz=218								
YUK3	**Moose Creek**	84.78	17	P	P	23 03 10.0	-0.4		
	baz=216,SNR=8.2								
SRIT	**Nakonsritamara**	84.81	281	P	P	23 03 12.2	+0.9		
H20K	**Anopleneega Mo**	84.84	10	P	P	23 03 09.9	-0.4		
	baz=203								
F17K	**Baldwin Pennin**	84.86	7	P	P	23 03 09.1	-1.2		
	baz=197								
M27K	**Edge Creek, AK**	84.86	16	IAmb	IAmb	23 03 12.0			
	comp=Z,9.5nm,1.1s								
M27K	**Edge Creek, AK**	84.86	16	P	P	23 03 10.6	-0.1		
	baz=215								
HYT	**Haines Junctio**	84.89	19	P	P	23 03 10.8	0.0		
	baz=219								
S34M	**Telegraph Cree**	84.91	23	IAmb	IAmb	23 03 12.7			
	comp=Z,9.0nm,0.9s								
S34M	**Telegraph Cree**	84.91	23	P	P	23 03 11.2	+0.4		
	baz=225								
YUK4	**Talbot Arm**	84.96	18	P	P	23 03 11.0	-0.3		
	baz=218								
L26K	**Log Cabin Wild**	85.03	15	P	P	23 03 11.0	-0.3		
	baz=214								
I21K	**Tanana**	85.05	11	P	P	23 03 10.6	-0.7		
	baz=205								
NEA2	**Nenana**	85.08	12	P	P	23 03 11.3	-0.2		
	baz=208								
K24K	**Donnelly Dome**	85.11	14	P	P	23 03 11.1	-0.6		
	baz=211,SNR=6.0								
G19K	**Purcell Mounta**	85.11	9	P	P	23 03 11.0	-0.6		
	baz=201								
MLY	**Manley**	85.14	12	P	P	23 03 11.3	-0.6		
	baz=207								
WRH	**Wood River Hil**	85.18	13	IAmb	IAmb	23 03 12.2			
	comp=Z,12nm,1.2s								
BVCY	**Beaver Creek**	85.18	17	P	P	23 03 12.0	-0.1		
	baz=216,SNR=7.5								
P32M	**Atlin**	85.19	21	P	P	23 03 12.3	+0.1		
	baz=222								
F18K	**Selawik**	85.20	7	P	P	23 03 11.6	-0.4		
	baz=198								
Q32M	**Nakina River**	85.24	22	P	P	23 03 12.8	+0.1		
	baz=224								
O30N	**Mendenhall**	85.29	19	P	P	23 03 12.6	-0.1		
	baz=220								
H21K	**Melozitna Rive**	85.33	10	P	P	23 03 12.9	+0.2		
	baz=205								
HDA	**Harding Lake**	85.37	13	P	P	23 03 12.4	-0.6		
	baz=210								
CCB	**Clear Creek Bu**	85.39	13	IAmb	IAmb	23 03 13.0			
	comp=Z,9.0nm,1.3s								
Y22D	**IRIS PASSCAL I**	85.41	52	P	P	23 03 14.0	0.0		
	baz=245								
Y22F	**Passcal Instru**	85.41	52	P	P	23 03 13.8	-0.2		
	baz=245								
NEW	**Newport**	85.44	36	P	P	23 03 14.2	+0.5		
	baz=237								
NEW	**Newport**	85.44	36	P	P	23 03 13.8	+0.1		
	comp=Z,2.0nm,0.8s,baz=216,slow=7.0,SNR=4.6								
	comp=Z,2.0nm,0.8s								
L27K	**Beaver Creek,**	85.45	16	P	P	23 03 13.0	-0.4		
	baz=215								
I23K	**Minto, Yukon-K**	85.51	12	P	P	23 03 13.0	-0.5		
	baz=208								
N30M	**Aishikik Lake**	85.51	19	P	P	23 03 13.4	-0.3		
	baz=219								
MDM	**Murphy Dome**	85.58	12	IAmb	IAmb	23 03 13.9			
	comp=Z,8.6nm,1.2s								
MVCO	**Mesa Verde**	85.58	49	P	P	23 03 15.0	+0.1		
	baz=244								
WHY	**Whitehorse**	85.60	20	IAmb	IAmb	23 03 15.6			
	comp=Z,5.9nm,1.1s								
WHY	**Whitehorse**	85.60	20	P	P	23 03 14.3	0.0		
	baz=221								
MNTX	**Cornudas Mount**	85.62	55	P	P	23 03 15.8	+0.9		
	baz=246								
F19K	**Shaleruckik Mo**	85.66	8	P	P	23 03 13.8	-0.4		
	baz=200								
SCRK	**Sand Creek**	85.68	15	P	P	23 03 14.7	+0.1		
	baz=213								
DLBC	**Dease Lake**	85.69	23	IAmb	IAmb	23 03 16.3			
	comp=Z,5.6nm,1.1s								
DLBC	**Dease Lake**	85.69	23	P	P	23 03 14.8	+0.1		
	baz=226								
DLBC	**Dease Lake**	85.69	23	P	P	23 03 15.1	+0.4		
	comp=Z,1.8nm,0.7s,baz=259,slow=5.2,SNR=4.8								
	comp=Z,1.8nm,0.7s								
ILAR	**Eielson Array**	85.69	13	P	P	23 03 13.1	-1.4		
	comp=Z,1.8nm,0.8s,baz=228,slow=5.4,SNR=15								
	comp=Z,1.8nm,0.8s								
H22K	**Ishtalitna Cre**	85.80	11	P	P	23 03 14.1	-0.9		
	baz=206								
E18K	**Tukpahlearik C**	85.87	7	P	P	23 03 14.6	-0.6		
	baz=197								
D17K	**Noatak River**	85.88	6	P	P	23 03 14.8	-0.4		
	baz=195								
M29M	**Somme Creek**	85.88	18	P	P	23 03 15.3	-0.2		
	baz=218								
POKR	**Poker Plat Res**	85.88	13	P	P	23 03 14.6	-0.8		
	baz=210								
J25K	**Salcha River,**	85.89	14	IAmb	IAmb	23 03 15.9			
	comp=Z,8.8nm,1.4s								
J25K	**Salcha River,**	85.89	14	P	P	23 03 14.5	-1.0		
	baz=212								
XAN	**Xi'an**	85.93	307	⇑P	P	23 03 17.5	+1.1		
XAN				pmax	pmax				
	comp=Z,21nm,1.5s								
P33M	**Teslin, Yukon**	85.95	21	P	P	23 03 15.9	0.0		
	baz=223								
G21K	**Allakaket**	86.00	10	P	P	23 03 15.4	-0.5		
	baz=204								
R33M	**Jennings River**	86.02	22	IAmb	IAmb	23 03 18.0			
	comp=Z,6.0nm,1.1s								
R33M	**Jennings River**	86.02	22	P	P	23 03 15.5	-0.8		
	baz=225								
TXAR	**Lajitas Array**	86.05	58	P	P	23 03 18.0	+0.9		
	comp=Z,3.1nm,0.8s,baz=221,slow=5.4,SNR=21								
	comp=Z,3.1nm,0.8s								
ANMO	**Albuquerque**	86.12	52	P	P	23 03 18.1	+0.7		
ANMO				IAmb	IAmb	23 03 20.2			
	comp=Z,5.6nm,1.2s								
ANMO	**Albuquerque**	86.12	52	P	P	23 03 18.2	+0.7		
	baz=245								
F20K	**Avaraart Lake**	86.15	9	P	P	23 03 15.6	-1.0		
	baz=202								
K27K	**Chicken**	86.19	15	IAmb	IAmb	23 03 18.2			
	comp=Z,7.0nm,1.3s								
K27K	**Chicken**	86.19	15	P	P	23 03 16.3	-0.5		
	baz=215								
J26L	**Joseph Creek**	86.22	14	IAmb	IAmb	23 03 17.8			
	comp=Z,8.5nm,1.3s								
J26L	**Joseph Creek**	86.22	14	P	P	23 03 16.3	-0.7		
	baz=213								
C16K	**Lisburne Hills**	86.23	5	P	P	23 03 15.6	-1.4		
	baz=193								
RDOG	**Red Dog Mine**	86.24	6	P	P	23 03 16.1	-0.9		
	baz=195								
E19K	**Redstone River**	86.33	8	P	P	23 03 16.4	-1.0		
	baz=200								
H24K	**Noodor Dome**	86.42	12	P	P	23 03 17.2	-0.8		
	baz=209								
M30M	**Minto, Yukon**	86.47	18	IAmb	IAmb	23 03 19.2			
	comp=Z,5.1nm,0.8s								
M30M	**Minto, Yukon**	86.47	18	P	P	23 03 18.4	+0.2		
	baz=220,SNR=8.7								
L29M	**L29M**	86.50	17	IAmb	IAmb	23 03 19.8			
	comp=Z,6.2nm,1.1s								
L29M	**L29M**	86.50	17	P	P	23 03 17.9	-0.5		
	baz=218								
N32M	**Quiet Lake**	86.56	20	IAmb	IAmb	23 03 20.2			
	comp=Z,6.4nm,1.0s								
N32M	**Quiet Lake**	86.56	20	P	P	23 03 18.6	-0.1		
	baz=223								
C17K	**DeLong Mountai**	86.62	6	P	P	23 03 17.9	-0.9		
	baz=195								
PRP	**Porcupine Dome**	86.63	13	P	P	23 03 18.2	-0.9		
	baz=211								
F21K	**Alatna River**	86.66	10	P	P	23 03 18

	baz=242						
PHRA	**Phrae**	87.45	290	P	**P**	23 03 22.2	-1.6
G25K	**Bearman Lake** baz=211	87.58	12	P	**P**	23 03 22.5	-0.8
D20K	**Etivluk River** baz=201	87.59	8	P	**P**	23 03 22.7	-0.6
I27K	**Kandik River** baz=215	87.60	14	P	**P**	23 03 22.7	-0.9
C19K	**Lookout Ridge** baz=198	87.60	7	P	**P**	23 03 23.1	-0.3
B18K	**Kokolik River** baz=196	87.61	6	P	**P**	23 03 22.2	-1.2
E22K	**Anaktuvuk Pass** comp=Z,3.1nm,0.8s	87.75	10	IAmb	IAmb	23 03 24.9	
E22K	**Anaktuvuk Pass** baz=206	87.75	10	P	**P**	23 03 23.7	-0.5
I28M	**Miner Creek** baz=217	87.88	15	P	**P**	23 03 24.9	0.0
F24K	**Squaw Lake** baz=209	87.89	11	P	**P**	23 03 24.4	-0.4
SDCO	**Great Sand Dun** baz=246	87.97	49	P	**P**	23 03 26.4	+0.2
E23K	**Chandalar** baz=208	88.06	11	P	**P**	23 03 24.8	-0.8
H27K	**Steamboat Moun** baz=215	88.13	14	P	**P**	23 03 26.0	0.0
J30M	**Hart River** baz=220	88.14	17	P	**P**	23 03 25.6	-0.6
MMPY	**Sheldon Lake,** comp=Z,6.4nm,0.9s	88.21	20	IAmb	IAmb	23 03 27.9	
MMPY	**Sheldon Lake,** baz=224,SNR=7.9	88.21	20	P	**P**	23 03 26.3	-0.2
G26K	**Porcupine Rive** baz=213	88.23	13	P	**P**	23 03 26.5	+0.2
C21K	**Knifeblade Rid** baz=203	88.25	8	P	**P**	23 03 26.2	-0.2
E24K	**Your Creek** baz=209	88.27	11	P	**P**	23 03 26.3	-0.3
D22K	**Ayikyak River** comp=Z,4.4nm,0.8s	88.30	9	IAmb	IAmb	23 03 27.7	
D22K	**Ayikyak River** baz=205	88.30	9	P	**P**	23 03 26.4	-0.2
F25K	**Christian River** baz=211	88.39	12	P	**P**	23 03 26.9	-0.3
TGTN	**Hyland Airport** baz=227	88.46	22	P	**P**	23 03 27.2	-0.5
A19K	**Wainwright** baz=197	88.50	6	P	**P**	23 03 26.2	-1.3
T25A	**Trinidad** baz=246	88.52	50	P	**P**	23 03 28.5	-0.2
MSTX	**Muleshoe** baz=248	88.53	54	P	**P**	23 03 29.5	+0.8
DRIO	**Del Rio** comp=Z,5.7nm,0.9s	88.56	59	IAmb	IAmb	23 03 31.3	
RLMT	**Red Lodge** baz=243	88.58	42	P	**P**	23 03 29.1	+0.3
G27K	**Doyon Strip** baz=215	88.58	14	P	**P**	23 03 27.4	-0.7
TOLK	**Toolik Lake Re** baz=208	88.58	10	P	**P**	23 03 27.0	-1.0
CMAR	**Chiang Mai Arr** comp=Z,3.6nm,0.9s,baz=107,slow=2.8,SNR=26 comp=Z,3.6nm,0.9s	88.59	290	P	**P**	23 03 29.9	+0.7
I30M	**Mount Dempster** comp=Z,4.1nm,1.1s	88.63	16	IAmb	IAmb	23 03 29.0	
I30M	**Mount Dempster** baz=220	88.63	16	P	**P**	23 03 27.9	-0.5
D23K	**Nanushuk River** baz=206	88.69	10	P	**P**	23 03 28.0	-0.4
B21K	**Ikpikpuk River** baz=203	88.70	8	P	**P**	23 03 27.6	-0.9
Q24A	**Divide** baz=246	88.72	48	P	**P**	23 03 29.5	-0.2
ISCO	**Idaho Springs** baz=246	88.73	47	P	**P**	23 03 30.2	+0.4
B20K	**Meade River** baz=200	88.74	7	P	**P**	23 03 27.6	-1.0
F26K	**Sheenjek River** baz=213	88.78	12	P	**P**	23 03 28.2	-0.7
E25K	**Arctic Village** baz=211	88.86	12	P	**P**	23 03 28.9	-0.4
H29M	**Whitestone** baz=218	88.89	15	P	**P**	23 03 29.7	+0.3
N23A	**Red Feather La** baz=245	88.95	46	P	**P**	23 03 30.5	-0.1
KOTAN	**Kotaneelee Air** baz=231	89.11	24	P	**P**	23 03 30.4	-0.2
D24K	**Happy Valley** baz=208	89.16	10	P	**P**	23 03 30.4	-0.3
833A	**Chaparral WMA,** baz=249	89.17	60	P	**P**	23 03 32.0	+0.3
FLDN	**Fort Liard** baz=231	89.40	24	P	**P**	23 03 31.7	-0.2
EPYK	**Eagle Plains** baz=210	89.42	16	P	**P**	23 03 31.0	-1.0
C23K	**Itkillik River** baz=207	89.48	9	P	**P**	23 03 31.9	-0.2
G29M	**Pine Creek** baz=218	89.52	15	P	**P**	23 03 31.8	-0.6
B22K	**Teshekpuk Lake** baz=204	89.53	8	P	**P**	23 03 32.1	-0.2
EGMT	**Eagleton** baz=243	89.59	39	P	**P**	23 03 33.2	-0.1
H31M	**Peel River** baz=222	89.62	17	P	**P**	23 03 32.0	-0.9
F28M	**Old Crow** baz=217	89.64	14	P	**P**	23 03 32.0	-0.9
C24K	**Franklin Bluff** baz=208	89.69	10	P	**P**	23 03 31.9	-1.2
AMTX	**Amarillo** baz=248	89.70	53	P	**P**	23 03 34.2	+0.1
E27K	**Coleen River** baz=215	89.73	13	P	**P**	23 03 32.7	-0.7
D25K	**Kavik River** baz=211	89.74	11	P	**P**	23 03 32.6	-0.8
A22K	**Sinclair Lake** baz=202	89.94	8	P	**P**	23 03 33.3	-0.9
G30M	**tAoh Zraii Nji** baz=220	90.02	15	P	**P**	23 03 34.5	-0.2
A21K	**Barrow** baz=201	90.04	7	P	**P**	23 03 33.4	-1.2
ABTX	**Abilene, Hawle** baz=249	90.47	56	P	**P**	23 03 37.9	+0.3
G31M	**Satah River** baz=222	90.48	16	P	**P**	23 03 37.1	+0.4
E28M	**Babbage River** comp=Z,3.9nm,1.1s	90.52	13	IAmb	IAmb	23 03 37.8	
E28M	**Babbage River** baz=217	90.52	13	P	**P**	23 03 37.1	+0.2
C26K	**Camden Bay** baz=212	90.52	11	P	**P**	23 03 36.7	-0.2
F30M	**Barrier River** baz=220	90.61	15	P	**P**	23 03 38.0	+0.6
E29M	**Blow River** baz=216	90.71	14	P	**P**	23 03 37.4	-0.5
D27M	**Malcolm River** baz=218	90.73	13	P	**P**	23 03 37.8	-0.2
F31M	**Tsiigehtchic** baz=222	91.01	16	P	**P**	23 03 38.9	-0.3
LAO	**LASA Array** baz=245	91.17	41	P	**P**	23 03 40.4	-0.2
D28M	**Stokes Point** baz=218	91.27	13	P	**P**	23 03 39.8	-0.5
INK	**Inuvik** baz=222	91.70	15	P	**P**	23 03 41.8	-0.5
DGMT	**Dagmar** baz=247	93.15	40	P	**P**	23 03 50.1	+0.5
SONM	**Songino Array** comp=Z,0.4nm,0.7s,baz=72,slow=4.7,SNR=2.5 comp=Z,0.4nm,0.7s	93.22	319	P	**P**	23 03 49.3	-0.7
YKA	**Yellowknife Ar** comp=Z,1.4nm,1.0s,baz=248,slow=4.5,SNR=13 comp=Z,1.4nm,1.0s	94.20	25	P	**P**	23 03 53.6	-0.3
TUL3	**Leonard** baz=252	94.58	54	P	**P**	23 03 57.0	+0.7
C36M	**Paulatuk** baz=231	94.92	17	P	**P**	23 03 56.9	-0.2
SUSD	**Miller** baz=250	95.06	45	P	**P**	23 03 58.3	0.0
MDND	**Maddock** baz=250	95.78	42	P	**P**	23 04 01.5	0.0
MIAR	**Mount Ida** baz=253	95.89	56	P	**P**	23 04 02.5	+0.2
A36M	**Sachs Harbour** baz=230	96.30	15	P	**P**	23 04 02.5	-0.7
SCIA	**State Center** baz=254	98.27	49	P	**P**	23 04 13.2	+0.4
AGMN	**Agassiz Nation** baz=253	98.31	42	P	Pdif	23 04 12.6	-0.2
CCM	**Cathedral Cave** baz=254	98.68	53	P	**P**	23 04 15.2	+0.5
OXF	**Oxford** baz=255	99.18	57	P	Pdif	23 04 17.3	+0.3
SPMN	**Marine on St.** baz=254	99.47	46	P	Pdif	23 04 18.0	0.0
JFWS	**Jewell Farm** baz=256	100.66	48	P	Pdif	23 04 23.6	+0.2
LRAL	**Lakeview Retre** baz=256	100.75	59	P	Pdif	23 04 24.7	+0.8
HDIL	**Hopedale** baz=256	100.78	51	P	Pdif	23 04 24.1	+0.2
WVT	**Waverly** baz=256	100.83	56	P	Pdif	23 04 25.4	+1.1
EYMN	**Ely** baz=256	101.03	43	P	Pdif	23 04 25.5	+0.6
L44A	**Lake County Fo** baz=257	102.17	49	P	Pdif	23 04 31.1	+1.0
SFIN	**Lafayette** baz=257	102.37	51	P	Pdif	23 04 31.8	+0.8
WCI	**Wyandotte Cave** baz=257	102.51	54	P	Pdif	23 04 32.5	+0.8
TIGA	**Tifton** baz=257	103.20	61	P	Pdif	23 04 35.8	+0.9
GOGA	**Godfrey** baz=258	103.72	59	P	Pdif	23 04 37.9	+0.7
O48B	**Farmland** baz=258	103.80	52	P	Pdif	23 04 38.0	+0.6
P49A	**Miami Univ. Ec** baz=258	103.98	53	P	Pdif	23 04 39.0	+0.8
TZTN	**Tazewell** baz=258	104.30	56	P	Pdif	23 04 40.7	+1.1
DWPF	**Disney Wildern** baz=257	104.30	65	P	Pdif	23 04 41.2	+1.3
P52A	**Corning** baz=260	105.97	53	P	PKiKP	23 08 57.0	+1.2
O53A	**New Philadelph** baz=261	106.76	52	P	PKiKP	23 08 58.5	+1.2
BLA	**Blacksburg** baz=260	106.89	56	P	PKiKP	23 08 58.6	+0.9
M53A	**WI Miller and** baz=262	107.35	51	P	PKiKP	23 08 59.1	+0.7
MCWV	**Mont Chateau** baz=261	107.71	53	P	PKiKP	23 08 59.3	+0.2
ERPA	**Erie** baz=262	107.95	51	P	PKiKP	23 09 00.2	+0.7
CNNC	**Cliffs of the** baz=261	108.59	58	P	PKiKP	23 09 01.0	+0.2
MKAR	**Makanchi Array** comp=Z,0.2nm,0.5s,baz=54,slow=2.5,SNR=1.9	108.80	314	PKiKP	PKiKP	23 08 59.3	-1.6
SSPA	**Standing Stone** baz=263	109.33	52	P	PKiKP	23 09 02.6	+0.5
CBN	**Corbin Frederi** baz=262	109.42	55	P	PKiKP	23 09 02.8	+0.5
BINY	**Binghamton** baz=265	110.92	51	P	PKiKP	23 09 05.6	+0.5
KURBB	**Kurchatov Arra** comp=Z,0.1nm,0.3s,baz=101,slow=1.9,SNR=4.8	111.54	318	PKiKP	PKiKP	23 09 04.3	-1.6
LONY	**Lake Ozonia** baz=267	112.12	48	P	PKiKP	23 09 08.1	+0.8
PAL	**Palisades** baz=266	112.37	52	P	PKiKP	23 09 07.8	0.0
L61B	**Northampton** baz=267	113.38	51	P	PKiKP	23 09 10.0	+0.2
LBNH	**Lisbon** baz=268	114.00	49	P	PKPdf	23 09 10.9	0.0
HRV	**Adam Dziewonsk** baz=268	114.21	51	P	PKiKP	23 09 11.6	+0.2
M65A	**Busby, Falmout** baz=268	114.86	52	P	PKiKP	23 09 13.5	+0.9
PKME	**Peaks-Kenny Pk** baz=271	115.89	48	P	PKiKP	23 09 15.3	+0.8
BVAR	**Borovoye Array** comp=Z,0.5nm,0.5s,baz=31,slow=0.8,SNR=3.8	116.51	321	PKP	PKPdf	23 09 13.9	-1.6
FINES	**FINESS Array B** comp=Z,3.2nm,1.1s,baz=58,slow=3.4,SNR=3.9	132.89	344	PKP	PKPdf	23 09 45.0	-1.5
FINES	comp=Z,4.2nm,0.7s,baz=52,slow=5.4,SNR=12			SKPbc	SKPbc	23 12 22.9	-0.2
AKASG	**Malin Array Be** comp=Z,0.5nm,0.5s,baz=37,slow=3.2,SNR=5.5	140.23	332	SKPbc	SKPbc	23 12 43.4	-1.8
GAZ	**Gaziantep**	143.00	309		PKPdf	23 10 03.8	-2.0
LODK	**Lodwar**	143.79	251	PKPdf	PKPbc	23 10 06.7	-0.3
BUR08	**Bucovina Ar. S**	144.27	332		PKPbc	23 10 07.4	-0.1
BR131	**Keskin Array S**	144.45	315		PKPbc	23 10 08.1	-0.3
BRTR	**Keskin Array B** comp=Z,4.2nm,0.9s,baz=130,slow=2.3,SNR=24	144.45	315	PKP	PKPbc	23 10 07.3	-1.0
KOLS	**Kolonicke sedl**	144.48	336	*e*PKP	PKPab	23 10 08.7	+0.2
CLL	**Collm** comp=Z,4.0nm,0.6s	145.17	347	*i* PKPbc	PKPdf	23 10 09.4	+0.4
BRG	**Berggiesshubel**	145.37	346	*e*P	PKPdf	23 10 06.6	-2.8
MMAI	**Mount Meron Ar** comp=Z,8.2nm,0.8s,baz=73,slow=4.8,SNR=7.8	145.82	303	PKPbc	PKPbc	23 10 12.4	-0.1
BALJ	**Balqa**	145.90	301		PKPdf	23 10 10.8	-0.1
VRAC	**Vranov**	146.10	342	*e*PKP	PKPbc	23 10 13.5	+0.7
VYHS	**Vyhne**	146.10	339	*e*PKP	PKPbc	23 10 13.0	+0.2
KRUC	**Moravsky**	146.38	342	*e*PKP	PKPbc	23 10 13.4	-0.1
MODS	**Modra-Piesok**	146.72	341	*e*PKP	PKPbc	23 10 15.2	+0.7
GERES	**GERESS Array B** comp=Z,1.1nm,0.5s,baz=31,slow=5.9,SNR=5.1	147.31	345	PKPbc	PKPbc	23 10 14.7	-1.4
CONA	**Conrad Observa** comp=Z,1.2nm,0.5s	147.56	342	*e*PKP	PKPbc	23 10 16.7	-0.1
RONA	**Rosalia, Austr** comp=Z,1.2nm,0.5s	147.63	341	*i* PKP	PKPbc	23 10 16.7	-0.2
ARSA	**Arzberg** comp=Z,2.2nm,0.7s	148.26	342	*i* PKiKP	PKiKP	23 10 19.9	+0.1
LESA	**Schwarzleotal** comp=Z,1.1nm,0.3s	148.89	345	*i* PKP	PKPbc	23 10 19.5	-0.7
SOKA	**Soboth** comp=Z,1.6nm,0.7s	148.93	342	*e*PKiKP	PKPbc	23 10 20.5	+0.3
KBA	**Koelnbreinsper** comp=Z,1.9nm,0.4s	149.04	344	*i* PKP	PKPbc	23 10 19.5	-1.1
WATA	**Walderalm** comp=Z,0.8nm,0.3s	149.23	346	*e*PKP	PKPbc	23 10 20.2	-0.8
WTTA	**Wattenberg** comp=Z,1.6nm,0.3s	149.28	346	*i* PKP	PKPbc	23 10 20.6	-0.6
MOTA	**Moosalm** comp=Z,1.0nm,0.5s	149.32	347	*i* PKP	PKPbc	23 10 20.5	-0.8
SQTA	**Sankt Quirin** comp=Z,0.5nm,0.2s	149.42	347	*e*PKP	PKPbc	23 10 20.8	-0.6
FNA	**Florina**	151.21	327		PKPbc	23 10 24.7	-1.1

*JMA **18** 22:59:27.7±0.1, 34°N±2°×13°7E±°, h381km, MV3.0/12, SE OFF KII PENINSULA*
*IDC **18** 22:59:30.9±0.8, 33°62N×137°26E, h360km±14km, mb2.8/4, mbtmp3.6/9, Error ellipse: s-maj=33.3km s-min=18.1km az=50.0*

ISC 18 22:59:31.0±0.9, 33°7N±0°1×137°22E±0°08, h350km, n19, σ1§27/21, mb3.0/4, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTO2	**TONANKAI O.B.S**	0.19	298	P	**Pn**	23 00 15.3	+0.9
TTO1	**TONANKAI O.B.S**	0.37	266	P	**Pn**	23 00 15.3	+0.7
TTO4	**TONANKAI O.B.S**	0.45	36	P	**Pn**	23 00 15.5	+0.8
JIE	**Ise**	0.86	330	P	**Pn**	23 00 16.5	+0.4
JIE				S	**S**	23 00 56.2	+3.8
JTNC	**Tanabenakahech**	1.35	278	P	**Pn**	23 00 18.5	+0.1
JYTA	**Yamagatataniai**	1.98	348	P	**Pn**	23 00 22.4	+0.3
JHJ	**Hachijo jima 2** 49nm,0.4s,baz=139,slow=21,SNR=6.8	2.21	103	P	**Pn**	23 00 23.5	-0.3
JHJ	96nm,0.9s,baz=81,slow=21,SNR=1.8			S	**S**	23 01 08.8	+2.7
JWT	**Wachi**	2.22	318	P	**Pn**	23 00 24.0	+0.2
JOD2	**Odawara 2**	2.23	43	P	**Pn**	23 00 24.0	+0.1
JHJ2	**Mitsune**	2.23	103	P	**Pn**	23 00 24.1	+0.1
JAI	**Aioi**	2.31	274	P	**Pn**	23 00 24.8	+0.2
MJAR	**Matsushiro Arr** 2.0nm,0.5s,baz=191,slow=9.4,SNR=8.4	3.00	15	P	**Pn**	23 00 29.9	-0.4
JNU	**Nakatsue** 2.2nm,0.4s,baz=39,slow=20,SNR=1.8	5.33	266	P	**Pn**	23 00 55.0	+0.6
KSRS	**Korea Array** 4.4nm,0.7s,baz=110,slow=13,SNR=14	8.48	299	P	**Pn**	23 01 31.5	+0.8
USRK	**Usuriysk Ar.** 1.7nm,0.5s,baz=157,slow=11,SNR=2.8	11.30	340	P	**Pn**	23 02 03.8	-0.4
SONM	**Songino Array** 0.6nm,0.7s,baz=120,slow=9.6,SNR=4.0 0.6nm,0.7s	27.11	311	P	**P**	23 04 42.8	-0.2
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=85,slow=11,SNR=7.4 0.2nm,0.5s	43.12	305	P	**P**	23 06 57.3	-0.7
KURBB	**Kurchatov Arra** 0.5nm,0.4s,baz=95,slow=10,SNR=9.5 0.5nm,0.4s	45.48	310	P	**P**	23 07 15.6	-0.8
WRA	**Warramunga Arr** 0.7nm,0.9s,baz=360,slow=7.6,SNR=2.0 0.7nm,0.9s	53.36	183	P	**P**	23 08 13.9	-1.7

*IDC **18** 23:10:27.5±0.8, 0°33S×124°74E, h0km, mb3.8/9, mbtmp3.8/9, MS3.1/1, Error ellipse: s-maj=82.0km s-min=16.3km az=67.0*
*DJA **18** 23:10:31.4±0.2, 0°S±2°×12°5E±°, h10km, M4.3/13, mb4.4/3, mB4.9/2, MLv4.3/13, Mw(mB)4.2/2*
*NEIC **18** 23:10:36.4±1.1, 0°3S±0°1×125°14E±0°06, h64km±15km, mb4.3/4, Error ellipse: s-maj=18.9km s-min=7.8km az=165.0*

ISC 18 23:10:32.4±1.3, 0°22S±0°05×125°18E±0°03, h30km±11km, n32, σ1§56/39, mb3.9/10, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	1.44	303	P	**Pn**	23 10 56.5	+0.1
KMSI				S	**Sb**	23 11 19.0	+2.5
SANI	**Sanana**	1.99	156	P	**Pn**	23 11 03.7	-0.2
SANI				S	**Sn**	23 11 29.9	+2.1
LBMI	**Labuha**	2.35	100	P	**Pn**	23 11 08.5	-0.5
LBMI				S	**Sn**	23 11 38.6	+1.7
TNTI	**Ternate**	2.39	66		**Pb**	23 11 14.1	-0.7
TNTI				Sn	**Sb**	23 11 44.5	+0.6
TNTI	**Ternate**	2.39	66	P	**Pn**	23 11 10.7	+1.2
TNTI				S	**Sb**	23 11 42.3	-1.6
LUWI	**Luwuk**	2.55	251		**Pn**	23 11 15.1	+3.4
LUWI				Sn	**Sb**	23 11 46.3	-2.1
LUWI	**Luwuk**	2.55	251	P	**Pn**	23 11 14.0	+2.4
LUWI				S	**Sb**	23 11 46.7	-1.6
MRSI	**Marisa**	3.32	282	P	**Pn**	23 11 23.2	+1.0
NLAI	**Namlea**	3.56	147	P	**Pn**	23 11 26.9	+1.3
NLAI				S	**Sn**	23 12 06.9	+0.3
SGSI	**Sangihe**	3.89	5	P	**Pn**	23 11 31.8	+1.6
TOLI2	**Tolitoli**	4.60	287		**Pn**	23 11 41.9	+2.1
MPSI	**Mapaga** 32nm,0.8s,745nm0.2nm	5.32	276	P	**Pn**	23 11 51.4	+1.7
TTSI	**Tana Toraja** 36nm,0.8s,1um0.2nm	6.05	242	P	**Pn**	23 12 00.5	+0.6
BKSI	**Bulukumba**	7.16	225	P	**Pn**	23 12 15.6	+0.5
KAPI	**Kappang**	7.22	229	Pn	**Pn**	23 12 17.0	+1.1
DAV	**Davao City (W)** comp=Z,142nm,20.4s,baz=254,slow=38	7.25	3	LR	LR	23 15 06.6	
FAKI	**Fak Fak**	7.55	111	Pn	**Pn**	23 12 24.0	+3.5
WRA	**Warramunga Arr** 0.8nm,0.7s,baz=333,slow=11,SNR=5.4 0.8nm,0.7s	21.56	156	P	**P**	23 15 17.7	-1.8
LWLI	**Liwa**	21.63	257	P	P	23 15 27.7	+7.2
ASAR	**Alice Springs** 4.1nm,1.2s,baz=337,slow=11,SNR=9.1 4.1nm,1.2s	24.80	161	P	**P**	23 15 53.0	+1.1
STKA	**Stephens Creek** 2.1nm,0.7s,baz=333,slow=9.4,SNR=4.5 2.1nm,0.7s	35.11	155	P	**P**	23 17 23.4	+0.3
KSRS	**Korea Array** 1.0nm,0.6s,baz=186,slow=9.8,SNR=2.6 1.0nm,0.6s	37.57	4	P	**P**	23 17 45.2	+1.1
SONM	**Songino Array** 0.5nm,0.5s,baz=152,slow=9.5,SNR=4.1 0.5nm,0.5s	50.58	344	P	**P**	23 19 27.2	-1.1
MK31	**Makanchi Array**	59.96	327	P	**P**	23 20 35.7	-0.2
MKAR	**Makanchi Array**	59.96	327	P	**P**	23 20 35.3	-0.6
MKAR	**Makanchi Array** 0.8nm,0.5s,baz=126,slow=8.3,SNR=16	59.96	327	P	**P**	23 20 34.3	-1.7
MKAR				PcP	**PcP**	23 21 21.4	-0.6
	0.6nm,0.6s,baz=110,slow=5.3,SNR=5.0 0.8nm,0.5s						
MAKZ	**Makanchi**	60.14	327	P	**P**	23 20 36.9	-0.2
MAKZ	comp=Z,1.0nm,0.5s			IAmb	IAmb	23 20 39.2	
ZALV	**Zalesovo Beam** comp=Z,0.5nm,0.5s,baz=123,slow=5.5,SNR=3.6 comp=Z,0.5nm,0.5s	63.43	335	P	**P**	23 20 57.5	-1.6
KURBB	**Kurchatov Arra** comp=Z,0.6nm,0.3s,baz=129,slow=6.1,SNR=8.9 comp=Z,0.6nm,0.3s	64.26	329	P	**P**	23 21 04.2	-0.5
KURK	**Kurchatov**	64.27	329	P	**P**	23 21 04.4	-0.2
BVAR	**Borovoye Array** comp=Z,0.3nm,0.3s,baz=122,slow=6.9,SNR=5.7 comp=Z,0.3nm,0.3s	69.81	328	P	**P**	23 21 39.4	-0.4
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.7s,baz=66,slow=3.8,SNR=2.0	122.57	285	PKP	**PKPdf**	23 29 24.8	-1.3

IDC 18 23:24:17.4±7.2, 18°56S×175°35W, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=322.4km s-min=69.0km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.5nm,0.4s,baz=97,slow=7.7,SNR=13 0.5nm,0.4s	47.37	260	P	P	23 32 53.8	+0.1
ASAR	**Alice Springs** 0.8nm,0.6s,baz=94,slow=7.6,SNR=7.3 0.8nm,0.6s	47.41	255	P	P	23 32 53.6	-0.4
BRTR	**Keskin Array B** 0.4nm,0.6s,baz=48,slow=4.3,SNR=2.8	147.28	316	PKPbc	PKPbc	23 44 02.4	-0.9

*IDC **18** 23:28:57.2±3.3, 4°23S×153°03E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=114.3km s-min=29.6km az=108.0*

ISC 18 23:29:06.6±3.9, 4°0S±0°3×152°3E±0°9, h35km, n9, σ1§50/6, mb3.6/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 1.9nm,0.4s,baz=52,slow=9.7,SNR=25 1.9nm,0.4s	23.56	226	P	**P**	23 34 14.1	-0.1
ASAR	**Alice Springs** 0.6nm,0.4s,baz=57,slow=8.1,SNR=2.1 0.6nm,0.4s	26.36	221	P	**P**	23 34 39.7	0.0
H11S3	**WAKE ISLAND Hy** baz=210,slow=76,SNR=9.1	26.52	32	T	T	00 02 04.0	
H11S2	**WAKE ISLAND Hy** baz=210,slow=76,SNR=7.4	26.52	32	T	T	00 02 12.8	
H11S1	**WAKE ISLAND Hy** baz=210,slow=76,SNR=8.9	26.54	32	T	T	00 02 17.5	
SONM	**Songino Array** 0.3nm,0.6s,baz=117,slow=2.3,SNR=2.4 0.3nm,0.6s	65.38	328	P	**P**	23 39 46.3	+0.5
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=104,slow=6.1,SNR=2.3 0.2nm,0.7s	79.39	319	P	**P**	23 41 10.2	+1.0
BVAR	**Borovoye Array** 0.7nm,0.9s,baz=98,slow=6.0,SNR=3.0 0.7nm,0.9s	88.30	323	P	**P**	23 41 52.4	-2.1
TORD	**Torodi Ar. Bea** 1.2nm,0.7s,baz=69,slow=3.1,SNR=8.3	149.54	289	PKPbc	**PKPdf**	23 48 49.9	+1.0

*NEIC **18** 23:36:34.4±2.4, 36°82N±0°02×99°72W±0°03, h5km±1km, Error ellipse: s-maj=4.4km s-min=3.0km az=242.0*

TUL 18 23:36:35±2.5, 36°83N±0°02×99°73W±0°03, h6km±4km, ML2.3, mb_Lg2.3/18(NEIC), ML2.6/8(NEIC), Error ellipse: s-maj=3.8km s-min=2.1km az=57.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	0.74	127		Pg	23 36 49.3	+0.2
ELIS	**Ellis County**	0.80	162		Pb	23 36 51.8	+0.4
ELIS	comp=N,256nm,0.2s			IAML		23 37 12.6	
ELIS	comp=E,199nm,0.7s			IAML		23 37 12.9	
OK038	**West end E0370**	0.87	114		Pg	23 36 51.6	0.0
OK032	**Salt Plains WL**	1.22	91	Pg	Pg	23 36 57.7	-0.7
OK032	comp=E,136nm,0.2s			IAML		23 37 17.5	
OK032	comp=E,134nm,0.2s			IAML		23 37 29.9	
KAN10	**Anthony SW Sta**	1.34	77		Pn	23 36 59.9	-0.4
CROK	**Carrier**	1.44	103		Pn	23 37 01.7	0.0
CSTR	**Hydro, Custer**	1.45	144		Pn	23 37 02.0	+0.1
KAN12	**Harper NE Stat**	1.46	71	Pg	Pg	23 37 02.8	-0.2
KAN08	**Anthony NE Sta**	1.46	74		Pn	23 37 01.3	-0.6
GC02	**Grant County #**	1.50	89		Pn	23 37 02.2	-0.3
KAN01	**Argonia South**	1.61	78		Pn	23 37 04.0	+0.1
KAN09	**Caldwell North**	1.72	79	Pg	Pb	23 37 06.7	-0.3
SMWD	**Samnorwood**	1.77	194	Pn	Pn	23 37 05.4	-0.9
SMWD	comp=Z,17nm,0.8s			IAmb_Lg		23 37 35.9	
R32A	**Long Quarter,**	1.78	27		Pn	23 37 07.0	+0.6
KAN13	**South Haven SW**	1.81	84		Pn	23 37 08.3	-0.3
CBKS	**Cedar Bluff**	1.98	360	Pn	Pn	23 37 08.6	-0.6

OK029	**Liberty Lake**	**2.10**	**119**	Pn	Pn	23 37 10.6	-0.2
WMOK	**Wichita Mounta**	**2.23**	**160**		Pn	23 37 12.2	-0.3
WMOK				IAmb_Lg		23 37 49.5	
	comp=Z,19nm,0.8s						
OK048	**Pawnee Station**	**2.28**	**100**	Pn	Pn	23 37 12.1	-1.0
RTBA	**Rita Blanca**	**2.45**	**262**		Pb	23 37 20.0	+0.4
RTBA				IAmb_Lg		23 37 56.2	
	comp=Z,9.6nm,0.7s						
OK052	**Battle Ridge R**	**2.50**	**109**		Pn	23 37 16.1	-0.2
T35A	**Sooner Cattle**	**2.58**	**87**	IAmb_Lg		23 38 01.9	
	comp=Z,10nm,0.9s						
W35A	**Tecumseh**	**2.85**	**125**	Pn	Pn	23 37 20.8	-0.3
TUL3	**Leonard**	**3.31**	**105**		Pg	23 37 36.6	-1.7
KSU1	**Kansas State U**	**3.35**	**46**	Pg	Pg	23 37 37.1	-2.0
APMT	**Aspermont**	**3.51**	**185**	IAmb_Lg		23 38 35.7	
	comp=Z,7.0nm,1.0s						
POST	**Post**	**4.03**	**202**	IAmb_Lg		23 38 53.1	
	comp=Z,9.0nm,0.8s						
HHAR	**Hobbs**	**4.69**	**95**	IAmb_Lg		23 39 01.6	
	comp=Z,4.6nm,0.9s						
BGNE	**Belgrade**	**4.73**	**15**	IAmb_Lg		23 39 17.0	
	comp=Z,10nm,0.7s						
OZNA	**Ozona**	**6.01**	**192**	IAmb_Lg		23 39 53.0	
	comp=Z,3.8nm,1.0s						
833A	**Chaparral WMA,**	**8.49**	**178**	IAmb_Lg		23 41 11.4	
	comp=Z,3.5nm,0.7s						

NEIC ***18*** *23:43:49.9±0.9, 36°.02N±0°.03×97°.92W±0°.04, h7km±5km, Error ellipse: s-maj=6.3km s-min=0.8km az=49.0*
ANF ***18*** *23:43:49.9±0.3, 36°.02N×97°.93W, h5km, ML2.8/7, Error ellipse: s-maj=3.8km s-min=2.8km az=7.0*
TUL ***18*** *23:43:50.1±1.0, 36°.02N±0°.03×97°.92W±0°.04, h5km±5km, ML2.5, mb_Lg2.5/29(NEIC), ML2.6/70(NEIC), Error ellipse: s-maj=5.8km s-min=1.9km az=51.0*

ISC 18 23:43:50.1±1.2, **36°.02N**±0°.02×**97°.92W**±0°.02, **h3**km±11km, **n64**, σ0**s68**/61, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.44**	**120**	Pg	**Pg**	**23 43 57.9**	**-0.6**
OK029				Sg	**Sg**	**23 44 04.8**	**+0.6**
OK029				IAML		23 44 05.3	
	373nm,0.4s						
CROK	**Carrier**	**0.48**	**354**	Pg	**Pg**	**23 43 59.0**	**-0.5**
CROK				Sg	**Sg**	**23 44 06.5**	**+0.7**
CROK				IAML		23 44 06.9	
	comp=E,441nm,0.4s						
CROK				IAML		23 44 13.9	
	comp=N,335nm,0.3s						
ADOK	**Arcadia Dam**	**0.58**	**129**		**Pg**	**23 44 00.7**	**-0.5**
ADOK				Sg	**Sg**	**23 44 09.4**	**+0.6**
CSTR	**Hydro, Custer**	**0.73**	**239**	Pg	**Pg**	**23 44 04.3**	**+0.3**
OKCSW	**OKLAHOMA CITY**	**0.73**	**147**		**Pg**	**23 44 03.9**	**-0.1**
OKCSW				IAML		23 44 17.0	
	comp=N,358nm,0.5s						
OK033	**Mehan**	**0.80**	**88**	Pg	**Pg**	**23 44 05.1**	**-0.3**
OK033				IAML		23 44 24.5	
	comp=N,211nm,0.1s						
OK033				IAML		23 44 31.9	
	comp=N,328nm,0.1s						
OK038	**West end E0370**	**0.80**	**305**	Pg	**Pg**	**23 44 05.5**	**0.0**
OK032	**Salt Plains WL**	**0.81**	**344**	Pg	**Pg**	**23 44 05.5**	**-0.3**
GC02	**Grant County #**	**0.83**	**4**	Pg	**Pg**	**23 44 05.9**	**-0.2**
FNO	**Franklin**	**0.87**	**151**	Pg	**Pg**	**23 44 06.5**	**-0.3**
FNO				IAML		23 44 28.8	
	comp=E,166nm,0.7s						
OK048	**Pawnee Station**	**0.89**	**63**	Pg	**Pg**	**23 44 06.9**	**-0.2**
OK052	**Battle Ridge R**	**0.91**	**91**	Pg	**Pg**	**23 44 07.3**	**-0.2**
OK052				IAML		23 44 22.0	
	comp=E,140nm,0.1s						
OK052				IAML		23 44 31.1	
	comp=E,133nm,0.3s						
KAN14	**Manchester OK**	**0.94**	**358**	Pg	**Pg**	**23 44 07.6**	**-0.4**
KAN14				IAML		23 44 23.3	
	comp=E,166nm,0.1s						
KAN14				IAML		23 44 27.7	
	comp=N,167nm,0.1s						
OK035	**E0210 Rd and N**	**0.94**	**317**	Pg	**Pg**	**23 44 07.4**	**-0.6**
U32A	**Winter Ranch,**	**0.94**	**293**	Pg	**Pg**	**23 44 08.0**	**-0.2**
U32A				IAML		23 44 26.3	
	comp=N,178nm,0.6s						
U32A				IAML		23 44 28.0	
	comp=E,126nm,0.1s						
U32A	**Winter Ranch,**	**0.94**	**293**	P	**Pg**	**23 44 07.9**	**-0.2**
	baz=112						
U32A				S	**Sb**	**23 44 21.3**	**-0.8**
	baz=112						
QUOK	**Quay**	**1.00**	**81**	Pg	**Pg**	**23 44 08.9**	**-0.3**
QUOK				IAML		23 44 28.6	
	comp=N,171nm,0.3s						
QUOK				IAML		23 44 32.1	
	comp=E,139nm,0.2s						
KAN17	**Caldwell West**	**1.03**	**7**	Pg	**Pg**	**23 44 09.6**	**-0.3**
KAN17				IAML		23 44 28.0	
	comp=N,191nm,0.3s						
KAN13	**South Haven SW**	**1.05**	**20**		**Pg**	**23 44 10.1**	**-0.2**
KAN13				IAML		23 44 28.8	
	comp=N,205nm,0.3s						
KAN10	**Anthony SW Sta**	**1.11**	**353**		**Pg**	**23 44 11.2**	**-0.1**
KAN10				IAML		23 44 30.1	
	comp=N,134nm,0.3s						
KAN10				IAML		23 44 30.9	
	comp=E,146nm,0.2s						
KAN01	**Argonia South**	**1.14**	**7**		**Pg**	**23 44 11.6**	**-0.4**
KAN01				IAML		23 44 27.6	
	comp=E,110nm,0.2s						
KAN01				IAML		23 44 28.4	
	comp=N,88nm,0.1s						
DEOK	**Depew**	**1.17**	**98**		**Pg**	**23 44 12.0**	**-0.5**
DEOK				IAML		23 44 32.4	
	comp=N,100nm,0.2s						
DEOK				IAML		23 44 36.1	
	comp=E,87nm,0.2s						
KAN08	**Anthony NE Sta**	**1.20**	**358**	Pg	**Pg**	**23 44 12.4**	**-0.8**
ELIS	**Ellis County**	**1.21**	**273**		**Pg**	**23 44 13.1**	**-0.3**
W35A	**Tecumseh**	**1.22**	**135**		**Pg**	**23 44 12.8**	**-0.6**
KAN06	**Argonia West S**	**1.23**	**2**		**Pg**	**23 44 12.3**	**-1.3**
KAN06				IAML		23 44 52.5	
	comp=N,118nm,0.6s						
KAN06				IAML		23 44 52.5	
	comp=E,160nm,0.9s						
KAN12	**Harper NE Stat**	**1.28**	**357**		**Pn**	**23 44 13.9**	**-1.0**
KAN12				IAML		23 44 39.2	
	comp=N,145nm,0.3s						
T35A	**Sooner Cattle**	**1.45**	**51**		**Pn**	**23 44 16.8**	**-0.4**
T35B	**Sooner Cattle**	**1.45**	**51**	P	**Pn**	**23 44 16.8**	**-0.4**
	baz=232						
T35B				S	**Sn**	**23 44 35.9**	**-0.9**
	baz=232						
WMOK	**Wichita Mounta**	**1.46**	**209**		**Pn**	**23 44 16.6**	**-0.8**
WMOK	**Wichita Mounta**	**1.46**	**209**	P	**Pn**	**23 44 16.7**	**-0.8**
	baz=28						
WMOK				S	**Sb**	**23 44 36.3**	**-0.6**
	baz=28						
TUL3	**Leonard**	**1.73**	**93**		**Pn**	**23 44 20.9**	**-0.2**
TUL3				IAmb_Lg		23 44 46.3	
	comp=Z,31nm,0.9s						
TUL3	**Leonard**	**1.73**	**93**	P	**Pn**	**23 44 20.9**	**-0.2**
	baz=274						
TUL3				S	**Sb**	**23 44 44.2**	**-0.5**
	baz=274						
SMWD	**Samnorwood**	**2.10**	**245**	Pn	**Pn**	**23 44 26.6**	**+0.3**
SMWD				IAmb_Lg		23 45 01.2	
	comp=Z,25nm,0.8s						
LOOK	**Love County**	**2.11**	**163**		**Pn**	**23 44 25.9**	**-0.5**
WTFS	**Witchita Falls**	**2.29**	**191**	Pn	**Pn**	**23 44 28.4**	**-0.4**
RLO	**Rose Lookout**	**2.35**	**86**		**Pn**	**23 44 29.6**	**-0.1**
R32A	**Long Quarter,**	**2.48**	**346**		**Pn**	**23 44 31.5**	**+0.1**
R32A				IAmb_Lg		23 45 13.0	
	comp=Z,14nm,0.8s						
R32A	**Long Quarter,**	**2.48**	**346**	S	**Sn**	**23 45 02.9**	**+0.6**
	baz=165						
X37A	**Clayton**	**2.53**	**124**		**Pn**	**23 44 33.1**	**+1.0**
X37A	**Clayton**	**2.53**	**124**	S	**Sn**	**23 45 04.3**	**+0.9**
	baz=305						
U38A	**Gravette**	**2.89**	**81**		**Pn**	**23 44 37.3**	**+0.2**
FW03	**Perrin-Whitt E**	**2.98**	**182**	Pn	**Pn**	**23 44 38.5**	**+0.2**
FW03				IAmb_Lg		23 45 30.1	
	comp=Z,12nm,0.9s						
FW06	**Azle**	**3.06**	**174**	Pn	**Pn**	**23 44 38.6**	**-0.8**
CBKS	**Cedar Bluff**	**3.14**	**333**	IAmb_Lg		23 45 32.7	
	comp=Z,16nm,0.8s						
PLPT	**Palo Pinto**	**3.22**	**186**		**Pn**	**23 44 41.5**	**0.0**
HHAR	**Hobbs**	**3.23**	**84**		**Pb**	**23 44 48.6**	**+0.5**
KSU1	**Kansas State U**	**3.25**	**18**		**Pg**	**23 44 50.6**	**-1.7**
DKNS	**Dickens**	**3.41**	**227**	IAmb_Lg		23 45 40.0	
	comp=Z,19nm,0.9s						
Z38A	**Mt. Pleasant**	**3.67**	**138**	IAmb_Lg		23 45 49.8	
	comp=Z,15nm,0.8s						
MIAR	**Mount Ida**	**3.85**	**111**		**Pn**	**23 44 50.5**	**+0.3**
MIAR	**Mount Ida**	**3.85**	**111**	P	**Pn**	**23 44 51.0**	**+0.8**
	baz=294						
RTBA	**Rita Blanca**	**3.91**	**278**		**Pn**	**23 44 51.7**	**+0.4**
S39A	**Bolivar**	**4.05**	**64**		**Pn**	**23 44 53.7**	**+0.7**
S39A				IAmb_Lg		23 46 02.2	
	comp=Z,9.7nm,0.7s						
POST	**Post**	**4.17**	**226**	IAmb_Lg		23 46 12.3	
	comp=Z,11nm,0.8s						
X40A	**Basin Creek Fa**	**4.44**	**109**	Pg	**Pb**	**23 45 10.1**	**+1.4**
WHAR	**Wooly Hollow**	**4.65**	**97**		**Pg**	**23 45 17.8**	**-1.4**
MGMO	**Mountain Grove**	**4.69**	**74**	IAmb_Lg		23 46 19.1	
	comp=Z,13nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.78**	**310**	IAmb_Lg		23 46 26.6	
	comp=Z,11nm,0.8s						
BRDY	**Brady**	**4.81**	**191**		**Pg**	**23 45 20.3**	**-1.9**
R40A	**Maddies Statio**	**5.05**	**62**	IAmb_Lg		23 46 37.2	
	comp=Z,12nm,1.0s						
T25A	**Trinidad**	**5.34**	**284**	IAmb_Lg		23 46 45.3	
	comp=Z,6.9nm,0.9s						
MNHN	**Monahans**	**6.17**	**222**	IAmb_Lg		23 47 10.2	
	comp=Z,7.0nm,1.1s						
SAND	**Sanderson**	**7.00**	**211**	IAmb_Lg		23 47 36.3	
	comp=Z,7.5nm,1.1s						

NEIC ***18*** *23:46:30.7±1.6, 53°.55N±0°.09×165°.9W±0°.1, h66km±11km, mb3.5/23, ML3.7/12, ML3.4(AEIC), Error ellipse: s-maj=15.9km s-min=6.9km az=146.0*
AEIC ***18*** *23:46:31.7±2.3, 53°.8N±0°.1×166°.1W±0°.1, h71km±6km, Error ellipse: s-maj=17.8km s-min=6.7km az=148.0*

ISC 18 23:46:31.1±1.1, **53°.7N**±0°.1×**166°.07W**±0°.06, **h74**km±9km, **n142**, σ1**s19**/150, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.33**	**308**		**Pn**	**23 46 42.4**	**-0.4**
UNV	**Unalaska Valle**	**0.33**	**308**		**Sn**	**23 46 51.6**	**+0.2**
UNV	**Unalaska Valle**	**0.33**	**308**	P	**Pn**	**23 46 42.7**	**-0.1**
UNV	**Unalaska Valle**	**0.33**	**308**	P	**Pn**	**23 46 43.0**	**+0.2**
	baz=127						
UNV				S	**Sn**	**23 46 51.6**	**+0.2**
	baz=127						
MNAT	**Makushin Natee**	**0.43**	**303**		**Pn**	**23 46 43.9**	**+0.2**
MNAT					**Sn**	**23 46 53.0**	**0.0**
ZRO	**Akutan Zero**	**0.45**	**7**		**Pn**	**23 46 43.9**	**+0.1**
AKBBA	**Akutan Broad B**	**0.46**	**10**		**Pn**	**23 46 43.9**	**0.0**
AKBBA					**Sn**	**23 46 53.2**	**-0.1**
AKRB	**Akutan Reef Bi**	**0.48**	**0**		**Pn**	**23 46 44.1**	**0.0**
AKRB					**Sn**	**23 46 53.9**	**+0.1**
AHB	**Akutan Harbor**	**0.49**	**18**		**Pn**	**23 46 44.3**	**+0.1**
MGOD	**Makushin Gods**	**0.50**	**288**		**Pn**	**23 46 44.6**	**+0.3**
MSW	**Makushin Switc**	**0.50**	**303**		**Pn**	**23 46 44.3**	**0.0**
MSW					**Sn**	**23 46 54.2**	**+0.3**
LVA	**Lava Point**	**0.52**	**2**		**Pn**	**23 46 44.4**	**-0.1**
AKUT	**Akutan**	**0.52**	**20**		**Pn**	**23 46 44.3**	**-0.1**
AKUT				IAML		23 46 54.2	
	comp=N,4μm,0.2s						
AKUT	**Akutan**	**0.52**	**20**	P	**Pn**	**23 46 44.3**	**-0.1**
AKSA	**Akutan Strait**	**0.54**	**24**		**Pn**	**23 46 44.4**	**-0.2**
AKSA					**Sn**	**23 46 54.1**	**-0.4**
WESE	**West Dahl East**	**1.21**	**46**		**Sn**	**23 47 09.5**	**+1.1**
OKNC	**Okmok New Cone**	**1.24**	**262**		**Pn**	**23 46 53.4**	**+0.6**
OKNC					**Sn**	**23 47 10.0**	**+1.0**
OKCE	**Okmok Cone E**	**1.27**	**261**		**Pn**	**23 46 54.1**	**+0.9**
SSLS	**Shishaldin Sou**	**1.62**	**48**		**Pn**	**23 46 58.4**	**+0.6**
SSLS					**Sn**	**23 47 19.0**	**+1.0**
ISLZ	**Isanotski Laza**	**1.76**	**51**		**Pn**	**23 47 00.2**	**+0.6**
NIKH	**Nikolski High**	**1.80**	**249**		**Pn**	**23 47 01.1**	**+0.9**
NIKH	**Nikolski High**	**1.80**	**249**	P	**Pn**	**23 47 01.6**	**+1.5**
FALS	**False Pass**	**1.97**	**51**		**Pn**	**23 47 01.8**	**-0.6**
FALS	**False Pass**	**1.97**	**51**	P	**Pn**	**23 47 03.5**	**+1.1**
FALS	**False Pass**	**1.97**	**51**	P	**Pn**	**23 47 03.7**	**+1.3**
	baz=230						
CLES	**Cleveland East**	**2.44**	**252**	Pn	**Pn**	**23 47 09.2**	**+0.5**
PN7A	**Pavlof North-7**	**2.97**	**51**		**Pn**	**23 47 17.1**	**+1.2**
PVV	**Pavlof Volcano**	**3.04**	**54**		**Pn**	**23 47 18.0**	**+1.2**
S12K	**Black Hills**	**3.11**	**47**	Pn	**Pn**	**23 47 17.0**	**-0.8**
S12K	**Black Hills**	**3.11**	**47**	P	**Pn**	**23 47 18.4**	**+0.6**
	baz=228						
SDPT	**Sand Point**	**3.68**	**60**	Pn	**Pn**	**23 47 24.9**	**-0.6**
SDPT	**Sand Point**	**3.68**	**60**	P	**Pn**	**23 47 27.9**	**+2.4**
CNBA	**Chernabura Isl**	**3.98**	**70**	Pn	**Pn**	**23 47 29.0**	**-0.7**
CNBA				IAML		23 48 33.9	
	comp=N,82nm,0.5s						
ATKA	**Atka Island**	**5.12**	**257**		**Pn**	**23 47 46.1**	**+0.9**
ATKA				IAML		23 49 55.0	
	comp=N,38nm,1.5s						
ATKA				IAML		23 50 22.6	
	comp=E,41nm,1.3s						
ATKA	**Atka Island**	**5.12**	**257**	P	**Pn**	**23 47 46.9**	**+1.7**
CHGN	**Chignik**	**5.15**	**56**	Pn	**Pn**	**23 47 44.8**	**-0.8**
CHGN				IAML		23 48 55.0	
	comp=E,48nm,0.4s						
CHGN				IAML		23 49 06.2	
	comp=N,34nm,1.0s						
O14K	**Tigyukauivet M**	**6.22**	**23**		**Pn**	**23 48 00.7**	**+0.6**
O14K	**Tigyukauivet M**	**6.22**	**23**	P	**Pn**	**23 48 01.0**	**+0.8**
	baz=206						
O15K	**Ungalikthiuk R**	**6.54**	**29**		**Pn**	**23 48 04.9**	**+0.4**
O15K	**Ungalikthiuk R**	**6.54**	**29**	P	**Pn**	**23 48 04.9**	**+0.4**
	baz=214						
ADK	**Adak**	**6.68**	**259**	Pn	**Pn**	**23 48 07.0**	**+0.6**
N14K	**Kuskokwak Cree**	**6.74**	**19**		**Pn**	**23 48 07.7**	**+0.5**
N14K	**Kuskokwak Cree**	**6.74**	**19**	P	**Pn**	**23 48 07.7**	**+0.5**
	baz=202						
M11K	**Mekoryuk**	**6.76**	**359**		**Pn**	**23 48 07.8**	**+0.3**
M11K	**Mekoryuk**	**6.76**	**359**	P	**Pn**	**23 48 07.8**	**+0.3**
	baz=179						
M13K	**Dall Lake**	**6.95**	**11**	Pn	**Pn**	**23 48 10.8**	**+0.7**
M13K	**Dall Lake**	**6.95**	**11**	P	**Pn**	**23 48 11.1**	**+1.1**
	baz=193						
KIWB	**Kanaga Island**	**6.96**	**260**	Pn	**Pn**	**23 48 10.7**	**+0.4**
P16K	**Nushagak River**	**7.02**	**37**		**Pn**	**23 48 12.1**	**+1.1**
P16K	**Nushagak River**	**7.02**	**37**	P	**Pn**	**23 48 12.1**	**+1.1**
	baz=222						
N15K	**Kwethluk River**	**7.31**	**24**	Pn	**Pn**	**23 48 15.8**	**+0.8**
N15K	**Kwethluk River**	**7.31**	**24**	P	**Pn**	**23 48 16.4**	**+1.4**
	baz=208						
O16K	**Kokwok River B**	**7.41**	**33**	Pn	**Pn**	**23 48 16.8**	**+0.5**
O16K	**Kokwok River B**	**7.41**	**33**	P	**Pn**	**23 48 17.4**	**+1.0**
	baz=219						
SII	**Sitkinak Islan**	**7.42**	**62**	Pn	**Pn**	**23 48 15.7**	**-0.8**
SII	**Sitkinak Islan**	**7.42**	**62**	P	**Pn**	**23 48 18.4**	**+1.9**
M14K	**Bethel**	**7.46**	**16**	Pn	**Pn**	**23 48 16.7**	**-0.4**
M14K	**Bethel**	**7.46**	**16**	P	**Pn**	**23 48 17.4**	**+0.4**
	baz=198						
M15K	**Kasigluk River**	**7.65**	**20**		**Pn**	**23 48 19.7**	**+0.1**
M15K	**Kasigluk River**	**7.65**	**20**	P	**Pn**	**23 48 19.7**	**+0.1**
	baz=204						
O17K	**Koliganek Bris**	**7.88**	**35**	P	**Pn**	**23 48 23.8**	**+1.0**
	baz=222						
L14K	**Kuka Creek**	**7.93**	**12**	Pn	**Pn**	**23 48 23.5**	**+0.1**
OHAK	**Old Harbor**	**8.10**	**59**	Pn	**Pn**	**23 48 24.5**	**-1.4**
P18K	**Big Mountain,**	**8.31**	**42**	Pn	**Pn**	**23 48 30.2**	**+1.5**
P18K	**Big Mountain,**	**8.31**	**42**	P	**Pn**	**23 48 30.1**	**+1.4**
	baz=230						
M16K	**Timber Creek**	**8.33**	**25**	Pn	**Pn**	**23 48 28.7**	**-0.3**
L15K	**Ungalak Mounta**	**8.42**	**15**		**Pn**	**23 48 31.0**	**+0.9**
L15K	**Ungalak Mounta**	**8.42**	**15**	P	**Pn**	**23 48 31.0**	**+0.9**
	baz=198						
N17K	**Nushagak Hills**	**8.42**	**31**	Pn	**Pn**	**23 48 30.6**	**+0.5**
O18K	**Koktuh Hills**	**8.61**	**39**	Pn	**Pn**	**23 48 34.1**	**+1.3**
O18K	**Koktuh Hills**	**8.61**	**39**	P	**Pn**	**23 48 34.9**	**+2.0**
	baz=228						
KDAK	**Kodiak Island**	**8.66**	**56**	Pn	**Pn**	**23 48 31.8**	**-1.7**
Q19K	**Cape Douglas,**	**8.70**	**48**	Pn	**Pn**	**23 48 34.9**	**+0.9**
L16K	**Owhat River**	**8.82**	**21**	Pn	**Pn**	**23 48 35.0**	**-0.6**
N18K	**Kilae Creek**	**8.95**	**34**	Pn	**Pn**	**23 48 36.8**	**-0.6**
K15K	**Wolf Creek Mou**	**9.00**	**14**	Pn	**Pn**	**23 48 38.7**	**+0.7**
M17K	**Holitna River**	**9.05**	**27**	Pn	**Pn**	**23 48 38.7**	**0.0**
SYI	**Shuyak Island**	**9.11**	**51**	Pn	**Pn**	**23 48 36.6**	**-2.9**
SVW2	**Sparrevohn**	**9.36**	**33**	Pn	**Pn**	**23 48 43.1**	**0.0**
ILSW	**Iliamna Southw**	**9.51**	**43**	Pn	**Pn**	**23 48 46.5**	**+1.4**
N19K	**Bonanza Creek**	**9.53**	**36**	Pn	**Pn**	**23 48 45.4**	**0.0**
L18K	**Granite Mounta**	**9.93**	**26**	Pn	**Pn**	**23 48 50.8**	**+0.1**
RSO	**Redoubt South**	**9.95**	**41**	Pn	**Pn**	**23 48 53.5**	**+2.3**
K17K	**Iditarod**	**9.97**	**21**	Pn	**Pn**	**23 48 50.4**	**-0.8**
CNPM	**China Poot**	**10.07**	**48**	Pn	**Pn**	**23 48 51.5**	**-1.2**
J16K	**Anvik River**	**10.08**	**14**	Pn	**Pn**	**23 48 51.4**	**-1.3**
BRLK	**Bradley Lake**	**10.34**	**48**	Pn	**Pn**	**23 48 56.0**	**-0.4**
M19K	**Big River Lodg**	**10.35**	**32**	Pn	**Pn**	**23 48 57.2**	**+0.7**
L19K	**White Mountain**	**10.41**	**30**	Pn	**Pn**	**23 48 57.4**	**0.0**
TTA	**Tatalina**	**10.69**	**26**	Pn	**Pn**	**23 49 00.7**	**-0.5**
M20K	**Styx River**	**10.74**	**35**	Pn	**Pn**	**23 49 03.5**	**+1.6**
J18K	**Innoko River**	**10.98**	**23**	Pn	**Pn**	**23 49 04.3**	**-0.7**
O22K	**Cooper Landing**	**11.21**	**46**	Pn	**Pn**	**23 49 07.9**	**-0.2**
SKT	**Skwentna**	**11.37**	**37**	Pn	**Pn**	**23 49 12.0**	**+1.7**
RC01	**Rabbit Creek A**	**11.52**	**43**	Pn	**Pn**	**23 49 12.2**	**-0.3**
K20K	**Telida**	**11.56**	**28**	Pn	**Pn**	**23 49 12.7**	**-0.2**
J19K	**Poorman**	**11.68**	**23**	Pn	**Pn**	**23 49 13.8**	**-0.8**
G16K	**Koyuk River**	**11.93**	**8**	Pn	**Pn**	**23 49 18.8**	**+0.9**
PMR	**Palmer**	**12.04**	**42**	Pn	**Pn**	**23 49 19.2**	**-0.3**
F15K	**North Star Dit**	**12.12**	**3**	Pn	**Pn**	**23 49 21.6**	**+1.0**
J20K	**Nowinta River**	**12.20**	**25**	Pn	**Pn**	**23 49 21.4**	**-0.2**
KNK	**Knik Glacier**	**12.22**	**43**	Pn	**Pn**	**23 49 20.1**	**-1.9**
GHO	**Glory Hole Cre**	**12.23**	**41**	Pn	**Pn**	**23 49 20.4**	**-1.7**
SML	**Sawmill**	**12.48**	**42**	Pn	**Pn**	**23 49 24.6**	**-0.9**
HIN	**Hinchinbrook I**	**12.59**	**50**	Pn	**Pn**	**23 49 23.3**	**-3.7**
SCM	**Sheep Creek Mo**	**12.90**	**43**	Pn	**Pn**	**23 49 28.1**	**-3.1**
KLU	**Klutina**	**13.32**	**46**	Pn	**Pn**	**23 49 34.1**	**-2.7**
M24K	**Tolsona, Glenn**	**13.51**	**43**	Pn	**Pn**	**23 49 37.5**	**-1.8**
HMT	**Hamilton**	**13.60**	**52**	Pn	**Pn**	**23 49 39.5**	**-1.0**
BERG	**Berg Lake**	**13.88**	**52**	Pn	**Pn**	**23 49 41.7**	**-2.5**
N25K	**Chitina, Valde**	**13.94**	**47**	Pn	**Pn**	**23 49 42.4**	**-2.6**
GLB	**Gilahina Butte**	**14.21**	**48**	Pn	**Pn**	**23 49 46.3**	**-2.3**
VRDI	**Verde Repeater**	**14.29**	**49**	Pn	**Pn**	**23 49 46.5**	**-3.2**
WAX	**Waxell Ridge**	**14.30**	**52**	Pn	**Pn**	**23 49 47.9**	**-1.8**
MCARA	**McCarthy VSAT**	**14.54**	**49**	Pn	**Pn**	**23 49 51.2**	**-1.5**
ISLE	**Juniper Island**	**14.59**	**52**	Pn	**Pn**	**23 49 53.1**	**-0.4**
M26K	**Nabesna, AK**	**14.96**	**45**	Pn	**Pn**	**23 49 57.8**	**-0.5**
BARN	**Barnard Glacie**	**15.05**	**51**	Pn	**Pn**	**23 49 57.1**	**-2.3**
BARN				IAmb	IAmb	23 50 25.6	
	comp=Z,4.5nm,1.3s						
CTGM	**Chitina Glacie**	**15.17**	**51**	Pn	**Pn**	**23 49 59.8**	**-1.2**
CTGM				IAmb	IAmb	23 50 07.9	
	comp=Z,3.2nm,1.0s						
LOGN	**Logan Glacier**	**15.28**	**52**	Pn	**Pn**	**23 49 59.8**	**-2.7**
LOGN				IAmb	IAmb	23 50 17.8	
	comp=Z,5.6nm,1.4s						
M27K	**Edge Creek, AK**	**15.42**	**46**	Pn	**Pn**	**23 50 03.3**	**-0.9**
M27K				IAmb	IAmb	23 50 18.3	
	comp=Z,4.1nm,1.3s						
BCAR	**Beaver Creek A**	**15.75**	**44**	Pn	**Pn**	**23 50 06.3**	**-2.0**
J26L	**Joseph Creek**	**15.77**	**38**	Pn	**Pn**	**23 50 08.2**	**-0.3**
J26L				IAmb	IAmb	23 50 11.3	
	comp=Z,4.1nm,1.3s						
I26K	**Coal Creek Min**	**16.36**	**35**	Pn	**Pn**	**23 50 15.2**	**-0.7**
I26K				IAmb	IAmb	23 50 26.7	
	comp=Z,4.0nm,1.4s						
P29M	**Windy Craggy**	**16.61**	**58**		**P**	**23 50 21.7**	**+1.5**
B21K	**Ikpikpuk River**	**16.87**	**14**		**P**	**23 50 23.4**	**+0.4**
M29M	**Somme Creek**	**16.93**	**48**		**P**	**23 50 25.8**	**+1.9**
HYT	**Haines Junctio**	**16.94**	**54**		**P**	**23 50 25.3**	**+1.3**
HYT				IAmb	IAmb	23 50 44.5	
	comp=Z,5.3nm,1.4s						
N30M	**Aishikik Lake**	**17.28**	**52**		**Pn**	**23 50 27.7**	**+0.4**
N30M				IAmb	IAmb	23 50 50.3	
	comp=Z,4.8nm,1.5s						
L29M	**L29M**	**17.30**	**46**		**Pn**	**23 50 27.3**	**-0.2**
L29M				IAmb	IAmb	23 51 09.7	
	comp=Z,4.6nm,1.3s						
I28M	**Miner Creek**	**17.58**	**38**		**P**	**23 50 31.6**	**+0.6**
M30M	**Minto, Yukon**	**17.71**	**48**		**Pn**	**23 50 32.5**	**0.0**
K29M	**Barlow Dome**	**17.82**	**44**		**Pn**	**23 50 34.4**	**+0.5**
H29M	**Whitestone**	**18.52**	**36**		**P**	**23 50 40.1**	**+1.1**
J30M	**Hart River**	**18.58**	**42**

DIVS	**Divibare**	**1.96**	**67**	*e*Pn	**Pn**	**00 06 45.4**	**-0.1**
DIVS				*e*Sn	**Sb**	**00 07 12.9**	**+0.4**
A251A	**Rujevac**	**1.99**	**334**	*e*Pn	**Pb**	**00 06 47.2**	**-1.1**
VIRC	**Vir**	**2.00**	**299**	*e*Pn	**Pb**	**00 06 47.7**	**-0.8**
NVLJ	**Novalja**	**2.25**	**304**	*e*Pn	**Pb**	**00 06 50.8**	**-1.9**
TRUS	**Trudelj**	**2.29**	**66**	*e*Pn	**Pn**	**00 06 49.7**	**-0.1**
GRUS	**Gruza**	**2.40**	**76**	*e*Pn	**Pn**	**00 06 52.5**	**+1.1**
GRUS				*e*Sn	**Sb**	**00 07 25.2**	**+0.1**
RABC	**Rab**	**2.41**	**307**	*e*Pn	**Pn**	**00 06 52.5**	**+1.0**
FRGS	**Fruska Gora**	**2.46**	**42**	*e*Pn	**Pn**	**00 06 51.5**	**-0.8**
FRGS				*e*Sn	**Sn**	**00 07 23.1**	**+0.5**
FRGS	**Fruska Gora**	**2.46**	**42**	*e*Pn	**Pn**	**00 06 53.2**	**+0.9**
FRGS				*e*Sn	**Sn**	**00 07 23.8**	**+1.2**
SELS	**Selova**	**2.65**	**91**	*e*Pn	**Pn**	**00 06 56.7**	**+1.8**
BOJS	**Bojanci**	**2.69**	**324**	*e*Pn	**Pn**	**00 06 57.0**	**+1.6**
BOJS				*e*Sn	**Sn**	**00 07 29.3**	**+1.1**
PTJ	**Puntijarka**	**2.78**	**338**	*e*Pn	**Pn**	**00 06 57.5**	**+0.8**
KALN	**Kalnik**	**2.88**	**346**	*e*Pn	**Pn**	**00 06 57.9**	**-0.1**
CEY	**Cerknica**	**3.25**	**319**	*e*Pn	**Pn**	**00 07 04.5**	**+1.4**
CEY				*e*Sn	**Sn**	**00 07 42.3**	**+0.4**
SOKA	**Soboth** 1.2nm,0.3s	**3.76**	**333**	*e*Pn	**Pn**	**00 07 11.0**	**+0.8**
SOKA	2.0nm,0.6s			*e*Sn	**Sn**	**00 07 54.2**	**-0.5**
OBKA	**Obir** 2.3nm,0.7s	**3.79**	**328**	*e*Pn	**Pn**	**00 07 11.9**	**+1.3**
OBKA	**Obir**	**3.79**	**328**	*e*Pn	**Pn**	**00 07 11.2**	**+0.6**
OBKA				*e*Sn	**Sn**	**00 07 56.0**	**+0.5**
ARSA	**Arzberg** 1.6nm,0.3s	**4.15**	**341**	*e*Pn	**Pn**	**00 07 16.2**	**+0.7**
ARSA	**Arzberg**	**4.15**	**341**	*e*Pn	**Pn**	**00 07 16.1**	**+0.7**
CONA	**Conrad Observa** 0.4nm,0.2s	**4.72**	**347**	*e*Pn	**Pn**	**00 07 25.3**	**+1.8**
MOA	**Molln** 1.1nm,0.3s	**5.04**	**334**	*e*Pn	**Pn**	**00 07 30.0**	**+2.2**
BIOA	**Bad Ischl, Aus** 0.4nm,0.2s	**5.12**	**329**	*e*Pn	**Pn**	**00 07 30.4**	**+1.6**
LESA	**Schwarzleotal** 0.9nm,0.3s	**5.30**	**322**	*e*Pn	**Pn**	**00 07 31.8**	**+0.4**
WTTA	**Wattenberg** 0.1nm,0.2s	**5.69**	**316**	*e*Pn	**Pn**	**00 07 36.2**	**-0.7**
WATA	**Walderalm** 0.2nm,0.2s	**5.77**	**316**	*e*Pn	**Pn**	**00 07 37.7**	**-0.2**

*NEIC **19** 00:17:36.0±0.2, 62.9°S±0.2°×163.1°W±0.1°, h10km±1km, mb4.9/8, Error ellipse: s-maj=38.6km s-min=7.5km az=10.0*
*IDC **19** 00:17:36.6±1.2, 63.10°S×163.79°W, h0km, mb4.1/5, mbtmp4.1/6, ML3.7/1, MS3.8/19, Error ellipse: s-maj=39.5km s-min=25.4km az=46.0*
ISC 19 00:17:36.5±0.9, 62.9°S±0.2°×163.4°W±0.2°, h10km, n40, σ1s15/17, mb4.6/9, MS3.8/18, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**18.25**	**203**		**Pn**	**00 21 49.6**	**+0.2**
VNDA	**Vanda** 0.2nm,0.3s,baz=67,slow=17,SNR=18	**18.25**	**203**	P	**Pn**	**00 21 49.7**	**+0.2**
VNDA	comp=Z,271nm,21.0s,baz=57,slow=31 0.9nm,0.4s			LR	LR	00 26 57.6	
QSPA	**South Pole Qui**	**27.19**	**180**	P	**P**	**00 23 19.5**	**-0.5**
QSPA	**South Pole Qui** 3.2nm,1.2s,baz=31,slow=4.2,SNR=3.6 3.2nm,1.2s	**27.19**	**180**	P	**P**	**00 23 18.8**	**-1.2**
URZ	**Urewera** comp=Z,127nm,18.2s,baz=300,slow=34	**27.38**	**325**	LR	LR	00 33 01.8	
PMSA	**Palmer Station** comp=Z,139nm,18.6s,baz=228,slow=33	**39.52**	**138**	LR	LR	00 39 13.3	
SNAA	**Sanae** 7.6nm,1.0s,baz=191,slow=6.2,SNR=3.9 7.6nm,1.0s	**45.02**	**171**	P	**P**	**00 25 52.1**	**+0.6**
MAW	**Mawson** comp=Z,149nm,21.1s,baz=132,slow=34	**45.56**	**203**	LR	LR	00 43 08.0	
DZM	**Mont Dzumac** comp=Z,168nm,18.2s,baz=224,slow=33	**45.62**	**319**	LR	LR	00 42 30.3	
STKA	**Stephens Creek** comp=Z,133nm,18.2s,baz=202,slow=31	**46.31**	**286**	LR	LR	00 41 36.2	
PPT	**Papeete** comp=Z,79nm,21.2s,baz=158,slow=29	**46.33**	**18**	LR	LR	00 39 55.5	
RPN	**Rapa Nui** comp=Z,54nm,20.1s,baz=205,slow=30	**50.03**	**70**	LR	LR	00 42 53.2	
CTA	**Charters Tower** comp=Z,106nm,20.7s,baz=179,slow=32	**54.67**	**298**	LR	LR	00 46 42.0	
PLCA	**Paso Flores** comp=Z,77nm,20.2s,baz=198,slow=30	**55.92**	**114**	LR	LR	00 45 55.3	
H01W1	**Cape Leeuwin H** baz=147,slow=76	**56.22**	**259**	T	T	01 28 10.2	
H01W2	**Cape Leeuwin H** baz=147,slow=76	**56.22**	**259**	T	T	01 28 07.9	
H01W3	**Cape Leeuwin H** baz=147,slow=76	**56.23**	**259**	T	T	01 28 11.4	
NWAO	**Narrogin (SRO)** comp=Z,72nm,19.2s,baz=262,slow=31	**56.47**	**262**	LR	LR	00 46 49.4	
ASAR	**Alice Springs**	**56.79**	**283**	P	**P**	**00 27 21.0**	**+0.3**
ASAR	**Alice Springs** 1.5nm,0.8s,baz=152,slow=8.3,SNR=7.8	**56.79**	**283**	P	**P**	**00 27 21.6**	**+0.9**
ASAR	comp=Z,108nm,18.0s,baz=162,slow=34 1.5nm,0.8s			LR	LR	00 49 35.5	
H03S2	**Juan Fernandez** baz=210,slow=74	**58.05**	**102**	T	T	01 30 52.4	
H03S1	**Juan Fernandez** baz=210,slow=74	**58.05**	**102**	T	T	01 30 56.7	
H03S3	**Juan Fernandez** baz=210,slow=74	**58.06**	**102**	T	T	01 30 50.4	
BI05	**Punta Hualpn**	**58.13**	**109**	P	**P**	**00 27 28.1**	**-1.8**
WR0	**Warramunga Arr**	**59.76**	**286**	P	**P**	**00 27 42.0**	**+0.5**
WR0	comp=Z,11nm,1.2s			IAmb	IAmb	00 27 43.5	
WB2	**Warramunga Arr**	**59.85**	**286**	P	**P**	**00 27 41.6**	**-0.5**
WB2	comp=Z,16nm,1.5s			IAmb	IAmb	00 27 46.0	
WRA	**Warramunga Arr** comp=Z,1.3nm,0.9s,baz=162,slow=6.6,SNR=5.1 comp=Z,1.3nm,0.9s	**59.86**	**286**	P	**P**	**00 27 42.6**	**+0.5**
WB0	**Warramunga Arr**	**59.99**	**286**	P	**P**	**00 27 43.1**	**+0.1**
WB0	comp=Z,8.1nm,1.4s			IAmb	IAmb	00 28 07.3	
COEN	**Coen**	**61.44**	**297**	P	**P**	**00 27 51.8**	**-1.1**
COEN	comp=Z,17nm,1.2s			IAmb	IAmb	00 28 02.9	
MT09	**Talagante**	**61.59**	**109**	P	**P**	**00 27 52.3**	**-1.7**
PMG	**Port Moresby** comp=Z,59nm,18.4s,baz=168,slow=33	**64.01**	**304**	LR	LR	00 52 35.3	
LVC	**Limon Verde** comp=Z,48nm,19.9s,baz=208,slow=29	**72.15**	**105**	LR	LR	00 52 20.6	
CPUP	**Villa Florida** comp=Z,74nm,19.5s,baz=198,slow=33	**73.84**	**116**	LR	LR	00 57 42.4	
LPAZ	**La Paz** comp=Z,2.0nm,0.9s,baz=142,slow=4.9,SNR=4.8 comp=Z,2.0nm,0.9s	**78.05**	**102**	P	**P**	**00 29 38.6**	**+2.6**
LEM	**Lembang** comp=Z,38nm,19.6s,baz=118,slow=32	**83.49**	**268**	LR	LR	01 02 03.0	
BDFB	**Brasilia** comp=Z,114nm,18.3s,baz=170,slow=34	**87.19**	**119**	LR	LR	01 07 15.3	
LPIG	**La Paz** comp=Z,27nm,20.5s,baz=6.0,slow=29	**96.33**	**47**	LR	LR	01 03 53.2	
TSUM	**Tsumeb** comp=Z,37nm,18.0s,baz=151,slow=34	**98.15**	**181**	LR	LR	01 13 58.8	
ZALV	**Zalesovo Beam** comp=Z,0.4nm,0.3s,baz=120,slow=2.3,SNR=3.3	**144.82**	**288**	PKP	**PKPdf**	**00 37 12.0**	**-0.1**
KURBB	**Kurchatov Arra** comp=Z,2.7nm,0.9s,baz=132,slow=2.7,SNR=21	**145.33**	**279**	PKPbc	**PKPab**	**00 37 13.9**	**+0.7**

*BGR **19** 01:30:13.2, 18.09S×175.44W, h33km*
*IDC **19** 01:31:05.9±6.1, 18.15S×178.21W, h484km±67km, mb3.4/9, mbtmp4.1/9, Error ellipse: s-maj=56.0km s-min=20.8km az=153.0*
ISC 19 01:31:10.8±5.6, 19°S±2°×178°W±°, h500km, n49, σ1s67/38, mb3.6/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.7nm,0.3s,baz=97,slow=6.9,SNR=14 0.7nm,0.3s	**43.03**	**261**	P	P	01 38 35.9	+10
ASAR	**Alice Springs** 8.5nm,0.7s,baz=87,slow=8.5,SNR=77	**43.13**	**255**	P	P	01 38 36.8	+10
ASAR	0.7nm,0.4s,baz=98,slow=4.0,SNR=2.9 8.5nm,0.7s			PcP	PcP	01 40 06.4	+0.8
PETK	**Petropavlovsk-** 7.5nm,0.9s,baz=123,slow=11,SNR=5.3	**74.32**	**346**	P	P	01 41 51.0	-5.4
NVAR	**Mina Array Bea** 0.9nm,0.7s,baz=223,slow=8.5,SNR=8.6 0.9nm,0.7s	**81.17**	**44**	P	P	01 42 21.8	-12
ILAR	**Eielson Array** 0.6nm,0.5s,baz=221,slow=5.0,SNR=16 0.6nm,0.5s	**87.22**	**14**	P	P	01 42 53.1	-10
TXAR	**Lajitas Array** 0.7nm,0.6s,baz=221,slow=6.0,SNR=8.8 0.7nm,0.6s	**87.76**	**58**	P	P	01 42 55.2	-11
CMAR	**Chiang Mai Arr** 0.9nm,0.3s,baz=108,slow=2.9,SNR=6.2 0.9nm,0.3s	**87.88**	**290**	P	P	01 43 09.6	+2.4
PDAR	**Pinedale Array** 0.5nm,0.7s,baz=234,slow=3.7,SNR=5.8 0.5nm,0.7s	**89.09**	**44**	P	P	01 43 00.8	-12
YKA	**Yellowknife Ar** 0.2nm,0.9s,baz=249,slow=5.9,SNR=5.0 0.2nm,0.9s	**95.87**	**25**	P	P	01 43 33.8	-9.1
BSEG	**Bad Segeberg** baz=12,slow=2.8	**144.19**	**350**	*e*PKPbc	PKPab	01 49 43.5	-5.3
BRTR	**Keskin Array B** 1.1nm,0.7s,baz=152,slow=5.3,SNR=7.5	**144.45**	**313**	PKPbc	**PKPdf**	**01 49 48.2**	**-2.0**
MMAI	**Mount Meron Ar** 1.5nm,0.6s,baz=45,slow=5.2,SNR=4.2	**145.46**	**301**	PKPbc	**PKPdf**	**01 49 52.0**	**0.0**
FLTG	**Flechtingen** baz=12,slow=2.8	**145.55**	**348**	*e*PKPbc	**PKPdf**	**01 49 47.6**	**-3.9**
OSTC	**Ostas**	**145.94**	**342**	*e*P	**PKPdf**	**01 49 50.4**	**-1.8**
DPC	**Dobruska-Polom**	**146.09**	**341**	*e*P	**PKPdf**	**01 49 49.5**	**-3.0**
CLL	**Collm** comp=Z,16nm,1.0s	**146.12**	**345**	*i* PKPbc	**PKPdf**	**01 49 50.1**	**-2.4**
CLL	**Collm** baz=12,slow=2.8	**146.12**	**345**	*e*PKPbc	**PKPdf**	**01 49 50.0**	**-2.5**
CLZ	**Clausthal** baz=12,slow=2.8	**146.18**	**349**	*e*PKPbc	**PKPdf**	**01 49 48.6**	**-4.1**
KRLC	**Kraliky**	**146.19**	**341**	*e*P	**PKPdf**	**01 49 50.9**	**-1.8**
BRG	**Berggiesshubel** baz=12,slow=2.8	**146.29**	**344**	*e*PKPbc	**PKPdf**	**01 49 50.7**	**-2.1**
PVCC	**Panska Ves**	**146.43**	**343**	*e*P	**PKPdf**	**01 49 51.6**	**-1.4**
PRU	**Pruhonice**	**146.93**	**343**	*e*P	**PKPdf**	**01 49 53.3**	**-0.6**
TANN	**Tannenbergstha** baz=12,slow=2.8	**147.08**	**345**	*e*PKPbc	**PKPdf**	**01 49 53.0**	**-1.2**
PLN	**Plauen** baz=12,slow=2.8	**147.09**	**346**	*e*PKPbc	**PKPdf**	**01 49 52.8**	**-1.3**
ZVC	**Zvikov**	**147.52**	**343**	*ex*	x	01 49 57.1	
MANZ	**Manzenberg** baz=12,slow=2.8	**147.56**	**345**	*e*PKPbc	**PKPdf**	**01 49 54.1**	**-0.9**
ROTZ	**Rotzenmuhle** baz=12,slow=2.8	**147.74**	**345**	*e*PKPbc	**PKPdf**	**01 49 54.6**	**-0.6**
KHC	**Kasperske Hory**	**147.97**	**343**	*e*P	**PKPdf**	**01 49 55.5**	**-0.2**
KHC				*ex*	x	01 49 59.7	
CKRC	**Cesky Krumlov**	**148.05**	**342**	*e*P	**PKPdf**	**01 49 56.0**	**+0.2**
CKRC				*ex*	x	01 50 00.5	
GEC2	**GERESS Array S** baz=12,slow=2.8	**148.20**	**343**	*e*PKPbc	**PKPdf**	**01 49 56.0**	**-0.1**
GERES	**GERESS Array B** comp=Z,2.1nm,0.5s,baz=26,slow=6.2,SNR=8.3	**148.20**	**343**	PKPbc	**PKPdf**	**01 49 56.4**	**+0.2**
CONA	**Conrad Observa** comp=Z,1.3nm,0.6s	**148.36**	**340**	*e*PKP	**PKPdf**	**01 49 57.0**	**+0.6**
RONA	**Rosalia, Austr** comp=Z,0.9nm,0.3s	**148.41**	**339**	*e*PKP	**PKPdf**	**01 49 57.2**	**+0.8**
MOA	**Molln** comp=Z,1.0nm,0.5s	**148.93**	**341**	*e*PKP	**PKPbc**	**01 50 03.6**	**+1.7**
WLF	**Walferdange** baz=12,slow=2.8	**148.96**	**352**	*e*PKPbc	**PKPdf**	**01 49 57.4**	**+0.2**
BIOA	**Bad Ischl, Aus** comp=Z,2.1nm,0.5s	**149.26**	**342**	*e*PKP	**PKPbc**	**01 50 05.2**	**+2.5**
SOKA	**Soboth** comp=Z,0.6nm,0.5s	**149.72**	**339**	*i* PKP	**PKPdf**	**01 49 59.4**	**+0.8**
LESA	**Schwarzleotal** comp=Z,0.9nm,0.3s	**149.78**	**343**	*e*PKP	**PKPdf**	**01 49 60.0**	**+1.3**
KBA	**Koelnbreinsper** comp=Z,2.3nm,0.6s	**149.90**	**342**	*e*PKP	**PKPdf**	**01 49 59.9**	**+0.9**
BFO	**Black Forest** baz=12,slow=2.8	**149.93**	**349**	*e*PKPbc	**PKPdf**	**01 49 59.3**	**+0.5**
WATA	**Walderalm** comp=Z,1.8nm,0.4s	**150.15**	**344**	*e*PKP	**PKPdf**	**01 50 00.2**	**+0.9**
UBR	**Ueberruh** baz=12,slow=2.8	**150.19**	**346**	*e*PKPbc	**PKPdf**	**01 50 00.3**	**+1.0**
WTTA	**Wattenberg** comp=Z,3.3nm,0.6s	**150.21**	**344**	*e*PKP	**PKPdf**	**01 50 00.7**	**+1.2**
RETA	**Reutte** comp=Z,1.0nm,0.4s	**150.22**	**345**	*i* PKP	**PKPdf**	**01 49 59.9**	**+0.6**
MOTA	**Mocsalm** comp=Z,2.6nm,0.7s	**150.26**	**345**	*e*PKP	**PKPdf**	**01 49 59.9**	**+0.3**
SQTA	**Sankt Quirin** comp=Z,3.7nm,0.7s	**150.35**	**345**	*i* PKP	**PKPdf**	**01 50 00.4**	**+0.8**
ABTA	**Abfaltersbach** comp=Z,2.0nm,0.6s	**150.44**	**343**	*e*PKP	**PKPdf**	**01 50 00.7**	**+1.0**
DAVA	**Damuels** comp=Z,3.1nm,0.7s	**150.61**	**346**	*e*PKP	**PKPdf**	**01 50 01.4**	**+1.3**
FETA	**Feichten** comp=Z,1.9nm,0.6s	**150.66**	**345**	*e*PKP	**PKPdf**	**01 50 01.7**	**+1.5**

*SJA **19** 01:45:06.5±0.5, 28.30S×71.93W, h22km±87km, ML4.2, MW4.5*
*IDC **19** 01:45:07.8±0.9, 28.47S×71.10W, h0km, mb3.9/5, mbtmp3.7/9, ML3.2/4, MS3.2/5, Error ellipse: s-maj=28.8km s-min=19.9km az=92.0*
*GUC **19** 01:45:12.7±0.8, 28.47S×71.32W, h30km±4km, ML3.9*
*NEIC **19** 01:45:12.2±2.2, 28.49S±0.03°×71.37W±0.07°, h24km±2km, mb4.5/5, Mwr3.9/74, Error ellipse: s-maj=8.4km s-min=3.9km az=97.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr7.99; Mθθ0.64; Mϕϕ-8.63; Mrθ-0.64; Mθϕ-0.88; Mϕr-3.07; Fault plane solution: M₀8.94000×10¹⁴ NP1:φs187.81000°, δs55.28000°, λs92.90000°. NP2:φs2.73000°, δs34.82000°, λs85.83000°. Principal axes: T 8.5686, Plg79.0000°, Azm109.0000°; N 0.7091, Plg2.0000°, Azm6.0000°; P -9.2777, Plg10.0000°, Azm276.0000°;*
*NEIC **19** 01:45:12.5, 28.48S×71.37W, h27km*
ISC 19 01:45:09.0±1.4, 28.41S±0.02°×71.44W±0.05, h10km±8km, n100, σ1s53/108, mb4.3/6, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.38**	**58**	Pg	**Pn**	**01 45 20.4**	**-0.2**
AC04				Sg	**Sb**	**01 45 25.5**	**+1.7**
AC04	**Llanos de Chal**	**0.38**	**58**	*e*P	**Pn**	**01 45 20.4**	**-0.2**
AC04				*e*S	**Sb**	**01 45 25.6**	**+1.7**
AC04	comp=E,21μm,0.1s			IAML		01 45 26.4	
LCO	**Las Campanas**	**0.88**	**133**		**Pn**	**01 45 27.3**	**-0.5**
LCO				Sg	**Sg**	**01 45 37.6**	**0.0**
LCO	**Las Campanas**	**0.88**	**133**	*e*P	**Pb**	**01 45 26.5**	**-0.1**
LCO				*i* S	**Sg**	**01 45 37.5**	**-0.1**
AC05	**El Transito**	**1.11**	**113**		**Pn**	**01 45 30.9**	**+0.2**
GO03	**Copiap**	**1.34**	**53**		**Pg**	**01 45 35.0**	**+0.2**
GO03				Sn	**Sg**	**01 45 52.3**	**+0.1**
GO03	**Copiap**	**1.34**	**53**	*e*P	**Sn**	**01 45 54.2**	**+2.4**
GO03	**Copiap**	**1.34**	**53↑**	*e*P	**Pg**	**01 45 34.9**	**+0.2**
GO03				*e*S	**Sg**	**01 45 52.6**	**+0.4**
GO03	comp=N,2μm,0.4s			IAML		01 45 55.7	
AC06	**Mina Casimiro**	**1.42**	**43**	Pn	**Pg**	**01 45 37.4**	**+1.1**
AC06				Sn	**Sg**	**01 45 54.9**	**+0.1**
AC06	**Mina Casimiro**	**1.42**	**43**	*e*P	**Pg**	**01 45 36.7**	**+0.4**
AC06				*i* S	**Sg**	**01 45 55.4**	**+0.6**
AC06	comp=E,2μm,0.2s			IAML		01 45 59.1	
CO05	**La Serena**	**1.51**	**173**	Pn	**Pb**	**01 45 36.9**	**-0.3**
CO05				Sn	**Sn**	**01 45 55.2**	**-0.8**
CO05	**La Serena**	**1.51**	**173↑**	*i*P	**Pb**	**01 45 37.1**	**-0.1**
CO05				*i* S	**Sn**	**01 45 56.4**	**+0.4**
CO05	comp=E,5μm,0.4s			IAML		01 45 59.6	
GO04	**Tololo Observa**	**1.84**	**162**	Pn	**Pn**	**01 45 41.9**	**+0.9**
GO04	**Tololo Observa**	**1.84**	**162**	*e*P	**Pb**	**01 45 43.2**	**+0.2**
GO04	**Tololo Observa**	**1.84**	**162**	*e*P	**Pb**	**01 45 42.6**	**-0.4**
GO04				*i* S	**Sb**	**01 46 06.0**	**-0.2**
CO01	**Juntas del Tor**	**1.96**	**143**	Pn	**Pb**	**01 45 44.0**	**-0.9**
CO01	**Juntas del Tor**	**1.96**	**143↑**	*e*P	**Pb**	**01 45 43.8**	**-1.1**
CO01				*e*S	**Sn**	**01 46 07.9**	**+0.7**
CO01	comp=N,3μm,0.6s			IAML		01 46 19.1	
CO06	**Fray Jorge**	**2.26**	**184**	Pn	**Pn**	**01 45 46.4**	**-0.1**
CO06	**Fray Jorge**	**2.26**	**184**	*e*P	**Pn**	**01 45 47.4**	**+0.9**
CO06				*e*S	**Sn**	**01 46 14.5**	**+0.1**
CO06	comp=N,832nm,0.5s			IAML		01 46 27.5	
AC01	**Pan de Azucar**	**2.38**	**19**	Pn	**Pn**	**01 45 48.6**	**+0.5**
AC01	**Pan de Azucar**	**2.38**	**19**	*e*P	**Pn**	**01 45 49.1**	**+1.1**
AROD	**Rodeo**	**2.45**	**136**	*e*P	**Pb**	**01 45 53.4**	**0.0**
CO03	**El Pedregal**	**2.51**	**165**	Pn	**Pn**	**01 45 50.6**	**+0.7**
CO03	**El Pedregal**	**2.51**	**165**	*e*P	**Pn**	**01 45 52.0**	**+2.0**
CO03	comp=Z,656nm,0.5s			IAML		01 46 38.8	
CO03	**El Pedregal**	**2.51**	**165**	*e*P	**Pn**	**01 45 51.9**	**+1.9**
CO03				*i* S	**Sn**	**01 46 22.6**	**+1.9**
CO03	comp=E,1μm,0.1s			IAML		01 46 30.6	
AC02	**Maricunga**	**2.58**	**53**	Pn	**Pb**	**01 45 53.8**	**-1.9**
AC02	**Maricunga**	**2.58**	**53**	*e*P	**Pb**	**01 45 54.4**	**-1.3**
AC02	comp=Z,462nm,0.8s			IAML		01 46 39.6	
AC02	**Maricunga**	**2.58**	**53↑**	*e*P	**Pb**	**01 45 54.4**	**-1.3**
AC02				*i* S	**Sb**	**01 46 28.3**	**+0.6**
AC02	comp=N,583nm,0.5s			IAML		01 46 39.1	
ACDV	**Cuesta del Vie**	**2.68**	**131**	*e*P	**Pg**	**01 45 59.8**	**-0.6**
ACDV	comp=Z,305nm,0.9s			IAML		01 46 54.8	
AGUA	**GUANDACOL**	**2.80**	**113**	*e*P	**Pb**	**01 45 59.2**	**0.0**
AGUA	comp=Z,407nm,1.1s			IAML		01 46 55.5	
CO02	**Combarbal**	**2.81**	**172**	Pn	**Pn**	**01 45 55.0**	**+0.8**
CO02	**Combarbal**	**2.81**	**172**	*e*P	**Pn**	**01 45 55.6**	**+1.5**
CO02	comp=Z,1μm,0.7s			IAML		01 46 44.5	
CO02	**Combarbal**	**2.81**	**172**	*e*P	**Pn**	**01 45 55.5**	**+1.3**
VCA	**Vinchina**	**2.86**	**97**	*e*P	**Pb**	**01 46 00.0**	**-0.3**
VCA	comp=Z,371nm,1.0s			IAML		01 46 53.2	
ACCO	**Cerro Coronel**	**3.00**	**137**	*e*P	**Pb**	**01 46 01.8**	**-0.9**
ACCO	comp=Z,291nm,0.7s			IAML		01 46 58.6	
GO02	**Mina Guanaco**	**3.63**	**27**	Pn	**Pn**	**01 46 07.0**	**+1.3**
GO02	**Mina Guanaco**	**3.63**	**27**	*e*P	**Pn**	**01 46 07.3**	**+1.6**
GO02				*i* S	**Sn**	**01 46 50.7**	**+2.0**
RTLS	**Leoncito**	**3.85**	**152**	*e*P	**Pb**	**01 46 13.6**	**-3.7**
RTLS	comp=Z,990nm,0.7s			IAML		01 47 21.2	
PB14	**IPOC Station P**	**3.88**	**14**	Pn	**Pn**	**01 46 09.4**	**+0.3**
RTLL	**Cerro Villicun**	**3.88**	**139**	*e*P	Pn	01 46 04.0	-4.9
ACLC	**CERRO LA CRUZ**	**4.06**	**105**	*e*P	**Pn**	**01 46 14.6**	**+3.2**
VA06	**Catapilco**	**4.14**	**178**	Pn	**Pn**	**01 46 12.5**	**+0.2**
AUSP	**Uspallata**	**4.19**	**155**	*e*P	Pn	01 46 18.2	+4.9
VA03	**San Esteban**	**4.41**	**170**	Pn	**Pn**	**01 46 17.3**	**+1.3**
VA03	**San Esteban**	**4.41**	**170**	*e*P	**Pn**	**01 46 18.8**	**+2.7**
VA03	comp=Z,264nm,0.5s			IAML		01 47 33.4	
ROC1	**El Roble**	**4.56**	**176**	*e*P	**Pn**	**01 46 20.4**	**+2.0**
VA01	**Torpederas**	**4.60**	**182**	Pn	**Pn**	**01 46 17.1**	**-1.5**
APLL	**PUNTA DE LOS L**	**4.72**	**116**	*e*P	**Pn**	**01 46 23.2**	**+2.9**
ASAL	**Salagasta**	**4.73**	**152**	*e*P	**Pn**	**01 46 24.8**	**+4.2**
ASAL	comp=Z,193nm,0.8s			IAML		01 47 49.1	
PEL	**Peldehue**	**4.76**	**172**	Pn	**Pn**	**01 46 19.8**	**-1.1**
PEL	**Peldehue**	**4.76**	**172**	*e*P	Pn	01 46 25.8	+4.9
MT02	**Curacav**	**4.84**	**177**	Pn	**Pn**	**01 46 22.9**	**+1.0**
ARCO	**CERRO ARCO**	**4.92**	**155**	*e*P	Pn	01 46 29.3	+6.2
ARCO	comp=Z,181nm,0.6s			IAML		01 47 53.1	
MT16	**CCHEN**	**5.06**	**171**	Pn	**Pn**	**01 46 26.8**	**+1.7**
MT03	**Universidad Ad**	**5.13**	**171**	Pn	**Pn**	**01 46 26.9**	**+0.9**
AAGR	**Agrelo**	**5.17**	**155**	*e*P	Pn	01 46 33.2	+6.6
AAGR	comp=Z,264nm,1.0s			IAML		01 48 02.0	
VA05	**Santo Domingo**	**5.23**	**182**	Pn	**Pn**	**01 46 26.8**	**-0.6**
MT09	**Talagante**	**5.36**	**176**	Pn	**Pn**	**01 46 29.9**	**+0.6**
FSA	**Cafayete**	**5.37**	**66**	*e*P	Pb	01 46 37.0	-6.2
MT01	**Popeta**	**5.44**	**178**	Pn	**Pn**	**01 46 30.5**	**+0.3**
PB15	**IPOC Station P**	**5.48**	**19**	Pn	**Pn**	**01 46 32.3**	**+1.4**
LMEL	**Las Melosas**	**5.52**	**169**	Pn	**Pn**	**01 46 32.8**	**+1.3**
BO04	**La Punta**	**5.61**	**173**	Pn	**Pn**	**01 46 34.1**	**+1.6**
PB05	**IPOC Station P**	**5.65**	**12**	Pn	**Pn**	**01 46 31.9**	**-1.3**
PB06	**IPOC Station P**	**5.93**	**17**	Pn	**Pn**	**01 46 37.1**	**+0.1**
BO01	**Tunca**	**5.97**	**177**	Pn	**Pn**	**01 46 38.1**	**+0.6**
LVC	**Limon Verde**	**6.21**	**22**	Pn	**Pn**	**01 46 42.2**	**+1.0**
LVC	**Limon Verde** comp=Z,0.8nm,0.3s,baz=166,slow=7.4,SNR=7.9	**6.21**	**22**	Pn	**Pn**	**01 46 41.2**	**0.0**
LVC	comp=Z,1.1nm,0.3s,baz=203,slow=12,SNR=4.1			Sn	**Sn**	**01 47 51.3**	**-1.2**
LVC	comp=Z,3.3nm,0.3s,baz=322,slow=19,SNR=7.0			Lg	Lg	01 48 09.9	
LVC	comp=Z,161nm,21.0s,baz=222,slow=41 comp=Z,1.8nm,0.2s			LR	LR	01 49 20.5	
BO02	**Sierra Bellavi**	**6.39**	**175**	Pn	**Pn**	**01 46 44.3**	**+1.1**
GO05	**Huala**	**6.59**	**184**	Pn	**Pn**	**01 46 44.6**	**-1.4**
PB07	**IPOC Station P**	**6.80**	**12**	Pn	**Pn**	**01 46 48.4**	**-0.7**
PB09	**IPOC Station P**	**6.88**	**17**	Pn	**Pn**	**01 46 50.8**	**+0.6**
PB02	**IPOC Station P**	**7.20**	**12**	Pn	**Pn**	**01 46 53.5**	**-0.9**
PB01	**IPOC Station P**	**7.55**	**14**	Pn	**Pn**	**01 46 58.5**	**-0.8**
H03N1	**Juan Fernandez** baz=58,slow=72,SNR=1877	**8.14**	**230**	T	T	01 55 26.3	
H03N2	**Juan Fernandez** baz=58,slow=72,SNR=1943	**8.16**	**230**	T	T	01 55 26.6	
H03N3	**Juan Fernandez** baz=58,slow=72,SNR=1866	**8.16**	**230**	T	T	01 55 25.3	
PLCA	**Paso Flores** baz=352,slow=14,SNR=1.7	**12.31**	**177**	Pn	**Pn**	**01 48 04.3**	**-0.2**

mB4.9,ML3.4,MLv4.3,Mw(mB)4.2

ISC 19 02:03:18.7±1.3, 8°74.4N×0°03×70°13.1W±0°02, h5km±10km, n43, σ1s14/72, 1D, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOCV	**Socops**	**0.85**	**238**	*eP*	**Pg**	**02 03 34.1**	**-0.9**
SOCV				*eS*	**Sg**	**02 03 46.2**	**+0.1**
SANV	**Sanarito**	**0.96**	**38**	*eP*	**Pg**	**02 03 37.2**	**+0.1**
SANV				*eS*	**Sb**	**02 03 52.0**	**+1.1**
SANV	**Sanarito**	**0.96**	**38**	*eP*	**Pg**	**02 03 37.6**	**+0.6**
SANV				*eS*	**Sg**	**02 03 49.9**	**+0.4**
TEPV	**Terepaima**	**1.53**	**37**	*eP*	**Pn**	**02 03 46.6**	**-0.1**
TEPV				*eS*	**Sn**	**02 04 07.5**	**+0.5**
SIQV	**Siquisique**	**1.92**	**9**	*eP*	**Pn**	**02 03 53.5**	**+1.4**
SIQV				*eS*	**Sb**	**02 04 18.7**	**+0.1**
SIQV	**Siquisique**	**1.92**	**9**	*eP*	**Pn**	**02 03 52.5**	**+0.3**
SIQV				*eS*	**Sn**	**02 04 16.6**	**-0.1**
MAPV	**Macapo**	**1.97**	**57**	*eP*	**Pn**	**02 03 53.1**	**+0.3**
MAPV				*eS*	**Sn**	**02 04 18.8**	**+0.8**
MAPV	**Macapo**	**1.97**	**57**	*eP*	**Pn**	**02 03 53.2**	**+0.3**
MAPV				*eS*	**Sn**	**02 04 19.1**	**+1.2**
BAUV	**El Baul**	**2.07**	**84**	*eS*	**Sn**	**02 04 19.5**	**-0.9**
BAUV	**El Baul**	**2.07**	**84**	*eS*	**Sn**	**02 04 20.7**	**+0.3**
CAPV	**Capacho**	**2.33**	**248**	*eP*	**Pn**	**02 03 59.1**	**+1.2**
CAPV				*eS*	**Sn**	**02 04 26.6**	**-0.5**
CAPV	**Capacho**	**2.33**	**248**	*eS*	**Sn**	**02 04 26.5**	**-0.6**
JACV	**Jacura**	**2.66**	**29**	*eP*	**Pn**	**02 04 03.0**	**+0.8**
JACV				*eS*	**Sn**	**02 04 35.7**	**+0.8**
JACV	**Jacura**	**2.66**	**29**	*eP*	**Pn**	**02 04 03.0**	**+0.8**
MCQV	**Machiques**	**2.71**	**299**	*eP*	**Pn**	**02 04 03.8**	**+0.9**
MCQV				*eS*	**Sn**	**02 04 36.9**	**+0.8**
MCQV	**Machiques**	**2.71**	**299**	*eP*	**Pn**	**02 04 02.6**	**-0.3**
MCQV				*eS*	**Sn**	**02 04 35.2**	**-0.9**
BENV	**Beln**	**2.78**	**64**	*eP*	**Pn**	**02 04 04.1**	**+0.2**
BENV				*eS*	**Sn**	**02 04 37.2**	**-0.6**
BENV	**Beln**	**2.78**	**64**	*eP*	**Pn**	**02 04 04.2**	**+0.3**
BENV				*eS*	**Sn**	**02 04 36.8**	**-1.0**
TAMC	**Tame, Arauca**	**2.82**	**216**	*P*	**Pn**	**02 04 05.0**	**+0.5**
TAMC				*S*	**Sn**	**02 04 41.6**	**+2.6**
TURV	**Turiamo**	**2.83**	**53**	*eP*	**Pn**	**02 04 04.5**	**-0.1**
TURV				*eS*	**Sn**	**02 04 38.7**	**-0.3**
TURV	**Turiamo**	**2.83**	**53**	*eP*	**Pn**	**02 04 04.4**	**-0.1**
PAMC	**Pamplona, Colo**	**2.90**	**242**	*P*	**Pn**	**02 04 06.4**	**+0.4**
PAMC				*S*	**Sn**	**02 04 42.5**	**+1.0**
OCAC	**Ocana**	**3.19**	**261**	*P*	**Pn**	**02 04 10.2**	**+0.4**
OCAC				*S*	**Sb**	**02 04 56.3**	**+0.9**
TACV	**Tcata**	**3.36**	**65**	*eP*	**Pn**	**02 04 11.2**	**-0.7**
TACV				*eS*	**Sn**	**02 04 51.0**	**-1.2**
TACV	**Tcata**	**3.36**	**65**	*ieP*	**Pn**	**02 04 11.1**	**-0.9**
TACV				*eS*	**Sn**	**02 04 50.8**	**-1.5**
CRJC	**Cerrejon, Guaj**	**3.53**	**310**	*P*	**Pn**	**02 04 13.7**	**-0.7**
CRJC				*S*	**Sn**	**02 04 55.3**	**-1.3**
FUNV	**FUNVISIS**	**3.70**	**62**	*eP*	**Pn**	**02 04 16.5**	**-0.1**
FUNV				*eS*	**Sn**	**02 04 58.1**	**-2.5**
FUNV	**FUNVISIS**	**3.70**	**62**	*eP*	**Pn**	**02 04 16.8**	**+0.2**
FUNV				*eS*	**Sn**	**02 04 59.4**	**-1.2**
BARC	**Barichara**	**3.70**	**235**	*P*	**Pn**	**02 04 17.6**	**+0.8**
CACV	**CAICARA DEL OR**	**3.74**	**108**	*eP*	**Pb**	**02 04 24.3**	**-1.0**
CACV				*eS*	**Sb**	**02 05 12.8**	**+1.8**
RUSC	**La Rusia**	**4.07**	**226**	*P*	**Pn**	**02 04 22.6**	**+0.5**
ARGC	**Ariguani, Magd**	**4.21**	**286**	*P*	**Pn**	**02 04 24.3**	**+0.7**
ARGC				*S*	**Sn**	**02 05 12.5**	**-0.8**
SMRC	**Santa Marta, M**	**4.70**	**301**	*P*	**Pn**	**02 04 28.8**	**-1.5**
SMRC				*S*	**Sn**	**02 05 21.0**	**-4.2**
PTBC	**PUERTO BERRIO,**	**4.81**	**243**	*P*	**Pn**	**02 04 31.2**	**-0.7**
PTGC	**Puerto Gaitan,** 162nm,0.7s,2µm0.5nm	**4.93**	**204**	*P*	**Pn**	**02 04 32.9**	**-0.6**
PTGC				*S*	**Sn**	**02 05 29.1**	**-1.9**
SPBC	**San Pablo de B** 162nm,0.7s,2µm0.5nm 13nm,0.5s,0.1nm	**4.97**	**232**	*P*	**Pn**	**02 04 33.9**	**-0.2**
SPBC	13nm,0.5s,0.1nm			*S*	**Sn**	**02 05 32.4**	**+0.3**
SJCC	**San Jacinto, C** 105nm,0.9s,963nm0.4nm	**5.12**	**283**	*P*	**Pn**	**02 04 37.1**	**+1.0**
SJCC	105nm,0.9s,963nm0.4nm			*S*	**Sn**	**02 05 38.5**	**+2.9**
CVER	**Cruz Verde, Cu** 30nm,0.5s	**5.74**	**223**	*P*	**Pn**	**02 04 46.3**	**+1.3**
VILC	**Villavicencio,**	**5.80**	**218**	*P*	**Pn**	**02 04 45.9**	**+0.3**
HELC	**Santa Helena** 5.9nm,0.5s	**5.92**	**245**	*P*	**Pn**	**02 04 48.0**	**+0.5**
GUY2C	**Guyana, Caldas** 17nm,0.6s	**6.26**	**236**	*P*	**Pn**	**02 04 53.4**	**+1.2**
CBOC	**Ciudad Bolivar** 6.8nm,0.8s	**6.50**	**244**	*P*	**Pn**	**02 04 57.1**	**+1.9**
ORTC	**Ortega, Tolima**	**6.99**	**227**	*P*	**Pn**	**02 05 01.2**	**-0.7**

IDC 19 02:15:29.9±3.8, 5°78.5N×141°61.6E, h0km, mb3.6/3, mbtmp3.5/5, ML3.5/2, Error ellipse: s-maj=133.5km s-min=24.9km az=100.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=28,slow=13,SNR=1.6	**15.75**	**206**	Pn	Pn	02 19 11.3	-1.9
WRA	0.1nm,0.3s,baz=26,slow=23,SNR=2.4			Sn	Sn	02 22 01.9	-6.7
WRA	baz=26,slow=27 0.7nm,0.7s			Lg	Lg	02 23 50.7	
ASAR	**Alice Springs** 0.1nm,0.3s,baz=35,slow=9.8,SNR=3.5	**19.27**	**202**	P	Pn	02 19 56.8	-0.4
ASAR	baz=4.4,slow=29 0.4nm,0.5s			Lg	Lg	02 25 43.2	
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=108,slow=4.7,SNR=1.9 0.2nm,0.7s	**73.98**	**322**	P	P	02 27 07.8	+0.5
KURBB	**Kurchatov Arra** 0.2nm,0.6s,baz=99,slow=5.7,SNR=2.6 0.2nm,0.6s	**77.89**	**324**	P	P	02 27 29.0	-0.6
BVAR	**Borovoye Array** 1.1nm,0.6s,baz=116,slow=6.6,SNR=4.7 1.1nm,0.6s	**83.47**	**325**	P	P	02 27 59.7	+0.3

IDC 19 02:17:03.6±46.0, 23°48N×142°96E, h435km±325km, mb3.0/6, mbtmp3.7/6, MS3.0/1, Error ellipse: s-maj=539.5km s-min=33.0km az=174.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami** comp=Z,75nm,21.4s,baz=325,slow=31	**13.71**	**287**	LR	LR	02 24 05.8	
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=86,slow=8.6,SNR=2.4 0.2nm,0.6s	**53.36**	**312**	P	P	02 25 40.2	-0.5
KURBB	**Kurchatov Arra** 0.7nm,0.5s,baz=102,slow=5.7,SNR=15 0.7nm,0.5s	**56.10**	**316**	P	P	02 26 00.0	+0.1
ILAR	**Eielson Array** 0.3nm,0.7s,baz=251,slow=5.2,SNR=5.2 0.3nm,0.7s	**60.56**	**28**	P	P	02 26 29.9	-0.2
BVAR	**Borovoye Array** 1.1nm,0.3s,baz=98,slow=8.2,SNR=5.6 1.1nm,0.3s	**61.20**	**319**	P	P	02 26 34.6	+0.1
YKA	**Yellowknife Ar** 0.2nm,0.5s,baz=292,slow=6.2,SNR=4.9 0.2nm,0.5s	**74.98**	**28**	P	P	02 27 59.0	+0.2
FINES	**FINESS Array B** 1.7nm,0.9s,baz=71,slow=6.0,SNR=4.6 1.7nm,0.9s	**81.50**	**334**	P	P	02 28 33.7	-0.2

JMA 19 02:28:56.2±0.2, 24°3N±0°5×123°8E±0°6, h19km±2km, MV0.9/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.10**	**334**	*eP*	Pg	02 28 59.9	0.0
HATJ	**Hateruma jima**	**0.19**	**172**	P	Pg	02 29 01.0	-0.2
HATJ				*eS*	Sg	02 29 04.4	-0.1
JKRS	**Kuro-shima**	**0.21**	**93**	*i* P	Pg	02 29 01.3	-0.1
JKRS				*eS*	Sg	02 29 05.2	+0.3
JIJ	**Ishigaki jima**	**0.35**	**71**	P	Pg	02 29 03.4	-0.4
JIJ				*eS*	Sg	02 29 08.3	-0.5
JISG	**Ishigakijimahi**	**0.59**	**55**	*eP*	Pg	02 29 08.2	+0.1
JYNG	**Yonagunijimaku**	**0.78**	**285**	S	Sb	02 29 20.4	-1.1

TAP 19 02:29:39.9, 24°25N×121°71E, h6km, ML1.2, 1C-1D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village** baz=34	**0.07**	**28**	*i* P	Pg	02 29 42.2	+0.6
EHP	baz=34			*eS*	Sg	02 29 44.6	+1.8
EAHA	**Aohua** baz=21	**0.09**	**21**	*eP*	Pg	02 29 42.0	+0.2
EAHA	baz=21			S	Sg	02 29 44.1	+0.9
ETL	**Fush Village** baz=219	**0.12**	**220**	*i* P	Pg	02 29 42.9	+0.5
ETL	baz=219			S	Sg	02 29 45.8	+1.7
NACB	**Ninganchiao** baz=233	**0.12**	**233**	⇓P	Pg	02 29 43.4	+0.9
NACB	baz=233			S	Sg	02 29 46.0	+1.7
ETLH	**Xiulin Townshi** baz=258	**0.21**	**258**	⇑ *i* P	Pg	02 29 44.9	+0.8
ETLH	baz=258			S	Sg	02 29 48.5	+1.7
LATG	**Datong** baz=330	**0.33**	**330**	*eP*	Pb	02 29 48.8	+0.5
LATG	baz=330			*eS*	Sb	02 29 54.1	+0.3
LXIB	**Xiulin Townshi** baz=229	**0.35**	**230**	*eP*	Pb	02 29 48.9	+0.2
LXIB	baz=229			*i* S	Sb	02 29 54.0	-0.5
WHF	**Hehuan Shan** baz=255	**0.41**	**256**	*i* P	Pb	02 29 49.1	-0.8
WHF	baz=255			*eS*	Sb	02 29 55.1	-1.5
FUSS	**Fushou** baz=269	**0.42**	**270**	*i* P	Pb	02 29 49.5	-0.4
FUSS	baz=269			*eS*	Sb	02 29 55.2	-1.4
YHNB	**Yeheng** baz=324	**0.52**	**324**	P	Pb	02 29 51.4	0.0
CHGB	**Renai** baz=248	**0.52**	**249**	*i* P	Pb	02 29 51.3	-0.3
CHGB	baz=248			*eS*	Sb	02 30 00.1	+0.6
NWLT	**Wulai** baz=340	**0.56**	**341**	*eP*	Pb	02 29 52.9	+0.8
NWLT	baz=340			*eS*	Sb	02 29 59.9	-0.5
OWD	**Renai** baz=238	**0.56**	**239**	*eP*	Pb	02 29 51.6	-0.7
WARBT	**Fenglin Townsh** baz=208	**0.60**	**209**	P	Pb	02 29 53.0	+0.1
WARBT	baz=208			*eS*	Sb	02 30 01.1	-0.6
WHP	**Taichung City** baz=272	**0.69**	**273**	*eP*	Pg	02 29 53.6	+0.3
WHP	baz=272			*eS*	Sb	02 30 05.6	+1.2
VWDT	**VWDT** baz=226	**0.71**	**226**	*eP*	Pn	02 29 57.2	+0.7
VWDT	baz=226			*eS*	Sb	02 30 05.2	+0.4

IDC 19 02:34:31.6±1.0, 67°15N×20°91E, h0km, mbtmp3.0/4, ML2.3/4, Error ellipse: s-maj=15.6km s-min=7.8km az=112.0
UPP 19 02:34:31.0±0.0, 67°20N×20°63E, h0km, ML2.4, Confirmed Induced event
HEL 19 02:34:31.4±0.2, 67°21N×20°62E, h0km, ML1.9, Suspected explosion
BER 19 02:34:31.1±0.6, 66°93N×20°88E, h1km, ML2.2, Confirmed Induced event

ISC 19 02:34:30.7±0.7, 67°19N±0°02×20°62E±0°02, h0km, n44, σ1s34/76, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.07**	**197**	P	**Pg**	**02 34 32.8**	**+0.8**
DUNU				S	**Sg**	**02 34 34.0**	**+1.2**
MASU	**Masugnsbyn**	**0.60**	**62**	P	**Pg**	**02 34 42.3**	**+0.1**
MASU				S	**Sg**	**02 34 50.2**	**+0.2**
RATU	**Laukkuluspa**	**0.75**	**329**	P	**Pg**	**02 34 45.1**	**0.0**
KUA	**Kurravaara**	**0.78**	**352**	P	**Pg**	**02 34 45.3**	**-0.3**
SALU	**Saltoluokta**	**0.84**	**284**	P	**Pg**	**02 34 47.0**	**+0.2**
LANU	**Lannavaara**	**1.01**	**31**	P	**Pg**	**02 34 49.5**	**-0.6**
LANU	**Lannavaara**	**1.01**	**31**	PG	**Pg**	**02 34 49.3**	**-0.8**
LANU				SB	**Sg**	**02 35 02.8**	**-0.4**
KOVU	**Salmi**	**1.06**	**351**	P	**Pg**	**02 34 50.4**	**-0.5**
KLF	**Kolari**	**1.30**	**86**	PG	**Pg**	**02 34 54.4**	**-1.3**
KLF	comp=Z,6.5nm,0.2s			MSG		02 35 10.8	
KLF				SG	**Sg**	**02 35 11.7**	**-0.8**
HEF	**Hetta** baz=222	**1.69**	**42**	PG	**Pn**	**02 35 01.0**	**-0.4**
HEF	comp=Z,8.2nm,0.2s			MSG		02 35 21.4	
HEF				SN	**Sg**	**02 35 24.8**	**0.0**
KALU	**Kalix**	**1.73**	**139**	P	**Pn**	**02 35 02.0**	**+0.1**
KALU	**Kalix** baz=319	**1.73**	**139**	PB	**Pn**	**02 35 01.7**	**-0.1**
KALU				SG	**Sn**	**02 35 25.5**	**+1.0**
SJUU	**Sjulsmark**	**1.73**	**166**	P	**Pn**	**02 35 02.1**	**+0.2**
KIF	**Kilpisjarvi** baz=184	**1.83**	**2**	PG	**Pn**	**02 35 04.2**	**+0.9**
KIF	comp=Z,16nm,0.2s			MSG		02 35 26.3	
KIF				SN	**Sg**	**02 35 29.8**	**+0.5**
TOF	**Tornio**	**1.85**	**125**	PG	**Pn**	**02 35 04.0**	**+0.4**
TOF	comp=Z,13nm,0.2s			MSG		02 35 26.9	
TOF				SG	**Sn**	**02 35 28.9**	**+1.3**
FAUS	**Fauske**	**2.08**	**278**	*eP*	**Pn**	**02 35 07.7**	**+1.0**
FAUS				*eS*	**Sn**	**02 35 33.6**	**+0.3**
FAUS	comp=Z,31nm,0.5s			IAML		02 35 40.7	
KTK1	**Kautokeino**	**2.08**	**27**	*eP*	**Pn**	**02 35 07.7**	**+0.9**
KTK1				*eS*	**Sb**	**02 35 35.1**	**-0.5**
KTK1	comp=Z,40nm,0.5s			IAML		02 35 37.4	
KTK1	**Kautokeino**	**2.08**	**27**	PG	**Pn**	**02 35 08.1**	**+1.3**
KTK1				SG	**Sb**	**02 35 35.5**	**-0.1**
STEI	**Steigen**	**2.19**	**292**	*eP*	**Pn**	**02 35 09.4**	**+1.0**
STEI				*eS*	**Sb**	**02 35 38.2**	**-0.7**
STEI	comp=Z,13nm,0.4s			IAML		02 35 43.9	
RNF	**Rovaniemi** baz=292	**2.21**	**103**	PB	**Pn**	**02 35 09.3**	**+0.8**
RNF				SG	**Sb**	**02 35 39.6**	**+0.4**
SGF	**Sodankyl** baz=264	**2.31**	**81**	PB	**Pn**	**02 35 10.5**	**+0.6**
SGF				SB	**Sn**	**02 35 40.8**	**+2.0**
JETT	**Jettan, Norway**	**2.38**	**358**	*eP*	**Pn**	**02 35 12.7**	**+1.7**
JETT	comp=Z,32nm,0.3s			IAML		02 35 47.8	
TRO	**Tromso**	**2.54**	**347**	PG	**Pb**	**02 35 16.0**	**-1.0**
TRO				SG	**Sn**	**02 35 46.5**	**+1.9**
BURU	**Burvik**	**2.63**	**173**	PN	**Pn**	**02 35 15.2**	**+0.8**
BURU				SG	**Sb**	**02 35 53.1**	**+1.6**
RANF	**Ranua** baz=300	**2.73**	**113**	PN	**Pn**	**02 35 16.1**	**+0.4**
RANF				SB	**Sb**	**02 35 53.6**	**-0.6**
ARA0	**ARCESS Array S**	**2.98**	**35**	*eP*	**Pn**	**02 35 19.7**	**+0.6**
ARA0	**ARCESS Array S**	**2.98**	**35**	PN	**Pn**	**02 35 19.8**	**+0.7**
ARA0				SB	**Sn**	**02 35 58.4**	**+3.0**
ARCES	**ARCESS Array B** comp=Z,0.4nm,0.3s,baz=218,slow=13,SNR=49	**2.98**	**35**	Pn	**Pn**	**02 35 19.6**	**+0.5**
ARCES	comp=Z,0.9nm,0.3s,baz=216,slow=22,SNR=10 comp=Z,1.1nm,0.3s			Sn	**Sn**	**02 35 56.4**	**+0.9**
OBF4	**Vikkela, Lumij** baz=324	**3.00**	**140**	PB	**Pb**	**02 35 23.7**	**-1.3**
OBF4	comp=Z,1.7nm,0.2s			MSG		02 36 00.3	
OBF0	**Syolatti, Pyha**	**3.08**	**149**	PB	**Pb**	**02 35 25.7**	**-0.6**
OBF0	comp=Z,3.3nm,0.2s			MSG		02 36 02.4	
KMNF	**Kaamanen**	**3.09**	**47**	PN	**Pn**	**02 35 20.9**	**+0.2**
KMNF				SN	**Sn**	**02 35 58.3**	**-0.1**
RAJF	**Raja-Jooseppi**	**3.19**	**63**	PB	**Pb**	**02 35 25.9**	**-2.3**
OUF	**Merijarvi**	**3.30**	**147**	PN	**Pn**	**02 35 24.5**	**+1.0**
OUF				SG	**Sb**	**02 36 13.5**	**+2.9**
UMAU	**Umeaa**	**3.32**	**180**	PN	**Pn**	**02 35 24.7**	**+0.9**
UMAU				SN	**Sn**	**02 36 04.6**	**+0.8**
KEV	**Kevo**	**3.49**	**39**	PN	**Pn**	**02 35 27.0**	**+0.9**
KEV				SN	**Sn**	**02 36 08.1**	**0.0**
VRF	**Varrio**	**3.51**	**77**	PG	**Pb**	**02 35 33.2**	**-0.3**
VRF				SG	**Sb**	**02 36 17.8**	**+1.1**
OLKF	**Oulanka, Finla** baz=289	**3.59**	**100**	PN	**Pn**	**02 35 28.1**	**+0.6**
OLKF				SG	**Sb**	**02 36 22.6**	**+3.6**
MSF	**Maaselka**	**3.60**	**107**	PG	**Pb**	**02 35 35.3**	**+0.1**
MSF				SG	**Sb**	**02 36 21.4**	**+2.0**
KU6	**Riekki** baz=293	**3.88**	**103**	PN	**Pn**	**02 35 31.9**	**+0.5**
KU6				SN	**Sn**	**02 36 18.4**	**+0.8**
HUSU	**Husum** baz=5.0	**3.91**	**189**	PN	**Pn**	**02 35 32.9**	**+1.1**
HUSU				SN	**Sn**	**02 36 18.1**	**-0.2**
VAF	**Ylistaro**	**4.25**	**167**	PN	**Pn**	**02 35 37.6**	**+1.1**
VAF				SG	**Sg**	**02 36 43.8**	**-3.2**
FINES	**FINESS Array B** comp=Z,0.3nm,0.3s,baz=348,slow=14,SNR=19	**6.23**	**155**	Pn	**Pn**	**02 36 04.5**	**+0.7**
FINES	comp=Z,0.4nm,0.3s,baz=348,slow=24,SNR=7.6			Sn	**Sn**	**02 37 14.3**	**-1.3**
FINES	comp=Z,0.6nm,0.3s,baz=346,slow=27,SNR=6.7 comp=Z,0.8nm,0.4s			Lg	Lg	02 37 43.9	
NOA	**NORSAR Array B** baz=28,slow=10,SNR=1.7	**7.41**	**218**	Pn	**Pn**	**02 36 20.7**	**+0.8**
NOA	baz=53,slow=23,SNR=1.4			Sn	**Sn**	**02 37 40.0**	**-4.6**
NOA	baz=53,slow=22,SNR=4.3 comp=Z,0.4nm,0.8s			Lg	Lg	02 38 23.8	
HFS	**Hagfors** comp=Z,0.3nm,0.3s,baz=28,slow=13,SNR=6.7	**7.71**	**207**	Pn	**Pn**	**02 36 22.8**	**-1.3**
HFS	comp=Z,0.4nm,0.3s,baz=29,slow=22,SNR=6.8 comp=Z,1.3nm,0.6s			Sn	**Sn**	**02 37 48.8**	**-3.3**

MOS 19 02:36:35.3±0.9, 15°63S×167°70E, h130km, mb5.4/25, Error ellipse: s-maj=8.4km s-min=7.1km az=115.9
BJI 19 02:36:35.9±0.0, 15°30S×167°83E, h132km, mb5.4/76, mB5.2/41
IDC 19 02:36:36.1±0.6, 15°64S×167°77E, h127km±4km, mb4.9/27, mbtmp5.2/28, MS3.9/9, Error ellipse: s-maj=11.6km s-min=7.7km az=83.0
NEIC 19 02:36:36.2±2.2, 15°69S±0°07×167°74E±0°09, h122km±4km, mb5.1/316, Error ellipse: s-maj=12.0km s-min=10.7km az=100.0
NOU 19 02:36:37.0, 15°60S×167°54E, h116km, ML5.3/123, Vanuatu Islands
GCMT 19 02:36:38.2±0.1, 15°54S±0°01×167°53E±0°01, h134km±1km, MW5.3/140, Moment Tensor Solution. s100,c132; s140,c223; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.92±.01; M_{tt}0.46±.02; M_{pp}-0.45±.02; M_{rt}0.18±.02; M_{rp}-0.47±.02; M_{tp}-0.29±.01; Best double couple: $M_0$0.97700×10^{17} NP1:ϕ_s208.00000°, δ50.00000°, λ66.00000°. NP2:ϕ_s62.00000°, δ45.00000°, λ116.00000°. Principal axes: T 1.0260, Plg72.0000°, Azm52.0000°; N -0.0980, Plg18.0000°, Azm223.0000°; P -0.9280, Plg3.0000°, Azm314.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 19 02:36:36.4±0.3, 15°62S±0°04×167°78E±0°04, h135km±2km, h136km:pP-P, n1203, σ1s36/1147, mb5.1/279, 47C-96D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**5.16**	**186**	P	**Pn**	**02 37 50.5**	**-1.2**
LIFNC	**LIFOU**	**5.16**	**186**	Pn	**Pn**	**02 37 49.5**	**-2.1**
MARNC	**Mare, Loyalty**	**5.84**	**178**	P	**Pn**	**02 37 59.5**	**-1.3**
MARNC	**Mare, Loyalty**	**5.84**	**178**	Pn	**Pn**	**02 37 58.5**	**-2.2**
KOUNC	**Koumac, New Ca**	**5.93**	**214**	P	**Pn**	**02 38 02.1**	**+0.1**
KOUNC	**Koumac, New Ca**	**5.93**	**214**	Pn	**Pn**	**02 38 01.5**	**-0.5**
DZM	**Mont Dzumac**	**6.54**	**191**	P	**Pn**	**02 38 10.7**	**+0.3**
DZM	**Mont Dzumac** 5µm,1.1s	**6.54**	**191**	*ePn*	**Pn**	**02 38 09.4**	**-1.0**
DZM	4µm,1.1s			*eSn*	**Sn**	**02 39 22.6**	**-1.2**
DZM	**Mont Dzumac**	**6.54**	**191**	Pn	**Pn**	**02 38 09.8**	**-0.5**
DZM	**Mont Dzumac** 828nm,0.4s,baz=328,slow=8.2,SNR=640	**6.54**	**191**	P	**Pn**	**02 38 10.3**	**-0.1**
DZM	1µm,0.9s,baz=310,slow=22,SNR=8.8			S	**Sn**	**02 39 22.2**	**-1.7**
NOUC	**Port Laguerre**	**6.60**	**192**	P	**Pn**	**02 38 11.6**	**+0.6**
ONTNC	**Ouen Toro**	**6.77**	**191**	P	**Pn**	**02 38 14.0**	**+0.7**
OUENC	**Ouen Island, N**	**6.82**	**187**	P	**Pn**	**02 38 14.9**	**+0.9**
OUENC	**Ouen Island, N**	**6.82**	**187**	Pn	**Pn**	**02 38 14.1**	**+0.1**
PINNC	**Pines Island,**	**6.97**	**183**	P	**Pn**	**02 38 16.7**	**+0.8**
PINNC	**Pines Island,** 8µm,0.6s,baz=178,slow=15,SNR=11	**6.97**	**183**	Pn	**Pn**	**02 38 15.8**	**-0.1**
HNR	**Honiara**	**9.81**	**308**	P	**Pn**	**02 38 54.0**	**-0.3**
HNR	**Honiara**	**9.81**	**308**	Pn	**Pn**	**02 38 54.6**	**+0.3**
HNR	**Honiara** 4µm,1.0s,baz=190,slow=17,SNR=1.0	**9.81**	**308**	P	**Pn**	**02 38 53.9**	**-0.3**
HNR	comp=Z,24µm,21.9s,baz=144,slow=36			LR	LR	02 42 25.9	
MSVF	**Nonsavu**	**10.06**	**104**	P	Pn	02 39 03.0	+5.4
MSVF	**Nonsavu**	**10.06**	**104**	Pn	Pn	02 39 02.7	+5.1
MSVF	**Nonsavu**	**10.06**	**104**	P	Pn	02 39 02.7	+5.1
DGTI	**Dogotuki**	**11.52**	**95**	P	**P**	**02 39 21.9**	**-3.1**
TAVE	**Taveuni**	**11.88**	**97**	P	**P**	**02 39 26.9**	**-2.1**
LKBA	**Tubou, Lakemba**	**13.09**	**103**	P	**P**	**02 39 42.4**	**0.0**
FUNA	**Funafuti**	**13.20**	**59**	P	**P**	**02 39 41.8**	**-1.9**
FUNA	**Funafuti**	**13.20**	**59**	Pn	**Pn**	**02 39 40.6**	**+1.8**
NFK	**Norfolk Island** baz=13,SNR=6.3	**13.36**	**179**	P	**Pn**	**02 39 42.0**	**+1.2**
NFK	**Norfolk Island**	**13.36**	**179**	P	**Pn**	**02 39 42.6**	**+1.8**
TARA	**Tarawa**	**17.61**	**17**	P	**Pn**	**02 40 34.6**	**+1.1**
RK1H	**Rockhampton Ha**	**18.03**	**242**	P	**P**	**02 40 37.6**	**+0.5**
EIDS	**Eidsvold** baz=18,SNR=20	**18.39**	**235**	P	**Pn**	**02 40 42.6**	**-0.2**
EIDS	**Eidsvold**	**18.39**	**235**	P	**Pn**	**02 40 42.2**	**-0.6**
EIDS	**Eidsvold**	**18.39**	**235**	P	**Pn**	**02 40 42.2**	**-0.6**
AFI	**Afiamalu**	**19.84**	**88**	P	**Pn**	**02 41 02.4**	**+2.5**
AFI	**Afiamalu**	**19.84**	**88**	P	**P**	**02 40 57.4**	**+0.4**
AFI	**Afiamalu**	**19.84**	**88**	P	**P**	**02 40 57.4**	**+0.4**
TV1H	**Townsville Har**	**20.35**	**257**	P	**P**	**02 41 01.9**	**-0.4**
ARMA	**Armidale** baz=21,SNR=15	**20.89**	**222**	P	**P**	**02 41 09.8**	**+1.7**
ARMA	**Armidale**	**20.89**	**222**	P	**P**	**02 41 09.7**	**+1.5**
ARMA	**Armidale**	**20.89**	**222**	P	**P**	**02 41 09.2**	**+1.1**
ARMA				PcP	**PcP**	**02 45 12.3**	**+1.3**
CTA	**Charters Tower**	**20.96**	**255**	P	**P**	**02 41 09.8**	**+0.9**
CTA	**Charters Tower** 24nm,0.7s,baz=90,slow=9.1,SNR=22	**20.96**	**255**	P	**P**	**02 41 09.4**	**+0.5**
CTA	7.6nm,0.6s,baz=80,slow=0.8,SNR=3.5 24nm,0.7s			PcP	**PcP**	**02 45 11.0**	**-0.2**
CTAO	**Charters Tower**	**20.96**	**255**	P	**P**	**02 41 10.0**	**+1.1**

baz=24,SNR=18
COEN Coen 23.85 271 P **P** 02 41 37.7 +0.2
COEN Coen 23.85 271 P **P** 02 41 37.1 -0.4
COEN PcP **PcP** 02 45 19.1 +2.0
RUGZ Raukumara Rang 23.91 160 P **P** 02 41 39.8 +1.9
PKGZ Pakihiroa 23.98 160 P **P** 02 41 40.2 +1.8
URZ Urewera 24.01 162 P **P** 02 41 40.0 +1.4
comp=Z,32nm,1.0s,baz=332,slow=2.1,SNR=15
URZ S **S** 02 45 45.9 +0.1
comp=Z,24nm,1.1s,baz=287,slow=19,SNR=2.5
comp=Z,32nm,1.0s
URZ Urewera 24.01 162 P **P** 02 41 41.5 +2.9
AUDCS Dubbo College 24.02 223 P **P** 02 41 40.1 +1.3
WMGZ Waiomatatini S 24.03 159 P **P** 02 41 40.2 +1.4
MUGZ Murupara 24.11 163 P **P** 02 41 42.9 +3.3
WOLH Wollongong Har 24.12 216 P **P** 02 41 41.2 +1.5
PATS Pohnpei 24.20 337 P **P** 02 41 41.4 +0.8
PUZ Puketiti 24.20 160 P **P** 02 41 46.3 +5.9
MWZ Matawai 24.20 161 P **P** 02 41 42.7 +2.3
MWZ S **S** 02 45 50.9 +1.9
TWGZ Tauwhareparae 24.21 160 P **P** 02 41 40.8 +0.3
RTZ Ruatahuna 24.30 162 P **P** 02 41 42.5 +1.1
RTZ IAmb IAmb 02 41 44.5
comp=Z,130nm,1.3s
TWVZ Taurewa 24.31 165 P **P** 02 41 43.9 +2.4
RAGZ Rawiri 24.32 161 P **P** 02 41 44.0 +2.4
MRHZ Matea Rd 24.34 163 P **P** 02 41 44.8 +3.1
NGZ Ngauruhoe 24.45 165 P **P** 02 41 45.7 +2.8
QLP Quilpie 24.49 240 P **P** 02 41 43.7 +0.6
baz=24,SNR=30
QLP Quilpie 24.49 240 P **P** 02 41 44.4 +1.3
SNGZ Shannon Statio 24.56 162 P **P** 02 41 45.5 +1.9
CNGZ Carnagh Statio 24.56 160 P **P** 02 41 46.4 +2.8
RIGZ Rimuhau 24.62 161 P **P** 02 41 47.2 +2.9
BKZ Black Stump Fm 24.67 164 P **P** 02 41 46.8 +2.1
BKZ Black Stump Fm 24.67 164 P **P** 02 41 46.0 +1.2
BKZ Black Stump Fm 24.67 164 P **P** 02 41 46.3 +1.5
PRGZ Paritu Road 24.86 161 P **P** 02 41 46.1 -0.3
MHGZ Mahia Peninsul 25.07 161 P **P** 02 41 48.8 +0.5
QRZ Quartz Range 25.45 172 P **P** 02 41 54.7 +3.0
QRZ Quartz Range 25.45 172 P **P** 02 41 53.6 +1.9
QRZ IAmb IAmb 02 41 55.2
comp=Z,49nm,1.0s
YNG Young 25.51 220 P **P** 02 41 53.7 +1.4
CNB Canberra Magne 25.63 217 P **P** 02 41 54.9 +1.4
baz=26,SNR=16
CNB Canberra Magne 25.63 217 P **P** 02 41 54.6 +1.1
CMSA Cobar Meteorol 25.63 228 P **P** 02 41 53.9 +0.5
baz=26,SNR=17
CMSA Cobar Meteorol 25.63 228 P **P** 02 41 54.4 +0.9
CAN Canberra 25.85 217 P **P** 02 41 55.7 +0.3
CAN IAmb IAmb 02 42 28.0
comp=Z,163nm,2.0s
CAN Canberra 25.85 217 P **P** 02 41 55.7 +0.3
CAN pmax pmax
comp=Z,163nm,2.0s
MRZ Mangatainoka R 25.86 166 IAmb IAmb 02 42 35.2
comp=Z,71nm,1.3s
MRNZ Matariki Terra 26.05 171 P **P** 02 41 57.9 +0.8
TCW Tory Channel 26.11 169 P **P** 02 41 57.6 0.0
TUWZ Tuamarina 26.27 169 P **P** 02 42 00.0 +1.0
TUWZ PcP **PcP** 02 45 21.4 -0.6
THZ Tophouse 26.43 171 IAmb IAmb 02 42 36.0
comp=Z,28nm,0.8s
BSWZ Blackbirch Sta 26.53 170 P **P** 02 42 01.8 +0.3
KHZ Kahutara 27.16 171 P **P** 02 42 08.2 +1.2
INZ Inchbonnie 27.20 174 P **P** 02 42 08.6 +1.2
INZ IAmb IAmb 02 42 09.7
comp=Z,48nm,0.8s
QIS Mount Isa 27.21 255 P **P** 02 42 08.1 +0.2
baz=27,SNR=21
QIS Mount Isa 27.21 255 P **P** 02 42 08.2 +0.4
LTZ Lake Taylor 27.34 173 IAmb IAmb 02 42 11.9
comp=Z,55nm,0.7s
MMPI Merauke 27.70 282 P **P** 02 42 13.3 +1.1
comp=Z,393nm,0.6s
INKA Innaminka 27.80 240 P **P** 02 42 14.1 +1.2
OXZ Oxford 27.85 173 IAmb IAmb 02 42 15.5
comp=Z,41nm,0.7s
RPZ Rata Peaks 28.14 175 P **P** 02 42 17.1 +1.3
RPZ IAmb IAmb 02 43 13.3
comp=Z,80nm,1.2s
RPZ Rata Peaks 28.14 175 P **P** 02 42 16.9 +1.1
comp=Z,18nm,0.6s,baz=237,slow=3.5,SNR=8.2
comp=Z,18nm,0.6s
STKA Stephens Creek 28.81 231 P **P** 02 42 22.4 +0.6
baz=29,SNR=18
STKA Stephens Creek 28.81 231 P **P** 02 42 22.7 +0.8
STKA Stephens Creek 28.81 231 P **P** 02 42 22.5 +0.6
STKA PcP **PcP** 02 45 28.8 +0.3
STKA Stephens Creek 28.81 231 *ce*P **P** 02 42 22.6 +0.7
STKA Stephens Creek 28.81 231 P **P** 02 42 22.5 +0.6
comp=Z,34nm,0.8s,baz=44,slow=7.4,SNR=42
STKA pP **pP** 02 42 50.7 +1.1
comp=Z,24nm,1.0s,baz=58,slow=6.8,SNR=3.9
STKA PcP **PcP** 02 45 27.8 -0.6
comp=Z,31nm,0.8s,baz=4.4,slow=3.3,SNR=8.6
STKA ScP **ScP** 02 48 59.2 +1.8
comp=Z,5.1nm,0.9s,baz=96,slow=2.7,SNR=4.0
STKA LR LR 02 53 04.4
comp=Z,292nm,21.1s,baz=81,slow=34
comp=Z,34nm,0.8s
TOO Toolangi 29.45 218 P **P** 02 42 28.5 +1.1
baz=29,SNR=7.0
TOO Toolangi 29.45 218 P **P** 02 42 28.9 +1.4
TOO Toolangi 29.45 218 P **P** 02 42 27.1 -0.3
TOO IAmb IAmb 02 42 30.2
comp=Z,81nm,1.3s
TOO Toolangi 29.45 218 P **P** 02 42 27.1 -0.3
TOO pmax pmax
comp=Z,81nm,1.3s
BRAT Ballarat 30.37 219 P **P** 02 42 37.2 +1.7
GLAD Gladstone 30.54 210 P **P** 02 42 38.5 +1.5
LCRK Leigh Creek 30.84 236 P **P** 02 42 41.2 +1.4
RAR Rarotonga 31.24 105 P P 02 42 49.0 +5.6
RAR Rarotonga 31.24 105 LR LR 02 53 39.0
comp=Z,63nm,20.5s,baz=286,slow=33
HTT Hallett 31.53 231 P **P** 02 42 46.6 +0.7
baz=31,SNR=9.5
HTT Hallett 31.53 231 P **P** 02 42 46.9 +1.0
WR0 Warramunga Arr 31.91 257 IAmb IAmb 02 42 49.5
comp=Z,28nm,0.8s
WB0 Warramunga Arr 32.05 258 P **P** 02 42 49.3 -1.2
WB0 PcP **PcP** 02 45 37.7 +0.6
MOO Moorlands 32.05 209 P **P** 02 42 51.9 +1.6
baz=32,SNR=3.7
OOD Oodnadatta 32.09 242 P **P** 02 42 51.7 +0.9
WRAB Tennant Creek 32.09 257 P **P** 02 42 50.0 -0.9
WRAB IAmb IAmb 02 42 50.9
comp=Z,38nm,0.8s
WRAB Tennant Creek 32.09 257 *c i*P **P** 02 42 49.5 -1.4
WRAB pmax pmax
comp=Z,34nm,0.9s
WRA Warramunga Arr 32.10 257 P **P** 02 42 49.7 -1.3
comp=Z,39nm,0.7s,baz=87,slow=8.5,SNR=140
WRA PcP **PcP** 02 45 37.1 -0.2
comp=Z,19nm,0.9s,baz=82,slow=2.3,SNR=13
WRA S **S** 02 47 47.5 -6.2
comp=Z,3.5nm,0.9s,baz=86,slow=13,SNR=6.5
WRA ScP **ScP** 02 49 10.4 +1.9
comp=Z,7.6nm,1.1s,baz=83,slow=3.7,SNR=5.9
WRA PKiKP **PKiKP** 02 53 04.2 -1.1
comp=Z,0.6nm,0.8s,baz=3.8,slow=0.4,SNR=11
comp=Z,39nm,0.7s
WHYH Whyalla 32.37 232 P **P** 02 42 54.0 +0.9
AS01 Alice Springs 32.79 250 P **P** 02 42 56.7 -0.3
AS31 Alice Springs 32.83 251 IAmb IAmb 02 42 57.9
comp=Z,30nm,0.8s
ASAR Alice Springs 32.83 251 P **P** 02 42 56.2 -1.2
comp=Z,103nm,0.9s,baz=78,slow=9.1,SNR=514
ASAR pP **pP** 02 43 22.4 -3.6
comp=Z,34nm,0.9s,baz=78,slow=8.9,SNR=4.5
ASAR PcP **PcP** 02 45 38.9 -0.5
comp=Z,14nm,0.8s,baz=93,slow=2.9,SNR=11
ASAR S **S** 02 47 59.4 -5.5
comp=Z,1.1nm,0.8s,baz=80,slow=17,SNR=2.6
ASAR ScP **ScP** 02 49 12.2 +1.3
comp=Z,2.9nm,0.9s,baz=91,slow=3.6,SNR=6.0
ASAR PKiKP **PKiKP** 02 53 04.7 -1.2
comp=Z,0.9nm,0.6s,baz=111,slow=1.3,SNR=8.1
ASAR LR LR 02 55 41.2
comp=Z,230nm,18.3s,baz=80,slow=35
comp=Z,103nm,0.9s
BBOO Buckleboo 33.44 233 P **P** 02 43 03.1 +0.6
baz=33,SNR=33
BBOO Buckleboo 33.44 233 P **P** 02 43 03.4 +0.9
MULG Mulgathing 34.16 239 P **P** 02 43 09.3 +0.5
KDU Kakadu 34.34 270 P **P** 02 43 09.7 -0.8
baz=34,SNR=16
KDU Kakadu 34.34 270 P **P** 02 43 10.0 -0.5
MTN Manton Dam 35.61 270 P **P** 02 43 20.8 -0.5
baz=35,SNR=10.0
MTN Manton Dam 35.61 270 P **P** 02 43 21.1 -0.2
MTN Manton Dam 35.61 270 P **P** 02 43 20.9 -0.5
MTN IAmb IAmb 02 43 50.6
comp=Z,28nm,1.0s
MTN **PcP** 02 45 46.6 -0.7
GUMO Guam 36.82 321 LR LR 02 58 25.7
comp=Z,652nm,21.9s,baz=26,slow=36
FAKI Fak Fak 37.19 286 P **P** 02 43 35.1 +0.3
FAKI Fak Fak 37.19 286 P **P** 02 43 34.4 -0.4
FAKI Fak Fak 37.19 286 P **P** 02 43 35.2 +0.4
comp=Z,121nm,1.0s,comp=Z,1µm
KNRA Kununurra 37.54 264 P **P** 02 43 37.1 -0.7
baz=37,SNR=62
KNRA Kununurra 37.54 264 P **P** 02 43 37.3 -0.4
WRKA Warakurna 38.08 249 P **P** 02 43 41.7 -0.5
baz=38,SNR=67
WRKA Warakurna 38.08 249 P **P** 02 43 42.2 -0.1
BNDI Bandanaira 38.82 282 P **P** 02 43 49.0 +0.5
BNDI Bandanaira 38.82 282 P **P** 02 43 47.9 -0.6
comp=Z,241nm,1.0s,comp=Z,4µm
SWI Sorong 38.90 289 P **P** 02 43 49.6 +0.4
comp=Z,158nm,1.0s,comp=Z,2µm
FORT Forrest 39.28 240 P **P** 02 43 52.7 +0.5
baz=39,SNR=30
FORT Forrest 39.28 240 P **P** 02 43 53.1 +1.0
FITZ Fitzroy Crossi 40.35 260 P **P** 02 44 01.1 +0.1
baz=40,SNR=63
FITZ Fitzroy Crossi 40.35 260 P **P** 02 44 01.2 +0.1
PPT2 Papeete2 40.85 99 *e*P P 02 44 00.2 -5.1
comp=Z,73nm,27.0s
PPT2 *e*S **S** 02 50 07.7 +0.9
comp=Z,147nm,27.8s
PPT2 *e*SS **SnSn** 02 53 23.6 -6.6
comp=Z,577nm,26.5s
TBI Tubuai 40.92 108 *e*SS SS 02 53 17.6 +3.0
comp=Z,2µm,27.0s
NLAI Namlea 41.88 283 P **P** 02 44 14.7 +1.0
comp=Z,93nm,1.1s,comp=Z,9µm
BATI Baumata 43.28 272 P **P** 02 44 26.6 +1.5
comp=Z,242nm,1.0s
SANI Sanana 43.33 284 P **P** 02 44 25.1 -0.3
SANI Sanana 43.33 284 P **P** 02 44 25.8 +0.4
comp=Z,107nm,0.8s,comp=Z,1µm
KMBL Kambalda 44.59 241 P **P** 02 44 35.3 0.0
baz=44,SNR=28
KMBL Kambalda 44.59 241 P **P** 02 44 35.3 0.0
MMRI Maumere 44.99 273 P **P** 02 44 39.5 +0.8
MMRI Maumere 44.99 273 P **P** 02 44 38.1 -0.6
comp=Z,131nm,0.9s,comp=Z,4µm
BBSI Bau Bau 45.48 278 P **P** 02 44 44.0 +1.5
comp=Z,38nm,1.0s
EDFI Ende, Flores 45.50 273 P **P** 02 44 41.9 -0.9
PSA00 Pilbara Seismi 45.68 255 P **P** 02 44 44.9 +0.9
PSA00 Pilbara Seismi 45.68 255 IAmb IAmb 02 44 45.5
comp=Z,25nm,0.9s
MBWA Marble Bar 45.80 256 P **P** 02 44 45.3 +0.3
MBWA Marble Bar 45.80 256 P **P** 02 44 44.5 -0.4
MBWA Marble Bar 45.80 256 P **P** 02 44 45.3 +0.3
KMSI Cibinong 46.16 286 P **P** 02 44 47.0 -0.8
comp=Z,217nm,0.7s
LUWI Luwuk 46.69 284 P **P** 02 44 52.5 +0.5
LUWI Luwuk 46.69 284 P **P** 02 44 51.1 -0.9
LUWI Luwuk 46.69 284 P **P** 02 44 51.8 -0.2
comp=Z,80nm,0.9s
MEEK Meekatharra 46.91 248 P **P** 02 44 53.8 +0.2
baz=47,SNR=60
MEEK Meekatharra 46.91 248 P **P** 02 44 54.1 +0.5
GTOI Gorontalo 47.08 286 P **P** 02 44 56.6 +1.6
comp=Z,29nm,0.7s,comp=Z,228nm
BKSI Bulukumba 47.87 277 P **P** 02 45 00.7 -0.4
comp=Z,36nm,0.8s
MRSI Marisa 48.01 285 P **P** 02 45 01.2 -1.0
comp=Z,37nm,0.7s
KLBR Kellerberrin 48.11 241 P **P** 02 45 02.3 -0.5
baz=48,SNR=37
KLBR Kellerberrin 48.11 241 P **P** 02 45 02.8 0.0
KAPI Kappang 48.31 277 P **P** 02 45 05.4 +0.9
KAPI Kappang 48.31 277 P **P** 02 45 05.2 +0.7
KAPI Kappang 48.31 277 P **P** 02 45 05.2 +0.7
KAPI pmax pmax
comp=Z,74nm,1.0s
KAPI Kappang 48.31 277 P **P** 02 45 05.2 +0.7
KAPI pP **pP** 02 45 35.1 -0.4
NWAO Narrogin (SRO) 48.73 240 P **P** 02 45 07.4 -0.1
baz=48,SNR=27
NWAO P **P** 02 45 07.4 -0.1
baz=48,SNR=27
NWAO Narrogin (SRO) 48.73 240 P **P** 02 45 08.4 +0.9
NWAO Narrogin (SRO) 48.73 240 P **P** 02 45 07.8 +0.3
NWAO Narrogin (SRO) 48.73 240 P **P** 02 45 07.6 +0.1
NWAO Narrogin (SRO) 48.73 240 P **P** 02 45 07.6 +0.1
NWAO pmax pmax
comp=Z,161nm,1.0s
NWAO Narrogin (SRO) 48.73 240 LR LR 03 05 22.5
comp=Z,160nm,18.1s,baz=8.0,slow=36
NWAO Narrogin (SRO) 48.73 240 P **P** 02 45 07.5 0.0
NWAO pP **pP** 02 45 38.0 -0.5
TTSI Tana Toraja 48.82 280 P **P** 02 45 08.8 +0.4
comp=Z,29nm,0.8s
BLDU Ballidu 48.89 243 P **P** 02 45 08.6 -0.2
baz=49,SNR=9.7
BLDU Ballidu 48.89 243 P **P** 02 45 09.0 +0.2
RKGY Rocky Gully 49.19 238 P **P** 02 45 11.3 +0.3
baz=49,SNR=8.7
RKGY Rocky Gully 49.19 238 P **P** 02 45 11.6 +0.6
JCJ Chichijima 49.20 329 P **P** 02 45 06.9 -4.1
comp=Z,94nm,0.6s,baz=338,slow=16,SNR=5.4
PLAI Plampang 49.25 272 P **P** 02 45 12.6 +0.9
PLAI Plampang 49.25 272 P **P** 02 45 11.8 +0.1
comp=Z,94nm,0.8s,comp=Z,749nm
TOLI2 Tolitoli 49.32 285 P **P** 02 45 12.2 0.0
MORW Morawa 49.34 245 P **P** 02 45 12.3 +0.1
baz=49,SNR=39
MORW Morawa 49.34 245 P **P** 02 45 12.6 +0.4
MORW Morawa 49.34 245 P **P** 02 45 11.5 -0.7
MUN Mundaring 49.47 241 P **P** 02 45 13.2 +0.1
baz=49,SNR=5.3
MUN Mundaring 49.47 241 P **P** 02 45 13.4 +0.3
KIP Kipapa 49.81 43 *e*P **P** 02 45 15.9 +0.2
KIP pmax pmax
comp=Z,69nm,1.0s
MPSI Mapaga 49.87 284 P **P** 02 45 16.5 +0.1
comp=Z,164nm,0.8s,comp=Z,1µm
TWSI Taliwang, Sumb 50.13 272 P **P** 02 45 18.7 +0.4
comp=Z,251nm,1.2s,comp=Z,2µm
MLOA Mauna Loa Obse 50.19 47 P **P** 02 45 20.9 +1.7
HMH Humu'ula Sheep 50.30 47 P **P** 02 45 21.2 +1.3
POHA Pohakuloa 50.37 47 P **P** 02 45 23.8 +3.5
POHA Pohakuloa 50.37 47 P **P** 02 45 21.1 +0.9
POHA Pohakuloa 50.37 47 P **P** 02 45 21.7 +1.4
POHA pP **pP** 02 45 51.0 +0.6
GIRL Giralia 50.86 253 P **P** 02 45 23.6 -0.1
baz=51,SNR=5.0
GIRL Giralia 50.86 253 P **P** 02 45 24.5 +0.8
DNP Denpasar 51.75 271 P **P** 02 45 31.2 +0.7
IGBI Denpasar 51.78 271 P **P** 02 45 31.0 +0.3
comp=Z,238nm,0.9s,comp=Z,3µm
SRBI Singaraja 51.88 272 P **P** 02 45 31.7 +0.2
comp=Z,59nm,0.8s,comp=Z,978nm
JAGI Jajag, Banyuwa 52.82 271 P **P** 02 45 37.6 -0.8
JAGI Jajag, Banyuwa 52.82 271 P **P** 02 45 36.7 -1.7
comp=Z,74nm,0.9s
ABJI Asem Bagus 52.89 272 P **P** 02 45 39.3 +0.4
comp=Z,100nm,1.0s
BLJI Banyuglugur 53.52 272 P **P** 02 45 43.5 0.0
comp=Z,45nm,0.6s,comp=Z,3µm
GMJI Gumukmas 53.54 271 P **P** 02 45 42.5 -1.2
DRV Dumont d'Urvil 54.20 193 P **P** 02 45 48.2 +0.7
DRV pP **pP** 02 46 18.6 -0.5
PWJI Pagerwojo 55.18 271 P **P** 02 45 55.4 -0.1
comp=Z,58nm,1.0s,comp=Z,883nm
KKM Kota Kinabalu 55.41 289 P **P** 02 45 58.1 +0.8
KKM Kota Kinabalu 55.41 289 P **P** 02 45 56.1 -1.2
NGJI Ngawi 55.66 272 P **P** 02 46 00.9 +1.9
comp=Z,74nm,0.9s
UWJI Ujung Watu 56.39 273 P **P** 02 46 04.6 +0.4
comp=Z,113nm,0.8s
UGM Wanagama 56.44 271 P **P** 02 46 05.3 +0.7
UGM Wanagama 56.44 271 P **P** 02 46 04.0 -0.6
comp=Z,206nm,0.8s
SMRI Semarang 56.72 272 P **P** 02 46 07.5 +1.0
SMRI Semarang 56.72 272 P **P** 02 46 07.1 +0.6
comp=Z,196nm,1.0s,comp=Z,6µm
JOW Kunigami 57.03 317 P **P** 02 46 10.2 +1.8
JOW Kunigami 57.03 317 P **P** 02 46 09.5 +1.1
comp=Z,41nm,0.7s,baz=135,slow=6.0,SNR=7.9
comp=Z,41nm,0.7s
STKI Sintang 57.71 280 P **P** 02 46 14.1 +0.6
comp=Z,110nm,0.9s
KPJI Karang Pucung 58.11 271 P **P** 02 46 16.3 +0.1
comp=Z,240nm,0.8s
CMJI Cimerak 58.47 270 P **P** 02 46 17.7 -1.0
comp=Z,152nm,0.8s
JMN Monobe 58.76 327 P **P** 02 46 22.0 +1.6
JMN Monobe 58.76 327 P **P** 02 46 21.4 +1.0
MJAR Matsushiro Arr 58.92 332 LR LR 03 08 20.0
comp=Z,68nm,21.8s,baz=150,slow=32
JCJI Jatiwangi 58.95 272 P **P** 02 46 21.6 -0.5
comp=Z,180nm,0.5s
KSM Kuching 59.27 281 P **P** 02 46 24.9 +0.7
BBJI Bungbulang 59.31 271 P **P** 02 46 24.8 +0.1
LEM Lembang 59.50 271 P **P** 02 46 26.5 +0.5
comp=Z,279nm,0.9s,comp=Z,2µm
YULB Yu-li 59.74 310 P **P** 02 46 28.3 +1.0
YULB Yu-li 59.74 310 IAmb IAmb 02 46 40.2
comp=Z,18nm,1.0s
JNU Nakatsue 59.93 324 P **P** 02 46 30.1 +1.7
JNU Nakatsue 59.93 324 P **P** 02 46 28.8 +0.3
JNU Nakatsue 59.93 324 P **P** 02 46 29.1 +0.6
comp=Z,28nm,0.7s,baz=192,slow=1.2,SNR=16
JNU LR LR 03 10 26.5
comp=Z,104nm,19.9s,baz=129,slow=34
comp=Z,28nm,0.7s
NACB Ninganchiao 59.98 310 P **P** 02 46 29.8 +0.9
TPUB Ta-pu 60.19 309 P **P** 02 46 31.8 +1.4
SSLB Suanglung 60.23 310 P **P** 02 46 30.9 +0.3
DBJI Dramaga 60.40 271 P **P** 02 46 32.2 +0.2
comp=Z,263nm,1.0s
YHNB Yeheng 60.44 311 P **P** 02 46 33.6 +1.5
YHNB Yeheng 60.44 311 P **P** 02 46 32.5 +0.4
SKJI Sukabumi 60.48 271 P **P** 02 46 32.3 -0.2
comp=Z,564nm,0.8s,comp=Z,4µm
XMI Christmas Isla 60.54 267 P **P** 02 46 34.2 +1.2
XMIS Christmas Isla 60.57 267 P **P** 02 46 34.3 +1.1
XMIS Christmas Isla 60.57 267 P **P** 02 46 33.6 +0.4
SBJI Serang 61.10 272 P **P** 02 46 36.3 -0.5
comp=Z,221nm,1.0s
VNDA Vanda 61.99 181 P **P** 02 46 42.6 +0.9
VNDA PcP **PcP** 02 47 22.2 +1.3
VNDA Vanda 61.99 181 P **P** 02 46 42.6 +0.9
VNDA 02 47 22.2
VNDA pmax pmax
comp=Z,46nm,1.3s
VNDA Vanda 61.99 181 P **P** 02 46 43.0 +1.4
comp=Z,13nm,0.9s,baz=356,slow=7.4,SNR=33
comp=Z,13nm,0.9s
VNDA Vanda 61.99 181 P **P** 02 46 42.6 +0.9
VNDA PcP **PcP** 02 47 22.0 +1.1
PPBI Pangkal Pinang 62.14 276 P **P** 02 46 44.0 +0.3
comp=Z,69nm,0.9s
SBA Scott Base 62.26 180 P **P** 02 46 45.5 +2.1
SBA Scott Base 62.26 180 P **P** 02 46 45.5 +2.1
SBA pmax pmax
comp=Z,100nm,1.2s
SBA Scott Base 62.26 180 P **P** 02 46 45.7 +2.3
SBA pP **pP** 02 47 17.4 +1.7
SBA PcP **PcP** 02 47 24.2 +2.3
KASI Kota Agung 62.82 272 P **P** 02 46 47.0 -1.3
comp=Z,237nm,0.8s,comp=Z,2µm
CASY Casey 62.90 202 P **P** 02 46 47.8 0.0
CASY Casey 62.90 202 P **P** 02 46 48.9 +1.0
CASY pP **pP** 02 47 19.8 -0.5
LWLI Liwa 63.37 272 P **P** 02 46 51.0 -1.1
comp=Z,253nm,0.8s,comp=Z,22µm
ASAJ Asahikawa 63.74 340 P **P** 02 46 54.2 +0.6
comp=Z,79nm,0.8s,baz=225,slow=10.0,SNR=16
comp=Z,79nm,0.8s
DSRI Dabo 64.11 277 P **P** 02 46 57.4 +0.6
comp=Z,52nm,1.1s
CCD Concordia, Ant 64.14 192 P **P** 02 46 57.3 +1.0
CCD pP **pP** 02 47 28.7 -0.2
TJN Taejon 64.28 324 *e*P **P** 02 46 57.9 +0.6
MNAI Manna 64.60 273 P **P** 02 46 59.9 -0.1
MNAI Manna 64.60 273 P **P** 02 46 59.0 -1.0
MNAI Manna 64.60 273 P **P** 02 46 59.3 -0.7
comp=Z,153nm,0.7s
KSRS Korea Array 64.75 326 P **P** 02 47 01.4 +1.1
comp=Z,5.7nm,0.8s,baz=144,slow=7.5,SNR=18
KSRS pP **pP** 02 47 31.8 -0.3
comp=Z,9.5nm,0.9s,baz=139,slow=5.9,SNR=5.0
comp=Z,5.7nm,0.8s
DLV T Lat 64.76 292 P **P** 02 47 02.6 +1.5
YSS Yuzh-Sakhalins 66.22 342 P **P** 02 47 12.3 +2.7
YSS Yuzh-Sakhalins 66.22 342 P **P** 02 47 11.3 +1.6
YSS Yuzh-Sakhalins 66.22 342 *e*P **P** 02 47 11.8 +2.1
YSS *e*S **S** 02 55 47.3 -0.5
YSS pmax pmax
comp=Z,100nm,1.1s
YSS Yuzh-Sakhalins 66.22 342 P **P** 02 47 11.7 +2.1
QIZ Qiongzhong 66.60 299 P **P** 02 47 13.8 +1.2
QIZ pP **pP** 02 47 43.4 -2.0
QIZ S **S** 02 55 52.0 -1.5
QIZ SS **SS** 03 00 14.4 +0.7
QIZ pmax pmax
comp=Z,28nm,1.0s
QIZ LR LR
comp=Z,160nm,13.5s
QIZ LR LR
comp=Z,180nm,13.5s
QIZ LR LR
comp=Z,200nm,14.3s
NJ2 Nanjing 66.66 316 P **P** 02 47 13.9 +1.2
NJ2 pP **pP** 02 47 45.8 +0.8
NJ2 sP **sP** 02 48 00.3 +0.9
NJ2 pmax pmax
comp=Z,44nm,0.9s
NJ2 pmax pmax
comp=Z,120nm,4.3s
MSHR Mys Shultsa 67.00 331 *e*P **P** 02 47 16.1 +1.5
MSHR pmax pmax
comp=Z,53nm,1.3s
VLA Vladivostok 67.09 332 *e*P **P** 02 47 16.2 +1.0
VLA pmax pmax
comp=Z,62nm,1.1s
PSTR Posyet 67.22 331 *c i*P **P** 02 47 17.3 +1.3
BKNI Bangkinang 67.73 277 P **P** 02 47 20.6 +0.7
comp=Z,206nm,1.1s
PPSI Pulau Pagai 67.86 273 P **P** 02 47 18.5 -2.2
comp=Z,188nm,0.9s
USA0B Ussuriysk Arra 67.90 333 P **P** 02 47 21.6 +1.4
USA0B Ussuriysk Arra 67.90 333 *c i*P **P** 02 47 21.7 +1.4
USRK Ussuriysk Ar. 67.90 333 P **P** 02 47 21.4 +1.1
comp=Z,62nm,0.9s,baz=144,slow=5.4,SNR=50
comp=Z,62nm,0.9s
PDSI Padang 67.93 275 P **P** 02 47 19.4 -1.8
comp=Z,56nm,0.8s
CNSH ChangSha 68.66 309 P **P** 02 47 26.3 +0.9
CNSH pmax pmax
comp=Z,27nm,1.0s
WHN Wuhan 68.90 312 P **P** 02 47 27.8 +1.0
WHN pmax pmax
comp=Z,100nm,0.9s
PEA0B Petropavlovsk- 68.99 354 *ce*P **P** 02 47 29.3 +2.4
PETK Petropavlovsk- 68.99 354 P **P** 02 47 27.2 +0.3
comp=Z,12nm,0.7s,baz=136,slow=7.2,SNR=14
comp=Z,12nm,0.7s
IPM Ipoh 69.00 281 P **P** 02 47 28.6 +0.7
IPM Ipoh 69.00 281 P **P** 02 47 27.6 -0.2
SISI Saibi 69.14 275 P **P** 02 47 28.6 -0.1
comp=Z,56nm,1.1s
GULI GuiLin 69.14 305 P **P** 02 47 30.1 +1.7
GULI S **S** 02 56 28.0 +4.5
GULI pmax pmax
comp=Z,90nm,1.1s
GULI LR LR
comp=Z,680nm,22.0s
GULI LR LR
comp=Z,960nm,22.1s
GULI LR LR
comp=Z,1µm,20.6s
MDJ Mudanjiang 69.29 332 P **P** 02 47 30.6 +1.6
MDJ pP pwP 02 48 02.8 -1.2
MDJ pmax pmax

MDJ pmax pmax
comp=Z,220nm,3.5s
MDJ Mudanjiang 69.29 332 P **P** **02 47 30.4 +1.4**
DL2 Dalian 69.30 323 P **P** **02 47 30.6 +1.5**
DL2 pmax pmax
comp=Z,110nm,1.1s
KULM Kulim 69.61 282 P **P** **02 47 31.7 +0.1**
KULM lAmb lAmb 02 47 33.0
comp=Z,44nm,1.1s
TYV Tymovskoe 69.77 343 *e*P **P** **02 47 33.1 +1.4**
TYV pmax pmax
comp=Z,18nm,1.3s
TYV pmax pmax
comp=Z,100nm,3.3s
SKLT Songkhla 70.25 284 P **P** **02 47 37.3 +1.8**
PBSI Pulau Batu 70.27 276 P **P** **02 47 35.4 -0.2**
comp=Z,118nm,1.3s
TIA Tai'an 70.33 318 P **P** **02 47 35.6 +0.1**
TIA pmax pmax
comp=Z,20nm,0.7s
CN2 Changchun 70.66 329 P **P** **02 47 38.4 +1.1**
CN2 pmax pmax
comp=Z,50nm,1.0s
BNX BinXian 71.15 331 ⇑P **P** **02 47 41.0 +0.8**
BNX pmax pmax
comp=Z,93nm,0.8s
BNX pmax pmax
comp=Z,150nm,4.6s
GSI Gunungsitoli 71.33 277 P **P** **02 47 42.7 +0.7**
GSI Gunungsitoli 71.33 277 P **P** **02 47 41.6 -0.4**
GSI Gunungsitoli 71.33 277 P **P** **02 47 42.1 +0.1**
comp=Z,114nm,0.9s
GRNR Gornyy 71.59 340⇑ *i*P **P** **02 47 45.2 +2.4**
GRNR pmax pmax
comp=E,30nm,0.6s
GRNR pmax pmax
comp=Z,90nm,0.7s
KCSI Kotacane, Aceh 71.80 279 P **P** **02 47 43.3 -1.5**
comp=Z,30nm,1.1s
KLR Kul'dur 72.02 336 *c i*P **P** **02 47 47.0 +1.7**
KLR pmax pmax
comp=Z,172nm,1.7s
KLR Kul'dur 72.02 336 P **P** **02 47 46.5 +1.1**
comp=Z,48nm,0.9s,baz=125,slow=3.2,SNR=107
comp=Z,48nm,0.9s
NAYO Nakonayok 72.11 291 P **P** **02 47 48.2 +1.6**
ENH Enshi 72.31 309 P **P** **02 47 48.5 +0.9**
LYN LuoYang 72.45 315⇑ *i*P **P** **02 47 49.3 +1.0**
LYN pP pP 02 48 23.1 +2.0
LYN sP sP 02 48 39.8 +4.4
LYN pmax pmax
comp=Z,200nm,1.0s
LYN pmax pmax
comp=Z,830nm,4.7s
HNS HongShan 72.59 318 ⇑P **P** **02 47 50.3 +1.3**
HNS pmax pmax
comp=Z,79nm,1.1s
GYA Guiyang 72.62 305⇓ *i*P **P** **02 47 51.1 +1.5**
GYA PcP **PcP** **02 48 07.3 +0.9**
GYA pP pP 02 48 25.3 +2.5
GYA S **S** **02 57 05.3 +1.3**
GYA pmax pmax
comp=Z,71nm,0.8s
GYA pmax pmax
comp=Z,300nm,6.0s
GYA LR LR
comp=Z,290nm,7.7s
GYA LR LR
comp=Z,180nm,6.9s
GYA LR LR
comp=Z,120nm,16.3s
SNSI Sinabang, Aceh 72.84 278 P **P** **02 47 51.2 +0.2**
comp=Z,97nm,1.0s,comp=Z,6μm
BJT Baijiatuau 73.25 321 P **P** **02 47 54.6 +1.7**
BJT Baijiatuau 73.25 321 lAmb lAmb 02 47 55.3
comp=Z,41nm,0.8s
BJI Beijing 73.27 321 P **P** **02 47 54.1 +1.2**
BJI pmax pmax
comp=Z,26nm,0.8s
MLSI Meulaboh, Aceh 73.32 279 P **P** **02 47 53.3 -0.5**
comp=Z,69nm,1.0s
TIY Taiyuan 74.25 317 *e*P **P** **02 48 00.5 +1.7**
TIY pmax pmax
comp=Z,67nm,0.6s
P08K Saint George I 74.41 13 P **P** **02 48 00.1 +0.9**
baz=203
QSPA South Pole Qui 74.42 180 P **P** **02 48 00.2 +0.8**
QSPA South Pole Qui 74.42 180 P **P** **02 48 00.7 +1.3**
comp=Z,116nm,0.8s,baz=15,slow=1.6,SNR=348
comp=Z,116nm,0.8s
HEH HeiHe 74.57 334 *e*P **P** **02 48 00.9 +0.6**
HEH pmax pmax
comp=Z,46nm,0.9s
HEH pmax pmax
comp=Z,210nm,4.2s
XAN Xi'an 74.65 313 ⇑P **P** **02 48 02.4 +1.2**
XAN pP pP 02 48 38.6 +4.2
XAN sP sP 02 48 52.4 +3.7
XAN S **S** **02 57 29.8 +3.4**
XAN pmax pmax
comp=Z,110nm,0.8s
KMI Kunming 75.19 302⇓ P **P** **02 48 05.4 +0.7**
KMI S **S** **02 57 31.8 -1.3**
KMI pmax pmax
comp=Z,56nm,0.8s
CHNA Chernabura Isl 75.45 19 P **P** **02 48 05.1 -0.1**
baz=212
XLT XiLinHaoTe 75.71 324 *e*P **P** **02 48 08.4 +1.3**
XLT PcP **PcP** **02 48 20.3 +1.1**
XLT pP pP 02 48 39.9 -0.1
XLT sP sP 02 48 56.9 +2.8
XLT pmax pmax
comp=Z,79nm,0.9s
XLT pmax pmax
comp=Z,95nm,3.8s
CM31 Chiang Mai Arr 75.76 294 lAmb lAmb 02 48 10.6
comp=Z,45nm,0.9s
CMAR Chiang Mai Arr 75.76 294 P **P** **02 48 09.6 +1.7**
comp=Z,25nm,0.8s,baz=131,slow=4.5,SNR=106
CMAR pP **pP** **02 48 40.7 -0.5**
comp=Z,4.6nm,0.9s,baz=126,slow=4.6,SNR=1.5
comp=Z,25nm,0.8s
MA2 Magadan 76.19 351⇓ *e*P **P** **02 48 09.9 +0.5**
MA2 pmax pmax
comp=Z,39nm,2.5s
HHC Hu-ho-hao-te 76.58 320 *e*P **P** **02 48 13.9 +1.8**
HHC pmax pmax
comp=Z,63nm,0.9s
HHC pmax pmax
comp=Z,190nm,4.5s
PZH PanZhiHua 76.59 303 P **P** **02 48 13.5 +1.0**
PZH S **S** **02 57 47.3 -0.9**
PZH pmax pmax
comp=Z,30nm,0.8s
PZH pmax pmax
comp=Z,70nm,3.5s
S14K Fog Glacier 76.69 18 P **P** **02 48 12.4 0.0**
baz=212
CD2 Chengdu 76.94 308 *e*P **P** **02 48 15.5 +1.2**
HIA Hailar 77.30 330 P **P** **02 48 17.7 +1.8**
HIA Hailar 77.30 330 *c i*P **P** **02 48 16.3 +0.4**
HIA pmax pmax
comp=Z,59nm,1.1s
ZEA Zeya 77.30 337 *e*P **P** **02 48 17.7 +2.0**
ZEA pmax pmax
comp=N,50nm,0.7s
ZEA pmax pmax
comp=Z,80nm,0.7s
BTO Baotou 77.42 319 *e*P **P** **02 48 19.1 +2.3**
BTO pP **pwP** **02 48 51.8 -1.3**
BTO sP **sP** **02 49 09.9 +6.1**
BTO PP **PP** **02 51 12.9 -0.5**
BTO S **S** **02 57 58.0 +1.5**
BTO SS **SS** **03 02 54.4 -4.2**
BTO pmax pmax
comp=Z,100nm,1.6s
BTO pmax pmax
comp=Z,320nm,4.7s
BTO LR LR
comp=Z,270nm,6.0s
BTO LR LR
comp=Z,170nm,5.1s
BTO LR LR
comp=Z,120nm,9.1s

R16K Pilot Point 78.36 18 P **P** **02 48 21.0 -0.5**
baz=214
M11K Mekoryuk 78.59 13 P **P** **02 48 23.0 +0.4**
baz=206
SII Sitkinak Islan 78.61 20 P **P** **02 48 23.1 +0.2**
baz=217
TNCH TengChong 78.64 300 *e*P **P** **02 48 25.3 +1.3**
TNCH S **S** **02 58 10.6 +0.2**
TNCH SS **SS** **03 03 20.4 +2.6**
TNCH pmax pmax
comp=Z,65nm,0.6s
TNCH pmax pmax
comp=Z,200nm,2.7s
TNCH LR LR
comp=Z,380nm,13.4s
TNCH LR LR
comp=Z,500nm,20.7s
TNCH LR LR
comp=Z,820nm,24.1s
O14K Tigyukauivet M 78.75 16 P **P** **02 48 23.9 +0.3**
baz=210
O15K Ungalikthiuk R 79.07 16 P **P** **02 48 25.9 +0.5**
baz=212
SEY Seymchan 79.22 353⇓ *e*P **P** **02 48 27.0 +0.9**
SEY pmax pmax
comp=Z,38nm,1.7s
N14K Kuskokwak Cree 79.23 15 P **P** **02 48 26.9 +0.8**
baz=210
M13K Dall Lake 79.25 14 P **P** **02 48 27.1 +0.8**
baz=208
LZH Lanzhou 79.28 312 ⇑P **P** **02 48 29.3 +2.0**
LZH pP pP 02 49 03.3 +2.5
LZH S **S** **02 58 16.6 -0.1**
LZH sS sS 02 59 13.3 -1.8
LZH pmax pmax
comp=Z,130nm,1.4s
LZH pmax pmax
comp=Z,160nm,4.5s
LZH LR LR
comp=Z,1μm,17.6s
LZH LR LR
comp=Z,960nm,18.0s
LZH LR LR
comp=Z,1μm,21.0s
OHAK Old Harbor 79.44 20 P **P** **02 48 27.5 +0.1**
baz=218
Q17K Contact Creek 79.44 19 P **P** **02 48 27.5 0.0**
baz=216
P16K Nushagak River 79.46 17 P **P** **02 48 27.4 0.0**
baz=213
MND Mandalay 79.54 296 P **P** **02 48 29.9 +1.2**
Q16K King Salmon 79.55 18 P **P** **02 48 28.2 +0.3**
baz=215
N15K Kwethluk River 79.85 16 lAmb lAmb 02 48 31.9
comp=Z,62nm,1.9s
N15K Kwethluk River 79.85 16 P **P** **02 48 29.3 -0.2**
baz=211
M14K Bethel 79.88 15 P **P** **02 48 28.5 -1.2**
baz=210
O16K Kokwok River B 79.90 17 P **P** **02 48 29.4 -0.4**
baz=213
P17K Kvichak River 80.04 18 P **P** **02 48 28.8 -1.7**
baz=215
KDAK Kodiak Island 80.12 20 P **P** **02 48 29.8 -1.2**
baz=219
M15K Kasigluk River 80.15 15 P **P** **02 48 28.8 -2.3**
baz=211
L14K Kuka Creek 80.23 14 P **P** **02 48 28.5 -3.0**
baz=209
O17K Koliganek Bris 80.33 17 P **P** **02 48 30.0 -2.1**
baz=214
N16K Nishlik Lake 80.46 16 P **P** **02 48 29.9 -2.9**
baz=213
P18K Big Mountain, 80.56 18 lAmb lAmb 02 48 36.8
comp=Z,36nm,1.2s
P18K Big Mountain, 80.56 18 P **P** **02 48 31.2 -2.2**
baz=216
Q19K Cape Douglas, 80.68 19 lAmb lAmb 02 48 38.0
comp=Z,35nm,1.1s
Q19K Cape Douglas, 80.68 19 P **P** **02 48 31.6 -2.4**
baz=218
GAMB Gambell 80.72 9 P **P** **02 48 33.0 -1.1**
baz=200
L15K Ungalak Mounta 80.80 14 P **P** **02 48 32.9 -1.7**
baz=210
Q20K Shyak Island 80.83 20 P **P** **02 48 32.8 -2.0**
baz=219
M16K Timber Creek 80.87 16 lAmb lAmb 02 48 40.0
comp=Z,28nm,1.2s
M16K Timber Creek 80.87 16 P **P** **02 48 33.8 -1.2**
baz=212
N17K Nushagak Hills 80.93 17 P **P** **02 48 34.1 -1.2**
baz=214
O18K Koktuh Hills 80.94 18 P **P** **02 48 36.1 +0.7**
O18K Koktuh Hills 80.94 18 P **P** **02 48 34.8 -0.7**
baz=216
MAW Mawson 81.25 202 P **P** **02 48 38.0 +1.0**
comp=Z,34nm,1.1s,baz=99,slow=6.4,SNR=17
comp=Z,34nm,1.1s
J14K Nanvaranak Lak 81.28 13 P **P** **02 48 35.7 -1.3**
baz=208
L16K Owhat River 81.32 15 P **P** **02 48 38.2 +0.9**
L16K Owhat River 81.32 15 P **P** **02 48 36.2 -1.2**
baz=212,SNR=7.1
K15K Wolf Creek Mou 81.33 14 P **P** **02 48 36.6 -0.8**
baz=210
P19K Oil Pt 81.38 19 lAmb lAmb 02 48 41.5
comp=Z,18nm,0.8s
P19K Oil Pt 81.38 19 P **P** **02 48 36.3 -1.5**
baz=218
N18K Kilae Creek 81.42 17 P **P** **02 48 36.7 -1.3**
baz=215
M17K Holitna River 81.59 16 P **P** **02 48 38.5 -0.3**
baz=214,SNR=6.2
SVW2 Sparrevohn 81.85 17 P **P** **02 48 43.3 +3.1**
HOM Homer 81.89 19 P **P** **02 48 38.9 -1.5**
baz=219
O20K Slope Mountain 81.91 19 P **P** **02 48 39.6 -1.0**
baz=218
N19K Bonanza Creek 81.93 18 P **P** **02 48 39.7 -1.0**
baz=216
L17K Donlin 81.98 15 P **P** **02 48 40.2 -0.6**
baz=213
CIT Chita 82.09 330 *e*P **P** **02 48 42.6 +0.9**
CIT *e* 02 49 19.8
CIT pmax pmax
comp=Z,353nm,1.3s
M18K Stony River 82.10 17 P **P** **02 48 40.8 -0.7**
baz=215,SNR=14
BRLK Bradley Lake 82.22 20 lAmb lAmb 02 48 44.9
comp=Z,64nm,1.6s
BRSE Bradley Lake S 82.25 20 P **P** **02 48 41.5 -0.7**
baz=226,SNR=7.3
J16K Anvik River 82.40 14 P **P** **02 48 43.1 +0.1**
baz=211,SNR=8.4
L18K Granite Mounta 82.47 16 P **P** **02 48 42.5 -0.9**
baz=214,SNR=7.6
K17K Iditarod 82.47 15 P **P** **02 48 42.3 -1.0**
baz=213
ANM Nome 82.53 11 P **P** **02 48 44.2 +0.6**
ANM Nome 82.53 11 P **P** **02 48 44.3 +0.6**
ANM pmax pmax
comp=Z,14nm,1.2s
ANM Nome 82.53 11 P **P** **02 48 42.8 -0.8**
baz=206
M19K Big River Lodg 82.84 17 lAmb lAmb 02 48 48.7
comp=Z,33nm,1.4s
M19K Big River Lodg 82.84 17 P **P** **02 48 44.2 -1.1**
baz=216
I17K Unalakleet 82.90 13 P **P** **02 48 44.9 -0.6**
baz=210
CAPN Captain Cook N 82.91 19 P **P** **02 48 44.5 -1.1**
baz=220
N20K Mount Spurr 82.92 18 P **P** **02 48 45.7 -0.1**
baz=219,SNR=7.4
L19K White Mountain 82.94 17 lAmb lAmb 02 48 49.4
comp=Z,44nm,1.4s
L19K White Mountain 82.94 17 P **P** **02 48 44.9 -0.9**
baz=216,SNR=19
SEW Seward 82.95 20 P **P** **02 48 44.2 -1.7**
baz=221
TNA Tin City 82.99 10 P **P** **02 48 43.8 -2.1**
baz=204
YAK Yakutsk 83.02 343 P **P** **02 48 46.7 +0.6**
YAK Yakutsk 83.02 343 *e*P **P** **02 48 46.4 +0.2**
YAK *e*S **S** **02 58 52.2 -1.7**
YAK *e**SS **sS** **02 59 52.3 -0.1**

YAK pmax pmax
comp=Z,116nm,0.9s
YAK pmax pmax
comp=E,9.0nm,0.9s
YAK pmax pmax
comp=N,40nm,1.5s
YAK pmax pmax
comp=Z,49nm,0.8s
YAK smax smax
comp=N,85nm,2.2s
YAK smax smax
comp=E,140nm,4.6s
YAK Yakutsk 83.02 343 LR LR 03 20 25.9
comp=E,57nm,21.2s,baz=132,slow=32
O22K Cooper Landing 83.14 20 P **P** **02 48 45.7 -1.1**
baz=221,SNR=12
ULN Ulaanbaatar 83.14 324 P **P** **02 48 48.8 +1.4**
ULN Ulaanbaatar 83.14 324 *c i*P **P** **02 48 48.5 +1.1**
ULN pmax pmax
comp=Z,220nm,1.0s
G15K Niukluk 83.17 12 P **P** **02 48 46.1 -0.8**
baz=207
F14K Arctic Creek 83.18 11 P **P** **02 48 45.6 -1.4**
baz=205
M20K Styx River 83.18 18 lAmb lAmb 02 48 49.6
comp=Z,46nm,1.9s
M20K Styx River 83.18 18 P **P** **02 48 45.9 -1.2**
baz=218
H16K Elim 83.22 13 P **P** **02 48 46.2 -1.0**
baz=209,SNR=5.6
TTA Tatalina 83.23 16 P **P** **02 48 49.9 +2.5**
TTA Tatalina 83.23 16 P **P** **02 48 46.6 -0.8**
baz=215,SNR=6.4
BILL Bilibino 83.43 359 P **P** **02 48 48.7 +0.6**
BILL lAmb lAmb 02 48 53.8
comp=Z,20nm,1.1s
BILL Bilibino 83.43 359⇑ *e*P **P** **02 48 48.4 +0.2**
BILL pmax pmax
comp=Z,43nm,2.5s
L20K Farewell, AK 83.44 17 P **P** **02 48 47.5 -1.0**
baz=217
J18K Innoko River 83.50 15 P **P** **02 48 47.9 -0.7**
baz=214
SONM Songino Array 83.50 323 P **P** **02 48 50.3 +1.1**
comp=Z,71nm,0.9s,baz=155,slow=8.2,SNR=314
SONM PKiKP **PKiKP** **02 54 06.3 +0.8**
comp=Z,0.9nm,0.6s,baz=125,slow=5.5,SNR=1.5
comp=Z,71nm,0.9s
Q23K Middleton Isla 83.51 22 P **P** **02 48 48.4 -0.3**
baz=224
P23K Montague Islan 83.56 21 P **P** **02 48 48.0 -1.0**
baz=223
SUA Susitna One 83.57 19 lAmb lAmb 02 48 52.8
comp=Z,36nm,1.2s
SUA Susitna One 83.57 19 P **P** **02 48 48.1 -1.1**
baz=220,SNR=23
RC01 Rabbit Creek A 83.60 19 lAmb lAmb 02 48 50.9
comp=Z,50nm,1.3s
RC01 Rabbit Creek A 83.60 19 P **P** **02 48 48.6 -0.6**
baz=221,SNR=10.0
GTA Gaotai 83.64 314 *e*P **P** **02 48 51.4 +1.3**
GTA pP pP 02 49 23.3 -0.1
GTA pmax pmax
comp=Z,86nm,1.2s
F15K North Star Dit 83.70 11 P **P** **02 48 48.7 -0.9**
baz=207
SKT Skwentna 83.73 18 P **P** **02 48 49.1 -0.8**
SKT Skwentna 83.73 18 P **P** **02 48 49.1 -0.8**
baz=219
G16K Koyuk River 83.86 12 P **P** **02 48 50.0 -0.5**
baz=209
H17K Granite Mounta 83.98 13 lAmb lAmb 02 48 52.6
comp=Z,40nm,1.9s
H17K Granite Mounta 83.98 13 P **P** **02 48 50.2 -0.9**
baz=211
M22K Willow 83.98 19 P **P** **02 48 49.8 -1.3**
baz=220,SNR=6.5
K20K Telida 84.10 16 lAmb lAmb 02 48 54.1
comp=Z,60nm,1.6s
K20K Telida 84.10 16 P **P** **02 48 50.9 -0.8**
baz=217
PMR Palmer 84.17 19 lAmb lAmb 02 48 53.8
comp=Z,58nm,1.6s
PMR Palmer 84.17 19 P **P** **02 48 50.5 -1.5**
baz=221,SNR=11
J19K Poorman 84.21 15 lAmb lAmb 02 48 55.0
comp=Z,55nm,1.8s
J19K Poorman 84.21 15 P **P** **02 48 51.9 -0.3**
baz=215,SNR=15
KNK Knik Glacier 84.25 20 P **P** **02 48 51.7 -0.8**
baz=222,SNR=8.7
PPLA Purkeypile 84.25 17 P **P** **02 48 51.3 -1.3**
baz=218
G17K Kiwalik Mounta 84.31 13 P **P** **02 48 51.6 -1.1**
baz=210
KMRM Mail Ridge 84.36 46 P **P** **02 48 54.9 +1.2**
KMRM lAmb lAmb 02 49 30.0
comp=Z,24nm,1.1s
GHO Glory Hole Cre 84.37 19 lAmb lAmb 02 48 54.9
comp=Z,56nm,1.7s
CUT Chulitna 84.44 18 lAmb lAmb 02 48 57.5
comp=Z,25nm,0.8s
CUT Chulitna 84.44 18 P **P** **02 48 52.6 -0.7**
baz=220
H18K Honhosa River 84.51 14 P **P** **02 48 52.8 -0.9**
baz=213
GCSA Galena City Sc 84.52 14 P **P** **02 48 51.1 -2.6**
baz=214
SAO San Andreas Ge 84.53 50 lAmb lAmb 02 49 29.8
comp=Z,24nm,1.5s
EYAK Cordova Ski Ar 84.53 21 P **P** **02 48 53.5 -0.4**
baz=224
KAIM Kayak Island 84.56 22 P **P** **02 48 54.8 +0.7**
KAIM lAmb lAmb 02 48 56.9
comp=Z,23nm,0.8s
KAIM Kayak Island 84.56 22 P **P** **02 48 52.5 -1.6**
baz=226,SNR=5.6
SML Sawmill 84.58 19 lAmb lAmb 02 50 20.2
comp=Z,20nm,1.1s
SML Sawmill 84.58 19 P **P** **02 48 52.6 -1.6**
baz=222
SNCC San Nicolas Is 84.59 53 P **P** **02 48 52.1 -2.8**
baz=247
KHMM Horse Mountain 84.63 45 lAmb lAmb 02 49 30.9
comp=Z,30nm,1.6s
CAST Castle Rocks 84.69 17 lAmb lAmb 02 48 55.4
comp=Z,16nm,0.8s
CAST Castle Rocks 84.69 17 P **P** **02 48 52.6 -2.1**
baz=219,SNR=22
J20K Nowinta River 84.74 16 lAmb lAmb 02 48 57.3
comp=Z,57nm,1.6s
J20K Nowinta River 84.74 16 P **P** **02 48 53.6 -1.3**
baz=217,SNR=14
BBGB Big Mountain B 84.75 50 lAmb lAmb 02 49 34.4
comp=Z,25nm,1.1s
M23K Glacier View 84.77 20 P **P** **02 48 53.1 -2.0**
baz=223
SBC Santa Barbara 84.91 52 P **P** **02 48 53.9 -2.5**
baz=247
SCM Sheep Creek Mo 84.93 20 P **P** **02 48 56.2 +0.2**
SCM Sheep Creek Mo 84.93 20 P **P** **02 48 56.2 +0.2**
SCM pmax pmax
comp=Z,10.0nm,0.9s
SCM Sheep Creek Mo 84.93 20 P **P** **02 48 54.3 -1.7**
baz=223
CHUM Lake Minchumin 85.00 17 P **P** **02 48 54.4 -1.7**
baz=218,SNR=6.9
PKM Mcpherson Peak 85.00 52 P **P** **02 48 54.4 -2.8**
baz=247
F17K Baldwin Pennin 85.00 12 lAmb lAmb 02 48 58.6
comp=Z,55nm,1.6s
F17K Baldwin Pennin 85.00 12 P **P** **02 48 55.4 -0.7**
baz=210
SMMC Simmler 85.03 51 P **P** **02 48 55.3 -1.8**
baz=247
G18K Tagagawik 85.08 13 lAmb lAmb 02 48 59.4
comp=Z,32nm,1.5s
G18K Tagagawik 85.08 13 P **P** **02 48 55.8 -0.8**
baz=212
BERG Berg Lake 85.14 22 lAmb lAmb 02 48 59.5
comp=Z,27nm,0.8s
KLU Klutina 85.14 20 lAmb lAmb 02 48 58.9
comp=Z,30nm,1.9s
KLU Klutina 85.14 20 P **P** **02 48 56.9 -0.2**
baz=224,SNR=5.5
I20K Naaghedeneel 85.15 15 P **P** **02 48 56.8 -0.1**
baz=216
BMRM Bremner River 85.22 21 P **P** **02 48 57.1 -0.4**

	baz=226							
TRF	Thorofare Moun	85.23	18	P	P	02 48 57.9	+0.3	
	baz=220							
H19K	Roundabout Mou	85.27	14	IAmb	IAmb	02 48 59.9		
	comp=Z,61nm,1.6s							
H19K	Roundabout Mou	85.27	14	P	P	02 48 57.1	-0.3	
	baz=214,SNR=16							
WAT1	Susitna Watana	85.28	19	P	P	02 48 57.2	-0.5	
	baz=222							
SNH	Sunshine Point	85.31	22	P	P	02 48 59.4	+1.5	
SNH				IAmb	IAmb	02 49 01.1		
	comp=Z,15nm,0.9s							
WAT6	Susitna Watana	85.35	19	P	P	02 48 57.7	-0.5	
	baz=223							
F18K	Selawik	85.47	12	P	P	02 48 57.9	-0.5	
	baz=211,SNR=11							
BOD	Bodaibo	85.49	334	⇓*i*P	P	02 48 58.9	+0.2	
BOD				pmax	pmax			
	comp=Z,84nm,1.3s							
WAX	Waxell Ridge	85.49	22	IAmb	IAmb	02 49 01.3		
	comp=Z,23nm,0.8s							
M24K	Tolsona, Glenn	85.50	20	IAmb	IAmb	02 50 38.8		
	comp=Z,26nm,1.2s							
M24K	Tolsona, Glenn	85.50	20	P	P	02 48 58.9	0.0	
	baz=224,SNR=5.6							
DIB	Dawson Inlet,	85.50	31	IAmb	IAmb	02 49 00.9		
	comp=Z,24nm,1.2s							
BPAW	Bear Paw Mtn.	85.53	17	IAmb	IAmb	02 48 59.5		
	comp=Z,34nm,2.0s							
BPAW	Bear Paw Mtn.	85.53	17	P	P	02 48 58.6	-0.3	
	baz=220							
H20K	Anotleneega Mo	85.62	15	P	P	02 48 58.7	-0.6	
	baz=216,SNR=18							
MESA	MESA	85.63	23	IAmb	IAmb	02 49 02.2		
	comp=Z,17nm,0.7s							
MESA	MESA	85.63	23	P	P	02 48 58.9	-0.8	
	baz=228,SNR=6.0							
G19K	Purcell Mounta	85.64	14	IAmb	IAmb	02 49 01.6		
	comp=Z,52nm,1.4s							
G19K	Purcell Mounta	85.64	14	P	P	02 48 59.3	0.0	
	baz=214,SNR=28							
N25K	Chitina, Valde	85.67	21	P	P	02 48 59.5	-0.2	
	baz=226,SNR=8.2							
YBH	Yreka Blue Hor	85.69	45	P	P	02 49 01.2	+0.9	
YBH				IAmb	IAmb	02 49 35.8		
	comp=Z,23nm,1.5s							
YBH	Yreka Blue Hor	85.69	45	P	P	02 49 01.2	+0.9	
YBH				pmax	pmax			
	comp=Z,23nm,1.5s							
AFDM	Forest Hills D	85.75	48	IAmb	IAmb	02 49 35.6		
	comp=Z,27nm,1.4s							
D17K	Noatak River	85.76	11	P	P	02 48 59.7	-0.1	
	baz=208,SNR=12							
CMB	Columbia Colle	85.81	49	IAmb	IAmb	02 49 35.9		
	comp=Z,19nm,1.3s							
DHY	Denali Highway	85.82	19	P	P	02 49 00.2	-0.3	
	baz=223							
MCK	McKinley	85.84	18	P	P	02 49 00.1	-0.3	
	baz=222,SNR=8.2							
C16K	Lisburne Hills	85.89	10	IAmb	IAmb	02 49 02.0		
	comp=Z,28nm,1.6s							
C16K	Lisburne Hills	85.89	10	P	P	02 49 00.4	-0.1	
	baz=206							
HUMO	Hull Mountain	85.90	44	IAmb	IAmb	02 49 36.7		
	comp=Z,25nm,1.5s							
GOMU	GeErMu	85.93	309	P	P	02 49 02.3	+0.3	
GOMU				pmax	pmax			
	comp=Z,3.0nm,0.4s							
E18K	Tukpahlearik C	85.98	12	P	P	02 49 01.2	+0.2	
	baz=210							
BWN	Browne	86.02	17	P	P	02 49 01.7	+0.5	
BWN				IAmb	IAmb	02 49 47.0		
	comp=Z,26nm,0.9s							
HARP	HAARP	86.05	20	P	P	02 49 00.9	-0.5	
	baz=225							
F19K	Shaleruckik Mo	86.06	13	P	P	02 49 01.4	0.0	
	baz=213							
MCARA	McCarthy VSAT	86.06	21	P	P	02 49 01.4	-0.1	
	baz=227,SNR=6.9							
I21K	Tanana	86.10	16	IAmb	IAmb	02 49 46.0		
	comp=Z,14nm,0.9s							
I21K	Tanana	86.10	16	P	P	02 49 01.0	-0.6	
	baz=219,SNR=13							
RDOG	Red Dog Mine	86.11	11	IAmb	IAmb	02 49 04.2		
	comp=Z,36nm,1.5s							
RDOG	Red Dog Mine	86.11	11	P	P	02 49 01.4	-0.2	
	baz=208,SNR=6.4							
TABL	Table Mountain	86.11	23	IAmb	IAmb	02 49 04.3		
	comp=Z,18nm,0.6s							
L04D	Klamath Falls	86.17	44	IAmb	IAmb	02 49 37.7		
	comp=Z,31nm,1.4s							
H21K	Melozitna Rive	86.27	15	IAmb	IAmb	02 49 04.9		
	comp=Z,28nm,1.6s							
H21K	Melozitna Rive	86.27	15	P	P	02 49 01.8	-0.6	
	baz=218							
PNL	Peninsula	86.27	24	P	P	02 49 01.6	-1.0	
	baz=230							
IMAR	Indian Mountai	86.29	15	P	P	02 49 02.4	-0.2	
ISA	Isabella, Lake	86.31	52	P	P	02 49 04.3	+0.9	
ISA				IAmb	IAmb	02 49 39.0		
	comp=Z,37nm,1.4s							
ISA	Isabella, Lake	86.31	52	P	P	02 49 04.4	+0.9	
ISA				pmax	pmax			
	comp=Z,37nm,1.4s							
ISA	Isabella, Lake	86.31	52	P	P	02 49 01.8	-1.7	
	baz=248,SNR=6.0							
MLY	Manley	86.32	16	P	P	02 49 02.6	-0.2	
	baz=220,SNR=5.6							
BARN	Barnard Glacie	86.33	22	IAmb	IAmb	02 49 05.5		
	comp=Z,14nm,0.8s							
PAX	Paxson	86.35	19	P	P	02 49 02.8	-0.2	
	baz=225							
SIT	Sitka	86.36	27	P	P	02 49 02.4	-0.6	
	baz=234							
EDW2	Edwards Air Fo	86.38	52	P	P	02 49 02.5	-1.3	
	baz=248,SNR=7.9							
EMB	Emerald Bay	86.38	48	IAmb	IAmb	02 49 39.1		
	comp=Z,24nm,1.6s							
CTG	Chitna Glacier	86.39	22	P	P	02 49 03.1	-0.1	
	baz=228,SNR=12							
CTGM	Chitina Glacie	86.39	22	IAmb	IAmb	02 49 05.7		
	comp=Z,11nm,0.8s							
BFSC	Mount Baldy Ra	86.41	53	P	P	02 49 02.8	-1.2	
	baz=248							
C17K	DeLong Mountai	86.43	10	P	P	02 49 03.2	0.0	
	baz=208							
LSA	Lhasa	86.45	302	IAmb	IAmb	02 49 06.9		
	comp=Z,15nm,0.6s							
NEA2	Nenana	86.45	17	P	P	02 49 03.1	-0.3	
	baz=221							
S31K	Pelican	86.50	26	P	P	02 49 03.1	-0.6	
	baz=233							
MURC	Murrieta	86.53	54	P	P	02 49 03.4	-1.2	
	baz=249							
ZAK	Zakamensk	86.56	325	*e*P	P	02 49 04.4	0.0	
ZAK				pmax	pmax			
	comp=Z,69nm,1.2s							
ZAK				pmax	pmax			
	comp=Z,10.0nm,1.2s							
MPK	Martis Peak	86.56	48	IAmb	IAmb	02 49 40.3		
	comp=Z,31nm,1.2s							
MDPB	Devils Postpil	86.60	50	IAmb	IAmb	02 49 40.4		
	comp=Z,32nm,1.2s							
WRH	Wood River Hil	86.64	18	P	P	02 49 03.1	-1.1	
WAKR	Walker	86.68	49	IAmb	IAmb	02 49 41.0		
	comp=Z,33nm,1.3s							
F20K	Avaraart Lake	86.69	14	IAmb	IAmb	02 49 07.0		
	comp=Z,25nm,1.4s							
F20K	Avaraart Lake	86.69	14	P	P	02 49 03.9	-0.6	
	baz=215							
E19K	Redstone River	86.70	13	IAmb	IAmb	02 49 06.9		
	comp=Z,14nm,0.6s							
E19K	Redstone River	86.70	13	P	P	02 49 04.1	-0.4	
	baz=214,SNR=19							
M26K	Nabesna, AK	86.77	21	P	P	02 49 04.4	-0.6	
	baz=227							
G21K	Allakaket	86.78	15	IAmb	IAmb	02 49 07.0		
	comp=Z,22nm,1.4s							
G21K	Allakaket	86.78	15	P	P	02 49 04.9	-0.1	
	baz=217,SNR=9.8							
I23K	Minto, Yukon-K	86.79	17	P	P	02 49 05.5	+0.5	
	baz=221							
PNTR	Pine Nut	86.79	48	IAmb	IAmb	02 49 41.3		
	comp=Z,24nm,1.2s							
U33K	Whale Pass	86.81	29	P	P	02 49 05.2	-0.1	
	baz=236							
H22K	Ishtalitna Cre	86.82	16	P	P	02 49 05.2	+0.1	
	baz=219							
LRMC	Laurel Mtn Rad	86.84	52	P	P	02 49 05.9	-0.3	
	baz=248							
K24K	Donnelly Dome	86.85	19	P	P	02 49 05.3	-0.1	
	baz=224,SNR=5.5							
MONP2	Monument Peak	86.89	55	P	P	02 49 05.5	-1.0	
	baz=249							
CWC	Cottonwood Cre	86.89	51	P	P	02 49 05.9	-0.5	
	baz=248							
MENT	Mentasta	86.90	20	P	P	02 49 08.0	+2.4	
P29M	Windy Craggy	86.90	24	IAmb	IAmb	02 49 07.6		
	comp=Z,20nm,1.4s							
P29M	Windy Craggy	86.90	24	P	P	02 49 06.4	+0.7	
	baz=232,SNR=6.2							
S32K	Killisnoo	86.93	27	P	P	02 49 06.5	+0.7	
	baz=235							
HDA	Harding Lake	86.93	18	IAmb	IAmb	02 49 08.4		
	comp=Z,22nm,1.0s							
HDA	Harding Lake	86.93	18	P	P	02 49 05.6	-0.1	
	baz=223,SNR=16							
C18K	Utukok River	86.94	11	IAmb	IAmb	02 49 07.8		
	comp=Z,47nm,1.7s							
C18K	Utukok River	86.94	11	P	P	02 49 06.8	+1.1	
	baz=210							
IRK	Irkutsk	86.95	327	*e*P	P	02 49 04.8	-1.3	
IRK				pmax	pmax			
	comp=Z,66nm,2.5s							
MDM	Murphy Dome	86.96	17	IAmb	IAmb	02 49 07.6		
	comp=Z,10nm,1.0s							
O29M	Mount Kennedy	87.00	24	P	P	02 49 06.7	+0.5	
	baz=231							
YERR	Yerington	87.01	48	IAmb	IAmb	02 49 42.2		
	comp=Z,30nm,1.5s							
COLA	College	87.01	17	P	P	02 49 04.9	-1.1	
COLA				IAmb	IAmb	02 49 08.2		
	comp=Z,13nm,0.8s							
COLA	College	87.01	17	P	P	02 49 04.9	-1.1	
COLA				pmax	pmax			
	comp=Z,13nm,0.8s							
COLA	College	87.01	17	P	P	02 49 07.3	+1.2	
	baz=222							
TIN	Tinemaha, Big	87.01	50	P	P	02 49 06.7	-0.2	
	baz=248							
IKP	In-Ko-Pah, Jac	87.05	55	P	P	02 49 07.2	0.0	
	baz=249							
L26K	Log Cabin Wild	87.08	20	P	P	02 49 07.6	+1.1	
	baz=227							
PFO	Pinyon Flats O	87.11	54	P	P	02 49 07.4	-0.1	
PFO				IAmb	IAmb	02 49 43.0		
	comp=Z,18nm,1.2s							
PFO	Pinyon Flats O	87.11	54	⇓*e*P	P	02 49 08.5	+1.0	
PFO				pmax	pmax			
	comp=Z,21nm,1.9s							
PFO	Pinyon Flats O	87.11	54	P	P	02 49 06.5	-0.9	
	baz=249,SNR=6.1							
TPFO	Pinon Flats	87.11	54	P	P	02 49 06.4	-1.1	
	baz=249,SNR=5.9							
M27K	Edge Creek, AK	87.12	21	P	P	02 49 06.1	-0.8	
	baz=226							
YUK8	Steele Glacier	87.17	23	P	P	02 49 06.3	-0.9	
	baz=230,SNR=16							
PAHR	Pah Rah Range	87.18	48	IAmb	IAmb	02 49 43.1		
	comp=Z,24nm,1.2s							
PMD	Palm Desert	87.19	54	IAmb	IAmb	02 49 43.1		
	comp=Z,18nm,1.2s							
MPMC	Manual Prospec	87.20	52	P	P	02 49 07.2	-0.7	
	baz=248,SNR=6.9							
IL31		87.22	18	IAmb	IAmb	02 49 09.2		
	comp=Z,14nm,1.1s							
ILAR	Eielson Array	87.22	18	P	P	02 49 06.0	-1.1	
ILAR	Eielson Array	87.22	18	P	P	02 49 06.2	-0.9	
	comp=Z,5.0nm,0.6s,baz=238,slow=5.1,SNR=105							
ILAR				PKKP	PKKPdf	03 06 55.3	+0.7	
	comp=Z,1.0nm,1.0s,baz=331,slow=2.5,SNR=7.4							
ILAR				PKPPKP	P'P'df	03 14 59.5	-4.0	
	comp=Z,0.9nm,1.0s,baz=333,slow=2.8,SNR=4.6							
	comp=Z,5.0nm,0.6s							
YUK3	Moose Creek	87.24	22	P	P	02 49 07.4	-0.1	
	baz=229,SNR=6.0							
LHV	Little Huntoon	87.26	49	IAmb	IAmb	02 49 43.7		
	comp=Z,35nm,1.4s							
POKR	Poker Plat Res	87.31	17	P	P	02 49 07.3	-0.2	
	baz=223							
DSP	Deep Springs	87.32	50	IAmb	IAmb	02 49 44.0		
	comp=Z,28nm,1.2s							
J05D	Fort Rock, OR	87.33	44	P	P	02 49 08.8	+0.5	
K05A	Summer Lake	87.33	44	IAmb	IAmb	02 50 00.9		
	comp=Z,21nm,1.4s							
WRAK	Wrangell Islan	87.34	29	P	P	02 49 08.7	+0.9	
	baz=236							
F21K	Alatna River	87.35	14	IAmb	IAmb	02 49 09.8		
	comp=Z,35nm,1.8s							
F21K	Alatna River	87.35	14	P	P	02 49 07.2	-0.5	
	baz=217							
PLBC	Pleasant Camp	87.35	25	P	P	02 49 08.8	+1.0	
	baz=233							
RYN	Ryan	87.39	49	IAmb	IAmb	02 49 44.1		
	comp=Z,16nm,1.2s							
D19K	Kuna River	87.39	12	IAmb	IAmb	02 49 10.1		
	comp=Z,32nm,1.5s							
D19K	Kuna River	87.39	12	P	P	02 49 08.3	+0.5	
	baz=213							
SWSC	Sam W. Stewart	87.39	55	P	P	02 49 07.5	-1.2	
	baz=250							
R32K	Eaglecrest	87.42	27	P	P	02 49 07.1	-1.1	
	baz=235							
GSC	Goldstone, Bar	87.44	52	P	P	02 49 07.8	-1.2	
	baz=249							
B18K	Kokolik River	87.45	10	P	P	02 49 07.9	-0.2	
	baz=209,SNR=10							
NVAR	Mina Array Bea	87.47	49	P	P	02 49 09.6	+0.4	
NVAR	Mina Array Bea	87.47	49	P	P	02 49 10.4	+1.2	
	comp=Z,3.1nm,0.7s,baz=231,slow=7.8,SNR=26							
NVAR				pP	pP	02 49 42.5	-1.0	
	comp=Z,8.7nm,1.1s,baz=230,slow=7.8,SNR=6.2							
NVAR				PKKPbc	PKKPbc	03 06 60.0	+0.6	
	comp=Z,1.1nm,0.7s,baz=94,slow=2.6,SNR=12							
NVAR				PKPPKP	P'P'df	03 15 04.6	-0.8	
	comp=Z,1.3nm,0.9s,baz=92,slow=2.9,SNR=8.5							
	comp=Z,3.1nm,0.7s							
YUK6	Outpost Mounta	87.48	23	P	P	02 49 07.8	-0.9	
	baz=231							
LCH	Lake Change Ra	87.51	50	IAmb	IAmb	02 49 44.6		
	comp=Z,20nm,1.4s							
P30M	Million Dollar	87.52	24	P	P	02 49 08.1	-0.5	
	baz=232,SNR=7.1							
BVCY	Beaver Creek	87.52	21	P	P	02 49 08.0	-0.6	
	baz=229							
J25K	Salcha River,	87.55	18	IAmb	IAmb	02 49 11.0		
	comp=Z,20nm,1.3s							
J25K	Salcha River,	87.55	18	P	P	02 49 07.6	-1.2	
	baz=225,SNR=17							
NV11	Mina Array Sit	87.58	49	IAmb	IAmb	02 49 45.1		
	comp=Z,22nm,1.3s							
E20K	Nigu River	87.59	13	P	P	02 49 08.5	-0.4	
	baz=215,SNR=18							
BELC	Belle Mtn. Jos	87.61	54	P	P	02 49 08.3	-1.5	
	baz=249,SNR=7.7							
L27K	Beaver Creek,	87.61	21	P	P	02 49 09.0	-0.1	
	baz=228							
YUK4	Talbot Arm	87.63	23	P	P	02 49 08.2	-1.2	
	baz=231							
C19K	Lookout Ridge	87.63	11	IAmb	IAmb	02 49 11.7		
	comp=Z,37nm,1.6s							
C19K	Lookout Ridge	87.63	11	P	P	02 49 08.5	-0.5	
	baz=211,SNR=9.8							
GRAC	Grapevine Rang	87.63	51	IAmb	IAmb	02 49 45.5		
	comp=Z,25nm,1.1s							
GRAC	Grapevine Rang	87.63	51	P	P	02 49 08.3	-1.5	
	baz=248,SNR=7.0							
QSM	Queen of Sheba	87.63	52	IAmb	IAmb	02 49 45.2		
	comp=Z,24nm,1.2s							
HEC	Hector,Ludlow	87.64	53	P	P	02 49 08.1	-1.8	
	baz=249,SNR=6.0							
F04A	Amboy	87.67	41	IAmb	IAmb	02 49 12.0		
	comp=Z,15nm,1.0s							
H24K	Noodor Dome	87.72	17	P	P	02 49 07.8	-1.7	
	baz=222							
CBB	Campbell River	87.72	36	IAmb	IAmb	02 49 12.5		
	comp=Z,12nm,1.0s							
HYT	Haines Junctio	87.74	24	P	P	02 49 08.0	-1.8	
	baz=232,SNR=5.5							
PINE	Pine Mountain	87.74	43	IAmb	IAmb	02 49 13.2		
	comp=Z,31nm,1.7s							
SKAG	Skagway	87.78	25	P	P	02 49 08.6	-1.2	
	baz=234							
G23K	Bananza Creek	87.80	16	P	P	02 49 10.3	+0.4	
	baz=220							
FURC	Furnace Creek,	87.82	51	P	P	02 49 09.7	-0.8	
	baz=249,SNR=5.3							
KVN	Kaiserville	87.85	49	IAmb	IAmb	02 49 46.2		
	comp=Z,18nm,1.3s							
GWY	Greenwater Val	87.86	52	IAmb	IAmb	02 49 46.3		
	comp=Z,22nm,1.3s							
D20K	Etivluk River	87.88	12	P	P	02 49 09.9	-0.3	
	baz=214,SNR=9.9							
BC3	Big Chuckawall	87.91	54	P	P	02 49 09.6	-1.7	
	baz=250							
J26L	Joseph Creek	88.03	19	P	P	02 49 10.8	-0.3	
	baz=226							
SHOC	Shoshone, Teco	88.06	52	P	P	02 49 10.5	-1.3	
	baz=249							
WCT	Wildcat Mounta	88.11	51	P	P	02 49 12.7	+0.6	
WCT				IAmb	IAmb	02 49 47.7		
	comp=Z,27nm,1.2s							
GMRC	Granite Mounta	88.14	53	P	P	02 49 12.0	-0.4	
	baz=250,SNR=6.1							
COLD	Coldfoot	88.15	15	P	P	02 49 12.5	+1.1	
	baz=220							
PRP	Porcupine Dome	88.15	18	P	P	02 49 11.8	+0.1	
	baz=224							
TUQ	Turquoise Moun	88.17	53	P	P	02 49 12.1	-0.3	
	baz=249							
K27K	Chicken	88.18	20	IAmb	IAmb	02 49 13.7		
	comp=Z,16nm,1.4s							
K27K	Chicken	88.18	20	P	P	02 49 11.7	0.0	
	baz=228							
GLA	Glamis	88.20	55	P	P	02 49 12.6	+0.1	
	baz=250							
E21K	Killik River	88.22	13	P	P	02 49 11.1	-0.7	
	baz=217							
O30N	Mendenhall	88.25	24	P	P	02 49 12.6	+0.4	
	baz=233,SNR=6.3							
N30M	Aishikik Lake	88.29	23	P	P	02 49 11.8	-0.5	
	baz=232							
A19K	Wainwright	88.31	10	P	P	02 49 12.1	0.0	
	baz=210							
IRM	Iron Mountain	88.32	54	P	P	02 49 12.6	-0.4	
	baz=250							
M29M	Somme Creek	88.39	22	P	P	02 49 12.8	0.0	
	baz=231							
MOY	Mondy	88.44	325	*e*P	P	02 49 13.4	+0.1	
MOY				pmax	pmax			
	comp=Z,35nm,1.5s							
E22K	Anaktuvuk Pass	88.47	14	P	P	02 49 13.4	+0.4	
	baz=219							
G24K	Hadweenzic Riv	88.47	16	P	P	02 49 12.2	-0.7	
	baz=223							
D05A	Enumclaw	88.47	40	IAmb	IAmb	02 49 17.2		
	comp=Z,31nm,1.2s							
P32M	Atlin	88.52	26	P	P	02 49 12.5	-1.0	
	baz=235							
H25L	Birch Creek	88.61	17	P	P	02 49 13.8	+0.3	
	baz=224							
T35M	Bob Quinn	88.62	29	P	P	02 49 14.1	+0.1	
	baz=238							
C21K	Knifeblade Rid	88.62	13	P	P	02 49 13.5	-0.1	
	baz=216							
WHY	Whitehorse	88.67	25	P	P	02 49 13.3	-0.8	
	baz=234							
BLYC	Blythe	88.67	55	P	P	02 49 14.5	-0.2	
BLYC				IAmb	IAmb	02 49 51.5		
	comp=Z,23nm,1.1s							
I26K	Coal Creek Min	88.72	19	IAmb	IAmb	02 49 16.0		
	comp=Z,19nm,1.4s							
I26K	Coal Creek Min	88.72	19	P	P	02 49 14.0	-0.2	
	baz=227							
S34M	Telegraph Cree	88.72	28	P	P	02 49 13.4	-0.9	
	baz=238							
Q32M	Nakina River	88.78	27	P	P	02 49 14.3	-0.6	
	baz=236							
B20K	Meade River	88.85	11	P	P	02 49 14.4	-0.3	
	baz=214							
D22K	Ayikyak River	88.86	13	IAmb	IAmb	02 50 03.5		
	comp=Z,13nm,1.1s							
D22K	Ayikyak River	88.86	13	P	P	02 49 15.2	+0.4	
	baz=218							
G25K	Bearman Lake	88.89	17	P	P	02 49 14.2	-0.7	
	baz=224							
L29M	L29M	88.93	22	P	P	02 49 15.9	+0.7	
	baz=231							
E23K	Chandalar	88.93	15	P	P	02 49 15.4	+0.2	
	baz=221,SNR=6.2							
113A	Mohawk Valley,	88.94	56	IAmb	IAmb	02 49 52.0		
	comp=Z,13nm,1.2s							
F24K	Squaw Lake	88.96	16	IAmb	IAmb	02 49 17.4		
	comp=Z,16nm,1.6s							
F24K	Squaw Lake	88.96	16	P	P	02 49 16.5	+1.2	
	baz=222							
EGAK	Eagle	88.98	19	P	P	02 49 15.5	+0.1	
	baz=228,SNR=10							
BMN	Battle Mountai	88.99	48	IAmb	IAmb	02 49 51.8		
	comp=Z,27nm,1.3s							
B21K	Ikpikpuk River	89.04	12	P	P	02 49 15.9	+0.3	
B21K				IAmb	IAmb	02 49 20.2		
	comp=Z,7.5nm,0.7s							
B21K	Ikpikpuk River	89.04	12	P	P	02 49 15.5	-0.1	
	baz=216							
M30M	Minto, Yukon	89.08	22	IAmb	IAmb	02 49 17.1		
	comp=Z,19nm,1.8s							
M30M	Minto, Yukon	89.08	22	P	P	02 49 15.1	-0.9	
	baz=232							
V12A	Nelson	89.09	53	IAmb	IAmb	02 49 52.5		
	comp=Z,25nm,1.4s							
DAWY	Dawson	89.10	21	P	P	02 49 16.0	-0.1	
	baz=230,SNR=5.6							
SHPR	Sheep Range	89.12	52	IAmb	IAmb	02 49 53.0		
	comp=Z,19nm,1.3s							
PDMCI	Parker Dam,Lak	89.16	54	P	P	02 49 15.6	-1.4	
	baz=250							
J08A	Circle Bar Ran	89.21	44	IAmb	IAmb	02 49 52.5		
	comp=Z,19nm,1.3s							
E24K	Your Creek	89.22	15	P	P	02 49 16.3	-0.2	
	baz=222							
P33M	Teslin, Yukon	89.25	25	P	P	02 49 17.3	+0.4	
	baz=236							
LTY	Liberty	89.32	40	P	P	02 49 17.1	-0.4	
D23K	Nanushuk River	89.38	14	P	P	02 49 17.4	+0.2	
	baz=220							
TOLK	Toolik Lake Re	89.39	14	P	P	02 49 17.5	+0.2	
	baz=221							
I27K	Kandik River	89.39	19	P	P	02 49 18.4	+1.0	
	baz=228							
R11B	Troy Canyon, C	89.44	50	IAmb	IAmb	02 49 53.8		
	comp=Z,17nm,1.3s							
R11B	Troy Canyon, C	89.44	50	P	P	02 49 17.5	-0.9	
	baz=250,SNR=6.7							
ELIB	Princess Elisa	89.44	190	*d*P	P	02 49 17.9	+0.1	
	comp=Z,31nm,1.1s							
ELIB				*dp*P	pP	02 49 51.3	-0.6	
ELIB				*ds*P	sP	02 50 05.6	-0.4	
214A	Organ Pipe Nat	89.44	57	P	P	02 49 17.9	-0.6	
	baz=251							
DLBC	Dease Lake	89.49	28	P	P	02 49 18.1	+0.1	
	baz=238							
E07A	Sunnyside	89.55	41	IAmb	IAmb	02 49 21.1		
	comp=Z,12nm,0.9s							
R33M	Jennings River	89.58	27	P	P	02 49 19.2	+0.7	
	baz=238							
K29M	Barlow Dome	89.60	21	P	P	02 49 18.

D24K	Happy Valley	89.95	14	P	P	02 49 18.6	-1.3		
	baz=221								
E25K	Arctic Village	90.01	16	P	P	02 49 19.6	-0.6		
	baz=224								
E08A	Dider Farm, El	90.03	41	IAmb	IAmb	02 49 56.9			
	comp=Z,20nm,1.1s								
A21K	Barrow	90.05	11	P	P	02 49 18.8	-1.4		
	baz=214								
C23K	Itkillik River	90.06	13	IAmb	IAmb	02 50 21.5			
	comp=Z,21nm,1.3s								
C23K	Itkillik River	90.06	13	P	P	02 49 18.5	-1.9		
	baz=220								
F26K	Sheenjek River	90.09	16	P	P	02 49 19.4	-1.2		
	baz=226								
A22K	Sinclair Lake	90.09	11	P	P	02 49 20.1	-0.3		
	baz=216								
FARO	Faro, Yukon	90.17	24	P	P	02 49 20.0	-1.1		
	baz=236								
G27K	Doyon Strip	90.19	18	IAmb	IAmb	02 49 22.4			
	comp=Z,19nm,1.9s								
G27K	Doyon Strip	90.19	18	P	P	02 49 19.6	-1.4		
	baz=228								
C24K	Franklin Bluff	90.41	14	P	P	02 49 20.7	-1.3		
	baz=222								
J30M	Hart River	90.46	21	P	P	02 49 20.5	-2.0		
	baz=233								
ELK	Elko	90.52	48	IAmb	IAmb	02 49 58.9			
	comp=Z,14nm,1.2s								
ELK	Elko	90.52	48	LR	LR	03 23 53.5			
	comp=Z,89nm,20.9s,baz=296,slow=31								
BMO	Blue Mountains	90.55	43	P	P	02 49 23.9	+0.6		
BMO				IAmb	IAmb	02 49 59.1			
	comp=Z,15nm,1.3s								
BMO	Blue Mountains	90.55	43	P	P	02 49 23.9	+0.6		
BMO				pmax	pmax				
	comp=Z,15nm,1.3s								
SPR3	Spring Creek 3	90.58	50	IAmb	IAmb	02 49 59.3			
	comp=Z,19nm,1.1s								
D25K	Kavik River	90.67	15	P	P	02 49 21.9	-1.4		
	baz=224								
H29M	Whitestone	90.81	19	P	P	02 49 22.5	-1.4		
	baz=231								
CCUT	Cedar City	90.82	51	IAmb	IAmb	02 50 01.1			
	comp=Z,15nm,1.1s								
I30M	Mount Dempster	90.84	20	IAmb	IAmb	02 49 39.2			
	comp=Z,15nm,1.9s								
I30M	Mount Dempster	90.84	20	P	P	02 49 22.6	-1.6		
	baz=233								
WTLY	Watson Lake, Y	90.90	27	P	P	02 49 22.7	-1.8		
	baz=240								
TIXI	Tiksi	90.93	349	⇓*e*P	P	02 49 24.5	+0.2		
TIXI				pmax	pmax				
	comp=Z,42nm,1.7s								
F10A	Beach Ranch, E	91.01	42	IAmb	IAmb	02 50 01.1			
	comp=Z,20nm,1.2s								
MFID	Camas Ranch	91.03	45	P	P	02 49 26.7	+1.0		
MFID				IAmb	IAmb	02 50 00.9			
	comp=Z,21nm,1.6s								
E27K	Coleen River	91.13	17	P	P	02 49 23.2	-2.2		
	baz=228								
TUC	Tucson	91.19	57	P	P	02 49 27.1	+0.5		
TUC				IAmb	IAmb	02 50 02.9			
	comp=Z,14nm,1.2s								
TUC	Tucson	91.19	57	P	P	02 49 27.1	+0.5		
TUC				pmax	pmax				
	comp=Z,14nm,1.2s								
TUC	Tucson	91.19	57	P	P	02 49 23.1	-3.5		
	baz=252								
MMPY	Sheldon Lake,	91.20	24	IAmb	IAmb	02 49 26.6			
	comp=Z,12nm,1.5s								
MMPY	Sheldon Lake,	91.20	24	P	P	02 49 22.8	-3.1		
	baz=237								
F28M	Old Crow	91.24	18	P	P	02 49 23.7	-2.2		
	baz=230								
U15A	North Rim	91.27	53	IAmb	IAmb	02 50 03.3			
	comp=Z,19nm,1.0s								
X16A	Lo Mia Camp, P	91.31	55	IAmb	IAmb	02 50 03.4			
	comp=Z,16nm,1.1s								
G29M	Pine Creek	91.35	19	P	P	02 49 24.4	-2.0		
	baz=231								
EPYK	Eagle Plains	91.42	19	P	P	02 49 25.1	-1.7		
	baz=233								
C26K	Camden Bay	91.45	15	P	P	02 49 24.9	-1.9		
	baz=225								
WUAZ	Wupatki	91.70	54	IAmb	IAmb	02 50 05.0			
	comp=Z,17nm,1.1s								
WUAZ	Wupatki	91.70	54	P	P	02 49 26.0	-3.0		
	baz=252								
TGTN	Hyland Airport	91.83	26	P	P	02 49 28.5	-0.3		
	baz=240								
H31M	Peel River	91.87	20	P	P	02 49 28.6	-0.3		
	baz=235								
NEW	Newport	91.92	40	P	P	02 49 27.9	-1.6		
	baz=249								
G30M	tAoh Zraii Nji	91.95	19	IAmb	IAmb	02 49 30.4			
	comp=Z,8.3nm,1.1s								
G30M	tAoh Zraii Nji	91.95	19	P	P	02 49 27.6	-1.7		
	baz=233								
E28M	Babbage River	91.98	17	IAmb	IAmb	02 49 30.2			
	comp=Z,11nm,1.4s								
E28M	Babbage River	91.98	17	P	P	02 49 27.7	-1.6		
	baz=230								
D27M	Malcolm River	92.00	16	IAmb	IAmb	02 49 31.5			
	comp=Z,14nm,1.6s								
D27M	Malcolm River	92.00	16	P	P	02 49 28.2	-1.3		
	baz=229								
TROLL	Troll, Antarti	92.02	185	⇑P	P	02 49 30.5	+0.7		
	comp=Z,6µm,1.1s								
HLID	Hailey	92.05	45	P	P	02 49 31.3	+0.9		
HLID	Hailey	92.05	45	P	P	02 49 28.7	-1.8		
	baz=250								
DUG	Dugway, Tooele	92.08	49	P	P	02 49 28.6	-2.0		
	baz=251								
319A	Douglas	92.14	58	IAmb	IAmb	02 50 07.3			
	comp=Z,13nm,1.1s								
NVL	N'lazarevskaya	92.25	188	*e*P	P	02 49 29.0	-1.6		
NVL				pmax	pmax				
	comp=Z,128nm,1.3s								
E29M	Blow River	92.31	18	P	P	02 49 29.4	-1.4		
	baz=232								
F30M	Barrier River	92.47	19	P	P	02 49 30.1	-1.5		
	baz=234								
G31M	Satah River	92.54	20	P	P	02 49 30.3	-1.6		
	baz=235								
HVU	Hansel Valley	92.61	47	IAmb	IAmb	02 50 08.5			
	comp=Z,8.4nm,1.1s								
D28M	Stokes Point	92.67	17	P	P	02 49 30.6	-1.8		
	baz=231								
SNAA	Sanae	92.69	183	*c* *i*P	P	02 49 32.7	-0.1		
SNAA				pmax	pmax				
	comp=Z,46nm,1.0s								
SNAA	Sanae	92.69	183	⇑P	P	02 49 33.0	+0.2		
	comp=Z,973nm,0.7s								
SNAA	Sanae	92.69	183	P	P	02 49 33.0	+0.2		
	comp=Z,33nm,0.7s,baz=201,slow=5.8,SNR=58								
	comp=Z,33nm,0.7s								
KOTAN	Kotaneelee Air	92.99	28	P	P	02 49 32.9	-1.3		
	baz=244								
F31M	Tsiigehtchic	93.01	19	P	P	02 49 32.4	-1.6		
	baz=235								
VNA3	Neumayer Olymp	93.34	181	⇑P	P	02 49 35.8	0.0		
	comp=Z,80nm,0.6s								
INK	Inuvik	93.57	19	P	P	02 49 34.0	-2.6		
	baz=236								
VNA2	Neumayer--Watz	93.61	182	⇑P	P	02 49 37.3	+0.4		
	comp=Z,79nm,0.6s,baz=174,slow=4.4								
WMQ	Urumqi	93.70	314	⇑P	P	02 49 38.8	+0.9		
WMQ				pmax	pmax				
	comp=Z,46nm,1.1s								
WMQ				pmax	pmax				
	comp=Z,160nm,3.6s								
VNA1	Neumayer--Stat	93.91	181	⇑P	P	02 49 38.6	+0.4		
	comp=Z,47nm,0.7s								
WRGLY	Wrigley	94.61	25	P	P	02 49 40.6	-0.8		
	baz=244								
PDAR	Pinedale Array	95.18	47	P	P	02 49 46.1	+1.2		
	comp=Z,0.6nm,0.8s,baz=227,slow=3.6,SNR=5.3								
PDAR				pP	pP	02 50 18.1	-1.4		
	comp=Z,0.6nm,0.9s,baz=205,slow=3.1,SNR=2.7								
PDAR				PP	PP	02 53 34.6	-2.1		
	comp=Z,1.1nm,1.0s,baz=255,slow=4.5,SNR=4.6								
PDAR				PKKPbc	PKKPbc	03 06 38.9	-1.0		
	comp=Z,1.8nm,0.9s,baz=95,slow=5.5,SNR=14								
PDAR				PKPPKP	P'P'df	03 14 50.1	-0.7		
	comp=Z,0.4nm,0.8s,baz=111,slow=3.3,SNR=4.3								
	comp=Z,0.6nm,0.8s								
ANMO	Albuquerque	95.39	55	P	P	02 49 43.2	-2.8		
	baz=255								

DGZ	Jazzator, Alta	95.66	320	*c* *i*P	P	02 49 47.1	+0.3		
DGZ				pmax	pmax				
	comp=Z,21nm,0.9s								
TX31	Lajitas Ar. Si	96.26	61	P	P	02 49 50.9	+0.9		
TX31				IAmb	IAmb	02 50 26.1			
	comp=Z,12nm,1.8s								
TXAR	Lajitas Array	96.26	61	P	P	02 49 51.1	+1.2		
	comp=Z,0.4nm,0.5s,baz=222,slow=5.8,SNR=12								
TXAR				pP	pP	02 50 23.0	-1.2		
	comp=Z,0.5nm,0.7s,baz=242,slow=2.7,SNR=3.6								
TXAR				PP	PP	02 53 44.4	-0.9		
	comp=Z,1.3nm,1.1s,baz=223,slow=5.1,SNR=5.6								
TXAR				PKKPbc	PKKPdf	03 06 36.8	-0.5		
	comp=Z,0.5nm,0.6s,baz=91,slow=4.7,SNR=7.0								
	comp=Z,0.4nm,0.5s								
C36M	Paulatuk	97.06	19	IAmb	IAmb	02 49 52.8			
	comp=Z,13nm,1.6s								
C36M	Paulatuk	97.06	19	P	P	02 49 51.4	-1.1		
	baz=244								
A36M	Sachs Harbour	97.87	17	IAmb	IAmb	02 49 58.8			
	comp=Z,8.7nm,1.0s								
A36M	Sachs Harbour	97.87	17	P	P	02 49 55.0	-1.1		
	baz=244								
YKA	Yellowknife Ar	98.10	27	P	P	02 49 57.0	-0.3		
	comp=Z,6.2nm,0.9s,baz=258,slow=4.6,SNR=57								
YKA				PKKPbc	PKKPbc	03 06 29.9	-2.4		
	comp=Z,1.4nm,0.8s,baz=56,slow=2.6,SNR=13								
	comp=Z,6.2nm,0.9s								
MK31	Makanchi Array	98.19	316	*c* *i*P	Pdif	02 49 58.3	+0.1		
MKAR	Makanchi Array	98.19	316	*ce*P	Pdif	02 49 58.9	+0.7		
MKAR				pmax	pmax				
	comp=Z,7.0nm,0.8s								
MKAR	Makanchi Array	98.19	316	P	Pdif	02 49 58.3	+0.1		
	comp=Z,7.1nm,0.8s,baz=100,slow=6.6,SNR=54								
	comp=Z,7.1nm,0.8s								
MAKZ	Makanchi	98.40	316	P	P	02 49 58.6	-0.5		
MAKZ	Makanchi	98.40	316	P	P	02 49 58.6	-0.5		
MAKZ				pmax	pmax				
	comp=Z,22nm,0.9s								
ZALV	Zalesovo Beam	98.40	324	P	P	02 49 58.2	-0.6		
ZALV	Zalesovo Beam	98.40	324	P	Pdif	02 49 58.9	0.0		
	comp=Z,20nm,0.8s,baz=113,slow=4.9,SNR=85								
	comp=Z,20nm,0.8s								
NRIK	Noril'sk	101.08	339	*de*P	Pdif	02 50 11.1	+0.7		
NRIK	Noril'sk	101.08	339	P	Pdif	02 50 10.9	+0.5		
	comp=Z,20nm,0.9s,baz=102,slow=4.3,SNR=21								
KURK	Kurchatov	101.39	320	*ce*P	Pdif	02 50 13.2	+0.9		
KURK				pmax	pmax				
	comp=Z,8.0nm,1.3s								
KURBB	Kurchatov Arra	101.44	319	P	Pdif	02 50 12.6	+0.2		
	comp=Z,2.6nm,0.9s,baz=99,slow=4.3,SNR=15								
KURBB				PKKPbc	PKKPbc	03 06 20.1	-2.2		
	comp=Z,0.5nm,0.7s,baz=277,slow=3.8,SNR=5.9								
TUL3	Leonard	104.11	56	P	Pdif	02 50 23.5	-1.3		
	baz=261								
BVAR	Borovoye Array	106.75	321	Pdiff	Pdif	02 50 35.5	-0.5		
	comp=Z,1.3nm,0.6s,baz=72,slow=4.8,SNR=7.0								
SPMN	Marine on St.	107.50	47	P	PKiKP	02 54 45.5	-1.7		
	baz=265								
CCM	Cathedral Cave	108.00	55	P	PKiKP	02 54 45.5	-2.9		
	baz=264								
OXF	Oxford	109.10	58	P	PKiKP	02 54 48.1	-2.5		
	baz=264								
JFWS	Jewell Farm	109.17	50	P	PKiKP	02 54 48.4	-2.0		
	baz=266								
L44A	Lake County Fo	110.85	50	P	PKiKP	02 54 52.0	-1.7		
	baz=268								
LRAL	Lakeview Retre	110.95	60	P	PKiKP	02 54 51.8	-2.3		
	baz=265								
SFIN	Lafayette	111.39	52	P	PKiKP	02 54 52.2	-2.5		
	baz=267								
WCI	Wyandotte Cave	111.90	55	P	PKiKP	02 54 53.4	-2.4		
	baz=267								
O48B	Farmland	112.86	53	P	PKiKP	02 54 55.2	-2.3		
	baz=268								
P49A	Miami Univ. Ec	113.18	53	P	PKiKP	02 54 56.0	-2.1		
	baz=268								
GLMI	Grayling	113.28	48	P	PKiKP	02 54 56.2	-2.0		
	baz=271								
TIGA	Tifton	113.70	62	P	PKiKP	02 54 56.4	-2.9		
	baz=266								
GOGA	Godfrey	113.93	60	P	PKiKP	02 54 56.9	-2.9		
	baz=267								
AKTO	Akutuinsk	114.46	319	PKiKP	PKPdf	02 55 00.0	-0.3		
GEYT	Alibeck	114.85	305	PKP	PKiKP	02 55 02.2	+0.7		
	comp=Z,13nm,0.7s,baz=114,slow=1.8,SNR=22								
KMSC	Kings Mountain	115.77	58	P	PKPdf	02 55 00.8	-2.5		
	baz=268								
SPITS	Spitsbergen Ar	115.86	354	PKP	PKPdf	02 55 02.3	0.0		
	comp=Z,6.4nm,0.6s,baz=81,slow=5.2,SNR=18								
O53A	New Philadelph	115.88	53	P	PKPdf	02 55 01.0	-2.3		
	baz=271								
M53A	WI Miller and	116.26	51	P	PKPdf	02 55 01.9	-2.1		
	baz=272								
LPAZ	La Paz	116.36	117	PKP	PKPdf	02 55 05.2	-0.5		
	comp=Z,0.6nm,0.5s,baz=259,slow=6.7,SNR=5.9								
BLA	Blacksburg	116.53	56	P	PKPdf	02 55 02.4	-2.3		
	baz=270								
ERPA	Erie	116.74	50	P	PKPdf	02 55 03.0	-1.9		
	baz=273								
UPNV	Upernavik	117.52	13	*i* P	PKPdf	02 55 05.3	-0.2		
UPNV				IAmb	IAmb	02 55 06.5			
	comp=Z,5.8nm,0.6s								
KIRV	Kirov	117.89	329	*c* *i*PKiKP	PKiKP	02 55 07.0	+0.4		
ROSC	El Rosal	118.14	93	PKP	PKPdf	02 55 08.4	-0.5		
	comp=Z,6.0nm,0.5s,baz=83,slow=12,SNR=6.4								
SSPA	Standing Stone	118.40	52	P	PKPdf	02 55 06.0	-2.2		
	baz=274								
DAG	Danmarks Havn	118.74	2	*i* P	PKPdf	02 55 07.2	-0.6		
CBN	Corbin Frederi	118.93	55	P	PKPdf	02 55 06.6	-2.6		
	baz=272								
BINY	Binghamton	119.70	50	P	PKPdf	02 55 08.6	-2.0		
	baz=276								
LONY	Lake Ozonia	120.43	47	P	PKPdf	02 55 09.3	-2.7		
	baz=278								
BELG	Belogornoye	120.54	322	*c* *i*PKiKP	PKiKP	02 55 12.4	+0.5		
SUMG	Summit	121.03	9	PKPdf	PKPdf	02 55 12.3	-0.5		
SUMG	Summit	121.03	9	PKiKP	PKPdf	02 55 12.3	-0.5		
DBG	Daneborg	121.14	3	*i* P	PKPdf	02 55 11.7	-0.8		
ARCES	ARCESS Array B	121.23	345	PKPdf	PKPdf	02 55 12.7	0.0		
ARCES	ARCESS Array B	121.23	345	PKP	PKPdf	02 55 12.5	-0.3		
	comp=Z,19nm,0.5s,baz=67,slow=1.2,SNR=136								
ARCES				PKKPbc	PKKPab	03 05 15.2	+0.1		
	comp=Z,2.0nm,0.8s,baz=267,slow=1.8,SNR=8.7								
PAL	Palisades	121.38	51	P	PKPdf	02 55 11.7	-2.2		
	baz=276								
KLMR	Klimovskoe	121.70	333	*e*PKiKP	PKPdf	02 55 11.6	-2.2		
KLMR				pmax	pmax				
	comp=Z,100nm,1.6s								
L61B	Northampton	122.11	49	P	PKPdf	02 55 12.1	-3.1		
	baz=278								
LKRN	Lenkeran, Azer	122.15	306	PKiKP	PKPdf	02 55 15.1	-0.3		
LBNH	Lisbon	122.37	47	P	PKPdf	02 55 11.8	-3.9		
	baz=280								
MAK	Makhachkala	122.57	311	*ce*P	Pdif	02 51 45.0	-1.6		
MAK				*i*		02 55 17.7			
MAK				*e*		02 55 50.8			
MAK				*e*		02 56 55.5			
MAK				*e*		03 02 05.7			
MAK				pmax	pmax				
	comp=Z,126nm,0.7s								
SDV	Santo Domingo	122.67	89	PKPdf	PKPdf	02 55 16.2	-1.1		
SCHQ	Schefferville	122.75	34	PKP	PKPdf	02 55 15.6	-0.5		
	comp=Z,3.7nm,0.8s,baz=254,slow=8.5,SNR=8.2								
SEKA	Sheki	123.06	309	PKiKP	PKPdf	02 55 16.7	-0.5		
MNGR	Mingechevir, A	123.20	309	PKiKP	PKPdf	02 55 17.1	-0.3		
GANJ	Ganja	123.80	309	PKiKP	PKPdf	02 55 18.2	-0.4		
JOF	Joensuu	123.89	338	*e*P	PKiKP	02 55 18.5	+0.2		
SAML	Samuel	123.93	112	PKPdf	PKPdf	02 55 18.6	-0.9		
SAML	Samuel	123.93	112	PKiKP	PKPdf	02 55 18.6	-0.9		
PKME	Peaks-Kenny Pk	124.01	46	P	PKPdf	02 55 14.5	-4.2		
	baz=283								
PTLB	Pontes e Lacer	124.32	121	PKPdf	PKPdf	02 55 18.8	-1.4		
VRH	Novokhopyorsk	124.39	322	*e*PKiKP	PKPdf	02 55 18.9	-0.4		
VRH				pmax	pmax				
	comp=Z,170nm,0.6s								
DY2G	Dye2	124.44	16	*i* P	PKPdf	02 55 19.1	-0.1		
DY2G				IAmb	IAmb	02 55 20.8			
	comp=Z,17nm,0.6s								
NAX	Nakhchivan	124.64	307	PKiKP	PKPdf	02 55 19.9	-0.4		
SCO	Scoresbysund	124.83	4	PKPdf	PKiKP	02 55 20.1	+0.1		
SCO	Scoresbysund	124.83	4	PKiKP	PKiKP	02 55 20.1	+0.1		
SCO	Scoresbysund	124.83	4	*i* P	PKiKP	02 55 20.2	+0.3		
MOS	Moscow	124.89	328	*i* PKiKP	PKPdf	02 55 19.9	-0.2		
MOS				pmax	pmax				
	comp=Z,70nm,0.7s								

VALR	Valaam	124.99	336	*d* *i*PKiKP	PKiKP	02 55 20.8	+0.3		
GNI	Garni	125.07	308	PKPdf	PKiKP	02 55 21.9	+0.4		
GNI	Garni	125.07	308	*c* *i*PKiKP	PKiKP	02 55 22.2	+0.6		
GNI				pmax	pmax				
	comp=Z,53nm,0.8s								
LBTB	Lobatse	125.32	223	PKPdf	PKPdf	02 55 21.7	-0.4		
LBTB	Lobatse	125.32	223	PKiKP	PKPdf	02 55 21.7	-0.4		
RAYN	Ar Rayn	125.35	288	PKPdf	PKiKP	02 55 22.6	+0.1		
RAYN	Ar Rayn	125.35	288	PKiKP	PKiKP	02 55 22.6	+0.1		
LPSR	Galich'ya Gora	125.50	324	*e*PKiKP	PKiKP	02 55 21.7	-0.1		
LPSR				pmax	pmax				
	comp=Z,170nm,1.2s								
VORR	Voronezh	125.70	323	*e*PKiKP	PKiKP	02 55 22.4	+0.2		
VORR				pmax	pmax				
	comp=Z,208nm,0.8s								
OBN	Obninsk	125.71	328	PKPdf	PKiKP	02 55 22.1	0.0		
OBN	Obninsk	125.71	328	*d* *i*PKiKP	PKiKP	02 55 22.5	+0.4		
OBN				SS	SS	03 14 19.0	+15		
OBN				pmax	pmax				
	comp=Z,65nm,0.8s								
KBZ	Khabaz	125.72	313	*d* *i*PKiKP	PKiKP	02 55 23.2	+0.7		
KBZ	Khabaz	125.72	313	PKP	PKiKP	02 55 22.5	0.0		
	comp=Z,18nm,0.8s,baz=107,slow=3.0,SNR=32								
KIV	Kislovodsk	125.81	313	⇓P	PKiKP	02 55 23.6	+0.7		
KIV	Kislovodsk	125.81	313	PKPdf	PKPdf	02 55 22.3	-0.1		
KIV	Kislovodsk	125.81	313	*i* PKiKP	PKiKP	02 55 23.0	+0.2		
KIV				pmax	pmax				
	comp=Z,37nm,1.1s								
VSR	Storozhevoye	125.89	323	*e*PKiKP	PKiKP	02 55 22.9	+0.3		
VSR				pmax	pmax				
	comp=Z,90nm,0.7s								
VORD	Divnogorie	125.91	322	*e*PKiKP	PKPdf	02 55 22.3	+0.1		
VORD				pmax	pmax				
	comp=Z,70nm,0.9s								
NEUR	Neytrino	125.96	312	*e*PKiKP	PKiKP	02 55 24.8	+1.5		
PUL	Pulkovo	126.16	335	⇓*i*PKiKP	PKiKP	02 55 23.3	+0.5		
PUL				pmax	pmax				
	comp=Z,57nm,0.6s								
KEF	Keuruu	126.66	339	*e*P	PKiKP	02 55 23.7	-0.1		
FINES	FINESS Array B	126.73	338	PKP	PKiKP	02 55 23.9	-0.1		
	comp=Z,16nm,0.7s,baz=35,slow=1.9,SNR=66								
VAF	Ylistaro	126.75	341	*e*P	PKiKP	02 55 24.9	+1.0		
SOC	Sochi	127.99	313	*i* PKiKP	PKiKP	02 55 28.3	+1.3		
SOC				*e*		02 57 34.3			
SOC				*e*PPP	PPP	03 00 17.8			
SOC				*e*PS	PS	03 07 38.5	-1.0		
SOC				*e*SS	SS	03 14 35.6	+1.8		
SOC				*e*SSS	SSS	03 19 17.0			
SOC				pmax	pmax				
	comp=Z,25nm,0.7s								
CELP	Cerrillos	128.06	79	PKPdf	PKPdf	02 55 25.9	-1.4		
MEF	Metsahovi	128.17	338	*e*P	PKiKP	02 55 27.3	+0.5		
VSU	Vasula	128.42	335	⇑*i*PKiKP	PKiKP	02 55 27.7	+0.3		
VSU				pmax	pmax				
	comp=Z,63nm,2.5s								
IGPR	InterUniversit	128.50	79	PKPdf	PKPdf	02 55 26.8	-1.3		
RAF	Rauma	128.52	340	*e*P	PKPdf	02 55 27.1	+0.2		
GCPR	Guaynabo City	128.56	79	PKPdf	PKPdf	02 55 26.3	-2.0		
LSZ	Lusaka	129.65	234	PKPdf	PKPdf	02 55 30.2	-0.4		
LSZ	Lusaka	129.65	234	PKiKP	PKPdf	02 55 30.2	-0.4		
AAL	Aland	129.73	340	*e*P	PKiKP	02 55 29.6	-0.3		
ISAL	Salakas	130.50	332	*e*P	PKiKP	02 55 34.5	+2.8		
BOAV	Boa Vista	130.65	100	PKPdf	PKPdf	02 55 31.9	-0.5		
UPP	Uppsala	130.75	341	*e*P	PKiKP	02 55 31.6	-0.4		
VSVD	Vaisvydziai	131.19	334	*e*P	PKiKP	02 55 33.5	+0.5		
SIM	Simferopol'	131.36	317	*e*PKiKP	PKiKP	02 55 34.0	+0.2		
SIM				*e*		02 57 58.7			
SIM				pmax	pmax				
	comp=Z,70nm,0.8s								
SIM				pmax	pmax				
	comp=Z,16nm,13.4s								
PABE	Paberze	131.49	333	*e*P	PKiKP	02 55 34.1	+0.5		
NB2	NORSAR Subarra	131.61	345	PKPdf	PKiKP	02 55 33.9	0.0		
	comp=Z,4.1nm,0.6s,baz=31,slow=1.9								
NB2				SKPa		02 58 48.4			
	comp=Z,3.9nm,0.8s,baz=38,slow=3.8								
NB2	NORSAR Subarra	131.61	345	PKPdf	PKiKP	02 55 33.9	0.0		
	baz=31,slow=1.9								
NOA	NORSAR Array B	131.61	345	PKP	PKiKP	02 55 34.2	+0.3		
	comp=Z,7.5nm,0.7s,baz=32,slow=2.0,SNR=29								
NOA				SKPbc	SKPab	02 58 47.4	+0.7		
	comp=Z,8.1nm,0.9s,baz=33,slow=2.8,SNR=6.2								
DIKM	Dikmen	131.70	312	⇓P	PKiKP	02 55 34.8	+0.2		
HFS	Hagfors	131.71	343	PKP	PKPdf	02 55 33.2	+0.2		
	comp=Z,7.8nm,0.6s,baz=

COVR	Voineasa-Covas	135.97 321	⇓P		PKPdf	02 55 41.9	+0.4
TURR	Turia	135.98 322	⇓P		PKiKP	02 55 43.4	+0.3
OZUR		136.09 322	⇓P		PKiKP	02 55 43.6	+0.2
MUD	Monsted U'grnd	136.10 343	*i* P		PKPdf	02 55 42.0	+0.6
NEHR	Nehoiu	136.13 321	⇓P		PKPdf	02 55 42.6	+0.8
ISR	Istrita	136.13 320	⇓P		PKiKP	02 55 42.8	-0.7
ISR	Istrita	136.13 320	⇓PKiKP		PKiKP	02 55 42.8	-0.7
MLR	Muntele Rosu	136.31 321	⇓P		PKPdf	02 55 42.4	+0.1
MLR	Muntele Rosu	136.31 321	⇓PKiKP		PKPdf	02 55 42.4	+0.1
ISP	Isparta	136.37 309*c*	*i* PKiKP		PKiKP	02 55 44.2	-0.1
ISP			pmax	pmax			
	comp=Z,37nm,1.3s						
DOPR	Dopca	136.40 322	⇓P		PKiKP	02 55 43.7	-0.3
KOLS	Kolonicke sedl	136.46 327	*e*PKiKP		PKiKP	02 55 44.2	+0.2
KOLS	Kolonicke sedl	136.46 327	*e*PKP		PKiKP	02 55 44.2	+0.2
STHS	Stebnicka Huta	136.68 328	*e*PKiKP		PKiKP	02 55 44.9	+0.4
STHS	Stebnicka Huta	136.68 328	*e*PKP		PKiKP	02 55 44.9	+0.4
VOIR		136.88 321	⇓P		PKPdf	02 55 43.1	-0.2
VOIR		136.88 321	⇓PKiKP		PKPdf	02 55 43.1	-0.2
CRVS	Cervenica-Dubn	136.90 328	*e*PKiKP		PKiKP	02 55 44.8	-0.1
CRVS	Cervenica-Dubn	136.90 328	*e*PKP		PKiKP	02 55 44.8	-0.1
CBBR	Cluj-Babes-Bol	137.03 324	⇓P		PKPdf	02 55 40.9	-2.5
CJR	Cluj-Napoca	137.04 324	⇓P		PKPdf	02 55 44.0	+0.5
CJR	Cluj-Napoca	137.04 324	⇓PKiKP		PKPdf	02 55 44.0	+0.5
MESR	Meseseni	137.15 325	⇓P		PKiKP	02 55 45.0	-0.5
NIE	Niedzica	137.16 329	*e*PKP		PKiKP	02 55 45.5	0.0
ARR	Arges	137.16 322	⇓P		PKiKP	02 55 45.3	-0.3
MARR	Marisel-Cluj	137.33 324	⇓P		PKPdf	02 55 38.4	-5.7
SZH	Strazhitsa	137.38 318	P		PKiKP	02 55 46.7	+0.6
HUMR	Humele	137.39 320	⇓P		PKPdf	02 55 44.9	+0.7
ELND	Elena	137.61 318	⇓P		PKiKP	02 55 46.0	-0.6
LOT	Lotru	137.63 322	⇓P		PKPdf	02 55 45.0	+0.3
RUE	Ruedersdorf	137.85 336	*e*P		PKiKP	02 55 48.5	+1.9
DEV	Deva	137.90 323	⇑P		PKiKP	02 55 46.5	-0.5
DEV	Deva	137.90 323	⇑PKiKP		PKiKP	02 55 46.5	-0.5
OKC	Ostrava-Krasne	137.92 331	*e*PKiKP		PKiKP	02 55 46.5	-0.4
OKC	Ostrava-Krasne	137.92 331	*e*PKPDF		PKiKP	02 55 46.5	-0.4
DIM	Dimitrovgrad	138.22 317	P		PKiKP	02 55 47.6	-0.2
MORC	Moravsky Berou	138.24 331	⇓P		PKiKP	02 55 47.0	-0.7
MORC	Moravsky Berou	138.24 331	*e*PKP		PKPdf	02 55 46.2	+0.6
MORC	Moravsky Berou	138.24 331	⇓PKiKP		PKiKP	02 55 47.0	-0.7
GZR	Gura Zlata	138.25 323	⇓P		PKPdf	02 55 46.7	+0.9
GZR	Gura Zlata	138.25 323	⇓PKiKP		PKPdf	02 55 46.7	+0.9
OSTC	Ostas	138.29 333	*e*PKiKP		PKiKP	02 55 47.9	+0.2
OSTC	Ostas	138.29 333	*e*PKPDF		PKiKP	02 55 47.9	+0.2
PSZ	Piszkesteto	138.33 327	⇓P		PKPdf	02 55 46.7	+0.9
PSZ	Piszkesteto	138.33 327	⇓PKiKP		PKPdf	02 55 46.7	+0.9
CHVC	Chvalec	138.34 333	*e*PKiKP		PKiKP	02 55 48.2	+0.4
CHVC	Chvalec	138.34 333	*e*PKPDF		PKiKP	02 55 48.2	+0.4
KRLC	Kraliky	138.38 332	*e*PKiKP		PKiKP	02 55 47.7	-0.3
KRLC	Kraliky	138.38 332	*e*PKPDF		PKiKP	02 55 47.7	-0.3
SIRR	Siria	138.39 324	⇓P		PKiKP	02 55 48.0	0.0
DPC	Dobruska-Polom	138.39 333	*e*PKPDF		PKiKP	02 55 49.3	+1.3
UPC	Upice	138.41 333	*e*PKiKP		PKiKP	02 55 47.7	-0.3
UPC	Upice	138.41 333	*e*PKPDF		PKiKP	02 55 47.7	-0.3
SURR	Surduc	138.42 323	⇑P		PKPdf	02 55 43.9	-2.1
VYHS	Vyhne	138.49 329	*e*PKiKP		PKPdf	02 55 46.8	+0.7
VYHS	Vyhne	138.49 329	*e*PKP		PKPdf	02 55 46.8	+0.7
BAIL	Bailesti	138.66 321	⇓P		PKPdf	02 55 44.4	-2.1
VALD	Valchedram	138.77 320	P		PKiKP	02 55 47.9	-1.0
JAVC	Velka Javorina	138.82 330	*e*PKP		PKiKP	02 55 48.9	0.0
VRAC	Vranov	139.01 331	*e*PKP		PKPdf	02 55 46.6	-0.4
VRAC	Vranov	139.01 331	PKiKP		PKPdf	02 55 48.0	+1.0
VRAC	Vranov	139.01 331	PKP		PKPdf	02 55 48.0	+1.0
	comp=Z,7.5nm,0.8s,baz=20,slow=3.5,SNR=7.0						
BRG	Berggiesshubel	139.02 335	*e*PKHKP		PKPpre	02 55 39.1	
BRG						02 55 48.1	
BRG			pmax	pmax			
	comp=Z,3.0nm,0.8s						
BRG			pmax	pmax			
	comp=Z,22nm,0.8s						
BRG	Berggiesshubel	139.02 335	*e*PKP		PKPdf	02 55 39.1	-7.8
BRG			Amp			02 55 42.9	
	comp=Z,3.1nm,0.8s						
BRG	Berggiesshubel	139.02 335	P		PKiKP	02 55 48.1	-1.0
BRG			Amp			02 55 50.9	
	comp=Z,22nm,0.8s						
PVCC	Panska Ves	139.02 334	*e*PKiKP		PKiKP	02 55 50.5	+1.3
PVCC	Panska Ves	139.02 334	*e*PKPDF		PKiKP	02 55 50.5	+1.3
CLL	Collm	139.06 336	*e*PKHKP		PKPpre	02 55 34.0	
CLL			*i*			02 55 47.9	
CLL			*e*			02 56 25.0	
CLL			pmax	pmax			
	comp=Z,8.0nm,1.1s						
CLL			pmax	pmax			
	comp=Z,19nm,1.3s						
CLL			pmax	pmax			
	comp=Z,17nm,0.8s						
CLL	Collm	139.06 336	*e*PKPpre		PKPpre	02 55 34.0	
	comp=Z,8.0nm,1.1s						
CLL			*ex*	x		02 55 38.0	
CLL			*ex*	x		02 55 43.0	
	comp=Z,9.0nm,1.1s						
CLL			*i* PKPdf		PKPdf	02 55 47.9	+0.9
	comp=Z,19nm,1.3s						
CLL			*i* PKiKP		PKiKP	02 55 49.9	+0.7
	comp=Z,17nm,0.8s						
CLL			*ep*PKiKP	pPKiKP		02 56 25.0	-0.1
CLL			*e*PP		PP	02 58 42.0	+1.5
CLL			*e*SKPdf		SKiKP	02 59 12.0	-0.9
CLL			*e*PKSdf		PKSdf	02 59 23.0	+0.2
BANR	Banloc	139.20 324	⇓P		PKiKP	02 55 49.2	-0.4
SRO	Srobarova	139.21 328	*e*PKiKP		PKiKP	02 55 49.2	-0.4
SRO	Srobarova	139.21 328	*e*PKP		PKiKP	02 55 49.2	-0.4
RICC	Richard	139.21 334	*e*PKPDF		PKiKP	02 55 51.0	+1.4
KRUC	Moravsky	139.28 331	*e*PKP		PKPdf	02 55 47.4	-0.1
MODS	Modra-Piesok	139.34 330	*e*PKiKP		PKiKP	02 55 49.5	-0.4
MODS	Modra-Piesok	139.34 330	*e*PKP		PKiKP	02 55 49.5	-0.4
GOPC	GO Pecny, Ondr	139.39 333	*e*PKiKP		PKiKP	02 55 49.5	-0.5
GOPC	GO Pecny, Ondr	139.39 333	*e*PKPDF		PKiKP	02 55 49.5	-0.5
PRA	Prague	139.42 334	*e*PKiKP		PKiKP	02 55 50.1	+0.1
PRA	Prague	139.42 334	*e*PKPDF		PKiKP	02 55 50.1	+0.1
HSKC	Hora Svate Kat	139.43 335	*e*PKPDF		PKiKP	02 55 50.4	+0.3
PRU	Pruhonice	139.44 333	*e*PKiKP		PKiKP	02 55 50.3	+0.3
PRU	Pruhonice	139.44 333	*e*PKPDF		PKiKP	02 55 50.3	+0.3
VTS	Vitosha	139.45 319	P		PKPdf	02 55 48.8	+0.6
TREC	Trest	139.53 332	*e*PKiKP		PKPdf	02 55 48.9	+1.0
TREC	Trest	139.53 332	*e*PKPDF		PKPdf	02 55 48.9	+1.0
ZST	Bratislava	139.55 330	*e*PKiKP		PKiKP	02 55 49.4	-0.9
ZST	Bratislava	139.55 330	*e*PKP		PKiKP	02 55 49.4	-0.9
EKA	Eskdalemuir Ar	139.75 352	PKhKP		PKPpre	02 55 40.1	
	comp=Z,2.2nm,0.5s,baz=358,slow=2.2,SNR=11						
EKA			PKP		PKPdf	02 55 46.9	-1.2
	comp=Z,4.8nm,0.8s,baz=22,slow=2.9,SNR=4.6						
KKB	Krupnik	139.91 318	P		PKiKP	02 55 50.2	-1.1
ZVC	Zvikov	140.00 333	*e*PKPDF		PKPdf	02 55 49.7	+0.9
FRGS	Fruska Gora	140.09 324	⇓P		PKPdf	02 55 49.9	+0.9
RONA	Rosalia, Austr	140.28 330	*e*PKiKP		PKiKP	02 55 52.9	+1.0
	comp=Z,18nm,0.7s						
RONA			*e*SKP			02 59 15.5	
	comp=Z,3.0nm,0.6s						
CONA	Conrad Observa	140.33 330	*e*PKiKP		PKiKP	02 55 53.1	+1.0
	comp=Z,14nm,0.6s						
CKRC	Cesky Krumlov	140.41 332	*e*PKiKP		PKiKP	02 55 51.1	-1.0
CKRC	Cesky Krumlov	140.41 332	*e*PKPDF		PKiKP	02 55 51.1	-1.0
KHC	Kasperske Hory	140.50 333	⇓*i* PKiKP		PKiKP	02 55 51.1	-1.3
KHC	Kasperske Hory	140.50 333	*e*PKPpre		PKPpre	02 55 43.0	
KHC			*e*PKPDF		PKiKP	02 55 51.0	-1.3
GERES	GERESS Array B	140.66 333	PKhKP		PKPpre	02 55 43.1	
	comp=Z,2.8nm,0.7s,baz=35,slow=4.9,SNR=8.3						
GERES			PKP		PKPdf	02 55 50.6	+0.5
	comp=Z,12nm,0.8s,baz=35,slow=3.6,SNR=17						
GRF	Grafenberg Arr	141.04 336	*e*PKP		PKPdf	02 55 44.3	-6.3
	baz=38,slow=2.6						
MOA	Molln	141.14 331	*e*PKP		PKPdf	02 55 52.1	+1.2
	comp=Z,5.9nm,0.5s						
MOA			*e*SKP			02 59 19.4	
	comp=Z,3.0nm,0.8s						
BIOA	Bad Ischl, Aus	141.54 332	*i* PKP		PKPdf	02 55 52.1	+0.5
	comp=Z,6.2nm,0.7s						
SOKA	Soboth	141.61 329	*e*PKP		PKPdf	02 55 47.3	-4.6
	comp=Z,18nm,1.3s						
SOKA			*e*SKP			02 59 20.3	
	comp=Z,4.2nm,1.0s						
BTNL	Ternell	142.10 341	*d*PKP		PKPdf	02 55 51.0	-1.5
MEM	Membach	142.12 341	*d*PKP		PKPdf	02 55 48.4	-4.1
KBA	Koelnbreinsper	142.13 331	*e*PKP		PKPdf	02 55 47.9	-5.0
	comp=Z,21nm,1.2s						
KBA			*e*SKP			02 59 20.7	
	comp=Z,2.6nm,0.8s						
LESA	Schwarzleotal	142.18 332	*e*PKP		PKPdf	02 55 48.0	-4.8
	comp=Z,17nm,0.7s						
BSTI	Sart Tilman	142.28 341	*d*PKP		PKPdf	02 55 49.4	-3.4
MYKA	Terra Mystica	142.32 331	*e*PKP		PKPdf	02 55 48.6	-4.5
MYKA			*e*SKP			02 59 18.0	
	comp=Z,12nm,1.2s						
BOJS	Bojanci	142.32 328	*e*PKiKP		PKPdf	02 55 54.4	+1.3
BOJS			*i*			02 55 57.2	
BCLA	Clavier	142.51 342	*d*PKP		PKPdf	02 55 49.9	-3.3
CEY	Cerknica	142.57 329	*i* PKPdf		PKPdf	02 55 50.5	-3.0
CEY			*i* PKiKP		PKiKP	02 55 54.4	-2.2
CEY			*i*			02 55 57.4	
BGES	Gesves	142.60 342	*d*PKP		PKPdf	02 55 50.5	-2.9
RICI	Ricice	142.63 324	*i* P		PKPdf	02 55 50.6	-3.0
KIJV	Kijevo	142.71 325	*i* P		PKPdf	02 55 50.1	-3.7
UDBI	Udbina	142.71 326	*i* P		PKPdf	02 55 51.0	-2.8
WATA	Walderalm	142.73 333	*e*PKP		PKPdf	02 55 50.9	-3.0
	comp=Z,14nm,0.9s						
WATA			*e*SKP			02 59 21.1	
	comp=Z,14nm,0.9s						
ABTA	Abfaltersbach	142.76 332	*e*PKP		PKPdf	02 55 50.3	-3.6
	comp=Z,22nm,0.7s,SNR=7.0						
ABTA			*e*SKP			02 59 18.1	
	comp=Z,14nm,1.2s						
WTTA	Wattenberg	142.76 333	*e*PKP		PKPdf	02 55 50.7	-3.3
	comp=Z,8.9nm,0.8s,SNR=7.9						
WTTA			*e*SKP			02 59 14.2	
	comp=Z,3.4nm,0.6s						
RCHB	Rochefort	142.76 341	*d*PKP		PKPdf	02 55 50.0	-3.6
BMRD	Maredsous	142.77 342	*d*PKP		PKPdf	02 55 52.9	-0.8
MAKA	Makarska	142.82 324	*i* P		PKPdf	02 55 50.5	-3.5
WLF	Walferdange	142.90 340	*d*PcP		PKPdf	02 55 51.8	-2.2
MOTA	Moosalm	142.93 333	*e*PKP		PKPdf	02 55 50.8	-3.5
	comp=Z,30nm,1.1s,SNR=15						
MOTA			*e*SKP			02 59 22.2	
	comp=Z,5.0nm,0.9s						
RETA	Reutte	142.96 334	*e*PKP		PKPdf	02 55 51.1	-3.1
	comp=Z,7.1nm,0.6s,SNR=5.6						
SQTA	Sankt Quirin	142.98 333	*e*PKP		PKPdf	02 55 51.0	-3.4
	comp=Z,32nm,1.1s,SNR=13						
DOU	Dourbes	143.01 342	*d*PKP		PKPbc	02 55 51.2	-0.1
MORI	Morici	143.18 326	*i* P		PKPbc	02 55 52.0	+0.1
VIRC	Vir	143.25 327	*i* P		PKPbc	02 55 51.8	-0.3
FETA	Feichten	143.34 333	*e*PKP		PKPbc	02 55 53.3	+0.8
	comp=Z,23nm,0.6s,SNR=16						
FETA			*e*SKP			02 59 23.7	
	comp=Z,4.0nm,0.9s						
ZIRJ	Zirje	143.35 325	*i* P		PKPbc	02 55 52.0	-0.4
DUGI	Dugi Otok	143.45 326	*i* P		PKPbc	02 55 52.6	-0.1
DAVA	Damuels	143.49 335	*e*PKP		PKPbc	02 55 53.2	+0.3
	comp=Z,28nm,0.6s,SNR=8.2						
FUORN	Ofenpass-Fuorn	143.85 333		PKPdf	PKPdf	02 55 55.9	-0.1
DAVOX	Davos/Dischmat	143.89 334		PKP	PKPdf	02 55 55.7	-0.4
	baz=207,slow=4.5						
SALO	Salr	144.51 332		PKPdf	PKPbc	02 55 56.0	+0.1
MATE	Matera	144.62 321	⇑P		PKPdf	02 55 57.8	+0.6
TIP	Timpagrande	145.44 318	⇓P		PKPab	02 56 00.8	+1.4
CEL	Celeste	146.52 318			PKPbc	02 56 02.4	+0.1
SHEL	Horse Pasture	147.98 192		PKPbc	PKiKP	02 56 07.8	-0.8
SHEL	Horse Pasture	147.98 192		PKP2	PKiKP	02 56 07.8	-0.8
RCBR	Riachuelo	148.31 130		PKPbc	PKPbc	02 56 06.5	-1.3
RCBR	Riachuelo	148.31 130		PKiKP	PKPbc	02 56 06.5	-1.3
VSL	Villasalto	149.62 326		PKPdf	PKPdf	02 56 05.2	-0.5
KEST	Kesra	152.21 320		PKPbc	PKiKP	02 56 18.1	+1.2
	comp=Z,119nm,0.7s,baz=69,slow=2.0,SNR=242						
TATN	Tataouine	153.33 313		PKPdf	PKPdf	02 56 11.7	+0.2
PBRG	Braganca	153.48 351		*e*PKPbc	PKiKP	02 56 20.0	+0.7
PBRG	Braganca	153.48 351		*e*PKPab	PKPab	02 56 31.8	0.0
PGAV	Gavieira, Arco	153.52 353		*e*PKPbc	PKiKP	02 56 20.5	+1.1
PGAV	Gavieira, Arco	153.52 353		*e*PKPab	PKPab	02 56 33.5	+1.4
PVRL	Vila Real	154.14 352		*e*PKPbc	PKiKP	02 56 22.0	+1.3
PVRL	Vila Real	154.14 352		*e*PKPab	PKPab	02 56 36.4	+1.8
MVO	Moncorvo	154.15 351		*e*PKPdf	PKPdf	02 56 14.6	+2.2
MVO	Moncorvo	154.15 351		*e*PKPbc	PKiKP	02 56 21.9	+1.2
MVO	Moncorvo	154.15 351		*e*PKPab	PKPab	02 56 36.2	+1.5
PVIS	Viseu	154.71 352		*e*PKPbc	PKiKP	02 56 23.0	+1.1
PVIS	Viseu	154.71 352		*e*PKPab	PKPab	02 56 38.5	+1.4
ESDC	Sonseca Array	154.97 345		PKPdf	PKPdf	02 56 13.8	+0.2
ESDC				PKPbc	PKPbc	02 56 22.4	-0.1
ESDC				PKPab	PKPab	02 56 39.3	+1.0
ESDC	Sonseca Array	154.97 345		PKP	PKPdf	02 56 12.5	-1.1
	comp=Z,0.5nm,1.0s,baz=87,slow=2.1,SNR=5.6						
ESDC				PKPbc	PKiKP	02 56 22.9	+0.4
	comp=Z,3.1nm,0.8s,baz=16,slow=2.9,SNR=19						
ESDC				PKPab	PKPab	02 56 38.4	+0.1
	comp=Z,13nm,0.9s,baz=10,slow=3.5,SNR=23						
ESDC				PP	PP	03 00 08.9	-4.8
	comp=Z,1.9nm,1.0s,baz=15,slow=6.6,SNR=5.5						
MTE	Manteigas	154.97 352		*e*PKPdf	PKPdf	02 56 14.5	+0.9
MTE	Manteigas	154.97 352		*e*PKPbc	PKiKP	02 56 23.7	+1.3
MTE	Manteigas	154.97 352		*e*PKPab	PKPab	02 56 39.8	+1.5
PCAS	Casmilo, Conde	155.44 353		*e*PKPab	PKPab	02 56 41.6	+1.4
PCBR	Castelo Branco	155.51 351		*e*PKPdf	PKPdf	02 56 15.4	+1.2
PCBR	Castelo Branco	155.51 351		*e*PKPab	PKPab	02 56 41.9	+1.4
PMRV	Marv??o	155.91 351		*e*PKPab	PKPab	02 56 43.5	+1.3
PMTG	Montargil	156.38 352		*e*PKPab	PKPab	02 56 45.5	+1.3
PESTR	Estremoz	156.48 351		*e*PKPab	PKPab	02 56 46.3	+1.6
PMAFR	Mafra	156.61 354		*e*PKPab	PKPab	02 56 47.6	+2.4
PBAR	Barcanos	157.07 349		*e*PKPab	PKPab	02 56 49.0	+1.8
PBEJ	Beja	157.35 351		*e*PKPab	PKPab	02 56 50.4	+2.0
PNCL	Nicolau / Gran	157.36 352		*e*PKPab	PKPab	02 56 51.0	+2.6
MESJ	Messejana	157.59 352		*e*PKPbc	PKPab	02 56 51.6	+2.2
MESJ	Messejana	157.59 352		*e*PKPab	PKPab	02 56 49.9	+0.5
PCVE	Castro Verde	157.76 351		*e*PKPab	PKPab	02 56 52.4	+2.2
PVAQ	Vaqueiros	157.94 350		*e*PKPab	PKPab	02 56 52.9	+1.9
PTEO	Sao Teotonio	157.94 353		*e*PKPab	PKPab	02 56 53.5	+2.5
PBDV	Barranco-do-Ve	158.13 351		*e*PKPab	PKPab	02 56 54.0	+2.1
MORF	Marmelete	158.17 352		*e*PKPbc	PKPab	02 56 53.1	+1.1
MORF	Marmelete	158.17 352		*e*PKPab	PKPab	02 56 52.3	+0.3
PFVI	Vila Bisbo	158.36 353		*e*PKPab	PKPab	02 56 55.1	+2.3
TORD	Torodi Ar. Bea	166.30 261		PKP	PKPdf	02 56 26.3	-0.1
	comp=Z,5.6nm,0.7s,baz=2.7,slow=1.4,SNR=50						
TORD				PKPab	PKPab	02 57 28.0	-0.5
	comp=Z,9.4nm,0.9s,baz=84,slow=4.8,SNR=15						
KIC	Kosan Boka	168.24 219	⇑*i* P		PKPab	02 57 37.2	+0.4
	comp=Z,17nm,0.8s						
LIC	Lamto	168.30 218	⇑*i* P		PKPab	02 57 37.3	+0.2
	comp=Z,125nm,1.1s						
DBIC	Dimbokro	168.55 220		PKP	PKPdf	02 56 28.1	0.0
	comp=Z,13nm,0.9s,baz=50,slow=0.9,SNR=14						
DBIC				PKPab	PKPab	02 57 37.8	-0.4
	comp=Z,7.7nm,0.7s,baz=146,slow=4.8,SNR=8.1						
TIC	Toumodi	168.63 219	⇑*e*P		PKPab	02 57 39.1	+0.5
	comp=Z,4.5nm,0.3s						

IDC ***19*** *02:45:04.9±0.4,35˚.26N×141˚.03E, h0km, mb4.7/30, mbtmp4.7/36, ML4.0/6, MS4.3/51, Error ellipse: s-maj=13.1km s-min=11.1km az=98.0*

BJI ***19*** *02:45:05.7±0.0, 35˚.03N×141˚.19E, h27km, mb4.8/79, mB5.0/47, Ms4.7/79, Ms7 4.6/73*

MOS ***19*** *02:45:09.0±1.3, 35˚.38N×141˚.24E, h42km, mb5.3/66, MS4.3/12, Error ellipse: s-maj=8.1km s-min=4.7km az=101.2*

JMA ***19*** *02:45:10.2±0.2, 35˚.3N±0˚.4×141˚.1E±0˚.9, h37km±2km, MD5.1/38, MW5.1/38, E OFF BOSO PENINSULA*
JMA Felt II J1 at E OFF BOSO PENINSULA .

NIED ***19*** *02:45:10.2, 35˚.32N×141˚.09E, h37km, MW5.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr-0.48; Mθθ2.75; Mϕϕ-2.27; Mrθ-2.26; Mθϕ0.29; Mϕr4.39; Fault plane solution: Mo5.39000×10¹⁶ NP1: ϕs142.00000°, δ89.00000°, λ-64.00000°. NP2: ϕs233.00000°, δ26.00000°, λ-178.00000°.*

NEIC ***19*** *02:45:10.0±1.9, 35˚.29N±0˚.05×141˚.09E±0˚.08, h31km±4km, mb5.2/574, Mwr4.9/17 Error ellipse: s-maj=9.7km s-min=6.9km az=100.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr-1.90; Mθθ-0.18; Mϕϕ2.08; Mrθ-1.42; Mθϕ-0.52; Mϕr1.84; Fault plane solution: Mo3.11000×10¹⁶ NP1: ϕs148.64000°, δ70.20000°, λ-105.04000°. NP2: ϕs7.07000°, δ24.68000°, λ-54.21000°. Principal axes: T 3.1273, Plg24.0000°, Azm250.0000°; N -0.0384, Plg14.0000°, Azm154.0000°; P -3.0889, Plg62.0000°, Azm36.0000°;*

NEIC ***19*** *02:45:10.2, 35˚.29N×141˚.09E, h32km*

GCMT ***19*** *02:45:13.0±0.2, 35˚.17N±0˚.01×141˚.09E±0˚.02, h40km±1km, MW5.1/118, Moment Tensor Solution. s62,c85; s118,c185; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.09±.21; Mθθ4.23±.15; Mϕϕ-5.33±.15; Mrθ-2.39±.17; Mθϕ-0.74±.11; Mϕr3.21±.17; Best double couple:*

Mo6.32100×10¹⁶ NP1:ϕs323.00000°, δ84.00000°, λ41.00000°. NP2:ϕs228.00000°, δ49.00000°, λ172.00000°. Principal axes: T 5.9780, Plg32.0000°, Azm194.0000°; N 0.6770, Plg49.0000°, Azm330.0000°; P -6.6650, Plg23.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 19 02:45:09.2±0.3, 35˚.25N±0˚.03×141˚.07E±0˚.03, h29km±2km, h30km:pP-P, n1193, σ1938/963, mb5.2/407, MS4.4/75, 23C-33D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.60	188	*i* P			Pn	02 45 23.0	+1.7
KTR	Katsuura	0.63	261	⇓*i* P			Pn	02 45 23.0	+0.9
KTR				⇓S			Sn	02 45 31.1	-0.1
JSMT	Sammumatsuo	0.64	307	P			Pn	02 45 22.8	+0.4
JSMT	Sammumatsuo	0.64	307	A			A	02 45 22.8	
	comp=E,285nm,1.3s,comp=N,410nm,1.9s								
BSO3	Boso 3	0.65	226	⇓*i* P			Pn	02 45 23.7	+1.6
BSO4	Boso 4	0.66	247	*i* P			Pn	02 45 23.9	+1.4
JKUC	kamogawauchiur	0.72	263	⇓*i* P			Pn	02 45 24.1	+0.7
JKUC				⇓S			Sb	02 45 32.9	+0.1
JKUC	kamogawauchiur	0.72	263	A			A	02 45 24.1	
	comp=E,204nm,0.9s,comp=N,223nm,1.1s								
JCN	Nagara	0.73	283	⇓*i* P			Pn	02 45 24.8	+1.3
JCN	Nagara	0.73	283	A			A	02 45 24.8	
	comp=E,300nm,2.0s,comp=N,327nm,1.5s								
TATJ	Tateyama 2	0.99	258	A			A	02 45 28.4	
	comp=E,240nm,3.5s,comp=N,213nm,2.8s								
JYO	Yokosk	1.15	269	A			A	02 45 30.6	
	comp=E,112nm,3.4s,comp=N,114nm,1.7s								
TOK	Tokyo	1.16	292	A			A	02 45 30.3	
	comp=E,139nm,0.9s,comp=N,153nm,2.3s								
JYT	Yasato	1.21	324	P			Pn	02 45 30.6	+0.5
JYT	Yasato	1.21	324	A			A	02 45 30.6	
	comp=E,56nm,1.2s,comp=N,52nm,2.3s								
JHO	Hitachi	1.42	343	A			A	02 45 33.4	
	comp=E,39nm,2.0s,comp=N,21nm,3.0s								
JIM2	Oshima 3	1.45	249	*i* P			Pn	02 45 33.6	+0.1
JIM2				S			Sn	02 45 52.0	+0.5
JIM2	Oshima 3	1.45	249	A			A	02 45 33.6	
	comp=E,89nm,2.0s,comp=N,96nm,1.6s								
JHU	Hanno	1.58	293	A			A	02 45 36.5	
	comp=E,27nm,1.2s,comp=N,42nm,1.6s								
JOD2	Odawara 2	1.62	271	⇓*i* P			Pn	02 45 36.3	+0.4
JOD2	Odawara 2	1.62	271	A			A	02 45 36.3	
	comp=E,49nm,1.6s,comp=N,42nm,5.1s								
JNIO	Niijimaoohara	1.73	239	A			A	02 45 39.5	
	comp=E,67nm,1.4s,comp=N,66nm,1.5s								
JAG	Ashikaga	1.76	312	A			A	02 45 38.8	
	comp=E,15nm,1.5s,comp=N,36nm,4.4s								
ONAJ	Iwakimizushiy	1.86	353	A			A	02 45 39.8	
	comp=E,26nm,1.9s,comp=N,17nm,2.7s

	comp=E,280nm,3.8s								
MDJ					LR	LR			
	comp=E,1µm,15.1s								
MDJ					LR	LR			
	comp=E,940nm,13.3s								
MDJ					LR	LR			
	comp=E,1µm,16.7s								
MDJ	**Mudanjiang**	**12.84**	**320**	sP	P	02 48 17.8	-2.3		
JOW	**Kunigami**	**13.80**	**236**	P	**Pn**	**02 48 23.9**	**+1.0**		
JOW	**Kunigami**	**13.80**	**236**	Pn	**Pn**	**02 48 22.0**	**-0.9**		
JOW	**Kunigami**	**13.80**	**236**	Pn	**Pn**	**02 48 22.1**	**-0.9**		
	comp=E,0.5nm,0.3s,baz=9.2,slow=4.6,SNR=4.4								
JOW					LR	LR	02 53 30.2		
	comp=E,2µm,21.5s,baz=106,slow=37								
	comp=E,38nm,0.9s								
BNX	**BinXian**	**14.74**	**319**	⇓P	**P**	**02 48 39.1**	**-2.2**		
BNX				pP	Pn	02 48 46.0	+10		
BNX				PP	**PnPn**	**02 48 47.6**	**+4.1**		
BNX				sP		02 48 50.4			
BNX				S	**Sn**	**02 51 24.5**	**+6.7**		
BNX				sS	**S**	**02 51 35.6**	**-0.2**		
BNX				pmax	pmax				
	comp=E,27nm,0.8s								
BNX				pmax	pmax				
	comp=E,240nm,4.6s								
BNX				LR	LR				
	comp=E,720nm,11.9s								
BNX				LR	LR				
	comp=E,560nm,13.6s								
BNX				LR	LR				
	comp=E,750nm,14.1s								
CN2	**Changchun**	**14.76**	**310**	P	**P**	**02 48 43.4**	**+1.9**		
CN2				pmax	pmax				
	comp=Z,30nm,1.0s								
CN2				LR	LR				
	comp=N,700nm,12.0s								
CN2				LR	LR				
	comp=E,800nm,12.0s								
CN2				LR	LR				
	comp=Z,700nm,15.0s								
SNY	**Shenyang**	**15.17**	**301**	⇑P	**P**	**02 48 46.0**	**-0.1**		
SNY				S	**Sn**	**02 51 29.8**	**+1.5**		
SNY				pmax	pmax				
	comp=Z,38nm,1.0s								
SNY				LR	LR				
	comp=Z,490nm,12.6s								
SNY				LR	LR				
	comp=Z,870nm,18.5s								
SNY				LR	LR				
	comp=Z,1µm,18.0s								
KLR	**Kul'dur**	**15.56**	**337**	P	**Pn**	**02 48 47.0**	**+0.6**		
KLR	**Kul'dur**	**15.56**	**337**	Pn	**Pn**	**02 48 47.0**	**+0.6**		
	comp=Z,0.5nm,0.3s,baz=175,slow=9.5,SNR=1.7								
	comp=Z,5.6nm,0.7s								
TYV	**Tymovskoe**	**15.64**	**4**	*e*P	**Pn**	**02 48 44.8**	**-2.6**		
TYV				*e*S	**Sn**	**02 51 35.0**	**-4.7**		
TYV				pmax	pmax				
	comp=Z,200nm,3.4s								
TYV				pmax	pmax				
	comp=Z,58nm,0.9s								
TYV				smax	smax				
	comp=N,7.0nm,1.9s								
TYV				smax	smax				
	comp=N,200nm,3.6s								
TYV				MLR	MLR				
	comp=Z,1µm,15.0s								
DL2	**Dalian**	**15.94**	**289**	P	**P**	**02 48 55.4**	**+0.8**		
DL2				S	**S**	**02 51 55.8**	**-4.6**		
DL2				pmax	pmax				
	comp=Z,69nm,0.8s								
DL2				pmax	pmax				
	comp=Z,670nm,6.2s								
DL2				LR	LR				
	comp=Z,1µm,21.0s								
DL2				LR	LR				
	comp=Z,3µm,21.0s								
DL2				LR	LR				
	comp=Z,4µm,18.7s								
SSE	**Sheshan**	**17.16**	**262**	P	**Pn**	**02 49 06.4**	**-0.3**		
SSE				S	**Sn**	**02 52 16.1**	**-0.5**		
SSE				pmax	pmax				
	comp=Z,14nm,0.7s								
SSE				pmax	pmax				
	comp=Z,280nm,10.3s								
SSE				LR	LR				
	comp=Z,500nm,17.1s								
SSE				LR	LR				
	comp=Z,880nm,17.1s								
HEH	**HeiHe**	**17.99**	**331**	*e*P	**P**	**02 49 22.0**	**+4.7**		
HEH				pP	**sP**	**02 49 31.5**	**+2.8**		
HEH				S	**S**	**02 52 43.9**	**+1.8**		
HEH				pmax	pmax				
	comp=Z,23nm,0.9s								
HEH				pmax	pmax				
	comp=Z,180nm,4.8s								
HEH				LR	LR				
	comp=Z,460nm,11.3s								
HEH				LR	LR				
	comp=Z,930nm,12.8s								
HEH				LR	LR				
	comp=Z,950nm,12.1s								
NJ2	**Nanjing**	**18.77**	**267**	*e*P	**P**	**02 49 26.0**	**+0.1**		
NJ2				pP	**pP**	**02 49 31.8**	**-1.7**		
NJ2				sP	**sP**	**02 49 34.3**	**-2.9**		
NJ2				PP	**PnPn**	**02 49 42.4**	**+3.6**		
NJ2				SS	S	02 53 19.3	+22		
NJ2				pmax	pmax				
	comp=Z,22nm,0.5s								
NJ2				pmax	pmax				
	comp=Z,130nm,3.7s								
NJ2				LR	LR				
	comp=Z,2µm,20.8s								
NJ2				LR	LR				
	comp=Z,2µm,22.7s								
NJ2				LR	LR				
	comp=Z,1µm,20.8s								
SKR	**Severo-Kuril's**	**18.89**	**31**	⇓*i*P	**Pn**	**02 49 29.9**	**+2.1**		
SKR				*e*S	**Sn**	**02 52 57.9**	**-0.4**		
SKR				pmax	pmax				
	comp=Z,428nm,0.9s								
SKR				pmax	pmax				
	comp=Z,500nm,3.9s								
SKR				MLR	MLR				
	comp=Z,2µm,18.0s								
YOJ	**Yonaguni jima**	**18.97**	**240**	P	**P**	**02 49 27.5**	**-0.7**		
YOJ	**Yonaguni jima**	**18.97**	**240**	P	**P**	**02 49 27.5**	**-0.7**		
YOJ				pmax	pmax				
	comp=Z,125nm,1.3s								
TIA	**Tai'an**	**19.46**	**280**	*e*P	**P**	**02 49 31.3**	**-2.2**		
TIA				pmax	pmax				
	comp=Z,5.0nm,0.7s								
TIA				pmax	pmax				
	comp=Z,70nm,4.3s								
TIA				LR	LR				
	comp=Z,650nm,14.4s								
TIA				LR	LR				
	comp=Z,700nm,12.9s								
TIA				LR	LR				
	comp=Z,730nm,12.9s								
YHNB	**Yeheng**	**20.03**	**244**	P	Pn	02 49 42.1	+0.4		
YHNB	**Yeheng**	**20.03**	**244**	P	**P**	**02 49 38.0**	**-1.9**		
NACB	**Ninganchiao**	**20.16**	**242**	P	**P**	**02 49 42.3**	**+1.1**		
NACB	**Ninganchiao**	**20.16**	**242**	P	**P**	**02 49 39.7**	**-1.5**		
BJI	**Beijing**	**20.26**	**291**	P	**P**	**02 49 42.3**	**+0.1**		
BJI				pP	**pP**	**02 49 50.4**	**+0.5**		
BJI				PcP	**PcP**	**02 53 55.1**	**-0.1**		
BJI				pmax	pmax				
	comp=Z,13nm,0.9s								
BJI				LR	LR				
	comp=Z,310nm,16.0s								
BJI				LR	LR				
	comp=Z,310nm,18.7s								
BJI				LR	LR				
	comp=Z,580nm,22.9s								
BJT	**Baijiatuau**	**20.27**	**291**	P	Pn	02 49 44.8	+0.5		
BJT	**Baijiatuau**	**20.27**	**291**	P	**P**	**02 49 40.9**	**-1.3**		
BJT	**Baijiatuau**	**20.27**	**291**	P	**P**	**02 49 40.9**	**-1.3**		
BJT				pmax	pmax				
	comp=Z,35nm,0.9s								
YULB	**Yu-li**	**20.86**	**241**	P	**P**	**02 49 46.7**	**-2.1**		
SSLB	**Suanglung**	**20.86**	**242**	P	**P**	**02 49 48.4**	**-0.5**		
SSLB	**Suanglung**	**20.86**	**242**	P	**P**	**02 49 47.4**	**-1.4**		
ZEA	**Zeya**	**20.88**	**337**	*e*P	**P**	**02 49 50.1**	**+1.3**		
ZEA				pmax	pmax				
	comp=N,60nm,0.9s								
ZEA				pmax	pmax				
	comp=E,30nm,0.7s								
ZEA				pmax	pmax				
	comp=Z,120nm,0.9s								
ZEA				MLR	MLR				
	comp=E,300nm,19.0s								
ZEA				MLR	MLR				
	comp=N,400nm,12.0s								
ZEA				MLR	MLR				
	comp=Z,500nm,15.0s								
HIA	**Hailar**	**21.01**	**318**	*de*P	**P**	**02 49 50.5**	**+0.3**		
HIA				pmax	pmax				
	comp=Z,24nm,1.4s								
XLT	**XiLinHaoTe**	**21.05**	**302**	*e*P	**P**	**02 49 50.0**	**-0.8**		
XLT				pP	pP	02 49 57.8	-0.9		
XLT				sP	sP	02 50 01.9	-0.6		
XLT				S	**S**	**02 53 38.3**	**-5.4**		
XLT				sS	sS	02 53 53.6	-2.4		
XLT				pmax	pmax				
	comp=Z,27nm,0.9s								
XLT				pmax	pmax				
	comp=Z,150nm,2.9s								
XLT				LR	LR				
	comp=Z,88nm,19.1s								
XLT				LR	LR				
	comp=Z,790nm,16.6s								
XLT				LR	LR				
	comp=Z,950nm,20.4s								
HNS	**HongShan**	**21.33**	**284**	⇓P	**P**	**02 49 51.1**	**-2.6**		
HNS				PP	**PnPn**	**02 50 17.3**	**+3.4**		
HNS				S	**S**	**02 53 47.9**	**-1.2**		
HNS				SS	**SnSn**	**02 54 24.8**	**+12**		
HNS				pmax	pmax				
	comp=Z,28nm,0.9s								
HNS				LR	LR				
	comp=Z,1µm,15.9s								
HNS				LR	LR				
	comp=Z,720nm,15.1s								
HNS				LR	LR				
	comp=Z,1µm,15.9s								
PEA0B	**Petropavlovsk-**	**21.37**	**28**	P	**P**	**02 49 55.3**	**+1.2**		
PEA0B				IAmb	IAmb	02 50 11.3			
	comp=Z,187nm,1.2s								
PEA0B	**Petropavlovsk-**	**21.37**	**28**	*ce*P	**P**	**02 49 55.6**	**+1.5**		
PETK	**Petropavlovsk-**	**21.37**	**28**	P	**P**	**02 49 53.9**	**-0.2**		
PETK	**Petropavlovsk-**	**21.37**	**28**	P	**P**	**02 49 53.9**	**-0.2**		
PETK	**Petropavlovsk-**	**21.37**	**28**	P	**P**	**02 49 54.5**	**+0.4**		
	comp=Z,11nm,0.7s,baz=223,slow=6.5,SNR=16								
PETK				LR	LR	02 58 07.4			
	comp=Z,1µm,22.0s,baz=220,slow=37								
	comp=Z,11nm,0.7s								
TPUB	**Ta-pu**	**21.40**	**242**	P	**P**	**02 49 55.6**	**+1.0**		
TPUB	**Ta-pu**	**21.40**	**242**	P	**P**	**02 49 53.0**	**-1.6**		
PET	**Petropavlovsk**	**21.69**	**30**	P	**P**	**02 49 56.1**	**-1.3**		
PET				IAmb	IAmb	02 50 01.7			
	comp=Z,167nm,1.2s								
PET	**Petropavlovsk**	**21.69**	**30**	⇓*i*P	**P**	**02 49 59.6**	**+2.2**		
PET				*e*S	**S**	**02 53 59.5**	**+3.7**		
PET				pmax	pmax				
	comp=Z,168nm,1.2s								
PET				pmax	pmax				
	comp=Z,400nm,7.6s								
PET				pmax	pmax				
	comp=Z,800nm,4.3s								
PET				MLR	MLR				
	comp=Z,1µm,18.0s								
PET				MLR	MLR				
	comp=Z,2µm,18.0s								
WHN	**Wuhan**	**22.89**	**266**	⇑P	**P**	**02 50 10.6**	**+0.1**		
WHN				sP	**pP**	**02 50 19.1**	**+0.8**		
WHN				S	**S**	**02 54 15.9**	**-2.5**		
WHN				pmax	pmax				
	comp=Z,140nm,1.0s								
WHN				LR	LR				
	comp=Z,940nm,9.7s								
WHN				LR	LR				
	comp=Z,2µm,10.7s								
WHN				LR	LR				
	comp=Z,4µm,21.5s								
LYN	**LuoYang**	**23.44**	**277**	⇑P	**P**	**02 50 14.5**	**-1.5**		
LYN				sP	sP	02 50 26.3	-1.5		
LYN				S	**S**	**02 54 22.9**	**-4.6**		
LYN				pmax	pmax				
	comp=Z,22nm,0.6s								
LYN				pmax	pmax				
	comp=Z,250nm,8.0s								
LYN				LR	LR				
	comp=Z,1µm,12.4s								
LYN				LR	LR				
	comp=Z,3µm,17.5s								
LYN				LR	LR				
	comp=Z,5µm,17.6s								
HHC	**Hu-ho-hao-te**	**23.84**	**292**	*e*P	**P**	**02 50 18.0**	**-1.9**		
HHC				sP	sP	02 50 30.6	-1.2		
HHC				S	**S**	**02 54 32.0**	**-2.0**		
HHC				sS	sS	02 54 45.9	-2.1		
HHC				pmax	pmax				
	comp=Z,11nm,0.8s								
HHC				pmax	pmax				
	comp=Z,100nm,5.5s								
HHC				LR	LR				
	comp=Z,490nm,16.8s								
HHC				LR	LR				
	comp=Z,510nm,16.4s								
HHC				LR	LR				
	comp=Z,980nm,17.4s								
CNSH	**ChangSha**	**24.90**	**261**	⇑P	**P**	**02 50 27.3**	**-2.3**		
CNSH				S	**S**	**02 54 50.9**	**-0.1**		
CNSH				pmax	pmax				
	comp=Z,11nm,2.0s								
CNSH				LR	LR				
	comp=Z,490nm,15.3s								
CNSH				LR	LR				
	comp=Z,1µm,18.1s								
CNSH				LR	LR				
	comp=Z,1µm,17.9s								
BTO	**Baotou**	**24.99**	**292**	*e*P	**P**	**02 50 30.3**	**-0.2**		
BTO				pP	**pP**	**02 50 39.6**	**+0.7**		
BTO				sP	**sP**	**02 50 42.9**	**+0.8**		
BTO				S	**S**	**02 54 51.8**	**-0.8**		
BTO				pmax	pmax				
	comp=Z,35nm,0.5s								
BTO				pmax	pmax				
	comp=Z,260nm,4.4s								
BTO				LR	LR				
	comp=Z,2µm,15.7s								
BTO				LR	LR				
	comp=Z,2µm,19.6s								
BTO				LR	LR				
	comp=Z,2µm,22.6s								
MA2	**Magadan**	**25.15**	**12**	P	**P**	**02 50 33.1**	**+1.6**		
MA2	**Magadan**	**25.15**	**12**	P	**P**	**02 50 32.2**	**+0.7**		
MA2	**Magadan**	**25.15**	**12**	P	**P**	**02 50 32.2**	**+0.7**		
MA2				pmax	pmax				
	comp=Z,93nm,0.7s								
MA2	**Magadan**	**25.15**	**12**	LR	LR	03 00 32.5			
	comp=Z,1µm,22.0s,baz=203,slow=37								
XAN	**Xi'an**	**26.42**	**277**	⇓P	**P**	**02 50 42.1**	**-1.3**		
XAN				pP	pP	02 50 52.3	+0.5		
XAN				PcP	**PcP**	**02 54 11.0**	**+2.7**		
XAN				pmax	pmax				
	comp=Z,15nm,1.4s								
XAN				LR	LR				
	comp=Z,2µm,19.6s								
XAN				LR	LR				
	comp=Z,2µm,17.9s								
XAN				LR	LR				
	comp=Z,3µm,16.5s								
ENH	**Enshi**	**26.96**	**268**	IAmb	IAmb	02 50 58.2			
	comp=Z,86nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**27.52**	**117**	T	T	03 19 55.5			
	baz=310,slow=75,SNR=170								
H11N1	**WAKE ISLAND Hy**	**27.53**	**117**	T	T	03 19 56.6			
	baz=310,slow=75,SNR=223								
H11N3	**WAKE ISLAND Hy**	**27.54**	**117**	T	T	03 19 59.8			
	baz=310,slow=75,SNR=175								
YAK	**Yakutsk**	**27.75**	**348**	P	**P**	**02 50 53.2**	**-1.7**		
YAK				IAmb	IAmb	02 51 00.0			
	comp=Z,64nm,0.7s								
YAK	**Yakutsk**	**27.75**	**348**	*e*P	**P**	**02 50 54.1**	**-0.8**		
YAK				*e**PP	**sP**	**02 51 05.5**	**-1.4**		
YAK				*e*		02 51 44.4			
YAK				*e*S	**S**	**02 55 35.0**	**-0.4**		
YAK				pmax	pmax				
	comp=Z,35nm,1.0s								
YAK				pmax	pmax				
	comp=E,8.0nm,1.0s								
YAK				pmax	pmax				
	comp=N,19nm,1.9s								
YAK				pmax	pmax				
	comp=Z,35nm,0.6s								
YAK				smax	smax				
	comp=N,115nm,10.6s								
YAK				smax	smax				
	comp=E,122nm,10.4s								
YAK				MLR	MLR				
	comp=Z,987nm,19.0s								
YAK				MLR	MLR				
	comp=N,392nm,19.0s								
YAK				MLR	MLR				
	comp=E,749nm,20.0s								
YAK	**Yakutsk**	**27.75**	**348**	LR	LR	03 02 01.6			
	comp=E,1µm,21.7s,baz=144,slow=37								
TGY	**Tagaytay City**	**27.79**	**226**	LR	LR	03 00 33.0			
	comp=E,258nm,21.5s,baz=3.5,slow=33								
ULN	**Ulaanbaatar**	**28.17**	**307**	P	**P**	**02 50 59.0**	**0.0**		
ULN	**Ulaanbaatar**	**28.17**	**307**	⇑*e*P	**P**	**02 50 58.3**	**-0.7**		
ULN				pmax	pmax				
	comp=Z,8.0nm,1.0s								
H11S3	**WAKE ISLAND Hy**	**28.17**	**120**	T	T	03 20 42.7			
	baz=312,slow=75,SNR=327								
H11S1	**WAKE ISLAND Hy**	**28.17**	**120**	T	T	03 20 41.5			
	baz=312,slow=75,SNR=388								
H11S2	**WAKE ISLAND Hy**	**28.19**	**120**	T	T	03 20 43.5			
	baz=312,slow=75,SNR=328								
SEY	**Seymchan**	**28.59**	**11**	⇓*e*P	**P**	**02 51 02.9**	**+0.5**		
SEY				pmax	pmax				
	comp=Z,41nm,1.1s								
SEY	**Seymchan**	**28.59**	**11**	LR	LR	03 02 54.8			
	comp=Z,1µm,21.6s,baz=194,slow=37								
SONM	**Songino Array**	**28.59**	**307**	P	**P**	**02 51 03.2**	**+0.5**		
SONM	**Songino Array**	**28.59**	**307**	P	**P**	**02 51 03.9**	**+1.1**		
	comp=Z,6.0nm,0.8s,baz=111,slow=8.2,SNR=7.1								
	comp=Z,6.0nm,0.8s								
BOD	**Bodaibo**	**28.91**	**330**	*e*P	**P**	**02 51 05.7**	**+0.4**		
BOD				pmax	pmax				
	comp=Z,44nm,2.0s								
SHEM	**Shemya Is, Ala**	**29.14**	**43**	LR	LR	03 01 07.5			
	comp=Z,740nm,20.9s,baz=214,slow=33								
LZH	**Lanzhou**	**30.14**	**283**	*e*P	**P**	**02 51 18.6**	**+1.9**		
LZH				pP	pP	02 51 25.6	+0.4		
LZH				pmax	pmax				
	comp=Z,24nm,1.3s								
LZH				LR	LR				
	comp=Z,1µm,14.1s								
LZH				LR	LR				
	comp=Z,960nm,14.4s								
LZH				LR	LR				
	comp=Z,1µm,15.5s								
GYA	**Guiyang**	**30.69**	**263**	⇑P	**P**	**02 51 23.4**	**+1.8**		
GYA				S	**S**	**02 56 22.6**	**0.0**		
GYA				pmax	pmax				
	comp=Z,21nm,1.1s								
GYA				pmax	pmax				
	comp=Z,250nm,3.5s								
GYA				LR	LR				
	comp=Z,570nm,21.0s								
GYA				LR	LR				
	comp=Z,630nm,22.2s								
GYA				LR	LR				
	comp=Z,1µm,21.2s								
CD2	**Chengdu**	**31.44**	**273**	P	**P**	**02 51 27.3**	**-0.8**		
CD2				S	**S**	**02 56 37.3**	**+3.1**		
CD2				pmax	pmax				
	comp=Z,70nm,0.7s								
CD2				LR	LR				
	comp=Z,1µm,16.7s								
CD2				LR	LR				
	comp=Z,3µm,19.0s								
CD2				LR	LR				
	comp=Z,3µm,17.2s								
QIZ	**Qiongzhong**	**31.98**	**248**	P	**P**	**02 51 33.6**	**+0.8**		
QIZ				S	**S**	**02 56 40.3**	**-2.2**		
QIZ				LR	LR				
	comp=Z,370nm,13.5s								
QIZ				LR	LR				
	comp=Z,410nm,15.1s								
QIZ				LR	LR				
	comp=Z,620nm,22.1s								
GTA	**Gaotai**	**32.86**	**290**	*e*P	**P**	**02 51 41.6**	**+1.0**		
GTA				pmax	pmax				
	comp=Z,5.0nm,0.8s								
GTA				LR	LR				
	comp=Z,500nm,17.4s								
GTA				LR	LR				
	comp=Z,740nm,18.9s								
GTA				LR	LR				
	comp=Z,960nm,19.6s								
KMI	**Kunming**	**34.45**	**264**	⇓P	**P**	**02 51 53.4**	**-1.3**		
KMI				pmax	pmax				
	comp=Z,23nm,0.7s								
KMI				LR	LR				
	comp=Z,510nm,15.6s								
KMI				LR	LR				
	comp=Z,1µm,17.4s								
KMI				LR	LR				
	comp=Z,1µm,16.7s								
PZH	**PanZhiHua**	**34.68**	**266**	P	**P**	**02 51 54.9**	**-1.6**		
PZH				pP	**pP**	**02 52 05.3**	**+0.3**		
PZH				S	**S**	**02 57 23.8**	**-0.9**		
PZH				pmax	pmax				
	comp=Z,20nm,0.5s								
PZH				pmax	pmax				
	comp=Z,110nm,5.1s								
PZH				LR	LR				
	comp=Z,960nm,22.7s								
PZH				LR	LR				
	comp=Z,710nm,24.3s								
PZH				LR	LR				
	comp=Z,830nm,22.6s								
BILL	**Bilibino**	**35.81**	**16**	P	**P**	**02 52 04.6**	**-1.0**		
BILL	**Bilibino**	**35.81**	**16**	*e*P	**P**	**02 52 06.0**	**+0.4**		
BILL	**Bilibino**	**35.81**	**16**	P	**P**	**02 52 06.0**	**+0.4**		
TIXI	**Tiksi**	**37.02**	**354**	P	**P**	**02 52 15.3**	**-0.5**		
TIXI	**Tiksi**	**37.02**	**354**	⇓*e*P	**P**	**02 52 15.7**	**-0.1**		
TIXI				pmax	pmax				
	comp=Z,19nm,0.8s								
TIXI	**Tiksi**	**37.02**	**354**	LR	LR	03 09 21.5			
	comp=Z,918nm,19.1s,baz=174,slow=39								
TIXI	**Tiksi**	**37.02**	**354**	P	**P**	**02 52 16.1**	**+0.3**		
GOMU	**GeErMu**	**37.29**	**285**	P	**P**	**02 52 19.4**	**+0.4**		
GOMU				pP	pP	02 52 23.4	-4.3		
GOMU				sP	sP	02 52 27.3	-3.6		
GOMU				S	**S**	**02 57 56.8**	**-8.1**		
GOMU				pmax	pmax				
	comp=Z,12nm,1.1s								
GOMU				LR	LR				
	comp=Z,510nm,18.4s								
GOMU				LR	LR				
	comp=Z,770nm,18.4s								
GOMU				LR	LR				
	comp=Z,1µm,18.0s								
JAY	**Jayapura**	**37.57**	**181**	P	**P**	**02 52 21.0**	**-0.1**		
	comp=Z,38nm,0.7s								
GENI	**Genyem**	**37.66**	**181**	P	**P**	**02 52 22.8**	**+1.0**		
	comp=Z,181nm,1.0s								
TNCH	**TengChong**	**37.94**	**266**	*e*P	**P**	**02 52 23.4**	**-1.0**		
TNCH				pP	pP	02 52 27.8	-5.2		
TNCH				S	**S**	**02 58 12.3**	**-2.3**		
TNCH				LR	LR				
	comp=Z,800nm,16.6s								
TNCH				LR	LR				
	comp=Z,480nm,19.0s								
TNCH				LR	LR				
	comp=Z,860nm,19.9s								
GTOI	**Gorontalo**	**38.34**	**210**	P	**P**	**02 52 23.9**	**-3.6**		
	comp=Z,1nm,0.8s								
FAKI	**Fak Fak**	**38.86**	**194**	P	**P**	**02 52 32.6**	**+0.6**		
FAKI	**Fak Fak**	**38.86**	**194**	P	**P**	**02 52 29.4**	**-2.6**		
FAKI				IAmb	IAmb	02 52 33.8			
	comp=Z,72nm,1.0s								
FAKI	**Fak Fak**	**38.86**	**194**	P	**P**	**02 52 30.0**	**-2.0**		
	comp=Z,95nm,0.9s,comp=Z,1µm								
MRSI	**Marisa**	**38.93**	**211**	P	**P**	**02 52 30.7**	**-1.8**		
	comp=Z,36nm,1.0s								
SPIA	**Saint Paul Isl**	**39.08**	**40**	P	**P**	**02 52 31.6**	**-1.8**		
	baz=257								
NIKH	**Nikolski High**	**39.17**	**47**	P	**P**	**02 52 32.4**	**-1.8**		
	baz=264								
P08K	**Saint George I**	**39.34**	**41**	P	**P**	**02 52 33.9**	**-1.5**		
	baz=258								
SANI	**Sanana**	**39.71**	**204**	P	**P**	**02 52 38.6**	**-0.4**		
SANI	**Sanana**	**39.71**	**204**	P	**P**	**02 52 35.6**	**-3.4**		
	comp=Z,51nm,0.7s								

MPSI **Mapaga** 39.96 214 P P 02 52 40.0 -1.1
comp=Z,11nm,0.7s
GAMB **Gambell** 40.38 30 P P 02 52 43.6 -0.5
baz=248
UNV **Unalaska Valle** 40.66 46 P P 02 52 45.1 -1.4
baz=265
CM31 **Chiang Mai Arr** 40.80 257 P P 02 52 48.2 +0.1
CMAR **Chiang Mai Arr** 40.80 257 P P 02 52 47.4 -0.7
CMAR **Chiang Mai Arr** 40.80 257 *i* P P 02 52 51.0 +2.8
CMAR pmax pmax
comp=Z,3.0nm,0.3s
CMAR **Chiang Mai Arr** 40.80 257 P P 02 52 47.1 -1.0
comp=Z,2.8nm,0.3s,baz=44,slow=7.8,SNR=14
CMAR PcP PcP 02 54 49.6 +0.7
comp=Z,2.2nm,0.6s,baz=31,slow=2.0,SNR=2.1
CMAR LR LR 03 11 21.7
comp=Z,752nm,19.4s,baz=95,slow=39
comp=Z,2.8nm,0.3s
BNDI **Bandanaira** 40.93 197 P P 02 52 47.6 -1.5
comp=Z,267nm,0.8s
DGZ **Jazzator, Alta** 41.23 308 *ce* P P 02 52 53.1 +1.6
DGZ pmax pmax
comp=Z,85nm,1.0s
WMQ **Urumqi** 41.42 299 *e* P P 02 52 57.0 +3.9
WMQ pmax pmax
comp=Z,49nm,0.9s
WMQ pmax pmax
comp=Z,270nm,4.3s
WMQ LR LR
comp=Z,640nm,17.7s
WMQ LR LR
comp=Z,560nm,17.7s
WMQ LR LR
comp=Z,460nm,24.7s
M11K **Mekoryuk** 41.85 36 P P 02 52 54.9 -1.3
baz=258
TNA **Tin City** 42.54 29 P P 02 53 00.7 -1.1
baz=250,SNR=9.0
ZAA0 **Zalesovo Array** 42.93 314 P P 02 53 04.4 -0.7
ZALV **Zalesovo Beam** 42.93 314 P P 02 53 05.5 +0.4
comp=Z,11nm,0.7s,baz=96,slow=7.9,SNR=21
ZALV PcP PcP 02 54 55.3 0.0
comp=Z,4.4nm,0.7s,baz=110,slow=2.2,SNR=2.2
ZALV LR LR 03 11 45.0
comp=Z,208nm,19.1s,baz=82,slow=37
comp=Z,11nm,0.7s
ZSN **Zaisan** 43.03 304 *e* P P 02 53 07.0 +0.9
ZSN pmax pmax
comp=Z,23nm,0.7s
ZSN **Zaisan** 43.03 304 *e* P P 02 53 07.0 +0.9
comp=Z,23nm,0.7s,baz=304
F14K **Arctic Creek** 43.14 29 P P 02 53 05.2 -1.5
baz=252
M13K **Dall Lake** 43.24 37 IAmb IAmb 02 53 13.9
comp=Z,45nm,1.1s
M13K **Dall Lake** 43.24 37 P P 02 53 06.8 -0.7
baz=260
ANM **Nome** 43.26 30 P P 02 53 08.3 +0.7
ANM **Nome** 43.26 30 P P 02 53 08.4 +0.7
ANM pmax pmax
comp=Z,32nm,1.1s
ANM **Nome** 43.26 30 P P 02 53 06.7 -0.9
baz=254,SNR=12
S12K **Black Hills** 43.37 44 P P 02 53 07.9 -0.7
baz=266
J14K **Nanvaranak Lak** 43.60 33 P P 02 53 10.5 +0.2
baz=258
L14K **Kuka Creek** 43.73 35 IAmb IAmb 02 53 15.2
comp=Z,86nm,1.8s
L14K **Kuka Creek** 43.73 35 P P 02 53 11.5 +0.1
baz=260
F15K **North Star Dit** 43.88 29 IAmb IAmb 02 53 16.3
comp=Z,42nm,1.4s
F15K **North Star Dit** 43.88 29 P P 02 53 12.9 +0.3
baz=253,SNR=15
G15K **Niukluk** 43.93 30 P P 02 53 13.2 +0.2
baz=255
M14K **Bethel** 43.98 36 IAmb IAmb 02 53 28.3
M14K **Bethel** 43.98 36 P P 02 53 14.2 +0.8
baz=261,SNR=14
SAUI **Saumlaki** 43.98 194 P P 02 53 14.6 +0.7
SAUI **Saumlaki** 43.98 194 P P 02 53 13.6 -0.3
comp=Z,219nm,1.3s,comp=Z,17µm
N14K **Kuskokwak Cree** 43.99 38 P P 02 53 14.2 +0.7
baz=262
O14K **Tigyukauivet M** 44.12 39 P P 02 53 14.9 +0.3
baz=263
SDPT **Sand Point** 44.25 44 P P 02 53 15.2 -0.5
baz=268
L15K **Ungalak Mounta** 44.35 35 P P 02 53 14.4 -2.0
baz=261
C16K **Lisburne Hills** 44.42 25 IAmb IAmb 02 53 22.0
comp=Z,46nm,0.9s
C16K **Lisburne Hills** 44.42 25 P P 02 53 16.5 -0.4
baz=250,SNR=32
K15K **Wolf Creek Mou** 44.43 34 IAmb IAmb 02 53 24.0
comp=Z,70nm,1.8s
K15K **Wolf Creek Mou** 44.43 34 P P 02 53 17.3 +0.3
baz=260,SNR=9.2
M15K **Kasigluk River** 44.59 37 P P 02 53 18.5 +0.2
baz=262
H16K **Elim** 44.59 31 P P 02 53 18.8 +0.5
baz=257,SNR=16
G16K **Koyuk River** 44.72 30 P P 02 53 18.0 -1.3
baz=256
CHNA **Chernabura Isl** 44.75 45 P P 02 53 19.6 -0.1
baz=269
NRIK **Noril'sk** 44.77 336 P P 02 53 19.1 -0.6
NRIK IAmb IAmb 02 53 51.0
comp=Z,60nm,1.6s
NRIK **Noril'sk** 44.77 336 *ce* P P 02 53 20.0 +0.3
NRIK pmax pmax
comp=Z,13nm,1.0s
NRIK **Noril'sk** 44.77 336 P P 02 53 19.2 -0.6
comp=Z,8.8nm,0.8s,baz=101,slow=9.3,SNR=8.8
NRIK LR LR 03 15 14.9
comp=Z,715nm,18.4s,baz=119,slow=40
comp=Z,8.8nm,0.8s
PMG **Port Moresby** 44.79 171⇑ *e* P P 02 53 19.3 -1.0
PMG pmax pmax
comp=Z,21nm,0.9s
KAPI **Kappang** 44.79 211 P P 02 53 19.2 -1.2
KAPI IAmb IAmb 02 53 29.3
comp=Z,73nm,1.5s
KAPI **Kappang** 44.79 211 P P 02 53 19.2 -1.2
KAPI pmax pmax
comp=Z,73nm,1.5s
S14K **Fog Glacier** 44.81 43 P P 02 53 19.9 -0.4
baz=268
N15K **Kwethluk River** 44.81 37 IAmb IAmb 02 53 55.6
comp=Z,28nm,1.0s
N15K **Kwethluk River** 44.81 37 P P 02 53 19.7 -0.4
baz=264,SNR=13
O15K **Ungalikthiuk R** 44.85 39 P P 02 53 20.6 +0.2
baz=265,SNR=9.6
MK31 **Makanchi Array** 44.85 304 IAmb IAmb 02 53 53.0
comp=Z,21nm,0.9s
MK31 **Makanchi Array** 44.85 304 *ce* P P 02 53 21.3 +0.6
MK31 pmax pmax
comp=Z,20nm,0.7s
MKAR **Makanchi Array** 44.85 304 *i* P P 02 53 21.7 +1.0
MKAR pmax pmax
comp=Z,12nm,0.6s
MKAR **Makanchi Array** 44.85 304 P P 02 53 21.3 +0.6
comp=Z,11nm,0.6s,baz=88,slow=9.5,SNR=26
MKAR LR LR 03 13 03.9
comp=Z,472nm,18.7s,baz=91,slow=38
comp=Z,11nm,0.6s
BKSI **Bulukumba** 44.92 210 P P 02 53 20.1 -1.3
comp=Z,20nm,0.9s
J16K **Anvik River** 45.02 33 P P 02 53 22.1 +0.3
baz=260
D17K **Noatak River** 45.05 27 P P 02 53 22.7 +0.8
baz=253,SNR=35
MAKZ **Makanchi** 45.06 304 P P 02 53 23.1 +0.7
MAKZ IAmb IAmb 02 53 30.1
comp=Z,22nm,0.8s
MAKZ **Makanchi** 45.06 304 P P 02 53 23.1 +0.7
MAKZ pmax pmax
comp=Z,22nm,0.9s
MAKZ **Makanchi** 45.06 304 P P 02 53 23.0 +0.7
I17K **Unalakleet** 45.09 32 IAmb IAmb 02 53 26.9
comp=Z,87nm,1.9s
I17K **Unalakleet** 45.09 32 P P 02 53 23.4 +1.1
baz=259
RDOG **Red Dog Mine** 45.22 26 IAmb IAmb 02 53 28.9
comp=Z,64nm,1.5s
RDOG **Red Dog Mine** 45.22 26 P P 02 53 23.9 +0.6
baz=253,SNR=8.2
C17K **DeLong Mountai** 45.25 25 P P 02 53 24.5 +1.0
baz=252,SNR=22
L16K **Owhat River** 45.30 35 P P 02 53 24.2 +0.2
baz=263,SNR=9.5
F17K **Baldwin Pennin** 45.41 28 IAmb IAmb 02 53 48.9
comp=Z,23nm,0.9s
F17K **Baldwin Pennin** 45.41 28 P P 02 53 25.3 +0.6
baz=256,SNR=14
G17K **Kiwalik Mounta** 45.44 30 P P 02 53 25.9 +0.9
baz=258,SNR=15
M16K **Timber Creek** 45.47 36 P P 02 53 25.9 +0.6
baz=264,SNR=6.6
N16K **Nishlik Lake** 45.50 37 P P 02 53 27.2 +1.6
baz=264
H17K **Granite Mounta** 45.63 31 P P 02 53 27.4 +0.9
baz=259,SNR=8.8
O16K **Kokwok River B** 45.77 38 IAmb IAmb 02 53 32.8
comp=Z,26nm,1.1s
O16K **Kokwok River B** 45.77 38 P P 02 53 28.7 +1.0
baz=266,SNR=9.5
P16K **Nushagak River** 45.78 39 P P 02 53 27.6 -0.2
baz=267
SEM **Semipalatinsk** 45.82 309 *e* P P 02 53 28.8 +0.2
SEM pmax pmax
comp=Z,11nm,0.9s
SEM **Semipalatinsk** 45.82 309 *e* P P 02 53 28.8 +0.2
comp=Z,11nm,0.9s,baz=309
E18K **Tukpahlearik C** 45.89 27 IAmb IAmb 02 53 53.5
comp=Z,23nm,1.0s
E18K **Tukpahlearik C** 45.89 27 P P 02 53 27.9 -0.7
baz=256
L17K **Donlin** 45.91 35 P P 02 53 28.4 -0.4
baz=263
R16K **Pilot Point** 45.94 41 P P 02 53 28.8 -0.2
baz=268
K17K **Iditarod** 45.98 34 P P 02 53 30.2 +0.9
K17K IAmb IAmb 02 53 45.2
comp=Z,34nm,0.8s
K17K **Iditarod** 45.98 34 P P 02 53 30.2 +0.9
baz=263,SNR=18
B18K **Kokolik River** 45.99 24 P P 02 53 30.4 +1.0
baz=253,SNR=39
C18K **Utukok River** 46.00 25 IAmb IAmb 02 53 36.1
comp=Z,36nm,0.9s
C18K **Utukok River** 46.00 25 P P 02 53 30.4 +0.9
baz=254
F18K **Selawik** 46.07 28 P P 02 53 31.6 +1.6
baz=258,SNR=25
M17K **Holitna River** 46.24 36 IAmb IAmb 02 53 39.0
comp=Z,27nm,0.9s
M17K **Holitna River** 46.24 36 P P 02 53 32.2 +0.8
baz=265,SNR=12
O17K **Koliganek Bris** 46.28 38 P P 02 53 32.5 +0.8
baz=267,SNR=7.1
N17K **Nushagak Hills** 46.29 37 IAmb IAmb 02 53 35.6
comp=Z,48nm,1.3s
N17K **Nushagak Hills** 46.29 37 P P 02 53 32.4 +0.6
baz=266
H18K **Honhosa River** 46.31 31 IAmb IAmb 02 53 38.8
comp=Z,33nm,1.2s
H18K **Honhosa River** 46.31 31 P P 02 53 32.2 +0.3
baz=260
G18K **Tagagawik** 46.32 30 IAmb IAmb 02 53 57.0
comp=Z,32nm,1.1s
G18K **Tagagawik** 46.32 30 P P 02 53 31.5 -0.5
baz=259,SNR=28
Q16K **King Salmon** 46.46 40 P P 02 53 34.3 +1.2
baz=268,SNR=6.1
A19K **Wainwright** 46.48 23 P P 02 53 33.8 +0.6
baz=253
P17K **Kvichak River** 46.59 39 P P 02 53 34.5 +0.4
baz=258
L18K **Granite Mounta** 46.67 35 IAmb IAmb 02 53 39.6
comp=Z,78nm,1.9s
L18K **Granite Mounta** 46.67 35 P P 02 53 35.1 +0.4
baz=265,SNR=10
C19K **Lookout Ridge** 46.68 25 IAmb IAmb 02 53 42.0
comp=Z,49nm,1.1s
C19K **Lookout Ridge** 46.68 25 P P 02 53 35.3 +0.5
baz=255,SNR=28
J18K **Innoko River** 46.78 33 P P 02 53 35.7 0.0
baz=264
KURK **Kurchatov** 46.83 309 P P 02 53 36.0 -0.2
KURK **Kurchatov** 46.83 309 *c i* P P 02 53 36.3 +0.1
KURK pmax pmax
comp=Z,22nm,1.0s
KURK **Kurchatov** 46.83 309 P P 02 53 36.8 +0.6
KURK pP pP 02 53 45.1 +0.4
KURK sP sP 02 53 48.5 +0.4
F19K **Shaleruckik Mo** 46.85 28 P P 02 53 35.8 -0.3
baz=259
Q17K **Contact Creek** 46.85 40 P P 02 53 36.5 +0.2
baz=269,SNR=5.5
GCSA **Galena City Sc** 46.87 31 P P 02 53 36.0 -0.3
baz=262
KURBB **Kurchatov Arra** 46.90 309 P P 02 53 35.8 -0.9
KURBB **Kurchatov Arra** 46.90 309 P P 02 53 35.5 -1.2
comp=Z,7.7nm,0.6s,baz=84,slow=8.1,SNR=42
comp=Z,7.7nm,0.6s
N18K **Kilae Creek** 46.94 37 IAmb IAmb 02 53 40.7
comp=Z,39nm,1.3s
N18K **Kilae Creek** 46.94 37 P P 02 53 36.6 -0.3
baz=267,SNR=12
G19K **Purcell Mounta** 47.00 29 P P 02 53 36.3 -1.0
baz=261,SNR=16
CHIR **Chirikof Islan** 47.01 44 P P 02 53 37.8 +0.3
baz=272
M18K **Stony River** 47.02 36 P P 02 53 37.7 +0.2
baz=266
TTA **Tatalina** 47.05 34 P P 02 53 38.6 +0.8
TTA **Tatalina** 47.05 34 P P 02 53 38.6 +0.8
TTA pmax pmax
comp=Z,10.0nm,1.0s
TTA **Tatalina** 47.05 34 P P 02 53 38.5 +0.7
baz=265,SNR=5.9
D19K **Kuna River** 47.06 26 IAmb IAmb 02 53 44.5
comp=Z,28nm,0.9s
D19K **Kuna River** 47.06 26 P P 02 53 38.5 +0.7
baz=257,SNR=21
SVW2 **Sparrevohn** 47.11 36 P P 02 53 39.5 +1.3
SVW2 **Sparrevohn** 47.11 36 P P 02 53 37.7 -0.5
SVW2 IAmb IAmb 02 53 45.9
comp=Z,26nm,1.0s
MMRI **Maumere** 47.14 206 P P 02 53 37.2 -1.7
comp=Z,59nm,0.7s
H19K **Roundabout Mou** 47.16 30 IAmb IAmb 02 54 04.0
comp=Z,47nm,1.1s
H19K **Roundabout Mou** 47.16 30 P P 02 53 38.9 +0.3
baz=262,SNR=22
E19K **Redstone River** 47.17 28 IAmb IAmb 02 53 54.0
comp=Z,32nm,0.9s
E19K **Redstone River** 47.17 28 P P 02 53 38.9 +0.3
baz=259,SNR=34
P18K **Big Mountain,** 47.22 39 IAmb IAmb 02 53 42.2
comp=Z,38nm,1.1s
P18K **Big Mountain,** 47.22 39 P P 02 53 39.8 +0.7
baz=269,SNR=16
O18K **Koktuh Hills** 47.24 38 P P 02 53 39.7 +0.4
O18K IAmb IAmb 02 53 44.8
comp=Z,32nm,1.1s
O18K **Koktuh Hills** 47.24 38 P P 02 53 39.2 -0.1
baz=268,SNR=12
J19K **Poorman** 47.33 32 P P 02 53 39.3 -0.6
baz=264,SNR=16
PDGK **Podgornoye** 47.38 299 P P 02 53 40.9 +0.1
SHLS **Shalkode** 47.44 299 *e* P P 02 53 40.0 -1.2
SHLS pmax pmax
comp=Z,16nm,1.1s
SHLS **Shalkode** 47.44 299 *e* P P 02 53 40.0 -1.2
comp=Z,16nm,1.1s,baz=299
SOEI **Soe** 47.50 203 P P 02 53 40.7 -1.2
SOEI **Soe** 47.50 203 P P 02 53 40.4 -1.5
comp=Z,137nm,0.9s
L19K **White Mountain** 47.52 35 IAmb IAmb 02 53 46.7
comp=Z,24nm,1.2s
L19K **White Mountain** 47.52 35 P P 02 53 42.0 +0.5
baz=266
N19K **Bonanza Creek** 47.63 37 P P 02 53 42.6 +0.2
baz=268
D20K **Etivluk River** 47.64 26 P P 02 53 43.0 +0.7
baz=259
F20K **Avaraart Lake** 47.68 28 P P 02 53 42.9 +0.3
baz=261,SNR=8.7
E20K **Nigu River** 47.71 27 P P 02 53 43.1 +0.2
baz=260
M19K **Big River Lodg** 47.72 35 P P 02 53 42.9 -0.1
baz=267
B20K **Meade River** 47.72 24 IAmb IAmb 02 53 48.3
comp=Z,50nm,1.1s
B20K **Meade River** 47.72 24 P P 02 53 43.0 +0.2
baz=257
UZB **Uzynbulak** 47.76 299 *e* P P 02 53 44.5 +0.8
UZB pmax pmax
comp=Z,14nm,1.1s
UZB **Uzynbulak** 47.76 299 *e* P P 02 53 44.6 +0.8
comp=Z,14nm,1.1s,baz=299
SII **Sitkinak Islan** 47.79 43 P P 02 53 42.6 -1.0
baz=272
H20K **Anotleneega Mo** 47.81 30 P P 02 53 43.4 -0.2
baz=263,SNR=13
TDK **Taldyqorghan** 47.81 302 *e* P P 02 53 45.0 +1.0
TDK pmax pmax
comp=Z,13nm,0.7s
TDK **Taldyqorghan** 47.81 302 *e* P P 02 53 45.0 +1.0
comp=Z,13nm,0.7s,baz=302
I20K **Naaghedeneel** 47.90 31 IAmb IAmb 02 53 51.7
comp=Z,38nm,1.1s
I20K **Naaghedeneel** 47.90 31 P P 02 53 44.4 +0.1
baz=264
K20K **Telida** 47.96 33 IAmb IAmb 02 54 00.5
comp=Z,17nm,0.9s
K20K **Telida** 47.96 33 P P 02 53 45.2 +0.4
baz=266
J20K **Nowinta River** 47.99 32 IAmb IAmb 02 53 50.3
comp=Z,18nm,1.0s
J20K **Nowinta River** 47.99 32 P P 02 53 45.2 +0.2
baz=265,SNR=14
L20K **Farewell, AK** 47.99 35 P P 02 53 44.8 -0.3
baz=267
IPM **Ipoh** 47.99 240 IAmb IAmb 02 53 46.5
comp=Z,16nm,0.7s
Q19K **Cape Douglas,** 48.03 39 P P 02 53 45.5 0.0
Q19K IAmb IAmb 02 54 10.9
comp=Z,26nm,0.9s
Q19K **Cape Douglas,** 48.03 39 P P 02 53 44.9 -0.6
baz=270
BATI **Baumata** 48.12 203 LR LR 03 11 37.9
comp=Z,274nm,21.7s,baz=57,slow=33
BATI **Baumata** 48.12 203 P P 02 53 46.1 -0.4
comp=Z,180nm,0.8s
ZHN **Zhinishke** 48.17 299 *e* P P 02 53 47.6 +0.7
ZHN **Zhinishke** 48.17 299 *e* P P 02 53 47.6 +0.7
baz=299
A21K **Barrow** 48.20 22 P P 02 53 46.8 +0.3
baz=256,SNR=19
SATY **Saty** 48.22 299 *e* P P 02 53 48.3 +1.0
SATY pmax pmax
comp=Z,16nm,1.1s
SATY **Saty** 48.22 299 *e* P P 02 53 48.3 +1.0
comp=Z,16nm,1.1s,baz=299
P19K **Oil Pt** 48.24 38 IAmb IAmb 02 54 19.6
comp=Z,20nm,0.8s
P19K **Oil Pt** 48.24 38 P P 02 53 47.1 +0.1
baz=270
OHAK **Old Harbor** 48.26 42 P P 02 53 48.2 +1.1
OHAK **Old Harbor** 48.26 42 P P 02 53 46.8 -0.4
baz=272
M20K **Styx River** 48.32 35 IAmb IAmb 02 53 52.6
comp=Z,56nm,1.9s
M20K **Styx River** 48.32 35 P P 02 53 47.0 -0.7
baz=268
KDU **Kakadu** 48.37 191 P P 02 53 49.0 +0.6
C21K **Knifeblade Rid** 48.37 26 P P 02 53 48.2 +0.3
baz=260
ARXS **Arharly** 48.38 301 *e* P P 02 53 48.7 +0.3
G21K **Allakaket** 48.48 29 P P 02 53 49.0 +0.2
baz=264
B21K **Ikpikpuk River** 48.51 25 IAmb IAmb 02 53 54.2
comp=Z,32nm,0.8s
B21K **Ikpikpuk River** 48.51 25 P P 02 53 48.8 -0.1
baz=260
O20K **Slope Mountain** 48.54 38 P P 02 53 48.3 -1.1
baz=270
E21K **Killik River** 48.55 27 P P 02 53 48.5 -0.8
baz=262
F21K **Alatna River** 48.57 28 P P 02 53 49.1 -0.4
baz=263
KDAK **Kodiak Island** 48.61 41 P P 02 53 49.3 -0.6
KDAK IAmb IAmb 02 53 52.0
comp=Z,55nm,1.2s
KDAK **Kodiak Island** 48.61 41 *d i* P P 02 53 50.6 +0.7
KDAK pmax pmax
comp=Z,71nm,1.3s
KDAK **Kodiak Island** 48.61 41 P P 02 53 49.6 -0.3
baz=272
KDAK **Kodiak Island** 48.61 41 P P 02 53 50.6 +0.7
A22K **Sinclair Lake** 48.65 23 P P 02 53 50.2 +0.2
baz=258
H21K **Melozitna Rive** 48.68 30 IAmb IAmb 02 53 57.5
comp=Z,23nm,1.1s
H21K **Melozitna Rive** 48.68 30 P P 02 53 50.4 0.0
baz=265
Q20K **Shuyak Island** 48.69 40 P P 02 53 50.3 -0.1
baz=272
SYI **Shuyak Island** 48.69 40 IAmb IAmb 02 53 52.3
comp=Z,40nm,1.1s
N20K **Mount Spurr** 48.75 36 P P 02 53 50.8 -0.2
baz=270,SNR=25
CHUM **Lake Minchumin** 48.77 33 P P 02 53 51.2 +0.2
baz=267,SNR=7.5
PPLA **Purkeypile** 48.79 34 P P 02 53 51.4 +0.1
baz=269,SNR=12
CAST **Castle Rocks** 48.85 33 IAmb IAmb 02 53 56.3
comp=Z,55nm,1.8s
CAST **Castle Rocks** 48.85 33 P P 02 53 52.2 +0.4
baz=268,SNR=12
COEN **Coen** 48.98 177 P P 02 53 54.8 +1.7
I21K **Tanana** 48.99 31 P P 02 53 53.9 +1.3
baz=266,SNR=16
B22K **Teshekpuk Lake** 49.04 24 P P 02 53 54.3 +1.4
baz=260
CHKK **Chushkaly** 49.05 301 *e* P P 02 53 54.2 +0.7
CHKK **Chushkaly** 49.05 301 *e* P P 02 53 54.2 +0.7
baz=300
PLAI **Plampang** 49.06 211 P P 02 53 50.9 -2.8
comp=Z,41nm,0.9s
SKT **Skwentna** 49.08 35 IAmb IAmb 02 53 57.9
comp=Z,36nm,1.6s
SKT **Skwentna** 49.08 35 P P 02 53 54.0 +0.5
baz=270,SNR=9.2
D22K **Ayikyak River** 49.08 26 IAmb IAmb 02 53 59.9
comp=Z,45nm,1.1s
D22K **Ayikyak River** 49.08 26 P P 02 53 54.2 +0.9
baz=262
MDOK **Medeo** 49.16 300 *e* P P 02 53 55.4 +0.9
MDOK **Medeo** 49.16 300 *e* P P 02 53 55.5 +0.9
baz=300
DSRI **Dabo** 49.22 232 P P 02 53 51.6 -3.5
comp=Z,23nm,0.6s,comp=Z,5µm
KMMI **Kalianget** 49.23 217 P P 02 53 52.8 -2.3
comp=Z,68nm,0.8s
CAPN **Captain Cook N** 49.26 37 P P 02 53 55.7 +0.9
baz=271
H22K **Ishtalitna Cre** 49.29 30 P P 02 53 56.4 +1.4
baz=266
E22K **Anaktuvuk Pass** 49.31 27 IAmb IAmb 02 54 00.2
comp=Z,27nm,0.9s
E22K **Anaktuvuk Pass** 49.31 27 P P 02 53 56.0 +0.8
baz=264
TWSI **Taliwang, Sumb** 49.36 212 P P 02 53 53.5 -2.6
comp=Z,43nm,0.8s
BPAW **Bear Paw Mtn.** 49.37 32 P P 02 53 54.8 -0.8
baz=268,SNR=9.6
KTH **Kantishna Hill** 49.38 33 IAmb IAmb 02 54 33.8
comp=Z,16nm,0.9s
SUA **Susitna One** 49.45 36 P P 02 53 56.6 +0.2
SUA IAmb IAmb 02 54 03.3
comp=Z,17nm,0.9s
SUA **Susitna One** 49.45 36 P P 02 53 55.7 -0.7
baz=271
BRSE **Bradley Lake S** 49.50 38 P P 02 53 56.8 +0.1
baz=272
MLY **Manley** 49.51 31 IAmb IAmb 02 54 03.9
comp=Z,19nm,1.0s
MLY **Manley** 49.51 31 P P 02 53 56.7 0.0
baz=268,SNR=19
SRBI **Singaraja** 49.54 215 P P 02 53 56.0 -1.4
comp=Z,56nm,0.7s
PPBI **Pangkal Pinang** 49.54 229 P P 02 53 55.8 -1.7
comp=Z,24nm,0.8s
TRF **Thorofare Moun** 49.66 33 P P 02 53 57.8 -0.3
baz=269
CUT **Chulitna** 49.67 35 P P 02 53 58.3 +0.4
baz=270

ABJI	**Asem Bagus**	49.75	216	P		**P**	02 53 56.9	-2.1	
	comp=Z,25nm,1.0s								
M22K	**Willow**	49.75	36	IAmb		IAmb	02 54 21.6		
	comp=Z,24nm,0.9s								
M22K	**Willow**	49.75	36	P		**P**	02 53 58.2	-0.3	
	baz=271								
D23K	**Nanushuk River**	49.81	26	P		**P**	02 53 57.7	-1.2	
	baz=264								
COLD	**Coldfoot**	49.84	28	P		**P**	02 53 58.8	-0.4	
	baz=266,SNR=8.5								
GRJI	**Gresik**	49.85	218	P		**P**	02 53 57.8	-2.0	
	comp=Z,132nm,0.7s								
G23K	**Bananza Creek**	49.88	29	P		**P**	02 53 59.0	-0.6	
	baz=267,SNR=9.8								
C23K	**Itkillik River**	49.92	25	IAmb		IAmb	02 54 08.6		
	comp=Z,46nm,1.1s								
C23K	**Itkillik River**	49.92	25	P		**P**	02 53 59.9	+0.1	
	baz=264								
RC01	**Rabbit Creek A**	49.95	36	P		**P**	02 53 58.7	-1.3	
	baz=272								
ULHL	**Ulahol**	49.96	299	P		**P**	02 54 01.7	+1.0	
	SNR=11								
O22K	**Cooper Landing**	49.98	37	P		**P**	02 53 59.4	-0.9	
	baz=272								
I23K	**Minto, Yukon-K**	50.09	31	IAmb		IAmb	02 55 23.1		
	comp=Z,13nm,0.7s								
I23K	**Minto, Yukon-K**	50.09	31	P		**P**	02 54 00.9	-0.2	
	baz=269,SNR=11								
BOOM	**Boomskoye usch**	50.12	299	IAmb		IAmb	02 54 34.7		
	comp=Z,26nm,1.1s								
E23K	**Chandalar**	50.12	27	P		**P**	02 54 01.1	-0.3	
	baz=266								
SEW	**Seward**	50.13	38	P		**P**	02 54 01.5	+0.1	
	baz=273								
TOLK	**Toolik Lake Re**	50.18	27	IAmb		IAmb	02 54 06.8		
	comp=Z,17nm,0.9s								
TOLK	**Toolik Lake Re**	50.18	27	P		**P**	02 54 02.0	+0.2	
	baz=266,SNR=19								
IGBI	**Denpasar**	50.21	214	P		**P**	02 54 00.5	-2.0	
	comp=Z,40nm,0.7s								
NEA2	**Nenana**	50.21	32	IAmb		IAmb	02 54 05.1		
	comp=Z,42nm,1.2s								
NEA2	**Nenana**	50.21	32	P		**P**	02 54 02.4	+0.4	
	baz=270,SNR=21								
PMR	**Palmer**	50.22	36	P		**P**	02 54 02.2	+0.1	
PMR				IAmb		IAmb	02 54 04.1		
	comp=Z,24nm,1.2s								
PMR	**Palmer**	50.22	36	P		**P**	02 54 02.2	+0.1	
PMR				pmax		pmax			
	comp=Z,25nm,1.2s								
PMR	**Palmer**	50.22	36	P		**P**	02 54 02.3	+0.1	
	baz=272,SNR=10.0								
TKM2	**Tokmak 2**	50.25	300	P		**P**	02 54 04.5	+1.6	
	SNR=16								
TKM2	**Tokmak 2**	50.25	300	*i* P		**P**	02 54 04.1	+1.2	
TKM2				pmax		pmax			
	comp=Z,29nm,0.7s								
MCK	**McKinley**	50.27	33	P		**P**	02 54 02.4	-0.1	
	baz=270,SNR=10								
RND	**Reindeer**	50.31	33	IAmb		IAmb	02 54 08.4		
	comp=Z,17nm,0.9s								
GHO	**Glory Hole Cre**	50.31	35	IAmb		IAmb	02 54 07.4		
	comp=Z,32nm,1.0s								
JAGI	**Jajag, Banyuwa**	50.37	216	IAmb		IAmb	02 54 03.1		
	comp=Z,17nm,0.6s								
JAGI	**Jajag, Banyuwa**	50.37	216	P		**P**	02 54 01.1	-2.7	
	comp=Z,21nm,0.7s								
WAT1	**Susitna Watana**	50.46	34	P		**P**	02 54 04.0	+0.1	
	baz=272								
D24K	**Happy Valley**	50.49	26	IAmb		IAmb	02 54 09.1		
	comp=Z,33nm,1.1s								
D24K	**Happy Valley**	50.49	26	P		**P**	02 54 04.1	+0.1	
	baz=266								
GMJI	**Gumukmas**	50.54	216	P		**P**	02 54 02.7	-2.3	
	comp=Z,16nm,0.8s								
E24K	**Your Creek**	50.55	27	P		**P**	02 54 04.4	-0.2	
	baz=267								
KNK	**Knik Glacier**	50.55	36	IAmb		IAmb	02 54 31.7		
	comp=Z,17nm,0.8s								
KNK	**Knik Glacier**	50.55	36	P		**P**	02 54 04.3	-0.3	
	baz=273,SNR=8.0								
MDM	**Murphy Dome**	50.57	31	IAmb		IAmb	02 54 11.7		
	comp=Z,36nm,0.8s								
C24K	**Franklin Bluff**	50.57	25	P		**P**	02 54 03.9	-0.7	
	baz=266								
SML	**Sawmill**	50.59	35	IAmb		IAmb	02 54 32.3		
	comp=Z,20nm,0.8s								
SML	**Sawmill**	50.59	35	P		**P**	02 54 05.1	0.0	
	baz=272,SNR=13								
WRH	**Wood River Hil**	50.63	32	IAmb		IAmb	02 55 24.0		
	comp=Z,17nm,0.8s								
BRZS	**Berezniki**	50.70	309	*e*P		**P**	02 54 06.5	+0.5	
BRZS				pmax		pmax			
	comp=Z,16nm,1.3s								
BRZS	**Berezniki**	50.70	309	*e*P		**P**	02 54 06.5	+0.5	
	comp=Z,16nm,1.3s,baz=309								
H24K	**Noodor Dome**	50.72	30	P		**P**	02 54 05.4	-0.5	
	baz=270,SNR=19								
COLA	**College**	50.73	31	P		**P**	02 54 06.8	+0.9	
COLA				IAmb		IAmb	02 54 15.2		
	comp=Z,17nm,0.8s								
COLA	**College**	50.73	31	⇓P		**P**	02 54 07.7	+1.8	
COLA	**College**	50.73	31	P		**P**	02 54 05.7	-0.2	
	baz=270								
COLA	**College**	50.73	31	P		**P**	02 54 07.7	+1.8	
F24K	**Squaw Lake**	50.75	28	P		**P**	02 54 06.9	+0.8	
	baz=268,SNR=7.4								
NGJI	**Ngawi**	50.76	219	P		**P**	02 54 05.0	-1.7	
	comp=Z,40nm,1.6s								
KBK	**Karagaybulak**	50.78	299	P		**P**	02 54 08.3	+1.5	
	SNR=9.9								
SGDS	**Sogindy**	50.80	301	*e*P		**P**	02 54 07.9	+1.0	
SGDS	**Sogindy**	50.80	301	*e*P		**P**	02 54 08.0	+1.0	
	baz=300								
WAT6	**Susitna Watana**	50.84	34	P		**P**	02 54 06.9	-0.1	
	baz=272,SNR=9.0								
M23K	**Glacier View**	50.88	35	P		**P**	02 54 07.2	+0.1	
	baz=273								
G24K	**Hadweenzic Riv**	50.90	29	IAmb		IAmb	02 54 12.8		
	comp=Z,21nm,1.1s								
G24K	**Hadweenzic Riv**	50.90	29	P		**P**	02 54 08.0	+0.8	
	baz=269								
KSH	**Kashi**	50.90	295	P		P	02 54 13.1	+5.4	
KSH				pP		sP	02 54 22.5	+2.7	
KSH				pmax		pmax			
	comp=Z,16nm,1.0s								
KSH				LR		LR			
	comp=Z,500nm,16.3s								
KSH				LR		LR			
	comp=Z,560nm,12.9s								
KSH				LR		LR			
	comp=Z,550nm,16.2s								
POKR	**Poker Plat Res**	50.91	31	IAmb		IAmb	02 54 14.5		
	comp=Z,40nm,0.8s								
POKR	**Poker Plat Res**	50.91	31	P		**P**	02 54 06.4	-0.9	
	baz=271,SNR=21								
USP	**Ospenovka**	50.94	300	P		**P**	02 54 09.7	+1.8	
	SNR=12								
DHY	**Denali Highway**	50.98	34	IAmb		IAmb	02 54 11.6		
	comp=Z,36nm,1.7s								
DHY	**Denali Highway**	50.98	34	P		**P**	02 54 07.9	-0.2	
	baz=272,SNR=8.0								
SMRI	**Semarang**	51.03	221	P		**P**	02 54 06.0	-2.8	
	comp=Z,57nm,0.7s								
SCM	**Sheep Creek Mo**	51.07	35	IAmb		IAmb	02 54 13.3		
	comp=Z,25nm,1.0s								
SCM	**Sheep Creek Mo**	51.07	35	P		**P**	02 54 08.1	-0.5	
	baz=273,SNR=12								
AAK	**Ala-Archa**	51.11	300	P		**P**	02 54 10.0	+0.6	
	SNR=10.0								
AAK	**Ala-Archa**	51.11	300	P		**P**	02 54 09.2	-0.2	
AAK	**Ala-Archa**	51.11	300	*de*P		**P**	02 54 10.7	+1.4	
AAK				pmax		pmax			
	comp=Z,6.0nm,0.8s								
AAK	**Ala-Archa**	51.11	300	LR		LR	03 17 10.5		
	comp=Z,567nm,19.1s,baz=75,slow=38								
AAK	**Ala-Archa**	51.11	300	P		**P**	02 54 11.6	+2.2	
HDA	**Harding Lake**	51.13	32	P		**P**	02 54 08.2	-0.8	
	baz=272,SNR=15								
PWJI	**Pagerwojo**	51.14	218	P		**P**	02 54 07.3	-2.3	
	comp=Z,192nm,0.7s,comp=Z,2μm								
IL31		51.15	32	IAmb		IAmb	02 54 14.5		
	comp=Z,17nm,0.8s								
ILAR	**Eielson Array**	51.15	32	P		**P**	02 54 08.9	-0.2	
ILAR	**Eielson Array**	51.15	32	P		**P**	02 54 09.8	+0.7	
	comp=Z,12nm,0.8s,baz=269,slow=6.1,SNR=65								
ILAR				PcP		**PcP**	02 55 24.0	-0.2	
	comp=Z,2.6nm,0.6s,baz=266,slow=3.6,SNR=4.3								
ILAR				LR		LR	03 18 42.2		
	comp=Z,121nm,19.8s,baz=264,slow=39								
P23K	**Montague Islan**	51.16	38	P		**P**	02 54 09.4	+0.2	
	comp=Z,12nm,0.8s								
UCH	**Uchtor**	51.20	299	P		**P**	02 54 12.1	+1.7	
	baz=275,SNR=5.3								
OTUK	**Ortayu**	51.26	307	P		**P**	02 54 09.8	-0.4	
D25K	**Kavik River**	51.37	26	IAmb		IAmb	02 54 25.6		
	comp=Z,21nm,0.9s								
D25K	**Kavik River**	51.37	26	P		**P**	02 54 10.4	-0.3	
	baz=268,SNR=14								
G25K	**Bearman Lake**	51.44	29	P		**P**	02 54 11.4	+0.2	
	baz=270,SNR=15								
H25L	**Birch Creek**	51.56	30	P		**P**	02 54 12.2	+0.1	
	baz=271,SNR=12								
BVA0	**Borovoye Array**	51.58	313	*i* P		**P**	02 54 12.5	0.0	
BVAR	**Borovoye Array**	51.58	313	P		**P**	02 54 13.2	+0.8	
	comp=Z,6.9nm,0.8s,baz=79,slow=7.7,SNR=16								
BVAR				LR		LR	03 17 03.5		
	comp=Z,247nm,20.3s,baz=77,slow=37								
	comp=Z,6.9nm,0.8s								
M24K	**Tolsona, Glenn**	51.59	35	IAmb		IAmb	02 54 56.4		
	comp=Z,20nm,0.9s								
M24K	**Tolsona, Glenn**	51.59	35	P		**P**	02 54 12.1	-0.5	
	baz=274								
EKS2	**Erkin-Say**	51.61	300	P		**P**	02 54 14.0	+0.9	
	SNR=6.2								
F25K	**Christian Rive**	51.62	28	P		**P**	02 54 12.6	0.0	
	baz=270								
BRVK	**Borovoye**	51.64	313	P		**P**	02 54 12.8	-0.1	
BRVK				IAmb		IAmb	02 54 34.0		
	comp=Z,19nm,0.8s								
BRVK	**Borovoye**	51.64	313	*de*P		**P**	02 54 13.0	+0.1	
BRVK				pmax		pmax			
	comp=Z,14nm,1.1s								
BRVK	**Borovoye**	51.64	313	P		**P**	02 54 14.3	+1.4	
E25K	**Arctic Village**	51.64	27	P		**P**	02 54 12.9	+0.1	
	baz=270,SNR=18								
K24K	**Donnelly Dome**	51.67	33	P		**P**	02 54 13.1	+0.1	
	baz=273,SNR=8.2								
PRP	**Porcupine Dome**	51.70	31	P		**P**	02 54 13.8	+0.4	
	baz=272,SNR=10								
UGM	**Wanagama**	51.71	220	P		**P**	02 54 13.3	-0.6	
UGM	**Wanagama**	51.71	220	P		**P**	02 54 11.6	-2.3	
	comp=Z,103nm,0.8s								
Q23K	**Mideleton Isla**	51.75	38	P		**P**	02 54 14.1	+0.6	
	baz=276								
KLU	**Klutina**	51.76	36	P		**P**	02 54 13.0	-0.8	
	baz=275,SNR=8.9								
FYU	**Fort Yukon**	51.79	29	IAmb		IAmb	02 54 19.6		
	comp=Z,50nm,1.2s								
J25K	**Salcha River,**	51.80	32	P		**P**	02 54 13.5	-0.6	
	baz=273								
PAX	**Paxson**	51.86	34	P		**P**	02 54 14.3	-0.2	
	baz=274,SNR=7.4								
C26K	**Camden Bay**	51.90	25	P		**P**	02 54 14.7	+0.1	
	baz=269								
EYAK	**Cordova Ski Ar**	51.93	37	P		**P**	02 54 15.3	+0.3	
	baz=276								
KNRA	**Kununurra**	51.98	195	P		**P**	02 54 16.8	+1.1	
BMAR	**Burnt Mountain**	52.03	28	P		**P**	02 54 17.2	+1.5	
HARP	**HAARP**	52.05	35	P		**P**	02 54 16.3	+0.5	
	baz=275								
KPJI	**Karang Pucung**	52.08	222	P		**P**	02 54 15.0	-1.6	
	comp=Z,87nm,0.8s								
F26K	**Shenjek River**	52.19	28	P		**P**	02 54 16.9	+0.1	
	baz=272								
G26K	**Porcupine Rive**	52.35	29	P		**P**	02 54 18.3	+0.3	
	baz=272,SNR=22								
N25K	**Chitina, Valde**	52.38	36	P		**P**	02 54 18.6	+0.2	
N25K				IAmb		IAmb	02 54 22.9		
	comp=Z,66nm,2.0s								
N25K	**Chitina, Valde**	52.38	36	P		**P**	02 54 18.6	+0.2	
	baz=276								
LEM	**Lembang**	52.40	224	LR		LR	03 17 49.4		
	comp=Z,187nm,18.8s,baz=44,slow=38								
LEM	**Lembang**	52.40	224	P		**P**	02 54 17.9	-1.2	
	comp=Z,136nm,0.8s,comp=Z,2μm								
BMRM	**Bremner River**	52.45	36	P		**P**	02 54 19.3	+0.4	
	baz=276,SNR=14								
RAGM	**Ragged Mountai**	52.48	37	IAmb		IAmb	02 54 22.5		
	comp=Z,41nm,1.4s								
ARSB	**Arslanbob**	52.56	298	IAmb		IAmb	02 54 42.7		
	comp=Z,39nm,1.7s								
J26L	**Joseph Creek**	52.59	32	P		**P**	02 54 20.0	0.0	
	baz=274								
MENT	**Mentasta**	52.66	34	IAmb		IAmb	02 54 25.6		
	comp=Z,20nm,0.9s								
GSI	**Gunungsitoli**	52.66	240	IAmb		IAmb	02 54 24.0		
	comp=Z,54nm,1.0s								
GSI	**Gunungsitoli**	52.66	240	P		**P**	02 54 18.3	-2.7	
	comp=Z,62nm,0.9s								
KAIM	**Kayak Island**	52.66	38	P		**P**	02 54 20.5	+0.1	
	baz=277								
I26K	**Coal Creek Min**	52.70	31	P		**P**	02 54 20.6	0.0	
	baz=274								
GLB	**Gilahina Butte**	52.78	36	IAmb		IAmb	02 54 24.5		
	comp=Z,50nm,1.8s								
L26K	**Log Cabin Wild**	52.82	34	P		**P**	02 54 21.2	-0.4	
L26K				IAmb		IAmb	02 54 24.9		
	comp=Z,22nm,0.9s								
L26K	**Log Cabin Wild**	52.82	34	P		**P**	02 54 22.5	+0.9	
	baz,SNR=10								
BERG	**Berg Lake**	52.96	37	IAmb		IAmb	02 54 25.8		
	comp=Z,43nm,1.2s								
M26K	**Nabesna, AK**	53.05	34	IAmb		IAmb	02 54 26.7		
	comp=Z,56nm,1.9s								
M26K	**Nabesna, AK**	53.05	34	P		**P**	02 54 23.3	0.0	
	baz=277,SNR=7.6								
E27K	**Coleen River**	53.13	27	IAmb		IAmb	02 54 29.3		
	comp=Z,17nm,0.8s								
E27K	**Coleen River**	53.13	27	P		**P**	02 54 24.8	+1.0	
	baz=274,SNR=23								
MCARA	**McCarthy VSAT**	53.16	36	IAmb		IAmb	02 54 48.1		
	comp=Z,24nm,1.0s								
MCARA	**McCarthy VSAT**	53.16	36	P		**P**	02 54 25.0	+0.9	
	baz=277,SNR=14								
G27K	**Doyon Strip**	53.20	29	P		**P**	02 54 24.1	-0.3	
	baz=274								
BGLC	**Bering Glacier**	53.20	37	P		**P**	02 54 24.6	+0.3	
	baz=278								
DZA	**Taraz**	53.28	301	*e*P		**P**	02 54 26.2	+0.9	
DZA	**Taraz**	53.28	301	*e*P		**P**	02 54 26.2	+0.9	
	baz=301								
K27K	**Chicken**	53.28	32	P		**P**	02 54 25.7	+0.7	
	baz=276								
D27M	**Malcolm River**	53.30	26	P		**P**	02 54 25.2	+0.2	
	baz=273								
H27K	**Steamboat Moun**	53.30	30	P		**P**	02 54 25.2	+0.2	
	baz=275,SNR=30								
I27K	**Kandik River**	53.32	30	P		**P**	02 54 25.2	-0.1	
	baz=275,SNR=9.7								
WAX	**Waxell Ridge**	53.37	37	IAmb		IAmb	02 55 35.8		
	comp=Z,15nm,0.6s								
SNH	**Sunshine Point**	53.41	37	IAmb		IAmb	02 55 36.7		
	comp=Z,30nm,1.0s								
SISI	**Saibi**	53.49	236	P		**P**	02 54 25.1	-1.9	
	comp=Z,44nm,0.7s								
L27K	**Beaver Creek,**	53.50	34	P		**P**	02 54 26.1	-0.6	
	baz=277								
BCAR	**Beaver Creek A**	53.52	34	P		**P**	02 54 27.1	+0.4	
M27K	**Edge Creek, AK**	53.57	34	P		**P**	02 54 27.5	+0.2	
	baz=278								
EGAK	**Eagle**	53.60	31	P		**P**	02 54 27.0	-0.2	
	baz=276,SNR=9.0								
KK31	**Karatay Array**	53.79	301	IAmb		IAmb	02 54 54.2		
KKAR	**Karatay Array**	53.79	301	IAmb		IAmb	02 54 54.2		
	comp=Z,37nm,1.1s								
KK31	**Karatay Array**	53.79	301	*i* P		**P**	02 54 29.8	+0.8	
KKAR	**Karatay Array**	53.79	301	P		**P**	02 54 29.8	+0.8	
	comp=Z,37nm,1.1s								
F28M	**Old Crow**	53.82	28	P		**P**	02 54 30.3	+1.4	
F28M				IAmb		IAmb	02 54 32.5		
	comp=Z,33nm,1.3s								
F28M	**Old Crow**	53.82	28	P		**P**	02 54 28.6	-0.2	
	baz=275,SNR=18								
MESA	**MESA**	53.85	37	P		**P**	02 54 29.1	-0.4	
	baz=279								
BARN	**Barnard Glacie**	53.86	36	IAmb		IAmb	02 55 37.9		
	comp=Z,28nm,1.4s								
E28M	**Babbage River**	53.86	27	IAmb		IAmb	02 54 32.6		
	comp=Z,25nm,1.3s								
E28M	**Babbage River**	53.86	27	P		**P**	02 54 29.7	+0.6	
	baz=275								
DRK	**Karamyk**	53.98	297	IAmb		IAmb	02 54 48.7		
	comp=Z,29nm,0.9s								
CTG	**Chitna Glacier**	54.03	36	P		**P**	02 54 30.9	+0.3	
	baz=279,SNR=8.1								
I28M	**Miner Creek**	54.03	30	P		**P**	02 54 29.7	-0.8	
	baz=277,SNR=17								
BVCY	**Beaver Creek**	54.03	34	P		**P**	02 54 30.5	0.0	
	baz=278,SNR=9.2								
D28M	**Stokes Point**	54.08	26	P		**P**	02 54 30.7	+0.1	
	baz=275								
BRLS	**Borolday**	54.29	301	*e*P		**P**	02 54 34.7	+2.1	
BRLS				pmax		pmax			
	comp=Z,17nm,1.4s								
BRLS	**Borolday**	54.29	301	*e*P		**P**	02 54 34.8	+2.1	
	comp=Z,17nm,1.4s,baz=301								
YUK3	**Moose Creek**	54.32	35	P		**P**	02 54 33.4	+0.6	
	baz=279,SNR=11								
IUG	**Iuzhnay**	54.42	300	*e*P		**P**	02 54 34.1	+0.4	
IUG				pmax		pmax			
	comp=Z,18nm,0.7s								
IUG	**Iuzhnay**	54.42	300	*e*P		**P**	02 54 34.1	+0.4	
	comp=Z,18nm,0.7s,baz=300								
DAWY	**Dawson**	54.45	32	P		**P**	02 54 34.0	+0.5	
DAWY	**Dawson**	54.45	32	P		**P**	02 54 34.4	+0.8	
	baz=278,SNR=8.5								
E29M	**Blow River**	54.48	27	IAmb		IAmb	02 54 37.2		
	comp=Z,25nm,1.1s								
E29M	**Blow River**	54.48	27	P		**P**	02 54 34.6	+1.0	
	baz=277,SNR=28								
H29M	**Whitestone**	54.57	29	IAmb		IAmb	02 54 49.6		
	comp=Z,25nm,1.2s								
H29M	**Whitestone**	54.57	29	P		**P**	02 54 34.6	+0.3	
	baz=278								
G29M	**Pine Creek**	54.62	29	P		**P**	02 54 34.8	+0.1	
	baz=278,SNR=26								
CHM	**Chimkent**	54.67	300	*e*P		**P**	02 54 36.1	+0.7	
CHM	**Chimkent**	54.67	300	*e*P		**P**	02 54 36.2	+0.7	
	baz=300								
YUK8	**Steele Glacier**	54.73	36	P		**P**	02 54 37.1	+1.3	
	baz=280								
J29N	**Klondike Camp**	54.90	32	P		**P**	02 54 37.9	+1.1	
J29N	**Klondike Camp**	54.90	32	P		**P**	02 54 37.4	+0.6	
	baz=279								
NIL	**Nilore**	54.93	289	P		**P**	02 54 36.3	-1.2	
NIL				IAmb		IAmb	02 54 41.3		
	comp=Z,34nm,0.8s								
NIL	**Nilore**	54.93	289	P		**P**	02 54 36.3	-1.2	
NIL				pmax		pmax			
	comp=Z,34nm,0.8s								
FITZ	**Fitzroy Crossi**	55.04	198	P		**P**	02 54 37.6	-0.6	
FITZ	**Fitzroy Crossi**	55.04	198	P		**P**	02 54 38.1	-0.1	
M29M	**Somme Creek**	55.13	34	P		**P**	02 54 40.1	+1.6	
	baz=280,SNR=19								
L29M	**L29M**	55.16	33	IAmb		IAmb	02 54 42.6		
	comp=Z,32nm,0.9s								
L29M	**L29M**	55.16	33	P		**P**	02 54 40.3	+1.6	
	baz=280,SNR=20								
EPYK	**Eagle Plains**	55.21	29	P		**P**	02 54 40.3	+1.3	
	baz=279,SNR=32								
PNL	**Peninsula**	55.21	37	P		**P**	02 54 39.6	+0.6	
	baz=282								
GAR	**Garm**	55.23	296	IAmb		IAmb	02 55 10.0		
	comp=Z,34nm,0.8s								
YUK4	**Talbot Arm**	55.25	35	P		**P**	02 54 41.0	+1.4	
	baz=281,SNR=12								
WRAB	**Tennant Creek**	55.25	188	P		**P**	02 54 39.1	-0.6	
WRAB	**Tennant Creek**	55.25	188	*c* P		**P**	02 54 39.6	-0.1	
WRAB				pmax		pmax			
	comp=Z,63nm,0.8s								
CTA	**Charters Tower**	55.26	174	LR		LR	03 17 20.3		
	comp=Z,150nm,21.8s,baz=180,slow=35								
CTAO	**Charters Tower**	55.26	174	P		**P**	02 54 41.0	+1.3	
CTAO	**Charters Tower**	55.26	174	P		**P**	02 54 40.2	+0.5	
CTAO	**Charters Tower**	55.26	174	P		**P**	02 54 40.2	+0.5	
CTAO				pmax		pmax			
	comp=Z,13nm,0.8s								
WRA	**Warramunga Arr**	55.26	188	*i* P		**P**	02 54 37.5	-2.3	
WRA				pmax		pmax			
	comp=Z,101nm,0.6s								
WRA	**Warramunga Arr**	55.26	188	P		**P**	02 54 39.4	-0.4	
	comp=Z,100nm,0.7s,baz=2.3,slow=7.5,SNR=126								
K29M	**Barlow Dome**	55.30	32	P		**P**	02 54 42.0	+2.2	
	baz=280,SNR=12								
G30M	**tAoh Zraii Nji**	55.31	28	IAmb		IAmb	02 54 44.6		
	comp=Z,39nm,1.0s								
G30M	**tAoh Zraii Nji**	55.31	28	P		**P**	02 54 40.8	+1.1	
	baz=279,SNR=34								
F30M	**Barrier River**	55.37	28	P		**P**	02 54 40.9	+0.8	
	baz=279,SNR=20								
YUK6	**Outpost Mounta**	55.46	36	P		**P**	02 54 41.7	+0.6	
	baz=282,SNR=8.2								
O29M	**Mount Kennedy**	55.49	37	IAmb		IAmb	02 54 45.0		
	comp=Z,17nm,1.2s								
O29M	**Mount Kennedy**	55.49	37	P		**P**	02 54 41.9	+0.7	
	baz=282								
QIS	**Mount Isa**	55.52	182	P		**P**	02 54 43.0	+1.4	
I30M	**Mount Dempster**	55.54	30	IAmb		IAmb	02 54 47.1		
	comp=Z,28nm,0.8s								
I30M	**Mount Dempster**	55.54	30	P		**P**	02 54 42.6	+1.2	
	baz=280,SNR=38								
J30M	**Hart River**	55.68	31	P		**P**	02 54 43.3	+0.8	
	baz=281

P32M Atlin 58.03 37 P P 02 54 58.5 -0.7
baz=286,SNR=6.5
JIS Juneau Island 58.06 38 IAmb IAmb 02 55 02.9
comp=Z,33nm,1.5s
S32K Killisnoo 58.19 39 P P 02 54 59.8 -0.4
baz=287
P33M Teslin, Yukon 58.29 36 IAmb IAmb 02 55 04.5
comp=Z,26nm,1.2s
P33M Teslin, Yukon 58.29 36 P P 02 55 00.7 -0.3
baz=286,SNR=16
MMPY Sheldon Lake, 58.34 33 IAmb IAmb 02 55 04.8
comp=Z,27nm,1.5s
MMPY Sheldon Lake, 58.34 33 P P 02 55 02.2 +1.0
baz=286,SNR=13
AB31 Akbulak array 58.88 311 *i* P P 02 54 58.2 -7.0
ABKAR Akbulak array 58.88 311 P P 02 55 04.9 -0.3
Q32M Nakina River 58.92 37 IAmb IAmb 02 55 54.1
comp=Z,29nm,1.5s
Q32M Nakina River 58.92 37 P P 02 55 05.5 -0.1
baz=288
AS01 Alice Springs 58.98 188 P P 02 55 06.7 +0.6
ASAR Alice Springs 58.99 188 P P 02 55 06.3 +0.2
comp=Z,8.2nm,0.7s,baz=18,slow=13,SNR=77
ASAR LR LR 03 20 18.7
comp=Z,246nm,20.0s,baz=5.0,slow=36
ASAR PKP2bc 03 24 50.0
comp=Z,2.0nm,1.0s,baz=167,slow=2.4,SNR=7.1
comp=Z,8.2nm,0.7s
C36M Paulatuk 59.16 24 IAmb IAmb 02 55 08.4
comp=Z,14nm,0.8s
C36M Paulatuk 59.16 24 P P 02 55 07.1 +0.4
baz=288,SNR=14
U33K Whale Pass 59.37 40 P P 02 55 09.0 +0.6
baz=288
R33M Jennings River 59.43 36 P P 02 55 10.0 +1.0
baz=288
CRAG Craig 59.57 41 P P 02 55 10.5 +0.7
baz=289
MBWA Marble Bar 59.65 203 P P 02 55 11.2 +0.6
MBWA Marble Bar 59.65 203 P P 02 55 10.6 0.0
AKTO Aktyubinsk 59.67 313 LR LR 03 23 28.9
comp=Z,225nm,18.0s,baz=68,slow=39
WRAK Wrangell Islan 59.68 40 P P 02 55 11.9 +1.4
baz=289
S34M Telegraph Cree 59.82 38 P P 02 55 12.9 +1.4
baz=289,SNR=7.6
PSA00 Pilbara Seismi 60.00 203 P P 02 55 13.6 +0.5
PSA00 Pilbara Seismi 60.00 203 P P 02 55 12.5 -0.6
PSA00 Pilbara Seismi 60.00 203 IAmb IAmb 02 55 26.0
comp=Z,23nm,0.8s
TGTN Hyland Airport 60.01 34 P P 02 55 13.8 +1.0
baz=289,SNR=17
DLBC Dease Lake 60.20 37 P P 02 55 13.8 -0.4
DLBC IAmb IAmb 02 55 19.1
comp=Z,26nm,1.4s
DLBC Dease Lake 60.20 37 P P 02 55 16.1 +1.9
baz=290,SNR=11
DLBC Dease Lake 60.20 37 LR LR 03 24 55.4
comp=Z,81nm,19.6s,baz=272,slow=40
WTLY Watson Lake, Y 60.24 35 P P 02 55 15.6 +1.2
WTLY IAmb IAmb 02 55 51.5
comp=Z,23nm,1.4s
WTLY Watson Lake, Y 60.24 35 P P 02 55 15.2 +0.8
baz=290,SNR=7.4
V35K Ketchikan 60.43 41 P P 02 55 15.7 0.0
baz=290
T35M Bob Quinn 60.58 39 IAmb IAmb 02 55 20.8
comp=Z,40nm,1.3s
T35M Bob Quinn 60.58 39 P P 02 55 17.7 +0.9
baz=290,SNR=13
WRKA Warakurna 61.17 193 P P 02 55 21.7 +0.6
KIRV Kirov 61.51 323⇓ *eP* P 02 55 23.4 +0.5
WRGLY Wrigley 61.51 31 IAmb IAmb 02 55 26.0
comp=Z,42nm,1.2s
WRGLY Wrigley 61.51 31 P P 02 55 23.4 +0.5
baz=292,SNR=15
PALK Pallekele 61.73 258 LR LR 03 22 55.6
comp=Z,399nm,21.6s,baz=145,slow=37
NOUC Port Laguerre 61.86 153 P P 02 55 27.0 +1.3
NOUC Port Laguerre 61.86 153 P P 02 55 28.3 +2.6
GRNB Grenville Isla 61.86 42 P P 02 55 25.5 0.0
DZM Mont Dzumac 61.88 153 P P 02 55 28.0 +2.0
DZM Mont Dzumac 61.88 153 P P 02 55 26.8 +0.8
DZM Mont Dzumac 61.88 153 P P 02 55 26.7 +0.8
comp=Z,4.1nm,0.6s,baz=52,slow=16,SNR=2.0
comp=Z,4.1nm,0.6s
ALE Alert 61.90 3 P P 02 55 26.5 +1.1
ALE pP **pP** 02 55 35.0 +0.7
ALE sP **sP** 02 55 38.7 +0.9
EUNU Eureka 61.99 8 P P 02 55 25.3 -0.7
SPITS Spitsbergen Ar 62.21 349 LR LR 03 23 46.8
comp=Z,485nm,20.7s,baz=7.0,slow=37
KBS Kingsbay 62.36 350⇓ *eP* P 02 55 26.2 -2.2
KBS pmax pmax
comp=Z,178nm,2.8s
KBS Kingsbay 62.36 350 P P 02 55 26.2 -2.2
KBS pP **pP** 02 55 35.2 -2.3
KBS sP **sP** 02 55 38.9 -2.0
TOAD Toad River Com 62.39 36 P P 02 55 29.7 +0.7
baz=293
KOTAN Kotaneelee Air 62.44 34 P P 02 55 29.4 +0.2
baz=293
INKA Innaminka 62.66 180 P P 02 55 32.1 +1.2
OOD Oodnadatta 62.91 185 P P 02 55 33.8 +1.2
GIRL Giralia 62.95 208 P P 02 55 34.6 +1.6
HRA Herat 62.99 294 P P 02 55 33.0 -0.6
HRA IAmb IAmb 02 55 50.2
comp=Z,12nm,0.8s
MSVF Nonsavu 63.31 140 P P 02 55 37.1 +1.5
MSVF IAmb IAmb 02 55 46.4
comp=Z,21nm,1.1s
MSVF Nonsavu 63.31 140⇓ *eP* P 02 55 37.5 +1.9
MSVF pmax pmax
comp=Z,5.0nm,0.7s
MSVF Nonsavu 63.31 140 P P 02 55 39.0 +3.4
RES Resolute Bay 64.39 14 IAmb IAmb 02 55 48.1
comp=Z,26nm,0.9s
RES Resolute Bay 64.39 14 LR LR 03 24 34.7
comp=Z,184nm,21.8s,baz=357,slow=37
GEYT Alibeck 64.46 300 P P 02 55 44.4 +1.3
comp=Z,9.1nm,0.8s,baz=58,slow=14,SNR=7.5
comp=Z,9.1nm,0.8s
MEEK Meekatharra 65.12 202 P P 02 55 48.8 +1.6
LCRK Leigh Creek 65.41 183 P P 02 55 50.7 +1.8
YKA Yellowknife Ar 65.49 30 P P 02 55 49.7 +0.5
YKA Yellowknife Ar 65.49 30 P P 02 55 49.7 +0.5
YKA Yellowknife Ar 65.49 30 P P 02 55 49.8 +0.6
comp=Z,4.3nm,0.9s,baz=298,slow=6.7,SNR=32
YKA PKPPKP **P'P'df** 03 24 30.6 -4.5
comp=Z,0.2nm,0.3s,baz=242,slow=5.1,SNR=6.0
YKA LR LR 03 26 51.0
comp=Z,84nm,20.1s,baz=292,slow=38
comp=Z,4.3nm,0.9s
MULG Mulgathing 65.52 187 P P 02 55 49.6 -0.1
ARCES ARCESS Array B 65.56 340 P P 02 55 50.4 +0.8
comp=Z,6.9nm,0.7s,baz=48,slow=1.3,SNR=3.5
ARCES LR LR 03 28 26.8
comp=Z,543nm,18.7s,baz=48,slow=40
comp=Z,6.9nm,0.7s
ARMA Armidale 66.07 170 P P 02 55 55.3 +1.9
ARMA Armidale 66.07 170 P P 02 55 54.5 +1.1
CMSA Cobar Meteorol 66.58 176 P P 02 55 57.7 +1.2
STKA Stephens Creek 66.78 180 P P 02 55 58.9 +1.2
STKA Stephens Creek 66.78 180 P P 02 55 57.7 0.0
STKA Stephens Creek 66.78 180⇑ *eP* P 02 55 58.3 +0.6
STKA Stephens Creek 66.78 180 P P 02 55 58.0 +0.3
comp=Z,13nm,0.9s,baz=350,slow=7.1,SNR=9.7
STKA LR LR 03 24 48.3
comp=Z,133nm,20.7s,baz=11,slow=36
comp=Z,13nm,0.9s
FORT Forrest 66.81 192 P P 02 55 59.8 +1.8
FORT Forrest 66.81 192 P P 02 55 58.5 +0.5
CLRS Cowichan Lake 67.30 46 IAmb IAmb 02 56 04.0
comp=Z,34nm,1.4s
NEEM North Greenlan 67.32 3 *i* P P 02 56 00.2 -0.8
NEEM IAmb IAmb 02 56 03.1
comp=Z,35nm,0.9s
DAG Danmarks Havn 67.52 355 *i* P P 02 56 01.8 -0.2
DAG IAmb IAmb 02 56 04.1
comp=Z,20nm,1.4s
PGC Sidney 67.77 45 IAmb IAmb 02 56 06.8
comp=Z,23nm,1.3s
BBOO Buckleboo 67.87 185 P P 02 56 05.8 +1.2
MORW Morawa 68.20 204 P P 02 56 07.3 +0.5
MORW Morawa 68.20 204 P P 02 56 06.3 -0.5
MORW IAmb IAmb 02 56 09.6
comp=Z,16nm,0.7s
HTT Hallett 68.36 182 P P 02 56 09.4 +1.7
BRLDA Berland Lookou 68.41 38 IAmb IAmb 02 56 10.2
comp=Z,22nm,1.2s
VALR Valaam 68.44 331 *ce*P P 02 56 08.4 +0.4
VALR pmax pmax
comp=Z,25nm,0.9s
MOS Moscow 68.52 324 *e*P P 02 56 08.7 +0.1
MOS *e* 02 58 42.4
GNW Green Mountain 68.66 46 P P 02 56 10.7 +1.1
GNW IAmb IAmb 02 56 13.3
comp=Z,27nm,1.2s
E03A Lebam 68.72 48 IAmb IAmb 02 56 13.4
comp=Z,42nm,1.2s
VRH Novokhopyorsk 68.72 318 *e*P P 02 56 09.1 -0.8
VRH pmax pmax
comp=Z,10.0nm,0.8s
MAK Makhachkala 69.34 308 *e*P P 02 56 13.0 -0.9
MAK *e* 02 58 45.6
MAK *e*S S 03 05 16.6 -2.1
MAK *e*SS SS 03 09 42.5 -2.7
MAK pmax pmax
comp=Z,70nm,1.2s
MAK MLR MLR
comp=Z,244nm,17.0s
OBN Obninsk 69.36 324⇑ *e*P P 02 56 16.2 +2.4
OBN *SP PcP 02 56 32.0 -5.1
OBN 02 56 38.0
OBN S SKiKP 03 05 45.0 -16
OBN pmax pmax
comp=Z,10.0nm,0.9s
OBN MLR MLR
comp=Z,353nm,18.0s
OBN Obninsk 69.36 324 LR LR 03 29 29.6
comp=Z,354nm,18.3s,baz=64,slow=38
BLDU Ballidu 69.42 202 P P 02 56 14.4 +0.1
F04A Amboy 69.71 48 IAmb IAmb 02 56 19.2
comp=Z,40nm,1.1s
KULLO Kullorsuaq 69.77 5 *e*P P 02 56 14.4 -1.7
KULLO IAmb IAmb 02 56 17.9
comp=Z,25nm,1.1s
COR Corvallis 69.84 49 P P 02 56 19.8 +2.9
KEBM Edson Butte 70.04 51 P P 02 56 18.9 +0.5
LTY Liberty 70.08 46 IAmb IAmb 02 56 43.1
comp=Z,28nm,1.4s
VSR Storozhevoye 70.09 319 *e*P P 02 56 17.6 -0.8
VSR pmax pmax
comp=Z,10.0nm,1.2s
VORD Divnogorie 70.16 319 *e*P P 02 56 17.6 -1.2
VORD pmax pmax
comp=Z,9.0nm,0.5s
I03D Drain, OR 70.25 50 IAmb IAmb 02 56 23.1
comp=Z,37nm,1.0s
FINES FINESS Array B 70.26 332 P P 02 56 18.8 -0.4
FINES FINESS Array B 70.26 332 P P 02 56 18.8 -0.4
FINES FINESS Array B 70.26 332 P P 02 56 17.9 -1.3
comp=Z,8.7nm,0.8s,baz=87,slow=4.9,SNR=7.1
comp=Z,8.7nm,0.8s
K02D Willamette Mer 70.56 51 IAmb IAmb 02 56 24.7
comp=Z,30nm,1.2s
DBO Dodson Butte 70.61 51 IAmb IAmb 02 56 30.7
comp=Z,36nm,1.5s
MXC Moxie City 70.66 46 P P 02 56 21.6 -0.3
MXC IAmb IAmb 02 56 25.0
comp=Z,17nm,1.0s
G05A Wamic 70.73 48 IAmb IAmb 02 57 01.1
comp=Z,34nm,1.2s
I04A Tendick Farm, 70.79 50 IAmb IAmb 02 56 25.9
comp=Z,41nm,1.2s
KSXB Camp Six Broad 70.86 52 IAmb IAmb 02 56 27.0
comp=Z,30nm,1.3s
EDM Edmonton 70.92 38 IAmb IAmb 02 56 41.7
comp=Z,21nm,1.1s
E07A Sunyside 70.92 46 IAmb IAmb 02 56 26.7
comp=Z,28nm,1.2s
WSAR Wadi Sarin 71.07 285 LR LR 03 32 07.9
comp=Z,220nm,19.4s,baz=87,slow=40
G06A Carlson Farm, 71.14 48 P P 02 56 25.2 +0.2
G06A IAmb IAmb 02 56 28.1
comp=Z,56nm,1.7s
I05D Terrebonne, OR 71.18 49 IAmb IAmb 02 56 30.4
comp=Z,52nm,1.7s
HAWA Hanford 71.20 46 IAmb IAmb 02 56 28.2
comp=Z,37nm,1.6s
D08A Wollman Farm, 71.21 45 IAmb IAmb 02 56 27.9
comp=Z,18nm,1.0s
F07A Phinny Hill Vi 71.22 47 IAmb IAmb 02 56 28.5
comp=Z,35nm,1.4s
JCC Jacoby Creek, 71.27 53 IAmb IAmb 02 56 29.6
comp=Z,60nm,1.4s
KMPM Mount Pierce 71.41 53 IAmb IAmb 02 56 30.7
comp=Z,21nm,1.5s
NWAO Narrogin (SRO) 71.41 201 P P 02 56 27.2 +0.7
NWAO Narrogin (SRO) 71.41 201 P P 02 56 27.1 +0.7
NWAO IAmb IAmb 02 56 50.4
comp=Z,47nm,1.3s
NWAO Narrogin (SRO) 71.41 201 P P 02 56 27.2 +0.7
NWAO pmax pmax
comp=Z,47nm,1.3s
NWAO Narrogin (SRO) 71.41 201 LR LR 03 27 19.4
comp=Z,80nm,20.4s,baz=32,slow=36
NWAO Narrogin (SRO) 71.41 201 P P 02 56 26.7 +0.2
NWAO pP **pP** 02 56 35.0 0.0
E08A Dider Farm, El 71.43 46 P P 02 56 27.3 +0.7
KHMM Horse Mountain 71.44 53 IAmb IAmb 02 56 30.2
comp=Z,18nm,0.8s
UPNV Upernavik 71.60 5 *e*P P 02 56 25.9 -1.3
UPNV IAmb IAmb 02 56 34.2
comp=Z,11nm,0.8s
NEW Newport 71.60 44 IAmb IAmb 02 56 30.3
comp=Z,34nm,1.4s
NEW Newport 71.60 44 P P 02 56 27.3 -0.4
baz=302,SNR=13
YBH Yreka Blue Hor 71.66 52 IAmb IAmb 02 56 31.7
comp=Z,34nm,1.5s
PINE Pine Mountain 71.70 49 IAmb IAmb 02 56 32.1
comp=Z,44nm,1.0s
KMRM Mail Ridge 71.78 53 IAmb IAmb 02 56 32.7
comp=Z,70nm,1.9s
J05D Fort Rock, OR 71.79 50 P P 02 56 29.4 +0.4
J05D IAmb IAmb 02 56 32.5
comp=Z,40nm,1.2s
VSU Vasula 71.85 330⇑ *e*P P 02 56 29.6 +0.7
VSU pmax pmax
comp=Z,21nm,0.7s
KBZ Khabaz 71.86 311 *ce*P P 02 56 30.2 +1.0
KBZ pmax pmax
comp=Z,20nm,0.9s
KBZ Khabaz 71.86 311 P P 02 56 29.7 +0.5
comp=Z,7.7nm,0.9s,baz=99,slow=6.3,SNR=4.6
KBZ LR LR 03 30 01.6
comp=Z,261nm,20.9s,baz=48,slow=38
comp=Z,7.7nm,0.9s
KVAR Kislovodsk Arr 71.86 311 LR LR 03 32 09.2
comp=Z,204nm,18.6s,baz=286,slow=39
KIV Kislovodsk 71.87 311 P P 02 56 30.4 +0.9
KIV Kislovodsk 71.87 311 *e*P P 02 56 30.7 +1.2
KIV pmax pmax
comp=Z,38nm,1.0s
E09A Wood Farm, Sta 71.95 46 IAmb IAmb 02 56 32.7
comp=Z,25nm,1.1s
K05A Summer Lake 72.29 50 P P 02 56 33.5 +1.4
SUMG Summit 72.46 360 P P 02 56 33.2 +0.3
SUMG IAmb IAmb 02 56 35.5
comp=Z,22nm,1.0s
SUMG Summit 72.46 360 P P 02 56 33.2 +0.3
SUMG pmax pmax
comp=Z,22nm,1.0s
SUMG Summit 72.46 360 *i* P P 02 56 34.4 +1.5
SUMG IAmb IAmb 02 56 35.8
comp=Z,21nm,1.0s
GNI Garni 72.55 307 LR LR 03 31 06.4
comp=Z,232nm,20.2s,baz=71,slow=38
GDXM Geysers 73.12 54 IAmb IAmb 02 56 40.7
comp=Z,41nm,1.7s
BMO Blue Mountains 73.34 47 IAmb IAmb 02 56 41.1
comp=Z,37nm,1.6s
J08A Circle Bar Ran 73.45 48 IAmb IAmb 02 56 42.2
comp=Z,34nm,1.2s
ORV Oroville 73.58 53 P P 02 56 39.9 +0.3
ORV IAmb IAmb 02 56 42.1
comp=Z,65nm,1.9s
ORV Oroville 73.58 53 P P 02 56 39.9 +0.3
ORV pmax pmax
comp=Z,65nm,1.9s
MNK Minsk 73.81 326 *i* P P 02 56 41.8 +1.2
MNK *i* 02 59 26.3
MNK *i* PPP PPP 03 01 09.1
MNK *i* S **S** **03 06 10.7 +0.8**
MNK *i* SS **SS** **03 10 56.3 +3.2**
MNK *i* SSS SSS 03 14 13.3
MNK pmax pmax
comp=Z,18nm,0.9s
MNK pmax pmax
comp=N,17nm,1.1s
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK MLR MLR
comp=E,190nm,21.0s
MNK MLR MLR
comp=N,414nm,20.0s
MNK MLR MLR
comp=Z,292nm,17.0s
SCO Scoresbysund 73.85 354 *e*P P 02 56 42.0 +1.4
SOC Sochi 73.88 312 *e*P P 02 56 38.8 -2.5
SOC *e* 02 59 26.5
SOC *e*PPP PPP 03 01 10.4
SOC *e*S **SKiKP** **03 06 07.3 -0.6**
SOC *e*SS **SS** **03 10 54.3 -0.4**
AFDM Forest Hills D 74.25 53 IAmb IAmb 02 56 46.5
comp=Z,32nm,1.7s
EMB Emerald Bay 74.81 53 IAmb IAmb 02 56 50.2
comp=Z,66nm,1.6s
PAHR Pah Rah Range 74.87 52 P P 02 56 46.9 -0.4
MFID Camas Ranch 75.03 47 IAmb IAmb 02 56 51.1
comp=Z,69nm,1.9s
PNTR Pine Nut 75.07 53 IAmb IAmb 02 56 52.1
comp=Z,67nm,1.7s
CMB Columbia Colle 75.13 54 IAmb IAmb 02 56 51.8
comp=Z,63nm,1.6s
FFC Flin Flon 75.35 32 P P 02 56 49.5 -0.1
FFC IAmb IAmb 02 56 51.5
comp=Z,31nm,1.2s
FFC Flin Flon 75.35 32 P P 02 56 49.5 -0.1
FFC pmax pmax
comp=Z,31nm,1.3s
BBGB Big Mountain B 75.49 55 IAmb IAmb 02 56 54.2
comp=Z,46nm,1.1s
WAKR Walker 75.50 53 IAmb IAmb 02 57 02.6
comp=Z,30nm,1.4s
AKASG Malin Array Be 75.54 322 *i* P P 02 56 50.7 0.0
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 75.54 322 P P 02 56 50.3 -0.4
comp=Z,3.1nm,0.5s,baz=44,slow=6.1,SNR=11
AKASG LR LR 03 32 30.2
comp=Z,249nm,20.6s,baz=55,slow=38
comp=Z,3.1nm,0.5s
AKBB Malin Array Si 75.54 322 IAmb IAmb 02 57 21.5
comp=Z,50nm,1.5s
AKBB Malin Array Si 75.54 322⇑ *e*P P 02 56 50.8 +0.1
KIEV Kiev 75.55 322 P P 02 56 49.6 -1.2
KIEV IAmb IAmb 02 57 21.5
comp=Z,42nm,1.4s
KIEV Kiev 75.55 322 P P 02 56 49.6 -1.2
KIEV pmax pmax
comp=Z,42nm,1.5s
HFS Hagfors 75.60 336 P P 02 56 51.1 +0.3
comp=Z,9.1nm,0.8s,baz=116,slow=3.4,SNR=6.5
comp=Z,9.1nm,0.8s
NB201 NORSAR Array S 75.69 337 IAmb IAmb 02 57 05.5
comp=Z,34nm,1.1s
FCC Fort Churchill 75.72 26 IAmb IAmb 02 56 53.4
comp=Z,44nm,1.4s
NB2 NORSAR Subarra 75.72 337 P P 02 56 51.8 +0.2
comp=Z,15nm,0.9s,baz=41,slow=5.9
NB2 NORSAR Subarra 75.72 337 P P 02 56 51.8 +0.2
baz=41,slow=5.9
NOA NORSAR Array B 75.72 337 P P 02 56 51.9 +0.2
comp=Z,8.3nm,0.8s,baz=40,slow=5.7,SNR=20
comp=Z,8.3nm,0.8s
HLID Hailey 75.79 47 P P 02 56 50.3 -2.2
baz=305,SNR=8.7
EGMT Eagleton 75.79 41 IAmb IAmb 02 56 54.9
comp=Z,51nm,1.2s
EGMT Eagleton 75.79 41 P P 02 56 50.7 -1.7
baz=307,SNR=19
BMN Battle Mountai 75.85 50 IAmb IAmb 02 56 57.5
comp=Z,30nm,1.2s
PMPB Monarch Peak 75.85 56 IAmb IAmb 02 57 01.0
comp=Z,29nm,1.1s
NBO00 NORSAR Array S 75.86 337 IAmb IAmb 02 57 06.3
comp=Z,22nm,0.9s
ICESG Greenland Ices 75.97 0 *i* P P 02 56 53.8 +0.5
ICESG IAmb IAmb 02 56 55.9
comp=Z,22nm,1.0s
RYN Ryan 76.03 53 IAmb IAmb 02 56 58.1
comp=Z,24nm,1.3s
KVN Kaiserville 76.06 52 IAmb IAmb 02 56 58.3
comp=Z,20nm,0.9s
BOZ Bozeman (W) 76.21 44 P P 02 56 55.4 +0.5
baz=306,SNR=16
MDPB Devils Postpil 76.22 54 IAmb IAmb 02 56 58.4
comp=Z,43nm,1.8s
NVAR Mina Array Bea 76.28 53 P P 02 56 57.2 +1.7
comp=Z,7.7nm,0.6s,baz=293,slow=5.5,SNR=77
NVAR LR LR 03 24 07.3
comp=Z,244nm,22.0s,baz=288,slow=31
comp=Z,7.7nm,0.6s
MLAC Mammoth, Mammo 76.38 54 P P 02 56 56.8 +0.7
baz=304
SIM Simferopol' 76.41 316 *e*P P 02 56 58.9 +3.1
SIM *e*S S 03 06 43.3 +4.3
SIM pmax pmax
comp=Z,29nm,0.8s
SIM smax smax
comp=N,48nm,15.2s
SIM MLR MLR
comp=Z,70nm,16.1s
VOG Valley Oaks Go 76.75 55 P P 02 56 58.8 +0.9
baz=304
SMMC Simmler 76.89 56 P P 02 57 00.1 +1.3
baz=304
ELK Elko 76.91 49 P P 02 56 59.7 +0.6
ELK Elko 76.91 49 P P 02 56 59.7 +0.6
ELK pmax pmax
comp=Z,16nm,1.2s
DSP Deep Springs 77.09 53 IAmb IAmb 02 57 03.5
comp=Z,31nm,1.3s
TIN Tinemaha, Big 77.10 54 P P 02 57 00.4 +0.4
baz=304
VES Vestal, Richgr 77.21 55 P P 02 57 01.3 +0.8
baz=304,SNR=11
PKM Mcpherson Peak 77.25 56 P P 02 57 01.7 +0.7
baz=304,SNR=8.8
ARPR Arapgir-MALATY 77.27 309 IAmb IAmb 02 57 16.4
comp=Z,34nm,0.9s
MZP Montezuma Peak 77.29 53 P P 02 57 02.0 +0.8
LCH Last Change Ra 77.39 53 IAmb IAmb 02 57 04.8
comp=Z,28nm,1.4s
H17A Grant Village 77.53 44 P P 02 57 02.9 +0.4
baz=307,SNR=23
CWC Cottonwood Cre 77.55 54 P P 02 57 03.1 +0.5
baz=305
YMP Mirror Lake Pl 77.56 44 IAmb IAmb 02 57 32.3
comp=Z,32nm,1.5s
SBC Santa Barbara 77.57 57 P P 02 57 03.8 +1.3
baz=304
FLWY Flagg Ranch 77.65 44 IAmb IAmb 02 57 26.7
comp=Z,25nm,1.1s
SFJD Kangerlussuaq 77.68 5 LR LR 03 34 53.0
comp=Z,112nm,18.1s,baz=350,slow=38
GRAC Grapevine Rang 77.70 53 IAmb IAmb 02 57 14.0
comp=Z,57nm,1.4s
GRAC Grapevine Rang 77.70 53 P P 02 57 04.0 +0.7
baz=305,SNR=7.5
ISA Isabella, Lake 77.72 55 P P 02 57 03.1 -0.4
ISA Isabella, Lake 77.72 55 P P 02 57 03.1 -0.4
ISA pmax pmax
comp=Z,13nm,1.1s
ISA Isabella, Lake 77.72 55 P P 02 57 04.4 +0.9
baz=305,SNR=6.7
ARVC Arvin 77.79 56 P P 02 57 04.7 +1.0
baz=305,SNR=6.3
HVU Hansel Valley 77.81 47 IAmb IAmb 02 57 06.6
comp=Z,13nm,0.7s
MOOW Moose Ponds 77.83 45 IAmb IAmb 02 57 12.0
comp=Z,34nm,1.7s
RLMT Red Lodge 77.83 43 P P 02 57 04.5 +0.4
baz=308,SNR=11
SCZ2 Santa Cruz Isl 77.88 57 P P 02 57 04.4 +0.1
baz=304
SNOW Snow King Moun 77.99 45 P P 02 57 05.5 +0.4

R11B **Troy Canyon, C** 78.08 51 IAmb IAmb 02 57 09.7
comp=Z,36nm,1.5s
R11B **Troy Canyon, C** 78.08 51 P P **02 57 06.2 +0.7**
baz=306,SNR=27
OSI **Osito Audit: C** 78.15 56 P P **02 57 06.6 +0.7**
baz=305
MPMC **Manual Prospec** 78.16 54 P P **02 57 06.7 +0.7**
baz=305,SNR=20
WCT **Wildcat Mounta** 78.31 53 IAmb IAmb 02 57 09.8
comp=Z,28nm,1.4s
CCAC **Calif City Air** 78.32 55 P P **02 57 07.1 +0.3**
CCAC IAmb IAmb 02 57 09.8
comp=Z,32nm,1.0s
FURC **Furnace Creek,** 78.34 54 P P **02 57 07.5 +0.8**
baz=305,SNR=19
LRMC **Laurel Mtn Rad** 78.36 55 P P **02 57 07.4 +0.4**
baz=305,SNR=15
SNCC **San Nicolas Is** 78.37 58 P P **02 57 07.0 -0.1**
baz=305
S11A **Rachel** 78.38 52 IAmb IAmb 02 57 12.7
comp=Z,66nm,1.5s
DGMT **Dagmar** 78.40 38 IAmb IAmb 02 57 09.1
comp=Z,47nm,1.3s
DGMT **Dagmar** 78.40 38 P P **02 57 06.8 -0.2**
baz=311,SNR=6.5
DY2G **Dye2** 78.44 3 *e*P P **02 57 07.1 0.0**
DY2G IAmb IAmb 02 57 09.8
comp=Z,94nm,1.8s
EDW2 **Edwards Air Fo** 78.49 55 P P **02 57 08.8 +1.1**
baz=305,SNR=20
SPR3 **Spring Creek 3** 78.50 50 IAmb IAmb 02 57 12.7
comp=Z,74nm,1.9s
LAO **LASA Array** 78.50 40 IAmb IAmb 02 57 10.3
comp=Z,36nm,1.2s
LAO **LASA Array** 78.50 40 P P **02 57 08.7 +1.1**
baz=310,SNR=5.6
FRB **Frobisher Bay** 78.57 13 LR LR 03 35 47.2
comp=Z,234nm,19.6s,baz=0.0,slow=39
DECC **Green Verdugo** 78.62 56 P P **02 57 09.2 +0.8**
baz=305
QSM **Queen of Sheba** 78.62 54 P P **02 57 09.5 +1.1**
QSM IAmb IAmb 02 57 11.4
comp=Z,44nm,1.0s
GWY **Greenwater Val** 78.63 54 IAmb IAmb 02 57 11.6
comp=Z,32nm,0.9s
LVV **L'vov** 78.65 324 *e*P P **02 57 09.3 +1.0**
LVV *e* 02 57 17.6
LVV *e*S S **03 07 02.3 -0.9**
LVV pmax pmax
comp=Z,40nm,1.6s
DUG **Dugway, Tooele** 78.73 49 P P **02 57 09.5 +0.5**
baz=307,SNR=14
PASC **Pasadena Art C** 78.77 56 IAmb IAmb 02 57 11.9
comp=Z,42nm,1.4s
FMP **Fort Macarthur** 78.96 57 P P **02 57 11.4 +1.2**
baz=305
TCUT **Toone Canyon** 79.03 47 IAmb IAmb 02 57 13.3
comp=Z,14nm,0.7s
GSC **Goldstone, Bar** 79.05 55 P P **02 57 11.5 +0.7**
GSC IAmb IAmb 02 57 13.8
comp=Z,35nm,1.2s
GSC **Goldstone, Bar** 79.05 55 P P **02 57 11.5 +0.7**
GSC pmax pmax
comp=Z,35nm,1.3s
GSC **Goldstone, Bar** 79.05 55 P P **02 57 11.3 +0.4**
baz=306,SNR=20
CIS **Catalina Islan** 79.05 57 P P **02 57 11.3 +0.5**
baz=305
SHOC **Shoshone, Teco** 79.05 54 P P **02 57 11.8 +1.1**
baz=306,SNR=5.3
PSUT **Pine Spring** 79.07 50 IAmb IAmb 02 57 15.1
comp=Z,36nm,1.5s
BFSC **Mount Baldy Ra** 79.09 56 P P **02 57 11.5 +0.4**
baz=305,SNR=15
BW06 **Boulder Array** 79.11 45 P P **02 57 11.3 +0.1**
baz=308,SNR=15
PDAR **Pinedale Array** 79.11 45 P P **02 57 12.3 +1.1**
comp=Z,5.9nm,0.6s,baz=268,slow=2.1,SNR=67
comp=Z,5.9nm,0.6s
RRX **Edison Barstow** 79.17 55 P P **02 57 12.3 +0.9**
baz=306
SCI2 **San Clemente I** 79.20 57 P P **02 57 13.5 +2.0**
baz=305
BORG **Borgarnes** 79.37 352 LR LR 03 34 40.8
comp=Z,85nm,18.4s,baz=359,slow=38
ANGG **Ammassalik, Gr** 79.45 359 *e*P P **02 57 11.7 -0.5**
TUQ **Turquoise Moun** 79.56 54 P P **02 57 14.8 +1.2**
baz=306,SNR=21
BBRC **Big Bear Solar** 79.57 55 P P **02 57 14.6 +0.7**
baz=306
ELS **Elsinore Mount** 79.58 56 IAmb IAmb 02 57 16.5
comp=Z,66nm,1.4s
HEC **Hector,Ludlow** 79.64 55 P P **02 57 14.5 +0.5**
baz=306,SNR=34
MURC **Murrieta** 79.77 56 P P **02 57 15.7 +1.0**
baz=306,SNR=16
BR131 **Keskin Array S** 79.83 312 *e*P P **02 57 15.8 +0.8**
BRTR **Keskin Array B** 79.83 312 P P **02 57 14.3 -0.7**
BRTR **Keskin Array B** 79.83 312 *i*P P **02 57 16.1 +1.1**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BRTR **Keskin Array B** 79.83 312 P P **02 57 15.0 0.0**
comp=Z,5.2nm,0.9s,baz=93,slow=2.5,SNR=6.5
BRTR LR LR 03 36 28.2
comp=Z,131nm,18.1s,baz=20,slow=39
comp=Z,5.2nm,0.9s
TCRU **Three Creeks R** 79.91 50 P P **02 57 16.8 +1.1**
MUD **Monsted U'grnd** 79.95 335 *e*P P **02 57 15.1 0.0**
CCUT **Cedar City** 79.97 51 IAmb IAmb 02 57 20.2
comp=Z,34nm,1.4s
V12A **Nelson** 80.09 53 IAmb IAmb 02 57 19.8
comp=Z,34nm,1.2s
KOLS **Kolonicke sedl** 80.10 324 *e*P P **02 57 17.4 +1.2**
KOLS **Kolonicke sedl** 80.10 324 *e*P P **02 57 17.4 +1.2**
GMRC **Granite Mounta** 80.11 54 P P **02 57 17.1 +0.4**
baz=306,SNR=26
109C **Camp Elliot, M** 80.24 57 P P **02 57 17.7 +0.5**
baz=306,SNR=6.9
PFO **Pinyon Flats O** 80.26 56 P P **02 57 18.3 +0.8**
PFO **Pinyon Flats O** 80.26 56 *d i*P P **02 57 18.9 +1.4**
PFO pmax pmax
comp=Z,77nm,1.0s
PFO **Pinyon Flats O** 80.26 56 P P **02 57 17.6 +0.1**
baz=306,SNR=38
PFO **Pinyon Flats O** 80.26 56 LR LR 03 27 33.0
comp=Z,398nm,20.2s,baz=268,slow=32
TPFO **Pinon Flats** 80.27 56 P P **02 57 17.6 +0.1**
baz=306,SNR=40
BELC **Belle Mtn. Jos** 80.34 55 P P **02 57 18.7 +0.8**
baz=306,SNR=26
LCMT **Little Creek M** 80.37 51 IAmb IAmb 02 57 21.5
comp=Z,26nm,1.0s
NUUK **Nuuk** 80.38 6 *e*P P **02 57 17.7 +0.4**
MTPU **Mount Pierson** 80.42 50 IAmb IAmb 02 57 22.5
comp=Z,30nm,1.2s
P17A **Butcher Ranch,** 80.44 48 IAmb IAmb 02 57 20.9
comp=Z,18nm,0.7s
RDMU **Red Mountain** 80.47 47 IAmb IAmb 02 57 21.0
comp=Z,21nm,0.8s
CRVS **Cervenica-Dubn** 80.51 324 *e*P P **02 57 19.2 +0.8**
CRVS **Cervenica-Dubn** 80.51 324 *e*P P **02 57 19.2 +0.8**
Q16A **Castle Valley** 80.51 49 IAmb IAmb 02 57 23.3
comp=Z,44nm,1.4s
SSRD **Sdr. Stenderup** 80.56 334 *e*P P **02 57 18.5 +0.1**
MONP2 **Monument Peak** 80.71 56 P P **02 57 19.7 -0.3**
baz=306,SNR=18
TKX **Tecate** 80.77 57 IAmb IAmb 02 57 22.8
comp=Z,53nm,1.3s
SRU **San Rafael Swe** 80.79 48 IAmb IAmb 02 57 22.6
comp=Z,18nm,0.7s
NEE2 **Needles Airpor** 80.81 54 P P **02 57 20.8 +0.6**
baz=307
IRM **Iron Mountain** 80.82 55 P P **02 57 21.3 +0.9**
baz=306,SNR=18
BC3 **Big Chuckawall** 80.91 55 P P **02 57 21.6 +0.6**
baz=306,SNR=32
K22A **Casper** 80.92 44 P P **02 57 21.1 +0.2**
K22A IAmb IAmb 02 57 25.4
comp=Z,36nm,1.4s
K22A **Casper** 80.92 44 P P **02 57 21.2 +0.2**
baz=310,SNR=7.9
IKP **In-Ko-Pah, Jac** 81.06 56 P P **02 57 22.3 +0.6**
baz=306,SNR=20
RAYN **Ar Rayn** 81.08 292 P P **02 57 21.9 0.0**
RAYN IAmb IAmb 02 57 39.9
comp=Z,27nm,1.3s
RAYN **Ar Rayn** 81.08 292 P P **02 57 21.9 0.0**
RAYN pmax pmax
comp=Z,27nm,1.3s
SWSC **Sam W. Stewart** 81.10 56 P P **02 57 22.4 +0.6**
baz=306,SNR=15
MDND **Maddock** 81.10 36 P P **02 57 22.0 +0.5**
baz=314
ULM **Lac du Bonnet** 81.14 33 *d i*P P **02 57 21.8 +0.1**
ULM **Lac du Bonnet** 81.14 33 P P **02 57 21.1 -0.5**
comp=Z,11nm,1.1s,baz=301,slow=6.0,SNR=11
ULM LR LR 03 32 56.8
comp=Z,146nm,21.8s,baz=328,slow=35
comp=Z,11nm,1.1s
YUH **Yuha Desert** 81.19 56 IAmb IAmb 02 57 25.1
comp=Z,55nm,1.2s
U15A **North Rim** 81.33 51 IAmb IAmb 02 57 26.8
comp=Z,83nm,1.8s
RSSD **Black Hills** 81.34 41 P P **02 57 22.4 -0.8**
RSSD IAmb IAmb 02 57 25.2
comp=Z,29nm,1.6s
RSSD **Black Hills** 81.34 41 P P **02 57 22.4 -0.8**
RSSD pmax pmax
comp=Z,29nm,1.6s
RSSD **Black Hills** 81.34 41 P P **02 57 23.0 -0.2**
baz=311
PDMCI **Parker Dam,Lak** 81.41 54 P P **02 57 24.0 +0.6**
baz=307,SNR=20
O20A **White River Ci** 81.53 46 P P **02 57 24.3 0.0**
baz=309,SNR=8.9
GLA **Glamis** 81.69 55 P P **02 57 25.5 +0.5**
baz=307,SNR=12
MORC **Moravsky Berou** 81.70 327 *e*P P **02 57 25.6 +0.9**
CHVC **Chvalec** 81.76 328 *e*P P 02 57 34.6 +10
CHVC **Chvalec** 81.76 328 *e*P P 02 57 34.6 +10
DPC **Dobruska-Polom** 81.82 328 *e*P P **02 57 26.7 +1.3**
DPC **Dobruska-Polom** 81.82 328 *e*P P **02 57 26.7 +1.3**
KRLC **Kraliky** 81.82 327 *e*P P **02 57 27.1 +1.7**
KRLC **Kraliky** 81.82 327 *e*P P **02 57 27.1 +1.7**
UPC **Upice** 81.84 328 *e*P P **02 57 26.8 +1.4**
UPC **Upice** 81.84 328 *e*P P **02 57 26.8 +1.4**
MRZ **Mangatainoka R** 81.94 154 P P **02 57 26.7 +0.9**
PSZ **Piszkesteto** 81.94 324 IAmb IAmb 02 57 44.4
comp=Z,22nm,1.0s
VTX **Valle De La Tr** 82.03 57 IAmb IAmb 02 57 29.9
comp=Z,25nm,1.1s
VYHS **Vyhne** 82.03 325 *e*P P **02 57 27.6 +1.1**
VYHS **Vyhne** 82.03 325 *e*P P **02 57 27.6 +1.1**
JAVC **Velka Javorina** 82.31 326 *e*P P **02 57 29.5 +1.5**
N23A **Red Feather La** 82.39 45 IAmb IAmb 02 57 37.4
comp=Z,29nm,1.0s
N23A **Red Feather La** 82.39 45 P P **02 57 28.7 -0.1**
baz=311,SNR=18
BRG **Berggiesshubel** 82.44 329 *e*P P **02 57 29.3 +0.8**
BRG pmax pmax
comp=Z,6.0nm,0.9s
BRG pmax pmax
comp=Z,3.0nm,0.8s
VRAC **Vranov** 82.46 327 *e*P P **02 57 28.7 0.0**
VRAC **Vranov** 82.46 327 P P **02 57 28.8 0.0**
comp=Z,4.8nm,0.8s,baz=76,slow=8.9,SNR=4.0
comp=Z,4.8nm,0.8s
WUAZ **Wupatki** 82.47 52 IAmb IAmb 02 57 32.4
comp=Z,25nm,1.0s
WUAZ **Wupatki** 82.47 52 P P **02 57 30.4 +1.1**
baz=308,SNR=16
CLL **Collm** 82.50 330 IAmb IAmb 02 57 30.5
comp=Z,14nm,0.8s
CLL **Collm** 82.50 330 *i*P P **02 57 28.8 0.0**
CLL pmax pmax
comp=Z,16nm,0.9s
CLL MLR MLR
comp=Z,300nm,18.9s
CLL **Collm** 82.50 330 *i*P P **02 57 28.8 0.0**
comp=Z,16nm,0.9s
CLL *e*pPP 03 00 47.0
CLL *e*(sS) 03 08 04.0
CLL AMS AMS 03 39 00.0
comp=Z,300nm,18.9s
AGMN **Agassiz Nation** 82.56 34 P P **02 57 29.7 +0.5**
baz=316,SNR=5.3
113A **Mohawk Valley,** 82.58 55 IAmb IAmb 02 57 32.4
comp=Z,62nm,1.5s
SMOL **Smolenice** 82.67 326 *e*P P **02 57 32.1 +2.3**
KRUC **Moravsky** 82.73 327 *e*P P **02 57 30.8 +0.7**
SRO **Srobarova** 82.77 325 *e*P P **02 57 31.8 +1.5**
SRO **Srobarova** 82.77 325 *e*P P **02 57 31.8 +1.5**
MMAI **Mount Meron Ar** 82.77 305 P P **02 57 30.8 +0.1**
comp=Z,0.6nm,0.4s,baz=52,slow=7.8,SNR=1.9
MMAI LR LR 03 38 17.2
comp=Z,178nm,19.3s,baz=354,slow=39
comp=Z,0.6nm,0.4s
MODS **Modra-Piesok** 82.84 326 *e*P P **02 57 32.0 +1.3**
MODS **Modra-Piesok** 82.84 326 *e*P P **02 57 32.0 +1.3**
PRU **Pruhonice** 82.86 328 *e*P P **02 57 31.7 +1.0**
PRU **Pruhonice** 82.86 328 *e*P P **02 57 31.7 +1.0**
SFX **San Felipe** 82.88 57 IAmb IAmb 02 57 33.4
comp=Z,19nm,0.9s
SMCO **Snowmass** 82.89 47 IAmb IAmb 02 57 34.9
comp=Z,48nm,1.8s
X16A **Lo Mia Camp, P** 83.11 53 IAmb IAmb 02 57 35.9
comp=Z,40nm,1.3s
RPZ **Rata Peaks** 83.20 159 LR LR 03 32 49.3
comp=Z,108nm,19.2s,baz=146,slow=34
MVCO **Mesa Verde** 83.23 49 P P **02 57 33.7 +0.5**
baz=310,SNR=13
ISCO **Idaho Springs** 83.29 45 P P **02 57 34.5 +0.9**
ISCO IAmb IAmb 02 57 36.7
comp=Z,29nm,1.6s
ISCO **Idaho Springs** 83.29 45 P P **02 57 34.5 +0.9**
ISCO pmax pmax
comp=Z,29nm,1.6s
ISCO **Idaho Springs** 83.29 45 P P **02 57 34.3 +0.7**
baz=311,SNR=9.7
B35A **Bob, Littlefor** 83.48 33 IAmb IAmb 02 57 35.4
comp=Z,22nm,1.4s
PIX **Pinacate** 83.51 56 IAmb IAmb 02 57 37.2
comp=Z,38nm,1.2s
NKC **Novy Kostel** 83.55 330 *e*P P **02 57 38.7 +4.4**
NKC **Novy Kostel** 83.55 330 *e*P P **02 57 38.7 +4.4**
214A **Organ Pipe Nat** 83.71 55 P P **02 57 36.4 +0.9**
baz=308,SNR=13
W18A **Petrified Fore** 83.77 51 IAmb IAmb 02 57 40.4
comp=Z,15nm,0.9s
W18A **Petrified Fore** 83.77 51 P P **02 57 36.2 +0.3**
baz=309
RONA **Rosalia, Austr** 83.78 326 *e*PcP P **02 57 36.9 +1.4**
comp=Z,22nm,1.7s
SUSD **Miller** 83.80 39 P P **02 57 35.7 0.0**
baz=315
CONA **Conrad Observa** 83.81 326 *e*PcP P **02 57 37.1 +1.3**
comp=Z,12nm,1.2s
CKRC **Cesky Krumlov** 83.83 328 *e*P P **02 57 37.0 +1.2**
CKRC **Cesky Krumlov** 83.83 328 *e*P P **02 57 37.0 +1.2**
KHC **Kasperske Hory** 83.91 328 IAmb IAmb 02 57 42.8
comp=Z,28nm,1.4s
KHC **Kasperske Hory** 83.91 328 *e*P P **02 57 37.0 +0.7**
KHC pmax pmax
comp=Z,17nm,0.9s
KHC **Kasperske Hory** 83.91 328 *e*P P **02 57 36.9 +0.7**
KHC x x 02 57 50.0
X18A **Snowflake** 84.00 52 IAmb IAmb 02 57 40.1
comp=Z,38nm,1.4s
GERES **GERESS Array B** 84.08 328 P P **02 57 36.9 -0.2**
comp=Z,3.6nm,0.9s,baz=26,slow=7.0,SNR=3.7
comp=Z,3.6nm,0.9s
Q24A **Divide** 84.11 46 IAmb IAmb 02 57 40.6
comp=Z,17nm,0.9s
Q24A **Divide** 84.11 46 P P **02 57 37.5 -0.3**
baz=311,SNR=9.3
ARSA **Arzberg** 84.47 326 P P **02 57 39.7 +0.6**
comp=Z,8.6nm,1.2s
GRF **Grafenberg Arr** 84.47 330 *e*pPKP P **02 57 38.8 -0.2**
GRFO **Grafenberg** 84.47 330 P P **02 57 38.9 -0.1**
GRFO **Grafenberg** 84.47 330 P P **02 57 38.9 -0.1**
GRFO pmax pmax
comp=Z,70nm,1.4s
OGNE **Ogallala** 84.57 43 P P **02 57 40.0 +0.3**
baz=313
MOA **Molln** 84.58 327 *e*P P **02 57 39.7 0.0**
comp=Z,10nm,1.3s
SDCO **Great Sand Dun** 84.70 47 IAmb IAmb 02 57 43.8
comp=Z,32nm,1.2s
SDCO **Great Sand Dun** 84.70 47 P P **02 57 41.5 +0.7**
baz=311,SNR=33
EKA **Eskdalemuir Ar** 84.72 340 P P **02 57 40.1 0.0**
comp=Z,2.1nm,0.7s,baz=19,slow=4.5,SNR=2.6
comp=Z,2.1nm,0.7s
EYMN **Ely** 84.78 32 P P **02 57 40.8 +0.1**
baz=319
TUC **Tucson** 84.84 54 P P **02 57 41.7 +0.4**
TUC IAmb IAmb 02 57 44.2
comp=Z,17nm,0.8s
TUC **Tucson** 84.84 54 P P **02 57 41.7 +0.4**
TUC pmax pmax
comp=Z,17nm,0.9s
TUC **Tucson** 84.84 54 P P **02 57 42.3 +1.0**
baz=309
BIOA **Bad Ischl, Aus** 84.98 327 *e*P P **02 57 42.3 +0.6**
comp=Z,6.6nm,0.9s
SOKA **Soboth** 85.12 326 *e*P P **02 57 42.9 +0.5**
comp=Z,11nm,0.8s
ECSD **EROS Data Cent** 85.48 38 IAmb IAmb 02 57 45.4
comp=Z,13nm,0.9s
KSCO **Kaye Shedlock'** 85.54 44 P P **02 57 45.5 +0.7**
baz=313,SNR=5.0
T25A **Trinidad** 85.75 47 P P **02 57 46.8 +0.8**
baz=312,SNR=16
MEM **Membach** 85.77 333 *d*P P **02 57 44.9 -0.6**
ANMO **Albuquerque** 85.95 50 P P **02 57 47.8 +0.8**
ANMO IAmb IAmb 02 57 49.9
comp=Z,18nm,1.1s
ANMO **Albuquerque** 85.95 50 P P **02 57 47.8 +0.8**
ANMO pmax pmax
comp=Z,18nm,1.1s
ANMO **Albuquerque** 85.95 50 P P **02 57 47.6 +0.7**
baz=311
BCLA **Clavier** 86.19 333 *d*PcP P **02 57 47.9 +0.3**
Y22D **IRIS PASSCAL I** 86.22 50 P P **02 57 48.2 0.0**
baz=311
Y22F **Passcal Instru** 86.22 50 P P **02 57 48.5 +0.2**
baz=311
SPMN **Marine on St.** 86.24 35 IAmb IAmb 02 57 49.7
comp=Z,25nm,1.2s
SPMN **Marine on St.** 86.24 35 P P **02 57 48.4 +0.5**
baz=319,SNR=5.4
BGES **Gesves** 86.30 334 *d*PcP PcP **02 57 50.8 +0.2**
BGNE **Belgrade** 86.35 40 P P **02 57 48.2 -0.4**
baz=315,SNR=10
319A **Douglas** 86.42 54 IAmb IAmb 02 57 56.7
comp=Z,23nm,1.2s
RCHB **Rochefort** 86.43 333 *d*P P **02 57 48.8 +0.1**
BMRD **Maredsous** 86.48 334 *d*P P **02 57 48.7 -0.3**
121A **Cookes Peak, D** 86.66 52 IAmb IAmb 02 57 53.7
comp=Z,27nm,1.4s
121A **Cookes Peak, D** 86.66 52 P P **02 57 51.2 +0.7**
baz=310,SNR=7.9
L34A **Svendsen Farm,** 86.88 39 P P **02 57 51.4 +0.2**
SCHQ **Schefferville** 87.12 16 P P **02 57 50.7 -1.4**
comp=Z,14nm,0.8s,baz=310,slow=7.3,SNR=7.0
SCHQ LR LR 03 38 57.5
comp=Z,276nm,20.8s,baz=290,slow=37
comp=Z,14nm,0.8s
COWI **Conover** 87.23 32 IAmb IAmb 02 57 54.5
comp=Z,29nm,1.4s
CBKS **Cedar Bluff** 87.31 43 P P **02 57 53.4 +0.1**
baz=314
G40A **Rib Lake** 87.41 33 IAmb IAmb 02 57 55.4
comp=Z,23nm,0.9s
E43A **Lone Tree Farm** 87.94 31 IAmb IAmb 02 57 57.9
comp=Z,18nm,1.0s
I40A **Norwalk** 88.27 35 IAmb IAmb 02 57 59.4
comp=Z,18nm,1.1s
SCIA **State Center** 88.52 37 P P **02 57 59.7 +0.7**
SCIA **State Center** 88.52 37 P P **02 57 59.5 +0.5**
baz=318
MNTX **Cornudas Mount** 88.75 51 P P **02 58 01.1 +0.9**
baz=312
KSU1 **Kansas State U** 88.83 41 P P **02 58 01.4 +0.9**
baz=316,SNR=14
MSTX **Muleshoe** 88.87 48 P P **02 58 01.7 +0.8**
baz=313
AMTX **Amarillo** 88.91 47 P P **02 58 00.8 -0.3**
baz=313
I42A **Draeger Farm,** 89.05 34 IAmb IAmb 02 58 03.3
comp=Z,17nm,0.9s
JFWS **Jewell Farm** 89.19 35 IAmb IAmb 02 58 03.5
comp=Z,16nm,1.0s
JFWS **Jewell Farm** 89.19 35 P P **02 58 02.6 +0.4**
baz=320,SNR=5.1
N38A **Joes South For** 89.34 38 P P **02 58 03.5 +0.6**
L40A **Anamosa** 89.38 36 IAmb IAmb 02 58 04.7
comp=Z,23nm,1.0s
U32A **Winter Ranch,** 89.44 44 IAmb IAmb 02 58 05.3
comp=Z,17nm,0.8s
SMWD **Samnorwood** 89.61 46 IAmb IAmb 02 58 06.9
comp=Z,22nm,1.0s
VHRN **Van Horn** 89.61 52 P P **02 58 04.9 +0.4**
VHRN IAmb IAmb 02 58 08.7
comp=Z,18nm,1.4s
P38A **Dawn** 90.06 39 IAmb IAmb 02 58 07.8
comp=Z,16nm,0.7s
VLDQ **Val d'Or** 90.15 25 IAmb IAmb 02 58 07.4
comp=Z,40nm,1.6s
L42A **Oliver, Polo** 90.17 35 IAmb IAmb 02 58 08.1
comp=Z,15nm,1.0s
BLOK **Blackwell** 90.18 43 P P **02 58 07.2 +0.4**
GLMI **Grayling** 90.18 31 P P **02 58 07.1 +0.4**
baz=324,SNR=8.0
LPIG **La Paz** 90.31 60 LR LR 03 31 08.8
comp=Z,121nm,21.2s,baz=257,slow=31
MNHN **Monahans** 90.65 50 IAmb IAmb 02 58 12.8
comp=Z,14nm,1.4s
WMOK **Wichita Mounta** 90.72 45 P P **02 58 09.8 +0.4**
WMOK IAmb IAmb 02 58 11.7
comp=Z,26nm,1.3s
WMOK **Wichita Mounta** 90.72 45 P P **02 58 09.8 +0.4**
WMOK pmax pmax
comp=Z,26nm,1.3s
WMOK **Wichita Mounta** 90.72 45 P P **02 58 09.5 0.0**
baz=315,SNR=12
L44A **Lake County Fo** 90.85 34 P P **02 58 09.5 -0.3**
baz=322
P40A **Paris** 90.89 38 IAmb IAmb 02 58 12.2
comp=Z,22nm,0.9s
TX31 **Lajitas Ar. Si** 91.42 52 P P **02 58 12.5 -0.4**
TXAR **Lajitas Array** 91.43 52 P P **02 58 14.3 +1.4**
comp=Z,3.9nm,0.6s,baz=303,slow=3.0,SNR=48
TXAR LR LR 03 34 20.3
comp=Z,160nm,20.3s,baz=312,slow=32
comp=Z,3.9nm,0.6s
HDIL **Hopedale** 91.47 36 P P **02 58 12.5 -0.2**
baz=321
TUL3 **Leonard** 91.58 43 P P **02 58 13.8 +0.4**
baz=317,SNR=10
S39A **Bolivar** 91.61 40 P P **02 58 12.9 -0.6**
ABTX **Abilene, Hawle** 91.69 47 P P **02 58 14.6 +0.5**
baz=315
HPIG 91.70 55 IAmb IAmb 02 58 17.1
comp=Z,25nm,1.5s
RLO **Rose Lookout** 91.82 42 IAmb IAmb 02 58 16.5
comp=Z,19nm,0.8s
OZNA **Ozona** 91.96 50 IAmb IAmb 02 59 18.5
comp=Z,16nm,1.7s
SAND **Sanderson** 92.00 51 IAmb IAmb 02 58 17.8
comp=Z,15nm,1.5s
P43A **Skaggs, Pawnee** 92.07 37 IAmb IAmb 02 58 17.4
comp=Z,13nm,0.9s
HHAR **Hobbs** 92.33 41 IAmb IAmb 02 58 18.4
comp=Z,14nm,0.9s
SADO **Sadowa** 92.40 27 LR LR 03 44 36.9
comp=Z,88nm,18.7s,baz=333,slow=39
CCM **Cathedral Cave** 92.42 39 P P **02 58 17.1 -0.1**
CCM **Cathedral Cave** 92.42 39 P P **02 58 17.1 -0.1**
CCM pmax pmax
comp=Z,43nm,1.5s
CCM **Cathedral Cave** 92.42 39 P P **02 58 17.1 -0.1**
baz=320
MGMO **Mountain Grove** 92.57 40 IAmb IAmb 02 58 19.4
comp=Z,18nm,1.0s
AAM **Ann Arbor** 92.64 32 P P **02 58 17.8 -0.4**
baz=325
SFIN **Lafayette** 92.65 35 IAmb IAmb 02 58 20.1
comp=Z,16nm,1.1s
SFIN **Lafayette** 92.65 35 P P **02 58 17.6 -0.6**
baz=322
N47A **Urbana** 92.89 34 IAmb IAmb 02 58 20.8
comp=Z,14nm,0.8s
BRDY **Brady** 93.02 48 IAmb IAmb 02 58 22.4
comp=Z,16nm,0.9s
JCT **Junction City** 93.09 49 P P **02 58 20.7 +0.2**
JCT IAmb IAmb 02 58 21.9
comp=Z,8.7nm,0.7s
JCT **Junction City** 93.09 49 P P **02 58 20.7 +0.2**
JCT pmax pmax

	comp=Z,9.0nm,0.7s						
JCT	**Junction City**	**93.09**	**49**	P	**P**	**02 58 20.6**	**+0.1**
	baz=314						
DRIO	**Del Rio**	**93.31**	**50**	IAmb	IAmb	02 58 24.5	
	comp=Z,18nm,1.2s						
WHTX	**Lake Whitney,**	**93.45**	**47**	P	**P**	**02 58 21.9**	**-0.1**
	baz=316,SNR=5.6						
FCAR	**Ozark Folk Cen**	**93.60**	**41**	IAmb	IAmb	02 58 24.1	
	comp=Z,21nm,1.2s						
O48B	**Farmland**	**93.64**	**34**	IAmb	IAmb	02 58 24.3	
	comp=Z,12nm,0.8s						
O48B	**Farmland**	**93.64**	**34**	P	**P**	**02 58 22.9**	**+0.1**
	baz=324						
SIUC	**Southern Illin**	**93.71**	**38**	IAmb	IAmb	02 58 24.4	
	comp=Z,9.1nm,0.7s						
PBMO	**Poplar Bluff**	**93.81**	**39**	IAmb	IAmb	02 58 25.5	
	comp=Z,9.0nm,0.8s						
MIAR	**Mount Ida**	**93.81**	**42**	P	**P**	**02 58 23.1**	**-0.6**
	baz=318,SNR=12						
LCAR	**Lake Charles**	**93.97**	**40**	IAmb	IAmb	02 58 26.1	
	comp=Z,24nm,1.6s						
HNDO	**Hondo**	**94.07**	**49**	IAmb	IAmb	02 58 27.2	
	comp=Z,7.3nm,1.0s						
LONY	**Lake Ozonia**	**94.17**	**25**	P	**P**	**02 58 24.1**	**-1.0**
	baz=332						
435B	**Jarrell**	**94.23**	**47**	P	**P**	**02 58 24.6**	**-1.1**
	baz=316						
ERPA	**Erie**	**94.31**	**29**	P	**P**	**02 58 24.8**	**-1.0**
	baz=328						
P49A	**Miami Univ. Ec**	**94.42**	**34**	P	**P**	**02 58 24.5**	**-1.9**
	baz=324						
M53A	**WI Miller and**	**94.60**	**30**	P	**P**	**02 58 25.7**	**-1.5**
	baz=327						
ACSO	**Alum Creek Sta**	**94.62**	**32**	P	**P**	**02 58 27.2**	**-0.1**
	baz=325						
WCI	**Wyandotte Cave**	**94.73**	**36**	P	**P**	**02 58 26.4**	**-1.5**
WCI				IAmb	IAmb	02 58 29.5	
	comp=Z,10nm,0.8s						
WCI	**Wyandotte Cave**	**94.73**	**36**	P	**P**	**02 58 26.4**	**-1.5**
WCI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WCI	**Wyandotte Cave**	**94.73**	**36**	P	**P**	**02 58 27.9**	**0.0**
	baz=323						
833A	**Chaparral WMA,**	**94.84**	**50**	P	**P**	**02 58 28.4**	**-0.1**
	baz=315						
PKME	**Peaks-Kenny Pk**	**95.27**	**21**	P	**P**	**02 58 29.9**	**-0.2**
	baz=336						
T47A	**Sharon Grove**	**95.32**	**37**	P	**P**	**02 58 29.9**	**-0.7**
T47A				IAmb	IAmb	02 58 32.3	
	comp=Z,11nm,0.8s						
O53A	**New Philadelph**	**95.37**	**31**	P	**P**	**02 58 27.3**	**-3.4**
	baz=326						
LBNH	**Lisbon**	**95.39**	**23**	P	**P**	**02 58 29.3**	**-1.4**
	baz=334						
P52A	**Corning**	**95.49**	**32**	P	**P**	**02 58 29.5**	**-1.8**
	baz=326						
WVT	**Waverly**	**95.64**	**38**	P	**P**	**02 58 30.4**	**-1.6**
	baz=322						
BINY	**Binghamton**	**95.78**	**27**	P	**P**	**02 58 31.1**	**-1.6**
	baz=330						
OXF	**Oxford**	**96.08**	**40**	P	**P**	**02 58 31.9**	**-2.1**
	baz=321						
HBVL	**Hebbronville**	**96.18**	**51**	IAmb	IAmb	02 58 37.7	
	comp=Z,11nm,0.7s						
KEST	**Kesra**	**96.27**	**322**	LR	LR	03 46 23.8	
	comp=Z,182nm,19.4s,baz=324,slow=38						
T50A	**Nancy**	**96.39**	**35**	IAmb	IAmb	02 58 36.9	
	comp=Z,11nm,0.9s						
SSPA	**Standing Stone**	**96.41**	**29**	P	**P**	**02 58 34.5**	**-1.0**
	baz=329						
MCWV	**Mont Chateau**	**96.44**	**31**	P	**P**	**02 58 34.2**	**-1.4**
	baz=328						
L61B	**Northampton**	**96.73**	**24**	P	**P**	**02 58 34.7**	**-2.2**
	baz=333						
HRV	**Adam Dziewonsk**	**97.06**	**24**	P	**P**	**02 58 36.3**	**-2.0**
	baz=334						
TZTN	**Tazewell**	**97.38**	**35**	P	**P**	**02 58 37.7**	**-2.3**
	baz=325						
PAL	**Palisades**	**97.58**	**26**	P	**P**	**02 58 38.7**	**-2.0**
	baz=332						
BLA	**Blacksburg**	**98.25**	**32**	P	**P**	**02 58 41.7**	**-2.1**
	baz=327						
LRAL	**Lakeview Retre**	**98.49**	**39**	P	**P**	**02 58 42.5**	**-2.5**
	baz=322						
CBN	**Corbin Frederi**	**98.69**	**30**	P	**P**	**02 58 44.7**	**-1.0**
	baz=329						
ESDC	**Sonseca Array**	**98.76**	**333**	LR	LR	03 49 11.2	
	comp=Z,283nm,19.0s,baz=32,slow=39						
KMSC	**Kings Mountain**	**99.56**	**34**	P	**Pdif**	**02 58 47.6**	**-2.1**
	baz=326						
GOGA	**Godfrey**	**99.96**	**37**	P	**Pdif**	**02 58 49.3**	**-2.2**
	baz=324						
CNNC	**Cliffs of the**	**101.00**	**32**	P	**Pdif**	**02 58 55.0**	**-1.1**
	baz=328						
TIGA	**Tifton**	**101.50**	**38**	P	**Pdif**	**02 58 56.8**	**-1.5**
	baz=324						
DWPF	**Disney Wildern**	**105.29**	**38**	P	**Pdif**	**02 59 13.5**	**-1.8**
	baz=325						
TORD	**Torodi Ar. Bea**	**118.38**	**314**	PKP	**PKPdf**	**03 03 53.6**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=30,slow=1.8,SNR=11						
TORD				PKKPab	**PKKPab**	**03 14 15.1**	**-1.6**
	comp=Z,0.7nm,0.7s,baz=230,slow=1.9,SNR=5.1						
QSPA	**South Pole Qui**	**125.00**	**180**	PKPdf	**PKiKP**	**03 04 06.2**	**+0.3**
QSPA	**South Pole Qui**	**125.00**	**180**	PKP	**PKiKP**	**03 04 05.9**	**0.0**
	comp=Z,9.6nm,0.8s,baz=308,slow=1.6,SNR=29						
SDV	**Santo Domingo**	**126.86**	**40**	*e*P	**PKiKP**	**03 04 14.0**	**+2.5**
ELIB	**Princess Elisa**	**131.66**	**202**	*d*PKPdf	**PKiKP**	**03 04 19.5**	**+0.3**
TROLL	**Troll, Antarti**	**137.46**	**198**	⇓PKPdf	**PKiKP**	**03 04 31.4**	**+0.4**
	comp=Z,168nm,0.5s						
CZSB	**Cruzeiro do Su**	**138.67**	**57**	*e*P	**PKiKP**	**03 04 36.1**	**+1.1**
ETMB	**Extrema**	**144.51**	**51**	PKPdf	**PKPab**	**03 04 41.6**	**0.0**
TMAB	**Tom-Au,PA,Br**	**146.19**	**17**	*e*P	**PKPab**	**03 04 49.2**	**+1.3**
H03N2	**Juan Fernandez**	**147.07**	**99**	T	T	05 49 27.2	
	baz=289,slow=76						
H03N3	**Juan Fernandez**	**147.08**	**99**	T	T	05 49 31.1	
	baz=289,slow=76						
H03N1	**Juan Fernandez**	**147.09**	**99**	T	T	05 49 29.1	
	baz=289,slow=76						
LPAZ	**La Paz**	**147.81**	**62**	PKPbc	**PKPbc**	**03 04 51.9**	**-0.6**
	comp=Z,12nm,0.7s,baz=339,slow=3.6,SNR=34						
NPGB	**Novo Progresso**	**148.12**	**32**	*e*P	**PKPbc**	**03 04 52.5**	**-0.2**
PB08	**IPOC Station P**	**149.44**	**68**		**PKiKP**	**03 04 57.6**	**+0.1**
VILB	**Vilhena**	**150.63**	**46**	*e*P	**PKPbc**	**03 04 56.4**	**-2.5**
NBLV	**Livramento - P**	**152.18**	**356**	*e*P	**PKPdf**	**03 04 58.4**	**+2.5**
PTLB	**Pontes e Lacer**	**153.22**	**48**	PKPdf	**PKPdf**	**03 04 57.7**	**+0.5**
PTLB	**Pontes e Lacer**	**153.22**	**48**	*e*P	**PKPdf**	**03 05 00.2**	**+3.0**
BBSD	**Serra de San D**	**153.60**	**53**	*e*P	**PKPdf**	**03 05 00.8**	**+3.0**
BDFB	**Brasilia**	**158.84**	**25**	PKPab	**PKPab**	**03 05 41.3**	**+0.7**
	comp=Z,2.8nm,0.6s,baz=305,slow=6.4,SNR=5.8						
CPUP	**Villa Florida**	**161.88**	**66**	PKPab	**PKPab**	**03 05 54.0**	**+0.3**
	comp=Z,4.2nm,0.9s,baz=358,slow=4.7,SNR=5.5						

*IDC **19** 02:45:17.4±1.0,5.97N×126.89E,h0km,mb4.2/7, mbtmp4.2/7,MS3.8/2,Error ellipse: s-maj=77.5km s-min=20.1km az=71.0*
*NEIC **19** 02:45:31.4±1.5,5.94N±0.09×126.8E±0.1,h106km±9km, mb4.4/20,Error ellipse: s-maj=21.4km s-min=10.9km az=70.0*

ISC 19 02:45:30.1±0.7,5.89N±0.07×126.7E±0.1,h100km,n35, σ0s94/33,mb4.3/16,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.64**	**316**	Pn	**Pn**	**02 45 59.1**	**+1.0**
TNTI	**Ternate**	**5.13**	**173**	Pn	**Pn**	**02 46 46.4**	**+1.8**
TOLI2	**Tolitoli**	**7.61**	**232**	Pn	**Pn**	**02 47 18.5**	**+0.2**
MTN	**Manton Dam**	**19.12**	**167**	P	**Pn**	**02 49 45.5**	**-1.8**
MTN				IAmb	IAmb	02 49 53.6	
	comp=Z,14nm,1.1s						
KNRA	**Kununurra**	**21.53**	**175**	P	**P**	**02 50 12.1**	**+0.8**
KNRA				IAmb	IAmb	02 50 13.2	
	comp=Z,35nm,0.7s						
FITZ	**Fitzroy Crossi**	**23.86**	**183**	P	**P**	**02 50 35.9**	**+1.4**
WB0	**Warramunga Arr**	**26.59**	**164**	P	**P**	**02 50 58.9**	**-0.3**
WRA	**Warramunga Arr**	**26.74**	**164**	P	**P**	**02 51 01.5**	**+0.9**
WRA	**Warramunga Arr**	**26.74**	**164**	P	**P**	**02 50 59.7**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=342,slow=11,SNR=12						
	comp=Z,1.0nm,0.6s						
WB2	**Warramunga Arr**	**26.75**	**164**	P	**P**	**02 51 00.6**	**0.0**
WB2				IAmb	IAmb	02 51 10.6	
	comp=Z,18nm,1.4s						
WR0	**Warramunga Arr**	**26.82**	**164**	P	**P**	**02 51 00.6**	**-0.6**
WR0				IAmb	IAmb	02 51 33.1	
	comp=Z,16nm,1.4s						
MBWA	**Marble Bar**	**27.75**	**194**	P	**P**	**02 51 10.4**	**+0.9**
PSA00	**Pilbara Seismi**	**28.12**	**194**	P	**P**	**02 51 13.7**	**+0.8**
ASAR	**Alice Springs**	**30.20**	**167**	P	**P**	**02 51 29.0**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=338,slow=7.0,SNR=5.1						
	comp=Z,0.3nm,0.3s						
MORW	**Morawa**	**36.25**	**196**	P	**P**	**02 52 23.3**	**-0.5**
MORW				IAmb	IAmb	02 52 59.0	
	comp=Z,19nm,1.4s						
FORT	**Forrest**	**36.49**	**178**	P	**P**	**02 52 25.7**	**-0.1**
NWAO	**Narrogin (SRO)**	**39.65**	**193**	P	**P**	**02 52 53.0**	**+0.7**
STKA	**Stephens Creek**	**40.15**	**160**	P	**P**	**02 52 56.3**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=338,slow=10,SNR=3.5						
	comp=Z,1.6nm,0.5s						
MA2	**Magadan**	**56.62**	**14**	LR	LR	03 17 58.7	
	comp=Z,47nm,20.5s,baz=116,slow=35						
KURK	**Kurchatov**	**59.94**	**327**	P	**P**	**02 55 26.5**	**+0.8**
KURBB	**Kurchatov Arra**	**59.94**	**327**	P	**P**	**02 55 26.8**	**+1.1**
	comp=Z,3.6nm,0.5s,baz=130,slow=4.1,SNR=2.9						
	comp=Z,3.6nm,0.5s						
BVAR	**Borovoye Array**	**65.52**	**326**	P	**P**	**02 56 02.9**	**+0.1**
	comp=Z,8.4nm,0.9s,baz=116,slow=6.6,SNR=2.5						
	comp=Z,8.4nm,0.9s						
ABKAR	**Akbulak array**	**70.49**	**320**	P	**P**	**02 56 33.3**	**-0.7**
RAR	**Rarotonga**	**76.88**	**113**	LR	LR	03 26 40.6	
	comp=Z,105nm,21.8s,baz=329,slow=32						
E18K	**Tukpahlearik C**	**77.96**	**22**	P	**P**	**02 57 17.7**	**+0.7**
C18K	**Utukok River**	**78.05**	**21**	P	**P**	**02 57 17.9**	**+0.3**
C18K				IAmb	IAmb	02 57 37.9	
	comp=Z,3.8nm,1.3s						
O18K	**Koktuh Hills**	**78.93**	**30**	P	**P**	**02 57 22.5**	**-0.1**
O18K				IAmb	IAmb	02 57 24.2	
	comp=Z,3.5nm,0.8s						
D19K	**Kuna River**	**79.12**	**21**	P	**P**	**02 57 23.5**	**+0.1**
D19K				IAmb	IAmb	02 58 00.9	
	comp=Z,6.7nm,1.4s						
KDAK	**Kodiak Island**	**80.07**	**32**	P	**P**	**02 57 29.3**	**+0.6**
KDAK				IAmb	IAmb	02 57 29.6	
	comp=Z,6.1nm,0.9s						
IMAR	**Indian Mountai**	**80.38**	**24**	P	**P**	**02 57 30.7**	**+0.5**
CAST	**Castle Rocks**	**80.81**	**27**	P	**P**	**02 57 32.1**	**-0.5**
CAST				IAmb	IAmb	02 57 59.1	
	comp=Z,5.1nm,1.4s						
MLY	**Manley**	**81.53**	**25**	P	**P**	**02 57 37.0**	**+0.6**
ILAR	**Eielson Array**	**83.16**	**26**	P	**P**	**02 57 44.0**	**-0.9**
ILAR	**Eielson Array**	**83.16**	**26**	P	**P**	**02 57 43.8**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=262,slow=5.6,SNR=1.2						
	comp=Z,0.3nm,0.6s						
ARCES	**ARCESS Array B**	**88.43**	**340**	P	**P**	**02 58 09.9**	**-0.9**
	comp=Z,4.8nm,1.0s,baz=79,slow=5.7,SNR=1.5						
	comp=Z,4.8nm,1.0s						

IDC 19 03:11:58.3±2.3,6.90S×128.43E,h0km,mb3.5/1, mbtmp3.4/3,ML3.3/2,Error ellipse: s-maj=163.7km s-min=33.7km az=66.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.18**	**157**	Pn	Pn	03 15 19.9	-0.6
	0.1nm,0.3s,baz=335,slow=13,SNR=2.4						
WRA				Sn	Sn	03 17 44.1	-15
	0.2nm,0.3s,baz=337,slow=22,SNR=2.3						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**17.48**	**163**	P	Pn	03 16 04.2	+0.5
	0.3nm,0.3s,baz=342,slow=9.6,SNR=5.5						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**67.30**	**328**	P	P	03 22 55.0	0.0
	0.2nm,0.4s,baz=117,slow=7.7,SNR=3.1						
	0.2nm,0.4s						

*TEH **19** 03:24:17.7,27.20N×57.56E,h10km±990km,ML2.7*
*OMAN **19** 03:24:18.4±0.1,27.11N×57.54E,h10km,ml1.9/4,Error ellipse: s-maj=1.9km s-min=1.6km az=19.0*

ISC 19 03:24:18.1±1.5,27.19N±0.05×57.52E±0.06,h13km±13km, n19,σ1s38/29,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNJ	**Kahnooj**	**0.78**	**12**	Pg	**Pg**	**03 24 32.4**	**-0.8**
IBND	**Bandar-abas**	**0.91**	**287**	Pg	**Pg**	**03 24 36.5**	**+0.8**
IBND				Sg	**Sb**	**03 24 49.7**	**+1.8**
GENO	**Geno**	**1.22**	**280**	Pg	**Pn**	**03 24 40.7**	**-0.4**
JASK	**Jask - Hormozg**	**1.35**	**167**	Pg	**Pg**	**03 24 43.8**	**-0.3**
JASK	**Jask - Hormozg**	**1.35**	**167**	P	**Pg**	**03 24 44.0**	**0.0**
	SNR=11						
JASK				S	**Sn**	**03 25 02.0**	**+1.4**
BANOM	**Banah**	**1.67**	**221**	P	**Pn**	**03 24 47.8**	**+0.6**
BANOM				S	**Sb**	**03 25 09.6**	**-0.1**
SHME	**Shamm**	**1.68**	**228**	P	**Pn**	**03 24 47.9**	**+0.7**
	SNR=8.6						
SHME				S	**Sb**	**03 25 09.2**	**-0.7**
MDH	**Madha**	**2.18**	**211**	P	**Pn**	**03 24 53.9**	**-0.2**
MDH				S	**Sn**	**03 25 18.4**	**-2.5**
MASF	**Masafi**	**2.18**	**214**	P	**Pb**	**03 24 57.4**	**-0.1**
MASF				S	**Sb**	**03 25 22.6**	**-1.9**
UOSS	**Minazif**	**2.53**	**208**	P	**Pn**	**03 24 58.2**	**-0.7**
UOSS				S	**Sn**	**03 25 28.8**	**-0.8**
NAZ	**Nazwa, Dubai**	**2.75**	**218**	P	**Pn**	**03 25 01.8**	**-0.2**
NAZ				S	**Sn**	**03 25 35.3**	**+0.1**
ASHO	**Ashiyiah**	**2.82**	**208**	P	**Pn**	**03 25 05.3**	**+2.3**
	SNR=15						
FAQ	**Al Faqa, Dubai**	**2.99**	**216**	P	**Pn**	**03 25 06.8**	**+1.6**
FAQ				S	**Sn**	**03 25 42.8**	**+1.8**
SOHO	**SOHO**	**3.17**	**197**	P	**Pn**	**03 25 06.9**	**-0.8**
HOQ	**Hoqain**	**3.59**	**183**	P	**Pn**	**03 25 13.0**	**-0.6**
HOQ				S	**Sn**	**03 25 54.6**	**-1.4**
ARQ	**Araqi**	**3.94**	**194**	P	**Pn**	**03 25 20.3**	**+1.9**
	SNR=16						
WBK	**Wadi Bani Khal**	**4.74**	**164**	P	**Pn**	**03 25 29.9**	**+0.5**
	SNR=7.8						
GHWR	**Ruwais**	**5.28**	**234**	P	**Pn**	**03 25 35.3**	**-1.5**
MHTO	**MHTO**	**6.18**	**176**	P	**Pn**	**03 25 52.0**	**+2.8**
	SNR=5.3						

ISK 19 03:34:04.4,36.97N×27.79E,h4km,ML1.2/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAT	**Datca**	**0.29**	**216**	Pg	Pg	03 34 10.9	+0.8
BODT	**Bodrum**	**0.40**	**284**	Pg	Pg	03 34 12.7	+0.7
BODT				Sg	Sb	03 34 18.9	-1.5
TURN	**Turunc**	**0.41**	**118**	Pg	Pg	03 34 13.2	+0.9
TURN				Sg	Sb	03 34 19.4	-1.4

AFAD 19 03:34:10.5±0.0,36.93N×29.08E,h7km±4km,ML1.3, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAEL	**Denizli, Camel**	**0.27**	**44**	P	Pg	03 34 16.8	+0.9
CAEL				*i* AML	AML	03 34 25.0	
	comp=N,50nm,1.6s						
CAEL				*i* AML	AML	03 34 26.0	
	comp=E,90nm,1.4s						
FETY	**Fethiye**	**0.29**	**180**	P	Pb	03 34 18.4	+0.3
FETY				S	Sb	03 34 21.9	-1.2
DNZT	**Denizli-Tavas-**	**0.35**	**352**	P	Pg	03 34 17.9	+0.5
KNIK	**Mula-Seydike**	**0.40**	**102**	P	Pg	03 34 17.2	-1.2
KNIK				S	Sg	03 34 24.7	+1.0
KNIK				*i* AML	AML	03 34 26.0	
	comp=E,13nm,0.3s						
KNIK				*i* AML	AML	03 34 27.0	
	comp=N,11nm,0.3s						
GOLH	**Golhisar**	**0.49**	**51**	P	Pg	03 34 20.2	+0.2
GOLH				S	Sg	03 34 27.1	+0.7
GOLH				*i* AML	AML	03 34 30.0	
	comp=E,52nm,2.2s						
IZZE	**Mula-Seydike**	**0.50**	**167**	P	Pg	03 34 19.6	-0.6
IZZE				*i* AML	AML	03 34 33.0	
	comp=E,30nm,0.5s						
IZZE				*i* AML	AML	03 34 38.0	
	comp=N,26nm,0.5s						
TAVA	**DENIZLI_Tavas**	**0.56**	**346**	P	Pg	03 34 20.8	-0.4
TURN	**Turunc**	**0.69**	**258**	P	Pg	03 34 16.6	-7.2

*IDC **19** 03:49:51.1±2.6,29.16N×52.42E,h0km,mb3.5/6, mbtmp3.5/7,ML2.8/1,Error ellipse: s-maj=53.2km s-min=29.4km az=145.0*
*TEH **19** 03:49:52.6,29.25N×52.57E,h8km±44km,ML3.1*
ISC 19 03:49:53.5±0.7,29.22N±0.04×52.57E±0.04,h12km,n30, σ1s50/31,mb3.4/6,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHI	**Shiraz**	**0.42**	**353**	Pg	**Pg**	**03 50 00.0**	**-1.9**
QIR1	**Qir**	**0.85**	**151**	Pg	**Pg**	**03 50 09.1**	**-0.8**
KAZ2	**Kazeron-Fars-I**	**0.89**	**296**	Pg	**Pg**	**03 50 09.3**	**-1.3**
JHRM	**Jahrom**	**1.13**	**129**	Pg	**Pn**	**03 50 15.5**	**+0.3**
AHBU	**AHRAM**	**1.18**	**253**	Pg	**Pb**	**03 50 15.8**	**+0.1**
DSBU	**Dashti - Bushe**	**1.44**	**234**	Pg	**Pg**	**03 50 20.8**	**-0.3**
DSBU				Sg	**Sg**	**03 50 41.1**	**+1.4**
KLNJ	**Kolanjah**	**1.97**	**335**	Pn	**Pn**	**03 50 28.2**	**+1.2**
IRAM	**Ramesheh**	**2.58**	**356**	Pn	**Pn**	**03 50 36.9**	**+1.6**
ISAD	**Sadrabad**	**2.85**	**19**	Pn	**Pn**	**03 50 41.2**	**+2.2**
IBRJ	**Brojen**	**2.91**	**337**	Pn	**Pn**	**03 50 41.0**	**+1.1**
ZNGN	**Zangian**	**3.25**	**333**	Pn	**Pn**	**03 50 46.4**	**+1.9**
ICHK	**Chekchek**	**3.40**	**27**	Pn	**Pn**	**03 50 48.3**	**+1.7**
JHBN	**Jahan bin**	**3.42**	**332**	Pn	**Pn**	**03 50 48.0**	**+1.1**
IBAF	**Bafgh**	**3.50**	**47**	Pn	**Pn**	**03 50 49.7**	**+1.8**
KHGB	**Koh Gabri**	**3.58**	**70**	Pn	**Pn**	**03 50 49.9**	**+0.8**
IZEF	**Zefreh**	**3.67**	**357**	Pn	**Pn**	**03 50 52.1**	**+1.8**
TVBK	**TV Kerman**	**3.73**	**77**	Pn	**Pn**	**03 50 52.9**	**+1.8**
IPIR	**Pirpir**	**3.74**	**338**	Pn	**Pn**	**03 50 52.8**	**+1.5**
ZRDN	**Zarand Kerman**	**3.85**	**62**	Pn	**Pn**	**03 50 54.0**	**+1.2**
ANAR	**Anarak**	**4.08**	**14**	Pn	**Pn**	**03 50 57.7**	**+1.9**
IKLH	**Kolahrood**	**4.17**	**348**	Pn	**Pn**	**03 50 59.7**	**+2.5**
KRSH	**Karshahi**	**4.75**	**356**	Pn	**Pn**	**03 51 07.4**	**+2.4**
ISFB	**Sefidab**	**5.12**	**357**	Pn	**Pn**	**03 51 11.0**	**+0.9**
BRTR	**Keskin Array B**	**18.77**	**309**	P	**P**	**03 54 12.1**	**-0.5**
	baz=123,slow=10,SNR=2.7						
	0.4nm,0.7s						
AKTO	**Aktyubinsk**	**21.59**	**9**	P	**P**	**03 54 43.5**	**+0.6**
	0.3nm,0.4s,baz=180,slow=17,SNR=1.7						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**29.01**	**45**	P	**P**	**03 55 54.0**	**+0.8**
	0.2nm,0.6s,baz=249,slow=11,SNR=2.4						
	0.2nm,0.6s						
FINES	**FINESS Array B**	**36.69**	**339**	P	**P**	**03 56 59.8**	**-0.2**
	0.6nm,0.5s,baz=140,slow=9.0,SNR=9.1						
	0.6nm,0.5s						
HFS	**Hagfors**	**40.44**	**331**	P	**P**	**03 57 30.4**	**-1.1**
	0.5nm,0.4s,baz=106,slow=11,SNR=5.0						
	0.5nm,0.4s						
NOA	**NORSAR Array B**	**41.96**	**331**	P	**P**	**03 57 42.6**	**-1.4**
	0.4nm,0.7s,baz=120,slow=8.7,SNR=1.1						
	0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**49.68**	**262**	P	**P**	**03 58 44.0**	**-1.6**
	0.9nm,0.7s,baz=55,slow=8.6,SNR=11						
	0.9nm,0.7s						

*HEL **19** 04:17:20.9±0.3,67.93N×20.13E,h0km,ML1.3,Suspected explosion*
*UPP **19** 04:17:20.7±0.1,67.84N×20.22E,h0km,ML2.5,Confirmed Induced event*

ISC 19 04:17:20.1±1.0,67.79N±0.03×20.21E±0.03,h0km,n20, σ0s98/31,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.17**	**16**	P	**Pg**	**04 17 23.2**	**-0.2**
KUA				S	**Sg**	**04 17 25.1**	**-0.6**
RATU	**Laukkuluspa**	**0.24**	**279**	P	**Pg**	**04 17 25.4**	**+0.7**
KOVU	**Salmi**	**0.44**	**358**	P	**Pg**	**04 17 28.2**	**-0.3**
LANU	**Lannavaara**	**0.72**	**68**	P	**Pg**	**04 17 33.9**	**0.0**
LANU	**Lannavaara**	**0.72**	**68**	PG	**Pg**	**04 17 33.9**	**0.0**
	baz=264						
LANU				SG	**Sg**	**04 17 43.1**	**-0.2**
SALU	**Saltoluokta**	**0.77**	**239**	P	**Pb**	**04 17 35.8**	**-0.6**
KIF	**Kilpisjarvi**	**1.24**	**10**	PN	**Pb**	**04 17 44.0**	**-0.4**
KIF				MSG		04 17 55.9	
	comp=Z,4.1nm,0.2s						
KIF				SN	**Sg**	**04 17 59.4**	**-0.5**
HEF	**Hetta**	**1.44**	**63**	PN	**Pb**	**04 17 48.9**	**+1.2**
HEF				MSG		04 18 03.1	
	comp=Z,2.1nm,0.2s						
HEF				SN	**Sg**	**04 18 05.9**	**-0.2**
KLF	**Kolari**	**1.55**	**109**	PG	**Pg**	**04 17 50.0**	**+0.3**
KLF				MSG		04 18 09.6	
	comp=Z,2.1nm,0.2s						
KLF				SN	**Sg**	**04 18 12.0**	**+2.3**
KTK1	**Kautokeino**	**1.66**	**41**	PN	**Pg**	**04 17 51.7**	**-0.3**
KALU	**Kalix**	**2.30**	**146**	PN	**Pb**	**04 18 01.5**	**-0.9**
	baz=328						
KALU				SB	**Sg**	**04 18 33.4**	**-0.5**
TOF	**Tornio**	**2.36**	**135**	PB	**Pb**	**04 18 02.8**	**-0.5**
	baz=316						
TOF				MSG		04 18 34.2	
	comp=Z,1.2nm,0.2s						
TOF				SB	**Sg**	**04 18 35.1**	**-0.7**
SGF	**Sodankyl**	**2.44**	**95**	PG	**Pb**	**04 18 05.0**	**+0.1**
SGF				SB	**Sb**	**04 18 35.2**	**-0.2**
RNF	**Rovaniemi**	**2.55**	**115**	PB	**Pb**	**04 18 06.1**	**-0.6**
RNF				SG	**Sg**	**04 18 40.0**	**-1.9**
ARA0	**ARCESS Array S**	**2.61**	**45**	PB	**Pn**	**04 18 05.0**	**+1.5**
ARA0				SG	**Sb**	**04 18 39.3**	**-1.1**
KMNF	**Kaamanen**	**2.85**	**58**	PG	**Pb**	**04 18 11.5**	**-0.3**
KMNF				SB	**Sb**	**04 18 44.5**	**-2.7**
**R

KRVZ	Karewarewa	0.29	183	P	Pn	04 30 14.3 +0.8
NTVZ	North Tongarir	0.29	177	P	Pn	04 30 14.4 +0.9
TMVZ	Te Maari	0.31	173	P	Pn	04 30 14.4 +0.9
WTVZ	West Tongariro	0.31	190	P	Pn	04 30 14.4 +0.8
TWVZ	Taurewa	0.31	213	P	Pn	04 30 14.4 +0.8
NNVZ	North Ngauruho	0.33	186	P	Pn	04 30 14.4 +0.7
ETVZ	East Tongariro	0.33	173	P	Pn	04 30 14.5 +0.9
KUTZ	Kaahu Road	0.34	22	P	Pn	04 30 14.1 +0.6
OTVZ	Oturere	0.35	179	P	Pn	04 30 14.5 +0.8
NGZ	Ngauruhoe	0.37	187	P	Pn	04 30 14.6 +0.8
SNVZ	South Ngauruho	0.38	182	P	Pn	04 30 14.6 +0.8
COVZ	Chateau Observ	0.40	193	P	Pn	04 30 14.7 +0.9
FWVZ	Far West T-bar	0.45	190	P	Pn	04 30 15.1 +0.9
TUVZ	Tukino	0.46	180	P	Pn	04 30 15.3 +1.1
MAVZ	Mataerangi	0.47	189	P	Pn	04 30 15.3 +0.9
WHVZ	Whangaehu Hut	0.48	186	P	Pn	04 30 15.3 +1.0
TLZ	Tolley Road	0.49	349	P	Pn	04 30 14.6 +0.4
WPRZ	Whakapapataran	0.49	54	P	Pn	04 30 14.5 +0.3
TRVZ	Turoa	0.50	190	P	Pn	04 30 15.6 +1.2
WNVZ	Wahianoa	0.52	185	P	Pn	04 30 15.7 +1.2
PKVZ	Pokaka	0.54	207	P	Pn	04 30 15.6 +1.2
GRRZ	Galatos Road	0.58	38	P	Pn	04 30 15.1 +0.5
ALRZ	Allen Road	0.59	66	P	Pn	04 30 15.0 +0.4
MRHZ	Matea Rd	0.59	93	P	Pn	04 30 15.1 +0.4
MTVZ	Mangateitei	0.59	194	P	Pn	04 30 16.0 +1.3
MOVZ	Moawhango	0.60	173	P	Pn	04 30 15.8 +1.0
MOVZ				S	Sn	04 30 30.5 -1.8
HRRZ	Handcock Road	0.64	50	P	Pn	04 30 15.5 +0.5
PRRZ	Plateau Road	0.65	62	P	Pn	04 30 15.2 +0.2
HSRZ	Hossack Road	0.68	43	P	Pn	04 30 15.6 +0.5
HIZ	Hauiti	0.69	295	P	Pn	04 30 16.1 +0.9
HIZ	Hauiti	0.69	295	P	Pn	04 30 16.2 +0.9
HIZ				S	Sn	04 30 31.9 -1.0
BKZ	Black Stump Fm	0.74	119	P	Pn	04 30 16.6 +1.0
BKZ	Black Stump Fm	0.74	119	P	Pn	04 30 16.5 +0.9
BHHZ	Black Hill Sta	0.75	155	P	Pn	04 30 16.8 +1.1
BHHZ				S	Sn	04 30 32.1 -1.8
UTU	Utuhina	0.76	34	P	Pn	04 30 16.4 +0.7
VRZ	Vera Road	0.77	245	P	Pn	04 30 17.1 +1.4
HLRZ	Highlands Stat	0.78	45	P	Pn	04 30 16.9 +1.1
NGRZ	Ngongotaha	0.82	31	P	Pn	04 30 16.7 +0.5
RRRZ	Republican Roa	0.82	55	P	Pn	04 30 16.5 +0.4
KWHZ	Kaweka Forest	0.86	136	P	Pn	04 30 17.8 +1.4
TARZ	Mount Tarawera	0.88	50	P	Pn	04 30 17.2 +0.6
OMRZ	Omania	0.90	39	P	Pn	04 30 17.1 +0.4
KARZ	Kaharoa	0.91	31	P	Pn	04 30 17.2 +0.5
MKRZ	Makatiti	0.92	44	P	Pn	04 30 17.9 +1.0
MTHZ	Maungataniwha	0.93	93	P	Pn	04 30 17.7 +0.9
MUGZ	Murupara	0.93	70	P	Pn	04 30 17.1 +0.2
NMHZ	Naumai	0.94	108	P	Pn	04 30 19.2 +2.2
LIRZ	Lichensteins R	0.98	36	P	Pn	04 30 17.9 +0.6
KMRZ	Kaimai	0.99	13	P	Pn	04 30 18.0 +0.6
KRHZ	Kereru	1.00	147	P	Pn	04 30 19.2 +1.7
MCHZ	McNeill Hill	1.03	129	P	Pn	04 30 20.1 +2.4
RTZ	Ruatahuna	1.05	80	P	Pn	04 30 18.6 +0.6
MHEZ	Mangahewa	1.07	255	P	Pn	04 30 20.1 +2.1
WAZ	Wanganui	1.08	209	P	Pn	04 30 19.9 +1.9
TOZ	Tahuroa Road	1.08	353	P	Pn	04 30 18.9 +0.8
EDRZ	Edgecumbe	1.10	51	P	Pn	04 30 18.7 +0.4
RAHZ	Arahi	1.12	96	P	Pn	04 30 20.0 +1.6
ARHZ	Aropaoanui	1.14	114	P	Pn	04 30 20.6 +2.1
MARZ	Manawahe	1.15	45	P	Pn	04 30 19.3 +0.5
LREZ	Lake Rotokare	1.17	236	P	Pn	04 30 21.1 +2.2
TGRZ	Tauranga	1.18	24	P	Pn	04 30 19.6 +0.6
PNHZ	Pukenui	1.18	159	P	Pn	04 30 20.8 +1.8
DREZ	Durham Road	1.20	251	P	Pn	04 30 21.2 +2.0
WHHZ	Waihua	1.20	103	P	Pn	04 30 21.5 +1.8
URZ	Urewera	1.26	65	P	Pn	04 30 20.0 +0.2
URZ	Urewera	1.26	65	P	Pn	04 30 19.9 +0.2
TSZ	Takapari Road	1.27	169	P	Pn	04 30 21.7 +1.9
PREZ	Palmer Road	1.28	245	P	Pn	04 30 22.2 +2.2
NEZ	North Egmont	1.30	249	P	Pn	04 30 22.4 +2.2
SNGZ	Shannon Statio	1.31	89	P	Pn	04 30 21.7 +1.4
PKE	Pukeiti	1.36	253	P	Pn	04 30 22.6 +1.9
KAHZ	Kahuranaki	1.36	137	P	Pn	04 30 22.9 +2.1
KHEZ	Kahui Hut	1.37	249	P	Pn	04 30 22.9 +2.0
KHEZ	Kahui Hut	1.37	249	P	Pn	04 30 22.8 +2.0
CKHZ	Cape Kidnapper	1.39	128	P	Pn	04 30 23.2 +2.2
WPHZ	Waipukurau	1.39	154	P	Pn	04 30 22.9 +1.9
RAGZ	Rawiri	1.41	78	P	Pn	04 30 22.0 +0.8
OHWZ	Ohakea	1.42	191	P	Pn	04 30 23.7 +2.5
NBEZ	Newall Road No	1.47	251	P	Pn	04 30 23.7 +2.0
NMEZ	Namu Road	1.51	246	P	Pn	04 30 24.2 +2.1
PXZ	Pawanui	1.54	143	P	Pn	04 30 24.3 +1.9
DVZ	Dannevirke	1.54	165	P	Pn	04 30 24.1 +1.6
MWZ	Matawai	1.54	73	P	Pn	04 30 23.2 +0.7
POWZ	Post Office Ro	1.58	177	P	Pn	04 30 24.6 +1.7
MYRZ	Mayor Island	1.59	17	P	Pn	04 30 24.3 +1.2
PRHZ	Porangahau	1.64	153	P	Pn	04 30 25.5 +2.0
RIGZ	Rimuhau	1.65	87	P	Pn	04 30 25.1 +1.4
PRGZ	Paritu Road	1.74	94	P	Pn	04 30 26.3 +1.6
MKAZ	Moumakai	1.75	347	P	Pn	04 30 25.8 +1.1
TKGZ	Te Karaka	1.75	79	P	Pn	04 30 26.3 +1.6
PRWZ	Pori Road	1.76	172	P	Pn	04 30 26.7 +1.9
ANWZ	Angora Road	1.77	159	P	Pn	04 30 26.9 +2.0
MHGZ	Mahia Peninsul	1.79	102	P	Pn	04 30 26.8 +1.7
RUGZ	Raukumara Rang	1.80	63	P	Pn	04 30 25.2 -0.2
MRZ	Mangatainoka R	1.85	182	P	Pn	04 30 27.3 +1.5
AWAZ	Awhitu Peninsu	1.92	335	P	Pn	04 30 27.9 +1.3
BFZ	Birch Farm	1.93	167	P	Pn	04 30 28.2 +1.6
BFZ	Birch Farm	1.93	167	P	Pn	04 30 28.2 +1.6
TWGZ	Tauwhareparae	1.93	72	P	Pn	04 30 28.1 +1.4
ETAZ	East Tamaki Re	1.94	342	P	Pn	04 30 28.1 +1.2
HAZ	Te Kaha	1.97	59	P	Pn	04 30 27.2 0.0
TIWZ	Tintock	1.97	175	P	Pn	04 30 28.7 +1.5
CNGZ	Carnagh Statio	2.02	82	P	Pn	04 30 29.3 +1.6
OGWZ	Otaki Gorge	2.04	190	P	Pn	04 30 29.5 +1.6
WIAZ	Waiheke Island	2.05	348	P	Pn	04 30 29.3 +1.1
KUZ	Kuaotunu	2.06	1	P	Pn	04 30 29.2 +1.0
KUZ	Kuaotunu	2.06	1	P	Pn	04 30 29.2 +1.0
WTAZ	Waiatarua	2.06	335	P	Pn	04 30 30.0 +1.7
HOWZ	Holdsworth Sta	2.09	183	P	Pn	04 30 29.8 +1.2
PKGZ	Pakihiroa	2.11	65	P	Pn	04 30 29.8 +0.9
MBAZ	Motutapu North	2.12	343	P	Pn	04 30 30.1 +1.2
KIW	Kapiti Island	2.13	195	P	Pn	04 30 30.2 +1.2
CPWZ	Castlepoint	2.14	169	P	Pn	04 30 31.1 +2.0
PUZ	Puketiti	2.17	71	P	Pn	04 30 30.3 +0.8
TMWZ	Te Maipa	2.30	176	P	Pn	04 30 32.3 +1.2
CAW	Cannon Point	2.34	191	P	Pn	04 30 32.6 +1.1
MTMZ	Mount Morrison	2.35	183	P	Pn	04 30 32.5 +1.0
WMGZ	Waiomatatini S	2.38	66	P	Pn	04 30 32.7 +0.7
DUWZ	D'Urville Isla	2.40	213	P	Pn	04 30 33.2 +1.0
MXZ	Matakaoa Point	2.43	60	P	Pn	04 30 33.8 +1.2
MXZ	Matakaoa Point	2.43	60	P	Pn	04 30 33.7 +1.2
WEL	Wellington	2.57	195	P	Pn	04 30 35.1 +0.9
PAWZ	Paruwai Farm	2.58	184	P	Pn	04 30 35.2 +0.8
TRWZ	Traveller	2.59	180	P	Pn	04 30 35.4 +0.9
SNZO	South Karori	2.60	196	P	Pn	04 30 35.3 +0.7
TCW	Tory Channel	2.62	203	P	Pn	04 30 35.8 +0.9
BHW	Baring Head	2.67	193	P	Pn	04 30 36.2 +0.8
PLWZ	Palliser	2.78	186	P	Pn	04 30 37.4 +0.6
TUWZ	Tuamarina	2.93	206	P	Pn	04 30 39.2 +0.5
NNZ	Nelson	2.98	215	P	Pn	04 30 40.0 +0.8
TKNZ	Takaka Hill	3.04	222	P	Pn	04 30 40.8 +0.7
WCZ	Waipu Caves	3.05	340	P	Pn	04 30 42.2 +2.0
QRZ	Quartz Range	3.14	229	P	Pn	04 30 42.1 +0.8
QRZ	Quartz Range	3.14	229	P	Pn	04 30 42.2 +0.8
BSWZ	Blackbirch Sta	3.21	205	P	Pn	04 30 42.9 +0.7
MRNZ	Matariki Terra	3.41	220	P	Pn	04 30 45.3 +0.5
THZ	Tophouse	3.62	215	P	Pn	04 30 48.3 +0.7
OUZ	Omahuta	3.94	335	P	Pn	04 30 54.2 +2.5
KHZ	Kahutara	3.95	203	P	Pn	04 30 52.2 +0.6
KHZ	Kahutara	3.95	203	P	Pn	04 30 52.2 +0.6
DSZ	Denniston Nort	4.16	224	P	Pn	04 30 54.8 +0.3
GVZ	Greta Valley S	4.61	205	P	Pn	04 31 00.3 0.0
LTZ	Lake Taylor	4.73	212	P	Pn	04 31 01.6 -0.3
AMCZ	Amberley	4.92	207	P	Pn	04 31 03.9 -0.5
INZ	Inchbonnie	5.05	218	P	Pn	04 31 05.8 -0.3
OXZ	Oxford	5.28	210	P	Pn	04 31 08.3 -0.8
AKCZ	Akaroa Harbour	5.47	201	P	Pn	04 31 10.9 -0.7
MHCZ	Mount Hutt	5.64	212	P	Pn	04 31 13.8 -0.1
WACZ	Wakanui South	5.88	208	P	Pn	04 31 16.5 -0.5
TMZ	Timaru	6.57	211	P	Pn	04 31 25.5 -0.8
ODZ	Otahua Downs	7.26	209	P	Pn	04 31 35.0 -0.4
CTZ	Chatham Island	7.62	133	P	Pn	04 31 46.6 +6.4

*DSN **19** 04:30:38.1±6.7, 30°.48N×50°.60E, h11km, ML4.8/13, Error ellipse: s-maj=73.6km s-min=15.4km az=148.0*

*BJI **19** 04:30:44.0±0.0, 29°.60N×50°.70E, h5km, mb4.8/67, mB5.1/39, Ms4.9/42, Ms7 4.7/42*

*MOS **19** 04:30:45.6±1.1, 29°.60N×50°.73E, h9km, mb5.0/66, MS4.1/9, Error ellipse: s-maj=4.5km s-min=3.2km az=93.9*

*IDC **19** 04:30:45.1±0.5, 29°.55N×50°.72E, h0km, mb4.5/30, mbtmp4.5/38, ML4.0/9, MS4.1/65, Error ellipse: s-maj=14.0km s-min=10.9km az=0.0*

*NEIC **19** 04:30:47.6±1.3, 29°.62N±0°.07×50°.74E±0°.07, h10km±1km, mb5.0/221, Error ellipse: s-maj=11.6km s-min=9.8km az=196.0*

*THR **19** 04:30:48.7±0.7, 29°.72N×50°.75E, h18km±6km, ML5.0*

*TEH **19** 04:30:48.6, 29°.70N×50°.73E, h18km±20km, ML5.0*

*GCMT **19** 04:30:49.6±0.2, 29°.56N±0°.02×50°.62E±0°.02, h14km, MW4.9/104, Moment Tensor Solution. s45,c54; s104,c164; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.65±.11; Mθθ-1.56±.08; Mφφ-1.08±.07; Mrθ 1.66±.18; Mθφ 1.29±.05; Mφr-0.23±.15; Best double couple: Mo3.12200×10^16 NP1:φs114.00000°, δ61.00000°, λ75.00000°. NP2:φs324.00000°, δ32.00000°, λ115.00000°. Principal axes: T 3.2370, Plg70.0000°, Azm351.0000°; N -0.2210, Plg13.0000°, Azm122.0000°; P -3.0060, Plg15.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*SGS **19** 04:30:49.9, 29.83N×50.66E, h6km, Ml4.5*

*GII **19** 04:30:51.2±0.2, 29°.40N±0°.02×52°.001E±0°.009, h8km, confirmed*

*OMAN **19** 04:30:52.4±0.8, 29°.56N×50°.81E, h43km±15km, mb5.3/38, ml5.0/1, ms3.6/2, Error ellipse: s-maj=8.7km s-min=5.8km az=18.0*

*NAO **19** 04:31:01.3, 30°.46N×49°.05E, h33km, mb4.7*

ISC 19 04:30:48.0±0.5, **29°.64N**±0°.03×**50°.74E**±0°.02, **h14**km±2km, **h15**km:**pP-P, n1093**, σ1**°56**/1065, **mb4.9**/230, **MS4.2**/83, **40C-25D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
KAZ2	Kazeron-Fars-I	0.80	92	Pg	Pb	04 31 03.9		+0.1
AHBU	AHRAM	0.91	148	Pg	Pn	04 31 06.8		+0.4
AHBU				Sg	Sn	04 31 21.9		+2.6
ABEH	Behbahan	1.04	336	Pg	Pb	04 31 07.5		-0.4
DSBU	Dashti - Bushe	1.35	160	Pg	Pg	04 31 14.8		+0.7
SHI	Shiraz	1.54	90	Pg	Pg	04 31 17.5		-0.2
SHI				Sg	Sg	04 31 40.6		+2.9
KLNJ	Kolanjah	1.55	28	Pg	Pn	04 31 15.9		+0.4
IBRJ	Brojen	2.30	11	Pn	Pn	04 31 27.6		+1.8
QIR1	Qir	2.33	119	Pn	Pb	04 31 28.2		-1.5
ZNGN	Zangian	2.47	2	Pn	Pn	04 31 29.8		+1.6
AHWZ	Ahwaz	2.47	313	Pn	Pn	04 31 29.5		+1.6
IRAM	Ramesheh	2.58	33	Pn	Pn	04 31 31.5		+1.9
JHBN	Jahan bin	2.58	359	Pn	Pn	04 31 31.2		+1.6
KBD	Kabd	2.70	261	P	Pb	04 31 34.9		-1.2
JHRM	Jahrom	2.73	114	Pn	Pn	04 31 33.5		+2.0
IGAR	Gharneh	2.97	22	Pn	Pn	04 31 37.1		+2.1
IPIR	Pirpir	3.04	2	Pn	Pn	04 31 37.9		+2.0
ISAD	Sadrabad	3.40	47	Pn	Pn	04 31 42.9		+2.0
IZEF	Zefreh	3.52	22	Pn	Pn	04 31 44.3		+1.8
NASN	Na'in	3.61	29	ePn	Pn	04 31 45.8		+2.0
NASN				eSg	Sb	04 32 38.9		+3.3
SAKB	Bahrain	3.66	183	P	Pn	04 31 47.6		+3.5
SAKB				S	Sn	04 32 29.2		+2.2
IKLH	Kolahrood	3.73	11	Pn	Pn	04 31 47.2		+1.7
LAR1	LAR	3.75	121	Pn	Pn	04 31 48.8		+3.3
IMEH	Mehriz	3.77	61	Pn	Pn	04 31 48.5		+2.6
SHMA	Al-Shehemyia SNR=21	3.78	177	P	Pn	04 31 48.8		+3.0
SHMA				S	Sn	04 32 32.3		+2.2
ICHK	Chekchek SNR=5.5	4.08	50	Pn	Pn	04 31 51.7		+1.6
QAMS	Qamsar	4.12	8	Pn	Pn	04 31 52.5		+1.7
KHMZ	Khomeyn	4.14	351	ePn	Pn	04 31 52.9		+1.9
YZKH	Yazd	4.29	49	ePn	Pn	04 31 54.9		+1.9
ANAR	Anarak	4.36	35	Pn	Pn	04 31 55.9		+1.9
KRSH	Karshahi	4.47	15	Pn	Pn	04 31 58.0		+2.5
IBAF	Bafgh	4.59	64	Pn	Pn	04 31 59.0		+1.8
IKFM	Kafar-mosalman	4.59	328	Pn	Pn	04 31 58.2		+1.2
IDOB	Doab	4.68	333	Pn	Pn	04 31 58.9		+0.5
GHVR	GHOM	4.85	5	ePn	Pn	04 32 02.3		+1.7
ISFB	Sefidab	4.87	15	Pn	Pn	04 32 02.3		+1.4
SMRA	Abu-Samra SNR=8.0	4.88	179	P	Pn	04 32 04.4		+3.5
SMRA				S	Sn	04 32 59.7		+2.4
TRNA	Turayna SNR=73	4.91	175	P	Pn	04 32 04.0		+2.6
TRNA				S	Sn	04 33 00.4		+2.6
HSAM	Samen	4.91	339	Pn	Pn	04 32 02.9		+1.3
ASAD	Ashtian	4.93	353	ePn	Pn	04 32 03.8		+1.9
KHGB	Koh Gabri	5.03	80	Pn	Pn	04 32 05.0		+2.1
JRN	Qarnain Island SNR=9.4	5.04	158	P	Pn	04 32 06.5		+3.3
JRN				S	Sn	04 33 02.5		+1.2
NHRD	Haradh	5.14	198	P	Pn	04 32 07.5		+3.0
NHRD	Haradh	5.14	198	S	Sn	04 33 05.8		+2.2
ZRDN	Zarand Kerman	5.18	74	Pn	Pn	04 32 07.1		+1.7
IQOM	Qom	5.19	3	Pn	Pn	04 32 06.7		+1.1
NGRK	Negar Kerman	5.21	89	Pn	Pn	04 32 08.0		+2.1
KRBR	Kerman comp=E,386nm,0.9s	5.24	85	ePn	Pn	04 32 08.4		+2.2
KRBR				IAML		04 34 00.1		
KRBR	comp=N,544nm,0.8s			IAML		04 34 00.9		
TVBK	TV Kerman	5.24	85	Pn	Pn	04 32 08.3		+2.0
BNDS	Bandar-Abbas	5.27	114	ePn	Pn	04 32 08.8		+2.3
GENO	Geno	5.27	114	Pn	Pn	04 32 08.3		+1.7
HAGD	Aghdareh	5.34	346	Pn	Pn	04 32 08.8		+1.2
IBZA	Bozab	5.40	334	Pn	Pn	04 32 09.5		+1.1
IVRN	Varamin	5.40	9	Pn	Pn	04 32 09.7		+1.5
ILBA	Ilam Banvizeh	5.54	317	ePn	Pn	04 32 11.1		+1.0
ILBA	comp=N,647nm,0.6s			IAML		04 34 03.1		
ILBA	comp=E,552nm,0.8s			IAML		04 34 16.7		
ILBA	Ilam Banvizeh	5.54	317	Pn	Pn	04 32 11.2		+1.0
IBND	Bandar-abas	5.55	112	Pn	Pn	04 32 12.7		+2.6
KCHF	Cheshme Sefid,	5.59	327	Pn	Pn	04 32 11.8		+0.9
SLWR	Sila	5.61	171	P	Pn	04 32 13.4		+2.3
SLWR				S	Sn	04 33 15.8		+0.4
KRM1	Kerman Provinc	5.72	80	Pn	Pn	04 32 15.2		+2.4
IRAZ	Razeghan	5.79	353	Pn	Pn	04 32 14.8		+1.1
IHSB	Hasanabad	5.80	4	Pn	Pn	04 32 15.3		+1.6
CHMN	Cheshme madani	5.91	86	Pn	Pn	04 32 17.9		+2.4
GHWR	Ruwais	5.97	161	P	Pn	04 32 18.4		+2.4
GHWR				S	Sn	04 33 23.9		-0.2
SHME	Shamm	5.97	126	P	Pn	04 32 16.1		+0.1
SHME	Shamm	5.97	126	P	Pn	04 32 19.0		+3.0
SHME				S	Sn	04 33 22.8		-1.3
IDMV	Damavand	6.02	10	Pn	Pn	04 32 18.0		+1.2
ASYS		6.02	251	S	Sn	04 33 22.6		-2.9
ASYS		6.02	251	P	Pn	04 32 17.9		+1.1
ILAS	Lasjerd	6.02	18	Pn	Pn	04 32 17.8		+0.9
IMHD	Mahdasht	6.03	359	Pn	Pn	04 32 17.8		+1.0
DAMV	Damavand	6.06	10	ePn	Pn	04 32 19.9		+1.5
AMD1	Meshkindasht	6.09	2	Pn	Pn	04 32 19.4		+1.7
TPRV	Parvadeh(Tabas	6.10	55	Pn	Pn	04 32 19.7		+1.8
SNGE	Sanandaj	6.15	333	ePn	Pn	04 32 19.7		+1.1
ILIN	Lien	6.16	330	Pn	Pn	04 32 19.4		+0.6
BANOM	Banah	6.16	126	P	Pn	04 32 16.9		-1.7
BANOM	Banah	6.16	126	P	Pn	04 32 20.3		+1.6
BANOM				S	Sn	04 33 27.7		-1.2
IFIR	Firoozkooh	6.22	15	Pn	Pn	04 32 20.9		+1.3
IDHR	Dehrash	6.25	325	Pn	Pn	04 32 21.7		+1.7
CHTH	Charan	6.26	3	ePn	Pn	04 32 21.6		+1.4
THKV	Tehran--Karaj	6.26	1	ePn	Pn	04 32 21.6		+1.5
AJN	Ajban SNR=7.9	6.32	142	iP	Pn	04 32 21.6		+0.9
AJN	Ajban SNR=7.8	6.32	142	P	Pn	04 32 23.5		+2.8
AJN				S	Sn	04 33 33.4		+0.7
NAZ	Nazwa, Dubai SNR=16	6.37	136	iP	Pn	04 32 22.7		+1.2
NAZ	Nazwa, Dubai SNR=16	6.37	136	P	Pn	04 32 23.3		+1.7
NAZ	SNR=18			S	Sn	04 33 33.0		-1.1
IANJ	Anjilo	6.39	24	Pn	Pn	04 32 23.2		+1.2
MASF	Masafi SNR=8.3	6.42	130	S	Sn	04 33 33.2		-2.1
MZWR	Madinat Zayed	6.49	154	P	Pn	04 32 26.2		+3.0
MZWR				S	Sn	04 33 35.9		-1.1
FAQ	Al Faqa, Dubai SNR=14	6.51	137	iP	Pn	04 32 24.1		+0.6
FAQ	Al Faqa, Dubai SNR=14	6.51	137	P	Pn	04 32 24.8		+1.4
FAQ				S	Sn	04 33 35.8		-1.8
KGS1	Ghasr-e-Shirin	6.53	319	Pn	Pn	04 32 24.0		+0.3
MDH	Madha	6.56	130	P	Pn	04 32 22.6		-1.5
MDH	Madha	6.56	130	P	Pn	04 32 22.7		-1.5
MDH				S	Sn	04 33 38.1		-0.7
TNSJ	Nastanj	6.59	48	Pn	Pn	04 32 26.5		+1.9
IALA	Alasht	6.65	15	Pn	Pn	04 32 27.3		+1.6
IPRN	Peran	6.72	11	Pn	Pn	04 32 28.2		+1.8
TKDS	Kookhdasht(Taba	6.73	52	Pn	Pn	04 32 27.9		+1.4
UOSS	Minazif	6.74	133	Pn	Pn	04 32 26.1		-0.5
UOSS	Minazif SNR=8.0	6.74	133	iP	Pn	04 32 26.6		0.0
UOSS	Minazif	6.74	133	P	Pn	04 32 27.0		+0.4
UOSS				S	Sn	04 33 40.4		-2.8
TABS	Tabas	6.74	52	ePn	Pn	04 32 28.6		+1.9
KBAM	BAM	6.75	92	Pn	Pn	04 32 28.5		+1.8
HATD	Hatta, Dubai SNR=10.0	6.78	134	iP	Pn	04 32 27.7		+0.5
HATD	Hatta, Dubai SNR=10.0	6.78	134	P	Pn	04 32 28.5		+1.3
HATD				S	Sn	04 33 42.6		-1.6
MZPU	Pul - Mazandar	6.81	6	Pn	Pn	04 32 29.6		+1.8
ASHO	Ashiyiah SNR=17	6.84	135	iP	Pn	04 32 27.8		-0.1
ASHO	Ashiyiah SNR=52	6.84	135	P	Pn	04 32 29.0		+1.0
ASHO				S	Sn	04 33 42.9		-2.8
KLST	Kelardasht - M	6.86	2	Pn	Pn	04 32 30.2		+1.7
MZR	Muzera SNR=19	7.05	159	iP	Pn	04 32 33.0		+2.1
MZR	Muzera SNR=19	7.05	159	P	Pn	04 32 33.5		+2.7
MZR				S	Sn	04 33 50.5		-0.3
JIR1	Jirandeh	7.09	354	Pn	Pn	04 32 32.4		+0.9
ALNE	Al Ain SNR=46	7.14	140	iP	Pn	04 32 33.3		+1.3
ALNE	Al Ain SNR=9.7	7.14	140	P	Pn	04 32 33.7		+1.6
ALNE				S	Sn	04 33 51.5		-1.4
HIL04	Ash Shaalaniya	7.26	257	P	Pn	04 32 34.2		+0.5
GIDE	GILAN DEYLAMAN	7.29	355	ePn	Pn	04 32 36.1		+1.8
IGLO	Ghaloghah	7.32	20	Pn	Pn	04 32 35.9		+1.8
DWDS	Al Duwadimi	7.32	227	P	Pn	04 32 35.0		+0.5
JASK	Jask - Hormozg SNR=22	7.34	119	P	Pn	04 32 35.2		+0.3
JASK				S	Sn	04 33 57.0		-1.0
SOHO	SOHO SNR=5.2	7.54	135	iP	Pn	04 32 37.5		0.0
SOHO	SOHO SNR=18	7.54	135	P	Pn	04 32 38.0		+0.5
BSRN	Basiran	7.57	70	ePn	Pn	04 32 40.2		+2.1
BSRN	Basiran	7.57	70	Pn	Pn	04 32 40.1		+2.0
ITEG	Tejag	7.58	63	Pn	Pn	04 32 39.5		+1.3
IKOO	Kooshah	7.61	67	Pn	Pn	04 32 40.7		+1.9
RAYN	Ar Rayn	7.69	219	Pn	Pn	04 32 39.6		0.0
RAYN	Ar Rayn	7.69	219	P	Pn	04 32 39.6		0.0
RAYN	Ar Rayn	7.69	219	P	Pn	04 32 40.4		+0.7
HTM02	HTM02	7.70	251	P	Pn	04 32 39.7		0.0
SHRO	Shahrood	7.73	34	ePn	Pn	04 32 41.8		+1.6
HTM03	HTM03	7.75	252	P	Pn	04 32 40.5		0.0
HTM01	HTM01	7.85	250	P	Pn	04 32 41.6		-0.3
HTM04	HTM04	7.90	253	P	Pn	04 32 42.6		0.0
SRSL	SARDASHT	7.93	327	ePn	Pn	04 32 44.2		+1.2
UMZA	Um Al Zommool	7.96	149	P	Pn	04 32 44.3		+1.0
AFRZ	Afriz	8.00	60	Pn	Pn	04 32 44.9		+0.9

ASF Jabal al Asfar 12.16 285 Pn **Pn** 04 33 41.9 +1.0
comp=E,2.0nm,0.3s,baz=154,slow=3.4,SNR=14
ASF Sn **Sn** 04 35 49.4 -6.9
comp=E,0.5nm,0.3s,baz=153,slow=19,SNR=3.5
ASF Lg Lg 04 37 13.5
comp=E,2.3nm,0.3s,baz=335,slow=19,SNR=1.4
ASF LR LR 04 39 30.8
comp=E,812nm,19.6s,baz=149,slow=43
comp=E,4.5nm,0.3s
ASF Jabal al Asfar 12.16 285 P **Pn** 04 33 40.5 -0.4
SHAO Shalim 12.40 158 P **Pn** 04 33 44.3 +0.1
ZKTA Zakatala 12.43 346 P **Pn** 04 33 45.2 +0.7
ABTO Aybut 12.45 169 P **Pn** 04 33 44.0 -0.9
SNR=35
DMTO DMTO 12.48 161 P **Pn** 04 33 44.8 -0.4
SNR=51
RBK Rabkut 12.49 165 P **Pn** 04 33 45.6 +0.2
KARS Kars 12.62 332 Pn **Pn** 04 33 47.3 0.0
KARS Kars 12.62 332 P **Pn** 04 33 47.3 0.0
SHMJ Saham 13.19 287 P **Pn** 04 33 55.7 +0.8
GHAJ Ghor Haditha 13.20 281 Pn **Pn** 04 33 54.1 -0.9
GHAJ Ghor Haditha 13.20 281 P P 04 34 14.5 +10
LISJ El Lisan 13.27 281 P **Pn** 04 33 58.5 +2.6
QRNJ Al-Qirein 13.29 285 P **Pn** 04 33 59.1 +2.9
NATI Neve Ativ 13.31 290 P P 04 34 16.2 +10
HMDT Nahal Hemdat 13.32 285 P P 04 34 15.7 +9.4
HMDT Nahal Hemdat 13.32 285 S **S** 04 36 56.5 +7.8
MSBI Mazada 13.38 281 P **Pn** 04 33 58.7 +1.3
MSBI Mazada 13.38 281 P P 04 34 16.4 +9.5
MMLI Mount Malkishu 13.43 286 P P 04 34 18.0 +10
MMLI Mount Malkishu 13.43 286 S **S** 04 36 59.6 +8.5
ZFRI Zfri 13.51 278 P **P** 04 34 13.1 +4.7
ZFRI Zfri 13.51 278 P P 04 34 18.5 +10
ZFRI Zfri 13.51 278 S **S** 04 37 00.9 +8.3
MMAI Mount Meron Ar 13.54 288 Pn **Pn** 04 33 59.8 0.0
comp=E,1.4nm,0.3s,baz=105,slow=16,SNR=5.1
MMAI Sn **Sn** 04 36 22.5 -7.5
comp=E,2.1nm,0.3s,baz=275,slow=17,SNR=1.4
MMAI Lg Lg 04 37 53.1
baz=117,slow=37
MMAI LR LR 04 40 25.8
comp=E,871nm,19.7s,baz=47,slow=43
comp=E,1.1nm,0.3s
MAK Makhachkala 13.54 350 *e*P **Pn** 04 33 57.9 -1.8
MAK *e*S **Sn** 04 36 28.6 -1.3
MAK pmax pmax
comp=Z,125nm,1.2s
MAK MLR MLR
comp=Z,931nm,12.0s
HRFI Mount Harif 13.64 276 P P 04 34 20.6 +11
HRFI Mount Harif 13.64 276 S **S** 04 37 04.2 +8.8
PRNI Paran 13.66 277 P **Pn** 04 34 04.1 +2.7
BLGI Bet Lehem HaGe 13.67 287 P P 04 34 20.6 +10
SLTI Sal'it 13.73 285 P P 04 34 21.5 +11
EIL Elat 13.74 274 Pn **Pn** 04 34 03.0 +0.6
comp=Z,0.4nm,0.3s,baz=53,slow=7.8,SNR=3.1
EIL Sn **Sn** 04 36 28.9 -5.9
comp=Z,0.5nm,0.3s,baz=125,slow=16,SNR=1.6
EIL Lg Lg 04 38 01.7
comp=Z,0.4nm,0.3s,baz=55,slow=16,SNR=1.2
EIL LR LR 04 40 28.0
comp=Z,1μm,19.1s,baz=94,slow=42
comp=Z,3.0nm,0.6s
EIL Elat 13.74 274 P **Pn** 04 34 01.7 -0.7
EIL Elat 13.74 274 P P 04 34 21.1 +10
EIL Elat 13.74 274 S S 04 37 06.5 +9.2
OFRI `Ofer 13.82 286 P P 04 34 22.5 +11
OFRI `Ofer 13.82 286 S S 04 37 08.3 +9.1
KRMI Paran Flat 13.91 276 P P 04 34 23.4 +10
ARPR Arapgir-MALATY 13.91 316 Pn **Pn** 04 34 05.7 +0.8
KZIT Kziot 14.19 279 P **P** 04 34 14.0 -2.0
NEUR Neytrino 15.04 337 *e*P **Pn** 04 34 22.2 +1.9
BNN Bunyan 15.35 311 Pn **Pn** 04 34 24.1 -0.2
BNN IAmb IAmb 04 34 32.1
comp=Z,79nm,1.2s
KBZ Khabaz 15.39 338*ce*P **Pn** 04 34 26.1 +1.4
KBZ Khabaz 15.39 338 Pn **Pn** 04 34 26.2 +1.5
comp=Z,0.4nm,0.3s,baz=153,slow=12,SNR=28
KBZ LR LR 04 39 57.0
comp=Z,337nm,18.7s,baz=155,slow=36
comp=Z,43nm,0.9s
CSS Mathiatis 15.65 294 Pn **Pn** 04 34 28.5 +0.3
CSS Mathiatis 15.65 294 P **P** 04 34 31.5 -0.7
KIV Kislovodsk 15.66 338 ⇓P **P** 04 34 30.6 -1.8
KIV Kislovodsk 15.66 338 Pn **Pn** 04 34 29.4 +1.1
KIV IAmb IAmb 04 34 35.2
comp=Z,118nm,1.1s
KIV Kislovodsk 15.66 338 *e*P **Pn** 04 34 30.0 +1.7
KIV *e*S **Sn** 04 37 25.7 +4.0
KIV pmax pmax
comp=Z,99nm,1.0s
KIV MLR MLR
comp=Z,250nm,13.0s
KIV Kislovodsk 15.66 338 P **P** 04 34 30.8 -1.7
KBL Kabul 16.25 68 Pn **Pn** 04 34 37.1 +1.0
KBL Kabul 16.25 68 P **Pn** 04 34 37.1 +1.0
KBL pmax pmax
comp=Z,16nm,1.1s
KBL Kabul 16.25 68 P **Pn** 04 34 36.2 0.0
SNR=22
SOC Sochi 16.47 331 *e*P **Pn** 04 34 36.5 -2.1
SOC *e* 04 37 41.1
SOC MLR MLR
comp=Z,502nm,13.0s
BR131 Keskin Array S 17.27 310 Pn **Pn** 04 34 48.1 -0.7
BR131 Keskin Array S 17.27 310⇑ *e*P **Pn** 04 34 48.7 -0.1
BRTR Keskin Array B 17.27 310 Pn **Pn** 04 34 48.1 -0.7
BRTR Keskin Array B 17.27 310 *i* P **P** 04 34 50.5 +0.2
BRTR pmax pmax
comp=Z,5.0nm,0.6s
BRTR Keskin Array B 17.27 310 P **Pn** 04 34 49.0 +0.1
comp=Z,0.7nm,0.3s,baz=136,slow=8.2,SNR=26
comp=Z,4.8nm,0.6s
SIMJ Simiganj 17.57 54 Pn **Pn** 04 34 51.5 -1.1
BR231 Keskin MP Arra 17.90 309 **Pn** 04 34 55.7 -1.0
ANTO Ankara 17.90 310 **P** 04 34 57.0 -0.2
ANTO Ankara 17.90 310 P **P** 04 34 57.1 -0.2
ANTO pmax pmax
comp=Z,77nm,1.8s
ISP Isparta 18.67 301 P **P** 04 35 05.9 +0.2
ISP Isparta 18.67 301⇑ *e*P **P** 04 35 05.0 -0.7
ELL Elmali 18.80 298 P **P** 04 35 06.9 -0.3
ELL IAmb IAmb 04 35 11.9
comp=Z,73nm,0.9s
ELL Elmali 18.80 298 P **P** 04 35 06.9 -0.3
ELL pmax pmax
comp=Z,73nm,0.9s
MDUB Mudurnu 19.27 309 P **Pn** 04 35 13.1 -0.2
MDUB IAmb IAmb 04 35 23.5
comp=Z,121nm,0.8s
BTK Batken 19.44 52 P **P** 04 35 13.3 -0.8
BTK Batken 19.44 52 P **P** 04 35 13.3 -0.8
BTK pmax pmax
comp=Z,58nm,1.3s
ATD Arta Tunnel 19.46 204 P **P** 04 35 14.1 -0.4
ATD Arta Tunnel 19.46 204 P **P** 04 35 13.4 -1.1
comp=Z,0.1nm,0.3s,baz=270,slow=20,SNR=1.7
ATD LR LR 04 44 04.6
comp=Z,35nm,19.2s,baz=16,slow=41
NIL Nilore 19.57 72 P **P** 04 35 15.1 -0.4
NIL Nilore 19.57 72 P **P** 04 35 15.1 -0.4
NIL pmax pmax
comp=Z,51nm,0.9s
NIL Nilore 19.57 72 P **P** 04 35 16.0 +0.5
CHM Chimkent 19.77 45 *e*P **Pn** 04 35 19.6 +0.5
CHM MLR MLR
comp=Z,337nm,10.0s
CHM Chimkent 19.77 45 *e*P **Pn** 04 35 19.7 +0.5
baz=45
CHM LR LR 04 44 03.5
comp=Z,337nm,10.1s,baz=45
DRK Karamyk 19.89 55 P **P** 04 35 19.9 +0.6
IUG luzhnay 19.94 46 *e*P **P** 04 35 20.4 +0.8
IUG luzhnay 19.94 46 *e*P **P** 04 35 20.5 +0.8
baz=46
SIM Simferopol' 20.15 324 *e*P **P** 04 35 20.4 -1.3
SIM *e*S **S** 04 39 03.8 -3.7
SIM pmax pmax
comp=Z,57nm,1.2s
SIM smax smax
comp=E,69nm,12.5s
SIM MLR MLR
comp=Z,231nm,22.3s
BRLS Boroldaу 20.31 44 *e*P **P** 04 35 21.4 -2.1
baz=44
KK31 Karatay Array 20.76 44 P **P** 04 35 28.7 +0.2
KK31 Karatay Array 20.76 44 P **P** 04 35 28.7 +0.2
KK31 pmax pmax
comp=Z,46nm,1.1s
KKAR Karatay Array 20.76 44 P **P** 04 35 28.1 -0.3
KKAR Karatay Array 20.76 44 P **P** 04 35 28.1 -0.3
KKAR pmax pmax
comp=Z,46nm,1.1s
AB31 Akbulak array 20.81 17 *i* P **P** 04 35 28.8 0.0
ABKAR Akbulak array 20.81 17 P **P** 04 35 28.4 -0.4
DZA Taraz 21.15 46 *e*P **P** 04 35 33.3 +0.7
DZA Taraz 21.15 46 *e*P **P** 04 35 33.3 +0.7
baz=46
ARSB Arslanbob 21.47 51 P **P** 04 35 36.1 -0.1
ARSB Arslanbob 21.47 51 P **P** 04 35 36.1 -0.1
ARSB pmax pmax
comp=Z,48nm,1.3s
AKTO Aktyubinsk 21.48 13 P **P** 04 35 36.2 +0.1
comp=Z,17nm,0.7s,baz=206,slow=9.7,SNR=46
AKTO S **S** 04 39 29.2 -4.6
comp=Z,2.4nm,0.7s,baz=270,slow=7.1,SNR=1.6
AKTO LR LR 04 45 32.6
comp=Z,298nm,21.1s,baz=196,slow=41
comp=Z,17nm,0.7s
IDI Anoyia 22.50 291 P **P** 04 35 47.8 +0.6
VRH Novokhopyorsk 22.57 345 *e*P **P** 04 35 46.2 -1.5
VRH *e*S **S** 04 39 51.2 -3.4
VRH pmax pmax
comp=Z,150nm,0.8s
VRH smax smax
comp=E,200nm,1.2s
EKS2 Erkin-Say 22.60 49 P **P** 04 35 51.4 +3.1
SNR=24
BELG Belogornoye 22.85 355*ce*P **P** 04 35 49.1 -1.5
BELG pmax pmax
comp=Z,15nm,1.1s
UCH Uchtor 22.89 50 P **P** 04 35 52.5 +0.7
SNR=32
KSH Kashi 22.92 58 P **P** 04 35 48.3 -3.5
KSH pP pP 04 35 50.8 -5.1
KSH PP **PnPn** 04 36 13.8 -2.5
KSH S **S** 04 39 52.3 -9.1
KSH pmax pmax
comp=Z,63nm,1.3s
KSH LR LR
comp=Z,1μm,14.1s
KSH LR LR
comp=Z,2μm,12.7s
KSH LR LR
comp=Z,2μm,12.3s
VORD Divnogorie 22.97 341 *e*P **P** 04 35 50.3 -1.6
VORD pmax pmax
comp=Z,30nm,0.8s
TIRR Tirgusor 23.06 316 ⇓P **P** 04 35 53.8 +0.9
TIRR Tirgusor 23.06 316 P **P** 04 35 53.7 +0.8
TIRR Tirgusor 23.06 316 P **P** 04 35 53.7 +0.8
TIRR pmax pmax
comp=Z,153nm,1.5s
AAK Ala-Archa 23.06 49 P **P** 04 35 55.4 +2.1
SNR=21
AAK Ala-Archa 23.06 49 P **P** 04 35 53.0 -0.2
AAK IAmb IAmb 04 36 03.0
comp=Z,42nm,1.1s
AAK Ala-Archa 23.06 49⇓ *e*P **P** 04 35 54.1 +0.9
AAK pmax pmax
comp=Z,53nm,1.7s
AAK Ala-Archa 23.06 49 LR LR 04 46 00.8
comp=Z,620nm,19.1s,baz=256,slow=40
AAK Ala-Archa 23.06 49 P **P** 04 35 55.3 +2.1
VSR Storozhevoye 23.23 341 *e*P **P** 04 35 51.3 -3.3
VSR *e*S **S** 04 40 01.5 -4.5
VSR pmax pmax
comp=Z,20nm,1.1s
VSR smax smax
comp=N,240nm,1.1s
TPGR Topolog 23.27 317 ⇓P **P** 04 35 56.3 +1.2
USP Ospenovka 23.35 48 P **P** 04 35 56.9 +0.9
SNR=9.6
SGDS Sogindy 23.52 48 *e*P **P** 04 35 58.8 +1.1
SGDS *e*S **S** 04 40 14.7 +3.5
SGDS Sogindy 23.52 48 *e*P **P** 04 35 58.9 +1.1
baz=48
SGDS *e*S **S** 04 40 14.7 +3.5
baz=48
NRN Naryn 23.59 53 P **P** 04 35 58.7 0.0
NRN Naryn 23.59 53 P **P** 04 35 58.7 0.0
NRN pmax pmax
comp=Z,29nm,1.1s
CFR Carcaliu 23.61 317 ⇑P **P** 04 35 58.8 +0.3
CFR Carcaliu 23.61 317 P **P** 04 35 58.7 +0.3
VORR Voronezh 23.62 342 *e*P **P** 04 35 56.2 -2.3
VORR pmax pmax
comp=Z,40nm,1.0s
TKM2 Tokmak 2 23.91 50 P **P** 04 36 02.5 +0.9
SNR=13
TKM2 Tokmak 2 23.91 50 P **P** 04 36 02.4 +0.7
ELND Elena 23.93 310 ⇑P **P** 04 36 03.1 +1.6
BTLS Baital 23.95 44 *e*P **P** 04 36 03.0 +1.3
BTLS pmax pmax
comp=Z,30nm,1.2s
BTLS Baital 23.95 44 *e*P **P** 04 36 03.1 +1.3
comp=Z,30nm,1.2s,baz=44
BOOM Boomskoye usch 23.96 51 P **P** 04 36 02.3 +0.2
BOOM IAmb IAmb 04 36 12.6
comp=Z,62nm,1.3s
BOOM Boomskoye usch 23.96 51 P **P** 04 36 02.3 +0.2
BOOM pmax pmax
comp=Z,62nm,1.3s
ULHL Ulahol 24.07 52 P **P** 04 36 05.1 +2.0
SNR=19
MILM Milestii Mici 24.24 321 ⇑P **P** 04 36 05.8 +1.4
MILM Milestii Mici 24.24 321 P **P** 04 36 05.7 +1.4
GHRR 24.53 318 ⇓P **P** 04 36 09.4 +2.4
ISR Istrita 24.54 316 ⇑P **P** 04 36 09.3 +2.1
ISR Istrita 24.54 316 P **P** 04 36 09.3 +2.1
LPSR Galich'ya Gora 24.54 342 *e*P **P** 04 36 05.3 -1.7
LPSR *e*S **S** 04 40 27.6 +0.5
LPSR pmax pmax
comp=Z,60nm,0.9s
LPSR smax smax
comp=E,110nm,1.7s
SPBR Spulber 24.74 317 ⇑P **P** 04 36 11.3 +2.3
VRI Vrincioaia 24.82 317 ⇓P **P** 04 36 11.8 +2.1
VRI Vrincioaia 24.82 317 P **P** 04 36 11.7 +2.1
NEHR Nehoiu 24.84 316 ⇑P **P** 04 36 12.1 +2.2
PLOR Plostina 24.86 317 ⇓P **P** 04 36 11.8 +1.8
PLOR Plostina 24.86 317 P **P** 04 36 11.8 +1.8
OTUK Ortayu 24.90 36 P **P** 04 36 10.7 +0.3
AAA Alma-Ata 24.91 50 *e*P **P** 04 36 12.1 +1.5
AAA pmax pmax
comp=Z,17nm,0.4s
AAA Alma-Ata 24.91 50 *e*P **P** 04 36 12.2 +1.5
comp=Z,17nm,0.4s,baz=50
MDOK Medeo 24.98 50 *e*P **P** 04 36 12.4 +1.1
MDOK *e*S **S** 04 40 37.6 +2.8
MDOK MLR MLR
comp=Z,684nm,9.0s
MDOK Medeo 24.98 50 *e*P **P** 04 36 12.5 +1.1
baz=50
MDOK *e*S **S** 04 40 37.6 +2.8
baz=50
MDOK LR LR 04 47 50.8
comp=Z,684nm,9.2s,baz=50
MLR Muntele Rosu 25.09 316 ⇑P **P** 04 36 14.5 +2.2
MLR Muntele Rosu 25.09 316 P **P** 04 36 13.9 +1.7
MLR IAmb IAmb 04 36 34.1
comp=Z,26nm,0.9s
MLR Muntele Rosu 25.09 316 P **P** 04 36 13.9 +1.7
MLR pmax pmax
comp=Z,26nm,0.9s
COVR Voineasa-Covas 25.12 317 ⇓P **P** 04 36 14.5 +2.1
AGG Agios Georgios 25.18 299 P **P** 04 36 12.5 -0.5
AGG Agios Georgios 25.18 299 P **P** 04 36 12.5 -0.5
AGG pmax pmax
comp=Z,19nm,1.1s
TESR Tescani 25.21 319 ⇑P **P** 04 36 14.3 +1.0
HUMR Humele 25.22 313 ⇑P **P** 04 36 15.5 +2.2
CHKK Chushkaly 25.23 49 *e*P **P** 04 36 15.1 +1.7
CHKK Chushkaly 25.23 49 *e*P **P** 04 36 15.2 +1.7
baz=48
LIT Litokhoron 25.32 302 P **P** 04 36 14.8 +0.5
LIT Litokhoron 25.32 302 P **P** 04 36 14.8 +0.5
LIT pmax pmax
comp=Z,18nm,1.0s
TURR Turia 25.34 317 ⇓P **P** 04 36 16.5 +2.1
MTUR Matau 25.50 315 ⇑P **P** 04 36 18.3 +2.3
MTUR Matau 25.50 315 P **P** 04 36 18.2 +2.3
BOSR Bodos 25.56 317 ⇓P **P** 04 36 17.7 +1.3
VOIR 25.61 315 ⇓P **P** 04 36 18.7 +1.8
VOIR 25.61 315 P **P** 04 36 18.7 +1.8
VAY Valandovo 25.62 305 *i* P **P** 04 36 18.2 +1.3
PRZ Przheval'sk 25.64 53 P **P** 04 36 17.8 +0.4
PRZ IAmb IAmb 04 36 20.5
comp=Z,37nm,1.2s
PRZ Przheval'sk 25.64 53 P **P** 04 36 17.8 +0.4
PRZ pmax pmax
comp=Z,37nm,1.2s
DOPR Dopca 25.67 316 ⇓P **P** 04 36 18.7 +1.3
ARR Arges 25.83 315 ⇓P **P** 04 36 19.9 +0.9
SATY Saty 25.86 51 *e*P **P** 04 36 20.7 +1.4
SATY pmax pmax
comp=Z,16nm,1.0s
SATY Saty 25.86 51 *e*P **P** 04 36 20.7 +1.4
comp=Z,16nm,1.0s,baz=51
ZHN Zhinishke 25.92 51 *e*P **P** 04 36 21.3 +1.5
ZHN Zhinishke 25.92 51 *e*P **P** 04 36 21.4 +1.5
baz=51
STIP Stip 26.01 305 *i* P **P** 04 36 19.7 -0.8
BRZS Berezniki 26.22 33 *e*P **P** 04 36 23.8 +1.5
BRZS Berezniki 26.22 33 *e*P **P** 04 36 23.9 +1.5
baz=33
UZB Uzynbulak 26.31 51 *e*P **P** 04 36 24.6 +1.2
UZB *e*S **S** 04 40 59.3 +3.5
UZB pmax pmax
comp=Z,23nm,1.2s
UZB Uzynbulak 26.31 51 *e*P **P** 04 36 24.7 +1.2
comp=Z,23nm,1.2s,baz=51
UZB *e*S **S** 04 40 59.3 +3.5
baz=51
FNA Florina 26.33 303 P **P** 04 36 23.8 +0.3
FNA Florina 26.33 303 P **P** 04 36 23.8 +0.3
FNA pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 26.52 329 P **P** 04 36 23.2 -1.8
AKASG Malin Array Be 26.52 329 P **P** 04 36 24.1 -0.9
comp=Z,13nm,0.7s,baz=135,slow=8.4,SNR=62
AKASG PcP **PcP** 04 39 48.5 -1.0
comp=Z,1.0nm,0.4s,baz=96,slow=2.5,SNR=5.1
comp=Z,13nm,0.7s
AKBB Malin Array Si 26.52 329 P **P** 04 36 24.1 -1.0
AKBB IAmb IAmb 04 36 25.7
comp=Z,34nm,0.9s
AKBB Malin Array Si 26.52 329*c i*P **P** 04 36 24.6 -0.4
KIEV Kiev 26.52 328 P **P** 04 36 24.0 -1.0
KIEV IAmb IAmb 04 36 25.7
comp=Z,31nm,0.9s
KIEV Kiev 26.52 328 P **P** 04 36 24.0 -1.0
KIEV pmax pmax
comp=Z,31nm,1.0s
SHLS Shalkode 26.61 52 *e*P **P** 04 36 29.8 +3.7
SHLS pmax pmax
comp=Z,16nm,1.0s
SHLS Shalkode 26.61 52 *e*P **P** 04 36 29.9 +3.8
comp=Z,16nm,1.0s,baz=52
SKO Skopje 26.62 305 *i* P P 04 36 15.7 -10
BURAR Bucovina Array 26.64 319 ⇓P **P** 04 36 27.5 +1.3
BURAR Bucovina Array 26.64 319 P **P** 04 36 25.7 -0.6
BURAR Bucovina Array 26.64 319 P **P** 04 36 27.5 +1.3
TDK Taldyqorghan 26.64 47 *e*P **P** 04 36 26.7 +0.5
TDK pmax pmax
comp=Z,22nm,1.3s
TDK MLR MLR
comp=Z,471nm,9.0s
TDK Taldyqorghan 26.64 47 *e*P **P** 04 36 26.7 +0.5
comp=Z,22nm,1.3s,baz=47
TDK LR LR 04 48 05.0
comp=Z,471nm,8.9s,baz=47
BUR08 Bucovina Ar. S 26.66 319 P **P** 04 36 26.3 -0.2
PDGK Podgornoye 26.69 51 P **P** 04 36 27.4 +0.6
OHR Ohrid 26.84 303 *i* P **P** 04 36 21.4 -6.6
HORU Horodok 26.91 323 P **P** 04 36 28.8 +0.2
GZR Gura Zlata 27.01 313 ⇑P **P** 04 36 30.4 +0.8
GZR Gura Zlata 27.01 313 P **P** 04 36 33.7 +4.1
KSV Kosov 27.11 321 P **P** 04 36 30.5 +0.1
ARU Arti 27.34 9 P **P** 04 36 32.4 +0.1
ARU IAmb IAmb 04 37 06.0
comp=Z,58nm,1.6s
ARU Arti 27.34 9*d i*P **P** 04 36 33.2 +0.9
ARU 04 37 14.6
ARU S **S** 04 41 15.3 +3.8
ARU SS **SnSn** 04 42 24.0 +3.6
ARU pmax pmax
comp=Z,14nm,1.1s
ARU Arti 27.34 9 LR LR 04 49 46.3
comp=Z,450nm,18.3s,baz=166,slow=42
MARR Marisel-Cluj 27.39 316 ⇓P **P** 04 36 34.4 +1.4
OBN Obninsk 27.42 342 P **P** 04 36 32.9 -0.1
OBN IAmb IAmb 04 36 58.5
comp=Z,25nm,0.7s
OBN Obninsk 27.42 342⇑ *e*P **P** 04 36 33.5 +0.5
OBN *e**PP **pP** 04 36 37.4 0.0
OBN *SP **sP** 04 36 39.0 -0.2
OBN pmax pmax
comp=Z,24nm,1.8s
OBN MLR MLR
comp=Z,264nm,17.0s
BRVK Borovoye 27.44 26 P **P** 04 36 32.1 -1.1
BRVK Borovoye 27.44 26*ce*P **P** 04 36 34.5 +1.3
BRVK pmax pmax
comp=Z,22nm,1.7s
BRVK Borovoye 27.44 26 P **P** 04 36 34.1 +0.9
BVA0 Borovoye Array 27.45 26 *i* P **P** 04 36 33.6 +0.2
BVAR Borovoye Array 27.45 26 P **P** 04 36 34.2 +0.8
comp=Z,14nm,0.6s,baz=221,slow=7.2,SNR=53
BVAR PcP **PcP** 04 39 51.8 +0.2
comp=Z,2.3nm,0.4s,baz=177,slow=3.2,SNR=6.0
BVAR LR LR 04 49 07.7
comp=Z,385nm,21.1s,baz=222,slow=40
comp=Z,14nm,0.6s
MOS Moscow 27.71 344 *e*P **P** 04 36 37.6 +2.0
MOS *e* 04 37 26.3
MOS *e*S **S** 04 41 21.8 +4.5
MOS pmax pmax
comp=Z,46nm,1.0s
SIRR Siria 28.09 314 ⇓P **P** 04 36 40.3 +1.1
HYB Hyderabad 28.17 109 *e*P **P** 04 36 40.5 +0.3
KIRV Kirov 28.95 359*ce*P **P** 04 36 46.8 +0.2
KIRV Kirov 28.95 359 LR LR 04 51 40.8
comp=Z,412nm,18.7s,baz=196,slow=43
KOLS Kolonicke sedl 29.01 320 *e*P **P** 04 36 48.9 +1.6
KOLS pmax pmax
comp=Z,7.0nm,0.7s
KOLS Kolonicke sedl 29.01 320 *e*P **P** 04 36 48.9 +1.6
KWP Kalwaria Pacla 29.14 321 *e*P **P** 04 36 49.4 +0.9
CRVS Cervenica-Dubn 29.45 319 *e*P **P** 04 36 54.5 +3.2
CRVS Cervenica-Dubn 29.45 319 *e*P **P** 04 36 54.5 +3.2
TIP Timpagrande 29.46 298 P **P** 04 36 51.2 -0.4
TIP IAmb IAmb 04 36 54.6
comp=Z,82nm,1.9s
KURBB Kurchatov Arra 29.55 37 P **P** 04 36 53.2 +1.1
comp=Z,13nm,1.0s,baz=239,slow=9.1,SNR=46
KURBB PcP **PcP** 04 39 56.7 -0.2
comp=Z,0.8nm,0.5s,baz=240,slow=3.0,SNR=2.5
comp=Z,13nm,1.0s
KURK Kurchatov 29.65 37 P **P** 04 36 53.9 +0.9
KURK IAmb IAmb 04 36 56.0
comp=Z,28nm,1.1s
KURK Kurchatov 29.65 37*c i*P **P** 04 36 54.6 +1.6
KURK pmax pmax
comp=Z,28nm,1.0s
KURK Kurchatov 29.65 37 P **P** 04 36 54.9 +1.9
MAKZ Makanchi 29.67 46 P **P** 04 36 53.0 -0.2
MAKZ Makanchi 29.67 46 P **P** 04 36 53.0 -0.2
MAKZ pmax pmax
comp=Z,21nm,1.4s
MNK Minsk 29.82 333 *i* P **P** 04 36 53.3 -1.1
comp=E,11nm,0.9s
MNK *i* P **P** 04 36 53.3 -1.1
comp=N,11nm,0.8s
MNK *i* P **P** 04 36 53.3 -1.1
comp=Z,7.0nm,0.8s,baz=137
MNK *i* PP **PnPn** 04 37 49.3 -0.9
MNK *i* S **S** 04 41 53.0 +2.4
MNK *i* SS **ScP** 04 43 36.0 -3.1
MNK *i* LQ LQ 04 46 35.3
MNK *i* LR LR 04 48 51.9
MNK *i* LRM MLR 04 49 55.4

MNK *i* LRM MLR 04 50 08.8
comp=N,276nm,14.6s
MNK *i* LRM MLR 04 50 09.4
comp=Z,341nm,18.1s
MNK Minsk 29.82 333 *i* P **P 04 36 53.3 -1.1**
MNK *i* 04 37 49.3
MNK *i* S **S 04 41 52.9 +2.4**
MNK pmax pmax
comp=N,11nm,0.9s
MNK pmax pmax
comp=Z,7.0nm,0.8s
MNK pmax pmax
comp=E,11nm,0.9s
MNK MLR MLR
comp=E,111nm,17.0s
MNK MLR MLR
comp=N,276nm,15.0s
MNK MLR MLR
comp=Z,341nm,18.0s
MK31 Makanchi Array 29.86 46 P **P 04 36 55.0 +0.1**
MK31 Makanchi Array 29.86 46*c i* P **P 04 36 55.6 +0.7**
MKAR Makanchi Array 29.86 46 P **P 04 36 55.7 +0.8**
MKAR Makanchi Array 29.86 46 P **P 04 36 55.9 +1.0**
comp=Z,5.0nm,0.9s,baz=243,slow=7.9,SNR=39
MKAR PcP **PcP 04 39 57.0 -0.8**
comp=Z,1.6nm,0.8s,baz=242,slow=3.5,SNR=4.2
MKAR LR LR 04 49 41.9
comp=Z,308nm,21.4s,baz=236,slow=38
comp=Z,5.0nm,0.9s
SEM Semipalatinsk 30.35 39 *e*P **P 04 37 01.0 +1.6**
SEM pmax pmax
comp=Z,25nm,1.1s
SEM MLR MLR
comp=Z,411nm,11.0s
SEM Semipalatinsk 30.35 39 *e*P **P 04 37 01.0 +1.6**
comp=Z,25nm,1.1s,baz=38
SEM LR LR 04 50 18.6
comp=Z,411nm,10.8s,baz=38
NACGM Naroch 30.55 333 *e*P **P 04 37 00.7 -0.2**
comp=Z,14nm,0.8s,baz=136
VYHS Vyhne 30.80 317 *e*P **P 04 37 04.3 +1.1**
VYHS pmax pmax
comp=Z,10.0nm,1.4s
VYHS Vyhne 30.80 317 *e*P **P 04 37 04.3 +1.1**
SUW Suwalki 31.49 328 *e*P P 04 37 02.0 -7.1
JAVC Velka Javorina 31.65 317 *e*P **P 04 37 11.2 +0.5**
MODS Modra-Piesok 31.68 316 *e*P **P 04 37 12.2 +1.2**
MODS Modra-Piesok 31.68 316 *e*P **P 04 37 12.2 +1.2**
ZST Bratislava 31.72 315 *e*P **P 04 37 13.3 +2.0**
ZST Bratislava 31.72 315 *e*P **P 04 37 13.3 +2.0**
ZSN Zaisan 31.73 46 *e*P **P 04 37 11.9 +0.5**
ZSN *e*S **S 04 42 22.9 +2.2**
ZSN pmax pmax
comp=Z,17nm,1.6s
ZSN Zaisan 31.73 46 *e*P **P 04 37 12.0 +0.5**
comp=Z,17nm,1.6s,baz=46
ZSN *e*S **S 04 42 23.0 +2.2**
baz=46
OKC Ostrava-Krasne 31.80 319 *e*P **P 04 37 16.3 +4.3**
OKC Ostrava-Krasne 31.80 319 *e*P **P 04 37 16.3 +4.3**
KLMR Klimovskoe 32.10 350 *e*P **P 04 37 11.1 -3.3**
KLMR pmax pmax
comp=Z,63nm,1.5s
MORC Moravsky Berou 32.12 318 ⇓P **P 04 37 15.5 +0.7**
MORC Moravsky Berou 32.12 318 P **P 04 37 14.6 -0.3**
MORC IAmb IAmb 04 37 28.6
comp=Z,35nm,1.7s
MORC Moravsky Berou 32.12 318 *e*P **P 04 37 14.8 -0.1**
MORC Moravsky Berou 32.12 318 P **P 04 37 15.5 +0.7**
PABE Paberze 32.13 331 P **P 04 37 13.9 -0.8**
ARSA Arzberg 32.36 313 *e*P **P 04 37 17.1 +0.2**
comp=Z,1.3nm,0.4s
VRAC Vranov 32.48 317 *e*P **P 04 37 18.1 +0.1**
VRAC Vranov 32.48 317 LR LR 04 52 45.4
comp=Z,294nm,18.2s,baz=98,slow=41
KRUC Moravsky 32.50 316 *e*P **P 04 37 17.5 -0.6**
WMQ Urumqi 32.53 54 *e*P **P 04 37 20.1 +1.5**
WMQ pP pP 04 37 23.0 0.0
WMQ PP **PnPn 04 38 27.8 +1.9**
WMQ pmax pmax
comp=Z,15nm,1.3s
WMQ pmax pmax
comp=Z,260nm,4.7s
WMQ LR LR
comp=Z,950nm,15.3s
WMQ LR LR
comp=Z,540nm,10.1s
WMQ LR LR
comp=Z,550nm,17.3s
KRLC Kraliky 32.70 318 *e*P **P 04 37 19.9 0.0**
KRLC Kraliky 32.70 318 *e*P **P 04 37 19.9 0.0**
DPC Dobruska-Polom 33.08 318 *e*P **P 04 37 23.2 -0.1**
DPC Dobruska-Polom 33.08 318 *e*P **P 04 37 23.2 -0.1**
KLNR Kaliningrad 33.23 327*ce*P **P 04 37 24.2 -0.2**
KLNR pmax pmax
comp=Z,27nm,0.8s
OSTC Ostas 33.23 319 *e*P **P 04 37 25.1 +0.6**
OSTC Ostas 33.23 319 *e*P **P 04 37 25.1 +0.6**
UPC Upice 33.33 319 *e*P **P 04 37 25.8 +0.4**
UPC Upice 33.33 319 *e*P **P 04 37 25.8 +0.4**
CHVC Chvalec 33.34 319 *e*P **P 04 37 26.0 +0.5**
CHVC Chvalec 33.34 319 *e*P **P 04 37 26.0 +0.5**
MOA Molln 33.36 313 *e*P **P 04 37 25.1 -0.6**
comp=Z,1.7nm,0.5s
PRED Cave del Predi 33.37 311 P **P 04 37 24.1 -1.7**
KBA Koelnbreinsper 33.71 312 *e*P **P 04 37 29.1 +0.2**
comp=Z,1.2nm,0.6s
BIOA Bad Ischl, Aus 33.71 313 *e*P **P 04 37 28.9 +0.2**
comp=Z,2.3nm,0.7s
GERES GERESS Array B 34.06 315 P **P 04 37 31.4 -0.5**
comp=Z,0.6nm,0.5s,baz=109,slow=8.4,SNR=2.8
GERES PcP **PcP 04 40 09.4 +0.1**
comp=Z,1.1nm,0.7s,baz=122,slow=3.7,SNR=3.7
GERES LR LR 04 53 40.7
comp=Z,149nm,19.3s,baz=118,slow=40
comp=Z,0.6nm,0.5s
DGZ Jazzator, Alta 34.16 44*ce*P **P 04 37 33.9 +1.2**
DGZ pmax pmax
comp=Z,12nm,1.2s
ABTA Abfaltersbach 34.16 311 *i* P **P 04 37 31.9 -0.8**
comp=Z,1.0nm,0.4s
KHC Kasperske Hory 34.24 315 P **P 04 37 34.6 +1.2**
KHC IAmb IAmb 04 38 24.2
comp=Z,29nm,1.8s
KHC Kasperske Hory 34.24 315⇑ *e*P **P 04 37 33.0 -0.3**
KHC pmax pmax
comp=Z,28nm,2.5s
KHC Kasperske Hory 34.24 315 *e*P **P 04 37 33.8 +0.5**
LESA Schwarzleotal 34.25 312 *i* P **P 04 37 33.0 -0.5**
comp=Z,2.8nm,0.6s
ZAA0 Zalesovo Array 34.60 36 P **P 04 37 36.0 -0.3**
ZAA0 IAmb IAmb 04 37 38.4
comp=Z,46nm,1.4s
ZALV Zalesovo Beam 34.60 36 P **P 04 37 36.3 0.0**
ZALV Zalesovo Beam 34.60 36 *i* P **P 04 37 37.2 +0.9**
ZALV pmax pmax
comp=Z,6.0nm,0.4s
ZALV Zalesovo Beam 34.60 36 P **P 04 37 36.8 +0.5**
comp=Z,5.9nm,0.5s,baz=249,slow=9.2,SNR=53
ZALV LR LR 04 53 40.7
comp=Z,371nm,21.5s,baz=234,slow=40
comp=Z,5.9nm,0.5s
ZCCA Zocca 34.63 306 P **P 04 37 37.5 +0.7**
BRG Berggiesshubel 34.68 318 *e*P **P 04 37 37.3 +0.2**
BRG pmax pmax
comp=Z,4.0nm,0.8s
BRG pmax pmax
comp=Z,3.0nm,0.7s
BRG Berggiesshubel 34.68 318 *e*P **P 04 37 37.3 +0.2**
BRG Amp 04 37 41.0
comp=Z,3.9nm,0.8s
BRG Berggiesshubel 34.68 318 Amp 04 37 51.0
comp=Z,3.2nm,0.7s
BRG Berggiesshubel 34.68 318 P P 04 37 50.0 +13
WTTA Wattenberg 34.88 311 *e*P **P 04 37 38.4 -0.6**
comp=Z,2.3nm,0.4s
SQTA Sankt Quirin 35.15 311 *e*P **P 04 37 40.6 -0.7**
comp=Z,6.3nm,0.7s
KEST Kesra 35.17 291 P **P 04 37 42.1 +0.4**
comp=Z,6.1nm,1.0s,baz=39,slow=6.5,SNR=2.9
KEST LR LR 04 55 15.6
comp=Z,178nm,18.1s,baz=354,slow=42
comp=Z,6.1nm,1.0s
MOTA Moosalm 35.25 311 *e*P **P 04 37 41.4 -0.8**
comp=Z,4.8nm,0.7s
CLL Collm 35.40 318 P **P 04 37 42.7 -0.6**
CLL Collm 35.40 318 *e*P **P 04 37 44.0 +0.8**
CLL *i* 04 37 48.5
CLL pmax pmax
comp=Z,19nm,1.4s
CLL Collm 35.40 318 *e*P **P 04 37 44.0 +0.8**
comp=Z,19nm,1.4s
CLL *i* sP **sP 04 37 48.5 -1.0**
CLL *e*S S 04 43 42.0 +25
CLL *ex* x 04 44 36.0
CLL AMS AMS 04 58 00.0
comp=Z,200nm,18.3s
FETA Feichten 35.41 311 *e*P **P 04 37 42.7 -0.9**
comp=Z,2.3nm,0.7s
JOF Joensuu 35.59 345 *e*P **P 04 37 44.9 +0.2**
FUORN Ofenpass-Fuorn 35.62 310 P **P 04 37 45.6 +0.1**
MBAR Mbarara 35.62 216 LR LR 04 52 24.4
comp=Z,181nm,20.4s,baz=34,slow=37
FIA1 FINESS Array S 35.74 340 P **P 04 37 44.8 -1.2**
FIA1 IAmb IAmb 04 38 24.1
comp=Z,42nm,1.4s
FINES FINESS Array B 35.74 340 P **P 04 37 45.3 -0.7**
FINES FINESS Array B 35.74 340 *i* P **P 04 37 47.9 +1.9**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 35.74 340 P **P 04 37 44.8 -1.2**
comp=Z,3.4nm,0.6s,baz=164,slow=5.5,SNR=12
FINES PcP **PcP 04 40 13.3 -0.4**
comp=Z,2.1nm,0.7s,baz=100,slow=5.8,SNR=1.8
FINES LR LR 04 55 37.9
comp=Z,374nm,19.0s,baz=142,slow=42
comp=Z,3.4nm,0.6s
GRF Grafenberg Arr 35.88 315 *e*P **P 04 37 45.7 -1.7**
comp=Z,6.7nm,1.2s,baz=109,slow=9.7
PALK Pallekele 35.89 122⇑ *e*P **P 04 37 48.3 +0.4**
PALK pmax pmax
comp=Z,37nm,1.4s
PALK Pallekele 35.89 122 LR LR 04 52 31.6
comp=Z,144nm,20.3s,baz=47,slow=36
DAVOX Davos/Dischmat 35.91 310 LR LR 04 55 01.5
comp=Z,193nm,19.8s,baz=92,slow=40
DAVA Damuels 36.04 311 *e*P **P 04 37 48.4 -0.6**
comp=Z,8.0nm,0.7s
BLEU Blekinge 36.26 327 *i* P **P 04 37 49.6 -0.9**
KEF Keuruu 36.66 340 *e*P **P 04 37 53.8 -0.2**
VIKU Vikbolandet 37.11 331 *e*P **P 04 37 57.6 -0.1**
DEL Delary 37.27 327 *i* P **P 04 37 56.4 -2.7**
GOMU GeErMu 37.32 68 P **P 04 38 01.6 +1.3**
GOMU pP sP 04 38 05.8 -0.8
GOMU sP pP 04 38 09.5 +4.7
GOMU pmax pmax
comp=Z,19nm,1.0s
GOMU LR LR
comp=Z,310nm,12.6s
GOMU LR LR
comp=Z,110nm,12.7s
GOMU LR LR
comp=Z,470nm,12.8s
BJUU Bjuv 37.48 326 *i* P **P 04 37 59.4 -1.5**
SENIN Lac Senin/Sane 37.56 309 P **P 04 38 01.2 -0.8**
COP Copenhagen 37.59 325 *i* P **P 04 38 00.6 -1.2**
COP IAmb IAmb 04 38 03.4
comp=Z,43nm,0.9s
BNI Bardonecchia 37.77 306 P **P 04 38 03.4 -0.3**
BNI IAmb IAmb 04 38 05.7
comp=Z,28nm,1.2s
BNI Bardonecchia 37.77 306 P **P 04 38 03.4 -0.3**
BNI pmax pmax
comp=Z,28nm,1.3s
VAF Ylistaro 37.99 340 *e*P **P 04 38 04.5 -0.6**
FABU Falkenberg 38.08 327 *i* P **P 04 38 03.9 -2.1**
BORU Boraas 38.38 328 *i* P **P 04 38 07.5 -1.0**
HFS Hagfors 39.31 332 P **P 04 38 15.3 -1.0**
comp=Z,22nm,0.7s,baz=139,slow=7.9,SNR=16
HFS LR LR 04 57 03.9
comp=Z,278nm,18.6s,baz=121,slow=40
comp=Z,22nm,0.7s
APA Apatity 39.35 350⇓ *i*P P 04 38 09.3 -7.2
APA pmax pmax
comp=Z,13nm,1.1s
APA MLR MLR
comp=Z,2μm,11.0s
LVZ Lovozero 39.47 351 P **P 04 38 16.9 -0.7**
LVZ Lovozero 39.47 351 P **P 04 38 16.9 -0.7**
LVZ pmax pmax
comp=Z,207nm,1.7s
MUD Monsted U'grnd 39.57 325 *i* P **P 04 38 15.6 -2.9**
NC405 NORSAR Array S 40.66 332 P **P 04 38 25.7 -1.9**
HOMB Homborsund 40.68 327 *i* P **P 04 38 25.7 -2.0**
KONO Kongsberg 40.82 329 P **P 04 38 28.0 -0.8**
KONO IAmb IAmb 04 38 29.6
comp=Z,44nm,1.6s
KONO Kongsberg 40.82 329⇓ *e*P **P 04 38 28.5 -0.3**
KONO pmax pmax
comp=Z,27nm,2.5s
NB2 NORSAR Subarra 40.83 332 P **P 04 38 27.7 -1.3**
comp=Z,13nm,1.1s,baz=124,slow=8.6
NOA NORSAR Array B 40.83 332 P **P 04 38 27.9 -1.1**
comp=Z,6.5nm,0.8s,baz=122,slow=8.3,SNR=14
NOA LR LR 04 56 54.5
comp=Z,262nm,19.9s,baz=125,slow=38
comp=Z,6.5nm,0.8s
TAM Tamanrasset 40.94 271 P **P 04 38 30.6 +0.1**
TAM Tamanrasset 40.94 271 P **P 04 38 30.6 +0.1**
TAM pmax pmax
comp=Z,10.0nm,1.2s
GTA Gaotai 41.15 63 *e*P **P 04 38 33.4 +1.4**
GTA pmax pmax
comp=Z,27nm,1.2s
GTA LR LR
comp=Z,310nm,14.5s
GTA LR LR
comp=Z,460nm,16.0s
GTA LR LR
comp=Z,610nm,16.4s
MND Mandalay 41.33 90 P **P 04 38 33.0 -0.5**
CEST Esterri de Car 41.46 302 P **P 04 38 34.4 -0.1**
CEST IAmb IAmb 04 38 39.9
comp=Z,19nm,1.0s
TNCH TengChong 42.46 84 *e*P **P 04 38 43.8 +0.9**
TNCH pP pP 04 38 46.8 -0.6
TNCH pmax pmax
comp=Z,34nm,0.9s
ARCES ARCESS Array B 42.47 347 P **P 04 38 42.7 +0.5**
comp=Z,6.6nm,0.9s,baz=25,slow=6.9,SNR=5.5
ARCES LR LR 04 58 54.0
comp=Z,402nm,18.3s,baz=140,slow=40
comp=Z,6.6nm,0.9s
MOY Mondy 42.97 45 *e*P **P 04 38 48.8 +2.1**
MOY pmax pmax
comp=Z,40nm,1.5s
ZAK Zakamensk 44.19 47 *e*P **P 04 38 56.9 +0.4**
ZAK *e* 04 40 45.4
ZAK pmax pmax
comp=Z,8.0nm,1.2s
ZAK pmax pmax
comp=Z,8.0nm,1.5s
LZH Lanzhou 44.61 67⇑ P **P 04 39 01.3 +1.2**
LZH sP sP 04 39 09.3 +2.9
LZH pmax pmax
comp=Z,36nm,1.3s
LZH LR LR
comp=Z,440nm,14.2s
LZH LR LR
comp=Z,610nm,14.1s
LZH LR LR
comp=Z,720nm,15.1s
PZH PanZhiHua 44.82 81 P **P 04 39 01.4 -0.5**
PZH S **S 04 45 40.1 +1.1**
PZH SS **ScS 04 48 54.4 -5.1**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,6.0s
PZH LR LR
comp=Z,130nm,10.8s
PZH LR LR
comp=Z,140nm,12.4s
PZH LR LR
comp=Z,210nm,15.1s
NRIK Noril'sk 44.98 18 P **P 04 39 02.4 0.0**
NRIK IAmb IAmb 04 39 05.0
comp=Z,31nm,1.4s
NRIK Noril'sk 44.98 18*ce*P **P 04 39 03.5 +1.1**
NRIK pmax pmax
comp=Z,15nm,1.1s
NRIK Noril'sk 44.98 18 P **P 04 39 03.1 +0.7**
comp=Z,8.5nm,0.9s,baz=223,slow=6.6,SNR=13
NRIK LR LR 05 01 33.0
comp=Z,549nm,18.1s,baz=213,slow=41
comp=Z,8.5nm,0.9s
IRK Irkutsk 45.07 44 *e*P **P 04 39 03.2 -0.2**
IRK pmax pmax
comp=Z,64nm,1.7s
CMAR Chiang Mai Arr 45.12 93 P **P 04 39 03.3 -0.9**
CMAR Chiang Mai Arr 45.12 93 *i* P **P 04 39 04.1 -0.1**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 45.12 93 P **P 04 39 03.8 -0.5**
comp=Z,1.3nm,0.3s,baz=290,slow=8.3,SNR=14
CMAR PcP **PcP 04 40 44.0 -0.7**
comp=Z,1.2nm,0.3s,baz=300,slow=4.7,SNR=4.2
CMAR LR LR 05 00 13.1
comp=Z,158nm,21.0s,baz=285,slow=39
comp=Z,1.3nm,0.3s
CD2 Chengdu 45.44 74 P **P 04 39 06.0 -0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
ESDC Sonseca Array 45.49 298 P **P 04 39 06.4 -0.5**
ESDC Sonseca Array 45.49 298 P **P 04 39 06.4 -0.5**
comp=Z,0.8nm,0.7s,baz=69,slow=7.9,SNR=6.5
ESDC PcP **PcP 04 40 44.8 -1.0**
comp=Z,0.8nm,0.7s,baz=55,slow=3.2,SNR=4.4
ESDC LR LR 05 02 04.3
comp=Z,89nm,18.4s,baz=65,slow=41
comp=Z,0.8nm,0.7s
EKA Eskdalemuir Ar 45.82 320 P **P 04 39 08.6 -0.7**
comp=Z,2.9nm,0.6s,baz=108,slow=7.9,SNR=6.7
comp=Z,2.9nm,0.6s
SONM Songino Array 46.01 51 P **P 04 39 11.2 +0.2**
SONM Songino Array 46.01 51 P **P 04 39 11.2 +0.2**
SONM pmax pmax
comp=Z,13nm,1.3s
SONM Songino Array 46.01 51 P **P 04 39 10.6 -0.4**
comp=Z,4.1nm,0.9s,baz=268,slow=9.2,SNR=28
SONM LR LR 05 01 08.8
comp=Z,334nm,21.1s,baz=202,slow=40
comp=Z,4.1nm,0.9s
KMI Kunming 46.08 83⇑ P **P 04 39 11.9 -0.1**
KMI PP **PP 04 41 01.5 +1.4**
KMI pmax pmax
comp=Z,16nm,0.8s
KMI LR LR
comp=Z,270nm,17.9s
KMI LR LR
comp=Z,160nm,17.2s
ULN Ulaanbaatar 46.45 51 P **P 04 39 15.1 +0.6**
ULN IAmb IAmb 04 39 16.7
comp=Z,20nm,1.2s
ULN Ulaanbaatar 46.45 51*c i* P **P 04 39 15.4 +0.8**
ULN pmax pmax
comp=Z,17nm,1.0s
MDT Midelt 46.98 289 LR LR 05 04 12.2
comp=Z,130nm,18.1s,baz=100,slow=43
TOA0 Torodi Ar. Sit 48.16 261 P **P 04 39 27.8 -0.3**
TOA0 IAmb IAmb 04 39 41.6
comp=Z,9.0nm,0.8s
TORD Torodi Ar. Bea 48.16 261 P **P 04 39 27.6 -0.5**
TORD Torodi Ar. Bea 48.16 261 P **P 04 39 26.3 -1.8**
comp=Z,4.3nm,0.7s,baz=57,slow=8.9,SNR=32
TORD ScP **ScP 04 44 48.9 -0.7**
comp=Z,2.0nm,1.1s,baz=52,slow=12,SNR=5.0
TORD LR LR 05 01 36.7
comp=Z,244nm,20.2s,baz=70,slow=38
comp=Z,4.3nm,0.7s
BTO Baotou 48.88 60 *e*P **P 04 39 33.4 -0.1**
BTO pP **pP 04 39 37.9 -0.2**
BTO sP **sP 04 39 41.3 +1.5**
BTO PcP **PcP 04 40 59.6 +1.8**
BTO PP **PP 04 41 24.8 -1.9**
BTO S **S 04 46 37.8 +1.1**
BTO SS **SS 04 50 02.0 -5.2**
BTO pmax pmax
comp=Z,79nm,1.1s
BTO pmax pmax
comp=Z,250nm,5.3s
BTO LR LR
comp=Z,260nm,7.0s
BTO LR LR
comp=Z,390nm,6.5s
BTO LR LR
comp=Z,1μm,14.0s
NONG Nongkai 48.93 91 P **P 04 39 33.9 -0.1**
NAYO Nakonayok 48.94 97 P **P 04 39 34.5 +0.4**
GYA Guiyang 49.05 79⇓ P **P 04 39 34.8 -0.2**
GYA pmax pmax
comp=Z,16nm,1.2s
XAN Xi'an 49.05 69⇑ P **P 04 39 34.9 +0.1**
XAN pP pP 04 39 38.9 -0.5
XAN pmax pmax
comp=Z,33nm,0.9s
XAN LR LR
comp=Z,580nm,13.7s
XAN LR LR
comp=Z,700nm,15.1s
XAN LR LR
comp=Z,950nm,14.8s
LSZ Lusaka 49.68 209 LR LR 05 02 00.2
comp=Z,343nm,18.5s,baz=38,slow=38
HHC Hu-ho-hao-te 50.01 60 *e*P **P 04 39 43.4 +1.3**
HHC sP sP 04 39 49.4 +0.9
HHC S **S 04 46 57.5 +4.8**
HHC sS sS 04 46 59.6 -0.6
HHC SS **SS 04 50 23.4 -2.1**
HHC pmax pmax
comp=Z,13nm,1.0s
HHC pmax pmax
comp=Z,160nm,4.5s
HHC LR LR
comp=Z,280nm,14.5s
HHC LR LR
comp=Z,310nm,14.7s
HHC LR LR
comp=Z,350nm,14.5s
ENH Enshi 50.39 74 P **P 04 39 44.9 -0.1**
CIT Chita 50.75 45 *e*P **P 04 39 47.6 +0.2**
CIT *e* 04 39 52.6
SPITS Spitsbergen Ar 50.98 351 P **P 04 39 49.3 +0.5**
comp=Z,4.9nm,0.6s,baz=143,slow=9.9,SNR=2.7
SPITS LR LR 05 06 37.3
comp=Z,99nm,18.1s,baz=106,slow=42
comp=Z,4.9nm,0.6s
BOD Bodaibo 51.30 38 *e*P **P 04 39 51.9 +0.5**
BOD pmax pmax
comp=Z,67nm,1.3s
LYN LuoYang 51.82 68⇑ *i*P **P 04 39 56.6 +1.0**
LYN S **S 04 47 23.3 +5.8**
LYN pmax pmax
comp=Z,64nm,1.1s
LYN LR LR
comp=Z,550nm,10.4s
LYN LR LR
comp=Z,390nm,11.4s
LYN LR LR
comp=Z,530nm,10.0s
JMIC Jan Mayen 52.35 339 LR LR 05 03 57.4
comp=Z,114nm,18.9s,baz=96,slow=38
XLT XiLinHaoTe 52.94 55 *e*P **P 04 40 04.5 +0.5**
XLT pP pP 04 40 08.8 +0.2
XLT sP sP 04 40 12.4 +2.1
XLT PcP **PcP 04 41 14.3 +1.5**
XLT pmax pmax
comp=Z,19nm,0.9s
XLT pmax pmax
comp=Z,130nm,4.7s
XLT LR LR
comp=Z,600nm,12.3s
XLT LR LR
comp=Z,620nm,17.9s
HNS HongShan 52.99 64⇓ P **P 04 40 05.3 +1.0**
HNS *e*S **S 04 47 37.3 +3.8**
HNS pmax pmax
comp=Z,13nm,1.2s
HNS LR LR
comp=Z,260nm,15.1s
HNS LR LR
comp=Z,340nm,17.2s
BJT Baijiatuau 53.61 60 P **P 04 40 09.9 +1.0**
BJI Beijing 53.62 60 P **P 04 40 09.6 +0.8**
BJI pmax pmax
comp=Z,4.0nm,1.2s
BJI pmax pmax

comp=Z,85nm,4.4s
IPM Ipoh 53.64 108 P **P** **04 40 08.3 -1.1**
IPM Ipoh 53.64 108 P **P** **04 40 06.5 -2.9**
WHN Wuhan 54.36 72 ⇓P **P** **04 40 14.9 +0.5**
HIA Hailar 54.82 48 P **P** **04 40 18.6 +1.1**
HIA Hailar 54.82 48 IAmb IAmb 04 40 19.6
comp=Z,24nm,1.3s
TIA Tai'an 55.14 65 ⇑P **P** **04 40 20.8 +0.7**
TIA pmax pmax
comp=Z,13nm,1.0s
BORG Borgarnes 55.98 331 LR LR 05 05 55.7
comp=Z,142nm,18.2s,baz=100,slow=38
BKNI Bangkinang 56.02 112 P **P** **04 40 25.1 -1.5**
DBG Daneborg 56.58 342 *i* P **P** **04 40 29.8 0.0**
DBG IAmb IAmb 04 40 32.3
comp=Z,16nm,1.3s
DAG Danmarks Havn 56.67 345 *i* P **P** **04 40 29.8 -0.6**
DAG IAmb IAmb 04 40 35.7
comp=Z,2.0nm,0.7s
DBIC Dimbokro 56.95 258 P **P** **04 40 33.2 -0.1**
DBIC Dimbokro 56.95 258 P **P** **04 40 33.5 +0.2**
comp=Z,8.1nm,0.6s,baz=37,slow=7.4,SNR=18
DBIC LR LR 05 05 59.7
comp=Z,281nm,19.9s,baz=42,slow=37
comp=Z,8.1nm,0.6s
KIC Kosan Boka 57.01 258⇑ *i* P **P** **04 40 34.5 +0.8**
comp=Z,13nm,0.7s
TIC Toumodi 57.11 258⇑ *i* P **P** **04 40 35.2 +0.8**
comp=Z,4.4nm,0.3s
LIC Lamto 57.33 258⇑ *i* P **P** **04 40 36.7 +0.8**
comp=Z,31nm,0.6s
NOR Nord 57.60 351 *i* P **P** **04 40 36.4 -0.5**
NOR IAmb IAmb 04 40 38.3
comp=Z,1.6nm,0.7s
NJ2 Nanjing 57.62 69 ⇓P **P** **04 40 38.4 +0.6**
NJ2 pmax pmax
comp=Z,14nm,0.9s
NJ2 pmax pmax
comp=Z,150nm,4.8s
NJ2 LR LR
comp=Z,500nm,18.6s
TSUM Tsumeb 58.14 217 LR LR 05 07 01.2
comp=Z,246nm,18.4s,baz=340,slow=38
TIXI Tiksi 58.43 21 P **P** **04 40 41.0 -1.8**
TIXI Tiksi 58.43 21⇑ *eP* **P** **04 40 41.2 -1.6**
TIXI pmax pmax
comp=Z,21nm,2.5s
TIXI Tiksi 58.43 21 LR LR 05 09 17.7
comp=Z,343nm,20.1s,baz=276,slow=40
ZEA Zeya 58.90 42 *eP* **P** **04 40 47.8 +1.4**
ZEA pmax pmax
comp=Z,10.0nm,1.4s
ZEA MLR MLR
comp=Z,300nm,11.0s
YAK Yakutsk 59.16 33 P **P** **04 40 47.8 -0.2**
YAK Yakutsk 59.16 33 *eP* **P** **04 40 47.8 -0.2**
YAK pmax pmax
comp=Z,22nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK Yakutsk 59.16 33 LR LR 05 09 06.7
comp=E,230nm,18.3s,baz=280,slow=39
LBTB Lobatse 59.47 207 P **P** **04 40 50.6 -0.1**
LBTB Lobatse 59.47 207 P **P** **04 40 50.6 -0.1**
LBTB pmax pmax
comp=Z,44nm,1.7s
LBTB Lobatse 59.47 207 LR LR 05 05 43.0
comp=Z,94nm,19.4s,baz=42,slow=35
HEH HeiHe 59.59 46 *eP* **P** **04 40 51.3 +0.1**
HEH pmax pmax
comp=Z,26nm,1.1s
HEH pmax pmax
comp=Z,310nm,4.6s
HEH LR LR
comp=Z,650nm,13.8s
HEH LR LR
comp=Z,680nm,14.0s
HEH LR LR
comp=Z,1μm,16.0s
CN2 Changchun 59.62 54 P **P** **04 40 51.6 +0.1**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
BNX BinXian 60.53 52 ⇓P **P** **04 40 58.3 +0.5**
BNX pmax pmax
comp=Z,21nm,1.0s
BNX pmax pmax
comp=Z,230nm,4.6s
SUMG Summit 61.78 340 P **P** **04 41 05.7 -0.5**
SUMG IAmb IAmb 04 41 11.7
comp=Z,17nm,1.1s
SUMG Summit 61.78 340 P **P** **04 41 05.7 -0.5**
SUMG pmax pmax
comp=Z,17nm,1.1s
SUMG Summit 61.78 340 *i* P **P** **04 41 06.0 -0.3**
SUMG IAmb IAmb 04 41 12.9
comp=Z,7.0nm,0.9s
MDJ Mudanjiang 62.31 52 P **P** **04 41 10.3 +0.5**
MDJ pP pP 04 41 12.8 -1.7
MDJ sP sP 04 41 14.8 -1.4
MDJ PcP **PcP** **04 41 46.1 -3.4**
MDJ PP **PP** **04 43 26.8 +0.1**
MDJ S **S** **04 49 43.3 +7.7**
MDJ sS sS 04 49 48.6 +5.2
MDJ ScS **ScS** **04 51 03.0 +1.4**
MDJ pmax pmax
comp=Z,6.0nm,0.8s
MDJ pmax pmax
comp=Z,95nm,3.6s
MDJ LR LR
comp=Z,470nm,10.2s
MDJ LR LR
comp=Z,520nm,11.7s
MDJ LR LR
comp=Z,680nm,11.0s
KLR Kul'dur 62.56 47⇑ *eP* **P** **04 41 10.9 -0.5**
KLR pmax pmax
comp=Z,14nm,1.0s
KLR Kul'dur 62.56 47 LR LR 05 11 03.8
comp=Z,587nm,19.1s,baz=230,slow=39
ICESG Greenland Ices 62.80 336 *eP* **P** **04 41 13.1 0.0**
ICESG IAmb IAmb 04 41 20.6
comp=Z,9.5nm,0.9s
BOSA Boshof 62.84 205 P **P** **04 41 11.2 -2.3**
BOSA Boshof 62.84 205 P **P** **04 41 11.2 -2.3**
KSAR Wonju Array Be 63.12 60 P **P** **04 41 15.0 -0.3**
KSAR Wonju Array Be 63.12 60 P **P** **04 41 15.0 -0.3**
KSRS Korea Array 63.15 60 P **P** **04 41 14.6 -0.9**
comp=Z,6.0nm,0.9s,baz=283,slow=7.5,SNR=9.7
KSRS LR LR 05 12 12.4
comp=Z,291nm,18.6s,baz=285,slow=39
comp=Z,6.0nm,0.9s
NEEM North Greenlan 63.82 346 *i* P **P** **04 41 21.0 +1.3**
NEEM IAmb IAmb 04 41 22.8
comp=Z,3.0nm,0.8s
USRK Ussuriysk Ar. 64.08 52 P **P** **04 41 21.1 -0.5**
comp=Z,4.3nm,0.7s,baz=288,slow=5.7,SNR=3.5
USRK LR LR 05 11 12.2
comp=Z,164nm,19.2s,baz=279,slow=38
comp=Z,4.3nm,0.7s
LEM Lembang 65.52 114 LR LR 05 13 02.9
comp=Z,85nm,18.9s,baz=304,slow=39
DY2G Dye2 65.92 334 *i* P **P** **04 41 33.7 +0.3**
DY2G IAmb IAmb 04 41 34.9
comp=Z,7.4nm,0.6s
JNU Nakatsue 66.87 64 LR LR 05 14 52.8
comp=Z,181nm,18.0s,baz=288,slow=40
JOW Kunigami 67.11 71 LR LR 05 14 10.8
comp=Z,127nm,18.6s,baz=142,slow=39
SFJD Kangerlussuaq 67.35 335 P **P** **04 41 42.1 -0.1**
SFJD Kangerlussuaq 67.35 335 P **P** **04 41 42.1 -0.1**
SFJD pmax pmax
comp=Z,81nm,2.0s
SFJD Kangerlussuaq 67.35 335 *i* P **P** **04 41 42.3 +0.1**
SFJD IAmb IAmb 04 41 43.6
comp=Z,16nm,1.1s
SFJD Kangerlussuaq 67.35 335 LR LR 05 13 42.3
comp=Z,76nm,18.8s,baz=67,slow=38
SUR Sutherland 67.91 207 LR LR 05 13 24.8
comp=Z,324nm,18.9s,baz=30,slow=38
TYV Tymovskoe 68.76 43 *eP* **P** **04 41 51.7 +0.3**
TYV pmax pmax
comp=Z,9.0nm,1.3s
TYV pmax pmax
comp=Z,100nm,4.8s
SEY Seymchan 69.07 29⇑ *eP* **P** **04 41 54.4 +1.3**
SEY pmax pmax
comp=Z,29nm,1.0s
SEY Seymchan 69.07 29 LR LR 05 15 23.7
comp=Z,243nm,18.1s,baz=320,slow=39
MA2 Magadan 69.73 32 P **P** **04 41 58.3 +1.1**
MA2 Magadan 69.73 32 P **P** **04 41 57.5 +0.3**
MA2 IAmb IAmb 04 41 59.0
comp=Z,18nm,1.1s
MA2 Magadan 69.73 32*c i* P **P** **04 41 57.9 +0.7**
MA2 pmax pmax
comp=Z,16nm,1.0s
MA2 Magadan 69.73 32 LR LR 05 16 08.8
comp=Z,102nm,20.2s,baz=294,slow=39
YSS Yuzh-Sakhalins 70.27 47 *eP* **P** **04 42 01.5 +0.7**
YSS pmax pmax
comp=Z,40nm,1.1s
YSS MLR MLR
comp=Z,1μm,14.0s
MJAR Matsushiro Arr 71.17 58 P **P** **04 42 06.2 -0.3**
comp=Z,2.7nm,0.8s,baz=293,slow=10.0,SNR=6.4
MJAR LR LR 05 16 09.2
comp=Z,133nm,18.2s,baz=304,slow=38
comp=Z,2.7nm,0.8s
ASAJ Asahikawa 71.27 49 LR LR 05 17 16.9
comp=Z,273nm,20.1s,baz=134,slow=39
BILL Bilibino 71.65 21 P **P** **04 42 09.4 +0.6**
BILL IAmb IAmb 04 42 11.2
comp=Z,26nm,1.2s
BILL Bilibino 71.65 21 *eP* **P** **04 42 09.7 +0.9**
BILL pmax pmax
comp=Z,20nm,1.0s
RES Resolute Bay 73.54 351 P **P** **04 42 19.4 -0.5**
RES Resolute Bay 73.54 351 P **P** **04 42 19.4 -0.5**
RES pmax pmax
comp=Z,3.0nm,0.8s
RES Resolute Bay 73.54 351 LR LR 05 18 05.0
comp=Z,134nm,18.4s,baz=16,slow=39
JHJ Hachijo jima 2 73.75 61 LR LR 05 18 04.7
comp=Z,71nm,19.4s,baz=352,slow=38
FRB Frobisher Bay 75.44 336 LR LR 05 16 16.5
comp=Z,98nm,19.5s,baz=20,slow=36
PETK Petropavlovsk- 76.14 36 P **P** **04 42 34.1 -1.2**
comp=Z,5.8nm,1.0s,baz=259,slow=1.5,SNR=4.8
PETK LR LR 05 19 16.2
comp=Z,197nm,18.9s,baz=299,slow=38
comp=Z,5.8nm,1.0s
A21K Barrow 77.48 9 P **P** **04 42 43.3 +0.8**
baz=336
A19K Wainwright 77.84 11 P **P** **04 42 44.6 +0.1**
baz=332
A22K Sinclair Lake 77.99 8 P **P** **04 42 45.7 +0.3**
baz=337
SANI Sanana 78.22 99 P **P** **04 42 46.7 -1.0**
B18K Kokolik River 78.47 11 P **P** **04 42 48.3 +0.2**
baz=332
A36M Sachs Harbour 78.61 359 P **P** **04 42 49.0 +0.2**
baz=3.6,SNR=28
B20K Meade River 78.61 9 IAmb IAmb 04 42 58.0
comp=Z,13nm,0.9s
B20K Meade River 78.61 9 P **P** **04 42 48.7 -0.2**
baz=336
C16K Lisburne Hills 78.77 13 P **P** **04 42 49.9 +0.1**
baz=328
B22K Teshekpuk Lake 78.80 8 P **P** **04 42 50.9 +1.1**
baz=339
C17K DeLong Mountai 79.00 12 P **P** **04 42 51.2 +0.1**
baz=330
C19K Lookout Ridge 79.06 11 P **P** **04 42 51.5 0.0**
baz=333
C18K Utukok River 79.20 11 IAmb IAmb 04 42 54.0
comp=Z,25nm,1.3s
C18K Utukok River 79.20 11 P **P** **04 42 52.5 +0.2**
baz=332
B21K Ikpikpuk River 79.32 9 P **P** **04 42 52.9 +0.1**
B21K IAmb IAmb 04 42 55.3
comp=Z,28nm,1.1s
B21K Ikpikpuk River 79.32 9 P **P** **04 42 54.0 +1.3**
baz=338
RDOG Red Dog Mine 79.42 12 P **P** **04 42 53.7 +0.3**
baz=331
C23K Itkillik River 79.61 7 P **P** **04 42 55.0 +0.7**
baz=341
D17K Noatak River 79.70 12 P **P** **04 42 55.5 +0.6**
baz=330,SNR=14
C21K Knifeblade Rid 79.73 9 P **P** **04 42 55.3 +0.3**
baz=338
D19K Kuna River 79.85 10 IAmb IAmb 04 42 57.7
comp=Z,28nm,1.2s
D19K Kuna River 79.85 10 P **P** **04 42 55.9 +0.1**
baz=335
D20K Etivluk River 79.88 10 P **P** **04 42 56.1 +0.3**
baz=336
C24K Franklin Bluff 79.92 7 P **P** **04 42 57.3 +1.2**
baz=343
C26K Camden Bay 80.08 5 P **P** **04 42 58.2 +1.4**
baz=346
D22K Ayikyak River 80.26 8 IAmb IAmb 04 43 00.5
comp=Z,30nm,1.4s
D22K Ayikyak River 80.26 8 P **P** **04 42 58.9 +0.9**
baz=340
SCHQ Schefferville 80.32 329 P **P** **04 42 58.7 +0.2**
comp=Z,5.6nm,0.8s,baz=62,slow=3.0,SNR=7.0
SCHQ LR LR 05 19 50.3
comp=Z,65nm,18.9s,baz=100,slow=37
comp=Z,5.6nm,0.8s
E20K Nigu River 80.36 10 P **P** **04 42 59.4 +0.9**
baz=336
E18K Tukpahlearik C 80.40 12 IAmb IAmb 04 43 00.4
comp=Z,21nm,1.4s
E18K Tukpahlearik C 80.40 12 P **P** **04 42 59.2 +0.5**
baz=333
D23K Nanushuk River 80.43 8 P **P** **04 42 59.9 +1.1**
baz=341
D24K Happy Valley 80.45 7 IAmb IAmb 04 43 01.3
comp=Z,19nm,1.3s
D24K Happy Valley 80.45 7 P **P** **04 42 59.9 +1.0**
baz=343
TNA Tin City 80.52 15 P **P** **04 43 00.1 +0.8**
baz=327
D25K Kavik River 80.53 6 IAmb IAmb 04 43 01.7
comp=Z,19nm,1.2s
D25K Kavik River 80.53 6 P **P** **04 42 59.9 +0.4**
baz=345
TOLK Toolik Lake Re 80.86 7 IAmb IAmb 04 43 03.6
comp=Z,19nm,1.0s
TOLK Toolik Lake Re 80.86 7 P **P** **04 43 02.1 +0.9**
baz=342
E19K Redstone River 80.93 11 IAmb IAmb 04 43 03.3
comp=Z,31nm,1.4s
E19K Redstone River 80.93 11 P **P** **04 43 02.1 +0.6**
baz=336
F14K Arctic Creek 80.95 15 P **P** **04 43 02.4 +0.7**
baz=328
D27M Malcolm River 81.03 4 P **P** **04 43 02.5 +0.4**
baz=350
GAMB Gambell 81.06 18 P **P** **04 43 02.5 +0.3**
baz=324
D28M Stokes Point 81.08 3 P **P** **04 43 03.3 +1.1**
baz=352
E22K Anaktuvuk Pass 81.08 8 P **P** **04 43 03.0 +0.7**
baz=340
F15K North Star Dit 81.12 14 IAmb IAmb 04 43 04.6
comp=Z,16nm,1.2s
F15K North Star Dit 81.12 14 P **P** **04 43 03.1 +0.6**
baz=329
F17K Baldwin Pennin 81.15 12 P **P** **04 43 02.6 -0.1**
F17K Baldwin Pennin 81.15 12 P **P** **04 43 02.8 +0.2**
baz=332
C36M Paulatuk 81.23 358 P **P** **04 43 03.3 +0.3**
baz=6.6,SNR=8.8
F18K Selawik 81.30 12 P **P** **04 43 03.5 +0.1**
baz=334,SNR=12
F19K Shaleruckik Mo 81.42 11 P **P** **04 43 03.6 -0.4**
baz=335,SNR=14
E23K Chandalar 81.42 8 P **P** **04 43 04.1 -0.1**
baz=342,SNR=17
E24K Your Creek 81.53 7 IAmb IAmb 04 43 07.1
comp=Z,17nm,1.2s
E24K Your Creek 81.53 7 P **P** **04 43 04.2 -0.5**
baz=343
F20K Avaraart Lake 81.55 10 IAmb IAmb 04 43 06.3
comp=Z,20nm,1.4s
F20K Avaraart Lake 81.55 10 P **P** **04 43 04.0 -0.7**
baz=337
F21K Alatna River 81.71 9 IAmb IAmb 04 43 09.2
comp=Z,11nm,1.1s
F21K Alatna River 81.71 9 P **P** **04 43 05.7 0.0**
baz=339
E28M Babbage River 81.75 4 IAmb IAmb 04 43 08.2
comp=Z,15nm,1.4s
E28M Babbage River 81.75 4 P **P** **04 43 06.3 +0.5**
baz=351,SNR=9.0
E25K Arctic Village 81.78 6 IAmb IAmb 04 43 08.2
comp=Z,20nm,1.1s
E25K Arctic Village 81.78 6 P **P** **04 43 06.4 +0.3**
baz=346,SNR=18
G15K Niukluk 81.86 14 P **P** **04 43 06.5 0.0**
baz=330,SNR=5.8
G16K Koyuk River 81.86 13 IAmb IAmb 04 43 08.6
comp=Z,20nm,1.4s
G16K Koyuk River 81.86 13 P **P** **04 43 06.5 0.0**
baz=331
ANM Nome 81.94 15 P **P** **04 43 07.2 +0.3**
ANM IAmb IAmb 04 43 09.2
comp=Z,16nm,1.2s
ANM Nome 81.94 15 P **P** **04 43 07.2 +0.3**
ANM pmax pmax
comp=Z,16nm,1.2s
ANM Nome 81.94 15 P **P** **04 43 07.3 +0.3**
baz=329,SNR=6.6
E27K Coleen River 82.03 5 IAmb IAmb 04 43 09.8
comp=Z,20nm,1.4s
E27K Coleen River 82.03 5 P **P** **04 43 07.8 +0.4**
baz=349
E29M Blow River 82.06 3 IAmb IAmb 04 43 09.7
comp=Z,14nm,1.2s
E29M Blow River 82.06 3 P **P** **04 43 08.3 +0.8**
baz=352
G17K Kiwalik Mounta 82.10 13 P **P** **04 43 07.9 +0.1**
baz=333
G18K Tagagawik 82.12 12 IAmb IAmb 04 43 09.2
comp=Z,14nm,1.3s
G18K Tagagawik 82.12 12 P **P** **04 43 07.7 -0.1**
baz=334
F24K Squaw Lake 82.13 7 P **P** **04 43 08.5 +0.6**
baz=344
COLD Coldfoot 82.14 8 P **P** **04 43 08.3 +0.3**
baz=342
G19K Purcell Mounta 82.16 11 IAmb IAmb 04 43 09.7
comp=Z,22nm,1.3s
G19K Purcell Mounta 82.16 11 P **P** **04 43 08.2 +0.1**
baz=336,SNR=19
F25K Christian Rive 82.28 6 P **P** **04 43 08.4 -0.3**
baz=346,SNR=7.2
INK Inuvik 82.30 2 P **P** **04 43 08.4 -0.3**
INK Inuvik 82.30 2 P **P** **04 43 08.4 -0.3**
INK pmax pmax
comp=Z,7.0nm,1.1s
INK Inuvik 82.30 2 P **P** **04 43 09.0 +0.3**
baz=356,SNR=7.0
INK Inuvik 82.30 2 LR LR 05 24 12.1
comp=Z,51nm,22.0s,baz=12,slow=39
F26K Sheenjek River 82.32 6 P **P** **04 43 09.4 +0.5**
baz=347,SNR=6.6
G21K Allakaket 82.37 10 IAmb IAmb 04 43 11.3
comp=Z,15nm,1.2s
G21K Allakaket 82.37 10 P **P** **04 43 09.1 0.0**
baz=339,SNR=13
H16K Elim 82.55 14 P **P** **04 43 10.5 +0.4**
baz=332,SNR=9.1
G23K Bananza Creek 82.66 8 IAmb IAmb 04 43 13.1
comp=Z,12nm,1.1s
G23K Bananza Creek 82.66 8 P **P** **04 43 11.3 +0.6**
baz=342
F28M Old Crow 82.72 4 P **P** **04 43 11.1 +0.1**
F28M IAmb IAmb 04 43 13.1
comp=Z,15nm,1.4s
F28M Old Crow 82.72 4 P **P** **04 43 11.3 +0.3**
baz=351,SNR=9.5
H17K Granite Mounta 82.75 13 P **P** **04 43 10.9 -0.2**
baz=333
H19K Roundabout Mou 82.83 11 IAmb IAmb 04 43 13.4
comp=Z,16nm,1.3s
H19K Roundabout Mou 82.83 11 P **P** **04 43 11.4 -0.1**
baz=336
IMAR Indian Mountai 82.83 10 P **P** **04 43 11.4 -0.1**
H18K Honhosa River 82.84 12 IAmb IAmb 04 43 16.9
comp=Z,9.3nm,1.1s
H18K Honhosa River 82.84 12 P **P** **04 43 11.4 -0.3**
baz=335
F30M Barrier River 82.92 3 P **P** **04 43 12.2 +0.2**
baz=354
G24K Hadweenzic Riv 82.96 7 IAmb IAmb 04 43 14.8
comp=Z,12nm,0.9s
G24K Hadweenzic Riv 82.96 7 P **P** **04 43 12.2 0.0**
baz=344
G25K Bearman Lake 83.04 7 P **P** **04 43 13.2 +0.6**
baz=345
G26K Porcupine Rive 83.08 6 P **P** **04 43 13.2 +0.4**
baz=347
H20K Anotleneega Mo 83.12 10 P **P** **04 43 13.8 +0.8**
baz=338
F31M Tsiigehtchic 83.16 2 P **P** **04 43 13.7 +0.5**
baz=356,SNR=12
H22K Ishtalitna Cre 83.26 9 P **P** **04 43 14.3 +0.5**
baz=341
H21K Melozitna Rive 83.28 10 IAmb IAmb 04 43 16.2
comp=Z,17nm,1.2s
H21K Melozitna Rive 83.28 10 P **P** **04 43 14.4 +0.5**
baz=340
FYU Fort Yukon 83.32 6 P **P** **04 43 14.8 +0.7**
FYU IAmb IAmb 04 43 17.3
comp=Z,11nm,1.0s
G27K Doyon Strip 83.39 5 IAmb IAmb 04 43 16.5
comp=Z,6.6nm,0.8s
G27K Doyon Strip 83.39 5 P **P** **04 43 15.7 +1.2**
baz=349
GCSA Galena City Sc 83.48 12 P **P** **04 43 15.3 +0.5**
baz=336
G29M Pine Creek 83.52 3 IAmb IAmb 04 43 16.9
comp=Z,9.7nm,1.1s
G29M Pine Creek 83.52 3 P **P** **04 43 15.5 +0.4**
baz=352
G30M tAoh Zraii Nji 83.53 3 P **P** **04 43 15.1 -0.1**
baz=354
I17K Unalakleet 83.54 13 IAmb IAmb 04 43 16.8
comp=Z,11nm,1.0s
I17K Unalakleet 83.54 13 P **P** **04 43 15.6 +0.5**
baz=333,SNR=5.8
H25L Birch Creek 83.56 7 P **P** **04 43 15.6 +0.4**
baz=346
G31M Satah River 83.66 2 IAmb IAmb 04 43 16.8
comp=Z,13nm,0.8s
G31M Satah River 83.66 2 P **P** **04 43 15.8 0.0**
baz=356,SNR=12
H24K Noodor Dome 83.75 8 P **P** **04 43 17.3 +0.9**
baz=344
I20K Naaghedeneel 83.83 11 P **P** **04 43 17.4 +0.7**
baz=338
I21K Tanana 83.85 9 IAmb IAmb 04 43 19.2
comp=Z,10nm,1.1s
I21K Tanana 83.85 9 P **P** **04 43 17.7 +0.9**
baz=340,SNR=6.9
J14K Nanvaranak Lak 83.93 15 P **P** **04 43 17.9 +0.7**
baz=330
H27K Steamboat Moun 83.97 5 P **P** **04 43 18.5 +1.0**
baz=349
J16K Anvik River 84.09 14 IAmb IAmb 04 43 24.4
comp=Z,17nm,1.1s
J16K Anvik River 84.09 14 P **P** **04 43 18.9 +0.8**
baz=333,SNR=7.2
EPYK Eagle Plains 84.12 3 P **P** **04 43 17.0 -1.3**
EPYK IAmb IAmb 04 43 19.7
comp=Z,18nm,1.4s
EPYK Eagle Plains 84.12 3 P **P** **04 43 18.1 -0.1**
baz=354,SNR=6.7
MLY Manley 84.16 9 P **P** **04 43 18.2 -0.2**
baz=341,SNR=8.7
H29M Whitestone 84.19 4 P **P** **04 43 18.9 +0.4**
baz=352,SNR=9.8
I23K Minto, Yukon-K 84.23 8 IAmb IAmb 04 43 21.1
comp=Z,19nm,1.4s
I23K Minto, Yukon-K 84.23 8 P **P** **04 43 18.0 -0.7**
baz=342,SNR=5.8
SHEM Shemya Is, Ala 84.29 31 LR LR 05 24 26.3
comp=Z,120nm,18.1s,baz=239,slow=38
PRP Porcupine Dome 84.31 7 P **P** **04 43 18.9 -0.5**
baz=346,SNR=5.5
J19K Poorman 84.39 11 IAmb IAmb 04 43 21.8
comp=Z,7.9nm,1.1s
J19K Poorman 84.39 11 P **P** **04 43 19.6 +0.1**
baz=337,SNR=8.4
J20K Nowinta River 84.46 11 IAmb IAmb 04 43 21.5
comp=Z,12nm,1.2s
J20K Nowinta River 84.46 11 P **P** **04 43 19.4 -0.5**
baz=338
POKR Poker Plat Res 84.50 8 P **P** **04 43 20.8 +0.7**

baz=344
MDM Murphy Dome 84.56 8 P P 04 43 20.8 +0.3
I27K Kandik River 84.58 5 P P 04 43 21.3 +0.7
baz=349
COLA College 84.68 8 P P 04 43 21.9 +0.9
COLA College 84.68 8 P P 04 43 21.7 +0.7
baz=344
J18K Innoko River 84.68 12 IAmb IAmb 04 43 23.3
comp=Z,15nm,1.4s
J18K Innoko River 84.68 12 P P 04 43 21.7 +0.6
baz=336
I26K Coal Creek Min 84.75 6 P P 04 43 21.9 +0.5
baz=348
K15K Wolf Creek Mou 84.78 15 P P 04 43 21.7 +0.2
baz=332
H31M Peel River 84.78 2 IAmb IAmb 04 43 30.9
comp=Z,18nm,1.4s
H31M Peel River 84.78 2 P P 04 43 21.8 +0.2
baz=356
NEA2 Nenana 84.80 8 P P 04 43 21.2 -0.5
NEA2 IAmb IAmb 04 43 23.1
comp=Z,14nm,1.5s
NEA2 Nenana 84.80 8 P P 04 43 21.7 0.0
baz=343
I28M Miner Creek 84.86 4 IAmb IAmb 04 43 22.9
comp=Z,14nm,1.4s
I28M Miner Creek 84.86 4 P P 04 43 22.1 0.0
baz=351
ILAR Eielson Array 84.89 7 P P 04 43 22.0 -0.1
ILAR Eielson Array 84.89 7 P P 04 43 21.9 -0.1
comp=Z,2.5nm,0.7s,baz=322,slow=3.9,SNR=35
ILAR PP PP 04 46 37.5 -0.3
comp=Z,1.1nm,1.0s,baz=334,slow=7.5,SNR=5.0
ILAR LR LR 05 28 57.1
comp=Z,48nm,18.2s,baz=340,slow=41
comp=Z,2.5nm,0.7s
BPAW Bear Paw Mtn. 85.01 9 P P 04 43 22.9 +0.1
baz=341,SNR=32
CHUM Lake Minchumin 85.02 10 P P 04 43 23.2 +0.4
baz=340,SNR=21
K17K Iditarod 85.07 13 P P 04 43 23.5 +0.5
baz=335,SNR=7.3
J25K Salcha River, 85.21 7 P P 04 43 24.1 +0.3
baz=346,SNR=28
HDA Harding Lake 85.24 8 IAmb IAmb 04 43 24.3
comp=Z,15nm,1.4s
HDA Harding Lake 85.24 8 P P 04 43 23.4 -0.4
baz=345,SNR=5.6
K20K Telida 85.24 11 P P 04 43 24.6 +0.7
baz=338
I30M Mount Dempster 85.28 3 P P 04 43 24.7 +0.4
baz=354
TTA Tatalina 85.30 12 P P 04 43 25.8 +1.5
TTA Tatalina 85.30 12 P P 04 43 24.6 +0.3
TTA IAmb IAmb 04 43 26.5
comp=Z,17nm,1.3s
TTA Tatalina 85.30 12 P P 04 43 24.9 +0.6
baz=337,SNR=7.9
M11K Mekoryuk 85.32 17 P P 04 43 24.5 +0.2
baz=328
L15K Ungalak Mounta 85.34 15 P P 04 43 25.3 +1.0
baz=332
L14K Kuka Creek 85.36 15 IAmb IAmb 04 43 26.2
comp=Z,7.7nm,0.8s
L14K Kuka Creek 85.36 15 P P 04 43 25.2 +0.8
baz=331
EGAK Eagle 85.43 5 P P 04 43 25.2 +0.5
baz=350,SNR=13
CAST Castle Rocks 85.50 10 P P 04 43 25.3 +0.1
baz=340,SNR=25
J26L Joseph Creek 85.50 6 IAmb IAmb 04 43 27.0
comp=Z,19nm,1.3s
J26L Joseph Creek 85.50 6 P P 04 43 25.1 -0.2
baz=348
KTH Kantishna Hill 85.54 10 IAmb IAmb 04 43 27.6
comp=Z,20nm,1.2s
L17K Donlin 85.60 13 P P 04 43 25.5 -0.2
baz=335
MCK McKinley 85.64 9 P P 04 43 25.7 -0.2
baz=343,SNR=18
TRF Thorofare Moun 85.73 9 IAmb IAmb 04 43 39.2
comp=Z,14nm,1.0s
TRF Thorofare Moun 85.73 9 P P 04 43 26.6 0.0
baz=342,SNR=7.4
L16K Owhat River 85.74 14 P P 04 43 26.9 +0.5
baz=334,SNR=7.4
L18K Granite Mounta 85.83 12 IAmb IAmb 04 43 29.1
comp=Z,13nm,1.2s
L18K Granite Mounta 85.83 12 P P 04 43 27.7 +0.8
baz=336
J30M Hart River 85.93 3 P P 04 43 27.4 0.0
J30M IAmb IAmb 04 43 29.7
comp=Z,19nm,1.3s
J30M Hart River 85.93 3 P P 04 43 27.6 +0.1
baz=354,SNR=12
J29N Klondike Camp 85.96 4 IAmb IAmb 04 43 29.8
comp=Z,18nm,1.2s
J29N Klondike Camp 85.96 4 P P 04 43 27.7 +0.2
baz=352,SNR=5.1
K24K Donnelly Dome 85.96 7 P P 04 43 27.6 +0.1
baz=346,SNR=9.2
RND Reindeer 85.97 9 IAmb IAmb 04 43 28.9
comp=Z,20nm,1.2s
PPLA Purkeypile 85.97 10 P P 04 43 28.2 +0.5
baz=340,SNR=6.1
M13K Dall Lake 86.02 16 P P 04 43 27.8 +0.1
baz=331
M14K Bethel 86.05 15 P P 04 43 28.5 +0.6
baz=332
L20K Farewell, AK 86.09 11 P P 04 43 28.5 +0.3
baz=339
K27K Chicken 86.10 6 P P 04 43 29.4 +1.3
baz=349
L19K White Mountain 86.20 12 IAmb IAmb 04 43 31.9
comp=Z,13nm,1.0s
L19K White Mountain 86.20 12 P P 04 43 29.1 +0.4
baz=338
DAWY Dawson 86.27 4 P P 04 43 29.3 +0.3
baz=351,SNR=14
M15K Kasigluk River 86.39 15 P P 04 43 30.6 +1.1
baz=333
M17K Holitna River 86.44 13 P P 04 43 31.0 +1.1
baz=336
M16K Timber Creek 86.47 14 IAmb IAmb 04 43 36.0
comp=Z,21nm,1.2s
M16K Timber Creek 86.47 14 P P 04 43 30.5 +0.5
baz=334
DHY Denali Highway 86.48 8 P P 04 43 29.2 -1.0
DHY IAmb IAmb 04 43 31.3
comp=Z,16nm,1.2s
DHY Denali Highway 86.48 8 P P 04 43 30.4 +0.2
baz=344,SNR=7.8
M19K Big River Lodg 86.54 12 IAmb IAmb 04 43 32.8
comp=Z,9.2nm,0.9s
M19K Big River Lodg 86.54 12 P P 04 43 31.4 +1.0
baz=338
WAT1 Susitna Watana 86.56 9 P P 04 43 30.1 -0.4
baz=343
K29M Barlow Dome 86.60 4 IAmb IAmb 04 43 32.2
comp=Z,9.0nm,0.8s
K29M Barlow Dome 86.60 4 P P 04 43 31.5 +0.8
baz=353
M18K Stony River 86.67 12 P P 04 43 31.1 +0.1
baz=337,SNR=8.2
CUT Chulitna 86.73 10 P P 04 43 30.6 -0.6
baz=342
M20K Styx River 86.78 11 P P 04 43 31.4 -0.2
baz=339
PAX Paxson 86.80 7 P P 04 43 31.6 -0.1
baz=346
N14K Kuskokwak Cree 86.85 16 P P 04 43 31.9 0.0
baz=332
SPIA Saint Paul Isl 86.86 21 P P 04 43 31.6 -0.3
baz=325
WAT6 Susitna Watana 86.91 8 P P 04 43 32.1 -0.2
baz=344,SNR=9.6
MAYO Mayo, Yukon 86.93 3 P P 04 43 32.2 0.0
baz=354
SKT Skwentna 86.94 10 IAmb IAmb 04 43 34.4
comp=Z,14nm,1.0s
SKT Skwentna 86.94 10 P P 04 43 32.2 -0.1
baz=341,SNR=11
L26K Log Cabin Wild 86.97 6 IAmb IAmb 04 43 34.9
comp=Z,21nm,1.4s
L26K Log Cabin Wild 86.97 6 P P 04 43 32.3 -0.2
baz=348
N15K Kwethluk River 86.99 15 P P 04 43 32.2 -0.4
baz=334
N16K Nishlik Lake 87.01 14 P P 04 43 33.0 +0.3
baz=335
MENT Mentasta 87.02 7 P P 04 43 34.1 +1.4
MENT Mentasta 87.02 7 IAmb IAmb 04 43 35.0
comp=Z,20nm,1.3s
BCAR Beaver Creek A 87.07 6 P P 04 43 33.6 +0.6
L27K Beaver Creek, 87.07 6 P P 04 43 33.1 +0.2
baz=349
FCC Fort Churchill 87.19 343 IAmb IAmb 04 43 35.6
comp=Z,19nm,1.3s
N17K Nushagak Hills 87.29 13 IAmb IAmb 04 43 37.1
comp=Z,9.7nm,1.2s
N17K Nushagak Hills 87.29 13 P P 04 43 34.8 +0.8
baz=336
L29M L29M 87.30 4 P P 04 43 34.2 +0.2
baz=352
M22K Willow 87.37 10 P P 04 43 34.4 0.0
baz=342,SNR=8.3
HARP HAARP 87.39 7 P P 04 43 34.9 +0.4
baz=346,SNR=5.2
N18K Kilae Creek 87.40 13 IAmb IAmb 04 43 37.0
comp=Z,8.0nm,1.1s
N18K Kilae Creek 87.40 13 P P 04 43 34.8 +0.2
baz=337
YKA Yellowknife Ar 87.43 353 P P 04 43 34.8 +0.2
comp=Z,6.3nm,1.0s,baz=8.4,slow=5.3,SNR=57
YKA LR LR 05 29 10.8
comp=Z,68nm,18.6s,baz=8.5,slow=40
comp=Z,6.3nm,1.0s
GHO Glory Hole Cre 87.53 9 P P 04 43 35.2 0.0
N19K Bonanza Creek 87.54 12 P P 04 43 35.2 -0.1
baz=338
O14K Tigyukauivet M 87.54 16 P P 04 43 35.9 +0.7
baz=332
P08K Saint George I 87.55 21 P P 04 43 35.8 +0.5
baz=326
SUA Susitna One 87.56 10 P P 04 43 35.5 +0.1
baz=341,SNR=17
M24K Tolsona, Glenn 87.56 8 P P 04 43 36.1 +0.7
baz=345,SNR=6.9
N20K Mount Spurr 87.57 11 P P 04 43 35.6 +0.1
baz=340
SML Sawmill 87.58 9 P P 04 43 35.6 +0.1
baz=344
M26K Nabesna, AK 87.61 6 IAmb IAmb 04 43 37.8
comp=Z,13nm,1.3s
M26K Nabesna, AK 87.61 6 P P 04 43 36.3 +0.7
baz=348
M23K Glacier View 87.67 9 P P 04 43 36.4 +0.5
baz=344
PKME Peaks-Kenny Pk 87.67 322 P P 04 43 36.4 +0.3
baz=49
PMR Palmer 87.67 9 P P 04 43 36.9 +1.1
PMR Palmer 87.67 9 P P 04 43 36.0 +0.2
PMR IAmb IAmb 04 43 37.4
comp=Z,14nm,1.2s
PMR Palmer 87.67 9 P P 04 43 36.5 +0.7
baz=343,SNR=7.2
SCM Sheep Creek Mo 87.68 8 IAmb IAmb 04 43 37.8
comp=Z,16nm,1.1s
SCM Sheep Creek Mo 87.68 8 P P 04 43 36.6 +0.6
baz=344
M27K Edge Creek, AK 87.76 6 P P 04 43 37.0 +0.6
baz=349,SNR=15
BVCY Beaver Creek 87.79 5 P P 04 43 37.2 +0.7
baz=350,SNR=8.1
M30M Minto, Yukon 87.91 3 P P 04 43 37.5 +0.5
baz=353
KNK Knik Glacier 87.94 9 IAmb IAmb 04 43 40.9
comp=Z,9.2nm,1.0s
KNK Knik Glacier 87.94 9 P P 04 43 37.8 +0.6
baz=343
M29M Somme Creek 87.94 4 IAmb IAmb 04 43 39.1
comp=Z,8.0nm,1.1s
M29M Somme Creek 87.94 4 P P 04 43 37.8 +0.5
baz=352
O15K Ungalikthiuk R 87.95 15 P P 04 43 37.3 +0.1
baz=334
O16K Kokwok River B 87.95 14 P P 04 43 37.6 +0.5
baz=335
O17K Koliganek Bris 88.00 14 P P 04 43 37.7 +0.4
baz=336
RC01 Rabbit Creek A 88.06 10 IAmb IAmb 04 43 43.3
comp=Z,12nm,1.1s
RC01 Rabbit Creek A 88.06 10 P P 04 43 38.0 +0.3
baz=342
O19K Port Alsworth 88.15 12 P P 04 43 38.7 +0.6
baz=338
CAPN Captain Cook N 88.15 11 P P 04 43 38.0 -0.1
baz=341
RSO Redoubt South 88.18 11 P P 04 43 38.3 -0.2
KLU Klutina 88.19 8 P P 04 43 39.0 +0.5
baz=346,SNR=10
N25K Chitina, Valde 88.23 7 P P 04 43 38.8 +0.2
baz=347
O18K Koktuh Hills 88.30 13 IAmb IAmb 04 43 41.0
comp=Z,12nm,1.2s
O18K Koktuh Hills 88.30 13 P P 04 43 39.3 +0.4
baz=338
M31M Drury Creek, Y 88.39 2 IAmb IAmb 04 43 41.1
comp=Z,9.5nm,1.2s
M31M Drury Creek, Y 88.39 2 P P 04 43 39.7 +0.4
baz=356,SNR=7.1
FARO Faro, Yukon 88.39 2 IAmb IAmb 04 43 41.6
comp=Z,10nm,1.1s
FARO Faro, Yukon 88.39 2 P P 04 43 39.8 +0.5
baz=356,SNR=8.8
YUK3 Moose Creek 88.46 5 P P 04 43 40.0 +0.1
baz=350,SNR=15
P16K Nushagak River 88.48 14 P P 04 43 40.2 +0.5
baz=335
O20K Slope Mountain 88.56 11 P P 04 43 40.5 +0.3
baz=340
MCARA McCarthy VSAT 88.61 7 P P 04 43 40.8 +0.5
MCARA IAmb IAmb 04 43 43.3
comp=Z,10nm,1.2s
MCARA McCarthy VSAT 88.61 7 P P 04 43 40.4 +0.1
baz=348
O22K Cooper Landing 88.65 10 P P 04 43 40.8 +0.3
baz=342
P17K Kvichak River 88.66 14 P P 04 43 41.2 +0.7
baz=337
VRDI Verde Repeater 88.72 7 IAmb IAmb 04 43 54.6
comp=Z,10nm,1.4s
P18K Big Mountain, 88.72 13 P P 04 43 40.7 -0.2
baz=338
BMRM Bremner River 88.85 7 P P 04 43 42.0 +0.5
baz=347
P19K Oil Pt 88.85 12 P P 04 43 41.7 +0.1
baz=339
YUK8 Steele Glacier 89.00 5 P P 04 43 42.3 -0.2
baz=351
N30M Aishikik Lake 89.00 4 P P 04 43 42.1 -0.1
baz=353
YUK4 Talbot Arm 89.02 5 P P 04 43 42.4 -0.1
baz=352,SNR=11
SEW Seward 89.05 10 P P 04 43 42.1 -0.2
baz=342
BARN Barnard Glacie 89.06 6 IAmb IAmb 04 43 48.5
comp=Z,8.8nm,1.2s
Q16K King Salmon 89.09 14 P P 04 43 43.0 +0.5
baz=336
HOM Homer 89.12 11 P P 04 43 43.3 +0.5
baz=341
EYAK Cordova Ski Ar 89.12 8 P P 04 43 43.5 +0.8
baz=346
TGTN Hyland Airport 89.15 360 P P 04 43 43.7 +0.8
baz=0.9,SNR=9.6
CTG Chitna Glacier 89.18 6 P P 04 43 42.6 -0.6
baz=350,SNR=5.4
CTGM Chitina Glacie 89.18 6 IAmb IAmb 04 43 45.5
comp=Z,18nm,1.4s
BRSE Bradley Lake S 89.19 11 P P 04 43 42.9 -0.2
baz=341
LOGN Logan Glacier 89.35 6 IAmb IAmb 04 43 50.3
comp=Z,8.6nm,1.0s
YUK6 Outpost Mounta 89.44 4 P P 04 43 44.1 -0.4
baz=352
P23K Montague Islan 89.44 9 P P 04 43 44.6 +0.4
baz=344
Q19K Cape Douglas, 89.46 12 P P 04 43 44.0 -0.3
baz=339
N32M Quiet Lake 89.48 2 P P 04 43 44.6 +0.1
baz=357
HYT Haines Junctio 89.61 4 P P 04 43 45.3 +0.1
baz=353,SNR=12
Q17K Contact Creek 89.63 14 P P 04 43 45.9 +0.6
baz=337
O30N Mendenhall 89.74 3 IAmb IAmb 04 43 47.4
comp=Z,9.5nm,1.3s
O30N Mendenhall 89.74 3 P P 04 43 46.4 +0.7
baz=354,SNR=6.8
LBNH Lisbon 89.75 323 P P 04 43 47.0 +1.0
baz=47
BGLC Bering Glacier 89.82 7 P P 04 43 46.5 +0.6
baz=348
KAIM Kayak Island 89.89 8 P P 04 43 47.2 +0.8
baz=347
MESA MESA 89.90 6 P P 04 43 47.1 +0.5
baz=349
WHY Whitehorse 89.91 3 P P 04 43 47.2 +0.7
baz=355
R16K Pilot Point 89.91 15 P P 04 43 46.7 +0.3
baz=336
Q20K Shuyak Island 89.98 12 P P 04 43 47.4 +0.6
baz=340
O29M Mount Kennedy 90.06 5 P P 04 43 47.7 +0.4
baz=352
Q23K Middleton Isla 90.14 9 P P 04 43 48.0 +0.6
baz=345
P30M Million Dollar 90.34 4 P P 04 43 48.9 +0.4
baz=353
P33M Teslin, Yukon 90.43 2 P P 04 43 49.4 +0.5
baz=357
KOTAN Kotaneelee Air 90.46 357 P P 04 43 49.7 +0.7
baz=4.5
S12K Black Hills 90.49 18 P P 04 43 49.9 +0.7
baz=332
WTLY Watson Lake, Y 90.58 360 P P 04 43 50.0 +0.4
baz=0.4
S14K Fog Glacier 90.61 16 P P 04 43 50.2 +0.3
baz=334
PNL Peninsula 90.63 5 P P 04 43 49.8 0.0
baz=351
KDAK Kodiak Island 90.73 12 P P 04 43 50.5 +0.2
KDAK Kodiak Island 90.73 12 P P 04 43 50.5 +0.2
KDAK pmax pmax
comp=Z,12nm,0.8s
KDAK Kodiak Island 90.73 12 P P 04 43 50.7 +0.5
baz=340
KDAK Kodiak Island 90.73 12 LR LR 05 30 48.8
comp=Z,56nm,18.1s,baz=3.9,slow=40
HRV Adam Dziewonsk 90.73 321 P P 04 43 51.0 +0.5
baz=47
P29M Windy Craggy 90.78 4 P P 04 43 50.5 0.0
baz=353
NIKH Nikolski High 90.79 23 P P 04 43 50.3 -0.3
baz=326
UNV Unalaska Valle 90.82 21 P P 04 43 50.4 -0.3
baz=328
LONY Lake Ozonia 90.86 324 P P 04 43 50.5 -0.7
baz=45
M65A Busby, Falmout 90.86 320 P P 04 43 50.9 -0.3
baz=48
CHGN Chignik 90.87 16 P P 04 43 51.3 +0.4
baz=335
P32M Atlin 91.03 2 P P 04 43 52.9 +1.2
baz=356
PLBC Pleasant Camp 91.04 4 P P 04 43 52.6 +0.9
baz=354
SKAG Skagway 91.09 3 P P 04 43 52.5 +0.6
baz=355
OHAK Old Harbor 91.12 13 P P 04 43 52.6 +0.5
baz=339
SDPT Sand Point 91.22 17 P P 04 43 53.1 +0.5
baz=333
R33M Jennings River 91.29 1 P P 04 43 53.5 +0.5
baz=358
L61B Northampton 91.38 322 P P 04 43 53.1 -0.5
baz=46
SII Sitkinak Islan 91.56 14 P P 04 43 54.6 +0.4
baz=338
Q32M Nakina River 91.70 2 P P 04 43 54.8 -0.2
baz=357
CHNA Chernabura Isl 91.91 17 P P 04 43 56.2 +0.5
baz=334
CHIR Chirikof Islan 91.95 15 P P 04 43 56.2 +0.2
baz=337
DLBC Dease Lake 92.25 0 P P 04 43 57.4 0.0
baz=359
DLBC Dease Lake 92.25 0 LR LR 05 36 12.3
comp=Z,45nm,18.1s,baz=300,slow=42
R32K Eaglecrest 92.31 3 P P 04 43 57.6 0.0
baz=355
S31K Pelican 92.54 4 P P 04 43 58.9 +0.4
baz=354
FFC Flin Flon 92.75 345 P P 04 43 59.3 -0.4
FFC IAmb IAmb 04 44 01.2
comp=Z,14nm,1.4s
FFC Flin Flon 92.75 345 P P 04 43 59.3 -0.4
FFC pmax pmax
comp=Z,14nm,1.4s
S34M Telegraph Cree 92.77 1 P P 04 43 59.4 -0.3
baz=358
PAL Palisades 93.04 321 P P 04 44 01.0 -0.3
baz=46
S32K Killisnoo 93.11 3 P P 04 44 01.0 -0.2
baz=355
BINY Binghamton 93.30 323 P P 04 44 02.5 -0.1
baz=44
SIT Sitka 93.49 3 P P 04 44 03.3 +0.3
baz=355
T35M Bob Quinn 93.71 1 P P 04 44 04.0 -0.1
baz=359
WRAK Wrangell Islan 94.24 2 P P 04 44 06.0 -0.5
baz=357
WRA Warramunga Arr 94.33 110 P P 04 44 05.3 -2.2
comp=Z,1.9nm,1.1s,baz=316,slow=4.1,SNR=6.6
WRA PKKP PKKPdf 05 01 06.8 -0.2
comp=Z,0.5nm,0.6s,baz=116,slow=2.6,SNR=7.5
comp=Z,1.9nm,1.1s
U33K Whale Pass 94.52 2 P P 04 44 07.4 -0.4
baz=357
ULM Lac du Bonnet 95.13 339 P P 04 44 10.2 -0.5
comp=Z,1.7nm,0.8s,baz=20,slow=5.3,SNR=2.6
ULM LR LR 05 28 04.3
comp=Z,103nm,19.6s,baz=62,slow=36
comp=Z,1.7nm,0.8s
CRAG Craig 95.17 2 P P 04 44 10.9 +0.1
baz=357
V35K Ketchikan 95.35 1 P P 04 44 10.5 -1.0
baz=358
ERPA Erie 95.39 326 P P 04 44 10.4 -1.6
baz=41
SSPA Standing Stone 95.42 323 P P 04 44 11.5 -0.8
baz=43
EYMN Ely 95.65 336 P P 04 44 13.4 +0.2
baz=32
ASAR Alice Springs 95.82 114 P P 04 44 12.6 -1.7
comp=Z,1.2nm,0.6s,baz=306,slow=4.4,SNR=9.0
comp=Z,1.2nm,0.6s
M53A WI Miller and 96.23 325 P P 04 44 15.4 -0.5
baz=41
EDM Edmonton 96.33 350 P P 04 44 16.4 +0.2
EDM Edmonton 96.33 350 P P 04 44 16.4 +0.2
EDM pmax pmax
comp=Z,26nm,1.4s
CBN Corbin Frederi 96.91 321 P P 04 44 18.2 -0.9
baz=44
AAM Ann Arbor 97.00 328 P P 04 44 18.6 -0.8
baz=39
MAW Mawson 97.38 175 LR LR 05 26 00.6
comp=Z,87nm,18.1s,baz=320,slow=34
ACSO Alum Creek Sta 98.28 326 P P 04 44 23.6 -1.7
baz=39
P52A Corning 98.33 325 P P 04 44 23.9 -1.6
baz=40
MDND Maddock 98.39 340 P P 04 44 24.7 -0.8
baz=26
SPMN Marine on St. 98.44 335 P P 04 44 25.0 -0.8
baz=32
BBB Bella Bella 98.52 359 LR LR 05 39 00.7
comp=Z,36nm,18.1s,baz=22,slow=42
L44A Lake County Fo 99.01 330 P Pdif 04 44 27.3 -1.1
baz=36
MDP Montagnes des 99.05 281 LR LR 05 31 20.2
comp=Z,85nm,19.0s,baz=83,slow=37
DGMT Dagmar 99.06 343 P Pdif 04 44 27.8 -0.8
baz=22
SFIN Lafayette 100.10 329 P Pdif 04 44 32.0 -1.3
baz=36
KSU1 Kansas State U 105.15 334 P Pdif 04 44 55.3 -0.6
baz=29
TIGA Tifton 105.34 321 P PKiKP 04 49 10.7 0.0
baz=40
OGNE Ogallala 105.38 339 P PKiKP 04 49 10.7 +0.1

	baz=24						
LRAL	**Lakeview Retre**	**105.92**	**324**	P	**PKiKP**	**04 49 10.7**	**-1.0**
	baz=37						
CBKS	**Cedar Bluff**	**106.54**	**336**	P	**PKiKP**	**04 49 12.3**	**-0.5**
	baz=26						
ISCO	**Idaho Springs**	**107.50**	**341**	P	**PKiKP**	**04 49 13.7**	**-1.2**
	baz=21						
TUL3	**Leonard**	**107.59**	**332**	P	**PKiKP**	**04 49 14.7**	**-0.1**
	baz=30						
MIAR	**Mount Ida**	**107.81**	**330**	P	**PKiKP**	**04 49 14.9**	**-0.3**
	baz=32						
O20A	**White River Ci**	**107.88**	**343**	P	**PKiKP**	**04 49 14.0**	**-1.5**
	baz=19						
Q24A	**Divide**	**108.14**	**340**	P	**PKiKP**	**04 49 15.0**	**-1.1**
	baz=22						
T25A	**Trinidad**	**109.60**	**339**	P	**PKiKP**	**04 49 18.1**	**-0.8**
	baz=23						
WMOK	**Wichita Mounta**	**109.80**	**334**	P	**PKiKP**	**04 49 18.6**	**-0.4**
	baz=28						
NATX	**Nacogdoches**	**110.65**	**329**	P	**PKiKP**	**04 49 20.3**	**-0.4**
	baz=32						
MVCO	**Mesa Verde**	**110.71**	**342**	P	**PKiKP**	**04 49 19.8**	**-1.1**
	baz=19						
R11B	**Troy Canyon, C**	**111.17**	**349**	P	**PKiKP**	**04 49 21.0**	**-0.7**
	baz=13						
NVAR	**Mina Array Bea**	**111.51**	**351**	PKiKP	**PKiKP**	**04 49 21.6**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=173,slow=1.2,SNR=4.0						
Y22D	**IRIS PASSCAL I**	**113.20**	**340**	P	**PKiKP**	**04 49 24.0**	**-1.6**
	baz=21						
Y22F	**Passcal Instru**	**113.20**	**340**	P	**PKiKP**	**04 49 24.4**	**-1.2**
	baz=21						
FURC	**Furnace Creek,**	**113.22**	**349**	P	**PKiKP**	**04 49 24.9**	**-0.5**
	baz=12						
CWC	**Cottonwood Cre**	**113.43**	**350**	P	**PKiKP**	**04 49 24.7**	**-1.3**
	baz=11						
SHOC	**Shoshone, Teco**	**113.67**	**349**	P	**PKiKP**	**04 49 24.8**	**-1.5**
	baz=12						
MPMC	**Manual Prospec**	**113.72**	**350**	P	**PKiKP**	**04 49 25.6**	**-1.1**
	baz=11						
JCT	**Junction City**	**113.96**	**332**	P	**PKiKP**	**04 49 26.4**	**-0.7**
	baz=28						
TUQ	**Turquoise Moun**	**114.06**	**348**	P	**PKiKP**	**04 49 26.6**	**-0.6**
	baz=13						
ISA	**Isabella, Lake**	**114.25**	**350**	P	**PKiKP**	**04 49 26.7**	**-0.8**
	baz=10						
LRMC	**Laurel Mtn Rad**	**114.31**	**350**	P	**PKiKP**	**04 49 26.5**	**-1.2**
	baz=11						
GSC	**Goldstone, Bar**	**114.34**	**349**	P	**PKiKP**	**04 49 26.5**	**-1.3**
	baz=12						
NEE2	**Needles Airpor**	**114.46**	**347**	P	**PKiKP**	**04 49 26.7**	**-1.1**
	baz=14						
GMRC	**Granite Mounta**	**114.65**	**348**	P	**PKiKP**	**04 49 27.1**	**-1.3**
	baz=13						
HEC	**Hector,Ludlow**	**114.72**	**348**	P	**PKiKP**	**04 49 27.8**	**-0.7**
	baz=12						
PDMCI	**Parker Dam,Lak**	**114.81**	**346**	P	**PKiKP**	**04 49 28.1**	**-0.4**
	baz=14						
ARVC	**Arvin**	**114.83**	**351**	P	**PKiKP**	**04 49 26.8**	**-1.7**
	baz=10.0						
121A	**Cookes Peak, D**	**114.90**	**340**	P	**PKiKP**	**04 49 27.0**	**-2.0**
	baz=20						
MNTX	**Cornudas Mount**	**114.91**	**338**	P	**PKiKP**	**04 49 27.9**	**-0.9**
	baz=23						
EDW2	**Edwards Air Fo**	**114.95**	**350**	P	**PKiKP**	**04 49 27.9**	**-0.9**
	baz=11						
PKM	**Mcpherson Peak**	**115.20**	**351**	P	**PKiKP**	**04 49 28.7**	**-0.8**
	baz=9.1						
BBRC	**Big Bear Solar**	**115.38**	**349**	P	**PKiKP**	**04 49 28.5**	**-1.5**
	baz=12						
BELC	**Belle Mtn. Jos**	**115.47**	**348**	P	**PKiKP**	**04 49 29.1**	**-0.9**
	baz=13						
BFSC	**Mount Baldy Ra**	**115.52**	**349**	P	**PKiKP**	**04 49 28.7**	**-1.4**
	baz=11						
SBC	**Santa Barbara**	**115.63**	**351**	P	**PKiKP**	**04 49 29.2**	**-0.8**
	baz=9.2						
833A	**Chaparral WMA,**	**115.68**	**331**	P	**PKiKP**	**04 49 28.9**	**-1.4**
	baz=29						
BC3	**Big Chuckawall**	**115.70**	**347**	P	**PKiKP**	**04 49 29.5**	**-0.9**
	baz=13						
PFO	**Pinyon Flats O**	**115.93**	**348**	P	**PKiKP**	**04 49 30.3**	**-0.6**
	baz=12						
TPFO	**Pinon Flats**	**115.94**	**348**	P	**PKiKP**	**04 49 29.3**	**-1.6**
	baz=12						
TUC	**Tucson**	**115.94**	**343**	P	**PKiKP**	**04 49 29.0**	**-1.9**
	baz=18						
SCZ2	**Santa Cruz Isl**	**116.06**	**351**	P	**PKiKP**	**04 49 29.3**	**-1.7**
	baz=9.3						
MURC	**Murrieta**	**116.07**	**349**	P	**PKiKP**	**04 49 29.8**	**-1.2**
	baz=12						
FMP	**Fort Macarthur**	**116.14**	**350**	P	**PKiKP**	**04 49 29.6**	**-1.4**
	baz=11						
GLA	**Glamis**	**116.17**	**347**	P	**PKiKP**	**04 49 29.5**	**-1.7**
	baz=14						
SWSC	**Sam W. Stewart**	**116.46**	**347**	P	**PKiKP**	**04 49 30.8**	**-0.9**
	baz=13						
CIS	**Catalina Islan**	**116.46**	**350**	P	**PKiKP**	**04 49 31.1**	**-0.7**
	baz=10						
MONP2	**Monument Peak**	**116.63**	**348**	P	**PKPdf**	**04 49 30.9**	**-1.5**
	baz=12						
109C	**Camp Elliot, M**	**116.75**	**349**	P	**PKPdf**	**04 49 31.1**	**-1.2**
	baz=12						
SNCC	**San Nicolas Is**	**116.78**	**351**	P	**PKPdf**	**04 49 31.1**	**-1.2**
	baz=9.4						
214A	**Organ Pipe Nat**	**116.78**	**344**	P	**PKPdf**	**04 49 31.9**	**-0.5**
	baz=16						
SCI2	**San Clemente I**	**116.90**	**350**	P	**PKPdf**	**04 49 32.4**	**-0.2**
	baz=10						
QSPA	**South Pole Qui**	**119.48**	**180**	PKP	**PKPdf**	**04 49 35.8**	**-0.6**
	comp=Z,2.3nm,0.9s,baz=317,slow=2.6,SNR=5.1						
LPAZ	**La Paz**	**122.74**	**269**	PKP	**PKPdf**	**04 49 44.6**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=36,slow=8.7,SNR=2.7						
PPT2	**Papeete2**	**157.89**	**62**	*e*LR	LR	05 43 58.4	
PPT2				*e*LR	LR	05 44 05.8	
	comp=Z,88nm,24.5s						
	comp=Z,129nm,28.8s						

ROM 19 04:35:30.1±0.0, 43°.313N±0°.002×12°.825E±0°.003, h11km, ML1.5/14, 3C-2D, Error ellipse: s-maj=0.2km s-min=0.2km az=235.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FOSV	**Fossato di Vic**	**0.05**	**249**	P	Pg	04 35 32.7	+0.4
FOSV				S	Sg	04 35 34.3	+0.4
FOSV				AML	AML		
	comp=N,786μm,0.3s						
FOSV				AML	AML		
	comp=E,838μm,0.1s						
SNTG	**Esanatoglia**	**0.10**	**124**	⇑P	Pg	04 35 33.3	+0.4
SNTG				S	Sg	04 35 35.4	+0.5
SNTG				AML	AML		
	comp=E,183μm,1.4s						
SNTG				AML	AML		
	comp=N,216μm,0.3s						
SNTG				AML	AML		
	comp=E,183μm,0.6s						
SSFR	**Montelago di S**	**0.13**	**346**	P	Pg	04 35 33.8	+0.5
SSFR				S	Sg	04 35 36.4	+0.9
SSFR				AML	AML		
	comp=N,726μm,0.2s						
SSFR				AML	AML		
	comp=E,637μm,0.2s						
SSFR				AML	AML		
	comp=E,374μm,0.2s						
SSFR				AML	AML		
	comp=N,532μm,1.2s						
SSFR				AML	AML		
	comp=N,726μm,0.1s						
MMUR	**Monte Murano**	**0.18**	**44**	P	Pg	04 35 34.6	+0.5
MMUR				S	Sg	04 35 37.9	+1.0
ATCC	**AVT- Casa Cast**	**0.19**	**227**	⇑P	Pg	04 35 34.8	+0.6
ATCC				S	Sg	04 35 38.2	+1.3
ATCC				AML	AML		
	comp=N,129μm,0.4s						
ATCC				AML	AML		
	comp=E,163μm,1.4s						
ATCC				AML	AML		
	comp=E,163μm,0.6s						
EL6	**Elcito**	**0.20**	**85**	P	Pg	04 35 35.0	+0.5
EL6				S	Sg	04 35 38.6	+1.1
ARVD	**Arcevia**	**0.20**	**25**	⇓P	Pg	04 35 35.0	+0.5
ARVD				S	Sg	04 35 38.6	+1.1
ARVD				AML	AML		
	comp=E,109μm,1.6s						
ARVD				AML	AML		
	comp=N,94μm,1.6s						
ARVD				AML	AML		
	comp=N,94μm,0.4s						
FRON	**Frontone**	**0.22**	**341**	⇓P	Pg	04 35 35.2	+0.5
FRON				S	Sg	04 35 38.9	+1.1
FRON				AML	AML		
	comp=E,110μm,1.1s						
FRON				AML	AML		
	comp=N,201μm,0.3s						
CING	**Cingoli**	**0.28**	**77**	P	Pg	04 35 36.3	+0.5
CING				S	Sb	04 35 41.1	-0.7
PIEI	**Pieia**	**0.31**	**317**	P	Pg	04 35 36.7	+0.3
PIEI				S	Sb	04 35 41.8	-1.0
CESI	**CESI - Serrava**	**0.31**	**169**	P	Pg	04 35 36.6	+0.2
CESI				S	Sg	04 35 41.8	+1.1
MPAG	**Monte Paganucc**	**0.32**	**351**	P	Pb	04 35 37.4	-0.6
NARO	**Abbazia di Nar**	**0.35**	**329**	⇑P	Pg	04 35 37.5	+0.4
NARO				S	Sb	04 35 43.1	-0.8
CSP1	**Cessapalombo**	**0.35**	**128**	P	Pb	04 35 37.9	-0.6
CSP1				S	Sb	04 35 43.4	-0.8

IDC 19 04:55:29.8±36.0, 47°.27N×147°.00E, h374km±308km, mb2.9/9, mbtmp3.7/9, Error ellipse: s-maj=207.6km s-min=21.6km az=12.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array**	**38.76**	**39**	P	P	05 02 19.1	-0.1
	0.5nm,0.5s,baz=254,slow=5.9,SNR=9.1						
	0.5nm,0.5s						
YKA	**Yellowknife Ar**	**52.96**	**35**	P	P	05 04 08.5	-0.1
	0.3nm,0.5s,baz=301,slow=7.3,SNR=8.3						
	0.3nm,0.5s						
FINES	**FINESS Array B**	**61.70**	**332**	P	P	05 05 09.1	+0.1
	2.4nm,0.7s,baz=46,slow=7.4,SNR=13						
	2.4nm,0.7s						
NVAR	**Mina Array Bea**	**65.83**	**59**	P	P	05 05 36.4	0.0
	0.2nm,0.7s,baz=297,slow=8.0,SNR=2.7						
	0.2nm,0.7s						
NB2	**NORSAR Subarra**	**66.29**	**338**	P	P	05 05 38.6	0.0
	comp=Z,0.4nm,0.3s,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**66.29**	**338**	P	P	05 05 38.7	+0.1
	comp=Z,0.2nm,0.4s,baz=30,slow=6.7,SNR=5.7						
	comp=Z,0.2nm,0.4s						
HFS	**Hagfors**	**66.41**	**337**	P	P	05 05 39.2	-0.1
	comp=Z,1.8nm,0.8s,baz=35,slow=5.4,SNR=5.2						
	comp=Z,1.8nm,0.8s						
PDAR	**Pinedale Array**	**67.74**	**51**	P	P	05 05 48.0	-0.2
	comp=Z,0.3nm,0.6s,baz=344,slow=1.0,SNR=5.2						
	comp=Z,0.3nm,0.6s						
AKASG	**Malin Array Be**	**68.70**	**323**	P	P	05 05 53.5	-0.1
	comp=Z,0.3nm,0.4s,baz=40,slow=7.3,SNR=4.0						
	comp=Z,0.3nm,0.4s						
TXAR	**Lajitas Array**	**80.79**	**57**	P	P	05 07 03.0	+0.2
	comp=Z,0.5nm,0.8s,baz=302,slow=4.2,SNR=5.6						
	comp=Z,0.5nm,0.8s						

*IDC **19** 05:00:11.2±2.8, 53°.73N×87°.67E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=24.4km s-min=15.3km az=65.0*
*NNC **19** 05:00:14.9±6.1, 53°.74N×87°.21E, h0km, mb2.8, mpv2.6, Error ellipse: s-maj=51.5km s-min=25.4km az=48.0, Suspected Mining explosion.*

ISC 19 05:00:12.2±4.8, 53°.9N±0°.2×87°.4E±0°.3, h0km, n8, σ2s76/10, 4C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.54**	**274**	I	I	05 11 20.0	
	0.1nm,0.9s,baz=98,slow=332,SNR=5.1						
ZAA0	**Zalesovo Array**	**1.54**	**274**	⇑P	**Pn**	**05 00 39.9**	**-1.0**
	0.1nm,0.3s						
ZAA0				⇑S	**Sn**	**05 01 01.2**	**-0.4**
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**1.54**	**274**	Pn	**Pn**	**05 00 40.0**	**-0.9**
	0.4nm,0.3s,baz=93,slow=15,SNR=4.6						
ZALV				Lg	Lg	05 01 05.1	
	0.9nm,0.3s,baz=98,slow=31,SNR=13						
KURK	**Kurchatov**	**6.25**	**243**	⇓Pn	**Pn**	**05 01 48.5**	**+2.9**
	1.5nm,0.9s						
KURK				⇓Lg	Lg	05 03 30.9	
	8.5nm,1.0s						
KURBB	**Kurchatov Arra**	**6.35**	**243**	Pn	**Pn**	**05 01 48.3**	**+1.3**
	0.1nm,0.3s,baz=57,slow=13,SNR=5.1						
KURBB				Lg	Lg	05 03 34.7	
	baz=62,slow=31,SNR=10						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**6.35**	**243**	⇓Pn	**Pn**	**05 01 51.4**	**+4.4**
	1.0nm,0.6s						
KURBB				⇑Lg	Lg	05 03 32.9	
	14nm,0.9s						
MK31	**Makanchi Array**	**7.80**	**207**	Pn	**Pn**	**05 02 09.5**	**+2.5**
	0.3nm,0.5s,baz=43,slow=15,SNR=5.3						
MK31				⇑Sn	**Sn**	**05 03 32.4**	**-3.6**
	2.4nm,1.0s						
MK31				Lg	Lg	05 04 14.0	
	7.0nm,1.0s,baz=26,slow=25,SNR=7.0						
MKAR	**Makanchi Array**	**7.80**	**207**	Pn	**Pn**	**05 02 06.2**	**-0.7**
	0.1nm,0.3s,baz=29,slow=13,SNR=6.9						
MKAR				Sn	**Sn**	**05 03 34.5**	**-1.5**
	0.1nm,0.3s,baz=29,slow=21,SNR=6.9						
MKAR				Lg	Lg	05 04 14.8	
	baz=25,slow=32,SNR=14						
	0.6nm,0.7s						

*STR **19** 05:21:42.0±0.4, 44°.N±3°.×°.±°, h23km±2km, MLv2.6/24, Error ellipse: s-maj=0.0km s-min=0.0km az=170.9, preliminary*
*GEN **19** 05:21:42.9, 43°.66N×6°.65E, h20km±1km, Ml2.4*
*LDG **19** 05:21:42.4±0.1, 43°.57N×6°.64E, h15km, Md2.5/2, Ml2.7/11, Error ellipse: s-maj=1.5km s-min=1.1km az=166.0*

ISC 19 05:21:41.9±0.9, 43°.53N±0°.03×6°.65E±0°.02, h23km±7km, n64, σ1s20/102, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LMR	**La Mourre**	**0.22**	**208**	*e*Pg	**Pb**	**05 21 48.1**	**+0.4**
LMR				*e*Sg	**Sb**	**05 21 51.6**	**0.0**
	420nm,0.2s						
CALF	**Calern**	**0.30**	**41**	Pg	**Pb**	**05 21 48.6**	**-0.3**
CALF				Sg	**Sb**	**05 21 53.0**	**-0.7**
FLAF	**Flassans-sur-I**	**0.32**	**244**	Pg	**Pb**	**05 21 49.6**	**+0.4**
FLAF				Sg	**Sb**	**05 21 54.4**	**+0.2**
EILF	**Villa Eilenroc**	**0.35**	**86**	Pg	**Pb**	**05 21 50.0**	**+0.5**
EILF				Sg	**Sb**	**05 21 55.4**	**+0.6**
EILF	**Villa Eilenroc**	**0.35**	**86**	P	**Pb**	**05 21 50.7**	**+1.1**
EILF				S	**Sb**	**05 21 56.0**	**+1.2**
SALSA	**La sagne**	**0.35**	**4**	Pg	**Pb**	**05 21 49.1**	**-0.7**
SALSA				Sg	**Sb**	**05 21 54.2**	**-1.0**
MVIF	**Mont Vial**	**0.52**	**44**	Pg	**Pb**	**05 21 52.4**	**-0.1**
MVIF				Sg	**Sb**	**05 21 59.6**	**-0.1**
MVIF	**Mont Vial**	**0.52**	**44**	P	**Pb**	**05 21 53.0**	**+0.4**
MVIF				S	**Sb**	**05 22 00.1**	**+0.4**
ENAUX	**Enaux**	**0.59**	**9**	Pg	**Pb**	**05 21 53.1**	**-0.6**
ENAUX				Sg	**Sb**	**05 22 01.0**	**-0.7**
MON	**Monaco**	**0.60**	**70**	Pg	**Pb**	**05 21 53.3**	**-0.4**
MON				Sg	**Sb**	**05 22 02.3**	**+0.6**
MON	**Monaco**	**0.60**	**70**	S	**Sn**	**05 22 03.5**	**-0.4**
ESCA	**l'Escarene**	**0.60**	**60**	Pg	**Pb**	**05 21 54.0**	**+0.1**
ESCA				Sg	**Sb**	**05 22 02.5**	**+0.4**
ESCA	**l'Escarene**	**0.60**	**60**	P	**Pb**	**05 21 54.5**	**+0.6**
ESCA				S	**Sb**	**05 22 03.0**	**+1.0**
BLAF	**les Blancs**	**0.61**	**314**	Pg	**Pb**	**05 21 53.8**	**-0.2**
BLAF				Sg	**Sb**	**05 22 01.5**	**-0.7**
OGDI	**Digne**	**0.64**	**336**	Pg	**Pb**	**05 21 54.6**	**+0.1**
OGDI				Sg	**Sb**	**05 22 03.1**	**+0.2**
OGDI	**Digne**	**0.64**	**336**	P	**Pb**	**05 21 54.6**	**+0.1**
OGDI				S	**Sb**	**05 22 03.5**	**+0.5**
SBF	**Sospel**	**0.66**	**59**	*e*Pg	**Pb**	**05 21 54.9**	**0.0**
SBF				*e*Sg	**Sb**	**05 22 02.9**	**-0.7**
	122nm,0.2s						
SPIF	**crte de Spivo**	**0.68**	**38**	Pg	**Pb**	**05 21 54.9**	**-0.3**
SPIF				Sg	**Sb**	**05 22 04.0**	**-0.2**
LEPF	**PUYLOUBIER**	**0.69**	**270**	Pg	**Pb**	**05 21 55.3**	**0.0**
LEPF				Sg	**Sb**	**05 22 04.8**	**+0.3**
BURY	**Giardini Botan**	**0.70**	**68**	Pg	**Pb**	**05 21 55.7**	**+0.2**
BURY	**Giardini Botan**	**0.70**	**68**	Sg	**Sb**	**05 22 05.6**	**+0.8**
BURY	**Giardini Botan**	**0.70**	**68**	P	**Pb**	**05 21 55.8**	**+0.2**
BURY				S	**Sb**	**05 22 05.8**	**+1.0**
ISO	**Isola**	**0.72**	**24**	Pg	**Pb**	**05 21 55.3**	**-0.5**
ISO				Sg	**Sb**	**05 22 04.6**	**-0.6**
ISO	**Isola**	**0.72**	**24**	P	**Pb**	**05 21 56.0**	**+0.1**
ISO				S	**Sb**	**05 22 05.1**	**-0.2**

MLYF	**Mely**	**0.79**	**306**	Pg	**Pb**	**05 21 57.1**	**0.0**
MLYF				Sg	**Sb**	**05 22 07.6**	**+0.2**
SAOF	**Saorge**	**0.80**	**55**	Pg	**Pb**	**05 21 57.0**	**-0.2**
SAOF				Sg	**Sb**	**05 22 07.8**	**+0.2**
SAOF	**Saorge**	**0.80**	**55**	P	**Pb**	**05 21 57.0**	**-0.2**
SAOF				S	**Sb**	**05 22 08.0**	**+0.4**
BSTF	**la Bastide-des**	**0.81**	**296**	Pg	**Pb**	**05 21 56.7**	**-0.7**
BSTF				Sg	**Sb**	**05 22 07.0**	**-1.0**
STV	**Sant Anna di V**	**0.87**	**34**	Pg	**Pn**	**05 21 58.1**	**-0.7**
STV	**Sant Anna di V**	**0.87**	**34**	Sg	**Sb**	**05 22 08.9**	**-0.7**
STV	**Sant Anna di V**	**0.87**	**34**	P	**Pn**	**05 21 58.2**	**-0.7**
STV				S	**Sb**	**05 22 09.1**	**-0.5**
SMRF	**Simiane la Rot**	**0.90**	**300**	*e*Pg	**Pn**	**05 21 59.2**	**0.0**
SMRF				*e*Sg	**Sb**	**05 22 09.8**	**-0.7**
	93nm,0.4s						
JAUF	**Jausiers**	**0.90**	**4**	Pg	**Pn**	**05 21 58.8**	**-0.6**
OGAG	**Argentiere**	**0.93**	**355**	Pg	Pb	05 22 04.8	+5.3
OGAG				Sg	**Sn**	**05 22 21.1**	**+8.7**
OGAG	**Argentiere**	**0.93**	**355**	P	Pb	05 22 05.0	+5.5
SURF	**Saint Ours**	**0.96**	**7**	Pg	**Pn**	**05 21 59.9**	**-0.2**
SURF	**Saint Ours**	**0.96**	**7**	P	**Pn**	**05 21 59.9**	**-0.2**
CREF	**Crivoux**	**1.02**	**359**	Pg	**Pn**	**05 22 01.0**	**0.0**
CREF				Sg	**Sn**	**05 22 14.3**	**-0.4**
PZZ	**Stroppo**	**1.03**	**19**	Pg	**Pn**	**05 22 01.2**	**+0.1**
PZZ	**Stroppo**	**1.03**	**19**	Sg	**Sn**	**05 22 14.2**	**-0.8**
PZZ	**Stroppo**	**1.03**	**19**	P	**Pn**	**05 22 01.2**	**+0.1**
PZZ				S	**Sn**	**05 22 14.4**	**-0.5**
GBOS	**Grotte di Boss**	**1.12**	**50**	Sg	**Sb**	**05 22 17.3**	**+0.5**
GBOS	**Grotte di Boss**	**1.12**	**50**	Pg	**Pn**	**05 22 02.6**	**+0.4**
GBOS	**Grotte di Boss**	**1.12**	**50**	P	**Pn**	**05 22 02.6**	**+0.4**
GBOS				S	**Sb**	**05 22 17.3**	**+0.5**
RORO	**Rocca Rossa**	**1.18**	**60**	Pg	**Pn**	**05 22 02.6**	**-0.3**
RORO	**Rocca Rossa**	**1.18**	**60**	Sg	**Sb**	**05 22 18.9**	**+0.5**
SAUF	**chteau de Sau**	**1.19**	**291**	Pg	**Pb**	**05 22 05.3**	**+1.4**
SAUF				Sg	**Sb**	**05 22 21.6**	**+2.7**
MBDF	**Montbardon**	**1.20**	**4**	*e*Pg	**Pn**	**05 22 04.0**	**+0.5**
MBDF				*e*Sg	**Sn**	**05 22 19.0**	**-0.1**
	26nm,0.2s						
BHB	**Bricherasio**	**1.39**	**18**	Pg	**Pn**	**05 22 06.1**	**+0.3**
BHB	**Bricherasio**	**1.39**	**18**	Sg	**Sb**	**05 22 24.3**	**-0.2**
BHB	**Bricherasio**	**1.39**	**18**	P	**Pn**	**05 22 06.2**	**+0.3**
ORIF	**Oris-en-Rattie**	**1.50**	**338**	*e*Pn	**Pn**	**05 22 06.9**	**-0.6**
ORIF	**Oris-en-Rattie**	**1.50**	**338**	*e*Pg	**Pb**	**05 22 10.0**	**+0.9**
ORIF				*e*Sg	**Sb**	**05 22 28.1**	**+0.4**
	15nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.50**	**338**	Pn	**Pn**	**05 22 07.8**	**+0.3**
PCP	**Piancastagn**	**1.70**	**53**	Pn	**Pn**	**05 22 10.4**	**+0.1**
VIVF	**Saint-Julien-I**	**1.95**	**314**	*e*Pn	**Pn**	**05 22 12.8**	**-0.8**
VIVF	**Saint-Julien-I**	**1.95**	**314**	*e*Pg	**Pb**	**05 22 17.6**	**+0.8**
VIVF				*e*Sn	**Sn**	**05 22 35.9**	**-1.4**
	4.6nm,0.3s						
LPG	**La Plagne**	**1.97**	**2**	*e*Pg	**Pb**	**05 22 18.1**	**+0.8**
LPG				*e*Sg	**Sb**	**05 22 43.0**	**+1.4**
	17nm,0.5s						
PGF	**Pioggiola**	**1.98**	**119**	*e*Pn	**Pn**	**05 22 13.6**	**-0.5**
PGF				*e*Sn	**Sn**	**05 22 35.8**	**-2.4**
	8.5nm,0.2s						
LPL	**La Plagne**	**1.99**	**2**	*e*Pg	**Pb**	**05 22 18.4**	**+0.8**
LPL				*e*Sg	**Sb**	**05 22 43.5**	**+1.5**
	12nm,0.4s						
LASF	**Ste Croix**	**2.10**	**286**	*e*Pn	**Pn**	**05 22 14.8**	**-0.8**
LASF	**Ste Croix**	**2.10**	**286**	*e*Pg	**Pb**	**05 22 20.7**	**+1.4**
LASF				*e*Sn	**Sn**	**05 22 39.1**	**-1.9**
	1.5nm,0.2s						
OGSM	**Saint Maurice**	**2.19**	**342**	Pn	**Pn**	**05 22 16.8**	**-0.1**
OGSM				Sn	**Sn**	**05 22 42.4**	**-0.9**
CABF	**La Chapelle**	**3.11**	**353**	*e*Sn	**Sn**	**05 23 02.6**	**-3.5**
	6.4nm,0.7s						

TAP 19 05:22:51.9, 24°.34N×121°.66E, h9km, ML2.5, 1C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EAHA	**Aohua**	**0.07**	**98**	*i* P	Pg	05 22 54.2	+0.3
	baz=97						
EAHA				S	Sg	05 22 55.5	0.0
	baz=97						
EHP	**Heping Village**	**0.08**	**112**	P	Pg	05 22 54.5	+0.4
	baz=111						
EHP				*e*S	Sg	05 22 56.1	+0.5
	baz=111						
ENA	**Nanau**	**0.11**	**39**	*i* P	Pg	05 22 54.8	+0.2
	baz=41						
ENA				S	Sg	05 22 56.4	-0.1
	baz=41						
EWUT	**Wuta**	**0.15**	**45**	*i* P	Pg	05 22 55.4	+0.2
	baz=45						
EWUT				*e*S	Sg	05 22 57.4	-0.1
	baz=45						
NACB	**Ninganchiao**	**0.18**	**200**	P	Pg	05 22 56.1	+0.4
	baz=201						
NACB				S	Sg	05 22 58.5	+0.4
	baz=201						
ETL	**Fush Village**	**0.18**	**191**	P	Pg	05 22 56.4	+0.6
	baz=191						
ETL				*e*S	Sg	05 22 59.0	+0.7
	baz=191						
ETLH	**Xiulin Townshi**	**0.21**	**231**	*i* P	Pg	05 22 56.8	+0.5
	baz=232						
ETLH				*e*S	Sg	05 22 59.5	+0.3
	baz=232						
LATG	**Datong**	**0.23**	**328**	*i* P	Pg	05 22 57.0	+0.4
	baz=327						
TWD	**Chiawan**	**0.27**	**193**	P	Pg	05 22 57.7	+0.5
	baz=191						
TWD				*e*S	Sg	05 23 01.3	+0.5
	baz=191						
NNSB	**Datong**	**0.27**	**289**	*i* P	Pg	05 22 57.9	+0.5
	baz=290						
NNSB				S	Sg	05 23 01.2	+0.1

baz=260
TDCB eS Sg 05 23 07.7 +0.5
baz=260
CHGB Renai 0.53 238 P Pg 05 23 02.7 +0.6
baz=246
CHGB eS Sg 05 23 09.5 +0.4
baz=246
SHUL Shoufeng 0.56 189 eP Pg 05 23 03.3 +0.5
baz=199
SHUL eS Sb 05 23 12.1 +0.1
baz=199
ESL Shilin 0.56 202 eP Pg 05 23 02.7 -0.2
baz=192
NFF Wufeng Townshi 0.57 301 P Pb 05 23 04.2 -0.1
baz=301
NFF eS Sg 05 23 11.3 +0.6
baz=301
OWD Renai 0.59 229 P Pb 05 23 04.0 -0.5
baz=222
OWD eS Sg 05 23 11.8 +0.8
baz=222
TIPB Shuangxi 0.65 13 eP Pg 05 23 04.9 +0.4
baz=3.0
TIPB eS Sg 05 23 12.9 0.0
baz=3.0
WHP Taichung City 0.66 265 P Pb 05 23 05.8 +0.1
baz=265
WHP eS Sg 05 23 14.0 +0.8
baz=265
WARBT Fenglin Townsh 0.67 202 P Pg 05 23 05.1 +0.3
baz=202
WARBT eS Sg 05 23 14.2 +0.7
baz=202
NSTT Nanjuang 0.67 296 P Pb 05 23 06.1 +0.3
baz=296
NSTT S Sb 05 23 14.7 -0.6
baz=296
TWB1 Santiao Chiao 0.73 24 eP Pg 05 23 05.8 -0.2
baz=15
TWB1 S Sg 05 23 15.5 0.0
baz=15
WCS Beigang Elemen 0.74 248 P Pb 05 23 07.1 +0.1
baz=252
WCS eS Sg 05 23 16.0 +0.1
baz=252
VWDT VWDT 0.75 219 eP Pb 05 23 07.0 -0.3
baz=219
VWDT eS Sb 05 23 17.3 -0.3
baz=219
SXI1 Grass Mountain 0.78 14 eP Pb 05 23 08.4 +0.7
baz=4.0
YM01 YM01 0.81 354 eP Pb 05 23 08.8 +0.6
baz=5.0
YM01 eS Sb 05 23 20.1 +0.8
baz=5.0
SSLB Suanglung 0.85 230 P Pg 05 23 08.5 +0.2
baz=230
SSLB eS Sg 05 23 18.6 -0.8
baz=230
TYC Yuchr 0.85 240 P Pb 05 23 08.8 -0.1
baz=239
TYC S Sb 05 23 20.4 -0.1
baz=239
HGSD Ruisui 0.87 195 eP Pg 05 23 08.8 +0.1
baz=210
EHY Hungye 0.89 201 eP Pg 05 23 09.2 +0.3
baz=201
YULB Yu-li 1.00 200 eP Pb 05 23 11.3 -0.1
baz=199
YULB eS Sb 05 23 25.0 +0.2
baz=199
TWF1 Yuli 1.04 199 eP Pb 05 23 12.1 0.0
baz=198
TWF1 eS Sb 05 23 26.0 +0.1
baz=198
CHN5 Tsauling 1.16 231 eP Pn 05 23 15.7 +1.2
baz=230
CHN5 eS Sn 05 23 32.9 +2.2
baz=230
EHD Haiduan 1.26 200 eP Pg 05 23 16.1 0.0
baz=199
EHD eS Sb 05 23 32.1 -0.1
baz=199
CHN4 Tsaushan 1.39 225 eP Pg 05 23 20.2 +1.7
baz=224
CHN4 eS Sg 05 23 39.8 +3.2
baz=224
TPUB Ta-pu 1.40 223 eP Pg 05 23 19.3 +0.5
baz=222
TPUB eS Sg 05 23 39.5 +2.5
baz=222
WTP Ta-pu 1.45 222 eP Pg 05 23 20.2 +0.4
baz=220
WTP eS Sg 05 23 41.4 +2.7
baz=220
TWK Hsinying 1.52 225 P Pg 05 23 21.3 +0.3
baz=224
TWK eS Sg 05 23 43.5 +2.8
baz=224
CHN1 Nanshi 1.55 222 eP Pg 05 23 22.6 +0.9
baz=235

JMA 19 05:23:31.6±0.2, 24°2N±0.5, 123°8E±0.7, h17km±1km, MV0.4/5, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.13**	**332**	eS	Sg	05 23 38.1	+0.1
HATJ	**Hateruma jima**	**0.16**	**177**	P	Pg	05 23 35.7	-0.2
HATJ				S	Sg	05 23 38.6	-0.1
JKRS	**Kuro-shima**	**0.20**	**85**	P	Pg	05 23 36.3	0.0
JKRS				S	Sb	05 23 39.8	-0.3
JIJ	**Ishigaki jima**	**0.35**	**66**	P	Pg	05 23 38.7	-0.2
JIJ				S	Sg	05 23 43.4	-0.4

*IDC **19** 05:58:41.6±3.0, 53°56N×87°76E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=25.5km s-min=14.5km az=64.0*
*NNC **19** 05:58:45.4±3.5, 53°43N×87°50E, h0km, mb2.7, mpv2.4, Error ellipse: s-maj=25.9km s-min=15.4km az=67.0, Suspected Mining explosion.*

ISC 19 05:58:42.1±3.3, 53°6N±0.1×87°7E±0.2, h0km, n8, σ1s53/12, 6C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.75**	**281**	I	I	06 11 35.6	
	0.1nm,0.9s,baz=100,slow=331,SNR=3.8						
ZAA0	**Zalesovo Array**	**1.75**	**281**	⇓P	**Pb**	**05 59 14.5**	**-0.5**
ZAA0	0.2nm,0.5s			⇑S	**Sg**	**05 59 38.9**	**+0.7**
	1.8nm,0.6s						
ZALV	**Zalesovo Beam**	**1.75**	**281**	Pg	**Pn**	**05 59 13.6**	**-0.1**
ZALV	0.8nm,0.3s,baz=100,slow=17,SNR=10			Lg	Lg	05 59 38.2	
	1.4nm,0.3s,baz=105,slow=26,SNR=15						
KURK	**Kurchatov**	**6.31**	**246**	⇑Pn	**Pn**	**06 00 19.9**	**+3.5**
KURK	0.6nm,0.8s			⇓Sn	**Sn**	**06 01 29.4**	**+0.2**
	0.8nm,0.7s						
KURK				⇑Lg	Lg	06 01 58.3	
	2.3nm,0.8s						
KURBB	**Kurchatov Arra**	**6.41**	**246**	Pn	**Pn**	**06 00 17.6**	**-0.1**
KURBB	baz=62,slow=14,SNR=4.9			Lg	Lg	06 02 04.7	
	baz=62,slow=32,SNR=4.9						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**6.41**	**246**	⇑Pn	**Pn**	**06 00 17.8**	**+0.1**
KURBB	0.4nm,0.3s			⇓Sn	**Sn**	**06 01 29.0**	**-2.5**
	1.4nm,0.5s						
KURBB				⇑Lg	Lg	06 01 59.6	
	3.8nm,0.7s						
MK31	**Makanchi Array**	**7.68**	**209**	⇓Pn	**Pn**	**06 00 35.4**	**+0.2**
MK31	0.1nm,0.3s,baz=26,slow=13,SNR=6.1			⇓Sn	**Sn**	**06 02 03.4**	**+0.5**
	0.2nm,0.5s,baz=229,slow=50,SNR=3.2						
MK31				⇑Lg	Lg	06 02 39.8	
	2.0nm,0.9s,baz=38,slow=33,SNR=3.8						
MKAR	**Makanchi Array**	**7.68**	**209**	Pn	**Pn**	**06 00 35.4**	**+0.2**
MKAR	0.2nm,0.3s,baz=32,slow=12,SNR=7.0			Sn	**Sn**	**06 02 01.6**	**-1.2**
	0.1nm,0.3s,baz=29,slow=28,SNR=5.2						
MKAR				Lg	Lg	06 02 41.4	
	baz=32,slow=30,SNR=5.5						
	0.3nm,0.4s						

*IDC **19** 06:09:50.5±3.2, 29°79N×50°38E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=86.7km s-min=30.3km az=136.0*
*TEH **19** 06:09:52.2, 29°69N×50°77E, h8km±50km, ML3.4*

ISC 19 06:09:53.2±0.9, 29°62N±0°08×50°67E±0°08, h25km, n19, σ1s50/19, mb3.8/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAZ2	**Kazeron-Fars-I**	**0.86**	**90**	Pg	**Pb**	**06 10 08.1**	**-1.5**
AHBU	**AHRAM**	**0.93**	**144**	Pg	**Pb**	**06 10 10.0**	**-0.7**
ABEH	**Behbahan**	**1.04**	**340**	Pg	**Pn**	**06 10 11.9**	**-0.4**
DSBU	**Dashti - Bushe**	**1.36**	**157**	Pg	**Pb**	**06 10 19.0**	**+1.0**
KLNJ	**Kolanjah**	**1.60**	**30**	Pg	**Pn**	**06 10 20.2**	**0.0**
IBRJ	**Brojen**	**2.33**	**12**	Pn	**Pn**	**06 10 32.1**	**+1.8**
JHBN	**Jahan bin**	**2.60**	**360**	Pn	**Pn**	**06 10 35.9**	**+1.9**
IGAR	**Gharneh**	**3.01**	**23**	Pn	**Pn**	**06 10 41.4**	**+1.8**
IPIR	**Pirpir**	**3.06**	**4**	Pn	**Pn**	**06 10 41.8**	**+1.5**
IKLH	**Kolahrood**	**3.77**	**12**	Pn	**Pn**	**06 10 51.6**	**+1.7**
IMEH	**Mehriz**	**3.83**	**62**	Pn	**Pn**	**06 10 52.1**	**+1.3**
QAMS	**Qamsar**	**4.15**	**8**	Pn	**Pn**	**06 10 57.4**	**+2.2**
ANAR	**Anarak**	**4.42**	**36**	Pn	**Pn**	**06 10 59.6**	**+0.9**
KRSH	**Karshahi**	**4.51**	**16**	Pn	**Pn**	**06 11 01.6**	**+1.5**
IGLO	**Ghaloghah**	**7.36**	**20**	Pn	**Pn**	**06 11 41.0**	**+1.8**
AKASG	**Malin Array Be**	**26.50**	**329**	P	**P**	**06 15 27.1**	**-1.4**
	0.1nm,0.2s,baz=138,slow=9.9,SNR=3.7						
	0.1nm,0.2s						
BVAR	**Borovoye Array**	**27.50**	**26**	P	**P**	**06 15 38.0**	**+0.6**
	0.9nm,0.5s,baz=220,slow=10,SNR=5.9						
	0.9nm,0.5s						
TORD	**Torodi Ar. Bea**	**48.09**	**261**	P	**P**	**06 18 29.9**	**-1.2**
	0.8nm,0.8s,baz=56,slow=9.4,SNR=4.1						
	0.8nm,0.8s						
DBIC	**Dimbokro**	**56.88**	**258**	P	**P**	**06 19 36.3**	**0.0**
	1.7nm,0.5s,baz=56,slow=7.8,SNR=3.9						
	1.7nm,0.5s						

*DRS **19** 06:12:14.9, 42°24N×46°64E, h16km*
*TIF **19** 06:12:14.2, 42°39N×46°89E, h29km±2km*
*MOS **19** 06:12:14.3, 42°36N×46°83E, h50km, MPVA4.4*
*NORS **19** 06:12:15.6, 42°45N×46°89E, h45km, MPVA4.0*

ISC 19 06:12:16.0±0.9, 42°36N±0°02×46°79E±0°02, h45km±5km, n89, σ1s77/156, 2C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNBR	**Gunib**	**0.13**	**79**	⇓*i* Pg	**Pn**	**06 12 23.6**	**+0.1**
GNBR	**Gunib**	**0.13**	**79**	*i* Pg	**Pn**	**06 12 23.6**	**+0.1**
GNBR				*e*Sg	**Sn**	**06 12 30.2**	**+1.5**
XNZR	**Khunzakh**	**0.19**	**340**	*e*Pg	**Pn**	**06 12 24.1**	**+0.1**
XNZR				*e*Sg	**Sn**	**06 12 31.3**	**+1.7**
HNZR	**Khunzah**	**0.20**	**344**	⇑*i* PG	**Pn**	**06 12 24.2**	**+0.1**
ARKR	**Arakani**	**0.28**	**32**	*e*PG	**Pn**	**06 12 24.2**	**-0.4**
ARKR				*e*S	**Sn**	**06 12 31.8**	**+1.1**
ARKR				pmax	pmax		
	comp=Z,217nm,0.2s						
ARKR				smax	smax		
	comp=E,736nm,0.6s						
ARKR				smax	smax		
	comp=N,753nm,0.4s						
ARKR				smax	smax		
	comp=N,638nm,0.5s						
ARKR	**Arakani**	**0.28**	**32**	*e*Pg	**Pn**	**06 12 24.3**	**-0.4**
ARKR				*e*Sg	**Sn**	**06 12 31.6**	**+0.9**
KMKR	**Kumukh**	**0.32**	**136**	*i* PG	**Pn**	**06 12 25.0**	**-0.2**
KMKR				*e*S	**Sn**	**06 12 32.8**	**+1.1**
KMKR	**Kumukh**	**0.32**	**136**	*i* Pg	**Pn**	**06 12 25.0**	**-0.2**
KMKR				*e*Sg	**Sn**	**06 12 32.8**	**+1.1**
UNCR	**Uncukul**	**0.35**	**0**	*e*PG	**Pn**	**06 12 25.0**	**-0.3**
UNCR				*e*S	**Sn**	**06 12 32.7**	**+0.9**
UNCR	**Uncukul**	**0.35**	**0**	*e*Pg	**Pn**	**06 12 25.0**	**-0.3**
UNCR				*e*Sg	**Sn**	**06 12 32.7**	**+0.9**
KRNR	**Karanay**	**0.47**	**10**	*e*PG	**Pn**	**06 12 26.2**	**-0.6**
KRNR				*e*S	**Sn**	**06 12 35.6**	**+1.2**
KRNR	**Karanay**	**0.47**	**10**	*e*Pg	**Pn**	**06 12 26.2**	**-0.6**
KRNR				*e*Sg	**Sn**	**06 12 35.6**	**+1.2**
BUJR	**Buynaksk**	**0.52**	**27**	*e*PG	**Pn**	**06 12 26.9**	**-0.3**
BUJR				*e*S	**Sn**	**06 12 36.9**	**+1.7**
BUJR	**Buynaksk**	**0.52**	**27**	*e*Pg	**Pn**	**06 12 26.9**	**-0.3**
BUJR				*e*Sg	**Sn**	**06 12 36.9**	**+1.7**
SGKR	**Sergokala**	**0.65**	**81**	*e*PG	**Pn**	**06 12 28.7**	**-0.2**
SGKR				*e*S	**Sn**	**06 12 39.4**	**+1.2**
SGKR	**Sergokala**	**0.65**	**81**	*e*Pg	**Pn**	**06 12 28.7**	**-0.2**
SGKR				*e*Sg	**Sn**	**06 12 39.4**	**+1.2**
URKR	**Urkarakh**	**0.65**	**107**	*e*PG	**Pn**	**06 12 28.6**	**-0.5**
URKR				*e*S	**Sn**	**06 12 39.2**	**+0.7**
URKR	**Urkarakh**	**0.65**	**107**	*e*Pg	**Pn**	**06 12 28.6**	**-0.5**
URKR				*e*Sg	**Sn**	**06 12 39.2**	**+0.7**
DBC	**Dubki**	**0.66**	**2**	⇑*i* PG	**Pn**	**06 12 28.8**	**-0.3**
DBC				*e*S	**Sn**	**06 12 39.7**	**+1.2**
DBC				pmax	pmax		
	comp=Z,325nm,0.2s						
DBC				smax	smax		
	comp=E,521nm,0.3s						
DBC				smax	smax		
	comp=N,413nm,0.4s						
DBC				smax	smax		
	comp=E,428nm,0.3s						
DBC	**Dubki**	**0.66**	**2**	*i* Pg	**Pn**	**06 12 28.9**	**-0.3**
DBC				*e*Sg	**Sn**	**06 12 39.7**	**+1.2**
LGD	**Lagodekhi**	**0.67**	**218**	*e*PG	**Pn**	**06 12 29.1**	**-0.1**
LGD				*e*S	**Sn**	**06 12 39.8**	**+1.1**
LGD	**Lagodekhi**	**0.67**	**218**	P	**Pn**	**06 12 29.1**	**-0.1**
LGD				S	**Sn**	**06 12 39.8**	**+1.1**
LGD	**Lagodekhi**	**0.67**	**218**	*e*Pg	**Pn**	**06 12 29.1**	**-0.1**
LGD				*e*Sg	**Sn**	**06 12 39.8**	**+1.1**
DLMR	**Dylym**	**0.72**	**350**	*e*PG	**Pn**	**06 12 30.0**	**+0.2**
DLMR				*e*S	**Sn**	**06 12 42.3**	**+2.5**
DLMR	**Dylym**	**0.72**	**350**	*e*Pg	**Pn**	**06 12 30.0**	**+0.2**
DLMR				*e*Sg	**Sn**	**06 12 42.3**	**+2.5**
DVE	**Vedeno**	**0.77**	**321**	*e*PG	**Pn**	**06 12 31.0**	**+0.4**
DVE				*e*S	**Sn**	**06 12 43.4**	**+2.2**
DVE	**Vedeno**	**0.77**	**321**	*e*Pg	**Pn**	**06 12 30.9**	**+0.3**
DVE				*e*Sg	**Sn**	**06 12 43.2**	**+2.0**
MAK	**Makhachkala**	**0.80**	**41**	*e*PG	**Pn**	**06 12 30.8**	**0.0**
MAK				*e*S	**Sn**	**06 12 43.5**	**+1.9**
MAK				pmax	pmax		
	comp=Z,182nm,0.3s						
MAK				smax	smax		
	comp=E,1μm,0.4s						
MAK				smax	smax		
	comp=N,998nm,0.6s						
MAK				smax	smax		
	comp=E,976nm,0.5s						
MAK	**Makhachkala**	**0.80**	**41**	*e*Pg	**Pn**	**06 12 30.3**	**-0.5**
MAK				*e*Sg	**Sn**	**06 12 43.2**	**+1.6**
KANR	**Karaman**	**0.98**	**31**	*e*PG	**Pn**	**06 12 34.0**	**+0.7**
KANR				*e*S	**Sn**	**06 12 49.7**	**+3.7**
KANR	**Karaman**	**0.98**	**31**	*e*Pg	**Pn**	**06 12 34.0**	**+0.7**
KANR				*e*Sg	**Sn**	**06 12 49.7**	**+3.7**
AKT	**Akhty**	**1.13**	**141**	*e*PG	**Pn**	**06 12 34.9**	**-0.5**
AKT				*i* S	**Sn**	**06 12 51.0**	**+1.2**
AKT				pmax	pmax		
	comp=Z,162nm,0.3s						
AKT				smax	smax		
	comp=E,261nm,0.3s						
AKT	**Akhty**	**1.13**	**141**	*e*Pg	**Pn**	**06 12 35.0**	**-0.5**
AKT				*e*Sg	**Sn**	**06 12 50.6**	**+0.8**
VSHL	**Vashlovani**	**1.17**	**195**	P	**Pn**	**06 12 35.9**	**-0.1**
VSHL				S	**Sn**	**06 12 53.2**	**+2.4**
DRN	**Derbent**	**1.19**	**106**	*e*PG	**Pn**	**06 12 38.4**	**+2.2**
DRN				pmax	pmax		
	comp=Z,70nm,0.1s						
DRN	**Derbent**	**1.19**	**106**	*e*Pg	**Pn**	**06 12 36.6**	**+0.4**
DRN				*e*Sg	**Sn**	**06 12 53.6**	**+2.5**
SHTL	**Shatili**	**1.25**	**284**	*e*PG	**Pn**	**06 12 37.2**	**0.0**
SHTL				*e*S	**Sn**	**06 12 55.3**	**+2.4**
SHTL	**Shatili**	**1.25**	**284**	P	**Pn**	**06 12 37.2**	**0.0**
SHTL				S	**Sn**	**06 12 55.3**	**+2.4**
SHTL	**Shatili**	**1.25**	**284**	*e*Pg	**Pn**	**06 12 37.2**	**0.0**
SHTL				*e*Sg	**Sn**	**06 12 55.3**	**+2.4**
KSMR	**Kasumkent**	**1.25**	**127**	*e*PG	**Pn**	**06 12 37.3**	**+0.2**
KSMR				*e*S	**Sn**	**06 12 55.0**	**+2.2**
KSMR	**Kasumkent**	**1.25**	**127**	*e*Pg	**Pn**	**06 12 37.3**	**+0.2**
KSMR				*e*Sg	**Sn**	**06 12 55.0**	**+2.2**
DGRG	**David-gareji**	**1.40**	**230**	*e*PG	**Pn**	**06 12 39.5**	**+0.4**
DGRG				*e*S	**Sn**	**06 12 58.7**	**+2.2**
DGRG	**David-gareji**	**1.40**	**230**	P	**Pn**	**06 12 39.5**	**+0.4**
DGRG				S	**Sn**	**06 12 58.6**	**+2.2**
DGRG	**David-gareji**	**1.40**	**230**	*e*Pg	**Pn**	**06 12 39.5**	**+0.4**
DGRG				*e*Sg	**Sn**	**06 12 58.6**	**+2.2**
KMGR	**Komgaron**	**1.58**	**297**	*e*PG	**Pn**	**06 12 44.4**	**+2.7**
KMGR				*e*S	**Sn**	**06 13 06.2**	**+5.3**
KMGR	**Komgaron**	**1.58**	**297**	*e*Pg	**Pn**	**06 12 44.3**	**+2.7**
KMGR				*e*Sg	**Sn**	**06 13 05.0**	**+4.0**
MTEO	**Meteo**	**1.70**	**281**	*e*PN	**Pn**	**06 12 44.2**	**+0.6**
MTEO				*e*S	**Sn**	**06 13 07.0**	**+2.6**
MTEO	**Meteo**	**1.70**	**281**	P	**Pn**	**06 12 44.2**	**+0.6**
MTEO				S	**Sn**	**06 13 07.0**	**+2.6**
MTEO	**Meteo**	**1.70**	**281**	*e*Pg	**Pn**	**06 12 44.2**	**+0.6**
MTEO				*e*Sg	**Sn**	**06 13 07.0**	**+2.6**
GUDG	**Gudauri**	**1.72**	**274**	*e*PN	**Pn**	**06 12 46.2**	**+2.5**
GUDG				*e*S	**Sn**	**06 13 09.4**	**+4.9**
GUDG	**Gudauri**	**1.72**	**274**	*e*Pg	**Pn**	**06 12 46.0**	**+2.4**
GUDG				*e*Sg	**Sn**	**06 13 07.8**	**+3.2**
LACR	**Lac**	**1.90**	**285**	*e*PN	**Pn**	**06 12 48.2**	**+2.1**
LACR				*e*S	**Sn**	**06 13 13.9**	**+5.0**
LACR	**Lac**	**1.90**	**285**	*e*Pg	**Pn**	**06 12 46.7**	**+0.6**
LACR				*e*Sg	**Sn**	**06 13 10.8**	**+1.9**
TRKR	**Terskaya**	**2.03**	**313**	*e*PN	**Pn**	**06 12 48.2**	**+0.5**
TRKR	**Terskaya**	**2.03**	**313**	*e*Pg	**Pn**	**06 12 48.2**	**+0.5**
TRKR				*e*Sg	**Sn**	**06 13 14.0**	**+2.1**
KORR	**Kora**	**2.13**	**291**	*e*PN	**Pn**	**06 12 48.9**	**-0.3**
KORR	**Kora**	**2.13**	**291**	*e*Pg	**Pn**	**06 12 47.7**	**-1.5**
KORR				*e*Sg	**Sn**	**06 13 13.9**	**-0.6**
DMNI	**Dmanisi**	**2.20**	**243**	*e*PN	**Pn**	**06 12 48.8**	**-1.4**
DMNI	**Dmanisi**	**2.20**	**243**	P	**Pn**	**06 12 48.8**	**-1.4**
DMNI				S	**Sn**	**06 13 14.2**	**-2.1**
DMNI	**Dmanisi**	**2.20**	**243**	*e*Pg	**Pn**	**06 12 48.8**	**-1.4**
DMNI				*e*Sg	**Sn**	**06 13 14.2**	**-2.1**
DIGR	**Digorskoe uzhe**	**2.43**	**284**	*e*PN	**Pn**	**06 12 54.9**	**+1.5**
DIGR				*e*S	**Sn**	**06 13 24.4**	**+2.4**
DIGR	**Digorskoe uzhe**	**2.43**	**284**	*e*Pn	**Pn**	**06 12 54.9**	**+1.5**
DIGR				*e*Sn	**Sn**	**06 13 24.4**	**+2.4**
ONI	**Oni**	**2.48**	**276**	*e*PN	**Pn**	**06 12 54.3**	**+0.3**
ONI				*e*S	**Sn**	**06 13 25.3**	**+2.2**
ONI	**Oni**	**2.48**	**276**	*e*Pn	**Pn**	**06 12 54.3**	**+0.3**
ONI				*e*Sn	**Sn**	**06 13 25.3**	**+2.2**
NCK	**Nalchik**	**2.61**	**297**	*i* PN	**Pn**	**06 12 56.3**	**+0.6**
GNI	**Garni**	**2.70**	**216**	*e*PN	**Pn**	**06 12 57.5**	**+0.4**
GNI	**Garni**	**2.70**	**216**	*e*Pn	**Pn**	**06 12 57.5**	**+0.4**
GNI				*e*Sn	**Sn**	**06 13 28.4**	**-0.2**
KBTC	**Kuba-Taba**	**2.87**	**301**	*e*PN	**Pn**	**06 12 58.8**	**-0.6**
KBTC	**Kuba-Taba**	**2.87**	**301**	*e*Pn	**Pn**	**06 12 58.8**	**-0.6**
KBTC				*e*Sn	**Sn**	**06 13 32.1**	**-0.6**
NEUR	**Neytrino**	**3.14**	**288**	*e*PN	**Pn**	**06 13 03.3**	**+0.1**
NEUR				*e*S	**Sn**	**06 13 39.8**	**+0.3**
NEUR	**Neytrino**	**3.14**	**288**	*e*Pn	**Pn**	**06 13 03.3**	**+0.1**
NEUR				*e*Sn	**Sn**	**06 13 39.8**	**+0.3**
KBZ	**Khabaz**	**3.17**	**297**	*e*PN	**Pn**	**06 13 00.9**	**-2.4**
KBZ	**Khabaz**	**3.17**	**297**	*e*Pn	**Pn**	**06 13 00.9**	**-2.4**
KBZ				*e*Sn	**Sn**	**06 13 36.9**	**-2.9**
PYA1	**Pyatigorsk**	**3.19**	**303**	*e*PN	**Pn**	**06 12 59.9**	**-3.8**
PYA1	**Pyatigorsk**	**3.19**	**303**	*e*Pn	**Pn**	**06 12 59.9**	**-3.8**
PYA1				*e*Sn	**Sn**	**06 13 36.2**	**-4.3**
SHA1	**Shidzhatmaz**	**3.33**	**296**	*e*PN	**Pn**	**06 13 04.2**	**-1.6**
SHA1	**Shidzhatmaz**	**3.33**	**296**	*e*Pn	**Pn**	**06 13 04.2**	**-1.6**
SHA1				*e*Sn	**Sn**	**06 13 40.6**	**-3.6**
BEYR	**Belyy Ugol+**	**3.34**	**301**	*e*PN	**Pn**	**06 13 04.2**	**-1.6**
BEYR	**Belyy Ugol+**	**3.34**	**301**	*e*Pn	**Pn**	**06 13 04.2**	**-1.6**
BEYR				*e*Sn	**Sn**	**06 13 42.0**	**-2.2**
KIV	**Kislovodsk**	**3.40**	**299**	*e*PN	**Pn**	**06 13 04.4**	**-2.2**
KIV	**Kislovodsk**	**3.40**	**299**	*e*Pn	**Pn**	**06 13 04.4**	**-2.2**
KIV				*e*Sn	**Sn**	**06 13 43.6**	**-2.2**
ALER	**Alexandrovskoy**	**3.70**	**312**	*e*PN	**Pn**	**06 13 09.9**	**-0.8**
ALER	**Alexandrovskoy**	**3.70**	**312**	*e*Pn	**Pn**	**06 13 09.9**	**-0.8**
ALER				*e*Sn	**Sn**	**06 13 51.2**	**-1.8**
SOC	**Sochi**	**5.33**	**286**	*e*PN	**Pn**	**06 13 33.8**	**+0.8**
SOC				*e*PPP	PPP	06 13 50.2	
SOC				*e*		06 14 35.5	
SOC				*e*SSS	SSS	06 14 59.2	
SOC				MLR	MLR		
	comp=Z,73nm,13.0s						
GELR	**Gelenjik**	**6.78**	**292**	*i* P	**Pn**	**06 13 53.2**	**+0.3**
AKBB	**Malin Array Si**	**14.66**	**311**	*e*P	**Pn**	**06 15 39.0**	**-1.4**
BRVK	**Borovoye**	**19.00**	**48**	*i* P	**Pn**	**06 16 34.7**	**0.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
AAK	**Ala-Archa**	**20.39**	**80**	*i* P	Pn	06 16 50.5	-1.1
AAK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KURK	**Kurchatov**	**23.29**	**58**	*i* P	**P**	**06 17 18.6**	**-0.9**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s						

IDC 19 06:16:04.3±1.3, 51°55N×82°30E, h0km, mbtmp2.5/2, ML1.9/2, Error ellipse: s-maj=17.1km s-min=11.1km az=131.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.55**	**250**	Pg	Pb	06 16 49.3	-1.7
	baz=72,slow=18,SNR=4.1						
KURBB				Lg	Lg	06 17 25.9	
	0.1nm,0.3s,baz=70,slow=33,SNR=9.2						
ZALV	**Zalesovo Beam**	**2.85**	**32**	Pn	Pn	06 16 50.1	-0.8
	0.5nm,0.3s,baz=210,slow=13,SNR=12						
ZALV				Pg	Pg	06 16 57.6	-1.2
	0.3nm,0.3s,baz=212,slow=16,SNR=6.3						
ZALV				Sn	Sn	06 17 23.1	-2.8
	0.5nm,0.3s,baz=214,slow=23,SNR=5.0						
ZALV				Lg	Lg	06 17 33.6	
	0.3nm,0.3s,baz=209,slow=26,SNR=3.4						
	2.9nm,0.5s						
I46RU	**ZALESOVO INFRA**	**2.85**	**31**	I	I	06 30 48.5	
	0.1nm,0.8s,baz=214,slow=328,SNR=10.0						
MKAR	**Makanchi Array**	**4.76**	**180**	Pn	Pn	06 17 19.1	+1.8
	0.1nm,0.3s,baz=3.5,slow=13,SNR=5.4						
MKAR				Lg	Lg	06 18 32.9	
	0.1nm,0.3s,baz=3.5,slow=26,SNR=9.4						
	0.3nm,0.4s						

IDC 19 06:19:44.0±3.9, 4°93S×151°87E, h0km, mb3.6/2, mbtmp3.6/2, MS3.0/2, Error ellipse: s-maj=164.5km s-min=51.1km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.45**	**226**	Sn	Sn	06 22 19.2	-15
	1.0nm,0.3s,baz=31,slow=5.5,SNR=1.5						
PMG				LR	LR	06 23 49.7	
	comp=Z,69nm,20.1s,baz=90,slow=38						
WRA	**Warramunga Arr**	**22.67**	**227**	P	P	06 24 46.9	-0.3
	1.3nm,0.6s,baz=54,slow=10,SNR=4.6						
	1.3nm,0.6s						
ASAR	**Alice Springs**	**25.43**	**221**	P	P	06 25 13.8	+0.1
	0.9nm,0.7s,baz=55,slow=8.7,SNR=12						
	0.9nm,0.7s						
TGY	**Tagaytay City**	**36.05**	**302**	LR	LR	06 41 48.9	
	comp=Z,52nm,19.8s,baz=33,slow=37						
TORD	**Torodi Ar. Bea**	**149.47**	**288**	PKPbc	PKPbc	06 39 35.9	-0.4
	0.5nm,0.7s,baz=89,slow=3.3,SNR=3.6						

*SOME **19** 06:34:35.3, 42°08N×81°47E, h10km*
*NNC **19** 06:34:38.6±1.2, 42°18N×81°38E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=8

20nm,0.4s
PDGK S Sg 06 35 36.4 +1.2
57nm,0.5s
PDGK Podgornoye 1.86 314 ⇑P Pg 06 35 11.7 +0.7
PDGK 11nm,0.3s ⇑S Sg 06 35 36.9 +1.7
34nm,0.3s
UZB Uzymbulak 2.02 304 *eP* Pg 06 35 14.6 +0.5
UZB 43nm,0.3s eS Sg 06 35 42.0 +1.6
141nm,0.2s
UZB Uzymbulak 2.02 304 Pg Pg 06 35 14.6 +0.5
UZB 43nm,0.3s Lg Lg 06 35 42.0
143nm,0.4s
SATY Saty 2.38 296 *eP* Pg 06 35 21.4 +0.4
SATY 18nm,0.3s eS Sg 06 35 53.9 +2.0
128nm,0.1s
SATY Saty 2.38 296 Pg Pg 06 35 21.4 +0.4
SATY 18nm,0.3s Lg Lg 06 35 53.9
129nm,0.4s
DJR Jarkent 2.54 334 *eP* Pb 06 35 22.4 +0.5
DJR 5.9nm,0.2s eS Sg 06 35 55.5 -1.6
168nm,0.6s
DJR Jarkent 2.54 334 Pg Pb 06 35 22.4 +0.5
DJR 20nm,0.4s Lg Lg 06 35 55.5
168nm,0.6s
KURS Kuram 2.73 303 *eP* Pg 06 35 27.3 -0.4
KURS 11nm,0.3s eS Sg 06 36 03.5 +0.4
38nm,0.1s
KURS Kuram 2.73 303 Pg Pg 06 35 27.3 -0.4
KURS 11nm,0.3s Lg Lg 06 36 03.5
30nm,0.3s
KNOS Konyrlen 2.79 327 Pg Pb 06 35 27.7 +1.6
KNOS 25nm,0.4s Lg Lg 06 36 04.2
37nm,0.4s
BLB Baldybastay 2.92 315 Pg Pb 06 35 30.1 +1.8
BLB 12nm,0.4s Lg Lg 06 36 08.6
39nm,0.4s
KOTS Kotyrbulak 3.33 292 *eP* Pg 06 35 38.2 -0.8
KOTS 9.3nm,0.2s eS Sg 06 36 22.1 0.0
97nm,0.3s
KOTS Kotyrbulak 3.33 292 Pg Pg 06 35 38.2 -0.8
KOTS 12nm,0.4s Lg Lg 06 36 22.1
73nm,0.6s
MDOK Medeo 3.35 291 *eP* Pg 06 35 38.8 -0.6
MDOK 8.4nm,0.3s eS Sg 06 36 23.4 +0.5
26nm,0.5s
MDOK Medeo 3.35 291 ⇑Pn Pb 06 35 33.6 -2.0
MDOK 3.0nm,0.5s Pg Pg 06 35 38.8 -0.6
10.0nm,0.5s
MDOK Lg Lg 06 36 22.3
28nm,0.6s
MDOK Lg Lg 06 36 23.4
26nm,0.5s
ARXS Arharly 3.35 311 *eP* Pb 06 35 38.0 +2.4
ARXS 2.1nm,0.1s eS Sg 06 36 22.3 -0.7
61nm,0.4s
ARXS Arharly 3.35 311 Pg Pb 06 35 38.1 +2.4
ARXS 11nm,0.6s Lg Lg 06 36 22.3
61nm,0.4s
TNSS Tian-Shan 3.38 288 *eP* Pg 06 35 39.5 -0.7
TNSS 5.3nm,0.1s eS Sg 06 36 24.8 +0.8
11nm,0.4s
TNSS Tian-Shan 3.38 288 Pg Pg 06 35 39.4 -0.7
TNSS 7.0nm,0.3s Lg Lg 06 36 24.8
11nm,0.4s
KAPS Kapalarasan 3.54 337 *eP* Pb 06 35 40.5 +1.7
KAPS 7.0nm,0.2s eS Sg 06 36 26.2 -2.7
43nm,0.4s
KAPS Kapalarasan 3.54 337 Pg Pb 06 35 40.5 +1.7
KAPS 17nm,0.6s Lg Lg 06 36 26.2
43nm,0.4s
IZV Izvestkoviy 3.62 287 *eP* Pb 06 35 43.1 +2.9
IZV 4.0nm,0.2s eS Sg 06 36 30.7 -0.8
86nm,0.5s
IZV Izvestkoviy 3.62 287 Pg Pb 06 35 43.1 +2.9
TDK Taldyqorghan 3.64 325 *eP* Pb 06 35 42.6 +2.2
TDK 31nm,0.2s eS Sg 06 36 29.9 -2.2
97nm,0.3s
TDK Taldyqorghan 3.64 325 Pg Pb 06 35 42.6 +2.2
TDK 33nm,0.5s Lg Lg 06 36 29.9
98nm,0.8s
CHKK Chushkaly 3.66 301 *eP* Pg 06 35 43.9 -1.5
CHKK 6.1nm,0.2s eS Sg 06 36 32.2 -0.6
54nm,0.3s
CHKK Chushkaly 3.66 301 Pg Pg 06 35 43.9 -1.5
7.5nm,0.4s
MTBS Maitube 3.77 288 *eP* Pg 06 35 46.5 -1.1
MTBS 4.4nm,0.2s eS Sg 06 36 36.4 0.0
17nm,0.3s
MTBS Maitube 3.77 288 Pg Pg 06 35 46.5 -1.1
12nm,0.4s
KTBS Karatobe 3.79 298 *eP* Pg 06 35 46.6 -1.4
KTBS 10nm,0.5s eS Sg 06 36 36.5 -0.7
28nm,0.6s
KTBS Karatobe 3.79 298 Pg Pg 06 35 46.6 -1.4
10nm,0.5s
KST Kastek 4.08 286 *eP* Pg 06 35 52.4 -1.1
KST 8.6nm,0.5s eS Sg 06 36 46.7 +0.2
19nm,0.2s
KST Kastek 4.08 286 Pg Pg 06 35 52.4 -1.1
8.6nm,0.5s
DGS Degeres 4.27 288 *eP* Pg 06 35 56.0 -1.1
DGS 7.4nm,0.6s eS Sg 06 36 52.9 +0.5
44nm,0.6s
DGS Degeres 4.27 288 Pg Pg 06 35 56.0 -1.1
7.4nm,0.6s
TKM2 Tokmak 2 4.32 284 ⇑Pn Pb 06 35 51.0 -1.2
TKM2 3.7nm,0.6s ⇓Lg Lg 06 36 58.5
6.8nm,0.5s
KRBS Karabastau 4.47 294 *eP* Pg 06 35 59.4 -1.5
KRBS 3.7nm,0.5s eS Sg 06 36 58.7 -0.1
12nm,0.2s
KRBS Karabastau 4.47 294 Pg Pg 06 35 59.4 -1.5
3.7nm,0.5s
MAKZ Makanchi 4.78 5 ⇑Pn Pn 06 35 49.8 +1.2
MAKZ 1.8nm,0.3s ⇓Sn Sn 06 36 48.2 +3.5
5.3nm,0.5s
MAKZ ⇑Lg Lg 06 37 02.8
5.9nm,0.6s
MK31 Makanchi Array 4.80 8 ⇑Pn Pn 06 35 49.6 +0.8
0.3nm,0.2s,baz=190,slow=13,SNR=43
MK31 ⇑Lg Lg 06 37 00.9
1.5nm,0.3s,baz=183,slow=29,SNR=8.5
ZSN Zaisan 5.96 24 *eP* Pb 06 36 23.1 +3.0
ZSN 2.7nm,0.1s eS Sg 06 37 39.6 -7.2
16nm,0.4s
ZSN Zaisan 5.96 24 Pg Pb 06 36 23.1 +3.0
3.3nm,0.3s
BTLS Baital 6.08 302 *eP* Pg 06 36 30.7 -1.0
BTLS 1.9nm,0.8s eS Sg 06 37 52.6 +2.2
2.6nm,0.4s
KK31 Karatay Array 8.05 281 ⇑Lg Lg 06 38 56.4
1.2nm,0.6s,baz=96,slow=28,SNR=3.6
OTUK Ortayu 8.87 317 ⇓Lg Lg 06 39 16.8
5.2nm,0.9s

*KRSC **19** 06:35:22.2±2.1, 48°.23N× 156°.89E, h13km±49km, Ml4.3*
*IDC **19** 06:35:28.1±5.3, 49°.29N× 153°.72E, h186km±35km, mb3.5/6, mbtmp4.0/7, Error ellipse: s-maj=78.3km s-min=20.4km az=178.0*
ISC 19 06:35:21.4±1.8, **48°.6N**±0°.2×**154°.2E**±0°.1, **h150**km, **n29**, σ2§**36**/29, **mb3.8/6, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.46**	**31**	*eP*		**Pn**		**06 36 03.6**	**+1.7**
SKR				*eS*		**Sn**		**06 36 34.3**	**+1.0**
PAU	**Pauzhetka**	**3.36**	**30**	*eP*		**Pn**		**06 36 15.5**	**+2.3**
PAU				*eS*		**Sn**		**06 36 55.0**	**+1.5**
KDTR	**Khodutka, Kamc**	**4.10**	**37**	*eP*		**Pn**		**06 36 22.6**	**-0.2**
KDTR				*eS*		**Sn**		**06 37 07.4**	**-3.2**
ASAK	**Asacha**	**4.50**	**31**	*eP*		**Pn**		**06 36 29.5**	**+1.4**
ASAK				*eS*		**Sn**		**06 37 19.9**	**-0.1**
MTVR	**Mutnovka**	**4.68**	**32**	*eP*		**Pn**		**06 36 32.2**	**+1.7**
MTVR				*eS*		**Sn**		**06 37 23.5**	**-0.9**
APC	**Apacha**	**4.75**	**23**	*eP*		Pn		06 36 38.7	+7.4
RUS	**Russkaya**	**4.75**	**34**	*eP*		**Pn**		**06 36 31.4**	**0.0**
RUS				*eS*		**Sn**		**06 37 22.5**	**-3.5**
KRMR	**Karymshinskiy**	**4.95**	**29**	*eP*		**Pn**		**06 36 38.2**	**+4.2**
KRMR				*eS*		**Sn**		**06 37 34.1**	**+3.5**
PETK	**Petropavlovsk-**	**5.06**	**25**	P		**Pn**		**06 36 36.4**	**+0.9**
	0.8nm,0.4s,baz=230,slow=11,SNR=2.0								
KOK	**Koryaka**	**5.50**	**29**	*eP*		**Pn**		**06 36 43.4**	**+2.0**
AVH	**Avacha**	**5.51**	**30**	*eP*		**Pn**		**06 36 43.9**	**+2.4**
SMAR	**Somma**	**5.53**	**30**	*eP*		**Pn**		**06 36 43.9**	**+2.0**
KRER	**Koryakskii**	**5.55**	**30**	*eP*		**Pn**		**06 36 43.5**	**+1.3**
KRX	**Arik**	**5.56**	**29**	*eP*		**Pn**		**06 36 44.3**	**+2.0**
NLC	**Nalytchevo**	**5.65**	**34**	*eS*		**Sn**		**06 37 42.0**	**-5.3**
SPN	**Mys Shipunski**	**5.85**	**37**	*eP*		**Pn**		**06 36 46.5**	**+0.5**
KLR	**Kul'dur**	**14.74**	**281**	P		**Pn**		**06 38 43.8**	**+1.4**
	1.0nm,0.5s,baz=73,slow=9.0,SNR=4.6								
H11N2	**WAKE ISLAND Hy**	**30.57**	**156**	T		T		07 13 38.2	
	baz=344								
H11N1	**WAKE ISLAND Hy**	**30.58**	**156**	T		T		07 13 39.8	
	baz=344								
H11N3	**WAKE ISLAND Hy**	**30.58**	**156**	T		T		07 13 36.6	
	baz=344								
H11S1	**WAKE ISLAND Hy**	**31.68**	**157**	T		T		07 15 02.8	
	baz=344,slow=76,SNR=14								
H11S3	**WAKE ISLAND Hy**	**31.69**	**157**	T		T		07 15 03.4	
	baz=344,slow=76,SNR=20								
H11S2	**WAKE ISLAND Hy**	**31.70**	**157**	T		T		07 15 02.7	
	baz=344,slow=76,SNR=12								
ZALV	**Zalesovo Beam**	**42.13**	**304**	P		**P**		**06 42 55.9**	**-2.5**
	0.6nm,0.3s,baz=53,slow=7.7,SNR=2.7								
	0.6nm,0.3s								
MKAR	**Makanchi Array**	**46.74**	**296**	P		**P**		**06 43 33.5**	**-1.6**
	1.6nm,0.6s,baz=66,slow=8.6,SNR=15								
	1.6nm,0.6s								
KURBB	**Kurchatov Arra**	**47.04**	**303**	P		**P**		**06 43 35.7**	**-1.7**
	1.1nm,0.5s,baz=67,slow=8.3,SNR=6.2								
	1.1nm,0.5s								
BVAR	**Borovoye Array**	**50.25**	**309**	P		**P**		**06 43 59.9**	**-1.9**
	2.0nm,0.4s,baz=59,slow=6.6,SNR=10								
	2.0nm,0.4s								
FINES	**FINESS Array B**	**62.68**	**335**	P		**P**		**06 45 27.9**	**-1.6**
	3.5nm,1.1s,baz=29,slow=8.8,SNR=3.8								
	3.5nm,1.1s								
TXAR	**Lajitas Array**	**75.99**	**62**	P		**P**		**06 46 54.2**	**+2.2**
	0.2nm,0.4s,baz=303,slow=4.9,SNR=6.5								
	0.2nm,0.4s								

IDC 19 06:45:09.8±2.1, **6°.27S**×**142°.81E**, **h0**km, **mb3.7**/3, **mbtmp3.6**/5, **ML3.3**/2, **Error ellipse: s-maj=86.1km s-min=31.2km az=105.0, New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.89**	**210**	Pn		Pn		06 48 53.1	-1.9
	0.1nm,0.3s,baz=29,slow=12,SNR=3.9								
WRA				Sn		Sn		06 51 39.5	-12
	baz=25,slow=27,SNR=1.5								
WRA				Lg		Lg		06 53 28.4	
	0.1nm,0.3s,baz=34,slow=27,SNR=3.3								
	1.5nm,1.0s								
ASAR	**Alice Springs**	**19.30**	**205**	P		Pn		06 49 37.2	-0.3
	0.2nm,0.3s,baz=30,slow=11,SNR=14								
	1.0nm,0.5s								
MKAR	**Makanchi Array**	**75.09**	**322**	P		P		06 56 54.2	+0.4
	0.1nm,0.4s,baz=98,slow=5.0,SNR=3.6								
	0.1nm,0.4s								
BVAR	**Borovoye Array**	**84.55**	**325**	P		P		06 57 45.0	+0.1
	1.1nm,0.7s,baz=114,slow=7.0,SNR=5.9								
	1.1nm,0.7s								
ILAR	**Eielson Array**	**87.39**	**24**	P		P		06 57 58.2	-0.5
	0.4nm,0.9s,baz=246,slow=5.8,SNR=2.9								
	0.4nm,0.9s								

*SJA **19** 06:50:59.6±0.6, 20°.07S×69°.36W, h118km±2km, ML3.7, MW3.6*
*NEIC **19** 06:50:60.0±2.2, 20°.12S±0°.04×69°.35W±0°.07, h117km±5km, mb4.5/8, Error ellipse: s-maj=9.8km s-min=5.4km az=99.0*
*IDC **19** 06:51:01.6±1.4, 20°.20S×69°.03W, h127km±16km, mb3.1/4, mbtmp3.6/7, Error ellipse: s-maj=31.4km s-min=15.6km az=100.0*
*GUC **19** 06:51:01.2±0.9, 20°.06S×69°.33W, h110km±3km, ML3.9*
ISC 19 06:50:59.7±0.6, **20°.09S**±0°.03×**69°.36W**±0°.05, **h116**km±5km, **n85**, σ1§**29**/114, **mb3.6/7, 2C-3D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.20**	**106**			**Pn**		**06 51 16.5**	**+0.1**
PB08				Sn		**Sn**		**06 51 29.5**	**+0.7**
PB08	**IPOC Station P**	**0.20**	**106**	*eP*		**Pn**		**06 51 17.1**	**+0.7**
PB08				*eS*		**Sn**		**06 51 29.9**	**+1.1**
PB08				IAML				06 51 30.4	
	comp=Z,2μm,0.2s								
PB08	**IPOC Station P**	**0.20**	**106**	⇓*eP*		**Pn**		**06 51 17.1**	**+0.8**
PB08				*eS*		**Sn**		**06 51 29.2**	**+0.4**
PB08				IAML				06 51 30.0	
	comp=E,4μm,0.2s								
PX03	**IPOC Station P**	**0.41**	**219**	*eP*		**Pn**		**06 51 16.8**	**0.0**
PX03				*eS*		**Sn**		**06 51 29.6**	**-0.1**
PB11	**IPOC Station P**	**0.43**	**319**			**Pn**		**06 51 17.6**	**+0.6**
PB11				Sn		**Sn**		**06 51 30.4**	**+0.4**
PB11	**IPOC Station P**	**0.43**	**319**	*eP*		**Pn**		**06 51 17.7**	**+0.6**
PB11				*eS*		**Sn**		**06 51 30.9**	**+0.9**
PB11				IAML				06 51 33.2	
	comp=Z,1μm,0.5s								
PB11	**IPOC Station P**	**0.43**	**319**	*eP*		**Pn**		**06 51 17.7**	**+0.6**
PB11				*eS*		**Sn**		**06 51 29.7**	**-0.3**
PB11				IAML				06 51 31.8	
	comp=E,6μm,0.3s								
GO01	**Chusmiza**	**0.44**	**20**			**Pn**		**06 51 17.9**	**+0.4**
GO01				Sn		**Sn**		**06 51 31.0**	**+0.2**
GO01	**Chusmiza**	**0.44**	**20**	*eP*		**Pn**		**06 51 18.4**	**+0.8**
GO01				*eS*		**Sn**		**06 51 31.9**	**+1.0**
GO01	**Chusmiza**	**0.44**	**20**	*eP*		**Pn**		**06 51 18.1**	**+0.6**
GO01				*eS*		**Sn**		**06 51 30.6**	**-0.2**
GO01				IAML				06 51 32.3	
	comp=E,8μm,0.1s								
TA02	**Huaiquique**	**0.75**	**256**			**Pn**		**06 51 20.0**	**+1.0**
TA02				Sn		**Sn**		**06 51 34.7**	**+1.0**
TA02	**Huaiquique**	**0.75**	**256**	*eP*		**Pn**		**06 51 20.1**	**+1.0**
TA02				*eS*		**Sn**		**06 51 35.0**	**+1.3**
TA02				IAML				06 51 35.4	
	comp=Z,1μm,0.1s								
TA02	**Huaiquique**	**0.75**	**256**	⇑*eP*		**Pn**		**06 51 20.1**	**+1.0**
TA02				*eS*		**Sn**		**06 51 33.5**	**-0.2**
TA02				IAML				06 51 35.2	
	comp=N,6μm,0.1s								
TA01	**Diego Aracena**	**0.91**	**238**			**Pn**		**06 51 21.3**	**+0.8**
TA01				Sn		**Sn**		**06 51 36.5**	**+0.3**
TA01	**Diego Aracena**	**0.91**	**238**	⇓*eP*		**Pn**		**06 51 21.3**	**+0.8**
TA01				*eS*		**Sn**		**06 51 36.4**	**+0.2**
PB01	**IPOC Station P**	**0.96**	**187**			**Pn**		**06 51 21.2**	**+0.1**
PB01				Sn		**Sn**		**06 51 37.6**	**+0.3**
PB01	**IPOC Station P**	**0.96**	**187**	*eP*		**Pn**		**06 51 22.0**	**+0.9**
PB01				*eS*		**Sn**		**06 51 38.2**	**+0.9**
PB01				IAML				06 51 38.7	
	comp=Z,3μm,0.2s								
PB01	**IPOC Station P**	**0.96**	**187**	*eP*		**Pn**		**06 51 22.0**	**+0.9**
PB01				*eS*		**Sn**		**06 51 37.6**	**+0.3**
PB01				IAML				06 51 38.8	
	comp=N,6μm,0.2s								
PB02	**IPOC Station P**	**1.33**	**202**			**Pn**		**06 51 26.3**	**+1.3**
PB02	**IPOC Station P**	**1.33**	**202**	*eP*		**Pn**		**06 51 26.4**	**+1.3**
PB02				*eS*		**Sn**		**06 51 45.4**	**+1.2**
PB02				IAML				06 51 46.9	
	comp=Z,2μm,0.2s								
PB02	**IPOC Station P**	**1.33**	**202**	*eP*		**Pn**		**06 51 26.3**	**+1.3**
PB02				*eS*		**Sn**		**06 51 44.8**	**+0.5**
PB02				IAML				06 51 47.7	
	comp=N,2μm,0.2s								
PX02	**IPOC Station P**	**1.37**	**324**	*eP*		**Pn**		**06 51 25.5**	**-0.1**
PX02				*eS*		**Sn**		**06 51 44.7**	**-0.4**
PB09	**IPOC Station P**	**1.71**	**176**			**Pn**		**06 51 30.9**	**+1.4**
PB09	**IPOC Station P**	**1.71**	**176**	*eP*		**Pn**		**06 51 30.9**	**+1.4**
PB09				*eS*		**Sn**		**06 51 53.9**	**+1.7**
PB09				IAML				06 51 55.3	
	comp=Z,777nm,0.6s								
PB09	**IPOC Station P**	**1.71**	**176**	*eP*		**Pn**		**06 51 30.9**	**+1.4**
PB09				*eS*		**Sn**		**06 51 53.6**	**+1.3**
PB09				IAML				06 51 56.0	
	comp=N,807nm,0.3s								
PB07	**IPOC Station P**	**1.71**	**197**			**Pn**		**06 51 30.4**	**+0.9**
PB07	**IPOC Station P**	**1.71**	**197**	*eP*		**Pn**		**06 51 30.6**	**+1.1**
PB07				*eS*		**Sn**		**06 51 52.4**	**+0.2**
PB07				IAML				06 51 56.4	
	comp=Z,550nm,0.3s								
PB07	**IPOC Station P**	**1.71**	**197**	*eP*		**Pn**		**06 51 30.4**	**+0.9**
PB07				*eS*		**Sn**		**06 51 52.8**	**+0.5**
PB07				IAML				06 51 55.1	
	comp=N,711nm,0.3s								
PB12	**IPOC Station P**	**1.73**	**328**	Pn		**Pn**		**06 51 30.1**	**+0.4**
PB12	**IPOC Station P**	**1.73**	**328**	*eP*		**Pn**		**06 51 30.2**	**+0.4**
PB12				*eS*		**Sn**		**06 51 53.2**	**+0.6**
PB12				IAML				06 51 53.8	
	comp=Z,456nm,0.5s								
PB12	**IPOC Station P**	**1.73**	**328**	⇓*iP*		**Pn**		**06 51 30.1**	**+0.4**
PB12				*iS*		**Sn**		**06 51 51.8**	**-0.8**
PB12				IAML				06 51 53.9	
	comp=E,1μm,0.3s								
PB16	**IPOC Station P**	**1.75**	**355**			**Pn**		**06 51 32.1**	**+1.6**
PB16	**IPOC Station P**	**1.75**	**355**	*eP*		**Pn**		**06 51 26.7**	**-3.8**
PB16	**IPOC Station P**	**1.75**	**355**	⇑*eP*		**Pn**		**06 51 32.0**	**+1.5**
PB16				*eS*		**Sn**		**06 51 54.9**	**+1.0**
PB04	**IPOC Station P**	**2.36**	**198**			**Pn**		**06 51 38.2**	**+0.5**
PB04	**IPOC Station P**	**2.36**	**198**	*eP*		**Pn**		**06 51 38.7**	**+1.0**
PB04				*eS*		**Sn**		**06 52 06.1**	**-0.7**
PB04				IAML				06 52 08.9	
	comp=Z,263nm,0.2s								
PB04	**IPOC Station P**	**2.36**	**198**	*eP*		**Pn**		**06 51 38.4**	**+0.7**
PB04				*eS*		**Sn**		**06 52 05.4**	**-1.4**
PB04				IAML				06 52 06.3	
	comp=N,417nm,0.2s								
LVC	**Limon Verde**	**2.54**	**171**	Pn		**Pn**		**06 51 41.6**	**+1.3**
LVC	**Limon Verde**	**2.54**	**171**	*eP*		**Pn**		**06 51 41.9**	**+1.6**
LVC	**Limon Verde**	**2.54**	**171**	P		**Pn**		**06 51 41.9**	**+1.6**
	comp=N,40nm,0.3s,baz=345,slow=9.0,SNR=209								
LVC				S		**Sn**		**06 52 11.3**	**-0.2**
	comp=N,64nm,0.3s,baz=45,slow=19,SNR=20								
LVC	**Limon Verde**	**2.54**	**171**	*eP*		**Pn**		**06 51 41.9**	**+1.6**
LVC				*eS*		**Sn**		**06 52 12.8**	**+1.4**
LVC				IAML				06 52 17.0	
	comp=N,828nm,0.5s								
PB06	**IPOC Station P**	**2.61**	**184**			**Pn**		**06 51 41.7**	**+0.7**
PB06	**IPOC Station P**	**2.61**	**184**	*eP*		**Pn**		**06 51 42.2**	**+1.2**
PB06				IAML				06 52 16.4	
	comp=Z,173nm,0.1s								
PB05	**IPOC Station P**	**2.86**	**196**			**Pn**		**06 51 44.5**	**+0.3**
PB05	**IPOC Station P**	**2.86**	**196**	*eP*		**Pn**		**06 51 44.6**	**+0.4**
PB05				IAML				06 52 23.8	
	comp=Z,111nm,0.3s								
AF01	**San Pedro de A**	**3.06**	**159**			**Pn**		**06 51 49.0**	**+2.1**
PB15	**IPOC Station P**	**3.11**	**182**	Pn		**Pn**		**06 51 48.4**	**+0.9**
PB10	**IPOC Station P**	**3.59**	**198**	Pn		**Pn**		**06 51 53.5**	**-0.2**
LPAZ	**La Paz**	**3.95**	**17**	Pn		**Pn**		**06 52 02.0**	**+2.8**
LPAZ	**La Paz**	**3.95**	**17**	P		**Pn**		**06 52 01.9**	**+2.8**
	comp=Z,26nm,0.5s,baz=179,slow=5.8,SNR=171								
PB14	**IPOC Station P**	**4.62**	**192**	Pn		**Pn**		**06 52 06.8**	**-1.0**
GO02	**Mina Guanaco**	**5.06**	**182**	Pn		**Pn**		**06 52 13.2**	**-0.4**
GO02	**Mina Guanaco**	**5.06**	**182**	*eP*		**Pn**		**06 52 14.0**	**+0.3**
AC01	**Pan de Azucar**	**6.14**	**191**	Pn		**Pn**		**06 52 25.8**	**-2.2**
AC02	**Maricunga**	**6.72**	**178**	Pn		**Pn**		**06 52 36.1**	**-0.2**
AC06	**Mina Casimiro**	**7.30**	**187**	Pn		**Pn**		**06 52 41.0**	**-2.6**
GO03	**Copiap**	**7.52**	**186**	Pn		**Pn**		**06 52 44.1**	**-2.6**
AC04	**Llanos de Chal**	**8.23**	**191**	Pn		Pn		06 52 52.3	-4.0
AC05	**El Transito**	**8.75**	**185**	Pn		**Pn**		**06 53 01.3**	**-2.2**
SIV	**San Ignacio**	**8.87**	**64**	P		**Pn**		**06 53 03.3**	**-1.8**
	comp=Z,1.8nm,0.5s,baz=262,slow=9.0,SNR=17								
LCO	**Las Campanas**	**8.97**	**188**	Pn		Pn		06 53 02.7	-3.8
CO01	**Juntas del Tor**	**9.87**	**184**	Pn		**Pn**		**06 53 17.1**	**-1.6**
GO04	**Tololo Observa**	**10.13**	**187**	Pn		**Pn**		**06 53 21.1**	**-1.0**
ETMB	**Extrema**	**10.65**	**17**	Pn		**Pn**		**06 53 27.9**	**-1.2**
VILB	**Vilhena**	**11.28**	**52**	Pn		**Pn**		**06 53 34.5**	**-3.1**
VA06	**Catapilco**	**12.54**	**188**	Pn		**Pn**		**06 53 51.5**	**-2.6**
SAML	**Samuel**	**12.58**	**29**	Pn		**Pn**		**06 53 54.2**	**-0.5**
MT02	**Curacav**	**13.22**	**187**	Pn		**Pn**		**06 54 02.3**	**-0.6**
MT01	**Popeta**	**13.83**	**187**	Pn		**Pn**		**06 54 10.4**	**-0.4**
BO04	**La Punta**	**13.89**	**184**	Pn		**Pn**		**06 54 10.4**	**-1.3**
BO01	**Tunca**	**14.33**	**186**	Pn		**Pn**		**06 54 16.1**	**-1.1**
TRQA	**Tornquist**	**19.02**	**162**	P		**P**		**06 55 11.9**	**-0.7**
TRQA				IAmb		IAmb		06 55 21.2	
	comp=Z,28nm,1.5s								
GO06	**Curarrehue**	**19.52**	**185**	P		**P**		**06 55 16.8**	**-1.2**
CHSH	**Refugio Sur-Vo**	**20.69**	**332**	P		Pn		06 55 33.8	-0.9
SALI	**Salinas**	**21.11**	**326**	P		**P**		**06 55 35.2**	**0.0**
SALI				IAmb		IAmb		06 55 40.9	
	comp=Z,31nm,0.9s								
SLOR	**San Lorenzo -**	**21.22**	**334**	P		**P**		**06 55 33.5**	**-3.4**
SLOR				IAmb		IAmb		06 55 54.5	
	comp=Z,9.9nm,0.8s								
CELP	**Cerrillos**	**38.02**	**4**	P		**P**		**06 58 05.2**	**-1.6**
CELP				IAmb		IAmb		06 58 07.0	
	comp=Z,16nm,1.2s								
TXAR	**Lajitas Array**	**59.24**	**325**	P		**P**		**07 00 50.4**	**+1.2**
	comp=Z,0.1nm,0.4s,baz=156,slow=6.8,SNR=1.7								
	comp=Z,0.1nm,0.4s								
SNAA	**Sanae**	**63.74**	**161**	P		**P**		**07 01 19.7**	**+0.9**
QSPA	**South Pole Qui**	**70.10**	**180**	P		**P**		**07 01 59.3**	**+0.1**
NVAR	**Mina Array Bea**	**74.13**	**322**	P		**P**		**07 02 26.6**	**+2.9**
	comp=Z,0.3nm,0.8s,baz=128,slow=6.9,SNR=2.9								
	comp=Z,0.3nm,0.8s								
TORD	**Torodi Ar. Bea**	**77.28**	**71**	P		**P**		**07 02 41.2**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=254,slow=5.6,SNR=5.0								
	comp=Z,0.3nm,0.4s								
YKA	**Yellowknife Ar**	**89.72**	**341**	P		**P**		**07 03 46.0**	**+1.7**
	comp=Z,0.5nm,0.8s,baz=134,slow=4.1,SNR=7.6								
	comp=Z,0.5nm,0.8s								
MKAR	**Makanchi Array**	**144.72**	**34**	PKP		**PKPab**		**07 10 21.8**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=28,slow=3.4,SNR=2.0								
SONM	**Songino Array**	**152.10**	**6**	PKPbc		**PKiKP**		**07 10 42.7**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=0.0,slow=3.6,SNR=1.9								

*ISK **19** 07:08:38.5, 38°.74N× 43°.45E, h7km, ML2.6/7*
*AFAD **19** 07:08:39.5±0.0, 38°.74N× 43°.43E, h7km±7km, ML2.5*
ISC 19 07:08:39.6±1.0, **38°.73N**±0°.02×**43°.46E**±0°.03, **h14**km±7km, **n17**, σ1§**21**/29, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**201**	Pg		**Pg**		**07 08 43.7**	**+0.2**
TVAN	**Van**	**0.21**	**191**	P		**Pg**		**07 08 43.8**	**-0.7**
TVAN				S		**Sg**		**07 08 48.

BLIS				S	**Sn**	07 09 15.5	-0.2
GURO	**Guroymak-BITLI**	**1.13**	**261**	Pn	**Pg**	07 09 00.4	-1.0
HAKT	**HAKKARI**	**1.19**	**170**	P	**Pg**	07 09 00.2	-2.4
HAKT				S	**Sn**	07 09 20.1	+2.1
EATA	**Eleskirt**	**1.35**	**327**	P	**Pg**	07 09 05.0	-0.8
EATA				S	**Sn**	07 09 24.9	+2.7
EATA				*i* AML	AML	07 09 26.0	
	comp=E,67nm,0.5s						
CUKT	**Cukurca**	**1.49**	**175**	Pn	**Pn**	07 09 06.5	+0.5
GNI	**Garni**	**1.73**	**35**	Pn	**Pn**	07 09 09.8	+0.4

ISC 19 07:12:01.2±2.6, 64°.86N±0°.05×173°.2W±0°.1, h10km, n27, σ0§47/33, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMB	**Gambell**	**1.26**	**149**	P	**Pn**	07 12 24.4	-0.4
	baz=334						
GAMB				S	**Sg**	07 12 41.4	-0.2
	baz=334						
TNA	**Tin City**	**2.32**	**70**	P	**Pn**	07 12 39.5	+0.1
	baz=254						
TNA				S	**Sn**	07 13 06.5	-1.4
	baz=254						
F14K	**Arctic Creek**	**2.96**	**75**	P	**Pn**	07 12 48.1	0.0
	baz=260						
ANM	**Nome**	**3.36**	**91**	P	**Pn**	07 12 54.1	+0.4
	baz=279						
ANM				S	**Sn**	07 13 33.3	-0.2
	baz=279						
F15K	**North Star Dit**	**3.68**	**73**	P	**Pn**	07 12 58.3	+0.2
	baz=260						
G15K	**Niukluk**	**3.89**	**84**	P	**Pn**	07 13 01.0	+0.1
	baz=272						
G16K	**Koyuk River**	**4.60**	**78**	P	**Pn**	07 13 10.8	+0.1
	baz=268						
C16K	**Lisburne Hills**	**4.64**	**39**	P	**Pn**	07 13 11.3	+0.1
	baz=225						
H16K	**Elim**	**4.69**	**88**	P	**Pn**	07 13 12.2	+0.3
	baz=278						
J14K	**Nanvaranak Lak**	**4.76**	**112**	P	**Pn**	07 13 13.3	+0.5
	baz=301						
J14K				S	**Sn**	07 14 08.3	+0.4
	baz=301						
D17K	**Noatak River**	**4.97**	**50**	P	**Pn**	07 13 15.8	0.0
	baz=239						
D17K				S	**Sn**	07 14 13.0	-0.2
	baz=239						
RDOG	**Red Dog Mine**	**5.22**	**47**	P	**Pn**	07 13 19.3	+0.1
	baz=236						
G17K	**Kiwalik Mounta**	**5.32**	**77**	P	**Pn**	07 13 20.5	0.0
	baz=268						
C17K	**DeLong Mountai**	**5.38**	**43**	S	**Sn**	07 14 23.7	+0.4
	baz=231						
I17K	**Unalakleet**	**5.50**	**95**	P	**Pn**	07 13 24.0	+1.0
	baz=286						
I17K				S	**Sn**	07 14 25.9	-0.4
	baz=286						
H17K	**Granite Mounta**	**5.65**	**83**	P	**Pn**	07 13 25.0	-0.1
	baz=275						
J16K	**Anvik River**	**5.74**	**100**	P	**Pn**	07 13 26.7	+0.4
	baz=292						
K15K	**Wolf Creek Mou**	**5.80**	**111**	P	**Pn**	07 13 27.7	+0.6
	baz=302						
L15K	**Ungalaak Mounta**	**6.16**	**116**	P	**Pn**	07 13 32.7	+0.7
	baz=307						
H18K	**Honhosa River**	**6.29**	**81**	P	**Pn**	07 13 33.5	-0.3
	baz=274						
L16K	**Owhat River**	**6.93**	**111**	P	**Pn**	07 13 43.1	+0.5
	baz=303						
E19K	**Redstone River**	**6.96**	**61**	P	**Pn**	07 13 43.9	+0.8
	baz=255						
D19K	**Kuna River**	**7.00**	**52**	P	**Pn**	07 13 43.7	+0.2
	baz=245						
H19K	**Roundabout Mou**	**7.07**	**77**	P	**Pn**	07 13 44.9	+0.4
	baz=272						
J18K	**Innoko River**	**7.32**	**93**	P	**Pn**	07 13 48.1	0.0
	baz=288						
J20K	**Nowinta River**	**8.23**	**86**	P	**Pn**	07 14 01.0	+0.6
	baz=283						
L20K	**Farewell, AK**	**8.89**	**97**	P	**Pn**	07 14 09.6	0.0
	baz=294						

*IDC **19** 07:14:16.4±4.5, 7°.33S×122°.68E, h161km±48km, mb3.2/2, mbtmp3.7/5, Error ellipse: s-maj=169.3km s-min=27.2km az=55.0*
*DJA **19** 07:14:19.6±0.5, 8°.5S±6°×12°.1E±°, h176km±6km, M3.5/8, MLv3.5/8*
ISC 19 07:14:18.8±1.0, 8°.38S±0°.09×121°.40E±0°.06, h200km, n13, σ1§61/16, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**0.47**	**142**	P	**Pn**	07 14 45.1	-0.8
EDFI				S	**Sn**	07 15 04.4	-2.5
MMRI	**Maumere**	**0.86**	**107**	P	**Pn**	07 14 47.0	-0.7
BASI	**Baing, Sumba**	**2.00**	**204**	P	**Pn**	07 14 55.9	-1.4
BATI	**Baumata**	**2.88**	**129**	P	**Pn**	07 15 05.9	-1.1
	38nm,0.5s,baz=31,slow=2.4,SNR=5.9						
BATI				S	**Sn**	07 15 41.7	-3.0
	40nm,0.3s,baz=88,slow=21,SNR=10						
BATI	**Baumata**	**2.88**	**129**	P	**Pn**	07 15 07.6	+0.6
SOEI	**Soe**	**3.14**	**116**	P	**Pn**	07 15 10.7	+0.5
BKSI	**Bulukumba**	**3.29**	**337**	P	**Pn**	07 15 11.4	-0.5
PLAI	**Plampang**	**3.61**	**263**	P	**Pn**	07 15 16.4	+0.6
PLAI				S	**Sn**	07 15 58.4	-2.0
TWSI	**Taliwang, Sumb**	**4.48**	**265**	P	**Pn**	07 15 27.1	+0.5
WRA	**Warramunga Arr**	**17.00**	**134**	P	**P**	07 18 04.8	+1.0
	0.3nm,0.2s,baz=309,slow=12,SNR=20						
ASAR	**Alice Springs**	**19.35**	**143**	P	**P**	07 18 30.9	+1.6
	1.8nm,0.7s,baz=331,slow=12,SNR=11						
STKA	**Stephens Creek**	**29.98**	**144**	P	**P**	07 20 10.9	+2.2
	0.9nm,0.5s,baz=319,slow=9.3,SNR=2.9						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**65.02**	**331**	P	**P**	07 24 37.0	-0.5
	0.1nm,0.4s,baz=138,slow=6.7,SNR=2.1						
	0.1nm,0.4s						

IDC 19 07:26:03.0±4.5, 39°.27N×109°.26E, h0km, mb3.4/3, mbtmp3.4/4, ML2.9/1, Error ellipse: s-maj=96.6km s-min=22.7km az=87.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**8.81**	**347**	Pn	**Pn**	07 28 11.5	-0.3
	0.1nm,0.3s,baz=163,slow=16,SNR=4.4						
SONM				Sn	Sn	07 29 52.2	+0.3
	0.1nm,0.3s,baz=166,slow=19,SNR=3.2						
SONM				Lg	Lg	07 30 42.7	
	0.1nm,0.3s,baz=170,slow=30,SNR=3.8						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**21.03**	**300**	P	P	07 30 48.7	+0.4
	0.5nm,0.8s,baz=94,slow=11,SNR=5.2						
	0.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**22.59**	**206**	P	P	07 31 04.8	-0.3
	1.4nm,0.3s,baz=12,slow=9.2,SNR=8.0						
	1.4nm,0.3s						
KURBB	**Kurchatov Arra**	**24.36**	**308**	P	P	07 31 22.8	+0.2
	0.8nm,0.9s,baz=105,slow=8.7,SNR=4.4						
	0.8nm,0.9s						

*IDC **19** 07:28:34.8±1.6, 4°.94S×102°.83E, h0km, mb4.0/10, mbtmp4.0/10, Error ellipse: s-maj=84.9km s-min=15.5km az=54.0*
*NEIC **19** 07:28:40.9±2.2, 5°.08S±0°.06×102°.6E±0°.1, h50km±9km, mb4.3/14, Error ellipse: s-maj=18.3km s-min=5.1km az=114.0*
*DJA **19** 07:28:43.1±0.3, 5°.5S±3°×10°.3E±°, h40km±9km, M4.3/12, mb4.3/6, mB5.3/1, MLv4.3/12, Mw(mB)4.7/1*
ISC 19 07:28:42.5±0.7, 5°.00S±0°.09×102°.94E±0°.09, h59km, n59, σ1§17/51, mb4.1/18, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.63**	**2**	P	**Pn**	07 28 56.0	+0.1
MNAI				Sn	**Sn**	07 29 06.5	+0.9
MNAI	**Manna**	**0.63**	**2**	P	**Pn**	07 28 56.2	+0.3
MNAI				S	**Sn**	07 29 05.9	+0.3
LWLI	**Liwa**	**1.12**	**91**	P	**Pn**	07 29 02.0	-0.2
LWLI				S	**Sn**	07 29 14.8	-2.0
LHSI	**Lahat**	**1.30**	**27**	P	**Pn**	07 29 05.1	+0.6
KASI	**Kota Agung**	**1.64**	**109**	P	**Pn**	07 29 09.1	0.0
KASI				S	**Sn**	07 29 27.4	-1.8
CGJI	**Cibinong**	**3.18**	**121**	P	**Pn**	07 29 29.5	-0.6
PPSI	**Pulau Pagai**	**3.67**	**307**	P	**Pn**	07 29 38.8	+2.1
PDSI	**Padang**	**4.75**	**329**	P	**Pn**	07 29 52.9	+1.3
SISI	**Saibi**	**5.29**	**313**	P	**Pn**	07 29 59.3	+0.2
	23nm,0.9s,0.2nm						
CMJI	**Cimerak**	**6.14**	**117**	P	**Pn**	07 30 11.3	+0.6
	21nm,0.6s,0.2nm						
KPJI	**Karang Pucung**	**6.40**	**112**	P	**Pn**	07 30 15.6	+1.4
	7.5nm,0.6s,1nm						
PWJI	**Pegerwojo**	**9.31**	**109**	P	**Pn**	07 30 55.8	+1.7
	8.9nm,0.4s						
IPM	**Ipoh**	**9.60**	**349**		Pn	07 30 54.2	-3.9
KULM	**Kulim**	**10.47**	**347**	Pn	Pn	07 31 07.0	-3.0
JAGI	**Jajag, Banyuwa**	**11.66**	**108**	P	**Pn**	07 31 26.2	-0.1
	13nm,0.8s,1µm						
PLAI	**Plampang**	**15.21**	**105**	P	**Pn**	07 32 16.4	+2.5
	23nm,0.8s						
EDFI	**Ende, Flores**	**18.99**	**102**	P	**P**	07 33 00.2	+0.6
CMAR	**Chiang Mai Arr**	**23.63**	**351**	P	**P**	07 33 47.3	-1.3
	1.3nm,0.3s,baz=190,slow=8.2,SNR=2.3						
	1.3nm,0.3s						
FITZ	**Fitzroy Crossi**	**25.73**	**122**	P	**P**	07 34 08.3	+0.6
MTN	**Manton Dam**	**28.90**	**108**	P	**P**	07 34 35.7	-0.5
MTN				IAmb	IAmb	07 34 42.2	
	comp=Z,16nm,1.3s						
H08S2	**Diego Garcia H**	**30.37**	**263**	T	T	08 06 57.1	
	baz=86,slow=76,SNR=5.3						
H08S3	**Diego Garcia H**	**30.38**	**263**	T	T	08 06 54.8	
	baz=86,slow=76,SNR=5.7						
H08S1	**Diego Garcia H**	**30.39**	**263**	T	T	08 06 58.9	
	baz=86,slow=76,SNR=5.3						
H01W3	**Cape Leeuwin H**	**31.50**	**162**	T	T	08 08 26.3	
	baz=340,slow=76,SNR=4.1						
H01W2	**Cape Leeuwin H**	**31.51**	**162**	T	T	08 08 20.1	
	baz=340,slow=76,SNR=4.5						
H01W1	**Cape Leeuwin H**	**31.51**	**162**	T	T	08 08 21.2	
	baz=340,slow=76,SNR=5.2						
WB0	**Warramunga Arr**	**33.96**	**118**	P	**P**	07 35 20.2	-0.4
WB0				IAmb	IAmb	07 35 32.1	
	comp=Z,6.9nm,1.4s						
WRA	**Warramunga Arr**	**33.98**	**119**	P	**P**	07 35 20.1	-0.7
WRA	**Warramunga Arr**	**33.98**	**119**	P	**P**	07 35 20.9	+0.1
	comp=Z,0.8nm,0.5s,baz=306,slow=8.7,SNR=19						
	comp=Z,0.8nm,0.5s						
WB2	**Warramunga Arr**	**33.99**	**119**	P	**P**	07 35 21.1	+0.3
WR0	**Warramunga Arr**	**34.16**	**119**	P	**P**	07 35 22.4	+0.1
WR0				IAmb	IAmb	07 35 44.1	
	comp=Z,6.7nm,1.4s						
AS31	**Alice Springs**	**35.14**	**125**	P	**P**	07 35 31.7	+0.9
AS31				IAmb	IAmb	07 35 32.9	
	comp=Z,0.9nm,0.7s						
ASAR	**Alice Springs**	**35.14**	**125**	P	**P**	07 35 31.4	+0.6
ASAR	**Alice Springs**	**35.14**	**125**	P	**P**	07 35 31.6	+0.7
	comp=Z,1.6nm,0.6s,baz=294,slow=7.1,SNR=26						
ASAR				PcP	**PcP**	07 38 02.0	+0.8
	comp=Z,0.4nm,0.6s,baz=308,slow=2.6,SNR=4.3						
	comp=Z,1.6nm,0.6s						
CTAO	**Charters Tower**	**44.70**	**114**	P	**P**	07 36 49.9	-0.2
STKA	**Stephens Creek**	**44.98**	**131**	P	**P**	07 36 53.7	+1.5
STKA	**Stephens Creek**	**44.98**	**131**	P	**P**	07 36 53.4	+1.2
	comp=Z,1.5nm,0.4s,baz=319,slow=5.4,SNR=8.0						
	comp=Z,1.5nm,0.4s						
SONM	**Songino Array**	**52.69**	**3**	P	**P**	07 37 51.0	-0.1
	comp=Z,0.7nm,0.5s,baz=177,slow=9.5,SNR=5.9						
SONM				PcP	**PcP**	07 39 00.1	-0.1
	comp=Z,0.3nm,0.3s,baz=188,slow=4.6,SNR=4.1						
	comp=Z,0.7nm,0.5s						
MK31	**Makanchi Array**	**54.71**	**343**	P	**P**	07 38 05.7	-0.1
MK31				IAmb	IAmb	07 38 06.4	
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**54.71**	**343**	P	**P**	07 38 05.5	-0.2
MKAR	**Makanchi Array**	**54.71**	**343**	P	**P**	07 38 05.7	-0.1
	comp=Z,1.1nm,0.7s,baz=141,slow=7.8,SNR=14						
	comp=Z,1.1nm,0.7s						
KURBB	**Kurchatov Arra**	**59.26**	**342**	P	**P**	07 38 37.7	-0.1
	comp=Z,0.4nm,0.3s,baz=161,slow=6.3,SNR=3.4						
	comp=Z,0.4nm,0.3s						
KURK	**Kurchatov**	**59.31**	**342**	P	**P**	07 38 35.1	-3.0
KURK				IAmb	IAmb	07 38 59.6	
	comp=Z,2.9nm,1.4s						
GEYT	**Alibeck**	**59.61**	**320**	P	**P**	07 38 37.3	-3.3
GEYT				IAmb	IAmb	07 38 40.3	
	comp=Z,2.8nm,1.1s						
GYA0B	**ALIBECK ARRAY**	**59.61**	**320**	P	**P**	07 38 38.1	-2.5
H04N2	**CROZET ISLANDS**	**60.22**	**219**	T	T	08 43 20.9	
	baz=62,slow=75,SNR=27						
H04N1	**CROZET ISLANDS**	**60.23**	**219**	T	T	08 43 30.8	
	baz=62,slow=75,SNR=28						
H04N3	**CROZET ISLANDS**	**60.24**	**219**	T	T	08 43 19.0	
	baz=62,slow=75,SNR=23						
H04S1	**CROZET ISLANDS**	**60.46**	**218**	T	T	08 43 33.9	
	baz=62						
H04S3	**CROZET ISLANDS**	**60.47**	**218**	T	T	08 43 35.4	
	baz=62,slow=74,SNR=12						
H04S2	**CROZET ISLANDS**	**60.48**	**218**	T	T	08 43 38.3	
	baz=62,slow=74,SNR=4.9						
ZAA0	**Zalesovo Array**	**60.66**	**348**	P	**P**	07 38 46.5	-0.9
ZAA0				IAmb	IAmb	07 38 49.7	
	comp=Z,1.9nm,0.5s						
ZALV	**Zalesovo Beam**	**60.66**	**348**	P	**P**	07 38 46.8	-0.6
ZALV	**Zalesovo Beam**	**60.66**	**348**	P	**P**	07 38 46.4	-0.9
	comp=Z,1.8nm,0.4s,baz=160,slow=5.8,SNR=9.2						
	comp=Z,1.8nm,0.4s						
BVAR	**Borovoye Array**	**64.00**	**339**	P	**P**	07 39 08.7	-1.0
	comp=Z,1.4nm,0.6s,baz=140,slow=11,SNR=8.9						
	comp=Z,1.4nm,0.6s						
ABKAR	**Akbulak array**	**65.66**	**331**	P	**P**	07 39 20.1	-0.5
FINES	**FINESS Array B**	**88.11**	**332**	P	**P**	07 41 27.4	+0.9
FINES	**FINESS Array B**	**88.11**	**332**	P	**P**	07 41 27.0	+0.5
	comp=Z,0.6nm,0.4s,baz=114,slow=4.6,SNR=8.7						
	comp=Z,0.6nm,0.4s						
TXAR	**Lajitas Array**	**145.08**	**43**	PKPbc	**PKPbc**	07 48 14.2	+0.5
	comp=Z,0.5nm,0.4s,baz=252,slow=0.6,SNR=14						

*IDC **19** 07:57:42.3±1.2, 6°.13S×142°.52E, h0km, mb3.9/5, mbtmp3.9/7, ML3.8/2, Error ellipse: s-maj=59.8km s-min=23.6km az=95.0*
ISC 19 07:57:43.6±1.0, 6°.2S±0°.1×142°.7E±0°.1, h10km, n9, σ1§27/8, mb4.0/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.48**	**126**	Sn	**Sn**	08 00 07.8	-0.8
	1.5nm,0.3s,baz=297,slow=23,SNR=1.2						
CTA	**Charters Tower**	**14.23**	**166**	Lg	Lg	08 05 15.6	
	0.1nm,0.3s,baz=262,slow=1.2,SNR=2.1						
WRA	**Warramunga Arr**	**15.86**	**210**	Pn	**Pn**	08 01 25.4	-1.7
	0.3nm,0.3s,baz=22,slow=13,SNR=10.0						
WRA				Sn	Sn	08 04 09.3	-14
	0.1nm,0.3s,baz=35,slow=16,SNR=1.9						
WRA				Lg	Lg	08 06 05.2	
	0.3nm,0.3s,baz=20,slow=26,SNR=4.9						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**19.29**	**205**	P	**P**	08 02 09.7	+0.9
	0.6nm,0.3s,baz=34,slow=9.2,SNR=34						
ASAR				Lg	Lg	08 07 52.7	
	baz=16,slow=28,SNR=1.2						
	2.6nm,0.5s						
STKA	**Stephens Creek**	**25.55**	**182**	P	**P**	08 03 13.5	+0.8
	2.2nm,0.8s,baz=334,slow=9.5,SNR=3.2						
	2.2nm,0.8s						
MKAR	**Makanchi Array**	**74.95**	**322**	P	**P**	08 09 23.8	-1.3
	0.4nm,0.8s,baz=98,slow=10,SNR=2.5						
	0.4nm,0.8s						
QSPA	**South Pole Qui**	**83.76**	**180**	P	**P**	08 10 14.0	+1.1
	0.8nm,0.8s,baz=156,slow=19,SNR=1.6						
	0.8nm,0.8s						
BVAR	**Borovoye Array**	**84.42**	**325**	P	**P**	08 10 16.9	+0.5
	0.9nm,0.5s,baz=104,slow=6.3,SNR=6.3						
	0.9nm,0.5s						
ILAR	**Eielson Array**	**87.40**	**24**	P	**P**	08 10 31.0	+0.1
	1.0nm,0.7s,baz=254,slow=4.9,SNR=13						
	1.0nm,0.7s						

IDC 19 08:26:07.4±2.3, 0°.00S×127°.50E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=180.3km s-min=28.8km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.92**	**162**	P	P	08 30 51.1	-0.6
	1.5nm,0.6s,baz=340,slow=12,SNR=5.0						
	1.5nm,0.6s						
ASAR	**Alice Springs**	**24.33**	**166**	P	P	08 31 27.5	+0.4
	0.7nm,0.7s,baz=346,slow=11,SNR=13						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**61.05**	**326**	P	P	08 36 23.0	-0.1
	0.3nm,0.8s,baz=131,slow=5.4,SNR=1.7						
	0.3nm,0.8s						

IDC 19 08:33:10.2±52.0, 16°.51S×179°.37W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=948.3km s-min=148.2km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.52**	**239**	P	P	08 40 34.2	-0.3
	1.2nm,0.5s,baz=98,slow=9.3,SNR=6.6						
	1.2nm,0.5s						
WRA	**Warramunga Arr**	**44.00**	**258**	P	P	08 41 19.9	+0.2
	0.4nm,0.2s,baz=91,slow=7.8,SNR=20						
	0.4nm,0.2s						
ASAR	**Alice Springs**	**44.30**	**253**	P	P	08 41 21.9	-0.3
	4.2nm,0.5s,baz=88,slow=8.4,SNR=104						
	4.2nm,0.5s						

RSNC 19 08:59:49.1±0.0, 12°N±1°×77°W±°, h6km±1km, M2.1, ML2.1, MLv2.8, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRJC	**Cerrejon, Guaj**	**1.05**	**200**	P	Pg	09 00 07.1	-2.1
CRJC				S	Sg	09 00 21.7	-1.1
CRJC	**Cerrejon, Guaj**	**1.05**	**200**	P	Pg	09 00 07.2	-2.0
CRJC				S	Sg	09 00 21.8	-1.0
ARGC	**Ariguani, Magd**	**2.73**	**219**	P	Pn	09 00 32.8	-0.7
ARGC				S	Sn	09 01 03.3	-3.5
LL7C	**La Loma 7 Curu**	**2.80**	**199**	P	Pn	09 00 31.4	-3.1
SJCC	**San Jacinto, C**	**3.35**	**231**	P	Pn	09 00 38.5	-3.6
SJCC	**San Jacinto, C**	**3.35**	**231**	P	Pn	09 00 39.4	-2.7
SJCC				S	Sn	09 01 14.2	-8.1
AGCC	**Aguachica**	**3.63**	**197**	P	Pn	09 00 43.1	-2.8

*IDC **19** 09:03:53.4±0.7, 32°.57S×71°.56W, h0km, mb4.3/10, mbtmp4.2/15, ML4.2/5, MS3.6/13, Error ellipse: s-maj=25.3km s-min=15.7km az=100.0*
*SJA **19** 09:03:56.6±0.6, 32°.64S×71°.68W, h30km±3km, ML4.3, MW4.6*
*NEIC **19** 09:03:57.7±1.1, 32°.62S±0°.03×71°.72W±0°.04, h29km±3km, mb4.6/12, Mwr4.2/86, Error ellipse: s-maj=5.2km s-min=4.5km az=69.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.83; Mθθ0.18; Mϕϕ-2.01; Mrθ0.28; Mθϕ-0.18; Mϕr~1.94; Fault plane solution: M₀2.75000×10¹⁵ NP1:φs175.14000°, δ67.96000°, λ82.00000°. NP2:φs15.67000°, δ23.38000°, λ108.97000°. Principal axes: T 2.6814, Plg66.0000°, Azm71.0000°; N 0.1350, Plg7.0000°, Azm178.0000°; P -2.8164, Plg23.0000°, Azm271.0000°;*
*NEIC **19** 09:03:58.1, 32°.62S×71°.73W, h32km*
*GUC **19** 09:03:59.1±0.9, 32°.71S×71°.63W, h32km±5km, ML4.0*
*VAO **19** 09:04:18.7±1.3, 32°.08S×70°.81W, h179km, mb4.2*
ISC 19 09:03:57.2±0.8, 32°.61S±0°.02×71°.70W±0°.03, h28km±6km, n154, σ1§29/164, mb4.5/13, MS3.7/11, 3C-9D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.34**	**81**	Pg	**Pn**	09 04 05.8	-0.5
VA06					**Sn**	09 04 11.6	-0.7
VA06	**Catapilco**	**0.34**	**81**	*e*P	**Pn**	09 04 06.0	-0.3
VA06				*e*S	**Sn**	09 04 11.4	-0.9
VA01	**Torpederas**	**0.41**	**174**		**Pb**	09 04 06.2	0.0
VA01					**Sb**	09 04 12.2	0.0
VA01	**Torpederas**	**0.41**	**174**	*e*P	**Pb**	09 04 06.0	-0.1
VA01	**Torpederas**	**0.41**	**174**	*e*P	**Pb**	09 04 05.9	-0.2
VA01				*e*S	**Sb**	09 04 11.8	-0.4
ROC1	**El Roble**	**0.68**	**122**	*e*P	**Pb**	09 04 10.0	-0.7
ROC1				*e*S	**Sn**	09 04 20.4	-0.6
ROCH	**El Roble**	**0.68**	**122**	*e*P	**Pb**	09 04 10.7	0.0
ROCH				*e*S	**Sb**	09 04 19.6	-0.3
ROCH				IAML		09 04 21.1	
	comp=N,19µm,0.8s						
MT02	**Curacav**	**0.80**	**144**		**Pb**	09 04 11.8	-0.7
MT02	**Curacav**	**0.80**	**144**	*e*P	**Pb**	09 04 12.0	-0.5
MT02				IAML		09 04 26.1	
	comp=Z,5µm,0.7s						
MT02	**Curacav**	**0.80**	**144**	*e*P	**Pb**	09 04 12.0	-0.5
MT02				*e*S	**Sb**	09 04 22.0	-1.0
VA03	**San Esteban**	**0.98**	**99**		**Pn**	09 04 15.1	-0.1
VA03	**San Esteban**	**0.98**	**99**	*e*P	**Pn**	09 04 15.2	-0.1
VA03				IAML		09 04 34.0	
	comp=Z,3µm,0.5s						
VA03	**San Esteban**	**0.98**	**99**	*e*P	**Pn**	09 04 15.1	-0.1
VA03				*e*S	**Sb**	09 04 28.2	-0.1
VA03				IAML		09 04 29.7	
	comp=E,9µm,0.3s						
PEL	**Peldehue**	**1.00**	**122**		**Pb**	09 04 15.7	-0.3
PEL					**Sb**	09 04 29.2	+0.3
PEL	**Peldehue**	**1.00**	**122**	*e*P	**Pb**	09 04 15.7	-0.3
PEL				*e*S	**Sb**	09 04 30.1	+1.2
PEL	**Peldehue**	**1.00**	**122**	*e*P	**Pb**	09 04 15.8	-0.3
PEL				*e*S	**Sn**	09 04 28.5	-0.3
PEL				IAML		09 04 30.7	
	comp=N,8µm,0.3s						
PEL				IAML		09 04 31.8	
	comp=E,8µm,0.2s						
VA05	**Santo Domingo**	**1.04**	**176**		**Pn**	09 04 15.8	-0.2
VA05	**Santo Domingo**	**1.04**	**176**	*e*P	**Pn**	09 04 15.8	-0.2
VA05				*e*S	**Sn**	09 04 28.4	-1.2
VA05				IAML		09 04 35.5	
	comp=E,8µm,0.6s						
MT05	**Renca**	**1.12**	**134**		**Pb**	09 04 17.7	-0.3
MT05	**Renca**	**1.12**	**134**	*e*P	**Pb**	09 04 17.6	-0.3
MT05				*e*S	**Sb**	09 04 33.9	+1.7
MT05				IAML		09 04 35.0	
	comp=Z,5µm,0.7s						
MT05	**Renca**	**1.12**	**134**	*e*P	**Pb**	09 04 17.6	-0.3
MT05				*e*S	**Sn**	09 04 30.1	-1.5
MT05				IAML		09 04 35.0	
	comp=E,9µm,0.2s						
MT14	**Cerro Calµn**	**1.25**	**129**	*e*P	**Pb**	09 04 19.6	-0.6
MT14				*e*S

BO04	**La Punta**	**1.65**	**147**	*eP*		**Pn**	**09 04 25.3**	**+1.0**
BO04				*eS*		**Sn**	**09 04 44.8**	**+0.2**
BO04				IAML			09 04 49.8	
	comp=N,4µm,0.5s							
LMEL	**Las Melosas**	**1.76**	**135**			**Pb**	**09 04 27.5**	**-1.4**
LMEL	**Las Melosas**	**1.76**	**135**	*eP*		**Pb**	**09 04 27.4**	**-1.4**
LMEL				*eS*		**Sn**	**09 04 48.4**	**+0.9**
LMEL				IAML			09 04 58.5	
	comp=N,4µm,0.6s							
BO01	**Tunca**	**1.85**	**164**			**Pn**	**09 04 27.6**	**+0.6**
BO01	**Tunca**	**1.85**	**164**	*eP*		**Pn**	**09 04 27.9**	**+0.8**
BO01				IAML			09 05 01.6	
	comp=Z,2µm,0.8s							
BO01	**Tunca**	**1.85**	**164**	*eP*		**Pn**	**09 04 27.5**	**+0.6**
BO01				*eS*		**Sn**	**09 04 49.0**	**-0.5**
BO01				IAML			09 04 56.4	
	comp=E,1µm,0.5s							
BO01				IAML			09 05 00.9	
	comp=N,1µm,0.3s							
CO06	**Fray Jorge**	**1.93**	**2**			**Pn**	**09 04 28.6**	**+0.3**
CO06	**Fray Jorge**	**1.93**	**2**	*eP*		**Pn**	**09 04 28.5**	**+0.3**
CO06				*eS*		**Sn**	**09 04 51.6**	**0.0**
CO06				IAML			09 05 03.5	
	comp=E,4µm,0.2s							
CO03	**El Pedregal**	**1.97**	**26**	Pn		**Pn**	**09 04 30.5**	**+1.8**
CO03	**El Pedregal**	**1.97**	**26**	*eP*		**Pn**	**09 04 30.5**	**+1.8**
CO03				IAML			09 05 00.3	
	comp=Z,6µm,0.8s							
CO03	**El Pedregal**	**1.97**	**26**	*eP*		**Pn**	**09 04 30.3**	**+1.6**
CO03				*eS*		**Sn**	**09 04 53.7**	**+1.1**
RTLS	**Leoncito**	**2.19**	**69**	*eP*		**Pb**	**09 04 36.2**	**-0.2**
RTLS				IAML			09 05 15.3	
	comp=Z,4µm,0.8s							
BO02	**Sierra Bellavi**	**2.31**	**161**			**Pn**	**09 04 34.5**	**+1.0**
BO02	**Sierra Bellavi**	**2.31**	**161**	*eP*		**Pn**	**09 04 34.4**	**+1.0**
BO02				IAML			09 05 15.3	
	comp=Z,2µm,0.8s							
ARCO	**CERRO ARCO**	**2.34**	**96**	*eP*		**Pb**	**09 04 38.9**	**0.0**
ARCO				IAML			09 05 22.0	
	comp=Z,2µm,1.0s							
GO05	**Huala**	**2.40**	**185**	Pn		**Pn**	**09 04 34.2**	**-0.4**
GO05	**Huala**	**2.40**	**185**	*eP*		**Pn**	**09 04 34.1**	**-0.6**
ASAL	**Salagasta**	**2.42**	**90**	*eP*		**Pb**	**09 04 39.8**	**-0.2**
ASAL				IAML			09 05 24.3	
	comp=Z,1µm,1.0s							
AAGR	**Agrelo**	**2.46**	**102**	*eP*		**Pb**	**09 04 40.5**	**-0.4**
AAGR				IAML			09 05 25.1	
	comp=Z,987nm,0.7s							
GO04	**Tololo Observa**	**2.55**	**18**			**Pn**	**09 04 38.8**	**+1.9**
GO04	**Tololo Observa**	**2.55**	**18**	*eP*		**Pn**	**09 04 38.9**	**+1.9**
CO05	**La Serena**	**2.71**	**8**			**Pn**	**09 04 39.8**	**+0.8**
DOCA	**Reserva Natura**	**2.78**	**54**	*eP*		**Pb**	**09 04 43.8**	**-2.6**
RTCV	**Cerro Valdivia**	**2.78**	**75**	*eP*		**Pb**	**09 04 44.9**	**-1.3**
AVIZ	**Vizcacheras**	**2.81**	**109**	*eP*		**Pb**	**09 04 44.6**	**-2.1**
SJA	**San Juan**	**2.88**	**69**	*eP*		**Pb**	**09 04 47.5**	**-0.4**
SJA				IAML			09 05 35.8	
	comp=Z,852nm,0.9s							
CO01	**Juntas del Tor**	**2.96**	**28**			**Pn**	**09 04 44.8**	**+2.2**
CO01	**Juntas del Tor**	**2.96**	**28**	*eP*		**Pn**	**09 04 45.0**	**+2.4**
CO01				IAML			09 05 31.4	
	comp=Z,1µm,0.7s							
ACCO	**Cerro Coronel**	**3.02**	**49**	*eP*		**Pb**	**09 04 47.5**	**-3.0**
ACCO				*eS*		**Sb**	**09 05 32.7**	**+5.6**
ACCO				IAML			09 05 41.2	
	comp=Z,1µm,0.6s							
RTLL	**Cerro Villicun**	**3.02**	**66**	*eP*		**Pn**	**09 04 40.0**	**-3.3**
RTLL				IAML			09 05 38.6	
	comp=Z,946nm,0.8s							
AROD	**Rodeo**	**3.09**	**39**	*eP*		**Pb**	**09 04 48.2**	**-3.6**
ML02	**Panimavida**	**3.15**	**176**			**Pn**	**09 04 45.0**	**+0.1**
ACDV	**Cuesta del Vie**	**3.29**	**43**	*eP*		**Pb**	**09 04 51.2**	**-3.7**
ACDV				IAML			09 05 43.1	
	comp=Z,969nm,0.7s							
RFA	**San Rafael**	**3.45**	**129**	*eP*		**Pn**	**09 04 52.3**	**+3.2**
RFA				*eS*		Sn	09 05 14.9	-14
RFA				IAML			09 05 52.6	
	comp=Z,432nm,1.3s							
LCO	**Las Campanas**	**3.69**	**14**	Pn		**Pn**	**09 04 53.6**	**+0.9**
LCO	**Las Campanas**	**3.69**	**14**	*eP*		**Pn**	**09 04 53.7**	**+1.1**
AGUA	**GUANDACOL**	**4.16**	**42**	*eP*		**Pn**	**09 05 02.8**	**+3.9**
AGUA				IAML			09 06 15.9	
	comp=Z,1µm,1.0s							
BI05	**Punta Hualpn**	**4.30**	**196**	Pn		**Pn**	**09 04 59.6**	**-1.2**
AC04	**Llanos de Chal**	**4.43**	**7**	Pn		**Pn**	**09 05 02.3**	**-0.2**
AC04	**Llanos de Chal**	**4.43**	**7**	*eP*		**Pn**	**09 05 02.5**	**0.0**
AC04				IAML			09 06 20.1	
	comp=Z,760nm,0.5s							
VCA	**Vinchina**	**4.90**	**39**	*eP*		**Pn**	**09 05 12.7**	**+3.5**
APLL	**PUNTA DE LOS L**	**4.94**	**65**	*eP*		**Pn**	**09 05 12.8**	**+3.2**
GO03	**Copiap**	**5.16**	**15**	*eP*		**Pn**	**09 05 13.8**	**+1.1**
H03N1	**Juan Fernandez**	**6.11**	**260**	T		T	09 12 03.3	
	baz=87,slow=73,SNR=1816							
H03N3	**Juan Fernandez**	**6.12**	**260**	T		T	09 12 00.4	
	baz=87,slow=73,SNR=1746							
H03N2	**Juan Fernandez**	**6.13**	**260**	T		T	09 11 54.9	
	baz=87,slow=73,SNR=2118							
H03S1	**Juan Fernandez**	**6.16**	**257**	T		T	09 11 46.2	
	baz=82,slow=75,SNR=19							
H03S3	**Juan Fernandez**	**6.16**	**257**	T		T	09 11 51.7	
	baz=82,slow=75,SNR=25							
H03S2	**Juan Fernandez**	**6.18**	**257**	T		T	09 11 51.8	
	baz=82,slow=75,SNR=36							
GO02	**Mina Guanaco**	**7.65**	**15**	Pn		**Pn**	**09 05 45.8**	**-1.3**
PLCA	**Paso Flores**	**8.16**	**174**	Pn		**Pn**	**09 05 54.5**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=334,slow=12,SNR=22							
PLCA				LR		LR	09 09 07.7	
	comp=Z,224nm,18.5s,baz=346,slow=38							
	comp=Z,1.5nm,0.3s							
TRQA	**Tornquist**	**9.62**	**127**	Pn		**Pn**	**09 06 15.5**	**+1.8**
LVC	**Limon Verde**	**10.27**	**15**	Pn		**Pn**	**09 06 20.4**	**-2.6**
	comp=Z,0.6nm,0.3s,baz=189,slow=9.1,SNR=6.3							
LVC				Sn		Sn	09 08 30.8	+13
	comp=Z,1.6nm,0.3s,baz=152,slow=6.2,SNR=4.7							
LVC				LR		LR	09 10 36.7	
	comp=Z,324nm,21.0s,baz=214,slow=40							
	comp=Z,1.0nm,0.3s							
LVC	**Limon Verde**	**10.27**	**15**	*eP*		Pn	09 06 32.8	+10
ITQB	**Itaqui**	**13.24**	**81**			**Pn**	**09 07 02.9**	**-0.4**
CPUP	**Villa Florida**	**13.99**	**67**	Pn		**Pn**	**09 07 12.8**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=236,slow=7.7,SNR=9.1							
CPUP				Sn		**Sn**	**09 09 47.0**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=164,slow=11,SNR=3.1							
	comp=Z,2.3nm,0.5s							
PB16	**IPOC Station P**	**14.35**	**8**			**Pn**	**09 07 20.5**	**+1.4**
CRSM	**Crissiumal (Br**	**16.11**	**76**	*eP*		**P**	**09 07 44.7**	**-0.1**
LPAZ	**La Paz**	**16.57**	**12**	Pn		**Pn**	**09 07 48.5**	**+0.3**
LPAZ	**La Paz**	**16.57**	**12**	Pn		**Pn**	**09 07 48.2**	**0.0**
	comp=Z,0.4nm,0.3s,baz=189,slow=7.8,SNR=14							
	comp=Z,2.9nm,0.7s							
MURT	**Porto Murtinho**	**16.60**	**52**	*eP*		**P**	**09 07 49.6**	**-0.7**
BBSD	**Serra de San D**	**18.34**	**36**	*eP*		**Pn**	**09 08 10.0**	**+0.5**
AQDB	**Aquidauana**	**18.71**	**54**	*eP*		**Pn**	**09 08 14.1**	**+0.1**
SIV	**San Ignacio**	**19.15**	**33**	P		**P**	**09 08 17.4**	**-1.0**
	baz=210,slow=11,SNR=21							
	comp=Z,3.2nm,0.6s							
LDASE	**Londrina, Braz**	**20.33**	**68**	*eP*		**P**	**09 08 30.7**	**-0.7**
PTLB	**Pontes e Lacer**	**20.55**	**37**	P		**P**	**09 08 33.6**	**0.0**
PTLB	**Pontes e Lacer**	**20.55**	**37**	*eP*		**P**	**09 08 33.4**	**-0.2**
NNA	**Nana**	**21.07**	**346**	LR		LR	09 14 44.4	
	comp=Z,81nm,20.4s,baz=164,slow=31							
SALV	**Santo Antonio**	**22.08**	**45**	*eP*		**P**	**09 08 49.2**	**-1.0**
VILB	**Vilhena**	**22.22**	**31**	P		**P**	**09 08 51.5**	**-0.2**
VILB				IAmb		IAmb	09 08 53.6	
	comp=Z,16nm,0.8s							
VILB	**Vilhena**	**22.22**	**31**	*eP*		**P**	**09 08 50.9**	**-0.8**
ITRB	**Iturama**	**23.01**	**61**	*eP*		**P**	**09 08 59.9**	**-0.2**
ETMB	**Extrema**	**23.25**	**14**	IAmb		IAmb	09 09 04.8	
	comp=Z,12nm,0.9s							
ETMB	**Extrema**	**23.25**	**14**	*eP*		**P**	**09 09 03.0**	**+0.6**
BB19B	**Bebedouro**	**23.61**	**67**	*eP*		**P**	**09 09 04.7**	**-1.2**
CZSB	**Cruzeiro do Su**	**24.78**	**358**	*eP*		**P**	**09 09 21.1**	**+4.4**
SAML	**Samuel**	**24.83**	**20**	P		**P**	**09 09 17.2**	**0.0**
SAML	**Samuel**	**24.83**	**20**	*eP*		**P**	**09 09 17.4**	**+0.2**
PDRB	**Porto dos Gac**	**25.02**	**37**	*eP*		**P**	**09 09 18.6**	**-0.4**
ATAH	**Atahualpa**	**26.10**	**345**	LR		LR	09 18 01.9	
	comp=Z,60nm,18.4s,baz=171,slow=32							
BDFB	**Brasilia**	**27.34**	**57**	P		**P**	**09 09 39.0**	**-1.0**
BDFB				IAmb		IAmb	09 09 40.4	
	comp=Z,18nm,1.2s							
BDFB	**Brasilia**	**27.34**	**57**	P		**P**	**09 09 39.6**	**-0.4**
	comp=Z,9.7nm,0.9s,baz=230,slow=7.6,SNR=11							
BDFB				LR		LR	09 21 31.0	
	comp=Z,266nm,21.3s,baz=315,slow=39							
	comp=Z,9.7nm,0.9s							

SNDB	**Serra Nova Dou**	**27.80**	**47**	*eP*		**P**	**09 09 44.8**	**+0.8**
TBTG	**Tabatinga, AM**	**28.33**	**4**	*eP*		**P**	**09 09 50.3**	**+1.6**
RPN	**Rapa Nui**	**32.97**	**270**	LR		LR	09 20 01.2	
	comp=Z,157nm,20.6s,baz=138,slow=29							
NBLA	**Lagarto - SE**	**37.88**	**63**	*eP*		**P**	**09 11 10.5**	**-1.4**
NBAN	**Anadia - AL**	**39.86**	**63**	*eP*		**P**	**09 11 27.1**	**-1.5**
MDP	**Montagnes des**	**41.65**	**29**	LR		LR	09 31 00.8	
	comp=Z,89nm,20.1s,baz=166,slow=39							
SNAA	**Sanae**	**52.76**	**158**	P		**P**	**09 13 09.2**	**-0.1**
	comp=Z,5.5nm,1.0s,baz=268,slow=13,SNR=2.2							
	comp=Z,5.5nm,1.0s							
CMIG	**Matias Romero**	**54.17**	**332**	LR		LR	09 31 45.4	
	comp=Z,45nm,19.2s,baz=178,slow=31							
QSPA	**South Pole Qui**	**57.62**	**180**	P		**P**	**09 13 43.6**	**-0.9**
QSPA				IAmb		IAmb	09 13 46.3	
	comp=Z,8.2nm,0.9s							
QSPA	**South Pole Qui**	**57.62**	**180**	P		**P**	**09 13 45.5**	**+1.0**
	comp=Z,5.6nm,0.9s,baz=142,slow=2.1,SNR=16							
	comp=Z,5.6nm,0.9s							
VNDA	**Vanda**	**65.51**	**191**	P		**P**	**09 14 38.5**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=90,slow=6.1,SNR=1.3							
	comp=Z,0.5nm,0.7s							
TXAR	**Lajitas Array**	**68.67**	**330**	P		**P**	**09 14 58.9**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=154,slow=7.5,SNR=6.5							
TXAR				LR		LR	09 40 27.3	
	comp=Z,22nm,18.0s,baz=88,slow=32							
	comp=Z,0.5nm,0.7s							
SWET	**Sewanee**	**68.78**	**348**	P		**P**	**09 14 58.9**	**+0.3**
WVT	**Waverly**	**70.03**	**346**	P		**P**	**09 15 06.3**	**+0.1**
MAW	**Mawson**	**74.43**	**164**	P		**P**	**09 15 32.8**	**+0.6**
	comp=Z,3.2nm,0.6s,baz=259,slow=7.5,SNR=2.5							
	comp=Z,3.2nm,0.6s							
DBIC	**Dimbokro**	**74.47**	**71**	P		**P**	**09 15 31.9**	**-1.4**
	comp=Z,3.6nm,0.7s,baz=188,slow=6.9,SNR=4.7							
DBIC				LR		LR	09 45 57.8	
	comp=Z,37nm,19.2s,baz=236,slow=34							
	comp=Z,3.6nm,0.7s							
ECSD	**EROS Data Cent**	**79.32**	**342**	P		**P**	**09 16 00.1**	**+0.1**
ECSD				IAmb		IAmb	09 16 01.4	
	comp=Z,4.8nm,0.8s							
TSUM	**Tsumeb**	**79.32**	**106**	LR		LR	09 46 41.9	
	comp=Z,52nm,20.0s,baz=172,slow=32							
LBTB	**Lobatse**	**82.63**	**115**	LR		LR	09 51 19.1	
	comp=Z,28nm,18.3s,baz=184,slow=34							
NVAR	**Mina Array Bea**	**82.91**	**325**	P		**P**	**09 16 20.9**	**+1.4**
	comp=Z,6.6nm,0.7s,baz=155,slow=6.7,SNR=8.6							
	comp=Z,0.6nm,0.7s							
TOA0	**Torodi Ar. Sit**	**83.47**	**70**	P		**P**	**09 16 21.8**	**-0.8**
TORD	**Torodi Ar. Bea**	**83.47**	**70**	P		**P**	**09 16 22.2**	**-0.4**
TORD				IAmb		IAmb	09 16 23.3	
	comp=Z,6.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**83.47**	**70**	P		**P**	**09 16 22.6**	**0.0**
	comp=Z,4.5nm,0.8s,baz=281,slow=4.0,SNR=29							
TORD				LR		LR	09 51 28.7	
	comp=Z,38nm,19.9s,baz=147,slow=34							
	comp=Z,4.5nm,0.8s							
ULM	**Lac du Bonnet**	**85.24**	**345**	P		**P**	**09 16 30.1**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=95,slow=3.5,SNR=4.1							
	comp=Z,1.8nm,0.8s							
H11S2	**WAKE ISLAND Hyl**	**26.06**	**270**	T		T	11 41 53.6	
	baz=118,slow=75,SNR=202							
H11S1	**WAKE ISLAND Hyl**	**26.08**	**270**	T		T	11 41 54.7	
	baz=118,slow=75,SNR=320							
H11S3	**WAKE ISLAND Hyl**	**26.20**	**270**	T		T	11 41 55.2	
	baz=118,slow=75,SNR=246							
H11N3	**WAKE ISLAND Hyl**	**26.44**	**271**	T		T	11 42 25.9	
	baz=117,slow=76,SNR=39							
H11N1	**WAKE ISLAND Hyl**	**26.46**	**271**	T		T	11 42 21.6	
	baz=117,slow=76,SNR=22							
H11N2	**WAKE ISLAND Hyl**	**26.46**	**271**	T		T	11 42 24.7	
	baz=117,slow=76,SNR=79							
BVAR	**Borovoye Array**	**146.07**	**42**	PKPbc		**PKPab**	**09 23 34.5**	**-0.2**
	comp=Z,2.4nm,0.5s,baz=298,slow=2.6,SNR=13							
KURBB	**Kurchatov Arra**	**151.66**	**42**	PKPbc		**PKPbc**	**09 23 48.6**	**+0.2**
	comp=Z,6.6nm,0.8s,baz=299,slow=3.0,SNR=34							
KURBB				PKPab		**pPKPbc**	**09 23 58.0**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=296,slow=3.3,SNR=5.9							
ZALV	**Zalesovo Beam**	**152.90**	**31**	PKPbc		**PKPbc**	**09 23 51.1**	**0.0**
	comp=Z,5.7nm,0.7s,baz=301,slow=2.8,SNR=24							
MKAR	**Makanchi Array**	**155.63**	**47**	PKPab		**PKPab**	**09 24 14.0**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=297,slow=3.7,SNR=8.9							

*NOU **19** 09:43:36.2, 39.05S×178.65E, h92km, MLv3.6/8, Off E. Coast of N. Island, N.Z.*
*WEL **19** 09:43:40.7±0.8, 39.2°S±4.2°×17.8°E±1.1°, h35km±4km, M3.2/19, ML3.6/19, MLv3.2/19, Error ellipse: s-maj=0.0km s-min=0.0km az=117.4*

ISC 19 09:43:37.0±1.6, 39°03'S±0'04×178°51'E±0'07, h56km±11km, n112, σ1°9.48/123, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**0.49**	**255**	P	**Pn**	**09 43 50.8**	**+2.2**
PRGZ	**Paritu Road**	**0.50**	**282**	P	**Pn**	**09 43 49.7**	**+0.9**
PRGZ				S	**Sn**	**09 43 56.5**	**-0.7**
GKBS	**Kaiti Beach**	**0.51**	**313**	P	**Pn**	**09 43 50.0**	**+1.2**
GKBS				S	**Sn**	**09 43 57.4**	**+0.1**
GISC	**Gisborne 2ZG**	**0.53**	**313**	P	**Pn**	**09 43 49.6**	**-0.3**
GHHS	**Gisborne Hospi**	**0.55**	**315**	P	**Pn**	**09 43 49.1**	**-0.1**
GHHS				S	**Sn**	**09 43 57.1**	**-1.0**
CNGZ	**Carnagh Statio**	**0.59**	**336**	P	**Pn**	**09 43 51.2**	**+1.4**
GWTS	**Gisborne Waipa**	**0.61**	**311**	P	**Pn**	**09 43 49.6**	**-0.4**
GWTS				S	**Sn**	**09 43 58.7**	**-0.7**
RIGZ	**Rimuhau**	**0.67**	**299**	P	**Pn**	**09 43 51.3**	**+0.5**
RIGZ				S	**Sn**	**09 43 59.7**	**-1.0**
TBAS	**Tolaga Bay Are**	**0.68**	**346**	P	**Pn**	**09 43 53.2**	**+2.5**
TBAS				S	**Sn**	**09 43 59.4**	**-1.3**
TKGZ	**Te Karaka**	**0.78**	**318**	P	**Pn**	**09 43 52.6**	**+0.5**
TKGZ				S	**Sn**	**09 44 01.6**	**-1.6**
SNGZ	**Shannon Statio**	**0.95**	**285**	P	**Pn**	**09 43 54.9**	**+0.6**
SNGZ				S	**Sn**	**09 44 05.7**	**-1.3**
TWGZ	**Tauwhareparae**	**0.95**	**334**	P	**Pn**	**09 43 55.3**	**+1.0**
TWGZ				S	**Sn**	**09 44 06.6**	**-0.4**
PUZ	**Puketiti**	**0.98**	**348**	P	**Pn**	**09 43 55.8**	**+1.1**
PUZ				S	**Sn**	**09 44 07.3**	**-0.4**
WHHZ	**Waihua**	**0.99**	**267**	P	**Pn**	**09 43 56.3**	**+1.4**
RAGZ	**Rawiri**	**1.01**	**301**	P	**Pn**	**09 43 55.5**	**+0.4**
RAGZ				S	**Sn**	**09 44 06.4**	**-2.1**
MWZ	**Matawai**	**1.04**	**312**	P	**Pn**	**09 43 55.7**	**+0.2**
MWZ				S	**Sn**	**09 44 06.6**	**-2.5**
RAHZ	**Arahi**	**1.12**	**275**	P	**Pn**	**09 43 57.6**	**+1.1**
PKGZ	**Pakihiroa**	**1.19**	**343**	P	**Pn**	**09 43 58.7**	**+1.2**
ARHZ	**Aropaoanui**	**1.20**	**258**	P	**Pn**	**09 43 59.4**	**+1.8**
WMGZ	**Waiomatatini S**	**1.21**	**356**	P	**Pn**	**09 43 59.6**	**+1.8**
RUGZ	**Raukumara Rang**	**1.25**	**328**	P	**Pn**	**09 43 58.7**	**+0.3**
RTZ	**Ruatahuna**	**1.27**	**289**	P	**Pn**	**09 43 59.0**	**+0.5**
CKHZ	**Cape Kidnapper**	**1.28**	**240**	P	**Pn**	**09 44 00.6**	**+2.0**
MTHZ	**Maungataniwha**	**1.31**	**277**	P	**Pn**	**09 43 59.9**	**+0.7**
NMHZ	**Naumai**	**1.33**	**266**	P	**Pn**	**09 44 00.8**	**+1.3**
URZ	**Urewera**	**1.34**	**305**	P	**Pn**	**09 43 59.9**	**+0.4**
URZ	**Urewera**	**1.34**	**305**	P	**Pn**	**09 43 59.9**	**+0.4**
HAZ	**Te Kaha**	**1.39**	**336**	P	**Pn**	**09 44 00.9**	**+0.7**
MUGZ	**Murupara**	**1.47**	**291**	P	**Pn**	**09 44 01.8**	**+0.6**
MCHZ	**McNeill Hill**	**1.47**	**253**	P	**Pn**	**09 44 03.1**	**+1.9**
MXZ	**Matakaoa Point**	**1.47**	**354**	P	**Pn**	**09 44 03.0**	**+1.7**
MXZ	**Matakaoa Point**	**1.47**	**354**	P	**Pn**	**09 44 03.0**	**+1.7**
KAHZ	**Kahuranaki**	**1.48**	**238**	P	**Pn**	**09 44 03.4**	**+2.0**
BKZ	**Black Stump Fm**	**1.58**	**264**	P	**Pn**	**09 44 04.9**	**+2.2**
BKZ	**Black Stump Fm**	**1.58**	**264**	P	**Pn**	**09 44 04.0**	**+1.2**
PXZ	**Pawanui**	**1.62**	**231**	P	**Pn**	**09 44 04.9**	**+1.7**
MRHZ	**Matea Rd**	**1.65**	**276**	P	**Pn**	**09 44 04.8**	**+1.2**
KWHZ	**Kaweka Forest**	**1.67**	**256**	P	**Pn**	**09 44 05.6**	**+1.6**
RRRZ	**Republican Roa**	**1.71**	**293**	P	**Pn**	**09 44 05.2**	**+0.8**
PRRZ	**Plateau Road**	**1.74**	**287**	P	**Pn**	**09 44 05.9**	**+1.0**
ALRZ	**Allen Road**	**1.76**	**285**	P	**Pn**	**09 44 06.1**	**+0.9**
TARZ	**Mount Tarawera**	**1.76**	**296**	P	**Pn**	**09 44 06.1**	**+0.9**
KRHZ	**Kereru**	**1.77**	**249**	P	**Pn**	**09 44 07.0**	**+1.6**
MARZ	**Manawahe**	**1.78**	**305**	P	**Pn**	**09 44 06.0**	**+0.5**
HRRZ	**Handcock Road**	**1.85**	**289**	P	**Pn**	**09 44 07.6**	**+1.1**
HLRZ	**Highlands Stat**	**1.86**	**294**	P	**Pn**	**09 44 08.2**	**+1.6**
PRHZ	**Porangahau**	**1.90**	**229**	P	**Pn**	**09 44 08.5**	**+1.3**
WPHZ	**Waipukurau**	**1.91**	**236**	P	**Pn**	**09 44 08.7**	**+1.5**
HSRZ	**Hoissack Road**	**1.91**	**291**	P	**Pn**	**09 44 08.2**	**+0.9**
BHHZ	**Black Hill Sta**	**1.96**	**256**	P	**Pn**	**09 44 09.2**	**+1.3**
PNHZ	**Pukenui**	**2.00**	**243**	P	**Pn**	**09 44 09.7**	**+1.3**
ANWZ	**Angora Road**	**2.12**	**227**	P	**Pn**	**09 44 11.5**	**+1.4**
KUTZ	**Kaahu Road**	**2.17**	**284**	P	**Pn**	**09 44 11.5**	**+0.8**
MOVZ	**Moawhango**	**2.18**	**259**	P	**Pn**	**09 44 13.0**	**+2.1**
ETVZ	**East Tongariro**	**2.18**	**266**	P	**Pn**	**09 44 12.6**	**+1.6**
TMVZ	**Te Maari**	**2.19**	**267**	P	**Pn**	**09 44 12.6**	**+1.5**
NTVZ	**North Tongarir**	**2.21**	**267**	P	**Pn**	**09 44 12.9**	**+1.5**
DVHZ	**Dannevirke**	**2.21**	**234**	P	**Pn**	**09 44 12.5**	**+1.1**
OTVZ	**Oturere**	**2.22**	**266**	P	**Pn**	**09 44 13.0**	**+1.4**
TSZ	**Takapari Road**	**2.22**	**242**	P	**Pn**	**09 44 12.5**	**+1.0**
TUVZ	**Tukino**	**2.23**	**263**	P	**Pn**	**09 44 15.2**	**+3.4**
KRVZ	**Karewarewa**	**2.23**	**267**	P	**Pn**	**09 44 13.2**	**+1.4**
SNVZ	**South Ngauruho**	**2.24**	**265**	P	**Pn**	**09 44 13.4**	**+1.5**
NNVZ	**North Ngauruho**	**2.26**	**266**	P	**Pn**	**09 44 15.7**	**+3.6**
NGZ	**Ngauruhoe**	**2.27**	**265**	P	**Pn**	**09 44 13.7**	**+1.4**
WNVZ	**Wahianoa**	**2.28**	**262**	P	**Pn**	**09 44 14.0**	**+1.6**
MAVZ	**Matarangi**	**2.31**	**263**	P	**Pn**	**09 44 15.5**	**+2.6**
FWVZ	**Far West T-bar**	**2.31**	**263**	P	**Pn**	**09 44 14.7**	**+1.8**
TRVZ	**Turoa**	**2.32**	**262**	P	**Pn**	**09 44 16.0**	**+3.0**
BFZ	**Birch Farm**	**2.40**	**226**	P	**Pn**	**09 44 14.8**	**+0.8**
BFZ	**Birch Farm**	**2.40**	**226**	P	**Pn**	**09 44 14.7**	**+0.8**
TLZ	**Tolley Road**	**2.43**	**286**	P	**Pn**	**09 44 14.7**	**+0.4**
PRWZ	**Pori Road**	**2.48**	**231**	P	**Pn**	**09 44 16.5**	**+1.5**
POWZ	**Post Office Ro**	**2.52**	**236**	P	**Pn**	**09 44 16.9**	**+1.4**
TIWZ	**Tintock**	**2.67**	**228**	P	**Pn**	**09 44 18.5**	**+0.9**
MRZ	**Mangatainoka R**	**2.79**	**233**	P	**Pn**	**09 44 20.0**	**+0.8**
WAZ	**Wanganui**	**2.83**	**254**	P	**Pn**	**09 44 23.0**	**+3.2**
TMWZ	**Te Maipa**	**2.89**	**223**	P	**Pn**	**09 44 20.8**	**+0.1**
HIZ	**Hauiti**	**2.90**	**279**	P	**Pn**	**09 44 23.1**	**+2.3**
HIZ	**Hauiti**	**2.90**	**279**	P	**Pn**	**09 44 23.3**	**+2.5**
VRZ	**Vera Road**	**2.92**	**267**	P	**Pn**	**09 44 23.5**	**+2.4**
HOWZ	**Holdsworth Sta**	**2.96**	**230**	P	**Pn**	**09 44 22.1**	**+0.4**
OGWZ	**Otaki Gorge**	**3.13**	**234**	P	**Pn**	**09 44 24.5**	**+0.6**
MTW	**Mount Morrison**	**3.14**	**226**	P	**Pn**	**09 44 23.9**	**-0.1**
KUZ	**Kuaotunu**	**3.17**	**315**	P	**Pn**	**09 44 24.6**	**+0.1**
KUZ	**Kuaotunu**	**3.17**	**315**	P	**Pn**	**09 44 24.3**	**-0.1**
TRWZ	**Traveller**	**3.21**	**222**	P	**Pn**	**09 44 24.7**	**-0.3**
MKAZ	**Moumakai**	**3.27**	**305**	P	**Pn**	**09 44 26.4**	**+0.7**
KIW	**Kapiti Island**	**3.32**	**235**	P	**Pn**	**09 44 27.2**	**+0.7**
PAWZ	**Paruwai Farm**	**3.33

JTJ		Tarama	0.92	64	*e*S		Sn	09 49 48.8	0.0

TAP 19 09:50:05.0, 24.51N×122.04E, h66km, ML2.6, 10C-9D, B, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EOS2	**EOS2**	**0.19**	**117**	*e*P		Pn	09 50 15.7	+0.8
	baz=138							
EOS2				*e*S		Sn	09 50 24.1	+2.0
	baz=138							
ESAO	**Su ao**	**0.19**	**291**	⇓P		Pn	09 50 15.6	+0.5
	baz=291							
ESAO				*i* S		Sn	09 50 23.1	+0.7
	baz=291							
TWC	**Suao**	**0.20**	**300**	P		Pn	09 50 15.6	+0.5
	baz=308							
TWC				*e*S		Sn	09 50 22.7	+0.2
	baz=308							
EWUT	**Wuta**	**0.25**	**256**	⇓P		Pn	09 50 15.7	+0.3
	baz=250							
EWUT				*i* S		Sn	09 50 23.7	+0.8
	baz=250							
ENA	**Nanau**	**0.29**	**254**	⇓P		Pn	09 50 16.0	+0.4
	baz=248							
ENA				*i* S		Sn	09 50 24.1	+0.7
	baz=248							
NDS	**Dongshan**	**0.32**	**293**	*i* P		Pn	09 50 16.7	+0.8
	baz=297							
NDS				S		Sn	09 50 25.0	+1.1
	baz=297							
EAHA	**Aohua**	**0.33**	**238**	*e*P		Pn	09 50 16.3	+0.3
	baz=230							
EAHA				*e*S		Sn	09 50 24.8	+0.9
	baz=230							
EOS3	**EOS3**	**0.33**	**131**	⇑*e*P		Pn	09 50 16.4	+0.6
	baz=146							
EOS3				*e*S		Sn	09 50 25.0	+1.3
	baz=146							
EGS		**0.35**	**343**	P		Pn	09 50 16.4	+0.3
	baz=354							
EGS				*e*S		Sn	09 50 25.5	+1.2
	baz=354							
NTC	**Toucheng**	**0.40**	**331**	*e*P		Pn	09 50 17.9	+1.4
	baz=337							
TWE	**Neicheng**	**0.40**	**302**	⇑*i*P		Pn	09 50 17.4	+0.9
	baz=303							
TWE				S		Sn	09 50 26.5	+1.5
	baz=303							
EOS4	**EOS4**	**0.46**	**147**	P		Pn	09 50 17.2	+0.6
	baz=155							
EOS4				*e*S		Sn	09 50 24.7	-0.4
	baz=155							
LATG	**Datong**	**0.47**	**274**	⇑P		Pn	09 50 18.0	+0.7
	baz=268							
LATG				*i* S		Sn	09 50 27.5	+1.2
	baz=268							
FUSB	**Fushanzhiwuyua**	**0.48**	**301**	⇓P		Pn	09 50 18.4	+1.0
	baz=307							
FUSB				S		Sn	09 50 27.6	+1.2
	baz=307							
NDT	**Datong Townshi**	**0.49**	**281**	P		Pn	09 50 18.5	+1.1
	baz=276							
NDT				S		Sn	09 50 27.8	+1.4
	baz=276							
TWB1	**Santiao Chiao**	**0.50**	**354**	P		Pn	09 50 17.2	-0.2
	baz=355							
TWB1				S		Sn	09 50 26.1	-0.5
	baz=355							
TIPB	**Shuangxi**	**0.50**	**337**	*i* P		Pn	09 50 17.7	+0.2
	baz=346							
TIPB				S		Sn	09 50 26.6	-0.1
	baz=346							
ETL	**Fush Village**	**0.52**	**228**	*e*P		Pn	09 50 17.8	+0.1
	baz=222							
ETL				*e*S		Sn	09 50 26.9	0.0
	baz=222							
NACB	**Ninganchiao**	**0.53**	**231**	*e*P		Pn	09 50 17.8	+0.1
	baz=226							
NACB				S		Sn	09 50 27.1	0.0
	baz=226							
NWLT	**Wulai**	**0.56**	**299**	*e*P		Pn	09 50 19.2	+1.1
	baz=299							
NWLT				*e*S		Sn	09 50 29.0	+1.3
	baz=299							
TWD	**Chiawan**	**0.59**	**224**	*i* P		Pn	09 50 18.7	+0.4
	baz=218							
TWD				S		Sn	09 50 28.7	+0.5
	baz=218							
ETLH	**Xiulin Townshi**	**0.59**	**240**	⇑P		Pn	09 50 18.7	+0.2
	baz=233							
ETLH				*e*S		Sn	09 50 28.4	0.0
	baz=233							
SXI1	**Grass Mountain**	**0.60**	**345**	*e*P		Pn	09 50 18.8	+0.2
	baz=352							
SXI1				*e*S		Sn	09 50 28.6	-0.1
	baz=352							
NNSB	**Datong**	**0.61**	**263**	P		Pn	09 50 19.4	+0.7
	baz=256							
NNSB				S		Sn	09 50 29.4	+0.6
	baz=256							
NWF	**Wu-fen Shan**	**0.61**	**337**	P		Pn	09 50 18.9	+0.1
	baz=338							
NWF				S		Sn	09 50 28.7	-0.1
	baz=338							
WFSB	**Wu-fen Shan**	**0.61**	**337**	P		Pn	09 50 19.1	+0.4
	baz=337							
WFSB				S		Sn	09 50 28.9	+0.3
	baz=337							
NNS	**Nan Shan**	**0.61**	**264**	⇓P		Pn	09 50 19.3	+0.6
	baz=257							
NNS				S		Sn	09 50 29.7	+0.8
	baz=257							
YHNB	**Yeheng**	**0.63**	**285**	*e*P		Pn	09 50 18.9	+0.1
	baz=277							
YHNB				*e*S		Sn	09 50 30.0	+0.9
	baz=277							
NSK	**Sanguang**	**0.65**	**285**	P		Pn	09 50 19.9	+0.8
	baz=277							
NSK				S		Sn	09 50 30.2	+0.8
	baz=277							
NHDH	**Xindian Distri**	**0.66**	**314**	P		Pn	09 50 19.5	+0.4
	baz=325							
NHDH				S		Sn	09 50 30.2	+0.8
	baz=325							
NHY	**Taipei**	**0.68**	**321**	*e*P		Pn	09 50 19.3	-0.1
	baz=332							
NHY				S		Sn	09 50 30.9	+0.9
	baz=332							
TNOU	**National Taiwa**	**0.69**	**339**	P		Pn	09 50 19.6	+0.2
	baz=339							
TNOU				*i* S		Sn	09 50 30.0	-0.1
	baz=339							
ETM	**Tongmen**	**0.74**	**223**	⇑P		Pn	09 50 20.1	+0.1
	baz=232							
ETM				S		Sn	09 50 30.9	-0.2
	baz=232							
LXIB	**Xiulin Townshi**	**0.75**	**230**	*e*P		Pn	09 50 20.4	0.0
	baz=220							
LXIB				*e*S		Sn	09 50 31.6	-0.1
	baz=220							
YM01	**YM01**	**0.77**	**326**	*e*P		Pn	09 50 21.1	+0.6
	baz=335							
YM01				*e*S		Sn	09 50 33.0	+1.1
	baz=335							
FUSS	**Fushou**	**0.77**	**251**	*e*P		Pn	09 50 21.6	+0.9
	baz=246							
FUSS				*e*S		Sn	09 50 32.9	+0.6
	baz=246							
YM08	**YM08**	**0.79**	**329**	*e*P		Pn	09 50 20.3	-0.4
	baz=337							
YM08				*e*S		Sn	09 50 31.8	-0.6
	baz=337							
WHF	**Hehuan Shan**	**0.80**	**243**	⇑*i*P		Pn	09 50 21.7	+0.5
	baz=242							
WHF				*i* S		Sn	09 50 33.6	+0.5
	baz=242							
ANP	**Anpu**	**0.83**	**325**	*e*P		Pn	09 50 21.8	+0.6
	baz=334							
ANP				*e*S		Sn	09 50 34.0	+0.8
	baz=334							
TWT	**Tachien**	**0.83**	**253**	P		Pn	09 50 22.3	+1.0
	baz=252							
TWT				*i* S		Sn	09 50 34.7	+1.3
	baz=252							
SHUL	**Shoufeng**	**0.84**	**212**	P		Pn	09 50 21.4	+0.2
	baz=210							
SHUL				*e*S		Sn	09 50 34.9	+1.6
	baz=210							
TDCB	**Techi**	**0.84**	**253**	*e*P		Pn	09 50 22.6	+1.1
	baz=245							
TDCB				S		Sn	09 50 34.2	+0.5
	baz=245							
NFF	**Wufeng Townshi**	**0.85**	**279**	P		Pn	09 50 22.6	+1.1
	baz=287							
NFF				S		Sn	09 50 35.0	+1.3
	baz=287							
TWY	**Chenhua**	**0.87**	**332**	*e*S		Sn	09 50 34.8	+0.9
	baz=342							
YOJ	**Yonaguni jima**	**0.88**	**93**	P		Pn	09 50 22.0	+0.2
	baz=86							
YOJ				*e*S		Sn	09 50 34.0	-0.2
	baz=86							
ESL	**Shilin**	**0.89**	**219**	⇑P		Pn	09 50 21.4	-0.4
	baz=226							
ESL				S		Sn	09 50 33.6	-0.8
	baz=226							
NCUH	**Zhongli**	**0.91**	**301**	P		Pn	09 50 23.0	+0.9
	baz=301							
NCUH				*e*S		Sn	09 50 36.4	+1.7
	baz=301							
CHGB	**Renai**	**0.91**	**241**	⇓*i*P		Pn	09 50 23.1	+0.8
	baz=233							
CHGB				S		Sn	09 50 36.2	+1.0
	baz=233							
NSTT	**Nanjuang**	**0.96**	**278**	P		Pn	09 50 23.6	+0.9
	baz=278							
NSTT				*e*S		Sn	09 50 37.3	+1.4
	baz=278							
OWD	**Renai**	**0.96**	**235**	⇓*i*P		Pn	09 50 23.4	+0.4
	baz=229							
OWD				S		Sn	09 50 36.8	+0.5
	baz=229							
WARBT	**Fenglin Townsh**	**0.99**	**218**	⇓*e*P		Pn	09 50 22.4	-0.7
	baz=223							
WARBT				*e*S		Sn	09 50 35.4	-1.3
	baz=223							
WUSB	**Renai**	**0.99**	**239**	*i* P		Pn	09 50 24.2	+0.9
	baz=231							
WUSB				*i* S		Sn	09 50 37.6	+0.8
	baz=231							
SBCB	**Hsinchu**	**1.00**	**287**	*e*P		Pn	09 50 24.4	+1.1
	baz=287							
SBCB				*e*S		Sn	09 50 38.7	+1.7
	baz=287							
EGFH	**Guangfu**	**1.01**	**214**	*e*P		Pn	09 50 24.0	+0.6
	baz=222							
EGFH				*e*S		Sn	09 50 37.5	+0.5
	baz=222							
HSN	**Hsinchu**	**1.02**	**287**	*i* P		Pn	09 50 23.6	+0.1
	baz=290							
HSN				*e*S		Sn	09 50 37.8	+0.5
	baz=290							
WHP	**Taichung City**	**1.03**	**257**	⇑P		Pn	09 50 25.4	+1.8
	baz=255							
WHP				S		Sn	09 50 39.5	+1.9
	baz=255							
VWDT	**VWDT**	**1.11**	**228**	⇓*i*P		Pn	09 50 25.4	+0.7
	baz=220							
VWDT				*e*S		Sn	09 50 40.6	+1.2
	baz=220							
WCS	**Beigang Elemen**	**1.12**	**247**	*i* P		Pn	09 50 26.0	+1.1
	baz=246							
WCS				*e*S		Sn	09 50 41.7	+2.0
	baz=246							
HGSD	**Ruisui**	**1.16**	**209**	⇑P		Pn	09 50 25.4	+0.1
	baz=219							
HGSD				*e*S		Sn	09 50 40.9	+0.4
	baz=219							
EHY	**Hungye**	**1.19**	**214**	*e*P		Pn	09 50 24.8	-1.0
	baz=220							
EHY				*e*S		Sn	09 50 42.1	+0.7
	baz=220							
SMLT	**Sun Moon Lake**	**1.21**	**240**	*e*P		Pn	09 50 28.0	+1.9
	baz=231							
SMLT				*e*S		Sn	09 50 45.3	+3.3
	baz=231							
SSLB	**Suanglung**	**1.23**	**235**	*e*P		Pn	09 50 27.7	+1.5
	baz=230							
SSLB				*e*S		Sn	09 50 44.8	+2.6
	baz=230							
TYC	**Yuchr**	**1.24**	**241**	*e*P		Pn	09 50 28.3	+2.0
	baz=234							
TYC				*e*S		Sn	09 50 45.4	+3.1
	baz=234							
YULB	**Yu-li**	**1.30**	**212**	P		Pn	09 50 26.4	-0.8
	baz=218							
YULB				*e*S		Sn	09 50 45.1	+1.2
	baz=218							
EYUL	**Yuli**	**1.33**	**210**	*e*P		Pn	09 50 28.9	+1.3
	baz=218							
EYUL				*e*S		Sn	09 50 46.0	+1.4
	baz=218							
TWF1	**Yuli**	**1.34**	**211**	*e*P		Pn	09 50 26.9	-0.7
	baz=217							
WHYT	**Xinyi Township**	**1.35**	**234**	*e*P		Pn	09 50 29.8	+1.9
	baz=233							
WHYT				*e*S		Sn	09 50 48.5	+3.3
	baz=233							
WJS	**Zhushan**	**1.38**	**241**	P		Pn	09 50 30.2	+2.0
	baz=253							
WJS				S		Sn	09 50 48.7	+3.0
	baz=253							
WNT	**Mingjian**	**1.39**	**244**	*e*P		Pn	09 50 28.8	+0.5
	baz=254							
CHKH	**Chenggong**	**1.44**	**205**	P		Pn	09 50 29.5	+0.5
	baz=193							
CHKH				*e*S		Sn	09 50 44.1	-2.9
	baz=193							
FULB	**Fuli**	**1.47**	**208**	*e*P		Pn	09 50 29.3	-0.2
	baz=215							
FULB				*e*S		Sn	09 50 48.7	+0.8
	baz=215							
ALS	**Alishan**	**1.50**	**229**	*e*P		Pn	09 50 32.0	+1.9
	baz=219							
CHKT	**Chengkung**	**1.53**	**204**	*e*P		Pn	09 50 30.9	+0.6
	baz=193							
CHKT				*e*S		Sn	09 50 48.1	-1.2
	baz=193							
CHN5	**Tsauling**	**1.54**	**234**	*i* P		Pn	09 50 32.0	+1.6
	baz=245							
CHN5				S		Sn	09 50 52.5	+2.8
	baz=245							
EHD	**Haiduan**	**1.55**	**210**	*e*P		Pn	09 50 29.4	-1.2
	baz=215							
EHD				*e*S		Sn	09 50 48.3	-1.6
	baz=215							
ELDTW	**Lidau**	**1.61**	**216**	*e*P		Pn	09 50 32.0	+0.6
	baz=214							
ELDTW				*e*S		Sn	09 50 51.6	+0.2
	baz=214							
WRL	**Guolierlin Hig**	**1.64**	**249**	*i* P		Pn	09 50 32.6	+0.9
	baz=259							
WRL				S		Sn	09 50 52.9	+1.1
	baz=259							
CHN4	**Tsaushan**	**1.76**	**229**	*e*P		Pn	09 50 35.6	+2.4
	baz=228							
CHN4				S		Sn	09 50 58.1	+3.4
	baz=228							
TPUB	**Ta-pu**	**1.76**	**227**	P		Pn	09 50 35.4	+2.0
	baz=218							
TPUB				*e*S		Sn	09 50 57.8	+2.9
	baz=218							
STYH	**Taoyuan**	**1.77**	**221**	*e*P		Pn	09 50 33.9	+0.6
	baz=214							
STYH				*e*S		Sn	09 50 55.4	+0.6
	baz=214							
TWK	**Hsinying**	**1.88**	**229**	*i* P		Pn	09 50 36.6	+1.6
	baz=216							
TWK				*e*S		Sn	09 50 58.3	+0.5
	baz=216							
LDUT	**Ludao**	**1.90**	**196**	*e*P		Pn	09 50 35.9	+0.7
	baz=188							
LDUT				*e*S		Sn	09 50 55.4	-2.7
	baz=188							
TWG	**Pinlang**	**1.90**	**208**	*e*P		Pn	09 50 36.3	+1.1
	baz=199							
TWG				*e*S		Sn	09 50 59.4	+1.2
	baz=199							
TWGBT	**Beinan**	**1.90**	**208**	*e*P		Pn	09 50 35.9	+0.7
	baz=199							
TWGBT				*e*S		Sn	09 50 58.8	+0.6
	baz=199							
CHN1	**Nanshi**	**1.91**	**227**	*e*P		Pn	09 50 36.4	+1.0
	baz=225							
CHN1				*e*S		Sn	09 50 59.6	+1.1
	baz=225							
SGST	**Jiashian**	**1.95**	**224**	*e*P		Pn	09 50 36.6	+0.8
	baz=222							
SGST				*e*S		Sn	09 50 59.7	+0.3
	baz=222							
SLGT	**Liugui**	**1.98**	**221**	P		Pn	09 50 38.6	+2.3
	baz=219							
SLGT				*e*S		Sn	09 51 01.3	+1.3
	baz=219							
SGLT	**Jiouru**	**2.27**	**219**	*e*P		Pn	09 50 40.8	+0.5
	baz=215							
MASBT	**Mashibuluo**	**2.29**	**215**	*e*P		Pn	09 50 41.0	+0.5
	baz=212							
MASBT				*e*S		Sn	09 51 07.5	0.0
	baz=212							
VWUC	**VWUC**	**2.41**	**282**	⇑*e*P		Pn	09 50 42.1	+0.1
	baz=282							
VWUC				*e*S		Sn	09 51 08.8	-1.7
	baz=282							
PHUB	**P'eng-hu**	**2.47**	**247**	*e*P		Pn	09 50 43.3	+0.5
	baz=247							
PHUB				S		Sn	09 51 11.0	-0.9
	baz=247							
MATB	**Ma-tsu**	**2.51**	**311**	*e*P		Pn	09 50 43.9	+0.4
	baz=313							
MATB				*e*S		Sn	09 51 12.7	-0.2
	baz=313							
LYUB	**Lan-yu**	**2.53**	**190**	*e*P		Pn	09 50 44.0	+0.2
	baz=187							
LYUB				*e*S		Sn	09 51 13.5	+0.1
	baz=187							

IDC 19 10:00:10.7±4.2, 5.02S×152.17E, h0km, mb3.2/2, mbtmp3.2/2, Error ellipse: s-maj=194.0km s-min=50.6km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.83**	**228**	P		P	10 05 14.5	-1.0
	1.3nm,1.1s,baz=54,slow=10,SNR=14							
	1.3nm,1.1s							
ASAR	**Alice Springs**	**25.57**	**222**	P		P	10 05 42.7	+1.1
	0.3nm,0.7s,baz=54,slow=10,SNR=2.3							
	0.3nm,0.7s							
TORD	**Torodi Ar. Bea**	**149.78**	**288**	PKPbc		PKPbc	10 20 03.3	-0.5
	0.2nm,0.4s,baz=105,slow=5.3,SNR=4.5							

IDC 19 10:12:14.2±4.2, 3.13S×131.22E, h0km, mb3.7/2, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=294.0km s-min=29.6km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.98**	**170**	Pn		Pn	10 16 11.4	-1.9
	0.2nm,0.3s,baz=350,slow=12,SNR=9.2							
WRA				Sn		Sn	10 19 09.1	-14
	0.1nm,0.3s,baz=335,slow=22,SNR=2.2							
	0.3nm,0.4s							
ASAR	**Alice Springs**	**20.58**	**173**	P		P	10 16 55.6	+0.8
	3.3nm,0.5s,baz=351,slow=11,SNR=84							
	3.3nm,0.5s							
MKAR	**Makanchi Array**	**65.72**	**325**	P		P	10 23 00.7	0.0
	0.3nm,0.6s,baz=113,slow=9.3,SNR=4.1							
	0.3nm,0.6s							

*IDC **19** 10:20:17.3±3.2, 37.60N×141.87E, h0km, mb3.5/5, mbtmp3.4/6, ML2.3/1, MS2.8/3, Error ellipse: s-maj=82.5km s-min=22.9km az=157.0*
*JMA **19** 10:20:20.2±0.2, 37.32N±0.4×141.8E±0.9, h42km±2km, MV3.5/40, E OFF FUKUSHIMA PREF*
*NIED **19** 10:20:20.2, 37.32N×141.84E, h42km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-3.21; $M_{\theta\theta}$3.00; $M_{\phi\phi}$0.21; $M_{r\theta}$-2.48; $M_{\theta\phi}$-0.23; $M_{\phi r}$2.12; Fault plane solution: $M_0$4.47000×10^{14} NP1: ϕ_s118.00000°, δ69.00000°, λ-74.00000° NP2: ϕ_s260.00000°, δ26.00000°, λ-125.00000°.*

ISC 19 10:20:19.1±2.3, 37.30N±0.06×141.85E±0.08, h23km±14km, n20, σ0s88/29, mb3.5/5, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.78**	**275**	⇓*i*P		**Pn**	**10 20 34.8**	**0.0**
JFK				⇓S		**Sb**	**10 20 44.6**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.86**	**257**	⇓*i*P		**Pn**	**10 20 35.9**	**0.0**
ONAJ				⇓S		**Sn**	**10 20 46.7**	**-1.1**
JMST	**Minamisoumatoc**	**0.88**	**299**	⇓*i*P		**Pn**	**10 20 35.9**	**0.0**
JMST				⇓S		**Sn**	**10 20 46.9**	**-1.0**
JMM	**Marumori**	**1.01**	**304**	⇓P		**Pn**	**10 20 38.0**	**+0.1**
JMM				⇓S		**Sn**	**10 20 50.6**	**-0.8**
JIKH	**Ishinomakikobu**	**1.05**	**343**	*i* P		**Pn**	**10 20 38.3**	**-0.2**
JIKH				*e*S		**Sn**	**10 20 51.0**	**-1.4**
JIO	**Ouri**	**1.22**	**341**	*i* P		**Pn**	**10 20 40.8**	**+0.1**
JIO				S		**Sn**	**10 20 55.1**	**-1.3**
JOTO	**OTAMA OYAMA**	**1.23**	**283**	*i* P		**Pb**	**10 20 42.0**	**+0.3**
JOTO				S		**Sn**	**10 20 57.3**	**+0.4**
JHO	**Hitachi**	**1.24**	**237**	*i* P		**Pn**	**10 20 40.9**	**0.0**
JHO				S		**Sn**	**10 20 55.5**	**-1.4**
JOU	**Okura**	**1.42**	**319**	P		**Pb**	**10 20 44.9**	**-0.1**
JOU				S		**Sn**	**10 21 01.9**	**+0.5**
JYS	**Shirataka**	**1.69**	**304**	S		**Sb**	**10 21 10.0**	**-0.3**
JFY	**Yanaizu**	**1.71**	**274**	P		**Pn**	**10 20 48.8**	**+1.3**
JMK	**Ichinoseki**	**1.72**	**343**	*i* P		**Pn**	**10 20 48.7**	**+1.0**
JMK				*e*S		**Sn**	**10 21 09.1**	**+0.2**
MJAR	**Matsushiro Arr**	**3.01**	**257**	Pn		**Pn**	**10 21 07.4**	**+2.0**
	0.3nm,0.3s,baz=82,slow=14,SNR=16							
MJAR				Sn		**Sb**	**10 21 46.9**	**-1.6**
	0.6nm,0.3s,baz=111,slow=13,SNR=6.9							
MJAR				LR		LR	10 22 38.6	
	comp=Z,103nm,19.7s,baz=76,slow=45							
	2.2nm,0.5s							
PETK	**Petropavlovsk-**	**19.28**	**30**	LR		LR	10 32 03.3	
	comp=Z,17nm,21.7s,baz=180,slow=37							
SONM	**Songino Array**	**27.93**	**303**	P		**P**	**10 26 07.9**	**+0.3**
	0.3nm,0.6s,baz=107,slow=8.0,SNR=2.1							
	0.3nm,0.6s							
MKAR	**Makanchi Array**	**44.27**	**302**	P		**P**	**10 28 27.4**	**+0.6**
	0.5nm,0.7s,baz=88,slow=8.8,SNR=5.2							
	0.5nm,0.7s							
KURBB	**Kurchatov Arra**	**46.11**	**308**	P		**P**	**10 28 41.3**	**0.0**
	0.8nm,0.7s,baz=83,slow=8.3,SNR=6.1							
	0.8nm,0.7s							
ILAR	**Eielson Array**	**49.08**	**32**	P		**P**	**10 29 04.6**	**+0.4**
	0.6nm,0.7s,baz=268,slow=6.3,SNR=7.5							
	0.6nm,0.7s							
YKA	**Yellowknife Ar**	**63.40**	**30**	P		**P**	**10 30 45.6**	**-0.7**
	0.3nm,0.9s,baz=291,slow=5.9,SNR=3.0							
	0.3nm,0.9s							
AKASG	**Malin Array Be**	**74.30**	**322**	LR		LR	11 09 57.0	
	comp=Z,24nm,20.9s,baz=36,slow=40							

*IDC **19** 10:24:02.2±1.8, 5.97S×142.92E, h0km, mb3.9/4, mbtmp3.9/5, ML3.9/1, Error ellipse: s-maj=56.0km s-min=35.6km az=105.0*

ISC 19 10:24:06.8±1.6, 6.2S±0.2×142.9E±0.4, h35km, n6, σ1s68/6, mb4.0/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.00**	**211**	Pn		**Pn**	**10 27 47.5**	**-1.9**
	0.2nm,0.3s,baz=27,slow=13,SNR=9.4							
ASAR	**Alice Springs**	**19.41**	**206**	P		**P**	**10 28 32.2**	**+2.1**
	0.4nm,0.3s,baz=30,slow=10,SNR=38							
	5.8nm,0.9s							
CMAR	**Chiang Mai Arr**	**49.79**	**300**	P		**P**	**10 32 57.1**	**+0.5**
	0.5nm,0.3s,baz=115,slow=5.8,SNR=5.2							
	0.5nm,0.3s							
MKAR	**Makanchi Array**	**75.09**	**322**	P		**P**	**10 35 45.3**	**0.0**
	0.6nm,0.8s,baz=99,slow=8.0,SNR=4.0							
	0.6nm,0.8s							
BVAR	**Borovoye Array**	**84.55**	**325**	P		**P**	**10 36 35.8**	**-0.5**
	1.8nm,0.8s,baz=124,slow=4.3,SNR=5.5							
	1.8nm,0.8s							
ILAR	**Eielson Array**	**87.28**	**24**	P		**P**	**10 36 49.5**	**-0.1**
	0.5nm,0.7s,baz=263,slow=4.4,SNR=7.2							
	0.5nm,0.7s							

IDC 19 10:26:34.3±2.1, 5.82S×141.88E, h0km, mb3.6/1, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=179.0km s-min=35.1km az=114.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.84**	**207**	Pn	Pn	10 30 17.2	-1.6
	0.2nm,0.3s,baz=35,slow=13,SNR=9.7						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**19.34**	**203**	P	Pn	10 31 02.2	-0.2
	0.5nm,0.3s,baz=30,slow=11,SNR=20						
	1.6nm,0.5s						
ILAR	**Eielson Array**	**87.35**	**24**	P	P	10 39 22.8	-0.1
	0.3nm,0.8s,baz=234,slow=6.2,SNR=2.5						
	0.3nm,0.8s						

IDC 19 10:33:31.1±3.3, 19°48S×176°45W, h0km, mb4.2/4, mbtmp4.2/4, Error ellipse: s-maj=91.9km s-min=41.9km az=37.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.18**	**256**	P	P	10 41 58.1	+0.1
	2.6nm,0.5s,baz=97,slow=7.6,SNR=65						
	2.6nm,0.5s						
WRA	**Warramunga Arr**	**46.19**	**261**	P	P	10 41 57.9	-0.3
	1.3nm,0.3s,baz=97,slow=7.5,SNR=60						
	1.3nm,0.3s						
QSPA	**South Pole Qui**	**70.59**	**180**	P	P	10 44 48.1	0.0
	0.8nm,0.7s,baz=74,slow=1.7,SNR=5.8						
	0.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**91.15**	**289**	P	P	10 46 38.5	-0.1
	0.7nm,0.3s,baz=119,slow=3.8,SNR=5.0						
	0.7nm,0.3s						

IDC 19 10:39:03.7±6.5, 34°.87N×45°.30E, h0km, mb4.1/6, mbtmp3.9/8, ML3.7/2, MS2.6/3, Error ellipse: s-maj=122.3km s-min=30.0km az=10.0
ISN 19 10:39:03.2±0.6, 34°.71N×45°.48E, h14km±4km, ML3.6
TEH 19 10:39:04.2, 34°.60N×45°.43E, h16km±16km, ML3.6
AFAD 19 10:39:08.3±0.0, 34°.27N×43°.72E, h5km±1km, ML3.4
ISC 19 10:39:04.4±0.6, 34°68N±0°.03×45°.32E±0°.04, h18km, n43, σ1°56/49, mb3.9/6, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.28**	**129**	Pg	**Pg**	**10 39 08.7**	**-1.9**
IDHR	**Dehrash**	**0.88**	**89**	Pg	**Pb**	**10 39 19.3**	**-1.9**
IGHG	**Ghaleghazi**	**1.09**	**109**	Pg	**Pn**	**10 39 23.3**	**-1.7**
ILBA	**Ilam Banvizeh**	**1.28**	**145**	Pg	**Pn**	**10 39 26.2**	**-1.3**
ILIN	**Lien**	**1.37**	**80**	Pg	**Pn**	**10 39 29.0**	**+0.2**
SDS1	**Sardasht. Az.**	**1.47**	**5**	Pg	**Pg**	**10 39 33.3**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.48**	**105**	Pg	**Pn**	**10 39 30.6**	**+0.4**
BHD	**Baghdad**	**1.61**	**209**	*e*Pg	**Pg**	**10 39 34.0**	**-1.4**
BHD				*e*Sg	**Sg**	**10 39 57.0**	**+0.6**
BHD				AML	AML	10 39 59.1	
	comp=E,836nm,0.5s						
IBDR	**Badra**	**1.65**	**162**	*e*Pg	**Pn**	**10 39 33.0**	**+0.6**
IBDR				*e*Sg	**Sb**	**10 39 55.0**	**+0.4**
IBDR				AML	AML	10 40 11.9	
	comp=E,914nm,0.7s						
IBDR				AML	AML	10 40 12.8	
	comp=N,696nm,0.6s						
MAHB	**Mahabad**	**2.10**	**8**	Pn	**Pb**	**10 39 41.2**	**-0.9**
IBZA	**Bozab**	**2.10**	**95**	Pn	**Pn**	**10 39 40.1**	**+1.1**
IKFM	**Kafar-mosalman**	**2.39**	**118**	Pn	**Pn**	**10 39 43.1**	**+0.5**
IDOB	**Doab**	**2.53**	**110**	Pn	**Pn**	**10 39 45.0**	**+0.3**
HSAM	**Samen**	**2.75**	**99**	Pn	**Pn**	**10 39 48.8**	**+0.9**
CUKT	**Cukurca**	**2.91**	**332**	P	**Pg**	**10 39 59.0**	**-1.2**
CUKT				S	**Sg**	**10 40 37.5**	**-0.5**
YOVA	**Hakkari_Yksek**	**3.02**	**344**	P	**Pg**	**10 40 00.8**	**-1.4**
YOVA				S	**Sg**	**10 40 40.6**	**-0.8**
YOVA				*i* AML	AML	10 40 52.0	
	comp=N,113nm,0.9s						
YOVA				*i* AML	AML	10 41 02.0	
	comp=N,99nm,0.7s						
RAFI	**Al-Rafai**	**3.02**	**167**	*e*Pn	**Pn**	**10 39 53.0**	**+1.7**
RAFI				*e*Sn	**Sn**	**10 40 29.0**	**+1.9**
IAZR	**Azarshahr**	**3.04**	**10**	Pn	**Pn**	**10 39 55.2**	**+3.4**
HAGD	**Aghdareh**	**3.15**	**86**	Pn	**Pn**	**10 39 55.1**	**+1.9**
HAKT	**HAKKARI**	**3.15**	**336**	P	**Pb**	**10 40 00.5**	**+0.4**
HAKT				S	**Sb**	**10 40 35.9**	**-2.3**
HAKT				*i* AML	AML	10 41 02.0	
	comp=N,153nm,0.5s						
SIRN	**Sirnak**	**3.67**	**321**	P	**Pg**	**10 40 12.7**	**-1.9**
SIRN				S	**Sg**	**10 41 00.8**	**-1.3**
PERV	**Siirt/Pervari-**	**3.96**	**326**	P	**Pn**	**10 40 07.5**	**+3.2**
PERV				S	**Sn**	**10 40 51.8**	**+1.5**
PERV				*i* AML	AML	10 41 41.0	
	comp=N,178nm,0.7s						
GEVA	**Gevas**	**4.06**	**334**	P	**Pn**	**10 40 06.5**	**+0.8**
GEVA				S	**Sb**	**10 40 59.6**	**-4.6**
GRMI	**Germi**	**4.61**	**26**	Pn	**Pn**	**10 40 16.2**	**+3.0**
IQOM	**Qom**	**4.73**	**86**	Pn	**Pn**	**10 40 15.6**	**+0.5**
JHBN	**Jahan bin**	**5.09**	**117**	Pn	**Pn**	**10 40 22.7**	**+0.6**
QAMS	**Qamsar**	**5.12**	**99**	Pn	**Pn**	**10 40 21.3**	**+0.9**
MZPU	**Pul - Mazandar**	**5.38**	**69**	Pn	**Pn**	**10 40 25.6**	**+1.6**
GNI	**Garni**	**5.48**	**355**	LR	LR	10 42 21.5	
	comp=N,33nm,22.0s,baz=131,slow=37						
IDMV	**Damavand**	**5.57**	**79**	Pn	**Pn**	**10 40 28.0**	**+1.3**
KRSH	**Karshahi**	**5.68**	**95**	Pn	**Pn**	**10 40 28.9**	**+0.9**
IBRJ	**Brojen**	**5.69**	**117**	Pn	**Pn**	**10 40 28.4**	**+0.1**
ASF	**Jabal al Asfar**	**7.47**	**253**	LR	LR	10 44 40.4	
	comp=N,48nm,19.6s,baz=332,slow=45						
DSBU	**Dashti - Bushe**	**8.08**	**140**	Pn	**Pn**	**10 41 01.0**	**+0.1**
EIL	**Elat**	**10.11**	**243**	LR	LR	10 46 32.1	
	comp=N,56nm,18.5s,baz=67,slow=44						
AKTO	**Aktyubinsk**	**18.27**	**27**	P	**Pn**	**10 43 16.1**	**-0.6**
	comp=N,0.2nm,0.3s,baz=216,slow=10,SNR=7.6						
	comp=N,1.8nm,0.5s						
AKASG	**Malin Array Be**	**19.84**	**329**	P	**Pn**	**10 43 34.7**	**-0.9**
	comp=N,0.3nm,0.3s,baz=139,slow=10,SNR=1.9						
	comp=N,0.2nm,0.3s						
BVAR	**Borovoye Array**	**25.53**	**36**	P	**P**	**10 44 33.0**	**+1.2**
	comp=N,1.5nm,0.7s,baz=231,slow=6.7,SNR=6.4						
	comp=N,1.5nm,0.7s						
FINES	**FINESS Array B**	**29.47**	**341**	P	**P**	**10 45 05.8**	**-1.2**
	comp=N,1.0nm,0.6s,baz=140,slow=11,SNR=7.8						
	comp=N,1.0nm,0.6s						
MKAR	**Makanchi Array**	**30.24**	**55**	P	**P**	**10 45 15.1**	**+1.1**
	comp=N,0.5nm,0.5s,baz=252,slow=8.2,SNR=6.6						
	comp=N,0.5nm,0.5s						
HFS	**Hagfors**	**32.69**	**331**	P	**P**	**10 45 36.3**	**+0.9**
	comp=N,3.1nm,0.4s,baz=126,slow=7.7,SNR=18						
	comp=N,3.1nm,0.4s						
ARCES	**ARCESS Array B**	**36.59**	**348**	P	**P**	**10 46 10.0**	**+1.1**
	comp=N,4.6nm,0.9s,baz=168,slow=10.0,SNR=4.6						
	comp=N,4.6nm,0.9s						
SPITS	**Spitsbergen Ar**	**45.34**	**352**	P	**P**	**10 47 21.9**	**+1.0**
	comp=N,0.6nm,0.3s,baz=134,slow=12,SNR=18						
	comp=N,0.6nm,0.3s						

IDC 19 10:40:30.6±1.2, 35°.55N×141°.47E, h0km, mb3.5/5, mbtmp3.7/8, ML4.1/2, MS2.9/5, Error ellipse: s-maj=32.7km s-min=19.8km az=87.0
JMA 19 10:40:37.1±0.2, 35°.5N±0°.6×141°.1E±°, h43km±1km, MV3.3/37, NEAR CHOSHI CITY
ISC 19 10:40:35.9±0.9, 35°53N±0°.06×141°22E±0°.07, h35km, n39, σ1°22/31, mb3.5/5, 1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.64**	**281**	*i* P	**Pn**	**10 40 49.1**	**+0.6**
JIHU	**Itakohorinouch**	**0.72**	**308**	*i* P	**Pn**	**10 40 50.6**	**+1.1**
KTR	**Katsuura**	**0.83**	**243**	P	**Pn**	**10 40 51.7**	**+0.6**
KTR				*e*S	**Sn**	**10 41 01.7**	**-0.4**
JCN	**Nagara**	**0.84**	**263**	P	**Pn**	**10 40 52.6**	**+1.4**
BSO1	**Boso 1**	**0.89**	**193**	P	**Pn**	**10 40 52.7**	**+1.4**
BSO4	**Boso 4**	**0.90**	**234**	P	**Pn**	**10 40 52.7**	**+0.8**
BSO3	**Boso 3**	**0.93**	**219**	*i* P	**Pn**	**10 40 52.9**	**+0.8**
JYT	**Yasato**	**1.09**	**310**	↓*i* P	**Pn**	**10 40 55.3**	**+0.6**
JIM2	**Oshima 3**	**1.67**	**242**	*i* P	**Pn**	**10 41 01.9**	**-0.7**
JIM2				*e*S	**Sn**	**10 41 22.0**	**-1.0**
JAG	**Ashikaga**	**1.69**	**303**	P	**Pn**	**10 41 04.2**	**+1.3**
JOD2	**Odawara 2**	**1.76**	**262**	*i* P	**Pn**	**10 41 03.9**	**0.0**
JMM	**Marumori**	**2.36**	**352**	P	**Pn**	**10 41 14.0**	**+1.9**
MJAR	**Matsushiro Arr**	**2.64**	**293**	Pn	**Pn**	**10 41 18.0**	**+2.0**
	5.2nm,0.3s,baz=100,slow=14,SNR=16						
MJAR				LR	LR	10 42 06.6	
	comp=Z,31nm,20.7s,baz=56,slow=34						
MAJO	**Matsushiro**	**2.65**	**293**	P	**Pn**	**10 41 18.5**	**+2.4**
JHJ2	**Mitsune**	**2.67**	**206**	P	**Pn**	**10 41 17.0**	**+0.6**
JHJ	**Hachijo jima 2**	**2.68**	**207**	Pn	**Pn**	**10 41 16.4**	**0.0**
	61nm,0.3s,baz=342,slow=17,SNR=117						
JHJ				Sn	**Sn**	**10 41 47.1**	**-0.6**
	96nm,0.3s,baz=70,slow=23,SNR=7.0						
	154nm,0.2s						
JGF	**Kuroka**	**3.15**	**272**	P	**Pn**	**10 41 24.8**	**+1.8**
INU	**Inuyama**	**3.44**	**268**	P	**Pn**	**10 41 28.7**	**+1.8**
JTM	**Tenmabayashi**	**5.25**	**359**	P	**Pn**	**10 41 54.1**	**+2.2**
ERM	**Erimo**	**6.65**	**13**	P	**Pn**	**10 42 11.4**	**+0.3**
JEM	**Erimo**	**6.66**	**13**	P	**Pn**	**10 42 11.5**	**+0.4**
JCJ	**Chichijima**	**8.44**	**174**	P	**Pn**	**10 42 34.6**	**-1.1**
JCJ	**Chichijima**	**8.44**	**174**	Pn	Pn	10 42 29.9	-5.8
	11nm,0.3s,baz=282,slow=20,SNR=16						
JCJ				Sn	Sn	10 43 58.0	-12
	8.0nm,0.3s,baz=108,slow=20,SNR=1.3						
ASAJ	**Asahikawa**	**8.65**	**7**	Pn	**Pn**	**10 42 38.0**	**-0.4**
	2.4nm,0.3s,baz=222,slow=11,SNR=13						
	8.7nm,0.4s						
JNU	**Nakatsue**	**8.88**	**257**	LR	LR	10 46 20.6	
	comp=Z,59nm,19.0s,baz=65,slow=38						
KSRS	**Korea Array**	**10.88**	**284**	LR	LR	10 47 35.2	
	comp=Z,28nm,19.4s,baz=125,slow=38						
H11N2	**WAKE ISLAND Hy**	**27.54**	**118**	T	T	11 15 22.3	
	baz=310,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**27.55**	**118**	T	T	11 15 28.4	
	baz=310,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy**	**27.56**	**118**	T	T	11 15 25.2	
	baz=310,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**28.20**	**120**	T	T	11 16 11.1	
	baz=312,slow=75,SNR=105						
H11S3	**WAKE ISLAND Hy**	**28.20**	**120**	T	T	11 16 12.5	
	baz=312,slow=75,SNR=69						
H11S2	**WAKE ISLAND Hy**	**28.22**	**120**	T	T	11 16 11.0	
	baz=312,slow=75,SNR=57						
DAV	**Davao City (W)**	**31.75**	**211**	LR	LR	10 57 33.5	
	comp=Z,81nm,21.5s,baz=358,slow=32						
MKAR	**Makanchi Array**	**44.80**	**303**	P	**P**	**10 48 46.9**	**+0.6**
	0.2nm,0.5s,baz=90,slow=7.2,SNR=2.4						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**46.82**	**309**	P	**P**	**10 49 01.9**	**-0.1**
	0.2nm,0.3s,baz=86,slow=8.4,SNR=2.0						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**50.85**	**32**	P	**P**	**10 49 31.0**	**-1.7**
	0.4nm,0.9s,baz=255,slow=7.1,SNR=1.8						
	0.4nm,0.9s						
WRA	**Warramunga Arr**	**55.55**	**188**	P	**P**	**10 50 08.0**	**+0.2**
	1.0nm,0.4s,baz=2.2,slow=7.8,SNR=19						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**59.27**	**188**	P	**P**	**10 50 34.6**	**+0.7**
	0.3nm,0.6s,baz=17,slow=12,SNR=8.2						
	0.3nm,0.6s						
FRB	**Frobisher Bay**	**78.28**	**13**	LR	LR	11 29 33.3	
	comp=Z,31nm,18.6s,baz=176,slow=38						

ISN 19 10:41:47.5±0.4, 34°.74N×45°.33E, h22km±2km, ML3.1
TEH 19 10:41:50.1, 34°.65N×45°.44E, h12km±26km, ML3.2
ISC 19 10:41:49.6±1.0, 34°66N±0°.04×45°41E±0°.05, h18km, n16, σ1°30/20, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.21**	**137**	Pg	**Pg**	**10 41 54.4**	**-0.3**
IDHR	**Dehrash**	**0.80**	**87**	Pg	**Pb**	**10 42 04.8**	**-0.3**
IGHG	**Ghaleghazi**	**1.01**	**109**	Pg	**Pg**	**10 42 09.8**	**+0.6**
IGHG				Sg	**Sn**	**10 42 24.2**	**+1.2**
ILBA	**Ilam Banvizeh**	**1.23**	**147**	Pg	**Pg**	**10 42 13.2**	**-0.2**
ILIN	**Lien**	**1.30**	**78**	Pg	**Pg**	**10 42 14.5**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.40**	**106**	Pg	**Pg**	**10 42 16.4**	**-0.2**
SDS1	**Sardasht. Az.**	**1.48**	**2**	Pg	**Pg**	**10 42 19.0**	**+0.8**
IBDR	**Badra**	**1.61**	**164**	*e*Pg	**Pb**	**10 42 18.0**	**-0.7**
IBDR				*e*Sg	**Sb**	**10 42 40.0**	**+1.3**
IBDR				AML	AML	10 42 57.4	
	comp=E,246nm,0.6s						
IBDR				AML	AML	10 42 58.5	
	comp=N,220nm,0.6s						
BHD	**Baghdad**	**1.63**	**212**	*e*Pg	**Pn**	**10 42 17.0**	**-0.4**
BHD				*e*Sg	**Sb**	**10 42 39.0**	**-0.4**
IBZA	**Bozab**	**2.03**	**95**	Pn	**Pb**	**10 42 26.4**	**+0.3**
MAHB	**Mahabad**	**2.11**	**6**	Pn	**Pb**	**10 42 27.7**	**+0.2**
IKFM	**Kafar-mosalman**	**2.32**	**119**	Pn	**Pb**	**10 42 29.5**	**-1.3**
IDOB	**Doab**	**2.45**	**110**	Pn	**Pb**	**10 42 31.1**	**-2.2**
HSAM	**Samen**	**2.67**	**99**	Pn	**Pb**	**10 42 34.4**	**-2.7**
RAFI	**Al-Rafai**	**2.99**	**168**	*e*Pn	**Pn**	**10 42 37.0**	**+0.9**
RAFI				*e*Sn	**Sn**	**10 43 13.0**	**+1.5**
IAZR	**Azarshahr**	**3.04**	**9**	Pn	**Pb**	**10 42 40.9**	**-2.5**

NOU 19 10:45:04.8, 43°.25S×170°.83E, h2km, MLv3.6/7, South Island, New Zealand
WEL 19 10:45:04.8±0.4, 43°.3°S±3°×17°1E±°, h5km, M3.2/13, ML3.4/13, MLv3.2/13, Error ellipse: s-maj=0.0km s-min=0.0km az=42.8
ISC 19 10:45:05.0±1.0, 43°26S±0°.02×170°88E±0°.03, h10km±9km, n53, σ1°20/62, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVZ	**Waitaha Valley**	**0.21**	**330**	P	**Pg**	**10 45 09.2**	**-0.2**
WVZ				S	**Sg**	**10 45 12.0**	**-0.1**
GCSZ	**Gaunt Creek Bo**	**0.41**	**262**	P	**Pg**	**10 45 13.2**	**+0.1**
GCSZ				S	**Sg**	**10 45 18.5**	**0.0**
RPZ	**Rata Peaks**	**0.47**	**165**	P	**Pg**	**10 45 14.5**	**+0.3**
RPZ	**Rata Peaks**	**0.47**	**165**	P	**Pg**	**10 45 14.5**	**+0.3**
RPZ				S	**Sg**	**10 45 21.0**	**+0.5**
MHCZ	**Mount Hutt**	**0.57**	**119**	P	**Pg**	**10 45 16.0**	**-0.1**
INZ	**Inchbonnie**	**0.67**	**38**	P	**Pg**	**10 45 16.6**	**-1.4**
ARCZ	**Arundel**	**0.72**	**163**	P	**Pg**	**10 45 19.0**	**+0.1**
ARCZ				S	**Sg**	**10 45 28.3**	**-0.1**
FOZ	**Fox Glacier**	**0.82**	**250**	P	**Pb**	**10 45 20.8**	**-0.6**
OXZ	**Oxford**	**0.85**	**95**	P	**Pg**	**10 45 21.2**	**-0.1**
WACZ	**Wakanui South**	**0.97**	**135**	P	**Pg**	**10 45 24.0**	**+0.3**
RACZ	**Rakaia**	**1.03**	**118**	P	**Pg**	**10 45 24.8**	**+0.1**
LTZ	**Lake Taylor**	**1.12**	**65**	P	**Pg**	**10 45 26.0**	**-0.6**
LTZ				S	**Sg**	**10 45 41.6**	**+0.4**
TMZ	**Timaru**	**1.13**	**176**	P	**Pg**	**10 45 26.5**	**-0.2**
LBZ	**Lake Benmore**	**1.23**	**204**	P	**Pg**	**10 45 27.9**	**-0.8**
AMCZ	**Amberley**	**1.29**	**87**	P	**Pn**	**10 45 29.4**	**+0.3**
MQZ	**McQueen's Vall**	**1.36**	**110**	P	**Pn**	**10 45 29.7**	**-0.4**
MQZ				S	**Sg**	**10 45 48.4**	**-0.5**
AKCZ	**Akaroa Harbour**	**1.59**	**113**	P	**Pn**	**10 45 32.9**	**-0.4**
AKCZ				S	**Sn**	**10 45 52.9**	**-1.1**
GVZ	**Greta Valley S**	**1.60**	**80**	P	**Pn**	**10 45 33.5**	**+0.1**
DSZ	**Denniston Nort**	**1.66**	**25**	P	**Pn**	**10 45 34.2**	**0.0**
DSZ				S	**Sn**	**10 45 54.5**	**-1.1**
ODZ	**Otahua Downs**	**1.79**	**185**	P	**Pn**	**10 45 36.9**	**+0.9**
ODZ	**Otahua Downs**	**1.79**	**185**	P	**Pn**	**10 45 36.7**	**+0.7**
ODZ				S	**Sn**	**10 45 59.1**	**+0.3**
WKZ	**Wanaka**	**2.07**	**220**	P	**Pn**	**10 45 40.3**	**+0.5**
THZ	**Tophouse**	**2.11**	**46**	P	**Pn**	**10 45 41.5**	**+1.0**
KHZ	**Kahutara**	**2.13**	**68**	P	**Pn**	**10 45 41.6**	**+1.0**
KHZ	**Kahutara**	**2.13**	**68**	P	**Pn**	**10 45 41.3**	**+0.7**
EAZ	**Earnscleugh**	**2.27**	**209**	P	**Pn**	**10 45 42.4**	**-0.3**
MRNZ	**Matariki Terra**	**2.32**	**37**	P	**Pn**	**10 45 43.4**	**+0.1**
HHSZ	**Highcliff Hill**	**2.63**	**184**	P	**Pn**	**10 45 47.9**	**+0.3**
BSWZ	**Blackbirch Sta**	**2.70**	**56**	P	**Pn**	**10 45 50.6**	**+2.1**
TKNZ	**Takaka Hill**	**2.71**	**35**	P	**Pn**	**10 45 49.1**	**+0.5**
QRZ	**Quartz Range**	**2.72**	**27**	P	**Pn**	**10 45 49.2**	**+0.4**
QRZ	**Quartz Range**	**2.72**	**27**	P	**Pn**	**10 45 49.1**	**+0.4**
NNZ	**Nelson**	**2.76**	**43**	P	**Pn**	**10 45 50.6**	**+1.3**
TUZ	**Tuapeka**	**2.84**	**198**	P	**Pn**	**10 45 51.2**	**+0.8**
MLZ	**Mavora Lakes**	**2.90**	**222**	P	**Pn**	**10 45 51.8**	**+0.6**
TUWZ	**Tuamarina**	**2.91**	**52**	P	**Pn**	**10 45 53.3**	**+1.9**
TCW	**Tory Channel**	**3.25**	**52**	P	**Pn**	**10 45 58.6**	**+2.6**
DUWZ	**D'Urville Isla**	**3.34**	**44**	P	**Pn**	**10 45 59.3**	**+2.0**
SYZ	**Scrubby Hill**	**3.50**	**200**	P	**Pn**	**10 46 00.0**	**+0.5**
SYZ	**Scrubby Hill**	**3.50**	**200**	P	**Pn**	**10 45 59.1**	**-0.4**
CAW	**Cannon Point**	**3.78**	**57**	P	**Pn**	**10 46 02.5**	**-0.9**
MRZ	**Mangatainoka R**	**4.36**	**55**	P	**Pn**	**10 46 10.3**	**-1.0**
KHEZ	**Kahui Hut**	**4.61**	**32**	P	**Pn**	**10 46 16.6**	**+1.8**
KHEZ	**Kahui Hut**	**4.61**	**32**	P	**Pn**	**10 46 16.6**	**+1.8**
PREZ	**Palmer Road**	**4.63**	**33**	P	**Pn**	**10 46 16.7**	**+1.6**
NEZ	**North Egmont**	**4.66**	**32**	P	**Pn**	**10 46 17.8**	**+2.3**
WAZ	**Wanganui**	**4.66**	**43**	P	**Pn**	**10 46 18.0**	**+2.5**
PKE	**Pukeiti**	**4.69**	**31**	P	**Pn**	**10 46 17.6**	**+1.7**
VRZ	**Vera Road**	**5.06**	**37**	P	**Pn**	**10 46 22.4**	**+1.4**
OTVZ	**Oturere**	**5.45**	**43**	P	**Pn**	**10 46 31.2**	**+4.7**
HIZ	**Hauiti**	**5.62**	**34**	P	**Pn**	**10 46 29.1**	**+0.5**
HIZ	**Hauiti**	**5.62**	**34**	P	**Pn**	**10 46 29.1**	**+0.5**
TLZ	**Tolley Road**	**6.06**	**37**	P	**Pn**	**10 46 35.6**	**+0.9**

IDC 19 11:19:46.9±1.0, 6°.17S×142°.63E, h0km, mb3.9/6, mbtmp4.0/8, ML1.6/1, MS3.6/5, Error ellipse: s-maj=42.1km s-min=22.3km az=78.0
ISC 19 11:19:49.2±0.8, 6°.1S±0°.1×142°.77E±0°.09, h10km, n19, σ1°55/16, mb3.9/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**1.76**	**299**	P	**Pn**	**11 20 19.4**	**-0.3**
GENI	**Genyem**	**4.36**	**323**	P	**Pn**	**11 20 57.1**	**+1.6**
PMG	**Port Moresby**	**5.44**	**127**	Pn	**Pn**	**11 21 11.0**	**+0.6**
	1.3nm,0.3s,baz=297,slow=2.3,SNR=1.9						
PMG				Sn	**Sn**	**11 22 10.9**	**-2.2**
	0.7nm,0.3s,baz=248,slow=15,SNR=2.6						
	5.5nm,0.4s						
KDU	**Kakadu**	**12.07**	**237**	P	**Pn**	**11 22 42.6**	**+1.2**
	32nm,1.4s						
WRA	**Warramunga Arr**	**16.00**	**210**	Pn	Pn	11 23 27.9	-6.6
	0.4nm,0.3s,baz=21,slow=13,SNR=18						
WRA				Sn	Sn	11 26 15.7	-16
	0.1nm,0.3s,baz=39,slow=19,SNR=2.7						
WRA				Lg	Lg	11 28 02.4	
	0.1nm,0.3s,baz=27,slow=28,SNR=2.8						
BATI	**Baumata**	**19.34**	**257**	LR	LR	11 34 03.6	
	comp=Z,190nm,18.2s,baz=101,slow=45						
AS01	**Alice Springs**	**19.40**	**205**	P	**P**	**11 24 15.8**	**+0.2**
	15nm,1.0s						
ASAR	**Alice Springs**	**19.42**	**205**	P	**P**	**11 24 13.3**	**-2.5**
	5.9nm,0.7s,baz=32,slow=9.8,SNR=68						
ASAR				S	Sn	11 27 41.1	-14
	0.7nm,0.7s,baz=24,slow=26,SNR=2.2						
ASAR				Lg	Lg	11 29 54.6	
	baz=28,slow=28,SNR=1.4						
ASAR				LR	LR	11 32 25.3	
	comp=Z,366nm,21.0s,baz=24,slow=39						
GUMO	**Guam**	**19.69**	**6**	LR	LR	11 33 03.2	
	comp=Z,52nm,18.8s,baz=74,slow=40						
QLP	**Quilpie**	**20.40**	**176**	P	**P**	**11 24 28.6**	**+2.2**
OOD	**Oodnadatta**	**22.59**	**197**	P	**P**	**11 24 50.7**	**+0.8**
AULRC	**Lightning Ridg**	**23.71**	**169**	P	**P**	**11 25 03.6**	**+2.3**
STKA	**Stephens Creek**	**25.65**	**182**	P	**P**	**11 25 18.4**	**-0.8**
	2.0nm,0.8s,baz=337,slow=13,SNR=3.3						
STKA				LR	LR	11 36 43.7	
	comp=Z,188nm,18.2s,baz=34,slow=40						
	2.0nm,0.8s						
JHJ	**Hachijo jima 2**	**39.12**	**356**	LR	LR	11 42 14.5	
	comp=Z,59nm,18.1s,baz=350,slow=34						
MKAR	**Makanchi Array**	**74.95**	**322**	P	**P**	**11 31 30.6**	**0.0**
	0.6nm,0.8s,baz=111,slow=6.6,SNR=6.8						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**78.83**	**324**	P	**P**	**11 31 52.5**	**+0.1**
	0.2nm,0.3s,baz=106,slow=4.9,SNR=1.5						
	0.2nm,0.3s						
QSPA	**South Pole Qui**	**83.85**	**180**	P	**P**	**11 32 17.7**	**-1.3**
	1.9nm,1.0s,baz=333,slow=3.3,SNR=3.6						
	1.9nm,1.0s						
BVAR	**Borovoye Array**	**84.41**	**325**	P	**P**	**11 32 20.5**	**-1.3**
	1.4nm,0.7s,baz=100,slow=6.2,SNR=6.2						
	1.4nm,0.7s						
ILAR	**Eielson Array**	**87.26**	**24**	P	**P**	**11 32 34.8**	**-0.9**
	0.8nm,0.9s,baz=255,slow=4.7,SNR=7.7						
	0.8nm,0.9s						

SOME 19 11:32:56.0, 43°.67N×84°.45E, h5km
NNC 19 11:32:59.5±1.5, 43°.71N×84°.26E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=12.6km s-min=5.8km az=135.0
ISC 19 11:32:58.9±2.4, 43°57N±0°.10×84°8E±0°.1, h10km, n32, σ2°64/43, 5C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.22**	**269**	*e*P	**Pn**	**11 33 51.0**	**+1.4**
	1.8nm,0.2s						
KTMS				*e*S	**Sn**	**11 34 31.2**	**+3.2**
	18nm,0.2s						
KTMS	**Ketmen**	**3

	3.0nm,0.3s							
KOTS				*e*S		**Sb**	**11 35 46.8**	**+3.0**
	9.9nm,0.2s							
KOTS	**Kotyrbulak**	**5.59**	**269**	Pg		**Pb**	**11 34 35.1**	**-1.6**
	3.0nm,0.3s							
KOTS				Lg		Lg	11 35 46.8	
	8.8nm,0.7s							
CHKK	**Chushkaly**	**5.65**	**276**	*e*P		**Pb**	**11 34 35.8**	**-1.8**
	1.1nm,0.1s							
CHKK				*e*S		**Sb**	**11 35 47.9**	**+2.5**
	5.1nm,0.3s							
CHKK	**Chushkaly**	**5.65**	**276**	Pg		**Pb**	**11 34 35.8**	**-1.8**
	1.1nm,0.1s							
CHKK				Lg		Lg	11 35 47.9	
	5.1nm,0.3s							
KTBS	**Karatobe**	**5.87**	**274**	*e*P		**Pb**	**11 34 40.2**	**-1.1**
	0.9nm,0.3s							
KTBS				*e*S		**Sb**	**11 35 55.6**	**+3.8**
	4.0nm,0.2s							
KTBS	**Karatobe**	**5.87**	**274**	Pg		**Pb**	**11 34 40.2**	**-1.1**
	0.9nm,0.3s							
KTBS				Lg		Lg	11 35 55.6	
	3.9nm,0.6s							
DGS	**Degeres**	**6.56**	**270**	Pg		**Pb**	**11 34 53.1**	**0.0**
	2.1nm,0.4s							
TKM2	**Tokmak 2**	**6.73**	**268**	⇓Pg		**Pb**	**11 34 58.9**	**+2.8**
	1.0nm,0.7s							
TKM2				⇑Lg		Lg	11 36 25.6	
	1.0nm,0.5s							

MOS ***19*** *11:36:25.0±1.1,6.˚77S×106.˚20E,h44km,mb5.4/42,Error ellipse: s-maj=10.1km s-min=4.6km az=118.0*

BJI ***19*** *11:36:25.0±0.0,7.˚20S×106.˚00E,h54km,mb4.9/54, mB5.2/27,Ms4.6/23,Ms7 4.4/26*

DJA ***19*** *11:36:26.7±0.1,7.˚S±1˚×10.˚6E±˚,h53km±2km,M4.9/73, mb5.1/73,mB5.4/33,MLv5.4/25,Mw5.0/38,Mw(mB)4.9/33, MwMwp4.7/6,Mwp5.0/6*

NEIC ***19*** *11:36:27,7.˚39S×105.˚93E,h50km*

NEIC ***19*** *11:36:27.1±2.4,7.˚41S±0.˚06×105.˚94E±0.˚07,h49km±5km, mb5.1/80,Mww5.0/12,Error ellipse: s-maj=10.4km s-min=8.3km az=60.0*

NEIC ***19*** *11:36:27,7.˚39S×105.˚73E,h50km,Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 10^16^Nm; Mrr3.18; Mθθ-1.75; Mφφ-1.43; Mrθ1.69; Mθφ2.48; Mφr-0.07; Fault plane solution: M0 4.06000×10^16^ NP1: φs114.26000°,δ57.93000°,λ66.37000°. NP2: φs333.74000°,δ39.07000°,λ122.60000°. Principal axes: T 3.8051, Plg68.0000°, Azm336.0000°; N 0.4999, Plg20.0000°, Azm127.0000°; P -4.3050, Plg10.0000°, Azm221.0000°;*

IDC ***19*** *11:36:27.3±1.5,6.˚92S×106.˚21E,h52km±12km,mb4.7/30, mbtmp4.9/31,ML5.6/1,MS4.0/57 Error ellipse: s-maj=16.3km s-min=9.5km az=62.0*

GCMT ***19*** *11:36:30.0±0.2,7.˚43S±0.˚02×105.˚95E±0.˚02,h55km±1km, MW5.0/103,Moment Tensor Solution. s66,c92; s103,c159; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.45±.15; Mθθ-3.14±.11; Mφφ-0.32±.14; Mrθ1.82±.10; Mθφ2.49±.08; Mrφ0.06±.10; Best double couple: M0 4.46500×10^16^ NP1:φs104.00000°,δ58.00000°, λ69.00000°. NP2:φs319.00000°,δ38.00000°,λ120.00000°. Principal axes: T 4.0470, Plg69.0000°, Azm328.0000°; N 0.8250, Plg17.0000°, Azm115.0000°; P -4.8820, Plg11.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 11:36:26.6±0.3,7.˚31S±0.˚03×106.˚00E±0.˚03,h56km±2km, h56km:pP-P,n995,σ1§28/1016,mb5.1/125,MS4.1/69, 33C-25D,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.63**	**61**	P	**Pn**	**11 36 39.2**	**-0.6**
SKJI				S	**Sn**	**11 36 47.4**	**-2.1**
DBJI	**Dramaga**	**1.06**	**45**	P	**Pn**	**11 36 45.3**	**-0.1**
DBJI				S	**Sn**	**11 36 59.6**	**+0.4**
SBJI	**Serang**	**1.19**	**6**	P	**Pn**	**11 36 47.2**	**+0.1**
SBJI				S	**Sn**	**11 37 02.9**	**+0.6**
TNG	**Tangerang**	**1.30**	**30**	P		11 36 49.4	
TNG				P	**Pn**	**11 36 48.6**	**0.0**
BBJI	**Bungbulang**	**1.65**	**95**	P	**Pn**	**11 36 52.9**	**-0.4**
LEM	**Lembang**	**1.68**	**73**	P	**Pn**	**11 36 54.1**	**+0.2**
	8μm,0.6s,baz=205,slow=6.0,SNR=446						
LEM				S	**Sn**	**11 37 19.4**	**+5.0**
	17μm,0.7s,baz=135,slow=22,SNR=12						
LEM				LR	LR	11 37 32.9	
	comp=Z,7μm,18.2s,baz=241,slow=47						
LEM	**Lembang**	**1.68**	**73**	P	**Pn**	**11 36 55.2**	**+1.4**
BLSI	**Bandar Lampung**	**2.07**	**339**	P	**Pn**	**11 36 59.9**	**+0.9**
JCJI	**Jatiwangi**	**2.40**	**70**	P	**Pn**	**11 37 03.1**	**-0.4**
CMJI	**Cimerak**	**2.48**	**101**	P	**Pn**	**11 37 04.3**	**-0.3**
CMJI				S	**Sn**	**11 37 30.6**	**-3.0**
KPJI	**Karang Pucung**	**2.91**	**91**	P	**Pn**	**11 37 11.5**	**+1.0**
LWLI	**Liwa**	**2.98**	**320**	P	**Pn**	**11 37 14.3**	**+2.7**
XMI	**Christmas Isla**	**3.13**	**186**	P	**Pn**	**11 37 12.5**	**-1.1**
XMIS	**Christmas Isla**	**3.17**	**186**	P	**Pn**	**11 37 12.5**	**-1.6**
XMIS	**Christmas Isla**	**3.17**	**186**	Pn	**Pn**	**11 37 11.8**	**-2.3**
XMIS				S	**Sn**	**11 37 46.7**	**-4.0**
MNAI	**Manna**	**4.21**	**314**	P	**Pn**	**11 37 29.7**	**+1.3**
MNAI	**Manna**	**4.21**	**314**	Pn	**Pn**	**11 37 30.6**	**+2.2**
MNAI	**Manna**	**4.21**	**314**	P	**Pn**	**11 37 30.7**	**+2.3**
MNAI				S	**Sn**	**11 38 15.3**	**-1.0**
LHSI	**Lahat**	**4.25**	**324**	P	**Pn**	**11 37 32.1**	**+3.3**
LHSI				S	**Sn**	**11 38 23.3**	**+6.2**
SMRI	**Semarang**	**4.42**	**87**	P	**Pn**	**11 37 33.4**	**+2.2**
SMRI	**Semarang**	**4.42**	**87**	Pn	**Pn**	**11 37 35.7**	**+4.5**
SMRI	**Semarang**	**4.42**	**87**	P	**Pn**	**11 37 34.3**	**+3.1**
PMBI	**Palembang**	**4.52**	**344**		**Pn**	**11 37 35.2**	**+2.6**
PMBI	**Palembang**	**4.52**	**344**	P	**Pn**	**11 37 35.4**	**+2.8**
UGM	**Wanagama**	**4.53**	**98**	P	**Pn**	**11 37 32.6**	**-0.1**
UGM	**Wanagama**	**4.53**	**98**		**Pn**	**11 37 32.2**	**-0.5**
UGM	**Wanagama**	**4.53**	**98**	P	**Pn**	**11 37 32.7**	**0.0**
PPBI	**Pangkal Pinang**	**5.12**	**2**	P	**Pn**	**11 37 41.8**	**+1.0**
	270nm,0.7s,1.8nm						
NGJI	**Ngawi**	**5.42**	**91**	P	**Pn**	**11 37 49.0**	**+4.1**
	277nm,0.9s,4μm2.6nm						
PWJI	**Pagerwojo**	**5.80**	**97**	P	**Pn**	**11 37 51.5**	**+1.4**
	508nm,0.7s,4μm3.3nm						
JMBI	**JAMBI**	**6.11**	**337**	P	**Pn**	**11 37 57.4**	**+3.0**
	280nm,1.0s,1.0nm						
GRJI	**Gresik**	**6.45**	**87**	P	**Pn**	**11 38 01.4**	**+2.4**
	347nm,0.9s,3μm1.1nm						
BWJI	**Bawean**	**6.78**	**78**	P	**Pn**	**11 38 04.2**	**+0.7**
	194nm,0.9s,2.6nm						
KRJI	**Kerinci**	**6.88**	**319**	P	**Pn**	**11 38 04.3**	**-0.7**
	612nm,0.8s,6μm2.8nm						
DSRI	**Dabo**	**6.93**	**348**	P	**Pn**	**11 38 08.0**	**+2.3**
	302nm,1.0s,3μm2μm0.9nm						
GMJI	**Gumukmas**	**7.44**	**98**	P	**Pn**	**11 38 14.6**	**+2.0**
	110nm,0.9s,2μm						
PPSI	**Pulau Pagai**	**7.48**	**307**	P	**Pn**	**11 38 13.2**	**0.0**
	733nm,0.8s,6μm4.9nm						
BLJI	**Banyuglugur**	**7.55**	**94**	P	**Pn**	**11 38 18.1**	**+4.0**
	174nm,0.7s,3μm0.9nm						
KMMI	**Kalianget**	**7.91**	**89**	P	**Pn**	**11 38 21.0**	**+1.9**
JAGI	**Jajag, Banyuwa**	**8.16**	**99**	P	**Pn**	**11 38 24.8**	**+2.3**
JAGI	**Jajag, Banyuwa**	**8.16**	**99**	Pn	**Pn**	**11 38 25.3**	**+2.7**
JAGI	**Jajag, Banyuwa**	**8.16**	**99**	P	**Pn**	**11 38 25.7**	**+3.2**
	169nm,0.8s,4μm						
ABJI	**Asem Bagus**	**8.18**	**94**	P	**Pn**	**11 38 26.7**	**+3.9**
	550nm,0.7s,7μm						
TPRI	**Tanjung Pinang**	**8.30**	**350**	P	**Pn**	**11 38 27.6**	**+3.1**
	179nm,1.0s						
PDSI	**Padang**	**8.42**	**319**	P	**Pn**	**11 38 24.9**	**-1.1**
	62nm,0.8s,1μm						
BKNI	**Bangkinang**	**9.05**	**327**	P	**Pn**	**11 38 34.8**	**0.0**
	153nm,0.5s,4μm2μm						
STKI	**Sintang**	**9.14**	**37**	P	**Pn**	**11 38 37.4**	**+1.4**
	117nm,1.1s,2μm						
SRBI	**Singaraja**	**9.17**	**95**	P	**Pn**	**11 38 38.6**	**+2.3**
	192nm,0.8s,3μm						
MYKOM	**Kota Tinggi**	**9.29**	**347**		**Pn**	**11 38 39.3**	**+1.3**
COCO	**West Island**	**10.25**	**241**		**Pn**	**11 38 50.6**	**-0.4**
COCO	**West Island**	**10.25**	**241**	P	**Pn**	**11 38 50.6**	**-0.4**
PBSI	**Pulau Batu**	**10.54**	**313**	P	**Pn**	**11 38 52.6**	**-2.5**
	162nm,1.0s,2μm						
TWSI	**Taliwang, Sumb**	**10.87**	**98**	P	**Pn**	**11 39 00.4**	**+0.8**
	83nm,0.8s,1μm						
MTKI	**Muara Teweh, K**	**10.90**	**55**	P	**Pn**	**11 39 01.7**	**+1.7**
PLAI	**Plampang**	**11.76**	**98**	P	**Pn**	**11 39 11.9**	**+0.1**
PLAI	**Plampang**	**11.76**	**98**	P	**Pn**	**11 39 11.5**	**-0.3**
	83nm,0.9s,1μm						
GSI	**Gunungsitoli**	**11.99**	**315**	P	**Pn**	**11 39 13.9**	**-1.0**
GSI	**Gunungsitoli**	**11.99**	**315**	P	**Pn**	**11 39 12.0**	**-2.9**
	206nm,0.6s						
KCSI	**Kotacane, Aceh**	**13.53**	**322**	P	**Pn**	**11 39 35.8**	**-0.2**
	21nm,0.6s						
KULM	**Kulim**	**13.61**	**337**		**Pn**	**11 39 35.7**	**-1.3**
SNSI	**Sinabang, Aceh**	**13.65**	**315**	P	**Pn**	**11 39 39.3**	**+1.8**
	95nm,0.8s						
KAPI	**Kappang**	**13.87**	**81**	Pn	**Pn**	**11 39 39.9**	**-0.6**
KAPI	**Kappang**	**13.87**	**81**	P	**Pn**	**11 39 39.9**	**-0.6**
BKSI	**Bulukumba**	**14.18**	**83**	P	**Pn**	**11 39 46.2**	**+1.5**
	43nm,1.1s						
TTSI	**Tana Toraja**	**14.40**	**74**	P	**Pn**	**11 39 50.3**	**+2.7**
	33nm,1.6s,594nm						
BASI	**Baing, Sumba**	**14.70**	**102**	P	**Pn**	**11 39 51.5**	**0.0**
	251nm,0.9s						
MLSI	**Meulaboh, Aceh**	**14.96**	**320**	P	**Pn**	**11 39 55.4**	**+0.5**
	50nm,0.6s						
EDFI	**Ende, Flores**	**15.61**	**96**	P	**Pn**	**11 40 01.1**	**-2.2**
	47nm,0.7s,574nm						
MPSI	**Mapaga**	**15.81**	**62**	P	**P**	**11 40 08.1**	**-0.6**
	48nm,1.2s,638nm						
MMRI	**Maumere**	**16.14**	**96**	P	**P**	**11 40 13.4**	**+1.0**
MMRI	**Maumere**	**16.14**	**96**	Pn	**Pn**	**11 40 08.8**	**-1.2**
MMRI				IAmb	IAmb	11 40 16.6	
	comp=Z,86nm,0.7s						
MMRI	**Maumere**	**16.14**	**96**	P	**Pn**	**11 40 08.6**	**-1.4**
	comp=Z,146nm,0.6s,comp=Z,2μm						
BBSI	**Bau Bau**	**16.57**	**85**	P	**P**	**11 40 17.2**	**+0.1**
	comp=Z,60nm,1.0s						
KKM	**Kota Kinabalu**	**16.73**	**38**	P	**P**	**11 40 19.4**	**+0.4**
KKM	**Kota Kinabalu**	**16.73**	**38**	P	**Pn**	**11 40 17.2**	**-0.4**
KKM				IAmb	IAmb	11 40 22.2	
	comp=Z,72nm,0.8s						
TOLI2	**Tolitoli**	**16.96**	**61**	P	**P**	**11 40 22.3**	**+0.9**
TOLI2	**Tolitoli**	**16.96**	**61**	P	**P**	**11 40 22.1**	**+0.6**
GIRL	**Giralia**	**17.18**	**153**	P	**Pn**	**11 40 22.7**	**-0.2**
	baz=17,SNR=21						
GIRL	**Giralia**	**17.18**	**153**	P	**Pn**	**11 40 23.3**	**+0.3**
MRSI	**Marisa**	**17.69**	**65**	P	**Pn**	**11 40 29.8**	**+0.6**
	comp=Z,54nm,1.0s						
BATI	**Baumata**	**17.70**	**101**	P	**Pn**	**11 40 29.1**	**-0.2**
	comp=Z,22nm,0.3s,baz=254,slow=4.4,SNR=8.3						
BATI				S	**S**	**11 43 50.1**	**-0.4**
	comp=Z,40nm,0.7s,baz=56,slow=18,SNR=2.8						
BATI				LR	LR	11 48 34.1	
	comp=Z,446nm,21.2s,baz=316,slow=41 comp=Z,52nm,0.3s						
BATI	**Baumata**	**17.70**	**101**	P	**P**	**11 40 30.9**	**+1.3**
	comp=Z,110nm,1.1s,comp=Z,2μm						
LUWI	**Luwuk**	**17.85**	**70**	P	**Pn**	**11 40 32.5**	**+1.4**
LUWI	**Luwuk**	**17.85**	**70**	P	**Pn**	**11 40 33.0**	**+1.8**
	comp=Z,80nm,1.2s						
SOEI	**Soe**	**18.23**	**99**	P	**Pn**	**11 40 37.8**	**+1.8**
SOEI	**Soe**	**18.23**	**99**	P	**P**	**11 40 35.8**	**+0.2**
SOEI				IAmb	IAmb	11 40 48.9	
	comp=Z,89nm,0.7s						
SOEI	**Soe**	**18.23**	**99**	P	**P**	**11 40 35.8**	**+0.2**
	comp=Z,193nm,1.0s,comp=Z,2μm						
MBWA	**Marble Bar**	**19.13**	**137**	P	**Pn**	**11 40 48.0**	**+1.4**
MBWA	**Marble Bar**	**19.13**	**137**	P	**Pn**	**11 40 46.9**	**+0.3**
DLV	**T Lat**	**19.29**	**7**		**P**	**11 40 47.0**	**-0.3**
PSA00	**Pilbara Seismi**	**19.49**	**138**	P	**Pn**	**11 40 51.7**	**+0.8**
PSA00	**Pilbara Seismi**	**19.49**	**138**	P	**P**	**11 40 49.8**	**+0.6**
PSA00	**Pilbara Seismi**	**19.49**	**138**	P	**P**	**11 40 48.3**	**-0.9**
PSA00				IAmb	IAmb	11 40 56.4	
	comp=Z,15nm,0.8s						
SANI	**Sanana**	**20.59**	**76**	P	**P**	**11 41 00.2**	**-1.1**
	comp=Z,30nm,0.8s,comp=Z,463nm						
NLAI	**Namlea**	**21.40**	**80**	P	**P**	**11 41 10.9**	**+1.0**
	comp=Z,58nm,1.1s,comp=Z,6μm						
FITZ	**Fitzroy Crossi**	**21.93**	**121**	P	**P**	**11 41 17.1**	**+1.5**
	baz=22,SNR=9.1						
FITZ	**Fitzroy Crossi**	**21.93**	**121**	P	**P**	**11 41 17.3**	**+1.7**
FITZ	**Fitzroy Crossi**	**21.93**	**121**	P	**P**	**11 41 17.0**	**+1.5**
LBMI	**Labuha**	**22.44**	**74**	P	**P**	**11 41 19.6**	**-1.6**
	comp=Z,82nm,0.8s,comp=Z,2μm						
MEEK	**Meekatharra**	**22.66**	**150**	P	**P**	**11 41 25.1**	**+1.8**
	baz=23,SNR=4.1						
MEEK	**Meekatharra**	**22.66**	**150**	P	**P**	**11 41 25.2**	**+1.8**
TNTI	**Ternate**	**22.78**	**70**	P	**P**	**11 41 23.2**	**-1.5**
TNTI	**Ternate**	**22.78**	**70**	P	**P**	**11 41 24.7**	**0.0**
	comp=Z,136nm,1.1s,comp=Z,2μm						
MORW	**Morawa**	**23.62**	**158**	P	**P**	**11 41 34.4**	**+1.6**
	baz=24,SNR=4.5						
MORW	**Morawa**	**23.62**	**158**	P	**P**	**11 41 34.6**	**+1.8**
MORW	**Morawa**	**23.62**	**158**	P	**P**	**11 41 30.5**	**-2.3**
KNRA	**Kununurra**	**23.79**	**112**	P	**P**	**11 41 34.9**	**+0.4**
	baz=24,SNR=26						
KNRA	**Kununurra**	**23.79**	**112**	P	**P**	**11 41 34.8**	**+0.4**
KNRA	**Kununurra**	**23.79**	**112**	P	**P**	**11 41 34.2**	**-0.3**
KNRA				IAmb	IAmb	11 41 35.8	
	comp=Z,76nm,0.9s						
DAV	**Davao City (W)**	**24.20**	**54**	LR	LR	11 51 13.8	
	comp=Z,267nm,21.2s,baz=253,slow=37						
SAUI	**Saumlaki**	**25.09**	**93**	P	**P**	**11 41 45.3**	**-1.0**
SAUI	**Saumlaki**	**25.09**	**93**	P	**P**	**11 41 44.5**	**-1.8**
	comp=Z,136nm,0.8s						
MTN	**Manton Dam**	**25.34**	**105**	P	**P**	**11 41 50.0**	**+1.4**
MTN	**Manton Dam**	**25.34**	**105**	P	**P**	**11 41 48.4**	**-0.2**
MTN				IAmb	IAmb	11 42 22.8	
	comp=Z,30nm,0.6s						
SWI	**Sorong**	**25.99**	**77**	P	**P**	**11 41 53.2**	**-1.3**
	comp=Z,117nm,0.8s,comp=Z,1μm						
PHRA	**Phrae**	**26.27**	**348**	P	**P**	**11 41 55.5**	**-1.4**
QIZ	**Qiongzhong**	**26.45**	**8**	P	**P**	**11 42 01.3**	**+2.8**
QIZ				sP	**sP**	**11 42 17.9**	**-0.9**
QIZ				S	**S**	**11 46 33.4**	**+4.9**
QIZ				LR	LR		
	comp=Z,610nm,22.7s						
QIZ				LR	LR		
	comp=Z,240nm,18.5s						
QIZ				LR	LR		
	comp=Z,830nm,21.9s						
FAKI	**Fak Fak**	**26.50**	**82**	P	**P**	**11 42 00.0**	**+0.8**
FAKI	**Fak Fak**	**26.50**	**82**	P	**P**	**11 41 57.6**	**-1.5**
FAKI				IAmb	IAmb	11 41 59.5	
	comp=Z,19nm,0.6s						
CMAR	**Chiang Mai Arr**	**26.53**	**345**	*i* P	**P**	**11 41 58.0**	**-1.3**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**26.53**	**345**	P	**P**	**11 41 57.3**	**-2.0**
	comp=Z,3.6nm,0.8s,baz=180,slow=8.6,SNR=22						
CMAR				PcP	**PcP**	**11 45 24.6**	**+1.5**
	comp=Z,3.7nm,0.7s,baz=204,slow=3.1,SNR=9.4						
CMAR				LR	LR	11 53 27.6	
	comp=Z,222nm,19.1s,baz=170,slow=39 comp=Z,3.6nm,0.8s						
KLBR	**Kellerberrin**	**26.54**	**157**	P	**P**	**11 42 00.9**	**+1.7**
	baz=27						
KLBR	**Kellerberrin**	**26.54**	**157**	P	**P**	**11 42 01.5**	**+2.3**
KDU	**Kakadu**	**26.61**	**104**	P	**P**	**11 41 59.5**	**-0.5**
	baz=27,SNR=5.1						
NWAO	**Narrogin (SRO)**	**27.54**	**159**	LR	LR	11 52 04.3	
	comp=Z,429nm,21.0s,baz=301,slow=34						
WRKA	**Warakurna**	**27.66**	**132**	P	**P**	**11 42 11.0**	**+1.6**
	baz=28,SNR=7.9						
WRKA	**Warakurna**	**27.66**	**132**	P	**P**	**11 42 11.4**	**+2.0**
CRAI	**Chiangrai**	**27.92**	**349**	P	**P**	**11 42 09.7**	**-2.0**
KMBL	**Kambalda**	**28.16**	**150**	P	**P**	**11 42 15.5**	**+1.7**
	baz=28,SNR=12						
KMBL	**Kambalda**	**28.16**	**150**	P	**P**	**11 42 15.8**	**+2.0**
H01W3	**Cape Leeuwin H**	**28.45**	**166**	T	T	12 12 15.8	
	baz=342,slow=78,SNR=162						
H01W1	**Cape Leeuwin H**	**28.46**	**166**	T	T	12 12 15.8	
	baz=342,slow=78,SNR=143						
H01W2	**Cape Leeuwin H**	**28.46**	**166**	T	T	12 12 14.7	
	baz=342,slow=78,SNR=175						
PALK	**Pallekele**	**29.09**	**299**	*i* P	**P**	**11 42 24.7**	**+2.4**
PALK	**Pallekele**	**29.09**	**299**	P	**P**	**11 42 22.8**	**+0.5**
	comp=Z,10.0nm,0.9s,baz=199,slow=4.1,SNR=4.9						
PALK				LR	LR	11 52 39.7	
	comp=Z,417nm,21.9s,baz=225,slow=33 comp=Z,10.0nm,0.9s						
WB0	**Warramunga Arr**	**30.20**	**117**	P	**P**	**11 42 33.1**	**+1.1**
WB0				IAmb	IAmb	11 42 34.3	
	comp=Z,41nm,1.0s						
WRA	**Warramunga Arr**	**30.21**	**117**	P	**P**	**11 42 32.9**	**+0.7**
WRA	**Warramunga Arr**	**30.21**	**117**	P	**P**	**11 42 33.1**	**+1.0**
	comp=Z,22nm,0.9s,baz=304,slow=9.3,SNR=101						
WRA				PcP	**PcP**	**11 45 33.3**	**+1.1**
	comp=Z,2.6nm,0.6s,baz=299,slow=2.2,SNR=6.8 comp=Z,22nm,0.9s						
WRAB	**Tennant Creek**	**30.21**	**117**	P	**P**	**11 42 33.2**	**+1.0**
WRAB				IAmb	IAmb	11 42 34.6	
	comp=Z,27nm,0.8s						
WRAB	**Tennant Creek**	**30.21**	**117**	P	**P**	**11 42 33.2**	**+1.0**
WRAB				pmax	pmax		
	comp=Z,27nm,0.9s						
WB2	**Warramunga Arr**	**30.22**	**117**	P	**P**	**11 42 33.0**	**+0.7**
WB2				IAmb	IAmb	11 42 34.5	
	comp=Z,26nm,0.9s						
WB1	**Warramunga Ar.**	**30.22**	**117**	P	**P**	**11 42 33.4**	**+1.2**
WR0	**Warramunga Arr**	**30.39**	**117**	P	**P**	**11 42 34.5**	**+0.7**
WR0				IAmb	IAmb	11 42 35.8	
	comp=Z,39nm,1.0s						
FORT	**Forrest**	**31.17**	**141**	P	**P**	**11 42 42.4**	**+1.9**
AS31	**Alice Springs**	**31.33**	**124**	P	**P**	**11 42 42.7**	**+0.7**
ASAR	**Alice Springs**	**31.33**	**124**	P	**P**	**11 42 43.1**	**+1.1**
	comp=Z,11nm,1.0s,baz=298,slow=7.6,SNR=55						
ASAR				PcP	**PcP**	**11 45 35.5**	**+0.3**
	comp=Z,3.0nm,0.7s,baz=316,slow=3.4,SNR=7.7						
ASAR				S	**S**	**11 47 41.7**	**-3.7**
	comp=Z,1.9nm,1.0s,baz=293,slow=17,SNR=4.7						
ASAR				LR	LR	11 55 15.3	
	comp=Z,220nm,20.8s,baz=306,slow=36 comp=Z,11nm,1.0s						
AS01	**Alice Springs**	**31.37**	**124**	P	**P**	**11 42 44.0**	**+1.7**
H08S2	**Diego Garcia H**	**33.21**	**267**	T	T	12 18 21.7	
	baz=91,slow=76,SNR=84						
H08S3	**Diego Garcia H**	**33.22**	**267**	T	T	12 18 25.6	
	baz=91,slow=76,SNR=239						
H08S1	**Diego Garcia H**	**33.23**	**267**	T	T	12 18 26.4	
	baz=91,slow=76,SNR=274						
PZH	**PanZhiHua**	**33.87**	**353**	P	P	11 43 09.3	+5.1
PZH				S	S	11 48 34.0	+9.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,120nm,6.3s						
PZH				LR	LR		
	comp=N,230nm,15.2s						
PZH				LR	LR		
	comp=E,290nm,15.7s						
PZH				LR	LR		
	comp=Z,610nm,16.7s						
OOD	**Oodnadatta**	**34.71**	**130**	P	**P**	**11 43 13.6**	**+2.2**
MULG	**Mulgathing**	**34.85**	**135**	P	**P**	**11 43 14.2**	**+1.6**
QIS	**Mount Isa**	**35.09**	**116**	P	**P**	**11 43 15.8**	**+1.0**
	baz=35,SNR=18						
QIS	**Mount Isa**	**35.09**	**116**	P	**P**	**11 43 16.1**	**+1.3**
HYB	**Hyderabad**	**36.59**	**312**	*e*P	**P**	**11 43 28.6**	**+0.9**
HYB				IVmB_BB		11 43 28.9	
	comp=Z,590nm,0.8s						
COEN	**Coen**	**37.10**	**103**	P	**P**	**11 43 31.9**	**-0.2**
	baz=37,SNR=11						
COEN	**Coen**	**37.10**	**103**	P	**P**	**11 43 33.6**	**+1.6**
COEN	**Coen**	**37.10**	**103**	P	**P**	**11 43 31.1**	**-0.9**
COEN				IAmb	IAmb	11 43 36.5	
	comp=Z,27nm,0.9s						
LCRK	**Leigh Creek**	**37.96**	**132**	P	**P**	**11 43 42.4**	**+3.3**
CD2	**Chengdu**	**38.06**	**357**	P	**P**	**11 43 43.0**	**+3.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
INKA	**Innaminka**	**38.65**	**126**	P	**P**	**11 43 47.2**	**+2.2**
MTSU	**Mount Surprise**	**38.81**	**110**	P	**P**	**11 43 47.5**	**+1.0**
	baz=39,SNR=14						
MTSU	**Mount Surprise**	**38.81**	**110**	P	**P**	**11 43 48.4**	**+1.9**
JOW	**Kunigami**	**40.23**	**32**	LR	LR	12 00 22.4	
	comp=Z,128nm,20.8s,baz=308,slow=36						
PMG	**Port Moresby**	**40.76**	**96**	P	**P**	**11 44 05.3**	**+2.5**
PMG	**Port Moresby**	**40.76**	**96**	P	**P**	**11 44 05.2**	**+2.5**
PMG	**Port Moresby**	**40.76**	**96**	P	**P**	**11 44 02.8**	**+0.1**
PMG				IAmb	IAmb	11 44 05.3	
	comp=Z,49nm,0.9s						
PMG	**Port Moresby**	**40.76**	**96**	P	**P**	**11 44 02.8**	**+0.1**
PMG				pmax	pmax		
	comp=Z,49nm,1.0s						
PMG	**Port Moresby**	**40.76**	**96**	P	**P**	**11 44 04.0**	**+1.3**
CTA	**Charters Tower**	**41.00**	**112**	LR	LR	12 00 57.7	
	comp=Z,255nm,21.9s,baz=0.0,slow=36						
CTAO	**Charters Tower**	**41.00**	**112**	P	**P**	**11 44 05.1**	**+0.5**
CTAO				IAmb	IAmb	11 44 07.0	
	comp=Z,19nm,0.9s						
CTAO	**Charters Tower**	**41.00**	**112**	P	**P**	**11 44 05.1**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,19nm,0.9s						
CTAO	**Charters Tower**	**41.00**	**112**	P	**P**	**11 44 06.2**	**+1.5**
NJ2	**Nanjing**	**41.02**	**17**	*e*P	**P**	**11 44 07.9**	**+3.4**
NJ2				pP	**pP**	**11 44 18.8**	**+0.3**
NJ2				sP	**pwP**	**11 44 23.8**	**+5.3**
NJ2				pmax	pmax		
	comp=Z,12

BTO S **S** **11 51 50.5 -1.3**
BTO pmax pmax
comp=Z,28nm,0.9s
BTO pmax pmax
comp=Z,180nm,3.9s
BTO LR LR
comp=Z,810nm,20.2s
BTO LR LR
comp=Z,560nm,12.6s
BTO LR LR
comp=Z,970nm,19.8s
BJI Beijing 48.04 11 P **P** **11 44 58.8 -1.6**
BJI PcP **PcP** **11 46 28.3 +0.7**
BJI pmax pmax
comp=Z,5.0nm,0.9s
HHC Hu-ho-hao-te 48.20 6 *e*P P 11 45 06.8 +5.1
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,53nm,4.7s
HHC LR LR
comp=Z,230nm,17.9s
HHC LR LR
comp=Z,180nm,17.6s
HHC LR LR
comp=Z,290nm,17.6s
KSRS Korea Array 49.02 23 P **P** **11 45 06.8 -1.1**
comp=Z,4.0nm,0.8s,baz=214,slow=7.9,SNR=8.4
KSRS PcP **PcP** **11 46 31.4 +0.3**
comp=Z,7.3nm,0.9s,baz=210,slow=4.0,SNR=8.9
comp=Z,4.0nm,0.8s
NIL Nilore 51.23 325 P **P** **11 45 23.8 -1.0**
NIL Nilore 51.23 325 P **P** **11 45 23.8 -1.0**
NIL pmax pmax
comp=Z,58nm,1.0s
NIL Nilore 51.23 325 P **P** **11 45 24.0 -0.8**
NIL pP **pP** **11 45 38.3 -0.7**
JHJ Hachijo jima 2 51.46 37 LR LR 12 08 40.6
comp=Z,67nm,19.5s,baz=94,slow=38
XLT XiLinHaoTe 51.78 9 *e*P **P** **11 45 27.1 -1.7**
XLT pP pP 11 45 43.3 0.0
XLT sP sP 11 45 49.3 -0.3
XLT PcP **PcP** **11 46 41.3 0.0**
XLT pmax pmax
comp=Z,21nm,0.7s
XLT pmax pmax
comp=Z,120nm,4.6s
MJAR Matsushiro Arr 53.06 32 P **P** **11 45 34.9 -3.5**
comp=Z,2.6nm,0.9s,baz=214,slow=5.9,SNR=3.8
MJAR PcP **PcP** **11 46 45.7 -0.5**
comp=Z,4.7nm,0.8s,baz=208,slow=4.4,SNR=7.5
MJAR LR LR 12 08 47.2
comp=Z,33nm,21.5s,baz=223,slow=37
comp=Z,2.6nm,0.9s
HNR Honiara 53.38 96 LR LR 12 10 07.9
comp=Z,692nm,19.7s,baz=302,slow=38
WMQ Urumqi 53.52 344 *e*P **P** **11 45 40.8 -0.9**
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ LR LR
comp=Z,150nm,23.8s
CN2 Changchun 53.84 17 P **P** **11 45 42.1 -1.8**
CN2 PcP **PcP** **11 46 48.8 -0.2**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,300nm,17.0s
KSH Kashi 54.25 332 P **P** **11 45 45.1 -2.0**
KSH sP pP 11 46 05.1 +3.2
KSH pmax pmax
comp=Z,9.0nm,0.8s
KBL Kabul 54.34 322 P **P** **11 45 47.1 -0.8**
KBL Kabul 54.34 322 P **P** **11 45 47.1 -0.8**
KBL pmax pmax
comp=Z,37nm,0.8s
SONM Songino Array 54.91 0 P **P** **11 45 50.4 -1.4**
SONM IAmb IAmb 11 46 54.0
comp=Z,22nm,0.7s
SONM Songino Array 54.91 0 P **P** **11 45 50.3 -1.4**
comp=Z,6.0nm,0.8s,baz=173,slow=8.7,SNR=35
SONM PcP **PcP** **11 46 53.1 0.0**
comp=Z,23nm,0.7s,baz=179,slow=3.8,SNR=24
SONM ScP **ScP** **11 50 46.4 -0.8**
comp=Z,1.4nm,0.9s,baz=176,slow=4.4,SNR=4.1
SONM LR LR 12 11 16.1
comp=Z,462nm,20.4s,baz=172,slow=38
comp=Z,6.0nm,0.8s
ULN Ulaanbaatar 54.94 1 P **P** **11 45 50.9 -1.2**
ULN IAmb IAmb 11 46 54.0
comp=Z,15nm,0.7s
ULN Ulaanbaatar 54.94 1*ce*P **P** **11 45 50.3 -1.7**
ULN pmax pmax
comp=Z,7.0nm,0.7s
ULN Ulaanbaatar 54.94 1 P **P** **11 45 50.5 -1.6**
ULN PcP **PcP** **11 46 53.1 -0.2**
WSAR Wadi Sarin 55.36 305 LR LR 12 08 24.4
comp=Z,284nm,19.8s,baz=142,slow=35
SHLS Shalkode 55.72 337 *e*P **P** **11 45 55.0 -2.6**
SHLS pmax pmax
comp=Z,9.0nm,0.6s
SHLS Shalkode 55.72 337 *e*P **P** **11 45 55.1 -2.6**
comp=Z,8.9nm,0.6s,baz=337
NRN Naryn 55.76 333 P **P** **11 45 56.6 -1.6**
NRN IAmb IAmb 11 46 59.2
comp=Z,12nm,0.8s
NRN Naryn 55.76 333 P **P** **11 45 56.6 -1.6**
NRN pmax pmax
comp=Z,13nm,0.8s
PDGK Podgornoye 55.85 337 P **P** **11 45 56.4 -2.2**
UZB Uzynbulak 55.88 336 *e*P **P** **11 45 57.2 -1.7**
UZB Uzynbulak 55.88 336 *e*P **P** **11 45 57.2 -1.7**
baz=336
MDJ Mudanjiang 55.89 20 P **P** **11 46 00.3 +1.6**
MDJ pP pP 11 46 11.8 -1.6
MDJ sP sP 11 46 17.0 -2.7
MDJ PcP **PcP** **11 46 55.8 -1.1**
MDJ PP **PP** **11 48 06.1 +2.1**
MDJ ScP **ScP** **11 50 52.6 +1.2**
MDJ PcS **PcS** **11 50 57.5 +0.4**
MDJ S **S** **11 53 47.5 +5.2**
MDJ sS sS 11 54 06.3 -1.2
MDJ pmax pmax
comp=Z,10.0nm,1.4s
MDJ pmax pmax
comp=Z,260nm,4.0s
SATY Saty 56.06 336 *e*P **P** **11 45 58.4 -1.7**
SATY Saty 56.06 336 *e*P **P** **11 45 58.4 -1.7**
baz=336
ZHN Zhinishke 56.13 336 *e*P **P** **11 45 58.7 -1.9**
ZHN Zhinishke 56.13 336 *e*P **P** **11 45 58.8 -1.9**
baz=336
BNX BinXian 56.18 18 ⇓P **P** **11 45 59.0 -1.8**
BNX pmax pmax
comp=Z,9.0nm,0.8s
BNX pmax pmax
comp=Z,200nm,4.1s
USRK Ussuriysk Ar. 56.39 22 P **P** **11 46 00.6 -1.7**
comp=Z,2.9nm,0.7s,baz=183,slow=5.7,SNR=6.4
USRK LR LR 12 11 13.7
comp=Z,81nm,19.9s,baz=195,slow=37
comp=Z,2.9nm,0.7s
BOOM Boomskoye usch 56.63 334 P **P** **11 46 02.7 -1.6**
BOOM Boomskoye usch 56.63 334 P **P** **11 46 02.7 -1.6**
BOOM pmax pmax
comp=Z,9.0nm,1.2s
MDOK Medeo 56.70 335 *e*P **P** **11 46 03.2 -1.5**
MDOK Medeo 56.70 335 *e*P **P** **11 46 03.2 -1.5**
baz=335
AAA Alma-Ata 56.80 335 *e*P **P** **11 46 03.7 -1.5**
AAA pmax pmax
comp=Z,10.0nm,0.4s
AAA Alma-Ata 56.80 335 *e*P **P** **11 46 03.8 -1.5**
comp=Z,10nm,0.4s,baz=335
ARSB Arslanbob 57.09 331 P **P** **11 46 06.3 -1.2**
ARSB Arslanbob 57.09 331 P **P** **11 46 06.3 -1.2**
ARSB pmax pmax
comp=Z,6.0nm,0.9s
TKM2 Tokmak 2 57.13 334 *i* P **P** **11 46 05.7 -2.1**
TKM2 pmax pmax
comp=Z,15nm,1.0s
SIMJ Simiganj 57.20 326 P **P** **11 46 06.6 -1.7**
SIMJ Simiganj 57.20 326 P **P** **11 46 06.4 -1.9**
SIMJ pP **pP** **11 46 21.2 -1.6**
BTK Batken 57.23 328 P **P** **11 46 07.7 -0.7**
BTK IAmb IAmb 11 46 08.8
comp=Z,16nm,0.7s
BTK Batken 57.23 328 P **P** **11 46 07.7 -0.7**
BTK pmax pmax
comp=Z,16nm,0.7s
AAK Ala-Archa 57.40 333 P **P** **11 46 08.8 -0.9**
AAK IAmb IAmb 11 47 05.0
comp=Z,9.2nm,0.8s
AAK Ala-Archa 57.40 333*ce*P **P** **11 46 09.0 -0.7**
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 57.40 333 LR LR 12 13 27.8
comp=Z,129nm,20.7s,baz=138,slow=39
AAK Ala-Archa 57.40 333 P **P** **11 46 08.7 -0.9**
AAK PcP **PcP** **11 47 04.4 +1.4**
ZAK Zakamensk 57.50 358 *e*P **P** **11 46 08.1 -2.1**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
ZSN Zaisan 57.65 343 *e*P **P** **11 46 09.4 -1.7**
ZSN Zaisan 57.65 343 *e*P **P** **11 46 09.4 -1.7**
baz=343
TDK Taldyqorghan 57.68 337 *e*P **P** **11 46 09.9 -1.5**
TDK pmax pmax
comp=Z,10.0nm,0.4s
TDK Taldyqorghan 57.68 337 *e*P **P** **11 46 10.0 -1.5**
comp=Z,9.8nm,0.4s,baz=337
MK31 Makanchi Array 57.85 341 P **P** **11 46 10.3 -2.2**
MK31 IAmb IAmb 11 46 11.3
comp=Z,6.9nm,0.6s
MK31 Makanchi Array 57.85 341 P **P** **11 46 10.3 -2.2**
MK31 pmax pmax
comp=Z,7.0nm,0.6s
MKAR Makanchi Array 57.85 341 P **P** **11 46 10.3 -2.2**
MKAR Makanchi Array 57.85 341 P **P** **11 46 10.8 -1.8**
comp=Z,9.6nm,0.5s,baz=149,slow=8.0,SNR=172
MKAR PcP **PcP** **11 47 04.2 -0.4**
comp=Z,3.9nm,0.7s,baz=155,slow=5.9,SNR=3.6
MKAR LR LR 12 14 49.4
comp=Z,153nm,20.9s,baz=168,slow=40
comp=Z,9.6nm,0.5s
MAKZ Makanchi 57.96 341 P **P** **11 46 11.9 -1.4**
MAKZ IAmb IAmb 11 46 13.2
comp=Z,19nm,1.7s
MAKZ Makanchi 57.96 341 P **P** **11 46 11.9 -1.4**
MAKZ pmax pmax
comp=Z,19nm,1.7s
MAKZ Makanchi 57.96 341 P **P** **11 46 12.0 -1.4**
MAKZ PcP **PcP** **11 47 05.1 +0.2**
SGDS Sogindy 57.98 333 *e*P **P** **11 46 12.1 -1.5**
SGDS Sogindy 57.98 333 *e*P **P** **11 46 12.2 -1.5**
baz=333
UOSS Minazif 58.11 305 P **P** **11 46 15.1 +0.3**
UOSS IAmb IAmb 11 46 22.2
comp=Z,12nm,0.7s
UOSS Minazif 58.11 305 P **P** **11 46 16.1 +1.3**
MOY Mondy 58.90 356 *e*P **P** **11 46 18.7 -1.2**
DGZ Jazzator, Alta 59.04 346*c i*P **P** **11 46 19.3 -1.7**
DGZ pmax pmax
comp=Z,33nm,0.7s
DZA Taraz 59.08 331 *e*P **P** **11 46 19.6 -1.6**
DZA pmax pmax
comp=Z,6.0nm,0.5s
DZA Taraz 59.08 331 *e*P **P** **11 46 19.6 -1.6**
comp=Z,5.7nm,0.5s,baz=331
IUG Iuzhnay 59.16 329 *e*P **P** **11 46 20.7 -1.2**
IUG pmax pmax
comp=Z,16nm,0.7s
IUG Iuzhnay 59.16 329 *e*P **P** **11 46 20.8 -1.2**
comp=Z,16nm,0.7s,baz=329
BTLS Baital 59.50 334 *e*P **P** **11 46 22.4 -1.6**
BTLS Baital 59.50 334 *e*P **P** **11 46 22.4 -1.6**
baz=334
KK31 Karatay Array 59.63 330 P **P** **11 46 23.8 -1.2**
KK31 Karatay Array 59.63 330 P **P** **11 46 23.8 -1.2**
KK31 pmax pmax
comp=Z,4.0nm,0.9s
KKAR Karatay Array 59.63 330 P **P** **11 46 23.8 -1.2**
KKAR Karatay Array 59.63 330 P **P** **11 46 23.8 -1.2**
KKAR pmax pmax
comp=Z,4.0nm,0.9s
BRLS Boroldoy 59.91 330 *e*P **P** **11 46 24.6 -2.3**
BRLS Boroldoy 59.91 330 *e*P **P** **11 46 24.7 -2.3**
baz=330
DZM Mont Dzumac 59.93 111 LR LR 12 13 21.3
comp=Z,70nm,20.6s,baz=248,slow=37
HEH HeiHe 60.27 16 *e*P **P** **11 46 26.6 -2.6**
HEH pmax pmax
comp=Z,11nm,0.9s
HEH pmax pmax
comp=Z,160nm,5.5s
H04N2 CROZET ISLANDS 60.38 220 T T 12 52 22.3
baz=67,slow=75,SNR=294
H04N1 CROZET ISLANDS 60.39 220 T T 12 52 22.9
baz=67,slow=75,SNR=36
H04N3 CROZET ISLANDS 60.40 220 T T 12 52 21.3
baz=67,slow=75,SNR=36
H04S1 CROZET ISLANDS 60.57 220 T T 12 52 40.9
baz=73,slow=75,SNR=15
H04S3 CROZET ISLANDS 60.58 220 T T 12 52 41.6
baz=73,slow=75,SNR=5.8
H04S2 CROZET ISLANDS 60.59 220 T T 12 52 41.4
baz=73,slow=75,SNR=7.5
KLR Kul'dur 60.65 19*ce*P **P** **11 46 29.1 -2.7**
KLR pmax pmax
comp=Z,9.0nm,1.7s
KLR Kul'dur 60.65 19 LR LR 12 12 41.3
comp=Z,106nm,21.2s,baz=216,slow=36
ASAJ Asahikawa 60.93 29 LR LR 12 12 29.6
comp=Z,44nm,21.9s,baz=96,slow=36
SEM Semipalatinsk 61.67 342 *e*P **P** **11 46 37.8 -1.2**
SEM Semipalatinsk 61.67 342 *e*P **P** **11 46 37.9 -1.1**
baz=341
KURBB Kurchatov Arra 62.41 341 P **P** **11 46 42.0 -1.7**
comp=Z,4.4nm,0.5s,baz=160,slow=5.8,SNR=33
KURBB PcP **PcP** **11 47 23.1 +0.4**
comp=Z,5.6nm,0.6s,baz=152,slow=3.9,SNR=7.0
KURBB LR LR 12 16 54.8
comp=Z,195nm,20.4s,baz=176,slow=39
comp=Z,4.4nm,0.5s
KURK Kurchatov 62.46 341 P **P** **11 46 42.4 -1.6**
KURK IAmb IAmb 11 46 44.2
comp=Z,29nm,1.4s
KURK Kurchatov 62.46 341 *i* P **P** **11 46 41.5 -2.5**
KURK pmax pmax
comp=Z,13nm,1.0s
KURK Kurchatov 62.46 341 P **P** **11 46 42.4 -1.6**
OTUK Ortayu 62.75 335 P **P** **11 46 43.5 -2.5**
GEYT Alibeck 63.34 319 P **P** **11 46 50.1 -0.1**
GEYT Alibeck 63.34 319 P **P** **11 46 50.1 -0.1**
GEYT pmax pmax
comp=Z,111nm,1.6s
GEYT Alibeck 63.34 319 P **P** **11 46 50.5 +0.3**
comp=Z,22nm,0.7s,baz=160,slow=4.7,SNR=34
comp=Z,22nm,0.7s
GYA0 ALIBECK ARRAY 63.34 319 P **P** **11 46 49.7 -0.5**
GYA0B ALIBECK ARRAY 63.34 319 P **P** **11 46 49.6 -0.5**
ZEA Zeya 63.42 14 *e*P **P** **11 46 48.8 -1.5**
ZEA pmax pmax
comp=Z,10.0nm,0.6s
ZAA0 Zalesovo Array 63.59 346 P **P** **11 46 48.7 -2.7**
ZALV Zalesovo Beam 63.59 346 P **P** **11 46 49.0 -2.5**
ZALV Zalesovo Beam 63.59 346 P **P** **11 46 49.2 -2.2**
comp=Z,3.3nm,0.5s,baz=134,slow=4.3,SNR=22
ZALV LR LR 12 16 34.2
comp=Z,156nm,18.5s,baz=164,slow=38
comp=Z,3.3nm,0.5s
DRV Dumont d'Urvil 63.67 166 P **P** **11 46 53.9 +2.1**
DRV pP **pP** **11 47 08.2 +1.9**
BRZS Berezniki 63.99 337 *e*P **P** **11 46 53.1 -1.0**
BRZS Berezniki 63.99 337 *e*P **P** **11 46 53.1 -1.0**
baz=337
BOD Bodaibo 65.23 5 *e*P **P** **11 47 00.9 -1.2**
BOD pmax pmax
comp=Z,478nm,0.7s
RAYN Ar Rayn 66.53 299 P **P** **11 47 12.4 +1.2**
RAYN IAmb IAmb 11 47 13.6
comp=Z,24nm,1.1s
RAYN Ar Rayn 66.53 299 P **P** **11 47 12.4 +1.2**
RAYN pmax pmax
comp=Z,24nm,1.1s
RAYN Ar Rayn 66.53 299 P **P** **11 47 12.5 +1.3**
MAW Mawson 66.78 197 P **P** **11 47 14.9 +3.0**
comp=Z,5.5nm,0.5s,baz=53,slow=6.2,SNR=12
MAW LR LR 12 09 26.7
comp=Z,158nm,21.6s,baz=46,slow=29
comp=Z,5.5nm,0.5s
RPZ Rata Peaks 67.02 134 P **P** **11 47 15.3 +1.3**
BVA0 Borovoye Array 67.27 338 *i* P **P** **11 47 13.6 -1.6**
BVAR Borovoye Array 67.27 338 P **P** **11 47 14.1 -1.2**
comp=Z,30nm,0.7s,baz=142,slow=8.1,SNR=104
BVAR LR LR 12 21 57.7
comp=Z,125nm,18.1s,baz=137,slow=41
comp=Z,30nm,0.7s
BRVK Borovoye 67.33 338 P **P** **11 47 14.6 -1.1**
BRVK IAmb IAmb 11 47 15.9
comp=Z,19nm,0.8s
BRVK Borovoye 67.33 338 *i* P **P** **11 47 14.0 -1.6**
BRVK pmax pmax
comp=Z,21nm,0.8s
BRVK Borovoye 67.33 338 P **P** **11 47 14.3 -1.3**
CCD Concordia, Ant 68.47 175 P **P** **11 47 26.4 +3.4**
AB31 Akbulak array 69.17 330 *i* P **P** **11 47 26.2 -1.0**
ABKAR Akbulak array 69.17 330 P **P** **11 47 26.7 -0.5**
ABKAR Akbulak array 69.17 330 P **P** **11 47 26.8 -0.5**
URZ Urewera 70.69 128 LR LR 12 19 54.1
comp=Z,147nm,19.2s,baz=306,slow=37
AKTO Aktyubinsk 70.89 330 P **P** **11 47 36.2 -1.5**
AKTO Aktyubinsk 70.89 330 P **P** **11 47 37.3 -0.4**
comp=Z,15nm,0.8s,baz=122,slow=8.2,SNR=42
AKTO LR LR 12 22 16.8
comp=Z,95nm,20.1s,baz=209,slow=39
comp=Z,15nm,0.8s
YAK Yakutsk 71.53 12 *e*P **P** **11 47 39.3 -2.0**
YAK *e**PP pP 11 47 48.7 -7.5
YAK *e* 11 50 12.6
YAK *e*S **S** **11 56 54.2 -1.6**
YAK *e**SS **sS** **11 57 21.3 -0.8**
YAK *e*SSS SSS 12 04 38.0
YAK pmax pmax
comp=Z,26nm,0.8s
YAK pmax pmax
comp=Z,10.0nm,0.6s
YAK smax smax
comp=N,137nm,4.3s
YAK smax smax
comp=E,147nm,5.4s
YAK Yakutsk 71.53 12 LR LR 12 22 05.1
comp=E,90nm,18.2s,baz=242,slow=38
MAK Makhachkala 72.86 319*d i*P **P** **11 47 50.4 +0.7**
MAK *e**PP **pP** **11 48 04.2 -0.6**
MAK *e**SP **sP** **11 48 10.2 -0.6**
MAK *e*S **SKiKP** **11 57 14.8 -3.6**
MAK *e**SS **sS** **11 57 38.0 0.0**
MAK pmax pmax
comp=Z,104nm,0.9s
MAK MLR MLR
comp=Z,70nm,15.0s
GNI Garni 73.47 315*ce*P **P** **11 47 55.6 +2.0**
GNI pmax pmax
comp=Z,16nm,1.0s
SVE Sverdlovsk 73.88 336*de*P **P** **11 47 55.7 +0.3**
SVE pmax pmax
comp=Z,68nm,0.9s
PETK Petropavlovsk- 74.35 29 P **P** **11 47 55.8 -2.5**
comp=Z,4.3nm,0.8s,baz=182,slow=2.6,SNR=8.1
comp=Z,4.3nm,0.8s
ARU Arti 74.47 335 P **P** **11 47 58.7 -0.2**
ARU Arti 74.47 335*c i*P **P** **11 47 58.7 -0.2**
ARU S **S** **11 57 33.9 +4.4**
ARU SS **SS** **12 02 14.7 -2.5**
ARU pmax pmax
comp=Z,49nm,0.9s
ARU Arti 74.47 335 P **P** **11 47 58.9 0.0**
comp=Z,32nm,0.8s,baz=119,slow=3.3,SNR=33
comp=Z,32nm,0.8s
GURO Guroymak-BITLI 74.75 313 P **P** **11 48 01.9 +0.8**
GURO IAmb IAmb 11 48 03.1
comp=Z,22nm,0.8s
PET Petropavlovsk 74.77 30 *e*P **P** **11 47 59.5 -1.1**
PET pmax pmax
comp=Z,23nm,1.4s
KARS Kars 74.83 315 P **P** **11 48 01.8 +0.3**
KARS Kars 74.83 315 P **P** **11 48 01.8 +0.3**
KARS pmax pmax
comp=Z,171nm,0.7s
MBAR Mbarara 75.30 271 *i* P **P** **11 48 07.2 +2.4**
MBAR pmax pmax
comp=Z,14nm,1.1s
MBAR Mbarara 75.30 271 LR LR 12 17 39.7
comp=Z,95nm,19.3s,baz=87,slow=33
ONI Oni 75.37 317 P **P** **11 48 05.2 +0.7**
ONI IAmb IAmb 11 48 07.0
comp=Z,11nm,0.8s
ONI Oni 75.37 317 P **P** **11 48 05.2 +0.7**
ONI pmax pmax
comp=Z,11nm,0.8s
MA2 Magadan 75.55 22 P **P** **11 48 03.2 -1.8**
MA2 Magadan 75.55 22*ce*P **P** **11 48 04.1 -0.9**
MA2 pmax pmax
comp=Z,20nm,1.7s
MA2 Magadan 75.55 22 LR LR 12 21 41.4
comp=Z,43nm,21.8s,baz=230,slow=36
NCK Nalchik 75.66 318 *i* P **P** **11 48 06.7 +0.7**
NCK pmax pmax
comp=Z,21nm,0.3s
VNDA Vanda 75.85 169 P **P** **11 48 09.2 +2.7**
VNDA Vanda 75.85 169 P **P** **11 48 09.2 +2.7**
VNDA pmax pmax
comp=Z,11nm,1.3s
VNDA Vanda 75.85 169 P **P** **11 48 09.4 +2.9**
comp=Z,4.6nm,0.6s,baz=315,slow=5.9,SNR=27
VNDA LR LR 12 18 38.5
comp=Z,61nm,19.6s,baz=312,slow=33
comp=Z,4.6nm,0.6s
KBZ Khabaz 76.21 318*ce*P **P** **11 48 10.4 +1.3**
KBZ pmax pmax
comp=Z,37nm,0.9s
KBZ Khabaz 76.21 318 P **P** **11 48 10.2 +1.1**
comp=Z,35nm,0.9s,baz=120,slow=5.9,SNR=46
KBZ LR LR 12 24 33.0
comp=Z,36nm,19.3s,baz=144,slow=38
comp=Z,35nm,0.9s
LSZ Lusaka 76.39 256 LR LR 12 17 06.8
comp=Z,309nm,20.9s,baz=137,slow=32
KIV Kislovodsk 76.45 318 ⇓P **P** **11 48 11.1 +0.5**
KIV Kislovodsk 76.45 318 P **P** **11 48 10.7 +0.1**
KIV pmax pmax
comp=Z,26nm,0.9s
KIV Kislovodsk 76.45 318 *e*P **P** **11 48 12.1 +1.5**
KIV pmax pmax
comp=Z,26nm,1.0s
ASF Jabal al Asfar 76.52 305 LR LR 12 22 05.5
comp=Z,147nm,20.6s,baz=154,slow=36
GHAJ Ghor Haditha 77.35 304 P **P** **11 48 17.1 +1.3**
BELG Belogornoye 77.36 328 *i* P **P** **11 48 14.1 -1.2**
BELG pmax pmax
comp=Z,14nm,1.1s
BELG Belogornoye 77.36 328 P **P** **11 48 15.1 -0.2**
comp=Z,52nm,1.0s,baz=236,slow=1.4,SNR=16
BELG LR LR 12 26 47.4
comp=Z,64nm,18.1s,baz=34,slow=39
comp=Z,52nm,1.0s
EIL Elat 77.40 302 LR LR 12 22 49.5
comp=Z,70nm,18.8s,baz=68,slow=36
BALJ Balqa 77.51 305 P **P** **11 48 18.0 +1.3**
NRIK Noril'sk 77.54 353 P **P** **11 48 15.0 -1.1**
NRIK IAmb IAmb 11 48 16.7
comp=Z,31nm,0.9s
NRIK Noril'sk 77.54 353 P **P** **11 48 15.0 -1.1**
NRIK pmax pmax
comp=Z,31nm,1.0s
NRIK Noril'sk 77.54 353 P **P** **11 48 15.0 -1.1**
comp=Z,22nm,0.8s,baz=156,slow=4.4,SNR=30
NRIK LR LR 12 26 18.2
comp=Z,187nm,19.5s,baz=170,slow=39
comp=Z,22nm,0.8s
ARPR Arapgir-MALATY 77.64 313 P **P** **11 48 17.2 -0.3**
ARPR IAmb IAmb 11 48 19.8
comp=Z,16nm,0.8s
GAZ Gaziantep 77.84 310 P **P** **11 48 19.4 +0.9**
GAZ IAmb IAmb 11 48 20.8
comp=Z,23nm,0.8s
MMAI Mount Meron Ar 77.97 306 P **P** **11 48 22.1 +2.7**
comp=Z,15nm,0.6s,baz=101,slow=7.7,SNR=25
MMAI LR LR 12 23 03.1
comp=Z,158nm,20.8s,baz=74,slow=36
comp=Z,15nm,0.6s
LBTB Lobatse 78.27 246 LR LR 12 16 57.8
comp=Z,186nm,18.5s,baz=109,slow=31
SOC Sochi 78.28 317 *e*P **P** **11 48 19.1 -1.6**

SOC *e* 11 51 14.6
SOC *e*PPP PPP 11 53 00.7
SOC *e*S **S** **11 58 13.2 +1.5**
SOC *e*SS **SS** **12 03 20.3 +5.0**
SOC MLR MLR
comp=Z,52nm,14.0s
SEY Seymchan 78.43 20 *c*e**P** **P** **11 48 20.3 -0.8**
SEY pmax pmax
comp=Z,3.0nm,0.7s
SEY Seymchan 78.43 20 LR LR 12 26 15.4
comp=Z,31nm,18.1s,baz=51,slow=38
KIRV Kirov 79.72 334 *c*e**P** **P** **11 48 28.9 +0.7**
KIRV Kirov 79.72 334 P **P** **11 48 28.5 +0.3**
comp=Z,99nm,0.7s,baz=115,slow=2.3,SNR=27
KIRV LR LR 12 27 47.8
comp=Z,79nm,19.4s,baz=113,slow=39
VRH Novokhopyorsk 80.06 325 *e***P** **P** **11 48 30.0 -0.2**
VRH pmax pmax
comp=Z,60nm,0.7s
CSS Mathiatis 80.17 307 P **P** **11 48 32.4 +1.1**
TIXI Tiksi 80.24 7 P **P** **11 48 28.4 -2.4**
TIXI IAmb IAmb 11 48 29.8
comp=Z,12nm,0.7s
TIXI Tiksi 80.24 7 P **P** **11 48 28.4 -2.4**
comp=Z,12nm,0.7s,baz=175,slow=2.0,SNR=45
TIXI LR LR 12 27 03.6
comp=Z,52nm,18.8s,baz=204,slow=38
comp=Z,12nm,0.7s
ANN Anapa 80.25 318 *e***P** P 11 48 24.8 -6.6
ANN pmax pmax
comp=Z,111nm,1.2s
BRTR Keskin Array B 81.29 312 P **P** **11 48 37.5 +0.2**
BRTR Keskin Array B 81.29 312 P **P** **11 48 37.8 +0.4**
comp=Z,19nm,0.7s,baz=137,slow=7.0,SNR=83
BRTR LR LR 12 28 24.2
comp=Z,121nm,18.5s,baz=128,slow=38
comp=Z,19nm,0.7s
BR131 Keskin Array S 81.29 312 P **P** **11 48 37.3 0.0**
BR131 IAmb IAmb 11 48 38.6
comp=Z,26nm,0.7s
BR131 Keskin Array S 81.29 312 P **P** **11 48 37.3 0.0**
BR131 pmax pmax
comp=Z,26nm,0.7s
VSR Storozhevoye 81.53 324 *e***P** **P** **11 48 38.0 -0.1**
VSR pmax pmax
comp=Z,50nm,0.6s
SUR Sutherland 82.08 238 LR LR 12 19 15.9
comp=Z,296nm,19.9s,baz=119,slow=31
LPSR Galich'ya Gora 82.21 325 *e***P** **P** **11 48 41.4 -0.2**
LPSR pmax pmax
comp=Z,50nm,0.7s
SIM Simferopol' 82.53 317 *e***P** **P** **11 48 42.5 -1.0**
SIM *e*S **S** **11 58 52.9 -3.2**
SIM pmax pmax
comp=Z,40nm,0.7s
SIM smax smax
comp=E,49nm,15.4s
SIM MLR MLR
comp=Z,142nm,25.4s
QSPA South Pole Qui 82.68 180 P **P** **11 48 46.3 +2.2**
QSPA IAmb IAmb 11 48 58.3
comp=Z,22nm,1.4s
QSPA South Pole Qui 82.68 180 P **P** **11 48 46.6 +2.5**
comp=Z,4.4nm,0.7s,baz=133,slow=1.2,SNR=30
QSPA LR LR 12 24 55.4
comp=Z,46nm,18.0s,baz=314,slow=35
comp=Z,4.4nm,0.7s
ELL Elmali 83.32 308 P **P** **11 48 48.6 +0.6**
ELL Elmali 83.32 308 P **P** **11 48 48.6 +0.6**
ELL pmax pmax
comp=Z,326nm,1.8s
MOS Moscow 84.11 328 *e***P** **P** **11 48 50.6 -0.8**
MOS *e* 11 49 06.4
MOS *e* 11 52 03.4
MOS pmax pmax
comp=Z,40nm,0.6s
OBN Obninsk 84.44 327 ⇓ *i*P **P** **11 48 53.8 +0.7**
OBN *PP **pP** **11 49 06.0 -2.2**
OBN pmax pmax
comp=Z,48nm,0.7s
KLMR Klimovskoe 85.21 333 *e***P** P 11 48 51.9 -4.9
KLMR pmax pmax
comp=Z,98nm,1.2s
KARP Karpathos 85.21 307 P **P** **11 48 58.8 +1.3**
BILL Bilibino 86.11 19 *i*P **P** **11 48 58.6 -2.6**
BILL pmax pmax
comp=Z,6.0nm,1.7s
TSUM Tsumeb 86.14 251 LR LR 12 23 06.5
comp=Z,228nm,19.2s,baz=154,slow=32
TIRR Tirgusor 86.30 316 ⇑P **P** **11 49 03.3 +0.7**
TIRR Tirgusor 86.30 316 ⇑P **P** **11 49 03.3 +0.7**
TPGR Topolog 86.39 316 ⇑P **P** **11 49 04.2 +1.1**
TLBR Topalu 86.58 316 ⇑P **P** **11 49 05.1 +1.1**
MILM Milestii Mici 86.63 318 ⇑P **P** **11 49 04.5 +0.3**
MILM Milestii Mici 86.63 318 ⇑P **P** **11 49 04.5 +0.3**
CFR Carcaliu 86.66 316 ⇓P **P** **11 49 05.5 +1.1**
CFR Carcaliu 86.66 316 ⇓P **P** **11 49 05.5 +1.1**
HARR Harsova 86.69 316 ⇓P **P** **11 49 06.2 +1.7**
HARR Harsova 86.69 316 ⇓P **P** **11 49 06.2 +1.7**
VARL Varlezi 87.03 317 ⇑P **P** **11 49 07.5 +1.3**
SORM Soroca 87.23 319 ⇑P **P** **11 49 07.5 +0.5**
SORM Soroca 87.23 319 ⇑P **P** **11 49 07.5 +0.5**
AKASG Malin Array Be 87.32 322 P **P** **11 49 07.0 -0.4**
AKASG Malin Array Be 87.32 322 P **P** **11 49 07.4 0.0**
comp=Z,5.3nm,0.7s,baz=89,slow=4.8,SNR=25
AKASG PP **PP** **11 52 29.6 -2.7**
comp=Z,2.3nm,0.6s,baz=91,slow=6.5,SNR=8.2
comp=Z,5.3nm,0.7s
AKBB Malin Array Si 87.32 322 P **P** **11 49 06.8 -0.6**
AKBB IAmb IAmb 11 49 08.1
comp=Z,10nm,0.8s
AKBB Malin Array Si 87.32 322 P **P** **11 49 06.8 -0.6**
AKBB pmax pmax
comp=Z,11nm,0.8s
KIEV Kiev 87.33 322 ⇓P **P** **11 49 07.6 +0.1**
KIEV Kiev 87.33 322 P **P** **11 49 07.2 -0.2**
KIEV IAmb IAmb 11 49 08.1
comp=Z,9.9nm,0.8s
KIEV Kiev 87.33 322 ⇓P **P** **11 49 07.6 +0.1**
GHRR 87.37 317 ⇓P **P** **11 49 10.1 +2.4**
RAZG Razgrad 87.44 314 ⇓P **P** **11 49 09.7 +1.5**
BISRR Bisoca 87.73 316 ⇑P **P** **11 49 10.8 +1.2**
ISR Istrita 87.75 316 ⇑P **P** **11 49 11.9 +2.2**
ELND Elena 87.75 314 ⇓P **P** **11 49 11.3 +1.6**
VRI Vrincioaia 87.78 317 ⇑P **P** **11 49 10.5 +0.7**
VRI Vrincioaia 87.78 317 ⇑P **P** **11 49 10.5 +0.7**
PLOR Plostina 87.83 317 ⇓P **P** **11 49 11.9 +1.9**
PLOR Plostina 87.83 317 ⇓P **P** **11 49 12.0 +1.9**
TESR Tescani 87.98 317 ⇑P **P** **11 49 11.7 +1.0**
NEHR Nehoiu 87.99 316 ⇓P **P** **11 49 12.7 +1.9**
COVR Voineasa-Covas 88.14 317 ⇑P **P** **11 49 13.0 +1.5**
MLR Muntele Rosu 88.24 316 ⇓P **P** **11 49 14.0 +1.8**
MLR Muntele Rosu 88.24 316 P **P** **11 49 13.3 +1.2**
MLR Muntele Rosu 88.24 316 ⇓P **P** **11 49 14.0 +1.8**
MLR Muntele Rosu 88.24 316 LR LR 12 33 51.2
comp=Z,49nm,20.3s,baz=79,slow=39
TURR Turia 88.31 317 ⇓P **P** **11 49 13.2 +0.9**
PRAR RASCA 88.45 318 ⇑P **P** **11 49 14.6 +1.7**
VOIR 88.85 316 ⇓P **P** **11 49 16.3 +1.4**
VOIR 88.85 316 ⇓P **P** **11 49 16.3 +1.4**
MNK Minsk 89.06 325 *i*P **P** **11 49 13.2 -2.4**
MNK *i* *PP **pP** **11 49 27.8 -3.0**
MNK *i* 11 52 43.8
MNK *i* PPP PPP 11 54 40.3
MNK *i* S **SKSac** **11 59 38.2 -2.3**
MNK *i* SS **SS** **12 05 54.5 +0.4**
MNK pmax pmax
comp=N,26nm,1.0s
MNK pmax pmax
comp=Z,21nm,1.0s
MNK pmax pmax
comp=E,7.0nm,0.8s
ARR Arges 89.12 316 ⇑P **P** **11 49 17.0 +0.8**
BURAR Bucovina Array 89.17 318 ⇓P **P** **11 49 18.6 +2.1**
BURAR Bucovina Array 89.17 318 P **P** **11 49 17.5 +1.1**
BURAR IAmb IAmb 11 49 19.2
comp=Z,7.3nm,0.8s
BUR08 Bucovina Ar. S 89.19 318 P **P** **11 49 18.0 +1.5**
BUR08 IAmb IAmb 11 49 19.1
comp=Z,10nm,0.9s
VALR Valaam 89.31 332 *i*P **P** **11 49 15.7 -0.9**
VALR pmax pmax
comp=Z,26nm,0.9s
LIT Litokhoron 89.72 310 P **P** **11 49 19.4 +0.3**
LIT pmax pmax
comp=Z,44nm,0.9s
MARR Marisel-Cluj 90.40 317 ⇑P **P** **11 49 24.0 +1.8**
GZR Gura Zlata 90.41 316 ⇑P **P** **11 49 24.0 +1.8**
GZR Gura Zlata 90.41 316 ⇑P **P** **11 49 24.0 +1.8**
VSU Vasula 90.59 329 *c*e**P** **P** **11 49 24.0 +1.4**
VSU pmax pmax
comp=Z,25nm,1.0s
BZS Buzias 91.25 316 ⇑P **P** **11 49 26.5 +0.5**
BZS Buzias 91.25 316 ⇑P **P** **11 49 26.5 +0.5**
RAR Rarotonga 91.31 111 LR LR 12 30 42.0
comp=Z,27nm,19.9s,baz=268,slow=36
FINES FINESS Array B 91.57 332 P **P** **11 49 27.7 +0.6**
comp=Z,11nm,0.7s,baz=101,slow=8.0,SNR=24
FINES LR LR 12 35 56.1
comp=Z,59nm,18.6s,baz=68,slow=39
comp=Z,11nm,0.7s
SUW Suwalki 91.65 324 *e***P** **P** **11 49 28.2 +0.5**
SPIA Saint Paul Isl 92.71 33 P **P** **11 49 32.8 +0.3**
baz=261
NIKH Nikolski High 92.86 37 P **P** **11 49 32.2 -1.1**
baz=262
P08K Saint George I 93.00 33 P **P** **11 49 33.4 -0.4**
baz=261
GAMB Gambell 93.11 26 P **P** **11 49 35.0 +0.8**
baz=260
ARCES ARCESS Array B 93.48 340 P **P** **11 49 34.5 -1.4**
comp=Z,5.4nm,0.7s,baz=82,slow=5.0,SNR=15
ARCES LR LR 12 38 21.8
comp=Z,112nm,18.5s,baz=96,slow=40
comp=Z,5.4nm,0.7s
UNV Unalaska Valle 94.37 36 P **P** **11 49 39.8 -0.4**
baz=264
TNA Tin City 94.98 25 P **P** **11 49 42.7 -0.1**
baz=263
VRAC Vranov 95.09 319 LR LR 12 38 06.6
comp=Z,39nm,20.2s,baz=92,slow=39
M11K Moruyuk 95.21 30 P **P** **11 49 43.7 -0.2**
baz=264
F14K Arctic Creek 95.63 25 P **P** **11 49 44.8 -0.9**
baz=265
ANM Nome 95.96 26 P **P** **11 49 46.2 -1.1**
baz=266
C16K Lisburne Hills 96.24 22 P **P** **11 49 48.0 -0.4**
baz=266
F15K North Star Dit 96.34 25 P **P** **11 49 48.7 -0.3**
baz=266
G15K Niukluk 96.56 25 P **P** **11 49 50.3 +0.4**
baz=267
M13K Dall Lake 96.63 30 P **P** **11 49 51.1 +0.8**
baz=267
J14K Nanvaranak Lak 96.65 28 P **P** **11 49 50.2 -0.2**
baz=267
GERES GERESS Array B 96.96 318 LR LR 12 38 45.1
comp=Z,60nm,20.9s,baz=72,slow=39
L14K Kuka Creek 97.00 29 P **P** **11 49 51.7 -0.3**
baz=268
SPITS Spitsbergen Ar 97.03 348 P **P** **11 49 51.3 -0.6**
comp=Z,22nm,0.8s,baz=132,slow=2.1,SNR=6.0
SPITS LR LR 12 40 14.2
comp=Z,74nm,18.6s,baz=60,slow=40
C17K DeLong Mountai 97.05 22 P Pdif 11 49 52.3 +0.1
baz=268
D17K Noatak River 97.06 23 P Pdif 11 49 52.5 +0.2
baz=268
S12K Black Hills 97.08 35 P **P** **11 49 51.5 -1.0**
baz=268
RDOG Red Dog Mine 97.14 22 P **P** **11 49 51.9 -0.6**
baz=268
G16K Koyuk River 97.28 25 P Pdif 11 49 53.2 0.0
baz=268
H16K Elim 97.31 26 P Pdif 11 49 53.5 0.0
baz=268
M14K Bethel 97.33 30 P **P** **11 49 53.2 -0.3**
baz=268
HFS Hagfors 97.43 330 P Pdif 11 49 54.0 -0.1
HFS Hagfors 97.43 330 P Pdif 11 49 54.0 -0.1
comp=Z,4.2nm,0.8s,baz=93,slow=3.0,SNR=4.0
HFS LR LR 12 41 10.2
comp=Z,85nm,19.2s,baz=86,slow=40
comp=Z,4.2nm,0.8s
CLL Collm 97.52 321 *e*P P 11 49 49.0 -5.6
CLL pmax pmax
comp=Z,4.0nm,0.5s
B18K Kokolik River 97.57 21 P Pdif 11 49 54.6 +0.1
baz=270
K15K Wolf Creek Mou 97.57 28 P Pdif 11 49 54.7 +0.1
baz=269
L15K Ungalak Mounta 97.58 29 P Pdif 11 49 54.4 -0.3
baz=269
O14K Tigyukauivet M 97.63 31 P Pdif 11 49 54.8 -0.2
baz=269
F17K Baldwin Pennin 97.75 24 P Pdif 11 49 55.2 -0.1
baz=270
C18K Utukok River 97.78 22 P **P** **11 49 55.2 -0.3**
baz=270
A19K Wainwright 97.83 20 P Pdif 11 49 55.6 +0.1
baz=270
M15K Kasigluk River 97.95 30 P **P** **11 49 56.1 -0.2**
baz=269
SDPT Sand Point 97.97 35 P **P** **11 49 55.7 -0.8**
baz=269
I17K Unalakleet 97.97 26 P Pdif 11 49 56.5 +0.1
baz=270
G17K Kiwalik Mounta 98.00 25 P Pdif 11 49 56.3 -0.2
baz=270
E18K Tukpahlearik C 98.01 23 P Pdif 11 49 56.5 0.0
baz=270
J16K Anvik River 98.01 27 P Pdif 11 49 56.5 -0.1
baz=270
N15K Kwethluk River 98.24 30 P Pdif 11 49 57.8 +0.1
baz=270
H17K Granite Mounta 98.31 25 P Pdif 11 49 57.9 0.0
baz=271
C19K Lookout Ridge 98.36 21 P Pdif 11 49 58.0 -0.1
baz=272
O15K Ungalikthiuk R 98.37 31 P Pdif 11 49 58.4 +0.1
baz=270
F18K Selawik 98.39 24 P **P** **11 49 57.6 -0.6**
baz=271
CHNA Chernabura Isl 98.47 36 P **P** **11 49 57.8 -1.0**
baz=269
S14K Fog Glacier 98.50 34 P **P** **11 49 57.7 -1.3**
baz=270
L16K Owhat River 98.54 29 P **P** **11 49 58.3 -0.6**
baz=270
NOA NORSAR Array B 98.67 331 LR LR 12 39 06.5
comp=Z,76nm,21.7s,baz=70,slow=38
M16K Timber Creek 98.80 29 P **P** **11 49 59.1 -1.0**
baz=271
N16K Nishlik Lake 98.90 30 P **P** **11 50 00.0 -0.6**
baz=271
D19K Kuna River 98.92 22 P **P** **11 49 59.8 -0.8**
baz=273
H18K Honhosa River 98.96 25 P **Pdif** **11 50 00.4 -0.4**
baz=272
K17K Iditarod 99.07 28 P **Pdif** **11 50 01.1 -0.2**
baz=272
L17K Donlin 99.09 28 P **Pdif** **11 50 01.3 -0.1**
baz=272
F19K Shaleruckik Mo 99.13 23 P **Pdif** **11 50 01.1 -0.4**
baz=273
B20K Meade River 99.17 20 P **Pdif** **11 50 01.6 0.0**
baz=274
A21K Barrow 99.25 19 P **Pdif** **11 50 01.1 -0.8**
baz=275
O16K Kokwok River B 99.25 31 P **Pdif** **11 50 00.9 -1.3**
baz=271
E19K Redstone River 99.31 23 P **Pdif** **11 50 01.6 -0.7**
baz=274
P16K Nushagak River 99.32 31 P **Pdif** **11 50 01.7 -0.8**
baz=271
G19K Purcell Mounta 99.44 24 P **Pdif** **11 50 03.0 +0.1**
baz=273
D20K Etivluk River 99.46 22 P **Pdif** **11 50 02.6 -0.3**
baz=274
DAVOX Davos/Dischmat 99.47 316 LR LR 12 43 13.9
comp=Z,77nm,18.3s,baz=73,slow=40
M17K Holitna River 99.52 29 P **Pdif** **11 50 02.6 -0.8**
baz=272
E20K Nigu River 99.65 22 P **Pdif** **11 50 03.2 -0.6**
baz=275
N17K Nushagak Hills 99.68 30 P **Pdif** **11 50 03.7 -0.4**
baz=272
H19K Roundabout Mou 99.75 25 P **Pdif** **11 50 04.0 -0.2**
baz=274
O17K Koliganek Bris 99.75 31 P **Pdif** **11 50 04.9 +0.4**
baz=272
J18K Innoko River 99.76 27 P **Pdif** **11 50 04.3 -0.1**
baz=273
A22K Sinclair Lake 99.81 19 P **Pdif** **11 50 04.2 -0.2**
baz=276
L18K Granite Mounta 99.84 28 P **Pdif** **11 50 05.0 +0.2**
baz=273
F20K Avaraart Lake 99.92 23 P **Pdif** **11 50 04.6 -0.4**
baz=275
Q16K King Salmon 100.03 32 P **Pdif** **11 50 04.8 -0.8**
baz=272
C21K Knifeblade Rid 100.08 21 P **Pdif** **11 50 05.9 +0.2**
baz=276
B21K Ikpikpuk River 100.08 21 P **Pdif** **11 50 05.4 -0.3**
baz=276
TTA Tatalina 100.11 27 P **Pdif** **11 50 05.4 -0.7**
baz=274
P17K Kvichak River 100.11 31 P **Pdif** **11 50 05.6 -0.4**
baz=273
J19K Poorman 100.21 26 P **Pdif** **11 50 07.1 +0.7**
baz=274
M18K Stony River 100.29 29 P **Pdif** **11 50 07.1 +0.3**
baz=274
N18K Kilae Creek 100.31 30 P **Pdif** **11 50 06.6 -0.3**
baz=274
TBI Tubuai 100.32 115 *e*LR LR 12 23 04.8
comp=Z,582nm,31.8s
H20K Anotleneega Mo 100.40 25 P **Pdif** **11 50 06.8 -0.4**
baz=275
B22K Teshekpuk Lake 100.41 20 P **Pdif** **11 50 06.4 -0.7**
baz=278
Q17K Contact Creek 100.45 32 P **Pdif** **11 50 06.6 -1.1**
baz=273
I20K Naaghedeneel 100.64 25 P **Pdif** **11 50 07.8 -0.4**
baz=276
L19K White Mountain 100.70 28 P **Pdif** **11 50 07.5 -1.1**
baz=275
O18K Koktuh Hills 100.70 31 P **Pdif** **11 50 07.8 -0.9**
baz=274
CHIR Chirikof Islan 100.72 35 P **Pdif** **11 50 08.0 -0.8**
baz=273
P18K Big Mountain, 100.72 31 P **Pdif** **11 50 07.9 -0.9**
baz=274
F21K Alatna River 100.78 23 P **Pdif** **11 50 08.3 -0.5**
baz=277
J20K Nowinta River 100.84 26 P **Pdif** **11 50 07.9 -1.2**
baz=276
G21K Allakaket 100.85 24 P **Pdif** **11 50 08.4 -0.8**
baz=277
D22K Ayikyak River 100.86 21 P **Pdif** **11 50 08.4 -0.8**
baz=278
M19K Big River Lodg 100.94 28 P **Pdif** **11 50 08.5 -1.2**
baz=275
K20K Telida 100.95 27 P **Pdif** **11 50 08.9 -0.8**
baz=276
N19K Bonanza Creek 100.99 30 P **Pdif** **11 50 08.9 -1.1**
baz=275
O19K Port Alsworth 101.12 30 P **Pdif** **11 50 09.4 -1.1**
baz=275
L20K Farewell, AK 101.13 28 P **Pdif** **11 50 09.8 -0.8**
baz=276
H21K Melozitna Rive 101.24 24 P **Pdif** **11 50 10.0 -0.9**
baz=277
E22K Anaktuvuk Pass 101.28 22 P **Pdif** **11 50 10.9 -0.2**
baz=279
PPT2 Papeete2 101.41 110 *e*LR LR 12 23 22.5
comp=Z,93nm,23.2s
C23K Itkillik River 101.43 20 P **Pdif** **11 50 11.7 0.0**
baz=280
SII Sitkinak Islan 101.48 34 P **Pdif** **11 50 11.7 -0.5**
baz=274
D23K Nanushuk River 101.56 21 P **Pdif** **11 50 12.0 -0.3**
baz=280
Q19K Cape Douglas, 101.57 31 P **Pdif** **11 50 12.1 -0.5**
baz=275
I21K Tanana 101.64 25 P **Pdif** **11 50 12.4 -0.3**
baz=278
CHUM Lake Minchumin 101.67 26 P **Pdif** **11 50 12.6 -0.2**
baz=277
P19K Oil Pt 101.72 31 P **Pdif** **11 50 13.3 +0.1**
baz=276
H22K Ishtalitna Cre 101.79 24 P **Pdif** **11 50 13.0 -0.4**
baz=279
CAST Castle Rocks 101.83 27 P **Pdif** **11 50 13.3 -0.3**
baz=277
PPLA Purkeypile 101.85 27 P **Pdif** **11 50 13.3 -0.6**
baz=277
OHAK Old Harbor 101.91 33 P **Pdif** **11 50 13.6 -0.5**
baz=275
O20K Slope Mountain 101.98 30 P **Pdif** **11 50 14.1 -0.3**
baz=276
TOLK Toolik Lake Re 102.02 21 P **Pdif** **11 50 14.7 +0.3**
baz=281
COLD Coldfoot 102.04 23 P **Pdif** **11 50 14.1 -0.3**
baz=280
N20K Mount Spurr 102.05 29 P **Pdif** **11 50 14.4 -0.3**
baz=277
C24K Franklin Bluff 102.11 20 P **Pdif** **11 50 14.6 -0.1**
baz=282
E23K Chandalar 102.11 22 P **Pdif** **11 50 14.6 -0.3**
baz=281
D24K Happy Valley 102.18 21 P **Pdif** **11 50 15.0 -0.1**
baz=282
MLY Manley 102.19 25 P **Pdif** **11 50 14.8 -0.4**
baz=279
G23K Bananza Creek 102.20 23 P **Pdif** **11 50 14.6 -0.6**
baz=280
BPAW Bear Paw Mtn. 102.22 26 P **Pdif** **11 50 14.2 -1.2**
baz=279
KDAK Kodiak Island 102.24 32 P **Pdif** **11 50 14.3 -1.2**
baz=276
Q20K Shuyak Island 102.25 32 P **Pdif** **11 50 14.3 -1.3**
baz=276
SKT Skwentna 102.28 28 P **Pdif** **11 50 14.2 -1.5**
baz=278
E24K Your Creek 102.52 22 P **Pdif** **11 50 16.2 -0.5**
baz=282
TRF Thorofare Moun 102.63 27 P **Pdif** **11 50 15.9 -1.4**
baz=279
I23K Minto, Yukon-K 102.74 25 P **Pdif** **11 50 16.4 -1.1**
baz=280
F24K Squaw Lake 102.86 22 P **Pdif** **11 50 16.9 -1.3**
baz=282
BRSE Bradley Lake S 102.96 30 P **Pdif** **11 50 17.5 -1.2**
baz=278
NEA2 Nenana 102.96 25 P **Pdif** **11 50 17.5 -1.1**
baz=280
D25K Kavik River 103.00 20 P **Pdif** **11 50 17.9 -0.8**
baz=284
G24K Hadweenzic Riv 103.19 23 P **Pdif** **11 50 19.0 -0.6**
baz=282
H24K Noodor Dome 103.22 24 P **Pdif** **11 50 18.9 -0.9**
baz=282
RC01 Rabbit Creek A 103.26 29 P **Pdif** **11 50 19.2 -0.8**
baz=279
C26K Camden Bay 103.34 20 P **Pdif** **11 50 19.5 -0.6**
baz=286
O22K Cooper Landing 103.36 30 P **Pdif** **11 50 19.1 -1.4**
baz=279
COLA College 103.42 25 P **Pdif** **11 50 20.3 -0.3**
baz=282
PMR Palmer 103.46 28 P **Pdif** **11 50 20.4 -0.4**
baz=280
WAT1 Susitna Watana 103.51 27 P **Pdif** **11 50 20.6 -0.5**
baz=280
POKR Poker Plat Res 103.55 25 P **Pdif** **11 50 21.1 -0.1**
baz=282
SEW Seward 103.55 30 P **Pdif** **11 50 20.5 -0.8**
baz=279
E25K Arctic Village 103.58 21 P **Pdif** **11 50 19.8 -1.5**
baz=285
F25K Christian Rive 103.68 22 P **Pdif** **11 50 21.1 -0.8**
baz=284
G25K Bearman Lake 103.71 23 P **Pdif** **11 50 20.5 -1.4**
baz=284
SML Sawmill 103.80 28 P **Pdif** **11 50 20.4 -2.0**
baz=280
KNK Knik Glacier 103.81 29 P **Pdif** **11 50 20.6 -1.9**
baz=280
ILAR Eielson Array 103.85 25 PKKPbc PKKPbc 12 06 15.8 0.0
comp=Z,0.5nm,0.9s,baz=133,slow=3.9,SNR=4.4
HDA Harding Lake 103.90 25 P **Pdif** **11 50 22.0 -0.8**
baz=282
WAT6 Susitna Watana 103.93 27 P **Pdif** **11 50 21.4 -1.8**
baz=281
H25L Birch Creek 103.94 23 P **Pdif** **11 50 21.4 -1.5**
baz=284
DHY Denali Highway 103.99 27 P **Pdif** **11 50 21.5 -1.9**
baz=282

M23K	Glacier View baz=281	104.08	28	P		Pdif	11 50 22.0	-1.7
F26K	Sheenjek River baz=286	104.21	22	P		Pdif	11 50 22.7	-1.5
PRP	Porcupine Dome baz=284	104.24	24	P		Pdif	11 50 23.3	-1.2
SCM	Sheep Creek Mo baz=281	104.26	28	P		Pdif	11 50 22.6	-2.0
J25K	Salcha River, baz=284	104.52	25	P		Pdif	11 50 24.7	-0.9
K24K	Donnelly Dome baz=283	104.54	26	P		Pdif	11 50 24.5	-1.2
G26K	Porcupine Rive baz=286	104.55	22	P		Pdif	11 50 24.5	-1.1
P23K	Montague Islan baz=281	104.58	30	P		Pdif	11 50 25.0	-0.9
M24K	Tolsona, Glenn baz=282	104.74	28	P		Pdif	11 50 26.1	-0.6
D27M	Malcolm River baz=289	104.86	20	P		Pdif	11 50 26.7	-0.4
PAX	Paxson baz=283	104.86	27	P		Pdif	11 50 25.9	-1.3
HARP	HAARP baz=284	105.14	27	P		PKiKP	11 54 41.9	-0.6
Q23K	Middleton Isla baz=282	105.22	30	P		PKiKP	11 54 41.5	-1.2
I26K	Coal Creek Min baz=286	105.25	24	P		PKiKP	11 54 41.9	-0.7
EYAK	Cordova Ski Ar baz=282	105.28	29	P		PKiKP	11 54 41.9	-0.8
J26L	Joseph Creek baz=286	105.30	25	P		PKiKP	11 54 41.7	-1.1
G27K	Doyon Strip baz=288	105.39	22	P		PKiKP	11 54 42.5	-0.4
E28M	Babbage River baz=290	105.57	20	P		PKiKP	11 54 41.8	-1.4
D28M	Stokes Point baz=291	105.58	19	P		PKiKP	11 54 41.9	-1.1
N25K	Chitina, Valde baz=284	105.58	28	P		PKiKP	11 54 42.7	-0.7
H27K	Steamboat Moun baz=288	105.62	23	P		PKiKP	11 54 42.4	-0.9
BMRM	Bremner River baz=284	105.73	29	P		PKiKP	11 54 43.0	-0.7
I27K	Kandik River baz=288	105.78	24	P		PKiKP	11 54 42.2	-1.5
L26K	Log Cabin Wild baz=285	105.79	26	P		PKiKP	11 54 42.3	-1.4
F28M	Old Crow baz=290	105.79	21	P		PKiKP	11 54 42.5	-1.1
K27K	Chicken baz=287	106.06	25	P		PKiKP	11 54 44.0	-0.2
KAIM	Kayak Island baz=284	106.06	30	P		PKiKP	11 54 44.0	-0.2
M26K	Nabesna, AK baz=286	106.11	27	P		PKiKP	11 54 43.3	-1.0
E29M	Blow River baz=292	106.21	20	P		PKiKP	11 54 44.1	-0.2
EGAK	Eagle baz=288	106.22	24	P		PKiKP	11 54 44.9	+0.5
MCARA	McCarthy VSAT baz=285	106.37	28	P		PKiKP	11 54 45.3	+0.5
L27K	Beaver Creek, baz=287	106.44	26	P		PKiKP	11 54 45.5	+0.5
I28M	Miner Creek baz=289	106.49	23	P		PKiKP	11 54 45.6	+0.5
BGLC	Bering Glacier baz=285	106.57	29	P		PKiKP	11 54 45.6	+0.4
M27K	Edge Creek, AK baz=286	106.62	27	P		PKiKP	11 54 45.2	-0.2
G29M	Pine Creek baz=292	106.71	22	P		PKiKP	11 54 45.5	+0.2
H29M	Whitestone baz=291	106.83	22	P		PKiKP	11 54 45.4	-0.2
BVCY	Beaver Creek baz=288	107.06	27	P		PKiKP	11 54 45.5	-0.6
DAWY	Dawson baz=289	107.17	25	P		PKiKP	11 54 46.0	-0.3
MESA	MESA baz=286	107.20	29	P		PKiKP	11 54 45.5	-1.2
F30M	Barrier River baz=294	107.25	21	P		PKiKP	11 54 46.0	-0.3
CTG	Chitna Glacier baz=287	107.27	28	P		PKiKP	11 54 46.4	-0.3
G30M	tAoh Zraii Nji baz=293	107.34	21	P		PKiKP	11 54 46.4	-0.1
EPYK	Eagle Plains baz=293	107.40	22	P		PKiKP	11 54 46.8	+0.2
YUK3	Moose Creek baz=288	107.43	27	P		PKiKP	11 54 45.8	-1.3
J29N	Klondike Camp baz=291	107.52	24	P		PKiKP	11 54 46.6	-0.3
INK	Inuvik baz=296	107.72	20	P		PKiKP	11 54 46.9	-0.2
YUK8	Steele Glacier baz=288	107.90	28	P		PKiKP	11 54 46.5	-1.5
I30M	Mount Dempster baz=293	107.97	23	P		PKiKP	11 54 47.1	-0.7
K29M	Barlow Dome baz=291	108.02	25	P		PKiKP	11 54 48.2	+0.3
L29M	L29M baz=290	108.03	25	P		PKiKP	11 54 45.9	-2.0
F31M	Tsiigehtchic baz=296	108.03	21	P		PKiKP	11 54 46.1	-1.6
G31M	Satah River baz=295	108.07	21	P		PKiKP	11 54 46.6	-1.1
M29M	Somme Creek baz=290	108.11	26	P		PKiKP	11 54 46.6	-1.5
J30M	Hart River baz=292	108.23	24	P		PKiKP	11 54 46.9	-1.5
A36M	Sachs Harbour baz=306	108.26	15	P		PKiKP	11 54 47.3	-0.7
YUK4	Talbot Arm baz=289	108.39	27	P		PKiKP	11 54 47.2	-1.6
H31M	Peel River baz=295	108.51	22	P		PKiKP	11 54 47.4	-1.3
PNL	Peninsula baz=288	108.58	29	P		PKiKP	11 54 47.6	-1.4
YUK6	Outpost Mounta baz=289	108.66	28	P		PKiKP	11 54 47.7	-1.7
O29M	Mount Kennedy baz=289	108.77	28	P		PKiKP	11 54 48.4	-1.1
M30M	Minto, Yukon baz=291	108.79	26	P		PKiKP	11 54 48.3	-1.0
N30M	Aishikik Lake baz=291	109.06	27	P		PKiKP	11 54 48.0	-1.9
HYT	Haines Junctio baz=290	109.09	28	P		PKiKP	11 54 49.0	-1.1
P29M	Windy Craggy baz=290	109.39	29	P		PKiKP	11 54 50.6	0.0
P30M	Million Dollar baz=290	109.59	28	P		PKiKP	11 54 50.9	0.0
O30N	Mendenhall baz=291	109.76	27	P		PKiKP	11 54 51.3	0.0
C36M	Paulatuk baz=306	110.13	17	P		PKiKP	11 54 51.2	-0.3
WHY	Whitehorse baz=292	110.35	27	P		PKiKP	11 54 51.6	-0.8
FARO	Faro, Yukon baz=294	110.40	25	P		PKiKP	11 54 51.7	-0.7
SKAG	Skagway baz=292	110.60	29	P		PKiKP	11 54 51.3	-1.4
S31K	Pelican baz=290	110.69	30	P		PKiKP	11 54 52.1	-0.8
R31K	City Hall, Gus baz=291	110.78	30	P		PKiKP	11 54 52.4	-0.7
N32M	Quiet Lake baz=294	110.96	26	P		PKiKP	11 54 52.4	-1.1
P32M	Atlin baz=293	111.31	28	P		PKiKP	11 54 53.9	-0.2
R32K	Eaglecrest baz=292	111.43	30	P		PKiKP	11 54 54.4	0.0
SIT	Sitka baz=291	111.47	31	P		PKiKP	11 54 53.5	-1.0
P33M	Teslin, Yukon baz=294	111.47	27	P		PKiKP	11 54 53.7	-0.8
S32K	Killisnoo baz=292	111.70	30	P		PKiKP	11 54 53.7	-1.2
Q32M	Nakina River baz=294	112.24	28	P		PKiKP	11 54 55.1	-1.0
R33M	Jennings River baz=296	112.66	28	P		PKiKP	11 54 56.4	-0.5
TGTN	Hyland Airport baz=299	112.87	25	P		PKiKP	11 54 56.5	-0.5
U33K	Whale Pass baz=292	112.95	31	P		PKiKP	11 54 57.1	-0.2
CRAG	Craig baz=292	113.19	32	P		PKiKP	11 54 57.0	-0.8
S34M	Telegraph Cree baz=295	113.22	29	P		PKiKP	11 54 56.9	-0.9
WRAK	Wrangell Islan baz=293	113.23	31	P		PKiKP	11 54 56.5	-1.3
WTLY	Watson Lake, Y baz=298	113.32	26	P		PKiKP	11 54 57.8	-0.2
DLBC	Dease Lake baz=296	113.52	28	P		PKiKP	11 54 57.6	-0.9
WRGLY	Wrigley baz=305	113.88	22	P		PKiKP	11 54 59.0	+0.2
V35K	Ketchikan baz=294	114.04	32	P		PKiKP	11 55 00.1	+0.8
T35M	Bob Quinn baz=296	114.05	30	P		PKiKP	11 54 59.6	+0.2
KOTAN	Kotaneelee Air baz=303	115.36	25	P		PKPdf	11 55 01.8	-0.1
YKA	Yellowknife Ar comp=Z,0.7nm,0.6s,baz=337,slow=2.6,SNR=14	117.50	20	PKP		PKiKP	11 55 05.5	-0.3
YKA	comp=Z,0.3nm,0.8s,baz=128,slow=3.5,SNR=5.3			PKKPbc		PKKPbc	12 05 30.2	-0.7
EDM	Edmonton	124.22	27			PKiKP	11 55 18.9	-0.5
EDM	Edmonton	124.22	27	PKIKP		PKiKP	11 55 18.9	-0.5
HUMO	Hull Mountain	124.49	42			PKiKP	11 55 20.2	0.0
D08A	Wollman Farm,	124.93	36			PKiKP	11 55 21.9	+1.0
E08A	Dider Farm, El	125.14	37			PKiKP	11 55 22.1	+0.7
PINE	Pine Mountain	125.29	40			PKiKP	11 55 23.1	+1.0
NEW	Newport baz=304	125.30	34	P		PKPdf	11 55 20.8	-0.5
FCC	Fort Churchill	126.40	13			PKPdf	11 55 22.2	-0.8
FCC	Fort Churchill	126.40	13	PKIKP		PKPdf	11 55 22.2	-0.8
FFC	Flin Flon	127.67	20			PKiKP	11 55 26.4	+0.2
FFC	Flin Flon	127.67	20	PKIKP		PKiKP	11 55 26.4	+0.2
PLID	Pearl Lake	127.70	37			PKiKP	11 55 27.0	+0.1
EGMT	Eagleton	129.36	30			PKiKP	11 55 29.7	-0.2
EGMT	Eagleton baz=312	129.36	30	P		PKPdf	11 55 28.6	-0.6
MLAC	Mammoth, Mammt baz=295	129.45	46	P		PKPdf	11 55 29.5	-0.4
NVAR	Mina Array Bea comp=Z,1.2nm,0.7s,baz=282,slow=2.3,SNR=12	129.48	45	PKP		PKiKP	11 55 32.2	+1.6
NVAR				SKPab		SKPab	11 58 45.9	-0.5
HLID	comp=Z,0.3nm,0.6s,baz=257,slow=3.2,SNR=2.3 Hailey baz=304	129.49	38	P		PKPdf	11 55 29.4	-0.3
SMMC	Simmler baz=292	129.52	50	P		PKPdf	11 55 29.7	-0.1
PKM	Mcpherson Peak baz=292	129.82	50	P		PKPdf	11 55 30.2	-0.4
BOZ	Bozeman (W) baz=308,SNR=7.5	129.91	34	P		PKPdf	11 55 29.9	-0.5
ARVC	Arvin baz=293	130.48	49	P		PKiKP	11 55 31.8	-0.6
CWC	Cottonwood Cre baz=295	130.50	48	P		PKPdf	11 55 31.5	-0.3
ISA	Isabella, Lake baz=294	130.53	49	P		PKPdf	11 55 30.9	-0.9
SNCC	San Nicolas Is baz=291	130.65	52	P		PKPdf	11 55 31.0	-1.0
OSI	Osito Audit: C baz=293	130.76	50	P		PKPdf	11 55 31.5	-0.7
GRAC	Grapevine Rang baz=296	130.78	47	P		PKPdf	11 55 32.0	-0.2
MPMC	Manual Prospec baz=295	131.09	48	P		PKiKP	11 55 33.4	-0.6
DECC	Green Verdugo baz=293	131.19	50	P		PKPdf	11 55 32.6	-0.4
LRMC	Laurel Mtn Rad baz=294	131.19	49	P		PKPdf	11 55 33.1	0.0
EDW2	Edwards Air Fo baz=294	131.20	49	P		PKPdf	11 55 32.7	-0.3
H17A	Grant Village baz=308	131.24	35	P		PKiKP	11 55 33.2	-0.9
FURC	Furnace Creek, baz=296	131.37	47	P		PKPdf	11 55 33.3	+0.1
R11B	Troy Canyon, C baz=299	131.42	44	P		PKPdf	11 55 32.6	-0.9
FMP	Fort Macarthur baz=293	131.43	51	P		PKPdf	11 55 32.5	-0.9
CIS	Catalina Islan baz=292	131.46	51	P		PKPdf	11 55 32.1	-1.4
RLMT	Red Lodge baz=310	131.51	33	P		PKPdf	11 55 32.2	-1.3
SCI2	San Clemente I baz=292	131.51	52	P		PKPdf	11 55 33.0	-0.6
DGMT	Dagmar baz=318	131.68	27	P		PKPdf	11 55 32.8	-0.7
BFSC	Mount Baldy Ra baz=294	131.71	50	P		PKPdf	11 55 33.4	-0.7
GSC	Goldstone, Bar baz=295	131.92	48	P		PKiKP	11 55 34.9	-0.6
RRX	Edison Barstow baz=295	131.95	49	P		PKPdf	11 55 34.0	-0.4
LAO	LASA Array baz=315	132.02	30	P		PKiKP	11 55 34.4	-0.9
SHOC	Shoshone, Teco baz=296	132.05	47	P		PKPdf	11 55 34.1	-0.5
PLCA	Paso Flores comp=Z,1.1nm,0.9s,baz=282,slow=2.7,SNR=3.4	132.09	184	PKP		PKiKP	11 55 35.5	-0.1
PLCA				SKPab		SKPab	11 58 58.6	+1.4
BBRC	comp=Z,1.5nm,1.0s,baz=225,slow=5.7,SNR=3.2 Big Bear Solar baz=294	132.26	50	P		PKPdf	11 55 35.2	-0.1
SCHQ	Schefferville comp=Z,3.1nm,0.6s,baz=250,slow=8.2,SNR=4.9	132.26	354	PKP		PKiKP	11 55 35.1	-0.3
SCHQ				SKPbc		SKPab	11 58 56.1	-1.3
MURC	comp=Z,5.3nm,0.8s,baz=9.4,slow=4.0,SNR=6.6 Murrieta baz=293	132.32	51	P		PKPdf	11 55 34.8	-0.4
DUG	Dugway, Tooele baz=303	132.33	40	P		PKPdf	11 55 34.7	-0.5
HEC	Hector,Ludlow baz=295	132.47	49	P		PKPdf	11 55 35.3	-0.2
TUQ	Turquoise Moun baz=296	132.51	48	P		PKPdf	11 55 35.0	-0.6
109C	Camp Elliot, M baz=293	132.67	51	P		PKPdf	11 55 34.3	-1.4
BW06	Boulder Array baz=308	132.83	36	P		PKPdf	11 55 34.7	-1.5
PD31	Pinedale Array	132.83	36	PKPdf		PKiKP	11 55 36.8	-0.5
PDAR	Pinedale Array	132.83	36	PKPdf		PKiKP	11 55 36.7	-0.5
PDAR	Pinedale Array comp=Z,1.3nm,0.6s,baz=190,slow=0.5,SNR=18	132.83	36	PKP		PKiKP	11 55 37.5	+0.3
PDAR				SKPbc		SKPbc	11 58 57.7	-1.3
PFO	comp=Z,0.6nm,0.6s,baz=135,slow=0.8,SNR=5.3 Pinyon Flats O baz=294	132.88	50	P		PKPdf	11 55 36.3	0.0
TPFO	Pinon Flats baz=294	132.88	50	P		PKPdf	11 55 35.4	-0.9
GMRC	Granite Mounta baz=296	132.99	48	P		PKPdf	11 55 35.7	-0.8
BELC	Belle Mtn. Jos baz=295	133.07	50	P		PKPdf	11 55 36.0	-0.7
MONP2	Monument Peak baz=294	133.19	51	P		PKPdf	11 55 36.2	-0.8
ULM	Lac du Bonnet baz=327,slow=0.5,SNR=6.8	133.47	19	PKP		PKiKP	11 55 37.4	-0.6
ULM				SKPbc		SKPbc	11 58 58.5	-2.1
IKP	comp=Z,3.6nm,0.7s,baz=326,slow=1.6,SNR=8.8 In-Ko-Pah, Jac baz=294	133.53	51	P		PKPdf	11 55 36.3	-1.3
BC3	Big Chuckawall baz=295	133.62	50	P		PKPdf	11 55 36.6	-1.2
SWSC	Sam W. Stewart baz=294	133.65	51	P		PKPdf	11 55 36.4	-1.2
NEE2	Needles Airpor baz=297	133.76	48	P		PKPdf	11 55 36.0	-1.8
MDND	Maddock baz=324	134.11	24	P		PKPdf	11 55 37.8	-0.3
PDMCI	Parker Dam,Lak baz=297	134.32	48	P		PKPdf	11 55 37.8	-1.0
GLA	Glamis baz=295	134.35	50	P		PKPdf	11 55 37.9	-1.1
K22A	Casper baz=312	134.62	34	P		PKPdf	11 55 38.7	-0.7
RSSD	Black Hills	134.93	31	PKPdf		PKiKP	11 55 40.4	-1.1
RSSD	Black Hills	134.93	31	PKIKP		PKiKP	11 55 40.4	-1.1
RSSD	Black Hills baz=316	134.93	31	P		PKPdf	11 55 39.6	-0.4
RSSD	Black Hills baz=316	134.93	31	P		PKiKP	11 55 40.4	-1.1
AGMN	Agassiz Nation baz=329	135.14	21	P		PKPdf	11 55 40.0	0.0
O20A	White River Ci baz=308	135.23	38	P		PKPdf	11 55 40.1	-0.5
WUAZ	Wupatki baz=300	135.75	45	P		PKPdf	11 55 42.1	+0.3
N23A	Red Feather La baz=311	136.10	35	P		PKPdf	11 55 41.5	-0.8
214A	Organ Pipe Nat baz=296	136.36	51	P		PKPdf	11 55 42.5	-0.3
MVCO	Mesa Verde baz=305	136.79	41	P		PKPdf	11 55 43.9	+0.2
EYMN	Ely baz=334	136.86	17	P		PKiKP	11 55 43.9	-1.1
ISCO	Idaho Springs baz=310	137.01	36	P		PKPdf	11 55 43.5	-0.6
SUSD	Miller baz=322	137.09	26	P		PKiKP	11 55 44.5	-1.0
W18A	Petrified Fore baz=302	137.10	45	P		PKPdf	11 55 44.3	0.0
TUC	Tucson baz=298	137.73	49	P		PKPdf	11 55 45.0	-0.3
Q24A	Divide baz=310	137.82	37	P		PKPdf	11 55 45.0	-0.7
OGNE	Ogallala baz=316	138.23	32	P		PKiKP	11 55 46.9	-1.2
SDCO	Great Sand Dun baz=309	138.38	39	P		PKPdf	11 55 46.2	-0.5
SPMN	Marine on St. baz=331	138.86	20	P		PKPdf	11 55 46.6	-0.3
KSCO	Kaye Shedlock' baz=313	139.26	35	P		PKPdf	11 55 47.4	-0.7
T25A	Trinidad baz=310	139.44	38	P		PKPdf	11 55 48.4	-0.1
ANMO	Albuquerque baz=305	139.44	43	P		PKPdf	11 55 49.0	+0.4
Y22D	IRIS PASSCAL I baz=304	139.62	44	P		PKPdf	11 55 49.0	+0.2
Y22F	Passcal Instru baz=304	139.62	44	P		PKPdf	11 55 48.8	-0.1
121A	Cookes Peak, D baz=301	139.83	47	P		PKPdf	11 55 48.6	-0.7
BGNE	Belgrade baz=321	139.84	28	P		PKPdf	11 55 49.3	+0.4
SCIA	State Center baz=328	141.57	23	P		PKPdf	11 55 51.7	-0.3
JFWS	Jewell Farm baz=334	141.76	19	P		PKPdf	11 55 52.7	+0.4
PKME	Peaks-Kenny Pk baz=7.7	141.97	355	P		PKPdf	11 55 51.8	-0.7
MNTX	Cornudas Mount baz=303	142.00	46	P		PKPdf	11 55 51.9	-1.2
KSU1	Kansas State U baz=322	142.37	29	P		PKPdf	11 55 52.3	-1.1
MSTX	Muleshoe baz=308	142.46	41	P		PKPdf	11 55 53.0	-0.9
AMTX	Amarillo baz=311	142.58	39	P		PKPdf	11 55 53.3	-0.8
LONY	Lake Ozonia baz=359	142.83	1	P		PKPdf	11 55 53.0	-1.2
CPUP	Villa Florida comp=Z,7.4nm,1.0s,baz=112,slow=4.0,SNR=5.6	142.85	205	PKP		PKPdf	11 55 53.8	-0.9
L44A	Lake County Fo baz=337	143.16	17	P		PKPdf	11 55 53.7	-1.1
LBNH	Lisbon baz=3.5	143.17	358	P		PKPdf	11 55 54.5	-0.3
AAM	Ann Arbor baz=344	144.12	12	P		PKPdf	11 55 56.5	+0.1
HDIL	Hopedale baz=334,SNR=5.0	144.19	20	P		PKPdf	11 55 56.0	-0.6
WMOK	Wichita Mounta baz=314	144.44	36	P		PKPdf	11 55 56.3	-0.9
TX31	Lajitas Ar. Si	144.52	48	PKPdf		PKPdf	11 55 57.0	-0.7
TX31	Lajitas Ar. Si baz=302	144.52	48	P		PKPdf	11 55 57.0	-0.7
TXAR	Lajitas Array	144.52	48	PKPdf		PKPdf	11 55 57.0	-0.7
TXAR	Lajitas Array comp=Z,6.0nm,0.6s,baz=267,slow=0.6,SNR=102	144.52	48	PKP		PKPdf	11 55 57.5	-0.2
K57A	Scipio Center baz=356,SNR=7.6	144.65	3	P		PKPbc	11 55 56.0	-0.2
HCNY	Howe Caverns baz=359,SNR=6.3	144.76	1	P		PKPbc	11 55 56.2	-0.4
WVNY	West Valley, N baz=352,SNR=12	144.81	6	P		PKPbc	11 55 56.4	-0.4
O44A	Mansfield baz=335,SNR=9.3	144.83	19	P		PKPab	11 55 56.4	-0.3
HRV	Adam Dziewonsk baz=4.3	144.88	357	P		PKPab	11 55 56.1	-0.8
HRV	Adam Dziewonsk baz=4.3	144.88	357	P		PKPab	11 55 56.3	-0.6
DEOK	Depew	144.92	33			PKPbc	11 55 56.6	-0.7
P43A	Skaggs, Pawnee	144.92	21			PKPab	11 55 56.6	-0.5
P43A	Skaggs, Pawnee baz=333,SNR=15	144.92	21	P		PKPab	11 55 56.7	-0.4
ERPA	Erie	144.93	8			PKPbc	11 55 57.0	-0.2
ERPA	Erie baz=350	144.93	8	P		PKPab	11 55 56.3	-0.8
ERPA	Erie baz=350,SNR=10	144.93	8	P		PKPbc	11 55 56.9	-0.2
N47A	Urbana	144.98	16			PKPbc	11 55 56.6	-0.7
N47A	Urbana baz=340,SNR=14	144.98	16	P		PKPbc	11 55 56.7	-0.6
N47A	baz=340,SNR=14			P		PKPbc	11 55 56.7	-0.6
L61B	Northampton baz=2.4	144.99	358	P		PKPbc	11 55 56.7	-0.6
L61B	Northampton baz=2.4	144.99	358	P		PKPbc	11 55 56.6	-0.7
R40A	Maddies Statio	145.01	25			PKPbc	11 55 57.0	-0.5
R40A	Maddies Statio baz=327,SNR=78	145.01	25	P		PKPbc	11 55 57.0	-0.5
S39A	Bolivar	145.04	27			PKPbc	11 55 56.9	-0.8
S39A	Bolivar baz=325,SNR=35	145.04	27	P		PKPbc	11 55 57.0	-0.6
SFIN	Lafayette	145.05	18			PKPbc	11 55 57.0	-0.5
SFIN	Lafayette baz=337,SNR=25	145.05	18	P		PKPbc	11 55 56.5	-1.0
SFIN	Lafayette baz=337,SNR=25	145.05	18	P		PKPdf	11 55 57.6	-0.5
M50A	Fremont	145.11	12			PKPbc	11 55 57.0	-0.7
M50A	Fremont baz=344,SNR=5.3	145.11	12	P		PKPbc	11 55 57.0	-0.7
M50A	baz=344,SNR=5.3			P		PKPbc	11 55 57.0	-0.7
QUA2	Belchertown baz=3.0,SNR=6.8	145.15	358	P		PKPdf	11 55 57.8	-0.4
L56A	Greenwood	145.18	5			PKPbc	11 55 56.8	-1.2
L56A	Greenwood baz=354,SNR=11	145.18	5	P		PKPbc	11 55 57.3	-0.7
L56A	baz=354,SNR=11			P		PKPbc	11 55 57.3	-0.7
BINY	Binghamton	145.21	3			PKPab	11 55 57.8	-0.4
BINY	Binghamton baz=357,SNR=13	145.21	3	P		PKPbc	11 55 57.3	-0.7
BINY	Binghamton baz=357,SNR=13	145.21	3	P		PKPab	11 55 57.7	-0.4
TUL3	Leonard baz=320	145.24	32	P		PKPbc	11 55 57.8	-0.5
TUL3	Leonard baz=320	145.24	32	P		PKPdf	11 55 58.2	-0.4
L59A	Walton	145.25	1			PKPbc	11 55 57.5	-0.8
L59A	Walton baz=358,SNR=7.7	145.25	1	P		PKPdf	11 55 58.1	-0.4
L59A	baz=358,SNR=7.7			P		PKPdf	11 55 58.1	-0.4
M52A	Chesterland	145.29	10			PKPdf	11 55 58.0	-0.5
M52A	Chesterland baz=347,SNR=7.0	145.29	10	P		PKPdf	11 55 58.1	-0.5
M52A	baz=347,SNR=7.0			P		PKPdf	11 55 58.1	-0.5
N49A	Columbus Grove	145.32	14			PKPbc	11 55 57.9	-0.4
N49A	Columbus Grove baz=342,SNR=14	145.32	14	P		PKPbc	11 55 58.0	-0.4
N49A	baz=342,SNR=14			P		PKPbc	11 55 58.0	-0.4
ABTX	Abilene, Hawle	145.34	40			PKPab	11 55 58.9	0.0
ABTX	Abilene, Hawle baz=311	145.34	40	P		PKPab	11 55 58.6	-0.3
ABTX	Abilene, Hawle baz=311	145.34	40	P		PKPab	11 55 59.1	+0.2
OZNA	Ozona	145.43	44			PKPdf	11 55 58.7	-0.4
M53A	WI Miller and	145.50	9			PKPab	11 55 58.8	-0.5
M53A	WI Miller and baz=348,SNR=14	145.50	9	P		PKPdf	11 55 58.1	-0.8
SLM	Saint Louis baz=331	145.54	23	P		PKPab	11 55 59.2	-0.2
U38A	Gravette	145.55	30			PKPbc	11 55 58.9	-0.4
U38A	Gravette baz=322	145.55	30	P		PKPbc	11 55 58.9	-0.4
PAOC	Oil Creek Stat baz=350	145.57	8	P		PKPab	11 55 59.2	-0.2
BDFB	Brasilia comp=Z,16nm,0.7s,baz=111,slow=2.8,SNR=23	145.61	228	PKPbc		PKiKP	11 56 02.4	-1.6
CCM	Cathedral Cave	145.64	24			PKPbc	11 55 59.1	-0.4
CCM	Cathedral Cave	145.64	24	PKIKP		PKPbc	11 55 59.1	-0.4

CCM	**Cathedral Cave** baz=329	**145.64**	**24**	P		**PKPdf**	11 55 58.8	-0.4
CCM	**Cathedral Cave** baz=329,SNR=54	**145.64**	**24**	P		**PKPbc**	11 55 59.3	-0.2
NPNY	**Mohonk Preserv** baz=360	**145.70**	**0**	P		**PKPab**	11 55 59.7	-0.2
O48B	**Farmland**	**145.71**	**15**			**PKPdf**	11 55 59.0	-0.3
O48B	**Farmland** baz=340,SNR=27	**145.71**	**15**	P		**PKPdf**	11 55 59.0	-0.3
O48B	**Farmland** baz=340,SNR=27	**145.71**	**15**	P		**PKPdf**	11 55 58.9	-0.3
N51A	**Ashland**	**145.71**	**11**			**PKPbc**	11 55 59.2	-0.5
N51A	**Ashland** baz=345,SNR=12	**145.71**	**11**	P		**PKPbc**	11 55 59.1	-0.5
N51A	baz=345,SNR=12			P		**PKPbc**	11 55 59.1	-0.5
P46A	**Rosedale** baz=336,SNR=13	**145.72**	**18**	P		**PKPbc**	11 55 59.2	-0.5
M55A	**Ridgway** baz=352,SNR=14	**145.72**	**6**	P		**PKPbc**	11 55 59.4	-0.3
M55A	baz=352,SNR=14			P		**PKPbc**	11 55 59.4	-0.3
Q44A	**Meyer Farm, Va**	**145.76**	**21**			**PKPbc**	11 55 59.3	-0.6
Q44A	**Meyer Farm, Va** baz=333,SNR=22	**145.76**	**21**	P		**PKPbc**	11 55 59.5	-0.3
KSPA	**Keystone Colle**	**145.86**	**2**			**PKPbc**	11 55 59.4	-0.7
KSPA	**Keystone Colle** baz=357,SNR=9.5	**145.86**	**2**	P		**PKPbc**	11 55 59.8	-0.3
HHAR	**Hobbs**	**145.89**	**29**			**PKPdf**	11 55 59.5	-0.2
MGMO	**Mountain Grove**	**145.96**	**27**			**PKPdf**	11 55 59.4	-0.4
O49A	**Covington**	**145.98**	**14**			**PKPdf**	11 55 59.7	0.0
O49A	**Covington** baz=342,SNR=16	**145.98**	**14**	P		**PKPbc**	11 55 60.0	-0.5
O49A	baz=342,SNR=16			P		**PKPbc**	11 55 60.0	-0.5
M57A	**Sunshine Farm,**	**146.00**	**4**			**PKPab**	11 56 00.5	-0.6
M57A	**Sunshine Farm,** baz=355,SNR=28	**146.00**	**4**	P		**PKPab**	11 56 00.5	-0.6
M57A	baz=355,SNR=28			P		**PKPab**	11 56 00.5	-0.6
FVM	**French Village**	**146.03**	**24**			**PKPbc**	11 56 00.1	-0.6
FVM	**French Village**	**146.03**	**24**	PKIKP		**PKPbc**	11 56 00.1	-0.6
FVM	**French Village** baz=330,SNR=19	**146.03**	**24**	P		**PKPbc**	11 56 00.1	-0.6
BRNY	**Black Rk. Fore** baz=0.1	**146.04**	**0**	P		**PKPbc**	11 56 00.4	-0.3
PSDB	**Penn State Uni** baz=352	**146.06**	**6**	P		**PKPab**	11 56 01.5	+0.2
PAMR	**Moraine State** baz=349	**146.07**	**8**	P		**PKPbc**	11 56 00.4	-0.4
N53A	**Lisbon** baz=348,SNR=26	**146.09**	**9**	P		**PKPab**	11 56 01.1	-0.4
N53A	baz=348,SNR=26			P		**PKPab**	11 56 01.1	-0.4
OLIL	**Olney** baz=334,SNR=29	**146.23**	**20**	P		**PKPbc**	11 56 01.2	-0.1
ACSO	**Alum Creek Sta** baz=344,SNR=19	**146.25**	**12**	P		**PKPbc**	11 56 00.3	-1.0
ACSO	**Alum Creek Sta** baz=344,SNR=19	**146.25**	**12**	P		**PKPbc**	11 56 00.9	-0.4
Z35A	**Perchaven, San** baz=315,SNR=7.3	**146.32**	**37**	P		**PKPbc**	11 56 01.7	-0.1
U40A	**Yellville** baz=325	**146.35**	**28**	P		**PKPbc**	11 56 00.7	-1.0
U40A	baz=325			P		**PKPbc**	11 56 00.7	-1.0
ODNJ	**Ogdensburg** baz=359,SNR=10	**146.37**	**1**	P		**PKPbc**	11 56 01.5	-0.1
P48A	**Milroy**	**146.38**	**16**			**PKPab**	11 56 01.9	-0.7
P48A	**Milroy** baz=339,SNR=20	**146.38**	**16**	P		**PKPbc**	11 56 00.8	-0.9
P48A	baz=339,SNR=20			P		**PKPbc**	11 56 00.8	-0.9
PAL	**Palisades** baz=0.3,SNR=5.7	**146.45**	**360**	P		**PKPdf**	11 56 00.4	0.0
PAL	**Palisades** baz=0.3,SNR=5.7	**146.45**	**360**	P		**PKPab**	11 56 02.1	-0.6
X37A	**Clayton** baz=319,SNR=6.2	**146.47**	**33**	P		**PKPbc**	11 56 01.5	-0.6
P49A	**Miami Univ. Ec**	**146.50**	**15**			**PKPbc**	11 56 01.6	-0.5
P49A	**Miami Univ. Ec** baz=341,SNR=33	**146.50**	**15**	P		**PKPbc**	11 56 01.6	-0.5
P49A	**Miami Univ. Ec** baz=341,SNR=33	**146.50**	**15**	P		**PKPbc**	11 56 01.5	-0.5
N58A	**Sunbury**	**146.53**	**4**			**PKPbc**	11 56 01.9	-0.2
N58A	**Sunbury** baz=355,SNR=32	**146.53**	**4**	P		**PKPbc**	11 56 01.6	-0.5
N58A	baz=355,SNR=32			P		**PKPbc**	11 56 01.6	-0.5
UPAO	**U. Pittsburgh** baz=349	**146.53**	**8**	P		**PKPbc**	11 56 02.2	+0.1
O53A	**New Philadelph** baz=347,SNR=12	**146.57**	**10**	P		**PKPbc**	11 56 02.1	-0.1
O52A	**Adamsville** baz=346,SNR=22	**146.59**	**11**	P		**PKPbc**	11 56 01.9	-0.4
O52A	baz=346,SNR=22			P		**PKPbc**	11 56 01.9	-0.4
JCT	**Junction City** baz=308	**146.60**	**43**	P		**PKPbc**	11 56 03.0	+0.3
JCT	**Junction City** baz=308	**146.60**	**43**	P		**PKPbc**	11 56 02.6	-0.1
BRDY	**Brady**	**146.62**	**41**			**PKPbc**	11 56 02.4	-0.3
SSPA	**Standing Stone**	**146.64**	**5**			**PKPbc**	11 56 02.1	-0.4
SSPA	**Standing Stone** baz=353	**146.64**	**5**	P		**PKPab**	11 56 03.1	-0.5
SSPA	**Standing Stone** baz=353,SNR=19	**146.64**	**5**	P		**PKPbc**	11 56 02.3	-0.1
SIUC	**Southern Illin**	**146.73**	**22**			**PKPbc**	11 56 02.8	0.0
S44A	**Carbondale**	**146.74**	**22**			**PKPab**	11 56 03.3	-0.7
S44A	**Carbondale** baz=332,SNR=18	**146.74**	**22**	P		**PKPbc**	11 56 02.2	-0.6
O54A	**Avella** baz=349,SNR=25	**146.78**	**9**	P		**PKPbc**	11 56 02.0	-0.8
O54A	baz=349,SNR=25			P		**PKPbc**	11 56 02.0	-0.8
PABK	**Blue Knob Stat** baz=352	**146.93**	**6**	P		**PKPbc**	11 56 03.3	-0.1
P51A	**Williamsport**	**146.95**	**13**			**PKPbc**	11 56 02.4	-1.0
P51A	**Williamsport** baz=344,SNR=11	**146.95**	**13**	P		**PKPbc**	11 56 02.3	-1.0
P51A	baz=344,SNR=11			P		**PKPbc**	11 56 02.3	-1.0
P52A	**Corning** baz=345,SNR=12	**147.00**	**12**	P		**PKPbc**	11 56 03.2	-0.3
PBMO	**Poplar Bluff** baz=329,SNR=22	**147.07**	**25**	P		**PKPbc**	11 56 03.4	-0.3
USIN	**University of**	**147.07**	**20**			**PKPbc**	11 56 03.4	-0.3
WHTX	**Lake Whitney,** baz=314	**147.13**	**39**	P		**PKPbc**	11 56 04.4	+0.3
WHTX	**Lake Whitney,** baz=314,SNR=10.0	**147.13**	**39**	P		**PKPbc**	11 56 03.0	-1.1
WCI	**Wyandotte Cave** baz=337	**147.27**	**18**	P		**PKPbc**	11 56 04.4	+0.1
WCI	**Wyandotte Cave** baz=337,SNR=18	**147.27**	**18**	P		**PKPbc**	11 56 04.2	-0.1
P53A	**Whipple** baz=346,SNR=19	**147.28**	**11**	P		**PKPbc**	11 56 04.1	-0.2
P53A	baz=346,SNR=19			P		**PKPbc**	11 56 04.1	-0.2
Q51A	**Peebles** baz=343,SNR=21	**147.32**	**14**	P		**PKPbc**	11 56 04.1	-0.3
Q51A	baz=343,SNR=21			P		**PKPbc**	11 56 04.1	-0.3
LCAR	**Lake Charles**	**147.36**	**26**			**PKPab**	11 56 06.0	-0.5
MCWV	**Mont Chateau** baz=349,SNR=9.0	**147.37**	**8**	P		**PKPbc**	11 56 04.0	-0.5
MCWV	**Mont Chateau** baz=349,SNR=9.0	**147.37**	**8**	P		**PKPab**	11 56 05.7	-0.7
MIAR	**Mount Ida** baz=322	**147.45**	**31**	P		**PKPbc**	11 56 05.2	+0.3
MIAR	**Mount Ida** baz=322,SNR=29	**147.45**	**31**	P		**PKPbc**	11 56 05.2	+0.3
R49A	**Shelbyville** baz=339,SNR=18	**147.54**	**16**	P		**PKPbc**	11 56 04.2	-0.8
R49A	baz=339,SNR=18			P		**PKPbc**	11 56 04.2	-0.8
GEDE	**Greenville** baz=357,SNR=17	**147.61**	**2**	P		**PKPbc**	11 56 04.7	-0.5
Q52A	**Bidwell** baz=345,SNR=5.9	**147.62**	**12**	P		**PKPbc**	11 56 05.0	-0.2
Q52A	baz=345,SNR=5.9			P		**PKPbc**	11 56 05.0	-0.2
P57A	**Homestead Farm** baz=353,SNR=14	**147.77**	**6**	P		**PKPbc**	11 56 05.3	-0.3
P57A	baz=353,SNR=14			P		**PKPbc**	11 56 05.3	-0.3
R50A	**Paris**	**147.78**	**15**	P		**PKPbc**	11 56 05.1	-0.6
R50A	baz=341,SNR=16			P		**PKPbc**	11 56 05.1	-0.6
435B	**Jarrell** baz=312	**147.87**	**40**	P		**PKPbc**	11 56 06.7	+0.6
Q54A	**Coxs Mills** baz=347,SNR=32	**147.87**	**10**	P		**PKPbc**	11 56 05.5	-0.4
Q54A	baz=347,SNR=32			P		**PKPbc**	11 56 05.5	-0.4
SDMD	**Soldier's Deli** baz=355,SNR=6.5	**147.94**	**4**	P		**PKPbc**	11 56 06.1	+0.1
237A	**Washetta, Mont** baz=316,SNR=7.7	**148.12**	**37**	P		**PKPbc**	11 56 06.9	+0.1
T47A	**Sharon Grove** baz=335,SNR=16	**148.14**	**20**	P		**PKPbc**	11 56 06.6	-0.1
833A	**Chaparral WMA,** baz=306	**148.18**	**46**	P		**PKPbc**	11 56 07.5	+0.4
833A	**Chaparral WMA,** baz=306	**148.18**	**46**	P		**PKPbc**	11 56 05.9	-1.2
S51A	**Beattyville** baz=342,SNR=17	**148.58**	**15**	P		**PKPbc**	11 56 07.5	-0.3
S51A	baz=342,SNR=17			P		**PKPbc**	11 56 07.5	-0.3
WVT	**Waverly** baz=333	**148.65**	**22**	P		**PKPbc**	11 56 07.9	-0.1
WVT	**Waverly** baz=333,SNR=37	**148.65**	**22**	P		**PKPbc**	11 56 07.9	-0.1
R55A	**Marlinton** baz=348,SNR=10	**148.67**	**9**	P		**PKPbc**	11 56 08.0	-0.1
R55A	baz=348,SNR=10			P		**PKPbc**	11 56 08.0	-0.1
T50A	**Nancy** baz=339	**148.82**	**17**	P		**PKPbc**	11 56 08.0	-0.5
T50A	baz=339			P		**PKPbc**	11 56 08.0	-0.5
NATX	**Nacogdoches** baz=317	**148.97**	**36**	P		**PKiKP**	11 56 09.3	-1.0
U49A	**Red Boiling Sp** baz=337,SNR=21	**149.01**	**19**	P		**PKPbc**	11 56 08.8	-0.1
CBN	**Corbin Frederi** baz=354	**149.09**	**5**	P		**PKiKP**	11 56 09.3	-1.0
S57A	**Dark Hollow, R** baz=350,SNR=21	**149.36**	**8**	P		**PKPbc**	11 56 09.8	+0.1
S57A	baz=350,SNR=21			P		**PKPbc**	11 56 09.8	+0.1
V48A	**Smith Brothers** baz=335,SNR=29	**149.36**	**21**	P		**PKPbc**	11 56 09.5	-0.3
OXF	**Oxford** baz=329	**149.43**	**26**	P		**PKPbc**	11 56 10.1	+0.1
OXF	**Oxford** baz=329,SNR=6.7	**149.43**	**26**	P		**PKPbc**	11 56 09.8	-0.2
TZTN	**Tazewell** baz=341	**149.63**	**15**	P		**PKiKP**	11 56 11.0	-0.6
TZTN	**Tazewell** baz=341,SNR=12	**149.63**	**15**	P		**PKiKP**	11 56 10.6	-0.9
BLA	**Blacksburg** baz=348	**149.67**	**10**	P		**PKPbc**	11 56 10.3	-0.3
Y45A	**Yeager Farm, C** baz=328,SNR=9.1	**149.92**	**26**	P		**PKiKP**	11 56 11.4	-0.8
T57A	**Hurt** baz=350,SNR=5.4	**150.06**	**8**	P		**PKPbc**	11 56 11.4	-0.1
T57A	baz=350,SNR=5.4			P		**PKPbc**	11 56 11.4	-0.1
V52A	**Sevierville** baz=341,SNR=15	**150.28**	**16**	P		**PKiKP**	11 56 12.2	-0.7
T59A	**Double "B" Far** baz=353,SNR=8.3	**150.30**	**6**	P		**PKiKP**	11 56 12.3	-0.6
T59A	baz=353,SNR=8.3			P		**PKiKP**	11 56 12.3	-0.6
W50A	**Signal Mountai** baz=337,SNR=11	**150.36**	**19**	P		**PKPbc**	11 56 12.2	-0.1
TKL	**Tuckaleechee C**	**150.40**	**16**	PKPdf		**PKPdf**	11 56 06.2	-0.9
TKL	**Tuckaleechee C**	**150.40**	**16**	PKIKP		**PKPdf**	11 56 06.2	-0.9
TKL	**Tuckaleechee C** baz=340,SNR=8.6	**150.40**	**16**	P		**PKPbc**	11 56 12.2	-0.2
TKL	**Tuckaleechee C** comp=Z,15nm,0.6s,baz=127,slow=4.8,SNR=17	**150.40**	**16**	PKPbc		**PKiKP**	11 56 12.6	-0.5
X48A	**Hartselle** baz=333,SNR=11	**150.43**	**22**	P		**PKPbc**	11 56 12.2	-0.2
U56A	**King** baz=347	**150.52**	**10**	P		**PKiKP**	11 56 12.8	-0.6
U56A	baz=347			P		**PKiKP**	11 56 12.8	-0.6
V53A	**Saluda** baz=342,SNR=19	**150.64**	**15**	P		**PKiKP**	11 56 13.0	-0.8
V53A	baz=342,SNR=19			P		**PKiKP**	11 56 13.0	-0.8
VBMS	**Vicksburg** baz=325	**150.84**	**30**	P		**PKiKP**	11 56 13.7	-0.4
Z47A	**Carrollton** baz=330,SNR=7.4	**151.13**	**25**	P		**PKiKP**	11 56 14.0	-0.7
Y49A	**Blount Mountai** baz=334,SNR=16	**151.20**	**22**	P		**PKPbc**	11 56 14.0	-0.4
CASEE	**Lake Jocassee** baz=342,SNR=6.1	**151.25**	**15**	P		**PKiKP**	11 56 14.5	-0.4
KMSC	**Kings Mountain** baz=345	**151.49**	**13**	P		**PKPbc**	11 56 14.3	-0.6
KMSC	**Kings Mountain** baz=345,SNR=5.5	**151.49**	**13**	P		**PKiKP**	11 56 15.1	-0.3
PAULI	**Pauline** baz=344,SNR=5.7	**151.69**	**14**	P		**PKiKP**	11 56 15.4	-0.5
LRAL	**Lakeview Retre** baz=332	**151.71**	**23**	P		**PKPbc**	11 56 14.5	-1.0
CNNC	**Cliffs of the** baz=352	**151.98**	**7**	P		**PKiKP**	11 56 15.9	-0.4
Y52A	**Lilburn** baz=338,SNR=6.4	**151.99**	**18**	P		**PKiKP**	11 56 16.6	+0.1
Y52A	baz=338,SNR=6.4			P		**PKiKP**	11 56 16.6	+0.1
346A	**Big Creek Wild** baz=326	**152.03**	**29**	P		**PKiKP**	11 56 17.1	+0.5
BIRD	**Birdtown, Kers** baz=346	**152.15**	**11**	P		**PKiKP**	11 56 16.6	-0.2
JSC	**Jenkinsville** baz=344	**152.34**	**13**	P		**PKiKP**	11 56 17.2	+0.1
GOGA	**Godfrey** baz=339	**152.59**	**17**	P		**PKiKP**	11 56 17.3	-0.4
TIGA	**Tifton** baz=338	**154.38**	**19**	P		**PKPbc**	11 56 20.1	-1.3
LPAZ	**La Paz** comp=Z,0.7nm,0.5s,baz=170,slow=6.1,SNR=5.1	**155.84**	**194**	PKP		**PKPdf**	11 56 18.2	+1.9
LPAZ	comp=Z,1.3nm,0.6s,baz=217,slow=5.1,SNR=4.9			PKPab		pPKPbc	11 56 45.1	+3.6

*NEIC **19** 11:54:36.1±1.1,36°81N±0°03×99°76W±0°04,h5^{km}±1km, Error ellipse: s-maj=5.9km s-min=4.7km az=284.0*

TUL 19 11:54:36.8±0.9,**36°85N**±0°03×**99°70W**±0°06,**h5**^{km}±7km, **ML2.1,mb_Lg2.5**/25(NEIC),**ML2.4**/8(NEIC),**Error ellipse: s-maj=6.2km s-min=3.9km az=101.0,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOKA	**Waynoka**	**0.65**	**109**	Pg	Pg	11 54 48.6	-0.7
U32A	**Winter Ranch,**	**0.73**	**130**	Pg	Pg	11 54 50.6	-0.2
U32A				Sg	Sg	11 55 00.5	+0.1
U32A	comp=N,87nm,0.4s			IAML		11 55 01.6	
U32A	comp=E,127nm,0.5s			IAML		11 55 03.3	
OK038	**West end E0370**	**0.85**	**116**		Pg	11 54 53.0	-0.2
OK038				Sg	Sg	11 55 04.5	+0.2
OK032	**Salt Plains WL**	**1.19**	**92**	Pg	Pn	11 55 00.4	+0.3
OK032	comp=E,99nm,0.2s			IAML		11 55 17.8	
OK032	comp=E,112nm,0.2s			IAML		11 55 31.3	
KAN14	**Manchester OK**	**1.39**	**85**		Pn	11 55 02.6	-0.3
CROK	**Carrier**	**1.42**	**104**		Pb	11 55 03.7	-0.1
CSTR	**Hydro, Custer**	**1.45**	**146**		Pn	11 55 02.9	-0.8
GC02	**Grant County #**	**1.47**	**89**		Pn	11 55 03.5	-0.5
KAN17	**Caldwell West**	**1.56**	**82**		Pb	11 55 06.3	+0.1
KAN01	**Argonia South**	**1.58**	**78**		Pb	11 55 06.5	0.0
KAN09	**Caldwell North**	**1.69**	**80**		Pn	11 55 07.2	+0.3
R32A	**Long Quarter,**	**1.75**	**26**	Pn	Pn	11 55 08.3	+0.4
SMWD	**Samnorwood**	**1.80**	**194**		Pn	11 55 09.0	+0.5
SMWD	comp=Z,32nm,1.0s			IAmb_Lg		11 55 37.9	
CBKS	**Cedar Bluff**	**1.96**	**359**	Pn	Pn	11 55 11.5	+0.8
WMOK	**Wichita Mounta**	**2.24**	**160**	Pn	Pn	11 55 15.8	+1.3
WMOK	comp=Z,20nm,0.8s			IAmb_Lg		11 55 50.9	
OK033	**Mehan** comp=Z,17nm,0.8s	**2.37**	**109**	IAmb_Lg		11 55 56.0	
RTBA	**Rita Blanca** comp=Z,13nm,0.8s	**2.48**	**261**	IAmb_Lg		11 56 00.7	
OK052	**Battle Ridge R**	**2.49**	**109**	IAmb_Lg		11 55 56.5	
T35A	**Sooner Cattle** comp=Z,18nm,0.9s	**2.55**	**88**	IAmb_Lg		11 55 58.2	
FW03	**Perrin-Whitt E** comp=Z,16nm,1.2s	**4.03**	**160**	IAmb_Lg		11 56 52.2	
PLPT	**Palo Pinto** comp=Z,14nm,1.1s	**4.19**	**164**	IAmb_Lg		11 56 54.8	
ABTX	**Abilene, Hawle** comp=Z,7.6nm,0.8s	**4.22**	**179**	IAmb_Lg		11 56 47.8	

*IDC **19** 11:59:48.8±5.3,34°93N×23°24E,h61^{km}±30^{km},mb3.5/6, mbtmp3.7/9,ML3.6/3,Error ellipse: s-maj=64.0km s-min=27.1km az=16.0*
*THE **19** 11:59:48.7,34°99N×23°34E,h17^{km}±3^{km},ML3.2/6,Error ellipse: s-maj=3.6km s-min=0.9km az=221.0*
*ATH **19** 11:59:50.1,35°03N×23°45E,h23^{km}±4^{km},ML3.2/6,Error ellipse: s-maj=4.6km s-min=1.6km az=55.0*

ISC 19 11:59:49.1±1.5,**35°00N**±0°08×**23°41E**±0°08,**h47**^{km}±11^{km}, **n28**,σ1°**36**/38,**mb3.7**/6,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.57**	**106**	P	**Pn**	**12 00 01.0**	**-0.1**
GVD	7μm,0.4s			S	**Sn**	**12 00 10.7**	**+0.9**
GVD	**Gavdhos**	**0.57**	**106**	P	**Pn**	**12 00 00.7**	**-0.4**
GVD				S	**Sn**	**12 00 09.6**	**-0.1**
GVD	comp=N,15419μm,0.4s			AML	AML	12 00 12.6	
GVD	comp=E,12428μm,0.3s			AML	AML	12 00 15.2	
IMMV	**Iera Moni Meta**	**0.66**	**45**	P	**Pn**	**12 00 01.4**	**-0.8**
IMMV	comp=E,4μm,0.5s			S	**Sn**	**12 00 12.9**	**+1.3**
IMMV	**Iera Moni Meta**	**0.66**	**45**	P	**Pn**	**12 00 01.3**	**-0.9**
IMMV				S	**Sn**	**12 00 10.9**	**-0.7**
IMMV	comp=N,9110μm,0.4s			AML	AML	12 00 15.2	
IMMV	comp=E,8912μm,0.4s			AML	AML	12 00 16.8	
CHAN	**Chania**	**0.73**	**44**	P	**Pn**	**12 00 02.6**	**-0.6**
CHAN				S	**Sn**	**12 00 12.1**	**-1.3**
CHAN	comp=N,4549μm,0.6s			AML	AML	12 00 23.5	
CHAN	comp=E,5865μm,0.6s			AML	AML	12 00 25.0	
ANKY	**Antikythira Is**	**0.87**	**354**	P	**Pn**	**12 00 05.1**	**0.0**
ANKY	comp=E,2μm,0.7s			S	**Sn**	**12 00 17.6**	**+0.8**
ANKY	**Antikythira Is**	**0.87**	**354**	P	**Pn**	**12 00 05.8**	**+0.7**
ANKY				S	**Sn**	**12 00 17.9**	**+1.2**
ANKY	comp=E,4457μm,0.8s			AML	AML	12 00 21.3	
ANKY	comp=N,2670μm,0.7s			AML	AML	12 00 22.1	
PRNS	**Prines Rethymn**	**0.96**	**67**	P	**Pn**	**12 00 05.5**	**-0.8**
PRNS				S	**Sn**	**12 00 19.1**	**+0.2**
IDI	**Anoyia**	**1.25**	**76**	P	**Pn**	**12 00 10.8**	**+0.6**
IDI	comp=N,378nm,0.6s			S	**Sn**	**12 00 28.9**	**+3.1**
IDI	**Anoyia** comp=N,0.9nm,0.4s,baz=225,slow=15,SNR=49	**1.25**	**76**	P	**Pn**	**12 00 11.0**	**+0.8**
IDI	comp=N,2.1nm,0.5s,baz=4.2,slow=14,SNR=9.7			S	**Sn**	**12 00 30.1**	**+4.3**
IDI	**Anoyia**	**1.25**	**76**	P	**Pn**	**12 00 11.0**	**+0.8**
IDI	comp=E,673μm,0.5s			AML	AML	12 00 33.8	
IDI	comp=N,1143μm,0.8s			AML	AML	12 00 36.9	
KSTL	**Kastelli Herak**	**1.39**	**77**	P	Pn	12 00 16.3	+4.2
KSTL				S	Sn	12 00 37.2	+7.9
VLI	**Veliai**	**1.76**	**347**	P	**Pn**	**12 00 17.8**	**+0.6**
VLI	comp=N,362nm,0.6s			S	**Sn**	**12 00 40.0**	**+1.6**
VLI	**Veliai**	**1.76**	**347**	P	**Pn**	**12 00 18.0**	**+0.8**
VLI	comp=N,759μm,0.7s			AML	AML	12 00 53.1	
VLI	comp=E,696μm,1.1s			AML	AML	12 01 00.8	
MHLO	**Agia Marina, M**	**1.87**	**25**	P	**Pn**	**12 00 19.1**	**+0.4**
ZKR	**Zakros**	**2.30**	**86**	P	**Pn**	**12 00 25.9**	**+1.3**
ZKR	**Zakros**	**2.30**	**86**	P	**Pn**	**12 00 26.2**	**+1.6**
KRND	**KRANIDI**	**2.39**	**355**	P	**Pn**	**12 00 27.5**	**+1.6**
BRTR	**Keskin Array B** comp=E,0.1nm,0.3s,baz=241,slow=14,SNR=2.6 comp=E,0.6nm,0.6s	**9.41**	**57**	P	**Pn**	**12 02 02.7**	**+0.5**
GERES	**GERESS Array B** comp=E,0.3nm,0.3s,baz=146,slow=9.4,SNR=4.0	**15.59**	**336**	P	**P**	**12 03 29.8**	**+0.6**
AKASG	**Malin Array Be** comp=E,1.5nm,0.3s,baz=208,slow=9.5,SNR=7.2 comp=E,0.5nm,0.4s	**16.26**	**13**	P	**Pn**	**12 03 34.9**	**+0.8**
KBZ	**Khabaz** comp=E,0.1nm,0.3s,baz=202,slow=5.4,SNR=2.1 comp=E,1.5nm,0.7s	**17.38**	**54**	P	**Pn**	**12 03 48.9**	**+0.8**
HFS	**Hagfors** comp=E,1.6nm,0.4s,baz=146,slow=11,SNR=13 comp=E,1.6nm,0.4s	**25.94**	**349**	P	**P**	**12 05 15.6**	**-1.1**
FINES	**FINESS Array B** comp=E,1.0nm,0.8s,baz=152,slow=13,SNR=1.4 comp=E,1.0nm,0.8s	**26.52**	**3**	P	**P**	**12 05 19.8**	**-2.2**
MKAR	**Makanchi Array** comp=E,0.7nm,0.5s,baz=270,slow=8.2,SNR=14 comp=E,0.7nm,0.5s	**45.06**	**56**	P	**P**	**12 07 59.4**	**-0.9**
ZALV	**Zalesovo Beam** comp=E,0.7nm,0.3s,baz=265,slow=9.8,SNR=3.9 comp=E,0.7nm,0.3s	**46.15**	**46**	P	**P**	**12 08 06.6**	**-2.2**
SONM	**Songino Array** comp=E,0.3nm,0.5s,baz=300,slow=7.3,SNR=3.6 comp=E,0.3nm,0.5s	**60.69**	**50**	P	**P**	**12 09 55.4**	**-0.3**
YKA	**Yellowknife Ar** comp=E,0.2nm,0.8s,baz=25,slow=5.5,SNR=3.2 comp=E,0.2nm,0.8s	**77.16**	**341**	P	**P**	**12 11 37.6**	**+0.2**

ROM 19 12:03:56.1±0.1,**46°489N**±0°006×**13°085E**±0°006, **h10**^{km},**ML0.6**/12,**2C-1D,Error ellipse: s-maj=0.7km s-min=0.4km az=12.0,Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLRO	**Paularo**	**0.07**	**36**	*e*Pg	Pg	12 03 59.0	+0.4
PLRO				*e*Sg	Sg	12 04 00.5	0.0
FUSE	**Fusea**	**0.10**	**218**	*e*Pg	Pg	12 03 59.2	+0.5
FUSE				*e*Sg	Sg	12 04 01.2	+0.6
ZOU	**Zoufplan**	**0.10**	**311**	*e*Pg	Pg	12 03 59.4	+0.4
ZOU				*e*S	Sg	12 04 01.3	+0.2
ZOU	**Zoufplan**	**0.10**	**311**	P	Pg	12 03 59.4	+0.4
ZOU				S	Sg	12 04 01.6	+0.5
ZOU	comp=E,51μm,0.4s			AML	AML		
ZOU	comp=N,24μm,0.2s			AML	AML		
ZOU	comp=N,42μm,1.2s			AML	AML		
ZOU	comp=E,38μm,0.1s			AML	AML		
CLUD	**Cludinico**	**0.14**	**257**	*e*Pg	Pg	12 04 00.0	+0.6
CLUD				*e*Sg	Sg	12 04 02.7	+0.9
CLUD	**Cludinico**	**0.14**	**257**	P	Pg	12 04 00.0	+0.6
CLUD				S	Sg	12 04 02.5	+0.8
CLUD	comp=E,38μm,0.5s			AML	AML		
CLUD	comp=N,27μm,0.1s			AML	AML		
CLUD	comp=E,34μm,0.8s			AML	AML		
CLUD	comp=N,51μm,1.1s			AML	AML		
PTCC	**Patocco-Chiusa**	**0.20**	**114**	P	Pg	12 04 01.0	+0.6
PTCC				S	Sg	12 04 04.1	+0.7
PTCC	comp=N,26μm,0.3s			AML	AML		
PTCC	comp=E,21μm,0.1s			AML	AML		
FVI	**Forni Avoltri**	**0.24**	**297**	P	Pg	12 04 01.5	+0.5
FVI				S	Sg	12 04 05.0	+0.7
FVI	comp=N,26μm,0.1s			AML	AML		
FVI	comp=E,26μm,0.5s			AML	AML		
MPRI	**Monte Prat**	**0.26**	**195**	*e*Pg	Pg	12 04 02.0	+0.6
MPRI				*e*Sg	Sb	12 04 06.3	-1.0
MPRI	**Monte Prat**	**0.26**	**195**	P	Pg	12 04 01.8	+0.4
MPRI				S	Sb	12 04 06.7	-0.6

VINO	**Villanova**	**0.27**	**150**	*e*Pg		Pg	12 04 02.2	+0.6
VINO				*e*Sg		Sb	12 04 06.5	-1.1
VINO	**Villanova**	**0.27**	**150**	P		Pb	12 04 02.5	-0.6
VINO				S		Sb	12 04 06.6	-1.0
ACOM	**Acomizza, Ital**	**0.30**	**79**	P		Pb	12 04 03.1	-0.6
ACOM				S		Sb	12 04 07.6	-1.2
STAL	**STALIGIAL**	**0.35**	**229**	P		Pg	12 04 03.6	+0.6

LJU 19 12:04:09.4, 46.10N×14.19E, *h*12km, ML0.4, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CRNS	**Crni Vrh**	**0.06**	**111**	*i* Pg		Pg	12 04 12.0	+0.1
CRNS				*i* Sg		Sg	12 04 13.8	+0.1
CRNS				IAML			12 04 14.1	
	comp=Z,7.4nm,0.1s							
VOJS	**Vojsko**	**0.22**	**252**	*i* Pg		Pg	12 04 14.3	+0.1
VOJS				*i* Sg		Sg	12 04 17.9	+0.4
VOJS				IAML			12 04 18.3	
	comp=Z,1.4nm,0.1s							
JAVS	**Javornik**	**0.22**	**202**	*i* Pg		Pg	12 04 14.4	+0.1
GBAS	**Gorenja Brezov**	**0.24**	**133**	*i* Pg		Pg	12 04 14.6	+0.1
GBAS				*i* Sg		Sg	12 04 18.5	+0.4
GBAS				IAML			12 04 19.6	
	comp=Z,1.2nm,0.1s							
GORS	**Gorjuse**	**0.25**	**329**	*i* Pg		Pg	12 04 14.8	0.0
GORS				*i* Sg		Sg	12 04 18.8	+0.4
GORS				IAML			12 04 19.9	
	comp=Z,1.1nm,0.1s							
MOZS	**Mozjanca**	**0.26**	**43**	*i* Pg		Pg	12 04 15.2	+0.2

*IDC **19** 12:20:49.5±1.1,52.16N×178.18E,h130km±8km,mb4.1/25, mbtmp4.5/30,MS3.0/3,Error ellipse: s-maj=14.0km s-min=8.2km az=169.0*

*MOS **19** 12:20:49.7±1.2,52.06N×178.23E,h149km,mb4.5/20, Error ellipse: s-maj=9.3km s-min=7.3km az=83.3*

*AEIC **19** 12:20:50.9±1.6,52.0N±0.1×178.1E±0.1,h136km±5km, Error ellipse: s-maj=17.1km s-min=9.9km az=178.0*

*NEIC **19** 12:20:50.5±1.4,52.0N±0.1×178.2E±0.1,h139km±5km, mb4.9/128,ML4.2(AEIC),Error ellipse: s-maj=17.1km s-min=9.3km az=183.0*

ISC 19 12:20:50.2±0.4, 52.08N±0.07×178.17E±0.03, h139km±3km, h139km:pP-P,n728,σ0.87/745,mb4.7/128,12C-2D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
LSNW	**Little Sitkin**	**0.24**	**117**			**Pn**	**12 21 08.8**	**-0.5**
LSSA	**Little Sitkin**	**0.25**	**122**			**Pn**	**12 21 08.8**	**-0.5**
LSPA	**Little Sitkin**	**0.28**	**116**			**Pn**	**12 21 08.9**	**-0.5**
LSPA						**Sn**	**12 21 24.6**	**+0.7**
LSSE	**Little Sitkin**	**0.29**	**121**			**Pn**	**12 21 08.9**	**-0.5**
CEAP	**Semis' Anvil P**	**0.88**	**95**			**Pn**	**12 21 12.9**	**+0.1**
CESW	**Semis' Southwe**	**0.88**	**101**			**Pn**	**12 21 12.4**	**-0.6**
CERB	**Semis' Cerberu**	**0.92**	**99**			**Pn**	**12 21 13.7**	**+0.5**
CEPE	**Semis' Perret**	**0.93**	**97**			**Pn**	**12 21 13.1**	**-0.2**
AMKA	**Amchitka**	**1.00**	**134**	Pn		**Pn**	**12 21 13.2**	**-0.7**
AMKA				Sn		**Sn**	**12 21 30.6**	**-1.3**
GASW	**Gareloi Southw**	**1.87**	**98**			**Pn**	**12 21 23.0**	**-0.1**
GASW						**Sn**	**12 21 45.5**	**-0.8**
GANO	**Gareloi North**	**1.89**	**97**			**Pn**	**12 21 23.1**	**-0.3**
GAEA	**Gareloi East**	**1.94**	**98**			**Pn**	**12 21 24.1**	**+0.2**
TANO	**Tanaga North**	**2.30**	**93**			**Pn**	**12 21 27.8**	**-0.5**
TASE	**Tanaga Southea**	**2.36**	**95**			**Pn**	**12 21 28.7**	**-0.4**
TAFP	**Tanaga Falls P**	**2.39**	**93**			**Pn**	**12 21 29.0**	**-0.4**
TAFP						**Sn**	**12 21 58.7**	**-0.8**
SHEM	**Shemya Is, Ala**	**2.57**	**286**	P		**Pn**	**12 21 30.5**	**-1.1**
	371nm,0.3s,baz=136,slow=3.1,SNR=70							
SHEM				S		**Sn**	**12 22 01.5**	**-2.1**
	1µm,0.7s,baz=231,slow=19,SNR=22							
KIWB	**Kanaga Island**	**2.91**	**93**			**Pn**	**12 21 35.2**	**-0.7**
KIWB						**Sn**	**12 22 10.2**	**-0.9**
KIRH	**Kanaga Island**	**2.94**	**92**			**Pn**	**12 21 36.3**	**0.0**
ADK	**Adak**	**3.19**	**92**	P		**Pn**	**12 21 38.6**	**-1.0**
ADK	**Adak**	**3.19**	**92**			**Pn**	**12 21 38.5**	**-1.0**
ADK	**Adak**	**3.19**	**92**	Sn		**Sn**	**12 22 16.7**	**-1.0**
ADK	**Adak**	**3.19**	**92**	P		**Pn**	**12 21 38.5**	**-1.0**
ADK							12 22 16.7	
GSCK	**Great Sitkin C**	**3.50**	**89**			**Pn**	**12 21 42.1**	**-1.4**
GSTD	**Great Sitkin T**	**3.51**	**88**			**Sn**	**12 22 24.3**	**-0.9**
GSTR	**Great Sitkin T**	**3.56**	**88**			**Pn**	**12 21 43.4**	**-1.0**
GSMY	**Great Sitkin M**	**3.57**	**88**			**Pn**	**12 21 44.1**	**-0.3**
KOKL	**Mount Kliuchef**	**4.70**	**84**			**Pn**	**12 21 59.2**	**-0.2**
ATKA	**Atka Island**	**4.71**	**86**	Pn		**Pn**	**12 21 59.0**	**-0.4**
ATKA	**Atka Island**	**4.71**	**86**			**Sn**	**12 22 52.2**	**-1.0**
KOFP	**Korovin Flat P**	**4.77**	**85**			**Pn**	**12 21 59.8**	**-0.4**
CLES	**Cleveland East**	**7.34**	**79**			**Pn**	**12 22 34.8**	**+0.2**
NIKH	**Nikolski High**	**7.97**	**78**			**Pn**	**12 22 43.1**	**+0.1**
NIKH	**Nikolski High**	**7.97**	**78**	P		**Pn**	**12 22 42.1**	**-1.0**
	baz=268							
SPIA	**Saint Paul Isl**	**8.44**	**48**			**Pn**	**12 22 51.0**	**+1.8**
SPIA	**Saint Paul Isl**	**8.44**	**48**	P		**Pn**	**12 22 49.4**	**+0.1**
	baz=237							
P08K	**Saint George I**	**8.48**	**53**			**Pn**	**12 22 50.3**	**+0.4**
P08K	**Saint George I**	**8.48**	**53**	P		**Pn**	**12 22 50.0**	**+0.1**
	baz=242							
MAPS	**Pakushin South**	**9.16**	**73**			**Pn**	**12 22 59.3**	**+0.3**
MGOD	**Makushin Gods**	**9.20**	**73**			**Pn**	**12 23 00.3**	**+0.7**
MSW	**Makushin Switc**	**9.26**	**73**			**Pn**	**12 23 01.1**	**+0.8**
MREP	**Makushin Rep't**	**9.28**	**73**			**Pn**	**12 23 01.4**	**+0.8**
MNAT	**Makushin Natee**	**9.32**	**73**			**Pn**	**12 23 01.7**	**+0.6**
UNV	**Unalaska Valle**	**9.42**	**73**			**Pn**	**12 23 02.6**	**+0.2**
UNV	**Unalaska Valle**	**9.42**	**73**	P		**Pn**	**12 23 02.3**	**-0.1**
	baz=265							
AKBBA	**Akutan Broad B**	**9.78**	**72**			**Pn**	**12 23 07.8**	**+0.6**
AKUT	**Akutan**	**9.88**	**72**	Pn		**Pn**	**12 23 11.2**	**+2.6**
FALS	**False Pass**	**11.32**	**69**	P		**Pn**	**12 23 26.5**	**-1.1**
	baz=263							
PET	**Petropavlovsk**	**11.91**	**282**	Pn		**Pn**	**12 23 37.8**	**+2.4**
PET	**Petropavlovsk**	**11.91**	**282**	*e*P		**Pn**	**12 23 34.6**	**-0.8**
PET				*e*S		**Sn**	**12 25 44.5**	**-2.2**
PET				MLR		MLR		
	comp=Z,100nm,18.0s							
M11K	**Mekoryuk**	**12.01**	**40**	P		**Pn**	**12 23 35.6**	**-1.0**
	baz=233							
S12K	**Black Hills**	**12.21**	**65**	P		**Pn**	**12 23 39.0**	**-0.3**
	baz=261							
PEA0B	**Petropavlovsk-**	**12.48**	**283**	Pn		**Pn**	**12 23 44.5**	**+1.6**
PEA0B	**Petropavlovsk-**	**12.48**	**283**	*ce*P		**Pn**	**12 23 43.5**	**+0.6**
PETK	**Petropavlovsk-**	**12.48**	**283**	P		**Pn**	**12 23 43.6**	**+0.8**
	comp=Z,24nm,0.8s,baz=86,slow=8.2,SNR=75							
PETK				S		**Sn**	**12 25 54.6**	**-5.9**
	comp=Z,1.7nm,0.4s,baz=146,slow=31,SNR=6.8							
GAMB	**Gambell**	**12.88**	**21**	P		**Pn**	**12 23 48.0**	**+0.2**
	baz=209,SNR=7.3							
SDPT	**Sand Point**	**13.05**	**67**	Pn		**Pn**	**12 23 48.3**	**-1.9**
SDPT	**Sand Point**	**13.05**	**67**	P		**Pn**	**12 23 48.5**	**-1.7**
	baz=264							
M13K	**Dall Lake**	**13.20**	**44**	P		**Pn**	**12 23 51.6**	**-0.3**
	baz=239							
CHNA	**Chernabura Isl**	**13.52**	**69**	P		**Pn**	**12 23 53.9**	**-2.3**
	baz=267							
CNBA	**Chernabura Isl**	**13.52**	**70**	Pn		**Pn**	**12 23 54.0**	**-2.2**
O14K	**Tigyukauivet M**	**13.61**	**50**	P		**Pn**	**12 23 56.3**	**-1.0**
	baz=247							
S14K	**Fog Glacier**	**13.69**	**63**	P		**Pn**	**12 23 56.9**	**-1.5**
	baz=261							
N14K	**Kuskokwak Cree**	**13.69**	**47**	P		**Pn**	**12 23 57.5**	**-0.8**
	baz=244,SNR=6.4							
M14K	**Bethel**	**13.96**	**44**	Pn		**P**	**12 24 03.6**	**-1.6**
M14K	**Bethel**	**13.96**	**44**	P		**Pn**	**12 24 01.0**	**-0.7**
	baz=240,SNR=25							
L14K	**Kuka Creek**	**13.97**	**41**	P		**Pn**	**12 24 01.1**	**-0.6**
	baz=237,SNR=11							
O15K	**Ungalikthiuk R**	**14.27**	**52**	P		**Pn**	**12 24 05.3**	**-0.4**
	baz=249							
J14K	**Nanvaranak Lak**	**14.47**	**35**	P		**Pn**	**12 24 09.2**	**+1.1**
	baz=230,SNR=20							
M15K	**Kasigluk River**	**14.48**	**45**	P		**Pn**	**12 24 08.2**	**-0.1**
	baz=243,SNR=9.0							
N15K	**Kwethluk River**	**14.52**	**48**	P		**Pn**	**12 24 08.8**	**0.0**
	baz=245,SNR=18							
L15K	**Ungalak Mounta**	**14.63**	**41**	P		**Pn**	**12 24 09.8**	**-0.3**
	baz=238,SNR=7.6							
K15K	**Wolf Creek Mou**	**14.95**	**39**	P		**Pn**	**12 24 15.0**	**+0.8**
	baz=236,SNR=50							
P16K	**Nushagak River**	**15.12**	**53**	P		**Pn**	**12 24 16.6**	**+0.4**
	baz=253							
ANM	**Nome**	**15.14**	**28**			**P**	**12 24 18.8**	**+0.5**
ANM	**Nome**	**15.14**	**28**	P		**P**	**12 24 18.8**	**+0.5**
	baz=222,SNR=11							
O16K	**Kokwok River B**	**15.24**	**51**	P		**Pn**	**12 24 17.5**	**-0.3**
	baz=251							
N16K	**Nishlik Lake**	**15.25**	**48**	P		**Pn**	**12 24 18.4**	**+0.6**
	baz=246,SNR=8.4							
TNA	**Tin City**	**15.26**	**22**	P		**P**	**12 24 18.9**	**-0.7**
	baz=214							
M16K	**Timber Creek**	**15.39**	**46**	P		**Pn**	**12 24 19.4**	**-0.2**
	baz=244							
L16K	**Owhat River**	**15.48**	**43**			**P**	**12 24 22.2**	**+0.1**
L16K	**Owhat River**	**15.48**	**43**	P		**Pn**	**12 24 20.5**	**-0.2**
	baz=241,SNR=9.9							
F14K	**Arctic Creek**	**15.58**	**25**	P		**Pn**	**12 24 21.2**	**-0.7**
	baz=218,SNR=7.6							
Q16K	**King Salmon**	**15.69**	**55**	P		**Pn**	**12 24 22.6**	**-0.7**
	baz=256							
O17K	**Koliganek Bris**	**15.78**	**51**	P		**Pn**	**12 24 23.8**	**-0.6**
	baz=251,SNR=6.8							
CHIR	**Chirikof Islan**	**15.84**	**66**	P		**Pn**	**12 24 24.3**	**-0.9**
	baz=267							
G15K	**Niukluk**	**15.84**	**28**	P		**Pn**	**12 24 25.3**	**+0.1**
	baz=223							
J16K	**Anvik River**	**15.87**	**37**	P		**Pn**	**12 24 24.7**	**-0.7**
	baz=235,SNR=15							
P17K	**Kvichak River**	**15.93**	**54**	P		**Pn**	**12 24 24.9**	**-1.4**
	baz=254,SNR=7.1							
N17K	**Nushagak Hills**	**15.99**	**48**	P		**Pn**	**12 24 25.8**	**-1.3**
	baz=249							
Q17K	**Contact Creek**	**16.00**	**57**	P		**Pn**	**12 24 26.3**	**-0.9**
	baz=258,SNR=18							
H16K	**Elim**	**16.15**	**31**	P		**Pn**	**12 24 28.8**	**0.0**
	baz=228,SNR=22							
L17K	**Donlin**	**16.17**	**42**	P		**Pn**	**12 24 28.7**	**-0.4**
	baz=242							
I17K	**Unalakleet**	**16.19**	**35**	P		**P**	**12 24 30.4**	**+0.5**
I17K	**Unalakleet**	**16.19**	**35**	P		**Pn**	**12 24 28.8**	**-0.6**
	baz=233,SNR=9.7							
F15K	**North Star Dit**	**16.20**	**26**	P		**Pn**	**12 24 29.6**	**+0.1**
	baz=221,SNR=9.6							
M17K	**Holitna River**	**16.21**	**45**	P		**Pn**	**12 24 28.9**	**-0.9**
	baz=246,SNR=28							
K17K	**Iditarod**	**16.45**	**41**	P		**Pn**	**12 24 32.4**	**-0.2**
	baz=240,SNR=18							
P18K	**Big Mountain,**	**16.59**	**53**			**P**	**12 24 35.6**	**+1.2**
P18K	**Big Mountain,**	**16.59**	**53**	P		**Pn**	**12 24 34.0**	**-0.3**
	baz=255,SNR=9.3							
G16K	**Koyuk River**	**16.63**	**29**	P		**Pn**	**12 24 35.4**	**+0.7**
	baz=226							
N18K	**Kilae Creek**	**16.65**	**49**	P		**P**	**12 24 34.6**	**-0.4**
	baz=250							
O18K	**Koktuh Hills**	**16.72**	**52**	P		**Pn**	**12 24 37.5**	**+1.6**
O18K	**Koktuh Hills**	**16.72**	**52**	P		**Pn**	**12 24 36.0**	**+0.1**
	baz=254,SNR=30							
L18K	**Granite Mounta**	**16.88**	**43**	P		**Pn**	**12 24 37.9**	**+0.1**
	baz=244,SNR=18							
SVW2	**Sparrevohn**	**16.93**	**48**	P		**Pn**	**12 24 39.4**	**+0.9**
SVW2	**Sparrevohn**	**16.93**	**48**	P		**Pn**	**12 24 40.0**	**+1.5**
M18K	**Stony River**	**16.96**	**46**	P		**P**	**12 24 38.7**	**+0.2**
	baz=248,SNR=11							
BILL	**Bilibino**	**17.01**	**345**	P		**P**	**12 24 39.3**	**+0.3**
BILL	**Bilibino**	**17.01**	**345**	P		**Pn**	**12 24 40.2**	**+0.8**
BILL				pmax		pmax		
	comp=Z,25nm,0.9s							
MA2	**Magadan**	**17.02**	**307**	P		**Pn**	**12 24 40.2**	**+0.7**
	comp=Z,3.1nm,0.4s,baz=85,slow=11,SNR=5.4							
H17K	**Granite Mounta**	**17.10**	**33**	P		**P**	**12 24 39.7**	**-0.3**
	baz=231,SNR=22							
OHAK	**Old Harbor**	**17.23**	**61**	P		**P**	**12 24 40.3**	**-1.1**
OHAK	**Old Harbor**	**17.23**	**61**	P		**P**	**12 24 40.0**	**-1.4**
G17K	**Kiwalik Mounta**	**17.23**	**31**	P		**P**	**12 24 41.6**	**+0.3**
	baz=229,SNR=21							
O19K	**Port Alsworth**	**17.24**	**51**	P		**P**	**12 24 41.0**	**-0.5**
	baz=254,SNR=33							
Q19K	**Cape Douglas,**	**17.28**	**56**	P		**Pn**	**12 24 42.7**	**0.0**
Q19K	**Cape Douglas,**	**17.28**	**56**	P		**P**	**12 24 41.6**	**-0.4**
	baz=259,SNR=13							
N19K	**Bonanza Creek**	**17.34**	**49**	P		**P**	**12 24 42.2**	**-0.6**
	baz=252,SNR=36							
J18K	**Innoko River**	**17.45**	**39**	P		**P**	**12 24 43.3**	**-0.5**
	baz=241							
SEY	**Seymchan**	**17.46**	**318**	*ce*P		**Pn**	**12 24 46.0**	**+1.2**
SEY				pmax		pmax		
	comp=Z,14nm,2.5s							
SEY	**Seymchan**	**17.46**	**318**	P		**Pn**	**12 24 44.8**	**0.0**
	comp=Z,1.0nm,0.3s,baz=114,slow=14,SNR=7.2							
TTA	**Tatalina**	**17.48**	**42**	P		**Pn**	**12 24 45.8**	**+0.7**
TTA	**Tatalina**	**17.48**	**42**	P		**Pn**	**12 24 46.1**	**+1.0**
TTA	**Tatalina**	**17.48**	**42**	P		**P**	**12 24 43.8**	**-0.4**
	baz=243,SNR=27							
P19K	**Oil Pt**	**17.64**	**53**	P		**Pn**	**12 24 47.9**	**+0.9**
P19K	**Oil Pt**	**17.64**	**53**	P		**P**	**12 24 45.6**	**-0.3**
	baz=257,SNR=8.1							
L19K	**White Mountain**	**17.65**	**45**	P		**P**	**12 24 46.3**	**+0.3**
	baz=247,SNR=38							
KDAK	**Kodiak Island**	**17.66**	**60**	P		**P**	**12 24 45.3**	**-0.9**
KDAK	**Kodiak Island**	**17.66**	**60**	*i* P		**P**	**12 24 45.7**	**-0.4**
KDAK				pmax		pmax		
	comp=Z,63nm,0.8s							
KDAK	**Kodiak Island**	**17.66**	**60**	P		**P**	**12 24 44.6**	**-1.5**
	baz=264							
KDAK	**Kodiak Island**	**17.66**	**60**	P		**P**	**12 24 45.5**	**-0.7**
	comp=Z,29nm,0.4s,baz=297,slow=5.0,SNR=57							
F17K	**Baldwin Pennin**	**17.69**	**28**	P		**Pn**	**12 24 47.7**	**+0.3**
	baz=225							
M19K	**Big River Lodg**	**17.75**	**46**	P		**Pn**	**12 24 48.1**	**-0.2**
	baz=249							
H18K	**Honhosa River**	**17.76**	**33**	P		**P**	**12 24 47.8**	**+0.6**
	baz=234							
Q20K	**Shuyak Island**	**17.87**	**57**	P		**P**	**12 24 48.4**	**+0.1**
	baz=261							
SYI	**Shuyak Island**	**17.87**	**57**	P		**P**	**12 24 48.0**	**-0.4**
O20K	**Slope Mountain**	**18.03**	**52**	P		**Pn**	**12 24 51.2**	**-0.5**
	baz=256,SNR=7.0							
GCSA	**Galena City Sc**	**18.05**	**36**	P		**Pn**	**12 24 51.4**	**-0.3**
	baz=237,SNR=7.1							
RSO	**Redoubt South**	**18.06**	**51**	P		**Pn**	**12 24 52.3**	**+0.1**
C16K	**Lisburne Hills**	**18.08**	**20**	P		**Pn**	**12 24 51.7**	**-0.4**
	baz=214,SNR=38							
G18K	**Tagagawik**	**18.11**	**31**	P		**P**	**12 24 51.5**	**+0.4**
	baz=231,SNR=30							
J19K	**Poorman**	**18.13**	**39**	P		**P**	**12 24 51.7**	**+0.5**
	baz=241,SNR=31							
D17K	**Noatak River**	**18.13**	**23**	P		**Pn**	**12 24 52.2**	**-0.5**
	baz=219,SNR=43							
L20K	**Farewell, AK**	**18.19**	**44**	P		**P**	**12 24 52.3**	**+0.4**
	baz=248,SNR=26							
F18K	**Selawik**	**18.26**	**29**	P		**P**	**12 24 53.4**	**+0.8**
	baz=228,SNR=15							
M20K	**Styx River**	**18.30**	**46**	P		**P**	**12 24 54.0**	**+0.7**
	baz=250							
HOM	**Homer**	**18.43**	**54**	P		**P**	**12 24 54.9**	**+0.4**
HOM	**Homer**	**18.43**	**54**	P		**P**	**12 24 54.3**	**-0.2**
	baz=259							
RDOG	**Red Dog Mine**	**18.45**	**23**	P		**P**	**12 24 55.7**	**+1.0**
	baz=219							
K20K	**Telida**	**18.46**	**42**	P		**P**	**12 24 55.2**	**+0.3**
	baz=245							
N20K	**Mount Spurr**	**18.52**	**49**	P		**P**	**12 24 56.2**	**+0.6**
	baz=254,SNR=48							
E18K	**Tukpahlearik C**	**18.56**	**26**	P		**Pn**	**12 24 57.1**	**-0.7**
	baz=224,SNR=59							
CNPM	**China Poot**	**18.61**	**54**	P		**P**	**12 24 56.6**	**+0.1**
H19K	**Roundabout Mou**	**18.63**	**34**	P		**P**	**12 24 57.3**	**+0.6**
	baz=236							
C17K	**DeLong Mountai**	**18.72**	**22**	P		**P**	**12 24 58.4**	**+0.7**
	baz=218,SNR=55							
G19K	**Purcell Mounta**	**18.77**	**32**	P		**P**	**12 24 58.3**	**+0.1**
	baz=233,SNR=53							
J20K	**Nowinta River**	**18.79**	**39**	P		**P**	**12 24 58.5**	**+0.2**
	baz=243,SNR=46							
BRLK	**Bradley Lake**	**18.82**	**54**	P		**P**	**12 24 58.6**	**-0.3**
BRSE	**Bradley Lake S**	**18.89**	**54**	P		**P**	**12 24 59.7**	**+0.1**
	baz=260,SNR=21							
CAPN	**Captain Cook N**	**18.90**	**51**	P		**P**	**12 24 59.6**	**0.0**
	baz=256							
I20K	**Naagheneel**	**18.95**	**37**	P		**P**	**12 25 00.5**	**+0.3**
	baz=241,SNR=15							
F19K	**Shaleruckik Mo**	**18.98**	**30**	P		**P**	**12 25 00.7**	**+0.2**
	baz=230							
SKT	**Skwentna**	**19.05**	**47**	P		**Pn**	**12 25 03.2**	**-0.4**
SKT	**Skwentna**	**19.05**	**47**	P		**P**	**12 25 01.7**	**+0.4**
	baz=252,SNR=38							
PPLA	**Purkeypile**	**19.07**	**44**	P		**P**	**12 25 02.6**	**+1.0**
	baz=249,SNR=59							
H20K	**Anotleneega Mo**	**19.16**	**35**	P		**P**	**12 25 03.0**	**+0.5**
	baz=238,SNR=38							
SUA	**Susitna One**	**19.27**	**49**	P		**P**	**12 25 04.9**	**+1.2**
SUA	**Susitna One**	**19.27**	**49**	P		**P**	**12 25 04.1**	**+0.3**
	baz=255,SNR=49							
CAST	**Castle Rocks**	**19.30**	**42**	P		**Pn**	**12 25 05.7**	**-0.9**
CAST	**Castle Rocks**	**19.30**	**42**	P		**P**	**12 25 04.7**	**+0.7**
	baz=248,SNR=55							
C18K	**Utukok River**	**19.32**	**23**	P		**P**	**12 25 04.6**	**+0.4**
	baz=221							
CHUM	**Lake Minchumin**	**19.39**	**41**	P		**P**	**12 25 05.3**	**+0.4**
	baz=246,SNR=48							
O22K	**Cooper Landing**	**19.53**	**52**	P		**P**	**12 25 06.8**	**+0.3**
O22K	**Cooper Landing**	**19.53**	**52**	P		**P**	**12 25 07.0**	**+0.6**
	baz=259,SNR=31							
E19K	**Redstone River**	**19.55**	**29**	P		**P**	**12 25 07.4**	**+0.8**
	baz=230							
SEW	**Seward**	**19.59**	**53**	P		**P**	**12 25 06.8**	**-0.4**
	baz=260,SNR=25							
M22K	**Willow**	**19.63**	**48**	P		**Pn**	**12 25 09.4**	**-0.9**
M22K	**Willow**	**19.63**	**48**	P		**P**	**12 25 07.5**	**0.0**
	baz=255,SNR=25							
RC01	**Rabbit Creek A**	**19.65**	**50**	P		**P**	**12 25 08.9**	**+1.1**
RC01	**Rabbit Creek A**	**19.65**	**50**	P		**P**	**12 25 07.9**	**+0.1**
	baz=257,SNR=23							
B18K	**Kokolik River**	**19.73**	**21**	P		**P**	**12 25 09.3**	**+0.8**
	baz=219							
CUT	**Chulitna**	**19.75**	**46**	P		**P**	**12 25 09.5**	**+0.8**
CUT	**Chulitna**	**19.75**	**46**	P		**P**	**12 25 08.7**	**-0.1**
	baz=253,SNR=11							
F20K	**Avaraart Lake**	**19.75**	**31**	P		**P**	**12 25 09.6**	**+0.8**
	baz=233							
IMAR	**Indian Mountai**	**19.82**	**35**	P		**P**	**12 25 10.3**	**+0.8**
KTH	**Kantishna Hill**	**19.84**	**43**	P		**P**	**12 25 11.3**	**+1.5**
D19K	**Kuna River**	**19.99**	**26**	P		**P**	**12 25 11.8**	**+0.4**
	baz=226,SNR=65							
H21K	**Melozitna Rive**	**19.99**	**36**	P		**P**	**12 25 12.7**	**+1.3**
	baz=241							
BPAW	**Bear Paw Mtn.**	**20.01**	**41**	P		**P**	**12 25 13.0**	**+1.3**
BPAW	**Bear Paw Mtn.**	**20.01**	**41**	P		**P**	**12 25 12.4**	**+0.7**
	baz=247,SNR=53							
C19K	**Lookout Ridge**	**20.05**	**23**	P		**P**	**12 25 12.8**	**+0.7**
	baz=229							
PMR	**Palmer**	**20.05**	**49**	P		**P**	**12 25 13.6**	**+1.6**
PMR	**Palmer**	**20.05**	**49**	P		**P**	**12 25 12.0**	**0.0**
PMR	**Palmer**	**20.05**	**49**	P		**P**	**12 25 12.3**	**+0.3**
	baz=256,SNR=17							
TRF	**Thorofare Moun**	**20.07**	**43**	P		**P**	**12 25 13.2**	**+0.8**
TRF	**Thorofare Moun**	**20.07**	**43**	P		**P**	**12 25 13.3**	**+0.9**
	baz=250,SNR=64							
I21K	**Tanana**	**20.07**	**38**	P		**P**	**12 25 13.8**	**+1.5**
I21K	**Tanana**	**20.07**	**38**	P		**P**	**12 25 13.1**	**+0.8**
	baz=243,SNR=66							
G21K	**Allakaket**	**20.18**	**33**	P		**P**	**12 25 14.2**	**+0.7**
	baz=238,SNR=36							
GHO	**Glory Hole Cre**	**20.19**	**48**	P		**P**	**12 25 14.3**	**+0.7**
KNK	**Knik Glacier**	**20.32**	**50**	P		**P**	**12 25 15.4**	**+0.4**
KNK	**Knik Glacier**	**20.32**	**50**	P		**P**	**12 25 15.7**	**+0.6**
	baz=258,SNR=53							
E20K	**Nigu River**	**20.36**	**28**	P		**P**	**12 25 16.0**	**+0.5**
	baz=230							
SML	**Sawmill**	**20.47**	**49**	P		**P**	**12 25 15.8**	**-0.8**
SML	**Sawmill**	**20.47**	**49**	P		**P**	**12 25 16.0**	**-0.6**
	baz=257,SNR=37							
MLY	**Manley**	**20.48**	**39**	P		**P**	**12 25 17.9**	**+1.2**
MLY	**Manley**	**20.48**	**39**	P		**P**	**12 25 16.9**	**+0.1**
	baz=245,SNR=69							
D20K	**Etivluk River**	**20.54**	**26**	P		**P**	**12 25 18.2**	**+0.9**
	baz=228,SNR=57							
A19K	**Wainwright**	**20.55**	**20**	P		**P**	**12 25 17.1**	**-0.1**
	baz=218,SNR=24							
F21K	**Alatna River**	**20.57**	**32**	P		**P**	**12 25 18.2**	**+0.6**
	baz=236,SNR=92							
P23K	**Montague Islan**	**20.59**	**54**	P		**P**	**12 25 17.6**	**-0.3**
	baz=262,SNR=22							
H22K	**Ish

baz=255,SNR=15
N25K Chitina, Valde 22.18 50 P P 12 25 35.0 +0.3
N25K IAmb IAmb 12 25 36.7
comp=Z,44nm,0.7s
N25K Chitina, Valde 22.18 50 P P 12 25 34.0 -0.7
baz=261,SNR=42
HMT Hamilton 22.19 53 P P 12 25 34.7 -0.2
E23K Chandalar 22.27 32 P P 12 25 35.0 -0.6
baz=240
A21K Barrow 22.36 21 P P 12 25 35.9 -0.4
baz=224,SNR=44
G24K Hadweenzic Riv 22.39 36 P P 12 25 36.4 -0.3
baz=246,SNR=90
D23K Nanushuk River 22.41 29 P P 12 25 36.5 -0.4
baz=237
SUCK Suckling Hills 22.41 54 P P 12 25 37.5 +0.6
B22K Teshekpuk Lake 22.46 25 P P 12 25 37.2 0.0
baz=230,SNR=57
BERG Berg Lake 22.48 53 P P 12 25 38.0 +0.5
J25K Salcha River, 22.49 42 P P 12 25 37.0 -0.7
baz=253
A22K Sinclair Lake 22.52 23 P P 12 25 37.8 0.0
baz=227
GLB Gilahina Butte 22.53 51 P P 12 25 38.2 +0.1
GLB IAmb IAmb 12 25 40.6
comp=Z,33nm,1.0s
TOLK Toolik Lake Re 22.58 31 P P 12 25 39.7 +1.1
TOLK IAmb IAmb 12 25 41.7
comp=Z,63nm,1.4s
TOLK Toolik Lake Re 22.58 31 P P 12 25 38.3 -0.2
baz=239,SNR=39
F24K Squaw Lake 22.60 34 P P 12 25 38.8 +0.2
baz=244,SNR=119
E24K Your Creek 22.65 32 P P 12 25 38.7 -0.5
baz=242
BGLC Bering Glacier 22.66 54 P P 12 25 38.7 -0.6
baz=266
PRP Porcupine Dome 22.70 40 P P 12 25 38.6 -1.2
PRP IAmb IAmb 12 25 40.8
comp=Z,26nm,1.0s
PRP Porcupine Dome 22.70 40 P P 12 25 38.6 -1.2
baz=251,SNR=21
CRQE Cirque 22.80 52 P P 12 25 40.0 -0.8
baz=265
MENT Mentasta 22.81 47 P P 12 25 41.6 +0.9
MENT Mentasta 22.81 47 P P 12 25 41.2 +0.5
MENT IAmb IAmb 12 25 43.0
comp=Z,55nm,0.7s
H25L Birch Creek 22.84 38 P P 12 25 41.0 +0.1
baz=249
SNH Sunshine Point 22.89 54 P P 12 25 42.8 +1.2
MCARA McCarthy VSAT 22.90 51 P P 12 25 42.3 +0.8
MCARA IAmb IAmb 12 25 44.7
comp=Z,32nm,0.6s
MCARA McCarthy VSAT 22.90 51 P P 12 25 41.3 -0.2
baz=264,SNR=21
WAX Waxell Ridge 22.90 53 P P 12 25 42.4 +0.8
C23K Itkillik River 22.92 27 P P 12 25 42.7 +1.1
baz=235,SNR=25
G25K Bearman Lake 22.92 37 P P 12 25 41.5 -0.1
baz=248,SNR=47
L26K Log Cabin Wild 22.99 47 P P 12 25 42.9 +0.5
L26K IAmb IAmb 12 25 44.9
comp=Z,60nm,0.9s
L26K Log Cabin Wild 22.99 47 P P 12 25 42.4 0.0
baz=259,SNR=66
M26K Nabesna, AK 23.05 48 P P 12 25 42.3 -0.6
baz=261,SNR=18
D24K Happy Valley 23.08 30 P P 12 25 43.6 +0.5
baz=239
ISLE Juniper Island 23.16 53 P P 12 25 44.5 +0.3
ISLE IAmb IAmb 12 25 46.7
comp=Z,82nm,1.1s
FYU Fort Yukon 23.17 37 P P 12 25 44.8 +0.9
FYU IAmb IAmb 12 25 47.3
comp=Z,58nm,1.0s
J26L Joseph Creek 23.21 43 P P 12 25 44.2 -0.3
baz=256
MESA MESA 23.33 54 P P 12 25 46.6 +0.8
MESA MESA 23.33 54 P P 12 25 45.6 -0.2
baz=267,SNR=22
YSS Yuzh-Sakhalins 23.39 271 *e*P P 12 25 45.3 -0.9
YSS pmax pmax
comp=Z,40nm,1.0s
F25K Christian Rive 23.41 35 P P 12 25 46.1 -0.2
baz=246
C24K Franklin Bluff 23.41 29 P P 12 25 47.1 +1.0
baz=238
BARN Barnard Glacie 23.53 52 P P 12 25 48.2 +0.6
M27K Edge Creek, AK 23.55 49 P P 12 25 47.2 -0.5
baz=262,SNR=54
I26K Coal Creek Min 23.59 41 P P 12 25 47.2 -0.6
baz=254
E25K Arctic Village 23.65 34 P P 12 25 49.6 +1.2
E25K IAmb IAmb 12 25 50.6
comp=Z,37nm,0.6s
E25K Arctic Village 23.65 34 P P 12 25 48.8 +0.4
baz=245,SNR=72
CTG Chitna Glacier 23.68 52 P P 12 25 48.8 0.0
baz=266,SNR=68
L27K Beaver Creek, 23.68 47 P P 12 25 48.7 0.0
baz=261,SNR=268
CTGM Chitina Glacie 23.68 52 P P 12 25 49.4 +0.5
BCAR Beaver Creek A 23.70 47 P P 12 25 49.4 +0.4
BMAR Burnt Mountain 23.72 36 P P 12 25 49.9 +0.8
K27K Chicken 23.74 44 P P 12 25 49.4 +0.2
baz=258
TABL Table Mountain 23.75 53 P P 12 25 49.8 +0.2
LOGN Logan Glacier 23.83 52 P P 12 25 50.6 +0.4
G26K Porcupine Rive 23.84 37 P P 12 25 50.4 +0.4
baz=250,SNR=76
D25K Kavik River 23.92 31 P P 12 25 51.6 +0.7
baz=242
F26K Sheenjek River 23.98 35 P P 12 25 51.8 +0.4
baz=248,SNR=69
BVCY Beaver Creek 24.03 49 P P 12 25 52.5 +0.6
baz=263,SNR=54
YUK3 Moose Creek 24.16 50 P P 12 25 53.5 +0.3
baz=265,SNR=64
EGAK Eagle 24.28 43 P P 12 25 54.4 +0.4
EGAK Eagle 24.28 43 P P 12 25 54.5 +0.4
baz=258,SNR=184
I27K Kandik River 24.28 41 P P 12 25 54.0 -0.2
baz=256
YUK8 Steele Glacier 24.46 51 P P 12 25 55.7 -0.4
baz=267,SNR=46
H27K Steamboat Moun 24.48 39 P P 12 25 55.1 -0.9
baz=254,SNR=24
BCPM Bancas Point 24.49 55 P P 12 25 57.2 +1.2
G27K Doyon Strip 24.59 38 P P 12 25 57.2 +0.3
baz=253
PNL Peninsula 24.61 55 P P 12 25 57.2 0.0
PNL Peninsula 24.61 55 P P 12 25 57.1 0.0
baz=271,SNR=12
C26K Camden Bay 24.65 30 P P 12 25 58.3 +1.0
baz=243
ASAJ Asahikawa 24.85 266 LR LR 12 34 57.8
comp=Z,25nm,21.2s,baz=46,slow=34
DAWY Dawson 24.91 45 P P 12 26 00.7 +0.8
DAWY Dawson 24.91 45 P P 12 26 00.2 +0.3
baz=261,SNR=152
I28M Miner Creek 24.93 41 P P 12 26 00.2 +0.1
baz=258,SNR=75
YUK4 Talbot Arm 25.00 51 P P 12 26 01.5 +0.6
baz=268,SNR=101
O29M Mount Kennedy 25.02 54 P P 12 26 00.6 -0.4
baz=270
E27K Coleen River 25.05 35 P P 12 26 01.7 +0.6
baz=250,SNR=97
YUK6 Outpost Mounta 25.13 52 P P 12 26 02.5 +0.4
baz=269,SNR=42
M29M Somme Creek 25.15 49 P P 12 26 02.5 +0.3
baz=266,SNR=32
L29M L29M 25.35 47 P P 12 26 03.2 -0.7
baz=264,SNR=39
P29M Windy Craggy 25.45 55 P P 12 26 04.4 -0.4
baz=272,SNR=30
J29N Klondike Camp 25.47 44 P P 12 26 05.8 +0.8
J29N IAmb IAmb 12 26 06.9
comp=Z,34nm,0.7s
J29N Klondike Camp 25.47 44 P P 12 26 04.7 -0.3
baz=262,SNR=31
F28M Old Crow 25.49 37 P P 12 26 06.5 +1.5
F28M IAmb IAmb 12 26 08.7
comp=Z,33nm,1.0s
F28M Old Crow 25.49 37 P P 12 26 05.1 0.0
baz=253,SNR=37

HYT Haines Junctio 25.55 53 P P 12 26 06.1 +0.4
HYT IAmb IAmb 12 26 10.7
comp=Z,59nm,0.9s
HYT Haines Junctio 25.55 53 P P 12 26 05.1 -0.6
baz=270,SNR=66
D27M Malcolm River 25.64 33 P P 12 26 06.3 -0.2
baz=249
K29M Barlow Dome 25.70 46 P P 12 26 06.8 -0.3
baz=264,SNR=50
H29M Whitestone 25.72 40 P P 12 26 06.8 -0.4
baz=258,SNR=23
N30M Aishikik Lake 25.75 51 P P 12 26 07.2 -0.3
baz=269
P30M Million Dollar 25.83 54 P P 12 26 08.0 -0.2
baz=272,SNR=14
E28M Babbage River 25.91 34 P P 12 26 08.8 0.0
baz=252,SNR=27
M30M Minto, Yukon 25.93 49 P P 12 26 09.2 +0.1
M30M IAmb IAmb 12 26 15.6
comp=Z,14nm,0.8s
M30M Minto, Yukon 25.93 49 P P 12 26 08.8 -0.2
baz=267,SNR=9.5
G29M Pine Creek 26.01 39 P P 12 26 09.9 +0.2
baz=257,SNR=31
PLBC Pleasant Camp 26.16 56 P P 12 26 11.1 -0.1
baz=274
O30N Mendenhall 26.24 53 P P 12 26 11.8 -0.1
O30N Mendenhall 26.24 53 P P 12 26 12.1 +0.2
baz=251,SNR=9.3
J30M Hart River 26.30 44 P P 12 26 12.3 -0.2
baz=263,SNR=63
I30M Mount Dempster 26.36 43 P P 12 26 13.5 +0.5
baz=262,SNR=39
EPYK Eagle Plains 26.41 40 P P 12 26 13.4 +0.1
EPYK Eagle Plains 26.41 40 P P 12 26 13.5 +0.2
baz=259,SNR=40
D28M Stokes Point 26.41 33 P P 12 26 13.5 +0.3
baz=251,SNR=5.4
E29M Blow River 26.43 35 P P 12 26 13.3 -0.2
baz=254,SNR=27
R31K City Hall, Gus 26.58 58 P P 12 26 13.9 -0.9
baz=276
SKAG Skagway 26.69 56 P P 12 26 17.4 +1.5
SKAG Skagway 26.69 56 P P 12 26 15.3 -0.5
baz=274
G30M tAoh Zraii Nji 26.72 39 P P 12 26 15.8 -0.3
baz=259
WHY Whitehorse 26.84 53 P P 12 26 17.4 +0.1
WHY Whitehorse 26.84 53 P P 12 26 16.7 -0.7
baz=272
SIT Sitka 26.99 61 P P 12 26 17.7 -0.8
baz=279
F30M Barrier River 27.01 37 P P 12 26 18.8 +0.1
baz=258,SNR=51
M31M Drury Creek, Y 27.04 49 P P 12 26 19.7 +0.7
M31M Drury Creek, Y 27.04 49 P P 12 26 18.5 -0.5
baz=270,SNR=13
H31M Peel River 27.28 42 P P 12 26 20.8 -0.3
baz=263
JIS Juneau Island 27.31 58 P P 12 26 22.9 +1.5
S32K Killisnoo 27.32 60 P P 12 26 22.4 +0.9
S32K Killisnoo 27.32 60 P P 12 26 20.9 -0.6
baz=279
G31M Satah River 27.46 39 P P 12 26 22.7 0.0
G31M Satah River 27.46 39 P P 12 26 22.6 0.0
baz=261,SNR=43
P32M Atlin 27.50 55 P P 12 26 23.7 +0.6
P32M IAmb IAmb 12 26 25.2
comp=Z,16nm,1.1s
P32M Atlin 27.50 55 P P 12 26 23.1 -0.1
baz=276,SNR=10
FARO Faro, Yukon 27.52 49 P P 12 26 24.5 +1.1
FARO IAmb IAmb 12 26 25.2
comp=Z,21nm,1.4s
FARO Faro, Yukon 27.52 49 P P 12 26 22.8 -0.5
baz=271,SNR=16
N32M Quiet Lake 27.69 52 P P 12 26 24.7 -0.1
baz=273
F31M Tsiigehtchic 27.75 38 P P 12 26 25.8 +0.6
F31M IAmb IAmb 12 26 26.9
comp=Z,35nm,1.1s
F31M Tsiigehtchic 27.75 38 P P 12 26 25.2 0.0
baz=260,SNR=20
P33M Teslin, Yukon 27.89 54 P P 12 26 27.6 +0.9
P33M IAmb IAmb 12 26 28.8
comp=Z,21nm,1.1s
P33M Teslin, Yukon 27.89 54 P P 12 26 26.0 -0.7
baz=275,SNR=17
INK Inuvik 27.98 36 P P 12 26 27.9 +0.6
INK IAmb IAmb 12 26 29.1
comp=Z,19nm,0.6s
INK Inuvik 27.98 36 P P 12 26 27.9 +0.6
INK pmax pmax
comp=Z,19nm,0.6s
INK Inuvik 27.98 36 P P 12 26 27.3 0.0
baz=259,SNR=39
Q32M Nakina River 28.31 56 P P 12 26 30.5 -0.1
baz=278,SNR=9.8
U33K Whale Pass 28.37 62 P P 12 26 30.8 0.0
baz=282
CRAG Craig 28.51 64 P P 12 26 32.0 -0.1
baz=284
WRAK Wrangell Islan 28.72 62 P P 12 26 34.5 +0.6
baz=282
R33M Jennings River 28.91 55 P P 12 26 36.7 +0.9
baz=278,SNR=14
S34M Telegraph Cree 29.07 58 P P 12 26 38.1 +1.1
S34M Telegraph Cree 29.07 58 P P 12 26 37.9 +0.8
baz=280,SNR=5.5
KLR Kul'dur 29.18 283 *ce*P P 12 26 37.3 -0.8
KLR pmax pmax
comp=Z,9.0nm,0.8s
V35K Ketchikan 29.38 64 P P 12 26 40.6 +0.9
baz=285
DLBC Dease Lake 29.55 57 P P 12 26 42.8 +1.4
DLBC Dease Lake 29.55 57 P P 12 26 42.8 +1.4
baz=280,SNR=7.8
T35M Bob Quinn 29.73 60 P P 12 26 45.0 +2.1
baz=283,SNR=11
WTLY Watson Lake, Y 29.90 53 P P 12 26 44.8 +0.5
WTLY Watson Lake, Y 29.90 53 P P 12 26 45.5 +1.1
baz=278,SNR=12
TGTN Hyland Airport 29.97 51 P P 12 26 45.5 +0.5
baz=276,SNR=29
U35K Hyder 30.10 62 P P 12 26 46.9 +0.8
baz=285
USRK Ussuriysk Ar. 31.35 274 P P 12 26 56.5 -0.7
comp=Z,16nm,0.8s,baz=60,slow=9.3,SNR=9.9
comp=Z,7.6nm,0.8s
HEH HeiHe 31.35 287 *e*P P 12 26 56.5 -0.7
HEH pmax pmax
comp=Z,8.0nm,0.8s
A36M Sachs Harbour 31.40 30 P P 12 26 59.0 +1.6
A36M Sachs Harbour 31.40 30 P P 12 26 59.0 +1.6
baz=261,SNR=152
C36M Paulatuk 31.52 35 P P 12 26 59.4 +1.0
C36M Paulatuk 31.52 35 P P 12 26 59.3 +0.9
baz=267,SNR=46
WRGLY Wrigley 31.99 47 P P 12 27 04.3 +1.6
WRGLY Wrigley 31.99 47 P P 12 27 04.2 +1.6
baz=277,SNR=28
MAJO Matsushiro 32.07 257 *i* P P 12 27 03.9 +0.2
MAJO pmax pmax
comp=Z,7.0nm,0.8s
MAJO Matsushiro 32.07 257 P P 12 27 04.7 +1.1
MJAR Matsushiro Arr 32.07 257 P P 12 27 05.0 +1.3
MJAR Matsushiro Arr 32.07 257 P P 12 27 05.0 +1.3
comp=Z,2.5nm,0.6s,baz=50,slow=8.0,SNR=7.3
MJAR LR LR 12 39 45.2
comp=Z,12nm,20.8s,baz=68,slow=35
comp=Z,2.5nm,0.6s
KOTAN Kotaneelee Air 32.23 53 P P 12 27 05.8 +1.0
baz=282,SNR=21
BBB Bella Bella 32.34 68 P P 12 27 06.0 +0.2
BBB IAmb IAmb 12 28 19.5
comp=Z,29nm,1.4s
MDJ Mudanjiang 32.60 276 P P 12 27 09.5 +1.3
MDJ pmax pmax
comp=Z,13nm,1.4s
MDJ pmax pmax
comp=Z,160nm,6.5s
BNX BinXian 33.38 280 ⇑P P 12 27 14.5 -0.4
BNX pmax pmax
comp=Z,16nm,0.7s
BNX pmax pmax
comp=Z,230nm,3.8s
H11N2 WAKE ISLAND Hy 33.47 199 T T 13 02 42.0
baz=11,slow=76,SNR=40
H11N3 WAKE ISLAND Hy 33.48 199 T T 13 02 41.6
baz=11,slow=76,SNR=42
H11N1 WAKE ISLAND Hy 33.49 200 T T 13 02 42.2
baz=11,slow=76,SNR=43
H11S1 WAKE ISLAND Hy 34.70 199 T T 13 04 10.8
baz=10,slow=76,SNR=14
H11S2 WAKE ISLAND Hy 34.71 199 T T 13 04 10.8
baz=10,slow=76,SNR=10
H11S3 WAKE ISLAND Hy 34.71 199 T T 13 04 14.3
baz=10,slow=76,SNR=16
CLRS Cowichan Lake 36.06 72 P P 12 27 38.5 +0.6
CLRS IAmb IAmb 12 27 39.1
comp=Z,9.2nm,0.8s
YKA Yellowknife Ar 36.12 47 P P 12 27 39.0 +0.8
YKA Yellowknife Ar 36.12 47 P P 12 27 39.3 +1.1
comp=Z,20nm,0.7s,baz=284,slow=8.6,SNR=296
YKA ScP ScP 12 33 32.9 -0.9
comp=Z,0.8nm,0.9s,baz=295,slow=3.8,SNR=7.4
comp=Z,20nm,0.7s
HILA High Level 36.12 54 P P 12 27 39.0 +0.6
NLWA Neilton Lookou 36.89 74 P P 12 27 44.7 -0.4
NLWA IAmb IAmb 12 27 46.8
comp=Z,18nm,1.1s
GNW Green Mountain 37.42 73 P P 12 27 49.6 +0.2
BRLDA Berland Lookou 37.56 61 P P 12 27 50.4 -0.3
BRLDA IAmb IAmb 12 27 51.6
comp=Z,30nm,0.8s
KSRS Korea Array 37.76 267 P P 12 27 54.2 +1.9
comp=Z,3.9nm,0.7s,baz=52,slow=8.1,SNR=8.4
comp=Z,3.9nm,0.7s
COR Corvallis 38.68 77 P P 12 28 01.2 +1.2
H04D Lebanon 39.05 77 P P 12 28 03.7 +0.6
H04D IAmb IAmb 12 28 04.7
comp=Z,14nm,0.8s
HOOD Mount Hood Mea 39.27 75 P P 12 28 04.9 -0.3
HOOD IAmb IAmb 12 28 06.3
comp=Z,18nm,1.1s
G05A Wamic 39.52 75 P P 12 28 07.4 +0.4
G05A IAmb IAmb 12 28 13.5
comp=Z,17nm,0.9s
DBO Dodson Butte 39.52 79 P P 12 28 08.4 +1.2
KSXB Camp Six Broad 39.87 81 P P 12 28 11.1 +1.0
KSXB IAmb IAmb 12 28 11.7
comp=Z,19nm,1.3s
L02F Cave Junction 39.89 81 P P 12 28 11.2 +1.1
L02F IAmb IAmb 12 28 12.3
comp=Z,20nm,1.4s
HAWA Hanford 39.96 73 P P 12 28 10.6 -0.1
HAWA IAmb IAmb 12 28 11.5
comp=Z,22nm,0.9s
D08A Wollman Farm, 39.97 71 P P 12 28 10.3 -0.5
HUMO Hull Mountain 39.98 80 P P 12 28 11.2 +0.3
HUMO IAmb IAmb 12 28 13.6
comp=Z,25nm,1.9s
F07A Phinny Hill Vi 39.99 73 P P 12 28 10.0 -0.9
F07A IAmb IAmb 12 28 11.9
comp=Z,16nm,0.8s
I05D Terrebonne, OR 39.99 76 P P 12 28 10.8 -0.2
EDM Edmonton 40.11 60 P P 12 28 11.9 +0.1
EDM Edmonton 40.11 60 P P 12 28 11.9 +0.1
EDM pmax pmax
comp=Z,45nm,0.7s
EUNU Eureka 40.11 16 P P 12 28 12.2 +0.6
JCC Jacoby Creek, 40.37 83 P P 12 28 15.4 +1.4
JCC IAmb IAmb 12 28 17.2
comp=Z,22nm,1.1s
NEW Newport 40.40 69 P P 12 28 13.7 -0.5
NEW IAmb IAmb 12 28 14.6
comp=Z,15nm,0.8s
NEW Newport 40.40 69 P P 12 28 13.7 -0.5
NEW pmax pmax
comp=Z,15nm,0.9s
NEW Newport 40.40 69 P P 12 28 13.8 -0.5
baz=300,SNR=14
KHMM Horse Mountain 40.52 82 P P 12 28 16.8 +1.4
KHMM IAmb IAmb 12 28 18.6
comp=Z,74nm,1.7s
K05A Summer Lake 41.16 78 P P 12 28 21.4 +0.6
K05A IAmb IAmb 12 28 22.6
comp=Z,14nm,0.8s
XLT XiLinHaoTe 41.19 284 *e*P P 12 28 22.1 +1.3
XLT pP pP 12 28 52.4 +1.3
XLT sP sP 12 29 09.5 +2.9
XLT PP PP 12 29 56.9 -1.6
XLT pmax pmax
comp=Z,9.0nm,0.8s
XLT pmax pmax
comp=Z,230nm,4.3s
I07A Izee 41.23 76 P P 12 28 21.5 +0.2
I07A IAmb IAmb 12 28 22.2
comp=Z,13nm,0.9s
HOPS Hopland Field 42.05 84 P P 12 28 28.5 +0.6
HOPS IAmb IAmb 12 28 29.9
comp=Z,36nm,1.1s
BMO Blue Mountains 42.11 73 P P 12 28 27.9 -0.4
BMO Blue Mountains 42.11 73 P P 12 28 28.0 -0.4
BMO pmax pmax
comp=Z,8.0nm,0.9s
ALE Alert 42.25 10 P P 12 28 29.7 +0.8
NRIK Noril'sk 42.83 329 P P 12 28 34.2 +0.5
comp=Z,6.6nm,0.8s,baz=75,slow=10,SNR=14
NRIK ScP ScP 12 34 00.2 +0.4
comp=Z,1.3nm,0.3s,baz=90,slow=5.1,SNR=4.2
comp=Z,6.6nm,0.8s
AFDM Forest Hills D 43.37 83 P P 12 28 39.1 +0.7
BPMT Black Pine Rid 43.48 69 P P 12 28 38.8 -0.8
PNTR Pine Nut 44.12 82 P P 12 28 45.6 +0.9
PNTR IAmb IAmb 12 28 47.6
comp=Z,20nm,0.6s
ULN Ulaanbaatar 44.25 294 *i* P P 12 28 45.3 -0.3
ULN pmax pmax
comp=Z,1.0nm,0.5s
HLID Hailey 44.55 73 P P 12 28 47.7 -0.4
baz=306,SNR=16
SONM Songino Array 44.64 294 P P 12 28 49.7 +1.1
comp=Z,0.8nm,0.7s,baz=69,slow=8.2,SNR=5.4
SONM ScP ScP 12 34 08.8 +1.1
comp=Z,1.1nm,1.0s,baz=72,slow=2.4,SNR=5.8
comp=Z,0.8nm,0.7s
EGMT Eagleton 44.71 65 P P 12 28 48.2 -0.9
baz=303,SNR=7.2
BOZ Bozeman (W) 45.00 69 P P 12 28 50.9 -0.7
baz=305,SNR=16
KVN Kaiserville 45.06 81 P P 12 28 52.5 +0.4
KVN Kaiserville 45.06 81 P P 12 28 52.5 +0.4
KVN pmax pmax
comp=Z,5.0nm,0.7s
TIA Tai'an 45.21 274 ⇑P P 12 28 54.1 +1.0
TIA pmax pmax
comp=Z,12nm,0.6s
FFC Flin Flon 45.25 54 P P 12 28 52.9 -0.3
FFC Flin Flon 45.25 54 P P 12 28 52.9 -0.3
FFC pmax pmax
comp=Z,6.0nm,0.7s
FFC Flin Flon 45.25 54 P P 12 28 53.0 -0.2
FFC pP **pwP 12 29 25.9 -0.3**
NVAR Mina Array Bea 45.32 81 P P 12 28 54.7 +0.4
comp=Z,6.5nm,0.7s,baz=300,slow=7.3,SNR=77
NVAR PcP PcP 12 30 32.4 +1.0
comp=Z,0.4nm,0.5s,baz=290,slow=3.7,SNR=1.9
NVAR ScP ScP 12 34 10.8 0.0
comp=Z,0.7nm,0.8s,baz=292,slow=3.7,SNR=4.3
comp=Z,6.5nm,0.7s
MLAC Mammoth, Mammo 45.50 83 P P 12 28 54.7 -1.0
baz=310
HHC Hu-ho-hao-te 45.68 283 *e*P P 12 28 57.3 +0.4
HHC Hu-ho-hao-te 45.68 283 *e*P P 12 29 03.6 +6.7
HHC pmax pmax
comp=Z,14nm,0.5s
HHC pmax pmax
comp=Z,79nm,5.5s
HHC pmax pmax
comp=Z,14nm,0.8s
HHC pmax pmax
comp=Z,78nm,5.5s
ELK Elko 45.74 77 LR LR 12 45 57.0
comp=Z,60nm,20.2s,baz=316,slow=33
DSP Deep Springs 46.20 82 P P 12 29 00.7 -0.1
SMMC Simmler 46.29 86 P P 12 29 01.6 -0.1
baz=311
H17A Grant Village 46.31 70 P P 12 29 03.5 +1.6
baz=306,SNR=10
NOR Nord 46.32 3 *i* P P 12 29 00.6 -0.6
NOR IAmb IAmb 12 29 02.5
comp=Z,1.5nm,0.9s

VES Vestal, Richgr 46.51 85 P **P** 12 29 02.2 -1.0
baz=311,SNR=11
RLMT Red Lodge 46.64 68 P **P** 12 29 03.5 -0.9
baz=306,SNR=10
PKM Mcpherson Peak 46.68 86 P **P** 12 29 04.4 -0.5
baz=312,SNR=7.4
CWC Cottonwood Cre 46.73 83 P **P** 12 29 04.1 -1.1
baz=311
GRAC Grapevine Rang 46.81 82 P **P** 12 29 04.6 -1.1
baz=310
NJ2 Nanjing 46.92 269 *e*P **P** 12 29 07.0 +0.5
NJ2 pP **pP** 12 29 39.1 +1.1
NJ2 sP **sP** 12 29 54.8 +1.3
NJ2 pmax pmax
comp=Z,9.0nm,0.7s
NJ2 pmax pmax
comp=Z,140nm,4.2s
ISA Isabella, Lake 47.00 84 P **P** 12 29 06.1 -1.1
baz=311,SNR=6.9
R11B Troy Canyon, C 47.03 80 P **P** 12 29 06.6 -1.0
baz=310,SNR=15
SBC Santa Barbara 47.04 87 P **P** 12 29 07.1 -0.3
baz=312
SPUT South Promonto 47.07 74 P **P** 12 29 07.9 +0.1
ARVC Arvin 47.13 85 P **P** 12 29 07.0 -1.1
baz=311
NEEM North Greenlan 47.18 13 *i*P **P** 12 29 07.3 -1.0
NEEM IAmb IAmb 12 29 10.4
comp=Z,15nm,0.7s
MPMC Manual Prospec 47.34 83 P **P** 12 29 08.7 -1.3
baz=311,SNR=9.0
SCZ2 Santa Cruz Isl 47.39 87 P **P** 12 29 09.8 -0.4
baz=312
LAO LASA Array 47.44 65 P **P** 12 29 09.4 -1.1
baz=306,SNR=6.0
FURC Furnace Creek, 47.46 82 P **P** 12 29 10.1 -0.6
baz=311,SNR=6.5
DGMT Dagmar 47.53 62 P **P** 12 29 09.8 -1.2
baz=305
OSI Osito Audit: C 47.53 86 P **P** 12 29 10.4 -1.0
baz=312
DUG Dugway, Tooele 47.54 76 P **P** 12 29 10.4 -1.1
baz=309,SNR=16
LRMC Laurel Mtn Rad 47.60 84 P **P** 12 29 11.3 -0.6
baz=311,SNR=7.2
EDW2 Edwards Air Fo 47.81 85 P **P** 12 29 12.2 -1.2
baz=312,SNR=6.6
BW06 Boulder Array 47.88 71 P **P** 12 29 13.4 -0.7
baz=308,SNR=12
PD31 Pinedale Array 47.88 71 P **P** 12 29 12.7 -1.4
PDAR Pinedale Array 47.88 71 P **P** 12 29 13.6 -0.5
comp=Z,6.1nm,0.7s,baz=306,slow=3.4,SNR=64
comp=Z,6.1nm,0.7s
PRN Pahroc Range 47.96 80 P **P** 12 29 14.6 0.0
PRN IAmb IAmb 12 29 16.0
comp=Z,18nm,1.1s
SNCC San Nicolas Is 47.96 88 P **P** 12 29 15.0 +0.5
baz=313
DECC Green Verdugo 48.02 86 P **P** 12 29 15.4 +0.4
baz=312
NLU North Lily Min 48.13 76 P **P** 12 29 16.3 +0.2
SHOC Shoshone, Teco 48.19 83 P **P** 12 29 16.0 -0.3
baz=311
GSC Goldstone, Bar 48.26 84 P **P** 12 29 17.4 +0.5
baz=312,SNR=30
KULLO Kullorsuaq 48.36 17 *i*P **P** 12 29 16.8 -0.3
KULLO IAmb IAmb 12 29 18.7
comp=Z,12nm,0.8s
FMP Fort Macarthur 48.40 86 P **P** 12 29 18.0 0.0
baz=312
BFSC Mount Baldy Ra 48.44 85 P **P** 12 29 17.9 -0.5
baz=312,SNR=8.4
CIS Catalina Islan 48.54 87 P **P** 12 29 19.0 0.0
baz=313
TUQ Turquoise Moun 48.71 83 P **P** 12 29 20.7 +0.2
baz=312,SNR=9.7
SCI2 San Clemente I 48.74 87 P **P** 12 29 21.2 +0.7
baz=313
HEC Hector,Ludlow 48.86 84 P **P** 12 29 21.9 +0.3
baz=312
BBRC Big Bear Solar 48.88 85 P **P** 12 29 21.5 -0.4
baz=312,SNR=8.1
KBS Kingsbay 48.99 357 *i*P **P** 12 29 22.2 +0.3
MURC Murrieta 49.15 86 P **P** 12 29 23.7 0.0
baz=313
LYN LuoYang 49.17 276 ⇑P **P** 12 29 25.0 +1.3
LYN pmax pmax
comp=Z,23nm,0.7s
RDMU Red Mountain 49.23 73 P **P** 12 29 24.1 -0.3
RDMU IAmb IAmb 12 29 25.2
comp=Z,14nm,0.9s
GMRC Granite Mounta 49.30 83 P **P** 12 29 25.1 +0.1
baz=312,SNR=13
SPITS Spitsbergen Ar 49.53 355 P **P** 12 29 26.0 +0.1
SPITS Spitsbergen Ar 49.53 355 P **P** 12 29 26.0 +0.1
comp=Z,9.1nm,0.5s,baz=40,slow=6.6,SNR=34
comp=Z,9.1nm,0.5s
PFO Pinyon Flats O 49.60 85 P **P** 12 29 26.2 -1.1
baz=313,SNR=5.7
PFO Pinyon Flats O 49.60 85 P **P** 12 29 27.3 +0.1
PFO pP **pP** 12 29 59.9 +0.9
TPFO Pinon Flats 49.61 85 P **P** 12 29 26.0 -1.3
baz=313
BELC Belle Mtn. Jos 49.62 84 P **P** 12 29 26.4 -1.0
baz=312,SNR=10
109C Camp Elliot, M 49.69 86 P **P** 12 29 27.9 +0.2
baz=313
K22A Casper 49.71 69 P **P** 12 29 26.8 -1.2
baz=308
UPNV Upernavik 49.91 18 *i*P **P** 12 29 28.9 0.0
UPNV IAmb IAmb 12 29 30.7
comp=Z,21nm,1.0s
NEE2 Needles Airpor 49.95 83 P **P** 12 29 29.5 -0.2
baz=312
IRM Iron Mountain 50.04 84 P **P** 12 29 30.6 +0.2
baz=312,SNR=6.9
BAR Barrett 50.10 86 P **P** 12 29 31.2 +0.3
BAR IAmb IAmb 12 29 32.1
comp=Z,17nm,0.9s
MONP2 Monument Peak 50.11 86 P **P** 12 29 30.7 -0.5
baz=313,SNR=6.3
BC3 Big Chuckawall 50.19 84 P **P** 12 29 31.5 -0.1
baz=313,SNR=5.5
RSSD Black Hills 50.22 66 P **P** 12 29 31.3 -0.6
baz=308
RSSD Black Hills 50.22 66 P **P** 12 29 30.8 -1.1
O20A White River Ci 50.29 73 P **P** 12 29 31.9 -0.6
baz=310,SNR=12
MDND Maddock 50.37 60 P **P** 12 29 32.2 -0.6
baz=307,SNR=9.1
SWSC Sam W. Stewart 50.46 85 P **P** 12 29 33.1 -0.4
baz=313
IKP In-Ko-Pah, Jac 50.47 86 P **P** 12 29 34.1 +0.4
baz=313
PDMCI Parker Dam,Lak 50.55 83 P **P** 12 29 34.5 +0.2
baz=312
WHN Wuhan 50.74 271 ⇑P **P** 12 29 36.4 +0.7
WHN pmax pmax
comp=Z,48nm,0.8s
ULM Lac du Bonnet 50.86 56 P **P** 12 29 35.4 -0.9
comp=Z,10nm,0.7s,baz=301,slow=8.5,SNR=20
comp=Z,10nm,0.7s
DAG Danmarks Havn 50.97 5 *i*P **P** 12 29 35.6 -1.1
DAG IAmb IAmb 12 29 37.0
comp=Z,1.9nm,0.8s
GLA Glamis 50.98 84 P **P** 12 29 37.5 0.0
baz=313,SNR=5.2
N23A Red Feather La 51.16 71 P **P** 12 29 38.5 -0.5
N23A IAmb IAmb 12 31 15.9
comp=Z,28nm,2.0s
N23A Red Feather La 51.16 71 P **P** 12 29 39.4 +0.4
baz=310
WUAZ Wupatki 51.43 80 P **P** 12 29 41.5 +0.5
baz=312,SNR=5.9
MVCO Mesa Verde 52.04 76 P **P** 12 29 45.5 -0.1
baz=312
ISCO Idaho Springs 52.05 72 P **P** 12 29 45.1 -0.6
ISCO Idaho Springs 52.05 72 P **P** 12 29 45.2 -0.6
ISCO pmax pmax
comp=Z,3.0nm,0.8s
ISCO Idaho Springs 52.05 72 P **P** 12 29 44.8 -0.9
baz=311
AGMN Agassiz Nation 52.07 58 P **P** 12 29 44.6 -0.7
baz=309,SNR=11
X16A Lo Mia Camp, P 52.13 81 P **P** 12 29 46.8 +0.6
ZALV Zalesovo Beam 52.16 312 P **P** 12 29 48.0 +2.1
comp=Z,0.5nm,0.4s,baz=64,slow=6.6,SNR=3.0
ZALV PcP **PcP** 12 30 56.9 +1.3
comp=Z,0.9nm,0.5s,baz=31,slow=4.8,SNR=5.5
W18A Petrified Fore 52.69 79 P **P** 12 29 50.3 0.0
baz=312
SUSD Miller 52.85 63 P **P** 12 29 50.6 -0.6
baz=310
Q24A Divide 52.87 72 P **P** 12 29 52.0 +0.2
baz=311
214A Organ Pipe Nat 52.97 84 P **P** 12 29 53.5 +1.3
baz=314
SUMG Summit 53.05 13 P **P** 12 29 52.2 -0.5
SUMG Summit 53.05 13 P **P** 12 29 52.2 -0.5
SUMG pmax pmax
comp=Z,8.0nm,1.0s
SUMG Summit 53.05 13 *i*P **P** 12 29 52.0 -0.7
SUMG IAmb IAmb 12 29 53.9
comp=Z,3.7nm,0.9s
B35A Bob, Littlefor 53.14 56 P **P** 12 29 52.8 -0.4
B35A IAmb IAmb 12 29 53.8
comp=Z,12nm,0.8s
DBG Daneborg 53.29 6 *i*P **P** 12 29 52.5 -1.4
DBG IAmb IAmb 12 29 54.3
comp=Z,2.6nm,0.8s
OGNE Ogallala 53.38 68 P **P** 12 29 55.4 +0.2
baz=311
SDCO Great Sand Dun 53.47 73 P **P** 12 29 55.6 -0.5
baz=312,SNR=11
GTA Gaotai 53.55 289 P **P** 12 29 57.6 +1.1
GTA pmax pmax
comp=Z,4.0nm,1.0s
TUC Tucson 53.97 82 P **P** 12 29 59.3 -0.3
baz=314
TUC Tucson 53.97 82 P **P** 12 29 59.9 +0.3
TUC pP **pP** 12 30 33.0 +1.1
KSCO Kaye Shedlock' 54.31 70 P **P** 12 30 01.5 -0.6
baz=312
T25A Trinidad 54.52 73 P **P** 12 30 03.5 -0.2
baz=312,SNR=8.8
EYMN Ely 54.55 56 P **P** 12 30 02.7 -0.8
baz=311
ANMO Albuquerque 54.78 77 P **P** 12 30 05.0 -0.6
baz=313
Y22D IRIS PASSCAL I 55.10 78 P **P** 12 30 06.9 -0.8
baz=313
Y22F Passcal Instru 55.10 78 P **P** 12 30 06.5 -1.3
baz=313
BGNE Belgrade 55.28 65 P **P** 12 30 07.9 -0.9
baz=312
121A Cooks Peak, D 55.64 80 P **P** 12 30 11.3 -0.4
baz=314
SPMN Marine on St. 55.66 59 P **P** 12 30 10.7 -0.8
SPMN IAmb IAmb 12 30 12.0
comp=Z,16nm,1.1s
SPMN Marine on St. 55.66 59 P **P** 12 30 10.9 -0.5
baz=312
ICESG Greenland Ices 55.98 15 *i*P **P** 12 30 14.0 +0.2
ICESG IAmb IAmb 12 30 16.7
comp=Z,3.0nm,0.7s
CBKS Cedar Bluff 56.12 69 P **P** 12 30 14.4 -0.5
baz=313
SCO Scoresbysund 56.88 8 *i*P **P** 12 30 19.4 -0.3
SCO IAmb IAmb 12 30 20.8
comp=Z,4.5nm,0.9s
G40A Rib Lake 56.99 57 P **P** 12 30 20.8 -0.2
G40A IAmb IAmb 12 30 21.4
comp=Z,10nm,0.9s
N35A Tabor 57.05 64 P **P** 12 30 21.4 +0.1
ARCES ARCESS Array B 57.05 349 P **P** 12 30 19.8 -1.2
comp=Z,5.6nm,0.9s,baz=23,slow=6.8,SNR=5.2
comp=Z,5.6nm,0.9s
DY2G Dye2 57.06 20 *i*P **P** 12 30 21.2 -0.1
DY2G IAmb IAmb 12 30 21.8
comp=Z,6.1nm,0.8s
KURK Kurchatov 57.16 312 P **P** 12 30 23.2 +1.3
KURK IAmb IAmb 12 30 59.2
comp=Z,7.7nm,1.0s
KURK Kurchatov 57.16 312 *ce*P **P** 12 30 23.5 +1.6
KURK pmax pmax
comp=Z,2.0nm,0.5s
KURK Kurchatov 57.16 312 P **P** 12 30 24.1 +2.2
KURK pP **pwP** 12 30 57.1 -1.6
KURK sP **PcP** 12 31 13.0 -1.9
KURBB Kurchatov Arra 57.26 312 P **P** 12 30 22.8 +0.1
comp=Z,2.9nm,0.5s,baz=42,slow=6.6,SNR=14
comp=Z,2.9nm,0.5s
WMQ Urumqi 57.37 301 *e*P **P** 12 30 25.6 +2.0
WMQ pmax pmax
comp=Z,9.0nm,0.8s
MSTX Muleshoe 57.66 75 P **P** 12 30 25.3 -0.6
baz=314
AMTX Amarillo 57.67 73 P **P** 12 30 25.1 -0.8
baz=314
SCIA State Center 57.67 62 P **P** 12 30 25.1 -0.6
baz=313
MNTX Cornudas Mount 57.68 79 P **P** 12 30 25.4 -0.5
baz=315,SNR=12
KSU1 Kansas State U 57.71 67 P **P** 12 30 24.8 -1.2
baz=313
E43A Lone Tree Farm 57.88 55 P **P** 12 30 26.6 -0.5
MK31 Makanchi Array 58.11 306 P **P** 12 30 28.3 -0.4
MK31 Makanchi Array 58.11 306 *ce*P **P** 12 30 31.4 +2.7
MKAR Makanchi Array 58.11 306 P **P** 12 30 28.4 -0.3
comp=Z,1.3nm,0.5s,baz=49,slow=5.3,SNR=14
MKAR PcP **PcP** 12 31 17.3 -1.5
comp=Z,0.8nm,0.6s,baz=60,slow=5.1,SNR=4.5
comp=Z,1.3nm,0.5s
MAKZ Makanchi 58.25 307 P **P** 12 30 30.6 +0.9
MAKZ Makanchi 58.25 307 P **P** 12 30 30.6 +0.9
MAKZ pmax pmax
comp=Z,2.0nm,0.9s
VHRN Van Horn 58.56 79 P **P** 12 30 32.3 +0.1
JFWS Jewell Farm 58.58 59 P **P** 12 30 31.5 -0.5
baz=314
BVAR Borovoye Array 59.12 318 P **P** 12 30 35.9 +0.4
comp=Z,6.5nm,0.3s,baz=53,slow=7.1,SNR=30
BVAR PcP **sP** 12 31 22.2 +0.2
comp=Z,5.3nm,0.6s,baz=48,slow=5.9,SNR=8.1
comp=Z,6.5nm,0.3s
BRVK Borovoye 59.13 318 *ce*P **P** 12 30 37.6 +1.9
BRVK pmax pmax
comp=Z,4.0nm,0.6s
WMOK Wichita Mounta 59.48 72 P **P** 12 30 38.1 -0.3
WMOK IAmb IAmb 12 30 39.0
comp=Z,5.3nm,0.7s
WMOK Wichita Mounta 59.48 72 P **P** 12 30 38.1 -0.3
WMOK pmax pmax
comp=Z,5.0nm,0.7s
WMOK Wichita Mounta 59.48 72 P **P** 12 30 38.2 -0.2
baz=315,SNR=7.1
MNHN Monahans 59.51 77 P **P** 12 30 37.8 -0.9
MNHN IAmb IAmb 12 30 39.1
comp=Z,9.1nm,0.9s
P40A Paris 59.96 63 P **P** 12 30 40.4 -1.1
P40A IAmb IAmb 12 30 41.3
comp=Z,32nm,1.3s
W35A Tecumseh 60.30 70 P **P** 12 30 43.1 -0.8
L44A Lake County Fo 60.33 59 P **P** 12 30 43.3 -0.7
baz=315
TUL3 Leonard 60.39 69 P **P** 12 30 43.6 -0.9
baz=315
TX31 Lajitas Ar. Si 60.40 79 P **P** 12 30 44.8 0.0
TX31 IAmb IAmb 12 30 45.7
comp=Z,12nm,1.1s
TXAR Lajitas Array 60.40 79 P **P** 12 30 44.7 -0.1
TXAR Lajitas Array 60.40 79 P **P** 12 30 45.0 +0.2
TXAR Lajitas Array 60.40 79 P **P** 12 30 45.0 +0.2
comp=Z,4.4nm,0.7s,baz=301,slow=4.7,SNR=60
comp=Z,4.4nm,0.7s
ABTX Abilene, Hawle 60.47 74 P **P** 12 30 43.9 -1.2
baz=315
SCHQ Schefferville 60.60 37 P **P** 12 30 45.1 -0.5
SCHQ Schefferville 60.60 37 P **P** 12 30 45.8 +0.1
comp=Z,17nm,0.8s,baz=322,slow=7.3,SNR=15
comp=Z,17nm,0.8s
HDIL Hopedale 60.74 61 P **P** 12 30 45.7 -1.1
baz=315
ARU Arti 60.99 326 P **P** 12 30 49.2 +1.0
IVI Ivigtut 61.17 24 P P 12 30 55.3 +5.9
IVI pP **PcP** 12 31 28.8 -1.9
VLDQ Val d'Or 61.23 48 P **P** 12 30 47.6 -2.4
VLDQ IAmb IAmb 12 30 48.6
comp=Z,18nm,0.8s
PZH PanZhiHua 61.37 277 P **P** 12 30 52.3 +0.9
PZH pmax pmax
comp=Z,10.0nm,1.3s
PZH pmax pmax
comp=Z,120nm,5.3s
CCM Cathedral Cave 61.44 64 P **P** 12 30 50.7 -0.9
baz=315
JCT Junction City 61.90 76 P **P** 12 30 53.9 -1.0
baz=316
SFIN Lafayette 62.04 60 P **P** 12 30 54.9 -0.7
SFIN Lafayette 62.04 60 P **P** 12 30 55.2 -0.3
baz=316,SNR=5.5
WHTX Lake Whitney, 62.21 73 P **P** 12 30 55.7 -1.1
baz=316
AAM Ann Arbor 62.45 56 P **P** 12 30 57.3 -0.9
baz=316
FCAR Ozark Folk Cen 62.50 66 P **P** 12 30 57.1 -1.5
FCAR IAmb IAmb 12 30 57.9
comp=Z,13nm,0.6s
MIAR Mount Ida 62.63 68 P **P** 12 30 58.4 -1.2
MIAR IAmb IAmb 12 31 00.1
comp=Z,21nm,1.4s
MIAR Mount Ida 62.63 68 P **P** 12 30 58.4 -1.2
MIAR pmax pmax
comp=Z,21nm,1.4s
MIAR Mount Ida 62.63 68 P **P** 12 30 58.9 -0.6
baz=316
KLMR Klimovskoe 62.65 339 *e*P **P** 12 30 57.3 -1.9
KLMR pmax pmax
comp=Z,36nm,2.1s
435B Jarrell 63.00 74 P **P** 12 31 01.3 -0.8
baz=316
O48B Farmland 63.16 58 P **P** 12 31 02.5 -0.5
baz=317
P48A Milroy 63.59 59 P **P** 12 31 04.6 -1.2
P48A IAmb IAmb 12 31 05.6
comp=Z,30nm,1.3s
833A Chaparral WMA, 63.71 77 P **P** 12 31 05.4 -1.3
baz=317
P49A Miami Univ. Ec 63.91 59 P **P** 12 31 07.5 -0.5
baz=317
TRQ Mont Tremblant 63.96 48 P **P** 12 31 06.8 -1.4
NATX Nacogdoches 64.02 71 P **P** 12 31 08.1 -0.6
baz=317
WCI Wyandotte Cave 64.03 61 P **P** 12 31 08.3 -0.3
baz=317
ACSO Alum Creek Sta 64.31 57 P **P** 12 31 09.2 -1.3
baz=317
BOOM Boomskoye usch 64.35 307 P **P** 12 31 12.6 +1.7
BOOM Boomskoye usch 64.35 307 P **P** 12 31 12.6 +1.7
BOOM pmax pmax
comp=Z,11nm,1.8s
ERPA Erie 64.44 54 P **P** 12 31 10.0 -1.3
baz=318
T47A Sharon Grove 64.49 62 P **P** 12 31 10.8 -0.9
T47A IAmb IAmb 12 31 12.1
comp=Z,28nm,1.3s
M53A WI Miller and 64.59 55 P **P** 12 31 11.6 -0.7
baz=318
FINES FINESS Array B 64.65 346 *i*P **P** 12 31 12.1 -0.3
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 64.65 346 P **P** 12 31 12.2 -0.1
comp=Z,2.2nm,0.7s,baz=24,slow=7.3,SNR=9.7
comp=Z,2.2nm,0.7s
WVT Waverly 64.72 63 P **P** 12 31 12.4 -0.9
baz=317
WVT Waverly 64.72 63 P **P** 12 31 12.3 -0.9
WVNY West Valley, N 64.91 53 P **P** 12 31 13.9 -0.5
AAK Ala-Archa 64.95 308 P **P** 12 31 16.3 +1.4
AAK Ala-Archa 64.95 308 *ce*P **P** 12 31 17.4 +2.6
AAK pmax pmax
comp=Z,4.0nm,1.0s
AAK Ala-Archa 64.95 308 P **P** 12 31 17.8 +2.9
OXF Oxford 65.03 66 P **P** 12 31 13.8 -1.4
baz=317
LONY Lake Ozonia 65.16 49 P **P** 12 31 14.2 -1.8
baz=320
P52A Corning 65.19 57 P **P** 12 31 13.9 -2.3
baz=318
O53A New Philadelph 65.20 56 P **P** 12 31 14.5 -1.8
baz=318
PLAL Pickwick Lake 65.42 64 P **P** 12 31 16.3 -1.5
PLAL IAmb IAmb 12 31 17.5
comp=Z,5.1nm,0.7s
M55A Ridgway 65.53 54 P **P** 12 31 17.6 -0.8
M55A IAmb IAmb 12 31 18.7
comp=Z,22nm,0.9s
ARLS Aral 65.61 307 P **P** 12 31 22.4 +3.3
L56A Greenwood 65.62 52 P **P** 12 31 18.9 -0.1
T50A Nancy 65.69 61 P **P** 12 31 18.4 -1.1
T50A IAmb IAmb 12 31 20.1
comp=Z,37nm,1.6s
ZAIG Zacatecas 65.87 84 P **P** 12 31 20.5 -0.7
ABKAR Akbulak array 66.22 321 P **P** 12 31 23.2 +0.6
BINY Binghamton 66.33 51 P **P** 12 31 22.9 -0.6
baz=320
MCWV Mont Chateau 66.34 56 P **P** 12 31 22.5 -1.1
baz=319
M57A Sunshine Farm, 66.44 53 P **P** 12 31 23.5 -0.6
SSPA Standing Stone 66.59 54 P **P** 12 31 25.0 -0.2
SSPA IAmb IAmb 12 31 25.6
comp=Z,33nm,1.2s
SSPA Standing Stone 66.59 54 P **P** 12 31 24.1 -1.0
baz=319
SSPA Standing Stone 66.59 54 P **P** 12 31 24.7 -0.5
LBNH Lisbon 66.67 47 P **P** 12 31 24.8 -0.8
baz=321
TZTN Tazewell 66.74 60 P **P** 12 31 24.6 -1.6
baz=318
NOA NORSAR Array B 66.75 353 P **P** 12 31 25.7 -0.2
comp=Z,0.7nm,0.6s,baz=11,slow=6.4,SNR=3.8
comp=Z,0.7nm,0.6s
PKME Peaks-Kenny Pk 67.04 45 P **P** 12 31 26.7 -1.2
baz=322
HFS Hagfors 67.44 352 P **P** 12 31 29.7 -0.5
comp=Z,0.9nm,0.5s,baz=49,slow=4.9,SNR=6.6
comp=Z,0.9nm,0.5s
LRAL Lakeview Retre 67.47 65 P **P** 12 31 29.8 -1.0
baz=318
L61B Northampton 67.71 49 P **P** 12 31 30.7 -1.5
baz=321
BLA Blacksburg 67.89 58 P **P** 12 31 33.0 -0.5
baz=319
BELG Belogornoye 67.91 330 *i*P **P** 12 31 34.0 +0.8
BELG pmax pmax
comp=Z,3.0nm,0.8s
HRV Adam Dziewonsk 68.19 48 P **P** 12 31 33.8 -1.3
baz=321
KMSC Kings Mountain 68.98 60 P **P** 12 31 38.7 -1.5
baz=320
CMAR Chiang Mai Arr 69.07 273 *i*P **P** 12 31 41.7 +0.7
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 69.07 273 P **P** 12 31 41.8 +0.7
comp=Z,1.5nm,0.8s,baz=28,slow=7.1,SNR=10
comp=Z,1.5nm,0.8s
GOGA Godfrey 69.14 62 P **P** 12 31 40.6 -0.6
baz=319
TIGA Tifton 70.56 64 P **P** 12 31 48.7 -1.2
baz=320
CNNC Cliffs of the 70.72 57 P **P** 12 31 49.1 -1.6
baz=321
AKASG Malin Array Be 74.27 340 P **P** 12 32 11.5 0.0
comp=Z,2.7nm,0.4s,baz=20,slow=6.1,SNR=14
comp=Z,2.7nm,0.4s
DWPF Disney Wildern 74.31 64 P **P** 12 32 11.3 -0.9
baz=321
MTN Manton Dam 76.33 227 P **P** 12 32 23.9 +0.2
MTN IAmb IAmb 12 32 24.5
comp=Z,55nm,1.7s
KBZ Khabaz 77.04 328 *ce*P **P** 12 32 27.8 +0.4
KBZ pmax pmax
comp=Z,8.0nm,1.3s
KOLS Kolonicke sedl 77.28 344 *e*P **P** 12 32 30.8 +2.0
KOLS Kolonicke sedl 77.28 344 *e*P **P** 12 32 30.8 +2.0
BUR08 Bucovina Ar. S 77.99 342 P **P** 12 32 33.6 +0.7
BURAR Bucovina Array 78.02 342 P **P** 12 32 33.4 +0.4
WRA Warramunga Arr 81.26 221 *i*P **P** 12 32 50.7 +0.2
WRA pmax pmax
comp=Z,4.0nm,0.7s
WRA Warramunga Arr 81.26 221 P **P** 12 32 50.9 +0.4
comp=Z,3.5nm,0.6s,baz=31,slow=6.2,SNR=29
comp=Z,3.5nm,0.6s
ASAR Alice Springs 84.77 220 P **P** 12 33 09.2 +0.7
comp=Z,2.4nm,0.8s,baz=18,slow=5.5,SNR=20
comp=Z,2.4nm,0.8s
STKA Stephens Creek 89.54 210 P **P** 12 33 30.4 -0.9
comp=Z,2.5nm,0.7s,baz=359,slow=8.1,SNR=5.8
comp=Z,2.5nm,0.7s
TORD Torodi Ar. Bea 114.97 356 PKP **PKiKP** 12 39 13.9 -0.8

comp=Z,0.5nm,0.4s,baz=5.8,slow=2.7,SNR=10
CPUP Villa Florida 131.37 80 SKPbc **SKPbc 12 42 56.8 -0.8**
comp=Z,3.5nm,0.3s,baz=350,slow=3.6,SNR=3.1
PLCA Paso Flores 132.98 105 PKP **PKiKP 12 39 49.0 -0.5**
comp=Z,1.7nm,0.9s,baz=197,slow=3.7,SNR=4.7
PLCA SKPbc **SKPbc 12 43 03.2 +0.3**
comp=Z,2.2nm,0.9s,baz=317,slow=6,SNR=5.5
QSPA South Pole Qui 141.84 180 PKhKP PKPpre 12 40 01.0
comp=Z,1.1nm,0.7s,baz=166,slow=0.8,SNR=7.8
QSPA SKPbc **SKPbc 12 43 28.2 +0.3**
comp=Z,2.1nm,0.7s,baz=316,slow=1.4,SNR=11
MAW Mawson 145.88 218 PKPbc **PKPab 12 40 13.4 +1.0**
comp=Z,4.9nm,0.9s,baz=93,slow=2.4,SNR=4.7
ELIB Princess Elisa 157.19 200 *d*PKPdf **PKPdf 12 40 26.8 -1.0**

*DRS **19** 12:21:00.8, 42.60N×45.39E, h14km*
*NORS **19** 12:21:01.7, 42.60N×45.53E, h6km, MPVA3.8*
MOS 19 12:21:00.5, 42.62N×45.55E, h16km, MPVA4.0, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVE	**Vedeno**	**0.54**	**51**	*i* Pg	Pb	12 21 12.0	+0.3
DVE				*e*Sg	Sb	12 21 20.4	+1.1
KMGR	**Komgaron**	**0.67**	**311**	*e*Pg	Pn	12 21 15.6	+0.2
KMGR				*e*Sg	Sn	12 21 25.9	+0.3
GUDG	**Gudauri**	**0.81**	**260**	*e*Pg	Pn	12 21 17.6	+0.2
GUDG				*e*Sg	Sn	12 21 30.5	+1.2
XNZR	**Khunzakh**	**0.85**	**95**	*e*Pg	Pn	12 21 18.6	+0.6
XNZR				*e*Pg	Pg	12 21 31.6	+1.5
XNZR				*e*Sg	Sn	12 21 31.5	+1.1
XNZR				*e*Sg	Sg	12 21 32.5	+4.1
DLMR	**Dylym**	**0.91**	**60**	*e*Pg	Pn	12 21 19.2	+0.5
DLMR				*e*Sg	Sn	12 21 33.4	+1.8
UNCR	**Uncukul**	**0.92**	**84**	*e*Pg	Pn	12 21 19.9	+1.1
UNCR				*e*Sg	Sn	12 21 33.4	+1.6
LACR	**Lac**	**0.95**	**283**	*e*Pg	Pn	12 21 19.5	+0.2
LACR				*e*Sg	Sn	12 21 34.9	+2.3
KRNR	**Karanay**	**1.02**	**78**	*e*Pg	Pn	12 21 21.6	+1.3
KRNR				*e*Sg	Sn	12 21 35.8	+1.4
DBC	**Dubki**	**1.02**	**66**	*e*Pg	Pg	12 21 22.2	+1.8
DBC				*e*Sg	Sn	12 21 38.0	+3.7
ARKR	**Arakani**	**1.06**	**90**	*e*Pg	Pg	12 21 22.6	+1.5
ARKR				*e*Sg	Sn	12 21 38.3	+3.0
GNBR	**Gunib**	**1.07**	**102**	*e*Pg	Pg	12 21 22.3	+1.1
GNBR				*e*Sg	Sn	12 21 38.6	+3.1
ARNR	**Ardon**	**1.09**	**302**	*e*Pg	Pg	12 21 21.8	+0.3
ARNR				*e*Sg	Sn	12 21 39.0	+3.2
BUJR	**Buynaksk**	**1.17**	**79**	*e*Pg	Pg	12 21 26.2	+2.2
BUJR				*e*Sg	Pg	12 21 42.7	+4.5
KORR	**Kora**	**1.19**	**294**	*e*Pg	Pg	12 21 25.7	+2.2
KORR				*e*Sg	Sg	12 21 44.6	+5.6
KMKR	**Kumukh**	**1.25**	**112**	*e*Pg	Pg	12 21 25.9	+1.3
KMKR				*e*Sg	Sg	12 21 44.0	+3.2
TRKR	**Terskaya**	**1.26**	**332**	*e*Pg	Pg	12 21 26.2	+1.4
TRKR				*e*Sg	Sg	12 21 44.7	+3.5
STDR	**Stavd-Durt**	**1.33**	**305**	*e*Pg	Pg	12 21 27.8	+1.7
STDR				*e*Sg	Sg	12 21 45.5	+2.2
LSNR	**Lesken**	**1.43**	**298**	*e*Pg	Pg	12 21 29.4	+1.3
LSNR				*e*Sg	Sg	12 21 49.3	+2.7
DIGR	**Digorskoe uzhe**	**1.48**	**282**	*e*Pg	Pg	12 21 28.6	-0.4
DIGR				*e*Sg	Sg	12 21 49.3	+1.1
ONI	**Oni**	**1.55**	**270**	*e*Pg	Pg	12 21 30.6	+0.3
ONI				*e*Sg	Sg	12 21 51.2	+0.7
URKR	**Urkarakh**	**1.61**	**106**	*e*Pg	Pg	12 21 31.7	+0.3
URKR				*e*Sg	Sg	12 21 54.5	+2.2
KBTC	**Kuba-Taba**	**1.97**	**308**	*e*Pg	Pb	12 21 37.2	+1.1
KBTC				*e*Sg	Sg	12 22 04.2	+0.2
AKT	**Akhty**	**1.98**	**124**	*e*Pg	Pb	12 21 35.3	-0.9
AKT				*e*Sg	Sb	12 22 01.8	+1.1
NEUR	**Neytrino**	**2.19**	**288**	*e*Pg	Pb	12 21 40.6	+0.7
NEUR				*e*Sg	Sg	12 22 09.5	-1.5
KBZ	**Khabaz**	**2.24**	**301**	*e*Pg	Pb	12 21 39.9	-0.6
KBZ				*e*Sg	Sb	12 22 08.3	+0.3
SHA1	**Shidzhatmaz**	**2.40**	**299**	*e*Pn	Pb	12 21 43.0	-0.4
SHA1				*e*Sn	Sb	12 22 12.9	+0.1
BEYR	**Belyy Ugol+**	**2.44**	**306**	*e*Pn	Pb	12 21 42.0	-1.9
BEYR				*e*Sn	Sb	12 22 12.6	-1.1
KIV	**Kislovodsk**	**2.48**	**304**	*e*Pn	Pb	12 21 43.0	-1.8
KIV				*e*Sn	Sb	12 22 13.5	-1.7
GNI	**Garni**	**2.54**	**194**	*e*Pn	Pb	12 21 45.7	-0.1

*SOME **19** 12:23:09.4, 43.38N×69.38E*
*NNC **19** 12:23:11.5±1.3, 43.63N×69.74E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=9.8km s-min=3.9km az=128.0, Suspected Mining explosion.*
*KRNET **19** 12:23:11.5±0.1, 43.65N×69.86E, mb3.1*
ISC 19 12:23:09.9±1.4, 43.71N±0.04×69.68E±0.07, h0km, n36, σ1°79/52, 12C-15D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Boroldaу**	**0.69**	**170**	P	**Pb**	**12 23 26.0**	**+1.2**
	7.1nm,0.4s						
BRLS				S	**Sn**	**12 23 38.2**	**-0.1**
	47nm,0.3s						
KK31	**Karatay Array**	**0.86**	**135**	⇓P	**Pg**	**12 23 25.7**	**-0.6**
	2.0nm,0.3s,baz=321,slow=18,SNR=96						
KK31				S	**Sg**	**12 23 37.2**	**-0.3**
	20nm,0.3s,baz=320,slow=32,SNR=120						
KKAR	**Karatay Array**	**0.86**	**135**	⇑*i*P	**Pg**	**12 23 25.5**	**-0.8**
	baz=39						
KKAR				⇑*i*S	**Sg**	**12 23 35.8**	**-1.6**
	baz=39						
IUG	**luzhnay**	**1.58**	**170**	P	**Pn**	**12 23 38.8**	**-0.5**
	42nm,0.3s						
IUG				S	**Sg**	**12 24 00.2**	**-0.5**
	124nm,0.5s						
MNAS	**Manas**	**2.40**	**120**	⇓*e*P	**Pn**	**12 23 52.3**	**+1.7**
	baz=20						
MNAS				⇓*i*S	**Sn**	**12 24 22.0**	**+1.1**
	baz=20						
TRKS	**Terek-Say**	**2.43**	**153**	⇓*i*P	**Pb**	**12 23 54.1**	**-0.5**
	baz=56						
TRKS				⇓*i*S	**Sb**	**12 24 25.2**	**0.0**
	baz=56						
ARK	**Arkit**	**2.54**	**138**	⇑*i*P	**Pn**	**12 23 54.6**	**+2.0**
	baz=39						
ARK				⇑*i*S	**Sn**	**12 24 25.7**	**+1.4**
	baz=39						
MRKS	**Merke**	**2.77**	**109**	Pg	**Pg**	**12 24 01.7**	**-1.2**
	8.3nm,0.6s						
MRKS				Lg	Lg	12 24 39.1	
	18nm,0.4s						
EKS2	**Erkin-Say**	**3.17**	**108**	P	**Pb**	**12 24 08.1**	**+0.8**
	SNR=12						
EKS2	**Erkin-Say**	**3.17**	**108**	⇑*i*P	**Pn**	**12 24 02.9**	**+1.7**
	baz=8.0						
EKS2				⇑*i*S	**Sn**	**12 24 40.5**	**+0.6**
	baz=8.0						
BTLS	**Baital**	**3.40**	**65**	Pg	**Pg**	**12 24 13.9**	**-1.2**
	20nm,0.5s						
BTLS				Lg	Lg	12 25 00.8	
	7.8nm,0.7s						
USP	**Ospenovka**	**3.54**	**96**	P	**Pb**	**12 24 14.3**	**+0.9**
	SNR=17						
USP	**Ospenovka**	**3.54**	**96**	⇓*i*P	**Pn**	**12 24 08.0**	**+1.9**
	baz=95						
USP				⇓*i*S	**Sn**	**12 24 49.2**	**+0.5**
	baz=95						
SGDS	**Sogindy**	**3.61**	**92**	Pg	**Pg**	**12 24 17.2**	**-1.8**
	4.8nm,0.3s						
SGDS				Lg	Lg	12 25 06.2	
	8.7nm,0.5s						
AAK	**Ala-Archa**	**3.68**	**105**	P	**Pb**	**12 24 16.6**	**+0.7**
	SNR=17						
AAK	**Ala-Archa**	**3.68**	**105**	⇓*i*P	**Pn**	**12 24 10.0**	**+1.8**
	baz=5.0						
AAK				⇓*i*S	**Sn**	**12 24 52.9**	**+0.5**
	baz=5.0						
CHMS	**Chumysh**	**3.77**	**99**	⇓*i*P	**Pn**	**12 24 11.3**	**+2.0**
	baz=99						
CHMS				⇓*i*S	**Sn**	**12 24 54.6**	**+0.3**
	baz=99						
UCH	**Uchtor**	**3.84**	**111**	P	**Pb**	**12 24 19.8**	**+0.9**
	SNR=16						
UCH	**Uchtor**	**3.84**	**111**	⇑*i*P	**Pn**	**12 24 12.5**	**+1.8**
	baz=11						
UCH				⇑*i*S	**Sn**	**12 24 57.1**	**+0.3**
	baz=11						
ARLS	**Aral**	**3.88**	**117**	⇑*i*P	**Pn**	**12 24 12.7**	**+1.7**
	baz=17						
ARLS				⇑*i*S	**Sn**	**12 24 57.9**	**+0.5**
	baz=17						
KBK	**Karagaybulak**	**3.99**	**103**	⇓*i*P	**Pn**	**12 24 14.2**	**+1.6**
	baz=3.0						
KBK				⇓*i*S	**Sn**	**12 25 00.3**	**+0.1**
	baz=3.0						
KRBS	**Karabastau**	**4.35**	**88**	Pg	**Pg**	**12 24 30.7**	**-2.5**
	6.9nm,0.5s						
KRBS				Lg	Lg	12 25 29.1	
	6.7nm,0.5s						
TKM2	**Tokmak 2**	**4.39**	**98**	P	**Pb**	**12 24 29.9**	**+1.9**
	SNR=8.7						
TKM2	**Tokmak 2**	**4.39**	**98**	⇓*i*P	**Pn**	**12 24 20.1**	**+2.1**
	baz=98						
TKM2				⇓*i*S	**Sn**	**12 25 09.9**	**-0.1**
	baz=98						
DGS	**Degeres**	**4.46**	**94**	Pg	**Pg**	**12 24 32.6**	**-2.7**
	6.0nm,0.5s						
DGS				Lg	Lg	12 25 32.8	
	11nm,0.8s						
KST	**Kastek**	**4.63**	**96**	Pg	**Pg**	**12 24 36.0**	**-2.7**
	5.1nm,0.5s						
KST				Lg	Lg	12 25 37.9	
	12nm,0.4s						
BOOM	**Boomskoye usch**	**4.74**	**103**	⇑*i*P	**Pn**	**12 24 25.0**	**+2.2**
	baz=3.0						
BOOM				⇑*i*S	**Sn**	**12 25 18.5**	**-0.1**
	baz=3.0						
OTUK	**Ortayu**	**4.90**	**21**	Pg	**Pg**	**12 24 42.2**	**-1.6**
	0.9nm,0.3s						
OTUK				Lg	Lg	12 25 48.8	
	2.9nm,0.8s						
MTBS	**Maitube**	**4.95**	**94**	Pg	**Pg**	**12 24 42.1**	**-2.6**
	2.9nm,0.4s						
MTBS				Lg	Lg	12 25 48.7	
	8.9nm,0.4s						
KTBS	**Karatobe**	**5.08**	**88**	Pg	**Pg**	**12 24 44.5**	**-2.7**
	5.7nm,0.5s						
KTBS				Lg	Lg	12 25 52.9	
	12nm,0.7s						
IZV	**Izvestkoviy**	**5.10**	**95**	Pg	**Pg**	**12 24 44.7**	**-3.0**
	2.0nm,0.5s						
IZV				Lg	Lg	12 25 53.4	
	11nm,0.4s						
CHKK	**Chushkaly**	**5.29**	**86**	Pg	**Pg**	**12 24 48.6**	**-2.7**
	4.3nm,0.2s						
CHKK				Lg	Lg	12 25 59.6	
	8.6nm,0.3s						
TNSS	**Tian-Shan**	**5.34**	**95**	Pg	**Pg**	**12 24 49.2**	**-3.0**
	2.7nm,0.5s						
TNSS				Lg	Lg	12 26 01.0	
	3.8nm,0.6s						
KOTS	**Kotyrbulak**	**5.43**	**92**	Pg	**Pg**	**12 24 51.0**	**-3.0**
	2.7nm,0.4s						
KOTS				Lg	Lg	12 26 04.2	
	11nm,0.8s						
ARXS	**Arharly**	**5.90**	**82**	Pg	**Pg**	**12 24 59.7**	**-3.3**
	2.0nm,0.2s						
ARXS				Lg	Lg	12 26 19.2	
	5.0nm,0.6s						
KNOS	**Konyrlen**	**6.88**	**81**	Pg	**Pg**	**12 25 18.0**	**-3.7**
	3.6nm,0.5s						
KNOS				Lg	Lg	12 26 50.3	
	1.9nm,0.4s						

IDC 19 12:29:50.0±11.0, 17.57S×178.56W, h590km±107km, mb3.0/4, mbtmp4.0/4, Error ellipse: s-maj=148.6km s-min=41.0km az=131.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.67**	**241**	P	P	12 36 24.3	-0.2
	1.1nm,0.6s,baz=51,slow=13,SNR=1.0						
	1.1nm,0.6s						
WRA	**Warramunga Arr**	**44.55**	**259**	P	P	12 37 10.6	-0.3
	1.2nm,0.5s,baz=97,slow=7.7,SNR=40						
WRA				PcP	PcP	12 38 40.6	-0.4
	0.2nm,0.3s,baz=90,slow=3.8,SNR=5.4						
	1.2nm,0.5s						
ASAR	**Alice Springs**	**44.74**	**254**	P	P	12 37 12.5	+0.1
	5.7nm,0.6s,baz=87,slow=8.7,SNR=131						
ASAR				PcP	PcP	12 38 41.0	-0.7
	0.7nm,0.5s,baz=103,slow=3.8,SNR=11						
	5.7nm,0.6s						
ILAR	**Eielson Array**	**85.59**	**13**	P	P	12 41 26.1	-0.3
	0.3nm,0.6s,baz=216,slow=4.9,SNR=5.7						
	0.3nm,0.6s						
BRTR	**Keskin Array B**	**144.44**	**315**	PKP	PKPbc	12 48 20.7	+0.2
	0.5nm,0.5s,baz=110,slow=5.7,SNR=3.6						
GERES	**GERESS Array B**	**147.25**	**345**	PKPbc	PKPbc	12 48 27.6	-0.5
	0.9nm,0.5s,baz=58,slow=5.9,SNR=3.1						

IDC 19 12:41:54.1±2.3, 3.23N×127.75E, h0km, mb3.2/3, mbtmp3.2/3, MS2.7/1, Error ellipse: s-maj=169.8km s-min=27.0km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**19.80**	**58**	LR	LR	12 52 45.6	
	comp=Z,19nm,19.1s,baz=72,slow=33						
WRA	**Warramunga Arr**	**23.92**	**165**	P	P	12 47 09.2	-0.7
	0.4nm,0.9s,baz=344,slow=10.0,SNR=4.7						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**27.39**	**168**	P	P	12 47 41.8	+0.3
	0.2nm,0.9s,baz=350,slow=7.9,SNR=1.8						
	0.2nm,0.9s						
MKAR	**Makanchi Array**	**58.55**	**325**	P	P	12 51 52.8	+0.2
	0.2nm,0.4s,baz=111,slow=8.6,SNR=5.7						
	0.2nm,0.4s						

IDC 19 12:42:46.0±7.7, 2.44N×90.94W, h0km, mb3.6/4, mbtmp3.6/4, MS3.6/2, Error ellipse: s-maj=186.9km s-min=148.7km az=67.0, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**29.36**	**337**	P	P	12 48 50.7	-0.2
	0.5nm,0.7s,baz=159,slow=9.9,SNR=6.9						
	0.5nm,0.7s						
PDAR	**Pinedale Array**	**43.46**	**340**	P	P	12 50 51.4	+0.2
	0.4nm,0.7s,baz=156,slow=6.7,SNR=2.5						
PDAR				LR	LR	13 07 44.7	
	comp=Z,53nm,21.1s,baz=52,slow=34						
	0.4nm,0.7s						
ULM	**Lac du Bonnet**	**47.82**	**356**	P	P	12 51 25.1	-0.1
	1.0nm,0.6s,baz=173,slow=11,SNR=1.8						
	1.0nm,0.6s						
SCHQ	**Schefferville**	**55.79**	**17**	LR	LR	13 15 48.1	
	comp=Z,84nm,18.0s,baz=96,slow=36						
ILAR	**Eielson Array**	**73.86**	**338**	P	P	12 54 22.4	0.0
	0.5nm,0.8s,baz=147,slow=4.1,SNR=7.3						
	0.5nm,0.8s						

*IDC **19** 12:47:37.7±4.0, 3.18S×131.20E, h0km, mb3.4/3, mbtmp3.4/4, ML3.1/1, MS3.0/1, Error ellipse: s-maj=304.3km s-min=27.3km az=73.0*
*DJA **19** 12:47:42.0±0.7, 3.5S×13.1E±*, h12km±7km, M3.1/6, MLv3.1/6*
ISC 19 12:47:40.4±0.9, 3.28S±0.09×130.75E±0.06, h10km, n10, σ1°39/10, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.50**	**214**	P	**Pg**	**12 48 11.1**	**+2.0**
FAKI	**Fak Fak**	**1.54**	**77**	P	**Pn**	**12 48 08.4**	**+0.5**
FAKI				S	**Sn**	**12 48 28.4**	**+0.4**
SWI	**Sorong**	**2.46**	**12**	P	**Pn**	**12 48 20.6**	**+0.1**
LBMI	**Labuha**	**4.18**	**309**	P	**Pn**	**12 48 44.7**	**+0.4**
SANI	**Sanana**	**4.91**	**284**	P	**Pn**	**12 48 53.7**	**-0.7**
WRA	**Warramunga Arr**	**16.93**	**168**	Pn	**Pn**	**12 51 34.6**	**-2.9**
	0.1nm,0.3s,baz=350,slow=12,SNR=2.0						
	0.4nm,0.8s						
TGY	**Tagaytay City**	**19.82**	**331**	LR	LR	13 00 23.5	
	comp=Z,42nm,18.1s,baz=92,slow=38						
ASAR	**Alice Springs**	**20.49**	**172**	P	**P**	**12 52 18.6**	**-0.2**
	1.3nm,0.4s,baz=352,slow=10,SNR=41						
	1.3nm,0.4s						
MKAR	**Makanchi Array**	**65.57**	**326**	P	**P**	**12 58 24.3**	**-0.1**
	0.2nm,0.4s,baz=131,slow=9.8,SNR=1.3						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**69.77**	**328**	P	**P**	**12 58 50.8**	**-0.1**
	0.1nm,0.3s,baz=128,slow=6.0,SNR=2.2						
	0.1nm,0.3s						

*VAO **19** 12:51:00.1±0.7, 32.83S×70.08W, h10km, mb5.2*
*SJA **19** 12:51:15.6±0.7, 32.37S×69.45W, h126km±3km, ML5.0, MW4.8*
*NEIC **19** 12:51:17, 32.36S×69.48W, h112km*
*NEIC **19** 12:51:17.2, 32.38S×69.56W, h100km, Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 10^16 Nm; Mrr=0.50; Mθθ=1.13; Mϕϕ=0.63; Mrθ=0.55; Mθϕ=3.40; Mϕr=0.09; Fault plane solution: M0=3.55000×10^16 NP1: ϕs=277.22000°, δ=89.35000°, λ=8.57000°. NP2: ϕs=187.13000°, δ=81.43000°, λ=179.34000°. Principal axes: T 3.8122, Plg=7.0000°, Azm=142.0000°; N -0.5248, Plg=81.0000°, Azm=282.0000°; P -3.2874, Plg=6.0000°, Azm=252.0000°;*
*NEIC **19** 12:51:17.2, 32.38S×69.44W, h100km*
*NEIC **19** 12:51:17.1±1.9, 32.38S±0.05×69.44W±0.08, h113km±4km, mb5.0/35, Mwr4.9/62, Mww5.0/28, Error ellipse: s-maj=10.3km s-min=7.2km az=91.0, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr=0.44; Mθθ=1.15; Mϕϕ=-0.70; Mrθ=-1.51; Mθϕ=2.53; Mϕr=-0.58; Fault plane solution: M0=3.17000×10^16 NP1: ϕs=280.05000°, δ=84.29000°, λ=25.07000°. NP2: ϕs=187.39000°, δ=65.07000°, λ=173.70000°. Principal axes: T 3.5407, Plg=22.0000°, Azm=147.0000°; N -0.9752, Plg=64.0000°, Azm=292.0000°; P -2.5655, Plg=13.0000°, Azm=51.0000°;*
*GUC **19** 12:51:17.0±0.8, 32.39S×69.75W, h149km±4km, ML5.1*
*IDC **19** 12:51:18.2±0.5, 32.34S×69.41W, h121km±4km, mb4.4/13, mbtmp4.8/15, MS3.5/9, Error ellipse: s-maj=17.6km s-min=12.0km az=80.0*
*GCMT **19** 12:51:26.1±0.3, 32.44S±0.02×69.76W±0.04, h113km±3km, MW5.0/65, Moment Tensor Solution. s17,c19; s65,c89; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.68±.16; Mθθ 1.68±.18; Mϕϕ -0.99±.25; Mrθ -0.98±.10; Mθϕ 3.27±.12; Mϕr 1.01±.16; Best double couple: M0=3.84800×10^16 NP1: ϕs=99.00000°, δ=76.00000°, λ=-20.00000°. NP2: ϕs=194.00000°, δ=71.00000°, λ=-165.00000°. Principal axes: T 3.8900, Plg=3.0000°, Azm=147.0000°; N -0.0790, Plg=66.0000°, Azm=244.0000°; P -3.8060, Plg=24.0000°, Azm=55.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 19 12:51:17.1±0.3, 32.39S±0.02×69.53W±0.03, h120km±2km, h120km: pP-P, n309, σ1°51/379, mb4.9/33, 12C-26D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAL	**Salagasta**	**0.62**	**109**	*e*P	**Pn**	**12 51 35.5**	**-0.5**
ASAL				*i* S	**Sn**	**12 51 49.8**	**-0.4**
RTLS	**Leoncito**	**0.62**	**18**	*e*P	**Pn**	**12 51 35.8**	**-0.5**
RTLS				*e*S	**Sn**	**12 51 49.9**	**-0.8**
RTLS				IAML		12 51 51.4	
	comp=Z,49μm,0.3s						
ARCO	**CERRO ARCO**	**0.67**	**132**	*e*P	**Pn**	**12 51 36.0**	**-0.4**
ARCO				*e*S	**Sn**	**12 51 50.8**	**-0.3**
ARCO				IAML		12 51 52.6	
	comp=Z,17μm,0.3s						
AAGR	**Agrelo**	**0.91**	**140**	*e*P	**Pn**	**12 51 38.3**	**-0.1**
VA03	**San Esteban**	**0.94**	**247**		**Pn**	**12 51 38.7**	**+0.1**
VA03				Sn	**Sn**	**12 51 56.2**	**+1.2**
VA03	**San Esteban**	**0.94**	**247**	*e*P	**Pn**	**12 51 39.0**	**+0.3**
VA03				IAML		12 51 58.9	
	comp=Z,18μm,0.6s						
VA03	**San Esteban**	**0.94**	**247**	⇓*i*P	**Pn**	**12 51 38.8**	**+0.1**
VA03				*i* S	**Sn**	**12 51 55.6**	**+0.6**
VA03				IAML		12 51 58.1	
	comp=N,70μm,0.2s						
RTCV	**Cerro Valdivia**	**0.99**	**58**	*e*P	**Pn**	**12 51 38.2**	**-0.9**
FCH	**Farellones**	**1.13**	**214**	⇓*i*P	**Pn**	**12 51 41.5**	**+0.7**
FCH				*i* S	**Sn**	**12 52 00.1**	**+1.2**
FCH				IAML		12 52 01.2	
	comp=E,26μm,0.3s						
MT04	**Ro Olivares**	**1.13**	**207**	⇓*i*P	**Pn**	**12 51 41.3**	**+0.6**
MT04				*i* S	**Sn**	**12 52 00.2**	**+1.6**
PEL	**Peldehue**	**1.23**	**232**		**Pn**	**12 51 41.3**	**-0.2**
PEL	**Peldehue**	**1.23**	**232**	*e*P	**Pn**	**12 51 41.5**	**-0.1**
PEL	**Peldehue**	**1.23**	**232**	*i* P	**Pn**	**12 51 41.3**	**-0.2**
PEL				*i* S	**Sn**	**12 52 00.3**	**+0.2**
PEL				IAML		12 52 03.0	
	comp=E,17μm,0.4s						
MT14	**Cerro Cal¡n**	**1.31**	**220**	⇓*i*P	**Pn**	**12 51 43.0**	**+0.6**
MT14				*i* S	**Sn**	**12 52 02.3**	**+0.5**
MT14				IAML		12 52 04.7	
	comp=N,62μm,0.7s						
MT16	**CCHEN**	**1.33**	**219**		**Pn**	**12 51 42.7**	**0.0**
MT16	**CCHEN**	**1.33**	**219**	⇓*i*P	**Pn**	**12 51 43.2**	**+0.6**
MT16				*i* S	**Sn**	**12 52 03.4**	**+1.3**
MT16				IAML		12 52 05.7	
	comp=E,19μm,0.6s						
AVIZ	**Vizcacheras**	**1.37**	**142**	*e*P	**Pn**	**12 51 43.0**	**-0.1**
MT03	**Universidad Ad**	**1.37**	**217**		**Pn**	**12 51 43.4**	**+0.2**
MT03	**Universidad Ad**	**1.37**	**217**	*e*P	**Pn**	**12 51 43.6**	**+0.4**
MT03				*e*S	**Sn**	**12 52 04.8**	**+1.7**
MT03				IAML		12 52 06.2	
	comp=Z,29μm,0.3s						
MT03	**Universidad Ad**	**1.37**	**217**	⇓*i*P	**Pn**	**12 51 43.7**	**+0.5**
MT03				*i* S	**Sn**	**12 52 04.1**	**+1.1**
ROCH	**El Roble**	**1.38**	**245**	⇓*i*P	**Pn**	**12 51 43.1**	**-0.3**
ROCH				*i* S	**Sn**	**12 52 03.0**	**-0.3**
ROCH				IAML		12 52 07.5	
	comp=N,56μm,0.5s						
RTLL	**Cerro Villicun**	**1.39**	**40**	*e*P	**Pn**	**12 51 42.7**	**-0.6**
RTLL				*i* S	**Sn**	**12 52 01.8**	**-1.5**
RTLL				IAML		12 52 06.3	
	comp=Z,6μm,0.4s						
MT05	**Renca**	**1.42**	**225**		**Pn**	**12 51 44.0**	**+0.3**
MT05	**Renca**	**1.42**	**225**	*e*P	**Pn**	**12 51 44.2**	**+0.5**
MT05				*e*S	**Sn**	**12 52 05.4**	**+1.4**
MT05				IAML		12 52 06.5	
	comp=Z,20μm,0.3s						
MT05	**Renca**	**1.42**	**225**	⇓*i*P	**Pn**	**12 51 44.1**	**+0.3**
MT05				*i* S	**Sn**	**12 52 04.8**	**+0.9**
MT05				IAML		12 52 08.3	
	comp=E,52μm,0.4s						
DOCA	**Reserva Natura**	**1.49**	**15**	*e*P	**Pn**	**12 51 44.1**	**-0.7**
DOCA				*e*S	**Sn**	**12 52 05.7**	**-0.1**
DOCA				IAML		12 52 09.2	
	comp=Z,47μm,1.0s						
VA06	**Catapilco**	**1.50**	**263**		**Pn**	**12 51 43.8**	**-0.7**
VA06	**Catapilco**	**1.50**	**263**	⇓*i*P	**Pn**	**12 51 43.7**	**-0.8**
VA06				*i* S	**Sn**	**12 52 04.1**	**-1.4**
VA06				IAML		12 52 06.3	
	comp=N,47μm,0.2s						
LMEL	**Las Melosas**	**1.56**	**201**		**Pn**	**12 51 46.0**	**+0.6**
LMEL

CO02 Combarbal 1.73 313 Pn 12 51 47.1 -0.2
CO02 Combarbal 1.73 313 eP Pn 12 51 47.3 -0.1
CO02 eS Sn 12 52 10.8 +0.4
CO02 IAML 12 52 12.6
comp=Z,25µm,0.1s
CO02 Combarbal 1.73 313⇑ iP Pn 12 51 47.0 -0.3
CO02 i S Sn 12 52 09.8 -0.6
BO04 La Punta 1.83 209 Pn 12 51 48.8 +0.2
BO04 La Punta 1.83 209⇓ iP Pn 12 51 49.0 +0.4
BO04 i S Sn 12 52 13.4 +0.8
BO04 IAML 12 52 16.1
comp=E,10µm,0.5s
CO03 El Pedregal 1.84 327 Pn 12 51 48.4 -0.3
CO03 El Pedregal 1.84 327 eP Pn 12 51 49.0 +0.2
CO03 IAML 12 52 19.0
comp=Z,6µm,0.8s
CO03 El Pedregal 1.84 327⇑ iP Pn 12 51 48.9 +0.2
CO03 i S Sn 12 52 13.4 +0.6
CO03 IAML 12 52 15.4
comp=E,16µm,0.3s
ACCO Cerro Coronel 1.84 13 eP Pn 12 51 49.0 0.0
MT09 Talagante 1.85 221 Pn 12 51 48.5 -0.3
MT09 Talagante 1.85 221⇓ iP Pn 12 51 48.5 -0.3
MT09 i S Sn 12 52 12.8 -0.2
VA01 Torpederas 1.89 250 Pn 12 51 48.1 -1.1
VA01 Torpederas 1.89 250 eP Pn 12 51 48.0 -1.3
VA01 IAML 12 52 19.3
comp=Z,5µm,0.6s
VA01 Torpederas 1.89 250⇓ iP Pn 12 51 48.1 -1.1
VA01 i S Sn 12 52 12.3 -1.4
VA01 IAML 12 52 15.0
comp=N,13µm,0.1s
MT01 Popeta 2.06 224 eP Pn 12 51 50.4 -0.9
MT01 eS Sn 12 52 16.8 -0.7
MT01 IAML 12 52 17.4
comp=Z,7µm,0.3s
MT01 Popeta 2.06 224⇓ iP Pn 12 51 50.4 -0.9
MT01 i S Sn 12 52 15.9 -1.6
MT01 IAML 12 52 17.5
comp=N,14µm,0.4s
VA05 Santo Domingo 2.16 234⇓ iP Pn 12 51 51.5 -1.0
VA05 i S Sn 12 52 18.9 -0.8
VA05 IAML 12 52 24.5
comp=E,12µm,0.4s
AROD Rodeo 2.22 1 eP Pn 12 51 54.4 +0.7
ACDV Cuesta del Vie 2.24 9 eP Pn 12 51 54.3 +0.5
ACDV eS Sn 12 52 22.7 +0.8
ACDV IAML 12 52 22.9
comp=Z,9µm,0.7s
BO01 Tunca 2.38 213 eP Pn 12 51 54.8 -0.6
BO01 eS Sn 12 52 24.8 0.0
BO01 IAML 12 52 26.8
comp=Z,3µm,0.6s
BO01 Tunca 2.38 213⇓ iP Pn 12 51 54.6 -0.7
BO01 eS Sn 12 52 23.5 -1.3
BO01 IAML 12 52 25.4
comp=N,6µm,0.4s
CO01 Juntas del Tor 2.46 348 Pn 12 51 57.3 +0.7
CO01 Juntas del Tor 2.46 348 eP Pn 12 51 57.9 +1.2
CO01 IAML 12 52 32.4
comp=Z,3µm,0.5s
CO01 Juntas del Tor 2.46 348⇑ iP Pn 12 51 57.9 +1.2
CO01 i S Sn 12 52 28.0 +1.1
CO01 IAML 12 52 32.2
comp=N,4µm,0.6s
GO04 Tololo Observa 2.47 333 eP Pn 12 51 56.5 -0.3
GO04 eS Sn 12 52 27.6 +0.5
GO04 Tololo Observa 2.47 333⇑ iP Pn 12 51 56.2 -0.5
GO04 i S Sn 12 52 26.3 -0.8
CO06 Fray Jorge 2.48 313 Pn 12 51 55.5 -1.3
CO06 Fray Jorge 2.48 313⇑ iP Pn 12 51 55.4 -1.3
CO06 i S Sn 12 52 24.8 -2.4
RFA San Rafael 2.53 160 eP Pn 12 51 56.9 -0.4
RFA eS Sn 12 52 27.6 -0.8
RFA IAML 12 52 30.1
comp=Z,2µm,1.1s
BO02 Sierra Bellavi 2.61 203 Pn 12 51 58.1 -0.3
BO02 Sierra Bellavi 2.61 203 eP Pn 12 51 58.6 +0.2
BO02 eS Sn 12 52 32.6 +2.4
BO02 IAML 12 52 34.8
comp=Z,4µm,0.7s
BO02 Sierra Bellavi 2.61 203⇓ iP Pn 12 51 58.7 +0.2
BO02 i S Sn 12 52 31.1 +0.9
BO02 IAML 12 52 35.8
comp=N,6µm,0.4s
CO05 La Serena 2.87 329⇑ iP Pn 12 52 00.4 -1.4
CO05 i S Sn 12 52 32.1 -3.9
CO05 IAML 12 52 38.3
comp=N,10µm,0.6s
BO03 Pichilemu 2.92 223 eP Pn 12 52 00.4 -1.9
BO03 i S Sn 12 52 34.3 -2.9
BO03 IAML 12 52 47.0
comp=N,6µm,0.4s
AGUA GUANDACOL 3.03 17 eP Pn 12 52 03.9 -0.1
AGUA IAML 12 52 51.5
comp=Z,4µm,2.0s
APLL PUNTA DE LOS L 3.25 53 eP Pn 12 52 05.5 -1.2
GO05 Huala 3.29 217 eP Pn 12 52 05.7 -1.5
GO05 Huala 3.29 217⇓ iP Pn 12 52 05.0 -2.2
GO05 i S Sn 12 52 43.2 -2.7
GO05 IAML 12 52 50.9
comp=E,3µm,0.6s
EDS3 Malargue 3.37 178 eP Pn 12 52 08.6 +0.2
LCO Las Campanas 3.52 343 Pn Pn 12 52 09.7 -0.9
LCO Las Campanas 3.52 343 eP Pn 12 52 09.6 -0.9
LCO eS Sn 12 52 50.0 -1.8
LCO Las Campanas 3.52 343⇑ iP Pn 12 52 09.7 -0.9
LCO i S Sn 12 52 48.9 -2.9
AC05 El Transito 3.60 350 Pn 12 51 16.4 +0.1
AC05 El Transito 3.60 350⇑ iP Pn 12 51 16.4 +0.1
AC05 i S Sn 12 52 48.0 -5.5
ACLC CERRO LA CRUZ 3.69 37 eP Pn 12 51 16.4 -1.2
ACLC IAML 12 53 21.6
comp=Z,2µm,0.7s
ML02 Panimavida 3.71 204⇓ iP Pn 12 52 11.5 -1.2
ML02 i S Sn 12 52 53.4 -2.5
TCA Tanti 4.33 77 eP Pn 12 52 19.5 -1.7
TCA IAML 12 53 23.1
comp=Z,2µm,0.9s
AC04 Llanos de Chal 4.38 342 Pn Pn 12 52 20.1 -1.7
AC04 Llanos de Chal 4.38 342⇑ iP Pn 12 52 20.4 -1.5
AC04 i S Sn 12 53 06.7 -5.3
BI02 San Fabin de 4.50 198⇓ iP Pn 12 52 22.6 -0.8
BI02 i S Sn 12 53 11.1 -3.7
GO03 Copiap 4.82 353 Pn 12 52 26.4 -1.4
AC06 Mina Casimiro 5.07 352 Pn 12 52 29.4 -1.6
CYA Choya 5.08 40 eP Pn 12 52 28.7 -2.6
CYA eP Pn 12 52 28.7 -2.6
CYA IAML 12 54 20.3
comp=Z,483nm,0.7s
BI05 Punta Hualpn 5.29 214 Pn Pn 12 52 30.6 -3.4
BI05 Punta Hualpn 5.29 214⇓ iP Pn 12 52 30.2 -3.7
BI05 i S Sn 12 53 27.4 -6.4
GO06 Curarrehue 7.35 192 Pn 12 52 59.4 -2.4
H03N1 Juan Fernandez 7.96 260 P Pn 12 53 10.0 +0.3
H03N1 T T 13 00 04.8
baz=86,slow=73,SNR=122
H03N3 Juan Fernandez 7.97 260 P Pn 12 53 10.4 +0.5
H03N3 T T 13 00 01.8
baz=86,slow=73,SNR=162
H03N2 Juan Fernandez 7.98 260 P Pn 12 53 10.3 +0.3
H03N2 T T 13 00 03.0
baz=86,slow=73,SNR=174
H03S1 Juan Fernandez 8.00 257 P Pn 12 53 09.8 -0.5
baz=47,slow=14,SNR=12
H03S1 T T 12 59 50.2
baz=84,slow=75,SNR=60
H03S3 Juan Fernandez 8.00 257 P Pn 12 53 09.2 -1.0
baz=47,slow=14,SNR=16
H03S3 T T 12 59 51.3
baz=84,slow=75,SNR=27
H03S2 Juan Fernandez 8.02 257 P Pn 12 53 09.9 -0.5
baz=47,slow=14,SNR=18
H03S2 T T 12 59 50.5
baz=84,slow=75,SNR=26
PLCA Paso Flores 8.36 185 P Pn 12 53 13.8 -1.7
comp=Z,21nm,0.7s,baz=352,slow=11,SNR=66
PLCA S Sn 12 54 47.8 -0.5
comp=Z,58nm,1.0s,baz=262,slow=22,SNR=4.1
TRQA Tornquist 8.37 135 Pn 12 53 14.4 -1.1
LVC Limon Verde 9.76 3 Pn Pn 12 53 31.8 -3.0
LVC Limon Verde 9.76 3 P Pn 12 53 31.4 -3.3
comp=Z,15nm,0.3s,baz=158,slow=6.9,SNR=31

LVC S Sn 12 55 17.4 -5.3
comp=Z,44nm,0.8s,baz=190,slow=17,SNR=3.0
LVC LR LR 12 58 28.7
comp=Z,123nm,19.8s,baz=201,slow=44
TICA Tres Isletas 9.97 55 eP Pn 12 53 33.0 -4.2
PSAL Palomas, Salto 10.23 86 eP Pn 12 53 35.4 -5.3
ITQB Itaqui 11.40 80 Pn 12 53 53.1 -3.2
ITQB Itaqui 11.40 80 eP Pn 12 53 52.3 -4.0
CPUP Villa Florida 12.23 64 P Pn 12 54 02.3 -5.1
comp=Z,15nm,0.8s,baz=240,slow=12,SNR=22
CPUP Villa Florida 12.23 64 eP Pn 12 54 02.2 -5.1
RODS Rosario do Sul 12.42 84 eP Pn 12 54 05.0 -4.8
UNIS Unistalda (Bra 12.87 79 eP Pn 12 54 10.7 -5.0
PLTB Pedras Altas 13.52 92 eP Pn 12 54 19.3 -4.8
CPSB Cacapava Do Su 13.89 86 eP Pn 12 54 23.8 -5.0
CRSM Crissiumal (Br 14.28 74 eP Pn 12 54 31.2 -2.7
ALGR Alto Alegre (B 14.65 80 eP Pn 12 54 35.5 -3.1
MURT Porto Murtinho 15.05 48 eP Pn 12 54 42.4 -1.3
MCR1 Marechal Candi 15.74 64 eP Pn 12 54 49.3 -2.9
ANTJ Antonio Joao (15.86 53 eP Pn 12 54 51.9 -1.7
ITAB Concordia 15.95 76 P P 12 54 55.6 -0.3
ITAB Concordia 15.95 76 eP Pn 12 54 52.8 -1.9
AMBA Amambai (Brazi 15.95 57 eP Pn 12 54 51.9 -2.8
LPAZ La Paz 16.09 5 P P 12 54 57.6 -0.5
LPAZ La Paz 16.09 5 P P 12 54 57.3 -0.8
comp=Z,57nm,0.7s,baz=172,slow=7.4,SNR=160
GO08 Villa O'Higgin 16.22 187 P Pn 12 54 57.0 -0.8
BDQN Bodoquena, MS 16.49 47 eP Pn 12 54 59.0 -2.5
PTGB Pitanga 17.13 68 eP P 12 55 07.3 -1.8
AQDB Aquidauana 17.13 50 P 12 55 07.7 -1.4
AQDB Aquidauana 17.13 50 eP P 12 55 07.3 -1.8
BBSD Serra de San D 17.15 30 eP P 12 55 07.7 -1.6
TRCB Terra Rica 17.75 62 P P 12 55 13.8 -2.0
TRCB Terra Rica 17.75 62 eP P 12 55 13.8 -2.0
SIV San Ignacio 18.05 27 P P 12 55 18.2 -1.0
comp=Z,48nm,0.7s,baz=205,slow=11,SNR=198
SIV LR LR 13 03 54.6
comp=Z,164nm,18.9s,baz=285,slow=42
LDASE Londrina, Braz 18.56 66 eP P 12 55 23.5 -1.2
PTLB Pontes e Lacer 19.34 32 P P 12 55 33.1 0.0
PTLB Pontes e Lacer 19.34 32 eP P 12 55 33.1 0.0
PCMB Pacaembu 19.47 61 eP P 12 55 33.6 -1.1
FRTB Fartura 19.79 68 eP P 12 55 37.1 -1.1
SALV Santo Antonio 20.67 41 eP P 12 55 46.3 -1.3
GO10 Punta Arenas 20.78 183 P Pn 12 55 50.4 -1.6
VILB Vilhena 21.16 26 P P 12 55 52.0 -0.8
VILB Vilhena 21.16 26 eP P 12 55 51.1 -1.7
ITRB Iturama 21.32 58 eP P 12 55 52.9 -1.7
SPB Sao Paulo 21.36 71 eP P 12 55 54.2 -0.7
NNA Nana 21.39 340 P P 12 55 55.8 +0.4
comp=Z,7.3nm,0.3s,baz=205,slow=14,SNR=2.9
comp=Z,7.3nm,0.3s
BB19B Bebedouro 21.84 64 eP P 12 55 58.2 -2.0
RCLB Rio Claro- Sao 21.87 68 eP P 12 56 00.2 -0.2
VAO Valinhos 22.02 71 eP P 12 56 00.8 -1.2
USHA Ushuaia 22.45 178 P P 12 56 07.3 +1.4
comp=Z,163nm,0.8s,baz=192,slow=1.5,SNR=17
comp=Z,163nm,0.8s
ETMB Extrema 22.68 8 P P 12 56 09.0 +0.4
ETMB Extrema 22.68 8 eP P 12 56 08.8 +0.3
PARB Paraibuna 22.94 73 eP P 12 56 11.1 0.0
PDRB Porto dos Gac 23.80 33 eP P 12 56 19.0 0.0
IPMB Ipameri, GO 23.98 58 eP P 12 56 19.3 -1.3
SAML Samuel 24.06 16 P P 12 56 21.8 +0.5
SAML Samuel 24.06 16 eP P 12 56 21.2 -0.1
BSCB Bom Sucesso 24.80 66 eP P 12 56 27.5 -0.6
CLDB Colider 24.88 34 eP P 12 56 29.3 +0.5
PMNB Patos De Minas 24.93 62 eP P 12 56 28.7 -0.6
BDFB Brasilia 25.69 55 P P 12 56 35.4 -0.9
BDFB IAmb IAmb 12 56 36.6
comp=Z,53nm,1.0s
BDFB Brasilia 25.69 55 P P 12 56 35.8 -0.5
comp=Z,40nm,0.9s,baz=223,slow=8.0,SNR=42
BDFB LR LR 13 08 12.8
comp=Z,146nm,20.7s,baz=159,slow=40
comp=Z,40nm,0.9s
SNDB Serra Nova Dou 26.34 44 eP P 12 56 41.1 -0.9
DIAM Diamantina, MG 27.17 65 eP P 12 56 49.1 -0.4
NPGB Novo Progresso 28.46 31 eP P 12 56 59.8 -1.2
JANB Januaria 28.71 59 eP P 12 57 02.3 -0.9
SJMB Sao Joao De Ma 28.87 69 eP P 12 57 01.8 -2.7
TEFE Tefe 29.10 10 eP P 12 57 06.5 0.0
MCRA Macar, Loja 29.54 339 P P 12 57 11.1 +0.5
SDBA SAO DESIDERIO 30.10 54 eP P 12 57 14.7 -0.8
MACA Manacapuru-AM 30.24 18 eP P 12 57 16.2 -0.5
ITTB Itaituba 30.73 28 eP P 12 57 20.1 -0.8
SMTB Santa Maria do 31.01 46 eP P 12 57 23.3 -0.1
OTAV Otavalo 33.53 344 eP P 12 57 44.3 -1.7
OTAV Otavalo 33.53 344 P P 12 57 48.5 +2.5
OTAV pP pP 12 58 15.6 +2.1
OTAV sP sP 12 58 27.5 -0.2
MALB Monte Alegre 33.60 28 eP P 12 57 45.4 -0.7
RPN Rapa Nui 34.81 268 LR LR 13 07 42.8
comp=Z,58nm,18.9s,baz=86,slow=28
BOAV Boa Vista 35.64 16 P P 12 58 03.0 -0.5
BOAV IAmb IAmb 12 58 04.0
comp=Z,15nm,0.8s
MCPB Macapa, AP 35.88 31 eP P 12 58 05.4 -0.3
NBLA Lagarto - SE 36.15 61 eP P 12 58 06.8 -1.2
ROSC El Rosal 37.31 352 P P 12 58 18.6 +0.4
comp=Z,7.4nm,0.5s,baz=217,slow=20,SNR=2.0
comp=Z,7.4nm,0.5s
NBAN Anadia - AL 38.14 61 eP P 12 58 23.9 -0.9
NBPB Pedra_Branca-C 38.66 53 eP P 12 58 29.4 +0.2
NBLV Livramento - P 39.22 58 eP P 12 58 33.3 -0.6
NBCA Caruaru-PE 39.29 60 eP P 12 58 34.0 -0.5
NBCL Cascavel-CE 40.50 53 eP P 12 58 44.6 +0.3
MDP Montagnes des 40.60 26 LR LR 13 18 20.4
comp=Z,63nm,19.7s,baz=256,slow=40
MPGF Montagnes des 40.61 26 P P 12 58 44.5 -0.8
RCBR Riachuelo 41.01 57 LR LR 13 17 24.0
comp=Z,98nm,19.8s,baz=244,slow=38
RCBR Riachuelo 41.01 57 eP P 12 58 49.8 +1.2
RCBR Riachuelo 41.01 57 P P 12 58 49.6 +1.0
SDV Santo Domingo 41.06 358 P P 12 58 48.9 -0.3
comp=Z,16nm,0.8s,baz=177,slow=8.8,SNR=12
SDV pP pP 12 59 19.9 +3.1
comp=Z,7.0nm,0.5s,baz=104,slow=22,SNR=2.4
comp=Z,16nm,0.8s
SDV Santo Domingo 41.06 358 eP P 12 58 48.6 -0.5
BAUV El Baul 41.13 2 P P 12 58 49.3 -0.2
VNA3 Neumayer Olymp 50.06 159 ⇑P P 13 00 00.1 +0.9
comp=Z,18nm,0.8s
VNA3 ⇑pP pP 13 00 27.3 -0.5
comp=Z,11nm,0.7s
MLPR Magueyes Islan 50.13 3 P P 12 59 59.5 -0.7
CRPR Cabo Rojo, PR 50.17 3 P P 13 00 00.5 0.0
CRPR IAmb IAmb 13 00 01.0
comp=Z,25nm,0.7s
IGPR InterUniversit 50.18 4 P P 12 59 59.9 -0.7
OBIP Obispado Ponce 50.23 4 P P 12 59 59.6 -1.3
CELP Cerrillos 50.26 4 P P 13 00 00.8 -0.4
VNA1 Neumayer--Stat 50.34 158 ⇑P P 13 00 01.5 +0.3
comp=Z,9.3nm,0.6s
VNA2 Neumayer--Watz 50.69 158 ⇓P P 13 00 04.6 +0.8
comp=Z,20nm,0.7s,baz=295,slow=8.0
SNAA Sanae 52.29 158 ⇓P P 13 00 16.6 +0.8
comp=Z,3µm,0.3s
TROLL Troll, Antarti 54.00 159 ⇓P P 13 00 29.7 +1.3
comp=Z,1µm,1.1s
TEIG Tepich 55.31 338 P P 13 00 39.2 +0.9
TEIG sP sP 13 01 21.1 -0.4
QSPA South Pole Qui 57.84 180 P P 13 00 57.5 +1.6
QSPA pP pP 13 01 29.3 +3.3
QSPA South Pole Qui 57.84 180 P P 13 00 57.5 +1.6
comp=Z,12nm,0.8s,baz=135,slow=1.9,SNR=56
QSPA pP pP 13 01 29.3 +3.3
comp=Z,29nm,0.9s,baz=107,slow=4.0,SNR=8.5
comp=Z,12nm,0.8s
QSPA South Pole Qui 57.84 180 P P 13 00 57.6 +1.7
X51A Calhoun 68.15 346 P P 13 02 04.3 +0.1
X51A IAmb IAmb 13 02 35.6
comp=Z,21nm,0.7s
V53A Saluda 68.84 348 P P 13 02 08.7 +0.1
W50A Signal Mountai 68.85 346 P P 13 02 08.9 +0.4
W50A pP pP 13 02 39.2 +0.2
W50A IAmb IAmb 13 02 40.4
comp=Z,15nm,0.8s
SWET Sewanee 69.00 346 P P 13 02 09.6 +0.1
SWET IAmb IAmb 13 02 10.9
comp=Z,18nm,0.8s
TKL Tuckaleechee C 69.00 348 P P 13 02 09.2 -0.3
OXF Oxford 69.13 343 P P 13 02 10.9 +0.7

baz=162
TXAR Lajitas Array 69.42 328 P P 13 02 12.8 +0.5
TXAR pP pP 13 02 42.6 -0.4
TXAR Lajitas Array 69.42 328 P P 13 02 14.0 +1.7
comp=Z,0.6nm,0.7s,baz=150,slow=8.1,SNR=8.6
TXAR pP pP 13 02 43.7 +0.7
comp=Z,1.9nm,0.8s,baz=146,slow=8.2,SNR=9.6
comp=Z,0.6nm,0.7s
V48A Smith Brothers 69.69 345 P P 13 02 13.7 +0.1
V48A IAmb IAmb 13 02 45.2
comp=Z,14nm,0.8s
WVT Waverly 70.29 344 P P 13 02 17.8 +0.5
WVT pP pP 13 02 47.5 -0.3
WVT IAmb IAmb 13 02 48.7
comp=Z,29nm,0.7s
WVT Waverly 70.29 344 P P 13 02 18.0 +0.7
baz=164
WVT Waverly 70.29 344 P P 13 02 17.7 +0.4
WVT pP pP 13 02 47.5 -0.3
WVT sP sP 13 03 00.5 -0.6
MIAR Mount Ida 70.32 339 P P 13 02 18.2 +0.6
baz=158
LCAR Lake Charles 71.06 342 P P 13 02 22.1 +0.2
LCAR pP pP 13 02 52.1 -0.5
LCAR IAmb IAmb 13 02 53.6
comp=Z,12nm,0.7s
MNTX Cornudas Mount 72.20 328 P P 13 02 29.5 +0.6
baz=149
DBIC Dimbokro 72.66 70 P P 13 02 31.8 -0.3
DBIC IAmb IAmb 13 02 33.3
comp=Z,16nm,0.8s
DBIC pP pP 13 03 03.1 +0.6
DBIC Dimbokro 72.66 70 P P 13 02 32.7 +0.6
comp=Z,13nm,0.7s,baz=219,slow=6.0,SNR=18
DBIC pP pP 13 03 02.6 +0.1
comp=Z,13nm,1.0s,baz=223,slow=6.7,SNR=5.2
comp=Z,13nm,0.7s
CCM Cathedral Cave 72.95 342 P P 13 02 34.1 +0.9
baz=161
S39A Bolivar 73.17 340 P P 13 02 35.1 +0.6
S39A pP pP 13 03 05.8 +0.5
ACSO Alum Creek Sta 73.33 349 P P 13 02 35.8 +0.4
baz=168
121A Cookes Peak, D 73.99 327 P P 13 02 42.0 +2.3
baz=147
M55A Ridgway 73.99 353 P P 13 02 39.7 +0.5
M55A IAmb IAmb 13 02 41.0
comp=Z,15nm,0.8s
MAW Mawson 74.11 163 P P 13 02 40.7 +1.0
comp=Z,6.4nm,0.8s,baz=197,slow=6.9,SNR=4.9
comp=Z,6.4nm,0.8s
BINY Binghamton 74.46 355 P P 13 02 43.5 +1.5
baz=174
L61B Northampton 74.53 358 P P 13 02 44.0 +1.6
baz=177
P40A Paris 74.55 342 P P 13 02 42.6 +0.1
P40A pP pP 13 03 13.4 0.0
P40A IAmb IAmb 13 03 14.6
comp=Z,24nm,0.9s
ANMO Albuquerque 75.43 329 P P 13 02 50.1 +2.1
baz=148
T25A Trinidad 76.46 332 P P 13 02 56.2 +2.4
baz=150
WBO Williamsburg 77.20 356 P P 13 02 58.4 +0.9
WBO IAmb IAmb 13 02 59.4
comp=Z,17nm,0.8s
G65A Princeton 77.25 1 P P 13 02 59.3 +1.7
G62A West of Eustis 77.25 359 P P 13 02 59.6 +1.8
G62A IAmb IAmb 13 03 00.5
comp=Z,20nm,0.8s
SDCO Great Sand Dun 77.42 332 P P 13 03 01.0 +1.8
SDCO Great Sand Dun 77.42 332 P P 13 03 01.3 +2.0
baz=149
WUAZ Wupatki 78.12 326 P P 13 03 05.8 +2.8
baz=145
Q24A Divide 78.33 332 P P 13 03 06.4 +2.1
baz=150
TRQ Mont Tremblant 78.38 356 P P 13 03 04.7 +0.7
TRQ IAmb IAmb 13 03 05.8
comp=Z,16nm,0.8s
BC3 Big Chuckawall 78.65 322 P P 13 03 07.9 +2.0
baz=142
TPFO Pinon Flats 79.14 322 P P 13 03 11.3 +2.8
baz=141
BELC Belle Mtn. Jos 79.20 322 P P 13 03 11.1 +2.2
baz=141
ISCO Idaho Springs 79.23 332 P P 13 03 11.0 +1.8
baz=150
GMRC Granite Mounta 79.64 323 P P 13 03 14.0 +2.7
baz=142
BFSC Mount Baldy Ra 80.26 321 P P 13 03 17.0 +2.4
baz=140
TUQ Turquoise Moun 80.29 323 P P 13 03 17.4 +2.6
baz=142
N23A Red Feather La 80.30 333 P P 13 03 16.8 +1.9
baz=149
VLDQ Val d'Or 80.45 355 P P 13 03 15.7 +0.6
O20A White River Ci 80.57 331 P P 13 03 18.3 +2.0
baz=148
GSC Goldstone, Bar 80.63 322 P P 13 03 19.1 +2.5
baz=141
D41A Chassel 80.93 347 P P 13 03 17.8 +0.1
D41A IAmb IAmb 13 03 19.7
comp=Z,26nm,0.8s
EDW2 Edwards Air Fo 80.93 321 P P 13 03 20.3 +2.2
baz=140
LBTB Lobatse 81.05 114 LR LR 13 36 15.7
comp=Z,27nm,18.8s,baz=222,slow=33
LRMC Laurel Mtn Rad 81.22 322 P P 13 03 22.1 +2.3
baz=140
MPMC Manual Prospec 81.57 323 P P 13 03 23.8 +2.1
baz=141
TORD Torodi Ar. Bea 81.68 69 P P 13 03 22.9 +0.4
comp=Z,7.4nm,0.7s,baz=275,slow=3.5,SNR=49
TORD pP pP 13 03 54.1 +0.3
comp=Z,1.9nm,0.7s,baz=275,slow=4.0,SNR=2.6
comp=Z,7.4nm,0.7s
ISA Isabella, Lake 81.78 322 P P 13 03 25.3 +2.7
baz=140
PKM Mcpherson Peak 81.91 320 P P 13 03 26.2 +2.8
baz=139
K22A Casper 82.03 333 P P 13 03 25.9 +2.0
baz=149
CWC Cottonwood Cre 82.17 322 P P 13 03 27.1 +2.4
baz=140
VES Vestal, Richgr 82.23 321 P P 13 03 27.5 +2.6
baz=140
RSSD Black Hills 82.40 336 P P 13 03 27.3 +1.5
baz=151
R11B Troy Canyon, C 82.41 325 P P 13 03 28.4 +2.5
baz=142
DUG Dugway, Tooele 82.59 328 P P 13 03 27.9 +1.1
baz=144
PDAR Pinedale Array 83.32 332 P P 13 03 31.2 +0.6
PDAR pP pP 13 04 01.7 -0.5
PDAR Pinedale Array 83.32 332 P P 13 03 31.3 +0.6
comp=Z,1.3nm,0.6s,baz=132,slow=5.1,SNR=16
PDAR pP pP 13 04 02.3 +0.2
comp=Z,1.7nm,0.8s,baz=139,slow=7.7,SNR=5.1
comp=Z,1.3nm,0.6s
MLAC Mammoth, Mammo 83.47 323 P P 13 03 34.1 +2.6
baz=140
NVAR Mina Array Bea 83.81 324 P P 13 03 35.1 +1.9
comp=Z,2.7nm,0.8s,baz=160,slow=5.7,SNR=21
NVAR pP pP 13 04 05.8 +1.1
comp=Z,2.2nm,0.8s,baz=153,slow=6.3,SNR=5.6
NVAR LR LR 13 34 55.6
comp=Z,36nm,21.9s,baz=215,slow=31
comp=Z,2.7nm,0.8s
ELK Elko 84.13 327 LR LR 13 37 10.1
comp=Z,31nm,20.0s,baz=123,slow=33
RLMT Red Lodge 85.18 333 P P 13 03 41.4 +1.5
baz=147
LAO LASA Array 85.40 336 P P 13 03 41.9 +1.1
baz=150
ULM Lac du Bonnet 85.53 343 P P 13 03 41.4 +0.2
comp=Z,5.1nm,0.8s,baz=164,slow=4.1,SNR=11
ULM pP pP 13 04 12.2 -1.1
comp=Z,4.6nm,0.8s,baz=149,slow=6.2,SNR=4.8
comp=Z,5.1nm,0.8s
HLID Hailey 86.01 329 P P 13 03 45.1 +1.1
HLID pP pP 13 04 16.6 +0.9
HLID Hailey 86.01 329 P P 13 03 46.2 +2.1
baz=143
DGMT Dagmar 86.27 338 P P 13 03 46.7 +1.7
baz=151
BOZ Bozeman (W) 86.50 332 P P 13 03 47.8 +1.4

baz=145
J08A Circle Bar Ran 87.68 327 P **P** 13 03 53.6 +1.6
J08A IAmb IAmb 13 03 54.9
comp=Z,17nm,0.7s
J08A pP **pP** 13 04 24.8 +1.0
EGMT Eagleton 87.80 334 P **P** 13 03 53.4 +1.0
baz=147
PLID Pearl Lake 87.91 329 P **P** 13 03 54.2 +1.0
PLID pP **pP** 13 04 25.5 +0.4
K05A Summer Lake 88.35 325 P **P** 13 03 56.8 +1.5
K05A pP **pP** 13 04 28.3 +1.0
K05A IAmb IAmb 13 04 42.6
comp=Z,11nm,1.0s
I07A Izee 88.71 326 P **P** 13 03 58.4 +1.5
I07A pP **pP** 13 04 30.0 +1.3
I07A IAmb IAmb 13 04 31.2
comp=Z,20nm,1.7s
YKA Yellowknife Ar 101.23 340 P **Pdif** 13 04 52.7 -0.7
comp=Z,0.1nm,0.7s,baz=152,slow=2.8,SNR=3.5
AKASG Malin Array Be 119.56 46 PKP **PKiKP** 13 09 52.5 +0.3
comp=Z,0.2nm,0.3s,baz=273,slow=1.1,SNR=1.6
ASAR Alice Springs 119.93 205 PKP **PKPdf** 13 09 53.0 -1.0
comp=Z,0.8nm,1.0s,baz=143,slow=0.5,SNR=4.0
ASAR PKKPbc **PKKPbc** 13 20 03.1 +0.3
comp=Z,0.4nm,0.8s,baz=313,slow=1.9,SNR=5.5
WRA Warramunga Arr 123.17 207 PKP **PKiKP** 13 10 00.3 -0.1
comp=Z,0.9nm,0.8s,baz=153,slow=2.1,SNR=9.2
WRA pPKP **pPKPdf** 13 10 33.1 -0.9
comp=Z,1.3nm,1.0s,baz=168,slow=1.6,SNR=3.8
H11S2 WAKE ISLAND Hy 127.90 269 T T 15 29 59.5
baz=118,slow=74,SNR=175
H11S1 WAKE ISLAND Hy 127.92 269 T T 15 29 58.9
baz=118,slow=74,SNR=113
H11S3 WAKE ISLAND Hy 127.92 269 T T 15 30 00.9
baz=118,slow=74,SNR=72
H11N3 WAKE ISLAND Hy 128.28 270 T T 15 30 28.9
baz=117,slow=76,SNR=4.1
H11N1 WAKE ISLAND Hy 128.29 270 T T 15 30 29.9
baz=117,slow=76,SNR=5.2
H11N2 WAKE ISLAND Hy 128.29 270 T T 15 30 32.6
baz=117,slow=76,SNR=5.8
BVAR Borovoye Array 144.68 42 PKP **PKPdf** 13 10 39.8 +0.7
comp=Z,4.3nm,0.7s,baz=290,slow=3.0,SNR=19
USP Ospenovka 149.80 59 P **PKiKP** 13 10 54.0 +0.2
SNR=6.2
AAK Ala-Archa 149.89 60 P **PKiKP** 13 10 55.0 +0.9
SNR=6.4
UCH Uchtor 149.95 61 P **PKiKP** 13 10 55.1 +0.4
SNR=7.5
KURBB Kurchatov Arra 150.26 43 PKPbc **PKiKP** 13 10 54.7 +0.3
comp=Z,6.8nm,0.8s,baz=299,slow=3.1,SNR=56
KURBB pPKPbc **pPKPbc** 13 11 26.4 -0.4
comp=Z,0.8nm,0.4s,baz=303,slow=3.1,SNR=2.7
TKM2 Tokmak 2 150.65 59 P **PKiKP** 13 10 56.2 +0.5
SNR=8.9
ULHL Ulahol 151.22 60 P **PKiKP** 13 10 58.0 +1.0
SNR=7.2
KSH Kashi 151.31 66 PKPbc **PKiKP** 13 10 57.5 +0.4
KSH sPKP 13 11 29.8
ZALV Zalesovo Beam 151.74 33 PKPbc **PKiKP** 13 10 58.0 +0.6
comp=Z,14nm,0.7s,baz=298,slow=3.1,SNR=75
ZALV pPKPbc **pPKPbc** 13 11 30.0 -0.4
comp=Z,3.2nm,0.4s,baz=320,slow=3.2,SNR=3.9
MKAR Makanchi Array 154.13 48 PKPbc **PKiKP** 13 11 03.8 +1.2
comp=Z,1.3nm,0.8s,baz=325,slow=1.5,SNR=9.8
MKAR PKPab **PKPab** 13 11 17.4 +0.7
comp=Z,3.5nm,0.8s,baz=299,slow=3.7,SNR=18
MKAR pPKPbc **sPKPdf** 13 11 39.2 -1.3
comp=Z,1.4nm,0.8s,baz=296,slow=1.6,SNR=2.9
WMQ Urumqi 158.83 51 *eP* **PKPdf** 13 11 00.8 +0.2
MDJ Mudanjiang 160.75 315 P **PKPdf** 13 11 02.3 -0.3
MDJ pmax pmax
comp=Z,8.0nm,1.6s
MDJ pmax pmax
comp=Z,260nm,4.5s
CMAR Chiang Mai Arr 162.67 140 PKPab **PKPab** 13 11 53.5 -0.9
comp=Z,0.6nm,0.3s,baz=226,slow=4.8,SNR=5.3
SONM Songino Array 164.27 10 PKPab **PKPab** 13 12 02.0 +1.2
comp=Z,1.9nm,0.8s,baz=324,slow=5.0,SNR=7.8
PZH PanZhiHua 170.39 125 PKP **PKPdf** 13 11 10.1 -1.1
HHC Hu-ho-hao-te 171.51 354 *eP* **PKPdf** 13 11 12.3 +0.9
NJ2 Nanjing 172.89 269 *eP* **PKPdf** 13 11 12.0 -0.1
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
NJ2 pmax pmax
comp=Z,160nm,4.1s
CD2 Chengdu 174.09 103 PKP **PKPdf** 13 11 11.5 -1.2

*IDC **19** 13:07:04.7±2.3,51.°65N×175.°39W,h0km,mb3.2/5, mbtmp3.2/6,ML3.4/1,MS2.8/1, Error ellipse: s-maj=73.6km s-min=26.1km az=12.0*
*AEIC **19** 13:07:16.7±1.0,52.°0N±0.°1×174.°74W±0.°08,h68km±5km, Error ellipse: s-maj=19.4km s-min=4.6km az=163.0*
*NEIC **19** 13:07:16.2±0.8,51.°70N±0.°10×174.°62W±0.°08, h55km±10km,mb3.5/12,ML3.9/6,ML3.5(AEIC), Error ellipse: s-maj=14.5km s-min=5.0km az=160.0*

ISC 19 13:07:14.8±0.9,51°63N±0.°09×174°56W±0.°05,h38km,n58, σ1°17/52,mb3.4/8,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.62**	**21**		**Pn**	**13 07 28.2**	**+1.0**
ATKA				IAML		13 07 38.0	
	comp=N,5μm,0.3s						
ATKA	**Atka Island**	**0.62**	**21**		**Sn**	**13 07 37.5**	**+1.6**
KOFP	**Korovin Flat P**	**0.71**	**23**		**Pn**	**13 07 29.9**	**+1.5**
KOKL	**Mount Kliuchef**	**0.73**	**17**		**Pn**	**13 07 29.8**	**+1.1**
KOKL					**Sn**	**13 07 39.2**	**+0.5**
KOSE	**Korovin Southe**	**0.79**	**23**		**Pn**	**13 07 30.6**	**+1.2**
GSMY	**Great Sitkin M**	**1.02**	**295**		**Pn**	**13 07 33.3**	**+0.8**
GSTR	**Great Sitkin T**	**1.04**	**297**	Pn	**Pn**	**13 07 33.7**	**+0.9**
GSCK	**Great Sitkin C**	**1.07**	**292**		**Pn**	**13 07 34.1**	**+0.9**
GSTD	**Great Sitkin T**	**1.07**	**294**		**Pn**	**13 07 34.2**	**+0.8**
GSTD					**Sn**	**13 07 47.5**	**+0.4**
ADK	**Adak**	**1.35**	**282**	Pn	**Pn**	**13 07 38.1**	**+1.1**
ADK				IAML		13 07 55.2	
	comp=N,2μm,0.5s						
ADK				IAML		13 07 55.2	
	comp=N,2μm,0.3s						
ADK	**Adak**	**1.35**	**282**		**Sn**	**13 07 54.5**	**+0.9**
KIRH	**Kanaga Island**	**1.60**	**281**		**Pn**	**13 07 41.9**	**+1.4**
KIWB	**Kanaga Island**	**1.63**	**279**	Pn	**Pn**	**13 07 42.4**	**+1.5**
TAPA	**Tanaga Point A**	**2.03**	**277**		**Pn**	**13 07 47.9**	**+1.4**
TAFP	**Tanaga Falls P**	**2.15**	**279**		**Pn**	**13 07 48.9**	**+0.9**
TAFP					**Sn**	**13 08 13.6**	**+0.2**
TASE	**Tanaga Southea**	**2.17**	**277**		**Pn**	**13 07 49.6**	**+1.2**
GAEA	**Gareloi East**	**2.61**	**275**		**Pn**	**13 07 55.6**	**+1.2**
GANE	**Gareloi Northe**	**2.63**	**276**		**Pn**	**13 07 55.8**	**+1.1**
GANO	**Gareloi North**	**2.65**	**276**		**Pn**	**13 07 55.9**	**+1.0**
CLES	**Cleveland East**	**3.11**	**65**	Pn	**Pn**	**13 08 03.4**	**+2.2**
CLES				IAML		13 08 52.4	
	comp=N,367nm,0.8s						
CEPE	**Semis' Perret**	**3.61**	**278**		**Pn**	**13 08 08.7**	**+0.6**
CESW	**Semis' Southwe**	**3.66**	**277**		**Pn**	**13 08 09.3**	**+0.5**
NIKH	**Nikolski High**	**3.75**	**67**		**Pn**	**13 08 11.8**	**+1.8**
AMKA	**Amchitka**	**3.84**	**269**	Pn	**Pn**	**13 08 12.0**	**+0.7**
LSSE	**Little Sitkin**	**4.28**	**277**		**Pn**	**13 08 18.0**	**+0.7**
OKTU	**Okmok Mt. Tuli**	**4.35**	**64**		**Pn**	**13 08 20.8**	**+2.5**
MAPS	**Pakushin South**	**5.12**	**62**		**Pn**	**13 08 30.4**	**+1.5**
MNAT	**Makushin Natee**	**5.29**	**62**		**Pn**	**13 08 33.0**	**+1.8**
UNV	**Unalaska Valle**	**5.38**	**62**		**Pn**	**13 08 34.4**	**+2.1**
S12K	**Black Hills**	**8.47**	**56**	Pn	**Pn**	**13 09 14.8**	**0.0**
SDPT	**Sand Point**	**9.18**	**61**	Pn	**Pn**	**13 09 24.4**	**-0.2**
P19K	**Oil Pt**	**14.42**	**48**	Pn	**Pn**	**13 10 37.0**	**+0.9**
CNPM	**China Poot**	**15.31**	**50**	P	**P**	**13 10 52.0**	**-0.2**
BRLK	**Bradley Lake**	**15.56**	**49**	P	**P**	**13 10 55.5**	**+0.5**
H18K	**Honhosa River**	**15.92**	**25**	P	**P**	**13 10 58.4**	**-0.5**
D19K	**Kuna River**	**18.69**	**19**		**Pn**	**13 11 29.6**	**-0.4**
D19K				IAmb	IAmb	13 12 08.3	
	comp=Z,4.0nm,1.2s						
IL31		**19.42**	**37**	P	**P**	**13 11 36.9**	**-0.5**
ILAR	**Eielson Array**	**19.42**	**37**	P	**P**	**13 11 35.3**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=224,slow=10,SNR=11						
	comp=Z,0.4nm,0.6s						
H24K	**Noodor Dome**	**19.63**	**33**	Pn	**Pn**	**13 11 41.2**	**-0.2**
H24K				IAmb	IAmb	13 11 41.5	
	comp=Z,2.6nm,1.1s						
B21K	**Ikpikpuk River**	**20.34**	**20**	P	**P**	**13 11 47.6**	**+0.3**
B21K				IAmb	IAmb	13 12 28.9	
	comp=Z,5.3nm,1.4s						
D24K	**Happy Valley**	**21.39**	**25**	P	**P**	**13 11 57.9**	**-0.8**
D24K				IAmb	IAmb	13 12 16.7	
	comp=Z,3.0nm,1.2s						
C23K	**Itkillik River**	**21.41**	**23**	P	**P**	**13 11 57.4**	**-1.5**
H29M	**Whitestone**	**23.25**	**37**	P	**P**	**13 12 17.9**	**-0.5**
H29M				IAmb	IAmb	13 12 26.2	
	comp=Z,1.9nm,1.1s						
I30M	**Mount Dempster**	**23.71**	**40**	P	**P**	**13 12 22.7**	**-0.2**
I30M				IAmb	IAmb	13 12 42.0	
	comp=Z,3.7nm,1.4s						
INK	**Inuvik**	**25.75**	**34**	LR	LR	13 23 02.3	
	comp=Z,24nm,21.3s,baz=2.0,slow=37						
H11N2	**WAKE ISLAND Hy**	**35.00**	**211**	T	T	13 51 46.0	
	baz=20,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**35.01**	**211**	T	T	13 51 44.1	
	baz=20,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hy**	**35.02**	**211**	T	T	13 51 40.3	
	baz=20,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**36.21**	**211**	T	T	13 53 14.6	
	baz=20,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy**	**36.22**	**211**	T	T	13 53 15.2	
	baz=20,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy**	**36.22**	**211**	T	T	13 53 14.6	
	baz=20,slow=76,SNR=22						
NVAR	**Mina Array Bea**	**40.89**	**86**	P	**P**	**13 14 53.2**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=307,slow=8.9,SNR=2.3						
	comp=Z,0.3nm,0.6s						
R11B	**Troy Canyon, C**	**42.63**	**84**	P	**P**	**13 15 06.5**	**-0.9**
PDAR	**Pinedale Array**	**43.70**	**75**	P	**P**	**13 15 14.4**	**-1.7**
PDAR	**Pinedale Array**	**43.70**	**75**	P	**P**	**13 15 15.1**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=290,slow=2.7,SNR=4.8						
	comp=Z,0.3nm,0.6s						
TXAR	**Lajitas Array**	**55.99**	**84**	P	**P**	**13 16 48.4**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=284,slow=7.3,SNR=2.6						
	comp=Z,0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**60.84**	**316**	P	P	13 17 16.5	-6.3
	comp=Z,0.1nm,0.3s,baz=40,slow=7.1,SNR=1.6						
	comp=Z,0.1nm,0.3s						
MKAR	**Makanchi Array**	**61.92**	**311**	P	P	13 17 22.2	-8.0
	comp=Z,0.1nm,0.6s,baz=54,slow=7.3,SNR=1.5						
	comp=Z,0.1nm,0.6s						

*IDC **19** 13:11:18.6±5.5,2.°87S×132.°32E,h0km,mb3.5/3, mbtmp3.4/4,ML3.2/1, Error ellipse: s-maj=377.5km s-min=26.4km az=75.0*
*DJA **19** 13:11:25.3±0.5,3.°3S±2.°×13.°1E±.°,h11km±4km,M3.3/7, MLv3.3/7*

ISC 19 13:11:24.6±1.0,3.°15S±0.°05×130.°74E±0.°05,h10km,n10, σ1°25/14,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.52**	**81**	P	**Pn**	**13 11 51.9**	**0.0**
FAKI				S	**Sn**	**13 12 12.9**	**+1.1**
BNDI	**Bandanaira**	**1.60**	**211**	P	**Pn**	**13 11 53.6**	**+0.6**
BNDI				S	**Sn**	**13 12 15.8**	**+2.1**
SWI	**Sorong**	**2.33**	**13**	P	**Pn**	**13 12 03.7**	**+0.7**
SWI				S	**Sn**	**13 12 33.1**	**+1.4**
LBMI	**Labuha**	**4.09**	**308**	P	**Pn**	**13 12 28.1**	**+0.9**
LBMI				S	**Sn**	**13 13 15.1**	**-0.1**
SAUI	**Saumlaki**	**4.83**	**173**	P	**Pn**	**13 12 38.2**	**+0.7**
SANI	**Sanana**	**4.87**	**283**	P	**Pn**	**13 12 37.9**	**-0.1**
SANI				S	**Sn**	**13 13 35.0**	**+0.5**
WRA	**Warramunga Arr**	**17.06**	**168**	P	Pn	13 15 17.3	-6.1
	0.1nm,0.3s,baz=354,slow=13,SNR=1.4						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**20.62**	**172**	P	**P**	**13 16 01.8**	**-2.6**
	2.3nm,0.5s,baz=352,slow=10,SNR=79						
	2.3nm,0.5s						
MKAR	**Makanchi Array**	**65.46**	**326**	P	**P**	**13 22 08.0**	**+0.1**
	0.3nm,0.5s,baz=123,slow=9.4,SNR=4.6						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**69.66**	**328**	P	**P**	**13 22 33.7**	**-0.6**
	0.4nm,0.9s,baz=134,slow=4.3,SNR=4.8						
	0.4nm,0.9s						

*IDC **19** 13:30:41.4±1.3,18.°86S×172.°79W,h0km,mb3.7/4, mbtmp3.9/5,ML2.7/1,MS3.4/3,Error ellipse: s-maj=66.4km s-min=26.6km az=161.0*
*NEIC **19** 13:30:41.6±0.4,18.°4S±0.°1×172.°66W±0.°07,h10km±1km, mb4.5/7, Error ellipse: s-maj=22.0km s-min=8.4km az=20.0*

ISC 19 13:30:42.2±0.7,18.°5S±0.°1×172.°73W±0.°08,h10km,n22, σ1°74/19,mb4.1/9,MS3.3/3,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.71**	**102**		**Pn**	**13 31 24.4**	**-1.5**
AFI	**Afiamalu**	**4.66**	**11**	Pn	**Pn**	**13 31 50.9**	**-1.9**
MSVF	**Nonsavu**	**8.80**	**274**	Pn	**Pn**	**13 32 49.0**	**-0.7**
RAR	**Rarotonga**	**12.48**	**105**	Pn	**Pn**	**13 33 37.8**	**-2.2**
RAR	**Rarotonga**	**12.48**	**105**	Pn	**Pn**	**13 33 39.8**	**-0.2**
	0.4nm,0.3s,baz=297,slow=16,SNR=4.5						
	12nm,0.9s						
PPT	**Papeete**	**22.03**	**91**	LR	LR	13 42 51.8	
	comp=Z,82nm,18.4s,baz=270,slow=33						
CTAO	**Charters Tower**	**38.68**	**261**	P	**P**	**13 38 06.0**	**-0.5**
CTAO				IAmb	IAmb	13 38 13.9	
	comp=Z,20nm,1.4s						
WR0	**Warramunga Arr**	**49.64**	**259**	P	**P**	**13 39 33.4**	**-1.1**
WB0	**Warramunga Arr**	**49.80**	**259**	P	**P**	**13 39 34.6**	**-1.1**
WB0				IAmb	IAmb	13 39 47.9	
	comp=Z,6.6nm,1.1s						
WB2	**Warramunga Arr**	**49.82**	**259**	P	**P**	**13 39 35.0**	**-0.8**
WB2				IAmb	IAmb	13 40 13.0	
	comp=Z,10nm,1.4s						
AS31	**Alice Springs**	**49.83**	**254**	P	**P**	**13 39 34.8**	**-1.0**
AS31				IAmb	IAmb	13 40 13.0	
	comp=Z,2.0nm,1.2s						
ASAR	**Alice Springs**	**49.83**	**254**	P	**P**	**13 39 35.0**	**-0.9**
ASAR	**Alice Springs**	**49.83**	**254**	P	**P**	**13 39 35.5**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=87,slow=8.1,SNR=32						
	comp=Z,1.9nm,0.8s						
WRA	**Warramunga Arr**	**49.83**	**259**	P	**P**	**13 39 34.6**	**-1.2**
WRA	**Warramunga Arr**	**49.83**	**259**	P	**P**	**13 39 35.0**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=98,slow=8.1,SNR=11						
	comp=Z,0.6nm,0.5s						
QSPA	**South Pole Qui**	**71.55**	**180**	P	**P**	**13 42 01.9**	**-1.6**
QSPA				IAmb	IAmb	13 42 31.5	
	comp=Z,4.0nm,1.4s						
QSPA	**South Pole Qui**	**71.55**	**180**	P	**P**	**13 42 07.5**	**+4.1**
	comp=Z,1.1nm,0.9s,baz=281,slow=1.6,SNR=5.0						
PFO	**Pinyon Flats O**	**74.58**	**46**	LR	LR	14 08 47.1	
	comp=Z,34nm,20.3s,baz=78,slow=30						
MA2	**Magadan**	**83.31**	**342**	LR	LR	14 13 50.0	
	comp=Z,13nm,21.4s,baz=96,slow=31						
PDAR	**Pinedale Array**	**84.15**	**41**	P	**P**	**13 43 16.0**	**+2.0**
	comp=Z,0.4nm,0.7s,baz=195,slow=6.5,SNR=4.2						
	comp=Z,0.4nm,0.7s						
ILAR	**Eielson Array**	**85.36**	**11**	P	**P**	**13 43 21.7**	**+2.5**
	comp=Z,0.3nm,0.6s,baz=213,slow=6.5,SNR=2.2						
	comp=Z,0.3nm,0.6s						
BRTR	**Keskin Array B**	**148.93**	**318**	PKPbc	**PKiKP**	**13 50 32.7**	**+0.6**
	comp=Z,0.8nm,1.0s,baz=140,slow=1.1,SNR=1.8						

*IDC **19** 13:41:53.9±2.5, 11.°49S×163.°14E,h0km,mb3.7/4, mbtmp3.7/4,ML5.4/1,MS3.3/1, Error ellipse: s-maj=50.0km s-min=37.6km az=98.0*
*NEIC **19** 13:41:54.5±0.7, 11.°5S±0.°1×163.°2E±0.°1,h10km±2km, mb4.3/5,Error ellipse: s-maj=26.4km s-min=7.8km az=41.0*

ISC 19 13:41:54.8±0.9,11.°6S±0.°1×163.°1E±0.°1,h10km,n13, σ1°14/13,mb3.6/5,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.79**	**304**	Pn	**Pn**	**13 42 52.3**	**-1.0**
HNR	**Honiara**	**3.79**	**304**	Pn	**Pn**	**13 42 53.6**	**+0.4**
	304nm,0.3s,baz=163,slow=2.4,SNR=25						
HNR				Sn	**Sn**	**13 43 38.4**	**+0.5**
	404nm,0.3s,baz=169,slow=7.1,SNR=4.2						
LIFNC	**LIFOU**	**9.98**	**157**	Pn	**Pn**	**13 44 18.3**	**+0.1**
MSVF	**Nonsavu**	**15.67**	**115**	Pn	**Pn**	**13 45 36.0**	**+0.1**
MSVF				IAmb	IAmb	13 46 04.6	
	comp=Z,14nm,1.4s						
COEN	**Coen**	**19.62**	**261**	P	**P**	**13 46 21.7**	**-2.0**
COEN				IAmb	IAmb	13 47 00.9	
	comp=Z,23nm,1.4s						
CAN	**Canberra**	**26.92**	**206**	P	**P**	**13 47 35.9**	**-0.4**
STKA	**Stephens Creek**	**28.35**	**221**	LR	LR	13 57 38.7	
	comp=Z,64nm,20.9s,baz=104,slow=33						
WRA	**Warramunga Arr**	**28.91**	**250**	P	**P**	**13 47 55.0**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=80,slow=8.9,SNR=2.6						
	comp=Z,0.5nm,0.7s						
ASAR	**Alice Springs**	**30.29**	**243**	P	**P**	**13 48 07.2**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=65,slow=10,SNR=19						
	comp=Z,0.5nm,0.5s						
KNRA	**Kununurra**	**33.64**	**259**	P	**P**	**13 48 36.1**	**+0.1**
SONM	**Songino Array**	**77.59**	**325**	P	**P**	**13 53 50.4**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=132,slow=6.4,SNR=3.5						
	comp=Z,0.4nm,0.7s						
MCARA	**McCarthy VSAT**	**84.03**	**23**	P	**P**	**13 54 24.4**	**-0.9**
MCARA				IAmb	IAmb	13 54 37.6	
	comp=Z,7.5nm,1.1s						
MKAR	**Makanchi Array**	**92.15**	**317**	P	**P**	**13 55 06.9**	**+2.2**
	comp=Z,0.4nm,0.7s,baz=106,slow=6.0,SNR=4.6						
	comp=Z,0.4nm,0.7s						

*KRSC **19** 13:50:40.5±1.7,52.°10N×160.°49E,h40km±21km,Ml3.9*
*NEIC **19** 13:50:45.7±2.0,52.°4N±0.°1×160.°2E±0.°2,h35km±2km, mb4.4/9,Error ellipse: s-maj=22.9km s-min=19.6km az=208.0*
*IDC **19** 13:50:48.0±6.1,52.°31N×160.°26E,h75km±39km,mb3.7/6, mbtmp4.0/6,MS3.4/1,Error ellipse: s-maj=48.6km s-min=33.0km az=130.0*

ISC 19 13:50:44.5±1.8,52.°15N±0.°07×160.°32E±0.°08,h43km±15km, n52,σ1°43/61,mb4.1/11,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.97**	**349**	*eP*	**Pn**	**13 50 59.4**	**-2.2**
SPN				*eS*	**Sn**	**13 51 12.4**	**-1.9**
RUS	**Russkaya**	**1.15**	**285**	*eP*	**Pn**	**13 51 03.1**	**-1.0**
RUS				*eS*	**Sn**	**13 51 18.6**	**0.0**
NLC	**Nalytchevo**	**1.19**	**330**	*eP*	**Pn**	**13 51 03.5**	**-1.1**
NLC				*eS*	**Sn**	**13 51 19.7**	**+0.1**
DALK	**Dalny**	**1.30**	**313**	*eP*	**Pn**	**13 51 05.1**	**-1.1**
DALK				*eS*	**Sn**	**13 51 22.4**	**0.0**
PET	**Petropavlovsk**	**1.34**	**311**		**Pn**	**13 51 05.6**	**-1.2**
PET	**Petropavlovsk**	**1.34**	**311**	*eP*	**Pn**	**13 51 05.9**	**-0.9**
MTVR	**Mutnovka**	**1.36**	**285**	*eP*	**Pn**	**13 51 06.4**	**-0.7**
KDTR	**Khodutka, Kamc**	**1.43**	**257**	*eP*	**Pn**	**13 51 07.3**	**-0.7**
KDTR				*eS*	**Sn**	**13 51 26.9**	**+1.4**
SMAR	**Somma**	**1.45**	**321**	*eP*	**Pn**	**13 51 07.8**	**-0.7**
AVH	**Avacha**	**1.48**	**320**	*eP*	**Pn**	**13 51 08.5**	**-0.3**
KRER	**Koryakskii**	**1.50**	**321**	*eP*	**Pn**	**13 51 08.1**	**-1.1**
KRMR	**Karymshinskiy**	**1.50**	**298**	*eP*	**Pn**	**13 51 08.2**	**-0.8**
KRMR				*eS*	**Sn**	**13 51 28.9**	**+1.5**
ASAK	**Asacha**	**1.51**	**280**	*eP*	**Pn**	**13 51 08.9**	**-0.2**
KOK	**Koryaka**	**1.54**	**319**	*eP*	**Pn**	**13 51 09.4**	**-0.2**
KRX	**Arik**	**1.58**	**321**	*eP*	**Pn**	**13 51 09.6**	**-0.6**
PEA0B	**Petropavlovsk-**	**1.87**	**302**		**Pn**	**13 51 13.6**	**-0.4**
PETK	**Petropavlovsk-**	**1.87**	**302**		**Pn**	**13 51 13.3**	**-0.7**
PETK	**Petropavlovsk-**	**1.87**	**302**	P	**Pn**	**13 51 14.4**	**+0.4**
	70nm,0.5s,baz=103,slow=20,SNR=458						
PETK				S	**Sn**	**13 51 38.5**	**+2.2**
	102nm,0.7s,baz=100,slow=40,SNR=12						
PETK				LR	LR	13 52 08.1	
	comp=Z,234nm,18.3s,baz=102,slow=46						
APC	**Apacha**	**2.08**	**293**	*eP*	**Pn**	**13 51 17.6**	**+0.7**
APC				*eS*	**Sn**	**13 51 43.0**	**+1.4**
GNL	**Ganaly**	**2.12**	**318**	*eP*	**Pn**	**13 51 18.0**	**+0.5**
GNL				*eS*	**Sn**	**13 51 45.6**	**+3.0**
PAU	**Pauzhetka**	**2.29**	**254**	*eP*	**Pn**	**13 51 21.4**	**+1.7**
SKR	**Severo-Kuril's**	**3.02**	**243**	*eP*	**Pn**	**13 51 29.4**	**-0.3**
SKR				*eS*	**Sn**	**13 52 04.7**	**+0.2**
TUMD	**Tumrok D**	**3.06**	**1**	*eP*	**Pn**	**13 51 29.4**	**-1.0**
TUMD				*eS*	**Sn**	**13 52 04.9**	**-0.8**
TUMR	**Tumrok**	**3.14**	**358**	*eP*	**Pn**	**13 51 31.7**	**+0.1**
TUMR				*eS*	**Sn**	**13 52 11.0**	**+3.1**
KMNR	**Kamenistaya**	**3.62**	**359**	*eP*	Pn	13 51 40.6	+2.5
KMNR				*eS*	**Sn**	**13 52 22.3**	**+2.8**
BZP	**Bezymyannyi-Pe**	**3.77**	**2**	*eP*	Pn	13 51 42.1	+1.8
BZMR	**Bezymyannaya**	**3.80**	**1**	*eP*	**Pn**	**13 51 40.1**	**-0.4**
BZGR	**Bezymyannyi-Gr**	**3.81**	**3**	*eP*	**Pn**	**13 51 39.9**	**-0.8**
BZGR				*eS*	**Sn**	**13 52 25.3**	**+1.1**
BZWR	**Bezymyannyi-We**	**3.83**	**1**	*eP*	**Pn**	**13 51 42.4**	**+1.4**
ESO	**Esso**	**3.90**	**346**	*eP*	**Pn**	**13 51 42.3**	**+0.3**
KOZ	**Kozyrevsk**	**3.93**	**356**	*eP*	**Pn**	**13 51 43.3**	**+1.1**
KRSR	**Krestovskiy**	**4.08**	**2**	*eP*	Pn	13 51 47.0	+2.6
KLY	**Klyuchi**	**4.18**	**3**	*eP*	Pn	13 51 47.7	+2.0
KLY				*eS*	**Sn**	**13 52 36.9**	**+3.8**
SRDR	**Sredinnyy**	**4.19**	**355**	*eP*	**Pn**	**13 51 46.8**	**+0.8**
BILL	**Bilibino**	**16.20**	**8**	P	**P**	**13 54 31.8**	**+0.4**
C18K	**Utukok River**	**24.56**	**33**	P	**P**	**13 56 01.3**	**+1.4**
C18K				IAmb	IAmb	13 56 03.1	
	comp=Z,5.5nm,1.4s						
SML	**Sawmill**	**28.85**	**50**	P	**P**	**13 56 38.6**	**+0.1**
SML				IAmb	IAmb	13 57 12.0	
	comp=Z,4.4nm,1.0s						
SONM	**Songino Array**	**34.26**	**285**	LR	LR	14 12 51.7	
	comp=Z,53nm,18.8s,baz=175,slow=39						
SPITS	**Spitsbergen Ar**	**48.09**	**351**	P	**P**	**13 59 19.6**	**+0.4**
	comp=Z,13nm,1.0s,baz=21,slow=9.3,SNR=7.7						
	comp=Z,13nm,1.0s						
SPB2	**Spitsbergen Ar**	**48.09**	**351**	P	**P**	**13 59 19.6**	**+0.4**
SPB2				IAmb	IAmb	13 59 45.3	
	comp=Z,61nm,1.5s						
KURBB	**Kurchatov Arra**	**48.46**	**303**	P	**P**	**13 59 19.5**	**-2.9**
	comp=Z,0.7nm,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.80**	**279**	P	**P**	**13 53 31.0**	**+2.4**
AFI	**Afiamalu**	**7.43**	**55**	P	**P**	**13 54 00.8**	**-1.5**
RAR	**Rarotonga**	**17.39**	**102**	P	**P**	**13 55 45.2**	**-1.2**
MLZ	**Mavora Lakes**	**29.32**	**200**	P	**P**	**13 57 33.2**	**+0.3**
CTAO	**Charters Tower**	**33.76**	**261**	P	**P**	**13 58 10.2**	**-1.1**
STKA	**Stephens Creek**	**38.76**	**242**	P	**P**	**13 58 52.7**	**+0.2**
STKA	**Stephens Creek**	**38.76**	**242**	P	**P**	**13 58 52.4**	**-0.2**
	1.7nm,0.8s,baz=122,slow=9.5,SNR=1.7						
	1.7nm,0.8s						
WR0	**Warramunga Arr**	**44.74**	**260**	P	**P**	**13 59 38.9**	**-1.2**
WB0	**Warramunga Arr**	**44.90**	**260**	P	**P**	**13 59 40.4**	**-1.0**
WB2	**Warramunga Arr**	**44.92**	**260**	P	**P**	**13 59 39.9**	**-1.6**
WB2				IAmb	IAmb	14 00 19.4	
	comp=Z,4.9nm,1.2s						
WRA	**Warramunga Arr**	**44.93**	**260**	P	**P**	**13 59 39.7**	**-1.9**
WRA	**Warramunga Arr**	**44.93**	**260**	P	**P**	**13 59 40.2**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=97,slow=7.7,SNR=26						
	comp=Z,0.6nm,0.3s						
AS31	**Alice Springs**	**45.05**	**255**	P	**P**	**13 59 41.1**	**-1.3**
ASAR	**Alice Springs**	**45.05**	**255**	P	**P**	**13 59 40.7**	**-1.8**
ASAR	**Alice Springs**	**45.05**	**255**	P	**P**	**13 59 41.4**	**-1.1**
	comp=Z,3.2nm,0.6s,baz=90,slow=8.8,SNR=112						
ASAR				PcP	**PcP**	**14 01 12.2**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=104,slow=3.7,SNR=6.5						
	comp=Z,3.2nm,0.6s						
KNRA	**Kununurra**	**50.83**	**264**	P	**P**	**14 00 24.3**	**-1.5**
VNDA	**Vanda**	**60.05**	**185**	P	**P**	**14 01 29.6**	**+0.5**
VNDA	**Vanda**	**60.05**	**185**	P	**P**	**14 01 29.1**	**+0.1**
	comp=Z,0.8nm,1.0s,baz=0.7,slow=6.8,SNR=2.0						
	comp=Z,0.8nm,1.0s						
QSPA	**South Pole Qui**	**71.71**	**180**	P	**P**	**14 02 42.8**	**+0.4**
QSPA	**South Pole Qui**	**71.71**	**180**	P	**P**	**14 02 42.9**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=211,slow=1.3,SNR=20						
	comp=Z,1.5nm,0.6s						
PETK	**Petropavlovsk-**	**74.20**	**345**	P	**P**	**14 02 56.3**	**-0.2**
	comp=Z,3.3nm,1.0s,baz=111,slow=8.1,SNR=5.3						
	comp=Z,3.3nm,1.0s						
NVAR	**Mina Array Bea**	**79.47**	**44**	P	**P**	**14 03 26.7**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=233,slow=5.2,SNR=2.5						
	comp=Z,0.2nm,0.6s						
J05D	**Fort Rock, OR**	**80.42**	**38**	P	**P**	**14 03 31.4**	**+0.6**
M16K	**Timber Creek**	**80.56**	**9**	P	**P**	**14 03 31.5**	**+0.6**
M16K				IAmb	IAmb	14 03 55.3	
	comp=Z,8.6nm,1.1s						
L16K	**Owhat River**	**81.14**	**9**	P	**P**	**14 03 34.2**	**+0.3**
L16K				IAmb	IAmb	14 03 47.2	
	comp=Z,10nm,1.4s						
K15K	**Wolf Creek Mou**	**81.42**	**8**	P	**P**	**14 03 36.0**	**+0.6**
L18K	**Granite Mounta**	**82.06**	**10**	P	**P**	**14 03 39.3**	**+0.7**
L18K				IAmb	IAmb	14 03 54.8	
	comp=Z,11nm,1.4s						
J16K	**Anvik River**	**82.50**	**8**	P	**P**	**14 03 41.2**	**+0.4**
J16K				IAmb	IAmb	14 03 45.1	
	comp=Z,10nm,1.4s						
TTA	**Tatalina**	**82.83**	**10**	P	**P**	**14 03 42.5**	**-0.1**
TTA				IAmb	IAmb	14 04 11.8	
	comp=Z,6.3nm,1.5s						
J18K	**Innoko River**	**83.22**	**9**	P	**P**	**14 03 44.6**	**+0.1**
J18K				IAmb	IAmb	14 04 13.9	
	comp=Z,6.9nm,1.5s						
CUT	**Chulitna**	**83.42**	**13**	P	**P**	**14 03 45.2**	**-0.3**
SCM	**Sheep Creek Mo**	**83.55**	**14**	P	**P**	**14 03 46.0**	**-0.3**
K20K	**Telida**	**83.56**	**11**	P	**P**	**14 03 46.0**	**-0.2**
J19K	**Poorman**	**83.89**	**10**	P	**P**	**14 03 47.8**	**0.0**
CAST	**Castle Rocks**	**83.98**	**11**	P	**P**	**14 03 47.2**	**-1.1**
CAST				IAmb	IAmb	14 04 26.8	
	comp=Z,4.8nm,1.4s						
GLB	**Gilahina Butte**	**84.08**	**16**	P	**P**	**14 03 48.5**	**-0.3**
GLB				IAmb	IAmb	14 03 59.5	
	comp=Z,5.3nm,1.2s						
J20K	**Nowinta River**	**84.31**	**10**	P	**P**	**14 03 50.2**	**+0.4**
J20K				IAmb	IAmb	14 04 10.6	
	comp=Z,7.6nm,1.5s						
TRF	**Thorofare Moun**	**84.35**	**12**	P	**P**	**14 03 49.3**	**-1.0**
TRF				IAmb	IAmb	14 04 03.9	
	comp=Z,4.5nm,0.9s						
RND	**Reindeer**	**84.61**	**13**	P	**P**	**14 03 51.1**	**-0.4**
RND				IAmb	IAmb	14 04 14.9	
	comp=Z,10.0nm,1.4s						
Q32M	**Nakina River**	**85.64**	**22**	P	**P**	**14 03 56.4**	**-0.3**
TXAR	**Lajitas Array**	**85.90**	**57**	P	**P**	**14 04 00.8**	**+2.2**
	comp=Z,0.5nm,0.8s,baz=220,slow=6.2,SNR=6.2						
	comp=Z,0.5nm,0.8s						
CCB	**Clear Creek Bu**	**85.92**	**13**	P	**P**	**14 03 56.6**	**-1.0**
CCB				IAmb	IAmb	14 04 03.3	
	comp=Z,3.9nm,1.5s						
IMAR	**Indian Mountai**	**86.04**	**10**	P	**P**	**14 03 57.7**	**-0.5**
ILAR	**Eielson Array**	**86.22**	**13**	P	**P**	**14 03 58.1**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=213,slow=5.7,SNR=7.0						
	comp=Z,0.2nm,0.4s						
E19K	**Redstone River**	**86.92**	**8**	P	**P**	**14 04 02.0**	**-0.4**
E19K				IAmb	IAmb	14 04 34.4	
	comp=Z,3.8nm,1.4s						
M30M	**Minto, Yukon**	**86.93**	**18**	P	**P**	**14 04 02.6**	**0.0**
F24K	**Squaw Lake**	**88.44**	**11**	P	**P**	**14 04 09.4**	**-0.2**
F24K				IAmb	IAmb	14 04 16.4	
	comp=Z,4.1nm,1.5s						
D22K	**Ayikyak River**	**88.88**	**9**	P	**P**	**14 04 11.3**	**-0.2**
D22K				IAmb	IAmb	14 04 23.4	
	comp=Z,4.0nm,1.5s						
BMAR	**Burnt Mountain**	**89.00**	**12**	P	**P**	**14 04 12.4**	**+0.2**

TEH ***19*** *13:55:03.1,34˚.09N×46˚.33E,h11km±35km,ML3.3*
ISN ***19*** *13:55:18.1±1.0,34˚.10N×46˚.30E,h16km±6km,ML3.0*
ISC 19 13:55:08.7±1.3**,34˚40N**±0˚.05×**46˚.68E**±0˚.04**,h7**km±11km**,**
n14,σ1§**62**/15**, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.12**	**232**	Pg	**Pg**	**13 55 11.0**	**-0.5**
KCHF	**Cheshme Sefid,**	**0.32**	**113**	Pg	**Pg**	**13 55 15.9**	**+0.8**
IDHR	**Dehrash**	**0.38**	**321**	Pg	**Pg**	**13 55 16.2**	**-0.2**
ILIN	**Lien**	**0.56**	**24**	Pg	**Pn**	**13 55 23.7**	**+0.2**
ILBA	**Ilam Banvizeh**	**0.87**	**207**	Pg	Pg	13 55 13.2	-12
KGS1	**Ghasr-e-Shirin**	**0.91**	**277**	Pg	Pg	13 55 18.5	-7.7
IBZA	**Bozab**	**0.98**	**86**	Pg	**Pn**	**13 55 29.7**	**+0.5**
IKFM	**Kafar-mosalman**	**1.30**	**132**	Pg	**Pn**	**13 55 30.5**	**-2.9**
IDOB	**Doab**	**1.38**	**116**	Pg	**Pn**	**13 55 34.5**	**-0.2**
IBDR	**Badra**	**1.43**	**206**	*e*Pg	**Pg**	**13 55 38.0**	**+1.8**
IBDR				*e*Sg	**Sn**	**13 55 51.0**	**-3.2**
IBDR				AML	AML	13 55 58.6	
	comp=E,260nm,0.4s						
IBDR				AML	AML	13 55 58.8	
	comp=N,498nm,0.4s						
HSAM	**Samen**	**1.60**	**96**	Pn	**Pb**	**13 55 38.6**	**-0.2**
HAGD	**Aghdareh**	**2.07**	**78**	Pn	**Pb**	**13 55 46.6**	**-0.2**
BHD	**Baghdad**	**2.22**	**240**	*e*Pn	**Pb**	**13 55 50.0**	**+0.7**
BHD				*e*Sn	**Sn**	**13 56 14.0**	**+0.2**
RAFI	**Al-Rafai**	**2.71**	**190**	*e*Pn	**Pb**	**13 55 58.0**	**+0.4**
RAFI				*e*Sn	**Sn**	**13 56 28.0**	**+2.1**

NEIC ***19*** *14:05:33.5±1.8, 12˚.93N×89˚.07W×0˚.06, h10km±2km, mb4.3/17, Error ellipse: s-maj=13.9km s-min=8.5km az=213.0*
SNET ***19*** *14:05:35.9±3.7, 12˚.91N×89˚.94W, h24km, ML4.3*
CATAC ***19*** *14:05:35.1±0.4, 12˚.84N×89˚.87W, h18km±4km, MB5.3, mb4.6, ML4.4*
IDC ***19*** *14:05:39.1±2.5, 13˚.34N×89˚.51W, h61km±21km, mb3.5/8, mbtmp4.0/11, ML3.3/3, MS3.4/3, Error ellipse: s-maj=41.2km s-min=17.2km az=42.0*
GCG ***19*** *14:05:43.7±0.8, 13˚.52N×90˚.45W, h90km±33km, MD4.2*
ISC 19 14:05:32.5±1.5**, 12˚83N**±0˚.04×**89˚91W**±0˚.04**, h15**km±8km**,**
n165,σ1§**81**/196**, mb4.1**/15**, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.87**	**41**	*e*P	**Pn**	**14 05 51.2**	**+1.0**
LALI	**Alcalda de L**	**0.87**	**41**	*i* P	**Pn**	**14 05 50.5**	**+0.3**
LALI				*i* S	**Sn**	**14 06 02.0**	**-0.7**
LALI				IAML		14 06 14.3	
	comp=Z,2μm,1.0s						
JAYA	**Jayaque - finc**	**0.94**	**29**	*e*P	**Pn**	**14 05 51.8**	**+0.6**
JAYA				*e*S	**Sn**	**14 06 08.4**	**+3.9**
JAYA	**Jayaque - finc**	**0.94**	**29**	*i* P	**Pn**	**14 05 51.7**	**+0.5**
JAYA				*i* S	**Sn**	**14 06 05.5**	**+1.0**
JAYA				IAML		14 06 12.0	
	comp=Z,18μm,1.0s						
CEVE	**Cerro Verde**	**1.03**	**16**	*e*P	**Pn**	**14 05 53.2**	**+0.5**
CEVE				*e*S	**Sn**	**14 06 11.3**	**+4.3**
CEVE	**Cerro Verde**	**1.03**	**16**	*i* P	**Pn**	**14 05 53.5**	**+0.9**
CEVE				*i* S	**Sn**	**14 06 08.6**	**+1.7**
CEVE				IAML		14 06 14.9	
	comp=Z,17μm,1.0s						
SBLS	**San Blas**	**1.04**	**16**	*i* P	**Pn**	**14 05 53.3**	**+0.6**
PMON	**Piamonte**	**1.05**	**34**	*i* P	**Pn**	**14 05 53.4**	**+0.6**
PMON				IAML		14 06 17.9	
	comp=Z,10μm,1.0s						
PANCS	**Alcalda de**	**1.05**	**43**	*i* P	**Pn**	**14 05 53.6**	**+0.8**
PANCS				*i* S	**Sg**	**14 06 05.3**	**-1.4**
PANCS				IAML		14 06 15.3	
	comp=Z,9μm,1.0s						
NUBE	**Las Nubes**	**1.07**	**7**	*i* P	**Pg**	**14 05 53.4**	**+0.1**
NUBE				*e*S	**Sn**	**14 06 09.5**	**+1.6**
NUBE	**Las Nubes**	**1.07**	**7**	*i* P	**Pg**	**14 05 53.3**	**+0.1**
NUBE				*i* S	**Sn**	**14 06 08.0**	**+0.1**
NUBE				IAML		14 06 10.7	
	comp=Z,7μm,1.0s						
SNJE	**San Jose**	**1.07**	**16**	*i* P	**Pn**	**14 05 53.9**	**+0.7**
SNJE				*e*S	**Sn**	**14 06 11.8**	**+3.8**
SNET	**Serv Nac Est T**	**1.08**	**38**		**Pn**	**14 05 53.8**	**+0.7**
SNET	**Serv Nac Est T**	**1.08**	**38**	*e*P	**Pn**	**14 05 54.1**	**+1.0**
SNET	**Serv Nac Est T**	**1.08**	**38**	*i* P	**Pg**	**14 05 53.2**	**-0.2**
SNET				*i* S	**Sn**	**14 06 08.2**	**+0.3**
SNET				IAML		14 06 14.1	
	comp=Z,10μm,1.0s						
LOMA	**Loma Larga**	**1.08**	**42**	*i* P	**Pn**	**14 05 54.2**	**+0.9**
LOMA				*e*S	**Sn**	**14 06 13.1**	**+4.9**
LOMA	**Loma Larga**	**1.08**	**42**	*i* P	**Pn**	**14 05 54.1**	**+0.9**
LOMA				IAML		14 06 15.7	
	comp=Z,6μm,1.0s						
BOQS	**Boqueron**	**1.09**	**34**	*e*P	**Pn**	**14 05 54.2**	**+0.8**
CEDA	**San Andres**	**1.09**	**28**	*e*P	**Pn**	**14 05 54.2**	**+0.9**
CEDA	**San Andres**	**1.09**	**28**	*i* P	**Pn**	**14 05 54.1**	**+0.8**
CEDA				*i* S	**Sn**	**14 06 12.3**	**+4.2**
CEDA				IAML		14 06 20.8	
	comp=Z,20μm,1.0s						
RTR	**El Retiro**	**1.09**	**14**	*i* P	**Pn**	**14 05 54.1**	**+0.7**
UEES	**Universidad Ev**	**1.10**	**37**	*i* P	**Pn**	**14 05 54.2**	**+0.8**
UEES				IAML		14 06 15.2	
	comp=Z,4μm,1.0s						
UTEC	**Universidad Te**	**1.11**	**39**	*i* P	**Pn**	**14 05 54.9**	**+1.4**
UTEC				*i* S	**Sn**	**14 06 10.2**	**+1.6**
UTEC				IAML		14 06 25.9	
	comp=Z,4μm,1.0s						
PIC2	**El Picacho**	**1.11**	**35**	*e*P	**Pn**	**14 05 54.7**	**+0.9**
IGN	**Direccin Gen**	**1.14**	**39**	*i* P	**Pn**	**14 05 54.9**	**+1.0**
IGN				IAML		14 06 19.8	
	comp=Z,23μm,1.0s						
LFRS	**El Faro**	**1.14**	**46**	*i* P	**Pn**	**14 05 55.3**	**+1.3**
UDBS	**Universidad Do**	**1.15**	**40**	*i* P	**Pn**	**14 05 55.8**	**+1.7**
UDBS				IAML		14 06 15.6	
	comp=Z,9μm,1.0s						
LOAL	**Lomas de Alarc**	**1.17**	**6**	*i* P	**Pb**	**14 05 55.0**	**+0.6**
LOAL				IAML		14 06 04.3	
	comp=Z,12μm,1.0s						
QUEZ	**Alcaldia de Qu**	**1.18**	**32**	*i* P	**Pn**	**14 05 55.9**	**+1.4**
QUEZ				IAML		14 06 17.6	
	comp=Z,20μm,1.0s						
SJTE	**Alcalda de S**	**1.18**	**48**	*e*P	**Pn**	**14 05 55.6**	**+1.1**
SJTE	**Alcalda de S**	**1.18**	**48**	*i* P	**Pn**	**14 05 55.6**	**+1.1**
SJTE				*i* S	**Sg**	**14 06 09.7**	**-0.9**
SJTE				IAML		14 06 17.2	
	comp=Z,5μm,1.0s						
SLOZ	**Alcaldia de Sa**	**1.20**	**6**	*e*P	**Pb**	**14 05 55.3**	**+0.4**
SLOZ				*e*S	**Sn**	**14 06 13.2**	**+2.5**
UNIC	**Universidad Ca**	**1.20**	**17**	*i* P	**Pn**	**14 05 56.2**	**+1.4**
UNIC				IAML		14 06 21.8	
	comp=Z,2μm,1.0s						
LFU	**La Fuente**	**1.20**	**40**	*i* P	**Pn**	**14 05 56.1**	**+1.3**
LBRS	**Las Brisas**	**1.24**	**43**	*e*P	**Pg**	**14 05 56.8**	**+0.4**
COEG	**Centro de Oper**	**1.28**	**52**	*e*S	**Sn**	**14 06 18.0**	**+5.2**
COEG	**Centro de Oper**	**1.28**	**52**	*i* P	**Pn**	**14 05 56.7**	**+0.9**
COEG				IAML		14 06 21.9	
	comp=Z,4μm,1.0s						
PAVA	**Las Pavas**	**1.29**	**47**	*i* P	**Pg**	**14 05 57.6**	**+0.1**
PAVA	**Las Pavas**	**1.29**	**47**	*i* P	**Pg**	**14 05 57.5**	**+0.1**
PAVA				IAML		14 06 24.6	
	comp=Z,10μm,1.0s						
SNVI	**San Vicente**	**1.30**	**53**	*e*P	**Pg**	**14 05 57.6**	**-0.1**
TECO	**Alcaldia de Te**	**1.31**	**57**	*e*P	**Pn**	**14 05 57.1**	**+0.9**
TECO	**Alcaldia de Te**	**1.31**	**57**	*i* P	**Pn**	**14 05 56.7**	**+0.5**
TECO				IAML		14 06 23.0	
	comp=Z,2μm,1.0s						
UESV	**Universidad de**	**1.36**	**54**	*i* P	**Pb**	**14 05 58.3**	**+0.7**
UESV				IAML		14 06 25.1	
	comp=Z,2μm,1.0s						
SCLA	**Alcaldia de Sa**	**1.44**	**53**	*i* P	**Pb**	**14 05 59.7**	**+0.6**
SCLA				IAML		14 06 29.3	
	comp=Z,2μm,1.0s						
JUAM	**Asuncion Mita**	**1.51**	**8**	*i* P	**Pn**	**14 06 00.4**	**+1.4**
JUAM				*i* S	**Sg**	**14 06 21.0**	**-0.2**
JUAM				IAML		14 06 25.7	
	comp=Z,8μm,1.0s						
TECA	**Tecapa**	**1.52**	**64**	*e*P	**Pn**	**14 06 00.6**	**+1.2**
PQSS	**Presa 15 de Se**	**1.54**	**59**	*i* P	**Pb**	**14 06 01.1**	**+0.4**
PQSS				*i* S	**Sg**	**14 06 23.3**	**+1.3**
PQSS				IAML		14 06 27.6	
	comp=Z,2μm,1.0s						
MTO3	**Montecristo**	**1.65**	**19**		**Pn**	**14 06 02.1**	**+1.0**
MTO3	**Montecristo**	**1.65**	**19**	*e*P	**Pn**	**14 06 02.4**	**+1.2**
MTO3				*e*S	**Sg**	**14 06 26.9**	**+1.2**
MTO3	**Montecristo**	**1.65**	**19**	*i* P	**Pn**	**14 06 02.3**	**+1.2**
MTO3				IAML		14 06 04.6	
	comp=Z,3μm,1.0s						
PACA	**Pacayal**	**1.67**	**68**	*e*P	**Pb**	**14 06 03.6**	**+0.5**
PACA	**Pacayal**	**1.67**	**68**	*i* P	**Pb**	**14 06 03.3**	**+0.2**
PACA				IAML		14 06 36.5	
	comp=Z,20μm,1.0s						
JUCU	**Jucuarjn**	**1.68**	**75**	*i* P	**Pb**	**14 06 03.8**	**+0.7**
JUCU				IAML		14 06 43.7	
	comp=Z,1μm,1.0s						
LCY	**Lacayo**	**1.68**	**69**	*e*P	**Pb**	**14 06 03.5**	**+0.3**
PCG	**Pacaya**	**1.69**	**337**	*e*P	**Pn**	**14 06 02.8**	**+1.1**
RANC	**El Ranchito**	**1.69**	**69**	*i* P	**Pn**	**14 06 03.1**	**+1.5**
RANC				IAML		14 06 34.6	
	comp=Z,2μm,1.0s						
BLLM	**Bellamira**	**1.74**	**69**	*e*P	**Pn**	**14 06 03.8**	**+1.6**
NBG	**Las Nubes**	**1.80**	**347**	*e*P	**Pn**	**14 06 04.8**	**+1.6**
GUNB	**GUNB**	**1.80**	**347**	*i* P	**Pn**	**14 06 02.5**	**-0.8**
GUNB				IAML		14 06 37.1	
	comp=Z,2μm,1.0s						
ESQI	**Esquipulas**	**1.81**	**18**		**Pn**	**14 06 03.7**	**+0.5**
ESQI	**Esquipulas**	**1.81**	**18**	*i* P	**Pb**	**14 06 05.4**	**+0.1**
ESQI				*i* S	**Sg**	**14 06 30.8**	**+0.1**
ESQI				IAML		14 06 37.3	
	comp=Z,5μm,1.0s						
CNRM	**Centro Naciona**	**1.81**	**69**	*i* P	**Pb**	**14 06 05.8**	**+0.4**
CNRM				*i* S	**Sg**	**14 06 29.3**	**-1.6**
CNRM				IAML		14 06 55.6	
	comp=Z,12μm,1.0s						
FUG	**Fuego 3**	**1.84**	**331**	*e*P	**Pn**	**14 06 04.6**	**+0.8**
GCG4	**OSOP**	**1.85**	**341**	*i* P	**Pn**	**14 06 03.7**	**-0.1**
GCG4				*i* S	**Sb**	**14 06 29.6**	**+0.5**
GCG4				IAML		14 06 40.7	
	comp=Z,3μm,1.0s						
GUMI	**Mixco**	**1.92**	**339**	*i* P	**Pn**	**14 06 04.5**	**-0.3**
GUMI				IAML		14 06 53.1	
	comp=Z,5μm,1.0s						
LCND	**La Caada**	**2.03**	**76**	*e*P	**Pn**	**14 06 07.9**	**+1.8**
LCND	**La Caada**	**2.03**	**76**	*i* P	**Pn**	**14 06 07.9**	**+1.8**
LCND				IAML		14 06 40.5	
	comp=Z,2μm,1.0s						
CNCH	**Conchagua**	**2.08**	**77**	*e*P	**Pn**	**14 06 08.1**	**+1.2**
CNCH	**Conchagua**	**2.08**	**77**	*i* P	**Pn**	**14 06 08.1**	**+1.2**
CNCH				IAML		14 06 39.4	
	comp=Z,3μm,1.0s						
CHTG	**Tecpan**	**2.18**	**332**	*i* P	**Pn**	**14 06 11.1**	**+2.6**
CHTG				IAML		14 06 45.8	
	comp=Z,4μm,1.0s						
APG	**El Apazote**	**2.23**	**346**	P	**Pn**	**14 06 09.9**	**+0.8**
	comp=Z,19nm,0.5s,baz=164,slow=10,SNR=175						
APG				S	**Sb**	**14 06 39.0**	**-1.0**
	comp=Z,43nm,0.6s,baz=200,slow=13,SNR=15						
AMPH	**Amapala**	**2.24**	**78**	*e*P	**Pn**	**14 06 10.6**	**+1.5**
AMPH	**Amapala**	**2.24**	**78**	*i* P	**Pn**	**14 06 10.9**	**+1.8**
AMPH				*i* S	**Sb**	**14 06 39.8**	**-0.5**
MRL	**Marmol**	**2.25**	**6**	*e*P	**Pb**	**14 06 13.3**	**+0.3**
INTHN	**La Esperanza I**	**2.30**	**50**	*i* P	**Pb**	**14 06 12.6**	**-1.2**
RTAL	**Retalhuleu**	**2.42**	**314**	Pn	**Pn**	**14 06 12.2**	**+0.7**
RTAL	**Retalhuleu**	**2.42**	**314**	*i* P	**Pn**	**14 06 13.0**	**+1.5**
RTAL				IAML		14 07 56.2	
	comp=Z,850nm,1.0s						
STG3	**Santiaguito 3,**	**2.47**	**319**	*e*P	**Pn**	**14 06 11.5**	**-0.9**
STG3				*e*S	**Sn**	**14 06 39.7**	**-2.6**
QUIS	**Sacapulas**	**2.70**	**335**	*i* P	**Pn**	**14 06 16.9**	**+1.4**
QUIS				IAML		14 06 27.7	
	comp=Z,670nm,1.0s						
CRIN	**San Cristobal**	**2.80**	**92**		**Pn**	**14 06 19.1**	**+2.3**
CRIN	**San Cristobal**	**2.80**	**92**	*i* P	**Pn**	**14 06 19.3**	**+2.5**
CRIN				IAML		14 07 08.0	
	comp=Z,2μm,1.0s						
TGUH	**Tegucigalpa,Un**	**2.84**	**64**	Pn	**Pn**	**14 06 19.4**	**+1.9**
TGUH	**Tegucigalpa,Un**	**2.84**	**64**	*i* P	**Pb**	**14 06 21.1**	**-1.9**
TGUH				IAML		14 06 57.2	
	comp=Z,780nm,1.0s						
HUEH	**Huehuetenango**	**2.91**	**328**		**Pn**	**14 06 20.2**	**+1.6**
HUEH	**Huehuetenango**	**2.91**	**328**	*i* P	**Pb**	**14 06 25.9**	**+1.6**
HUEH				IAML		14 07 27.4	
	comp=Z,2μm,1.0s						
TEL3	**Telica 3**	**3.01**	**95**	*i* P	**Pn**	**14 06 20.5**	**+0.9**
TEL3				IAML		14 07 11.9	
	comp=Z,990nm,1.0s						
HERN	**Volcan Telica**	**3.02**	**94**	*i* P	**Pn**	**14 06 20.9**	**+1.1**
HERN				IAML		14 07 02.3	
	comp=Z,710nm,1.0s						
HOYN	**Al Sur del Vol**	**3.02**	**94**	*i* P	**Pb**	**14 06 25.5**	**-0.5**
HOYN				*i* S	**Sb**	**14 07 00.9**	**-1.9**
HOYN				IAML		14 08 33.1	
	comp=Z,51nm,1.0s						
PLRN	**Geotermica Pol**	**3.08**	**94**	*i* P	**Pn**	**14 06 19.8**	**-0.8**
PLRN				*i* S	**Sn**	**14 06 56.5**	**-0.7**
PLRN				IAML		14 07 01.9	
	comp=Z,360nm,1.0s						
ROCN	**Rota Cerro Neg**	**3.11**	**95**	*i* P	**Pn**	**14 06 23.5**	**+2.5**
ROCN				*i* S	**Sn**	**14 06 59.5**	**+1.6**
ROCN				IAML		14 07 15.7	
	comp=Z,260nm,1.0s						
CNGA	**Al SSO del Vol**	**3.15**	**96**	*i* P	**Pn**	**14 06 23.4**	**+1.7**
CNGA				IAML		14 07 09.8	
	comp=Z,480nm,1.0s						
CNGN	**Cerro Negro**	**3.15**	**96**		**Pn**	**14 06 20.1**	**-1.6**
CNGN	**Cerro Negro**	**3.15**	**96**	*i* P	**Pn**	**14 06 22.6**	**+0.9**
CNGN				IAML		14 07 08.3	
	comp=Z,540nm,1.0s						
MACN	**El Madrono**	**3.18**	**96**	*i* P	**Pn**	**14 06 24.3**	**+2.3**
MACN				IAML		14 07 11.6	
	comp=Z,190nm,1.0s						
YUSH	**Yuscaran**	**3.19**	**69**	*i* P	**Pn**	**14 06 23.9**	**+1.7**
LEVN	**Ruinas Leon Vi**	**3.25**	**97**	*i* P	**Pn**	**14 06 24.7**	**+1.8**
LEVN				IAML		14 07 25.4	
	comp=Z,530nm,1.0s						
COPN	**Copaltepe**	**3.31**	**101**	*i* P	**Pn**	**14 06 25.2**	**+1.5**
COPN				IAML		14 07 14.8	
	comp=Z,320nm,1.0s						
MOMN	**Momotombo**	**3.32**	**97**	*i* P	**Pn**	**14 06 25.6**	**+1.6**
MOMN				IAML		14 07 09.5	
	comp=Z,16nm,1.0s						
LIMN	**Finca el Limon**	**3.47**	**86**	*i* P	**Pn**	**14 06 27.1**	**+1.1**
LIMN				IAML		14 07 11.5	
	comp=Z,240nm,1.0s						
APQ2	**Apoyeque**	**3.56**	**100**	*i* S	**Sn**	**14 07 11.5**	**+2.5**
UNAN	**Cigeo UNAN**	**3.63**	**101**	*i* S	**Sn**	**14 07 10.1**	**-0.7**
R4DEC	**Barrio San Lui**	**3.64**	**100**	*i* P	**Pn**	**14 06 28.3**	**-0.1**
R4DEC				IAML		14 07 47.1	
	comp=Z,630nm,1.0s						
WILN	**Americas 2**	**3.70**	**100**	*i* P	**Pn**	**14 06 31.3**	**+2.2**
WILN				*i* S	**Sn**	**14 07 12.1**	**-0.4**
WILN				IAML		14 07 28.0	
	comp=Z,230nm,1.0s						
NANN	**Nandasmo**	**3.81**	**103**	*i* P	**Pn**	**14 06 33.4**	**+2.7**
NANN				IAML		14 07 41.3	
	comp=Z,4μm,1.0s						
PETF	**Flores**	**4.06**	**1**		**Pn**	**14 06 36.2**	**+2.1**
BOAB	**BOACO BROADBAN**	**4.16**	**95**	Pn	**Pn**	**14 06 36.0**	**+0.5**
BOAB	**BOACO BROADBAN**	**4.16**	**95**	*i* P	**Pn**	**14 06 36.1**	**+0.6**
BOAB				IAML		14 07 11.6	
	comp=Z,94nm,1.0s						
ACON	**Acoyapa**	**4.71**	**100**	Pn	**Pn**	**14 06 44.8**	**+1.8**
**

	comp=Z,3.4nm,0.3s								
BRDY	**Brady**	**20.19**	**337**	P		**P**		**14 10 06.5**	**-0.1**
TXAR	**Lajitas Array**	**20.81**	**324**	P		**P**		**14 10 14.4**	**+0.9**
TXAR	**Lajitas Array**	**20.81**	**324**	P		**P**		**14 10 14.3**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=144,slow=10,SNR=29								
	comp=Z,1.3nm,0.5s								
TX31	**Lajitas Ar. Si**	**20.81**	**324**	P		**P**		**14 10 14.3**	**+0.8**
Y49A	**Blount Mountai**	**21.17**	**8**	P		**P**		**14 10 17.1**	**-0.2**
Y49A				IAmb		IAmb		14 10 21.9	
	comp=Z,19nm,1.2s								
BAUV	**El Baul**	**21.82**	**98**	P		**P**		**14 10 25.1**	**+0.7**
PLAL	**Pickwick Lake**	**22.12**	**4**	P		**P**		**14 10 27.7**	**+0.3**
PLAL				IAmb		IAmb		14 10 33.1	
	comp=Z,6.3nm,0.9s								
LCAR	**Lake Charles**	**23.17**	**357**	P		**P**		**14 10 38.2**	**-0.3**
WVT	**Waverly**	**23.27**	**4**	P		**P**		**14 10 38.9**	**-0.7**
WVT				IAmb		IAmb		14 10 48.3	
	comp=Z,6.7nm,0.9s								
TKL	**Tuckaleechee C**	**23.39**	**13**	P		**P**		**14 10 37.7**	**-3.1**
	comp=Z,3.0nm,0.9s,baz=180,slow=7.6,SNR=2.0								
TKL				LR		LR		14 20 03.2	
	comp=Z,114nm,18.4s,baz=193,slow=38								
	comp=Z,3.0nm,0.9s								
U49A	**Red Boiling Sp**	**23.87**	**8**	P		**P**		**14 10 45.6**	**+0.1**
U49A				IAmb		IAmb		14 10 49.4	
	comp=Z,16nm,1.1s								
121A	**Cookes Peak, D**	**25.55**	**323**	P		**P**		**14 11 01.1**	**+0.1**
121A				IAmb		IAmb		14 11 13.0	
	comp=Z,8.0nm,0.8s								
PDAR	**Pinedale Array**	**34.34**	**334**	P		**P**		**14 12 17.8**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=121,slow=11,SNR=4.8								
	comp=Z,0.2nm,0.5s								
IMW	**Indian Meadow**	**35.84**	**334**	P		**P**		**14 12 32.2**	**+0.3**
NVAR	**Mina Array Bea**	**35.86**	**320**	P		**P**		**14 12 32.6**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=131,slow=7.4,SNR=7.6								
	comp=Z,1.1nm,0.9s								
ULM	**Lac du Bonnet**	**37.63**	**354**	P		P		14 12 43.4	-3.3
	comp=Z,1.9nm,0.5s,baz=164,slow=8.1,SNR=3.8								
	comp=Z,1.9nm,0.5s								
PLID	**Pearl Lake**	**39.08**	**330**	P		**P**		**14 12 58.3**	**-1.0**
PLID				IAmb		IAmb		14 13 17.0	
	comp=Z,6.0nm,1.5s								
LMN	**Caledonia Moun**	**39.19**	**28**	P		**P**		**14 12 59.9**	**0.0**
F10A	**Beach Ranch, E**	**40.31**	**330**	P		**P**		**14 13 08.9**	**-0.5**
F10A				IAmb		IAmb		14 13 19.4	
	comp=Z,4.4nm,1.1s								
SCHQ	**Schefferville**	**45.64**	**18**	P		**P**		**14 13 49.2**	**-3.1**
	comp=Z,2.5nm,0.3s,baz=216,slow=4.7,SNR=9.0								
	comp=Z,2.5nm,0.3s								
YKA	**Yellowknife Ar**	**52.64**	**346**	P		**P**		**14 14 43.2**	**-2.5**
YKA	**Yellowknife Ar**	**52.64**	**346**	P		P		14 14 42.4	-3.2
	comp=Z,0.5nm,0.6s,baz=145,slow=2.6,SNR=12								
	comp=Z,0.5nm,0.6s								
F28M	**Old Crow**	**63.63**	**341**	P		**P**		**14 16 01.8**	**-0.9**
ILAR	**Eielson Array**	**64.71**	**337**	P		**P**		**14 16 08.0**	**-1.7**
	comp=Z,1.4nm,1.2s,baz=122,slow=5.6,SNR=7.2								
	comp=Z,1.4nm,1.2s								
MLY	**Manley**	**66.32**	**336**	P		**P**		**14 16 19.1**	**-1.2**
MLY				IAmb		IAmb		14 16 27.4	
	comp=Z,3.0nm,0.9s								
SDPT	**Sand Point**	**68.50**	**325**	P		**P**		**14 16 34.1**	**0.0**
WRA	**Warramunga Arr**	**137.06**	**255**	PKP		**PKPdf**		**14 24 55.6**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=91,slow=3.3,SNR=1.9								
ASAR	**Alice Springs**	**137.17**	**249**	PKP		**PKPdf**		**14 24 58.4**	**+2.4**
	comp=Z,0.3nm,0.7s,baz=103,slow=2.7,SNR=2.3								
CMAR	**Chiang Mai Arr**	**147.71**	**344**	PKPbc		**PKPdf**		**14 25 17.4**	**+2.6**
	comp=Z,1.9nm,0.8s,baz=343,slow=3.4,SNR=8.5								

*TEH **19** 14:09:30.0, 34.07N×46.32E, h8km±54km, ML2.6*
*ISN **19** 14:09:33.1±1.3, 34.08N×46.25E, h29km±10km, ML2.6*
ISC 19 14:09:30.2±1.0, **34.08N**±0.04×**46.33E**±0.04, **h10**km, **n13,**
σ**0.65**/**15**, **Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
IGHG	**Ghaleghazi**	**0.32**	**39**	Pg		**Pg**	**14 09 36.9**		**+0.2**
ILBA	**Ilam Banvizeh**	**0.47**	**192**	Pg		**Pg**	**14 09 38.9**		**-0.5**
IDHR	**Dehrash**	**0.62**	**5**	Pg		**Pg**	**14 09 41.7**		**-0.4**
KCHF	**Cheshme Sefid,**	**0.62**	**72**	Pg		**Pg**	**14 09 42.1**		**-0.1**
KGS1	**Ghasr-e-Shirin**	**0.74**	**305**	Pg		**Pb**	**14 09 45.1**		**-0.1**
ILIN	**Lien**	**0.98**	**32**	Pg		**Pb**	**14 09 49.6**		**+0.1**
IBDR	**Badra**	**1.03**	**199**	*e*Pg		**Pn**	**14 09 51.0**		**+0.4**
	baz=15								
IBDR				*e*Sg		**Sn**	**14 10 06.0**		**+1.0**
IBZA	**Bozab**	**1.33**	**73**	Pg		**Pg**	**14 09 56.2**		**+0.5**
IKFM	**Kafar-mosalman**	**1.39**	**113**	Pg		**Pb**	**14 09 56.2**		**0.0**
IDOB	**Doab**	**1.57**	**100**	Pg		**Pg**	**14 10 00.1**		**-0.1**
BHD	**Baghdad**	**1.81**	**244**	*e*Pn		**Pb**	**14 10 03.0**		**-0.4**
BHD				*e*Sn		**Sb**	**14 10 26.0**		**-0.2**
BHD				AML		AML	14 10 34.4		
	comp=E,25nm,0.7s								
HSAM	**Samen**	**1.89**	**86**	Pn		**Pb**	**14 10 04.6**		**-0.4**
HAGD	**Aghdareh**	**2.44**	**72**	Pn		**Pb**	**14 10 12.6**		**-1.7**

*NEIC **19** 14:24:41.8±0.9, 44.57S±0.09×80.39W±0.2, h10km±2km, mb4.4/6, Error ellipse: s-maj=25.4km s-min=14.9km az=276.0*
*IDC **19** 14:24:45.1±1.6, 45.07S×80.16W, h0km, mb3.8/4, mbtmp3.9/5, ML4.5/1, MS4.0/32, Error ellipse: s-maj=43.8km s-min=27.8km az=124.0*
*GCMT **19** 14:24:46.8±0.2, 44.88S±0.01×80.77W±0.02, h21km±1km, MW5.0/114, Moment Tensor Solution. s52,c69; s114,c170; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-0.29±.12; Mθθ1.72±.11; Mϕϕ-1.43±.11; Mrθ0.44±.18; Mθϕ-3.86±.09; Mϕr0.13±.18; Best double couple: Mo4.19500×10^16^ NP1:ϕs259.00000°, δ89.00000°, λ-174.00000°. NP2:ϕs169.00000°, δ84.00000°, λ-1.00000°. Principal axes: T 4.3330, Plg4.0000°, Azm34.0000°; N -0.2740, Plg83.0000°, Azm270.0000°; P -4.0580, Plg5.0000°, Azm124.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 19 14:24:45.8±1.2, **44.73S**±0.1×**80.53W**±0.1, **h10**km, **n84,**
σ**2.07**/**42**, **mb3.8/4**, **MS4.0**/31, **Off coast of southern Chile**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
LL07	**Hotel Espejo d**	**5.40**	**72**	Pn		**Pn**	**14 26 05.7**		**-0.8**
LL07	**Hotel Espejo d**	**5.40**	**72**	*e*P		**Pn**	**14 26 05.6**		**-0.8**
LL07				*e*S		**Sn**	**14 27 09.2**		**+0.5**
LL06	**Loncomilla**	**5.57**	**66**	Pn		**Pn**	**14 26 07.3**		**-1.4**
LL06	**Loncomilla**	**5.57**	**66**	*i* P		**Pn**	**14 26 07.3**		**-1.4**
LL06				*e*S		**Sn**	**14 27 13.5**		**+0.8**
AY01	**Puyuhuapi**	**5.61**	**90**	Pn		**Pn**	**14 26 10.2**		**+1.0**
COYC	**Coyhaique**	**6.01**	**101**	Pn		Pn	14 26 15.3		+0.5
AY03	**Cochrane**	**6.08**	**118**			Pn	14 26 16.2		+0.6
LL05	**Los Muermos**	**6.09**	**60**			**Pn**	**14 26 14.5**		**-1.4**
LL05	**Los Muermos**	**6.09**	**60**	*e*P		**Pn**	**14 26 14.7**		**-1.2**
LL05				*e*S		**Sn**	**14 27 26.7**		**+1.1**
LL01	**San Ignacio de**	**6.30**	**71**			**Pn**	**14 26 17.3**		**-1.5**
LL01	**San Ignacio de**	**6.30**	**71**	*e*P		**Pn**	**14 26 17.6**		**-1.2**
LL01				*e*S		**Sn**	**14 27 31.0**		**+0.2**
LL02	**Futaleuf**	**6.41**	**80**	*e*S		**Sn**	**14 27 35.2**		**+1.6**
GO08	**Villa O'Higgin**	**6.65**	**128**	Pn		Pn	14 26 23.0		-0.5
LL03	**Petrohue**	**6.91**	**62**			**Pn**	**14 26 25.4**		**-1.8**
LL03	**Petrohue**	**6.91**	**62**	*e*P		**Pn**	**14 26 25.8**		**-1.4**
LR05	**Currie**	**7.69**	**58**	Pn		**Pn**	**14 26 36.2**		**-1.5**
LR05	**Currie**	**7.69**	**58**	*e*P		**Pn**	**14 26 36.5**		**-1.3**
PLCA	**Paso Flores**	**8.31**	**65**	Pn		**Pn**	**14 26 45.6**		**-0.9**
PLCA	**Paso Flores**	**8.31**	**65**	Pn		**Pn**	**14 26 46.2**		**-0.2**
	1.6nm,0.3s,baz=229,slow=14,SNR=41								
PLCA				Sn		**Sn**	**14 28 21.0**		**+0.6**
	0.2nm,0.3s,baz=231,slow=14,SNR=1.9								
PLCA				LR		LR	14 29 39.8		
	comp=Z,1μm,19.6s,baz=238,slow=36								
	9.5nm,0.6s								
PLCA	**Paso Flores**	**8.31**	**65**	*e*P		**Pn**	**14 26 46.4**		**0.0**
GO06	**Curarrehue**	**8.41**	**56**	Pn		**Pn**	**14 26 46.7**		**-1.2**
GO06	**Curarrehue**	**8.41**	**56**	*e*P		**Pn**	**14 26 46.8**		**-1.1**
GO09	**Cerro Castillo**	**8.56**	**143**			Pn	14 26 49.4		-0.4
MG05	**Puerto Natales**	**8.80**	**146**	Pn		Pn	14 26 51.9		-1.0
BI05	**Punta Hualpn**	**9.66**	**37**	Pn		**Pn**	**14 27 02.1**		**-2.8**
GO10	**Punta Arenas**	**10.50**	**147**	Pn		Pn	14 27 15.6		-0.8
H03S1	**Juan Fernandez**	**10.89**	**7**	T		T	14 38 51.5		
	baz=184,slow=73,SNR=150								
H03S2	**Juan Fernandez**	**10.89**	**7**	T		T	14 38 49.2		
	baz=184,slow=73,SNR=152								
H03S3	**Juan Fernandez**	**10.91**	**7**	T		T	14 38 51.8		
	baz=184,slow=73,SNR=151								
ML02	**Panimavida**	**11.28**	**41**			**Pn**	**14 27 24.9**		**-2.1**
GO05	**Huala**	**11.68**	**37**	Pn		**Pn**	**14 27 29.9**		**-2.6**
BO02	**Sierra Bellavi**	**12.37**	**40**			**Pn**	**14 27 39.2**		**-2.8**
BO01	**Tunca**	**12.57**	**38**			Pn	14 27 41.3		-3.3
MT01	**Popeta**	**12.94**	**37**	Pn		Pn	14 27 46.7		-3.1
BO04	**La Punta**	**13.12**	**39**			**Pn**	**14 27 49.4**		**-2.9**
MT09	**Talagante**	**13.13**	**37**			**Pn**	**14 27 49.7**		**-2.8**
LMEL	**Las Melosas**	**13.42**	**40**			**Pn**	**14 27 53.7**		**-2.8**
MT02	**Curacav**	**13.51**	**36**	Pn		**Pn**	**14 27 54.8**		**-2.8**
VA03	**San Esteban**	**14.19**	**36**			**Pn**	**14 28 04.2**		**-2.6**
CO02	**Combarbal**	**15.38**	**32**			**Pn**	**14 28 19.6**		**-3.4**
CO02				IAmb		IAmb	14 28 28.1		
	comp=Z,56nm,1.4s								
CO06	**Fray Jorge**	**15.62**	**29**	Pn		**Pn**	**14 28 22.8**		**-3.3**
CO01	**Juntas del Tor**	**16.82**	**33**	P		**Pn**	**14 28 41.4**		**-0.2**
CO01				IAmb		IAmb	14 28 50.6		
	comp=Z,13nm,1.2s								
LCO	**Las Campanas**	**17.47**	**30**			**Pn**	**14 28 46.5**		**-3.3**
LCO				IAmb		IAmb	14 28 54.0		
	comp=Z,27nm,1.4s								
AC02	**Maricunga**	**20.01**	**31**	P		**P**	**14 29 16.1**		**-3.1**
AC02				IAmb		IAmb	14 29 27.3		
	comp=Z,60nm,1.4s								
PMSA	**Palmer Station**	**22.12**	**161**	LR		LR	14 34 45.4		
	comp=Z,342nm,20.0s,baz=344,slow=28								
LVC	**Limon Verde**	**23.98**	**27**	LR		LR	14 37 14.9		
	comp=Z,351nm,21.0s,baz=214,slow=31								
CPUP	**Villa Florida**	**26.13**	**53**	P		**P**	**14 30 21.6**		**+1.6**
	comp=Z,1.5nm,0.5s,baz=224,slow=9.3,SNR=3.8								
CPUP				LR		LR	14 40 46.2		
	comp=Z,584nm,18.8s,baz=214,slow=37								
	comp=Z,1.5nm,0.5s								
RPN	**Rapa Nui**	**28.99**	**297**	LR		LR	14 38 55.8		
	comp=Z,515nm,21.9s,baz=172,slow=29								
LPAZ	**La Paz**	**30.16**	**24**	P		**P**	**14 30 59.9**		**+3.1**
	comp=Z,0.5nm,0.4s,baz=190,slow=6.1,SNR=1.9								
LPAZ				LR		LR	14 40 38.3		
	comp=Z,182nm,20.1s,baz=173,slow=31								
	comp=Z,0.5nm,0.4s								
NNA	**Nana**	**32.73**	**7**	LR		LR	14 40 57.5		
	comp=Z,335nm,21.0s,baz=189,slow=29								
ATAH	**Atahualpa**	**37.44**	**3**	LR		LR	14 44 36.1		
	comp=Z,168nm,18.9s,baz=194,slow=32								
BDFB	**Brasilia**	**39.86**	**54**	LR		LR	14 49 00.5		
	comp=Z,266nm,21.6s,baz=174,slow=36								
COHC	**Cochancay**	**42.05**	**2**	P		P	14 32 32.1		-5.5
QSPA	**South Pole Qui**	**45.56**	**180**	P		**P**	**14 33 03.2**		**-2.4**
	comp=Z,1.4nm,0.9s,baz=159,slow=5.4,SNR=2.6								
	comp=Z,1.4nm,0.9s								
ROSC	**El Rosal**	**49.60**	**8**	LR		LR	14 52 20.3		
	comp=Z,511nm,19.4s,baz=236,slow=33								
VNDA	**Vanda**	**52.27**	**194**	LR		LR	14 53 23.2		
	comp=Z,95nm,18.3s,baz=130,slow=33								
SDV	**Santo Domingo**	**54.05**	**12**	LR		LR	14 56 07.9		
	comp=Z,105nm,18.9s,baz=234,slow=35								
RCBR	**Riachuelo**	**54.82**	**59**	LR		LR	14 59 20.3		
	comp=Z,134nm,18.7s,baz=244,slow=38								
JTS	**Las Juntas de**	**54.86**	**355**	LR		LR	14 51 34.3		
	comp=Z,156nm,22.0s,baz=172,slow=29								
MDP	**Montagnes des**	**55.50**	**34**	LR		LR	14 58 41.1		
	comp=Z,133nm,18.1s,baz=202,slow=37								
PCRV	**Puerto La Cruz**	**56.45**	**19**	LR		LR	14 57 28.1		
	comp=Z,266nm,18.0s,slow=35								
PPT	**Papeete**	**63.06**	**272**	LR		LR	14 55 35.0		
	comp=Z,67nm,19.5s,baz=131,slow=29								
MAW	**Mawson**	**64.67**	**165**	LR		LR	15 01 07.7		
	comp=Z,210nm,20.8s,baz=210,slow=34								
RAR	**Rarotonga**	**67.92**	**262**	LR		LR	14 58 09.4		
	comp=Z,101nm,20.0s,baz=158,slow=29								
URZ	**Urewera**	**71.85**	**234**	LR		LR	14 59 13.7		
	comp=Z,123nm,20.1s,baz=290,slow=29								
LPIG	**La Paz**	**73.68**	**332**	LR		LR	15 00 48.4		
	comp=Z,69nm,20.8s,baz=30,slow=29								
SUR	**Sutherland**	**75.21**	**121**	LR		LR	15 01 53.1		
	comp=Z,103nm,21.5s,baz=226,slow=30								
TXAR	**Lajitas Array**	**76.64**	**339**	P		**P**	**14 36 40.0**		**+3.3**
	comp=Z,0.5nm,0.9s,baz=159,slow=7.7,SNR=3.5								
	comp=Z,0.5nm,0.9s								
TKL	**Tuckaleechee C**	**80.02**	**357**	LR		LR	15 06 52.0		
	comp=Z,87nm,19.1s,baz=179,slow=31								
TSUM	**Tsumeb**	**82.27**	**109**	LR		LR	15 12 07.8		
	comp=Z,62nm,18.1s,baz=170,slow=35								
LBTB	**Lobatse**	**83.38**	**119**	LR		LR	15 12 10.1		
	comp=Z,45nm,18.3s,baz=202,slow=34								
PFO	**Pinyon Flats O**	**84.51**	**330**	LR		LR	15 07 00.5		
	comp=Z,39nm,18.6s,baz=139,slow=30								
DBIC	**Dimbokro**	**84.55**	**75**	LR		LR	15 08 21.6		
	comp=Z,64nm,21.5s,baz=200,slow=31								
NVAR	**Mina Array Bea**	**89.49**	**331**	LR		LR	15 09 52.9		
	comp=Z,20nm,18.6s,baz=174,slow=30								
DZM	**Mont Dzumac**	**89.86**	**239**	LR		LR	15 09 30.2		
	comp=Z,55nm,19.7s,baz=176,slow=30								
LSZ	**Lusaka**	**92.12**	**114**	LR		LR	15 13 22.7		
	comp=Z,92nm,21.7s,baz=187,slow=32								
TORD	**Torodi Ar. Bea**	**93.66**	**75**	LR		LR	15 13 47.6		
	comp=Z,55nm,19.9s,baz=194,slow=32								
STKA	**Stephens Creek**	**94.72**	**215**	LR		LR	15 13 09.8		
	comp=Z,155nm,18.4s,baz=200,slow=31								
H11S2	**WAKE ISLAND Hyl**	**18.90**	**268**	T		T	16 53 33.3		
	baz=132,slow=76,SNR=5.9								
H11S1	**WAKE ISLAND Hyl**	**18.92**	**268**	T		T	16 53 30.7		
	baz=132,slow=76,SNR=5.2								
H11S3	**WAKE ISLAND Hyl**	**18.92**	**268**	T		T	16 53 28.4		
	baz=132,slow=76,SNR=6.5								
H11N3	**WAKE ISLAND Hyl**	**19.56**	**269**	T		T	16 54 18.4		
	baz=131								
H11N1	**WAKE ISLAND Hyl**	**19.57**	**269**	T		T	16 54 18.2		
	baz=131								
H11N2	**WAKE ISLAND Hyl**	**19.58**	**269**	T		T	16 54 18.4		
	baz=131								

*IDC **19** 14:46:02.4±1.2, 10.48N×126.24E, h0km, mb3.8/7, mbtmp3.8/8, ML4.7/1, MS3.4/2, Error ellipse: s-maj=54.1km s-min=16.3km az=68.0*
*NEIC **19** 14:46:07.4±0.9, 10.42N±0.08×126.0E±0.3, h35km±2km, mb4.5/6, Error ellipse: s-maj=54.1km s-min=10.1km az=260.0*
ISC 19 14:46:06.8±0.8, **10.50N**±0.08×**126.4E**±0.2, **h35**km, **n20,**
σ**0.93**/**19**, **mb4.0**/**11**, **Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
DAV	**Davao City (W)**	**3.49**	**193**	Pn		**Pn**	**14 46 57.1**		**-1.5**
DAV	**Davao City (W)**	**3.49**	**193**	Pn		**Pn**	**14 46 58.4**		**-0.2**
	66nm,0.3s,baz=232,slow=13,SNR=1.8								
DAV				Sn		**Sn**	**14 47 39.9**		**+1.2**
	54nm,0.3s,baz=97,slow=13,SNR=1.5								
	190nm,0.4s								
MTN	**Manton Dam**	**23.67**	**168**	P		**P**	**14 51 15.2**		**0.0**
MTN				IAmb		IAmb	14 51 51.4		
	comp=Z,22nm,1.4s								
CMAR	**Chiang Mai Arr**	**27.67**	**290**	P		**P**	**14 51 52.5**		**+0.9**
	comp=Z,0.5nm,0.6s,baz=111,slow=9.8,SNR=4.3								
	comp=Z,0.5nm,0.6s								
PMG	**Port Moresby**	**28.63**	**133**	LR		LR	15 04 47.7		
	comp=Z,27nm,18.0s,baz=260,slow=39								
WRA	**Warramunga Arr**	**31.25**	**165**	P		**P**	**14 52 23.4**		**0.0**
	comp=Z,0.3nm,0.7s,baz=342,slow=9.0,SNR=2.0								
	comp=Z,0.3nm,0.7s								
USA0B	**Ussuriysk Arra**	**33.93**	**7**	P		**P**	**14 52 46.3**		**-0.2**
USA0B				IAmb		IAmb	14 52 59.0		
	comp=Z,10nm,1.0s								
USRK	**Ussuriysk Ar.**	**33.93**	**7**	P		**P**	**14 52 46.9**		**+0.3**
AS31	**Alice Springs**	**34.75**	**168**	P		**P**	**14 52 54.0**		**+0.1**
AS31				IAmb		IAmb	14 53 36.7		
	comp=Z,1.9nm,1.5s								
ASAR	**Alice Springs**	**34.75**	**168**	P		**P**	**14 52 54.0**		**+0.1**
ASAR	**Alice Springs**	**34.75**	**168**	P		**P**	**14 52 54.1**		**+0.2**
	comp=Z,0.8nm,0.5s,baz=342,slow=6.9,SNR=37								
	comp=Z,0.8nm,0.5s								
FORT	**Forrest**	**41.07**	**178**	P		**P**	**14 53 44.9**		**-2.2**
FORT				IAmb		IAmb	14 54 05.6		
	comp=Z,24nm,1.2s								
BBOO	**Buckleboo**	**44.05**	**168**	P		**P**	**14 54 11.1**		**-0.2**
STKA	**Stephens Creek**	**44.59**	**161**	P		**P**	**14 54 15.9**		**+0.3**
STKA	**Stephens Creek**	**44.59**	**161**	P		**P**	**14 54 17.2**		**+1.6**
	comp=Z,2.2nm,0.7s,baz=316,slow=10.0,SNR=4.5								
	comp=Z,2.2nm,0.7s								
MKAR	**Makanchi Array**	**51.90**	**323**	P		**P**	**14 55 12.1**		**+0.1**
	comp=Z,0.6nm,0.7s,baz=125,slow=8.7,SNR=6.9								
	comp=Z,0.6nm,0.7s								
KURBB	**Kurchatov Arra**	**55.93**	**325**	P		**P**	**14 55 41.9**		**+0.6**
	comp=Z,1.0nm,0.7s,baz=127,slow=6.6,SNR=12								
	comp=Z,1.0nm,0.7s								
BVAR	**Borovoye Array**	**61.53**	**325**	P		**P**	**14 56 20.3**		**+0.1**
	comp=Z,1.0nm,0.7s,baz=103,slow=6.4,SNR=3.6								
	comp=Z,1.0nm,0.7s								
ABKAR	**Akbulak array**	**66.76**	**319**	P		**P**	**14 56 53.6**		**-1.0**
FINES	**FINESS Array B**	**85.73**	**332**	LR		LR	15 41 30.4		
	comp=Z,60nm,20.8s,baz=262,slow=39								

*DJA **19** 15:18:49.6±0.3,8°S±3°×12°8E±°, h210km±9km, M4.4/18, mB4.9/4, mb4.2/13, MLv4.6/18, Mw(mB)4.1/4*
*NEIC **19** 15:18:50.8±2.0, 7.6S±0.1×127.58E±0.05, h181km±12km, mb4.3/8, Error ellipse: s-maj=15.2km s-min=7.3km az=187.0*
*IDC **19** 15:18:53.2±1.9, 7.73S×127.36E, h203km±19km, mb3.6/9, mbtmp4.2/11, Error ellipse: s-maj=19.7km s-min=12.0km az=53.0*
ISC 19 15:18:51.6±0.5, **7.73S**±0.04×**127.56E**±0.05, **h200**km, **n78,**
σ**2.11**/**87**, **mb3.9**/10, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
SAUI	**Saumlaki**	**3.71**	**94**	P		**Pn**	**15 19 47.7**		**-2.2**
SAUI	**Saumlaki**	**3.71**	**94**	Pn		**Pn**	**15 19 48.2**		**-1.7**
SAUI	**Saumlaki**	**3.71**	**94**	P		**Pn**	**15 19 48.5**		**-1.4**
SOEI	**Soe**	**3.82**	**238**	P		**Pn**	**15 19 50.4**		**-1.0**
SOEI	**Soe**	**3.82**	**238**			**Pn**	**15 19 50.1**		**-1.3**
SOEI	**Soe**	**3.82**	**238**	P		**Pn**	**15 19 49.7**		**-1.7**
SOEI				S		**Sn**	**15 20 36.0**		**-2.2**
BNDI	**Bandanaira**	**3.95**	**36**	P		**Pn**	**15 19 51.1**		**-1.8**
BNDI	**Bandanaira**	**3.95**	**36**	P		**Pn**	**15 19 51.0**		**-1.8**
BNDI				S		**Sn**	**15 20 39.7**		**-1.2**
NLAI	**Namlea**	**4.49**	**354**	P		**Pn**	**15 19 58.3**		**-1.3**
NLAI				S		**Sn**	**15 20 51.4**		**-1.7**
BATI	**Baumata**	**4.57**	**237**	P		**Pn**	**15 20 00.0**		**-0.6**
	447nm,0.6s,baz=124,slow=3.0,SNR=91								
BATI				S		**Sn**	**15 20 53.4**		**-1.4**
	135nm,0.4s,baz=29,slow=20,SNR=8.3								
BATI	**Baumata**	**4.57**	**237**	P		**Pn**	**15 19 59.6**		**-1.0**
BATI				S		**Sn**	**15 20 52.9**		**-1.9**
MMRI	**Maumere**	**5.34**	**260**	P		**Pn**	**15 20 09.7**		**-0.8**
MMRI	**Maumere**	**5.34**	**260**			**Pn**	**15 20 08.8**		**-1.6**
MMRI	**Maumere**	**5.34**	**260**	P		**Pn**	**15 20 09.1**		**-1.4**
	56nm,0.6s,0.3nm								
MMRI				S		**Sn**	**15 21 11.4**		**-1.2**
	56nm,0.6s,0.3nm								
BBSI	**Bau Bau**	**5.43**	**294**	P		**Pn**	**15 20 12.2**		**+0.6**
	36nm,1.0s,0.1nm								
BBSI				S		**Sn**	**15 21 14.0**		**-0.8**
	36nm,1.0s,0.1nm								
SANI	**Sanana**	**5.86**	**344**	P		**Pn**	**15 20 15.6**		**-1.5**
	10.0nm,2.1s,0.1nm								
EDFI	**Ende, Flores**	**5.89**	**260**	P		**Pn**	**15 20 16.1**		**-1.6**
	29nm,0.8s,842nm0.1nm								
EDFI				S		**Sn**	**15 21 24.4**		**-1.3**
	29nm,0.8s,842nm0.1nm								
MTN	**Manton Dam**	**6.18**	**146**	P		**Pn**	**15 20 19.6**		**-1.6**
MTN	**Manton Dam**	**6.18**	**146**			**Pn**	**15 20 19.6**		**-1.6**
FAKI	**Fak Fak**	**6.68**	**45**	P		**Pn**	**15 20 24.4**		**-3.4**
**FAKI

mB4.7/20,ML4.4/11,Ms4.1/25,Ms7 3.9/22
MOS ***19*** *15:20:39.9±0.9,42°.00N×82°.75E,h28km,mb4.6/17,Error ellipse: s-maj=6.3km s-min=4.5km az=133.2*
NNC ***19*** *15:20:40.2±1.1,41°.99N×82°.45E,h0km,mb5.3,mpv5.0, Error ellipse: s-maj=9.2km s-min=6.3km az=165.0*
NEIC ***19*** *15:20:42.2±1.4,41°.99N±0°.06×82°.73E±0°.08,h29km±5km, mb4.5/60,Error ellipse: s-maj=10.1km s-min=7.3km az=140.0*

ISC 19 15:20:39.7±0.3,42°.00N±0°.04×82°.60E±0°.02,h13km,n259, σ2s96/292,mb4.5/65,MS3.6/21,24C-15D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KTMS	**Ketmen**	**2.20**	**312**		*e*P	**Pb**	**15 21 18.9**	**-0.6**
	738nm,0.0s							
KTMS					*e*S	**Sg**	**15 21 50.1**	**-0.3**
	2μm,0.3s							
KTMS	**Ketmen**	**2.20**	**312**	Pg		**Pb**	**15 21 18.8**	**-0.6**
	738nm,0.0s							
KTMS					Lg	Lg	15 21 50.1	
	2μm,0.3s							
SHLS	**Shalkode**	**2.59**	**298**	PN		**Pn**	**15 21 20.4**	**-1.0**
SHLS	**Shalkode**	**2.59**	**298**	*e*P		**Pn**	**15 21 21.3**	**-0.2**
	3μm,0.2s							
SHLS					*e*S	**Sn**	**15 21 54.3**	**+1.4**
	21μm,0.4s							
SHLS	**Shalkode**	**2.59**	**298**	Pg		**Pn**	**15 21 21.3**	**-0.2**
	3μm,0.2s							
SHLS					Lg	Lg	15 21 54.3	
	21μm,0.4s							
PDGK	**Podgornoye**	**2.65**	**301**	PN		**Pn**	**15 21 24.7**	**+2.4**
PDGK	**Podgornoye**	**2.65**	**301**	Pg		**Pb**	**15 21 25.5**	**-1.6**
	268nm,0.3s							
PDGK					Lg	Lg	15 22 01.5	
	1μm,0.4s							
PDGK	**Podgornoye**	**2.65**	**301**	⇑Pn		**Pn**	**15 21 24.7**	**+2.4**
	627nm,0.7s							
PDGK				⇑	Lg	Lg	15 22 01.0	
	3μm,0.8s							
UZB	**Uzynbulak**	**2.88**	**295**	PN		**Pn**	**15 21 27.9**	**+2.5**
UZB	**Uzynbulak**	**2.88**	**295**	*e*P		**Pb**	**15 21 30.3**	**-0.7**
	279nm,0.3s							
UZB					*e*S	**Sb**	**15 22 09.5**	**+3.3**
	3μm,0.3s							
UZB	**Uzynbulak**	**2.88**	**295**	Pg		**Pb**	**15 21 30.3**	**-0.7**
	279nm,0.3s							
UZB					Lg	Lg	15 22 09.5	
	3μm,0.3s							
DJR	**Jarkent**	**3.11**	**320**		*e*P	**Pb**	**15 21 34.8**	**-0.1**
	133nm,0.4s							
DJR					*e*S	**Sg**	**15 22 17.6**	**-2.0**
	644nm,0.6s							
DJR	**Jarkent**	**3.11**	**320**	Pg		**Pb**	**15 21 34.8**	**-0.1**
	133nm,0.4s							
DJR					Lg	Lg	15 22 17.6	
	644nm,0.6s							
PRZ	**Przheval'sk**	**3.16**	**280**	Pn		**Pn**	**15 21 31.9**	**+2.7**
PRZ	**Przheval'sk**	**3.16**	**280**	PN		**Pn**	**15 21 32.0**	**+2.7**
SATY	**Saty**	**3.28**	**290**	*e*P		**Pb**	**15 21 36.4**	**-1.3**
	280nm,0.2s							
SATY					*e*S	**Sb**	**15 22 20.5**	**+2.9**
	2μm,0.6s							
SATY	**Saty**	**3.28**	**290**	Pg		**Pb**	**15 21 36.4**	**-1.3**
	280nm,0.2s							
SATY					Lg	Lg	15 22 20.5	
	2μm,0.6s							
ZHN	**Zhinishke**	**3.29**	**292**	PN		**Pn**	**15 21 33.0**	**+2.0**
ZHN	**Zhinishke**	**3.29**	**292**	*e*P		**Pb**	**15 21 38.1**	**+0.2**
	331nm,0.2s							
ZHN					*e*S	**Sg**	**15 22 23.2**	**-2.1**
	2μm,0.4s							
ZHN	**Zhinishke**	**3.29**	**292**	Pg		**Pb**	**15 21 38.1**	**+0.2**
	331nm,0.2s							
ZHN					Lg	Lg	15 22 23.3	
	2μm,0.4s							
KNOS	**Konyrlen**	**3.44**	**314**	Pg		**Pb**	**15 21 40.9**	**+0.3**
	338nm,0.4s							
KNOS					Lg	Lg	15 22 27.8	
	975nm,0.6s							
KURS	**Kuram**	**3.59**	**296**		*e*P	**Pb**	**15 21 43.2**	**+0.2**
	186nm,0.6s							
KURS					*e*S	**Sg**	**15 22 32.1**	**-2.8**
	752nm,0.3s							
KURS	**Kuram**	**3.59**	**296**	Pg		**Pb**	**15 21 43.2**	**+0.2**
	186nm,0.6s							
KURS					Lg	Lg	15 22 32.1	
	752nm,0.3s							
TARG	**Taragay, Kyrgy**	**3.59**	**267**	Pn		**Pn**	**15 21 37.6**	**+2.1**
TARG	**Taragay, Kyrgy**	**3.59**	**267**	PN		**Pn**	**15 21 37.6**	**+2.1**
BLB	**Baldybastay**	**3.68**	**306**	Pg		**Pb**	**15 21 44.3**	**-0.3**
	326nm,0.4s							
BLB					Lg	Lg	15 22 34.0	
	473nm,0.5s							
KAPS	**Kapalarasan**	**4.04**	**325**		*e*P	**Pb**	**15 21 51.9**	**+1.1**
	265nm,0.2s							
KAPS					*e*S	**Sg**	**15 22 46.6**	**-2.8**
	870nm,0.5s							
KAPS	**Kapalarasan**	**4.04**	**325**	Pg		**Pb**	**15 21 51.9**	**+1.1**
	265nm,0.2s							
KAPS					Lg	Lg	15 22 46.6	
	870nm,0.5s							
ARXS	**Arharly**	**4.14**	**304**	*e*PN		**Pn**	**15 21 44.5**	**+1.9**
ARXS	**Arharly**	**4.14**	**304**	*e*P		**Pb**	**15 21 53.7**	**+1.3**
	226nm,0.4s							
ARXS					*e*S	**Sg**	**15 22 50.0**	**-2.5**
	931nm,0.3s							
ARXS	**Arharly**	**4.14**	**304**	Pg		**Pb**	**15 21 53.7**	**+1.3**
	226nm,0.4s							
ARXS					Lg	Lg	15 22 50.0	
	931nm,0.3s							
WMQ	**Urumqi**	**4.16**	**62**	Pn		**Pn**	**15 21 45.9**	**+2.9**
WMQ				Sn		**Sn**	**15 22 34.5**	**+3.0**
WMQ				smax		smax		
	comp=N,400nm,1.5s							
WMQ				smax		smax		
	comp=E,400nm,1.3s							
KOTS	**Kotyrbulak**	**4.24**	**289**		*e*P	**Pb**	**15 21 54.7**	**+0.6**
	174nm,0.2s							
KOTS					*e*S	**Sb**	**15 22 51.9**	**+6.7**
	2μm,0.4s							
KOTS	**Kotyrbulak**	**4.24**	**289**	Pg		**Pb**	**15 21 54.7**	**+0.6**
	174nm,0.2s							
KOTS					Lg	Lg	15 22 51.9	
	2μm,0.4s							
MDOK	**Medeo**	**4.26**	**288**	PN		**Pn**	**15 21 46.4**	**+2.0**
MDOK	**Medeo**	**4.26**	**288**	*e*P		**Pb**	**15 21 54.4**	**-0.2**
	112nm,0.4s							
MDOK					*e*S	**Sb**	**15 22 50.8**	**+4.8**
	866nm,0.4s							
MDOK	**Medeo**	**4.26**	**288**	⇓Pn		**Pn**	**15 21 46.4**	**+2.0**
	276nm,1.0s							
MDOK					Pg	**Pb**	**15 21 54.3**	**-0.2**
	112nm,0.4s							
MDOK					Lg	Lg	15 22 50.8	
	866nm,0.4s							
MDOK				⇓	Lg	Lg	15 22 54.0	
	817nm,0.6s							
TNSS	**Tian-Shan**	**4.31**	**286**		*e*P	**Pb**	**15 21 56.8**	**+1.3**
	190nm,0.5s							
TNSS					*e*S	**Sg**	**15 22 55.1**	**-2.8**
	408nm,0.3s							
TNSS	**Tian-Shan**	**4.31**	**286**	Pg		**Pb**	**15 21 56.7**	**+1.3**
	190nm,0.5s							
TNSS					Lg	Lg	15 22 55.1	
	408nm,0.3s							
KNDC	**Almaty**	**4.33**	**288**	PN		**Pn**	**15 21 48.5**	**+3.2**
KNDC	**Almaty**	**4.33**	**288**	⇑Pn		**Pn**	**15 21 48.6**	**+3.2**
	732nm,0.8s							
KNDC				⇓	Lg	Lg	15 22 52.5	
	2μm,1.2s							
CHKK	**Chushkaly**	**4.52**	**296**		*e*P	**Pb**	**15 21 59.6**	**+0.8**
	46nm,0.2s							
CHKK					*e*S	**Sb**	**15 23 00.3**	**+7.0**
	449nm,0.3s							
CHKK	**Chushkaly**	**4.52**	**296**	Pg		**Pb**	**15 21 59.7**	**+0.8**
	46nm,0.2s							
CHKK					Lg	Lg	15 23 00.3	
	449nm,0.3s							
IZV	**Izvestkoviy**	**4.55**	**285**		*e*P	**Pb**	**15 22 00.1**	**+0.7**
	118nm,0.4s							
IZV					*e*S	**Sb**	**15 23 00.8**	**+6.7**
	1μm,0.5s							
IZV	**Izvestkoviy**	**4.55**	**285**	Pg		**Pb**	**15 22 00.1**	**+0.7**
	118nm,0.4s							
IZV					Lg	Lg	15 23 00.8	
	1μm,0.5s							
KASK	**Kaskelen**	**4.56**	**288**	⇓Pg		**Pb**	**15 22 01.3**	**+1.6**
KASK				⇓	Lg	Lg	15 23 03.9	
KTBS	**Karatobe**	**4.68**	**293**		*e*P	**Pb**	**15 22 03.2**	**+1.7**
	180nm,0.3s							
KTBS					*e*S	**Sg**	**15 23 06.5**	**-3.3**
	834nm,0.4s							
KTBS	**Karatobe**	**4.68**	**293**	Pg		**Pb**	**15 22 03.2**	**+1.7**
	180nm,0.3s							
KTBS					Lg	Lg	15 23 06.5	
	834nm,0.4s							
MTBS	**Maitube**	**4.70**	**286**		*e*P	**Pb**	**15 22 02.1**	**+0.2**
	115nm,0.5s							
MTBS					*e*S	**Sb**	**15 23 04.5**	**+6.1**
	562nm,0.5s							
MTBS	**Maitube**	**4.70**	**286**	Pg		**Pb**	**15 22 02.1**	**+0.2**
	115nm,0.5s							
MTBS					Lg	Lg	15 23 04.5	
	562nm,0.5s							
ULHL	**Ulahol**	**4.74**	**275**	P		**Pn**	**15 21 52.8**	**+1.8**
	SNR=20							
MK31	**Makanchi Array**	**4.80**	**357**	Pn		**Pn**	**15 21 53.7**	**+2.0**
MK31	**Makanchi Array**	**4.80**	**357**	*ce*PN		**Pn**	**15 21 53.5**	**+1.8**
MK31	**Makanchi Array**	**4.80**	**357**	⇑Pn		**Pn**	**15 21 53.6**	**+1.8**
	5.6nm,0.3s,baz=194,slow=13,SNR=391							
MK31				⇑	Pg	**Pg**	**15 22 07.8**	**-3.8**
	81nm,0.7s,baz=175,slow=16,SNR=16							
MK31				⇓	Lg	Lg	15 23 10.2	
	325nm,0.8s,baz=169,slow=32,SNR=7.4							
MKAR	**Makanchi Array**	**4.80**	**357**			**Pn**	**15 21 53.6**	**+1.9**
MKAR	**Makanchi Array**	**4.80**	**357**	Pn		**Pn**	**15 21 53.1**	**+1.4**
	5.0nm,0.3s,baz=187,slow=12,SNR=168							
MKAR					Lg	Lg	15 23 09.3	
	9.0nm,0.3s,baz=185,slow=24,SNR=4.3							
MKAR					LR	LR	15 24 03.1	
	comp=Z,637nm,18.7s,baz=203,slow=43 13nm,0.4s							
MAKZ	**Makanchi**	**4.83**	**355**	Pn		**Pn**	**15 21 53.8**	**+1.7**
MAKZ	**Makanchi**	**4.83**	**355**	PN		**Pn**	**15 21 53.8**	**+1.7**
MAKZ	**Makanchi**	**4.83**	**355**	⇓Pn		**Pn**	**15 21 53.9**	**+1.7**
	67nm,0.6s							
MAKZ				⇓	Sn	**Sn**	**15 22 52.4**	**+4.5**
	122nm,0.6s							
MAKZ				⇓	Lg	Lg	15 23 11.3	
	396nm,1.1s							
NRN	**Naryn**	**4.97**	**266**	Pn		**Pn**	**15 21 56.7**	**+2.4**
NRN	**Naryn**	**4.97**	**266**	PN		**Pn**	**15 21 56.7**	**+2.4**
KST	**Kastek**	**5.02**	**284**	*e*P		**Pb**	**15 22 08.9**	**+1.5**
	173nm,0.4s							
KST					*e*S	**Sg**	**15 23 15.8**	**-4.9**
	955nm,0.4s							
KST	**Kastek**	**5.02**	**284**	Pg		**Pb**	**15 22 08.9**	**+1.5**
	173nm,0.4s							
KST					Lg	Lg	15 23 15.8	
	955nm,0.4s							
DGS	**Degeres**	**5.19**	**286**		*e*P	**Pb**	**15 22 11.8**	**+1.4**
	136nm,0.3s							
DGS					*e*S	**Sg**	**15 23 21.0**	**-5.3**
	432nm,0.3s							
DGS	**Degeres**	**5.19**	**286**	Pg		**Pb**	**15 22 11.8**	**+1.4**
	136nm,0.3s							
DGS					Lg	Lg	15 23 21.0	
	432nm,0.3s							
TKM2	**Tokmak 2**	**5.26**	**282**		P	**Pn**	**15 22 00.5**	**+2.3**
	SNR=32							
TKM2	**Tokmak 2**	**5.26**	**282**	*i*	PN	**Pn**	**15 21 59.3**	**+1.1**
TKM2					pmax	pmax		
	comp=Z,110nm,0.6s							
TKM2	**Tokmak 2**	**5.26**	**282**	⇑	Pn	**Pn**	**15 21 59.4**	**+1.1**
	comp=Z,110nm,0.7s							
TKM2				⇑	Lg	Lg	15 23 20.2	
	comp=Z,505nm,0.8s							
KRBS	**Karabastau**	**5.37**	**291**		*e*P	**Pb**	**15 22 17.0**	**+3.7**
	comp=Z,74nm,0.4s							
KRBS					*e*S	**Sg**	**15 23 29.9**	**-2.1**
	comp=Z,236nm,0.3s							
KRBS	**Karabastau**	**5.37**	**291**	Pg		**Pb**	**15 22 17.0**	**+3.7**
	comp=Z,74nm,0.4s							
KRBS					Lg	Lg	15 23 29.8	
	comp=Z,236nm,0.3s							
KSH	**Kashi**	**5.61**	**246**	Pn		Pb	15 22 11.6	-5.9
KSH				Sn		**Sb**	**15 23 27.3**	**+2.6**
KSH				smax		smax		
	comp=Z,330nm,0.8s							
KSH				smax		smax		
	comp=Z,480nm,0.9s							
ZSN	**Zaisan**	**5.69**	**16**		*e*P	**Pb**	**15 22 22.4**	**+3.7**
	comp=Z,54nm,0.6s							
ZSN					*e*S	**Sg**	**15 23 39.6**	**-2.6**
	comp=Z,318nm,0.8s							
ZSN	**Zaisan**	**5.69**	**16**	Pg		**Pb**	**15 22 22.5**	**+3.7**
	comp=Z,54nm,0.6s							
ZSN					Lg	Lg	15 23 39.6	
	comp=Z,318nm,0.8s							
KBK	**Karagaybulak**	**5.71**	**279**		P	**Pn**	**15 22 08.2**	**+3.9**
	SNR=7.4							
FRU1	**Bishkek**	**5.96**	**281**	Pn		**Pn**	**15 22 10.9**	**+3.3**
FRU1	**Bishkek**	**5.96**	**281**	PN		**Pn**	**15 22 10.9**	**+3.3**
UCH	**Uchtor**	**6.02**	**275**	P		**Pn**	**15 22 11.5**	**+2.7**
	SNR=28							
AAK	**Ala-Archa**	**6.04**	**279**	P		Pb	15 22 18.9	-6.0
	SNR=6.3							
AAK	**Ala-Archa**	**6.04**	**279**	Pn		**Pn**	**15 22 10.9**	**+2.1**
AAK	**Ala-Archa**	**6.04**	**279**	*ce*PN		**Pn**	**15 22 10.7**	**+1.8**
AAK				pmax		pmax		
	comp=Z,13nm,0.7s							
AAK	**Ala-Archa**	**6.04**	**279**	Pn		**Pn**	**15 22 10.2**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=115,slow=12,SNR=12							
AAK					Lg	Lg	15 23 50.4	
	comp=Z,9.9nm,0.3s,baz=295,slow=11,SNR=6.1							
AAK					LR	LR	15 24 14.4	
	comp=Z,107nm,19.1s,baz=92,slow=36 comp=Z,2.3nm,0.4s							
SGDS	**Sogindy**	**6.05**	**287**	PN		**Pn**	**15 22 10.6**	**+1.7**
USP	**Ospenovka**	**6.11**	**285**	P		**Pn**	**15 22 11.8**	**+2.2**
	SNR=8.8							
BTLS	**Baital**	**6.92**	**299**	PN		**Pn**	**15 22 25.0**	**+4.2**
ARSB	**Arslanbob**	**7.23**	**268**			**Pn**	**15 22 27.2**	**+2.0**
ARSB	**Arslanbob**	**7.23**	**268**	P		**Pn**	**15 22 27.3**	**+2.0**
DGZ	**Jazzator, Alta**	**8.41**	**22**	*i*	P	**Pn**	**15 22 42.5**	**+1.2**
DRK	**Karamyk**	**8.58**	**257**			**Pn**	**15 22 45.4**	**+1.6**
KK31	**Karatay Array**	**8.99**	**281**	⇑Pn		Pn	15 22 59.6	+10
	comp=Z,2.0nm,0.7s,baz=67,slow=16,SNR=3.8							
KK31				⇓	Pg	Pg	15 23 28.6	-3.1
	comp=Z,15nm,0.8s,baz=86,slow=14,SNR=5.1							
KK31				⇑	Lg	Lg	15 25 22.3	
	comp=Z,60nm,0.8s,baz=100,slow=24,SNR=3.2							
KURBB	**Kurchatov Arra**	**9.07**	**343**	P		**Pn**	**15 22 50.0**	**-0.2**
KURBB	**Kurchatov Arra**	**9.07**	**343**	Pn		**Pn**	**15 22 49.5**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=166,slow=12,SNR=30							
KURBB					Sn	**Sn**	**15 24 29.8**	**-2.5**
	comp=Z,0.5nm,0.3s,baz=159,slow=17,SNR=4.5							
KURBB					Lg	Lg	15 25 24.5	
	comp=Z,0.7nm,0.3s,baz=164,slow=32,SNR=7.0							
KURBB					LR	LR	15 27 01.0	
	comp=Z,161nm,18.7s,baz=190,slow=42 comp=Z,4.6nm,0.7s							
KURBB	**Kurchatov Arra**	**9.07**	**343**	⇓Pn		**Pn**	**15 22 50.1**	**-0.2**
	comp=Z,17nm,0.7s							
KURBB				⇓	Lg	Lg	15 25 30.9	
	comp=Z,339nm,0.8s							
BTK	**Batken**	**9.11**	**262**	Pn		**Pn**	**15 22 53.6**	**+2.6**
BTK	**Batken**	**9.11**	**262**	P		**Pn**	**15 22 53.6**	**+2.6**
KURK	**Kurchatov**	**9.14**	**344**	Pn		**Pn**	**15 22 51.2**	**0.0**
KURK	**Kurchatov**	**9.14**	**344**	*ce*P		**Pn**	**15 22 53.5**	**+2.3**
KURK				pmax		pmax		
	comp=Z,9.0nm,0.8s							
IUG	**Iuzhnay**	**9.35**	**275**	P		**Pn**	**15 22 57.2**	**+3.0**
BRLS	**Boroldaу**	**9.48**	**281**	P		**Pn**	**15 23 00.5**	**+4.5**
OTUK	**Ortayu**	**9.57**	**314**	P		**Pn**	**15 22 57.7**	**+0.7**
OTUK							15 24 42.7	
OTUK	**Ortayu**	**9.57**	**314**	⇑Pn		**Pn**	**15 22 57.8**	**+0.7**
	comp=Z,11nm,0.7s							
OTUK				⇑	Sn	**Sn**	**15 24 42.8**	**-1.6**
	comp=Z,41nm,0.8s							
OTUK				⇑	Lg	Lg	15 25 41.1	
	comp=Z,140nm,0.9s							
BRZS	**Berezniki**	**10.55**	**323**	P		**Pn**	**15 23 11.8**	**+1.3**
SIMJ	**Simiganj**	**10.90**	**257**			**Pn**	**15 23 14.6**	**-0.8**
GOMU	**GeErMu**	**11.11**	**117**	P		**Pn**	**15 23 18.0**	**-0.6**
GOMU				S		**Sn**	**15 25 21.0**	**-1.9**
NIL	**Nilore**	**11.13**	**225**	Pn		**Pn**	**15 23 19.0**	**+0.4**
NIL	**Nilore**	**11.13**	**225**	P		**Pn**	**15 23 19.0**	**+0.4**
ZAA0	**Zalesovo Array**	**12.05**	**6**	Pn		**Pn**	**15 23 30.7**	**-0.3**
ZALV	**Zalesovo Beam**	**12.05**	**6**	Pn		**Pn**	**15 23 31.0**	**0.0**
ZALV	**Zalesovo Beam**	**12.05**	**6**	*i*	P	**Pn**	**15 23 30.7**	**-0.3**
ZALV					pmax	pmax		
	comp=Z,5.0nm,0.4s							
ZALV	**Zalesovo Beam**	**12.05**	**6**	Pn		**Pn**	**15 23 30.3**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=185,slow=13,SNR=18							
ZALV					Sn	**Sn**	**15 25 45.2**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=184,slow=20,SNR=2.0							
ZALV					Lg	Lg	15 26 58.2	
	comp=Z,0.1nm,0.3s,baz=186,slow=31,SNR=2.5							
ZALV					LR	LR	15 28 25.7	
	comp=Z,116nm,21.4s,baz=194,slow=39 comp=Z,6.3nm,0.7s							
KBL	**Kabul**	**12.98**	**239**	Pn		**Pn**	**15 23 43.5**	**-0.5**
KBL	**Kabul**	**12.98**	**239**	P		**Pn**	**15 23 43.6**	**-0.5**
GTA	**Gaotai**	**13.32**	**95**	*e*P		**Pn**	**15 23 46.1**	**-2.4**
GTA				sP		P	15 23 59.8	+1.6
GTA				pmax		pmax		
	comp=Z,2.0nm,1.0s							
GTA				LR		LR		
	comp=Z,310nm,8.4s							
GTA				LR		LR		
	comp=Z,460nm,9.4s							
GTA				LR		LR		
	comp=Z,380nm,9.8s							
BVA0	**Borovoye Array**	**13.76**	**327**	P		**Pn**	**15 23 53.9**	**-0.4**
BVAR	**Borovoye Array**	**13.76**	**327**	Pn		**Pn**	**15 23 52.6**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=125,slow=13,SNR=13							
BVAR					Sn	**Sn**	**15 26 20.6**	**-6.2**
	baz=143,slow=22,SNR=2.5							
BVAR					Lg	Lg	15 27 55.7	
	comp=Z,0.1nm,0.3s,baz=92,slow=30,SNR=4.7							
BVAR					LR	LR	15 29 28.7	
	comp=Z,304nm,20.8s,baz=139,slow=39 comp=Z,1.5nm,0.5s							
BRVK	**Borovoye**	**13.82**	**327**	Pn		**Pn**	**15 23 56.3**	**+1.1**
BRVK	**Borovoye**	**13.82**	**327**	*ce*P		**Pn**	**15 23 57.2**	**+2.0**
BRVK				pmax		pmax		
	comp=Z,11nm,1.3s							
ZAK	**Zakamensk**	**16.55**	**53**	*e*P		**Pn**	**15 24 29.9**	**-1.6**
ZAK				pmax		pmax		
	comp=Z,7.0nm,1.3s							
ABKAR	**Akbulak array**	**17.39**	**302**	Pn		**Pn**	**15 24 41.0**	**-0.9**
ABKAR	**Akbulak array**	**17.39**	**302**	Pn		**Pn**	**15 24 40.7**	**-1.2**
ABKAR				IAmb		IAmb	15 24 53.5	
	comp=Z,8.4nm,0.8s							
LZH	**Lanzhou**	**17.51**	**103**	*e*P		**P**	**15 24 47.1**	**+2.3**
LZH				pP		sP	15 24 53.5	+2.8
LZH				pmax		pmax		
	comp=Z,18nm,1.3s							
LZH				LR		LR		
	comp=Z,280nm,9.6s							
LZH				LR		LR		
	comp=Z,290nm,8.6s							
LZH				LR		LR		
	comp=Z,450nm,10.7s							
HRA	**Herat**	**17.69**	**251**			**P**	**15 24 47.4**	**+0.6**
SONM	**Songino Array**	**17.80**	**63**	P		**Pn**	**15 24 46.5**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=251,slow=10,SNR=7.7							
SONM					LR	LR	15 32 20.9	
	comp=Z,74nm,18.0s,baz=192,slow=40 comp=Z,1.5nm,0.7s							
ULN	**Ulaanbaatar**	**18.24**	**63**	*ce*P		**Pn**	**15 24 52.2**	**-0.4**
ULN				pmax		pmax		
	comp=Z,7.0nm,1.7s							
AKTO	**Aktyubinsk**	**18.92**	**305**	P		**P**	**15 25 00.3**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=88,slow=10,SNR=12 comp=Z,2.7nm,0.5s							
GEYT	**Alibeck**	**19.18**	**266**			**P**	**15 25 03.6**	**+0.6**
GEYT	**Alibeck**	**19.18**	**266**	P		**P**	**15 25 03.6**	**+0.6**
GEYT				pmax		pmax		
	comp=Z,11nm,1.0s							
GEYT	**Alibeck**	**19.18**	**266**	P		**P**	**15 25 04.0**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=79,slow=7.7,SNR=9.0 comp=Z,4.7nm,0.7s							
GYA0B	**ALIBECK ARRAY**	**19.18**	**266**	P		**P**	**15 25 03.9**	**+0.9**
SVE	**Sverdlovsk**	**20.47**	**324**	*e*P		Pn	15 25 21.9	+2.9
SVE				pmax		pmax		
	comp=Z,36nm,1.3s							
BTO	**Baotou**	**20.62**	**85**	*e*P		**P**	**15 25 16.3**	**-2.4**
BTO				S		**S**	**15 29 05.1**	**-3.8**
BTO				pmax		pmax		
	comp=Z,31nm,0.6s							
BTO				pmax		pmax		
	comp=Z,130nm,3.8s							
BTO				LR		LR		
	comp=Z,590nm,7.8s							
BTO				LR		LR		
	comp=Z,360nm,8.0s							
BTO				LR		LR		
	comp=Z,500nm,7.6s							
ARU	**Arti**	**21.18**	**321**	P		**P**	**15 25 24.8**	**+0.3**
ARU				IAmb		IAmb	15 25 33.7	
	comp=Z,14nm,0.9s							
ARU	**Arti**	**21.18**	**321**	*d*	P	**P**	**15 25 24.4**	**-0.1**
ARU				S		**S**	**15 29 21.4**	**+1.9**
ARU				SS		**SnSn**	**15 29 45.0**	**+3.8**
ARU				pmax		pmax		
	comp=Z,6.0nm,0.8s							
ARU	**Arti**	**21.18**	**321**	P		**P**	**15 25 24.6**	**+0.1**
	comp=Z,4.3nm,0.6s,baz=131,slow=6.3,SNR=9.5							
ARU					LR	LR	15 34 02.5	
	comp=Z,116nm,19.5s,baz=204,slow=38 comp=Z,4.3nm,0.6s							
HHC	**Hu-ho-hao-te**	**21.71**	**83**	*e*P		**P**	**15 25 30.6**	**+0.1**
HHC				pmax		pmax		
	comp=Z,16nm,0.8s							
HHC				pmax		pmax		
	comp=Z,58nm,4.2s							
HHC				LR		LR		
	comp=Z,290nm,7.8s							
HHC				LR		LR		
	comp=Z,240nm,7.2s							
HHC				LR		LR		
	comp=Z,150nm,7.4s							
PZH	**PanZhiHua**	**22.04**	**128**	P		**P**	**15 25 37.3**	**+3.1**
PZH				S		**S**	**15 29 34.0**	**-3.1**
PZH				pmax		pmax		
	comp=Z,10.0nm,1.0s							
PZH				pmax		pmax		
	comp=Z,120nm,5.5s							
PZH	

	comp=Z,2.0nm,0.8s									
CMAR	**Chiang Mai Arr**	**27.29**	**144**		P		**P**	**15 26 24.2**	**+0.3**	
	comp=Z,1.9nm,0.9s,baz=318,slow=9.3,SNR=12									
	comp=Z,1.9nm,0.9s									
NRIK	**Noril'sk**	**27.53**		4	*ce*P		**P**	**15 26 25.3**	**-0.3**	
NRIK					pmax		pmax			
	comp=Z,13nm,1.5s									
NRIK	**Noril'sk**	**27.53**		**4**	P		**P**	**15 26 25.8**	**+0.1**	
	comp=Z,1.9nm,0.6s,baz=199,slow=6.3,SNR=3.9									
	comp=Z,1.9nm,0.6s									
GNI	**Garni**	**28.45**	**279**		*i* P		**P**	**15 26 36.6**	**+2.2**	
GNI					pmax		pmax			
	comp=Z,7.0nm,1.2s									
KBZ	**Khabaz**	**28.96**	**287**		*i* P		**P**	**15 26 40.5**	**+1.8**	
KBZ					pmax		pmax			
	comp=Z,7.0nm,1.9s									
KIV	**Kislovodsk**	**29.07**	**288**		*e*P		**P**	**15 26 41.4**	**+1.6**	
KIV					pmax		pmax			
	comp=Z,6.0nm,1.1s									
KIV					MLR		MLR			
	comp=Z,31nm,15.0s									
NJ2	**Nanjing**	**30.40**	**97**		*e*P		**P**	**15 26 51.3**	**-0.2**	
NJ2					pP		**sP**	**15 26 57.3**	**-0.4**	
NJ2					sP		**pP**	**15 27 00.3**	**+4.3**	
NJ2					pmax		pmax			
	comp=Z,7.0nm,0.5s									
NJ2					pmax		pmax			
	comp=Z,220nm,4.7s									
SOC	**Sochi**	**31.26**	**288**		*e*P		**P**	**15 26 59.1**	**+0.1**	
SOC					*e*PPP		PPP	15 28 10.5		
SOC					*e*S		**S**	**15 32 05.7**	**+0.6**	
SOC					*e*SS		**SnSn**	**15 33 48.0**	**+0.4**	
SOC					MLR		MLR			
	comp=Z,77nm,14.0s									
ZEA	**Zeya**	**31.65**	**53**		*i* P		**P**	**15 27 02.9**	**+0.6**	
QIZ	**Qiongzhong**	**32.54**	**126**		P		**P**	**15 27 12.3**	**+1.8**	
QIZ					S		**S**	**15 32 27.0**	**+1.5**	
QIZ					LR		LR			
	comp=Z,78nm,10.1s									
QIZ					LR		LR			
	comp=Z,170nm,15.1s									
QIZ					LR		LR			
	comp=Z,110nm,18.5s									
OBN	**Obninsk**	**32.55**	**310**		*e*P		**P**	**15 27 10.4**	**+0.2**	
OBN					*e*			15 28 39.9		
OBN					pmax		pmax			
	comp=Z,5.0nm,0.7s									
ARPR	**Arapgir-MALATY**	**33.48**	**280**		P		**P**	**15 27 20.6**	**+1.8**	
MDJ	**Mudanjiang**	**33.93**	**69**		P		**P**	**15 27 18.5**	**-3.9**	
MDJ					pmax		pmax			
	comp=Z,11nm,2.0s									
MDJ					pmax		pmax			
	comp=Z,120nm,4.4s									
YAK	**Yakutsk**	**34.19**	**38**		LR		LR	15 41 15.9		
	comp=Z,55nm,19.5s,baz=354,slow=36									
KLR	**Kul'dur**	**34.61**	**61**		*ce*P		**P**	**15 27 27.1**	**-1.1**	
KLR					pmax		pmax			
	comp=Z,4.0nm,1.7s									
KLR	**Kul'dur**	**34.61**	**61**		LR		LR	15 42 34.4		
	comp=Z,70nm,19.3s,baz=6.0,slow=38									
PALK	**Pallekele**	**34.62**	**183**		LR		LR	15 41 16.1		
	comp=Z,70nm,18.8s,baz=38,slow=36									
KSRS	**Korea Array**	**34.84**	**82**		P		**P**	**15 27 28.0**	**-2.3**	
	comp=Z,0.7nm,0.6s,baz=287,slow=8.5,SNR=2.4									
KSRS					LR		LR	15 41 17.3		
	comp=Z,17nm,18.9s,baz=215,slow=36									
	comp=Z,0.7nm,0.6s									
BR131	**Keskin Array S**	**36.70**	**283**		P		**P**	**15 27 47.5**	**+1.0**	
BR131					IAmb		IAmb	15 27 49.0		
	comp=Z,6.4nm,0.9s									
BR131	**Keskin Array S**	**36.70**	**283**		P		**P**	**15 27 47.5**	**+1.0**	
BR131					pmax		pmax			
	comp=Z,6.0nm,0.9s									
BRTR	**Keskin Array B**	**36.70**	**283**		P		**P**	**15 27 47.4**	**+1.0**	
BRTR	**Keskin Array B**	**36.70**	**283**		*i* P		**P**	**15 27 47.9**	**+1.5**	
BRTR					pmax		pmax			
	comp=Z,4.0nm,0.8s									
BRTR	**Keskin Array B**	**36.70**	**283**		P		**P**	**15 27 47.0**	**+0.5**	
	comp=Z,4.0nm,0.8s,baz=99,slow=9.2,SNR=21									
	comp=Z,4.0nm,0.8s									
AKASG	**Malin Array Be**	**37.13**	**302**		*i* P		**P**	**15 27 50.0**	**+0.2**	
AKASG					pmax		pmax			
	comp=Z,1.0nm,0.6s									
AKASG	**Malin Array Be**	**37.13**	**302**		P		**P**	**15 27 49.5**	**-0.3**	
	comp=Z,0.5nm,0.4s,baz=69,slow=8.6,SNR=4.5									
	comp=Z,0.5nm,0.4s									
AKBB	**Malin Array Si**	**37.13**	**302**		*ce*P		**P**	**15 27 49.7**	**-0.1**	
AKBB					pmax		pmax			
	comp=Z,4.0nm,0.8s									
BR231	**Keskin MP Arra**	**37.28**	**284**		P		**P**	**15 27 52.0**	**+0.7**	
TIXI	**Tiksi**	**37.30**	**22**		P		**P**	**15 27 50.5**	**-0.5**	
TIXI	**Tiksi**	**37.30**	**22**		*ce*P		**P**	**15 27 50.4**	**-0.5**	
TIXI					pmax		pmax			
	comp=Z,7.0nm,1.7s									
TIXI	**Tiksi**	**37.30**	**22**		LR		LR	15 43 59.5		
	comp=Z,96nm,19.2s,baz=196,slow=38									
MNK	**Minsk**	**37.57**	**309**		*i* P		**P**	**15 27 49.5**	**-4.0**	
	comp=E,8.0nm,0.9s									
MNK					*i* P		**P**	**15 27 49.5**	**-4.0**	
	comp=N,7.0nm,0.7s									
MNK					*i* P		**P**	**15 27 49.5**	**-4.0**	
	comp=Z,10.0nm,0.7s,baz=86									
MNK					*i* PP		**PP**	**15 29 11.8**	**-7.3**	
MNK					*i* S		**S**	**15 33 37.7**	**-4.6**	
MNK					*i* SS		SnSn	15 36 03.6	-17	
MNK					*i* SSS		SSS	15 36 36.9		
MNK					*i* LQ		LQ	15 40 33.2		
MNK					*i* LR		LR	15 43 25.1		
MNK	**Minsk**	**37.57**	**309**		*i* P		**P**	**15 27 49.5**	**-4.0**	
MNK					*i* S		**S**	**15 33 37.6**	**-4.6**	
MNK					pmax		pmax			
	comp=N,7.0nm,0.6s									
MNK					pmax		pmax			
	comp=Z,10.0nm,0.7s									
MNK					pmax		pmax			
	comp=E,8.0nm,0.9s									
MMAI	**Mount Meron Ar**	**38.09**	**272**		P		**P**	**15 27 58.4**	**+0.2**	
	comp=E,1.5nm,0.7s,baz=63,slow=8.2,SNR=2.0									
	comp=E,1.5nm,0.7s									
FINES	**FINESS Array B**	**38.54**	**320**		P		**P**	**15 28 02.2**	**+0.7**	
FINES	**FINESS Array B**	**38.54**	**320**		P		**P**	**15 28 01.5**	**0.0**	
	comp=E,2.1nm,0.8s,baz=90,slow=11,SNR=6.0									
	comp=E,2.1nm,0.8s									
KEV	**Kevo**	**39.51**	**333**		P		**P**	**15 28 09.5**	**0.0**	
KEV	**Kevo**	**39.51**	**333**		P		**P**	**15 28 09.5**	**0.0**	
KEV					pmax		pmax			
	comp=Z,80nm,1.5s									
ARCES	**ARCESS Array B**	**39.97**	**333**		P		**P**	**15 28 13.7**	**+0.2**	
ARCES					IAmb		IAmb	15 28 53.0		
	comp=Z,19nm,1.3s									
ARCES	**ARCESS Array B**	**39.97**	**333**		P		**P**	**15 28 13.6**	**+0.2**	
	comp=Z,5.3nm,0.6s,baz=86,slow=8.2,SNR=31									
ARCES					LR		LR	15 44 06.2		
	comp=Z,104nm,18.7s,baz=200,slow=35									
	comp=Z,5.3nm,0.6s									
BURAR	**Bucovina Array**	**40.30**	**298**		P		**P**	**15 28 16.4**	**-0.1**	
KWP	**Kalwaria Pacla**	**41.45**	**302**		P		**P**	**15 28 27.5**	**+1.6**	
KWP					IAmb		IAmb	15 28 37.8		
	comp=Z,11nm,0.9s									
KWP	**Kalwaria Pacla**	**41.45**	**302**		P		**P**	**15 28 27.5**	**+1.6**	
KWP					pmax		pmax			
	comp=Z,11nm,0.9s									
TGY	**Tagaytay City**	**43.22**	**119**		LR		LR	15 47 44.2		
	comp=Z,26nm,19.3s,baz=50,slow=38									
MA2	**Magadan**	**44.37**	**43**		*ce*P		**P**	**15 28 48.8**	**-0.6**	
MA2					pmax		pmax			
	comp=Z,19nm,2.5s									
HFS	**Hagfors**	**44.65**	**318**		P		**P**	**15 28 51.5**	**-0.2**	
	comp=Z,2.0nm,0.5s,baz=113,slow=9.8,SNR=9.0									
	comp=Z,2.0nm,0.5s									
IDI	**Anoyia**	**44.84**	**281**		P		**P**	**15 28 53.8**	**+0.2**	
NC405	**NORSAR Array S**	**45.47**	**320**		P		**P**	**15 28 58.4**	**+0.2**	
NC602	**NORSAR Array S**	**45.62**	**319**		P		**P**	**15 28 59.9**	**+0.6**	
NB2	**NORSAR Subarra**	**45.72**	**320**		P		**P**	**15 28 59.8**	**-0.4**	
	comp=Z,1.7nm,0.5s,baz=81,slow=7.9									
NOA	**NORSAR Array B**	**45.72**	**320**		P		**P**	**15 28 59.5**	**-0.7**	
	comp=Z,1.0nm,0.4s,baz=81,slow=7.9,SNR=6.2									
NOA					LR		LR	15 48 56.4		
	comp=Z,70nm,18.8s,baz=230,slow=37									
	comp=Z,1.0nm,0.4s									
NC204	**NORSAR Array S**	**45.90**	**320**		P		**P**	**15 29 01.6**	**0.0**	
CLL	**Collm**	**47.00**	**306**		*e*P		**P**	**15 29 11.0**	**+0.7**	
CLL	**Collm**	**47.00**	**306**		*e*P		**P**	**15 29 11.0**	**+0.7**	
CLL					*e*pP		**sP**	**15 29 19.0**	**+2.3**	
GERES	**GERESS Array B**	**47.33**	**303**		P		**P**	**15 29 13.0**	**-0.1**	
	comp=Z,0.8nm,0.6s,baz=81,slow=9.6,SNR=3.5									
	comp=Z,0.8nm,0.6s									
PETK	**Petropavlovsk-**	**49.66**	**50**		LR		LR	15 50 03.6		
	comp=Z,46nm,18.2s,baz=297,slow=36									
DAVOX	**Davos/Dischmat**	**50.48**	**302**		LR		LR	15 53 35.4		
	comp=Z,81nm,18.7s,baz=88,slow=39									
LEM	**Lembang**	**53.70**	**149**		LR		LR	15 57 32.1		
	comp=Z,61nm,18.6s,baz=254,slow=41									
EKA	**Eskdalemuir Ar**	**54.65**	**316**		P		**P**	**15 30 08.2**	**+0.3**	
	comp=Z,3.2nm,0.9s,baz=79,slow=9.4,SNR=4.1									
	comp=Z,3.2nm,0.9s									
C16K	**Lisburne Hills**	**59.04**	**24**		P		**P**	**15 30 39.0**	**+0.3**	
C16K					IAmb		IAmb	15 31 19.7		
	comp=Z,5.6nm,1.3s									
D19K	**Kuna River**	**60.98**	**22**		P		**P**	**15 30 52.4**	**+0.3**	
D19K					IAmb		IAmb	15 30 53.4		
	comp=Z,2.7nm,0.8s									
E18K	**Tukpahlearik C**	**60.98**	**23**		P		**P**	**15 30 52.3**	**+0.2**	
B21K	**Ikpikpuk River**	**61.12**	**20**		P		**P**	**15 30 53.5**	**+0.5**	
B21K					IAmb		IAmb	15 30 54.3		
	comp=Z,2.9nm,0.8s									
ESDC	**Sonseca Array**	**62.72**	**300**		P		**P**	**15 31 03.6**	**-0.8**	
	comp=Z,1.6nm,0.9s,baz=54,slow=7.2,SNR=6.4									
	comp=Z,1.6nm,0.9s									
E22K	**Anaktuvuk Pass**	**62.90**	**20**		P		**P**	**15 31 04.9**	**-0.2**	
TOLK	**Toolik Lake Re**	**63.08**	**19**		P		**P**	**15 31 06.0**	**-0.2**	
TOLK					IAmb		IAmb	15 31 07.4		
	comp=Z,3.0nm,0.8s									
F21K	**Alatna River**	**63.13**	**21**		P		**P**	**15 31 06.5**	**-0.1**	
F21K					IAmb		IAmb	15 31 07.4		
	comp=Z,6.7nm,1.4s									
IMAR	**Indian Mountai**	**63.95**	**22**		P		**P**	**15 31 11.6**	**-0.4**	
F24K	**Squaw Lake**	**64.35**	**19**		P		**P**	**15 31 14.8**	**+0.1**	
F24K					IAmb		IAmb	15 31 16.6		
	comp=Z,2.4nm,0.8s									
E25K	**Arctic Village**	**64.43**	**18**		P		**P**	**15 31 14.7**	**-0.4**	
L16K	**Owhat River**	**65.18**	**28**		P		**P**	**15 31 20.8**	**+0.8**	
BMAR	**Burnt Mountain**	**65.21**	**18**		P		**P**	**15 31 20.8**	**+0.5**	
E28M	**Babbage River**	**65.34**	**16**		P		**P**	**15 31 21.2**	**+0.1**	
MLY	**Manley**	**65.50**	**22**		P		**P**	**15 31 22.8**	**+0.6**	
MLY					IAmb		IAmb	15 31 31.2		
	comp=Z,6.6nm,1.4s									
SFJD	**Kangerlussuaq**	**65.65**	**342**		P		**P**	**15 31 23.5**	**+0.5**	
SFJD	**Kangerlussuaq**	**65.65**	**342**		P		**P**	**15 31 23.5**	**+0.5**	
SFJD					pmax		pmax			
	comp=Z,15nm,1.2s									
E29M	**Blow River**	**65.85**	**15**		P		**P**	**15 31 24.4**	**+0.1**	
E29M					IAmb		IAmb	15 31 26.2		
	comp=Z,4.4nm,0.8s									
CAST	**Castle Rocks**	**66.33**	**24**		P		**P**	**15 31 28.1**	**+0.5**	
CAST					IAmb		IAmb	15 31 29.2		
	comp=Z,2.5nm,0.8s									
KTH	**Kantishna Hill**	**66.57**	**23**		P		**P**	**15 31 28.8**	**-0.3**	
INK	**Inuvik**	**66.74**	**14**		P		**P**	**15 31 30.2**	**+0.2**	
INK					IAmb		IAmb	15 31 34.8		
	comp=Z,4.8nm,1.0s									
INK	**Inuvik**	**66.74**	**14**		P		**P**	**15 31 30.2**	**+0.2**	
INK					pmax		pmax			
	comp=Z,5.0nm,1.0s									
ILAR	**Eielson Array**	**66.75**	**21**		P		**P**	**15 31 29.6**	**-0.6**	
	comp=Z,1.4nm,0.7s,baz=316,slow=5.0,SNR=21									
ILAR					LR		LR	16 04 35.9		
	comp=Z,4.8nm,18.5s,baz=73,slow=40									
	comp=Z,1.4nm,0.7s									
C36M	**Paulatuk**	**67.24**	**10**		P		**P**	**15 31 32.0**	**-1.1**	
SKT	**Skwentna**	**67.58**	**24**		P		**P**	**15 31 34.4**	**-1.1**	
SKT					IAmb		IAmb	15 32 13.3		
	comp=Z,5.3nm,1.1s									
H29M	**Whitestone**	**67.60**	**17**		P		**P**	**15 31 35.4**	**-0.1**	
H29M					IAmb		IAmb	15 31 58.7		
	comp=Z,5.9nm,1.4s									
G31M	**Satah River**	**67.82**	**15**		P		**P**	**15 31 36.1**	**-0.7**	
I28M	**Miner Creek**	**67.91**	**18**		P		**P**	**15 31 37.4**	**-0.2**	
I28M					IAmb		IAmb	15 31 38.0		
	comp=Z,3.0nm,0.9s									
DHY	**Denali Highway**	**67.96**	**22**		P		**P**	**15 31 37.5**	**-0.6**	
DHY					IAmb		IAmb	15 31 39.5		
	comp=Z,2.5nm,0.7s									
EGAK	**Eagle**	**68.19**	**19**		P		**P**	**15 31 39.5**	**+0.2**	
EGAK					IAmb		IAmb	15 31 39.9		
	comp=Z,5.8nm,1.4s									
SML	**Sawmill**	**68.68**	**23**		P		**P**	**15 31 42.5**	**0.0**	
H31M	**Peel River**	**68.79**	**15**		P		**P**	**15 31 42.2**	**-0.8**	
H31M					IAmb		IAmb	15 31 59.6		
	comp=Z,9.2nm,1.4s									
I30M	**Mount Dempster**	**68.88**	**17**		P		**P**	**15 31 42.9**	**-0.9**	
I30M					IAmb		IAmb	15 31 44.5		
	comp=Z,4.3nm,0.8s									
KNK	**Knik Glacier**	**68.96**	**24**		P		**P**	**15 31 44.6**	**+0.5**	
SCM	**Sheep Creek Mo**	**68.96**	**23**		P		**P**	**15 31 44.0**	**-0.2**	
SCM	**Sheep Creek Mo**	**68.96**	**23**		P		**P**	**15 31 44.0**	**-0.2**	
SCM					pmax		pmax			
	comp=Z,7.0nm,0.8s									
L27K	**Beaver Creek,**	**69.45**	**20**		P		**P**	**15 31 47.8**	**+0.6**	
L27K					IAmb		IAmb	15 31 51.8		
	comp=Z,2.9nm,1.1s									
BCAR	**Beaver Creek A**	**69.46**	**20**		P		**P**	**15 31 47.7**	**+0.5**	
M31M	**Drury Creek, Y**	**71.96**	**17**		P		**P**	**15 32 02.5**	**0.0**	
FRB	**Frobisher Bay**	**72.14**	**347**		LR		LR	16 07 29.7		
	comp=Z,83nm,18.3s,baz=122,slow=39									
FARO	**Faro, Yukon**	**72.16**	**17**		P		**P**	**15 32 04.0**	**+0.3**	
HYT	**Haines Junctio**	**72.44**	**19**		P		**P**	**15 32 05.8**	**+0.3**	
O30N	**Mendenhall**	**72.83**	**19**		P		**P**	**15 32 08.3**	**+0.6**	
O30N					IAmb		IAmb	15 32 18.5		
	comp=Z,5.3nm,1.3s									
P33M	**Teslin, Yukon**	**74.08**	**18**		P		**P**	**15 32 15.2**	**0.0**	
TOA0	**Torodi Ar. Sit**	**74.61**	**274**		P		**P**	**15 32 18.2**	**-0.6**	
TOA0					IAmb		IAmb	15 32 19.4		
	comp=Z,5.3nm,0.9s									
TORD	**Torodi Ar. Bea**	**74.61**	**274**		P		**P**	**15 32 18.0**	**-0.8**	
TORD					IAmb		IAmb	15 32 19.4		
	comp=Z,4.4nm,0.9s									
TORD	**Torodi Ar. Bea**	**74.61**	**274**		P		**P**	**15 32 18.3**	**-0.5**	
	comp=Z,3.4nm,0.8s,baz=39,slow=7.3,SNR=23									
	comp=Z,3.4nm,0.8s									
YKA	**Yellowknife Ar**	**74.94**	**8**		P		**P**	**15 32 19.8**	**-0.2**	
YKA	**Yellowknife Ar**	**74.94**	**8**		*i* P		**P**	**15 32 20.0**	**0.0**	
YKA					pmax		pmax			
	comp=Z,2.0nm,0.8s									
YKA	**Yellowknife Ar**	**74.94**	**8**		P		**P**	**15 32 19.5**	**-0.4**	
	comp=Z,2.1nm,0.8s,baz=345,slow=5.9,SNR=28									
	comp=Z,2.1nm,0.8s									
S34M	**Telegraph Cree**	**76.54**	**18**		P		**P**	**15 32 28.9**	**-0.2**	
S34M					IAmb		IAmb	15 32 34.4		
	comp=Z,5.9nm,1.0s									
WB0	**Warramunga Arr**	**77.87**	**131**		P		**P**	**15 32 36.8**	**-0.4**	
WB0					IAmb		IAmb	15 33 14.2		
	comp=Z,7.8nm,1.2s									
WRA	**Warramunga Arr**	**77.98**	**131**		P		**P**	**15 32 36.7**	**-1.0**	
WRA	**Warramunga Arr**	**77.98**	**131**		P		**P**	**15 32 36.7**	**-1.0**	
WRA					pmax		pmax			
	comp=Z,1.0nm,1.5s									
WRA	**Warramunga Arr**	**77.98**	**131**		P		**P**	**15 32 37.7**	**0.0**	
	comp=Z,2.3nm,0.8s,baz=329,slow=5.7,SNR=10									
	comp=Z,2.3nm,0.8s									
WR0	**Warramunga Arr**	**78.11**	**131**		P		**P**	**15 32 37.5**	**-0.9**	
WR0					IAmb		IAmb	15 32 51.7		
	comp=Z,10nm,1.4s									
ASAR	**Alice Springs**	**80.72**	**134**		P		**P**	**15 32 52.8**	**+0.2**	
	comp=Z,1.4nm,0.8s,baz=332,slow=6.2,SNR=12									
	comp=Z,1.4nm,0.8s									

*IDC **19** 16:22:17.3±0.8, 6°16S×142°98E, h0km, mb4.0/7, mbtmp4.0/10, ML3.7/1, Error ellipse: s-maj=31.7km s-min=17.6km az=83.0*
*NEIC **19** 16:22:19.4±1.9, 6°14S±0°10×142°9E±0°1, h10km±1km, mb4.4/24, Error ellipse: s-maj=20.5km s-min=13.4km az=53.0*

ISC 19 16:22:22.6±0.7, **6°24S**±0°09×**142°84E**±0°09, **h35**km, **n40,**
σ0**s85**/41, **mb4.4**/18, **New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.31**	**127**	Pn	**Pn**	**16 23 39.0**	**-0.5**
PMG	**Port Moresby**	**5.31**	**127**	Pn	**Pn**	**16 23 38.5**	**-1.0**
	5.5nm,0.4s,baz=359,slow=7.3,SNR=10						
PMG				Sn	**Sn**	**16 24 38.7**	**-0.9**
	2.7nm,0.3s,baz=208,slow=22,SNR=5.9						
FAKI	**Fak Fak**	**11.06**	**287**	Pn	**Pn**	**16 24 57.0**	**-1.4**
SAUI	**Saumlaki**	**11.58**	**261**		**Pn**	**16 25 04.9**	**-0.6**
WB0	**Warramunga Arr**	**15.75**	**211**	Pn	**Pn**	**16 26 02.0**	**+0.1**
WB0					IAmb	16 26 43.0	
	comp=Z,8.3nm,0.7s						
WR0	**Warramunga Arr**	**15.84**	**210**		**Pn**	**16 26 02.2**	**-0.9**
WB2	**Warramunga Arr**	**15.92**	**210**	Pn	**Pn**	**16 26 04.2**	**0.0**
WRA	**Warramunga Arr**	**15.93**	**210**	Pn	**Pn**	**16 26 03.1**	**-1.2**
WRA	**Warramunga Arr**	**15.93**	**210**	Pn	**Pn**	**16 26 03.4**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=34,slow=14,SNR=12						
WRA				Lg	Lg	16 30 47.6	
	baz=29,slow=28						
	comp=Z,0.7nm,0.4s						
AS31	**Alice Springs**	**19.34**	**205**		**Pn**	**16 26 47.3**	**+0.8**
ASAR	**Alice Springs**	**19.34**	**205**	P	**Pn**	**16 26 48.4**	**+1.9**
ASAR	**Alice Springs**	**19.34**	**205**	P	**Pn**	**16 26 47.4**	**+0.9**
	comp=Z,13nm,0.7s,baz=31,slow=11,SNR=177						
ASAR				Lg	Lg	16 32 35.1	
	baz=31,slow=31						
EIDS	**Eidsvold**	**20.59**	**158**		**P**	**16 26 59.6**	**+0.8**
STKA	**Stephens Creek**	**25.53**	**182**	P	**P**	**16 27 48.8**	**+0.7**
STKA	**Stephens Creek**	**25.53**	**182**	P	**P**	**16 27 48.3**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=16,slow=7.7,SNR=4.5						
	comp=Z,1.1nm,0.5s						
USRK	**Ussuriysk Ar.**	**51.15**	**350**	P	**P**	**16 31 22.0**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=151,slow=18,SNR=2.1						
	comp=Z,1.3nm,0.8s						
SONM	**Songino Array**	**62.67**	**333**	P	**P**	**16 32 43.7**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=132,slow=7.0,SNR=2.2						
	comp=Z,0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**78.97**	**324**	P	**P**	**16 34 22.7**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=116,slow=5.4,SNR=4.3						
	comp=Z,0.4nm,0.7s						
F17K	**Baldwin Pennin**	**82.82**	**20**	P	**P**	**16 34 44.0**	**+1.0**
QSPA	**South Pole Qui**	**83.73**	**180**	P	**P**	**16 34 48.2**	**+0.3**
QSPA	**South Pole Qui**	**83.73**	**180**	P	**P**	**16 34 47.9**	**0.0**
	comp=Z,1.7nm,0.9s,baz=22,slow=2.0,SNR=8.9						
	comp=Z,1.7nm,0.9s						
BVAR	**Borovoye Array**	**84.55**	**325**	P	**P**	**16 34 53.1**	**+0.9**
	comp=Z,3.8nm,0.7s,baz=110,slow=7.0,SNR=20						
	comp=Z,3.8nm,0.7s						
BRVK	**Borovoye**	**84.62**	**325**	P	**P**	**16 34 54.0**	**+1.5**
BRVK				IAmb	IAmb	16 34 59.3	
	comp=Z,3.4nm,1.1s						
E19K	**Redstone River**	**84.70**	**20**	P	**P**	**16 34 53.3**	**+0.7**
E19K				IAmb	IAmb	16 34 54.1	
	comp=Z,1.8nm,0.8s						
C19K	**Lookout Ridge**	**84.81**	**18**	P	**P**	**16 34 54.0**	**+0.8**
C19K				IAmb	IAmb	16 34 55.7	
	comp=Z,3.2nm,1.0s						
IMAR	**Indian Mountai**	**85.21**	**22**	P	**P**	**16 34 55.1**	**-0.1**
SML	**Sawmill**	**85.67**	**26**	P	**P**	**16 34 57.6**	**0.0**
RND	**Reindeer**	**86.05**	**25**	P	**P**	**16 34 58.3**	**-1.2**
RND				IAmb	IAmb	16 35 00.6	
	comp=Z,4.0nm,1.2s						
DHY	**Denali Highway**	**86.55**	**25**	P	**P**	**16 35 01.8**	**-0.3**
DHY				IAmb	IAmb	16 35 06.2	
	comp=Z,4.1nm,1.3s						
E22K	**Anaktuvuk Pass**	**86.84**	**20**	P	**P**	**16 35 04.1**	**+0.8**
E22K				IAmb	IAmb	16 35 42.8	
	comp=Z,5.0nm,1.5s						
D22K	**Ayikyak River**	**86.87**	**19**	P	**P**	**16 35 04.7**	**+1.3**
D22K				IAmb	IAmb	16 35 22.4	
	comp=Z,4.4nm,1.4s						
G23K	**Bananza Creek**	**86.88**	**22**	P	**P**	**16 35 03.4**	**-0.1**
G23K				IAmb	IAmb	16 35 46.1	
	comp=Z,3.7nm,1.4s						
CCB	**Clear Creek Bu**	**86.94**	**24**	P	**P**	**16 35 03.1**	**-0.6**
CCB				IAmb	IAmb	16 35 04.0	
	comp=Z,2.0nm,0.8s						
H24K	**Noodor Dome**	**87.34**	**23**	P	**P**	**16 35 06.4**	**+0.6**
H24K				IAmb	IAmb	16 35 21.4	
	comp=Z,3.9nm,1.4s						
ILAR	**Eielson Array**	**87.35**	**24**	P	**P**	**16 35 04.8**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=252,slow=4.5,SNR=13						
	comp=Z,0.9nm,0.7s						
C23K	**Itkillik River**	**87.94**	**19**	P	**P**	**16 35 09.0**

	comp=N,423nm,1.1s								
SDHHI	**Sand Hill**	**0.19**	**10**			Pn	16 32 07.6	-0.9	
SDHHI						Sn	16 32 12.9	-0.9	
SDHHI	**Sand Hill**	**0.19**	**10**		IAML		16 32 15.8		
	comp=N,846nm,1.0s								
SDHHI					IAML		16 32 16.2		
	comp=E,735nm,1.1s								
RIM	**Rim**	**0.20**	**15**			Pn	16 32 07.6	-0.9	
RIM	**Rim**	**0.20**	**15**		IAML		16 32 13.8		
	comp=N,742nm,1.4s								
RIM					IAML		16 32 24.1		
	comp=E,697nm,1.3s								
PUH	**Pauahi**	**0.20**	**31**			Pn	16 32 07.7	-0.9	
PUH						Sn	16 32 12.7	-1.2	
PUH	**Pauahi**	**0.20**	**31**		IAML		16 32 13.7		
	comp=E,223nm,1.1s								
PUH					IAML		16 32 14.3		
	comp=N,309nm,0.9s								
KKO	**Keanakako`i**	**0.20**	**17**			Pn	16 32 07.7	-0.9	
KKO	**Keanakako`i**	**0.20**	**17**		IAML		16 32 11.6		
	comp=E,578nm,1.5s								
KKO					IAML		16 32 23.9		
	comp=N,1µm,1.4s								
WRMHI	**West Rim**	**0.21**	**7**			Pn	16 32 07.6	-1.0	
BYL	**Byron's Ledge**	**0.22**	**17**			Pn	16 32 07.7	-1.0	
BYL						Sn	16 32 13.0	-1.2	
BYL	**Byron's Ledge**	**0.22**	**17**		IAML		16 32 19.9		
	comp=N,488nm,1.4s								
BYL					IAML		16 32 21.0		
	comp=E,388nm,1.3s								
OBL	**Observatory Le**	**0.22**	**11**			Pn	16 32 07.7	-1.0	
OBL	**Observatory Le**	**0.22**	**11**		IAML		16 32 12.0		
	comp=E,1µm,1.1s								
OBL					IAML		16 32 21.8		
	comp=N,1µm,0.7s								
UWE	**Uwekahuna**	**0.22**	**9**		IAML		16 32 19.2		
	comp=N,613nm,1.4s								
UWE	**Uwekahuna**	**0.22**	**9**			Pn	16 32 07.7	-1.0	
UWE						Sn	16 32 13.1	-1.2	
UWB	**Uwekahuna B**	**0.23**	**12**			Pn	16 32 07.6	-1.1	
UWB	**Uwekahuna B**	**0.23**	**12**		IAML		16 32 12.6		
	comp=N,236nm,1.2s								
UWB					IAML		16 32 13.4		
	comp=E,142nm,0.9s								
HATHI	**Halema'uma'u T**	**0.23**	**16**			Pn	16 32 07.7	-1.0	
HATHI	**Halema'uma'u T**	**0.23**	**16**		IAML		16 32 13.6		
	comp=N,576nm,1.4s								
HATHI					IAML		16 32 22.4		
	comp=E,528nm,1.4s								
SBLHI	**Steaming Bluff**	**0.23**	**14**			Pn	16 32 07.7	-1.1	
SBLHI						Sn	16 32 13.1	-1.3	
SBLHI	**Steaming Bluff**	**0.23**	**14**		IAML		16 32 13.6		
	comp=E,529nm,1.2s								
SBLHI					IAML		16 32 13.7		
	comp=N,398nm,1.5s								
KNHH	**Kane Nui o Ham**	**0.23**	**40**			Pn	16 32 07.9	-0.8	
RSD	**Rainshed**	**0.27**	**10**			Sn	16 32 14.1	-0.8	
RSD	**Rainshed**	**0.27**	**10**			Pn	16 32 08.1	-1.0	
RSD					IAML		16 32 14.5		
	comp=E,115nm,1.2s								
RSD	**Rainshed**	**0.27**	**10**		IAML		16 32 12.0		
	comp=N,188nm,1.3s								
STCH	**Steam Cracks**	**0.27**	**46**			Pn	16 32 08.2	-0.9	
STCH	**Steam Cracks**	**0.27**	**46**		IAML		16 32 14.8		
	comp=N,381nm,0.6s								
STCH					IAML		16 32 16.0		
	comp=E,295nm,0.6s								
KHU	**Kahuku**	**0.28**	**280**			Pn	16 32 08.2	-1.1	
KHU						Sn	16 32 13.7	-1.6	
KHU	**Kahuku**	**0.28**	**280**		IAML		16 32 13.9		
	comp=E,283nm,0.3s								
KHU					IAML		16 32 14.0		
	comp=N,195nm,0.8s								
JCUZ	**Jacuzzi**	**0.28**	**49**			Pn	16 32 08.4	-0.7	
JCUZ	**Jacuzzi**	**0.28**	**49**		IAML		16 32 20.4		
	comp=N,380nm,0.8s								
JCUZ					IAML		16 32 25.4		
	comp=E,456nm,0.6s								
NPOC	**North of Pu'u**	**0.28**	**47**		IAML		16 32 14.9		
	comp=N,333nm,1.1s								
NPOC					IAML		16 32 17.7		
	comp=E,464nm,0.7s								
NPOC	**North of Pu'u**	**0.28**	**47**			Pn	16 32 08.3	-0.8	
NPOC						Sn	16 32 13.8	-1.3	
MLH	**Mauna Loa**	**0.30**	**349**			Pn	16 32 08.6	-0.9	
MLH						Sn	16 32 14.4	-1.3	
MLH	**Mauna Loa**	**0.30**	**349**		IAML		16 32 14.7		
	comp=E,247nm,0.3s								
MLH					IAML		16 32 14.9		
	comp=N,521nm,0.2s								
MWH	**Moku'aweowe**	**0.38**	**318**			Pn	16 32 09.3	-1.4	
MWH						Sn	16 32 15.6	-2.0	
MWH	**Moku'aweowe**	**0.38**	**318**		IAML		16 32 20.5		
	comp=E,324nm,1.4s								
JOKA	**Jonika Flow**	**0.38**	**53**			Pn	16 32 09.2	-1.0	
MLOA	**Mauna Loa Obse**	**0.41**	**325**			Pn	16 32 09.6	-1.3	
MLOA						Sn	16 32 16.0	-2.0	
MLOA	**Mauna Loa Obse**	**0.41**	**325**		IAML		16 32 16.4		
	comp=N,297nm,0.2s								
MLOA					IAML		16 32 18.1		
	comp=E,211nm,1.1s								
HMH	**Humu'ula Sheep**	**0.43**	**340**			Pn	16 32 10.1	-0.9	
HMH						Sn	16 32 16.9	-1.4	
HMH	**Humu'ula Sheep**	**0.43**	**340**		IAML		16 32 17.4		
	comp=E,364nm,0.3s								
HMH					IAML		16 32 17.4		
	comp=N,747nm,0.2s								
ALEP	**Alea Permanent**	**0.45**	**319**			Pn	16 32 09.7	-1.7	
ALEP						Sn	16 32 16.6	-2.3	
POHA	**Pohakuloa**	**0.59**	**341**			Sn	16 32 19.1	-2.6	
POHA	**Pohakuloa**	**0.59**	**341**	Pn		Pn	16 32 11.6	-1.4	
POHA					IAML		16 32 20.7		
	comp=N,327nm,0.2s								
POHA					IAML		16 32 20.9		
	comp=N,243nm,0.1s								
KHLU	**Kahalu`u**	**0.66**	**306**			Pn	16 32 12.0	-1.8	
KHLU						Sn	16 32 20.5	-2.7	
KHLU	**Kahalu`u**	**0.66**	**306**		IAML		16 32 21.4		
	comp=N,240nm,0.1s								
KHLU					IAML		16 32 22.6		
	comp=E,170nm,0.9s								
HUH	**Hualalai**	**0.68**	**315**			Pn	16 32 13.1	-1.1	
HUH	**Hualalai**	**0.68**	**315**		IAML		16 32 25.1		
	comp=N,198nm,0.3s								
HUH					IAML		16 32 29.0		
	comp=E,256nm,0.7s								
HPAH	**Hawaii Prepara**	**0.90**	**337**			Pn	16 32 15.1	-1.9	
HPAH						Sn	16 32 25.3	-3.5	
MHA	**Mahukona**	**1.12**	**331**	Pn		Pn	16 32 18.2	-1.7	

IDC ***19*** *16:32:28.3±3.4, 41°.87N×82°.97E, h0km, mb4.5/1, mbtmp3.6/4, ML2.9/3, Error ellipse: s-maj=66.6km s-min=30.1km az=85.0*
NNC ***19*** *16:32:30.8±1.7, 41°.75N×82°.27E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=13.8km s-min=9.8km az=1.0*
SOME ***19*** *16:32:31.6, 41°.63N×82°.20E, h20km*
ISC 19 16:32:31.5±1.9, 41°.82N±0°.09×82°.43E±0°.06, h13km, n50, σ2s27/69, 3C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.24**	**317**	*eP*		**Pg**	**16 33 13.2**	**-1.2**
	40nm,0.2s							
KTMS				*eS*		**Sg**	**16 33 43.3**	**0.0**
	142nm,0.3s							
KTMS	**Ketmen**	**2.24**	**317**	Pg		**Pg**	**16 33 13.2**	**-1.2**
	40nm,0.2s							
KTMS				Lg		Lg	16 33 43.3	
	142nm,0.3s							
SHLS	**Shalkode**	**2.57**	**302**	*eP*		**Pn**	**16 33 13.6**	**+0.6**
	124nm,0.2s							
SHLS				*eS*		**Sn**	**16 33 43.9**	**-0.2**
	202nm,0.4s							
SHLS	**Shalkode**	**2.57**	**302**	Pg		**Pn**	**16 33 13.6**	**+0.6**
	124nm,0.2s							
SHLS				Lg		Lg	16 33 43.9	
	202nm,0.4s							
PDGK	**Podgornoye**	**2.65**	**306**	Pg		**Pb**	**16 33 18.7**	**-0.1**
	7.7nm,0.3s							
PDGK				Lg		Lg	16 33 52.8	
	36nm,0.2s							
PDGK	**Podgornoye**	**2.65**	**306**	⇓Pg		**Pb**	**16 33 18.5**	**-0.2**
	11nm,0.6s							
PDGK				⇑Lg		Lg	16 33 53.0	
	72nm,0.7s							
UZB	**Uzunbulak**	**2.85**	**299**	*eP*		**Pb**	**16 33 22.0**	**-0.2**
	11nm,0.2s							
UZB				*eS*		**Sb**	**16 33 58.5**	**+1.4**
	58nm,0.2s							
UZB	**Uzunbulak**	**2.85**	**299**	Pg		**Pb**	**16 33 22.0**	**-0.2**
	11nm,0.2s							
UZB				Lg		Lg	16 33 58.5	
	58nm,0.2s							
DJR	**Jarkent**	**3.17**	**323**	*eP*		**Pb**	**16 33 29.1**	**+1.4**
	16nm,0.3s							
DJR				*eS*		**Sg**	**16 34 10.2**	**-3.1**
	36nm,0.2s							
DJR	**Jarkent**	**3.17**	**323**	Pg		**Pb**	**16 33 29.1**	**+1.4**
	16nm,0.3s							
DJR				Lg		Lg	16 34 10.2	
	36nm,0.2s							
SATY	**Saty**	**3.23**	**294**	*eP*		**Pb**	**16 33 27.4**	**-1.2**
	17nm,0.9s							
SATY				*eS*		**Sb**	**16 34 07.8**	**-0.1**
	33nm,0.2s							
SATY	**Saty**	**3.23**	**294**	Pg		**Pb**	**16 33 27.4**	**-1.2**
	17nm,0.9s							
SATY				Lg		Lg	16 34 07.8	
	33nm,0.2s							
ZHN	**Zhinishke**	**3.25**	**296**	*eP*		**Pb**	**16 33 28.5**	**-0.5**
	20nm,0.2s							
ZHN				*eS*		**Sb**	**16 34 09.6**	**+1.1**
	49nm,0.1s							
ZHN	**Zhinishke**	**3.25**	**296**	Pg		**Pb**	**16 33 28.5**	**-0.5**
	20nm,0.2s							
ZHN				Lg		Lg	16 34 09.6	
	49nm,0.1s							
KNOS	**Konyrlen**	**3.48**	**318**	Pg		**Pb**	**16 33 35.2**	**+2.2**
	17nm,0.6s							
KNOS				Lg		Lg	16 34 21.2	
	26nm,0.3s							
KURS	**Kuram**	**3.56**	**299**	*eP*		**Pb**	**16 33 34.1**	**-0.1**
	6.2nm,0.2s							
KURS				*eS*		**Sb**	**16 34 18.8**	**+1.4**
	13nm,0.3s							
BLB	**Baldybastay**	**3.69**	**309**	Pg		**Pb**	**16 33 37.4**	**+0.9**
	19nm,0.2s							
BLB				Lg		Lg	16 34 24.9	
	16nm,0.3s							
KAPS	**Kapalarasan**	**4.12**	**328**	*eP*		**Pg**	**16 33 48.2**	**-2.2**
	20nm,0.3s							
KAPS				*eS*		**Sg**	**16 34 43.1**	**-0.7**
	24nm,0.7s							
KAPS	**Kapalarasan**	**4.12**	**328**	Pg		**Pg**	**16 33 48.2**	**-2.2**
	20nm,0.3s							
KAPS				Lg		Lg	16 34 43.1	
	24nm,0.7s							
ARXS	**Arharly**	**4.14**	**307**	*eP*		**Pb**	**16 33 46.0**	**+1.9**
	8.6nm,0.2s							
ARXS				*eS*		**Sg**	**16 34 39.6**	**-4.6**
	23nm,0.6s							
ARXS	**Arharly**	**4.14**	**307**	Pg		**Pb**	**16 33 46.0**	**+1.9**
	8.6nm,0.2s							
ARXS				Lg		Lg	16 34 39.6	
	23nm,0.6s							
MDOK	**Medeo**	**4.20**	**290**	*eP*		**Pb**	**16 33 46.4**	**+1.1**
	4.1nm,0.9s							
MDOK				*eS*		**Sb**	**16 34 40.2**	**+4.3**
	22nm,0.8s							
MDOK	**Medeo**	**4.20**	**290**	Pg		**Pb**	**16 33 46.4**	**+1.1**
	4.1nm,0.9s							
MDOK				Lg		Lg	16 34 40.2	
	22nm,0.8s							
TNSS	**Tian-Shan**	**4.24**	**289**	*eP*		**Pb**	**16 33 47.3**	**+1.3**
	6.1nm,0.2s							
TNSS				*eS*		**Sb**	**16 34 41.9**	**+4.6**
	8.9nm,0.6s							
TNSS	**Tian-Shan**	**4.24**	**289**	Pg		**Pb**	**16 33 47.3**	**+1.3**
	6.1nm,0.2s							
TNSS				Lg		Lg	16 34 41.9	
	8.9nm,0.6s							
TDK	**Taldyqorghan**	**4.33**	**319**	*eP*		**Pb**	**16 33 50.5**	**+3.2**
	43nm,0.3s							
TDK				*eS*		**Sg**	**16 34 47.0**	**-3.3**
	85nm,2.0s							
TDK	**Taldyqorghan**	**4.33**	**319**	Pg		**Pb**	**16 33 50.5**	**+3.2**
	43nm,0.3s							
TDK				Lg		Lg	16 34 47.0	
	85nm,2.0s							
IZV	**Izvestkoviy**	**4.47**	**288**	*eP*		**Pb**	**16 33 51.7**	**+1.8**
	3.3nm,0.2s							
IZV				*eS*		**Sb**	**16 34 49.3**	**+5.4**
	17nm,0.3s							
IZV	**Izvestkoviy**	**4.47**	**288**	Pg		**Pb**	**16 33 51.7**	**+1.8**
	3.3nm,0.2s							
IZV				Lg		Lg	16 34 49.3	
	17nm,0.3s							
MTBS	**Maitube**	**4.63**	**288**	*eP*		**Pb**	**16 33 53.3**	**+0.8**
	3.6nm,0.1s							
MTBS				*eS*		**Sb**	**16 34 52.2**	**+4.0**
	10nm,0.4s							
MTBS	**Maitube**	**4.63**	**288**	Pg		**Pb**	**16 33 53.3**	**+0.8**
	3.6nm,0.1s							
MTBS				Lg		Lg	16 34 52.2	
	10nm,0.4s							
KTBS	**Karatobe**	**4.63**	**296**	*eP*		**Pb**	**16 33 53.5**	**+0.8**
	4.5nm,0.4s							
KTBS				*eS*		**Sb**	**16 34 52.4**	**+4.0**
	16nm,0.4s							
KTBS	**Karatobe**	**4.63**	**296**	Pg		**Pb**	**16 33 53.5**	**+0.8**
	4.5nm,0.4s							
KTBS				Lg		Lg	16 34 52.4	
	16nm,0.4s							
KST	**Kastek**	**4.94**	**287**	*eP*		**Pb**	**16 33 59.0**	**+1.1**
	8.1nm,0.3s							
KST				*eS*		**Sb**	**16 35 02.2**	**+5.0**
	10nm,0.9s							
KST	**Kastek**	**4.94**	**287**	Pg		**Pb**	**16 33 59.0**	**+1.1**
	8.1nm,0.3s							
KST				Lg		Lg	16 35 02.2	
	10nm,0.9s							
MK31	**Makanchi Array**	**4.98**	**359**	Pn		**Pn**	**16 33 45.7**	**-0.2**
	0.8nm,0.3s,baz=194,slow=13,SNR=79							
MK31				Pg		**Pb**	**16 33 59.2**	**+0.7**
	2.6nm,0.5s,baz=180,slow=15,SNR=10							
MK31				⇓Lg		Lg	16 35 04.5	
	6.3nm,0.6s,baz=175,slow=32,SNR=4.1							
MK31	**Makanchi Array**	**4.98**	**359**	P		**Pb**	**16 33 59.8**	**+1.4**
MKAR	**Makanchi Array**	**4.98**	**359**	P		**Pb**	**16 33 59.6**	**+1.1**
MKAR	**Makanchi Array**	**4.98**	**359**	Pn		**Pn**	**16 33 45.9**	**0.0**
	1.2nm,0.3s,baz=177,slow=13,SNR=46							
MKAR				Pg		**Pb**	**16 33 59.3**	**+0.9**
	2.1nm,0.3s,baz=176,slow=16,SNR=14							
MKAR				Lg		Lg	16 35 03.6	
	2.8nm,0.3s,baz=174,slow=25,SNR=6.3							
	1.2nm,0.3s							
MAKZ	**Makanchi**	**5.00**	**356**	⇓Pn		**Pn**	**16 33 47.3**	**+1.1**
	1.4nm,0.4s							
MAKZ				⇓Lg		Lg	16 35 01.2	
	9.4nm,0.8s							
DGS	**Degeres**	**5.12**	**288**	*eP*		**Pb**	**16 34 02.0**	**+1.0**
	5.4nm,0.5s							
DGS				*eS*		**Sb**	**16 35 07.1**	**+4.7**
	15nm,0.5s							
DGS	**Degeres**	**5.12**	**288**	Pg		**Pb**	**16 34 02.0**	**+1.0**
	5.4nm,0.5s							
DGS				Lg		Lg	16 35 07.1	
	15nm,0.5s							
TKM2	**Tokmak 2**	**5.18**	**285**	⇓Pg		**Pb**	**16 34 00.3**	**-1.7**
	2.3nm,0.6s							
TKM2				⇓Lg		Lg	16 35 17.6	
	8.0nm,0.7s							
KRBS	**Karabastau**	**5.32**	**293**	*eP*		**Pb**	**16 34 07.2**	**+2.9**
	2.0nm,0.3s							
KRBS				*eS*		**Sg**	**16 35 15.8**	**-6.2**
	7.3nm,0.2s							
KRBS	**Karabastau**	**5.32**	**293**	Pg		**Pb**	**16 34 07.2**	**+2.9**
	2.0nm,0.3s							
KRBS				Lg		Lg	16 35 15.8	
	7.3nm,0.2s							
KURBB	**Kurchatov Arra**	**9.21**	**344**	Pn		**Pn**	**16 34 44.5**	**+0.6**
	0.1nm,0.3s,baz=165,slow=12,SNR=4.4							
KURBB				Sn		**Sn**	**16 36 28.0**	**+0.6**
	0.1nm,0.3s,baz=154,slow=23,SNR=4.3							
KURBB				Lg		Lg	16 37 22.1	
	baz=161,slow=28,SNR=3.0							
	0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**9.21**	**344**	⇑Lg		Lg	16 37 11.1	
	7.0nm,0.7s							
KURK	**Kurchatov**	**9.28**	**345**	⇑Lg		Lg	16 37 13.3	
	7.8nm,0.9s							
ZALV	**Zalesovo Beam**	**12.24**	**7**	Pn		**Pn**	**16 35 22.7**	**-2.6**
	0.3nm,0.3s,baz=182,slow=14,SNR=2.0							
	0.5nm,0.3s							
ARCES	**ARCESS Array B**	**40.07**	**333**	P		**P**	**16 40 05.6**	**-0.4**
	9.9nm,1.2s,baz=104,slow=7.5,SNR=5.1							
	9.9nm,1.2s							

IDC ***19*** *16:36:18.7±2.4, 27°.50S×69°.72W, h82km±20km, mb3.8/8, mbtmp4.0/13, Error ellipse: s-maj=26.1km s-min=15.7km az=80.0*
SJA ***19*** *16:36:19.9±1.1, 27°.51S×69°.88W, h75km, ML4.4, MW4.2*
NEIC ***19*** *16:36:19.8±2.1, 27°.53S±0°.05×69°.81W±0°.07, h89km±6km, mb4.4/15, Error ellipse: s-maj=10.1km s-min=6.4km az=120.0*
GUC ***19*** *16:36:20.8±0.8, 27°.49S×69°.92W, h99km±4km, ML4.4*
VAO ***19*** *16:36:21.8±0.5, 27°.33S×69°.52W, h60km, mb4.3*
ISC 19 16:36:19.4±0.6, 27°.57S±0°.03×69°.87W±0°.03, h92km±5km, n126, σ1s87/151, mb4.3/14, 2C-11D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GO03	**Copiap**	**0.33**	**265**			**Pn**	**16 36 34.6**	**+1.4**
GO03				Sn		**Sn**	**16 36 43.7**	**0.0**
GO03	**Copiap**	**0.33**	**265**	*eP*		**Pn**	**16 36 34.7**	**+1.4**
GO03				*eS*		**Sn**	**16 36 45.4**	**+1.8**
GO03				IAML			16 36 46.5	
	comp=Z,24µm,0.2s							
GO03	**Copiap**	**0.33**	**265**	⇓*eP*		**Pn**	**16 36 34.7**	**+1.4**
GO03				*eS*		**Sn**	**16 36 45.0**	**+1.4**
AC06	**Mina Casimiro**	**0.48**	**296**			**Pn**	**16 36 35.4**	**+1.1**
AC06	**Mina Casimiro**	**0.48**	**296**	⇓*iP*		**Pn**	**16 36 35.5**	**+1.3**
AC06				*eS*		**Sn**	**16 36 46.5**	**+1.3**
AC06				IAML			16 36 48.3	
	comp=E,15µm,0.4s							
AC02	**Maricunga**	**0.98**	**42**	Pn		**Pn**	**16 36 40.9**	**+1.3**
AC02	**Maricunga**	**0.98**	**42**	⇑*iP*		**Pn**	**16 36 41.0**	**+1.5**
AC02				*eS*		**Sn**	**16 36 55.9**	**+1.3**
AC02				IAML			16 36 56.9	
	comp=N,27µm,0.3s							
AC04	**Llanos de Chal**	**1.24**	**239**	Pn		**Pn**	**16 36 43.9**	**+1.8**
AC04	**Llanos de Chal**	**1.24**	**239**	*eP*		**Pn**	**16 36 43.2**	**+1.2**
AC04				*eS*		**Sn**	**16 37 01.6**	**+2.5**
AC04				IAML			16 37 02.5	
	comp=Z,5µm,0.5s							
AC04	**Llanos de Chal**	**1.24**	**239**	⇑*iP*		**Pn**	**16 36 43.8**	**+1.7**
AC04				*eS*		**Sn**	**16 37 01.1**	**+2.0**
AC04				IAML			16 37 02.8	
	comp=N,9µm,0.1s							
AC01	**Pan de Azucar**	**1.55**	**335**	Pn		**Pn**	**16 36 47.0**	**+1.1**
AC01	**Pan de Azucar**	**1.55**	**335**	*eP*		**Pn**	**16 36 46.4**	**+0.5**
AC01				*eS*		**Sn**	**16 37 06.6**	**+0.5**
AC01				IAML			16 37 08.4	
	comp=Z,3µm,0.4s							
AC01	**Pan de Azucar**	**1.55**	**335**	⇓*iP*		**Pn**	**16 36 47.1**	**+1.1**
AC01				*eS*		**Sn**	**16 37 05.8**	**-0.2**
AC01				IAML			16 37 08.8	
	comp=N,6µm,0.3s							
LCO	**Las Campanas**	**1.62**	**207**	Pn		**Pn**	**16 36 48.3**	**+1.3**
LCO	**Las Campanas**	**1.62**	**207**	*eP*		**Pn**	**16 36 48.4**	**+1.3**
LCO				*eS*		**Sn**	**16 37 10.3**	**+2.5**
LCO				IAML			16 37 11.2	
	comp=Z,3µm,0.2s							
LCO	**Las Campanas**	**1.62**	**207**	*eP*		**Pn**	**16 36 48.5**	**+1.5**
LCO				*eS*		**Sn**	**16 37 08.9**	**+1.0**
VCA	**Vinchina**	**1.88**	**129**	*eP*		**Pn**	**16 36 52.9**	**+2.6**
VCA				*eS*		Sn	16 37 20.1	+6.4
VCA				IAML			16 37 24.4	
	comp=Z,2µm,0.7s							
VCA	**Vinchina**	**1.88**	**129**	*eP*		**Pn**	**16 36 53.4**	**+3.2**
VCA				*eS*		**Sn**	**16 37 16.8**	**+3.2**
VCA				IAML			16 37 20.4	
	comp=N,3µm,0.7s							
AGUA	**GUANDACOL**	**2.27**	**148**	*eP*		**Pn**	**16 36 58.1**	**+2.8**
AGUA				*eS*		**Sn**	**16 37 26.6**	**+3.8**
AGUA				IAML			16 37 30.2	
	comp=Z,2µm,0.6s							
GO02	**Mina Guanaco**	**2.41**	**6**	Pn		**Pn**	**16 36 58.3**	**+1.0**
GO02	**Mina Guanaco**	**2.41**	**6**	*eP*		**Pn**	**16 36 57.9**	**+0.6**
GO02				*eS*		**Sn**	**16 37 31.2**	**+4.9**
GO02				IAML			16 37 33.3	
	comp=Z,1µm,0.5s							
GO02	**Mina Guanaco**	**2.41**	**6**	⇓*eP*		**Pn**	**16 36 58.4**	**+1.1**
GO02				*iS*		**Sn**	**16 37 21.6**	**-4.7**
GO02				IAML			16 37 51.9	
	comp=E,2µm,0.7s							
CO01	**Juntas del Tor**	**2.41**	**185**			**Pn**	**16 36 59.8**	**+2.5**
CO01	**Juntas del Tor**	**2.41**	**185**	⇓*iP*		**Pn**	**16 37 00.0**	**+2.7**
CO01				IAML			16 37 32.5	
	comp=E,2µm,0.6s							
AROD	**Rodeo**	**2.62**	**172**	*eP*		**Pn**	**16 37 03.1**	**+2.9**
AROD				*eS*		**Sn**	**16 37 28.4**	**-3.0**
CO05	**La Serena**	**2.63**	**207**			**Pn**	**16 37 00.2**	**+0.2**
CO05	**La Serena**	**2.63**	**207**	*eP*		**Pn**	**16 37 00.7**	**+0.7**
CO05				*eS*		Sn	16 37 24.0	-7.3
ACDV	**Cuesta del Vie**	**2.68**	**166**	*eP*		**Pn**	**16 37 04.4**	**+3.6**
ACDV				*eS*		**Sn**	**16 37 28.4**	**-4.2**
GO04	**Tololo Observa**	**2.72**	**197**			**Pn**	**16 37 02.4**	**+0.9**
GO04	**Tololo Observa**	**2.72**	**197**	*eP*		**Pn**	**16 37 02.4**	**+0.9**
GO04				*eS*		Sn	16 37 25.6	-8.1
PB14	**IPOC Station P**	**2.97**	**351**	Pn		**Pn**	**16 37 04.7**	**-0.1**
PB14	**IPOC Station P**	**2.97**	**351**	⇓*iP*		**Pn**	**16 37 04.8**	**0.0**
PB14				*iS*		Sn	16 37 29.1	-11
ACCO	**Cerro Coronel**	**3.09**	**167**	*eS*		**Sn**	**16 37 48.2**	**+5.5**
ACLC	**CERRO LA CRUZ**	**3.17**	**127**	*eP*		**Pn**	**16 37 09.3**	**+1.9**
ACLC				*eS*		**Sn**	**16 37 43.0**	**-1.3**
ACLC				IAML			16 37 54.1	
	comp=Z,690nm,0.6s							
CO03	**El Pedregal**	**3.34**	**192**	Pn		**Pn**	**16 37 10.4**	**+0.9**
CO03	**El Pedregal**	**3.34**	**192**	⇓*iP*		**Pn**	**16 37 10.5**	**+0.9**
CO06	**Fray Jorge**	**3.46**	**206**			**Pn**	**16 37 10.9**	**-0.3**
CO06	**Fray Jorge**	**3.46**	**206**	*eP*		**Pn**	**16 37 10.5**	**-0.7**
CYA	**Choya**	**3.70**	**105**	*eP*		**Pn**

LMEL	Las Melosas	6.27	183			Pn	16 37 48.4	-1.0
MT01	Popeta	6.39	190			Pn	16 37 48.6	-2.3
BO04	La Punta	6.43	185			Pn	16 37 49.8	-1.8
PB01	IPOC Station P	6.50	3			Pn	16 37 50.1	-2.5
BO01	Tunca	6.88	188			Pn	16 37 55.0	-2.6
BO02	Sierra Bellavi	7.25	186			Pn	16 38 00.8	-1.9
PB08	IPOC Station P	7.42	5	Pn		Pn	16 38 02.5	-2.8
GO01	Chusmiza	7.88	5			Pn	16 38 08.7	-3.1
PB16	IPOC Station P	9.19	2	Pn		Pn	16 38 27.4	-2.3
CPUP	Villa Florida	11.26	87	Pn		Pn	16 38 55.8	-1.4
CPUP	Villa Florida	11.26	87	P		Pn	16 38 54.9	-2.3
	comp=Z,1.5nm,0.6s,baz=256,slow=17,SNR=3.0							
PSAL	Palomas, Salto	11.26	111	eP		Pn	16 38 55.9	-1.3
LPAZ	La Paz	11.34	9	eP		Pn	16 38 56.7	-2.2
LPAZ	La Paz	11.34	9	P		Pn	16 38 56.4	-2.5
	comp=Z,0.8nm,0.4s,baz=196,slow=7.1,SNR=2.8							
LPAZ	La Paz	11.34	9	eP		Pn	16 38 56.5	-2.4
ITQB	Itaqui	11.83	103	eP		Pn	16 39 05.6	+0.7
TRQA	Tornquist	12.38	150			Pn	16 39 10.5	-1.8
RODS	Rosario do Sul	13.14	106	eP		Pn	16 39 22.3	-0.2
PLCA	Paso Flores	13.15	182	Pn		Pn	16 39 22.2	-0.3
PLCA	Paso Flores	13.15	182	P		Pn	16 39 21.8	-0.6
	comp=Z,1.4nm,0.7s,baz=12,slow=14,SNR=3.7							
PLCA	Paso Flores	13.15	182	eP		P	16 39 29.4	+0.3
BBSD	Serra de San D	13.41	42	eP		Pn	16 39 24.7	-1.3
SIV	San Ignacio	14.11	37	P		Pn	16 39 32.3	-2.8
	comp=Z,0.7nm,0.5s,baz=207,slow=12,SNR=3.7							
LDASE	Londrina, Braz	17.43	80	eP		P	16 40 16.8	+0.1
ITRB	Iturama	19.50	71	eP		Pn	16 40 40.1	-1.3
SAML	Samuel	19.57	20	eP		Pn	16 40 41.3	-0.9
CZSB	Cruzeiro do Su	19.91	352	eP		Pn	16 40 45.8	-0.4
PDRB	Porto dos Gac	20.10	40	eP		Pn	16 40 46.8	-1.6
MCRA	Macar, Loja	24.99	336	P		P	16 41 35.2	+0.4
EFI	East Falkland	25.67	163	P		P	16 41 40.8	+0.3
TEIG	Tepich	50.74	337	P		P	16 45 10.4	+0.4
BELA	Belgrano 2	52.90	171	P		P	16 45 26.4	+1.0
TROLL	Troll, Antarti	58.60	160	⇓P		P	16 46 07.2	+0.8
	comp=Z,287nm,0.4s							
QSPA	South Pole Qui	62.65	180	P		P	16 46 35.3	+1.3
	comp=Z,2.3nm,0.6s,baz=150,slow=20,SNR=37							
	comp=Z,2.3nm,0.6s							
TXAR	Lajitas Array	65.18	328	P		P	16 46 51.8	+0.8
	comp=Z,0.8nm,0.8s,baz=144,slow=8.5,SNR=7.3							
	comp=Z,0.8nm,0.8s							
DBIC	Dimbokro	71.38	72	P		P	16 47 29.6	-0.2
DBIC				IAmb	IAmb		16 47 56.9	
	comp=Z,8.5nm,0.9s							
DBIC	Dimbokro	71.38	72	P		P	16 47 29.4	-0.4
	comp=Z,4.4nm,0.8s,baz=234,slow=6.2,SNR=2.0							
	comp=Z,2.4nm,0.8s							
HWUT	Hardware Ranch	78.89	329	P		P	16 48 13.4	+0.7
HWUT				IAmb	IAmb		16 48 15.0	
	comp=Z,4.9nm,0.7s							
PDAR	Pinedale Array	78.95	331	P		P	16 48 14.0	+0.9
	comp=Z,0.8nm,0.6s,baz=124,slow=7.2,SNR=9.7							
	comp=Z,0.8nm,0.6s							
SPUT	South Promonto	79.06	329	P		P	16 48 14.6	+1.0
SPUT				IAmb	IAmb		16 48 25.9	
	comp=Z,5.7nm,1.1s							
NVAR	Mina Array Bea	79.77	323	P		P	16 48 18.6	+1.1
	comp=Z,0.4nm,0.6s,baz=136,slow=7.1,SNR=2.8							
	comp=Z,0.4nm,0.6s							
TOA0	Torodi Ar. Sit	80.25	70	P		P	16 48 20.1	-0.2
TOA0				IAmb	IAmb		16 48 58.1	
	comp=Z,3.1nm,0.7s							
TORD	Torodi Ar. Bea	80.25	70	P		P	16 48 20.2	-0.2
TORD	Torodi Ar. Bea	80.25	70	P		P	16 48 20.4	0.0
	comp=Z,1.7nm,0.6s,baz=242,slow=3.1,SNR=12							
	comp=Z,1.7nm,0.6s							
FLWY	Flagg Ranch	80.50	331	P		P	16 48 23.2	+1.9
FLWY				IAmb	IAmb		16 48 48.7	
	comp=Z,8.6nm,1.3s							
ULM	Lac du Bonnet	80.83	343	P		P	16 48 22.4	-0.3
	comp=Z,2.7nm,0.8s,baz=169,slow=5.2,SNR=4.5							
	comp=Z,2.7nm,0.8s							
BOSA	Boshof	81.40	118	P		P	16 48 26.6	+0.1
LBTB	Lobatse	83.29	115	P		P	16 48 36.5	+0.1
LBTB				IAmb	IAmb		16 49 14.7	
	comp=Z,8.2nm,1.2s							
PLID	Pearl Lake	83.63	329	P		P	16 48 38.3	+0.6
PLID				IAmb	IAmb		16 48 39.9	
	comp=Z,2.7nm,0.8s							
FCC	Fort Churchill	88.33	348	P		P	16 49 00.9	+0.7
EDM	Edmonton	88.88	336	P		P	16 49 03.2	+0.2
YKA	Yellowknife Ar	96.60	341	P		P	16 49 37.8	-0.4
	comp=Z,0.3nm,0.6s,baz=139,slow=4.2,SNR=3.9							
	comp=Z,0.3nm,0.6s							
ASAR	Alice Springs	124.14	207	PKP		PKPdf	16 55 07.7	-0.2
	comp=Z,0.2nm,0.4s,baz=133,slow=1.7,SNR=8.4							
KURBB	Kurchatov Arra	146.77	38	PKPbc		PKPbc	16 55 49.8	-0.7
	comp=Z,0.6nm,0.5s,baz=306,slow=3.1,SNR=10							
ZALV	Zalesovo Beam	147.74	28	PKPbc		PKPdf	16 55 51.2	+1.2
	comp=Z,2.0nm,0.4s,baz=339,slow=3.7,SNR=9.6							
MKAR	Makanchi Array	150.91	41	PKPbc		PKiKP	16 56 01.8	0.0
	comp=Z,1.0nm,0.7s,baz=322,slow=2.2,SNR=12							

*IDC **19** 16:36:40.5±4.9, 27°.55S×69°.80W, h51km±39km, mb3.8/8, mbtmp4.1/9, ML4.5/1, Error ellipse: s-maj=32.0km s-min=25.0km az=52.0*

ISC 19 16:36:40.2±0.8, 27°.6S±0°.1×69°.8W±0°.2, h50km, n14, σ0s58/14, mb4.0/8, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	5.00	9	P	Pn	16 37 53.1	0.0
	19nm,0.3s,baz=221,slow=11,SNR=7.9			S	Sn	16 38 50.7	+0.9
LVC							
	329nm,0.7s,baz=336,slow=13,SNR=5.8						
	51nm,0.4s						
SIV	San Ignacio	14.08	37	P	Pn	16 39 50.7	-6.3
	2.5nm,0.4s,baz=236,slow=6.5,SNR=12						
BDFB	Brasilia	23.43	64	P	P	16 41 44.1	-1.1
	4.5nm,0.8s,baz=224,slow=3.8,SNR=4.5						
	4.5nm,0.8s						
QSPA	South Pole Qui	62.65	180	P	P	16 46 60.0	+0.6
	1.5nm,0.6s,baz=180,slow=1.6,SNR=2.7						
	1.5nm,0.6s						
TXAR	Lajitas Array	65.22	328	P	P	16 47 16.6	0.0
	0.5nm,0.7s,baz=156,slow=6.8,SNR=3.3						
	0.5nm,0.7s						
DBIC	Dimbokro	71.31	72	P	P	16 47 55.3	+0.3
	4.7nm,0.7s,baz=213,slow=7.2,SNR=4.0						
	4.7nm,0.7s						
PDAR	Pinedale Array	78.99	331	P	P	16 48 39.0	+0.1
	1.4nm,1.0s,baz=145,slow=5.4,SNR=4.4						
	1.4nm,1.0s						
NVAR	Mina Array Bea	79.81	323	P	P	16 48 43.2	-0.2
	0.5nm,0.8s,baz=134,slow=8.5,SNR=2.9						
	0.5nm,0.8s						
TORD	Torodi Ar. Bea	80.19	70	P	P	16 48 45.9	+0.3
	1.6nm,0.8s,baz=268,slow=4.5,SNR=5.7						
	1.6nm,0.8s						
ULM	Lac du Bonnet	80.86	343	P	P	16 48 47.5	-1.0
	1.4nm,0.6s,baz=67,slow=2.7,SNR=2.6						
	1.4nm,0.6s						
ASAR	Alice Springs	124.16	206	PKP	PKPdf	16 55 33.8	-0.2
	0.3nm,0.7s,baz=123,slow=1.6,SNR=2.3						
KURBB	Kurchatov Arra	146.74	38	PKPbc	PKPbc	16 56 16.5	+0.2
	0.8nm,0.6s,baz=299,slow=3.2,SNR=4.7						
ZALV	Zalesovo Beam	147.72	28	PKPbc	PKPbc	16 56 19.0	+0.1
	2.0nm,0.6s,baz=307,slow=4.3,SNR=3.5						
MKAR	Makanchi Array	150.87	41	PKPbc	PKPbc	16 56 27.3	+0.3
	1.4nm,0.6s,baz=297,slow=2.0,SNR=6.6						

KRSC 19 16:40:53.6±1.3, 54°.32N×161°.92E, h41km±22km, Ml3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TUMD	Tumrok D	1.25	316	eP	Pn	16 41 15.2	+0.5
TUMD				eS	Sn	16 41 30.1	-0.2
TUMR	Tumrok	1.41	314	eP	Pn	16 41 18.3	+1.3
SPN	Mys Shipunski	1.66	223	eP	Pn	16 41 21.0	+0.8
SPN				eS	Sn	16 41 40.5	+0.2
KMNR	Kamenistaya	1.74	327	eP	Pn	16 41 23.4	+2.0
KMNR				eS	Sn	16 41 45.2	+2.8
BZGR	Bezymyannyi-Gr	1.77	337	eP	Pn	16 41 23.8	+1.9
BZGR				eS	Sn	16 41 45.3	+2.1
BZP	Bezymyannyi-Pe	1.79	334	eP	Pn	16 41 23.9	+1.8
BZP				eS	Sn	16 41 46.3	+2.7
BZMR	Bezymyannaya	1.82	334	eP	Pn	16 41 24.7	+2.1
BZMR				eS	Sn	16 41 47.4	+3.0
ZLN	Zelenaya	1.82	340	eP	Pn	16 41 24.2	+1.6
ZLN				eS	Sn	16 41 47.2	+2.7
BZWR	Bezymyannyi-We	1.84	334	eP	Pn	16 41 25.0	+2.1
BZWR				eS	Sn	16 41 47.4	+2.4
KIRR	Kirishev	1.87	332	eP	Pn	16 41 25.8	+2.5
KIRR				eS	Sn	16 41 48.8	+3.0
LGNR	Loginova	1.91	339	eP	Pn	16 41 26.2	+2.3
LGNR				eS	Sn	16 41 49.9	+3.1
NLC	Nalytchevo	1.91	234	eP	Pn	16 41 24.8	+1.2
NLC				eS	Sn	16 41 48.2	+1.8
KPT	Kopyto	1.92	330	eP	Pn	16 41 26.4	+2.5
KPT				eS	Sn	16 41 50.7	+3.9
CIRR	Tsirk	1.92	340	eP	Pn	16 41 27.5	+3.5
CIRR				eS	Sn	16 41 51.1	+4.0
KBG	Krutoberegovo	2.00	13	eP	Pn	16 41 26.5	+1.7
KBG				eS	Sn	16 41 50.4	+1.9
KRSR	Krestovskiy	2.06	338	eP	Pn	16 41 27.7	+1.9
KRSR				eS	Sn	16 41 52.6	+2.4
KOZ	Kozyrevsk	2.10	327	eP	Pn	16 41 28.9	+2.5
KOZ				eS	Sn	16 41 55.1	+3.9
SMAR	Somma	2.13	242	eP	Pn	16 41 29.0	+2.2
SMAR				eS	Sn	16 41 55.4	+3.3
KLY	Klyuchi	2.13	341	eP	Pn	16 41 28.2	+1.5
KLY				eS	Sn	16 41 52.3	+0.5
KRER	Koryakskii	2.13	243	eP	Pn	16 41 29.7	+2.8
KRER				eS	Sn	16 41 56.1	+3.8
AVH	Avacha	2.16	242	eP	Pn	16 41 30.0	+2.8
AVH				eS	Sn	16 41 57.2	+4.5
KRX	Arik	2.16	245	eP	Pn	16 41 29.7	+2.5
KRX				eS	Sn	16 41 56.7	+3.8
KOK	Koryaka	2.20	244	eP	Pn	16 41 30.4	+2.6
DALK	Dalny	2.28	237	eP	Pn	16 41 30.8	+2.1
DALK				eS	Sn	16 41 58.9	+3.4
BDR	Baidarnaya	2.29	350	eP	Pn	16 41 31.4	+2.4
PET	Petropavlovsk	2.33	238	eP	Pn	16 41 31.7	+2.2
PET				eS	Sn	16 41 59.8	+2.9
SRDR	Sredinnyy	2.37	329	eP	Pn	16 41 32.0	+2.0
SRDR				eS	Sn	16 42 00.5	+2.7
GNL	Ganaly	2.43	257	eP	Pn	16 41 33.9	+3.0
GNL				eS	Sn	16 42 02.7	+3.4
ESO	Esso	2.45	312	eP	Pn	16 41 32.9	+1.7
ESO				eS	Sn	16 42 02.8	+3.0
KRMR	Karymshinskiy	2.70	238	eP	Pn	16 41 36.9	+2.3
KRMR				eS	Sn	16 42 09.5	+3.5
RUS	Russkaya	2.78	229	eP	Pn	16 41 39.2	+3.6
RUS				eS	Sn	16 42 12.7	+5.0
MTVR	Mutnovka	2.89	232	eP	Pn	16 41 40.1	+2.8
MTVR				eS	Sn	16 42 14.3	+3.4
ASAK	Asacha	3.09	233	eP	Pn	16 41 43.0	+3.0
ASAK				eS	Sn	16 42 20.3	+4.7
APC	Apacha	3.16	246	eP	Pn	16 41 44.6	+3.9
APC				eS	Sn	16 42 22.4	+5.2
KDTR	Khodutka, Kamc	3.42	224	eP	Pn	16 41 49.3	+5.0
TIGL	Tigil	3.91	334	eP	Pn	16 41 55.7	+4.6

*IDC **19** 16:53:04.3±1.3, 6°.01S×143°.17E, h0km, mb3.8/3, mbtmp3.9/6, ML3.7/1, MS3.3/10, Error ellipse: s-maj=35.9km s-min=23.9km az=70.0*
*NEIC **19** 16:53:10.1±1.7, 6°.5S±0°.2×143°.1E±0°.1, h10km±2km, mb4.1/7, Error ellipse: s-maj=27.9km s-min=21.2km az=350.0*

ISC 19 16:53:09.6±1.2, 6°.5S±0°.1×143°.02E±0°.08, h10km, n25, σ1s57/17, mb4.1/3, MS3.3/9, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	5.01	125		Pn	16 54 23.7	-1.2
PMG	Port Moresby	5.01	125	Pn	Pn	16 54 24.1	-0.9
	10nm,0.5s,baz=335,slow=5.0,SNR=8.7						
PMG				Sn	Sn	16 55 23.7	+0.8
	baz=291,slow=21						
PMG				LR	LR	16 57 24.2	
	comp=Z,521nm,18.6s,baz=298,slow=50						
MTN	Manton Dam	13.29	241	Pn	Pn	16 56 17.9	-0.6
WB0	Warramunga Arr	15.61	212	Pn	Pn	16 56 51.1	+1.2
WB0				IAmb	IAmb	16 57 23.2	
	comp=Z,15nm,1.4s						
WR0	Warramunga Arr	15.70	211	Pn	Pn	16 56 52.2	+1.2
WB2	Warramunga Arr	15.78	211	Pn	Pn	16 56 53.8	+1.7
WB2				IAmb	IAmb	16 57 01.8	
	comp=Z,18nm,1.4s						
WRA	Warramunga Arr	15.79	211	Pn	Pn	16 56 52.6	+0.4
	comp=Z,0.3nm,0.3s,baz=35,slow=13,SNR=5.9						
WRA				Sn	Sn	16 59 43.6	-3.8
	comp=Z,0.1nm,0.3s,baz=29,slow=24,SNR=2.1						
WRA				Lg	Lg	17 01 41.5	
	baz=38,slow=32						
	comp=Z,1.2nm,0.7s						
KNRA	Kununurra	16.68	236	Pn	Pn	16 57 02.8	-0.8
KNRA				IAmb	IAmb	16 57 25.3	
	comp=Z,36nm,1.4s						
ASAR	Alice Springs	19.17	206	P	P	16 57 34.5	+0.9
ASAR	Alice Springs	19.17	206	P	Pn	16 57 36.6	+2.1
	comp=Z,11nm,0.8s,baz=33,slow=9.9,SNR=45						
ASAR				S	Sn	17 01 09.6	+0.1
	comp=Z,0.9nm,1.2s,baz=23,slow=25,SNR=3.0						
GUMO	Guam	20.05	5	LR	LR	17 04 30.7	
	comp=Z,51nm,19.0s,baz=70,slow=35						
FITZ	Fitzroy Crossi	20.49	234	P	P	16 57 49.8	+2.0
FITZ				IAmb	IAmb	16 57 54.1	
	comp=Z,10nm,1.5s						
DAV	Davao City (W)	22.02	307	LR	LR	17 08 01.4	
	comp=Z,67nm,18.3s,baz=146,slow=41						
DZM	Mont Dzumac	27.40	127	LR	LR	17 10 13.2	
	comp=Z,104nm,19.3s,baz=282,slow=37						
TGY	Tagaytay City	29.99	313	LR	LR	17 11 46.0	
	comp=Z,43nm,19.2s,baz=253,slow=38						
NWAO	Narrogin (SRO)	35.57	219	LR	LR	17 14 30.9	
	comp=Z,110nm,20.3s,baz=206,slow=36						
JNU	Nakatsue	41.07	344	LR	LR	17 14 44.6	
	comp=Z,42nm,21.8s,baz=150,slow=32						
KSRS	Korea Array	45.95	343	LR	LR	17 20 34.6	
	comp=Z,14nm,18.8s,baz=170,slow=36						
SONM	Songino Array	63.00	333	LR	LR	17 32 29.5	
	comp=Z,25nm,18.8s,baz=172,slow=38						
SHEM	Shemya Is, Ala	64.66	20	LR	LR	17 26 53.2	
	comp=Z,24nm,20.1s,baz=279,slow=32						
MKAR	Makanchi Array	75.41	322	P	P	17 04 48.2	-5.5
	comp=Z,0.2nm,0.6s,baz=102,slow=6.1,SNR=4.1						
	comp=Z,0.2nm,0.6s						
QSPA	South Pole Qui	83.46	180	P	P	17 05 37.1	-0.3
QSPA				IAmb	IAmb	17 05 38.2	
	comp=Z,3.7nm,1.1s						
QSPA	South Pole Qui	83.46	180	P	P	17 05 36.5	-0.9
	comp=Z,1.5nm,1.0s,baz=342,slow=3.2,SNR=7.7						
	comp=Z,1.5nm,1.0s						
BVAR	Borovoye Array	84.87	325	P	P	17 05 39.3	-5.3
	comp=Z,0.8nm,0.7s,baz=116,slow=6.6,SNR=4.1						
	comp=Z,0.8nm,0.7s						
B22K	Teshekpuk Lake	87.50	18	P	P	17 05 57.0	-0.1

*IDC **19** 17:06:03.1±5.0, 51°.45N×160°.53E, h0km, mb3.8/3, mbtmp3.7/4, ML2.5/1, MS3.6/2, Error ellipse: s-maj=97.2km s-min=65.6km az=177.0*
*KRSC **19** 17:06:10.4±1.3, 52°.14N×160°.53E, h42km±19km, Ml3.5*

ISC 19 17:06:12.4±1.6, 52°.1N±0°.1×160°.5E±0°.1, h37km±3km, n26, σ1s00/41, mb4.3/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	Mys Shipunski	1.05	344	eP	Pn	17 06 29.3	-1.2
SPN				eS	Sn	17 06 41.7	-2.2
RUS	Russkaya	1.27	286	eP	Pn	17 06 32.8	-0.7
RUS				eS	Sn	17 06 48.4	-0.8
NLC	Nalytchevo	1.29	327	eP	Pn	17 06 33.0	-0.8
NLC				eS	Sn	17 06 49.4	-0.4
DALK	Dalny	1.42	312	eP	Pn	17 06 34.7	-0.9
DALK				eS	Sn	17 06 51.9	-1.2
PET	Petropavlovsk	1.46	310	eP	Pn	17 06 35.7	-0.5
PET				eS	Sn	17 06 53.4	-0.7
MTVR	Mutnovka	1.47	286	eP	Pn	17 06 36.3	-0.2
MTVR				eS	Sn	17 06 54.5	-0.1
KDTR	Khodutka, Kamc	1.52	260	eP	Pn	17 06 37.0	0.0
KDTR				eS	Sn	17 06 55.3	-0.2
SMAR	Somma	1.56	319	eP	Pn	17 06 37.2	-0.6
AVH	Avacha	1.59	318	eP	Pn	17 06 38.0	0.0
AVH				eS	Sn	17 06 57.7	+0.4
KRER	Koryakskii	1.61	319	eP	Pn	17 06 38.5	0.0
KRER				eS	Sn	17 06 58.5	+0.4
ASAK	Asacha	1.62	281	eP	Pn	17 06 38.5	0.0
ASAK				eS	Sn	17 06 59.6	+1.4
KRMR	Karymshinskiy	1.63	298	eP	Pn	17 06 38.1	-0.3
KRMR				eS	Sn	17 06 58.9	+0.8
KOK	Koryaka	1.65	317	eP	Pn	17 06 39.1	+0.2
KOK				eS	Sn	17 06 59.8	+0.9
KRX	Arik	1.69	319	eP	Pn	17 06 39.4	-0.1
KRX				eS	Sn	17 06 59.3	-0.7
PETK	Petropavlovsk-	1.99	302	Pn	Pn	17 06 43.7	+0.3
	5.1nm,0.3s,baz=114,slow=21,SNR=184						
PETK				Sn	Sn	17 07 08.2	+1.1
	7.3nm,0.3s,baz=90,slow=18,SNR=5.0						
	9.7nm,0.3s						
APC	Apacha	2.21	294	eP	Pn	17 06 47.3	+0.9
APC				eS	Sn	17 07 12.7	+0.4
GNL	Ganaly	2.23	317	eP	Pn	17 06 48.3	+1.4
GNL				eS	Sn	17 07 15.5	+2.3
TUMD	Tumrok D	3.12	359	eP	Pn	17 06 58.8	-0.2
TUMD				eS	Sn	17 07 34.3	-0.6
TUMR	Tumrok	3.20	356	eP	Pn	17 07 01.4	+1.2
KMNR	Kamenistaya	3.67	358	eP	Pn	17 07 08.9	+2.2
ESO	Esso	3.98	345	eP	Pn	17 07 11.9	+1.0
SPITS	Spitsbergen Ar	48.16	351	P	P	17 14 49.1	+0.9
	3.9nm,0.8s,baz=46,slow=4.2,SNR=0.9						
	3.9nm,0.8s						
MKAR	Makanchi Array	48.82	297	P	P	17 14 52.1	-1.6
	0.1nm,0.4s,baz=50,slow=6.1,SNR=4.0						
	0.1nm,0.4s						
AAK	Ala-Archa	55.75	297	LR	LR	17 39 10.2	
	comp=Z,320nm,18.2s,baz=277,slow=35						
FINES	FINESS Array B	61.14	337	P	P	17 16 22.8	+0.4
	2.4nm,1.1s,baz=31,slow=6.5,SNR=4.4						
	2.4nm,1.1s						
BATI	Baumata	69.66	219	LR	LR	17 43 34.6	
	comp=Z,80nm,20.6s,baz=118,slow=32						

*IDC **19** 17:08:23.2±1.5, 59°.56N×153°.17W, h99km±24km, mb3.1/1, mbtmp3.6/5, Error ellipse: s-maj=29.1km s-min=12.0km az=111.0*
*NEIC **19** 17:08:23.9±0.9, 59°.48N±0°.04×153°.35W±0°.10, h126km±4km, Error ellipse: s-maj=7.2km s-min=5.6km az=106.0*
*AEIC **19** 17:08:25.3±1.2, 59°.49N±0°.03×153°.37W±0°.10, h119km±4km, ML3.4, ML3.6/142(NEIC), Error ellipse: s-maj=7.2km s-min=4.9km az=103.0*

ISC 19 17:08:23.2±0.9, 59°.49N±0°.04×153°.34W±0°.03, h128km±6km, n273, σ1s08/263, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AUL	Augustine Lava	0.12	204		Pn	17 08 41.3	+0.7
AUL					Sn	17 08 53.8	+0.1
AU22	Augustine Moun	0.12	184		Pn	17 08 41.1	+0.6
AU22					Sn	17 08 53.7	+0.1
AUCH	Augustine Cone	0.14	202		Pn	17 08 41.3	+0.6
AUCH					Sn	17 08 54.3	+0.5
P19K	Oil Pt	0.17	19	Pn	Pn	17 08 41.1	+0.5
P19K				IAML		17 08 54.3	
	comp=N,2μm,0.8s						
P19K				IAML		17 08 55.0	
	comp=E,2μm,0.4s						
P19K	Oil Pt	0.17	19	P	Pn	17 08 41.2	+0.5
	baz=203						
ILSW	Iliamna Southw	0.51	11		Pn	17 08 42.3	+0.2
ILSW	Iliamna Southw	0.51	11		Sn	17 08 56.4	-0.1
IVE	Iliamna Volcan	0.55	17		Pn	17 08 42.8	+0.4
Q19K	Cape Douglas,	0.58	196		Pn	17 08 42.5	0.0
Q19K				IAML		17 09 00.3	
	comp=N,2μm,0.8s						
Q19K				IAML		17 09 00.0	
	comp=E,3μm,0.9s						
Q19K	Cape Douglas,	0.58	196		Sn	17 08 57.1	0.0
Q19K	Cape Douglas,	0.58	196	P	Pn	17 08 42.8	+0.3
	baz=14						
Q19K				S	Sn	17 08 57.1	0.0
	baz=14						
O20K	Slope Mountain	0.69	31		Pn	17 08 44.1	+0.8
O20K	Slope Mountain	0.69	31	P	Pn	17 08 44.1	+0.8
	baz=212						
Q19K	Port Alsworth	0.86	325		Pn	17 08 45.0	+0.4
O19K					Sn	17 09 00.7	-0.1
Q19K	Port Alsworth	0.86	325	P	Pn	17 08 45.0	+0.4
	baz=146						
O19K				S	Sn	17 09 00.7	-0.1
	baz=146						
HOM	Homer	0.88	78		Pn	17 08 46.1	+1.4
HOM	Homer	0.88	78	IAML		17 09 05.6	
	comp=E,2μm,0.4s						
HOM	Homer	0.88	78	P	Pn	17 08 46.1	+1.4
	baz=260						
P18K	Big Mountain,	0.97	265	Pn	Pn	17 08 45.5	0.0
P18K				IAML		17 09 02.3	
	comp=E,343nm,0.8s						
P18K	Big Mountain,	0.97	265		Sn	17 09 01.7	-0.9
P18K	Big Mountain,	0.97	265	P	Pn	17 08 45.6	0.0
	baz=83						
P18K				S	Sn	17 09 01.7	-0.9
	baz=83						
Q20K	Shuyak Island	1.01	151	P	Pn	17 08 46.5	+0.6
	baz=331						
Q20K				S	Sn	17 09 02.9	-0.2
	baz=331						
SYI	Shuyak Island	1.01	151	Pn	Pn	17 08 46.7	+0.8
SYI	

O17K	Koliganek Bris	1.93	280			Pn	17 08 57.0	+0.9
O17K	Koliganek Bris baz=97	1.93	280	P		Pn	17 08 57.0	+0.9
SEW	Seward	2.06	71			Pn	17 08 58.5	+0.9
SEW	Seward baz=254	2.06	71	P		Pn	17 08 58.5	+0.9
O22K	Cooper Landing	2.07	60			Pn	17 08 58.7	+0.9
O22K	Cooper Landing baz=243	2.07	60	P		Pn	17 08 59.0	+1.2
N17K	Nushagak Hills	2.19	300			Pn	17 09 00.2	+0.9
N17K	Nushagak Hills comp=N,148nm,0.8s	2.19	300	IAML			17 09 27.7	
N17K	Nushagak Hills baz=117	2.19	300	P		Pn	17 09 00.2	+0.9
FIS	Fire Island	2.27	42			Pn	17 09 02.0	+1.7
FIS	comp=N,638nm,0.5s			IAML			17 09 38.9	
FIS	comp=E,641nm,0.6s			IAML			17 09 41.3	
OHAK	Old Harbor	2.27	179			Pn	17 08 59.8	-0.6
OHAK	Old Harbor baz=359	2.27	179	P		Pn	17 08 59.8	-0.6
M18K	Stony River	2.35	330			Pn	17 09 01.9	+0.5
M18K	Stony River baz=148	2.35	330	P		Pn	17 09 01.9	+0.5
SUA	Susitna One	2.36	32	Pn		Pn	17 09 02.8	+1.3
SUA	comp=N,532nm,0.6s			IAML			17 09 32.8	
SUA	Susitna One baz=214	2.36	32	P		Pn	17 09 02.8	+1.3
PLK3	Peulik 3	2.37	222			Pn	17 09 02.5	+0.9
M20K	Styx River	2.40	2			Pn	17 09 03.1	+1.0
M20K	Styx River baz=183	2.40	2	P		Pn	17 09 03.1	+1.0
RC01	Rabbit Creek A	2.41	47			Pn	17 09 03.2	+1.1
RC01	comp=N,495nm,0.5s			IAML			17 09 34.9	
RC01	Rabbit Creek A baz=230	2.41	47	P		Pn	17 09 03.2	+1.1
O16K	Kokwok River B	2.42	274			Pn	17 09 03.2	+1.0
O16K	Kokwok River B baz=90	2.42	274	P		Pn	17 09 03.2	+1.0
P16K	Nushagak River baz=77	2.43	261	P		Pn	17 09 03.5	+1.2
M19K	Big River Lodg	2.48	348			Pn	17 09 03.5	+0.6
M19K	Big River Lodg baz=168	2.48	348	P		Pn	17 09 03.5	+0.6
SKT	Skwentna	2.65	19			Pn	17 09 05.9	+0.7
SKT	Skwentna comp=N,74nm,0.4s	2.65	19	IAML			17 09 40.7	
SKT	comp=E,112nm,0.3s			IAML			17 09 41.4	
SKT	Skwentna baz=201	2.65	19	P		Pn	17 09 05.9	+0.7
M22K	Willow	2.77	34			Pn	17 09 07.7	+1.1
M17K	Holitna River	2.79	315			Pn	17 09 07.9	+1.0
M17K	Holitna River comp=N,98nm,0.9s	2.79	315	IAML			17 09 42.1	
M17K	comp=E,101nm,0.9s			IAML			17 09 46.8	
M17K	Holitna River baz=132	2.79	315	P		Pn	17 09 07.9	+1.0
L19K	White Mountain	2.80	345			Pn	17 09 07.5	+0.4
L19K	White Mountain comp=E,65nm,1.1s	2.80	345	IAML			17 09 42.5	
L19K	White Mountain baz=164	2.80	345	P		Pn	17 09 07.5	+0.4
N16K	Nishlik Lake	2.90	292			Pn	17 09 09.5	+1.1
N16K	Nishlik Lake baz=108	2.90	292	P		Pn	17 09 09.5	+1.1
PMR	Palmer	2.96	43			Pn	17 09 10.1	+1.0
PMR	Palmer comp=N,127nm,0.5s	2.96	43	IAML			17 09 48.1	
PMR	comp=E,127nm,0.7s			IAML			17 09 51.8	
PMR	Palmer baz=227	2.96	43	P		Pn	17 09 10.1	+1.0
SII	Sitkinak Islan	2.97	189	Pn		Pn	17 09 07.8	-1.6
SII	comp=N,209nm,0.9s			IAML			17 09 44.6	
SII	comp=E,185nm,0.9s			IAML			17 09 55.6	
L20K	Farewell, AK baz=175	3.01	355	P		Pn	17 09 10.8	+1.0
P23K	Montague Islan baz=263	3.05	78	P		Pn	17 09 11.2	+0.9
KNK	Knik Glacier	3.09	49			Pn	17 09 11.4	+0.5
KNK	Knik Glacier baz=234	3.09	49	P		Pn	17 09 11.3	+0.5
GHO	Glory Hole Cre	3.16	42			Pn	17 09 12.1	+0.3
GHO	comp=N,203nm,0.7s			IAML			17 09 53.6	
L18K	Granite Mounta	3.19	331			Pn	17 09 12.6	+0.5
L18K	Granite Mounta baz=148	3.19	331	P		Pn	17 09 12.7	+0.6
M16K	Timber Creek	3.19	301			Pn	17 09 13.2	+1.0
M16K	Timber Creek baz=116	3.19	301	P		Pn	17 09 13.2	+1.0
CUT	Chulitna	3.29	26			Pn	17 09 14.4	+1.1
CUT	Chulitna comp=N,252nm,0.4s	3.29	26	IAML			17 09 53.6	
CUT	comp=E,238nm,0.7s			IAML			17 10 08.6	
CUT	Chulitna baz=209	3.29	26	P		Pn	17 09 14.4	+1.1
O15K	Ungalikthiuk R	3.34	267			Pn	17 09 15.4	+1.4
O15K	Ungalikthiuk R baz=82	3.34	267	P		Pn	17 09 15.4	+1.4
SML	Sawmill	3.39	45			Pn	17 09 14.9	+0.2
SML	comp=N,180nm,0.8s			IAML			17 09 55.2	
SML	comp=E,195nm,0.7s			IAML			17 10 03.8	
SML	Sawmill baz=229	3.39	45	P		Pn	17 09 15.1	+0.4
PPLA	Purkeypile	3.46	9			Pn	17 09 17.4	+1.6
PPLA	Purkeypile baz=190	3.46	9	P		Pn	17 09 17.4	+1.6
N15K	Kwethluk River	3.48	284			Pn	17 09 17.6	+1.8
N15K	Kwethluk River comp=N,53nm,1.4s	3.48	284	IAML			17 09 59.5	
N15K	comp=E,47nm,0.9s			IAML			17 10 00.4	
N15K	Kwethluk River baz=98	3.48	284	P		Pn	17 09 17.6	+1.8
HIN	Hinchinbrook I	3.56	72			Pn	17 09 17.6	+0.6
HIN	Hinchinbrook I comp=N,245nm,0.7s	3.56	72	IAML			17 10 00.3	
Q23K	Middleton Isla	3.57	88			Pn	17 09 17.9	+0.8
Q23K	Middleton Isla comp=E,151nm,0.7s	3.57	88	IAML			17 10 01.1	
Q23K	comp=N,193nm,0.7s			IAML			17 10 01.2	
Q23K	Middleton Isla baz=274	3.57	88	P		Pn	17 09 17.9	+0.8
MID	Middleton Isla	3.58	88			Pn	17 09 17.9	+0.7
MID	Middleton Isla comp=N,162nm,0.4s	3.58	88	IAML			17 10 00.9	
MID	comp=E,180nm,0.6s			IAML			17 10 01.1	
L17K	Donlin	3.59	320			Pn	17 09 18.4	+1.0
L17K	Donlin baz=136	3.59	320	P		Pn	17 09 18.4	+1.0
M23K	Glacier View	3.60	48			Pn	17 09 18.5	+0.9
M23K	Glacier View baz=233	3.60	48	P		Pn	17 09 18.5	+0.9
TTA	Tatalina	3.69	341			Pn	17 09 18.8	+0.1
TTA	Tatalina baz=158	3.69	341	P		Pn	17 09 18.9	+0.3
L16K	Owhat River	3.75	309			Pn	17 09 20.6	+1.0
L16K	Owhat River baz=124	3.75	309	P		Pn	17 09 20.6	+1.0
SCM	Sheep Creek Mo	3.78	49			Pn	17 09 20.7	+0.8
SCM	Sheep Creek Mo comp=N,182nm,0.8s	3.78	49	IAML			17 10 06.1	
SCM	comp=E,221nm,0.4s			IAML			17 10 07.8	
SCM	Sheep Creek Mo baz=234	3.78	49	P		Pn	17 09 20.7	+0.8
M15K	Kasigluk River	3.87	291			Pn	17 09 22.4	+1.3
M15K	Kasigluk River baz=105	3.87	291	P		Pn	17 09 22.4	+1.3
K20K	Telida	3.90	355			Pn	17 09 22.3	+0.9
K20K	Telida baz=175	3.90	355	P		Pn	17 09 22.3	+0.9
EYAK	Cordova Ski Ar	3.96	71			Pn	17 09 23.0	+0.8
EYAK	Cordova Ski Ar baz=258	3.96	71	P		Pn	17 09 23.0	+0.8
CAST	Castle Rocks	3.99	8			Pn	17 09 23.3	+0.6
CAST	Castle Rocks baz=189	3.99	8	P		Pn	17 09 23.3	+0.6
K17K	Iditarod	4.03	325	Pn		Pn	17 09 24.0	+0.8
K17K	comp=E,27nm,1.3s			IAML			17 10 28.1	
K17K	comp=N,30nm,2.6s			IAML			17 10 49.4	
K17K	Iditarod baz=141	4.03	325	P		Pn	17 09 24.2	+1.0
O14K	Tigyukauivet M	4.06	270			Pn	17 09 25.1	+1.6
O14K	Tigyukauivet M comp=N,23nm,2.0s	4.06	270	IAML			17 10 40.9	
O14K	Tigyukauivet M baz=83	4.06	270	P		Pn	17 09 25.1	+1.6
WAT1	Susitna Watana baz=217	4.08	33	P		Pn	17 09 24.1	+0.3
WAT6	Susitna Watana baz=224	4.13	39	P		Pn	17 09 24.9	+0.3
KLU	Klutina	4.18	58	Pn		Pn	17 09 26.4	+1.1
KLU	Klutina baz=245	4.18	58	P		Pn	17 09 25.9	+0.6
TRF	Thorofare Moun	4.24	19	Pn		Pn	17 09 27.3	+1.2
TRF	comp=N,68nm,0.8s			IAML			17 10 14.9	
TRF	comp=E,46nm,0.8s			IAML			17 10 39.5	
TRF	Thorofare Moun baz=202	4.24	19	P		Pn	17 09 27.2	+1.2
KTH	Kantishna Hill	4.24	15			Pn	17 09 26.9	+1.0
KTH	Kantishna Hill comp=E,36nm,0.9s	4.24	15	IAML			17 10 16.5	
KTH	comp=N,47nm,0.8s			IAML			17 10 16.9	
N14K	Kuskokwak Cree	4.25	279			Pn	17 09 27.6	+1.5
N14K	Kuskokwak Cree baz=92	4.25	279	P		Pn	17 09 27.6	+1.5
J18K	Innoko River	4.30	339			Pn	17 09 27.4	+0.6
J18K	Innoko River baz=157	4.30	339	P		Pn	17 09 27.4	+0.6
M24K	Tolsona, Glenn	4.38	50			Pn	17 09 29.1	+1.2
M24K	Tolsona, Glenn baz=236	4.38	50	P		Pn	17 09 29.1	+1.2
RAGM	Ragged Mountai	4.45	75			Pn	17 09 29.5	+0.6
RND	Reindeer	4.48	27			Pn	17 09 29.7	+0.5
RND	Reindeer comp=E,34nm,0.8s	4.48	27	IAML			17 10 21.0	
RND	comp=N,75nm,0.4s			IAML			17 10 21.4	
M14K	Bethel	4.49	290			Pn	17 09 31.1	+1.8
M14K	Bethel comp=E,52nm,4.0s	4.49	290	IAML			17 10 11.7	
M14K	comp=N,36nm,3.1s			IAML			17 11 53.1	
M14K	Bethel baz=103	4.49	290	P		Pn	17 09 31.1	+1.8
KAIM	Kayak Island	4.54	81			Pn	17 09 31.1	+1.2
KAIM	Kayak Island baz=268	4.54	81	P		Pn	17 09 31.2	+1.2
L15K	Ungalak Mounta	4.58	302			Pn	17 09 31.7	+1.3
L15K	Ungalak Mounta baz=115	4.58	302	P		Pn	17 09 31.7	+1.3
BMRM	Bremner River baz=255	4.60	67	P		Pn	17 09 31.6	+0.8
DHY	Denali Highway	4.61	36			Pn	17 09 31.5	+0.5
DHY	comp=E,87nm,0.4s			IAML			17 10 24.4	
DHY	comp=N,74nm,0.5s			IAML			17 10 25.3	
DHY	Denali Highway baz=221	4.61	36	P		Pn	17 09 31.5	+0.5
J19K	Poorman	4.65	348	Pn		Pn	17 09 31.8	+0.5
HMT	Hamilton	4.65	76			Pn	17 09 32.3	+0.9
J20K	Nowinta River	4.72	356			Pn	17 09 33.1	+0.8
J20K	Nowinta River baz=175	4.72	356	P		Pn	17 09 33.1	+0.8
BPAW	Bear Paw Mtn.	4.76	13			Pn	17 09 33.7	+0.8
BPAW	Bear Paw Mtn. comp=N,16nm,0.6s	4.76	13	IAML			17 10 26.1	
BPAW	comp=E,14nm,0.4s			IAML			17 10 26.9	
BPAW	Bear Paw Mtn. baz=195	4.76	13	P		Pn	17 09 33.7	+0.8
N25K	Chitina, Valde	4.81	60			Pn	17 09 35.0	+1.3
N25K	comp=E,73nm,0.7s			IAML			17 10 31.4	
N25K	Chitina, Valde baz=248	4.81	60	P		Pn	17 09 35.0	+1.3
K15K	Wolf Creek Mou	4.89	309			Pn	17 09 35.6	+1.0
K15K	Wolf Creek Mou comp=E,19nm,4.3s	4.89	309	IAML			17 10 27.5	
K15K	comp=N,19nm,3.5s			IAML			17 10 46.0	
K15K	Wolf Creek Mou baz=122	4.89	309	P		Pn	17 09 35.6	+1.0
BERG	Berg Lake	4.93	75			Pn	17 09 36.0	+0.7
HARP	HAARP	4.94	50			Pn	17 09 36.6	+1.2
HARP	HAARP baz=238	4.94	50	P		Pn	17 09 36.6	+1.2
L14K	Kuka Creek	4.99	296			Pn	17 09 37.7	+1.8
L14K	Kuka Creek comp=N,21nm,1.7s	4.99	296	IAML			17 10 48.1	
L14K	comp=E,20nm,1.6s			IAML			17 11 01.1	
L14K	Kuka Creek baz=108	4.99	296	P		Pn	17 09 37.7	+1.8
BWN	Browne	5.04	20	Pn		Pn	17 09 37.3	+0.6
BWN	comp=E,37nm,1.4s			IAML			17 11 11.7	
BWN	comp=N,48nm,1.1s			IAML			17 11 30.0	
WACK	Wrangell Chich	5.08	57			Pn	17 09 38.8	+1.4
GLB	Gilahina Butte	5.11	63			Pn	17 09 38.4	+0.8
GLB	comp=E,86nm,0.7s			IAML			17 10 36.8	
M13K	Dall Lake	5.12	285	Pn		Pn	17 09 39.9	+2.3
M13K	comp=E,82nm,3.4s			IAML			17 10 42.2	
WASW	Wrangell South	5.12	58			Pn	17 09 39.4	+1.4
PAX	Paxson baz=217	5.16	44	P		Pn	17 09 40.1	+1.8
J16K	Anvik River	5.16	321			Pn	17 09 39.3	+1.1
J16K	Anvik River comp=E,14nm,4.2s	5.16	321	IAML			17 10 50.2	
J16K	comp=N,12nm,3.6s			IAML			17 11 52.4	
J16K	Anvik River baz=134	5.16	321	P		Pn	17 09 39.3	+1.1
VRDI	Verde Repeater	5.21	66	Pn		Pn	17 09 40.1	+1.0
VRDI	comp=N,51nm,0.3s			IAML			17 10 39.6	
VRDI	comp=E,32nm,0.9s			IAML			17 10 46.3	
SNH	Sunshine Point	5.34	78			Pn	17 09 42.1	+1.4
WAX	Waxell Ridge	5.36	75			Pn	17 09 41.8	+0.9
MCARA	McCarthy VSAT	5.45	65			Pn	17 09 43.3	+1.1
MCARA	McCarthy VSAT baz=254	5.45	65	P		Pn	17 09 43.3	+1.1
NEA2	Nenana	5.50	20			Pn	17 09 42.6	-0.2
NEA2	Nenana baz=203	5.50	20	P		Pn	17 09 42.6	-0.2
WRH	Wood River Hil	5.58	24			Pn	17 09 43.7	-0.1
K24K	Donnelly Dome	5.63	37			Pn	17 09 46.6	+2.0
K24K	Donnelly Dome baz=223	5.63	37	P		Pn	17 09 46.6	+2.0
MLY	Manley	5.69	11			Pn	17 09 45.5	+0.1
MLY	Manley baz=194	5.69	11	P		Pn	17 09 45.6	+0.1
BAGL	Bagley Icefiel	5.74	75			Pn	17 09 47.2	+1.2
I21K	Tanana	5.75	6			Pn	17 09 46.8	+0.7
I21K	Tanana baz=187	5.75	6	P		Pn	17 09 46.9	+0.9
MESA	MESA baz=268	5.79	78	P		Pn	17 09 48.0	+1.1
CCB	Clear Creek Bu	5.79	24			Pn	17 09 46.4	-0.3
MENT	Mentasta	5.79	49			Pn	17 09 47.8	+1.0
M26K	Nabesna, AK baz=245	5.82	56	P		Pn	17 09 48.9	+1.6
I23K	Minto, Yukon-K	5.97	16			Pn	17 09 49.3	+0.2
I23K	Minto, Yukon-K baz=200	5.97	16	P		Pn	17 09 49.3	+0.2
BARN	Barnard Glacie	6.02	70			Pn	17 09 51.3	+1.3
ILAR	Eielson Array comp=E,2.8nm,0.4s,baz=214,slow=14,SNR=49	6.10	27	P		Pn	17 09 50.9	0.0
ILAR	comp=E,2.3nm,0.3s,baz=204,slow=12,SNR=6.1			S		Sn	17 10 55.6	-3.7
H18K	Honhosa River	6.14	340			Pn	17 09 51.9	+0.5
H18K	Honhosa River baz=156	6.14	340	P		Pn	17 09 51.9	+0.5
CTG	Chitna Glacier baz=261	6.16	71	P		Pn	17 09 53.2	+1.4
CTGM	Chitina Glacie	6.16	71			Pn	17 09 53.2	+1.3
H21K	Melozitna Rive	6.20	2			Pn	17 09 52.7	+0.6
H21K	Melozitna Rive baz=183	6.20	2	P		Pn	17 09 52.7	+0.6
TABL	Table Mountain	6.20	76			Pn	17 09 53.6	+1.2
H19K	Roundabout Mou	6.23	348	Pn		Pn	17 09 54.6	+2.1
POKR	Poker Plat Res	6.28	23			Pn	17 09 53.6	+0.4
POKR	Poker Plat Res baz=209	6.28	23	P		Pn	17 09 53.6	+0.4
M27K	Edge Creek, AK	6.28	58			Pn	17 09 55.1	+1.6
M27K	Edge Creek, AK baz=248	6.28	58	P		Pn	17 09 55.1	+1.6
J25K	Salcha River,	6.36	33			Pn	17 09 54.5	+0.1
J25K	Salcha River, baz=220	6.36	33	P		Pn	17 09 54.5	+0.1
SAMH	Samovar Hills	6.37	79			Pn	17 09 55.9	+1.3
H22K	Ishtalitna Cre	6.49	7			Pn	17 09 56.4	+0.3
H22K	Ishtalitna Cre baz=189	6.49	7	P		Pn	17 09 56.4	+0.3
IMAR	Indian Mountai	6.52	359	Pn		Pn	17 09 57.6	+1.1
YUK2	White River	6.56	64			Pn	17 09 58.6	+1.3
L27K	Beaver Creek,	6.60	52			Pn	17 09 59.1	+1.5
L27K	Beaver Creek, baz=242	6.60	52	P		Pn	17 09 59.1	+1.5
YUK3	Moose Creek baz=256	6.74	65	P		Pn	17 10 01.2	+1.5
J26L	Joseph Creek	6.81	38			Pn	17 10 02.0	+1.5
J26L	Joseph Creek baz=227	6.81	38	P		Pn	17 10 02.0	+1.5
H24K	Noodor Dome	6.85	19			Pn	17 10 00.9	0.0
H24K	Noodor Dome baz=204	6.85	19	P		Pn	17 10 01.0	0.0
G19K	Purcell Mounta	6.89	347	Pn		Pn	17 10 02.5	+0.9
BCPM	Bancas Point	6.95	80			Pn	17 10 03.5	+1.2
YUK8	Steele Glacier baz=261	6.96	69	P		Pn	17 10 04.6	+1.9
K27K	Chicken	7.02	45			Pn	17 10 04.4	+1.2
K27K	Chicken baz=235	7.02	45	P		Pn	17 10 04.4	+1.2
G21K	Allakaket	7.05	359			Pn	17 10 04.7	+1.0
G21K	Allakaket baz=179	7.05	359	P		Pn	17 10 04.6	+1.0
PNL	Peninsula baz=275	7.08	83	P		Pn	17 10 05.0	+0.9
G16K	Koyuk River	7.24	329	Pn		Pn	17 10 05.8	-0.4
G23K	Bananza Creek	7.40	10			Pn	17 10 08.4	0.0
G23K	Bananza Creek baz=193	7.40	10	P		Pn	17 10 08.4	0.0
YUK4	Talbot Arm baz=262	7.51	69	P		Pn	17 10 12.0	+2.0
YUK6	Outpost Mounta	7.60	73			Pn	17 10 12.5	+1.2
YUK6	Outpost Mounta baz=266	7.60	73	P		Pn	17 10 12.5	+1.2
YUK7	Dusty Glacier	7.69	76			Pn	17 10 13.3	+0.9
EGAK	Eagle baz=233	7.78	42	P		Pn	17 10 14.8	+1.3
P29M	Windy Craggy	7.93	82			Pn	17 10 16.6	+1.1
F24K	Squaw Lake baz=199	8.42	14	P		Pn	17 10 21.8	-0.2
DLBC	Dease Lake comp=E,1.3nm,1.0s,baz=276,slow=9.2,SNR=2.3	12.06	85	P		Pn	17 11 09.1	-1.8
DLBC	comp=E,0.4nm,0.3s,baz=288,slow=15,SNR=1.5			S		Sn	17 13 22.3	-1.3
INK	Inuvik comp=E,1.4nm,0.7s,baz=222,slow=13,SNR=6.3	12.35	36	P		Pn	17 11 15.2	+0.9
INK	comp=E,0.3nm,0.5s,baz=216,slow=8.7,SNR=1.4			S		Sn	17 13 24.8	-5.4
YKA	Yellowknife Ar comp=E,1.3nm,0.7s,baz=276,slow=11,SNR=22	18.82	64	P		Pn	17 12 35.2	+0.6
SONM	Songino Array comp=E,0.4nm,0.7s,baz=52,slow=7.5,SNR=2.4 comp=E,0.4nm,0.7s	54.95	306	P		P	17 17 42.9	+2.3

*IDC **19** 17:28:05.1±4.5,2.98S×131.37E,h0km,mb3.7/4, mbtmp3.7/5,ML3.6/1, Error ellipse: s-maj=350.8km s-min=25.4km az=73.0*

*DJA **19** 17:28:09.3±0.5,3.3S±3.3×13.1E±.,h11km±3km,M3.9/8, mb5.0/1,MLv3.3/8*

ISC 19 17:28:08.4±0.9,3.15S±0.06×130.76E±0.05,h10km,n12, σ0.86/16,mb3.8/3,Seram

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
FAKI	Fak Fak	1.51	81	P		Pn	17 28 36.0	+0.5
FAKI				S		Sn	17 28 56.4	+1.1
BNDI	Bandanaira	1.61	212	P		Pn	17 28 37.8	+0.9
BNDI				S		Sn	17 28 58.7	+1.0
SWI	Sorong	2.33	12	P		Pn	17 28 47.1	+0.3
NLAI	Namlea	3.65	269	P		Pn	17 29 05.4	+0.4
NLAI				S		Sn	17 29 48.7	+0.5
LBMI	Labuha	4.10	307	P		Pn	17 29 12.7	+1.5
LBMI				S		Sn	17 29 59.6	+0.3
SANI	Sanana	4.89	283	P		Pn	17 29 22.8	+0.8
LUWI	Luwuk	8.25	285	P		Pn	17 30 08.1	-0.2
WRA	Warramunga Arr 0.2nm,0.3s,baz=353,slow=12,SNR=6.4 1.4nm,0.8s	17.05	168	P		Pn	17 32 06.8	-0.3
ASAR	Alice Springs 3.6nm,0.6s,baz=350,slow=11,SNR=76 3.6nm,0.6s	20.62	172	P		P	17 32 46.7	-1.5
MKAR	Makanchi Array 0.2nm,0.5s,baz=131,slow=7.2,SNR=4.7 0.2nm,0.5s	65.47	326	P		P	17 38 51.2	-0.5
KURBB	Kurchatov Arra 0.2nm,0.3s,baz=121,slow=5.6,SNR=1.2 0.2nm,0.3s	69.67	328	P		P	17 39 17.5	-0.7
BVAR	Borovoye Array 0.4nm,0.4s,baz=150,slow=1.2,SNR=2.6 0.4nm,0.4s	75.24	327	P		P	17 39 51.3	-0.1

*IDC **19** 17:29:19.7±0.7,6.18S×143.55E,h0km,mb4.3/9, mbtmp4.3/11,ML1.8/1,MS3.2/5, Error ellipse: s-maj=29.2km s-min=16.9km az=67.0*

*NEIC **19** 17:29:20.8±2.1,6.54S±0.06×143.6E±0.1,h10km±1km, mb4.6/46, Error ellipse: s-maj=19.3km s-min=10.0km az=96.0*

ISC 19 17:29:20.6±0.5,6.42S±0.07×143.47E±0.08,h10km,n75, σ1.35/67,mb4.6/30,MS3.1/4,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PMG	Port Moresby	4.71	129			Pn	17 30 27.8	-3.9
PMG	Port Moresby 2.9nm,0.3s,baz=315,slow=10.0,SNR=12	4.71	129	Pn		Pn	17 30 35.2	+3.5
PMG	2.3nm,0.3s,baz=349,slow=16,SNR=5.8			Sn		Sn	17 31 25.5	-0.9
PMG	1.2nm,0.3s,baz=317,slow=19,SNR=1.2 17nm,0.7s			Lg		Lg	17 31 53.7	
MANU	Manus Island	5.83	42			Pn	17 30 46.5	-0.8
COEN	Coen	7.49	182	Pn		Pn	17 31 08.3	-1.7
COEN						Sb	17 32 56.7	-3.6
FAKI	Fak Fak	11.71	287	Pn		Pn	17 32 05.4	-2.6
MTN	Manton Dam	13.73	241			Pn	17 32 34.2	-1.3
CTA	Charters Tower 0.1nm,0.3s,baz=270,slow=13,SNR=2.3	13.85	169	Lg		Lg	17 36 55.0	
CTA	comp=Z,146nm,20.6s,baz=179,slow=40			LR		LR	17 38 36.5	
WB0	Warramunga Arr	15.93	213	Pn		Pn	17 32 59.2	-5.9
WR0	Warramunga Arr	16.01	212	P		Pn	17 33 05.2	-0.8
WRAB	Tennant Creek	16.09	213	Pn		Pn	17 33 04.6	-2.5
WRAB	comp=Z,15nm,0.5s			IAmb		IAmb	17 33 29.6	
WB2	Warramunga Arr	16.10	213			Pn	17 33 01.8	-5.4
WRA	Warramunga Arr	16.10	213	Pn		Pn	17 33 01.0	-6.2
WRA	Warramunga Arr comp=Z,0.3nm,0.3s,baz=33,slow=13,SNR=5.5	16.10	213	Pn		Pn	17 33 05.6	-1.7
WRA	comp=Z,0.3nm,0.3s,baz=24,slow=23,SNR=3.5			Sn		Sn	17 35 55.8	-10
WRA	baz=17,slow=28			Lg		Lg	17 37 56.5	
KNRA	Kununurra	17.10	236			Pn	17 33 17.9	-2.1
KNRA	comp=Z,26nm,0.8s			IAmb		IAmb	17 33 38.3	
AS31	Alice Springs	19.46	207	P		P	17 33 49.3	+1.6

ASAR	**Alice Springs**	**19.46**	**207**	P	**P**	**17 33 49.9**	**+2.2**
ASAR	**Alice Springs**	**19.46**	**207**	P	**Pn**	**17 33 51.5**	**+2.6**
	comp=Z,12nm,0.9s,baz=34,slow=11,SNR=50						
ASAR				Lg	Lg	17 39 49.7	
	comp=Z,0.1nm,0.3s,baz=20,slow=30,SNR=2.3						
KAPI	**Kappang**	**23.64**	**272**	P	**P**	**17 34 34.4**	**+2.1**
KAPI				IAmb	IAmb	17 34 47.5	
	comp=Z,24nm,1.1s						
RPZ	**Rata Peaks**	**44.34**	**151**	LR	LR	17 55 42.9	
	comp=Z,109nm,18.3s,baz=132,slow=36						
KSRS	**Korea Array**	**46.00**	**343**	LR	LR	17 54 50.7	
	comp=Z,19nm,21.2s,baz=145,slow=33						
ASAJ	**Asahikawa**	**50.31**	**359**	LR	LR	18 05 47.0	
	comp=Z,9.3nm,18.0s,baz=194,slow=44						
USRK	**Ussuriysk Ar.**	**51.44**	**349**	LR	LR	18 00 00.3	
	comp=Z,21nm,18.2s,baz=191,slow=36						
PETK	**Petropavlovsk-**	**60.52**	**10**	P	**P**	**17 39 29.4**	**-1.4**
	comp=Z,4.6nm,0.8s,baz=210,slow=8.6,SNR=4.7						
	comp=Z,4.6nm,0.8s						
SONM	**Songino Array**	**63.12**	**333**	P	**P**	**17 39 49.1**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=143,slow=3.3,SNR=5.5						
	comp=Z,0.5nm,0.6s						
MA2	**Magadan**	**66.04**	**4**	P	**P**	**17 40 06.9**	**-0.4**
MK31	**Makanchi Array**	**75.62**	**322**	P	**P**	**17 41 06.2**	**+0.2**
MKAR	**Makanchi Array**	**75.62**	**322**	P	**P**	**17 41 06.3**	**+0.4**
MKAR	**Makanchi Array**	**75.62**	**322**	P	**P**	**17 41 06.5**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=112,slow=6.9,SNR=27						
	comp=Z,2.4nm,0.7s						
MAKZ	**Makanchi**	**75.82**	**321**	P	**P**	**17 41 07.1**	**0.0**
MAKZ				IAmb	IAmb	17 41 08.5	
	comp=Z,4.7nm,1.0s						
PRZ	**Przheval'sk**	**76.40**	**316**	P	**P**	**17 41 09.8**	**-0.9**
PRZ				IAmb	IAmb	17 41 13.2	
	comp=Z,4.1nm,0.8s						
TARG	**Taragay, Kyrgy**	**76.54**	**315**	P	**P**	**17 41 10.2**	**-1.5**
NIL	**Nilore**	**77.33**	**306**	P	**P**	**17 41 16.5**	**+0.6**
ZALV	**Zalesovo Beam**	**77.53**	**329**	P	**P**	**17 41 14.8**	**-1.7**
	comp=Z,1.0nm,0.5s,baz=111,slow=7.9,SNR=4.1						
	comp=Z,1.0nm,0.5s						
AAK	**Ala-Archa**	**79.16**	**315**	P	**P**	**17 41 26.8**	**+0.7**
KURK	**Kurchatov**	**79.47**	**324**	P	**P**	**17 41 27.6**	**+0.3**
KURK				IAmb	IAmb	17 41 29.1	
	comp=Z,6.9nm,1.4s						
KURBB	**Kurchatov Arra**	**79.49**	**324**	P	**P**	**17 41 27.7**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=116,slow=4.6,SNR=7.4						
	comp=Z,0.5nm,0.3s						
ARSB	**Arslanbob**	**79.81**	**314**	P	**P**	**17 41 30.3**	**+0.7**
DRK	**Karamyk**	**80.12**	**312**	P	**P**	**17 41 32.4**	**+0.9**
SIMJ	**Simiganj**	**81.99**	**310**	P	**P**	**17 41 41.7**	**+0.4**
SIMJ				IAmb	IAmb	17 41 50.5	
	comp=Z,4.1nm,1.1s						
KK31	**Karatay Array**	**82.09**	**315**	P	**P**	**17 41 41.2**	**-0.4**
KKAR	**Karatay Array**	**82.09**	**315**	P	**P**	**17 41 41.6**	**0.0**
QSPA	**South Pole Qui**	**83.55**	**180**	P	**P**	**17 41 49.7**	**+0.8**
	comp=Z,3.7nm,0.9s,baz=312,slow=5.6,SNR=16						
	comp=Z,3.7nm,0.9s						
H19K	**Roundabout Mou**	**83.94**	**21**	IAmb	IAmb	17 41 53.2	
	comp=Z,5.3nm,1.1s						
NRIK	**Noril'sk**	**84.62**	**343**	P	**P**	**17 41 54.2**	**+0.3**
NRIK				IAmb	IAmb	17 41 55.1	
	comp=Z,4.5nm,0.8s						
NRIK	**Noril'sk**	**84.62**	**343**	P	**P**	**17 41 54.0**	**+0.1**
	comp=Z,3.9nm,0.8s,baz=122,slow=5.1,SNR=7.5						
	comp=Z,3.9nm,0.8s						
E19K	**Redstone River**	**84.66**	**19**	P	**P**	**17 41 56.2**	**+1.9**
E19K				IAmb	IAmb	17 41 56.3	
	comp=Z,3.9nm,0.9s						
C19K	**Lookout Ridge**	**84.79**	**18**	P	**P**	**17 41 56.8**	**+1.9**
C19K				IAmb	IAmb	17 41 57.8	
	comp=Z,5.6nm,0.9s						
BVAR	**Borovoye Array**	**85.06**	**325**	P	**P**	**17 41 57.2**	**+0.7**
	comp=Z,3.5nm,0.7s,baz=108,slow=6.7,SNR=18						
	comp=Z,3.5nm,0.7s						
BRVK	**Borovoye**	**85.13**	**325**	P	**P**	**17 41 57.5**	**+0.6**
BRVK				IAmb	IAmb	17 41 58.8	
	comp=Z,5.6nm,1.2s						
MLY	**Manley**	**85.85**	**23**	P	**P**	**17 42 00.6**	**+0.2**
MLY				IAmb	IAmb	17 42 02.3	
	comp=Z,7.3nm,1.4s						
DHY	**Denali Highway**	**86.44**	**25**	P	**P**	**17 42 03.5**	**+0.1**
DHY				IAmb	IAmb	17 42 06.5	
	comp=Z,4.6nm,0.8s						
B21K	**Ikpikpuk River**	**86.57**	**18**	P	**P**	**17 42 03.3**	**-0.4**
B21K				IAmb	IAmb	17 42 06.5	
	comp=Z,4.8nm,1.0s						
WRH	**Wood River Hil**	**86.67**	**24**	P	**P**	**17 42 03.8**	**-0.5**
WRH				IAmb	IAmb	17 42 05.3	
	comp=Z,6.0nm,1.1s						
D22K	**Ayikyak River**	**86.84**	**19**	P	**P**	**17 42 06.5**	**+1.5**
D22K				IAmb	IAmb	17 42 07.9	
	comp=Z,2.7nm,0.8s						
ILAR	**Eielson Array**	**87.26**	**24**	P	**P**	**17 42 05.9**	**-1.3**
ILAR	**Eielson Array**	**87.26**	**24**	P	**P**	**17 42 06.3**	**-0.8**
	comp=Z,1.9nm,0.9s,baz=250,slow=5.3,SNR=15						
	comp=Z,1.9nm,0.9s						
B22K	**Teshekpuk Lake**	**87.27**	**18**	P	**P**	**17 42 07.3**	**+0.2**
TOLK	**Toolik Lake Re**	**87.76**	**20**	P	**P**	**17 42 11.0**	**+1.4**
TOLK				IAmb	IAmb	17 42 12.0	
	comp=Z,3.4nm,0.9s						
F24K	**Squaw Lake**	**87.90**	**21**	P	**P**	**17 42 11.4**	**+1.2**
C23K	**Itkillik River**	**87.91**	**18**	P	**P**	**17 42 10.7**	**+0.5**
MESA	**MESA**	**87.95**	**29**	P	**P**	**17 42 09.8**	**-1.1**
D24K	**Happy Valley**	**88.21**	**19**	P	**P**	**17 42 13.1**	**+1.5**
FYU	**Fort Yukon**	**88.53**	**22**	P	**P**	**17 42 14.4**	**+1.3**
M27K	**Edge Creek, AK**	**88.60**	**27**	P	**P**	**17 42 14.6**	**+0.8**
L27K	**Beaver Creek,**	**88.83**	**26**	P	**P**	**17 42 15.2**	**+0.5**
BCAR	**Beaver Creek A**	**88.84**	**26**	P	**P**	**17 42 16.1**	**+1.3**
K27K	**Chicken**	**89.00**	**25**	P	**P**	**17 42 16.8**	**+1.4**
K27K				IAmb	IAmb	17 42 20.0	
	comp=Z,3.0nm,1.1s						
BMAR	**Burnt Mountain**	**89.06**	**22**	P	**P**	**17 42 17.1**	**+1.4**
D25K	**Kavik River**	**89.08**	**20**	P	**P**	**17 42 16.0**	**+0.2**
D25K				IAmb	IAmb	17 42 18.9	
	comp=Z,2.8nm,1.1s						
EGAK	**Eagle**	**89.59**	**24**	P	**P**	**17 42 18.4**	**+0.2**
EGAK				IAmb	IAmb	17 42 19.4	
	comp=Z,2.8nm,0.9s						
L29M	**L29M**	**90.46**	**26**	P	**P**	**17 42 23.5**	**+1.1**
L29M				IAmb	IAmb	17 42 25.1	
	comp=Z,4.8nm,1.1s						
K29M	**Barlow Dome**	**90.89**	**26**	P	**P**	**17 42 25.3**	**+0.8**
K29M				IAmb	IAmb	17 42 26.5	
	comp=Z,2.6nm,0.8s						
J30M	**Hart River**	**91.56**	**25**	P	**P**	**17 42 28.7**	**+1.2**
J30M				IAmb	IAmb	17 42 31.0	
	comp=Z,4.5nm,1.1s						
SDV	**Santo Domingo**	**146.12**	**84**		**PKPab**	**17 49 02.6**	**-0.4**
DBIC	**Dimbokro**	**148.53**	**272**	PKPbc	**PKPbc**	**17 49 08.4**	**-0.5**
	comp=Z,6.3nm,0.9s,baz=96,slow=2.5,SNR=4.9						

IDC 19 17:30:08.8±14.0, 58.63S×98.67E, h0km, Error ellipse: s-maj=38.5km s-min=12.0km az=160.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**25.87**	**30**	H	H	18 02 35.3	
	baz=198,slow=76,SNR=158						
H01W1	**Cape Leeuwin H**	**25.88**	**30**	H	H	18 02 36.5	
	baz=198,slow=76,SNR=152						
H01W3	**Cape Leeuwin H**	**25.88**	**30**	H	H	18 02 36.1	
	baz=198,slow=76,SNR=140						
H04S1	**CROZET ISLANDS**	**30.03**	**272**	H	H	18 08 08.7	
	baz=130,slow=75,SNR=15						
H04S2	**CROZET ISLANDS**	**30.03**	**272**	H	H	18 07 59.8	
	baz=130,slow=75,SNR=21						
H04S3	**CROZET ISLANDS**	**30.05**	**272**	H	H	18 08 06.9	
	baz=130,slow=75,SNR=20						
H08S2	**Diego Garcia H**	**54.69**	**328**	H	H	18 38 31.0	
	baz=164,slow=76,SNR=35						
H08S1	**Diego Garcia H**	**54.70**	**328**	H	H	18 38 31.4	
	baz=164,slow=76,SNR=63						
H08S3	**Diego Garcia H**	**54.71**	**328**	H	H	18 38 32.5	
	baz=164,slow=76,SNR=40						

ROM 19 17:46:41.9±0.1, 37.757N±0.004×14.982E±0.009, h9km, ML3.2/54, 7C-2D, Error ellipse: s-maj=0.8km s-min=0.3km az=271.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.06**	**185**	P	Pg	17 46 44.0	-0.1
ESLN				S	Sg	17 46 45.9	+0.1
ESLN				AML	AML		
	comp=N,59700μm,0.3s						
ESLN				AML	AML		
	comp=E,62900μm,0.5s						
EMSG	**Monte Spagnolo**	**0.07**	**338**	⇑P	Pg	17 46 44.0	-0.1
EMSG				S	Sg	17 46 46.3	+0.5
EMSG				AML	AML		
	comp=E,81350μm,0.9s						
EMSG				AML	AML		
EMSG				AML	AML		
	comp=E,81350μm,1.1s						
EPZF	**Pizzo Felice**	**0.12**	**304**	P	Pg	17 46 44.6	-0.2
EPZF				S	Sg	17 46 47.5	+0.6
EPZF				AML	AML		
	comp=E,58950μm,0.5s						
EPZF				AML	AML		
	comp=N,57900μm,0.3s						
ESML	**S. M. di Licod**	**0.16**	**211**	⇑P	Pg	17 46 45.7	+0.3
ESML				S	Sg	17 46 49.5	+1.7
ESML				AML	AML		
	comp=E,25500μm,0.6s						
ESML				AML	AML		
	comp=N,24200μm,0.5s						
EPOZ	**Pozzillo**	**0.26**	**162**	⇓P	Pg	17 46 46.6	-0.4
EPOZ				S	Sg	17 46 50.8	+0.3
EPOZ				AML	AML		
	comp=N,22100μm,0.6s						
EPOZ				AML	AML		
	comp=N,22100μm,1.4s						
EPOZ				AML	AML		
	comp=E,22650μm,0.6s						
AIO	**Antillo**	**0.29**	**43**	⇑P	Pg	17 46 48.3	+0.5
AIO				AML	AML		
	comp=E,6435μm,1.2s						
AIO				AML	AML		
	comp=N,6520μm,0.3s						
AIO				AML	AML		
	comp=E,6435μm,0.8s						
NOV	**Novara**	**0.30**	**24**	⇑P	Pg	17 46 48.4	+0.5
NOV				S	Sb	17 46 53.8	-0.8
NOV				AML	AML		
	comp=E,8580μm,1.0s						
NOV				AML	AML		
	comp=N,7670μm,0.5s						
MUCR	**Ucria**	**0.30**	**343**	⇑P	Pg	17 46 48.2	+0.3
MUCR				S	Sb	17 46 53.9	-0.7
MUCR				AML	AML		
	comp=E,12450μm,1.0s						
MUCR				AML	AML		
	comp=N,10135μm,0.3s						
GALF	**Gagliano Caste**	**0.33**	**262**	⇓P	Pg	17 46 48.8	+0.3
GALF				AML	AML		
	comp=N,5820μm,1.4s						
GALF				AML	AML		
	comp=N,5820μm,0.6s						
GALF				AML	AML		
	comp=E,6720μm,0.5s						
CAGR	**Agira**	**0.41**	**251**	⇑P	Pb	17 46 51.7	+0.4
CAGR				AML	AML		
	comp=E,4850μm,0.5s						
CAGR				AML	AML		
	comp=N,5010μm,1.6s						
CAGR				AML	AML		
	comp=N,5010μm,0.4s						
CAGR				AML	AML		
	comp=E,4850μm,1.5s						
HLNI	**Lentini**	**0.42**	**192**	P	Pg	17 46 50.0	0.0
HLNI				S	Sb	17 46 57.0	-0.9
HLNI				AML	AML		
	comp=E,1575μm,0.4s						
HLNI				AML	AML		
	comp=N,2380μm,0.7s						
MPNC	**Port Mandanici**	**0.49**	**37**	P	Pg	17 46 51.7	+0.3
MPNC				AML	AML		
	comp=E,12850μm,0.5s						
MPNC				AML	AML		
	comp=N,14350μm,1.5s						
MPNC				AML	AML		
	comp=N,14350μm,0.5s						
HAGA	**Augusta**	**0.49**	**164**	P	Pg	17 46 51.2	-0.2
HAGA				S	Sb	17 46 59.1	-0.8
HAGA				AML	AML		
	comp=N,976μm,1.5s						
HAGA				AML	AML		
	comp=E,1155μm,1.3s						
HAGA				AML	AML		
	comp=E,1155μm,0.7s						
AGST	**Augusta-Monte**	**0.54**	**159**	P	Pg	17 46 51.9	-0.4
AGST				AML	AML		
	comp=E,2110μm,0.5s						
AGST				AML	AML		
	comp=N,1810μm,1.6s						
SSY	**Sortino**	**0.61**	**173**	⇑P	Pg	17 46 53.4	-0.3
SSY				S	Sb	17 47 03.7	+0.4
SSY				AML	AML		
	comp=N,4730μm,1.4s						
SSY				AML	AML		
	comp=E,2795μm,0.7s						
SSY				AML	AML		
	comp=N,4730μm,0.6s						
MSRU	**Castanea**	**0.66**	**39**	P	Pg	17 46 54.7	+0.1
PETRA	**Petralia Sopra**	**0.69**	**277**	P	Pb	17 46 55.9	-0.3
PETRA				AML	AML		
	comp=E,1650μm,0.5s						
PETRA				AML	AML		
	comp=N,1470μm,0.4s						
PLLN	**Pollina**	**0.70**	**290**	P	Pb	17 46 56.4	0.0
RAFF	**Raffo Rosso**	**0.73**	**223**	P	Pg	17 46 56.1	+0.2
RAFF				AML	AML		
	comp=E,1340μm,1.0s						
RAFF				AML	AML		
	comp=N,2065μm,0.9s						
RAFF				AML	AML		
	comp=N,2065μm,1.1s						
RAFF				AML	AML		
	comp=E,1340μm,1.0s						
CSLB	**Castelbuono**	**0.75**	**284**	P	Pg	17 46 55.9	-0.6
CSLB				AML	AML		
	comp=N,858μm,0.5s						
CSLB				AML	AML		
	comp=E,729μm,0.6s						
CSLB				AML	AML		
	comp=E,729μm,1.4s						
CSLB				AML	AML		
	comp=N,858μm,1.5s						
GIB	**Gibilmanna**	**0.79**	**287**	P	Pb	17 46 57.8	0.0
HMDC	**Modica**	**0.81**	**191**	P	Pg	17 46 56.7	-0.8
HMDC				S	Sb	17 47 09.3	0.0
HMDC				AML	AML		
	comp=N,3880μm,0.5s						
HMDC				AML	AML		
	comp=N,3880μm,1.5s						
HMDC				AML	AML		
	comp=E,3900μm,0.3s						
CEL	**Celeste**	**0.88**	**55**	P	Pg	17 46 58.7	-0.1
CEL				AML	AML		
	comp=E,678μm,0.4s						
CEL				AML	AML		
	comp=E,548μm,0.5s						
CEL				AML	AML		
	comp=N,978μm,0.4s						
CEL				AML	AML		
	comp=N,806μm,0.4s						
CEL				AML	AML		
	comp=E,678μm,1.6s						
SOI	**Samo**	**0.91**	**69**	P	Pg	17 46 59.3	0.0
SOI				AML	AML		
	comp=N,564μm,0.5s						
SOI				AML	AML		
	comp=E,504μm,1.3s						
SOI				AML	AML		
	comp=E,504μm,0.7s						
HPAC	**Pachino**	**1.06**	**174**	P	Pg	17 47 00.9	-1.5
HPAC				S	Sb	17 47 16.5	+0.1
HPAC				AML	AML		
	comp=N,1690μm,1.0s						
HPAC				AML	AML		
	comp=E,1945μm,0.8s						
HPAC				AML	AML		
	comp=N,1690μm,1.0s						
HPAC				AML	AML		
	comp=E,1945μm,1.2s						
JOPP	**Joppolo**	**1.11**	**40**	P	Pg	17 47 02.9	-0.3
JOPP				AML	AML		
	comp=E,780μm,1.2s						
JOPP				AML	AML		
	comp=N,722μm,1.5s						
PLAC	**Placanica**	**1.34**	**59**	P	Pb	17 47 07.2	0.0
PLAC				AML	AML		
	comp=N,467μm,0.5s						
PLAC				AML	AML		
	comp=E,436μm,0.6s						
CRJA	**Costa Raja**	**1.57**	**272**	P	Pb	17 47 11.5	+0.4
MMGO	**Monte Magaggia**	**1.59**	**267**	P	Pb	17 47 11.1	-0.4
TIP	**Timpagrande**	**1.99**	**44**	P	Pn	17 47 16.8	+1.0
SALB	**San Lorenzo Be**	**2.37**	**26**	AML	AML		
	comp=N,127μm,0.7s						
SALB				AML	AML		
	comp=N,127μm,1.3s						
SALB				AML	AML		
	comp=E,188μm,1.1s						
MGR	**Morigerati**	**2.42**	**10**	P	Pn	17 47 21.1	-0.5
NOCI	**Noci**	**3.43**	**27**	AML	AML		
	comp=N,112μm,0.7s						
NOCI				AML	AML		
	comp=E,87μm,1.4s						
NOCI				AML	AML		
	comp=N,112μm,1.3s						
NOCI				AML	AML		
	comp=E,87μm,0.6s						

ROM 19 17:47:27.9±0.1, 37.756N±0.005×14.96E±0.01, h8km, ML2.6/18, 2C, Error ellipse: s-maj=0.9km s-min=0.2km az=93.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.06**	**170**	⇑P	Pg	17 47 29.8	-0.2
ESLN				S	Sg	17 47 31.7	+0.3
ESLN				AML	AML		
	comp=E,10846μm,0.4s						
ESLN				AML	AML		
	comp=N,12876μm,0.3s						
ESLN				AML	AML		
	comp=E,10846μm,1.6s						
ESLN				AML	AML		
	comp=N,12876μm,1.7s						
EMSG	**Monte Spagnolo**	**0.07**	**353**	⇑P	Pg	17 47 29.9	-0.1
EMSG				S	Sg	17 47 32.2	+0.7
EMSG				AML	AML		
	comp=E,8802μm,0.3s						
EMSG				AML	AML		
	comp=N,16956μm,0.2s						
EPZF	**Pizzo Felice**	**0.11**	**310**	P	Pg	17 47 30.3	-0.2
EPZF				S	Sg	17 47 33.6	+1.3
EPZF				AML	AML		
	comp=E,8540μm,0.3s						
EPZF				AML	AML		
	comp=N,7500μm,0.2s						
EPZF				AML	AML		
	comp=N,7498μm,0.2s						
EPZF				AML	AML		
	comp=E,8540μm,0.3s						
EPZF				AML	AML		
	comp=N,7498μm,1.8s						
EPZF				AML	AML		
	comp=E,8540μm,1.7s						
ESML	**S. M. di Licod**	**0.15**	**206**	P	Pg	17 47 31.8	+0.7
ESML				AML	AML		
	comp=E,3645μm,0.4s						
ESML				AML	AML		
	comp=N,4101μm,0.3s						
EPOZ	**Pozzillo**	**0.26**	**158**	P	Pg	17 47 32.5	-0.5
EPOZ				AML	AML		
	comp=E,1963μm,0.6s						
EPOZ				AML	AML		
	comp=E,1963μm,1.4s						
MUCR	**Ucria**	**0.29**	**347**	P	Pg	17 47 34.2	+0.4
MUCR				S	Sb	17 47 39.8	-0.8
MUCR				AML	AML		
	comp=N,1212μm,0.3s						
MUCR				AML	AML		
	comp=E,1947μm,0.6s						
MUCR				AML	AML		
	comp=E,1947μm,1.4s						
AIO	**Antillo**	**0.30**	**45**	P	Pg	17 47 34.3	+0.4
AIO				S	Sb	17 47 40.6	-0.2
AIO				AML	AML		
	comp=N,935μm,0.3s						
AIO				AML	AML		
	comp=E,675μm,0.3s						
NOV	**Novara**	**0.30**	**27**	P	Pg	17 47 34.5	+0.6
NOV				AML	AML		
	comp=N,959μm,0.4s						
NOV				AML	AML		
	comp=E,1185μm,0.3s						
NOV				AML	AML		
	comp=E,1185μm,1.7s						
GALF	**Gagliano Caste**	**0.32**	**262**	P	Pb	17 47 35.0	-0.8
HLNI	**Lentini**	**0.41**	**190**	P	Pg	17 47 36.7	+0.7
HAGA	**Augusta**	**0.49**	**162**	AML	AML		
	comp=E,293μm,0.5s						
MPNC	**Port Mandanici**	**0.50**	**38**	P	Pb	17 47 38.5	-0.4
HMDC	**Modica**	**0.81**	**190**	P	Pg	17 47 43.5	0.0
HMDC				S	Sb	17 47 55.9	+0.7
HMDC				AML	AML		
	comp=N,700μm,0.2s						
HMDC				AML	AML		
	comp=E,451μm,0.4s						

*CATAC **19** 17:58:32.8±0.2, 10.02N×84.62W, h33km±2km, ML3.6*
*UCR **19** 17:58:32.7±1.2, 10.03N×84.63W, h51km±5km, MW3.8*
ISC 19 17:58:33.3±1.2, 10.01N±0.03×84.62W±0.03, h49km±6km, n52, σ0.86/74, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARZA	**Esparza**	**0.06**	**247**	*e*P	**Pn**	**17 58 40.4**	**-0.5**
ARZA				*e*S	**Sn**	**17 58 47.1**	**+0.8**
SRA1	**San Ramn**	**0.15**	**62**	*e*P	**Pn**	**17 58 40.7**	**-0.7**
JACO	**JACO, Garabito**	**0.35**	**187**	*e*P	**Pn**	**17 58 42.0**	**-0.8**
JACO				*e*S	**Sn**	**17 58 50.4**	**+0.7**
JACO	**JACO, Garabito**	**0.35**	**187**	*i* P	**Pn**	**17 58 42.0**	**-0.8**
JACO				*i* S	**Sn**	**17 58 50.1**	**+0.5**
JACO				IAML		17 58 51.5	
	comp=Z,8μm,1.0s						
CPMI	**Catarata Coope**	**0.35**	**41**	*i* P	**Pn**	**17 58 42.5**	**-0.6**
CPMI				IAML		17 58 42.6	
	comp=Z,4μm,1.0s						
CPMI				*i* S	**Sn**	**17 58 50.3**	**+0.2**
LAFE	**Finca La Fe, P**	**0.35**	**235**	*e*P	**Pn**	**17 58 42.6**	**-0.2**
LAFE	**Finca La Fe, P**	**0.35**	**235**	*i* P	**Pn**	**17 58 42.5**	**-0.4**
LAFE				*i* S	**Sn**	**17 58 50.8**	**+1.1**
LAFE				IAML		17 58 52.5	
	comp=Z,29nm,1.0s						
SOCE	**Pocosol**	**0.37**	**360**	*e*P	**Pn**	**17 58 42.8**	**-0.3**
SOCE	**Pocosol**	**0.37**	**360**	*i* P	**Pn**	**17 58 42.7**	**-0.3**
SOCE				IAML		17 58 43.1	
	comp=Z,19μm,1.0s						
SOCE				*i* S	**Sn**	**17 58 51.0**	**+1.0**
JTS	**Las Juntas de**	**0.43**	**310**	*e*P	**Pn**	**17 58 43.1**	**-0.7**
SANTA	**Santa Ana**	**0.43**	**101**	*e*P	**Pn**	**17 58 43.0**	**-0.8**
HDC	**Heredia**	**0.49**	**91**	*e*P	**Pn**	**17 58 44.0**	**-0.6**
HDC3	**Heredia 3**	**0.50**	**91**	*i* P	**Pn**	**17 58 43.7**	**-0.9**
HDC3				*i* S	**Sn**	**17 58 52.5**	**-0.2**
HDC3				IAML		17 58 58.7	
	comp=Z,3μm,1.0s						
ITAL	**Pital**	**0.55**	**38**	*e*P	**Pn**	**17 58 45.6**	**+0.4**
AMPA	**Desamparados**	**0.56**	**102**	*e*P	**Pn**	**17 58 44.5**	**-0.9**
SJS3	**Mercedes San J**	**0.56**	**98**	*e*P	**Pn**	**17 58 44.9**	**-0.5**
RITA	**Parrita**	**0.56**	**150**	*e*P	**Pn**	**17 58 44.7**	**-0.6**
CORON	**Coronado**	**0.60**	**94**	*e*P	**Pn**	**17 58 46.6**	**+0.6**
ABE2	**San Pablo**	**0.63**	**119**	*e*P	**Pn**	**17 58 45.2**	**-1.2**
LCR2	**La Lucha 2**	**0.66**	**114**	*e*P	**Pn**	**17 58 45.5**	**-1.2**
LCR2	**La Lucha 2**	**0.66**	**114**	*i* P	**Pn**	**17 58 45.4**	**-1.2**
LCR2				*i* S	**Sn**	**17 58 56.0**	**-0.4**
LCR2				IAML		17 58 56.8	
	comp=Z,3μm,1.0s						
COVE	**Coope Vega, Sa**	**0.73**	**17**	*e*P	**Pn**	**17 58 46.7**	**-0.7**
COVE	**Coope Vega, Sa**	**0.73**	**17**	*i* P	**Pn**	**17 58 46.5**	**-0.9**
COVE				*i* S	**Sn**	**17 58 57.9**	**+0.2**
COVE				IAML		17 59 02.3	
	comp=Z,4μm,1.0s						
LLNJ	**Naranjito**	**0.74**	**136**	*e*P	**Pn**	**17 58 46.9**	**-0.6**
RIFO	**Rio Frio, Sara**	**0.75**	**66**	*i* P	**Pn**	**17 58 47.0**	**-0.6**
RIFO				*i* S	**Sn**	**17 58 58.7**	**+0.7**
RIFO				IAML		17 59 00.6	
	comp=Z,2μm,1.0s						
REPA	**Paraso**	**0.76**	**104**	*e*P	**Pn**	**17 58 48.3**	**+0.4**
VICA	**Volcano Irazu**	**0.76**	**92**	*e*P	**Pn**	**17 58 47.6**	**-0.6**

VTUN	**Crater Central**	**0.84**	**89**	*i* P	**Pn**	**17 58 48.6**	**-0.6**
VTUN				*i* S	**Sn**	**17 59 01.2**	**+0.4**
VTUN				IAML		17 59 04.0	
	comp=Z,1μm,1.0s						
VTCV	**VTCV, Calle Va**	**0.88**	**92**	*i* P	**Pn**	**17 58 48.9**	**-0.6**
VTCV				*i* S	**Sn**	**17 59 04.3**	**+2.9**
VTCV				IAML		17 59 09.9	
	comp=Z,2μm,1.0s						
INDI	**Punta indio, G**	**0.89**	**261**	*e*P	**Pn**	**17 58 48.5**	**-1.0**
INDI	**Punta indio, G**	**0.89**	**261**	*i* P	**Pn**	**17 58 48.4**	**-1.0**
INDI				*i* S	**Sn**	**17 59 02.4**	**+1.1**
INDI				IAML		17 59 06.6	
	comp=Z,820nm,1.0s						
ORTG	**Ortega, Santa**	**0.90**	**293**	*e*P	**Pn**	**17 58 49.3**	**-0.4**
ORTG	**Ortega, Santa**	**0.90**	**293**	*i* P	**Pn**	**17 58 49.2**	**-0.5**
ORTG				*i* S	**Sn**	**17 59 01.9**	**+0.1**
ORTG				IAML		17 59 03.5	
	comp=Z,830nm,1.0s						
VERB	**Verbena**	**0.91**	**94**	*e*P	**Pn**	**17 58 50.5**	**+0.6**
VMAR	**Armenia, Volca**	**0.93**	**328**	*e*P	**Pn**	**17 58 49.7**	**-0.5**
CDM	**Cerro de Muert**	**0.96**	**118**	*i* P	**Pn**	**17 58 49.6**	**-1.2**
CDM				*i* S	**Sn**	**17 59 03.2**	**-0.4**
CDM				IAML		17 59 04.9	
	comp=Z,2μm,1.0s						
LCOCO	**El Coco**	**1.04**	**86**	*e*P	**Pn**	**17 58 51.8**	**+0.1**
SAJU	**San Juanillo,**	**1.08**	**273**	*i* P	**Pn**	**17 58 50.8**	**-1.2**
SAJU				IAML		17 59 09.4	
	comp=Z,910nm,1.0s						
HZTE	**Horizontes, Gu**	**1.19**	**306**	*e*P	**Pn**	**17 58 53.4**	**-0.2**
HZTE	**Horizontes, Gu**	**1.19**	**306**	*i* P	**Pn**	**17 58 53.4**	**-0.2**
HZTE				*i* S	**Sn**	**17 59 09.9**	**+1.3**
HZTE				IAML		17 59 16.8	
	comp=Z,970nm,1.0s						
BATAN	**Batan**	**1.22**	**86**	*i* P	**Pn**	**17 58 54.1**	**+0.1**
BATAN				*i* S	**Sn**	**17 59 12.1**	**+2.6**
OCHAL	**Ojochal**	**1.32**	**133**	*i* P	**Pn**	**17 58 55.4**	**+0.1**
OCHAL				*i* S	**Sn**	**17 59 12.1**	**+0.3**
OCHAL				IAML		17 59 15.9	
	comp=Z,2μm,1.0s						
ACON	**Acoyapa**	**2.02**	**344**	*i* P	**Pn**	**17 59 04.4**	**-0.5**
ACON				IAML		17 59 05.1	
	comp=Z,190nm,1.0s						
ACON				*i* S	**Sn**	**17 59 27.7**	**-1.2**
ESPN	**Las Esperanzas**	**2.19**	**8**	*i* P	**Pn**	**17 59 06.0**	**-1.2**
ESPN				*i* S	**Sn**	**17 59 32.3**	**-0.9**
ESPN				IAML		17 59 49.5	
	comp=Z,250nm,1.0s						
BRU2	**Volcan**	**2.25**	**122**	*i* P	**Pn**	**17 59 07.6**	**-0.6**
BRU2				*i* S	**Sn**	**17 59 34.9**	**0.0**
BRU2				IAML		17 59 40.5	
	comp=Z,470nm,1.0s						
BOAB	**BOACO BROADBAN**	**2.63**	**337**	*i* P	**Pn**	**17 59 12.7**	**-0.6**
BOAB				IAML		17 59 13.1	
	comp=Z,75nm,1.0s						
MACN	**El Madrono**	**3.17**	**321**	*i* P	**Pn**	**17 59 21.4**	**+0.7**
MACN				IAML		17 59 22.0	
	comp=Z,260nm,1.0s						
LIMN	**Finca el Limon**	**3.48**	**331**	*i* P	**Pn**	**17 59 24.8**	**-0.3**
LIMN				IAML		17 59 25.4	
	comp=Z,89nm,1.0s						

PRE 19 17:59:23.1±0.8,**32°05S**×**28°06E**,**h5**km,**ML1.2**,**South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSTD	**Kokstad**	**1.78**	**37**	*e*P	Pn	17 59 55.4	+0.8
KSTD				*e*S	Sb	18 00 18.6	-0.3
KSTD				IAML		18 00 22.4	
	comp=Z,2.1nm,0.6s						
GRHM	**Grahamstown, E**	**1.88**	**229**	*e*P	Pb	17 59 57.4	-0.6
GRHM				*e*S	Sn	18 00 20.8	+0.7
GRHM				IAML		18 00 22.9	
	comp=Z,2.1nm,0.6s						
HVD	**Gariep Dam**	**2.62**	**302**	*e*S	Sn	18 00 39.3	+0.7
HVD				IAML		18 00 46.9	
	comp=Z,2.4nm,0.6s						

NEIC ***19*** *19:07:26.7±1.4,43°83N±0°04×105°36W±0°07,h0km±1km, ML3.2/77, Error ellipse: s-maj=9.4km s-min=5.7km az=293.0*
IDC ***19*** *19:07:30.0±2.2,43°24N×105°12W,h0km,mb3.0/1, mbtmp3.2/4,ML3.0/3,MS3.1/7, Error ellipse: s-maj=46.7km s-min=10.8km az=152.0*

ISC 19 19:07:24.3±1.0,**43°93N**±0°04×**105°57W**±0°05,**h0**km,**n48**, σ1§**83**/33,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.12**	**80**		**Pn**	**19 07 49.3**	**+1.7**
K22A	**Casper**	**1.46**	**209**		**Pb**	**19 07 55.2**	**+2.7**
K22A				IAML		19 08 22.0	
	comp=N,196nm,0.3s						
K22A				IAML		19 08 33.1	
	comp=E,220nm,0.8s						
RWWY	**Rawlins**	**2.54**	**209**	Pn	**Pb**	**19 08 10.3**	**-0.8**
RWWY				IAML		19 08 56.1	
	comp=E,184nm,0.9s						
PHWY	**Pilot Hill**	**2.63**	**178**	Pn	**Pn**	**19 08 10.8**	**+2.4**
PHWY				IAML		19 08 51.8	
	comp=E,136nm,0.5s						
LAO	**LASA Array**	**2.79**	**351**	Pn	**Pg**	**19 08 18.7**	**+0.8**
RLMT	**Red Lodge**	**2.90**	**296**		**Pb**	**19 08 16.7**	**-0.3**
RLMT				IAML		19 09 36.4	
	comp=E,48nm,0.8s						
RLMT				IAML		19 09 42.7	
	comp=E,45nm,2.1s						
N23A	**Red Feather La**	**3.05**	**185**	Pn	**Pg**	**19 08 22.9**	**+0.1**
BW06	**Boulder Array**	**3.13**	**250**	Pn	**Pb**	**19 08 19.4**	**-1.7**
PD31	**Pinedale Array**	**3.13**	**250**		**Pb**	**19 08 21.0**	**0.0**
PDAR	**Pinedale Array**	**3.13**	**250**		**Pb**	**19 08 20.3**	**-0.7**
PDAR	**Pinedale Array**	**3.13**	**250**	Pn	**Pg**	**19 08 24.8**	**+0.4**
	comp=E,1.0nm,0.3s,baz=80,slow=17,SNR=18						
PDAR				Lg	Lg	19 09 13.3	
	comp=E,3.6nm,0.3s,baz=77,slow=29,SNR=1.0						
PDAR				LR	LR	19 09 39.6	
	comp=E,90nm,19.3s,baz=82,slow=39 comp=E,1.2nm,0.3s						
YMP	**Mirror Lake Pl**	**3.39**	**285**		**Pb**	**19 08 23.6**	**-1.8**
YMP				IAML		19 09 44.0	
	comp=N,77nm,0.8s						
YMP				IAML		19 09 45.6	
	comp=E,70nm,0.9s						
GCMT	**Greycliff**	**3.45**	**304**	Pn	**Pg**	**19 08 30.8**	**+0.2**
BRIGG	**Briggsdale**	**3.48**	**164**		**Pn**	**19 08 19.7**	**-0.1**
LKWY	**Lake**	**3.53**	**282**		**Pg**	**19 08 31.2**	**-0.7**
LKWY				IAML		19 08 53.2	
	comp=E,55nm,0.9s						
H17A	**Grant Village**	**3.63**	**279**		**Pb**	**19 08 30.2**	**+0.6**
H17A				IAML		19 09 43.0	
	comp=N,23nm,1.2s						
H17A				IAML		19 09 45.7	
	comp=E,27nm,2.5s						
LOHW	**Long Hollow**	**3.66**	**267**		**Pg**	**19 08 33.2**	**-1.2**
FLWY	**Flagg Ranch**	**3.70**	**274**		**Pg**	**19 08 34.7**	**-0.6**
FLWY				IAML		19 08 54.5	
	comp=E,43nm,1.2s						
FLWY				IAML		19 09 47.5	
	comp=E,45nm,2.3s						
MOOW	**Moose Ponds**	**3.75**	**269**		**Pg**	**19 08 35.4**	**-0.8**
YNR	**Norris Junctio**	**3.75**	**284**		**Pb**	**19 08 32.8**	**+1.3**
YNR				IAML		19 10 44.8	
	comp=N,21nm,4.5s						
YFT	**Old Faithful**	**3.82**	**280**		**Pg**	**19 08 35.0**	**-2.6**
YFT				IAML		19 08 58.5	
	comp=N,22nm,0.8s						
YFT				IAML		19 09 05.7	
	comp=E,29nm,1.1s						
REDW	**Red Top Meadow**	**3.87**	**263**		**Pb**	**19 08 35.0**	**+1.3**
IMW	**Indian Meadow**	**3.88**	**271**		**Pg**	**19 08 35.6**	**-3.0**
IMW				IAML		19 08 58.7	
	comp=E,20nm,0.5s						
YHH	**Holmes Hill**	**3.88**	**285**		**Pb**	**19 08 34.0**	**+0.2**
TPAW	**Teton Pass**	**3.92**	**265**		**Pb**	**19 08 33.1**	**-1.5**
TPAW				IAML		19 09 56.1	
	comp=E,39nm,1.0s						
TPAW				IAML		19 10 03.0	
	comp=E,26nm,1.1s						
FXWY	**Fox Creek**	**3.96**	**268**		**Pb**	**19 08 33.7**	**-1.5**
OGNE	**Ogallala**	**3.97**	**138**	Pn	**Pn**	**19 08 27.6**	**+1.0**
YHL	**Hebgen Lake**	**4.12**	**285**		**Pb**	**19 08 37.7**	**-0.3**
YHL				IAML		19 10 11.1	
	comp=N,29nm,1.1s						
YHL				IAML		19 10 28.8	
	comp=E,28nm,1.1s						
ISCO	**Idaho Springs**	**4.13**	**180**	Pn	**Pn**	**19 08 29.6**	**+0.7**
AHID	**Auburn Hatcher**	**4.20**	**256**	IAML		19 10 02.1	
	comp=E,35nm,0.9s						
AHID				IAML		19 10 09.8	
	comp=E,33nm,1.0s						
O20A	**White River Ci**	**4.28**	**209**		**Pn**	**19 08 35.0**	**+4.0**
O20A				IAML		19 09 52.0	
	comp=E,42nm,0.9s						
E28A	**Huff**	**4.34**	**51**	Pn	**Pn**	**19 08 32.8**	**+1.2**
RDMU	**Red Mountain**	**4.48**	**223**		**Pb**	**19 08 39.4**	**-4.6**
RDMU				IAML		19 10 01.3	
	comp=E,30nm,0.9s						
RDMU				IAML		19 10 13.2	
	comp=N,20nm,1.0s						
K30B	**Basset**	**4.53**	**104**	Pn	**Pn**	**19 08 31.2**	**-2.9**
BOZ	**Bozeman (W)**	**4.62**	**293**	IAML		19 09 29.9	
	comp=N,12nm,1.4s						
BOZ				IAML		19 10 52.0	
	comp=N,15nm,4.7s						
HWUT	**Hardware Ranch**	**4.99**	**244**	IAML		19 10 31.0	
	comp=N,19nm,1.1s						
BSUT	**Blindstream Ca**	**5.13**	**230**	IAML		19 10 26.4	
	comp=N,12nm,0.9s						
BSUT				IAML		19 11 05.5	
	comp=E,14nm,4.8s						
SPUT	**South Promonto**	**5.71**	**245**		Pg	19 09 24.5	+11
HVU	**Hansel Valley**	**5.71**	**250**		Pn	19 08 56.1	+5.6
I10CA	**LAC DU BONNET**	**9.04**	**43**	I	I	19 59 10.0	
	comp=E,0.4nm,1.1s,baz=222,slow=327,SNR=20						
NEW	**Newport**	**9.12**	**302**	LR	LR	19 14 05.8	
	comp=E,125nm,18.6s,baz=112,slow=40						
ULM	**Lac du Bonnet**	**9.14**	**43**	Pn	Pn	19 09 45.4	+8.0
	comp=E,0.5nm,0.3s,baz=224,slow=13,SNR=2.6						
ULM				Lg	Lg	19 12 19.3	
	comp=E,0.4nm,0.3s,baz=315,slow=18,SNR=2.0 comp=E,2.1nm,0.4s						
NVAR	**Mina Array Bea**	**11.05**	**245**	Pn	Pn	19 10 14.0	+10
	comp=E,0.1nm,0.3s,baz=51,slow=13,SNR=2.4						
NVAR				LR	LR	19 14 07.1	
	comp=E,49nm,19.3s,baz=317,slow=36 comp=E,0.1nm,0.3s						
PFO	**Pinyon Flats O**	**13.34**	**223**	LR	LR	19 15 58.3	
	comp=E,66nm,19.9s,baz=68,slow=39						
BBB	**Bella Bella**	**17.13**	**307**	LR	LR	19 18 43.0	
	comp=E,113nm,20.1s,baz=174,slow=38						
SADO	**Sadowa**	**18.90**	**78**	LR		19 19 03.0	
	comp=E,198nm,18.0s,baz=300,slow=37						
YKA	**Yellowknife Ar**	**19.33**	**347**	P	Pn	19 12 05.9	+14
	comp=E,0.9nm,1.1s,baz=156,slow=11,SNR=3.0 comp=E,0.9nm,1.1s						
ILAR	**Eielson Array**	**30.99**	**327**	LR	LR	19 28 25.2	
	comp=E,40nm,19.7s,baz=132,slow=40						

NEIC ***19*** *19:08:21.8±1.6,5°85S±0°1×155°05E±0°10,h98km±12km, mb4.6/20, Error ellipse: s-maj=19.0km s-min=10.5km az=216.0*
IDC ***19*** *19:08:37.9±3.6,6°33S×154°96E,h247km±35km,mb3.2/4, mbtmp4.0/7, Error ellipse: s-maj=25.2km s-min=17.3km az=29.0*

ISC 19 19:08:21.0±0.7,**5°85S**±0°08×**155°03E**±0°07,**h89**km,**n40**, σ1§**36**/40,**mb4.5**/14,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.03**	**126**	Pn	**Pn**	**19 09 47.9**	**+0.2**
PMG	**Port Moresby**	**8.57**	**245**	Pn	**Pn**	**19 10 23.7**	**+1.4**
PMG				Sn	**Sn**	**19 11 56.3**	**-1.0**
PMG	**Port Moresby**	**8.57**	**245**	P	Pn	19 10 35.1	+13
	5.2nm,0.4s,baz=70,slow=12,SNR=4.0						
PMG				S	Sn	19 12 10.8	+13
	6.5nm,0.8s,baz=71,slow=18,SNR=2.3						
PATS	**Pohnpei**	**13.02**	**15**	Pn	**Pn**	**19 11 22.0**	**-0.5**
COEN	**Coen**	**14.19**	**234**	P	**P**	**19 11 46.3**	**+3.7**
COEN	**Coen**	**14.19**	**234**	P	**P**	**19 11 42.4**	**-0.2**
CTA	**Charters Tower**	**16.53**	**210**	P	**P**	**19 12 11.6**	**+3.0**
CTA	**Charters Tower**	**16.53**	**210**	P	**P**	**19 12 10.7**	**+2.1**
	4.4nm,0.7s,baz=90,slow=6.7,SNR=4.0						
CTAO	**Charters Tower**	**16.53**	**210**	P	**P**	**19 12 11.6**	**+3.0**
CTAO	**Charters Tower**	**16.53**	**210**	P	**Pn**	**19 12 07.8**	**+0.3**
DZM	**Mont Dzumac**	**19.54**	**147**	P	**Pn**	**19 12 43.1**	**-0.7**
DZM	**Mont Dzumac**	**19.54**	**147**	P	**Pn**	**19 12 43.5**	**-0.4**
	8.0nm,0.5s,baz=293,slow=15,SNR=25						
OUENC	**Ouen Island, N**	**20.04**	**146**	P	**P**	**19 12 47.5**	**+0.5**
OUENC				IAmb	IAmb	19 13 09.9	
	comp=Z,21nm,1.2s						
FAKI	**Fak Fak**	**22.90**	**276**	P	**P**	**19 13 16.5**	**-1.1**
FAKI	**Fak Fak**	**22.90**	**276**	P	**P**	**19 13 16.7**	**-0.8**
FAKI				IAmb	IAmb	19 13 36.0	
	comp=Z,19nm,1.2s						
KDU	**Kakadu**	**23.27**	**251**	P	**P**	**19 13 21.2**	**+0.1**
WR0	**Warramunga Arr**	**24.36**	**233**	P	**P**	**19 13 30.7**	**-0.2**
WR0				IAmb	IAmb	19 13 33.0	
	comp=Z,15nm,0.6s						
WB0	**Warramunga Arr**	**24.38**	**234**	P	**P**	**19 13 31.6**	**+0.6**
WB0				IAmb	IAmb	19 13 33.1	
	comp=Z,12nm,0.7s						
WB2	**Warramunga Arr**	**24.51**	**233**	P	**P**	**19 13 32.2**	**0.0**
WB2				IAmb	IAmb	19 13 34.1	
	comp=Z,9.1nm,0.5s						
WRA	**Warramunga Arr**	**24.52**	**233**	P	**P**	**19 13 32.1**	**-0.2**
WRA	**Warramunga Arr**	**24.52**	**233**	P	**P**	**19 13 32.1**	**-0.2**
	comp=Z,9.6nm,0.3s,baz=58,slow=10,SNR=65						
MTN	**Manton Dam**	**24.57**	**252**	P	**P**	**19 13 31.9**	**-0.9**
MTN				IAmb	IAmb	19 13 34.5	
	comp=Z,30nm,1.5s						
ARMA	**Armidale**	**24.65**	**187**	P	**P**	**19 13 34.1**	**+0.6**
ARMA				IAmb	IAmb	19 14 08.9	
	comp=Z,26nm,1.5s						
INKA	**Innaminka**	**25.66**	**210**	P	**P**	**19 13 41.7**	**-0.9**
AS31	**Alice Springs**	**26.97**	**227**	P	**P**	**19 13 53.3**	**-1.3**
ASAR	**Alice Springs**	**26.97**	**227**	P	**P**	**19 13 53.9**	**-0.7**
ASAR	**Alice Springs**	**26.97**	**227**	P	**P**	**19 13 53.2**	**-1.4**
	comp=Z,0.8nm,0.5s,baz=58,slow=9.2,SNR=27 comp=Z,0.8nm,0.5s						
KNRA	**Kununurra**	**27.56**	**247**	P	**P**	**19 13 59.4**	**-0.4**
KNRA				IAmb	IAmb	19 14 31.2	
	comp=Z,46nm,1.4s						
STKA	**Stephens Creek**	**28.79**	**204**	P	**P**	**19 14 09.9**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=5.7,slow=10,SNR=1.5 comp=Z,0.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**31.16**	**244**	P	**P**	**19 14 30.9**	**-0.9**
BBOO	**Buckleboo**	**32.13**	**211**	P	**P**	**19 14 37.9**	**-2.2**
MMRI	**Maumere**	**32.65**	**263**	P	**P**	**19 14 45.0**	**+0.2**
FORT	**Forrest**	**35.45**	**222**	P	**P**	**19 15 07.6**	**-1.3**
MBWA	**Marble Bar**	**37.42**	**243**	P	**P**	**19 15 25.0**	**-0.8**
RTZ	**Ruatahuna**	**38.21**	**152**	P	**P**	**19 15 31.9**	**-0.4**
BKZ	**Black Stump Fm**	**38.42**	**153**	P	**P**	**19 15 33.9**	**-0.1**
BKZ				IAmb	IAmb	19 15 51.0	
	comp=Z,23nm,1.4s						
MORW	**Morawa**	**43.47**	**233**	P	**P**	**19 16 14.0**	**-1.6**
MORW				IAmb	IAmb	19 16 57.6	
	comp=Z,19nm,1.2s						
SONM	**Songino Array**	**68.40**	**327**	P	**P**	**19 19 15.6**	**+2.3**
	comp=Z,0.4nm,0.5s,baz=128,slow=5.2,SNR=7.6 comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**82.57**	**319**	P	**P**	**19 20 34.9**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=100,slow=6.3,SNR=5.6 comp=Z,0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**152.74**	**287**	PKPbc	**PKPbc**	**19 28 06.9**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=62,slow=2.0,SNR=1.7						

MOS ***19*** *19:08:18.3±0.8,46°17N×150°53E,h131km,mb4.0/1, Error ellipse: s-maj=17.3km s-min=10.1km az=137.2*
SKHL ***19*** *19:08:19.8±0.1,46°10N×150°40E,h136km±8km, mb4.7/4, msha5.4/3*
JMA ***19*** *19:08:20.3±0.7,46°N±4°×15°1E±°,h140km,MV3.6/13, KURILE ISLANDS REGION*
IDC ***19*** *19:08:21.7±2.5,46°39N×150°34E,h146km±24km,mb3.2/7, mbtmp3.7/13,Error ellipse: s-maj=27.1km s-min=15.7km az=146.0*

ISC 19 19:08:20.3±0.8,**45°94N**±0°08×**150°51E**±0°08,**h150**km,**n44**, σ1§**86**/54,**mb3.4**/7,**1D**,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.99**	**250**	*e*PN	**Pn**	**19 08 54.9**	**-0.3**
KUR				*e*S	**Sn**	**19 09 24.2**	**+2.1**
KUR				pmax	pmax		
	comp=Z,99nm,0.5s						
KUR				smax	smax		
	comp=N,243nm,0.2s						
KUR				smax	smax		
	comp=E,104nm,0.3s						
KUR	**Kuril'sk**	**1.99**	**250**	*e*P	**Pn**	**19 08 54.8**	**-0.4**
KUR				AMB	AMB	19 08 56.4	
	comp=E,100nm,0.5s						
KUR				*e*S	**Sn**	**19 09 22.2**	**+0.1**
KUR				A	A	19 09 34.0	
	comp=E,240nm,0.3s						
KUR				A	A	19 09 34.0	
	comp=E,100nm,0.3s						
SHO	**Shikotan**	**3.34**	**233**	*e*PN	**Pn**	**19 09 11.6**	**-0.3**
SHO				*e*S	**Sn**	**19 09 50.8**	**-1.1**
SHO				pmax	pmax		
	comp=Z,51nm,0.4s						
SHO				pmax	pmax		
	comp=E,13nm,0.2s						
SHO				pmax	pmax		
	comp=N,24nm,0.3s						
SHO				smax	smax		
	comp=N,72nm,0.2s						
SHO				smax	smax		
	comp=E,129nm,0.2s						
SHO	**Shikotan**	**3.34**	**233**	*e*P	**Pn**	**19 09 11.6**	**-0.3**
SHO				AMB	AMB	19 09 12.8	
	comp=E,50nm,0.3s						
SHO				*e*S	**Sn**	**19 09 50.8**	**-1.1**
SHO				A	A	19 09 54.6	
	comp=E,70nm,0.2s						
SHO				A	A	19 09 54.6	
	comp=E,130nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**3.81**	**242**	*e*PN	**Pn**	**19 09 18.2**	**+0.2**
YUK				S	**Sn**	**19 10 04.0**	**+1.2**
YUK				pmax	pmax		
	comp=Z,285nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.81**	**242**	*e*P	**Pn**	**19 09 18.7**	**+0.7**
YUK				AMB	AMB	19 09 19.4	
	comp=Z,290nm,0.4s						
YUK				*e*S	**Sn**	**19 10 04.6**	**+1.8**
YUK				A	A	19 10 09.0	
	comp=Z,100nm,0.4s						
YUK				A	A	19 10 09.0	
	comp=Z,200nm,0.4s						
RUSJ	**Misakicho**	**4.16**	**246**	PN	**Pn**	**19 09 23.1**	**+0.5**
NEM2	**Nemuro 2**	**4.27**	**235**	*e*P	**Pn**	**19 09 22.9**	**-1.1**
NEM2				*e*S	**Sn**	**19 10 11.9**	**-1.7**
NMR	**Nemuro--Hokkai**	**4.28**	**235**	⇓*i* PN	**Pn**	**19 09 22.8**	**-1.3**
NMR				*i* S	**Sn**	**19 10 11.2**	**-2.5**
NMR	**Nemuro--Hokkai**	**4.28**	**235**	*i* P	**Pn**	**19 09 23.0**	**-1.1**
NMR				*i* S	**Sn**	**19 10 12.0**	**-1.7**
JRA	**Rausu**	**4.32**	**244**	*e*P	**Pn**	**19 09 25.5**	**+0.8**
JNK	**Nakash**	**4.75**	**242**	*e*P	**Pn**	**19 09 30.2**	**-0.1**
AKK	**Akkeshi**	**5.00**	**236**	*e*P	**Pn**	**19 09 32.5**	**-1.2**
JTKR	**Abashiri--Toko**	**5.09**	**250**	*e*P	**Pn**	**19 09 35.5**	**+0.7**
JAK	**Akkeshi**	**5.10**	**237**	*e*P	**Pn**	**19 09 33.8**	**-1.2**
JAK				*e*S	**Sn**	**19 10 31.7**	**-1.5**
YSS	**Yuzh-Sakhalins**	**5.46**	**283**	*e*PN	**Pn**	**19 09 38.2**	**-1.5**
YSS				*e*S	**Sn**	**19 10 42.2**	**+0.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.46**	**283**	*e*P	**Pn**	**19 09 38.2**	**-1.5**
YSS				AMB	AMB	19 09 48.2	
	comp=Z,20nm,0.7s						
JAR	**Ashorobuto**	**5.49**	**244**	*e*P	**Pn**	**19 09 40.7**	**+0.6**
JAR				*e*S	**Sn**	**19 10 43.4**	**+0.8**
JOB	**Onbets**	**5.67**	**240**	*e*P	**Pn**	**19 09 42.1**	**-0.4**
JOB				*e*S	**Sn**	**19 10 45.9**	**-0.8**
JKK2	**Kamakawa 2**	**5.89**	**252**	*e*P	**Pn**	**19 09 46.4**	**+0.9**
JKA	**Kamikawa-asahi**	**5.90**	**255**	*e*P	**Pn**	**19 09 46.9**	**+1.3**
ASAJ	**Asahikawa**	**5.90**	**255**	P	**Pn**	**19 09 46.9**	**+1.3**
	comp=Z,39nm,0.8s,baz=62,slow=13,SNR=15						
JCH	**Churui**	**6.12**	**240**	*e*P	**Pn**	**19 09 47.9**	**-0.6**
JCH				*e*S	**Sn**	**19 10 55.4**	**-2.1**
JNBK	**Urakawa-nobuka**	**6.68**	**240**	*e*P	**Pn**	**19 09 54.5**	**-1.5**
JNBK				*e*S	**Sn**	**19 11 09.2**	**-1.7**
PETK	**Petropavlovsk-**	**8.56**	**30**	P	**Pn**	**19 10 17.6**	**-3.4**
	comp=Z,4.4nm,0.6s,baz=212,slow=13,SNR=16						
JANG	**Nango**	**8.61**	**233**	*e*P	**Pn**	**19 10 19.1**	**-2.7**
JANG				*e*S	**Sn**	**19 11 50.8**	**-6.7**
KLR	**Kul'dur**	**13.08**	**291**	P	**Pn**	**19 11 19.7**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=108,slow=18,SNR=4.3						
USRK	**Ussuriysk Ar.**	**13.21**	**269**	P	**Pn**	**19 11 22.1**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=71,slow=13,SNR=1.1						
SEY	**Seymchan**	**17.06**	**3**	P	**Pn**	**19 12 07.0**	**-2.5**
	comp=Z,0.4nm,0.5s,baz=180,slow=20,SNR=3.7						
KSRS	**Korea Array**	**18.83**	**251**	P	**Pn**	**19 12 31.3**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=52,slow=11,SNR=7.2						
H11N2	**WAKE ISLAND Hy**	**29.44**	**147**	T	T	19 45 51.7	
	baz=337,slow=76						
H11N1	**WAKE ISLAND Hy**	**29.44**	**147**	T	T	19 45 55.4	
	baz=337,slow=76						
H11N3	**WAKE ISLAND Hy**	**29.44**	**147**	T	T	19 45 53.2	
	baz=337,slow=76						
H11S1	**WAKE ISLAND Hy**	**30.47**	**149**	T	T	19 46 38.6	
	baz=339,slow=76						
H11S3	**WAKE ISLAND Hy**	**30.48**	**149**	T	T	19 46 38.2	
	baz=339,slow=76						
H11S2	**WAKE ISLAND Hy**	**30.49**	**149**	T	T	19 46 51.3	
	baz=339,slow=76						
MKAR	**Makanchi Array**	**45.71**	**297**	P	**P**	**19 16 24.8**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=67,slow=9.3,SNR=4.5 comp=Z,0.3nm,0.6s						
KURK	**Kurchatov**	**46.31**	**303**	P	**P**	**19 16 29.3**	**-1.3**
KURBB	**Kurchatov Arra**	**46.40**	**303**	P	**P**	**19 16 29.3**	**-2.0**
	comp=Z,0.3nm,0.4s,baz=73,slow=8.2,SNR=2.5 comp=Z,0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**50.42**	**255**	P	**P**	**19 17 05.0**	**+2.5**
	comp=Z,0.6nm,0.6s,baz=36,slow=7.3,SNR=5.6 comp=Z,0.6nm,0.6s						
NVAR	**Mina Array Bea**	**64.40**	**61**	P	**P**	**19 18 41.8**

comp=E,810nm,0.5s
KUR A A 19 18 22.4
comp=E,510nm,0.5s
SHO Shikotan 2.23 256 *e*PN **Pn** **19 18 08.8 +0.8**
SHO *e*S **Sn** **19 18 34.9 +0.6**
SHO pmax pmax
comp=Z,36nm,0.3s
SHO smax smax
comp=N,94nm,0.2s
SHO smax smax
comp=E,194nm,0.3s
SHO Shikotan 2.23 256 *e*P **Pn** **19 18 08.8 +0.8**
SHO AMB AMB 19 18 10.7
comp=E,40nm,0.3s
SHO *e*S **Sn** **19 18 34.9 +0.6**
SHO A A 19 18 40.2
comp=E,90nm,0.3s
SHO A A 19 18 40.2
comp=E,190nm,0.3s
YUK Yuzh-Kuril'sk 2.88 263 *e*PN **Pn** **19 18 18.0 +1.1**
YUK *e*S **Sn** **19 18 54.0 +3.7**
YUK pmax pmax
comp=Z,406nm,0.2s
YUK pmax pmax
comp=E,92nm,0.1s
YUK smax smax
comp=E,245nm,0.4s
YUK smax smax
comp=N,126nm,0.3s
YUK Yuzh-Kuril'sk 2.88 263 *i* P **Pn** **19 18 18.0 +1.1**
YUK AMB AMB 19 18 19.2
comp=N,340nm,0.3s
YUK *e*S **Sn** **19 18 52.3 +2.0**
YUK A A 19 18 56.4
comp=N,130nm,0.4s
YUK A A 19 18 56.4
comp=N,250nm,0.4s
NEM2 Nemuro 2 3.14 251 *e*P **Pn** **19 18 19.9 -0.6**
NEM2 *e*S **Sn** **19 18 55.3 -1.5**
NMR Nemuro--Hokkai 3.15 251 *e*PN **Pn** **19 18 19.6 -1.1**
NMR Nemuro--Hokkai 3.15 251 *i* P **Pn** **19 18 20.0 -0.7**
NMR *i* S **Sn** **19 18 56.0 -1.0**
RUSJ Misakicho 3.31 266 *e*PN **Pn** **19 18 24.7 +1.9**
RUSJ *e*S **Sn** **19 19 06.2 +5.4**
JRA Rausu 3.42 263 *e*P **Pn** **19 18 25.8 +1.4**
JNK Nakash 3.78 259 *e*P **Pn** **19 18 30.0 +0.6**
JNK *e*S **Sn** **19 19 13.1 +0.4**
AKK Akkeshi 3.88 250 *i* P **Pn** **19 18 31.0 +0.3**
AKK *e*S **Sn** **19 19 15.2 +0.1**
JAK Akkeshi 3.99 250 *e*P **Pn** **19 18 32.1 -0.1**
JAK *e*S **Sn** **19 19 17.8 +0.1**
JTKR Abashiri--Toko 4.28 266 *e*P **Pn** **19 18 37.8 +1.7**
JAR Ashorobuto 4.53 257 *e*P **Pn** **19 18 41.0 +1.5**
JAR *e*S **Sn** **19 19 32.9 +2.0**
JCH Churui 5.04 251 *e*P **Pn** **19 18 46.9 +0.3**
JCH *e*S **Sn** **19 19 43.0 -0.6**
JKA Kamikawa-asahi 5.20 269 Pn **Pn** **19 18 51.1 +2.3**
JKA Kamikawa-asahi 5.20 269 *e*P **Pn** **19 18 51.1 +2.3**
ASAJ Asahikawa 5.20 269 PN **Pn** **19 18 51.1 +2.3**
ASAJ Asahikawa 5.20 269 P **Pn** **19 18 52.5 +3.6**
comp=N,5.6nm,0.3s,baz=85,slow=10,SNR=47
comp=N,18nm,0.4s
ERM Erimo 5.45 246 Pn **Pn** **19 18 53.5 +1.3**
ERM Erimo 5.45 246 PN **Pn** **19 18 53.5 +1.3**
YSS Yuzh-Sakhalins 5.55 299 *e*PN **Pn** **19 18 53.5 -0.1**
YSS *e*S **Sn** **19 19 59.6 +3.5**
YSS pmax pmax
comp=Z,20nm,0.5s
YSS Yuzh-Sakhalins 5.55 299 *e*P **Pn** **19 18 54.5 +0.9**
YSS AMB AMB 19 18 57.0
comp=Z,10.0nm,0.3s
YSS A A 19 19 55.3
YSS *e*S **Sn** **19 19 56.2 +0.1**
YSS A A 19 20 05.3
comp=Z,10.0nm,0.4s
YSS A A 19 20 05.3
comp=Z,10.0nm,0.4s
JNBK Urakawa-nobuka 5.59 250 *e*P **Pn** **19 18 54.0 -0.2**
JANG Nango 7.37 239 *e*S Sn 19 20 35.5 -5.5
JTM Tenmabayashi 7.42 244 Pn **Pn** **19 19 17.1 -2.2**
JTM Sn **Sn** **19 20 36.9 -5.3**
JTH Tanohata 7.43 235 *e*S Sn 19 20 34.7 -7.8
TYV Tymovskoe 8.04 326 *e*PN **Pn** **19 19 29.8 +2.1**
TYV pmax pmax
comp=Z,100nm,4.1s
TYV pmax pmax
comp=Z,3.0nm,0.7s
TYV Tymovskoe 8.04 326 *e*P **Pn** **19 19 29.8 +2.1**
TYV AMB AMB 19 19 31.7
comp=Z,100nm,4.1s
TYV AMB AMB 19 19 33.9
comp=Z,10.0nm,0.7s
PEA0B Petropavlovsk- 10.10 28 Pn **Pn** **19 19 54.5 -1.4**
PEA0B Petropavlovsk- 10.10 28 PN **Pn** **19 19 54.5 -1.4**
PETK Petropavlovsk- 10.10 28 Pn **Pn** **19 19 54.7 -1.2**
PETK Petropavlovsk- 10.10 28 PN **Pn** **19 19 54.7 -1.2**
PETK Petropavlovsk- 10.10 28 P **Pn** **19 19 57.2 +1.3**
comp=Z,5.8nm,1.0s,baz=215,slow=12,SNR=2.8
USA0B Ussuriysk Arra 12.78 275 Pn **Pn** **19 20 30.1 -2.5**
USA0B Ussuriysk Arra 12.78 275 PN **Pn** **19 20 30.1 -2.5**
USRK Ussuriysk Ar. 12.78 275 Pn **Pn** **19 20 30.9 -1.6**
USRK Ussuriysk Ar. 12.78 275 PN **Pn** **19 20 31.0 -1.6**
USRK Ussuriysk Ar. 12.78 275 P **Pn** **19 20 33.6 +1.0**
comp=Z,0.7nm,0.3s,baz=80,slow=14,SNR=12
USRK LR LR 19 25 47.8
comp=Z,81nm,20.3s,baz=128,slow=39
comp=Z,2.7nm,0.4s
KLR Kul'dur 13.26 298 LR LR 19 25 57.8
comp=Z,70nm,18.6s,baz=118,slow=38
SEY Seymchan 18.58 4 P **P** **19 21 46.8 -0.2**
comp=Z,0.1nm,0.3s,baz=151,slow=12,SNR=4.0
comp=Z,0.8nm,0.7s
YAK Yakutsk 21.18 333 *e*P **P** **19 22 13.0 -2.2**
YAK pmax pmax
comp=Z,10.0nm,0.9s
YAK Yakutsk 21.18 333 P **P** **19 22 14.3 -0.9**
comp=Z,13nm,0.7s,baz=185,slow=14,SNR=6.6
YAK LR LR 19 32 01.9
comp=Z,36nm,18.3s,baz=320,slow=41
comp=Z,13nm,0.7s
H11N2 WAKE ISLAND Hy 28.46 145 T T 19 54 23.2
baz=335,slow=76,SNR=41
H11N1 WAKE ISLAND Hy 28.47 145 T T 19 54 27.1
baz=335,slow=76,SNR=26
H11N3 WAKE ISLAND Hy 28.47 145 T T 19 54 27.5
baz=335,slow=76,SNR=32
H11S1 WAKE ISLAND Hy 29.47 146 T T 19 55 41.1
baz=336,slow=76,SNR=39
H11S3 WAKE ISLAND Hy 29.48 146 T T 19 55 41.8
baz=336,slow=76,SNR=26
H11S2 WAKE ISLAND Hy 29.49 146 T T 19 55 41.7
baz=336,slow=76,SNR=29
SONM Songino Array 29.99 292 P **P** **19 23 39.1 +0.8**
comp=Z,0.6nm,0.8s,baz=79,slow=8.8,SNR=4.0
comp=Z,0.6nm,0.8s
F17K Baldwin Pennin 34.09 33 P **P** **19 24 14.3 +0.4**
C18K Utukok River 34.76 29 P **P** **19 24 20.1 +0.3**
F19K Shaleruckik Mo 35.53 33 P **P** **19 24 25.6 -0.6**
D19K Kuna River 35.80 30 P **P** **19 24 28.9 +0.3**
D19K IAmb IAmb 19 24 32.5
comp=Z,3.2nm,0.9s
H19K Roundabout Mou 35.81 35 P **P** **19 24 29.5 +0.8**
H19K IAmb IAmb 19 24 30.7
comp=Z,2.9nm,0.8s
E19K Redstone River 35.87 32 P **P** **19 24 30.0 +0.8**
E19K IAmb IAmb 19 24 35.2
comp=Z,2.4nm,0.9s
IMAR Indian Mountai 36.98 35 P **P** **19 24 39.2 +0.6**
G21K Allakaket 37.15 34 P **P** **19 24 40.5 +0.4**
G21K IAmb IAmb 19 25 13.4
comp=Z,5.1nm,1.4s
B21K Ikpikpuk River 37.30 28 P **P** **19 24 41.8 +0.5**
D22K Ayikyak River 37.82 30 P **P** **19 24 46.9 +1.0**
D22K IAmb IAmb 19 24 47.2
comp=Z,2.2nm,0.7s
B22K Teshekpuk Lake 37.85 27 P **P** **19 24 46.7 +0.7**
B22K IAmb IAmb 19 25 21.8
comp=Z,5.7nm,1.2s
E22K Anaktuvuk Pass 38.02 31 P **P** **19 24 48.0 +0.5**
COLD Coldfoot 38.53 33 P **P** **19 24 52.8 +1.1**
C23K Itkillik River 38.70 29 P **P** **19 24 54.1 +0.9**
D24K Happy Valley 39.24 30 P **P** **19 24 58.1 +0.5**
D24K IAmb IAmb 19 24 59.2
comp=Z,2.5nm,0.6s
E24K Your Creek 39.25 32 P **P** **19 24 58.5 +0.6**
E24K IAmb IAmb 19 25 12.3
comp=Z,3.2nm,0.9s
ILAR Eielson Array 39.78 37 P **P** **19 25 03.0 +0.8**
comp=Z,0.2nm,0.5s,baz=272,slow=8.1,SNR=2.3
comp=Z,0.2nm,0.5s
D25K Kavik River 40.12 30 P **P** **19 25 05.5 +0.4**
D25K IAmb IAmb 19 25 06.5
comp=Z,2.4nm,0.6s
BMAR Burnt Mountain 40.71 33 P **P** **19 25 10.5 +0.6**
E27K Coleen River 41.84 31 P **P** **19 25 19.6 +0.5**
K27K Chicken 41.91 38 P **P** **19 25 20.2 +0.5**
K27K IAmb IAmb 19 25 44.5
comp=Z,6.5nm,1.4s
L27K Beaver Creek, 42.13 39 P **P** **19 25 23.0 +1.4**
BCAR Beaver Creek A 42.15 39 P **P** **19 25 22.9 +1.1**
EGAK Eagle 42.23 37 P **P** **19 25 22.0 -0.3**
I28M Miner Creek 42.68 35 P **P** **19 25 27.6 +1.5**
H29M Whitestone 43.23 34 P **P** **19 25 30.8 +0.3**
G29M Pine Creek 43.29 33 P **P** **19 25 31.6 +0.6**
G29M IAmb IAmb 19 25 47.4
comp=Z,6.4nm,1.4s
I30M Mount Dempster 44.19 35 P **P** **19 25 38.8 +0.5**
I30M IAmb IAmb 19 26 04.1
comp=Z,4.4nm,1.1s
G31M Satah River 44.76 33 P **P** **19 25 43.0 +0.4**
G31M IAmb IAmb 19 25 47.9
comp=Z,3.6nm,1.1s
H31M Peel River 44.92 34 P **P** **19 25 44.7 +0.6**
H31M IAmb IAmb 19 25 58.1
comp=Z,5.5nm,1.4s
MK31 Makanchi Array 45.97 298 P **P** **19 25 52.4 -0.2**
MK31 IAmb IAmb 19 25 53.8
comp=Z,3.0nm,0.7s
MK31 Makanchi Array 45.97 298 *ce*P **P** **19 25 52.8 +0.2**
MKAR Makanchi Array 45.97 298 P **P** **19 25 52.6 +0.1**
MKAR Makanchi Array 45.97 298 *e*P **P** **19 25 53.2 +0.6**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 45.97 298 P **P** **19 25 52.9 +0.3**
comp=Z,2.5nm,0.6s,baz=73,slow=8.0,SNR=37
MKAR PcP **PcP** **19 27 28.9 +0.1**
comp=Z,0.2nm,0.6s,baz=62,slow=5.1,SNR=2.2
comp=Z,2.5nm,0.6s
MAKZ Makanchi 46.16 298 P **P** **19 25 54.2 +0.1**
MAKZ IAmb IAmb 19 25 55.3
comp=Z,2.9nm,0.7s
MAKZ Makanchi 46.16 298 P **P** **19 25 54.2 +0.1**
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
KURK Kurchatov 46.73 304 P **P** **19 25 58.4 -0.1**
KURK **19 27 32.4**
KURK Kurchatov 46.73 304 *e*P **P** **19 25 58.4 -0.1**
KURBB Kurchatov Arra 46.82 304 P **P** **19 25 58.4 -0.7**
comp=Z,0.7nm,0.5s,baz=74,slow=8.6,SNR=6.9
KURBB PcP **PcP** **19 27 32.4 +0.7**
comp=Z,0.3nm,0.5s,baz=83,slow=3.5,SNR=2.6
comp=Z,0.7nm,0.5s
CMAR Chiang Mai Arr 49.57 255 P **P** **19 26 21.9 +1.1**
comp=Z,0.4nm,0.6s,baz=45,slow=7.6,SNR=3.1
comp=Z,0.4nm,0.6s
BVAR Borovoye Array 50.55 310 P **P** **19 26 28.4 +0.6**
comp=Z,0.3nm,0.3s,baz=64,slow=6.6,SNR=3.8
comp=Z,0.3nm,0.3s
AAK Ala-Archa 52.79 296 *i* P **P** **19 26 45.1 +0.3**
AAK pmax pmax
comp=Z,1.0nm,0.9s
AAK Ala-Archa 52.79 296 *e*P **P** **19 26 45.1 +0.3**
RES Resolute Bay 53.74 17 P **P** **19 26 50.8 -0.3**
RES Resolute Bay 53.74 17 P **P** **19 26 50.8 -0.3**
RES pmax pmax
comp=Z,4.0nm,0.9s
YKA Yellowknife Ar 54.14 35 P **P** **19 26 55.1 +0.9**
comp=Z,0.1nm,0.4s,baz=299,slow=7.4,SNR=2.6
comp=Z,0.1nm,0.4s
ARSB Arslanbob 54.42 296 P **P** **19 26 56.8 0.0**
ARSB Arslanbob 54.42 296 P **P** **19 26 56.8 0.0**
ARSB pmax pmax
comp=Z,2.0nm,0.4s
ARU Arti 55.15 317 *c* *i* P **P** **19 27 00.5 -1.1**
ARU S **S** **19 34 33.3 -8.2**
ARU pmax pmax
comp=Z,13nm,1.9s
SIMJ Simiganj 58.42 295 P **P** **19 27 25.6 +0.3**
FINES FINESS Array B 65.11 334 P **P** **19 28 09.1 -0.7**
comp=Z,2.9nm,0.8s,baz=40,slow=6.7,SNR=10
comp=Z,2.9nm,0.8s
ASAR Alice Springs 69.33 196 P **P** **19 28 38.4 +1.6**
comp=Z,0.4nm,0.7s,baz=12,slow=5.9,SNR=5.5
comp=Z,0.4nm,0.7s
NB2 NORSAR Subarra 69.63 340 P **P** **19 28 37.9 -0.5**
comp=Z,1.3nm,0.5s,baz=30,slow=6.5
NOA NORSAR Array B 69.63 340 P **P** **19 28 38.2 -0.1**
comp=Z,1.0nm,0.7s,baz=31,slow=6.4,SNR=5.1
comp=Z,1.0nm,0.7s
HFS Hagfors 69.78 338 P **P** **19 28 38.8 -0.4**
comp=Z,2.2nm,0.8s,baz=32,slow=6.8,SNR=6.4
comp=Z,2.2nm,0.8s
KIV Kislovodsk 70.72 313 *e*P **P** **19 28 44.3 -1.1**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KBZ Khabaz 70.76 313 *e*P **P** **19 28 47.0 +1.5**
KBZ pmax pmax
comp=Z,4.0nm,0.8s
KBZ Khabaz 70.76 313 P **P** **19 28 46.2 +0.7**
comp=Z,3.6nm,0.8s,baz=33,slow=6.8,SNR=8.7
comp=Z,3.6nm,0.8s
KBZ Khabaz 70.76 313 *e*P **P** **19 28 47.0 +1.5**
AKASG Malin Array Be 72.14 325 *e*P **P** **19 28 54.0 +0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 72.14 325 P **P** **19 28 53.4 -0.3**
comp=Z,1.3nm,0.4s,baz=38,slow=6.0,SNR=12
comp=Z,1.3nm,0.4s
AKBB Malin Array Si 72.14 325 *ce*P **P** **19 28 54.2 +0.5**
AKBB pmax pmax
comp=Z,4.0nm,0.9s
BUR08 Bucovina Ar. S 76.18 325 P **P** **19 29 16.5 -1.0**
CLL Collm 77.56 334 *i* P **P** **19 29 25.6 +0.6**
CLL *e*pP **sP** **19 29 38.0 -1.9**
EKA Eskdalemuir Ar 77.99 345 P **P** **19 29 27.9 +0.6**
comp=Z,0.8nm,0.7s,baz=18,slow=5.5,SNR=1.6
comp=Z,0.8nm,0.7s
BRTR Keskin Array B 78.44 315 P **P** **19 29 31.0 +0.7**
BRTR Keskin Array B 78.44 315 P **P** **19 29 31.0 +0.7**
comp=Z,0.6nm,0.7s,baz=36,slow=4.5,SNR=3.6
comp=Z,0.6nm,0.7s
GERES GERESS Array B 79.47 332 P **P** **19 29 36.6 +0.9**
comp=Z,0.2nm,0.4s,baz=41,slow=9.1,SNR=2.4
comp=Z,0.2nm,0.4s
TXAR Lajitas Array 80.65 58 P **P** **19 29 43.3 +0.8**
comp=Z,0.3nm,0.5s,baz=299,slow=4.0,SNR=4.8
comp=Z,0.3nm,0.5s
H03N2 Juan Fernandez 141.04 91 T T 22 14 07.6
baz=304,slow=77,SNR=3.7
H03N3 Juan Fernandez 141.05 91 T T 22 14 07.5
baz=304,slow=77,SNR=5.5
H03N1 Juan Fernandez 141.05 91 T T 22 14 08.5
baz=304,slow=77,SNR=5.0

*JMA **19** 19:26:48.9± 0.9, 46°N± 6°×15°3E± °, h30km, MV4.5/14, KURILE ISLANDS REGION*
*SKHL **19** 19:26:50.1± 0.0, 46°.00N× 152°.60E, h50km± 3km, mb4.8/4*
*MOS **19** 19:26:51.4± 1.2, 46°.18N× 152°.22E, h39km, mb4.2/1, Error ellipse: s-maj=17.3km s-min=11.2km az=56.9*
*IDC **19** 19:26:55.8± 3.2, 46°.30N× 152°.17E, h60km± 28km, mb3.2/9, mbtmp3.5/12, ML3.4/3, MS2.5/1, Error ellipse: s-maj=29.7km s-min=19.9km az=156.0*
ISC 19 19:26:52.6±0.8, **45°.8N**±0°.1×**152°.44E**±0°.08, **h50**km**,n45,** σ2§**10/48, mb3.5/9,1C, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.27**	**261**	*e*PN	**Pn**	**19 27 40.8**	**-0.4**
KUR				*e*S	**Sn**	**19 28 21.8**	**+3.0**
KUR				pmax	pmax		
	comp=Z,144nm,0.5s						
KUR				smax	smax		
	comp=N,144nm,0.3s						
KUR				smax	smax		
	comp=E,84nm,0.3s						
KUR	**Kuril'sk**	**3.27**	**261**	*e*P	**Pn**	**19 27 41.5**	**+0.3**
KUR				AMB	AMB	19 27 43.1	
	comp=E,140nm,0.5s						
KUR				*e*S	**Sn**	**19 28 20.0**	**+1.2**
KUR				A	A	19 28 25.4	
	comp=E,130nm,0.3s						
KUR				A	A	19 28 25.4	
	comp=E,120nm,0.3s						
SHO	**Shikotan**	**4.44**	**246**	*e*PN	**Pn**	**19 27 57.0**	**-0.4**
SHO				pmax	pmax		
	comp=Z,44nm,0.3s						
SHO				pmax	pmax		
	comp=N,28nm,0.2s						
SHO				pmax	pmax		
	comp=E,36nm,0.2s						
SHO	**Shikotan**	**4.44**	**246**	*e*P	**Pn**	**19 27 57.0**	**-0.4**
SHO				AMB	AMB	19 27 58.7	
	comp=E,40nm,0.3s						
SHO				*e*S	**Sn**	**19 28 47.8**	**0.0**
SHO				A	A	19 28 54.1	
	comp=E,30nm,0.2s						
SHO				A	A	19 28 54.1	
	comp=E,60nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**5.00**	**251**	*c* *i* PN	**Pn**	**19 28 07.0**	**+2.0**
YUK				S	**Sn**	**19 29 05.5**	**+4.0**
YUK				pmax	pmax		
	comp=Z,189nm,0.1s						
YUK				smax	smax		
	comp=N,107nm,0.1s						
YUK				smax	smax		
	comp=E,85nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**5.00**	**251**	*i* P	**Pn**	**19 28 07.0**	**+2.0**
YUK				AMB	AMB	19 28 08.2	
	comp=E,80nm,0.3s						
YUK				*e*S	**Sn**	**19 29 04.7**	**+3.2**
YUK				A	A	19 29 10.6	
	comp=E,120nm,0.5s						
YUK				A	A	19 29 10.6	
	comp=E,290nm,0.5s						
NEM2	**Nemuro 2**	**5.38**	**245**	*e*P	**Pn**	**19 28 09.8**	**-0.3**
NEM2				*e*S	**Sn**	**19 29 09.2**	**-1.6**
NMR	**Nemuro--Hokkai**	**5.39**	**245**	*e*PN	**Pn**	**19 28 09.6**	**-0.7**
NMR	**Nemuro--Hokkai**	**5.39**	**245**	*i* P	**Pn**	**19 28 09.9**	**-0.4**
NMR				*i* S	**Sn**	**19 29 09.9**	**-1.0**
JRA	**Rausu**	**5.53**	**253**	*e*P	**Pn**	**19 28 14.5**	**+2.2**
JNK	**Nakash**	**5.94**	**251**	*e*P	**Pn**	**19 28 18.9**	**+1.0**
AKK	**Akkeshi**	**6.12**	**245**	*e*P	**Pn**	**19 28 20.4**	**0.0**
AKK				*e*S	**Sn**	**19 29 29.1**	**0.0**
JAK	**Akkeshi**	**6.23**	**246**	*e*P	**Pn**	**19 28 21.4**	**-0.4**
JAK				*e*S	**Sn**	**19 29 30.4**	**-1.2**
JTKR	**Abashiri--Toko**	**6.34**	**256**	*e*P	**Pn**	**19 28 25.2**	**+1.9**
JAR	**Ashorobuto**	**6.69**	**251**	*e*P	**Pn**	**19 28 29.6**	**+1.4**
YSS	**Yuzh-Sakhalins**	**6.79**	**283**	*e*P	**Pn**	**19 28 29.6**	**+0.1**
YSS				AMB	AMB	19 28 30.0	
	comp=E,20nm,0.3s						
JOB	**Onbets**	**6.83**	**248**	*e*P	**Pn**	**19 28 30.4**	**+0.4**
JKK2	**Kamakawa 2**	**7.16**	**258**	*e*P	**Pn**	**19 28 37.1**	**+2.5**
JKA	**Kamikawa-asahi**	**7.18**	**260**	*e*P	**Pn**	**19 28 37.7**	**+2.8**
ASAJ	**Asahikawa**	**7.19**	**260**	P	**Pn**	**19 28 37.7**	**+2.7**
	comp=E,2.9nm,0.3s,baz=74,slow=18,SNR=22						
	comp=E,9.0nm,0.3s						
JCH	**Churui**	**7.27**	**247**	*e*P	**Pn**	**19 28 35.8**	**-0.3**
JCH				*e*S	**Sn**	**19 29 55.9**	**-1.3**
JNBK	**Urakawa-nobuka**	**7.83**	**246**	*e*P	**Pn**	**19 28 43.2**	**-0.6**
JNBK				*e*S	**Sn**	**19 30 07.9**	**-3.0**
PETK	**Petropavlovsk-**	**8.05**	**23**	P	**Pn**	**19 28 44.4**	**-2.3**
	comp=E,0.5nm,0.3s,baz=165,slow=12,SNR=13						
PETK				LR	LR	19 31 24.8	
	comp=E,32nm,19.6s,baz=234,slow=35						
	comp=E,2.4nm,0.6s						
JANG	**Nango**	**9.67**	**240**	*e*P	**Pn**	**19 29 06.5**	**-2.4**
JANG				*e*S	**Sn**	**19 30 49.6**	**-6.5**
SEY	**Seymchan**	**17.14**	**360**	P	**Pn**	**19 30 45.8**	**-2.4**
	baz=174,slow=13,SNR=1.6						
	comp=E,0.3nm,0.4s						
H11N2	**WAKE ISLAND Hy 28.64**	**151**		T	T	20 03 04.5	
	baz=339,slow=75,SNR=134						
H11N1	**WAKE ISLAND Hy 28.65**	**151**		T	T	20 03 01.5	
	baz=339,slow=75,SNR=91						
H11N3	**WAKE ISLAND Hy 28.65**	**151**		T	T	20 03 02.7	
	baz=339,slow=75,SNR=88						
H11S1	**WAKE ISLAND Hy 29.71**	**152**		T	T	20 04 28.2	
	baz=340,slow=76,SNR=121						
H11S3	**WAKE ISLAND Hy 29.71**	**152**		T	T	20 04 22.7	
	baz=340,slow=76,SNR=77						
H11S2	**WAKE ISLAND Hy 29.72**	**152**		T	T	20 04 28.2	
	baz=340,slow=76,SNR=105						
ILAR	**Eielson Array**	**37.56**	**38**	P	**P**	**19 34 01.8**	**+0.3**
	comp=E,0.2nm,0.7s,baz=250,slow=7.6,SNR=1.9						
	comp=E,0.2nm,0.7s						
MKAR	**Makanchi Array**	**46.95**	**298**	P	**P**	**19 35 18.7**	**+0.5**
	comp=E,0.2nm,0.6s,baz=62,slow=5.5,SNR=2.2						
	comp=E,0.2nm,0.6s						
KURK	**Kurchatov**	**47.49**	**304**	P	**P**	**19 35 20.1**	**-2.1**
KURK	**Kurchatov**	**47.49**	**304**	*e*P	**P**	**19 35 20.1**	**-2.1**
KURBB	**Kurchatov Arra**	**47.58**	**304**	P	**P**	**19 35 20.1**	**-2.8**
	comp=E,0.2nm,0.6s,baz=72,slow=8.2,SNR=2.3						
	comp=E,0.2nm,0.6s						
BVAR	**Borovoye Array**	**51.08**	**310**	P	**P**	**19 35 48.7**	**-0.9**
	comp=E,0.2nm,0.4s,baz=50,slow=7.7,SNR=1.7						
	comp=E,0.2nm,0.4s						
NVAR	**Mina Array Bea**	**63.28**	**62**	P	**P**	**19 37 18.3**	**+2.1**
	comp=E,0.4nm,0.7s,baz=297,slow=8.0,SNR=3.9						
	comp=E,0.4nm,0.7s						
FINES	**FINESS Array B**	**64.67**	**335**	P	**P**	**19 37 23.4**	**-1.2**
	comp=E,0.9nm,0.7s,baz=32,slow=8.2,SNR=1.1						
	comp=E,0.9nm,0.7s						
NOA	**NORSAR Array B**	**68.94**	**341**	P	**P**	**19 37 51.3**	**-0.7**
	comp=E,0.4nm,0.5s,baz=29,slow=6.1,SNR=1.4						
	comp=E,0.4nm,0.5s						
ASAR	**Alice Springs**	**71.19**	**198**	P	**P**	**19 38 10.3**	**+4.2**
	comp=E,0.6nm,1.0s,baz=19,slow=5.9,SNR=2.3						
	comp=E,0.6nm,1.0s						
TXAR	**Lajitas Array**	**78.35**	**60**	P	**P**	**19 38 49.5**	**+1.8**
	comp=E,0.4nm,0.5s,baz=308,slow=4.4,SNR=6.1						
	comp=E,0.4nm,0.5s						
H03N2	**Juan Fernandez**	**139.21**	**91**	T	T	22 21 41.8	
	baz=304,slow=77						
H03N3	**Juan Fernandez**	**139.22**	**91**	T	T	22 21 33.8	
	baz=304,slow=77						
H03N1	**Juan Fernandez**	**139.23**	**91**	T	T	22 21 44.1	
	baz=304,slow=77						

*GII **19** 19:32:17.6± 0.3, 30°.18N± 0°.04× 50°.37E± 0°.02, h10km, Mws5.0, confirmed*
*BJI **19** 19:32:21.0± 0.0, 30°.70N× 50°.40E, h10km, mb4.9/74, mB5.2/45, Ms4.7/43, Ms7 4.5/44*
*MOS **19** 19:32:21.4± 1.1, 30°.71N× 50°.38E, h14km, mb5.2/49, MS4.1/11, Error ellipse: s-maj=4.6km s-min=3.1km az=100.8*
*NEIC **19** 19:32:22.9± 1.9, 30°.69N± 0°.06× 50°.39E± 0°.05, h10km± 1km, mb5.1/214, Error ellipse: s-maj=10.4km s-min=7.4km az=26.0*
*DSN **19** 19:32:23.5± 0.8, 30°.55N× 50°.26E, h11km, ML4.9/14, Error ellipse: s-maj=10.0km s-min=7.6km az=21.0*
*THR **19** 19:32:23.5± 1.2, 30°.72N× 50°.43E, h15km, ML4.8*
*TEH **19** 19:32:24.1, 30°.79N× 50°.43E, h20km± 13km, ML5.0*
*BGR **19** 19:32:25.5, 30°.81N× 50°.60E, h33km, mb4.6*
*IDC **19** 19:32:26.4± 1.3, 30°.83N× 50°.36E, h35km± 8km, mb4.5/32, mbtmp4.7/40, ML4.0/8, MS4.3/61, Error ellipse: s-maj=10.6km s-min=7.8km az=4.0*
*OMAN **19** 19:32:27.7± 0.7, 30°.61N× 50°.67E, h43km± 9km, mb5.4/45, ms4.0/4, Error ellipse: s-maj=5.2km s-min=4.3km az=11.0*
ISC 19 19:32:23.1±0.5, **30.73N**±0°.02× **50°.43E**±0°.02, **h18**km± 2km, **h18**km**:pP-P,n1015,** σ1§**78**/1007**, mb5.1**/228**, MS4.3**/77**, 43C-29D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABEH	**Behbahan**	**0.20**	**230**	Pg	**Pb**	**19 32 30.1**	**+2.0**
ABEH				Sg	**Sb**	**19 32 34.8**	**+3.4**
KLNJ	**Kolanjah**	**1.04**	**74**	Pg	**Pb**	**19 32 43.0**	**+0.1**
IBRJ	**Brojen**	**1.38**	**31**	Pg	**Pn**	**19 32 49.1**	**+1.4**
ZNGN	**Zangian**	**1.44**	**15**	Pg	**Pn**	**19 32 50.0**	**+1.4**
JHBN	**Jahan bin**	**1.52**	**8**	Pg	**Pb**	**19 32 51.6**	**+0.7**
KAZ2	**Kazeron-Fars-I**	**1.54**	**136**	Pg	**Pg**	**19 32 52.7**	**-0.1**
AHWZ	**Ahwaz**	**1.64**	**292**	Pg	**Pb**	**19 32 53.7**	**+0.8**
IPIR	**Pirpir**	**1.99**	**11**	Pn	**Pb**	**19 32 59.1**	**+0.1**
IRAM	**Ramesheh**	**1.99**	**57**	Pn	**Pb**	**19 33 00.3**	**+1.3**
AHBU	**AHRAM**	**2.00**	**158**	Pn	**Pb**	**19 32 59.0**	**-0.1**
SHI	**Shiraz**	**2.11**	**120**	Pn	**Pb**	**19 33 00.8**	**-0.1**
IGAR	**Gharneh**	**2.17**	**39**	Pn	**Pb**	**19 33 02.3**	**+0.3**
DSBU	**Dashti - Bushe**	**2.46**	**163**	Pn	**Pb**	**19 33 05.7**	**-1.3**
IZEF	**Zefreh**	**2.70**	**36**	Pn	**Pn**	**19 33 09.5**	**+3.5**
IKLH	**Kolahrood**	**2.77**	**20**	Pn	**Pn**	**19 33 10.0**	**+3.2**
KBD	**Kabd**	**2.83**	**238**	P	**Pb**	**19 33 11.2**	**-2.0**
KBD				S	**Sb**	**19 33 45.6**	**-1.8**

NASN	**Na'in**	**2.90**	**44**	*e*Pn	**Pn**	**19 33 11.8**	**+3.2**	**FAQ**	**Al Faqa, Dubai**	**7.51**	**141**	P	**Pn**	**19 34 12.9**	**+1.1**	**KSHT**	**Keshet**	**12.63**	**284**	P	**Pn**	**19 35 18.3**	**-3.6**
NASN				IAML		19 34 05.2		FAQ	SNR=7.8			S	**Sn**	19 35 34.9	-1.7	**SHMJ**	**Saham**	**12.64**	**283**	P	**Pn**	**19 35 22.1**	**0.0**
	comp=N,1µm,0.8s								SNR=12							**KARJ**	**KARJ**	**12.69**	**276**	P	**Pn**	**19 35 23.9**	**+1.1**
KHMZ	**Khomeyn**	**3.03**	**353**	*e*Pn	**Pn**	**19 33 13.9**	**+3.4**	**IKOO**	**Kooshah**	**7.51**	**75**	Pn	**Pn**	**19 34 14.2**	**+2.2**	**BALJ**	**Balqa**	**12.71**	**280**	Pn	**Pn**	**19 35 22.3**	**-0.7**
KHMZ				IAML		19 34 07.7		**BSRN**	**Basiran**	**7.54**	**78**	*e*Pn	**Pn**	**19 34 14.7**	**+2.3**	**BALJ**	**Balqa**	**12.71**	**280**	P	**Pn**	**19 35 22.9**	**-0.1**
	comp=E,2µm,0.6s							**BSRN**	**Basiran**	**7.54**	**78**	Pn	**Pn**	**19 34 14.7**	**+2.3**	**HSNJ**	**Maan**	**12.72**	**272**	P	**Pn**	**19 35 22.2**	**-1.1**
ISAD	**Sadrabad**	**3.03**	**66**	Pn	**Pn**	**19 33 14.0**	**+3.5**	**MZWR**	**Madinat Zayed**	**7.59**	**155**	P	**Pn**	**19 34 14.8**	**+1.9**	**NATI**	**Neve Ativ**	**12.72**	**285**	P	**Pn**	**19 35 24.8**	**+1.6**
QAMS	**Qamsar**	**3.11**	**15**	Pn	**Pn**	**19 33 14.7**	**+3.1**	MZWR				S	**Sn**	**19 35 36.8**	**-1.6**	**NATI**	**Neve Ativ**	**12.72**	**285**	S	**Sn**	**19 37 43.6**	**-0.8**
QIR1	**Qir**	**3.20**	**134**	Pn	**Pn**	**19 33 16.2**	**+3.6**	**UOSS**	**Minazif**	**7.70**	**137**	Pn	**Pn**	**19 34 14.5**	**+0.1**	**NATI**	**Neve Ativ**	**12.72**	**285**	P	**Pn**	**19 35 19.9**	**-3.2**
GHIR	**Ghir-Karzin**	**3.30**	**137**	*e*Pn	**Pn**	**19 33 16.4**	**+2.3**	**UOSS**	**Minazif**	**7.70**	**137**	*i* P	**Pn**	**19 34 14.6**	**+0.1**	**GHAJ**	**Ghor Haditha**	**12.76**	**276**	Pn	**Pn**	**19 35 22.5**	**-1.2**
JHRM	**Jahrom**	**3.52**	**128**	Pn	**Pn**	**19 33 19.6**	**+2.4**		SNR=9.2							**GHAJ**	**Ghor Haditha**	**12.76**	**276**	P	**Pn**	**19 35 22.7**	**-1.0**
KRSH	**Karshahi**	**3.54**	**24**	Pn	**Pn**	**19 33 20.7**	**+3.3**	**UOSS**	**Minazif**	**7.70**	**137**	P	**Pn**	**19 34 14.7**	**+0.3**	**GHAJ**	**Ghor Haditha**	**12.76**	**276**	P	Pn	19 35 19.0	-4.7
IKFM	**Kafar-mosalman**	**3.54**	**323**	Pn	**Pn**	**19 33 19.5**	**+2.2**	UOSS				S	**Sn**	**19 35 37.0**	**-4.2**	**QRNJ**	**Al-Qirein**	**12.77**	**281**	P	**Pn**	**19 35 25.1**	**+1.3**
IDOB	**Doab**	**3.60**	**329**	Pn	**Pn**	**19 33 20.3**	**+2.1**		SNR=12							**GEM**	**Giv'at Ha'Em**	**12.78**	**285**	S	**Sn**	**19 37 41.8**	**-4.0**
IMEH	**Mehriz**	**3.65**	**78**	Pn	**Pn**	**19 33 22.1**	**+3.1**	**IMND**	**Minoodasht**	**7.71**	**31**	Pn	**Pn**	**19 34 17.2**	**+2.6**	**GEM**	**Giv'at Ha'Em**	**12.78**	**285**	P	**Pn**	**19 35 21.2**	**-2.8**
ICHK	**Chekchek**	**3.72**	**65**	Pn	**Pn**	**19 33 23.2**	**+3.2**	**HATD**	**Hatta, Dubai**	**7.75**	**138**	*i* P	**Pn**	**19 34 15.9**	**+0.8**	**HMDT**	**Nahal Hemdat**	**12.81**	**281**	P	**Pn**	**19 35 26.0**	**+1.6**
ANAR	**Anarak**	**3.73**	**48**	Pn	**Pn**	**19 33 22.4**	**+2.4**		SNR=15							**HMDT**	**Nahal Hemdat**	**12.81**	**281**	S	**Sn**	**19 37 44.7**	**-1.8**
HSAM	**Samen**	**3.80**	**337**	Pn	**Pn**	**19 33 23.0**	**+1.9**	**HATD**	**Hatta, Dubai**	**7.75**	**138**	P	**Pn**	**19 34 15.9**	**+0.8**	**HMDT**	**Nahal Hemdat**	**12.81**	**281**	P	**Pn**	**19 35 20.9**	**-3.4**
GHVR	**GHOM**	**3.81**	**11**	*e*Pn	**Pn**	**19 33 25.0**	**+3.9**		SNR=15							**LISJ**	**El Lisan**	**12.84**	**276**	P	**Pn**	**19 35 23.8**	**-0.9**
GHVR				IAML		19 34 30.4		HATD				S	**Sn**	**19 35 39.1**	**-3.4**	**UJAP**	**Al Uja**	**12.85**	**279**	P	**Pn**	**19 35 26.2**	**+1.3**
	comp=E,976nm,0.6s								SNR=8.4							**MMLI**	**Mount Malkishu**	**12.91**	**281**	P	**Pn**	**19 35 22.3**	**-3.5**
ASAO	**Ashtian**	**3.83**	**355**	*e*Pn	**Pn**	**19 33 25.0**	**+3.6**	**AFRZ**	**Afriz**	**7.77**	**68**	Pn	**Pn**	**19 34 17.7**	**+2.2**	**DSI**	**Dead Sea**	**12.92**	**278**	P	**Pn**	**19 35 23.7**	**-2.1**
ASAO				IAML		19 34 15.0		**ASHO**	**Ashiyiah**	**7.82**	**139**	*i* P	**Pn**	**19 34 17.0**	**+1.0**	**DSI**	**Dead Sea**	**12.92**	**278**	S	**Sn**	**19 37 45.1**	**-4.1**
	comp=N,1µm,0.6s								SNR=82							**DSI**	**Dead Sea**	**12.92**	**278**	P	Pn	19 35 21.2	-4.7
ASAO				IAML		19 34 16.3		**ASHO**	**Ashiyiah**	**7.82**	**139**	P	**Pn**	**19 34 16.9**	**+0.8**	**MDBI**	**Mazsada**	**12.94**	**276**	P	**Pn**	**19 35 26.0**	**-0.1**
	comp=E,803nm,0.5s								SNR=21							**MSBI**	**Mazada**	**12.94**	**276**	P	**Pn**	**19 35 25.9**	**-0.2**
YZKH	**Yazd**	**3.92**	**64**	*e*Pn	**Pn**	**19 33 26.1**	**+3.5**	ASHO				S	**Sn**	**19 35 41.0**	**-3.2**	**MSBI**	**Mazada**	**12.94**	**276**	P	**Pn**	**19 35 22.1**	**-4.0**
YZKH				IAML		19 34 13.9			SNR=11							**ARPR**	**Arapgir-MALATY**	**12.96**	**313**	Pn	**Pn**	**19 35 27.0**	**+0.5**
	comp=E,1µm,0.4s							**IHRS**	**Heris**	**8.07**	**341**	Pn	**Pn**	**19 34 20.7**	**+1.0**	**MMC4**	**Mount Meron ar**	**12.96**	**284**	P	**Pn**	**19 35 27.1**	**+0.6**
YZKH				IAML		19 34 15.2		**LKRN**	**Lenkeran, Azer**	**8.08**	**351**	P	**Pn**	**19 34 20.6**	**+1.1**	**MMB1**	**Mount Meron ar**	**12.96**	**284**	P	**Pn**	**19 35 29.1**	**+2.5**
	comp=N,2µm,0.5s							**JASK**	**Jask - Hormozg**	**8.15**	**125**	P	**Pn**	**19 34 21.8**	**+1.2**	**MMA1**	**Mount Meron ar**	**12.97**	**284**	P	**Pn**	**19 35 29.5**	**+2.9**
ISFB	**Sefidab**	**3.93**	**22**	Pn	**Pn**	**19 33 25.3**	**+2.7**		SNR=13							**MMA0**	**Mount Meron ar**	**12.97**	**284**	P	**Pn**	**19 35 28.2**	**+1.5**
IQOM	**Qom**	**4.14**	**7**	Pn	**Pn**	**19 33 28.5**	**+2.8**	JASK				S	**Sn**	**19 35 48.0**	**-4.3**	**MMA0B**	**Mount Meron ar**	**12.97**	**284**	P	**Pn**	**19 35 24.1**	**-2.6**
HAGD	**Aghdareh**	**4.23**	**345**	Pn	**Pn**	**19 33 29.1**	**+2.2**		SNR=7.4							**MMAI**	**Mount Meron Ar**	**12.97**	**284**	Pn	**Pn**	**19 35 25.1**	**-1.5**
IBZA	**Bozab**	**4.32**	**331**	Pn	**Pn**	**19 33 30.2**	**+2.0**	**ALNE**	**Al Ain**	**8.16**	**143**	*i* P	**Pn**	**19 34 22.1**	**+1.4**		comp=Z,1.9nm,0.3s,baz=92,slow=13,SNR=12						
IVRN	**Varamin**	**4.40**	**14**	Pn	**Pn**	**19 33 32.0**	**+2.9**		SNR=56							MMAI				Sn	**Sn**	**19 37 47.6**	**-3.0**
IBAF	**Bafgh**	**4.49**	**78**	Pn	**Pn**	**19 33 33.5**	**+3.1**	**ALNE**	**Al Ain**	**8.16**	**143**	P	**Pn**	**19 34 22.1**	**+1.4**		comp=Z,6.0nm,0.3s,baz=88,slow=36,SNR=6.3						
KCHF	**Cheshme Sefid,**	**4.55**	**322**	Pn	**Pn**	**19 33 33.1**	**+1.8**		SNR=56							MMAI				LR	LR	19 41 51.7	
ILBA	**Ilam Banvizeh**	**4.60**	**310**	*e*Pn	**Pn**	**19 33 33.0**	**+1.2**	ALNE				S	**Sn**	**19 35 49.4**	**-3.0**		comp=Z,1µm,18.7s,baz=48,slow=44						
ILBA				IAML		19 35 06.3			SNR=18								comp=Z,1.9nm,0.4s						
	comp=N,2µm,0.9s							**MZR**	**Muzera**	**8.16**	**160**	*i* P	**Pn**	**19 34 21.9**	**+1.1**	**MMB4**	**Mount Meron ar**	**12.97**	**284**	P	**Pn**	**19 35 29.5**	**+2.8**
ILBA				IAML		19 35 09.6			SNR=23							**MMC1**	**Mount Meron ar**	**12.97**	**284**	P	**Pn**	**19 35 27.7**	**+1.0**
	comp=E,2µm,0.5s							**MZR**	**Muzera**	**8.16**	**160**	P	**Pn**	**19 34 22.5**	**+1.8**	**MMA3**	**Mount Meron ar**	**12.97**	**284**	P	**Pn**	**19 35 28.3**	**+1.6**
ILBA	**Ilam Banvizeh**	**4.60**	**310**	Pn	**Pn**	**19 33 33.2**	**+1.3**		SNR=23							**MMB2**	**Mount Meron ar**	**12.98**	**284**	P	**Pn**	**19 35 28.5**	**+1.8**
IRAZ	**Razeghan**	**4.68**	**355**	Pn	**Pn**	**19 33 35.3**	**+2.2**	MZR				S	**Sn**	**19 35 51.4**	**-1.2**	**MMC7**	**Mount Meron ar**	**12.98**	**284**	P	**Pn**	**19 35 23.4**	**-3.4**
SAKB	**Bahrain**	**4.73**	**179**	P	**Pn**	**19 33 36.5**	**+2.9**	**IMON**	**Monand**	**8.23**	**70**	Pn	**Pn**	**19 34 25.5**	**+3.6**	**WHFO**	**Wadi Hawf**	**13.11**	**166**	P	**Pn**	**19 35 28.3**	**-0.3**
SAKB				S	**Sn**	**19 34 31.5**	**+3.5**	**SBZV**	**Sabzevar**	**8.23**	**45**	Pn	**Pn**	**19 34 24.1**	**+2.2**		SNR=45						
IHSB	**Hasanabad**	**4.75**	**8**	Pn	**Pn**	**19 33 36.6**	**+2.6**	**ITBZ**	**Tabriz**	**8.28**	**336**	Pn	**Pn**	**19 34 22.9**	**+0.5**	**BLGI**	**Bet Lehem HaGe**	**13.12**	**283**	P	**Pn**	**19 35 29.1**	**+0.5**
IGHG	**Ghaleghazi**	**4.85**	**319**	Pn	**Pn**	**19 33 37.2**	**+1.7**	**NHDN**	**Nehbandan**	**8.28**	**83**	Pn	**Pn**	**19 34 25.2**	**+2.7**	**ZFRI**	**Zfri**	**13.13**	**273**	P	**Pn**	**19 35 28.4**	**-0.4**
SHMA	**Al-Shehemyia**	**4.88**	**174**	P	**Pn**	**19 33 37.7**	**+2.1**	**GRMI**	**Germi**	**8.33**	**346**	*e*Pn	**Pn**	**19 34 26.2**	**+3.1**	**ZFRI**	**Zfri**	**13.13**	**273**	S	**Sn**	**19 37 50.7**	**-3.7**
	SNR=101							**GRMI**	**Germi**	**8.33**	**346**	Pn	**Pn**	**19 34 25.5**	**+2.4**	**ZFRI**	**Zfri**	**13.13**	**273**	P	Pn	19 35 24.3	-4.5
SHMA				S	**Sn**	**19 34 33.4**	**+1.8**	**MRVT**	**Maraveh tapeh**	**8.36**	**33**	*e*Pn	**Pn**	**19 34 26.2**	**+2.8**	**YTIR**	**Yattir**	**13.14**	**277**	P	**Pn**	**19 35 28.9**	**-0.1**
	SNR=7.1							**MRVT**	**Maraveh tapeh**	**8.36**	**33**	Pn	**Pn**	**19 34 25.9**	**+2.5**	**YTIR**	**Yattir**	**13.14**	**277**	P	**Pn**	**19 35 24.7**	**-4.3**
IMHD	**Mahdasht**	**4.95**	**2**	Pn	**Pn**	**19 33 39.1**	**+2.4**	**RAYN**	**Ar Rayn**	**8.41**	**213**	Pn	**Pn**	**19 34 22.9**	**-1.2**	**HNTI**	**Hanita**	**13.17**	**284**	P	**Pn**	**19 35 32.0**	**+2.7**
IDMV	**Damavand**	**5.02**	**15**	Pn	**Pn**	**19 33 40.5**	**+2.6**	**RAYN**	**Ar Rayn**	**8.41**	**213**	P	**Pn**	**19 34 23.5**	**-0.7**	**SLTI**	**Sal'it**	**13.22**	**281**	P	**Pn**	**19 35 30.4**	**+0.4**
AMD1	**Meshkindasht**	**5.03**	**5**	Pn	**Pn**	**19 33 40.5**	**+2.7**	**RAYN**	**Ar Rayn**	**8.41**	**213**	*i* P	**Pn**	**19 34 23.0**	**-1.2**	**SLTI**	**Sal'it**	**13.22**	**281**	P	**Pn**	**19 35 26.0**	**-4.0**
DAMV	**Damavand**	**5.06**	**14**	*e*Pn	**Pn**	**19 33 41.0**	**+2.7**		SNR=32							**OFRI**	**`Ofer**	**13.29**	**282**	P	**Pn**	**19 35 31.2**	**+0.3**
DAMV				IAML		19 35 18.3		**RAYN**	**Ar Rayn**	**8.41**	**213**	P	**Pn**	**19 34 23.8**	**-0.4**	**OFRI**	**`Ofer**	**13.29**	**282**	P	**Pn**	**19 35 27.6**	**-3.3**
	comp=E,291nm,0.7s							**SOHO**	**SOHO**	**8.52**	**139**	*i* P	**Pn**	**19 34 25.4**	**-0.2**	**PRNI**	**Paran**	**13.30**	**272**	P	**Pn**	**19 35 30.1**	**-1.0**
DAMV				IAML		19 35 20.7			SNR=10							**PRNI**	**Paran**	**13.30**	**272**	P	Pn	19 35 26.2	-4.9
	comp=N,244nm,0.5s							**SOHO**	**SOHO**	**8.52**	**139**	P	**Pn**	**19 34 25.9**	**+0.3**	**HRFI**	**Mount Harif**	**13.30**	**271**	P	**Pn**	**19 35 29.4**	**-1.8**
TEH	**Tehran**	**5.06**	**9**	Pn	**Pn**	**19 33 41.1**	**+2.9**	SOHO				S	**Sn**	**19 35 57.2**	**-4.1**	**HRFI**	**Mount Harif**	**13.30**	**271**	S	**Sn**	**19 37 54.2**	**-4.5**
SNGE	**Sanandaj**	**5.07**	**330**	*e*Pn	**Pn**	**19 33 40.3**	**+1.9**	**ISHB**	**Shabestar**	**8.52**	**334**	Pn	**Pn**	**19 34 27.2**	**+1.4**	**HRFI**	**Mount Harif**	**13.30**	**271**	P	Pn	19 35 26.0	-5.2
ILIN	**Lien**	**5.10**	**326**	Pn	**Pn**	**19 33 40.1**	**+1.2**	**TBHD**	**Torbat heydari**	**8.74**	**55**	Pn	**Pn**	**19 34 31.8**	**+2.9**	**AMAZ**	**Amatzia**	**13.31**	**277**	P	**Pn**	**19 35 34.3**	**+3.0**
ILAS	**Lasjerd**	**5.11**	**24**	Pn	**Pn**	**19 33 41.5**	**+2.5**	**SHRT**	**Shahrakht**	**8.85**	**68**	*e*Pn	**Pn**	**19 34 33.2**	**+2.9**	**AQBJ**	**Aqaba**	**13.33**	**270**	P	**Pn**	**19 35 30.6**	**-0.9**
THKV	**Tehran--Karaj**	**5.19**	**4**	*e*Pn	**Pn**	**19 33 43.0**	**+2.9**	**SHRT**	**Shahrakht**	**8.85**	**68**	Pn	**Pn**	**19 34 33.6**	**+2.3**	**EIL**	**Elat**	**13.43**	**269**	Pn	**Pn**	**19 35 31.7**	**-1.1**
THKV				IAML		19 35 27.9		**IMRD**	**Mamrd**	**8.86**	**335**	Pn	**Pn**	**19 34 35.0**	**+4.5**		comp=Z,2.2nm,0.3s,baz=79,slow=7.5,SNR=17						
	comp=E,328nm,0.7s							**ZHSF**	**Zahedan**	**9.03**	**94**	*e*Pn	**Pn**	**19 34 35.9**	**+3.1**	EIL				Sn	**Sn**	**19 37 58.1**	**-3.6**
THKV				IAML		19 35 32.5		**UMZA**	**Um Al Zommool**	**9.03**	**151**	P	**Pn**	**19 34 32.9**	**+0.3**		comp=Z,2.1nm,0.3s,baz=51,slow=13,SNR=1.7						
	comp=N,212nm,0.7s							UMZA				S	**Sn**	**19 36 08.6**	**-5.4**	EIL				Lg	Lg	19 39 28.5	
CHTH	**Charan**	**5.20**	**6**	*e*Pn	**Pn**	**19 33 42.9**	**+2.6**	**BJRD**	**Bojnurd**	**9.04**	**38**	*e*Pn	**Pn**	**19 34 36.1**	**+3.2**		comp=Z,0.9nm,0.3s,baz=63,slow=15,SNR=3.7						
IDHR	**Dehrash**	**5.22**	**320**	Pn	**Pn**	**19 33 42.0**	**+1.4**	**IAKL**	**Akhelmad**	**9.08**	**48**	Pn	**Pn**	**19 34 36.1**	**+2.5**	EIL				LR	LR	19 41 53.6	
KHGB	**Koh Gabri**	**5.23**	**92**	Pn	**Pn**	**19 33 42.8**	**+2.1**	**ZHDN**	**Zahedan**	**9.10**	**96**	Pn	**Pn**	**19 34 36.8**	**+3.1**		comp=Z,1µm,19.8s,baz=87,slow=42						
ZRDN	**Zarand Kerman**	**5.26**	**86**	Pn	**Pn**	**19 33 42.6**	**+1.5**	**IPAY**	**Payeh**	**9.15**	**49**	Pn	**Pn**	**19 34 37.1**	**+2.7**		comp=Z,11nm,0.5s						
IFIR	**Firoozkooh**	**5.28**	**21**	Pn	**Pn**	**19 33 43.9**	**+2.5**	**ARQ**	**Araqi**	**9.15**	**142**	P	**Pn**	**19 34 34.7**	**+0.4**	**EIL**	**Elat**	**13.43**	**269**	P	**Pn**	**19 35 31.9**	**-0.9**
KRBR	**Kerman**	**5.53**	**96**	*e*Pn	**Pn**	**19 33 47.8**	**+3.0**		SNR=64							**EIL**	**Elat**	**13.43**	**269**	P	Pn	19 35 28.1	-4.7
KRBR				IAML		19 35 14.5		ARQ				S	**Sn**	**19 36 11.8**	**-5.0**	**MBRI**	**Mt Berech**	**13.44**	**270**	P	**Pn**	**19 35 32.3**	**-0.8**
	comp=E,193nm,0.8s								SNR=11							**MBRI**	**Mt Berech**	**13.44**	**270**	P	Pn	19 35 27.8	-5.3
KRBR				IAML		19 35 19.8		**IMOQ**	**Moghan**	**9.18**	**52**	Pn	**Pn**	**19 34 38.0**	**+3.1**	**SHAO**	**Shalim**	**13.50**	**158**	*i* P	**Pn**	**19 35 32.3**	**-1.6**
	comp=N,168nm,0.6s							**HOQ**	**Hoqain**	**9.39**	**138**	Pn	**Pn**	**19 34 38.0**	**+0.4**		SNR=34						
TVBK	**TV Kerman**	**5.53**	**96**	Pn	**Pn**	**19 33 47.7**	**+2.9**	**HOQ**	**Hoqain**	**9.39**	**138**	P	**Pn**	**19 34 38.5**	**+0.9**	**SHAO**	**Shalim**	**13.50**	**158**	P	**Pn**	**19 35 32.3**	**-1.6**
KGS1	**Ghasr-e-Shirin**	**5.55**	**314**	Pn	**Pn**	**19 33 46.1**	**+1.2**		SNR=7.5								SNR=35						
IANJ	**Anjilo**	**5.56**	**31**	Pn	**Pn**	**19 33 47.4**	**+2.1**	HOQ				S	**Sn**	**19 36 17.6**	**-5.2**	**KRMI**	**Paran Flat**	**13.56**	**271**	P	**Pn**	**19 35 33.0**	**-1.7**
NGRK	**Negar Kerman**	**5.56**	**100**	Pn	**Pn**	**19 33 48.3**	**+2.9**	**TBJM**	**Torbat-e-JAM**	**9.47**	**59**	Pn	**Pn**	**19 34 41.9**	**+3.1**	**KRMI**	**Paran Flat**	**13.56**	**271**	P	Pn	19 35 30.0	-4.7
IALA	**Alasht**	**5.70**	**20**	Pn	**Pn**	**19 33 50.1**	**+2.9**	**IEMG**	**Emamgholi**	**9.54**	**43**	Pn	**Pn**	**19 34 43.0**	**+3.2**	**ABTO**	**Aybut**	**13.57**	**168**	P	**Pn**	**19 35 33.5**	**-1.4**
IPRN	**Peran**	**5.73**	**16**	Pn	**Pn**	**19 33 50.9**	**+3.5**	**GEYT**	**Alibeck**	**9.59**	**39**	Pn	**Pn**	**19 34 43.4**	**+3.0**		SNR=46						
MZPU	**Pul - Mazandar**	**5.78**	**9**	Pn	**Pn**	**19 33 51.8**	**+3.6**		comp=N,4.3nm,0.3s,baz=213,slow=10,SNR=83							**DMTO**	**DMTO**	**13.59**	**161**	P	**Pn**	**19 35 33.4**	**-1.7**
TPRV	**Parvadeh(Tabas**	**5.80**	**65**	Pn	**Pn**	**19 33 51.0**	**+2.7**	GEYT				Sn	**Sn**	**19 36 31.1**	**+3.4**		SNR=52						
KLST	**Kelardasht - M**	**5.80**	**5**	Pn	**Pn**	**19 33 51.8**	**+3.2**		baz=228,slow=23							**RBK**	**Rabkut**	**13.61**	**164**	P	**Pn**	**19 35 33.9**	**-1.5**
KRM1	**Kerman Provinc**	**5.91**	**90**	Pn	**Pn**	**19 33 52.4**	**+2.4**	GEYT				Lg	Lg	19 37 27.4			SNR=11						
SMRA	**Abu-Samra**	**5.97**	**177**	P	**Pn**	**19 33 47.8**	**+3.0**		baz=223,slow=40							**KZIT**	**Kziot**	**13.78**	**275**	P	**Pn**	**19 35 38.0**	**+0.4**
	SNR=16								comp=N,84nm,0.9s							**NCK**	**Nalchik**	**13.85**	**339**	*i* P	**Pn**	**19 35 41.2**	**+2.6**
SMRA				S	**Sn**	**19 35 00.8**	**+2.2**	**GYA0B**	**ALIBECK ARRAY**	**9.59**	**39**		**Pn**	**19 34 41.5**	**+1.1**	**NEUR**	**Neytrino**	**13.94**	**336**	*i* P	**Pn**	**19 35 42.0**	**+2.0**
JIR1	**Jirandeh**	**5.99**	**355**	Pn	**Pn**	**19 33 52.9**	**+1.8**	**IKRD**	**Kardeh**	**9.68**	**49**	Pn	**Pn**	**19 34 45.2**	**+3.5**	**KBZ**	**Khabaz**	**14.29**	**337**	*ce*P	**Pn**	**19 35 46.4**	**+1.9**
TRNA	**Turayna**	**6.01**	**173**	P	**Pn**	**19 33 53.3**	**+2.2**	**MAKU**	**Maku**	**9.81**	**333**	*e*Pn	**Pn**	**19 34 46.7**	**+3.3**	**KBZ**	**Khabaz**	**14.29**	**337**	Pn	**Pn**	**19 35 48.6**	**+4.2**
	SNR=270							**IMYA**	**Miami**	**9.82**	**53**	Pn	**Pn**	**19 34 46.8**	**+3.1**		comp=Z,0.2nm,0.3s,baz=157,slow=8.6,SNR=26						
TRNA				S	**Sn**	**19 35 01.7**	**+2.1**	**BIDO**	**Bidbid**	**9.92**	**134**	P	**Pn**	**19 34 45.3**	**+0.4**	KBZ				Sn	**Sn**	**19 38 18.0**	**-4.4**
BNDS	**Bandar-Abbas**	**6.02**	**122**	*e*Pn	**Pn**	**19 33 54.1**	**+2.6**	**BSY**	**Bisya**	**9.99**	**141**	P	**Pn**	**19 34 46.3**	**+0.4**		baz=90,slow=20						
GENO	**Geno**	**6.02**	**122**	Pn	**Pn**	**19 33 51.9**	**+0.3**		SNR=28							KBZ				LR	LR	19 41 48.4	
TNSJ	**Nastanj**	**6.15**	**57**	Pn	**Pn**	**19 33 56.1**	**+2.9**	BSY				S	**Sn**	**19 36 32.7**	**-4.9**		comp=Z,1µm,18.8s,baz=148,slow=40						
JRN	**Qarnain Island**	**6.15**	**159**	P	**Pn**	**19 33 54.9**	**+1.8**		SNR=11								comp=Z,33nm,1.1s						
	SNR=12							**SMDO**	**Samad**	**10.22**	**136**	P	**Pn**	**19 34 49.1**	**0.0**	**BNN**	**Bunyan**	**14.45**	**308**		**Pn**	**19 35 48.7**	**+1.7**
JRN				S	**Sn**	**19 35 04.1**	**+1.2**		SNR=16							**KVAR**	**Kislovodsk Arr**	**14.56**	**337**	Pn	**Pn**	**19 35 52.0**	**+3.7**
	SNR=8.7							SMDO				P	**Pn**	**19 34 49.1**	**0.0**		baz=73,slow=20						
GIDE	**GILAN DEYLAMAN**	**6.20**	**356**	*e*Pn	**Pn**	**19 33 57.2**	**+3.3**		SNR=16							KVAR				Sn	**Sn**	**19 38 29.4**	**+0.2**
CHMN	**Cheshme madani**	**6.21**	**96**	Pn	**Pn**	**19 33 56.7**	**+2.4**	SMDO				S	**Sn**	**19 36 38.8**	**-4.7**		baz=180,slow=20						
IBND	**Bandar-abas**	**6.27**	**120**	Pn	**Pn**	**19 33 57.4**	**+2.6**		SNR=11							KVAR				LR	LR	19 41 03.1	
TKDS	**Koohdasht(Taba**	**6.37**	**61**	Pn	**Pn**	**19 33 58.7**	**+2.5**	SMDO				S	**Sn**	**19 36 38.8**	**-4.7**		comp=Z,668nm,18.4s,baz=76,slow=36						
TABS	**Tabas**	**6.38**	**61**	*e*Pn	**Pn**	**19 33 59.1**	**+2.8**		SNR=11								comp=Z,57nm,1.3s						
IGLO	**Ghaloghah**	**6.42**	**25**	Pn	**Pn**	**19 34 00.0**	**+3.0**	**CHBR**	**Chabahar**	**10.24**	**117**	*e*Pn	**Pn**	**19 34 48.8**	**-0.4**	**KIV**	**Kislovodsk**	**14.56**	**337**	⇑P	**Pn**	**19 35 52.0**	**+3.7**
LHJ2	**Lahijan - Gila**	**6.43**	**357**	Pn	**Pn**	**19 33 59.7**	**+2.7**	**CHBR**	**Chabahar**	**10.24**	**117**	Pn	**Pn**	**19 34 48.8**	**-0.4**	**KIV**	**Kislovodsk**	**14.56**	**337**		**Pn**	**19 35 50.9**	**+2.6**
SLWR	**Sila**	**6.72**	**170**	P	**Pn**	**19 34 02.9**	**+1.8**	**MNGR**	**Mingechevir, A**	**10.38**	**346**	P	**Pn**	**19 34 52.3**	**+1.2**	**KIV**	**Kislovodsk**	**14.56**	**337**	*e*P	**Pn**	**19 35 49.3**	**+1.0**
SLWR				S	**Sn**	**19 35 17.7**	**+0.5**	**GURO**	**Guroymak-BITLI**	**10.42**	**321**		**Pn**	**19 34 52.0**	**+0.2**	KIV				*e*S	**Sn**	**19 38 31.6**	**+2.4**
SDS1	**Sardasht. Az.**	**6.80**	**324**	Pn	**Pn**	**19 34 04.1**	**+1.9**	**GANJ**	**Ganja**	**10.44**	**343**	P	**Pn**	**19 34 53.1**	**+1.1**	KIV				pmax	pmax		
SHME	**Shamm**	**6.86**	**131**	P	**Pn**	**19 34 03.6**	**+0.8**	**WSAR**	**Wadi Sarin**	**10.44**	**134**	Pn	**Pn**	**19 34 51.8**	**-0.2**		comp=Z,145nm,1.0s						
SHME	**Shamm**	**6.86**	**131**	P	**Pn**	**19 34 04.1**	**+1.2**		comp=N,2.8nm,0.3s,baz=312,slow=16,SNR=53							KIV				MLR	MLR		
	SNR=8.0							WSAR				Sn	**Sn**	**19 36 43.7**	**-5.0**		comp=Z,427nm,13.0s						
SHME				S	**Sn**	**19 35 17.9**	**-2.6**		comp=N,12nm,0.3s,baz=330,slow=20,SNR=8.4							**CSS**	**Mathiatis**	**14.98**	**291**	Pn	**Pn**	**19 35 54.7**	**+0.7**
SRSL	**SARDASHT**	**6.88**	**324**	*e*Pn	**Pn**	**19 34 05.6**	**+2.3**	WSAR				LR	LR	19 39 49.7		**CSS**	**Mathiatis**	**14.98**	**291**	P	**Pn**	**19 35 54.1**	**+0.2**
KHNJ	**Kahnooj**	**6.93**	**112**	Pn	**Pn**	**19 34 05.9**	**+2.0**		comp=N,695nm,18.9s,baz=338,slow=42							**VSLR**	**Vesyoloye**	**15.16**	**330**	*i* P	**Pn**	**19 35 58.5**	**+2.2**
UMQ	**Umm Al-Quwin**	**6.94**	**137**	P	**Pn**	**19 34 04.1**	**+0.1**	**GNI**	**Garni**	**10.48**	**335**	Pn	**Pn**	**19 34 54.9**	**+2.2**	VSLR				pmax	pmax		
UMQ				S	**Sn**	**19 35 22.1**	**-0.4**	**GNI**	**Garni**	**10.48**	**335**	Pn	**Pn**	**19 34 57.0**	**+4.4**		comp=Z,57nm,0.9s						
SHRO	**Shahrood**	**7.03**	**40**	*e*Pn	**Pn**	**19 34 08.3**	**+3.1**		comp=N,0.7nm,0.3s,baz=159,slow=18,SNR=13							**SOC**	**Sochi**	**15.39**	**329**	*e*P	**Pn**	**19 35 59.1**	**-0.3**
BANOM	**Banah**	**7.05**	**131**	P	**Pn**	**19 34 06.9**	**+1.4**	GNI				Lg	Lg	19 37 53.1		SOC				*e*		19 38 51.2	
BANOM				S	**Sn**	**19 35 22.9**	**-2.3**		comp=N,0.3nm,0.3s,baz=198,slow=20,SNR=1.7							SOC				pmax	pmax		
IHSH	**Hashtrud**	**7.07**	**339**	Pn	**Pn**	**19 34 08.2**	**+2.2**		comp=N,20nm,0.8s								comp=Z,52nm,0.7s

ANN pmax pmax
comp=Z,84nm,1.4s
ANN MLR MLR
comp=Z,290nm,12.0s
ISP Isparta 17.89 299 *i* P **P 19 36 32.3 +0.6**
ELL Elmali 18.08 295 IAmb IAmb 19 36 43.2
comp=Z,148nm,0.8s
SIM Simferopol' 19.12 322 *eP* **P 19 36 45.7 +0.6**
SIM *eS* **Sn 19 40 15.4 -4.3**
SIM pmax pmax
comp=Z,51nm,1.0s
SIM smax smax
comp=N,263nm,18.7s
SIM MLR MLR
comp=Z,57nm,16.1s
CHM Chimkent 19.22 48 LR LR 19 45 03.7
baz=48
ARG Arkhangelos 19.38 292 IAmb IAmb 19 36 54.7
comp=Z,98nm,1.1s
IUG luzhnay 19.41 49 *eP* **P 19 36 49.5 +1.1**
IUG luzhnay 19.41 49 *eP* **P 19 36 49.6 +1.1**
baz=49
NIL Nilore 19.53 75 P P **19 36 48.7 -1.0**
NIL Nilore 19.53 75 P **P 19 36 48.7 -1.0**
NIL pmax pmax
comp=Z,27nm,0.8s
NIL Nilore 19.53 75 P **P 19 36 49.2 -0.5**
BRLS Boroldaу 19.74 46 *eP* **P 19 36 50.1 -1.8**
BRLS Boroldaу 19.74 46 *eP* **P 19 36 50.2 -1.8**
baz=47
TRKS Terek-Say 19.86 51 P **P 19 36 55.0 +1.7**
ABKAR Akbulak array 19.86 19 P **P 19 36 53.0 -0.1**
KK31 Karatay Array 20.20 47 P **P 19 36 57.8 +0.8**
KK31 IAmb IAmb 19 37 02.1
comp=Z,109nm,1.1s
KK31 Karatay Array 20.20 47 P **P 19 36 57.8 +0.8**
KK31 pmax pmax
comp=Z,109nm,1.1s
KKAR Karatay Array 20.20 47 P **P 19 36 57.7 +0.8**
KKAR IAmb IAmb 19 37 02.1
comp=Z,108nm,1.1s
KKAR Karatay Array 20.20 47 P **P 19 36 57.7 +0.8**
KKAR pmax pmax
comp=Z,108nm,1.1s
ATD Arta Tunnel 20.35 202 **P 19 36 60.0 +1.2**
ATD IAmb IAmb 19 37 12.6
comp=Z,103nm,1.3s
ATD Arta Tunnel 20.35 202 P Pn 19 37 00.5 -0.3
comp=Z,0.8nm,0.8s,baz=12,slow=9.7,SNR=7.6
ATD Lg Lg 19 43 12.5
baz=0.0,slow=20,SNR=1.2
ATD LR LR 19 45 27.2
comp=Z,49nm,20.1s,baz=14,slow=38
AKTO Aktyubinsk 20.49 14 P **P 19 37 00.8 +0.8**
comp=Z,12nm,0.5s,baz=201,slow=9.7,SNR=30
AKTO ScP **ScP 19 44 44.1 -2.8**
comp=Z,4.5nm,1.1s,baz=214,slow=3.6,SNR=4.7
AKTO LR LR 19 47 03.4
comp=Z,1μm,18.0s,baz=214,slow=43
comp=Z,12nm,0.5s
ARK Arkit 20.53 52 P **P 19 37 02.4 +1.8**
OHH Osh 20.59 56 P **P 19 37 03.3 +2.1**
DZA Taraz 20.61 48 *eP* **P 19 37 02.8 +1.4**
DZA Taraz 20.61 48 *eP* **P 19 37 02.9 +1.4**
baz=48
VRH Novokhopyorsk 21.46 345 *eP* **P 19 37 09.5 -0.8**
VRH *eS* **S 19 41 03.0 -4.6**
VRH pmax pmax
comp=Z,350nm,0.6s
VRH smax smax
comp=E,170nm,0.7s
APE Apeiranthos 21.58 294 ⇑P **P 19 37 12.1 +0.2**
APE Apeiranthos 21.58 294 *i* P **P 19 37 12.3 +0.4**
BELG Belogornoye 21.75 355 P **P 19 37 13.9 +0.5**
comp=E,123nm,0.7s,baz=185,slow=14,SNR=26
BELG S **S 19 41 10.4 -2.8**
comp=E,23nm,0.9s,baz=180,slow=20,SNR=3.7
BELG LR LR 19 48 32.7
comp=E,524nm,18.0s,baz=151,slow=45
comp=E,123nm,0.7s
VORD Divnogorie 21.86 341 *eP* **P 19 37 13.7 -0.9**
VORD *eS* **S 19 41 13.1 -2.3**
VORD pmax pmax
comp=Z,100nm,0.9s
VORD smax smax
comp=N,180nm,0.8s
IDI Anoyia 21.87 289 IAmb IAmb 19 37 22.7
comp=Z,92nm,0.9s
IDI Anoyia 21.87 289 P **P 19 37 16.6 +1.6**
comp=Z,0.5nm,0.4s,baz=104,slow=12,SNR=40
IDI S **S 19 41 16.6 +0.5**
comp=Z,0.4nm,1.2s,baz=126,slow=19,SNR=2.5
MFTR Murfatlar 21.95 314 ⇓P **P 19 37 16.8 +1.1**
TIRR Tirgusor 22.09 314 ⇓P **P 19 37 18.6 +1.3**
TIRR Tirgusor 22.09 314 IAmb IAmb 19 37 34.6
comp=Z,45nm,0.8s
TIRR Tirgusor 22.09 314 P **P 19 37 18.6 +1.3**
PRD Provadia 22.11 311 *eP* P 19 37 26.0 +8.6
EKS2 Erkin-Say 22.11 51 P **P 19 37 19.8 +2.1**
SNR=36
VSR Storozhevoye 22.12 341 *eP* **P 19 37 16.0 -1.4**
VSR *eS* **S 19 41 15.7 -4.7**
VSR pmax pmax
comp=Z,120nm,1.0s
VSR smax smax
comp=N,220nm,0.9s
ARLS Aral 22.16 53 P **P 19 37 20.1 +1.8**
TLCR 22.24 317 ⇑P **P 19 37 20.1 +1.3**
TLCR 22.24 317 P **P 19 37 20.1 +1.3**
TPGR Topolog 22.30 315 ⇑P **P 19 37 21.4 +1.9**
TLBR Topalu 22.36 314 ⇑P **P 19 37 22.4 +2.3**
UCH Uchtor 22.44 53 P **P 19 37 23.7 +2.2**
SNR=38
AAK Ala-Archa 22.59 52 P **P 19 37 25.0 +2.2**
SNR=15
AAK Ala-Archa 22.59 52 P **P 19 37 23.8 +1.0**
AAK Ala-Archa 22.59 52*ceP* **P 19 37 24.0 +1.2**
AAK pmax pmax
comp=Z,42nm,1.1s
AAK Ala-Archa 22.59 52 LR LR 19 47 36.4
comp=Z,774nm,18.7s,baz=244,slow=40
AAK Ala-Archa 22.59 52 P **P 19 37 23.8 +1.0**
KSH Kashi 22.61 60 P **P 19 37 20.5 -2.5**
KSH sP pP 19 37 25.5 -2.7
KSH PP **PnPn 19 37 46.9 +0.3**
KSH S S 19 41 20.3 -10
KSH pmax pmax
comp=Z,100nm,1.0s
KSH LR LR
comp=Z,480nm,12.7s
KSH LR LR
comp=Z,2μm,15.5s
KSH LR LR
comp=Z,2μm,18.2s
USP Ospenovka 22.85 50 P **P 19 37 27.4 +1.9**
SNR=10
RAZG Razgrad 22.88 311 ⇑P **P 19 37 27.1 +1.5**
DIM Dimitrovgrad 22.89 306 *eP* **P 19 37 30.6 +4.8**
CHMS Chumysh 22.91 51 P **P 19 37 27.7 +1.7**
SNR=16
SGDS Sogindy 23.02 50 *eP* **P 19 37 28.6 +1.4**
SGDS Sogindy 23.02 50 *eP* **P 19 37 28.6 +1.4**
baz=50
ELND Elena 23.03 309 ⇓P **P 19 37 27.8 +0.5**
VLDR Vladesti 23.03 317 ⇓P **P 19 37 29.1 +1.9**
SZH Strazhitsa 23.10 310 *eP* **P 19 37 28.6 +0.7**
BTLS Baital 23.38 46 *eP* **P 19 37 31.6 +0.9**
BTLS Baital 23.38 46 *eP* **P 19 37 31.7 +0.9**
baz=46
LPSR Galich'ya Gora 23.43 342 *eP* **P 19 37 30.2 -0.9**
LPSR *eS* **S 19 41 40.4 -3.1**
LPSR pmax pmax
comp=Z,110nm,0.9s
LPSR smax smax
comp=E,200nm,1.3s
TKM2 Tokmak 2 23.44 52 P **P 19 37 33.1 +1.4**
SNR=16
GHRR 23.54 317 ⇑P **P 19 37 33.5 +1.2**
ULHL Ulahol 23.64 54 P **P 19 37 36.0 +2.4**
SNR=32
VASR Vaslui 23.64 319 ⇑P **P 19 37 34.9 +1.6**
SPBR Spulber 23.77 316 ⇓P **P 19 37 36.0 +1.5**
VRI Vrincioaia 23.84 316 ⇓P **P 19 37 36.0 +0.7**
VRI Vrincioaia 23.84 316 P **P 19 37 35.9 +0.7**
PLOR Plostina 23.88 316 ⇑P **P 19 37 37.1 +1.5**
PLOR Plostina 23.88 316 P **P 19 37 37.1 +1.5**
PGB Panagyurishte 24.03 307 *eP* **P 19 37 43.0 +5.9**
MLR Muntele Rosu 24.13 315 P **P 19 37 38.9 +0.8**
MLR IAmb IAmb 19 38 04.4
comp=Z,43nm,1.1s
MLR Muntele Rosu 24.13 315 P **P 19 37 38.9 +0.8**
MLR pmax pmax
comp=Z,43nm,1.1s
MLR Muntele Rosu 24.13 315 LR LR 19 49 27.3
comp=Z,398nm,18.2s,baz=114,slow=42
COVR Voineasa-Covas 24.15 315 ⇑P **P 19 37 40.1 +1.9**
SORM Soroca 24.21 322 P **P 19 37 39.9 +1.3**
TESR Tescani 24.23 317 ⇓P **P 19 37 39.8 +0.9**
HUMR Humele 24.29 312 ⇓P **P 19 37 41.2 +1.8**
TURR Turia 24.37 316 ⇓P **P 19 37 42.2 +2.0**
AAA Alma-Ata 24.45 52 *eP* **P 19 37 42.7 +1.8**
AAA Alma-Ata 24.45 52 *eP* **P 19 37 42.7 +1.8**
baz=52
MDOK Medeo 24.52 52 *eP* **P 19 37 43.4 +1.7**
MDOK MLR MLR
comp=Z,370nm,14.0s
MDOK Medeo 24.52 52 *eP* **P 19 37 43.5 +1.7**
baz=52
MDOK LR LR 19 48 18.6
comp=Z,370nm,14.0s,baz=52
OZUR 24.52 316 ⇑P **P 19 37 42.2 +0.6**
TARG Taragay, Kyrgy 24.57 56 IAmb IAmb 19 38 09.6
comp=Z,60nm,1.1s
BOSR Bodos 24.59 316 ⇓P **P 19 37 44.0 +1.8**
MPEP Malo Peshtene 24.63 308 *eP* **P 19 37 45.4 +2.8**
VOIR 24.66 314 ⇓P **P 19 37 45.0 +2.1**
VOIR 24.66 314 P **P 19 37 44.9 +2.1**
DOPR Dopca 24.70 315 ⇓P **P 19 37 44.7 +1.5**
VTS Vitosha 24.72 306 *eP* P 19 37 51.0 +7.5
CHKK Chushkaly 24.74 51 *eP* **P 19 37 45.0 +1.4**
CHKK Chushkaly 24.74 51 *eP* **P 19 37 45.0 +1.4**
baz=51
VAY Valandovo 24.79 303 *i* P **P 19 37 50.1 +6.1**
ANVS Anan'yevo 24.81 53 P **P 19 37 47.3 +2.9**
ARR Arges 24.89 313 ⇓P **P 19 37 46.8 +1.9**
PRAR RASCA 24.93 319 ⇑P **P 19 37 46.3 +1.0**
VALD Valchedram 24.96 309 *eP* **P 19 37 49.8 +4.3**
PRZ Przheval'sk 25.22 55 IAmb IAmb 19 37 51.9
comp=Z,55nm,1.0s
PRZ Przheval'sk 25.22 55 P **P 19 37 50.9 +2.8**
MDB Medias 25.40 315 ⇑P **P 19 37 51.9 +2.4**
MDB Medias 25.40 315 P **P 19 37 51.9 +2.4**
SATY Saty 25.41 53 *eP* **P 19 37 51.4 +1.6**
SATY Saty 25.41 53 *eP* **P 19 37 51.4 +1.6**
baz=53
BLKB Belogradchik 25.45 308 ⇓P **P 19 37 51.7 +1.6**
AKASG Malin Array Be 25.46 328 IAmb IAmb 19 37 51.6
comp=Z,29nm,0.8s
AKASG Malin Array Be 25.46 328 P **P 19 37 49.8 -0.1**
comp=Z,18nm,0.7s,baz=133,slow=8.9,SNR=79
AKASG S **S 19 42 11.4 -4.6**
comp=Z,0.3nm,0.2s,baz=132,slow=16,SNR=2.3
AKASG ScP **ScP 19 44 58.3 -1.7**
comp=Z,1.3nm,0.7s,baz=136,slow=2.2,SNR=6.8
AKASG LR LR 19 49 00.2
comp=Z,324nm,19.7s,baz=132,slow=39
comp=Z,18nm,0.7s
AKBB Malin Array Si 25.46 328 IAmb IAmb 19 37 57.2
comp=Z,41nm,0.8s
AKBB Malin Array Si 25.46 328*ceP* **P 19 37 49.3 -0.6**
AKBB pmax pmax
comp=Z,35nm,0.9s
KIEV Kiev 25.46 328 P **P 19 37 49.1 -0.8**
KIEV IAmb IAmb 19 37 57.2
comp=Z,37nm,0.8s
KIEV Kiev 25.46 328 P **P 19 37 49.2 -0.8**
KIEV pmax pmax
comp=Z,37nm,0.9s
LOT Lotru 25.46 313 ⇓P **P 19 37 51.4 +1.2**
ZHN Zhinishke 25.47 53 *eP* **P 19 37 52.1 +1.8**
ZHN pmax pmax
comp=Z,25nm,1.1s
ZHN Zhinishke 25.47 53 *eP* **P 19 37 52.1 +1.8**
comp=Z,25nm,1.1s,baz=53
BRZS Berezniki 25.48 35 *eP* **P 19 37 51.6 +1.5**
BRZS pmax pmax
comp=Z,39nm,1.4s
BRZS Berezniki 25.48 35 *eP* **P 19 37 51.7 +1.6**
comp=Z,39nm,1.4s,baz=35
SRE Strehaia 25.50 311 ⇓P **P 19 37 52.1 +1.8**
SRE Strehaia 25.50 311 P **P 19 37 52.1 +1.8**
BURAR Bucovina Array 25.64 318 ⇓P **P 19 37 53.4 +1.6**
BURAR Bucovina Array 25.64 318 P **P 19 37 52.4 +0.6**
BURAR Bucovina Array 25.64 318 P **P 19 37 53.4 +1.6**
BUR08 Bucovina Ar. S 25.67 318 P **P 19 37 52.8 +0.7**
UZB Uzynbulak 25.87 53 *eP* **P 19 37 55.1 +1.2**
UZB pmax pmax
comp=Z,39nm,1.2s
UZB Uzynbulak 25.87 53 *eP* **P 19 37 55.1 +1.2**
comp=Z,39nm,1.2s,baz=53
ARCR ARCALIA 25.88 317 ⇓P **P 19 37 55.7 +1.9**
OHR Ohrid 26.02 302 *i* P **P 19 37 56.7 +1.4**
GZR Gura Zlata 26.07 312 ⇑P **P 19 37 57.1 +1.5**
HERR Herculane 26.10 311 ⇑P **P 19 37 57.8 +2.0**
KSV Kosov 26.11 319 P **P 19 37 55.6 -0.3**
TDK Taldyqorghan 26.13 49 *eP* **P 19 37 57.2 +1.1**
TDK pmax pmax
comp=Z,29nm,1.0s
TDK MLR MLR
comp=Z,1μm,15.0s
TDK Taldyqorghan 26.13 49 *eP* **P 19 37 57.2 +1.1**
comp=Z,29nm,1.0s,baz=49
TDK LR LR 19 49 22.5
comp=Z,1μm,14.9s,baz=49
CJR Cluj-Napoca 26.15 315 ⇑P **P 19 37 58.4 +2.0**
CJR Cluj-Napoca 26.15 315 P **P 19 37 58.3 +2.0**
SHLS Shalkode 26.18 54 *eP* **P 19 38 00.6 +3.9**
SHLS Shalkode 26.18 54 *eP* **P 19 38 00.7 +3.9**
baz=54
OBN Obninsk 26.30 342 P **P 19 37 57.2 -0.2**
OBN Obninsk 26.30 342*c i*P **P 19 37 57.3 -0.2**
OBN *i* *PP **pP 19 38 00.1 -3.0**
OBN *e*SP **sP 19 38 03.1 -2.4**
OBN SS 19 43 31.0
OBN *e*SSS SSS 19 43 51.4
OBN pmax pmax
comp=Z,62nm,0.6s
OBN MLR MLR
comp=Z,461nm,19.0s
OBN Obninsk 26.30 342 LR LR 19 50 01.4
comp=Z,497nm,18.8s,baz=172,slow=40
ARU Arti 26.32 10 P **P 19 37 58.1 +0.4**
ARU IAmb IAmb 19 38 28.0
comp=Z,38nm,1.0s
ARU Arti 26.32 10*d i*P **P 19 37 57.7 0.0**
ARU 19 38 35.7
ARU S **S 19 42 32.1 +2.5**
ARU SS **SnSn 19 43 32.9 +2.9**
ARU pmax pmax
comp=Z,30nm,1.5s
ARU MLR MLR
comp=Z,835nm,18.0s
ARU Arti 26.32 10 LR LR 19 50 41.8
comp=Z,906nm,19.0s,baz=190,slow=42
MARR Marisel-Cluj 26.42 315 ⇓P **P 19 38 00.3 +1.5**
MDVR Moldovita 26.52 310 ⇑P **P 19 38 01.4 +1.7**
BRVK Borovoye 26.59 27 P **P 19 38 00.7 +0.5**
BRVK IAmb IAmb 19 38 12.9
comp=Z,48nm,1.2s
BRVK Borovoye 26.59 27*ceP* **P 19 38 01.5 +1.3**
BRVK pmax pmax
comp=Z,44nm,1.1s
BRVK Borovoye 26.59 27 P **P 19 38 01.5 +1.3**
BRVK P **P 19 38 01.5 +1.3**
MOS Moscow 26.59 344 *eP* **P 19 37 59.8 -0.3**
MOS *e* 19 38 39.0
MOS *eS* **S 19 42 31.1 -2.8**
MOS pmax pmax
comp=Z,94nm,1.5s
BVAR Borovoye Array 26.61 27 P **P 19 38 01.3 +0.9**
comp=Z,11nm,0.7s,baz=219,slow=8.4,SNR=52
BVAR PcP **PcP 19 41 25.0 +0.9**
comp=Z,1.2nm,0.4s,baz=210,slow=4.0,SNR=4.2
BVAR ScP **ScP 19 45 01.1 -2.2**
comp=Z,2.6nm,0.7s,baz=211,slow=3.4,SNR=8.1
BVAR LR LR 19 50 08.2
comp=Z,953nm,19.0s,baz=207,slow=40
comp=Z,11nm,0.7s
TIR Tirane 26.76 302 ⇓P **P 19 38 03.4 +1.5**
TIR Tirane 26.76 302 P **P 19 38 03.4 +1.5**
BZS Buzias 26.91 312 ⇑P **P 19 38 05.0 +1.8**
BZS Buzias 26.91 312 P **P 19 38 04.9 +1.8**
SVE Sverdlovsk 27.05 12 *eP* **P 19 38 06.1 +1.8**
SVE pmax pmax
comp=Z,32nm,1.4s
SIRR Siria 27.15 313 ⇓P **P 19 38 06.7 +1.4**
TRSU Trosnyk 27.20 317 P **P 19 38 07.3 +1.6**
LVV L'vov 27.51 321 *eP* **P 19 38 09.6 +1.2**
LVV pmax pmax
comp=Z,40nm,1.6s
KIRV Kirov 27.86 359*ceP* **P 19 38 11.2 -0.3**
KOLS Kolonicke sedl 28.01 319 *eP* **P 19 38 14.4 +1.4**
KOLS pmax pmax
comp=Z,7.0nm,0.9s
KOLS Kolonicke sedl 28.01 319 *eP* **P 19 38 14.4 +1.4**
KWP Kalwaria Pacla 28.12 320 *eP* **P 19 38 15.0 +1.0**
KWP Kalwaria Pacla 28.12 320 P **P 19 38 14.7 +0.7**
KWP IAmb IAmb 19 38 56.2
comp=Z,40nm,1.2s
KWP Kalwaria Pacla 28.12 320 P **P 19 38 14.7 +0.7**
KWP pmax pmax
comp=Z,40nm,1.2s
CRVS Cervenica-Dubn 28.46 318 *eP* **P 19 38 18.2 +1.2**
CRVS pmax pmax
comp=Z,8.0nm,0.9s
CRVS Cervenica-Dubn 28.46 318 *eP* **P 19 38 18.2 +1.2**
MNK Minsk 28.74 332 *i* P **P 19 38 17.5 -1.9**
comp=E,8.0nm,0.9s
MNK *i* P **P 19 38 17.5 -1.9**
comp=N,17nm,1.2s
MNK *i* P **P 19 38 17.5 -1.9**
comp=Z,23nm,0.9s,baz=137
MNK *i* PP **PnPn 19 39 08.0 -2.0**
MNK *i* S **S 19 43 06.8 -0.9**
MNK *i* SS **SnSn 19 44 29.8 +1.0**
MNK *i* LQ LQ 19 47 13.2
MNK *i* LR LR 19 49 44.1
MNK *i* LRM MLR 19 50 57.5
comp=Z,455nm,18.2s
MNK *i* LRM MLR 19 51 03.2
comp=N,350nm,17.6s
MNK *i* LRM MLR 19 51 14.0
comp=E,96nm,17.4s
MNK Minsk 28.74 332 *i* P **P 19 38 17.4 -1.9**
MNK *i* 19 39 07.9
MNK *i* S **S 19 43 06.7 -0.9**
MNK *i* SS **SnSn 19 44 29.8 +1.0**
MNK pmax pmax
comp=E,8.0nm,0.9s
MNK pmax pmax
comp=Z,23nm,0.9s
MNK pmax pmax
comp=N,17nm,1.2s
MNK MLR MLR
comp=Z,455nm,18.0s
MNK MLR MLR
comp=N,350nm,18.0s
MNK MLR MLR
comp=E,96nm,17.0s
HYB Hyderabad 28.80 111 *eP* **P 19 38 22.0 +1.7**
KECS Kecovo 28.83 316 *eP* P 19 38 26.1 +5.8
KECS Kecovo 28.83 316 *eP* P 19 38 26.1 +5.8
KURBB Kurchatov Arra 28.87 38 P **P 19 38 22.5 +1.9**
comp=E,22nm,0.8s,baz=240,slow=9.4,SNR=161
KURBB PcP **PcP 19 41 30.4 +0.8**
comp=E,0.5nm,0.5s,baz=231,slow=3.7,SNR=1.5
KURBB ScP **ScP 19 45 08.8 -1.4**
comp=E,6.1nm,1.1s,baz=245,slow=3.9,SNR=13
KURBB LR LR 19 51 43.7
comp=E,1μm,20.7s,baz=204,slow=40
comp=E,22nm,0.8s
KURK Kurchatov 28.96 38 P **P 19 38 22.9 +1.5**
KURK Kurchatov 28.96 38*ceP* **P 19 38 22.9 +1.5**
KURK pmax pmax
comp=Z,30nm,0.7s
KURK Kurchatov 28.96 38 P **P 19 38 22.2 +0.8**
MAKZ Makanchi 29.13 48 P **P 19 38 24.3 +1.3**
MAKZ Makanchi 29.13 48 P **P 19 38 24.3 +1.3**
MAKZ pmax pmax
comp=Z,20nm,1.2s
MK31 Makanchi Array 29.32 48*ceP* **P 19 38 26.2 +1.5**
MKAR Makanchi Array 29.32 48 P **P 19 38 26.2 +1.5**
comp=Z,13nm,0.8s,baz=242,slow=7.8,SNR=106
MKAR PcP **PcP 19 41 31.4 +0.5**
comp=Z,1.1nm,0.6s,baz=244,slow=1.1,SNR=2.3
MKAR ScP **ScP 19 45 09.3 -2.5**
comp=Z,3.2nm,1.1s,baz=250,slow=4.2,SNR=7.3
MKAR LR LR 19 51 49.8
comp=Z,1μm,18.3s,baz=259,slow=40
comp=Z,13nm,0.8s
NACGM Naroch 29.47 332 ⇑*i*P **P 19 38 26.4 +0.6**
comp=Z,21nm,0.9s,baz=136
SEM Semipalatinsk 29.69 40 *eP* **P 19 38 29.5 +1.4**
SEM pmax pmax
comp=Z,36nm,1.4s
SEM MLR MLR
comp=Z,1μm,13.0s
SEM Semipalatinsk 29.69 40 *eP* **P 19 38 29.6 +1.4**
comp=Z,36nm,1.4s,baz=40
SEM LR LR 19 51 25.0
comp=Z,1μm,13.4s,baz=40
LANS Liptovska Anna 29.74 317 *eP* **P 19 38 30.4 +2.0**
LANS Liptovska Anna 29.74 317 *eP* **P 19 38 30.4 +2.0**
VYHS Vyhne 29.83 316 *eP* **P 19 38 30.1 +1.0**
VYHS pmax pmax
comp=Z,2.0nm,0.8s
VYHS Vyhne 29.83 316 *eP* **P 19 38 30.1 +1.0**
ISAL Salakas 30.21 332 *eP* **P 19 38 33.9 +1.5**
SUW Suwalki 30.43 328 *eP* **P 19 38 34.5 +0.2**
SUW Suwalki 30.43 328 *eP* **P 19 38 34.9 +0.5**
LODK Lodwar 30.66 211 P **P 19 38 36.7 -0.2**
LODK Lodwar 30.66 211 P **P 19 38 39.6 +2.8**
JAVC Velka Javorina 30.68 316 *eP* **P 19 38 38.8 +2.1**
MODS Modra-Piesok 30.73 314 *eP* **P 19 38 38.0 +0.9**
MODS Modra-Piesok 30.73 314 *eP* **P 19 38 38.0 +0.9**
OKC Ostrava-Krasne 30.81 318 *eP* P 19 38 43.6 +5.8
OKC Ostrava-Krasne 30.81 318 *eP* P 19 38 43.6 +5.8
KLMR Klimovskoe 30.99 350 *eP* **P 19 38 36.6 -2.6**
KLMR *e* 19 39 35.7
KLMR *eS* **S 19 43 38.0 -4.9**
KLMR pmax pmax
comp=Z,50nm,1.0s
PABE Paberze 31.05 331 *eP* **P 19 38 40.1 +0.3**
RONA Rosalia, Austr 31.09 313 *i* P **P 19 38 41.2 +0.9**
comp=Z,7.8nm,0.8s
RONA *e*ScP **ScP 19 45 17.2 -0.3**
comp=Z,6.6nm,1.3s
MORC Moravsky Berou 31.14 317 ⇓P **P 19 38 41.7 +0.9**
MORC Moravsky Berou 31.14 317 *eP* **P 19 38 40.7 -0.1**
MORC Moravsky Berou 31.14 317 P **P 19 38 41.6 +0.9**
ZSN Zaisan 31.20 48 *eP* **P 19 38 42.4 +1.2**
ZSN Zaisan 31.20 48 *eP* **P 19 38 42.5 +1.2**
baz=48
ARSA Arzberg 31.43 312 *eP* **P 19 38 44.2 +0.9**
comp=Z,9.0nm,1.5s
ARSA *e*ScP **ScP 19 45 18.7 0.0**
comp=Z,8.8nm,1.0s
CONA Conrad Observa 31.44 313 *i* P **P 19 38 44.0 +0.6**
comp=Z,6.4nm,1.1s
CONA *i* ScP **ScP 19 45 18.2 -0.6**
comp=Z,6.9nm,1.2s
VRAC Vranov 31.51 316 ⇑P **P 19 38 44.5 +0.5**
VRAC Vranov 31.51 316 *eP* **P 19 38 44.5 +0.5**
VRAC Vranov 31.51 316 P **P 19 38 44.5 +0.5**
KRUC Moravsky 31.53 315 *eP* **P 19 38 42.9 -1.3**
SOKA Soboth 31.57 310 *i* ScP **ScP 19 45 19.3 0.0**
comp=Z,16nm,1.2s
KRLC Kraliky 31.71 317 *eP* **P 19 38 46.1 +0.3**
KRLC Kraliky 31.71 317 *eP* **P 19 38 46.1 +0.3**
DPC Dobruska-Polom 32.09 317 *eP* **P 19 38 50.0 +0.8**
DPC Dobruska-Polom 32.09 317 *eP* **P 19 38 50.0 +0.8**
VSU Vasula 32.12 337*ceP* **P 19 38 48.4 -0.7**
VSU pmax pmax
comp=Z,28nm,0.7s
WMQ Urumqi 32.13 55 ⇑P **P 19 38 51.3 +1.7**
WMQ pP sP 19 38 57.3 -0.3
WMQ sP pP 19 39 02.4 +7.1
WMQ ScP **ScP 19 45 20.5 -0.7**
WMQ pmax pmax
comp=Z,26nm,1.3s
WMQ pmax pmax
comp=Z,160nm,5.3s
WMQ LR LR
comp=Z,420nm,15.1s

WMQ LR LR
comp=Z,490nm,16.1s
WMQ LR LR
comp=Z,490nm,20.7s
KLNR Kaliningrad 32.17 327 *i* P **P 19 38 49.7 0.0**
KLNR pmax pmax
comp=Z,56nm,0.9s
OSTC Ostas 32.24 318 *e*P **P 19 38 51.3 +0.9**
OSTC Ostas 32.24 318 *e*P **P 19 38 51.3 +0.9**
PBUR Paburge 32.26 330 *e*P **P 19 38 51.5 +1.0**
CHVC Chvalec 32.35 318 *e*P **P 19 38 52.3 +0.9**
CHVC Chvalec 32.35 318 *e*P **P 19 38 52.3 +0.9**
MOA Molln 32.43 312 *i* P **P 19 38 53.1 +1.0**
comp=Z,10.0nm,0.8s
CKRC Cesky Krumlov 32.72 314 *e*P **P 19 38 54.7 +0.1**
CKRC Cesky Krumlov 32.72 314 *e*P **P 19 38 54.7 +0.1**
BIOA Bad Ischl, Aus 32.78 312 *e*P **P 19 38 56.2 +1.1**
comp=Z,19nm,0.6s,SNR=5.8
KBA Koelnbreinsper 32.79 310 *i* P **P 19 38 56.5 +1.1**
comp=Z,24nm,1.0s
ZVC Zvikov 33.01 315 *e*P **P 19 38 58.2 +1.1**
GERES GERESS Array B 33.11 314 P **P 19 38 58.4 +0.3**
comp=Z,1.7nm,0.5s,baz=107,slow=9.0,SNR=8.8
GERES PcP **PcP 19 41 41.8 +0.7**
comp=Z,0.6nm,0.5s,baz=109,slow=5.3,SNR=2.1
GERES ScP **ScP 19 45 23.9 -0.6**
comp=Z,3.8nm,0.8s,baz=98,slow=4.2,SNR=13
comp=Z,1.7nm,0.5s
VALR Valaam 33.23 343 *i* P **P 19 38 59.0 +0.2**
VALR pmax pmax
comp=Z,61nm,0.8s
ABTA Abfaltersbach 33.25 310 *i* P **P 19 38 59.8 +0.4**
comp=Z,9.8nm,1.1s
ABTA *i* ScP **ScP 19 45 24.6 -0.5**
comp=Z,5.7nm,1.0s
KHC Kasperske Hory 33.28 314 *ce*P **P 19 38 59.9 +0.3**
KHC pmax pmax
comp=Z,42nm,1.7s
KHC Kasperske Hory 33.28 314 *e*P **P 19 39 00.4 +0.8**
LESA Schwarzleotal 33.33 311 *i* P **P 19 39 00.3 +0.3**
comp=Z,6.4nm,0.5s
LESA *e*ScP **ScP 19 45 22.7 -2.6**
comp=Z,13nm,1.3s
DGZ Jazzator, Alta 33.58 45 *i* P **P 19 39 04.0 +1.8**
DGZ pmax pmax
comp=Z,19nm,1.1s
BRG Berggiesshubel 33.69 317 *e*P **P 19 39 03.7 +0.7**
BRG 19 39 13.3
BRG pmax pmax
comp=Z,2.0nm,0.6s
BRG pmax pmax
comp=Z,3.0nm,0.7s
BRG pmax pmax
comp=Z,10.0nm,1.1s
BRG Berggiesshubel 33.69 317 *e*P **P 19 39 03.7 +0.7**
BRG Amp 19 39 08.5
comp=Z,1.9nm,0.6s
BRG Berggiesshubel 33.69 317 P P 19 39 13.4 +10
BRG Amp 19 39 14.1
comp=Z,3.1nm,0.7s
ZALV Zalesovo Beam 33.89 37 *i* P **P 19 39 05.6 +0.9**
ZALV pmax pmax
comp=Z,18nm,0.6s
ZALV Zalesovo Beam 33.89 37 P **P 19 39 05.7 +1.0**
comp=Z,17nm,0.6s,baz=246,slow=8.8,SNR=60
ZALV LR LR 19 54 52.5
comp=Z,897nm,20.2s,baz=228,slow=40
comp=Z,17nm,0.6s
WTTA Wattenberg 33.96 310 *i* P **P 19 39 05.8 +0.1**
comp=Z,10nm,0.6s,SNR=8.7
WTTA *i* S **S 19 44 26.8 -3.1**
comp=Z,15nm,1.2s
WTTA *i* ScP **ScP 19 45 27.2 -0.4**
comp=Z,10nm,0.9s
WATA Walderalm 34.02 310 *i* P **P 19 39 06.3 +0.2**
comp=Z,12nm,0.5s,SNR=4.7
WATA *i* S **S 19 44 28.5 -2.3**
comp=Z,7.9nm,0.8s
WATA *e*ScP **ScP 19 45 27.1 -0.7**
comp=Z,9.9nm,0.9s
KMBO Kilima Mbogo 34.07 204 LR LR 19 53 39.9
comp=Z,7.7nm,21.8s,baz=84,slow=37
MEF Metsahovi 34.23 337 *e*P **P 19 39 07.8 +0.2**
SQTA Sankt Quirin 34.23 310 *i* P **P 19 39 08.0 0.0**
comp=Z,9.6nm,0.4s,SNR=15
SQTA *i* S **S 19 44 30.6 -3.4**
comp=Z,18nm,0.9s
SQTA *e*ScP **ScP 19 45 28.2 -0.3**
comp=Z,11nm,0.9s
MOTA Moosalm 34.33 310 *i* P **P 19 39 08.8 -0.1**
comp=Z,14nm,0.9s,SNR=12
MOTA *i* S **S 19 44 32.0 -3.6**
comp=Z,16nm,0.8s
MOTA *e*ScP **ScP 19 45 28.4 -0.5**
comp=Z,12nm,1.0s
CLL Collm 34.41 318 *e*P **P 19 39 10.0 +0.8**
CLL *i* 19 39 17.9
CLL *e*S **S 19 44 42.0 +5.7**
JOF Joensuu 34.47 345 *e*P **P 19 39 09.7 +0.1**
FETA Feichten 34.50 310 *i* P **P 19 39 10.5 +0.2**
comp=Z,11nm,0.7s
FETA *i* S **S 19 44 35.3 -3.0**
comp=Z,23nm,1.2s
FETA *e*ScP **ScP 19 45 29.5 -0.1**
comp=Z,13nm,1.3s
KEST Kesra 34.54 289 P **P 19 39 12.4 +1.7**
comp=Z,4.4nm,1.1s,baz=55,slow=6.3,SNR=4.5
comp=Z,4.4nm,1.1s
RETA Reutte 34.59 310 *i* P **P 19 39 10.9 -0.1**
comp=Z,8.1nm,0.6s
RETA *i* S **S 19 44 35.2 -4.2**
comp=Z,17nm,1.2s
RETA *i* ScP **ScP 19 45 29.5 -0.2**
comp=Z,13nm,1.0s
FINES FINESS Array B 34.63 340 P **P 19 39 10.8 -0.2**
comp=Z,14nm,0.7s,baz=143,slow=8.2,SNR=53
FINES LR LR 19 55 11.1
comp=Z,366nm,18.9s,baz=143,slow=40
comp=Z,14nm,0.7s
FUORN Ofenpass-Fuorn 34.72 309 P **P 19 39 13.0 +0.7**
GRF Grafenberg Arr 34.92 314 *e*P **P 19 39 14.3 +0.6**
comp=Z,7.6nm,0.9s,baz=112,slow=9.4
GRFO Grafenberg 34.92 314 P **P 19 39 14.1 +0.4**
GRFO Grafenberg 34.92 314 P **P 19 39 14.1 +0.4**
GRFO pmax pmax
comp=Z,77nm,1.6s
KIBK Kibwezi 34.94 202 P **P 19 39 14.8 +0.6**
KIBK Kibwezi 34.94 202 P **P 19 39 17.2 +3.0**
BSD Bornholm Skovb 35.03 324 *i* P **P 19 39 13.2 -1.3**
BSD IAmb IAmb 19 39 14.3
comp=Z,32nm,0.6s
BSD Bornholm Skovb 35.03 324 *e*P **P 19 39 13.3 -1.3**
DAVA Damuels 35.13 310 *i* P **P 19 39 15.6 -0.1**
comp=Z,18nm,0.6s,SNR=5.4
DAVA *i* S **S 19 44 44.1 -3.8**
comp=Z,16nm,1.8s
DAVA *i* ScP **ScP 19 45 31.5 -0.3**
comp=Z,12nm,1.2s
BLEU Blekinge 35.20 327 *i* P **P 19 39 15.2 -0.8**
MSEY Mahe Island 35.53 171 P **P 19 39 20.0 +0.7**
MSEY Mahe Island 35.53 171 P **P 19 39 20.0 +0.7**
MSEY pmax pmax
comp=Z,13nm,0.8s
MSEY Mahe Island 35.53 171 P **P 19 39 20.9 +1.6**
MSEY P **P 19 39 20.9 +1.6**
KEF Keuruu 35.56 340 *e*P **P 19 39 19.2 +0.2**
RAF Rauma 35.71 336 *e*P **P 19 39 19.9 -0.4**
AAL Aland 35.76 334 *e*P **P 19 39 21.1 +0.4**
LUNU Lund 36.02 325 *i* P **P 19 39 23.0 0.0**
DEL Delary 36.22 326 *i* P **P 19 39 24.0 -0.7**
DEL Delary 36.22 326 *e*P **P 19 39 24.5 -0.2**
MBAR Mbarara 36.35 215 *ce*P **P 19 39 28.7 +2.2**
MBAR pmax pmax
comp=Z,12nm,1.7s
MBAR Mbarara 36.35 215 LR LR 19 54 33.7
comp=Z,298nm,19.4s,baz=18,slow=36
MBAR Mbarara 36.35 215 P **P 19 39 28.2 +1.8**
UPP Uppsala 36.47 333 *e*P **P 19 39 26.4 -0.4**
VAF Ylistaro 36.88 339 *e*P **P 19 39 30.4 +0.1**
FABU Falkenberg 37.03 326 *e*P **P 19 39 30.1 -1.5**
GOMU GeErMu 37.19 69 P **P 19 39 35.8 +2.1**
GOMU pP pP 19 39 39.4 0.0
GOMU sP sP 19 39 43.4 +1.7
GOMU S **S 19 45 17.9 -2.1**
GOMU pmax pmax
comp=Z,8.0nm,0.9s
GOMU LR LR
comp=Z,200nm,15.0s
GOMU LR LR
comp=Z,330nm,15.9s
GOMU LR LR
comp=Z,420nm,15.3s
BORU Boraas 37.32 327 *i* P **P 19 39 33.7 -0.4**
ONAU Onsala 37.60 326 *i* P **P 19 39 38.4 +1.9**
TJOU Tjoern 38.05 327 *e*P **P 19 39 38.7 -1.5**
HFS Hagfors 38.23 331 P **P 19 39 41.5 -0.2**
comp=Z,10nm,0.3s,baz=126,slow=8.3,SNR=104
HFS LR LR 19 57 01.9
comp=Z,345nm,20.5s,baz=116,slow=39
comp=Z,10nm,0.3s
STRU Stroemstad 38.74 328 *i* P **P 19 39 45.3 -0.7**
NC405 NORSAR Array S 39.58 332 IAmb IAmb 19 40 16.8
comp=Z,110nm,1.8s
NB2 NORSAR Subarra 39.75 331 P **P 19 39 53.4 -1.1**
comp=Z,1.8nm,0.4s,baz=120,slow=8.6
NOA NORSAR Array B 39.75 331 P **P 19 39 53.5 -1.0**
comp=Z,1.8nm,0.3s,baz=121,slow=8.4,SNR=36
NOA PP **PP 19 41 24.8 -1.0**
comp=Z,1.6nm,0.9s,baz=121,slow=9.9,SNR=1.9
comp=Z,1.8nm,0.3s
TAM Tamanrasset 40.65 270 P **P 19 40 02.4 -0.2**
TAM Tamanrasset 40.65 270 P **P 19 40 02.4 -0.2**
TAM pmax pmax
comp=Z,8.0nm,0.8s
GTA Gaotai 40.91 64 *e*P **P 19 40 06.4 +1.8**
GTA sP sP 19 40 19.4 +6.8
GTA ScP **ScP 19 45 53.3 -0.5**
GTA pmax pmax
comp=Z,29nm,0.9s
GTA LR LR
comp=Z,200nm,16.4s
GTA LR LR
comp=Z,270nm,15.3s
GTA LR LR
comp=Z,290nm,15.6s
ARCES ARCESS Array B 41.36 347 P **P 19 40 06.9 -0.8**
comp=Z,5.2nm,0.7s,baz=147,slow=4.0,SNR=12
ARCES PP **PP 19 41 42.0 -1.1**
comp=Z,6.9nm,0.7s,baz=146,slow=10,SNR=5.4
ARCES LR LR 19 58 57.3
comp=Z,268nm,18.6s,baz=124,slow=39
comp=Z,5.2nm,0.7s
MND Mandalay 41.61 91 P **P 19 40 10.9 +0.6**
MOY Mondy 42.40 46 *e*P **P 19 40 19.1 +2.5**
MOY pmax pmax
comp=Z,43nm,1.5s
TNCH TengChong 42.64 85 P **P 19 40 20.3 +1.4**
TNCH pP pP 19 40 24.1 -0.6
TNCH S **S 19 46 41.5 0.0**
TNCH SS **SS 19 49 44.8 -6.9**
TNCH pmax pmax
comp=Z,21nm,1.1s
TNCH pmax pmax
comp=Z,85nm,4.8s
TNCH LR LR
comp=Z,150nm,13.0s
TNCH LR LR
comp=Z,180nm,13.0s
TNCH LR LR
comp=Z,240nm,14.0s
ZAK Zakamensk 43.66 48 *e*P **P 19 40 28.3 +1.5**
ZAK pmax pmax
comp=Z,10.0nm,1.0s
NRIK Noril'sk 44.03 18 P **P 19 40 29.8 +0.5**
NRIK Noril'sk 44.03 18 *ce*P **P 19 40 30.3 +1.0**
NRIK pmax pmax
comp=Z,7.0nm,0.8s
NRIK Noril'sk 44.03 18 P **P 19 40 30.8 +1.4**
comp=Z,6.9nm,0.8s,baz=238,slow=6.5,SNR=13
NRIK LR LR 20 02 40.8
comp=Z,507nm,18.9s,baz=230,slow=41
comp=Z,6.9nm,0.8s
LZH Lanzhou 44.45 68 ⇑P **P 19 40 35.3 +1.9**
LZH pP pP 19 40 40.3 +1.1
LZH sP sP 19 40 42.3 +0.8
LZH pmax pmax
comp=Z,22nm,1.3s
LZH LR LR
comp=Z,540nm,16.4s
LZH LR LR
comp=Z,490nm,15.5s
LZH LR LR
comp=Z,910nm,17.9s
IRK Irkutsk 44.49 45 *e*P **P 19 40 34.5 +1.2**
IRK pmax pmax
comp=Z,50nm,1.4s
ESDC Sonseca Array 44.74 297 P **P 19 40 36.4 +0.8**
ESDC Sonseca Array 44.74 297 P **P 19 40 35.9 +0.3**
comp=Z,2.0nm,1.0s,baz=72,slow=8.2,SNR=11
ESDC LR LR 20 00 31.6
comp=Z,103nm,18.8s,baz=82,slow=38
comp=Z,2.0nm,1.0s
EKA Eskdalemuir Ar 44.82 319 P **P 19 40 35.4 -0.4**
comp=Z,1.3nm,0.3s,baz=103,slow=8.1,SNR=24
comp=Z,1.3nm,0.3s
PZH PanZhiHua 44.93 82 P **P 19 40 38.8 +1.5**
PZH S **S 19 47 15.4 +0.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,150nm,4.9s
PZH LR LR
comp=Z,120nm,9.8s
PZH LR LR
comp=Z,140nm,11.6s
PZH LR LR
comp=Z,200nm,13.9s
CD2 Chengdu 45.42 75 *e*P **P 19 40 41.0 -0.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CMAR Chiang Mai Arr 45.46 94 P **P 19 40 42.3 +0.9**
comp=Z,4.3nm,0.9s,baz=294,slow=8.2,SNR=25
CMAR ScP **ScP 19 46 11.9 -0.5**
comp=Z,1.7nm,1.1s,baz=305,slow=3.2,SNR=6.2
CMAR S **S 19 47 20.6 -1.8**
comp=Z,0.3nm,0.5s,baz=292,slow=11,SNR=1.9
CMAR LR LR 20 03 05.6
comp=Z,118nm,20.2s,baz=260,slow=40
comp=Z,4.3nm,0.9s
SONM Songino Array 45.54 51 P **P 19 40 43.0 +1.1**
SONM Songino Array 45.54 51 P **P 19 40 43.5 +1.6**
comp=Z,5.8nm,0.9s,baz=267,slow=7.3,SNR=48
SONM LR LR 20 02 37.1
comp=Z,431nm,19.4s,baz=194,slow=40
comp=Z,5.8nm,0.9s
CRAI Chiangrai 45.96 91 P **P 19 40 45.9 +0.5**
ULN Ulaanbaatar 45.99 51 P **P 19 40 46.4 +1.0**
ULN IAmb IAmb 19 40 48.1
comp=Z,22nm,1.0s
ULN Ulaanbaatar 45.99 51 *ce*P **P 19 40 46.8 +1.4**
ULN pmax pmax
comp=Z,27nm,1.1s
ULN Ulaanbaatar 45.99 51 P **P 19 40 47.1 +1.7**
KMI Kunming 46.22 83 ⇑P **P 19 40 48.5 +0.8**
KMI pP pP 19 40 51.8 -1.6
KMI S **S 19 47 31.9 -1.8**
KMI pmax pmax
comp=Z,28nm,0.9s
KMI LR LR
comp=Z,180nm,26.0s
PHRA Phrae 46.55 93 P **P 19 40 50.5 +0.5**
PBRG Braganca 46.63 300 *e*P P 19 40 58.0 +7.6
comp=Z,41nm,1.8s
MVO Moncorvo 46.91 299 *e*P P 19 40 58.6 +5.9
comp=Z,35nm,1.6s
PBAR Barrancos 47.32 295 *e*P **P 19 40 56.7 +0.9**
comp=Z,37nm,1.3s
MTE Manteigas 47.39 298 *e*P P 19 41 04.4 +8.0
comp=Z,63nm,1.5s
PCBR Castelo Branco 47.41 298 *e*P **P 19 40 57.9 +1.4**
comp=Z,34nm,1.1s
PVRL Vila Real 47.41 300 *e*P **P 19 40 57.9 +1.3**
comp=Z,52nm,1.8s
PVIS Viseu 47.62 299 *e*P P 19 41 05.4 +7.2
PGAV Gavieira, Arco 47.75 301 *e*P **P 19 41 00.6 +1.4**
comp=Z,53nm,1.9s
TOA0 Torodi Ar. Sit 48.07 260 P **P 19 41 01.6 -0.3**
TORD Torodi Ar. Bea 48.07 260 P **P 19 41 01.6 -0.3**
TORD IAmb IAmb 19 41 09.3
comp=Z,24nm,1.1s
TORD Torodi Ar. Bea 48.07 260 P **P 19 41 02.4 +0.5**
comp=Z,12nm,0.4s,baz=55,slow=8.5,SNR=72
TORD ScP **ScP 19 46 23.0 -0.3**
comp=Z,1.2nm,0.7s,baz=55,slow=4.9,SNR=4.2
TORD LR LR 20 03 30.8
comp=Z,492nm,20.0s,baz=48,slow=39
comp=Z,12nm,0.4s
SLVN Son La 48.57 88 IAmb IAmb 19 41 08.3
comp=Z,44nm,1.9s
BTO Baotou 48.59 61 *e*P **P 19 41 06.4 +0.6**
BTO pP **pP 19 41 10.3 -1.3**
BTO sP **sP 19 41 14.3 +0.4**
BTO PP **PP 19 42 59.4 +0.8**
BTO S **S 19 48 08.6 +1.7**
BTO pmax pmax
comp=Z,82nm,0.9s
BTO pmax pmax
comp=Z,180nm,3.5s
BTO LR LR
comp=Z,610nm,13.1s
BTO LR LR
comp=Z,660nm,12.6s
BTO LR LR
comp=Z,1μm,17.8s
XAN Xi'an 48.93 70 ⇑P **P 19 41 09.3 +0.9**
XAN pP pP 19 41 13.8 -0.4
XAN pmax pmax
comp=Z,27nm,1.1s
XAN LR LR
comp=Z,340nm,16.5s
XAN LR LR
comp=Z,580nm,17.2s
XAN LR LR
comp=Z,850nm,19.9s
NONG Nongkai 49.24 92 P **P 19 41 14.1 +3.2**
NAYO Nakonayok 49.35 98 P P 19 41 16.9 +5.2
HHC Hu-ho-hao-te 49.72 61 *e*P **P 19 41 15.9 +1.5**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,190nm,6.0s
HHC LR LR
comp=Z,320nm,14.5s
HHC LR LR
comp=Z,350nm,14.5s
HHC LR LR
comp=Z,440nm,16.8s
SPITS Spitsbergen Ar 49.87 351 P **P 19 41 14.8 -0.1**
comp=Z,3.1nm,0.4s,baz=142,slow=11,SNR=25
SPITS LR LR 20 05 00.1
comp=Z,120nm,20.1s,baz=108,slow=39
comp=Z,3.1nm,0.4s
CIT Chita 50.19 46 *e*P **P 19 41 18.8 +1.1**
CIT *e* 19 41 24.0
CIT *e* 19 43 09.2
CIT pmax pmax
comp=Z,71nm,1.4s
ENH Enshi 50.36 74 P **P 19 41 20.2 +0.9**
LSZ Lusaka 50.49 208 LR LR 20 04 00.2
comp=Z,384nm,21.2s,baz=40,slow=38
BOD Bodaibo 50.62 38 *e*P **P 19 41 21.4 +0.6**
BOD pmax pmax
comp=Z,43nm,1.1s
TIY Taiyuan 50.93 64 *e*P **P 19 41 25.4 +1.8**
TIY pmax pmax
comp=Z,15nm,0.6s
JMIC Jan Mayen 51.25 339 LR LR 20 04 37.3
comp=Z,117nm,20.4s,baz=94,slow=38
LYN LuoYang 51.67 68 ⇓P **P 19 41 31.3 +2.3**
LYN sP sP 19 41 36.6 -0.6
LYN S **S 19 48 46.6 -3.0**
LYN sS sS 19 49 03.3 +4.0
LYN pmax pmax
comp=Z,62nm,1.2s
LYN LR LR
comp=Z,310nm,10.2s
LYN LR LR
comp=Z,570nm,15.7s
LYN LR LR
comp=Z,580nm,13.4s
XLT XiLinHaoTe 52.56 56 *e*P **P 19 41 37.6 +1.9**
XLT pP pP 19 41 41.3 -0.2
XLT sP sP 19 41 44.0 +0.2
XLT PP **PP 19 43 36.9 +2.4**
XLT pmax pmax
comp=Z,30nm,0.8s
XLT pmax pmax
comp=Z,170nm,4.9s
HNS HongShan 52.77 64 ⇓P **P 19 41 38.8 +1.7**
HNS pmax pmax
comp=Z,18nm,1.2s
BJT Baijiatuau 53.32 61 P **P 19 41 43.0 +1.8**
BJT Baijiatuau 53.32 61 IAmb IAmb 19 41 43.6
comp=Z,12nm,0.7s
BJI Beijing 53.32 61 P **P 19 41 43.0 +1.8**
BJI pmax pmax
comp=Z,9.0nm,0.8s
BJI pmax pmax
comp=Z,90nm,4.0s
WHN Wuhan 54.29 73 ⇓P **P 19 41 49.8 +1.3**
WHN pmax pmax
comp=Z,36nm,0.9s
HIA Hailar 54.31 49 P **P 19 41 50.2 +1.8**
HIA Hailar 54.31 49 P **P 19 41 49.0 +0.6**
HIA IAmb IAmb 19 41 50.8
comp=Z,16nm,0.9s
HIA Hailar 54.31 49 P **P 19 41 49.0 +0.6**
HIA pmax pmax
comp=Z,16nm,0.9s
QIZ Qiongzhong 54.60 88 P **P 19 41 50.9 0.0**
QIZ S **S 19 49 30.6 +0.6**
QIZ LR LR
comp=Z,160nm,15.6s
QIZ LR LR
comp=Z,200nm,14.0s
QIZ LR LR
comp=Z,190nm,15.1s
BORG Borgarnes 54.91 330 LR LR 20 06 14.1
comp=Z,199nm,19.0s,baz=99,slow=37
TIA Tai'an 54.94 65 P **P 19 41 54.5 +1.4**
TIA pmax pmax
comp=Z,23nm,0.7s
NOR Nord 56.49 351 *i* P **P 19 42 02.3 -1.2**
NOR IAmb IAmb 19 42 04.5
comp=Z,11nm,0.9s
DBIC Dimbokro 56.92 257 IAmb IAmb 19 42 14.4
comp=Z,29nm,1.1s
DBIC Dimbokro 56.92 257 P **P 19 42 08.0 +0.5**
comp=Z,17nm,1.0s,baz=62,slow=12,SNR=13
DBIC ScP **ScP 19 47 02.0 +0.3**
comp=Z,2.6nm,0.8s,baz=54,slow=8.7,SNR=3.7
DBIC LR LR 20 08 32.0
comp=Z,778nm,19.9s,baz=50,slow=38
comp=Z,17nm,1.0s
KIC Kosan Boka 56.99 257 ⇑*e*P **P 19 42 08.7 +0.7**
comp=Z,38nm,0.9s
TIC Toumodi 57.07 257 ⇑*e*P **P 19 42 08.4 -0.2**
comp=Z,14nm,0.8s
LIC Lamto 57.30 257 ⇑*i*P **P 19 42 11.0 +0.8**
comp=Z,33nm,0.5s
NJ2 Nanjing 57.50 69 *e*P **P 19 42 11.4 0.0**
NJ2 pP **pP 19 42 15.3 -2.0**
NJ2 pmax pmax
comp=Z,16nm,0.9s
NJ2 pmax pmax
comp=Z,170nm,3.5s
TIXI Tiksi 57.53 22 P **P 19 42 10.9 -0.1**
TIXI IAmb IAmb 19 42 18.5
comp=Z,26nm,1.4s
TIXI Tiksi 57.53 22 *i* P **P 19 42 11.0 0.0**
TIXI pmax pmax
comp=Z,23nm,1.5s
TIXI Tiksi 57.53 22 LR LR 20 10 36.0
comp=Z,603nm,19.1s,baz=309,slow=40
ZEA Zeya 58.29 43 *e*P **P 19 42 18.2 +1.5**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA MLR MLR
comp=E,300nm,13.0s
ZEA MLR MLR
comp=Z,400nm,11.0s
SNY Shenyang 58.38 57 ⇓P **P 19 42 18.0 +0.6**
SNY pmax pmax
comp=Z,15nm,0.7s
YAK Yakutsk 58.40 33 P **P 19 42 17.1 -0.2**
YAK Yakutsk 58.40 33 *e*P **P 19 42 16.7 -0.5**
YAK *e**PP **sP 19 42 24.3 -1.1**
YAK *e* 19 44 22.8
YAK *e*PPP PPP 19 45 47.1

YAK eS S 19 50 19.2 +0.2
YAK e*SS pS 19 50 25.7 -0.6
YAK pmax pmax
comp=Z,43nm,0.8s
YAK pmax pmax
comp=E,14nm,1.3s
YAK pmax pmax
comp=N,6.0nm,1.3s
YAK pmax pmax
comp=Z,70nm,3.0s
YAK pmax pmax
comp=E,113nm,4.9s
YAK pmax pmax
comp=N,86nm,3.9s
YAK smax smax
comp=N,38nm,1.8s
YAK smax smax
comp=E,57nm,2.6s
YAK MLR MLR
comp=Z,468nm,13.0s
YAK MLR MLR
comp=E,100nm,10.0s
YAK MLR MLR
comp=N,54nm,11.0s
YAK Yakutsk 58.40 33 P P 19 42 18.1 +0.8
comp=N,48nm,0.8s,baz=293,slow=7.7,SNR=16
YAK LR LR 20 10 16.1
comp=N,284nm,18.7s,baz=282,slow=39
comp=N,48nm,0.8s
TSUM Tsumeb 58.83 217 LR LR 20 09 17.6
comp=N,165nm,19.3s,baz=93,slow=38
HEH HeiHe 59.05 47 *eP* P 19 42 22.5 +0.5
HEH pmax pmax
comp=N,56nm,0.8s
HEH pmax pmax
comp=N,280nm,5.5s
HEH LR LR
comp=N,390nm,13.3s
HEH LR LR
comp=N,560nm,13.7s
HEH LR LR
comp=N,800nm,15.2s
CN2 Changchun 59.22 55 P P 19 42 23.9 +0.7
CN2 pmax pmax
comp=N,20nm,0.7s
BNX BinXian 60.08 52 ⇓P P 19 42 29.8 +0.6
BNX pmax pmax
comp=N,18nm,1.1s
BNX pmax pmax
comp=N,150nm,4.3s
LBTB Lobatse 60.31 206 P P 19 42 32.0 +1.1
LBTB IAmb IAmb 19 42 49.5
comp=Z,9.9nm,0.7s
LBTB Lobatse 60.31 206 P P 19 42 32.1 +1.1
LBTB pmax pmax
comp=Z,10.0nm,0.7s
LBTB Lobatse 60.31 206 LR LR 20 09 37.2
comp=Z,298nm,18.9s,baz=27,slow=37
SUMG Summit 60.67 340 P P 19 42 33.5 +0.3
SUMG IAmb IAmb 19 42 35.0
comp=Z,19nm,0.9s
SUMG Summit 60.67 340 P P 19 42 33.5 +0.3
SUMG pmax pmax
comp=Z,19nm,0.9s
SUMG Summit 60.67 340 *i* P P 19 42 32.8 -0.4
SUMG IAmb IAmb 19 42 34.9
comp=Z,20nm,0.9s
ANGG Ammassalik, Gr 61.67 332 *i* P P 19 42 40.1 +0.5
ICESG Greenland Ices 61.70 336 *i* P P 19 42 39.6 -0.6
ICESG IAmb IAmb 19 42 42.8
comp=Z,21nm,0.8s
MDJ Mudanjiang 61.87 53 P P 19 42 41.6 +0.2
MDJ S S 19 51 01.6 -2.6
MDJ sS sS 19 51 18.3 +4.2
MDJ ScS SKKSac 19 52 28.4 -4.0
MDJ SS SS 19 55 06.1 +0.1
MDJ pmax pmax
comp=Z,4.0nm,0.8s
MDJ pmax pmax
comp=Z,240nm,4.0s
MDJ LR LR
comp=Z,350nm,13.7s
MDJ LR LR
comp=Z,340nm,11.1s
MDJ LR LR
comp=Z,640nm,14.1s
KLR Kul'dur 62.03 47 *i* P P 19 42 43.0 +0.7
KLR pmax pmax
comp=Z,15nm,1.0s
KLR Kul'dur 62.03 47 LR LR 20 12 28.7
comp=Z,499nm,18.8s,baz=282,slow=39
NEEM North Greenlan 62.71 346 *i* P P 19 42 47.7 +0.9
NEEM IAmb IAmb 19 42 48.1
comp=Z,68nm,1.7s
KS19 Wonju Array Si 62.80 61 P P 19 42 48.2 +0.5
KSAR Wonju Array Be 62.83 61 P P 19 42 47.6 -0.3
KSAR Wonju Array Be 62.83 61 P P 19 42 47.6 -0.3
KSRS Korea Array 62.86 61 P P 19 42 48.2 +0.2
comp=Z,17nm,0.7s,baz=282,slow=6.8,SNR=48
KSRS LR LR 20 13 26.3
comp=Z,182nm,19.1s,baz=285,slow=39
comp=Z,17nm,0.7s
USRK Ussuriysk Ar. 63.63 53 P P 19 42 52.9 -0.2
USRK Ussuriysk Ar. 63.63 53 P P 19 42 52.9 -0.2
USRK Ussuriysk Ar. 63.63 53 P P 19 42 53.1 0.0
comp=Z,7.2nm,0.7s,baz=290,slow=5.4,SNR=11
USRK LR LR 20 13 43.6
comp=Z,225nm,18.5s,baz=284,slow=39
comp=Z,7.2nm,0.7s
DY2G Dye2 64.83 334 *i* P P 19 43 00.1 -0.7
DY2G IAmb IAmb 19 43 02.3
comp=Z,36nm,0.8s
UMMG Uummannaq 65.35 339 *i* P P 19 43 02.6 -1.3
UMMG IAmb IAmb 19 43 04.5
comp=Z,18nm,0.9s
SFJD Kangerlussuaq 66.26 335 *i* P P 19 43 09.1 -0.6
SFJD Kangerlussuaq 66.26 335 LR LR 20 12 23.7
comp=Z,210nm,18.9s,baz=70,slow=36
NRS Narsarsuaq 66.29 328 *i* P P 19 43 09.9 -0.2
JNU Nakatsue 66.65 64 P P 19 43 14.3 +1.3
comp=Z,12nm,0.9s,baz=298,slow=5.8,SNR=5.0
JNU LR LR 20 15 10.8
comp=Z,150nm,18.3s,baz=284,slow=38
comp=Z,12nm,0.9s
JOW Kunigami 67.03 72 LR LR 20 16 40.8
comp=Z,149nm,20.4s,baz=317,slow=40
NUUK Nuuk 67.81 332 *i* P P 19 43 19.1 -0.5
NUUK IAmb IAmb 19 43 21.0
comp=Z,20nm,0.8s
TYV Tymovskoe 68.16 43 *eP* P 19 43 23.2 +1.1
TYV pmax pmax
comp=Z,9.0nm,0.9s
TYV pmax pmax
comp=Z,100nm,4.2s
SEY Seymchan 68.25 29 *i* P P 19 43 22.0 -0.5
SEY pmax pmax
comp=Z,18nm,0.8s
SEY Seymchan 68.25 29 LR LR 20 17 06.1
comp=Z,450nm,18.3s,baz=295,slow=39
SUR Sutherland 68.75 207 LR LR 20 14 59.4
comp=Z,464nm,21.4s,baz=31,slow=37
MA2 Magadan 68.96 32 P P 19 43 27.5 +0.5
MA2 IAmb IAmb 19 43 35.3
comp=Z,11nm,1.0s
MA2 Magadan 68.96 32 *i* P P 19 43 27.4 +0.4
MA2 pmax pmax
comp=Z,14nm,1.1s
MA2 Magadan 68.96 32 LR LR 20 17 54.7
comp=Z,215nm,18.3s,baz=284,slow=40
YSS Yuzh-Sakhalins 69.73 47 *eP* P 19 43 31.8 -0.2
YSS *eS* S 19 52 36.8 -3.2
YSS pmax pmax
comp=Z,40nm,0.9s
YSS MLR MLR
comp=Z,900nm,18.0s
BILL Bilibino 70.74 21 P P 19 43 37.9 +0.1
BILL IAmb IAmb 19 43 46.4
comp=Z,14nm,0.8s
ASAJ Asahikawa 70.78 50 LR LR 20 17 31.3
comp=Z,658nm,18.4s,baz=337,slow=38
MJAR Matsushiro Arr 70.84 58 P P 19 43 39.5 +0.5
comp=Z,3.6nm,0.9s,baz=295,slow=11,SNR=6.6
MJAR LR LR 20 17 49.7
comp=Z,237nm,19.5s,baz=296,slow=38
comp=Z,3.6nm,0.9s
RES Resolute Bay 72.43 351 P P 19 43 48.2 +0.4
RES Resolute Bay 72.43 351 P P 19 43 48.2 +0.4

RES pmax pmax
comp=Z,7.0nm,1.0s
JHJ Hachijo jima 2 73.47 61 LR LR 20 19 33.0
comp=Z,116nm,20.5s,baz=307,slow=38
FRB Frobisher Bay 74.34 336 LR LR 20 17 13.9
comp=Z,148nm,18.2s,baz=42,slow=36
PETK Petropavlovsk- 75.44 36 LR LR 20 20 27.4
comp=Z,434nm,18.5s,baz=283,slow=38
A21K Barrow 76.46 9 P P 19 44 12.4 +1.1
baz=336
A19K Wainwright 76.83 11 P P 19 44 14.6 +1.1
baz=332
A22K Sinclair Lake 76.96 8 P P 19 44 15.4 +1.3
baz=338
B18K Kokolik River 77.46 11 P P 19 44 18.3 +1.3
baz=332,SNR=30
A36M Sachs Harbour 77.52 359 P P 19 44 17.7 +0.4
baz=3.9
B20K Meade River 77.59 9 P P 19 44 18.5 +0.8
baz=336
B22K Teshekpuk Lake 77.77 8 P P 19 44 19.9 +1.2
baz=339
C16K Lisburne Hills 77.78 13 P P 19 44 18.9 +0.2
baz=329
C17K DeLong Mountai 78.00 12 P P 19 44 20.8 +0.8
baz=331
C19K Lookout Ridge 78.05 11 IAmb IAmb 19 44 29.8
comp=Z,16nm,1.2s
C19K Lookout Ridge 78.05 11 P P 19 44 21.3 +0.9
baz=334
C18K Utukok River 78.20 11 IAmb IAmb 19 44 22.8
comp=Z,20nm,0.8s
C18K Utukok River 78.20 11 P P 19 44 21.9 +0.6
baz=333,SNR=23
B21K Ikpikpuk River 78.29 9 P P 19 44 22.7 +1.1
baz=338
RDOG Red Dog Mine 78.42 12 P P 19 44 22.8 +0.4
baz=331
C23K Itkillik River 78.57 7 P P 19 44 24.5 +1.3
baz=342
C21K Kniefblade Rid 78.70 9 P P 19 44 25.0 +1.1
baz=338
D17K Noatak River 78.70 12 P P 19 44 24.3 +0.4
baz=331
D19K Kuna River 78.83 10 P P 19 44 25.1 +0.4
baz=335
D20K Etivluk River 78.86 10 P P 19 44 25.6 +0.8
baz=336
C24K Franklin Bluff 78.88 7 P P 19 44 25.9 +1.1
baz=343
C26K Camden Bay 79.03 5 P P 19 44 26.7 +1.0
baz=347
D22K Ayikyak River 79.24 8 IAmb IAmb 19 44 36.4
comp=Z,28nm,1.1s
D22K Ayikyak River 79.24 8 P P 19 44 27.9 +1.1
baz=340
SCHQ Schefferville 79.25 328 IAmb IAmb 19 44 33.8
comp=Z,21nm,0.9s
SCHQ Schefferville 79.25 328 P P 19 44 27.9 +0.7
comp=Z,10nm,0.4s,baz=48,slow=3.3,SNR=26
comp=Z,10nm,0.4s
E20K Nigu River 79.34 10 P P 19 44 28.2 +0.7
baz=337
D23K Nanushuk River 79.39 8 P P 19 44 28.6 +0.9
baz=342
E18K Tukpahlearik C 79.40 12 IAmb IAmb 19 44 29.2
comp=Z,12nm,0.8s
E18K Tukpahlearik C 79.40 12 P P 19 44 28.2 +0.4
baz=333
D24K Happy Valley 79.42 7 IAmb IAmb 19 44 36.6
comp=Z,20nm,1.1s
D24K Happy Valley 79.42 7 P P 19 44 28.8 +1.0
baz=343
E21K Killik River 79.48 9 IAmb IAmb 19 44 37.0
comp=Z,18nm,1.0s
E21K Killik River 79.48 9 P P 19 44 28.7 +0.5
baz=339
D25K Kavik River 79.49 6 IAmb IAmb 19 44 37.6
comp=Z,28nm,1.1s
D25K Kavik River 79.49 6 P P 19 44 29.3 +1.0
baz=345
TNA Tin City 79.55 15 P P 19 44 29.7 +1.1
baz=327
TOLK Toolik Lake Re 79.83 7 P P 19 44 31.2 +1.1
baz=343
E19K Redstone River 79.92 10 IAmb IAmb 19 44 32.0
comp=Z,14nm,0.6s
E19K Redstone River 79.92 10 P P 19 44 31.0 +0.4
baz=336
D27M Malcolm River 79.98 4 P P 19 44 31.8 +0.8
baz=350
F14K Arctic Creek 79.98 15 P P 19 44 32.0 +1.1
baz=328
D28M Stokes Point 80.02 3 P P 19 44 32.2 +1.2
baz=352
E22K Anaktuvuk Pass 80.05 8 IAmb IAmb 19 44 40.4
comp=Z,25nm,1.2s
E22K Anaktuvuk Pass 80.05 8 P P 19 44 32.2 +0.8
baz=341
F15K North Star Dit 80.14 14 P P 19 44 32.6 +0.8
baz=330
C36M Paulatuk 80.14 358 P P 19 44 32.3 +0.6
baz=4.8
F17K Baldwin Pennin 80.16 12 IAmb IAmb 19 44 33.3
comp=Z,14nm,0.9s
F17K Baldwin Pennin 80.16 12 P P 19 44 32.2 +0.4
baz=333
F18K Selawik 80.30 12 P P 19 44 32.8 +0.2
baz=334,SNR=19
E23K Chandalar 80.38 8 P P 19 44 34.3 +1.1
baz=343
F19K Shaleruckik Mo 80.41 11 IAmb IAmb 19 44 41.3
comp=Z,20nm,1.1s
F19K Shaleruckik Mo 80.41 11 P P 19 44 33.3 +0.1
baz=336
E24K Your Creek 80.49 7 IAmb IAmb 19 44 43.2
comp=Z,27nm,1.2s
E24K Your Creek 80.49 7 P P 19 44 34.6 +0.9
baz=344
F20K Avaraart Lake 80.53 10 P P 19 44 34.2 +0.4
baz=337
F21K Alatna River 80.69 9 P P 19 44 35.5 +0.8
baz=339
E28M Babbage River 80.69 4 P P 19 44 35.6 +0.8
baz=351
E25K Arctic Village 80.73 6 IAmb IAmb 19 44 44.2
comp=Z,25nm,0.9s
E25K Arctic Village 80.73 6 P P 19 44 35.9 +0.9
baz=346
G16K Koyuk River 80.88 13 P P 19 44 36.4 +0.7
baz=332
G15K Niukluk 80.89 14 P P 19 44 36.3 +0.5
baz=330,SNR=6.7
ANM Nome 80.97 15 IAmb IAmb 19 44 46.3
comp=Z,20nm,1.2s
ANM Nome 80.97 15 P P 19 44 37.2 +0.9
baz=329,SNR=5.4
E27K Coleen River 80.98 5 IAmb IAmb 19 44 45.6
comp=Z,21nm,1.1s
E27K Coleen River 80.98 5 P P 19 44 37.2 +0.9
baz=350
E29M Blow River 80.99 3 IAmb IAmb 19 44 45.0
comp=Z,18nm,0.9s
E29M Blow River 80.99 3 P P 19 44 37.1 +0.8
baz=353
F24K Squaw Lake 81.09 7 IAmb IAmb 19 44 47.4
comp=Z,35nm,1.7s
F24K Squaw Lake 81.09 7 P P 19 44 38.2 +1.2
baz=344
COLD Coldfoot 81.11 8 P P 19 44 37.9 +1.0
baz=342
G17K Kiwalik Mounta 81.11 13 P P 19 44 37.4 +0.4
baz=333
G18K Tagagawik 81.11 12 IAmb IAmb 19 44 45.6
comp=Z,20nm,1.3s
G18K Tagagawik 81.11 12 P P 19 44 37.3 +0.2
baz=335
G19K Purcell Mounta 81.15 11 IAmb IAmb 19 44 38.6
comp=Z,20nm,0.7s
G19K Purcell Mounta 81.15 11 P P 19 44 37.6 +0.3
baz=336
INK Inuvik 81.22 1 P P 19 44 37.7 +0.2
baz=357,SNR=6.1
INK Inuvik 81.22 1 LR LR 20 27 34.3
comp=Z,49nm,19.5s,baz=342,slow=41
F25K Christian Rive 81.24 6 P P 19 44 38.7 +1.0
baz=346
G22K Bettles 81.24 9 P P 19 44 38.4 +0.8
baz=341

F26K Sheenjek River 81.27 6 P P 19 44 38.8 +0.9
baz=347
G21K Allakaket 81.35 9 IAmb IAmb 19 44 46.4
comp=Z,14nm,0.9s
G21K Allakaket 81.35 9 P P 19 44 38.5 +0.2
baz=339
H16K Elim 81.57 14 P P 19 44 40.0 +0.5
baz=332
G23K Bananza Creek 81.62 8 IAmb IAmb 19 44 49.2
comp=Z,14nm,1.0s
G23K Bananza Creek 81.62 8 P P 19 44 40.8 +1.0
baz=342
F28M Old Crow 81.66 4 P P 19 44 40.7 +0.8
baz=351
H17K Granite Mounta 81.75 13 IAmb IAmb 19 44 48.4
comp=Z,17nm,1.4s
H17K Granite Mounta 81.75 13 P P 19 44 40.7 +0.3
baz=334
H19K Roundabout Mou 81.82 11 IAmb IAmb 19 44 49.8
comp=Z,23nm,1.4s
H19K Roundabout Mou 81.82 11 P P 19 44 41.3 +0.5
baz=337
H18K Honhosa River 81.84 12 IAmb IAmb 19 44 49.7
comp=Z,28nm,1.4s
H18K Honhosa River 81.84 12 P P 19 44 41.4 +0.5
baz=335
F30M Barrier River 81.86 2 P P 19 44 41.5 +0.6
baz=355
G24K Hadweenzic Riv 81.92 7 IAmb IAmb 19 44 50.5
comp=Z,23nm,1.1s
G24K Hadweenzic Riv 81.92 7 P P 19 44 42.4 +1.1
baz=344
G25K Bearman Lake 82.00 7 P P 19 44 43.0 +1.3
baz=346
G26K Porcupine Rive 82.03 6 P P 19 44 42.9 +1.1
baz=348
F31M Tsiigehtchic 82.09 2 P P 19 44 42.4 +0.4
baz=356,SNR=9.8
H20K Anotleneega Mo 82.11 10 P P 19 44 42.8 +0.5
baz=338
H22K Ishtalitna Cre 82.23 9 P P 19 44 44.4 +1.5
baz=341
H21K Melozitna Rive 82.26 9 P P 19 44 44.0 +0.9
baz=340
G27K Doyon Strip 82.34 5 IAmb IAmb 19 44 53.1
comp=Z,13nm,1.1s
G27K Doyon Strip 82.34 5 P P 19 44 44.9 +1.4
baz=350
G29M Pine Creek 82.46 3 IAmb IAmb 19 44 53.0
comp=Z,18nm,1.2s
G29M Pine Creek 82.46 3 P P 19 44 44.7 +0.6
baz=353
G30M tAoh Zraii Nji 82.47 3 P P 19 44 44.4 +0.2
baz=354
GCSA Galena City Sc 82.47 11 P P 19 44 45.0 +0.8
baz=337
H25L Birch Creek 82.52 7 P P 19 44 45.6 +1.3
baz=346
I17K Unalakleet 82.55 13 IAmb IAmb 19 44 53.9
comp=Z,14nm,0.8s
I17K Unalakleet 82.55 13 P P 19 44 45.4 +0.9
baz=333
G31M Satah River 82.59 2 P P 19 44 45.1 +0.4
baz=356,SNR=25
H24K Noodor Dome 82.72 7 IAmb IAmb 19 44 55.1
comp=Z,17nm,1.1s
H24K Noodor Dome 82.72 7 P P 19 44 46.7 +1.2
baz=344
I20K Naaghedeneel 82.82 10 P P 19 44 47.0 +1.0
baz=339
I21K Tanana 82.83 9 IAmb IAmb 19 44 55.5
comp=Z,13nm,1.0s
I21K Tanana 82.83 9 P P 19 44 46.9 +0.9
baz=341
H27K Steamboat Moun 82.92 5 P P 19 44 47.5 +1.0
baz=350
J14K Nanvaranak Lak 82.96 15 P P 19 44 47.6 +0.9
baz=331
EPYK Eagle Plains 83.06 3 IAmb IAmb 19 44 55.8
comp=Z,20nm,1.2s
EPYK Eagle Plains 83.06 3 P P 19 44 47.4 +0.1
baz=354,SNR=5.4
J16K Anvik River 83.11 14 IAmb IAmb 19 45 08.9
comp=Z,14nm,0.9s
J16K Anvik River 83.11 14 P P 19 44 48.3 +0.8
baz=334
H29M Whitestone 83.13 4 P P 19 44 48.2 +0.6
baz=352
MLY Manley 83.14 9 IAmb IAmb 19 45 37.1
comp=Z,9.1nm,0.5s
MLY Manley 83.14 9 P P 19 44 48.6 +0.8
baz=342
I23K Minto, Yukon-K 83.20 8 IAmb IAmb 19 44 57.5
comp=Z,14nm,1.2s
PRP Porcupine Dome 83.27 7 IAmb IAmb 19 44 57.9
comp=Z,10nm,1.1s
PRP Porcupine Dome 83.27 7 P P 19 44 49.3 +0.8
baz=346
J19K Poorman 83.38 11 IAmb IAmb 19 44 58.1
comp=Z,12nm,1.1s
J19K Poorman 83.38 11 P P 19 44 49.8 +0.9
baz=338
J20K Nowinta River 83.45 11 IAmb IAmb 19 44 58.0
comp=Z,8.6nm,0.8s
J20K Nowinta River 83.45 11 P P 19 44 50.1 +0.9
baz=339
POKR Poker Plat Res 83.46 8 IAmb IAmb 19 44 58.7
comp=Z,18nm,0.9s
POKR Poker Plat Res 83.46 8 P P 19 44 50.1 +0.8
baz=345
SHEM Shemya Is, Ala 83.50 31 LR LR 20 26 07.5
comp=Z,205nm,18.0s,baz=310,slow=39
I27K Kandik River 83.53 5 P P 19 44 50.5 +0.8
baz=350
COLA College 83.65 8 P P 19 44 50.6 +0.4
baz=344
J18K Innoko River 83.68 12 P P 19 44 51.0 +0.5
baz=337
I26K Coal Creek Min 83.70 6 IAmb IAmb 19 44 59.6
comp=Z,11nm,0.9s
I26K Coal Creek Min 83.70 6 P P 19 44 51.1 +0.5
baz=348
H31M Peel River 83.71 2 IAmb IAmb 19 44 59.2
comp=Z,15nm,1.1s
H31M Peel River 83.71 2 P P 19 44 50.9 +0.3
baz=356,SNR=5.7
NEA2 Nenana 83.77 8 P P 19 44 51.1 +0.2
baz=343
I28M Miner Creek 83.80 4 IAmb IAmb 19 44 59.7
comp=Z,8.6nm,0.9s
I28M Miner Creek 83.80 4 P P 19 44 51.5 +0.3
baz=351
K15K Wolf Creek Mou 83.80 14 P P 19 44 52.3 +1.2
baz=333
ILAR Eielson Array 83.86 7 P P 19 44 51.2 -0.1
comp=Z,1.9nm,0.6s,baz=337,slow=4.1,SNR=23
ILAR LR LR 20 28 41.0
comp=Z,52nm,19.1s,baz=329,slow=40
comp=Z,1.9nm,0.6s
BPAW Bear Paw Mtn. 83.99 9 P P 19 44 52.4 +0.4
baz=342,SNR=7.9
CHUM Lake Minchumin 84.01 10 P P 19 44 52.8 +0.7
baz=340,SNR=6.7
WRH Wood River Hil 84.01 8 IAmb IAmb 19 45 39.3
comp=Z,21nm,1.6s
K17K Iditarod 84.08 13 P P 19 44 53.2 +0.7
baz=336
J25K Salcha River, 84.17 7 P P 19 44 53.6 +0.6
baz=346
HDA Harding Lake 84.20 7 P P 19 44 53.2 0.0
baz=345
I30M Mount Dempster 84.22 3 IAmb IAmb 19 45 02.0
comp=Z,17nm,1.1s
I30M Mount Dempster 84.22 3 P P 19 44 53.9 +0.5
baz=354
K20K Telida 84.23 11 IAmb IAmb 19 45 03.2
comp=Z,14nm,1.1s
K20K Telida 84.23 11 P P 19 44 54.1 +0.8
baz=339
TTA Tatalina 84.30 12 P P 19 44 53.9 +0.1
TTA IAmb IAmb 19 45 03.0
comp=Z,15nm,1.3s
TTA Tatalina 84.30 12 P P 19 44 53.9 +0.1
TTA pmax pmax
comp=Z,15nm,1.3s
TTA Tatalina 84.30 12 P P 19 44 54.5 +0.8
baz=337
L15K Ungalak Mounta 84.36 15 P P 19 44 54.6 +0.7

	baz=333						
EGAK	**Eagle**	84.38	5	P	P	19 44 54.5	+0.5
	baz=350,SNR=9.1						
L14K	**Kuka Creek**	84.39	15	IAmb	IAmb	19 45 09.2	
	comp=Z,14nm,1.0s						
L14K	**Kuka Creek**	84.39	15	P	P	19 44 55.1	+1.1
	baz=332						
J26L	**Joseph Creek**	84.45	6	IAmb	IAmb	19 45 03.3	
	comp=Z,15nm,1.2s						
J26L	**Joseph Creek**	84.45	6	P	P	19 44 54.9	+0.4
	baz=348						
CAST	**Castle Rocks**	84.48	10	P	P	19 44 55.1	+0.5
	baz=341,SNR=11						
L17K	**Donlin**	84.61	13	P	P	19 44 56.0	+0.8
	baz=336						
MCK	**McKinley**	84.62	9	P	P	19 44 55.4	+0.1
	baz=343,SNR=7.8						
TRF	**Thorofare Moun**	84.71	9	IAmb	IAmb	19 45 04.3	
	comp=Z,11nm,1.0s						
TRF	**Thorofare Moun**	84.71	9	P	P	19 44 56.3	+0.4
	baz=342						
L16K	**Owhat River**	84.76	14	IAmb	IAmb	19 44 58.6	
	comp=Z,14nm,1.1s						
L16K	**Owhat River**	84.76	14	P	P	19 44 56.3	+0.3
	baz=334						
L18K	**Granite Mounta**	84.84	12	P	P	19 44 57.2	+0.9
	baz=337						
J30M	**Hart River**	84.87	3	IAmb	IAmb	19 45 05.9	
	comp=Z,12nm,0.9s						
J30M	**Hart River**	84.87	3	P	P	19 44 57.4	+0.7
	baz=354						
J29N	**Klondike Camp**	84.90	4	IAmb	IAmb	19 45 06.1	
	comp=Z,13nm,1.1s						
J29N	**Klondike Camp**	84.90	4	P	P	19 44 57.5	+0.8
	baz=353						
K24K	**Donnelly Dome**	84.92	7	P	P	19 44 57.8	+1.0
	baz=346,SNR=6.5						
RND	**Reindeer**	84.94	9	IAmb	IAmb	19 47 08.2	
	comp=Z,16nm,1.0s						
PPLA	**Purkeypile**	84.96	10	P	P	19 44 57.1	-0.1
	baz=341						
K27K	**Chicken**	85.05	5	P	P	19 44 58.4	+1.0
	baz=349						
M13K	**Dall Lake**	85.06	16	P	P	19 44 58.0	+0.6
	baz=331						
M14K	**Bethel**	85.08	15	P	P	19 44 58.4	+0.9
	baz=332						
L20K	**Farewell, AK**	85.09	11	P	P	19 44 58.2	+0.6
	baz=339						
L19K	**White Mountain**	85.20	12	IAmb	IAmb	19 45 08.2	
	comp=Z,12nm,1.1s						
L19K	**White Mountain**	85.20	12	P	P	19 44 58.7	+0.5
	baz=338						
DAWY	**Dawson**	85.21	4	IAmb	IAmb	19 45 07.3	
	comp=Z,19nm,1.2s						
DAWY	**Dawson**	85.21	4	P	P	19 44 58.7	+0.4
	baz=352,SNR=6.5						
M15K	**Kasigluk River**	85.42	15	P	P	19 44 60.0	+0.7
	baz=334						
DHY	**Denali Highway**	85.44	8	IAmb	IAmb	19 46 57.1	
	comp=Z,13nm,0.8s						
DHY	**Denali Highway**	85.44	8	P	P	19 44 59.5	-0.1
	baz=345,SNR=5.4						
M17K	**Holitna River**	85.45	13	IAmb	IAmb	19 45 01.8	
	comp=Z,16nm,0.9s						
M17K	**Holitna River**	85.45	13	P	P	19 45 00.7	+1.2
	baz=336						
M16K	**Timber Creek**	85.49	14	IAmb	IAmb	19 45 02.0	
	comp=Z,17nm,1.1s						
M16K	**Timber Creek**	85.49	14	P	P	19 45 00.6	+1.0
	baz=335						
WAT1	**Susitna Watana**	85.54	9	P	P	19 45 00.7	+0.8
	baz=344						
M19K	**Big River Lodg**	85.54	11	IAmb	IAmb	19 45 14.9	
	comp=Z,19nm,1.4s						
M19K	**Big River Lodg**	85.54	11	P	P	19 45 01.1	+1.2
	baz=339						
K29M	**Barlow Dome**	85.54	4	IAmb	IAmb	19 45 08.6	
	comp=Z,16nm,1.3s						
K29M	**Barlow Dome**	85.54	4	P	P	19 45 00.9	+0.9
	baz=353						
M18K	**Stony River**	85.67	12	P	P	19 45 01.4	+0.9
	baz=338						
CUT	**Chulitna**	85.71	9	P	P	19 45 01.7	+1.0
	baz=342						
PAX	**Paxson**	85.77	7	P	P	19 45 02.0	+0.9
	baz=346						
M20K	**Styx River**	85.77	11	P	P	19 45 01.6	+0.5
	baz=340						
WAT6	**Susitna Watana**	85.88	8	P	P	19 45 01.6	-0.2
	baz=344						
N14K	**Kuskokwak Cree**	85.88	16	P	P	19 45 01.6	0.0
	baz=333						
L26K	**Log Cabin Wild**	85.92	6	IAmb	IAmb	19 45 10.6	
	comp=Z,17nm,1.4s						
L26K	**Log Cabin Wild**	85.92	6	P	P	19 45 02.7	+0.8
	baz=348,SNR=5.9						
SKT	**Skwentna**	85.93	10	IAmb	IAmb	19 45 10.5	
	comp=Z,24nm,1.3s						
SKT	**Skwentna**	85.93	10	P	P	19 45 02.0	+0.2
	baz=341,SNR=5.9						
MENT	**Mentasta**	85.97	6	IAmb	IAmb	19 45 04.0	
	comp=Z,8.1nm,0.6s						
N15K	**Kwethluk River**	86.02	15	P	P	19 45 03.2	+0.9
	baz=334						
L27K	**Beaver Creek,**	86.02	6	IAmb	IAmb	19 45 12.0	
	comp=Z,29nm,1.4s						
L27K	**Beaver Creek,**	86.02	6	P	P	19 45 03.3	+0.9
	baz=350						
N16K	**Nishlik Lake**	86.03	14	P	P	19 45 03.4	+1.0
	baz=335						
L29M	**L29M**	86.24	4	IAmb	IAmb	19 45 12.8	
	comp=Z,23nm,1.2s						
L29M	**L29M**	86.24	4	P	P	19 45 04.3	+0.9
	baz=353						
WRGLY	**Wrigley**	86.24	357	P	P	19 45 04.4	+1.1
	baz=5.3,SNR=7.2						
N17K	**Nushagak Hills**	86.30	13	P	P	19 45 04.6	+0.9
	baz=336						
YKA	**Yellowknife Ar**	86.33	353	P	P	19 45 04.1	+0.4
YKA	**Yellowknife Ar**	86.33	353	P	P	19 45 04.1	+0.4
YKA	**Yellowknife Ar**	86.33	353	P	P	19 45 04.2	+0.5
	comp=Z,3.0nm,0.8s,baz=5.4,slow=5.6,SNR=44						
YKA			LR		LR	20 30 03.1	
	comp=Z,66nm,18.6s,baz=284,slow=40						
	comp=Z,3.0nm,0.8s						
M22K	**Willow**	86.36	10	P	P	19 45 04.0	+0.1
	baz=342						
HARP	**HAARP**	86.36	7	P	P	19 45 04.9	+0.9
	baz=347						
N18K	**Kilae Creek**	86.41	13	IAmb	IAmb	19 45 06.0	
	comp=Z,19nm,1.1s						
N18K	**Kilae Creek**	86.41	13	P	P	19 45 05.3	+1.1
	baz=338						
GHO	**Glory Hole Cre**	86.50	9	IAmb	IAmb	19 45 13.2	
	comp=Z,16nm,0.8s						
M24K	**Tolsona, Glenn**	86.53	8	P	P	19 45 05.8	+1.0
	baz=346						
SUA	**Susitna One**	86.54	10	P	P	19 45 05.4	+0.4
	baz=342,SNR=8.0						
N19K	**Bonanza Creek**	86.54	12	P	P	19 45 05.7	+0.7
	baz=339						
SML	**Sawmill**	86.55	9	P	P	19 45 05.0	0.0
	baz=344,SNR=6.6						
N20K	**Mount Spurr**	86.56	11	P	P	19 45 05.3	+0.3
	baz=341						
M26K	**Nabesna, AK**	86.57	6	IAmb	IAmb	19 45 14.5	
	comp=Z,12nm,1.1s						
M26K	**Nabesna, AK**	86.57	6	P	P	19 45 05.8	+0.7
	baz=348						
O14K	**Tigyukauivet M**	86.58	16	P	P	19 45 06.6	+1.6
	baz=333						
M23K	**Glacier View**	86.64	9	P	P	19 45 05.7	+0.3
	baz=344						
PKME	**Peaks-Kenny Pk**	86.65	322	P	P	19 45 06.0	+0.3
	baz=48						
PMR	**Palmer**	86.65	9	P	P	19 45 05.7	+0.4
	baz=343						
SCM	**Sheep Creek Mo**	86.65	8	P	P	19 45 06.0	+0.5
	baz=345						
M27K	**Edge Creek, AK**	86.71	6	P	P	19 45 07.2	+1.3
	baz=349						
BVCY	**Beaver Creek**	86.74	5	P	P	19 45 06.8	+0.9
	baz=350						
M30M	**Minto, Yukon**	86.84	3	P	P	19 45 07.2	+0.9
	baz=354						
M29M	**Somme Creek**	86.88	4	IAmb	IAmb	19 45 15.7	
	comp=Z,12nm,1.3s						
M29M	**Somme Creek**	86.88	4	P	P	19 45 07.7	+1.0
	baz=352						
KNK	**Knik Glacier**	86.91	9	P	P	19 45 07.4	+0.7
	baz=344						
GUMO	**Guam**	86.91	76	LR	LR	20 27 24.1	
	comp=Z,40nm,20.2s,baz=56,slow=38						
MMPY	**Sheldon Lake,**	86.97	1	P	P	19 45 08.2	+1.2
	baz=359,SNR=5.8						
O16K	**Kokwok River B**	86.97	14	P	P	19 45 07.5	+0.5
	baz=336						
O15K	**Ungalikthiuk R**	86.97	15	P	P	19 45 07.6	+0.6
	baz=334						
O17K	**Koliganek Bris**	87.01	14	P	P	19 45 07.9	+0.8
	baz=337						
RC01	**Rabbit Creek A**	87.05	10	P	P	19 45 07.6	+0.3
	baz=343						
CAPN	**Captain Cook N**	87.14	10	P	P	19 45 09.4	+1.7
	baz=342						
KLU	**Klutina**	87.15	8	IAmb	IAmb	19 45 37.3	
	comp=Z,17nm,1.0s						
KLU	**Klutina**	87.15	8	P	P	19 45 09.1	+1.2
	baz=346,SNR=6.1						
N25K	**Chitina, Valde**	87.19	7	P	P	19 45 09.3	+1.2
	baz=347						
O18K	**Koktuh Hills**	87.30	13	P	P	19 45 09.4	+0.8
	baz=338						
M31M	**Drury Creek, Y**	87.32	2	IAmb	IAmb	19 45 17.7	
	comp=Z,19nm,1.5s						
M31M	**Drury Creek, Y**	87.32	2	P	P	19 45 09.4	+0.8
	baz=356,SNR=6.8						
FARO	**Faro, Yukon**	87.32	2	IAmb	IAmb	19 45 17.4	
	comp=Z,16nm,1.2s						
FARO	**Faro, Yukon**	87.32	2	P	P	19 45 09.6	+1.0
	baz=357						
YUK3	**Moose Creek**	87.41	5	P	P	19 45 10.2	+0.9
	baz=351,SNR=8.6						
O22K	**Cooper Landing**	87.63	10	P	P	19 45 11.5	+1.4
	baz=343						
P18K	**Big Mountain,**	87.73	13	P	P	19 45 11.5	+0.8
	baz=338						
BMRM	**Bremner River**	87.81	7	P	P	19 45 11.6	+0.5
	baz=347						
N30M	**Aishikik Lake**	87.94	4	P	P	19 45 12.3	+0.6
	baz=354						
YUK8	**Steele Glacier**	87.94	5	P	P	19 45 12.4	+0.5
	baz=351						
YUK4	**Talbot Arm**	87.96	4	P	P	19 45 12.6	+0.6
	baz=352,SNR=13						
SEW	**Seward**	88.03	10	P	P	19 45 12.6	+0.6
	baz=343						
TGTN	**Hyland Airport**	88.07	359	P	P	19 45 13.8	+1.5
	baz=1.1,SNR=9.7						
EYAK	**Cordova Ski Ar**	88.09	8	P	P	19 45 13.8	+1.5
	baz=346						
CTG	**China Glacier**	88.14	6	P	P	19 45 13.5	+0.7
	baz=350						
CTGM	**Chitina Glacie**	88.14	6	IAmb	IAmb	19 45 21.6	
	comp=Z,9.4nm,0.8s						
BRSE	**Bradley Lake S**	88.18	11	P	P	19 45 13.8	+1.0
	baz=342						
LOGN	**Logan Glacier**	88.30	6	IAmb	IAmb	19 45 28.1	
	comp=Z,10nm,0.8s						
YUK6	**Outpost Mounta**	88.38	4	P	P	19 45 14.7	+0.7
	baz=352						
N32M	**Quiet Lake**	88.41	2	IAmb	IAmb	19 45 22.0	
	comp=Z,7.5nm,1.0s						
N32M	**Quiet Lake**	88.41	2	P	P	19 45 14.3	+0.4
	baz=357						
P23K	**Montague Islan**	88.42	9	P	P	19 45 14.3	+0.4
	baz=345						
HYT	**Haines Junctio**	88.55	4	IAmb	IAmb	19 45 16.9	
	comp=Z,11nm,0.8s						
HYT	**Haines Junctio**	88.55	4	P	P	19 45 15.5	+0.8
	baz=353,SNR=9.9						
Q17K	**Contact Creek**	88.65	14	P	P	19 45 15.7	+0.5
	baz=338						
O30N	**Mendenhall**	88.68	3	P	P	19 45 15.7	+0.5
	baz=354						
LBNH	**Lisbon**	88.72	323	P	P	19 45 16.2	+0.5
	baz=47						
WHY	**Whitehorse**	88.84	3	P	P	19 45 15.9	-0.2
	baz=356						
O29M	**Mount Kennedy**	89.00	4	P	P	19 45 17.2	+0.4
	baz=352						
P30M	**Million Dollar**	89.28	4	P	P	19 45 18.5	+0.4
	baz=354						
P33M	**Teslin, Yukon**	89.36	2	P	P	19 45 18.5	+0.1
	baz=357						
WTLY	**Watson Lake, Y**	89.49	360	IAmb	IAmb	19 45 47.9	
	comp=Z,14nm,1.5s						
WTLY	**Watson Lake, Y**	89.49	360	P	P	19 45 19.8	+0.8
	baz=0.7						
S12K	**Black Hills**	89.55	18	P	P	19 45 20.0	+0.7
	baz=332						
PNL	**Peninsula**	89.58	5	P	P	19 45 20.2	+0.8
	baz=352						
KDAK	**Kodiak Island**	89.73	12	P	P	19 45 21.1	+1.0
	baz=340						
PLBC	**Pleasant Camp**	89.98	3	P	P	19 45 22.2	+1.0
	baz=354						
R33M	**Jennings River**	90.21	1	P	P	19 45 23.2	+0.7
	baz=359						
DLBC	**Dease Lake**	91.18	0	LR	LR	20 33 36.8	
	comp=Z,57nm,20.6s,baz=314,slow=40						
SADO	**Sadowa**	91.94	327	LR	LR	20 27 08.7	
	comp=Z,86nm,18.2s,baz=80,slow=36						
ULM	**Lac du Bonnet**	94.02	339	P	P	19 45 40.1	-0.1
	comp=Z,3.9nm,0.9s,baz=31,slow=2.4,SNR=6.1						
ULM				LR	LR	20 29 46.8	
	comp=Z,134nm,18.2s,baz=28,slow=37						
	comp=Z,3.9nm,0.9s						
WRA	**Warramunga Arr**	94.96	110	*i* P	P	19 45 44.9	0.0
WRA	**Warramunga Arr**	94.96	110	P	P	19 45 44.6	-0.3
	comp=Z,0.5nm,0.8s,baz=316,slow=4.0,SNR=7.6						
WRA				PKKPbc	PKKPdf	20 02 42.0	+1.7
	comp=Z,0.5nm,0.9s,baz=116,slow=2.5,SNR=1.8						
	comp=Z,0.5nm,0.8s						
ASAR	**Alice Springs**	96.50	114	P	P	19 45 51.0	-0.9
	comp=Z,0.5nm,0.7s,baz=300,slow=4.6,SNR=12						
	comp=Z,0.5nm,0.7s						
BBB	**Bella Bella**	97.44	359	LR	LR	20 39 02.8	
	comp=Z,41nm,18.1s,baz=20,slow=41						
MAW	**Mawson**	98.47	175	LR	LR	20 28 08.3	
	comp=Z,144nm,19.0s,baz=76,slow=34						
MDP	**Montagnes des**	98.57	281	LR	LR	20 32 45.9	
	comp=Z,78nm,20.4s,baz=102,slow=37						
ELIB	**Princess Elisa**	104.12	188	*d*PP	PKiKP	19 50 40.4	-1.4
QSPA	**South Pole Qui**	120.56	180		PKPdf	19 51 13.0	0.0
PLCA	**Paso Flores**	131.86	241	SKPbc	SKPbc	19 54 59.0	-1.4
	comp=Z,6.8nm,1.2s,baz=87,slow=5.6,SNR=4.3						
TBI	**Tubuai**	160.84	72	*e*LR	LR	20 46 55.5	
	comp=Z,1μm,36.5s						

NNC ***19*** *20:23:44.6±6.2,38.81N×73.11E,h0km,mb3.1,mpv2.7, Error ellipse: s-maj=56.5km s-min=31.2km az=159.0*

SOME 19 20:23:41.1,39.12N×73.85E,h10km,3C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	3.66	353	*e*P	Pb	20 24 47.9	+2.0
	6.5nm,0.1s						
MRKS				*e*S	Sg	20 25 35.7	-2.8
	6.1nm,0.1s						
TKM2	**Tokmak 2**	4.02	19	⇑P	Pb	20 24 54.8	+2.6
	0.3nm,0.3s						
TKM2				⇓S	Sg	20 25 48.7	-1.6
	1.9nm,0.7s						
KST	**Kastek**	4.24	21	*e*P	Pb	20 24 58.3	+2.6
	0.9nm,0.1s						
KST				*e*S	Sg	20 25 53.7	-3.3
	4.1nm,0.3s						
KK31	**Karatay Array**	4.71	329	⇑P	Pn	20 24 57.0	+4.7
	0.8nm,0.5s						
KK31				⇑S	Sb	20 25 54.0	-6.7
	0.8nm,0.3s,baz=157,slow=23,SNR=7.3						
AB31	**Akbulak array**	14.20	320	P	Pn	20 27 00.8	-1.3
	0.2nm,0.5s,baz=132,slow=14,SNR=11						

TIR ***19*** *20:37:36.7,41.87N×20.19E,h12km±5km,Md2.4,Ml2.1*
RHSSO ***19*** *20:37:37.4±0.9,41.85N×20.18E,h3km±2km,ML2.3/4*
PDG ***19*** *20:37:37.6±0.2,41.85N×20.09E,h11km±1km,ML2.5/11, Error ellipse: s-maj=0.9km s-min=0.7km az=90.0*

ISC 19 20:37:37.0±1.3,41.85N±0.03×20.19E±0.04,h6km±9km, n33,σ1§00/58,10C-5D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	0.29	312	P	Pg	20 37 42.8	+0.1
	baz=309						
PUK				S	Sg	20 37 47.2	+0.7
	baz=309						
PUK				AMP			
	comp=N,2.4nm,0.1s,baz=309						
BCI	**Bajram Curri**	0.52	350	P	Pg	20 37 47.2	+0.1
	baz=350						
BCI				S	Sg	20 37 54.5	+0.5
	baz=350						
BCI				AMP			
	comp=E,0.7nm,0.2s,baz=350						
TIR	**Tirane**	0.56	206	P	Pg	20 37 47.4	-0.3
	baz=206						
TIR				S	Sb	20 37 56.9	-0.5
	baz=206						
TIR				AMP			
	comp=N,0.2nm,0.2s,baz=206						
ULC	**Ulcinj**	0.71	279	⇑*i*Pg	Pg	20 37 49.7	-1.0
ULC				*i* Sg	Sg	20 37 59.9	0.0
PVY	**Plav**	0.76	347	⇑*i*Pg	Pg	20 37 51.1	-0.6
PVY				*i* Sg	Sb	20 38 03.7	+0.2
DRME	**Dracevica, Mon**	0.82	295	⇑*i*Pg	Pg	20 37 51.3	-1.4
DRME				*e*Sg	Sg	20 38 03.3	0.0
DRME	**Dracevica, Mon**	0.82	295	⇑*i*Pg	Pg	20 37 51.4	-1.3
DRME				*i* Sg	Sg	20 38 03.5	+0.2
OHR	**Ohrid**	0.87	148	*i* Pn	Pg	20 37 53.7	0.0
IVA	**Berane**	1.04	348	⇓*i*Pg	Pg	20 37 56.9	-0.1
IVA				*i* Sg	Sn	20 38 12.2	-1.1
BUM	**Brajici-Budva**	1.06	296	⇓*i*Pg	Pg	20 37 56.4	-1.0
BUM				*i* Sg	Sb	20 38 11.9	-0.1
KOME	**Kolasin**	1.12	334	⇓*i*Pg	Pb	20 37 57.4	-1.4
KOME				*i* Sg	Sn	20 38 14.9	-0.1
CEME	**Cevo**	1.17	307	⇓*i*Pg	Pb	20 37 57.9	-1.8
CEME				*i* Sg	Sn	20 38 16.2	-0.1
NKME	**Niksic**	1.29	315	⇓*i*Pg	Pn	20 38 01.0	-0.7
NKME				*i* Sg	Sg	20 38 20.5	+1.9
HCY	**Herceg Novi**	1.39	296	⇑*i*Pg	Pn	20 38 01.7	-1.3
HCY				*e*Sg	Sg	20 38 21.8	+0.1
HCY	**Herceg Novi**	1.39	296	⇑*i*Pg	Pn	20 38 01.7	-1.3
HCY				*i* Sg	Sg	20 38 23.3	+1.6
SJES	**Sjenica**	1.42	354	⇑*i*Pg	Pn	20 38 03.1	-0.4
SJES				*e*Sg	Sg	20 38 22.6	0.0
BRY	**Bratogost**	1.61	311	⇑*i*Pn	Pn	20 38 06.2	+0.1
BRY				*e*Sn	Sb	20 38 28.2	+0.3
BRY	**Bratogost**	1.61	311	⇑*i*Pg	Pb	20 38 06.5	-0.7
BRY				*i* Sg	Sg	20 38 29.8	+1.1
TREB	**Trebinje**	1.61	303	*e*Pn	Pb	20 38 07.0	-0.2
TREB				*e*Sn	Sb	20 38 28.2	+0.4
UPM	**Unac-Piva**	1.65	325	*e*Pn	Pb	20 38 07.5	-0.4
UPM				*e*Sn	Sb	20 38 28.7	-0.4
UPM	**Unac-Piva**	1.65	325	⇑*i*Pn	Pb	20 38 07.9	0.0
UPM				*i* Sn	Sg	20 38 31.1	+1.1
DBRK	**Dubrovnik**	1.72	299	*e*Pn	Pn	20 38 07.0	-0.5
DBRK				Sn	Sg	20 38 34.0	+1.7
RUDO	**Rudo**	1.87	342	*e*Pn	Pn	20 38 10.0	+0.5
RUDO				*e*Sn	Sb	20 38 34.0	-1.1
STON	**Ston**	2.10	300	*e*Pn	Pn	20 38 13.6	+0.8
STON				Sn	Sb	20 38 42.7	+0.7
STON	**Ston**	2.10	300	*e*Pn	Pn	20 38 13.7	+0.9
STON				*e*Sn	Sn	20 38 39.9	+0.6
HAPS	**Han Pijesak,Bl**	2.41	338	*e*Sn	Sn	20 38 47.8	+0.8
LSTV	**Lastovo**	2.61	292	*e*Pn	Pn	20 38 21.0	+1.3
MAKA	**Makarska**	2.74	303	*e*Pn	Pn	20 38 23.8	+2.2
RICI	**Ricice**	2.79	307	*e*Pn	Pn	20 38 23.7	+1.5
RICI				Sn	Sn	20 38 57.5	+1.4
HVAR	**Hvar**	3.06	297	*e*Pn	Pn	20 38 27.8	+1.8
KIJV	**Kijevo**	3.51	309	*e*Pn	Pn	20 38 31.7	-0.4
A050A	**Klekovaca**	3.75	316	*e*Sn	Sn	20 39 19.4	-0.6
ZIRJ	**Zirje**	3.80	300	*e*Pn	Pn	20 38 38.3	+2.3

IDC ***19*** *20:45:23.0±1.3,2.75S×130.83E,h0km,mb3.8/5, mbtmp3.9/7,ML3.6/2, Error ellipse: s-maj=64.1km s-min=19.6km az=75.0*
DJA ***19*** *20:45:26.7±0.2,3.2S×13.0E±*,h10km,M3.4/9,MLv3.4/9*

ISC 19 20:45:25.9±0.8,2.94S±0.05×130.13E±0.04,h10km,n13, σ1§43/18,mb3.8/4,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	1.59	188	P	Pn	20 45 55.6	+1.5
BNDI				S	Sn	20 46 16.5	+1.9
FAKI	**Fak Fak**	2.11	89	P	Pn	20 46 01.9	+0.6
FAKI				S	Sn	20 46 29.8	+2.1
SWI	**Sorong**	2.35	29	P	Pn	20 46 05.9	+1.3
SWI				S	Sn	20 46 35.1	+1.5
NLAI	**Namlea**	3.04	264	P	Pn	20 46 15.8	+1.7
NLAI				S	Sn	20 46 52.1	+1.4
LBMI	**Labuha**	3.49	311	P	Pn	20 46 20.9	+0.6
LBMI				S	Sn	20 47 03.0	+1.4
SANI	**Sanana**	4.24	282	P	Pn	20 46 30.4	-0.1
SANI				S	Sn	20 47 21.4	+1.3
BATI	**Baumata**	9.66	221	Pn	Pn	20 47 51.5	+6.3
	0.3nm,0.3s,baz=78,slow=9.3,SNR=1.7						
	9.0nm,0.5s						
WRA	**Warramunga Arr**	17.39	167	P	Pn	20 49 28.0	-0.9
	0.3nm,0.3s,baz=352,slow=11,SNR=8.2						
	1.3nm,0.8s						
ASAR	**Alice Springs**	20.92	170	P	P	20 50 07.2	-1.6
	7.9nm,0.5s,baz=348,slow=10,SNR=138						
	7.9nm,0.5s						
STKA	**Stephens Creek**	30.74	161	P	P	20 51 40.3	-1.1
	1.3nm,0.6s,baz=338,slow=11,SNR=1.7						
	1.3nm,0.6s						
SONM	**Songino Array**	54.67	341	P	P	20 54 53.7	-1.5
	0.2nm,0.6s,baz=142,slow=7.9,SNR=1.5						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	64.95	326	P	P	20 56 06.2	+0.3
	0.2nm,0.4s,baz=118,slow=7.8,SNR=4.5						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	69.16	328	P	P	20 56 32.9	+0.3
	0.9nm,0.5s,baz=126,slow=6.0,SNR=19						
	0.9nm,0.5s						

IDC 19 20:04:57.2±15.0,14.59S×176.08W,h321km±153km, mb3.4/8,mbtmp4.1/8,Error ellipse: s-maj=38.8km s-min=20.6km az=89.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	42.23	238	P	P	20 12 19.4	-0.5
	4.7nm,0.8s,baz=76,slow=11,SNR=7.6						
	4.7nm,0.8s						
WRA	**Warramunga Arr**	47.52	256	P	P	20 13 01.1	-0.3
	0.9nm,0.6s,baz=91,slow=7.0,SNR=11						
	0.9nm,0.6s						
ASAR	**Alice Springs**	47.91	251	P	P	20 13 04.7	+0.3
	4.9nm,0.6s,baz=84,slow=8.1,SNR=60						
	4.9nm,0.6s						
VNDA	**Vanda**

BNDI				S	**Sn**	**20 48 02.8**	**+1.7**		
FAKI	**Fak Fak**	**2.08**	**90**	P	**Pn**	**20 47 48.4**	**+0.6**		
FAKI				S	**Sn**	**20 48 14.5**	**+1.6**		
SWI	**Sorong**	**2.33**	**28**	P	**Pn**	**20 47 51.8**	**+0.6**		
SWI				S	**Sn**	**20 48 21.1**	**+2.1**		
NLAI	**Namlea**	**3.08**	**264**	P	**Pn**	**20 48 01.9**	**+0.3**		
LBMI	**Labuha**	**3.51**	**310**	P	**Pn**	**20 48 07.1**	**-0.4**		
LBMI				S	**Sn**	**20 48 49.6**	**+1.4**		
SANI	**Sanana**	**4.27**	**282**	P	**Pn**	**20 48 18.1**	**+0.2**		
TNTI	**Ternate**	**4.62**	**323**	P	**Pn**	**20 48 23.4**	**+0.6**		
SAUI	**Saumlaki**	**5.14**	**167**	P	**Pn**	**20 48 29.6**	**-0.4**		
BATI	**Baumata**	**9.69**	**221**	Pn	**Pn**	**20 49 35.9**	**+3.3**		
	0.9nm,0.3s,baz=80,slow=11,SNR=2.1								
	14nm,0.9s								
WRA	**Warramunga Arr**	**17.39**	**167**	P	**Pn**	**20 51 14.2**	**-1.5**		
	0.3nm,0.3s,baz=348,slow=12,SNR=5.1								
	1.3nm,0.8s								
ASAR	**Alice Springs**	**20.93**	**170**	P	**P**	**20 51 53.1**	**-2.4**		
	7.7nm,0.6s,baz=348,slow=10,SNR=20								
	7.7nm,0.6s								
SONM	**Songino Array**	**54.67**	**341**	P	**P**	**20 56 41.5**	**-0.1**		
	0.2nm,0.6s,baz=145,slow=7.9,SNR=1.9								
	0.2nm,0.6s								
MKAR	**Makanchi Array**	**64.96**	**326**	P	**P**	**20 57 51.1**	**-1.1**		
	0.3nm,0.5s,baz=122,slow=8.5,SNR=4.6								
	0.3nm,0.5s								
KURBB	**Kurchatov Arra**	**69.17**	**328**	P	**P**	**20 58 18.8**	**-0.1**		
	1.0nm,0.5s,baz=128,slow=5.9,SNR=13								
	1.0nm,0.5s								

ROM 19 21:16:31.9±0.1, 42°.456N±0°.004×13°.309E±0°.009, h16km, ML2.2/34, Error ellipse: s-maj=0.6km s-min=0.3km az=257.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
RM33	**Pellescritta (**	**0.09**	**307**	P	Pg	21 16 36.0	+0.7	
RM33				S	Sg	21 16 38.2	+0.6	
RM33				AML	AML			
	comp=E,3200μm,0.3s							
RM33				AML	AML			
	comp=E,3120μm,0.3s							
RM33				AML	AML			
	comp=E,3205μm,0.3s							
RM33				AML	AML			
	comp=N,2585μm,1.3s							
RM33				AML	AML			
	comp=E,3115μm,0.3s							
RM33				AML	AML			
	comp=E,3205μm,0.3s							
RM33				AML	AML			
	comp=N,2585μm,1.3s							
RM33				AML	AML			
	comp=N,2600μm,0.2s							
RM33				AML	AML			
	comp=E,3202μm,0.3s							
RM33				AML	AML			
	comp=E,3119μm,0.3s							
RM33				AML	AML			
	comp=N,2600μm,0.2s							
RM33				AML	AML			
	comp=N,2557μm,0.2s							
CAMP	**Campotosto**	**0.11**	**43**	P	Pg	21 16 35.5	0.0	
CAMP				S	Sg	21 16 38.0	0.0	
SMA1	**SAN MARTINO**	**0.18**	**6**	P	Pg	21 16 36.4	+0.1	
SMA1				S	Sb	21 16 39.9	-0.3	
SMA1				AML	AML			
	comp=E,6275μm,0.4s							
SMA1				AML	AML			
	comp=N,4140μm,0.3s							
SMA1				AML	AML			
	comp=E,5360μm,0.3s							
SMA1				AML	AML			
	comp=N,2680μm,0.3s							
GIGS	**Gran Sasso**	**0.19**	**92**	P	Pg	21 16 36.7	+0.2	
GIGS				S	Sb	21 16 40.2	-0.3	
GIGS				AML	AML			
	comp=E,250μm,0.7s							
GIGS				AML	AML			
	comp=N,222μm,1.4s							
GIGS				AML	AML			
	comp=E,250μm,0.7s							
GIGS				AML	AML			
	comp=N,222μm,0.6s							
GIGS				AML	AML			
	comp=E,250μm,1.3s							
GIGS				AML	AML			
	comp=N,187μm,0.1s							
GIGS				AML	AML			
	comp=E,186μm,0.2s							
FIAM	**Fiamignano**	**0.23**	**217**	P	Pg	21 16 37.4	+0.2	
FIAM				S	Sg	21 16 41.1	+0.2	
FIAM				AML	AML			
	comp=N,668μm,0.5s							
FIAM				AML	AML			
	comp=N,668μm,0.5s							
FIAM				AML	AML			
	comp=E,398μm,0.9s							
FIAM				AML	AML			
	comp=N,668μm,0.5s							
FIAM				AML	AML			
	comp=E,387μm,0.5s							
LNSS	**Leonessa**	**0.25**	**307**	P	Pg	21 16 37.4	0.0	
LNSS				S	Sg	21 16 41.4	+0.1	
LNSS				AML	AML			
	comp=E,1665μm,0.3s							
LNSS				AML	AML			
	comp=N,1260μm,0.7s							
LNSS				AML	AML			
	comp=N,1260μm,1.3s							
LNSS				AML	AML			
	comp=E,1666μm,0.3s							
LNSS				AML	AML			
	comp=N,1104μm,0.1s							
TERO	**Teramo**	**0.28**	**52**	P	Pg	21 16 37.9	0.0	
TERO				S	Sg	21 16 42.4	+0.5	
TERO				AML	AML			
	comp=N,408μm,0.3s							
TERO				AML	AML			
	comp=E,259μm,1.4s							
TERO				AML	AML			
	comp=N,244μm,1.5s							
TERO				AML	AML			
	comp=E,330μm,1.2s							
TERO				AML	AML			
	comp=N,505μm,0.3s							
FAGN	**Fagnano**	**0.28**	**133**	P	Pb	21 16 38.7	+0.1	
FAGN				S	Sb	21 16 43.9	+0.9	
FAGN				AML	AML			
	comp=N,480μm,1.3s							
FAGN				AML	AML			
	comp=E,831μm,0.9s							
FAGN				AML	AML			
	comp=N,480μm,0.7s							
FAGN				AML	AML			
	comp=N,467μm,0.3s							
FAGN				AML	AML			
	comp=E,768μm,0.4s							
MTRA	**Matera**	**0.31**	**12**	P	Pg	21 16 38.3	-0.1	
MTRA				S	Sg	21 16 43.1	+0.1	
MTRA				AML	AML			
	comp=E,1775μm,0.4s							
MTRA				AML	AML			
	comp=N,1090μm,0.2s							
MTRA				AML	AML			
	comp=E,1810μm,0.4s							
MTRA				AML	AML			
	comp=N,1160μm,0.2s							
MTRA				AML	AML			
	comp=E,1726μm,0.1s							
MTRA				AML	AML			
	comp=E,1727μm,0.1s							
MTRA				AML	AML			
	comp=N,1161μm,0.2s							
MTRA				AML	AML			
	comp=N,1091μm,0.2s							
T1214	**Arquata del Tr**	**0.31**	**346**	AML	AML			
	comp=E,466μm,1.3s							
T1214				AML	AML			
	comp=N,464μm,0.7s							
T1214				AML	AML			
	comp=E,464μm,1.3s							
T1214				AML	AML			
	comp=N,420μm,0.8s							
T1214				AML	AML			
	comp=E,484μm,0.8s							
T1214				AML	AML			
	comp=N,464μm,0.7s							
T1214				AML	AML			
	comp=N,428μm,0.4s							
GAVE	**Gavelli**	**0.39**	**308**	AML	AML			
GAVE	comp=E,382μm,0.3s			AML	AML			
	comp=E,374μm,0.4s							
GAVE				AML	AML			
	comp=N,438μm,0.9s							
GAVE				AML	AML			
	comp=N,437μm,0.9s							
GAVE				AML	AML			
	comp=N,437μm,1.1s							
GAVE				AML	AML			
	comp=E,374μm,0.4s							
GAVE				AML	AML			
	comp=N,352μm,0.2s							
GAVE				AML	AML			
	comp=E,371μm,0.3s							
T0110	**Collepietro**	**0.42**	**123**	AML	AML			
T0110	comp=N,337μm,0.4s			AML	AML			
	comp=E,383μm,0.3s							
T0110				AML	AML			
	comp=E,384μm,0.3s							
T0110				AML	AML			
	comp=E,383μm,0.3s							
T0110				AML	AML			
	comp=N,337μm,0.4s							
ARRO	**Arrone**	**0.42**	**287**	P	Pg	21 16 40.2	-0.2	
ARRO				S	Sg	21 16 46.5	+0.4	
ARRO				AML	AML			
	comp=E,338μm,1.1s							
ARRO				AML	AML			
	comp=N,262μm,0.9s							
ARRO				AML	AML			
	comp=N,262μm,0.9s							
ARRO				AML	AML			
	comp=E,338μm,0.9s							
ARRO				AML	AML			
	comp=N,262μm,1.1s							
ARRO				AML	AML			
	comp=N,244μm,0.3s							
ARRO				AML	AML			
	comp=E,315μm,0.3s							
PTQR	**Pietraquaria**	**0.44**	**171**	P	Pg	21 16 40.8	+0.1	
PTQR				AML	AML			
	comp=E,84μm,1.6s							
PTQR				AML	AML			
	comp=E,84μm,1.6s							
PTQR				AML	AML			
	comp=N,72μm,0.3s							
PTQR				AML	AML			
	comp=E,72μm,0.3s							
PTQR				AML	AML			
	comp=N,72μm,0.3s							
MMO1	**Montemonaco**	**0.44**	**2**	P	Pg	21 16 40.7	-0.1	
MMO1				S	Sb	21 16 47.5	-0.3	
MC2	**Monte Cornacci**	**0.47**	**349**	P	Pg	21 16 41.1	-0.2	
MC2				S	Sb	21 16 48.8	+0.3	
MF5	**Montefalcone A**	**0.54**	**12**	P	Pg	21 16 42.9	+0.2	
MF5				S	Sb	21 16 51.6	+0.9	
CESX	**Cesi**	**0.56**	**286**	P	Pg	21 16 42.4	-0.5	
CESX				AML	AML			
	comp=N,164μm,0.3s							
CESX				AML	AML			
	comp=E,156μm,0.4s							
CESX				AML	AML			
	comp=N,163μm,0.3s							
CESX				AML	AML			
	comp=E,157μm,0.4s							
CERT	**Cerreto**	**0.56**	**206**	P	Pg	21 16 42.9	-0.1	
CERT				AML	AML			
	comp=E,172μm,1.5s							
CERT				AML	AML			
	comp=N,129μm,0.5s							
CERT				AML	AML			
	comp=E,172μm,0.5s							
CERT				AML	AML			
	comp=E,137μm,0.4s							
CERT				AML	AML			
	comp=N,129μm,0.5s							
MTCE	**Montecelio**	**0.60**	**224**	P	Pg	21 16 43.7	0.0	
GUMA	**Gualdo di Mace**	**0.61**	**2**	P	Pg	21 16 44.0	+0.1	
GUMA				AML	AML			
	comp=E,530μm,1.4s							
GUMA				AML	AML			
	comp=N,534μm,1.3s							
GUMA				AML	AML			
	comp=E,794μm,0.5s							
GUMA				AML	AML			
	comp=N,903μm,0.6s							
GUMA				AML	AML			
	comp=E,558μm,0.5s							
GUMA				AML	AML			
	comp=N,1042μm,0.6s							
GUMA				AML	AML			
	comp=E,558μm,1.5s							
GUMA				AML	AML			
	comp=N,903μm,1.4s							
GUMA				AML	AML			
	comp=N,388μm,0.3s							
GUMA				AML	AML			
	comp=E,424μm,0.4s							
GUMA				AML	AML			
	comp=N,530μm,0.3s							
GUMA				AML	AML			
	comp=E,514μm,0.3s							
CESI	**CESI - Serrava**	**0.62**	**332**	P	Pg	21 16 44.0	-0.2	
CESI				S	Sb	21 16 53.5	+0.5	
CESI				AML	AML			
	comp=E,26650μm,0.4s							
CESI				AML	AML			
	comp=N,34350μm,1.5s							
CESI				AML	AML			
	comp=N,34350μm,0.5s							
INTR	**Introdacqua**	**0.63**	**135**	P	Pg	21 16 44.0	-0.2	
INTR				AML	AML			
	comp=E,84μm,1.4s							
INTR				AML	AML			
	comp=N,168μm,0.6s							
INTR				AML	AML			
	comp=E,84μm,1.4s							
INTR				AML	AML			
	comp=E,84μm,0.6s							
INTR				AML	AML			
	comp=N,168μm,0.6s							
INTR				AML	AML			
	comp=N,148nm,0.6s							
INTR				AML	AML			
	comp=E,76μm,0.6s							
INTR				AML	AML			
	comp=E,86nm,0.6s							
CSP1	**Cessapalombo**	**0.64**	**353**	P	Pg	21 16 44.1	-0.4	
CSP1				S	Sb	21 16 54.1	+0.6	
CSP1				AML	AML			
	comp=E,1885μm,1.0s							
CSP1				AML	AML			
	comp=N,844μm,1.6s							
CSP1				AML	AML			
	comp=E,2550μm,0.8s							
CSP1				AML	AML			
	comp=N,1325μm,0.6s							
LPEL	**Lama dei Pelig**	**0.77**	**122**	P	Pg	21 16 45.9	-0.9	
LPEL				AML	AML			
	comp=N,81μm,0.1s							
LPEL				AML	AML			
	comp=E,98μm,0.1s							
SNTG	**Esanatoglia**	**0.84**	**341**	P	Pb	21 16 47.8	-0.4	
SNTG				AML	AML			
	comp=N,2220μm,0.6s							
SNTG				AML	AML			
	comp=N,2145μm,0.6s							
SNTG				AML	AML			
	comp=E,2535μm,0.2s							
SNTG				AML	AML			
	comp=E,2535μm,0.2s							
SNTG				AML	AML			
	comp=N,2220μm,1.4s							
SNTG				AML	AML			
	comp=N,2145μm,1.4s							
EL6	**Elcito**	**0.89**	**350**	P	Pb	21 16 48.4	-0.5	
EL6				AML	AML			
	comp=E,7670μm,0.2s							
EL6				AML	AML			
	comp=N,8065μm,0.3s							
CING	**Cingoli**	**0.92**	**355**	P	Pb	21 16 49.0	-0.5	
CING				AML	AML			
	comp=N,2555μm,0.6s							
CING				AML	AML			
	comp=E,3940μm,0.2s							
MURB	**Monte Urbino**	**0.99**	**325**	AML	AML			
	comp=N,1585μm,0.3s							
MURB				AML	AML			
	comp=E,2280μm,0.2s							
ARVD	**Arcevia**	**1.08**	**346**	P	Pb	21 16 52.0	-0.1	
ARVD				AML	AML			
	comp=N,728μm,0.3s							
ARVD				AML	AML			
	comp=E,1525μm,0.8s							
ARVD				AML	AML			
	comp=E,1525μm,1.2s							

ROM 19 21:17:03.6±0.1, 42°.996N±0°.004×12°.993E±0°.005, h8km, ML2.5/84, Error ellipse: s-maj=0.3km s-min=0.2km az=54.0

ISC 19 21:17:04.3±0.8, 42°.99N±0°.02×13°.01E±0°.02, h6km±5km, n61, σ1s21/86, 2C-3D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
FEMA	**Monte Fema**	**0.04**	**131**	P	**Pg**	**21 17 05.4**	**-0.3**	
FEMA				S	**Sg**	**21 17 06.5**	**-0.2**	
FEMA				AML	AML			
	comp=E,30950μm,0.5s							
FEMA				AML	AML			
	comp=N,30550μm,0.9s							
FEMA				AML	AML			
	comp=N,30550μm,1.1s							
FEMA				AML	AML			
	comp=E,30950μm,1.5s							
FEMA				AML	AML			
	comp=E,29764μm,0.3s							
FEMA				AML	AML			
	comp=N,23659μm,0.4s							
CESI	**CESI - Serrava**	**0.08**	**284**	⇓P	**Pg**	**21 17 05.9**	**-0.3**	
CESI				S	**Sg**	**21 17 07.5**	**-0.1**	
CESI				AML	AML			
	comp=E,26650μm,0.4s							
CESI				AML	AML			
	comp=N,34350μm,1.5s							
CESI				AML	AML			
	comp=N,34350μm,0.5s							
CESI				AML	AML			
	comp=N,33275μm,0.4s							
CESI				AML	AML			
	comp=E,26612μm,0.4s							
MC2	**Monte Cornacci**	**0.15**	**119**	P	**Pg**	**21 17 07.7**	**+0.3**	
MC2				S	**Sg**	**21 17 11.1**	**+1.6**	
SEF1	**Sefro**	**0.17**	**344**	P	**Pg**	**21 17 07.2**	**-0.5**	
CSP1	**Cessapalombo**	**0.18**	**53**	P	**Pg**	**21 17 07.8**	**0.0**	
CSP1				S	**Sg**	**21 17 11.2**	**+0.9**	
CSP1				AML	AML			
	comp=N,1330μm,0.6s							
CSP1				AML	AML			
	comp=E,2545μm,0.8s							
CSP1				AML	AML			
	comp=N,1325μm,0.6s							
CSP1				AML	AML			
	comp=E,2550μm,0.8s							
CSP1				AML	AML			
	comp=N,1292μm,0.5s							
CSP1				AML	AML			
	comp=E,1924μm,0.4s							
PIO1	**Pioraco**	**0.19**	**354**	P	**Pg**	**21 17 08.0**	**-0.2**	
PIO1				S	**Sg**	**21 17 11.3**	**+0.6**	
PF6	**Pievefavera**	**0.21**	**39**	P	**Pg**	**21 17 08.2**	**-0.3**	
PF6				S	**Sg**	**21 17 11.8**	**+0.5**	
PF6				AML	AML			
	comp=E,2640μm,0.4s							
PF6				AML	AML			
	comp=N,820μm,1.6s							
PF6				AML	AML			
	comp=E,2645μm,0.4s							
PF6				AML	AML			
	comp=N,820μm,0.4s							
PF6				AML	AML			
	comp=N,654μm,0.2s							
PF6				AML	AML			
	comp=E,2500μm,0.6s							
FIU1	**Fiuminata**	**0.21**	**344**	P	**Pg**	**21 17 07.9**	**-0.6**	
FIU1				S	**Sg**	**21 17 12.0**	**+0.7**	
MDAR	**Monte D'Aria**	**0.23**	**25**	P	**Pg**	**21 17 08.6**	**-0.2**	
MDAR				S	**Sg**	**21 17 12.5**	**+0.6**	
MMO1	**Montemonaco**	**0.25**	**110**	⇑P	**Pg**	**21 17 09.3**	**+0.2**	
MMO1				S	**Sb**	**21 17 14.0**	**+1.6**	
GUMA	**Gualdo di Mace**	**0.25**	**72**	⇑P	**Pg**	**21 17 09.6**	**+0.5**	
GUMA				S	**Sb**	**21 17 14.5**	**+2.0**	
GUMA				AML	AML			
	comp=N,5000μm,0.7s							
GUMA				AML	AML			
	comp=N,5585μm,0.7s							
GUMA				AML	AML			
	comp=E,7770μm,0.3s							
GUMA				AML	AML			
	comp=E,6400μm,0.3s							
GUMA				AML	AML			
	comp=N,5000μm,0.7s							
GUMA				AML	AML			
	comp=N,5001μm,0.7s							
GUMA				AML	AML			
	comp=N,5370μm,0.3s							
GUMA				AML	AML			
	comp=E,6402μm,0.3s							
GUMA				AML	AML			
	comp=E,7771μm,0.3s							
T1214	**Arquata del Tr**	**0.27**	**147**	AML	AML			
	comp=E,1102μm,0.6s							
T1214				AML	AML			
	comp=E,1102μm,0.6s							
T1214				AML	AML			
	comp=N,908μm,0.8s							
T1214				AML	AML			
	comp=E,1101μm,0.6s							
T1214				AML	AML			
	comp=N,840μm,0.8s							
T1214				AML	AML			
	comp=E,1102μm,0.6s							
T1214				AML	AML			
	comp=N,840μm,0.8s							
T1214				AML	AML			
	comp=E,1073μm,0.4s							
T1214				AML	AML			
	comp=N,829μm,0.1s							
T1214				AML	AML			
	comp=E,1038μm,0.5s							
T1214				AML	AML			
	comp=N,817μm,0.1s							
SNTG	**Esanatoglia**	**0.27**	**349**	P	**Pg**	**21 17 09.4**	**-0.3**	
SNTG				S	**Sg**	**21 17 14.1**	**+0.7**	
SNTG				AML	AML			
	comp=E,2530μm,0.2s							
SNTG				AML	AML			
	comp=E,2535μm,0.2s							
SNTG				AML	AML			
	comp=N,2145μm,0.6s							
SNTG				AML	AML			
	comp=E,2535μm,0.2s							
SNTG				AML	AML			
	comp=N,2220μm,0.6s							
SNTG				AML	AML			
	comp=N,2220μm,1.4s							
SNTG				AML	AML			
	comp=N,2145μm,1.4s							
SNTG				AML	AML			
	comp=E,2537μm,0.1s							
SNTG				AML	AML			
	comp=E,2534μm,0.2s							
SNTG				AML	AML			
	comp=N,1790μm,0.1s							
SNTG				AML	AML			
	comp=N,1684μm,0.1s							
GAVE	**Gavelli**	**0.31**	**197**	AML	AML			
	comp=E,1805μm,1.6s							
GAVE				AML	AML			
	comp=E,1800μm,0.4s							
GAVE				AML	AML			
	comp=N,2025μm,0.4s							
GAVE				AML	AML			
	comp=E,1805μm,0.4s							
GAVE				AML	AML			
	comp=E,1770μm,0.8s							

GAVE				AML	AML			
	comp=N,2030µm,0.4s							
GAVE				AML	AML			
	comp=N,650µm,0.4s							
GAVE				AML	AML			
	comp=E,1464µm,0.4s							
GAVE				AML	AML			
	comp=N,450µm,0.1s							
GAVE				AML	AML			
	comp=N,1417µm,0.2s							
GAVE				AML	AML			
	comp=E,1406µm,0.5s							
MF5	**Montefalcone A**	**0.33**	**89**	P	**Pg**	**21 17 11.3**	**+0.6**	
MF5				S	**Sb**	**21 17 17.5**	**-0.6**	
MF5				AML	AML			
	comp=E,1708µm,0.6s							
MF5				AML	AML			
	comp=N,1677µm,0.5s							
ATCC	**AVT- Casa Cast**	**0.34**	**306**	⇓P	**Pg**	**21 17 10.6**	**-0.2**	
ATCC				S	**Sb**	**21 17 16.6**	**-1.8**	
ATCC				AML	AML			
	comp=E,1595µm,0.7s							
ATCC				AML	AML			
	comp=N,1395µm,0.4s							
ATCC				AML	AML			
	comp=N,1298µm,1.2s							
ATCC				AML	AML			
	comp=E,1595µm,0.7s							
EL6	**Elcito**	**0.35**	**11**	P	**Pg**	**21 17 10.9**	**-0.2**	
EL6				S	**Sg**	**21 17 16.6**	**+0.9**	
EL6				AML	AML			
	comp=N,8065µm,0.3s							
EL6				AML	AML			
	comp=E,7670µm,0.2s							
EL6				AML	AML			
	comp=E,7669µm,0.2s							
EL6				AML	AML			
	comp=N,8064µm,0.3s							
FOSV	**Fossato di Vic**	**0.36**	**329**	⇓P	**Pg**	**21 17 10.8**	**-0.4**	
FOSV				S	**Sb**	**21 17 16.8**	**-2.2**	
FOSV				AML	AML			
	comp=E,1830µm,1.0s							
FOSV				AML	AML			
	comp=N,2130µm,0.3s							
FOSV				AML	AML			
	comp=E,1758µm,0.2s							
FOSV				AML	AML			
	comp=N,2133µm,0.3s							
MTRA	**Matera**	**0.36**	**129**	P	**Pg**	**21 17 11.5**	**+0.2**	
MTRA				AML	AML			
	comp=E,1057µm,0.6s							
MTRA				AML	AML			
	comp=N,1400µm,0.4s							
MTRA				AML	AML			
	comp=N,1440µm,0.4s							
MTRA				AML	AML			
	comp=E,971µm,0.6s							
MTRA				AML	AML			
	comp=N,1397µm,0.4s							
MTRA				AML	AML			
	comp=E,894µm,0.2s							
MTRA				AML	AML			
	comp=E,887µm,0.2s							
MTRA				AML	AML			
	comp=N,1439µm,0.4s							
MOMA	**Monte Martano**	**0.37**	**241**	P	**Pg**	**21 17 11.5**	**0.0**	
MOMA				S	**Sb**	**21 17 17.9**	**-1.5**	
MOMA				AML	AML			
	comp=E,705µm,1.6s							
MOMA				AML	AML			
	comp=N,1130µm,1.0s							
MOMA				AML	AML			
	comp=E,722µm,1.4s							
MOMA				AML	AML			
	comp=N,1130µm,1.1s							
MOMA				AML	AML			
	comp=E,722µm,0.6s							
MOMA				AML	AML			
	comp=N,987µm,0.4s							
MOMA				AML	AML			
	comp=N,1130µm,0.9s							
MOMA				AML	AML			
	comp=E,705µm,0.4s							
MOMA				AML	AML			
	comp=E,689µm,0.3s							
MOMA				AML	AML			
	comp=E,592µm,0.3s							
MOMA				AML	AML			
	comp=N,958µm,0.4s							
MOMA				AML	AML			
	comp=N,985µm,0.4s							
LNSS	**Leonessa**	**0.38**	**177**	P	**Pg**	**21 17 11.9**	**+0.2**	
LNSS				AML	AML			
	comp=E,1160µm,0.9s							
LNSS				AML	AML			
	comp=N,956µm,0.4s							
LNSS				AML	AML			
	comp=E,1160µm,1.1s							
LNSS				AML	AML			
	comp=E,1020µm,0.2s							
LNSS				AML	AML			
	comp=N,954µm,0.4s							
SMA1	**SAN MARTINO**	**0.43**	**146**	P	**Pg**	**21 17 12.7**	**+0.2**	
SMA1				AML	AML			
	comp=N,646µm,0.6s							
SMA1				AML	AML			
	comp=N,646µm,0.6s							
SMA1				AML	AML			
	comp=N,646µm,1.4s							
SMA1				AML	AML			
	comp=E,597µm,0.6s							
SMA1				AML	AML			
	comp=E,597µm,0.6s							
SMA1				AML	AML			
	comp=N,646µm,0.6s							
ARRO	**Arrone**	**0.45**	**204**	P	**Pg**	**21 17 13.0**	**+0.2**	
ARRO				AML	AML			
	comp=E,500µm,0.2s							
ARRO				AML	AML			
	comp=N,698µm,0.2s							
ARRO				AML	AML			
	comp=N,698µm,0.2s							
ARRO				AML	AML			
	comp=E,500µm,0.2s							
SSFR	**Montelago di S**	**0.48**	**340**	P	**Pg**	**21 17 13.1**	**-0.4**	
SSFR				S	**Sb**	**21 17 21.7**	**-0.9**	
SSFR				AML	AML			
	comp=N,2395µm,1.1s							
SSFR				AML	AML			
	comp=N,3130µm,0.2s							
SSFR				AML	AML			
	comp=E,5535µm,0.2s							
SSFR				AML	AML			
	comp=E,5735µm,0.2s							
SSFR				AML	AML			
	comp=N,2395µm,0.9s							
SSFR				AML	AML			
	comp=E,5538µm,0.2s							
SSFR				AML	AML			
	comp=E,5736µm,0.2s							
SSFR				AML	AML			
	comp=N,2389µm,0.2s							
SSFR				AML	AML			
	comp=N,3134µm,0.2s							
CESX	**Cesi**	**0.49**	**220**	P	**Pg**	**21 17 13.7**	**-0.1**	
CESX				S	**Sb**	**21 17 21.6**	**-1.2**	
CESX				AML	AML			
	comp=N,1056µm,0.5s							
CESX				AML	AML			
	comp=E,908µm,0.4s							
CESX				AML	AML			
	comp=E,908µm,1.6s							
CESX				AML	AML			
	comp=E,908µm,0.4s							
CESX				AML	AML			
	comp=N,1056µm,0.5s							
OFFI	**Offida**	**0.50**	**96**	P	**Pb**	**21 17 14.8**	**-0.6**	
RM33	**Pellescritta (**	**0.50**	**163**	P	**Pb**	**21 17 14.9**	**-0.6**	
RM33				AML	AML			
	comp=E,500µm,1.4s							
RM33				AML	AML			
	comp=N,350µm,0.4s							
RM33				AML	AML			
	comp=E,418µm,0.8s							
RM33				AML	AML			
	comp=N,322µm,0.3s							
RM33				AML	AML			
	comp=E,500µm,1.4s							
RM33				AML	AML			
	comp=E,500µm,0.6s							
RM33				AML	AML			
	comp=E,418µm,1.2s							
RM33				AML	AML			
	comp=N,321µm,0.3s							
RM33				AML	AML			
	comp=E,448µm,0.8s							
RM33				AML	AML			
	comp=N,350µm,0.3s							
RM33				AML	AML			
	comp=E,418µm,0.8s							
ARVD	**Arcevia**	**0.52**	**354**	P	**Pg**	**21 17 13.7**	**-0.5**	
ARVD				S	**Sb**	**21 17 22.4**	**-1.1**	
ARVD				AML	AML			
	comp=E,1525µm,0.8s							
ARVD				AML	AML			
	comp=N,728µm,0.3s							
ARVD				AML	AML			
	comp=E,1525µm,1.2s							
ARVD				AML	AML			
	comp=E,1229µm,0.2s							
ARVD				AML	AML			
	comp=N,729µm,0.3s							
CAMP	**Campotosto**	**0.54**	**147**	P	**Pg**	**21 17 14.3**	**-0.3**	
CAMP				AML	AML			
	comp=E,190µm,1.2s							
CAMP				AML	AML			
	comp=N,167µm,0.9s							
CAMP				AML	AML			
	comp=E,171µm,0.7s							
CAMP				AML	AML			
	comp=N,160µm,1.1s							
TERO	**Teramo**	**0.57**	**130**	P	**Pg**	**21 17 15.2**	**0.0**	
TERO				AML	AML			
	comp=N,340µm,0.3s							
TERO				AML	AML			
	comp=E,256µm,1.3s							
TERO				AML	AML			
	comp=E,256µm,0.7s							
TERO				AML	AML			
	comp=N,167µm,0.4s							
TERO				AML	AML			
	comp=N,242µm,0.6s							
TERO				AML	AML			
	comp=E,186µm,0.7s							
TERO				AML	AML			
	comp=E,246µm,0.1s							
FRON	**Frontone**	**0.57**	**339**	P	**Pg**	**21 17 14.6**	**-0.7**	
FRON				AML	AML			
	comp=E,683µm,0.7s							
FRON				AML	AML			
	comp=N,1170µm,0.5s							
FRON				AML	AML			
	comp=N,1143µm,0.3s							
FRON				AML	AML			
	comp=E,671µm,0.2s							
ATVO	**AVT- Monte Val**	**0.59**	**312**	P	**Pg**	**21 17 15.0**	**-0.7**	
ATVO				AML	AML			
	comp=N,266µm,0.4s							
ATVO				AML	AML			
	comp=E,324µm,0.3s							
ATVO				AML	AML			
	comp=N,267µm,0.5s							
ATVO				AML	AML			
	comp=E,323µm,0.3s							
ATPI	**Pietralunga -**	**0.64**	**316**	P	**Pg**	**21 17 16.0**	**-0.7**	
ATPI				AML	AML			
	comp=E,306µm,1.4s							
ATPI				AML	AML			
	comp=N,218µm,1.4s							
ATPI				AML	AML			
	comp=N,218µm,0.6s							
ATPI				AML	AML			
	comp=E,306µm,0.6s							
ATPI				AML	AML			
	comp=E,280µm,0.3s							
ATPI				AML	AML			
	comp=N,217µm,0.5s							
COR1	**Corinaldo**	**0.65**	**359**	P	**Pb**	**21 17 17.0**	**-0.9**	
COR1				AML	AML			
	comp=N,1086µm,0.3s							
COR1				AML	AML			
	comp=E,887µm,0.3s							
COR1				AML	AML			
	comp=E,2105µm,0.6s							
ATMI	**Monte Miggiano**	**0.65**	**303**	P	**Pb**	**21 17 17.3**	**-0.7**	
ATMI				AML	AML			
	comp=E,527µm,0.4s							
ATMI				AML	AML			
	comp=N,816µm,0.4s							
ATMI				AML	AML			
	comp=N,815µm,0.4s							
ATMI				AML	AML			
	comp=E,527µm,0.4s							
PIEI	**Pieia**	**0.65**	**328**	P	**Pg**	**21 17 15.9**	**-0.9**	
PIEI				AML	AML			
	comp=E,652µm,0.3s							
PIEI				AML	AML			
	comp=N,443µm,0.3s							
PIEI				AML	AML			
	comp=E,652µm,1.7s							
PIEI				AML	AML			
	comp=N,443µm,0.3s							
PIEI				AML	AML			
	comp=E,651µm,0.3s							
MPAG	**Monte Paganucc**	**0.67**	**344**	AML	AML			
	comp=E,752µm,0.4s							
MPAG				AML	AML			
	comp=E,752µm,1.6s							
MPAG				AML	AML			
	comp=N,596µm,0.3s							
MPAG				AML	AML			
	comp=E,752µm,0.5s							
MPAG				AML	AML			
	comp=N,598µm,0.8s							
NARO	**Abbazia di Nar**	**0.70**	**333**	P	**Pg**	**21 17 16.8**	**-0.9**	
NARO				AML	AML			
	comp=E,306µm,0.3s							
NARO				AML	AML			
	comp=N,263µm,0.2s							
NARO				AML	AML			
	comp=N,263µm,0.2s							
NARO				AML	AML			
	comp=E,306µm,0.3s							
APEC	**Apecchio**	**0.72**	**323**	P	**Pg**	**21 17 17.6**	**-0.5**	
APEC				AML	AML			
	comp=E,326µm,1.2s							
APEC				AML	AML			
	comp=N,427µm,0.4s							
APEC				AML	AML			
	comp=E,326µm,0.8s							
APEC				AML	AML			
	comp=N,427µm,0.4s							
APEC				AML	AML			
	comp=E,265µm,0.7s							
APEC				AML	AML			
	comp=E,961µm,1.5s							
BADI	**Badiali**	**0.77**	**313**	AML	AML			
	comp=N,226µm,0.9s							
BADI				AML	AML			
	comp=E,220µm,1.2s							
BADI				AML	AML			
	comp=N,226µm,1.1s							
PARC	**Parchiule**	**0.87**	**320**	P	**Pg**	**21 17 20.1**	**-0.8**	
PARC				AML	AML			
	comp=E,195µm,0.3s							
PARC				AML	AML			
	comp=N,162µm,0.9s							
PARC				AML	AML			
	comp=E,195µm,0.3s							
PARC				AML	AML			
	comp=N,156µm,0.5s							
CPGN	**Carpegna, Ital**	**0.96**	**328**	P	**Pb**	**21 17 22.6**	**-0.8**	
CPGN				AML	AML			
	comp=N,240µm,1.1s							
CPGN				AML	AML			
	comp=E,326µm,1.5s							
CPGN				AML	AML			
	comp=N,233µm,1.0s							
CPGN				AML	AML			
	comp=E,243µm,0.6s							
VIRC	**Vir**	**1.98**	**48**	*e*Pn	**Pn**	**21 17 37.8**	**-0.5**	
VIRC				Sn	**Sn**	**21 18 03.3**	**0.0**	
BRJN	**Brijuni**	**1.99**	**15**	*e*Pn	**Pn**	**21 17 38.8**	**+0.3**	
ZIRJ	**Zirje**	**2.03**	**70**	*e*Pn	**Pn**	**21 17 36.5**	**-2.5**	
NVLJ	**Novalja**	**2.07**	**40**	*e*Pn	**Pb**	**21 17 40.8**	**-1.5**	
MORI	**Morici**	**2.15**	**65**	*e*Pn	**Pn**	**21 17 40.1**	**-0.6**	
RABC	**Rab**	**2.18**	**35**	*e*Pn	**Pn**	**21 17 40.8**	**-0.3**	
UDBI	**Udbina**	**2.52**	**51**	*e*Pn	**Pn**	**21 17 47.0**	**+1.2**	
UDBI				Sn	**Sn**	**21 18 17.4**	**+0.6**	
HVAR	**Hvar**	**2.52**	**84**	*e*Pn	**Pn**	**21 17 42.8**	**-3.0**	
KIJV	**Kijevo**	**2.67**	**66**	*e*Pn	**Pn**	**21 17 48.3**	**+0.5**	
ABTA	**Abfaltersbach**	**3.78**	**355**	*i* Pn	**Pn**	**21 18 04.2**	**+1.1**	
	comp=E,2.2nm,0.4s							
ABTA				*e*Sn	**Sn**	**21 18 48.5**	**+0.6**	
	comp=E,3.8nm,0.7s							
SOKA	**Soboth**	**3.96**	**21**	*i* Pn	**Pn**	**21 18 07.1**	**+1.4**	
	comp=E,0.7nm,0.3s							
SOKA				*i* Sn	**Sn**	**21 18 51.4**	**-1.1**	
	comp=E,0.4nm,0.3s							
KBA	**Koelnbreinsper**	**4.10**	**3**	*i* Pn	**Pn**	**21 18 09.3**	**+1.7**	
	comp=E,0.3nm,0.3s							
KBA				*i* Sn	**Sn**	**21 18 56.6**	**+0.7**	
	comp=E,1.1nm,0.3s							
FETA	**Feichten**	**4.35**	**339**	*e*Pn	**Pn**	**21 18 13.6**	**+2.6**	
	comp=E,0.8nm,0.3s							
WTTA	**Wattenberg**	**4.39**	**348**	*i* Pn	**Pn**	**21 18 13.9**	**+2.3**	
	comp=E,0.7nm,0.3s							
WTTA				*i* Sn	**Sn**	**21 19 05.9**	**+2.9**	
	comp=E,3.3nm,0.8s							
SQTA	**Sankt Quirin**	**4.42**	**344**	*i* Pn	**Pn**	**21 18 14.0**	**+2.0**	
	comp=E,1.1nm,0.2s							
SQTA				*i* Sn	**Sn**	**21 19 04.4**	**+0.5**	
	comp=E,1.6nm,0.3s							
LESA	**Schwarzleotal**	**4.45**	**357**	*i* Pn	**Pn**	**21 18 12.0**	**-0.2**	
	comp=E,0.8nm,0.3s							
LESA				*i* Sn	**Sn**	**21 19 06.0**	**+1.7**	
	comp=E,2.2nm,0.3s							
WATA	**Walderalm**	**4.47**	**347**	*i* Pn	**Pn**	**21 18 13.9**	**+1.3**	
	comp=E,1.3nm,0.4s							
WATA				*e*Sn	**Sn**	**21 19 07.6**	**+2.6**	
	comp=E,1.1nm,0.3s							
MOTA	**Moosalm**	**4.56**	**343**	*i* Pn	**Pn**	**21 18 16.5**	**+2.6**	
	comp=E,0.9nm,0.3s							
MOTA				*e*Sn	**Sn**	**21 19 10.0**	**+2.6**	
	comp=E,2.8nm,0.7s							
BIOA	**Bad Ischl, Aus**	**4.73**	**5**	*i* Pn	**Pn**	**21 18 18.4**	**+2.3**	
	comp=E,2.0nm,0.3s							

IDC ***19*** *21:48:24.8±2.1, 48°.89N×152°.60E, h197km±19km, mb3.2/12, mbtmp3.7/15, Error ellipse: s-maj=18.8km s-min=11.9km az=163.0*

ISC 19 21:48:25.2±0.8, 48°.9N±0°.1×152°.6E±0°.1, h200km, n22, σ0°69/17, mb3.4/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.26**	**36**	P		**Pn**	**21 49 42.9**	**+0.1**
	3.6nm,0.6s,baz=202,slow=12,SNR=6.0							
PETK				S		**Sn**	**21 50 43.8**	**-0.3**
	2.7nm,0.8s,baz=131,slow=16,SNR=2.0							
KLR	**Kul'dur**	**13.68**	**279**	P		**Pn**	**21 51 31.6**	**+0.6**
	1.7nm,0.5s,baz=88,slow=12,SNR=11							
SEY	**Seymchan**	**14.03**	**360**	P		**P**	**21 51 36.6**	**-0.3**
	1.4nm,0.5s,baz=180,slow=7.7,SNR=5.8							
KSRS	**Korea Array**	**21.25**	**247**	P		**P**	**21 52 57.0**	**+1.2**
	0.7nm,0.4s,baz=46,slow=10,SNR=1.7							
	0.7nm,0.4s							
SONM	**Songino Array**	**30.36**	**286**	P		**P**	**21 54 18.2**	**0.0**
	0.4nm,0.8s,baz=92,slow=7.2,SNR=2.5							
	0.4nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**31.32**	**153**	T		T	22 26 45.3	
	baz=343							
H11N1	**WAKE ISLAND Hy**	**31.34**	**153**	T		T	22 26 38.0	
	baz=343							
H11N3	**WAKE ISLAND Hy**	**31.34**	**153**	T		T	22 26 37.6	
	baz=343							
H11S1	**WAKE ISLAND Hy**	**32.42**	**155**	T		T	22 28 08.4	
	baz=344,slow=76,SNR=8.3							
H11S3	**WAKE ISLAND Hy**	**32.43**	**155**	T		T	22 28 05.5	
	baz=344,slow=76,SNR=3.3							
H11S2	**WAKE ISLAND Hy**	**32.44**	**155**	T		T	22 28 12.0	
	baz=344,slow=76,SNR=3.0							
ILAR	**Eielson Array**	**35.07**	**40**	P		**P**	**21 54 59.4**	**+0.7**
	0.3nm,0.5s,baz=258,slow=5.2,SNR=5.3							
	0.3nm,0.5s							
MKAR	**Makanchi Array**	**45.67**	**295**	P		**P**	**21 56 25.7**	**-0.1**
	0.5nm,0.6s,baz=49,slow=3.7,SNR=8.3							
	0.5nm,0.6s							
KURBB	**Kurchatov Arra**	**46.00**	**302**	P		**P**	**21 56 28.1**	**-0.1**
	1.3nm,0.6s,baz=69,slow=8.4,SNR=23							
	1.3nm,0.6s							
BVAR	**Borovoye Array**	**49.23**	**308**	P		**P**	**21 56 52.4**	**-0.6**
	0.7nm,0.5s,baz=50,slow=7.2,SNR=5.6							
	0.7nm,0.5s							
NVAR	**Mina Array Bea**	**61.72**	**63**	P		**P**	**21 58 23.1**	**+0.7**
	0.4nm,0.5s,baz=310,slow=7.7,SNR=0.7							
	0.4nm,0.5s							
FINES	**FINESS Array B**	**61.92**	**334**	P		**P**	**21 58 22.2**	**-0.8**
	3.3nm,1.0s,baz=39,slow=7.2,SNR=7.2							
	3.3nm,1.0s							
PDAR	**Pinedale Array**	**63.73**	**54**	P		**P**	**21 58 35.5**	**-0.1**
	0.3nm,0.8s,baz=264,slow=0.8,SNR=3.9							
	0.3nm,0.8s							
WRA	**Warramunga Arr**	**70.48**	**198**	P		**P**	**21 59 16.7**	**-1.2**
	1.0nm,0.9s,baz=16,slow=6.6,SNR=6.0							
	1.0nm,0.9s							
ASAR	**Alice Springs**	**74.19**	**198**	P		**P**	**21 59 39.0**	**-0.8**
	0.4nm,0.7s,baz=17,slow=5.4,SNR=5.7							
	0.4nm,0.7s							
TXAR	**Lajitas Array**	**76.70**	**61**	P		**P**	**21 59 54.8**	**+0.5**
	0.5nm,0.4s,baz=295,slow=5.3,SNR=11							
	0.5nm,0.4s							
PLCA	**Paso Flores**	**148.66**	**91**	PKPbc		**PKPbc**	**22 07 48.0**	**-0.2**
	1.4nm,0.9s,baz=292,slow=3.4,SNR=5.5							

GUC 19 21:53:25.1±0.5, 37°.65S×73°.14W, h50km±7km, ML3.6, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BI05	**Punta Hualpn**	**0.90**	**358**	*e*P		Pn	21 53 41.4	0.0
BI05				*i* S		Sn	21 53 53.3	-0.1
BI05				IAML			21 53 56.0	
	comp=E,2µm,0.2s							
BI04	**Isla Mocha**	**0.96**	**217**	*e*P		Pn	21 53 42.3	0.0
BI04				*i* S		Sn	21 53 55.0	0.0
LC02	**Puerto Saavedr**	**1.16**	**189**	*e*P		Pn	21 53 45.9	+0.9
LC02				IAML			21 54 11.2	
	comp=N,4µm,0.2s							
BI02	**San Fabin de**	**1.79**	**57**	*e*P		Pn	21 53 53.8	+0.2
BI02				*i* S		Sn	21 54 15.2	0.0
BI02				IAML			21 54 18.9	
ML02	**Panimavida**	**2.33**	**37**	*e*P		Pn	21 54 01.4	+0.3
ML02				*i* S		Sn	21 54 28.9	+0.4
ML02				IAML			21 54 41.9	
	comp=N,407nm,0.5s							
GO06	**Curarrehue**	**2.34**	**146**	*e*P		Pn	21 54 03.8	+2.6
GO05	**Huala**	**2.81**	**21**	*e*P		Pn	21 54 07.6	0.0
GO05				IAML			21 54 55.4	
	comp=N,154nm,0.6s							
BO02	**Sierra Bellavi**	**3.43**	**35⇑**	*e*P		Pn	21 54 16.2	+0.1
BO02				*i* S		Sn	21 54 55.2	-0.3
BO01	**Tunca**	**3.65**	**28**	*e*P		Pn	21 54 18.5	-0.6
BO01				*i* S		Sn	21 54 57.9	-3.0
BO01				IAML			21 55 17.5	
	comp=E,59nm,0.3s							
MT01	**Popeta**	**4.07**	**23**	*e*P		Pn	21 54 23.4	-1.5
MT01				*i* S		Sn	21 55 08.4	-2.9
BO04	**La Punta**	**4.19**	**30**	*e*P		Pn	21 54 26.0	-0.5
BO04				*i* S		Sn	21 55 13.4	-0.8
MT09	**Talagante**	**4.24**	**25**	*e*P		Pn	21 54 26.6	-0.7
MT09				*i* S		Sn	21 55 14.7	-0.9
LMEL	**Las Melosas**	**4.48**	**33**	*e*P		Pn	21 54 31.6	+1.0
LMEL				*e*S		Sn	21 55 26.1	+4.6

DJA ***19*** *21:53:21.6±1.1, 7°.N±4°.9×9°.4E±1°.0, h183km±15km, M4.6/12, mB5.0/4, mb4.5/12, MLv4.7/11, Mw(mB)4.3/4*

NEIC ***19*** *21:53:30.2±2.8, 6°.9N±0°.1×94°.1E±0°.1, h90km±10km, mb4.3/13, Error ellipse: s-maj=17.0km s-min=13.2km az=214.0*

IDC ***19*** *21:53:30.9±4.3, 6°.80N×94°.06E, h95km±40km, mb3.5/8, mbtmp3.8/10, Error ellipse: s-maj=34.5km s-min=15.7km az=53.0*

ISC 19 21:53:31.1±0.5, 6°.85N±0°.05×94°.06E±0°.06, h100km, n58, σ2s19/52, mb4.2/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.29**	**119**	P	**Pn**	**21 54 20.1**	**-0.8**
LHMI	**Lhok Sumawe**	**3.29**	**119**		**Pn**	**21 54 19.9**	**-0.9**
LHMI	**Lhok Sumawe**	**3.29**	**119**	P	**Pn**	**21 54 20.0**	**-0.8**
LHMI				S	Sn	21 55 06.9	+7.7
MLSI	**Meulaboh, Aceh**	**3.47**	**138**	P	**Pn**	**21 54 22.0**	**-1.2**
MLSI				S	**Sn**	**21 55 09.3**	**+5.9**
PBA	**Port Blair**	**4.95**	**345**	*e*P	**Pn**	**21 54 42.2**	**-1.0**
PBA				*e*S	**Sn**	**21 55 35.0**	**-4.4**
SNSI	**Sinabang, Aceh** 127nm,0.6s,3μm0.6nm	**4.95**	**153**	P	Pn	21 54 39.3	-4.0
SNSI	127nm,0.6s,3μm0.6nm			S	**Sn**	**21 55 41.1**	**+1.7**
KCSI	**Kotacane, Aceh** 92nm,0.7s,1μm0.4nm	**4.96**	**132**	P	**Pn**	**21 54 41.4**	**-1.9**
KCSI	92nm,0.7s,1μm0.4nm			S	**Sn**	**21 55 44.3**	**+4.8**
SRIT	**Nakonsritamara**	**5.76**	**72**	P	**Pn**	**21 54 52.4**	**-1.9**
SRIT	**Nakonsritamara**	**5.76**	**72**		**Pn**	**21 54 51.3**	**-3.0**
SURA	**Surathani**	**5.98**	**67**	P	**Pn**	**21 54 55.1**	**-2.1**
DGPR	**DIGLIPUR**	**6.39**	**350**	*e*P	**Pn**	**21 55 00.1**	**-2.6**
DGPR				*e*S	**Sn**	**21 56 08.5**	**-5.8**
SKLT	**Songkhla**	**6.52**	**87**	P	**Pn**	**21 55 03.2**	**-1.4**
GSI	**Gunungsitoli**	**6.53**	**147**	P	**Pn**	**21 55 01.9**	**-2.8**
GSI	**Gunungsitoli**	**6.53**	**147**	Pn	**Pn**	**21 55 01.6**	**-3.1**
GSI	**Gunungsitoli** 19nm,0.5s,0.1nm	**6.53**	**147**	P	Pn	21 55 01.1	-3.6
KULM	**Kulim**	**6.74**	**103**	Pn	Pn	21 55 03.8	-3.6
IPM	**Ipoh**	**7.32**	**108**	Pn	**Pn**	**21 55 13.2**	**-2.3**
PBSI	**Pulau Batu** 299nm,1.7s	**8.04**	**148**	P	Pn	21 55 19.6	-5.7
SRDT	**SRDT**	**8.96**	**33**	P	**Pn**	**21 55 37.8**	**0.0**
BKNI	**Bangkinang**	**9.51**	**133**	P	Pn	21 55 40.9	-4.4
SISI	**Saibi** 40nm,1.1s	**9.54**	**148**	P	Pn	21 55 40.3	-5.4
MYKOM	**Kota Tinggi**	**10.98**	**117**	Pn	**Pn**	**21 56 02.7**	**-2.6**
CMAR	**Chiang Mai Arr** 0.4nm,0.6s,baz=213,slow=15,SNR=5.1	**12.48**	**22**	P	**Pn**	**21 56 27.3**	**+2.0**
PALK	**Pallekele**	**13.26**	**273**	Pn	**Pn**	**21 56 35.8**	**+0.1**
PALK	**Pallekele** 2.5nm,0.3s,baz=191,slow=12,SNR=12	**13.26**	**273**	P	**Pn**	**21 56 36.2**	**+0.6**
PALK	8.9nm,0.2s,baz=300,slow=16,SNR=13			S	Sn	21 58 47.4	-14
UBPT	**Khong Chiam**	**13.98**	**52**		**Pn**	**21 56 45.3**	**+0.4**
VIS	**Vishakhapatnam**	**15.05**	**317**	*e*P	**Pn**	**21 56 58.1**	**-0.5**
SAIH	**SAIHA**	**15.59**	**356**	*e*P	**Pn**	**21 57 03.0**	**-2.4**
SAIH	comp=Z,5.6nm,0.3s			IAmb	IAmb	21 57 26.0	
IMP	**Imphal**	**17.89**	**360**	*e*P	**Pn**	**21 57 36.5**	**+2.8**
H08S3	**Diego Garcia H** baz=55,slow=76,SNR=52	**25.88**	**237**	T	T	22 25 30.1	
H08S2	**Diego Garcia H** baz=55,slow=76,SNR=66	**25.88**	**237**	T	T	22 25 36.1	
H08S1	**Diego Carcia H** baz=55,slow=76,SNR=59	**25.89**	**237**	T	T	22 25 31.4	
DRK	**Karamyk**	**38.17**	**332**	P	**P**	**22 00 42.6**	**+1.4**
DRK	comp=Z,5.7nm,0.7s			IAmb	IAmb	22 00 43.1	
MK31	**Makanchi Array**	**41.07**	**348**	P	**P**	**22 01 04.9**	**0.0**
MKAR	**Makanchi Array**	**41.07**	**348**	P	**P**	**22 01 04.2**	**-0.7**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.5s,baz=174,slow=7.8,SNR=5.9	**41.07**	**348**	P	**P**	**22 01 05.0**	**+0.1**
	comp=Z,0.3nm,0.5s						
MAKZ	**Makanchi**	**41.15**	**347**	P	**P**	**22 01 05.7**	**+0.2**
KK31	**Karatay Array**	**41.64**	**334**	P	**P**	**22 01 06.9**	**-2.8**
KKAR	**Karatay Array**	**41.64**	**334**	P	**P**	**22 01 07.0**	**-2.6**
SONM	**Songino Array** comp=Z,0.3nm,0.6s,baz=200,slow=8.6,SNR=4.3	**42.18**	**12**	P	**P**	**22 01 14.0**	**-0.1**
	comp=Z,0.3nm,0.6s						
GEYT	**Alibeck**	**44.91**	**319**	P	**P**	**22 01 38.0**	**+2.0**
GEYT	comp=Z,2.1nm,0.8s			IAmb	IAmb	22 02 06.1	
GEYT	**Alibeck** comp=Z,0.8nm,0.4s,baz=159,slow=9.1,SNR=5.1	**44.91**	**319**	P	**P**	**22 01 35.2**	**-0.8**
	comp=Z,0.8nm,0.4s						
GYA0B	**ALIBECK ARRAY**	**44.91**	**319**	P	**P**	**22 01 38.1**	**+2.0**
GYA0B	comp=Z,3.0nm,0.8s			IAmb	IAmb	22 02 07.7	
KURBB	**Kurchatov Arra** comp=Z,0.5nm,0.7s,baz=169,slow=7.2,SNR=6.2	**45.52**	**346**	P	**P**	**22 01 41.0**	**+0.4**
	comp=Z,0.5nm,0.7s						
WB0	**Warramunga Arr**	**47.70**	**124**	P	**P**	**22 01 57.6**	**-0.5**
WB0	comp=Z,3.2nm,0.5s			IAmb	IAmb	22 02 00.9	
WRA	**Warramunga Arr**	**47.74**	**125**	P	**P**	**22 01 56.7**	**-1.7**
WRA	**Warramunga Arr** comp=Z,0.5nm,0.3s,baz=305,slow=8.5,SNR=15	**47.74**	**125**	P	**P**	**22 01 57.5**	**-0.9**
	comp=Z,0.5nm,0.3s						
WB2	**Warramunga Arr**	**47.75**	**125**	P	**P**	**22 01 57.7**	**-0.8**
WB2	comp=Z,5.2nm,1.1s			IAmb	IAmb	22 02 00.9	
ASAR	**Alice Springs** comp=Z,0.4nm,0.3s,baz=302,slow=7.8,SNR=10	**49.33**	**129**	P	**P**	**22 02 10.8**	**+0.2**
ASAR				PcP	**PcP**	**22 03 33.2**	**+1.3**
	comp=Z,0.2nm,0.7s,baz=328,slow=3.3,SNR=1.7						
	comp=Z,0.4nm,0.3s						
ABKAR	**Akbulak array**	**51.09**	**332**	P	**P**	**22 02 21.9**	**-1.5**
ARU	**Arti**	**56.80**	**337**	P	**P**	**22 03 05.8**	**+0.9**
ARU	comp=Z,4.7nm,1.2s			IAmb	IAmb	22 03 14.2	
H04N2	**CROZET ISLANDS** baz=48,slow=75,SNR=66	**64.81**	**211**	T	T	23 14 24.8	
H04N1	**CROZET ISLANDS** baz=48,slow=75,SNR=73	**64.82**	**211**	T	T	23 14 34.3	
H04N3	**CROZET ISLANDS** baz=48,slow=75,SNR=76	**64.83**	**211**	T	T	23 14 32.2	
TIXI	**Tiksi**	**68.25**	**11**	P	**P**	**22 04 20.1**	**-0.6**
TIXI	comp=Z,3.2nm,0.6s			IAmb	IAmb	22 04 20.9	
FINES	**FINESS Array B** comp=Z,1.0nm,0.8s,baz=116,slow=6.3,SNR=4.1	**73.58**	**332**	P	**P**	**22 04 54.6**	**+1.5**
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B** comp=Z,5.3nm,1.0s,baz=93,slow=6.1,SNR=1.9	**76.20**	**340**	P	**P**	**22 05 08.9**	**+0.8**
	comp=Z,5.3nm,1.0s						
SPITS	**Spitsbergen Ar** comp=Z,19nm,1.0s,baz=106,slow=8.8,SNR=16	**80.82**	**348**	P	**P**	**22 05 34.4**	**+0.9**

*NNC **19** 22:41:00.6±0.3,43.°00N×77.°53E,h0km,mb2.2,mpv3.2,*
Error ellipse: s-maj=3.0km s-min=1.1km az=179.0
*SOME **19** 22:41:01.3,42.°97N×77.°50E,h15km*
*KRNET **19** 22:41:01.1±0.1,42.°95N×77.°46E,h12km,mb2.3*
ISC 19 22:41:00.9±0.9,42.°98N±0.°02×77.°49E±0.°01,h9km±8km,
n61,σ1§47/117,21C-12D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANVS	**Anan'yevo** baz=36	**0.24**	**146**	⇑*i*P	**Pg**	**22 41 05.3**	**-0.4**
ANVS	baz=36			⇑*i*S	**Sg**	**22 41 08.5**	**-0.5**
MDOK	**Medeo** 6.9nm,0.1s	**0.37**	**300**	*e*P	**Pg**	**22 41 08.6**	**+0.4**
MDOK	45nm,0.1s			*e*S	**Sg**	**22 41 13.9**	**+0.8**
MDOK	**Medeo** 0.8nm,0.2s	**0.37**	**300**	P	**Pg**	**22 41 08.5**	**+0.4**
MDOK	6.9nm,0.1s			Pg	**Pg**	**22 41 08.6**	**+0.4**
MDOK	45nm,0.1s			Lg	Lg	22 41 13.9	
MDOK	7.6nm,0.3s			⇑S	**Sg**	**22 41 14.1**	**+0.9**
KOTS	**Kotyrbulak** 11nm,0.1s	**0.37**	**313**	*e*P	**Pg**	**22 41 08.7**	**+0.4**
KOTS	42nm,0.1s			*e*S	**Sg**	**22 41 14.2**	**+0.9**
KOTS	**Kotyrbulak** 11nm,0.1s	**0.37**	**313**	P	**Pg**	**22 41 08.7**	**+0.4**
KOTS	42nm,0.1s			S	**Sg**	**22 41 14.2**	**+0.9**
KOTS	**Kotyrbulak** baz=19	**0.37**	**313**	*e*P	**Pg**	**22 41 08.7**	**+0.4**
KOTS	baz=19			*e*S	**Sg**	**22 41 14.2**	**+0.9**
TNSS	**Tian-Shan** 15nm,0.1s	**0.40**	**278**	*e*P	**Pg**	**22 41 09.3**	**+0.5**
TNSS	17nm,0.1s			*e*S	**Sg**	**22 41 15.1**	**+1.0**
TNSS	**Tian-Shan** 15nm,0.1s	**0.40**	**278**	P	**Pg**	**22 41 09.3**	**+0.5**
TNSS	17nm,0.1s			S	**Sg**	**22 41 15.1**	**+1.0**
KNDC	**Almaty**	**0.45**	**302**	⇑P	**Pb**	**22 41 11.3**	**+0.3**
KNDC	3.3nm,0.3s			⇑S	**Sg**	**22 41 17.1**	**+1.5**
IZV	**Izvestkoviy** 5.1nm,0.1s	**0.64**	**275**	*e*P	**Pg**	**22 41 13.8**	**+0.5**
IZV	38nm,0.1s			*e*S	**Sg**	**22 41 22.9**	**+1.1**
IZV	**Izvestkoviy** 5.1nm,0.1s	**0.64**	**275**	P	**Pg**	**22 41 13.9**	**+0.5**
IZV	38nm,0.1s			S	**Sg**	**22 41 22.9**	**+1.1**
IZV	**Izvestkoviy** baz=79	**0.64**	**275**	*e*P	**Pg**	**22 41 13.9**	**+0.5**
IZV	baz=79			*e*S	**Sg**	**22 41 22.9**	**+1.1**
SATY	**Saty** 15nm,0.0s	**0.68**	**83**	*e*P	**Pg**	**22 41 13.7**	**-0.3**
SATY	74nm,0.1s			*e*S	**Sg**	**22 41 22.5**	**-0.3**
SATY	**Saty** 15nm,0.0s	**0.68**	**83**	P	**Pg**	**22 41 13.7**	**-0.3**
SATY	74nm,0.1s			S	**Sg**	**22 41 22.5**	**-0.3**
KURS	**Kuram** 2.6nm,0.1s	**0.71**	**44**	*e*P	**Pg**	**22 41 13.9**	**-0.7**
KURS	3.7nm,0.1s			*e*S	**Sg**	**22 41 22.9**	**-1.0**
KURS	**Kuram** 2.6nm,0.1s	**0.71**	**44**	P	**Pg**	**22 41 13.9**	**-0.7**
KURS	3.7nm,0.1s			S	**Sg**	**22 41 22.9**	**-1.0**
ZHN	**Zhinishke** 12nm,0.1s	**0.72**	**75**	*e*P	**Pg**	**22 41 14.0**	**-0.7**
ZHN	61nm,0.1s			*e*S	**Sg**	**22 41 23.1**	**-1.0**
ZHN	**Zhinishke** 12nm,0.1s	**0.72**	**75**	P	**Pg**	**22 41 14.0**	**-0.7**
ZHN	61nm,0.1s			S	**Sg**	**22 41 23.1**	**-1.0**
MTBS	**Maitube** 7.0nm,0.1s	**0.79**	**281**	*e*P	**Pg**	**22 41 16.3**	**+0.2**
MTBS	25nm,0.2s			*e*S	**Sg**	**22 41 27.1**	**+0.7**
MTBS	**Maitube** 7.0nm,0.1s	**0.79**	**281**	P	**Pg**	**22 41 16.3**	**+0.2**
MTBS	25nm,0.2s			S	**Sg**	**22 41 27.1**	**+0.7**
MTBS	**Maitube** baz=84	**0.79**	**281**	*e*P	**Pg**	**22 41 16.3**	**+0.2**
MTBS	baz=84			*e*S	**Sg**	**22 41 27.1**	**+0.7**
PRZ	**Przheval'sk** baz=22	**0.84**	**126**	⇑*i*P	**Pg**	**22 41 17.1**	**+0.1**
PRZ	baz=22			⇑*i*S	**Sb**	**22 41 28.6**	**-0.5**
KDJ	**Kajisay** baz=94	**0.88**	**195**	⇓*i*P	**Pg**	**22 41 17.4**	**-0.4**
KDJ	baz=94			⇓*i*S	**Sg**	**22 41 29.2**	**-0.1**
KTBS	**Karatobe** 10nm,0.1s	**0.94**	**321**	*e*P	**Pg**	**22 41 18.8**	**-0.1**
KTBS	7.3nm,0.2s			*e*S	**Sg**	**22 41 31.3**	**+0.2**
KTBS	**Karatobe** 10nm,0.1s	**0.94**	**321**	P	**Pg**	**22 41 18.8**	**-0.1**
KTBS	7.3nm,0.2s			S	**Sg**	**22 41 31.3**	**+0.2**
CHKK	**Chushkaly** 4.5nm,0.1s	**0.95**	**338**	*e*P	**Pg**	**22 41 18.8**	**-0.3**
CHKK	14nm,0.1s			*e*S	**Sg**	**22 41 31.3**	**-0.1**
CHKK	**Chushkaly** 4.5nm,0.1s	**0.95**	**338**	P	**Pg**	**22 41 18.8**	**-0.3**
CHKK	14nm,0.1s			S	**Sg**	**22 41 31.3**	**-0.1**
KST	**Kastek** 1.9nm,0.1s	**1.12**	**274**	*e*P	**Pb**	**22 41 22.3**	**-0.2**
KST	6.0nm,0.2s			*e*S	**Sb**	**22 41 37.4**	**+0.2**
KST	**Kastek** 1.9nm,0.1s	**1.12**	**274**	P	**Pb**	**22 41 22.3**	**-0.2**
KST	6.0nm,0.2s			S	**Sb**	**22 41 37.4**	**+0.2**
KST	**Kastek** baz=76	**1.12**	**274**	*e*P	**Pb**	**22 41 22.3**	**-0.2**
KST	baz=76			*e*S	**Sb**	**22 41 37.4**	**+0.2**
UZB	**Uzunbulak** 17nm,0.2s	**1.14**	**81**	*e*P	**Pb**	**22 41 21.5**	**-1.3**
UZB	25nm,0.0s			*e*S	**Sb**	**22 41 35.9**	**-1.8**
UZB	**Uzunbulak** 17nm,0.2s	**1.14**	**81**	P	**Pb**	**22 41 21.5**	**-1.3**
UZB	25nm,0.0s			S	**Sb**	**22 41 35.9**	**-1.8**
ULHL	**Ulahol** baz=33	**1.18**	**232**	⇑*i*P	**Pb**	**22 41 22.9**	**-0.6**
ULHL	baz=33			⇑*i*S	**Sb**	**22 41 38.8**	**-0.1**
ARXS	**Arharly** 1.4nm,0.1s	**1.26**	**11**	*e*P	**Pn**	**22 41 24.0**	**-0.7**
ARXS	20nm,0.1s			*e*S	**Sb**	**22 41 40.2**	**-0.9**
ARXS	**Arharly** 1.4nm,0.1s	**1.26**	**11**	P	**Pn**	**22 41 24.0**	**-0.7**
ARXS	20nm,0.1s			S	**Sb**	**22 41 40.2**	**-0.9**
DGS	**Degeres** 2.3nm,0.1s	**1.28**	**282**	*e*P	**Pb**	**22 41 25.3**	**+0.1**
DGS	7.9nm,0.2s			*e*S	**Sn**	**22 41 42.5**	**0.0**
DGS	**Degeres** 2.3nm,0.1s	**1.28**	**282**	P	**Pb**	**22 41 25.3**	**+0.1**
DGS	7.9nm,0.2s			S	**Sn**	**22 41 42.5**	**0.0**
DGS	**Degeres** baz=84	**1.28**	**282**	*e*P	**Pb**	**22 41 25.3**	**+0.1**
DGS	baz=84			*e*S	**Sn**	**22 41 42.5**	**0.0**
BLB	**Baldybastay** 8.9nm,0.1s	**1.33**	**32**	P	**Pn**	**22 41 25.3**	**-0.4**
BLB	15nm,0.1s			S	**Sb**	**22 41 42.3**	**-0.9**
TKM2	**Tokmak 2** 0.2nm,0.2s	**1.39**	**268**	⇓P	**Pb**	**22 41 27.1**	**-0.1**
TKM2	1.1nm,0.2s			⇓S	**Sg**	**22 41 46.1**	**+0.5**
TKM2	**Tokmak 2** baz=70	**1.39**	**268**	⇓*i*P	**Pb**	**22 41 27.0**	**-0.1**
TKM2	baz=70			⇓*i*S	**Sg**	**22 41 46.0**	**+0.4**
SHLS	**Shalkode** 4.3nm,0.1s	**1.46**	**82**	*e*P	**Pg**	**22 41 33.4**	**+4.5**
SHLS	14nm,0.2s			*e*S	**Sg**	**22 41 56.4**	**+8.7**
SHLS	**Shalkode** 4.3nm,0.1s	**1.46**	**82**	P	**Pg**	**22 41 33.4**	**+4.5**
SHLS	14nm,0.2s			S	**Sg**	**22 41 56.4**	**+8.7**
KRBS	**Karabastau** 4.0nm,0.1s	**1.50**	**299**	*e*P	**Pb**	**22 41 28.9**	**0.0**
KRBS	12nm,0.2s			*e*S	**Sb**	**22 41 48.7**	**+0.5**
KRBS	**Karabastau** 4.0nm,0.1s	**1.50**	**299**	P	**Pb**	**22 41 28.9**	**0.0**
KRBS	12nm,0.2s			S	**Sb**	**22 41 48.7**	**+0.5**
PDGK	**Podgornoye** 4.1nm,0.1s	**1.51**	**76**	P	**Pn**	**22 41 27.7**	**-0.5**
PDGK	3.9nm,0.2s			S	**Sn**	**22 41 46.8**	**-1.2**
PDGK	**Podgornoye** 2.4nm,0.3s	**1.51**	**76**	⇑P	**Pn**	**22 41 27.3**	**-0.8**
PDGK	1.5nm,0.3s			⇑S	**Sn**	**22 41 46.9**	**-1.1**
KNOS	**Konyrlen** 3.5nm,0.1s	**1.84**	**41**	P	**Pb**	**22 41 34.3**	**-0.5**
KNOS	6.9nm,0.2s			S	**Sb**	**22 41 58.1**	**0.0**
KBK	**Karagaybulak** baz=62	**1.90**	**261**	⇑*i*P	**Pb**	**22 41 35.9**	**+0.1**
KBK	baz=62			⇑*i*S	**Sg**	**22 42 01.3**	**-0.5**
NRN	**Naryn** baz=17	**1.90**	**216**	⇑*i*P	**Pb**	**22 41 36.1**	**+0.2**
NRN	baz=17			⇑*i*S	**Sg**	**22 42 01.7**	**-0.3**
CHMS	**Chumysh** 1.7nm,0.3s	**2.01**	**271**	⇑Lg	Lg	22 42 05.1	
CHMS	**Chumysh** baz=72	**2.01**	**271**	⇓*i*P	**Pb**	**22 41 37.9**	**+0.3**
CHMS	baz=72			⇓*i*S	**Sg**	**22 42 04.8**	**-0.6**
KTMS	**Ketmen** 1.5nm,0.1s	**2.15**	**77**	*e*P	**Pb**	**22 41 39.8**	**-0.2**
KTMS	3.0nm,0.1s			*e*S	**Sb**	**22 42 07.3**	**+0.6**
KTMS	**Ketmen** 1.5nm,0.1s	**2.15**	**77**	Pg	**Pb**	**22 41 39.8**	**-0.2**
KTMS	3.0nm,0.1s			Lg	Lg	22 42 07.3	
DJR	**Jarkent** 1.8nm,0.1s	**2.15**	**50**	*e*P	**Pb**	**22 41 39.7**	**-0.3**
DJR	9.1nm,0.2s			*e*S	**Sb**	**22 42 07.1**	**+0.3**
DJR	**Jarkent** 1.8nm,0.1s	**2.15**	**50**	Pg	**Pb**	**22 41 39.7**	**-0.3**
DJR	9.1nm,0.2s			Lg	Lg	22 42 07.1	
USP	**Ospenovka** baz=79	**2.21**	**278**	⇑*i*P	**Pb**	**22 41 40.7**	**-0.3**
USP	baz=79			⇑*i*S	**Sb**	**22 42 10.1**	**+1.7**
AAK	**Ala-Archa** baz=63	**2.23**	**262**	⇓*i*P	**Pb**	**22 41 41.1**	**-0.3**
AAK	baz=63			⇓*i*S	**Sb**	**22 42 10.2**	**+1.0**
UCH	**Uchtor** baz=53	**2.32**	**252**	⇓*i*P	**Pb**	**22 41 42.3**	**-0.9**
UCH	baz=53			⇓*i*S	**Sb**	**22 42 12.6**	**+0.5**
ARLS	**Aral** baz=46	**2.60**	**246**	⇑*e*P	**Pb**	**22 41 46.0**	**-1.7**
ARLS	baz=46			⇑*i*S	**Sb**	**22 42 18.7**	**-1.1**
MK31	**Makanchi Array** 0.1nm,0.4s,baz=218,slow=30,SNR=4.0	**5.12**	**40**	⇑Lg	Lg	22 43 32.6	

NNC 19 22:58:37.4±4.4,36.°39N×81.°14E,h0km,mb3.8,mpv3.5,
4C-6D,Error ellipse: s-maj=44.9km s-min=34.0km
az=94.0,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye** 4.2nm,0.6s	**7.05**	**350**	⇓Pn	Pn	23 00 22.5	+0.5
PDGK	6.5nm,0.5s			Sn	Sn	23 01 46.1	+3.2
MDOK	**Medeo** 1.7nm,0.6s	**7.47**	**336**	Pn	Pn	23 00 30.4	+2.7
MDOK	2.2nm,0.5s			⇓Pg	Pb	23 00 53.9	+6.0
MDOK	6.5nm,0.7s			⇓Lg	Lg	23 02 33.9	
TKM2	**Tokmak 2** 0.5nm,0.4s	**7.80**	**328**	⇓Pn	Pn	23 00 30.2	-2.2
TKM2	1.3nm,0.6s			⇑Pg	Pb	23 00 57.9	+4.2
TKM2	2.9nm,0.7s			⇓Lg	Lg	23 02 43.6	
MAKZ	**Makanchi** 1.1nm,0.3s	**10.43**	**3**	⇓Pn	Pn	23 01 07.9	-0.4
MAKZ	2.1nm,0.7s			⇑Sn	Sn	23 03 04.1	-1.8
MK31	**Makanchi Array** 0.2nm,0.2s,baz=191,slow=15,SNR=30	**10.44**	**4**	⇑Pn	Pn	23 01 07.9	-0.4
MK31	0.4nm,0.3s,baz=194,slow=23,SNR=6.4			⇑Sn	Sn	23 03 07.2	+1.3

*ECX **19** 23:12:10.7±0.3,31.°10N×114.°24W,h20km±7km,ML3.1*
*MEX **19** 23:12:10.2±0.4,30.°96N×114.°21W,h6km±10km,MD3.4*
ISC 19 23:12:09.9±1.1,31.°07N±0.°06×114.°24W±0.°03,
h26km±16km,n13,σ1§30/21,3C-6D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.53**	**267**	*e*P	**Pb**	**23 12 20.3**	**-0.3**
SFX				*i*S	**Sb**	**23 12 28.6**	**+0.7**
SFX	**San Felipe**	**0.53**	**267**	⇓*i*P	**Pb**	**23 12 20.4**	**-0.3**
SFX				*e*S	**Sb**	**23 12 28.0**	**0.0**
SFX	comp=E,2μm,0.4s			IAML		23 12 29.3	
SFX	comp=N,980nm,0.4s			IAML		23 12 29.7	
PPXB	**Puerto Peasco**	**0.58**	**63**	⇑*e*P	**Pb**	**23 12 21.1**	**-0.5**
PPXB				*e*S	**Sb**	**23 12 29.2**	**-0.3**
PPXB	comp=E,812nm,0.6s			IAML		23 12 30.0	
PPXB				⇑*e*		23 12 30.1	
ECBX	**El Chinero**	**0.81**	**300**	⇓*e*P	**Pn**	**23 12 24.6**	**-1.0**
ECBX				*e*S	**Sb**	**23 12 35.5**	**-0.3**
ECBX				⇑*e*		23 12 37.6	
ECBX	comp=E,351nm,0.5s			IAML		23 12 37.6	
ECBX				⇓*e*		23 12 39.1	
ECBX	comp=N,337nm,0.8s			IAML		23 12 39.1	
PIX	**Pinacate**	**0.82**	**53**	⇓*e*P	**Pn**	**23 12 24.9**	**-0.9**
SPIG	**San Pedro Mart**	**1.05**	**269**	*e*P	**Pn**	**23 12 28.6**	**-0.8**
SPIG				*i*S	**Pb**	**23 12 32.4**	**+2.6**
SPIG	**San Pedro Mart**	**1.05**	**269**	*e*P	**Pn**	**23 12 28.8**	**-0.6**
SPIG				⇓*e*S	**Sb**	**23 12 43.1**	**-0.2**
SLGB	**San Luis Gonza**	**1.24**	**187**	⇓*e*P	**Pb**	**23 12 32.1**	**-0.6**
VTX	**Valle De La Tr**	**1.36**	**284**	*e*P	**Pn**	**23 12 33.5**	**+0.2**
RHX	**Rio Hardy**	**1.39**	**320**	*e*P	**Pn**	**23 12 33.1**	**-0.5**
214A	**Organ Pipe Nat**	**1.50**	**54**	*e*P	**Pn**	**23 12 34.9**	**-0.4**
214A				*e*S	**Sb**	**23 12 55.8**	**-0.2**
LAPR	**La Primavera**	**1.74**	**108**	*e*P	**Pn**	**23 12 36.6**	**-1.9**
LAPR				*e*S	**Pb**	**23 12 44.9**	**+3.6**
TJIG	**Tijuana**	**2.48**	**304**	*e*P	Pn	23 12 40.6	-8.1
TJIG				*e*S	**Pb**	**23 12 54.4**	**+0.5**

*ECX **19** 23:13:04.9±0.6,30.°97N×114.°19W,h18km±4km,ML4.0*
*GCMT **19** 23:13:05.4±0.3,31.°21N±0.°04×114.°11W±0.°02,h12km,*
MW4.8/81,Moment Tensor Solution. s12,c12; s81,c105;
Duration: 0 Moment tensor: Scale 10^16Nm; Mrr~1.14±.07;
Mθθ~0.22±.07; Mφφ 1.36±.05; Mrθ 1.25±.39; Mφθ 0.66±.05;
Mrφ~1.06±.20; Best double couple: Mo2.09900×10^16
NP1:φs342.00000°,δ70.00000°,λ-126.00000°. NP2:
φs227.00000°,δ41.00000°,λ-32.00000°. Principal axes:
T 1.7750, Plg17.0000°, Azm98.0000°; N 0.6470,
Plg34.0000°, Azm357.0000°; P -2.4240, Plg51.0000°,
Azm210.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s. Triangular
moment-rate function
*MEX **19** 23:13:05.8±0.3,31.°00N×114.°22W,h10km±8km,MD4.5*
*IDC **19** 23:13:07.7±2.1,31.°25N×113.°81W,h0km,mb3.5/3,*
mbtmp3.4/9,ML3.6/5,MS4.0/18,Error ellipse:
s-maj=40.1km s-min=12.5km az=35.0
ISC 19 23:13:03.6±1.3,30.°99N±0.°04×114.°16W±0.°03,h3km±10km,
n45,σ2§15/47,mb3.6/3,MS4.0/12,4C-8D,Gulf of
California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPXB	**Puerto Peasco**	**0.57**	**52**	*e*P	**Pb**	**23 13 16.1**	**-0.2**
SFX	**San Felipe**	**0.59**	**275**	*e*P	**Pg**	**23 13 15.2**	**+0.3**
SFX				*i*S	**Sg**	**23 13 22.9**	**+0.2**
SFX	**San Felipe**	**0.59**	**275**	*e*P	**Pg**	**23 13 15.3**	**+0.3**
SFX				*e*S	**Sg**	**23 13 23.0**	**+0.2**
SFX	comp=E,9μm,0.4s			IAML		23 13 24.5	
SFX				⇑*e*		23 13 24.5	
SFX	comp=N,5μm,0.3s			IAML		23 13 25.1	
SFX				⇓*e*		23 13 25.1	
PIX	**Pinacate**	**0.83**	**46**	*e*P	**Pb**	**23 13 20.3**	**-0.4**
PIX				*e*S	**Sg**	**23 13 31.3**	**+1.0**
PIX				⇓*e*		23 13 42.4	
PIX	comp=E,8μm,1.2s			IAML		23 13 42.4	
PIX	comp=N,6μm,1.0s			IAML		23 13 46.8	
ECBX	**El Chinero**	**0.90**	**303**	*e*P	**Pg**	**23 13 20.5**	**-0.4**
ECBX				*e*S	**Sg**	**23 13 32.9**	**+0.3**
ECBX				⇓*e*		23 14 08.3	
ECBX	comp=E,7μm,1.6s			IAML		23 14 08.3	
ECBX				IAML		23 14 09.6	

	comp=N,4µm,1.0s								
ECBX				⇓*e*			23 14 09.6		
EDOMX	**El Doctor, EDO**	**1.09**	**333**	*e*P		**Pg**	**23 13 24.0**	**-0.5**
SPIG	**San Pedro Mart**	**1.12**	**273**	*e*P		**Pg**	**23 13 23.3**	**-1.8**
SPIG				*i* S		**Pn**	**23 13 31.1**	**+4.6**
SPIG	**San Pedro Mart**	**1.12**	**273**	*e*P		**Pg**	**23 13 23.4**	**-1.8**
SLGB	**San Luis Gonza**	**1.17**	**190**	*e*P		**Pg**	**23 13 24.7**	**-1.4**
SLGB				⇓*e*			23 14 04.0		
SLGB				IAML			23 14 04.0		
	comp=N,2µm,0.7s								
SLGB				⇑*e*			23 14 12.0		
SLGB				IAML			23 14 12.0		
	comp=E,1µm,0.9s								
VTX	**Valle De La Tr**	**1.45**	**287**	*e*P		**Pn**	**23 13 28.9**	**-1.9**
VTX				*e*S		**Sb**	**23 13 48.5**	**-1.6**
VTX				⇑*e*			23 13 59.3		
VTX				IAML			23 13 59.3		
	comp=N,2µm,1.4s								
VTX				IAML			23 14 08.0		
	comp=E,1µm,1.7s								
VTX				⇓*e*			23 14 08.0		
RHX	**Rio Hardy**	**1.49**	**320**	*e*P		**Pn**	**23 13 29.5**	**-1.8**
214A	**Organ Pipe Nat**	**1.51**	**50**	*e*P		**Pn**	**23 13 29.8**	**-1.8**
214A				*e*S		**Sn**	**23 13 48.1**	**-3.6**
214A	**Organ Pipe Nat**	**1.51**	**50**	*e*P		**Pn**	**23 13 30.0**	**-1.5**
SQX	**San Quintin**	**1.53**	**255**	*e*P		**Pn**	**23 13 30.0**	**-1.9**
SQX				*e*S		**Sn**	**23 13 50.1**	**-2.2**
SQX				⇓*e*			23 13 53.8		
SQX				IAML			23 13 53.8		
	comp=N,3µm,0.5s								
LAPR	**La Primavera**	**1.66**	**107**	*e*P		**Pn**	**23 13 32.2**	**-1.4**
LAPR				*e*			23 13 41.2		
ALAMX	**Rancho Alamar**	**1.67**	**308**	*e*P		**Pn**	**23 13 32.9**	**-0.9**
ALAMX				IAML			23 14 30.4		
	comp=E,1µm,1.2s								
ALAMX				⇑*e*			23 14 30.4		
ALAMX				⇓*e*			23 14 43.5		
ALAMX				IAML			23 14 43.5		
	comp=N,1µm,1.3s								
MBIG	**Mexicali**	**1.67**	**328**	*e*P		**Pn**	**23 13 32.2**	**-1.6**
MBIG				*e*P		**Pg**	**23 13 37.1**	**+1.5**
MBIG				*e*S		**Sn**	**23 13 53.2**	**-2.5**
CBX	**Cerro Bola**	**2.51**	**302**	*e*P		**Pn**	**23 13 45.7**	**+0.3**
CBX				*i* S		**Sn**	**23 14 15.7**	**-0.9**
TUC	**Tucson**	**3.17**	**65**	*e*P		**Pn**	**23 13 53.1**	**-1.4**
PFO	**Pinyon Flats O**	**3.26**	**324**	Pn		**Pb**	**23 14 00.5**	**-1.7**
	comp=N,0.8nm,0.3s,baz=136,slow=13,SNR=4.1								
PFO				LR		LR	23 15 19.2		
	comp=N,4µm,19.4s,baz=144,slow=40								
	comp=N,8.2nm,0.4s								
HSIG		**3.41**	**124**	*e*P		**Pn**	**23 13 57.7**	**0.0**
HSIG				*e*S		**Sn**	**23 14 41.5**	**+2.9**
NZIG	**Nacozari, Sono**	**4.02**	**98**	*e*P		**Pn**	**23 14 05.7**	**-0.5**
NZIG				*e*P		Pb	23 14 06.2	-8.9
NZIG				*e*S		**Sn**	**23 14 54.5**	**+0.7**
GUYB	**Guaymas**	**4.21**	**136**	*e*P		**Pn**	**23 14 10.7**	**+2.0**
CGIG		**5.36**	**95**	*e*P		**Pn**	**23 14 24.5**	**-0.2**
CGIG				*e*S		**Sn**	**23 15 23.2**	**-3.9**
121A	**Cookes Peak, D**	**5.65**	**72**	*e*P		**Pn**	**23 14 28.9**	**+0.3**
121A				*e*S		**Sn**	**23 15 27.2**	**-6.9**
LPIG	**La Paz**	**7.66**	**153**	LR		LR	23 17 44.5		
	comp=N,2µm,19.9s,baz=322,slow=36								
NVAR	**Mina Array Bea**	**8.17**	**336**	Pn		**Pn**	**23 15 07.5**	**+4.2**
	comp=N,0.2nm,0.3s,baz=162,slow=12,SNR=1.4								
NVAR				LR		LR	23 18 17.4		
	comp=N,547nm,20.1s,baz=144,slow=39								
TXAR	**Lajitas Array**	**9.23**	**98**	Pn		**Pn**	**23 15 19.9**	**+2.1**
	comp=N,1.1nm,0.3s,baz=272,slow=15,SNR=22								
	comp=N,1.5nm,0.4s								
ELK	**Elko**	**9.78**	**355**	Pn		**Pn**	**23 15 27.2**	**+1.9**
	comp=N,0.1nm,0.3s,baz=167,slow=19,SNR=1.3								
ELK				LR		LR	23 18 55.0		
	comp=N,245nm,20.5s,baz=176,slow=36								
	comp=N,0.2nm,0.3s								
PDAR	**Pinedale Array**	**12.32**	**16**	Pn		Pn	23 16 05.0	+4.9	
	baz=200,slow=15,SNR=2.3								
PDAR				LR		LR	23 20 58.3		
	comp=N,136nm,18.1s,baz=208,slow=39								
	comp=N,0.3nm,0.6s								
NEW	**Newport**	**17.40**	**353**	P		**P**	**23 17 10.8**	**+2.0**
	comp=N,0.2nm,0.3s,baz=174,slow=12,SNR=7.6								
NEW				LR		LR	23 24 00.2		
	comp=N,170nm,19.1s,baz=178,slow=38								
	comp=N,2.9nm,0.7s								
BBB	**Bella Bella**	**23.53**	**338**	LR		LR	23 27 29.6		
	comp=N,457nm,19.6s,baz=192,slow=37								
ULM	**Lac du Bonnet**	**23.61**	**30**	P		**P**	**23 18 14.8**	**-0.9**
	comp=N,1.3nm,0.5s,baz=236,slow=12,SNR=3.5								
	comp=N,1.3nm,0.5s								
TKL	**Tuckaleechee C**	**25.76**	**71**	LR		LR	23 29 20.3		
	comp=N,666nm,18.8s,baz=267,slow=38								
DLBC	**Dease Lake**	**29.52**	**343**	LR		LR	23 32 23.7		
	comp=N,749nm,18.5s,baz=120,slow=39								
YKA	**Yellowknife Ar**	**31.52**	**360**	P		**P**	**23 19 28.4**	**+1.8**
	comp=N,0.1nm,0.7s,baz=183,slow=9.1,SNR=6.5								
YKA				LR		LR	23 34 32.2		
	comp=N,253nm,18.8s,baz=238,slow=41								
	comp=N,0.1nm,0.7s								
JTS	**Las Juntas de**	**34.04**	**121**	LR		LR	23 35 03.2		
	comp=N,284nm,19.5s,baz=312,slow=39								
KDAK	**Kodiak Island**	**37.53**	**327**	LR		LR	23 33 32.3		
	comp=N,201nm,20.8s,baz=177,slow=33								
INK	**Inuvik**	**39.03**	**349**	LR		LR	23 37 57.3		
	comp=N,386nm,19.4s,baz=182,slow=38								
ILAR	**Eielson Array**	**39.42**	**339**	P		**P**	**23 20 36.4**	**+1.9**
	comp=N,1.5nm,1.0s,baz=154,slow=5.2,SNR=10.0								
	comp=N,1.5nm,1.0s								
SCHQ	**Schefferville**	**41.01**	**40**	LR		LR	23 38 18.3		
	comp=N,251nm,19.7s,baz=266,slow=37								
ROSC	**El Rosal**	**45.57**	**117**	LR		LR	23 42 07.6		
	comp=N,182nm,21.9s,baz=334,slow=38								
SDV	**Santo Domingo**	**46.06**	**109**	LR		LR	23 43 47.0		
	comp=N,127nm,19.6s,baz=296,slow=40								
ATAH	**Atahualpa**	**51.08**	**132**	LR		LR	23 42 21.2		
	comp=N,156nm,18.2s,baz=287,slow=34								
SFJD	**Kangerlussuaq**	**51.58**	**27**	LR		LR	23 44 26.7		
	comp=N,124nm,19.4s,baz=234,slow=37								

*IDC **19** 23:15:55.1±2.6,30°.96N×114°.03W,h0km,mb3.5/2, mbtmp3.6/7,ML3.2/4,MS4.0/1,Error ellipse: s-maj=45.4km s-min=13.3km az=32.0*
*ECX **19** 23:15:55.6±0.3,31°.07N×114°.23W,h19km±3km,ML3.8*
*MEX **19** 23:15:55.7±0.7,30°.98N×114°.17W,h16km±36km,MD3.8*
ISC 19 23:15:54.9±0.8,**30°.87N**±0°.05×**114°.17W**±0°.03,**h10**km,**n22, σ2s52/27,9C-3D,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.61**	**286**	*e*P	**Pg**	**23 16 05.2**	**-1.6**
SFX				*e*S	**Sg**	**23 16 12.4**	**-2.4**
SFX	**San Felipe**	**0.61**	**286**	⇑*i*P	**Pg**	**23 16 05.2**	**-1.6**
SFX				*e*S	**Sg**	**23 16 13.2**	**-1.6**
SFX				*e*		23 16 15.5	
SFX				IAML		23 16 15.5	
	comp=N,6µm,0.2s						
SFX				IAML		23 16 16.1	
	comp=E,10µm,0.6s						
SFX				⇑*e*		23 16 16.1	
PPXB	**Puerto Peasco**	**0.66**	**44**	⇓*e*P	**Pg**	**23 16 05.8**	**-1.8**
PPXB				*e*S	**Sg**	**23 16 14.2**	**-2.1**
PPXB				IAML		23 16 15.4	
	comp=N,3µm,0.8s						
PPXB				⇑*e*		23 16 15.4	
PPXB				IAML		23 16 16.0	
	comp=E,2µm,1.2s						
PPXB				*e*		23 16 16.0	
PIX	**Pinacate**	**0.92**	**41**	*e*	**Sn**	**23 16 31.7**	**+4.4**
PIX				IAML		23 16 31.7	
	comp=E,3µm,1.3s						
ECBX	**El Chinero**	**0.97**	**309**	*e*P	**Pg**	**23 16 09.8**	**-3.8**
SLGB	**San Luis Gonza**	**1.05**	**191**	*e*P	**Pn**	**23 16 16.6**	**+0.9**
SLGB				⇑*e*		23 16 52.9	
SLGB				IAML		23 16 52.9	
	comp=E,2µm,2.4s						
SLGB				IAML		23 17 13.1	
	comp=N,2µm,1.5s						
SLGB				⇑*e*		23 17 13.1	
SPIG	**San Pedro Mart**	**1.13**	**279**	*e*P	**Pg**	**23 16 14.1**	**-2.6**
SPIG				*e*S	**Sg**	**23 16 30.4**	**-1.0**
SPIG	**San Pedro Mart**	**1.13**	**279**	*e*P	**Pg**	**23 16 14.2**	**-2.5**
SPIG				IAML		23 16 22.2	
	comp=E,2µm,0.8s						
SPIG				⇑*e*		23 16 22.2	
SPIG				⇑*e*		23 16 25.0	
SPIG				IAML		23 16 25.0	
	comp=N,1µm,0.7s						
SQX	**San Quintin**	**1.50**	**259**	⇑*e*	**Sg**	**23 16 46.1**	**+2.9**
SQX				IAML		23 16 46.1	
	comp=E,1µm,0.6s						
SQX				IAML		23 16 49.0	
	comp=N,1µm,1.0s						
SQX				⇓*e*		23 16 49.0	
PLIB	**Puerto Liberta**	**1.59**	**126**	*e*P	**Pg**	**23 16 24.8**	**-0.6**
PLIB				⇓*e*		23 17 04.3	
PLIB				IAML		23 17 04.3	
	comp=N,920nm,1.1s						
PLIB				⇑*e*		23 17 07.7	
PLIB				IAML		23 17 07.7	
	comp=E,1µm,1.3s						
214A	**Organ Pipe Nat**	**1.59**	**47**	*e*P	**Pn**	**23 16 20.7**	**-2.5**
214A				*e*S	**Sb**	**23 16 43.3**	**-1.3**
214A	**Organ Pipe Nat**	**1.59**	**47**	*e*P	**Pn**	**23 16 21.0**	**-2.2**
LAPR	**La Primavera**	**1.63**	**102**	*e*P	**Pn**	**23 16 20.6**	**-3.2**
LAPR				*i* S	**Sn**	**23 16 39.9**	**-4.9**
LAPR	**La Primavera**	**1.63**	**102**	*e*P	**Pg**	**23 16 24.8**	**-1.5**
PFO	**Pinyon Flats O**	**3.36**	**325**	Pn	**Pn**	**23 16 47.5**	**-0.1**
	comp=E,0.6nm,0.3s,baz=149,slow=5.9,SNR=1.1						
	comp=E,140nm,1.1s						
NVAR	**Mina Array Bea**	**8.28**	**337**	Pn	**Pn**	**23 17 56.8**	**+1.6**
	baz=145,slow=14,SNR=3.9						
	comp=E,4.1nm,1.1s						
TXAR	**Lajitas Array**	**9.22**	**97**	Pn	**Pn**	**23 18 08.2**	**0.0**
	comp=E,0.6nm,0.3s,baz=269,slow=14,SNR=5.8						
TXAR				Lg	Lg	23 20 44.9	
	comp=E,0.2nm,0.3s,baz=288,slow=34,SNR=3.2						
	comp=E,4.1nm,0.7s						
ELK	**Elko**	**9.89**	**355**	Pn	**Pn**	**23 18 19.6**	**+2.2**
	comp=E,0.1nm,0.3s,baz=137,slow=21,SNR=1.6						
	comp=E,3.1nm,0.9s						
PDAR	**Pinedale Array**	**12.44**	**16**	Pn	**Pn**	**23 18 54.2**	**+2.0**
	comp=E,1.0nm,0.9s,baz=176,slow=13,SNR=1.4						
YKA	**Yellowknife Ar**	**31.64**	**360**	P	**P**	**23 22 20.6**	**+2.7**
	comp=E,0.1nm,0.6s,baz=179,slow=9.4,SNR=2.2						
	comp=E,0.1nm,0.6s						
ILAR	**Eielson Array**	**39.53**	**339**	P	**P**	**23 23 27.9**	**+2.3**
	comp=E,2.5nm,1.2s,baz=147,slow=9.0,SNR=4.8						
	comp=E,2.5nm,1.2s						
RES	**Resolute Bay**	**44.94**	**7**	LR	LR	23 44 11.5	
	comp=E,180nm,19.7s,baz=250,slow=38						

*LDG **19** 23:26:58.8±0.1,42°.77N×0°.62W,h5km,Md1.4/2,Ml2.8/23, Error ellipse: s-maj=1.9km s-min=1.7km az=168.0*
*STR **19** 23:26:58.3±0.5,43°.N±3°×±°,h2km,MLv2.8/9,Error ellipse: s-maj=0.0km s-min=0.0km az=23.1,preliminary*
*MDD **19** 23:26:59.9±0.2,42°.71N×0°.65W,h11km,mb_Lg2.9/26, Error ellipse: s-maj=1.5km s-min=1.1km az=170.0*
ISC 19 23:26:57.2±0.8,**42°.75N**±0°.02×**0°.69W**±0°.02,**h14**km±6km, **n82,σ1s96/160,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CANF	**Canfranc**	**0.13**	**82**	Pg	**Pg**	**23 27 00.1**	**-0.7**
CANF				Sg	**Sg**	**23 27 02.3**	**-0.9**
ETSF	**Etsaut**	**0.18**	**32**	*e*Pg	**Pg**	**23 27 01.7**	**+0.2**
ETSF				*e*Sg	**Sg**	**23 27 04.8**	**+0.4**
	1µm,0.3s						
ATE	**Arette**	**0.34**	**358**	Pg	**Pb**	**23 27 05.2**	**+0.1**
ATE				Sg	**Sb**	**23 27 10.8**	**+0.4**
EORO	**Oroz-Betelu**	**0.48**	**288**	Pg	**Pb**	**23 27 08.2**	**+0.7**
EORO				Sg	**Sn**	**23 27 16.9**	**-1.2**
EORO				*i* Vmb_Lg		23 27 18.3	
SJPF	**Ste Jean**	**0.54**	**313**	*e*Pg	**Pb**	**23 27 08.1**	**-0.4**
SJPF				*e*Sg	**Sb**	**23 27 16.9**	**+0.7**
	162nm,0.4s						
VIEF	**Viey**	**0.54**	**75**	Pg	**Pg**	**23 27 07.8**	**-0.1**
VIEF				Sg	**Sg**	**23 27 15.6**	**+0.4**
PYLO	**Lourdes**	**0.59**	**53**	Pg	**Pg**	**23 27 09.0**	**+0.3**
PYLO				Sg	**Sb**	**23 27 17.6**	**+0.1**
EARA	**Aranguren**	**0.66**	**273**	Pg	**Pn**	**23 27 12.5**	**+0.3**
EARA				Sg	**Sn**	**23 27 22.3**	**-0.1**
EARA				*i* Vmb_Lg		23 27 27.2	
EARA	**Aranguren**	**0.66**	**273**	Pg	**Pb**	**23 27 10.9**	**+0.4**
EARA				Sg	**Sb**	**23 27 20.2**	**+0.6**
OSSF	**Osses**	**0.66**	**321**	Pg	**Pb**	**23 27 11.3**	**+0.8**
OSSF				Sg	**Sn**	**23 27 21.4**	**-1.1**
URDF	**Urds**	**0.69**	**6**	Pg	**Pn**	**23 27 12.3**	**-0.4**
URDF				Sg	**Sn**	**23 27 22.4**	**-0.8**
EPF	**Esparros**	**0.81**	**69**	*e*Pg	**Pg**	**23 27 12.4**	**-0.5**
EPF				*e*Sg	**Sg**	**23 27 22.9**	**-0.6**
	98nm,0.2s						
TERF	**Tercis-les-Bai**	**0.98**	**342**	Pg	**Pn**	**23 27 17.6**	**+0.9**
TERF				Sg	**Sn**	**23 27 31.9**	**+1.6**
ESAC	**San Caprasio**	**1.04**	**171**	Pg	**Pb**	**23 27 14.3**	**-2.7**
ESAC				Sg	**Sb**	**23 27 31.2**	**+0.7**
ESAC				*i* Vmb_Lg		23 27 33.9	
MLS	**Moulis**	**1.33**	**80**	Pg	**Pn**	**23 27 21.7**	**+0.3**
MLS				Sg	**Sg**	**23 27 40.9**	**+0.9**
SALF	**Salau**	**1.38**	**89**	Pn	**Pb**	**23 27 23.9**	**+0.9**
SALF				Sn	**Sg**	**23 27 42.6**	**+0.8**
PAND	**Andorre**	**1.66**	**97**	Pn	**Pb**	**23 27 24.8**	**+0.2**
PAND				Pn	**Sb**	**23 27 49.7**	**+1.0**
EMIR	**Miracle**	**1.84**	**116**	Pn	**Pn**	**23 27 29.6**	**+1.1**
EMIR				Sn	**Sn**	**23 27 50.9**	**-0.7**
EMIR				Sg	**Sg**	**23 27 56.5**	**+0.1**
EMIR				*i* Vmb_Lg		23 28 01.8	
DUNF	**Dun**	**1.86**	**81**	Pn	**Pb**	**23 27 30.7**	**-0.3**
DUNF				Sn	**Sb**	**23 27 54.4**	**+0.3**
EPOB	**Poblet**	**1.92**	**136**	Pn	**Pn**	**23 27 30.2**	**+0.7**
EPOB				Sn	**Sn**	**23 27 53.1**	**-0.5**
EPOB				*i* Vmb_Lg		23 28 01.7	
ERTA	**Horta de San J**	**1.94**	**157**	Pn	**Pn**	**23 27 31.9**	**+2.0**
ERTA				Sn	**Sn**	**23 27 53.7**	**-0.5**
ERTA				*i* Vmb_Lg		23 28 07.4	
VALC	**Valcebollere**	**2.05**	**99**	Pn	**Pn**	**23 27 33.0**	**+1.5**
VALC				Sn	**Sn**	**23 27 59.0**	**+2.0**
CARF	**Carcanieres**	**2.06**	**90**	Pg	**Pb**	**23 27 35.1**	**+0.6**
CARF				Sg	**Sb**	**23 28 02.7**	**+2.7**
FNEB	**Nbias**	**2.06**	**85**	Pg	**Pb**	**23 27 35.8**	**+1.3**
FNEB				Sg	**Sg**	**23 28 03.0**	**-0.6**
ELAN	**Lanestosa**	**2.07**	**284**	Pn	**Pb**	**23 27 35.1**	**+0.4**
ELAN				Sn	**Sb**	**23 27 59.3**	**-1.0**
ELAN				Sg	**Sg**	**23 28 06.7**	**+2.9**
ELAN				*i* Vmb_Lg		23 28 12.4	
MONQ	**Montcuq**	**2.12**	**40**	Pn	**Pn**	**23 27 34.1**	**+1.8**
MONQ				Sn	**Sb**	**23 28 02.3**	**+0.6**
ETOR	**Torete**	**2.18**	**208**	Pn	**Pn**	**23 27 34.7**	**+1.5**
ETOR				Sn	**Sn**	**23 28 00.5**	**+0.5**
MTLF	**Montolieu**	**2.21**	**73**	*e*Pg	**Pb**	**23 27 36.5**	**-0.5**
MTLF				*e*Sg	**Sb**	**23 28 05.7**	**+1.4**
	33nm,0.4s						
LRVF	**chteau la Riv**	**2.22**	**7**	Pn	**Pb**	**23 27 36.1**	**-1.0**
LRVF				Sn	**Sb**	**23 28 04.6**	**+0.2**
E0901	**Celadas (Terue**	**2.29**	**188**	Pn	**Pn**	**23 27 36.6**	**+1.9**
E0901				Sn	**Sn**	**23 28 01.7**	**-1.1**
E0901				Sg	**Sg**	**23 28 11.7**	**+0.9**
E0901				*i* Vmb_Lg		23 28 22.1	
EMOS	**Mosqueruela**	**2.39**	**176**	Pn	**Pn**	**23 27 38.1**	**+2.0**
EMOS				Sn	**Sn**	**23 28 05.2**	**0.0**
EMOS				*i* Vmb_Lg		23 28 24.5	
FILF	**Fillols**	**2.40**	**93**	Pn	**Pn**	**23 27 36.2**	**-0.1**
FILF				Sn	**Sn**	**23 28 05.7**	**+0.1**
LFF	**La Frestale**	**2.42**	**25**	*e*P	**Pn**	**23 27 38.4**	**+1.9**
SJAF	**Saint Jean de**	**2.65**	**94**	Pn	**Pn**	**23 27 40.8**	**+1.2**
SJAF				Sn	**Sn**	**23 28 14.1**	**+2.6**
CLAF	**Gruissan**	**2.80**	**81**	Pn	**Pn**	**23 27 44.3**	**+2.7**
CLAF				Sn	**Sn**	**23 28 17.8**	**+2.6**
CAF	**Calviac**	**2.95**	**41**	*e*Pn	**Pn**	**23 27 44.1**	**+0.3**
RJF	**Les Rejaudoux**	**3.01**	**31**	*e*Pn	**Pn**	**23 27 44.6**	**0.0**
RJF	**Les Rejaudoux**	**3.01**	**31**	*e*P	**Pn**	**23 27 47.1**	**+2.5**
RJF				*e*Sn	**Sn**	**23 28 20.7**	**+0.3**
RJF				*e*Sg	**Sg**	**23 28 32.9**	**-1.0**
	11nm,0.3s						
GUD	**Guadarrama**	**3.34**	**232**	Pn	**Pn**	**23 27 51.0**	**+1.8**
GUD				Sn	**Sn**	**23 28 29.1**	**+0.4**
GUD				*i* Vmb_Lg		23 28 49.8	
EARI	**Arriondas**	**3.36**	**281**	Pn	**Pn**	**23 27 52.4**	**+3.0**
EARI				Sn	**Sn**	**23 28 30.3**	**+1.2**
EARI				*i* Vmb_Lg		23 28 55.0	
EVIV	**Cofrentes, Val**	**3.49**	**185**	Pn	**Pn**	**23 27 52.8**	**+1.6**
EVIV				Sn	**Sn**	**23 28 31.7**	**-0.6**
EVIV				Sg	**Sg**	**23 28 48.1**	**-1.2**
EVIV				*i* Vmb_Lg		23 29 01.6	
FRNF	**Fournols**	**3.53**	**40**	Pn	**Pn**	**23 27 53.7**	**+2.0**
FRNF				Sn	**Sn**	**23 28 35.8**	**+2.5**
LASF	**Ste Croix**	**3.57**	**67**	*e*Pn	**Pn**	**23 27 51.6**	**-0.6**
LASF	**Ste Croix**	**3.57**	**67**	*e*P	**Pn**	**23 27 54.9**	**+2.7**
LASF				*e*Sn	**Sn**	**23 28 31.3**	**-2.9**
	16nm,0.4s						
VERF	**Verneugheol**	**3.77**	**36**	Pn	**Pn**	**23 27 57.1**	**+2.1**
VERF				Sn	**Sn**	**23 28 41.8**	**+2.6**
LBL	**Lubilhac**	**3.77**	**47**	Pn	**Pn**	**23 27 57.0**	**+1.9**
LBL				Sn	**Sn**	**23 28 41.2**	**+1.8**
MFF	**Saint Martin d**	**3.88**	**6**	*e*Pn	**Pn**	**23 27 56.1**	**-0.3**
MFF	**Saint Martin d**	**3.88**	**6**	*e*P	**Pn**	**23 27 59.5**	**+3.1**
MFF				*e*Sn	**Sn**	**23 28 39.8**	**-1.9**
	8.4nm,0.4s						
MFF				*e*Sg	**Sg**	**23 29 00.1**	**-1.5**
	8.0nm,0.4s						
ESDC	**Sonseca Array**	**3.94**	**220**	Pn	**Pn**	**23 27 58.0**	**+0.6**
ESDC				Sn	**Sn**	**23 28 41.3**	**-2.1**
TCF	**Toulx Ste Croi**	**4.10**	**29**	*e*Pn	**Pn**	**23 27 59.4**	**-0.2**
TCF				*e*Sn	**Sn**	**23 28 44.3**	**-3.1**
	5.6nm,0.3s						
COLF	**Collangettes**	**4.20**	**47**	Pn	**Pn**	**23 28 02.6**	**+1.7**
COLF				Sn	**Sn**	**23 28 51.8**	**+2.0**
PAB	**San Pablo**	**4.23**	**222**	Pn	**Pn**	**23 28 01.9**	**+0.6**
PAB				Sn	**Sn**	**23 28 49.4**	**-1.2**
PAB				*i* Vmb_Lg		23 29 24.0	
VIVF	**Saint-Julien-l**	**4.42**	**60**	*e*Pn	**Pn**	**23 28 03.0**	**-0.9**
VIVF	**Saint-Julien-l**	**4.42**	**60**	*e*P	**Pn**	**23 28 06.9**	**+3.0**
VIVF				*e*Sn	**Sn**	**23 28 51.8**	**-3.3**
	1.5nm,0.2s						
VIVF				*e*Sg	**Sg**	**23 29 15.5**	**-3.5**
PSIM	**Granatula de C**	**4.56**	**212**	Pn	**Pn**	**23 28 05.9**	**0.0**
PSIM				Sn	**Sn**	**23 28 56.4**	**-2.4**
PSIM				Sg	**Sg**	**23 29 21.8**	**-1.8**
BGF	**Bois d'Agland**	**4.57**	**32**	*e*Pn	**Pn**	**23 28 05.9**	**-0.1**
BGF				*e*Sn	**Sn**	**23 28 55.3**	**-3.5**
	10nm,0.4s						
SMRF	**Simiane la Rot**	**4.73**	**73**	*e*P	**Pn**	**23 28 11.4**	**+3.2**
SMRF				*e*Sn	**Sn**	**23 28 59.3**	**-3.6**
	2.2nm,0.4s						
SMRF				*e*Sg	**Sg**	**23 29 27.4**	**-1.6**
	0.7nm,0.3s						
EPON	**Pontenova**	**4.77**	**279**	Pn	**Pn**	**23 28 11.1**	**+2.3**
EPON				Sn	**Sn**	**23 29 04.3**	**+0.5**
EPON				*i* Vmb_Lg		23 29 27.9	
AVF	**Avril sur Loir**	**4.96**	**34**	*e*Pn	**Pn**	**23 28 11.1**	**-0.2**
AVF				*e*Sn	**Sn**	**23 29 05.4**	**-3.1**
AVF				*e*Sg	**Sg**	**23 29 33.8**	**-2.7**
	0.9nm,0.3s						
SMF	**Signal de Mont**	**5.06**	**38**	*e*Pn	**Pn**	**23 28 12.2**	**-0.5**
SMF	**Signal de Mont**	**5.06**	**38**	*e*P	**Pn**	**23 28 16.0**	**+3.3**
SMF				*e*Sn	**Sn**	**23 29 06.5**	**-4.5**
	2.9nm,0.4s						
HYF	**Humbligny**	**5.10**	**26**	*e*P	**Pn**	**23 28 17.8**	**+4.6**
HYF				*e*Sn	**Sn**	**23 29 08.5**	**-3.4**
	18nm,0.3s						
ORIF	**Oris-en-Rattie**	**5.22**	**63**	*e*P	**Pn**	**23 28 18.5**	**+3.5**
SSF	**Saint Saulge**	**5.24**	**33**	*e*Pn	**Pn**	**23 28 14.5**	**-0.7**
SSF				*e*Sn	**Sn**	**23 29 11.5**	**-3.9**
	0.9nm,0.2s						
SSF				*e*Sg	**Sg**	**23 29 41.3**	**-4.1**
EQES	**Quesada**	**5.26**	**201**	Pn	**Pn**	**23 28 16.8**	**+1.2**
EQES				Sn	**Sn**	**23 29 14.6**	**-1.6**
EQES				*i* Vmb_Lg		23 29 56.4	
LMR	**La Mourre**	**5.31**	**81**	*e*P	**Pn**	**23 28 19.6**	**+3.5**
EADA	**Adamuz**	**5.45**	**214**	Pn	**Pn**	**23 28 14.4**	**+0.3**
EADA				Sn	**Sn**	**23 29 18.3**	**-2.4**
EADA				Sg	**Sg**	**23 29 48.9**	**-3.3**
EADA				*i* Vmb_Lg		23 30 03.3	
QUIF	**Quistinic**	**5.46**	**342**	*e*Pn	**Pn**	**23 28 18.3**	**+0.2**
QUIF				*e*Sn	**Sn**	**23 29 19.1**	**-1.6**
	3.1nm,0.3s						
LOR	**Lormes**	**5.55**	**34**	*e*Pn	**Pn**	**23 28 19.1**	**-0.4**
	baz=213						
LOR				*e*Sn	**Sn**	**23 29 20.3**	**-2.8**
	2.5nm,0.4s						
SGMF	**Saint Gilles**	**5.66**	**347**	*e*Pn	**Pn**	**23 28 21.3**	**+0.4**
MBDF	**Montbardon**	**5.75**	**67**	*e*P	**Pn**	**23 28 25.5**	**+3.1**
MBDF				*e*

PAS **19** 23:36:40.5±1.9,31°.11N±0°.04×114°.21W±0°.04,h6km±1km, Error ellipse: s-maj=7.9km s-min=4.3km az=206.0
ECX **19** 23:36:40.9±0.3,31°.00N×114°.24W,h20km±6km,ML4.5
NEIC **19** 23:36:41.4,31°.08N×114°.27W,h10km
NEIC **19** 23:36:41.5±1.7,31°.09N±0°.05×114°.28W±0°.04,h10km±1km, mb4.8/160,ML4.5/70,Mwr4.8/72,Md4.8/12(MEX), ML4.5/112(PAS),Error ellipse: s-maj=8.4km s-min=5.8km az=190.0,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=1.26; $M_{\theta\theta}$0.14; $M_{\phi\phi}$1.12; $M_{r\theta}$-1.25; $M_{\theta\phi}$0.72; $M_{\phi r}$-0.64; Fault plane solution: $M_0$1.99000×10^{16} NP1:ϕ_s185.23000°,δ29.16000°,λ-132.52000°. NP2: ϕ_s51.63000°,δ68.95000°,λ-69.33000°. Principal axes: T 1.9586, Plg21.0000°, Azm126.0000°; N 0.0530, Plg19.0000°, Azm224.0000°; P -2.0116, Plg61.0000°, Azm352.0000°;
GCMT **19** 23:36:41.5±0.2,30°.95N±0°.02×114°.20W±0°.01,h12km, MW5.0/108,Moment Tensor Solution. s41,c50; s108,c174; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.06±.08; $M_{\theta\theta}$0.07±.09; $M_{\phi\phi}$2.99±.07; $M_{r\theta}$-1.60±.34; $M_{\theta\phi}$1.60±.06; $M_{\phi r}$-0.98±.24; Best double couple: M_o3.89500×10^{16} NP1:ϕ_s41.00000°,δ60.00000°, λ-70.00000°. NP2:ϕ_s185.00000°,δ36.00000°, λ-121.00000°. Principal axes: T 4.0430, Plg13.0000°, Azm117.0000°; N -0.2990, Plg18.0000°, Azm211.0000°; P -3.7470, Plg68.0000°, Azm353.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
MEX **19** 23:36:41.9±0.3,30°.99N×114°.24W,h10km,MD4.7
ISC 19 23:36:40.1±1.1,**31°.05N**±0°.03×**114°.26W**±0°.02,**h4**km±7km, **n778,σ1§58**/753,**mb4.8**/97,**MS4.3**/59,**4C-15D,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.51**	**269**	Pg		**Pg**	**23 36 51.0**	**+1.1**
SFX						**Sg**	**23 36 57.9**	**+1.4**
SFX				IAML			23 36 60.0	
	comp=E,44μm,1.1s							
SFX				IAML			23 37 01.0	
	comp=N,43μm,0.6s							
SFX	**San Felipe**	**0.51**	**269**	⇓*e*P		**Pg**	**23 36 51.2**	**+1.3**
SFX				*i* S		**Sb**	**23 36 58.7**	**-0.7**
SFX	**San Felipe**	**0.51**	**269**	*e*P		**Pg**	**23 36 51.0**	**+1.1**
SFX				*e*S		**Sg**	**23 36 58.2**	**+1.7**
SFX				IAML			23 37 01.1	
	comp=N,52μm,0.6s							
SFX				*e*			23 37 01.1	
PPXB	**Puerto Peasco**	**0.61**	**61**	⇓*i*P		**Pg**	**23 36 52.1**	**+0.3**
PPXB				*e*S		**Sg**	**23 37 00.8**	**+1.1**
PPXB				⇑*e*			23 37 01.8	
PPXB				IAML			23 37 01.8	
	comp=N,24μm,1.2s							
PPXB				IAML			23 37 02.2	
	comp=E,20μm,1.0s							
PPXB				*e*			23 37 02.2	
ECBX	**El Chinero**	**0.80**	**302**	⇓*e*P		**Pg**	**23 36 55.4**	**-0.1**
ECBX				*e*S		**Sb**	**23 37 07.0**	**-0.9**
ECBX				⇓*e*			23 37 10.5	
ECBX				IAML			23 37 10.5	
	comp=N,12μm,0.8s							
PIX	**Pinacate**	**0.85**	**53**	Pg		**Pg**	**23 36 55.9**	**-0.5**
PIX				IAML			23 37 12.3	
	comp=N,10μm,1.6s							
PIX				IAML			23 37 17.4	
	comp=E,10μm,1.3s							
PIX	**Pinacate**	**0.85**	**53**	⇓*e*P		**Pg**	**23 36 56.0**	**-0.5**
PIX				*e*S		**Sg**	**23 37 07.8**	**+0.2**
PIX				⇑*e*			23 37 12.5	
PIX				IAML			23 37 12.5	
	comp=N,11μm,0.8s							
PIX				IAML			23 37 17.6	
	comp=E,13μm,1.0s							
PIX				⇓*e*			23 37 17.6	
EDOMX	**El Doctor, EDO**	**1.00**	**336**	*e*P		**Pg**	**23 36 59.1**	**-0.3**
EDOMX				*e*S		**Sb**	**23 37 13.1**	**-0.6**
SPIG	**San Pedro Mart**	**1.04**	**270**	*e*P		**Pg**	**23 36 59.4**	**-0.7**
SPIG				*e*S		**Sg**	**23 37 12.0**	**-1.6**
SPIG	**San Pedro Mart**	**1.04**	**270**	⇓*e*P		**Pg**	**23 36 59.5**	**-0.6**
SPIG				*e*S		**Sg**	**23 37 13.8**	**+0.3**
SPIG				⇑*e*			23 37 18.3	
SPIG				IAML			23 37 18.3	
	comp=N,5μm,0.8s							
SPIG				IAML			23 37 18.6	
	comp=E,5μm,0.6s							
SPIG				⇓*e*			23 37 18.6	
SLGB	**San Luis Gonza**	**1.22**	**186**	*e*P		**Pn**	**23 37 00.5**	**-3.5**
SLGB				IAML			23 37 36.4	
	comp=E,8μm,1.3s							
SLGB				⇓*e*			23 37 36.4	
SLGB				⇓*e*			23 37 40.2	
SLGB				IAML			23 37 40.2	
	comp=N,9μm,1.0s							
RITX	**Riito Sonora**	**1.27**	**332**	⇓*e*P		**Pn**	**23 37 02.9**	**-1.8**
RITX				*e*S		**Sb**	**23 37 20.5**	**-0.8**
VTX	**Valle De La Tr**	**1.35**	**285**			**Pn**	**23 37 04.4**	**-1.5**
VTX				IAML			23 37 15.3	
	comp=E,5μm,1.2s							
VTX	**Valle De La Tr**	**1.35**	**285**	⇓*e*P		**Pn**	**23 37 04.1**	**-1.8**
VTX				⇑*e*			23 37 41.9	
VTX				IAML			23 37 41.9	
	comp=N,5μm,2.0s							
VTX				IAML			23 37 43.0	
	comp=E,5μm,1.8s							
VTX				⇓*e*			23 37 43.0	
RHX	**Rio Hardy**	**1.40**	**321**	*e*P		**Pn**	**23 37 04.9**	**-1.5**
SLRCX	**San Luis Rio C**	**1.46**	**345**	*e*P		**Pn**	**23 37 05.5**	**-1.8**
SQX	**San Quintin**	**1.47**	**252**	⇓*e*P		**Pn**	**23 37 05.8**	**-1.6**
SQX				⇓*e*			23 37 37.3	
SQX				IAML			23 37 37.3	
	comp=E,9μm,0.5s							
PESCX	**Ej. Pescaderos**	**1.51**	**337**	*e*P		**Pn**	**23 37 06.7**	**-1.2**
214A	**Organ Pipe Nat**	**1.53**	**53**			**Pn**	**23 37 05.7**	**-2.6**
214A				IAML			23 37 36.8	
	comp=E,6μm,1.4s							
214A				IAML			23 37 38.8	
	comp=N,7μm,1.5s							
214A	**Organ Pipe Nat**	**1.53**	**53**	P		**Pn**	**23 37 05.9**	**-2.4**
	baz=236,SNR=518							
214A	**Organ Pipe Nat**	**1.53**	**53**	*e*P		**Pn**	**23 37 05.8**	**-2.4**
214A				*i* S		**Sn**	**23 37 24.8**	**-4.0**
214A	**Organ Pipe Nat**	**1.53**	**53**	*e*P		**Pn**	**23 37 05.9**	**-2.4**
214A				*e*S		**Sn**	**23 37 26.2**	**-2.6**
ALAMX	**Rancho Alamar**	**1.57**	**308**	*e*P		**Pn**	**23 37 06.8**	**-2.0**
MBIG	**Mexicali**	**1.58**	**330**	*e*P		**Pn**	**23 37 07.0**	**-1.9**
MBIG				*e*P		**Pb**	**23 37 07.8**	**-2.0**
MBIG				*e*S		**Sn**	**23 37 26.3**	**-3.5**
MBIG				*e*S		**Sb**	**23 37 27.8**	**-2.4**
SJX	**San Joaquin**	**1.62**	**297**	*e*P		**Pn**	**23 37 09.3**	**-0.2**
CPBX	**Cerro Prieto**	**1.64**	**327**			**Pn**	**23 37 08.2**	**-1.5**
CPBX						**Pb**	**23 37 09.7**	**-1.2**
CPBX				IAML			23 37 28.6	
	comp=E,13μm,0.6s							
CPBX	**Cerro Prieto**	**1.64**	**327**	*e*P		**Pn**	**23 37 08.9**	**-0.8**
ESJX	**Sierra Juarez**	**1.73**	**304**			**Pn**	**23 37 09.7**	**-1.5**
LAPR	**La Primavera**	**1.75**	**108**	*e*P		**Pn**	**23 37 07.8**	**-3.5**
LAPR				*i* S		**Sn**	**23 37 30.0**	**-4.1**
113A	**Mohawk Valley,**	**1.77**	**14**	Pn		**Pn**	**23 37 09.9**	**-1.6**
113A				IAML			23 37 54.7	
	comp=E,3μm,1.5s							
EMSC	**East Mesa**	**1.80**	**340**			**Pn**	**23 37 10.7**	**-1.2**
UABX	**UABC, Campus M**	**1.88**	**328**	Pn		**Pn**	**23 37 12.8**	**-0.2**
COA	**Coachella**	**1.96**	**338**			**Pn**	**23 37 12.5**	**-1.7**
RUN	**Ruthven**	**2.02**	**343**			**Pn**	**23 37 13.4**	**-1.6**
SGL	**Mount Signal**	**2.03**	**322**			**Pn**	**23 37 13.1**	**-2.1**
GLA	**Glamis**	**2.06**	**347**			**Pn**	**23 37 14.2**	**-1.4**
GLA				IAML			23 37 42.7	
	comp=N,4μm,0.6s							
GLA				IAML			23 38 27.7	
	comp=E,5μm,1.2s							
GLA	**Glamis**	**2.06**	**347**	P		**Pn**	**23 37 14.2**	**-1.4**
	baz=166,SNR=88							
WESC	**Westside Schoo**	**2.12**	**324**			**Pn**	**23 37 14.1**	**-2.2**
YUH	**Yuha Desert**	**2.14**	**319**	Pn		**Pn**	**23 37 14.8**	**-1.8**
RMX	**La Rumorosa**	**2.19**	**316**			**Pn**	**23 37 15.1**	**-2.5**
RMX	**La Rumorosa**	**2.19**	**316**	*e*P		**Pn**	**23 37 16.1**	**-1.4**
RMX				IAML			23 38 18.1	
	comp=E,2μm,1.3s							
RMX				*e*			23 38 18.4	
RMX				IAML			23 38 18.4	
	comp=N,1μm,1.3s							
CCX	**Cicese**	**2.21**	**292**			**Pn**	**23 37 16.0**	**-1.6**
CCX						**Pb**	**23 37 17.0**	**-3.7**
CCX				IAML			23 38 02.8	
	comp=E,2μm,1.1s							
CCX				IAML			23 38 06.2	
	comp=N,2μm,1.3s							
PBX	**Punta Banda**	**2.22**	**289**	*e*P		**Pn**	**23 37 17.4**	**-0.4**
IKP	**In-Ko-Pah, Jac**	**2.25**	**316**	P		**Pn**	**23 37 16.6**	**-1.6**
	baz=134,SNR=50							
SWSC	**Sam W. Stewart**	**2.30**	**326**	P		**Pn**	**23 37 16.8**	**-2.1**
	baz=145,SNR=10.0							
CBX	**Cerro Bola**	**2.41**	**302**			**Pn**	**23 37 19.7**	**-0.8**
CBX	**Cerro Bola**	**2.41**	**302**	*i* P		**Pn**	**23 37 19.4**	**-1.0**
CBX				*i* S		**Sn**	**23 37 50.8**	**+0.2**
TJIG	**Tijuana**	**2.48**	**305**	*e*P		**Pn**	**23 37 20.2**	**-1.2**
TJIG				*i* S		**Sn**	**23 37 46.6**	**-5.5**
TKX	**Tecate**	**2.51**	**308**			**Pn**	**23 37 20.3**	**-1.5**
MONP2	**Monument Peak**	**2.60**	**316**	P		**Pn**	**23 37 22.1**	**-1.1**
	baz=134,SNR=47							
MONP2				S		**Sn**	**23 37 55.3**	**-0.1**
	baz=134							
BAR	**Barrett**	**2.62**	**309**			**Pn**	**23 37 21.8**	**-1.6**
BLYC	**Blythe**	**2.71**	**355**	Pn		**Pn**	**23 37 22.3**	**-2.1**
BLYC				IAML			23 38 25.0	
	comp=N,1μm,1.6s							
BLYC				IAML			23 38 32.5	
	comp=E,1μm,1.4s							
BC3	**Big Chuckawall**	**2.79**	**339**	P		**Pn**	**23 37 24.6**	**-1.1**
	baz=158,SNR=82							
TJX	**Tijuana**	**2.79**	**302**			**Pn**	**23 37 24.8**	**-0.9**
109C	**Camp Elliot, M**	**3.04**	**308**	Pn		**Pn**	**23 37 28.6**	**-0.5**
109C				IAML			23 38 38.8	
	comp=E,839nm,1.9s							
109C				IAML			23 38 56.3	
	comp=N,1μm,1.4s							
109C	**Camp Elliot, M**	**3.04**	**308**	P		**Pn**	**23 37 28.3**	**-0.7**
	baz=126,SNR=17							
Y14A	**Wickenburg**	**3.07**	**20**			**Pn**	**23 37 28.1**	**-1.4**
Y14A				IAML			23 38 26.6	
	comp=E,2μm,1.4s							
Y14A				IAML			23 39 02.6	
	comp=N,1μm,3.8s							
PMD	**Palm Desert**	**3.15**	**326**			**Pn**	**23 37 29.6**	**-1.0**
TPFO	**Pinon Flats**	**3.16**	**324**	P		**Pn**	**23 37 29.3**	**-1.5**
	baz=143,SNR=35							
PFO	**Pinyon Flats O**	**3.17**	**324**	Pn		**Pn**	**23 37 29.5**	**-1.4**
PFO	**Pinyon Flats O**	**3.17**	**324**	P		**Pn**	**23 37 29.3**	**-1.6**
	baz=143,SNR=12							
PFO	**Pinyon Flats O**	**3.17**	**324**	Pn		**Pn**	**23 37 31.7**	**+0.8**
	comp=N,0.6nm,0.3s,baz=142,slow=14,SNR=12							
PFO				LR		LR	23 38 55.2	
	comp=N,12μm,19.7s,baz=146,slow=41							
IRM	**Iron Mountain**	**3.19**	**347**	P		**Pn**	**23 37 29.8**	**-1.4**
	baz=166,SNR=24							
TUC	**Tucson**	**3.22**	**66**	Pn		**Pn**	**23 37 29.2**	**-2.4**
TUC				IAML			23 38 31.6	
	comp=N,950nm,2.1s							
TUC				IAML			23 38 51.7	
	comp=N,762nm,2.5s							
TUC	**Tucson**	**3.22**	**66**	P		**Pn**	**23 37 30.2**	**-1.3**
	baz=249							
TUC	**Tucson**	**3.22**	**66**	*e*P		**Pn**	**23 37 28.9**	**-2.6**
TUC				*e*S		**Sn**	**23 38 07.5**	**-2.9**
PDMCI	**Parker Dam,Lak**	**3.25**	**2**	P		**Pn**	**23 37 31.3**	**-0.6**
	baz=182,SNR=27							
BELC	**Belle Mtn. Jos**	**3.29**	**334**	P		**Pn**	**23 37 31.8**	**-0.8**
	baz=153,SNR=28							
HSIG		**3.51**	**124**			**Pn**	**23 37 33.5**	**-1.9**
HSIG				IAML			23 39 04.2	
	comp=N,539nm,2.1s							
HSIG				IAML			23 39 11.2	
	comp=E,596nm,4.7s							
HSIG		**3.51**	**124**	*e*P		**Pn**	**23 37 33.4**	**-2.1**
HSIG				*e*S		**Sn**	**23 38 13.3**	**-4.1**
MURC	**Murrieta**	**3.56**	**316**	P		**Pn**	**23 37 34.5**	**-1.7**
	baz=135							
NEE2	**Needles Airpor**	**3.72**	**355**	P		**Pn**	**23 37 37.4**	**-1.0**
	baz=175							
ELS	**Elsinore Mount**	**3.73**	**315**	Pn		**Pn**	**23 37 36.9**	**-1.8**
ELS				IAML			23 39 02.4	
	comp=E,648nm,1.3s							
GMRC	**Granite Mounta**	**3.91**	**343**	P		**Pn**	**23 37 40.3**	**-0.9**
	baz=162,SNR=38							
W13A	**Hualapai Mount**	**4.05**	**4**	Pn		**Pn**	**23 37 41.3**	**-1.9**
W13A				IAML			23 39 16.9	
	comp=N,610nm,1.9s							
W13A				IAML			23 39 17.0	
	comp=E,1μm,2.0s							
NZIG	**Nacozari, Sono**	**4.11**	**98**	*e*P		**Pn**	**23 37 41.6**	**-2.2**
NZIG				*e*S		**Sn**	**23 38 27.8**	**-4.6**
X16A	**Lo Mia Camp, P**	**4.12**	**34**			**Pn**	**23 37 43.2**	**-0.8**
X16A				IAML			23 39 00.7	
	comp=E,1μm,1.3s							
X16A				IAML			23 39 13.7	
	comp=N,1μm,1.6s							
SCI2	**San Clemente I**	**4.12**	**299**	P		**Pn**	**23 37 45.1**	**+1.2**
	baz=116							
HEC	**Hector,Ludlow**	**4.16**	**336**	P		**Pn**	**23 37 43.5**	**-1.0**
	baz=155,SNR=12							
CIS	**Catalina Islan**	**4.24**	**305**	P		**Pn**	**23 37 46.2**	**+0.7**
	baz=122							
319A	**Douglas**	**4.28**	**84**			**Pn**	**23 37 45.5**	**-0.6**
BFSC	**Mount Baldy Ra**	**4.29**	**319**	P		**Pn**	**23 37 45.9**	**-0.4**
	baz=137							
GUYB	**Guaymas**	**4.30**	**136**	*e*P		**Pn**	**23 37 44.1**	**-2.3**
GUYB				*e*S		**Sn**	**23 38 36.6**	**-0.5**
RRX	**Edison Barstow**	**4.46**	**330**	P		**Pn**	**23 37 47.8**	**-0.8**
	baz=148							
PASC	**Pasadena Art C**	**4.55**	**314**	Pn		**Pn**	**23 37 48.8**	**-1.0**
PASC				IAML			23 39 30.4	
	comp=N,500nm,3.2s							
PASC				IAML			23 39 31.7	
	comp=E,517nm,3.1s							
TUQ	**Turquoise Moun**	**4.60**	**343**	P		**Pn**	**23 37 50.2**	**-0.4**
	baz=162							
DUN6	**Lazy B Ranch**	**4.65**	**70**			**Pn**	**23 37 50.5**	**-0.8**
V12A	**Nelson**	**4.70**	**354**	Pn		**Pn**	**23 37 50.2**	**-1.7**
GSC	**Goldstone, Bar**	**4.75**	**334**	Pn		**Pn**	**23 37 52.1**	**-0.5**
GSC				IAML			23 39 50.1	
	comp=E,627nm,1.8s							
GSC				IAML			23 40 22.6	
	comp=N,405nm,1.5s							
GSC	**Goldstone, Bar**	**4.75**	**334**	P		**Pn**	**23 37 52.4**	**-0.3**
	baz=153,SNR=14							
EDW2	**Edwards Air Fo**	**4.95**	**322**	P		**Pn**	**23 37 57.0**	**+1.7**
	baz=140							
SNCC	**San Nicolas Is**	**4.98**	**298**			**Pn**	**23 37 54.4**	**-1.2**
SNCC				IAML			23 39 44.4	
	comp=E,336nm,2.2s							
SNCC				IAML			23 40 09.2	
	comp=N,230nm,4.4s							
X18A	**Snowflake**	**5.02**	**45**	Pn		**Pn**	**23 37 55.6**	**-0.8**
WUAZ	**Wupatki**	**5.07**	**28**	Pn		**Pn**	**23 37 56.5**	**-0.6**
WUAZ	**Wupatki**	**5.07**	**28**	P		**Pn**	**23 37 57.1**	**0.0**
	baz=210,SNR=68							
SHOC	**Shoshone, Teco**	**5.13**	**341**	P		**Pn**	**23 37 58.6**	**+0.9**
	baz=160							
WTNK	**Soaring Height**	**5.17**	**353**			**Pn**	**23 37 57.3**	**-1.1**
LRMC	**Laurel Mtn Rad**	**5.27**	**328**	P		**Pn**	**23 38 00.3**	**+0.5**
	baz=146							
QSM	**Queen of Sheba**	**5.37**	**337**			**Pn**	**23 38 00.4**	**-0.7**
CGIG		**5.45**	**96**	*e*P		**Pn**	**23 38 01.2**	**-1.1**
CGIG				*e*S		**Sn**	**23 39 01.8**	**-3.8**
SHPR	**Sheep Range**	**5.50**	**352**	Pn		**Pn**	**23 38 03.7**	**+0.7**
GWY	**Greenwater Val**	**5.51**	**339**	Pn		**Pn**	**23 38 02.5**	**-0.6**
W18A	**Petrified Fore**	**5.56**	**42**			**Pn**	**23 38 03.9**	**+0.1**
W18A	**Petrified Fore**	**5.56**	**42**	P		**Pn**	**23 38 04.1**	**+0.2**
	baz=225,SNR=65							
U15A	**North Rim**	**5.61**	**16**			**Pn**	**23 38 04.1**	**-0.5**
MPMC	**Manual Prospec**	**5.68**	**333**	P		**Pn**	**23 38 07.1**	**+1.5**
	baz=151,SNR=15							
121A	**Cookes Peak, D**	**5.71**	**73**			**Pn**	**23 38 05.3**	**-0.6**
121A	**Cookes Peak, D**	**5.71**	**73**	P		**Pn**	**23 38 05.2**	**-0.6**
	baz=257,SNR=47							
121A	**Cookes Peak, D**	**5.71**	**73**	*e*P		**Pn**	**23 38 04.7**	**-1.2**
121A				*e*S		**Sn**	**23 39 20.6**	**+8.7**
ISA	**Isabella, Lake**	**5.80**	**324**			**Pn**	**23 38 07.2**	**+0.2**
ISA	**Isabella, Lake**	**5.80**	**324**	P		**Pn**	**23 38 08.3**	**+1.2**
	baz=141							
BCW	**Bitter Crk WRg**	**5.82**	**313**	Pn		**Pn**	**23 38 07.1**	**-0.2**
LCMT	**Little Creek M**	**6.01**	**8**	Pn		**Pn**	**23 38 09.1**	**-0.9**
PKM	**Mcpherson Peak**	**6.04**	**311**	P		**Pn**	**23 38 11.5**	**+1.0**
	baz=128,SNR=8.7							
KNB	**Kanab**	**6.07**	**11**	Pn		**Pn**	**23 38 10.7**	**-0.2**
CWC	**Cottonwood Cre**	**6.25**	**330**	P		**Pn**	**23 38 14.9**	**+1.5**

DZA				*e*S		**Sg**	**23 29 23.6**	**-0.5**
	63nm,0.0s							
MRKS	**Merke**	**3.38**	**18**	*e*P		**Pb**	**23 28 37.6**	**+2.2**
	68nm,0.2s							
MRKS				*e*S		**Sg**	**23 29 21.0**	**-3.2**
	9.0nm,0.1s							
EKS2	**Erkin-Say**	**3.46**	**25**	P		**Pb**	**23 28 35.3**	**-1.5**
	55nm,0.2s							
EKS2	**Erkin-Say**	**3.46**	**25**	⇑*e*P		**Pn**	**23 28 32.3**	**+2.9**
	SNR=20							
EKS2				⇑*i*S		**Sb**	**23 29 17.1**	**-1.8**
	baz=23							
AAK	**Ala-Archa**	**3.71**	**32**	P		**Pb**	**23 28 37.9**	**-3.0**
	baz=23							
AAK	**Ala-Archa**	**3.71**	**32**	Pn		**Pb**	**23 28 38.0**	**-3.0**
	SNR=14							
AAK	**Ala-Archa**	**3.71**	**32**	⇓*i*P		**Pn**	**23 28 35.4**	**+2.6**
	2.4nm,0.3s,baz=209,slow=7.9,SNR=41							
AAK				⇓*i*S		**Sb**	**23 29 22.5**	**-3.5**
	baz=30							
KK31	**Karatay Array**	**3.71**	**345**	⇓Pn		**Pb**	**23 28 37.3**	**-3.6**
	11nm,0.5s,baz=176,slow=13,SNR=72							
KK31				⇑Sn		**Sb**	**23 29 27.3**	**+1.4**
	5.3nm,0.3s,baz=177,slow=21,SNR=4.9							
KKAR	**Karatay Array**	**3.71**	**345**	⇓*i*P		**Pn**	**23 28 35.7**	**+3.0**
	baz=47							
KKAR				⇓*i*S		**Sb**	**23 29 23.0**	**-2.9**
	baz=47							
NRN	**Naryn**	**3.71**	**58**	⇓*e*P		**Pn**	**23 28 33.7**	**+0.7**
	baz=53							
NRN				⇓*i*S		**Sn**	**23 29 19.5**	**+2.7**
	baz=53							
BRLS	**Boroldav**	**3.81**	**337**	*e*P		**Pb**	**23 28 42.1**	**-0.6**
	10nm,0.2s							
BRLS				*e*S		**Sb**	**23 29 28.4**	**-0.3**
	0.9nm,0.2s							
BRLS	**Boroldav**	**3.81**	**337**	Pg		**Pb**	**23 28 42.1**	**-0.6**
	10nm,0.2s							
BRLS				Lg		Lg	23 29 28.4	
	0.9nm,0.2s							
KBK	**Karagaybulak**	**3.92**	**36**	P		**Pb**	**23 28 42.1**	**-2.5**
	SNR=6.4							
KBK	**Karagaybulak**	**3.92**	**36**	⇓*e*P		**Pn**	**23 28 38.2**	**+2.5**
	baz=33							
KBK				⇓*i*S		**Sb**	**23 29 27.4**	**-4.7**
	baz=33							
CHMS	**Chumysh**	**4.11**	**32**	P		**Pb**	**23 28 43.5**	**-4.3**
	SNR=29							
CHMS	**Chumysh**	**4.11**	**32**	⇓Pn		**Pb**	**23 28 43.7**	**-4.1**
	17nm,0.5s							
CHMS				⇑Sn		**Sb**	**23 29 38.5**	**+1.0**
	39nm,0.7s							
CHMS	**Chumysh**	**4.11**	**32**	⇑*i*P		**Pn**	**23 28 41.0**	**+2.8**
	baz=29							
CHMS				⇑*i*S		**Sb**	**23 29 32.1**	**-5.4**
	baz=29							
USP	**Ospenovka**	**4.24**	**27**	P		**Pb**	**23 28 45.5**	**-4.6**
	SNR=26							
USP	**Ospenovka**	**4.24**	**27**	⇑*i*P		**Pn**	**23 28 42.8**	**+2.8**
	baz=26							
USP				⇑*i*S		**Sb**	**23 29 35.6**	**-5.7**
	baz=26							
ULHL	**Ulahol**	**4.31**	**50**	P		**Pn**	**23 28 43.5**	**+2.4**
	SNR=7.6							
ULHL	**Ulahol**	**4.31**	**50**	⇓*i*P		**Pn**	**23 28 42.8**	**+1.7**
	baz=46							
ULHL				⇓*i*S		**Sn**	**23 29 35.5**	**+4.0**
	baz=46							
TKM2	**Tokmak 2**	**4.42**	**39**	P		Pn	23 28 47.7	+5.0
	SNR=8.5							
TKM2	**Tokmak 2**	**4.42**	**39**	⇓Pn		Pn	23 28 47.7	+5.0
	2.1nm,0.5s							
TKM2				⇑Sn		**Sn**	**23 29 39.9**	**+5.6**
	3.4nm,0.5s							
SGDS	**Sogindy**	**4.45**	**27**	Pg		**Pg**	**23 29 00.3**	**-0.4**
	6.4nm,0.3s							
SGDS				Lg		Lg	23 29 59.9	
	15nm,0.6s							
KST	**Kastek**	**4.70**	**40**	*e*P		**Pg**	**23 29 03.1**	**-2.2**
	1.9nm,0.2s							
KST				*e*S		**Sg**	**23 30 04.8**	**-1.4**
	21nm,0.3s							
KST	**Kastek**	**4.70**	**40**	Pg		**Pg**	**23 29 03.2**	**-2.2**
	1.9nm,0.2s							
KST				Lg		Lg	23 30 04.8	
	21nm,0.3s							
DGS	**Degeres**	**4.75**	**37**	*e*P		**Pg**	**23 29 06.8**	**+0.3**
	5.7nm,0.5s							
DGS				*e*S		**Sg**	**23 30 11.1**	**+3.1**
	18nm,0.3s							
DGS	**Degeres**	**4.75**	**37**	Pg		**Pg**	**23 29 06.8**	**+0.3**
	5.7nm,0.5s							
DGS				Lg		Lg	23 30 11.1	
	18nm,0.3s							
KRBS	**Karabastau**	**5.07**	**33**	*e*P		**Pg**	**23 29 12.2**	**-0.2**
	3.6nm,0.3s							
KRBS				*e*S		**Sg**	**23 30 20.6**	**+2.6**
	13nm,0.4s							
KRBS	**Karabastau**	**5.07**	**33**	Pg		**Pg**	**23 29 12.2**	**-0.2**
	3.6nm,0.3s							
KRBS				Lg		Lg	23 30 20.6	
	13nm,0.4s							
TNSS	**Tian-Shan**	**5.21**	**46**	*e*P		**Pg**	**23 29 14.8**	**-0.4**
	2

baz=148
VES Vestal, Richgr 6.26 321 P Pn 23 38 15.1 +1.9
baz=138
SMMC Simmler 6.42 313 P Pn 23 38 19.0 +3.4
baz=130
GRAC Grapevine Rang 6.47 337 Pn Pn 23 38 15.9 -0.3
GRAC Grapevine Rang 6.47 337 P Pn 23 38 17.9 +1.6
baz=156
CCUT Cedar City 6.53 6 Pn Pn 23 38 17.2 0.0
PKCU Pink Cliffs 6.58 14 Pn 23 38 16.3 -1.7
SZCU Shurtz Canyon 6.61 8 Pn 23 38 18.4 +0.1
EPT El Paso 6.67 82 Pn Pn 23 38 19.6 +0.6
S11A Rachel 6.70 350 Pn Pn 23 38 19.1 -0.4
GMN Gold Mountain 6.72 339 Pn 23 38 19.1 -0.6
Y22D IRIS PASSCAL I 6.89 62 Pn 23 38 22.6 +0.6
Y22D IRIS PASSCAL I 6.89 62 P Pn 23 38 24.8 +2.7
baz=246
Y22F Passcal Instru 6.89 62 P Pn 23 38 24.6 +2.5
baz=246
DSP Deep Springs 7.02 335 Pn 23 38 23.3 -0.4
MZP Montezuma Peak 7.18 340 Pn Pn 23 38 24.7 -0.7
MTPU Mount Pierson 7.18 13 Pn 23 38 27.1 +0.8
R11B Troy Canyon, C 7.37 352 Pn 23 38 27.3 -1.4
R11B Troy Canyon, C 7.37 352 P Pn 23 38 28.8 +0.1
baz=171,SNR=14
TPH Tonopah 7.43 342 Pn Pn 23 38 28.6 -0.9
HMU Henry Mountain 7.46 22 Pn Pn 23 38 30.0 0.0
PSUT Pine Spring 7.48 2 Pn Pn 23 38 30.1 -0.2
PMPB Monarch Peak 7.51 315 Pn Pn 23 38 30.6 +0.1
MNTX Cornudas Mount 7.62 83 Pn Pn 23 38 31.9 -0.1
MNTX Cornudas Mount 7.62 83 P Pn 23 38 31.2 -0.7
baz=268,SNR=10
ANMO Albuquerque 7.62 57 Pn Pn 23 38 32.7 +0.5
ANMO Albuquerque 7.62 57 P Pn 23 38 32.2 0.0
baz=242
MVU Marysvale 7.63 12 Pn Pn 23 38 33.3 +1.0
MSU Marysvale 7.64 12 Pn Pn 23 38 33.2 +0.7
MDPB Devils Postpil 7.69 330 Pn Pn 23 38 33.2 +0.1
TCRU Three Creeks R 7.69 11 Pn Pn 23 38 33.3 +0.1
LPIG La Paz 7.75 152 Pn Pn 23 38 31.0 -2.8
comp=N,2.9nm,0.3s,baz=306,slow=1.6,SNR=1.6
LPIG LR LR 23 41 20.6
comp=N,5µm,20.0s,baz=334,slow=37
comp=N,13nm,0.4s
MVCO Mesa Verde 7.78 36 Pn Pn 23 38 34.8 +0.3
MVCO Mesa Verde 7.78 36 P Pn 23 38 35.0 +0.6
baz=220,SNR=23
BBGB Big Mountain B 7.89 316 Pn Pn 23 38 36.2 +0.4
SPR3 Spring Creek 3 7.94 360 Pn Pn 23 38 36.0 -0.6
VHRN Van Horn 7.97 89 Pn Pn 23 38 38.0 +1.1
Q12A Willow Creek R 7.99 357 Pn Pn 23 38 37.5 +0.3
LHV Little Huntoon 7.99 335 Pn Pn 23 38 38.1 +1.1
NV11 Mina Array Sit 8.04 338 Pn Pn 23 38 38.3 +0.4
NVAR Mina Array Bea 8.08 337 Pn Pn 23 38 37.9 -0.6
NVAR Mina Array Bea 8.08 337 P Pn 23 38 42.8 +4.2
comp=N,0.4nm,0.3s,baz=164,slow=15,SNR=13
NVAR LR LR 23 41 53.1
comp=N,2µm,21.4s,baz=150,slow=38
comp=N,3.7nm,0.9s
Q09A Carvers 8.13 344 Pn Pn 23 38 38.9 -0.2
Q16A Castle Valley 8.25 17 Pn Pn 23 38 40.5 -0.3
SAO San Andreas Ge 8.26 316 Pn Pn 23 38 40.4 -0.3
SLBS Sierra La Lagu 8.27 151 Pn Pn 23 38 43.5 +2.5
RYN Ryan 8.34 336 Pn Pn 23 38 40.8 -1.1
BCIG La Boquilla 8.47 112 eP Pn 23 38 49.7 +5.9
HPIG 8.56 116 Pn Pn 23 38 46.6 +1.5
WAKR Walker 8.57 332 Pn Pn 23 38 44.4 -0.8
KVN Kaiserville 8.59 340 Pn Pn 23 38 45.0 -0.4
SRU San Rafael Swe 8.61 20 Pn Pn 23 38 46.5 +0.9
CMB Columbia Colle 8.61 326 Pn Pn 23 38 45.5 -0.1
P17A Butcher Ranch, 8.89 18 Pn 23 38 48.8 -0.7
PECS Pecos 8.90 85 Pn Pn 23 38 50.1 +0.4
YERR Yerington 8.91 334 Pn Pn 23 38 48.9 -1.0
NLU North Lily Min 9.07 11 Pn 23 38 49.9 -2.1
PNTR Pine Nut 9.14 333 Pn Pn 23 38 52.7 -0.3
ALPN Alpine 9.17 91 Pn Pn 23 38 53.6 +0.3
P18A Preston Nutter 9.17 20 Pn Pn 23 38 53.8 +0.4
MPU Maple Canyon 9.20 13 Pn Pn 23 38 52.9 -1.0
DUG Dugway, Tooele 9.21 7 Pn Pn 23 38 53.8 -0.1
DUG Dugway, Tooele 9.21 7 P Pn 23 38 53.4 -0.5
baz=188
EMB Emerald Bay 9.25 330 Pn Pn 23 38 53.3 -1.2
TX31 Lajitas Ar. Si 9.32 98 Pn Pn 23 38 55.8 +0.3
TXAR Lajitas Array 9.32 98 Pn Pn 23 38 55.9 +0.5
TXAR Lajitas Array 9.32 98 Pn Pn 23 38 55.6 +0.2
comp=N,0.2nm,0.3s,baz=267,slow=14,SNR=3.6
TXAR Lg Lg 23 41 29.6
comp=N,0.2nm,0.3s,baz=258,slow=33,SNR=1.6
comp=N,7.5nm,0.5s
MPK Martis Peak 9.49 332 Pn Pn 23 38 56.8 -1.0
PAHR Pah Rah Range 9.60 336 Pn Pn 23 38 57.9 -1.4
AFDM Forest Hills D 9.61 327 Pn Pn 23 38 58.8 -0.6
BMN Battle Mountai 9.67 346 Pn Pn 23 38 58.5 -1.8
ELK Elko 9.71 356 Pn Pn 23 39 00.2 -0.7
ELK Elko 9.71 356 Pn Pn 23 39 04.9 +4.0
comp=N,0.2nm,0.3s,baz=175,slow=8.6,SNR=10.0
ELK Lg Lg 23 41 49.9
comp=N,0.1nm,0.3s,baz=23,slow=8.6,SNR=1.6
ELK LR LR 23 42 30.8
comp=N,871nm,19.1s,baz=176,slow=36
comp=N,2.6nm,0.6s
CTU Camp Tracy 9.84 11 Pn Pn 23 39 02.1 -0.4
SDCO Great Sand Dun 9.85 45 Pn 23 39 02.2 -0.6
SDCO Great Sand Dun 9.85 45 P Pn 23 39 04.3 +1.5
baz=230
MNHN Monahans 9.85 85 Pn 23 39 02.9 +0.3
BSUT Blindstream Ca 9.89 16 Pn Pn 23 39 02.4 -1.0
BGU Big Grassy Mou 9.91 5 Pn Pn 23 39 03.3 -0.2
ODSA Odessa 10.04 81 Pn Pn 23 39 06.2 +0.9
MSTX Muleshoe 10.13 70 Pn Pn 23 39 06.9 +0.4
MSTX Muleshoe 10.13 70 P Pn 23 39 08.8 +2.4
baz=257
T25A Trinidad 10.17 51 Pn 23 39 06.8 -0.4
T25A Trinidad 10.17 51 P Pn 23 39 08.6 +1.4
baz=236,SNR=7.3
RDMU Red Mountain 10.24 21 Pn 23 39 08.1 0.0
O20A White River Ci 10.30 27 Pn Pn 23 39 08.3 -0.6
O20A White River Ci 10.30 27 P Pn 23 39 10.0 +1.0
baz=210
TCUT Toone Canyon 10.31 12 Pn Pn 23 39 07.9 -1.2
ORV Oroville 10.35 327 Pn Pn 23 39 09.2 -0.1
SPUT South Promonto 10.35 8 Pn Pn 23 39 09.1 -0.4
GDXM Geysers 10.44 320 Pn Pn 23 39 10.0 -0.7
SAND Sanderson 10.52 93 Pn Pn 23 39 12.2 +0.4
HWUT Hardware Ranch 10.76 11 Pn Pn 23 39 14.5 -0.7
HVU Hansel Valley 10.78 6 Pn Pn 23 39 14.9 -0.5
Q24A Divide 10.87 41 Pn Pn 23 39 15.8 -0.9
RTBA Rita Blanca 10.99 58 Pn Pn 23 39 18.4 0.0
POST Post 11.01 76 Pn Pn 23 39 19.3 +0.8
ISCO Idaho Springs 11.22 37 P Pn 23 39 23.0 +1.4
baz=222
AMTX Amarillo 11.23 67 P Pn 23 39 23.8 +2.2
baz=254
DRIO Del Rio 11.90 94 Pn Pn 23 39 31.2 +0.4
N23A Red Feather La 11.91 32 P Pn 23 39 32.1 +1.1
baz=217
AHID Auburn Hatcher 11.97 11 Pn 23 39 31.8 +0.1
PD31 Pinedale Array 12.29 16 Pn Pn 23 39 36.2 +0.1
PDAR Pinedale Array 12.29 16 Pn Pn 23 39 39.3 +3.2
comp=N,0.2nm,0.3s,baz=196,slow=11,SNR=8.1
PDAR Lg Lg 23 43 10.1
baz=146,slow=32,SNR=1.9
comp=N,0.8nm,0.6s
KMPM Mount Pierce 12.31 322 Pn Pn 23 39 36.0 -0.2
KSCO Kaye Shedlock' 12.40 47 Pn Pn 23 39 37.2 -0.3
KSCO Kaye Shedlock' 12.40 47 P Pn 23 39 37.1 -0.5
baz=234
SMWD Samnorwood 12.43 67 Pn 23 39 38.6 +0.7
KHMM Horse Mountain 12.45 325 Pn Pn 23 39 37.9 -0.3
JCT Junction City 12.45 89 Pn Pn 23 39 39.1 +0.9
JCT Junction City 12.45 89 P Pn 23 39 40.1 +1.9
baz=276,SNR=6.8
PHWY Pilot Hill 12.45 32 Pn Pn 23 39 38.8 +0.4
HLID Hailey 12.49 359 Pn Pn 23 39 39.5 +0.6
HLID Hailey 12.49 359 P Pn 23 39 39.4 +0.5
baz=179
ABTX Abilene, Hawle 12.53 79 Pn Pn 23 39 39.7 +0.4
ABTX Abilene, Hawle 12.53 79 P Pn 23 39 40.3 +1.1
baz=267
JCC Jacoby Creek, 12.55 324 Pn Pn 23 39 37.4 -2.1
REDW Red Top Meadow 12.59 11 Pn 23 39 40.3 +0.1
YBH Yreka Blue Hor 12.64 330 Pn Pn 23 39 42.3 +1.4
TPAW Teton Pass 12.70 11 Pn Pn 23 39 42.6 +0.9
SNOW Snow King Moun 12.70 12 Pn Pn 23 39 42.8 +1.0
J08A Circle Bar Ran 12.74 346 Pn Pn 23 39 42.9 +0.7
KRPM Rodgers 12.80 325 Pn Pn 23 39 43.2 +0.2
K05A Summer Lake 12.80 337 Pn Pn 23 39 44.9 +1.7
FXWY Fox Creek 12.83 11 Pn Pn 23 39 44.1 +0.6
LOHW Long Hollow 12.88 12 Pn Pn 23 39 44.1 -0.1
L04D Klamath Falls 12.88 332 Pn Pn 23 39 44.8 +0.7
MOOW Moose Ponds 12.98 11 Pn Pn 23 39 46.0 +0.4
K04D Chiloquin, OR 13.02 335 Pn Pn 23 39 48.2 +2.2
KRMB Red Mountain 13.03 326 Pn Pn 23 39 45.8 -0.3
HNDO Hondo 13.03 93 Pn 23 39 47.7 +1.5
IMW Indian Meadow 13.10 11 Pn Pn 23 39 46.1 -1.0
K22A Casper 13.12 26 P Pn 23 39 47.2 -0.3
baz=211
833A Chaparral WMA, 13.20 98 P Pn 23 39 52.5 +4.0
baz=286
WMOK Wichita Mounta 13.52 70 Pn Pn 23 39 54.0 +1.2
WMOK Wichita Mounta 13.52 70 P Pn 23 39 54.1 +1.4
baz=259,SNR=8.7
PLPT Palo Pinto 13.65 78 Pn Pn 23 39 56.3 +1.6
EF01 Eagle Ford 01 13.88 94 Pn Pn 23 39 57.8 +0.1
YNR Norris Junctio 13.93 11 Pn Pn 23 39 58.1 -0.5
YNM Yellowstone No 13.94 11 Pn Pn 23 39 58.4 -0.3
OGNE Ogallala 13.97 42 Pn Pn 23 39 58.2 -0.7
OGNE Ogallala 13.97 42 P Pn 23 39 59.7 +0.8
baz=229
YHH Holmes Hill 13.98 10 Pn 23 39 59.7 +0.4
YHL Hebgen Lake 13.99 9 Pn Pn 23 39 58.9 -0.5
DBO Dodson Butte 14.01 332 Pn Pn 23 39 59.3 -0.2
PLID Pearl Lake 14.09 355 P 23 40 06.0 -2.6
HBVL Hebbronville 14.20 102 Pn 23 40 02.5 +0.4
CBKS Cedar Bluff 14.20 53 Pn Pn 23 40 01.1 -1.0
CBKS Cedar Bluff 14.20 53 P Pn 23 40 03.1 +1.0
baz=241
I04A Tendick Farm, 14.27 335 P P 23 40 08.1 -2.3
FW06 Azle 14.30 78 Pn 23 40 02.9 -0.6
435B Jarrell 14.32 87 Pn 23 40 04.3 +0.6
435B Jarrell 14.32 87 P Pn 23 40 05.3 +1.6
baz=276
J01E Myrtle Point 14.33 330 Pn 23 40 02.7 -1.1
WHTX Lake Whitney, 14.37 82 Pn 23 40 04.5 +0.1
FW13 Cleburne 14.39 80 Pn 23 40 04.7 +0.1
I05D Terrebonne, OR 14.40 339 Pn Pn 23 40 05.1 +0.4
735A Kenedy 14.43 95 Pn 23 40 06.0 +0.8
OK032 Salt Plains WL 14.50 62 Pn 23 40 06.1 -0.1
I03D Drain, OR 14.54 333 Pn Pn 23 40 06.0 -0.6
Z35A Perchaven, San 14.58 77 Pn 23 40 06.4 -0.8
CROK Carrier 14.58 64 Pn Pn 23 40 07.9 +0.6
RLMT Red Lodge 14.59 14 Pn 23 40 07.5 -0.1
RLMT Red Lodge 14.59 14 P Pn 23 40 07.8 +0.3
baz=197
FW14 Alvarado 14.59 80 Pn Pn 23 40 08.4 +1.0
BOZ Bozeman (W) 14.67 7 Pn 23 40 09.1 +0.5
BOZ Bozeman (W) 14.67 7 P Pn 23 40 08.1 -0.5
baz=189
G08A Pilot Rock 14.69 347 P 23 40 14.0 -1.2
LOOK Love County 14.71 74 Pn 23 40 08.8 -0.2
R32A Long Quarter, 14.74 56 Pn Pn 23 40 10.4 +0.9
RSSD Black Hills 15.35 29 P Pn 23 40 18.1 +0.4
baz=215
HKT Hockley 15.92 89 Pn 23 40 26.8 +1.8
HKT Hockley 15.92 89 IAmb IAmb 23 40 32.8
comp=Z,142nm,1.9s
TUL3 Leonard 16.15 68 PcP 23 45 22.1 -1.5
TUL3 Leonard 16.15 68 P Pn 23 40 29.2 +1.2
baz=258
KSU1 Kansas State U 16.51 56 Pn 23 40 32.3 -0.3
KSU1 Kansas State U 16.51 56 P Pn 23 40 32.7 +0.1
baz=246
BGNE Belgrade 16.58 47 P P 23 40 36.5 +0.4
BGNE IAmb IAmb 23 40 40.2
comp=Z,82nm,1.3s
BGNE Belgrade 16.58 47 P Pn 23 40 34.5 +0.9
baz=237
N33A J Bar K, Exete 16.68 50 Pn Pn 23 40 34.7 -0.1
LON Longmire 16.73 342 P Pn 23 40 36.1 +0.7
LON IAmb IAmb 23 40 42.4
comp=Z,104nm,1.8s
NATX Nacogdoches 16.75 82 P Pn 23 40 37.5 +1.8
baz=273
LAO LASA Array 16.81 19 P Pn 23 40 36.5 +0.1
baz=204,SNR=29
EGMT Eagleton 17.30 10 P Pn 23 40 41.8 -0.8
baz=193,SNR=20
NEW Newport 17.34 354 P P 23 40 45.3 +0.8
baz=172
NEW Newport 17.34 354 P P 23 40 46.1 +1.7
comp=Z,0.2nm,0.3s,baz=182,slow=13,SNR=8.2
NEW LR LR 23 47 35.9
comp=Z,558nm,19.3s,baz=176,slow=38
comp=Z,16nm,1.1s
MIAR Mount Ida 17.73 73 P Pn 23 40 48.8 +0.8
baz=264
SUSD Miller 18.00 38 P P 23 40 52.8 +1.1
baz=227
DGMT Dagmar 19.01 21 P Pn 23 41 05.2 +1.6
baz=207,SNR=12
N38A Joes South For 19.57 54 P P 23 41 09.1 +0.1
TLIG Tlapa 19.58 130 P P 23 41 09.5 +0.1
OZB Mount Ozzard 19.82 338 P P 23 41 11.2 -0.5
OZB IAmb IAmb 23 41 24.3
comp=Z,58nm,1.2s
LCAR Lake Charles 19.88 69 P P 23 41 12.8 +0.4
P40A Paris 19.97 59 P P 23 41 13.6 +0.1
SCIA State Center 20.04 51 P Pn 23 41 15.7 -0.2
baz=244
CCM Cathedral Cave 20.18 63 P P 23 41 16.7 +1.0
baz=257
MDND Maddock 20.18 30 P Pn 23 41 17.0 -0.5
baz=219
PBMO Poplar Bluff 20.56 67 Pn 23 41 22.2 +0.2
CGM3 Cape Girardeau 21.26 66 IAmb IAmb 23 41 41.9
comp=Z,100nm,1.6s
SPMN Marine on St. 21.93 44 P P 23 41 35.5 +0.9
baz=237
AGMN Agassiz Nation 22.21 34 P P 23 41 38.2 +0.7
baz=226,SNR=11
Z47A Carrollton 22.27 78 P P 23 41 38.9 +0.7
PLAL Pickwick Lake 22.28 73 P P 23 41 37.7 -0.6
PLAL IAmb IAmb 23 41 54.8
comp=Z,52nm,1.4s
HDIL Hopedale 22.30 58 P P 23 41 38.2 -0.3
HDIL Hopedale 22.30 58 P P 23 41 40.6 +2.1
baz=253
JFWS Jewell Farm 22.46 51 P P 23 41 42.7 +2.5
baz=246
WVT Waverly 22.56 70 P P 23 41 42.9 +1.6
baz=265
LRAL Lakeview Retre 23.17 78 P P 23 41 49.8 +2.0
baz=273
BBB Bella Bella 23.45 338 LR LR 23 51 06.0
comp=Z,1µm,21.4s,baz=162,slow=37
ULM Lac du Bonnet 23.60 30 P P 23 41 52.1 +0.2
comp=Z,6.3nm,0.8s,baz=222,slow=7.3,SNR=8.5
ULM Lg Lg 23 49 09.5
comp=Z,0.1nm,0.3s,baz=271,slow=11,SNR=1.7
ULM LR LR 23 52 18.3
comp=Z,286nm,21.5s,baz=225,slow=40
comp=Z,6.3nm,0.8s
SFIN Lafayette 23.86 60 P P 23 41 55.8 +1.3
baz=256
WCI Wyandotte Cave 24.04 65 P P 23 41 55.8 -0.5
WCI IAmb IAmb 23 42 12.4
comp=Z,21nm,0.8s
WCI Wyandotte Cave 24.04 65 P P 23 41 57.4 +1.1
baz=261
SWET Sewanee 24.05 72 P P 23 41 56.3 -0.2
SWET IAmb IAmb 23 42 12.3
comp=Z,54nm,1.4s
EYMN Ely 24.22 39 P P 23 41 58.2 +0.3
EYMN IAmb IAmb 23 42 14.3
comp=Z,30nm,1.2s
EYMN Ely 24.22 39 P P 23 41 59.1 +1.2
baz=234
U49A Red Boiling Sp 24.24 69 P P 23 41 58.9 +0.7
U49A IAmb IAmb 23 42 11.9
comp=Z,44nm,1.6s
FPAL Fort Paine 24.30 74 P P 23 41 58.3 -0.5
W50A Signal Mountai 24.55 73 P P 23 42 01.3 +0.2
W50A IAmb IAmb 23 42 17.2
comp=Z,47nm,1.3s
COWI Conover 24.59 45 P P 23 42 00.9 -0.4
COWI IAmb IAmb 23 42 05.9
comp=Z,17nm,0.8s
X51A Calhoun 24.92 74 P P 23 42 04.8 +0.5
T50A Nancy 25.04 68 P P 23 42 05.6 +0.2
352A Blakely 25.05 81 P P 23 42 06.4 +0.9
152A Waverly Hall 25.11 79 P P 23 42 06.8 +0.8
152A IAmb IAmb 23 42 15.0
comp=Z,24nm,1.0s
CPCT Cooper Cave 25.20 72 P P 23 42 06.5 -0.4
FFC Flin Flon 25.24 17 P P 23 42 07.2 +0.1
O48B Farmland 25.28 61 P P 23 42 06.7 -0.8
O48B IAmb IAmb 23 42 22.7
comp=Z,34nm,1.2s
O48B Farmland 25.28 61 P P 23 42 09.9 +2.3
baz=258
GRNB Grenville Isla 25.45 338 P P 23 42 09.4 +0.4
P49A Miami Univ. Ec 25.47 62 P P 23 42 09.7 +0.4
P49A Miami Univ. Ec 25.47 62 P P 23 42 11.7 +2.4
baz=260
R50A Paris 25.58 65 P 23 42 09.9 -0.4
R50A IAmb IAmb 23 42 27.0
comp=Z,33nm,1.2s
Y52A Lilburn 25.59 76 P P 23 42 09.1 -1.4
Y52A IAmb IAmb 23 42 27.6
comp=Z,50nm,1.6s
TEIG Tepich 25.72 109 LR LR 23 54 50.5
comp=Z,5µm,18.1s,slow=43
TKL Tuckaleechee C 25.82 72 P P 23 42 12.3 -0.3
TKL Tuckaleechee C 25.82 72 LR LR 23 52 47.9
comp=Z,1µm,18.6s,baz=266,slow=38
O49A Covington 25.88 61 P P 23 42 12.4 -0.6
O49A IAmb IAmb 23 42 42.3
comp=Z,34nm,1.3s
RUBB Prince Rupert 25.95 338 P P 23 42 13.7 +0.3
V52A Sevierville 25.97 71 P P 23 42 15.2 +1.3
V52A IAmb IAmb 23 42 44.5
comp=Z,35nm,1.4s
E43A Lone Tree Farm 26.04 46 P P 23 42 12.8 -1.6
TZTN Tazewell 26.04 70 P P 23 42 14.8 +0.3
TZTN Tazewell 26.04 70 P P 23 42 16.7 +2.2
baz=267
GOGA Godfrey 26.11 77 P P 23 42 17.1 +1.9
baz=273
TIGA Tifton 26.18 81 P P 23 42 16.1 +0.2
TIGA Tifton 26.18 81 P P 23 42 17.8 +1.9
baz=277
L48A N Adams 26.20 57 P P 23 42 16.1 +0.1
L48A IAmb IAmb 23 42 32.8
comp=Z,35nm,1.1s
PETF Flores 26.27 117 P P 23 42 17.8 +1.0
PETF IAmb IAmb 23 42 39.5
comp=Z,29nm,1.5s
Q51A Peebles 26.44 64 P P 23 42 18.0 -0.2
BG3 Lake Jocassee 26.50 73 P P 23 42 18.1 -0.6
BG3 IAmb IAmb 23 42 36.1
comp=Z,28nm,1.1s
V53A Saluda 26.60 72 P P 23 42 19.5 -0.2
P51A Williamsport 26.73 63 P P 23 42 21.1 +0.4
P51A IAmb IAmb 23 42 24.8
comp=Z,32nm,1.3s
AAM Ann Arbor 26.85 57 P P 23 42 22.2 +0.4
baz=255
ACSO Alum Creek Sta 26.91 61 P P 23 42 22.4 +0.1
ACSO IAmb IAmb 23 42 25.9
comp=Z,18nm,0.6s
ACSO Alum Creek Sta 26.91 61 P P 23 42 23.6 +1.3
baz=260
APG Ei Apazote 27.01 121 LR LR 23 54 02.9
comp=Z,75nm,18.3s,baz=260,slow=39
HODGE Hodges 27.07 75 P P 23 42 24.3 +0.4
HODGE IAmb IAmb 23 42 28.5
comp=Z,41nm,1.7s
V35K Ketchikan 27.22 338 P P 23 42 26.9 +2.0
baz=146
P52A Corning 27.46 63 P P 23 42 28.8 +1.6
baz=262
HILA High Level 27.57 357 P P 23 42 28.5 +0.5
456A Hilliard 27.62 82 P P 23 42 27.4 -1.4
JSC Jenkinsville 27.90 75 P P 23 42 31.8 +0.6
S54A Dingess, Beckl 27.90 67 P P 23 42 31.5 +0.2
S54A IAmb IAmb 23 42 45.7
comp=Z,14nm,0.8s
MTO3 Montecristo 28.21 120 P P 23 42 34.6 +0.2
MTO3 IAmb IAmb 23 42 56.1
comp=Z,21nm,1.5s
O53A New Philadelph 28.25 62 P P 23 42 35.7 +1.4
baz=262
U33K Whale Pass 28.35 338 P P 23 42 36.8 +1.8
baz=144
WRAK Wrangell Islan 28.36 339 P P 23 42 36.3 +1.2
baz=146
Q54A Coxs Mills 28.38 65 P P 23 42 34.9 -0.6
BLA Blacksburg 28.57 68 P P 23 42 38.9 +1.6
baz=268
N53A Lisbon 28.61 61 P P 23 42 36.0 -1.6
N53A IAmb IAmb 23 42 52.4
comp=Z,26nm,1.2s
M53A WI Miller and 28.84 60 P P 23 42 41.4 +1.8
baz=260
R55A Marlinton 28.87 66 P 23 42 40.2 +0.2
R55A IAmb IAmb 23 42 41.9
comp=Z,19nm,1.0s
DLBC Dease Lake 29.44 343 P P 23 42 46.9 +2.1
baz=152,SNR=5.9
DLBC Dease Lake 29.44 343 LR LR 23 55 59.5
comp=Z,2µm,18.9s,baz=143,slow=39
ERPA Erie 29.47 58 P P 23 42 47.4 +2.2
baz=259
KOTAN Kotaneelee Air 29.82 350 P P 23 42 49.1 +1.1
baz=163
SIT Sitka 29.84 337 P P 23 42 49.5 +1.3
baz=142
S32K Killisnoo 29.92 338 P P 23 42 49.7 +0.8
baz=143
Q32M Nakina River 30.48 342 P P 23 42 54.2 +0.1
baz=148
R33M Jennings River 30.51 343 P P 23 42 55.4 +1.1
baz=151
SADO Sadowa 30.65 53 LR LR 23 56 03.0
comp=Z,611nm,20.8s,baz=256,slow=38
WTLY Watson Lake, Y 30.66 346 P P 23 42 57.4 +1.9
baz=155
SSPA Standing Stone 30.81 62 P P 23 42 58.9 +1.8
baz=264
S31K Pelican 30.86 337 P P 23 42 59.3 +2.1
baz=141
P32M Atlin 31.41 341 P P 23 43 02.7 +0.6
baz=147
YKA Yellowknife Ar 31.46 360 P P 23 43 03.7 +1.2
comp=Z,0.7nm,0.6s,baz=184,slow=7.7,SNR=14
YKA PcP PcP 23 45 56.8 +1.3
comp=Z,0.3nm,0.8s,baz=160,slow=1.7,SNR=3.7
YKA LR LR 23 58 08.4
comp=Z,764nm,20.4s,baz=220,slow=41
comp=Z,0.7nm,0.6s
P33M Teslin, Yukon 31.69 342 P P 23 43 05.5 +0.9
baz=149
SKAG Skagway 31.77 340 P P 23 43 07.5 +2.3
baz=144
TGTN Hyland Airport 31.84 347 P P 23 43 06.7 +0.7
baz=157
BINY Binghamton 32.42 59 P P 23 43 12.0 +0.8
baz=263
N32M Quiet Lake 32.57 343 P P 23 43 13.8 +1.5
baz=149
WHY Whitehorse 32.62 341 P P 23 43 11.9 -1.0
WHY Whitehorse 32.62 341 P P 23 43 15.2 +2.3
baz=146
P29M Windy Craggy 32.65 338 P P 23 43 14.3 +1.3
baz=141
WRGLY Wrigley 32.73 352 P P 23 43 14.3 +0.7
baz=165,SNR=8.2
P30M Million Dollar 32.79 339 P P 23 43 17.0 +2.7
baz=142
O30N Mendenhall 33.05 340 P P 23 43 17.9 +1.4
baz=144
PNL Peninsula 33.23 337 P P 23 43 19.5 +1.4
baz=138
MMPY Sheldon Lake, 33.44 346 P P 23 43 20.9 +1.1
baz=153,SNR=7.1
O29M Mount Kennedy 33.44 338 P P 23 43 22.1 +2.0
baz=140
FARO Faro, Yukon 33.56 344 P P 23 43 22.9 +2.0
baz=150
M31M Drury Creek, Y 33.79 343 P P 23 43 24.8 +1.9
baz=148
LONY Lake Ozonia 33.80 55 P P 23 43 24.4 +1.2
baz=260
YUK6 Outpost Mounta 33.87 339 P P 23 43 25.5 +1.6
baz=141

N30M **Aishikik Lake** 33.90 340 P P 23 43 26.4 +2.4
baz=143,SNR=5.2
JTS **Las Juntas de** 34.14 121 LR LR 23 57 46.0
comp=Z,761nm,21.7s,baz=310,slow=37
YUK4 **Talbot Arm** 34.27 339 P P 23 43 30.2 +2.9
baz=141
WSPT **Westport, CT** 34.30 61 P P 23 43 28.7 +1.1
WSPT IAmb IAmb 23 44 28.6
comp=Z,26nm,1.3s
MESA **MESA** 34.48 336 P P 23 43 30.6 +1.4
baz=135
YUK8 **Steele Glacier** 34.57 338 P P 23 43 32.0 +2.1
baz=139
M30M **Minto, Yukon** 34.73 342 P P 23 43 33.2 +2.2
baz=145
CTG **Chitna Glacier** 34.84 337 P P 23 43 33.3 +1.1
baz=137
L61B **Northampton** 34.89 59 P P 23 43 34.2 +1.5
baz=265
M29M **Somme Creek** 35.08 341 P P 23 43 36.5 +2.3
baz=142
YUK3 **Moose Creek** 35.16 339 P P 23 43 36.7 +1.6
baz=139
KAIM **Kayak Island** 35.21 334 P P 23 43 37.3 +2.1
baz=132
L29M **L29M** 35.52 342 P P 23 43 37.8 -0.1
L29M IAmb IAmb 23 43 45.2
comp=Z,20nm,1.3s
L29M **L29M** 35.52 342 P P 23 43 40.9 +3.1
baz=143
HRV **Adam Dziewonsk** 35.72 59 P P 23 43 40.2 +0.4
baz=266
BVCY **Beaver Creek** 35.76 339 P P 23 43 42.3 +2.3
baz=139
K29M **Barlow Dome** 35.95 343 P P 23 43 42.1 +0.4
K29M IAmb IAmb 23 43 46.6
comp=Z,15nm,1.2s
K29M **Barlow Dome** 35.95 343 P P 23 43 44.3 +2.6
baz=145
BMRM **Bremner River** 35.98 335 P P 23 43 43.5 +1.7
baz=132
SRBA **San Rafael, Bu** 36.02 120 P P 23 43 42.0 -0.7
GLB **Gilahina Butte** 36.02 336 P P 23 43 42.0 -0.2
GLB IAmb IAmb 23 43 46.3
comp=Z,16nm,1.3s
M27K **Edge Creek, AK** 36.04 338 P P 23 43 41.6 -0.9
M27K **Edge Creek, AK** 36.04 338 P P 23 43 45.1 +2.6
baz=138
EYAK **Cordova Ski Ar** 36.12 334 P P 23 43 46.1 +3.1
baz=130
J30M **Hart River** 36.27 344 P P 23 43 45.5 +1.1
J30M **Hart River** 36.27 344 P P 23 43 47.5 +3.1
baz=147,SNR=12
N25K **Chitina, Valde** 36.41 336 P P 23 43 44.9 -0.7
N25K IAmb IAmb 23 43 50.6
comp=Z,17nm,1.4s
N25K **Chitina, Valde** 36.41 336 P P 23 43 47.8 +2.2
baz=133
P23K **Montague Islan** 36.41 332 P P 23 43 46.0 +0.5
baz=128
M26K **Nabesna, AK** 36.43 338 P P 23 43 46.6 +0.9
M26K IAmb IAmb 23 43 53.0
comp=Z,41nm,1.9s
M26K **Nabesna, AK** 36.43 338 P P 23 43 48.2 +2.5
baz=136
BCAR **Beaver Creek A** 36.54 339 P P 23 43 47.2 +0.6
L27K **Beaver Creek,** 36.55 339 P P 23 43 47.0 +0.3
L27K **Beaver Creek,** 36.55 339 P P 23 43 49.0 +2.3
baz=138
DAWY **Dawson** 36.62 342 P P 23 43 47.7 +0.3
DAWY IAmb IAmb 23 43 51.8
comp=Z,22nm,1.4s
DAWY **Dawson** 36.62 342 P P 23 43 48.9 +1.6
baz=142,SNR=7.4
I30M **Mount Dempster** 36.83 345 P P 23 43 49.7 +0.5
I30M **Mount Dempster** 36.83 345 P P 23 43 50.8 +1.7
baz=147
H31M **Peel River** 36.89 346 P P 23 43 49.9 +0.3
H31M **Peel River** 36.89 346 P P 23 43 51.9 +2.3
baz=151,SNR=8.4
L26K **Log Cabin Wild** 36.99 338 P P 23 43 51.0 +0.5
L26K IAmb IAmb 23 43 57.8
comp=Z,25nm,1.8s
L26K **Log Cabin Wild** 36.99 338 P P 23 43 53.4 +3.0
baz=136
MENT **Mentasta** 37.05 338 P P 23 43 50.5 -0.5
HARP **HAARP** 37.14 337 P P 23 43 54.1 +2.3
baz=133
M24K **Tolsona, Glenn** 37.30 336 P P 23 43 55.5 +2.3
baz=132
SEW **Seward** 37.30 332 P P 23 43 55.5 +2.5
baz=125
K27K **Chicken** 37.35 340 P P 23 43 53.6 +0.1
K27K **Chicken** 37.35 340 P P 23 43 57.0 +3.5
baz=139
KDAK **Kodiak Island** 37.44 327 LR LR 23 57 18.3
comp=Z,635nm,20.5s,baz=147,slow=33
SCM **Sheep Creek Mo** 37.53 335 P P 23 43 55.3 +0.2
SCM **Sheep Creek Mo** 37.53 335 P P 23 43 56.3 +1.2
baz=130
PKME **Peaks-Kenny Pk** 37.61 55 P P 23 43 55.9 0.0
PKME **Peaks-Kenny Pk** 37.61 55 P P 23 43 57.4 +1.5
baz=264
PAX **Paxson** 37.64 337 P P 23 43 58.4 +2.4
baz=133
EGAK **Eagle** 37.66 342 P P 23 43 56.4 +0.3
EGAK IAmb IAmb 23 44 00.3
comp=Z,21nm,1.4s
EGAK **Eagle** 37.66 342 P P 23 43 58.8 +2.8
baz=141
KNK **Knik Glacier** 37.69 334 P P 23 43 57.0 +0.6
KNK **Knik Glacier** 37.69 334 P P 23 43 58.5 +2.1
baz=128,SNR=6.3
Q20K **Shuyak Island** 37.76 328 P P 23 43 58.1 +1.2
baz=120
G31M **Satah River** 37.86 347 P P 23 43 58.0 +0.3
G31M IAmb IAmb 23 44 02.7
comp=Z,34nm,1.6s
G31M **Satah River** 37.86 347 P P 23 43 59.5 +1.8
baz=151
I28M **Miner Creek** 37.87 343 P P 23 43 57.5 -0.4
I28M IAmb IAmb 23 44 13.2
comp=Z,31nm,1.7s
I28M **Miner Creek** 37.87 343 P P 23 43 59.9 +1.9
baz=143
EPYK **Eagle Plains** 37.88 345 P P 23 43 58.2 +0.2
EPYK **Eagle Plains** 37.88 345 P P 23 43 59.5 +1.5
baz=148,SNR=8.6
SML **Sawmill** 37.89 334 P P 23 44 00.8 +2.7
baz=128
HOM **Homer** 37.97 330 P P 23 44 01.6 +2.9
baz=122
RC01 **Rabbit Creek A** 37.99 333 P P 23 43 59.8 +0.9
RC01 IAmb IAmb 23 44 07.5
comp=Z,26nm,1.4s
RC01 **Rabbit Creek A** 37.99 333 P P 23 44 00.4 +1.5
baz=126
PMR **Palmer** 38.05 334 P P 23 43 59.9 +0.5
PMR IAmb IAmb 23 44 03.7
comp=Z,30nm,1.3s
PMR **Palmer** 38.05 334 P P 23 44 02.3 +2.8
baz=127
GHO **Glory Hole Cre** 38.09 334 P P 23 43 59.8 -0.1
GHO IAmb IAmb 23 44 04.0
comp=Z,18nm,1.0s
H29M **Whitestone** 38.12 344 P P 23 43 59.6 -0.3
H29M **Whitestone** 38.12 344 P P 23 44 01.7 +1.8
baz=145
J26L **Joseph Creek** 38.13 340 P P 23 44 00.7 +0.5
J26L IAmb IAmb 23 44 07.7
comp=Z,20nm,1.4s
J26L **Joseph Creek** 38.13 340 P P 23 44 01.6 +1.4
baz=137
WAT6 **Susitna Watana** 38.16 336 P P 23 44 01.5 +1.0
baz=130,SNR=6.1
F31M **Tsiigehtchic** 38.22 348 P P 23 44 02.3 +1.6
baz=152
G30M **tAoh Zraii Nji** 38.29 346 P P 23 44 01.3 -0.2
G30M IAmb IAmb 23 45 02.3
comp=Z,38nm,2.0s
G30M **tAoh Zraii Nji** 38.29 346 P P 23 44 02.2 +0.8
baz=149
K24K **Donnelly Dome** 38.32 338 P P 23 44 04.6 +2.9
baz=134
DHY **Denali Highway** 38.36 336 P P 23 44 01.9 -0.3
DHY **Denali Highway** 38.36 336 P P 23 44 04.9 +2.7
baz=131

CAPN **Captain Cook N** 38.37 332 P P 23 44 04.2 +2.1
baz=124
I27K **Kandik River** 38.42 342 P P 23 44 03.6 +1.0
baz=141
SUA **Susitna One** 38.60 333 P P 23 44 06.2 +2.0
baz=125
WAT1 **Susitna Watana** 38.61 336 P P 23 44 05.4 +1.2
baz=129
G29M **Pine Creek** 38.61 345 P P 23 44 06.1 +2.0
baz=146
I26K **Coal Creek Min** 38.62 341 P P 23 44 04.6 +0.5
I26K IAmb IAmb 23 44 11.1
comp=Z,30nm,1.9s
I26K **Coal Creek Min** 38.62 341 P P 23 44 06.5 +2.4
baz=138
P19K **Oil Pt** 38.66 329 P P 23 44 07.5 +2.9
baz=120
F30M **Barrier River** 38.75 347 P P 23 44 07.9 +2.7
baz=150
C36M **Paulatuk** 38.75 354 P P 23 44 06.1 +0.9
baz=166
J25K **Salcha River,** 38.76 339 P P 23 44 07.2 +1.8
J25K **Salcha River,** 38.76 339 P P 23 44 07.9 +2.5
baz=135,SNR=10.0
H27K **Steamboat Moun** 38.89 343 P P 23 44 08.9 +2.4
baz=141
INK **Inuvik** 38.96 349 P P 23 44 07.4 +0.5
INK **Inuvik** 38.96 349 P P 23 44 08.7 +1.8
baz=153,SNR=6.6
INK **Inuvik** 38.96 349 LR LR 00 01 33.1
comp=Z,1µm,19.4s,baz=182,slow=38
N20K **Mount Spurr** 39.04 332 P P 23 44 09.5 +1.7
baz=123
HDA **Harding Lake** 39.11 338 P P 23 44 09.0 +0.7
HDA **Harding Lake** 39.11 338 P P 23 44 08.7 +0.4
baz=133
SKT **Skwentna** 39.21 333 P P 23 44 08.6 -0.5
SKT IAmb IAmb 23 44 14.6
comp=Z,26nm,1.5s
SKT **Skwentna** 39.21 333 P P 23 44 09.9 +0.7
baz=125
Q17K **Contact Creek** 39.22 326 P P 23 44 08.9 -0.5
baz=116
MCK **McKinley** 39.32 336 P P 23 44 10.2 +0.2
MCK **McKinley** 39.32 336 P P 23 44 11.0 +0.9
baz=130
IL03 **Eielson Array** 39.33 339 P P 23 44 10.1 0.0
IL31 39.34 339 P P 23 44 10.1 -0.1
ILAR **Eielson Array** 39.34 339 P P 23 44 10.3 +0.2
ILAR **Eielson Array** 39.34 339 P P 23 44 10.9 +0.7
comp=Z,3.2nm,1.0s,baz=149,slow=6.9,SNR=29
comp=Z,3.2nm,1.0s
G27K **Doyon Strip** 39.38 343 P P 23 44 11.2 +0.7
G27K **Doyon Strip** 39.38 343 P P 23 44 11.1 +0.6
baz=142
P18K **Big Mountain,** 39.42 328 P P 23 44 12.9 +1.9
baz=118
PRP **Porcupine Dome** 39.45 340 P P 23 44 12.1 +0.8
PRP IAmb IAmb 23 44 17.6
comp=Z,23nm,1.3s
PRP **Porcupine Dome** 39.45 340 P P 23 44 13.9 +2.6
baz=136
WRH **Wood River Hil** 39.52 338 P P 23 44 12.4 +0.8
F28M **Old Crow** 39.60 345 P P 23 44 14.4 +2.1
baz=144,SNR=10
TRF **Thorofare Moun** 39.62 336 P P 23 44 12.8 +0.1
TRF IAmb IAmb 23 44 16.6
comp=Z,36nm,1.3s
TRF **Thorofare Moun** 39.62 336 P P 23 44 13.9 +1.2
baz=128
O18K **Koktuh Hills** 39.63 329 P P 23 44 14.7 +2.0
baz=118
POKR **Poker Plat Res** 39.74 339 P P 23 44 16.4 +2.8
baz=133
N19K **Bonanza Creek** 39.78 330 P P 23 44 16.3 +2.2
baz=120
M20K **Styx River** 39.78 332 P P 23 44 15.9 +1.9
baz=123
E29M **Blow River** 39.83 347 P P 23 44 16.9 +2.7
baz=148,SNR=16
NEA2 **Nenana** 39.92 337 P P 23 44 16.3 +1.2
baz=130
PPLA **Purkeypile** 39.98 334 P P 23 44 18.0 +2.2
baz=125,SNR=9.0
G26K **Porcupine Rive** 40.02 342 P P 23 44 17.6 +1.8
baz=139
H25L **Birch Creek** 40.07 341 P P 23 44 18.3 +2.1
baz=136,SNR=6.8
CAST **Castle Rocks** 40.24 335 P P 23 44 19.6 +1.9
baz=126,SNR=7.2
BPAW **Bear Paw Mtn.** 40.26 336 P P 23 44 19.1 +1.2
baz=127,SNR=6.4
M19K **Big River Lodg** 40.30 332 P P 23 44 20.3 +2.0
baz=121
S14K **Fog Glacier** 40.30 322 P P 23 44 20.9 +2.4
baz=109
N18K **Kilae Creek** 40.32 330 P P 23 44 21.0 +2.5
baz=118
E28M **Babbage River** 40.34 346 P P 23 44 18.4 -0.2
E28M IAmb IAmb 23 44 24.3
comp=Z,34nm,1.4s
E28M **Babbage River** 40.34 346 P P 23 44 20.5 +1.9
baz=146
H24K **Noodor Dome** 40.37 339 P P 23 44 17.8 -1.0
H24K **Noodor Dome** 40.37 339 P P 23 44 20.7 +1.8
baz=133,SNR=7.0
I23K **Minto, Yukon-K** 40.37 338 P P 23 44 16.7 -2.0
I23K **Minto, Yukon-K** 40.37 338 P P 23 44 19.9 +1.2
baz=130
SVW2 **Sparrevohn** 40.39 330 P P 23 44 17.4 -1.6
SVW2 IAmb IAmb 23 44 25.1
comp=Z,52nm,1.8s
L20K **Farewell, AK** 40.40 333 P P 23 44 20.0 +0.9
baz=122
O17K **Koliganek Bris** 40.44 328 P P 23 44 22.1 +2.7
baz=116
E27K **Coleen River** 40.45 345 P P 23 44 19.3 -0.1
E27K **Coleen River** 40.45 345 P P 23 44 21.0 +1.6
baz=143
G25K **Bearman Lake** 40.51 341 P P 23 44 22.8 +2.9
baz=136,SNR=9.6
BMAR **Burnt Mountain** 40.59 343 P P 23 44 21.3 +0.7
CHUM **Lake Minchumin** 40.60 335 P P 23 44 22.7 +2.0
baz=126,SNR=6.7
L19K **White Mountain** 40.63 332 P P 23 44 20.2 -0.8
L19K IAmb IAmb 23 44 24.4
comp=Z,20nm,1.2s
L19K **White Mountain** 40.63 332 P P 23 44 23.5 +2.5
baz=121
F26K **Sheenjek River** 40.68 343 P P 23 44 24.7 +3.3
baz=139,SNR=27
M18K **Stony River** 40.68 331 P P 23 44 23.6 +2.2
baz=119
MLY **Manley** 40.75 337 P P 23 44 22.0 0.0
MLY IAmb IAmb 23 44 52.8
comp=Z,32nm,1.9s
MLY **Manley** 40.75 337 P P 23 44 24.2 +2.2
baz=129,SNR=5.7
D28M **Stokes Point** 40.79 347 P P 23 44 24.4 +2.2
baz=147
N17K **Nushagak Hills** 40.82 329 P P 23 44 22.6 +0.1
N17K IAmb IAmb 23 44 28.5
comp=Z,23nm,1.2s
N17K **Nushagak Hills** 40.82 329 P P 23 44 25.1 +2.6
baz=117
O16K **Kokwok River B** 40.82 327 P P 23 44 24.4 +1.8
baz=115
G24K **Hadweenzic Riv** 40.85 341 P P 23 44 24.2 +1.5
baz=134
K20K **Telida** 40.95 334 P P 23 44 23.0 -0.6
K20K IAmb IAmb 23 44 27.4
comp=Z,28nm,1.2s
K20K **Telida** 40.95 334 P P 23 44 25.6 +2.0
baz=123
F25K **Christian Rive** 40.99 342 P P 23 44 27.5 +3.6
baz=137,SNR=18
SCHQ **Schefferville** 41.02 40 P P 23 44 24.5 +0.2
comp=Z,6.8nm,1.1s,baz=270,slow=10,SNR=2.5
comp=Z,6.8nm,1.1s
D27M **Malcolm River** 41.17 346 P P 23 44 23.7 -1.7
D27M **Malcolm River** 41.17 346 P P 23 44 28.2 +2.8
baz=144
I21K **Tanana** 41.26 337 P P 23 44 26.4 +0.4
I21K IAmb IAmb 23 44 32.1
comp=Z,25nm,1.2s
I21K **Tanana** 41.26 337 P P 23 44 28.7 +2.6
baz=127,SNR=8.6

M17K **Holitna River** 41.32 330 P P 23 44 26.4 -0.2
M17K **Holitna River** 41.32 330 P P 23 44 28.8 +2.1
baz=117
E25K **Arctic Village** 41.36 343 P P 23 44 26.8 -0.1
E25K IAmb IAmb 23 44 31.8
comp=Z,22nm,1.2s
E25K **Arctic Village** 41.36 343 P P 23 44 30.1 +3.2
baz=138,SNR=16
L18K **Granite Mounta** 41.40 331 P P 23 44 26.7 -0.5
L18K **Granite Mounta** 41.40 331 P P 23 44 29.8 +2.5
baz=119
A36M **Sachs Harbour** 41.42 355 P P 23 44 27.0 -0.3
A36M IAmb IAmb 23 44 30.6
comp=Z,18nm,0.8s
A36M **Sachs Harbour** 41.42 355 P P 23 44 29.2 +1.9
baz=166,SNR=10
J20K **Nowinta River** 41.43 335 P P 23 44 26.3 -1.2
J20K **Nowinta River** 41.43 335 P P 23 44 28.9 +1.4
baz=124,SNR=7.9
S12K **Black Hills** 41.46 321 P P 23 44 30.2 +2.3
baz=106
O15K **Ungalikthiuk R** 41.47 326 P P 23 44 30.1 +2.2
baz=112
TTA **Tatalina** 41.48 333 P P 23 44 26.4 -1.6
TTA **Tatalina** 41.48 333 P P 23 44 30.1 +2.1
baz=120,SNR=5.1
H22K **Ishtalitna Cre** 41.50 338 P P 23 44 31.0 +2.9
baz=129
N16K **Nishlik Lake** 41.50 328 P P 23 44 31.2 +3.0
baz=115
F24K **Squaw Lake** 41.54 341 P P 23 44 31.3 +2.9
baz=134
G23K **Bananza Creek** 41.60 340 P P 23 44 31.5 +2.5
baz=131,SNR=6.6
M16K **Timber Creek** 41.82 329 P P 23 44 29.0 -1.8
M16K IAmb IAmb 23 44 36.4
comp=Z,35nm,1.4s
M16K **Timber Creek** 41.82 329 P P 23 44 33.5 +2.8
baz=115
H21K **Melozitna Rive** 41.82 337 P P 23 44 32.0 +1.3
H21K **Melozitna Rive** 41.82 337 P P 23 44 33.6 +2.9
baz=127
J19K **Poorman** 41.88 334 P P 23 44 30.7 -0.5
J19K IAmb IAmb 23 44 36.7
comp=Z,15nm,1.0s
J19K **Poorman** 41.88 334 P P 23 44 33.5 +2.3
baz=122,SNR=13
I20K **Naaghedeneel** 41.90 336 P P 23 44 30.6 -0.7
I20K **Naaghedeneel** 41.90 336 P P 23 44 33.8 +2.5
baz=124
N15K **Kwethluk River** 41.98 328 P P 23 44 34.5 +2.4
baz=113
COLD **Coldfoot** 42.00 340 P P 23 44 30.9 -1.2
COLD **Coldfoot** 42.00 340 P P 23 44 34.5 +2.4
baz=131,SNR=12
J18K **Innoko River** 42.02 333 P P 23 44 31.9 -0.4
J18K IAmb IAmb 23 44 35.9
comp=Z,24nm,1.2s
J18K **Innoko River** 42.02 333 P P 23 44 34.5 +2.1
baz=120
L17K **Donlin** 42.02 331 P P 23 44 34.8 +2.4
baz=117
E24K **Your Creek** 42.09 342 P P 23 44 33.3 +0.4
E24K **Your Creek** 42.09 342 P P 23 44 36.2 +3.3
baz=134,SNR=12
O14K **Tigyukauivet M** 42.19 326 P P 23 44 36.0 +2.3
baz=111
K17K **Iditarod** 42.29 332 P P 23 44 34.3 -0.2
K17K **Iditarod** 42.29 332 P P 23 44 35.4 +0.8
baz=118
IMAR **Indian Mountai** 42.33 337 P P 23 44 36.4 +1.6
L16K **Owhat River** 42.34 330 P P 23 44 33.3 -1.6
L16K IAmb IAmb 23 44 38.7
comp=Z,19nm,1.1s
L16K **Owhat River** 42.34 330 P P 23 44 36.5 +1.5
baz=115
E23K **Chandalar** 42.39 341 P P 23 44 38.6 +3.2
baz=133
H20K **Anotleneega Mo** 42.43 336 P P 23 44 38.0 +2.3
baz=124
D25K **Kavik River** 42.45 344 P P 23 44 33.8 -2.0
D25K IAmb IAmb 23 44 42.0
comp=Z,22nm,1.3s
D25K **Kavik River** 42.45 344 P P 23 44 38.2 +2.3
baz=138
C26K **Camden Bay** 42.56 345 P P 23 44 39.5 +2.9
baz=140
G21K **Allakaket** 42.56 338 P P 23 44 37.1 +0.4
G21K IAmb IAmb 23 44 40.8
comp=Z,33nm,1.6s
G21K **Allakaket** 42.56 338 P P 23 44 38.8 +2.1
baz=127
N14K **Kuskokwak Cree** 42.63 327 P P 23 44 39.1 +1.8
baz=111
TOLK **Toolik Lake Re** 42.77 342 P P 23 44 38.1 -0.3
TOLK IAmb IAmb 23 44 45.5
comp=Z,23nm,1.1s
TOLK **Toolik Lake Re** 42.77 342 P P 23 44 40.3 +1.9
baz=133,SNR=13
D24K **Happy Valley** 42.93 343 P P 23 44 39.4 -0.3
D24K IAmb IAmb 23 44 46.6
comp=Z,47nm,1.8s
D24K **Happy Valley** 42.93 343 P P 23 44 41.8 +2.1
baz=134
F21K **Alatna River** 42.98 339 P P 23 44 39.6 -0.6
F21K IAmb IAmb 23 44 44.5
comp=Z,46nm,1.9s
F21K **Alatna River** 42.98 339 P P 23 44 42.5 +2.3
baz=127,SNR=6.1
H19K **Roundabout Mou** 42.99 336 P P 23 44 40.5 +0.3
H19K **Roundabout Mou** 42.99 336 P P 23 44 42.5 +2.3
baz=122
M14K **Bethel** 43.06 328 P P 23 44 40.1 -0.6
M14K **Bethel** 43.06 328 P P 23 44 43.1 +2.4
baz=112
D23K **Nanushuk River** 43.29 342 P P 23 44 44.8 +2.2
baz=132,SNR=19
C24K **Franklin Bluff** 43.30 343 P P 23 44 44.8 +2.2
baz=135
K15K **Wolf Creek Mou** 43.46 330 P P 23 44 45.9 +1.8
baz=114
J16K **Anvik River** 43.48 332 P P 23 44 46.4 +2.2
baz=116
H18K **Honhosa River** 43.49 335 P P 23 44 46.6 +2.3
baz=120
G19K **Purcell Mounta** 43.55 336 P P 23 44 45.3 +0.6
G19K IAmb IAmb 23 44 49.2
comp=Z,21nm,1.6s
G19K **Purcell Mounta** 43.55 336 P P 23 44 46.0 +1.3
baz=122
UNV **Unalaska Valle** 43.55 317 P P 23 44 46.9 +2.1
baz=100
F20K **Avaraart Lake** 43.59 338 P P 23 44 45.6 +0.6
F20K IAmb IAmb 23 44 50.0
comp=Z,28nm,1.8s
F20K **Avaraart Lake** 43.59 338 P P 23 44 46.0 +1.0
baz=124,SNR=7.8
L14K **Kuka Creek** 43.60 328 P P 23 44 46.9 +1.8
baz=111
D22K **Ayikyak River** 43.78 341 P P 23 44 49.1 +2.5
baz=130,SNR=8.4
I17K **Unalakleet** 43.78 332 P P 23 44 48.6 +1.9
baz=116
C23K **Itkillik River** 43.86 343 P P 23 44 47.3 +0.2
C23K **Itkillik River** 43.86 343 P P 23 44 48.9 +1.7
baz=133
E21K **Killik River** 43.88 340 P P 23 44 47.4 0.0
E21K IAmb IAmb 23 45 05.9
comp=Z,16nm,1.2s
E21K **Killik River** 43.88 340 P P 23 44 49.2 +1.8
baz=128
H17K **Granite Mounta** 43.96 334 P P 23 44 47.7 -0.4
H17K **Granite Mounta** 43.96 334 P P 23 44 49.0 +1.0
baz=118
G18K **Tagagawik** 43.97 336 P P 23 44 48.7 +0.6
baz=120
F19K **Shaleruckik Mo** 44.15 337 P P 23 44 48.5 -1.0
F19K **Shaleruckik Mo** 44.15 337 P P 23 44 51.4 +1.9
baz=122
E19K **Redstone River** 44.31 338 P P 23 44 51.0 +0.2
E19K IAmb IAmb 23 44 54.8
comp=Z,25nm,1.3s
E19K **Redstone River** 44.31 338 P P 23 44 53.1 +2.3
baz=123
PRSN **Puerto Rico Se** 44.38 95 P P 23 44 52.5 +0.5
PRSN IAmb IAmb 23 45 02.7
comp=Z,12nm,0.7s

E20K	**Nigu River**	**44.43**	**339**	P	**P**	**23 44 54.3**	**+2.4**
	baz=125						
G17K	**Kiwalik Mounta**	**44.50**	**334**	P	**P**	**23 44 54.6**	**+2.2**
	baz=118						
J14K	**Nanvaranak Lak**	**44.50**	**330**	P	**P**	**23 44 54.8**	**+2.4**
	baz=112						
C21K	**Knifeblade Rid**	**44.55**	**341**	P	**P**	**23 44 55.7**	**+3.0**
	baz=127						
F18K	**Selawik**	**44.67**	**336**	P	**P**	**23 44 56.1**	**+2.5**
	baz=120						
H16K	**Elim**	**44.72**	**333**	P	**P**	**23 44 56.5**	**+2.4**
	baz=115,SNR=9.9						
UUPR	**Utuado, UPR, P**	**44.73**	**95**	P	**P**	**23 44 55.4**	**+0.6**
UUPR				IAmb	IAmb	23 45 12.0	
	comp=Z,25nm,1.3s						
B21K	**Ikpikpuk River**	**44.78**	**341**	P	**P**	**23 44 54.8**	**+0.3**
B21K				IAmb	IAmb	23 44 58.6	
	comp=Z,22nm,1.4s						
B21K	**Ikpikpuk River**	**44.78**	**341**	P	**P**	**23 44 56.7**	**+2.2**
	baz=128						
NIKH	**Nikolski High**	**44.81**	**316**	P	**P**	**23 44 57.6**	**+2.5**
	baz=97						
D20K	**Etivluk River**	**44.82**	**340**	P	**P**	**23 44 57.3**	**+2.4**
	baz=125						
M11K	**Mekoryuk**	**44.91**	**326**	P	**P**	**23 44 57.2**	**+1.6**
	baz=107						
B22K	**Teshekpuk Lake**	**44.92**	**342**	P	**P**	**23 44 55.7**	**+0.1**
B22K	**Teshekpuk Lake**	**44.92**	**342**	P	**P**	**23 44 57.7**	**+2.1**
	baz=130						
G16K	**Koyuk River**	**45.09**	**334**	P	**P**	**23 44 56.5**	**-0.5**
G16K				IAmb	IAmb	23 45 00.9	
	comp=Z,23nm,1.4s						
G16K	**Koyuk River**	**45.09**	**334**	P	**P**	**23 44 58.8**	**+1.8**
	baz=116						
D19K	**Kuna River**	**45.15**	**339**	P	**P**	**23 44 57.1**	**-0.5**
D19K				IAmb	IAmb	23 45 01.0	
	comp=Z,22nm,1.2s						
D19K	**Kuna River**	**45.15**	**339**	P	**P**	**23 44 59.1**	**+1.6**
	baz=123						
F17K	**Baldwin Pennin**	**45.15**	**336**	P	**P**	**23 44 58.0**	**+0.4**
F17K				IAmb	IAmb	23 45 03.0	
	comp=Z,16nm,1.2s						
F17K	**Baldwin Pennin**	**45.15**	**336**	P	**P**	**23 44 59.8**	**+2.2**
	baz=118						
E18K	**Tukpahlearik C**	**45.40**	**337**	P	**P**	**23 44 59.2**	**-0.3**
E18K				IAmb	IAmb	23 45 05.1	
	comp=Z,10.0nm,0.9s						
E18K	**Tukpahlearik C**	**45.40**	**337**	P	**P**	**23 45 01.4**	**+1.9**
	baz=119,SNR=10						
G15K	**Niukluk**	**45.57**	**333**	P	**P**	**23 45 02.8**	**+2.0**
	baz=113,SNR=5.2						
E17K	**Hotham Inlet**	**45.66**	**336**	P	**P**	**23 45 03.6**	**+2.1**
	baz=118						
ROSC	**El Rosal**	**45.67**	**117**	P	**P**	**23 45 02.8**	**+0.1**
ROSC	**El Rosal**	**45.67**	**117**	P	**P**	**23 45 01.2**	**-1.6**
	comp=Z,2.3nm,0.4s,baz=292,slow=15,SNR=1.4						
ROSC				LR	LR	00 05 44.3	
	comp=Z,374nm,20.4s,baz=320,slow=38						
	comp=Z,2.3nm,0.4s						
OTAV	**Otavalo**	**45.72**	**125**	P	**P**	**23 45 02.9**	**-0.3**
OTAV				IAmb	IAmb	23 45 08.2	
	comp=Z,9.2nm,1.1s						
B20K	**Meade River**	**45.73**	**341**	P	**P**	**23 45 02.8**	**+0.7**
B20K	**Meade River**	**45.73**	**341**	P	**P**	**23 45 04.7**	**+2.6**
	baz=125						
A22K	**Sinclair Lake**	**45.74**	**343**	P	**P**	**23 45 04.5**	**+2.4**
	baz=129						
PULU	**Pululahua**	**45.84**	**125**	P	**P**	**23 45 05.2**	**+1.1**
IMBA	**Imbabura, San**	**45.87**	**125**	P	**P**	**23 45 04.9**	**+0.5**
DRLN	**Deer Lake**	**45.89**	**50**	P	**P**	**23 45 01.4**	**-2.3**
ANM	**Nome**	**45.93**	**332**	P	**P**	**23 45 05.7**	**+2.0**
	baz=112						
C19K	**Lookout Ridge**	**45.93**	**339**	P	**P**	**23 45 03.6**	**-0.2**
C19K				IAmb	IAmb	23 45 09.5	
	comp=Z,18nm,1.3s						
C19K	**Lookout Ridge**	**45.93**	**339**	P	**P**	**23 45 06.0**	**+2.2**
	baz=122						
F15K	**North Star Dit**	**46.09**	**334**	P	**P**	**23 45 05.7**	**+0.7**
F15K	**North Star Dit**	**46.09**	**334**	P	**P**	**23 45 07.4**	**+2.4**
	baz=113						
SDV	**Santo Domingo**	**46.16**	**109**	LR	LR	00 07 32.9	
	comp=Z,353nm,19.2s,baz=308,slow=40						
C18K	**Utukok River**	**46.20**	**338**	P	**P**	**23 45 07.2**	**+1.4**
	baz=120,SNR=14						
A21K	**Barrow**	**46.36**	**343**	P	**P**	**23 45 08.6**	**+1.6**
	baz=127						
D17K	**Noatak River**	**46.37**	**337**	P	**P**	**23 45 09.3**	**+2.2**
	baz=117						
RDOG	**Red Dog Mine**	**46.47**	**337**	P	**P**	**23 45 10.1**	**+2.2**
	baz=117,SNR=6.2						
F14K	**Arctic Creek**	**46.64**	**333**	P	**P**	**23 45 10.4**	**+1.1**
	baz=111						
B18K	**Kokolik River**	**46.75**	**339**	P	**P**	**23 45 11.9**	**+1.8**
	baz=120						
C17K	**DeLong Mountai**	**46.76**	**338**	P	**P**	**23 45 11.7**	**+1.5**
	baz=117						
A19K	**Wainwright**	**46.95**	**340**	P	**P**	**23 45 13.1**	**+1.4**
	baz=121						
TNA	**Tin City**	**47.30**	**333**	P	**P**	**23 45 15.4**	**+1.0**
	baz=110						
C16K	**Lisburne Hills**	**47.39**	**337**	P	**P**	**23 45 15.6**	**+0.5**
C16K	**Lisburne Hills**	**47.39**	**337**	P	**P**	**23 45 17.1**	**+2.0**
	baz=115						
MCRA	**Macar, Loja**	**48.08**	**131**	P	**P**	**23 45 21.6**	**+0.5**
BAUV	**El Baul**	**48.24**	**107**	P	**P**	**23 45 22.1**	**-0.3**
KIWB	**Kanaga Island**	**49.83**	**314**	P	**P**	**23 45 33.7**	**-0.5**
PCRV	**Puerto La Cruz**	**50.40**	**103**	LR	LR	00 10 34.4	
	comp=Z,238nm,18.2s,slow=40						
ATAH	**Atahualpa**	**51.17**	**132**	LR	LR	00 05 13.9	
	comp=Z,255nm,18.4s,baz=319,slow=34						
NEEM	**North Greenlan**	**54.17**	**14**	*i* P	**P**	**23 46 05.3**	**-1.2**
NEEM				IAmb	IAmb	23 46 08.4	
	comp=Z,21nm,1.0s						
SHEM	**Shemya Is, Ala**	**55.13**	**315**	LR	LR	00 06 09.1	
	comp=Z,151nm,21.1s,baz=101,slow=32						
NNA	**Nana**	**55.87**	**134**	LR	LR	00 08 03.6	
	comp=Z,267nm,19.5s,baz=336,slow=34						
ICESG	**Greenland Ices**	**55.89**	**25**	*i* P	**P**	**23 46 18.6**	**-0.5**
ICESG				IAmb	IAmb	23 46 21.2	
	comp=Z,55nm,1.4s						
SUMG	**Summit**	**56.44**	**21**	*i* P	**P**	**23 46 22.1**	**-0.9**
SUMG				IAmb	IAmb	23 46 24.8	
	comp=Z,11nm,1.1s						
PPT	**Papeete**	**59.06**	**220**	LR	LR	00 06 41.6	
	comp=Z,80nm,20.9s,baz=358,slow=30						
DAG	**Danmarks Havn**	**61.31**	**15**	*i* P	**P**	**23 46 54.5**	**-1.8**
DAG				IAmb	IAmb	23 46 57.2	
	comp=Z,12nm,1.0s						
MDP	**Montagnes des**	**63.14**	**101**	LR	LR	00 17 34.5	
	comp=Z,100nm,19.9s,baz=316,slow=39						
SEY	**Seymchan**	**64.32**	**330**	LR	LR	00 12 54.5	
	comp=Z,304nm,21.4s,baz=64,slow=34						
PETK	**Petropavlovsk-**	**64.72**	**318**	LR	LR	00 14 17.6	
	comp=Z,57nm,19.1s,baz=76,slow=35						
MA2	**Magadan**	**66.18**	**326**	LR	LR	00 15 13.8	
	comp=Z,200nm,19.8s,baz=98,slow=35						
SPITS	**Spitsbergen Ar**	**67.24**	**10**	LR	LR	00 18 50.0	
	comp=Z,192nm,18.8s,baz=300,slow=38						
RAR	**Rarotonga**	**67.88**	**226**	LR	LR	00 08 09.7	
	comp=Z,89nm,21.8s,baz=30,slow=28						
TIXI	**Tiksi**	**68.66**	**342**	LR	LR	00 23 38.5	
	comp=Z,194nm,18.1s,baz=40,slow=41						
LVC	**Limon Verde**	**68.82**	**135**	LR	LR	00 12 21.2	
	comp=Z,126nm,20.3s,baz=328,slow=31						
YAK	**Yakutsk**	**74.05**	**334**	LR	LR	00 19 40.0	
	comp=Z,185nm,21.8s,baz=74,slow=35						
ARCES	**ARCESS Array B**	**75.53**	**14**	LR	LR	00 23 29.4	
	comp=Z,213nm,20.1s,baz=316,slow=37						
EKA	**Eskdalemuir Ar**	**75.84**	**33**	P	**P**	**23 48 27.7**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=302,slow=4.0,SNR=4.5						
	comp=Z,1.3nm,0.6s						
ASAJ	**Asahikawa**	**77.56**	**314**	LR	LR	00 20 45.9	
	comp=Z,65nm,18.3s,baz=269,slow=34						
NOA	**NORSAR Array B**	**78.12**	**24**	P	**P**	**23 48 41.0**	**+0.8**
	comp=Z,2.2nm,1.0s,baz=317,slow=5.8,SNR=4.1						
NOA				LR	LR	00 23 00.4	
	comp=Z,56nm,18.1s,baz=315,slow=36						
	comp=Z,2.2nm,1.0s						
NRIK	**Noril'sk**	**78.64**	**352**	P	**P**	**23 48 42.8**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=13,slow=5.9,SNR=1.8						
NRIK				LR	LR	00 25 47.8	
	comp=Z,107nm,20.9s,baz=40,slow=37						
	comp=Z,1.6nm,0.6s						
BDFB	**Brasilia**	**78.72**	**116**	LR	LR	00 26 44.5	
	comp=Z,163nm,18.4s,baz=317,slow=38						
CPUP	**Villa Florida**	**78.82**	**130**	P	**P**	**23 48 42.8**	**-1.6**
	comp=Z,2.4nm,0.8s,baz=287,slow=3.1,SNR=3.3						
CPUP				LR	LR	00 24 03.5	
	comp=Z,124nm,21.2s,baz=330,slow=36						
	comp=Z,2.4nm,0.8s						
HFS	**Hagfors**	**79.62**	**24**	P	**P**	**23 48 48.0**	**-0.4**
HFS	**Hagfors**	**79.62**	**24**	P	**P**	**23 48 48.0**	**-0.4**
	comp=Z,6.6nm,1.0s,baz=354,slow=4.3,SNR=3.6						
HFS				LR	LR	00 23 18.2	
	comp=Z,98nm,18.2s,baz=322,slow=35						
	comp=Z,6.6nm,1.0s						
KLR	**Kul'dur**	**80.87**	**323**	LR	LR	00 23 29.7	
	comp=Z,121nm,20.0s,baz=16,slow=35						
PLCA	**Paso Flores**	**82.07**	**148**	LR	LR	00 18 33.0	
	comp=Z,317nm,19.3s,baz=318,slow=31						
FINES	**FINESS Array B**	**82.38**	**18**	P	**P**	**23 49 03.2**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=320,slow=3.1,SNR=6.4						
	comp=Z,1.4nm,0.6s						
RCBR	**Riachuelo**	**83.07**	**101**	LR	LR	00 30 09.0	
	comp=Z,90nm,18.8s,baz=250,slow=39						
USRK	**Ussuriysk Ar.**	**83.81**	**319**	P	**P**	**23 49 10.3**	**-0.5**
	comp=Z,5.8nm,1.0s,baz=66,slow=4.9,SNR=4.7						
USRK				LR	LR	00 24 52.1	
	comp=Z,72nm,19.9s,baz=136,slow=34						
	comp=Z,5.8nm,1.0s						
ESDC	**Sonseca Array**	**84.46**	**47**	P	**P**	**23 49 14.1**	**-0.1**
	comp=Z,1.9nm,1.0s,baz=305,slow=6.6,SNR=4.4						
ESDC				LR	LR	00 25 57.2	
	comp=Z,285nm,19.0s,baz=296,slow=35						
	comp=Z,1.9nm,1.0s						
MJAR	**Matsushiro Arr**	**84.49**	**310**	P	**P**	**23 49 15.1**	**+0.6**
	comp=Z,1.6nm,0.4s,baz=37,slow=4.4,SNR=6.1						
MJAR				LR	LR	00 20 28.7	
	comp=Z,237nm,21.2s,baz=76,slow=31						
	comp=Z,1.6nm,0.4s						
JHJ	**Hachijo jima 2**	**85.35**	**306**	LR	LR	00 22 38.5	
	comp=Z,116nm,18.8s,baz=80,slow=32						
CLL	**Collm**	**85.80**	**30**	*eP*	**P**	**23 49 21.0**	**+0.3**
	comp=Z,8.0nm,1.2s						
CLL				AMS	AMS	00 27 00.0	
	comp=N,100nm,18.7s						
CLL				AMS	AMS	00 27 00.0	
	comp=E,200nm,18.3s						
CLL				AMS	AMS	00 30 00.0	
	comp=Z,200nm,18.5s						
JCJ	**Chichijima**	**86.95**	**300**	LR	LR	00 19 34.7	
	comp=Z,207nm,21.6s,baz=142,slow=30						
GERES	**GERESS Array B**	**87.91**	**31**	LR	LR	00 28 44.4	
	comp=Z,128nm,20.2s,baz=309,slow=36						
MDT	**Midelt**	**88.07**	**53**	LR	LR	00 28 57.0	
	comp=Z,155nm,18.2s,baz=347,slow=36						
VRAC	**Vranov**	**88.82**	**30**	LR	LR	00 30 49.9	
	comp=Z,109nm,18.4s,baz=322,slow=37						
KIRV	**Kirov**	**89.67**	**8**	LR	LR	00 35 03.4	
	comp=Z,172nm,18.9s,baz=350,slow=39						
KSRS	**Korea Array**	**90.46**	**315**	LR	LR	00 24 56.1	
	comp=Z,101nm,21.5s,baz=40,slow=32						
HNR	**Honiara**	**91.23**	**260**	LR	LR	00 22 05.7	
	comp=Z,4µm,21.6s,baz=50,slow=30						
GUMO	**Guam**	**92.16**	**287**	LR	LR	00 22 45.9	
	comp=Z,318nm,22.0s,baz=80,slow=30						
XLT	**XiLinHaoTe**	**92.37**	**326**	*eP*	**P**	**23 49 54.1**	**+2.0**
XLT				pmax	pmax		
	comp=Z,8.0nm,1.1s						
XLT				pmax	pmax		
	comp=Z,290nm,4.4s						
AKASG	**Malin Array Be**	**92.44**	**22**	P	**P**	**23 49 51.2**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=349,slow=4.8,SNR=7.0						
	comp=Z,0.5nm,0.5s						
ARU	**Arti**	**92.66**	**4**	LR	LR	00 36 53.9	
	comp=Z,119nm,18.1s,baz=3.5,slow=39						
SONM	**Songino Array**	**93.41**	**334**	P	**P**	**23 49 56.5**	**-0.4**
	comp=Z,0.8nm,1.0s,baz=75,slow=1.6,SNR=5.1						
SONM				LR	LR	00 33 05.6	
	comp=Z,166nm,21.3s,baz=1.0,slow=36						
	comp=Z,0.8nm,1.0s						
ZALV	**Zalesovo Beam**	**93.76**	**349**	LR	LR	00 38 42.4	
	comp=Z,62nm,18.3s,baz=32,slow=40						
KEST	**Kesra**	**95.06**	**43**	LR	LR	00 32 28.5	
	comp=Z,139nm,19.9s,baz=313,slow=35						
MLR	**Muntele Rosu**	**95.69**	**27**	LR	LR	00 36 11.9	
	comp=Z,195nm,18.2s,baz=333,slow=37						
BVAR	**Borovoye Array**	**96.19**	**357**	LR	LR	00 39 53.8	
	comp=Z,130nm,18.1s,baz=18,slow=39						
JOW	**Kunigami**	**97.09**	**307**	LR	LR	00 34 10.8	
	comp=Z,86nm,18.5s,baz=44,slow=36						
KURBB	**Kurchatov Arra**	**97.91**	**352**	LR	LR	00 39 47.3	
	comp=Z,81nm,19.6s,baz=164,slow=39						
AKTO	**Aktyubinsk**	**98.59**	**5**	LR	LR	00 38 30.0	
	comp=Z,200nm,21.1s,baz=196,slow=38						
CMAR	**Chiang Mai Arr**	**121.35**	**323**	PKP	**PKiKP**	**23 55 36.3**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=325,slow=1.4,SNR=4.6						
BOSA	**Boshof**	**144.93**	**97**	PKP	**PKPab**	**23 56 17.5**	**-0.8**
	comp=Z,2.2nm,0.6s,baz=0.4,slow=5.2,SNR=4.2						

*ECX **19** 23:40:25.2±0.3, 31.°02N×114.°23W, h15km±4km, ML3.7*
*MEX **19** 23:40:26.1±0.3, 30.°98N×114.°20W, h10km, MD3.7*

ISC 19 23:40:23.1±1.2, 31.°01N±0.°05×114.°17W±0.°03,
h26km±15km, n15, σ0s80/21, 3C-3D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PPXB	**Puerto Peasco**	**0.56**	**54**	*eP*		**Pn**		**23 40 35.9**	**+0.4**
PPXB				*eS*		**Sn**		**23 40 44.0**	**+0.1**
PPXB				⇑*e*				23 40 45.3	
PPXB				IAML				23 40 45.3	
	comp=E,5µm,1.0s								
PPXB				IAML				23 40 45.3	
	comp=N,5µm,0.9s								
PPXB				⇓*e*				23 40 45.3	
SFX	**San Felipe**	**0.59**	**273**	*eP*		**Pn**		**23 40 35.8**	**0.0**
SFX				*i* S		**Sn**		**23 40 43.9**	**-0.7**
SFX	**San Felipe**	**0.59**	**273**	*eP*		**Pb**		**23 40 34.9**	**+0.1**
SFX				*eS*		**Sb**		**23 40 42.4**	**-0.3**
SFX				IAML				23 40 44.8	
	comp=E,5µm,0.6s								
SFX				⇓*e*				23 40 44.8	
SFX				IAML				23 40 46.5	
	comp=N,3µm,0.7s								
SFX				⇑*e*				23 40 46.5	
PIX	**Pinacate**	**0.82**	**48**	*eP*		**Pn**		**23 40 40.0**	**+1.0**
PIX				IAML				23 40 57.2	
	comp=N,2µm,1.1s								
PIX				*e*				23 40 57.2	
PIX				IAML				23 41 00.4	
	comp=E,4µm,1.0s								
ECBX	**El Chinero**	**0.89**	**302**	*eP*		**Pn**		**23 40 39.6**	**-0.3**
ECBX				*eS*		**Sn**		**23 40 51.2**	**-0.8**
SPIG	**San Pedro Mart**	**1.11**	**272**	*eP*		**Pb**		**23 40 44.2**	**+0.2**
SPIG				*eS*		**Sb**		**23 40 58.1**	**-0.1**
SPIG	**San Pedro Mart**	**1.11**	**272**	*eP*		**Pb**		**23 40 44.1**	**+0.2**
SLGB	**San Luis Gonza**	**1.19**	**190**	*eP*		**Pb**		**23 40 45.8**	**+0.8**
RHX	**Rio Hardy**	**1.47**	**320**	*eP*		**Pb**		**23 40 49.6**	**-0.2**
214A	**Organ Pipe Nat**	**1.49**	**50**	*eP*		**Pb**		**23 40 50.1**	**-0.1**
214A				*eS*		**Sb**		**23 41 08.0**	**-0.8**
SQX	**San Quintin**	**1.53**	**254**	*eP*		**Pb**		**23 40 50.5**	**-0.3**
SQX				⇑*e*				23 41 13.8	
SQX				IAML				23 41 13.8	
	comp=N,1µm,0.6s								
SQX				⇓*e*				23 41 20.3	
SQX				IAML				23 41 20.3	
	comp=E,866nm,0.5s								
MBIG	**Mexicali**	**1.65**	**328**	*eP*		Pb		23 40 59.0	+6.2
LAPR	**La Primavera**	**1.67**	**107**	*eP*		**Pb**		**23 40 52.2**	**-1.0**
LAPR				*eS*		Sn		23 41 02.2	-9.1
PLIB	**Puerto Liberta**	**1.68**	**130**	*eP*		**Pb**		**23 40 53.9**	**+0.6**
CBX	**Cerro Bola**	**2.49**	**302**	*eP*		**Pb**		**23 41 09.6**	**+2.3**
CBX				*eS*		**Sb**		**23 41 37.1**	**-0.6**

*JMA **19** 23:45:33.2±0.1, 43.°0N±0.°5×145.°6E±0.°8, h70km±1km, MV3.0/37, OFF NEMURO PENINSULA*
*SKHL **19** 23:45:34.0±0.2, 42.°90N×145.°70E, h55km±2km, mb4.2/3*

ISC 19 23:45:32.6±1.9, 42.°91N±0.°09×145.°65E±0.°06, h70km±11km,
n15, σ0s50/28, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.40**	**296**	*i* P		**Pn**		**23 45 45.0**	**+0.5**
JKHN				*eS*		**Sn**		**23 45 53.2**	**-0.1**
NEM2	**Nemuro 2**	**0.46**	**8**	*eP*		**Pn**		**23 45 45.4**	**+0.4**
NEM2				*eS*		**Sn**		**23 45 54.2**	**0.0**
NMR	**Nemuro--Hokkai**	**0.46**	**7**	*i* P		**Pn**		**23 45 45.4**	**+0.3**
NMR				*i* S		**Sn**		**23 45 53.4**	**-0.8**
AKK	**Akkeshi**	**0.60**	**281**	*i* P		**Pn**		**23 45 46.7**	**+0.3**
AKK				AMB	AMB			23 45 46.8	
	150nm,0.3s								
AKK				*eS*		**Sn**		**23 45 56.4**	**-0.2**
AKK				A	A			23 45 57.0	
	260nm,0.3s								
AKK				A	A			23 45 57.0	
	250nm,0.3s								
JAK	**Akkeshi**	**0.71**	**277**	*eP*		**Pn**		**23 45 47.8**	**+0.3**
JAK				*eS*		**Sn**		**23 45 58.6**	**0.0**
JNK	**Nakash**	**0.96**	**315**	*eP*		**Pn**		**23 45 50.4**	**-0.2**
JNK				*eS*		**Sn**		**23 46 02.8**	**-1.2**
JNSB	**Nemuroshibetsu**	**0.98**	**332**	*eP*		**Pn**		**23 45 50.9**	**+0.1**
JNSB				*eS*		**Sn**		**23 46 04.0**	**-0.4**
JRA	**Rausu**	**1.10**	**340**	*eP*		**Pn**		**23 45 52.5**	**+0.3**
JRA				*eS*		**Sn**		**23 46 06.9**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**1.14**	**8**	*eP*		**Pn**		**23 45 53.4**	**+0.6**
YUK				AMB	AMB			23 45 53.6	
	140nm,0.3s								
YUK				*eS*		**Sn**		**23 46 07.9**	**+0.1**
YUK				A	A			23 46 08.6	
	370nm,0.4s								
YUK				A	A			23 46 08.6	
	790nm,0.4s								
SHO	**Shikotan**	**1.29**	**41**	*i* P		**Pn**		**23 45 54.9**	**+0.2**
SHO				AMB	AMB			23 45 56.4	
	20nm,0.2s								
SHO				*i* S		**Sn**		**23 46 10.2**	**-1.2**
SHO				A	A			23 46 11.1	
	70nm,0.2s								
SHO				A	A			23 46 11.1	
	290nm,0.2s								
JOB	**Onbets**	**1.33**	**270**	*eP*		**Pn**		**23 45 55.6**	**+0.3**
JAR	**Ashorobuto**	**1.43**	**286**	*eP*		**Pn**		**23 45 56.9**	**+0.3**
JAR				*eS*		**Sn**		**23 46 14.6**	**-0.2**
JTKR	**Abashiri--Toko**	**1.65**	**310**	*eP*		**Pn**		**23 46 00.1**	**+0.5**
JTKR				*eS*		**Sn**		**23 46 20.1**	**+0.1**
JCH	**Churui**	**1.71**	**261**	*eP*		**Pn**		**23 46 00.6**	**+0.3**
JCH				*eS*		**Sn**		**23 46 20.5**	**-0.8**
KUR	**Kuril'sk**	**2.82**	**34**	*eS*		**Sn**		**23 46 48.2**	**+0.1**
KUR				A	A			23 46 50.3	
	30nm,0.3s								
KUR				A	A			23 46 50.3	
	30nm,0.3s								

*CATAC **19** 23:52:04.7±0.2, 8.°81N×82.°91W, h10km±2km, ML3.7*
*UCR **19** 23:52:04.3±0.7, 8.°79N×82.°82W, h19km±4km, MW3.9*
*UPA **19** 23:52:05.1±1.9, 8.°80N×82.°84W, h14km±3km, ML4.3, MW4.3*

ISC 19 23:52:05.0±0.9, 8.°80N±0.°03×82.°87W±0.°02, h27km±5km,
n61, σ1s00/86, 6C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MLIR3	**Monte Lirio, C**	**0.04**	**105**	*eP*		**Pb**		**23 52 09.3**	**-0.4**
MLIR3				AMP				23 52 09.5	
	comp=Z,21µm,0.1s								
BRU2	**Volcan**	**0.17**	**93**	⇑*iP*		**Pb**		**23 52 10.1**	**-0.7**
BRU2				*eS*		**Sb**		**23 52 13.2**	**-1.5**
BRU2	**Volcan**	**0.17**	**93**	*i* P		**Pb**		**23 52 10.2**	**-0.5**
BRU2				*i* S		**Sb**		**23 52 14.3**	**-0.3**
BRU2				IAML				23 52 15.4	
	comp=Z,21µm,1.0s								
CDITO	**Canoas**	**0.23**	**181**	⇑*iP*		**Pb**		**23 52 10.7**	**-0.5**
CDITO	**Canoas**	**0.23**	**181**	*i* P		**Pb**		**23 52 10.8**	**-0.5**
CDITO				*i* S		**Sb**		**23 52 15.9**	**+0.4**
CDITO				IAML				23 52 20.2	
	comp=Z,14µm,1.0s								
BC3P	**Paso Ancho**	**0.25**	**87**	⇑*iP*		**Pb**		**23 52 10.9**	**-0.8**
BCO2	**Palmira**	**0.34**	**104**	⇑*iP*		**Pb**		**23 52 12.4**	**-0.6**
BCO2				AMP				23 52 12.6	
	comp=Z,212µm,0.1s								
BCO2				*eS*		**Sb**		**23 52 18.3**	**-0.1**
PTAR3	**Potrerillos Ar**	**0.38**	**107**	⇑*iP*		**Pb**		**23 52 12.9**	**-0.6**
PTAR3				AMP				23 52 13.2	
	comp=Z,38µm,0.1s								
LNBQ3	**Los Naranjos,**	**0.42**	**92**	*eP*		**Pb**		**23 52 13.0**	**-1.1**
JIME	**Puerto Jimenez**	**0.53**	**240**	*eP*		**Pb**		**23 52 14.9**	**-0.8**
JIME				*eS*		**Sb**		**23 52 23.4**	**+0.4**
DVD	**David**	**0.55**	**132**	⇑*iP*		**Pb**		**23 52 15.6**	**-0.6**
DVD				AMP				23 52 15.9	
	comp=Z,17µm,0.1s								
DVD				*eS*		**Sn**		**23 52 24.0**	**-1.5**
LOCO3	**Loma Colorada,**	**0.59**	**131**	*eP*		**Pb**		**23 52 16.2**	**-0.6**
PTPM	**Petroterminale**	**0.60**	**181**	*eP*		**Pb**		**23 52 16.4**	**-0.5**
PTPM				AMP				23 52 17.2	
	comp=Z,12µm,0.2s								
PTPM				*eS*		**Sn**		**23 52 25.3**	**-1.3**
EDPN	**Palmar Norte**	**0.60**	**285**	*eP*		**Pb**		**23 52 16.1**	**-1.0**
EDPN				*eS*		**Sb**		**23 52 25.2**	**0.0**
PEDE3	**Pedregal, Chir**	**0.61**	**133**	*eP*		**Pb**		**23 52 16.5**	**-0.6**
PIRO	**Carate, Puerto**	**0.61**	**229**	*i* P		**Pb**		**23 52 16.4**	**-0.8**
PIRO				IAML				23 52 17.7	
	comp=Z,3µm,1.0

LAFE	**Finca La Fe, P**	**2.25**	**296**	*i* P		**Pn**	**23 52 40.8**	**+0.2**
LAFE				IAML			23 52 48.6	
	comp=Z,1.3nm,1.0s							
SOCE	**Pocosol**	**2.33**	**312**	*e*P		**Pn**	**23 52 42.7**	**+1.0**
SOCE	**Pocosol**	**2.33**	**312**	*i* P		**Pn**	**23 52 42.9**	**+1.2**
SOCE				IAML			23 53 17.9	
	comp=Z,620nm,1.0s							
COVE	**Coope Vega, Sa**	**2.43**	**322**	*i* P		**Pn**	**23 52 45.4**	**+2.3**
COVE				IAML			23 53 26.2	
	comp=Z,350nm,1.0s							
CACAO	**El Cacao, Vera**	**2.46**	**126**	*e*P		**Pn**	**23 52 45.3**	**+1.8**
CACAO				AMP			23 52 47.3	
	comp=Z,2µm,0.1s							
CACAO				*e*S		**Sn**	**23 53 14.4**	**+1.8**
JTS	**Las Juntas de**	**2.53**	**306**	*e*P		**Pn**	**23 52 45.5**	**+1.0**
JTS	**Las Juntas de**	**2.53**	**306**	*e*P		**Pn**	**23 52 45.4**	**+1.0**
CHIT3	**Chitre**	**2.57**	**109**	*e*P		**Pb**	**23 52 47.8**	**-2.6**
AZU	**Azuero**	**2.76**	**111**	*e*P		**Pn**	**23 52 49.0**	**+1.5**
AZU				*e*S		**Sn**	**23 53 21.1**	**+1.1**
INDI	**Punta indio, G**	**2.81**	**292**	*i* P		**Pn**	**23 52 48.7**	**+0.5**
INDI				IAML			23 53 43.5	
	comp=Z,89nm,1.0s							
ORTG	**Ortega, Santa**	**2.99**	**301**	*i* P		**Pn**	**23 52 51.8**	**+1.0**
ORTG				IAML			23 53 33.9	
	comp=Z,270nm,1.0s							
BCIP	**Isla Barro Col**	**3.01**	**83**	*e*P		**Pn**	**23 52 52.5**	**+1.4**
BCIP				*e*S		**Sn**	**23 53 26.9**	**+0.5**
BCIP	**Isla Barro Col**	**3.01**	**83**	*i* P		**Pn**	**23 52 52.3**	**+1.2**
BCIP				IAML			23 53 49.5	
	comp=Z,120nm,1.0s							
SAJU	**San Juanillo,**	**3.07**	**294**	*i* P		**Pn**	**23 52 52.0**	**+0.1**
SAJU				IAML			23 52 57.7	
	comp=Z,51nm,1.0s							

IDC ***19*** *23:56:07.7±2.0,30°51'N×114°39'W,h0km,mb3.4/2, mbtmp3.2/7,ML3.5/4,MS3.8/15,Error ellipse: s-maj=31.6km s-min=11.2km az=38.0*

MEX ***19*** *23:56:10.5±0.6,30°95'N×114°20'W,h4km±9km,MD4.0*

NEIC ***19*** *23:56:10.3±1.8,31°01'N±0°06×114°26'W±0°05,h10km±2km, mb4.0/37,Md4.0/37(MEX),ML3.8/18(PAS),Error ellipse: s-maj=10.1km s-min=7.2km az=199.0*

ECX ***19*** *23:56:10.4±0.3,30°97'N×114°20'W,h19km±2km,ML3.8*

PAS ***19*** *23:56:15±2.9,31°20'N±0°06×114°39'W±0°04,h6km±1km, Error ellipse: s-maj=10.5km s-min=5.5km az=173.0*

ISC 19 23:56:09.1±1.1,30°94'N±0°03×114°22'W±0°02,h3km±8km, n363,σ1§56/370,mb3.9/7,MS3.8/9,5C-8D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.55**	**280**		**Pg**	**23 56 20.6**	**+0.8**
SFX					**Sb**	**23 56 28.8**	**-0.9**
SFX	**San Felipe**	**0.55**	**280**	*e*P	**Pb**	**23 56 20.7**	**-0.7**
SFX				*i* S	**Sb**	**23 56 29.9**	**+0.1**
SFX	**San Felipe**	**0.55**	**280**	⇓*e*P	**Pb**	**23 56 20.7**	**-0.7**
SFX				*e*S	**Sg**	**23 56 28.3**	**+1.4**
SFX				*e*		23 56 30.9	
SFX				IAML		23 56 30.9	
	comp=N,9µm,0.4s						
PPXB	**Puerto Peasco**	**0.63**	**52**	*e*P	**Pg**	**23 56 21.4**	**+0.1**
PPXB				*e*S	**Sg**	**23 56 29.9**	**+0.4**
PPXB				IAML		23 56 32.4	
	comp=E,5µm,0.8s						
PPXB				*e*		23 56 32.4	
PPXB				IAML		23 56 32.6	
	comp=N,5µm,1.1s						
ECBX	**El Chinero**	**0.89**	**307**	*e*P	**Pg**	**23 56 25.5**	**-0.7**
ECBX				*e*S	**Sg**	**23 56 37.9**	**+0.1**
ECBX				IAML		23 56 39.0	
	comp=E,3µm,0.7s						
ECBX				⇑*e*		23 56 39.0	
ECBX				IAML		23 56 46.6	
	comp=N,2µm,0.8s						
ECBX				⇓*e*		23 56 46.6	
PIX	**Pinacate**	**0.89**	**46**	Pg	**Pg**	**23 56 26.0**	**-0.2**
PIX	**Pinacate**	**0.89**	**46**	*e*P	**Pg**	**23 56 25.5**	**-0.7**
PIX				*e*S	**Sg**	**23 56 37.3**	**-0.5**
PIX				IAML		23 56 48.0	
	comp=N,2µm,0.9s						
PIX				⇑*e*		23 56 48.0	
PIX				⇓*e*		23 56 54.9	
PIX				IAML		23 56 54.9	
	comp=E,3µm,1.4s						
SPIG	**San Pedro Mart**	**1.08**	**276**	*e*P	**Pg**	**23 56 29.1**	**-0.7**
SPIG				*i* S	**Sg**	**23 56 42.2**	**-1.6**
SPIG	**San Pedro Mart**	**1.08**	**276**	⇓*e*P	**Pg**	**23 56 29.1**	**-0.7**
SPIG				⇓*e*S	**Sg**	**23 56 44.0**	**+0.2**
SPIG				IAML		23 56 49.5	
	comp=N,1µm,0.6s						
SPIG				*e*		23 56 49.5	
EDOMX	**El Doctor, EDO**	**1.11**	**336**	*e*P	**Pg**	**23 56 29.3**	**-1.1**
SLGB	**San Luis Gonza**	**1.12**	**188**	*e*P	**Pg**	**23 56 30.0**	**-0.7**
SLGB				⇓*e*		23 57 06.3	
SLGB				IAML		23 57 06.3	
	comp=E,2µm,1.7s						
VTX	**Valle De La Tr**	**1.42**	**289**		**Pg**	**23 56 36.4**	**+0.1**
VTX					**Pb**	**23 56 37.3**	**+1.1**
VTX	**Valle De La Tr**	**1.42**	**289**	*e*P	**Pn**	**23 56 34.3**	**-1.5**
VTX				IAML		23 57 02.8	
	comp=N,735nm,0.5s						
VTX				⇓*e*		23 57 02.8	
VTX				⇑*e*		23 57 05.3	
VTX				IAML		23 57 05.3	
	comp=E,796nm,0.7s						
SQX	**San Quintin**	**1.48**	**256**	*e*P	**Pn**	**23 56 35.5**	**-1.0**
SQX				*e*S	**Sb**	**23 56 55.0**	**-1.3**
SQX				IAML		23 56 59.5	
	comp=N,3µm,0.5s						
SQX				⇓*e*		23 56 59.5	
SQX				⇑*e*		23 57 00.7	
SQX				IAML		23 57 00.7	
	comp=E,2µm,0.5s						
214A	**Organ Pipe Nat**	**1.57**	**50**		**Pn**	**23 56 35.4**	**-2.5**
214A					**Sg**	**23 56 59.6**	**+0.1**
214A	**Organ Pipe Nat**	**1.57**	**50**	P	**Pn**	**23 56 35.4**	**-2.5**
	baz=233,SNR=136						
214A				S	**Sg**	**23 57 00.1**	**+0.5**
	baz=233						
214A	**Organ Pipe Nat**	**1.57**	**50**	*e*P	**Pn**	**23 56 35.4**	**-2.5**
214A				*i* S	**Sg**	**23 57 00.3**	**+0.7**
214A	**Organ Pipe Nat**	**1.57**	**50**	*e*P	**Pn**	**23 56 35.5**	**-2.5**
214A				*e*S	**Sn**	**23 56 56.3**	**-2.4**
ALAMX	**Rancho Alamar**	**1.66**	**310**	*e*P	**Pn**	**23 56 38.1**	**-1.0**
ALAMX				⇑*e*		23 57 02.9	
ALAMX				IAML		23 57 02.9	
	comp=E,779nm,0.6s						
ALAMX				IAML		23 57 11.1	
	comp=N,818nm,0.5s						
ALAMX				*e*		23 57 11.1	
MBIG	**Mexicali**	**1.68**	**330**	*e*P	**Pg**	**23 56 43.1**	**+1.7**
MBIG				*i* S	**Sn**	**23 56 54.5**	**-7.0**
LAPR	**La Primavera**	**1.69**	**105**	*e*P	**Pn**	**23 56 37.4**	**-2.2**
LAPR				*i* S	**Sg**	**23 57 04.7**	**+1.3**
CPBX	**Cerro Prieto**	**1.74**	**328**	Pn	**Pb**	**23 56 42.0**	**+0.3**
SV2X	**San Vicente**	**1.78**	**283**	*e*P	**Pn**	**23 56 39.8**	**-0.9**
ESJX	**Sierra Juarez**	**1.82**	**306**	Pn	**Pn**	**23 56 39.9**	**-1.5**
113A	**Mohawk Valley,**	**1.86**	**12**	Pn	**Pn**	**23 56 39.6**	**-2.2**
EMSC	**East Mesa**	**1.91**	**340**		**Pn**	**23 56 41.3**	**-1.2**
UABX	**UABC, Campus M**	**1.98**	**329**	Pn	**Pn**	**23 56 43.5**	**0.0**
RUN	**Ruthven**	**2.12**	**342**		**Pg**	**23 56 49.5**	**-0.4**
SGL	**Mount Signal**	**2.13**	**323**		**Pb**	**23 56 48.4**	**0.0**
GLA	**Glamis**	**2.17**	**346**	Pn	**Pn**	**23 56 44.6**	**-1.5**
GLA	**Glamis**	**2.17**	**346**	P	**Pn**	**23 56 44.0**	**-2.1**
	baz=166,SNR=26						
YUH	**Yuha Desert**	**2.24**	**320**		**Pb**	**23 56 50.8**	**+0.7**
YUH	**Yuha Desert**	**2.24**	**320**	Pn	**Pn**	**23 56 45.7**	**-1.3**
CCX	**Cicese**	**2.29**	**294**	Pn	**Pn**	**23 56 46.6**	**-1.1**
CCX	**Cicese**	**2.29**	**294**	*e*P	**Pn**	**23 56 47.0**	**-0.7**
PBX	**Punta Banda**	**2.29**	**291**	*e*P	**Pn**	**23 56 47.5**	**-0.2**
RMX	**La Rumorosa**	**2.29**	**317**	Pn	**Pn**	**23 56 44.8**	**-3.2**
IKP	**In-Ko-Pah, Jac**	**2.34**	**317**	P	**Pn**	**23 56 47.7**	**-0.9**
	baz=135,SNR=34						
SWSC	**Sam W. Stewart**	**2.41**	**326**	P	**Pn**	**23 56 48.1**	**-1.3**
	baz=145,SNR=58						
CBX	**Cerro Bola**	**2.50**	**304**		**Pn**	**23 56 50.2**	**-0.5**
CBX	**Cerro Bola**	**2.50**	**304**	*e*P	**Pn**	**23 56 49.5**	**-1.3**
CBX				*e*S	**Sb**	**23 57 26.4**	**+0.6**
TJIG	**Tijuana**	**2.57**	**306**	*e*P	**Pn**	**23 56 50.0**	**-1.6**
TJIG				*e*S	**Sn**	**23 57 24.5**	**+1.1**
TKX	**Tecate**	**2.60**	**309**		**Pn**	**23 56 50.8**	**-1.3**
MONP2	**Monument Peak**	**2.70**	**317**	P	**Pn**	**23 56 52.9**	**-0.7**
	baz=134,SNR=11						
BAR	**Barrett**	**2.71**	**310**		**Pn**	**23 56 53.5**	**-0.1**
BAR	**Barrett**	**2.71**	**310**	Pn	**Pn**	**23 56 53.3**	**-0.3**
BLYC	**Blythe**	**2.81**	**355**	Pn	**Pn**	**23 56 54.2**	**-0.7**
TJX	**Tijuana**	**2.88**	**304**		**Pn**	**23 56 55.2**	**-0.6**
BC3	**Big Chuckawall**	**2.90**	**339**	P	**Pn**	**23 56 54.8**	**-1.4**
	baz=158,SNR=9.3						
109C	**Camp Elliot, M**	**3.13**	**309**	Pn	**Pn**	**23 56 58.2**	**-1.1**
109C	**Camp Elliot, M**	**3.13**	**309**	P	**Pn**	**23 56 59.0**	**-0.4**
	baz=126,SNR=9.4						
Y14A	**Wickenburg**	**3.16**	**19**		**Pn**	**23 56 59.2**	**-0.5**
TUC	**Tucson**	**3.23**	**64**	Pn	**Pn**	**23 57 01.1**	**+0.3**
TUC	**Tucson**	**3.23**	**64**	P	**Pn**	**23 57 00.9**	**+0.2**
	baz=248						
TUC	**Tucson**	**3.23**	**64**	*e*P	**Pn**	**23 56 59.8**	**-1.0**
TUC				*e*S	**Sn**	**23 57 42.2**	**+2.5**
PMD	**Palm Desert**	**3.26**	**326**		**Pn**	**23 57 01.3**	**+0.1**
TPFO	**Pinon Flats**	**3.26**	**325**	P	**Pn**	**23 56 59.9**	**-1.4**
	baz=143						
PFO	**Pinyon Flats O**	**3.27**	**325**	Pn	**Pn**	**23 57 02.0**	**+0.6**
PFO	**Pinyon Flats O**	**3.27**	**325**	P	**Pn**	**23 56 59.9**	**-1.5**
	baz=143						
PFO	**Pinyon Flats O**	**3.27**	**325**	Pn	**Pn**	**23 57 03.5**	**+2.1**
	comp=N,0.3nm,0.3s,baz=156,slow=11,SNR=3.5						
PFO				Lg	Lg	23 57 59.1	
	comp=N,4.2nm,0.3s,baz=151,slow=10,SNR=4.8						
PFO				LR	LR	23 58 24.6	
	comp=N,2µm,19.0s,baz=145,slow=38 comp=N,1.1nm,0.3s						
IRM	**Iron Mountain**	**3.30**	**346**	P	**Pn**	**23 56 59.8**	**-1.9**
	baz=143						
PDMCI	**Parker Dam,Lak**	**3.35**	**1**	P	**Pn**	**23 57 01.3**	**-1.1**
	baz=181						
BELC	**Belle Mtn. Jos**	**3.40**	**334**	P	**Pn**	**23 57 03.0**	**-0.2**
	baz=153,SNR=7.9						
HSIG		**3.42**	**123**		**Pn**	**23 57 04.4**	**+1.0**
MURC	**Murrieta**	**3.66**	**317**	P	**Pn**	**23 57 06.7**	**0.0**
	baz=135						
ELS	**Elsinore Mount**	**3.83**	**316**		**Pn**	**23 57 09.1**	**0.0**
GMRC	**Granite Mounta**	**4.02**	**343**	P	**Pn**	**23 57 12.3**	**+0.6**
	baz=162,SNR=6.4						
NZIG	**Nacozari, Sono**	**4.06**	**97**		**Pb**	**23 57 20.8**	**-0.5**
NZIG					**Sn**	**23 57 59.4**	**-1.0**
NZIG	**Nacozari, Sono**	**4.06**	**97**	*e*P	**Pb**	**23 57 20.8**	**-0.5**
NZIG				*e*S	**Sn**	**23 57 59.4**	**-1.0**
W13A	**Hualapai Mount**	**4.15**	**4**	Pn	**Pn**	**23 57 13.2**	**-0.5**
X16A	**Lo Mia Camp, P**	**4.18**	**33**		**Pn**	**23 57 13.7**	**-0.2**
319A	**Douglas**	**4.25**	**83**	Pn	**Pn**	**23 57 15.3**	**+0.5**
HEC	**Hector,Ludlow**	**4.26**	**336**	P	**Pn**	**23 57 16.2**	**+1.2**
	baz=154						
BFSC	**Mount Baldy Ra**	**4.39**	**319**	P	**Pn**	**23 57 17.6**	**+0.8**
	baz=137						
PASC	**Pasadena Art C**	**4.65**	**315**		**Pn**	**23 57 19.6**	**-0.6**
TUQ	**Turquoise Moun**	**4.70**	**343**	P	**Pn**	**23 57 20.9**	**-0.2**
	baz=162						
V12A	**Nelson**	**4.80**	**354**		**Pn**	**23 57 22.8**	**+0.5**
GSC	**Goldstone, Bar**	**4.86**	**334**		**Pn**	**23 57 23.3**	**+0.1**
GSC	**Goldstone, Bar**	**4.86**	**334**	P	**Pn**	**23 57 22.5**	**-0.7**
	baz=152						
X18A	**Snowflake**	**5.07**	**44**	Pn	**Pn**	**23 57 25.9**	**-0.2**
WUAZ	**Wupatki**	**5.14**	**27**	Pn	**Pn**	**23 57 27.3**	**+0.1**
WUAZ	**Wupatki**	**5.14**	**27**	P	**Pn**	**23 57 26.3**	**-0.9**
	baz=209,SNR=8.2						
CCAC	**Calif City Air**	**5.27**	**324**		**Pn**	**23 57 28.5**	**-0.3**
WTNK	**Soaring Height**	**5.28**	**353**	Pn	**Pn**	**23 57 28.6**	**-0.3**
QSM	**Queen of Sheba**	**5.48**	**337**		**Pn**	**23 57 31.8**	**+0.2**
SHPR	**Shep Range**	**5.60**	**352**	Pn	**Pn**	**23 57 33.4**	**-0.1**
W18A	**Petrified Fore**	**5.61**	**41**		**Pn**	**23 57 34.0**	**+0.4**
W18A	**Petrified Fore**	**5.61**	**41**	P	**Pn**	**23 57 34.3**	**+0.7**
	baz=224						
GWY	**Greenwater Val**	**5.62**	**339**		**Pn**	**23 57 33.6**	**0.0**
ARVC	**Arvin**	**5.69**	**318**	P	**Pn**	**23 57 35.6**	**+1.1**
	baz=135						
U15A	**North Rim**	**5.70**	**16**		**Pn**	**23 57 34.3**	**-0.6**
121A	**Cookes Peak, D**	**5.70**	**72**	P	**Pn**	**23 57 35.4**	**+0.5**
	baz=256,SNR=9.8						
121A	**Cookes Peak, D**	**5.70**	**72**	*e*P	**Pn**	**23 57 34.9**	**+0.1**
121A				*e*S	**Sn**	**23 58 38.0**	**-2.9**
ISA	**Isabella, Lake**	**5.90**	**324**		**Pn**	**23 57 36.7**	**-0.8**
ISA	**Isabella, Lake**	**5.90**	**324**	P	**Pn**	**23 57 38.2**	**+0.6**
	baz=141						
BCW	**Bitter Crk WRg**	**5.91**	**314**		**Pn**	**23 57 36.1**	**-1.6**
LCMT	**Little Creek M**	**6.11**	**7**		**Pn**	**23 57 39.4**	**-1.0**
PKM	**Mcpherson Peak**	**6.13**	**311**	P	**Pn**	**23 57 42.2**	**+1.4**
	baz=128						
KNB	**Kanab**	**6.17**	**10**	Pn	**Pn**	**23 57 40.4**	**-0.8**
WCT	**Wildcat Mounta**	**6.17**	**342**		**Pn**	**23 57 40.6**	**-0.5**
VES	**Vestal, Richgr**	**6.36**	**321**	P	**Pn**	**23 57 44.7**	**+1.0**
	baz=138						
SMMC	**Simmler**	**6.52**	**313**	P	**Pn**	**23 57 47.1**	**+1.1**
	baz=130						
GRAC	**Grapevine Rang**	**6.58**	**337**	Pn	**Pn**	**23 57 46.4**	**-0.4**
CCUT	**Cedar City**	**6.63**	**6**	Pn	**Pn**	**23 57 46.7**	**-0.9**
PKCU	**Pink Cliffs**	**6.67**	**13**	Pn	**Pn**	**23 57 47.7**	**-0.7**
SZCU	**Shurtz Canyon**	**6.70**	**8**		**Pn**	**23 57 48.5**	**-0.1**
S11A	**Rachel**	**6.80**	**350**		**Pn**	**23 57 49.9**	**-0.1**
GMN	**Gold Mountain**	**6.82**	**339**	Pn	**Pn**	**23 57 50.7**	**+0.4**
Y22D	**IRIS PASSCAL I**	**6.91**	**61**	Pn	**Pn**	**23 57 52.3**	**+1.0**
DSP	**Deep Springs**	**7.12**	**335**	Pn	**Pn**	**23 57 53.5**	**-0.7**
MTPU	**Mount Pierson**	**7.28**	**13**	Pn	**Pn**	**23 57 56.2**	**-0.4**
R11B	**Troy Canyon, C**	**7.47**	**352**	Pn	**Pn**	**23 57 58.8**	**-0.3**
R11B	**Troy Canyon, C**	**7.47**	**352**	P	**Pn**	**23 58 00.7**	**+1.5**
	baz=171						
HMU	**Henry Mountain**	**7.54**	**21**		**Pn**	**23 57 59.6**	**-0.6**
PSUT	**Pine Spring**	**7.58**	**2**	Pn	**Pn**	**23 57 58.5**	**-2.2**
MNTX	**Cornudas Mount**	**7.59**	**82**	P	**Pn**	**23 58 02.7**	**+2.0**
	baz=267						
ANMO	**Albuquerque**	**7.64**	**56**		**Pn**	**23 58 01.2**	**-0.3**
ANMO	**Albuquerque**	**7.64**	**56**	Pg	**Pg**	**23 58 35.2**	**-0.3**
LPIG	**La Paz**	**7.65**	**152**	LR	LR	00 00 49.8	
	comp=N,734nm,19.0s,baz=342,slow=38						
MVU	**Marysvale**	**7.72**	**12**	Pn	**Pn**	**23 58 02.7**	**+0.1**
MSU	**Marysvale**	**7.74**	**12**	Pn	**Pn**	**23 58 01.9**	**-0.9**
TCRU	**Three Creeks R**	**7.79**	**10**		**Pg**	**23 58 38.3**	**+0.1**
MVCO	**Mesa Verde**	**7.84**	**36**	Pn	**Pn**	**23 58 03.1**	**-1.2**
MVCO	**Mesa Verde**	**7.84**	**36**	P	**Pn**	**23 58 04.9**	**+0.5**
	baz=219						
VHRN	**Van Horn**	**7.94**	**89**	Pn	**Pn**	**23 58 05.7**	**+0.2**
SPR3	**Spring Creek 3**	**8.04**	**359**	Pn	**Pn**	**23 58 06.2**	**-0.9**
Q12A	**Willow Creek R**	**8.09**	**357**	Pn	**Pn**	**23 58 06.5**	**-1.1**
LHV	**Little Huntoon**	**8.10**	**335**	Pn	**Pn**	**23 58 06.8**	**-0.8**
NVAR	**Mina Array Bea**	**8.19**	**337**	Pn	Pn	23 58 15.2	+6.1
	comp=N,0.6nm,0.7s,baz=160,slow=13,SNR=4.8						
NVAR				LR	LR	00 01 31.0	
	comp=N,311nm,19.9s,baz=154,slow=38						
Q16A	**Castle Valley**	**8.34**	**17**		**Pn**	**23 58 11.2**	**+0.2**
RYN	**Ryan**	**8.44**	**336**	Pn	**Pn**	**23 58 12.8**	**+0.3**
PV03	**Paradox Valley**	**8.53**	**30**	Pn	**Pn**	**23 58 13.4**	**-0.2**
PV16	**Nyswonger Mesa**	**8.55**	**29**	Pn	**Pn**	**23 58 13.8**	**-0.1**
PV01	**Paradox Valley**	**8.55**	**31**	Pn	**Pn**	**23 58 13.6**	**-0.4**
PV10	**Paradox Valley**	**8.55**	**28**	Pn	**Pn**	**23 58 12.0**	**-2.0**
PV12	**Saucer Basin,**	**8.60**	**30**	Pn	**Pn**	**23 58 13.6**	**-1.1**
PV04	**Paradox Valley**	**8.62**	**29**	Pn	**Pn**	**23 58 14.7**	**-0.2**
PV23	**Carpenter Ridg**	**8.63**	**28**	Pn	**Pn**	**23 58 13.8**	**-1.3**
SRU	**San Rafael Swe**	**8.69**	**19**	Pn	**Pn**	**23 58 15.1**	**-0.8**
KVN	**Kaiserville**	**8.69**	**340**	Pn	**Pn**	**23 58 15.0**	**-0.9**
CMB	**Columbia Colle**	**8.71**	**326**	Pn	**Pn**	**23 58 14.3**	**-1.8**
PV21	**Cone Mtn., Par**	**8.73**	**28**	Pn	**Pn**	**23 58 16.5**	**0.0**
PV15	**Paradox Valley**	**8.76**	**31**	Pn	**Pn**	**23 58 17.2**	**+0.3**
PV07	**Paradox Valley**	**8.77**	**30**	Pn	**Pn**	**23 58 16.9**	**0.0**
PECS	**Pecos**	**8.88**	**85**		**Pn**	**23 58 17.6**	**-0.7**
ALPN	**Alpine**	**9.13**	**91**	Pn	**Pn**	**23 58 21.6**	**-0.3**
PNTR	**Pine Nut**	**9.25**	**333**	Pn	**Pn**	**23 58 22.1**	**-1.4**
P18A	**Preston Nutter**	**9.25**	**19**		**Pn**	**23 58 23.1**	**-0.6**
TX31	**Lajitas Ar. Si**	**9.27**	**97**	Pn	**Pn**	**23 58 24.5**	**+0.7**
TXAR	**Lajitas Array**	**9.27**	**97**	Pn	**Pn**	**23 58 25.1**	**+1.2**
TXAR	**Lajitas Array**	**9.27**	**97**	Pn	**Pn**	**23 58 25.3**	**+1.4**
	comp=N,0.4nm,0.3s,baz=274,slow=14,SNR=19						
TXAR				Lg	Lg	00 01 04.2	
	comp=N,0.1nm,0.3s,baz=270,slow=33,SNR=3.3						
TXAR				LR	LR	00 02 19.3	
	comp=N,664nm,18.2s,baz=306,slow=40 comp=N,1.1nm,0.5s						
DUG	**Dugway, Tooele**	**9.30**	**7**	P	**Pn**	**23 58 25.8**	**+1.6**
	baz=188						
ELK	**Elko**	**9.82**	**355**	Pn	**Pn**	**23 58 29.4**	**-2.0**
ELK	**Elko**	**9.82**	**355**	Pn	Pn	23 58 38.9	+7.5
	comp=N,0.1nm,0.3s,baz=183,slow=17,SNR=3.4						
ELK				Lg	Lg	00 01 26.6	
	comp=N,0.1nm,0.3s,baz=170,slow=16,SNR=1.8						
ELK				LR	LR	00 03 12.8	
	comp=N,127nm,20.2s,baz=161,slow=42 comp=N,0.4nm,0.4s						
BSUT	**Blindstream Ca**	**9.97**	**15**	Pn	**Pn**	**23 58 33.1**	**-0.5**
ODSA	**Odessa**	**10.03**	**80**	Pn	**Pn**	**23 58 35.0**	**+0.9**
T25A	**Trinidad**	**10.21**	**50**	Pn	**Pn**	**23 58 37.2**	**+0.4**
RDMU	**Red Mountain**	**10.32**	**20**	Pn	**Pn**	**23 58 38.3**	**+0.1**
AHID	**Auburn Hatcher**	**12.06**	**11**	Pn	**Pn**	**23 59 01.4**	**-0.6**
PDAR	**Pinedale Array**	**12.37**	**16**	Pn	Pn	23 59 14.4	+8.1
	comp=N,0.1nm,0.3s,baz=177,slow=7.8,SNR=2.6						
PDAR				Lg	Lg	00 02 55.0	
	baz=201,slow=33,SNR=3.0 comp=N,0.3nm,0.7s						
KMPM	**Mount Pierce**	**12.41**	**322**	Pn	**Pn**	**23 59 04.5**	**-2.1**
JCT	**Junction City**	**12.41**	**88**	Pn	**Pn**	**23 59 06.5**	**-0.3**
MFID	**Camas Ranch**	**12.52**	**355**	Pn	**Pn**	**23 59 06.8**	**-1.3**
KHMM	**Horse Mountain**	**12.55**	**325**	Pn	**Pn**	**23 59 06.9**	**-1.8**
REDW	**Red Top Meadow**	**12.68**	**11**		**Pn**	**23 59 09.1**	**-1.4**
TPAW	**Teton Pass**	**12.79**	**11**		**Pn**	**23 59 10.0**	**-2.1**
K05A	**Summer Lake**	**12.91**	**337**	Pn	**Pn**	**23 59 13.1**	**-0.5**
FXWY	**Fox Creek**	**12.92**	**10**	Pn	**Pn**	**23 59 13.4**	**-0.5**
L04D	**Klamath Falls**	**12.99**	**332**	Pn	**Pn**	**23 59 13.0**	**-1.6**
MOOW	**Moose Ponds**	**13.07**	**11**	Pn	**Pn**	**23 59 15.0**	**-0.9**
WMOK	**Wichita Mounta**	**13.52**	**70**		**Pn**	**23 59 21.1**	**-0.7**
WMOK	**Wichita Mounta**	**13.52**	**70**	P	**Pn**	**23 59 22.9**	**+1.2**
	baz=258						
YHH	**Holmes Hill**	**14.07**	**10**	Pn	**Pn**	**23 59 29.8**	**+0.2**
PLID	**Pearl Lake**	**14.19**	**355**	Pn	**Pn**	**23 59 30.1**	**-1.0**
I04A	**Fendick Farm,**	**14.38**	**335**		**Pn**	**23 59 32.6**	**-0.9**
BOZ	**Bozeman (W)**	**14.77**	**7**		**Pn**	**23 59 37.5**	**-1.5**
BOZ	**Bozeman (W)**	**14.77**	**7**	P	**Pn**	**23 59 38.2**	**-0.8**
	baz=189						
G08A	**Pilot Rock**	**14.80**	**347**		**Pn**	**23 59 37.5**	**-1.9**
G06A	**Carlson Farm,**	**15.13**	**342**	Pn	**Pn**	**23 59 41.5**	**-2.2**
G06A				IAmb	IAmb	23 59 55.7	
	comp=Z,5.1nm,1.2s						
W35A	**Tecumseh**	**15.13**	**69**	Pn	**Pn**	**23 59 42.6**	**-1.2**
W35A				IAmb	IAmb	23 59 53.2	
	comp=Z,11nm,1.0s						
F10A	**Beach Ranch, E**	**15.19**	**352**		**Pn**	**23 59 43.8**	**-0.8**
F10A				IAmb	IAmb	23 59 54.8	
	comp=Z,7.7nm,1.1s						
OK052	**Battle Ridge R**	**15.38**	**66**	P	**P**	**23 59 50.7**	**-1.1**
RSSD	**Black Hills**	**15.42**	**29**	Pn	**Pn**	**23 59 46.3**	**-1.4**
RSSD				IAmb	IAmb	23 59 57.9	
	comp=Z,11nm,1.1s						
RSSD	**Black Hills**	**15.42**	**29**	P	**Pn**	**23 59 48.4**	**+0.7**
	baz=215						
BPMT	**Black Pine Rid**	**15.48**	**2**	P	**P**	**23 59 53.4**	**+0.2**
HOOD	**Mount Hood Mea**	**15.49**	**340**	P	**P**	**23 59 51.8**	**-1.4**
F07A	**Phinny Hill Vi**	**15.58**	**345**		**Pn**	**23 59 48.5**	**-1.1**
F07A				IAmb	IAmb	23 59 56.9	
	comp=Z,9.8nm,1.1s						
T35A	**Sooner Cattle**	**15.85**	**63**	Pn	**Pn**	**23 59 52.5**	**-0.6**
HKT	**Hockley**	**15.89**	**89**		**Pn**	**23 59 52.9**	**-0.7**
HAWA	**Hanford**	**15.97**	**347**	Pn	**Pn**	**23 59 53.5**	**-1.1**
LYMT	**Lyon Mountain**	**16.07**	**5**		**Pn**	**23 59 54.3**	**-1.9**
OVMT	**Ovando**	**16.13**	**3**		**Pn**	**23 59 56.6**	**-0.2**
**

	baz=142					
I30M	**Mount Dempster**	36.93 345	P	P	00 03 19.2	+0.1
I30M	**Mount Dempster**	36.93 345	P	P	00 03 20.2	+1.0
	baz=147					
H31M	**Peel River**	37.00 346	P	P	00 03 19.4	-0.1
	baz=151					
K27K	**Chicken**	37.45 340	P	P	00 03 26.3	+2.9
	baz=139					
KDAK	**Kodiak Island**	37.54 327	LR	LR	00 16 38.5	
	comp=Z,96nm,18.7s,baz=170,slow=32					
EGAK	**Eagle**	37.77 342	P	P	00 03 29.5	+3.5
	baz=140					
KNK	**Knik Glacier**	37.80 334	P	P	00 03 29.8	+3.4
	baz=128					
G31M	**Satah River**	37.97 347	P	P	00 03 30.1	+2.5
	baz=151					
I28M	**Miner Creek**	37.98 343	P	P	00 03 30.2	+2.3
	baz=143					
EPYK	**Eagle Plains**	37.98 345	P	P	00 03 28.4	+0.5
	baz=148					
HOM	**Homer**	38.08 330	P	P	00 03 30.1	+1.4
	baz=122					
PMR	**Palmer**	38.16 334	P	P	00 03 31.2	+1.8
	baz=127					
H29M	**Whitestone**	38.22 344	P	P	00 03 32.5	+2.6
	baz=145					
WAT6	**Susitna Watana**	38.27 336	P	P	00 03 33.1	+2.6
	baz=130					
WAT1	**Susitna Watana**	38.72 336	P	P	00 03 35.4	+1.3
	baz=129					
G29M	**Pine Creek**	38.72 345	P	P	00 03 36.0	+1.9
	baz=146					
F30M	**Barrier River**	38.86 347	P	P	00 03 36.3	+1.1
	baz=150					
C36M	**Paulatuk**	38.86 354	P	P	00 03 35.7	+0.6
	baz=166					
J25K	**Salcha River,**	38.86 339	P	P	00 03 37.9	+2.5
	baz=135					
H27K	**Steamboat Moun**	39.00 343	P	P	00 03 36.9	+0.4
	baz=141					
INK	**Inuvik**	39.06 349	P	P	00 03 36.6	-0.3
	baz=153					
MCK	**McKinley**	39.43 336	P	P	00 03 42.8	+2.8
	baz=130					
ILAR	**Eielson Array**	39.44 339	P	P	00 03 41.5	+1.3
	comp=Z,1.2nm,0.9s,baz=154,slow=5.9,SNR=11					
	comp=Z,1.2nm,0.9s					
G27K	**Doyon Strip**	39.48 343	P	P	00 03 43.2	+2.8
	baz=142					
F28M	**Old Crow**	39.71 345	P	P	00 03 44.9	+2.6
	baz=144					
TRF	**Thorofare Moun**	39.72 336	P	P	00 03 46.1	+3.4
	baz=128					
POKR	**Poker Plat Res**	39.85 339	P	P	00 03 46.3	+2.8
	baz=133					
E29M	**Blow River**	39.94 347	P	P	00 03 46.8	+2.6
	baz=148					
PPLA	**Purkeypile**	40.09 334	P	P	00 03 47.5	+1.8
	baz=125					
G26K	**Porcupine Rive**	40.13 342	P	P	00 03 48.6	+2.8
	baz=139					
H25L	**Birch Creek**	40.18 341	P	P	00 03 48.8	+2.6
	baz=136					
CAST	**Castle Rocks**	40.35 335	P	P	00 03 50.3	+2.5
	baz=126					
S14K	**Fog Glacier**	40.40 322	P	P	00 03 49.3	+1.0
	baz=109					
E28M	**Babbage River**	40.45 346	P	P	00 03 51.0	+2.6
	baz=146					
H24K	**Noodor Dome**	40.48 339	P	P	00 03 51.3	+2.5
	baz=133					
I23K	**Minto, Yukon-K**	40.48 338	P	P	00 03 50.1	+1.3
	baz=130					
L20K	**Farewell, AK**	40.51 333	P	P	00 03 50.7	+1.7
	baz=122					
O17K	**Koliganek Bris**	40.55 328	P	P	00 03 50.5	+1.1
	baz=116					
E27K	**Coleen River**	40.56 345	P	P	00 03 51.1	+1.7
	baz=143					
G25K	**Bearman Lake**	40.62 341	P	P	00 03 52.6	+2.8
	baz=136					
L19K	**White Mountain**	40.74 332	P	P	00 03 54.5	+3.6
	baz=121					
F26K	**Sheenjek River**	40.79 343	P	P	00 03 55.3	+4.0
	baz=139					
M18K	**Stony River**	40.79 331	P	P	00 03 55.6	+4.3
	baz=119					
MLY	**Manley**	40.86 337	P	P	00 03 54.0	+2.1
	baz=129					
N17K	**Nushagak Hills**	40.92 329	P	P	00 03 55.0	+2.6
	baz=117					
K20K	**Telida**	41.06 334	P	P	00 03 56.1	+2.5
	baz=123					
F25K	**Christian Rive**	41.09 342	P	P	00 03 55.1	+1.2
	baz=137					
D27M	**Malcolm River**	41.27 346	P	P	00 03 57.2	+1.8
	baz=144					
I21K	**Tanana**	41.36 337	P	P	00 03 56.9	+0.9
	baz=127					
M17K	**Holitna River**	41.43 330	P	P	00 03 59.6	+3.0
	baz=117					
E25K	**Arctic Village**	41.46 343	P	P	00 03 57.9	+1.0
	baz=138,SNR=7.2					
L18K	**Granite Mounta**	41.50 331	P	P	00 03 59.1	+1.9
	baz=119					
A36M	**Sachs Harbour**	41.53 355	P	P	00 03 57.5	+0.3
	baz=166					
J20K	**Nowinta River**	41.54 335	P	P	00 03 59.2	+1.7
	baz=124					
S12K	**Black Hills**	41.56 321	P	P	00 03 58.9	+1.1
	baz=106					
H22K	**Ishtalitna Cre**	41.60 338	P	P	00 03 59.9	+1.9
	baz=129					
F24K	**Squaw Lake**	41.64 341	P	P	00 04 00.4	+2.1
	baz=134					
G23K	**Bananza Creek**	41.71 340	P	P	00 04 00.6	+1.6
	baz=131					
H21K	**Melozitna Rive**	41.93 337	P	P	00 04 02.8	+2.1
	baz=127					
J19K	**Poorman**	41.98 334	P	P	00 04 02.8	+1.7
	baz=122					
COLD	**Coldfoot**	42.10 340	P	P	00 04 04.1	+2.1
	baz=131,SNR=5.8					
J18K	**Innoko River**	42.13 333	P	P	00 04 04.2	+1.9
	baz=120					
L17K	**Donlin**	42.13 331	P	P	00 04 03.4	+1.1
	baz=117					
E24K	**Your Creek**	42.20 342	P	P	00 04 05.1	+2.3
	baz=134					
O14K	**Tigyukauivet M**	42.29 326	P	P	00 04 06.4	+2.8
	baz=111					
K17K	**Iditarod**	42.40 332	P	P	00 04 06.6	+2.1
	baz=118					
L16K	**Owhat River**	42.44 330	P	P	00 04 07.6	+2.8
	baz=115					
E23K	**Chandalar**	42.49 341	P	P	00 04 09.0	+3.7
	baz=132					
H20K	**Anotleneega Mo**	42.53 336	P	P	00 04 08.1	+2.4
	baz=124,SNR=7.4					
D25K	**Kavik River**	42.55 344	P	P	00 04 09.7	+3.9
	baz=138					
C26K	**Camden Bay**	42.66 345	P	P	00 04 09.5	+3.0
	baz=140					
G21K	**Allakaket**	42.67 338	P	P	00 04 08.6	+1.9
	baz=127					
N14K	**Kuskokwak Cree**	42.73 327	P	P	00 04 08.7	+1.5
	baz=111					
TOLK	**Toolik Lake Re**	42.88 342	P	P	00 04 11.2	+2.8
	baz=133,SNR=6.2					
D24K	**Happy Valley**	43.04 343	P	P	00 04 10.7	+1.1
	baz=134					
F21K	**Alatna River**	43.09 339	P	P	00 04 11.3	+1.2
	baz=127					
H19K	**Roundabout Mou**	43.10 336	P	P	00 04 12.9	+2.8
	baz=122					
L15K	**Ungalak Mounta**	43.30 329	P	P	00 04 12.5	+0.6
	baz=113					
D23K	**Nanushuk River**	43.40 342	P	P	00 04 13.6	+1.0
	baz=132					
C24K	**Franklin Bluff**	43.41 343	P	P	00 04 14.3	+1.7
	baz=135					
K15K	**Wolf Creek Mou**	43.57 330	P	P	00 04 14.4	+0.4
	baz=114					
J16K	**Anvik River**	43.59 332	P	P	00 04 15.2	+1.0
	baz=116					
H18K	**Honhosa River**	43.59 335	P	P	00 04 14.4	+0.2
	baz=120					
G19K	**Purcell Mounta**	43.65 336	P	P	00 04 15.0	+0.4
	baz=122					
F20K	**Avaraart Lake**	43.70 338	P	P	00 04 15.6	+0.7
	baz=124					
D22K	**Ayikyak River**	43.89 341	P	P	00 04 16.9	+0.4
	baz=130					
C23K	**Itkillik River**	43.97 343	P	P	00 04 18.0	+0.9
	baz=133					
H17K	**Granite Mounta**	44.07 334	P	P	00 04 18.2	+0.2
	baz=118					
G18K	**Tagagawik**	44.07 336	P	P	00 04 19.0	+1.0
	baz=120					
F19K	**Shaleruckik Mo**	44.25 337	P	P	00 04 21.1	+1.7
	baz=122					
E19K	**Redstone River**	44.41 338	P	P	00 04 20.3	-0.5
	baz=123					
E20K	**Nigu River**	44.54 339	P	P	00 04 22.1	+0.3
	baz=125					
G17K	**Kiwalik Mounta**	44.61 335	P	P	00 04 24.3	+2.1
	baz=123					
J14K	**Nanvaranak Lak**	44.61 330	P	P	00 04 25.0	+2.7
	baz=112					
C21K	**Knifeblade Rid**	44.65 341	P	P	00 04 23.9	+1.2
	baz=127					
H16K	**Elim**	44.83 333	P	P	00 04 25.5	+1.5
	baz=115					
B21K	**Ikpikpuk River**	44.89 341	P	P	00 04 27.0	+2.5
	baz=128					
D20K	**Etivluk River**	44.93 340	P	P	00 04 26.4	+1.6
	baz=125					
B22K	**Teshekpuk Lake**	45.02 342	P	P	00 04 27.0	+1.5
	baz=130					
G16K	**Koyuk River**	45.19 334	P	P	00 04 29.0	+2.1
	baz=116					
D19K	**Kuna River**	45.26 339	P	P	00 04 28.5	+1.0
	baz=123					
F17K	**Baldwin Pennin**	45.26 336	P	P	00 04 28.5	+1.1
	baz=118					
E18K	**Tukpahlearik C**	45.51 337	P	P	00 04 30.4	+1.0
	baz=119					
ROSC	**El Rosal**	45.59 117	LR	LR	00 24 39.6	
	comp=Z,143nm,20.1s,baz=282,slow=38					
E17K	**Hotham Inlet**	45.76 336	P	P	00 04 32.9	+1.4
	baz=118					
A22K	**Sinclair Lake**	45.85 343	P	P	00 04 33.9	+1.9
	baz=129					
C19K	**Lookout Ridge**	46.04 339	P	P	00 04 34.0	+0.3
	baz=122					
SDV	**Santo Domingo**	46.09 109	LR	LR	00 26 52.4	
	comp=Z,76nm,19.0s,baz=286,slow=40					
C18K	**Utukok River**	46.31 338	P	P	00 04 36.3	+0.5
	baz=120					
D17K	**Noatak River**	46.48 337	P	P	00 04 38.7	+1.6
	baz=117					
RDOG	**Red Dog Mine**	46.58 337	P	P	00 04 38.2	+0.3
	baz=117					
F14K	**Arctic Creek**	46.75 333	P	P	00 04 41.1	+1.8
	baz=111					
B18K	**Kokolik River**	46.85 339	P	P	00 04 41.6	+1.6
	baz=120					
C17K	**DeLong Mountai**	46.87 338	P	P	00 04 40.0	-0.1
	baz=117					
A19K	**Wainwright**	47.06 340	P	P	00 04 42.0	+0.4
	baz=121					
TNA	**Tin City**	47.40 333	P	P	00 04 46.8	+2.5
	baz=110					
C16K	**Lisburne Hills**	47.50 337	P	P	00 04 47.3	+2.3
	baz=115					
ATAH	**Atahualpa**	51.08 132	LR	LR	00 25 04.8	
	comp=Z,75nm,18.4s,baz=14,slow=34					

ECX ***20*** *00:16:21.8±0.3, 31.02N×114.15W, h20km±6km, ML3.1*
MEX ***20*** *00:16:23.4±0.4, 30.96N×114.23W, h10km±12km, MD3.9*

ISC 20 00:16:18.6±1.3, 30.97N±0.05×114.12W±0.03, h12km±11km, n17, σ0.93/26, 8C-5D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PPXB	**Puerto Peasco**	**0.55**	**49**	*eP*			**Pn**	**00 16 31.9**	**-0.5**
PPXB				*eS*			**Sb**	**00 16 39.6**	**+1.5**
PPXB				IAML				00 16 43.9	
	comp=E,632nm,0.4s								
PPXB				⇓*e*				00 16 43.9	
PPXB				IAML				00 16 43.9	
	comp=N,1μm,0.7s								
SFX	**San Felipe**	**0.63**	**276**	*i* P			**Pn**	**00 16 32.9**	**-0.5**
SFX				*i* S			**Sb**	**00 16 40.8**	**+0.4**
SFX	**San Felipe**	**0.63**	**276**	*eP*			**Pn**	**00 16 32.8**	**-0.5**
SFX				*eS*			**Sb**	**00 16 41.0**	**+0.7**
SFX				⇑*e*				00 16 41.7	
SFX				IAML				00 16 41.7	
	comp=N,3μm,0.3s								
PIX	**Pinacate**	**0.81**	**44**	*eP*			**Pn**	**00 16 35.8**	**-0.1**
PIX				*eS*			**Sn**	**00 16 47.0**	**-0.9**
PIX				⇑*e*				00 16 56.0	
PIX				IAML				00 16 56.0	
	comp=N,220nm,0.7s								
PIX				⇑*e*				00 16 59.6	
PIX				IAML				00 16 59.6	
	comp=E,266nm,0.7s								
ECBX	**El Chinero**	**0.94**	**302**	*eP*			**Pn**	**00 16 37.3**	**-0.4**
ECBX				*eS*			**Sb**	**00 16 49.3**	**0.0**
ECBX				IAML				00 16 50.9	
	comp=E,675nm,0.3s								
ECBX				⇓*e*				00 16 50.9	
ECBX				⇑*e*				00 16 51.4	
ECBX				IAML				00 16 51.4	
	comp=N,441nm,0.5s								
SPIG	**San Pedro Mart**	**1.16**	**274**	*eP*			**Pn**	**00 16 41.3**	**+0.3**
SPIG				*eS*			**Sg**	**00 16 54.0**	**-2.0**
SPIG	**San Pedro Mart**	**1.16**	**274**	*eP*			**Pn**	**00 16 41.1**	**+0.1**
SPIG				*eS*			**Sn**	**00 16 56.6**	**-0.3**
SPIG				IAML				00 16 59.4	
	comp=N,350nm,0.4s								
SPIG				⇑*e*				00 16 59.4	
SPIG				IAML				00 16 59.4	
	comp=E,247nm,0.4s								
SPIG				⇑*e*				00 16 59.4	
SLGB	**San Luis Gonza**	**1.17**	**192**	*eP*			**Pn**	**00 16 42.1**	**+1.4**
SLGB				IAML				00 16 53.1	
	comp=N,340nm,0.5s								
SLGB				⇑*e*				00 16 53.1	
VTX	**Valle De La Tr**	**1.48**	**287**	*eP*			**Pb**	**00 16 46.2**	**-0.1**
214A	**Organ Pipe Nat**	**1.49**	**48**	*eP*			**Pg**	**00 16 47.8**	**+0.6**
214A				*i* S			**Sg**	**00 17 07.2**	**+0.7**
SQX	**San Quintin**	**1.56**	**256**	*eP*			**Pb**	**00 16 47.6**	**+0.1**
SQX				⇓*e*				00 17 10.0	
SQX				IAML				00 17 10.0	
	comp=E,410nm,0.3s								
LAPR	**La Primavera**	**1.62**	**106**	*eP*			**Pg**	**00 16 49.7**	**0.0**
LAPR				*i* S			**Sn**	**00 17 06.2**	**-1.7**
MBIG	**Mexicali**	**1.70**	**328**	*eP*			Pg	00 16 57.0	+5.8
MBIG				*i* S			**Sg**	**00 17 13.7**	**+0.4**
ALAMX	**Rancho Alamar**	**1.70**	**308**	*eP*			**Pb**	**00 16 49.4**	**-0.5**
ALAMX				IAML				00 17 17.5	
	comp=E,211nm,0.4s								
ALAMX				⇓*e*				00 17 17.5	
ALAMX				⇑*e*				00 17 21.6	
ALAMX				IAML				00 17 21.6	
	comp=N,165nm,0.3s								
CPBX	**Cerro Prieto**	**1.76**	**325**	IAML				00 17 36.3	
	comp=N,725nm,0.5s								
CPBX				⇓*e*				00 17 36.3	
CBX	**Cerro Bola**	**2.55**	**302**	*eP*			**Pn**	**00 17 01.5**	**+1.6**
CBX				*eS*			**Sn**	**00 17 31.2**	**+0.3**
TUC	**Tucson**	**3.14**	**64**	*eP*			Pg	00 17 24.4	+5.6
TUC				*eS*			**Sg**	**00 17 58.4**	**-1.1**

IDC ***20*** *00:17:51.8±1.1, 3.73S×151.13E, h0km, mb3.8/11, mbtmp3.8/13, ML2.8/2, MS3.5/13, Error ellipse: s-maj=44.9km s-min=17.6km az=104.0*
NEIC ***20*** *00:17:53.7±1.8, 3.75S±0.05×150.9E±0.1, h10km±1km, mb4.3/22, Error ellipse: s-maj=20.7km s-min=4.3km az=71.0*

ISC 20 00:17:53.2±0.6, 3.72S±0.08×151.0E±0.1, h10km, n51, σ1.9/18/39, mb4.2/20, MS3.6/13, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.94**	**295**	Pn			**Pn**	**00 18 52.9**	**-0.9**
PMG	**Port Moresby**	**6.79**	**213**	Pn			**Pn**	**00 19 31.4**	**-1.5**
PMG	**Port Moresby**	**6.79**	**213**	Pn			**Pn**	**00 19 35.6**	**+2.6**
	1.6nm,0.3s,baz=146,slow=5.8,SNR=1.9								
	8.9nm,0.6s								
CTA	**Charters Tower**	**16.91**	**195**	Pn			**P**	**00 21 52.0**	**-0.1**
	0.2nm,0.3s,baz=90,slow=6.8,SNR=1.9								
	1.4nm,0.6s								
CTAO	**Charters Tower**	**16.91**	**195**	P			**P**	**00 21 50.8**	**-1.3**
CTAO				IAmb			IAmb	00 22 02.4	
	comp=Z,35nm,1.4s								
FAKI	**Fak Fak**	**18.68**	**272**	P			**Pn**	**00 22 12.2**	**+0.1**
FAKI				IAmb			IAmb	00 22 28.0	
	comp=Z,21nm,1.0s								
EIDS	**Eidsvold**	**21.53**	**180**	P			**P**	**00 22 41.4**	**-1.2**
EIDS				IAmb			IAmb	00 22 55.8	
	comp=Z,16nm,0.9s								
WB0	**Warramunga Arr**	**22.70**	**224**	P			**P**	**00 22 54.6**	**-0.7**
WB0				IAmb			IAmb	00 23 13.3	
	comp=Z,12nm,1.3s								
WB2	**Warramunga Arr**	**22.85**	**224**	P			**P**	**00 22 57.2**	**+0.3**
WB2				IAmb			IAmb	00 23 05.5	
	comp=Z,7.1nm,0.7s								
WRA	**Warramunga Arr**	**22.86**	**224**	P			**P**	**00 22 56.2**	**-0.7**
WRA	**Warramunga Arr**	**22.86**	**224**	P			**P**	**00 22 56.7**	**-0.2**
	comp=Z,2.0nm,0.9s,baz=51,slow=11,SNR=8.4								
	comp=Z,2.0nm,0.9s								
DZM	**Mont Dzumac**	**23.64**	**142**	LR			LR	00 31 34.3	
	comp=Z,204nm,18.4s,baz=264,slow=35								
KNRA	**Kununurra**	**24.85**	**240**	P			**P**	**00 23 15.4**	**-0.7**
ASAR	**Alice Springs**	**25.78**	**218**	P			**P**	**00 23 25.6**	**+1.1**
	comp=Z,1.9nm,0.7s,baz=52,slow=8.7,SNR=19								
	comp=Z,1.9nm,0.7s								
FITZ	**Fitzroy Crossi**	**28.61**	**238**	P			**P**	**00 23 48.7**	**-1.2**
STKA	**Stephens Creek**	**29.36**	**196**	P			**P**	**00 23 57.4**	**+0.9**
	comp=Z,2.2nm,0.7s,baz=340,slow=19,SNR=2.6								
STKA				LR			LR	00 36 46.5	
	comp=Z,139nm,18.4s,baz=29,slow=39								
	comp=Z,2.2nm,0.7s								
JCJ	**Chichijima**	**31.78**	**345**	LR			LR	00 36 44.3	
	comp=Z,75nm,18.8s,baz=138,slow=36								
FORT	**Forrest**	**34.51**	**216**	P			**P**	**00 24 41.6**	**-0.1**
PSA00	**Pilbara Seismi**	**35.03**	**237**	P			**P**	**00 24 45.5**	**-0.8**
PSA00				IAmb			IAmb	00 25 02.9	
	comp=Z,8.2nm,1.4s								
MJAR	**Matsushiro Arr**	**41.78**	**345**	LR			LR	00 40 59.3	
	comp=Z,55nm,18.2s,baz=144,slow=33								
TUWZ	**Tuamarina**	**42.84**	**154**	P			**P**	**00 25 51.5**	**0.0**
LEM	**Lembang**	**43.24**	**264**	LR			LR	00 48 44.5	
	comp=Z,67nm,18.9s,baz=34,slow=43								
RPZ	**Rata Peaks**	**43.63**	**159**	LR			LR	00 44 34.8	
	comp=Z,111nm,18.8s,baz=138,slow=37								
KSRS	**Korea Array**	**46.22**	**334**	LR			LR	00 46 32.6	
	comp=Z,28nm,18.0s,baz=170,slow=37								
KLR	**Kul'dur**	**55.30**	**345**	LR			LR	00 48 13.5	
	comp=Z,53nm,21.9s,baz=293,slow=33								
PETK	**Petropavlovsk-**	**56.90**	**5**	LR			LR	00 52 50.5	
	comp=Z,13nm,18.1s,baz=176,slow=37								
MA2	**Magadan**	**63.10**	**360**	LR			LR	00 50 26.8	
	comp=Z,32nm,21.7s,baz=72,slow=31								
SONM	**Songino Array**	**64.43**	**328**	P			**P**	**00 28 31.2**	**+1.3**
SONM	**Songino Array**	**64.43**	**328**	P			**P**	**00 28 31.3**	**+1.4**
	comp=Z,0.1nm,0.4s,baz=142,slow=7.2,SNR=1.6								
	comp=Z,0.1nm,0.4s								
VNDA	**Vanda**	**73.98**	**178**	P			**P**	**00 29 29.0**	**+0.6**
VNDA				IAmb			IAmb	00 29 35.9	
	comp=Z,3.9nm,1.4s								
TIXI	**Tiksi**	**76.59**	**353**	LR			LR	01 03 33.5	
	comp=Z,22nm,19.4s,baz=186,slow=36								
F17K	**Baldwin Pennin**	**77.85**	**18**	P			**P**	**00 29 49.7**	**-0.9**
MK31	**Makanchi Array**	**78.30**	**319**	P			**P**	**00 29 53.7**	**+0.1**
MKAR	**Makanchi Array**	**78.30**	**319**	P			**P**	**00 29 53.6**	**-0.1**
MKAR	**Makanchi Array**	**78.30**	**319**	P			**P**	**00 29 55.0**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=87,slow=6.7,SNR=6.2								
	comp=Z,0.5nm,0.7s								
G18K	**Tagagawik**	**78.31**	**19**	P			**P**	**00 29 53.9**	**+0.6**
PTCN	**Pitcairn Islan**	**78.44**	**115**	P			**P**	**00 29 52.8**	**-2.0**
MAKZ	**Makanchi**	**78.51**	**319**	P			**P**	**00 29 56.8**	**+2.0**
MAKZ				IAmb			IAmb	00 30 03.6	
	comp=Z,1.6nm,0.7s								
J20K	**Nowinta River**	**78.85**	**21**	P			**P**	**00 29 58.6**	**+2.4**
J20K				IAmb			IAmb	00 30 05.0	
	comp=Z,4.4nm,1.1s								
ZALV	**Zalesovo Beam**	**79.23**	**327**	P			**P**	**00 29 59.4**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=123,slow=6.1,SNR=5.2								
	comp=Z,1.0nm,0.6s								
KURBB	**Kurchatov Arra**	**81.81**	**322**	P			**P**	**00 30 13.4**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=108,slow=4.7,SNR=7.0								
	comp=Z,0.5nm,0.7s								
ILAR	**Eielson Array**	**81.86**	**23**	P			**P**	**00 30 12.4**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=264,slow=8.1,SNR=4.2								
	comp=Z,0.5nm,0.9s								
KK31	**Karatay Array**	**85.55**	**314**	P			**P**	**00 30 29.7**	**-2.1**
KK31				IAmb			IAmb	00 30 40.6	
	comp=Z,3.6nm,1.1s								
KKAR	**Karatay Array**	**85.55**	**314**	P			**P**	**00 30 30.3**	**-1.6**
KKAR				IAmb			IAmb	00 30 40.6	
	comp=Z,3.6nm,1.1s								
QSPA	**South Pole Qui**	**86.24**	**180**	P			**P**	**00 30 35.1**	**+0.2**
QSPA				IAmb			IAmb	00 30 49.0	
	comp=Z,3.7nm,1.1s								
QSPA	**South Pole Qui**	**86.24**	**180**	P			**P**	**00 30 34.7**	**-0.3**
	comp=Z,1.4nm,1.1s,baz=311,slow=3.8,SNR=1.8								
	comp=Z,1.4nm,1.1s								
BVAR	**Borovoye Array**	**87.27**	**323**	P			**P**	**00 30 40.7**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=102,slow=6.2,SNR=9.3								
	comp=Z,1.1nm,0.8s								
ARU	**Arti**	**94.39**	**326**	LR			LR	01 13 12.0	
	comp=Z,40nm,21.2s,baz=146,slow=35								
YKA	**Yellowknife Ar**	**95.33**	**28**	P			**P**	**00 31 17.2**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=242,slow=27,SNR=4.1								
	comp=Z,0.1nm,0.3s								
LPIG	**La Paz**	**99.48**	**66**	LR			LR	01 10 53.5	
	comp=Z,44nm,18.3s,baz=140,slow=32								
TORD	**Torodi Ar. Bea**	**148.21**	**289**	PKPbc			**PKPbc**	**00 37 41.2**	**+0.6**
	comp=Z,1.2nm,0.9s,baz=64,slow=4.7,SNR=3.4								

RSNC ***20*** *00:22:05.8±0.6, 9.1N±3.7×71.1W±, h0km, ML2.4*
FUNV ***20*** *00:22:06.2, 8.42N×71.43W, h5km, MW3.2*

ISC 20 00:22:05.5±1.5, 8.50N±0.06×71.44W±0.03, h1km±12km, n18, σ0.87/26, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SOCV	**Socops**	**0.62**	**110**	*eP*			**Pg**	**00 22 18.1**	**+0.7**
SOCV				*eS*			**Sg**	**00 22 25.3**	**0.0**
CAPV	**Capacho**	**1.07**	**234**	*eP*			**Pg**	**00 22 24.8**	**-1.1**
CAPV				*eS*			**Sg**	**00 22 39.7**	**-0.1**
PAMC	**Pamplona, Colo**	**1.69**	**227**	P			**Pn**	**00 22 37.0**	**+0.4**
PAMC				S			**Sb**	**00 23 00.5**	**+0.8**
OCAC	**Ocana**	**1.87**	**262**	P			**Pn**	**00 22 38.4**	**-0.4**
OCAC				S			**Sn**	**00 23 03.5**	**+0.3**
TAMC	**Tame, Arauca**	**2.08**	**190**	P			**Pn**	**00 22 42.0**	**+0.5**
SANV	**Sanarito**	**2.13**	**62**	*eP*			**Pn**	**00 22 43.1**	**+0.8**
SANV				*eS*			**Sn**	**00 23 09.3**	**-0.2**
BARC	**Barichara**	**2.56**	**222**	P			**Pb**	**00 22 52.4**	**0.0**
BARC				S			**Sb**	**00 23 26.1**	**+1.7**
TEPV	**Terepaima**	**2.66**	**57**	*eP*			**Pn**	**00 22 49.0**	**-0.5**
TEPV				*eS*			**Sn**	**

comp=Z,2µm,1.0s
JACO JACO, Garabito 0.48 287 *i* P **Pn 00 27 35.0 +0.3**
JACO *i* S **Sn 00 27 43.9 +1.8**
JACO IAML 00 27 45.2
comp=Z,190nm,1.0s
PEZE Perez Zeledon, 0.52 105 *i* P **Pn 00 27 34.7 -0.6**
PEZE *i* S **Sn 00 27 43.7 +0.6**
PEZE IAML 00 27 44.7
comp=Z,1µm,1.0s
VTCV VTCV, Calle Va 0.65 45 *i* P **Pb 00 27 36.5 -0.4**
VTCV *i* S **Sb 00 27 45.5 -0.3**
VTCV IAML 00 27 46.8
comp=Z,2µm,1.0s
VTUN Crater Central 0.65 40 *i* P **Pb 00 27 36.9 -0.2**
VTUN *i* S **Sn 00 27 47.0 +0.3**
VTUN IAML 00 27 48.1
comp=Z,770nm,1.0s
OCHAL Ojochal 0.68 128 *i* P **Pb 00 27 36.6 -0.8**
OCHAL *i* S **Sn 00 27 47.9 +1.0**
OCHAL IAML 00 27 48.1
comp=Z,290nm,1.0s
LAFE Finca La Fe, P 0.77 292 *i* S **Sn 00 27 51.0 +2.0**
CPMI Catarata Coope 0.78 346 *i* P **Pn 00 27 38.8 -0.1**
CPMI IAML 00 27 39.0
comp=Z,290nm,1.0s
CPMI *i* S **Sn 00 27 51.0 +1.3**
SOCE Pocosol 0.95 334 *i* P **Pb 00 27 41.5 -0.5**
SOCE IAML 00 27 41.9
comp=Z,1µm,1.0s
SOCE *i* S **Sb 00 27 55.7 +1.4**
PLAN Los Planes de 0.98 149 *i* P **Pn 00 27 40.8 -0.7**
PLAN *i* S **Sb 00 27 57.5 +2.4**
PLAN IAML 00 27 59.6
comp=Z,670nm,1.0s
BATAN Batan 0.98 54 *i* P **Pn 00 27 41.1 -0.4**
BATAN *i* S **Sn 00 27 53.9 -0.5**
BATAN IAML 00 27 57.0
comp=Z,740nm,1.0s
COVE Coope Vega, Sa 1.21 350 IAML 00 27 44.9
comp=Z,200nm,1.0s
COVE *i* P **Pn 00 27 45.1 +0.5**
INDI Punta indio, G 1.34 285 *i* P **Pn 00 27 45.5 -0.9**
INDI *i* S **Sn 00 28 02.9 -0.3**
INDI IAML 00 28 12.1
comp=Z,74nm,1.0s
SAJU San Juanillo, 1.59 290 *i* P **Pn 00 27 49.2 -0.8**
SAJU *i* S **Sn 00 28 08.4 -1.1**
SAJU IAML 00 28 09.4
comp=Z,130nm,1.0s
BRU2 Volcan 1.65 116 *e*P **Pb 00 27 53.2 -0.5**
BRU2 *e*S **Sn 00 28 11.9 +0.9**
BC3P Paso Ancho 1.71 114 *e*P **Pb 00 27 53.8 -1.0**
BCO2 Palmira 1.82 116 *e*P **Pn 00 27 53.0 -0.2**
BCO2 AMP 00 27 54.5
comp=Z,897nm,0.1s
BCO2 *e*S **Sn 00 28 15.5 +0.1**
HZTE Horizontes, Gu 1.82 311 *i* P **Pb 00 27 54.7 -1.9**
HZTE IAML 00 28 30.0
comp=Z,77nm,1.0s

NEIC ***20*** *00:28:56.2±2.4, 53.38N±0.06×168.03W±0.04, h91km±5km, mb4.2/101, ML4.0/12, ML3.9(AEIC), Error ellipse: s-maj=9.4km s-min=3.3km az=167.0*
AEIC ***20*** *00:28:57.2±2.8, 53.30N±0.06×167.98W±0.07, h84km±4km, Error ellipse: s-maj=9.5km s-min=4.6km az=154.0*
IDC ***20*** *00:28:59.5±4.5, 53.74N×168.19W, h133km±41km, mb3.5/18, mbtmp3.9/19, Error ellipse: s-maj=25.6km s-min=12.8km az=12.0*
ISC 20 00:28:55.5±0.6, 53.40N±0.08×168.11W±0.05, h100km±5km, n284, σ1§20/281, mb4.0/28, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OKCE	**Okmok Cone E**	**0.04**	**306**				**Pn**	**00 29 09.0**	**-0.4**
OKCE							**Sn**	**00 29 19.7**	**0.0**
OKTU	**Okmok Mt. Tuli**	**0.04**	**115**				**Pn**	**00 29 08.7**	**-0.7**
OKNC	**Okmok New Cone**	**0.06**	**351**				**Pn**	**00 29 08.9**	**-0.5**
OKNC							**Sn**	**00 29 19.5**	**-0.3**
OKER	**Okmok East Rim**	**0.06**	**34**				**Pn**	**00 29 08.8**	**-0.7**
OKFG	**Magazine Ridge**	**0.12**	**86**				**Pn**	**00 29 08.7**	**-0.7**
OKFG							**Sn**	**00 29 18.6**	**-1.3**
NIKH	**Nikolski High**	**0.62**	**226**	P			**Pn**	**00 29 11.6**	**-0.6**
NIKH	**Nikolski High**	**0.62**	**226**	Pn			**Pn**	**00 29 11.6**	**-0.6**
NIKH	**Nikolski High**	**0.62**	**226**				**Sn**	**00 29 23.4**	**-1.2**
NIKH	**Nikolski High** baz=54	**0.62**	**226**	P			**Pn**	**00 29 11.6**	**-0.6**
NIKH	baz=54			S			**Sn**	**00 29 23.4**	**-1.2**
MAPS	**Pakushin South**	**0.81**	**59**				**Pn**	**00 29 13.4**	**-0.5**
MAPS							**Sn**	**00 29 26.9**	**-0.7**
MGOD	**Makushin Gods**	**0.83**	**61**				**Pn**	**00 29 13.6**	**-0.6**
MGOD							**Sn**	**00 29 27.5**	**-0.8**
MSW	**Makushin Switc**	**0.94**	**56**				**Pn**	**00 29 14.8**	**-0.5**
MNAT	**Makushin Natee**	**0.98**	**60**				**Pn**	**00 29 15.2**	**-0.4**
MNAT							**Sn**	**00 29 30.6**	**-0.2**
UNV	**Unalaska Valle**	**1.05**	**64**	P			**Pn**	**00 29 16.0**	**-0.4**
UNV	**Unalaska Valle**	**1.05**	**64**	Pn			**Pn**	**00 29 16.3**	**-0.1**
UNV	**Unalaska Valle**	**1.05**	**64**				**Sn**	**00 29 31.9**	**-0.3**
UNV	**Unalaska Valle** baz=241	**1.05**	**64**	P			**Pn**	**00 29 16.1**	**-0.4**
CLCO	**Concord Point,**	**1.15**	**238**				**Pn**	**00 29 17.5**	**0.0**
CLCO							**Sn**	**00 29 34.4**	**+0.2**
CLES	**Cleveland East**	**1.22**	**242**				**Pn**	**00 29 18.5**	**+0.1**
CLES					Sn		**Sn**	**00 29 36.9**	**+1.2**
AKRB	**Akutan Reef Bi**	**1.41**	**58**				**Sn**	**00 29 40.2**	**+0.5**
LVA	**Lava Point**	**1.45**	**58**				**Pn**	**00 29 21.5**	**+0.4**
AKUT	**Akutan**	**1.57**	**61**	P			**Pn**	**00 29 23.1**	**+0.6**
AKUT	**Akutan**	**1.57**	**61**	Pn			**Pn**	**00 29 22.9**	**+0.4**
AKUT					Sn		**Sn**	**00 29 42.2**	**-0.8**
AKSA	**Akutan Strait**	**1.61**	**62**				**Pn**	**00 29 23.2**	**+0.2**
WECS	**Westdahl Cape**	**2.27**	**59**				**Pn**	**00 29 31.9**	**+0.3**
WEBT	**Westdahl Beart**	**2.31**	**58**				**Pn**	**00 29 32.2**	**+0.1**
SSLW	**Shishaldin Wes**	**2.72**	**58**				**Pn**	**00 29 37.7**	**+0.2**
ISLZ	**Isanotski Laza**	**2.91**	**61**				**Pn**	**00 29 40.6**	**+0.6**
FALS	**False Pass**	**3.12**	**60**	P			**Pn**	**00 29 44.4**	**+1.7**
FALS	**False Pass**	**3.12**	**60**	Pn			**Pn**	**00 29 43.8**	**+1.2**
FALS	**False Pass** baz=242	**3.12**	**60**	P			**Pn**	**00 29 43.9**	**+1.2**
P08K	**Saint George I**	**3.31**	**346**				**Pn**	**00 29 46.0**	**+0.8**
KOFP	**Korovin Flat P**	**3.80**	**255**				**Pn**	**00 29 53.2**	**+1.2**
ATKA	**Atka Island**	**3.88**	**254**	P			**Pn**	**00 29 53.8**	**+0.8**
ATKA	**Atka Island**	**3.88**	**254**				**Pn**	**00 29 53.9**	**+0.9**
ATKA	comp=E,136nm,0.7s					IAML		00 30 50.9	
SPIA	**Saint Paul Isl**	**3.98**	**343**	P			**Pn**	**00 29 56.2**	**+2.0**
SPIA	**Saint Paul Isl**	**3.98**	**343**	Pn			**Pn**	**00 29 55.7**	**+1.5**
SPIA	**Saint Paul Isl** baz=160	**3.98**	**343**	P			**Pn**	**00 29 55.9**	**+1.7**
PN7A	**Pavlof North-7**	**4.11**	**58**				**Pn**	**00 29 56.4**	**+0.3**
S12K	**Black Hills**	**4.21**	**54**				**Pn**	**00 29 57.8**	**+0.4**
S12K	comp=N,122nm,0.8s					IAML		00 30 57.5	
S12K	comp=E,100nm,1.3s					IAML		00 31 21.7	
S12K	**Black Hills** baz=238	**4.21**	**54**	P			**Pn**	**00 29 57.7**	**+0.3**
PS1A	**Pavlof South-1**	**4.23**	**59**				**Pn**	**00 29 59.1**	**+1.4**
SDPT	**Sand Point**	**4.87**	**63**	P			**Pn**	**00 30 06.5**	**+0.2**
SDPT	**Sand Point**	**4.87**	**63**	Pn			**Pn**	**00 30 06.6**	**+0.2**
SDPT	comp=E,184nm,0.9s					IAML		00 31 16.0	
SDPT	**Sand Point** baz=248	**4.87**	**63**	P			**Pn**	**00 30 06.3**	**0.0**
GSTR	**Great Sitkin T**	**5.00**	**258**	Pn			**Pn**	**00 30 09.9**	**+1.7**
CNBA	**Chernabura Isl**	**5.21**	**71**				**Pn**	**00 30 10.2**	**-0.7**
CNBA	comp=E,78nm,0.8s					IAML		00 31 24.6	
CNBA	comp=N,90nm,1.2s					IAML		00 31 25.6	
CHNA	**Chernabura Isl** baz=257	**5.21**	**71**	P			**Pn**	**00 30 10.1**	**-0.9**
ADK	**Adak**	**5.44**	**257**	P			**Pn**	**00 30 15.6**	**+1.6**
ADK	**Adak**	**5.44**	**257**	Pn			**Pn**	**00 30 15.5**	**+1.5**
KIWB	**Kanaga Island**	**5.72**	**258**	Pn			**Pn**	**00 30 18.5**	**+0.6**
CHGN	**Chignik**	**6.31**	**59**				**Pn**	**00 30 25.7**	**-0.1**
O14K	**Tigyukauivet M**	**6.99**	**30**				**Pn**	**00 30 36.4**	**+1.4**
O14K	**Tigyukauivet M** baz=215	**6.99**	**30**	P			**Pn**	**00 30 35.8**	**+0.8**
O15K	**Ungalikthiuk R**	**7.39**	**35**				**Pn**	**00 30 41.4**	**+0.9**
O15K	**Ungalikthiuk R** baz=221	**7.39**	**35**	P			**Pn**	**00 30 41.4**	**+0.9**
N14K	**Kuskokwak Cree**	**7.43**	**26**				**Pn**	**00 30 42.0**	**+0.9**
N14K	**Kuskokwak Cree** baz=210	**7.43**	**26**	P			**Pn**	**00 30 42.0**	**+0.9**
N15K	**Kwethluk River**	**8.08**	**30**	Pn			**Pn**	**00 30 51.7**	**+1.8**
M14K	**Bethel**	**8.09**	**22**	Pn			**Pn**	**00 30 51.3**	**+1.3**
O16K	**Kokwok River B**	**8.31**	**38**	Pn			**Pn**	**00 30 54.3**	**+1.3**
O16K	**Kokwok River B** baz=225	**8.31**	**38**	P			**Pn**	**00 30 54.0**	**+1.0**
Q17K	**Contact Creek** baz=239	**8.42**	**50**	P			**Pn**	**00 30 54.4**	**-0.2**
CNTC	**Contact Creek**	**8.43**	**50**				**Pn**	**00 30 54.4**	**-0.3**
L14K	**Kuka Creek**	**8.48**	**18**	Pn			**Pn**	**00 30 56.4**	**+1.2**
ANCK	**Angle Creek**	**8.57**	**51**				**Pn**	**00 30 56.2**	**-0.5**
SII	**Sitkinak Islan**	**8.61**	**63**	Pn			**Pn**	**00 30 56.6**	**-0.5**
ACHA	**Angle Creek He**	**8.66**	**51**				**Pn**	**00 30 57.6**	**-0.1**
O17K	**Koliganek Bris**	**8.81**	**39**				**Pn**	**00 31 00.6**	**+0.9**
O17K	**Koliganek Bris** baz=228	**8.81**	**39**	P			**Pn**	**00 31 00.6**	**+0.9**
M16K	**Timber Creek**	**9.10**	**29**	Pn			**Pn**	**00 31 05.0**	**+1.2**
OHAK	**Old Harbor**	**9.27**	**60**	Pn			**Pn**	**00 31 03.5**	**-2.6**
OHAK	**Old Harbor** baz=251	**9.27**	**60**	P			**Pn**	**00 31 03.6**	**-2.5**
N17K	**Nushagak Hills**	**9.29**	**35**	Pn			**Pn**	**00 31 08.7**	**+2.3**
P18K	**Big Mountain,**	**9.32**	**45**				**Pn**	**00 31 08.1**	**+1.3**
P18K	**Big Mountain,** baz=235	**9.32**	**45**	P			**Pn**	**00 31 07.5**	**+0.8**
L16K	**Owhat River**	**9.53**	**26**	Pn			**Pn**	**00 31 10.8**	**+1.3**
L16K	**Owhat River** baz=212	**9.53**	**26**	P			**Pn**	**00 31 10.9**	**+1.5**
K15K	**Wolf Creek Mou**	**9.57**	**19**	Pn			**Pn**	**00 31 11.9**	**+1.7**
O18K	**Koktuh Hills**	**9.60**	**43**				**Pn**	**00 31 12.1**	**+1.6**
O18K	**Koktuh Hills** baz=233	**9.60**	**43**	P			**Pn**	**00 31 11.7**	**+1.2**
J14K	**Nanvaranak Lak**	**9.68**	**13**	Pn			**Pn**	**00 31 12.7**	**+1.2**
Q19K	**Cape Douglas,**	**9.77**	**50**	Pn			**Pn**	**00 31 13.5**	**+0.6**
Q19K	**Cape Douglas,** baz=241	**9.77**	**50**	P			**Pn**	**00 31 12.2**	**-0.7**
KDAK	**Kodiak Island**	**9.82**	**57**	Pn			**Pn**	**00 31 12.7**	**-0.7**
KDAK	**Kodiak Island** comp=N,6.7nm,0.4s,baz=209,slow=4.6,SNR=35	**9.82**	**57**	P			**Pn**	**00 31 10.1**	**-3.3**
KDAK	comp=N,9.7nm,0.8s,baz=213,slow=23,SNR=2.0				S		Sn	00 32 51.5	-10
M17K	**Holitna River**	**9.86**	**31**	Pn			**Pn**	**00 31 15.2**	**+1.2**
N18K	**Kilae Creek**	**9.86**	**37**	Pn			**Pn**	**00 31 15.7**	**+1.6**
SYI	**Shuyak Island**	**10.22**	**53**	Pn			**Pn**	**00 31 17.1**	**-1.8**
SVW2	**Sparrevohn**	**10.26**	**36**	P			**Pn**	**00 31 21.1**	**+1.6**
SVW2	**Sparrevohn**	**10.26**	**36**				**Pn**	**00 31 20.7**	**+1.2**
P19K	**Oil Pt**	**10.32**	**47**	Pn			**Pn**	**00 31 21.2**	**+0.9**
N19K	**Bonanza Creek**	**10.47**	**39**	Pn			**Pn**	**00 31 24.3**	**+1.8**
ILSW	**Iliamna Southw**	**10.53**	**45**	Pn			**Pn**	**00 31 24.4**	**+1.2**
GAMB	**Gambell**	**10.57**	**351**	Pn			**Pn**	**00 31 23.4**	**-0.3**
J16K	**Anvik River**	**10.65**	**19**	Pn			**Pn**	**00 31 26.2**	**+1.4**
K17K	**Iditarod**	**10.67**	**25**				**Pn**	**00 31 25.4**	**+0.3**
L18K	**Granite Mounta**	**10.72**	**30**	Pn			**Pn**	**00 31 27.0**	**+1.4**
RSO	**Redoubt South**	**10.95**	**44**	Pn			**Pn**	**00 31 30.4**	**+1.3**
CNPM	**China Poot**	**11.15**	**50**	Pn			**Pn**	**00 31 30.7**	**-0.9**
L19K	**White Mountain**	**11.27**	**33**	Pn			**Pn**	**00 31 35.1**	**+2.0**
ANM	**Nome**	**11.28**	**6**	Pn			**Pn**	**00 31 34.8**	**+1.5**
BRLK	**Bradley Lake**	**11.41**	**49**	Pn			**Pn**	**00 31 34.8**	**-0.4**
TTA	**Tatalina**	**11.47**	**29**	P			**Pn**	**00 31 36.5**	**+0.7**
TTA	**Tatalina**	**11.47**	**29**	Pn			**Pn**	**00 31 36.6**	**+0.7**
M20K	**Styx River**	**11.66**	**37**	Pn			**Pn**	**00 31 41.3**	**+2.9**
J18K	**Innoko River**	**11.70**	**26**	Pn			**Pn**	**00 31 39.7**	**+0.8**
TNA	**Tin City**	**12.20**	**0**	Pn			**Pn**	**00 31 47.2**	**+1.8**
SEW	**Seward**	**12.21**	**49**	Pn			**Pn**	**00 31 43.6**	**-2.1**
O22K	**Cooper Landing**	**12.26**	**47**				**Pn**	**00 31 45.0**	**-1.3**
H17K	**Granite Mounta**	**12.29**	**17**	Pn			**Pn**	**00 31 48.2**	**+1.5**
SKT	**Skwentna**	**12.31**	**39**				**Pn**	**00 31 48.4**	**+1.3**
SUA	**Susitna One**	**12.32**	**42**				**Pn**	**00 31 47.0**	**-0.3**
K20K	**Telida**	**12.37**	**31**	Pn			**Pn**	**00 31 49.8**	**+2.1**
G16K	**Koyuk River**	**12.37**	**11**	Pn			**Pn**	**00 31 49.2**	**+1.4**
J19K	**Poorman**	**12.41**	**26**	Pn			**Pn**	**00 31 49.6**	**+1.3**
F15K	**North Star Dit**	**12.46**	**7**	Pn			**Pn**	**00 31 51.0**	**+1.9**
RC01	**Rabbit Creek A**	**12.54**	**45**	Pn			**Pn**	**00 31 49.1**	**-1.0**
H18K	**Honhosa River**	**12.77**	**19**				**Pn**	**00 31 54.6**	**+1.6**
J20K	**Nowinta River**	**12.96**	**28**	Pn			**Pn**	**00 31 57.2**	**+1.6**
CAST	**Castle Rocks**	**13.04**	**33**	Pn			**Pn**	**00 31 57.9**	**+1.2**
GHO	**Glory Hole Cre**	**13.22**	**43**				**Pn**	**00 31 58.1**	**-1.0**
KNK	**Knik Glacier**	**13.24**	**45**				**Pn**	**00 31 57.6**	**-1.7**
G18K	**Tagagawik**	**13.39**	**17**				**Pn**	**00 32 02.9**	**+1.7**
SML	**Sawmill**	**13.49**	**44**				**Pn**	**00 32 01.9**	**-0.6**
H19K	**Roundabout Mou**	**13.49**	**21**				**Pn**	**00 32 04.0**	**+1.5**
KTH	**Kantishna Hill**	**13.52**	**34**				**Pn**	**00 32 04.2**	**+1.3**
TRF	**Thorofare Moun**	**13.67**	**36**	Pn			**Pn**	**00 32 06.2**	**+1.2**
HIN	**Hinchinbrook I**	**13.68**	**51**	Pn			**Pn**	**00 32 02.5**	**-2.5**
BPAW	**Bear Paw Mtn.**	**13.87**	**33**	Pn			**Pn**	**00 32 08.9**	**+1.5**
G19K	**Purcell Mounta**	**13.90**	**19**	Pn			**Pn**	**00 32 09.4**	**+1.7**
SCM	**Sheep Creek Mo**	**13.92**	**44**				**Pn**	**00 32 06.5**	**-1.6**
RND	**Reindeer**	**14.16**	**37**	Pn			**Pn**	**00 32 11.4**	**+0.2**
I21K	**Tanana**	**14.33**	**28**				**P**	**00 32 15.7**	**-1.8**
KLU	**Klutina**	**14.37**	**47**				**Pn**	**00 32 11.5**	**-2.4**
F19K	**Shaleruckik Mo**	**14.39**	**17**	P			**Pn**	**00 32 15.7**	**+1.6**
H21K	**Melozitna Rive**	**14.47**	**26**	P			**Pn**	**00 32 16.8**	**+1.6**
IMAR	**Indian Mountai**	**14.49**	**24**	Pn			**Pn**	**00 32 17.1**	**+1.7**
KAIM	**Kayak Island**	**14.52**	**54**	Pn			**Pn**	**00 32 15.4**	**-0.4**
DHY	**Denali Highway**	**14.52**	**40**				**Pn**	**00 32 17.1**	**+1.1**
E18K	**Tukpahlearik C**	**14.53**	**12**	Pn			**Pn**	**00 32 17.4**	**+1.6**
M24K	**Tolsona, Glenn**	**14.53**	**44**	Pn			**Pn**	**00 32 14.0**	**-1.9**
RAGM	**Ragged Mountai**	**14.53**	**52**				**Pn**	**00 32 15.3**	**-0.7**
MLY	**Manley**	**14.59**	**30**	Pn			**Pn**	**00 32 18.1**	**+1.3**
HMT	**Hamilton**	**14.71**	**52**	Pn			**Pn**	**00 32 16.8**	**-1.4**
SUCK	**Suckling Hills**	**14.87**	**54**	Pn			**Pn**	**00 32 21.1**	**+0.9**
F20K	**Avaraart Lake**	**14.96**	**19**				**Pn**	**00 32 22.8**	**+1.5**
C16K	**Lisburne Hills**	**14.98**	**4**	P			**P**	**00 32 26.7**	**+2.1**
G21K	**Allakaket**	**14.98**	**23**	Pn			**Pn**	**00 32 22.9**	**+1.2**
BERG	**Berg Lake**	**14.99**	**52**				**Pn**	**00 32 20.2**	**-1.6**
N25K	**Chitina, Valde**	**14.99**	**47**				**Pn**	**00 32 19.4**	**-2.5**
E19K	**Redstone River**	**15.05**	**16**	Pn			**P**	**00 32 24.1**	**-1.3**
WRH	**Wood River Hil**	**15.07**	**35**				**Pn**	**00 32 21.7**	**-1.1**
I23K	**Minto, Yukon-K** comp=Z,14nm,0.7s	**15.09**	**31**	IAmb		IAmb	IAmb	00 32 26.6	
GLB	**Gilahina Butte**	**15.29**	**49**	P			**Pn**	**00 32 23.2**	**-2.3**
GLB	comp=Z,9.4nm,0.5s			IAmb		IAmb	IAmb	00 32 25.4	
SNH	**Sunshine Point**	**15.35**	**54**	Pn			**Pn**	**00 32 26.4**	**+0.1**
VRDI	**Verde Repeater**	**15.37**	**50**	Pn			**Pn**	**00 32 25.4**	**-1.4**
HDA	**Harding Lake**	**15.43**	**36**	P			**Pn**	**00 32 27.2**	**-0.1**
F21K	**Alatna River**	**15.57**	**21**	P			**P**	**00 32 31.4**	**+0.2**
F21K	comp=Z,11nm,0.9s			IAmb		IAmb	IAmb	00 32 31.7	
C18K	**Utukok River**	**15.64**	**9**				**P**	**00 32 32.4**	**+0.3**
C18K	comp=Z,15nm,1.1s			IAmb		IAmb	IAmb	00 32 36.1	
IL31		**15.67**	**35**	Pn			**Pn**	**00 32 29.9**	**-0.3**
ILAR	**Eielson Array**	**15.67**	**35**	Pn			**Pn**	**00 32 30.9**	**+0.7**
ILAR	**Eielson Array** comp=Z,0.8nm,0.4s,baz=243,slow=11,SNR=22	**15.67**	**35**	P			**Pn**	**00 32 27.9**	**-2.3**
POKR	**Porter Plat Res**	**15.69**	**34**	Pn			**Pn**	**00 32 30.1**	**-0.5**
ISLE	**Juniper Island**	**15.70**	**52**				**Pn**	**00 32 30.3**	**-0.6**
ISLE	comp=Z,14nm,0.8s			IAmb		IAmb	IAmb	00 32 35.6	
MESA	**MESA**	**15.78**	**54**				**Pn**	**00 32 32.0**	**+0.1**
D19K	**Kuna River**	**15.86**	**14**				**P**	**00 32 34.3**	**-0.1**
D19K	comp=Z,8.2nm,0.8s			IAmb		IAmb	IAmb	00 32 37.7	
MENT	**Mentasta**	**15.92**	**44**				**Pn**	**00 32 33.4**	**0.0**
MENT	comp=Z,7.4nm,0.5s			IAmb		IAmb	IAmb	00 32 48.0	
M26K	**Nabesna, AK**	**16.00**	**46**	Pn			**Pn**	**00 32 32.7**	**-1.8**
M26K	comp=Z,13nm,0.6s			IAmb		IAmb	IAmb	00 32 36.3	
G23K	**Bananza Creek**	**16.01**	**27**	P			**P**	**00 32 37.1**	**+1.0**
G23K	comp=Z,7.3nm,0.7s			IAmb		IAmb	IAmb	00 32 40.0	
H24K	**Noodor Dome**	**16.02**	**31**	Pn			**Pn**	**00 32 35.1**	**+0.5**
H24K	comp=Z,13nm,0.8s			IAmb		IAmb	IAmb	00 32 37.2	
L26K	**Log Cabin Wild**	**16.11**	**44**				**Pn**	**00 32 36.4**	**+0.6**
J25K	**Salcha River,**	**16.11**	**37**	Pn			**Pn**	**00 32 35.6**	**-0.2**
J25K	comp=Z,13nm,0.5s			IAmb		IAmb	IAmb	00 32 37.9	
BARN	**Barnard Glacie**	**16.15**	**51**				**Pn**	**00 32 35.3**	**-1.1**
BARN	comp=Z,9.2nm,0.6s			IAmb		IAmb	IAmb	00 32 42.7	
TABL	**Table Mountain**	**16.23**	**54**				**Pn**	**00 32 37.6**	**+0.1**
C19K	**Lookout Ridge**	**16.25**	**11**				**P**	**00 32 40.2**	**+1.5**
CTGM	**Chitina Glacie**	**16.27**	**52**				**Pn**	**00 32 36.8**	**-1.1**
CTGM	comp=Z,12nm,0.6s			IAmb		IAmb	IAmb	00 32 41.2	
LOGN	**Logan Glacier**	**16.39**	**52**				**Pn**	**00 32 39.5**	**0.0**
M27K	**Edge Creek, AK**	**16.47**	**47**	P			**Pn**	**00 32 39.6**	**-0.8**
M27K				IAmb		IAmb	IAmb	00 32 42.3	
	comp=Z,14nm,1.0s								
PRP	**Porcupine Dome**	**16.57**	**34**	Pn			**Pn**	**00 32 41.3**	**-0.3**
J26L	**Joseph Creek**	**16.71**	**39**	Pn			**Pn**	**00 32 43.3**	**0.0**
G24K	**Hadweenzic Riv**	**16.72**	**29**	P			**P**	**00 32 43.8**	**-0.1**
G24K	comp=Z,7.2nm,0.6s			IAmb		IAmb	IAmb	00 32 47.3	
L27K	**Beaver Creek,**	**16.75**	**44**				**Pn**	**00 32 42.5**	**-1.2**
BCAR	**Beaver Creek A**	**16.77**	**44**	Pn			**Pn**	**00 32 43.5**	**-0.5**
BCPM	**Bancas Point**	**16.87**	**56**	P			**P**	**00 32 45.9**	**+0.3**
BCPM	comp=Z,15nm,0.7s			IAmb		IAmb	IAmb	00 32 53.3	
PNL	**Peninsula**	**16.94**	**57**	P			**P**	**00 32 46.5**	**+0.1**
K27K	**Chicken**	**17.06**	**41**	P			**Pn**	**00 32 47.1**	**-0.4**
D22K	**Ayikyak River**	**17.12**	**19**				**P**	**00 32 49.3**	**+0.9**
D22K	comp=Z,16nm,0.8s			IAmb		IAmb	IAmb	00 32 51.7	
F24K	**Squaw Lake**	**17.18**	**27**				**P**	**00 32 50.9**	**+1.9**
I26K	**Coal Creek Min**	**17.28**	**37**				**P**	**00 32 47.8**	**-2.2**
I26K	comp=Z,17nm,1.1s			IAmb		IAmb	IAmb	00 32 50.5	
FYU	**Fort Yukon**	**17.31**	**32**	P			**Pn**	**00 32 51.7**	**+1.3**
FYU	comp=Z,8.8nm,0.6s			IAmb		IAmb	IAmb	00 32 54.9	
B20K	**Meade River**	**17.40**	**13**	P			**Pn**	**00 32 53.1**	**+1.7**
B20K	comp=Z,11nm,0.8s			IAmb		IAmb	IAmb	00 32 54.5	
B21K	**Ikpikpuk River**	**17.42**	**16**	P			**P**	**00 32 51.6**	**+0.1**
E24K	**Your Creek**	**17.43**	**25**	P			**Pn**	**00 32 53.5**	**+1.6**
E24K	comp=Z,10nm,0.8s			IAmb		IAmb	IAmb	00 32 55.8	
O29M	**Mount Kennedy**	**17.45**	**55**	P			**Pn**	**00 32 53.1**	**+0.8**
TOLK	**Toolik Lake Re**	**17.59**	**23**	P			**Pn**	**00 32 54.9**	**+0.9**
EGAK	**Eagle**	**17.75**	**40**	P			**P**	**00 32 55.2**	**-0.1**
EGAK	comp=Z,8.2nm,0.6s			IAmb		IAmb	IAmb	00 32 58.3	
P29M	**Windy Craggy**	**17.77**	**57**	P			**Pn**	**00 32 57.0**	**+0.9**
M29M	**Somme Creek**	**18.00**	**48**	P			**Pn**	**00 32 59.1**	**+0.1**
BMAR	**Burnt Mountain**	**18.05**	**30**	P			**P**	**00 32 58.4**	**-0.2**
HYT	**Haines Junctio**	**18.07**	**54**	P			**Pn**	**00 33 00.5**	**+0.8**
DAWY	**Dawson**	**18.15**	**43**	P			**P**	**00 32 59.5**	**-0.2**
DAWY	comp=Z,6.8nm,0.6s			IAmb		IAmb	IAmb	00 33 02.6	
D24K	**Happy Valley**	**18.17**	**22**	P			**P**	**00 32 59.5**	**-0.3**
E25K	**Arctic Village**	**18.23**	**27**	P			**Pn**	**00 33 01.5**	**0.0**
E25K	comp=Z,7.3nm,0.7s			IAmb		IAmb	IAmb	00 33 04.9	
B22K	**Teshekpuk Lake**	**18.25**	**16**	P			**Pn**	**00 33 01.5**	**-0.3**
B22K	comp=Z,13nm,0.8s			IAmb		IAmb	IAmb	00 33 03.0	
C23K	**Itkillik River**	**18.33**	**19**	P			**Pn**	**00 33 02.6**	**-0.2**
L29M	**L29M**	**18.35**	**46**	P			**P**	**00 33 02.2**	**+0.3**
L29M	comp=Z,9.4nm,0.8s			IAmb		IAmb	IAmb	00 33 03.7	
N30M	**Aishikik Lake**	**18.39**	**52**	P			**Pn**	**00 33 03.7**	**+0.1**
S31K	**Pelican**	**18.43**	**63**	P			**Pn**	**00 33 04.5**	**+0.5**
I28M	**Miner Creek**	**18.52**	**38**	P			**P**	**00 33 02.9**	**-0.9**
G27K	**Doyon Strip**	**18.61**	**34**	P			**P**	**00 33 04.2**	**-0.4**
G27K	comp=Z,9.4nm,0.6s			IAmb		IAmb	IAmb	00 33 06.8	
O30N	**Mendenhall**	**18.74**	**54**	P			**Pn**	**00 33 07.4**	**-0.4**
J29N	**Klondike Camp**	**18.77**	**42**	P			**P**	**00 33 07.2**	**+0.7**
J29N	comp=Z,13nm,0.7s			IAmb		IAmb	IAmb	00 33 10.3	
M30M	**Minto, Yukon**	**18.78**	**48**	P			**P**	**00 33 06.

comp=Z,4.2nm,1.0s
H11S1 WAKE ISLAND Hy 39.93 219 T T 01 18 47.7
baz=24,slow=76,SNR=171
H11S2 WAKE ISLAND Hy 39.94 219 T T 01 18 48.8
baz=24,slow=76,SNR=47
H11S3 WAKE ISLAND Hy 39.95 219 T T 01 18 59.6
baz=24,slow=76,SNR=28
W13A Hualapai Mount 41.80 94 P **P** **00 36 36.8 +1.5**
W13A IAmb IAmb 00 36 37.1
comp=Z,2.3nm,0.8s
O20A White River Ci 41.87 83 P **P** **00 36 36.3 +0.5**
ULM Lac du Bonnet 43.00 64 P **P** **00 36 44.2 -0.4**
comp=Z,1.3nm,0.5s,baz=317,slow=8.2,SNR=1.9
comp=Z,1.3nm,0.5s
ALPN Alpine 51.25 90 IAmb IAmb 00 37 50.1
comp=Z,2.5nm,0.9s
SONM Songino Array 51.42 301 P **P** **00 37 49.6 -0.5**
comp=Z,0.2nm,0.5s,baz=53,slow=5.6,SNR=2.0
comp=Z,0.2nm,0.5s
TXAR Lajitas Array 51.98 91 P **P** **00 37 55.2 +0.7**
TXAR Lajitas Array 51.98 91 P **P** **00 37 55.0 +0.6**
comp=Z,2.7nm,0.6s,baz=299,slow=5.4,SNR=44
comp=Z,2.7nm,0.6s
JOW Kunigami 53.32 266 P **P** **00 38 06.5 +2.4**
BRDY Brady 53.37 85 P **P** **00 38 04.8 +0.3**
KURBB Kurchatov Arra 62.21 319 P **P** **00 39 04.3 -1.7**
comp=Z,0.5nm,0.8s,baz=52,slow=7.9,SNR=5.9
comp=Z,0.5nm,0.8s
BVAR Borovoye Array 63.30 325 P **P** **00 39 12.2 -1.1**
comp=Z,1.2nm,0.6s,baz=52,slow=6.4,SNR=11
comp=Z,1.2nm,0.6s
MKAR Makanchi Array 63.64 314 P **P** **00 39 13.8 -1.8**
comp=Z,0.2nm,0.5s,baz=25,slow=4.8,SNR=3.6
comp=Z,0.2nm,0.5s
FINES FINESS Array B 64.95 353 P **P** **00 39 22.3 -1.5**
comp=Z,0.3nm,0.2s,baz=12,slow=8.1,SNR=7.6
comp=Z,0.3nm,0.2s
HFS Hagfors 66.81 359 P **P** **00 39 34.0 -1.8**
comp=Z,1.3nm,0.4s,baz=25,slow=3.3,SNR=14
comp=Z,1.3nm,0.4s
AKASG Malin Array Be 75.25 349 P **P** **00 40 24.8 -2.1**
comp=Z,1.4nm,0.5s,baz=14,slow=5.6,SNR=8.0
comp=Z,1.4nm,0.5s
BRTR Keskin Array B 85.36 343 P **P** **00 41 20.4 -1.1**
comp=Z,0.6nm,0.6s,baz=4.5,slow=3.7,SNR=4.1
comp=Z,0.6nm,0.6s
ESDC Sonseca Array 86.29 12 P **P** **00 41 24.5 -1.4**
comp=Z,0.4nm,0.8s,baz=347,slow=4.6,SNR=1.3
comp=Z,0.4nm,0.8s
WRA Warramunga Arr 88.24 233 P **P** **00 41 35.2 -0.2**
comp=Z,0.7nm,0.6s,baz=37,slow=6.5,SNR=3.1
comp=Z,0.7nm,0.6s
H03N2 Juan Fernandez 115.60 112 T T 02 52 54.7
baz=322,slow=77,SNR=8.2
H03N1 Juan Fernandez 115.61 112 T T 02 52 58.8
baz=322,slow=77,SNR=6.1
H03N3 Juan Fernandez 115.62 112 T T 02 53 03.6
baz=322,slow=77,SNR=8.8

NOU 20 00:32:30.8, 17.07S×167.89E, h0km, MLv4.0/4, Vanuatu Islands, Vanuatu Islands

*IDC **20** 00:34:37.4±2.9, 5.42S×148.46E, h213km±25km, mb3.9/6, mbtmp4.4/9, MS3.5/2, Error ellipse: s-maj=21.4km s-min=21.1km az=10.0*
*NEIC **20** 00:34:39.5±1.1, 5.61S±0.08×148.5E±0.1, h217km±10km, mb4.4/38, Error ellipse: s-maj=21.7km s-min=11.1km az=98.0*
ISC 20 00:34:37.3±0.6, 5.63S±0.06×148.5E±0.1, h200km, n55, σ1§07/58, mb4.4/23, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.72**	**343**		**Pn**	**00 35 38.5**	**+2.8**
PMG	**Port Moresby**	**3.96**	**199**	P	**Pn**	**00 35 41.3**	**+2.6**
	50nm,0.5s,baz=30,slow=5.5,SNR=21						
PMG				S	**Sn**	**00 36 26.9**	**0.0**
	136nm,0.8s,baz=4.4,slow=20,SNR=4.1						
COEN	**Coen**	**9.77**	**212**	Pn	**Pn**	**00 36 55.9**	**+2.2**
CTA	**Charters Tower**	**14.53**	**188**	P	**P**	**00 37 55.9**	**+0.8**
	7.2nm,0.8s,baz=90,slow=1.5,SNR=5.1						
CTA				LR	LR	00 43 14.1	
	comp=Z,122nm,19.2s,baz=179,slow=35						
CTAO	**Charters Tower**	**14.53**	**188**		**P**	**00 37 54.6**	**-0.5**
PATS	**Pohnpei**	**15.82**	**39**	P	**P**	**00 38 08.7**	**-0.7**
WB0	**Warramunga Arr**	**19.61**	**223**	P	**P**	**00 38 51.3**	**+0.6**
WB0				IAmb	IAmb	00 38 52.9	
	comp=Z,21nm,1.4s						
WR0	**Warramunga Arr**	**19.64**	**222**	P	**P**	**00 38 51.7**	**+0.7**
WR0				IAmb	IAmb	00 38 52.1	
	comp=Z,9.7nm,0.6s						
WRAB	**Tennant Creek**	**19.75**	**223**	P	**P**	**00 38 51.2**	**-1.0**
WRAB				IAmb	IAmb	00 38 53.5	
	comp=Z,17nm,0.7s						
WB2	**Warramunga Arr**	**19.76**	**223**	P	**P**	**00 38 52.9**	**+0.6**
WRA	**Warramunga Arr**	**19.77**	**223**	P	**P**	**00 38 52.2**	**-0.2**
WRA	**Warramunga Arr**	**19.77**	**223**	P	**P**	**00 38 53.0**	**+0.7**
	comp=Z,7.0nm,0.5s,baz=49,slow=10,SNR=86						
WRA				S	**S**	**00 42 20.5**	**-3.7**
	comp=Z,2.9nm,0.5s,baz=48,slow=19,SNR=8.3						
EIDS	**Eidsvold**	**19.79**	**173**	P	**P**	**00 38 53.8**	**+1.2**
EIDS				IAmb	IAmb	00 38 56.5	
	comp=Z,11nm,0.9s						
KNRA	**Kununurra**	**21.75**	**241**	P	**P**	**00 39 13.3**	**+0.1**
KNRA				IAmb	IAmb	00 39 54.1	
	comp=Z,22nm,1.3s						
AS31	**Alice Springs**	**22.75**	**217**	P	**P**	**00 39 22.5**	**-0.1**
AS31				IAmb	IAmb	00 39 24.2	
	comp=Z,4.2nm,0.8s						
ASAR	**Alice Springs**	**22.75**	**217**	P	**P**	**00 39 22.9**	**+0.2**
ASAR	**Alice Springs**	**22.75**	**217**	P	**P**	**00 39 23.3**	**+0.7**
	comp=Z,9.4nm,0.6s,baz=50,slow=8.4,SNR=95						
ASAR				S	**S**	**00 43 15.5**	**-0.8**
	comp=Z,1.3nm,0.9s,baz=26,slow=20,SNR=3.9						
	comp=Z,9.4nm,0.6s						
LIFNC	**LIFOU**	**23.65**	**131**	P	**P**	**00 39 30.1**	**-0.7**
DZM	**Mont Dzumac**	**23.88**	**135**	P	**P**	**00 39 33.2**	**+0.3**
DZM	**Mont Dzumac**	**23.88**	**135**	P	**P**	**00 39 33.0**	**+0.1**
	comp=Z,13nm,0.5s,baz=243,slow=8.5,SNR=19						
DZM				LR	LR	00 46 26.6	
	comp=Z,148nm,18.6s,baz=214,slow=30						
	comp=Z,13nm,0.5s						
ARMA	**Armidale**	**24.84**	**173**	P	**P**	**00 39 42.7**	**+1.1**
ARMA				IAmb	IAmb	00 39 43.2	
	comp=Z,13nm,0.9s						
FITZ	**Fitzroy Crossi**	**25.49**	**239**	P	**P**	**00 39 47.4**	**0.0**
FITZ				IAmb	IAmb	00 40 02.1	
	comp=Z,7.1nm,1.4s						
STKA	**Stephens Creek**	**26.89**	**193**	P	**P**	**00 39 59.4**	**-0.5**
STKA	**Stephens Creek**	**26.89**	**193**	P	**P**	**00 40 01.9**	**+2.1**
	comp=Z,1.9nm,0.5s,baz=32,slow=15,SNR=3.2						
	comp=Z,1.9nm,0.5s						
BBOO	**Buckleboo**	**29.41**	**202**	P	**P**	**00 40 22.0**	**-0.2**
CAN	**Canberra**	**29.55**	**179**	P	**P**	**00 40 24.1**	**+0.7**
FORT	**Forrest**	**31.51**	**215**	P	**P**	**00 40 41.2**	**+0.5**
MBWA	**Marble Bar**	**31.82**	**238**	P	**P**	**00 40 43.0**	**-0.6**
MBWA				IAmb	IAmb	00 41 10.7	
	comp=Z,27nm,1.4s						
PSA00	**Pilbara Seismi**	**31.90**	**237**	P	**P**	**00 40 44.1**	**-0.2**
MORW	**Morawa**	**38.49**	**229**	P	**P**	**00 41 40.1**	**-0.3**
MORW				IAmb	IAmb	00 41 45.0	
	comp=Z,26nm,1.4s						
QRZ	**Quartz Range**	**41.15**	**152**	P	**P**	**00 42 02.5**	**+0.4**
QRZ				IAmb	IAmb	00 42 19.6	
	comp=Z,20nm,1.2s						
RTZ	**Ruatahuna**	**41.80**	**146**	P	**P**	**00 42 07.8**	**+0.4**
RTZ				IAmb	IAmb	00 42 34.5	
	comp=Z,39nm,1.5s						
TCW	**Tory Channel**	**42.28**	**151**	P	**P**	**00 42 11.7**	**+0.5**
MRZ	**Mangatainoka R**	**42.52**	**149**	P	**P**	**00 42 12.6**	**-0.6**
MRZ				IAmb	IAmb	00 42 53.2	
	comp=Z,25nm,1.3s						
BFZ	**Birch Farm**	**42.88**	**149**	P	**P**	**00 42 14.9**	**-1.1**
MLZ	**Mavora Lakes**	**43.13**	**160**	P	**P**	**00 42 18.5**	**+0.5**
MLZ				IAmb	IAmb	00 42 39.3	
	comp=Z,24nm,1.2s						
VNDA	**Vanda**	**72.20**	**177**	P	**P**	**00 45 39.7**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=337,slow=5.7,SNR=14						
	comp=Z,1.4nm,0.6s						
MKAR	**Makanchi Array**	**78.13**	**320**	P	**P**	**00 46 12.5**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=95,slow=7.8,SNR=2.5						
QSPA	**South Pole Qui**	**84.34**	**180**	P	**P**	**00 46 45.7**	**-1.0**
	comp=Z,2.7nm,0.6s,baz=225,slow=0.3,SNR=28						
	comp=Z,2.7nm,0.6s						
ILAR	**Eielson Array**	**84.58**	**23**	P	**P**	**00 46 45.6**	**-2.2**
	comp=Z,1.8nm,0.6s,baz=249,slow=4.9,SNR=23						
	comp=Z,1.8nm,0.6s						
F24K	**Squaw Lake**	**85.42**	**20**	P	**P**	**00 46 52.0**	**0.0**
C23K	**Itkillik River**	**85.63**	**18**	P	**P**	**00 46 53.1**	**+0.2**
M27K	**Edge Creek, AK**	**85.70**	**26**	P	**P**	**00 46 53.0**	**-0.6**
M27K				IAmb	IAmb	00 46 54.2	
	comp=Z,5.9nm,0.9s						
BCAR	**Beaver Creek A**	**85.99**	**25**	P	**P**	**00 46 55.0**	**+0.2**
K27K	**Chicken**	**86.21**	**24**	P	**P**	**00 46 56.0**	**+0.1**
K27K				IAmb	IAmb	00 46 58.6	
	comp=Z,5.0nm,1.2s						
I26K	**Coal Creek Min**	**86.24**	**23**	P	**P**	**00 46 55.4**	**-0.6**
I26K				IAmb	IAmb	00 47 36.3	
	comp=Z,4.2nm,1.4s						
D25K	**Kavik River**	**86.71**	**19**	P	**P**	**00 46 58.1**	**-0.2**
HYT	**Haines Junctio**	**87.19**	**28**	P	**P**	**00 47 01.3**	**+0.4**
HYT				IAmb	IAmb	00 47 02.2	
	comp=Z,9.0nm,1.4s						
M29M	**Somme Creek**	**87.23**	**26**	P	**P**	**00 47 00.9**	**-0.1**
L29M	**L29M**	**87.57**	**26**	P	**P**	**00 47 02.6**	**+0.1**
L29M				IAmb	IAmb	00 47 46.8	
	comp=Z,3.7nm,1.4s						
E27K	**Coleen River**	**87.87**	**21**	P	**P**	**00 47 03.6**	**-0.2**
K29M	**Barlow Dome**	**88.05**	**25**	P	**P**	**00 47 04.7**	**-0.1**
E28M	**Babbage River**	**88.73**	**20**	P	**P**	**00 47 07.9**	**+0.1**
G29M	**Pine Creek**	**88.75**	**22**	P	**P**	**00 47 07.2**	**-0.8**
G29M				IAmb	IAmb	00 47 47.2	
	comp=Z,2.9nm,1.2s						
TORD	**Torodi Ar. Bea**	**146.39**	**285**	PKPbc	**PKPdf**	**00 53 52.9**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=56,slow=2.7,SNR=5.7						

*IDC **20** 00:55:06.9±1.3, 42.54N×20.39E, h0km, mb3.4/3, mbtmp3.2/7, ML2.7/4, Error ellipse: s-maj=22.1km s-min=19.5km az=26.0*
*THE **20** 00:55:07.4, 42.58N×20.26E, h4km±6km, ML3.1/8, Error ellipse: s-maj=8.8km s-min=1.2km az=334.0*
*RHSSO **20** 00:55:08.5±0.5, 42.47N×20.53E, h7km±2km, ML3.4/18*
*TIR **20** 00:55:08.9, 42.42N×20.27E, h31km±1km, Ml3.4*
*PDG **20** 00:55:09.1±0.6, 42.46N×20.42E, h13km±1km, MD3.5/7, ML3.4/11, Error ellipse: s-maj=0.9km s-min=1.2km az=0.0*
*PRU **20** 00:55:09.0, 42.22N×20.35E, h10km*
*SKO **20** 00:55:10.2, 42.46N×20.39E, h20km, ML3.5*
*BEO **20** 00:55:10.1±0.2, 42.48N×20.41E, h12km±2km, ML3.1/12*
ISC 20 00:55:09.5±0.9, 42.45N±0.01×20.41E±0.01, h15km±6km, n174, σ1§47/271, mb3.3/3, 17C-26D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.27**	**252**	P	**Pg**	**00 55 14.8**	**-0.4**
	baz=249						
BCI				S	**Sg**	**00 55 19.3**	**+0.2**
	baz=249						
BCI				AMP			
	comp=N,110nm,0.2s,baz=249						
PVY	**Plav**	**0.36**	**294**	*e*Pg	**Pg**	**00 55 16.8**	**-0.2**
PVY				*e*Sg	**Sg**	**00 55 22.0**	**-0.1**
PVY	**Plav**	**0.36**	**294**	⇓*i*Pg	**Pg**	**00 55 16.3**	**-0.7**
PVY				*i* Sg	**Sg**	**00 55 22.3**	**+0.2**
PUK	**Puka**	**0.56**	**224**	P	**Pg**	**00 55 20.2**	**-0.3**
	baz=217						
PUK				S	**Sg**	**00 55 27.4**	**-0.5**
	baz=217						
PUK				AMP			
	comp=N,8.7nm,0.2s,baz=217						
BEY	**Berane**	**0.57**	**318**	*e*Pg	**Pg**	**00 55 20.6**	**-0.1**
BEY				*e*Sg	**Sg**	**00 55 28.4**	**0.0**
BEY	**Berane**	**0.57**	**318**	*i* Pg	**Pg**	**00 55 20.8**	**+0.1**
IVA	**Berane**	**0.57**	**318**	⇑*i*Pg	**Pg**	**00 55 20.3**	**-0.4**
IVA				*i* Sg	**Sg**	**00 55 28.6**	**+0.2**
KOME	**Kolasin**	**0.77**	**302**	*e*Pg	**Pg**	**00 55 24.1**	**-0.4**
KOME				*e*Sg	**Sg**	**00 55 34.2**	**-0.6**
KOME	**Kolasin**	**0.77**	**302**	⇑*i*Pg	**Pg**	**00 55 23.8**	**-0.7**
KOME				*i* Sg	**Sb**	**00 55 35.8**	**+0.7**
SJES	**Sjenica**	**0.87**	**339**	*e*Pg	**Pb**	**00 55 26.2**	**-0.2**
SJES	**Sjenica**	**0.87**	**339**	*e*Pg	**Pb**	**00 55 26.5**	**+0.1**
SJES				*e*Sg	**Sg**	**00 55 37.7**	**-0.3**
SJES	**Sjenica**	**0.87**	**339**	*e*Pg	**Pb**	**00 55 25.1**	**-1.3**
SJES				*e*Sg	**Sg**	**00 55 37.7**	**-0.3**
SKO	**Skopje**	**0.90**	**122**	*i* Pg	**Pb**	**00 55 26.5**	**-0.3**
SKO				*i* Sg	**Sn**	**00 55 40.4**	**0.0**
SELS	**Selova**	**0.93**	**34**	*e*Pg	**Pb**	**00 55 27.6**	**+0.2**
SELS				*e*Sg	**Sg**	**00 55 40.6**	**+0.9**
DRME	**Dracevica, Mon**	**0.95**	**254**	*e*Sg	**Sg**	**00 55 40.9**	**+0.7**
DRME	**Dracevica, Mon**	**0.95**	**254**	⇓*i*Pg	**Pb**	**00 55 26.5**	**-1.1**
DRME				*e*Sg	**Sn**	**00 55 41.2**	**-0.3**
DRME	**Dracevica, Mon**	**0.95**	**254**	⇓*i*Pg	**Pb**	**00 55 26.4**	**-1.1**
DRME				*i* Sg	**Sn**	**00 55 41.6**	**+0.1**
ULC	**Ulcinj**	**0.99**	**241**	*e*Pg	**Pb**	**00 55 27.7**	**-0.7**
ULC				*i* Sg	**Sn**	**00 55 43.2**	**+0.5**
BARS	**Barje**	**1.10**	**70**	*e*Pg	**Pb**	**00 55 30.3**	**+0.1**
BARS				*e*Sg	**Sb**	**00 55 45.2**	**+0.8**
BARS	**Barje**	**1.10**	**70**	*i* Pg	**Pb**	**00 55 30.7**	**+0.5**
BARS				*i* Sg	**Sg**	**00 55 45.6**	**+0.5**
CEME	**Cevo**	**1.11**	**276**	⇑*i*Pg	**Pb**	**00 55 29.1**	**-1.3**
CEME				*i* Sg	**Sn**	**00 55 46.8**	**+1.2**
NKME	**Niksic**	**1.12**	**287**	⇑*i*Pg	**Pb**	**00 55 29.9**	**-0.7**
NKME				*i* Sg	**Sn**	**00 55 47.3**	**+1.4**
IVAS	**Ivanjica**	**1.14**	**351**	*e*Pg	**Pb**	**00 55 30.5**	**-0.5**
IVAS				*e*Sg	**Sb**	**00 55 45.6**	**-0.1**
PLE	**Pljevlja**	**1.16**	**320**	*e*Pg	**Pb**	**00 55 31.2**	**-0.1**
PLE				*e*Sg	**Sb**	**00 55 46.9**	**+0.7**
PLE	**Pljevlja**	**1.16**	**320**	⇑*i*Pg	**Pb**	**00 55 30.8**	**-0.5**
PLE				*i* Sg	**Sn**	**00 55 48.8**	**+1.9**
TIR	**Tirane**	**1.17**	**200**	⇓S	**Sg**	**00 55 56.3**	**+8.7**
TIR	**Tirane**	**1.17**	**200**	P	**Pn**	**00 55 30.5**	**-0.9**
	baz=196						
TIR				S	**Sb**	**00 55 46.2**	**-0.2**
	baz=196						
TIR				AMP			
	comp=N,2.2nm,0.7s,baz=196						
TIR	**Tirane**	**1.17**	**200**	P	**Pn**	**00 55 31.3**	**-0.1**
TIR				S	**Sg**	**00 55 49.4**	**+2.0**
	comp=N,705nm,0.6s						
TIR	**Tirane**	**1.17**	**200**	*e*Pg	**Pg**	**00 55 33.1**	**+1.0**
TIR				*e*Sg	**Sg**	**00 55 48.6**	**+1.2**
PRVS	**Prvonek**	**1.23**	**87**	*e*Pg	**Pn**	**00 55 32.5**	**+0.2**
PRVS				*e*Sg	**Sb**	**00 55 47.3**	**-1.0**
UPM	**Unac-Piva**	**1.34**	**305**	⇑*i*Pg	**Pn**	**00 55 34.0**	**+0.1**
UPM				*e*Sg	**Sn**	**00 55 52.6**	**+1.1**
UPM	**Unac-Piva**	**1.34**	**305**	⇓*i*Pg	**Pn**	**00 55 34.0**	**+0.1**
UPM				*i* Sg	**Sg**	**00 55 54.9**	**+2.1**
OHR	**Ohrid**	**1.37**	**168**	*i* Pg	**Pn**	**00 55 34.9**	**+0.8**
OHR				*i* Sg	**Sg**	**00 55 54.4**	**+0.8**
OHR				*e*Lg	Lg	00 55 55.0	
	comp=N,760nm,0.8s						
OHR				*e*Lg	Lg	00 55 55.2	
	comp=E,516nm,0.5s						
RUDO	**Rudo**	**1.40**	**327**	⇓*i*Pg	**Pn**	**00 55 34.2**	**-0.3**
RUDO				*e*Sg	**Sb**	**00 55 53.5**	**+0.6**
HCY	**Herceg Novi**	**1.42**	**271**	⇑*i*Pg	**Pn**	**00 55 35.3**	**+0.5**
HCY				*e*Sg	**Sg**	**00 55 56.9**	**+1.7**
HCY	**Herceg Novi**	**1.42**	**271**	⇑*i*Pg	**Pn**	**00 55 35.3**	**+0.5**
HCY				*i* Sg	**Sg**	**00 55 56.4**	**+1.2**
BRY	**Bratogost**	**1.45**	**289**	*e*Pn	**Pn**	**00 55 35.7**	**+0.3**
BRY				*e*Sn	**Sg**	**00 55 56.4**	**+0.1**
BRY	**Bratogost**	**1.45**	**289**	⇑*i*Pg	**Pn**	**00 55 35.6**	**+0.2**
BRY				*i* Sg	**Sg**	**00 55 57.4**	**+1.1**
GRUS	**Gruza**	**1.46**	**9**	*e*Pg	**Pn**	**00 55 35.5**	**+0.2**
GRUS				*e*Sg	**Sb**	**00 55 56.1**	**+1.4**
KLINJ	**Klinje**	**1.52**	**299**	*e*Pn	**Pn**	**00 55 37.0**	**+0.7**
KLINJ				*e*Sn	**Sg**	**00 55 58.9**	**+0.3**
BOSS	**Bosilegrad**	**1.53**	**88**	*e*Pg	**Pn**	**00 55 36.6**	**+0.3**
BOSS				*e*Sg	**Sn**	**00 55 56.4**	**+0.4**
TREB	**Trebinje**	**1.54**	**281**	*e*Pn	**Pn**	**00 55 37.4**	**+0.9**
TREB				*e*Sn	**Sg**	**00 55 59.0**	**-0.3**
BBLS	**Lazi&#263i**	**1.60**	**333**	*e*Pn	**Pn**	**00 55 37.8**	**+0.5**
BBLS				*e*Sg	**Sb**	**00 55 59.4**	**+0.6**
BBLS	**Lazi&#263i**	**1.60**	**333**	⇓*i*Pn	**Pn**	**00 55 37.7**	**+0.5**
BBLS				*e*Sn	**Sn**	**00 55 58.3**	**+0.6**
DIVS	**Divibare**	**1.68**	**350**	*e*Pn	**Pn**	**00 55 38.5**	**+0.1**
DBRK	**Dubrovnik**	**1.69**	**278**	*e*Pn	**Pb**	**00 55 40.4**	**+0.1**
DBRK				Sn	**Sg**	**00 56 04.6**	**+0.8**
TRUS	**Trudelj**	**1.77**	**360**	*e*Pn	**Pn**	**00 55 39.9**	**+0.2**
TRUS				*e*Sg	**Sb**	**00 56 05.4**	**+1.6**
FNA	**Florina**	**1.81**	**156**	P	**Pn**	**00 55 41.4**	**+1.1**
	baz=152						
FNA				S	**Sb**	**00 56 05.0**	**0.0**
	baz=152						
FNA	**Florina**	**1.81**	**156**	P	**Pn**	**00 55 41.2**	**+1.0**
FNA				S	**Sg**	**00 56 07.8**	**-0.1**
	comp=E,605nm,0.5s						
FNA	**Florina**	**1.81**	**156**	*i* Pn	**Pn**	**00 55 41.2**	**+1.0**
ZAPS	**Zavoj**	**1.83**	**62**	*e*Pn	**Pn**	**00 55 42.2**	**+1.7**
ZAPS				*e*Sg	**Sg**	**00 56 09.4**	**+1.0**
KBN	**Korca**	**1.84**	**171**	P	**Pn**	**00 55 41.7**	**+1.0**
	baz=167						
KBN				S	**Sb**	**00 56 07.1**	**+1.2**
	baz=167						
KBN				AMP			
	comp=E,1.4nm,0.7s,baz=167						
KBN	**Korca**	**1.84**	**171**	P	**Pn**	**00 55 41.6**	**+0.9**
KBN				S	**Sb**	**00 56 07.3**	**+1.4**
	comp=E,415nm,0.7s						
NEVS	**Nevesinje**	**1.90**	**297**	*e*Pn	**Pn**	**00 55 42.4**	**+1.0**
NEVS				*e*Sn	**Sb**	**00 56 07.3**	**-0.1**
ZAGS	**Zajecar**	**1.91**	**44**	*e*Pn	**Pn**	**00 55 42.0**	**+0.5**
ZAGS				*e*Sg	**Sg**	**00 56 10.6**	**-0.2**
SVIS	**Svilajnac**	**1.91**	**18**	*e*Pn	**Pn**	**00 55 42.9**	**+1.4**
SVIS				*e*Sg	**Sb**	**00 56 10.0**	**+2.3**
HAPS	**Han Pijesak,Bl**	**1.95**	**327**	⇓*i*Pn	**Pn**	**00 55 42.2**	**0.0**
HAPS				*e*Sn	**Sn**	**00 56 07.7**	**+1.1**
VAY	**Valandovo**	**1.97**	**124**	*i* Pn	**Pn**	**00 55 42.9**	**+0.6**
VAY				*i* Sg	**Sg**	**00 56 14.0**	**+1.2**
VAY				*e*Lg	Lg	00 56 14.4	
	comp=N,562nm,1.1s						
VAY				*e*Lg	Lg	00 56 14.7	
	comp=E,330nm,1.1s						
BLKB	**Belogradchik**	**2.03**	**54**	⇓P	**Pg**	**00 55 48.5**	**0.0**
BLKB				⇑S	**Sn**	**00 56 09.7**	**+1.3**
STON	**Ston**	**2.04**	**283**	*e*Pn	**Pb**	**00 55 45.4**	**-0.9**
STON	**Ston**	**2.04**	**283**	⇓*i*Pn	**Pn**	**00 55 45.0**	**+1.7**
STON				*e*Sn	**Sb**	**00 56 10.6**	**-0.9**
NEST	**Nestorio**	**2.09**	**166**	P	**Pn**	**00 55 45.1**	**+1.0**
NEST				S	**Sb**	**00 56 13.7**	**+0.8**
	comp=E,255nm,0.7s						
VLO	**Vlora**	**2.09**	**199**	P	**Pb**	**00 55 46.9**	**-0.3**
	baz=197						
VLO				S	**Sn**	**00 56 10.7**	**+0.9**
	baz=197						
GRG	**Griva**	**2.11**	**134**	P	**Pn**	**00 55 45.1**	**+0.8**
GRG				S	**Sb**	**00 56 15.6**	**+2.2**
	comp=E,318nm,0.7s						
GRG	**Griva**	**2.11**	**134**	*i* Pn	**Pn**	**00 55 45.0**	**+0.8**
KKB	**Krupnik**	**2.11**	**106**	*i* Pn	**Pn**	**00 55 44.9**	**+0.6**
KUBS	**Kucevo**	**2.17**	**25**	*e*Pn	**Pn**	**00 55 44.7**	**-0.4**
TEKS	**Tekeris**	**2.20**	**343**	*e*Pn	**Pn**	**00 55 45.4**	**-0.1**
TEKS				*e*Sg	**Sb**	**00 56 18.6**	**+2.6**
TEKS	**Tekeris**	**2.20**	**343**	*e*Pn	**Pn**	**00 55 45.2**	**-0.3**
TEKS				*e*Sn	**Sn**	**00 56 13.2**	**+0.8**
KNT	**Kendrikon**	**2.26**	**124**	P	**Pn**	**00 55 46.9**	**+0.6**
KNT				S	**Sb**	**00 56 18.7**	**+0.9**
	comp=E,155nm,0.9s						
KNT	**Kendrikon**	**2.26**	**124**	*i* Pn	**Pn**	**00 55 46.7**	**+0.4**
LSK	**Leskovik**	**2.30**	**176**	P	**Pn**	**00 55 49.0**	**+2.1**
	baz=173						
LSK				S	**Sb**	**00 56 17.7**	**-1.3**
	baz=173						
PENT	**Pentalofos**	**2.32**	**166**	P	**Pn**	**00 55 48.5**	**+1.3**
BLJ	**Bijeljina**	**2.48**	**341**	*e*Pn	**Pn**	**00 55 49.9**	**+0.6**
BLJ				*e*Sn	**Sn**	**00 56 19.8**	**+0.5**
MDVR	**Moldovita**	**2.52**	**22**	⇑P	**Pb**	**00 55 54.6**	**+0.2**
MDVR				⇑S	**Sg**	**00 56 29.8**	**-0.6**
SRN	**Sarande**	**2.58**	**187**	P	**Pn**	**00 55 52.6**	**+1.8**
	baz=185						
SRN				S	**Sb**	**00 56 25.2**	**-1.9**
	baz=185						
SRN	**Sarande**	**2.58**	**187**	P	**Pn**	**00 55 52.1**	**+1.3**
SRN				S	**Sn**	**00 56 24.7**	**+2.8**
KPRO	**Kipourio**	**2.59**	**164**	P	**Pn**	**00 55 51.8**	**+0.8**
KPRO				S	**Sb**	**00 56 26.2**	**-1.2**
	comp=E,188nm,1.4s						
PUNG	**Punghina**	**2.59**	**44**	⇑P	**Pg**	**00 56 01.2**	**+2.0**
PUNG				⇓S	**Sg**	**00 56 34.7**	**+1.9**
LSTV	**Lastovo**	**2.62**	**278**	*e*Pn	**Pn**	**00 55 53.1**	**+1.9**
RICI	**Ricice**	**2.62**	**295**	*e*Pn	**Pn**	**00 55 54.1**	**+2.7**
THE	**Thessaloniki**	**2.64**	**133**	*i* Pn	**Pn**	**00 55 52.2**	**+0.7**
MMB	**Musomishta**	**2.65**	**109**	*i* Pn	**Pn**	**00 55 52.3**	**+0.6**
BAIL	**Bailesti**	**2.66**	**53**	⇓P	**Pg**	**00 56 03.0**	**+2.6**
SRS	**Serrai**	**2.73**	**118**	*i* Pn	**Pn**	**00 55 53.4**	**+0.6**
HORT	**Hortiatis**	**2.74**	**132**	P	**Pn**	**00 55 53.6**	**+0.6**
SOH	**Sokhos**	**2.74**	**125**	P	**Pn**	**00 55 53.6**	**+0.6**
SOH				S	**Sb**	**00 56 30.8**	**-0.8**
	comp=E,100nm,0.7s						
SOH	**Sokhos**	**2.74**	**125**	*i* Pn	**Pn**	**00 55 53.8**	**+0.9**
FRGS	**Fruska Gora**	**2.74**	**351**	⇓P	**Pn**	**00 55 53.2**

CEY	**Cerknica**	**5.42**	**309**	*e*Pn		**Pn**	**00 56 29.6**	**-0.2**
CEY				*e*Sn		**Sn**	**00 57 31.3**	**-0.6**
PSZ	**Piszkesteto**	**5.48**	**356**	||P		**Pn**	**00 56 30.9**	**+0.3**
PERS	**Pernice**	**5.64**	**320**	*i* Pn		**Pn**	**00 56 33.5**	**+0.7**
SOKA	**Soboth**	**5.71**	**320**	*e*Pn		**Pn**	**00 56 34.6**	**+0.8**
	comp=E,5.0nm,0.5s,SNR=11							
SOKA				*e*Sn		**Sn**	**00 57 37.8**	**-1.4**
	comp=E,2.4nm,0.5s							
OBKA	**Obir**	**5.84**	**316**	*e*Pn		**Pn**	**00 56 36.9**	**+1.4**
	comp=E,3.2nm,0.3s,SNR=4.6							
OBKA	**Obir**	**5.84**	**316**	*e*Pn		**Pn**	**00 56 35.5**	**0.0**
OBKA				*e*Sn		**Sn**	**00 57 40.6**	**-1.6**
ARSA	**Arzberg**	**5.93**	**326**	*e*Pn		**Pn**	**00 56 37.8**	**+1.1**
	comp=E,5.7nm,0.4s,SNR=11							
ARSA				*i* Sn		**Sn**	**00 57 41.7**	**-2.6**
	comp=E,6.3nm,0.4s							
RONA	**Rosalia, Austr**	**6.00**	**332**	*i* Pn		**Pn**	**00 56 38.5**	**+0.7**
	comp=E,1.6nm,0.3s							
KECS	**Kecovo**	**6.04**	**0**	*e*PN		**Pn**	**00 56 38.6**	**+0.4**
VYHS	**Vyhne**	**6.15**	**350**	*e*PN		**Pn**	**00 56 40.6**	**+0.9**
VYHS				*e*SN		**Sn**	**00 57 44.3**	**-5.4**
ZST	**Bratislava**	**6.20**	**339**	*e*PN		Pn	00 56 35.9	-4.6
CONA	**Conrad Observa**	**6.35**	**331**	*i* Pn		**Pn**	**00 56 43.3**	**+0.7**
	comp=E,0.5nm,0.1s							
CONA				*i* Sn		**Sn**	**00 57 58.2**	**+3.3**
	comp=E,1.8nm,0.4s							
KBA	**Koelnbreinsper**	**6.83**	**315**	*e*Pn		**Pn**	**00 56 51.3**	**+2.0**
	comp=E,1.4nm,0.3s							
KBA				*e*Sn		**Sn**	**00 58 06.8**	**-0.1**
	comp=E,3.0nm,0.6s							
MOA	**Molln**	**6.93**	**323**	*i* Pn		**Pn**	**00 56 52.0**	**+1.5**
	comp=E,1.5nm,0.3s							
MOA				*i* Sn		**Sn**	**00 58 08.6**	**-0.4**
	comp=E,3.5nm,0.5s							
ABTA	**Abfaltersbach**	**7.09**	**310**	*e*Pn		**Pn**	**00 56 54.6**	**+1.9**
	comp=E,2.1nm,0.4s							
BIOA	**Bad Ischl, Aus**	**7.10**	**320**	*i* Pn		**Pn**	**00 56 55.1**	**+2.2**
	comp=E,2.3nm,0.3s							
BIOA				*i* Sn		**Sn**	**00 58 14.5**	**+1.2**
	comp=E,5.4nm,0.4s							
LESA	**Schwarzleotal**	**7.41**	**315**	*i* Pn		**Pn**	**00 56 59.0**	**+1.9**
	comp=E,2.0nm,0.3s							
LESA				*i* Sn		**Sn**	**00 58 21.8**	**+0.9**
	comp=E,1.4nm,0.3s							
CKRC	**Cesky Krumlov**	**7.67**	**328**	*e*PN		**Pn**	**00 57 02.1**	**+1.4**
CKRC				*e*SN		**Sn**	**00 58 27.4**	**+0.1**
WTTA	**Wattenberg**	**7.87**	**311**	*e*Pn		**Pn**	**00 57 05.4**	**+1.8**
	comp=E,2.8nm,0.3s							
WTTA				*e*Sn		**Sn**	**00 58 36.4**	**+3.8**
	comp=E,3.8nm,0.5s							
GERES	**GERESS Array B**	**7.94**	**326**	Pn		**Pn**	**00 57 03.6**	**-0.7**
	comp=E,0.1nm,0.3s,baz=145,slow=12,SNR=2.7							
	comp=E,0.5nm,0.6s							
WATA	**Walderalm**	**7.95**	**311**	*e*Pn		**Pn**	**00 57 07.3**	**+2.8**
	comp=E,1.2nm,0.3s							
IDI	**Anoyia**	**7.96**	**153**	Pn		**Pn**	**00 57 05.2**	**+0.5**
	baz=27,slow=13,SNR=1.5							
IDI				Sn		**Sn**	**00 58 27.1**	**-7.4**
	baz=350,slow=8.5							
SQTA	**Sankt Quirin**	**8.09**	**309**	*i* Pn		**Pn**	**00 57 08.9**	**+2.4**
	comp=E,0.9nm,0.3s							
SQTA				*e*Sn		**Sn**	**00 58 40.0**	**+2.2**
	comp=E,2.6nm,0.5s							
KHC	**Kasperske Hory**	**8.21**	**327**	*e*PN		**Pn**	**00 57 10.2**	**+2.1**
KHC				*e*SN		**Sn**	**00 58 39.9**	**-0.6**
MOTA	**Moosalm**	**8.22**	**310**	*i* Pn		**Pn**	**00 57 10.6**	**+2.3**
	comp=E,3.8nm,0.7s							
FETA	**Feichten**	**8.27**	**307**	*e*Pn		**Pn**	**00 57 12.1**	**+3.2**
	comp=E,1.4nm,0.6s							
FETA				*e*Sn		**Sn**	**00 58 46.4**	**+4.2**
	comp=E,0.2nm,0.3s							
DAVOX	**Davos/Dischmat**	**8.67**	**304**	Pn		**Pn**	**00 57 14.0**	**-0.5**
	comp=E,0.3nm,0.3s,baz=150,slow=20,SNR=2.7							
DAVOX				Sn		**Sn**	**00 58 52.0**	**0.0**
	baz=180,slow=20							
	comp=E,0.6nm,0.3s							
NOA	**NORSAR Array B**	**19.43**	**346**	P		**P**	**00 59 32.9**	**-2.2**
	baz=162,slow=10,SNR=2.3							
	comp=E,0.5nm,0.8s							
ARCES	**ARCESS Array B**	**27.28**	**4**	P		**P**	**01 00 51.9**	**-1.1**
	comp=E,1.0nm,0.7s,baz=185,slow=10.0,SNR=5.3							
	comp=E,1.0nm,0.7s							
TORD	**Torodi Ar. Bea**	**33.40**	**215**	P		**P**	**01 01 47.5**	**0.0**
	comp=E,0.2nm,0.5s,baz=21,slow=10,SNR=1.9							
	comp=E,0.2nm,0.5s							
MKAR	**Makanchi Array**	**43.26**	**62**	P		**P**	**01 03 09.5**	**-0.7**
	comp=E,0.2nm,0.7s,baz=288,slow=7.2,SNR=1.9							
	comp=E,0.2nm,0.7s							

*SJA **20** 01:18:40.1±0.8,31.°77S×71.°78W,h15km±3km, ML3.8, MW4.0*
*GUC **20** 01:18:42.9±0.8,31.°76S×71.°66W,h27km±5km, ML3.8*
*IDC **20** 01:18:50.3±2.9,31.°97S×71.°10W,h80km±23km,mb3.8/3, mbtmp3.9/6,MS2.9/3,Error ellipse: s-maj=41.3km s-min=18.3km az=107.0*

ISC 20 01:18:41.9±0.7,31.°75S±0.°02×71.°77W±0.°05,h21km±3km, n56,σ1§73/78,mb4.2/3,5C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO02	**Combarbal**	**0.85**	**50**	*e*P	**Pb**	**01 18 57.6**	**-0.5**
CO02				*e*S	**Sb**	**01 19 09.5**	**+0.3**
CO02				IAML		01 19 12.2	
	comp=Z,2μm,0.2s						
CO02	**Combarbal**	**0.85**	**50**	*e*P	**Pb**	**01 18 57.8**	**-0.3**
CO02				*e*S	**Sb**	**01 19 08.5**	**-0.7**
CO02				IAML		01 19 12.2	
	comp=E,6μm,0.2s						
VA06	**Catapilco**	**0.90**	**154**	*e*P	**Pb**	**01 18 58.9**	**+0.1**
VA06				*e*S	**Sb**	**01 19 10.2**	**-0.1**
VA06				IAML		01 19 13.2	
	comp=E,24μm,0.4s						
CO06	**Fray Jorge**	**1.08**	**6**	*e*P	**Pb**	**01 19 01.7**	**-0.2**
CO06				*e*S	**Sn**	**01 19 16.4**	**+0.2**
CO06				IAML		01 19 19.9	
	comp=N,2μm,0.3s						
VA01	**Torpederas**	**1.27**	**175**	*e*P	**Pb**	**01 19 05.0**	**-0.1**
VA01	**Torpederas**	**1.27**	**175**	*e*P	**Pb**	**01 19 05.2**	**0.0**
VA01				*e*S	**Sb**	**01 19 21.4**	**+0.4**
CO03	**El Pedregal**	**1.30**	**46**	*e*P	**Pb**	**01 19 05.1**	**-0.5**
CO03				*e*S	**Sn**	**01 19 21.5**	**-0.2**
CO03				IAML		01 19 22.6	
	comp=Z,836nm,0.9s						
CO03	**El Pedregal**	**1.30**	**46**	*e*P	**Pn**	**01 19 04.8**	**-0.1**
CO03				*e*S	**Sn**	**01 19 20.5**	**-1.2**
CO03				IAML		01 19 24.4	
	comp=E,2μm,0.6s						
ROCH	**El Roble**	**1.37**	**152**	*e*P	**Pn**	**01 19 06.0**	**-0.1**
ROCH				*e*S	**Sn**	**01 19 23.6**	**-0.1**
ROCH				IAML		01 19 28.1	
	comp=N,5μm,0.3s						
ROC1	**El Roble**	**1.38**	**153**	*e*P	**Pn**	**01 19 06.0**	**-0.1**
ROC1				*e*S	**Sb**	**01 19 24.0**	**-0.3**
VA03	**San Esteban**	**1.44**	**135**	*e*P	**Pn**	**01 19 07.2**	**+0.2**
VA03				*e*S	**Sb**	**01 19 25.9**	**-0.1**
VA03				IAML		01 19 29.8	
	comp=Z,2μm,0.5s						
VA03	**San Esteban**	**1.44**	**135**	*e*P	**Pn**	**01 19 07.1**	**+0.2**
VA03				*e*S	**Sn**	**01 19 24.5**	**-0.7**
VA03				IAML		01 19 27.9	
	comp=N,4μm,0.5s						
MT02	**Curacav**	**1.59**	**161**	*e*P	**Pn**	**01 19 09.5**	**+0.6**
MT02				IAML		01 19 33.4	
	comp=Z,774nm,0.4s						
MT02	**Curacav**	**1.59**	**161**	*e*P	**Pn**	**01 19 09.2**	**+0.3**
MT02				*e*S	**Sn**	**01 19 28.3**	**-0.6**
MT02				IAML		01 19 33.9	
	comp=E,850nm,0.6s						
PEL	**Peldehue**	**1.66**	**147**	*e*P	**Pn**	**01 19 10.8**	**+0.9**
PEL	**Peldehue**	**1.66**	**147**	*i*P	**Pn**	**01 19 10.1**	**+0.2**
PEL				*i* S	**Sn**	**01 19 29.5**	**-1.1**
PEL				IAML		01 19 41.8	
	comp=N,2μm,0.4s						
GO04	**Tololo Observa**	**1.78**	**28**	*e*P	**Pb**	**01 19 12.8**	**-1.2**
GO04				*e*S	**Sb**	**01 19 37.6**	**+1.6**
GO04	**Tololo Observa**	**1.78**	**28**	*e*P	**Pn**	**01 19 12.6**	**+0.9**
GO04				*e*S	**Sn**	**01 19 34.0**	**+0.2**
GO04				IAML		01 19 41.2	
	comp=E,3μm,0.6s						
MT05	**Renca**	**1.85**	**152**	*e*P	**Pb**	**01 19 14.0**	**-1.1**
MT05				*e*S	**Sb**	**01 19 37.8**	**0.0**
MT05				IAML		01 19 45.2	
	comp=Z,2μm,0.3s						
CO05	**La Serena**	**1.88**	**14**	*e*P	**Pb**	**01 19 14.3**	**-1.3**
CO05				*e*S	**Sb**	**01 19 38.0**	**-0.6**
FCH	**Farellones**	**2.00**	**142**	*i*P	**Pn**	**01 19 15.9**	**+1.1**
FCH				*i* S	**Sn**	**01 19 40.3**	**+0.8**
FCH				IAML		01 19 42.9	
	comp=E,779nm,0.2s						
MT03	**Universidad Ad**	**2.03**	**149**	*e*P	**Pn**	**01 19 16.4**	**+1.4**
MT03				IAML		01 19 50.1	
	comp=Z,2μm,0.3s						
RTLS	**Leoncito**	**2.10**	**92**	*e*P	**Pb**	**01 19 18.3**	**-1.2**
RTLS				IAML		01 19 51.5	
	comp=Z,827nm,0.6s						
MT01	**Popeta**	**2.15**	**168**	*e*P	**Pn**	**01 19 17.3**	**+0.7**
MT01				IAML		01 19 51.1	
	comp=Z,676nm,0.4s						
CO01	**Juntas del Tor**	**2.28**	**40**	*e*P	**Pb**	**01 19 20.6**	**-2.0**
CO01				IAML		01 19 57.9	
	comp=Z,303nm,0.8s						
CO01	**Juntas del Tor**	**2.28**	**40**	*e*P	**Pn**	**01 19 20.1**	**+1.5**
CO01				*e*S	**Sb**	**01 19 48.4**	**-2.0**
DOCA	**Reserva Natura**	**2.43**	**71**	*e*P	**Pb**	**01 19 23.5**	**-1.7**
DOCA				*e*S	**Sb**	**01 19 55.9**	**+1.1**
DOCA				IAML		01 19 56.9	
	comp=Z,2μm,0.8s						
AROD	**Rodeo**	**2.53**	**52**	*e*P	**Pb**	**01 19 25.5**	**-1.2**
ACCO	**Cerro Coronel**	**2.59**	**64**	*e*P	**Pb**	**01 19 26.5**	**-1.3**
ACCO				IAML		01 20 04.5	
	comp=Z,400nm,0.9s						
ASAL	**Salagasta**	**2.62**	**109**	*e*P	**Pb**	**01 19 27.3**	**-1.0**
ASAL				IAML		01 20 13.0	
	comp=Z,350nm,1.0s						
ARCO	**CERRO ARCO**	**2.63**	**115**	*e*P	**Pb**	**01 19 27.7**	**-0.8**
ARCO				*e*S	**Sb**	**01 20 06.5**	**+6.0**
ARCO				IAML		01 20 08.4	
	comp=Z,349nm,0.5s						
BO01	**Tunca**	**2.69**	**168**	*e*P	**Pn**	**01 19 24.9**	**+0.9**
BO01				IAML		01 20 13.7	
	comp=Z,349nm,0.7s						
RTCV	**Cerro Valdivia**	**2.75**	**93**	*e*P	**Pb**	**01 19 29.2**	**-1.2**
AAGR	**Agrelo**	**2.82**	**119**	*e*P	**Pb**	**01 19 30.1**	**-1.5**
AAGR				IAML		01 20 17.6	
	comp=Z,551nm,0.7s						
RTLL	**Cerro Villicun**	**2.84**	**82**	*e*P	**Pb**	**01 19 30.3**	**-1.7**
RTLL				IAML		01 20 14.9	
	comp=Z,192nm,1.0s						
LCO	**Las Campanas**	**2.88**	**19**	*e*P	**Pn**	**01 19 28.1**	**+1.2**
LCO				IAML		01 20 29.4	
	comp=Z,198nm,0.8s						
BO02	**Sierra Bellavi**	**3.14**	**165**	*e*P	**Pn**	**01 19 31.6**	**+1.3**
BO02				IAML		01 20 20.2	
	comp=Z,458nm,0.8s						
GO05	**Huala**	**3.25**	**182**	*e*P	**Pn**	**01 19 31.9**	**+0.1**
AC04	**Llanos de Chal**	**3.59**	**10**	*e*P	**Pn**	**01 19 36.5**	**+0.2**
AC04				IAML		01 20 40.8	
	comp=Z,123nm,0.8s						
AGUA	**GUANDACOL**	**3.62**	**52**	*e*P	**Pn**	**01 19 40.4**	**+3.6**
AGUA				IAML		01 20 51.2	
	comp=Z,195nm,0.8s						
RFA	**San Rafael**	**4.09**	**138**	*e*P	**Pn**	**01 19 45.7**	**+2.5**
RFA				IAML		01 20 57.8	
	comp=Z,86nm,0.9s						
VCA	**Vinchina**	**4.30**	**47**	*e*P	**Pn**	**01 19 50.9**	**+4.6**
VCA				IAML		01 21 04.8	
	comp=Z,229nm,1.2s						
APLL	**PUNTA DE LOS L**	**4.69**	**75**	*e*P	**Pn**	**01 19 53.9**	**+2.4**
ACLC	**CERRO LA CRUZ**	**4.75**	**62**	*e*P	**Pn**	**01 19 55.2**	**+2.6**
ACLC				IAML		01 21 17.3	
	comp=Z,83nm,0.9s						
PLCA	**Paso Flores**	**9.02**	**174**	P	**Pn**	**01 20 52.2**	**+1.4**
	comp=Z,0.9nm,0.4s,baz=335,slow=11,SNR=9.6						
PLCA				LR	LR	01 24 34.7	
	comp=Z,60nm,19.0s,baz=204,slow=39						
LVC	**Limon Verde**	**9.46**	**16**	P	Pn	01 21 06.8	+10
	comp=Z,1.1nm,0.3s,baz=240,slow=9.3,SNR=2.2						
LVC				S	**Sn**	**01 22 50.0**	**+6.9**
	comp=Z,3.4nm,0.8s,baz=311,slow=8.4,SNR=1.6						
CPUP	**Villa Florida**	**13.73**	**70**	P	**Pn**	**01 21 56.9**	**+1.5**
	comp=Z,1.8nm,0.9s,baz=257,slow=19,SNR=1.5						
CPUP				S	**Sn**	**01 24 22.2**	**-5.1**
	comp=Z,3.1nm,0.9s,baz=268,slow=19,SNR=2.6						
CPUP				LR	LR	01 27 43.6	
	comp=Z,58nm,18.4s,baz=210,slow=40						
SIV	**San Ignacio**	**18.47**	**34**	P	**P**	**01 22 55.8**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=190,slow=12,SNR=4.4						
NNA	**Nana**	**20.22**	**345**	LR	LR	01 28 54.1	
	comp=Z,37nm,20.1s,baz=219,slow=29						
BDFB	**Brasilia**	**26.93**	**59**	P	**P**	**01 24 20.5**	**-1.6**
	comp=Z,5.4nm,1.0s,baz=20,slow=4.8,SNR=5.1						
	comp=Z,5.4nm,1.0s						
QSPA	**South Pole Qui**	**58.48**	**180**	P	**P**	**01 28 37.3**	**+1.1**
	comp=Z,2.7nm,1.0s,baz=231,slow=2.4,SNR=5.7						
	comp=Z,2.7nm,1.0s						
TORD	**Torodi Ar. Bea**	**83.23**	**70**	P	**P**	**01 31 06.3**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=280,slow=2.2,SNR=5.8						
	comp=Z,0.8nm,0.8s						
BVAR	**Borovoye Array**	**145.46**	**41**	PKPbc	**PKPdf**	**01 38 17.8**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=302,slow=3.3,SNR=9.2						
KURBB	**Kurchatov Arra**	**151.05**	**41**	PKPbc	**PKPbc**	**01 38 33.1**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=310,slow=3.1,SNR=4.1						
ZALV	**Zalesovo Beam**	**152.19**	**30**	PKPbc	**PKPbc**	**01 38 35.0**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=314,slow=3.9,SNR=11						
ZALV				PKPab	**PKPab**	**01 38 45.5**	**+0.4**
	comp=Z,1.4nm,0.4s,baz=293,slow=1.1,SNR=4.9						
MKAR	**Makanchi Array**	**155.07**	**45**	PKPbc	PKPdf	01 38 41.9	+8.8
	comp=Z,0.3nm,0.8s,baz=218,slow=13,SNR=2.8						
MKAR				PKPab	**PKPab**	**01 38 56.8**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=305,slow=4.3,SNR=4.2						

GUC 20 01:36:21.5±0.7,23.°86S×67.°13W,h245km±14km,ML3.5, 2C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.06**	**307**	*e*P	Pn	01 37 04.1	-0.5
LVC				*e*S	S	01 37 36.4	-2.0
LVC				IAML		01 37 38.8	
	148nm,0.2s						
PB15	**IPOC Station P**	**2.25**	**286**	*e*P	Pn	01 37 06.3	+0.2
PB15				*i* S	S	01 37 40.1	-1.2
PB06	**IPOC Station P**	**2.53**	**297**	*e*P	Pn	01 37 09.3	+0.4
PB06				*e*S	S	01 37 44.5	-1.7
PB06				IAML		01 37 47.4	
	comp=N,180nm,0.1s						
GO02	**Mina Guanaco**	**2.59**	**240**	*i*P	Pn	01 37 09.9	+0.3
GO02				*e*S	S	01 37 46.9	-0.8
PB09	**IPOC Station P**	**2.83**	**316**	*e*P	Pn	01 37 12.5	+0.4
PB09				*e*S	S	01 37 51.5	-0.6
PB09				IAML		01 37 58.5	
	comp=N,25nm,0.3s						
PB14	**IPOC Station P**	**3.09**	**255**	*e*P	Pn	01 37 15.6	+0.6
PB04	**IPOC Station P**	**3.17**	**298**	*e*S	S	01 37 57.1	-1.6
PB07	**IPOC Station P**	**3.32**	**309**	*e*P	Pn	01 37 17.6	+0.2
PB07				*e*S	S	01 37 59.1	-2.6
PB01	**IPOC Station P**	**3.56**	**322**	*e*P	Pn	01 37 19.9	-0.1
PB01				*e*S	S	01 38 03.6	-2.8
PB02	**IPOC Station P**	**3.60**	**314**	*e*P	Pn	01 37 20.6	0.0
AC01	**Pan de Azucar**	**3.89**	**233**	*i*P	Pn	01 37 23.7	0.0
AC01				*i* S	S	01 38 10.9	-2.3

MEX 20 01:41:47.0±0.3,31.°00N×114.°21W,h12km±12km,MD3.7, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFX	**San Felipe**	**0.55**	**274**	*i* P	Pg	01 41 56.4	-1.3
SFX				*e*S	Sg	01 42 04.0	-1.0
SPIG	**San Pedro Mart**	**1.08**	**273**	*e*P	Pg	01 42 04.6	-3.2
SPIG				*e*S	Sg	01 42 15.6	-6.3
214A	**Organ Pipe Nat**	**1.53**	**51**	*e*P	Pn	01 42 10.7	-3.6
214A				*e*S	Sn	01 42 24.7	-9.4
LAPR	**La Primavera**	**1.70**	**106**	*i* P	Pn	01 42 13.0	-3.6
LAPR				*e*S	Sn	01 42 30.5	-7.8

MEX 20 01:41:59.9±0.4,18.°67N×100.°81W,h73km±8km,MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.58**	**131**	*e*P	Pn	01 42 12.4	-1.4
ARIG				*e*S	Sn	01 42 22.3	-1.8
TEJU	**Tejupilco**	**0.66**	**69**	*e*P	Pn	01 42 13.6	-1.2
TEJU				*e*S	Sn	01 42 24.0	-1.8
TEJU	**Tejupilco**	**0.66**	**69**	*e*P	Pn	01 42 13.6	-1.2
TEJU				*e*S	Sn	01 42 23.9	-1.9
MOIG	**Morelia**	**1.07**	**341**	*e*P	Pn	01 42 17.9	-1.7
MOIG				*i* S	Sn	01 42 32.6	-1.7
ZIIG	**Zihuatanejo**	**1.22**	**211**	*e*P	Pn	01 42 19.5	-1.9
ZIIG				*e*S	Sn	01 42 35.8	-1.6
PLIG	**Platanillo**	**1.27**	**102**	*e*P	Pn	01 42 22.1	+0.1
PLIG				*i* S	Sn	01 42 36.6	-2.1
CAIG	**El Cayaco**	**1.69**	**162**	*e*P	Pn	01 42 26.5	-1.0
CAIG				*e*S	Sn	01 42 46.4	-2.0

*IDC **20** 02:15:08.4±1.4,56.°21N×149.°37W,h0km,mb3.6/7, mbtmp3.5/12,ML3.4/5,MS3.3/16,Error ellipse: s-maj=31.2km s-min=19.4km az=33.0*
*NEIC **20** 02:15:08.3±1.6,56.°19N±0.°07×149.°27W±0.°09,h20km±6km, mb3.9/3,ML3.7/50,ML3.6(AEIC),Error ellipse: s-maj=10.7km s-min=6.8km az=166.0*
*AEIC **20** 02:15:12.3±0.9,56.°26N±0.°07×149.°37W±0.°09,h10km±6km, Error ellipse: s-maj=10.1km s-min=7.2km az=175.0*

ISC 20 02:15:09.0±3.9,56.°33N±0.°07×149.°36W±0.°05, h12km±26km,n238,σ1§12/222,mb3.6/8,MS3.3/11,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.29**	**311**		**Pn**	**02 15 45.9**	**-0.6**
KDAK	**Kodiak Island**	**2.29**	**311**	S	**Sn**	**02 16 12.7**	**-1.9**
	baz=130						
KDAK	**Kodiak Island**	**2.29**	**311**	Pn	**Pn**	**02 15 45.9**	**-0.6**
	5.2nm,0.3s,baz=138,slow=10,SNR=118						
KDAK				Sn	**Sn**	**02 16 12.1**	**-2.4**
	16nm,0.3s,baz=143,slow=14,SNR=21						
KDAK				LR	LR	02 16 57.1	
	comp=Z,416nm,19.4s,baz=161,slow=46						
	12nm,0.3s						
OHAK	**Old Harbor**	**2.34**	**294**	P	**Pn**	**02 15 46.1**	**-1.2**
OHAK	**Old Harbor**	**2.34**	**294**		**Pn**	**02 15 45.9**	**-1.3**
OHAK					**Sn**	**02 16 12.9**	**-3.0**
OHAK	**Old Harbor**	**2.34**	**294**	P	**Pn**	**02 15 46.0**	**-1.2**
	baz=113						
OHAK				S	**Sn**	**02 16 12.9**	**-3.0**
	baz=113						
SII	**Sitkinak Islan**	**2.69**	**277**		**Pn**	**02 15 52.1**	**0.0**
SII					**Sn**	**02 16 20.7**	**-3.8**
SII	**Sitkinak Islan**	**2.69**	**277**	S	**Sn**	**02 16 21.1**	**-3.4**
	baz=95						
SYI	**Shuyak Island**	**2.81**	**326**		**Pn**	**02 15 53.8**	**0.0**
SYI					**Sn**	**02 16 26.2**	**-1.3**
Q20K	**Shuyak Island**	**2.81**	**326**	P	**Pn**	**02 15 53.8**	**0.0**
	baz=144						
Q20K				S	**Sn**	**02 16 26.5**	**-1.1**
	baz=144						
CNPM	**China Poot**	**3.36**	**343**		**Pn**	**02 16 00.9**	**-0.4**
CNPM					**Sn**	**02 16 38.6**	**-2.5**
CNPM	**China Poot**	**3.36**	**343**	IAML		02 16 43.0	
	comp=N,82nm,1.1s						
CNPM				IAML		02 16 57.7	
	comp=E,81nm,1.1s						
Q19K	**Cape Douglas,**	**3.48**	**320**		**Pn**	**02 16 03.2**	**+0.2**
Q19K	**Cape Douglas,**	**3.48**	**320**	IAML		02 16 50.8	
	comp=N,292nm,0.7s						
Q19K	**Cape Douglas,**	**3.48**	**320**	P	**Pn**	**02 16 03.2**	**+0.2**
	baz=138						
BRSE	**Bradley Lake S**	**3.50**	**349**		**Pn**	**02 16 02.5**	**-0.8**
BRSE					**Sn**	**02 16 42.5**	**-2.0**
BRSE	**Bradley Lake S**	**3.50**	**349**	P	**Pn**	**02 16 02.5**	**-0.8**
	baz=168						
BRSE				S	**Sn**	**02 16 42.6**	**-2.0**
	baz=168						
Q23K	**Middleton Isla**	**3.50**	**26**		**Pn**	**02 16 02.3**	**-0.9**
Q23K	**Middleton Isla**	**3.50**	**26**	IAML		02 17 01.4	
	comp=N,196nm,1.5s						
Q23K				IAML		02 17 05.5	
	comp=E,233nm,1.2s						
Q23K	**Middleton Isla**	**3.50**	**26**	P	**Pn**	**02 16 02.3**	**-0.9**
	baz=208						
MID	**Middleton Isla**	**3.50**	**26**	P	**Pn**	**02 16 02.8**	**-0.4**
MID	**Middleton Isla**	**3.50**	**26**		**Pn**	**02 16 02.5**	**-0.7**
MID	**Middleton Isla**	**3.50**	**26**	IAML		02 17 01.4	
	comp=N,181nm,1.5s						
MID				IAML		02 17 05.5	
	comp=E,194nm,1.3s						
BRLK	**Bradley Lake**	**3.54**	**347**		**Pn**	**02 16 03.4**	**-0.4**
BRLK				IAML		02 16 49.9	
	comp=N,75nm,0.8s						
BRLK				IAML		02 16 50.1	
	comp=E,86nm,0.7s						
CHIR	**Chirikof Islan**	**3.54**	**264**		**Pn**	**02 16 02.1**	**-1.7**
CHIR	**Chirikof Islan**	**3.54**	**264**	P	**Pn**	**02 16 01.7**	**-2.1**
	baz=81						
KAKN	**Katmai Knife C**	**3.67**	**305**		**Pn**	**02 16 06.0**	**+0.4**
SEW	**Seward**	**3.79**	**359**		**Pn**	**02 16 06.4**	**-0.7**
SEW	**Seward**	**3.79**	**359**	P	**Pn**	**02 16 06.5**	**-0.7**
	baz=179						
P23K	**Montague Islan**	**3.83**	**15**		**Pn**	**02 16 07.2**	**-0.4**
P23K					**Sn**	**02 16 49.9**	**-2.6**
P23K	**Montague Islan**	**3.83**	**

BERG	Berg Lake	5.05	34			Pn	02 16 24.1	-0.4
GRIN	Grindle Hills	5.09	36			Pn	02 16 25.0	0.0
KNK	Knik Glacier	5.12	5			Pn	02 16 25.3	-0.2
KNK	Knik Glacier comp=E,39nm,0.6s	5.12	5	IAML			02 17 28.9	
KNK				IAML			02 17 31.3	
KNK	comp=N,32nm,0.6s Knik Glacier baz=185	5.12	5	P		Pn	02 16 25.3	-0.2
DIV	Divide	5.17	20			Pn	02 16 26.0	-0.1
SUA	Susitna One	5.20	353			Pn	02 16 26.4	-0.2
SUA	Susitna One comp=N,27nm,1.5s	5.20	353	IAML			02 17 29.1	
SUA				IAML			02 17 35.9	
SUA	comp=E,25nm,1.5s Susitna One baz=172	5.20	353	P		Pn	02 16 26.4	-0.2
KHIT	Khitrov Hills	5.23	35			Pn	02 16 26.7	-0.4
N19K	Bonanza Creek	5.24	331			Pn	02 16 26.5	-0.6
N19K	Bonanza Creek comp=E,24nm,1.1s	5.24	331	IAML			02 17 58.0	
N19K	Bonanza Creek baz=148	5.24	331	P		Pn	02 16 26.5	-0.6
BMRM	Bremner River	5.27	26			Pn	02 16 27.5	-0.1
BMRM	Bremner River baz=210	5.27	26	P		Pn	02 16 27.5	-0.1
PMR	Palmer	5.28	1	P		Pn	02 16 27.8	+0.2
PMR	Palmer	5.28	1			Pn	02 16 27.6	0.0
SPNN	North Nagishla	5.34	342			Pn	02 16 28.4	-0.2
STLK	Strandline Lak	5.34	347			Pn	02 16 28.4	-0.2
O17K	Koliganek Bris	5.36	313			Pn	02 16 28.2	-0.6
O17K	Koliganek Bris baz=128	5.36	313	P		Pn	02 16 28.2	-0.6
WAX	Waxell Ridge	5.37	37			Pn	02 16 28.4	-0.5
BARK	Barkley Ridge	5.46	39			Pn	02 16 30.2	0.0
GHO	Glory Hole Cre	5.47	2			Pn	02 16 30.6	+0.4
KLU	Klutina	5.48	18	Pn		Pn	02 16 30.4	0.0
KLU	Klutina baz=200	5.48	18	P		Pn	02 16 30.6	+0.1
MESA	MESA	5.50	42			Pn	02 16 30.5	-0.3
MESA	MESA baz=228	5.50	42	P		Pn	02 16 30.5	-0.3
SML	Sawmill	5.52	5			Pn	02 16 31.1	0.0
SML	Sawmill baz=186	5.52	5	P		Pn	02 16 31.4	+0.4
SCM	Sheep Creek Mo	5.62	10			Pn	02 16 32.8	+0.4
SCM	Sheep Creek Mo baz=191	5.62	10	P		Pn	02 16 33.7	+1.3
ISLE	Juniper Island	5.65	38			Pn	02 16 32.8	-0.1
BAGL	Bagley Icefiel	5.66	39			Pn	02 16 32.8	0.0
O16K	Kokwok River B	5.68	309			Pn	02 16 33.3	+0.1
SVW2	Sparrevohn	5.78	328	P		Pn	02 16 33.7	-0.8
SKT	Skwentna	5.78	350			Pn	02 16 34.5	-0.1
VRDI	Verde Repeater	5.79	30			Pn	02 16 34.7	-0.2
N25K	Chitina, Valde	5.84	23			Pn	02 16 35.4	0.0
N25K	Chitina, Valde baz=206	5.84	23	P		Pn	02 16 35.4	0.0
GLB	Gilahina Butte	5.88	27			Pn	02 16 35.9	0.0
N17K	Nushagak Hills	5.88	319			Pn	02 16 35.5	-0.4
N17K	Nushagak Hills baz=133	5.88	319	P		Pn	02 16 35.5	-0.4
KIAG	Kiagna River	5.88	36			Pn	02 16 36.1	0.0
M20K	Styx River	5.90	342			Pn	02 16 35.8	-0.4
M20K	Styx River baz=159	5.90	342	P		Pn	02 16 35.8	-0.4
TABL	Table Mountain	5.97	43			Pn	02 16 37.3	-0.1
M24K	Tolsona, Glenn	6.02	14			Pn	02 16 38.2	+0.3
M24K	Tolsona, Glenn baz=197	6.02	14	P		Pn	02 16 38.2	+0.3
PTPK	Patty Peak	6.05	34			Pn	02 16 38.6	+0.2
M18K	Stony River	6.16	330			Pn	02 16 39.4	-0.4
M18K	Stony River baz=145	6.16	330	P		Pn	02 16 39.4	-0.4
BARN	Barnard Glacie	6.21	37			Pn	02 16 40.5	-0.1
CTG	Chitna Glacier baz=225	6.25	39	P		Pn	02 16 41.1	0.0
CTGM	Chitina Glacie	6.26	39			Pn	02 16 41.1	-0.1
PNL	Peninsula	6.27	54			Pn	02 16 41.2	0.0
PNL	Peninsula baz=241	6.27	54	P		Pn	02 16 41.2	0.0
LOGN	Logan Glacier	6.28	41			Pn	02 16 40.7	-0.8
BCPM	Bancas Point	6.30	51			Pn	02 16 41.5	-0.2
WAT6	Susitna Watana	6.33	7			Pn	02 16 42.4	+0.2
WAT6	Susitna Watana baz=188	6.33	7	P		Pn	02 16 42.3	+0.2
SDPT	Sand Point	6.34	266	P		Pn	02 16 41.6	-0.5
HARP	HAARP	6.46	18			Pn	02 16 44.2	+0.4
HARP	HAARP baz=201	6.46	18	P		Pn	02 16 44.2	+0.4
L19K	White Mountain	6.51	337			Pn	02 16 43.8	-0.8
WAT7	Susitna Watana	6.53	2			Pn	02 16 45.4	+0.5
WAT1	Susitna Watana	6.54	3			Pn	02 16 45.2	+0.3
WAT1	Susitna Watana baz=184	6.54	3	P		Pn	02 16 45.2	+0.3
M17K	Holitna River	6.59	324			Pn	02 16 44.9	-0.7
M17K	Holitna River baz=138	6.59	324	P		Pn	02 16 44.9	-0.7
DHY	Denali Highway	6.84	8			Pn	02 16 49.8	+0.5
N15K	Kwethluk River	6.84	309			Pn	02 16 49.2	+0.1
M26K	Nabesna, AK	6.90	25			Pn	02 16 50.2	+0.2
O29M	Mount Kennedy	6.94	50			Pn	02 16 50.1	-0.4
L18K	Granite Mounta	7.00	331			Pn	02 16 50.7	-0.5
L18K	Granite Mounta baz=145	7.00	331	P		Pn	02 16 50.7	-0.5
P29M	Windy Craggy	7.01	57			Pn	02 16 50.9	-0.5
P29M	Windy Craggy baz=246	7.01	57	P		Pn	02 16 50.9	-0.5
RND	Reindeer	7.11	2			Pn	02 16 53.3	+0.5
M27K	Edge Creek, AK	7.15	29			Pn	02 16 53.5	+0.1
PN7A	Pavlof North-7	7.17	268			Pn	02 16 52.4	-1.1
MENT	Mentasta	7.22	21			Pn	02 16 53.8	-0.5
CAST	Castle Rocks	7.24	350			Pn	02 16 54.4	-0.3
KTH	Kantishna Hill	7.29	354	Pn		Pn	02 16 55.4	+0.1
S31K	Pelican	7.33	72			Pn	02 16 54.0	-1.7
S31K	Pelican baz=262	7.33	72	P		Pn	02 16 54.0	-1.7
L26K	Log Cabin Wild	7.37	22			Pn	02 16 55.7	-0.7
MCK	McKinley	7.43	1			Pn	02 16 57.2	0.0
MCK	McKinley baz=182	7.43	1	P		Pn	02 16 57.2	0.0
SIT	Sitka	7.77	79	P		Pn	02 16 59.1	-2.6
BPAW	Bear Paw Mtn.	7.84	355			Pn	02 17 02.0	-0.8
FALS	False Pass	8.10	265	P		Pn	02 17 05.6	-0.7
FALS	False Pass	8.10	265			Pn	02 17 05.2	-1.1
FALS	False Pass baz=74	8.10	265	P		Pn	02 17 05.2	-1.1
N30M	Aishikik Lake	8.17	46			Pn	02 17 07.1	-0.2
S32K	Killisnoo	8.18	76			Pn	02 17 05.5	-1.9
S32K	Killisnoo baz=267	8.18	76	P		Pn	02 17 05.5	-1.9
HDA	Harding Lake	8.20	7			Pn	02 17 07.8	+0.2
M29M	Somme Creek	8.27	38			Pn	02 17 09.0	+0.2
ISLZ	Isanotski Laza	8.30	265			Pn	02 17 07.8	-1.3
JIS	Juneau Island	8.34	70	P		Pn	02 17 08.9	-0.7
CCB	Clear Creek Bu	8.38	5			Pn	02 17 10.3	+0.2
J25K	Salcha River,	8.54	12			Pn	02 17 12.5	+0.1
IL31		8.56	7			Pn	02 17 12.9	+0.4
ILAR	Eielson Array comp=E,0.5nm,0.3s,baz=184,slow=14,SNR=20	8.56	7	Pn		Pn	02 17 13.1	+0.5
ILAR					Sn	Sn	02 18 36.9	-12
ILAR	baz=197,slow=15				LR	LR	02 20 51.6	
	comp=E,142nm,18.9s,baz=86,slow=40 comp=E,1.0nm,0.4s							
COLA	College	8.61	4	P		Pn	02 17 14.9	+1.7
J26L	Joseph Creek	8.68	17			Pn	02 17 14.5	+0.1
WHY	Whitehorse	8.73	54			Pn	02 17 14.3	-0.7
MLY	Manley	8.76	356			Pn	02 17 15.3	0.0
L29M	L29M	8.85	35			Pn	02 17 16.8	+0.2
I23K	Minto, Yukon-K	8.85	0			Pn	02 17 16.6	0.0
P32M	Atlin	8.94	62			Pn	02 17 16.9	-0.9
P32M	Atlin baz=255	8.94	62	P		Pn	02 17 16.9	-0.9
M30M	Minto, Yukon	8.95	40			Pn	02 17 18.1	+0.2
I21K	Tanana	8.97	353			Pn	02 17 18.6	+0.4
U33K	Whale Pass	9.05	85			Pn	02 17 16.8	-2.6
U33K	Whale Pass baz=277	9.05	85	P		Pn	02 17 16.8	-2.6
CRAG	Craig	9.17	89	P		Pn	02 17 19.5	-1.4
I26K	Coal Creek Min	9.50	16	Pn		Pn	02 17 25.9	+0.5
H21K	Melozitna Rive	9.51	351			Pn	02 17 24.9	-0.7
P33M	Teslin, Yukon	9.54	59			Pn	02 17 25.7	-0.4
P33M	Teslin, Yukon baz=252	9.54	59	P		Pn	02 17 25.7	-0.4
K29M	Barlow Dome	9.57	33			Pn	02 17 26.9	+0.4
H24K	Noodor Dome	9.57	4			Pn	02 17 27.4	+0.9
M31M	Drury Creek, Y	9.65	46	Pn		Pn	02 17 28.7	+1.1
S34M	Telegraph Cree	10.04	73	Pn		Pn	02 17 35.1	+2.2
UNV	Unalaska Valle	10.13	263	P		Pn	02 17 33.0	-1.2
H02S1	DAWSON INLET T	10.24	101	Pn		Pn	02 17 32.6	-3.0
H02S1				Sn		Sn	02 19 19.5	-11
R33M	Jennings River	10.27	65			Pn	02 17 35.3	-0.8
G23K	Bananza Creek	10.43	359	Pn		Pn	02 17 37.4	-0.8
J30M	Hart River	10.46	32	Pn		Pn	02 17 38.4	-0.3
DLBC	Dease Lake comp=E,0.5nm,0.3s,baz=224,slow=14,SNR=6.8	10.64	71	Pn		Pn	02 17 41.5	+0.3
DLBC					Sn	Sn	02 19 34.8	-5.4
DLBC	comp=E,0.1nm,0.3s,baz=96,slow=15,SNR=1.4				LR	LR	02 21 16.2	
	comp=E,110nm,19.3s,baz=272,slow=34 comp=E,1.3nm,0.4s							
F21K	Alatna River	11.10	352			Pn	02 17 47.6	+0.2
E24K	Your Creek	11.80	2			Pn	02 17 57.1	+0.1
TOLK	Toolik Lake Re	12.36	360	Pn		Pn	02 18 05.5	+0.9
D22K	Ayikyak River	12.69	355	Pn		Pn	02 18 09.5	+0.4
G31M	Satah River	12.77	28			Pn	02 18 10.4	+0.3
BBB	Bella Bella	13.08	100	LR		LR	02 22 06.6	
	comp=E,169nm,19.4s,baz=251,slow=32							
E29M	Blow River	13.19	19	Pn		Pn	02 18 17.5	+1.7
B21K	Ikpikpuk River	13.55	352	Pn		Pn	02 18 20.8	+0.1
C23K	Itkillik River	13.57	358	Pn		Pn	02 18 20.8	-0.3
INK	Inuvik	14.02	25	Pn		Pn	02 18 25.6	-1.5
INK	Inuvik comp=E,0.1nm,0.3s,baz=216,slow=10,SNR=6.5	14.02	25	Pn		Pn	02 18 29.1	+1.9
INK					LR	LR	02 23 38.7	
	comp=E,80nm,19.6s,baz=46,slow=36 comp=E,2.3nm,1.0s							
C36M	Paulatuk	17.23	31			Pn	02 19 08.7	-0.4
C36M					IAmb	IAmb	02 19 13.5	
YKA	comp=Z,7.3nm,1.2s Yellowknife Ar	18.55	56	P		Pn	02 19 26.7	+1.3
	comp=Z,0.1nm,0.3s,baz=267,slow=11,SNR=1.4 comp=Z,0.4nm,0.8s							
A36M	Sachs Harbour	18.66	23			Pn	02 19 26.4	-0.2
A36M					IAmb	IAmb	02 19 40.9	
NEW	comp=Z,6.7nm,0.8s Newport	21.14	99	LR		LR	02 26 48.3	
	comp=Z,83nm,19.9s,baz=284,slow=33							
ELK	Elko	27.09	111	LR		LR	02 29 10.6	
	comp=Z,76nm,19.5s,baz=324,slow=31							
NVAR	Mina Array Bea	27.27	118	P		P	02 20 55.5	+2.3
	comp=Z,0.5nm,0.9s,baz=309,slow=8.0,SNR=3.6							
NVAR					LR	LR	02 29 49.9	
	comp=Z,84nm,18.4s,baz=274,slow=32 comp=Z,0.5nm,0.9s							
RES	Reolute Bay	27.54	28	LR		LR	02 32 44.0	
	comp=Z,52nm,19.3s,baz=22,slow=38							
MA2	Magadan	31.00	301	LR		LR	02 34 18.4	
	comp=Z,34nm,18.8s,baz=115,slow=37							
ULM	Lac du Bonnet	31.84	78	LR		LR	02 33 26.5	
	comp=Z,69nm,18.3s,baz=294,slow=34							
PFO	Pinyon Flats O	32.02	121	LR		LR	02 32 11.6	
	comp=Z,41nm,19.5s,baz=320,slow=32							
TXAR	Lajitas Array	41.88	111	P		P	02 22 58.9	-0.2
	comp=Z,0.1nm,0.3s,baz=333,slow=7.1,SNR=2.3 comp=Z,0.1nm,0.3s							
ASAJ	Asahikawa	43.44	284	LR		LR	02 40 37.5	
	comp=Z,36nm,19.0s,baz=107,slow=35							
KLR	Kul'dur	45.77	296	LR		LR	02 45 03.7	
	comp=Z,30nm,18.1s,baz=308,slow=39							
TKL	Tuckaleechee C	47.98	87	LR		LR	02 43 41.6	
	comp=Z,107nm,18.3s,baz=304,slow=36							
H11N2	WAKE ISLAND Hy	48.87	240	T		T	03 16 58.2	
	baz=31,slow=76,SNR=16							
H11N3	WAKE ISLAND Hy	48.87	240	T		T	03 16 58.2	
	baz=31,slow=76,SNR=17							
H11N1	WAKE ISLAND Hy	48.88	240	T		T	03 16 58.2	
	baz=31,slow=76,SNR=15							
H11S1	WAKE ISLAND Hy	50.01	239	T		T	03 18 25.6	
	baz=30,slow=76,SNR=13							
H11S2	WAKE ISLAND Hy	50.02	239	T		T	03 18 25.6	
	baz=30,slow=76,SNR=15							
H11S3	W. ISLAND Hy	50.03	239	T		T	03 18 25.6	
	baz=30,slow=76,SNR=11							
ARCES	ARCESS Array B	54.39	2	P		P	02 24 37.5	+2.4
	comp=Z,4.1nm,1.1s,baz=356,slow=13,SNR=1.1 comp=Z,4.1nm,1.1s							
KSRS	Korea Array	56.00	288	LR		LR	02 50 03.8	
	comp=Z,7.2nm,18.2s,baz=185,slow=37							
SONM	Songino Array	58.58	310	P		P	02 25 07.0	+1.7
	comp=Z,0.5nm,0.9s,baz=64,slow=3.4,SNR=2.0 comp=Z,0.5nm,0.9s							
FINES	FINESS Array B	62.51	2	P		P	02 25 33.2	+1.4
	comp=Z,1.0nm,0.8s,baz=335,slow=6.2,SNR=3.9 comp=Z,1.0nm,0.8s							
MKAR	Makanchi Array	68.53	325	P		P	02 26 12.1	+1.1
	comp=Z,0.2nm,0.8s,baz=41,slow=4.8,SNR=2.2 comp=Z,0.2nm,0.8s							
ABKAR	Akbulak array	71.99	340	P		P	02 26 31.9	-0.2
ABKAR	Akbulak array	71.99	340	P		P	02 26 32.1	0.0
ABKAR				IAmb		IAmb	02 26 55.0	
	comp=Z,1.6nm,1.1s							
AKASG	Malin Array Be	73.33	1	P		P	02 26 43.0	+3.0
	comp=Z,0.3nm,0.4s,baz=358,slow=6.7,SNR=1.5 comp=Z,0.3nm,0.4s							

IDC ***20*** *02:17:57.1±0.7,52.86S×9.79E, h0km,mb4.3/11, mbtmp4.4/12,ML4.6/1,MS4.0/30,Error ellipse: s-maj=21.5km s-min=13.7km az=104.0*

NEIC ***20*** *02:17:58.1±0.9,52.9S±0.1×10.3E±0.2, h10km±1km, mb4.9/18,Error ellipse: s-maj=27.1km s-min=4.7km az=127.0*

GCMT ***20*** *02:18:03.1±0.4,53.00S±0.02×10.10E±0.04, h16km±1km, MW4.8/81,Moment Tensor Solution. s8,c9; s81,c97; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.82±.14; Mθθ2.01±.11; Mϕϕ-1.20±.09; Mrθ1.08±.27; Mrϕ0.20±.07; Mθϕ0.42±.30; Best double couple: M0 1.97100×10^16 NP1:ϕs233.00000°,δ76.00000°,λ-134.00000°. NP2: ϕs129.00000°,δ45.00000°,λ-20.00000°. Principal axes: T 2.4040, Plg19.0000°, Azm355.0000°; N -0.8750, Plg42.0000°, Azm246.0000°; P -1.5380, Plg42.0000°, Azm103.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 02:17:58.8±0.5,52.89S±0.07×9.9E±0.1,h12km,n65,
σ1.9 24/40,mb4.7/16,MS4.0/29,4C,Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TROLL	Troll, Antarti comp=Z,4μm,0.9s	19.46	187	↑P			Pn	02 22 25.6	-0.7
SNAA	Sanae	19.67	192	P			P	02 22 26.6	-0.8
SNAA						IAmb	IAmb	02 22 29.9	
	comp=Z,127nm,1.0s								
SNAA	Sanae	19.67	192	↑P			P	02 22 26.5	-0.8
	comp=Z,2μm,0.8s								
SNAA	Sanae	19.67	192	P			P	02 22 26.5	-0.8
	comp=Z,1.6nm,0.3s,baz=9.2,slow=12,SNR=34								
SNAA					LR		LR	02 28 26.4	
	comp=Z,372nm,20.4s,baz=14,slow=32 comp=Z,84nm,0.8s								
VNA2	Neumayer--Watz	19.69	197	↑P			P	02 22 27.0	-0.6
	comp=Z,32nm,0.7s,baz=24,slow=11								
VNA3	Neumayer Olymp	20.37	198	↑P			P	02 22 33.6	-1.4
	comp=Z,20nm,0.5s								
SUR	Sutherland	21.97	25	P			P	02 22 51.6	-1.1
SUR						IAmb	IAmb	02 23 04.6	
	comp=Z,74nm,1.8s								
SUR	Sutherland	21.97	25	P			P	02 22 52.3	-0.3
	comp=Z,15nm,1.1s,baz=168,slow=6.7,SNR=4.1								
SUR					LR		LR	02 29 19.5	
	comp=Z,387nm,21.2s,baz=196,slow=31 comp=Z,15nm,1.1s								
SOE	Somerset East	23.12	35	P			P	02 23 01.9	-2.8
SOE						IAmb	IAmb	02 23 02.0	
	comp=Z,88nm,1.9s								
BOSA	Boshof	26.79	31	P			P	02 23 39.2	+0.5
	comp=Z,3.0nm,0.9s,baz=149,slow=18								
BOSA					S		S	02 28 16.8	+2.3
	comp=Z,7.8nm,1.2s,baz=94,slow=12,SNR=3.6 comp=Z,3.0nm,0.9s								
H04S2	CROZET ISLANDS	27.43	94	T			T	02 52 33.8	
	baz=241,slow=75,SNR=21								
H04S3	CROZET ISLANDS	27.43	94	T			T	02 52 40.9	
	baz=241,slow=75,SNR=20								
H04S1	CROZET ISLANDS	27.45	94	T			T	02 52 42.8	
	baz=241,slow=75,SNR=26								

MAW	Mawson	29.00	141	P		P	02 24 00.3	+2.3
	comp=Z,4.5nm,0.3s,baz=333,slow=6.8,SNR=2.8							
MAW					LR	LR	02 34 05.3	
	comp=Z,204nm,18.2s,baz=291,slow=33 comp=Z,4.5nm,0.3s							
BELA	Belgrano 2	29.67	197	P		P	02 24 02.5	-1.4
LBTB	Lobatse	30.26	29	P		P	02 24 07.4	-2.3
LBTB	Lobatse comp=Z,211nm,18.3s,baz=196,slow=34	30.26	29	LR		LR	02 35 03.8	
TSUM	Tsumeb	34.15	13	P		P	02 24 42.7	-1.2
TSUM				IAmb		IAmb	02 24 48.1	
	comp=Z,12nm,1.3s							
TSUM	Tsumeb	34.15	13	LR		LR	02 36 22.7	
	comp=Z,520nm,20.5s,baz=154,slow=32							
QSPA	South Pole Qui	37.35	180	P		P	02 25 10.3	-0.6
QSPA				IAmb		IAmb	02 25 20.0	
	comp=Z,20nm,1.2s							
QSPA	South Pole Qui	37.35	180	P		P	02 25 09.8	-1.1
	comp=Z,5.6nm,0.9s,baz=249,slow=9.5,SNR=24							
QSPA				LR		LR	02 39 52.8	
	comp=Z,430nm,19.4s,baz=250,slow=35 comp=Z,5.6nm,0.9s							
LSZ	Lusaka	40.23	28	LR		LR	02 40 52.9	
	comp=Z,246nm,18.1s,baz=198,slow=34							
VNDA	Vanda	48.69	172	P		P	02 26 42.2	0.0
VNDA				PcP		PcP	02 28 06.6	-0.6
VNDA	Vanda	48.69	172	P		P	02 26 42.5	+0.3
	comp=Z,4.6nm,0.7s,baz=223,slow=6.6,SNR=30							
VNDA					LR		LR	02 46 24.9	
	comp=Z,344nm,19.6s,baz=204,slow=35 comp=Z,4.6nm,0.7s							
TRQA	Tornquist	50.41	257	P		P	02 26 55.1	-0.8
TRQA				IAmb		IAmb	02 26 57.9	
	comp=Z,15nm,1.1s							
ITQB	Itaqui	52.99	268	P		P	02 27 16.4	+1.2
PLCA	Paso Flores	53.59	249	P		P	02 27 18.4	-1.2
	comp=Z,2.4nm,0.9s,baz=122,slow=10,SNR=3.9							
PLCA					LR		LR	02 46 21.6	
	comp=Z,81nm,21.9s,baz=142,slow=32 comp=Z,2.4nm,0.9s							
CPUP	Villa Florida	55.84	271	P		P	02 27 37.0	+1.0
CPUP				IAmb		IAmb	02 27 38.3	
	comp=Z,21nm,1.2s							
CPUP	Villa Florida	55.84	271	P		P	02 27 37.0	+1.0
	comp=Z,7.6nm,1.0s,baz=141,slow=13,SNR=8.0							
CPUP					LR	LR	02 47 27.4	
	comp=Z,80nm,21.7s,baz=170,slow=32 comp=Z,7.6nm,1.0s							
BO02	Sierra Bellavi	57.81	254	P		P	02 27 51.0	+1.1
BO02				IAmb		IAmb	02 27 52.6	
	comp=Z,33nm,1.6s							
BDFB	Brasilia	58.44	287	P		P	02 27 55.0	+0.4
	comp=Z,4.1nm,1.0s,baz=124,slow=15,SNR=5.3							
BDFB					LR	LR	02 47 44.3	
	comp=Z,106nm,20.2s,baz=131,slow=31 comp=Z,4.1nm,1.0s							
MT09	Talagante	58.65	254	P		P	02 27 57.3	+1.3
DBIC	Dimbokro	60.64	343	P		P	02 28 09.2	-0.3
DBIC				IAmb		IAmb	02 28 20.0	
	comp=Z,7.8nm,0.8s							
DBIC	Dimbokro	60.64	343	P		P	02 28 09.0	-0.5
	comp=Z,5.5nm,0.8s,baz=143,slow=10,SNR=5.8							
DBIC					LR	LR	02 48 35.0	
	comp=Z,119nm,21.1s,baz=170,slow=30 comp=Z,5.5nm,0.8s							
CO01	Juntas del Tor	60.86	258	P		P	02 28 11.1	-0.2
CO01				IAmb		IAmb	02 28 14.5	
	comp=Z,24nm,1.5s							
LVC	Limon Verde	65.61	264	LR		LR	02 56 29.4	
	comp=Z,39nm,19.1s,baz=161,slow=35							
TOA0	Torodi Ar. Sit	66.15	351	P		P	02 28 47.5	+1.6
TORD	Torodi Ar. Bea	66.15	351	P		P	02 28 45.8	-0.2
TORD	Torodi Ar. Bea	66.15	351	P		P	02 28 44.9	-1.1
	comp=Z,1.2nm,1.0s,baz=171,slow=6.4,SNR=4.4							
TORD					LR	LR	02 51 36.5	
	comp=Z,102nm,21.6s,baz=162,slow=31 comp=Z,1.2nm,1.0s							
PB09	IPOC Station P	66.43	265	P		P	02 28 50.2	+2.1
H01W2	Cape Leeuwin H	70.70	122	T		T	03 46 55.3	
	baz=219,slow=75,SNR=28							
H01W3	Cape Leeuwin H	70.71	122	T		T	03 46 56.2	
	baz=219,slow=75,SNR=39							
H01W1	Cape Leeuwin H	70.72	122	T		T	03 46 56.2	
	baz=219,slow=75,SNR=32							
NWAO	Narrogin (SRO)	73.83	123	LR		LR	02 55 27.1	
	comp=Z,95nm,19.2s,baz=192,slow=30							
NNA	Nana	78.58	265	LR		LR	03 05 09.1	
	comp=Z,31nm,18.1s,baz=158,slow=36							
ATAH	Atahualpa	83.33	267	LR		LR	03 06 16.3	
	comp=Z,44nm,19.5s,baz=116,slow=35							
PALK	Pallekele	84.41	70	LR		LR	03 00 36.5	
	comp=Z,83nm,18.6s,baz=306,slow=30							
EIL	Elat	85.07	22	LR		LR	03 08 14.1	
	comp=Z,125nm,18.4s,baz=66,slow=36							
MDT	Midelt	86.28	348	LR		LR	03 03 36.8	
	comp=Z,84nm,18.5s,baz=6.0,slow=32							
ASF	Jabal al Asfar	87.92	23	LR		LR	03 09 26.9	
	comp=Z,101nm,18.6s,baz=82,slow=35							
MMAI	Mount Meron Ar	88.39	21	LR		LR	03 10 08.2	
	comp=Z,72nm,19.0s,baz=236,slow=35							
URZ	Urewera	88.55	170	LR		LR	03 07 45.4	
	comp=Z,69nm,21.1s,baz=300,slow=34							
LEM	Lembang	89.26	100	LR		LR	03 03 53.3	
	comp=Z,32nm,18.2s,baz=240,slow=31		

ISHB	**Shabestar**	**4.03**	**358**	Pn		**Pn**	**02 28 33.2**	**+0.5**
IQOM	**Qom**	**4.43**	**81**	Pn		**Pn**	**02 28 40.1**	**+2.0**
IMRD	**Marand**	**4.46**	**359**	Pn		**Pn**	**02 28 40.0**	**+1.6**
IPIR	**Pirpir**	**4.57**	**108**	Pn		**Pn**	**02 28 42.2**	**+2.1**
QAMS	**Qamsar**	**4.72**	**95**	Pn		**Pn**	**02 28 44.7**	**+2.6**
ZNGN	**Zangian**	**4.77**	**115**	Pn		**Pn**	**02 28 45.1**	**+2.2**
IVRN	**Varamin**	**4.98**	**80**	Pn		**Pn**	**02 28 47.9**	**+2.4**
IBRJ	**Brojen**	**5.18**	**115**	Pn		**Pn**	**02 28 51.5**	**+3.1**
KBD	**Kabd**	**5.32**	**161**	P		**Pn**	**02 28 53.1**	**+3.0**
IDMV	**Damavand**	**5.33**	**74**	Pn		**Pn**	**02 28 52.7**	**+2.1**
IGAR	**Gharneh**	**5.58**	**107**	Pn		**Pn**	**02 28 56.5**	**+2.6**
IZEF	**Zefreh**	**5.65**	**102**	Pn		**Pn**	**02 28 57.0**	**+2.1**
IFIR	**Firoozkooh**	**5.92**	**74**	Pn		**Pn**	**02 29 00.7**	**+2.1**
GNI	**Garni**	**5.95**	**352**	LR		LR	02 30 36.5	
	comp=E,17nm,20.5s,baz=198,slow=32							
IRAM	**Ramesheh**	**6.07**	**112**	Pn		**Pn**	**02 29 03.3**	**+2.5**
EIL	**Elat**	**10.24**	**247**	LR		LR	02 34 59.1	
	comp=E,31nm,20.1s,baz=352,slow=44							
TRNA	**Turayna**	**10.60**	**152**	P		**Pn**	**02 30 04.3**	**+1.7**
TRNA				S		**Sn**	**02 31 58.3**	**-3.1**
RAYN	**Ar Rayn**	**10.69**	**181**	P		**Pn**	**02 30 03.9**	**+0.1**
RAYN				S		**Sn**	**02 31 59.6**	**-4.0**
SLWR	**Sila**	**11.39**	**151**	P		**Pn**	**02 30 13.9**	**+0.6**
SLWR				S		**Sn**	**02 32 15.8**	**-4.9**
GHWR	**Ruwais**	**11.98**	**147**	P		**Pn**	**02 30 23.1**	**+1.6**
SHME	**Shamm**	**12.14**	**130**	P		**Pn**	**02 30 24.2**	**+0.5**
SHME				S		**Sn**	**02 32 34.6**	**-4.6**
BANOM	**Banah**	**12.33**	**129**	P		**Pn**	**02 30 27.1**	**+0.8**
BANOM				S		**Sn**	**02 32 41.6**	**-2.3**
NAZ	**Nazwa, Dubai**	**12.62**	**134**	P		**Pn**	**02 30 31.2**	**+0.9**
MASF	**Masafi**	**12.63**	**132**	P		**Pn**	**02 30 31.2**	**+0.7**
	SNR=5.6							
MASF				S		**Sn**	**02 32 45.8**	**-5.6**
ASUD	**Al Ashush, Dub**	**12.70**	**136**	P		**Pn**	**02 30 32.7**	**+1.4**
	SNR=6.1							
ASUD				S		**Sn**	**02 32 48.8**	**-4.1**
MDH	**Madha**	**12.77**	**131**	P		**Pn**	**02 30 32.8**	**+0.4**
MDH				S		**Sn**	**02 32 49.3**	**-5.4**
UOSS	**Minazif**	**12.97**	**133**	P		**Pn**	**02 30 35.5**	**+0.4**
UOSS				S		**Sn**	**02 32 52.7**	**-6.8**
HATD	**Hatta, Dubai**	**13.02**	**133**	P		**Pn**	**02 30 35.8**	**+0.1**
HATD				S		**Sn**	**02 32 55.2**	**-5.5**
ASHO	**Ashiyiah**	**13.08**	**134**	P		**Pn**	**02 30 36.8**	**+0.1**
	SNR=16							
ASHO				S		**Sn**	**02 32 56.2**	**-6.1**
ALNE	**Al Ain**	**13.38**	**137**	P		**Pn**	**02 30 40.8**	**+0.1**
JASK	**Jask - Hormozg**	**13.40**	**125**	P		**Pn**	**02 30 42.1**	**+1.2**
SOHO	**SOHO**	**13.78**	**134**	P		**Pn**	**02 30 46.0**	**0.0**
SOHO				S		**Sn**	**02 33 16.6**	**-2.6**
UMZA	**Um Al Zommool**	**14.15**	**142**	P		**Pn**	**02 30 50.6**	**-0.5**
UMZA				S		**Sn**	**02 33 22.4**	**-5.8**
ARQ	**Araqi**	**14.38**	**136**	P		**Pn**	**02 30 53.9**	**-0.5**
	SNR=5.6							
ARQ				P		**Pn**	**02 30 53.9**	**-0.5**
	SNR=5.6							
ARQ				S		**Sn**	**02 33 29.2**	**-4.9**
ARQ				S		**Sn**	**02 33 29.2**	**-4.9**
HOQ	**Hoqain**	**14.66**	**133**	P		**Pn**	**02 30 58.4**	**+0.2**
BSY	**Bisya**	**15.23**	**136**	P		**Pn**	**02 31 04.9**	**-1.0**
SMDO	**Samad**	**15.50**	**133**	P		**Pn**	**02 31 08.5**	**-1.0**
SMDO				S		**Sn**	**02 33 57.0**	**-4.3**
WBK	**Wadi Bani Khal**	**16.40**	**132**	P		**Pn**	**02 31 20.8**	**-0.2**
JLN	**Jalan Bani Buh**	**17.01**	**132**	P		**Pn**	**02 31 28.1**	**-0.6**
MHTO	**MHTO**	**17.05**	**138**	P		**Pn**	**02 31 27.3**	**-1.9**
	SNR=5.9							
DOK	**Doka**	**17.26**	**152**	P		**Pn**	**02 31 29.9**	**-2.0**
	SNR=13							
DQM	**DQM**	**17.68**	**141**	P		**Pn**	**02 31 35.4**	**-1.7**
WHFO	**Wadi Hawf**	**17.77**	**154**	P		**Pn**	**02 31 36.0**	**-2.2**
	SNR=5.8							
DMTO	**DMTO**	**18.40**	**151**	P		**Pn**	**02 31 43.5**	**-2.4**
	SNR=6.9							
AKASG	**Malin Array Be**	**20.39**	**329**	P		**P**	**02 32 07.5**	**0.0**
	comp=E,0.3nm,0.3s,baz=139,slow=10.0,SNR=4.1							
	comp=E,0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**28.90**	**46**	P		**P**	**02 33 31.5**	**+1.9**
	comp=E,0.2nm,0.4s,baz=252,slow=9.6,SNR=2.9							
	comp=E,0.2nm,0.4s							
FINES	**FINESS Array B**	**30.00**	**341**	P		**P**	**02 33 39.7**	**+0.6**
	comp=E,1.2nm,0.8s,baz=148,slow=8.2,SNR=5.2							
	comp=E,1.2nm,0.8s							
MKAR	**Makanchi Array**	**30.20**	**54**	P		**P**	**02 33 43.9**	**+2.8**
	comp=E,0.1nm,0.4s,baz=261,slow=9.4,SNR=2.2							
	comp=E,0.1nm,0.4s							
HFS	**Hagfors**	**33.25**	**331**	P		**P**	**02 34 08.3**	**+0.6**
	comp=E,1.4nm,0.5s,baz=132,slow=9.9,SNR=8.7							
	comp=E,1.4nm,0.5s							
EKA	**Eskdalemuir Ar**	**39.58**	**317**	P		**P**	**02 35 02.0**	**+0.2**
	comp=E,0.6nm,0.5s,baz=103,slow=8.9,SNR=6.2							
	comp=E,0.6nm,0.5s							
SPITS	**Spitsbergen Ar**	**45.82**	**352**	P		**P**	**02 35 52.6**	**+0.4**
	comp=E,4.4nm,0.9s,baz=153,slow=9.7,SNR=8.4							
	comp=E,4.4nm,0.9s							
JHJ	**Hachijo jima 2**	**75.18**	**60**	LR		LR	03 18 35.2	
	comp=E,136nm,18.4s,baz=6.0,slow=41							

*CATAC **20** 02:30:59.2±2.9, 12°.62N×90°.18W, h5km±17km, ML3.8*
*SNET **20** 02:31:02.2±1.8, 12°.74N×90°.08W, h19km, ML3.7*
*IDC **20** 02:31:10.0±14.0, 13°.00N×90°.86W, h0km, mb3.3/3,*
mbtmp3.4/3, Error ellipse: s-maj=290.1km s-min=118.5km az=10.0

ISC 20 02:31:02.4±2.4, 12°.78N±0°.09×89°.96W±0°.07, h1km±12km, n38, σ0°99/44, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
LALI	**Alcalda de L**	**0.94**	**41**	*i* P		**Pn**	**02 31 21.9**		**-0.8**
LALI				IAML			02 31 50.6		
	comp=Z,280nm,1.0s								
JAYA	**Jayaque - finc**	**1.00**	**30**	*e*P		**Pg**	**02 31 22.4**		**+0.9**
JAYA				*e*S		**Sg**	**02 31 34.7**		**+0.2**
JAYA	**Jayaque - finc**	**1.00**	**30**	*i* P		**Pg**	**02 31 22.2**		**+0.6**
JAYA				IAML			02 31 45.1		
	comp=Z,2μm,1.0s								
CEVE	**Cerro Verde**	**1.09**	**17**	*e*P		**Pg**	**02 31 23.7**		**+0.4**
CEVE				*e*S		**Sn**	**02 31 40.2**		**-0.7**
CEVE	**Cerro Verde**	**1.09**	**17**	*i* P		**Pg**	**02 31 23.7**		**+0.4**
CEVE				IAML			02 31 45.7		
	comp=Z,3μm,1.0s								
SBLS	**San Blas**	**1.10**	**17**	*e*P		**Pg**	**02 31 24.1**		**+0.6**
PMON	**Piamonte**	**1.11**	**34**	*i* P		**Pg**	**02 31 23.9**		**+0.1**
PMON				*i* S		**Sn**	**02 31 45.4**		**+4.0**
PMON				IAML			02 31 47.2		
	comp=Z,2μm,1.0s								
PANCS	**Alcalda de**	**1.12**	**43**	*i* P		**Pb**	**02 31 24.1**		**-0.5**
PANCS				IAML			02 31 45.0		
	comp=Z,2μm,1.0s								
NUBE	**Las Nubes**	**1.12**	**9**	*e*P		**Pb**	**02 31 24.0**		**-0.8**
NUBE	**Las Nubes**	**1.12**	**9**	*i* P		**Pb**	**02 31 23.8**		**-1.0**
NUBE				*i* S		**Sn**	**02 31 40.3**		**-1.4**
NUBE				IAML			02 31 49.4		
	comp=Z,1μm,1.0s								
SNJE	**San Jose**	**1.13**	**18**	*e*P		**Pg**	**02 31 24.2**		**0.0**
SNET	**Serv Nac Est T**	**1.14**	**38**	*e*P		**Pb**	**02 31 24.8**		**-0.2**
LOMA	**Loma Larga**	**1.15**	**42**	*e*P		**Pb**	**02 31 24.8**		**-0.4**
LOMA	**Loma Larga**	**1.15**	**42**	*i* P		**Pb**	**02 31 24.8**		**-0.4**
LOMA				IAML			02 31 47.3		
	comp=Z,1μm,1.0s								
RTR	**El Retiro**	**1.15**	**15**	*e*P		**Pb**	**02 31 24.8**		**-0.4**
BOQS	**Boqueron**	**1.15**	**35**	*e*P		**Pb**	**02 31 24.9**		**-0.5**
BOQS				*e*S		**Sn**	**02 31 41.9**		**-0.6**
UEES	**Universidad Ev**	**1.16**	**37**	*i* P		**Pb**	**02 31 24.7**		**-0.7**
UEES				*i* S		**Sn**	**02 31 43.4**		**+0.9**
UEES				IAML			02 31 45.5		
	comp=Z,1μm,1.0s								
PIC2	**El Picacho**	**1.17**	**35**	*e*P		**Pb**	**02 31 25.3**		**-0.3**
LFRS	**El Faro**	**1.21**	**46**	*e*P		**Pb**	**02 31 26.0**		**-0.2**
LOAL	**Lomas de Alarc**	**1.22**	**8**	*i* P		**Pn**	**02 31 25.8**		**-0.9**
LOAL				IAML			02 31 51.6		
	comp=Z,2μm,1.0s								
SJTE	**Alcalda de S**	**1.24**	**48**	*e*P		**Pn**	**02 31 26.2**		**-0.8**
SJTE	**Alcalda de S**	**1.24**	**48**	*i* P		**Pn**	**02 31 26.2**		**-0.8**
SJTE				IAML			02 31 50.7		
	comp=Z,630nm,1.0s								
SLOZ	**Alcaldia de Sa**	**1.25**	**8**	*e*P		**Pn**	**02 31 25.9**		**-1.2**
COEG	**Centro de Oper**	**1.34**	**51**	*e*P		**Pn**	**02 31 27.3**		**-1.1**
COEG	**Centro de Oper**	**1.34**	**51**	*i* P		**Pn**	**02 31 27.2**		**-1.1**
COEG				IAML			02 31 54.9		
	comp=Z,550nm,1.0s								
PAVA	**Las Pavas**	**1.36**	**47**	*e*P		**Pn**	**02 31 27.9**		**-0.7**
PAVA	**Las Pavas**	**1.36**	**47**	*i* P		**Pn**	**02 31 28.1**		**-0.5**
PAVA				IAML			02 31 53.4		
	comp=Z,2μm,1.0s								
SCLA	**Alcaldia de Sa**	**1.50**	**53**	*e*P		**Pn**	**02 31 30.4**		**-0.2**
MTO3	**Montecristo**	**1.71**	**20**	*e*P		**Pn**	**02 31 32.9**		**-0.7**
MTO3	**Montecristo**	**1.71**	**20**	*i* P		**Pn**	**02 31 32.9**		**-0.7**
MTO3				IAML			02 32 02.5		
	comp=Z,470nm,1.0s								
JUCU	**Jucuarįn**	**1.73**	**74**	*e*P		**Pn**	**02 31 33.1**		**-0.7**
PACA	**Pacayal**	**1.73**	**67**	*e*P		**Pn**	**02 31 33.6**		**-0.2**
PACA				*e*S		**Sn**	**02 31 55.1**		**-1.5**
BLLM	**Bellamira**	**1.80**	**68**	*e*P		**Pb**	**02 31 35.1**		**-1.1**
LCND	**La Caada**	**2.08**	**75**	*e*P		**Pn**	**02 31 38.2**		**-0.3**
CNCH	**Conchagua**	**2.13**	**76**	*e*P		**Pn**	**02 31 38.6**		**-0.6**
TXAR	**Lajitas Array**	**20.82**	**324**	P		**P**	**02 35 46.0**		**+0.4**
	comp=Z,0.4nm,0.6s,baz=140,slow=13,SNR=6.1								
	comp=Z,0.4nm,0.6s								
NVAR	**Mina Array Bea**	**35.86**	**320**	P		**P**	**02 38 05.4**		**+1.1**
	comp=Z,1.0nm,0.9s,baz=148,slow=8.6,SNR=1.8								
	comp=Z,1.0nm,0.9s								
YKA	**Yellowknife Ar**	**52.67**	**346**	P		P	02 40 22.8		+4.7
	comp=Z,0.1nm,0.3s,baz=140,slow=7.8,SNR=4.6								
	comp=Z,0.1nm,0.3s								

*CATAC **20** 02:35:01.8±0.9, 10°.28N×86°.30W, h15km±4km, ML3.5*
*UCR **20** 02:35:02.9±0.7, 10°.37N×86°.29W, h23km±5km, MW4.1*
*IDC **20** 02:35:08.8±12.0, 12°.02N×85°.65W, h0km, mb3.3/4,*
mbtmp3.3/4, Error ellipse: s-maj=248.3km s-min=110.8km az=1.0

ISC 20 02:35:02.8±1.0, 10°.31N±0°.05×86°.33W±0°.07, h23km, n41, σ1°08/44, mb3.3/4, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
SAJU	**San Juanillo,**	**0.66**	**112**	*i* P		**Pb**	**02 35 15.1**		**-0.5**
SAJU				IAML			02 35 38.2		
	comp=Z,μm,1.0s								
DELF	**Filadelfia**	**0.78**	**80**	*e*P		**Pb**	**02 35 17.1**		**-0.5**
JUD3	**Juan Diaz 3**	**0.79**	**101**	*e*P		**Pb**	**02 35 17.2**		**-0.7**
ALIBA	**Liberia Airpor**	**0.82**	**70**	*e*P		**Pn**	**02 35 20.3**		**+1.4**
HZTE	**Horizontes, Gu**	**0.82**	**61**	*e*P		**Pb**	**02 35 18.1**		**-0.4**
HZTE	**Horizontes, Gu**	**0.82**	**61**	*i* P		**Pb**	**02 35 18.0**		**-0.4**
HZTE				IAML			02 35 52.1		
	comp=Z,3μm,1.0s								
ELI1	**Hacienda Flor**	**0.83**	**67**	*e*P		**Pb**	**02 35 18.7**		**+0.1**
ORTG	**Ortega, Santa**	**0.86**	**87**	*e*P		**Pb**	**02 35 18.3**		**-0.8**
ORTG	**Ortega, Santa**	**0.86**	**87**	*i* P		**Pb**	**02 35 18.2**		**-0.8**
ORTG				IAML			02 35 37.8		
	comp=Z,2μm,1.0s								
INDI	**Punta indio, G**	**0.93**	**118**	*e*P		**Pb**	**02 35 19.4**		**-0.8**
INDI	**Punta indio, G**	**0.93**	**118**	*i* P		**Pb**	**02 35 19.3**		**-0.9**
INDI				IAML			02 35 45.9		
	comp=Z,690nm,1.0s								
PLVR	**Palo Verde**	**0.96**	**88**	*e*P		**Pb**	**02 35 19.9**		**-1.0**
LCRUZ	**La Cruz**	**1.02**	**42**	*e*P		**Pb**	**02 35 21.7**		**-0.2**
GB1A	**Borinquen Arri**	**1.04**	**61**	*e*P		**Pb**	**02 35 21.0**		**-1.2**
VRLE	**La Escondida,**	**1.06**	**63**	*e*P		**Pb**	**02 35 21.1**		**-1.4**
BAGA	**Bagaces**	**1.07**	**78**	*e*P		**Pb**	**02 35 22.9**		**+0.3**
CUI	**Cuipilapa**	**1.20**	**73**	*e*P		**Pn**	**02 35 23.5**		**-0.7**
VMAR	**Armenia, Volca**	**1.29**	**67**	*e*P		**Pn**	**02 35 25.0**		**-0.5**
ACAL	**Aguas Claras**	**1.31**	**76**	*e*P		**Pn**	**02 35 25.6**		**-0.2**
JTS	**Las Juntas de**	**1.35**	**91**	*e*P		**Pn**	**02 35 25.7**		**-0.7**
JAPN	**Al SSO del Vol**	**1.36**	**28**	*i* P		**Pn**	**02 35 26.3**		**-0.2**
JAPN				IAML			02 35 42.8		
	comp=Z,510nm,1.0s								
MORN	**Al O del Volca**	**1.40**	**29**	*i* P		**Pn**	**02 35 26.1**		**-0.8**
MORN				IAML			02 35 33.8		
	comp=Z,2μm,1.0s								
CONN	**Concepcion**	**1.42**	**29**	*i* P		**Pn**	**02 35 26.1**		**-1.2**
CONN				IAML			02 35 34.1		
	comp=Z,6μm,1.0s								
LAFE	**Finca La Fe, P**	**1.48**	**110**	*i* P		**Pn**	**02 35 26.8**		**-1.3**
LAFE				*i* S		**Sn**	**02 35 44.1**		**-2.7**
LAFE				IAML			02 36 02.9		
	comp=Z,3.9nm,1.0s								
ARE1	**Arenal 1**	**1.59**	**85**	*e*P		**Pn**	**02 35 30.1**		**+0.5**
VACR	**Volcan Arenal**	**1.63**	**84**	*e*P		**Pn**	**02 35 30.4**		**+0.3**
SOCE	**Pocosol**	**1.69**	**87**	*i* P		**Pn**	**02 35 31.7**		**+0.8**
SOCE				IAML			02 36 11.7		
	comp=Z,310nm,1.0s								
JACO	**JACO, Garabito**	**1.77**	**111**	*i* P		**Pn**	**02 35 33.0**		**+1.0**
JACO				IAML			02 36 12.4		
	comp=Z,210nm,1.0s								
APQ2	**Apoyeque**	**1.87**	**0**	*i* P		**Pb**	**02 35 35.1**		**-1.2**
APQ2				IAML			02 35 36.3		
	comp=Z,550nm,1.0s								
CPMI	**Catarata Coope**	**1.92**	**91**	*e*P		**Pn**	**02 35 34.8**		**+0.6**
CPMI	**Catarata Coope**	**1.92**	**91**	*i* P		**Pn**	**02 35 34.7**		**+0.5**
CPMI				IAML			02 36 18.8		
	comp=Z,510nm,1.0s								
ACON	**Acoyapa**	**2.00**	**34**	*e*P		**Pn**	**02 35 34.2**		**-1.0**
MOMN	**Momotombo**	**2.09**	**354**	*i* P		**Pn**	**02 35 35.9**		**-0.6**
MOMN				IAML			02 35 49.1		
	comp=Z,12nm,1.0s								
MOM2	**El Cardon**	**2.12**	**356**	*i* P		**Pn**	**02 35 35.9**		**-0.9**
MOM2				IAML			02 35 39.4		
	comp=Z,330nm,1.0s								
MOM2				*i* S		**Sb**	**02 36 08.3**		**+1.9**
MACN	**El Madrono**	**2.17**	**351**	*i* P		**Pn**	**02 35 36.6**		**-0.9**
MACN				IAML			02 35 49.2		
	comp=Z,160nm,1.0s								
BOAB	**BOACO BROADBAN**	**2.22**	**17**	*i* P		**Pn**	**02 35 37.2**		**-1.0**
BOAB				IAML			02 36 20.8		
	comp=Z,160nm,1.0s								
MATN	**Matagalpa**	**2.63**	**9**	*i* P		**Pn**	**02 35 43.0**		**-1.0**
MATN				IAML			02 35 55.9		
	comp=Z,92nm,1.0s								
MATN				*i* S		**Sn**	**02 36 16.1**		**+0.8**
TXAR	**Lajitas Array**	**24.92**	**322**	P		**P**	**02 40 25.4**		**+1.0**
	comp=Z,0.7nm,0.7s,baz=137,slow=10,SNR=9.4								
	comp=Z,0.7nm,0.7s								
PDAR	**Pinedale Array**	**38.16**	**332**	P		**P**	**02 42 21.6**		**+0.8**
	comp=Z,0.1nm,0.4s,baz=149,slow=11,SNR=1.4								
	comp=Z,0.1nm,0.4s								
NVAR	**Mina Array Bea**	**40.03**	**320**	P		**P**	**02 42 39.1**		**+2.7**
	comp=Z,0.4nm,0.5s,baz=133,slow=6.3,SNR=4.7								
	comp=Z,0.4nm,0.5s								
YKA	**Yellowknife Ar**	**55.95**	**345**	P		**P**	**02 44 37.4**		**-1.6**
	comp=Z,0.1nm,0.3s,baz=136,slow=8.4,SNR=1.5								
	comp=Z,0.1nm,0.3s								

*IDC **20** 02:38:48.5±0.7, 6°.75N×72°.95W, h159km±9km, mb3.3/6,*
mbtmp3.8/9, Error ellipse: s-maj=26.6km s-min=7.1km az=133.0
*RSNC **20** 02:38:51.3±0.0, 7°.1N×7°.3W×, h142km±4km, mb4.2,*
mB5.2, ML3.3, MLv4.0, Mw(mB)4.5

ISC 20 02:38:48.5±0.7, 6°.86N±0°.03×73°.08W±0°.04, h154km±5km, n48, σ1°21/80, mb3.5/6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
BARC	**Barichara**	**0.28**	**202**	P		**Pn**	**02 39 09.6**		**-0.2**
BARC				S		**Sn**	**02 39 25.0**		**-1.1**
PAMC	**Pamplona, Colo**	**0.61**	**38**	P		**Pn**	**02 39 12.4**		**+0.9**
PAMC				S		**Sn**	**02 39 29.1**		**+0.1**
RUSC	**La Rusia**	**0.96**	**180**	P		**Pn**	**02 39 13.5**		**-0.4**
RUSC				S		**Sn**	**02 39 32.2**		**-1.1**
TAMC	**Tame, Arauca**	**1.34**	**108**	P		**Pn**	**02 39 18.0**		**+1.1**
TAMC				S		**Sn**	**02 39 39.5**		**+0.9**
OCAC	**Ocana**	**1.40**	**350**	P		**Pn**	**02 39 17.6**		**+0.1**
OCAC				S		**Sn**	**02 39 39.5**		**-0.3**
PTBC	**PUERTO BERRIO,**	**1.41**	**257**	P		**Pn**	**02 39 16.2**		**-1.2**
PTBC				S		**Sn**	**02 39 37.4**		**-2.2**
SPBC	**San Pablo de B**	**1.55**	**220**	P		**Pn**	**02 39 18.7**		**-0.4**
SPBC				S		**Sn**	**02 39 41.0**		**-1.5**
ZARC	**Zaragoza, Cauc**	**1.88**	**290**	P		**Pn**	**02 39 22.6**		**+0.1**
ZARC				S		**Sn**	**02 39 45.7**		**-0.3**
NORC	**Norcasia**	**2.20**	**234**	P		**Pn**	**02 39 25.7**		**-0.6**
NORC				S		**Sn**	**02 39 54.4**		**-0.9**
ROSC	**El Rosal**	**2.35**	**212**	P		**Pn**	**02 39 29.9**		**+1.4**
	157nm,0.3s,baz=270,slow=1.9,SNR=271								
ROSC				S		**Sn**	**02 39 59.5**		**+0.2**
	547nm,0.4s,baz=141,slow=23,SNR=14								
ROSC	**El Rosal**	**2.35**	**212**	P		**Pn**	**02 39 29.7**		**+1.2**
ROSC				S		**Sn**	**02 39 58.1**		**-1.2**
CVER	**Cruz Verde, Cu**	**2.52**	**203**	P		**Pn**	**02 39 31.3**		**+0.7**
CVER				S		**Sn**	**02 40 02.2**		**-0.9**
HELC	**Santa Helena**	**2.52**	**255**	P		**Pn**	**02 39 30.1**		**-0.4**
HELC				P			02 39 30.7		
HELC				P			02 39 31.1		
HELC				S		**Sn**	**02 40 02.4**		**-0.4**
HELC				S			02 40 03.8		
HELC				S			02 40 03.9		
GUY2C	**Guyana, Caldas**	**2.79**	**235**	P		**Pn**	**02 39 34.1**		**+0.2**
GUY2C				S		**Sn**	**02 40 09.8**		**+0.8**
VILC	**Villavicencio,**	**2.79**	**193**	P		**Pn**	**02 39 33.3**		**-0.3**
VILC				P			02 39 33.9		
VILC				P			02 39 34.0		
VILC				S		**Sn**	**02 40 07.8**		**-0.7**
PTGC	**Puerto Gaitan,**	**2.80**	**160**	P		**Pn**	**02 39 32.7**		**-0.9**
PTGC				S		**Sn**	**02 40 06.1**		**-2.4**
CBOC	**Ciudad Bolivar**	**3.08**	**252**	P		**Pn**	**02 39 37.5**		**+0.3**
CBOC				S		**Sn**	**02 40 14.2**		**-0.7**
DBBC	**Dabeiba**	**3.11**	**273**	P		**Pn**	**02 39 37.3**		**-0.3**
DBBC				S		**Sn**	**02 40 13.9**		**-1.7**
SDV	**Santo Domingo**	**3.15**	**50**	P		**Pn**	**02 39 39.2**		**+1.1**
	94nm,0.3s,baz=242,slow=13,SNR=62								
SDV				S		**Sn**	**02 40 16.4**		**-0.2**
	130nm,0.4s,baz=256,slow=23,SNR=33								
ARGC	**Ariguani, Magd**	**3.20**	**339**	P		**Pn**	**02 39 39.9**		**+1.3**
ARGC				S		**Sn**	**02 40 18.5**		**+1.0**
ANIL	**Santa Ana**	**3.30**	**225**	P		**Pn**	**02 39 40.2**		**+0.1**
ANIL				S		**Sn**	**02 40 21.2**		**+1.1**
APAC	**Apartado, Choc**	**3.63**	**287**	P		**Pn**	**02 39 43.8**		**-0.2**
APAC				S		**Sn**	**02 40 25.2**		**-2.0**
ORTC	**Ortega, Tolima**	**3.64**	**217**	P		**Pn**	**02 39 44.2**		**-0.1**
ORTC				S		**Sn**	**02 40 28.2**		**+0.6**
SJCC	**San Jacinto, C**	**3.67**	**326**	P		**Pn**	**02 39 43.5**		**-1.2**
SJCC				S		**Sn**	**02 40 25.2**		**-3.1**
PLMC	**San Jos del P**	**3.73**	**239**	P		**Pn**	**02 39 45.5**		**0.0**
PLMC				S		**Sn**	**02 40 28.5**		**-1.2**
CRJC	**Cerrejon, Guaj**	**4.14**	**3**	P		**Pn**	**02 39 49.8**		**-1.1**
CRJC				S		**Sn**	**02 40 36.1**		**-3.3**
GUVC	**San Jose del G**	**4.31**	**174**	P		**Pn**	**02 39 52.9**		**0.0**
GUVC				P			02 39 53.0		
GUVC				P			02 39 53.2		
GUVC				S		**Sn**	**02 40 40.5**		**-2.6**
YOTC	**Yotoco, Valle**	**4.33**	**229**	P		**Pn**	**02 39 52.1**		**-1.2**
SMRC	**Santa Marta, M**	**4.43**	**345**	P		**Pn**	**02 39 54.4**		**-0.1**
SMRC				P		**P**	**02 39 54.6**		**+0.1**
SMRC				P		**P**	**02 39 54.6**		**+0.1**
MACC	**Macarena, Meta**	**4.74**	**189**	P		**Pn**	**02 39 57.1**		**-1.6**
MACC				S		**Sn**	**02 40 49.2**		**-4.2**
JAMC	**Jamundi, Valle**	**5.09**	**225**	P		**Pn**	**02 40 02.9**		**-0.6**
	17nm,0.8s,939nm0.1nm								
MALC	**Bahia Malaga**	**5.09**	**237**	P		**Pn**	**02 40 04.4**		**+1.1**
UPD2	**Meteti**	**5.17**	**289**	P		**Pn**	**02 40 03.5**		**-0.8**
	39nm,2.7s,0.3nm								
GARC	**Garzon, Huila**	**5.23**	**208**	P		**Pn**	**02 40 04.0**		**-1.3**
POPC	**Popayan, Colom**	**5.59**	**220**	P		**Pn**	**02 40 10.0**		**-0.1**
	15nm,0.5s								
FLOC	**Florencia**	**5.83**	**206**	P		**Pn**	**02 40 12.7**		**-0.4**
	38nm,1.1s,766nm								
BBAC	**Balboa, Cauca**	**6.35**	**221**	P		**Pn**	**02 40 20

IMEH	Mehriz	4.76	168	Pn		Pn		02 41 34.9	-0.5
TBHD	Torbat heydari	4.78	96	Pn		Pn		02 41 37.0	+1.3
IBAF	Bafgh	4.80	157	Pn		Pn		02 41 35.5	-0.4
IMOG	Moghan	4.80	88	Pn		Pn		02 41 36.9	+0.8
IBZA	Bozab	4.81	252	Pn		Pn		02 41 36.6	+0.4
ISRB	Sarab	4.93	293	Pn		Pn		02 41 38.5	+0.8
IKRD	Kardeh	4.97	80	Pn		Pn		02 41 40.1	+1.7
IHSH	Hashtrud	5.10	286	Pn		Pn		02 41 40.5	+0.3
IKFM	Kafar-mosalman	5.23	243	Pn		Pn		02 41 42.1	+0.5
AFRZ	Afriz	5.30	118	Pn		Pn		02 41 43.2	+0.4
ITEG	Tejag	5.42	124	Pn		Pn		02 41 44.7	+0.3
IMYA	Miami	5.42	85	Pn		Pn		02 41 45.5	+1.1
KCHF	Cheshme Sefid,	5.51	253	Pn		Pn		02 41 45.9	+0.2
IHRS	Heris	5.57	296	Pn		Pn		02 41 47.1	+0.6
JRKH	Jarkhoshk	5.63	89	Pn		Pn		02 41 48.3	+1.0
TBJM	Torbat-e-JAM	5.69	96	Pn		Pn		02 41 48.8	+0.7
ZRDN	Zarand Kerman	5.70	152	Pn		Pn		02 41 47.9	-0.5
IGHG	Ghaleghazi	5.86	255	Pn		Pn		02 41 50.9	+0.3
IKOO	Kooshah	5.88	126	Pn		Pn		02 41 50.7	-0.1
IDHR	Dehrash	5.90	259	Pn		Pn		02 41 52.0	+1.0
ITBZ	Tabriz	6.20	293	Pn		Pn		02 41 55.6	+0.5
KHGB	Koh Gabri	6.22	155	Pn		Pn		02 41 55.3	-0.2
IDAH	Dahanechah	6.28	120	Pn		Pn		02 41 56.2	-0.1
KRM1	Kerman Provinc	6.41	149	Pn		Pn		02 41 57.9	-0.2
KAZ2	Kazeron-Fars-I	6.59	193	Pn		Pn		02 42 00.2	-0.3
ISHB	Shabestar	6.61	292	Pn		Pn		02 42 01.4	+0.5
TVBK	TV Kerman	6.67	154	Pn		Pn		02 42 01.5	-0.3
IMRD	Marand	6.69	296	Pn		Pn		02 42 03.0	+1.1
MNGR	Mingechevir, A	6.85	315	P		Pn		02 42 03.2	-0.6
NGRK	Negar Kerman	6.97	155	Pn		Pn		02 42 05.9	-0.1
SEKA	Sheki	7.08	319	P		Pn		02 42 05.8	-1.4
CHMN	Cheshme madani	7.08	150	Pn		Pn		02 42 07.3	-0.1
GANJ	Ganja	7.21	312	P		Pn		02 42 08.2	-0.8
NHDN	Nehbandan	7.22	128	Pn		Pn		02 42 09.4	+0.2
HRA	Herat	7.42	100	Pn		Pn		02 42 09.1	-2.8
VSHL	Vashlovani	7.54	315	P		Pn		02 42 13.6	+0.2
VSHL				S		Sn		02 43 35.4	-3.5
ZKTA	Zakatala	7.69	319	P		Pn		02 42 14.9	-0.6
GNI	Garni	7.96	303	Pn		Pn		02 42 21.0	+1.7
GNI	Garni	7.96	303	*ce*P		Pn		02 42 21.1	+1.7
GNI				pmax	pmax				
	comp=Z,35nm,0.8s								
GNI	Garni	7.96	303	Pn		Pn		02 42 22.9	+3.5
	comp=Z,2.9nm,0.3s,baz=132,slow=15,SNR=17								
GNI				Sn		Sn		02 43 56.9	+7.3
	comp=Z,0.8nm,0.3s,baz=225,slow=1.4,SNR=1.6								
GNI				LR		LR		02 45 40.8	
	comp=Z,165nm,19.7s,baz=101,slow=39								
	comp=Z,21nm,0.7s								
LGD	Lagodekhi	8.03	318	P		Pn		02 42 20.1	0.0
LGD				S		Sn		02 43 47.8	-3.2
LGD	Lagodekhi	8.03	318	P		Pn		02 42 20.1	0.0
LGD				S		Sn		02 43 47.8	-3.2
KBAM	BAM	8.10	147	Pn		Pn		02 42 20.7	-0.5
MAK	Makhachkala	8.27	328	*e*P		Pn		02 42 20.4	-3.0
MAK				*e*S		Sn		02 43 54.6	-2.2
MAK				pmax	pmax				
	comp=Z,210nm,1.2s								
MAK				MLR		MLR			
	comp=Z,126nm,19.0s								
DGRG	David-gareji	8.27	313	P		Pn		02 42 24.4	+0.9
DGRG	David-gareji	8.27	313	P		Pn		02 42 24.4	+0.9
CHRG	Chargali	9.09	316	P		Pn		02 42 34.5	-0.2
CHRG				S		Sn		02 44 11.9	-5.3
SHTL	Shatili	9.18	318	P		Pn		02 42 36.6	+0.5
SHTL				S		Sn		02 44 17.8	-1.7
SHTL	Shatili	9.18	318	P		Pn		02 42 36.5	+0.5
SHTL				S		Sn		02 44 17.8	-1.7
GURO	Guroymak-BITLI	9.40	289	Pn		Pn		02 42 41.0	+1.9
GUDG	Gudauri	9.43	315	P		Pn		02 42 37.8	-1.7
GUDG	Gudauri	9.43	315	P		Pn		02 42 37.8	-1.7
ALIG	Mtskhetisjvari	9.70	311	P		Pn		02 42 43.3	+0.3
ALIG	Mtskhetisjvari	9.70	311	P		Pn		02 42 43.3	+0.3
NCK	Nalchik	10.59	318	*i* P		Pn		02 42 56.0	+0.8
KBZ	Khabaz	11.13	317	Pn		Pn		02 43 05.7	+3.2
	comp=Z,0.1nm,0.3s,baz=132,slow=12,SNR=2.8								
KBZ				Sn		Sn		02 45 05.6	-1.3
	comp=Z,0.5nm,0.3s,baz=270,slow=20,SNR=3.2								
	comp=Z,2.3nm,0.9s								
KVAR	Kislovodsk Arr	11.39	317	Pn		Pn		02 43 10.3	+4.1
	baz=102,slow=9.3								
KVAR				Sn		Sn		02 45 06.4	-7.1
	baz=42,slow=14								
	comp=Z,2.7nm,0.8s								
KIV	Kislovodsk	11.39	317	*e*P		Pn		02 43 05.4	-0.8
KIV				*e*S		Sn		02 45 14.1	+0.5
KIV				pmax	pmax				
	comp=Z,6.0nm,1.1s								
KIV				MLR		MLR			
	comp=Z,19nm,13.0s								
SOC	Sochi	12.93	310	*e*P		Pn		02 43 24.4	-2.7
SOC				*e*				02 45 49.2	
SOC				MLR		MLR			
	comp=Z,14nm,8.0s								
WSAR	Wadi Sarin	13.55	159	LR		LR		02 49 21.2	
	comp=Z,101nm,19.0s,baz=9.5,slow=40								
GAR	Garm	13.73	73			Pn		02 43 37.3	-1.0
AB31	Akbulak array	14.03	18	P		Pn		02 43 39.8	-2.4
AB31				S		Sn		02 46 10.9	-7.0
AB31	Akbulak array	14.03	18	⇑Pn		Pn		02 43 39.8	-2.4
	comp=Z,4.9nm,0.9s,baz=208,slow=14,SNR=25								
AB31				⇑Sn		Sn		02 46 11.0	-7.0
	comp=Z,0.9nm,0.3s,baz=206,slow=23,SNR=9.1								
ABKAR	Akbulak array	14.03	18			Pn		02 43 39.3	-2.9
ABKAR	Akbulak array	14.03	18	Pn		Pn		02 43 38.2	-4.0
RAYN	Ar Rayn	14.24	211			Pn		02 43 39.9	-5.3
RAYN	Ar Rayn	14.24	211	P		Pn		02 43 39.9	-5.4
BTK	Batken	14.28	69	Pn		Pn		02 43 45.4	-0.4
BTK	Batken	14.28	69	P		Pn		02 43 45.4	-0.4
AKTO	Aktyubinsk	14.76	12	Pn		Pn		02 43 50.2	-1.9
	comp=Z,0.7nm,0.3s,baz=195,slow=11,SNR=8.9								
AKTO				Sn		Sn		02 46 25.3	-10
	comp=Z,0.2nm,0.3s,baz=216,slow=19,SNR=2.4								
AKTO				LR		LR		02 50 06.2	
	comp=Z,63nm,18.1s,baz=281,slow=39								
	comp=Z,2.1nm,0.4s								
AKTO	Aktyubinsk	14.76	12	⇑Pn		Pn		02 43 50.2	-1.9
	comp=Z,4.1nm,0.9s								
AKTO				⇓Sn		Sn		02 46 28.8	-6.8
	comp=Z,8.1nm,0.9s								
HSUJ	Al Zarqa	14.80	260	P		P		02 44 05.7	+6.9
KK31	Karatay Array	14.93	57			Pn		02 43 53.6	-0.9
KK31				lAmb		lAmb		02 44 18.3	
	comp=Z,2.8nm,0.9s								
KK31	Karatay Array	14.93	57	P		Pn		02 43 53.6	-0.9
KK31				pmax	pmax				
	comp=Z,3.0nm,0.9s								
KK31	Karatay Array	14.93	57	⇑Pn		Pn		02 43 53.4	-1.1
	comp=Z,2.5nm,0.8s,baz=256,slow=11,SNR=8.7								
KKAR	Karatay Array	14.93	57			Pn		02 43 53.5	-1.1
KKAR				lAmb		lAmb		02 44 18.3	
	comp=Z,2.8nm,0.9s								
KKAR	Karatay Array	14.93	57	P		Pn		02 43 53.5	-1.1
KKAR				pmax	pmax				
	comp=Z,3.0nm,0.9s								
DRK	Karamyk	14.94	71	Pn		Pn		02 43 53.9	-1.1
ANN	Anapa	14.96	311	*e*P		Pn		02 43 53.0	-1.8
ANN				*e*S		Sn		02 46 41.0	+0.5
ANN				pmax	pmax				
	comp=Z,20nm,0.8s								
MMAI	Mount Meron Ar	15.15	264	Pn		Pn		02 43 59.6	+2.1
	comp=Z,0.3nm,0.3s,baz=65,slow=11,SNR=1.6								
	comp=Z,0.2nm,0.3s								
BR131	Keskin Array S	16.03	289	Pn		Pn		02 44 10.4	+1.4
BR131	Keskin Array S	16.03	289	P		P		02 44 14.0	+1.4
BRTR	Keskin Array B	16.03	289	Pn		Pn		02 44 10.8	+1.7
BRTR	Keskin Array B	16.03	289	*i* P		P		02 44 15.3	+2.7
BRTR				pmax	pmax				
	comp=Z,10.0nm,1.2s								
BRTR	Keskin Array B	16.03	289	Pn		P		02 44 12.8	+0.2
	comp=Z,0.1nm,0.3s,baz=108,slow=9.4,SNR=14								
	comp=Z,4.3nm,1.0s								
ARSB	Arslanbob	16.15	65			P		02 44 12.6	-1.3
ARSB	Arslanbob	16.15	65	P		P		02 44 12.6	-1.3
ARSB				pmax	pmax				
	comp=Z,1.0nm,0.8s								
PRNI	Paran	16.42	255	P		P		02 44 19.3	+2.6
NIL	Nilore	16.46	93			Pn		02 44 13.3	-1.2
NIL				lAmb		lAmb		02 44 18.8	
	comp=Z,12nm,1.1s								
NIL	Nilore	16.46	93	P		Pn		02 44 13.3	-1.2
NIL				pmax	pmax				
	comp=Z,12nm,1.1s								

AQBJ	Aqaba	16.65	253	P		P		02 44 26.3	+7.0
EIL	Elat	16.76	253	Pn		P		02 44 19.5	-1.0
	comp=Z,0.1nm,0.3s,baz=8.3,slow=8.7,SNR=4.1								
EIL				LR		LR		02 51 57.6	
	comp=Z,184nm,18.1s,baz=68,slow=42								
	comp=Z,3.6nm,0.8s								
EIL	Elat	16.76	253	P		P		02 44 27.6	+7.1
BELG	Belogornoye	16.84	348	*i* P		Pn		02 44 16.9	-2.3
BELG	Belogornoye	16.84	348	P		Pn		02 44 16.2	-3.0
	comp=Z,4.2nm,0.4s,baz=163,slow=19,SNR=4.2								
BELG				S		Sn		02 47 15.1	-11
	comp=Z,5.5nm,0.8s,baz=248,slow=19,SNR=2.5								
VRH	Novokhopyorsk	17.31	335	*e*P		P		02 44 29.0	+2.5
VRH				*e*S		Sn		02 47 25.5	-12
VRH				pmax	pmax				
	comp=Z,9.0nm,0.6s								
VRH				smax	smax				
	comp=E,50nm,0.8s								
AAK	Ala-Archa	17.56	62			Pn		02 44 28.6	+0.2
AAK	Ala-Archa	17.56	62	*i* P		Pn		02 44 27.8	-0.6
AAK				pmax	pmax				
	comp=Z,3.0nm,0.9s								
AAK	Ala-Archa	17.56	62	P		Pn		02 44 28.4	0.0
	comp=Z,0.1nm,0.3s,baz=260,slow=6.1,SNR=6.3								
AAK				LR		LR		02 52 58.4	
	comp=Z,34nm,18.9s,baz=264,slow=43								
	comp=Z,2.9nm,0.8s								
VORD	Divnogorie	18.04	330	*e*P		Pn		02 44 33.2	-0.8
VORD				pmax	pmax				
	comp=Z,6.0nm,0.6s								
VSR	Storozhevoye	18.28	330	*e*P		Pn		02 44 36.0	-1.0
VSR				*e*S		Sn		02 47 49.2	-12
VSR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
VSR				smax	smax				
	comp=E,10.0nm,0.9s								
NRN	Naryn	18.40	66	P		P		02 44 39.5	+0.6
NRN				lAmb	lAmb			02 44 49.3	
	comp=Z,6.1nm,1.1s								
NRN	Naryn	18.40	66	P		P		02 44 39.5	+0.6
NRN				pmax	pmax				
	comp=Z,6.0nm,1.1s								
OTUK	Ortayu	18.52	43	P		P		02 44 39.3	-0.6
OTUK	Ortayu	18.52	43	⇑P		P		02 44 39.3	-0.6
	comp=Z,8.9nm,0.9s								
BOOM	Boomskoye usch	18.56	63	P		Pn		02 44 41.4	+0.6
BOOM	Boomskoye usch	18.56	63	P		Pn		02 44 41.4	+0.6
BOOM				pmax	pmax				
	comp=Z,6.0nm,1.3s								
ELL	Elmali	18.93	279	P		P		02 44 44.7	+0.1
ELL	Elmali	18.93	279	P		P		02 44 44.7	+0.1
ELL				pmax	pmax				
	comp=Z,34nm,1.0s								
LPSR	Galich'ya Gora	19.46	333	*e*P		P		02 44 47.2	-2.9
LPSR				*e*S		Sn		02 48 15.0	-14
LPSR				pmax	pmax				
	comp=Z,8.0nm,0.5s								
LPSR				smax	smax				
	comp=N,10.0nm,0.8s								
ARU	Arti	20.68	8			P		02 45 03.7	+0.4
ARU				lAmb	lAmb			02 45 12.2	
	comp=Z,12nm,1.0s								
ARU	Arti	20.68	8	*d* *i* P		P		02 45 04.3	+1.0
ARU								02 45 20.6	
ARU				SS		SnSn		02 49 17.2	+3.7
ARU				pmax	pmax				
	comp=Z,4.0nm,0.8s								
ARU	Arti	20.68	8	P		Pn		02 45 04.8	-0.9
	comp=Z,2.4nm,0.4s,baz=179,slow=9.3,SNR=1.7								
ARU				S		S		02 48 46.8	-7.4
	comp=Z,1.5nm,0.3s,baz=283,slow=22,SNR=2.1								
ARU				LR		LR		02 55 07.3	
	comp=Z,75nm,20.1s,baz=124,slow=42								
	comp=Z,2.4nm,0.4s								
BRVK	Borovoye	20.73	30			P		02 45 04.4	+0.5
BRVK				lAmb	lAmb			02 45 24.7	
	comp=Z,7.0nm,0.9s								
BRVK	Borovoye	20.73	30	*i* P		P		02 45 03.7	-0.2
BRVK				pmax	pmax				
	comp=Z,8.0nm,1.3s								
BRVK	Borovoye	20.73	30	⇓P		P		02 45 05.0	+1.1
	comp=Z,6.0nm,0.9s								
BVA0	Borovoye Array	20.75	30	P		P		02 45 04.8	+0.7
BVA0	Borovoye Array	20.75	30	P		P		02 45 04.8	+0.7
	comp=Z,6.2nm,0.8s,baz=205,slow=7.9,SNR=30								
BVAR	Borovoye Array	20.75	30	P		P		02 45 04.8	+0.7
	comp=Z,3.8nm,0.8s,baz=210,slow=8.3,SNR=16								
BVAR				S		S		02 48 47.2	-8.5
	comp=Z,0.9nm,0.8s,baz=225,slow=22,SNR=1.9								
	comp=Z,3.8nm,0.8s								
OBN	Obninsk	22.30	334	⇓*e*P		P		02 45 20.9	+0.1
OBN				*e*				02 45 40.7	
OBN				pmax	pmax				
	comp=Z,43nm,2.5s								
OBN				MLR		MLR			
	comp=Z,43nm,16.0s								
MOS	Moscow	22.45	336	*e*P		P		02 45 24.5	+2.2
KIRV	Kirov	22.70	355	*ce*P		P		02 45 26.4	+1.5
AKASG	Malin Array Be	22.74	318	*e*P		P		02 45 25.4	-0.1
AKASG				pmax	pmax				
	comp=Z,2.0nm,0.6s								
AKASG	Malin Array Be	22.74	318	P		P		02 45 25.1	-0.4
	comp=Z,1.8nm,0.6s,baz=119,slow=12,SNR=7.4								
AKBB	Malin Array Si	22.74	318	P		P		02 45 26.1	+0.6
AKBB	Malin Array Si	22.74	318	*ce*P		P		02 45 26.7	+1.2
AKBB				pmax	pmax				
	comp=Z,8.0nm,0.9s								
KIEV	Kiev	22.74	318	P		P		02 45 25.9	+0.4
KIEV				lAmb	lAmb			02 45 39.7	
	comp=Z,6.5nm,0.8s								
KIEV	Kiev	22.74	318	P		P		02 45 25.9	+0.4
KIEV				pmax	pmax				
	comp=Z,7.0nm,0.8s								
MLR	Muntele Rosu	22.75	303	P		P		02 45 26.7	+0.9
MLR	Muntele Rosu	22.75	303	P		P		02 45 26.7	+0.9
MLR				pmax	pmax				
	comp=Z,11nm,1.2s								
KURBB	Kurchatov Arra	23.21	43	P		P		02 45 32.3	+2.0
	comp=Z,0.8nm,0.9s,baz=244,slow=11,SNR=5.5								
KURBB				S		Sn		02 49 51.7	-7.9
	comp=Z,0.1nm,0.4s,baz=298,slow=22,SNR=4.3								
	comp=Z,0.8nm,0.9s								
KURBB	Kurchatov Arra	23.21	43	⇑P		P		02 45 32.8	+2.4
	comp=Z,8.1nm,1.4s								
KURK	Kurchatov	23.31	43	P		P		02 45 32.0	+0.6
KURK	Kurchatov	23.31	43	*i* P		P		02 45 31.6	+0.3
KURK				pmax	pmax				
	comp=Z,8.0nm,1.1s								
MAKZ	Makanchi	23.84	54	P		P		02 45 37.2	+0.6
MAKZ				lAmb	lAmb			02 45 59.2	
	comp=Z,4.0nm,1.1s								
MAKZ	Makanchi	23.84	54	P		P		02 45 37.2	+0.6
MAKZ				pmax	pmax				
	comp=Z,4.0nm,1.1s								
BUR08	Bucovina Ar. S	23.86	308	P		P		02 45 37.6	+0.7
BUR08				lAmb	lAmb			02 45 44.4	
	comp=Z,6.5nm,1.1s								
MK31	Makanchi Array	24.04	55	*ce*P		P		02 45 41.0	+2.4
MK31	Makanchi Array	24.04	55	P		P		02 45 41.0	+2.4
	comp=Z,2.6nm,1.0s,baz=257,slow=1.5,SNR=4.5								
MKAR	Makanchi Array	24.04	55	*ce*P		P		02 45 41.0	+2.4
MKAR	Makanchi Array	24.04	55	P		P		02 45 39.0	+0.5
	comp=Z,0.4nm,0.6s,baz=246,slow=8.8,SNR=5.1								
	comp=Z,0.4nm,0.6s								
KLMR	Klimovskoe	26.36	345	*e*P		P		02 46 07.7	+8.3
KLMR				pmax	pmax				
	comp=Z,16nm,1.6s								
ZALV	Zalesovo Beam	28.18	41	P		P		02 46 17.5	+1.6
	comp=Z,0.5nm,0.4s,baz=245,slow=10,SNR=2.1								
	comp=Z,0.5nm,0.4s								
FINES	FINESS Array B	30.71	334	P		P		02 46 41.7	+3.5
	comp=Z,2.0nm,1.0s,baz=130,slow=2.2,SNR=1.8								
	comp=Z,2.0nm,1.0s								
GERES	GERESS Array B	31.60	306	P		P		02 46 50.2	+3.9
	comp=Z,0.5nm,0.7s,baz=95,slow=11,SNR=4.2								
	comp=Z,0.5nm,0.7s								
CLL	Collm	32.49	311	*e*P		P		02 47 01.0	+7.0
CLL	Collm	32.49	311	*e*P		P		02 46 57.0	+3.0
CLL				*e*sP		sP		02 47 01.0	+2.2
CLL				*e*PPP		PPP		02 48 12.0	
HFS	Hagfors	34.99	326	P		P		02 47 18.6	+3.0
	comp=Z,3.0nm,0.9s,baz=146,slow=16,SNR=1.8								
	comp=Z,3.0nm,0.9s								
NOA	NORSAR Array B	36.48	327	P		P		02 47 32.0	+3.5
NOA	NORSAR Array B	36.48	327	P		P		02 47 32.0	+3.5
	comp=Z,1.3nm,1.0s,baz=112,slow=9.2,SNR=1.4								
	comp=Z,1.3nm,1.0s								
EKA	Eskdalemuir Ar	42.61	315	P		P		02 48 22.6	+3.0
	comp=Z,2.2nm,0.8s,baz=98,slow=9.0,SNR=3.5								
	comp=Z,2.2nm,0.8s								
CMAR	Chiang Mai Arr	43.68	101	P		P		02 48 27.4	-1.2
	comp=Z,1.7nm,0.3s,baz=306,slow=7.7,SNR=11								
CMAR				LR		LR		03 09 13.5	
	comp=Z,24nm,19.7s,baz=230,slow=40								
	comp=Z,1.7nm,0.3s								
TORD	Torodi Ar. Bea	51.58	257	P		P		02 49 29.5	-0.5
	comp=Z,1.5nm,1.2s,baz=46,slow=12,SNR=4.2								
	comp=Z,1.5nm,1.2s								
TIXI	Tiksi	51.66	23	LR		LR		03 14 49.8	
	comp=Z,47nm,18.9s,baz=214,slow=40								
ZEA	Zeya	52.74	46	*e*P		P		02 49 42.3	+4.1
ZEA				pmax	pmax				
	comp=Z,10.0nm,0.5s								
LBTB	Lobatse	66.18	208	LR		LR		03 19 22.6	
	comp=Z,46nm,18.3s,baz=164,slow=35								
PETK	Petropavlovsk-	69.70	39	P		P		02 51 34.8	+1.6
	comp=Z,2.8nm,0.9s,baz=297,slow=9.5,SNR=1.0								
	comp=Z,2.8nm,0.9s								
NEW	Newport	95.63	354	LR		LR		03 43 30.9	
	comp=Z,48nm,18.2s,baz=112,slow=40								

GUC 20 02:43:03.6±0.9, 22.72S×68.86W, h91km±5km, ML2.6, 2C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	0.12	335	*e*P		Pn		02 43 16.9	-0.1
LVC				*e*S		Sn		02 43 27.2	+0.3
LVC				IAML				02 43 28.0	
	734nm,0.2s								
PB06	IPOC Station P	0.66	271	*e*P		Pn		02 43 20.4	+0.4
PB06				*e*S		Sn		02 43 33.4	+1.1
PB06				IAML				02 43 34.4	
	comp=N,261nm,0.1s								
AF01	San Pedro de A	0.67	110	*i* P		Pn		02 43 20.6	+0.3
AF01				*e*S		Sn		02 43 34.2	+1.6
AF01				IAML				02 43 34.5	
	comp=E,421nm,0.2s								
PB15	IPOC Station P	0.75	229	⇑*i* P		Pn		02 43 21.6	+0.7
PB15				*e*S		Sn		02 43 35.4	+1.5
PB09	IPOC Station P	0.99	339	*i* P		Pn		02 43 24.3	+0.8
PB09				*e*S		Sn		02 43 40.0	+1.8
PB04	IPOC Station P	1.26	288	*e*P		Pn		02 43 26.7	+0.2
PB07	IPOC Station P	1.38	316	⇑*i*P		Pn		02 43 28.3	+0.3
PB07				*e*S		Sn		02 43 47.6	+1.1
PB07				IAML				02 43 48.7	
	comp=E,60nm,0.1s								
PB02	IPOC Station P	1.70	325	*i* P		Pn		02 43 32.3	+0.3

GUC 20 02:43:11.3±0.7, 20.44S×68.93W, h101km±5km, ML2.7, 2C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB08	IPOC Station P	0.37	325	*i* P		Pn		02 43 26.6	-0.2
PB08				*e*S		Sn		02 43 38.3	-0.1
PB08				IAML				02 43 38.9	
	comp=E,551nm,0.2s								
PB01	IPOC Station P	0.80	221	⇑*i*P		Pn		02 43 29.1	-0.7
PB01				*e*S		Sn		02 43 43.1	-0.6
PB01				IAML				02 43 44.5	
	comp=E,198nm,0.3s								
GO01	Chusmiza	0.81	342	*i* P		Pn		02 43 30.1	-0.3
GO01				*e*S		Sn		02 43 45.1	+0.4
PB11	IPOC Station P	0.97	315	⇑*i*P		Pn		02 43 31.1	-0.6
PB11				*e*S		Sn		02 43 46.4	-0.5
PB11				IAML				02 43 47.2	
	comp=N,302nm,0.1s								
TA02	Huaiquique	1.14	278	*e*P		Pn		02 43 32.3	-1.0
TA01	Diego Aracena	1.18	264	*e*P		Pn		02 43 32.5	-1.3
PB02	IPOC Station P	1.26	226	*e*P		Pn		02 43 34.4	-0.4
PB02				*e*S		Sn		02 43 52.2	-0.4
PB02				IAML				02 43 53.4	
	comp=E,256nm,0.5s								
PB02	IPOC Station P	1.26	226	*e*S		Sn		02 43 52.2	-0.4

JMA 20 02:46:21.8±0.3, 24°N±2°, 123.8E±0°, h13km, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IRIF	Iriomote-Funau	0.10	310	P		Pg		02 46 24.8	0.0
IRIF				*

FUSB	**Fushanzhiwuyua**	**0.51**	**344**	P		Pg	02 46 34.4	+0.1
	baz=344							
FUSB				*e*S		Sg	02 46 41.0	+0.1
	baz=344							
SHUL	**Shoufeng**	**0.51**	**198**	*e*P		Pg	02 46 34.1	-0.2
	baz=198							
TWT	**Tachien**	**0.51**	**268**	*e*S		Sg	02 46 41.9	+0.7
	baz=267							
YHNB	**Yeheng**	**0.52**	**320**	P		Pg	02 46 34.9	+0.3
	baz=320							
YHNB				*e*S		Sg	02 46 41.4	+0.1
	baz=320							
NSK	**Sanguang**	**0.53**	**320**	P		Pg	02 46 35.1	+0.3
	baz=319							
NSK				*e*S		Sg	02 46 41.9	+0.2
	baz=319							
EOS3	**EOS3**	**0.53**	**88**	P		Pg	02 46 35.2	+0.5
	baz=88							
EOS3				*e*S		Sb	02 46 43.5	-0.5
	baz=88							
NWLT	**Wulai**	**0.55**	**337**	P		Pg	02 46 35.3	+0.2
	baz=337							
NWLT				S		Sg	02 46 42.2	0.0
	baz=337							
CHGB	**Renai**	**0.56**	**248**	P		Pg	02 46 35.4	+0.1
	baz=247							
CHGB				*e*S		Sg	02 46 42.9	+0.3
	baz=247							
WUSB	**Renai**	**0.63**	**244**	*e*P		Pg	02 46 36.9	+0.2
	baz=243							
WUSB				*e*S		Sg	02 46 45.6	+0.7
	baz=243							
WARBT	**Fenglin Townsh**	**0.64**	**210**	*e*P		Pg	02 46 35.6	-1.2
	baz=210							
NFF	**Wufeng Townshi**	**0.67**	**303**	*e*P		Pg	02 46 38.0	+0.6
	baz=302							
NFF				*e*S		Sb	02 46 47.2	-1.0
	baz=302							
TIPB	**Shuangxi**	**0.70**	**7**	P		Pg	02 46 38.0	-0.1
	baz=6.0							
TIPB				*e*S		Sg	02 46 46.5	-0.8
	baz=6.0							
WHP	**Taichung City**	**0.72**	**271**	*e*P		Pb	02 46 40.0	+0.4
	baz=270							
WHP				*e*S		Sb	02 46 49.1	-0.6
	baz=270							
VWDT	**VWDT**	**0.75**	**227**	*e*P		Pg	02 46 38.7	-0.2
	baz=226							
SSLB	**Suanglung**	**0.86**	**236**	*e*P		Pg	02 46 40.6	-0.5
	baz=236							
SSLB				*e*S		Sg	02 46 51.1	-1.2
	baz=236							
YULB	**Yu-li**	**0.96**	**205**	*e*P		Pg	02 46 42.8	-0.3
	baz=204							

IDC ***20*** *02:46:36.2±1.1,6˚.10S×143˚.18E,h0km,mb3.7/4, mbtmp3.8/6,ML0.5/1,Error ellipse: s-maj=41.5km s-min=26.2km az=60.0*

ISC 20 02:46:36.6±1.0,6˚.6S±0˚.1×142˚.7E±0˚.1,h10km,n7,σ1ş26/9, mb3.5/4,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.22**	**123**	Pn	**Pn**		**02 47 54.6**	**-0.2**
	0.1nm,0.3s,baz=70,slow=3.0,SNR=3.3							
PMG				Sn	**Sn**		**02 48 55.9**	**+0.9**
	0.6nm,0.3s,baz=144,slow=21,SNR=1.7 4.3nm,0.4s							
WRA	**Warramunga Arr**	**15.57**	**211**	Pn	**P**		**02 50 21.7**	**+0.9**
	0.2nm,0.3s,baz=29,slow=13,SNR=2.3							
WRA				Sn	**Sn**		**02 53 08.6**	**-0.6**
	0.1nm,0.3s,baz=40,slow=24,SNR=1.4							
WRA				Lg	Lg		02 54 58.3	
	0.1nm,0.3s,baz=32,slow=26,SNR=1.4							
ASAR	**Alice Springs**	**18.98**	**206**	P	Pn		02 51 06.2	+7.0
	3.4nm,0.7s,baz=32,slow=10,SNR=32							
ASAR				S	**Sn**		**02 54 30.9**	**-1.0**
	1.3nm,1.1s,baz=22,slow=26,SNR=2.8							
ASAR				Lg	Lg		02 56 48.5	
	0.1nm,0.3s,baz=17,slow=29,SNR=2.1							
MKAR	**Makanchi Array**	**75.28**	**322**	P	**P**		**02 58 20.7**	**+0.7**
	0.2nm,0.5s,baz=100,slow=7.5,SNR=3.0 0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**79.18**	**324**	P	**P**		**02 58 42.3**	**+0.5**
	0.2nm,0.6s,baz=121,slow=3.7,SNR=2.7 0.2nm,0.6s							
BVAR	**Borovoye Array**	**84.75**	**325**	P	**P**		**02 59 12.2**	**+1.1**
	1.5nm,0.6s,baz=114,slow=6.5,SNR=10 1.5nm,0.6s							
ILAR	**Eielson Array**	**87.71**	**24**	P	**P**		**02 59 23.2**	**-2.1**
	0.2nm,0.6s,baz=257,slow=4.6,SNR=5.9 0.2nm,0.6s							

IDC ***20*** *02:52:47.2±1.4,5˚.96S×153˚.93E,h0km,mb4.1/12, mbtmp4.1/13,ML2.3/1,MS3.5/3,Error ellipse: s-maj=47.2km s-min=20.8km az=114.0*
NEIC ***20*** *02:52:49.7±2.0,6˚.0S±0˚.1×153˚.8E±0˚.1,h10km±1km, mb4.4/22,Error ellipse: s-maj=21.1km s-min=15.7km az=121.0*

ISC 20 02:52:48.6±0.6,6˚.00S±0˚.09×153˚.8E±0˚.1,h10km,n47, σ1ş38/47,mb4.4/24,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.43**	**242**	Pn	**Pn**		**02 54 35.8**	**-1.4**
PMG	**Port Moresby**	**7.43**	**242**	Pn	**Pn**		**02 54 38.3**	**+1.1**
	2.9nm,0.3s,baz=63,slow=9.0,SNR=4.6							
PMG				Sn	**Sn**		**02 55 58.0**	**-3.6**
	4.6nm,0.3s,baz=161,slow=19,SNR=6.6 6.2nm,0.3s							
PATS	**Pohnpei**	**13.51**	**19**	Pn	**Pn**		**02 55 58.5**	**-2.0**
CTA	**Charters Tower**	**15.83**	**207**	LR	LR		03 01 32.2	
	comp=Z,78nm,19.2s,baz=180,slow=33							
KOUNC	**Koumac, New Ca**	**17.67**	**146**	Pn	**Pn**		**02 56 53.4**	**-1.7**
KOUNC				IAmb	IAmb		02 57 01.9	
	comp=Z,26nm,1.1s							
WB0	**Warramunga Arr**	**23.34**	**232**	P	**P**		**02 57 57.2**	**-0.1**
MTN	**Manton Dam**	**23.39**	**251**	P	**P**		**02 57 58.1**	**+0.3**
MTN				IAmb	IAmb		02 57 59.8	
	comp=Z,13nm,1.2s							
WB2	**Warramunga Arr**	**23.46**	**232**	P	**P**		**02 57 59.9**	**+1.3**
WRA	**Warramunga Arr**	**23.47**	**232**	P	**P**		**02 57 58.8**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=55,slow=10,SNR=4.8							
WRA				PcP	**PcP**		**03 01 46.7**	**+1.9**
	comp=Z,1.8nm,1.2s,baz=68,slow=2.4,SNR=2.9 comp=Z,1.0nm,0.8s							
ASAR	**Alice Springs**	**26.01**	**225**	P	**P**		**02 58 22.9**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=56,slow=9.4,SNR=9.7							
ASAR				PcP	**PcP**		**03 01 51.7**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=59,slow=2.3,SNR=2.1 comp=Z,1.9nm,0.8s							
FITZ	**Fitzroy Crossi**	**30.02**	**244**	P	**P**		**02 58 58.0**	**0.0**
FORT	**Forrest**	**34.54**	**221**	P	**P**		**02 59 38.9**	**+1.4**
MORW	**Morawa**	**42.42**	**233**	P	**P**		**03 00 43.3**	**-0.5**
MORW				IAmb	IAmb		03 00 50.3	
	comp=Z,9.2nm,1.1s							
NWAO	**Narrogin (SRO)**	**43.31**	**227**	LR	LR		03 19 24.8	
	comp=Z,78nm,18.5s,baz=140,slow=37							
JNU	**Nakatsue**	**44.59**	**332**	P	**P**		**03 01 01.0**	**-0.2**
KSRS	**Korea Array**	**49.52**	**333**	P	**P**		**03 01 38.9**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=156,slow=6.6,SNR=2.3 comp=Z,0.8nm,0.4s							
USRK	**Ussuriysk Ar.**	**53.71**	**341**	P	**P**		**03 02 10.7**	**-0.1**
USRK	**Ussuriysk Ar.**	**53.71**	**341**	P	**P**		**03 02 11.3**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=150,slow=4.8,SNR=5.6 comp=Z,1.3nm,0.7s							
CMAR	**Chiang Mai Arr**	**59.31**	**295**	P	**P**		**03 02 52.3**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=120,slow=5.3,SNR=1.3 comp=Z,1.1nm,0.3s							
SONM	**Songino Array**	**67.88**	**328**	P	**P**		**03 03 47.7**	**+0.3**
SONM	**Songino Array**	**67.88**	**328**	P	**P**		**03 03 48.5**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=140,slow=5.2,SNR=7.4 comp=Z,0.8nm,0.5s							
G16K	**Koyuk River**	**78.10**	**17**	P	**P**		**03 04 49.2**	**+1.7**
G16K				IAmb	IAmb		03 04 56.0	
	comp=Z,7.2nm,1.5s							
L19K	**White Mountain**	**78.46**	**22**	P	**P**		**03 04 50.8**	**+1.1**
L19K				IAmb	IAmb		03 05 01.0	
	comp=Z,11nm,1.4s							
F17K	**Baldwin Pennin**	**79.16**	**17**	P	**P**		**03 04 53.2**	**-0.1**
F17K				IAmb	IAmb		03 04 58.6	
	comp=Z,5.3nm,1.4s							
E19K	**Redstone River**	**81.02**	**17**	P	**P**		**03 05 03.0**	**-0.3**
E19K				IAmb	IAmb		03 05 06.4	
	comp=Z,5.2nm,1.3s							

D19K	**Kuna River**	**81.45**	**16**	P	**P**		**03 05 07.7**	**+2.0**
D19K				IAmb	IAmb		03 05 21.0	
	comp=Z,4.6nm,1.5s							
MKAR	**Makanchi Array**	**81.89**	**319**	P	**P**		**03 05 09.8**	**+1.3**
MKAR	**Makanchi Array**	**81.89**	**319**	P	**P**		**03 05 09.3**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=95,slow=7.1,SNR=7.8 comp=Z,0.8nm,0.6s							
BERG	**Berg Lake**	**82.05**	**26**	P	**P**		**03 05 08.2**	**-0.8**
ZALV	**Zalesovo Beam**	**82.71**	**326**	P	**P**		**03 05 13.2**	**+0.6**
ZALV	**Zalesovo Beam**	**82.71**	**326**	P	**P**		**03 05 12.9**	**+0.4**
	comp=Z,2.8nm,0.7s,baz=116,slow=5.3,SNR=9.2 comp=Z,2.8nm,0.7s							
ILAR	**Eielson Array**	**82.88**	**22**	P	**P**		**03 05 12.2**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=234,slow=4.8,SNR=6.5 comp=Z,0.2nm,0.7s							
B21K	**Ikpikpuk River**	**83.14**	**16**	P	**P**		**03 05 17.6**	**+3.2**
CTGM	**Chitina Glacie**	**83.35**	**26**	P	**P**		**03 05 16.8**	**+0.9**
J25K	**Salcha River,**	**83.36**	**22**	P	**P**		**03 05 17.2**	**+1.4**
LOGN	**Logan Glacier**	**83.44**	**27**	P	**P**		**03 05 14.9**	**-1.5**
QSPA	**South Pole Qui**	**83.97**	**180**	P	**P**		**03 05 20.1**	**+1.0**
QSPA				IAmb	IAmb		03 05 23.8	
	comp=Z,4.9nm,1.4s							
KURBB	**Kurchatov Arra**	**85.37**	**322**	P	**P**		**03 05 26.6**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=105,slow=4.1,SNR=19 comp=Z,1.8nm,0.7s							
G29M	**Pine Creek**	**87.10**	**22**	P	**P**		**03 05 36.0**	**+1.6**
G29M				IAmb	IAmb		03 05 36.6	
	comp=Z,3.9nm,1.1s							
NRIK	**Noril'sk**	**87.42**	**341**	P	**P**		**03 05 36.8**	**+0.9**
	comp=Z,2.5nm,0.6s,baz=134,slow=6.2,SNR=1.6 comp=Z,2.5nm,0.6s							
H31M	**Peel River**	**88.09**	**23**	P	**P**		**03 05 40.2**	**+1.0**
H31M				IAmb	IAmb		03 05 41.2	
	comp=Z,2.5nm,1.0s							
G31M	**Satah River**	**88.48**	**22**	P	**P**		**03 05 42.5**	**+1.5**
G31M				IAmb	IAmb		03 05 52.7	
	comp=Z,3.4nm,1.5s							
INK	**Inuvik**	**89.20**	**21**	LR	LR		03 40 36.9	
	comp=Z,27nm,20.8s,baz=220,slow=32							
BVAR	**Borovoye Array**	**90.81**	**323**	P	**P**		**03 05 51.5**	**-0.7**
	comp=Z,4.7nm,0.8s,baz=107,slow=5.5,SNR=20 comp=Z,4.7nm,0.8s							
YKA	**Yellowknife Ar**	**96.00**	**28**	P	**P**		**03 06 12.6**	**-3.3**
	comp=Z,0.1nm,0.5s,baz=273,slow=4.9,SNR=1.7							
ABKAR	**Akbulak array**	**97.04**	**319**	P	**P**		**03 06 20.7**	**-0.2**
TORD	**Torodi Ar. Bea**	**151.64**	**287**	PKPbc	**PKPbc**		**03 12 43.8**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=44,slow=3.5,SNR=16							

IDC 20 03:08:51.9±2.2,4˚.51S×140˚.46E,h0km,mb3.3/2, mbtmp3.3/3,ML3.0/1,MS3.1/1,Error ellipse: s-maj=276.3km s-min=35.0km az=110.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.46**	**201**	Pn	Pn		03 12 42.6	-1.8
	0.1nm,0.3s,baz=23,slow=13,SNR=2.2 0.4nm,0.7s							
ASAR	**Alice Springs**	**20.07**	**198**	P	P		03 13 27.8	+0.7
	1.0nm,0.8s,baz=28,slow=9.7,SNR=9.7 1.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**46.85**	**300**	LR	LR		03 36 59.2	
	comp=Z,22nm,20.2s,baz=80,slow=36							
ILAR	**Eielson Array**	**86.74**	**24**	P	P		03 21 37.5	-0.1
	0.2nm,0.8s,baz=258,slow=4.5,SNR=1.4 0.2nm,0.8s							

IDC ***20*** *03:18:05.8±0.9,37˚.42N×20˚.93E,h0km,mb3.7/10, mbtmp3.6/19,ML3.5/9,MS3.1/8,Error ellipse: s-maj=15.6km s-min=15.3km az=166.0*
ATH ***20*** *03:18:07.9,37˚.53N×20˚.97E,h8km±1km,ML3.8/11, Manual Solution by F.Xalaris This location: 2020/05/22 10:32:21 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
TIR ***20*** *03:18:08.9,37˚.69N×20˚.21E,h6km±3km,Ml3.7*
THE ***20*** *03:18:09.2,37˚.59N×20˚.99E,h15km,ML3.9/11,Error ellipse: s-maj=1.1km s-min=0.5km az=203.0*
NAO ***20*** *03:18:20.2,37˚.62N×20˚.96E,h10km,mb4.2*

ISC 20 03:18:08.7±0.9,37˚.57N±0˚.03×20˚.97E±0˚.02,h14km±6km, n103,σ1ş26/140,mb3.7/10,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.15**	**307**	P	**Pb**		**03 18 13.4**	**+0.1**
KRI1				S	**Sb**		**03 18 16.7**	**+0.4**
	64μm,0.5s							
LTHK	**Lithakia**	**0.17**	**323**	P	**Pb**		**03 18 13.6**	**-0.1**
LTHK				S	**Sb**		**03 18 17.4**	**+0.4**
	68μm,0.3s							
LTHK	**Lithakia**	**0.17**	**323**	P	**Pg**		**03 18 12.3**	**-0.6**
LTHK				S	**Sg**		**03 18 15.1**	**-0.5**
PSDA	**Pessada-Kefalo**	**0.62**	**331**	P	**Pg**		**03 18 20.8**	**-0.1**
PSDA				S	**Sb**		**03 18 30.4**	**+0.5**
	11μm,0.4s							
PSDA	**Pessada-Kefalo**	**0.62**	**331**	P	**Pg**		**03 18 21.1**	**+0.2**
PSDA				S	**Sb**		**03 18 29.4**	**-0.5**
RLS	**Riolos of Patr**	**0.63**	**39**	P	**Pg**		**03 18 20.2**	**-0.8**
RLS				S	**Sb**		**03 18 29.6**	**-0.5**
	8μm,0.5s							
RLS	**Riolos of Patr**	**0.63**	**39**	P	**Pg**		**03 18 20.8**	**-0.2**
RLS				S	**Sb**		**03 18 29.6**	**-0.5**
VLS	**Valsamata**	**0.67**	**334**	P	**Pg**		**03 18 21.4**	**-0.5**
VLS				S	**Sb**		**03 18 31.3**	**-0.2**
VLS	**Valsamata**	**0.67**	**334**	P	**Pg**		**03 18 21.6**	**-0.3**
VLS				S	**Sb**		**03 18 31.6**	**+0.1**
DRO	**Drossia**	**0.70**	**57**	P	**Pg**		**03 18 21.7**	**-0.7**
DRO				S	**Sb**		**03 18 32.4**	**+0.1**
	12μm,0.5s							
DRO	**Drossia**	**0.70**	**57**	P	**Pg**		**03 18 22.0**	**-0.4**
DRO				S	**Sb**		**03 18 31.8**	**-0.4**
LXR1	**Lixouri, Cepha**	**0.75**	**326**	P	**Pg**		**03 18 22.9**	**-0.5**
LXR1				S	**Sb**		**03 18 34.5**	**+0.8**
	22μm,0.4s							
LXRA	**Lixouri, Kepha**	**0.75**	**326**	P	**Pg**		**03 18 23.5**	**+0.1**
KEF3	**Kipouria, Keph**	**0.80**	**322**	P	**Pg**		**03 18 24.0**	**-0.2**
KEF3				S	**Sn**		**03 18 36.3**	**-0.9**
	14μm,0.4s							
KEF3	**Kipouria, Keph**	**0.80**	**322**	P	**Pg**		**03 18 24.2**	**0.0**
KEF3				S	**Sb**		**03 18 35.6**	**+0.6**
KEF5	**Kardakata, Kep**	**0.81**	**331**	P	**Pg**		**03 18 24.0**	**-0.4**
KEF5				S	**Sn**		**03 18 36.7**	**-0.8**
	19μm,0.4s							
KEF5	**Kardakata, Kep**	**0.81**	**331**	P	**Pg**		**03 18 24.4**	**0.0**
KEF5				S	**Sb**		**03 18 35.9**	**+0.6**
DMLN	**Damoulianata-K**	**0.81**	**325**	P	**Pg**		**03 18 24.4**	**-0.1**
DMLN				S	**Sb**		**03 18 35.9**	**+0.4**
	7μm,0.6s							
VSK1	**VASILIKIADES**	**0.89**	**339**	P	**Pb**		**03 18 25.2**	**-0.8**
VSK1				S	**Sn**		**03 18 39.1**	**-0.5**
	4μm,0.8s							
PYL	**PYLOS**	**0.92**	**137**	P	**Pb**		**03 18 25.8**	**-0.6**
PYL	**PYLOS**	**0.92**	**137**	P	**Pb**		**03 18 25.3**	**-1.1**
PYL				S	**Sb**		**03 18 36.8**	**-1.6**
AST1	**Astakos**	**0.97**	**6**	P	**Pb**		**03 18 26.7**	**-0.6**
KLMT	**Kalamata**	**1.01**	**120**	P	**Pg**		**03 18 28.3**	**+0.1**
KLV	**Kalavryta, Ach**	**1.05**	**63**	P	**Pb**		**03 18 27.6**	**-1.1**
KLV				S	**Sn**		**03 18 42.9**	**-0.6**
KLV	**Kalavryta, Ach**	**1.05**	**63**	P	**Pg**		**03 18 28.6**	**-0.4**
KLV				S	**Sn**		**03 18 43.0**	**-0.5**
EVGI	**Lefkada island**	**1.07**	**347**	P	**Pb**		**03 18 28.4**	**-0.7**
EVGI	**Lefkada island**	**1.07**	**347**	P	**Pg**		**03 18 29.5**	**0.0**
EVGI				S	**Sn**		**03 18 44.6**	**+0.5**
EFP	**Efpalio**	**1.13**	**41**	P	**Pb**		**03 18 29.4**	**-0.6**
EFP				S	**Sn**		**03 18 45.2**	**-0.2**
	4μm,0.6s							
EFP	**Efpalio**	**1.13**	**41**	P	**Pg**		**03 18 30.0**	**-0.5**
EFP				S	**Sn**		**03 18 46.2**	**+0.8**
ALIK	**Aliki, Aigiali**	**1.14**	**52**	P	**Pn**		**03 18 29.9**	**-0.3**
GUR	**Goura**	**1.15**	**71**	P	**Pb**		**03 18 29.6**	**-0.8**
GUR	**Goura**	**1.15**	**71**	P	**Pn**		**03 18 30.2**	**-0.3**
GUR				S	**Sn**		**03 18 46.0**	**-0.1**
DRAG	**Dragano-Lefkad**	**1.15**	**345**	P	**Pb**		**03 18 29.9**	**-0.5**
DRAG	**Dragano-Lefkad**	**1.15**	**345**	P	**Pb**		**03 18 29.9**	**-0.5**
NYDR	**Nydri-Lefkada**	**1.16**	**350**	P	**Pn**		**03 18 29.6**	**-0.9**
TRIZ	**Trizonia**	**1.18**	**47**	P	**Pn**		**03 18 29.6**	**-1.2**
LKD2	**Lefkada island**	**1.24**	**349**	P	**Pn**		**03 18 31.5**	**-0.2**
	baz=17							
LKD2				S	**Sg**		**03 18 48.7**	**0.0**
	baz=17							
LKD2				AMP				
	comp=E,9.6nm,0.6s,baz=17							

LKD2	**Lefkada island**	**1.24**	**349**	P	**Pn**		**03 18 31.2**	**-0.5**
LKD2	**Lefkada island**	**1.24**	**349**	P	**Pn**		**03 18 31.4**	**-0.2**
LKD2				S	**Sg**		**03 18 48.1**	**-0.7**
ANX	**Ano Chora**	**1.27**	**36**	P	**Pn**		**03 18 31.6**	**-0.5**
ANX	**Ano Chora**	**1.27**	**36**	P	**Pg**		**03 18 32.5**	**-0.6**
ANX				S	**Sg**		**03 18 50.0**	**+0.3**
TSLK	**Tsoukalades, L**	**1.27**	**349**	P	**Pb**		**03 18 32.3**	**-0.2**
TSLK	**Tsoukalades, L**	**1.27**	**349**	P	**Pg**		**03 18 32.8**	**-0.5**
THAL	**Thalero**	**1.42**	**70**	P	**Pb**		**03 18 34.7**	**-0.2**
THAL				S	**Sg**		**03 18 53.6**	**-1.0**
DLFA	**Delphi**	**1.51**	**53**	P	**Pb**		**03 18 36.3**	**-0.2**
IGT	**Igoumenitsa**	**2.02**	**346**	P	**Pb**		**03 18 43.7**	**-1.5**
	baz=2.0							
IGT				S	**Sb**		**03 19 10.7**	**+0.5**
	baz=2.0							
IGT				AMP				
	comp=E,2.2nm,0.8s,baz=2.0							
IGT	**Igoumenitsa**	**2.02**	**346**	P	**Pn**		**03 18 43.1**	**+0.7**
SRN	**Sarande**	**2.42**	**342**	P	**Pb**		**03 18 50.1**	**-2.0**
	baz=356							
SRN				S	**Sn**		**03 19 17.6**	**+0.3**
	baz=356							
SRN				AMP				
	comp=E,1.1nm,0.7s,baz=356							
LSK	**Leskovik**	**2.59**	**354**	P	**Pb**		**03 18 52.6**	**-2.4**
	baz=6.0							
LSK				S	**Sb**		**03 19 27.6**	**+0.9**
	baz=6.0							
KBN	**Korca**	**3.05**	**357**	P	**Pb**		**03 19 01.0**	**-1.8**
	baz=8.0							
SCTE	**Santa Cesarea**	**3.17**	**323**	P	**Pn**		**03 18 58.8**	**+0.7**
	baz=331							
SCTE				S	**Sn**		**03 19 33.7**	**-2.1**
	baz=331							
FNA	**Florina**	**3.22**	**6**	P	**Pn**		**03 19 01.1**	**+2.2**
	baz=15							
IDI	**Anoyia**	**3.90**	**125**	P	**Pn**		**03 19 08.5**	**+0.2**
IDI				S	**Sn**		**03 19 54.6**	**+0.7**
IDI	**Anoyia**	**3.90**	**125**	Pn	**Pn**		**03 19 07.8**	**-0.5**
	baz=272,slow=12,SNR=22							
IDI				Sn	**Sn**		**03 19 53.6**	**-0.3**
	baz=287,slow=17,SNR=1.8							
VAY	**Valandovo**	**3.94**	**18**	*i* Pn	**Pn**		**03 19 10.2**	**+1.4**
KARP	**Karpathos**	**5.38**	**110**	P	**Pn**		**03 19 28.8**	**+0.2**
DBRK	**Dubrovnik**	**5.53**	**338**	*e*Pn	**Pn**		**03 19 30.8**	**+0.2**
STON	**Ston**	**5.85**	**336**	*e*Pn	**Pn**		**03 19 34.4**	**-0.6**
LSTV	**Lastovo**	**6.05**	**330**	*e*Pn	**Pn**		**03 19 37.2**	**-0.5**
HVAR	**Hvar**	**6.58**	**330**	*e*Pn	**Pn**		**03 19 44.4**	**-0.6**
HVAR				Sn	**Sn**		**03 20 56.9**	**-2.8**
RICI	**Ricice**	**6.60**	**335**	*e*Pn	**Pn**		**03 19 45.0**	**-0.2**
KIJV	**Kijevo**	**7.30**	**333**	*e*Pn	**Pn**		**03 19 55.0**	**+0.1**
KIJV				Sn	**Sn**		**03 21 15.2**	**-2.3**
ZIRJ	**Zirje**	**7.30**	**328**	*e*Pn	**Pn**		**03 19 54.7**	**-0.1**
MORI	**Morici**	**7.45**	**329**	*e*Pn	**Pn**		**03 19 57.6**	**+0.7**
DUGI	**Dugi Otok**	**7.82**	**327**	*e*Pn	**Pn**		**03 20 02.7**	**+0.6**
UDBI	**Udbina**	**7.98**	**332**	*e*Pn	**Pn**		**03 20 05.9**	**+1.6**
VIRC	**Vir**	**8.07**	**328**	*e*Pn	**Pn**		**03 20 06.2**	**+0.8**
NVLJ	**Novalja**	**8.36**	**329**	*e*Pn	**Pn**		**03 20 09.0**	**-0.4**
MLR	**Muntele Rosu**	**8.75**	**24**	Pn	**Pn**		**03 20 18.6**	**+3.8**
	comp=E,0.1nm,0.3s,baz=238,slow=14,SNR=4.0 comp=E,1.1nm,0.6s							
KEST	**Kesra**	**9.52**	**262**	Pn	**Pn**		**03 20 27.2**	**+1.8**
	comp=E,0.2nm,0.3s,baz=75,slow=16,SNR=4.3							
SOKA	**Soboth**	**10.11**	**336**	*i* Pn	**Pn**		**03 20 33.1**	**-0.4**
	comp=E,1.4nm,0.5s							
OBKA	**Obir**	**10.12**	**334**	*i* Pn	**Pn**		**03 20 35.8**	**+2.2**
	comp=E,1.8nm,0.4s							
OBKA				*i* Sn	**Sn**		**03 22 24.7**	**-2.2**
	comp=E,4.2nm,0.5s							
BRTR	**Keskin Array B**	**10.14**	**74**	Pn	**Pn**		**03 20 36.9**	**+2.9**
	comp=E,0.1nm,0.3s,baz=255,slow=11,SNR=2.6							
BRTR				LR	LR		03 25 28.1	
	comp=E,114nm,18.1s,baz=268,slow=43 comp=E,0.4nm,0.5s							
ABTA	**Abfaltersbach**	**11.10**	**328**	*e*Pn	**Pn**		**03 20 51.0**	**+3.9**
	comp=E,2.4nm,0.7s							
ABTA				*e*Sn	**Sn**		**03 22 49.7**	**-1.3**
	comp=E,6.8nm,0.8s							
MOA	**Molln**	**11.39**	**337**	*i* Pn	**Pn**		**03 20 52.3**	**+1.4**
	comp=E,0.6nm,0.3s							
BIOA	**Bad Ischl, Aus**	**11.46**	**334**	*e*Pn	**Pn**		**03 20 54.7**	**+2.9**
	comp=E,1.1nm,0.3s							
LESA	**Schwarzleotal**	**11.58**	**331**	*i* Pn	**Pn**		**03 20 56.2**	**+2.5**
	comp=E,2.2nm,0.6s							
LESA				*i* Sn	**Sn**		**03 22 59.9**	**-2.9**
	comp=E,2.5nm,0.6s							
WTTA	**Wattenberg**	**11.88**	**328**	*i* Sn	**Sn**		**03 23 08.4**	**-1.7**
	comp=E,2.7nm,0.5s							
FETA	**Feichten**	**12.10**	**325**	*e*Pn	**Pn**		**03 21 01.9**	**+1.1**
	comp=E,0.8nm,0.5s							
VRAC	**Vranov**	**12.15**

IDC 20 03:37:15.9±2.1, 10.59S×127.00E, h0km, mb3.4/1, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=119.9km s-min=28.8km az=57.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**11.68**	**144**	Pn	Pn	03 40 03.8	-0.2
	0.2nm,0.3s,baz=320,slow=13,SNR=7.8						
WRA				Sn	Sn	03 42 15.4	+0.1
	0.3nm,0.3s,baz=320,slow=25,SNR=3.5						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**14.58**	**154**	Pn	Pn	03 40 44.5	+0.9
	0.2nm,0.3s,baz=324,slow=11,SNR=5.4						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**69.67**	**329**	P	P	03 48 27.4	0.0
	0.1nm,0.4s,baz=134,slow=6.2,SNR=2.6						
	0.1nm,0.4s						

IDC 20 04:30:20.3±2.1, 5.99S×141.88E, h0km, mb3.6/1, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=247.9km s-min=30.4km az=115.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.69**	**207**	Pn	Pn	04 34 01.1	-1.7
	0.1nm,0.3s,baz=32,slow=12,SNR=2.2						
WRA				Lg	Lg	04 38 40.4	
	baz=42,slow=31						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**19.18**	**203**	P	P	04 34 46.1	+0.4
	0.1nm,0.3s,baz=29,slow=11,SNR=4.9						
ASAR				Lg	Lg	04 40 38.2	
	0.1nm,0.3s,baz=25,slow=33,SNR=1.4						
	0.8nm,0.5s						
ILAR	**Eielson Array**	**87.51**	**24**	P	P	04 43 09.8	0.0
	0.4nm,0.8s,baz=238,slow=5.2,SNR=2.8						
	0.4nm,0.8s						

IDC 20 04:32:49.1±6.8, 6.13S×141.84E, h0km, mb3.4/1, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=259.1km s-min=34.8km az=96.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.55**	**207**	Pn	Pn	04 36 28.1	-1.7
	0.1nm,0.3s,baz=29,slow=14,SNR=1.3						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**19.04**	**203**	P	Pn	04 37 13.6	0.0
	0.1nm,0.3s,baz=34,slow=9.5,SNR=4.4						
	0.7nm,0.7s						
SONM	**Songino Array**	**62.13**	**334**	P	P	04 43 12.1	0.0
	0.2nm,0.4s,baz=121,slow=5.6,SNR=2.2						
	0.2nm,0.4s						

*IDC **20** 04:35:56.9±4.8, 23.22S×178.57W, h353km±42km, mb3.9/5, mbtmp4.8/6, Error ellipse: s-maj=62.4km s-min=29.2km az=19.0*

ISC 20 04:35:56.2±2.0, 23.2S±0.3×178.5W±0.3, h350km, n8, σ0.993/9, mb3.9/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**6.09**	**175**	P	**Pn**	**04 37 28.2**	**+0.2**
	330nm,0.3s,baz=203,slow=21,SNR=2.9						
CTA	**Charters Tower**	**32.85**	**269**	P	**P**	**04 41 59.5**	**+0.8**
	6.2nm,0.5s,baz=90,slow=7.3,SNR=9.6						
	6.2nm,0.5s						
STKA	**Stephens Creek**	**36.27**	**247**	P	**P**	**04 42 26.4**	**-1.1**
	1.9nm,0.6s,baz=73,slow=11,SNR=2.1						
	1.9nm,0.6s						
ASAR	**Alice Springs**	**43.51**	**259**	P	**P**	**04 43 26.1**	**-0.5**
	4.6nm,0.8s,baz=99,slow=6.9,SNR=27						
	4.6nm,0.8s						
WRA	**Warramunga Arr**	**43.83**	**265**	P	**P**	**04 43 28.6**	**-0.6**
	3.6nm,0.4s,baz=103,slow=8.2,SNR=79						
WRA				PcP	**PcP**	**04 45 08.9**	**+0.2**
	0.4nm,0.6s,baz=94,slow=3.1,SNR=2.7						
	3.6nm,0.4s						
BATI	**Baumata**	**56.55**	**273**	P	**P**	**04 45 05.0**	**+1.2**
	24nm,0.4s,baz=117,slow=4.5,SNR=1.4						
	24nm,0.4s						
AKASG	**Malin Array Be**	**145.07**	**329**	PKPbc	**PKPdf**	**04 54 51.0**	**-1.0**
	0.2nm,0.3s,baz=63,slow=2.2,SNR=1.7						
TORD	**Torodi Ar. Bea**	**170.04**	**181**	PKPab	**PKPab**	**04 56 40.6**	**+0.3**
	0.6nm,0.8s,baz=177,slow=5.0,SNR=3.6						

*IDC **20** 05:08:25.7±0.8, 39.42N×73.73E, h0km, mb4.0/16, mbtmp4.0/24, ML3.4/8, MS3.1/11, Error ellipse: s-maj=14.3km s-min=10.6km az=126.0*
*KRNET **20** 05:08:25.3±0.1, 39.51N×73.73E, h13km, mb4.2*
*MOS **20** 05:08:27.3±1.4, 39.54N×73.62E, h17km, mb4.4/7, Error ellipse: s-maj=6.8km s-min=3.8km az=89.6*
*NNC **20** 05:08:37.4±1.3, 40.02N×73.67E, h23km±6km, mb4.5, mpv4.3, Error ellipse: s-maj=10.1km s-min=4.8km az=176.0*
*SOME **20** 05:08:37.1, 40.08N×73.72E, h0km*

ISC 20 05:08:26.9±0.5, 39.45N±0.04×73.69E±0.02, h10km, n169, σ2.27/236, mb4.1/26, MS3.2/4, 46C-27D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.58**	**346**	Pg	**Pg**	**05 08 35.7**	**-2.6**
SFK				S	**Sg**	**05 08 43.3**	**-2.8**
SFK	**Sufi-Kurgan**	**0.58**	**346**	⇓*e*P	**Pg**	**05 08 35.7**	**-2.6**
	baz=41						
SFK				⇓*e*S	**Sg**	**05 08 43.3**	**-2.8**
	baz=41						
OHH	**Osh**	**1.28**	**327**	*e*PG	**Pn**	**05 08 48.9**	**-2.1**
OHH				S	**Sb**	**05 09 06.3**	**-1.5**
OHH	**Osh**	**1.28**	**327**	⇑*e*P	**Pn**	**05 08 48.9**	**-2.1**
	baz=25						
OHH				⇑*e*S	**Sb**	**05 09 06.3**	**-1.5**
	baz=25						
DRK	**Karamyk**	**1.47**	**272**	⇑*e*P	**Pn**	**05 08 53.3**	**-0.4**
	baz=70						
DRK				⇑*e*S	**Sg**	**05 09 13.7**	**-0.4**
	baz=70						
KSH	**Kashi**	**1.77**	**87**	Pg	**Pn**	**05 08 54.8**	**-2.9**
KSH				Sg	**Sn**	**05 09 15.6**	**-4.7**
KSH				smax	smax		
	comp=N,750nm,0.6s						
KSH				smax	smax		
	comp=E,650nm,0.9s						
ARSB	**Arslanbob**	**1.95**	**344**	*e*PN	**Pn**	**05 09 00.5**	**+0.3**
ARSB				S	**Sb**	**05 09 26.2**	**-0.9**
ARSB	**Arslanbob**	**1.95**	**344**	⇑*e*P	**Pn**	**05 09 00.5**	**+0.3**
	baz=43						
ARSB				⇑*e*S	**Sb**	**05 09 26.2**	**-0.9**
	baz=43						
BTK	**Batken**	**2.30**	**286**	*e*PN	**Pn**	**05 09 06.3**	**+1.4**
BTK				S	**Sb**	**05 09 36.4**	**-0.6**
BTK	**Batken**	**2.30**	**286**	⇓*e*P	**Pn**	**05 09 06.3**	**+1.4**
	baz=85						
BTK				⇓*e*S	**Sb**	**05 09 36.4**	**-0.6**
	baz=85						
ARLS	**Aral**	**2.46**	**11**	*i* PN	**Pn**	**05 09 07.6**	**+0.4**
ARLS				S	**Sn**	**05 09 38.4**	**+1.0**
ARLS	**Aral**	**2.46**	**11**	⇓*i*P	**Pn**	**05 09 07.6**	**+0.4**
	baz=11						
ARLS				⇓*e*S	**Sn**	**05 09 38.4**	**+1.0**
	baz=11						
NRN	**Naryn**	**2.65**	**41**	*e*PN	**Pn**	**05 09 10.0**	**0.0**
NRN				S	**Sn**	**05 09 42.8**	**+0.4**
NRN	**Naryn**	**2.65**	**41**	⇑*e*P	**Pn**	**05 09 10.0**	**0.0**
	baz=41						
NRN				⇑*e*S	**Sn**	**05 09 42.8**	**+0.4**
	baz=41						
UCH	**Uchtor**	**2.85**	**12**	P	**Pn**	**05 09 15.3**	**+2.5**
	SNR=461						
UCH	**Uchtor**	**2.85**	**12**	*e*PN	**Pn**	**05 09 13.1**	**+0.3**
UCH				S	**Sn**	**05 09 48.2**	**+0.8**
UCH	**Uchtor**	**2.85**	**12**	⇓*e*P	**Pn**	**05 09 13.1**	**+0.3**
	baz=12						
UCH				⇓*e*S	**Sn**	**05 09 48.2**	**+0.8**
	baz=12						
TRKS	**Terek-Say**	**2.85**	**318**	*e*PN	**Pn**	**05 09 12.7**	**+0.1**
TRKS				S	**Sn**	**05 09 47.3**	**+0.3**
TRKS	**Terek-Say**	**2.85**	**318**	⇑*e*P	**Pn**	**05 09 12.7**	**+0.1**
	baz=16						
TRKS				⇑*e*S	**Sn**	**05 09 47.3**	**+0.3**
	baz=16						
MNAS	**Manas**	**3.17**	**344**	*e*PN	**Pn**	**05 09 17.7**	**+0.8**
MNAS				S	**Sn**	**05 09 56.1**	**+1.2**
MNAS	**Manas**	**3.17**	**344**	⇓*e*P	**Pn**	**05 09 17.7**	**+0.8**
	baz=43						
MNAS				⇓*e*S	**Sn**	**05 09 56.1**	**+1.2**
	baz=43						
EKS2	**Erkin-Say**	**3.21**	**1**	P	**Pn**	**05 09 20.3**	**+2.8**
	SNR=14						
EKS2	**Erkin-Say**	**3.21**	**1**	*e*PN	**Pg**	**05 09 28.2**	**-0.3**
EKS2				S	**Sn**	**05 09 56.7**	**+0.8**
EKS2	**Erkin-Say**	**3.21**	**1**	⇑*e*P	**Pn**	**05 09 18.2**	**+0.7**
	baz=1.0						
EKS2				⇑*e*S	**Sn**	**05 09 56.7**	**+0.8**
	baz=1.0						
AAK	**Ala-Archa**	**3.25**	**11**	P	**Pn**	**05 09 21.0**	**+2.9**
	SNR=33						
AAK	**Ala-Archa**	**3.25**	**11**	*c*PN	**Pn**	**05 09 20.9**	**+2.9**
AAK				pmax	pmax		
	comp=Z,53nm,0.6s						
AAK	**Ala-Archa**	**3.25**	**11**	Pn	**Pn**	**05 09 21.0**	**+2.9**
	comp=Z,22nm,0.3s,baz=176,slow=6.6,SNR=137						
AAK				Sn	**Sb**	**05 10 02.6**	**-1.7**
	comp=Z,13nm,0.3s,baz=37,slow=20,SNR=3.9						
AAK				Lg	Lg	05 10 08.7	
	comp=Z,35nm,0.3s,baz=89,slow=23,SNR=13						
AAK				LR	LR	05 10 44.1	
	comp=Z,274nm,18.9s,baz=226,slow=42						
	comp=Z,81nm,0.4s						
AAK	**Ala-Archa**	**3.25**	**11**	⇑*e*P	**Pn**	**05 09 18.6**	**+0.6**
	baz=10.0						
AAK				⇑*e*S	**Sn**	**05 09 57.6**	**+0.8**
	baz=10.0						
MRKS	**Merke**	**3.31**	**354**	*e*P	**Pb**	**05 09 27.6**	**+1.8**
	comp=Z,60nm,0.4s						
MRKS				*e*S	**Sb**	**05 10 03.9**	**-2.4**
	comp=Z,409nm,0.4s						
MRKS	**Merke**	**3.31**	**354**	Pg	**Pb**	**05 09 26.6**	**+0.8**
	comp=Z,60nm,0.4s						
MRKS				Lg	Lg	05 10 02.6	
	comp=Z,409nm,0.4s						
KBK	**Karagaybulak**	**3.34**	**16**	P	**Pb**	**05 09 23.9**	**-2.5**
	SNR=15						
KBK	**Karagaybulak**	**3.34**	**16**	*e*PN	**Pn**	**05 09 19.9**	**+0.5**
KBK				S	**Sn**	**05 09 59.8**	**+0.5**
KBK	**Karagaybulak**	**3.34**	**16**	⇑*e*P	**Pn**	**05 09 19.9**	**+0.5**
	baz=16						
KBK				⇑*e*S	**Sn**	**05 09 59.8**	**+0.5**
	baz=16						
ULHL	**Ulahol**	**3.40**	**34**	P	**Pn**	**05 09 23.4**	**+3.2**
	SNR=30						
ULHL	**Ulahol**	**3.40**	**34**	*e*PN	**Pn**	**05 09 20.7**	**+0.5**
ULHL				S	**Sn**	**05 10 01.3**	**+0.6**
ULHL	**Ulahol**	**3.40**	**34**	⇓*e*P	**Pn**	**05 09 20.7**	**+0.5**
	baz=34						
ULHL				⇓*e*S	**Sn**	**05 10 01.3**	**+0.6**
	baz=34						
FRU1	**Bishkek**	**3.43**	**12**	*e*PN	**Pn**	**05 09 21.4**	**+0.9**
FRU1				S	**Sn**	**05 10 02.4**	**+1.1**
FRU1	**Bishkek**	**3.43**	**12**	⇑*e*P	**Pn**	**05 09 21.4**	**+0.9**
	baz=11						
FRU1				⇑*e*S	**Sn**	**05 10 02.4**	**+1.1**
	baz=11						
BOOM	**Boomskoye usch**	**3.48**	**29**	*e*PN	**Pn**	**05 09 21.8**	**+0.5**
BOOM				S	**Sn**	**05 10 03.3**	**+0.6**
BOOM	**Boomskoye usch**	**3.48**	**29**	⇑*e*P	**Pn**	**05 09 21.8**	**+0.5**
	baz=29						
BOOM				⇑*e*S	**Sn**	**05 10 03.3**	**+0.6**
	baz=29						
CHMS	**Chumysh**	**3.64**	**12**	P	**Pn**	**05 09 26.1**	**+2.8**
	SNR=6.9						
CHMS	**Chumysh**	**3.64**	**12**	*e*PN	**Pn**	**05 09 23.9**	**+0.6**
CHMS				S	**Sn**	**05 10 06.6**	**+0.3**
CHMS	**Chumysh**	**3.64**	**12**	⇑Pn	**Pn**	**05 09 25.9**	**+2.6**
	comp=Z,34nm,0.6s						
CHMS				Pg	Pg	05 09 50.3	+14
	comp=Z,100nm,0.2s						
CHMS				⇓Lg	Lg	05 10 18.7	
	comp=Z,305nm,0.8s						
CHMS				Lg	Lg	05 10 43.2	
	comp=Z,537nm,0.3s						
CHMS	**Chumysh**	**3.64**	**12**	⇑*e*P	**Pn**	**05 09 23.9**	**+0.6**
	baz=12						
CHMS				⇑*e*S	**Sn**	**05 10 06.6**	**+0.3**
	baz=12						
TKM2	**Tokmak 2**	**3.76**	**22**	P	**Pn**	**05 09 27.9**	**+2.8**
	SNR=70						
TKM2	**Tokmak 2**	**3.76**	**22**	PN	**Pn**	**05 09 27.9**	**+2.8**
TKM2	**Tokmak 2**	**3.76**	**22**	⇑Pn	**Pn**	**05 09 27.7**	**+2.6**
	comp=Z,38nm,0.6s						
TKM2				⇓Lg	Lg	05 10 23.3	
	comp=Z,88nm,0.6s						
TKM2	**Tokmak 2**	**3.76**	**22**	⇓*e*P	**Pn**	**05 09 25.7**	**+0.6**
	baz=22						
TKM2				⇓*e*S	**Sn**	**05 10 09.8**	**+0.3**
	baz=22						
KDJ	**Kajisay**	**3.77**	**44**	*e*PN	**Pn**	**05 09 25.9**	**+0.7**
KDJ				S	**Sn**	**05 10 10.2**	**+0.5**
KDJ	**Kajisay**	**3.77**	**44**	⇓*e*P	**Pn**	**05 09 25.9**	**+0.7**
	baz=44						
KDJ				⇓*e*S	**Sn**	**05 10 10.2**	**+0.5**
	baz=44						
USP	**Ospenovka**	**3.87**	**9**	P	**Pn**	**05 09 29.1**	**+2.7**
	SNR=10						
USP	**Ospenovka**	**3.87**	**9**	*e*PN	**Pn**	**05 09 27.1**	**+0.7**
USP				S	**Sn**	**05 10 12.1**	**+0.2**
USP	**Ospenovka**	**3.87**	**9**	⇑*e*P	**Pn**	**05 09 27.1**	**+0.7**
	baz=9.0						
USP				⇑*e*S	**Sn**	**05 10 12.1**	**+0.2**
	baz=9.0						
IUG	**Iuzhnay**	**3.87**	**315**	*e*P	**Pg**	**05 09 41.3**	**+0.2**
	comp=Z,228nm,0.3s						
IUG				*e*S	**Sg**	**05 10 27.3**	**-3.9**
	comp=Z,422nm,0.5s						
IUG	**Iuzhnay**	**3.87**	**315**	Pg	**Pg**	**05 09 40.5**	**-0.6**
	comp=Z,268nm,0.6s						
IUG				Lg	Lg	05 10 26.2	
	comp=Z,839nm,0.8s						
DZA	**Taraz**	**3.88**	**333**	*e*P	**Pg**	**05 09 39.9**	**-1.2**
	comp=Z,138nm,0.1s						
DZA				*e*S	**Sb**	**05 10 25.2**	**+2.8**
	comp=Z,344nm,0.4s						
DZA	**Taraz**	**3.88**	**333**	Pg	**Pg**	**05 09 40.6**	**-0.6**
	comp=Z,103nm,0.1s						
DZA				Lg	Lg	05 10 26.4	
	comp=Z,695nm,0.5s						
KST	**Kastek**	**3.98**	**25**	*e*P	**Pb**	**05 09 40.3**	**+3.1**
	comp=Z,26nm,0.4s						
KST				*e*S	**Sb**	**05 10 25.8**	**+0.3**
	comp=Z,111nm,0.8s						
KST	**Kastek**	**3.98**	**25**	Pg	**Pg**	**05 09 42.1**	**-1.1**
	comp=Z,32nm,0.8s						
KST				Lg	Lg	05 10 29.0	
	comp=Z,192nm,0.7s						
SGDS	**Sogindy**	**4.06**	**10**	Pg	**Pb**	**05 09 40.5**	**+2.0**
	comp=Z,32nm,0.4s						
SGDS				Lg	Lg	05 10 28.4	
	comp=Z,121nm,0.6s						
DGS	**Degeres**	**4.10**	**22**	*e*P	**Pb**	**05 09 42.7**	**+3.4**
	comp=Z,49nm,0.5s						
DGS				*e*S	**Sb**	**05 10 30.0**	**+1.0**
	comp=Z,64nm,0.8s						
DGS	**Degeres**	**4.10**	**22**	Pg	**Pg**	**05 09 44.3**	**-1.2**
	comp=Z,66nm,0.5s						
DGS				Lg	Lg	05 10 34.2	
	comp=Z,136nm,0.8s						
IZV	**Izvestkoviy**	**4.21**	**31**	*e*P	**Pg**	**05 09 45.9**	**-1.6**
	comp=Z,24nm,0.6s						
IZV				*e*S	**Sb**	**05 10 35.6**	**+3.5**
	comp=Z,166nm,0.9s						
IZV	**Izvestkoviy**	**4.21**	**31**	Pg	**Pg**	**05 09 47.3**	**-0.2**
	comp=Z,34nm,0.6s						
IZV				Lg	Lg	05 10 38.5	
	comp=Z,184nm,0.7s						
MTBS	**Maitube**	**4.22**	**28**	*e*P	**Pg**	**05 09 45.4**	**-2.3**
	comp=Z,31nm,0.5s						
MTBS				*e*S	**Sb**	**05 10 34.6**	**+2.3**
	comp=Z,84nm,0.5s						
MTBS	**Maitube**	**4.22**	**28**	Pg	**Pg**	**05 09 46.6**	**-1.1**
	comp=Z,46nm,0.5s						
MTBS				Lg	Lg	05 10 36.8	
	comp=Z,120nm,0.6s						
CHM	**Chimkent**	**4.22**	**314**	*e*P	**Pg**	**05 09 48.8**	**+1.0**
	comp=Z,59nm,0.2s						
CHM				*e*S	**Sg**	**05 10 40.4**	**-2.1**
	comp=Z,537nm,0.4s						
TNSS	**Tian-Shan**	**4.35**	**33**	*e*P	**Pg**	**05 09 49.3**	**-0.8**
	comp=Z,32nm,0.5s						
TNSS				*e*S	**Sb**	**05 10 41.5**	**+5.2**
	comp=Z,47nm,0.5s						
TNSS	**Tian-Shan**	**4.35**	**33**	Pg	**Pg**	**05 09 49.3**	**-0.8**
	comp=Z,32nm,0.5s						
TNSS				Lg	Lg	05 10 41.5	
	comp=Z,47nm,0.5s						
KK31	**Karatay Array**	**4.37**	**328**	PN	**Pn**	**05 09 35.6**	**+2.3**
KK31	**Karatay Array**	**4.37**	**328**	⇓Pn	**Pn**	**05 09 35.0**	**+1.6**
	comp=Z,21nm,0.5s,baz=125,slow=12,SNR=172						
KK31				⇓Lg	Lg	05 10 40.5	
	comp=Z,69nm,0.5s,baz=141,slow=27,SNR=5.2						
KKAR	**Karatay Array**	**4.37**	**328**	*e*PN	**Pn**	**05 09 34.5**	**+1.2**
KKAR				S	**Sn**	**05 10 24.9**	**+0.6**
KKAR	**Karatay Array**	**4.37**	**328**	⇑*e*P	**Pn**	**05 09 34.5**	**+1.2**
	baz=27						
KKAR				⇑*e*S	**Sn**	**05 10 24.9**	**+0.6**
	baz=27						
ANVS	**Anan'yevo**	**4.49**	**41**	*e*PN	**Pn**	**05 09 35.8**	**+0.7**
ANVS				S	**Sn**	**05 10 27.4**	**0.0**
ANVS	**Anan'yevo**	**4.49**	**41**	⇑*e*P	**Pn**	**05 09 35.8**	**+0.7**
	baz=41						
ANVS				⇑*e*S	**Sn**	**05 10 27.4**	**0.0**
	baz=41						
MDOK	**Medeo**	**4.49**	**33**	PN	**Pn**	**05 09 38.9**	**+3.7**
MDOK	**Medeo**	**4.49**	**33**	*e*P	**Pg**	**05 09 51.1**	**-1.8**
	comp=Z,26nm,0.6s						
MDOK				*e*S	**Sb**	**05 10 44.2**	**+4.1**
	comp=Z,60nm,0.6s						
MDOK	**Medeo**	**4.49**	**33**	⇓Pn	**Pn**	**05 09 38.8**	**+3.7**
	comp=Z,34nm,0.7s						
MDOK				Pg	**Pg**	**05 09 51.1**	**-1.8**
	comp=Z,34nm,0.5s						
MDOK				⇓Lg	Lg	05 10 45.5	
	comp=Z,136nm,0.8s						
MDOK				Lg	Lg	05 10 46.2	
	comp=Z,103nm,0.9s						
KRBS	**Karabastau**	**4.50**	**19**	*e*P	**Pb**	**05 09 49.1**	**+3.1**
	comp=Z,50nm,0.4s						
KRBS				*e*S	**Sb**	**05 10 40.9**	**+0.6**
	comp=Z,17nm,0.5s						
KRBS	**Karabastau**	**4.50**	**19**	Pg	**Pb**	**05 09 47.8**	**+1.8**
	comp=Z,44nm,0.4s						
KRBS				Lg	Lg	05 10 40.6	
	comp=Z,85nm,0.7s						
KNDC	**Almaty**	**4.50**	**32**	⇑Pn	**Pn**	**05 09 37.1**	**+1.9**
	comp=Z,42nm,0.5s						
KNDC				⇓Lg	Lg	05 10 47.6	
	comp=Z,543nm,1.0s						
KOTS	**Kotyrbulak**	**4.58**	**33**	*e*P	**Pg**	**05 09 52.3**	**-2.2**
	comp=Z,29nm,0.4s						
KOTS				*e*S	**Sb**	**05 10 47.0**	**+4.3**
	comp=Z,208nm,0.6s						
KOTS	**Kotyrbulak**	**4.58**	**33**	Pg	**Pg**	**05 09 52.0**	**-2.5**
	comp=Z,30nm,0.4s						
KOTS				Lg	Lg	05 10 47.6	
	comp=Z,285nm,0.8s						
BRLS	**Borolday**	**4.61**	**322**	*e*P	**Pg**	**05 09 53.0**	**-2.2**
	comp=Z,41nm,0.4s						
BRLS				*e*S	**Sb**	**05 10 47.6**	**+4.1**
	comp=Z,185nm,0.5s						
BRLS	**Borolday**	**4.61**	**322**	Pg	**Pg**	**05 09 53.0**	**-2.2**
	comp=Z,41nm,0.4s						
BRLS				Lg	Lg	05 10 47.6	
	comp=Z,185nm,0.5s						
KTBS	**Karatobe**	**4.82**	**27**	*e*P	**Pg**	**05 09 56.0**	**-3.2**
	comp=Z,38nm,0.5s						
KTBS				*e*S	**Sb**	**05 10 53.5**	**+4.1**
	comp=Z,146nm,0.8s						
KTBS	**Karatobe**	**4.82**	**27**	Pg	**Pb**	**05 09 54.2**	**+2.8**
	comp=Z,37nm,0.7s						
KTBS				Lg	Lg	05 10 49.8	
	comp=Z,146nm,0.8s						
CHKK	**Chushkaly**	**5.05**	**28**	*e*P	**Pg**	**05 10 01.6**	**-1.9**
	comp=Z,28nm,0.6s						
CHKK				*e*S	**Sb**	**05 11 02.5**	**+6.5**
	comp=Z,97nm,0.7s						
CHKK	**Chushkaly**	**5.05**	**28**	Pg	**Pg**	**05 10 01.6**	**-1.9**
	comp=Z,28nm,0.6s						
CHKK				Lg	Lg	05 11 02.5	
	comp=Z,97nm,0.7s						
SATY	**Saty**	**5.06**	**43**	*e*P	**Pg**	**05 10 03.0**	**-0.9**
	comp=Z,34nm,0.5s						
SATY				*e*S	**Sg**	**05 11 05.2**	**-4.3**
	comp=Z,106nm,1.1s						
SATY	**Saty**	**5.06**	**43**	Pg	**Pg**	**05 10 03.0**	**-0.9**
	comp=Z,34nm,0.5s						
SATY				Lg	Lg	05 11 05.2	
	comp=Z,106nm,1.1s						
ZHN	**Zhinishke**	**5.16**	**42**	*e*P	**Pg**	**05 10 03.9**	**-1.8**
	comp=Z,16nm,0.4s						
ZHN				*e*S	**Sg**	**05 11 06.4**	**-6.0**
	comp=Z,48nm,0.4s						
ZHN	**Zhinishke**	**5.16**	**42**	Pg	**Pg**	**05 10 03.9**	**-1.8**
	comp=Z,16nm,0.4s						
ZHN				Lg	Lg	05 11 06.4	
	comp=Z,48nm,0.4s						
KURS	**Kuram**	**5.25**	**38**	*e*P	**Pg**	**05 10 04.9**	**-2.6**
	comp=Z,19nm,0.6s						
KURS				*e*S	**Sb**	**05 11 08.1**	**+6.1**
	comp=Z,64nm,1.3s						
KURS	**Kuram**	**5.25**	**38**	Pg	**Pg**	**05 10 04.9**	**-2.6**
	comp=Z,19nm,0.6s						
KURS				Lg	Lg	05 11 08.1	
	comp=Z,64nm,1.3s						
UZB	**Uzynbulak**	**5.46**	**46**	*e*P	**Pg**	**05 10 10.1**	**-1.3**
	comp=Z,15nm,0.6s						
UZB				*e*S	**Sg**	**05 11 17.1**	**-4.9**
	comp=Z,45nm,0.7s						
UZB	**Uzynbulak**	**5.46**	**46**	Pg	**Pg**	**05 10 10.1**	**-1.3**
	comp=Z,15nm,0.6s						
UZB				Lg	Lg	05 11 17.2	
	comp=Z,45nm,0.7s						
BTLS	**Baital**	**5.60**	**3**	*e*P	**Pb**	**05 10 09.3**	**+4.6**
	comp=Z,10nm,0.5s						
BTLS				*e*S	**Sb**	**05 11 15.6**	**+3.8**
	comp=Z,20nm,0.7s						
BTLS	**Baital**	**5.60**	**3**	Pg	**Pb**	**05 10 09.3**	**+4.6**
	comp=Z,10nm,0.5s						
BTLS				Lg	Lg	05 11 17.1	
	comp=Z,4.4nm,0.5s						
SHLS	**Shalkode**	**5.71**	**48**	*e*P	**Pg**	**05 10 20.2**	**+3.9**
	comp=Z,40nm,0.6s						
SHLS				*e*S	**Sg**	**05 11 34.3**	**+4.1**
	comp=Z,33nm,0.6s						
SHLS	**Shalkode**	**5.71**	**48**	Pg	**Pg**	**05 10 20.2**	**+3.9**
	comp=Z,40nm,0.6s						
SHLS				Lg	Lg	05 11 34.3	
	comp=Z,33nm,0.6s						
PDGK	**Podgornoye**	**5.83**	**46**	PN	**Pn**	**05 09 56.5**	**+2.9**
PDGK	**Podgornoye**	**5.83**	**46**	Pg	**Pg**	**05 10 16.7**	**-1.9**
	comp=Z,7.5nm,0.6s						
PDGK				Lg	Lg	05 11 28.3

comp=Z,32nm,1.1s
KAPS Kapalarasan 7.18 34 Pg **Pg 05 10 40.2 -4.2**
comp=Z,10nm,0.7s
KAPS Lg Lg 05 12 08.7
comp=Z,32nm,1.1s
OTUK Ortayu 8.85 354 P **Pn 05 10 36.0 +1.2**
OTUK Ortayu 8.85 354 ⇑Pn **Pn 05 10 36.1 +1.2**
comp=Z,2.1nm,0.5s
OTUK ⇑Lg Lg 05 12 59.3
comp=Z,20nm,0.9s
MK31 Makanchi Array 9.66 38 *ce*P **Pn 05 10 46.8 +0.8**
MK31 Makanchi Array 9.66 38 ⇓Pn **Pn 05 10 48.4 +2.5**
comp=Z,2.4nm,0.7s,baz=224,slow=12,SNR=9.8
MK31 ⇑Lg Lg 05 13 30.6
comp=Z,6.8nm,0.8s,baz=224,slow=27,SNR=6.1
MKAR Makanchi Array 9.66 38 Pn **Pn 05 10 48.3 +2.3**
comp=Z,0.1nm,0.3s,baz=217,slow=12,SNR=8.2
MKAR Lg Lg 05 13 30.3
comp=Z,0.2nm,0.3s,baz=227,slow=23,SNR=2.6
MKAR LR LR 05 14 48.6
comp=Z,79nm,21.1s,baz=222,slow=40
comp=Z,1.2nm,0.8s
KURBB Kurchatov Arra 11.68 15 Pn **Pn 05 11 14.5 +0.9**
comp=Z,0.1nm,0.3s,baz=205,slow=12,SNR=6.6
KURBB Lg Lg 05 14 34.0
comp=Z,0.1nm,0.3s,baz=213,slow=29,SNR=3.9
comp=Z,1.7nm,0.2s
KURBB Kurchatov Arra 11.68 15 ⇑Pn **Pn 05 11 17.1 +3.5**
comp=Z,2.2nm,0.7s
KURBB ⇑Lg Lg 05 14 30.9
comp=Z,74nm,1.4s
KURK Kurchatov 11.79 16 P **Pn 05 11 14.5 -0.5**
KURK Kurchatov 11.79 16 ⇓Lg Lg 05 14 36.7
comp=Z,85nm,1.4s
GEYT Alibeck 12.27 268 Pn **Pn 05 11 22.7 +1.1**
comp=Z,1.5nm,0.3s,baz=84,slow=13,SNR=2.3
GEYT LR LR 05 16 55.5
comp=Z,31nm,18.5s,baz=326,slow=42
comp=Z,2.2nm,0.3s
BVA0 Borovoye Array 13.77 352 *i* P **Pn 05 11 40.5 -1.6**
BVA0 Borovoye Array 13.77 352 P **Pn 05 11 40.5 -1.6**
comp=Z,7.4nm,0.9s,baz=163,slow=14,SNR=17
BVAR Borovoye Array 13.77 352 Pn **Pn 05 11 40.7 -1.4**
comp=Z,0.1nm,0.3s,baz=160,slow=13,SNR=19
BVAR Lg Lg 05 15 41.3
baz=170,slow=25,SNR=4.6
BVAR LR LR 05 17 10.1
comp=Z,78nm,20.6s,baz=184,slow=38
comp=Z,3.8nm,0.7s
BRVK Borovoye 13.81 351 *ce*P **Pn 05 11 41.0 -1.7**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
AB31 Akbulak array 13.87 319 *e*P **Pn 05 11 42.0 -1.4**
AB31 Akbulak array 13.87 319 P **Pn 05 11 42.0 -1.4**
comp=Z,3.1nm,0.6s,baz=131,slow=11,SNR=63
DGZ Jazzator, Alta 14.15 39 *i* P **Pn 05 11 47.7 +0.2**
AKTO Aktyubinsk 15.58 320 Pn **Pn 05 12 05.8 -0.7**
comp=Z,0.7nm,0.3s,baz=125,slow=14,SNR=15
AKTO LR LR 05 18 31.1
comp=Z,98nm,18.6s,baz=116,slow=39
comp=Z,3.4nm,0.5s
AKTO Aktyubinsk 15.58 320 ⇑P **Pn 05 12 05.6 -0.9**
comp=Z,3.7nm,0.7s
ZALV Zalesovo Beam 16.36 24 Pn **Pn 05 12 16.7 +0.2**
comp=Z,0.2nm,0.3s,baz=211,slow=12,SNR=11
ZALV LR LR 05 18 57.6
comp=Z,47nm,20.8s,baz=262,slow=39
comp=Z,3.0nm,0.7s
ARU Arti 19.71 335 P **P 05 12 54.8 -1.4**
ARU S **S 05 16 34.5 -3.8**
ARU Arti 19.71 335 P **P 05 12 56.7 +0.5**
comp=Z,0.5nm,0.3s,baz=135,slow=10.0,SNR=5.9
ARU LR LR 05 20 49.6
comp=Z,52nm,18.9s,baz=106,slow=38
comp=Z,2.0nm,0.3s
BELG Belogornoye 22.14 314 *i* P **P 05 13 21.7 -0.7**
BELG pmax pmax
comp=Z,4.0nm,0.8s
BELG Belogornoye 22.14 314 LR LR 05 22 56.5
comp=Z,50nm,19.2s,baz=179,slow=39
GNI Garni 22.22 281 *ce*P **P 05 13 26.5 +2.8**
GNI pmax pmax
comp=Z,18nm,1.3s
KBZ Khabaz 23.35 291 P **P 05 13 36.8 +1.5**
comp=Z,0.8nm,0.5s,baz=256,slow=16,SNR=2.0
comp=Z,0.8nm,0.5s
KIV Kislovodsk 23.51 291 *e*P **P 05 13 38.7 +1.7**
KIV pmax pmax
comp=Z,8.0nm,1.0s
SHA1 Shidzhatmaz 23.53 291 *e*P **P 05 13 39.4 +2.0**
KIRV Kirov 24.66 329 *ce*P **P 05 13 47.9 +0.4**
SONM Songino Array 24.96 60 P **P 05 13 51.3 +0.8**
comp=Z,0.4nm,0.5s,baz=270,slow=8.6,SNR=4.2
comp=Z,0.4nm,0.5s
ULN Ulaanbaatar 25.40 60 *ce*P **P 05 13 56.1 +1.5**
ULN pmax pmax
comp=Z,3.0nm,1.3s
ANN Anapa 27.27 293 *e*P **P 05 14 10.3 -0.9**
ANN *e**PP **pP 05 14 12.7 -3.0**
ANN *e*S **S 05 18 49.2 -1.1**
ANN pmax pmax
comp=Z,68nm,1.4s
HHC Hu-ho-hao-te 28.84 75 *e*P P 05 14 30.5 +5.0
HHC pP sP 05 14 34.6 +2.9
HHC pmax pmax
comp=Z,11nm,0.5s
HHC pmax pmax
comp=Z,49nm,5.0s
OBN Obninsk 29.23 315⇑*e*P **P 05 14 28.8 +0.2**
OBN *e* 05 15 18.1
OBN *e*S **S 05 19 23.8 +2.8**
OBN *e*SS **ScP 05 21 09.0 -8.0**
OBN pmax pmax
comp=Z,4.0nm,0.6s
OBN MLR MLR
comp=Z,19nm,8.0s
CMAR Chiang Mai Arr 30.25 126 LR LR 05 26 33.3
comp=Z,9.2nm,21.5s,baz=185,slow=36
BR131 Keskin Array S 30.69 284 *i* P **P 05 14 42.5 +0.6**
BRTR Keskin Array B 30.69 284 P **P 05 14 43.9 +2.0**
comp=Z,1.0nm,0.6s,baz=88,slow=8.5,SNR=5.6
comp=Z,1.0nm,0.6s
NRIK Noril'sk 30.86 10 *i* P **P 05 14 43.4 +0.5**
NRIK pmax pmax
comp=Z,2.0nm,1.1s
AKASG Malin Array Be 32.88 305 P **P 05 15 01.3 +0.5**
comp=Z,0.4nm,0.3s,baz=80,slow=7.4,SNR=14
comp=Z,0.4nm,0.3s
MILM Milestii Mici 33.19 298 *e*P **P 05 15 02.5 -1.1**
comp=Z,20nm,0.8s
MILM Milestii Mici 33.19 298 *e*P **P 05 15 02.0 -1.6**
MILM pmax pmax
comp=Z,20nm,0.8s
VSU Vasula 35.30 318 *ce*P **P 05 15 20.2 -1.5**
VSU pmax pmax
comp=Z,14nm,1.3s
FINES FINESS Array B 36.31 323 P **P 05 15 31.0 +0.6**
comp=Z,3.4nm,0.4s,baz=111,slow=9.4,SNR=37
FINES LR LR 05 31 43.6
comp=Z,80nm,18.2s,baz=100,slow=38
comp=Z,3.4nm,0.4s
ARCES ARCESS Array B 39.29 336 P **P 05 15 56.3 +0.8**
comp=Z,3.8nm,0.5s,baz=109,slow=8.5,SNR=56
comp=Z,3.8nm,0.5s
HFS Hagfors 42.13 320 P **P 05 16 19.5 +0.5**
comp=Z,3.9nm,0.5s,baz=96,slow=12,SNR=16
HFS LR LR 05 34 37.3
comp=Z,84nm,18.1s,baz=56,slow=37
comp=Z,3.9nm,0.5s
TIXI Tiksi 42.24 23 *ce*P **P 05 16 19.1 -0.7**
TIXI pmax pmax
comp=Z,5.0nm,0.6s
GERES GERESS Array B 43.04 303 P **P 05 16 27.7 +1.0**
comp=Z,0.7nm,0.5s,baz=74,slow=11,SNR=4.5
comp=Z,0.7nm,0.5s
NB2 NORSAR Subarra 43.37 321 P **P 05 16 29.3 +0.2**
comp=Z,4.7nm,0.8s,baz=91,slow=8.6
NOA NORSAR Array B 43.37 321 P **P 05 16 29.4 +0.3**
comp=Z,1.7nm,0.6s,baz=91,slow=7.9,SNR=15
comp=Z,1.7nm,0.6s
EKA Eskdalemuir Ar 51.69 315 P **P 05 17 33.6 -0.1**
comp=Z,1.8nm,0.6s,baz=84,slow=7.3,SNR=7.8
comp=Z,1.8nm,0.6s
ESDC Sonseca Array 57.98 297 P **P 05 18 19.9 +0.2**
comp=Z,0.8nm,0.6s,baz=58,slow=7.3,SNR=12
comp=Z,0.8nm,0.6s
TORD Torodi Ar. Bea 67.91 269 P **P 05 19 25.9 -0.1**
comp=Z,1.4nm,0.6s,baz=49,slow=5.5,SNR=13
comp=Z,1.4nm,0.6s
ILAR Eielson Array 71.36 17 P **P 05 19 46.0 -0.4**
comp=Z,0.7nm,0.7s,baz=334,slow=4.6,SNR=15
comp=Z,0.7nm,0.7s
YKA Yellowknife Ar 78.19 4 P **P 05 20 26.1 0.0**
comp=Z,0.8nm,0.6s,baz=349,slow=6.1,SNR=22
comp=Z,0.8nm,0.6s
WRA Warramunga Arr 81.81 124 P **P 05 20 46.8 +0.5**
comp=Z,0.4nm,0.4s,baz=325,slow=4.9,SNR=9.5
comp=Z,0.4nm,0.4s
ASAR Alice Springs 84.25 127 P **P 05 20 59.1 +0.2**
comp=Z,0.4nm,0.5s,baz=317,slow=4.8,SNR=5.3
comp=Z,0.4nm,0.5s

IDC 20 05:20:58.9±3.9, 5.86S×142.59E, h0km, mb3.1/1, mbtmp3.4/3, ML3.2/2, Error ellipse: s-maj=118.4km s-min=36.8km az=93.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.13**	**209**	Pn	Pn	05 24 45.4	-1.9
	0.1nm,0.3s,baz=32,slow=12,SNR=2.7						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**19.58**	**204**	P	Pn	05 25 29.6	-0.4
	0.1nm,0.3s,baz=32,slow=10.0,SNR=26						
	3.2nm,0.8s						
MKAR	**Makanchi Array**	**74.64**	**322**	P	P	05 32 40.1	-0.1
	0.1nm,0.7s,baz=102,slow=6.6,SNR=1.6						
	0.1nm,0.7s						

IDC 20 05:25:49.8±7.2, 27.50S×23.17E, h0km, mbtmp1.9/1, ML1.8/1, Error ellipse: s-maj=48.2km s-min=42.7km az=31.0, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I47ZA	**BOSHOF INFRASO**	**2.14**	**122**	I	I	05 42 40.0	
	0.3nm,0.8s,baz=301,slow=302,SNR=1.6						
BOSA	**Boshof**	**2.15**	**122**	Pn	Pn	05 26 27.3	+0.2
	0.2nm,0.3s,baz=307,slow=18,SNR=1.7						
BOSA				Lg	Lg	05 26 58.0	
	1.0nm,0.3s,baz=218,slow=17,SNR=13						
	1.3nm,0.7s						
I35NA	**TSUMEB INFRASO**	**9.73**	**327**	I	I	06 28 00.0	
	baz=149,slow=319,SNR=1.6						

TAP 20 05:44:07.5, 24.22N×121.79E, h8km, ML1.9, 2C-12D, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.10**	**333**	*e*P	Pg	05 44 09.2	-0.7
	baz=337						
EAHA	**Aohua**	**0.11**	**337**	⇓P	Pg	05 44 10.0	-0.2
	baz=337						
EAHA				S	Sg	05 44 12.5	+0.5
	baz=337						
ETL	**Fush Village**	**0.16**	**247**	*i* P	Pg	05 44 10.8	-0.2
	baz=246						
ETL				*i* S	Sg	05 44 13.6	+0.2
	baz=246						
NACB	**Ninganchiao**	**0.18**	**254**	⇓P	Pg	05 44 10.9	-0.4
	baz=254						
NACB				S	Sg	05 44 14.0	+0.1
	baz=254						
ENA	**Nanau**	**0.21**	**348**	⇓*i*P	Pg	05 44 11.6	-0.2
	baz=350						
ENA				S	Sg	05 44 14.9	+0.3
	baz=350						
EWUT	**Wuta**	**0.22**	**358**	⇓P	Pg	05 44 11.7	-0.3
	baz=357						
EWUT				*e*S	Sg	05 44 15.1	+0.1
	baz=357						
TWD	**Chiawan**	**0.23**	**231**	P	Pg	05 44 12.2	+0.1
	baz=229						
TWD				S	Sg	05 44 15.4	+0.2
	baz=229						
ETLH	**Xiulin Townshi**	**0.28**	**267**	⇑*i*P	Pg	05 44 12.8	-0.3
	baz=266						
ETLH				*e*S	Sg	05 44 16.9	0.0
	baz=266						
HWA	**Hwalien**	**0.30**	**214**	*i* P	Pg	05 44 13.5	0.0
	baz=212						
HWA				*e*S	Sg	05 44 18.1	+0.7
	baz=212						
ESAO	**Su ao**	**0.35**	**8**	P	Pg	05 44 14.8	+0.3
	baz=8.0						
ESAO				*e*S	Sg	05 44 19.6	+0.4
	baz=8.0						
ETM	**Tongmen**	**0.37**	**226**	P	Pg	05 44 14.7	-0.1
	baz=226						
ETM				S	Sg	05 44 20.6	+0.8
	baz=226						
TWC	**Suao**	**0.39**	**8**	*e*P	Pg	05 44 14.3	-0.9
	baz=9.0						
TWC				*e*S	Sg	05 44 20.3	0.0
	baz=9.0						
LATG	**Datong**	**0.39**	**322**	⇓*i*P	Pg	05 44 15.0	-0.2
	baz=322						
LATG				S	Sg	05 44 21.1	+0.7
	baz=322						
LXIB	**Xiulin Townshi**	**0.40**	**240**	P	Pg	05 44 15.0	-0.4
	baz=239						
LXIB				S	Sg	05 44 21.2	+0.6
	baz=239						
NDS	**Dongshan**	**0.41**	**351**	⇓P	Pg	05 44 15.8	+0.2
	baz=350						
NDS				S	Sg	05 44 21.9	+0.8
	baz=350						
NNSB	**Datong**	**0.42**	**299**	⇑P	Pg	05 44 15.8	-0.1
	baz=298						
NNSB				S	Sg	05 44 21.6	+0.2
	baz=298						
NNS	**Nan Shan**	**0.43**	**300**	*e*P	Pg	05 44 16.0	-0.1
	baz=299						
NNS				S	Sg	05 44 22.2	+0.3
	baz=299						
NDT	**Datong Townshi**	**0.45**	**326**	⇓P	Pg	05 44 16.4	0.0
	baz=326						
NDT				S	Sg	05 44 23.2	+0.9
	baz=326						
SHUL	**Shoufeng**	**0.48**	**205**	*e*P	Pb	05 44 17.9	-0.3
	baz=205						
SHUL				*e*S	Sb	05 44 26.3	+0.8
	baz=205						
WHF	**Hehuan Shan**	**0.48**	**261**	*i* P	Pg	05 44 16.5	-0.5
	baz=260						
WHF				S	Sg	05 44 23.6	+0.1
	baz=260						
FUSS	**Fushou**	**0.50**	**273**	P	Pg	05 44 17.1	-0.2
	baz=272						
FUSS				*e*S	Sg	05 44 23.9	0.0
	baz=272						
TWE	**Neicheng**	**0.51**	**347**	P	Pg	05 44 17.4	0.0
	baz=349						
TWE				*e*S	Sg	05 44 23.6	-0.5
	baz=349						
FUSB	**Fushanzhiwuyua**	**0.56**	**341**	⇓P	Pg	05 44 18.4	-0.1
	baz=341						
FUSB				*e*S	Sg	05 44 26.0	+0.1
	baz=341						
YHNB	**Yeheng**	**0.58**	**320**	⇓*e*P	Pg	05 44 18.9	0.0
	baz=319						
YHNB				*i* S	Sg	05 44 27.0	+0.5
	baz=319						
CHGB	**Renai**	**0.58**	**254**	⇓P	Pg	05 44 18.6	-0.3
	baz=253						
CHGB				S	Sg	05 44 26.7	+0.1
	baz=253						
NSK	**Sanguang**	**0.60**	**319**	⇓*e*P	Pg	05 44 19.0	-0.1
	baz=319						
NSK				*i* S	Sg	05 44 27.1	+0.2
	baz=319						
NWLT	**Wulai**	**0.61**	**335**	⇓P	Pg	05 44 19.3	0.0
	baz=334						
NWLT				*e*S	Sg	05 44 27.2	-0.1
	baz=334						
OWD	**Renai**	**0.62**	**245**	P	Pg	05 44 19.6	0.0
	baz=244						
OWD				S	Sg	05 44 28.0	+0.3
	baz=244						
WARBT	**Fenglin Townsh**	**0.62**	**216**	*i* P	Pg	05 44 19.5	-0.1
	baz=216						
WARBT				*e*S	Sb	05 44 29.3	-0.3
	baz=216						
WUSB	**Renai**	**0.66**	**249**	P	Pg	05 44 20.2	-0.1
	baz=249						
WUSB				*e*S	Sg	05 44 28.8	0.0
	baz=249						
NFF	**Wufeng Townshi**	**0.73**	**304**	*i* P	Pg	05 44 21.1	-0.6
	baz=303						
NFF				S	Sg	05 44 31.7	+0.4
	baz=303						
TIPB	**Shuangxi**	**0.74**	**3**	P	Pg	05 44 21.9	0.0
	baz=2.0						
TIPB				*e*S	Sg	05 44 31.5	-0.1
	baz=2.0						
VWDT	**VWDT**	**0.75**	**232**	P	Pg	05 44 21.9	-0.2
	baz=231						
VWDT				*e*S	Sb	05 44 34.3	+0.9
	baz=231						
WHP	**Taichung City**	**0.77**	**274**	*i* P	Pg	05 44 21.8	-0.7
	baz=274						
WHP				S	Sg	05 44 33.1	+0.6
	baz=274						
WCS	**Beigang Elemen**	**0.82**	**258**	P	Pg	05 44 22.5	-0.8
	baz=258						
WCS				S	Sg	05 44 34.0	+0.1
	baz=258						
SSLB	**Suanglung**	**0.88**	**240**	*i* P	Pg	05 44 23.9	-0.6
	baz=240						
SSLB				S	Sg	05 44 36.1	+0.2
	baz=240						
SMLT	**Sun Moon Lake**	**0.88**	**247**	P	Pg	05 44 23.6	-0.9
	baz=247						
SMLT				*i* S	Sg	05 44 36.2	+0.2
	baz=247						
YULB	**Yu-li**	**0.94**	**209**	P	Pg	05 44 25.4	-0.3
	baz=208						
YULB				*e*S	Sb	05 44 39.1	+0.4
	baz=208						

JMA 20 05:44:54.0±0.1, 24.2N±0.3×123.8E±0.3, h12km±1km, MV0.9/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.14**	**313**	*e*P	Pg	05 44 57.4	+0.1
JKRS	**Kuro-shima**	**0.16**	**92**	*i* P	Pg	05 44 57.6	0.0
HATJ	**Hateruma jima**	**0.19**	**189**	*i* P	Pg	05 44 58.0	-0.1
HATJ				*e*S	Sg	05 45 01.5	+0.6
JIJ	**Ishigaki jima**	**0.30**	**66**	*e*P	Pg	05 45 00.3	+0.1
JISG	**Ishigakijimahi**	**0.55**	**51**	*e*P	Pg	05 45 04.7	-0.1
JISG				*e*S	Sg	05 45 12.6	+0.5

KRSC 20 05:45:49.5±1.9, 54.13N×168.97E, h67km±34km, Ml4.1, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**2.05**	**303**	*e*S	Sn	05 46 47.2	+1.0
BZGR	**Bezymyannyi-Gr**	**5.09**	**294**	*e*S	Sn	05 48 04.4	+3.7
TUMR	**Tumrok**	**5.25**	**286**	*e*P	Pn	05 47 09.8	+4.4
KMNR	**Kamenistaya**	**5.29**	**292**	*e*P	Pn	05 47 10.3	+4.4
KMNR				*e*S	Sn	05 48 11.5	+5.9
SMAR	**Somma**	**6.10**	**266**	*e*P	Pn	05 47 20.7	+3.5
KRER	**Koryakskii**	**6.12**	**266**	*e*P	Pn	05 47 21.2	+3.7
AVH	**Avacha**	**6.14**	**266**	*e*P	Pn	05 47 21.3	+3.7
KRX	**Arik**	**6.17**	**267**	*e*P	Pn	05 47 21.4	+3.4
KRX				*e*S	Sn	05 48 29.4	+2.2
DALK	**Dalny**	**6.18**	**264**	*e*P	Pn	05 47 21.9	+3.9
KOK	**Koryaka**	**6.19**	**266**	*e*P	Pn	05 47 22.2	+3.9
PET	**Petropavlovsk**	**6.25**	**264**	*e*P	Pn	05 47 22.8	+3.9
RUS	**Russkaya**	**6.50**	**259**	*e*P	Pn	05 47 26.7	+4.4
RUS				*e*S	Sn	05 48 36.9	+1.9
TILK	**Tilichiki**	**6.52**	**348**	*e*P	Pn	05 47 25.0	+2.4
GNL	**Ganaly**	**6.53**	**271**	*e*P	Pn	05 47 27.4	+4.5
KRMR	**Karymshinskiy**	**6.60**	**263**	*e*P	Pn	05 47 27.4	+3.7
KRMR				*e*S	Sn	05 48 39.0	+1.5
MTVR	**Mutnovka**	**6.67**	**260**	*e*P	Pn	05 47 28.3	+3.4
MTVR				*e*S	Sn	05 48 40.1	+0.6
ASAK	**Asacha**	**6.87**	**260**	*e*P	Pn	05 47 31.3	+3.8
ASAK				*e*S	Sn	05 48 46.5	+2.3

IDC 20 05:49:44.3±3.3, 54.56N×87.30E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=27.2km s-min=20.4km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.58**	**248**	I	I	05 59 34.4	
	0.1nm,1.0s,baz=68,slow=333,SNR=1.4						
ZALV	**Zalesovo Beam**	**1.58**	**248**	Pg	Pn	05 50 11.1	-2.4
	0.9nm,0.3s,baz=66,slow=17,SNR=10						
ZALV				Lg	Lg	05 50 34.5	
	1.2nm,0.3s,baz=70,slow=29,SNR=7.0						
KURBB	**Kurchatov Arra**	**6.64**	**237**	Pn	Pn	05 51 23.6	+0.5
	0.2nm,0.3s,baz=52,slow=14,SNR=7.8						
KURBB				Lg	Lg	05 53 17.3	
	0.1nm,0.3s,baz=46,slow=28,SNR=6.5						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**8.40**	**204**	Pn	Pn	05 51 48.7	+1.4
	0.1nm,0.3s,baz=28,slow=14,SNR=2.7						
MKAR				Lg	Lg	05 54 13.6	
	0.1nm,0.3s,baz=25,slow=29,SNR=2.6						
	0.1nm,0.3s						

*IDC **20** 06:22:43.9±0.7, 55.08S×128.89W, h0km, mb4.3/7, mbtmp4.3/7, MS4.1/35, Error ellipse: s-maj=32.6km s-min=22.4km az=128.0*

*GCMT **20** 06:22:47.0±0.3, 55.63S±0.02×128.33W±0.03, h21km±1km, MW4.8/85, Moment Tensor Solution. s22,c26; s85,c108; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}0.31±.13; $M_{\theta\theta}$1.06±.11; $M_{\phi\phi}$-1.37±.11; $M_{r\theta}$-0.37±.17; $M_{\theta\phi}$1.87±.07; $M_{\phi r}$-0.50±.18; Best double couple: $M_0$2.32700×10^16^ NP1:ϕ_s195.00000°, δ83.00000°, λ164.00000°. NP2: ϕ_s287.00000°, δ74.00000°, λ8.00000°. Principal axes: T 2.2410, Plg16.0000°, Azm151.0000°; N 0.1680, Plg73.0000°, Azm351.0000°; P -2.4120, Plg6.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 20 06:22:45.4±0.7, 55.1S±0.2×128.9W±0.2, h10km, n59, σ1.9 28/16, mb4.1/7, MS4.1/35, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**31.35**	**35**	LR	LR	06 38 22.5	
	comp=Z,359nm,20.9s,baz=204,slow=30						
PMSA	**Palmer Station**	**32.43**	**134**	LR	LR	06 38 18.3	
	comp=Z,375nm,21.6s,baz=262,slow=29						
VNDA	**Vanda**	**32.56**	**202**	P	**P**	**06 29 16.9**	**+0.8**
	2.2nm,1.1s,baz=76,slow=4.7,SNR=4.5						
VNDA				LR	LR	06 38 32.1	
	comp=Z,144nm,18.1s,baz=36,slow=29						
	2.2nm,1.1s						
QSPA	**South Pole Qui**	**35.09**	**180**	P	**P**	**06 29 38.0**	**-0.5**
	5.5nm,0.8s,baz=81,slow=3.7,SNR=3.9						
QSPA				LR	LR	06 42 22.5	
	comp=Z,399nm,18.1s,baz=84,slow=34						
	5.5nm,0.8s						
URZ	**Urewera**	**39.60**	**272**	LR	LR	06 43 20.3	
	comp=Z,255nm,19.4s,baz=277,slow=31						
H03S2	**Juan Fernandez**	**40.41**	**79**	T	T	07 12 59.0	
	baz=220,slow=74,SNR=14						
H03S1	**Juan Fernandez**	**40.42**	**79**	T	T	07 13 00.3	
	baz=220,slow=74,SNR=12						
PLCA	**Paso Flores**	**40.43**	**94**	LR	LR	06 43 12.9	
	comp=Z,106nm,19.0s,baz=226,slow=30						
H03S3	**Juan Fernandez**	**40.43**	**79**	T	T	07 12 59.5	
	baz=220,slow=74,SNR=12						
PPT	**Papeete**	**40.66**	**329**	LR	LR	06 43 32.0	
	comp=Z,262nm,18.8s,baz=154,slow=31						
H03N3	**Juan Fernandez**	**40.69**	**79**	T	T	07 13 18.0	
	baz=224,slow=72,SNR=37						
H03N2	**Juan Fernandez**	**40.70**	**79**	T	T	07 13 17.6	
	baz=224,slow=72,SNR=38						
H03N1	**Juan Fernandez**	**40.71**	**79**	T	T	07 13 18.5	
	baz=224,slow=72,SNR=35						
RAR	**Rarotonga**	**41.00**	**313**	LR	LR	06 46 55.7	
	comp=Z,191nm,18.1s,baz=161,slow=35						
SNAA	**Sanae**	**48.00**	**160**	LR	LR	06 50 49.8	
	comp=Z,283nm,19.1s,baz=202,slow=35						
LVC	**Limon Verde**	**54.64**	**79**	LR	LR	06 49 26.2	
	comp=Z,73nm,21.9s,baz=222,slow=29						
MAW	**Mawson**	**57.32**	**185**	P	**P**	**06 32 34.0**	**+1.3**

6.2nm,0.9s,baz=164,slow=7.4,SNR=4.2
MAW LR LR 06 54 15.5
comp=Z,109nm,18.0s,baz=119,slow=33
6.2nm,0.9s
DZM Mont Dzumac 57.74 277 LR LR 06 51 41.7
comp=Z,114nm,21.5s,baz=170,slow=30
CPUP Villa Florida 58.38 91 LR LR 06 54 16.5
comp=Z,236nm,18.6s,baz=226,slow=32
NNA Nana 59.01 64 LR LR 06 52 09.0
comp=Z,79nm,21.9s,baz=209,slow=30
ATAH Atahualpa 62.35 60 LR LR 06 53 54.1
comp=Z,238nm,18.2s,baz=216,slow=30
STKA Stephens Creek 64.28 251 LR LR 06 57 45.6
comp=Z,150nm,18.2s,baz=198,slow=33
CTA Charters Tower 70.87 262 LR LR 06 59 36.2
comp=Z,71nm,20.6s,baz=359,slow=31
BDFB Brasilia 72.11 92 LR LR 07 03 07.0
comp=Z,142nm,18.2s,baz=298,slow=34
ROSC El Rosal 74.71 57 P **P 06 34 25.8 0.0**
6.8nm,0.6s,baz=138,slow=8.4,SNR=6.9
ROSC LR LR 07 01 12.3
comp=Z,157nm,19.8s,baz=245,slow=31
6.8nm,0.6s
JTS Las Juntas de 74.79 45 LR LR 06 59 58.1
comp=Z,14nm,18.4s,baz=174,slow=30
ASAR Alice Springs 74.91 250 P **P 06 34 25.9 -0.6**
2.0nm,1.0s,baz=143,slow=5.4,SNR=8.4
ASAR LR LR 07 03 15.2
comp=Z,189nm,19.3s,baz=165,slow=32
2.0nm,1.0s
H06S1 SOCORRO T 75.09 18 T T 07 56 25.1
SNR=12
H01W1 Cape Leeuwin H 75.43 229 T T 07 58 25.7
baz=147,slow=76,SNR=5.7
H01W2 Cape Leeuwin H 75.43 229 T T 07 58 24.5
baz=147,slow=76,SNR=3.8
H01W3 Cape Leeuwin H 75.44 229 T T 07 58 28.5
baz=147,slow=76,SNR=3.6
NWAO Narrogin (SRO) 75.71 233 LR LR 07 00 46.8
comp=Z,89nm,19.0s,baz=158,slow=30
WRA Warramunga Arr 77.67 253 P **P 06 34 41.9 -0.3**
0.9nm,0.6s,baz=145,slow=5.1,SNR=12
0.9nm,0.6s
SDV Santo Domingo 80.01 59 LR LR 07 06 39.1
comp=Z,93nm,18.7s,baz=204,slow=33
LPIG La Paz 80.45 17 LR LR 07 02 05.5
comp=Z,49nm,18.3s,baz=214,slow=29
TEIG Tepich 82.60 38 LR LR 07 03 42.8
comp=Z,538nm,21.3s,slow=30
PCRV Puerto La Cruz 84.12 63 LR LR 07 08 37.6
comp=Z,234nm,18.6s,slow=33
MDP Montagnes des 86.33 76 LR LR 07 10 49.0
comp=Z,49nm,19.9s,baz=204,slow=33
TXAR Lajitas Array 86.82 22 P **P 06 35 31.2 +1.5**
1.1nm,0.9s,baz=196,slow=5.0,SNR=4.6
1.1nm,0.9s
PFO Pinyon Flats O 88.98 10 LR LR 07 05 56.6
comp=Z,69nm,20.9s,baz=236,slow=29
SUR Sutherland 89.08 155 LR LR 07 07 48.3
comp=Z,97nm,21.4s,baz=170,slow=30
BATI Baumata 91.48 250 LR LR 07 13 07.5
comp=Z,166nm,20.1s,baz=216,slow=33
H11N3 WAKE ISLAND Hy 92.22 302 T T 08 18 50.1
baz=148,slow=76,SNR=6.0
H11N1 WAKE ISLAND Hy 92.23 302 T T 08 18 57.2
baz=148,slow=76,SNR=5.3
H11N2 WAKE ISLAND Hy 92.24 302 T T 08 18 50.1
baz=148,slow=76,SNR=6.4
NVAR Mina Array Bea 92.58 8 LR LR 07 10 16.8
comp=Z,64nm,18.1s,baz=200,slow=30
ELK Elko 96.17 10 LR LR 07 10 24.3
comp=Z,37nm,20.5s,baz=198,slow=30
LBTB Lobatse 97.28 157 LR LR 07 15 51.1
comp=Z,87nm,19.4s,baz=180,slow=33
TKL Tuckaleechee C 98.30 36 LR LR 07 14 02.9
comp=Z,37nm,20.0s,baz=160,slow=31
PDAR Pinedale Array 98.86 14 LR LR 07 12 12.7
comp=Z,50nm,21.5s,baz=182,slow=30
ILAR Eielson Array 120.32 351 PKP **PKPdf 06 41 34.4 -0.8**
0.9nm,0.7s,baz=205,slow=2.6,SNR=14
TORD Torodi Ar. Bea 123.31 118 PKP **PKPdf 06 41 40.1 -2.4**
0.5nm,0.8s,baz=227,slow=3.6,SNR=2.6
CMAR Chiang Mai Arr 128.60 244 PKP **PKiKP 06 41 54.6 +1.5**
0.9nm,0.3s,baz=191,slow=2.3,SNR=5.8
SONM Songino Array 145.62 281 PKPbc **PKPab 06 42 23.5 -0.2**
3.4nm,0.9s,baz=127,slow=3.8,SNR=6.8
EKA Eskdalemuir Ar 149.69 67 PKPbc **PKPbc 06 42 34.0 0.0**
2.1nm,0.8s,baz=249,slow=3.5
MKAR Makanchi Array 158.83 260 PKPab **PKPab 06 43 16.9 -1.6**
0.3nm,0.4s,baz=127,slow=3.8,SNR=1.7
AAK Ala-Archa 160.33 240 PKPab **PKPab 06 43 24.5 -0.8**
1.2nm,0.7s,baz=189,slow=5.5,SNR=2.6
BRTR Keskin Array B 160.69 136 PKPab **PKPab 06 43 25.4 -1.5**
1.8nm,0.8s,baz=160,slow=4.6,SNR=4.2
KURBB Kurchatov Arra 162.91 266 PKP **PKPdf 06 42 48.1 +1.4**
0.4nm,0.8s,baz=274,slow=1.5,SNR=4.1

*JMA **20** 06:42:30.3±0.3,29.3°N±1.0×12.9°E±°, h15km±1km, MV2.9/18, NEAR TOKARA ISLANDS*
JMA Felt III J1 at NEAR TOKARA ISLANDS .
*IDC **20** 06:42:30.6±1.6,29.16°N×129.13E, h0km, mb3.5/3, mbtmp3.6/5, ML3.3/2, MS3.2/7, Error ellipse: s-maj=48.1km s-min=20.0km az=88.0*
ISC 20 06:42:29.7±0.8, 29.30N±0.05×129.37E±0.08, h10km, n23, σ1§47/19, mb3.4/3, MS3.9/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTAJ	**Takarajima**	**0.20**	**224**	P	**Pg**	**06 42 33.8**	**-0.2**
JTAJ				S	**Sg**	**06 42 36.1**	**-0.7**
JNN	**Nakanoshima**	**0.70**	**39**	P	**Pn**	**06 42 45.8**	**+0.1**
JAM	**Amami Oshima**	**0.91**	**167**	*eP*	**Pg**	**06 42 46.8**	**-0.5**
JAMN	**Amaminishikomi**	**1.07**	**189**	P	**Pg**	**06 42 49.4**	**-0.8**
JZK	**Kikaishima**	**1.12**	**151**	*eP*	**Pn**	**06 42 52.9**	**+1.5**
JKC	**Kuchinoerabu**	**1.36**	**32**	P	**Pn**	**06 42 55.7**	**+0.9**
JYAK	**Yakushimahirau**	**1.36**	**46**	P	**Pn**	**06 42 55.5**	**+0.7**
JTK	**Tokunoshima**	**1.55**	**194**	P	**Pn**	**06 42 57.4**	**0.0**
JMTN	**Minamitane**	**1.72**	**50**	*eP*	**Pn**	**06 43 01.2**	**+1.5**
JTN	**Tanegashima 3**	**1.94**	**46**	*eP*	**Pn**	**06 43 04.2**	**+1.4**
JYRO	**Yoronjima**	**2.41**	**200**	*eP*	**Pn**	**06 43 09.9**	**+0.7**
JOW	**Kunigami**	**2.64**	**202**	*eP*	**Pn**	**06 43 13.4**	**+1.0**
JOW	**Kunigami**	**2.64**	**202**	Pn	**Pn**	**06 43 13.4**	**+1.0**
	6.2nm,0.3s,baz=26,slow=10,SNR=12						
JOW					Sn	**06 43 42.8**	**-1.7**
	3.2nm,0.3s,baz=54,slow=26,SNR=2.0						
	24nm,0.3s						
JNU	**Nakatsue**	**4.02**	**18**	Pn	**Pb**	**06 43 37.4**	**-3.4**
	3.7nm,0.3s,baz=332,slow=8.2,SNR=16						
JNU				LR	LR	06 45 27.4	
	comp=Z,198nm,21.9s,baz=176,slow=42						
	12nm,0.5s						
KSRS	**Korea Array**	**8.22**	**352**	LR	LR	06 47 43.6	
	comp=Z,74nm,18.9s,baz=175,slow=38						
MJAR	**Matsushiro Arr**	**10.36**	**44**	LR	LR	06 49 36.7	
	comp=Z,84nm,21.9s,baz=220,slow=40						
USRK	**Ussuriysk Ar.**	**15.02**	**7**	LR	LR	06 52 35.8	
	comp=Z,68nm,18.1s,baz=149,slow=40						
DAV	**Davao City (W)**	**22.40**	**190**	LR	LR	06 55 34.2	
	comp=Z,25nm,19.6s,baz=344,slow=35						
SONM	**Songino Array**	**25.63**	**323**	P	**P**	**06 48 02.1**	**+2.6**
	0.6nm,0.7s,baz=142,slow=8.0,SNR=3.9						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**40.32**	**309**	P	**P**	**06 50 08.4**	**+1.2**
	0.3nm,0.6s,baz=96,slow=7.4,SNR=2.6						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**49.19**	**174**	P	**P**	**06 51 18.9**	**+0.8**
	0.8nm,0.6s,baz=353,slow=8.2,SNR=9.9						
	0.8nm,0.6s						
KDAK	**Kodiak Island**	**59.47**	**37**	LR	LR	07 22 08.2	
	comp=Z,126nm,18.2s,baz=205,slow=40						
INK	**Inuvik**	**65.68**	**24**	LR	LR	07 24 31.2	
	comp=Z,64nm,18.3s,baz=194,slow=38						

RSNC 20 06:56:01.5±0.0, 7°N±1°×7°3W±°, h140km±3km, mb3.7, mB4.7, ML2.9, MLv3.5, Mw(mB)3.9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.27**	**196**	P	Pn	06 56 19.9	-1.2
BARC				S	Sn	06 56 34.5	-1.4
PAMC	**Pamplona, Colo**	**0.63**	**40**	P	Pn	06 56 22.6	-0.5
PAMC				S	Sn	06 56 39.6	+0.2
RUSC	**La Rusia**	**0.95**	**178**	P	Pn	06 56 24.0	-1.5
RUSC				S	Sn	06 56 42.2	-1.5
PTBC	**PUERTO BERRIO,**	**1.37**	**257**	P	Pn	06 56 26.6	-2.4
PTBC				S	Sn	06 56 47.7	-2.2
TAMC	**Tame, Arauca**	**1.37**	**107**	P	Pn	06 56 28.3	-0.7
TAMC				S	Sn	06 56 49.2	-0.8
OCAC	**Ocana**	**1.40**	**351**	P	Pn	06 56 27.9	-1.5
OCAC				S	Sn	06 56 49.6	-1.1
SPBC	**San Pablo de B**	**1.53**	**219**	P	Pn	06 56 28.8	-1.9
SPBC				S	Sn	06 56 50.9	-2.1
ZARC	**Zaragoza, Cauc**	**1.85**	**290**	P	Pn	06 56 33.2	-1.1
ZARC				S	Sn	06 56 58.2	-1.1
NORC	**Norcasia**	**2.17**	**234**	P	Pn	06 56 35.9	-2.2
NORC				S	Sn	06 57 03.6	-2.6
ROSC	**El Rosal**	**2.33**	**211**	P	Pn	06 56 40.0	-0.5
ROSC				S	Sn	06 57 10.4	0.0
HELC	**Santa Helena**	**2.49**	**255**	P	Pn	06 56 42.2	-0.2
HELC				S	Sn	06 57 13.7	-0.1
GUY2C	**Guyana, Caldas**	**2.76**	**234**	P	Pn	06 56 44.3	-1.6
GUY2C				S	Sn	06 57 20.3	+0.2
VILC	**Villavicencio,**	**2.78**	**192**	P	Pn	06 56 44.4	-1.5
VILC				S	Sn	06 57 18.1	-2.0
PTGC	**Puerto Gaitan,**	**2.81**	**160**	P	Pn	06 56 43.3	-2.8
PTGC				S	Sn	06 57 16.9	-3.5
CBOC	**Ciudad Bolivar**	**3.05**	**251**	P	Pn	06 56 47.8	-1.5
CBOC				S	Sn	06 57 23.2	-2.9
DBBC	**Dabeiba**	**3.08**	**273**	P	Pn	06 56 47.7	-1.9
DBBC				S	Sn	06 57 23.6	-3.2
ARGC	**Ariguani, Magd**	**3.19**	**339**	P	Pn	06 56 50.7	-0.3
ARGC				S	Sn	06 57 28.7	-0.6
APAC	**Apartado, Choc**	**3.60**	**287**	P	Pn	06 56 54.1	-2.1
APAC				S	Sn	06 57 37.0	-1.6
ORTC	**Ortega, Tolima**	**3.61**	**216**	P	Pn	06 56 54.8	-1.7
ORTC				S	Sn	06 57 37.5	-1.6
SJCC	**San Jacinto, C**	**3.66**	**326**	P	Pn	06 56 54.4	-2.7
SJCC				S	Sn	06 57 35.7	-4.4
PLMC	**San Jos del P**	**3.70**	**239**	P	Pn	06 56 56.0	-1.7
PLMC				S	Sn	06 57 39.3	-1.9
CRJC	**Cerrejon, Guaj**	**4.15**	**3**	P	Pn	06 57 00.1	-3.5
CRJC				S	Sn	06 57 47.3	-4.5
YOTC	**Yotoco, Valle**	**4.30**	**229**	P	Pn	06 57 03.0	-2.6
GUVC	**San Jose del G**	**4.30**	**174**	P	Pn	06 57 05.2	-0.4
GUVC				S	Sn	06 57 51.8	-3.6
SMRC	**Santa Marta, M**	**4.42**	**346**	P	Pn	06 57 04.5	-2.7
SMRC				S	Sn	06 57 53.5	-4.7
MACC	**Macarena, Meta**	**4.73**	**189**	P	Pn	06 57 07.8	-3.5
MACC				S	Sn	06 57 59.5	-6.0
JAMC	**Jamundi, Valle**	**5.06**	**225**	P	Pn	06 57 13.2	-2.6
	5.0nm,0.5s,0.1nm						
MALC	**Bahia Malaga**	**5.06**	**236**	P	Pn	06 57 14.8	-0.8
UPD2	**Meteti**	**5.14**	**289**	P	Pn	06 57 15.0	-1.7
	36nm,1.9s,0.2nm						
UPD2				S	Sn	06 58 10.4	-4.9
	36nm,1.9s,0.2nm						
GARC	**Garzon, Huila**	**5.21**	**207**	P	Pn	06 57 13.9	-3.9
POPC	**Popayan, Colom**	**5.56**	**220**	P	Pn	06 57 20.4	-2.1
	3.5nm,0.5s						
POPC				S	Sn	06 58 22.1	-3.6
	3.5nm,0.5s						
FLOC	**Florencia**	**5.81**	**206**	P	Pn	06 57 23.3	-2.4
FLOC				P	Pn	06 57 24.2	-1.5
FLOC				S	Sn	06 58 29.3	-2.2

*NOU **20** 06:58:38.6, 17.7°S×178.01°W, h531km, MLv4.6/6, Fiji Islands Region*
*NEIC **20** 06:58:38.4±1.9, 18.13°S±0.10°×178.12°W±0.09, h474km±7km, mb4.3/121, Error ellipse: s-maj=17.2km s-min=7.7km az=139.0*
*IDC **20** 06:58:39.0±1.6, 18.20°S×178.31°W, h481km±17km, mb3.9/16, mbtmp4.6/17, Error ellipse: s-maj=13.1km s-min=10.1km az=137.0*
*BGR **20** 06:58:40.1, 18.59°S×177.85°W, h500km*
ISC 20 06:58:39.9±0.3, 18.10S±0.07×178.16W±0.07, h500km, n256, σ1§40/219, mb4.3/78, 18C-22D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAVE	**Taveuni**	**2.17**	**309**	P	**P**	**06 59 47.0**	**+1.0**
DGTI	**Dogotuki**	**2.69**	**311**	P	**P**	**06 59 49.7**	**+0.7**
MSVF	**Nonsavu**	**3.63**	**275**	P	**P**	**06 59 57.2**	**+1.6**
MSVF	**Nonsavu**	**3.63**	**275**	P	**P**	**06 59 57.4**	**+1.8**
YSA	**Yasawairara**	**4.30**	**288**	P	**P**	**07 00 02.0**	**+1.1**
AFI	**Afiamalu**	**7.42**	**57**	P	**P**	**07 00 27.1**	**-3.5**
AFI	**Afiamalu**	**7.42**	**57**	P	**P**	**07 00 27.0**	**-3.5**
NIUE	**Niue**	**7.87**	**98**	P	**P**	**07 00 33.7**	**-1.3**
NIUE	**Niue**	**7.87**	**98**	P	**P**	**07 00 32.0**	**-2.9**
DZM	**Mont Dzumac**	**14.99**	**252**	P	**P**	**07 01 48.3**	**-1.9**
	7.7nm,1.0s,baz=329,slow=2.5,SNR=2.6						
WMGZ	**Waiomatatini S**	**19.87**	**188**	P	**P**	**07 02 37.1**	**-0.2**
HAZ	**Te Kaha**	**19.90**	**189**	P	**P**	**07 02 35.8**	**-1.7**
HAZ				S	S	07 06 00.2	+10
PKGZ	**Pakihiroa**	**19.99**	**189**	P	**P**	**07 02 37.1**	**-1.2**
PKGZ				S	**S**	**07 06 00.0**	**+7.8**
RUGZ	**Raukumara Rang**	**20.12**	**190**	P	**P**	**07 02 37.1**	**-2.5**
RUGZ				S	S	07 06 06.4	+12
TGRZ	**Tauranga**	**20.16**	**193**	P	**P**	**07 02 39.7**	**-0.1**
TWGZ	**Tauwhareparae**	**20.28**	**189**	P	**P**	**07 02 39.4**	**-1.7**
TWGZ				S	S	07 06 14.5	+18
TOZ	**Tahuroa Road**	**20.33**	**195**	P	**P**	**07 02 41.2**	**-0.2**
TOZ	**Tahuroa Road**	**20.33**	**195**	P	**P**	**07 02 42.0**	**+0.6**
KMRZ	**Kaimai**	**20.34**	**194**	P	**P**	**07 02 42.3**	**+0.7**
URZ	**Urewera**	**20.50**	**191**	P	**P**	**07 02 40.4**	**-2.6**
	15nm,0.5s,baz=45,slow=5.5,SNR=18						
	15nm,0.5s						
URZ	**Urewera**	**20.50**	**191**	P	**P**	**07 02 39.4**	**-3.6**
MWZ	**Matawai**	**20.51**	**190**	P	**P**	**07 02 41.1**	**-1.9**
CNGZ	**Carnagh Statio**	**20.55**	**188**	P	**P**	**07 02 42.7**	**-0.7**
RIGZ	**Rimuhau**	**20.84**	**189**	P	**P**	**07 02 44.5**	**-1.5**
TLZ	**Tolley Road**	**20.89**	**194**	P	**P**	**07 02 46.7**	**+0.2**
MTHZ	**Maungataniwha**	**21.13**	**191**	P	**P**	**07 02 47.5**	**-1.2**
RAHZ	**Arahi**	**21.15**	**190**	P	**P**	**07 02 46.9**	**-2.0**
RATZ	**Rangitukua**	**21.36**	**193**	P	**P**	**07 02 48.7**	**-2.1**
TMVZ	**Te Maari**	**21.61**	**193**	P	**P**	**07 02 50.7**	**-2.4**
ETVZ	**East Tongariro**	**21.63**	**193**	P	**P**	**07 02 51.9**	**-1.4**
KWHZ	**Kaweka Forest**	**21.76**	**191**	P	**P**	**07 02 52.5**	**-2.0**
WNVZ	**Wahianoa**	**21.83**	**193**	P	**P**	**07 02 53.5**	**-1.8**
THZ	**Tophouse**	**24.79**	**196**	P	**P**	**07 03 19.4**	**-2.0**
DSZ	**Denniston Nort**	**25.08**	**198**	P	**P**	**07 03 22.1**	**-1.9**
MLZ	**Mavora Lakes**	**29.50**	**200**	P	**P**	**07 04 02.2**	**-0.5**
WHZ	**Wether Hill Ro**	**30.02**	**200**	P	**P**	**07 04 06.1**	**-1.1**
CTAO	**Charters Tower**	**33.65**	**261**	P	**P**	**07 04 38.4**	**-0.3**
CTAO				IAmb	IAmb	07 04 39.2	
	comp=Z,12nm,0.7s						
CAN	**Canberra**	**33.78**	**233**	P	**P**	**07 04 39.3**	**-0.4**
PATS	**Pohnpei**	**33.96**	**315**	P	**P**	**07 04 42.9**	**+1.6**
PATS				IAmb	IAmb	07 05 18.1	
	comp=Z,3.0nm,0.4s						
TOO	**Toolangi**	**37.23**	**231**	P	**P**	**07 05 08.5**	**+0.2**
COEN	**Coen**	**37.35**	**271**	P	**P**	**07 05 10.2**	**+0.7**
COEN				IAmb	IAmb	07 05 27.6	
	comp=Z,23nm,1.4s						
STKA	**Stephens Creek**	**38.75**	**241**	P	**P**	**07 05 21.2**	**+0.5**
STKA				IAmb	IAmb	07 05 21.5	
	comp=Z,3.9nm,0.6s						
STKA	**Stephens Creek**	**38.75**	**241**	P	**P**	**07 05 21.1**	**+0.3**
	comp=Z,16nm,0.5s,baz=92,slow=11,SNR=40						
	comp=Z,16nm,0.5s						
BBOO	**Buckleboo**	**43.52**	**241**	P	**P**	**07 05 58.7**	**-0.1**
WB0	**Warramunga Arr**	**44.80**	**260**	P	**P**	**07 06 07.7**	**-1.2**
WB0				IAmb	IAmb	07 06 08.7	
	comp=Z,6.5nm,0.9s						
WB2	**Warramunga Arr**	**44.82**	**260**	P	**P**	**07 06 08.1**	**-0.9**
WB2				IAmb	IAmb	07 06 08.8	
	comp=Z,7.1nm,0.6s						
WRA	**Warramunga Arr**	**44.83**	**260**	P	**P**	**07 06 08.2**	**-1.0**
WRA	**Warramunga Arr**	**44.83**	**260**	P	**P**	**07 06 08.1**	**-1.0**
	comp=Z,4.3nm,0.6s,baz=95,slow=7.0,SNR=73						
WRA				PcP	**pP**	**07 07 40.5**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=100,slow=3.5,SNR=3.7						
WRA				S	**S**	**07 12 05.9**	**-4.0**
	comp=Z,0.3nm,0.7s,baz=91,slow=14,SNR=1.7						
	comp=Z,4.3nm,0.6s						
AS31	**Alice Springs**	**44.97**	**254**	P	**P**	**07 06 10.0**	**-0.2**
ASAR	**Alice Springs**	**44.97**	**254**	P	**P**	**07 06 10.1**	**-0.1**
ASAR	**Alice Springs**	**44.97**	**254**	P	**P**	**07 06 09.9**	**-0.3**
	comp=Z,33nm,0.5s,baz=90,slow=8.4,SNR=626						
ASAR				PcP	**pP**	**07 07 41.2**	**-1.1**
	comp=Z,1.9nm,0.5s,baz=102,slow=4.0,SNR=5.5						
ASAR				ScP	**ScP**	**07 10 48.6**	**+3.0**
	comp=Z,0.5nm,0.7s,baz=96,slow=4.7,SNR=3.0						
ASAR				S	**S**	**07 12 09.4**	**-2.4**
	comp=Z,1.6nm,0.9s,baz=88,slow=17,SNR=7.3						
	comp=Z,33nm,0.5s						

MTN	**Manton Dam**	**49.03**	**269**	P	**P**	**07 06 40.6**	**-0.4**
MTN				IAmb	IAmb	07 06 41.5	
	comp=Z,13nm,0.8s						
FORT	**Forrest**	**50.14**	**245**	P	**P**	**07 06 48.2**	**-0.7**
KNRA	**Kununurra**	**50.71**	**264**	P	**P**	**07 06 53.1**	**-0.2**
FITZ	**Fitzroy Crossi**	**53.23**	**261**	P	**P**	**07 07 11.6**	**+0.1**
PSA00	**Pilbara Seismi**	**58.09**	**255**	P	**P**	**07 07 45.1**	**-0.1**
PSA00				IAmb	IAmb	07 07 50.2	
	comp=Z,22nm,1.1s						
MBWA	**Marble Bar**	**58.26**	**256**	P	**P**	**07 07 45.9**	**-0.5**
MBWA				IAmb	IAmb	07 07 49.6	
	comp=Z,23nm,1.2s						
NWAO	**Narrogin (SRO)**	**59.33**	**242**	P	**P**	**07 07 53.3**	**-0.2**
NWAO				IAmb	IAmb	07 08 01.7	
	comp=Z,24nm,1.2s						
SBA	**Scott Base**	**60.24**	**184**	P	**P**	**07 07 59.9**	**+1.2**
VNDA	**Vanda**	**60.27**	**185**	P	**P**	**07 07 59.9**	**+1.0**
VNDA	**Vanda**	**60.27**	**185**	P	**P**	**07 07 59.7**	**+0.7**
	comp=Z,2.5nm,0.6s,baz=358,slow=6.7,SNR=15						
	comp=Z,2.5nm,0.6s						
MORW	**Morawa**	**60.62**	**246**	P	**P**	**07 08 01.4**	**-0.7**
MORW				IAmb	IAmb	07 08 02.6	
	comp=Z,24nm,1.5s						
GIRL	**Giralia**	**63.07**	**253**	P	**P**	**07 08 18.5**	**+0.3**
MJAR	**Matsushiro Arr**	**68.20**	**323**	P	**P**	**07 08 50.1**	**+0.1**
	comp=Z,2.5nm,0.4s,baz=154,slow=6.6,SNR=7.7						
	comp=Z,2.5nm,0.4s						
QSPA	**South Pole Qui**	**71.95**	**180**	P	**P**	**07 09 12.6**	**+0.5**
QSPA	**South Pole Qui**	**71.95**	**180**	P	**P**	**07 09 12.3**	**+0.3**
	comp=Z,10nm,0.6s,baz=7.9,slow=2.4,SNR=108						
	comp=Z,10nm,0.6s						
PETK	**Petropavlovsk-**	**73.93**	**345**	P	**P**	**07 09 24.3**	**+1.0**
	comp=Z,16nm,0.8s,baz=126,slow=8.7,SNR=8.2						
	comp=Z,16nm,0.8s						
KMRM	**Mail Ridge**	**77.01**	**40**	IAmb	IAmb	07 09 44.0	
	comp=Z,10nm,0.8s						
AFDM	**Forest Hills D**	**77.96**	**42**	P	**P**	**07 09 46.1**	**0.0**
MDJ	**Mudanjiang**	**78.48**	**325**	P	**P**	**07 09 49.7**	**+1.0**
MDJ				IAmb	IAmb	07 09 52.3	
	comp=Z,12nm,0.9s						
WAKR	**Walker**	**78.70**	**43**	IAmb	IAmb	07 09 52.6	
	comp=Z,4.9nm,0.8s						
MPK	**Martis Peak**	**78.76**	**42**	IAmb	IAmb	07 09 52.8	
	comp=Z,12nm,1.2s						
PNTR	**Pine Nut**	**78.92**	**43**	IAmb	IAmb	07 09 53.7	
	comp=Z,7.9nm,0.8s						
YERR	**Yerington**	**79.09**	**43**	IAmb	IAmb	07 09 54.3	
	comp=Z,5.6nm,0.8s						
NVAR	**Mina Array Bea**	**79.40**	**44**	P	**P**	**07 09 55.1**	**+1.1**
	comp=Z,2.7nm,0.8s,baz=224,slow=8.6,SNR=24						
	comp=Z,2.7nm,0.8s						
O18K	**Koktuh Hills**	**79.89**	**12**	P	**P**	**07 09 56.6**	**+0.7**
K05A	**Summer Lake**	**80.20**	**39**	IAmb	IAmb	07 10 00.5	
	comp=Z,13nm,1.2s						
J05D	**Fort Rock, OR**	**80.32**	**38**	IAmb	IAmb	07 10 01.0	
	comp=Z,8.1nm,0.7s						
BNX	**BinXian**	**80.39**	**325**	⇑P	**P**	**07 10 00.5**	**+1.8**
BNX				pmax	pmax		
	comp=Z,13nm,0.7s						
BNX				pmax	pmax		
	comp=Z,170nm,4.3s						
PINE	**Pine Mountain**	**80.80**	**38**	P	**P**	**07 10 02.6**	**+1.4**
PINE				IAmb	IAmb	07 10 03.6	
	comp=Z,6.0nm,0.9s						
TUC	**Tucson**	**81.63**	**52**	P	**P**	**07 10 07.4**	**+1.8**
L18K	**Granite Mounta**	**81.84**	**10**	IAmb	IAmb	07 10 08.2	
	comp=Z,7.8nm,0.8s						
BELA	**Belgrano 2**	**81.94**	**173**	P	**P**	**07 10 06.2**	**-0.1**
J16K	**Anvik River**	**82.28**	**8**	IAmb	IAmb	07 10 10.3	
	comp=Z,7.5nm,0.7s						
319A	**Douglas**	**82.35**	**54**	IAmb	IAmb	07 10 12.3	
	comp=Z,5.4nm,0.9s						
U15A	**North Rim**	**82.47**	**48**	IAmb	IAmb	07 10 12.6	
	comp=Z,6.1nm,0.8s						
TTA	**Tatalina**	**82.62**	**10**	IAmb	IAmb	07 10 11.8	
	comp=Z,9.5nm,1.1s						
G08A	**Pilot Rock**	**82.82**	**38**	IAmb	IAmb	07 10 13.4	
	comp=Z,8.1nm,1.3s						
J18K	**Innoko River**	**83.01**	**10**	IAmb	IAmb	07 10 13.5	
	comp=Z,10.0nm,0.8s						
HAWA	**Hanford**	**83.12**	**37**	IAmb	IAmb	07 10 14.3	
	comp=Z,3.8nm,0.7s						
K20K	**Telida**	**83.35**	**11**	IAmb	IAmb	07 10 15.0	
	comp=Z,9.8nm,0.8s						
E08A	**Dider Farm, El**	**83.44**	**37**	IAmb	IAmb	07 10 16.2	
	comp=Z,3.0nm,0.6s						
MAW	**Mawson**	**83.76**	**200**	P	**P**	**07 10 15.7**	**+0.1**
	comp=Z,5.3nm,0.8s,baz=124,slow=4.2,SNR=6.8						
	comp=Z,5.3nm,0.8s						
N25K	**Chitina, Valde**	**83.82**	**15**	IAmb	IAmb	07 10 17.4	
	comp=Z,7.7nm,0.8s						
J20K	**Nowinta River**	**84.09**	**10**	IAmb	IAmb	07 10 18.7	
	comp=Z,6.5nm,0.8s						
KTH	**Kantishna Hill**	**84.11**	**12**	IAmb	IAmb	07 10 17.5	
	comp=Z,9.4nm,0.9s						
F10A	**Beach Ranch, E**	**84.21**	**38**	IAmb	IAmb	07 10 19.4	
	comp=Z,5.6nm,1.1s						
RND	**Reindeer**	**84.41**	**13**	P	**P**	**07 10 19.5**	**+0.7**
M26K	**Nabesna, AK**	**84.90**	**16**	IAmb	IAmb	07 10 23.4	
	comp=Z,9.4nm,1.0s						
M27K	**Edge Creek, AK**	**85.16**	**16**	IAmb	IAmb	07 10 24.6	
	comp=Z,8.8nm,1.1s						
WRH	**Wood River Hil**	**85.51**	**13**	IAmb	IAmb

comp=Z,179nm,0.4s
SNAA Sanae 90.40 179 P P 07 10 46.3 -0.9
comp=Z,2.2nm,0.6s,baz=189,slow=14,SNR=6.8
comp=Z,2.2nm,0.6s
VNA3 Neumayer Olymp 90.53 176 ⇓P P 07 10 47.1 -0.6
comp=Z,16nm,0.6s
E28M Babbage River 90.84 13 IAmb IAmb 07 10 50.6
comp=Z,2.4nm,0.9s
GO06 Curarrehue 90.86 132 P P 07 10 50.9 +0.9
GO06 IAmb IAmb 07 10 52.8
comp=Z,6.0nm,0.9s
VNA2 Neumayer--Watz 90.97 177 ⇓P P 07 10 49.9 +0.2
comp=Z,8.3nm,0.6s,baz=187,slow=5.4
PLCA Paso Flores 91.02 134 P P 07 10 51.1 +0.4
PLCA Paso Flores 91.02 134 P P 07 10 52.0 +1.3
comp=Z,2.4nm,0.6s,baz=245,slow=6.8,SNR=11
comp=Z,2.4nm,0.6s
INK Inuvik 92.01 15 IAmb IAmb 07 10 55.2
comp=Z,4.9nm,1.0s
YKA Yellowknife Ar 94.41 25 P P 07 11 05.3 -0.1
comp=Z,0.5nm,0.8s,baz=248,slow=4.3,SNR=7.7
comp=Z,0.5nm,0.8s
SOCE Pocosol 96.49 81 P P 07 11 16.3 +0.3
SOCE IAmb IAmb 07 11 52.3
comp=Z,45nm,1.4s
KURBB Kurchatov Arra 112.18 318 PKiKP PKiKP 07 16 18.0 -0.1
comp=Z,0.7nm,0.7s,baz=99,slow=2.1,SNR=9.4
BVAR Borovoye Array 117.15 321 PKP PKiKP 07 16 27.8 +0.1
comp=Z,1.7nm,0.5s,baz=101,slow=2.9,SNR=6.1
AKTO Aktyubinsk 125.17 319 PKP PKiKP 07 16 43.1 -0.4
comp=Z,2.1nm,0.9s,baz=53,slow=2.1,SNR=6.7
ARCES ARCESS Array B 126.55 350 PKP PKiKP 07 16 45.9 +0.1
comp=Z,2.1nm,0.7s,baz=96,slow=1.8,SNR=9.9
FINES FINESS Array B 133.44 344 PKiKP PKPpre 07 16 53.3
comp=Z,1.1nm,0.6s,baz=119,slow=2.4,SNR=4.4
FINES PKP **PKiKP 07 16 58.6 -1.2**
comp=Z,1.3nm,0.6s,baz=14,slow=1.7,SNR=6.3
FINES SKPbc **SKPab 07 19 43.8 +1.1**
comp=Z,1.5nm,0.7s,baz=329,slow=2.4,SNR=2.2
NOA NORSAR Array B 136.59 353 PKP PKiKP 07 17 06.2 0.0
comp=Z,0.3nm,0.5s,baz=15,slow=3.9,SNR=3.2
NACGM Naroch 138.61 338 *e*PKP **PKiKP 07 17 10.9 +0.4**
comp=Z,11nm,0.8s,baz=38
AKASG Malin Array Be 140.84 332 PKhKP PKPpre 07 17 06.6
EKA Eskdalemuir Ar 142.64 5 PKhKP PKPpre 07 17 12.6
comp=Z,1.3nm,0.7s,baz=336,slow=3.3,SNR=3.5
BSEG Bad Segeberg 143.64 352 *e*PKPbc **PKPdf 07 17 17.0 -0.2**
baz=14,slow=2.8
KWP Kalwaria Pacla 144.34 337 *e*PKP **PKiKP 07 17 19.8 -2.7**
VLDR Vladesti 144.81 328 ⇓P PKiKP 07 17 22.2 -1.3
TLCR 144.87 326 ⇓P PKiKP 07 17 21.5 -2.1
BURAR Bucovina Array 144.90 332 ⇓P PKiKP 07 17 22.2 -1.6
BURAR Bucovina Array 144.90 332 PKiKP 07 17 22.2 -1.6
RETH Rethem/Aller, 144.94 352 *e*PKPbc **PKiKP 07 17 21.2 -2.3**
baz=14,slow=2.8
GHRR 144.99 328 ⇓P PKiKP 07 17 22.8 -1.1
TESR Tescani 145.05 330 ⇓P PKPab 07 17 21.2 -0.3
FLTG Flechtingen 145.05 350 *e*PKPbc **PKiKP 07 17 21.2 -2.6**
baz=14,slow=2.8
STHS Stebnicka Huta 145.06 338 *e*PKP **PKPab 07 17 21.2 -0.2**
NRDL Niedersach Rie 145.07 351 *e*PKPbc **PKiKP 07 17 21.6 -2.1**
baz=14,slow=2.8
KOLS Kolonicke sedl 145.08 336 *e*PKP **PKiKP 07 17 21.7 -2.3**
BR131 Keskin Array S 145.09 315 PKPab 07 17 21.8 -0.2
BRTR Keskin Array B 145.09 315 PKPdf PKPab 07 17 21.6 -0.4
BRTR Keskin Array B 145.09 315 PKPbc PKiKP 07 17 22.6 -2.0
comp=Z,6.0nm,0.6s,baz=119,slow=4.8,SNR=15
CFR Carcaliu 145.23 327 ⇓P PKiKP 07 17 23.0 -1.4
TPGR Topolog 145.29 326 ⇑P PKiKP 07 17 23.0 -1.6
NIE Niedzica 145.39 339 *e*PKP **PKiKP 07 17 23.7 -0.9**
CRVS Cervenica-Dubn 145.41 337 *e*PKP **PKPab 07 17 21.8 -0.9**
VRI Vrincioaia 145.47 329 ⇑P PKiKP 07 17 23.2 -1.7
PLOR Plostina 145.52 329 ⇑P PKiKP 07 17 22.8 -2.2
BMR Baia Mare 145.59 334 ⇓P PKiKP 07 17 23.4 -1.7
OSTC Ostas 145.64 344 *e*PKP **PKiKP 07 17 24.2 -0.9**
HARR Harsova 145.66 326 ⇓P PKiKP 07 17 23.7 -1.6
CLZ Clausthal 145.67 351 *e*PKPbc **PKiKP 07 17 23.6 -1.6**
baz=14,slow=2.8
ARCR ARCALIA 145.68 332 ⇑P PKiKP 07 17 24.0 -1.3
TURR Turia 145.68 330 ⇓P PKiKP 07 17 24.2 -1.2
CLL Collm 145.70 346 ⇓*i*PKPbc **PKiKP 07 17 23.4 -1.8**
comp=Z,27nm,0.9s
CLL Collm 145.70 348 *e*PKPbc **PKiKP 07 17 23.5 -1.7**
baz=14,slow=2.8
OZUR 145.76 330 ⇓P PKiKP 07 17 24.5 -1.0
DPC Dobruska-Polom 145.80 343 *e*PKP **PKiKP 07 17 24.4 -1.1**
BOSR Bodos 145.84 330 ⇓P PKiKP 07 17 24.9 -0.8
LANS Liptovska Anna 145.91 339 *e*PKP **PKPab 07 17 23.5 -1.2**
BRG Berggiesshubel 145.91 346 *i* PKP **PKiKP 07 17 24.4 -1.3**
BRG Amp 07 17 25.1
comp=Z,12nm,0.8s
BRG Berggiesshubel 145.91 346 *e*PKPbc **PKiKP 07 17 24.3 -1.4**
baz=14,slow=2.8
KRLC Kraliky 145.92 343 *e*PKP **PKiKP 07 17 24.4 -1.4**
MORC Moravsky Berou 145.97 342 ⇑P PKiKP 07 17 24.7 -1.2
MORC Moravsky Berou 145.97 342 *e*PKP **PKiKP 07 17 24.6 -1.3**
GTTG Gottingen 146.02 351 *e*PKPbc **PKiKP 07 17 24.5 -1.3**
baz=14,slow=2.8
NEUB Neuenburg 146.04 349 *e*PKPbc **PKiKP 07 17 24.1 -1.8**
baz=14,slow=2.8
DOPR Dopca 146.04 330 ⇑P PKiKP 07 17 25.5 -0.6
ISR Istrita 146.09 328 ⇑P PKiKP 07 17 25.2 -1.1
MLR Muntele Rosu 146.12 329 ⇑P PKiKP 07 17 25.5 -0.9
MAUC Maruska 146.25 341 *e*PKP **PKiKP 07 17 25.6 -0.8**
HSKC Hora Svate Kat 146.27 347 *e*PKP **PKiKP 07 17 25.3 -1.1**
CSBR Cluj-Babes-Bol 146.28 333 ⇑P PKPbc PKiKP 07 17 21.8 -2.3
CJR Cluj-Napoca 146.30 333 ⇑P PKiKP 07 17 25.9 -0.8
MMAI Mount Meron Ar 146.45 303 PKPbc PKPab 07 17 27.2 -0.2
comp=Z,10nm,0.5s,baz=66,slow=6.5,SNR=14
MARR Marisel-Cluj 146.53 333 ⇑P PKPab 07 17 26.6 -0.8
KASTN Kahler Asten 146.56 352 *e*PKPbc **PKPab 07 17 25.8 -1.4**
baz=14,slow=2.8
PRU Pruhonice 146.59 345 *e*PKP **PKPab 07 17 26.2 -1.2**
GOPC GO Pecny, Ondr 146.60 345 *e*PKP **PKPab 07 17 26.5 -0.9**
MOX Moxa 146.61 349 *e*PKPbc **PKPab 07 17 26.1 -1.4**
baz=14,slow=2.8
PLN Plauen 146.66 348 *e*PKPbc **PKPab 07 17 26.5 -1.2**
baz=14,slow=2.8
TANN Tannenbergstha 146.66 348 *e*PKPbc **PKPab 07 17 26.2 -1.5**
baz=14,slow=2.8
VRAC Vranov 146.67 342 *e*PKP **PKPab 07 17 27.0 -0.7**
VYHS Vyhne 146.68 339 *e*PKP **PKPab 07 17 26.6 -1.2**
JAVC Velka Javorina 146.74 341 *e*PKP **PKPab 07 17 27.8 -0.3**
PSZ Piszkesteto 146.81 338 ⇓P PKiKP 07 17 25.7 -2.0
ARR Arges 146.84 330 ⇑P PKPab 07 17 27.6 -1.1
KRUC Moravsky 146.95 342 *e*PKP **PKiKP 07 17 26.9 -0.9**
MODS Modra-Piesok 147.29 341 *e*PKP **PKPab 07 17 28.1 -2.2**
ROTZ Rotzenmuhle 147.33 348 *e*PKPbc **PKiKP 07 17 27.5 -1.1**
baz=14,slow=2.8
MEM Memach 147.40 355 *d*PKP **PKiKP 07 17 28.1 -0.7**
BTNL Ternell 147.41 355 *d*PKP **PKiKP 07 17 28.2 -0.6**
TNS Taunus Mts 147.52 352 *e*PKPbc **PKPab 07 17 28.7 -2.5**
baz=14,slow=2.8
GRF Grafenberg Arr 147.59 349 *e*PKPbc **PKiKP 07 17 28.6 -0.6**
baz=14,slow=2.8
KHC Kasperske Hory 147.62 346 *e*PKP **PKPab 07 17 29.2 -2.4**
KHC *ex* x 07 17 31.6
GZR Gura Zlata 147.68 332 ⇑P PKiKP 07 17 28.6 -1.0
SURR Surduc 147.69 333 ⇓P PKiKP 07 17 28.6 -0.9
CKRC Cesky Krumlov 147.73 344 *e*PKP **PKiKP 07 17 29.1 -0.4**
BMRD Maredsous 147.79 356 *d*PKP **PKPab 07 17 29.5 -2.6**
GEC2 GERESS Array S 147.86 345 *e*PKPbc **PKiKP 07 17 29.6 -0.2**
baz=14,slow=2.8
GERES GERESS Array B 147.86 345 PKiKP 07 17 29.2 -0.7
GERES GERESS Array B 147.86 345 PKPbc PKiKP 07 17 29.6 -0.2
comp=Z,8.2nm,0.5s,baz=23,slow=5.3,SNR=31
BZS Buzias 148.01 333 ⇑P PKiKP 07 17 30.1 0.0
CONA Conrad Observa 148.12 342 *i* PKP **PKiKP 07 17 30.5 +0.1**
comp=Z,7.5nm,0.5s
RONA Rosalia, Austr 148.20 341 *i* PKP **PKiKP 07 17 30.5 -0.1**
comp=Z,9.6nm,0.6s
HERR Herculane 148.24 332 ⇑P PKiKP 07 17 30.6 0.0
MOA Molln 148.64 344 *i* PKP **PKiKP 07 17 31.1 -0.3**
comp=Z,3.9nm,0.8s
BIOA Bad Ischl, Aus 148.95 344 *i* PKP **PKiKP 07 17 32.0 -0.1**
comp=Z,5.1nm,0.8s
BLKB Belogradchik 149.08 330 ⇓P PKiKP 07 17 32.5 0.0
FRGS Fruska Gora 149.13 335 ⇓P PKiKP 07 17 32.6 +0.1
BFO Black Forest 149.39 351 PKiKP 07 17 32.5 -0.5
BFO Black Forest 149.39 351 *e*PKPbc **PKiKP 07 17 33.1 +0.2**
baz=14,slow=2.8
LESA Schwarzleotal 149.43 345 *i* PKP **PKiKP 07 17 32.8 -0.4**
comp=Z,5.9nm,0.4s
SOKA Soboth 149.49 342 *i* PKP **PKiKP 07 17 32.9 -0.4**
comp=Z,3.6nm,0.5s
PERS Pernice 149.51 342 *i* PKPbc **PKiKP 07 17 33.0 -0.3**
KBA Koelnbreinsper 149.59 344 *i* PKP **PKiKP 07 17 33.1 -0.5**
comp=Z,8.4nm,0.5s,SNR=5.5
UBR Ueberruh 149.73 349 *e*PKPbc **PKiKP 07 17 33.8 +0.1**
baz=14,slow=2.8
WATA Walderalm 149.77 347 *i* PKP **PKiKP 07 17 33.8 -0.1**
comp=Z,9.9nm,0.7s
RETA Reute 149.79 348 *i* PKP **PKiKP 07 17 33.8 -0.1**
comp=Z,4.6nm,0.5s
WTTA Wattenberg 149.82 347 *i* PKP **PKiKP 07 17 34.2 +0.1**
comp=Z,17nm,0.5s
MOTA Moosalm 149.86 347 *i* PKP **PKiKP 07 17 33.9 -0.2**
comp=Z,4.7nm,0.5s
MYKA Terra Mystica 149.93 344 *i* PKP **PKiKP 07 17 33.7 -0.5**
comp=Z,9.9nm,0.5s,SNR=7.0
SQTA Sankt Quirin 149.96 347 *i* PKP **PKiKP 07 17 34.5 +0.2**
comp=Z,12nm,0.6s
ABTA Abfaltersbach 150.11 345 *i* PKP **PKiKP 07 17 34.4 -0.2**
comp=Z,16nm,0.6s
CRES Cresnjev 150.13 341 *i* PKPbc **PKiKP 07 17 35.0 +0.4**
DAVA Damuels 150.15 349 *i* PKP **PKiKP 07 17 35.5 +0.8**
comp=Z,7.7nm,0.6s
LJU Ljubljana 150.22 342 *i* PKPbc **PKiKP 07 17 35.1 +0.5**
FETA Feichten 150.25 348 *i* PKP **PKiKP 07 17 35.3 +0.4**
comp=Z,9.8nm,0.9s
CRNS Crni Vrh 150.26 342 *i* PKPbc **PKiKP 07 17 34.9 +0.1**
FUORN Ofenpass-Fuorn 150.72 348 PKiKP 07 17 36.5 +0.5
FNA Florina 151.84 327 PKPbc 07 17 35.5 -2.6
MATE Matera 154.14 333 ⇑P PKPdf 07 17 26.2 -8.1
KEST Kesra 161.22 341 PKPab PKPab 07 18 31.0 +0.9
comp=Z,3.7nm,0.6s,baz=321,slow=1.8,SNR=4.2
DBIC Dimbokro 166.89 149 PKPab PKPab 07 18 56.1 +0.7
comp=Z,1.4nm,0.4s,baz=225,slow=4.3,SNR=1.8
TORD Torodi Ar. Bea 175.07 178 PKP PKPdf 07 17 52.0 -0.9
comp=Z,0.7nm,1.0s,baz=15,slow=1.6,SNR=3.9

*JMA **20** 07:01:33.8±0.2,24°N±1°×122°7E±0°6,h27km±4km,*
MV2.1/11,NW OFF ISHIGAKIJIMA IS
*TAP **20** 07:01:33.6,23°98N×122°69E,h30km,ML2.7,D*
ISC 20 07:01:33.1±1.0,23°91N±0°03×122°69E±0°02,h30km±11km,
n73,σ0s85/134,3C-15D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
EOS4	**EOS4**	**0.40**	**301**	*i* P		**Pb**	**07 01 42.0**	**+0.3**
	baz=292							
EOS4				*i* S		**Sn**	**07 01 48.1**	**-0.8**
	baz=292							
EOS3	**EOS3**	**0.51**	**317**	⇓*e*P		**Pn**	**07 01 43.9**	**-0.3**
	baz=314							
EOS3				*e*S		**Sn**	**07 01 51.4**	**-0.4**
	baz=314							
JYNG	**Yonagunijimaku**	**0.58**	**23**	*e*P		**Pb**	**07 01 44.5**	**-0.3**
JYNG				*e*S		**Sb**	**07 01 51.9**	**-1.0**
YOJ	**Yonaguni jima**	**0.62**	**28**	⇓P		**Pn**	**07 01 45.4**	**-0.4**
	baz=35							
YOJ				S		**Sb**	**07 01 53.4**	**-0.6**
	baz=35							
YOJ	**Yonaguni jima**	**0.62**	**28**	P		**Pb**	**07 01 45.1**	**-0.4**
YOJ				S		**Sb**	**07 01 53.3**	**-0.6**
EOS2	**EOS2**	**0.66**	**320**	⇓*i*P		**Pn**	**07 01 46.7**	**+0.5**
	baz=317							
EOS2				*i* S		**Sn**	**07 01 56.9**	**+1.4**
	baz=317							
EAHA	**Aohua**	**0.97**	**296**	P		**Pn**	**07 01 50.8**	**+0.2**
	baz=292							
EWUT	**Wuta**	**0.99**	**303**	⇓*i*P		**Pn**	**07 01 51.1**	**+0.2**
	baz=299							
EWUT				S		**Sb**	**07 02 05.0**	**+0.6**
	baz=299							
HWA	**Hwalien**	**1.00**	**274**	P		**Pn**	**07 01 51.0**	**0.0**
	baz=256							
HWA				*e*S		**Sb**	**07 02 05.6**	**+1.0**
	baz=256							
ENA	**Nanau**	**1.01**	**301**	⇓*i*P		**Pn**	**07 01 51.5**	**+0.3**
	baz=297							
ENA				S		**Sb**	**07 02 05.4**	**+0.5**
	baz=297							
TWD	**Chiawan**	**1.02**	**280**	*e*P		**Pn**	**07 01 50.9**	**-0.4**
	baz=276							
TWD				S		**Sn**	**07 02 04.5**	**-0.2**
	baz=276							
ESAO	**Su ao**	**1.02**	**311**	P		**Pb**	**07 01 51.7**	**-0.5**
	baz=307							
ESAO				*e*S		**Sb**	**07 02 05.7**	**+0.5**
	baz=307							
HATJ	**Hateruma jima**	**1.03**	**82**	*e*S		**Sb**	**07 02 06.4**	**+1.0**
TWC	**Suao**	**1.04**	**312**	P		**Pb**	**07 01 52.0**	**-0.5**
	baz=309							
TWC				S		**Sb**	**07 02 05.5**	**-0.2**
	baz=309							
NACB	**Ninganchiao**	**1.04**	**285**	⇓*i*P		**Pn**	**07 01 51.4**	**-0.2**
	baz=266							
NACB				S		**Sn**	**07 02 05.2**	**0.0**
	baz=266							
SHUL	**Shoufeng**	**1.04**	**263**	P		**Pn**	**07 01 52.0**	**+0.4**
	baz=259							
SHUL				*e*S		**Sb**	**07 02 06.6**	**+0.8**
	baz=259							
ETM	**Tongmen**	**1.10**	**273**	*i* P		**Pn**	**07 01 52.8**	**+0.3**
	baz=269							
ETM				*e*S		**Sn**	**07 02 06.2**	**-0.5**
	baz=269							
ETLH	**Xiulin Townshi**	**1.15**	**285**	⇑*e*P		**Pn**	**07 01 53.1**	**-0.1**
	baz=269							
ETLH				*e*S		**Sn**	**07 02 07.8**	**-0.2**
	baz=269							
NDS	**Dongshan**	**1.15**	**309**	*i* P		**Pb**	**07 01 53.8**	**-0.5**
	baz=306							
NDS				S		**Sb**	**07 02 08.9**	**+0.1**
	baz=306							
ESL	**Shilin**	**1.16**	**265**	*i* P		**Pn**	**07 01 53.5**	**+0.2**
	baz=249							
ESL				S		**Sn**	**07 02 08.4**	**+0.3**
	baz=249							
LXIB	**Xiulin Townshi**	**1.18**	**276**	⇓*e*P		**Pn**	**07 01 53.5**	**-0.2**
	baz=272							
LXIB				*e*S		**Sn**	**07 02 07.6**	**-1.2**
	baz=272							
EGFH	**Guangfu**	**1.19**	**258**	*e*P		**Pn**	**07 01 54.2**	**+0.5**
	baz=255							
EGFH				*i* S		**Sn**	**07 02 08.9**	**+0.1**
	baz=255							
WARBT	**Fenglin Townsh**	**1.21**	**261**	⇓*i*P		**Pn**	**07 01 54.1**	**0.0**
	baz=246							
WARBT				*e*S		**Sn**	**07 02 08.2**	**-1.3**
	baz=246							
LATG	**Datong**	**1.23**	**300**	⇓P		**Pn**	**07 01 54.9**	**+0.5**
	baz=297							
LATG				*e*S		**Sb**	**07 02 11.0**	**-0.5**
	baz=297							
TWE	**Neicheng**	**1.23**	**311**	P		**Pn**	**07 01 54.9**	**+0.6**
	baz=308							
HGSD	**Ruisui**	**1.24**	**250**	⇓*i*P		**Pn**	**07 01 54.7**	**+0.4**
	baz=247							
HGSD				*e*S		**Sn**	**07 02 09.1**	**-1.0**
	baz=247							
JKRS	**Kuro-shima**	**1.25**	**75**	P		**Pb**	**07 01 56.8**	**+0.8**
JKRS				S		**Sb**	**07 02 12.7**	**+1.1**
NDT	**Datong Townshi**	**1.28**	**303**	*e*P		**Pb**	**07 01 56.3**	**-0.2**
	baz=286							
NDT				S		**Sb**	**07 02 12.6**	**0.0**
	baz=286							
EHYH	**Wanrong**	**1.30**	**252**	*e*P		**Pn**	**07 01 55.6**	**+0.3**
	baz=248							
EHYH				*e*S		**Sn**	**07 02 12.1**	**+0.3**
	baz=248							
FUSB	**Fushanzhiwuyua**	**1.31**	**310**	*i* P		**Pb**	**07 01 56.8**	**-0.4**
	baz=293							
FUSB				*e*S		**Sb**	**07 02 13.7**	**-0.1**
	baz=293							
TIPB	**Shuangxi**	**1.32**	**323**	⇓*e*P		**Pb**	**07 01 57.4**	**+0.1**
	baz=336							
TIPB				*e*S		**Sb**	**07 02 13.2**	**-0.6**
	baz=336							
EHY	**Hungye**	**1.32**	**252**	*i* P		**Pn**	**07 01 56.0**	**+0.5**
	baz=249							
EHY				*e*S		**Sn**	**07 02 12.1**	**-0.1**
	baz=249							
WHF	**Hehuan Shan**	**1.33**	**280**	P		**Pn**	**07 01 56.4**	**+0.4**
	baz=277							
WHF				*e*S		**Sn**	**07 02 13.2**	**+0.3**
	baz=277							
FUSS	**Fushou**	**1.37**	**284**	⇓P		**Pn**	**07 01 56.8**	**+0.5**
	baz=281							
FUSS				*e*S		**Sn**	**07 02 14.0**	**+0.4**
	baz=281							
EYUL	**Yuli**	**1.38**	**246**	*e*P		**Pn**	**07 01 56.1**	**-0.3**
	baz=243							
EYUL				S		**Sn**	**07 02 14.1**	**+0.5**
	baz=243							
YULB	**Yu-li**	**1.38**	**248**	*e*P		**Pn**	**07 01 55.9**	**-0.5**
	baz=234							
YULB				*e*S		**Sn**	**07 02 13.8**	**+0.1**
	baz=234							
NWLT	**Wulai**	**1.39**	**309**	*e*P		**Pb**	**07 01 57.9**	**-0.5**
	baz=306							
NWLT				*e*S		**Sb**	**07 02 16.7**	**+1.0**
	baz=306							
OWD	**Renai**	**1.39**	**272**	*e*P		**Pn**	**07 01 56.6**	**0.0**
	baz=269							
CHKH	**Chenggong**	**1.39**	**239**	*e*P		**Pn**	**07 01 54.9**	**-1.6**
	baz=225							
CHKH				*e*S		**Sn**	**07 02 11.8**	**-2.0**
	baz=225							
SXI1	**Grass Mountain**	**1.39**	**328**	⇑*e*P		**Pb**	**07 01 57.8**	**-0.7**
	baz=340							
SXI1				*e*S		**Sb**	**07 02 15.3**	**-0.7**
	baz=340							
TWF1	**Yuli**	**1.40**	**247**	*e*P		**Pn**	**07 01 56.6**	**0.0**
	baz=243							
TWF1				*i* S		**Sn**	**07 02 14.5**	**+0.5**
	baz=243							
CHGB	**Renai**	**1.40**	**276**	⇓*i*P		**Pn**	**07 01 57.2**	**+0.4**
	baz=273							
CHGB				*e*S		**Sn**	**07 02 14.1**	**-0.2**
	baz=273							
JIJ	**Ishigaki jima**	**1.40**	**71**	P		**Pb**	**07 01 58.3**	**-0.3**
JIJ				*e*S		**Sb**	**07 02 16.1**	**0.0**
YHNB	**Yeheng**	**1.42**	**302**	⇓P		**Pn**	**07 01 57.9**	**+0.9**
	baz=300							
YHNB				*e*S		**Sb**	**07 02 16.1**	**-0.7**
	baz=300							
VWDT	**VWDT**	**1.43**	**264**	P		**Pn**	**07 01 57.9**	**+0.9**
	baz=261							
VWDT				S		**Sn**	**07 02 15.0**	**+0.2**
	baz=261							
NSK	**Sanguang**	**1.44**	**302**	⇓*i*P		**Pn**	**07 01 58.1**	**+0.9**
	baz=300							
NSK				*e*S		**Sb**	**07 02 17.4**	**+0.1**
	baz=300							
WUSB	**Renai**	**1.44**	**273**	P		**Pn**	**07 01 57.5**	**+0.2**
	baz=270							
WUSB				*e*S		**Sn**	**07 02 15.2**	**-0.2**
	baz=270							
CHKT	**Chengkung**	**1.46**	**237**	P		**Pn**	**07 01 57.9**	**+0.4**
	baz=223							
CHKT				*e*S		**Sn**	**07 02 13.8**	**-1.8**
	baz=223							
FULB	**Fuli**	**1.47**	**241**	P		**Pn**	**07 01 57.5**	**-0.1**
	baz=227							
FULB				*e*S		**Sn**	**07 02 15.3**	**-0.5**
	baz=227							
EDH	**Donghe**	**1.58**	**234**	*e*S		**Sn**	**07 02 15.5**	**-3.1**
	baz=221							
SSLB	**Suanglung**	**1.60**	**266**	*e*P		**Pb**	**07 02 03.0**	**+1.0**
	baz=263							
NFF	**Wufeng Townshi**	**1.61**	**297**	P		**Pb**	**07 02 01.3**	**-0.8**
	baz=294							
NFF				S		**Sb**	**07 02 20.9**	**-1.2**
	baz=294							
JISG	**Ishigakijimahi**	**1.62**	**65**	P		**Pn**	**07 02 00.8**	**+1.2**
JISG				*e*S		**Sb**	**07 02 21.2**	**-1.2**
WCS	**Beigang Elemen**	**1.64**	**275**	*e*P		**Pb**	**07 02 03.7**	**+1.1**
	baz=273							
WHP	**Taichung City**	**1.64**	**283**	*e*P		**Pb**	**07 02 02.9**	**+0.2**
	baz=269							
WHP				*e*S		**Sb**	**07 02 24.5**	**+1.5**
	baz=269							
SMLT	**Sun Moon Lake**	**1.64**	**269**	*e*P		**Pb**	**07 02 03.0**	**+0.2**
	baz=267							
LDUT	**Ludao**	**1.67**	**223**	*e*P		**Pn**	**07 01 59.8**	**-0.5**
	baz=220							
LDUT				*e*S		**Sn**	**07 02 21.0**	**+0.3**
	baz=220							
TYC	**Yuchr**	**1.68**	**270**	⇑*e*P		**Pb**	**07 02 04.3**	**+0.9**
	baz=268							
ELDTW	**Lidau**	**1.70**	**245**	*e*P		**Pn**	**07 02 00.7**	**-0.1**
	baz=242							
ELDTW				*e*S		**Sn**	**07 02 20.6**	**-1.1**
	baz=242							
ALS	**Alishan**	**1.78**	**257**	*e*P		**Pn**	**07 02 02.2**	**+0.1**
	baz=254							
ALS				*i* S		**Sn**	**07 02 25.2**	**+1.4**
	baz=254							
PCYT	**Pengchaiyu**	**1.80**	**342**	*e*S		**Sb**	**07 02 25.9**	**-1.7**
	baz=341							
CHN5	**Tsauling**	**1.87**	**261**	*e*P		**Pn**	**07 02 03.9**	**+0.7**
	baz=248							
CHN5				*e*S		**Sb**	**07 02 29.9**	**+0.2**
	baz=248							
WCKO	**Fanlu**	**1.97**	**257**	*e*P		**Pb**	**07 02 09.0**	**+0.6**
	baz=254							
WCKO				*e*S		**Sb**	**07 02 31.8**	**-0.7**
	baz=254							
TPUB	**Ta-pu**	**1.99**	**253**	*e*P		**Pb**	**07 02 07.7**	**-0.9**
	baz=240							
TPUB				*e*S		**Sb**	**07 02 31.9**	**-1.1**
	baz=240							
WTP	**Ta-pu**	**2.02**	**251**	*e*P		**Pb**	**07 02 08.5**	**-0.7**
	baz=239							
WTP				*i* S		**Sn**	**07 02 32.3**	**+2.8**
	baz=239							
ECL	**Taimali**	**2.07**	**231**	P		**Pn**	**07 02 06.2**	**+0.5**
	baz=240							
ECL				*e*S		**Sn**	**07 02 30.4**	**-0.2**
	baz=240							
SLGT	**Liugui**	**2.09**	**244**	*e*P		**Pn**	**07 02 08.9**	**+2.8**
	baz=233							
SLGT				*e*S		**Sb**	**07 02 35.2**	**-0.8**
	baz=233							
CHN1	**Nanshi**	**2.12**	**250**	*i* P		**Pn**	**07 02 09.2**	**+2.7**
	baz=248							
CHN1				*e*S		**Sb**	**07 02 35.6**	**-1.1**
	baz=248							
WRL	**Guolierlin Hig**	**2.12**	**270**	*e*P		**Pn**	**07 02 07.3**	**+0.8**
	baz=268							
TWK	**Hsinying**	**2.12**	**253**	*e*P		**Pn**	**07 02 07.3**	**+0.7**
	baz=250							
TWK				*e*S		**Sb**	**07 02 35.7**	**-1.2**
	baz=250							
EAST	**Anshuo**	**2.28**	**229**	*e*P		**Pn**	**07 02 08.4**	**-0.3**
	baz=235							
EAST				*e*S		**Sn**	**07 02 35.5**	**-0.4**
	baz=235							
MASBT	**Mashibuluo**	**2.29**	**236**	*e*P		**Pn**	**07 02 08.7**	**-0.2**
	baz=228							
VWUC	**VWUC**	**3.15**	**291**	*e*P		**Pn**	**07 02 21.1**	**+0.4**
	baz=289							
VWUC				*e*S		**Sn**	**07 02 57.6**	**+0.5**
	baz=289							

*AEIC **20** 07:05:16.7±1.7,56°09N±0°09×149°5W±0°1,h11km±7km,*
Error ellipse: s-maj=14.2km s-min=7.9km az=156.0
NEIC 20 07:05:13.2±1.8,56°13N±0°09×149°57W±0°09,h20km±9km,
ML3.5/26,ML3.2(AEIC),Error ellipse: s-maj=14.4km
s-min=3.5km az=151.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
OHAK	**Old Harbor**	**2

BRSE					Sn	07 06 49.5	-2.2	
HOM	**Homer**	**3.71**	**343**	Pn	Pn	07 06 08.2	-1.1	
BRLK	**Bradley Lake**	**3.71**	**350**		Pn	07 06 08.9	-0.5	
BRLK	**Bradley Lake**	**3.71**	**350**	IAML		07 06 55.1		
	comp=E,37nm,3.1s							
Q23K	**Middleton Isla**	**3.73**	**26**	Pn	Pn	07 06 07.5	-2.1	
ILSW	**Iliamna Southw**	**4.30**	**335**		Pn	07 06 17.6	-0.1	
ILSW	**Iliamna Southw**	**4.30**	**335**	IAML		07 08 19.0		
	comp=N,23nm,3.5s							
ILSW				IAML		07 09 14.7		
	comp=E,37nm,2.2s							
HIN	**Hinchinbrook I**	**4.57**	**19**		Pn	07 06 21.0	-0.2	
HIN	**Hinchinbrook I**	**4.57**	**19**	IAML		07 07 02.6		
	comp=E,77nm,2.6s							
HIN				IAML		07 08 29.7		
	comp=N,76nm,2.4s							
EYAK	**Cordova Ski Ar**	**4.87**	**23**		Pn	07 06 25.2	0.0	
SUCK	**Suckling Hills**	**5.00**	**35**		Pn	07 06 27.5	+0.3	
BGLC	**Bering Glacier**	**5.20**	**37**		Pn	07 06 30.6	+0.8	
BERG	**Berg Lake**	**5.28**	**33**		Pn	07 06 31.1	+0.2	
BERG	**Berg Lake**	**5.28**	**33**	IAML		07 07 22.2		
	comp=E,44nm,2.1s							
BERG				IAML		07 09 45.9		
	comp=N,38nm,2.1s							
GRIN	**Grindle Hills**	**5.31**	**36**		Pn	07 06 32.1	+0.7	
SUA	**Susitna One**	**5.38**	**354**	Pn	Pn	07 06 31.5	-1.0	
SUA				IAML		07 07 59.3		
	comp=N,27nm,3.3s							
SUA				IAML		07 08 55.7		
	comp=E,30nm,2.9s							
BMRM	**Bremner River**	**5.50**	**26**		Pn	07 06 34.2	+0.2	
WAX	**Waxell Ridge**	**5.59**	**36**		Pn	07 06 35.3	0.0	
KLU	**Klutina**	**5.70**	**18**	Pn	Pn	07 06 36.8	0.0	
ISLE	**Juniper Island**	**5.88**	**37**	Pn	Pn	07 06 39.1	-0.2	
GLB	**Gilahina Butte**	**6.11**	**27**	Pn	Pn	07 06 43.4	+1.1	
KIAG	**Kiagna River**	**6.11**	**35**		Pn	07 06 43.0	+0.5	
TABL	**Table Mountain**	**6.20**	**42**	Pn	Pn	07 06 42.9	-0.8	
PNL	**Peninsula**	**6.48**	**53**		Pn	07 06 47.9	+0.5	
CTGM	**Chitina Glacie**	**6.48**	**38**	Pn	Pn	07 06 47.3	-0.2	
LOGN	**Logan Glacier**	**6.50**	**40**	Pn	Pn	07 06 46.5	-1.3	
BCPM	**Bancas Point**	**6.52**	**50**		Pn	07 06 48.4	+0.5	
O29M	**Mount Kennedy**	**7.15**	**50**		Pn	07 06 56.8	+0.1	
P29M	**Windy Craggy**	**7.21**	**56**		Pn	07 06 57.5	0.0	
S31K	**Pelican**	**7.50**	**70**		Pn	07 06 59.7	-1.7	

NEIC ***20*** *07:06:23.4±0.4,36.18N±0.01×96.72W±0.01,h5km±1km, Error ellipse: s-maj=2.7km s-min=1.9km az=73.0*

TUL 20 07:06:23.4±0.4,36.19N±0.01×96.72W±0.02,h4km±2km, ML2.6,mb_Lg2.5/28(NEIC),ML2.7/50(NEIC),Error ellipse: s-maj=1.8km s-min=1.5km az=73.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.02**	**138**	Pg	Pg	07 06 24.4	+0.1
QUOK				Sg	Sg	07 06 25.0	+0.2
QUOK				IAML		07 06 25.2	
	comp=N,8μm,0.1s						
OK052	**Battle Ridge R**	**0.20**	**199**	Pg	Pg	07 06 27.8	+0.5
OK052				Sg	Sg	07 06 30.8	+0.8
OK052				IAML		07 06 32.5	
	comp=N,1μm,0.2s						
OK052				IAML		07 06 34.1	
	comp=N,1μm,0.4s						
OK033	**Mehan**	**0.22**	**231**	Pg	Pg	07 06 28.1	+0.4
OK033				Sg	Sg	07 06 31.6	+0.9
OK033				IAML		07 06 33.2	
	comp=N,2μm,0.3s						
OK033				IAML		07 06 33.2	
	comp=N,2μm,0.3s						
OK048	**Pawnee Station**	**0.29**	**322**	Pg	Pg	07 06 29.5	+0.5
OK048				IAML		07 06 35.3	
	comp=N,1μm,0.5s						
DEOK	**Depew**	**0.39**	**152**	Pg	Pg	07 06 31.4	+0.5
DEOK				IAML		07 06 37.1	
	comp=N,614nm,0.3s						
DEOK				IAML		07 06 38.5	
	comp=E,961nm,0.4s						
BLOK	**Blackwell**	**0.70**	**326**	Pg	Pg	07 06 37.1	+0.3
OK029	**Liberty Lake**	**0.71**	**237**		Pg	07 06 37.3	+0.3
OK029				IAML		07 06 49.5	
	comp=E,253nm,0.4s						
ADOK	**Arcadia Dam**	**0.75**	**225**	Pg	Pg	07 06 37.9	+0.2
T35A	**Sooner Cattle**	**0.75**	**13**	Pg	Pg	07 06 37.9	+0.1
TUL3	**Leonard**	**0.80**	**110**		Pg	07 06 38.8	0.0
OKCSW	**OKLAHOMA CITY**	**0.97**	**217**		Pg	07 06 41.7	-0.3
OKCSW				IAML		07 07 03.8	
	comp=E,208nm,0.2s						
OKCSW				IAML		07 07 03.9	
	comp=N,181nm,0.1s						
KAN13	**South Haven SW**	**1.02**	**324**		Pg	07 06 43.0	-0.1
W35A	**Tecumseh**	**1.04**	**187**		Pg	07 06 42.8	-0.5
W35A				IAML		07 06 59.4	
	comp=E,240nm,0.3s						
W35A				IAML		07 06 59.5	
	comp=N,129nm,0.3s						
CROK	**Carrier**	**1.07**	**288**	Pg	Pg	07 06 43.7	-0.2
CROK				IAML		07 07 11.1	
	comp=E,202nm,0.3s						
FNO	**Franklin**	**1.08**	**211**		Pg	07 06 43.4	-0.7
FNO				IAML		07 07 05.8	
	comp=N,122nm,0.2s						
GC02	**Grant County #**	**1.13**	**306**		Pg	07 06 44.8	-0.3
KAN09	**Caldwell North**	**1.19**	**323**	Pg	Pg	07 06 46.0	-0.3
OK032	**Salt Plains WL**	**1.35**	**298**		Pn	07 06 48.5	-0.5
RLO	**Rose Lookout**	**1.38**	**90**		Pn	07 06 49.1	-0.3
U32A	**Winter Ranch,**	**1.85**	**277**		Pn	07 06 56.3	+0.3
U38A	**Gravette**	**1.91**	**82**		Pb	07 06 57.9	-0.8
X37A	**Clayton**	**1.94**	**145**		Pb	07 06 58.6	-0.6
WMOK	**Wichita Mounta**	**2.21**	**230**		Pn	07 07 01.7	+0.8
LOOK	**Love County**	**2.22**	**190**		Pn	07 07 02.0	+1.0
LOOK				IAmb_Lg		07 07 35.5	
	comp=Z,20nm,0.9s						
HHAR	**Hobbs**	**2.25**	**87**		Pb	07 07 03.1	-1.5
SMWD	**Samnorwood**	**3.06**	**250**	IAmb_Lg		07 08 04.1	
	comp=Z,11nm,1.0s						
S39A	**Bolivar**	**3.11**	**60**	IAmb_Lg		07 08 07.7	
	comp=Z,14nm,0.9s						
CBKS	**Cedar Bluff**	**3.55**	**318**	IAmb_Lg		07 08 24.6	
	comp=Z,7.5nm,0.7s						
X40A	**Basin Creek Fa**	**3.60**	**117**	IAmb_Lg		07 08 22.2	
	comp=Z,8.6nm,0.9s						
WHAR	**Wooly Hollow**	**3.72**	**103**	IAmb_Lg		07 08 25.1	
	comp=Z,9.0nm,0.8s						
R40A	**Maddies Statio**	**4.13**	**58**	IAmb_Lg		07 08 40.5	
	comp=Z,13nm,1.0s						
AMTX	**Amarillo**	**4.25**	**254**	IAmb_Lg		07 08 44.4	
	comp=Z,12nm,0.7s						
P38A	**Dawn**	**4.26**	**35**	IAmb_Lg		07 08 39.7	
	comp=Z,11nm,0.8s						
N35A	**Tabor**	**4.75**	**10**	IAmb_Lg		07 09 03.0	
	comp=Z,17nm,0.8s						
CCM	**Cathedral Cave**	**4.76**	**65**	IAmb_Lg		07 08 55.8	
	comp=Z,16nm,1.1s						
SN05	**Snyder 5**	**4.76**	**227**	IAmb_Lg		07 09 03.1	
	comp=Z,7.3nm,0.9s						
RTBA	**Rita Blanca**	**4.86**	**275**	IAmb_Lg		07 09 09.8	
	comp=Z,6.2nm,1.1s						
PBMO	**Poplar Bluff**	**5.11**	**81**	IAmb_Lg		07 09 11.1	
	comp=Z,7.8nm,0.8s						

IDC 20 07:20:17.6±3.7,54.17N×87.60E,h0km,mbtmp2.6/2, ML2.3/2,Error ellipse: s-maj=32.8km s-min=20.1km az=43.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.65**	**263**	I	I	07 30 30.0	
	0.1nm,1.0s,baz=79,slow=338,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.65**	**263**	Pg	Pn	07 20 47.2	-0.7
	0.8nm,0.3s,baz=84,slow=14,SNR=5.5						
ZALV				Lg	Lg	07 21 09.9	
	1.1nm,0.3s,baz=83,slow=26,SNR=5.7						
KURBB	**Kurchatov Arra**	**6.59**	**241**	Pn	Pn	07 21 56.8	+1.1
	baz=56,slow=14,SNR=4.1						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**8.12**	**207**	Pn	Pn	07 22 17.4	+0.6
	0.1nm,0.3s,baz=19,slow=16,SNR=1.8						
	0.1nm,0.3s						

NNC ***20*** *07:22:56.3±1.8,49.74N×81.76E,h0km,mb2.9,mpv2.5, Error ellipse: s-maj=24.7km s-min=3.8km az=54.0,*

Suspected Mining explosion.

IDC ***20*** *07:22:58.9±1.3,49.70N×81.62E,h0km,mbtmp2.1/3, ML1.7/3,Error ellipse: s-maj=18.9km s-min=10.7km az=60.0*

ISC 20 07:22:52.2±1.4,49.86N±0.05×82.05E±0.08,h0km,n8, σ0s78/7,5C-3D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.36**	**293**	⇑Pg	**Pg**	**07 23 36.8**	**-0.6**
	3.7nm,0.7s						
KURK				⇓Lg	Lg	07 24 07.0	
	13nm,0.8s						
KURBB	**Kurchatov Arra**	**2.39**	**290**	Pn	**Pb**	**07 23 36.6**	**+0.6**
	0.1nm,0.3s,baz=112,slow=18,SNR=15						
KURBB				Lg	Lg	07 24 07.8	
	0.3nm,0.3s,baz=109,slow=32,SNR=8.5						
	1.6nm,0.7s						
KURBB	**Kurchatov Arra**	**2.39**	**290**	⇑Pg	**Pg**	**07 23 37.5**	**-0.4**
	6.4nm,0.8s						
KURBB				⇑Lg	Lg	07 24 08.8	
	13nm,0.6s						
MAKZ	**Makanchi**	**3.05**	**181**	⇓Pg	**Pg**	**07 23 50.5**	**-0.3**
	1.3nm,0.8s						
MAKZ				⇑Lg	Lg	07 24 29.6	
	5.7nm,0.9s						
MK31	**Makanchi Array**	**3.07**	**177**	⇑Pg	**Pg**	**07 23 50.2**	**-0.9**
	0.3nm,0.3s,baz=353,slow=14,SNR=13						
MK31				⇓Lg	Lg	07 24 29.3	
	2.6nm,0.6s,baz=1.9,slow=24,SNR=9.9						
MKAR	**Makanchi Array**	**3.07**	**177**	Pn	**Pb**	**07 23 48.5**	**+0.7**
	0.2nm,0.3s,baz=356,slow=16,SNR=8.3						
MKAR				Lg	Lg	07 24 30.5	
	0.5nm,0.3s,baz=350,slow=25,SNR=15						
	0.2nm,0.4s						
I46RU	**ZALESOVO INFRA**	**4.44**	**22**	I	I	07 53 20.0	
	baz=201,slow=307,SNR=3.1						
ZALV	**Zalesovo Beam**	**4.44**	**22**	Pn	**Pb**	**07 24 11.4**	**+0.4**
	0.2nm,0.3s,baz=202,slow=19,SNR=1.9						
ZALV				Lg	Lg	07 25 28.1	
	0.2nm,0.3s,baz=200,slow=26,SNR=5.3						
	0.4nm,0.3s						

IDC 20 08:27:03.9±5.4,18.07N×145.47E,h0km,mb3.7/5, mbtmp3.7/5,Error ellipse: s-maj=235.9km s-min=25.2km az=79.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.32**	**197**	P	P	08 34 35.0	+0.1
	1.5nm,1.1s,baz=17,slow=9.0,SNR=4.7						
	1.5nm,1.1s						
ASAR	**Alice Springs**	**42.99**	**196**	P	P	08 35 05.0	-0.2
	0.2nm,0.4s,baz=23,slow=7.2,SNR=5.3						
	0.2nm,0.4s						
STKA	**Stephens Creek**	**49.80**	**184**	P	P	08 35 58.2	-0.3
	2.3nm,0.9s,baz=21,slow=8.6,SNR=2.9						
	2.3nm,0.9s						
KURBB	**Kurchatov Arra**	**61.64**	**318**	P	P	08 37 23.4	0.0
	0.3nm,0.5s,baz=92,slow=8.0,SNR=4.6						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**66.82**	**321**	P	P	08 37 57.4	0.0
	0.7nm,0.5s,baz=90,slow=7.2,SNR=3.0						
	0.7nm,0.5s						

JMA ***20*** *08:35:28.7±0.1,24.1N±2.1×122.6E±0.5,h84km±1km, MV2.4/13,NW OFF ISHIGAKIJIMA IS*
TAP ***20*** *08:35:28.3,24.49N×122.61E,h90km,ML3.3,C*

ISC 20 08:35:29.1±1.3,24.45N±0.05×122.61E±0.03,h83km±7km, n62,σ0s93/117,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS3	**EOS3**	**0.31**	**239**	P	**Pn**	**08 35 42.3**	**+0.8**
	baz=240						
EOS3				S	**Sn**	**08 35 52.9**	**+2.0**
	baz=240						
JYNG	**Yonagunijimaku**	**0.31**	**89**	P	**Pn**	**08 35 41.7**	**-0.1**
JYNG				*e*S	**Sn**	**08 35 51.3**	**+0.2**
EOS2	**EOS2**	**0.34**	**265**	P	**Pn**	**08 35 42.2**	**+0.4**
	baz=267						
EOS2				S	**Sn**	**08 35 52.9**	**+1.7**
	baz=267						
YOJ	**Yonaguni jima**	**0.37**	**88**	P	**Pn**	**08 35 42.2**	**0.0**
	baz=97						
YOJ				*e*S	**Sn**	**08 35 51.8**	**0.0**
	baz=97						
YOJ	**Yonaguni jima**	**0.37**	**88**	P	**Pn**	**08 35 42.2**	**0.0**
YOJ				S	**Sn**	**08 35 51.9**	**0.0**
EOS4	**EOS4**	**0.42**	**219**	*e*P	**Pn**	**08 35 42.4**	**+0.3**
	baz=224						
EOS4				*e*S	**Sn**	**08 35 52.7**	**+1.0**
	baz=224						
ESAO	**Su ao**	**0.70**	**281**	P	**Pn**	**08 35 45.0**	**-0.1**
	baz=281						
ESAO				*e*S	**Sn**	**08 35 56.2**	**-0.8**
	baz=281						
TWC	**Suao**	**0.71**	**283**	P	**Pn**	**08 35 44.5**	**-0.6**
	baz=284						
TWC				*e*S	**Sn**	**08 35 55.4**	**-1.6**
	baz=284						
EWUT	**Wuta**	**0.75**	**270**	*e*P	**Pn**	**08 35 45.1**	**-0.4**
	baz=261						
EWUT				*e*S	**Sn**	**08 35 57.4**	**-0.4**
	baz=261						
ENA	**Nanau**	**0.79**	**269**	*e*P	**Pn**	**08 35 45.9**	**-0.1**
	baz=262						
ENA				*e*S	**Sn**	**08 35 58.3**	**-0.2**
	baz=262						
EAHA	**Aohua**	**0.80**	**262**	*e*P	**Pn**	**08 35 45.8**	**-0.3**
	baz=258						
EAHA				*e*S	**Sn**	**08 35 58.6**	**-0.1**
	baz=258						
TIPB	**Shuangxi**	**0.88**	**307**	*e*P	**Pn**	**08 35 46.5**	**-0.5**
	baz=304						
TIPB				*e*S	**Sn**	**08 35 59.0**	**-1.4**
	baz=304						
NACB	**Ninganchiao**	**0.96**	**254**	P	**Pn**	**08 35 47.3**	**-0.6**
	baz=245						
NACB				*e*S	**Sn**	**08 36 00.8**	**-1.1**
	baz=245						
FUSB	**Fushanzhiwuyua**	**0.98**	**289**	P	**Pn**	**08 35 48.0**	**-0.1**
	baz=292						
FUSB				S	**Sn**	**08 36 02.7**	**+0.3**
	baz=292						
LATG	**Datong**	**0.99**	**275**	P	**Pn**	**08 35 48.4**	**0.0**
	baz=266						
LATG				*e*S	**Sn**	**08 36 02.3**	**-0.4**
	baz=266						
TWD	**Chiawan**	**0.99**	**249**	*e*P	**Pn**	**08 35 47.3**	**-0.9**
	baz=246						
TWD				*e*S	**Sn**	**08 36 01.8**	**-0.8**
	baz=246						
NDT	**Datong Townshi**	**1.01**	**279**	*e*P	**Pn**	**08 35 48.3**	**-0.2**
	baz=279						
NDT				*e*S	**Sn**	**08 36 02.6**	**-0.3**
	baz=279						
ETLH	**Xiulin Townshi**	**1.05**	**257**	*e*P	**Pn**	**08 35 48.6**	**-0.5**
	baz=250						
ETLH				*e*S	**Sn**	**08 36 03.3**	**-0.7**
	baz=250						
NWLT	**Wulai**	**1.06**	**288**	*e*P	**Pn**	**08 35 49.5**	**+0.4**
	baz=291						
NWLT				*e*S	**Sn**	**08 36 04.2**	**+0.3**
	baz=291						
ETM	**Tongmen**	**1.12**	**245**	P	**Pn**	**08 35 49.0**	**-0.8**
	baz=243						
ETM				*e*S	**Sn**	**08 36 04.4**	**-1.0**
	baz=243						
YHNB	**Yeheng**	**1.14**	**281**	P	**Pn**	**08 35 50.1**	**-0.1**
	baz=279						
YHNB				S	**Sn**	**08 36 05.3**	**-0.6**
	baz=279						
SHUL	**Shoufeng**	**1.16**	**236**	*e*P	**Pn**	**08 35 50.1**	**-0.1**
	baz=232						
SHUL				*e*S	**Sn**	**08 36 05.9**	**-0.2**
	baz=232						
NSK	**Sanguang**	**1.16**	**282**	*e*P	**Pn**	**08 35 50.2**	**-0.1**
	baz=279						
NSK				*e*S	**Sn**	**08 36 05.3**	**-0.9**
	baz=279						
LXIB	**Xiulin Townshi**	**1.17**	**249**	P	**Pn**	**08 35 49.8**	**-0.7**
	baz=247						
LXIB				*e*S	**Sn**	**08 36 05.1**	**-1.5**
	baz=247						
ESL	**Shilin**	**1.24**	**240**	P	**Pn**	**08 35 50.5**	**-0.8**
	baz=237						
ESL				S	**Sn**	**08 36 06.8**	**-1.2**
	baz=237						
FUSS	**Fushou**	**1.26**	**261**	P	**Pn**	**08 35 51.9**	**+0.2**
	baz=259						
FUSS				S	**Sn**	**08 36 08.0**	**-0.7**
	baz=259						
WHF	**Hehuan Shan**	**1.26**	**256**	P	**Pn**	**08 35 51.7**	**-0.2**
	baz=260						
WHF				*e*S	**Sn**	**08 36 07.8**	**-1.3**
	baz=260						
JKRS	**Kuro-shima**	**1.30**	**99**	P	**Pn**	**08 35 52.4**	**+0.5**
JKRS				S	**Sn**	**08 36 09.5**	**+0.3**
TWT	**Tachien**	**1.32**	**262**	*e*P	**Pn**	**08 35 52.6**	**+0.2**
	baz=259						
TWT				*e*S	**Sn**	**08 36 09.5**	**-0.4**
	baz=259						
EGFH	**Guangfu**	**1.33**	**234**	*e*S	**Sn**	**08 36 08.9**	**-0.9**
	baz=233						
WARBT	**Fenglin Townsh**	**1.33**	**237**	P	**Pn**	**08 35 51.6**	**-0.8**
	baz=242						
WARBT				S	**Sn**	**08 36 08.7**	**-1.3**
	baz=242						
TDCB	**Techi**	**1.33**	**262**	*e*S	**Sn**	**08 36 09.5**	**-0.8**
	baz=260						
CHGB	**Renai**	**1.36**	**254**	P	**Pn**	**08 35 52.9**	**-0.1**
	baz=246						
CHGB				*e*S	**Sn**	**08 36 10.1**	**-0.9**
	baz=246						
NFF	**Wufeng Townshi**	**1.37**	**278**	*e*P	**Pn**	**08 35 52.5**	**-0.4**
	baz=284						
NFF				*e*S	**Sn**	**08 36 10.2**	**-0.6**
	baz=284						
OWD	**Renai**	**1.39**	**250**	P	**Pn**	**08 35 53.1**	**-0.2**
	baz=242						
OWD				*e*S	**Sn**	**08 36 10.7**	**-1.0**
	baz=242						
JIJ	**Ishigaki jima**	**1.40**	**93**	P	**Pn**	**08 35 53.0**	**-0.3**
JIJ				*i* S	**Sn**	**08 36 10.6**	**-0.9**
WUSB	**Renai**	**1.43**	**252**	*e*P	**Pn**	**08 35 53.9**	**+0.1**
	baz=246						
WUSB				*e*S	**Sn**	**08 36 11.6**	**-0.8**
	baz=246						
HGSD	**Ruisui**	**1.44**	**229**	*e*P	**Pn**	**08 35 53.5**	**-0.2**
	baz=225						
HGSD				*e*S	**Sn**	**08 36 11.3**	**-1.1**
	baz=225						
EHY	**Hungye**	**1.50**	**232**	P	**Pn**	**08 35 53.6**	**-1.0**
	baz=238						
VWDT	**VWDT**	**1.51**	**243**	P	**Pn**	**08 35 54.6**	**0.0**
	baz=235						
VWDT				*e*S	**Sn**	**08 36 13.6**	**-0.3**
	baz=235						
WHP	**Taichung City**	**1.52**	**264**	P	**Pn**	**08 35 56.5**	**+1.6**
	baz=262						
WHP				*e*S	**Sn**	**08 36 15.4**	**+0.9**
	baz=262						
JISG	**Ishigakijimahi**	**1.56**	**85**	P	**Pn**	**08 35 55.2**	**-0.1**
JISG				*e*S	**Sn**	**08 36 14.4**	**-0.7**
YULB	**Yu-li**	**1.59**	**229**	P	**Pn**	**08 35 54.9**	**-0.8**
	baz=236						
YULB				*e*S	**Sn**	**08 36 14.3**	**-1.7**
	baz=236						
EYUL	**Yuli**	**1.61**	**227**	*e*P	**Pn**	**08 35 55.9**	**-0.1**
	baz=235						
EYUL				*e*S	**Sn**	**08 36 16.1**	**-0.2**
	baz=235						
TWF1	**Yuli**	**1.62**	**228**	*e*P	**Pn**	**08 35 55.2**	**-0.9**
	baz=235						
TWF1				*e*S	**Sn**	**08 36 15.2**	**-1.4**
	baz=235						
SSLB	**Suanglung**	**1.65**	**247**	*e*P	**Pn**	**08 35 56.6**	**+0.2**
	baz=239						
SMLT	**Sun Moon Lake**	**1.66**	**251**	*e*P	**Pn**	**08 35 57.7**	**+1.0**
	baz=242						
TYC	**Yuchr**	**1.69**	**252**	*e*P	**Pn**	**08 35 57.8**	**+0.9**
	baz=245						
TYC				*e*S	**Sn**	**08 36 18.9**	**+0.8**
	baz=245						
FULB	**Fuli**	**1.73**	**224**	*e*P	**Pn**	**08 35 58.0**	**+0.5**
	baz=217						
FULB				*e*S	**Sn**	**08 36 18.3**	**-0.8**
	baz=217						
WHYT	**Xinyi Township**	**1.77**	**245**	*e*P	**Pn**	**08 35 58.9**	**+0.8**
	baz=241						
EHD	**Haiduan**	**1.82**	**225**	*e*P	**Pn**	**08 35 57.8**	**-0.9**
	baz=233						
EHD				*e*S	**Sn**	**08 36 19.1**	**-2.2**
	baz=233						
EDH	**Donghe**	**1.89**	**219**	*e*P	**Pn**	**08 35 58.9**	**-0.8**
	baz=215						
EDH				*e*S	**Sn**	**08 36 20.1**	**-2.8**
	baz=215						
ALS	**Alishan**	**1.89**	**241**	*e*P	**Pn**	**08 36 00.6**	**+0.7**
	baz=234						
ALS				*e*S	**Sn**	**08 36 24.4**	**+1.0**
	baz=234						
JTJ	**Tarama**	**1.92**	**84**	P	**Pn**	**08 36 00.3**	**+0.3**
JTJ				*e*S	**Sn**	**08 36 22.5**	**-1.0**
CHN5	**Tsauling**	**1.96**	**245**	*e*P	**Pn**	**08 36 01.4**	**+0.8**
	baz=237						
CHN5				*e*S	**Sn**	**08 36 25.8**	**+1.2**
	baz=237						
WCKO	**Fanlu**	**2.09**	**242**	*e*P	**Pn**	**08 36 03.1**	**+0.9**
	baz=240						
WCKO				S	**Sn**	**08 36 29.7**	**+2.1**
	baz=240						
TPUB	**Ta-pu**	**2.14**	**238**	*e*P	**Pn**	**08 36 04.0**	**+1.0**
	baz=230						
TPUB				*e*S	**Sn**	**08 36 30.8**	**+2.0**
	baz=230						
CHN4	**Tsaushan**	**2.14**	**240**	*e*P	**Pn**	**08 36 04.2**	**+1.2**
	baz=239						
CHN4				*e*S	**Sn**	**08 36 30.1**	**+1.3**
	baz=239						
TWK	**Hsinying**	**2.27**	**239**	*e*P	**Pn**	**08 36 04.9**	**+0.2**
	baz=238						
TWK				*e*S	**Sn**	**08 36 33.5**	**+1.6**
	baz=238						
CHN1	**Nanshi**	**2.28**	**237**	*e*P	**Pn**	**08 36 06.3**	**+1.4**
	baz=246						
CHN1				*e*S	**Sn**	**08 36 33.4**	**+1.2**
	baz=246						
SLGT	**Liugui**	**2.31**	**232**	*e*P	**Pn**	**08 36 06.5**	**+1.3**
	baz=238						
SLGT				*e*S	**Sn**	**08 36 34.7**	**+1.9**
	baz=238						
JIRB	**Irabujima**	**2.37**	**80**	S	**Sn**	**08 36 34.7**	**+0.4**

IDC 20 08:41:21.0±3.6,53.73N×90.93E,h0km,mbtmp3.1/3, ML2.5/3,Error ellipse: s-maj=32.3km s-min=24.6km az=38.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.62**	**276**	I	I	09 06 30.0	
	0.1nm,1.5s,baz=88,slow=339,SNR=5.2						
ZALV	**Zalesovo Beam**	**3.62**	**276**	Pn	Pn	08 42 18.9	+0.6
	0.4nm,0.3s,baz=96,slow=10,SNR=3.3						
ZALV				Pg	Pb	08 42 25.4	-0.5
	1.6nm,0.3s,baz=93,slow=15,SNR=20						
ZALV				Lg	Lg	08 43 15.5	
	4.2nm,0.3s,baz=91,slow=25,SNR=13						
	0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**8.23**	**253**	Pn	Pn	08 43 21.4	-0.1
	0.2nm,0.3s,baz=66,slow=14,SNR=4.7						
KURBB				Lg	Lg	08 45 44.1	
	0.1nm,0.3s,baz=68,slow=33,SNR=7.7						
	1.5nm,0.4s						
MKAR	**Makan

	2.2nm,0.1s							
ZSN				*e*S		**Sg**	08 45 09.4	**-0.4**
	5.2nm,0.5s							
ZSN	**Zaisan**	**2.23**	**163**	Pg		**Pg**	08 44 40.6	**-0.3**
	1.8nm,0.1s							
ZSN				Lg		Lg	08 45 12.3	
	9.6nm,1.2s							
SEM	**Semipalatinsk**	**2.50**	**291**	*e*P		**Pb**	08 44 44.5	**+1.2**
	6.0nm,0.2s							
SEM				*e*S		**Sg**	08 45 20.1	**+1.7**
	13nm,0.1s							
SEM	**Semipalatinsk**	**2.50**	**291**	Pg		**Pg**	08 44 45.4	**-0.7**
	6.0nm,0.1s							
SEM				Lg		Lg	08 45 20.2	
	16nm,0.1s							
MK31	**Makanchi Array**	**2.99**	**202**	⇑Lg		Lg	08 46 00.2	
	20nm,1.1s,baz=228,slow=56,SNR=7.4							
MAKZ	**Makanchi**	**3.06**	**206**	⇑Lg		Lg	08 46 03.4	
	19nm,1.4s							
KURK	**Kurchatov**	**3.58**	**290**	⇑Pg		**Pn**	08 44 52.4	**-1.3**
	19nm,1.7s							
KURK				⇑Lg		Lg	08 45 40.6	
	43nm,1.1s							
KURBB	**Kurchatov Arra**	**3.61**	**289**	⇑Pg		**Pn**	08 44 53.7	**-0.5**
	14nm,1.2s							
KURBB				⇓Lg		Lg	08 45 42.9	
	44nm,0.8s							
KURBB	**Kurchatov Arra**	**3.61**	**289**	Sn		**Pn**	08 44 53.3	**-0.9**
	baz=69,slow=26,SNR=3.0							
KAPS	**Kapalarasan**	**5.29**	**217**	*e*P		**Pg**	08 45 38.1	**-1.5**
	0.8nm,0.2s							
KAPS				*e*S		**Sg**	08 46 50.2	**+2.2**
	2.7nm,0.6s							
KAPS	**Kapalarasan**	**5.29**	**217**	Pg		Pg	08 45 47.9	+8.3
	0.8nm,0.3s							
KAPS				Lg		Lg	08 47 09.7	
	2.1nm,0.3s							
BRZS	**Berezniki**	**7.28**	**277**	*e*P		Pg	08 46 12.2	-5.4
	0.6nm,0.1s							
BRZS				*e*S		**Sg**	08 47 49.7	**-2.0**
	4.7nm,0.8s							
BRZS	**Berezniki**	**7.28**	**277**	Pg		**Pb**	08 46 08.4	**+3.8**
	1.0nm,0.3s							
BRZS				Lg		Lg	08 47 41.4	
	3.6nm,0.7s							
OTUK	**Ortayu**	**7.74**	**264**	Pg		**Pg**	08 46 23.4	**-2.9**
	1.5nm,1.2s							
OTUK				Lg		Lg	08 48 07.9	
	2.4nm,1.2s							
OTUK	**Ortayu**	**7.74**	**264**	⇓Lg		Lg	08 48 06.5	
	11nm,1.4s							

*IDC **20** 08:46:27.1±1.3,31°.61N×50°.88E, h0km, mb3.8/13, mbtmp3.8/18, ML3.5/5, MS3.4/15, Error ellipse: s-maj=26.5km s-min=16.4km az=168.0*
*TEH **20** 08:46:27.4,31°.76N×51°.09E, h6km±18km, ML3.7*
*OMAN **20** 08:46:31.6±0.1,31°.51N×51°.24E, h10km±1km, mb4.3/23, ms2.9/5, Error ellipse: s-maj=3.6km s-min=1.0km az=358.0*

ISC 20 08:46:28.2±0.5, 31°.69N±0°.03×51°.05E±0°.04, h10km, n88, σ1s81/106, mb3.6/13, MS3.1/10, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBRJ	**Brojen**	**0.28**	**39**	Pg	Pg	08 46 31.2	-3.0
ZNGN	**Zangian**	**0.46**	**339**	Pg	**Pg**	**08 46 35.1**	**-2.3**
JHBN	**Jahan bin**	**0.63**	**329**	Pg	**Pg**	**08 46 38.1**	**-2.5**
KLNJ	**Kolanjah**	**0.82**	**145**	Pg	**Pg**	**08 46 43.0**	**-1.1**
IGAR	**Gharneh**	**1.10**	**49**	Pg	Pb	08 46 46.4	-3.2
IRAM	**Rameshesh**	**1.14**	**84**	Pg	**Pb**	**08 46 47.3**	**-2.9**
ABEH	**Behbahan**	**1.28**	**212**	Pg	**Pg**	**08 46 52.3**	**-0.6**
IZEF	**Zefreh**	**1.62**	**42**	Pg	**Pn**	**08 46 55.7**	**-1.5**
QAMS	**Qamsar**	**2.06**	**8**	Pn	**Pn**	**08 47 04.2**	**+1.0**
KAZ2	**Kazeron-Fars-I**	**2.13**	**166**	Pn	**Pb**	**08 47 06.5**	**-0.5**
ISAD	**Sadrabad**	**2.25**	**84**	Pn	**Pb**	**08 47 07.2**	**+1.3**
SHI	**Shiraz**	**2.40**	**148**	Pn	**Pb**	**08 47 09.8**	**-1.8**
ANAR	**Anarak**	**2.72**	**56**	Pn	**Pn**	**08 47 13.7**	**+1.6**
AHBU	**AHRAM**	**2.82**	**176**	Pn	**Pb**	**08 47 16.2**	**-2.5**
ISFB	**Sefidab**	**2.84**	**20**	Pn	**Pn**	**08 47 15.4**	**+1.7**
IMEH	**Mehriz**	**3.06**	**95**	Pn	**Pn**	**08 47 18.9**	**+2.0**
IDOB	**Doab**	**3.20**	**312**	Pn	**Pn**	**08 47 20.9**	**+2.1**
HSAM	**Samen**	**3.25**	**321**	Pn	**Pn**	**08 47 21.8**	**+2.2**
DSBU	**Dashti - Bushe**	**3.32**	**177**	Pn	**Pb**	**08 47 23.7**	**-3.6**
IVRN	**Varamin**	**3.35**	**10**	Pn	**Pn**	**08 47 22.7**	**+2.0**
HAGD	**Aghdareh**	**3.51**	**333**	Pn	**Pn**	**08 47 25.3**	**+2.1**
KBD	**Kabd**	**3.83**	**230**	P	**Pn**	**08 47 30.8**	**+3.5**
KBD				S	**Sb**	**08 48 18.7**	**-3.6**
IBAF	**Bafgh**	**3.85**	**90**	Pn	**Pn**	**08 47 30.1**	**+2.3**
IDMV	**Damavand**	**3.97**	**12**	Pn	**Pn**	**08 47 30.5**	**+1.1**
IMHD	**Mahdasht**	**4.00**	**356**	Pn	**Pn**	**08 47 31.3**	**+1.6**
IFIR	**Firoozkooh**	**4.19**	**19**	Pn	**Pn**	**08 47 34.0**	**+1.5**
ILBA	**Ilam Banvizeh**	**4.52**	**297**	Pn	**Pn**	**08 47 38.7**	**+1.9**
IPRN	**Peran**	**4.67**	**13**	Pn	**Pn**	**08 47 40.2**	**+1.3**
IDHR	**Dehrash**	**4.93**	**309**	Pn	**Pn**	**08 47 43.8**	**+1.2**
TPRV	**Parvadeh(Tabas**	**4.95**	**73**	Pn	**Pn**	**08 47 45.2**	**+2.4**
TVBK	**TV Kerman**	**5.20**	**108**	Pn	**Pn**	**08 47 48.6**	**+2.3**
NGRK	**Negar Kerman**	**5.30**	**111**	Pn	**Pn**	**08 47 49.4**	**+1.6**
TKDS	**Koohdasht(Taba**	**5.47**	**68**	Pn	**Pn**	**08 47 51.9**	**+2.0**
SAKB	**Bahrain**	**5.71**	**185**	P	**Pn**	**08 47 56.0**	**+3.0**
SAKB				S	**Sn**	**08 49 03.6**	**+5.0**
SHMA	**Al-Shehemyia**	**5.81**	**181**	P	**Pn**	**08 47 57.0**	**+2.5**
	SNR=9.9						
GENO	**Geno**	**6.18**	**132**	Pn	**Pn**	**08 48 02.0**	**+2.3**
BSRN	**Basiran**	**6.88**	**86**	Pn	**Pn**	**08 48 11.2**	**+1.8**
SMRA	**Abu-Samra**	**6.92**	**182**	P	**Pn**	**08 48 11.2**	**+1.5**
SMRA				S	**Sn**	**08 49 29.7**	**+1.2**
TRNA	**Turayna**	**6.93**	**179**	P	**Pn**	**08 48 11.2**	**+1.4**
TRNA				S	**Sn**	**08 49 29.7**	**+1.0**
MASF	**Masafi**	**7.73**	**143**	P	**Pn**	**08 48 23.3**	**+0.4**
MASF				S	**Sn**	**08 49 48.2**	**-0.3**
MDH	**Madha**	**7.86**	**143**	P	**Pn**	**08 48 24.3**	**+1.6**
MDH				S	**Sn**	**08 49 51.1**	**-0.7**
ASUD	**Al Ashush, Dub**	**7.98**	**151**	P	**Pn**	**08 48 26.3**	**+2.0**
	SNR=8.4						
ASUD				S	**Sn**	**08 49 54.2**	**-0.5**
UOSS	**Minazif**	**8.11**	**145**	P	**Pn**	**08 48 26.6**	**+0.5**
UOSS				S	**Sn**	**08 49 55.3**	**-2.5**
HATD	**Hatta, Dubai**	**8.17**	**146**	P	**Pn**	**08 48 27.6**	**+0.6**
HATD				S	**Sn**	**08 49 58.6**	**-0.8**
ASHO	**Ashiyiah**	**8.26**	**146**	P	**Pn**	**08 48 28.1**	**0.0**
ASHO				S	**Sn**	**08 49 59.9**	**-1.6**
JASK	**Jask - Hormozg**	**8.33**	**132**	P	**Pn**	**08 48 31.4**	**+2.3**
JASK				S	**Sn**	**08 50 01.5**	**-1.8**
GEYT	**Alibeck**	**8.52**	**41**	Pn	**Pn**	**08 48 35.7**	**+4.0**
	0.3nm,0.3s,baz=225,slow=31,SNR=1.1						
	0.9nm,0.4s						
ALNE	**Al Ain**	**8.66**	**150**	P	**Pn**	**08 48 34.2**	**+0.5**
ALNE				S	**Sn**	**08 50 09.5**	**-2.0**
SOHO	**SOHO**	**8.95**	**146**	P	**Pn**	**08 48 37.3**	**-0.3**
SOHO				P	**Pn**	**08 48 37.3**	**-0.3**
SOHO				S	**Sn**	**08 50 16.7**	**-1.8**
SOHO				S	**Sn**	**08 50 16.7**	**-1.8**
RAYN	**Ar Rayn**	**9.50**	**213**	P	**Pn**	**08 48 46.6**	**+1.4**
ARQ	**Araqi**	**9.63**	**148**	P	**Pn**	**08 48 47.3**	**+0.3**
ARQ				S	**Sn**	**08 50 32.8**	**-2.5**
UMZA	**Um Al Zommool**	**9.66**	**157**	P	**Pn**	**08 48 49.3**	**+2.0**
UMZA				S	**Sn**	**08 50 33.3**	**-2.5**
GNI	**Garni**	**9.87**	**331**	LR	LR	08 52 46.9	
	comp=Z,1177nm,18.2s,baz=152,slow=38						
BSY	**Bisya**	**10.45**	**147**	P	**Pn**	**08 49 00.3**	**+2.1**
BSY				S	**Sn**	**08 50 54.1**	**-1.4**
SMDO	**Samad**	**10.60**	**142**	P	**Pn**	**08 49 00.7**	**+0.3**
SMDO				P	**Pn**	**08 49 00.7**	**+0.3**
SMDO				S	**Sn**	**08 50 58.0**	**-1.3**
SMDO				S	**Sn**	**08 50 58.0**	**-1.3**
WSAR	**Wadi Sarin**	**10.77**	**140**	Pn	**Pn**	**08 49 01.5**	**-1.1**
	0.8nm,0.3s,baz=348,slow=12,SNR=8.8						
	4.9nm,0.6s						
NGCH	**Negor - Chabah**	**10.88**	**123**	P	**Pn**	**08 49 04.0**	**0.0**
JMDO	**Jabal Madar**	**11.20**	**144**	P	**Pn**	**08 49 10.8**	**+2.3**
JMDO				P	**Pn**	**08 49 10.8**	**+2.3**
JMDO				S	**Sn**	**08 51 12.2**	**-1.7**
JMDO				S	**Sn**	**08 51 12.2**	**-1.7**
WBK	**Wadi Bani Khal**	**11.46**	**140**	P	**Pn**	**08 49 12.3**	**+0.3**
WBK				S	**Sn**	**08 51 20.3**	**+0.1**
ASF	**Jabal al Asfar**	**12.04**	**276**	Pn	**Pn**	**08 49 17.5**	**-2.5**
	0.2nm,0.3s,baz=333,slow=18,SNR=1.7						
ASF				LR	LR	08 55 14.7	
	comp=Z,216nm,20.0s,baz=154,slow=44						
	2.0nm,0.3s						
JLN	**Jalan Bani Buh**	**12.07**	**140**	P	**Pn**	**08 49 19.8**	**-0.6**
JLN				P	**Pn**	**08 49 19.8**	**-0.6**

MHTO	**MHTO**	**12.32**	**148**	P		**Pn**	**08 49 25.0**	**+1.1**
	SNR=7.3							
DQM	**DQM**	**13.08**	**152**	P		**Pn**	**08 49 34.1**	**0.0**
MMAI	**Mount Meron Ar**	**13.30**	**280**	LR		LR	08 56 14.6	
	comp=Z,293nm,18.2s,baz=36,slow=45							
DOK	**Doka**	**13.31**	**167**	P		**Pn**	**08 49 37.1**	**-0.1**
WHFO	**Wadi Hawf**	**13.93**	**169**	P		**Pn**	**08 49 44.1**	**-1.7**
EIL	**Elat**	**14.00**	**266**	LR		LR	08 56 35.3	
	comp=Z,183nm,18.3s,baz=66,slow=44							
DMTO	**DMTO**	**14.35**	**165**	P		**Pn**	**08 49 49.1**	**-2.4**
ABTO	**Aybut**	**14.41**	**171**	P		**Pn**	**08 49 51.0**	**-1.5**
	SNR=5.3							
BRTR	**Keskin Array B**	**16.24**	**304**	Pn		**Pn**	**08 50 16.1**	**-0.5**
	0.1nm,0.3s,baz=124,slow=12,SNR=1.2							
BRTR				LR		LR	08 57 46.7	
	comp=Z,302nm,19.3s,baz=124,slow=42							
	0.4nm,0.5s							
AKTO	**Aktyubinsk**	**19.44**	**13**	P		**Pn**	**08 50 57.3**	**+1.4**
	0.2nm,0.3s,baz=209,slow=9.9,SNR=2.6							
	0.6nm,0.4s							
BELG	**Belogornoye**	**20.84**	**354**	P		**P**	**08 51 12.2**	**+2.2**
	19nm,0.8s,baz=151,slow=17,SNR=4.0							
BELG				LR		LR	09 00 58.2	
	comp=Z,53nm,18.5s,baz=350,slow=42							
	19nm,0.8s							
AAK	**Ala-Archa**	**21.58**	**53**	P		**P**	**08 51 21.4**	**+3.3**
	0.6nm,0.4s,baz=262,slow=14,SNR=1.2							
AAK				LR		LR	09 01 13.4	
	comp=Z,72nm,18.1s,baz=258,slow=41							
	0.6nm,0.4s							
IDI	**Anoyia**	**22.09**	**286**	P		**P**	**08 51 24.0**	**+0.4**
	0.1nm,0.9s,baz=90,slow=20,SNR=1.7							
MLR	**Muntele Rosu**	**23.86**	**312**	P		**P**	**08 51 42.1**	**+0.2**
	1.5nm,0.7s,baz=151,slow=10,SNR=1.1							
MLR				LR		LR	09 03 25.5	
	comp=Z,117nm,18.1s,baz=126,slow=43							
	1.5nm,0.7s							
AKASG	**Malin Array Be**	**24.95**	**326**	P		**P**	**08 51 51.8**	**+0.1**
	0.6nm,0.4s,baz=138,slow=9.1,SNR=7.4							
AKASG				LR		LR	09 04 40.8	
	comp=Z,20nm,20.5s,baz=200,slow=44							
	0.6nm,0.4s							
BVAR	**Borovoye Array**	**25.51**	**28**	P		**P**	**08 51 58.3**	**+1.5**
	0.8nm,0.6s,baz=214,slow=5.0,SNR=5.1							
	0.8nm,0.6s							
KURBB	**Kurchatov Arra**	**27.78**	**39**	P		**P**	**08 52 18.9**	**+1.6**
	0.6nm,0.7s,baz=239,slow=10.0,SNR=2.5							
	0.6nm,0.7s							
MKAR	**Makanchi Array**	**28.29**	**49**	P		**P**	**08 52 23.3**	**+1.5**
	0.5nm,0.7s,baz=232,slow=9.2,SNR=5.4							
MKAR				LR		LR	09 04 12.3	
	comp=Z,41nm,18.1s,baz=248,slow=38							
	0.5nm,0.7s							
VRAC	**Vranov**	**31.21**	**314**	LR		LR	09 08 10.0	
	comp=Z,35nm,20.3s,baz=86,slow=42							
ZALV	**Zalesovo Beam**	**32.80**	**37**	P		**P**	**08 53 02.8**	**+1.3**
	0.7nm,0.5s,baz=247,slow=7.8,SNR=2.2							
	0.7nm,0.5s							
GERES	**GERESS Array B**	**32.85**	**312**	LR		LR	09 10 13.3	
	comp=Z,37nm,18.1s,baz=76,slow=44							
FINES	**FINESS Array B**	**33.93**	**339**	P		**P**	**08 53 10.5**	**-0.7**
	1.1nm,0.8s,baz=141,slow=16,SNR=1.1							
	1.1nm,0.8s							
HFS	**Hagfors**	**37.66**	**330**	P		**P**	**08 53 43.2**	**-0.1**
	1.0nm,0.5s,baz=141,slow=7.6,SNR=6.7							
HFS				LR		LR	09 11 35.6	
	comp=Z,58nm,18.1s,baz=140,slow=40							
	1.0nm,0.5s							
NOA	**NORSAR Array B**	**39.17**	**330**	P		**P**	**08 53 55.7**	**-0.4**
	0.4nm,0.6s,baz=122,slow=8.5,SNR=1.7							
NOA				LR		LR	09 12 00.9	
	comp=Z,38nm,20.6s,baz=90,slow=39							
	0.4nm,0.6s							
ARCES	**ARCESS Array B**	**40.55**	**347**	P		**P**	**08 54 07.3**	**-0.1**
	1.3nm,0.7s,baz=122,slow=1.6,SNR=4.8							
	1.3nm,0.7s							
TORD	**Torodi Ar. Bea**	**48.77**	**259**	P		**P**	**08 55 13.7**	**+0.1**
	3.3nm,0.9s,baz=52,slow=9.4,SNR=13							
	3.3nm,0.9s							
DBIC	**Dimbokro**	**57.66**	**257**	LR		LR	09 23 18.3	
	comp=Z,68nm,19.8s,baz=116,slow=38							

*NNC **20** 08:58:19.2±1.1,51°.78N×75°.51E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=28.3km s-min=6.7km az=25.0, Suspected Mining explosion.*
*IDC **20** 08:58:24.1±1.0,51°.61N×75°.76E, h0km, mbtmp2.7/4, ML2.0/4, Error ellipse: s-maj=32.6km s-min=8.1km az=31.0*

ISC 20 08:58:19.9±1.1, 51°.6N±0°.1×75°.45E±0°.08, h0km, n13, σ0s95/10, 8C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.17**	**115**	Pn	**Pb**	**08 58 59.2**	**-0.8**
	0.4nm,0.3s,baz=302,slow=18,SNR=11						
KURBB				Lg	Lg	08 59 27.5	
	0.3nm,0.3s,baz=310,slow=34,SNR=2.5						
	1.8nm,0.5s						
KURBB	**Kurchatov Arra**	**2.17**	**115**	⇓Pg	**Pb**	**08 58 59.7**	**-0.3**
	3.4nm,0.7s						
KURBB				⇑Lg	Lg	08 59 32.1	
	24nm,0.6s						
KURK	**Kurchatov**	**2.18**	**112**	⇓Pg	**Pn**	**08 58 57.8**	**+0.4**
	1.7nm,0.5s						
KURK				⇑Lg	Lg	08 59 32.0	
	14nm,1.1s						
BVA0	**Borovoye Array**	**3.42**	**297**	⇑Pg	**Pb**	**08 59 22.0**	**+0.6**
	1.5nm,0.6s,baz=106,slow=14,SNR=12						
BVA0				Lg	Lg	09 00 04.9	
	7.4nm,0.6s,baz=108,slow=24,SNR=11						
BVAR	**Borovoye Array**	**3.42**	**297**	Pn	**Pb**	**08 59 21.2**	**-0.2**
	0.1nm,0.3s,baz=115,slow=17,SNR=16						
BVAR				Sn	**Sb**	**09 00 01.9**	**-1.7**
	0.1nm,0.3s,baz=115,slow=26,SNR=4.8						
	3.2nm,0.6s						
BRVK	**Borovoye**	**3.50**	**297**	⇑Pg	**Pb**	**08 59 22.8**	**+0.2**
	1.4nm,0.5s						
BRVK				⇑Lg	Lg	09 00 06.7	
	9.1nm,0.6s						
OTUK	**Ortayu**	**3.90**	**212**	⇑Lg	Lg	09 00 28.6	
	6.7nm,1.2s						
I46RU	**ZALESOVO INFRA**	**6.16**	**64**	I	I	09 32 10.0	
	baz=253,slow=330,SNR=6.2						
ZALV	**Zalesovo Beam**	**6.16**	**64**	Pn	**Pn**	**08 59 52.9**	**+0.8**
	0.2nm,0.3s,baz=248,slow=14,SNR=3.6						
	0.6nm,0.4s						
MAKZ	**Makanchi**	**6.41**	**136**	⇑Lg	Lg	09 01 48.1	
	1.6nm,0.6s						
MK31	**Makanchi Array**	**6.56**	**134**	⇑Lg	Lg	09 01 49.6	
	1.0nm,0.5s,baz=312,slow=24,SNR=5.6						
MKAR	**Makanchi Array**	**6.56**	**134**	Pn	**Pn**	**08 59 58.9**	**+1.2**
	baz=316,slow=14,SNR=1.9						
MKAR				Sn	**Sn**	**09 01 12.8**	**-0.3**
	baz=324,slow=27,SNR=1.5						
MKAR				Lg	Lg	09 01 47.3	
	0.1nm,0.3s,baz=325,slow=26,SNR=3.6						
	0.2nm,0.5s						
AAK	**Ala-Archa**	**8.97**	**185**	Lg	Lg	09 03 08.6	
	0.1nm,0.3s,baz=12,slow=13,SNR=1.7						

IDC 20 09:18:34.5±5.4, 53°.67N×91°.37E, h0km, mbtmp3.1/3, ML2.7/3, Error ellipse: s-maj=62.3km s-min=30.6km az=94.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.89**	**277**	I	I	09 44 00.0	
	baz=89,slow=343,SNR=3.6						
ZALV	**Zalesovo Beam**	**3.89**	**277**	Pn	Pn	09 19 37.2	+1.7
	1.0nm,0.3s,baz=94,slow=17,SNR=8.0						
ZALV				Lg	Lg	09 20 31.9	
	2.1nm,0.3s,baz=84,slow=28,SNR=9.0						
	1.1nm,0.3s						
KURBB	**Kurchatov Arra**	**8.46**	**254**	Pn	Pn	09 20 37.3	-1.0
	0.1nm,0.3s,baz=66,slow=15,SNR=4.5						
	1.0nm,0.6s						
MKAR	**Makanchi Array**	**9.01**	**224**	Pn	Pn	09 20 46.6	+0.8
	0.2nm,0.3s,baz=36,slow=12,SNR=8.2						
MKAR				Sn	Sn	09 22 26.5	-1.3
	0.1nm,0.3s,baz=39,slow=25,SNR=3.9						
	0.5nm,0.5s						

*NNC **20** 09:21:28.9±0.5,51°.68N×75°.41E, h5km±16km, mb3.6, mpv3.3, Error ellipse: s-maj=6.1km s-min=3.2km az=15.0, Suspected Mining explosion.*

*IDC **20** 09:21:31.2±0.8,51°.64N×75°.42E, h0km, mbtmp3.1/5, ML2.5/5, Error ellipse: s-maj=20.1km s-min=7.0km az=26.0*

ISC 20 09:21:27.7±0.9, 51°.97N±0°.07×75°.73E±0°.05, h0km, n21, σ2s23/19, 8C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.21**	**124**	⇑Pg	**Pg**	**09 22 08.8**	**-1.2**
	4.0nm,0.6s						
KURK				⇓Lg	Lg	09 22 40.7	
	35nm,0.9s						
KURBB	**Kurchatov Arra**	**2.22**	**126**	Pn	**Pb**	**09 22 08.7**	**+0.1**
	0.9nm,0.3s,baz=302,slow=18,SNR=35						
KURBB				Lg	Lg	09 22 40.9	
	1.8nm,0.3s,baz=294,slow=28,SNR=11						
	3.0nm,0.3s						
KURBB	**Kurchatov Arra**	**2.22**	**126**	⇑Pg	**Pg**	**09 22 09.8**	**-0.5**
	8.7nm,0.6s						
KURBB				⇑Lg	Lg	09 22 40.7	
	109nm,0.7s						
BRZS	**Berezniki**	**2.77**	**225**	Pg	**Pn**	**09 22 13.0**	**-0.4**
	14nm,0.7s						
BRZS				Lg	Lg	09 22 46.1	
	14nm,0.4s						
SEM	**Semipalatinsk**	**3.25**	**117**	Pg	**Pg**	**09 22 30.3**	**+0.4**
	4.9nm,0.1s						
SEM				Lg	Lg	09 23 14.9	
	8.2nm,0.2s						
BVA0	**Borovoye Array**	**3.43**	**290**	⇓Pg	**Pb**	**09 22 30.6**	**+1.3**
	3.5nm,0.6s,baz=111,slow=16,SNR=9.5						
BVA0				⇑Lg	Lg	09 23 15.7	
	16nm,0.9s,baz=116,slow=28,SNR=8.1						
BVAR	**Borovoye Array**	**3.43**	**290**	Pn	**Pn**	**09 22 25.2**	**+2.8**
	0.2nm,0.3s,baz=113,slow=18,SNR=11						
BVAR				Sn	**Sn**	**09 23 05.4**	**+1.6**
	0.3nm,0.3s,baz=109,slow=24,SNR=6.4						
BVAR				Lg	Lg	09 23 16.8	
	0.7nm,0.3s,baz=115,slow=28,SNR=12						
	1.3nm,0.3s						
BRVK	**Borovoye**	**3.50**	**290**	⇑Pg	**Pb**	**09 22 30.8**	**+0.2**
	7.8nm,1.1s						
BRVK				⇑Lg	Lg	09 23 18.1	
	17nm,0.8s						
OTUK	**Ortayu**	**4.32**	**212**	Pg	**Pb**	**09 22 43.0**	**-1.6**
	1.1nm,0.4s						
OTUK				Lg	Lg	09 23 37.2	
	2.2nm,0.6s						
I46RU	**ZALESOVO INFRA**	**5.84**	**67**	I	I	09 55 10.0	
	baz=252,slow=326,SNR=2.5						
ZALV	**Zalesovo Beam**	**5.84**	**67**	Pn	Pb	09 23 03.7	-6.7
	0.7nm,0.3s,baz=256,slow=14,SNR=6.0						
ZALV				Sn	**Sb**	**09 24 14.9**	**-5.9**
	0.3nm,0.3s,baz=248,slow=26,SNR=2.9						
ZALV				Lg	Lg	09 24 46.4	
	0.2nm,0.3s,baz=248,slow=27,SNR=3.2						
	2.0nm,0.4s						
MAKZ	**Makanchi**	**6.58**	**139**	⇑Lg	Lg	09 24 53.3	
	7.0nm,0.7s						
MK31	**Makanchi Array**	**6.72**	**138**	⇓Sn	**Sn**	**09 24 24.5**	**-0.4**
	1.0nm,0.4s,baz=327,slow=21,SNR=5.3						
MK31				⇑Lg	Lg	09 24 57.9	
	3.1nm,0.5s,baz=325,slow=30,SNR=5.1						
MKAR	**Makanchi Array**	**6.72**	**138**	Pn	**Pn**	**09 23 09.3**	**+1.6**
	0.1nm,0.3s,baz=326,slow=13,SNR=3.2						
MKAR				Sn	**Sn**	**09 24 24.1**	**-0.8**
	0.5nm,0.3s,baz=323,slow=18,SNR=7.3						
MKAR				Lg	Lg	09 24 58.8	
	0.8nm,0.3s,baz=322,slow=28,SNR=5.5						
	0.9nm,0.7s						
BTLS	**Baital**	**7.03**	**190**	Pg	**Pb**	**09 23 29.9**	**-0.7**
	1.2nm,0.5s						
BTLS				Lg	Lg	09 24 56.9	
	4.3nm,0.5s						
KAPS	**Kapalarasan**	**7.11**	**159**	Pg	**Pb**	**09 23 34.4**	**+2.3**
	0.7nm,0.2s						
KAPS				Lg	Lg	09 25 05.3	
	5.7nm,0.6s						
ARXS	**Arharly**	**7.89**	**169**	Pg	**Pb**	**09 23 48.5**	**+3.1**
	1.0nm,0.3s						
ARXS				Lg	Lg	09 25 28.9	
	4.7nm,0.8s						
KRBS	**Karabastau**	**8.28**	**180**	Pg	**Pb**	**09 23 55.0**	**+3.0**
	0.6nm,0.3s						
KRBS				Lg	Lg	09 25 40.0	
	3.4nm,0.4s						
KTBS	**Karatobe**	**8.29**	**175**	Pg	Pb	09 23 57.3	+5.1
	1.1nm,0.4s						
KTBS				Lg	Lg	09 25 43.9	
	5.9nm,0.6s						
AAK	**Ala-Archa**	**9.38**	**186**	Lg	Lg	09 26 15.5	
	0.2nm,0.3s,baz=342,slow=23,SNR=2.1						
AKTO	**Aktyubinsk**	**11.22**	**269**	Pn	**Pn**	**09 24 08.6**	**-0.7**
	0.1nm,0.3s,baz=76,slow=12,SNR=3.6						
AKTO				Lg	Lg	09 27 20.2	
	0.1nm,0.3s,baz=209,slow=12,SNR=2.3						
	0.9nm,0

baz=88
CHN4 Tsaushan 0.07 27⇑iP Pg 09 22 59.3 -0.1
baz=43
CHN4 iS Sg 09 23 01.6 +0.3
baz=43
WTP Ta-pu 0.07 132⇓iP Pg 09 22 59.5 +0.1
baz=126
WTP iS Sg 09 23 01.7 +0.3
baz=126
TWK Hsinying 0.07 249⇑iP Pg 09 22 58.9 -0.6
baz=226
TWK iS Sg 09 23 00.6 -0.8
baz=226
SNST Tainan City 0.09 219⇑iP Pg 09 22 59.4 -0.3
baz=207
SNST iS Sg 09 23 01.4 -0.3
baz=207
CHN1 Nanshi 0.11 196⇓iP Pg 09 22 59.9 0.0
baz=185
CHN1 iS Sg 09 23 02.4 +0.4
baz=185
WCKO Fanlu 0.15 16 iP Pg 09 23 00.6 +0.2
baz=23
WCKO iS Sg 09 23 03.5 +0.5
baz=23
SGST Jiashian 0.21 174⇓iP Pg 09 23 00.9 -0.4
baz=168
SGST iS Sg 09 23 05.2 +0.7
baz=168
STYT Tauyuan 0.22 125⇓iP Pb 09 23 02.2 -0.1
baz=114
STYT iS Sb 09 23 06.5 +0.3
baz=114
STYH Taoyuan 0.23 121⇓iP Pb 09 23 02.2 -0.2
baz=111
STYH iS Sb 09 23 06.5 +0.1
baz=111
CHY Chiayi 0.24 329 ⇓P Pg 09 23 02.1 +0.3
baz=334
CHY iS Sb 09 23 06.7 0.0
baz=334
CHN2 Minshiung 0.25 342 ⇓P Pb 09 23 02.6 -0.3
baz=345
CHN2 iS Sb 09 23 07.7 +0.6
baz=345
ICHU Yijhu 0.27 285⇓iP Pg 09 23 02.4 +0.2
baz=285
ICHU eS Sb 09 23 07.5 0.0
baz=285
CHN3 Shinhua 0.28 220⇑iP Pb 09 23 03.6 +0.3
baz=216
CHN3 S Sb 09 23 09.3 +1.5
baz=216
SSHA Shanhua 0.29 238⇓iP Pb 09 23 03.5 -0.1
baz=235
SSHA S Sb 09 23 09.3 +1.1
baz=235
SLGT Liugui 0.31 165⇓iP Pb 09 23 04.0 +0.2
baz=150
SLGT S Sb 09 23 09.6 +0.9
baz=150
ALS Alishan 0.31 46⇓iP Pb 09 23 03.7 -0.4
baz=58
ALS S Sb 09 23 09.1 -0.1
baz=58
CHN5 Tsauling 0.32 20⇓iP Pg 09 23 03.6 +0.3
baz=32
CHN8 Yiju 0.33 280⇓iP Pg 09 23 03.2 0.0
baz=280
CHN8 iS Sb 09 23 09.2 0.0
baz=280
SHHT Tainan City 0.33 216⇑iP Pb 09 23 04.8 +0.6
baz=213
SHHT eS Sb 09 23 11.2 +1.9
baz=213
SCLT Jiali 0.36 251⇓iP Pb 09 23 04.2 -0.4
baz=248
SCLT iS Sb 09 23 11.0 +0.9
baz=248
WSL Shuilin Townsh 0.38 307 ⇓P Pg 09 23 04.5 +0.3
baz=308
WGK Gukeng 0.39 0 iP Pb 09 23 05.2 0.0
baz=4.0
WGK S Sb 09 23 12.0 +0.9
baz=4.0
TAI1 Yung-k'ang 0.40 231 P Pb 09 23 05.7 +0.4
baz=234
TAI1 eS Sb 09 23 12.8 +1.6
baz=234
WDLH Douliu 0.40 357 ⇓P Pb 09 23 05.3 0.0
baz=359
WDLH eS Sb 09 23 12.5 +1.3
baz=359
SCST Cishan 0.41 189 ⇑P Pb 09 23 06.0 +0.5
baz=173
SCST S Sn 09 23 14.4 -0.9
baz=173
WTK Tuku 0.42 338 ⇓P Pb 09 23 05.5 -0.3
baz=340
WTK S Sb 09 23 12.8 +0.8
baz=340
ELDTW Lidau 0.43 104⇓iP Pb 09 23 06.0 0.0
baz=104
ELDTW eS Sb 09 23 13.1 +0.7
baz=104
TSCK Chigu Township 0.46 252⇓eP Pg 09 23 05.9 +0.2
baz=251
TSCK eS Sb 09 23 14.2 +1.2
baz=251
WSF Szhu 0.46 318 ⇓P Pg 09 23 05.8 0.0
baz=320
WSF eS Sb 09 23 13.0 -0.2
baz=320
TWM1 Shoushan 0.48 195⇑iP Pn 09 23 08.3 -0.7
baz=178
WHYT Xinyi Township 0.48 34⇓iP Pb 09 23 06.7 -0.1
baz=44
WHYT iS Sb 09 23 14.6 +0.8
baz=44
SSD Sandimen 0.55 173⇑iP Pb 09 23 08.3 +0.4
baz=158
SSD iS Sb 09 23 17.0 +1.4
baz=158
WJS Zhushan 0.55 16 ⇓P Pb 09 23 08.0 +0.1
baz=18
WJS iS Sb 09 23 16.8 +1.1
baz=18
SGLT Jiouru 0.57 186 ⇑P Pn 09 23 09.6 -0.5
baz=171
SNJT Kaohsiung City 0.57 201⇑eP Pn 09 23 09.7 -0.5
baz=214
TSMG Majia 0.59 172⇑iP Pb 09 23 08.8 +0.3
baz=159
TSMG S Sb 09 23 17.9 +1.1
baz=159
WNT Mingjian 0.59 11⇑iP Pb 09 23 09.0 +0.4
baz=13
WNT S Sb 09 23 18.1 +1.2
baz=13
WMLT Mailiao 0.60 329 P Pg 09 23 08.2 0.0
baz=330
WMLT S Sb 09 23 17.0 0.0
baz=330
EHD Haiduan 0.61 103⇓iP Pb 09 23 09.2 +0.2
baz=96
EHD S Sb 09 23 17.9 +0.5
baz=96
SSLB Suanglung 0.61 36 P Pb 09 23 09.0 0.0
SSLB Suanglung 0.61 36 Pg 09 23 08.4 -0.1
SSLB Sg Sb 09 23 17.5 0.0
SSLB Suanglung 0.61 36⇓iP Pb 09 23 08.9 -0.1
baz=47
SSLB iS Sb 09 23 17.8 +0.3
baz=47
TSPT Pingtung City 0.61 186 eP Pn 09 23 10.1 -0.6
baz=171
WNT1 Nantou City 0.62 10 ⇑P Pb 09 23 09.4 +0.3
baz=12
WNT1 iS Sb 09 23 18.8 +1.1
baz=12
RLNB Erlin 0.62 343 ⇓P Pg 09 23 08.8 +0.1
baz=335
RLNB iS Sb 09 23 17.8 0.0
baz=335
WTCT Ta-ch'eng 0.62 336 ⇓P Pg 09 23 08.7 0.0
baz=338
WTCT S Sb 09 23 17.7 -0.1
baz=338

WRL Guolierlin Hig 0.63 345 ⇓P Pg 09 23 08.8 0.0
baz=334
WRL eS Sb 09 23 18.4 +0.5
baz=334
ECS Chishang 0.64 108⇓iP Pb 09 23 09.9 +0.5
baz=103
ECS S Sn 09 23 20.2 -0.8
baz=103
LONT Longtian 0.65 126⇓iP Pb 09 23 10.0 +0.4
baz=126
LONT iS Sb 09 23 19.7 +1.2
baz=126
TWG Pinlang 0.67 135 Pg 09 23 09.6 +0.1
TWG Pinlang 0.67 135⇓iP Pb 09 23 10.4 +0.5
baz=123
TWG S Sb 09 23 19.8 +0.9
baz=123
SMLT Sun Moon Lake 0.67 28⇓iP Pb 09 23 10.2 +0.2
baz=30
SMLT S Sb 09 23 20.5 +1.4
baz=30
WYL Yuanlin Townsh 0.67 2 P Pb 09 23 09.8 -0.1
baz=3.0
WYL S Sb 09 23 19.9 +0.9
baz=3.0
TYC Yuchr 0.67 24⇓iP Pb 09 23 10.2 +0.3
baz=26
TYC S Sn 09 23 20.6 -1.1
baz=26
TWGBT Beinan 0.67 134 P Pb 09 23 10.7 +0.7
TWGBT Beinan 0.67 134⇓iP Pb 09 23 10.4 +0.4
baz=123
TWGBT S Sb 09 23 20.0 +0.8
baz=123
MASBT Mashibuluo 0.68 174⇑iP Pb 09 23 10.4 +0.2
baz=162
MASBT eS Sb 09 23 20.4 +1.0
baz=162
TWF1 Yuli 0.68 85⇓iP Pb 09 23 10.4 +0.2
baz=85
FULB Fuli 0.68 98⇓iP Pn 09 23 11.1 -0.7
baz=89
FULB eS Sn 09 23 21.9 -0.3
baz=89
YULB Yu-li 0.69 81 P Pb 09 23 10.3 +0.1
YULB Yu-li 0.69 81 Pg 09 23 09.7 -0.2
YULB Sg Sb 09 23 20.3 +0.8
YULB Yu-li 0.69 81⇓iP Pb 09 23 10.2 +0.1
baz=91
YULB S Sb 09 23 19.3 -0.2
baz=91
EYUL Yuli 0.70 85 ⇓P Pb 09 23 10.7 +0.2
baz=86
WSSB Gushan 0.70 203⇑iP Pn 09 23 12.1 0.0
baz=214
VWDT VWDT 0.70 49⇓iP Pb 09 23 10.8 +0.3
baz=50
VWDT eS Sb 09 23 20.7 +0.6
baz=50
EHY Hungye 0.73 73⇓iP Pb 09 23 11.3 +0.3
baz=84
EHY iS Sb 09 23 21.6 +0.7
baz=84
EHYH Wanrong 0.75 74⇓iP Pb 09 23 11.5 +0.2
baz=85
EHYH S Sb 09 23 21.8 +0.4
baz=85
EDH Donghe 0.76 115⇓iP Pn 09 23 12.2 -0.5
baz=114
KAU Kaohsiung 0.76 198 P Pn 09 23 12.7 0.0
baz=196
KAU eS Sn 09 23 24.8 +0.9
baz=196
WWF Wufeng 0.76 10 eP Pb 09 23 11.6 +0.1
baz=11
WWF S Sn 09 23 22.9 -1.1
baz=11
TTN Taitung 0.76 135⇓iP Pn 09 23 12.9 +0.1
baz=133
CHKT Chengkung 0.77 104⇓iP Pn 09 23 12.6 -0.2
baz=105
CHKT S Sn 09 23 23.9 -0.2
baz=105
CHKH Chenggong 0.78 97⇓iP Pn 09 23 12.6 -0.4
baz=92
CHKH S Sn 09 23 25.0 +0.6
baz=92
ECL Taimali 0.78 152⇓iP Pb 09 23 12.3 +0.4
baz=151
ECL eS Sn 09 23 23.7 -0.9
baz=151
WCHH Zhanghua 0.78 360 eP Pb 09 23 11.9 0.0
baz=2.0
WPL Puli Township 0.80 27 ⇓P Pg 09 23 12.0 -0.1
baz=28
WPL eS Sn 09 23 24.1 -1.1
baz=28
DPDB Guoxing 0.81 24⇓iP Pb 09 23 12.4 -0.1
baz=25
DPDB eS Sn 09 23 24.5 -0.9
baz=25
HGSD Ruisui 0.82 76⇓iP Pn 09 23 13.5 -0.1
baz=84
HGSD iS Sn 09 23 24.6 -0.9
baz=84
ECBN Changbin 0.82 88⇓eP Pn 09 23 14.0 +0.4
baz=89
ECBN eS Sn 09 23 26.5 +1.0
baz=89
WCS Beigang Elemen 0.83 23⇓iP Pb 09 23 12.7 0.0
baz=24
WCS iS Sb 09 23 24.6 +0.9
baz=24
WDGT Dungji 0.83 268⇓iP Pg 09 23 11.7 -0.8
baz=279
WDGT iS Sg 09 23 23.1 -0.4
baz=279
TCU Taichung 0.86 7⇑iP Pb 09 23 13.3 +0.1
baz=355
TCU eS Sn 09 23 25.7 -0.8
baz=355
WUSB Renai 0.86 36⇓iP Pb 09 23 13.3 0.0
baz=37
WUSB iS Sb 09 23 25.2 +0.3
baz=37
OWD Renai 0.87 40⇓iP Pb 09 23 13.5 +0.1
baz=29
WARBT Fenglin Townsh 0.87 61⇓iP Pb 09 23 13.5 +0.1
baz=54
WARBT eS Sb 09 23 24.8 0.0
baz=54
EGFH Guangfu 0.88 65 ⇓P Pg 09 23 13.9 +0.3
baz=57
EGFH S Sn 09 23 26.2 -0.8
baz=57
SCZT Fangliau 0.92 177 ⇑P Pg 09 23 14.5 +0.3
baz=165
SCZT S Sn 09 23 28.1 +0.2
baz=165
PHUB P'eng-hu 0.93 284⇓iP Pb 09 23 13.1 -1.3
baz=285
PHUB iS Sb 09 23 25.4 -1.3
baz=285
EAST Anshuo 0.94 164⇓iP Pn 09 23 15.5 +0.1
baz=162
EAST iS Sn 09 23 29.8 +1.2
baz=162
CHGB Renai 0.95 36⇓iP Pb 09 23 14.8 0.0
baz=37
CHGB S Sn 09 23 29.0 -0.1
baz=37
ESL Shilin 0.95 57⇓iP Pg 09 23 15.2 +0.1
baz=58
ESL S Sn 09 23 29.1 +0.2
baz=58
TWP Hsiaoliuchiu 0.96 191⇑iP Pn 09 23 16.1 +0.6
baz=213
PNG Penghu 0.96 287⇓iP Pb 09 23 13.8 -1.2
baz=287
PNG iS Sb 09 23 26.4 -1.2
baz=287
TAW Tawu 0.98 161 ⇓P Pn 09 23 15.8 0.0
baz=160
TAW eS Sn 09 23 29.7 +0.3
baz=160
TAWH Dawu Township 0.99 162⇓iP Pn 09 23 16.1 +0.1
baz=161
TAWH S Sn 09 23 30.3 +0.5

baz=161
LDUT Ludao 1.04 126⇓iP Pg 09 23 16.5 -0.1
baz=126
LDUT S Sn 09 23 32.3 +1.4
baz=126
VCHM Qimei 1.04 266⇓iP Pb 09 23 15.1 -1.3
baz=266
VCHM eS Sb 09 23 28.4 -1.4
baz=266
WHP Taichung City 1.04 20 P Pg 09 23 16.6 -0.1
baz=20
WHP iS Sn 09 23 31.9 +0.8
baz=20
SHUL Shoufeng 1.04 62⇓iP Pn 09 23 17.3 +0.6
baz=62
SHUL S Sn 09 23 31.9 +0.9
baz=62
WDJ Dajia District 1.05 4 ⇑P Pg 09 23 16.9 0.0
baz=5.0
WDJ S Sn 09 23 32.0 +0.7
baz=5.0
LXIB Xiulin Townshi 1.07 47⇓iP Pb 09 23 16.9 +0.1
baz=36
LXIB iS Sn 09 23 32.6 +0.8
baz=36
WHF Hehuan Shan 1.07 37 ⇓P Pg 09 23 17.1 -0.1
baz=38
WHF eS Sn 09 23 32.6 +0.4
baz=38
TWQ1 Liyutan 1.07 10⇑iP Pn 09 23 17.1 0.0
baz=357
TWQ1 S Sn 09 23 32.3 +0.6
baz=357
ETM Tongmen 1.09 52⇓iP Pn 09 23 17.2 -0.1
baz=63
ETM eS Sn 09 23 33.2 +1.1
baz=63
SLIU Shizi 1.09 168⇑iP Pg 09 23 17.7 +0.1
baz=156
SLIU eS Sn 09 23 33.3 +1.0
baz=156
TDCB Techi 1.10 30 ⇓P Pb 09 23 16.8 -0.6
baz=30
TDCB eS Sn 09 23 33.8 +1.0
baz=30
TWT Tachien 1.11 30 ⇑P Pb 09 23 17.2 -0.4
baz=31
TWT S Sn 09 23 33.6 +0.6
baz=31
NSY Sanyi 1.13 9⇑iP Pg 09 23 18.3 -0.1
baz=358
NSY iS Sn 09 23 34.2 +0.9
baz=358
FUSS Fushou 1.14 33 eP Pb 09 23 17.7 -0.4
baz=35
HWA Hwalien 1.18 54⇓iP Pg 09 23 19.4 +0.2
baz=55
HWA S Sg 09 23 36.4 +1.8
baz=55
TWD Chiawan 1.23 50 eP Pb 09 23 19.8 +0.2
baz=61
TWD S Sg 09 23 37.5 +1.2
baz=61
ETLH Xiulin Townshi 1.24 43⇓eP Pb 09 23 19.7 0.0
baz=36
ETLH S Sg 09 23 38.6 +1.9
baz=36
NMLH Miaoli 1.26 10 ⇑P Pn 09 23 19.8 +0.1
baz=358
NMLH S Sg 09 23 37.1 -0.1
baz=358
HEN Hengchun 1.29 173 ⇑P Pb 09 23 20.7 +0.2
baz=172
HEN eS Sg 09 23 39.6 +1.4
baz=172
SMST Manzhou Township 1.29 169⇑eP Pn 09 23 20.3 +0.2
baz=167
NACB Ninganchiao 1.29 47 P Pb 09 23 20.9 +0.3
NACB Ninganchiao 1.29 47 Pb 09 23 20.4 -0.2
NACB Ninganchiao 1.29 47⇓iP Pb 09 23 20.4 -0.2
baz=47
NACB S Sn 09 23 37.7 +0.5
baz=47
ETL Fush Village 1.30 48 eP Pb 09 23 20.7 -0.1
baz=36
SNW Nanwan 1.34 172 eP Pb 09 23 21.3 -0.1
baz=171
NNSB Datong 1.36 33 ⇓P Pn 09 23 21.3 +0.1
baz=42
NNSB S Sg 09 23 40.3 -0.2
baz=42
NNSH Datong 1.36 33 eP Pn 09 23 21.4 +0.2
baz=35
TWK1 Hengchun 1.36 170⇑iP Pb 09 23 21.5 -0.2
baz=169
NNS Nan Shan 1.36 33 ⇓P Pn 09 23 21.5 +0.2
baz=22
NNS S Sg 09 23 40.4 -0.2
baz=22
TWKBT Hengchun 1.36 170⇑iP Pb 09 23 21.5 -0.3
baz=169
NSTT Nanjuang 1.39 17⇑iP Pn 09 23 21.7 +0.2
baz=16
NSTT S Sb 09 23 40.5 +0.6
baz=16
NJN Zhunan 1.41 12 eP Pb 09 23 22.3 -0.4
baz=13
TSEB Hengchuen, Pin 1.42 167⇑eP Pb 09 23 22.4 -0.4
baz=168
NFF Wufeng Townshi 1.43 21 ⇑P Pn 09 23 22.2 +0.2
baz=3.0
NFF S Sg 09 23 41.8 -0.8
baz=3.0
EHP Heping Village 1.48 47 eP Pb 09 23 24.4 +0.5
baz=64
EAHA Aohua 1.50 46 ⇓P Pb 09 23 23.4 -0.6
baz=63
NJD Zhudong 1.52 18 eP Pn 09 23 23.6 +0.4
baz=3.0
LATG Datong 1.52 35⇑iP Pb 09 23 24.6 0.0
baz=35
LATG iS Sg 09 23 44.8 -0.8
baz=35
HSN1 Hsinchu 1.54 16 P Pn 09 23 23.8 +0.3
baz=17
SBCB Hsinchu 1.54 15⇑iP Pn 09 23 24.1 +0.5
baz=13
SBCB eS Sn 09 23 43.6 +0.2
baz=13
LAY Lan-yu 1.55 144 eP Pn 09 23 23.6 0.0
baz=142
HSN Hsinchu 1.55 14 eP Pb 09 23 24.3 -0.6
baz=16
NSK Sanguang 1.56 28⇑iP Pb 09 23 24.6 -0.6
baz=13
YHNB Yeheng 1.56 28 P Pb 09 23 25.3 +0.1
YHNB Yeheng 1.56 28 Pb 09 23 24.6 -0.6
YHNB Yeheng 1.56 28⇑iP Pb 09 23 24.6 -0.6
baz=9.0
YHNB S Sb 09 23 45.1 +0.2
baz=9.0
ENA Nanau 1.56 43 ⇑P Pb 09 23 25.3 +0.1
baz=44
ENA eS Sg 09 23 46.2 -0.8
baz=44
NDT Datong Townshi 1.57 34⇑eP Pb 09 23 25.0 -0.3
baz=24
NDT eS Sg 09 23 47.2 +0.1
baz=24
LYUB Lan-yu 1.59 143⇑eP Pn 09 23 23.2 -1.1
baz=144
LYUB eS Sn 09 23 43.8 -0.8
baz=144
EWUT Wuta 1.60 44 eP Pb 09 23 25.5 -0.3
baz=62
NDS Dongshan 1.70 38 eP Pb 09 23 27.9 +0.4
baz=38
NDS eS Sg 09 23 50.5 -0.9
baz=38
NWLT Wulai 1.71 30⇑eP Pn 09 23 26.6 +0.7
baz=41
ESAO Su ao 1.74 42 ⇑P Pb 09 23 27.9 -0.2
baz=32
ESAO eS Sg 09 23 51.6 -0.9
baz=32
FUSB Fushanzhiwuyua 1.74 33 ⇑P Pb 09 23 27.4 -0.8
baz=26
FUSB S Sb 09 23 50.8 +0.9

baz=26
TWE Neicheng 1.75 35 P **Pb 09 23 28.2 -0.1**
baz=35
TWE eS **Sg 09 23 52.1 -0.6**
baz=35
NCUH Zhongli 1.76 19 eP **Pn 09 23 26.9 +0.3**
baz=5.0
TWC Suao 1.76 42⇑iP **Pb 09 23 28.6 0.0**
baz=32
TWC S **Sb 09 23 51.6 +1.0**
baz=32
NHW Xinwu Township 1.77 15⇑P **Pn 09 23 26.7 +0.1**
baz=14
NHW S **Sb 09 23 49.8 -0.9**
baz=14
NCU National Centr 1.77 19 eP **Pn 09 23 27.0 +0.4**
baz=6.0
EOS4 EOS4 1.81 63 eP **Pb 09 23 28.4 -0.8**
baz=62
EOS4 eS **Sb 09 23 52.6 +1.1**
baz=62
ILA Ilan 1.83 36 eP **Pg 09 23 30.7 -0.9**
baz=19
NTY Taoyuan 1.83 21 eP **Pn 09 23 28.5 +1.0**
baz=6.0
TATO Taipei 1.88 27 P **Pb 09 23 29.5 -1.1**
TATO Taipei 1.88 27 Pn 09 23 28.6 +0.4
TATO Taipei 1.88 27⇑P **Pn 09 23 28.8 +0.6**
baz=15
TATO eS **Sg 09 23 55.7 -1.3**
baz=15
TATO Taipei 1.88 27 P **Pb 09 23 29.4 -1.1**
EOS3 EOS3 1.89 58 eP **Pb 09 23 30.0 -0.7**
baz=57
EOS2 EOS2 1.90 53 eP **Pb 09 23 30.4 -0.5**
baz=70
TWA Mucha 1.92 29 eP **Pn 09 23 29.3 +0.4**
baz=40
TAP Taipei 1.94 26 eP **Pn 09 23 30.0 +0.9**
baz=10.0
TWS1 Kuangyinshan 1.96 23⇑P **Pn 09 23 30.0 +0.6**
baz=8.0
VWUC VWUC 1.97 329⇑eP **Pn 09 23 28.3 -1.2**
baz=331
EGS 1.99 39⇓P **Pb 09 23 32.7 +0.2**
baz=40
NTST Danshui 2.03 23 eP **Pn 09 23 30.8 +0.5**
baz=8.0
TIPB Shuangxi 2.03 34 eP **Pn 09 23 31.6 +1.3**
baz=20
YM01 YM01 2.06 26⇑P **Pn 09 23 31.2 +0.5**
baz=11
ANP Anpu 2.08 25 eP **Pn 09 23 31.1 +0.1**
baz=9.0
NWF Wu-fen Shan 2.09 32⇑eP **Pn 09 23 32.1 +0.9**
baz=32
WFSB Wu-fen Shan 2.09 32⇑eP **Pn 09 23 32.2 +1.1**
baz=13
WFSB eS **Sb 09 24 00.4 +0.3**
baz=13
YM08 YM08 2.11 26 eP **Pn 09 23 31.3 -0.1**
baz=11
TWB1 Santiao Chiao 2.15 37 eP **Pn 09 23 33.3 +1.4**
baz=20
TNOU National Taiwa 2.16 31 eP **Pn 09 23 32.9 +0.9**
baz=16
SXI1 Grass Mountain 2.16 34⇑eP **Pn 09 23 33.3 +1.2**
baz=17
PTMZ Houxiangcun 2.18 323 eP **Pn 09 23 31.0 -1.3**
baz=325
TWY Chenhua 2.19 25 eP **Pn 09 23 33.6 +1.2**
baz=11
KNM Kinmen 2.25 300 eP **Pn 09 23 33.6 +0.3**
baz=299
KNMB Chin-men Tao 2.31 301 Pn **Pn 09 23 32.7 -1.3**
KNMB Chin-men Tao 2.31 301⇓eP **Pn 09 23 32.9 -1.2**
baz=301
QZH Quanzhou 2.44 313⇑iPn **Pn 09 23 35.3 -0.5**
QZH Sn **Sn 09 24 04.1 -1.3**
QZH smax smax
comp=N,15μm,0.9s
QZH smax smax
comp=E,18μm,0.8s
QZH LR LR
comp=Z,27μm,8.5s
JYNG Yonagunijimaku 2.47 62 eP **Pn 09 23 38.3 +2.0**
JYNG eS **Sb 09 24 09.3 -1.6**
JYNG Yonagunijimaku 2.47 62 A A 09 23 38.3
comp=E,12nm,2.5s,comp=N,20nm,3.0s
YOJ Yonaguni jima 2.53 62 P **Pn 09 23 39.2 +2.1**
YOJ Yonaguni jima 2.53 62 Pn **Pn 09 23 37.9 +0.8**
YOJ Yonaguni jima 2.53 62 P **Pn 09 23 37.9 +0.8**
YOJ Yonaguni jima 2.53 62⇑P **Pn 09 23 38.8 +1.7**
baz=61
YOJ eS **Sn 09 24 09.6 +1.9**
baz=61
YOJ Yonaguni jima 2.53 62 P **Pn 09 23 39.1 +2.1**
YOJ eS **Sb 09 24 11.8 -0.8**
YOJ Yonaguni jima 2.53 62 A A 09 23 39.1
comp=E,14nm,2.5s,comp=N,16nm,2.6s
ZPLA Ao Xicun 2.66 284 eP **Pn 09 23 37.6 -1.2**
baz=284
PCYT Pengchaiyu 2.70 30 eP **Pn 09 23 40.5 +1.0**
baz=17
MATB Ma-tsu 2.90 349⇑eP **Pn 09 23 41.1 -1.1**
baz=350
DSXP Dongshan 2.91 279 eP **Pn 09 23 41.3 -1.0**
baz=278
MSUT Lienchiang 2.92 349 eP **Pn 09 23 41.5 -1.0**
baz=350
HATJ Hateruma jima 3.07 75 P **Pn 09 23 45.6 +1.0**
HATJ S **Sn 09 24 23.6 +2.5**
HATJ Hateruma jima 3.07 75 A A 09 23 45.6
comp=E,19nm,3.4s,comp=N,18nm,2.5s
IRIF Iriomote-Funau 3.08 70 P **Pn 09 23 47.0 +2.3**
IRIF S **Sn 09 24 24.0 +2.6**
IRIF Iriomote-Funau 3.08 70 A A 09 23 47.0
comp=E,19nm,1.9s,comp=N,31nm,1.4s
MHZQ Yeshan 3.12 334⇓eP **Pn 09 23 44.7 -0.6**
baz=336
JKRS Kuro-shima 3.30 73 P **Pn 09 23 49.9 +2.2**
JKRS eS **Sn 09 24 30.6 +4.0**
JKRS Kuro-shima 3.30 73 A A 09 23 49.9
comp=E,25nm,2.1s,comp=N,24nm,4.5s
LYJJ Jianjiangzhen 3.33 348⇑eP **Pn 09 23 47.0 -1.0**
baz=348
JIJ Ishigaki jima 3.45 71 P **Pn 09 23 50.9 +1.1**
JIJ eS **Sn 09 24 32.0 +1.5**
JIJ Ishigaki jima 3.45 71 A A 09 23 50.9
comp=E,4.0nm,1.4s,comp=N,8.0nm,3.7s
XPSS Dashiqiu 3.64 355 eP **Pn 09 23 51.7 -0.7**
baz=355
JISG Ishigakijimahi 3.67 69 P **Pn 09 23 53.7 +1.0**
JISG S **Sn 09 24 37.6 +1.8**
JISG Ishigakijimahi 3.67 69 A A 09 23 53.7
comp=E,5.0nm,2.8s,comp=N,9.0nm,3.8s
JTJ Tarama 4.02 70 P **Pn 09 23 59.4 +1.8**
JTJ eS **Sn 09 24 46.5 +2.0**
JTJ Tarama 4.02 70 A A 09 23 59.4
comp=E,10.0nm,2.1s,comp=N,13nm,1.6s
SXFK Yanhouchang 4.07 320 eP **Pn 09 23 57.3 -1.1**
baz=324
VDOS Pratas Island 4.39 235 eP **Pn 09 24 03.8 +1.0**
baz=236
JIRB Irabujima 4.49 69 P **Pn 09 24 05.7 +1.6**
JIRB eS **Sn 09 24 58.0 +2.0**
JIKM Ikemajima 4.58 68 eP **Pn 09 24 07.1 +1.8**
JIKM S **Sn 09 25 01.5 +3.2**
JMJ Miyako jima 2 4.58 70 P **Pn 09 24 07.7 +2.3**
JMJ Miyako jima 2 4.58 70 eP **Pn 09 24 07.6 +2.3**
baz=68
JMJ eS **Sn 09 24 56.9 -1.6**
baz=68
JMJ2 Miyako jima3 4.59 71 eP **Pn 09 24 07.5 +2.0**
JMJ2 S **Sn 09 25 01.1 +2.5**
JOGS Gusukube 4.67 71 eP **Pn 09 24 08.5 +2.0**
JOGS S **Sn 09 25 03.9 +3.4**
HKC Hong Kong Obse 5.97 262⇑P Pn 09 24 31.0 +6.5
HKPS Hong Kong Po S 6.01 262 P **Pn 09 24 28.7 +3.7**
HKPS Hong Kong Po S 6.01 262 Pn 09 24 25.1 +0.2
HKPS Hong Kong Po S 6.01 262 eP **Pn 09 24 26.7 +1.7**
baz=259
MCO Taipa Grande 6.57 261 P Pn 09 24 39.0 +6.3
GZH Guangzhou 6.64 270 Pn Pn 09 24 26.1 -7.6
GZH Sn Sn 09 25 36.5 -13
GZH smax smax
comp=N,4μm,0.9s
GZH smax smax
comp=N,1μm,0.9s
SSE Sheshan 7.79 4 Pn **Pn 09 24 48.8 -0.7**
SSE Sn **Sn 09 26 22.5 +5.0**
SSE smax smax
comp=N,260nm,1.0s
SSE smax smax
comp=N,500nm,0.9s
SSE LR LR
comp=N,3μm,10.3s
SSE LR LR
comp=N,4μm,10.3s
JOW Kunigami 7.83 62 P **Pn 09 24 49.8 -0.2**
JOW Kunigami 7.83 62 Pn 09 24 49.8 -0.2
JOW Kunigami 7.83 62 eP **Pn 09 24 50.0 0.0**
baz=61
JOW Kunigami 7.83 62 Pn **Pn 09 24 49.6 -0.5**
comp=N,9.9nm,0.3s,baz=254,slow=7.4,SNR=35
JOW Sn **Sn 09 26 17.2 -1.3**
comp=N,0.7nm,0.3s,baz=140,slow=26,SNR=1.2
comp=N,19nm,0.3s
CNSH ChangSha 8.43 307⇑P Pn 09 24 52.8 -5.4
CNSH S Sn 09 26 23.8 -9.3
CNSH smax smax
comp=N,3μm,1.3s
CNSH smax smax
comp=E,4μm,1.3s
CNSH LR LR
comp=N,9μm,8.1s
CNSH LR LR
comp=E,8μm,7.7s
NJ2 Nanjing 8.86 351⇑iP **Pn 09 25 03.0 -1.0**
NJ2 sP **sPn 09 25 11.4 +1.8**
NJ2 S **Sn 09 26 38.8 -4.8**
NJ2 pmax pmax
comp=E,59nm,1.0s
NJ2 pmax pmax
comp=E,310nm,3.5s
NJ2 smax smax
comp=E,2μm,0.7s
NJ2 smax smax
comp=E,730nm,0.9s
NJ2 LR LR
comp=E,9μm,9.0s
NJ2 LR LR
comp=E,7μm,7.1s
NJ2 LR LR
comp=E,7μm,7.1s
WHN Wuhan 9.10 324⇓P **Pn 09 25 07.1 -0.3**
WHN pP 09 25 10.5
WHN sP 09 25 14.0
WHN S **Sn 09 26 48.3 -1.4**
WHN pmax pmax
comp=E,150nm,0.6s
WHN LR LR
comp=E,17μm,7.4s
WHN LR LR
comp=E,28μm,9.8s
TGY Tagaytay City 9.15 178 Pn **Pn 09 25 08.6 +0.4**
comp=E,67nm,0.3s,baz=355,slow=12,SNR=2.0
TGY LR LR 09 29 11.5
comp=E,1μm,18.2s,baz=3.5,slow=41
GULI GuiLin 9.51 284⇑P **Pn 09 25 17.1 +4.1**
GULI LR LR
comp=E,10μm,10.3s
JMZ Minamidaito 2 10.03 73 Pn **Pn 09 25 18.9 -1.2**
QIZ Qiongzhong 10.86 249 P **Pn 09 25 32.4 +0.8**
QIZ S **Sn 09 27 33.4 +0.4**
QIZ pmax pmax
comp=E,32nm,1.2s
QIZ pmax pmax
comp=E,180nm,3.8s
QIZ LR LR
comp=E,3μm,14.1s
QIZ LR LR
comp=E,2μm,7.9s
QIZ LR LR
comp=E,3μm,13.1s
QIZ Qiongzhong 10.86 249 Pn **Pn 09 25 31.7 +0.1**
GYA Guiyang 13.00 287⇓P Pn 09 26 05.9 +4.9
GYA S **Sn 09 28 29.3 +3.8**
GYA pmax pmax
comp=E,34nm,0.8s
GYA pmax pmax
comp=E,140nm,4.2s
GYA LR LR
comp=E,8μm,7.4s
GYA LR LR
comp=E,11μm,9.4s
GYA LR LR
comp=E,13μm,9.1s
TIA Tai'an 13.21 348 P P 09 26 08.8 -4.8
TIA pmax pmax
comp=E,8.0nm,1.0s
TIA pmax pmax
comp=E,140nm,4.9s
TIA LR LR
comp=E,2μm,10.1s
TIA LR LR
comp=E,3μm,9.7s
TIA LR LR
comp=E,3μm,10.1s
LYN LuoYang 13.26 330⇑P **Pn 09 26 07.0 +2.7**
LYN sP P 09 26 12.5 -1.6
LYN PP **PnPn 09 26 18.5 +6.1**
LYN S **Sn 09 28 35.0 +3.4**
LYN pmax pmax
comp=E,19nm,0.9s
LYN pmax pmax
comp=E,320nm,5.9s
LYN LR LR
comp=E,8μm,7.9s
LYN LR LR
comp=E,4μm,8.6s
LYN LR LR
comp=E,8μm,8.9s
JNU Nakatsue 13.36 41 Pn **Pn 09 26 06.1 +0.4**
comp=E,13nm,1.0s,baz=204,slow=20,SNR=2.0
JNU LR LR 09 32 17.2
comp=E,954nm,18.4s,baz=208,slow=42
XAN Xi'an 14.79 319⇑P **P 09 26 29.4 -1.8**
XAN pP Pn 09 26 32.5 +7.3
XAN sP 09 26 36.8
XAN S **Sn 09 29 16.6 +7.7**
XAN SS **S 09 29 29.9 +2.5**
XAN pmax pmax
comp=E,18nm,1.7s
XAN pmax pmax
comp=E,290nm,5.9s
XAN LR LR
comp=E,8μm,8.0s
XAN LR LR
comp=E,5μm,9.0s
XAN LR LR
comp=E,6μm,12.6s
HNS HongShan 14.94 342⇓P **P 09 26 30.1 -2.6**
HNS S **S 09 29 21.4 -8.8**
HNS pmax pmax
comp=E,79nm,1.1s
HNS LR LR
comp=E,2μm,10.4s
HNS LR LR
comp=E,5μm,10.8s
HNS LR LR
comp=E,4μm,11.2s
KSRS Korea Array 15.47 22 Pn **Pn 09 26 35.5 +1.3**
comp=E,0.2nm,0.3s,baz=208,slow=5.7,SNR=13
KSRS LR LR 09 32 54.2
comp=E,356nm,19.1s,baz=190,slow=39
KS19 Wonju Array Si 15.49 22 Pn **Pn 09 26 34.8 +0.2**
SLVN Son La 15.54 266 Pn 09 26 35.8 +0.5
TIY Taiyuan 15.98 336 eP **P 09 26 44.1 -0.3**
TIY S **Sn 09 29 43.3 +5.4**
TIY pmax pmax
comp=E,24nm,0.8s
TIY LR LR
comp=E,6μm,9.6s
TIY LR LR
comp=E,4μm,10.9s
TIY LR LR
comp=E,6μm,10.3s
UBPT Khong Chiam 16.31 243 Pn 09 26 45.1 -0.1
KMI Kunming 16.36 280⇑P **P 09 26 51.5 +2.6**
KMI S **S 09 29 55.4 -4.6**
KMI pmax pmax
comp=E,47nm,0.9s
KMI pmax pmax
comp=E,190nm,3.7s
KMI LR LR
comp=E,1μm,8.0s
KMI LR LR
comp=E,4μm,8.1s
KMI LR LR
comp=E,3μm,8.3s
CD2 Chengdu 16.76 301 P **P 09 26 54.3 +1.2**
CD2 S **Sn 09 30 01.8 +4.8**
CD2 pmax pmax
comp=E,130nm,1.0s
CD2 LR LR
comp=E,7μm,9.2s
CD2 LR LR
comp=E,5μm,6.9s
CD2 LR LR
comp=E,8μm,8.8s
DAV Davao City (W) 16.84 163 LR LR 09 33 54.4
comp=E,930nm,19.9s,baz=353,slow=39
BJI Beijing 17.11 348 P **P 09 26 57.1 +0.3**
BJI sP **sP 09 27 02.8 -0.1**
BJI PP **PnPn 09 27 10.0 +4.9**
BJI S **Sn 09 30 09.5 +4.4**
BJI pmax pmax
comp=E,31nm,1.2s
BJI pmax pmax
comp=E,180nm,5.1s
BJI LR LR
comp=E,1μm,9.0s
BJI LR LR
comp=E,490nm,8.6s
BJI LR LR
comp=E,1μm,12.8s
PZH PanZhiHua 17.37 284 P **P 09 27 02.1 +2.1**
PZH pP **sP 09 27 06.4 +0.4**
PZH S **Sn 09 30 10.4 -1.5**
PZH SS **SnSn 09 30 26.8 +1.5**
PZH PcP **PcP 09 31 41.8 +1.3**
PZH pmax pmax
comp=E,30nm,1.3s
PZH LR LR
comp=E,2μm,8.4s
PZH LR LR
comp=E,4μm,10.2s
PZH LR LR
comp=E,6μm,10.5s
KKM Kota Kinabalu 17.65 194 Pn 09 27 02.2 +0.1
SNY Shenyang 18.66 7⇑P **Pn 09 27 15.4 +1.2**
SNY S **S 09 30 45.3 -0.7**
SNY pmax pmax
comp=E,38nm,1.2s
SNY pmax pmax
comp=E,610nm,5.3s
SNY LR LR
comp=E,4μm,10.6s
SNY LR LR
comp=E,1μm,9.3s
SNY LR LR
comp=E,4μm,10.5s
CRAI Chiangrai 19.00 265 P 09 27 17.7 -0.1
JGF Kuroka 19.06 46 P **P 09 27 18.1 -0.3**
HHC Hu-ho-hao-te 19.07 339⇑P **Pn 09 27 21.0 +1.6**
HHC sP sP 09 27 28.9 +4.2
HHC S **S 09 30 57.8 +3.1**
HHC SS **SnSn 09 31 18.6 +11**
HHC pmax pmax
comp=E,23nm,1.3s
HHC pmax pmax
comp=E,440nm,5.0s
HHC LR LR
comp=E,3μm,10.4s
HHC LR LR
comp=E,650nm,8.6s
HHC LR LR
comp=E,2μm,10.4s
LZH Lanzhou 19.29 315⇓P **Pn 09 27 23.3 +1.2**
LZH sP sP 09 27 32.3 +5.2
LZH sS sS 09 31 04.0 -1.9
LZH SS **SnSn 09 31 21.3 +8.8**
LZH pmax pmax
comp=E,39nm,1.3s
LZH LR LR
comp=E,3μm,11.0s
LZH LR LR
comp=E,3μm,11.3s
LZH LR LR
comp=E,4μm,11.7s
BTO Baotou 19.41 335 eP **Pn 09 27 25.0 +1.5**
BTO pP **sP 09 27 28.8 +0.3**
BTO sP **pP 09 27 32.3 +5.7**
BTO pmax pmax
comp=E,23nm,0.5s
BTO pmax pmax
comp=E,600nm,3.9s
BTO LR LR
comp=E,5μm,10.4s
BTO LR LR
comp=E,5μm,9.5s
BTO LR LR
comp=E,9μm,9.7s
JHJ Hachijo jima 2 19.54 56 LR LR 09 35 15.6
comp=E,531nm,19.4s,baz=328,slow=38
PHRA Phrae 19.58 260 P **P 09 27 23.3 -0.9**
JCJ Chichijima 19.93 75 P **P 09 27 26.4 -1.6**
comp=E,4.1nm,0.3s,baz=283,slow=22,SNR=5.6
comp=E,42nm,0.8s
MJAR Matsushiro Arr 20.16 45 P **P 09 27 30.7 +0.2**
comp=E,12nm,0.9s,baz=230,slow=7.1,SNR=16
MJAR LR LR 09 36 43.2
comp=E,288nm,20.0s,baz=226,slow=41
comp=E,12nm,0.9s
TNCH TengChong 20.18 279⇑P Pn 09 27 33.4 +0.5
TNCH sP sP 09 27 39.5 +2.5
TNCH PP **PnPn 09 27 51.0 +3.5**
TNCH S **S 09 31 11.3 -6.1**
TNCH SS **SnSn 09 31 39.3 +4.7**
TNCH pmax pmax
comp=E,180nm,0.7s
TNCH LR LR
comp=E,2μm,6.9s
TNCH LR LR
comp=E,1μm,6.9s
TNCH LR LR
comp=E,2μm,12.1s
CM31 Chiang Mai Arr 20.76 261 P **P 09 27 37.7 +0.7**
CMAR Chiang Mai Arr 20.76 261 P Pn 09 27 38.7 -0.7
CMAR Chiang Mai Arr 20.76 261 iP Pn 09 27 39.0 -0.4
CMAR pmax pmax
comp=Z,16nm,0.8s
CMAR Chiang Mai Arr 20.76 261 P **P 09 27 37.9 +0.9**
comp=Z,13nm,0.8s,baz=70,slow=9.1,SNR=31
CMAR LR LR 09 35 46.3
comp=Z,380nm,18.5s,baz=80,slow=37
comp=Z,13nm,0.8s
CN2 Changchun 20.85 10 P **P 09 27 37.0 -0.8**
CN2 S **S 09 31 23.9 -6.0**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 LR LR
comp=Z,2μm,10.0s
CN2 LR LR
comp=Z,2μm,10.0s
CN2 LR LR
comp=Z,3μm,12.0s
XLT XiLinHaoTe 20.88 351 eP Pn 09 27 39.8 -1.0
XLT pP pP 09 27 43.1 +0.6
XLT sP sP 09 27 46.3 +1.9
XLT PP **PnPn 09 28 06.3 +9.4**
XLT sS Sn 09 31 35.8 -0.6
XLT PcP **PcP 09 31 48.1 +1.8**
XLT pmax pmax
comp=Z,54nm,1.3s
XLT LR LR
comp=Z,170nm,11.4s
XLT LR LR
comp=Z,1μm,11.9s
XLT LR LR
comp=Z,2μm,10.8s
PSTR Posyet 21.10 21⇑eP **P 09 27 41.5 +1.0**
MSHR Mys Shultsa 21.16 22deP **P 09 27 42.0 +0.9**
MSHR pmax pmax
comp=Z,29nm,1.0s
TOLI2 Tolitoli 22.05 179 P **P 09 27 50.8 -0.1**
TOLI2 Tolitoli 22.05 179 P **P 09 27 51.3 +0.4**

MDJ	**Mudanjiang**	**22.52**	**17**	P	**P**	**09 27 56.4**	**+0.6**
MDJ				pP	sP	09 28 06.8	+4.7
MDJ				PP	**PnPn**	**09 28 21.8**	**+2.6**
MDJ				S	**S**	**09 32 04.6**	**+2.2**
MDJ				PcS	**PcS**	**09 35 25.6**	**-2.4**
MDJ				pmax	pmax		
	comp=Z,52nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,390nm,5.5s						
MDJ				LR	LR		
	comp=Z,2µm,15.7s						
MDJ				LR	LR		
	comp=Z,440nm,9.9s						
MDJ				LR	LR		
	comp=Z,2µm,16.1s						
MDJ	**Mudanjiang**	**22.52**	**17**	P	**P**	**09 27 55.8**	**0.0**
GTOI	**Gorontalo**	**22.65**	**174**	P	**P**	**09 27 55.3**	**-2.0**
	comp=Z,34nm,1.3s,comp=Z,458nm						
MRSI	**Marisa**	**22.72**	**176**	P	**P**	**09 27 58.8**	**+0.8**
	comp=Z,91nm,0.8s,comp=Z,2µm						
MPSI	**Mapaga**	**22.83**	**182**	P	**P**	**09 27 59.6**	**+0.4**
	comp=Z,43nm,1.3s,comp=Z,3µm						
USRK	**Ussuriysk Ar.**	**22.87**	**22**	P	**P**	**09 28 00.3**	**+0.8**
USRK	**Ussuriysk Ar.**	**22.87**	**22**	P	**P**	**09 28 00.3**	**+0.8**
USRK	**Ussuriysk Ar.**	**22.87**	**22**	P	**P**	**09 27 59.5**	**+0.1**
	comp=Z,6.3nm,0.7s,baz=191,slow=11,SNR=8.5						
USRK				LR	LR	09 37 36.3	
	comp=Z,517nm,18.4s,baz=189,slow=39						
	comp=Z,6.3nm,0.7s						
BNX	**BinXian**	**23.07**	**12**	⇓P	**P**	**09 28 00.3**	**-1.3**
BNX				pP	**pP**	**09 28 03.3**	**-2.5**
BNX				PP	**PnPn**	**09 28 25.8**	**-0.9**
BNX				S	**S**	**09 32 15.4**	**+3.3**
BNX				sS	**sS**	**09 32 20.3**	**+0.6**
BNX				pmax	pmax		
	comp=Z,16nm,0.9s						
BNX				pmax	pmax		
	comp=Z,230nm,4.3s						
BNX				LR	LR		
	comp=Z,1µm,10.0s						
BNX				LR	LR		
	comp=Z,1µm,11.1s						
BNX				LR	LR		
	comp=Z,1µm,10.8s						
GTA	**Gaotai**	**23.83**	**317**	*e*P	**P**	**09 28 08.9**	**-0.4**
GTA				sP	sP	09 28 23.8	+8.2
GTA				PcP	**PcP**	**09 31 53.9**	**+1.5**
GTA				S	**S**	**09 32 26.3**	**+1.5**
GTA				pmax	pmax		
	comp=Z,10.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,230nm,6.9s						
GTA				LR	LR		
	comp=Z,1µm,11.3s						
GTA				LR	LR		
	comp=Z,920nm,10.2s						
GTA				LR	LR		
	comp=Z,1µm,11.3s						
KSM	**Kuching**	**23.86**	**206**	P	**P**	**09 28 08.9**	**-0.6**
LUWI	**Luwuk**	**24.28**	**175**	P	**P**	**09 28 12.9**	**-0.6**
LUWI	**Luwuk**	**24.28**	**175**	P	**P**	**09 28 13.2**	**-0.3**
	comp=Z,234nm,1.2s,comp=Z,3µm						
BKB	**Balikpapan**	**24.66**	**189**	P	**P**	**09 28 15.3**	**-1.6**
BKB	**Balikpapan**	**24.66**	**189**	P	**P**	**09 28 16.6**	**-0.3**
	comp=Z,570nm,0.9s,comp=Z,6µm						
STKI	**Sintang**	**24.72**	**202**	P	**P**	**09 28 19.3**	**+1.8**
	comp=Z,74nm,1.1s,comp=Z,17µm						
LBMI	**Labuha**	**24.73**	**163**	P	**P**	**09 28 18.0**	**+0.5**
	comp=Z,145nm,1.1s,comp=Z,2µm						
SRIT	**Nakonsritamara**	**24.84**	**237**	P	**P**	**09 28 19.7**	**+1.1**
GUMO	**Guam**	**24.96**	**108**	P	**P**	**09 28 18.2**	**-1.5**
GUMO	**Guam**	**24.96**	**108**	P	**P**	**09 28 18.2**	**-1.5**
GUMO				pmax	pmax		
	comp=Z,332nm,1.2s						
GUMO	**Guam**	**24.96**	**108**	LR	LR	09 38 42.3	
	comp=Z,312nm,18.7s,baz=322,slow=38						
GOMU	**GeErMu**	**25.70**	**306**	P	**P**	**09 28 27.3**	**+0.6**
GOMU				pP	pP	09 28 30.6	-0.6
GOMU				sP	sP	09 28 35.3	+2.2
GOMU				S	**S**	**09 33 00.9**	**+5.6**
GOMU				pmax	pmax		
	comp=Z,12nm,1.3s						
GOMU				LR	LR		
	comp=Z,2µm,10.2s						
GOMU				LR	LR		
	comp=Z,2µm,10.0s						
GOMU				LR	LR		
	comp=Z,4µm,10.2s						
SANI	**Sanana**	**25.74**	**167**	P	**P**	**09 28 27.2**	**+0.5**
	comp=Z,78nm,1.2s,comp=Z,896nm						
HIA	**Hailar**	**25.93**	**359**	P	**P**	**09 28 28.1**	**-0.1**
HIA	**Hailar**	**25.93**	**359**	P	**P**	**09 28 26.9**	**-1.3**
HIA				IAmb	IAmb	09 28 33.4	
	comp=Z,45nm,1.3s						
HIA	**Hailar**	**25.93**	**359**	P	**P**	**09 28 27.0**	**-1.3**
HIA				pmax	pmax		
	comp=Z,45nm,1.3s						
TTSI	**Tana Toraja**	**26.19**	**182**	P	**P**	**09 28 31.6**	**+0.9**
	comp=Z,13nm,1.0s,comp=Z,912nm						
KULM	**Kulim**	**26.25**	**230**	P	**P**	**09 28 30.3**	**-1.1**
IPM	**Ipoh**	**26.56**	**228**	P	**P**	**09 28 34.0**	**-0.2**
IPM				IAmb	IAmb	09 28 35.4	
	comp=Z,68nm,1.5s						
ULN	**Ulaanbaatar**	**26.79**	**340**	P	**P**	**09 28 36.0**	**-0.1**
ULN	**Ulaanbaatar**	**26.79**	**340***c i*	P	**P**	**09 28 36.4**	**+0.3**
ULN				pmax	pmax		
	comp=Z,60nm,1.7s						
ULN	**Ulaanbaatar**	**26.79**	**340**	P	**P**	**09 28 36.7**	**+0.6**
MYKOM	**Kota Tinggi**	**26.82**	**220**	P	**P**	**09 28 36.7**	**+0.2**
MYKOM				IAmb	IAmb	09 28 42.3	
	comp=Z,38nm,1.1s						
SONM	**Songino Array**	**26.98**	**339**	P	**P**	**09 28 37.7**	**-0.1**
SONM	**Songino Array**	**26.98**	**339**	P	**P**	**09 28 38.0**	**+0.2**
	comp=Z,20nm,1.0s,baz=159,slow=9.5,SNR=71						
SONM				LR	LR	09 39 21.5	
	comp=Z,581nm,19.4s,baz=252,slow=36						
	comp=Z,20nm,1.0s						
NLAI	**Namlea**	**27.13**	**166**	P	**P**	**09 28 38.9**	**-0.4**
	comp=Z,195nm,0.9s						
KLR	**Kul'dur**	**27.35**	**16***ce*	P	**P**	**09 28 40.2**	**-0.8**
KLR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KLR	**Kul'dur**	**27.35**	**16**	P	**P**	**09 28 40.1**	**-0.9**
	comp=Z,6.7nm,0.9s,baz=228,slow=9.0,SNR=9.0						
KLR				PcP	**PcP**	**09 31 60.0**	**0.0**
	comp=Z,2.6nm,0.8s,baz=243,slow=6.8,SNR=3.8						
	comp=Z,6.7nm,0.9s						
HEH	**HeiHe**	**27.44**	**10**	*e*P	**P**	**09 28 41.3**	**-0.5**
HEH				pP	**pP**	**09 28 45.5**	**-0.7**
HEH				S	**S**	**09 33 20.0**	**-1.7**
HEH				pmax	pmax		
	comp=Z,41nm,1.0s						
HEH				pmax	pmax		
	comp=Z,290nm,3.6s						
HEH				LR	LR		
	comp=Z,1µm,12.2s						
HEH				LR	LR		
	comp=Z,2µm,12.0s						
HEH				LR	LR		
	comp=Z,3µm,11.1s						
ASAJ	**Asahikawa**	**27.55**	**36**	LR	LR	09 40 08.3	
	comp=Z,685nm,20.9s,baz=236,slow=38						
DSRI	**Dabo**	**28.28**	**216**	P	**P**	**09 28 50.4**	**+0.8**
	comp=Z,25nm,1.0s,comp=Z,2µm						
YSS	**Yuzh-Sakhalins**	**29.59**	**32**	P	**P**	**09 29 00.6**	**-0.3**
YSS				IAmb	IAmb	09 29 08.3	
	comp=Z,40nm,1.1s						
YSS	**Yuzh-Sakhalins**	**29.59**	**32**	*e*P	P	09 28 52.1	-8.8
YSS				*e**SP	pP	09 28 59.1	-6.4
YSS				*e*PPP	PPP	09 30 14.2	
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YSS				MLR	MLR		
	comp=E,600nm,14.0s						
YSS				MLR	MLR		
	comp=Z,800nm,14.0s						
ZAK	**Zakamensk**	**30.22**	**338**	*e*P	**P**	**09 29 05.5**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
ZEA	**Zeya**	**30.82**	**8**	*e*P	**P**	**09 29 11.5**	**-0.2**
ZEA				*e*S	**S**	**09 34 06.1**	**-8.6**
ZEA				pmax	pmax		
	comp=Z,100nm,2.6s						
ZEA				pmax	pmax		
	comp=E,20nm,1.0s						
ZEA				pmax	pmax		
	comp=N,40nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,500nm,1.1s						
ZEA				MLR	MLR		
	comp=E,600nm,10.0s						
ZEA				MLR	MLR		
	comp=N,1µm,12.0s						
ZEA				MLR	MLR		
	comp=Z,1µm,12.0s						
PDSI	**Padang**	**31.00**	**222**	P	**P**	**09 29 14.6**	**+0.8**
	comp=Z,32nm,1.1s,comp=Z,3µm						
GSI	**Gunungsitoli**	**31.23**	**229**	P	**P**	**09 29 17.1**	**+1.4**
BLJI	**Banyuglugur**	**31.59**	**193**	P	**P**	**09 29 18.3**	**-0.5**
	comp=Z,30nm,0.6s						
EDFI	**Ende, Flores**	**31.86**	**178**	P	**P**	**09 29 20.1**	**-1.3**
	comp=Z,57nm,1.2s						
MOY	**Mondy**	**32.09**	**337**	*e*P	**P**	**09 29 23.7**	**+0.6**
MOY				pmax	pmax		
	comp=Z,24nm,1.7s						
PWJI	**Pagerwojo**	**32.28**	**196**	P	**P**	**09 29 25.8**	**+0.9**
	comp=Z,47nm,1.4s						
LWLI	**Liwa**	**32.42**	**212**	P	**P**	**09 29 27.5**	**+1.1**
	comp=Z,252nm,0.7s						
TYV	**Tymovskoe**	**32.43**	**26**	*e*P	**P**	**09 29 28.2**	**+2.3**
TYV				*e*S	**S**	**09 34 46.3**	**+6.4**
TYV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TYV				pmax	pmax		
	comp=Z,100nm,4.5s						
TYV				smax	smax		
	comp=N,200nm,5.5s						
TYV				smax	smax		
	comp=E,200nm,5.5s						
TYV				MLR	MLR		
	comp=Z,400nm,14.0s						
KPJI	**Karang Pucung**	**32.49**	**202**	P	**P**	**09 29 28.0**	**+1.2**
	comp=Z,43nm,1.3s						
KASI	**Kota Agung**	**32.66**	**211**	P	**P**	**09 29 28.4**	**+0.2**
	comp=Z,65nm,1.0s						
SOEI	**Soe**	**33.04**	**173**	P	**P**	**09 29 29.7**	**-2.1**
SOEI	**Soe**	**33.04**	**173**	P	**P**	**09 29 32.3**	**+0.5**
	comp=Z,42nm,2.1s						
BATI	**Baumata**	**33.43**	**174**	LR	LR	09 45 23.0	
	comp=Z,255nm,18.9s,baz=338,slow=40						
WMQ	**Urumqi**	**33.87**	**315**	*e*P	**P**	**09 29 41.1**	**+2.4**
WMQ				LR	LR		
	comp=Z,1µm,7.9s						
WMQ				LR	LR		
	comp=Z,840nm,12.1s						
WMQ				LR	LR		
	comp=Z,150nm,9.7s						
DGZ	**Jazzator, Alta**	**36.97**	**324**	⇑*e*P	**P**	**09 30 05.7**	**+0.3**
DGZ				pmax	pmax		
	comp=Z,13nm,1.7s						
ZSN	**Zaisan**	**37.29**	**319**	*e*P	**P**	**09 30 08.0**	**0.0**
ZSN	**Zaisan**	**37.29**	**319**	*e*P	**P**	**09 30 08.0**	**0.0**
	baz=319						
MK31	**Makanchi Array**	**38.59**	**317**	P	**P**	**09 30 19.4**	**+0.4**
MK31	**Makanchi Array**	**38.59**	**317**	*c i*P	**P**	**09 30 19.2**	**+0.2**
MKAR	**Makanchi Array**	**38.59**	**317**	P	**P**	**09 30 19.0**	**0.0**
MKAR	**Makanchi Array**	**38.59**	**317**	P	**P**	**09 30 19.4**	**+0.4**
	comp=Z,7.3nm,0.7s,baz=115,slow=9.5,SNR=52						
MKAR				PcP	**PcP**	**09 32 31.2**	**-0.1**
	comp=Z,1.9nm,0.9s,baz=120,slow=5.7,SNR=2.0						
MKAR				LR	LR	09 47 17.0	
	comp=Z,241nm,18.5s,baz=124,slow=38						
	comp=Z,7.3nm,0.7s						
MAKZ	**Makanchi**	**38.79**	**317**	P	**P**	**09 30 21.1**	**+0.4**
MAKZ	**Makanchi**	**38.79**	**317**	P	**P**	**09 30 21.1**	**+0.4**
MAKZ				pmax	pmax		
	comp=Z,13nm,0.9s						
SHLS	**Shalkode**	**39.19**	**310**	*e*P	**P**	**09 30 22.3**	**-1.9**
SHLS	**Shalkode**	**39.19**	**310**	*e*P	**P**	**09 30 22.4**	**-1.9**
	baz=310						
YAK	**Yakutsk**	**39.22**	**7**	P	**P**	**09 30 23.3**	**-0.7**
YAK				IAmb	IAmb	09 30 27.7	
	comp=Z,39nm,0.8s						
YAK	**Yakutsk**	**39.22**	**7**	*e*P	**P**	**09 30 22.2**	**-1.8**
YAK				*e**PP	**sP**	**09 30 29.6**	**-0.7**
YAK				*e*		09 32 31.5	
YAK				*e*S	**S**	**09 36 20.8**	**-2.8**
YAK				*e*SS	**SS**	**09 39 09.9**	**-6.8**
YAK				pmax	pmax		
	comp=Z,50nm,1.1s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.2s						
YAK				pmax	pmax		
	comp=N,23nm,1.2s						
YAK				pmax	pmax		
	comp=Z,189nm,4.2s						
YAK				pmax	pmax		
	comp=N,98nm,4.5s						
YAK				pmax	pmax		
	comp=E,149nm,4.8s						
YAK				smax	smax		
	comp=E,71nm,3.3s						
YAK				smax	smax		
	comp=N,59nm,3.0s						
YAK				MLR	MLR		
	comp=Z,1µm,14.0s						
YAK				MLR	MLR		
	comp=N,807nm,16.0s						
YAK	**Yakutsk**	**39.22**	**7**	P	**P**	**09 30 23.3**	**-0.7**
	comp=N,36nm,0.6s,baz=195,slow=1.7,SNR=7.7						
YAK				LR	LR	09 48 27.5	
	comp=N,428nm,18.4s,baz=177,slow=39						
	comp=N,36nm,0.6s						
UZB	**Uzynbulak**	**39.50**	**310**	*e*P	**P**	**09 30 27.4**	**+0.6**
UZB	**Uzynbulak**	**39.50**	**310**	*e*P	**P**	**09 30 27.4**	**+0.6**
	baz=310						
KNRA	**Kununurra**	**39.55**	**168**	P	**P**	**09 30 25.7**	**-1.5**
KNRA				IAmb	IAmb	09 30 26.4	
	comp=Z,56nm,1.1s						
PATS	**Pohnpei**	**39.79**	**108**	P	**P**	**09 30 30.4**	**+1.0**
PATS	**Pohnpei**	**39.79**	**108**	P	**P**	**09 30 26.2**	**-3.1**
SATY	**Saty**	**39.91**	**310**	*e*P	**P**	**09 30 30.9**	**+0.7**
SATY	**Saty**	**39.91**	**310**	*e*P	**P**	**09 30 30.9**	**+0.7**
	baz=310						
ZHN	**Zhinishke**	**39.92**	**310**	*e*P	**P**	**09 30 30.8**	**+0.6**
ZHN	**Zhinishke**	**39.92**	**310**	*e*P	**P**	**09 30 30.9**	**+0.6**
	baz=310						
TARG	**Taragay, Kyrgy**	**40.00**	**308**	P	**P**	**09 30 28.9**	**-2.4**
TARG	**Taragay, Kyrgy**	**40.00**	**308**	P	**P**	**09 30 28.9**	**-2.4**
TARG				pmax	pmax		
	comp=Z,14nm,1.0s						
TDK	**Taldyqorghan**	**40.48**	**313**	*e*P	**P**	**09 30 35.2**	**+0.5**
TDK	**Taldyqorghan**	**40.48**	**313**	*e*P	**P**	**09 30 35.3**	**+0.5**
	baz=313						
ZAA0	**Zalesovo Array**	**40.69**	**328**	P	**P**	**09 30 36.0**	**-0.3**
ZALV	**Zalesovo Beam**	**40.69**	**328**	P	**P**	**09 30 36.0**	**-0.3**
ZALV	**Zalesovo Beam**	**40.69**	**328**	*i* P	**P**	**09 30 36.4**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,29nm,1.0s						
ZALV	**Zalesovo Beam**	**40.69**	**328**	P	**P**	**09 30 35.9**	**-0.4**
	comp=Z,18nm,0.8s,baz=111,slow=8.1,SNR=47						
ZALV				LR	LR	09 49 37.9	
	comp=Z,89nm,18.2s,baz=124,slow=39						
	comp=Z,18nm,0.8s						
MDOK	**Medeo**	**40.90**	**310**	*e*P	**P**	**09 30 38.8**	**+0.4**
MDOK	**Medeo**	**40.90**	**310**	*e*P	**P**	**09 30 38.9**	**+0.4**
	baz=310						
KSH	**Kashi**	**40.91**	**304**	P	**P**	**09 30 42.3**	**+3.7**
KSH				pP	sP	09 30 46.3	+1.3
KSH				pmax	pmax		
	comp=Z,14nm,1.0s						
KSH				LR	LR		
	comp=Z,800nm,17.8s						
KSH				LR	LR		
	comp=Z,680nm,12.4s						
KSH				LR	LR		
	comp=Z,1µm,12.6s						
PETK	**Petropavlovsk-**	**40.92**	**34**	LR	LR	09 47 22.3	
	comp=Z,193nm,20.9s,baz=230,slow=36						
AAA	**Alma-Ata**	**41.00**	**310**	*e*P	**P**	**09 30 38.7**	**-0.5**
AAA				pmax	pmax		
	comp=Z,16nm,0.4s						
AAA	**Alma-Ata**	**41.00**	**310**	*e*P	**P**	**09 30 38.7**	**-0.5**
	comp=Z,16nm,0.4s,baz=310						
CHKK	**Chushkaly**	**41.12**	**311**	*e*P	**P**	**09 30 40.2**	**+0.2**
CHKK	**Chushkaly**	**41.12**	**311**	*e*P	**P**	**09 30 40.3**	**+0.2**
	baz=311						
NRN	**Naryn**	**41.25**	**307**	P	**P**	**09 30 42.7**	**+1.1**
NRN	**Naryn**	**41.25**	**307**	P	**P**	**09 30 42.7**	**+1.1**
NRN				pmax	pmax		
	comp=Z,22nm,0.9s						
PALK	**Pallekele**	**41.44**	**254**	LR	LR	09 49 07.0	
	comp=Z,233nm,18.6s,baz=169,slow=38						
BOOM	**Boomskoye usch**	**41.52**	**308**	P	**P**	**09 30 44.0**	**+0.4**
BOOM	**Boomskoye usch**	**41.52**	**308**	P	**P**	**09 30 44.0**	**+0.4**
BOOM				pmax	pmax		
	comp=Z,12nm,1.2s						
PMG	**Port Moresby**	**41.63**	**138**	P	**P**	**09 30 43.6**	**-0.9**
PMG				IAmb	IAmb	09 30 44.9	
	comp=Z,32nm,1.1s						
PMG	**Port Moresby**	**41.63**	**138**	P	**P**	**09 30 43.6**	**-0.9**
PMG				pmax	pmax		
	comp=Z,32nm,1.1s						
PMG	**Port Moresby**	**41.63**	**138**	LR	LR	09 47 17.6	
	comp=Z,100nm,18.3s,baz=330,slow=35						
MA2	**Magadan**	**42.02**	**22**	⇑*e*P	**P**	**09 30 47.1**	**-0.1**
MA2				pmax	pmax		
	comp=Z,23nm,2.5s						
KURK	**Kurchatov**	**42.41**	**321**	P	**P**	**09 30 50.5**	**0.0**
KURK	**Kurchatov**	**42.41**	**321***c i*	P	**P**	**09 30 50.4**	**-0.1**
KURK				pmax	pmax		
	comp=Z,23nm,1.7s						
KURK	**Kurchatov**	**42.41**	**321**	P	**P**	**09 30 50.8**	**+0.3**
KURBB	**Kurchatov Arra**	**42.43**	**321**	P	**P**	**09 30 50.8**	**+0.1**
	comp=Z,5.6nm,1.0s,baz=120,slow=7.3,SNR=25						
KURBB				PcP	**PcP**	**09 32 41.7**	**-1.8**
	comp=Z,1.8nm,0.9s,baz=138,slow=3.3,SNR=2.3						
KURBB				LR	LR	09 47 52.0	
	comp=Z,87nm,21.7s,baz=164,slow=35						
	comp=Z,5.6nm,1.0s						
AAK	**Ala-Archa**	**42.60**	**308**	P	**P**	**09 30 51.0**	**-1.4**
AAK	**Ala-Archa**	**42.60**	**308***ce*	P	**P**	**09 30 53.6**	**+1.2**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.7s						
AAK	**Ala-Archa**	**42.60**	**308**	P	**P**	**09 30 52.8**	**+0.4**
	comp=Z,3.1nm,0.7s,baz=136,slow=7.2,SNR=9.9						
AAK				LR	LR	09 48 57.4	
	comp=Z,242nm,19.8s,baz=96,slow=37						
	comp=Z,3.1nm,0.7s						
AAK	**Ala-Archa**	**42.60**	**308**	P	**P**	**09 30 53.9**	**+1.5**
SGDS	**Sogindy**	**42.68**	**309**	*e*P	**P**	**09 30 53.4**	**+0.5**
SGDS	**Sogindy**	**42.68**	**309**	*e*P	**P**	**09 30 53.4**	**+0.5**
	baz=310						
WAKE	**Wake Island**	**43.00**	**86**	P	**P**	**09 30 53.2**	**-2.5**
H11N1	**WAKE ISLAND Hy**	**43.12**	**86**	T	T	10 16 04.7	
	baz=283,slow=74,SNR=35						
H11N2	**WAKE ISLAND Hy**	**43.12**	**86**	T	T	10 16 13.5	
	baz=283,slow=74,SNR=47						
COEN	**Coen**	**43.13**	**147**	P	**P**	**09 30 55.9**	**-0.8**
COEN	**Coen**	**43.13**	**147**	P	**P**	**09 30 54.5**	**-2.2**
COEN				IAmb	IAmb	09 30 59.1	
	comp=Z,41nm,0.8s						
H11N3	**WAKE ISLAND Hy**	**43.13**	**86**	T	T	10 16 06.1	
	baz=283,slow=74,SNR=43						
H11S3	**WAKE ISLAND Hy**	**43.22**	**87**	T	T	10 16 21.6	
	baz=284,slow=74,SNR=70						
H11S1	**WAKE ISLAND Hy**	**43.23**	**87**	T	T	10 16 23.8	
	baz=284,slow=74,SNR=39						
H11S2	**WAKE ISLAND Hy**	**43.24**	**87**	T	T	10 16 24.5	
	baz=284,slow=74,SNR=26						
BTLS	**Baital**	**43.46**	**312**	*e*P	**P**	**09 30 59.3**	**+0.3**
BTLS	**Baital**	**43.46**	**312**	*e*P	**P**	**09 30 59.4**	**+0.3**
	baz=312						
ARSB	**Arslanbob**	**43.46**	**306**	P	**P**	**09 30 58.5**	**-0.9**
ARSB	**Arslanbob**	**43.46**	**306**	P	**P**	**09 30 58.5**	**-0.9**
ARSB				pmax	pmax		
	comp=Z,2.0nm,1.0s						
DRK	**Karamyk**	**44.10**	**303**	P	**P**	**09 31 04.4**	**-0.4**
MBWA	**Marble Bar**	**44.19**	**181**	P	**P**	**09 31 04.1**	**-1.0**
PSA00	**Pilbara Seismi**	**44.60**	**181**	P	**P**	**09 31 07.9**	**-0.5**
PSA00	**Pilbara Seismi**	**44.60**	**181**	P	**P**	**09 31 07.0**	**-1.4**
PSA00				IAmb	IAmb	09 31 08.1	
	comp=Z,38nm,0.8s						
PSA00	**Pilbara Seismi**	**44.60**	**181**	P	**P**	**09 31 07.0**	**-1.4**
PSA00				IAmb	IAmb	09 32 39.8	
	comp=Z,24nm,0.8s						
WB0	**Warramunga Arr**	**44.88**	**161**	P	**P**	**09 31 08.9**	**-1.7**
DZA	**Taraz**	**44.94**	**308**	*e*P	**P**	**09 31 11.4**	**+0.4**
DZA	**Taraz**	**44.94**	**308**	*e*P	**P**	**09 31 11.5**	**+0.4**
	baz=308						
SEY	**Seymchan**	**45.01**	**20**	⇑*e*P	**P**	**09 31 09.1**	**-2.1**
SEY				pmax	pmax		
	comp=Z,13nm,2.5s						
WRAB	**Tennant Creek**	**45.02**	**162**	P	**P**	**09 31 09.9**	**-1.8**
WRAB	**Tennant Creek**	**45.02**	**162**	⇓*e*P	**P**	**09 31 10.6**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,24nm,1.1s						
WRA	**Warramunga Arr**	**45.02**	**162**	P	**P**	**09 31 09.9**	**-1.9**
WRA	**Warramunga Arr**	**45.02**	**162**	*i* P	**P**	**09 31 09.8**	**-2.0**
WRA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
WRA	**Warramunga Arr**	**45.02**	**162**	P	**P**	**09 31 09.9**	**-1.9**
	comp=Z,8.2nm,0.6s,baz=343,slow=8.7,SNR=76						
WRA				PcP	**PcP**	**09 32 51.8**	**-1.0**
	comp=Z,4.7nm,1.0s,baz=342,slow=3.5,SNR=4.6						
	comp=Z,8.2nm,0.6s						
WB2	**Warramunga Arr**	**45.03**	**162**	P	**P**	**09 31 10.2**	**-1.6**
WR0	**Warramunga Arr**	**45.10**	**161**	P	**P**	**09 31 10.8**	**-1.6**
WR0				IAmb	IAmb	09 31 11.9	
	comp=Z,12nm,0.6s						
KK31	**Karatay Array**	**45.56**	**308**	P	**P**	**09 31 15.1**	**-0.9**
KK31	**Karatay Array**	**45.56**	**308**	P	**P**	**09 31 15.1**	**-0.9**
KK31				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KKAR	**Karatay Array**	**45.56**	**308**	P	**P**	**09 31 14.9**	**-1.1**
KKAR	**Karatay Array**	**45.56**	**308**	P	**P**	**09 31 14.9**	**-1.1**
KKAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BRZS	**Berezniki**	**45.70**	**318**	*e*P	**P**	**09 31 17.4**	**+0.4**
BRZS	**Berezniki**	**45.70**	**318**	*e*P	**P**	**09 31 17.4**	**+0.4**
	baz=318						
IUG	**Iuzhnay**	**45.77**	**307**	*e*P	**P**	**09 31 18.2**	**+0.5**
IUG				pmax	pmax		
	comp=Z,11nm,0.7s						
IUG	**Iuzhnay**	**45.77**	**307**	*e*P	**P**	**09 31 18.3**	**+0.5**
	comp=Z,11nm,0.7s,baz=307						
KBL	**Kabul**	**46.03**	**296**	P	**P**	**09 31 19.1**	**-0.9**
KBL				IAmb	IAmb	09 31 26.7	
	comp=Z,21nm,0.8s						
KBL	**Kabul**	**46.03**	**296**	P	**P**	**09 31 19.1**	**-0.9**
KBL				pmax	pmax		
	comp=Z,21nm,0.8s						
KBL	**Kabul**	**46.03**	**296**	P	**P**	**09 31 22.0**	**+1.9**
	SNR=14						
BRLS	**Borolday**	**46.04**	**308**	*e*P	**P**	**09 31 20.5**	**+0.8**
BRLS	**Borolday**	**46.04**	**308**	*e*P	**P**	**09 31 20.6**	**+0.8**
	baz=308						
CHM	**Chimkent**	**46.11**	**307**	*e*P	**P**	**09 31 20.6**	**+0.3**
CHM	**Chimkent**	**46.11**	**307**	*e*P	**P**	**09 31 20.7**	**+0.3**
	baz=307						
QIS	**Mount Isa**	**47.37**	**155**	P	**P**	**09 31 29.5**	**-0.8**
BVAR	**Borovoye Array**	**48.01**	**321**

CTAO	**Charters Tower**	**49.87**	**148**	P	**P**	09 31 49.0	-0.5		
CTAO				IAmb	IAmb	09 31 58.5			
	comp=Z,31nm,1.1s								
CTAO	**Charters Tower**	**49.87**	**148**	P	**P**	**09 31 49.1**	**-0.5**		
CTAO				pmax	pmax				
	comp=Z,31nm,1.2s								
NRIK	**Noril'sk**	**50.12**	**345**	P	**P**	**09 31 50.2**	**-0.6**		
NRIK				PcP	**PcP**	**09 33 10.4**	**+0.3**		
NRIK	**Noril'sk**	**50.12**	**345** *c*	*i*P	**P**	**09 31 49.8**	**-1.0**		
NRIK				pmax	pmax				
	comp=Z,21nm,1.1s								
NRIK	**Noril'sk**	**50.12**	**345**	P	**P**	**09 31 49.5**	**-1.3**		
	comp=Z,12nm,0.9s,baz=130,slow=7.8,SNR=17								
NRIK				PcP	**PcP**	**09 33 09.9**	**-0.3**		
	comp=Z,12nm,0.8s,baz=139,slow=5.4,SNR=4.7								
NRIK				LR	LR	09 52 55.9			
	comp=Z,248nm,20.7s,baz=152,slow=36								
	comp=Z,12nm,0.9s								
HNR	**Honiara**	**50.42**	**126**	LR	LR	09 51 37.9			
	comp=Z,1µm,20.0s,baz=286,slow=34								
OOD	**Oodnadatta**	**52.85**	**163**	P	**P**	**09 32 12.1**	**+0.4**		
ABKAR	**Akbulak array**	**53.66**	**315**	P	**P**	**09 32 17.2**	**-0.3**		
FORT	**Forrest**	**54.24**	**172**	P	**P**	**09 32 21.5**	**-0.4**		
FORT	**Forrest**	**54.24**	**172**	P	**P**	**09 32 21.8**	**-0.1**		
SVE	**Sverdlovsk**	**54.43**	**324** *de*	P	**P**	**09 32 23.8**	**+0.8**		
SVE				pmax	pmax				
	comp=Z,75nm,1.1s								
GEYT	**Alibeck**	**54.76**	**301**	P	**P**	**09 32 25.9**	**+0.1**		
GEYT				IAmb	IAmb	09 32 28.6			
	comp=Z,30nm,1.4s								
GEYT	**Alibeck**	**54.76**	**301**	P	**P**	**09 32 25.9**	**+0.1**		
GEYT				pmax	pmax				
	comp=Z,30nm,1.4s								
GEYT	**Alibeck**	**54.76**	**301**	P	**P**	**09 32 26.9**	**+1.1**		
	comp=Z,6.1nm,0.7s,baz=77,slow=6.4,SNR=14								
GEYT				LR	LR	09 59 14.9			
	comp=Z,283nm,19.2s,baz=144,slow=40								
	comp=Z,6.1nm,0.7s								
GYA0B	**ALIBECK ARRAY**	**54.76**	**301**	P	**P**	**09 32 24.7**	**-1.1**		
MULG	**Mulgathing**	**54.82**	**166**	P	**P**	**09 32 25.8**	**-0.3**		
AKTO	**Aktyubinsk**	**55.01**	**316**	P	**P**	**09 32 27.5**	**+0.1**		
	comp=Z,9.4nm,1.1s,baz=83,slow=7.9,SNR=15								
AKTO				LR	LR	09 55 34.2			
	comp=Z,304nm,19.4s,baz=98,slow=36								
	comp=Z,9.4nm,1.1s								
ARU	**Arti**	**55.48**	**323**	P	**P**	**09 32 31.0**	**+0.4**		
ARU	**Arti**	**55.48**	**323** *c*	*i*P	**P**	**09 32 30.8**	**+0.2**		
ARU				pmax	pmax				
	comp=Z,118nm,1.7s								
ARU	**Arti**	**55.48**	**323**	P	**P**	**09 32 31.0**	**+0.4**		
	comp=Z,17nm,0.5s,baz=109,slow=2.9,SNR=50								
ARU				LR	LR	09 57 33.2			
	comp=Z,198nm,18.2s,baz=93,slow=37								
	comp=Z,17nm,0.5s								
NWAO	**Narrogin (SRO)**	**55.99**	**183**	LR	LR	09 57 58.8			
	comp=Z,42nm,21.7s,baz=256,slow=38								
LCRK	**Leigh Creek**	**56.06**	**162**	P	**P**	**09 32 35.3**	**+0.3**		
WBK	**Wadi Bani Khal**	**56.32**	**282**	P	**P**	**09 32 38.7**	**+1.4**		
WBK				P	**P**	**09 32 38.7**	**+1.4**		
WSAR	**Wadi Sarin**	**56.48**	**283**	P	**P**	**09 32 39.5**	**+1.1**		
	comp=Z,11nm,1.0s,baz=107,slow=7.2,SNR=4.8								
	comp=Z,11nm,1.0s								
BIDO	**Bidbid**	**56.87**	**284**	P	**P**	**09 32 42.6**	**+1.5**		
SMDO	**Samad**	**57.04**	**283**	P	**P**	**09 32 43.7**	**+1.2**		
SMDO				P	**P**	**09 32 43.7**	**+1.2**		
JMDO	**Jabal Madar**	**57.16**	**282**	P	**P**	**09 32 44.0**	**+0.8**		
JMDO				P	**P**	**09 32 44.0**	**+0.8**		
HOQ	**Hoqain**	**57.58**	**284**	P	**P**	**09 32 47.8**	**+1.6**		
HOQ				P	**P**	**09 32 47.8**	**+1.6**		
MHTO	**MHTO**	**57.62**	**281**	P	**P**	**09 32 46.6**	**+0.1**		
MHTO				P	**P**	**09 32 46.6**	**+0.1**		
BBOO	**Buckleboo**	**57.72**	**165**	P	**P**	**09 32 46.6**	**-0.2**		
BBOO	**Buckleboo**	**57.72**	**165**	P	**P**	**09 32 46.0**	**-0.7**		
BSY	**Bisya**	**57.88**	**283**	P	**P**	**09 32 50.1**	**+1.8**		
SOHO	**SOHO**	**58.15**	**285**	P	**P**	**09 32 51.5**	**+1.4**		
SOHO				P	**P**	**09 32 51.5**	**+1.4**		
HATD	**Hatta, Dubai**	**58.34**	**286**	P	**P**	**09 32 52.9**	**+1.4**		
STKA	**Stephens Creek**	**58.43**	**159**	P	**P**	**09 32 51.8**	**0.0**		
STKA	**Stephens Creek**	**58.43**	**159**	P	**P**	**09 32 50.9**	**-0.9**		
STKA	**Stephens Creek**	**58.43**	**159**	P	**P**	**09 32 50.9**	**-0.9**		
STKA				pmax	pmax				
	comp=Z,14nm,1.8s								
STKA	**Stephens Creek**	**58.43**	**159**	P	**P**	**09 32 50.9**	**-0.9**		
	comp=Z,5.7nm,0.6s,baz=331,slow=8.7,SNR=11								
STKA				LR	LR	09 58 27.7			
	comp=Z,74nm,21.9s,baz=253,slow=37								
	comp=Z,5.7nm,0.6s								
ASHO	**Ashiyiah**	**58.44**	**286**	P	**P**	**09 32 53.4**	**+1.2**		
HTT	**Hallett**	**59.06**	**162**	P	**P**	**09 32 56.4**	**+0.2**		
ASUD	**Al Ashush, Dub**	**59.10**	**286**	P	**P**	**09 32 57.9**	**+1.2**		
SPIA	**Saint Paul Isl**	**59.49**	**36**	P	**P**	**09 32 58.7**	**-0.2**		
	baz=266								
GAMB	**Gambell**	**59.53**	**28**	P	**P**	**09 32 59.4**	**+0.3**		
	baz=261								
CMSA	**Cobar Meteorol**	**59.59**	**155**	P	**P**	**09 32 59.8**	**-0.1**		
KIRV	**Kirov**	**60.62**	**325** *c*	*i*P	**P**	**09 33 06.7**	**+0.1**		
KIRV	**Kirov**	**60.62**	**325**	P	**P**	**09 33 07.0**	**+0.4**		
	comp=Z,60nm,0.8s,baz=99,slow=2.1,SNR=20								
KIRV				LR	LR	09 59 03.8			
	comp=Z,197nm,20.8s,baz=93,slow=36								
	comp=Z,60nm,0.8s								
KOUNC	**Koumac, New Ca**	**60.96**	**132**	P	**P**	**09 33 09.7**	**+0.3**		
KOUNC	**Koumac, New Ca**	**60.96**	**132**	P	**P**	**09 33 08.1**	**-1.3**		
JRN	**Qarnain Island**	**61.22**	**287**	P	**P**	**09 33 10.9**	**-0.3**		
DMTO	**DMTO**	**61.26**	**278**	P	**P**	**09 33 11.9**	**+0.3**		
DMTO				P	**P**	**09 33 11.9**	**+0.3**		
TNA	**Tin City**	**61.39**	**27**	P	**P**	**09 33 11.5**	**-0.3**		
	baz=263								
UNV	**Unalaska Valle**	**61.54**	**40**	P	**P**	**09 33 12.3**	**-0.6**		
	baz=271								
BELG	**Belogornoye**	**61.57**	**318** *de*	P	**P**	**09 33 12.8**	**-0.4**		
BELG				pmax	pmax				
	comp=Z,15nm,1.0s								
BELG	**Belogornoye**	**61.57**	**318**	P	**P**	**09 33 13.5**	**+0.3**		
	comp=Z,62nm,0.9s,baz=67,slow=2.2,SNR=14								
BELG				LR	LR	10 01 28.2			
	comp=Z,164nm,20.9s,baz=144,slow=38								
	comp=Z,62nm,0.9s								
DOK	**Doka**	**61.74**	**279**	P	**P**	**09 33 14.7**	**-0.2**		
	SNR=7.1								
DOK				P	**P**	**09 33 14.7**	**-0.2**		
	SNR=7.1								
M11K	**Mekoryuk**	**61.77**	**33**	P	**P**	**09 33 13.8**	**-0.6**		
	baz=268								
RBK	**Rabkut**	**62.00**	**278**	P	**P**	**09 33 16.8**	**+0.1**		
	SNR=6.2								
RBK				P	**P**	**09 33 16.8**	**+0.1**		
	SNR=6.2								
F14K	**Arctic Creek**	**62.05**	**27**	P	**P**	**09 33 16.5**	**+0.4**		
	baz=265								
WHFO	**Wadi Hawf**	**62.27**	**279**	P	**P**	**09 33 18.2**	**-0.3**		
MAK	**Makhachkala**	**62.37**	**308**	*e*P	**P**	**09 33 16.5**	**-2.2**		
MAK				*e*		09 35 34.3			
MAK				*e*PPP	PPP	09 37 01.8			
MAK				*e*S	**S**	**09 41 43.1**	**-1.9**		
MAK				*e*SS	**SS**	**09 45 54.1**	**+5.7**		
MAK				pmax	pmax				
	comp=Z,119nm,0.9s								
MAK				MLR	MLR				
	comp=Z,131nm,12.0s								
ANM	**Nome**	**62.38**	**28**	IAmb	IAmb	09 33 24.0			
	comp=Z,16nm,1.1s								
ANM	**Nome**	**62.38**	**28**	P	**P**	**09 33 18.0**	**-0.5**		
	baz=266,SNR=6.8								
C16K	**Lisburne Hills**	**62.70**	**24**	P	**P**	**09 33 20.0**	**-0.4**		
C16K				IAmb	IAmb	09 33 43.5			
	comp=Z,44nm,2.0s								
C16K	**Lisburne Hills**	**62.70**	**24**	P	**P**	**09 33 20.4**	**0.0**		
	baz=264,SNR=8.0								
F15K	**North Star Dit**	**62.76**	**27**	IAmb	IAmb	09 33 26.4			
	comp=Z,16nm,1.1s								
F15K	**North Star Dit**	**62.76**	**27**	P	**P**	**09 33 21.0**	**0.0**		
	baz=266								
ABTO	**Aybut**	**62.87**	**278**	P	**P**	**09 33 22.6**	**0.0**		
ABTO				P	**P**	**09 33 22.6**	**0.0**		
G15K	**Niukluk**	**62.97**	**28**	P	**P**	**09 33 22.3**	**-0.1**		
	baz=267,SNR=10.0								
ARPS	**Mount Arapiles**	**63.02**	**161**	P	**P**	**09 33 21.8**	**-1.2**		
SMRA	**Abu-Samra**	**63.05**	**287**	P	**P**	**09 33 23.1**	**-0.5**		
	SNR=6.5								
J14K	**Nanvaranak Lak**	**63.11**	**30**	IAmb	IAmb	09 33 24.8			
	comp=Z,20nm,1.1s								
J14K	**Nanvaranak Lak**	**63.11**	**30**	P	**P**	**09 33 23.1**	**-0.2**		
	baz=269								
M13K	**Dall Lake**	**63.19**	**33**	P	**P**	**09 33 24.0**	**+0.2**		
	baz=270								
DZM	**Mont Dzumac**	**63.46**	**132**	LR	LR	09 57 51.9			
	comp=Z,119nm,19.6s,baz=330,slow=33								
D17K	**Noatak River**	**63.50**	**24**	P	**P**	**09 33 26.1**	**+0.3**		
	baz=267,SNR=16								
L14K	**Kuka Creek**	**63.51**	**32**	P	**P**	**09 33 26.4**	**+0.4**		
	baz=270								
C17K	**DeLong Mountai**	**63.51**	**24**	P	**P**	**09 33 25.5**	**-0.4**		
	baz=266								
RDOG	**Red Dog Mine**	**63.59**	**24**	P	**P**	**09 33 26.1**	**-0.3**		
	baz=267								
G16K	**Koyuk River**	**63.70**	**27**	P	**P**	**09 33 27.1**	**-0.1**		
	baz=269								
H16K	**Elim**	**63.73**	**28**	P	**P**	**09 33 27.2**	**-0.2**		
	baz=269,SNR=14								
M14K	**Bethel**	**63.87**	**32**	P	**P**	**09 33 28.3**	**-0.1**		
	baz=271								
E17K	**Hotham Inlet**	**63.96**	**25**	P	**P**	**09 33 28.5**	**-0.3**		
	baz=268,SNR=6.8								
N14K	**Kuskokwak Cree**	**64.03**	**33**	P	**P**	**09 33 29.2**	**-0.2**		
	baz=272								
S12K	**Black Hills**	**64.03**	**38**	P	**P**	**09 33 29.0**	**-0.6**		
	baz=274								
K15K	**Wolf Creek Mou**	**64.05**	**31**	P	**P**	**09 33 29.7**	**+0.1**		
	baz=271								
B18K	**Kokolik River**	**64.06**	**23**	P	**P**	**09 33 29.9**	**+0.4**		
	baz=267								
L15K	**Ungalak Mounta**	**64.08**	**31**	P	**P**	**09 33 29.7**	**-0.1**		
	baz=271								
F17K	**Baldwin Pennin**	**64.17**	**26**	P	**P**	**09 33 30.6**	**+0.4**		
F17K	**Baldwin Pennin**	**64.17**	**26**	P	**P**	**09 33 30.5**	**+0.3**		
	baz=269								
C18K	**Utukok River**	**64.25**	**23**	P	**P**	**09 33 30.8**	**0.0**		
	baz=268								
O14K	**Tigyukauivet M**	**64.27**	**34**	P	**P**	**09 33 31.0**	**0.0**		
	baz=272								
A19K	**Wainwright**	**64.35**	**22**	P	**P**	**09 33 31.9**	**+0.6**		
	baz=267								
I17K	**Unalakleet**	**64.41**	**29**	IAmb	IAmb	09 33 33.7			
	comp=Z,15nm,1.0s								
I17K	**Unalakleet**	**64.41**	**29**	P	**P**	**09 33 32.2**	**+0.4**		
	baz=271								
G17K	**Kiwalik Mounta**	**64.41**	**27**	P	**P**	**09 33 32.2**	**+0.3**		
	baz=270								
E18K	**Tukpahlearik C**	**64.44**	**25**	P	**P**	**09 33 32.5**	**+0.5**		
	baz=269,SNR=11								
J16K	**Anvik River**	**64.46**	**29**	P	**P**	**09 33 31.7**	**-0.5**		
	baz=271								
M15K	**Kasigluk River**	**64.50**	**32**	P	**P**	**09 33 32.2**	**-0.3**		
	baz=272								
H17K	**Granite Mounta**	**64.73**	**28**	IAmb	IAmb	09 33 39.7			
	comp=Z,17nm,0.9s								
H17K	**Granite Mounta**	**64.73**	**28**	P	**P**	**09 33 34.1**	**+0.2**		
	baz=271								
F18K	**Selawik**	**64.81**	**26**	P	**P**	**09 33 34.4**	**-0.1**		
	baz=270,SNR=20								
N15K	**Kwethluk River**	**64.82**	**33**	P	**P**	**09 33 34.5**	**-0.2**		
	baz=273								
GNI	**Garni**	**64.84**	**305**	P	**P**	**09 33 36.2**	**+0.9**		
GNI	**Garni**	**64.84**	**305**	P	**P**	**09 33 36.2**	**+0.9**		
GNI				pmax	pmax				
	comp=Z,87nm,1.5s								
GNI	**Garni**	**64.84**	**305**	P	**P**	**09 33 36.9**	**+1.6**		
	comp=Z,11nm,0.8s,baz=106,slow=7.4,SNR=13								
	comp=Z,11nm,0.8s								
C19K	**Lookout Ridge**	**64.84**	**23**	P	**P**	**09 33 34.7**	**0.0**		
	baz=269,SNR=7.5								
TOO	**Toolangi**	**64.93**	**158**	P	**P**	**09 33 35.8**	**+0.2**		
TOO	**Toolangi**	**64.93**	**158**	P	**P**	**09 33 35.8**	**+0.2**		
TOO				pmax	pmax				
	comp=Z,46nm,1.5s								
SDPT	**Sand Point**	**64.96**	**38**	P	**P**	**09 33 35.3**	**-0.3**		
	baz=275								
O15K	**Ungalikthiuk R**	**65.02**	**34**	P	**P**	**09 33 36.2**	**+0.3**		
	baz=274								
L16K	**Owhat River**	**65.04**	**31**	P	**P**	**09 33 36.2**	**+0.2**		
L16K				IAmb	IAmb	09 34 33.7			
	comp=Z,45nm,2.0s								
L16K	**Owhat River**	**65.04**	**31**	P	**P**	**09 33 36.5**	**+0.5**		
	baz=273								
G18K	**Tagagawik**	**65.23**	**27**	P	**P**	**09 33 37.6**	**+0.4**		
	baz=272,SNR=9.2								
VRH	**Novokhopyorsk**	**65.32**	**317**	*e*P	**P**	**09 33 37.3**	**-0.7**		
VRH				*e*SP	**pP**	**09 33 42.0**	**-0.8**		
VRH				pmax	pmax				
	comp=Z,70nm,0.8s								
M16K	**Timber Creek**	**65.33**	**32**	P	**P**	**09 33 38.1**	**+0.2**		
	baz=274								
D19K	**Kuna River**	**65.38**	**24**	IAmb	IAmb	09 33 39.6			
	comp=Z,17nm,0.9s								
D19K	**Kuna River**	**65.38**	**24**	P	**P**	**09 33 38.2**	**+0.1**		
	baz=271								
H18K	**Honhosa River**	**65.38**	**27**	IAmb	IAmb	09 33 39.6			
	comp=Z,14nm,1.2s								
H18K	**Honhosa River**	**65.38**	**27**	P	**P**	**09 33 38.5**	**+0.3**		
	baz=272								
ONI	**Oni**	**65.38**	**308**	P	**P**	**09 33 40.3**	**+1.6**		
ONI	**Oni**	**65.38**	**308**	P	**P**	**09 33 40.3**	**+1.6**		
ONI				pmax	pmax				
	comp=Z,67nm,1.1s								
S14K	**Fog Glacier**	**65.39**	**37**	P	**P**	**09 33 38.4**	**-0.1**		
	baz=275								
N16K	**Nishlik Lake**	**65.46**	**33**	P	**P**	**09 33 38.9**	**+0.2**		
	baz=274								
CNBA	**Chernabura Isl**	**65.52**	**39**	P	**P**	**09 33 38.3**	**-0.9**		
K17K	**Iditarod**	**65.53**	**30**	IAmb	IAmb	09 33 45.0			
	comp=Z,20nm,1.1s								
K17K	**Iditarod**	**65.53**	**30**	P	**P**	**09 33 39.5**	**+0.4**		
	baz=274								
F19K	**Shaleruckik Mo**	**65.56**	**25**	IAmb	IAmb	09 33 40.4			
	comp=Z,15nm,1.4s								
F19K	**Shaleruckik Mo**	**65.56**	**25**	P	**P**	**09 33 39.1**	**-0.1**		
	baz=272								
L17K	**Donlin**	**65.57**	**31**	P	**P**	**09 33 40.1**	**+0.7**		
	baz=274								
KBZ	**Khabaz**	**65.59**	**309** *c*	*i*P	**P**	**09 33 40.6**	**+0.7**		
KBZ				pmax	pmax				
	comp=Z,65nm,1.1s								
KBZ	**Khabaz**	**65.59**	**309**	P	**P**	**09 33 40.8**	**+0.9**		
	comp=Z,29nm,0.9s,baz=105,slow=4.5,SNR=48								
KBZ				LR	LR	10 05 11.2			
	comp=Z,58nm,19.9s,baz=120,slow=39								
	comp=Z,29nm,0.9s								
KLMR	**Klimovskoe**	**65.61**	**328**	*e*P	P	09 33 31.4	-8.3		
KLMR				pmax	pmax				
	comp=Z,75nm,1.0s								
KLMR				MLR	MLR				
	comp=Z,460nm,15.0s								
B20K	**Meade River**	**65.69**	**22**	P	**P**	**09 33 40.4**	**+0.3**		
B20K				IAmb	IAmb	09 33 47.2			
	comp=Z,12nm,0.9s								
B20K	**Meade River**	**65.69**	**22**	P	**P**	**09 33 40.1**	**+0.1**		
	baz=271								
KIV	**Kislovodsk**	**65.70**	**309**	⇑P	**P**	**09 33 41.0**	**+0.3**		
KIV	**Kislovodsk**	**65.70**	**309**	P	**P**	**09 33 41.5**	**+0.7**		
KIV	**Kislovodsk**	**65.70**	**309**	*e*P	**P**	**09 33 41.8**	**+1.0**		
KIV				pmax	pmax				
	comp=Z,78nm,1.1s								
KIV				MLR	MLR				
	comp=Z,62nm,17.0s								
KIV	**Kislovodsk**	**65.70**	**309**	P	**P**	**09 33 42.2**	**+1.4**		
E19K	**Redstone River**	**65.74**	**25**	P	**P**	**09 33 40.8**	**+0.3**		
E19K				IAmb	IAmb	09 33 42.0			
	comp=Z,12nm,0.9s								
E19K	**Redstone River**	**65.74**	**25**	P	**P**	**09 33 40.9**	**+0.3**		
	baz=272,SNR=13								
NEUR	**Neytrino**	**65.81**	**308**	⇑P	**P**	**09 33 44.3**	**+2.7**		
NEUR				pmax	pmax				
	comp=Z,26nm,1.4s								
A21K	**Barrow**	**65.84**	**21**	P	**P**	**09 33 41.1**	**+0.1**		
	baz=271								
G19K	**Purcell Mounta**	**65.86**	**26**	P	**P**	**09 33 41.1**	**-0.2**		
	baz=273								
O16K	**Kokwok River B**	**65.87**	**33**	P	**P**	**09 33 41.2**	**-0.1**		
	baz=275								
D20K	**Etivluk River**	**65.92**	**23**	P	**P**	**09 33 41.8**	**+0.1**		
	baz=272								
P16K	**Nushagak River**	**65.97**	**34**	P	**P**	**09 33 42.0**	**0.0**		
	baz=275								
M17K	**Holitna River**	**66.03**	**31**	P	**P**	**09 33 42.3**	**-0.1**		
	baz=275								
E20K	**Nigu River**	**66.10**	**24**	P	**P**	**09 33 42.9**	**0.0**		
	baz=273								
H19K	**Roundabout Mou**	**66.16**	**27**	P	**P**	**09 33 43.7**	**+0.5**		
	baz=274								
J18K	**Innoko River**	**66.20**	**29**	P	**P**	**09 33 44.0**	**+0.5**		
J18K				IAmb	IAmb	09 33 44.9			
	comp=Z,13nm,1.2s								
J18K	**Innoko River**	**66.20**	**29**	P	**P**	**09 33 43.8**	**+0.3**		
	baz=274								
N17K	**Nushagak Hills**	**66.23**	**32**	P	**P**	**09 33 44.0**	**+0.3**		
	baz=275								
L18K	**Granite Mounta**	**66.31**	**30**	IAmb	IAmb	09 34 01.9			
	comp=Z,34nm,1.6s								
L18K	**Granite Mounta**	**66.31**	**30**	P	**P**	**09 33 44.7**	**+0.4**		
	baz=275								
F20K	**Avaraart Lake**	**66.35**	**25**	P	**P**	**09 33 44.1**	**-0.2**		
	baz=274								
O17K	**Koliganek Bris**	**66.35**	**33**	P	**P**	**09 33 44.4**	**-0.1**		
	baz=276								
A22K	**Sinclair Lake**	**66.39**	**21**	P	**P**	**09 33 44.6**	**+0.1**		
	baz=273								
C21K	**Knifeblade Rid**	**66.56**	**23**	P	**P**	**09 33 45.9**	**+0.2**		
	baz=274								
TTA	**Tatalina**	**66.56**	**30**	P	**P**	**09 33 46.0**	**+0.1**		
TTA				IAmb	IAmb	09 33 50.8			
	comp=Z,16nm,1.3s								
TTA	**Tatalina**	**66.56**	**30**	P	**P**	**09 33 46.0**	**+0.1**		
TTA				pmax	pmax				
	comp=Z,17nm,1.3s								
TTA	**Tatalina**	**66.56**	**30**	P	**P**	**09 33 46.0**	**+0.1**		
	baz=275								
B21K	**Ikpikpuk River**	**66.59**	**22**	IAmb	IAmb	09 33 53.2			
	comp=Z,18nm,0.8s								
B21K	**Ikpikpuk River**	**66.59**	**22**	P	**P**	**09 33 46.1**	**+0.3**		
	baz=274,SNR=21								
J19K	**Poorman**	**66.64**	**29**	IAmb	IAmb	09 33 48.0			
	comp=Z,15nm,1.1s								
J19K	**Poorman**	**66.64**	**29**	P	**P**	**09 33 46.5**	**+0.2**		
	baz=275								
Q16K	**King Salmon**	**66.70**	**34**	P	**P**	**09 33 46.6**	**-0.2**		
	baz=277								
P17K	**Kvichak River**	**66.75**	**34**	P	**P**	**09 33 47.1**	**+0.1**		
	baz=277								
M18K	**Stony River**	**66.80**	**31**	P	**P**	**09 33 47.8**	**+0.4**		
	baz=276								
VORR	**Voronezh**	**66.81**	**318**	*e*P	**P**	**09 33 47.9**	**+0.3**		
VORR				pmax	pmax				
	comp=Z,65nm,0.4s								
H20K	**Anotleneega Mo**	**66.81**	**27**	P	**P**	**09 33 47.5**	**+0.1**		
	baz=275								
LPSR	**Galich'ya Gora**	**66.85**	**319**	*e*P	**P**	**09 33 47.3**	**-0.5**		
LPSR				*e*SP	**pP**	**09 33 50.9**	**-1.7**		
LPSR				pmax	pmax				
	comp=Z,70nm,0.9s								
N18K	**Kilae Creek**	**66.85**	**32**	P	**P**	**09 33 47.2**	**-0.5**		
	baz=276								
VORD	**Divnogorie**	**66.87**	**317**	*e*P	**P**	**09 33 47.3**	**-0.6**		
VORD				*e*SP	**pP**	**09 33 52.2**	**-0.6**		
VORD				pmax	pmax				
	comp=Z,20nm,0.8s								
VSR	**Storozhevoye**	**66.91**	**317**	*e*P	**P**	**09 33 47.6**	**-0.6**		
VSR				*e*SP	**pP**	**09 33 51.8**	**-1.2**		
VSR				pmax	pmax				
	comp=Z,30nm,0.9s								
E21K	**Killik River**	**66.91**	**24**	IAmb	IAmb	09 33 49.2			
	comp=Z,9.4nm,0.8s								
E21K	**Killik River**	**66.91**	**24**	P	**P**	**09 33 48.0**	**0.0**		
	baz=275								
B22K	**Teshekpuk Lake**	**66.95**	**22**	IAmb	IAmb	09 33 55.2			
	comp=Z,12nm,0.8s								
B22K	**Teshekpuk Lake**	**66.95**	**22**	P	**P**	**09 33 48.5**	**+0.4**		
	baz=274								
ERBR	**Yeremizino-Bor**	**66.95**	**311**	*e*P	**P**	**09 33 46.3**	**-2.3**		
ERBR				*e*PP	**pP**	**09 33 49.7**	**-3.7**		
ERBR				*e*S	**S**	**09 42 40.1**	**-1.3**		
ERBR				pmax	pmax				
	comp=Z,99nm,1.0s								
LABN	**Labinsk**	**66.97**	**310**	*e*P	**P**	**09 33 46.5**	**-2.3**		
LABN				*e*PP	**pP**	**09 33 49.9**	**-3.7**		
LABN				*e*S	**S**	**09 42 40.9**	**-0.9**		
LABN				pmax	pmax				
	comp=Z,19nm,0.4s								
I20K	**Naaghedeneel**	**67.05**	**28**	P	**P**	**09 33 50.1**	**+1.2**		
I20K	**Naaghedeneel**	**67.05**	**28**	P	**P**	**09 33 48.3**	**-0.6**		
	baz=276,SNR=9.2								
Q17K	**Contact Creek**	**67.15**	**35**	P	**P**	**09 33 48.9**	**-0.9**		
	baz=278								
MOS	**Moscow**	**67.16**	**322**	*e*P	**P**	**09 33 48.4**	**-1.3**		
MOS				*e*		09 34 13.4			
MOS				*e*S	**S**	**09 42 43.6**	**+0.1**		
MOS				*e*		09 43 41.5			
MOS				pmax	pmax				
	comp=Z,73nm,1.1s								
L19K	**White Mountain**	**67.17**	**30**	IAmb	IAmb	09 33 55.6			
	comp=Z,19nm,1.1s								
L19K	**White Mountain**	**67.17**	**30**	P	**P**	**09 33 49.4**	**-0.4**		
	baz=277								
GURO	**Guroymak-BITLI**	**67.21**	**304**	P	**P**	**09 33 52.3**	**+1.7**		
F21K	**Alatna River**	**

baz=278
I21K Tanana 68.06 27 P **P** **09 33 54.9 -0.4**
I21K IAmb IAmb 09 33 57.3
comp=Z,23nm,1.2s
I21K Tanana 68.06 27 P **P** **09 33 56.0 +0.7**
baz=278,SNR=10
RAYN Ar Rayn 68.06 287 P **P** **09 33 56.6 +0.5**
RAYN IAmb IAmb 09 34 01.8
comp=Z,26nm,1.1s
RAYN Ar Rayn 68.06 287 ⇑P **P** **09 33 56.5 +0.5**
RAYN Ar Rayn 68.06 287 P **P** **09 33 55.4 -0.6**
CHUM Lake Minchumin 68.10 28 P **P** **09 33 55.8 +0.2**
baz=278
H22K Ishtalitna Cre 68.21 26 P **P** **09 33 56.9 +0.7**
baz=278
CAST Castle Rocks 68.27 29 P **P** **09 33 57.3 +0.6**
CAST IAmb IAmb 09 34 02.2
comp=Z,11nm,0.9s
CAST Castle Rocks 68.27 29 P **P** **09 33 56.8 +0.2**
baz=279,SNR=8.1
PPLA Purkeypile 68.30 29 P **P** **09 33 56.9 -0.1**
baz=279
P19K Oil Pt 68.31 33 P **P** **09 33 57.1 +0.1**
baz=279
SII Sitkinak Islan 68.31 36 P **P** **09 33 57.6 +0.5**
baz=280
COLD Coldfoot 68.47 25 P **P** **09 33 58.0 +0.1**
baz=279,SNR=9.0
TOLK Toolik Lake Re 68.49 23 P **P** **09 33 58.0 0.0**
TOLK IAmb IAmb 09 34 24.8
comp=Z,14nm,1.1s
TOLK Toolik Lake Re 68.49 23 P **P** **09 33 58.3 +0.3**
baz=279,SNR=11
N20K Mount Spurr 68.56 31 P **P** **09 33 58.9 +0.3**
baz=279
E23K Chandalar 68.57 24 P **P** **09 33 58.9 +0.4**
baz=279
MLY Manley 68.60 27 P **P** **09 33 59.3 +0.6**
MLY IAmb IAmb 09 34 04.4
comp=Z,18nm,1.0s
MLY Manley 68.60 27 P **P** **09 33 58.8 0.0**
baz=279,SNR=17
G23K Bananza Creek 68.62 25 P **P** **09 33 59.5 +0.6**
G23K IAmb IAmb 09 34 00.5
comp=Z,14nm,1.0s
G23K Bananza Creek 68.62 25 P **P** **09 33 59.3 +0.4**
baz=279
C24K Franklin Bluff 68.63 22 P **P** **09 33 59.0 +0.2**
baz=279
BPAW Bear Paw Mtn. 68.65 28 P **P** **09 33 58.4 -0.6**
BPAW IAmb IAmb 09 34 25.2
comp=Z,23nm,1.4s
BPAW Bear Paw Mtn. 68.65 28 P **P** **09 33 59.5 +0.5**
baz=279
D24K Happy Valley 68.68 23 P **P** **09 33 59.5 +0.4**
D24K IAmb IAmb 09 34 00.6
comp=Z,14nm,0.9s
D24K Happy Valley 68.68 23 P **P** **09 33 59.4 +0.3**
baz=279
OHAK Old Harbor 68.69 36 P **P** **09 33 60.0 +0.7**
baz=280
SKT Skwentna 68.75 30 P **P** **09 33 59.3 -0.4**
baz=280
Q20K Shuyak Island 68.91 34 P **P** **09 34 00.8 +0.1**
baz=280
KDAK Kodiak Island 68.96 35 P **P** **09 34 00.8 -0.2**
baz=280
E24K Your Creek 68.98 24 IAmb IAmb 09 34 06.7
comp=Z,14nm,0.9s
E24K Your Creek 68.98 24 P **P** **09 34 01.0 0.0**
baz=280
TRF Thorofare Moun 69.06 29 P **P** **09 34 01.2 -0.5**
TRF IAmb IAmb 09 34 11.6
comp=Z,16nm,1.2s
TRF Thorofare Moun 69.06 29 P **P** **09 34 01.8 0.0**
baz=280
HOM Homer 69.10 33 P **P** **09 34 02.0 +0.1**
baz=280
CAPN Captain Cook N 69.14 32 P **P** **09 34 02.2 +0.2**
baz=280
I23K Minto, Yukon-K 69.16 27 P **P** **09 34 02.4 +0.3**
I23K IAmb IAmb 09 34 03.9
comp=Z,18nm,1.4s
I23K Minto, Yukon-K 69.16 27 P **P** **09 34 02.2 +0.1**
baz=280,SNR=6.4
JOF Joensuu 69.20 331 *e*P **P** **09 34 02.4 0.0**
SUA Susitna One 69.21 31 P **P** **09 34 02.8 +0.1**
SUA Susitna One 69.21 31 P **P** **09 34 02.2 -0.5**
baz=280,SNR=8.7
ANN Anapa 69.24 311 *e*P **P** **09 34 00.3 -2.7**
ANN *e**PP **pP** **09 34 04.4 -3.4**
ANN *e*S **S** **09 43 07.3 -1.5**
ANN pmax pmax
comp=Z,63nm,0.9s
CUT Chulitna 69.26 30 P **P** **09 34 02.3 -0.5**
baz=280
F24K Squaw Lake 69.31 24 P **P** **09 34 03.7 +0.6**
F24K IAmb IAmb 09 34 09.2
comp=Z,17nm,0.8s
F24K Squaw Lake 69.31 24 P **P** **09 34 03.8 +0.8**
baz=281
NEA2 Nenana 69.38 27 P **P** **09 34 03.6 +0.1**
NEA2 IAmb IAmb 09 34 08.8
comp=Z,20nm,1.0s
NEA2 Nenana 69.38 27 P **P** **09 34 03.6 +0.1**
baz=281,SNR=17
MSVF Nonsavu 69.39 121 P **P** **09 34 02.9 -1.5**
MSVF Nonsavu 69.39 121⇑ *e*P **P** **09 34 04.0 -0.4**
MSVF pmax pmax
comp=Z,35nm,1.1s
M22K Willow 69.45 31 P **P** **09 34 04.0 +0.1**
M22K Willow 69.45 31 P **P** **09 34 03.6 -0.4**
baz=281
D25K Kavik River 69.51 22 IAmb IAmb 09 34 05.6
comp=Z,12nm,0.9s
D25K Kavik River 69.51 22 P **P** **09 34 04.1 -0.2**
baz=281,SNR=9.3
MCK McKinley 69.60 28 P **P** **09 34 05.0 0.0**
baz=281
G24K Hadweenzic Riv 69.62 25 IAmb IAmb 09 34 10.8
comp=Z,13nm,0.9s
G24K Hadweenzic Riv 69.62 25 P **P** **09 34 04.9 -0.1**
baz=281,SNR=13
H24K Noodor Dome 69.64 26 P **P** **09 34 05.8 +0.6**
H24K IAmb IAmb 09 34 07.2
comp=Z,21nm,1.2s
H24K Noodor Dome 69.64 26 P **P** **09 34 05.2 0.0**
baz=281
MDM Murphy Dome 69.66 27 P **P** **09 34 05.4 +0.1**
VALR Valaam 69.69 329 *c**e*P **P** **09 34 05.5 0.0**
VALR pmax pmax
comp=Z,34nm,0.9s
RND Reindeer 69.70 29 P **P** **09 34 05.2 -0.4**
RND Reindeer 69.70 29 P **P** **09 34 05.2 -0.4**
RND pmax pmax
comp=Z,27nm,1.0s
WRH Wood River Hil 69.82 27 P **P** **09 34 07.1 +0.8**
COLA College 69.84 27⇑ *e*P **P** **09 34 07.6 +1.3**
COLA pmax pmax
comp=Z,15nm,1.8s
C26K Camden Bay 69.89 22 P **P** **09 34 07.1 +0.5**
baz=282
ARPR Arapgir-MALATY 69.90 305 IAmb IAmb 09 34 14.0
comp=Z,23nm,0.9s
CCB Clear Creek Bu 69.91 27 P **P** **09 34 05.8 -1.0**
PMR Palmer 69.94 31 P **P** **09 34 07.1 +0.1**
baz=282
WAT1 Susitna Watana 69.96 29 P **P** **09 34 06.6 -0.6**
baz=282
POKR Poker Plat Res 69.96 27 P **P** **09 34 07.0 -0.1**
POKR IAmb IAmb 09 34 12.6
comp=Z,22nm,1.1s
POKR Poker Plat Res 69.96 27 P **P** **09 34 07.2 +0.1**
baz=282,SNR=9.6
E25K Arctic Village 70.05 23 P **P** **09 34 08.2 +0.5**
E25K Arctic Village 70.05 23 P **P** **09 34 07.6 0.0**
baz=283,SNR=6.9
SEW Seward 70.10 32 P **P** **09 34 08.3 +0.3**
baz=282
F25K Christian Rive 70.14 24 P **P** **09 34 08.3 0.0**
baz=283
G25K Bearman Lake 70.14 25 P **P** **09 34 08.3 +0.1**
baz=283
ARCES ARCESS Array B 70.15 338 P **P** **09 34 08.5 +0.3**
comp=Z,9.8nm,1.0s,baz=52,slow=7.3,SNR=6.2
ARCES LR LR 10 07 50.4
comp=Z,169nm,20.2s,baz=48,slow=38
comp=Z,9.8nm,1.0s
SPITS Spitsbergen Ar 70.23 348 P **P** **09 34 08.0 -0.5**
comp=Z,11nm,0.9s,baz=51,slow=11,SNR=1.9
SPITS LR LR 10 08 02.2
comp=Z,184nm,18.7s,baz=40,slow=38
comp=Z,11nm,0.9s
ILAR Eielson Array 70.26 27 P **P** **09 34 07.7 -1.3**
comp=Z,1.0nm,0.9s,baz=286,slow=4.5,SNR=12
ILAR LR LR 10 08 10.3
comp=Z,94nm,18.5s,baz=293,slow=39
comp=Z,1.0nm,0.9s
SML Sawmill 70.27 30 P **P** **09 34 09.1 0.0**
SML Sawmill 70.27 30 P **P** **09 34 08.6 -0.5**
baz=282
KNK Knik Glacier 70.30 31 P **P** **09 34 08.9 -0.4**
baz=282
HDA Harding Lake 70.32 27 P **P** **09 34 09.2 -0.1**
baz=283,SNR=6.0
H25L Birch Creek 70.36 25 P **P** **09 34 10.2 +0.7**
baz=283
WAT6 Susitna Watana 70.37 29 P **P** **09 34 09.4 -0.5**
baz=283
DHY Denali Highway 70.43 29 P **P** **09 34 09.7 -0.5**
baz=283
M23K Glacier View 70.56 30 P **P** **09 34 10.4 -0.5**
baz=283
BMAR Burnt Mountain 70.57 24 P **P** **09 34 11.8 +1.0**
PRP Porcupine Dome 70.66 26 P **P** **09 34 10.5 -1.0**
PRP Porcupine Dome 70.66 26 P **P** **09 34 11.1 -0.4**
baz=284,SNR=7.3
F26K Sheenjek River 70.67 24 P **P** **09 34 12.2 +0.7**
baz=284
SCM Sheep Creek Mo 70.73 30 P **P** **09 34 11.2 -0.8**
SCM Sheep Creek Mo 70.73 30 P **P** **09 34 11.2 -0.8**
SCM pmax pmax
comp=Z,38nm,1.2s
SCM Sheep Creek Mo 70.73 30 P **P** **09 34 11.8 -0.2**
baz=283
J25K Salcha River, 70.94 27 P **P** **09 34 12.9 -0.3**
baz=284
K24K Donnelly Dome 70.96 28 P **P** **09 34 12.8 -0.5**
baz=284,SNR=9.2
G26K Porcupine Rive 70.99 24 P **P** **09 34 13.9 +0.6**
baz=285
P23K Montague Islan 71.13 32 P **P** **09 34 14.7 +0.4**
baz=284
M24K Tolsona, Glenn 71.19 30 P **P** **09 34 14.9 +0.2**
baz=284
PAX Paxson 71.30 29 P **P** **09 34 15.6 +0.2**
baz=284
D27M Malcolm River 71.40 22 P **P** **09 34 16.5 +0.6**
baz=286
KLU Klutina 71.46 30 P **P** **09 34 17.1 +0.6**
KLU IAmb IAmb 09 36 44.1
comp=Z,30nm,1.4s
KLU Klutina 71.46 30 P **P** **09 34 16.3 -0.1**
baz=284
E27K Coleen River 71.47 23 P **P** **09 34 16.6 +0.3**
E27K Coleen River 71.47 23 P **P** **09 34 16.2 -0.1**
baz=286
SIM Simferopol' 71.50 312 *e*P **P** **09 34 17.7 +0.9**
SIM *PP **pP** **09 34 20.0 -1.7**
SIM *e* 09 34 30.0
SIM pmax pmax
comp=Z,75nm,1.0s
SIM MLR MLR
comp=Z,90nm,19.4s
HARP HAARP 71.58 29 P **P** **09 34 17.4 +0.3**
baz=285
I26K Coal Creek Min 71.67 26 P **P** **09 34 17.4 -0.1**
I26K IAmb IAmb 09 34 18.4
comp=Z,15nm,1.1s
I26K Coal Creek Min 71.67 26 P **P** **09 34 17.0 -0.5**
baz=286
J26L Joseph Creek 71.72 27 P **P** **09 34 17.0 -0.9**
baz=286
EYAK Cordova Ski Ar 71.79 31 P **P** **09 34 17.7 -0.6**
baz=285
BNN Bunyan 71.83 305 P **P** **09 34 19.1 -0.1**
G27K Doyon Strip 71.84 24 P **P** **09 34 18.3 -0.2**
baz=286
FIA1 FINESS Array S 71.92 330 P **P** **09 34 19.3 +0.2**
FINES FINESS Array B 71.92 330 P **P** **09 34 19.1 0.0**
FINES FINESS Array B 71.92 330 *i*P **P** **09 34 19.5 +0.5**
FINES pmax pmax
comp=Z,18nm,0.8s
FINES FINESS Array B 71.92 330 P **P** **09 34 19.2 +0.2**
comp=Z,26nm,0.9s,baz=90,slow=8.4,SNR=25
FINES LR LR 10 07 51.6
comp=Z,153nm,18.8s,baz=56,slow=38
comp=Z,26nm,0.9s
N25K Chitina, Valde 72.05 30 P **P** **09 34 19.8 -0.2**
N25K IAmb IAmb 09 34 26.1
comp=Z,26nm,1.4s
N25K Chitina, Valde 72.05 30 P **P** **09 34 19.7 -0.2**
baz=286
H27K Steamboat Moun 72.05 25 P **P** **09 34 20.2 +0.3**
baz=287
MENT Mentasta 72.08 29 P **P** **09 34 20.1 +0.1**
MENT IAmb IAmb 09 34 21.6
comp=Z,18nm,1.2s
E28M Babbage River 72.08 22 P **P** **09 34 20.6 +0.7**
E28M Babbage River 72.08 22 P **P** **09 34 20.1 +0.2**
baz=288
D28M Stokes Point 72.13 22 P **P** **09 34 20.2 +0.1**
baz=288
I27K Kandik River 72.20 26 P **P** **09 34 21.0 +0.2**
baz=287
BMRM Bremner River 72.22 31 P **P** **09 34 20.8 -0.1**
baz=286
L26K Log Cabin Wild 72.22 28 P **P** **09 34 21.0 +0.1**
L26K Log Cabin Wild 72.22 28 P **P** **09 34 20.7 -0.1**
baz=286,SNR=7.2
F28M Old Crow 72.26 23 P **P** **09 34 21.3 +0.2**
F28M IAmb IAmb 09 34 22.6
comp=Z,18nm,1.1s
F28M Old Crow 72.26 23 P **P** **09 34 21.0 -0.1**
baz=288,SNR=22
KEF Keuruu 72.28 331 *e*P **P** **09 34 21.7 +0.5**
VSU Vasula 72.41 327 *d i*P **P** **09 34 22.6 +0.6**
VSU pmax pmax
comp=Z,98nm,1.3s
GLB Gilahina Butte 72.45 30 P **P** **09 34 20.5 -1.8**
GLB IAmb IAmb 09 34 28.2
comp=Z,17nm,1.2s
K27K Chicken 72.47 27 IAmb IAmb 09 34 28.0
comp=Z,17nm,1.0s
K27K Chicken 72.47 27 P **P** **09 34 22.5 +0.1**
baz=287
M26K Nabesna, AK 72.55 29 IAmb IAmb 09 34 24.8
comp=Z,23nm,1.1s
M26K Nabesna, AK 72.55 29 P **P** **09 34 22.8 -0.1**
baz=287
KAIM Kayak Island 72.59 32 P **P** **09 34 22.2 -0.9**
baz=286
EGAK Eagle 72.63 26 P **P** **09 34 22.6 -0.6**
EGAK Eagle 72.63 26 P **P** **09 34 22.6 -0.6**
baz=288,SNR=12
E29M Blow River 72.72 22 P **P** **09 34 23.4 -0.4**
baz=289
BERG Berg Lake 72.81 31 P **P** **09 34 24.1 -0.3**
MCARA McCarthy VSAT 72.83 30 P **P** **09 34 24.5 0.0**
baz=287
L27K Beaver Creek, 72.87 28 IAmb IAmb 09 34 26.8
comp=Z,21nm,1.1s
L27K Beaver Creek, 72.87 28 P **P** **09 34 25.0 +0.3**
baz=288,SNR=16
ASF Jabal al Asfar 72.88 298 P **P** **09 34 26.2 +0.8**
comp=Z,19nm,0.9s,baz=331,slow=0.7,SNR=17
ASF LR LR 10 10 33.2
comp=Z,81nm,18.8s,baz=52,slow=39
comp=Z,19nm,0.9s
MNK Minsk 72.88 322 *i*P **P** **09 34 22.3 -2.6**
MNK *i* 09 37 05.0
MNK *i* PPP PPP 09 38 48.3
MNK *i* S **S** **09 43 50.4 -0.3**
MNK *i* SS **SS** **09 48 32.0 +1.6**
MNK pmax pmax
comp=N,22nm,0.9s
MNK pmax pmax
comp=E,10.0nm,1.0s
MNK pmax pmax
comp=Z,55nm,0.9s
MNK MLR MLR
comp=E,49nm,11.0s
MNK MLR MLR
comp=N,156nm,14.0s
MNK MLR MLR
comp=Z,167nm,12.0s
I28M Miner Creek 72.92 26 IAmb IAmb 09 34 26.7
comp=Z,17nm,1.2s
I28M Miner Creek 72.92 26 P **P** **09 34 24.9 -0.2**
baz=288
VAF Ylistaro 73.00 332 *e*P **P** **09 34 25.5 +0.1**
MEF Metsahovi 73.06 329 *e*P **P** **09 34 26.7 +0.9**
M27K Edge Creek, AK 73.06 29 P **P** **09 34 25.8 -0.2**
baz=288
AKASG Malin Array Be 73.15 318 P **P** **09 34 26.7 +0.1**
AKASG IAmb IAmb 09 34 31.8
comp=Z,17nm,1.1s
AKASG Malin Array Be 73.15 318 *i*P **P** **09 34 26.2 -0.4**
AKASG pmax pmax
comp=Z,10.0nm,0.8s
AKASG Malin Array Be 73.15 318 P **P** **09 34 26.2 -0.4**
comp=Z,6.3nm,0.8s,baz=61,slow=5.8,SNR=23
comp=Z,6.3nm,0.8s
AKBB Malin Array Si 73.15 318 P **P** **09 34 26.1 -0.5**
AKBB IAmb IAmb 09 34 31.4
comp=Z,24nm,1.1s
AKBB Malin Array Si 73.15 318⇑ *e*P **P** **09 34 26.0 -0.5**
AKBB pmax pmax
comp=Z,26nm,1.0s
NOR Nord 73.16 354 *i*P **P** **09 34 24.4 -1.7**
NOR IAmb IAmb 09 34 31.0
comp=Z,12nm,1.1s
KIEV Kiev 73.17 318⇓P **P** **09 34 26.5 -0.1**
KIEV Kiev 73.17 318 P **P** **09 34 25.2 -1.4**
KIEV IAmb IAmb 09 34 31.4
comp=Z,21nm,1.1s
KIEV Kiev 73.17 318⇓P **P** **09 34 26.5 -0.1**
G29M Pine Creek 73.17 24 P **P** **09 34 26.6 +0.2**
G29M IAmb IAmb 09 34 27.8
comp=Z,25nm,1.1s
G29M Pine Creek 73.17 24 P **P** **09 34 26.1 -0.3**
baz=290
BR131 Keskin Array S 73.24 306 P **P** **09 34 27.8 +0.2**
BR131 IAmb IAmb 09 34 33.2
comp=Z,28nm,0.9s
BR131 Keskin Array S 73.24 306 *d*P **P** **09 34 28.0 +0.5**
BRTR Keskin Array B 73.24 306 *i*P **P** **09 34 28.3 +0.8**
BRTR pmax pmax
comp=Z,12nm,0.8s
BRTR Keskin Array B 73.24 306 P **P** **09 34 27.8 +0.2**
comp=Z,11nm,0.9s,baz=116,slow=5.6,SNR=27
BRTR LR LR 10 12 31.9
comp=Z,73nm,18.2s,baz=63,slow=41
comp=Z,11nm,0.9s
H29M Whitestone 73.27 25 IAmb IAmb 09 34 28.4
comp=Z,20nm,1.2s
H29M Whitestone 73.27 25 P **P** **09 34 27.0 -0.1**
baz=290
BVCY Beaver Creek 73.49 29 P **P** **09 34 27.9 -0.5**
baz=288
ISAL Salakas 73.55 324 *e*P **P** **09 34 30.3 +1.5**
DAWY Dawson 73.59 27 IAmb IAmb 09 34 34.5
comp=Z,15nm,1.0s
DAWY Dawson 73.59 27 P **P** **09 34 28.3 -0.6**
baz=289,SNR=16
MESA MESA 73.70 31 P **P** **09 34 29.5 -0.4**
baz=288
F30M Barrier River 73.74 23 P **P** **09 34 29.3 -0.4**
baz=291
CTG Chitna Glacier 73.74 30 P **P** **09 34 30.0 0.0**
baz=288
CTGM Chitina Glacie 73.74 30 IAmb IAmb 09 34 31.7
comp=Z,17nm,1.1s
G30M tAoh Zraii Nji 73.81 23 IAmb IAmb 09 34 35.2
comp=Z,28nm,1.1s
G30M tAoh Zraii Nji 73.81 23 P **P** **09 34 29.3 -0.9**
baz=291
ANTO Ankara 73.82 307 P **P** **09 34 31.6 +0.8**
ANTO Ankara 73.82 307 P **P** **09 34 31.6 +0.8**
ANTO pmax pmax
comp=Z,40nm,0.9s
ANTO Ankara 73.82 307 P **P** **09 34 31.8 +0.9**
MMAI Mount Meron Ar 73.83 299 P **P** **09 34 31.8 +0.8**
comp=Z,9.5nm,0.8s,baz=91,slow=5.8,SNR=7.2
MMAI LR LR 10 11 03.7
comp=Z,60nm,21.6s,baz=96,slow=39
comp=Z,9.5nm,0.8s
EPYK Eagle Plains 73.85 24 P **P** **09 34 30.4 0.0**
EPYK IAmb IAmb 09 34 31.1
comp=Z,17nm,1.1s
EPYK Eagle Plains 73.85 24 P **P** **09 34 29.9 -0.6**
baz=291,SNR=13
YUK3 Moose Creek 73.88 29 P **P** **09 34 30.1 -0.9**
baz=289
J29N Klondike Camp 73.94 26 IAmb IAmb 09 34 36.8
comp=Z,13nm,0.8s
J29N Klondike Camp 73.94 26 P **P** **09 34 30.7 -0.3**
baz=290
LOGN Logan Glacier 73.94 30 IAmb IAmb 09 34 36.9
comp=Z,23nm,1.2s
RAF Rauma 74.04 330 *e*P **P** **09 34 32.5 +0.9**
INK Inuvik 74.26 22 P **P** **09 34 32.0 -0.7**
INK IAmb IAmb 09 34 37.5
comp=Z,17nm,1.1s
INK Inuvik 74.26 22 P **P** **09 34 32.0 -0.7**
INK pmax pmax
comp=Z,17nm,1.1s
INK Inuvik 74.26 22 P **P** **09 34 32.2 -0.5**
baz=293,SNR=15
INK Inuvik 74.26 22 LR LR 10 11 32.6
comp=Z,123nm,18.8s,baz=350,slow=39
YUK8 Steele Glacier 74.36 30 P **P** **09 34 33.4 -0.4**
baz=290
I30M Mount Dempster 74.40 25 P **P** **09 34 34.0 +0.2**
I30M IAmb IAmb 09 34 34.9
comp=Z,23nm,1.2s
I30M Mount Dempster 74.40 25 P **P** **09 34 33.5 -0.3**
baz=292
K29M Barlow Dome 74.44 27 IAmb IAmb 09 34 35.6
comp=Z,20nm,1.2s
K29M Barlow Dome 74.44 27 P **P** **09 34 34.3 +0.3**
baz=291
SORM Soroca 74.44 316⇓P **P** **09 34 34.2 0.0**
SORM Soroca 74.44 316⇓P **P** **09 34 34.2 0.0**
L29M L29M 74.44 28 IAmb IAmb 09 34 36.7
comp=Z,28nm,1.2s
L29M L29M 74.44 28 P **P** **09 34 33.7 -0.3**
baz=291
MILM Milestii Mici 74.51 315⇑ *i*P **P** **09 34 34.0 -0.6**
comp=Z,35nm,1.3s
MILM Milestii Mici 74.51 315 *c i*P **P** **09 34 34.0 -0.6**
MILM pmax pmax
comp=Z,35nm,1.3s
F31M Tsiigehtchic 74.53 23 IAmb IAmb 09 34 38.9
comp=Z,15nm,0.8s
F31M Tsiigehtchic 74.53 23 P **P** **09 34 33.5 -0.8**
baz=293,SNR=14
M29M Somme Creek 74.54 28 P **P** **09 34 35.0 +0.4**
baz=290
G31M Satah River 74.54 23 P **P** **09 34 33.7 -0.8**
G31M Satah River 74.54 23 P **P** **09 34 33.6 -0.8**
baz=293,SNR=10
J30M Hart River 74.66 26 P **P** **09 34 34.7 -0.6**
baz=292
PABE Paberze 74.73 324 P **P** **09 34 36.0 +0.3**
PABE Paberze 74.73 324 *e*P **P** **09 34 36.5 +0.8**
YUK4 Talbot Arm 74.84 29 P **P** **09 34 36.2 -0.4**
baz=291
CSS Mathiatis 74.88 302 P **P** **09 34 37.5 +0.4**
H31M Peel River 74.96 24 IAmb IAmb 09 34 37.5
comp=Z,18nm,1.1s
H31M Peel River 74.96 24 P **P** **09 34 36.0 -0.9**
baz=293
TLCR 75.04 313⇑P **P** **09 34 37.5 -0.2**
TLCR 75.04 313⇑P **P** **09 34 37.5 -0.2**
PNL Peninsula 75.08 31 P **P** **09 34 37.6 -0.1**
baz=290
YUK6 Outpost Mounta 75.11 30 P **P** **09 34 37.9 -0.3**
baz=291
A36M Sachs Harbour 75.14 17 P **P** **09 34 37.3 -0.4**
A36M Sachs Harbour 75.14 17 P **P** **09 34 37.4 -0.4**
baz=300,SNR=16
MAYO Mayo, Yukon 75.20 27 IAmb IAmb 09 34 44.3
comp=Z,25nm,0.9s
MAYO Mayo, Yukon 75.20 27 P **P** **09 34 39.0 +0.6**
baz=292
M30M Minto, Yukon 75.21 28 P **P** **09 34 38.6 +0.1**
M30M IAmb IAmb 09 34 41.0
comp=Z,21nm,1.1s
M30M Minto, Yukon 75.21 28 P **P** **09 34 39.1 +0.7**
baz=292,SNR=16

EIL	Elat	75.23	296		LR		LR	10 11 28.9	
	comp=Z,54nm,21.2s,baz=66,slow=39								
O29M	Mount Kennedy	75.25	30		P		P	09 34 38.7	-0.1
	baz=291								
TPGR	Topolog	75.41	313	⇑	P		P	09 34 39.9	0.0
CFR	Carcaliu	75.50	313	⇑	P		P	09 34 40.3	0.0
CFR	Carcaliu	75.50	313	⇑	P		P	09 34 40.3	0.0
N30M	Aishikik Lake	75.50	29		IAmb		IAmb	09 34 42.2	
	comp=Z,20nm,1.1s								
N30M	Aishikik Lake	75.50	29		P		P	09 34 40.6	+0.4
	baz=292								
TIRR	Tirgusor	75.54	312	⇑	P		P	09 34 40.7	+0.1
TIRR	Tirgusor	75.54	312	⇑	P		P	09 34 40.7	+0.1
HYT	Haines Junctio	75.55	30		IAmb		IAmb	09 34 42.4	
	comp=Z,20nm,1.1s								
HYT	Haines Junctio	75.55	30		P		P	09 34 40.6	+0.1
	baz=292,SNR=7.1								
SUW	Suwalki	75.66	323		eP		P	09 34 41.7	+0.6
SUW					epP		pP	09 34 45.5	-0.5
SUW	Suwalki	75.66	323		eP		P	09 34 42.0	+0.9
HARR	Harsova	75.79	313	⇓	P		P	09 34 43.2	+1.2
HARR	Harsova	75.79	313	⇓	P		P	09 34 43.2	+1.2
EUNU	Eureka	75.83	5		P		P	09 34 40.9	-0.8
P29M	Windy Craggy	75.88	31		IAmb		IAmb	09 34 44.9	
	comp=Z,21nm,1.1s								
P29M	Windy Craggy	75.88	31		P		P	09 34 42.3	0.0
	baz=292								
TESR	Tescani	76.05	315	⇓	P		P	09 34 44.2	+0.7
ICOR	Ion Corvin	76.06	312	⇓	P		P	09 34 45.0	+1.4
P30M	Million Dollar	76.06	30		P		P	09 34 42.8	-0.6
	baz=292								
ISP	Isparta	76.14	305	⇓	eP		P	09 34 44.2	-0.1
ISP					pmax		pmax		
	comp=Z,77nm,1.5s								
O30N	Mendenhall	76.21	29		IAmb		IAmb	09 34 46.0	
	comp=Z,17nm,1.1s								
O30N	Mendenhall	76.21	29		P		P	09 34 44.3	+0.1
	baz=293,SNR=6.4								
VRI	Vrincioaia	76.21	314	⇑	P		P	09 34 46.4	+1.9
VRI	Vrincioaia	76.21	314	⇑	P		P	09 34 46.4	+1.9
PLOR	Plostina	76.27	314	⇑	P		P	09 34 45.7	+0.9
PLOR	Plostina	76.27	314	⇑	P		P	09 34 45.7	+0.9
BISRR	Bisoca	76.33	314	⇓	P		P	09 34 47.0	+1.8
UPP	Uppsala	76.38	330		eP		P	09 34 46.4	+1.3
M31M	Drury Creek, Y	76.39	28		P		P	09 34 45.5	+0.3
	baz=294,SNR=6.7								
PLBC	Pleasant Camp	76.60	31		P		P	09 34 46.4	0.0
	baz=293								
BURAR	Bucovina Array	76.61	316	⇓	P		P	09 34 47.5	+0.7
BURAR	Bucovina Array	76.61	316		P		P	09 34 47.3	+0.5
BURAR					IAmb		IAmb	09 34 52.9	
	comp=Z,22nm,1.1s								
BURAR	Bucovina Array	76.61	316	⇓	P		P	09 34 47.5	+0.7
BUR08	Bucovina Ar. S	76.61	316		P		P	09 34 47.2	+0.4
BUR08					IAmb		IAmb	09 34 52.6	
	comp=Z,19nm,1.1s								
TURR	Turia	76.62	314	⇑	P		P	09 34 48.0	+1.2
NEHR	Nehoiu	76.64	314	⇓	P		P	09 34 48.5	+1.6
OZUR		76.75	315	⇑	P		P	09 34 48.6	+1.1
WHY	Whitehorse	76.80	29		IAmb		IAmb	09 34 49.4	
	comp=Z,21nm,1.2s								
WHY	Whitehorse	76.80	29		P		P	09 34 47.8	+0.2
	baz=294,SNR=5.5								
FARO	Faro, Yukon	76.82	28		P		P	09 34 47.1	-0.5
FARO					IAmb		IAmb	09 34 49.5	
	comp=Z,17nm,1.1s								
FARO	Faro, Yukon	76.82	28		P		P	09 34 47.5	-0.1
	baz=295,SNR=13								
C36M	Paulatuk	76.83	19		P		P	09 34 46.7	-0.7
C36M					IAmb		IAmb	09 34 47.9	
	comp=Z,29nm,1.2s								
C36M	Paulatuk	76.83	19		P		P	09 34 46.8	-0.7
	baz=301,SNR=19								
MLR	Muntele Rosu	76.86	314	⇑	P		P	09 34 46.7	-1.6
MLR	Muntele Rosu	76.86	314		P		P	09 34 47.9	-0.4
MLR	Muntele Rosu	76.86	314	⇑	P		P	09 34 46.7	-1.6
MLR	Muntele Rosu	76.86	314		LR		LR	10 10 54.1	
	comp=Z,203nm,19.8s,baz=53,slow=37								
ELL	Elmali	76.95	304		P		P	09 34 49.1	+0.2
ELL	Elmali	76.95	304		P		P	09 34 49.1	+0.2
ELL					pmax		pmax		
	comp=Z,188nm,0.9s								
DOPR	Dopca	77.06	315	⇓	P		P	09 34 50.5	+1.2
KLNR	Kaliningrad	77.08	324		iP		P	09 34 49.7	+0.6
SKAG	Skagway	77.08	31		IAmb		IAmb	09 34 51.0	
	comp=Z,26nm,1.0s								
SKAG	Skagway	77.08	31		P		P	09 34 49.5	+0.5
	baz=294,SNR=6.6								
RAZG	Razgrad	77.13	312	⇓	P		P	09 34 50.8	+1.1
DAG	Danmarks Havn	77.16	351		iP		P	09 34 47.9	-1.3
DAG					IAmb		IAmb	09 34 49.9	
	comp=Z,26nm,1.3s								
S31K	Pelican	77.25	32		P		P	09 34 50.2	+0.2
	baz=293								
ARCR	ARCALIA	77.34	316	⇓	P		P	09 34 51.4	+0.6
VIKU	Vikbolandet	77.35	329		eP		P	09 34 51.8	+1.2
N32M	Quiet Lake	77.39	28		IAmb		IAmb	09 34 52.9	
	comp=Z,27nm,1.2s								
N32M	Quiet Lake	77.39	28		P		P	09 34 50.8	0.0
	baz=295								
KWP	Kalwaria Pacla	77.47	319		eP		P	09 34 52.4	+0.9
VOIR		77.47	314	⇓	P		P	09 34 49.3	-2.3
VOIR		77.47	314	⇓	P		P	09 34 49.3	-2.3
BMR	Baia Mare	77.68	317	⇑	P		P	09 34 54.5	+1.8
BMR	Baia Mare	77.68	317	⇑	P		P	09 34 54.5	+1.8
ARR	Arges	77.76	314	⇓	P		P	09 34 55.1	+1.9
P32M	Atlin	77.78	30		P		P	09 34 53.2	+0.2
	baz=295								
P33M	Teslin, Yukon	77.92	29		IAmb		IAmb	09 34 55.4	
	comp=Z,18nm,1.1s								
P33M	Teslin, Yukon	77.92	29		P		P	09 34 54.0	+0.1
	baz=296,SNR=9.3								
CJR	Cluj-Napoca	77.96	316	⇑	P		P	09 34 54.6	+0.3
CJR	Cluj-Napoca	77.96	316	⇑	P		P	09 34 54.6	+0.3
KOLS	Kolonicke sedl	77.98	318		eP		P	09 34 55.1	+0.7
KOLS					pmax		pmax		
	comp=Z,6.0nm,1.0s								
KOLS	Kolonicke sedl	77.98	318		eP		P	09 34 55.1	+0.7
JIS	Juneau Island	78.02	31		P		P	09 34 53.9	-0.4
JIS					IAmb		IAmb	09 34 56.4	
	comp=Z,27nm,1.1s								
HFS	Hagfors	78.06	331		P		P	09 34 54.3	-0.2
	comp=Z,6.1nm,0.8s,baz=110,slow=3.5,SNR=6.8								
HFS					LR		LR	10 11 31.3	
	comp=Z,214nm,21.2s,baz=60,slow=37								
	comp=Z,6.1nm,0.8s								
SIT	Sitka	78.07	33		P		P	09 34 55.3	+0.7
	baz=294								
S32K	Killisnoo	78.26	32		P		P	09 34 55.7	0.0
	baz=295								
MARR	Marisel-Cluj	78.28	316	⇑	P		P	09 34 57.1	+1.0
LOT	Lotru	78.30	314	⇑	P		P	09 34 56.9	+0.6
STHS	Stebnicka Huta	78.43	319		eP		P	09 34 57.1	+0.2
STHS	Stebnicka Huta	78.43	319		eP		P	09 34 57.0	+0.2
NC405	NORSAR Array S	78.49	332		P		P	09 34 55.5	-1.5
NC405					IAmb		IAmb	09 35 02.0	
	comp=Z,42nm,1.4s								
CRVS	Cervenica-Dubn	78.49	318		eP		P	09 34 58.2	+1.0
CRVS					pmax		pmax		
	comp=Z,111nm,2.4s								
CRVS	Cervenica-Dubn	78.49	318		eP		P	09 34 58.2	+1.0
RDO	Rodhopi	78.64	310		P		P	09 34 58.5	+0.4
RDO					IAmb		IAmb	09 35 03.5	
	comp=Z,28nm,1.0s								
Q32M	Nakina River	78.72	30		IAmb		IAmb	09 35 14.4	
	comp=Z,56nm,2.0s								
Q32M	Nakina River	78.72	30		P		P	09 34 58.5	+0.1
	baz=296								
NB2	NORSAR Subarra	78.74	332		P		P	09 34 58.0	-0.4
	comp=Z,1.8nm,0.7s,baz=60,slow=5.6								
NOA	NORSAR Array B	78.74	332		P		P	09 34 57.9	-0.4
	comp=Z,5.6nm,0.9s,baz=61,slow=5.5,SNR=9.3								
NOA					LR		LR	10 13 06.9	
	comp=Z,222nm,18.6s,baz=45,slow=38								
	comp=Z,5.6nm,0.9s								
GZR	Gura Zlata	78.97	315	⇑	P		P	09 34 58.7	-1.3
GZR	Gura Zlata	78.97	315	⇑	P		P	09 34 58.7	-1.3
NIE	Niedzica	79.00	319		eP		P	09 35 01.9	+1.9
R33M	Jennings River	79.12	30		P		P	09 35 00.8	+0.2
	baz=297								
KECS	Kecovo	79.25	318		eP		P	09 35 02.7	+1.4
KECS	Kecovo	79.25	318		eP		P	09 35 02.7	+1.4
SURR	Surduc	79.26	315	⇑	P		P	09 35 02.0	+0.5
TGTN	Hyland Airport	79.28	27		P		P	09 35 01.5	+0.1
	baz=299,SNR=13								
NEEM	North Greenlan	79.36	358		iP		P	09 35 01.7	-0.1
NEEM					IAmb		IAmb	09 35 07.2	
	comp=Z,57nm,1.1s								
SIRR	Siria	79.37	316	⇑	P		P	09 35 00.0	-2.0
DBG	Daneborg	79.37	350		iP		P	09 35 00.9	-0.6
DBG					IAmb		IAmb	09 35 02.6	
	comp=Z,37nm,1.2s								
HERR	Herculane	79.40	314	⇓	P		P	09 35 02.8	+0.5
KARP	Karpathos	79.45	304		P		P	09 35 02.9	+0.2
JMIC	Jan Mayen	79.54	345		LR		LR	10 13 38.7	
	comp=Z,106nm,18.9s,baz=32,slow=38								
U33K	Whale Pass	79.57	33		P		P	09 35 02.8	0.0
	baz=296								
RES	Resolute Bay	79.63	9		P		P	09 35 03.1	+0.2
RES					IAmb		IAmb	09 35 04.0	
	comp=Z,36nm,1.3s								
RES	Resolute Bay	79.63	9		P		P	09 35 03.1	+0.2
RES					pmax		pmax		
	comp=Z,36nm,1.3s								
RES	Resolute Bay	79.63	9		LR		LR	10 14 32.6	
	comp=Z,70nm,20.0s,baz=359,slow=39								
BZS	Buzias	79.64	315	⇓	P		P	09 35 03.8	+0.3
BZS	Buzias	79.64	315	⇓	P		P	09 35 03.8	+0.3
S34M	Telegraph Cree	79.73	31		P		P	09 35 03.1	-0.6
	baz=298								
WTLY	Watson Lake, Y	79.75	28		IAmb		IAmb	09 35 05.7	
	comp=Z,24nm,1.1s								
WTLY	Watson Lake, Y	79.75	28		P		P	09 35 03.8	-0.1
	baz=299,SNR=18								
CRAG	Craig	79.86	34		P		P	09 35 04.4	0.0
	baz=296								
MDVR	Moldovita	79.90	314	⇓	P		P	09 35 05.8	+0.8
DLBC	Dease Lake	80.00	30		P		P	09 35 05.8	+0.5
DLBC	Dease Lake	80.00	30		P		P	09 35 05.4	+0.1
	baz=298								
DLBC	Dease Lake	80.00	30		LR		LR	10 13 31.7	
	comp=Z,57nm,18.9s,baz=302,slow=38								
VYHS	Vyhne	80.25	319		eP		P	09 35 07.8	+1.0
VYHS					pmax		pmax		
	comp=Z,39nm,1.2s								
VYHS	Vyhne	80.25	319		eP		P	09 35 07.8	+1.0
WRGLY	Wrigley	80.32	24		IAmb		IAmb	09 35 08.0	
	comp=Z,22nm,1.0s								
WRGLY	Wrigley	80.32	24		P		P	09 35 07.2	+0.4
	baz=303,SNR=13								
MORC	Moravsky Berou	80.50	320	⇓	P		P	09 35 09.3	+1.2
MORC	Moravsky Berou	80.50	320		P		P	09 35 06.9	-1.2
MORC					IAmb		IAmb	09 35 14.2	
	comp=Z,20nm,1.1s								
MORC	Moravsky Berou	80.50	320		eP		P	09 35 09.0	+0.9
MORC	Moravsky Berou	80.50	320	⇓	P		P	09 35 09.3	+1.2
MAUC	Maruska	80.50	320		eP		P	09 35 09.0	+0.9
T35M	Bob Quinn	80.59	32		P		P	09 35 09.0	+0.6
	baz=298								
JAVC	Velka Javorina	80.81	319		eP		P	09 35 11.6	+1.8
URZ	Urewera	81.00	138		LR		LR	10 09 58.8	
	comp=Z,76nm,19.2s,baz=301,slow=35								
MODS	Modra-Piesok	81.25	319		eP		P	09 35 13.4	+1.3
MODS					pmax		pmax		
	comp=Z,44nm,1.4s								
MODS	Modra-Piesok	81.25	319		eP		P	09 35 13.4	+1.3
VRAC	Vranov	81.26	320	⇓	P		P	09 35 11.6	-0.6
VRAC	Vranov	81.26	320		eP		P	09 35 13.5	+1.4
VRAC					e			09 35 17.5	
VRAC	Vranov	81.26	320	⇓	P		P	09 35 11.6	-0.6
KRUC	Moravsky	81.48	320		eP		P	09 35 14.3	+1.0
KRUC					e			09 35 18.0	
AGG	Agios Georgios	81.72	309		P		P	09 35 14.2	-0.7
AGG					IAmb		IAmb	09 35 18.5	
	comp=Z,21nm,1.0s								
AGG	Agios Georgios	81.72	309		P		P	09 35 14.2	-0.7
AGG					pmax		pmax		
	comp=Z,21nm,1.0s								
KOTAN	Kotaneelee Air	81.78	27		P		P	09 35 15.2	+0.5
	baz=303								
FLDN	Fort Liard	81.96	27		IAmb		IAmb	09 35 21.5	
	comp=Z,17nm,1.0s								
FLDN	Fort Liard	81.96	27		P		P	09 35 16.3	+0.8
	baz=303								
BRG	Berggiesshubel	82.09	322		eP		P	09 35 17.7	+1.2
BRG					pmax		pmax		
	comp=Z,12nm,1.3s								
BRG	Berggiesshubel	82.09	322		eP		P	09 35 17.7	+1.2
BRG					Amp			09 35 24.3	
	comp=Z,12nm,1.3s								
BRG					Amp			10 16 54.0	
	comp=Z,0.3nm,16.5s								
RONA	Rosalia, Austr	82.13	319		eP		P	09 35 17.7	+0.9
	comp=Z,12nm,1.2s								
PRU	Pruhonice	82.15	321		eP		P	09 35 22.4	+5.6
PRU	Pruhonice	82.15	321		epP		pP	09 35 22.4	+0.6
CONA	Conrad Observa	82.30	319		epP		P	09 35 19.2	+1.5
	comp=Z,19nm,1.3s								
CLL	Collm	82.42	323		P		P	09 35 17.4	-0.8
CLL					IAmb		IAmb	09 35 24.7	
	comp=Z,52nm,1.9s								
CLL	Collm	82.42	323		iP		P	09 35 18.2	0.0
CLL					i			09 35 22.5	
CLL					pmax		pmax		
	comp=Z,31nm,1.6s								
ARSA	Arzberg	82.80	318		eP		P	09 35 21.2	+0.8
	comp=Z,10nm,1.1s								
CKRC	Cesky Krumlov	82.82	320		eP		P	09 35 26.0	+5.6
CKRC	Cesky Krumlov	82.82	320		eP		P	09 35 26.0	+5.6
ABPO	Ambohimpanom	82.98	246		P		P	09 35 21.5	-0.3
ABPO					IAmb		IAmb	09 35 23.9	
	comp=Z,19nm,1.0s								
ABPO	Ambohimpanom	82.98	246		P		P	09 35 21.5	-0.3
ABPO					pmax		pmax		
	comp=Z,19nm,1.0s								
KHC	Kasperske Hory	83.10	321		P		P	09 35 21.8	-0.1
KHC					IAmb		IAmb	09 35 28.0	
	comp=Z,19nm,1.3s								
KHC	Kasperske Hory	83.10	321		eP		P	09 35 22.2	+0.3
KHC	Kasperske Hory	83.10	321		eP		P	09 35 22.0	+0.1
KHC					epP		pP	09 35 27.3	+0.5
GEC2	GERESS Array S	83.16	320		IAmb		IAmb	09 35 28.2	
	comp=Z,20nm,1.1s								
GERES	GERESS Array B	83.16	320		P		P	09 35 22.6	+0.3
GERES	GERESS Array B	83.16	320		P		P	09 35 22.6	+0.3
GERES	GERESS Array B	83.16	320		P		P	09 35 22.2	0.0
	comp=Z,3.9nm,0.9s,baz=35,slow=7.2,SNR=13								
	comp=Z,3.9nm,0.9s								
MOA	Molln	83.29	319		eP		P	09 35 24.1	+1.2
	comp=Z,22nm,1.3s								
SUMG	Summit	83.32	354		P		P	09 35 23.0	0.0
SUMG	Summit	83.32	354		P		P	09 35 23.0	0.0
SUMG					pmax		pmax		
	comp=Z,24nm,0.8s								
SUMG	Summit	83.32	354		iP		P	09 35 22.0	-1.0
SUMG					IAmb		IAmb	09 35 24.3	
	comp=Z,26nm,1.0s								
SOKA	Soboth	83.36	318		eP		P	09 35 24.1	+0.8
	comp=Z,20nm,1.7s								
OBKA	Obir	83.73	318		iP		P	09 35 26.0	+0.8
	comp=Z,17nm,1.3s								
BIOA	Bad Ischl, Aus	83.74	319		iP		P	09 35 25.5	+0.3
	comp=Z,19nm,1.2s								
YKA	Yellowknife Ar	84.01	23		P		P	09 35 25.5	-0.7
YKA	Yellowknife Ar	84.01	23		P		P	09 35 25.5	-0.7
YKA	Yellowknife Ar	84.01	23		P		P	09 35 25.6	-0.5
	comp=Z,9.5nm,0.9s,baz=317,slow=5.0,SNR=100								
YKA					LR		LR	10 15 25.2	
	comp=Z,87nm,19.0s,baz=307,slow=38								
	comp=Z,9.5nm,0.9s								
KIBK	Kibwezi	84.05	265		P		P	09 35 26.3	-1.0
KIBK					IAmb		IAmb	09 35 34.5	
	comp=Z,25nm,1.6s								
KIBK	Kibwezi	84.05	265		P		P	09 35 29.2	+1.8
UPNV	Upernavik	84.15	359		iP		P	09 35 27.0	+0.3
UPNV					IAmb		IAmb	09 35 32.2	
	comp=Z,21nm,1.1s								
GRF	Grafenberg Arr	84.19	322		eP		P	09 35 28.3	+0.9
	comp=Z,20nm,1.0s,baz=66,slow=4.9								
GRF					epP		pP	09 35 32.6	+0.3
KBA	Koelnbreinsper	84.20	319		iP		P	09 35 28.1	+0.4
	comp=Z,17nm,1.2s								
MYKA	Terra Mystica	84.23	318		eP		P	09 35 27.2	-0.5
	comp=Z,13nm,1.3s								
LESA	Schwarzleotal	84.44	320		iP		P	09 35 29.4	+0.6
	comp=Z,32nm,1.1s								
VOI	Vohitsoka	84.67	244		P		P	09 35 29.3	-1.0
ABTA	Abfaltersbach	84.86	319		iP		P	09 35 30.7	-0.3
	comp=Z,20nm,1.1s								
WATA	Walderalm	85.14	320		iP		P	09 35 32.7	+0.3
	comp=Z,14nm,0.9s								
WTTA	Wattenberg	85.14	320		iP		P	09 35 32.2	-0.2
	comp=Z,16nm,0.9s								
NUUG	Nuugaatsiaq	85.33	358		iP		P	09 35 29.3	-3.3
NUUG					IAmb		IAmb	09 35 34.3	
	comp=Z,13nm,0.9s								
SQTA	Sankt Quirin	85.41	320		iP		P	09 35 34.1	+0.3
	comp=Z,23nm,1.4s								
MOTA	Moosalm	85.41	320		iPcP		P	09 35 34.5	+0.7
	comp=Z,15nm,1.2s								
RETA	Reutte	85.54	320		iPcP		P	09 35 35.3	+1.0
	comp=Z,10.0nm,1.3s								
TIP	Timpagrande	85.59	311	⇓	P		P	09 35 33.0	-1.8
HILA	High Level	85.62	26		P		P	09 35 34.6	+0.3
CTI	Castel Tesino	85.72	319		P		P	09 35 35.7	+0.4
CTI	Castel Tesino	85.72	319		P		P	09 35 35.7	+0.4
CTI					pmax		pmax		
	comp=Z,37nm,1.5s								
FETA	Feichten	85.79	320		iPcP		P	09 35 36.1	+0.4
	comp=Z,22nm,1.3s								
GUMA	Gualdo di Mace	86.10	315		IAmb		IAmb	09 35 43.5	
	comp=Z,73nm,1.2s								
FUORN	Ofenpass-Fuorn	86.27	320		P		P	09 35 36.8	-1.4
FUORN					IAmb		IAmb	09 35 44.1	
	comp=Z,15nm,1.0s								
CAMP	Campotosto	86.31	315		P		P	09 35 37.6	-0.7
DAVOX	Davos/Dischmat	86.42	320		LR		LR	10 17 03.4	
	comp=Z,146nm,19.6s,baz=78,slow=38								
CEL	Celeste	86.61	310		P		P	09 35 37.1	-2.6
CBB	Campbell River	86.64	36		IAmb		IAmb	09 35 41.6	
	comp=Z,16nm,1.1s								
ICESG	Greenland Ices	86.77	353		iP		P	09 35 38.9	-1.4
ICESG					IAmb		IAmb	09 35 45.9	
	comp=Z,53nm,1.3s								
TUE	Stuetta	86.89	320		P		P	09 35 40.0	-1.2
TUE					IAmb		IAmb	09 35 46.9	
	comp=Z,22nm,1.4s								
ILULI	Ilulissat	87.56	357		P		P	09 35 43.7	0.0
ILULI	Ilulissat	87.56	357		P		P	09 35 43.7	0.0
ILULI					pmax		pmax		
	comp=Z,40nm,1.2s								
EKA	Eskdalemuir Ar	88.22	332		P		P	09 35 48.9	+1.8
	comp=Z,1.3nm,0.6s,baz=54,slow=2.2,SNR=4.5								
	comp=Z,1.3nm,0.6s								
BRLDA	Berland Lookou	88.26	30		P		P	09 35 48.0	+0.5
RAR	Rarotonga	89.29	113		LR		LR	10 12 31.7	
	comp=Z,32nm,20.6s,baz=266,slow=33								
GNW	Green Mountain	89.41	37		IAmb		IAmb	09 35 55.1	
	comp=Z,17nm,1.1s								
E03A	Lebam	89.57	38		P		P	09 35 53.8	+0.2
SFJD	Kangerlussuaq	89.75	357		P		P	09 35 53.7	-0.3
SFJD	Kangerlussuaq	89.75	357		P		P	09 35 53.7	-0.3
SFJD					pmax		pmax		
	comp=Z,67nm,1.7s								
SFJD	Kangerlussuaq	89.75	357		iP		P	09 35 53.2	-0.8
SFJD	Kangerlussuaq	89.75	357		LR		LR	10 17 00.3	
	comp=Z,106nm,18.9s,baz=358,slow=36								
F03A	Seaside	89.92	39		P		P	09 35 55.3	0.0
DY2G	Dye2	89.96	355		iP		P	09 35 54.3	-1.0
DY2G					IAmb		IAmb	09 36 00.8	
	comp=Z,31nm,0.7s								
D05A	Enumclaw	90.09	37		P		P	09 35 55.2	-0.8
LON	Longmire	90.44	38		IAmb		IAmb	09 36 00.0	
	comp=Z,14nm,1.2s								
F04A	Amboy	90.57	38		P		P	09 35 58.9	+0.6
EDM	Edmonton	90.66	29		P		P	09 35 59.2	+0.5
EDM	Edmonton	90.66	29		P		P	09 35 59.2	+0.5
EDM					pmax		pmax		
	comp=Z,42nm,1.0s								
LTY	Liberty	90.78	37		P		P	09 35 59.6	+0.2
LTY					IAmb		IAmb	09 36 04.9	
	comp=Z,14nm,1.1s								
H04D	Lebanon	91.19	40		P		P	09 36 02.1	+0.8
BUCK	Buck Mountain	91.23	40		P		P	09 36 02.0	+0.4
MXC	Moxie City	91.39	37		P		P	09 36 00.6	-1.6
H04A	Detroit Lake	91.42	39		IAmb		IAmb	09 36 03.9	
	comp=Z,19nm,1.3s								
I04A	Tendick Farm,	91.80	40		P		P	09 36 04.6	+0.5
D08A	Wollman Farm,	91.85	36		P		P	09 36 04.3	0.0
D08A					IAmb		IAmb	09 36 06.0	
	comp=Z,10nm,1.1s								
G06A	Carlson Farm,	91.99	38		P		P	09 36 05.5	+0.4
G06A					IAmb		IAmb	09 36 07.1	
	comp=Z,14nm,1.2s								
F07A	Phinny Hill Vi	92.00	37		P		P	09 36 05.3	+0.4
NEW	Newport	92.06	34		P		P	09 36 04.6	-0.6
NEW					IAmb		IAmb	09 36 06.9	
	comp=Z,13nm,1.1s								
NEW	Newport	92.06	34		P		P	09 36 04.

comp=Z,7.0nm,1.2s
CMB Columbia Colle 96.39 44 IAmb IAmb 09 36 30.1
comp=Z,9.5nm,1.3s
HLID Hailey 96.52 37 IAmb IAmb 09 36 32.0
comp=Z,6.3nm,1.2s
HLID Hailey 96.52 37 P **P** **09 36 25.7 -0.3**
baz=311
YERR Yerington 96.55 43 IAmb IAmb 09 36 27.3
comp=Z,14nm,1.6s
BOZ Bozeman (W) 96.65 34 P **P** **09 36 26.5 0.0**
baz=313
PPT Papeete 96.65 106 LR LR 10 15 10.8
comp=Z,44nm,18.4s,baz=298,slow=32
KVN Kaiserville 97.22 42 IAmb IAmb 09 36 35.3
comp=Z,15nm,1.8s
NVAR Mina Array Bea 97.47 43 P **P** **09 36 30.3 -0.2**
comp=Z,0.6nm,0.8s,baz=264,slow=3.0,SNR=6.8
NVAR LR LR 10 17 16.0
comp=Z,35nm,21.1s,baz=150,slow=34
comp=Z,0.6nm,0.8s
ELK Elko 97.88 39 LR LR 10 20 50.7
comp=Z,35nm,18.9s,baz=317,slow=36
LSZ Lusaka 98.03 257 P **P** **09 36 32.5 -0.7**
LSZ Lusaka 98.03 257 P **P** **09 36 32.5 -0.7**
LSZ pmax pmax
comp=Z,17nm,1.3s
LSZ Lusaka 98.03 257 LR LR 10 22 34.3
comp=Z,88nm,18.0s,baz=128,slow=36
LAO LASA Array 98.53 30 P **P** **09 36 34.4 -0.4**
baz=317
VES Vestal, Richgr 98.53 45 P **P** **09 36 34.6 -0.3**
baz=307
ESDC Sonseca Array 98.75 320 LR LR 10 25 04.4
comp=Z,66nm,18.6s,baz=19,slow=38
CWC Cottonwood Cre 98.82 44 P **P** **09 36 36.2 -0.3**
baz=308
R11B Troy Canyon, C 99.20 41 P **Pdif** **09 36 37.6 -0.5**
baz=309
SCZ2 Santa Cruz Isl 99.26 47 P **Pdif** **09 36 38.2 -0.1**
baz=306
MPMC Manual Prospec 99.43 44 P **Pdif** **09 36 39.0 -0.2**
baz=308
FURC Furnace Creek, 99.58 44 P **Pdif** **09 36 40.3 +0.7**
baz=308
ULM Lac du Bonnet 99.99 23 LR LR 10 29 18.4
comp=Z,56nm,18.3s,baz=26,slow=40
GSC Goldstone, Bar 100.33 44 P **Pdif** **09 36 43.3 +0.1**
baz=308
TPFO Pinon Flats 101.61 46 P **Pdif** **09 36 48.9 +0.1**
baz=308
O20A White River Ci 102.23 36 P **Pdif** **09 36 51.3 -0.3**
baz=315
BCIP Isla Barro Col 142.07 34 PKPdf **PKPdf** **09 42 28.0 -1.1**
BCIP Isla Barro Col 142.07 34 PKIKP **PKPdf** **09 42 28.0 -1.1**
ILAM Ilet Lapin Mar 142.14 2 PKPdf **PKPdf** **09 42 28.6 -0.5**
BAUV El Baul 146.88 16 PKPbc **PKPdf** **09 42 37.9 +0.5**
ROSC El Rosal 148.49 29 PKP2 **PKPbc** **09 42 44.0 -0.2**
ROSC El Rosal 148.49 29 PKPbc **PKPbc** **09 42 44.0 -0.2**
comp=Z,13nm,0.7s,baz=69,slow=4.2,SNR=16
COHC Cochancay 151.77 46 PKPbc **PKPbc** **09 42 50.9 -0.7**
ARNL Arenillas 152.01 49 PKPbc **PKPbc** **09 42 52.2 0.0**
MCRA Macar, Loja 152.68 50 PKPbc **PKPbc** **09 42 52.2 -1.5**
TBTG Tabatinga, AM 158.48 30 PKPdf **PKPdf** **09 42 52.1 -2.3**
TBTG PKPab **PKPab** **09 43 27.5 -1.5**
MACA Manacapuru-AM 159.95 4 PKPdf **PKPdf** **09 42 53.6 -2.6**
MACA PKPab **PKPab** **09 43 35.0 -0.2**
CZSB Cruzeiro do Su 159.96 42 PKPdf **PKPdf** **09 42 55.9 -0.3**
CZSB PKPab **PKPab** **09 43 34.4 -1.0**
ETMB Extrema 165.12 27 PKPdf **PKPdf** **09 43 00.7 -0.5**
SAML Samuel 165.29 15 PKPdf **PKPdf** **09 43 01.7 +0.3**
SAML Samuel 165.29 15 PKIKP **PKPdf** **09 43 01.7 +0.3**
BDFB Brasilia 166.81 303 PKPab **PKPab** **09 44 05.8 +0.2**
comp=Z,4.5nm,0.8s,baz=56,slow=8.1,SNR=4.5
VILB Vilhena 169.69 4 PKPdf **PKPdf** **09 43 02.6 -1.8**
VILB PKPab **PKPab** **09 44 17.0 -1.0**
PTLB Pontes e Lacer 172.19 358 PKPdf **PKPdf** **09 43 04.2 -1.5**
PTLB PKPab **PKPab** **09 44 28.4 -0.5**

JMA 20 09:28:36.9±0.2, 24°.2N±0°.4×123°.8E±0°.4, h16km±1km, MV0.8/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.13**	**314**	*eP*	Pg	09 28 40.7	0.0
IRIF				*eS*	Sg	09 28 43.4	+0.2
JKRS	**Kuro-shima**	**0.16**	**92**	P	Pg	09 28 41.0	0.0
JKRS				*eS*	Sg	09 28 44.0	+0.3
HATJ	**Hateruma jima**	**0.19**	**189**	*i* P	Pg	09 28 41.3	-0.2
HATJ				S	Sg	09 28 44.9	+0.4
JIJ	**Ishigaki jima**	**0.30**	**67**	P	Pg	09 28 43.1	-0.3
JIJ				*eS*	Sg	09 28 47.5	-0.3
JISG	**Ishigakijimahi**	**0.55**	**51**	*eP*	Pg	09 28 47.9	0.0
JISG				*eS*	Sb	09 28 55.8	0.0
JTJ	**Tarama**	**0.88**	**63**	*eP*	Pg	09 28 54.1	+0.1
JTJ				*eS*	Sg	09 29 06.0	+0.3

TAP 20 09:28:52.4, 24°.39N×121°.84E, h4km±1km, ML2.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.08**	**314**	*i* P	Pg	09 28 54.0	-0.1
EWUT	baz=314			*i* S	Sg	09 28 55.7	+0.4
ENA	**Nanau**	**0.10**	**294**	*i* P	Pg	09 28 54.3	-0.1
ENA	baz=294			S	Sg	09 28 56.1	+0.2
EAHA	**Aohua**	**0.11**	**239**	*i* P	Pg	09 28 54.6	0.0
EAHA	baz=239			S	Sg	09 28 57.1	+1.0
ESAO	**Su ao**	**0.19**	**360**	*i* P	Pg	09 28 55.6	-0.5
ESAO				S	Sg	09 28 58.1	-0.4
TWC	**Suao**	**0.22**	**1**	*i* P	Pg	09 28 56.1	-0.5
TWC	baz=3.0			S	Sg	09 28 58.9	-0.7
NDS	**Dongshan**	**0.27**	**335**	*i* P	Pg	09 28 57.5	-0.1
NDS	baz=334			*eS*	Sg	09 29 02.2	+0.9
ETL	**Fush Village**	**0.30**	**222**	*i* P	Pg	09 28 58.0	-0.2
ETL	baz=221			S	Sg	09 29 02.9	+0.7
NACB	**Ninganchiao**	**0.31**	**227**	P	Pg	09 28 58.0	-0.3
NACB	baz=227			S	Sg	09 29 03.0	+0.5
LATG	**Datong**	**0.33**	**297**	P	Pg	09 28 58.6	-0.1
LATG	baz=297			S	Sg	09 29 03.2	+0.2
EOS2	**EOS2**	**0.35**	**85**	P	Pg	09 28 59.2	0.0
EOS2	baz=84			*eS*	Sg	09 29 05.2	+1.4
NDT	**Datong Townshi**	**0.37**	**305**	P	Pg	09 28 59.7	+0.2
NDT	baz=305			S	Sg	09 29 04.5	+0.1
TWE	**Neicheng**	**0.37**	**334**	P	Pg	09 28 59.3	-0.2
TWE	baz=336			*eS*	Sg	09 29 05.8	+1.4
ETLH	**Xiulin Townshi**	**0.38**	**242**	P	Pg	09 28 59.4	-0.3
ETLH	baz=241			*eS*	Sg	09 29 05.2	+0.6
TWD	**Chiawan**	**0.38**	**217**	P	Pg	09 28 59.3	-0.4
TWD	baz=215			*eS*	Sg	09 29 04.2	-0.5
NNSB	**Datong**	**0.42**	**276**	P	Pg	09 29 00.4	-0.1
NNSB	baz=275			S	Sg	09 29 06.1	+0.1
NNSH	**Datong**	**0.42**	**276**	*eP*	Pg	09 29 00.4	-0.1
NNSH	baz=275			*eS*	Sg	09 29 06.0	-0.1
NNS	**Nan Shan**	**0.43**	**277**	*eP*	Pg	09 29 00.6	-0.2
NNS	baz=276			*eS*	Sg	09 29 06.2	-0.2
FUSB	**Fushanzhiwuyua**	**0.44**	**328**	P	Pg	09 29 00.8	0.0
FUSB	baz=327			*eS*	Sg	09 29 08.1	+1.5
EOS3	**EOS3**	**0.44**	**103**	P	Pg	09 29 00.9	+0.1
EOS3	baz=103			S	Sg	09 29 07.7	+1.1
NWLT	**Wulai**	**0.50**	**321**	P	Pg	09 29 02.0	+0.1
NWLT	baz=321			*eS*	Sg	09 29 09.4	+1.0
YHNB	**Yeheng**	**0.51**	**304**	P	Pg	09 29 02.3	+0.1
YHNB	baz=303			*eS*	Sg	09 29 08.9	+0.1
ETM	**Tongmen**	**0.53**	**217**	*eP*	Pg	09 29 01.9	-0.6
NSK	**Sanguang**	**0.53**	**303**	*eP*	Pg	09 29 02.5	0.0
NSK	baz=303			*eS*	Sg	09 29 09.4	0.0
LXIB	**Xiulin Townshi**	**0.54**	**227**	P	Pg	09 29 02.1	-0.5
LXIB	baz=227			*eS*	Sg	09 29 10.0	+0.4
FUSS	**Fushou**	**0.56**	**256**	P	Pg	09 29 03.2	0.0
FUSS	baz=255			*eS*	Sg	09 29 11.7	+1.1
WHF	**Hehuan Shan**	**0.58**	**246**	P	Pg	09 29 03.5	-0.1
WHF	baz=245			*eS*	Sg	09 29 11.9	+0.8
TIPB	**Shuangxi**	**0.58**	**358**	P	Pg	09 29 03.6	+0.1
TIPB	baz=358			*eS*	Sg	09 29 11.1	-0.1
TWT	**Tachien**	**0.62**	**258**	*eP*	Pg	09 29 04.6	+0.2
TWT	baz=257			*eS*	Sg	09 29 12.9	+0.4
TWB1	**Santiao Chiao**	**0.63**	**12**	*eP*	Pg	09 29 04.3	-0.2
TDCB	**Techi**	**0.64**	**258**	*eP*	Pg	09 29 04.8	+0.2
TDCB	baz=257			*eS*	Sg	09 29 12.2	-0.7
SHUL	**Shoufeng**	**0.65**	**203**	*eP*	Pb	09 29 05.9	-0.4
ESL	**Shilin**	**0.68**	**213**	P	Pg	09 29 04.8	-0.6
NWF	**Wu-fen Shan**	**0.68**	**355**	*eP*	Pg	09 29 06.0	+0.5
WFSB	**Wu-fen Shan**	**0.68**	**355**	*eP*	Pg	09 29 05.9	+0.4
CHGB	**Renai**	**0.69**	**242**	P	Pg	09 29 05.8	+0.1
CHGB	baz=242			*eS*	Sg	09 29 15.6	+0.9
NFF	**Wufeng Townshi**	**0.70**	**290**	*eP*	Pg	09 29 06.2	+0.3
SXI1	**Grass Mountain**	**0.70**	**2**	*eP*	Pg	09 29 06.0	0.0
SXI1	baz=2.0			*eS*	Sg	09 29 15.8	+0.7
OWD	**Renai**	**0.75**	**235**	*eP*	Pg	09 29 06.5	-0.2
OWD	baz=234			*eS*	Sg	09 29 17.1	+0.6
WUSB	**Renai**	**0.77**	**239**	P	Pg	09 29 07.2	+0.1
WUSB	baz=239			*eS*	Sg	09 29 18.2	+1.0
WARBT	**Fenglin Townsh**	**0.79**	**212**	*eP*	Pg	09 29 06.6	-0.9
YM01	**YM01**	**0.80**	**342**	P	Pg	09 29 08.2	+0.5
YM01	baz=341			*eS*	Sb	09 29 20.4	+0.4
NSTT	**Nanjuang**	**0.81**	**288**	*eP*	Pb	09 29 08.5	-0.5
NSTT	baz=287			*eS*	Sg	09 29 18.4	+0.1
TWS1	**Kuangyinshan**	**0.81**	**331**	P	Pb	09 29 08.6	-0.4
WHP	**Taichung City**	**0.83**	**263**	*eP*	Pb	09 29 09.4	0.0
WHP	baz=262			*eS*	Sb	09 29 20.2	-0.7
YM08	**YM08**	**0.83**	**344**	*eP*	Pg	09 29 08.4	+0.1
YM08	baz=343			*eS*	Sb	09 29 20.7	-0.2
NCUH	**Zhongli**	**0.83**	**314**	*eP*	Pb	09 29 09.7	+0.3
ANP	**Anpu**	**0.85**	**340**	P	Pg	09 29 08.9	+0.3
VWDT	**VWDT**	**0.90**	**226**	*eP*	Pg	09 29 09.8	+0.2
WCS	**Beigang Elemen**	**0.91**	**249**	*eP*	Pg	09 29 10.1	+0.2
SMLT	**Sun Moon Lake**	**1.00**	**240**	*eP*	Pg	09 29 11.4	-0.1
SSLB	**Suanglung**	**1.01**	**234**	P	Pg	09 29 11.1	-0.6
SSLB	baz=233			*eS*	Sg	09 29 24.6	-0.2
	baz=233						

SOME 20 09:46:21.8, 43°.32N×69°.44E
NNC 20 09:46:22.8±2.4, 43°.47N×69°.62E, h0km, mb3.7, mpv3.3, 1C-1D, Error ellipse: s-maj=13.7km s-min=7.2km az=132.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.47**	**160**	P	Pn	09 46 35.7	-1.1
BRLS	11nm,0.1s			S	Sb	09 46 45.7	+4.3
KK31	**Karatay Array**	**0.75**	**119**	⇑P	Pg	09 46 36.7	-0.4
KK31	3.9nm,0.3s,baz=291,slow=16,SNR=61			⇓S	Sg	09 46 47.9	+1.1
IUG	**luzhnay**	**1.36**	**167**	P	Pb	09 46 49.7	+0.6
IUG	8.6nm,0.3s,baz=297,slow=30,SNR=22			S	Sn	09 47 10.4	+2.5
MRKS	**Merke**	**2.74**	**104**	Pg	Pb	09 47 13.0	+0.3
MRKS	66nm,0.4s			Lg	Lg	09 47 50.1	
KST	**Kastek**	**4.65**	**93**	Pg	Pb	09 47 47.0	+1.7
KST	5.2nm,0.5s			Lg	Lg	09 48 47.9	
MTBS	**Maitube**	**4.98**	**92**	Pg	Pb	09 47 52.4	+1.5
MTBS	4.5nm,0.5s			Lg	Lg	09 48 57.4	
KTBS	**Karatobe**	**5.13**	**85**	Pg	Pb	09 47 55.8	+2.4
KTBS	5.7nm,0.2s			Lg	Lg	09 49 03.1	
TNSS	**Tian-Shan**	**5.37**	**92**	Pg	Pb	09 47 58.8	+1.2
TNSS	1.4nm,0.3s			Lg	Lg	09 49 08.6	
	1.9nm,0.5s						

IDC 20 09:46:58.2±2.9, 21°.99N×143°.12E, h219km±25km, mb3.0/6, mbtmp3.6/7, Error ellipse: s-maj=36.3km s-min=21.5km az=97.0
ISC 20 09:46:56.3±1.1, 21°.9N±0°.1×143°.2E±0°.2, h200km, n7, σ1°30/8, mb3.1/5, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.27**	**350**	P	**Pn**	**09 48 15.2**	**+1.0**
JCJ	22nm,0.5s,baz=296,slow=21,SNR=5.5			S	**Sn**	**09 49 15.4**	**-0.3**
KSRS	**Korea Array**	**20.37**	**323**	P	**P**	**09 51 18.6**	**+1.0**
	29nm,0.6s,baz=269,slow=19,SNR=1.4						
	1.2nm,0.6s,baz=146,slow=9.0,SNR=5.9						
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**42.46**	**192**	P	**P**	**09 54 32.4**	**+0.6**
	0.3nm,0.6s,baz=13,slow=8.2,SNR=4.8						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**61.87**	**27**	P	**P**	**09 56 54.0**	**-0.1**
	0.4nm,0.7s,baz=268,slow=5.6,SNR=2.9						
	0.4nm,0.7s						
YKA	**Yellowknife Ar**	**76.29**	**28**	P	**P**	**09 58 22.6**	**-0.1**
	0.2nm,0.5s,baz=292,slow=5.9,SNR=3.4						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**83.02**	**334**	P	**P**	**09 58 56.5**	**-2.4**
	1.5nm,0.7s,baz=67,slow=3.3,SNR=6.9						
	1.5nm,0.7s						
NVAR	**Mina Array Bea**	**83.02**	**51**	P	**P**	**09 59 00.3**	**+0.5**
	0.2nm,0.5s,baz=264,slow=6.3,SNR=2.7						
	0.2nm,0.5s						

NEIC 20 09:57:06.6±1.2, 55°.9S±0°.1×28°.5W±0°.2, h107km±6km, mb4.5/19, Error ellipse: s-maj=20.3km s-min=12.6km az=208.0
IDC 20 09:57:08.9±6.3, 55°.85S×28°.12W, h135km±56km, mb3.9/5, mbtmp4.3/6, Error ellipse: s-maj=35.6km s-min=20.4km az=82.0
ISC 20 09:57:05.0±0.5, 55°.8S±0°.1×28°.29W±0°.09, h100km, n67, σ0°.73/68, mb4.5/13, 1C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.96**	**285**	Pn	**Pn**	**09 58 17.6**	**+0.6**
HOPE				Sn	**Sn**	**09 59 14.2**	**+1.2**
SNAA	**Sanae**	**19.22**	**156**	P	**P**	**10 01 20.6**	**-0.2**
SNAA	**Sanae**	**19.22**	**156**	⇓P	**P**	**10 01 20.4**	**-0.4**
SNAA	**Sanae**	**19.22**	**156**	P	**P**	**10 01 20.7**	**-0.2**
	3.1nm,0.4s,baz=328,slow=12,SNR=29						
TROLL	**Troll, Antarti**	**20.74**	**153**	⇑P	**P**	**10 01 36.9**	**-0.4**
	comp=Z,22nm,0.3s						
BELA	**Belgrano 2**	**22.28**	**184**	P	**P**	**10 01 52.3**	**-1.2**
MG04	**Isla Riesco**	**25.10**	**258**	P	**P**	**10 02 19.3**	**-0.8**
GO09	**Cerro Castillo**	**26.22**	**261**	P	**P**	**10 02 29.9**	**-0.3**
GO09				IAmb	IAmb	10 02 53.5	
	comp=Z,34nm,1.3s						
GO08	**Villa O'Higgin**	**27.74**	**267**	P	**P**	**10 02 41.9**	**-1.9**
GO08				IAmb	IAmb	10 02 47.5	
	comp=Z,15nm,1.3s						
QSPA	**South Pole Qui**	**34.45**	**180**	P	**P**	**10 03 43.4**	**+0.7**
QSPA				IAmb	IAmb	10 03 44.0	
	comp=Z,5.8nm,0.6s						
QSPA	**South Pole Qui**	**34.45**	**180**	P	**P**	**10 03 42.8**	**+0.1**
	comp=Z,4.9nm,0.6s,baz=190,slow=2.0,SNR=69						
	comp=Z,4.9nm,0.6s						
CPUP	**Villa Florin**	**36.19**	**312**	P	**P**	**10 03 58.9**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=135,slow=8.6,SNR=2.9						
	comp=Z,1.0nm,0.5s						
MT02	**Curacav**	**37.12**	**289**	P	**P**	**10 04 05.7**	**0.0**
VA03	**San Esteban**	**37.19**	**290**	P	**P**	**10 04 05.3**	**-1.2**
VA03				IAmb	IAmb	10 04 12.0	
	comp=Z,17nm,1.1s						
AC05	**El Transito**	**40.16**	**294**	P	**P**	**10 04 31.3**	**0.0**
AC05				IAmb	IAmb	10 04 48.8	
	comp=Z,17nm,1.2s						
MAW	**Mawson**	**40.71**	**144**	P	**P**	**10 04 37.4**	**+2.2**
AC02	**Maricunga**	**41.21**	**298**	P	**P**	**10 04 38.5**	**-1.9**
AC02				IAmb	IAmb	10 04 59.0	
	comp=Z,7.6nm,1.3s						
LVC	**Limon Verde**	**44.64**	**301**	P	**P**	**10 05 06.9**	**-1.1**
LVC				IAmb	IAmb	10 05 09.3	
	comp=Z,14nm,1.4s						
PB01	**IPOC Station P**	**46.25**	**302**	P	**P**	**10 05 20.3**	**-0.1**
PB01				IAmb	IAmb	10 05 23.0	
	comp=Z,8.0nm,1.1s						
SBA	**Scott Base**	**46.28**	**184**	P	**P**	**10 05 20.3**	**+0.6**
SBA				IAmb	IAmb	10 05 22.9	
	comp=Z,9.4nm,1.2s						
VNDA	**Vanda**	**46.79**	**183**	P	**P**	**10 05 24.4**	**+0.7**
VNDA				IAmb	IAmb	10 05 25.5	
	comp=Z,4.4nm,0.7s						
VNDA	**Vanda**	**46.79**	**183**	P	**P**	**10 05 24.0**	**+0.3**
	comp=Z,3.9nm,0.6s,baz=191,slow=6.5,SNR=49						
	comp=Z,3.9nm,0.6s						
GO01	**Chusmiza**	**47.29**	**303**	P	**P**	**10 05 30.1**	**+1.2**
GO01				IAmb	IAmb	10 05 31.5	
	comp=Z,7.0nm,0.9s						
VA02	**Isla de Pascua**	**63.12**	**261**	P	**P**	**10 07 21.8**	**-0.1**
BOAV	**Boa Vista**	**63.71**	**324**	P	**P**	**10 07 26.2**	**+0.3**
TOA0	**Torodi Ar. Sit**	**73.15**	**31**	P	**P**	**10 08 25.8**	**+1.2**
TORD	**Torodi Ar. Bea**	**73.15**	**31**	P	**P**	**10 08 24.8**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=201,slow=6.2,SNR=25						
	comp=Z,1.2nm,0.5s						
ASAR	**Alice Springs**	**99.40**	**163**	P	**Pdif**	**10 10 34.8**	**-1.5**
	comp=Z,0.3nm,0.7s,baz=177,slow=4.8,SNR=6.8						
	comp=Z,0.3nm,0.7s						
FINES	**FINESS Array B**	**124.46**	**28**	PKP	**PKPdf**	**10 15 49.6**	**-1.2**
	comp=Z,1.4nm,0.5s,baz=191,slow=1.4,SNR=15						
ARCES	**ARCESS Array B**	**130.95**	**22**	PKP	**PKPdf**	**10 16 02.0**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=213,slow=0.8,SNR=8.9						
BVAR	**Borovoye Array**	**135.17**	**58**	PKP	**PKPdf**	**10 16 10.9**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=264,slow=4.3,SNR=2.5						
YKA	**Yellowknife Ar**	**135.58**	**319**	PKP	**PKPdf**	**10 16 11.0**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=127,slow=2.1,SNR=5.6						
ZALV	**Zalesovo Beam**	**142.82**	**64**	PKP	**PKPdf**	**10 16 25.3**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=240,slow=2.8,SNR=2.4						
N30M	**Aishikik Lake**	**144.23**	**309**	PKPdf	**PKPdf**	**10 16 27.1**	**-0.7**
M30M	**Minto, Yukon**	**144.54**	**311**	PKPdf	**PKPdf**	**10 16 28.3**	**+0.1**
H31M	**Peel River**	**144.72**	**317**	PKPdf	**PKPab**	**10 16 27.4**	**-0.2**
F31M	**Tsiigehtchic**	**145.04**	**320**	PKPbc	**PKPbc**	**10 16 27.8**	**-0.7**
G31M	**Satah River**	**145.07**	**319**		**PKPbc**	**10 16 28.6**	**0.0**
M29M	**Somme Creek**	**145.21**	**310**	PKPbc	**PKPab**	**10 16 29.8**	**+0.2**
L29M	**L29M**	**145.31**	**311**	PKPbc	**PKPab**	**10 16 30.0**	**+0.1**
I30M	**Mount Dempster**	**145.32**	**315**	PKPbc	**PKPdf**	**10 16 29.5**	**-0.1**
G30M	**tAoh Zrail Nji**	**145.82**	**318**	PKPbc	**PKPab**	**10 16 31.4**	**-0.3**
DAWY	**Dawson**	**146.17**	**313**	PKPdf	**PKPbc**	**10 16 31.9**	**-0.4**
H29M	**Whitestone**	**146.42**	**316**	PKPdf	**PKPbc**	**10 16 32.7**	**-0.1**
G29M	**Pine Creek**	**146.48**	**318**		**PKPbc**	**10 16 32.9**	**-0.1**
E29M	**Blow River**	**146.81**	**320**	PKPdf	**PKPbc**	**10 16 33.6**	**-0.2**
I28M	**Miner Creek**	**146.81**	**315**	PKPdf	**PKPbc**	**10 16 33.8**	**-0.3**
F28M	**Old Crow**	**147.35**	**319**		**PKPbc**	**10 16 35.2**	**-0.2**
D27M	**Malcolm River**	**148.07**	**322**		**PKPbc**	**10 16 38.0**	**+0.6**
I26K	**Coal Creek Min**	**148.08**	**314**	PKPbc	**PKPbc**	**10 16 37.7**	**+0.3**
HIN	**Hinchinbrook I**	**148.10**	**304**	PKPbc	**PKiKP**	**10 16 39.5**	**+0.1**
E27K	**Coleen River**	**148.11**	**319**	PKPbc	**PKiKP**	**10 16 39.3**	**+0.2**
BMAR	**Burnt Mountain**	**149.09**	**318**	PKPbc	**PKPbc**	**10 16 40.1**	**+0.1**
IL31		**149.49**	**312**		**PKPbc**	**10 16 40.5**	**-0.4**
ILAR	**Eielson Array**	**149.49**	**312**	PKPbc	**PKPbc**	**10 16 40.5**	**-0.5**
	comp=Z,3.1nm,0.8s,baz=129,slow=2.0,SNR=34						
E25K	**Arctic Village**	**149.56**	**319**		**PKPbc**	**10 16 41.6**	**+0.4**
RND	**Reindeer**	**150.03**	**309**	PKPbc	**PKPbc**	**10 16 42.8**	**+0.4**
M22K	**Willow**	**150.19**	**306**	PKPbc	**PKiKP**	**10 16 43.1**	**-0.4**
BWN	**Browne**	**150.46**	**311**		**PKPbc**	**10 16 43.3**	**0.0**
E24K	**Your Creek**	**150.65**	**319**	PKPbc	**PKPbc**	**10 16 43.9**	**+0.1**
D24K	**Happy Valley**	**150.85**	**321**	PKPbc	**PKPbc**	**10 16 44.4**	**+0.2**
SKT	**Skwentna**	**150.89**	**306**	PKPbc	**PKPbc**	**10 16 44.4**	**0.0**
TOLK	**Toolik Lake Re**	**151.09**	**320**		**PKPbc**	**10 16 44.6**	**-0.1**
G23K	**Bananza Creek**	**151.09**	**316**		**PKiKP**	**10 16 45.1**	**-0.2**
BPAW	**Bear Paw Mtn.**	**151.10**	**310**		**PKPbc**	**10 16 44.7**	**-0.2**
SONM	**Songino Array**	**151.33**	**87**	PKPbc	**PKPbc**	**10 16 45.2**	**-0.9**
	comp=Z,2.1nm,0.5s,baz=222,slow=3.2,SNR=15						
IMAR	**Indian Mountai**	**152.52**	**314**	PKPbc	**PKPbc**	**10 16 47.9**	**-0.1**

IDC 20 10:07:51.0±0.8, 32°.78N×138°.51E, h221km±7km, mb3.3/12, mbtmp3.8/16, Error ellipse: s-maj=19.1km s-min=10.1km az=83.0
JMA 20 10:07:50.5±0.3, 33°.N±2°.×13°.9E±°, h246km, MV3.6/24, NEAR HACHIJOJIMA ISLAND
NEIC 20 10:07:52.6±2.7, 32°.74N±0°.09×138°.9E±0°.1, h234km±6km, mb4.0/39, Error ellipse: s-maj=14.1km s-min=11.8km az=132.0
ISC 20 10:07:52.0±0.6, 32°.80N±0°.06×138°.80E±0°.07, h234km, n89, σ1°49/94, mb3.8/34, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.89**	**69**	P	**Pn**	**10 08 24.0**	**-0.7**
	278nm,0.3s,baz=76,slow=21,SNR=5.7						
JHJ				S	**S**	**10 08 50.1**	**-0.2**
	386nm,0.7s,baz=232,slow=23,SNR=2.1						
JHJ2	**Mitsune**	**0.91**	**70**	Pn	**Pn**	**10 08 24.1**	**-0.7**
JHJ2				Sn	**S**	**10 08 51.8**	**+1.3**
JHJ2	**Mitsune**	**0.91**	**70**	P	**Pn**	**10 08 24.0**	**-0.8**
JMKN	**Mikurajimanish**	**1.27**	**31**	*eP*	**Pn**	**10 08 26.3**	**-0.7**

JSG	**Sagara**	**1.94**	**345**	Pn		**Pn**	**10 08 33.5**	**+1.0**
JIE	**Ise**	**2.36**	**313**	P		**Pn**	**10 08 37.5**	**+0.9**
JOD2	**Odawara 2**	**2.47**	**6**	P		**Pn**	**10 08 37.4**	**-0.4**
JOD2				*e*S		**S**	**10 09 13.2**	**-0.5**
BSO1	**Boso 1**	**2.59**	**44**	P		**Pn**	**10 08 36.4**	**-2.1**
BSO1				*e*S		**S**	**10 09 11.5**	**-3.5**
JYN	**Shimob**	**2.70**	**356**	P		**Pn**	**10 08 40.8**	**+0.5**
JTNC	**Tanabenakahech**	**2.85**	**292**	P		**Pn**	**10 08 43.0**	**+1.1**
INU	**Inuyama**	**2.94**	**330**			**Pn**	**10 08 43.9**	**+1.1**
JWY	**Kouya**	**3.03**	**299**	P		**Pn**	**10 08 45.4**	**+1.5**
JGF	**Kuroka**	**3.04**	**337**			**Pn**	**10 08 44.6**	**+0.6**
JRY	**Ryogami san**	**3.21**	**2**	P		**Pn**	**10 08 45.8**	**0.0**
JYTA	**Yamagatataniai**	**3.27**	**329**	P		**Pn**	**10 08 47.2**	**+0.8**
JAG	**Ashikaga**	**3.65**	**8**	P		**Pn**	**10 08 49.0**	**-2.0**
JWT	**Wachi**	**3.75**	**312**	P		**Pn**	**10 08 53.4**	**+1.3**
MJAR	**Matsushiro Arr**	**3.76**	**353**	P		**Pn**	**10 08 51.7**	**-0.6**
	12nm,0.7s,baz=226,slow=9.4,SNR=23							
MJAR				S		**S**	**10 09 36.2**	**-3.6**
	1.7nm,0.3s,baz=145,slow=14,SNR=1.0							
MAJO	**Matsushiro**	**3.76**	**353**			**Pn**	**10 08 52.5**	**+0.2**
MAT	**Matsushiro**	**3.76**	**353**	P		**Pn**	**10 08 52.4**	**+0.1**
MJB9	**Matsu-Tunnel**	**3.77**	**353**			**Pn**	**10 08 53.5**	**+1.1**
JMN	**Monobe**	**4.22**	**284**	Pn		**Pn**	**10 08 59.2**	**+1.4**
JSD	**Sado**	**5.24**	**355**	Pn		**Pn**	**10 09 09.2**	**-1.0**
JMM	**Marumori**	**5.31**	**17**			**Pn**	**10 09 08.5**	**-2.6**
JCJ	**Chichijima**	**6.40**	**152**	Pn		Pn	10 09 18.9	-6.1
JCJ	**Chichijima**	**6.40**	**152**	P		Pn	10 09 14.6	-10
	28nm,0.3s,baz=14,slow=19,SNR=20							
JCJ				S		S	10 10 26.1	-13
	20nm,0.3s,baz=275,slow=22,SNR=1.4							
JTM	**Tenmabayashi**	**8.17**	**12**	Pn		**Pn**	**10 09 45.1**	**-2.3**
ERM	**Erimo**	**9.82**	**19**	Pn		**Pn**	**10 10 07.7**	**-0.7**
KSRS	**Korea Array**	**10.04**	**301**	P		**Pn**	**10 10 08.3**	**-2.9**
	1.2nm,0.9s,baz=108,slow=13,SNR=2.9							
ASAJ	**Asahikawa**	**11.68**	**14**	P		**Pn**	**10 10 30.5**	**-1.4**
	7.8nm,0.3s,baz=228,slow=12,SNR=18							
ASAJ				S		**S**	**10 12 42.2**	**+1.0**
	1.9nm,0.3s,baz=160,slow=28,SNR=1.6							
JKA	**Kamikawa-asahi**	**11.68**	**14**	Pn		**Pn**	**10 10 30.6**	**-1.2**
YSS	**Yuzh-Sakhalins**	**14.45**	**11**			**Pn**	**10 11 05.9**	**-0.2**
KLR	**Kul'dur**	**17.24**	**344**	P		**P**	**10 11 36.8**	**-0.4**
	1.2nm,0.4s,baz=165,slow=12,SNR=7.8							
CMAR	**Chiang Mai Arr**	**38.43**	**258**	P		**P**	**10 14 49.2**	**-2.2**
CMAR	**Chiang Mai Arr**	**38.43**	**258**	P		**P**	**10 14 48.9**	**-2.6**
	0.7nm,0.3s,baz=30,slow=7.3,SNR=1.5							
	0.7nm,0.3s							
PMG	**Port Moresby**	**42.72**	**168**	P		**P**	**10 15 24.8**	**-1.6**
F17K	**Baldwin Pennin**	**48.45**	**28**	P		**P**	**10 16 13.0**	**+2.5**
F17K				IAmb		IAmb	10 16 55.9	
	comp=Z,6.7nm,1.4s							
M16K	**Timber Creek**	**48.55**	**35**	P		**P**	**10 16 11.0**	**-0.5**
M16K				IAmb		IAmb	10 16 46.2	
	comp=Z,8.7nm,1.1s							
E18K	**Tukpahlearik C**	**48.93**	**27**	P		**P**	**10 16 16.9**	**+2.8**
C18K	**Utukok River**	**49.01**	**25**	P		**P**	**10 16 13.4**	**-1.5**
N17K	**Nushagak Hills**	**49.38**	**36**	P		**P**	**10 16 17.4**	**-0.2**
G18K	**Tagagawik**	**49.38**	**29**	P		**P**	**10 16 17.0**	**-0.6**
G18K				IAmb		IAmb	10 16 48.2	
	comp=Z,5.7nm,1.5s							
C19K	**Lookout Ridge**	**49.69**	**24**	P		**P**	**10 16 20.9**	**+0.9**
L18K	**Granite Mounta**	**49.75**	**34**	P		**P**	**10 16 19.0**	**-1.4**
L18K				IAmb		IAmb	10 16 46.6	
	comp=Z,9.9nm,1.5s							
D19K	**Kuna River**	**50.08**	**25**	P		**P**	**10 16 24.4**	**+1.5**
D19K				IAmb		IAmb	10 16 38.0	
	comp=Z,6.4nm,1.4s							
E19K	**Redstone River**	**50.21**	**27**	P		**P**	**10 16 24.6**	**+0.8**
H19K	**Roundabout Mou**	**50.22**	**29**	P		**P**	**10 16 25.1**	**+1.2**
B20K	**Meade River**	**50.72**	**24**	P		**P**	**10 16 29.6**	**+2.0**
B20K				IAmb		IAmb	10 16 30.6	
	comp=Z,4.8nm,1.4s							
K20K	**Telida**	**51.04**	**32**	P		**P**	**10 16 32.4**	**+2.4**
K20K				IAmb		IAmb	10 17 12.8	
	comp=Z,11nm,1.4s							
IMAR	**Indian Mountai**	**51.38**	**29**	P		**P**	**10 16 33.1**	**+0.6**
M20K	**Styx River**	**51.40**	**34**	P		**P**	**10 16 32.1**	**-0.8**
M20K				IAmb		IAmb	10 16 44.3	
	comp=Z,12nm,1.4s							
B21K	**Ikpikpuk River**	**51.52**	**24**	P		**P**	**10 16 36.0**	**+2.5**
G21K	**Allakaket**	**51.53**	**28**	P		**P**	**10 16 35.6**	**+2.0**
F21K	**Alatna River**	**51.61**	**27**	P		**P**	**10 16 36.0**	**+1.7**
KDAK	**Kodiak Island**	**51.70**	**39**	P		**P**	**10 16 36.2**	**+1.2**
H21K	**Melozitna Rive**	**51.74**	**29**	P		**P**	**10 16 37.7**	**+2.5**
H21K				IAmb		IAmb	10 16 47.3	
	comp=Z,4.9nm,1.3s							
B22K	**Teshekpuk Lake**	**52.04**	**23**	P		**P**	**10 16 38.6**	**+1.3**
B22K				IAmb		IAmb	10 16 49.5	
	comp=Z,3.6nm,1.1s							
D22K	**Ayikyak River**	**52.10**	**25**	P		**P**	**10 16 40.0**	**+2.2**
D22K				IAmb		IAmb	10 16 48.3	
	comp=Z,2.7nm,0.8s							
WB0	**Warramunga Arr**	**52.44**	**185**	P		**P**	**10 16 40.2**	**-0.7**
WB0				IAmb		IAmb	10 16 58.0	
	comp=Z,11nm,1.4s							
BRLK	**Bradley Lake**	**52.51**	**37**	P		**P**	**10 16 42.1**	**+1.1**
SUA	**Susitna One**	**52.54**	**35**	P		**P**	**10 16 42.5**	**+1.2**
SUA				IAmb		IAmb	10 17 22.7	
	comp=Z,12nm,1.4s							
WB2	**Warramunga Arr**	**52.62**	**185**	P		**P**	**10 16 41.4**	**-0.8**
WRA	**Warramunga Arr**	**52.62**	**185**	P		**P**	**10 16 41.6**	**-0.6**
WRA	**Warramunga Arr**	**52.62**	**185**	P		**P**	**10 16 41.1**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=0.6,slow=7.8,SNR=20							
WRA				PcP		**PcP**	**10 17 49.3**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=357,slow=3.9,SNR=6.6							
	comp=Z,0.4nm,0.4s							
WR0	**Warramunga Arr**	**52.62**	**185**	P		**P**	**10 16 41.7**	**-0.5**
TRF	**Thorofare Moun**	**52.74**	**32**	P		**P**	**10 16 43.8**	**+1.0**
TRF				IAmb		IAmb	10 17 00.0	
	comp=Z,11nm,1.4s							
C23K	**Itkillik River**	**52.93**	**24**	P		**P**	**10 16 45.7**	**+1.8**
C23K				IAmb		IAmb	10 16 46.4	
	comp=Z,5.9nm,1.0s							
ASAR	**Alice Springs**	**56.35**	**185**	P		**P**	**10 17 08.6**	**-0.3**
ASAR	**Alice Springs**	**56.35**	**185**	P		**P**	**10 17 08.9**	**0.0**
	comp=Z,0.2nm,0.4s,baz=21,slow=11,SNR=13							
	comp=Z,0.2nm,0.4s							
BCAR	**Beaver Creek A**	**56.60**	**32**	P		**P**	**10 17 09.5**	**-0.8**
EGAK	**Eagle**	**56.66**	**30**	P		**P**	**10 17 11.8**	**+1.2**
EGAK				IAmb		IAmb	10 17 17.6	
	comp=Z,5.7nm,1.4s							
ISLE	**Juniper Island**	**56.69**	**35**	P		**P**	**10 17 12.7**	**+1.6**
I28M	**Miner Creek**	**57.09**	**29**	P		**P**	**10 17 16.0**	**+2.3**
I28M				IAmb		IAmb	10 17 56.0	
	comp=Z,3.9nm,1.4s							
EPYK	**Eagle Plains**	**58.26**	**28**	P		**P**	**10 17 24.1**	**+2.3**
EPYK				IAmb		IAmb	10 17 24.6	
	comp=Z,3.2nm,0.7s							
G30M	**tAoh Zrail Nji**	**58.35**	**27**	P		**P**	**10 17 24.3**	**+1.9**
G30M				IAmb		IAmb	10 18 07.0	
	comp=Z,4.6nm,1.5s							
I30M	**Mount Dempster**	**58.60**	**29**	P		**P**	**10 17 26.6**	**+2.3**
G31M	**Satah River**	**59.12**	**27**	P		**P**	**10 17 28.9**	**+1.3**
G31M				IAmb		IAmb	10 17 44.9	
	comp=Z,6.1nm,1.5s							
INK	**Inuvik**	**59.12**	**26**	P		**P**	**10 17 29.1**	**+1.5**
INK				IAmb		IAmb	10 17 55.2	
	comp=Z,2.2nm,1.2s							
H31M	**Peel River**	**59.32**	**29**	P		**P**	**10 17 30.5**	**+1.4**
SPITS	**Spitsbergen Ar**	**64.25**	**349**	P		**P**	**10 18 01.1**	**-0.6**
	comp=Z,18nm,1.0s,baz=54,slow=8.5,SNR=2.3							
ARCES	**ARCESS Array B**	**67.19**	**339**	P		**P**	**10 18 21.1**	**+0.5**
	comp=Z,3.2nm,0.9s,baz=47,slow=6.6,SNR=2.0							
	comp=Z,3.2nm,0.9s							
YKA	**Yellowknife Ar**	**68.54**	**29**	P		**P**	**10 18 29.8**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=298,slow=6.3,SNR=4.4							
	comp=Z,0.2nm,0.5s							
FINES	**FINESS Array B**	**71.55**	**332**	P		**P**	**10 18 48.1**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=90,slow=5.7,SNR=5.7							
	comp=Z,1.5nm,0.8s							
HFS	**Hagfors**	**77.03**	**335**	P		**P**	**10 19 19.1**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=93,slow=7.4,SNR=5.4							
	comp=Z,0.6nm,0.4s							
NOA	**NORSAR Array B**	**77.23**	**337**	P		**P**	**10 19 20.5**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=54,slow=6.7,SNR=2.1							
	comp=Z,0.4nm,0.5s							
NVAR	**Mina Array Bea**	**79.28**	**51**	P		**P**	**10 19 33.5**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=290,slow=3.5,SNR=4.6							
	comp=Z,0.4nm,0.6s							
PDAR	**Pinedale Array**	**82.18**	**44**	P		**P**	**10 19 48.2**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=307,slow=1.9,SNR=2.3							
	comp=Z,0.2nm,0.6s							
EKA	**Eskdalemuir Ar**	**86.36**	**339**	P		**P**	**10 20 06.9**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=24,slow=6.1,SNR=1.3							
	comp=Z,0.8nm,0.7s							
TXAR	**Lajitas Array**	**94.43**	**51**	P		**P**	**10 20 47.2**	**+1.4**

comp=Z,0.3nm,0.6s,baz=312,slow=2.8,SNR=6.4
comp=Z,0.3nm,0.6s

*IDC **20** 10:14:46.3±1.9,29.83N×130.99E, h0km, mb3.6/6, mbtmp3.6/8, ML3.2/2, MS3.1/2, Error ellipse: s-maj=48.4km s-min=20.2km az=93.0*
*JMA **20** 10:14:49.4±0.2,29.8N±0.8×131.2E±0.9, h42km±2km, MV3.1/27, NEAR AMAMI-OSHIMA ISLAND*
ISC 20 10:14:51.2±1.5, 29.79N±0.05×131.13E±0.09, h40km±14km, n20, σ0°69/26, mb3.5/6, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JMTN	**Minamitane**	**0.63**	**341**	*i*	P	**Pn**	**Pn**	**10 15 02.9**	**-0.9**
JMTN					S	**Sn**	**Sn**	**10 15 13.5**	**+0.8**
JYAK	**Yakushimahirau**	**0.70**	**309**	*i*	P	**Pn**	**Pn**	**10 15 04.1**	**-0.5**
JYAK					S	**Sn**	**Sn**	**10 15 14.3**	**+0.1**
JTN	**Tanegashima 3**	**0.87**	**351**	*i*	P	**Pn**	**Pn**	**10 15 06.1**	**-0.9**
JKC	**Kuchinoerabu**	**1.05**	**310**		P	**Pn**	**Pn**	**10 15 09.6**	**+0.1**
JNN	**Nakanoshima**	**1.09**	**273**	*e*	P	**Pn**	**Pn**	**10 15 10.3**	**+0.3**
JNN					S	**Sn**	**Sn**	**10 15 25.1**	**+1.0**
JTSR	**Tashiro 2**	**1.38**	**352**		P	**Pn**	**Pn**	**10 15 13.8**	**-0.2**
JTSR				*e*	S	**Sn**	**Sn**	**10 15 31.3**	**+0.2**
JNAR	**Kushima--Naru**	**1.73**	**4**	*e*	P	**Pn**	**Pn**	**10 15 18.3**	**-0.5**
JSU	**Suzuyama**	**1.80**	**341**		P	**Pn**	**Pn**	**10 15 19.4**	**-0.5**
JNKG	**Nichinankitago**	**1.87**	**6**		P	**Pn**	**Pn**	**10 15 20.6**	**-0.2**
JNKG				*e*	S	**Sn**	**Sn**	**10 15 43.8**	**+0.6**
JAM	**Amami Oshima**	**1.92**	**225**		P	**Pn**	**Pn**	**10 15 21.6**	**+0.2**
JTZ	**Takazaki**	**2.10**	**359**		P	**Pn**	**Pn**	**10 15 24.1**	**+0.2**
JNU	**Nakatsue**	**3.32**	**356**		Pn	**Pn**	**Pn**	**10 15 41.0**	**+0.2**
	3.3nm,0.3s,baz=231,slow=8.0,SNR=19								
JNU					Sn		**Sn**	**10 16 20.1**	**+1.1**
	1.6nm,0.3s,baz=357,slow=20,SNR=2.1								
	8.2nm,0.4s								
JOW	**Kunigami**	**3.88**	**221**		Pn	**Pn**	**Pn**	**10 15 48.0**	**-0.3**
	4.1nm,0.3s,baz=130,slow=23,SNR=16								
JOW					Sn		**Sn**	**10 16 31.6**	**-1.2**
	3.7nm,0.3s,baz=126,slow=25,SNR=6.8								
	11nm,0.2s								
SONM	**Songino Array**	**26.20**	**320**		P	**P**	**P**	**10 20 21.9**	**-0.4**
	0.5nm,0.3s,baz=134,slow=9.2,SNR=2.9								
	0.5nm,0.3s								
CMAR	**Chiang Mai Arr**	**31.37**	**256**		LR	LR		10 35 49.8	
	comp=Z,16nm,18.6s,baz=185,slow=40								
MKAR	**Makanchi Array**	**41.21**	**308**		P	**P**	**P**	**10 22 32.0**	**-0.1**
	0.5nm,0.6s,baz=99,slow=9.0,SNR=5.5								
	0.5nm,0.6s								
KURBB	**Kurchatov Arra**	**44.16**	**313**		P	**P**	**P**	**10 22 55.0**	**-0.8**
	0.2nm,0.3s,baz=96,slow=9.3,SNR=5.5								
KURBB					LR	LR		10 43 52.3	
	comp=Z,46nm,20.2s,baz=176,slow=40								
	0.2nm,0.3s								
BVAR	**Borovoye Array**	**49.41**	**316**		P	**P**	**P**	**10 23 37.3**	**+0.3**
	0.8nm,0.3s,baz=104,slow=9.5,SNR=5.9								
	0.8nm,0.3s								
ASAR	**Alice Springs**	**53.22**	**177**		P	**P**	**P**	**10 24 07.0**	**+1.2**
	0.3nm,0.8s,baz=14,slow=12,SNR=1.3								
	0.3nm,0.8s								
FINES	**FINESS Array B**	**71.03**	**331**		P	**P**	**P**	**10 26 04.0**	**-0.6**
	0.5nm,0.4s,baz=70,slow=4.6,SNR=6.8								
	0.5nm,0.4s								

*IDC **20** 10:25:01.4±0.9, 12.09S×119.19E, h0km, mb3.9/8, mbtmp3.9/11, ML3.7/3, Error ellipse: s-maj=28.9km s-min=17.7km az=58.0*
*DJA **20** 10:25:04.8±0.8, 12°S±7°×11°9E±°, h10km, M4.4/7, mb4.6/2, MLv4.3/7*
ISC 20 10:25:02.1±0.6, 12°16S±0.06×119°10E±0.06, h10km, n33, σ1°40/37, mb4.0/7, South of Sumba

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**2.42**	**37**		P	**Pn**	**Pn**	**10 25 41.9**	**+0.2**
BASI					Pg	**Pb**	**Pb**	**10 25 46.3**	**+0.6**
BASI					S	**Sn**	**Sn**	**10 26 09.5**	**-1.9**
PLAI	**Plampang**	**3.56**	**338**		P	**Pn**	**Pn**	**10 25 57.6**	**+0.2**
PLAI					S	**Sn**	**Sn**	**10 26 36.3**	**-3.3**
TWSI	**Taliwang, Sumb**	**4.04**	**327**		P	**Pn**	**Pn**	**10 26 04.6**	**+0.6**
EDFI	**Ende, Flores**	**4.24**	**37**		P	**Pn**	**Pn**	**10 26 06.6**	**-0.3**
MMRI	**Maumere**	**4.67**	**42**		P	**Pn**	**Pn**	**10 26 12.6**	**-0.1**
BATI	**Baumata**	**4.88**	**67**		Pn	**Pn**	**Pn**	**10 26 15.2**	**-0.5**
	5.1nm,0.3s,baz=207,slow=6.7,SNR=2.2								
BATI					Sn		**Sn**	**10 27 12.0**	**-0.3**
	30nm,0.3s,baz=53,slow=21,SNR=7.9								
	14nm,0.3s								
JAGI	**Jajag, Banyuwa**	**6.09**	**307**		P	**Pn**	**Pn**	**10 26 32.6**	**+0.3**
	43nm,1.4s,0.3nm								
GMJI	**Gumukmas**	**6.78**	**304**		P	**Pn**	**Pn**	**10 26 41.9**	**+0.3**
BKSI	**Bukumbala**	**6.87**	**9**		P	**Pn**	**Pn**	**10 26 42.2**	**-0.8**
MBWA	**Marble Bar**	**8.97**	**176**		P	**Pn**	**Pn**	**10 27 10.2**	**-1.5**
PSA00	**Pilbara Seismi**	**9.38**	**176**		P	**Pn**	**Pn**	**10 27 16.1**	**-1.3**
GIRL	**Giralia**	**11.41**	**203**		P	**Pn**	**Pn**	**10 27 43.8**	**-1.3**
MEEK	**Meekatharra**	**14.41**	**182**		P	**Pn**	**Pn**	**10 28 23.8**	**-2.4**
WRKA	**Warakurna**	**15.48**	**147**		P	**Pn**	**Pn**	**10 28 39.0**	**-1.7**
WRA	**Warramunga Arr**	**16.56**	**120**		Pn	**Pn**	**Pn**	**10 28 53.4**	**-1.2**
	0.2nm,0.3s,baz=292,slow=11,SNR=6.6								
WRA					Sn	Sn		10 31 43.3	-15
	0.2nm,0.3s,baz=291,slow=25,SNR=4.7								
	2.1nm,0.7s								
MORW	**Morawa**	**17.06**	**189**		P	**Pn**	**Pn**	**10 28 57.7**	**-3.1**
ASAR	**Alice Springs**	**18.13**	**131**		P	**P**	**P**	**10 29 15.1**	**+0.6**
	0.3nm,0.3s,baz=308,slow=10,SNR=24								
ASAR					S	Sn		10 32 25.4	-11
	0.9nm,0.6s,baz=299,slow=21,SNR=5.6								
	1.3nm,0.6s								
AS01	**Alice Springs**	**18.16**	**131**		P	**P**	**P**	**10 29 16.6**	**+1.7**
BLDU	**Ballidu**	**18.49**	**187**		P	**P**	**P**	**10 29 16.2**	**-2.2**
KMBL	**Kambalda**	**19.28**	**173**		P	**P**	**P**	**10 29 27.5**	**+0.4**
KLBR	**Kellerberrin**	**19.38**	**183**		P	**P**	**P**	**10 29 28.1**	**0.0**
MUN	**Mundaring**	**19.90**	**187**		P	**P**	**P**	**10 29 34.8**	**+1.0**
FORT	**Forrest**	**20.30**	**157**		P	**P**	**P**	**10 29 39.6**	**+1.5**
NWAO	**Narrogin (SRO)**	**20.74**	**184**		P	**P**	**P**	**10 29 44.6**	**+1.7**
	6.4nm,0.4s,baz=8.3,slow=12,SNR=15								
NWAO					S	S		10 33 20.6	-14
	5.8nm,0.5s,baz=253,slow=8.1,SNR=5.7								
	6.4nm,0.4s								
OOD	**Oodnadatta**	**21.98**	**137**		P	**P**	**P**	**10 29 58.7**	**+2.4**
STKA	**Stephens Creek**	**28.52**	**137**		P	**P**	**P**	**10 30 58.7**	**+0.7**
	1.3nm,0.4s,baz=316,slow=9.8,SNR=4.5								
	1.3nm,0.4s								
CMAR	**Chiang Mai Arr**	**36.35**	**327**		P	**P**	**P**	**10 32 06.9**	**+0.4**
	0.7nm,0.3s,baz=176,slow=7.2,SNR=4.4								
	0.7nm,0.3s								
USRK	**Ussuriysk Ar.**	**57.31**	**11**		P	**P**	**P**	**10 34 50.0**	**-0.1**
	0.4nm,0.4s,baz=190,slow=7.4,SNR=5.1								
	0.4nm,0.4s								
SONM	**Songino Array**	**60.79**	**350**		P	**P**	**P**	**10 35 15.4**	**+1.0**
	0.4nm,0.5s,baz=168,slow=5.4,SNR=3.6								
	0.4nm,0.5s								
MKAR	**Makanchi Array**	**67.31**	**334**		P	**P**	**P**	**10 35 58.1**	**+1.0**
	0.7nm,0.5s,baz=148,slow=7.9,SNR=9.8								
	0.7nm,0.5s								
KURBB	**Kurchatov Arra**	**71.83**	**334**		P	**P**	**P**	**10 36 25.7**	**+0.7**
	0.2nm,0.3s,baz=148,slow=5.5,SNR=2.4								
	0.2nm,0.3s								
ZALV	**Zalesovo Beam**	**72.02**	**340**		P	**P**	**P**	**10 36 26.1**	**+0.2**
	0.9nm,0.5s,baz=130,slow=4.5,SNR=4.4								
	0.9nm,0.5s								
TORD	**Torodi Ar. Bea**	**119.06**	**278**		PKP	**PKiKP**	**PKiKP**	**10 43 53.4**	**+1.1**
	0.4nm,0.6s,baz=79,slow=2.6,SNR=1.9								

*NEIC **20** 10:30:17.8±1.7, 18.27N±0.09×146.7E±0.1, h53km±8km, mb4.2/30, Error ellipse: s-maj=17.4km s-min=12.8km az=89.0*
*IDC **20** 10:30:20.1±3.2, 18.24N×146.75E, h84km±30km, mb3.7/17, mbtmp4.0/19, MS3.3/4, Error ellipse: s-maj=26.6km s-min=13.1km az=84.0*
ISC 20 10:30:16.6±0.5, 18°31N±0.06×146°8E±0.1, h50km, n60, σ1°18/56, mb4.2/30, MS3.4/4, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.06**	**202**		Pn	**Pn**	**Pn**	**10 31 29.9**	**-0.1**
GUMO	**Guam**	**5.06**	**202**		P	**Pn**	**Pn**	**10 31 31.6**	**+1.6**
	34nm,0.4s,baz=18,slow=13,SNR=4.1								
GUMO					S	**Sn**	**Sn**	**10 32 29.3**	**+2.1**
	41nm,0.3s,baz=47,slow=23,SNR=1.7								
PATS	**Pohnpei**	**15.97**	**134**		Pn	**Pn**	**Pn**	**10 33 56.1**	**-2.0**
H11S3	**WAKE ISLAND Hy**	**18.84**	**86**		T	T	T	10 53 46.5	
	baz=272,slow=74,SNR=14								
H11S1	**WAKE ISLAND Hy**	**18.85**	**86**		T	T	T	10 53 52.4	
	baz=272,slow=74,SNR=11								
H11S2	**WAKE ISLAND Hy**	**18.86**	**86**		T	T	T	10 53 48.4	
	baz=272,slow=74,SNR=8.3								
JGF	**Kuroka**	**19.17**	**336**		P	**P**	**P**	**10 34 35.1**	**-0.9**
JGF					IAmb	IAmb	IAmb	10 35 03.0	
	comp=Z,24nm,1.4s								
MJAR	**Matsushiro Arr**	**19.69**	**339**		P	**Pn**	**Pn**	**10 34 43.8**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=157,slow=9.2,SNR=4.6								
MAJO	**Matsushiro**	**19.70**	**339**		P	**P**	**P**	**10 34 41.2**	**-0.6**
MAJO					IAmb	IAmb	IAmb	10 35 06.7	
	comp=Z,31nm,1.5s								
MJB9	**Matsu-Tunnel**	**19.70**	**339**		P	**P**	**P**	**10 34 42.2**	**+0.4**
MJB9					IAmb	IAmb	IAmb	10 35 05.7	
	comp=Z,14nm,1.3s								
KSRS	**Korea Array**	**25.28**	**323**		P	**P**	**P**	**10 35 38.5**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=145,slow=7.9,SNR=2.2								
	comp=Z,1.4nm,0.8s								
USRK	**Ussuriysk Ar.**	**28.67**	**337**		P	**P**	**P**	**10 36 08.1**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=146,slow=7.9,SNR=5.2								
	comp=Z,1.7nm,0.7s								
MTN	**Manton Dam**	**34.62**	**208**		P	**P**	**P**	**10 36 58.5**	**-2.6**
KNRA	**Kununurra**	**38.18**	**209**		P	**P**	**P**	**10 37 31.4**	**-0.2**
WB0	**Warramunga Arr**	**39.76**	**199**		P	**P**	**P**	**10 37 44.0**	**-0.8**
WB0					IAmb	IAmb	IAmb	10 37 46.0	
	comp=Z,2.9nm,1.0s								
WR0	**Warramunga Arr**	**39.90**	**198**		P	**P**	**P**	**10 37 45.1**	**-0.8**
WR0					IAmb	IAmb	IAmb	10 37 51.1	
	comp=Z,4.4nm,1.1s								
WB2	**Warramunga Arr**	**39.94**	**198**		P	**P**	**P**	**10 37 45.5**	**-0.8**
WRA	**Warramunga Arr**	**39.94**	**198**		P	**P**	**P**	**10 37 45.4**	**-0.9**
WRA	**Warramunga Arr**	**39.94**	**198**		P	**P**	**P**	**10 37 45.4**	**-0.9**
	comp=Z,3.7nm,1.0s,baz=28,slow=8.6,SNR=16								
	comp=Z,3.7nm,1.0s								
FITZ	**Fitzroy Crossi**	**41.75**	**211**		P	**P**	**P**	**10 38 00.5**	**-0.7**
AS31	**Alice Springs**	**43.59**	**197**		P	**P**	**P**	**10 38 16.3**	**+0.3**
ASAR	**Alice Springs**	**43.59**	**197**		P	**P**	**P**	**10 38 14.9**	**-1.2**
ASAR	**Alice Springs**	**43.59**	**197**		P	**P**	**P**	**10 38 15.1**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=21,slow=6.7,SNR=25								
	comp=Z,0.9nm,0.4s								
EIDS	**Eidsvold**	**43.61**	**174**		P	**P**	**P**	**10 38 16.5**	**+0.4**
EIDS					IAmb	IAmb	IAmb	10 38 42.1	
	comp=Z,9.5nm,1.1s								
SONM	**Songino Array**	**44.12**	**321**		P	**P**	**P**	**10 38 20.5**	**+0.2**
SONM	**Songino Array**	**44.12**	**321**		P	**P**	**P**	**10 38 20.3**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=139,slow=9.3,SN

UZB				*e*S		**Sn**	**10 37 32.4**	**-2.5**
	15nm,0.2s							
UZB	**Uzynbulak**	**6.85**	**317**	Pg		**Pn**	**10 36 17.0**	**+0.3**
	2.8nm,0.2s							
UZB				Lg		Lg	10 37 32.4	
	15nm,0.2s							
SATY	**Saty**	**7.12**	**314**	*e*P		**Pn**	**10 36 21.1**	**+0.5**
	2.8nm,0.2s							
SATY				*e*S		**Sn**	**10 37 39.4**	**-2.2**
	29nm,0.2s							
SATY	**Saty**	**7.12**	**314**	Pg		**Pn**	**10 36 21.1**	**+0.5**
	2.8nm,0.2s							
SATY				Lg		Lg	10 37 40.0	
	21nm,0.2s							
ZHN	**Zhinishke**	**7.18**	**315**	*e*P		**Pn**	**10 36 22.2**	**+0.9**
	4.4nm,0.2s							
ZHN				*e*S		**Sn**	**10 37 41.1**	**-1.9**
	40nm,0.2s							
ZHN	**Zhinishke**	**7.18**	**315**	Pg		**Pn**	**10 36 22.2**	**+0.9**
ZHN				Lg		Lg	10 37 41.1	
MDOK	**Medeo**	**7.98**	**310**	⇑Pg		**Pn**	**10 36 37.0**	**+4.6**
	4.0nm,0.5s							
MDOK				⇑Lg		Lg	10 38 09.6	
	10nm,0.6s							
MK31	**Makanchi Array**	**8.81**	**346**	Pg		**Pn**	**10 36 46.2**	**+2.6**
	1.6nm,0.6s,baz=172,slow=9.9,SNR=39							
MK31				⇑Lg		Lg	10 38 26.1	
	0.6nm,0.2s,baz=178,slow=27,SNR=7.6							
MKAR	**Makanchi Array**	**8.81**	**346**	Pn		**Pn**	**10 36 45.4**	**+1.8**
	0.4nm,0.3s,baz=177,slow=13,SNR=18							
MKAR				Sn		**Sn**	**10 38 22.9**	**0.0**
	1.4nm,0.3s,baz=177,slow=24,SNR=7.9							
MKAR				Lg		Lg	10 39 21.1	
	0.4nm,0.3s,baz=151,slow=28,SNR=1.0							
	0.6nm,0.3s							
MAKZ	**Makanchi**	**8.89**	**345**	⇑Pg		Pn	10 36 51.5	+6.9
	1.5nm,0.5s							
MAKZ				⇓Lg		Lg	10 38 26.1	
	3.3nm,0.5s							
AAK	**Ala-Archa**	**9.36**	**301**	Pn		**Pn**	**10 36 51.2**	**0.0**
	0.2nm,0.3s,baz=207,slow=11,SNR=1.5							
AAK				Sn		**Sn**	**10 38 42.7**	**+6.1**
	0.2nm,0.3s,baz=232,slow=9.2,SNR=3.6							
AAK				Lg		Lg	10 39 30.1	
	0.3nm,0.3s,baz=325,slow=16,SNR=2.5							
	0.6nm,0.4s							
KURBB	**Kurchatov Arra**	**13.27**	**341**	Pn		**Pn**	**10 37 46.6**	**+2.1**
	baz=148,slow=13,SNR=2.5							
	0.2nm,0.3s							
ZALV	**Zalesovo Beam**	**15.69**	**359**	Pn		**P**	**10 38 19.7**	**-1.5**
	0.2nm,0.3s,baz=178,slow=20,SNR=4.0							
	0.8nm,0.6s							
BVA0	**Borovoye Array**	**18.03**	**330**	⇑Pg		**P**	**10 38 50.1**	**+2.9**
	2.3nm,1.1s,baz=116,slow=19,SNR=5.2							
BVA0				⇑Lg		Lg	10 39 32.8	
	4.5nm,0.9s,baz=95,slow=25,SNR=4.5							
BVAR	**Borovoye Array**	**18.03**	**330**	P		**Pn**	**10 38 46.6**	**-0.1**
	baz=119,slow=14,SNR=3.3							
BVAR				S		**Sn**	**10 42 09.1**	**+1.3**
	0.6nm,0.5s,baz=114,slow=18,SNR=1.0							
	0.6nm,0.4s							
BRVK	**Borovoye**	**18.10**	**330**	⇓Pg		**P**	**10 38 51.3**	**+3.4**
	3.0nm,1.0s							
BRVK				⇓Lg		Lg	10 39 33.6	
	8.7nm,1.1s							
CMAR	**Chiang Mai Arr**	**23.03**	**145**	P		**P**	**10 39 40.8**	**-0.7**
	0.7nm,0.3s,baz=320,slow=10,SNR=4.1							
	0.7nm,0.3s							
BRTR	**Keskin Array B**	**39.76**	**289**	P		**P**	**10 42 07.8**	**-1.4**
	0.7nm,0.6s,baz=90,slow=7.5,SNR=3.5							
	0.7nm,0.6s							
FINES	**FINESS Array B**	**42.77**	**323**	P		**P**	**10 42 33.8**	**+0.3**
	0.6nm,0.6s,baz=180,slow=30,SNR=1.0							
	0.6nm,0.6s							
WRA	**Warramunga Arr**	**73.93**	**132**	P		**P**	**10 46 11.4**	**-0.2**
	1.0nm,0.5s,baz=327,slow=5.9,SNR=6.4							
	1.0nm,0.5s							

HEL 20 10:52:39.6±0.1, 63.70N×25.58E, h0km, ML1.0, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUF	**Merijarvi**	**0.77**	**331**	PG	Pg	10 52 53.4	-0.9
OUF				MSG		10 53 03.5	
	comp=Z,1.4nm,0.2s						
OBF0	**Syolatti, Pyha**	**1.00**	**324**	PG	Pg	10 52 57.8	-0.9
OBF0				MSG		10 53 10.2	
	comp=Z,1.3nm,0.2s						
SUF	**Sumiainen**	**1.02**	**165**	PG	Pg	10 52 57.7	-1.3
SUF				MSG		10 53 10.7	
	comp=Z,0.8nm,0.2s						
SUF				SB	Sg	10 53 11.5	-0.6
NIF	**Nilsia**	**1.05**	**106**	PG	Sg	10 52 58.3	-1.3
NIF				SB	Sg	10 53 12.5	-0.7
OBF4	**Vikkela, Lumij**	**1.14**	**350**	PG	Pg	10 52 59.4	-2.0
OBF4				MSG		10 53 14.3	
	comp=Z,1.0nm,0.2s						
OUL	**Oulu**	**1.40**	**6**	PG	Pn	10 53 05.1	-1.3
VAF	**Ylistaro**	**1.47**	**245**	PG	Pn	10 53 05.7	-1.5
	baz=66						
VAF				MSG		10 53 23.7	
	comp=Z,1.1nm,0.2s						
VAF				SG	Sg	10 53 24.9	-1.7
KEF	**Keuruu**	**1.57**	**192**	PG	Pn	10 53 08.3	-0.4
KEF				MSG		10 53 26.8	
	comp=Z,1.9nm,0.2s						
KEF				SG	Sn	10 53 27.7	-2.0
KAF	**Kangasniemi**	**1.62**	**168**	PG	Pn	10 53 08.6	-0.9
	baz=347						
KAF				MSG		10 53 28.3	
	comp=Z,1.7nm,0.2s						
KAF				SN	Sn	10 53 29.5	-1.6
RMF	**Romuvaara**	**1.99**	**73**	PG	Pn	10 53 15.4	+0.9
RMF				MSG		10 53 38.7	
	comp=Z,1.4nm,0.2s						
BURU	**Burvik**	**2.04**	**298**	PG	Pn	10 53 16.0	+0.8
BURU				SG	Sb	10 53 42.9	-0.6
UMAU	**Umeaa**	**2.18**	**277**	PN	Pn	10 53 17.8	+0.7
	baz=96						
UMAU				SN	Sb	10 53 46.5	-0.9
FIA0	**FINESS Array S**	**2.27**	**174**	MSG		10 53 47.0	
	comp=Z,1.2nm,0.2s						
FIA0				SG	Sn	10 53 48.4	+1.4
TOF	**Tornio**	**2.45**	**348**	MSG		10 53 51.9	
	comp=Z,0.3nm,0.2s						
TOF				SG	Sb	10 53 56.3	+1.1
KPF	**Kankaanpaa**	**2.47**	**222**	SB	Sb	10 53 54.0	-1.7
MSF	**Maaselka**	**2.67**	**32**	PN	Pn	10 53 21.2	-2.7
JOF	**Joensuu**	**2.71**	**104**	SG	Sb	10 54 01.0	-1.5
RUF	**Ruokolahti**	**2.76**	**144**	MSG		10 54 01.0	
	comp=Z,1.0nm,0.2s						
RUF				SG	Sb	10 54 03.1	-1.1

HEL 20 10:53:01.0±0.3, 67.81N×20.26E, h0km, ML0.8, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.70**	**69**	SG	Sg	10 53 22.3	-1.1
KIF	**Kilpisjarvi**	**1.21**	**9**	PN	Pn	10 53 25.3	+0.1
KIF				SG	Sg	10 53 38.8	-1.2
KIF				MSG		10 53 38.9	
	comp=Z,1.2nm,0.2s						
PAJU	**Pajala**	**1.36**	**124**	PG	Sg	10 53 42.8	-1.7
PAJU	**Pajala**	**1.36**	**124**	PG	Pg	10 53 24.7	-2.2
	baz=310						
PAJU				SG	Sg	10 53 42.8	-1.7
HEF	**Hetta**	**1.41**	**63**	MSG		10 53 43.5	
	comp=Z,0.5nm,0.2s						
HEF				SG	Sg	10 53 44.8	-1.4
KTK1	**Kautokeino**	**1.63**	**41**	SN	Sg	10 53 53.5	+0.1
SGF	**Sodankyl**	**2.43**	**96**	SG	Sg	10 54 17.4	-1.4
RNF	**Rovaniemi**	**2.55**	**116**	SG	Sb	10 54 18.5	-0.8
ARA0	**ARCESS Array S**	**2.58**	**46**	PG	Pb	10 53 47.0	-1.1
	baz=226						
ARA0				SB	Sb	10 54 18.7	-1.7
RANF	**Ranua**	**3.14**	**122**	SG	Pn	10 53 51.8	+0.2
RANF	**Ranua**	**3.14**	**122**	PN	Pn	10 53 51.8	+0.2
MSF	**Maaselka**	**3.96**	**115**	SB	Sb	10 54 58.7	-1.1

*NNC **20** 10:56:57.6±0.6, 51.74N×75.42E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=14.0km s-min=3.7km az=24.0,*

Suspected Mining explosion.
*IDC **20** 10:57:00.5±1.1, 51.84N×75.59E, h0km, mbtmp2.5/3, ML1.4/3, Error ellipse: s-maj=31.8km s-min=8.1km az=30.0*

ISC 20 10:57:00.2±1.2, 51.8N±0.1×75.53E±0.06, h0km, n12, σ1.57/9, 6C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.21**	**120**	Pg	**Pb**	**10 57 39.8**	**-1.3**
	0.1nm,0.3s,baz=305,slow=19,SNR=31						
KURBB				Lg	Lg	10 58 09.7	
	0.3nm,0.3s,baz=306,slow=33,SNR=8.8						
KURBB	**Kurchatov Arra**	**2.21**	**120**	⇓Pg	**Pn**	**10 57 38.8**	**+0.7**
	4.2nm,0.7s						
KURBB				⇑Lg	Lg	10 58 10.5	
	20nm,0.6s						
KURK	**Kurchatov**	**2.21**	**117**	⇓Pg	**Pn**	**10 57 38.1**	**-0.1**
	5.3nm,1.2s						
KURK				⇑Lg	Lg	10 58 09.9	
	4.3nm,0.5s						
BVA0	**Borovoye Array**	**3.39**	**294**	⇓Pg	**Pb**	**10 57 59.1**	**-2.0**
	1.2nm,0.8s,baz=108,slow=13,SNR=4.4						
BVA0				⇑Lg	Lg	10 58 43.5	
	2.3nm,0.8s,baz=124,slow=27,SNR=7.2						
BVAR	**Borovoye Array**	**3.39**	**294**	Pn	**Pn**	**10 57 55.3**	**+1.0**
	baz=72,slow=9.3,SNR=3.2						
BVAR				Pg	**Pb**	**10 57 59.5**	**-1.6**
BVAR				Lg	Lg	10 58 43.4	
	0.1nm,0.3s,baz=104,slow=24,SNR=6.6						
	1.0nm,0.6s						
BRVK	**Borovoye**	**3.46**	**294**	⇑Lg	Lg	10 58 45.7	
	2.9nm,0.7s						
OTUK	**Ortayu**	**4.09**	**211**	⇑Lg	Lg	10 59 05.5	
	4.1nm,1.1s						
I46RU	**ZALESOVO INFRA**	**6.04**	**65**	I	I	11 31 20.0	
	baz=253,slow=332,SNR=3.3						
ZALV	**Zalesovo Beam**	**6.04**	**65**	Pn	**Pn**	**10 58 32.2**	**+1.5**
	baz=266,slow=19,SNR=3.7						
	0.5nm,0.5s						
MAKZ	**Makanchi**	**6.52**	**137**	⇑Lg	Lg	11 00 25.0	
	3.4nm,0.8s						
MK31	**Makanchi Array**	**6.66**	**136**	Lg	Lg	11 00 28.1	
	1.4nm,0.7s,baz=325,slow=28,SNR=5.5						
MKAR	**Makanchi Array**	**6.66**	**136**	Pn	**Pn**	**10 58 40.9**	**+1.6**
	baz=334,slow=13,SNR=2.5						
MKAR				Sn	**Sn**	**10 59 55.6**	**-0.4**
	0.1nm,0.3s,baz=322,slow=25,SNR=6.5						
MKAR				Lg	Lg	11 00 29.7	
	0.1nm,0.3s,baz=320,slow=22,SNR=9.6						
	0.2nm,0.8s						

*IDC **20** 11:10:45.3±0.5, 6.60N×123.67E, h615km±6km, mb3.8/28, mbtmp4.7/28, Error ellipse: s-maj=14.2km s-min=5.7km az=66.0*
*DJA **20** 11:10:45.6±0.2, 7°N±3'×12°4E±', h606km±4km, M4.6/53, mb4.8/53, mB5.1/25, MLv5.0/10, Mw(mB)4.5/25, MwMwp5.3/1, Mwp5.5/1*
*NEIC **20** 11:10:45.2±1.8, 6.63N±0.08×123.62E±0.07, h597km±6km, mb4.5/165, Error ellipse: s-maj=13.3km s-min=8.4km az=218.0*

ISC 20 11:10:45.3±0.5, 6.57N±0.04×123.59E±0.05, h611km±5km, n318, σ0.98/330, mb4.5/112, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.04**	**76**	P	**P**	**11 12 00.9**	**+0.1**
DAV	**Davao City (W)**	**2.04**	**76**	P	**P**	**11 12 00.3**	**-0.6**
DAV	**Davao City (W)**	**2.04**	**76**	P	**P**	**11 11 59.9**	**-0.9**
	512nm,0.4s,baz=92,slow=2.4,SNR=18						
DAV				S	**S**	**11 13 02.8**	**+0.6**
	210nm,0.7s,baz=62,slow=22,SNR=1.1						
SGSI	**Sangihe**	**3.45**	**146**	P	P	11 12 14.8	+6.6
GTOI	**Gorontalo**	**5.92**	**186**	P	**P**	**11 12 25.7**	**-0.8**
	54nm,0.7s,562nm0.2nm						
KMSI	**Cibinong**	**5.97**	**176**	P	**P**	**11 12 27.7**	**+0.8**
	378nm,0.9s,4µm2.6nm						
TOLI2	**Tolitoli**	**6.10**	**207**	P	**P**	**11 12 27.9**	**-0.1**
TOLI2	**Tolitoli**	**6.10**	**207**	P	**P**	**11 12 27.7**	**-0.4**
TOLI2				S	**S**	**11 13 50.3**	**-1.5**
MRSI	**Marisa**	**6.27**	**195**	P	**P**	**11 12 32.0**	**+2.5**
	123nm,0.9s,882nm0.4nm						
TNTI	**Ternate**	**6.88**	**147**	P	**P**	**11 12 34.7**	**-0.2**
TNTI	**Ternate**	**6.88**	**147**	P	**P**	**11 12 34.2**	**-0.6**
TNTI				S	**S**	**11 14 01.8**	**-2.6**
TNTI	**Ternate**	**6.88**	**147**	P	**P**	**11 12 35.3**	**+0.4**
MPSI	**Mapaga**	**7.20**	**211**	P	**P**	**11 12 38.0**	**+0.2**
	24nm,0.5s,809nm0.1nm						
KKM	**Kota Kinabalu**	**7.35**	**266**	P	**P**	**11 12 38.9**	**-0.3**
KKM	**Kota Kinabalu**	**7.35**	**266**	P	**P**	**11 12 38.7**	**-0.5**
KKM				S	**S**	**11 14 10.2**	**-2.1**
LUWI	**Luwuk**	**7.60**	**186**	P	**P**	**11 12 40.1**	**-1.3**
LUWI	**Luwuk**	**7.60**	**186**	P	**P**	**11 12 40.7**	**-0.7**
	128nm,0.5s,1.3nm						
TGY	**Tagaytay City**	**7.93**	**341**	P	**P**	**11 12 43.3**	**-1.2**
	260nm,0.4s,baz=214,slow=4.4,SNR=12						
TGY				S	**S**	**11 14 19.7**	**-2.4**
	87nm,0.3s,baz=287,slow=24,SNR=1.3						
LBMI	**Labuha**	**8.15**	**151**	P	**P**	**11 12 46.8**	**+0.2**
	368nm,0.9s,4µm9.0nm						
SANI	**Sanana**	**8.89**	**164**	P	**P**	**11 12 51.6**	**-2.0**
SANI	**Sanana**	**8.89**	**164**	P	**P**	**11 12 50.9**	**-2.7**
TTSI	**Tana Toraja**	**10.26**	**202**	P	**P**	**11 13 08.5**	**+1.5**
	49nm,1.1s,944nm						
NLAI	**Namlea**	**10.35**	**160**	P	**P**	**11 13 08.9**	**+1.0**
	294nm,0.7s,8µm						
SWI	**Sorong**	**10.63**	**134**	P	**P**	**11 13 10.9**	**+0.2**
BNDI	**Bandanaira**	**12.69**	**150**	P	**P**	**11 13 31.8**	**+0.8**
FAKI	**Fak Fak**	**12.79**	**137**	P	**P**	**11 13 31.8**	**-0.2**
FAKI	**Fak Fak**	**12.79**	**137**	P	**P**	**11 13 32.3**	**+0.3**
FAKI	**Fak Fak**	**12.79**	**137**	P	**P**	**11 13 32.1**	**+0.1**
	414nm,0.7s,3µm						
STKI	**Sintang**	**13.70**	**242**	P	**P**	**11 13 43.2**	**+2.1**
	56nm,0.6s,11µm						
KSM	**Kuching**	**14.18**	**250**	P	**P**	**11 13 46.1**	**+0.4**
MMRI	**Maumere**	**15.16**	**185**	P	**P**	**11 13 56.4**	**+1.7**
MMRI	**Maumere**	**15.16**	**185**	P	**P**	**11 13 57.1**	**+2.5**
MMRI	**Maumere**	**15.16**	**185**	P	**P**	**11 13 58.3**	**+3.6**
	124nm,0.6s,3µm						
EDFI	**Ende, Flores**	**15.33**	**187**	P	**P**	**11 13 57.2**	**+0.9**
	110nm,0.7s,1µm						
DLV	**T Lat**	**15.83**	**291**	P	**P**	**11 14 01.7**	**+0.7**
DLV	**T Lat**	**15.83**	**291**	P	**P**	**11 14 01.9**	**+1.0**
SOEI	**Soe**	**16.23**	**178**	P	**P**	**11 14 05.5**	**+1.0**
SOEI	**Soe**	**16.23**	**178**	P	**P**	**11 14 04.6**	**+0.1**
SOEI	**Soe**	**16.23**	**178**	P	**P**	**11 14 04.4**	**-0.1**
	84nm,0.6s						
TWGBT	**Beinan**	**16.34**	**352**	P	**P**	**11 14 04.9**	**-0.4**
TWG	**Pinlang**	**16.34**	**352**	P	**P**	**11 14 04.8**	**-0.5**
PLAI	**Plampang**	**16.36**	**201**	P	**P**	**11 14 07.0**	**+1.5**
SAUI	**Saumlaki**	**16.37**	**152**	P	**P**	**11 14 06.4**	**+0.7**
SAUI	**Saumlaki**	**16.37**	**152**	P	**P**	**11 14 06.5**	**+0.7**
	339nm,0.7s						
BATI	**Baumata**	**16.66**	**180**	P	**P**	**11 14 08.4**	**0.0**
	299nm,0.5s,baz=350,slow=0.7,SNR=68						
BATI				S	**S**	**11 16 53.2**	**-0.4**
	28nm,0.4s,baz=32,slow=17,SNR=6.8						
BATI	**Baumata**	**16.66**	**180**	P	**P**	**11 14 08.1**	**-0.3**
	400nm,0.7s,3µm						
YULB	**Yu-li**	**16.87**	**353**	P	**P**	**11 14 09.4**	**-0.8**
YULB	**Yu-li**	**16.87**	**353**	P	**P**	**11 14 09.4**	**-0.8**
TPUB	**Ta-pu**	**16.88**	**351**	P	**P**	**11 14 11.6**	**+1.4**
TPUB	**Ta-pu**	**16.88**	**351**	P	**P**	**11 14 10.2**	**-0.1**
SSLB	**Suanglung**	**17.31**	**352**	P	**P**	**11 14 15.0**	**+0.8**
SSLB	**Suanglung**	**17.31**	**352**	P	**P**	**11 14 14.6**	**+0.4**
NACB	**Ninganchiao**	**17.61**	**354**	P	**P**	**11 14 17.7**	**+0.8**
NACB	**Ninganchiao**	**17.61**	**354**	P	**P**	**11 14 18.2**	**+1.3**
NACB				IAmb	IAmb	11 14 26.9	
	comp=Z,23nm,0.7s						
JAGI	**Jajag, Banyuwa**	**17.66**	**212**	P	**P**	**11 14 19.5**	**+2.0**
YHNB	**Yeheng**	**18.12**	**354**	P	**P**	**11 14 23.1**	**+1.4**
YHNB	**Yeheng**	**18.12**	**354**	P	**P**	**11 14 23.0**	**+1.4**
GENI	**Genyem**	**18.89**	**118**	P	**P**	**11 14 30.3**	**+1.6**
	comp=Z,116nm,0.8s						
UGM	**Wanagama**	**19.41**	**222**	P	**P**	**11 14 33.9**	**+0.5**
UGM	**Wanagama**	**19.41**	**222**	P	**P**	**11 14 35.4**	**+2.0**
UBPT	**Khong Chiam**	**19.77**	**297**	P	**P**	**11 14 37.4**	**+0.7**
UBPT				IAmb	IAmb	11 14 47.4	
	comp=Z,16nm,1.3s						
KPJI	**Karang Pucung**	**20.11**	**227**	P	**P**	**11 14 42.4**	**+2.7**
	comp=Z,28nm,0.9s						
DRS	**Darwin Rock St**	**20.23**	**159**	P	**P**	**11 14 40.8**	**+0.1**

MYKOM	**Kota Tinggi**	**20.25**	**257**	P		**P**	**11 14 41.7**	**+0.7**
MTN	**Manton Dam**	**20.69**	**159**	P		**P**	**11 14 44.7**	**-0.2**
MTN	**Manton Dam**	**20.69**	**159**	P		**P**	**11 14 44.3**	**-0.6**
LEM	**Lembang**	**20.76**	**230**	P		**P**	**11 14 46.6**	**+0.9**
	comp=Z,35nm,0.8s,baz=326,slow=20,SNR=6.9							
	comp=Z,35nm,0.8s							
BBJI	**Bungbulang**	**21.14**	**229**	P		**P**	**11 14 48.5**	**-0.6**
KASI	**Kota Agung**	**22.53**	**238**	P		**P**	**11 15 01.6**	**+0.3**
	comp=Z,73nm,0.9s,comp=Z,871nm							
IPM	**Ipoh**	**22.55**	**266**	P		**P**	**11 15 02.2**	**+0.6**
IPM				IAmb	IAmb	11 15 02.6		
	comp=Z,15nm,0.6s							
LWLI	**Liwa**	**22.64**	**240**	P		**P**	**11 15 02.8**	**+0.4**
	comp=Z,331nm,0.9s							
KNRA	**Kununurra**	**22.69**	**167**	P		**P**	**11 15 02.9**	**+0.3**
KNRA	**Kununurra**	**22.69**	**167**	P		**P**	**11 15 03.1**	**+0.4**
KNRA				IAmb	IAmb	11 15 03.6		
	comp=Z,25nm,0.8s							
KULM	**Kulim**	**22.85**	**268**	P		**P**	**11 15 04.5**	**+0.3**
KULM				IAmb	IAmb	11 15 05.1		
	comp=Z,13nm,0.7s							
MNAI	**Manna**	**23.29**	**243**	P		**P**	**11 15 08.4**	**+0.3**
SRIT	**Nakonsritamara**	**23.86**	**276**	P		**P**	**11 15 14.1**	**+1.0**
FITZ	**Fitzroy Crossi**	**24.59**	**175**	P		**P**	**11 15 19.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**24.59**	**175**	P		**P**	**11 15 19.6**	**+0.2**
FITZ				IAmb	IAmb	11 15 19.9		
	comp=Z,5.5nm,0.5s							
XMIS	**Christmas Isla**	**24.61**	**227**	P		**P**	**11 15 18.2**	**-1.6**
SRDT	**SRDT**	**25.25**	**290**	P		**P**	**11 15 27.1**	**+1.7**
WHN	**Wuhan**	**25.38**	**341**	P		**P**	**11 15 27.6**	**+1.3**
PHRA	**Phrae**	**25.66**	**300**	P		**P**	**11 15 30.1**	**+1.2**
NJ2	**Nanjing**	**25.74**	**351**	*e*P		**P**	**11 15 30.3**	**+0.9**
NJ2				pmax	pmax			
	comp=Z,19nm,0.9s							
KCSI	**Kotacane, Aceh**	**25.89**	**265**	P		**P**	**11 15 30.6**	**-0.5**
	comp=Z,75nm,0.8s							
CRAI	**Chiangrai**	**26.30**	**303**	P		**P**	**11 15 35.4**	**+0.9**
CRAI				IAmb	IAmb	11 15 36.3		
	comp=Z,9.1nm,0.8s							
GSI	**Gunungsitoli**	**26.46**	**260**	P		**P**	**11 15 35.6**	**-0.5**
GSI	**Gunungsitoli**	**26.46**	**260**	P		**P**	**11 15 35.4**	**-0.7**
	comp=Z,218nm,0.6s							
CM31	**Chiang Mai Arr**	**26.76**	**298**	P		**P**	**11 15 39.7**	**+1.1**
CM31				IAmb	IAmb	11 15 40.6		
	comp=Z,11nm,0.8s							
CMAR	**Chiang Mai Arr**	**26.76**	**298**	P		**P**	**11 15 39.4**	**+0.8**
CMAR						**PcP**	**11 18 40.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**26.76**	**298**	P		**P**	**11 15 39.4**	**+0.8**
	comp=Z,7.4nm,0.7s,baz=113,slow=7.1,SNR=46							
CMAR				PcP		**PcP**	**11 18 41.1**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=145,slow=0.9,SNR=8.7							
CMAR				ScP		**ScP**	**11 21 23.8**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=99,slow=1.5,SNR=6.6							
	comp=Z,7.4nm,0.7s							
ENH	**Enshi**	**27.05**	**332**	P		**P**	**11 15 41.6**	**+0.6**
ENH				IAmb	IAmb	11 15 42.7		
	comp=Z,15nm,1.0s							
MLSI	**Meulaboh, Aceh**	**27.16**	**267**	P		**P**	**11 15 43.3**	**+1.2**
	comp=Z,71nm,0.7s							
KMI	**Kunming**	**27.18**	**315**	⇑P		**P**	**11 15 44.3**	**+1.9**
KMI				pmax	pmax			
	comp=Z,13nm,0.7s							
MBWA	**Marble Bar**	**27.81**	**188**	P		**P**	**11 15 47.6**	**-0.1**
MBWA	**Marble Bar**	**27.81**	**188**	P		**P**	**11 15 47.5**	**-0.2**
MBWA				IAmb	IAmb	11 15 48.0		
	comp=Z,17nm,0.6s							
COEN	**Coen**	**28.17**	**136**	P		**P**	**11 15 50.1**	**-0.8**
COEN	**Coen**	**28.17**	**136**	P		**P**	**11 15 50.2**	**-0.8**
PSA00	**Pilbara Seismi**	**28.21**	**187**	P		**P**	**11 15 51.0**	**-0.1**
PSA00	**Pilbara Seismi**	**28.21**	**187**	P		**P**	**11 15 50.8**	**-0.3**
PSA00	**Pilbara Seismi**	**28.21**	**187**	P		**P**	**11 15 49.8**	**-1.3**
PSA00				IAmb	IAmb	11 15 51.3		
	comp=Z,7.7nm,0.9s							
WB0	**Warramunga Arr**	**28.25**	**158**	P		**P**	**11 15 51.2**	**-0.3**
PMG	**Port Moresby**	**28.34**	**124**	P		**P**	**11 15 52.1**	**-0.3**
PMG	**Port Moresby**	**28.34**	**124**	P		**P**	**11 15 50.4**	**-2.0**
	comp=Z,31nm,0.9s,baz=318,slow=6.5,SNR=10.0							
	comp=Z,31nm,0.9s							
WRAB	**Tennant Creek**	**28.38**	**158**	P		**P**	**11 15 52.5**	**-0.2**
WRA	**Warramunga Arr**	**28.39**	**158**	P		**P**	**11 15 51.4**	**-1.3**
WRA				IAmb	IAmb	11 15 53.2		
	comp=Z,3.5nm,0.5s							
WRA	**Warramunga Arr**	**28.39**	**158**	P		**P**	**11 15 52.3**	**-0.4**
	comp=Z,94nm,0.4s,baz=341,slow=9.1,SNR=251							
WRA				PcP		**PcP**	**11 18 44.3**	**-0.4**
	comp=Z,2.0nm,0.4s,baz=330,slow=2.8,SNR=1.4							
WRA				S		**S**	**11 19 56.5**	**-2.0**
	comp=Z,15nm,0.6s,baz=334,slow=16,SNR=19							
WRA				ScP		**ScP**	**11 21 27.5**	**-1.4**
	comp=Z,2.5nm,0.5s,baz=342,slow=3.0,SNR=6.3							
WB2	**Warramunga Arr**	**28.39**	**158**	P		**P**	**11 15 52.6**	**-0.2**
WB1	**Warramunga Ar.**	**28.41**	**158**	P		**P**	**11 15 52.5**	**-0.4**
WR0

HNR	**Honiara**	**39.56**	**113**	P	**P**	**11 17 25.0**	**-0.9**
RK1H	**Rockhampton Ha**	**39.72**	**139**	P	**P**	**11 17 27.5**	**+0.5**
NWAO	**Narrogin (SRO)**	**39.74**	**188**	P	**P**	**11 17 27.4**	**+0.4**
NWAO	**Narrogin (SRO)**	**39.74**	**188**	P	**P**	**11 17 27.2**	**+0.2**
NWAO				IAmb	IAmb	11 17 46.1	
	comp=Z,48nm,1.5s						
BBOO	**Buckleboo**	**40.92**	**164**	P	**P**	**11 17 36.9**	**+0.6**
BBOO	**Buckleboo**	**40.92**	**164**	P	**P**	**11 17 37.0**	**+0.6**
EIDS	**Eidsvold**	**41.50**	**141**	P	**P**	**11 17 41.0**	**-0.1**
EIDS	**Eidsvold**	**41.50**	**141**	P	**P**	**11 17 40.8**	**-0.3**
EIDS				IAmb	IAmb	11 17 42.1	
	comp=Z,25nm,0.8s						
STKA	**Stephens Creek**	**41.91**	**157**	P	**P**	**11 17 44.8**	**+0.6**
STKA	**Stephens Creek**	**41.91**	**157**	P	**P**	**11 17 44.7**	**+0.6**
STKA				IAmb	IAmb	11 17 45.7	
	comp=Z,6.9nm,0.7s						
STKA	**Stephens Creek**	**41.91**	**157**	P	**P**	**11 17 44.9**	**+0.7**
	comp=Z,37nm,0.5s,baz=338,slow=8.1,SNR=94						
STKA				ScP	**ScP**	**11 22 17.1**	**-0.9**
	comp=Z,3.6nm,0.6s,baz=356,slow=7.9,SNR=4.7						
	comp=Z,37nm,0.5s						
HTT	**Hallett**	**42.36**	**161**	P	**P**	**11 17 47.8**	**+0.1**
PALK	**Pallekele**	**42.57**	**274**	P	**P**	**11 17 49.4**	**-0.3**
PALK				IAmb	IAmb	11 17 50.7	
	comp=Z,8.9nm,0.6s						
CMSA	**Cobar Meteorol**	**43.38**	**152**	P	**P**	**11 17 56.7**	**+1.1**
YSS	**Yuzh-Sakhalins**	**43.48**	**19**	P	**P**	**11 17 56.0**	**0.0**
YSS				IAmb	IAmb	11 18 01.6	
	comp=Z,10.0nm,0.4s						
ULN	**Ulaanbaatar**	**43.50**	**344**	P	**P**	**11 17 57.1**	**+0.6**
SONM	**Songino Array**	**43.66**	**343**	P	**P**	**11 17 58.4**	**+0.8**
SONM				PcP	**PcP**	**11 19 30.8**	**-0.1**
SONM	**Songino Array**	**43.66**	**343**	P	**P**	**11 17 57.5**	**-0.2**
	comp=Z,5.5nm,0.9s,baz=161,slow=8.8,SNR=21						
SONM				PcP	**PcP**	**11 19 30.7**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=165,slow=3.5,SNR=8.0						
	comp=Z,5.5nm,0.9s						
ARMA	**Armidale**	**45.55**	**145**	P	**P**	**11 18 13.7**	**+1.3**
ARMA	**Armidale**	**45.55**	**145**	P	**P**	**11 18 14.3**	**+1.9**
ARMA				IAmb	IAmb	11 18 15.2	
	comp=Z,29nm,0.9s						
ARPS	**Mount Arapiles**	**46.38**	**160**	P	**P**	**11 18 18.7**	**+0.4**
SYDH	**Sydney Hard Ro**	**47.65**	**149**	P	**P**	**11 18 29.2**	**+1.3**
CAN	**Canberra**	**48.05**	**152**	P	**P**	**11 18 30.9**	**-0.1**
CAN	**Canberra**	**48.05**	**152**	P	**P**	**11 18 31.8**	**+0.8**
CAN				IAmb	IAmb	11 18 32.9	
	comp=Z,29nm,0.9s						
CNB	**Canberra Magne**	**48.22**	**152**	P	**P**	**11 18 32.3**	**+0.1**
KOUNC	**Koumac, New Ca**	**48.22**	**125**	P	**P**	**11 18 31.4**	**-1.0**
KOUNC				IAmb	IAmb	11 18 35.5	
	comp=Z,34nm,1.4s						
TOO	**Toolangi**	**48.44**	**157**	P	**P**	**11 18 34.3**	**+0.6**
TOO	**Toolangi**	**48.44**	**157**	P	**P**	**11 18 34.9**	**+1.2**
TOO				IAmb	IAmb	11 18 35.9	
	comp=Z,11nm,0.7s						
WMQ	**Urumqi**	**48.63**	**326**	*e*P	**P**	**11 18 36.5**	**+1.4**
WMQ				pmax	pmax		
	comp=Z,19nm,1.1s						
HMDM	**Hanimaadhoo**	**50.05**	**273**	P	**P**	**11 18 47.0**	**+1.0**
DZM	**Mont Dzumac**	**50.72**	**125**	P	**P**	**11 18 51.8**	**+1.0**
DZM	**Mont Dzumac**	**50.72**	**125**	P	**P**	**11 18 51.7**	**+1.0**
DZM				IAmb	IAmb	11 18 52.5	
	comp=Z,11nm,0.6s						
LIFNC	**LIFOU**	**50.76**	**123**	P	**P**	**11 18 52.2**	**+1.3**
LIFNC	**LIFOU**	**50.76**	**123**	P	**P**	**11 18 52.0**	**+1.1**
MK31	**Makanchi Array**	**53.46**	**326**	P	**P**	**11 19 10.4**	**+0.6**
MK31				IAmb	IAmb	11 19 10.7	
	comp=Z,14nm,0.6s						
MKAR	**Makanchi Array**	**53.46**	**326**	P	**P**	**11 19 10.4**	**+0.5**
	comp=Z,18nm,0.4s,baz=122,slow=8.4,SNR=217						
MKAR				PcP	**PcP**	**11 20 06.1**	**-0.7**
	comp=Z,7.8nm,0.7s,baz=120,slow=4.6,SNR=13						
MKAR				ScP	**ScP**	**11 23 04.9**	**-1.9**
	comp=Z,1.6nm,0.8s,baz=116,slow=5.6,SNR=4.9						
MKAR				S	**S**	**11 25 57.9**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=127,slow=14,SNR=4.7						
	comp=Z,18nm,0.4s						
TARG	**Taragay, Kyrgy**	**53.56**	**318**	P	**P**	**11 19 11.9**	**+0.7**
MAKZ	**Makanchi**	**53.64**	**326**	P	**P**	**11 19 11.6**	**+0.5**
MAKZ				IAmb	IAmb	11 19 12.0	
	comp=Z,19nm,0.5s						
NIL	**Nilore**	**53.73**	**307**	P	**P**	**11 19 12.6**	**+0.5**
NIL				IAmb	IAmb	11 19 13.4	
	comp=Z,24nm,0.6s						
KSH	**Kashi**	**53.84**	**315**	P	**P**	**11 19 14.9**	**+2.1**
KSH				pmax	pmax		
	comp=Z,15nm,0.8s						
PETK	**Petropavlovsk-**	**54.09**	**25**	P	**P**	**11 19 14.0**	**-0.1**
	comp=Z,3.5nm,0.7s,baz=242,slow=6.1,SNR=5.3						
	comp=Z,3.5nm,0.7s						
NRN	**Naryn**	**54.64**	**317**	P	**P**	**11 19 19.1**	**+0.5**
NRN				IAmb	IAmb	11 19 19.9	
	comp=Z,8.7nm,0.6s						
ULHL	**Ulahol**	**54.84**	**318**	P	**P**	**11 19 20.6**	**+0.8**
	SNR=9.8						
BOOM	**Boomskoye usch**	**55.14**	**318**	P	**P**	**11 19 22.2**	**+0.3**
BOOM				PcP	**PcP**	**11 20 13.9**	**+0.2**
YAK	**Yakutsk**	**55.53**	**3**	P	**P**	**11 19 22.8**	**-1.1**
YAK				IAmb	IAmb	11 19 24.6	
	comp=Z,28nm,0.8s						
TKM2	**Tokmak 2**	**55.56**	**319**	P	**P**	**11 19 25.5**	**+0.7**
	SNR=17						
UCH	**Uchtor**	**55.98**	**317**	P	**P**	**11 19 29.2**	**+1.2**
	SNR=26						
AAK	**Ala-Archa**	**56.17**	**318**	P	**P**	**11 19 29.8**	**+0.8**
	SNR=5.4						
AAK	**Ala-Archa**	**56.17**	**318**	P	**P**	**11 19 29.0**	**+0.1**
USP	**Ospenovka**	**56.44**	**319**	P	**P**	**11 19 31.2**	**+0.6**
	SNR=17						
ARSB	**Arslanbob**	**56.66**	**316**	P	**P**	**11 19 32.7**	**+0.4**
EKS2	**Erkin-Say**	**56.66**	**318**	P	**P**	**11 19 33.3**	**+1.0**
	SNR=12						
ZAA0	**Zalesovo Array**	**56.67**	**334**	P	**P**	**11 19 31.0**	**-0.9**
ZALV	**Zalesovo Beam**	**56.67**	**334**	P	**P**	**11 19 31.1**	**-0.8**
	comp=Z,3.5nm,0.5s,baz=123,slow=5.3,SNR=20						
ZALV				PcP	**PcP**	**11 20 17.4**	**-1.7**
	comp=Z,1.1nm,0.5s,baz=148,slow=3.7,SNR=1.8						
	comp=Z,3.5nm,0.5s						
MA2	**Magadan**	**56.80**	**16**	P	**P**	**11 19 33.5**	**+0.8**
MA2				IAmb	IAmb	11 19 34.4	
	comp=Z,14nm,0.8s						
DRK	**Karamyk**	**56.80**	**313**	P	**P**	**11 19 34.5**	**+1.0**
DRK				IAmb	IAmb	11 19 35.2	
	comp=Z,22nm,0.8s						
KBL	**Kabul**	**57.33**	**307**	P	**P**	**11 19 37.4**	**+0.3**
KBL				IAmb	IAmb	11 19 38.0	
	comp=Z,15nm,0.7s						
KURBB	**Kurchatov Arra**	**57.68**	**328**	P	**P**	**11 19 38.9**	**0.0**
	comp=Z,25nm,0.7s,baz=130,slow=6.3,SNR=288						
KURBB				PcP	**PcP**	**11 20 25.4**	**+2.2**
	comp=Z,2.0nm,0.5s,baz=127,slow=5.8,SNR=4.7						
	comp=Z,25nm,0.7s						
KURK	**Kurchatov**	**57.69**	**328**	P	**P**	**11 19 39.1**	**+0.2**
KURK				IAmb	IAmb	11 19 39.8	
	comp=Z,44nm,0.7s						
BTK	**Batken**	**57.71**	**314**	P	**P**	**11 19 40.1**	**+0.7**
SIMJ	**Simiganj**	**58.57**	**312**	P	**P**	**11 19 44.6**	**-0.7**
MSVF	**Nonsavu**	**58.94**	**115**	P	**P**	**11 19 48.7**	**+0.8**
MSVF	**Nonsavu**	**58.94**	**115**	P	**P**	**11 19 48.7**	**+0.8**
KK31	**Karatay Array**	**59.04**	**317**	P	**P**	**11 19 48.2**	**+0.1**
KKAR	**Karatay Array**	**59.04**	**317**	P	**P**	**11 19 48.0**	**-0.2**
HRA	**Herat**	**62.75**	**305**	P	**P**	**11 20 12.4**	**-0.4**
BVAR	**Borovoye Array**	**63.25**	**327**	P	**P**	**11 20 15.2**	**-0.2**
	comp=Z,7.3nm,0.7s,baz=134,slow=8.4,SNR=36						
BVAR				PcP	**PcP**	**11 20 45.0**	**-0.8**
	comp=Z,2.3nm,0.6s,baz=96,slow=3.0,SNR=4.8						
	comp=Z,7.3nm,0.7s						
BRVK	**Borovoye**	**63.33**	**327**	P	**P**	**11 20 16.0**	**+0.1**
BRVK				IAmb	IAmb	11 20 16.7	
	comp=Z,14nm,0.9s						
QRZ	**Quartz Range**	**65.09**	**141**	P	**P**	**11 20 28.6**	**+1.4**
QRZ	**Quartz Range**	**65.09**	**141**	P	**P**	**11 20 27.3**	**+0.1**
QRZ				IAmb	IAmb	11 20 32.4	
	comp=Z,59nm,1.4s						
TIXI	**Tiksi**	**65.09**	**2**	P	**P**	**11 20 25.4**	**-1.2**
TIXI				IAmb	IAmb	11 20 26.6	
	comp=Z,8.9nm,0.7s						
MRNZ	**Matariki Terra**	**65.55**	**141**	P	**P**	**11 20 29.9**	**-0.1**
THZ	**Tophouse**	**65.85**	**142**	P	**P**	**11 20 32.2**	**+0.2**
THZ				IAmb	IAmb	11 20 33.8	
	comp=Z,11nm,0.8s						
RPZ	**Rata Peaks**	**65.87**	**144**	P	**P**	**11 20 32.9**	**+0.9**
KHZ	**Kahutara**	**66.61**	**142**	P	**P**	**11 20 38.2**	**+1.7**
GEYT	**Alibeck**	**66.69**	**308**	P	**P**	**11 20 38.3**	**+1.0**
GEYT				IAmb	IAmb	11 20 38.9	
	comp=Z,11nm,1.0s						
GEYT	**Alibeck**	**66.69**	**308**	P	**P**	**11 20 37.4**	**+0.1**
	comp=Z,6.6nm,0.8s,baz=120,slow=6.0,SNR=11						
	comp=Z,6.6nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**66.69**	**308**	P	**P**	**11 20 38.5**	**+1.3**
GYA0B				IAmb	IAmb	11 20 38.9	
	comp=Z,7.2nm,0.8s						
URZ	**Urewera**	**66.74**	**136**	P	**P**	**11 20 38.3**	**+0.9**
UOSS	**Minazif**	**66.77**	**294**	P	**P**	**11 20 37.5**	**-0.5**
UOSS				IAmb	IAmb	11 20 37.6	
	comp=Z,4.5nm,0.5s						
BKZ	**Black Stump Fm**	**66.77**	**138**	P	**P**	**11 20 38.6**	**+0.9**
BKZ	**Black Stump Fm**	**66.77**	**138**	P	**P**	**11 20 38.1**	**+0.5**
BKZ				IAmb	IAmb	11 20 38.7	
	comp=Z,21nm,0.8s						
RTZ	**Ruatahuna**	**66.83**	**137**	P	**P**	**11 20 37.5**	**-0.6**
NRIK	**Noril'sk**	**66.96**	**347**	P	**P**	**11 20 37.8**	**-0.4**
NRIK				IAmb	IAmb	11 20 38.9	
	comp=Z,11nm,0.7s						
NRIK	**Noril'sk**	**66.96**	**347**	P	**P**	**11 20 38.1**	**-0.1**
	comp=Z,9.1nm,0.6s,baz=126,slow=5.9,SNR=30						
	comp=Z,9.1nm,0.6s						
BFZ	**Birch Farm**	**67.38**	**139**	P	**P**	**11 20 41.7**	**+0.4**
ABKAR	**Akbulak array**	**67.99**	**321**	P	**P**	**11 20 44.5**	**-0.3**
ABKAR				IAmb	IAmb	11 20 45.5	
	comp=Z,9.8nm,0.7s						
ARU	**Arti**	**70.88**	**328**	P	**P**	**11 21 01.2**	**-0.8**
ARU				IAmb	IAmb	11 21 01.9	
	comp=Z,17nm,0.5s						
RAYN	**Ar Rayn**	**76.51**	**293**	P	**P**	**11 21 34.1**	**-0.4**
RAYN				IAmb	IAmb	11 21 34.9	
	comp=Z,21nm,0.8s						
C18K	**Utukok River**	**78.55**	**21**	P	**P**	**11 21 45.2**	**+0.7**
KBZ	**Khabaz**	**78.77**	**313**	P	**P**	**11 21 45.8**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=202,slow=0.9,SNR=4.8						
	comp=Z,2.2nm,0.8s						
C19K	**Lookout Ridge**	**79.20**	**21**	IAmb	IAmb	11 21 50.2	
	comp=Z,11nm,0.8s						
ABPO	**Ambohimpanom**	**79.35**	**249**	P	**P**	**11 21 48.5**	**-1.4**
ABPO				IAmb	IAmb	11 21 50.6	
	comp=Z,11nm,0.8s						
D19K	**Kuna River**	**79.63**	**22**	P	**P**	**11 21 50.6**	**+0.3**
D19K				IAmb	IAmb	11 21 51.9	
	comp=Z,9.2nm,0.7s						
TTA	**Tatalina**	**79.81**	**27**	P	**P**	**11 21 52.3**	**+1.0**
E19K	**Redstone River**	**79.82**	**23**	IAmb	IAmb	11 21 54.1	
	comp=Z,14nm,1.0s						
H19K	**Roundabout Mou**	**79.90**	**25**	IAmb	IAmb	11 21 53.7	
	comp=Z,11nm,0.8s						
J19K	**Poorman**	**80.09**	**26**	P	**P**	**11 21 53.6**	**+1.0**
B20K	**Meade River**	**80.19**	**20**	IAmb	IAmb	11 21 54.9	
	comp=Z,10nm,0.8s						
VOI	**Vohitsoka**	**80.29**	**247**	P	**P**	**11 21 53.9**	**-0.8**
VOI				IAmb	IAmb	11 21 54.6	
	comp=Z,27nm,1.0s						
F20K	**Avaraart Lake**	**80.35**	**23**	P	**P**	**11 21 55.2**	**+1.3**
B21K	**Ikpikpuk River**	**81.02**	**21**	IAmb	IAmb	11 21 59.7	
	comp=Z,11nm,0.7s						
IMAR	**Indian Mountai**	**81.05**	**24**	P	**P**	**11 21 58.4**	**+0.9**
M20K	**Styx River**	**81.07**	**28**	P	**P**	**11 21 59.2**	**+1.3**
M20K				IAmb	IAmb	11 21 59.8	
	comp=Z,7.5nm,0.8s						
E21K	**Killik River**	**81.15**	**22**	P	**P**	**11 21 59.2**	**+1.2**
G21K	**Allakaket**	**81.18**	**24**	P	**P**	**11 21 59.5**	**+1.3**
G21K				IAmb	IAmb	11 22 00.3	
	comp=Z,8.4nm,0.9s						
B22K	**Teshekpuk Lake**	**81.49**	**20**	IAmb	IAmb	11 22 02.5	
	comp=Z,10nm,0.9s						
CAST	**Castle Rocks**	**81.62**	**27**	P	**P**	**11 22 01.2**	**+0.7**
CAST				IAmb	IAmb	11 22 02.0	
	comp=Z,6.9nm,0.7s						
I21K	**Tanana**	**81.74**	**25**	P	**P**	**11 22 02.4**	**+1.3**
I21K				IAmb	IAmb	11 22 03.2	
	comp=Z,9.8nm,0.9s						
BPAW	**Bear Paw Mtn.**	**82.13**	**26**	P	**P**	**11 22 03.7**	**+0.5**
BPAW				IAmb	IAmb	11 22 04.5	
	comp=Z,8.2nm,0.7s						
SUA	**Susitna One**	**82.20**	**29**	P	**P**	**11 22 03.5**	**-0.2**
SUA				IAmb	IAmb	11 22 04.4	
	comp=Z,7.2nm,0.8s						
MLY	**Manley**	**82.26**	**25**	P	**P**	**11 22 04.6**	**+0.8**
MLY				IAmb	IAmb	11 22 05.4	
	comp=Z,8.3nm,0.7s						
C23K	**Itkillik River**	**82.42**	**20**	IAmb	IAmb	11 22 06.4	
	comp=Z,26nm,1.1s						
TRF	**Thorofare Moun**	**82.43**	**27**	P	**P**	**11 22 04.8**	**-0.1**
G23K	**Bananza Creek**	**82.58**	**24**	IAmb	IAmb	11 22 07.7	
	comp=Z,9.1nm,0.9s						
TOLK	**Toolik Lake Re**	**82.77**	**22**	P	**P**	**11 22 07.3**	**+1.0**
TOLK				IAmb	IAmb	11 22 08.4	
	comp=Z,11nm,0.8s						
I23K	**Minto, Yukon-K**	**82.84**	**25**	P	**P**	**11 22 05.2**	**-1.4**
OBN	**Obninsk**	**82.95**	**325**	P	**P**	**11 22 06.9**	**-0.4**
NEA2	**Nenana**	**82.97**	**26**	P	**P**	**11 22 08.3**	**+1.0**
D24K	**Happy Valley**	**83.05**	**21**	IAmb	IAmb	11 22 09.8	
	comp=Z,19nm,0.7s						
RND	**Reindeer**	**83.08**	**27**	P	**P**	**11 22 07.7**	**-0.2**
GAZ	**Gaziantep**	**83.19**	**307**	P	**P**	**11 22 09.7**	**+0.6**
GAZ				IAmb	IAmb	11 22 10.3	
	comp=Z,12nm,0.8s						
WRH	**Wood River Hil**	**83.39**	**26**	P	**P**	**11 22 09.0**	**-0.4**
WRH				IAmb	IAmb	11 22 19.5	
	comp=Z,11nm,1.5s						
ILAR	**Eielson Array**	**83.90**	**26**	P	**P**	**11 22 11.4**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=233,slow=5.1,SNR=14						
	comp=Z,0.6nm,0.6s						
D25K	**Kavik River**	**83.92**	**21**	P	**P**	**11 22 12.7**	**+0.8**
D25K				IAmb	IAmb	11 22 13.8	
	comp=Z,10nm,1.4s						
BNN	**Bunyan**	**84.17**	**308**	P	**P**	**11 22 13.0**	**-0.9**
E25K	**Arctic Village**	**84.27**	**22**	P	**P**	**11 22 14.6**	**+0.9**
BMAR	**Burnt Mountain**	**84.69**	**23**	P	**P**	**11 22 16.9**	**+1.1**
GHAJ	**Ghor Haditha**	**84.95**	**301**	P	**P**	**11 22 18.6**	**+0.9**
MMAI	**Mount Meron Ar**	**84.95**	**303**	P	**P**	**11 22 17.9**	**+0.1**
	comp=Z,1.5nm,0.4s,baz=96,slow=7.7,SNR=3.9						
	comp=Z,1.5nm,0.4s						
MAW	**Mawson**	**85.34**	**200**	P	**P**	**11 22 18.5**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=338,slow=12,SNR=1.9						
	comp=Z,1.1nm,0.5s						
J26L	**Joseph Creek**	**85.35**	**26**	P	**P**	**11 22 19.1**	**0.0**
I26K	**Coal Creek Min**	**85.45**	**25**	IAmb	IAmb	11 22 20.1	
	comp=Z,6.3nm,0.8s						
E27K	**Coleen River**	**85.74**	**22**	P	**P**	**11 22 21.0**	**+0.2**
BR131	**Keskin Array S**	**85.81**	**309**	P	**P**	**11 22 20.6**	**-1.2**
BR131				IAmb	IAmb	11 22 22.3	
	comp=Z,4.8nm,0.8s						
BRTR	**Keskin Array B**	**85.81**	**309**	P	**P**	**11 22 20.4**	**-1.5**
BRTR	**Keskin Array B**	**85.81**	**309**	P	**P**	**11 22 20.6**	**-1.2**
	comp=Z,4.8nm,0.8s,baz=124,slow=4.5,SNR=11						
	comp=Z,4.8nm,0.8s						
KIBK	**Kibwezi**	**85.84**	**267**	P	**P**	**11 22 22.6**	**+0.2**
KIBK				IAmb	IAmb	11 22 23.7	
	comp=Z,6.9nm,0.9s						
BCAR	**Beaver Creek A**	**86.29**	**27**	P	**P**	**11 22 24.1**	**+0.6**
F28M	**Old Crow**	**86.47**	**22**	P	**P**	**11 22 24.5**	**+0.4**
VNDA	**Vanda**	**86.63**	**172**	P	**P**	**11 22 25.0**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=330,slow=6.9,SNR=15						
	comp=Z,2.3nm,0.8s						
ARCES	**ARCESS Array B**	**86.72**	**340**	P	**P**	**11 22 24.1**	**-1.2**
	comp=Z,3.4nm,0.7s,baz=84,slow=6.0,SNR=9.5						
	comp=Z,3.4nm,0.7s						
I28M	**Miner Creek**	**86.77**	**25**	IAmb	IAmb	11 22 27.1	
	comp=Z,6.2nm,0.7s						
CTGM	**Chitina Glacie**	**86.77**	**29**	P	**P**	**11 22 25.6**	**-0.4**
CTGM				IAmb	IAmb	11 22 43.6	
	comp=Z,13nm,1.3s						
SPITS	**Spitsbergen Ar**	**87.10**	**349**	P	**P**	**11 22 26.1**	**-0.8**
	comp=Z,5.1nm,0.5s,baz=96,slow=7.6,SNR=18						
	comp=Z,5.1nm,0.5s						
AKASG	**Malin Array Be**	**87.73**	**321**	P	**P**	**11 22 28.8**	**-1.6**
	comp=Z,1.3nm,0.5s,baz=67,slow=4.7,SNR=7.8						
	comp=Z,1.3nm,0.5s						
FINES	**FINESS Array B**	**87.87**	**332**	P	**P**	**11 22 29.8**	**-1.0**
FINES	**FINESS Array B**	**87.87**	**332**	P	**P**	**11 22 29.7**	**-1.1**
	comp=Z,3.7nm,0.6s,baz=54,slow=5.6,SNR=24						
	comp=Z,3.7nm,0.6s						
PABE	**Paberze**	**90.06**	**326**	P	**P**	**11 22 40.3**	**-0.8**
FARO	**Faro, Yukon**	**90.27**	**27**	P	**P**	**11 22 42.8**	**+0.8**
FARO				IAmb	IAmb	11 22 43.3	
	comp=Z,5.3nm,0.8s						
BURAR	**Bucovina Array**	**90.81**	**318**	P	**P**	**11 22 44.7**	**-0.3**
BURAR				IAmb	IAmb	11 22 45.5	
	comp=Z,4.2nm,0.7s						
BUR08	**Bucovina Ar. S**	**90.82**	**318**	P	**P**	**11 22 44.7**	**-0.3**
BUR08				IAmb	IAmb	11 22 45.2	
	comp=Z,4.4nm,0.7s						
WTLY	**Watson Lake, Y**	**92.99**	**29**	P	**P**	**11 22 55.6**	**+1.0**
WTLY				IAmb	IAmb	11 22 56.1	
	comp=Z,7.0nm,1.0s						
HFS	**Hagfors**	**94.06**	**332**	P	**P**	**11 22 57.6**	**-1.8**
	comp=Z,2.1nm,0.7s,baz=99,slow=7.8,SNR=7.3						
	comp=Z,2.1nm,0.7s						
NB2	**NORSAR Subarra**	**94.86**	**333**	P	**P**	**11 23 01.0**	**-2.1**
	comp=Z,3.7nm,0.9s,baz=70,slow=4.6						
NB2	**NORSAR Subarra**	**94.86**	**333**	P	**P**	**11 23 01.0**	**-2.1**
	baz=70,slow=4.6						
NOA	**NORSAR Array B**	**94.86**	**333**	P	**P**	**11 23 01.2**	**-1.9**
	comp=Z,2.1nm,0.9s,baz=68,slow=4.7,SNR=5.2						
	comp=Z,2.1nm,0.9s						
GERES	**GERESS Array B**	**97.93**	**321**	P	Pdif	11 23 16.5	-0.6
	comp=Z,0.6nm,0.4s,baz=82,slow=8.2,SNR=2.0						
	comp=Z,0.6nm,0.4s						
YKA	**Yellowknife Ar**	**98.19**	**23**	P	Pdif	11 23 17.7	-0.1
	comp=Z,0.3nm,0.8s,baz=286,slow=3.8,SNR=4.9						
	comp=Z,0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**119.06**	**289**	PKP	**PKPdf**	**11 28 26.0**	**-0.8**
	comp=Z,2.4nm,0.7s,baz=35,slow=3.0,SNR=13						
TXAR	**Lajitas Array**	**122.24**	**49**	PKP	**PKPdf**	**11 28 33.0**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=20,slow=1.6,SNR=5.5						
S39A	**Bolivar**	**124.12**	**35**		**PKPdf**	**11 28 35.7**	**-0.3**
R40A	**Maddies Statio**	**124.30**	**34**		**PKPdf**	**11 28 36.1**	**-0.3**
JCT	**Junction City**	**124.47**	**46**	PKPdf	**PKPdf**	**11 28 37.2**	**+0.3**
DBIC	**Dimbokro**	**126.91**	**283**	PKP	**PKPdf**	**11 28 42.1**	**+0.1**
	comp=Z,4.7nm,0.8s,baz=72,slow=3.3,SNR=5.2						
PLCA	**Paso Flores**	**143.71**	**162**	PKP	PKPab	11 29 12.2	+0.6
	comp=Z,5.3nm,0.6s,baz=216,slow=3.3,SNR=22						
ORTG	**Ortega, Santa**	**146.54**	**60**	PKPbc	**PKPdf**	**11 29 19.5**	**+1.6**
HDC	**Heredia**	**147.87**	**59**	PKPbc	**PKPbc**	**11 29 23.5**	**-0.6**
PEZE	**Perez Zeledon,**	**148.55**	**60**	PKPbc	**PKPdf**	**11 29 22.4**	**+1.2**
BO02	**Sierra Bellavi**	**148.94**	**157**	PKPbc	**PKPbc**	**11 29 24.6**	**-1.4**
MT02	**Curacav**	**150.13**	**155**	PKPbc	**PKPbc**	**11 29 29.4**	**+0.5**
VA03	**San Esteban**	**150.80**	**155**	PKPbc	**PKPbc**	**11 29 30.8**	**+0.3**

IDC 20 11:23:12.1±2.2, 4.36N×125.68E, h0km, mb3.4/3, mbtmp3.4/3, MS3.1/3, Error ellipse: s-maj=199.7km s-min=26.0km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**21.03**	**63**	LR	LR	11 35 10.2	
	comp=Z,21nm,20.5s,baz=86,slow=34						
WRA	**Warramunga Arr**	**25.61**	**161**	P	P	11 28 43.1	-0.1
	0.2nm,0.5s,baz=338,slow=10,SNR=11						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**28.99**	**164**	P	P	11 29 13.9	+0.2
	0.4nm,0.9s,baz=0.2,slow=7.8,SNR=2.4						
	0.4nm,0.9s						
CTA	**Charters Tower**	**31.61**	**141**	LR	LR	11 42 30.3	
	comp=Z,92nm,19.6s,baz=0.0,slow=37						
MKAR	**Makanchi Array**	**56.45**	**326**	P	P	11 32 55.6	-0.1
	0.5nm,0.4s,baz=118,slow=7.3,SNR=7.8						
	0.5nm,0.4s						
YAK	**Yakutsk**	**57.62**	**2**	LR	LR	11 57 35.0	
	comp=Z,12nm,20.5s,baz=206,slow=36						

TAP 20 11:35:33.7, 22.92N×120.97E, h12km±1km, ML1.2, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWG	**Pinlang**	**0.14**	**138**	P	Pb	11 35 37.8	-0.5
	baz=136						
TWG				S	Sg	11 35 40.0	+0.5
	baz=136						
TWGBT	**Beinan**	**0.14**	**136**	P	Pb	11 35 37.8	-0.6
	baz=136						
TWGBT				S	Sg	11 35 40.0	+0.4
	baz=136						
LONT	**Longtian**	**0.15**	**96**	P	Pg	11 35 37.8	+0.5

0.3nm,0.7s
WRA Warramunga Arr 71.52 112 P P 11 54 06.2 0.0
1.4nm,0.8s,baz=283,slow=5.2,SNR=7.0
1.4nm,0.8s
ASAR Alice Springs 71.77 116 P P 11 54 07.8 +0.1
1.1nm,0.8s,baz=291,slow=5.9,SNR=8.5
1.1nm,0.8s

IDC 20 11:43:42.9±4.1, 2°82N×64°98E, h0km, mb3.6/4, mbtmp3.6/4, MS3.7/3, Error ellipse: s-maj=108.5km s-min=42.4km az=74.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**36.71**	**63**	P	P	11 50 51.9	-0.1
	0.4nm,0.3s,baz=250,slow=8.3,SNR=1.4						
	0.4nm,0.3s						
AAK	**Ala-Archa**	**40.55**	**11**	LR	LR	12 09 11.4	
	comp=Z,35nm,19.0s,baz=178,slow=38						
KURBB	**Kurchatov Arra**	**48.99**	**11**	P	P	11 52 31.0	-0.2
	0.1nm,0.4s,baz=188,slow=6.9,SNR=1.6						
	0.1nm,0.4s						
BOSA	**Boshof**	**49.30**	**228**	LR	LR	12 12 53.7	
	comp=Z,406nm,18.8s,baz=4.0,slow=36						
HFS	**Hagfors**	**69.21**	**335**	LR	LR	12 25 12.0	
	comp=Z,18nm,19.7s,baz=78,slow=36						
WRA	**Warramunga Arr**	**71.66**	**112**	P	P	11 55 07.5	+0.4
	0.8nm,0.8s,baz=287,slow=5.5,SNR=3.6						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**71.95**	**116**	P	P	11 55 08.6	-0.3
	0.5nm,0.7s,baz=296,slow=5.7,SNR=4.2						
	0.5nm,0.7s						

WEL 20 11:48:37.4±0.7, 45°S±4°×167°E±°, h33km±5km, M3.7/7, ML3.8/8, MLv3.7/7, Error ellipse: s-maj=0.0km s-min=0.0km az=127.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.27**	**204**	P	Pn	11 48 45.9	+0.8
DCZ				S	Sn	11 48 52.3	+2.2
TAFS	**Te Anau Fire S**	**0.35**	**125**	P	Pn	11 48 46.6	+0.3
TAFS				S	Sn	11 48 54.9	+2.8
MLZ	**Mavora Lakes**	**0.59**	**105**	P	Pn	11 48 50.0	+0.4
MLZ				S	Sn	11 48 60.0	+1.8
MSZ	**Milford Sound**	**0.70**	**39**	P	Pb	11 48 51.3	+0.1
MSZ				S	Sn	11 49 01.9	+1.3
MOSS	**Mossburn Schoo**	**0.80**	**125**	P	Pb	11 48 52.9	+0.1
MOSS				S	Sb	11 49 05.1	+1.8
WHZ	**Wether Hill Ro**	**0.81**	**147**	P	Pb	11 48 52.9	-0.2
WHZ				S	Sb	11 49 04.6	+0.8
RRKS	**Rarakau**	**0.94**	**173**	P	Pb	11 48 55.0	-0.2
PYZ	**Puysegur Point**	**1.04**	**205**	P	Pn	11 48 56.1	+0.3
WKZ	**Wanaka**	**1.27**	**73**	P	Pn	11 48 59.4	+0.4
WKZ				S	Sn	11 49 15.8	+0.8
EAZ	**Earnscleugh**	**1.41**	**91**	P	Pn	11 49 01.3	+0.4
EAZ				S	Sn	11 49 18.8	+0.4
APZ	**The Paps**	**1.68**	**164**	P	Pn	11 49 04.7	+0.1
TUZ	**Tuapeka**	**1.79**	**115**	P	Pn	11 49 05.9	-0.1
TUZ				S	Sn	11 49 27.4	-0.2
SYZ	**Scrubby Hill**	**1.84**	**137**	P	Pn	11 49 06.6	-0.1
SYZ				S	Sn	11 49 29.0	+0.2
LBZ	**Lake Benmore**	**2.21**	**69**	P	Pn	11 49 11.1	-0.8
ODZ	**Otahua Downs**	**2.37**	**87**	P	Pn	11 49 13.4	-0.6
ODZ				S	Sn	11 49 39.4	-2.5
HHSZ	**Highcliff Hill**	**2.41**	**107**	P	Pn	11 49 14.5	0.0
HHSZ				S	Sn	11 49 40.7	-2.1
FOZ	**Fox Glacier**	**2.46**	**48**	P	Pn	11 49 13.7	-1.6
TMZ	**Timaru**	**2.76**	**74**	P	Pn	11 49 18.1	-1.4
GCSZ	**Gaunt Creek Bo**	**2.88**	**50**	P	Pn	11 49 19.8	-1.3
ARCZ	**Arundel**	**3.04**	**67**	P	Pn	11 49 21.4	-1.9
RPZ	**Rata Peaks**	**3.08**	**62**	P	Pn	11 49 22.0	-1.7
WVZ	**Waitaha Valley**	**3.27**	**50**	P	Pn	11 49 26.1	-0.2
WACZ	**Wakanui South**	**3.48**	**70**	P	Pn	11 49 27.4	-1.8
MHCZ	**Mount Hutt**	**3.49**	**63**	P	Pn	11 49 27.1	-2.3
RACZ	**Rakaia**	**3.77**	**68**	P	Pn	11 49 31.1	-2.1
INZ	**Inchbonnie**	**3.89**	**52**	P	Pn	11 49 33.4	-1.5
OXZ	**Oxford**	**3.89**	**63**	P	Pn	11 49 31.1	-3.8
MQZ	**McQueen's Vall**	**4.12**	**70**	P	Pn	11 49 35.6	-2.3
AKCZ	**Akaroa Harbour**	**4.22**	**73**	P	Pn	11 49 37.3	-2.2
LTZ	**Lake Taylor**	**4.33**	**58**	P	Pn	11 49 38.3	-2.7
GVZ	**Greta Valley S**	**4.70**	**63**	P	Pn	11 49 43.4	-2.6
DSZ	**Denniston Nort**	**4.77**	**45**	P	Pn	11 49 45.5	-1.5
THZ	**Tophouse**	**5.34**	**52**	P	Pn	11 49 52.8	-2.1
MRNZ	**Matariki Terra**	**5.51**	**48**	P	Pn	11 49 56.4	-0.8
QRZ	**Quartz Range**	**5.82**	**43**	P	Pn	11 50 00.0	-1.4
TKNZ	**Takaka Hill**	**5.88**	**47**	P	Pn	11 50 02.5	+0.3
NNZ	**Nelson**	**5.97**	**50**	P	Pn	11 50 04.5	+1.1
DUWZ	**D'Urville Isla**	**6.55**	**50**	P	Pn	11 50 13.0	+1.5
PKE	**Pukeiti**	**7.80**	**42**	P	Pn	11 50 28.4	-0.2
VRZ	**Vera Road**	**8.22**	**45**	P	Pn	11 50 35.6	+1.2
OTVZ	**Oturere**	**8.66**	**49**	P	Pn	11 50 44.8	+4.2

HEL 20 12:07:35.9±0.1, 60°81N×24°50E, h0km, ML1.0, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUR	**Nurmijrvi**	**0.31**	**166**	PG	Pg	12 07 41.2	-0.5
	baz=341						
NUR				SG	Sg	12 07 45.8	+0.1
MEF	**Metsahovi**	**0.59**	**185**	*e*P	Pg	12 07 46.5	-0.8
MEF	**Metsahovi**	**0.59**	**185**	PG	Pg	12 07 46.5	-0.7
MEF				SG	Sg	12 07 54.7	-0.1
MEF				MSG		12 07 54.8	
	comp=Z,4.4nm,0.2s						
PVF	**Pernaja**	**0.72**	**111**	PG	Pg	12 07 48.4	-1.2
PVF				SG	Sg	12 07 58.1	-0.9
PVF				MSG		12 07 58.5	
	comp=Z,1.5nm,0.2s						
FIA0	**FINESS Array S**	**1.00**	**49**	PG	Pg	12 07 54.2	-0.8
FIA0				MSG		12 08 06.5	
	comp=Z,1.7nm,0.2s						
FIA0				SG	Sg	12 08 06.6	-1.4
RAF	**Rauma**	**1.35**	**280**	*e*P	Pg	12 08 00.8	-1.1
RAF	**Rauma**	**1.35**	**280**	MSG		12 08 16.6	
	comp=Z,1.2nm,0.2s						
RAF				SN	Sg	12 08 18.6	-0.7
KEF	**Keuruu**	**1.38**	**7**	*e*P	Pg	12 08 00.1	-2.2
KEF	**Keuruu**	**1.38**	**7**	PG	Pg	12 08 00.5	-1.8
	baz=183						
KEF				MSG		12 08 17.4	
	comp=Z,0.9nm,0.2s						
KEF				SG	Sg	12 08 18.7	-1.4
KPF	**Kankaanpaa**	**1.56**	**312**	PG	Pn	12 08 03.9	-1.0
KPF				SN	Sn	12 08 25.2	-0.5
KAF	**Kangasniemi**	**1.57**	**33**	PG	Pn	12 08 04.3	-0.7
KAF				MSG		12 08 23.1	
	comp=Z,1.3nm,0.2s						
KAF				SN	Sn	12 08 25.7	-0.4
SUF	**Sumiainen**	**2.08**	**22**	MSG		12 08 37.6	
	comp=Z,0.7nm,0.2s						
SUF				SG	Sb	12 08 40.4	-0.3
MTSE	**Matsula**	**2.13**	**190**	SG	Sb	12 08 42.9	+0.8
RUF	**Ruokolahti**	**2.25**	**72**	MSG		12 08 42.5	
	comp=Z,1.3nm,0.2s						
RUF				SG	Sb	12 08 44.4	-1.3
VAF	**Ylistaro**	**2.41**	**340**	MSG		12 08 47.2	
	comp=Z,0.9nm,0.2s						
VAF				SG	Sb	12 08 49.3	-0.9
JOF	**Joensuu**	**3.86**	**54**	*e*P	Pn	12 08 35.0	-1.5

HEL 20 12:08:40.5±0.1, 62°91N×29°29E, h0km, ML1.1, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.83**	**307**	SG	Sg	12 09 07.4	+0.3
NIF	**Nilsia**	**0.83**	**307**	PG	Pg	12 08 55.8	-0.6
	baz=123						
NIF				SB	Sg	12 09 07.4	+0.3
JOF	**Joensuu**	**0.93**	**88**	PB	Pg	12 08 57.9	-0.3
	baz=261						
JOF				SB	Sg	12 09 10.0	-0.2
RMF	**Romuvaara**	**1.35**	**12**	PN	Pg	12 09 06.0	-0.3
RMF				MSG		12 09 21.2	
	comp=Z,1.0nm,0.2s						
RMF				SN	Sn	12 09 25.1	-0.1
SUF	**Sumiainen**	**1.45**	**264**	PG	Pn	12 09 06.6	-1.4
	baz=79						
SUF				MSG		12 09 24.3	
	comp=Z,0.7nm,0.2s						
SUF				SN	Sg	12 09 27.0	-0.1
KAF	**Kangasniemi**	**1.60**	**241**	MSG		12 09 28.2	
	comp=Z,0.9nm,0.2s						
KAF				SG	Sn	12 09 28.8	-2.5
FIA0	**FINESS Array S**	**2.10**	**227**	PN	Pn	12 09 16.6	-0.3
	baz=37						
FIA0				MSG		12 09 43.0	
	comp=Z,0.8nm,0.2s						
FIA0				SB	Sn	12 09 43.9	+0.2
KEF	**Keuruu**	**2.18**	**252**	PG	Pb	12 09 20.3	-0.4
KEF				MSG		12 09 45.0	
	comp=Z,1.1nm,0.2s						
KEF				SG	Sn	12 09 46.8	+1.2
OUF	**Merijarvi**	**2.51**	**308**	SG	Pg	12 09 25.6	-2.9
OUF	**Merijarvi**	**2.51**	**308**	PG	Pb	12 09 25.6	-0.7
	baz=123						
OUF				MSG		12 09 54.6	
	comp=Z,0.7nm,0.2s						
OUF				SG	Sb	12 09 57.9	+0.2
VAF	**Ylistaro**	**3.02**	**276**	MSG		12 10 09.4	
	comp=Z,0.5nm,0.2s						
VAF				SG	Sb	12 10 12.2	-0.3
KU6	**Riekki**	**3.14**	**4**	PB	Pn	12 09 33.0	+1.8
KU6				MSG		12 10 12.7	
	comp=Z,0.2nm,0.2s						
NUR	**Nurmijrvi**	**3.27**	**225**	SB	Sn	12 10 14.9	+2.5

*IDC **20** 12:14:16.2±1.5, 3°16N×65°84E, h0km, mb3.7/8, mbtmp3.7/8, MS3.4/22, Error ellipse: s-maj=50.5km s-min=25.4km az=58.0*

ISC 20 12:14:19.6±1.6, 3°2N±0°3×65°8E±0°3, h23km, n28, σ0°49/9, mb3.7/8, MS3.5/21, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**15.37**	**74**	LR	LR	12 22 45.2	
	comp=Z,92nm,20.1s,baz=352,slow=33						
WSAR	**Wadi Sarin**	**21.13**	**341**	LR	LR	12 26 11.6	
	comp=Z,77nm,20.4s,baz=172,slow=34						
GEYT	**Alibeck**	**35.31**	**349**	LR	LR	12 35 13.1	
	comp=Z,61nm,21.0s,baz=162,slow=36						
CMAR	**Chiang Mai Arr**	**35.80**	**62**	LR	LR	12 34 59.3	
	comp=Z,34nm,21.0s,baz=260,slow=35						
AAK	**Ala-Archa**	**40.05**	**10**	LR	LR	12 38 55.5	
	comp=Z,52nm,20.2s,baz=204,slow=37						
GNI	**Garni**	**41.46**	**335**	LR	LR	12 39 35.1	
	comp=Z,45nm,19.7s,baz=122,slow=37						
LSZ	**Lusaka**	**41.51**	**243**	LR	LR	12 37 51.0	
	comp=Z,91nm,18.5s,baz=131,slow=34						
MKAR	**Makanchi Array**	**45.75**	**16**	P	**P**	**12 22 39.7**	**+0.4**
	0.2nm,0.8s,baz=204,slow=6.1,SNR=2.5						
MKAR				LR	LR	12 41 57.0	
	comp=Z,25nm,18.9s,baz=241,slow=36						
	0.2nm,0.8s						
AKTO	**Aktyubinsk**	**47.56**	**353**	P	**P**	**12 22 53.7**	**+0.4**
	1.2nm,0.6s,baz=152,slow=4.8,SNR=4.0						
	1.2nm,0.6s						
LBTB	**Lobatse**	**48.04**	**232**	LR	LR	12 40 19.9	
	comp=Z,65nm,19.9s,baz=114,slow=32						
KURBB	**Kurchatov Arra**	**48.49**	**11**	P	**P**	**12 23 00.9**	**+0.4**
	0.2nm,0.2s,baz=181,slow=5.8,SNR=1.8						
	0.2nm,0.2s						
BVAR	**Borovoye Array**	**49.84**	**4**	LR	LR	12 44 59.5	
	comp=Z,51nm,19.9s,baz=193,slow=37						
BOSA	**Boshof**	**50.15**	**228**	LR	LR	12 40 45.5	
	comp=Z,200nm,21.4s,baz=32,slow=32						
ZALV	**Zalesovo Beam**	**52.96**	**14**	P	**P**	**12 23 33.9**	**-0.2**
	0.7nm,0.6s,baz=220,slow=6.6,SNR=4.3						
ZALV				LR	LR	12 45 20.4	
	comp=Z,46nm,19.3s,baz=236,slow=35						
	0.7nm,0.6s						
ARU	**Arti**	**53.42**	**355**	LR	LR	12 46 45.1	
	comp=Z,31nm,20.7s,baz=156,slow=36						
SUR	**Sutherland**	**55.38**	**227**	LR	LR	12 45 16.8	
	comp=Z,99nm,18.4s,baz=125,slow=34						
SONM	**Songino Array**	**56.53**	**32**	P	**P**	**12 23 59.5**	**-0.8**
	0.3nm,0.3s,baz=223,slow=7.9,SNR=2.8						
SONM				LR	LR	12 48 20.7	
	comp=Z,58nm,19.7s,baz=180,slow=36						
	0.3nm,0.3s						
VRAC	**Vranov**	**62.08**	**326**	LR	LR	12 52 05.0	
	comp=Z,18nm,18.1s,baz=165,slow=36						
KSRS	**Korea Array**	**66.11**	**50**	LR	LR	12 55 04.9	
	comp=Z,26nm,20.9s,baz=175,slow=37						
JNU	**Nakatsue**	**67.47**	**55**	LR	LR	12 55 29.0	
	comp=Z,36nm,20.2s,baz=191,slow=37						
NRIK	**Noril'sk**	**67.64**	**8**	LR	LR	12 57 49.3	
	comp=Z,36nm,19.0s,baz=250,slow=39						
NOA	**NORSAR Array B**	**70.77**	**335**	LR	LR	12 57 29.0	
	comp=Z,7.3nm,18.8s,baz=335,slow=37						
WRA	**Warramunga Arr**	**71.01**	**112**	P	**P**	**12 25 36.5**	**+0.3**
	2.1nm,1.1s,baz=287,slow=6.0,SNR=5.5						
	2.1nm,1.1s						
ASAR	**Alice Springs**	**71.35**	**116**	P	**P**	**12 25 38.3**	**+0.1**
	0.7nm,0.7s,baz=292,slow=5.9,SNR=6.6						
	0.7nm,0.7s						
ARCES	**ARCESS Array B**	**71.39**	**346**	LR	LR	12 57 34.9	
	comp=Z,24nm,19.5s,baz=10,slow=36						
ESDC	**Sonseca Array**	**72.47**	**311**	P	**P**	**12 25 44.3**	**-0.3**
	0.4nm,0.6s,baz=64,slow=5.9,SNR=2.3						
	0.4nm,0.6s						
YAK	**Yakutsk**	**75.18**	**26**	LR	LR	12 59 41.8	
	comp=Z,52nm,20.4s,baz=258,slow=36						
TXAR	**Lajitas Array**	**146.15**	**343**	PKPbc	**PKPab**	**12 33 59.6**	**+0.2**
	1.4nm,0.9s,baz=28,slow=2.1,SNR=4.4						

*IDC **20** 12:33:37.0±1.4, 55°26S×130°00W, h0km, mb4.2/4, mbtmp4.2/4, MS4.1/19, Error ellipse: s-maj=46.5km s-min=30.8km az=81.0*

*NEIC **20** 12:33:38.3±1.5, 55°4S±0°1×130°1W±0°2, h10km±1km, mb4.7/10, Error ellipse: s-maj=25.2km s-min=18.5km az=333.0*

*GCMT **20** 12:33:40.3±0.2, 55°36S±0°02×128°91W±0°02, h17km±1km, MW5.0/100, Moment Tensor Solution. s28,c33; s100,c150; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.01±.12; $M_{\theta\theta}$=1.87±.12; $M_{\phi\phi}$=-1.88±.11; $M_{r\theta}$=2.35±.08; $M_{r\phi}$=1.42±.34; Best double couple: M_o=3.51600×10^{16} NP1:ϕ_s=18.00000°, δ83.00000°, λ151.00000°. NP2:ϕ_s=112.00000°, δ61.00000°, λ8.00000°. Principal axes: T 3.8230, Plg25.0000°, Azm331.0000°; N -0.6130, Plg60.0000°, Azm187.0000°; P -3.2080, Plg15.0000°, Azm69.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 12:33:38.0±0.7, 55°3S±0°1×130°1W±0°2, h10km, n55, σ0°93/22, mb4.6/9, MS4.1/19, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**32.14**	**202**	P	**P**	**12 40 06.8**	**+1.8**
	1.2nm,0.9s,baz=88,slow=7.1,SNR=4.4						
VNDA				LR	LR	12 48 57.0	
	comp=Z,189nm,21.4s,baz=68,slow=29						
	1.2nm,0.9s						
PMSA	**Palmer Station**	**32.82**	**134**	LR	LR	12 49 43.3	
	comp=Z,351nm,18.5s,baz=244,slow=30						
QSPA	**South Pole Qui**	**34.92**	**180**	P	**P**	**12 40 29.6**	**0.0**
QSPA				IAmb	IAmb	12 40 30.9	
	comp=Z,11nm,1.1s						
QSPA	**South Pole Qui**	**34.92**	**180**	P	**P**	**12 40 29.4**	**-0.2**
	comp=Z,6.7nm,1.0s,baz=81,slow=2.4,SNR=12						
QSPA				LR	LR	12 53 28.9	
	comp=Z,524nm,18.3s,baz=88,slow=34						
	comp=Z,6.7nm,1.0s						
URZ	**Urewera**	**38.91**	**273**	LR	LR	12 52 54.5	
	comp=Z,242nm,21.0s,baz=222,slow=30						
PPT	**Papeete**	**40.46**	**331**	LR	LR	12 54 52.2	
	comp=Z,250nm,18.4s,baz=144,slow=32						
RAR	**Rarotonga**	**40.62**	**315**	LR	LR	12 53 45.4	
	comp=Z,164nm,18.9s,baz=164,slow=30						
PLCA	**Paso Flores**	**41.10**	**95**	P	**P**	**12 41 21.8**	**0.0**
PLCA				IAmb	IAmb	12 41 52.4	
	comp=Z,16nm,1.4s						
H03S2	**Juan Fernandez**	**41.12**	**80**	T	T	13 24 58.1	
	baz=223						
H03S1	**Juan Fernandez**	**41.13**	**80**	T	T	13 24 59.4	
	baz=223,slow=74						
H03S3	**Juan Fernandez**	**41.14**	**80**	T	T	13 24 58.4	
	baz=223,slow=74						
H03N3	**Juan Fernandez**	**41.41**	**80**	T	T	13 24 30.0	
	baz=224,slow=72,SNR=471						
H03N2	**Juan Fernandez**	**41.41**	**80**	T	T	13 24 29.5	
	baz=224,slow=72,SNR=522						
H03N1	**Juan Fernandez**	**41.42**	**80**	T	T	13 24 28.9	
	baz=224,slow=72,SNR=532						
SNAA	**Sanae**	**48.08**	**160**	P	**P**	**12 42 15.4**	**-1.7**
SNAA				IAmb	IAmb	12 42 37.3	
	comp=Z,8.1nm,1.1s						
SNAA	**Sanae**	**48.08**	**160**	LR	LR	13 01 11.7	
	comp=Z,330nm,20.1s,baz=238,slow=34						
MSVF	**Nonsavu**	**54.18**	**292**	P	**P**	**12 43 01.8**	**-1.8**
MSVF				IAmb	IAmb	12 43 03.3	
	comp=Z,5.7nm,0.9s						
STKA	**Stephens Creek**	**63.56**	**252**	LR	LR	13 06 07.7	
	comp=Z,210nm,20.8s,baz=189,slow=31						
CTA	**Charters Tower**	**70.16**	**263**	LR	LR	13 13 22.8	
	comp=Z,95nm,18.1s,baz=0.0,slow=34						
AS31	**Alice Springs**	**74.20**	**251**	P	**P**	**12 45 14.2**	**-0.7**
ASAR	**Alice Springs**	**74.20**	**251**	P	**P**	**12 45 15.6**	**+0.7**
ASAR	**Alice Springs**	**74.20**	**251**	P	**P**	**12 45 16.2**	**+1.4**
	comp=Z,3.1nm,0.8s,baz=138,slow=5.5,SNR=22						
	comp=Z,3.1nm,0.8s						
H01W1	**Cape Leeuwin H**	**74.79**	**230**	T	T	14 08 50.5	
	baz=147,slow=76,SNR=43						
H01W2	**Cape Leeuwin H**	**74.79**	**230**	T	T	14 08 44.8	
	baz=147,slow=76,SNR=47						
H01W3	**Cape Leeuwin H**	**74.81**	**230**	T	T	14 08 39.4	
	baz=147,slow=76,SNR=46						
NWAO	**Narrogin (SRO)**	**75.05**	**233**	P	**P**	**12 45 19.3**	**-0.3**
ROSC	**El Rosal**	**75.39**	**58**	LR	LR	13 12 23.2	
	comp=Z,106nm,20.8s,baz=126,slow=31						
JTS	**Las Juntas de**	**75.41**	**46**	LR	LR	13 10 56.0	
	comp=Z,87nm,18.7s,baz=146,slow=30						
WB2	**Warramunga Arr**	**76.95**	**254**	P	**P**	**12 45 30.4**	**-0.3**
WB2				IAmb	IAmb	12 45 42.9	
	comp=Z,7.0nm,0.9s						
WRA	**Warramunga Arr**	**76.96**	**254**	P	**P**	**12 45 29.9**	**-0.8**
WRA	**Warramunga Arr**	**76.96**	**254**	P	**P**	**12 45 31.6**	**+0.9**
	comp=Z,2.3nm,0.9s,baz=143,slow=5.1,SNR=9.8						
	comp=Z,2.3nm,0.9s						
LPIG	**La Paz**	**80.83**	**18**	LR	LR	13 14 25.7	
	comp=Z,52nm,18.4s,baz=26,slow=30						
FITZ	**Fitzroy Crossi**	**83.17**	**248**	P	**P**	**12 46 04.2**	**-0.1**
FITZ				IAmb	IAmb	12 46 13.8	
	comp=Z,9.4nm,1.4s						
TXAR	**Lajitas Array**	**87.24**	**23**	P	**P**	**12 46 25.2**	**+0.9**
SUR	**Sutherland**	**89.22**	**156**	LR	LR	13 18 52.8	
	comp=Z,115nm,20.1s,baz=172,slow=30						
PFO	**Pinyon Flats O**	**89.28**	**11**	LR	LR	13 16 45.5	
	comp=Z,68nm,21.2s,baz=221,slow=29						
BATI	**Baumata**	**90.77**	**251**	LR	LR	13 24 10.1	
	comp=Z,130nm,19.5s,baz=111,slow=33						
H11S2	**WAKE ISLAND Hy**	**90.78**	**302**	T	T	14 27 53.3	
	baz=143,slow=76,SNR=36						
H11S3	**WAKE ISLAND Hy**	**90.79**	**302**	T	T	14 27 54.3	
	baz=143,slow=76,SNR=22						
H11S1	**WAKE ISLAND Hy**	**90.79**	**302**	T	T	14 28 12.6	
	baz=143,slow=76,SNR=21						
H11N3	**WAKE ISLAND Hy**	**91.73**	**303**	T	T	14 29 02.0	
	baz=146,slow=76,SNR=15						
H11N1	**WAKE ISLAND Hy**	**91.73**	**303**	T	T	14 29 03.4	
	baz=146,slow=76,SNR=20						
H11N2	**WAKE ISLAND Hy**	**91.74**	**303**	T	T	14 29 03.3	
	baz=146,slow=76,SNR=17						
NVAR	**Mina Array Bea**	**93.86**	**9**	LR	LR	13 21 32.1	
	comp=Z,66nm,18.3s,baz=225,slow=31						
ELK	**Elko**	**96.46**	**11**	LR	LR	13 21 36.1	
	comp=Z,53nm,19.7s,baz=200,slow=30						
LBTB	**Lobatse**	**97.39**	**158**	LR	LR	13 27 23.5	
	comp=Z,111nm,18.8s,baz=173,slow=33						
PDAR	**Pinedale Array**	**99.20**	**15**	LR	LR	13 24 22.8	
	comp=Z,66nm,19.1s,baz=200,slow=31						
ILAR	**Eielson Array**	**120.39**	**352**	PKhKP	PKPpre	12 52 25.6	
	comp=Z,0.7nm,0.8s,baz=203,slow=2.3,SNR=6.6						
SONM	**Songino Array**	**144.97**	**282**		**PKPab**	**12 53 14.4**	**+0.5**
SONM	**Songino Array**	**144.97**	**282**	PKPbc	**PKPbc**	**12 53 13.6**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=134,slow=3.7,SNR=11						
EKA	**Eskdalemuir Ar**	**150.39**	**68**	PKPbc	**PKiKP**	**12 53 29.1**	**0.0**
	comp=Z,1.7nm,0.7s,baz=281,slow=2.1,SNR=3.8						
NRIK	**Noril'sk**	**158.03**	**325**	PKPab	**PKPab**	**12 54 07.9**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=327,slow=0.5,SNR=4.7						
MKAR	**Makanchi Array**	**158.12**	**261**	PKPab	**PKPab**	**12 54 08.7**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=119,slow=4.5,SNR=4.0						
ZALV	**Zalesovo Beam**	**159.86**	**281**	PKPab	**PKPab**	**12 54 15.0**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=90,slow=5.9,SNR=3.8						
BVAR	**Borovoye Array**	**167.79**	**268**	PKPab	**PKPab**	**12 54 50.5**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=116,slow=5.1,SNR=4.5						

*NAO **20** 12:35:06.9±2.5, 73°21N×6°49E, ML2.5*

*BER **20** 12:35:09.7±3.3, 73°09N×6°03E, h22km±42km, mb(Pn)3.8, ML2.5(NAO), Confirmed Earthquake*

ISC 20 12:35:09.7±2.9, 73°19N±0°08×7°2E±0°2, h10km, n21, σ0°78/21, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**3.55**	**63**	*e*P	**Pn**	**12 36 05.7**	**+1.0**
BJO1	**Bjornoya**	**3.55**	**63**	Pn	**Pn**	**12 36 06.0**	**+1.3**
HSPB	**Hornsund (broa**	**4.39**	**25**	*e*P	**Pn**	**12 36 16.2**	**0.0**
HSPB	**Hornsund (broa**	**4.39**	**25**	Pn	**Pn**	**12 36 16.1**	**0.0**
TRO	**Tromso**	**5.18**	**128**	*e*P	**Pn**	**12 36 26.9**	**-0.1**
SPA0	**Spitsbergen Ar**	**5.49**	**20**	Pn	**Pn**	**12 36 31.6**	**+0.2**
	baz=198,slow=18						
SPA0	**Spitsbergen Ar**	**5.49**	**20**	Pn	**Pn**	**12 36 31.6**	**+0.2**
	baz=198,slow=18						
LOF	**Lofoten**	**5.50**	**154**	*e*S	Sn	12 37 26.6	-8.2
LOF				IAML		12 37 30.2	
	comp=Z,5.4nm,0.6s						
**

MNAI	Manna	8.20	142	Pn		Pn	12 39 11.6	+1.4
LEM	Lembang	13.18	132	LR		LR	12 46 07.0	
	comp=Z,71nm,21.6s,baz=170,slow=40							
CMAR	Chiang Mai Arr	16.28	4	Pn		Pn	12 40 59.8	+0.5
CMAR	Chiang Mai Arr	16.28	4	P		P	12 41 02.1	+0.5
	0.4nm,0.3s,baz=194,slow=11,SNR=5.7							
	0.5nm,0.3s							
PALK	Pallekele	17.84	287	P		P	12 41 21.7	+2.7
	0.3nm,0.3s,baz=87,slow=18,SNR=3.6							
PALK				LR		LR	12 47 24.0	
	comp=Z,103nm,20.9s,baz=259,slow=34							
	4.3nm,0.7s							
TOLI2	Tolitoli	22.94	92	P		P	12 42 13.7	-0.4
TOLI2				IAmb		IAmb	12 42 14.5	
	comp=Z,9.2nm,0.8s							
H08S2	Diego Garcia H	27.09	249	T		T	13 10 36.7	
	baz=70,slow=75,SNR=16							
H08S3	Diego Garcia H	27.09	249	T		T	13 10 32.5	
	baz=70,slow=75,SNR=14							
H08S1	Diego Carcia H	27.11	249	T		T	13 10 46.3	
	baz=70,slow=75,SNR=16							
KNRA	Kununurra	35.30	121	P		P	12 44 02.1	-2.5
MORW	Morawa	35.56	152	P		P	12 44 05.9	-0.8
WB0	Warramunga Arr	41.94	123	P		P	12 44 59.2	-1.0
WB0				IAmb		IAmb	12 45 42.2	
	comp=Z,6.3nm,0.8s							
WRA	Warramunga Arr	41.97	123	P		P	12 44 59.5	-1.1
WRA	Warramunga Arr	41.97	123	P		P	12 45 00.0	-0.5
	comp=Z,3.0nm,0.5s,baz=302,slow=9.1,SNR=71							
WRA				PcP		PcP	12 46 54.6	-0.8
	comp=Z,0.6nm,0.7s,baz=306,slow=2.3,SNR=1.9							
	comp=Z,3.0nm,0.5s							
WRAB	Tennant Creek	41.98	123	P		P	12 44 59.9	-0.7
WRAB				IAmb		IAmb	12 45 00.6	
	comp=Z,6.4nm,0.7s							
WB2	Warramunga Arr	41.98	123	P		P	12 44 59.4	-1.2
WB2				IAmb		IAmb	12 45 00.6	
	comp=Z,5.7nm,0.5s							
WR0	Warramunga Arr	42.15	123	P		P	12 45 00.6	-1.3
WR0				IAmb		IAmb	12 45 02.0	
	comp=Z,8.6nm,0.7s							
AS31	Alice Springs	43.43	128	P		P	12 45 11.3	-1.0
AS31				IAmb		IAmb	12 45 34.0	
	comp=Z,2.5nm,1.3s							
ASAR	Alice Springs	43.43	128	P		P	12 45 11.1	-1.2
ASAR	Alice Springs	43.43	128	P		P	12 45 11.2	-1.1
	comp=Z,1.2nm,0.5s,baz=298,slow=7.5,SNR=51							
ASAR				PcP		PcP	12 46 59.2	-0.9
	comp=Z,0.3nm,0.6s,baz=315,slow=2.8,SNR=4.1							
	comp=Z,1.2nm,0.5s							
SONM	Songino Array	46.15	8	P		P	12 45 33.4	-0.3
SONM	Songino Array	46.15	8	P		P	12 45 33.3	-0.4
	comp=Z,0.7nm,0.6s,baz=191,slow=9.1,SNR=6.3							
	comp=Z,0.7nm,0.6s							
MK31	Makanchi Array	46.53	345	P		P	12 45 36.6	0.0
MKAR	Makanchi Array	46.53	345	P		P	12 45 36.6	0.0
MKAR	Makanchi Array	46.53	345	P		P	12 45 36.5	-0.1
	comp=Z,0.7nm,0.4s,baz=153,slow=9.1,SNR=12							
	comp=Z,0.7nm,0.4s							
MAKZ	Makanchi	46.62	345	P		P	12 45 36.8	-0.5
MAKZ				IAmb		IAmb	12 45 38.2	
	comp=Z,1.1nm,0.6s							
GEYT	Alibeck	50.95	319	P		P	12 46 09.2	-1.5
	comp=Z,0.8nm,0.4s,baz=128,slow=7.9,SNR=1.6							
	comp=Z,0.8nm,0.4s							
KURBB	Kurchatov Arra	51.03	344	P		P	12 46 10.1	-0.9
	comp=Z,1.3nm,0.2s,baz=158,slow=6.8,SNR=1.8							
	comp=Z,1.3nm,0.2s							
KURK	Kurchatov	51.09	344	P		P	12 46 12.4	+0.9
KURK				IAmb		IAmb	12 46 48.2	
	comp=Z,5.7nm,1.4s							
ZAA0	Zalesovo Array	52.77	350	P		P	12 46 24.4	+0.4
ZAA0				IAmb		IAmb	12 46 37.5	
	comp=Z,1.8nm,0.7s							
ZALV	Zalesovo Beam	52.77	350	P		P	12 46 24.0	0.0
ZALV	Zalesovo Beam	52.77	350	P		P	12 46 22.4	-1.5
	comp=Z,1.3nm,0.4s,baz=167,slow=6.6,SNR=7.5							
	comp=Z,1.3nm,0.4s							
STKA	Stephens Creek	53.48	133	P		P	12 46 29.7	+0.1
STKA				IAmb		IAmb	12 47 07.6	
	comp=Z,2.2nm,1.4s							
STKA	Stephens Creek	53.48	133	P		P	12 46 28.6	-1.0
	comp=Z,2.4nm,0.6s,baz=302,slow=9.3,SNR=7.5							
	comp=Z,2.4nm,0.6s							
BVAR	Borovoye Array	55.62	340	P		P	12 46 43.9	-0.8
	comp=Z,0.4nm,0.4s,baz=128,slow=8.2,SNR=4.5							
	comp=Z,0.4nm,0.4s							
ABKAR	Akbulak array	57.03	331	P		P	12 46 54.4	-0.5
EIDS	Eidsvold	58.29	122	P		P	12 47 04.4	+0.3
H04N2	CROZET ISLANDS	62.89	214	T		T	13 55 28.5	
	baz=52,slow=75,SNR=18							
H04N1	CROZET ISLANDS	62.90	214	T		T	13 55 31.7	
	baz=52,slow=75,SNR=15							
H04N3	CROZET ISLANDS	62.91	214	T		T	13 55 30.0	
	baz=52,slow=75,SNR=17							
FINES	FINESS Array B	79.50	332	P		P	12 49 15.3	+0.1
ARCES	ARCESS Array B	81.91	340	P		P	12 49 28.2	+0.2
	comp=Z,2.2nm,0.9s,baz=99,slow=5.6,SNR=1.4							
	comp=Z,2.2nm,0.9s							
IMAR	Indian Mountai	95.49	23	P		P	12 50 33.3	0.0
GHO	Glory Hole Cre	98.93	26	P		P	12 50 48.8	-0.2

*SKHL **20** 12:56:01.1±0.3,47.70N×154.00E,h56km±4km,mb4.4/3*
*IDC **20** 12:56:01.6±11.0,48.21N×152.96E,h144km±54km,*
mb3.3/8,mbtmp3.7/9,Error ellipse: s-maj=158.3km
s-min=22.2km az=170.0

ISC 20 12:56:03.1±1.3,48.4N±0.2×152.9E±0.2,h150km,n18,
σ1§33/14,mb3.6/8,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	4.68	230	eP	Pn	12 57 13.0	+0.7
KUR				AMB	AMB	12 57 13.4	
	30nm,0.6s						
KUR				eS	Sn	12 58 07.0	+0.9
KUR				A	A	12 58 14.7	
	30nm,0.5s						
KUR				A	A	12 58 14.7	
	50nm,0.5s						
PETK	Petropavlovsk-	5.63	31	P	Pn	12 57 24.8	+0.1
	6.9nm,1.0s,baz=204,slow=11,SNR=2.2						
YUK	Yuzh-Kuril'sk	6.55	231	eP	Pn	12 57 38.4	+1.4
YUK				AMB	AMB	12 57 38.5	
	10.0nm,0.2s						
YUK				eS	Sn	12 58 51.2	+0.6
YUK				A	A	12 58 58.7	
	50nm,0.4s						
YUK				A	A	12 58 58.7	
	50nm,0.4s						
NMR	Nemuro--Hokkai	7.09	228	eS	Sn	12 58 59.9	-3.7
H11N2	WAKE ISLAND Hy	30.71	154	T	T	13 34 05.5	
	baz=344						
H11N1	WAKE ISLAND Hy	30.72	154	T	T	13 34 09.4	
	baz=344						
H11N3	WAKE ISLAND Hy	30.73	154	T	T	13 34 09.8	
	baz=344						
H11S1	WAKE ISLAND Hy	31.81	155	T	T	13 35 30.2	
	baz=344,slow=76,SNR=12						
H11S3	WAKE ISLAND Hy	31.82	155	T	T	13 35 47.1	
	baz=344,slow=76,SNR=13						
H11S2	WAKE ISLAND Hy	31.83	155	T	T	13 35 29.4	
	baz=344,slow=76,SNR=10.0						
ILAR	Eielson Array	35.37	40	P	P	13 02 43.7	-0.1
	0.2nm,0.5s,baz=263,slow=5.8,SNR=6.6						
	0.2nm,0.5s						
ZALV	Zalesovo Beam	41.59	304	P	P	13 03 36.1	+0.3
	0.3nm,0.4s,baz=73,slow=11,SNR=2.1						
	0.3nm,0.4s						
MKAR	Makanchi Array	46.12	296	P	P	13 04 12.2	+0.2
	0.3nm,0.7s,baz=59,slow=7.2,SNR=3.9						
	0.3nm,0.7s						
KURBB	Kurchatov Arra	46.48	302	P	P	13 04 13.5	-1.2
	0.6nm,0.2s,baz=64,slow=8.4,SNR=1.4						
	0.6nm,0.2s						
YKA	Yellowknife Ar	49.71	37	P	P	13 04 39.1	-0.2
	0.5nm,0.9s,baz=300,slow=7.8,SNR=5.5						
	0.5nm,0.9s						
BVAR	Borovoye Array	49.76	308	P	P	13 04 39.3	-0.6
	1.2nm,0.5s,baz=54,slow=8.8,SNR=8.3						
	1.2nm,0.5s						
FINES	FINESS Array B	62.53	334	P	P	13 06 10.2	-0.1
	1.5nm,0.9s,baz=22,slow=6.2,SNR=5.8						
	1.5nm,0.9s						
HFS	Hagfors	66.91	339	P	P	13 06 39.2	+0.5
	2.7nm,0.8s,baz=78,slow=9.5,SNR=4.4						
	2.7nm,0.8s						

*IDC **20** 12:58:19.6±0.6,5.07S×132.39E,h0km,mb4.4/15,*
mbtmp4.5/18,ML3.7/2,MS3.5/5,Error ellipse:
s-maj=24.7km s-min=13.9km az=72.0
*NEIC **20** 12:58:20.4±1.8,5.065±0.706×132.79E±0.09,h10km±1km,*
mb4.6/27,Error ellipse: s-maj=14.8km s-min=9.6km
az=87.0
*DJA **20** 12:58:23.9±0.4,5.5S±2.3×13.3E±.°,h40km±8km,M5.0/23,*
mB5.4/12,mb4.8/23,MLv5.2/12,Mw(mB)4.9/12

ISC 20 12:58:24.3±0.4,5.08S±0.05×132.54E±0.05,h35km,n122,
σ1§44/117,mb4.5/30,MS3.5/4,1C-1D,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	2.17	352	P	Pn	12 58 57.5	-0.5
FAKI	Fak Fak	2.17	352		Pn	12 58 57.1	-0.8
FAKI	Fak Fak	2.17	352	P	Pn	12 58 57.2	-0.8
BNDI	Bandanaira	2.69	282	P	Pn	12 59 06.0	+0.9
BNDI	Bandanaira	2.69	282	P	Pn	12 59 04.7	-0.4
BNDI				S	Sn	12 59 36.3	-0.1
SAUI	Saumlaki	3.14	203	Pn	Pn	12 59 11.3	0.0
SAUI	Saumlaki	3.14	203	P	Pn	12 59 12.2	+0.9
SWI	Sorong	4.38	343	P	Pn	12 59 26.3	-2.1
NLAI	Namlea	5.73	288	P	Pn	12 59 47.8	+0.9
	102nm,0.4s,10μm1.5nm						
LBMI	Labuha	6.70	311	P	Pn	12 59 58.9	-1.3
	254nm,0.6s,4μm1.6nm						
SANI	Sanana	7.20	294	P	Pn	13 00 05.4	-1.8
SANI	Sanana	7.20	294	P	Pn	13 00 05.4	-1.8
	101nm,0.4s,2μm0.6nm						
DRS	Darwin Rock St	7.48	192	P	Pn	13 00 11.2	+0.2
KDU	Kakadu	7.56	181	P	Pn	13 00 12.2	+0.1
MTN	Manton Dam	7.84	190	P	Pn	13 00 15.9	0.0
MTN	Manton Dam	7.84	190	Pn	Pn	13 00 16.0	0.0
GENI	Genyem	8.00	72	P	Pn	13 00 21.4	+3.3
GENI	Genyem	8.00	72	P	Pn	13 00 18.4	+0.3
	263nm,0.8s,3μm1.1nm						
MMPI	Merauke	8.48	114	P	Pn	13 00 25.2	+0.5
	316nm,0.6s,7μm						
JAY	Jayapura	8.53	73	P	Pn	13 00 25.8	+0.3
	67nm,0.8s						
TABU	Tabubil	8.65	92	P	Pn	13 00 29.3	+2.2
SOEI	Soe	9.43	240	P	Pn	13 00 39.4	+1.5
SOEI	Soe	9.43	240	Pn	Pn	13 00 39.2	+1.4
SOEI	Soe	9.43	240	P	Pn	13 00 38.9	+1.0
	134nm,0.9s,2μm						
BBSI	Bau Bau	9.94	267	P	Pn	13 00 44.5	-0.3
	50nm,1.1s						
BATI	Baumata	10.17	239	Pn	Pn	13 00 46.7	-1.2
	47nm,0.4s,baz=139,slow=2.3,SNR=16						
BATI				Sn	Sn	13 02 39.4	-1.4
	21nm,0.3s,baz=82,slow=22,SNR=7.5						
BATI	Baumata	10.17	239	P	Pn	13 00 48.0	+0.1
	85nm,0.5s						
KMSI	Cibinong	10.23	303	P	Pn	13 00 49.0	+0.2
	289nm,0.8s						
LUWI	Luwuk	10.55	292	P	Pn	13 00 53.1	0.0
LUWI	Luwuk	10.55	292	Pn	Pn	13 00 53.8	+0.7
LUWI	Luwuk	10.55	292	P	Pn	13 00 52.6	-0.5
	112nm,0.9s,966nm						
MMRI	Maumere	10.82	250	Pn	Pn	13 00 56.9	0.0
KNRA	Kununurra	11.16	199	P	Pn	13 01 00.5	-1.0
KNRA	Kununurra	11.16	199	Pn	Pn	13 00 59.6	-1.9
EDFI	Ende, Flores	11.37	251	P	Pn	13 01 04.2	-0.3
	22nm,0.9s						
MRSI	Marisa	11.94	297	P	Pn	13 01 11.0	-1.2
	37nm,0.6s,552nm						
BKSI	Bulukumba	12.37	268	P	Pn	13 01 18.7	+0.6
	25nm,0.8s						
KAPI	Kappang	12.74	270	Pn	Pn	13 01 25.2	+2.1
TTSI	Tana Toraja	12.85	279	P	Pn	13 01 24.3	-0.3
	12nm,0.8s						
TOLI2	Tolitoli	13.26	297	Pn	Pn	13 01 31.2	+0.9
COEN	Coen	13.69	131	Pn	Pn	13 01 35.2	-0.9
MPSI	Mapaga	13.73	293	P	Pn	13 01 36.3	-0.3
	9.8nm,0.9s						
DAV	Davao City (W)	13.93	330	LR	LR	13 08 05.3	
	comp=Z,128nm,21.8s,baz=136,slow=42						
FITZ	Fitzroy Crossi	14.59	207	Pn	Pn	13 01 45.3	-3.1
WB0	Warramunga Arr	14.71	173		Pn	13 01 45.7	-4.2
WRAB	Tennant Creek	14.87	173		Pn	13 01 49.1	-3.0
WRA	Warramunga Arr	14.88	173		Pn	13 01 48.1	-4.1
WRA	Warramunga Arr	14.88	173	Pn	Pn	13 01 49.0	-3.2
	9.0nm,0.3s,baz=355,slow=13,SNR=57						
WRA				Sn	Sn	13 04 25.4	-11
	14nm,0.3s,baz=355,slow=23,SNR=9.9						
WB2	Warramunga Arr	14.88	173		Pn	13 01 48.1	-4.1
WR0	Warramunga Arr	14.92	173		Pn	13 01 49.8	-2.9
PMG	Port Moresby	15.12	107	P	Pn	13 01 57.2	+1.8
PMG	Port Moresby	15.12	107	Pn	Pn	13 01 55.7	+0.2
	2.7nm,0.3s,baz=296,slow=6.9,SNR=10						
PMG				Sn	Sn	13 04 35.4	-6.4
	1.8nm,0.3s,baz=243,slow=20,SNR=1.9						
	17nm,0.6s						
PLAI	Plampang	15.12	255	P	Pn	13 01 54.5	-1.0
	27nm,0.5s						
TWSI	Tawang, Sumb	15.96	256	P	Pn	13 02 04.2	-2.2
	24nm,1.4s						
QIS	Mount Isa	16.84	157	P	Pn	13 02 16.9	-0.7
MTSU	Mount Surprise	17.34	139	P	P	13 02 26.1	+1.2
AS31	Alice Springs	18.52	176	P	P	13 02 36.7	-1.2
AS31				IAmb	IAmb	13 02 42.0	
	comp=Z,21nm,0.4s						
ASAR	Alice Springs	18.52	176	P	P	13 02 36.1	-1.8
ASAR	Alice Springs	18.52	176	P	P	13 02 36.4	-1.5
	comp=Z,1.8nm,0.3s,baz=350,slow=14,SNR=14						
ASAR				S	Sn	13 05 54.5	-10
	comp=Z,10nm,0.5s,baz=5.7,slow=27,SNR=7.6						
	comp=Z,11nm,0.4s						
AS01	Alice Springs	18.52	176	P	Pn	13 02 39.5	+1.2
KMMI	Kalianget	18.58	263	P	Pn	13 02 53.0	+14
KKM	Kota Kinabalu	19.70	304	P	Pn	13 02 52.0	-0.5
KKM				IAmb	IAmb	13 02 58.9	
	comp=Z,33nm,1.0s						
CTA	Charters Tower	20.01	139	P	Pn	13 02 56.5	+0.4
	comp=Z,13nm,0.6s,baz=270,slow=4.3,SNR=20						
CTA				S	S	13 06 37.9	+0.4
	comp=Z,2.7nm,0.5s,baz=270,slow=4.1,SNR=1.8						
	comp=Z,13nm,0.6s						
CTAO	Charters Tower	20.01	139	P	Pn	13 02 57.6	+1.5
CTAO				IAmb	IAmb	13 03 25.9	
	comp=Z,18nm,0.9s						
MBWA	Marble Bar	20.25	217	P	P	13 02 57.8	+1.1
MBWA				IAmb	IAmb	13 03 00.5	
	comp=Z,28nm,0.5s						
WRKA	Warakurna	20.26	191	P	P	13 02 58.2	+1.3
PSA00	Pilbara Seismi	20.50	216	P	P	13 03 00.5	+1.0
PSA00	Pilbara Seismi	20.50	216	P	P	13 03 01.1	+0.6
SMRI	Semarang	22.07	264	P	P	13 03 17.2	+0.7
SMRI				IAmb	IAmb	13 03 46.9	
	comp=Z,62nm,1.1s						
TGY	Tagaytay City	22.27	329	LR	LR	13 13 39.1	
	comp=Z,66nm,18.1s,baz=304,slow=42						
OOD	Oodnadatta	22.79	173	P	P	13 03 26.7	+2.8
KSM	Kuching	23.15	286	P	P	13 03 28.5	+0.7
KSM				IAmb	IAmb	13 03 54.4	
	comp=Z,16nm,1.2s						
INKA	Innaminka	23.85	162	P	P	13 03 37.1	+2.7
QLP	Quilpie	24.12	154	P	P	13 03 39.4	+2.4
BBJI	Bungbulang	24.86	263	P	P	13 03 43.6	-0.3
LCRK	Leigh Creek	25.79	169	P	P	13 03 54.7	+2.6
FORT	Forrest	25.91	189	P	P	13 03 55.4	+2.2
FORT	Forrest	25.91	189	P	P	13 03 52.6	-0.6
STKA	Stephens Creek	27.97	163	P	P	13 04 13.5	+1.7
	comp=Z,6.7nm,0.8s,baz=347,slow=5.9,SNR=7.0						
	comp=Z,6.7nm,0.8s						
MORW	Morawa	28.52	211	P	P	13 04 16.1	-0.7
MORW				IAmb	IAmb	13 04 41.0	
	comp=Z,10nm,0.9s						
SSLB	Suanglung	30.84	339	P	P	13 04 36.8	-0.6
NACB	Ninganchiao	30.98	340	P	P	13 04 36.9	-1.5
JOW	Kunigami	31.99	353	LR	LR	13 15 22.0	
	comp=Z,104nm,21.7s,baz=297,slow=32						
NJ2	Nanjing	39.16	341	eP	P	13 05 50.4	+1.6
NJ2				sP	pP	13 05 56.4	-2.5
NJ2				pmax	pmax		
	comp=Z,17nm,1.7s						
NJ2				pmax	pmax		
	comp=Z,440nm,4.3s						
PHRA	Phrae	39.54	307	P	P	13 05 53.4	+1.2
CMAR	Chiang Mai Arr	40.55	306	P	P	13 06 01.1	+0.5
CMAR	Chiang Mai Arr	40.55	306	P	P	13 06 00.2	-0.4
	comp=Z,2.0nm,0.7s,baz=134,slow=7.5,SNR=15						
	comp=Z,2.0nm,0.7s						
PZH	PanZhiHua	43.31	318	P	P	13 06 23.3	+0.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,130nm,5.5s						
XAN	Xi'an	44.86	332	⇑P	P	13 06 35.1	-0.3
XAN				pmax	pmax		
	comp=Z,15nm,0.7s						
HNS	HongSham	45.42	340	⇓P	P	13 06 40.3	+0.6
USRK	Ussuriysk Ar.	49.06	359	P	P	13 07 08.7	+0.8
	comp=Z,4.4nm,0.7s,baz=206,slow=9.5,SNR=7.0						
	comp=Z,4.4nm,0.7s						
MDJ	Mudanjiang	49.54	357	P	P	13 07 11.6	-0.1
MDJ				pmax	pmax		
	comp=Z,11nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,200nm,4.1s						
HHC	Hu-ho-hao-te	49.59	339	eP	P	13 07 13.5	+1.2
HHC				pP	pP	13 07 18.3	-4.2
HHC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,55nm,4.7s						
GTA	Gaotai	53.59	329	P	P	13 07 43.3	+1.1
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM	Songino Array	57.49	339	P	P	13 08 11.3	+1.2
SONM	Songino Array	57.49	339	P	P	13 08 11.0	+0.9
	comp=Z,1.3nm,0.4s,baz=158,slow=7.6,SNR=11						
	comp=Z,1.3nm,0.4s						
PETK	Petropavlovsk-	61.75	17	P	P	13 08 39.5	+0.4
	comp=Z,5.9nm,1.0s,baz=169,slow=8.6,SNR=1.9						
PETK				LR	LR	13 34 25.8	
	comp=Z,32nm,21.8s,baz=144,slow=35						
	comp=Z,5.9nm,1.0s						
RAR	Rarotonga	67.38	111	P	P	13 09 14.9	-1.7
MK31	Makanchi Array	68.06	325	P	P	13 09 21.4	+1.0
MK31				IAmb	IAmb	13 09 21.7	
	comp=Z,2.5nm,0.6s						
MKAR	Makanchi Array	68.06	325	P	P	13 09 20.9	+0.5
	comp=Z,3.5nm,0.4s,baz=113,slow=7.7,SNR=83						
	comp=Z,3.5nm,0.4s						
MAKZ	Makanchi	68.24	325	P	P	13 09 22.6	+1.0
KSH	Kashi	68.36	316	P	P	13 09 24.6	+2.0
KSH				sP	pP	13 09 33.1	-0.1
KSH				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NRN	Naryn	69.21	318	P	P	13 09 28.5	+0.4
NRN				IAmb	IAmb	13 09 50.9	
	comp=Z,2.5nm,0.9s						
BOOM	Boomskoye usch	69.74	319	P	P	13 09 31.9	+0.8
BOOM				IAmb	IAmb	13 09 45.5	
	comp=Z,5.2nm,1.0s						
ZAA0	Zalesovo Array	71.03	332	P	P	13 09 37.9	-0.6
ZAA0				IAmb	IAmb	13 09 39.1	
	comp=Z,3.3nm,0.9s						
ZALV	Zalesovo Beam	71.03	332	P	P	13 09 38.0	-0.5
ZALV	Zalesovo Beam	71.03	332	P	P	13 09 38.5	-0.1
	comp=Z,2.0nm,0.7s,baz=119,slow=5.2,SNR=11						
	comp=Z,2.0nm,0.7s						
ARSB	Arslanbob	71.20	317	P	P	13 09 41.6	+1.5
KURBB	Kurchatov Arra	72.24	327	P	P	13 09 46.0	+0.1
	comp=Z,2.8nm,0.8s,baz=127,slow=5.1,SNR=11						
	comp=Z,2.8nm,0.8s						
SIMJ	Simiganj	72.97	313	P	P	13 09 50.7	0.0
SIMJ				IAmb	IAmb	13 10 02.4	
	comp=Z,2.8nm,0.8s						
KK31	Karatay Array	73.61	318	P	P	13 09 54.4	+0.1
KKAR	Karatay Array	73.61	318	P	P	13 09 54.4	+0.1
VNDA	Vanda	74.05	174	P	P	13 09 56.6	+0.5
	comp=Z,1.7nm,0.9s,baz=294,slow=4.6,SNR=5.9						
	comp=Z,1.7nm,0.9s						
TIXI	Tiksi	76.62	359	P	P	13 10 09.1	-1.8
TIXI				IAmb	IAmb	13 10 17.8	
	comp=Z,6.5nm,1.4s						
BVAR	Borovoye Array	77.82	327	P	P	13 10 17.9	-0.2
	comp=Z,3.3nm,0.8s,baz=122,slow=7.2,SNR=12						
	comp=Z,3.3nm,0.8s						
NRIK	Noril'sk	80.34	345	P	P	13 10 31.8	+0.3
NRIK	Noril'sk	80.34	345	P	P	13 10 31.5	0.0
	comp=Z,2.0nm,0.7s,baz=187,slow=23,SNR=4.7						
	comp=Z,2.0nm,0.7s						
ABKAR	Akbulak array	82.61	321	P	P	13 10 43.6	-0.3
QSPA	South Pole Qui	84.88	180	P	P	13 10 56.1	+0.7
	comp=Z,2.4nm,0.6s,baz=264,slow=0.4,SNR=16						
	comp=Z,2.4nm,0.6s						
KDAK	Kodiak Island	86.28	31	P	P	13 11 04.0	+1.7
	comp=Z,11nm,0.9s,baz=136,slow=9.9,SNR=2.8						
	comp=Z,11nm,0.9s						
ILAR	Eielson Array	90.55	25	P	P	13 11 24.0	+1.5
	comp=Z,0.3nm,0.8s,baz=253,slow=3.7,SNR=2.4						
	comp=Z,0.3nm,0.8s						
MMAI	Mount Meron Ar	98.73	302	LR	LR	14 02 44.9	
	comp=Z,49nm,20.0s,baz=88,slow=39						

*SJA **20** 13:10:12.0±0.6,23.99S×66.66W,h240km±5km,ML4.9,*
MW4.6
*IDC **20** 13:10:13.7±0.7,23.92S×66.56W,h205km±6km,mb4.3/17,*
mbtmp4.9/23,MS3.1/1,Error ellipse: s-maj=10.8km
s-min=7.7km az=50.0
*NEIC **20** 13:10:13.2±1.9,23.99S±0.02×66.59W±0.08,h205km±5km,*
mb4.9/358,Mww4.9/29,Error ellipse: s-maj=10.5km
s-min=1.6km az=79.0
*NEIC **20** 13:10:13.2,23.98S×66.56W,h230km*
*NEIC **20** 13:10:13.2,24.18S×66.56W,h230km,Moment Tensor*
Solution. Duration: 1s4 Moment tensor: Scale 10^{16}Nm;
*M_{rr}=1.93; $M_{\theta\theta}$0.37; $M_{\phi\phi}$ 1.56; $M_{r\theta}$-0.34; $M_{r\phi}$ 1.16; $M

PB15	**IPOC Station P**	**2.67**	**285**	*eP*		**Pn**	**13 11 01.4**	**+0.7**
PB15	**IPOC Station P**	**2.67**	**285**	⇑*iP*		**Pn**	**13 11 01.4**	**+0.7**
PB15				*i* S		**S**	**13 11 35.1**	**-1.6**
GO02	**Mina Guanaco**	**2.92**	**245**			**Pn**	**13 11 03.9**	**+0.3**
GO02	**Mina Guanaco**	**2.92**	**245**	*eP*		**Pn**	**13 11 03.8**	**+0.3**
GO02				*eS*		**S**	**13 11 42.1**	**+0.1**
GO02	**Mina Guanaco**	**2.92**	**245**	⇑*iP*		**Pn**	**13 11 03.9**	**+0.3**
GO02				*eS*		**S**	**13 11 41.1**	**-0.9**
PB06	**IPOC Station P**	**2.93**	**294**			**Pn**	**13 11 04.1**	**+0.5**
PB06	**IPOC Station P**	**2.93**	**294**	*eP*		**Pn**	**13 11 04.3**	**+0.7**
PB06				*eS*		**S**	**13 11 41.9**	**-0.1**
PB06				IAML			13 11 48.1	
	comp=Z,3µm,0.4s							
PB06	**IPOC Station P**	**2.93**	**294**	⇑*iP*		**Pn**	**13 11 04.2**	**+0.7**
PB06				*i* S		**S**	**13 11 40.7**	**-1.3**
PB09	**IPOC Station P**	**3.19**	**311**			**Pn**	**13 11 07.6**	**+1.0**
PB09	**IPOC Station P**	**3.19**	**311**	*eP*		**Pn**	**13 11 07.5**	**+1.0**
PB09				*eS*		**S**	**13 11 50.1**	**+2.8**
PB09				IAML			13 11 51.9	
	comp=Z,1µm,0.5s							
PB09	**IPOC Station P**	**3.19**	**311**	⇑*iP*		**Pn**	**13 11 07.5**	**+1.0**
PB09				*eS*		**S**	**13 11 47.6**	**+0.2**
PB09				IAML			13 11 56.4	
	comp=E,4µm,0.9s							
PB05	**IPOC Station P**	**3.42**	**288**			**Pn**	**13 11 09.0**	**-0.2**
PB05	**IPOC Station P**	**3.42**	**288**	*eP*		**Pn**	**13 11 09.2**	**0.0**
PB05				IAML			13 11 57.9	
	comp=Z,2µm,0.4s							
PB05	**IPOC Station P**	**3.42**	**288**	⇑*iP*		**Pn**	**13 11 09.1**	**-0.2**
PB05				*eS*		**S**	**13 11 50.0**	**-2.2**
PB14	**IPOC Station P**	**3.47**	**258**			**Pn**	**13 11 09.7**	**-0.4**
PB14	**IPOC Station P**	**3.47**	**258**	*eP*		**Pn**	**13 11 09.9**	**-0.2**
PB14				*eS*		**S**	**13 11 52.1**	**-1.6**
PB14				IAML			13 11 53.3	
	comp=Z,3µm,0.2s							
PB14	**IPOC Station P**	**3.47**	**258**	⇑*iP*		**Pn**	**13 11 09.8**	**-0.2**
PB14				*eS*		**S**	**13 11 50.9**	**-2.8**
PB04	**IPOC Station P**	**3.58**	**296**			**Pn**	**13 11 11.0**	**-0.2**
PB04	**IPOC Station P**	**3.58**	**296**	*eP*		**Pn**	**13 11 11.2**	**0.0**
PB04				IAML			13 11 58.4	
	comp=Z,2µm,0.3s							
PB04	**IPOC Station P**	**3.58**	**296**	⇑*iP*		**Pn**	**13 11 11.2**	**0.0**
PB04				*eS*		**S**	**13 11 54.1**	**-1.6**
PB10	**IPOC Station P**	**3.58**	**276**			**Pn**	**13 11 10.9**	**-0.2**
PB10	**IPOC Station P**	**3.58**	**276**	*eP*		**Pn**	**13 11 11.1**	**+0.1**
PB10	**IPOC Station P**	**3.58**	**276**	⇑*iP*		**Pn**	**13 11 10.8**	**-0.2**
PB10				*eS*		**S**	**13 11 53.1**	**-2.4**
AC02	**Maricunga**	**3.64**	**217**			**Pn**	**13 11 12.5**	**+0.3**
AC02	**Maricunga**	**3.64**	**217**	*eP*		**Pn**	**13 11 13.0**	**+0.8**
AC02				IAML			13 12 04.4	
	comp=Z,712nm,0.8s							
PB07	**IPOC Station P**	**3.69**	**306**			**Pn**	**13 11 12.6**	**0.0**
PB07	**IPOC Station P**	**3.69**	**306**	*eP*		**Pn**	**13 11 12.6**	**0.0**
PB07				*eS*		**S**	**13 11 57.2**	**-1.0**
PB07				IAML			13 12 01.7	
	comp=Z,2µm,0.6s							
PB07	**IPOC Station P**	**3.69**	**306**	⇑*iP*		**Pn**	**13 11 12.6**	**0.0**
PB07				*i* S		**S**	**13 11 55.5**	**-2.7**
PB01	**IPOC Station P**	**3.88**	**317**			**Pn**	**13 11 14.7**	**-0.1**
PB01	**IPOC Station P**	**3.88**	**317**	*eP*		**Pn**	**13 11 14.7**	**-0.1**
PB01				*eS*		**S**	**13 12 02.3**	**0.0**
PB01				IAML			13 12 04.3	
	comp=Z,1µm,0.2s							
PB02	**IPOC Station P**	**3.96**	**311**			**Pn**	**13 11 15.3**	**-0.4**
AC01	**Pan de Azucar**	**4.18**	**237**			**Pn**	**13 11 17.1**	**-1.4**
AC01	**Pan de Azucar**	**4.18**	**237**	*eP*		**Pn**	**13 11 17.3**	**-1.1**
AC01				*eS*		**S**	**13 12 05.9**	**-3.0**
AC01				IAML			13 12 06.9	
	comp=Z,2µm,0.3s							
PB08	**IPOC Station P**	**4.42**	**328**			**Pn**	**13 11 22.3**	**+0.5**
PB08	**IPOC Station P**	**4.42**	**328**	⇑*iP*		**Pn**	**13 11 22.4**	**+0.6**
PB08				*i* S		**S**	**13 12 14.4**	**-0.6**
CYA	**Choya**	**4.55**	**170**	*eP*		**Pn**	**13 11 23.9**	**+0.9**
CYA				*eS*		**S**	**13 12 16.0**	**-1.3**
TA01	**Diego Aracena**	**4.67**	**315**	Pn		**Pn**	**13 11 23.0**	**-1.6**
TA01	**Diego Aracena**	**4.67**	**315**	*eP*		**Pn**	**13 11 23.6**	**-0.9**
TA01				*eS*		**S**	**13 12 20.0**	**+0.1**
TA01				IAML			13 12 21.9	
	comp=Z,662nm,0.8s							
AC06	**Mina Casimiro**	**4.76**	**224**	Pn		**Pn**	**13 11 23.9**	**-1.6**
GO01	**Chusmiza**	**4.85**	**331**	*eP*		**Pn**	**13 11 27.5**	**+0.2**
GO03	**Copiap**	**4.85**	**221**	*eP*		**Pn**	**13 11 25.6**	**-1.2**
GO03				*eS*		**S**	**13 12 21.8**	**-2.3**
TA02	**Huaiquique**	**4.86**	**318**	*eP*		**Pn**	**13 11 26.9**	**0.0**
TA02				IAML			13 12 28.4	
	comp=Z,622nm,0.4s							
VCA	**Vinchina**	**4.97**	**196**	*eP*		**Pn**	**13 11 29.9**	**+1.5**
PB11	**IPOC Station P**	**5.00**	**326**			**Pn**	**13 11 27.6**	**-1.2**
PB11	**IPOC Station P**	**5.00**	**326**	*eP*		**Pn**	**13 11 27.8**	**-1.0**
PB11				IAML			13 12 29.2	
	comp=Z,670nm,0.3s							
PB16	**IPOC Station P**	**6.17**	**334**	Pn		**Pn**	**13 11 44.0**	**-0.2**
TICA	**Tres Isletas**	**6.20**	**114**	*eP*		**Pn**	**13 11 43.2**	**-0.6**
LCO	**Las Campanas**	**6.21**	**215**	Pn		**Pn**	**13 11 42.0**	**-2.3**
PB12	**IPOC Station P**	**6.30**	**327**	Pn		**Pn**	**13 11 43.0**	**-2.4**
MURT	**Porto Murtinho**	**8.66**	**77**	*eP*		**Pn**	**13 12 14.2**	**-1.6**
BBSD	**Serra de San D**	**8.79**	**41**	*eP*		**Pn**	**13 12 17.0**	**-0.6**
CPUP	**Villa Florida**	**8.79**	**108**	P		**Pn**	**13 12 15.4**	**-2.0**
	comp=Z,143nm,1.0s,baz=303,slow=13,SNR=140							
CPUP	**Villa Florida**	**8.79**	**108**	*eP*		**Pn**	**13 12 17.0**	**-0.5**
SIV	**San Ignacio**	**9.50**	**35**	P		**Pn**	**13 12 25.5**	**-1.2**
	comp=Z,20nm,0.7s,baz=210,slow=12,SNR=88							
BDQN	**Bodoquena, MS**	**9.83**	**71**	*eP*		**Pn**	**13 12 29.2**	**-1.7**
ANTJ	**Antonio Joao (**	**10.02**	**81**	*eP*		**Pn**	**13 12 32.0**	**-1.3**
MT02	**Curacav**	**10.08**	**202**	Pn		**Pn**	**13 12 30.9**	**-3.0**
ITQB	**Itaqui**	**10.63**	**125**	Pn		**Pn**	**13 12 39.6**	**-1.5**
ITQB	**Itaqui**	**10.63**	**125**	*eP*		**Pn**	**13 12 40.0**	**-1.1**
MT01	**Popeta**	**10.67**	**201**			**Pn**	**13 12 39.5**	**-2.0**
AQDB	**Aquidauana**	**10.73**	**73**	Pn		**Pn**	**13 12 41.1**	**-1.3**
AQDB	**Aquidauana**	**10.73**	**73**	*eP*		**Pn**	**13 12 41.4**	**-1.1**
PSAL	**Palomas, Salto**	**10.74**	**133**	*eP*		**Pn**	**13 12 41.7**	**-0.7**
AMBA	**Amambai (Brazi**	**10.77**	**87**	*eP*		**Pn**	**13 12 41.3**	**-1.7**
PTLB	**Pontes e Lacer**	**11.03**	**41**	Pn		**Pn**	**13 12 44.9**	**-1.3**
PTLB	**Pontes e Lacer**	**11.03**	**41**	*eP*		**Pn**	**13 12 46.0**	**-0.3**
BO01	**Tunca**	**11.10**	**199**	Pn		**Pn**	**13 12 43.7**	**-3.4**
UNIS	**Unistalda (Bra**	**11.57**	**119**	*eP*		**Pn**	**13 12 52.1**	**-1.0**
CRSM	**Crissiumal (Br**	**11.92**	**110**	*eP*		**Pn**	**13 12 57.5**	**-0.1**
GO05	**Huala**	**11.94**	**201**	Pn		**Pn**	**13 12 55.0**	**-2.8**
RODS	**Rosario do Sul**	**12.04**	**124**	*eP*		**Pn**	**13 12 58.4**	**-0.7**
TBOT	**Tacuaremb**	**12.23**	**131**	*eP*		**Pn**	**13 13 01.1**	**-0.2**
VILB	**Vilhena**	**12.53**	**30**			**Pn**	**13 13 06.2**	**+0.9**
VILB	**Vilhena**	**12.53**	**30**	*eP*		**Pn**	**13 13 06.4**	**+1.1**
TRCB	**Terra Rica**	**12.95**	**88**	*eP*		**Pn**	**13 13 09.6**	**-0.9**
SALV	**Santo Antonio**	**13.05**	**54**	*eP*		**Pn**	**13 13 11.4**	**-0.5**
ALGR	**Alto Alegre (B**	**13.15**	**114**	*eP*		**Pn**	**13 13 12.4**	**-0.6**
PTGB	**Pitanga**	**13.34**	**96**	*eP*		**Pn**	**13 13 15.1**	**-0.4**
CPSB	**Cacapava Do Su**	**13.42**	**122**	*eP*		**Pn**	**13 13 14.9**	**-1.3**
ITAB	**Concordia**	**13.53**	**107**			**Pn**	**13 13 15.7**	**-0.5**
ITAB	**Concordia**	**13.53**	**107**	*eP*		**Pn**	**13 13 15.7**	**-1.9**
PLTB	**Pedras Altas**	**13.93**	**127**	Pn		**Pn**	**13 13 20.6**	**-2.1**
PLTB	**Pedras Altas**	**13.93**	**127**	*eP*		**Pn**	**13 13 20.9**	**-1.7**
ETMB	**Extrema**	**14.05**	**2**	*eP*		**Pn**	**13 13 24.4**	**+0.2**
LDASE	**Londrina, Braz**	**14.27**	**91**	*eP*		**Pn**	**13 13 26.3**	**-0.5**
PCMB	**Pacaembu**	**14.40**	**84**	*eP*		**Pn**	**13 13 27.2**	**-1.3**
TRQA	**Tornquist**	**14.63**	**165**	Pn		**Pn**	**13 13 28.6**	**-2.5**
CNLB	**Canela**	**15.12**	**114**	*eP*		**Pn**	**13 13 36.3**	**-1.0**
SAML	**Samuel**	**15.28**	**13**			**Pn**	**13 13 38.9**	**-0.3**
SAML	**Samuel**	**15.28**	**13**	*eP*		**Pn**	**13 13 38.9**	**-0.3**
NNA	**Nana**	**15.31**	**319**	P		**Pn**	**13 13 39.5**	**-0.2**
	comp=Z,9.4nm,0.6s,baz=160,slow=18,SNR=2.4							
PDRB	**Porto dos Gac**	**15.48**	**39**	*eP*		**P**	**13 13 40.9**	**-0.6**
FRTB	**Fartura**	**15.69**	**91**	*eP*		**P**	**13 13 43.7**	**-0.2**
ITRB	**Iturama**	**15.72**	**78**	*eP*		**Pn**	**13 13 44.3**	**-0.3**
CLDB	**Colider**	**16.61**	**40**	*eP*		**P**	**13 13 51.2**	**-2.8**
LR05	**Currie**	**16.85**	**194**			**Pn**	**13 13 56.9**	**-0.9**
BB19B	**Bebedouro**	**17.01**	**84**	*eP*		**P**	**13 13 58.6**	**+0.3**
PLCA	**Paso Flores**	**17.06**	**190**			**P**	**13 13 59.0**	**+0.2**
PLCA	**Paso Flores**	**17.06**	**190**	P		**P**	**13 13 58.5**	**-0.2**
	comp=Z,7.7nm,0.7s,baz=12,slow=12,SNR=21							
PLCA				S		**S**	**13 17 14.5**	**+8.9**
	comp=Z,5.8nm,1.1s,baz=83,slow=19,SNR=2.7							
PLCA	**Paso Flores**	**17.06**	**190**	*eP*		**Pn**	**13 13 59.6**	**-0.7**
CZSB	**Cruzeiro do Su**	**17.12**	**339**	P		**P**	**13 13 59.5**	**-0.1**
CZSB	**Cruzeiro do Su**	**17.12**	**339**	*eP*		**P**	**13 13 59.8**	**+0.2**
SPB	**Sao Paulo**	**17.62**	**93**	Pn		**P**	**13 14 05.1**	**+0.2**
SPB	**Sao Paulo**	**17.62**	**93**	*eP*		**P**	**13 14 04.8**	**-0.2**
RCLB	**Rio Claro- Sao**	**17.67**	**89**	*eP*		**P**	**13 14 05.1**	**-0.4**
PET01	**Itanhaem-SP**	**17.71**	**95**	*eP*		**P**	**13 14 05.5**	**-0.4**
VAO	**Valinhos**	**18.11**	**91**	*eP*		**P**	**13 14 09.8**	**-0.5**
IPMB	**Ipameri, GO**	**18.22**	**75**	*eP*		**P**	**13 14 11.5**	**-0.1**
SNDB	**Serra Nova Dou**	**18.84**	**53**	*eP*		**P**	**13 14 17.4**	**-0.8**

PARB	**Paraibuna**	**19.30**	**92**	*eP*		**P**	**13 14 22.1**	**-1.1**
BDFB	**Brasilia**	**19.39**	**68**	P		**P**	**13 14 24.4**	**+0.2**
BDFB	**Brasilia**	**19.39**	**68**	P		**P**	**13 14 24.0**	**-0.2**
	comp=Z,90nm,0.7s,baz=242,slow=11,SNR=100							
BDFB				S		**S**	**13 17 49.2**	**-3.0**
	comp=Z,12nm,1.1s,baz=270,slow=18,SNR=1.9							
PMNB	**Patos De Minas**	**19.61**	**78**	*eP*		**P**	**13 14 25.9**	**-0.7**
TBTG	**Tabatinga, AM**	**19.89**	**350**	*eP*		**P**	**13 14 30.4**	**+1.0**
NPGB	**Novo Progresso**	**20.00**	**35**	*eP*		**P**	**13 14 28.8**	**-1.9**
ATAH	**Atahualpa**	**20.14**	**324**	P		**P**	**13 14 34.6**	**+2.0**
	comp=Z,15nm,0.9s,baz=189,slow=11,SNR=11							
ATAH				S		**S**	**13 18 08.1**	**+0.6**
	comp=Z,4.7nm,0.8s,baz=202,slow=9.8,SNR=4.1							
	comp=Z,15nm,0.9s							
TEFE	**Tefe**	**20.41**	**6**	*eP*		**P**	**13 14 34.7**	**-0.3**
BSCB	**Bom Sucesso**	**20.45**	**86**	*eP*		**P**	**13 14 34.5**	**-1.0**
AY01	**Puyuhuapi**	**21.01**	**192**	P		**P**	**13 14 39.9**	**-1.2**
VAS01	**Vassouras-RJ**	**21.43**	**90**	*eP*		**P**	**13 14 45.4**	**-0.3**
MACA	**Manacapuru-AM**	**21.45**	**17**	P		**P**	**13 14 43.7**	**-2.2**
MACA	**Manacapuru-AM**	**21.45**	**17**	*eP*		**P**	**13 14 44.5**	**-1.4**
COYC	**Coyhaique**	**22.02**	**190**	P		**P**	**13 14 50.8**	**-0.5**
ITTB	**Itaituba**	**22.13**	**30**	*eP*		**P**	**13 14 51.2**	**-1.4**
DIAM	**Diamantina, MG**	**22.17**	**80**	*eP*		**P**	**13 14 52.5**	**-0.5**
JANB	**Januaria**	**22.83**	**71**	*eP*		**P**	**13 14 57.8**	**-1.2**
MCRA	**Macar, Loja**	**23.29**	**325**	P		**P**	**13 15 04.1**	**+1.0**
SDBA	**SAO DESIDERIO**	**23.61**	**65**	*eP*		**P**	**13 15 05.4**	**-0.7**
ALF01	**Guarapari-ES**	**24.23**	**87**	*eP*		**P**	**13 15 10.8**	**-0.8**
SJMB	**Sao Joao De Ma**	**24.29**	**83**	*eP*		**P**	**13 15 11.5**	**-0.7**
RIB01	**Linhares ES**	**24.84**	**84**	*eP*		**P**	**13 15 16.0**	**-1.1**
GUA01	**Guaratinga, BA**	**26.21**	**79**	*eP*		**P**	**13 15 28.8**	**-0.7**
BOAV	**Boa Vista**	**26.85**	**14**	P		**P**	**13 15 35.1**	**-0.1**
NBLA	**Lagarto - SE**	**30.33**	**70**	*eP*		**P**	**13 16 04.8**	**-1.3**
NBPB	**Pedra_Branca-C**	**31.84**	**59**	*eP*		**P**	**13 16 18.7**	**-0.5**
NBAN	**Anadia - AL**	**32.28**	**69**	*eP*		**P**	**13 16 21.5**	**-1.6**
BAUV	**El Baul**	**32.71**	**357**	P		**P**	**13 16 26.5**	**-0.2**
BAUV				IAmb	IAmb		13 16 27.2	
	comp=Z,35nm,0.9s							
SDV	**Santo Domingo**	**32.85**	**353**	P		**P**	**13 16 27.2**	**-1.0**
SDV				IAmb	IAmb		13 16 28.4	
	comp=Z,31nm,1.1s							
SDV	**Santo Domingo**	**32.85**	**353**	*eP*		**P**	**13 16 27.7**	**-0.5**
NBLV	**Livramento - P**	**32.94**	**65**	*eP*		**P**	**13 16 26.9**	**-2.0**
NBCA	**Caruaru-PE**	**33.23**	**67**	*eP*		**P**	**13 16 29.4**	**-2.1**
NBCL	**Cascavel-CE**	**33.66**	**59**	*eP*		**P**	**13 16 34.1**	**-0.9**
RCBR	**Riachuelo**	**34.63**	**64**	P		**P**	**13 16 42.6**	**-0.8**
RCBR				IAmb	IAmb		13 16 44.4	
	comp=Z,20nm,0.8s							
RCBR	**Riachuelo**	**34.63**	**64**	*eP*		**P**	**13 16 43.1**	**-0.3**
RCBR	**Riachuelo**	**34.63**	**64**	P		**P**	**13 16 43.5**	**0.0**
LCR2	**La Lucha 2**	**37.52**	**331**	IAmb	IAmb		13 17 12.0	
	comp=Z,31nm,0.7s							
HOPE	**Hope Point**	**37.76**	**151**	P		**P**	**13 17 10.4**	**+1.1**
SOCE	**Pocosol**	**38.36**	**331**	IAmb	IAmb		13 17 19.4	
	comp=Z,85nm,0.8s							
ORTG	**Ortega, Santa**	**38.72**	**330**	IAmb	IAmb		13 17 22.0	
	comp=Z,37nm,0.8s							
FDF	**Fort de France**	**38.81**	**9**	P		**P**	**13 17 16.8**	**-1.9**
FDF	**Fort de France**	**38.81**	**9**	P		**P**	**13 17 18.4**	**-0.2**
IGPR	**InterUniversit**	**41.65**	**1**	P		**P**	**13 17 40.6**	**-1.2**
IGPR				IAmb	IAmb		13 17 41.1	
	comp=Z,33nm,0.8s							
MLPR	**Magueyes Islan**	**41.66**	**359**	P		**P**	**13 17 40.8**	**-1.0**
MLPR				IAmb	IAmb		13 17 42.0	
	comp=Z,42nm,1.1s							
CRPR	**Cabo Rojo, PR**	**41.69**	**359**	P		**P**	**13 17 40.9**	**-1.2**
OBIP	**Obispado Ponce**	**41.73**	**0**	IAmb	IAmb		13 17 42.3	
	comp=Z,68nm,1.1s							
CELP	**Cerrillos**	**41.76**	**0**	P		**P**	**13 17 40.7**	**-1.9**
CELP				IAmb	IAmb		13 17 43.0	
	comp=Z,39nm,0.7s							
GCPR	**Guaynabo City**	**41.99**	**1**	P		**P**	**13 17 42.3**	**-2.3**
PCDR	**Punta Cana, DR**	**42.23**	**358**	P		**P**	**13 17 46.1**	**-0.3**
TGUH	**Tegucigalpa,Un**	**42.80**	**330**	IAmb	IAmb		13 17 53.8	
	comp=Z,65nm,1.1s							
ESQI	**Esquipulas**	**44.22**	**328**	IAmb	IAmb		13 18 05.7	
	comp=Z,35nm,0.8s							
TEIG	**Tepich**	**48.68**	**333**	P		**P**	**13 18 37.8**	**+0.7**
CAMR	**Camarioca**	**48.85**	**342**	IAmb	IAmb		13 18 40.8	
	comp=Z,74nm,0.7s							
SOR	**Soroa**	**49.09**	**340**	IAmb	IAmb		13 18 41.9	
	comp=Z,38nm,0.8s							
VNA2	**Neumayer--Watz**	**57.67**	**160**	⇑P		**P**	**13 19 43.9**	**+2.0**
	comp=Z,18nm,0.7s,baz=289,slow=6.3							
ZAIG	**Zacatecas**	**58.07**	**320**	IAmb	IAmb		13 19 49.2	
	comp=Z,28nm,0.9s							
152A	**Waverly Hall**	**58.87**	**342**	IAmb	IAmb		13 19 51.6	
	comp=Z,23nm,1.0s							
SNAA	**Sanae**	**59.31**	**161**	⇑P		**P**	**13 19 54.6**	**+1.3**
	comp=Z,161nm,0.8s							
SNAA	**Sanae**	**59.31**	**161**	P		**P**	**13 19 53.8**	**+0.6**
	comp=Z,5.8nm,0.8s,baz=252,slow=8.1,SNR=13							
	comp=Z,5.8nm,0.8s							
JSC	**Jenisvilla**	**59.54**	**346**	IAmb	IAmb		13 19 56.9	
	comp=Z,24nm,1.0s							
BIRD	**Birdtown, Kers**	**59.72**	**347**	IAmb	IAmb		13 19 58.2	
	comp=Z,44nm,1.1s							
Y52A	**Lilburn**	**59.82**	**343**	IAmb	IAmb		13 19 58.2	
	comp=Z,20nm,0.9s							
LRAL	**Lakeview Retre**	**59.88**	**340**	IAmb	IAmb		13 19 58.4	
	comp=Z,16nm,0.8s							
KMSC	**Kings Mountain**	**60.38**	**346**	IAmb	IAmb		13 22 00.6	
	comp=Z,15nm,1.2s							
Y49A	**Blount Mountai**	**60.47**	**341**	IAmb	IAmb		13 20 02.4	
	comp=Z,15nm,0.8s							
FPAL	**Fort Paine**	**60.88**	**342**	IAmb	IAmb		13 20 05.2	
	comp=Z,17nm,0.8s							
TROLL	**Troll, Antarti**	**61.02**	**161**	⇑P		**P**	**13 20 06.2**	**+1.3**
	comp=Z,428nm,0.6s							
V55A	**Taylorsville**	**61.04**	**347**	IAmb	IAmb		13 20 07.3	
	comp=Z,42nm,1.2s							
W50A	**Signal Mountai**	**61.41**	**343**	IAmb	IAmb		13 20 09.1	
	comp=Z,14nm,0.8s							
TKL	**Tuckaleechee C**	**61.45**	**344**	IAmb	IAmb		13 20 09.0	
	comp=Z,20nm,1.1s							
HNDO	**Hondo**	**61.71**	**328**	IAmb	IAmb		13 20 12.1	
	comp=Z,25nm,0.7s							
PLAL	**Pickwick Lake**	**62.02**	**340**	IAmb	IAmb		13 20 12.4	
	comp=Z,23nm,0.8s							
DRIO	**Del Rio**	**62.29**	**327**	IAmb	IAmb		13 20 15.6	
	comp=Z,23nm,1.1s							
V48A	**Smith Brothers**	**62.34**	**342**	IAmb	IAmb		13 20 15.1	
	comp=Z,21nm,0.8s							
CLTN	**Cedars of Leba**	**62.53**	**342**	IAmb	IAmb		13 20 16.2	
	comp=Z,17nm,0.9s							
WVT	**Waverly**	**63.00**	**341**	P		**P**	**13 20 17.9**	**-0.4**
WVT	**Waverly**	**63.00**	**341**	P		**P**	**13 20 18.1**	**-0.2**
WVT				PcP		**PcP**	**13 20 54.3**	**+0.1**
BRDY	**Brady**	**63.04**	**329**	IAmb	IAmb		13 20 20.3	
	comp=Z,18nm,0.9s							
HPIG		**63.06**	**321**	IAmb	IAmb		13 20 21.9	
	comp=Z,15nm,0.8s							
MIAR	**Mount Ida**	**63.53**	**335**	IAmb	IAmb		13 20 23.4	
	comp=Z,21nm,0.8s							
T47A	**Sharon Grove**	**63.59**	**342**	IAmb	IAmb		13 20 22.9	
	comp=Z,26nm,0.9s							
WHAR	**Wooly Hollow**	**63.71**	**337**	IAmb	IAmb		13 20 24.2	
	comp=Z,16nm,0.9s							
OZNA	**Ozona**	**63.77**	**327**	IAmb	IAmb		13 20 25.2	
	comp=Z,17nm,0.9s							
TXAR	**Lajitas Array**	**63.80**	**324**	P		**P**	**13 20 24.0**	**+0.1**
TXAR	**Lajitas Array**	**63.80**	**324**	P		**P**	**13 20 24.7**	**+0.8**
	comp=Z,4.4nm,0.7s,baz=154,slow=8.4,SNR=28							
	comp=Z,4.4nm,0.7s							
PLPT	**Palo Pinto**	**64.00**	**331**	IAmb	IAmb		13 20 26.9	
	comp=Z,26nm,0.9s							
LCAR	**Lake Charles**	**64.02**	**338**	IAmb	IAmb		13 20 25.9	
	comp=Z,13nm,0.8s							
FCAR	**Ozark Folk Cen**	**64.19**	**337**	IAmb	IAmb		13 20 27.0	
	comp=Z,17nm,0.8s							
ABTX	**Abilene, Hawle**	**64.45**	**329**	IAmb	IAmb		13 20 29.9	
	comp=Z,32nm,1.2s							
SGCY	**Sterling City**	**64.57**	**328**	IAmb	IAmb		13 20 30.4	
	comp=Z,19nm,1.0s							
ALPN	**Alpine**	**64.61**	**325**	IAmb	IAmb		13 20 31.3	
	comp=Z,11nm,0.7s							
S44A	**Carbondale**	**64.88**	**340**	IAmb	IAmb		13 20 31.2	
	comp=Z,13nm,0.8s							
SIUC	**Southern Illin**	**64.89**	**340**	IAmb	IAmb		13 20 32.8	
	comp=Z,15nm,0.9s							
W35A	**Tecumseh**	**65.37**	**333**	IAmb	IAmb		13 20 34.8	
	comp=Z,17nm,1.0s							
MGMO	**Mountain Grove**	**65.38**	**338**	IAmb	IAmb		13 20 35.2	
	comp=Z,28nm,0.8s							
SN07	**Snyder 07**	**65.42**	**329**	IAmb	IAmb		13 20 35.8	
	comp=Z,22nm,0.8s							
ODSA	**Odessa**	**65.44**	**327**	IAmb	IAmb		13 20 36.0	

	comp=Z,22nm,0.8s										
U38A	**Gravette**	**65.51**	**336**	IAmb	IAmb		13 20 36.1	
	comp=Z,18nm,0.9s										
RLO	**Rose Lookout**	**65.51**	**335**	IAmb	IAmb		13 20 36.5	
	comp=Z,33nm,0.8s										
FVM	**French Village**	**65.51**	**340**	IAmb	IAmb		13 20 35.7	
	comp=Z,35nm,0.9s										
PECS	**Pecos**	**65.52**	**325**	IAmb	IAmb		13 20 37.3	
	comp=Z,42nm,1.5s										
TUL3	**Leonard**	**65.59**	**334**	IAmb	IAmb		13 20 37.4	
	comp=Z,34nm,1.1s										
VHRN	**Van Horn**	**65.65**	**324**	IAmb	IAmb		13 20 38.0	
	comp=Z,23nm,0.8s										
KSPA	**Keystone Colle**	**65.71**	**353**	IAmb	IAmb		13 20 37.9	
	comp=Z,23nm,0.9s										
CCM	**Cathedral Cave**	**65.84**	**339**	P		**P**	**13 20 36.6**	**-0.1**
CCM	**Cathedral Cave**	**65.84**	**339**	P		**P**	**13 20 36.8**	**+0.1**
CCM				PcP		**PcP**	**13 21 06.7**	**+0.8**
O48B	**Farmland**	**66.15**	**345**	IAmb	IAmb		13 20 39.9	
	comp=Z,47nm,1.4s										
QSPA	**South Pole Qui**	**66.27**	**180**	P		**P**	**13 20 40.6**	**+1.4**
	comp=Z,30nm,0.7s,baz=306,slow=1.0,SNR=303										
	comp=Z,30nm,0.7s										
QSPA	**South Pole Qui**	**66.27**	**180**	P		**P**	**13 20 40.4**	**+1.2**
HRV	**Adam Dziewonsk**	**66.27**	**356**	P		**P**	**13 20 40.7**	**+1.5**
HRV				PcP		**PcP**	**13 21 07.7**	**+0.2**
L61B

	comp=Z,74nm,1.9s							
PPT	**Papeete**	**76.77**	**257**	P	**P**	**13**	**21**	**42.5 -0.1**
	comp=Z,18nm,0.8s,baz=72,slow=20,SNR=1.9							
	comp=Z,18nm,0.8s							
SPR3	**Spring Creek 3**	**76.86**	**324**	IAmb	IAmb	13	21	46.0
	comp=Z,40nm,1.5s							
TCUT	**Toone Canyon**	**76.89**	**327**	IAmb	IAmb	13	21	46.1
	comp=Z,63nm,1.8s							
DUG	**Dugway, Tooele**	**76.92**	**325**	IAmb	IAmb	13	21	46.5
	comp=Z,22nm,1.2s							
BCW	**Bitter Crk WRg**	**76.99**	**318**	IAmb	IAmb	13	21	46.9
	comp=Z,22nm,1.1s							
R11B	**Troy Canyon, C**	**77.09**	**323**	IAmb	IAmb	13	21	47.8
	comp=Z,24nm,1.3s							
Q12A	**Willow Creek R**	**77.16**	**323**	IAmb	IAmb	13	21	47.8
	comp=Z,33nm,1.0s							
PDAR	**Pinedale Array**	**77.25**	**329**	P	**P**	**13**	**21**	**45.1 +0.1**
PDAR	**Pinedale Array**	**77.25**	**329**	P	**P**	**13**	**21**	**45.9 +0.9**
	comp=Z,4.7nm,0.8s,baz=134,slow=7.7,SNR=44							
	comp=Z,4.7nm,0.8s							
HWUT	**Hardware Ranch**	**77.34**	**327**	IAmb	IAmb	13	21	48.1
	comp=Z,22nm,1.1s							
TSUM	**Tsumeb**	**77.38**	**106**	P	**P**	**13**	**21**	**45.6 -0.6**
SPUT	**South Promonto**	**77.56**	**326**	IAmb	IAmb	13	21	49.6
	comp=Z,20nm,0.8s							
HVU	**Hansel Valley**	**78.07**	**327**	IAmb	IAmb	13	21	52.2
	comp=Z,17nm,0.9s							
ULM	**Lac du Bonnet**	**78.27**	**341**	P	**P**	**13**	**21**	**49.9 -0.1**
	comp=Z,15nm,0.7s,baz=149,slow=5.6,SNR=31							
	comp=Z,15nm,0.7s							
LOHW	**Long Hollow**	**78.39**	**329**	IAmb	IAmb	13	21	54.1
	comp=Z,18nm,0.8s							
SCHQ	**Schefferville**	**78.45**	**360**	P	**P**	**13**	**21**	**50.6 -0.4**
	comp=Z,10nm,0.8s,baz=214,slow=8.2,SNR=6.7							
	comp=Z,10nm,0.8s							
TPAW	**Teton Pass**	**78.46**	**329**	IAmb	IAmb	13	21	53.7
	comp=Z,25nm,1.1s							
MOOW	**Moose Ponds**	**78.56**	**329**	IAmb	IAmb	13	21	54.9
	comp=Z,54nm,1.9s							
NVAR	**Mina Array Bea**	**78.68**	**321**	P	**P**	**13**	**21**	**54.0 +1.1**
NVAR	**Mina Array Bea**	**78.68**	**321**	P	**P**	**13**	**21**	**53.6 +0.7**
	comp=Z,4.1nm,0.8s,baz=154,slow=6.7,SNR=34							
	comp=Z,4.1nm,0.8s							
IMW	**Indian Meadow**	**78.76**	**329**	IAmb	IAmb	13	21	56.4
	comp=Z,30nm,0.8s							
FLWY	**Flagg Ranch**	**78.79**	**329**	IAmb	IAmb	13	21	56.8
	comp=Z,37nm,1.0s							
LAO	**LASA Array**	**78.87**	**333**	IAmb	IAmb	13	21	56.0
	comp=Z,33nm,0.8s							
RLMT	**Red Lodge**	**78.94**	**331**	IAmb	IAmb	13	21	57.0
	comp=Z,22nm,0.7s							
KVN	**Kaiserville**	**78.99**	**322**	IAmb	IAmb	13	21	57.3
	comp=Z,20nm,0.8s							
YMP	**Mirror Lake Pl**	**79.04**	**330**	IAmb	IAmb	13	22	13.2
	comp=Z,21nm,1.0s							
BBGB	**Big Mountain B**	**79.07**	**318**	IAmb	IAmb	13	22	04.9
	comp=Z,25nm,0.9s							
YHL	**Hebgen Lake**	**79.60**	**330**	IAmb	IAmb	13	22	01.4
	comp=Z,20nm,0.7s							
PNTR	**Pine Nut**	**79.87**	**321**	IAmb	IAmb	13	22	02.7
	comp=Z,31nm,0.9s							
PAHR	**Pah Rah Range**	**80.16**	**321**	IAmb	IAmb	13	22	04.1
	comp=Z,36nm,1.0s							
BOSA	**Boshof**	**80.49**	**117**	P	**P**	**13**	**22**	**02.4 -0.6**
	comp=Z,3.7nm,0.8s,baz=249,slow=2.4,SNR=4.8							
	comp=Z,3.7nm,0.8s							
AFDM	**Forest Hills D**	**80.58**	**320**	P	**P**	**13**	**22**	**03.6 +0.7**
ORV	**Oroville**	**81.28**	**320**	IAmb	IAmb	13	22	09.6
	comp=Z,25nm,1.1s							
EGMT	**Eagleton**	**81.40**	**332**	IAmb	IAmb	13	22	09.2
	comp=Z,31nm,0.9s							
MAW	**Mawson**	**81.40**	**163**	P	**P**	**13**	**22**	**07.0 +0.2**
	comp=Z,14nm,0.8s,baz=216,slow=5.9,SNR=18							
	comp=Z,14nm,0.8s							
J08A	**Circle Bar Ran**	**82.15**	**325**	IAmb	IAmb	13	22	14.2
	comp=Z,27nm,0.8s							
BMO	**Blue Mountains**	**82.58**	**326**	IAmb	IAmb	13	22	15.9
	comp=Z,54nm,1.8s							
KMRM	**Mail Ridge**	**83.01**	**320**	P	**P**	**13**	**22**	**17.0 +1.4**
KMRM				IAmb	IAmb	13	22	18.3
	comp=Z,22nm,1.1s							
F10A	**Beach Ranch, E**	**83.33**	**327**	IAmb	IAmb	13	22	21.0
	comp=Z,22nm,0.8s							
KMPM	**Mount Pierce**	**83.38**	**320**	IAmb	IAmb	13	22	20.5
	comp=Z,17nm,0.9s							
K04D	**Chiloquin, OR**	**83.44**	**322**	IAmb	IAmb	13	22	20.3
	comp=Z,27nm,0.9s							
JCC	**Jacoby Creek,**	**83.58**	**320**	IAmb	IAmb	13	22	21.4
	comp=Z,20nm,1.1s							
J05D	**Fort Rock, OR**	**83.58**	**323**	IAmb	IAmb	13	22	21.3
	comp=Z,21nm,1.0s							
PINE	**Pine Mountain**	**83.76**	**324**	IAmb	IAmb	13	22	22.6
	comp=Z,28nm,0.8s							
KRPM	**Rodgers**	**83.79**	**320**	IAmb	IAmb	13	22	22.7
	comp=Z,34nm,1.1s							
FFC	**Flin Flon**	**84.00**	**340**	P	**P**	**13**	**22**	**20.6 +0.4**
L02F	**Cave Junction**	**84.14**	**321**	IAmb	IAmb	13	22	24.9
	comp=Z,72nm,2.0s							
K02D	**Willamette Mer**	**84.56**	**322**	IAmb	IAmb	13	22	26.3
	comp=Z,25nm,1.0s							
DBO	**Dodson Butte**	**84.59**	**322**	IAmb	IAmb	13	22	26.4
	comp=Z,15nm,0.8s							
F07A	**Phinny Hill Vi**	**84.64**	**326**	IAmb	IAmb	13	22	26.8
	comp=Z,42nm,1.6s							
HAWA	**Hanford**	**84.77**	**326**	IAmb	IAmb	13	22	27.0
	comp=Z,22nm,0.9s							
D08A	**Wollman Farm,**	**84.92**	**327**	IAmb	IAmb	13	22	27.6
	comp=Z,25nm,1.0s							
G05A	**Wamic**	**84.92**	**325**	IAmb	IAmb	13	22	28.2
	comp=Z,37nm,1.1s							
BUCK	**Buck Mountain**	**85.14**	**323**	IAmb	IAmb	13	22	28.6
	comp=Z,33nm,0.8s							
HOOD	**Mount Hood Mea**	**85.15**	**325**	IAmb	IAmb	13	22	29.1
	comp=Z,32nm,1.3s							
FCC	**Fort Churchill**	**85.47**	**346**	IAmb	IAmb	13	22	29.4
	comp=Z,22nm,0.8s							
COR	**Corvallis**	**85.56**	**323**	P	**P**	**13**	**22**	**29.7 +1.5**
PAB	**San Pablo**	**85.83**	**43**	P	**P**	**13**	**22**	**29.8 +0.1**
PAB				IAmb	IAmb	13	22	32.5
	comp=Z,42nm,1.4s							
LTY	**Liberty**	**85.93**	**326**	IAmb	IAmb	13	22	32.2
	comp=Z,16nm,0.8s							
F04A	**Amboy**	**85.96**	**325**	IAmb	IAmb	13	22	32.3
	comp=Z,33nm,1.0s							
ESDC	**Sonseca Array**	**86.15**	**43**	P	**P**	**13**	**22**	**32.3 +1.0**
	comp=Z,7.3nm,1.1s,baz=230,slow=4.3,SNR=14							
	comp=Z,7.3nm,1.1s							
D05A	**Emumclaw**	**86.56**	**326**	IAmb	IAmb	13	22	35.1
	comp=Z,26nm,0.9s							
E03A	**Lebam**	**86.96**	**325**	IAmb	IAmb	13	22	37.9
	comp=Z,30nm,0.9s							
NLWA	**Neilton Lookou**	**87.67**	**325**	IAmb	IAmb	13	22	41.0
	comp=Z,15nm,0.9s							
CBB	**Campbell River**	**90.10**	**327**	IAmb	IAmb	13	22	52.0
	comp=Z,10nm,0.9s							
YKA	**Yellowknife Ar**	**94.17**	**340**	P	**P**	**13**	**23**	**08.5 +0.4**
YKA	**Yellowknife Ar**	**94.17**	**340**	P	**P**	**13**	**23**	**09.1 +1.0**
	comp=Z,6.2nm,0.7s,baz=130,slow=4.1,SNR=117							
	comp=Z,6.2nm,0.7s							
DLBC	**Dease Lake**	**97.32**	**332**	P	Pdif	13	23	23.5 +0.8
	comp=Z,6.2nm,0.9s,baz=94,slow=1.0,SNR=11							
	comp=Z,6.2nm,0.9s							
WTLY	**Watson Lake, Y**	**97.76**	**333**	IAmb	IAmb	13	23	26.9
	comp=Z,6.4nm,0.9s							
AKASG	**Malin Array Ba**	**111.79**	**43**	PKiKP	**PKiKP**	**13**	**28**	**23.0 -0.3**
	comp=Z,0.6nm,0.5s,baz=260,slow=3.3,SNR=4.8							
ARCES	**ARCESS Array B**	**112.95**	**22**	PKKPbc	PKKPbc	13	39	13.4 -1.6
	comp=Z,4.8nm,1.2s,baz=90,slow=3.0,SNR=7.8							
KBZ	**Khabaz**	**120.01**	**52**	PKP	**PKPdf**	**13**	**28**	**38.7 -0.5**
	comp=Z,1.9nm,0.8s,baz=119,slow=2.7,SNR=5.6							
CTA	**Charters Tower**	**125.74**	**219**	PKP	**PKiKP**	**13**	**28**	**51.6 +0.1**
	comp=Z,7.7nm,0.9s,baz=95,slow=0.9,SNR=4.0							
ASAR	**Alice Springs**	**128.63**	**204**	PKP	**PKiKP**	**13**	**28**	**57.2 0.0**
	comp=Z,9.8nm,0.7s,baz=135,slow=2.0,SNR=81							
WRA	**Warramunga Arr**	**131.82**	**207**	PKP	**PKPdf**	**13**	**29**	**02.8 +0.1**
	comp=Z,4.9nm,0.5s,baz=167,slow=1.6,SNR=18							
WRA				SKPbc	**SKPbc**	**13**	**32**	**09.0 +0.3**
	comp=Z,4.7nm,0.8s,baz=158,slow=3.6,SNR=17							
PETK	**Petropavlovsk-**	**135.75**	**323**	PKhKP	PKPpre	13	29	02.1
	comp=Z,4.3nm,0.9s,baz=6.0,slow=3.2,SNR=6.1							
PETK				PKP	**PKPdf**	**13**	**29**	**09.7 +0.8**
	comp=Z,1.6nm,0.4s,baz=66,slow=2.5,SNR=12							
BVAR	**Borovoye Array**	**136.57**	**37**	PKP	**PKPdf**	**13**	**29**	**11.2 +0.7**
	comp=Z,4.0nm,0.7s,baz=290,slow=2.6,SNR=16							
BVAR				SKP		13	32	25.8
	comp=Z,1.1nm,0.6s,baz=336,slow=3.4,SNR=5.0							
BRZS	**Berezniki**	**139.14**	**40**	*e*PKP	**PKPdf**	**13**	**29**	**16.2 +0.9**
	baz=40							
BRLS	**Borolday**	**139.56**	**51**	*e*PKP	**PKiKP**	**13**	**29**	**17.9 -0.8**
	baz=52							
IUG	**Iuzhnay**	**139.91**	**52**	*e*PKP	**PKPdf**	**13**	**29**	**18.0 +0.9**
	baz=52							
BTLS	**Baital**	**141.88**	**47**	*e*PKP	**PKPdf**	**13**	**29**	**21.4 +1.0**
	baz=47							
KURBB	**Kurchatov Arra**	**142.15**	**36**	PKhKP	PKPpre	13	29	17.3
	comp=Z,0.8nm,0.4s,baz=304,slow=3.0,SNR=6.1							
KURBB				PKP	**PKPdf**	**13**	**29**	**21.2 +0.5**
	comp=Z,3.2nm,0.7s,baz=298,slow=2.7,SNR=17							
KURBB				SKPbc	**SKPbc**	**13**	**32**	**37.6 -0.6**
	comp=Z,1.6nm,0.9s,baz=304,slow=3.4,SNR=6.6							
AAK	**Ala-Archa**	**142.96**	**50**	PKP	**PKPdf**	**13**	**29**	**21.1 -1.5**
	comp=Z,3.4nm,0.7s,baz=203,slow=6.2,SNR=7.8							
ZALV	**Zalesovo Beam**	**143.20**	**28**	PKP	PKPbc	13	29	21.3 +1.2
	comp=Z,16nm,0.7s,baz=299,slow=4.4,SNR=77							
ZALV				SKPbc	**SKiKP**	**13**	**32**	**41.7 -0.1**
	comp=Z,0.9nm,0.3s,baz=290,slow=4.3,SNR=4.5							
CHKK	**Chushkaly**	**144.27**	**47**	*e*PKP	**PKPdf**	**13**	**29**	**25.6 +0.9**
	baz=47							
TNSS	**Tian-Shan**	**144.54**	**49**	*e*PKP	**PKPdf**	**13**	**29**	**25.8 +0.1**
	baz=49							
MDOK	**Medeo**	**144.56**	**48**	*e*PKP	**PKPdf**	**13**	**29**	**25.5 +0.1**
	baz=48							
TDK	**Taldyqorghan**	**144.75**	**45**	*e*PKP	**PKPdf**	**13**	**29**	**26.1 +0.7**
	baz=45							
KSH	**Kashi**	**144.92**	**55**	PKP	**PKPdf**	**13**	**29**	**26.3 +0.2**
KSH				LR	LR			
	comp=N,220nm,11.4s							
KSH				LR	LR			
	comp=E,300nm,14.9s							
KSH				LR	LR			
	comp=Z,400nm,17.8s							
ZHN	**Zhinishke**	**145.50**	**48**	*e*PKP	**PKPbc**	**13**	**29**	**27.8 +0.3**
	baz=48							
SATY	**Saty**	**145.52**	**48**	*e*PKP	**PKPab**	**13**	**29**	**27.9 -0.2**
	baz=48							
UZB	**Uzynbulak**	**145.91**	**47**	*e*PKP	**PKPbc**	**13**	**29**	**28.7 -0.1**
	baz=48							
SHLS	**Shalkode**	**146.20**	**47**	*e*PKP	**PKPbc**	**13**	**29**	**30.1 +0.5**
	baz=47							
MKAR	**Makanchi Array**	**146.29**	**40**	PKPbc	**PKPbc**	**13**	**29**	**29.2 -0.4**
	comp=Z,24nm,0.7s,baz=328,slow=1.3,SNR=122							
MKAR				SKPbc	**SKiKP**	**13**	**32**	**48.8 +0.3**
	comp=Z,1.5nm,0.9s,baz=320,slow=2.7,SNR=5.4							
ZSN	**Zaisan**	**147.38**	**37**	*e*PKP	**PKPdf**	**13**	**29**	**30.9 +1.1**
	baz=37							
WMQ	**Urumqi**	**151.11**	**40**	*e*P	**PKPdf**	**13**	**29**	**36.1 +0.1**
WMQ				LR	LR			
	comp=N,300nm,20.1s							
WMQ				LR	LR			
	comp=E,430nm,20.1s							
WMQ				LR	LR			
	comp=Z,320nm,21.5s							
HEH	**HeiHe**	**151.53**	**341**	*e*P	**PKPbc**	**13**	**29**	**42.3 -0.4**
HEH				pmax	pmax			
	comp=Z,23nm,0.9s							
MJAR	**Matsushiro Arr**	**155.19**	**306**	PKP	**PKPdf**	**13**	**29**	**42.2 +0.1**
	comp=Z,2.4nm,1.1s,baz=75,slow=2.1,SNR=2.6							
MJAR				PKPab	**PKPab**	**13**	**30**	**08.6 +0.6**
	comp=Z,5.5nm,0.8s,baz=50,slow=2.2,SNR=7.4							
MDJ	**Mudanjiang**	**155.47**	**331**	P	**PKPdf**	**13**	**29**	**43.4 +1.3**
MDJ				pmax	pmax			
	comp=Z,7.0nm,2.0s							
MDJ				pmax	pmax			
	comp=Z,200nm,4.6s							
SONM	**Songino Array**	**155.52**	**11**	PKP	**PKPdf**	**13**	**29**	**42.8 +0.5**
	comp=Z,3.0nm,1.0s,baz=343,slow=0.4,SNR=14							
SONM				PKPab	**PKPab**	**13**	**30**	**09.4 +0.3**
	comp=Z,3.6nm,0.7s,baz=317,slow=4.1,SNR=13							
GTA	**Gaotai**	**160.80**	**33**	PKP	**PKPdf**	**13**	**29**	**50.6 +1.7**
GTA				pPKP	PKPab	13	30	33.4 +1.1
GTA				LR	LR			
	comp=N,160nm,17.4s							
GTA				LR	LR			
	comp=E,220nm,17.8s							
GTA				LR	LR			
	comp=Z,310nm,18.5s							
KSRS	**Korea Array**	**161.62**	**321**	PKP	**PKPdf**	**13**	**29**	**48.9 -0.8**
	comp=Z,3.4nm,1.0s,baz=33,slow=2.9,SNR=5.8							
KSRS				PKPab	**PKPab**	**13**	**30**	**36.9 +1.1**
	comp=Z,2.3nm,0.9s,baz=353,slow=6.3,SNR=5.0							
HHC	**Hu-ho-hao-te**	**163.07**	**5**	*e*P	**PKPdf**	**13**	**29**	**48.8 -2.4**
CMAR	**Chiang Mai Arr**	**165.52**	**109**	PKP	**PKPdf**	**13**	**29**	**53.8 -0.1**
	comp=Z,2.9nm,1.1s,baz=259,slow=1.9,SNR=16							
CMAR				PKPab	**PKPab**	**13**	**30**	**52.9 -0.7**
	comp=Z,0.8nm,0.7s,baz=248,slow=5.5,SNR=4.4							
CD2	**Chengdu**	**169.03**	**49**	PKP	**PKPdf**	**13**	**29**	**55.5 -0.6**
PZH	**PanZhiHua**	**169.21**	**74**	PKP	**PKPdf**	**13**	**29**	**54.1 -2.3**
NJ2	**Nanjing**	**170.56**	**330**	*e*P	**PKPdf**	**13**	**29**	**58.4 +1.5**
NJ2				pmax	pmax			
	comp=Z,17nm,1.5s							

*ECX **20** 13:12:11.8±0.3, 31°.00N×114°.17W, h20km±7km, ML2.8*
*MEX **20** 13:12:13.3±0.5, 31°.02N×114°.17W, h16km±11km, MD3.8*
ISC 20 13:12:10.6±1.1, 30°.99N±0°.06×114°.17W±0°.03, h30km±12km, n14, σ0°.71/22, 3C-4D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PPXB	**Puerto Peasco**	**0.57**	**53**	⇓*i*P		**Pb**	**13 12 22.2**	**0.0**
PPXB				*e*S		**Sb**	**13 12 30.0**	**-0.2**
PPXB				IAML			13 12 31.7	
	comp=N,439nm,0.4s							
PPXB				⇑*e*			13 12 31.7	
SFX	**San Felipe**	**0.59**	**275**	*e*P		**Pb**	**13 12 22.6**	**+0.1**
SFX				*i* S		**Sb**	**13 12 29.9**	**-0.7**
SFX	**San Felipe**	**0.59**	**275**	⇑*i*P		**Pb**	**13 12 22.6**	**+0.1**
SFX				*e*S		**Sb**	**13 12 30.8**	**+0.2**
SFX				⇓*e*			13 12 31.1	
SFX				IAML			13 12 31.1	
	comp=E,381nm,0.6s							
SFX				IAML			13 12 31.6	
	comp=N,331nm,0.2s							
PIX	**Pinacate**	**0.83**	**46**	*e*P		**Pb**	**13 12 26.4**	**-0.1**
PIX				*e*S		**Sb**	**13 12 37.4**	**0.0**
PIX				IAML			13 12 46.4	
	comp=E,306nm,0.6s							
PIX				⇓*e*			13 12 46.4	
ECBX	**El Chinero**	**0.90**	**303**	*e*P		**Pn**	**13 12 27.1**	**0.0**
ECBX				*e*S		**Sb**	**13 12 39.3**	**0.0**
ECBX				⇓*e*			13 12 40.2	
ECBX				IAML			13 12 40.2	
	comp=E,230nm,0.4s							
ECBX				⇑*e*			13 12 41.5	
ECBX				IAML			13 12 41.5	
	comp=N,177nm,0.5s							
SPIG	**San Pedro Mart**	**1.12**	**273**	*e*P		**Pn**	**13 12 30.9**	**+0.5**
SPIG				*i* S		**Sn**	**13 12 44.0**	**-1.1**
SPIG	**San Pedro Mart**	**1.12**	**273**	*e*P		**Pn**	**13 12 30.9**	**+0.5**
SPIG				*e*S		**Sb**	**13 12 46.2**	**+0.3**
SLGB	**San Luis Gonza**	**1.17**	**190**	*e*P		**Pn**	**13 12 31.9**	**+1.0**
RHX	**Rio Hardy**	**1.49**	**321**	*e*P		**Pn**	**13 12 36.3**	**+1.0**
214A	**Organ Pipe Nat**	**1.51**	**50**	*e*P		**Pn**	**13 12 35.8**	**+0.2**
214A				*e*S		**Sn**	**13 12 53.5**	**-0.8**
214A	**Organ Pipe Nat**	**1.51**	**50**	*e*P		**Pn**	**13 12 36.2**	**+0.6**
SQX	**San Quintin**	**1.53**	**255**	*e*P		**Pb**	**13 12 37.5**	**-0.8**
LAPR	**La Primavera**	**1.66**	**106**	*e*P		**Pn**	**13 12 38.2**	**+0.6**
LAPR				*e*S		Sn	13 12 46.6	-11
ALAMX	**Rancho Alamar**	**1.66**	**308**	*e*P		**Pn**	**13 12 39.4**	**+1.7**

*SOME **20** 13:14:53.0, 43°.03N×78°.52E, h10km*
NNC 20 13:14:52.6±0.6, 43°.03N×78°.59E, h2km±2km, mb2.5, mpv2.5, 3C, Error ellipse: s-maj=7.0km s-min=2.0km az=176.0, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.14**	**282**	*e*P		Pg	13 14 56.0	+0.7
	54nm,0.1s							
SATY				*e*S		Sg	13 14 58.3	+1.1
	149nm,0.1s							
SATY	**Saty**	**0.14**	**282**	P		Pg	13 14 56.1	+0.7
	54nm,0.1s							
SATY				S		Sg	13 14 58.3	+1.1
	137nm,0.1s							
ZHN	**Zhinishke**	**0.18**	**321**	*e*P		Pg	13 14 56.8	+0.7
	15nm,0.1s							
ZHN				*e*S		Sg	13 14 59.6	+1.0
	187nm,0.1s							
ZHN	**Zhinishke**	**0.18**	**321**	P		Pg	13 14 56.8	+0.7
	15nm,0.1s							
ZHN				S		Sg	13 14 59.6	+1.0
	187nm,0.1s							
UZB	**Uzynbulak**	**0.34**	**69**	*e*P		Pg	13 15 00.2	+1.1
	2.8nm,0.1s							
UZB				*e*S		Sg	13 15 05.3	+1.7
	30nm,0.1s							
UZB	**Uzynbulak**	**0.34**	**69**	P		Pg	13 15 00.2	+1.1
	2.8nm,0.1s							
UZB				S		Sg	13 15 05.3	+1.7
	30nm,0.1s							
PDGK	**Podgornoye**	**0.72**	**65**	P		Pg	13 15 06.8	+0.3
	0.2nm,0.2s							
PDGK				S		Sg	13 15 16.8	+0.9
	1.1nm,0.1s							
PDGK	**Podgornoye**	**0.72**	**65**	⇑P		Pg	13 15 06.8	+0.4
	0.2nm,0.3s							
PDGK				⇑S		Sg	13 15 16.6	+0.7
	2.2nm,0.7s							
KOTS	**Kotyrbulak**	**1.10**	**281**	*e*P		Pg	13 15 12.8	-1.0
	2.0nm,0.2s							
KOTS				*e*S		Sg	13 15 27.4	-0.6
	7.1nm,0.3s							
KOTS	**Kotyrbulak**	**1.10**	**281**	P		Pg	13 15 12.8	-1.0
	2.0nm,0.2s							
KOTS				S		Sg	13 15 27.4	-0.6
	7.1nm,0.3s							
KTMS	**Ketmen**	**1.35**	**71**	*e*P		Pb	13 15 18.7	0.0
	0.5nm,0.1s							
KTMS				*e*S		Sn	13 15 37.0	-0.1
	1.1nm,0.1s							
KTMS	**Ketmen**	**1.35**	**71**	P		Pb	13 15 18.7	0.0
	0.5nm,0.1s							
KTMS				S		Sn	13 15 37.0	-0.1
	1.1nm,0.1s							
KNOS	**Konyrlen**	**1.40**	**18**	P		Pn	13 15 19.2	0.0
	2.0nm,0.1s							
KNOS				S		Sb	13 15 38.0	+0.2
	0.8nm,0.1s							
KTBS	**Karatobe**	**1.55**	**297**	*e*P		Pn	13 15 20.5	-0.7
	1.2nm,0.2s							
KTBS				*e*S		Sn	13 15 40.6	-1.4
	3.4nm,0.3s							
KTBS	**Karatobe**	**1.55**	**297**	P		Pn	13 15 20.5	-0.7
	0.8nm,0.2s							
KTBS				S		Sn	13 15 41.2	-0.8
	3.4nm,0.3s							
DJR	**Jarkent**	**1.57**	**33**	*e*P		Pb	13 15 22.1	-0.2
	1.3nm,0.2s							
DJR				*e*S		Sg	13 15 43.0	+0.1
	6.8nm,0.2s							
DJR	**Jarkent**	**1.57**	**33**	P		Pb	13 15 22.1	-0.2
	1.3nm,0.2s							
DJR				S		Sg	13 15 43.0	+0.1
	6.8nm,0.2s							
TKM2	**Tokmak 2**	**2.20**	**268**	⇑Pg		Pg	13 15 34.2	-0.6
	0.6nm,0.6s							

*IDC **20** 13:18:18.7±2.3, 9°.31S×122°.82E, h0km, mb3.5/1, mbtmp3.2/3, ML2.8/2, MS3.6/2, Error ellipse: s-maj=248.5km s-min=32.7km az=54.0*
*DJA **20** 13:18:23.8±0.3, 10°.5±2°×12°.2E±°, h10km, M3.4/10, MLv3.4/10*
ISC 20 13:18:20.0±0.9, 10°.30S±0°.06×121°.66E±0°.06, h10km, n12, σ1°.25/13, Savu Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.07**	**274**	P		**Pn**	**13 18 42.7**	**+1.6**
BASI				S		**Sn**	**13 18 55.9**	**-0.1**
EDFI	**Ende, Flores**	**1.54**	**1**	P		**Pb**	**13 18 48.7**	**0.0**
EDFI				S		**Sg**	**13 19 09.3**	**-0.3**
MMRI	**Maumere**	**1.75**	**19**	P		**Pb**	**13 18 52.9**	**+0.7**
MMRI				S		**Sb**	**13 19 14.2**	**0.0**
BATI	**Baumata**	**1.97**	**88**	P		**Pg**	**13 18 58.6**	**+0.7**
SOEI	**Soe**	**2.62**	**78**	P		**Pb**	**13 19 08.1**	**+0.9**
PLAI	**Plampang**	**4.10**	**291**	P		**Pn**	**13 19 24.0**	**+1.2**
TWSI	**Taliwang, Sumb**	**4.96**	**288**	P		**Pn**	**13 19 35.8**	**+1.1**
WRA	**Warramunga Arr**	**15.54**	**130**	Pn		Pn	**13 21 57.0**	**-2.3**
	baz=309,slow=14,SNR=2.1							
WRA				Sn		Sn	13 24 36.8	-15
	0.1nm,0.3s,baz=311,slow=20,SNR=2.9							
	0.3nm,0.8s							
ASAR	**Alice Springs**	**17.70**	**140**	P		**P**	**13 22 27.9**	**+0.2**
	baz=322,slow=12,SNR=1.9							
ASAR				S		Sn	13 25 30.6	-13
	0.3nm

comp=Z,1.8nm,0.8s
SONM Songino Array 76.19 325 P **P** **13 34 05.1 -0.4**
comp=Z,0.2nm,0.3s,baz=147,slow=8.6,SNR=2.4
comp=Z,0.2nm,0.3s
O18K Koktuh Hills 78.31 21 P **P** **13 34 16.2 -0.7**
QSPA South Pole Qui 79.24 180 P **P** **13 34 22.7 +0.5**
QSPA IAmb IAmb 13 34 28.0
comp=Z,9.6nm,1.4s
QSPA South Pole Qui 79.24 180 P **P** **13 34 22.7 +0.5**
comp=Z,1.4nm,0.9s,baz=144,slow=1.5,SNR=6.6
comp=Z,1.4nm,0.9s
IMAR Indian Mountai 83.23 17 P **P** **13 34 44.2 +1.1**
GLB Gilahina Butte 83.56 23 P **P** **13 34 44.0 -0.9**
GLB IAmb IAmb 13 35 23.1
comp=Z,17nm,1.4s
ILAR Eielson Array 84.52 20 P **P** **13 34 49.5 -0.2**
comp=Z,0.3nm,0.8s,baz=259,slow=4.9,SNR=5.5
comp=Z,0.3nm,0.8s
I30M Mount Dempster 88.44 22 P **P** **13 35 10.0 +0.9**
I30M IAmb IAmb 13 35 24.9
comp=Z,4.8nm,1.4s
NVAR Mina Array Bea 88.82 51 P **P** **13 35 12.8 +1.2**
comp=Z,0.4nm,0.7s,baz=247,slow=4.6,SNR=4.0
comp=Z,0.4nm,0.7s
MKAR Makanchi Array 90.69 317 P **P** **13 35 18.3 -1.5**
comp=Z,0.2nm,0.6s,baz=100,slow=6.4,SNR=2.2
comp=Z,0.2nm,0.6s

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*NEIC **20** 13:30:28.6±2.2,5.°63S±0.°05×142.°2E±0.°1, h10km±2km, mb4.0/7, Error ellipse: s-maj=22.7km s-min=8.8km az=89.0*
*IDC **20** 13:30:32.6±1.1,6.°00S×142.°48E, h0km, mb3.9/5, mbtmp3.9/7, ML1.4/1, MS3.7/4, Error ellipse: s-maj=42.4km s-min=23.5km az=78.0*
ISC 20 13:30:33.9±0.9,**6.°32S**±0.°09×**142.°27E**±0.°08,**h10**km,**n24,** σ1ŝ**86**/21,**mb4.0/7,New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.73**	**123**	Pn		**Pn**	**13 32 00.6**	**+1.5**
PMG	**Port Moresby**	**5.73**	**123**	Pn		**Pn**	**13 32 00.3**	**+1.1**
	0.8nm,0.3s,baz=90,slow=1.0,SNR=3.7							
PMG				Sn		**Sn**	**13 33 02.7**	**-2.4**
	1.0nm,0.3s,baz=315,slow=10.0,SNR=1.9							
	9.2nm,0.6s							
COEN	**Coen**	**7.65**	**173**			**Pn**	**13 32 26.1**	**+0.7**
MTN	**Manton Dam**	**12.75**	**239**	Pn		**Pn**	**13 33 36.1**	**+0.7**
CTA	**Charters Tower**	**14.23**	**165**	LR		LR	13 40 08.5	
	comp=Z,150nm,18.5s,baz=181,slow=40							
WB0	**Warramunga Arr**	**15.41**	**209**	Pn		**Pn**	**13 34 12.5**	**+1.0**
WB0				IAmb		IAmb	13 34 24.9	
	comp=Z,14nm,1.2s							
WR0	**Warramunga Arr**	**15.50**	**208**	Pn		**Pn**	**13 34 13.2**	**+0.4**
WR0				IAmb		IAmb	13 34 23.1	
	comp=Z,20nm,1.4s							
WRAB	**Tennant Creek**	**15.57**	**209**	Pn		**Pn**	**13 34 14.9**	**+1.2**
WRAB				IAmb		IAmb	13 34 42.6	
	comp=Z,17nm,1.2s							
WB2	**Warramunga Arr**	**15.58**	**209**	Pn		**Pn**	**13 34 14.4**	**+0.6**
WB2				IAmb		IAmb	13 34 23.9	
	comp=Z,8.1nm,0.7s							
WRA	**Warramunga Arr**	**15.59**	**209**	Pn		**Pn**	**13 34 14.0**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=26,slow=13,SNR=20							
WRA				Sn		**Sn**	**13 37 02.3**	**-4.4**
	comp=Z,0.3nm,0.3s,baz=19,slow=35,SNR=2.3							
WRA				Lg		Lg	13 38 45.5	
	baz=20,slow=22							
KNRA	**Kununurra**	**16.19**	**234**	P		**Pn**	**13 34 21.7**	**0.0**
AS31	**Alice Springs**	**19.04**	**204**	P		**P**	**13 34 57.3**	**+1.0**
ASAR	**Alice Springs**	**19.04**	**204**	P		**Pn**	**13 34 57.5**	**+0.5**
ASAR	**Alice Springs**	**19.04**	**204**	P		**Pn**	**13 35 00.1**	**+3.1**
	comp=Z,4.4nm,0.7s,baz=36,slow=9.5,SNR=46							
ASAR				Lg		Lg	13 40 45.3	
	baz=40,slow=23,SNR=1.7							
ASAR				LR		LR	13 43 02.7	
	comp=Z,318nm,19.1s,baz=82,slow=39							
FITZ	**Fitzroy Crossi**	**20.01**	**233**	P		**P**	**13 35 04.9**	**-2.0**
FITZ				IAmb		IAmb	13 35 13.6	
	comp=Z,8.3nm,1.4s							
STKA	**Stephens Creek**	**25.44**	**181**	P		**P**	**13 36 04.9**	**+2.9**
	comp=Z,1.9nm,0.7s,baz=0.0,slow=18,SNR=3.4							
	comp=Z,1.9nm,0.7s							
NWAO	**Narrogin (SRO)**	**35.26**	**218**	LR		LR	13 52 18.1	
	comp=Z,153nm,18.0s,baz=16,slow=37							
PZH	**PanZhiHua**	**51.06**	**312**	P		P	13 39 29.9	-7.0
PZH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,100nm,5.2s							
USRK	**Ussuriysk Ar.**	**51.13**	**351**	LR		LR	13 58 37.9	
	comp=Z,41nm,19.5s,baz=224,slow=33							
HHC	**Hu-ho-hao-te**	**54.75**	**332**	eP		P	13 39 55.4	-8.5
HHC				sP		pP	13 40 01.6	-5.5
HHC				pmax		pmax		
	comp=Z,10.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,90nm,4.1s							
MKAR	**Makanchi Array**	**74.79**	**322**	P		**P**	**13 42 13.7**	**-0.8**
	comp=Z,0.6nm,0.9s,baz=104,slow=6.1,SNR=6.0							
	comp=Z,0.6nm,0.9s							
KURBB	**Kurchatov Arra**	**78.70**	**324**	P		**P**	**13 42 36.0**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=107,slow=5.0,SNR=4.6							
	comp=Z,0.4nm,0.8s							
BVAR	**Borovoye Array**	**84.28**	**325**	P		**P**	**13 43 06.8**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=107,slow=3.3,SNR=7.3							
	comp=Z,0.9nm,0.5s							
ILAR	**Eielson Array**	**87.65**	**24**	P		**P**	**13 43 20.2**	**-2.1**
	comp=Z,0.8nm,0.9s,baz=265,slow=5.6,SNR=7.4							
	comp=Z,0.8nm,0.9s							

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*IDC **20** 13:34:01.6±1.2,6.°01S×142.°57E, h0km, mb3.4/4, mbtmp3.5/6, ML1.3/1, Error ellipse: s-maj=42.7km s-min=26.8km az=57.0*
ISC 20 13:34:02.1±1.0,**6.°3S**±0.°1×**142.°2E**±0.°1,**h10**km,**n7,** σ2ŝ**67**/9, **mb3.5**/4,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.78**	**122**	Pn		**Pn**	**13 35 28.1**	**+0.2**
	0.5nm,0.3s,baz=319,slow=20,SNR=1.0							
PMG				Sn		**Sn**	**13 36 34.5**	**+0.1**
	0.6nm,0.3s,baz=180,slow=20,SNR=1.5							
	3.5nm,0.6s							
WRA	**Warramunga Arr**	**15.56**	**209**	Pn		**P**	**13 37 44.4**	**-1.7**
	0.3nm,0.3s,baz=23,slow=14,SNR=2.7							
WRA				Sn		**Sn**	**13 40 31.6**	**-2.9**
	baz=208,slow=33							
WRA				Lg		Lg	13 42 21.3	
	0.1nm,0.3s,baz=22,slow=27,SNR=1.4							
ASAR	**Alice Springs**	**19.02**	**204**	P		**Pn**	**13 38 29.3**	**+4.2**
	2.0nm,0.7s,baz=33,slow=9.8,SNR=9.2							
MKAR	**Makanchi Array**	**74.76**	**322**	P		**P**	**13 45 43.8**	**+1.2**
	0.2nm,0.6s,baz=111,slow=6.3,SNR=2.0							
	0.2nm,0.6s							
KURBB	**Kurchatov Arra**	**78.67**	**324**	P		**P**	**13 46 07.2**	**+2.7**
	0.1nm,0.6s,baz=110,slow=5.0,SNR=1.9							
	0.1nm,0.6s							
BVAR	**Borovoye Array**	**84.25**	**325**	P		**P**	**13 46 34.0**	**0.0**
	0.3nm,0.5s,baz=106,slow=8.1,SNR=2.3							
	0.3nm,0.5s							
ILAR	**Eielson Array**	**87.66**	**24**	P		**P**	**13 46 48.4**	**-2.2**
	0.4nm,0.8s,baz=270,slow=5.4,SNR=2.8							
	0.4nm,0.8s							

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*DJA **20** 13:44:07.6±1.1,5.°N±10.°×12.°6E±.°, h10km, M4.3/7, mb4.4/6, mb5.1/1, MLv4.3/7, Mw(mB)4.4/1*
*NEIC **20** 13:44:13.6±1.7,4.°94N±0.°03×126.°4E±0.°1, h78km±7km, mb4.3/37, Error ellipse: s-maj=17.0km s-min=2.4km az=79.0*
*IDC **20** 13:44:17.9±2.1,4.°99N×126.°27E, h127km±19km, mb3.7/18, mbtmp4.1/20, MS3.2/2, Error ellipse: s-maj=28.4km s-min=10.3km az=74.0*
ISC 20 13:44:12.1±0.4,**4.°93N**±0.°04×**126.°39E**±0.°09,**h71**km,**n81,** σ1ŝ**19**/81,**mb4.2**/33,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGSI	**Sangihe**	**1.51**	**215**	P		**Pn**	**13 44 36.1**	**-1.1**
SGSI				S		**Sn**	**13 44 57.6**	**+1.5**
DAV	**Davao City (W)**	**2.28**	**339**	Pn		**Pn**	**13 44 48.1**	**+0.6**
DAV	**Davao City (W)**	**2.28**	**339**	P		Pn	13 44 55.2	+7.7
	166nm,0.3s,baz=270,slow=20,SNR=1.9							
DAV				S		**Sn**	**13 45 19.2**	**+4.6**
	262nm,0.4s,baz=285,slow=19,SNR=4.3							
TNTI	**Ternate**	**4.24**	**167**	Pn		**Pn**	**13 45 13.2**	**-1.1**
GTOI	**Gorontalo**	**5.44**	**218**	P		**Pn**	**13 45 30.7**	**+0.1**
	16nm,0.6s,0.1nm							
LBMI	**Labuha**	**5.64**	**169**	P		**Pn**	**13 45 35.3**	**+1.9**
	50nm,0.7s,1μm0.2nm							
TOLI2	**Tolitoli**	**6.76**	**236**	Pn		**Pn**	**13 45 47.9**	**-0.9**
SANI	**Sanana**	**6.94**	**183**	P		**Pn**	**13 45 49.3**	**-1.9**
LUWI	**Luwuk**	**6.95**	**211**			**Pn**	**13 45 53.3**	**+2.0**
FAKI	**Fak Fak**	**9.75**	**143**	Pn		**Pn**	**13 46 29.8**	**+0.2**
TGY	**Tagaytay City**	**10.58**	**330**	S		**Sn**	**13 48 39.4**	**+1.5**
	135nm,0.3s,baz=201,slow=15,SNR=1.9							
MMRI	**Maumere**	**14.10**	**197**	Pn		**Pn**	**13 47 29.1**	**+0.6**
BATI	**Baumata**	**15.28**	**190**	P		**P**	**13 47 47.6**	**+0.5**
	4.8nm,0.3s,baz=117,slow=6.8,SNR=1.5							
MTN	**Manton Dam**	**18.27**	**165**	P		**P**	**13 48 18.8**	**-1.4**
MTN				IAmb		IAmb	13 48 24.9	
	comp=Z,16nm,1.2s							
YULB	**Yu-li**	**19.00**	**345**	Pn		**Pn**	**13 48 30.8**	**+1.1**
YULB				IAmb		IAmb	13 48 58.3	
	comp=Z,39nm,1.2s							
KNRA	**Kununurra**	**20.61**	**174**	P		**P**	**13 48 47.0**	**+1.4**
KNRA				IAmb		IAmb	13 49 01.0	
	comp=Z,15nm,0.8s							
FITZ	**Fitzroy Crossi**	**22.89**	**182**	P		**P**	**13 49 11.9**	**+1.9**
WB0	**Warramunga Arr**	**25.77**	**162**	P		**P**	**13 49 37.3**	**+0.8**
WB0				IAmb		IAmb	13 49 44.3	
	comp=Z,7.2nm,0.8s							
WRA	**Warramunga Arr**	**25.92**	**163**	P		**P**	**13 49 37.8**	**0.0**
WRA	**Warramunga Arr**	**25.92**	**163**	P		**P**	**13 49 38.8**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=343,slow=9.7,SNR=26							
WRA				PcP		**PcP**	**13 53 05.2**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=320,slow=2.1,SNR=1.5							
	comp=Z,1.6nm,0.6s							
WB2	**Warramunga Arr**	**25.93**	**163**	P		**P**	**13 49 38.2**	**+0.4**
JCJ	**Chichijima**	**26.70**	**33**	LR		LR	13 58 26.5	
	comp=Z,16nm,21.9s,baz=148,slow=32							
PSA00	**Pilbara Seismi**	**27.11**	**193**	P		**P**	**13 49 49.7**	**+1.3**
PSA00				IAmb		IAmb	13 50 18.3	
	comp=Z,15nm,1.1s							
AS31	**Alice Springs**	**29.35**	**166**	P		**P**	**13 50 10.2**	**+1.7**
ASAR	**Alice Springs**	**29.35**	**166**	P		**P**	**13 50 09.2**	**+0.8**
ASAR	**Alice Springs**	**29.35**	**166**	P		**P**	**13 50 08.8**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=340,slow=6.9,SNR=29							
ASAR				PcP		**PcP**	**13 53 13.7**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=350,slow=2.5,SNR=5.8							
	comp=Z,0.5nm,0.5s							
CMAR	**Chiang Mai Arr**	**29.99**	**299**	P		**P**	**13 50 13.4**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=119,slow=7.3,SNR=2.0							
	comp=Z,0.4nm,0.3s							
FORT	**Forrest**	**35.54**	**178**	P		**P**	**13 51 02.9**	**+0.5**
BJT	**Baijiatuao**	**36.13**	**347**	P		**P**	**13 51 07.7**	**+0.3**
NWAO	**Narrogin (SRO)**	**38.64**	**192**	P		**P**	**13 51 29.3**	**+0.6**
STKA	**Stephens Creek**	**39.36**	**159**	P		**P**	**13 51 36.4**	**+1.6**
	comp=Z,4.5nm,0.6s,baz=346,slow=8.6,SNR=8.4							
	comp=Z,4.5nm,0.6s							
ASAJ	**Asahikawa**	**41.55**	**18**	P		**P**	**13 51 52.9**	**+0.2**
	comp=Z,4.7nm,0.8s,baz=205,slow=14,SNR=1.8							
	comp=Z,4.7nm,0.8s							
H11N1	**WAKE ISLAND Hy**	**42.06**	**66**	T		T	14 36 21.9	
	baz=254,slow=75,SNR=13							
H11N2	**WAKE ISLAND Hy**	**42.07**	**66**	T		T	14 36 24.8	
	baz=254,slow=75,SNR=12							
H11N3	**WAKE ISLAND Hy**	**42.08**	**66**	T		T	14 36 25.8	
	baz=254,slow=75,SNR=13							
KLR	**Kul'dur**	**44.38**	**5**	P		**P**	**13 52 14.4**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=287,slow=2.8,SNR=4.1							
	comp=Z,0.6nm,0.3s							
ULN	**Ulaanbaatar**	**45.88**	**342**	P		**P**	**13 52 28.0**	**+0.4**
ULN				IAmb		IAmb	13 52 31.2	
	comp=Z,2.4nm,0.7s							
SONM	**Songino Array**	**46.06**	**341**	P		**P**	**13 52 29.7**	**+0.7**
SONM	**Songino Array**	**46.06**	**341**	P		**P**	**13 52 29.3**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=157,slow=8.4,SNR=10							
SONM				PcP		**PcP**	**13 54 03.7**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=147,slow=5.8,SNR=2.7							
	comp=Z,1.0nm,0.4s							
PETK	**Petropavlovsk-**	**54.46**	**23**	P		**P**	**13 53 32.0**	**-0.1**
	comp=Z,4.8nm,1.0s,baz=226,slow=6.5,SNR=1.6							
	comp=Z,4.8nm,1.0s							
MK31	**Makanchi Array**	**56.39**	**325**	P		**P**	**13 53 44.9**	**-1.2**
MKAR	**Makanchi Array**	**56.39**	**325**	P		**P**	**13 53 44.8**	**-1.3**
MKAR	**Makanchi Array**	**56.39**	**325**	P		**P**	**13 53 44.7**	**-1.5**
	comp=Z,0.9nm,0.5s,baz=115,slow=7.5,SNR=19							
MKAR				PcP		**PcP**	**13 54 41.8**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=130,slow=3.0,SNR=8.2							
	comp=Z,0.9nm,0.5s							
MAKZ	**Makanchi**	**56.57**	**325**	P		**P**	**13 53 46.4**	**-1.1**
MAKZ				IAmb		IAmb	13 54 00.8	
	comp=Z,2.4nm,1.1s							
YAK	**Yakutsk**	**57.03**	**2**	P		**P**	**13 53 49.0**	**-1.3**
	comp=Z,33nm,0.5s,baz=128,slow=3.7,SNR=5.0							
ZALV	**Zalesovo Beam**	**59.38**	**333**	P		**P**	**13 54 04.5**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=132,slow=6.4,SNR=2.3							
	comp=Z,0.4nm,0.3s							
ARSB	**Arslanbob**	**59.77**	**316**	P		**P**	**13 54 09.3**	**-0.8**
KURBB	**Kurchatov Arra**	**60.56**	**327**	P		**P**	**13 54 12.8**	**-2.2**
	comp=Z,1.0nm,0.7s,baz=126,slow=6.3,SNR=10							
	comp=Z,1.0nm,0.7s							
JOHN	**Johnston Islan**	**63.78**	**74**	P		**P**	**13 54 36.8**	**-0.4**
BVAR	**Borovoye Array**	**66.14**	**327**	P		**P**	**13 54 50.8**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=128,slow=9.6,SNR=4.1							
	comp=Z,0.7nm,0.6s							
TIXI	**Tiksi**	**66.66**	**1**	P		**P**	**13 54 54.2**	**-0.6**
TIXI				IAmb		IAmb	13 55 14.2	
	comp=Z,3.9nm,1.1s							
NRIK	**Noril'sk**	**69.19**	**346**	P		**P**	**13 55 09.7**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=137,slow=9.2,SNR=5.0							
	comp=Z,1.0nm,0.3s							
ABKAR	**Akbulak array**	**71.02**	**321**	P		**P**	**13 55 21.4**	**-0.9**
AKUT	**Akutan**	**73.13**	**35**	P		**P**	**13 55 34.5**	**-0.3**
C19K	**Lookout Ridge**	**79.74**	**21**	P		**P**	**13 56 13.2**	**+1.1**
C19K				IAmb		IAmb	13 56 31.9	
	comp=Z,3.5nm,1.1s							
SVW2	**Sparrevohn**	**79.92**	**29**	P		**P**	**13 56 11.5**	**-1.6**
D19K	**Kuna River**	**80.13**	**21**	P		**P**	**13 56 14.4**	**+0.3**
D19K				IAmb		IAmb	13 56 29.6	
	comp=Z,7.0nm,1.4s							
B20K	**Meade River**	**80.77**	**20**	P		**P**	**13 56 18.3**	**+0.9**
IMAR	**Indian Mountai**	**81.39**	**24**	P		**P**	**13 56 22.2**	**+1.3**
B21K	**Ikpikpuk River**	**81.57**	**20**	P		**P**	**13 56 22.1**	**+0.4**
B21K				IAmb		IAmb	13 56 50.9	
	comp=Z,3.8nm,1.1s							
B22K	**Teshekpuk Lake**	**82.08**	**20**	P		**P**	**13 56 24.9**	**+0.6**
B22K				IAmb		IAmb	13 56 31.1	
	comp=Z,5.3nm,1.3s							
MLY	**Manley**	**82.54**	**25**	P		**P**	**13 56 27.6**	**+0.6**
MLY				IAmb		IAmb	13 56 45.0	
	comp=Z,7.5nm,1.5s							
G23K	**Bananza Creek**	**82.96**	**23**	P		**P**	**13 56 30.1**	**+0.9**
G23K				IAmb		IAmb	13 56 33.5	
	comp=Z,3.3nm,1.2s							
C23K	**Itkillik River**	**82.98**	**20**	P		**P**	**13 56 29.6**	**+0.5**
I23K	**Minto, Yukon-K**	**83.13**	**25**	P		**P**	**13 56 30.7**	**+0.8**
I23K				IAmb		IAmb	13 56 40.2	
	comp=Z,8.2nm,1.4s							
TOLK	**Toolik Lake Re**	**83.26**	**22**	P		**P**	**13 56 31.6**	**+0.9**
TOLK				IAmb		IAmb	13 57 06.8	
	comp=Z,3.8nm,1.2s							
D24K	**Happy Valley**	**83.56**	**21**	P		**P**	**13 56 33.0**	**+0.8**
H24K	**Noodor Dome**	**83.78**	**24**	P		**P**	**13 56 34.2**	**+0.8**
H24K				IAmb		IAmb	13 57 11.3	
	comp=Z,4.1nm,1.4s							
ILAR	**Eielson Array**	**84.17**	**25**	P		**P**	**13 56 34.0**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=242,slow=5.4,SNR=5.4							
	comp=Z,0.3nm,0.7s							
VNDA	**Vanda**	**84.65**	**173**	P		**P**	**13 56 38.8**	**+1.4**
VNDA				IAmb		IAmb	13 56 39.7	
	comp=Z,3.2nm,1.1s							
VNDA	**Vanda**	**84.65**	**173**	P		**P**	**13 56 36.9**	**-0.5**
	comp=Z,1.5nm,0.9s,baz=318,slow=7.0,SNR=6.2							
	comp=Z,1.5nm,0.9s							
BMAR	**Burnt Mountain**	**85.11**	**23**	P		**P**	**13 56 41.6**	**+1.5**
PPT	**Papeete**	**85.80**	**108**	LR		LR	14 32 13.9	
	comp=Z,34nm,19.1s,baz=169,slow=34							
BCAR	**Beaver Creek A**	**86.47**	**27**	P		**P**	**13 56 47.0**	**+0.1**
CTGM	**Chitina Glacie**	**86.83**	**29**	P		**P**	**13 56 47.6**	**-1.2**
G29M	**Pine Creek**	**87.70**	**23**	P		**P**	**13 56 53.0**	**+0.3**
ARCES	**ARCESS Array B**	**89.22**	**340**	P		**P**	**13 56 59.0**	**-0.8**
ARCES	**ARCESS Array B**	**89.22**	**340**	P		**P**	**13 56 58.7**	**-1.1**
	comp=Z,2.5nm,0.7s,baz=79,slow=6.6,SNR=11							
	comp=Z,2.5nm,0.7s							
SPITS	**Spitsbergen Ar**	**89.25**	**349**	P		**P**	**13 56 59.9**	**+0.1**
	comp=Z,10nm,0.9s,baz=32,slow=4.1,SNR=1.6							
	comp=Z,10nm,0.9s							
FINES	**FINESS Array B**	**90.62**	**332**	P		**P**	**13 57 04.9**	**-1.6**
	comp=Z,1.2nm,0.7s,baz=85,slow=4.4,SNR=6.6							
	comp=Z,1.2nm,0.7s							
TORD	**Torodi Ar. Bea**	**122.22**	**289**	PKP		**PKPdf**	**14 02 59.8**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=18,slow=2.6,SNR=3.3							

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*IDC **20** 13:45:17.3±1.6,35.°90N×140.°31E, h99km±13km, mb3.3/6, mbtmp3.7/8, MS3.6/2, Error ellipse: s-maj=23.4km s-min=9.0km az=66.0*
*JMA **20** 13:45:19.9±0.1,36.°0N±0.°4×140.°1E±0.°6, h94km, MV2.9/40, SOUTHERN IBARAKI PREF*
ISC 20 13:45:18.1±0.9,**36.°00N**±0.°05×**140.°23E**±0.°05,**h102**km±7km, **n35,** σ1ŝ**44**/41,**mb3.5/6,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JYT	**Yasato**	**0.23**	**354**	*i* P		**Pn**	**13 45 33.6**	**+0.9**
JYT				S		**Sn**	**13 45 43.8**	**+0.2**
JAG	**Ashikaga**	**0.76**	**305**	*i* P		**Pn**	**13 45 37.0**	**+0.7**
JAG				S		**Sn**	**13 45 49.9**	**0.0**
JRY	**Ryogami san**	**1.07**	**271**	*i* P		**Pn**	**13 45 40.5**	**+0.9**
JRY				S		**Sn**	**13 45 56.0**	**+0.3**
JKT	**Katashina**	**1.10**	**315**	*i* P		**Pn**	**13 45 41.0**	**+1.0**
JKT				S		**Sn**	**13 45 57.6**	**+1.2**
JOD2	**Odawara 2**	**1.18**	**232**	*i* P		**Pn**	**13 45 41.0**	**+0.2**
JOD2				S		**Sn**	**13 45 56.8**	**-1.1**
JYN	**Shimob**	**1.46**	**251**	*i* P		**Pn**	**13 45 44.6**	**+0.6**
JYN				S		**Sn**	**13 46 03.2**	**-0.5**
JFY	**Yanaizu**	**1.47**	**344**	P		**Pn**	**13 45 45.4**	**+1.3**
BSO1	**Boso 1**	**1.47**	**155**	P		**Pn**	**13 45 45.2**	**+1.5**
JFNN	**Fujinakano**	**1.49**	**238**	P		**Pn**	**13 45 44.8**	**+0.4**
JFNN				S		**Sn**	**13 46 03.9**	**-0.4**
JUON	**Uonuma**	**1.53**	**322**	P		**Pn**	**13 45 46.1**	**+1.2**
JOTO	**OTAMA OYAMA**	**1.56**	**3**	*i* P		**Pn**	**13 45 46.9**	**+1.6**
JOTO				S		**Sn**	**13 46 07.9**	**+1.9**
MJAR	**Matsushiro Arr**	**1.72**	**289**	P		**Pn**	**13 45 47.5**	**+0.3**
	42nm,0.3s,baz=108,slow=8.2,SNR=243							
MJAR				S		**Sn**	**13 46 10.0**	**+0.6**
	16nm,0.5s,baz=302,slow=43,SNR=5.0							
MAJO	**Matsushiro**	**1.72**	**289**	P		**Pn**	**13 45 48.0**	**+0.7**
MAT	**Matsushiro**	**1.72**	**289**	*i* P		**Pn**	**13 45 48.1**	**+0.8**
JMM	**Marumori**	**1.92**	**14**	P		**Pn**	**13 45 51.1**	**+1.3**
JGF	**Kuroka**	**2.37**	**261**	P		**Pn**	**13 45 56.9**	**+1.3**
JSD	**Sado**	**2.57**	**323**	P		**Pn**	**13 45 59.2**	**+0.9**
INU	**Inuyama**	**2.69**	**257**	P		**Pn**	**13 46 00.8**	**+1.0**
JHJ	**Hachijo jima 2**	**2.89**	**187**	P		**Pn**	**13 46 02.3**	**-0.2**
	201nm,0.4s,baz=81,slow=19,SNR=2.2							
JHJ				S		**Sn**	**13 46 33.8**	**-2.9**
	226nm,0.4s,baz=146,slow=23,SNR=7.9							
JTM	**Tenmabayashi**	**4.83**	**8**	P		**Pn**	**13 46 29.5**	**+1.0**
ERM	**Erimo**	**6.43**	**20**	P		**Pn**	**13 46 50.1**	**-0.1**
JEM	**Erimo**	**6.43**	**20**	P		**Pn**	**13 46 50.4**	**+0.2**
ASAJ	**Asahikawa**	**8.31**	**12**	P		**Pn**	**13 47 14.7**	**-1.1**
	3.6nm,0.4s,baz=209,slow=15,SNR=28							
ASAJ				S		**Sn**	**13 48 41.9**	**-6.0**
	2.6nm,0.5s,baz=60,slow=20,SNR=1.7							
JCJ	**Chichijima**	**9.03**	**169**	P		Pn	13 47 18.0	-7.6
	17nm,0.4s,baz=277,slow=18,SNR=8.1							
JCJ				S		Sn	13 48 49.6	-16
	52nm,1.0s,baz=288,slow=21,SNR=2.3							
SONM	**Songino Array**	**27.59**	**306**	P		**P**	**13 50 55.2**	**-0.6**
	0.3nm,0.4s,baz=91,slow=9.8,SNR=2.6							
	0.3nm,0.4s							
H11N2	**WAKE ISLAND Hy**	**28.48**	**118**	T		T	14 20 57.7	
	baz=308,slow=74							
H11N1	**WAKE ISLAND Hy**	**28.49**	**118**	T		T	14 20 51.4	
	baz=308,slow=74							
H11N3	**WAKE ISLAND Hy**	**28.50**	**118**	T		T	14 21 03.1	
	baz=308							
DAV	**Davao City (W)**	**31.76**	**208**	LR		LR	14 02 09.6	
	comp=Z,80nm,20.6s,baz=330,slow=32							
MKAR	**Makanchi Array**	**43.87**	**303**	P		**P**	**13 53 15.1**	**+0.9**
	0.6nm,0.6s,baz=87,slow=9.5,SNR=8.5		

WB2	**Warramunga Arr**	**23.41**	**142**	P	**P**	**14 01 08.0**	**-1.7**		
WR0	**Warramunga Arr**	**23.54**	**142**	P	**P**	**14 01 08.8**	**-2.1**		
WR0				IAmb	IAmb	14 01 11.2			
	comp=Z,10nm,0.9s								
AS31	**Alice Springs**	**26.10**	**149**	P	**P**	**14 01 33.8**	**-0.5**		
ASAR	**Alice Springs**	**26.10**	**149**	P	**P**	**14 01 33.7**	**-0.6**		
ASAR	**Alice Springs**	**26.10**	**149**	P	**P**	**14 01 32.9**	**-1.4**		
	comp=Z,1.9nm,0.9s,baz=329,slow=9.1,SNR=7.5								
ASAR				PcP	**PcP**	**14 05 00.1**	**-1.4**		
	comp=Z,0.3nm,0.6s,baz=334,slow=2.0,SNR=4.7								
	comp=Z,1.9nm,0.9s								
MORW	**Morawa**	**27.57**	**186**	P	**P**	**14 01 46.8**	**-0.7**		
CMAR	**Chiang Mai Arr**	**28.29**	**316**	LR	LR	14 15 33.9			
	comp=Z,37nm,18.1s,baz=145,slow=41								
STKA	**Stephens Creek**	**36.72**	**148**	P	**P**	**14 03 05.2**	**-2.4**		
	comp=Z,2.7nm,0.8s,baz=343,slow=14,SNR=2.4								
	comp=Z,2.7nm,0.8s								
BJT	**Baijiatuan**	**41.46**	**356**	P	**P**	**14 03 48.8**	**+1.7**		
BJT				IAmb	IAmb	14 03 49.5			
	comp=Z,9.2nm,1.0s								
HHC	**Hu-ho-hao-te**	**42.79**	**351**	*e*P	**P**	**14 03 53.8**	**-4.2**		
HHC				pP	pP	14 04 08.0	-0.8		
HHC				pmax	pmax				
	comp=Z,12nm,0.5s								
HHC				pmax	pmax				
	comp=Z,110nm,5.4s								
USA0B	**Ussuriysk Arra**	**46.90**	**12**	P	**P**	**14 04 30.6**	**0.0**		
USA0B				IAmb	IAmb	14 05 07.1			
	comp=Z,4.4nm,0.8s								
USRK	**Ussuriysk Ar.**	**46.90**	**12**	P	**P**	**14 04 30.9**	**+0.3**		
USRK	**Ussuriysk Ar.**	**46.90**	**12**	LR	LR	14 24 27.0			
	comp=Z,25nm,19.1s,baz=187,slow=36								
ULN	**Ulaanbaatar**	**50.37**	**349**	P	**P**	**14 04 58.0**	**+0.6**		
ULN				IAmb	IAmb	14 04 59.8			
	comp=Z,3.9nm,0.9s								
SONM	**Songino Array**	**50.47**	**349**	P	**P**	**14 04 58.9**	**+0.8**		
SONM	**Songino Array**	**50.47**	**349**	P	**P**	**14 04 58.9**	**+0.8**		
	comp=Z,1.9nm,0.8s,baz=171,slow=6.7,SNR=9.5								
	comp=Z,1.9nm,0.8s								
HEH	**HeiHe**	**52.04**	**6**	*e*P	**P**	**14 05 09.6**	**-0.1**		
HEH				pmax	pmax				
	comp=Z,12nm,0.9s								
KSH	**Kashi**	**57.01**	**321**	P	**P**	**14 05 50.6**	**+4.4**		
KSH				pmax	pmax				
	comp=Z,2.0nm,0.6s								
MK31	**Makanchi Array**	**58.11**	**331**	P	**P**	**14 05 55.1**	**+1.4**		
MK31				IAmb	IAmb	14 05 56.1			
	comp=Z,1.8nm,0.8s								
MKAR	**Makanchi Array**	**58.11**	**331**	P	**P**	**14 05 55.0**	**+1.3**		
MKAR	**Makanchi Array**	**58.11**	**331**	P	**P**	**14 05 55.4**	**+1.7**		
	comp=Z,1.6nm,0.6s,baz=135,slow=7.6,SNR=21								
	comp=Z,1.6nm,0.6s								
ZAA0	**Zalesovo Array**	**62.30**	**338**	P	**P**	**14 06 22.1**	**0.0**		
ZAA0				IAmb	IAmb	14 06 23.6			
	comp=Z,3.5nm,0.9s								
ZALV	**Zalesovo Beam**	**62.30**	**338**	P	**P**	**14 06 22.0**	**-0.1**		
ZALV	**Zalesovo Beam**	**62.30**	**338**	P	**P**	**14 06 22.5**	**+0.4**		
	comp=Z,3.0nm,0.7s,baz=142,slow=5.3,SNR=12								
	comp=Z,3.0nm,0.7s								
KURBB	**Kurchatov Arra**	**62.56**	**332**	P	**P**	**14 06 24.7**	**+0.8**		
	comp=Z,2.3nm,0.7s,baz=137,slow=6.0,SNR=17								
	comp=Z,2.3nm,0.7s								
KURK	**Kurchatov**	**62.58**	**332**	P	**P**	**14 06 24.9**	**+0.9**		
BVAR	**Borovoye Array**	**68.00**	**331**	P	**P**	**14 06 59.6**	**+0.4**		
	comp=Z,2.4nm,0.7s,baz=132,slow=8.8,SNR=14								
	comp=Z,2.4nm,0.7s								
BRVK	**Borovoye**	**68.07**	**331**	P	**P**	**14 07 00.1**	**+0.5**		
BRVK				IAmb	IAmb	14 07 01.9			
	comp=Z,2.8nm,1.0s								
ABKAR	**Akbulak array**	**71.79**	**324**	P	**P**	**14 07 22.9**	**+0.4**		
TIXI	**Tiksi**	**73.31**	**3**	P	**P**	**14 07 30.1**	**-1.1**		
NRIK	**Noril'sk**	**73.95**	**349**	P	**P**	**14 07 34.7**	**-0.2**		
	comp=Z,1.2nm,0.4s,baz=130,slow=7.9,SNR=2.0								
	comp=Z,1.2nm,0.4s								
C16K	**Lisburne Hills**	**85.98**	**21**	P	**P**	**14 08 40.0**	**+0.1**		
C16K				IAmb	IAmb	14 08 41.1			
	comp=Z,2.3nm,1.1s								
BRTR	**Keskin Array B**	**87.72**	**310**	P	**P**	**14 08 50.3**	**+1.0**		
QSPA	**South Pole Qui**	**88.41**	**180**	P	**P**	**14 08 51.8**	**-0.2**		
QSPA	**South Pole Qui**	**88.41**	**180**	P	**P**	**14 08 51.6**	**-0.3**		
	comp=Z,1.6nm,0.8s,baz=319,slow=1.9,SNR=7.6								
	comp=Z,1.6nm,0.8s								
G19K	**Purcell Mounta**	**88.75**	**24**	P	**P**	**14 08 52.7**	**-0.7**		
G19K				IAmb	IAmb	14 09 26.0			
	comp=Z,3.1nm,1.4s								
MLR	**Muntele Rosu**	**93.53**	**315**	LR	LR	15 01 55.7			
	comp=Z,156nm,18.7s,baz=96,slow=42								

*IDC **20** 14:08:26.0±0.7,3˙12N×65˙57E, h0km, mb4.0/15, mbtmp4.0/16, ML3.8/1, MS4.2/4, Error ellipse: s-maj=20.8km s-min=18.2km az=34.0*
*NEIC **20** 14:08:28.5±2.1,2˙91N±0˙10×65˙48E±0˙08, h10km±1km, mb4.6/50, Error ellipse: s-maj=17.7km s-min=12.9km az=150.0*
*GCMT **20** 14:08:28.5±0.3,2˙96N±0˙02×65˙52E±0˙02, h13km±1km, MW4.9/96, Moment Tensor Solution. s28,c32; s96,c149; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.14±.13; $M_{\theta\theta}$2.21±.09; $M_{\phi\phi}$-0.07±.08; $M_{r\theta}$0.34±.20; $M_{\theta\phi}$-0.88±.06; $M_{\phi r}$-0.77±.26; Best double couple: M_o2.48700×10^{16} NP1:ϕ_s305.00000°, δ54.00000°, λ-70.00000°. NP2: ϕ_s92.00000°, δ41.00000°, λ-116.00000°. Principal axes: T 2.5810, Plg7.0000°, Azm20.0000°; N -0.1910, Plg16.0000°, Azm112.0000°; P -2.3930, Plg72.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 14:08:27.2±0.5,2˙88N±0˙09×65˙45E±0˙07, h10km, n81, σ1^{9}36/72, mb4.5/37, MS4.1/6, 1C, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAAM	**Kaadhehdhoo**	**7.91**	**107**	Pn	**Pn**	**14 10 22.2**	**-0.2**
HMDM	**Hanimaadhoo**	**8.62**	**63**	Pn	**Pn**	**14 10 29.6**	**-2.6**
MSEY	**Mahe Island**	**12.47**	**233**	Pn	**Pn**	**14 11 22.4**	**-2.6**
PALK	**Pallekele**	**15.80**	**73**	Pn	**Pn**	**14 12 09.0**	**-1.1**
	0.4nm,0.3s,baz=345,slow=20,SNR=1.3						
PALK				LR	LR	14 17 03.9	
	comp=Z,597nm,18.5s,baz=2.7,slow=33						
	1.4nm,0.4s						
WSAR	**Wadi Sarin**	**21.29**	**342**	LR	LR	14 19 31.6	
	comp=Z,635nm,21.9s,baz=175,slow=32						
ATD	**Arta Tunnel**	**23.99**	**292**	LR	LR	14 21 31.8	
	comp=Z,4.9nm,20.1s,baz=62,slow=33						
RER	**Riviere de l'E**	**25.71**	**201**	P	**P**	**14 13 57.7**	**-0.3**
KIBK	**Kibwezi**	**27.88**	**260**	P	**P**	**14 14 17.0**	**-0.7**
KIBK				IAmb	IAmb	14 14 23.0	
	comp=Z,13nm,1.5s						
OPO	**Ambohidratompo**	**27.89**	**219**	LR	LR	14 23 05.3	
	comp=Z,476nm,19.0s,baz=189,slow=31						
LODK	**Lodwar**	**30.05**	**272**	P	**P**	**14 14 38.0**	**+1.1**
HRA	**Herat**	**31.49**	**355**	P	**P**	**14 14 51.7**	**+2.1**
HRA				IAmb	IAmb	14 14 57.3	
	comp=Z,8.7nm,1.1s						
KBL	**Kabul**	**31.68**	**6**	P	**P**	**14 14 52.0**	**+0.9**
KBL				IAmb	IAmb	14 15 11.2	
	comp=Z,9.3nm,1.4s						
GEYT	**Alibeck**	**35.52**	**350**	P	**P**	**14 15 24.8**	**+0.4**
GEYT				IAmb	IAmb	14 15 32.1	
	comp=Z,4.7nm,0.8s						
GEYT	**Alibeck**	**35.52**	**350**	LR	LR	14 29 22.8	
	comp=Z,404nm,21.4s,baz=160,slow=36						
GYA0B	**ALIBECK ARRAY**	**35.52**	**350**	P	**P**	**14 15 25.4**	**+1.0**
GYA0B				IAmb	IAmb	14 16 04.9	
	comp=Z,4.8nm,0.8s						
SIMJ	**Simiganj**	**35.76**	**5**	P	**P**	**14 15 27.5**	**+0.9**
SIMJ				IAmb	IAmb	14 15 34.7	
	comp=Z,8.0nm,1.4s						
LSA	**Lhasa**	**36.13**	**40**	P	**P**	**14 15 31.6**	**+1.2**
LSA				IAmb	IAmb	14 15 39.8	
	comp=Z,13nm,1.3s						
CM31	**Chiang Mai Arr**	**36.26**	**62**	P	**P**	**14 15 32.0**	**+0.9**
CM31				IAmb	IAmb	14 15 40.4	
	comp=Z,17nm,1.1s						
CMAR	**Chiang Mai Arr**	**36.26**	**62**	P	**P**	**14 15 31.7**	**+0.7**
CMAR	**Chiang Mai Arr**	**36.26**	**62**	P	**P**	**14 15 29.9**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=253,slow=9.0,SNR=8.8						
	comp=Z,0.6nm,0.3s						
DRK	**Karamyk**	**36.88**	**8**	P	**P**	**14 15 36.7**	**+0.3**
BTK	**Batken**	**37.32**	**7**	P	**P**	**14 15 40.1**	**+0.3**
BTK				IAmb	IAmb	14 15 48.4	
	comp=Z,13nm,1.2s						
PHRA	**Phrae**	**37.42**	**63**	P	**P**	**14 15 41.4**	**+0.5**
KSH	**Kashi**	**37.70**	**13**	P	**P**	**14 15 39.0**	**-4.1**
KSH				sP	pP	14 15 45.4	+0.3
KSH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KSH				LR	LR		
	comp=N,220nm,11.0s						
KSH				LR	LR		
	comp=E,300nm,13.3s						
KSH				LR	LR		
	comp=Z,330nm,15.9s						
CRAI	**Chiangrai**	**38.17**	**60**	P	**P**	**14 15 46.9**	**-0.4**
CRAI				IAmb	IAmb	14 15 55.6	
	comp=Z,13nm,1.4s						
ARSB	**Arslanbob**	**38.87**	**9**	P	**P**	**14 15 52.6**	**-0.4**
NRN	**Naryn**	**39.54**	**12**	P	**P**	**14 15 59.4**	**+0.6**
KK31	**Karatay Array**	**40.30**	**6**	P	**P**	**14 16 06.2**	**+1.4**
KKAR	**Karatay Array**	**40.30**	**6**	P	**P**	**14 16 06.3**	**+1.6**
AAK	**Ala-Archa**	**40.40**	**10**	P	**P**	**14 16 06.0**	**+0.2**
BOOM	**Boomskoye usch**	**40.53**	**12**	P	**P**	**14 16 07.4**	**+0.5**
GNI	**Garni**	**41.57**	**336**	P	**P**	**14 16 16.4**	**+1.0**
SLVN	**Son La**	**41.65**	**61**	P	**P**	**14 16 16.2**	**0.0**
SLVN				IAmb	IAmb	14 16 24.9	
	comp=Z,14nm,1.5s						
KBZ	**Khabaz**	**45.33**	**337**	P	**P**	**14 16 44.6**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=144,slow=7.2,SNR=2.6						
	comp=Z,1.8nm,0.8s						
MAKZ	**Makanchi**	**46.05**	**16**	P	**P**	**14 16 50.3**	**-0.9**
MAKZ				IAmb	IAmb	14 16 57.2	
	comp=Z,5.4nm,1.2s						
MK31	**Makanchi Array**	**46.12**	**16**	P	**P**	**14 16 50.1**	**-1.7**
MKAR	**Makanchi Array**	**46.12**	**16**	P	**P**	**14 16 50.3**	**-1.5**
MKAR	**Makanchi Array**	**46.12**	**16**	P	**P**	**14 16 50.8**	**-1.0**
	comp=Z,1.1nm,0.9s,baz=200,slow=8.7,SNR=8.6						
MKAR				PcP	**PcP**	**14 18 27.5**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=230,slow=5.2,SNR=3.4						
	comp=Z,1.1nm,0.9s						
ABKAR	**Akbulak array**	**46.44**	**355**	P	**P**	**14 16 53.2**	**-1.0**
BRTR	**Keskin Array B**	**46.66**	**326**	P	**P**	**14 16 57.2**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=132,slow=6.0,SNR=2.1						
	comp=Z,0.9nm,0.5s						
LBTB	**Lobatse**	**47.57**	**232**	P	**P**	**14 17 04.7**	**+1.1**
KURBB	**Kurchatov Arra**	**48.84**	**11**	P	**P**	**14 17 10.5**	**-2.3**
	comp=Z,1.2nm,0.8s,baz=207,slow=7.8,SNR=12						
	comp=Z,1.2nm,0.8s						
KURK	**Kurchatov**	**48.94**	**11**	P	**P**	**14 17 13.6**	**0.0**
KURK				IAmb	IAmb	14 17 19.7	
	comp=Z,6.4nm,1.1s						
BOSA	**Boshof**	**49.69**	**228**	P	**P**	**14 17 22.0**	**+2.2**
	comp=Z,6.6nm,0.9s,baz=58,slow=13,SNR=6.5						
	comp=Z,6.6nm,0.9s						
BVAR	**Borovoye Array**	**50.14**	**4**	P	**P**	**14 17 19.4**	**-3.3**
	comp=Z,0.4nm,0.5s,baz=184,slow=12,SNR=3.1						
	comp=Z,0.4nm,0.5s						
BRVK	**Borovoye**	**50.17**	**4**	P	**P**	**14 17 23.7**	**+0.8**
BRVK				IAmb	IAmb	14 17 30.1	
	comp=Z,8.9nm,1.4s						
H04N2	**CROZET ISLANDS**	**50.31**	**192**	T	T	15 12 21.2	
	baz=19,slow=74						
H04N1	**CROZET ISLANDS**	**50.31**	**192**	T	T	15 12 27.9	
	baz=19						
H04N3	**CROZET ISLANDS**	**50.33**	**192**	T	T	15 11 58.5	
	baz=19,slow=74						
XAN	**Xi'an**	**50.97**	**47**	⇑P	**P**	**14 17 29.3**	**-0.1**
XAN				pP	pwP	14 17 35.0	-0.4
XAN				pmax	pmax		
	comp=Z,12nm,1.9s						
XAN				LR	LR		
	comp=N,530nm,17.2s						
XAN				LR	LR		
	comp=E,580nm,16.2s						
XAN				LR	LR		
	comp=Z,500nm,13.1s						
ZAA0	**Zalesovo Array**	**53.33**	**14**	P	**P**	**14 17 45.0**	**-1.5**
ZAA0				IAmb	IAmb	14 17 51.9	
	comp=Z,4.5nm,0.8s						
ZALV	**Zalesovo Beam**	**53.33**	**14**	P	**P**	**14 17 45.7**	**-0.7**
ZALV	**Zalesovo Beam**	**53.33**	**14**	P	**P**	**14 17 43.4**	**-3.0**
	comp=Z,2.5nm,0.8s,baz=216,slow=7.3,SNR=9.5						
	comp=Z,2.5nm,0.8s						
ARU	**Arti**	**53.67**	**355**	P	**P**	**14 17 48.5**	**-0.5**
ARU				IAmb	IAmb	14 17 55.6	
	comp=Z,12nm,1.3s						
SUR	**Sutherland**	**54.92**	**227**	P	**P**	**14 17 59.8**	**+1.0**
SONM	**Songino Array**	**56.96**	**32**	P	**P**	**14 18 12.8**	**-0.3**
SONM				IAmb	IAmb	14 18 20.3	
	comp=Z,8.4nm,1.4s						
SONM	**Songino Array**	**56.96**	**32**	P	**P**	**14 18 12.3**	**-0.7**
	comp=Z,1.7nm,1.0s,baz=230,slow=5.8,SNR=10						
	comp=Z,1.7nm,1.0s						
H01W3	**Cape Leeuwin H**	**59.09**	**134**	T	T	15 22 23.6	
	baz=299,slow=75,SNR=14						
H01W2	**Cape Leeuwin H**	**59.10**	**134**	T	T	15 22 24.0	
	baz=299,slow=75,SNR=17						
H01W1	**Cape Leeuwin H**	**59.11**	**134**	T	T	15 22 26.1	
	baz=299,slow=75,SNR=16						
TORD	**Torodi Ar. Bea**	**63.80**	**283**	P	**P**	**14 18 58.9**	**-1.4**
TORD	**Torodi Ar. Bea**	**63.80**	**283**	P	**P**	**14 19 00.7**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=78,slow=8.0,SNR=2.2						
	comp=Z,0.2nm,0.5s						
HFS	**Hagfors**	**69.35**	**335**	P	**P**	**14 19 34.5**	**-0.3**
	comp=Z,5.2nm,0.9s,baz=139,slow=9.9,SNR=4.3						
	comp=Z,5.2nm,0.9s						
DBIC	**Dimbokro**	**70.12**	**276**	P	**P**	**14 19 42.6**	**+2.1**
HEH	**HeiHe**	**70.14**	**37**	*e*P	**P**	**14 19 44.1**	**+4.1**
HEH				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NOA	**NORSAR Array B**	**70.87**	**335**	P	**P**	**14 19 43.9**	**-0.4**
	comp=Z,1.3nm,1.0s,baz=116,slow=6.6,SNR=3.7						
	comp=Z,1.3nm,1.0s						
WRA	**Warramunga Arr**	**71.25**	**112**	P	**P**	**14 19 47.2**	**-0.1**
WRA	**Warramunga Arr**	**71.25**	**112**	P	**P**	**14 19 47.7**	**+0.4**
	comp=Z,6.5nm,0.8s,baz=287,slow=5.6,SNR=27						
	comp=Z,6.5nm,0.8s						
WRAB	**Tennant Creek**	**71.26**	**112**	P	**P**	**14 19 47.5**	**+0.1**
WB2	**Warramunga Arr**	**71.26**	**112**	P	**P**	**14 19 47.3**	**-0.1**
WB0	**Warramunga Arr**	**71.27**	**112**	P	**P**	**14 19 47.0**	**-0.4**
WB0				IAmb	IAmb	14 19 49.8	
	comp=Z,8.8nm,1.0s						
WR0	**Warramunga Arr**	**71.44**	**112**	P	**P**	**14 19 48.2**	**-0.3**
ASAR	**Alice Springs**	**71.56**	**116**	P	**P**	**14 19 50.0**	**+0.8**
ASAR	**Alice Springs**	**71.56**	**116**	P	**P**	**14 19 49.1**	**0.0**
	comp=Z,3.7nm,0.9s,baz=289,slow=5.8,SNR=33						
	comp=Z,3.7nm,0.9s						
AS31	**Alice Springs**	**71.56**	**116**	P	**P**	**14 19 49.0**	**-0.2**
ESDC	**Sonseca Array**	**72.37**	**311**	P	**P**	**14 19 53.2**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=74,slow=4.5,SNR=3.1						
	comp=Z,0.8nm,0.7s						
TIXI	**Tiksi**	**79.11**	**17**	P	**P**	**14 20 30.7**	**-0.9**
TIXI				IAmb	IAmb	14 20 38.5	
	comp=Z,8.6nm,1.4s						
SACV	**Santiago Islan**	**88.36**	**285**	P	**P**	**14 21 18.5**	**-1.6**
BILL	**Bilibino**	**91.39**	**22**	P	**P**	**14 21 32.6**	**-0.6**
BILL				IAmb	IAmb	14 21 34.8	
	comp=Z,4.9nm,1.1s						
NVAR	**Mina Array Bea**	**138.75**	**4**	PKP	**PKiKP**	**14 27 56.5**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=333,slow=1.4,SNR=3.7						
TXAR	**Lajitas Array**	**146.31**	**343**	PKPbc	**PKPbc**	**14 28 08.8**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=33,slow=3.0,SNR=13						

*IDC **20** 14:23:26.5±0.7,3˙06N×65˙41E, h0km, mb4.1/14, mbtmp4.1/15, ML3.6/1, Error ellipse: s-maj=21.7km s-min=17.9km az=35.0*
*NEIC **20** 14:23:29.4±2.0,3˙16N±0˙08×65˙37E±0˙08, h10km±1km, mb4.6/15, Error ellipse: s-maj=17.5km s-min=7.6km az=225.0*

ISC 20 14:23:28.5±0.6,3˙1N±0˙1×65˙3E±0˙1, h10km, n44, σ1^{9}04/38, mb4.3/20, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HMDM	**Hanimaadhoo**	**8.63**	**65**	Pn	Pn	14 25 30.6	-3.0
PALK	**Pallekele**	**15.86**	**74**		**Pn**	**14 27 15.8**	**+3.6**
PALK	**Pallekele**	**15.86**	**74**	Pn	**Pn**	**14 27 10.6**	**-1.5**
	0.2nm,0.3s,baz=258,slow=23,SNR=1.1						
	1.0nm,0.5s						
CM31	**Chiang Mai Arr**	**36.27**	**63**	P	**P**	**14 30 33.1**	**+0.7**
CM31				IAmb	IAmb	14 30 44.5	
	comp=Z,5.9nm,1.1s						
CMAR	**Chiang Mai Arr**	**36.27**	**63**	P	**P**	**14 30 32.6**	**+0.2**
	comp=Z,2.2nm,1.1s,baz=254,slow=9.9,SNR=5.9						
	comp=Z,2.2nm,1.1s						
GNI	**Garni**	**41.30**	**336**	P	**P**	**14 31 13.6**	**-1.0**
GNI				IAmb	IAmb	14 31 31.3	
	comp=Z,31nm,1.5s						
MKAR	**Makanchi Array**	**45.94**	**16**	P	**P**	**14 31 52.3**	**+0.7**
MKAR	**Makanchi Array**	**45.94**	**16**	P	**P**	**14 31 52.1**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=202,slow=9.2,SNR=4.3						
MKAR				PcP	**PcP**	**14 33 27.9**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=192,slow=1.3,SNR=4.4						
	comp=Z,0.3nm,0.6s						
ABKAR	**Akbulak array**	**46.20**	**355**	P	**P**	**14 31 54.3**	**+0.7**
BRTR	**Keskin Array B**	**46.39**	**326**	P	**P**	**14 31 54.6**	**-0.8**
BRTR	**Keskin Array B**	**46.39**	**326**	P	**P**	**14 31 55.3**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=142,slow=7.3,SNR=2.3						
	comp=Z,1.1nm,0.6s						
LBTB	**Lobatse**	**47.62**	**232**	P	**P**	**14 32 06.2**	**+1.0**
KURBB	**Kurchatov Arra**	**48.64**	**11**	P	**P**	**14 32 12.4**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=208,slow=7.3,SNR=4.3						
	comp=Z,0.4nm,0.3s						
BOSA	**Boshof**	**49.75**	**228**	P	**P**	**14 32 22.4**	**+0.8**
BOSA				IAmb	IAmb	14 32 23.8	
	comp=Z,12nm,1.2s						
BOSA	**Boshof**	**49.75**	**228**	P	**P**	**14 32 21.7**	**+0.1**
	comp=Z,6.0nm,1.0s,baz=64,slow=9.9,SNR=6.0						
	comp=Z,6.0nm,1.0s						
H04N2	**CROZET ISLANDS**	**50.51**	**192**	T	T	15 26 37.6	
	baz=18						
H04N1	**CROZET ISLANDS**	**50.51**	**192**	T	T	15 26 37.6	
	baz=18						
H04N3	**CROZET ISLANDS**	**50.53**	**192**	T	T	15 26 43.7	
	baz=18						
ZALV	**Zalesovo Beam**	**53.13**	**14**	P	**P**	**14 32 45.7**	**-0.7**
ZALV	**Zalesovo Beam**	**53.13**	**14**	P	**P**	**14 32 45.4**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=190,slow=7.5,SNR=7.1						
	comp=Z,1.4nm,0.6s						
SONM	**Songino Array**	**56.83**	**32**	P	**P**	**14 33 14.2**	**+0.7**
SONM				IAmb	IAmb	14 33 22.6	
	comp=Z,3.4nm,1.3s						
SONM	**Songino Array**	**56.83**	**32**	P	**P**	**14 33 12.7**	**-0.8**
	comp=Z,1.2nm,0.9s,baz=228,slow=5.6,SNR=5.8						
	comp=Z,1.2nm,0.9s						
MORW	**Morawa**	**58.17**	**127**	P	**P**	**14 33 23.8**	**+0.7**
H01W3	**Cape Leeuwin H**	**59.35**	**134**	T	T	15 37 23.3	
	baz=299,slow=75,SNR=5.9						
H01W2	**Cape Leeuwin H**	**59.35**	**134**	T	T	15 37 22.5	
	baz=299,slow=75,SNR=6.5						
H01W1	**Cape Leeuwin H**	**59.37**	**134**	T	T	15 37 24.6	
	baz=299,slow=75,SNR=6.8						
TORD	**Torodi Ar. Bea**	**63.62**	**283**	P	**P**	**14 34 01.3**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=76,slow=6.1,SNR=2.5						
	comp=Z,0.4nm,0.8s						
HFS	**Hagfors**	**69.08**	**335**	P	**P**	**14 34 35.5**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=103,slow=11,SNR=1.9						
	comp=Z,1.5nm,0.6s						
NOA	**NORSAR Array B**	**70.60**	**335**	P	**P**	**14 34 42.8**	**-1.2**
	comp=Z,1.7nm,1.0s,baz=116,slow=6.1,SNR=3.7						
	comp=Z,1.7nm,1.0s						
WRA	**Warramunga Arr**	**71.45**	**112**	P	**P**	**14 34 49.4**	**-0.5**
WRA	**Warramunga Arr**	**71.45**	**112**	P	**P**	**14 34 48.9**	**-1.0**
	comp=Z,2.9nm,0.9s,baz=286,slow=5.8,SNR=39						
	comp=Z,2.9nm,0.9s						
WRAB	**Tennant Creek**	**71.46**	**112**	P	**P**	**14 34 49.7**	**-0.2**
WB2	**Warramunga Arr**	**71.47**	**112**	P	**P**	**14 34 49.5**	**-0.4**
WB2				IAmb	IAmb	14 34 51.4	
	comp=Z,10nm,0.8s						
WB0	**Warramunga Arr**	**71.47**	**112**	P	**P**	**14 34 49.1**	**-0.9**
WB0				IAmb	IAmb	14 34 51.3	
	comp=Z,8.4nm,0.9s						
WR0	**Warramunga Arr**	**71.64**	**112**	P	**P**	**14 34 50.4**	**-0.6**
WR0				IAmb	IAmb	14 34 52.4	
	comp=Z,14nm,1.1s						
ASAR	**Alice Springs**	**71.77**	**116**	P	**P**	**14 34 51.2**	**-0.6**
ASAR	**Alice Springs**	**71.77**	**116**	P	**P**	**14 34 50.6**	**-1.1**
	comp=Z,5.3nm,0.9s,baz=284,slow=6.1,SNR=37						
	comp=Z,5.3nm,0.9s						
AS31	**Alice Springs**	**71.78**	**116**	P	**P**	**14 34 51.2**	**-0.6**
AS31				IAmb	IAmb	14 34 52.7	
	comp=Z,1.8nm,0.9s						
ESDC	**Sonseca Array**	**72.12**	**311**	P	**P**	**14 34 53.0**	**-0.6**
	comp=Z,1.9nm,1.0s,baz=83,slow=7.1,SNR=4.6						
	comp=Z,1.9nm,1.0s						
STKA	**Stephens Creek**	**80.03**	**123**	P	**P**	**14 35 37.6**	**-1.1**
STKA	**Stephens Creek**	**80.03**	**123**	P	**P**	**14 35 37.1**	**-1.6**
	comp=Z,6.0nm,1.0s,baz=292,slow=13,SNR=5.3						
	comp=Z,6.0nm,1.0s

mb4.7/58 Error ellipse: s-maj=15.6km s-min=11.7km az=145.0

ISC 20 14:25:19.0±0.4,**2°89N**±0°06×**65°58E**±0°06,**h10**km,**n123,** σ1§**56**/141,**mb4.6**/39,**MS4.4**/9,**2D, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAAM	**Kaadhehdhoo**	**7.78**	**108**	Pn	**Pn**	**14 27 13.2**	**+0.7**
HMDM	**Hanimaadhoo**	**8.49**	**63**	Pn	**Pn**	**14 27 21.5**	**-0.8**
MNCY	**Minicoy**	**9.13**	**54**	*i* x	Pn	14 27 40.2	+9.2
MSEY	**Mahe Island**	**12.59**	**233**	Pn	**Pn**	**14 28 18.6**	**+0.2**
PALK	**Pallekele**	**15.67**	**73**	Pn	**Pn**	**14 28 59.8**	**-0.4**
	0.2nm,0.3s,baz=338,slow=12,SNR=2.6						
PALK				LR	LR	14 33 47.5	
	comp=Z,1μm,20.3s,baz=358,slow=32						
	0.9nm,0.4s						
PALK	**Pallekele**	**15.67**	**73**	P	**Pn**	**14 29 01.6**	**+1.4**
SHAO	**Shalim**	**17.93**	**328**	P	**P**	**14 29 29.4**	**+0.2**
DMTO	**DMTO**	**18.05**	**325**	P	**P**	**14 29 30.6**	**0.0**
DMTO				S	**S**	**14 32 56.9**	**-0.9**
RBK	**Rabkut**	**18.32**	**323**	P	**P**	**14 29 34.1**	**+0.5**
	SNR=6.3						
RBK				P	**P**	**14 29 34.1**	**+0.5**
	SNR=6.3						
RBK				S	**S**	**14 33 07.4**	**+4.2**
RBK				S	**S**	**14 33 07.4**	**+4.2**
DQM	**DQM**	**18.66**	**336**	P	**P**	**14 29 36.1**	**-1.2**
ABTO	**Aybut**	**18.76**	**321**	P	**Pn**	**14 29 39.1**	**+0.2**
	SNR=7.1						
ABTO				P	**Pn**	**14 29 39.1**	**+0.2**
	SNR=7.1						
ABTO				S	**S**	**14 33 13.2**	**+0.9**
ABTO				S	**S**	**14 33 13.2**	**+0.9**
WHFO	**Wadi Hawf**	**18.90**	**323**	P	**P**	**14 29 40.0**	**0.0**
	SNR=6.3						
WHFO				P	**P**	**14 29 40.0**	**0.0**
	SNR=6.3						
WHFO				S	**S**	**14 33 16.7**	**+1.7**
WHFO				S	**S**	**14 33 16.7**	**+1.7**
DOK	**Doka**	**19.23**	**325**	P	**P**	**14 29 43.8**	**+0.2**
DOK				P	**P**	**14 29 43.8**	**+0.2**
DOK				S	**S**	**14 33 25.3**	**+3.6**
DOK				S	**S**	**14 33 25.3**	**+3.6**
MHTO	**MHTO**	**19.45**	**338**	P	**P**	**14 29 44.2**	**-1.8**
	SNR=5.3						
MHTO				P	**P**	**14 29 44.2**	**-1.8**
	SNR=5.3						
MHTO				S	**S**	**14 33 30.2**	**+4.2**
MHTO				S	**S**	**14 33 30.2**	**+4.2**
JLN	**Jalan Bani Buh**	**20.06**	**343**	P	**P**	**14 29 52.0**	**-0.6**
JLN				P	**P**	**14 29 52.0**	**-0.6**
WBK	**Wadi Bani Khal**	**20.62**	**342**	P	Pn	14 30 00.1	-0.9
WBK				P	Pn	14 30 00.1	-0.9
JMDO	**Jabal Madar**	**20.68**	**340**	P	**P**	**14 29 59.6**	**+0.2**
JMDO				S	Sn	14 33 59.6	+4.5
WSAR	**Wadi Sarin**	**21.32**	**342**	LR	LR	14 36 32.8	
	comp=Z,996nm,21.9s,baz=173,slow=32						
SMDO	**Samad**	**21.33**	**341**	P	**P**	**14 30 07.0**	**+0.5**
SMDO				P	**P**	**14 30 07.0**	**+0.5**
BSY	**Bisya**	**21.34**	**338**	P	**P**	**14 30 06.9**	**+0.3**
	SNR=6.8						
BSY				P	**P**	**14 30 06.9**	**+0.3**
	SNR=6.8						
HOQ	**Hoqain**	**22.07**	**339**	P	**P**	**14 30 16.9**	**+2.6**
HOQ				P	**P**	**14 30 16.9**	**+2.6**
ARQ	**Araqi**	**22.14**	**337**	P	**P**	**14 30 17.1**	**+2.0**
	SNR=6.0						
ARQ				P	**P**	**14 30 17.1**	**+2.0**
	SNR=6.0						
UMZA	**Um Al Zommool**	**22.14**	**334**	P	**P**	**14 30 13.1**	**-2.0**
UMZA				P	**P**	**14 30 13.1**	**-2.0**
ROCAM	**Rodrigues Isla**	**22.61**	**185**	P	**P**	**14 30 19.2**	**-0.9**
SOHO	**SOHO**	**22.85**	**338**	P	**P**	**14 30 22.1**	**-0.6**
SOHO				P	**P**	**14 30 22.1**	**-0.6**
UOSS	**Minazif**	**23.71**	**338**	P	**P**	**14 30 30.8**	**-0.6**
UOSS				P	**P**	**14 30 30.8**	**-0.6**
UOSS				S	**S**	**14 34 48.5**	**+1.9**
UOSS				S	**S**	**14 34 48.5**	**+1.9**
ASUD	**Al Ashush, Dub**	**23.76**	**336**	P	**P**	**14 30 32.2**	**+0.3**
AJN	**Ajban**	**23.85**	**336**	P	**P**	**14 30 34.2**	**+1.5**
AJN				S	**S**	**14 34 55.1**	**+6.4**
NAZ	**Nazwa, Dubai**	**23.96**	**337**	P	**P**	**14 30 33.0**	**-0.7**
NAZ				P	**P**	**14 30 33.0**	**-0.7**
MDH	**Madha**	**24.00**	**339**	P	**P**	**14 30 32.1**	**-2.0**
JASK	**Jask - Hormozg**	**24.02**	**343**	P	**P**	**14 30 35.6**	**+1.3**
ATD	**Arta Tunnel**	**24.11**	**292**	LR	LR	14 38 06.5	
	comp=Z,7.8nm,21.9s,baz=124,slow=32						
MASF	**Masafi**	**24.12**	**339**	P	**P**	**14 30 35.4**	**+0.2**
GHWR	**Ruwais**	**24.28**	**331**	P	**P**	**14 30 36.7**	**0.0**
UMQ	**Umm Al-Quwin**	**24.44**	**338**	P	**P**	**14 30 36.9**	**-1.2**
SLWR	**Sila**	**24.97**	**329**	P	**P**	**14 30 42.1**	**-0.8**
SMRA	**Abu-Samra**	**25.97**	**328**	P	**P**	**14 30 50.4**	**-1.6**
	SNR=5.0						
OPO	**Ambohidratompo**	**27.98**	**220**	LR	LR	14 40 05.4	
	comp=Z,931nm,18.1s,baz=187,slow=32						
KIBK	**Kibwezi**	**28.01**	**260**	P	**P**	**14 31 10.6**	**-0.1**
KIBK				IAmb	IAmb	14 31 18.5	
	comp=Z,24nm,1.5s						
RAYN	**Ar Rayn**	**28.25**	**318**	P	**P**	**14 31 12.7**	**0.0**
ABPO	**Ambohimpanom**	**28.29**	**219**	P	**P**	**14 31 13.4**	**+0.2**
LODK	**Lodwar**	**30.18**	**272**	P	**P**	**14 31 30.4**	**+0.5**
HRA	**Herat**	**31.49**	**355**	P	**P**	**14 31 42.2**	**+0.8**
HRA				IAmb	IAmb	14 31 43.8	
	comp=Z,9.8nm,1.1s						
KBL	**Kabul**	**31.65**	**5**	P	**P**	**14 31 43.7**	**+0.9**
KBL				IAmb	IAmb	14 31 46.4	
	comp=Z,11nm,1.2s						
KBL	**Kabul**	**31.65**	**5**	P	**P**	**14 31 44.2**	**+1.4**
	SNR=5.8						
KBL				P	**P**	**14 31 44.2**	**+1.4**
	SNR=5.8						
MBAR	**Mbarara**	**35.01**	**265**	P	**P**	**14 32 12.4**	**0.0**
MBAR				IAmb	IAmb	14 32 15.6	
	comp=Z,13nm,1.2s						
GEYT	**Alibeck**	**35.53**	**350**	P	**P**	**14 32 15.6**	**-0.8**
GEYT				IAmb	IAmb	14 32 22.7	
	comp=Z,6.1nm,1.1s						
GEYT	**Alibeck**	**35.53**	**350**	LR	LR	14 46 02.4	
	comp=Z,844nm,21.5s,baz=166,slow=35						
GYA0B	**ALIBECK ARRAY**	**35.53**	**350**	P	**P**	**14 32 14.8**	**-1.6**
GYA0B				IAmb	IAmb	14 32 23.4	
	comp=Z,16nm,1.4s						
SIMJ	**Simiganj**	**35.73**	**5**	P	**P**	**14 32 18.5**	**+0.3**
SIMJ				IAmb	IAmb	14 32 25.3	
	comp=Z,8.4nm,1.4s						
LSA	**Lhasa**	**36.04**	**40**	P	**P**	**14 32 21.9**	**+0.6**
LSA				IAmb	IAmb	14 32 25.0	
	comp=Z,19nm,1.4s						
CM31	**Chiang Mai Arr**	**36.14**	**62**	P	**P**	**14 32 22.7**	**+0.9**
CM31				IAmb	IAmb	14 32 31.8	
	comp=Z,25nm,1.5s						
CMAR	**Chiang Mai Arr**	**36.14**	**62**	P	**P**	**14 32 22.5**	**+0.7**
CMAR	**Chiang Mai Arr**	**36.14**	**62**	P	**P**	**14 32 23.1**	**+1.3**
	comp=Z,2.9nm,1.0s,baz=251,slow=9.0,SNR=9.6						
	comp=Z,2.9nm,1.0s						
DRK	**Karamyk**	**36.85**	**8**	P	**P**	**14 32 27.6**	**-0.4**
DRK				IAmb	IAmb	14 32 35.6	
	comp=Z,6.6nm,1.0s						
PHRA	**Phrae**	**37.29**	**63**	P	**P**	**14 32 33.2**	**+1.6**
BTK	**Batken**	**37.30**	**7**	P	**P**	**14 32 31.4**	**0.0**
BTK				IAmb	IAmb	14 32 38.8	
	comp=Z,23nm,1.4s						
KSH	**Kashi**	**37.66**	**13**	P	**P**	**14 32 31.4**	**-3.2**
KSH				pP	pP	14 32 35.4	-1.3
KSH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KSH				LR	LR		
	comp=N,350nm,12.9s						
KSH				LR	LR		
	comp=E,480nm,14.5s						
KSH				LR	LR		
	comp=Z,950nm,18.6s						
ARSB	**Arslanbob**	**38.83**	**9**	P	**P**	**14 32 44.7**	**+0.2**
NRN	**Naryn**	**39.50**	**12**	P	**P**	**14 32 50.7**	**+0.5**
TARG	**Taragay, Kyrgy**	**40.19**	**14**	P	**P**	**14 32 57.1**	**+1.0**
KK31	**Karatay Array**	**40.28**	**6**	P	**P**	**14 32 57.4**	**+1.1**
KKAR	**Karatay Array**	**40.28**	**6**	P	**P**	**14 32 57.3**	**+0.9**
AAK	**Ala-Archa**	**40.36**	**10**	P	**P**	**14 32 57.6**	**+0.4**
BOOM	**Boomskoye usch**	**40.50**	**12**	P	**P**	**14 32 57.1**	**-1.2**
LSZ	**Lusaka**	**41.18**	**243**	P	**P**	**14 33 03.4**	**-0.9**
LSZ				IAmb	IAmb	14 33 07.1	
	comp=Z,23nm,1.5s						
LSZ	**Lusaka**	**41.18**	**243**	P	**P**	**14 33 03.6**	**-0.7**
	comp=Z,2.5nm,0.4s,baz=80,slow=8.5,SNR=5.3						
LSZ				LR	LR	14 47 36.5	
	comp=Z,507nm,21.3s,baz=114,slow=33						
	comp=Z,2.5nm,0.4s						
GNI	**Garni**	**41.61**	**336**	P	**P**	**14 33 07.8**	**+0.2**
GNI				IAmb	IAmb	14 33 15.4	
	comp=Z,24nm,1.1s						
KBZ	**Khabaz**	**45.37**	**337**	P	**P**	**14 33 36.6**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=153,slow=2.3,SNR=2.2						
	comp=Z,0.8nm,0.5s						
MAKZ	**Makanchi**	**46.01**	**16**	P	**P**	**14 33 42.5**	**-0.1**
MAKZ				IAmb	IAmb	14 33 48.0	
	comp=Z,5.2nm,1.1s						
MK31	**Makanchi Array**	**46.08**	**16**	P	**P**	**14 33 40.8**	**-2.5**
MKAR	**Makanchi Array**	**46.08**	**16**	P	**P**	**14 33 40.9**	**-2.3**
MKAR	**Makanchi Array**	**46.08**	**16**	P	**P**	**14 33 43.0**	**-0.3**
	comp=Z,1.4nm,0.9s,baz=203,slow=8.7,SNR=6.3						
MKAR				PcP	**PcP**	**14 35 18.8**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=228,slow=1.7,SNR=2.3						
	comp=Z,1.4nm,0.9s						
ABKAR	**Akbulak array**	**46.44**	**355**	P	**P**	**14 33 44.3**	**-1.7**
LBTB	**Lobatse**	**47.69**	**232**	P	**P**	**14 33 56.6**	**+0.3**
AKTO	**Aktyubinsk**	**47.80**	**353**	LR	LR	14 56 18.7	
	comp=Z,182nm,18.9s,baz=96,slow=39						
KURBB	**Kurchatov Arra**	**48.80**	**11**	P	**P**	**14 34 03.3**	**-1.0**
	comp=Z,1.8nm,0.9s,baz=207,slow=7.8,SNR=11						
	comp=Z,1.8nm,0.9s						
KURK	**Kurchatov**	**48.91**	**11**	P	**P**	**14 34 04.9**	**-0.2**
BOSA	**Boshof**	**49.79**	**228**	P	**P**	**14 34 12.4**	**-0.1**
BOSA	**Boshof**	**49.79**	**228**	P	**P**	**14 34 11.4**	**-1.0**
	comp=Z,12nm,1.0s,baz=67,slow=9.3,SNR=9.4						
	comp=Z,12nm,1.0s						
BVAR	**Borovoye Array**	**50.12**	**4**	P	**P**	**14 34 13.5**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=157,slow=9.4,SNR=2.6						
	comp=Z,0.4nm,0.5s						
BRVK	**Borovoye**	**50.15**	**4**	P	**P**	**14 34 14.6**	**0.0**
H04N2	**CROZET ISLANDS**	**50.35**	**192**	T	T	15 28 28.9	
	baz=18						
H04N1	**CROZET ISLANDS**	**50.35**	**192**	T	T	15 28 27.6	
	baz=18						
H04N3	**CROZET ISLANDS**	**50.37**	**192**	T	T	15 28 21.5	
	baz=18						
XAN	**Xi'an**	**50.87**	**47**	⇓P	**P**	**14 34 20.9**	**+0.5**
XAN				pP	pwP	14 34 26.5	-0.4
XAN				pmax	pmax		
	comp=Z,25nm,1.3s						
TSUM	**Tsumeb**	**52.04**	**243**	P	**P**	**14 34 29.5**	**0.0**
TSUM				IAmb	IAmb	14 34 32.4	
	comp=Z,8.3nm,1.1s						
ZAA0	**Zalesovo Array**	**53.28**	**14**	P	**P**	**14 34 37.1**	**-0.9**
ZAA0				IAmb	IAmb	14 34 38.5	
	comp=Z,15nm,1.4s						
ZALV	**Zalesovo Beam**	**53.28**	**14**	P	**P**	**14 34 36.3**	**-1.6**
ZALV	**Zalesovo Beam**	**53.28**	**14**	P	**P**	**14 34 36.1**	**-1.9**
	comp=Z,1.9nm,0.6s,baz=205,slow=7.8,SNR=7.3						
	comp=Z,1.9nm,0.6s						
ARU	**Arti**	**53.67**	**355**	P	**P**	**14 34 40.2**	**-0.6**
ARU				IAmb	IAmb	14 34 45.6	
	comp=Z,11nm,1.3s						
SUR	**Sutherland**	**55.03**	**227**	P	**P**	**14 34 51.3**	**0.0**
HHC	**Hu-ho-hao-te**	**56.00**	**41**	*e*P	**P**	**14 34 58.5**	**+0.4**
HHC				sP	pwP	14 35 05.1	+0.5
HHC				*e*S	**S**	**14 42 40.8**	**-5.9**
HHC				sS	sS	14 42 51.8	+1.3
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,140nm,5.0s						
HHC				LR	LR		
	comp=N,330nm,15.9s						
HHC				LR	LR		
	comp=E,300nm,14.9s						
HHC				LR	LR		
	comp=Z,510nm,17.3s						
SONM	**Songino Array**	**56.88**	**32**	P	**P**	**14 35 04.3**	**0.0**
SONM				IAmb	IAmb	14 35 11.7	
	comp=Z,12nm,1.4s						
SONM	**Songino Array**	**56.88**	**32**	P	**P**	**14 35 03.3**	**-1.0**
	comp=Z,2.2nm,1.0s,baz=232,slow=6.1,SNR=8.3						
	comp=Z,2.2nm,1.0s						
MORW	**Morawa**	**57.83**	**127**	P	**P**	**14 35 12.9**	**+1.7**
H01W3	**Cape Leeuwin H**	**59.01**	**134**	T	T	15 39 29.4	
	baz=299,slow=75,SNR=9.2						
H01W2	**Cape Leeuwin H**	**59.01**	**134**	T	T	15 39 29.9	
	baz=299,slow=75,SNR=8.5						
H01W1	**Cape Leeuwin H**	**59.02**	**134**	T	T	15 39 30.8	
	baz=299,slow=75,SNR=9.3						
GUMA	**Gualdo di Mace**	**61.17**	**319**	P	**P**	**14 35 33.0**	**-1.0**
GUMA				IAmb	IAmb	14 35 44.6	
	comp=Z,53nm,1.5s						
CESX	**Cesi**	**61.48**	**318**	P	**P**	**14 35 36.1**	**0.0**
TOA0	**Torodi Ar. Sit**	**63.93**	**283**	P	**P**	**14 35 52.3**	**-0.6**
TOA0				IAmb	IAmb	14 35 54.5	
	comp=Z,14nm,1.5s						
TORD	**Torodi Ar. Bea**	**63.93**	**283**	P	**P**	**14 35 52.0**	**-0.9**
TORD				IAmb	IAmb	14 36 00.5	
	comp=Z,3.5nm,1.3s						
TORD	**Torodi Ar. Bea**	**63.93**	**283**	P	**P**	**14 35 51.0**	**-1.9**
	comp=Z,0.9nm,0.9s,baz=72,slow=6.4,SNR=5.3						
	comp=Z,0.9nm,0.9s						
CLL	**Collm**	**65.17**	**327**	*e*P	**P**	**14 36 00.0**	**-0.3**
CLL				AMS	AMS	15 09 00.0	
	comp=Z,100nm,19.5s						
BFO	**Black Forest**	**66.56**	**322**	P	**P**	**14 36 09.1**	**-0.3**
BFO				IAmb	IAmb	14 36 11.2	
	comp=Z,11nm,1.5s						
NRIK	**Noril'sk**	**67.94**	**8**	P	**P**	**14 36 18.7**	**+1.0**
NRIK				IAmb	IAmb	14 36 25.9	
	comp=Z,4.4nm,1.1s						
WRA	**Warramunga Arr**	**71.13**	**112**	P	**P**	**14 36 38.9**	**+0.4**
WRA	**Warramunga Arr**	**71.13**	**112**	P	**P**	**14 36 38.4**	**0.0**
	comp=Z,8.2nm,0.9s,baz=285,slow=5.8,SNR=13						
	comp=Z,8.2nm,0.9s						
WB2	**Warramunga Arr**	**71.14**	**112**	P	**P**	**14 36 38.9**	**+0.4**
WB2				IAmb	IAmb	14 36 40.4	
	comp=Z,12nm,1.1s						
WB0	**Warramunga Arr**	**71.15**	**112**	P	**P**	**14 36 39.0**	**+0.4**
WR0	**Warramunga Arr**	**71.32**	**112**	P	**P**	**14 36 39.7**	**+0.2**
WR0				IAmb	IAmb	14 36 43.0	
	comp=Z,10nm,1.0s						
ASAR	**Alice Springs**	**71.44**	**116**	P	**P**	**14 36 40.6**	**+0.3**
ASAR	**Alice Springs**	**71.44**	**116**	P	**P**	**14 36 40.0**	**-0.3**
	comp=Z,4.5nm,0.9s,baz=288,slow=5.1,SNR=13						
	comp=Z,4.5nm,0.9s						
AS31	**Alice Springs**	**71.44**	**116**	P	**P**	**14 36 40.5**	**+0.2**
ESDC	**Sonseca Array**	**72.47**	**311**	P	**P**	**14 36 46.2**	**0.0**
ESDC				IAmb	IAmb	14 36 53.5	
	comp=Z,6.8nm,1.2s						
ESDC	**Sonseca Array**	**72.47**	**311**	P	**P**	**14 36 42.3**	**-3.9**
	comp=Z,1.9nm,1.0s,baz=95,slow=6.4,SNR=4.0						
CASY	**Casey**	**76.11**	**163**	P	**P**	**14 37 07.6**	**+0.9**
TIXI	**Tiksi**	**79.06**	**17**	P	**P**	**14 37 24.2**	**+1.0**
TIXI				IAmb	IAmb	14 37 29.9	
	comp=Z,10nm,1.4s						
ELIB	**Princess Elisa**	**79.46**	**192**	*d*P	**P**	**14 37 26.9**	**+1.3**
	comp=Z,4.0nm,1.1s						
PDAR	**Pinedale Array**	**134.34**	**355**	PKP	**PKPdf**	**14 44 37.7**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=336,slow=2.0,SNR=2.2						
NVAR	**Mina Array Bea**	**138.73**	**5**	PKhKP	PKPpre	14 44 37.6	
	comp=Z,0.1nm,0.4s,baz=48,slow=54,SNR=2.2						
NVAR				PKP	**PKPdf**	**14 44 46.4**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=279,slow=1.7,SNR=2.9						
TXAR	**Lajitas Array**	**146.34**	**343**	PKPbc	**PKPdf**	**14 44 59.8**	**-0.1**
	comp=Z,4.0nm,1.0s,baz=48,slow=1.9,SNR=8.8						

*IDC **20** 14:48:06.5±1.2,23°.15N×143°.12E,h0km,mb3.6/7, mbtmp3.8/9,ML3.7/2, Error ellipse: s-maj=36.0km s-min=25.1km az=86.0*

*NEIC **20** 14:48:13.7±1.3,23°.04N±0°.10×143°.0E±0°.4,h43km±11km, mb4.4/15, Error ellipse: s-maj=48.7km s-min=14.1km az=91.0*

ISC 20 14:48:11.7±0.8,**23°09N**±0°08×**142°9E**±0°2,**h35**km,**n33,** σ1§**36**/29,**mb4.2**/16,**Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**4.04**	**351**	Pn	**Pn**	**14 49 13.3**	**+2.2**
JCJ				Sn	**Sn**	**14 50 00.2**	**+2.9**
JCJ	**Chichijima**	**4.04**	**351**	Pn	**Pn**	**14 49 08.9**	**-2.2**
	7.2nm,0.3s,baz=28,slow=23,SNR=36						
JCJ				Sn	**Sn**	**14 49 54.3**	**-3.0**
	13nm,0.3s,baz=301,slow=23,SNR=7.6						
	29nm,0.4s						
JNU	**Nakatsue**	**14.55**	**316**	Pn	**Pn**	**14 51 34.2**	**-0.9**
	0.2nm,0.3s,baz=236,slow=8.5,SNR=2.0						
	26nm,1.1s						
JMM	**Marumori**	**14.84**	**354**	Pn	**Pn**	**14 51 38.4**	**-0.6**
H11N1	**WAKE ISLAND Hy**	**22.60**	**94**	T	T	15 16 46.3	
	baz=282						
H11N2	**WAKE ISLAND Hy**	**22.61**	**94**	T	T	15 16 51.8	
	baz=282,slow=74						
H11N3	**WAKE ISLAND Hy**	**22.62**	**94**	T	T	15 16 45.0	
	baz=282,slow=74						
H11S3	**WAKE ISLAND Hy**	**22.72**	**97**	T	T	15 16 26.6	
	baz=284,slow=75						
H11S1	**WAKE ISLAND Hy**	**22.72**	**97**	T	T	15 16 45.3	
	baz=284,slow=75						
H11S2	**WAKE ISLAND Hy**	**22.73**	**97**	T	T	15 16 46.0	
	baz=284,slow=75						
WB2	**Warramunga Arr**	**43.57**	**192**	P	**P**	**14 56 12.5**	**0.0**
WB2				IAmb	IAmb	14 56 31.2	
	comp=Z,14nm,1.5s						
WRA	**Warramunga Arr**	**43.57**	**192**	P	**P**	**14 56 12.7**	**+0.2**
WRA	**Warramunga Arr**	**43.57**	**192**	P	**P**	**14 56 13.1**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=16,slow=9.3,SNR=7.4						
	comp=Z,0.1nm,0.3s						
FITZ	**Fitzroy Crossi**	**44.26**	**204**	P	**P**	**14 56 18.8**	**+0.7**
MKAR	**Makanchi Array**	**53.56**	**312**	P	**P**	**14 57 29.9**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=85,slow=9.9,SNR=5.9						
	comp=Z,0.2nm,0.4s						
ARMA	**Armidale**	**53.86**	**171**	P	**P**	**14 57 30.2**	**-1.2**
KURBB	**Kurchatov Arra**	**56.32**	**316**	P	**P**	**14 57 49.8**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=95,slow=7.7,SNR=8.1						
	comp=Z,0.7nm,0.6s						
C19K	**Lookout Ridge**	**57.23**	**21**	P	**P**	**14 57 56.7**	**+1.5**
C19K				IAmb	IAmb	14 57 57.8	
	comp=Z,2.0nm,0.8s						
K20K	**Telida**	**57.58**	**28**	P	**P**	**14 57 59.3**	**+1.5**
K20K				IAmb	IAmb	14 58 04.2	
	comp=Z,5.8nm,1.4s						
J20K	**Nowinta River**	**57.74**	**27**	P	**P**	**14 58 00.1**	**+1.2**
IMAR	**Indian Mountai**	**58.36**	**25**	P	**P**	**14 58 03.6**	**+0.4**
B20K	**Meade River**	**58.36**	**20**	P	**P**	**14 58 04.3**	**+1.3**
B20K				IAmb	IAmb	14 58 05.2	
	comp=Z,2.0nm,0.8s						
D22K	**Ayikyak River**	**59.51**	**22**	P	**P**	**14 58 12.6**	**+1.5**
D22K				IAmb	IAmb	14 58 26.9	
	comp=Z,6.8nm,1.5s						
B22K	**Teshekpuk Lake**	**59.67**	**21**	P	**P**	**14 58 13.2**	**+1.1**
C23K	**Itkillik River**	**60.47**	**21**	P	**P**	**14 58 18.9**	**+1.3**
C23K				IAmb	IAmb	14 58 43.9	
	comp=Z,3.9nm,1.4s						
ILAR	**Eielson Array**	**60.94**	**27**	P	**P**	**14 58 19.9**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=261,slow=5.3,SNR=7.4						
	comp=Z,0.4nm,0.7s						
BVAR	**Borovoye Array**	**61.44**	**319**	P	**P**	**14 58 25.6**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=90,slow=8.4,SNR=4.8						
	comp=Z,0.8nm,0.5s						
J26L	**Joseph Creek**	**62.34**	**28**	P	**P**	**14 58 30.1**	**-0.4**
J26L				IAmb	IAmb	14 58 52.9	
	comp=Z,6.9nm,1.4s						
ISLE	**Juniper Island**	**62.72**	**32**	P	**P**	**14 58 32.3**	**-0.8**
H29M	**Whitestone**	**64.58**	**26**	P	**P**	**14 58 45.4**	**+0.2**
H29M				IAmb	IAmb	14 58 57.0	
	comp=Z,5.9nm,1.3s						
G31M	**Satah River**	**66.21**	**25**	P	**P**	**14 58 56.3**	**+0.6**
G31M				IAmb	IAmb	14 59 29.2	
	comp=Z,4.4nm,1.4s						
YKA	**Yellowknife Ar**	**75.37**	**28**	P	**P**	**14 59 51.2**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=290,slow=5.9,SNR=3.0						
	comp=Z,0.2nm,0.4s						
FINES	**FINESS Array B**	**81.81**	**334**	P	**P**	**15 00 26.8**	**-0.1**
	comp=Z,2.0nm,1.0s,baz=62,slow=3.9,SNR=2.0						
	comp=Z,2.0nm,1.0s						

*NEIC **20** 14:50:30.7±2.5,48°.16N±0°.01×122°.74W±0°.03,h26km±9km, Error ellipse: s-maj=3.2km s-min=2.0km az=87.0*

*SEA **20** 14:50:31.3±2.0,48°.16N±0°.02×122°.75W±0°.04,h22km±3km, ML2.6/20,ML2.3/31(NEIC),Error ellipse: s-maj=3.6km s-min=3.2km az=132.0*

*PGC **20** 14:50:31.5±0.6,48°.16N×122°.78W,h15km,ML2.6, ML2.2/25,52km Ese of Victoria, Bc Washington*

ISC 20 14:50:30.6±0.9,**48°18N**±0°02×**122°77W**±0°02,**h27**km±5km, **n143,** σ1§**09**/170,**Washington**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVOH	**Skagit Valley**	**0.14**	**39**		**Pb**	**14 50 35.5**	**-0.3**
SVOH					**Sb**	**14 50 38.9**	**-0.5**
SVOH	**Skagit Valley**	**0.14**	**39**	P	**Pb**	**14 50 35.5**	**-0.3**
SVOH				S	**Sb**	**14 50 38.0**	**-1.4**
SQM	**Sequim**	**0.21**	**241**		**Pb**	**14 50 36.6**	**+0.1**
SQM					**Sb**	**14 50 41.4**	**+0.7**
BLN	**Blyn Mountain**	**0.22**	**219**		**Pb**	**14 50 36.2**	**-0.5**
BLN					**Sb**	**14 50 40.0**	**-0.8**
ERW	**Mount Erie**	**0.29**	**19**		**Sb**	**14 50 42.5**	**0.0**
B013	**Quilcene**	**0.38**	**195**		**Pb**	**14 50 38.2**	**-0.6**
B013					**Sb**	**14 50 43.6**	**-0.9**
B013	**Quilcene**	**0.38**	**195**		**Pb**	**14 50 38.2**	**-0.6**
B013					**Sb**	**14 50 43.6**	**-0.9**
UWFH	**University of**

NLWA				IAML		14 51 09.0			
	comp=N,55nm,0.6s								
GPW	**Glacier Peak**	**1.09**	**93**		**Pn**	**14 50 50.7**	**+0.4**		
GPW	**Glacier Peak**	**1.09**	**93**	P	**Pn**	**14 50 50.7**	**+0.4**		
GPW	**Glacier Peak**	**1.09**	**93**	S	**Sn**	**14 51 04.3**	**-0.3**		
B926	**Mesachie Lake**	**1.11**	**306**	P	**Pn**	**14 50 50.2**	**-0.2**		
B926	**Mesachie Lake**	**1.11**	**306**	S	**Sn**	**14 51 04.4**	**-0.4**		
CLRS	**Cowichan Lake**	**1.11**	**306**		**Pn**	**14 50 49.9**	**-0.5**		
CLRS	**Cowichan Lake**	**1.11**	**306**	P	**Pn**	**14 50 50.2**	**-0.1**		
CLRS	**Cowichan Lake**	**1.11**	**306**	S	**Sn**	**14 51 04.3**	**-0.4**		
HNBB	**Haney**	**1.12**	**7**		**Pn**	**14 50 50.8**	**+0.3**		
HNBB	**Haney**	**1.12**	**7**	P	**Pn**	**14 50 50.7**	**+0.3**		
HNBB	**Haney**	**1.12**	**7**	S	**Sn**	**14 51 05.2**	**+0.2**		
D05A	**Enumclaw**	**1.12**	**152**	Pn	**Pn**	**14 50 50.5**	**0.0**		
D05A	**Enumclaw**	**1.12**	**152**	P	**Pn**	**14 50 50.9**	**+0.4**		
PTRF	**Port Renfrew**	**1.16**	**289**		**Pn**	**14 50 50.5**	**-0.5**		
PTRF	**Port Renfrew**	**1.16**	**289**	P	**Pn**	**14 50 50.4**	**-0.5**		
PTRF	**Port Renfrew**	**1.16**	**289**	S	**Sn**	**14 51 04.9**	**-1.0**		
PFB	**Port Renfrew**	**1.18**	**290**	P	**Pn**	**14 50 51.0**	**-0.4**		
PFB	**Port Renfrew**	**1.18**	**290**	S	**Sn**	**14 51 06.0**	**-0.6**		
C03A	**Quillayute Air**	**1.23**	**260**	Pn	**Pb**	**14 50 53.6**	**+0.5**		
C03A				IAML		14 51 17.1			
	comp=N,50nm,2.6s								
C03A				IAML		14 51 23.0			
	comp=E,57nm,2.2s								
CPW	**Capitol Peak**	**1.23**	**192**	P	**Pn**	**14 50 52.3**	**+0.2**		
OCP	**Olym-Cheeka Pk**	**1.25**	**276**	P	**Pn**	**14 50 52.9**	**+0.6**		
OCP	**Olym-Cheeka Pk**	**1.25**	**276**	S	**Sb**	**14 51 09.0**	**-0.1**		
WISH	**Wishkah**	**1.26**	**213**	Pn	**Pb**	**14 50 54.0**	**+0.4**		
WISH				IAML		14 51 00.6			
	comp=E,45nm,4.6s								
WISH				IAML		14 51 16.9			
	comp=N,50nm,3.2s								
BIB	**Bowen Island**	**1.28**	**344**		**Pn**	**14 50 53.3**	**+0.7**		
BIB	**Bowen Island**	**1.28**	**344**	P	**Pn**	**14 50 53.4**	**+0.7**		
BIB	**Bowen Island**	**1.28**	**344**	S	**Sn**	**14 51 09.6**	**+0.8**		
NLLB	**Nanaimo Lost L**	**1.33**	**323**	P	**Pn**	**14 50 54.1**	**+0.9**		
NLLB	**Nanaimo Lost L**	**1.33**	**323**	S	**Sn**	**14 51 10.6**	**+0.6**		
RVC	**Mount Rainier-**	**1.35**	**156**		**Pn**	**14 50 54.3**	**+0.6**		
OBSR	**Observation Ro**	**1.43**	**153**		**Pn**	**14 50 55.6**	**+0.6**		
REMR	**Mount Rainier-**	**1.50**	**155**		**Pn**	**14 50 56.4**	**+0.6**		
HOPB	**Hope**	**1.50**	**36**	S	**Sb**	**14 51 16.8**	**+0.4**		
LCW	**Lucas Creek**	**1.51**	**178**		**Pn**	**14 50 56.4**	**+0.6**		
WPB	**Watts Point**	**1.51**	**349**		**Pn**	**14 50 56.8**	**+1.0**		
WPB	**Watts Point**	**1.51**	**349**	P	**Pn**	**14 50 56.8**	**+1.0**		
WPB	**Watts Point**	**1.51**	**349**	S	**Sn**	**14 51 15.6**	**+1.0**		
SR41	**SR410 Landslid**	**1.54**	**147**		**Pn**	**14 50 57.1**	**+0.8**		
LON	**Longmire**	**1.57**	**155**		**Pn**	**14 50 57.1**	**+0.4**		
LON	**Longmire**	**1.57**	**155**		**Pn**	**14 50 57.4**	**+0.7**		
LON	**Longmire**	**1.57**	**155**	P	**Pn**	**14 50 57.3**	**+0.7**		
LON	**Longmire**	**1.57**	**155**	S	**Sn**	**14 51 17.6**	**+1.5**		
SHB	**Sechelt**	**1.60**	**333**		**Pn**	**14 50 58.4**	**+1.2**		
SHB	**Sechelt**	**1.60**	**333**	P	**Pn**	**14 50 58.0**	**+0.9**		
SHB	**Sechelt**	**1.60**	**333**	S	**Sb**	**14 51 18.9**	**-0.4**		
LTY	**Liberty**	**1.69**	**122**	Pn	**Pn**	**14 50 59.5**	**+1.1**		
LTY				IAML		14 51 22.8			
	comp=N,42nm,0.3s								
LTY				IAML		14 51 23.7			
	comp=E,26nm,0.4s								
LTY	**Liberty**	**1.69**	**122**	P	**Pn**	**14 50 59.8**	**+1.4**		
LTY	**Liberty**	**1.69**	**122**	S	**Sb**	**14 51 21.5**	**-0.3**		
B928	**Bamfield**	**1.71**	**294**		**Pb**	**14 51 01.2**	**+0.1**		
B928	**Bamfield**	**1.71**	**294**	P	**Pn**	**14 50 59.6**	**+1.2**		
B928	**Bamfield**	**1.71**	**294**	S	**Sb**	**14 51 21.7**	**-0.5**		
BFSB	**Bamfield**	**1.71**	**293**	P	**Pn**	**14 50 59.9**	**+1.4**		
BFSB	**Bamfield**	**1.71**	**293**	S	**Sb**	**14 51 21.6**	**-0.6**		
B927	**Port Alberni**	**1.71**	**308**	S	**Sn**	**14 51 20.8**	**+1.4**		
E03A	**Lebam**	**1.72**	**199**	Pn	**Pn**	**14 51 00.1**	**+1.4**		
E03A				IAML		14 51 43.3			
	comp=E,23nm,2.9s								
E03A	**Lebam**	**1.72**	**199**	P	**Pb**	**14 51 00.5**	**-0.9**		
E03A				S	**Sb**	**14 51 21.8**	**-0.8**		
ETW	**Entiat**	**1.74**	**108**		**Pn**	**14 51 00.8**	**+1.7**		
TBM	**Table Mountain**	**1.78**	**124**		**Pb**	**14 51 02.1**	**-0.4**		
TDL	**Tradedollar La**	**1.87**	**168**		**Pn**	**14 51 02.4**	**+1.6**		
RADR	**Rader Ridge**	**1.89**	**202**	Pn	**Pn**	**14 51 02.4**	**+1.2**		
RADR				IAML		14 51 38.4			
	comp=N,34nm,3.0s								
ERK	**Elk Rock**	**1.90**	**171**		**Pn**	**14 51 03.2**	**+2.0**		
B201	**Coldwater, Mou**	**1.91**	**169**		**Pn**	**14 51 02.9**	**+1.6**		
JRO	**Jston Ridge Ob**	**1.94**	**169**		**Pn**	**14 51 03.6**	**+1.8**		
WSLR	**Whistler**	**1.95**	**357**	P	**Pn**	**14 51 03.8**	**+1.8**		
WSLR				S	**Sb**	**14 51 28.3**	**-1.2**		
EBG	**Ellensburg**	**1.96**	**130**		**Pb**	**14 51 04.7**	**-0.8**		
OZB	**Mount Ozzard**	**1.97**	**294**	P	**Pn**	**14 51 04.4**	**+2.2**		
OZB				S	**Sb**	**14 51 29.2**	**-0.7**		
STD	**Studebaker Rid**	**1.98**	**169**		**Pn**	**14 51 04.3**	**+2.0**		
SOSW	**Source of Smit**	**1.98**	**167**		**Pn**	**14 51 04.8**	**-1.2**		
B012	**Ucluelet**	**1.99**	**293**	P	**Pn**	**14 51 04.6**	**+2.2**		
B012				S	**Sb**	**14 51 29.7**	**-0.7**		
BOLM	**Sugar Bowl**	**2.00**	**168**		**Pb**	**14 51 05.4**	**-1.1**		
VALT	**Mount Saint He**	**2.00**	**168**		**Pn**	**14 51 04.8**	**+2.0**		
SHW	**Mount Saint He**	**2.02**	**169**		**Pn**	**14 51 05.2**	**+2.2**		
B203	**Quarry, Mount**	**2.03**	**171**		**Pn**	**14 51 05.4**	**+2.4**		
SWF2	**Southwest Flan**	**2.04**	**169**		**Pn**	**14 51 05.3**	**+2.1**		
JLK	**June Lake**	**2.08**	**168**		**Pb**	**14 51 06.2**	**-1.4**		
F04A	**Amboy**	**2.26**	**174**	Pn	**Pn**	**14 51 06.8**	**+0.7**		
F04A				IAML		14 51 47.2			
	comp=N,19nm,1.1s								
MXC	**Moxie City**	**2.32**	**133**		**Pb**	**14 51 10.6**	**-1.1**		
MXC	**Moxie City**	**2.32**	**133**	IAML		14 51 42.3			
	comp=N,14nm,0.5s								
MXC				IAML		14 51 53.1			
	comp=E,20nm,0.5s								
TRW	**Toppenish Ridg**	**2.42**	**140**		**Pb**	**14 51 12.8**	**-0.6**		
LLLB	**Lillooet**	**2.50**	**13**	P	**Pn**	**14 51 11.5**	**+2.0**		
CBB	**Campbell River**	**2.52**	**318**	Pn	**Pn**	**14 51 11.0**	**+1.2**		
CBB				IAML		14 51 51.4			
	comp=N,9.8nm,1.7s								
CBB				IAML		14 52 50.4			
	comp=E,11nm,5.0s								
CBB	**Campbell River**	**2.52**	**318**	S	**Sb**	**14 51 43.7**	**-2.0**		
E07A	**Sunnyside**	**2.56**	**128**	Pn	**Pn**	**14 51 11.3**	**+1.1**		
SPLB	**Strathcona Par**	**2.56**	**313**		**Pn**	**14 51 09.1**	**-1.2**		
HAWA	**Hanford**	**2.83**	**128**	Pn	**Pn**	**14 51 14.7**	**+0.7**		
HAWA				IAML		14 51 59.4			
	comp=E,9.6nm,0.8s								
HAWA				IAML		14 52 02.6			
	comp=E,7.5nm,2.2s								
NCRB	**Newcastle Ridg**	**3.10**	**317**	P	**Pn**	**14 51 21.9**	**+4.1**		
NCRB				S	**Sb**	**14 51 59.2**	**-3.2**		
NCSB	**Newcastle Ridg**	**3.10**	**317**	P	**Pb**	**14 51 22.0**	**-3.0**		
NCSB	**Newcastle Ridg**	**3.10**	**317**	S	**Sb**	**14 52 01.8**	**-0.6**		
WOSB	**Woss**	**3.19**	**310**	P	**Pb**	**14 51 23.8**	**-2.7**		
WOSB	**Woss**	**3.19**	**310**	S	**Sb**	**14 52 04.1**	**-0.9**		
MAYB	**Maynard**	**3.64**	**309**	P	**Pn**	**14 51 29.3**	**+4.1**		

*IDC **20** 14:54:23.2±0.8, 13°.17N×125°.12E, h0km, mb3.7/10, mbtmp3.7/10, Error ellipse: s-maj=47.2km s-min=15.3km az=66.0*

ISC 20 14:54:29.0±0.8, **13°.1N**±0°.2×**125°.1E**±0°.3, **h41**km, **n10, σ0°54/12, mb3.9**/10, **Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**25.67**	**285**	P	**P**	**14 59 54.9**	**-0.5**
	0.3nm,0.5s,baz=66,slow=9.9,SNR=2.0						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**34.12**	**164**	P	**P**	**15 01 09.5**	**-0.6**
	1.0nm,0.6s,baz=346,slow=8.7,SNR=17						
WRA				PcP	**PcP**	**15 03 48.1**	**+1.1**
	0.2nm,0.5s,baz=337,slow=2.7,SNR=1.4						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**37.59**	**167**	P	**P**	**15 01 40.2**	**+0.3**
	2.2nm,0.6s,baz=342,slow=7.6,SNR=74						
ASAR				PcP	**PcP**	**15 03 57.1**	**-0.1**
	0.2nm,0.5s,baz=343,slow=3.2,SNR=1.3						
	2.2nm,0.6s						
SONM	**Songino Array**	**37.94**	**339**	P	**P**	**15 01 42.9**	**+0.2**
	0.4nm,0.6s,baz=148,slow=8.5,SNR=1.9						
	0.4nm,0.6s						
STKA	**Stephens Creek**	**47.48**	**161**	P	**P**	**15 03 00.1**	**0.0**
	5.4nm,0.8s,baz=323,slow=7.9,SNR=6.1						
	5.4nm,0.8s						
MKAR	**Makanchi Array**	**49.05**	**322**	P	**P**	**15 03 12.1**	**-0.1**
	0.6nm,0.7s,baz=124,slow=8.6,SNR=6.8						
	0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**51.56**	**331**	P	**P**	**15 03 31.0**	**+0.1**
	0.4nm,0.3s,baz=111,slow=6.3,SNR=2.9						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**53.06**	**325**	P	**P**	**15 03 42.1**	**0.0**
	0.6nm,0.5s,baz=125,slow=7.4,SNR=7.3						
	0.6nm,0.5s						
BVAR	**Borovoye Array**	**58.65**	**325**	P	**P**	**15 04 22.7**	**+0.6**
	0.5nm,0.5s,baz=114,slow=6.5,SNR=2.5						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**77.39**	**26**	P	**P**	**15 06 19.1**	**-0.5**
	0.2nm,1.0s,baz=252,slow=5.5,SNR=2.6						
	0.2nm,1.0s						

*CATAC **20** 15:03:05.4±0.1, 12°.85N×86°.58W, h6km±1km, ML4.1*
*SNET **20** 15:03:05.3±0.8, 12°.80N×86°.55W, h23km±4km, ML4.1*

ISC 20 15:03:05.6±0.8, **12°.86N**±0°.02×**86°.58W**±0°.02, **h16**km±6km, **n88, σ0°82**/141, **12C-19D, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AESN	**El Sauce Leon**	**0.05**	**55**	*i*P	**Pg**	**15 03 08.8**	**+0.1**
AESN				IAML		15 03 11.1	
	comp=Z,95μm,1.0s						
BRAN	**Las Pilas**	**0.27**	**121**	*i*P	Pn	15 03 19.6	+4.7
BRAN				*i*S	Sn	15 03 30.1	+9.4
BRAN				IAML		15 03 31.5	
	comp=Z,14μm,1.0s						
LIMN	**Finca el Limon**	**0.29**	**46**	*i*P	**Pg**	**15 03 12.3**	**+0.3**
LIMN				*i*S	**Sg**	**15 03 16.1**	**-0.2**
LIMN				IAML		15 03 17.8	
	comp=Z,52μm,1.0s						
POLN	**Al Sur del Vol**	**0.31**	**227**	*i*P	**Pg**	**15 03 12.0**	**-0.2**
POLN				*i*S	**Sg**	**15 03 17.1**	**+0.5**
HERN	**Volcan Telica**	**0.35**	**224**	*i*P	**Pg**	**15 03 13.1**	**+0.2**
HERN				*i*S	**Sg**	**15 03 18.4**	**+0.6**
HERN				IAML		15 03 19.4	
	comp=Z,80μm,1.0s						
CNGN	**Cerro Negro**	**0.37**	**198**	*i*P	**Pg**	**15 03 12.7**	**-0.7**
CNGN				*e*S	**Sg**	**15 03 18.3**	**-0.3**
CNGN				IAML		15 03 19.6	
	comp=Z,20μm,0.1s						
CNGN	**Cerro Negro**	**0.37**	**198**	*i*P	**Pg**	**15 03 12.6**	**-0.7**
CNGN				*i*S	**Sg**	**15 03 18.4**	**-0.2**
CNGN				IAML		15 03 20.7	
	comp=Z,20μm,1.0s						
MACN	**El Madrono**	**0.40**	**193**	*i*P	**Pg**	**15 03 14.0**	**+0.2**
MACN				IAML		15 03 14.2	
	comp=Z,9μm,1.0s						
MACN				*i*S	**Sg**	**15 03 19.7**	**+0.3**
MOM2	**El Cardon**	**0.43**	**167**	*i*P	**Pg**	**15 03 14.5**	**+0.2**
MOM2				*i*S	**Sg**	**15 03 20.8**	**+0.6**
MOM2				IAML		15 03 29.9	
	comp=Z,10μm,1.0s						
MOMN	**Momotombo**	**0.45**	**175**	*i*P	**Pg**	**15 03 14.8**	**+0.1**
MOMN				*i*S	**Sg**	**15 03 21.0**	**+0.1**
MOMN				IAML		15 03 21.4	
	comp=Z,1μm,1.0s						
BC87	**San Francisco**	**0.45**	**141**	*i*P	**Pg**	**15 03 14.6**	**-0.1**
BC87				*i*S	**Sg**	**15 03 20.9**	**0.0**
BC87				IAML		15 03 21.5	
	comp=Z,10μm,1.0s						
BC84	**Volcan Momotom**	**0.46**	**175**	*i*P	**Pg**	**15 03 14.9**	**-0.1**
BC84				*i*S	**Sg**	**15 03 21.4**	**+0.1**
BC84				IAML		15 03 21.7	
	comp=Z,39μm,1.0s						
CRIN	**San Cristobal**	**0.48**	**251**	*e*P	**Pg**	**15 03 15.4**	**0.0**
CRIN				*e*S	**Sb**	**15 03 23.0**	**+0.3**
CRIN	**San Cristobal**	**0.48**	**251**	*i*P	**Pg**	**15 03 15.3**	**0.0**
CRIN				IAML		15 03 29.9	
	comp=Z,26μm,1.0s						
BC86	**Nagarote**	**0.59**	**178**	*i*P	**Pb**	**15 03 17.0**	**-0.6**
BC86				*i*S	**Sb**	**15 03 26.0**	**+0.2**
BC86				IAML		15 03 38.1	
	comp=Z,8μm,1.0s						
AMTN	**Mateare**	**0.64**	**167**	*i*P	**Pb**	**15 03 18.0**	**-0.4**
AMTN				*i*S	**Sg**	**15 03 27.7**	**+1.1**
AMTN				IAML		15 03 29.9	
	comp=Z,17μm,1.0s						
HUEN		**0.66**	**142**	*i*P	Pn	15 03 28.2	+7.9
APYN	**Apoyeque**	**0.66**	**160**	*i*P	**Pb**	**15 03 18.1**	**-0.7**
APYN				*i*S	**Sb**	**15 03 27.5**	**-0.3**
APYN				IAML		15 03 29.5	
	comp=Z,13μm,1.0s						
HUGN	**San Franciso L**	**0.68**	**145**	*i*P	**Pb**	**15 03 18.9**	**-0.3**
HUGN				*i*S	**Sg**	**15 03 28.9**	**+0.8**
HUGN				IAML		15 03 30.3	
	comp=Z,10μm,1.0s						
APQN	**BB Volcan Apoy**	**0.69**	**156**	*i*P	**Pb**	**15 03 18.8**	**-0.5**
APQN				*i*S	**Sg**	**15 03 28.6**	**+0.2**
APQ2	**Apoyeque**	**0.70**	**159**	*i*P	**Pb**	**15 03 19.0**	**-0.5**
APQ2				*i*S	**Sb**	**15 03 28.8**	**-0.2**
APQ2				IAML		15 03 31.3	
	comp=Z,9μm,1.0s						
SBEN	**San Benito**	**0.75**	**137**	*i*P	**Pb**	**15 03 19.9**	**-0.5**
SBEN				*i*S	**Sg**	**15 03 30.9**	**+0.6**
SBEN				IAML		15 03 33.4	
	comp=Z,12μm,1.0s						
ALLN	**Telcor Managua**	**0.76**	**157**	*i*P	**Pb**	**15 03 20.2**	**-0.3**
ALLN				*i*S	**Sg**	**15 03 31.1**	**+0.5**
ALLN				IAML		15 03 33.1	
	comp=Z,11μm,1.0s						
TISN	**Laguna Tiscapa**	**0.78**	**157**	*i*P	**Pb**	**15 03 20.3**	**-0.5**
TISN				IAML		15 03 32.3	
	comp=Z,370nm,1.0s						
MGA1	**Managua**	**0.78**	**155**	*i*P	**Pb**	**15 03 20.0**	**-0.8**
MGA1				*i*S	**Sb**	**15 03 31.2**	**+0.1**
MGA1				IAML		15 03 33.1	
	comp=Z,8μm,1.0s						
R4DEC	**Barrio San Lui**	**0.78**	**155**	*i*P	**Pb**	**15 03 20.0**	**-0.8**
R4DEC				IAML		15 03 34.3	
	comp=Z,5μm,1.0s						
ABCN	**Banco Central**	**0.78**	**160**	*i*P	**Pb**	**15 03 20.4**	**-0.4**
ABCN				*i*S	**Sb**	**15 03 31.3**	**+0.1**
ABCN				IAML		15 03 35.3	
	comp=Z,10μm,1.0s						
RE6B4	**Centro civico**	**0.78**	**159**	*i*P	**Pb**	**15 03 20.4**	**-0.4**
RE6B4				IAML		15 03 33.3	
	comp=Z,6μm,1.0s						
R45A8	**Distro Vi**	**0.79**	**153**	*i*P	**Pb**	**15 03 20.5**	**-0.6**
R45A8				IAML		15 03 35.9	
	comp=Z,6μm,1.0s						
WILN	**Americas 2**	**0.79**	**151**	*i*P	**Pb**	**15 03 20.5**	**-0.6**
WILN				*i*S	**Sg**	**15 03 31.8**	**+0.2**
WILN				IAML		15 03 32.5	
	comp=Z,11μm,1.0s						
USIM	**UNAN**	**0.80**	**158**	*i*P	**Pb**	**15 03 21.1**	**0.0**
USIM				*i*S	**Sg**	**15 03 32.2**	**+0.5**
USIM				IAML		15 03 38.8	
	comp=Z,9μm,1.0s						
UNAN	**Cigeo UNAN**	**0.80**	**158**	*i*P	**Pb**	**15 03 20.8**	**-0.5**
UNAN				*i*S	**Sg**	**15 03 32.5**	**+0.6**
UNAN				IAML		15 03 34.2	
	comp=Z,28μm,1.0s						
ENAN	**Enatrel Managu**	**0.80**	**157**	*i*P	**Pb**	**15 03 21.0**	**-0.3**
ENAN				*i*S	**Sg**	**15 03 32.3**	**+0.3**
ENAN				IAML		15 03 41.0	
	comp=Z,11μm,1.0s						
R0529	**La Mascota**	**0.81**	**155**	*i*P	**Pb**	**15 03 20.8**	**-0.5**
R0529				IAML		15 03 38.5	
	comp=Z,9μm,1.0s						
R8CCA	**La Lomita**	**0.81**	**156**	*i*P	**Pb**	**15 03 21.1**	**-0.2**
R8CCA				IAML		15 03 36.5	
	comp=Z,9μm,1.0s						
TIPN	**Tipitapa**	**0.81**	**144**	*i*P	**Pb**	**15 03 21.4**	**0.0**
TIPN				*i*S	**Sb**	**15 03 32.2**	**0.0**
TIPN				IAML		15 03 36.6	
	comp=Z,8μm,1.0s						
RCPN	**Sur Rio San Ju**	**0.82**	**36**	*i*P	**Pb**	**15 03 20.0**	**-1.6**
RCPN				IAML		15 03 32.7	
	comp=Z,110nm,1.0s						
AERN	**Aeropuerto Man**	**0.82**	**150**	*i*P	**Pb**	**15 03 20.9**	**-0.6**
AERN				*i*S	**Sb**	**15 03 32.3**	**0.0**
AERN				IAML		15 03 34.8	
	comp=Z,12μm,1.0s						
R1628	**Naciones Unida**	**0.83**	**155**	*i*P	**Pb**	**15 03 21.3**	**-0.4**
R1628				IAML		15 03 34.5	
	comp=Z,6μm,1.0s						
MAFN	**Magfor**	**0.83**	**156**	*i*P	**Pb**	**15 03 21.9**	**+0.2**
MAFN				*i*S	**Sg**	**15 03 32.9**	**+0.1**
MAFN				IAML		15 03 39.1	
	comp=Z,10μm,1.0s						
CRUN	**El Crucero**	**0.91**	**162**	*i*P	**Pb**	**15 03 22.5**	**-0.7**
CRUN				IAML		15 03 39.9	
	comp=Z,13nm,1.0s						
MAS3	**Al N del Volca**	**0.92**	**154**	*i*P	**Pb**	**15 03 22.6**	**-0.7**
MAS3				*i*S	**Sg**	**15 03 35.7**	**+0.1**
MAS3				IAML		15 03 38.2	
	comp=Z,6μm,1.0s						
CSGN	**Cosiguina Volc**	**0.96**	**277**	*i*P	**Pb**	**15 03 22.9**	**-1.1**
CSGN				IAML		15 04 12.4	
	comp=Z,65nm,1.0s						
RB213	**Mirador 2 Volc**	**0.96**	**155**	*i*P	**Pb**	**15 03 20.5**	**-3.5**
RB213				IAML		15 03 34.0	
	comp=Z,7μm,1.0s						
MASN	**Masaya**	**0.96**	**154**	*i*P	**Pb**	**15 03 23.3**	**-0.7**
MASN				*i*S	**Sb**	**15 03 36.8**	**+0.3**
MASN				IAML		15 03 40.2	
	comp=Z,2μm,1.0s						
BOAB	**BOACO BROADBAN**	**0.98**	**114**	*i*P	**Pb**	**15 03 23.7**	**-0.6**
BOAB				*i*S	**Sb**	**15 03 36.9**	**-0.1**
BOAB				IAML		15 03 40.1	
	comp=Z,6μm,1.0s						
AMYN	**Masaya**	**0.99**	**151**	*i*P	**Pb**	**15 03 24.1**	**-0.3**
AMYN				*i*S	**Sb**	**15 03 36.9**	**-0.3**
AMYN				IAML		15 03 40.8	
	comp=Z,12μm,1.0s						
ADRN	**Diriamba**	**1.05**	**161**	IAML		15 03 22.6	
	comp=Z,8μm,1.0s						
ADRN				*i*P	**Pb**	**15 03 25.6**	**+0.1**
ADRN				*i*S	**Sb**	**15 03 38.8**	**-0.2**
GRNN	**Granada**	**1.11**	**146**	*i*P	**Pn**	**15 03 26.2**	**-0.3**
GRNN				*i*S	**Sn**	**15 03 41.1**	**-0.4**
GRNN				IAML		15 03 50.6	
	comp=Z,6μm,1.0s						
YUSH	**Yuscaran**	**1.12**	**347**	*i*P	**Pn**	**15 03 26.5**	**-0.3**
YUSH				*i*S	**Sn**	**15 03 41.8**	**-0.1**
AMPH	**Amapala**	**1.13**	**292**	*i*P	**Pn**	**15 03 26.4**	**-0.4**
AMPH				*e*S	**Sn**	**15 03 42.2**	**+0.1**
AMPH	**Amapala**	**1.13**	**292**	*i*P	**Pn**	**15 03 26.4**	**-0.4**
AMPH				*i*S	**Sn**	**15 03 42.4**	**+0.4**
NADN	**Granada**	**1.23**	**154**	*i*P	**Pn**	**15 03 27.9**	**-0.3**
NADN				*i*S	**Sg**	**15 03 45.0**	**-0.4**
NADN				IAML		15 03 48.8	
	comp=Z,4μm,1.0s						
CNCH	**Conchagua**	**1.29**	**289**	*e*P	**Pn**	**15 03 28.9**	**-0.3**
CNCH				IAML		15 03 30.5	
	comp=Z,15μm,0.3s						
CNCH				*e*S	**Sb**	**15 03 47.0**	**+1.0**
CNCH	**Conchagua**	**1.29**	**289**	*i*P	**Pn**	**15 03 29.0**	**-0.1**
CNCH				IAML		15 03 30.4	
	comp=Z,13μm,1.0s						
CNCH				*i*S	**Sg**	**15 03 47.5**	**+0.1**
LCND	**La Caada**	**1.35**	**290**	*e*P	**Pn**	**15 03 29.3**	**-0.5**
LCND				IAML		15 03 30.7	
	comp=Z,3μm,0.3s						
LCND				*e*S	**Sb**	**15 03 48.5**	**+0.8**
LCND	**La Caada**	**1.35**	**290**	*i*P	**Pn**	**15 03 29.3**	**-0.5**
LCND				IAML		15 03 30.6	
	comp=Z,3μm,1.0s						
LCND				*i*S	**Sb**	**15 03 48.8**	**+1.1**
TGUH	**Tegucigalpa,Un**	**1.37**	**331**	*i*P	**Pb**	**15 03 31.4**	**+0.4**
TGUH				*i*S	**Sb**	**15 03 48.9**	**+0.6**
TGUH				IAML		15 03 50.4	
	comp=Z,4μm,1.0s						
CONN	**Concepcion**	**1.59**	**144**	*i*P	**Pb**	**15 03 34.6**	**-0.1**
CONN				*i*S	**Sb**	**15 03 55.4**	**+0.8**
CONN				IAML		15 04 07.9	
	comp=Z,7μm,1.0s						
MORN	**Al O del Volca**	**1.59**	**145**	*i*P	**Pn**	**15 03 33.9**	**+0.7**
MORN				IAML		15 04 05.1	
	comp=Z,3μm,1.0s						
ACON	**Acoyapa**	**1.64**	**123**	*i*P	**Pn**	**15 03 34.0**	**+0.2**
ACON				*i*S	**Sb**	**15 03 55.7**	**-0.2**
ACON				IAML		15 03 59.3	
	comp=Z,1μm,1.0s						
CNRM	**Centro Naciona**	**1.66**	**292**	*i*P	**Pn**	**15 03 34.7**	**+0.5**
CNRM				*i*S	**Sb**	**15 03 57.2**	**+0.5**
CNRM				IAML		15 04 05.3	
	comp=Z,4μm,1.0s						
JUCU	**Jucuarįn**	**1.67**	**284**	*e*P	**Pn**	**15 03 33.3**	**-1.0**
JUCU				IAML		15 04 06.9	
	comp=Z,492nm,0.4s						
JUCU	**Jucuarįn**	**1.67**	**284**	*i*P	**Pn**	**15 03 34.9**	**+0.6**
JUCU				*i*S	**Sb**	**15 03 58.1**	**+1.2**
JUCU				IAML		15 04 01.6	
	comp=Z,530nm,1.0s						
BLLM	**Bellamira**	**1.71**	**290**	*e*P	**Pn**	**15 03 35.0**	**0.0**
RANC	**El Ranchito

comp=Z,3µm,1.0s
LCND La Caada 1.24 23 *e*P **Pb 15 26 14.9 +0.7**
LCND IAML 15 26 41.0
comp=Z,792nm,0.4s
LCND La Caada 1.24 23 *i* P **Pn 15 26 14.3 +0.5**
LCND IAML 15 26 40.6
comp=Z,790nm,1.0s
RANC El Ranchito 1.27 4 *i* P **Pn 15 26 14.8 +0.4**
RANC IAML 15 26 40.4
comp=Z,1µm,1.0s
PACA Pacayal 1.30 2 *i* P **Pb 15 26 15.9 +0.5**
PACA IAML 15 26 47.0
comp=Z,9µm,1.0s
AMPH Amapala 1.32 32 *e*P **Pb 15 26 15.9 +0.2**
AMPH Amapala 1.32 32 *i* P **Pb 15 26 15.8 +0.2**
AMPH *i* S **Sg 15 26 34.2 0.0**
CRIN San Cristobal 1.41 67 Pn 15 26 16.8 +0.7
CRIN San Cristobal 1.41 67 *i* P **Pn 15 26 16.8 +0.7**
CRIN IAML 15 26 49.5
comp=Z,4µm,1.0s
TECO Alcaldia de Te 1.43 344 *e*P **Pn 15 26 16.5 +0.2**
TECO Alcaldia de Te 1.43 344 *i* P **Pn 15 26 16.9 +0.5**
TECO *i* S **Sb 15 26 35.6 +0.3**
TECO IAML 15 26 44.8
comp=Z,430nm,1.0s
PQSS Presa 15 de Se 1.47 353 *e*P **Pn 15 26 17.7 +0.8**
PQSS Presa 15 de Se 1.47 353 *i* P **Pn 15 26 17.3 +0.4**
PQSS *i* S **Sb 15 26 36.7 +0.3**
PQSS IAML 15 26 41.7
comp=Z,730nm,1.0s
UESV Universidad de 1.52 345 *i* P **Pn 15 26 18.3 +0.6**
UESV *i* S **Sn 15 26 38.1 +1.0**
UESV IAML 15 26 48.7
comp=Z,710nm,1.0s
COEG Centro de Oper 1.53 341 *e*P **Pn 15 26 18.1 +0.2**
COEG Centro de Oper 1.53 341 *i* P **Pn 15 26 18.3 +0.4**
COEG *i* S **Sb 15 26 38.9 +0.5**
COEG IAML 15 26 54.1
comp=Z,720nm,1.0s
SJTE Alcalda de S 1.57 337 *i* S **Sn 15 26 39.3 +1.0**
SCLA Alcaldia de Sa 1.57 348 *e*P **Pn 15 26 19.4 +1.0**
SCLA Alcaldia de Sa 1.57 348 *i* P **Pn 15 26 19.2 +0.8**
SCLA *i* S **Sg 15 26 41.9 -0.3**
SCLA IAML 15 26 53.0
comp=Z,580nm,1.0s
HERN Volcan Telica 1.58 73 *i* P **Pn 15 26 18.8 +0.3**
HERN *i* S **Sb 15 26 40.4 +0.7**
HERN IAML 15 26 50.4
comp=Z,1µm,1.0s
LALI Alcalda de L 1.61 325 *i* P **Pn 15 26 19.4 +0.5**
LALI *i* S **Sn 15 26 38.7 -0.5**
LALI IAML 15 26 45.4
comp=Z,280nm,1.0s
PAVA Las Pavas 1.64 341 *e*P **Pn 15 26 20.0 +0.6**
PAVA Las Pavas 1.64 341 *i* P **Pn 15 26 19.6 +0.2**
PAVA *i* S **Sn 15 26 41.1 +1.0**
PAVA IAML 15 26 54.2
comp=Z,2µm,1.0s
LOMA Loma Larga 1.67 333 *e*P **Pn 15 26 20.5 +0.7**
LOMA *e*S **Sn 15 26 41.3 +0.6**
LOMA Loma Larga 1.67 333 *i* P **Pn 15 26 19.6 -0.2**
LOMA *i* S **Sb 15 26 42.0 -0.3**
LOMA IAML 15 26 52.6
comp=Z,640nm,1.0s
CNGN Cerro Negro 1.68 78 Pn 15 26 19.6 -0.2
CNGN Cerro Negro 1.68 78 *i* P **Pn 15 26 20.2 +0.3**
CNGN IAML 15 27 01.8
comp=Z,890nm,1.0s
MACN El Madrono 1.69 79 *i* P **Pn 15 26 19.9 -0.2**
MACN IAML 15 26 50.5
comp=Z,430nm,1.0s
SNET Serv Nac Est T 1.73 331 Pn **Pg 15 26 24.0 -0.7**
PMON Piamonte 1.79 330 *i* P **Pn 15 26 21.7 +0.2**
PMON *i* S **Sn 15 26 44.3 +0.4**
PMON IAML 15 26 49.6
comp=Z,1µm,1.0s
JAYA Jayaque - finc 1.81 325 *e*P **Pn 15 26 22.0 +0.2**
JAYA IAML 15 26 48.3
comp=Z,726nm,0.3s
JAYA Jayaque - finc 1.81 325 *i* P **Pn 15 26 22.2 +0.3**
JAYA *i* S **Sn 15 26 44.1 -0.4**
JAYA IAML 15 26 47.3
comp=Z,2µm,1.0s
MOMN Momotombo 1.81 82 *i* P **Pn 15 26 21.8 +0.1**
MOMN *i* S **Sn 15 26 45.1 +0.8**
MOMN IAML 15 26 49.9
comp=Z,27nm,1.0s
MOM2 El Cardon 1.87 81 *i* P **Pn 15 26 22.7 +0.2**
MOM2 *i* S **Sn 15 26 46.8 +1.1**
MOM2 IAML 15 26 57.3
comp=Z,540nm,1.0s
APQ2 Apoyeque 2.01 89 *i* P **Pb 15 26 27.3 -0.1**
APQ2 *i* S **Sn 15 26 49.7 +0.7**
APQN BB Volcan Apoy 2.04 88 *i* P **Pn 15 26 22.4 -2.3**
SNJE San Jose 2.08 325 *e*P **Pn 15 26 25.9 +0.4**
UNIC Universidad Ca 2.14 328 *i* P **Pn 15 26 26.0 -0.2**
UNIC *i* S **Sn 15 26 53.1 +0.7**
UNIC IAML 15 26 59.2
comp=Z,410nm,1.0s
WILN Americas 2 2.14 90 *i* P **Pn 15 26 27.2 +1.0**
WILN *i* S **Sn 15 26 53.5 +1.1**
WILN IAML 15 26 58.8
comp=Z,410nm,1.0s
MAS3 Al N del Volca 2.16 93 *i* P **Pn 15 26 27.7 +1.2**
MAS3 *i* S **Sn 15 26 52.3 -0.5**
MAS3 IAML 15 27 48.9
comp=Z,970nm,1.0s
LIMN Finca el Limon 2.16 65 *i* P **Pn 15 26 26.7 +0.1**
LIMN IAML 15 27 11.5
comp=Z,420nm,1.0s
TGUH Tegucigalpa,Un 2.17 30 Pn 15 26 27.8 +1.0
TGUH Tegucigalpa,Un 2.17 30 *i* P **Pn 15 26 28.6 +1.8**
TGUH IAML 15 27 05.4
comp=Z,800nm,1.0s
NUBE Las Nubes 2.21 322 *e*P **Pn 15 26 27.6 +0.4**
NUBE *e*S **Sn 15 26 53.9 -0.2**
NUBE Las Nubes 2.21 322 *i* P **Pn 15 26 27.4 +0.2**
NUBE *i* S **Sn 15 26 54.2 +0.1**
NUBE IAML 15 27 03.4
comp=Z,600nm,1.0s
YUSH Yuscaran 2.33 40 *i* P **Pn 15 26 29.5 +0.6**
COMHN El Horno 2.41 19 *i* P **Pn 15 26 30.9 +0.8**
ESQI Esquipulas 2.56 339 Pn 15 26 33.2 +1.1
BOAB BOACO BROADBAN 2.67 84 Pn 15 26 33.7 +0.3
BOAB BOACO BROADBAN 2.67 84 *i* P **Pn 15 26 34.1 +0.7**
BOAB IAML 15 26 58.1
comp=Z,150nm,1.0s
HZTE Horizontes, Gu 3.08 117 Pn 15 26 39.3 +0.2
ACON Acoyapa 3.14 93 Pn 15 26 39.4 -0.5
ORTG Ortega, Santa 3.38 122 Pn 15 26 43.4 +0.1
APG El Apazote 3.48 325 Pn **Pn 15 26 47.5 +2.7**
comp=Z,0.1nm,0.3s,baz=174,slow=12,SNR=2.2
APG Sn **Sn 15 27 28.4 +2.7**
comp=Z,0.1nm,0.3s,baz=81,slow=18,SNR=1.9
JTS Las Juntas de 3.84 119 Pn 15 26 50.2 +0.6
JTS Las Juntas de 3.84 119 Pn **Pn 15 26 52.3 +2.7**
comp=Z,3.1nm,0.3s,baz=310,slow=22,SNR=7.9
JTS Sn **Sn 15 27 33.6 -0.7**
comp=Z,1.6nm,0.3s,baz=319,slow=20,SNR=1.4
JTS Lg Lg 15 27 53.5
comp=Z,2.7nm,0.3s,baz=285,slow=20,SNR=1.5
comp=Z,5.0nm,0.3s
JACO JACO, Garabito 4.42 124 Pn **Pn 15 26 59.3 +1.8**
LCR2 La Lucha 2 4.92 119 Pn 15 27 06.7 +2.1
SRBA San Rafael, Bu 5.73 120 Pn **Pn 15 27 17.7 +2.1**
DRK0 Durika 5.81 119 Pn 15 27 18.5 +1.7
TLIG Tlapa 11.21 300 Pn Pn 15 28 35.8 +4.8
HBVL Hebbronville 17.70 328 P 15 29 59.9 +2.1
833A Chaparral WMA, 19.09 329 P Pn 15 30 14.8 +0.8
833A IAmb IAmb 15 30 16.0
comp=Z,27nm,0.8s
HNDO Hondo 20.04 331 P Pn 15 30 24.9 -0.4
HNDO IAmb IAmb 15 30 25.0
comp=Z,11nm,0.7s
BRDY Brady 21.41 334 P P 15 30 38.7 +0.4
GOGA Godfrey 21.63 11 P P 15 30 39.9 -0.7
SAND Sanderson 21.83 326 P P 15 30 44.3 +1.4
OZNA Ozona 22.08 330 P P 15 30 47.3 +1.7
OZNA IAmb IAmb 15 30 48.4
comp=Z,19nm,0.9s
TXAR Lajitas Array 22.24 323 P **P 15 30 48.6 +1.3**
comp=Z,2.6nm,0.7s,baz=146,slow=11,SNR=22
comp=Z,2.6nm,0.7s
TX31 Lajitas Ar. Si 22.24 323 P **P 15 30 48.3 +0.9**

MIAR Mount Ida 22.78 349 P P 15 30 53.2 +0.3
MIAR IAmb IAmb 15 30 55.9
comp=Z,15nm,1.2s
X37A Clayton 23.22 345 P **P 15 30 59.2 +1.8**
X37A IAmb IAmb 15 31 20.4
comp=Z,14nm,1.1s
WHAR Wooly Hollow 23.30 352 P **P 15 30 58.9 +0.7**
WHAR IAmb IAmb 15 30 59.5
comp=Z,11nm,0.9s
PCRV Puerto La Cruz 23.38 92 LR LR 15 41 15.4
comp=Z,57nm,18.4s,slow=41
FNO Franklin 24.41 342 P **P 15 31 09.1 +0.3**
MSTX Muleshoe 25.37 331 P **P 15 31 18.7 +1.0**
MSTX IAmb IAmb 15 31 25.2
comp=Z,8.7nm,0.8s
AMTX Amarillo 25.65 334 P **P 15 31 21.5 +1.4**
AMTX IAmb IAmb 15 31 25.3
comp=Z,15nm,1.1s
S39A Bolivar 25.81 351 P **P 15 31 21.0 -0.4**
S39A IAmb IAmb 15 31 21.8
comp=Z,11nm,0.7s
R40A Maddies Statio 26.25 353 P **P 15 31 25.3 -0.2**
R40A IAmb IAmb 15 31 25.9
comp=Z,13nm,1.5s
SVN Savane Anatole 26.59 81 P **P 15 31 27.3 -1.5**
PDAR Pinedale Array 35.61 333 P **P 15 32 46.9 -1.3**
comp=Z,0.2nm,0.5s,baz=112,slow=9.8,SNR=1.9
comp=Z,0.2nm,0.5s
EYMN Ely 35.77 356 P **P 15 32 47.8 -1.4**
AGMN Agassiz Nation 36.56 352 P **P 15 32 55.1 -0.9**
NVAR Mina Array Bea 37.33 320 P **P 15 33 02.6 -0.4**
comp=Z,0.2nm,0.5s,baz=120,slow=13,SNR=1.5
NVAR PcP **PcP 15 35 25.1 +3.0**
comp=Z,0.2nm,0.3s,baz=134,slow=3.9,SNR=3.9
comp=Z,0.2nm,0.5s
ULM Lac du Bonnet 38.48 352 P **P 15 33 10.5 -1.7**
ULM IAmb IAmb 15 33 11.1
comp=Z,4.0nm,0.6s
ULM Lac du Bonnet 38.48 352 P **P 15 33 09.4 -2.8**
comp=Z,3.9nm,0.5s,baz=160,slow=10,SNR=9.2
comp=Z,3.9nm,0.5s
FFC Flin Flon 43.80 349 P **P 15 33 55.4 -0.5**
FCC Fort Churchill 46.71 356 P **P 15 34 17.7 -1.2**
FCC IAmb IAmb 15 34 18.4
comp=Z,3.2nm,0.8s
YKA Yellowknife Ar 53.66 345 P **P 15 35 10.1 -1.5**
comp=Z,0.7nm,0.7s,baz=138,slow=7.3,SNR=11
comp=Z,0.7nm,0.7s
PLCA Paso Flores 55.15 164 P P 15 35 31.8 +8.9
comp=Z,2.0nm,1.0s,baz=294,slow=3.5,SNR=3.3
comp=Z,2.2.0nm,1.0s
G31M Satah River 62.57 341 P **P 15 36 13.6 -0.3**
G29M Pine Creek 63.77 340 P **P 15 36 22.1 +0.1**
G29M IAmb IAmb 15 36 24.0
comp=Z,3.1nm,1.1s
E28M Babbage River 65.18 342 P **P 15 36 30.5 -0.6**
E28M IAmb IAmb 15 36 59.8
comp=Z,3.5nm,1.3s
ILAR Eielson Array 65.92 336 P **P 15 36 34.8 -1.1**
comp=Z,0.5nm,1.0s,baz=104,slow=6.0,SNR=4.1
comp=Z,0.5nm,1.0s
RND Reindeer 66.19 335 P **P 15 36 38.2 +0.4**
BMAR Burnt Mountain 66.23 339 P **P 15 36 38.0 0.0**
KSH Kashi 126.57 15 PKP **PKiKP 15 44 54.8 +0.3**
WRA Warramunga Arr 138.32 254 PKP **PKiKP 15 45 21.3 +2.7**
comp=Z,0.4nm,0.8s,baz=98,slow=2.1,SNR=2.2
ASAR Alice Springs 138.32 248 PKhKP PKPpre 15 45 17.5
comp=Z,0.2nm,0.8s,baz=101,slow=2.2,SNR=2.0
CMAR Chiang Mai Arr 148.73 347 PKPbc **PKPdf 15 45 34.5 -0.3**
comp=Z,0.5nm,0.3s,baz=336,slow=2.0,SNR=2.5

*IDC **20** 15:30:06.8±0.7, 16°.01S×172°.23W, h0km, mb3.9/10, mbtmp3.9/10, MS3.2/5, Error ellipse: s-maj=32.4km s-min=19.8km az=123.0*
ISC 20 15:30:10.5±0.7, 16°.05S±0°.2×172°.3W±0°.2, h24km, n23, σ0s 76/12, mb3.9/10, MS3.3/5, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**12.96**	**116**	LR	LR	15 36 56.5	
PPT	**Papeete**	**21.81**	**97**	LR	LR	15 40 17.5	
HNR	**Honiara**	**27.82**	**280**	LR	LR	15 45 35.5	
H11S2	**WAKE ISLAND Hy**	**40.00**	**328**	T	T	16 18 43.6	
H11S3	**WAKE ISLAND Hy**	**40.02**	**328**	T	T	16 18 43.8	
H11S1	**WAKE ISLAND Hy**	**40.02**	**328**	T	T	16 18 42.9	
H11N3	**WAKE ISLAND Hy**	**40.94**	**329**	T	T	16 19 47.9	
H11N1	**WAKE ISLAND Hy**	**40.94**	**329**	T	T	16 19 47.7	
H11N2	**WAKE ISLAND Hy**	**40.95**	**329**	T	T	16 19 49.9	
WRA	**Warramunga Arr**	**50.75**	**257**	P	**P**	**15 39 10.0 +1.0**	
ASAR	**Alice Springs**	**50.95**	**252**	P	**P**	**15 39 10.9 +0.4**	
VNDA	**Vanda**	**62.92**	**186**	P	**P**	**15 40 34.5 +0.1**	
PETK	**Petropavlovsk-**	**73.50**	**342**	P	**P**	**15 41 39.8 -1.2**	
NVAR	**Mina Array Bea**	**74.05**	**41**	P	**P**	**15 41 45.7 +0.9**	
QSPA	**South Pole Qui**	**74.07**	**180**	P	**P**	**15 41 43.8 -0.6**	
TXAR	**Lajitas Array**	**80.05**	**56**	P	**P**	**15 42 18.6 -0.1**	
TXAR				LR	LR	16 10 05.6	
PDAR	**Pinedale Array**	**81.99**	**41**	P	**P**	**15 42 28.9 +0.1**	
ILAR	**Eielson Array**	**82.81**	**11**	P	**P**	**15 42 32.9 +0.6**	
YKA	**Yellowknife Ar**	**90.20**	**23**	P	**P**	**15 43 08.8 +0.3**	
ATAH	**Atahualpa**	**91.79**	**98**	LR	LR	16 16 28.6	
BVAR	**Borovoye Array**	**118.98**	**322**	PKP	**PKPdf**	**15 48 56.2 -0.8**	
BRTR	**Keskin Array B**	**147.27**	**321**	PKPbc	**PKPab**	**15 49 53.6 -0.6**	

comp=Z,1µm,0.9s
LVC Limon Verde 2.40 303 P **Pn 15 46 52.1 +0.6**
comp=Z,595nm,0.4s,baz=131,slow=6.6,SNR=1450
LVC S **S 15 47 26.0 +0.3**
comp=Z,757nm,0.4s,baz=60,slow=20,SNR=24
LVC Limon Verde 2.40 303 *e*P **Pn 15 46 52.4 +0.9**
LVC *i* S **S 15 47 25.7 0.0**
LVC IAML 15 47 29.1
comp=Z,5µm,0.4s
LVC Limon Verde 2.40 303 *e*P **Pn 15 46 52.3 +0.8**
LVC *e*S **S 15 47 26.4 +0.7**
PB15 IPOC Station P 2.62 286 Pn 15 46 54.5 +0.8
PB15 IPOC Station P 2.62 286 *e*P **Pn 15 46 54.3 +0.7**
PB15 *e*S **S 15 47 29.9 +0.4**
PB15 IPOC Station P 2.62 286⇑ *i*P **Pn 15 46 54.5 +0.8**
PB15 *e*S **S 15 47 28.4 -1.2**
GO02 Mina Guanaco 2.88 244 Pn 15 46 56.9 +0.3
GO02 Mina Guanaco 2.88 244 *e*P **Pn 15 46 57.1 +0.6**
GO02 *e*S **S 15 47 35.0 0.0**
GO02 Mina Guanaco 2.88 244⇓ *e*P **Pn 15 46 57.0 +0.4**
GO02 *i* S **S 15 47 34.5 -0.5**
PB06 IPOC Station P 2.88 295 Pn 15 46 57.0 +0.4
PB06 IPOC Station P 2.88 295 *e*P **Pn 15 46 57.3 +0.8**
PB06 *e*S **S 15 47 35.0 +0.1**
PB06 IAML 15 47 38.0
comp=Z,2µm,0.4s
PB06 IPOC Station P 2.88 295⇑ *e*P **Pn 15 46 57.4 +0.8**
PB06 *i* S **S 15 47 34.1 -0.8**
PB09 IPOC Station P 3.15 312 Pn 15 47 00.6 +0.9
PB09 IPOC Station P 3.15 312 *e*P **Pn 15 47 00.7 +1.0**
PB09 *e*S **S 15 47 41.4 +1.0**
PB09 IAML 15 47 44.6
comp=Z,2µm,0.6s
PB09 IPOC Station P 3.15 312⇑ *e*P **Pn 15 47 00.7 +1.0**
PB09 *i* S **S 15 47 40.6 +0.3**
PB09 IAML 15 47 44.2
comp=N,1µm,0.3s
PB05 IPOC Station P 3.37 288 Pn 15 47 02.1 0.0
PB14 IPOC Station P 3.42 258 Pn 15 47 02.8 -0.1
PB14 IPOC Station P 3.42 258 *e*P **Pn 15 47 03.0 +0.1**
PB14 IAML 15 47 50.3
comp=Z,701nm,0.2s
PB04 IPOC Station P 3.53 296 Pn 15 47 04.2 +0.1
PB04 IPOC Station P 3.53 296 *e*P **Pn 15 47 04.4 +0.3**
PB04 *e*S **S 15 47 47.6 -0.8**
PB04 IAML 15 47 50.9
comp=Z,2µm,0.6s
PB04 IPOC Station P 3.53 296⇑ *e*P **Pn 15 47 04.4 +0.3**
PB04 *i* S **S 15 47 46.8 -1.7**
PB10 IPOC Station P 3.53 276 Pn 15 47 04.1 +0.1
PB10 IPOC Station P 3.53 276 *e*P **Pn 15 47 04.5 +0.5**
PB10 *e*S **S 15 47 46.7 -1.5**
PB10 IAML 15 47 52.7
comp=Z,668nm,0.7s
PB10 IPOC Station P 3.53 276⇑ *e*P **Pn 15 47 04.1 +0.1**
PB10 *e*S **S 15 47 45.3 -2.8**
AC02 Maricunga 3.61 216 Pn 15 47 05.6 +0.2
AC02 Maricunga 3.61 216 *e*P **Pn 15 47 05.7 +0.3**
PB07 IPOC Station P 3.65 306 Pn 15 47 05.5 -0.1
PB07 IPOC Station P 3.65 306 *e*P **Pn 15 47 05.8 +0.2**
PB07 IAML 15 47 57.9
comp=Z,1µm,0.3s
PB07 IPOC Station P 3.65 306⇑ *e*P **Pn 15 47 05.8 +0.2**
PB07 *i* S **S 15 47 49.2 -1.8**
PB01 IPOC Station P 3.85 318 Pn 15 47 07.8 -0.1
PB01 IPOC Station P 3.85 318 *e*P **Pn 15 47 07.8 -0.1**
PB01 IAML 15 47 58.3
comp=Z,865nm,0.2s
PB01 IPOC Station P 3.85 318 *e*P **Pn 15 47 07.8 -0.1**
PB01 *i* S **S 15 47 53.8 -1.5**
PB02 IPOC Station P 3.92 311 Pn 15 47 08.3 -0.4
PB02 IPOC Station P 3.92 311 *e*P **Pn 15 47 08.6 -0.2**
PB02 *i* S **S 15 47 54.6 -2.3**
AC01 Pan de Azucar 4.14 237 Pn 15 47 10.0 -1.3
AC01 Pan de Azucar 4.14 237 *e*P **Pn 15 47 10.3 -1.0**
AC01 IAML 15 48 03.7
comp=Z,241nm,0.2s
AC01 Pan de Azucar 4.14 237 *e*P **Pn 15 47 10.3 -1.0**
AC01 *i* S **S 15 47 58.2 -3.4**
PB08 IPOC Station P 4.40 329 Pn 15 47 15.1 +0.1
PB08 IPOC Station P 4.40 329 *e*P **Pn 15 47 15.7 +0.7**
PB08 *i* S **S 15 48 06.9 -1.1**
CYA Choya 4.56 170 *e*P **Pn 15 47 16.8 +0.2**
CYA IAML 15 48 15.9
comp=Z,36nm,1.3s
TA01 Diego Aracena 4.63 316 Pn 15 47 16.0 -1.5
TA01 Diego Aracena 4.63 316 *e*P **Pn 15 47 16.5 -1.0**
TA01 IAML 15 48 17.5
comp=Z,396nm,1.1s
TA01 Diego Aracena 4.63 316 *e*P **Pn 15 47 16.3 -1.2**
TA01 *i* S **S 15 48 09.6 -3.1**
AC06 Mina Casimiro 4.72 223 Pn 15 47 16.8 -1.8
AC06 Mina Casimiro 4.72 223 *e*P **Pn 15 47 17.0 -1.5**
AC06 *i* S **S 15 48 12.6 -2.0**
GO03 Copiap 4.82 220 Pn 15 47 18.3 -1.5
GO03 Copiap 4.82 220 *e*P **Pn 15 47 18.8 -1.0**
GO03 *e*S **S 15 48 15.1 -1.8**
TA02 Huaiquique 4.82 319 Pn 15 47 19.1 -0.8
TA02 Huaiquique 4.82 319 *e*P **Pn 15 47 19.6 -0.3**
TA02 IAML 15 48 25.4
comp=Z,366nm,0.3s
GO01 Chusmiza 4.83 331 Pn 15 47 20.1 -0.3
GO01 Chusmiza 4.83 331 *e*P **Pn 15 47 20.7 +0.3**
VCA Vinchina 4.96 195 *e*P **Pn 15 47 22.5 +0.9**
VCA IAML 15 48 29.4
comp=Z,60nm,1.0s
PB11 IPOC Station P 4.97 326 Pn 15 47 20.5 -1.3
PB11 IPOC Station P 4.97 326 *e*P **Pn 15 47 20.7 -1.1**
PB11 *i* S **S 15 48 17.8 -2.8**
AC04 Llanos de Chal 5.77 222 Pn 15 47 29.6 -2.2
PB16 IPOC Station P 6.15 335 Pn 15 47 36.9 -0.4
LCO Las Campanas 6.18 214 Pn 15 47 35.0 -2.2
PB12 IPOC Station P 6.27 327 Pn 15 47 36.0 -2.4
MURT Porto Murtinho 8.71 77 *e*P **Pn 15 48 09.5 -0.3**
BBSD Serra de San D 8.83 42 *e*P **Pn 15 48 09.8 -1.4**
CPUP Villa Florida 8.85 108 Pn 15 48 09.0 -2.4
CPUP Villa Florida 8.85 108 P **Pn 15 48 09.2 -2.1**
comp=Z,31nm,0.9s,baz=292,slow=11,SNR=42
CPUP LR LR 15 51 23.5
comp=Z,49nm,21.9s,baz=64,slow=36
CPUP Villa Florida 8.85 108 *e*P **Pn 15 48 09.8 -1.5**
VA03 San Esteban 9.41 200 Pn 15 48 17.9 -0.8
SIV San Ignacio 9.53 35 P **Pn 15 48 18.3 -2.0**
comp=Z,20nm,0.4s,baz=212,slow=13,SNR=129
BDQN Bodoquena, MS 9.88 71 *e*P **Pn 15 48 22.7 -2.1**
MT02 Curacav 10.06 202 Pn 15 48 23.9 -3.1
ANTJ Antonio Joao (10.07 81 *e*P **Pn 15 48 26.2 -1.0**
MT09 Talagante 10.49 200 Pn 15 48 30.7 -1.9
MT01 Popeta 10.65 201 Pn 15 48 32.8 -1.7
ITQB Itaqui 10.68 124 *e*P **Pn 15 48 34.9 0.0**
AQDB Aquidauana 10.78 74 Pn 15 48 34.2 -2.1
AQDB Aquidauana 10.78 74 *e*P **Pn 15 48 34.8 -1.5**
AMBA Amambai (Brazi 10.83 87 *e*P **Pn 15 48 36.8 -0.1**
PTLB Pontes e Lacer 11.06 42 Pn 15 48 38.1 -1.8
PTLB Pontes e Lacer 11.06 42 *e*P **Pn 15 48 38.5 -1.4**
BO01 Tunca 11.09 199 Pn 15 48 37.2 -2.8
UNIS Unistalda (Bra 11.62 119 *e*P **Pn 15 48 46.9 0.0**
CRSM Crissiumal (Br 11.97 110 *e*P **Pn 15 48 49.7 -1.7**
RODS Rosario do Sul 12.09 124 *e*P **Pn 15 48 53.5 +0.7**
TBOT Tacuaremb 12.27 131 *e*P **Pn 15 48 55.2 +0.2**
VILB Vilhena 12.56 31 Pn **Pn 15 48 57.3 -1.5**
VILB Vilhena 12.56 31 *e*P **Pn 15 48 59.5 +0.7**
SALV Santo Antonio 13.10 54 *e*P **Pn 15 49 04.3 -1.2**
ALGR Alto Alegre (B 13.20 114 *e*P **Pn 15 49 04.7 -2.1**
PTGB Pitanga 13.39 96 *e*P **Pn 15 49 09.4 +0.1**
CPSB Cacapava Do Su 13.46 121 *e*P **Pn 15 49 08.0 -1.9**
ITAB Concordia 13.58 107 P **Pn 15 49 10.4 -1.0**
ITAB Concordia 13.58 107 *e*P **Pn 15 49 10.0 -0.8**
PLTB Pedras Altas 13.98 127 Pn 15 49 14.4 -1.9
PLTB Pedras Altas 13.98 127 *e*P **Pn 15 49 14.4 -1.9**
ETMB Extrema 14.05 2 Pn **Pn 15 49 16.0 -1.3**
ETMB Extrema 14.05 2 *e*P **Pn 15 49 15.8 -1.5**
LDASE Londrina, Braz 14.32 91 *e*P **Pn 15 49 19.5 -1.1**
PCMB Pacaembu 14.46 84 *e*P **Pn 15 49 22.1 -0.2**
CNLB Canela 15.17 114 *e*P **Pn 15 49 28.7 -2.2**
NNA Nana 15.28 319 P **P 15 49 32.7 +0.3**

FSA *e*S **S 15 47 21.1 -1.9**
LVC Limon Verde 2.40 303 Pn 15 46 52.3 +0.8
LVC Limon Verde 2.40 303 *e*P **Pn 15 46 52.1 +0.6**
LVC *e*S **S 15 47 26.7 +1.0**
LVC IAML 15 47 30.6

*SJA **20** 15:46:05.7±0.6, 23°.96S×66°.69W, h235km±4km, ML4.5, MW4.3*
*IDC **20** 15:46:06.5±0.9, 23°.84S×66°.51W, h200km±8km, mb3.8/13, mbtmp4.4/19, MS2.7/1, Error ellipse: s-maj=13.3km s-min=11.0km az=50.0*
*NEIC **20** 15:46:06.4±1.6, 24°.00S±0°.07×66°.63W±0°.06, h210km±8km, mb4.4/57, Error ellipse: s-maj=11.3km s-min=5.7km az=215.0*
*VAO **20** 15:46:07.0±0.3, 23°.91S×66°.67W, h215km, mb4.4*
*GUC **20** 15:46:08.7±0.6, 23°.96S×67°.06W, h245km±5km, ML4.8*
ISC 20 15:46:07.2±0.6, 23°.94S±0°.03×66°.73W±0°.04, h216km±5km, n195, σ1s 22/201, mb4.3/36, 7C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.36**	**125**	*e*P	**Pn**	**15 46 41.9 +0.4**	
SLA				*e*S	**S**	**15 47 08.5 +0.5**	
SLA				IAML		15 47 09.7	
AF01	**San Pedro de A**	**1.65**	**306**		**Pn**	**15 46 45.0 +1.0**	
AF01	**San Pedro de A**	**1.65**	**306**	*e*P	**Pn**	**15 46 45.7 +1.6**	
AF01				*i* S	**S**	**15 47 14.4 +2.0**	
AF01				IAML		15 47 19.1	
YJA	**Yavi**	**2.08**	**33**	*e*P	**Pn**	**15 46 49.0 +0.7**	
FSA	**Cafayete**	**2.27**	**163**	*e*P	**Pn**	**15 46 49.8 -0.1**	

comp=Z,15nm,0.8s,baz=183,slow=17,SNR=3.6
SAML Samuel 15.29 13 P **Pn** **15 49 31.3 -1.2**
SAML Samuel 15.29 13 *eP* **Pn** **15 49 31.2 -1.2**
FRTB Fartura 15.74 91 *eP* **P** **15 49 35.4 -2.0**
ITRB Iturama 15.77 78 *eP* **P** **15 49 37.4 -0.4**
GO06 Curarrehue 16.11 193 P **P** **15 49 40.2 -1.2**
ARAG Araguaiana, MT 16.24 62 *eP* **P** **15 49 42.7 -0.2**
CLDB Colider 16.65 41 *eP* **P** **15 49 47.2 -0.2**
LR05 Currie 16.84 194 P **P** **15 49 48.0 -1.3**
LR05 IAmb IAmb 15 49 52.4
comp=Z,23nm,0.8s
PLCA Paso Flores 17.05 190 IAmb IAmb 15 49 59.5
comp=Z,17nm,0.9s
PLCA Paso Flores 17.05 190 P **P** **15 49 51.9 +0.2**
comp=Z,4.3nm,0.7s,baz=12,slow=13,SNR=17
PLCA Paso Flores 17.05 190 *eP* **P** **15 49 51.8 +0.2**
BB19B Bebedouro 17.06 84 *eP* **P** **15 49 51.4 -0.5**
CZSB Cruzeiro do Su 17.10 339 P **P** **15 49 52.2 -0.2**
CZSB IAmb IAmb 15 49 52.7
comp=Z,16nm,0.6s
CZSB Cruzeiro do Su 17.10 339 *eP* **P** **15 49 52.1 -0.2**
SPB Sao Paulo 17.67 93 *eP* **P** **15 49 58.4 -0.1**
RCLB Rio Claro- Sao 17.72 89 *eP* **P** **15 49 58.6 -0.6**
PET01 Itanhaem-SP 17.77 95 *eP* **P** **15 49 58.4 -1.2**
VAO Valinhos 18.16 91 *eP* **P** **15 50 03.3 -0.6**
IPMB Ipameri, GO 18.27 75 *eP* **P** **15 50 04.7 -0.5**
SNDB Serra Nova Dou 18.88 54 *eP* **P** **15 50 10.8 -0.9**
LL01 San Ignacio de 18.99 193 IAmb IAmb 15 50 15.4
comp=Z,16nm,0.8s
PARB Paraibuna 19.35 92 *eP* **P** **15 50 16.2 -0.6**
BDFB Brasilia 19.43 68 P **P** **15 50 16.7 -1.0**
BDFB Brasilia 19.43 68 P **P** **15 50 17.2 -0.6**
comp=Z,23nm,0.6s,baz=235,slow=12,SNR=37
PMNB Patos De Minas 19.66 78 *eP* **P** **15 50 19.2 -0.9**
NPGB Novo Progresso 20.03 35 *eP* **P** **15 50 21.6 -2.4**
TEFE Tefe 20.41 6 *eP* **P** **15 50 27.2 -0.9**
BSCB Bom Sucesso 20.50 86 *eP* **P** **15 50 28.1 -1.0**
AY01 Puyuhuapi 21.00 192 P **P** **15 50 32.9 -1.0**
AY01 IAmb IAmb 15 50 34.8
comp=Z,20nm,1.2s
MACA Manacapuru-AM 21.47 17 *eP* **P** **15 50 38.4 -0.7**
VAS01 Vassouras-RJ 21.48 90 *eP* **P** **15 50 39.6 +0.4**
COYC Coyhaique 22.02 190 P **P** **15 50 43.6 -0.5**
COYC IAmb IAmb 15 50 46.1
comp=Z,21nm,0.9s
ITTB Itaituba 22.16 30 *eP* **P** **15 50 43.9 -1.8**
DIAM Diamantina, MG 22.22 80 *eP* **P** **15 50 45.9 -0.6**
JANB Januaria 22.88 71 *eP* **P** **15 50 50.9 -1.5**
MCRA Macar, Loja 23.26 325 P **P** **15 50 56.4 +0.6**
SMTB Santa Maria do 23.66 54 *eP* **P** **15 50 58.8 -0.6**
SDBA SAO DESIDERIO 23.66 65 *eP* **P** **15 50 58.2 -1.2**
ALF01 Guarapari-ES 24.28 87 *eP* **P** **15 51 04.5 -0.4**
SJMB Sao Joao De Ma 24.34 83 *eP* **P** **15 51 04.2 -1.4**
RIB01 Linhares ES 24.89 84 *eP* **P** **15 51 09.6 -1.0**
MALB Monte Alegre 25.05 31 *eP* **P** **15 51 11.7 -0.3**
GUA01 Guaratinga, BA 26.27 79 *eP* **P** **15 51 22.0 -0.9**
BOAV Boa Vista 26.86 14 P **P** **15 51 28.3 +0.1**
BOAV IAmb IAmb 15 51 28.7
comp=Z,6.3nm,0.5s
MCPB Macapa, AP 27.42 33 *eP* **P** **15 51 32.6 -0.6**
SNAA Sanae 59.33 161 P **P** **15 55 47.1 +0.9**
comp=Z,1.7nm,0.6s,baz=288,slow=11,SNR=5.9
comp=Z,1.7nm,0.6s
TROLL Troll, Antarti 61.04 161 ⇑P **P** **15 55 58.5 +0.6**
comp=Z,256nm,0.6s
PLAL Pickwick Lake 62.00 340 IAmb IAmb 15 56 05.3
comp=Z,9.5nm,1.0s
WVT Waverly 62.98 341 P **P** **15 56 10.9 -0.2**
SAND Sanderson 63.46 326 P **P** **15 56 15.6 +1.2**
SAND IAmb IAmb 15 56 17.1
comp=Z,5.5nm,1.0s
TXAR Lajitas Array 63.77 324 P **P** **15 56 17.9 +1.4**
comp=Z,0.9nm,0.7s,baz=152,slow=8.0,SNR=8.1
comp=Z,0.9nm,0.7s
SN05 Snyder 5 65.22 329 IAmb IAmb 15 56 28.1
comp=Z,6.2nm,0.7s
MGMO Mountain Grove 65.36 338 IAmb IAmb 15 56 28.1
comp=Z,7.2nm,0.8s
CCM Cathedral Cave 65.83 339 P **P** **15 56 29.4 0.0**
QSPA South Pole Qui 66.27 180 P **P** **15 56 33.8 +1.7**
comp=Z,8.2nm,0.6s,baz=181,slow=1.3,SNR=115
comp=Z,8.2nm,0.6s
R40A Maddies Statio 66.38 338 IAmb IAmb 15 56 34.3
comp=Z,4.8nm,0.7s
MSTX Muleshoe 67.02 328 IAmb IAmb 15 56 39.9
comp=Z,7.8nm,0.8s
DBIC Dimbokro 67.55 71 P **P** **15 56 40.0 -0.8**
comp=Z,2.0nm,0.4s,baz=240,slow=8.8,SNR=5.3
comp=Z,2.0nm,0.4s
Q24A Divide 72.17 329 IAmb IAmb 15 57 12.1
comp=Z,5.2nm,0.8s
ECSD EROS Data Cent 72.72 338 IAmb IAmb 15 57 12.8
comp=Z,5.5nm,0.8s
O20A White River Ci 74.56 328 IAmb IAmb 15 57 26.5
comp=Z,8.4nm,1.1s
VNDA Vanda 74.80 190 P **P** **15 57 25.6 +2.4**
comp=Z,1.5nm,0.9s,baz=168,slow=8.5,SNR=3.9
comp=Z,1.5nm,0.9s
TOA0 Torodi Ar. Sit 76.32 69 P **P** **15 57 32.1 -0.7**
TOA0 IAmb IAmb 15 57 33.2
comp=Z,13nm,1.4s
TORD Torodi Ar. Bea 76.32 69 P **P** **15 57 32.0 -0.9**
TORD IAmb IAmb 15 57 33.1
comp=Z,8.3nm,1.5s
TORD Torodi Ar. Bea 76.32 69 P **P** **15 57 31.9 -0.9**
comp=Z,2.4nm,0.5s,baz=271,slow=7.0,SNR=21
comp=Z,2.4nm,0.5s
PDAR Pinedale Array 77.22 329 P **P** **15 57 38.0 +0.3**
comp=Z,1.1nm,0.7s,baz=131,slow=7.9,SNR=8.4
comp=Z,1.1nm,0.7s
AHID Auburn Hatcher 77.95 328 IAmb IAmb 15 57 44.7
comp=Z,7.9nm,0.8s
ULM Lac du Bonnet 78.25 341 P **P** **15 57 43.1 +0.4**
comp=Z,3.8nm,0.7s,baz=148,slow=6.7,SNR=8.4
comp=Z,3.8nm,0.7s
LOHW Long Hollow 78.36 329 IAmb IAmb 15 57 47.0
comp=Z,4.5nm,0.8s
SCHQ Schefferville 78.45 360 P **P** **15 57 43.0 -0.7**
comp=Z,2.6nm,0.6s,baz=220,slow=3.7,SNR=4.8
comp=Z,2.6nm,0.6s
NVAR Mina Array Bea 78.64 321 P **P** **15 57 47.4 +1.9**
comp=Z,0.7nm,0.7s,baz=145,slow=4.8,SNR=6.2
comp=Z,0.7nm,0.7s
IMW Indian Meadow 78.73 329 IAmb IAmb 15 57 49.3
comp=Z,5.3nm,0.8s
FLWY Flagg Ranch 78.76 329 IAmb IAmb 15 57 49.7
comp=Z,8.2nm,1.1s
RLMT Red Lodge 78.91 331 IAmb IAmb 15 57 49.8
comp=Z,5.0nm,0.7s
HLID Hailey 80.17 327 IAmb IAmb 15 57 57.4
comp=Z,7.8nm,0.8s
MAW Mawson 81.42 163 P **P** **15 58 01.3 +1.6**
comp=Z,2.9nm,0.7s,baz=184,slow=7.5,SNR=6.7
comp=Z,2.9nm,0.7s
PLID Pearl Lake 82.06 327 IAmb IAmb 15 58 06.6
comp=Z,8.7nm,0.8s
K05A Summer Lake 82.99 323 IAmb IAmb 15 58 11.8
comp=Z,9.5nm,0.8s
J05D Fort Rock, OR 83.55 323 IAmb IAmb 15 58 14.2
comp=Z,12nm,1.3s
PINE Pine Mountain 83.73 324 IAmb IAmb 15 58 15.5
comp=Z,5.3nm,0.8s
FCC Fort Churchill 85.46 346 IAmb IAmb 15 58 22.2
comp=Z,3.9nm,0.8s
ESDC Sonseca Array 86.18 43 P **P** **15 58 25.2 +0.9**
comp=Z,0.9nm,0.8s,baz=286,slow=4.7,SNR=2.7
comp=Z,0.9nm,0.8s
YKA Yellowknife Ar 94.15 340 P **P** **15 59 01.8 +0.9**
comp=Z,1.2nm,0.7s,baz=129,slow=4.1,SNR=14
comp=Z,1.2nm,0.7s
ASAR Alice Springs 128.61 204 PKP **PKiKP** **16 04 50.1 +0.1**
comp=Z,2.2nm,0.7s,baz=132,slow=1.7,SNR=29
WRA Warramunga Arr 131.79 207 PKP **PKiKP** **16 04 56.6 +0.1**
comp=Z,0.9nm,0.3s,baz=159,slow=1.9,SNR=22
PETK Petropavlovsk- 135.71 323 PKP **PKiKP** **16 05 04.3 +1.0**
comp=Z,1.8nm,0.7s,baz=93,slow=2.9,SNR=6.9
BVAR Borovoye Array 136.60 37 PKP **PKiKP** **16 05 04.7 -0.3**
comp=Z,0.7nm,0.5s,baz=270,slow=4.4,SNR=5.8
KURBB Kurchatov Arra 142.18 36 PKhKP PKPpre 16 05 08.0
comp=Z,0.7nm,0.4s,baz=291,slow=2.6,SNR=1.6
ZALV Zalesovo Beam 143.22 28 PKP PKPbc 16 05 13.8 +0.9
comp=Z,4.0nm,0.8s,baz=294,slow=4.8,SNR=15
MKAR Makanchi Array 146.32 40 PKPbc **PKPbc** **16 05 22.3 -0.1**
comp=Z,4.5nm,0.6s,baz=331,slow=1.7,SNR=48
SONM Songino Array 155.53 11 PKP **PKPdf** **16 05 36.9 +1.9**
comp=Z,0.3nm,0.6s,baz=37,slow=0.7,SNR=4.4
SONM PKPbc PKPbc 16 05 45.2
comp=Z,0.4nm,0.6s,baz=348,slow=3.0,SNR=3.1
SONM PKPab **PKPab** **16 06 03.3 +1.3**
comp=Z,0.9nm,0.8s,baz=302,slow=4.1,SNR=5.4

*IDC **20** 16:16:49.6±1.2,6˚.82N×72˚.95W,h164km±12km, mb3.3/4, mbtmp3.9/7, Error ellipse: s-maj=26.6km s-min=13.9km az=128.0*
*NEIC **20** 16:16:49.4±2.0,6˚.6N±0˚.1×72˚.7W±0˚.1,h166km±10km, mb4.1/23, Error ellipse: s-maj=19.1km s-min=11.2km az=141.0*
*RSNC **20** 16:16:52.8±0.0,7˚.N±2˚.×7˚.3W±˚, h136km±5km, ML3.3, MLv4.0*

ISC 20 16:16:48.8±0.6,**6˚.81N**±0˚.04×**73˚.07W**±0˚.04,**h152**km±5km, **n60**,σ1s**17**/**79**,**mb4.1**/17,**Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.24**	**208**	P	**Pn**	**16 17 10.3**	**+0.5**
BARC				S	**Sn**	**16 17 25.1**	**-0.6**
PAMC	**Pamplona, Colo**	**0.64**	**35**	P	**Pn**	**16 17 13.0**	**+1.3**
PAMC				S	**Sn**	**16 17 30.0**	**+0.8**
RUSC	**La Rusia**	**0.91**	**181**	P	**Pn**	**16 17 14.4**	**+0.8**
RUSC				S	**Sn**	**16 17 32.7**	**+0.1**
TAMC	**Tame, Arauca**	**1.32**	**106**	P	**Pn**	**16 17 18.7**	**+2.0**
TAMC				S	**Sn**	**16 17 40.0**	**+1.9**
PTBC	**PUERTO BERRIO,**	**1.41**	**259**	P	**Pn**	**16 17 16.8**	**-0.8**
PTBC				S	**Sn**	**16 17 38.1**	**-1.5**
OCAC	**Ocana**	**1.44**	**350**	P	**Pn**	**16 17 18.3**	**+0.2**
OCAC				S	**Sn**	**16 17 40.9**	**+0.3**
SPBC	**San Pablo de B**	**1.52**	**221**	P	**Pn**	**16 17 19.3**	**+0.4**
SPBC				S	**Sn**	**16 17 41.8**	**-0.1**
SPBC				S		16 17 41.9	
ZARC	**Zaragoza, Cauc**	**1.90**	**291**	P	**Pn**	**16 17 22.9**	**-0.1**
ZARC				S	**Sn**	**16 17 48.6**	**-0.6**
NORC	**Norcasia**	**2.18**	**235**	P	**Pn**	**16 17 26.3**	**+0.1**
NORC				S	**Sn**	**16 17 54.9**	**-0.1**
ROSC	**El Rosal**	**2.32**	**213**	P	**Pn**	**16 17 30.4**	**+2.1**
	96nm,0.3s,baz=42,slow=20,SNR=171						
ROSC				S	**Sn**	**16 17 58.6**	**0.0**
	456nm,0.4s,baz=72,slow=20,SNR=13						
ROSC	**El Rosal**	**2.32**	**213**	P	**Pn**	**16 17 30.4**	**+2.1**
ROSC				S	**Sn**	**16 18 00.6**	**+2.0**
CVER	**Cruz Verde, Cu**	**2.48**	**204**	P	**Pn**	**16 17 32.0**	**+1.7**
CVER				S	**Sn**	**16 18 02.1**	**-0.2**
HELC	**Santa Helena**	**2.52**	**256**	P	**Pn**	**16 17 30.5**	**-0.2**
HELC				S	**Sn**	**16 18 04.0**	**+1.1**
VILC	**Villavicencio,**	**2.75**	**193**	P	**Pn**	**16 17 34.1**	**+0.8**
VILC				S	**Sn**	**16 18 08.7**	**+1.0**
PTGC	**Puerto Gaitan,**	**2.75**	**160**	P	**Pn**	**16 17 33.6**	**+0.4**
PTGC				S	**Sn**	**16 18 07.1**	**-0.4**
GUY2C	**Guyana, Caldas**	**2.78**	**236**	P	**Pn**	**16 17 34.7**	**+0.8**
GUY2C				S	**Sn**	**16 18 09.5**	**+0.8**
CBOC	**Ciudad Bolivar**	**3.08**	**252**	P	**Pn**	**16 17 38.5**	**+1.1**
DBBC	**Dabeiba**	**3.13**	**274**	P	**Pn**	**16 17 38.5**	**+0.5**
DBBC				P	**Pn**	**16 17 38.5**	**+0.5**
DBBC				P		16 17 38.6	
SDV	**Santo Domingo**	**3.17**	**49**		**Pn**	**16 17 39.7**	**+1.0**
SDV	**Santo Domingo**	**3.17**	**49**	P	**Pn**	**16 17 39.9**	**+1.3**
	51nm,0.3s,baz=222,slow=8.7,SNR=26						
SDV				S	**Sn**	**16 18 17.0**	**-0.2**
	80nm,0.3s,baz=256,slow=22,SNR=35						
PLMC	**San Jos del P**	**3.72**	**240**	P	**Pn**	**16 17 46.3**	**+0.8**
BAUV	**El Baul**	**5.41**	**67**		**Pn**	**16 18 06.2**	**-1.5**
AUA1	**Aruba**	**6.41**	**28**	Pn	**Pn**	**16 18 24.0**	**+3.0**
PCRV	**Puerto La Cruz**	**8.98**	**68**	P	**Pn**	**16 18 55.4**	**0.0**
	4.4nm,0.5s,baz=223,slow=19,SNR=1.9						
CDITO	**Canoas**	**9.88**	**281**	Pn	Pn	16 19 13.8	+6.5
MCRA	**Macar, Loja**	**13.06**	**212**	P	**P**	**16 19 54.0**	**+0.5**
BOAV	**Boa Vista**	**13.25**	**109**	Pn	**Pn**	**16 19 46.7**	**-4.5**
ILAM	**Ilet Lapin Mar**	**14.35**	**56**		**Pn**	**16 20 05.1**	**0.0**
UALR	**University of**	**33.02**	**330**	P	**P**	**16 23 12.2**	**+2.6**
TXAR	**Lajitas Array**	**36.51**	**312**	P	**P**	**16 23 39.8**	**0.0**
	0.3nm,0.4s,baz=123,slow=9.1,SNR=5.4						
TXAR				PcP	**PcP**	**16 25 59.7**	**-0.6**
	0.2nm,0.5s,baz=100,slow=5.0,SNR=2.0						
	0.3nm,0.4s						
ULM	**Lac du Bonnet**	**47.31**	**340**	P	**P**	**16 25 06.5**	**-0.5**
	1.1nm,0.3s,baz=165,slow=4.2,SNR=2.8						
	1.1nm,0.3s						
PDAR	**Pinedale Array**	**48.12**	**324**	P	**P**	**16 25 14.1**	**+0.4**
	0.3nm,0.5s,baz=136,slow=7.8,SNR=4.1						
	0.3nm,0.5s						
YKAB2	**New Yellowknif**	**63.25**	**340**	P	**P**	**16 27 00.9**	**+0.1**
YKA	**Yellowknife Ar**	**63.29**	**340**	P	**P**	**16 27 01.1**	**0.0**
YKA	**Yellowknife Ar**	**63.29**	**340**	P	**P**	**16 27 00.7**	**-0.4**
	0.8nm,0.7s,baz=128,slow=6.6,SNR=16						
	0.8nm,0.7s						
SUMG	**Summit**	**68.99**	**11**	P	**P**	**16 27 38.3**	**+0.5**
SUMG				IAmb	IAmb	16 28 12.0	
	comp=Z,3.5nm,1.1s						
M31M	**Drury Creek, Y**	**70.89**	**334**	P	**P**	**16 27 49.9**	**+0.8**
M31M				IAmb	IAmb	16 28 32.3	
	comp=Z,6.4nm,1.4s						
O30N	**Mendenhall**	**71.11**	**332**	P	**P**	**16 27 52.2**	**+1.7**
N30M	**Aishikik Lake**	**71.81**	**333**	P	**P**	**16 27 56.8**	**+2.1**
M30M	**Minto, Yukon**	**72.07**	**334**	P	**P**	**16 27 56.9**	**+0.7**
M30M				IAmb	IAmb	16 28 40.3	
	comp=Z,7.2nm,1.3s						
G31M	**Satah River**	**72.73**	**339**	P	**P**	**16 28 00.2**	**+0.2**
F31M	**Tsiigehtchic**	**72.76**	**339**	P	**P**	**16 28 00.1**	**-0.1**
F31M				IAmb	IAmb	16 28 22.4	
	comp=Z,5.1nm,1.4s						
I30M	**Mount Dempster**	**72.86**	**337**	P	**P**	**16 28 01.6**	**+0.7**
I30M				IAmb	IAmb	16 28 25.7	
	comp=Z,4.3nm,1.4s						
H29M	**Whitestone**	**73.98**	**337**	P	**P**	**16 28 08.1**	**+0.8**
H29M				IAmb	IAmb	16 28 10.3	
	comp=Z,3.6nm,1.4s						
E29M	**Blow River**	**74.58**	**340**	P	**P**	**16 28 11.3**	**+0.5**
E28M	**Babbage River**	**75.22**	**340**	P	**P**	**16 28 14.3**	**-0.1**
RND	**Reindeer**	**77.59**	**333**	P	**P**	**16 28 28.9**	**+0.9**
RND				IAmb	IAmb	16 28 56.8	
	comp=Z,8.9nm,1.4s						
D25K	**Kavik River**	**77.80**	**340**	P	**P**	**16 28 29.7**	**+0.7**
SUA	**Susitna One**	**78.17**	**331**	P	**P**	**16 28 32.1**	**+0.9**
K20K	**Telida**	**79.91**	**333**	P	**P**	**16 28 40.8**	**+0.3**
K20K				IAmb	IAmb	16 29 16.8	
	comp=Z,5.6nm,1.4s						
J20K	**Nowinta River**	**80.02**	**334**	P	**P**	**16 28 41.8**	**+0.7**
J20K				IAmb	IAmb	16 28 55.0	
	comp=Z,6.7nm,1.4s						
B21K	**Ikpikpuk River**	**80.71**	**339**	P	**P**	**16 28 45.3**	**+0.6**
B21K				IAmb	IAmb	16 28 45.3	
	comp=Z,2.7nm,1.2s						
CTI	**Castel Tesino**	**81.48**	**45**	P	**P**	**16 28 48.2**	**-1.2**
B20K	**Meade River**	**81.62**	**340**	P	**P**	**16 28 50.5**	**+1.0**
D19K	**Kuna River**	**81.89**	**338**	P	**P**	**16 28 51.9**	**+1.0**
D19K				IAmb	IAmb	16 29 02.8	
	comp=Z,7.7nm,1.4s						
F15K	**North Star Dit**	**84.50**	**335**	P	**P**	**16 29 05.8**	**+1.4**
F15K				IAmb	IAmb	16 29 46.6	
	comp=Z,5.5nm,1.4s						
C16K	**Lisburne Hills**	**84.57**	**338**	P	**P**	**16 29 05.5**	**+0.9**
C16K				IAmb	IAmb	16 29 09.0	
	comp=Z,6.0nm,1.5s						
MKAR	**Makanchi Array**	**122.31**	**20**	PKP	**PKPdf**	**16 35 25.1**	**-1.0**
	comp=Z,0.1nm,0.4s,baz=298,slow=2.6,SNR=1.8						
ASAR	**Alice Springs**	**149.15**	**234**	PKP	**PKPdf**	**16 36 15.3**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=66,slow=2.2,SNR=3.1						
ASAR				PKPbc	**PKPbc**	**16 36 19.2**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=117,slow=3.6,SNR=22						
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc	**PKPbc**	**16 36 22.0**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=110,slow=2.6,SNR=20						

*IDC **20** 16:19:23.9±1.6,36˚.88N×27˚.66E,h0km, mb3.5/3, mbtmp3.4/5, ML3.3/2, MS3.2/1, Error ellipse: s-maj=42.2km s-min=24.0km az=150.0*
*ISK **20** 16:19:24.6,36˚.97N×27˚.62E,h11km, ML3.2/25*
*AFAD **20** 16:19:24.4±0.0,36˚.96N×27˚.63E,h9km±1km, ML3.1*
*THE **20** 16:19:25.4,36˚.96N×27˚.61E,h4km±1km, ML3.1/3, Error ellipse: s-maj=1.7km s-min=0.5km az=240.0*
*ATH **20** 16:19:25.1,36˚.98N×27˚.65E,h7km±1km, ML3.1/5, Error ellipse: s-maj=2.1km s-min=1.1km az=237.0*

ISC 20 16:19:25.1±0.8,**36˚.97N**±0˚.02×**27˚.62E**±0˚.02,**h11**km±6km, **n74**,σ0s**65**/**104**,**mb3.2**/**3**,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.17**	**305**	P	**Pg**	**16 19 28.9**	**0.0**
BDRM				S	**Sg**	**16 19 31.4**	**-0.2**
DATC	**Datca-Mugla**	**0.21**	**170**	Pg	**Pg**	**16 19 29.5**	**-0.1**
DAT	**Datca**	**0.24**	**187**	Pg	**Pg**	**16 19 29.9**	**-0.3**
DAT				Sg	**Sg**	**16 19 34.0**	**+0.4**
DAT	**Datca**	**0.24**	**187**	P	**Pg**	**16 19 30.1**	**-0.1**
DAT				S	**Sg**	**16 19 34.1**	**+0.4**
DAT	**Datca**	**0.24**	**187**	P	**Pg**	**16 19 30.0**	**-0.3**
DAT				S	**Sg**	**16 19 33.4**	**-0.2**
DAT				*i* AML	AML	16 19 42.0	
	comp=N,2μm,0.8s						
BODT	**Bodrum**	**0.26**	**291**	Pg	**Pg**	**16 19 30.6**	**0.0**
BODT	**Bodrum**	**0.26**	**291**	P	**Pg**	**16 19 30.7**	**+0.1**
BODT				S	**Sb**	**16 19 35.3**	**-1.1**
YKAV	**Yalikavak-Bodr**	**0.31**	**300**	Pg	**Pg**	**16 19 31.1**	**-0.3**
YKAV				Sg	**Sg**	**16 19 36.4**	**+0.8**
YAZI	**Mula-Dat§a-**	**0.32**	**205**	P	**Pg**	**16 19 31.3**	**-0.2**
YAZI				S	**Sg**	**16 19 35.1**	**-0.6**
MLSB	**Milas**	**0.35**	**21**	Pg	**Pg**	**16 19 31.8**	**-0.4**
MLSB				Sg	**Sb**	**16 19 37.9**	**-1.0**
DIDI	**Didim-Aydin**	**0.51**	**324**	Pg	**Pg**	**16 19 35.2**	**+0.2**
KLNA	**Kalymnos**	**0.52**	**269**	P	**Pg**	**16 19 35.4**	**+0.2**
KLNA				S	**Sb**	**16 19 42.8**	**-0.8**
KLNA				AML	AML	16 19 43.9	
	comp=N,4487μm,0.2s						
KLNA				AML	AML	16 19 45.1	
	comp=E,4910μm,0.2s						
NISR	**Nisiros**	**0.53**	**228**	P	**Pb**	**16 19 35.9**	**-0.5**
NISR				S	**Sb**	**16 19 43.5**	**-0.5**
NISR				AML	AML	16 19 45.9	
	comp=E,5356μm,0.3s						
NISR				AML	AML	16 19 46.7	
	comp=N,3540μm,0.3s						
TURN	**Turunc**	**0.54**	**111**	Pg	**Pg**	**16 19 34.8**	**-0.8**
TURN	**Turunc**	**0.54**	**111**	P	**Pg**	**16 19 34.9**	**-0.8**
TURN				S	**Sg**	**16 19 42.3**	**-0.5**
TURN				*i* AML	AML	16 19 47.0	
	comp=N,813nm,0.7s						
DDIM	**Aydin, Didim**	**0.57**	**329**	P	**Pg**	**16 19 35.9**	**-0.3**
DDIM				S	**Sg**	**16 19 44.6**	**+0.7**
DDIM				*i* AML	AML	16 19 47.0	
	comp=N,2μm,0.6s						
DDIM				*i* AML	AML	16 19 48.0	
	comp=N,2μm,0.6s						
MULA	**Mugla, Merkez-**	**0.63**	**63**	P	**Pg**	**16 19 36.8**	**-0.6**
GCAM	**G?zelcaml?**	**0.79**	**337**	Pg	**Pg**	**16 19 40.3**	**-0.2**
GCAM				Sg	**Sb**	**16 19 51.8**	**+0.2**
GCAM	**G?zelcaml?**	**0.79**	**337**	P	**Pg**	**16 19 40.2**	**-0.2**
GCAM				S	**Sg**	**16 19 50.4**	**-0.4**
GCAM				*i* AML	AML	16 19 57.0	
	comp=N,1μm,0.6s						
GCAM				*i* AML	AML	16 19 58.0	
	comp=N,857nm,0.9s						
DALY	**Dalyan (Mula)**	**0.84**	**100**	Pg	**Pg**	**16 19 40.9**	**-0.5**
DALY				Sg	**Sb**	**16 19 53.6**	**+0.5**
ARG	**Arkhangelos**	**0.86**	**151**	Pg	**Pb**	**16 19 41.9**	**0.0**
ARG				Sg	**Sb**	**16 19 54.1**	**+0.7**
ARG	**Arkhangelos**	**0.86**	**151**	P	**Pb**	**16 19 41.4**	**-0.5**
ARG				S	**Sn**	**16 19 54.8**	**-0.7**
	comp=N,1μm,0.7s						
ARG	**Arkhangelos**	**0.86**	**151**	P	**Pb**	**16 19 41.4**	**-0.5**
ARG				S	**Sb**	**16 19 52.5**	**-0.9**
ARG				AML	AML	16 19 57.5	
	comp=N,2491μm,0.8s						
ARG				AML	AML	16 19 58.1	
	comp=E,2655μm,0.6s						
SMG	**Samos**	**0.96**	**320**	P	**Pg**	**16 19 43.1**	**-0.6**
SMG				S	**Sn**	**16 19 58.0**	**-0.3**
	comp=E,2μm,0.4s						
SMG	**Samos**	**0.96**	**320**	P	**Pg**	**16 19 42.9**	**-0.9**
SMG				S	**Sb**	**16 19 57.0**	**+0.4**
SMG				AML	AML	16 20 00.9	
	comp=E,3052μm,0.4s						
SMG				AML	AML	16 20 01.6	
	comp=N,2977μm,0.4s						
TAVA	**DENIZLI Tavas**	**1.15**	**64**	P	**Pg**	**16 19 45.0**	**-2.2**
DNZT	**Denizli-Tavas-**	**1.17**	**74**	P	**Pb**	**16 19 47.2**	**-0.1**
IZMR	**zmir-demi**	**1.20**	**13**	P	**Pg**	**16 19 47.0**	**-1.1**
IZMR				P	**Pb**	**16 19 47.4**	**-0.4**
IZMR				S	**Sg**	**16 20 03.2**	**-0.5**
IZMR				*i* AML	AML	16 20 09.0	
	comp=N,246nm,0.6s						
IZMR				*i* AML	AML	16 20 09.0	
	comp=N,253nm,0.6s						
IZMR				*i* AML	AML	16 20 10.0	
	comp=N,304nm,0.6s						
IZMR				*i* AML	AML	16 20 12.0	
	comp=N,406nm,0.8s						
FETY	**Fethiye**	**1.22**	**105**	Pn	**Pn**	**16 19 48.6**	**+0.5**
DGB	**zmir**	**1.23**	**332**	P	**Pn**	**16 19 47.9**	**-0.3**
DGB				S	**Sg**	**16 20 04.1**	**-0.6**
GMLD	**Gumuldur**	**1.24**	**333**	Pn	**Pg**	**16 19 48.6**	**-0.3**
CAME	**Cameli-Denizli**	**1.35**	**91**	Pn	**Pg**	**16 19 50.3**	**-0.8**
CAEL	**Denizli, Camel**	**1.37**	**83**	P	**Pg**	**16 19 52.5**	**+1.0**
CAEL				S	**Sn**	**16 20 10.3**	**+1.8**
CAEL				*i* AML	AML	16 20 25.0	
	comp=N,392nm,1.0s						
CAEL				*i* AML	AML	16 20 29.0	
	comp=N,372nm,1.0s						
KIRA	**zmir-Kiraz**	**1.38**	**27**	P	**Pn**	**16 19 50.6**	**+0.3**
KIRA				S	**Sb**	**16 20 07.5**	**-1.0**
KIRA				*i* AML	AML	16 20 14.0	
	comp=N,196nm,0.7s						
IZZE	**Mula-Seydike**	**1.40**	**112**	P	**Pg**	**16 19 51.1**	**-0.9**
IZZE				S	**Sg**	**16 20 09.4**	**-0.8**
IZZE				*i* AML	AML	16 20 16.0	
	comp=N,401nm,0.5s						
APMY	**Acipayam-Deniz**	**1.44**	**69**	Pn	**Pn**	**16 19 51.1**	**0.0**
KARP	**Karpathos**	**1.47**	**195**	Pn	**Pn**	**16 19 50.8**	**-0.7**
KARP	**Karpathos**	**1.47**	**195**	P	**Pn**	**16 19 51.2**	**-0.3**
KARP				S	**Sn**	**16 20 10.4**	**-0.2**
	comp=N,482nm,0.8s						
KARP	**Karpathos**	**1.47**	**195**	P	**Pn**	**16 19 51.1**	**-0.3**
KARP				S	**Sn**	**16 20 10.7**	**+0.1**
KARP				AML	AML	16 20 17.1	
	comp=N,859μm,0.8s						
KARP				AML	AML	16 20 19.2

comp=E,1.0nm,0.3s
MMAI Mount Meron Ar 7.51 119 Pn **Pn 16 21 14.4 -0.2**
comp=E,1.4nm,0.3s,baz=299,slow=15,SNR=3.8
MMAI Sn **Sn 16 22 38.8 -0.9**
comp=E,2.7nm,0.3s,baz=303,slow=32,SNR=2.0
comp=E,1.2nm,0.3s
TORD Torodi Ar. Bea 33.17 231 P **P 16 26 01.9 +0.2**
comp=E,0.8nm,0.6s,baz=34,slow=8.5,SNR=5.9
comp=E,0.8nm,0.6s
AAK Ala-Archa 36.09 66 LR LR 16 43 58.9
comp=E,35nm,18.4s,baz=100,slow=41
KURBB Kurchatov Arra 38.44 53 P **P 16 26 47.3 +0.7**
comp=E,0.3nm,0.6s,baz=280,slow=7.9,SNR=3.8
comp=E,0.3nm,0.6s
MKAR Makanchi Array 41.13 58 P **P 16 27 09.4 +0.3**
comp=E,0.5nm,0.9s,baz=280,slow=8.6,SNR=3.6
comp=E,0.5nm,0.9s

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*MEX **20** 16:30:00.2±0.7, 15°.93N×98°.74W, h15km±15km, MD4.1*
*IDC **20** 16:30:00.2±7.1, 16°.41N×98°.17W, h0km, mb3.4/4, mbtmp3.3/5, ML3.5/1, Error ellipse: s-maj=153.0km s-min=120.7km az=55.0*
ISC 20 16:29:58.1±1.7, 16.05N±0°.05×98.60W±0°.03, h1km±11km, n39, σ1§84/64, mb3.4/4, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.57**	**53**	*i* P				**16 30 11.9**	**+1.0**
PNIG				*i* S				**Sn 16 30 21.7**	**-1.8**
CRIG	**Cruz Grande**	**0.85**	**323**	*e*P				**Pg 16 30 14.2**	**-0.2**
CRIG				*e*S				**Sg 16 30 24.5**	**-0.9**
MGIG	**Malinaltepec**	**1.18**	**359**	*e*P				**Pb 16 30 20.4**	**-0.9**
MGIG				*e*S				**Sn 16 30 37.4**	**-1.2**
YOIG	**Yosondua**	**1.29**	**52**	*e*P				**Pn 16 30 23.0**	**-0.5**
YOIG				*e*S				**Sb 16 30 40.1**	**-0.5**
DAIG	**Los Arroyos**	**1.39**	**314**	*e*P				**Pn 16 30 22.0**	**-2.7**
DAIG				*e*S				**Sn 16 30 41.7**	**-2.1**
PEIG	**Puerto Escondi**	**1.40**	**92**	*e*P				**Pn 16 30 24.3**	**-0.5**
PEIG				*e*S				**Sb 16 30 41.4**	**-2.0**
TXIG	**Tlaxiaco**	**1.44**	**34**	*e*P				**Pn 16 30 25.0**	**-0.6**
TXIG				*e*S				**Sn 16 30 42.0**	**-3.3**
TLIG	**Tlapa**	**1.50**	**1**	*e*P				**Pn 16 30 25.4**	**-0.9**
TLIG				*e*S				**Sn 16 30 45.0**	**-1.7**
CAIG	**El Cayaco**	**1.88**	**302**	*e*P				**Pn 16 30 29.8**	**-2.6**
CAIG				*e*S				**Sn 16 30 55.8**	**0.0**
FTIG	**Fresnillo de T**	**1.90**	**14**	*e*P				**Pn 16 30 31.9**	**+0.1**
FTIG				*i* S				**Sb 16 30 56.8**	**-1.2**
HLIG	**Huajuapan de L**	**1.93**	**23**	*e*P				**Pn 16 30 32.2**	**-0.1**
HLIG				*e*S				**Sn 16 30 55.5**	**-1.7**
VHO	**Vista Hermosa**	**2.06**	**60**	*e*P				**Pn 16 30 34.4**	**+0.4**
VHO				*e*S				**Sb 16 31 03.1**	**+0.4**
MEIG	**Mezcala**	**2.10**	**333**	*e*P				**Pn 16 30 33.4**	**-1.2**
MEIG				*e*S				**Sn 16 30 57.7**	**-3.7**
HUIG	**Huatulco**	**2.42**	**96**	*e*P				**Pn 16 30 38.9**	**+0.1**
HUIG				*e*S				**Sn 16 31 04.6**	**-4.5**
PLIG	**Platanillo**	**2.48**	**340**	*e*P				**Pn 16 30 39.9**	**+0.2**
PLIG				*e*S				**Sb 16 31 13.0**	**-1.7**
TPIG	**Tehuac#an**	**2.64**	**27**	*i* P				**Pn 16 30 42.7**	**+0.7**
TPIG				*e*S				**Sb 16 31 17.0**	**-2.2**
ARIG	**Puente Sto Nin**	**2.77**	**323**	*e*P				**Pn 16 30 43.5**	**-0.2**
ARIG				*e*S				**Sn 16 31 18.2**	**+0.3**
YAIG	**Yautepec**	**2.83**	**351**	*e*P				**Pn 16 30 45.7**	**+1.1**
YAIG				*e*S				**Sn 16 31 19.3**	**-0.1**
AMVM	**AMECAMECA**	**3.07**	**357**	*e*P				Pn	16 30 42.0 -6.0
AMVM				*i* S				**Sn 16 31 21.2**	**-4.4**
ZIIG	**Zihuatanejo**	**3.15**	**300**	*e*P				**Pn 16 30 50.6**	**+1.8**
ZIIG				*e*S				**Sn 16 31 26.2**	**-0.9**
NEUV	**Arroyo Zacate**	**3.15**	**58**	*e*P				**Pn 16 30 49.0**	**+0.1**
NEUV				*i* S				**Sn 16 31 26.0**	**-1.1**
TLVM	**San Miguel Top**	**3.19**	**351**	*i* P				**Pn 16 30 51.4**	**+1.8**
TLVM				*i* S				**Sn 16 31 28.2**	**-0.3**
XCVM	**Xochimilco**	**3.22**	**351**	*e*P				**Pb 16 30 56.5**	**+0.2**
XCVM				*e*S				**Sn 16 31 25.2**	**-4.1**
AOVM	**Tlapan**	**3.27**	**348**	*e*P				**Pn 16 30 52.5**	**+1.5**
AOVM				*e*S				**Sn 16 31 30.6**	**-0.2**
INVM	**La Marquesa**	**3.31**	**347**	*e*P				**Pb 16 30 57.3**	**-0.5**
INVM				*e*S				**Sn 16 31 29.2**	**-2.3**
TOVM	**TOLUCA**	**3.37**	**342**	*e*P				**Pb 16 30 59.5**	**+0.6**
TOVM				*e*S				**Sn 16 31 31.2**	**-2.0**
PBVM	**Pinon**	**3.40**	**352**	*i* P				Pn	16 30 41.7 -11
PBVM				*e*S				**Sn 16 31 36.2**	**+2.8**
PTVM	**Pico Tres Padr**	**3.56**	**352**	*e*P				**Pb 16 31 03.1**	**+1.1**
PTVM				*e*S				**Sn 16 31 32.5**	**-5.1**
VTVM	**Tizayuca**	**3.70**	**357**	*i* P				**Pn 16 30 56.5**	**-0.2**
VTVM				*e*S				**Sn 16 31 42.8**	**+1.6**
JAUV	**Jalcomulco**	**3.72**	**27**	*e*P				**Pn 16 30 56.1**	**-0.6**
JAUV				*e*S				**Sn 16 31 42.6**	**+1.4**
ZUVM	**ZUMPANGO**	**3.78**	**353**	*e*S				**Sn 16 31 44.9**	**+1.8**
TXAR	**Lajitas Array**	**14.02**	**341**	Pn				**Pn 16 33 19.9**	**+1.8**
	0.1nm,0.3s,baz=155,slow=16,SNR=1.5								
TXAR								Sn	Sn 16 35 39.4 -15
	0.1nm,0.3s,baz=163,slow=28,SNR=2.1								
	0.1nm,0.5s								
NVAR	**Mina Array Bea**	**28.23**	**326**	P				**P**	**16 35 54.2**	**+1.3**
	0.4nm,0.6s,baz=129,slow=13,SNR=2.6								
	0.4nm,0.6s								
PDAR	**Pinedale Array**	**28.23**	**343**	P				**P**	**16 35 53.1**	**+0.2**
	0.4nm,0.8s,baz=145,slow=9.6,SNR=2.7								
	0.4nm,0.8s								
YKA	**Yellowknife Ar**	**47.74**	**350**	P				**P**	**16 38 36.7**	**+0.3**
	0.2nm,0.7s,baz=153,slow=6.9,SNR=2.5								
	0.2nm,0.7s								
H03N2	**Juan Fernandez**	**52.67**	**159**	T				T	17 36 08.3
	baz=337,slow=77,SNR=131								
H03N1	**Juan Fernandez**	**52.68**	**159**	T				T	17 36 05.2
	baz=337,slow=77,SNR=190								
H03N3	**Juan Fernandez**	**52.69**	**159**	T				T	17 36 04.1
	baz=337,slow=77,SNR=181								
ILAR	**Eielson Array**	**58.50**	**338**	P				**P**	**16 39 57.0**	**+1.3**
	0.7nm,1.0s,baz=134,slow=5.2,SNR=4.5								
	0.7nm,1.0s								

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*MEX **20** 16:43:55.2±1.0, 15°.95N×98°.73W, h15km±12km, MD5.0*
*IDC **20** 16:43:55.8±0.6, 16°.44N×98°.45W, h0km, mb4.6/18, mbtmp4.6/20, ML3.7/3, MS4.0/47, Error ellipse: s-maj=21.4km s-min=13.2km az=52.0*
*NEIC **20** 16:43:58.3±2.0, 16.42N±0°.06×98.44W±0°.05, h10km±1km, mb5.0/435, Md5.0/175(MEX), Error ellipse: s-maj=10.0km s-min=8.6km az=155.0*
*GCMT **20** 16:43:59.3±0.4, 16.28N±0°.02×98.55W±0°.03, h14km±1km, MW4.9/99, Moment Tensor Solution. s25,c32; s99,c129; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.07±.13; $M_{\theta\theta}$-1.32±.08; $M_{\phi\phi}$-0.75±.08; $M_{r\theta}$1.29±.18; $M_{\theta\phi}$0.71±.05; $M_{\phi r}$-1.26±.22; Best double couple: M_o2.64300×10^{16} NP1:ϕ_s131.00000°,δ67.00000°,λ94.00000°. NP2: ϕ_s300.00000°,δ24.00000°,λ80.00000°. Principal axes: T 2.7890, Plg68.0000°, Azm49.0000°; N -0.2970, Plg4.0000°, Azm309.0000°; P -2.4970, Plg21.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 20 16:43:56.3±0.3, 16.25N±0°.03×98.58W±0°.02, h10km, n951, σ1§81/863, mb5.0/190, MS4.0/44, 15C-4D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.46**	**71**				**Pb**	**16 44 06.4**	**-0.1**
PNIG	**Pinotepa**	**0.46**	**71**	⇑*e*P			**Pb**	**16 44 06.4**	**-0.1**
PNIG					*e*S		**Sb**	**16 44 16.1**	**+2.8**
CRIG	**Cruz Grande**	**0.72**	**313**				**Sg**	**16 44 19.2**	**-0.5**
CRIG	**Cruz Grande**	**0.72**	**313**		*e*P		**Pg**	**16 44 08.8**	**-1.5**
CRIG					*e*S		**Sg**	**16 44 19.2**	**-0.5**
MGIG	**Malinaltepec**	**0.98**	**357**				**Pb**	**16 44 15.1**	**-0.5**
MGIG							**Sn**	**16 44 31.4**	**+1.0**
MGIG	**Malinaltepec**	**0.98**	**357**		*e*P		**Pb**	**16 44 15.1**	**-0.5**
MGIG					*i* S		**Sn**	**16 44 31.4**	**+1.0**
YOIG	**Yosondua**	**1.16**	**58**				**Pb**	**16 44 17.7**	**-1.0**
YOIG							**Sn**	**16 44 35.1**	**+0.2**
YOIG	**Yosondua**	**1.16**	**58**	⇑*e*P			**Pb**	**16 44 17.7**	**-1.0**
YOIG					*e*S		**Sn**	**16 44 35.1**	**+0.2**
TXIG	**Tlaxiaco**	**1.27**	**38**				**Pg**	**16 44 19.6**	**-1.1**
TXIG	**Tlaxiaco**	**1.27**	**38**	⇑*e*P			**Pg**	**16 44 19.6**	**-1.1**
TXIG					*e*S		**Sn**	**16 44 42.4**	**+4.8**
DAIG	**Los Arroyos**	**1.28**	**307**				**Sb**	**16 44 34.4**	**-2.8**
DAIG	**Los Arroyos**	**1.28**	**307**	*e*P			**Pn**	**16 44 16.6**	**-3.8**
DAIG				*e*S			**Sb**	**16 44 34.4**	**-2.8**
TLIG	**Tlapa**	**1.31**	**0**				**Pb**	**16 44 20.4**	**-0.7**
TLIG	**Tlapa**	**1.31**	**0**	⇑*e*P			**Pn**	**16 44 20.1**	**-0.7**
TLIG					*e*S		**Sn**	**16 44 41.3**	**+2.9**
VNTA	**La Mica**	**1.36**	**299**	*e*P			**Pn**	**16 44 19.9**	**-1.5**
VNTA					*e*S		**Sb**	**16 44 33.8**	**-5.6**
PEIG	**Puerto Escondi**	**1.40**	**100**				**Pn**	**16 44 18.8**	**-3.1**
PEIG							**Sb**	**16 44 35.9**	**-4.6**
PEIG	**Puerto Escondi**	**1.40**	**100**	*e*P			**Pn**	**16 44 18.8**	**-3.1**
PEIG					*e*S		**Sb**	**16 44 35.9**	**-4.6**
ACP2	**Acapulco**	**1.40**	**297**				**Sn**	**16 44 39.1**	**-1.4**
ACP2	**Acapulco**	**1.40**	**297**	*e*P			**Pn**	**16 44 19.3**	**-2.7**
ACP2					*e*S		**Sn**	**16 44 39.1**	**-1.4**
HMTT	**Tlapaneco**	**1.54**	**1**				**Pb**	**16 44 23.9**	**-1.2**
HMTT							**Sg**	**16 44 48.4**	**+2.4**
HMTT	**Tlapaneco**	**1.54**	**1**	*e*P			**Pb**	**16 44 23.9**	**-1.2**
HMTT				*i* S			**Sg**	**16 44 48.4**	**+2.4**
FTIG	**Fresnillo de T**	**1.71**	**14**				**Pn**	**16 44 26.1**	**-0.2**
FTIG							**Sg**	**16 44 50.2**	**-1.1**
FTIG	**Fresnillo de T**	**1.71**	**14**	⇑*e*P			**Pn**	**16 44 26.1**	**-0.2**
FTIG					*e*S		**Sg**	**16 44 50.2**	**-1.1**
HLIG	**Huajuapan de L**	**1.74**	**25**				**Pn**	**16 44 26.7**	**-0.1**
HLIG							**Sb**	**16 44 49.0**	**-1.6**
HLIG	**Huajuapan de L**	**1.74**	**25**	⇑*e*P			**Pn**	**16 44 26.7**	**-0.1**
HLIG					*e*S		**Sb**	**16 44 49.0**	**-1.6**
CAIG	**El Cayaco**	**1.81**	**296**				**Sn**	**16 44 43.5**	**-7.0**
CAIG	**El Cayaco**	**1.81**	**296**	⇑*e*P			**Pn**	**16 44 23.4**	**-4.1**
CAIG					*e*S		**Sn**	**16 44 43.5**	**-7.0**
MEIG	**Mezcala**	**1.94**	**329**				**Pn**	**16 44 28.3**	**-1.2**
MEIG							**Sn**	**16 44 52.3**	**-1.8**
MEIG	**Mezcala**	**1.94**	**329**	*e*P			**Pn**	**16 44 28.3**	**-1.2**
MEIG				*i* S			**Sn**	**16 44 52.3**	**-1.8**
VHO	**Vista Hermosa**	**1.95**	**65**	⇑*e*P			**Pn**	**16 44 29.0**	**-0.7**
VHO					*e*S		**Sg**	**16 44 52.6**	**-2.5**
OXIG	**Oaxaca**	**1.95**	**65**				**Pn**	**16 44 29.0**	**-0.7**
OXIG							**Sg**	**16 44 56.6**	**-2.5**
ATYC	**Atoyac**	**2.02**	**299**	*e*P			**Pn**	**16 44 28.1**	**-2.4**
ATYC					*e*S		**Sn**	**16 44 55.6**	**-0.2**
PLIG	**Platanillo**	**2.31**	**338**				**Pn**	**16 44 34.5**	**-0.1**
PLIG							**Sn**	**16 45 04.1**	**+1.0**
PLIG	**Platanillo**	**2.31**	**338**	⇑*e*P			**Pn**	**16 44 34.5**	**-0.1**
PLIG					*e*S		**Sn**	**16 45 04.1**	**+1.0**
TOIG	**Toxpalan**	**2.34**	**38**				**Pn**	**16 44 34.5**	**-0.5**
TOIG							**Sn**	**16 45 02.6**	**-1.3**
TOIG	**Toxpalan**	**2.34**	**38**	⇑*e*P			**Pn**	**16 44 34.5**	**-0.5**
TOIG					*i* S		**Sn**	**16 45 02.6**	**-1.3**
HUIG	**Huatulco**	**2.42**	**101**				**Pn**	**16 44 33.1**	**-2.9**
HUIG							**Sn**	**16 44 59.7**	**-6.1**
HUIG	**Huatulco**	**2.42**	**101**	*e*P			**Pn**	**16 44 33.1**	**-2.9**
HUIG				*i* S			**Sn**	**16 44 59.7**	**-6.1**
TPIG	**Tehuac#an**	**2.45**	**28**				**Pn**	**16 44 36.8**	**+0.2**
TPIG							**Sn**	**16 45 05.0**	**-1.8**
TPIG	**Tehuac#an**	**2.45**	**28**	*e*P			**Pn**	**16 44 36.8**	**+0.2**
TPIG					*e*S		**Sn**	**16 45 05.0**	**-1.8**
ARIG	**Puente Sto Nin**	**2.64**	**320**				**Pn**	**16 44 38.0**	**-1.0**
ARIG							**Sn**	**16 45 05.1**	**-6.0**
ARIG	**Puente Sto Nin**	**2.64**	**320**	⇑*e*P			**Pn**	**16 44 38.0**	**-1.0**
ARIG					*e*S		**Sn**	**16 45 05.1**	**-6.0**
YAIG	**Yautepec**	**2.64**	**350**				**Pn**	**16 44 39.0**	**-0.2**
YAIG							**Sb**	**16 45 14.7**	**-1.8**
YAIG	**Yautepec**	**2.64**	**350**	*e*P			**Pn**	**16 44 39.0**	**-0.2**
YAIG					*e*S		**Sb**	**16 45 14.7**	**-1.8**
PHPU	**Puebla**	**2.81**	**8**				**Pb**	**16 44 44.8**	**-2.0**
PHPU							**Sn**	**16 45 17.1**	**+1.4**
PHPU	**Puebla**	**2.81**	**8**	*e*P			**Pb**	**16 44 44.8**	**-2.0**
PHPU					*e*S		**Sn**	**16 45 17.1**	**+1.4**
PET2	**Petatlan**	**2.87**	**297**	*e*P			**Pb**	**16 44 48.1**	**+0.4**
PET2					*e*S		**Sb**	**16 45 21.7**	**-1.2**
AMVM	**AMECAMECA**	**2.88**	**356**				**Pb**	**16 44 47.6**	**-0.4**
AMVM					*i* S		**Sn**	**16 45 18.3**	**+0.9**
AMVM	**AMECAMECA**	**2.88**	**356**	*e*P			**Pb**	**16 44 47.6**	**-0.4**
AMVM					*i* S		**Sn**	**16 45 18.3**	**+0.9**
OZST	**Orizaba**	**2.96**	**28**	*e*P			**Pn**	**16 44 40.6**	**-3.0**
OZST					*e*S		**Sb**	**16 45 21.8**	**-3.8**
TLVM	**San Miguel Top**	**3.00**	**350**	*e*P			**Pn**	**16 44 46.4**	**+2.2**
TLVM					*e*S		**Sn**	**16 45 22.0**	**+1.5**
NEUV	**Arroyo Zacate**	**3.03**	**61**	⇑*e*P			**Pn**	**16 44 43.8**	**-0.6**
NEUV					*i* S		**Sn**	**16 45 15.1**	**-5.6**
XCVM	**Xochimilco**	**3.03**	**350**	*e*P			**Pn**	**16 44 46.8**	**+2.1**
XCVM					*e*S		**Sn**	**16 45 20.9**	**-0.4**
TEJU	**Tejupilco**	**3.04**	**331**	*e*P			**Pn**	**16 44 46.6**	**+1.9**
TEJU					*e*S		**Sn**	**16 45 23.1**	**+1.8**
THVM	**De Xico**	**3.07**	**353**	*e*P			**Pn**	**16 44 45.4**	**+0.2**
THVM					*e*S		**Sn**	**16 45 22.9**	**+0.8**
ZIIG	**Zihuatanejo**	**3.08**	**297**				Sn	16 45 11.6 -10	
ZIIG	**Zihuatanejo**	**3.08**	**297**	*e*P			**Pn**	**16 44 40.4**	**-4.6**
ZIIG					*e*S		Sn	16 45 11.6 -10	
AOVM	**Tlapan**	**3.09**	**347**	⇑*e*P			**Pn**	**16 44 45.9**	**+0.3**
AOVM					*e*S		**Sn**	**16 45 20.2**	**-2.6**
UNM	**Universidad Na**	**3.12**	**350**				**Pn**	**16 44 45.4**	**-0.5**
UNM	**Universidad Na**	**3.12**	**350**	*e*P			**Pn**	**16 44 47.7**	**+1.9**
UNM					*e*S		**Sb**	**16 45 27.6**	**-2.7**
CUP5	**Mexico City**	**3.12**	**349**	*e*P			**Pb**	**16 44 51.5**	**-0.6**
CUP5					*e*S		**Sb**	**16 45 30.3**	**-0.1**
INVM	**La Marquesa**	**3.12**	**346**	*e*P			**Pn**	**16 44 45.8**	**-0.2**
INVM					*e*S		**Sn**	**16 45 23.5**	**-0.1**
COVM	**Coyoacan**	**3.14**	**350**	*e*P			**Pg**	**16 44 55.1**	**-1.4**
COVM					*e*S		**Sn**	**16 45 22.9**	**-0.9**
COVM					*e*S		**Sb**	**16 45 25.4**	**-5.5**
BJVM	**Benito Juarez**	**3.16**	**350**	*e*P			**Pb**	**16 44 49.6**	**-3.2**
BJVM					*e*S		**Sn**	**16 45 25.3**	**+0.9**
CJVM	**Cuajimalpa**	**3.17**	**348**	*e*P			**Pb**	**16 44 49.6**	**-3.3**
CJVM					*e*S		**Sn**	**16 45 25.2**	**+0.6**
TXVM	**Universitario**	**3.19**	**354**	*e*P			**Pb**	**16 44 50.1**	**-3.1**
TXVM					*e*S		**Sn**	**16 45 25.6**	**-0.3**
VRVM	**Mexico City**	**3.20**	**351**	*e*S			**Sn**	**16 45 25.8**	**+0.6**
TOVM	**TOLUCA**	**3.20**	**341**				**Pn**	**16 44 47.4**	**+0.4**
TOVM							**Sn**	**16 45 23.3**	**-2.0**
TOVM	**TOLUCA**	**3.20**	**341**	*e*P			**Pn**	**16 44 47.4**	**+0.4**
TOVM					*e*S		**Sn**	**16 45 23.3**	**-2.0**
PBVM	**Pinon**	**3.21**	**351**				**Pn**	**16 44 47.0**	**+0.1**
PBVM							**Sn**	**16 45 24.1**	**-1.2**
PBVM	**Pinon**	**3.21**	**351**	*e*P			**Pn**	**16 44 47.0**	**+0.1**
PBVM					*e*S		**Sn**	**16 45 24.1**	**-1.2**
CTVM	**Cuauhtemoc**	**3.23**	**350**	*e*P			**Pn**	**16 44 43.2**	**-4.2**
CTVM					*e*S		**Sn**	**16 45 27.8**	**+1.8**
APVM	**Azcapotzalco**	**3.28**	**350**	*e*P			**Pb**	**16 44 53.5**	**-1.3**
APVM					*e*S		**Sb**	**16 45 31.6**	**-3.3**
PTVM	**Pico Tres Padr**	**3.37**	**351**				**Pn**	**16 44 49.7**	**+0.4**
PTVM							**Sn**	**16 45 28.2**	**-1.3**
PTVM	**Pico Tres Padr**	**3.37**	**351**	*e*P			**Pn**	**16 44 49.7**	**+0.4**
PTVM					*e*S		**Sn**	**16 45 28.2**	**-1.3**
AZVM	**Cuida Lopez Ma**	**3.39**	**349**				**Pn**	**16 44 48.2**	**-2.4**
AZVM							**Sn**	**16 45 29.4**	**-0.6**
AZVM	**Cuida Lopez Ma**	**3.39**	**349**	*e*P			**Pb**	**16 44 54.2**	**-2.4**
AZVM					*e*S		**Sn**	**16 45 29.4**	**-0.6**
VTVM	**Tizayuca**	**3.51**	**357**				**Pn**	**16 44 58.1**	**-0.6**
VTVM							**Sn**	**16 45 33.6**	**+0.6**
VTVM	**Tizayuca**	**3.51**	**357**	*e*P			**Pb**	**16 44 58.1**	**-0.6**
VTVM					*e*S		**Sn**	**16 45 33.6**	**+0.6**
JAUV	**Jalcomulco**	**3.53**	**28**	⇑*e*P			**Pn**	**16 44 50.1**	**-1.2**
JAUV					*e*S		**Sn**	**16 45 31.5**	**-1.8**
UON	**La Union**	**3.54**	**299**	*e*P			**Pn**	**16 44 54.5**	**+3.1**
UON					*e*S		**Sb**	**16 45 38.4**	**-3.7**
ZUVM	**ZUMPANGO**	**3.59**	**352**				**Pb**	**16 44 58.2**	**-2.0**
ZUVM							**Sn**	**16 45 35.3**	**+0.2**
ZUVM	**ZUMPANGO**	**3.59**	**352**	*e*P			**Pb**	**16 44 58.2**	**-2.0**
ZUVM					*e*S		**Sn**	**16 45 35.3**	**+0.2**
XALA	**Xalapa**	**3.63**	**26**	*e*P			**Pb**	**16 44 57.1**	**-3.7**
XALA					*e*S		**Sn**	**16 45 37.6**	**+1.2**
ATVM	**ATLACOMULCO**	**3.70**	**341**				**Pn**	**16 44 56.0**	**+2.1**
ATVM							**Sn**	**16 45 36.3**	**-1.3**
ATVM	**ATLACOMULCO**	**3.70**	**341**	*e*P			**Pn**	**16 44 56.0**	**+2.1**
ATVM					*e*S		**Sn**	**16 45 36.3**	**-1.3**
NILT	**Santiago Nilte**	**3.81**	**85**	*e*P			**Pn**	**16 44 53.4**	**-1.7**
NILT					*e*S		**Sn**	**16 45 39.0**	**-1.2**
ACIG	**Acambay**	**3.92**	**342**				**Pn**	**16 44 59.1**	**+2.4**
ACIG							**Sn**	**16 45 42.8**	**0.0**
ACIG	**Acambay**	**3.92**	**342**	*e*P			**Pn**	**16 44 59.1**	**+2.4**
ACIG					*e*S		**Sn**	**16 45 42.8**	**0.0**
PMUV	**Sontecomapan**	**4.01**	**55**	*e*P			**Pn**	**16 44 53.4**	**-4.6**
PMUV					*e*S		**Sn**	**16 45 47.9**	**+2.8**
LVIG	**Laguna Verde**	**4.02**	**30**	*e*P			**Pn**	**16 44 53.8**	**-4.2**
LVIG					*i* S		**Sb**	**16 45 51.9**	**-4.1**
DHIG	**Demacu**	**4.06**	**354**				**Pb**	**16 45 04.4**	**-3.7**
DHIG							**Sn**	**16 45 50.1**	**+3.7**
DEIG	**Demacu**	**4.06**	**354**	*e*P			**Pb**	**16 45 04.4**	**-3.7**
DEIG					*e*S		**Sn**	**16 45 50.1**	**+3.7**
MOIG	**Morelia**	**4.22**	**324**	Pn			**Pn**	**16 45 01.5**	**+0.5**
MOIG	**Morelia**	**4.22**	**324**	*e*P			**Pn**	**16 45 01.0**	**0.0**
MOIG					*e*S		**Sn**	**16 45 47.7**	**-2.8**
MIHL	**Minatitlan**	**4.23**	**65**	*e*P			**Pn**	**16 45 00.4**	**-0.5**
MIHL					*e*S		**Sn**	**16 45 54.1**	**+3.8**
ACAM	**Acambaro**	**4.29**	**332**	*e*S			**Sn**	**16 45 56.2**	**+4.1**
TUIG	**Tuzandepetl**	**4.35**	**65**	*e*P			**Pn**	**16 45 00.0**	**-2.5**
TUIG					*e*S		**Sb**	**16 45 59.5**	**-6.1**
UXUV	**UXUV**	**4.38**	**75**	*e*P			**Pn**	**16 45 01.2**	**-1.7**
UXUV					*e*S		**Sn**	**16 45 52.1**	**-1.9**
CARR	**Arriaga**	**4.48**	**89**	*e*P			**Pn**	**16 45 01.0**	**-3.3**
CARR					*e*S		**Sn**	**16 45 53.3**	**-3.2**
JRQG	**Juriquilla Cam**	**4.78**	**338**	*e*P			Pn	16 45 13.0 +4.4	
JRQG					*e*S		**Sn**	**16 46 08.7**	**+4.5**
MMIG	**Aquila**	**4.99**	**295**				**Pn**	**16 45 09.0**	**-2.3**
MMIG							**Sn**	**16 46 05.7**	**-3.3**
MMIG	**Aquila**	**4.99**	**295**	*e*P			**Pn**	**16 45 09.0**	**-2.3**
MMIG					*e*S		**Sn**	**16 46 05.7**	**-3.3**
PCIG		**5.18**	**95**				**Pn**	**16 45 11.8**	**-2.1**
PCIG							**Sn**	**16 46 07.1**	**-6.8**
PCIG		**5.18**	**95**	*e*P			**Pn**	**16 45 11.8**	**-2.1**
PCIG					*e*S		**Sn**	**16 46 07.1**	**-6.8**
IGIG	**Irapuato, Guan**	**5.19**	**330**	*e*P			**Pn**	**16 45 13.7**	**-0.5**
IGIG					*e*S		**Sn**	**16 46 14.0**	**-0.3**
CTUV	**Llano Grande**	**5.20**	**2**	*e*P			Pb	16 45 20.2 -7.3	
CTUV					*e*S		**Sn**	**16 46 13.7**	**-0.6**
TGIG		**5.26**	**83**				**Pn**	**16 45 11.0**	**-4.1**
TGIG							**Sn**	**16 46 20.1**	**+4.2**
TGIG		**5.26**	**83**	*e*P			**Pn**	**16 45 11.0**	**-4.1**
TGIG					*e*S		**Sn**	**16 46 20.1**	**+4.2**
COIG	**Colima**	**5.68**	**302**	*e*P			**Pn**	**16 45 20.7**	**-0.2**
COIG					*e*S		**Sn**	**16 46 31.9**	**+5.7**
JUBC	**Volcan de Coli**	**5.76**	**305**	*e*P			**Pn**	**16 45 22.4**	**+0.3**
JUBC					*e*S		**Sn**	**16 46 33.3**	**+4.9**
EZ5V		**5.76**	**305**				**Pn**	**16 45 23.1**	**+0.9**
EZ5V		**5.76**	**305**	*e*P			**Pn**	**16 45 23.1**	**+0.9**
EZ5V					*e*S		**Sn**	**16 46 34.8**	**+6.2**
RPIG	**Rio Verde**	**5.76**	**347**				Pb	16 45 29.2 -7.9	
RPIG							**Sn**	**16 46 35.0**	**+6.6**
RPIG	**Rio Verde**	**

baz=176,SNR=31
FW07 Weatherford 16.40 2 IAmb IAmb 16 47 52.2
comp=Z,146nm,1.0s
CGIG 16.48 330 eP P 16 47 49.6 -1.0
PLPT Palo Pinto 16.50 1 Pn 16 47 47.6 -0.3
MNTX Cornudas Mount 16.58 339 P P 16 47 50.0 -1.6
baz=156,SNR=37
MNTX Cornudas Mount 16.58 339⇑iP Pn 16 47 49.6 +0.5
FW03 Perrin-Whitt E 16.73 1 IAmb IAmb 16 47 56.1
comp=Z,95nm,0.8s
Z35A Perchaven, San 17.05 4 IAmb IAmb 16 47 58.2
comp=Z,83nm,0.9s
HSIG 17.07 320 P 16 47 57.3 +0.3
HSIG IAmb IAmb 16 48 00.6
comp=Z,210nm,2.0s
Z38A Mt. Pleasant 17.25 10 IAmb IAmb 16 48 00.6
comp=Z,113nm,0.9s
Z38A Mt. Pleasant 17.25 10 P P 16 47 57.5 -1.4
baz=191,SNR=6.7
WTFS Witchita Falls 17.45 0 IAmb IAmb 16 48 02.9
comp=Z,156nm,1.9s
DKNS Dickens 17.48 353 IAmb IAmb 16 48 03.8
comp=Z,88nm,0.9s
Z41A Richland Creek 17.73 16 IAmb IAmb 16 48 06.7
comp=Z,152nm,1.1s
MSTX Muleshoe 18.05 349 P Pn 16 48 07.0 -0.4
baz=166,SNR=33
MSTX Muleshoe 18.05 349 P P 16 48 07.4 -0.4
baz=166,SNR=33
121A Cookes Peak, D 18.24 334 P P 16 48 11.3 +1.2
baz=150,SNR=25
121A Cookes Peak, D 18.24 334 P P 16 48 11.7 +1.7
baz=150,SNR=25
121A Cookes Peak, D 18.24 334⇓eP Pn 16 48 09.2 -0.6
WMOK Wichita Mounta 18.42 359 P P 16 48 11.4 -0.4
baz=179,SNR=7.4
146A Union 18.46 26 IAmb IAmb 16 48 13.9
comp=Z,87nm,1.1s
X37A Clayton 18.49 8 P Pn 16 48 13.3 +0.5
baz=189
AMTX Amarillo 18.77 352 IAmb IAmb 16 48 27.7
comp=Z,61nm,0.9s
AMTX Amarillo 18.77 352 P Pn 16 48 15.9 -0.2
baz=170
AMTX Amarillo 18.77 352 P Pn 16 48 15.8 -0.4
baz=170,SNR=20
MIAR Mount Ida 18.77 13 P P 16 48 14.6 -1.1
baz=195,SNR=11
MIAR Mount Ida 18.77 13 P P 16 48 15.2 -0.5
baz=195,SNR=11
DUN6 Lazy B Ranch 18.83 331 IAmb IAmb 16 48 19.5
comp=Z,138nm,1.2s
W35A Tecumseh 18.89 4 P 16 48 16.6 -0.4
W35A IAmb IAmb 16 48 26.4
comp=Z,61nm,0.8s
Y22A Socorro 19.17 338 P Pn 16 48 22.4 +1.3
baz=154,SNR=6.7
Y22D IRIS PASSCAL I 19.27 339 P Pn 16 48 23.2 +0.8
baz=154
Y22F Pascal Instru 19.28 339 P Pn 16 48 23.6 +1.2
baz=154
Z47A Carrollton 19.37 27 IAmb IAmb 16 48 24.9
comp=Z,47nm,0.8s
TUC Tucson 19.45 327 P Pn 16 48 25.2 +0.8
baz=142
DEOK Depew 19.61 5 IAmb IAmb 16 48 26.3
comp=Z,71nm,1.0s
LRAL Lakeview Retre 19.73 30 P Pn 16 48 26.4 -1.2
baz=215,SNR=15
LRAL Lakeview Retre 19.73 30 P Pn 16 48 26.6 -1.0
baz=215,SNR=15
OK052 Battle Ridge R 19.73 4 IAmb IAmb 16 48 27.0
comp=Z,90nm,1.0s
TUL3 Leonard 19.74 7 IAmb IAmb 16 48 37.7
comp=Z,68nm,0.9s
TUL3 Leonard 19.74 7 P P 16 48 25.9 -0.4
baz=188,SNR=9.5
TUL3 Leonard 19.74 7 P P 16 48 25.6 -0.7
baz=188,SNR=9.5
DWPF Disney Wildern 19.76 50 P P 16 48 25.0 -1.5
baz=237
OK033 Mehan 19.77 4 IAmb IAmb 16 48 27.5
comp=Z,88nm,0.8s
WHAR Wooly Hollow 19.78 15 IAmb IAmb 16 48 34.6
comp=Z,64nm,1.0s
ANMO Albuquerque 19.92 341 P Pn 16 48 29.6 -0.5
ANMO Albuquerque 19.92 341 P Pn 16 48 29.8 -0.2
baz=157
ANMO Albuquerque 19.92 341 P Pn 16 48 30.0 0.0
baz=157,SNR=41
OXF Oxford 19.97 23 IAmb IAmb 16 48 35.4
comp=Z,146nm,1.1s
OXF Oxford 19.97 23 P P 16 48 27.9 -0.9
baz=206,SNR=10
OXF Oxford 19.97 23 P P 16 48 27.9 -0.9
baz=206,SNR=10
U32A Winter Ranch, 20.06 359 P Pn 16 48 30.5 -1.1
baz=178,SNR=7.6
RLO Rose Lookout 20.09 8 IAmb IAmb 16 48 33.6
comp=Z,40nm,0.9s
OK038 West end E0370 20.15 360 IAmb IAmb 16 48 37.8
comp=Z,69nm,0.7s
CROK Carrier 20.18 1 IAmb IAmb 16 48 37.0
comp=Z,77nm,0.9s
214A Organ Pipe Nat 20.30 323 IAmb IAmb 16 48 36.0
comp=Z,81nm,1.5s
214A Organ Pipe Nat 20.30 323 P Pn 16 48 34.6 +0.1
baz=136,SNR=11
214A Organ Pipe Nat 20.30 323 eP P 16 48 28.6 -3.8
TIGA Tifton 20.38 39 P P 16 48 32.5 -0.7
baz=225
HHAR Hobbs 20.38 11 IAmb IAmb 16 48 38.6
comp=Z,48nm,1.0s
FCAR Ozark Folk Cen 20.39 15 IAmb IAmb 16 48 39.2
comp=Z,58nm,1.0s
U38A Gravette 20.46 10 IAmb IAmb 16 48 39.7
comp=Z,55nm,0.9s
U38A Gravette 20.46 10 P P 16 48 33.7 -0.4
baz=191,SNR=9.0
152A Waverly Hall 20.61 35 P P 16 48 35.1 -0.7
baz=221
U40A Yellville 20.67 13 P P 16 48 36.1 -0.2
baz=195,SNR=49
U40A P P 16 48 36.1 -0.2
baz=195,SNR=49
T35A Sooner Cattle 20.67 5 P P 16 48 35.2 -1.2
T35A IAmb IAmb 16 48 36.8
comp=Z,88nm,0.9s
T35B Sooner Cattle 20.67 5 P P 16 48 35.8 -0.6
baz=185,SNR=24
Y49A Blount Mountai 20.68 30 IAmb IAmb 16 48 37.5
comp=Z,58nm,0.8s
Y49A Blount Mountai 20.68 30 P P 16 48 35.6 -0.9
baz=215,SNR=16
KAN13 South Haven SW 20.71 2 IAmb IAmb 16 48 42.9
comp=Z,94nm,1.0s
KAN17 Caldwell West 20.73 2 IAmb IAmb 16 48 42.5
comp=Z,63nm,0.9s
KAN01 Argonia South 20.84 2 IAmb IAmb 16 48 43.6
comp=Z,48nm,0.9s
X18A Snowflake 20.87 333 IAmb IAmb 16 48 45.2
comp=Z,51nm,0.9s
X48A Hartselle 20.88 28 IAmb IAmb 16 48 43.2
comp=Z,42nm,0.8s
X48A Hartselle 20.88 28 P P 16 48 38.4 -0.3
baz=212,SNR=18
PLAL Pickwick Lake 20.90 25 IAmb IAmb 16 48 50.0
comp=Z,101nm,1.1s
KAN06 Argonia West S 20.93 2 IAmb IAmb 16 48 44.5
comp=Z,42nm,0.9s
W18A Petrified Fore 21.28 334 P P 16 48 45.4 +2.2
baz=149,SNR=14
T25A Trinidad 21.44 347 IAmb IAmb 16 48 50.8
comp=Z,130nm,1.3s
T25A Trinidad 21.44 347 P P 16 48 46.4 +1.5
baz=164,SNR=48
X16A Lo Mia Camp, P 21.47 330 IAmb IAmb 16 48 59.3
comp=Z,63nm,0.9s
154A Montrose 21.50 38 IAmb IAmb 16 48 50.0
comp=Z,66nm,0.7s
MGMO Mountain Grove 21.56 14 IAmb IAmb 16 48 51.2
comp=Z,60nm,0.9s
FPAL Fort Paine 21.62 30 IAmb IAmb 16 48 47.6
comp=Z,42nm,0.9s
PBMO Poplar Bluff 21.69 18 P P 16 48 47.0 -0.3
baz=201,SNR=24
S39A Bolivar 21.86 11 IAmb IAmb 16 48 52.5
comp=Z,80nm,0.9s
S39A Bolivar 21.86 11 P P 16 48 48.8 -0.4
baz=193,SNR=41
GOGA Godfrey 21.87 36 P P 16 48 48.9 -0.4
baz=222,SNR=6.5
GOGA Godfrey 21.87 36 P P 16 48 48.5 -0.8
baz=222,SNR=6.5
Y52A Lilburn 21.88 34 IAmb IAmb 16 48 50.9
comp=Z,54nm,0.8s
Y52A Lilburn 21.88 34 P P 16 48 49.3 -0.2
baz=220,SNR=16
Y52A P P 16 48 49.3 -0.2
baz=220,SNR=16
Y14A Wickenburg 21.89 326 IAmb IAmb 16 48 52.8
comp=Z,72nm,1.2s
WVT Waverly 22.00 24 P P 16 48 49.9 -0.8
WVT Waverly 22.00 24 P P 16 48 49.9 -0.8
baz=208
WVT Waverly 22.00 24 P P 16 48 51.0 +0.3
baz=208,SNR=49
X51A Calhoun 22.01 31 IAmb IAmb 16 49 07.3
comp=Z,41nm,1.0s
X51A Calhoun 22.01 31 P P 16 48 49.9 -0.9
baz=217
X51A P P 16 48 49.9 -0.9
baz=217
SWET Sewanee 22.02 29 IAmb IAmb 16 48 51.3
comp=Z,54nm,0.8s
V48A Smith Brothers 22.07 26 IAmb IAmb 16 48 54.3
comp=Z,69nm,1.0s
V48A Smith Brothers 22.07 26 P P 16 48 50.8 -0.6
baz=211,SNR=17
R32A Long Quarter, 22.09 360 IAmb IAmb 16 48 55.4
comp=Z,76nm,0.9s
R32A Long Quarter, 22.09 360 P P 16 48 51.9 +0.2
baz=179,SNR=8.6
GLA Glamis 22.27 322 IAmb IAmb 16 49 07.0
comp=Z,65nm,1.0s
GLA Glamis 22.27 322 P P 16 48 55.5 +1.8
baz=134,SNR=17
SDCO Great Sand Dun 22.27 345 P P 16 48 54.9 +1.0
baz=162,SNR=21
W50A Signal Mountai 22.30 30 IAmb IAmb 16 49 15.1
comp=Z,73nm,1.0s
W50A Signal Mountai 22.30 30 P P 16 48 52.8 -1.2
baz=215,SNR=19
WUAZ Wupatki 22.34 332 P P 16 48 56.5 +2.0
baz=145,SNR=80
CGM3 Cape Girardeau 22.41 19 IAmb IAmb 16 48 57.5
comp=Z,82nm,0.9s
T45B Paducah 22.48 21 P P 16 48 55.6 -0.2
baz=205
CBKS Cedar Bluff 22.51 358 IAmb IAmb 16 49 02.9
comp=Z,80nm,1.2s
CBKS Cedar Bluff 22.51 358 P P 16 48 55.4 -0.8
baz=177,SNR=8.5
CBKS Cedar Bluff 22.51 358 P P 16 48 56.9 +0.7
baz=177,SNR=8.5
CLTN Cedars of Leba 22.57 27 IAmb IAmb 16 49 00.8
comp=Z,47nm,1.0s
GTBY Guantanamo Bay 22.60 77 P P 16 48 55.1 -2.2
R40A Maddies Statio 22.65 13 P P 16 48 57.5 -0.2
baz=196,SNR=96
MVCO Mesa Verde 22.65 339 P P 16 48 59.2 +1.3
baz=154,SNR=78
YUH Yuha Desert 22.66 319 P P 16 48 58.3 +0.4
CCM Cathedral Cave 22.67 15 P P 16 48 55.5 -2.3
CCM IAmb IAmb 16 49 03.4
comp=Z,69nm,1.1s
CCM Cathedral Cave 22.67 15 P P 16 48 57.0 -0.8
baz=198
CCM Cathedral Cave 22.67 15 P P 16 48 56.8 -1.0
baz=198,SNR=18
PDMCI Parker Dam,Lak 22.78 325 P P 16 49 00.9 +1.9
baz=138,SNR=13
SWSC Sam W. Stewart 22.78 320 P P 16 49 01.0 +1.9
baz=132
FVM French Village 22.82 17 IAmb IAmb 16 49 01.2
comp=Z,93nm,1.1s
FVM French Village 22.82 17 P P 16 48 59.5 +0.1
baz=200,SNR=17
KSU1 Kansas State U 22.84 4 IAmb IAmb 16 49 10.6
comp=Z,39nm,1.0s
KSU1 Kansas State U 22.84 4 P P 16 48 58.6 -1.0
baz=184
KSU1 Kansas State U 22.84 4 P P 16 48 59.7 +0.1
baz=184
CPCT Cooper Cave 22.88 31 IAmb IAmb 16 49 09.2
comp=Z,50nm,1.0s
S44A Carbondale 22.90 19 P P 16 49 00.2 0.0
baz=203,SNR=29
W52A Murphy 22.90 32 P P 16 49 00.5 +0.1
baz=218,SNR=17
CBX Cerro Bola 22.91 318 IAmb IAmb 16 49 09.1
comp=Z,93nm,1.9s
KSCO Kaye Shedlock’ 22.96 352 P P 16 49 01.4 +0.4
baz=170,SNR=18
KSCO Kaye Shedlock’ 22.96 352 P P 16 49 02.1 +1.1
baz=170,SNR=18
T47A Sharon Grove 23.03 24 P P 16 49 02.3 +0.7
baz=209,SNR=41
TKX Tecate 23.04 318 IAmb IAmb 16 49 13.0
comp=Z,76nm,1.6s
BC3 Big Chuckawall 23.06 322 P P 16 49 03.5 +1.3
baz=134,SNR=23
MONP2 Monument Peak 23.14 319 P P 16 49 04.6 +1.6
baz=131,SNR=11
HODGE Hodges 23.15 36 IAmb IAmb 16 49 03.6
comp=Z,46nm,1.0s
HODGE Hodges 23.15 36 P P 16 49 02.5 -0.4
baz=223,SNR=11
U49A Red Boiling Sp 23.17 27 IAmb IAmb 16 49 04.7
comp=Z,71nm,1.1s
U49A Red Boiling Sp 23.17 27 P P 16 49 02.7 -0.4
baz=212,SNR=9.5
IRM Iron Mountain 23.24 323 P P 16 49 05.5 +1.6
baz=135,SNR=19
BG3 Lake Jocassee 23.34 34 IAmb IAmb 16 49 06.5
comp=Z,28nm,0.9s
CASEE Lake Jocassee 23.34 34 P P 16 49 04.4 -0.5
baz=221,SNR=9.0
Q24A Divide 23.36 347 IAmb IAmb 16 49 08.2
comp=Z,37nm,1.1s
Q24A Divide 23.36 347 P P 16 49 06.1 +0.8
baz=163,SNR=12
NEE2 Needles Airpor 23.39 325 P P 16 49 06.8 +1.5
baz=138
TKL Tuckaleechee C 23.42 32 IAmb IAmb 16 49 11.5
comp=Z,93nm,1.7s
TKL Tuckaleechee C 23.42 32 P P 16 49 05.4 -0.2
baz=218
U15A North Rim 23.51 331 IAmb IAmb 16 49 16.9
comp=Z,40nm,1.1s
109C Camp Elliot, M 23.57 318 P P 16 49 08.3 +1.1
baz=130
BELC Belle Mtn. Jos 23.63 322 P P 16 49 09.4 +1.5
baz=134,SNR=12
TPFO Pinon Flats 23.63 320 P P 16 49 09.5 +1.6
baz=132,SNR=8.5
PFO Pinyon Flats O 23.64 320 P P 16 49 08.5 +0.5
PFO Pinyon Flats O 23.64 320 P P 16 49 09.6 +1.6
baz=132,SNR=7.5
PFO Pinyon Flats O 23.64 320 LR LR 16 58 49.0
comp=Z,588nm,19.1s,baz=132,slow=38
V52A Sevierville 23.65 32 IAmb IAmb 16 49 23.1
comp=Z,44nm,1.2s
P38A Dawn 23.71 10 IAmb IAmb 16 49 09.3
comp=Z,55nm,0.8s
P38A Dawn 23.71 10 P P 16 49 08.6 +0.2
baz=192,SNR=9.0
JSC Jenkinsville 23.76 38 P P 16 49 08.6 -0.4
baz=225
PAULI Pauline 23.83 36 P P 16 49 10.2 +0.6
baz=223
P40A Paris 23.89 13 P P 16 49 09.6 -0.6
baz=195,SNR=43
V53A Saluda 23.92 33 IAmb IAmb 16 49 13.3
comp=Z,28nm,1.0s
V53A Saluda 23.92 33 P P 16 49 10.6 +0.1
baz=220,SNR=5.7
V53A P P 16 49 10.6 +0.1
baz=220,SNR=5.7
GMRC Granite Mounta 23.98 324 P P 16 49 12.8 +1.5
baz=136,SNR=21
SMCO Snowmass 24.00 344 IAmb IAmb 16 49 14.8
comp=Z,69nm,1.1s
T50A Nancy 24.01 28 IAmb IAmb 16 49 13.1
comp=Z,58nm,0.9s
T50A Nancy 24.01 28 P P 16 49 09.6 -1.7
baz=214
T50A P P 16 49 09.6 -1.7
baz=214
Q44A Meyer Farm, Va 24.08 19 P P 16 49 12.1 +0.1
baz=203,SNR=8.0
MURC Murrieta 24.09 319 P P 16 49 13.5 +1.4
baz=131
OLIL Olney 24.22 20 P P 16 49 13.6 +0.3
baz=205,SNR=7.1
TZTN Tazewell 24.23 31 P P 16 49 13.1 -0.3
baz=217,SNR=8.0
V12A Nelson 24.23 326 P P 16 49 13.9 +0.4
KNB Kanab 24.23 331 IAmb IAmb 16 49 17.7
comp=Z,33nm,0.9s
ISCO Idaho Springs 24.26 347 IAmb IAmb 16 49 16.6
comp=Z,50nm,0.9s
ISCO Idaho Springs 24.26 347 P P 16 49 15.2 +1.2
baz=163,SNR=39
ELS Elsinore Mount 24.27 319 P P 16 49 14.0 +0.1
KMSC Kings Mountain 24.33 36 P P 16 49 13.6 -0.8
baz=224,SNR=5.6
KMSC Kings Mountain 24.33 36 P P 16 49 14.5 +0.1
baz=224,SNR=5.6
PKCU Pink Cliffs 24.36 333 IAmb IAmb 16 49 25.3
comp=Z,46nm,1.0s
BBRC Big Bear Solar 24.36 321 P P 16 49 16.5 +1.6
baz=132
HEC Hector,Ludlow 24.41 323 P P 16 49 16.9 +1.8
baz=134,SNR=15
WCI Wyandotte Cave 24.42 24 P P 16 49 14.1 -1.0
WCI Wyandotte Cave 24.42 24 P P 16 49 14.8 -0.3
baz=209
WCI Wyandotte Cave 24.42 24 P P 16 49 15.2 +0.1
baz=209,SNR=15
N33B J Bar K, Exete 24.42 2 P P 16 49 16.0 +0.8
baz=182,SNR=7.4
BIRD Birdtown, Kers 24.49 38 IAmb IAmb 16 49 16.2
comp=Z,55nm,1.3s
BIRD Birdtown, Kers 24.49 38 P P 16 49 15.5 -0.3
baz=226
TUQ Turquoise Moun 24.60 324 P P 16 49 18.5 +1.5
baz=136,SNR=55
P43A Skaggs, Pawnee 24.61 17 IAmb IAmb 16 49 26.8
comp=Z,58nm,0.9s
N35A Tabor 24.66 5 P P 16 49 17.4 +0.2
baz=186,SNR=14
CIS Catalina Islan 24.74 317 P P 16 49 19.8 +1.7
baz=128
OGNE Ogallala 24.79 354 P P 16 49 19.5 +0.9
baz=172,SNR=22
OGNE Ogallala 24.79 354 P P 16 49 20.2 +1.6
baz=172,SNR=22
BFSC Mount Baldy Ra 24.80 320 P P 16 49 20.3 +1.6
baz=131,SNR=8.4
MTPU Mount Pierson 24.80 334 IAmb IAmb 16 49 29.5
comp=Z,52nm,0.9s
RRX Edison Bstrow 24.83 322 P P 16 49 20.5 +1.6
baz=133
FMP Fort Macarthur 24.86 318 P P 16 49 20.6 +1.5
baz=129
V55A Taylorsville 24.92 35 IAmb IAmb 16 49 21.4
comp=Z,34nm,0.9s
V55A Taylorsville 24.92 35 P P 16 49 20.5 +0.8
baz=223,SNR=6.4
V55A P P 16 49 20.5 +0.8
baz=223,SNR=6.4
R49A Shelbyville 24.93 26 IAmb IAmb 16 49 20.0
comp=Z,34nm,1.1s
R49A Shelbyville 24.93 26 P P 16 49 19.9 +0.1
baz=212,SNR=5.6
R49A P P 16 49 19.9 +0.1
baz=212,SNR=5.6
GSC Goldstone, Bar 25.01 323 IAmb IAmb 16 49 24.8
comp=Z,35nm,1.2s
GSC Goldstone, Bar 25.01 323 P P 16 49 22.1 +1.5
baz=134,SNR=17
BGNE Belgrade 25.08 1 IAmb IAmb 16 49 49.5
comp=Z,41nm,0.8s
BGNE Belgrade 25.08 1 P P 16 49 21.3 +0.3
baz=181
BGNE Belgrade 25.08 1 P P 16 49 22.1 +1.1
baz=181
S51A Beattyville 25.08 29 P P 16 49 21.0 -0.1
baz=216,SNR=29
S51A P P 16 49 21.0 -0.1
baz=216,SNR=29
U54A Nelsons Funny 25.09 33 P P 16 49 21.6 +0.4
baz=221,SNR=9.9
U54A P P 16 49 21.6 +0.4
baz=221,SNR=9.9
X58A Rowland 25.11 40 P P 16 49 20.8 -0.5
X58A Rowland 25.11 40 P P 16 49 21.7 +0.4
baz=228,SNR=6.0
X58A P P 16 49 21.7 +0.4
baz=228,SNR=6.0
W57A Gilead 25.12 38 P P 16 49 22.0 +0.6
baz=226,SNR=9.7
W57A P P 16 49 22.0 +0.6
baz=226,SNR=9.7
SHOC Shoshone, Teco 25.14 324 P P 16 49 23.3 +1.6
baz=136
DECC Green Verdugo 25.23 319 P P 16 49 24.3 +1.7
baz=130
O20A White River Ci 25.25 342 P P 16 49 23.8 +1.0
baz=157,SNR=20
N41A Harden Midland 25.28 14 P P 16 49 22.8 0.0
baz=197,SNR=11
R50A Paris 25.28 27 IAmb IAmb 16 49 24.6
comp=Z,69nm,1.3s
R50A Paris 25.28 27 P P 16 49 22.6 -0.2
baz=213,SNR=8.5
R50A P P 16 49 22.6 -0.2
baz=213,SNR=8.5
P46A Rosedale 25.31 21 P P 16 49 23.1 0.0
baz=206,SNR=9.7
N23A Red Feather La 25.38 347 IAmb IAmb 16 49 27.5
comp=Z,47nm,0.9s
N23A Red Feather La 25.38 347 P P 16 49 24.8 +0.8
baz=163,SNR=25
SNCC San Nicolas Is 25.38 316 P P 16 49 25.8 +1.9
baz=126
EDW2 Edwards Air Fo 25.43 320 P P 16 49 25.4 +1.0
baz=131,SNR=13
P17A Butcher Ranch, 25.46 338 IAmb IAmb 16 49 34.9
comp=Z,32nm,1.1s
QSM Queen of Sheba 25.52 324 IAmb IAmb 16 49 37.4
comp=Z,36nm,1.1s
HDIL Hopedale 25.53 17 P P 16 49 24.9 -0.2
baz=201,SNR=7.3
HDIL Hopedale 25.53 17 P P 16 49 25.6 +0.5
baz=201,SNR=7.3
GWY Greenwater Val 25.56 324 IAmb IAmb 16 49 29.8
comp=Z,21nm,0.9s
PRN Pahroc Range 25.62 329 IAmb IAmb 16 49 37.8
comp=Z,36nm,1.1s
LRMC Laurel Mtn Rad 25.65 322 P P 16 49 27.9 +1.4
baz=133,SNR=11
PHWY Pilot Hill 25.67 348 IAmb IAmb 16 49 30.2
comp=Z,37nm,0.9s
L34A Svendsen Farm, 25.70 4 IAmb IAmb 16 49 53.9
comp=Z,27nm,0.8s
L34A Svendsen Farm, 25.70 4 P P 16 49 26.9 +0.2
baz=184
P48A Milroy 25.83 24 IAmb IAmb 16 49 29.3
comp=Z,53nm,1.2s
P48A Milroy 25.83 24 P P 16 49 27.2 -0.6
baz=210,SNR=6.3
P48A P P 16 49 27.2 -0.6
baz=210,SNR=6.3
FURC Furnace Creek, 25.87 325 P P 16 49 29.6 +1.4
baz=136
SCZ2 Santa Cruz Isl 25.91 317 P P 16 49 30.2 +1.6
baz=127
MPMC Manual Prospec 25.94 323 P P 16 49 30.1 +1.0
baz=134,SNR=30
SCIA State Center 25.99 9 P P 16 49 28.9 -0.4
baz=192,SNR=23
SCIA State Center 25.99 9 P P 16 49 29.9 +0.6
baz=192,SNR=23
SFIN Lafayette 26.03 20 P P 16 49 29.3 -0.4
baz=206,SNR=6.8
SFIN Lafayette 26.03 20 P P 16 49 29.6 -0.1
baz=206,SNR=6.8
RDMU Red Mountain 26.05 341 IAmb IAmb 16 49 33.9
comp=Z,41nm,1.0s
V58A Windy Hill, Pi 26.08 38 P P 16 49 29.8 -0.4
baz=227,SNR=11
V58A P P 16 49 29.8 -0.4

baz=227,SNR=11
ARVC Arvin 26.11 320 P P 16 49 31.8 +1.4
baz=130
SDDR Presa de Saban 26.14 80 P P 16 49 31.0 0.0
SDDR IAmb IAmb 16 49 42.6
comp=Z,28nm,1.1s
S11A Rachel 26.15 328 IAmb IAmb 16 49 37.5
comp=Z,86nm,1.7s
P49A Miami Univ. Ec 26.17 25 P P 16 49 29.7 -1.2
baz=211,SNR=21
P49A Miami Univ. Ec 26.17 25 P P 16 49 30.6 -0.4
baz=211,SNR=21
SBC Santa Barbara 26.23 318 P P 16 49 32.6 +1.1
baz=128
ISA Isabella, Lake 26.25 321 P P 16 49 33.5 +1.7
baz=132
MPU Maple Canyon 26.27 337 IAmb IAmb 16 49 42.6
comp=Z,22nm,0.9s
S54A Dingess, Beckl 26.32 32 P P 16 49 32.4 -0.1
baz=220
S54A P P 16 49 32.4 -0.1
baz=220
Q51A Peebles 26.33 27 P P 16 49 32.2 -0.2
baz=214,SNR=12
Q51A P P 16 49 32.2 -0.2
baz=214,SNR=12
BLA Blacksburg 26.35 34 IAmb IAmb 16 49 36.8
comp=Z,50nm,1.0s
BLA Blacksburg 26.35 34 P P 16 49 31.1 -1.5
baz=222
BCW Bitter Crk WRg 26.35 319 IAmb IAmb 16 49 50.1
comp=Z,49nm,1.2s
K30B Basset 26.36 358 P P 16 49 34.3 +1.7
baz=177,SNR=14
ROSC El Rosal 26.37 113 P P 16 49 34.9 +1.5
comp=Z,6.7nm,0.4s,baz=304,slow=15,SNR=1.6
comp=Z,6.7nm,0.4s
NLU North Lily Min 26.39 336 IAmb IAmb 16 49 36.0
comp=Z,27nm,0.9s
BSUT Blindstream Ca 26.41 339 IAmb IAmb 16 49 39.4
comp=Z,29nm,0.9s
RWWY Rawlins 26.43 345 IAmb IAmb 16 49 39.2
comp=Z,39nm,0.9s
CNNC Cliffs of the 26.45 40 P P 16 49 32.7 -0.9
baz=230
L40A Anamosa 26.50 12 IAmb IAmb 16 49 36.2
comp=Z,44nm,0.9s
L40A Anamosa 26.50 12 P P 16 49 33.2 -0.7
baz=196,SNR=8.2
GRAC Grapevine Rang 26.54 325 P P 16 49 36.2 +1.9
baz=136
CWC Cottonwood Cre 26.55 323 P P 16 49 36.3 +1.7
baz=134
PKM Mcpherson Peak 26.58 318 P P 16 49 36.6 +1.7
baz=128
R11B Troy Canyon, C 26.62 329 P P 16 49 37.1 +1.9
baz=141,SNR=25
O48B Farmland 26.62 23 P P 16 49 34.2 -0.8
baz=210,SNR=19
O48B Farmland 26.62 23 P P 16 49 34.6 -0.5
baz=210,SNR=19
VES Vestal, Richgr 26.73 321 P P 16 49 38.4 +2.3
baz=131
Q52A Bidwell 26.77 29 P P 16 49 36.3 0.0
baz=217,SNR=9.1
Q52A P P 16 49 36.3 0.0
baz=217,SNR=9.1
K38A Parkersburg 26.78 10 P P 16 49 35.7 -0.7
baz=192,SNR=5.6
L42A Oliver, Polo 26.79 15 P P 16 49 36.8 +0.2
baz=199,SNR=9.8
P51A Williamsport 26.83 27 P P 16 49 37.0 +0.1
baz=214,SNR=11
P51A P P 16 49 37.0 +0.1
baz=214,SNR=11
T57A Hurt 26.84 36 IAmb IAmb 16 49 47.8
comp=Z,32nm,1.1s
O49A Covington 26.88 25 P P 16 49 36.5 -0.9
baz=211,SNR=6.2
O49A P P 16 49 36.5 -0.9
baz=211,SNR=6.2
DUG Dugway, Tooele 26.88 335 P P 16 49 39.0 +1.4
baz=148,SNR=6.2
N47A Urbana 26.96 22 P P 16 49 37.6 -0.5
baz=208,SNR=12
N47A P P 16 49 37.6 -0.5
baz=208,SNR=12
TIN Tinemaha, Big 27.06 324 P P 16 49 41.1 +2.0
baz=134
TCUT Toone Canyon 27.16 338 IAmb IAmb 16 49 43.0
comp=Z,39nm,0.9s
K22A Casper 27.18 347 IAmb IAmb 16 49 50.6
comp=Z,34nm,1.1s
K22A Casper 27.18 347 P P 16 49 41.2 +1.0
baz=163
K22A Casper 27.18 347 P P 16 49 42.0 +1.8
baz=163
P52A Corning 27.37 28 P P 16 49 41.3 -0.5
baz=216
L44A Lake County Fo 27.42 17 P P 16 49 42.0 -0.2
baz=202
ECSD EROS Data Cent 27.45 3 IAmb IAmb 16 49 47.7
comp=Z,27nm,1.1s
Q54A Coxs Mills 27.47 31 IAmb IAmb 16 49 49.3
comp=Z,29nm,0.9s
ACSO Alum Creek Sta 27.48 26 IAmb IAmb 16 49 44.5
comp=Z,31nm,0.8s
ACSO Alum Creek Sta 27.48 26 P P 16 49 42.5 -0.2
baz=214
ACSO Alum Creek Sta 27.48 26 P P 16 49 42.5 -0.2
baz=214
JFWS Jewell Farm 27.52 13 IAmb IAmb 16 49 44.5
comp=Z,36nm,0.8s
JFWS Jewell Farm 27.52 13 P P 16 49 42.6 -0.4
baz=197,SNR=5.4
JFWS Jewell Farm 27.52 13 P P 16 49 43.4 +0.3
baz=197,SNR=5.4
BGU Big Grassy Mou 27.59 336 IAmb IAmb 16 49 46.7
comp=Z,24nm,1.2s
P53A Whipple 27.59 30 IAmb IAmb 16 49 55.8
comp=Z,42nm,1.1s
O52A Adamsville 27.89 28 IAmb IAmb 16 50 10.3
comp=Z,34nm,1.1s
MDPB Devils Postpil 27.95 324 IAmb IAmb 16 49 54.5
comp=Z,45nm,1.6s
NV11 Mina Array Sit 28.00 326 IAmb IAmb 16 49 50.9
comp=Z,29nm,1.1s
I37A Lemond, Wasoca 28.03 8 IAmb IAmb 16 49 51.3
comp=Z,22nm,0.8s
I37B Waseca 28.03 8 P P 16 49 47.5 -0.1
baz=190
PMPB Monarch Peak 28.04 319 IAmb IAmb 16 49 58.4
comp=Z,32nm,1.3s
PD31 Pinedale Array 28.05 343 IAmb IAmb 16 49 58.6
comp=Z,21nm,1.1s
PDAR Pinedale Array 28.05 343 P P 16 49 47.9 -0.3
PDAR Pinedale Array 28.05 343 P P 16 49 49.3 +1.2
comp=Z,13nm,0.9s,baz=144,slow=8.8,SNR=63
PDAR PcP PcP 16 53 01.7 -1.1
comp=Z,0.5nm,0.7s,baz=153,slow=8.1,SNR=2.0
PDAR LR LR 17 02 35.5
comp=Z,581nm,18.0s,baz=166,slow=40
comp=Z,13nm,0.9s
LHV Little Huntoon 28.06 325 IAmb IAmb 16 50 02.1
comp=Z,30nm,1.2s
NVAR Mina Array Bea 28.08 326 P P 16 49 49.1 +0.6
NVAR Mina Array Bea 28.08 326 P P 16 49 50.2 +1.7
comp=Z,8.8nm,0.8s,baz=153,slow=9.8,SNR=69
NVAR PcP PcP 16 53 03.4 +0.5
comp=Z,0.5nm,0.6s,baz=157,slow=2.9,SNR=2.0
NVAR LR LR 17 02 34.6
comp=Z,718nm,18.9s,baz=148,slow=40
comp=Z,8.8nm,0.8s
SUSD Miller 28.11 359 IAmb IAmb 16 49 54.2
comp=Z,29nm,1.0s
SUSD Miller 28.11 359 P P 16 49 48.3 0.0
baz=179
RSSD Black Hills 28.17 352 P P 16 49 48.7 -0.5
RSSD IAmb IAmb 16 49 51.8
comp=Z,48nm,1.7s
RSSD Black Hills 28.17 352 P P 16 49 49.9 +0.8
baz=168
RSSD Black Hills 28.17 352 P P 16 49 50.5 +1.3
baz=168,SNR=7.0
SDV Santo Domingo 28.21 102 LR LR 17 02 36.3
comp=Z,302nm,18.5s,baz=358,slow=40
SDV Santo Domingo 28.21 102 eP P 16 49 51.9 +2.0
HVU Hansel Valley 28.23 337 IAmb IAmb 16 50 00.5
comp=Z,26nm,0.9s
O53A New Philadelph 28.28 29 P P 16 49 49.6 -0.3
baz=217
ELK Elko 28.36 333 LR LR 17 02 25.2
comp=Z,1µm,19.9s,baz=262,slow=39
KVN Kaiserville 28.43 327 IAmb IAmb 16 50 05.9
comp=Z,17nm,1.0s
MCWV Mont Chateau 28.48 31 P P 16 49 51.1 -0.6
baz=220
CBN Corbin Frederi 28.75 36 P P 16 49 53.7 -0.4
baz=226
WAKR Walker 28.76 325 IAmb IAmb 16 49 57.8
comp=Z,45nm,1.9s
AAM Ann Arbor 28.95 23 P P 16 49 55.5 -0.4
baz=210
YERR Yerington 28.99 325 IAmb IAmb 16 49 59.5
comp=Z,51nm,1.7s
TPAW Teton Pass 29.13 341 IAmb IAmb 16 50 20.8
comp=Z,21nm,1.1s
PNTR Pine Nut 29.26 325 IAmb IAmb 16 50 02.1
comp=Z,19nm,1.0s
SPMN Marine on St. 29.30 8 IAmb IAmb 16 49 59.5
comp=Z,24nm,0.9s
SPMN Marine on St. 29.30 8 P P 16 49 58.5 -0.4
baz=191,SNR=5.7
SPMN Marine on St. 29.30 8 P P 16 49 58.6 -0.2
baz=191,SNR=5.7
EMB Emerald Bay 29.46 324 IAmb IAmb 16 50 04.1
comp=Z,35nm,1.0s
M53A WI Miller and 29.48 28 P P 16 49 59.8 -0.7
baz=217
PAHR Pah Rah Range 29.59 326 IAmb IAmb 16 50 04.9
comp=Z,52nm,1.9s
FLWY Flagg Ranch 29.59 342 IAmb IAmb 16 50 23.8
comp=Z,25nm,1.3s
MPK Martis Peak 29.64 325 IAmb IAmb 16 50 05.8
comp=Z,33nm,1.1s
F36A Milaca 29.83 7 P P 16 50 02.9 -0.7
baz=190,SNR=7.0
H17A Grant Village 29.84 343 P P 16 50 06.0 +1.9
baz=156
LKWY Lake 29.95 343 IAmb IAmb 16 50 14.1
comp=Z,51nm,1.8s
RLMT Red Lodge 30.16 345 IAmb IAmb 16 50 10.6
comp=Z,18nm,0.8s
RLMT Red Lodge 30.16 345 P P 16 50 07.7 +0.9
baz=159,SNR=17
SSPA Standing Stone 30.20 32 P P 16 50 06.8 -0.1
baz=222
E28A Huff 30.29 357 P P 16 50 08.3 +0.6
baz=176,SNR=6.2
ERPA Erie 30.33 28 P P 16 50 07.1 -1.0
baz=217
HLID Hailey 30.38 337 P P 16 50 10.0 +1.3
baz=148,SNR=14
ATAH Atahualpa 30.64 138 LR LR 16 59 53.8
comp=Z,139nm,21.9s,baz=327,slow=31
F42A Maple Grove Fa 30.70 14 IAmb IAmb 16 50 18.1
comp=Z,29nm,1.1s
COWI Conover 30.79 13 IAmb IAmb 16 50 13.0
comp=Z,17nm,1.0s
COWI Conover 30.79 13 P P 16 50 12.1 -0.1
baz=198
MFID Camas Ranch 30.81 335 IAmb IAmb 16 50 20.3
comp=Z,18nm,1.1s
GLMI Grayling 30.83 20 P P 16 50 12.2 -0.2
baz=207
E38A The Farm, Brul 30.83 9 IAmb IAmb 16 50 19.7
comp=Z,17nm,0.9s
LAO LASA Array 31.01 350 IAmb IAmb 16 50 17.2
comp=Z,32nm,1.4s
LAO LASA Array 31.01 350 P P 16 50 14.8 +0.6
baz=165
BOZ Bozeman (W) 31.24 342 IAmb IAmb 16 50 27.4
comp=Z,16nm,1.1s
BOZ Bozeman (W) 31.24 342 P P 16 50 17.6 +1.3
baz=155,SNR=11
WVOR Wild Horse Val 31.25 331 IAmb IAmb 16 50 18.9
comp=Z,41nm,1.5s
MDND Maddock 31.52 359 P P 16 50 18.7 +0.2
baz=178,SNR=24
MDND Maddock 31.52 359 P P 16 50 19.6 +1.0
baz=178,SNR=24
E43A Lone Tree Farm 31.56 15 IAmb IAmb 16 50 19.4
comp=Z,22nm,0.8s
E43A Lone Tree Farm 31.56 15 P P 16 50 17.9 -1.0
baz=201,SNR=6.1
D41A Chassel 31.83 13 P P 16 50 21.6 +0.4
baz=198,SNR=6.6
AGMN Agassiz Nation 32.04 3 P P 16 50 22.8 -0.3
baz=185,SNR=34
AGMN Agassiz Nation 32.04 3 P P 16 50 23.3 +0.2
baz=185,SNR=34
EYMN Ely 32.15 9 P P 16 50 23.6 -0.5
baz=193
B35A Bob, Littlefor 32.27 6 IAmb IAmb 16 50 25.7
comp=Z,20nm,1.0s
B35A Bob, Littlefor 32.27 6 P P 16 50 24.9 -0.2
baz=188,SNR=6.8
PLID Pearl Lake 32.28 337 IAmb IAmb 16 50 27.7
comp=Z,21nm,1.1s
BINY Binghamton 32.32 32 P P 16 50 24.7 -0.9
baz=224
DGMT Dagmar 32.47 353 P P 16 50 27.6 +0.7
baz=170,SNR=10
DGMT Dagmar 32.47 353 P P 16 50 28.4 +1.5
baz=170,SNR=10
PAL Palisades 32.61 36 P P 16 50 27.6 -0.5
baz=228
L04D Klamath Falls 32.93 327 IAmb IAmb 16 50 32.9
comp=Z,22nm,1.2s
EGMT Eagleton 33.00 346 IAmb IAmb 16 50 43.1
comp=Z,34nm,1.3s
EGMT Eagleton 33.00 346 P P 16 50 32.6 +1.0
baz=160,SNR=7.4
KRMB Red Mountain 33.33 324 IAmb IAmb 16 50 37.1
comp=Z,12nm,0.9s
F10A Beh Ranch, E 33.49 336 IAmb IAmb 16 50 39.6
comp=Z,26nm,0.8s
PCRV Puerto La Cruz 33.56 96 LR LR 17 05 25.4
comp=Z,278nm,18.2s,slow=38
G08A Pilot Rock 33.64 334 IAmb IAmb 16 50 39.1
comp=Z,18nm,1.0s
K02D Willamette Mer 33.98 326 IAmb IAmb 16 50 42.5
comp=Z,26nm,1.5s
ULM Lac du Bonnet 33.99 3 IAmb IAmb 16 50 40.6
comp=Z,27nm,1.1s
ULM Lac du Bonnet 33.99 3 P P 16 50 39.0 -1.1
comp=Z,13nm,0.8s,baz=189,slow=9.4,SNR=23
ULM LR LR 17 04 48.6
comp=Z,223nm,18.3s,baz=182,slow=37
comp=Z,13nm,0.8s
L61B Northampton 34.26 35 P P 16 50 42.3 -0.2
baz=228
G06A Carlson Farm, 34.33 332 IAmb IAmb 16 50 47.6
comp=Z,22nm,1.5s
I03D Drain, OR 34.51 328 IAmb IAmb 16 50 52.4
comp=Z,24nm,1.2s
LONY Lake Ozonia 34.78 31 P P 16 50 46.6 -0.5
baz=223
HOOD Mount Hood Mea 34.86 331 IAmb IAmb 16 51 02.1
comp=Z,17nm,0.8s
HRV Adam Dziewonsk 34.92 36 P P 16 50 47.2 -1.0
baz=230
CZSB Cruzeiro do Su 34.98 131 eP P 16 50 53.2 +4.2
NNA Nana 35.34 141 LR LR 17 02 14.6
comp=Z,189nm,21.3s,baz=340,slow=31
NEW Newport 35.38 338 P P 16 50 52.8 +0.6
baz=148
NEW Newport 35.38 338 LR LR 17 05 35.4
comp=Z,141nm,18.5s,baz=168,slow=37
LBNH Lisbon 35.87 33 P P 16 50 55.9 -0.5
baz=227
LTY Liberty 35.92 334 IAmb IAmb 16 50 59.3
comp=Z,22nm,1.1s
TRQ Mont Tremblant 35.98 29 IAmb IAmb 16 50 58.4
comp=Z,18nm,1.1s
G62A West of Eustis 37.26 33 IAmb IAmb 16 51 11.8
comp=Z,19nm,1.1s
PKME Peaks-Kenny Pk 37.95 34 P P 16 51 13.9 -0.2
baz=230
FFC Flin Flon 38.49 357 P P 16 51 18.1 -0.4
FFC IAmb IAmb 16 51 26.3
comp=Z,31nm,0.9s
FCC Fort Churchill 42.58 3 P P 16 51 51.6 -0.6
SAML Samuel 43.06 123 eP P 16 51 59.3 +2.6
RPN Rapa Nui 44.36 194 LR LR 17 06 01.4
comp=Z,168nm,21.6s,baz=116,slow=30
SCHQ Schefferville 45.62 25 P P 16 52 16.3 -0.5
comp=Z,28nm,0.9s,baz=228,slow=6.4,SNR=22
SCHQ LR LR 17 14 01.6
comp=Z,244nm,18.6s,baz=256,slow=40
comp=Z,28nm,0.9s
MDP Montagnes des 46.37 99 LR LR 17 11 54.0
comp=Z,156nm,21.9s,baz=281,slow=36
V35K Ketchikan 46.50 335 P P 16 52 25.3 +1.7
baz=134
ITTB Itaituba 47.06 112 eP P 16 52 32.3 +3.7
CRAG Craig 47.23 334 P P 16 52 30.2 +0.9
baz=132
YKA Yellowknife Ar 47.55 350 P P 16 52 30.8 -0.9
YKA Yellowknife Ar 47.55 350 P P 16 52 31.4 -0.3
comp=Z,3.5nm,0.8s,baz=159,slow=7.1,SNR=53
YKA PcP PcP 16 53 59.5 -2.1
comp=Z,1.0nm,1.0s,baz=131,slow=2.7,SNR=2.4
YKA LR LR 17 13 46.6
comp=Z,267nm,18.6s,baz=266,slow=38
comp=Z,3.5nm,0.8s
WRAK Wrangell Islan 47.55 335 P P 16 52 33.5 +1.7
baz=133
KOTAN Kotaneelee Air 47.56 343 P P 16 52 32.5 +0.6
baz=146
VILB Vilhena 47.76 125 eP P 16 52 37.0 +2.9
TAOE Nuku Hiva Isla 48.11 242 eS S 16 59 36.0 0.0
comp=Z,179nm,27.7s
TAOE eLR LR 17 06 05.9
comp=Z,313nm,24.5s
DLBC Dease Lake 48.13 338 IAmb IAmb 16 52 43.3
comp=Z,17nm,1.1s
DLBC Dease Lake 48.13 338 P P 16 52 38.4 +2.0
baz=137
DLBC Dease Lake 48.13 338 LR LR 17 12 18.6
comp=Z,940nm,18.2s,baz=132,slow=36
S34M Telegraph Cree 48.14 337 P P 16 52 37.8 +1.4
baz=136
LVC Limon Verde 48.32 142 LR LR 17 10 38.5
comp=Z,60nm,18.8s,baz=338,slow=33
NPGB Novo Progresso 48.63 115 eP P 16 52 43.2 +2.4
R33M Jennings River 49.16 339 IAmb IAmb 16 52 47.5
comp=Z,12nm,0.8s
R33M Jennings River 49.16 339 P P 16 52 46.2 +1.8
baz=137
S32K Killisnoo 49.17 335 P P 16 52 45.9 +1.6
baz=131
SIT Sitka 49.20 334 P P 16 52 46.6 +2.1
baz=130
R32K Eaglecrest 49.69 336 P P 16 52 49.6 +1.3
baz=132
TGTN Hyland Airport 49.92 342 P P 16 52 51.4 +1.4
baz=141,SNR=9.9
WRGLY Wrigley 50.02 346 P P 16 52 51.9 +1.2
baz=148
BBSD Serra de San D 50.04 130 eP P 16 52 54.3 +2.8
PTLB Pontes e Lacer 50.08 127 eP P 16 52 54.5 +2.8
S31K Pelican 50.16 335 P P 16 52 53.6 +1.8
baz=130
P32M Atlin 50.28 338 P P 16 52 54.0 +1.1
P32M IAmb IAmb 16 52 55.5
comp=Z,12nm,0.9s
P32M Atlin 50.28 338 P P 16 52 54.4 +1.5
baz=134
P33M Teslin, Yukon 50.40 339 P P 16 52 55.2 +1.5
baz=135
SKAG Skagway 50.80 337 P P 16 52 57.8 +1.2
baz=132
N32M Quiet Lake 51.17 339 P P 16 53 00.8 +1.3
baz=135
WHY Whitehorse 51.45 338 P P 16 53 03.1 +1.4
baz=133
MMPY Sheldon Lake, 51.66 341 IAmb IAmb 16 53 05.9
comp=Z,19nm,1.0s
MMPY Sheldon Lake, 51.66 341 P P 16 53 04.6 +1.4
baz=138,SNR=11
FRB Frobisher Bay 51.77 16 LR LR 17 17 44.6
comp=Z,86nm,20.9s,baz=194,slow=39
P29M Windy Craggy 51.84 336 P P 16 53 06.2 +1.7
baz=129
P30M Million Dollar 51.85 337 P P 16 53 06.2 +1.6
baz=130
O30N Mendenhall 51.96 338 P P 16 53 07.0 +1.5
baz=132
FARO Faro, Yukon 52.03 340 IAmb IAmb 16 53 16.9
comp=Z,25nm,1.6s
FARO Faro, Yukon 52.03 340 P P 16 53 07.3 +1.4
baz=136,SNR=5.1
M31M Drury Creek, Y 52.35 340 P P 16 53 09.5 +1.2
baz=134
HYT Haines Junctio 52.52 337 IAmb IAmb 16 53 13.2
comp=Z,38nm,1.5s
HYT Haines Junctio 52.52 337 P P 16 53 10.8 +1.1
baz=136
O29M Mount Kennedy 52.59 336 P P 16 53 11.6 +1.4
baz=129
N30M Aishikik Lake 52.78 338 P P 16 53 12.9 +1.3
baz=131
H03N2 Juan Fernandez 52.85 159 T T 17 49 57.1
baz=337,slow=77,SNR=990
H03N1 Juan Fernandez 52.85 159 T T 17 49 59.6
baz=337,slow=77,SNR=876
H03N3 Juan Fernandez 52.86 159 T T 17 50 00.2
baz=337,slow=77,SNR=1248
YUK6 Outpost Mounta 52.91 337 P P 16 53 14.2 +1.5
baz=129
YUK4 Talbot Arm 53.28 337 P P 16 53 16.8 +1.5
baz=129
M30M Minto, Yukon 53.42 339 P P 16 53 17.5 +1.2
baz=132
YUK8 Steele Glacier 53.66 337 P P 16 53 19.7 +1.5
baz=128
MAYO Mayo, Yukon 53.82 340 P P 16 53 21.0 +1.9
baz=134
M29M Somme Creek 53.92 338 P P 16 53 21.3 +1.3
baz=130
CTG Chitna Glacier 54.07 336 P P 16 53 22.5 +1.4
baz=126
YUK3 Moose Creek 54.23 337 P P 16 53 23.6 +1.3
baz=128
L29M L29M 54.24 339 P P 16 53 23.4 +1.2
baz=131,SNR=11
BGLC Bering Glacier 54.37 334 P P 16 53 24.6 +1.5
baz=124
SNDB Serra Nova Dou 54.53 118 eP P 16 53 28.4 +3.5
J30M Hart River 54.65 341 P P 16 53 25.8 +0.6
baz=134,SNR=5.6
KAIM Kayak Island 54.74 334 P P 16 53 26.7 +0.9
baz=122
BVCY Beaver Creek 54.77 337 P P 16 53 27.1 +1.1
baz=127
BDQN Bodoquena, MS 54.92 130 eP P 16 53 30.4 +2.7
H31M Peel River 54.93 343 P P 16 53 28.0 +0.8
baz=136
MCARA McCarthy VSAT 54.98 336 P P 16 53 29.0 +1.5
baz=124
MURT Porto Murtinho 55.06 132 eP P 16 53 31.1 +2.5
I30M Mount Dempster 55.11 342 IAmb IAmb 16 53 30.4
comp=Z,11nm,0.9s
I30M Mount Dempster 55.11 342 P P 16 53 29.3 +0.7
baz=134,SNR=8.9
DAWY Dawson 55.29 340 P P 16 53 30.0 +0.2
DAWY IAmb IAmb 16 53 31.4
comp=Z,32nm,1.9s
DAWY Dawson 55.29 340 P P 16 53 30.3 +0.5
baz=130
Q23K Middleton Isla 55.32 333 P P 16 53 30.3 +0.4
baz=120
BMRM Bremner River 55.39 335 P P 16 53 31.1 +0.5
baz=123
BCAR Beaver Creek A 55.50 338 P P 16 53 32.0 +0.7
L27K Beaver Creek, 55.52 338 P P 16 53 32.6 +1.2
baz=127
M26K Nabesna, AK 55.56 337 P P 16 53 33.3 +1.5
baz=125
EYAK Cordova Ski Ar 55.64 334 P P 16 53 33.3 +1.0
baz=121
G31M Satah River 55.73 344 IAmb IAmb 16 53 40.3
comp=Z,17nm,0.9s
G31M Satah River 55.73 344 P P 16 53 33.0 +0.2
baz=137,SNR=12
N25K Chitina, Valde 55.73 335 P P 16 53 33.3 +0.3
baz=123
F31M Tsiigehtchic 55.98 344 IAmb IAmb 16 53 36.1
comp=Z,36nm,1.6s
F31M Tsiigehtchic 55.98 344 P P 16 53 34.9 +0.3
baz=138,SNR=6.6
EPYK Eagle Plains 56.02 343 P P 16 53 35.1 +0.1
baz=134

L26K **Log Cabin Wild** 56.05 337 P P 16 53 36.0 +0.7
baz=125,SNR=6.0
K27K **Chicken** 56.19 339 P P 16 53 36.7 +0.6
baz=127,SNR=17
KLU **Klutina** 56.21 335 P P 16 53 36.2 -0.2
baz=122
SMTB **Santa Maria do** 56.29 113 *e*P P 16 53 41.9 +4.2
EGAK **Eagle** 56.34 340 IAmb IAmb 16 53 38.7
comp=Z,12nm,0.8s
EGAK **Eagle** 56.34 340 P P 16 53 37.1 -0.1
baz=128,SNR=8.9
I28M **Miner Creek** 56.37 341 P P 16 53 37.4 -0.1
baz=130
HARP **HAARP** 56.39 336 P P 16 53 37.5 -0.2
baz=123
H29M **Whitestone** 56.40 342 P P 16 53 37.8 +0.2
baz=132,SNR=9.9
INK **Inuvik** 56.58 345 IAmb IAmb 16 53 40.2
comp=Z,15nm,0.9s
INK **Inuvik** 56.58 345 P P 16 53 39.1 +0.2
baz=138,SNR=19
INK **Inuvik** 56.58 345 LR LR 17 18 00.3
comp=Z,234nm,18.6s,baz=182,slow=36
M24K **Tolsona, Glenn** 56.63 335 P P 16 53 40.5 +1.1
baz=122
F30M **Barrier River** 56.64 344 P P 16 53 39.7 +0.3
baz=136
G29M **Pine Creek** 56.77 343 P P 16 53 40.8 +0.5
baz=133,SNR=6.0
PAX **Paxson** 56.82 337 P P 16 53 41.5 +0.7
baz=123,SNR=9.9
SCRK **Sand Creek** 56.84 338 P P 16 53 42.0 +1.0
baz=125
SCM **Sheep Creek Mo** 56.96 335 P P 16 53 42.2 +0.4
baz=120
J26L **Joseph Creek** 56.99 339 P P 16 53 43.0 +1.0
baz=126,SNR=23
I27K **Kandik River** 57.01 340 P P 16 53 43.0 +0.9
baz=128
RIDG **Independent Ri** 57.02 337 P P 16 53 43.3 +1.1
baz=124
SEW **Seward** 57.02 332 P P 16 53 42.5 +0.3
baz=117
M23K **Glacier View** 57.10 335 P P 16 53 43.4 +0.6
baz=120
KNK **Knik Glacier** 57.22 334 P P 16 53 44.1 +0.6
baz=119
O22K **Cooper Landing** 57.32 333 P P 16 53 44.8 +0.6
baz=117
I26K **Coal Creek Min** 57.33 339 P P 16 53 45.0 +0.7
baz=126
SML **Sawmill** 57.36 335 P P 16 53 45.2 +0.6
baz=119
H27K **Steamboat Moun** 57.37 341 P P 16 53 45.1 +0.5
baz=129,SNR=6.2
K24K **Donnelly Dome** 57.40 337 P P 16 53 45.6 +0.8
baz=123,SNR=5.3
BRSE **Bradley Lake S** 57.44 332 P P 16 53 45.4 +0.2
baz=116
WAT6 **Susitna Watana** 57.50 335 P P 16 53 46.0 +0.3
baz=120,SNR=6.0
KDAK **Kodiak Island** 57.51 329 P P 16 53 45.7 +0.1
baz=113
KDAK **Kodiak Island** 57.51 329 LR LR 17 17 27.0
comp=Z,219nm,18.4s,baz=197,slow=35
PMR **Palmer** 57.59 334 P P 16 53 46.5 +0.4
baz=118
GHO **Glory Hole Cre** 57.59 334 IAmb IAmb 16 53 48.0
comp=Z,22nm,1.0s
RC01 **Rabbit Creek A** 57.61 333 P P 16 53 46.9 +0.6
baz=117
DHY **Denali Highway** 57.62 336 P P 16 53 46.6 +0.1
baz=121
OHAK **Old Harbor** 57.65 328 P P 16 53 47.0 +0.4
baz=112
J25K **Salcha River,** 57.70 338 P P 16 53 47.2 +0.3
baz=124,SNR=6.7
AMBA **Amambai (Brazi** 57.74 131 *e*P P 16 53 50.7 +2.9
E29M **Blow River** 57.76 344 IAmb IAmb 16 53 49.1
comp=Z,24nm,1.4s
E29M **Blow River** 57.76 344 P P 16 53 47.9 +0.7
baz=134,SNR=12
F28M **Old Crow** 57.77 343 IAmb IAmb 16 53 49.3
comp=Z,23nm,1.1s
F28M **Old Crow** 57.77 343 P P 16 53 47.5 +0.1
baz=131,SNR=17
G27K **Doyon Strip** 57.78 341 P P 16 53 47.5 0.0
baz=129
A36M **Sachs Harbour** 57.91 351 IAmb IAmb 16 53 55.0
comp=Z,21nm,0.9s
A36M **Sachs Harbour** 57.91 351 P P 16 53 47.9 -0.3
baz=143,SNR=9.4
WAT1 **Susitna Watana** 57.95 335 P P 16 53 48.8 +0.1
baz=120
HDA **Harding Lake** 58.16 338 IAmb IAmb 16 53 51.6
comp=Z,13nm,1.0s
HDA **Harding Lake** 58.16 338 P P 16 53 50.2 +0.1
baz=122,SNR=6.7
SUA **Susitna One** 58.21 334 P P 16 53 51.3 +0.6
baz=116,SNR=10
PRP **Porcupine Dome** 58.26 339 IAmb IAmb 16 53 52.9
comp=Z,22nm,1.0s
PRP **Porcupine Dome** 58.26 339 P P 16 53 51.3 +0.3
baz=124,SNR=18
CPUP **Villa Florida** 58.30 136 P P 16 53 52.2 +1.6
comp=Z,3.2nm,1.0s,baz=331,slow=6.2,SNR=4.2
CPUP LR LR 17 18 52.1
comp=Z,54nm,18.9s,baz=320,slow=36
comp=Z,3.2nm,1.0s
IL31 58.33 338 IAmb IAmb 16 53 53.0
comp=Z,26nm,1.1s
ILAR **Eielson Array** 58.33 338 P P 16 53 51.2 -0.1
ILAR **Eielson Array** 58.33 338 P P 16 53 51.4 +0.1
comp=Z,10nm,1.1s,baz=141,slow=4.8,SNR=58
ILAR LR LR 17 18 12.5
comp=Z,192nm,18.9s,baz=125,slow=35
comp=Z,10nm,1.1s
E28M **Babbage River** 58.34 344 IAmb IAmb 16 53 52.7
comp=Z,15nm,1.1s
E28M **Babbage River** 58.34 344 P P 16 53 51.4 +0.1
baz=132,SNR=14
CHIR **Chirikof Islan** 58.37 326 P P 16 53 52.3 +0.6
baz=108
CUT **Chulitna** 58.44 335 P P 16 53 52.6 +0.5
baz=118,SNR=8.9
O20K **Slope Mountain** 58.45 332 P P 16 53 52.9 +0.6
baz=114
RES **Resolute Bay** 58.48 1 P P 16 53 51.0 -1.1
RES **Resolute Bay** 58.48 1 LR LR 17 19 40.2
comp=Z,154nm,18.1s,baz=72,slow=37
G26K **Porcupine Rive** 58.53 341 P P 16 53 53.2 +0.6
baz=127
P19K **Oil Pt** 58.55 331 P P 16 53 53.3 +0.3
baz=113
MCK **McKinley** 58.55 336 P P 16 53 53.5 +0.6
baz=120,SNR=7.2
CCB **Clear Creek Bu** 58.60 338 IAmb IAmb 16 53 54.7
comp=Z,8.9nm,1.0s
WRH **Wood River Hil** 58.61 337 IAmb IAmb 16 53 56.6
comp=Z,11nm,1.2s
D28M **Stokes Point** 58.63 344 P P 16 53 53.3 0.0
baz=133,SNR=7.2
E27K **Coleen River** 58.64 343 P P 16 53 54.0 +0.5
baz=130
POKR **Poker Plat Res** 58.71 338 IAmb IAmb 16 53 55.6
comp=Z,14nm,0.9s
POKR **Poker Plat Res** 58.71 338 P P 16 53 54.5 +0.5
baz=122,SNR=5.1
N20K **Mount Spurr** 58.73 333 P P 16 53 54.8 +0.5
baz=115
COLA **College** 58.73 338 P P 16 53 54.3 +0.2
baz=121
SKT **Skwentna** 58.78 334 IAmb IAmb 16 53 55.7
comp=Z,15nm,0.9s
SKT **Skwentna** 58.78 334 P P 16 53 55.0 +0.5
baz=116,SNR=8.6
H25L **Birch Creek** 58.79 340 P P 16 53 55.3 +0.8
baz=124
MDM **Murphy Dome** 58.92 338 IAmb IAmb 16 54 02.9
comp=Z,8.6nm,1.0s
TRF **Thorofare Moun** 58.95 336 P P 16 53 56.1 +0.3
baz=118,SNR=9.3
NEA2 **Nenana** 59.04 337 IAmb IAmb 16 53 57.8
comp=Z,25nm,1.5s
NEA2 **Nenana** 59.04 337 P P 16 53 56.4 +0.2
baz=120,SNR=7.4
BMAR **Burnt Mountain** 59.07 341 P P 16 53 56.3 -0.1
F26K **Sheenjek River** 59.09 341 P P 16 53 57.2 +0.6
baz=127,SNR=9.2
BDFB **Brasilia** 59.11 120 P P 16 54 00.1 +2.5
comp=Z,7.5nm,0.9s,baz=274,slow=8.7,SNR=3.3
comp=Z,7.5nm,0.9s
D27M **Malcolm River** 59.16 344 IAmb IAmb 16 53 59.0
comp=Z,22nm,1.4s
D27M **Malcolm River** 59.16 344 P P 16 53 57.2 +0.1
baz=131,SNR=9.0
G25K **Bearman Lake** 59.16 340 P P 16 53 57.8 +0.7
baz=124,SNR=6.8
KTH **Kantishna Hill** 59.24 336 IAmb IAmb 16 54 00.2
comp=Z,16nm,1.0s
H24K **Noodor Dome** 59.26 339 P P 16 53 58.4 +0.6
baz=122
O19K **Port Alsworth** 59.27 331 P P 16 53 58.5 +0.6
baz=112
Q17K **Contact Creek** 59.32 329 P P 16 53 59.0 +0.6
baz=110
P18K **Big Mountain,** 59.40 330 P P 16 53 59.4 +0.5
baz=111
M20K **Styx River** 59.42 333 P P 16 53 59.2 +0.2
baz=114
I23K **Minto, Yukon-K** 59.43 338 P P 16 53 59.7 +0.8
baz=120,SNR=14
SFJD **Kangerlussuaq** 59.44 20 *i*P P 16 53 57.5 -1.4
SFJD IAmb IAmb 16 54 00.2
comp=Z,17nm,0.9s
SFJD **Kangerlussuaq** 59.44 20 LR LR 17 21 02.6
comp=Z,84nm,19.5s,baz=222,slow=38
PPLA **Purkeypile** 59.46 335 P P 16 53 59.5 +0.1
baz=116
F25K **Christian Rive** 59.49 341 P P 16 53 59.9 +0.5
baz=125,SNR=8.6
BPAW **Bear Paw Mtn.** 59.53 336 IAmb IAmb 16 54 00.9
comp=Z,13nm,1.0s
BPAW **Bear Paw Mtn.** 59.53 336 P P 16 53 59.8 +0.1
baz=118,SNR=6.0
O18K **Koktuh Hills** 59.56 331 P P 16 53 59.7 -0.2
baz=111
G24K **Hadweenzic Riv** 59.58 340 P P 16 54 00.5 +0.5
baz=123
N19K **Bonanza Creek** 59.58 332 P P 16 53 59.9 -0.3
baz=112
CAST **Castle Rocks** 59.65 335 P P 16 54 00.5 +0.1
baz=116,SNR=12
E25K **Arctic Village** 59.78 342 IAmb IAmb 16 54 04.6
comp=Z,35nm,1.9s
E25K **Arctic Village** 59.78 342 P P 16 54 01.8 +0.5
baz=125,SNR=6.1
Q16K **King Salmon** 59.84 329 P P 16 54 02.4 +0.5
baz=109
MLY **Manley** 59.88 337 P P 16 54 01.9 -0.2
MLY IAmb IAmb 16 54 03.7
comp=Z,19nm,1.0s
MLY **Manley** 59.88 337 P P 16 54 02.3 +0.2
baz=118,SNR=18
P17K **Kvichak River** 59.91 330 P P 16 54 02.6 +0.3
baz=110
CHUM **Lake Minchumin** 59.95 336 P P 16 54 02.5 0.0
baz=116
M19K **Big River Lodg** 59.97 333 P P 16 54 03.2 +0.5
baz=113
L20K **Farewell, AK** 59.99 334 P P 16 54 02.9 +0.1
baz=114
F24K **Squaw Lake** 60.16 340 P P 16 54 05.0 +1.0
baz=123
N18K **Kilae Creek** 60.17 331 P P 16 54 04.7 +0.5
baz=111
CHNA **Chernabura Isl** 60.26 324 P P 16 54 05.6 +0.8
baz=104
L19K **White Mountain** 60.28 333 P P 16 54 05.6 +0.7
baz=113
I21K **Tanana** 60.41 337 IAmb IAmb 16 54 06.6
comp=Z,13nm,1.1s
I21K **Tanana** 60.41 337 P P 16 54 05.9 +0.2
baz=117,SNR=8.1
O17K **Koliganek Bris** 60.42 330 P P 16 54 06.0 +0.2
baz=109,SNR=6.2
K20K **Telida** 60.43 335 IAmb IAmb 16 54 06.5
comp=Z,18nm,1.0s
K20K **Telida** 60.43 335 P P 16 54 05.9 +0.1
baz=114,SNR=15
M18K **Stony River** 60.44 332 P P 16 54 05.9 0.0
baz=112
PPT **Papeete** 60.44 238 P P 16 54 08.7 +2.1
comp=Z,13nm,0.6s,baz=68,slow=18,SNR=1.8
PPT LR LR 17 13 47.1
comp=Z,94nm,20.2s,baz=106,slow=30
comp=Z,13nm,0.6s
G23K **Bananza Creek** 60.45 339 IAmb IAmb 16 54 07.7
comp=Z,8.7nm,0.9s
G23K **Bananza Creek** 60.45 339 P P 16 54 06.0 +0.1
baz=120,SNR=12
PPT2 **Papeete2** 60.45 238 *e*S S 17 02 30.3 +7.8
comp=Z,88nm,27.8s
PPT2 *e*LR LR 17 11 49.6
comp=Z,191nm,24.0s
PPT2 *e*LR LR 17 11 51.2
comp=Z,126nm,21.8s
H22K **Ishtalitna Cre** 60.53 338 P P 16 54 06.7 +0.2
baz=118
P16K **Nushagak River** 60.61 329 P P 16 54 07.4 +0.3
baz=108
DY2G **Dye2** 60.63 21 *i*P P 16 54 06.1 -1.4
DY2G IAmb IAmb 16 54 08.7
comp=Z,30nm,0.9s
C26K **Camden Bay** 60.66 343 P P 16 54 07.6 +0.4
baz=127
E24K **Your Creek** 60.66 341 P P 16 54 08.1 +0.7
baz=122
D25K **Kavik River** 60.72 342 P P 16 54 08.1 +0.3
baz=125
N17K **Nushagak Hills** 60.72 331 IAmb IAmb 16 54 09.4
comp=Z,22nm,1.2s
N17K **Nushagak Hills** 60.72 331 P P 16 54 08.2 +0.3
baz=110
COLD **Coldfoot** 60.77 340 P P 16 54 09.1 +1.0
baz=120,SNR=8.9
J20K **Nowinta River** 60.80 336 IAmb IAmb 16 54 09.5
comp=Z,17nm,0.9s
J20K **Nowinta River** 60.80 336 P P 16 54 08.1 -0.3
baz=115,SNR=15
O16K **Kokwok River B** 60.84 330 P P 16 54 08.6 -0.1
baz=108
H21K **Melozitna Rive** 60.94 337 P P 16 54 09.1 -0.2
baz=117
E23K **Chandalar** 61.01 340 P P 16 54 10.6 +0.7
baz=121
G22K **Bettles** 61.07 339 P P 16 54 10.4 +0.4
baz=119
TTA **Tatalina** 61.07 334 P P 16 54 10.2 -0.1
TTA IAmb IAmb 16 54 11.0
comp=Z,14nm,0.9s
TTA **Tatalina** 61.07 334 P P 16 54 09.8 -0.4
baz=112,SNR=7.3
L18K **Granite Mounta** 61.09 333 P P 16 54 10.1 -0.3
baz=112
M17K **Holitna River** 61.13 332 P P 16 54 10.8 +0.2
baz=110
I20K **Naaghedeneel** 61.19 336 P P 16 54 11.1 +0.1
baz=114
TOLK **Toolik Lake Re** 61.30 341 IAmb IAmb 16 54 19.3
comp=Z,14nm,1.1s
TOLK **Toolik Lake Re** 61.30 341 P P 16 54 11.9 +0.2
baz=121,SNR=11
J19K **Poorman** 61.32 335 P P 16 54 11.7 -0.2
baz=113,SNR=15
D24K **Happy Valley** 61.35 342 P P 16 54 12.1 +0.2
baz=122
PSAL **Palomas, Salto** 61.35 140 *e*P P 16 54 15.2 +2.7
NUUG **Nuugaatsiaq** 61.41 15 *i*P P 16 54 11.5 -0.8
NUUG IAmb IAmb 16 54 13.8
comp=Z,17nm,1.0s
N16K **Nishlik Lake** 61.44 331 P P 16 54 12.6 -0.2
baz=108,SNR=8.3
O15K **Ungalikthiuk R** 61.56 329 P P 16 54 12.7 -0.9
baz=106
J18K **Innoko River** 61.56 334 P P 16 54 13.1 -0.5
baz=112
G21K **Allakaket** 61.58 338 IAmb IAmb 16 54 14.9
comp=Z,8.7nm,1.1s
G21K **Allakaket** 61.58 338 P P 16 54 13.5 -0.1
baz=116,SNR=7.0
C24K **Franklin Bluff** 61.62 342 P P 16 54 13.8 0.0
baz=123
H20K **Anotleneega Mo** 61.64 337 P P 16 54 13.2 -0.9
baz=114,SNR=9.0
M16K **Timber Creek** 61.70 331 P P 16 54 14.1 -0.4
baz=108,SNR=5.2
L17K **Donlin** 61.77 333 P P 16 54 15.0 0.0
baz=109
D23K **Nanushuk River** 61.82 341 P P 16 54 15.9 +0.7
baz=120
S12K **Black Hills** 61.84 325 P P 16 54 15.8 +0.2
baz=103
F21K **Alatna River** 61.89 339 P P 16 54 16.1 +0.4
baz=117,SNR=25
K17K **Iditarod** 61.97 333 P P 16 54 15.8 -0.4
baz=110
N15K **Kwethluk River** 61.98 330 P P 16 54 16.2 -0.1
baz=107
GCSA **Galena City Sc** 62.12 336 P P 16 54 17.0 -0.2
baz=112
L16K **Owhat River** 62.16 332 P P 16 54 17.7 +0.2
L16K **Owhat River** 62.16 332 P P 16 54 17.5 0.0
baz=108
C23K **Itkillik River** 62.24 342 P P 16 54 18.4 +0.4
baz=121
H19K **Roundabout Mou** 62.25 337 IAmb IAmb 16 54 18.5
comp=Z,8.6nm,0.9s
H19K **Roundabout Mou** 62.25 337 P P 16 54 18.0 -0.1
baz=113,SNR=6.2
O14K **Tigyukauivet M** 62.29 329 P P 16 54 18.7 +0.3
baz=105
PLCA **Paso Flores** 62.38 156 P P 16 54 21.6 +2.2
comp=Z,2.5nm,0.9s,baz=316,slow=8.2,SNR=5.1
PLCA LR LR 17 14 49.2
comp=Z,137nm,19.4s,baz=332,slow=30
comp=Z,2.5nm,0.9s
D22K **Ayikyak River** 62.40 341 P P 16 54 19.6 +0.5
baz=118
FALS **False Pass** 62.42 324 P P 16 54 20.3 +0.9
baz=101
J17K **VABM Dome** 62.53 334 P P 16 54 19.7 -0.3
baz=109
F20K **Avaraart Lake** 62.60 338 P P 16 54 20.7 +0.3
baz=114
E21K **Killik River** 62.62 340 P P 16 54 20.8 +0.2
baz=117
N14K **Kuskokwak Cree** 62.67 330 P P 16 54 21.4 +0.4
baz=105
G19K **Purcell Mounta** 62.74 337 P P 16 54 21.4 +0.1
baz=113,SNR=19
H18K **Honhosa River** 62.85 336 P P 16 54 22.2 0.0
baz=111
M14K **Bethel** 63.03 330 P P 16 54 23.5 +0.1
baz=105
L15K **Ungalak Mounta** 63.06 332 P P 16 54 23.9 +0.3
baz=106
J16K **Anvik River** 63.15 333 P P 16 54 24.9 +0.7
baz=108,SNR=11
C21K **Knifeblade Rid** 63.20 341 P P 16 54 25.1 +0.7
baz=116,SNR=12
G18K **Tagagawik** 63.24 337 P P 16 54 25.1 +0.4
baz=111
F19K **Shaleruckik Mo** 63.26 338 P P 16 54 25.2 +0.4
baz=112
K15K **Wolf Creek Mou** 63.26 332 P P 16 54 25.6 +0.7
baz=106
E20K **Nigu River** 63.27 339 P P 16 54 25.3 +0.3
baz=114,SNR=12
E19K **Redstone River** 63.31 338 P P 16 54 25.3 +0.2
baz=113
B22K **Teshekpuk Lake** 63.33 342 IAmb IAmb 16 54 32.4
comp=Z,11nm,0.9s
B22K **Teshekpuk Lake** 63.33 342 P P 16 54 25.1 -0.1
baz=118,SNR=8.3
B21K **Ikpikpuk River** 63.36 341 IAmb IAmb 16 54 26.2
comp=Z,9.2nm,1.1s
B21K **Ikpikpuk River** 63.36 341 P P 16 54 25.4 0.0
baz=117
I17K **Unalakleet** 63.38 334 IAmb IAmb 16 54 27.8
comp=Z,16nm,1.1s
I17K **Unalakleet** 63.38 334 P P 16 54 26.1 +0.5
baz=108,SNR=5.7
H17K **Granite Mounta** 63.40 335 P P 16 54 26.4 +0.6
baz=109,SNR=9.0
TBI **Tubuai** 63.42 233 *e*LR LR 17 13 24.3
comp=Z,1000nm,26.0s
L14K **Kuka Creek** 63.52 331 P P 16 54 27.4 +0.8
L14K **Kuka Creek** 63.52 331 P P 16 54 26.5 -0.1
baz=105,SNR=7.9
M13K **Dall Lake** 63.60 330 P P 16 54 27.5 +0.4
baz=104
D20K **Etivluk River** 63.61 340 P P 16 54 27.4 +0.3
baz=114,SNR=16
VAO **Valinhos** 63.79 126 *e*P P 16 54 32.9 +3.8
F18K **Selawik** 63.87 337 P P 16 54 29.2 +0.4
baz=110
G17K **Kiwalik Mounta** 63.88 336 P P 16 54 29.7 +0.7
baz=109
D19K **Kuna River** 64.02 339 P P 16 54 29.9 0.0
baz=113
UNV **Unalaska Valle** 64.03 322 P P 16 54 30.5 +0.4
baz=98
ICESG **Greenland Ices** 64.06 20 *i*P P 16 54 29.4 -1.0
ICESG IAmb IAmb 16 54 31.6
comp=Z,32nm,0.9s
A22K **Sinclair Lake** 64.10 342 P P 16 54 30.2 -0.1
baz=117,SNR=18
H16K **Elim** 64.25 335 P P 16 54 31.9 +0.5
baz=107,SNR=7.6
J14K **Nanvaranak Lak** 64.29 332 P P 16 54 32.0 +0.4
baz=105,SNR=9.5
B20K **Meade River** 64.32 341 P P 16 54 32.0 +0.3
baz=114
F17K **Baldwin Pennin** 64.42 337 P P 16 54 32.7 +0.3
baz=109
E18K **Tukpahlearik C** 64.50 338 P P 16 54 33.1 +0.1
baz=110
G16K **Koyuk River** 64.52 335 P P 16 54 33.9 +0.8
baz=107,SNR=9.5
A21K **Barrow** 64.72 342 P P 16 54 33.8 -0.5
baz=115
C19K **Lookout Ridge** 64.75 340 P P 16 54 35.2 +0.6
baz=112
E17K **Hotham Inlet** 64.84 337 P P 16 54 35.3 +0.1
baz=108,SNR=23
M11K **Mekoryuk** 64.98 330 P P 16 54 37.0 +0.8
baz=101
G15K **Niukluk** 65.09 335 P P 16 54 37.5 +0.7
baz=105,SNR=7.2
C18K **Utukok River** 65.13 339 IAmb IAmb 16 54 38.1
comp=Z,8.4nm,0.8s
C18K **Utukok River** 65.13 339 P P 16 54 37.0 -0.2
baz=110,SNR=9.1
NIKH **Nikolski High** 65.33 321 P P 16 54 39.0 +0.4
baz=95
D17K **Noatak River** 65.49 338 P P 16 54 39.7 +0.3
baz=107,SNR=9.6
F15K **North Star Dit** 65.52 335 P P 16 54 40.3 +0.6
baz=105,SNR=13
ANM **Nome** 65.53 334 P P 16 54 40.1 +0.4
baz=104,SNR=5.4
RDOG **Red Dog Mine** 65.54 338 IAmb IAmb 16 54 40.4
comp=Z,10nm,0.8s
RDOG **Red Dog Mine** 65.54 338 P P 16 54 39.9 +0.2
baz=108
B18K **Kokolik River** 65.58 340 P P 16 54 40.0 0.0
baz=109,SNR=9.2
NEEM **North Greenlan** 65.59 10 *i*P P 16 54 39.0 -1.3
NEEM IAmb IAmb 16 54 41.7
comp=Z,23nm,0.9s
RCBR **Riachuelo** 65.76 104 LR LR 17 27 30.5
comp=Z,75nm,18.2s,baz=244,slow=40
C17K **DeLong Mountai** 65.77 339 P P 16 54 41.2 0.0
baz=108
SUMG **Summit** 65.84 17 P P 16 54 41.8 -0.3
SUMG **Summit** 65.84 17 *i*P P 16 54 41.0 -1.1
SOEG **Soedalen** 66.61 22 *i*P P 16 54 45.5 -1.1
TNA **Tin City** 66.81 335 P P 16 54 48.3 +0.5
baz=102,SNR=8.0
GAMB **Gambell** 68.10 333 P P 16 54 56.7 +0.6
baz=98
BORG **Borgarnes** 70.00 26 LR LR 17 26 28.3
comp=Z,73nm,20.6s,baz=275,slow=37
RAR **Rarotonga** 70.62 240 LR LR 17 19 46.1
comp=Z,68nm,19.0s,baz=88,slow=30
DAG **Danmarks Havn** 71.98 14 *i*P P 16 55 17.5 -2.2
DAG IAmb IAmb 16 55 20.0
comp=Z,9.8nm,1.1s
NOR **Nord** 72.85 9 *e*P P 16 55 21.3 -3.6
NOR IAmb IAmb 16 55 26.8
comp=Z,87nm,2.2s
JMIC **Jan Mayen** 74.80 20 LR LR 17 31 14.8
comp=Z,98nm,19.0s,baz=249,slow=38

BILL	**Bilibino**	**76.99**	**337**	P	**P**		**16 55 48.7**	**-0.3**
BILL				IAmb	IAmb		16 55 59.3	
	comp=Z,13nm,1.1s							
SPITS	**Spitsbergen Ar**	**79.13**	**11**	P	**P**		**16 56 00.6**	**-0.1**
	comp=Z,14nm,1.1s,baz=299,slow=15,SNR=1.9							
SPITS				LR	LR		17 33 44.7	
	comp=Z,148nm,18.4s,baz=288,slow=38							
	comp=Z,14nm,1.1s							
EKA	**Eskdalemuir Ar**	**79.84**	**35**	P	**P**		**16 56 04.6**	**-0.4**
	comp=Z,2.9nm,0.7s,baz=282,slow=4.2,SNR=6.7							
	comp=Z,2.9nm,0.7s							
ESDC	**Sonseca Array**	**83.27**	**51**	P	**P**		**16 56 23.1**	**-0.4**
	comp=Z,2.6nm,1.1s,baz=257,slow=3.5,SNR=4.9							
ESDC				LR	LR		17 30 06.9	
	comp=Z,102nm,18.3s,baz=296,slow=33							
	comp=Z,2.6nm,1.1s							
SEY	**Seymchan**	**84.04**	**334**	LR	LR		17 35 02.9	
	comp=Z,121nm,18.1s,baz=302,slow=36							
MDT	**Midelt**	**84.61**	**58**	LR	LR		17 29 27.9	
	comp=Z,51nm,20.8s,baz=347,slow=32							
PMSA	**Palmer Station**	**84.96**	**166**	LR	LR		17 26 43.2	
	comp=Z,94nm,18.2s,baz=246,slow=30							
NB2	**NORSAR Subarra**	**85.15**	**27**	P	**P**		**16 56 33.4**	**+0.8**
	comp=Z,12nm,1.1s,baz=299,slow=5.1							
NOA	**NORSAR Array B**	**85.15**	**27**	P	**P**		**16 56 32.7**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=300,slow=4.9,SNR=6.6							
NOA				LR	LR		17 36 24.0	
	comp=Z,21nm,18.8s,baz=285,slow=37							
	comp=Z,1.5nm,0.8s							
PETK	**Petropavlovsk-**	**85.16**	**324**	P	**P**		**16 56 32.7**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=66,slow=11,SNR=2.1							
	comp=Z,3.3nm,0.8s							
MA2	**Magadan**	**86.16**	**331**	LR	LR		17 34 37.7	
	comp=Z,95nm,21.6s,baz=63,slow=35							
HFS	**Hagfors**	**86.65**	**28**	LR	LR		17 37 02.6	
	comp=Z,21nm,19.2s,baz=270,slow=37							
TIXI	**Tiksi**	**86.68**	**346**	P	**P**		**16 56 39.6**	**-0.3**
TIXI				IAmb	IAmb		16 56 47.1	
	comp=Z,16nm,1.4s							
TIXI	**Tiksi**	**86.68**	**346**	LR	LR		17 38 08.0	
	comp=Z,76nm,21.4s,baz=82,slow=38							
MSVF	**Nonsavu**	**88.77**	**251**	P	**P**		**16 56 55.0**	**+3.9**
MSVF				IAmb	IAmb		16 56 58.5	
	comp=Z,11nm,0.9s							
CLL	**Collm**	**90.31**	**36**	*e*SS	SS		17 13 48.0	-2.8
CLL				*e*SSS	SSS		17 17 18.0	
FINES	**FINES Array B**	**91.07**	**23**	P	**P**		**16 56 59.9**	**-1.0**
	comp=Z,2.2nm,1.0s,baz=295,slow=13,SNR=2.1							
	comp=Z,2.2nm,1.0s							
DBIC	**Dimbokro**	**91.71**	**83**	P	**P**		**16 57 01.6**	**-3.2**
	comp=Z,2.6nm,0.8s,baz=210,slow=14,SNR=2.1							
DBIC				LR	LR		17 33 52.0	
	comp=Z,42nm,19.7s,baz=240,slow=33							
YAK	**Yakutsk**	**93.23**	**339**	P	**P**		**16 57 10.9**	**0.0**
YAK	**Yakutsk**	**93.23**	**339**	LR	LR		17 41 49.7	
	comp=Z,71nm,19.4s,baz=77,slow=37							
VRAC	**Vranov**	**93.28**	**36**	LR	LR		17 41 55.8	
	comp=Z,40nm,18.6s,baz=318,slow=37							
URZ	**Urewera**	**95.54**	**232**	LR	LR		17 30 14.4	
	comp=Z,74nm,21.0s,baz=300,slow=29							
TORD	**Torodi Ar. Bea**	**95.97**	**75**	P	**P**		**16 57 22.7**	**-1.7**
	comp=Z,0.5nm,0.8s,baz=297,slow=3.0,SNR=2.4							
	comp=Z,0.5nm,0.8s							
AKASG	**Malin Array Be**	**99.20**	**31**	LR	LR		17 44 57.8	
	comp=Z,48nm,18.2s,baz=317,slow=37							
OBN	**Obninsk**	**99.42**	**24**	LR	LR		17 42 47.7	
	comp=Z,62nm,21.8s,baz=354,slow=36							
DZM	**Mont Dzumac**	**100.44**	**250**	*e*LR	LR		17 30 48.9	
	comp=Z,123nm,23.1s							
SONM	**Songino Array**	**112.41**	**342**	PP	**PP**		**17 03 16.1**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=93,slow=5.0,SNR=3.6							
KURBB	**Kurchatov Arra**	**113.38**	**2**	PP	**PP**		**17 03 21.7**	**-2.3**
	comp=Z,1.4nm,1.1s,baz=353,slow=6.3,SNR=6.5							
ELIB	**Princess Elisa**	**115.00**	**163**	*d*PKiKP	**PKiKP**		**17 02 35.7**	**-1.4**
HHC	**Hu-ho-hao-te**	**116.68**	**335**	*e*P	**PKPdf**		**17 02 40.3**	**-1.1**
MKAR	**Makanchi Array**	**117.25**	**359**	PKP	**PKPdf**		**17 02 40.7**	**-1.5**
	comp=Z,0.3nm,0.9s,baz=292,slow=3.3,SNR=4.0							
MKAR				PP	**PP**		**17 03 45.3**	**-6.1**
	comp=Z,0.2nm,0.6s,baz=25,slow=4.6,SNR=3.8							
NJ2	**Nanjing**	**120.06**	**323**	*e*P	**PKiKP**		**17 02 50.3**	**+2.3**
NJ2				pmax	pmax			
	comp=Z,11nm,1.3s							
CD2	**Chengdu**	**128.43**	**335**	PKP	**PKPdf**		**17 03 04.0**	**-0.1**
WRA	**Warramunga Arr**	**129.73**	**257**	PKhKP	PKPpre		17 02 58.7	
	comp=Z,0.9nm,1.1s,baz=85,slow=1.9,SNR=2.4							
WRA				PKP	**PKiKP**		**17 03 08.5**	**+1.0**
	comp=Z,1.2nm,0.9s,baz=86,slow=2.0,SNR=4.8							
ASAR	**Alice Springs**	**130.34**	**253**	PKhKP	PKPpre		17 02 59.1	
	comp=Z,0.3nm,0.7s,baz=52,slow=3.8,SNR=2.7							
ASAR				PKP	**PKiKP**		**17 03 09.8**	**+1.1**
	comp=Z,2.2nm,0.9s,baz=99,slow=2.5,SNR=14							
PZH	**PanZhiHua**	**133.14**	**335**	PKP	**PKiKP**		**17 03 13.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**141.38**	**333**	PKPdf	**PKPdf**		**17 03 27.8**	**-0.8**
CMAR	**Chiang Mai Arr**	**141.44**	**333**	PKP	**PKPdf**		**17 03 28.0**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=331,slow=2.0,SNR=7.0							
HYB	**Hyderabad**	**146.43**	**5**	*e*PKPdf	**PKPdf**		**17 03 37.4**	**+0.1**
KULM	**Kulim**	**151.37**	**317**		**PKPbc**		**17 03 50.6**	**-0.8**

*IDC **20** 17:03:42.9±0.9,27.25N×65.56E,h0km,mb3.8/13, mbtmp3.7/15,ML3.5/2,MS3.3/6,Error ellipse: s-maj=22.4km s-min=20.2km az=31.0*

*OMAN **20** 17:03:57.5±0.4,26.77N×64.96E,h33km±21km,mb3.4/18, ms2.6/7,Error ellipse: s-maj=28.5km s-min=3.1km az=248.0*

ISC 20 17:03:47.1±0.7,27.14N±0.07°×65.50E±0.07,h35km,n38, σ2≥93/58,mb3.7/13,MS3.3/5,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JASK	**Jask - Hormozg**	**6.96**	**261**	P	**Pn**	**17 05 28.8**	**+2.2**
WSAR	**Wadi Sarin**	**7.34**	**240**	Pn	**Pn**	**17 05 31.0**	**-0.8**
	1.1nm,0.3s,baz=92,slow=17,SNR=26						
WSAR				Sn	**Sn**	**17 06 48.2**	**-5.7**
	1.5nm,0.3s,baz=29,slow=4.4,SNR=9.6						
	2.9nm,0.3s						
JLN	**Jalan Bani Buh**	**7.44**	**229**	P	**Pn**	**17 05 32.8**	**-0.5**
	SNR=10						
JLN				S	**Sn**	**17 06 54.8**	**-1.7**
WBK	**Wadi Bani Khal**	**7.45**	**234**	P	**Pn**	**17 05 33.6**	**+0.2**
	SNR=25						
WBK				S	**Sn**	**17 06 52.2**	**-4.6**
BIDO	**Bidbid**	**7.58**	**243**	P	**Pn**	**17 05 35.6**	**+0.5**
BIDO				S	**Sn**	**17 06 56.6**	**-3.4**
SMDO	**Samad**	**7.88**	**241**	P	**Pn**	**17 05 42.1**	**+2.7**
SMDO				P	**Pn**	**17 05 42.1**	**+2.7**
SMDO				S	**Sn**	**17 07 03.4**	**-4.1**
SMDO				S	**Sn**	**17 07 03.4**	**-4.1**
HOQ	**Hoqain**	**8.21**	**246**	P	**Pn**	**17 05 46.3**	**+2.5**
JMDO	**Jabal Madar**	**8.23**	**236**	P	**Pn**	**17 05 45.6**	**+1.5**
	SNR=22						
JMDO				S	**Sn**	**17 07 13.4**	**-2.5**
SHME	**Shamm**	**8.45**	**265**	P	**Pn**	**17 05 51.3**	**+4.2**
MDH	**Madha**	**8.47**	**260**	P	**Pn**	**17 05 49.6**	**+2.3**
MDH				P	**Pn**	**17 05 49.6**	**+2.3**
MASF	**Masafi**	**8.57**	**260**	P	**Pn**	**17 05 49.9**	**+1.2**
MASF				P	**Pn**	**17 05 49.9**	**+1.2**
SOHO	**SOHO**	**8.63**	**252**	P	**Pn**	**17 05 52.3**	**+2.8**
SOHO				P	**Pn**	**17 05 52.3**	**+2.8**
SOHO				S	**Sn**	**17 07 21.1**	**-4.6**
SOHO				S	**Sn**	**17 07 21.1**	**-4.6**
UOSS	**Minazif**	**8.64**	**257**	P	**Pn**	**17 05 53.0**	**+3.2**
UOSS				P	**Pn**	**17 05 53.0**	**+3.2**
UOSS				S	**Sn**	**17 07 21.3**	**-4.7**
UOSS				S	**Sn**	**17 07 21.3**	**-4.7**
BSY	**Bisya**	**8.71**	**242**	P	**Pn**	**17 05 52.4**	**+1.7**
BSY				S	**Sn**	**17 07 26.4**	**-1.4**
HATD	**Hatta, Dubai**	**8.74**	**257**	P	Pn	17 05 55.7	+4.7
HATD				P	Pn	17 05 55.7	+4.7
ASHO	**Ashiyiah**	**8.85**	**256**	P	**Pn**	**17 05 54.9**	**+2.3**
ASHO				S	**Sn**	**17 07 27.2**	**-3.9**
ARQ	**Araqi**	**8.97**	**247**	P	**Pn**	**17 05 57.5**	**+3.3**
ARQ				S	**Sn**	**17 07 33.5**	**-0.5**
MHTO	**MHTO**	**9.22**	**230**	P	**Pn**	**17 05 57.7**	**+0.1**
MHTO				S	**Sn**	**17 07 34.0**	**-6.1**
ALNE	**Al Ain**	**9.32**	**253**	P	**Pn**	**17 06 01.2**	**+2.2**
ALNE				P	**Pn**	**17 06 01.2**	**+2.2**
ALNE				S	**Sn**	**17 07 39.7**	**-3.1**
ALNE				S	**Sn**	**17 07 39.7**	**-3.1**
UMZA	**Um Al Zommool**	**10.37**	**247**	P	**Pn**	**17 06 15.7**	**+2.3**
UMZA				S	**Sn**	**17 08 05.1**	**-3.2**
AAK	**Ala-Archa**	**17.11**	**23**	Pn	**Pn**	**17 07 41.0**	**-2.6**
	0.1nm,0.3s,baz=204,slow=14,SNR=2.3						
AAK				Sn	**Sn**	**17 10 46.8**	**-6.0**
	0.1nm,0.3s,baz=204,slow=20,SNR=2.1						
AAK				LR		17 15 11.7	
	comp=Z,77nm,19.7s,baz=222,slow=40						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**23.67**	**30**	LR	LR	17 20 10.4	
	comp=Z,102nm,21.5s,baz=200,slow=42						
KBZ	**Khabaz**	**24.64**	**318**	P	**P**	**17 09 06.6**	**+2.3**
	3.6nm,0.9s,baz=130,slow=6.1,SNR=3.9						
	3.6nm,0.9s						
KURBB	**Kurchatov Arra**	**25.47**	**20**	P	**P**	**17 09 11.7**	**0.0**
	0.8nm,0.6s,baz=209,slow=9.0,SNR=5.6						
	0.8nm,0.6s						
BVAR	**Borovoye Array**	**26.11**	**7**	P	**P**	**17 09 17.8**	**+0.3**
	1.3nm,0.7s,baz=180,slow=11,SNR=6.8						
	1.3nm,0.7s						
EIL	**Elat**	**26.95**	**283**	LR	LR	17 23 12.3	
	comp=Z,127nm,18.3s,baz=65,slow=43						
BELG	**Belogornoye**	**28.56**	**337**	LR	LR	17 24 15.1	
	comp=Z,43nm,18.5s,baz=158,slow=43						
ARU	**Arti**	**29.69**	**352**	LR	LR	17 23 12.0	
	comp=Z,66nm,20.0s,baz=164,slow=40						
CMAR	**Chiang Mai Arr**	**31.94**	**99**	P	**P**	**17 10 10.5**	**+0.8**
	0.4nm,0.6s,baz=290,slow=10,SNR=2.7						
CMAR				LR	LR	17 25 36.5	
	comp=Z,29nm,18.5s,baz=155,slow=41						
	0.4nm,0.6s						
AKASG	**Malin Array Be**	**36.19**	**320**	P	**P**	**17 10 47.1**	**+0.8**
	0.3nm,0.5s,baz=128,slow=7.7,SNR=3.0						
	0.3nm,0.5s						
FINES	**FINESS Array B**	**43.22**	**334**	P	**P**	**17 11 44.2**	**-0.3**
	1.7nm,0.9s,baz=119,slow=11,SNR=1.8						
	1.7nm,0.9s						
HFS	**Hagfors**	**48.04**	**328**	P	**P**	**17 12 21.3**	**-1.3**
	2.7nm,0.9s,baz=105,slow=17,SNR=2.4						
	2.7nm,0.9s						
ARCES	**ARCESS Array B**	**48.33**	**342**	P	**P**	**17 12 25.6**	**+0.9**
	3.3nm,1.0s,baz=144,slow=12,SNR=1.6						
	3.3nm,1.0s						
NOA	**NORSAR Array B**	**49.49**	**329**	P	**P**	**17 12 32.8**	**-1.0**
	0.7nm,0.8s,baz=172,slow=13,SNR=2.0						
	0.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**60.94**	**270**	P	**P**	**17 13 59.2**	**+2.2**
	1.7nm,0.7s,baz=57,slow=8.1,SNR=9.1						
	1.7nm,0.7s						
WRA	**Warramunga Arr**	**81.44**	**117**	P	**P**	**17 16 02.0**	**+1.1**
	0.4nm,0.9s,baz=311,slow=4.7,SNR=2.0						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**83.13**	**121**	P	**P**	**17 16 11.5**	**+1.8**
	0.3nm,0.7s,baz=307,slow=6.5,SNR=2.5						
	0.3nm,0.7s						
YKA	**Yellowknife Ar**	**90.68**	**0**	P	**P**	**17 16 46.1**	**+0.3**
	0.3nm,0.8s,baz=347,slow=5.3,SNR=5.1						
	0.3nm,0.8s						

*MEX **20** 17:46:54.9±1.2,16.02N×98.70W,h12km±11km*

*NEIC **20** 17:46:55.6±2.5,16.31N±0.05×98.47W±0.05,h7km±3km, mb5.1/489,Mww5.2/30,Error ellipse: s-maj=7.6km s-min=6.1km az=48.0*

*MOS **20** 17:46:55.7±1.3,16.46N×98.42W,h14km,mb5.2/20,Error ellipse: s-maj=11.5km s-min=5.6km az=102.9*

*IDC **20** 17:46:55.7±0.7,16.53N×98.33W,h0km,mb4.6/21, mbtmp4.6/22,ML3.5/2,MS4.5/53,Error ellipse: s-maj=23.7km s-min=12.8km az=48.0*

*GCMT **20** 17:46:58.6±0.2,16.25N±0.01°×98.56W±0.01°,h12km, MW5.2/130,Moment Tensor Solution. s85,c119; s130,c209; Duration: 1≥0 Moment tensor: Scale 10¹⁶ Nm; Mrr4.91±.08; Mθθ-4.00±.07; Mφφ-0.91±.08; Mrθ4.81±.22; Mθφ1.46±.07; Mφr-4.48±.26; Best double couple: Mo8.09000×10¹⁶ NP1:φs128.00000°,δ72.00000°, λ99.00000°. NP2:φs280.00000°,δ20.00000°,λ64.00000°. Principal axes: T 8.4390, Plg61.0000°, Azm52.0000°; N -0.7070, Plg9.0000°, Azm306.0000°; P -7.7400, Plg27.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **20** 17:47:01.9,16.52N×98.30W,h20km*

*NEIC **20** 17:47:01.9,16.12N×97.99W,h20km,Moment Tensor Solution. Duration: 2≥1 Moment tensor: Scale 10¹⁶Nm; Mrr6.04; Mθθ-5.62; Mφφ-0.42; Mrθ0.72; Mθφ2.08; Mφr4.82; Fault plane solution: Mo7.62000×10¹⁶ NP1: φs317.58000°,δ57.00000°,λ125.16000°. NP2: φs85.29000°,δ46.71000°,λ48.43000°. Principal axes: T 8.7914, Plg60.0000°, Azm283.0000°; N -2.3521, Plg29.0000°, Azm117.0000°; P -6.4392, Plg6.0000°, Azm23.0000°;*

ISC 20 17:46:54.6±0.3,16.12N±0.03×98.65W±0.02,h10km, n1128,σ2≥25/1134,mb5.1/226,MS4.5/54,21C-3D,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.57**	**61**		**Pg**	**17 47 05.4**	**-0.4**
PNIG	**Pinotepa**	**0.57**	**61**	⇑ *i*P	**Pg**	**17 47 05.4**	**-0.4**
	baz=242,slow=14						
PNIG				*e*S	**Sb**	**17 47 14.7**	**-0.3**
CRIG	**Cruz Grande**	**0.77**	**323**		**Pg**	**17 47 07.9**	**-1.6**
CRIG					**Sg**	**17 47 16.9**	**-2.7**
CRIG	**Cruz Grande**	**0.77**	**323**	⇑ *i*P	**Pg**	**17 47 07.9**	**-1.6**
	baz=150,slow=16						
CRIG				*i* S	**Sg**	**17 47 16.9**	**-2.7**
MGIG	**Malinaltepec**	**1.11**	**1**		**Pg**	**17 47 14.2**	**-1.9**
MGIG					**Sg**	**17 47 29.7**	**-0.8**
MGIG	**Malinaltepec**	**1.11**	**1**	⇑ *e*P	**Pg**	**17 47 14.2**	**-1.9**
MGIG				*e*S	**Sg**	**17 47 29.7**	**-0.8**
YOIG	**Yosondua**	**1.29**	**55**		**Pn**	**17 47 16.5**	**-2.5**
YOIG					**Sb**	**17 47 33.8**	**-2.2**
YOIG	**Yosondua**	**1.29**	**55**	⇑ *e*P	**Pn**	**17 47 16.5**	**-2.5**
	baz=236,slow=14						
YOIG				*e*S	**Sb**	**17 47 33.8**	**-2.2**
DAIG	**Los Arroyos**	**1.32**	**313**		**Pn**	**17 47 15.7**	**-3.4**
DAIG					**Sb**	**17 47 31.5**	**-4.9**
DAIG	**Los Arroyos**	**1.32**	**313**	⇑ *e*P	**Pn**	**17 47 15.7**	**-3.4**
DAIG				*i* S	**Sb**	**17 47 31.5**	**-4.9**
VNTA	**La Mica**	**1.37**	**306**	*i* P	**Pn**	**17 47 17.2**	**-2.6**
VNTA				*i* S	**Sb**	**17 47 36.1**	**-1.9**
ACP2	**Acapulco**	**1.41**	**303**		**Pn**	**17 47 17.8**	**-2.5**
ACP2					**Sn**	**17 47 35.4**	**-3.5**
ACP2	**Acapulco**	**1.41**	**303**	*e*P	**Pn**	**17 47 17.8**	**-2.5**
ACP2				*e*S	**Sn**	**17 47 35.4**	**-3.5**
TXIG	**Tlaxiaco**	**1.41**	**37**		**Pn**	**17 47 18.6**	**-2.1**
TXIG					**Sb**	**17 47 33.4**	**-6.1**
TXIG	**Tlaxiaco**	**1.41**	**37**	*e*P	**Pn**	**17 47 18.6**	**-2.1**
TXIG				*i* S	**Sb**	**17 47 33.4**	**-6.1**
TLIG	**Tlapa**	**1.44**	**3**		**Pn**	**17 47 18.9**	**-2.0**
TLIG	**Tlapa**	**1.44**	**3**	⇑ *e*P	**Pn**	**17 47 19.2**	**-1.7**
	baz=195,slow=14						
TLIG				*e*S	**Sn**	**17 47 37.8**	**-2.2**
PEIG	**Puerto Escondi**	**1.45**	**94**		**Pn**	**17 47 17.6**	**-3.3**
PEIG					**Sn**	**17 47 35.4**	**-4.7**
PEIG	**Puerto Escondi**	**1.45**	**94**	⇑ *e*P	**Pn**	**17 47 17.6**	**-3.3**
PEIG				*i* S	**Sn**	**17 47 35.4**	**-4.7**
HMTT	**Tlapaneco**	**1.68**	**3**		**Pn**	**17 47 22.9**	**-1.2**
HMTT					**Sn**	**17 47 44.6**	**-1.1**
HMTT	**Tlapaneco**	**1.68**	**3**	*e*P	**Pn**	**17 47 22.9**	**-1.2**
HMTT				*e*S	**Sn**	**17 47 44.6**	**-1.1**
CAIG	**El Cayaco**	**1.81**	**301**		**Pn**	**17 47 21.6**	**-4.2**
CAIG					**Sn**	**17 47 44.6**	**-4.2**
CAIG	**El Cayaco**	**1.81**	**301**	*e*P	**Pn**	**17 47 21.6**	**-4.2**
CAIG				*e*S	**Sn**	**17 47 44.6**	**-4.2**
FTIG	**Fresnillo de T**	**1.85**	**15**		**Pn**	**17 47 25.1**	**-1.5**
FTIG					**Sn**	**17 47 46.8**	**-3.3**
FTIG	**Fresnillo de T**	**1.85**	**15**	⇑ *e*P	**Pn**	**17 47 25.1**	**-1.5**
FTIG				*e*S	**Sn**	**17 47 46.8**	**-3.3**
HLIG	**Huajuapan de L**	**1.89**	**25**		**Pn**	**17 47 25.6**	**-1.5**
HLIG					**Sn**	**17 47 48.5**	**-2.6**
HLIG	**Huajuapan de L**	**1.89**	**25**	⇑ *e*P	**Pn**	**17 47 25.6**	**-1.5**
HLIG				*e*S	**Sn**	**17 47 48.5**	**-2.6**
MEIG	**Mezcala**	**2.02**	**333**		**Pn**	**17 47 27.2**	**-1.7**
MEIG					**Sn**	**17 47 52.1**	**-2.2**
MEIG	**Mezcala**	**2.02**	**333**	⇑ *e*P	**Pn**	**17 47 27.2**	**-1.7**
MEIG				*e*S	**Sn**	**17 47 52.1**	**-2.2**
ATYC	**Atoyac**	**2.03**	**303**	*e*P	**Pn**	**17 47 27.4**	**-1.4**
ATYC				*i* S	**Sn**	**17 47 52.1**	**-2.1**
VHO	**Vista Hermosa**	**2.07**	**62**	*e*P	**Pn**	**17 47 28.0**	**-1.6**
VHO				*i* S	**Sn**	**17 47 49.5**	**-6.1**
OXIG	**Oaxaca**	**2.07**	**62**		**Pn**	**17 47 28.0**	**-1.6**
OXIG					**Sn**	**17 47 49.5**	**-6.1**
PLIG	**Platanillo**	**2.41**	**340**		**Pn**	**17 47 33.5**	**-0.6**
PLIG					**Sn**	**17 48 02.4**	**-1.3**
PLIG	**Platanillo**	**2.41**	**340**	⇑ *e*P	**Pn**	**17 47 33.5**	**-0.6**
PLIG				*e*S	**Sn**	**17 48 02.4**	**-1.3**
HUIG	**Huatulco**	**2.47**	**98**		**Pn**	**17 47 32.0**	**-3.0**
HUIG					**Sn**	**17 47 59.1**	**-6.1**
HUIG	**Huatulco**	**2.47**	**98**	*e*P	**Pn**	**17 47 32.0**	**-3.0**
HUIG				*i* S	**Sn**	**17 47 59.1**	**-6.1**
TOIG	**Toxpalan**	**2.49**	**37**		**Pn**	**17 47 33.9**	**-1.4**
TOIG					**Sn**	**17 48 06.0**	**+0.2**
TOIG	**Toxpalan**	**2.49**	**37**	*e*P	**Pn**	**17 47 33.9**	**-1.4**
TOIG				*e*S	**Sn**	**17 48 06.0**	**+0.2**
TPIG	**Tehuac#an**	**2.60**	**28**		**Pn**	**17 47 35.9**	**-1.0**
TPIG					**Sn**	**17 48 05.7**	**-3.0**
TPIG	**Tehuac#an**	**2.60**	**28**	*e*P	**Pn**	**17 47 35.9**	**-1.0**
TPIG				*e*S	**Sn**	**17 48 05.7**	**-3.0**
ARIG	**Puente Sto Nin**	**2.69**	**323**		**Pn**	**17 47 37.1**	**-1.0**
ARIG					**Sn**	**17 48 08.8**	**-2.0**
ARIG	**Puente Sto Nin**	**2.69**	**323**	⇑ *e*P	**Pn**	**17 47 37.1**	**-1.0**
ARIG				*i* S	**Sn**	**17 48 08.8**	**-2.0**
YAIG	**Yautepec**	**2.76**	**352**		**Pn**	**17 47 38.6**	**-0.5**
YAIG					**Sn**	**17 48 06.7**	**-5.9**
YAIG	**Yautepec**	**2.76**	**352**	⇑ *e*P	**Pn**	**17 47 38.6**	**-0.5**
YAIG				*e*S	**Sn**	**17 48 06.7**	**-5.9**
PET2	**Petatlan**	**2.87**	**300**	*e*P	**Pb**	**17 47 46.5**	**+0.5**
PET2				*e*S	**Sn**	**17 48 18.3**	**+3.2**
PHPU	**Puebla**	**2.95**	**9**		**Pn**	**17 47 42.0**	**+0.2**
PHPU					**Sn**	**17 48 14.9**	**-2.5**
PHPU	**Puebla**	**2.95**	**9**	*e*P	**Pn**	**17 47 42.0**	**+0.2**
PHPU				*e*S	**Sn**	**17 48 14.9**	**-2.5**
AMVM	**AMECAMECA**	**3.00**	**358**		**Pb**	**17 47 48.0**	**-0.4**
AMVM					**Sn**	**17 48 20.8**	**+2.0**
AMVM	**AMECAMECA**	**3.00**	**358**	*e*P	**Pb**	**17 47 48.0**	**-0.4**
AMVM				*e*S	**Sn**	**17 48 20.8**	**+2.0**
ZIIG	**Zihuatanejo**	**3.08**	**299**		**Pn**	**17 47 41.0**	**-2.2**
ZIIG					**Sn**	**17 48 15.0**	**-5.1**
ZIIG	**Zihuatanejo**	**3.08**	**299**	*e*P	**Pn**	**17 47 41.0**	**-2.2**
ZIIG				*e*S	**Sn**	**17 48 15.0**	**-5.1**
OZST	**Orizaba**	**3.11**	**28**	*e*P	**Pn**	**17 47 43.3**	**-0.6**
OZST				*e*S	**Sn**	**17 48 18.6**	**-2.6**
TLVM	**San Miguel Top**	**3.12**	**351**	*e*P	**Pn**	**17 47 42.7**	**-1.4**
TLVM				*i* S	**Sn**	**17 48 19.1**	**-2.5**
TEJU	**Tejupilco**	**3.12**	**333**	*e*P	**Pn**	**17 47 44.5**	**+0.5**
TEJU				*e*S	**Sn**	**17 48 23.2**	**+1.7**
XCVM	**Xochimilco**	**3.15**	**352**	*e*P	**Pn**	**17 47 44.5**	**-0.1**
XCVM				*e*S	**Sn**	**17 48 23.9**	**+1.4**
NEUV	**Arroyo Zacate**	**3.16**	**59**	⇓ *e*P	**Pn**	**17 47 43.0**	**-1.4**
NEUV				*e*S	**Sn**	**17 48 25.1**	**+2.9**
THVM	**De Xico**	**3.19**	**355**	*e*P	**Pn**	**17 47 44.9**	**-0.3**
THVM				*e*S	**Sn**	**17 48 21.6**	**-1.9**
AOVM	**Tlapan**	**3.20**	**349**	⇑ *e*P	**Pn**	**17 47 45.4**	**0.0**
AOVM				*e*S	**Sn**	**17 48 19.6**	**-4.3**
INVM	**La Marquesa**	**3.23**	**348**	*e*P	**Pn**	**17 47 45.7**	**-0.1**
INVM				*e*S	**Sn**	**17 48 23.7**	**-0.9**
UNM	**Universidad Na**	**3.24**	**351**	Pn	**Pn**	**17 47 46.3**	**+0.6**
UNM	**Universidad Na**	**3.24**	**351**	P	**Pn**	**17 47 46.3**	**+0.6**
UNM	**Universidad Na**	**3.24**	**351**	*e*P	**Pn**	**17 47 46.1**	**+0.3**
UNM				*e*S	**Sn**	**17 48 23.9**	**-0.6**
CUP5	**Mexico City**	**3.24**	**351**	*e*P	**Pb**	**17 47 50.2**	**-2.1**
CUP5				*i* S	**Sn**	**17 48 24.2**	**-0.3**
COVM	**Coyoacan**	**3.25**	**352**	*e*P	**Pn**	**17 47 42.3**	**-3.7**
COVM				*e*P	**Pb**	**17 47 48.5**	**-4.1**
COVM				*e*S	**Sn**	**17 48 20.4**	**-4.5**
COVM				*e*S	Sb	17 48 22.6	-10
BJVM	**Benito Juarez**	**3.28**	**351**	*i* P	**Pn**	**17 47 45.3**	**-1.0**
BJVM				*e*S	**Sn**	**17 48 24.1**	**-1.5**
CJVM	**Cuajimalpa**	**3.29**	**350**	*i* P	**Pn**	**17 47 45.4**	**-1.0**
CJVM				*e*

EZ5V		5.78	306	eP		Pn		17 48 22.8	+2.0		
EZ5V				eS		Sn		17 49 22.7	-4.6		
MNGA	Volcan de Coli	5.79	306	eP		Pn		17 48 25.6	+4.8		
MNGA				eS		Sn		17 49 31.0	+3.5		
INCO	Volcan de Coli	5.81	306	eP		Pn		17 48 21.8	+0.5		
INCO				eS		Sn		17 49 31.5	+3.3		
SOMAC	Volcano de Col	5.83	306	eP		Pn		17 48 23.9	+2.4		
SOMAC				eS		Sn		17 49 24.9	-3.7		
CDAR	Ciudad de Arme	5.83	300	eP		Pn		17 48 21.1	-0.1		
CDAR				eS		Sn		17 49 19.6	-8.6		
RPIG	Rio Verde	5.88	348			Pn		17 48 21.3	-0.6		
RPIG						Sn		17 49 35.9	+6.5		
RPIG	Rio Verde	5.88	348	eP		Pn		17 48 21.3	-0.6		
RPIG				eS		Sn		17 49 35.9	+6.5		
CEGR	Campo Tres	5.93	304	eP		Pn		17 48 23.8	+1.1		
CEGR				eS		Sn		17 49 29.1	-1.8		
CCIG	Comitan	6.26	88			Pn		17 48 27.7	+0.5		
CCIG	Comitan	6.26	88	eP		Pn		17 48 24.0	-3.2		
CCIG				eS		Sn		17 49 39.0	0.0		
PATR	El Naranjo	6.26	98	eP		Pn		17 48 25.8	-1.5		
PATR				eS		Sn		17 49 31.6	-7.5		
PAVE	Pavencul	6.30	97	eP		Pn		17 48 26.8	-1.1		
PAVE				eS		Sn		17 49 30.4	-10		
CHUJ	Union Juarez	6.39	98	eP		Pn		17 48 27.6	-1.4		
CHUJ				*i* S		Sn		17 49 34.9	-7.3		
CIHU	Emiliano Zapat	6.59	299	eP		Pn		17 48 31.0	-0.6		
CIHU				eS		Sn		17 49 38.3	-8.6		
AAIG	Aguscalientes	6.81	329			Pn		17 48 37.0	+2.2		
AAIG						Sn		17 49 58.2	+5.7		
AAIG	Aguscalientes	6.81	329	eP		Pn		17 48 37.0	+2.2		
AAIG				eS		Sn		17 49 58.2	+5.7		
RTAL	Retalhuleu	6.90	102			Pn		17 48 37.0	+1.1		
RTAL	Retalhuleu	6.90	102	eS		Sn		17 49 52.1	-2.3		
HUEH	Huehuetenango	6.93	96	eS		Sn		17 49 54.0	-1.5		
GTIG	Gomez Farias	6.93	356			Pn		17 48 33.1	-3.2		
GTIG						Sn		17 49 54.3	-1.0		
GTIG	Gomez Farias	6.93	356	eP		Pn		17 48 33.1	-3.2		
GTIG				eS		Sn		17 49 54.3	-1.0		
CJM	Chamela	6.96	300	eP		Pn		17 48 37.1	+0.4		
CJM				eS		Sn		17 49 49.7	-6.1		
ESTA	Talpa de Allen	7.26	307	eP		Pn		17 48 42.7	+1.7		
ESTA				eS		Sn		17 50 08.5	+4.8		
ANIG	Ahuacatlan	7.42	312			Pn		17 48 42.2	-0.9		
ANIG						Sn		17 50 06.8	-0.8		
ANIG	Ahuacatlan	7.42	312	eP		Pn		17 48 42.2	-0.9		
ANIG				eS		Sn		17 50 06.8	-0.8		
ZAIG	Zacatecas	7.58	331			Pn		17 48 47.3	+1.8		
ZAIG	Zacatecas	7.58	331	eP		Pn		17 48 46.1	+0.7		
ZAIG				eS		Sn		17 50 16.3	+4.7		
SCIG	Sabancuy	7.67	67	eP		Pn		17 48 43.4	-3.0		
SCIG				eS		Sn		17 50 27.2	-6.1		
APG	El Apazote	7.97	97	Pn		Pn		17 48 51.2	+0.5		
	0.3nm,0.3s,baz=231,slow=19,SNR=6.7										
APG				Sn		Sn		17 50 17.2	-3.9		
	0.7nm,0.3s,baz=227,slow=19,SNR=2.7										
APG				Lg		Lg		17 51 03.6			
	0.4nm,0.3s,baz=240,slow=20,SNR=4.5										
APG				LR		LR		17 52 01.3			
	comp=Z,636nm,20.8s,baz=296,slow=40										
PETF	Flores	8.46	83			Pn		17 48 55.3	-2.0		
PETF	Flores	8.46	83	eP		Pn		17 48 55.1	-2.2		
PETF				eS		Sn		17 50 27.2	-5.9		
LNIG	Linares	8.77	355	eP		Pn		17 49 03.3	+1.8		
LNIG				eS		Sn		17 50 45.2	+4.6		
MNIG	Monterrey	9.57	351			Pn		17 49 15.5	+2.9		
MNIG						Sn		17 51 00.4	+0.1		
MNIG	Monterrey	9.57	351	eP		Pn		17 49 15.5	+2.9		
MNIG				eS		Sn		17 51 00.4	+0.1		
MYIG	Mrida	9.73	59	eP		Pn		17 49 12.2	-2.5		
MYIG				eS		Sn		17 51 06.3	+2.2		
TEIG	Tepich	10.68	66	Pn		Pn		17 49 23.6	-4.1		
TEIG	Tepich	10.68	66	LR		LR		17 53 39.3			
	comp=Z,21µm,20.2s,slow=40										
TEIG	Tepich	10.68	66	eP		Pn		17 49 23.2	-4.5		
TEIG				*i* S		Sn		17 51 20.0	-7.3		
PDIG	Papasquiaro	10.89	326			Pn		17 49 35.1	+4.3		
PDIG	Papasquiaro	10.89	326	eP		Pn		17 49 35.1	+4.3		
TGUH	Tegucigalpa,Un	11.18	99	Pn		Pn		17 49 34.7	0.0		
CRIN	San Cristobal	11.74	105			Pn		17 49 44.2	+1.9		
833A	Chaparral WMA,	12.17	357	Pn		Pn		17 49 49.3	+1.2		
833A	Chaparral WMA,	12.17	357	P		Pn		17 49 48.7	+0.6		
	baz=175,SNR=5.9										
833A	Chaparral WMA,	12.17	357	P		Pn		17 49 49.1	+1.0		
	baz=175,SNR=5.9										
HPIG		12.59	330			Pn		17 49 53.4	-0.6		
SLBS	Sierra La Lagu	13.02	307	Pn		Pn		17 50 03.5	+3.7		
BOAB	BOACO BROADBAN	13.10	104	Pn		Pn		17 49 59.8	-1.1		
HNDO	Hondo	13.36	358			Pn		17 50 03.6	-0.8		
DRIO	Del Rio	13.37	353	Pn		Pn		17 50 02.9	-1.6		
LPIG	La Paz	13.52	308	LR		LR		17 54 19.4			
	comp=Z,2µm,21.7s,baz=104,slow=33										
ACON	Acoyapa	13.71	106			Pn		17 50 08.5	-0.7		
HZTE	Horizontes, Gu	13.79	111			Pn		17 50 10.7	+0.4		
TXAR	Lajitas Array	13.94	342			Pn		17 50 13.4	+1.0		
TXAR	Lajitas Array	13.94	342	P		Pn		17 50 13.5	+1.0		
TXAR	Lajitas Array	13.94	342	Pn		Pn		17 50 14.4	+2.0		
	0.1nm,0.3s,baz=159,slow=12,SNR=39										
TXAR				Lg		Lg		17 54 10.3			
	baz=157,slow=30,SNR=2.8										
	6.1nm,0.9s										
TX31	Lajitas Ar. Si	13.94	342	Pn		Pn		17 50 12.6	+0.2		
TX31	Lajitas Ar. Si	13.94	342	P		Pn		17 50 14.3	+1.8		
	baz=158,SNR=12										
HKT	Hockley	14.01	10	Pn		Pn		17 50 10.6	-2.6		
HKT	Hockley	14.01	10	P		Pn		17 50 10.6	-2.6		
ORTG	Ortega, Santa	14.05	112	Pn		Pn		17 50 15.5	+1.5		
SAND	Sanderson	14.14	348	Pn		Pn		17 50 15.0	-0.1		
JCT	Junction City	14.34	356	Pn		Pn		17 50 16.9	-0.9		
JCT	Junction City	14.34	356	P		Pn		17 50 16.9	-0.9		
JCT	Junction City	14.34	356	P		Pn		17 50 17.1	-0.6		
	baz=174										
JCT	Junction City	14.34	356	P		Pn		17 50 18.3	+0.5		
	baz=174										
JCT	Junction City	14.34	356	eP		Pn		17 50 17.5	-0.3		
ESPN	Las Esperanzas	14.45	104	Pn		Pn		17 50 19.6	+0.3		
JTS	Las Juntas de	14.54	112	Pn		Pn		17 50 21.6	+1.0		
JTS	Las Juntas de	14.54	112	*d iP*		P		17 50 24.4	-2.8		
JTS				pmax		pmax					
	comp=Z,69nm,0.8s										
JTS	Las Juntas de	14.54	112	Pn		P		17 50 24.4	-2.8		
	comp=Z,4.1nm,0.3s,baz=291,slow=11,SNR=6.1										
435B	Jarrell	14.63	4	Pn		Pn		17 50 21.0	-0.8		
435B	Jarrell	14.63	4	P		Pn		17 50 20.0	-1.8		
	baz=183										
ARE1	Arenal 1	14.68	111			Pn		17 50 22.9	+0.4		
SOCE	Pocosol	14.80	111			Pn		17 50 25.0	+0.9		
COVE	Coope Vega, Sa	14.86	109			Pn		17 50 24.8	-0.1		
HNVL	Huntsville, TX	14.86	11			Pn		17 50 23.5	-1.4		
ALPN	Alpine	14.91	343	Pn		Pn		17 50 26.0	+0.3		
OZNA	Ozona	14.91	352	Pn		Pn		17 50 24.3	-1.4		
JACO	JACO, Garabito	15.07	113			Pn		17 50 27.2	-0.5		
BRDY	Brady	15.11	359	Pn		Pn		17 50 25.6	-2.6		
441A	DeRidder	15.40	18			Pn		17 50 29.3	-2.8		
441A				IAmb		IAmb		17 50 38.2			
	comp=Z,86nm,0.8s										
HDC	Heredia	15.41	111			Pn		17 50 32.8	+0.4		
LCR2	La Lucha 2	15.61	112			Pn		17 50 35.8	+0.6		
LCR2				IAmb		IAmb		17 50 44.1			
	comp=Z,142nm,1.4s										
MNHN	Monahans	15.61	347			Pn		17 50 34.3	-0.6		
VHRN	Van Horn	15.71	339	Pn		Pn		17 50 36.8	+0.5		
WHTX	Lake Whitney,	15.84	4	P		Pn		17 50 38.6	+0.8		
WHTX	Lake Whitney,	15.84	4	P		Pn		17 50 36.0	-1.8		
	baz=183,SNR=16										
WHTX	Lake Whitney,	15.84	4	P		P		17 50 41.2	-0.4		
	baz=183,SNR=16										
WHTX				S		S		17 53 42.8	-5.2		
	baz=183										
SGCY	Sterling City	15.89	352	Pn		Pn		17 50 37.5	-0.9		
PECS	Pecos	15.91	344			Pn		17 50 39.2	+0.4		
NATX	Nacogdoches	15.99	12			Pn		17 50 38.4	-1.3		
NATX				IAmb		IAmb		17 50 44.3			
	comp=Z,131nm,1.1s										
NATX	Nacogdoches	15.99	12	P		Pn		17 50 37.1	-2.6		
	baz=193										
237A	Washetta, Mont	16.03	9	P		Pn		17 50 41.2	+1.1		
237A				IAmb		IAmb		17 50 45.2			
	comp=Z,228nm,1.1s										
237A	Washetta, Mont	16.03	9	P		P		17 50 43.3	-0.4		
	baz=189,SNR=6.7										
BATAN	Batan	16.03	110	P		Pn		17 50 42.1	+1.8		
PEZE	Perez Zeledon,	16.06	113	P		Pn		17 50 42.5	+1.7		
SOR	Soroa	16.17	63	P		Pn		17 50 39.8	-2.3		
SOR	Soroa	16.17	63	P		Pn		17 50 39.8	-2.3		
SOR				pmax		pmax					
	comp=Z,26nm,1.3s										
FW13	Cleburne	16.20	4	P		Pn		17 50 41.2	-1.3		
FW13				IAmb		IAmb		17 50 47.3			
	comp=Z,142nm,1.1s										
GUYB	Guaymas	16.29	318	eP		Pn		17 50 45.1	+1.6		
ODSA	Odessa	16.32	348			Pn		17 50 43.3	-0.8		
FW16	Waxahatchie	16.37	5			Pn		17 50 42.4	-2.2		
SRBA	San Rafael, Bu	16.41	115			Pn		17 50 44.9	-0.3		
ABTX	Abilene, Hawle	16.46	357	P		Pn		17 50 44.1	-1.6		
ABTX				IAmb		IAmb		17 50 50.7			
	comp=Z,242nm,1.2s										
ABTX	Abilene, Hawle	16.46	357	P		Pn		17 50 44.6	-1.2		
	baz=175,SNR=28										
ABTX	Abilene, Hawle	16.46	357	P		Pn		17 50 45.6	-0.2		
	baz=175,SNR=28										
ABTX				S		S		17 53 56.0	-4.7		
	baz=175										
DRK0	Durika	16.49	113	P		Pn		17 50 45.6	-0.8		
DRK0				IAmb		IAmb		17 50 54.1			
	comp=Z,99nm,0.4s										
FW07	Weatherford	16.53	3	P		Pn		17 50 44.5	-2.2		
FW07				IAmb		IAmb		17 50 51.8			
	comp=Z,151nm,1.1s										
PLPT	Palo Pinto	16.63	1			Pn		17 50 46.2	-1.7		
PLPT				IAmb		IAmb		17 50 52.4			
	comp=Z,290nm,1.1s										
MNTX	Cornudas Mount	16.68	340	P		Pn		17 50 48.1	-0.4		
MNTX	Cornudas Mount	16.68	340	P		Pn		17 50 49.4	+0.8		
	baz=155,SNR=35										
MNTX	Cornudas Mount	16.68	340	P		Pn		17 50 49.3	+0.8		
	baz=155,SNR=35										
MNTX	Cornudas Mount	16.68	340	*i* P		Pn		17 50 49.4	+0.8		
TREL	Terrell	16.71	8	P		Pn		17 50 46.0	-2.8		
TREL				IAmb		IAmb		17 50 52.7			
	comp=Z,148nm,1.3s										
CLNB	Carlsbad	16.77	344	P		Pn		17 50 50.7	+1.0		
SN05	Snyder 5	16.81	353	P		Pn		17 50 49.0	-1.2		
FW06	Azle	16.81	3	P		Pn		17 50 49.2	-1.0		
FW06				IAmb		IAmb		17 50 55.2			
	comp=Z,140nm,1.1s										
GDL2	Guadalupe Moun	16.84	343	P		Pn		17 50 51.1	+0.5		
FW03	Perrin-Whitt E	16.86	2	P		Pn		17 50 49.0	-1.7		
CLN7	Carlsbad 7	16.89	345	P		Pn		17 50 50.7	-0.6		
FSCY	Frank Sound, G	16.94	77	P		Pn		17 50 50.2	-1.7		
FSCY				IAmb		IAmb		17 50 55.4			
	comp=Z,101nm,1.0s										
SN07	Snyder 07	17.02	354	P		Pn		17 50 51.6	-1.3		
HSIG		17.13	321	P		P		17 50 56.0	+0.2		
EPT	El Paso	17.15	337	P		Pn		17 50 53.9	-0.6		
Z35A	Perchaven, San	17.19	4	P		Pn		17 50 52.6	-2.4		
Z35A				IAmb		IAmb		17 50 57.9			
	comp=Z,136nm,1.2s										
Z35A	Perchaven, San	17.19	4	P		Pn		17 50 53.5	-1.4		
	baz=183,SNR=5.4										
NZIG	Nacozari, Sono	17.35	327	P		P		17 50 58.3	-0.3		
NZIG	Nacozari, Sono	17.35	327	eP		P		17 50 58.3	-0.3		
Z38A	Mt. Pleasant	17.39	10	IAmb		IAmb		17 51 00.3			
	comp=Z,139nm,0.9s										
Z38A	Mt. Pleasant	17.39	10	P		Pn		17 50 56.5	-0.9		
	baz=191,SNR=9.3										
DKNS	Dickens	17.60	354	P		Pn		17 50 58.0	-2.1		
DKNS				IAmb		IAmb		17 51 03.4			
	comp=Z,74nm,0.8s										
VBMS	Vicksburg	17.65	23	P		Pn		17 50 58.0	-2.7		
VBMS				IAmb		IAmb		17 51 03.8			
	comp=Z,119nm,1.2s										
VBMS	Vicksburg	17.65	23	P		Pn		17 50 57.8	-2.9		
	baz=206										
VBMS	Vicksburg	17.65	23	P		Pn		17 50 59.2	-1.5		
	baz=206										
LOOK	Love County	17.85	4			Pn		17 51 00.8	-2.3		
Z41A	Richland Creek	17.87	16	IAmb		IAmb		17 51 06.3			
	comp=Z,190nm,1.1s										
319A	Douglas	18.02	329	P		Pn		17 51 05.5	+0.1		
MSTX	Muleshoe	18.16	349	P		Pn		17 51 06.5	-0.6		
	baz=166,SNR=16										
MSTX	Muleshoe	18.16	349	P		Pn		17 51 06.7	-0.4		
	baz=166,SNR=16										
121A	Cookes Peak, D	18.32	335	IAmb		IAmb		17 51 15.2			
	comp=Z,280nm,2.0s										
121A	Cookes Peak, D	18.32	335	P		P		17 51 10.6	+1.3		
	baz=150,SNR=20										
121A	Cookes Peak, D	18.32	335	P		P		17 51 10.9	+1.7		
	baz=150,SNR=20										
121A				S		S		17 54 38.4	-0.5		
	baz=150										
121A	Cookes Peak, D	18.32	335	*i* P		P		17 51 10.3	+1.0		
WMOK	Wichita Mounta	18.55	360			P		17 51 09.3	-2.2		
WMOK	Wichita Mounta	18.55	360	P		P		17 51 09.3	-2.2		
WMOK				pmax		pmax					
	comp=Z,29nm,1.3s										
WMOK	Wichita Mounta	18.55	360	P		P		17 51 10.6	-0.9		
	baz=178,SNR=10										
WMOK	Wichita Mounta	18.55	360	P		P		17 51 10.4	-1.1		
	baz=178,SNR=10										
WMOK				S		Sn		17 54 40.1	+1.0		
	baz=178										
X37A	Clayton	18.63	8	P		P		17 51 10.1	-2.3		
X37A	Clayton	18.63	8	P		Pn		17 51 12.6	-0.1		
	baz=189,SNR=12										
X37A				S		S		17 54 44.9	0.0		
	baz=189										
AMTX	Amarillo	18.89	352	P		P		17 51 15.0	-0.3		
	baz=170										
AMTX	Amarillo	18.89	352	P		P		17 51 15.2	-0.2		
	baz=170,SNR=19										
AMTX				S		Sn		17 54 47.7	+0.3		
	baz=170										
DUN6	Lazy B Ranch	18.91	332	P		P		17 51 14.8	-0.8		
DUN6				IAmb		IAmb		17 51 19.2			
	comp=Z,153nm,1.2s										
MIAR	Mount Ida	18.91	13	P		P		17 51 13.3	-2.2		
	baz=194,SNR=8.9										
MIAR	Mount Ida	18.91	13	P		P		17 51 14.7	-0.8		
	baz=194,SNR=8.9										
X40A	Basin Creek Fa	19.03	15	P		P		17 51 13.4	-3.4		
Y22A	Socorro	19.26	339	P		Pn		17 51 20.7	+0.2		
	baz=154,SNR=14										
Y22D	IRIS PASSCAL I	19.37	339	P		Pn		17 51 22.6	+0.8		
	baz=154										
Y22F	Passcal Instru	19.37	339	P		Pn		17 51 22.5	+0.7		
	baz=154										
Z47A	Carrollton	19.52	27	P		P		17 51 17.9	-4.2		
TUC	Tucson	19.53	328	P		Pn		17 51 25.0	+1.3		
	baz=141										
TUC	Tucson	19.53	328	eP		Pn		17 51 24.4	+0.8		
OK029	Liberty Lake	19.63	3	IAmb		IAmb		17 51 26.8			
	comp=Z,222nm,1.7s										
DEOK	Depew	19.74	5	IAmb		IAmb		17 51 26.6			
	comp=Z,135nm,1.4s										
OK052	Battle Ridge R	19.87	4	IAmb		IAmb		17 51 26.6			
	comp=Z,68nm,0.8s										
LRAL	Lakeview Retre	19.88	30	P		P		17 51 22.4	-3.7		
LRAL	Lakeview Retre	19.88	30	P		P		17 51 24.8	-1.2		
	baz=214,SNR=10										
LRAL	Lakeview Retre	19.88	30	P		P		17 51 25.7	-0.3		
	baz=214,SNR=10										
TUL3	Leonard	19.88	7	P		P		17 51 23.8	-2.3		
TUL3				IAmb		IAmb		17 51 33.8			
	comp=Z,69nm,0.9s										
TUL3	Leonard	19.88	7	P		P		17 51 25.3	-0.8		
	baz=187,SNR=9.3										
TUL3				S		S		17 55 07.6	-2.3		
	baz=187										
DWPF	Disney Wildern	19.89	50	P		P		17 51 25.0	-1.3		
	baz=237										
OK033	Mehan	19.91	4	IAmb		IAmb		17 51 27.1			
	comp=Z,77nm,0.7s										
WHAR	Wooly Hollow	19.93	15	IAmb		IAmb		17 51 33.6			
	comp=Z,79nm,1.1s										
ANMO	Albuquerque	20.02	341	P		Pn		17 51 28.9	-0.6		
ANMO	Albuquerque	20.02	341	*c iP*		Pn		17 51 30.0	+0.5		
ANMO				pmax		pmax					
	comp=Z,53nm,1.1s										
ANMO	Albuquerque	20.02	341	P		Pn		17 51 28.9	-0.6		
	baz=156										
ANMO	Albuquerque	20.02	341	P		Pn		17 51 29.2	-0.3		
	baz=156,SNR=43										
ANMO				S		S		17 55 13.7	+0.7		
	baz=156										
QUOK	Quay	20.05	5			P		17 51 25.1	-2.9		
QUOK				IAmb		IAmb		17 51 37.3			
	comp=Z,59nm,0.9s										
OXF	Oxford	20.11	23	P		P		17 51 26.5	-2.1		
	baz=206										
U32A	Winter Ranch,	20.19	359			P		17 51 27.3	-2.2		
U32A				IAmb		IAmb		17 51 31.0			
	comp=Z,116nm,0.9s										
U32A	Winter Ranch,	20.19	359	P		P		17 51 29.5	0.0		
	baz=178,SNR=6.3										
RLO	Rose Lookout	20.23	9	IAmb		IAmb		17 51 33.2			
	comp=Z,55nm,0.9s										
OK038	West end E0370	20.28	360	P		P		17 51 28.4	-2.1		
OK038				IAmb		IAmb		17 51 31.7			
	comp=Z,83nm,1.0s										
CROK	Carrier	20.32	2	IAmb		IAmb		17 51 36.1			
	comp=Z,112nm,1.0s										
214A	Organ Pipe Nat	20.36	323	IAmb		IAmb		17 51 35.8			
	comp=Z,111nm,1.6s										
214A	Organ Pipe Nat	20.36	323	P		Pn		17 51 34.2	+0.7		
	baz=136,SNR=11										
214A	Organ Pipe Nat	20.36	323	*i* P		Pn		17 51 33.8	+0.4		
PIX	Pinacate	20.45	321	P		P		17 51 33.2	+0.8		
OK035	E0210 Rd and N	20.51	360	IAmb		IAmb		17 51 34.2			
	comp=Z,86nm,1.1s										
TIGA	Tifton	20.52	39	P		P		17 51 32.0	-1.1		
	baz=225										
FCAR	Ozark Folk Cen	20.54	15	P		P		17 51 31.3	-1.9		
FCAR				IAmb		IAmb		17 51 38.8			
	comp=Z,65nm,1.1s										
U38A	Gravette	20.60	10	IAmb		IAmb		17 51 38.8			
	comp=Z,80nm,1.1s										
U38A	Gravette	20.60	10	P		P		17 51 32.8	-1.1		
	baz=191,SNR=11										
U38A				S		S		17 55 21.6	-2.6		
	baz=191										
BLOK	Blackwell	20.60	3	IAmb		IAmb		17 51 37.0			
	comp=Z,140nm,1.1s										
152A	Waverly Hall	20.76	35	P		P		17 51 32.4	-3.3		
T35A	Sooner Cattle	20.81	5	P		P		17 51 34.0	-2.2		
T35A				IAmb		IAmb		17 51 36.4			
	comp=Z,81nm,0.8s										
T35B	Sooner Cattle	20.81	5	P		P		17 51 34.8	-1.4		
	baz=185,SNR=26										
T35B				S		S		17 55 28.2	-0.2		
	baz=185										
U40A	Yellville	20.81	13	P		P		17 51 35.2	-1.0		
	baz=195,SNR=39										
U40A				P		P		17 51 35.2	-1.0		
	baz=195,SNR=39										
Y49A	Blount Mountai	20.83	30	IAmb		IAmb		17 51 37.0			
	comp=Z,64nm,1.1s										
Y49A	Blount Mountai	20.83	30	P		P		17 51 35.6	-0.9		
	baz=215,SNR=9.5										
KAN13	South Haven SW	20.84	3	IAmb		IAmb		17 51 40.6			
	comp=Z,116nm,1.2s										
SFX	San Felipe	20.96	318	P		Pn		17 51 39.5	-0.9		
LCAR	Lake Charles	20.97	17	S		S		17 55 29.8	-1.7		
	baz=200										
X48A	Hartselle	21.03	28	P		P		17 51 36.2	-2.3		
X48A				IAmb		IAmb		17 51 41.1			
	comp=Z,75nm,1.1s										
X48A	Hartselle	21.03	28	P		P		17 51 36.6	-2.0		
	baz=212,SNR=17										
PLAL	Pickwick Lake	21.05	25	IAmb		IAmb		17 51 49.1			
	comp=Z,76nm,0.8s										
KAN06	Argonia West S	21.06	2	IAmb		IAmb		17 51 44.1			
	comp=Z,51nm,0.9s										
W18A	Petrified Fore	21.37	334	P		P		17 51 44.3	+1.9		
	baz=148,SNR=13										
X16A	Lo Mia Camp, P	21.55	330	IAmb		IAmb		17 51

CCM Cathedral Cave 22.81 15 P **P** **17 51 54.4 -3.3**
CCM pmax pmax
comp=Z,54nm,0.8s
CCM Cathedral Cave 22.81 15 P **P** **17 51 56.0 -1.6**
baz=198
CCM Cathedral Cave 22.81 15 P **P** **17 51 58.1 +0.5**
baz=198,SNR=20
IKP In-Ko-Pah, Jac 22.83 319 P **P** **17 52 00.3 +2.3**
baz=131,SNR=7.0
SWSC Sam W. Stewart 22.84 320 P **P** **17 52 00.5 +2.6**
baz=132,SNR=6.9
PDMCI Parker Dam,Lak 22.85 325 P **P** **17 52 00.3 +2.2**
baz=137,SNR=16
FVM French Village 22.96 17 IAmb IAmb 17 52 00.9
comp=Z,130nm,1.2s
FVM French Village 22.96 17 P **P** **17 51 59.7 +0.5**
baz=200,SNR=17
FVM S **S** **17 56 14.0 +4.5**
baz=200
CBX Cerro Bola 22.96 318 IAmb IAmb 17 52 05.2
comp=Z,128nm,1.8s
KSU1 Kansas State U 22.97 4 IAmb IAmb 17 52 11.6
comp=Z,39nm,0.9s
KSU1 Kansas State U 22.97 4 P **P** **17 51 57.3 -2.0**
baz=184
KSU1 Kansas State U 22.97 4 P **P** **17 51 59.1 -0.2**
baz=184
KSU1 S **S** **17 56 10.3 +0.6**
baz=184
CPCT Cooper Cave 23.03 31 P **P** **17 51 57.5 -2.4**
CPCT IAmb IAmb 17 52 08.1
comp=Z,49nm,0.9s
S44A Carbondale 23.04 19 P **P** **17 52 00.0 0.0**
baz=203,SNR=27
W52A Murphy 23.05 32 IAmb IAmb 17 52 01.2
comp=Z,108nm,1.0s
W52A Murphy 23.05 32 P **P** **17 51 59.6 -0.5**
baz=218,SNR=17
W52A S **S** **17 56 17.5 +6.4**
baz=218
HAW Hawthorne Fire 23.06 39 P **P** **17 51 58.2 -2.0**
baz=226
HAW S **S** **17 56 16.7 +5.5**
baz=226
SIUC Southern Illin 23.07 19 P **P** **17 51 58.8 -1.6**
KSCO Kaye Shedlock' 23.08 352 P **P** **17 52 00.2 -0.3**
baz=169,SNR=19
KSCO Kaye Shedlock' 23.08 352 P **P** **17 52 01.4 +0.8**
baz=169,SNR=19
TKX Tecate 23.09 318 P **P** **17 52 02.4 +1.7**
TKX IAmb IAmb 17 52 12.8
comp=Z,99nm,1.8s
BC3 Big Chuckawall 23.12 322 P **P** **17 52 02.7 +1.7**
baz=134,SNR=23
T47A Sharon Grove 23.18 24 P **P** **17 52 01.2 -0.2**
baz=209,SNR=51
T47A S **S** **17 56 18.6 +5.4**
baz=209
MONP2 Monument Peak 23.19 319 P **P** **17 52 03.9 +2.0**
baz=131,SNR=10
BAR Barrett 23.21 319 P **P** **17 52 03.3 +1.5**
HODGE Hodges 23.30 36 P **P** **17 52 01.2 -1.5**
HODGE IAmb IAmb 17 52 11.3
comp=Z,41nm,0.9s
HODGE Hodges 23.30 36 P **P** **17 52 01.2 -1.5**
baz=223,SNR=9.7
IRM Iron Mountain 23.30 323 P **P** **17 52 04.8 +2.0**
baz=135,SNR=27
W13A Hualapai Mount 23.31 327 IAmb IAmb 17 52 07.5
comp=Z,59nm,1.4s
U49A Red Boiling Sp 23.32 27 IAmb IAmb 17 52 04.2
comp=Z,89nm,1.1s
U49A Red Boiling Sp 23.32 27 P **P** **17 52 01.8 -1.1**
baz=212,SNR=20
U49A S **S** **17 56 21.9 +6.4**
baz=212
NEE2 Needles Airpor 23.45 325 P **P** **17 52 06.1 +1.8**
baz=137
Q24A Divide 23.47 347 IAmb IAmb 17 52 08.0
comp=Z,60nm,1.3s
Q24A Divide 23.47 347 P **P** **17 52 04.9 +0.2**
baz=163,SNR=16
BG3 Lake Jocassee 23.49 34 IAmb IAmb 17 52 05.1
comp=Z,47nm,1.1s
CASEE Lake Jocassee 23.49 34 P **P** **17 52 04.1 -0.5**
baz=221,SNR=7.6
CASEE S **S** **17 56 24.7 +6.3**
baz=221
TKL Tuckaleechee C 23.56 32 IAmb IAmb 17 52 26.7
comp=Z,44nm,0.7s
TKL Tuckaleechee C 23.56 32 S **S** **17 56 17.5 -2.1**
baz=218
U15A North Rim 23.59 332 P **P** **17 52 06.6 +0.7**
U15A IAmb IAmb 17 52 16.6
comp=Z,59nm,1.2s
109C Camp Elliot, M 23.62 318 P **P** **17 52 07.7 +1.8**
baz=129
PMD Palm Desert 23.67 321 P **P** **17 52 07.5 +1.1**
BELC Belle Mtn. Jos 23.69 322 P **P** **17 52 08.0 +1.3**
baz=133,SNR=19
TPFO Pinon Flats 23.69 321 P **P** **17 52 08.2 +1.5**
baz=132,SNR=9.8
PFO Pinyon Flats O 23.70 321 P **P** **17 52 08.2 +1.4**
PFO Pinyon Flats O 23.70 321 *c* *i* P **P** **17 52 08.8 +2.0**
PFO pmax pmax
comp=Z,116nm,2.2s
PFO Pinyon Flats O 23.70 321 P **P** **17 52 08.3 +1.5**
baz=132,SNR=9.3
PFO Pinyon Flats O 23.70 321 LR LR 18 01 48.8
comp=Z,2µm,18.9s,baz=134,slow=38
P38A Dawn 23.85 10 IAmb IAmb 17 52 08.9
comp=Z,70nm,1.0s
P38A Dawn 23.85 10 P **P** **17 52 07.6 -0.4**
baz=192,SNR=8.5
P38A S **S** **17 56 27.5 +3.5**
baz=192
JSC Jenkinsville 23.91 38 IAmb IAmb 17 52 09.9
comp=Z,54nm,1.3s
PAULI Pauline 23.98 36 IAmb IAmb 17 52 18.4
comp=Z,70nm,1.3s
PAULI Pauline 23.98 36 P **P** **17 52 09.4 +0.1**
baz=223
PAULI S S 17 56 37.2 +11
baz=223
P40A Paris 24.03 13 P **P** **17 52 08.6 -1.2**
P40A Paris 24.03 13 P **P** **17 52 09.2 -0.6**
baz=195,SNR=36
P40A S **S** **17 56 28.4 +1.4**
baz=195
GMRC Granite Mounta 24.05 324 P **P** **17 52 12.2 +2.0**
baz=135,SNR=36
V53A Saluda 24.07 33 IAmb IAmb 17 52 19.7
comp=Z,122nm,1.6s
V53A Saluda 24.07 33 P **P** **17 52 09.3 -1.0**
baz=220,SNR=7.4
V53A P **P** **17 52 09.3 -1.0**
baz=220,SNR=7.4
V53A S **S** **17 56 32.8 +5.1**
baz=220
V53A S **S** **17 56 32.8 +5.1**
baz=220
MURC Murrieta 24.14 320 P **P** **17 52 12.9 +1.9**
baz=130
T50A Nancy 24.16 28 P **P** **17 52 09.7 -1.3**
baz=214
T50A P **P** **17 52 09.7 -1.3**
baz=214
T50A S **S** **17 56 24.2 -4.9**
baz=214
T50A S **S** **17 56 24.2 -4.9**
baz=214
Q44A Meyer Farm, Va 24.23 19 P **P** **17 52 10.6 -1.0**
baz=202,SNR=10
V12A Nelson 24.30 327 P **P** **17 52 13.4 +0.9**
KNB Kanab 24.32 332 P **P** **17 52 13.1 +0.4**
KNB IAmb IAmb 17 52 16.9
comp=Z,58nm,1.2s
KNB Kanab 24.32 332 P **P** **17 52 13.1 +0.4**
KNB pmax pmax
comp=Z,58nm,1.2s
ELS Elsinore Mount 24.32 319 P **P** **17 52 13.6 +1.0**
ELS IAmb IAmb 17 52 22.2
comp=Z,70nm,1.6s
OLIL Olney 24.36 20 P **P** **17 52 12.4 -0.5**
baz=205,SNR=7.5
ISCO Idaho Springs 24.37 347 P **P** **17 52 14.2 +1.0**
baz=163,SNR=49
ISCO Idaho Springs 24.37 347 P **P** **17 52 14.3 +1.0**
baz=163,SNR=49
TZTN Tazewell 24.38 31 P **P** **17 52 11.9 -1.1**
baz=217,SNR=9.8
TZTN Tazewell 24.38 31 P **P** **17 52 12.6 -0.4**
baz=217,SNR=9.8
TZTN S **S** **17 56 34.7 +2.1**
baz=217
BBRC Big Bear Solar 24.42 321 P **P** **17 52 15.9 +2.2**
baz=132
PKCU Pink Cliffs 24.44 333 P **P** **17 52 13.8 -0.1**
HEC Hector,Ludlow 24.47 323 P **P** **17 52 16.2 +2.2**
baz=134,SNR=12
KMSC Kings Mountain 24.48 36 P **P** **17 52 11.5 -2.5**
KMSC Kings Mountain 24.48 36 P **P** **17 52 12.8 -1.2**
baz=224
N33B J Bar K, Exete 24.56 2 P **P** **17 52 15.6 +0.9**
baz=182,SNR=8.4
N33B S **S** **17 56 39.6 +4.2**
baz=182
WCI Wyandotte Cave 24.57 24 P **P** **17 52 13.3 -1.5**
WCI Wyandotte Cave 24.57 24 P **P** **17 52 13.3 -1.5**
WCI pmax pmax
comp=Z,617nm,1.9s
WCI Wyandotte Cave 24.57 24 P **P** **17 52 14.3 -0.5**
baz=209
WCI Wyandotte Cave 24.57 24 P **P** **17 52 14.1 -0.6**
baz=209,SNR=14
WCI S **S** **17 56 38.3 +2.6**
baz=209
SCI2 San Clemente I 24.61 317 P **P** **17 52 17.3 +2.1**
baz=127
BIRD Birdtown, Kers 24.64 38 P **P** **17 52 13.8 -1.5**
TUQ Turquoise Moun 24.67 324 P **P** **17 52 17.8 +1.9**
baz=136,SNR=49
P43A Skaggs, Pawnee 24.76 17 P **P** **17 52 15.1 -1.3**
P43A IAmb IAmb 17 52 26.3
comp=Z,71nm,0.9s
CIS Catalina Islan 24.79 318 P **P** **17 52 18.6 +1.8**
baz=128
N35A Tabor 24.80 5 P **P** **17 52 16.0 -0.8**
baz=186
N35A S **S** **17 56 41.8 +2.6**
baz=186
BFSC Mount Baldy Ra 24.85 320 P **P** **17 52 19.8 +2.3**
baz=131
MTPU Mount Pierson 24.89 334 IAmb IAmb 17 52 29.2
comp=Z,52nm,1.0s
RRX Edison Barstow 24.89 322 P **P** **17 52 19.7 +2.0**
baz=133
FMP Fort Macarthur 24.91 318 P **P** **17 52 20.3 +2.5**
baz=129
OGNE Ogallala 24.91 354 P **P** **17 52 18.4 +0.4**
OGNE Ogallala 24.91 354 P **P** **17 52 18.9 +0.9**
baz=171,SNR=31
OGNE Ogallala 24.91 354 P **P** **17 52 19.1 +1.2**
baz=171,SNR=31
OGNE S **S** **17 56 48.0 +6.6**
baz=171
N38A Joes South For 25.04 10 S **S** **17 56 44.5 +1.4**
baz=192
V55A Taylorsville 25.06 35 P **P** **17 52 18.7 -0.6**
baz=223,SNR=6.2
V55A P **P** **17 52 18.7 -0.6**
baz=223,SNR=6.2
V55A S **S** **17 56 47.7 +4.0**
baz=223
V55A S **S** **17 56 47.7 +4.0**
baz=223
GSC Goldstone, Bar 25.07 323 P **P** **17 52 19.4 0.0**
GSC IAmb IAmb 17 52 30.9
comp=Z,50nm,1.3s
GSC Goldstone, Bar 25.07 323 P **P** **17 52 19.5 0.0**
GSC pmax pmax
comp=Z,50nm,1.3s
GSC Goldstone, Bar 25.07 323 P **P** **17 52 21.7 +2.3**
baz=134,SNR=7.1
R49A Shelbyville 25.08 26 P **P** **17 52 18.8 -0.5**
baz=212,SNR=6.7
R49A P **P** **17 52 18.8 -0.5**
baz=212,SNR=6.7
R49A S **S** **17 56 47.9 +4.1**
baz=212
R49A S **S** **17 56 47.9 +4.1**
baz=212
SRU San Rafael Swe 25.16 338 IAmb IAmb 17 52 30.5
comp=Z,51nm,1.0s
SHOC Shoshone, Teco 25.20 325 P **P** **17 52 22.4 +1.9**
baz=136
BGNE Belgrade 25.21 1 IAmb IAmb 17 52 32.9
comp=Z,71nm,1.1s
BGNE Belgrade 25.21 1 P **P** **17 52 20.8 +0.3**
baz=180
BGNE Belgrade 25.21 1 S **S** **17 56 50.8 +4.9**
baz=180
S51A Beattyville 25.23 29 P **P** **17 52 19.1 -1.6**
S51A Beattyville 25.23 29 P **P** **17 52 20.6 -0.2**
baz=216,SNR=27
S51A P **P** **17 52 20.6 -0.2**
baz=216,SNR=27
S51A S **S** **17 56 51.1 +4.8**
baz=216
S51A S **S** **17 56 51.1 +4.8**
baz=216
Q16A Castle Valley 25.23 337 IAmb IAmb 17 52 31.3
comp=Z,56nm,0.9s
U54A Nelsons Funny 25.23 33 P **P** **17 52 20.3 -0.6**
baz=220,SNR=10
U54A P **P** **17 52 20.3 -0.6**
baz=220,SNR=10
U54A S **S** **17 56 56.7 +10**
baz=220
U54A S **S** **17 56 56.7 +10**
baz=220
W57A Gilead 25.26 38 P **P** **17 52 20.4 -0.7**
baz=226,SNR=9.7
W57A P **P** **17 52 20.4 -0.7**
baz=226,SNR=9.7
W57A S **S** **17 56 51.0 +4.2**
baz=226
W57A S **S** **17 56 51.0 +4.2**
baz=226
DECC Green Verdugo 25.28 319 P **P** **17 52 23.6 +2.4**
baz=130
O20A White River Ci 25.35 343 P **P** **17 52 23.2 +1.2**
O20A White River Ci 25.35 343 P **P** **17 52 23.0 +1.0**
baz=157,SNR=41
N41A Harden Midland 25.42 14 P **P** **17 52 22.0 -0.4**
baz=197,SNR=13
SNCC San Nicolas Is 25.43 316 P **P** **17 52 25.1 +2.5**
baz=126
R50A Paris 25.43 27 P **P** **17 52 20.7 -1.8**
R50A IAmb IAmb 17 52 23.5
comp=Z,26nm,0.8s
R50A **PcP** **17 55 56.0 +1.3**
R50A Paris 25.43 27 P **P** **17 52 21.8 -0.7**
baz=213,SNR=8.8
R50A P **P** **17 52 21.8 -0.7**
baz=213,SNR=8.8
R50A S **S** **17 56 52.5 +3.1**
baz=213
R50A S **S** **17 56 52.5 +3.1**
baz=213
P46A Rosedale 25.46 21 S **S** **17 56 54.6 +4.7**
baz=206
TCRU Three Creeks R 25.48 334 P **P** **17 52 24.3 +1.0**
EDW2 Edwards Air Fo 25.49 321 P **P** **17 52 24.2 +1.0**
baz=131,SNR=6.1
N23A Red Feather La 25.49 347 IAmb IAmb 17 52 27.2
comp=Z,45nm,0.9s
N23A Red Feather La 25.49 347 P **P** **17 52 23.8 +0.5**
baz=163,SNR=16
P18A Preston Nutter 25.52 339 IAmb IAmb 17 52 35.2
comp=Z,64nm,1.1s
O44A Mansfield 25.54 18 P **P** **17 52 22.6 -0.9**
baz=203
P17A Butcher Ranch, 25.56 338 IAmb IAmb 17 52 34.6
comp=Z,30nm,1.1s
QSM Queen of Sheba 25.58 324 IAmb IAmb 17 52 36.7
comp=Z,42nm,1.1s
GWY Greenwater Val 25.63 325 IAmb IAmb 17 52 36.5
comp=Z,24nm,0.9s
HDIL Hopedale 25.67 17 P **P** **17 52 23.9 -0.8**
baz=201
HDIL Hopedale 25.67 17 P **P** **17 52 24.5 -0.2**
baz=201
PRN Pahroc Range 25.69 329 IAmb IAmb 17 52 45.2
comp=Z,42nm,1.2s
LRMC Laurel Mtn Rad 25.71 322 P **P** **17 52 26.5 +1.2**
baz=133,SNR=15
OSI Osito Audit: C 25.76 319 P **P** **17 52 27.8 +2.1**
baz=130
PHWY Pilot Hill 25.78 348 P **P** **17 52 26.2 +0.2**
PHWY IAmb IAmb 17 52 29.9
comp=Z,38nm,0.9s
L34A Svendsen Farm, 25.84 4 IAmb IAmb 17 52 47.4
comp=Z,39nm,0.7s
U56A King 25.89 35 P **P** **17 52 25.7 -1.0**
U56A IAmb IAmb 17 52 28.4
comp=Z,50nm,1.3s
FURC Furnace Creek, 25.94 325 P **P** **17 52 29.8 +2.6**
baz=136
SCZ2 Santa Cruz Isl 25.95 317 P **P** **17 52 29.2 +1.8**
baz=127
P48A Milroy 25.98 24 IAmb IAmb 17 52 28.8
comp=Z,92nm,1.4s
P48A Milroy 25.98 24 P **P** **17 52 26.8 -0.7**
baz=210,SNR=6.7
P48A P **P** **17 52 26.8 -0.7**
baz=210,SNR=6.7
MPMC Manual Prospec 26.00 323 P **P** **17 52 29.7 +1.8**
baz=134,SNR=16
SCIA State Center 26.13 9 P **P** **17 52 28.4 -0.4**
baz=191,SNR=27
SCIA State Center 26.13 9 P **P** **17 52 29.5 +0.7**
baz=191,SNR=27
RDMU Red Mountain 26.15 341 IAmb IAmb 17 52 33.5
comp=Z,50nm,1.2s
ARVC Arvin 26.16 320 P **P** **17 52 31.6 +2.3**
baz=130
SFIN Lafayette 26.18 20 P **P** **17 52 28.6 -0.7**
baz=205,SNR=8.9
SFIN Lafayette 26.18 20 P **P** **17 52 29.0 -0.3**
baz=205,SNR=8.9
SFIN S **S** **17 57 06.6 +5.3**
baz=205
V58A Windy Hill, Pi 26.22 38 P **P** **17 52 28.4 -1.4**
V58A Windy Hill, Pi 26.22 38 P **P** **17 52 29.6 -0.2**
baz=226,SNR=7.8
V58A P **P** **17 52 29.6 -0.2**
baz=226,SNR=7.8
SDDR Presa de Saban 26.23 80 P **P** **17 52 29.4 -0.7**
SDDR IAmb IAmb 17 52 48.9
comp=Z,42nm,1.0s
SBC Santa Barbara 26.28 318 P **P** **17 52 32.8 +2.5**
baz=128
ISA Isabella, Lake 26.30 321 P **P** **17 52 31.2 +0.6**
ISA Isabella, Lake 26.30 321 P **P** **17 52 31.2 +0.6**
ISA pmax pmax
comp=Z,25nm,1.3s
ISA Isabella, Lake 26.30 321 P **P** **17 52 33.0 +2.4**
baz=132
P49A Miami Univ. Ec 26.32 25 P **P** **17 52 29.0 -1.6**
baz=211,SNR=22
P49A Miami Univ. Ec 26.32 25 P **P** **17 52 29.6 -1.0**
baz=211,SNR=22
P49A S **S** **17 57 08.2 +4.7**
baz=211
ROSC El Rosal 26.38 112 P **P** **17 52 33.6 +1.8**
comp=Z,6.4nm,0.4s,baz=90,slow=23,SNR=1.8
comp=Z,6.4nm,0.4s
BCW Bitter Crk WRg 26.41 319 IAmb IAmb 17 52 49.9
comp=Z,46nm,1.1s
S54A Dingess, Beckl 26.47 32 S **S** **17 57 11.8 +5.8**
baz=220
S54A S **S** **17 57 11.8 +5.8**
baz=220
Q51A Peebles 26.47 27 P **P** **17 52 31.2 -0.8**
baz=214,SNR=16
Q51A P **P** **17 52 31.2 -0.8**
baz=214,SNR=16
Q51A S **S** **17 57 11.2 +5.3**
baz=214
Q51A S **S** **17 57 11.2 +5.3**
baz=214
NLU North Lilly Min 26.48 336 IAmb IAmb 17 52 35.8
comp=Z,26nm,1.0s
K30B Basset 26.48 358 P **P** **17 52 33.5 +1.4**
baz=177,SNR=15
BLA Blacksburg 26.50 34 IAmb IAmb 17 52 42.0
comp=Z,50nm,0.9s
BLA Blacksburg 26.50 34 P **P** **17 52 29.8 -2.5**
baz=222
BLA Blacksburg 26.50 34 S **S** **17 57 11.8 +5.4**
baz=222
BSUT Blindstream Ca 26.51 339 P **P** **17 52 32.7 -0.1**
BSUT IAmb IAmb 17 52 38.2
comp=Z,31nm,0.9s
CNNC Cliffs of the 26.60 40 P **P** **17 52 31.2 -1.9**
baz=230
GRAC Grapevine Rang 26.60 325 IAmb IAmb 17 52 46.4
comp=Z,27nm,0.9s
GRAC Grapevine Rang 26.60 325 P **P** **17 52 35.2 +1.9**
baz=135
CWC Cottonwood Cre 26.61 323 P **P** **17 52 35.5 +2.0**
baz=133
SPR3 Spring Creek 3 26.62 332 P **P** **17 52 34.4 +0.7**
PKM Mcpherson Peak 26.63 319 P **P** **17 52 35.7 +2.1**
baz=128
L40A Anamosa 26.64 12 IAmb IAmb 17 52 35.9
comp=Z,53nm,0.9s
L40A Anamosa 26.64 12 P **P** **17 52 33.4 0.0**
baz=196,SNR=9.5
R11B Troy Canyon, C 26.69 329 P **P** **17 52 36.6 +2.4**
baz=140,SNR=25
GMN Gold Mountain 26.76 326 IAmb IAmb 17 52 47.8
comp=Z,35nm,1.3s
O48B Farmland 26.77 23 P **P** **17 52 33.2 -1.4**
baz=209,SNR=16
O48B Farmland 26.77 23 P **P** **17 52 34.3 -0.4**
baz=209,SNR=16
O48B S **S** **17 57 14.2 +3.7**
baz=209
VES Vestal, Richgr 26.79 321 P **P** **17 52 37.8 +3.0**
baz=131
M44A Midewin, Midew 26.80 18 S **S** **17 57 16.1 +5.1**
baz=203
Q12A Willow Creek R 26.88 331 IAmb IAmb 17 52 47.6
comp=Z,50nm,1.6s
Q52A Bidwell 26.91 29 P **P** **17 52 35.8 -0.2**
baz=216,SNR=9.3
Q52A P **P** **17 52 35.8 -0.2**
baz=216,SNR=9.3
Q52A S **S** **17 57 19.0 +6.2**
baz=216
Q52A S **S** **17 57 19.0 +6.2**
baz=216
L42A Oliver, Polo 26.93 15 P **P** **17 52 35.9 -0.2**
baz=199,SNR=12
DUG Dugway, Tooele 26.97 336 P **P** **17 52 37.0 +0.4**
baz=148,SNR=15
P51A Williamsport 26.98 27 P **P** **17 52 34.9 -1.6**
P51A Williamsport 26.98 27 P **P** **17 52 35.7 -0.8**
baz=214,SNR=12
P51A P **P** **17 52 35.7 -0.8**
baz=214,SNR=12
P51A S **S** **17 57 19.3 +5.5**
baz=214
P51A S **S** **17 57 19.3 +5.5**
baz=214
T57A Hurt 26.98 36 IAmb IAmb 17 52 42.8
comp=Z,76nm,1.4s
T57A Hurt 26.98 36 S **S** **17 57 20.4 +6.3**
baz=224
T57A S **S** **17 57 20.4 +6.3**
baz=224
SMMC Simmler 27.01 319 P **P** **17 52 37.9 +1.0**
baz=129
O49A Covington 27.03 25 P **P** **17 52 36.4 -0.6**
baz=211,SNR=8.0
O49A P **P** **17 52 36.4 -0.6**
baz=211,SNR=8.0
N47A Urbana 27.11 22 P **P** **17 52 37.0 -0.7**
baz=208,SNR=14
N47A P **P** **17 52 37.0 -0.7**
baz=208,SNR=14
N47A S **S** **17 57 21.4 +5.5**
baz=208
N47A S **S** **17 57 21.4 +5.5**
baz=208
TIN Tinemaha, Big 27.12 324 P **P** **17 52 39.6 +1.6**
baz=134
DSP Deep Springs 27.20 325 P **P** **17 52 38.6 +0.1**
TCUT Toone Canyon 27.25 339 IAmb IAmb 17 52 42.7
comp=Z,56nm,1.1s
VOG Valley Oaks Go 27.29 321 P **P** **17 52 41.1 +1.7**
baz=131

K22A	Casper	27.29	347	P	P	17 52 40.5	+0.9		
	baz=162								
TPH	Tonopah	27.32	327	IAmb	IAmb	17 53 06.8			
	comp=Z,47nm,0.9s								
P52A	Corning	27.52	28	P	P	17 52 40.5	-0.9		
	baz=216								
L44A	Lake County Fo	27.57	17	P	P	17 52 41.5	-0.3		
	baz=202								
ECSD	EROS Data Cent	27.58	3	IAmb	IAmb	17 52 46.8			
	comp=Z,32nm,1.1s								
Q54A	Coxs Mills	27.62	31	IAmb	IAmb	17 52 53.1			
	comp=Z,49nm,1.1s								
ACSO	Alum Creek Sta	27.63	26	IAmb	IAmb	17 52 43.3			
	comp=Z,76nm,1.3s								
ACSO	Alum Creek Sta	27.63	26	P	P	17 52 41.7	-0.7		
	baz=214								
JFWS	Jewell Farm	27.66	13	IAmb	IAmb	17 52 43.5			
	comp=Z,57nm,1.1s								
JFWS	Jewell Farm	27.66	13	P	P	17 52 40.9	-1.7		
	baz=197,SNR=6.6								
JFWS	Jewell Farm	27.66	13	P	P	17 52 42.6	0.0		
	baz=197,SNR=6.6								
S57A	Dark Hollow, R	27.69	35	P	P	17 52 40.1	-2.9		
S57A				IAmb	IAmb	17 52 53.2			
	comp=Z,27nm,0.9s								
HWUT	Hardware Ranch	27.74	339	IAmb	IAmb	17 52 52.1			
	comp=Z,44nm,1.6s								
SPUT	South Promonto	27.79	337	P	P	17 52 44.0	-0.1		
MLAC	Mammoth, Mammo	27.87	324	P	P	17 52 46.6	+1.8		
	baz=134								
MDPB	Devils Postpil	28.01	324	IAmb	IAmb	17 52 49.3			
	comp=Z,33nm,1.5s								
O52A	Adamsville	28.04	28	IAmb	IAmb	17 52 53.0			
	comp=Z,41nm,1.1s								
O52A	Adamsville	28.04	28	P	P	17 52 45.9	-0.2		
	baz=216								
O52A				P	P	17 52 45.9	-0.2		
	baz=216								
NV11	Mina Array Sit	28.07	326	IAmb	IAmb	17 52 50.7			
	comp=Z,28nm,1.2s								
NVAR	Mina Array Bea	28.15	326	P	P	17 52 48.2	+0.9		
NVAR	Mina Array Bea	28.15	326	P	P	17 52 49.4	+2.0		
	comp=Z,6.2nm,0.8s,baz=153,slow=9.5,SNR=42								
NVAR				PcP	PcP	17 56 01.4	+0.1		
	comp=Z,1.2nm,0.7s,baz=136,slow=3.0,SNR=2.6								
NVAR				LR	LR	18 05 35.0			
	comp=Z,2µm,19.4s,baz=144,slow=40								
	comp=Z,6.2nm,0.8s								
PD31	Pinedale Array	28.16	343	IAmb	IAmb	17 53 03.1			
	comp=Z,26nm,1.1s								
PDAR	Pinedale Array	28.16	343	P	P	17 52 47.9	+0.5		
PDAR	Pinedale Array	28.16	343	P	P	17 52 48.5	+1.2		
	comp=Z,8.6nm,0.8s,baz=144,slow=7.8,SNR=62								
PDAR				PcP	PcP	17 56 01.3	0.0		
	comp=Z,0.7nm,0.7s,baz=134,slow=3.9,SNR=2.6								
PDAR				LR	LR	18 05 35.5			
	comp=Z,2µm,18.6s,baz=167,slow=40								
	comp=Z,8.6nm,0.8s								
BW06	Boulder Array	28.16	343	P	P	17 52 47.8	+0.4		
	baz=156								
I37A	Lemond, Waseca	28.17	8	IAmb	IAmb	17 52 50.9			
	comp=Z,29nm,0.9s								
I37B	Waseca	28.17	8	P	P	17 52 47.1	0.0		
	baz=190								
SUSD	Miller	28.24	360	P	P	17 52 47.7	-0.1		
	baz=179								
SDV	Santo Domingo	28.26	101	P	P	17 52 47.9	-0.6		
SDV				IAmb	IAmb	17 53 14.8			
	comp=Z,33nm,1.0s								
SDV	Santo Domingo	28.26	101	LR	LR	18 05 35.7			
	comp=Z,1µm,18.2s,baz=334,slow=40								
RSSD	Black Hills	28.29	352	P	P	17 52 48.6	+0.2		
RSSD				IAmb	IAmb	17 52 51.6			
	comp=Z,89nm,1.8s								
RSSD	Black Hills	28.29	352	P	P	17 52 48.7	+0.2		
RSSD				pmax	pmax				
	comp=Z,89nm,1.8s								
RSSD	Black Hills	28.29	352	P	P	17 52 49.3	+0.8		
	baz=168								
RSSD	Black Hills	28.29	352	P	P	17 52 49.8	+1.3		
	baz=168,SNR=8.0								
HVU	Hansel Valley	28.32	337	IAmb	IAmb	17 52 57.6			
	comp=Z,22nm,0.9s								
RYN	Ryan	28.41	326	P	P	17 52 50.9	+1.3		
RYN				IAmb	IAmb	17 52 59.2			
	comp=Z,68nm,1.9s								
O53A	New Philadelph	28.43	29	P	P	17 52 47.9	-1.7		
	baz=217								
ELK	Elko	28.45	333	IAmb	IAmb	17 52 59.3			
	comp=Z,78nm,2.0s								
ELK	Elko	28.45	333	LR	LR	18 05 25.5			
	comp=Z,4µm,20.0s,baz=176,slow=39								
KVN	Kaiserville	28.50	327	IAmb	IAmb	17 52 59.9			
	comp=Z,50nm,1.8s								
L48A	N Adams	28.50	23	IAmb	IAmb	17 52 51.0			
	comp=Z,66nm,1.2s								
L48A	N Adams	28.50	23	P	P	17 52 50.6	+0.4		
	baz=209								
L48A				P	P	17 52 50.6	+0.4		
	baz=209								
I40A	Norwalk	28.52	12	IAmb	IAmb	17 52 51.4			
	comp=Z,47nm,1.4s								
AHID	Auburn Hather	28.62	341	P	P	17 52 51.6	+0.2		
MCWV	Mont Chateau	28.63	31	P	P	17 52 49.8	-1.5		
	baz=220								
WAKR	Walker	28.82	325	P	P	17 52 54.9	+1.6		
CBN	Corbin Frederi	28.89	36	P	P	17 52 52.6	-1.1		
	baz=226								
I42A	Draeger Farm,	28.90	15	IAmb	IAmb	17 52 55.8			
	comp=Z,36nm,1.0s								
YERR	Yerington	29.06	326	IAmb	IAmb	17 53 04.9			
	comp=Z,38nm,1.8s								
AAM	Ann Arbor	29.10	23	P	P	17 52 54.8	-0.6		
	baz=210								
BMN	Battle Mountai	29.11	330	P	P	17 52 56.6	+0.9		
BMN	Battle Mountai	29.11	330	P	P	17 52 56.6	+0.9		
BMN				pmax	pmax				
	comp=Z,12nm,1.1s								
SNOW	Snow King Moun	29.14	342	IAmb	IAmb	17 53 10.0			
	comp=Z,52nm,1.2s								
TPAW	Teton Pass	29.23	341	IAmb	IAmb	17 53 01.7			
	comp=Z,24nm,1.1s								
LOHW	Long Hollow	29.24	342	IAmb	IAmb	17 53 07.5			
	comp=Z,23nm,1.1s								
PNTR	Pine Nut	29.33	325	P	P	17 52 59.2	+1.4		
PNTR				IAmb	IAmb	17 53 07.6			
	comp=Z,65nm,1.9s								
SPMN	Marine on St.	29.43	8	IAmb	IAmb	17 53 03.0			
	comp=Z,21nm,0.9s								
SPMN	Marine on St.	29.43	8	P	P	17 52 57.7	-0.7		
	baz=191								
EMB	Emerald Bay	29.52	325	IAmb	IAmb	17 53 03.9			
	comp=Z,35nm,1.0s								
M53A	WI Miller and	29.62	28	P	P	17 52 57.6	-2.5		
	baz=217								
FLWY	Flagg Ranch	29.69	342	IAmb	IAmb	17 53 23.4			
	comp=Z,42nm,1.5s								
G40A	Rib Lake	29.92	12	P	P	17 53 01.1	-1.7		
G40A				IAmb	IAmb	17 53 03.9			
	comp=Z,85nm,1.8s								
H17A	Grant Village	29.94	343	P	P	17 53 03.3	+0.1		
	baz=156								
F36A	Milaca	29.97	7	P	P	17 53 02.9	-0.2		
	baz=189,SNR=9.2								
LKWY	Lake	30.05	343	IAmb	IAmb	17 53 13.8			
	comp=Z,31nm,1.4s								
RLMT	Red Lodge	30.27	345	P	P	17 53 06.0	-0.1		
RLMT				IAmb	IAmb	17 53 10.4			
	comp=Z,33nm,1.2s								
RLMT	Red Lodge	30.27	345	P	P	17 53 06.8	+0.8		
	baz=159,SNR=21								
SSPA	Standing Stone	30.35	32	P	P	17 53 04.6	-2.0		
	baz=222								
E28A	Huff	30.42	357	P	P	17 53 07.2	+0.1		
	baz=175,SNR=5.5								
HLID	Hailey	30.47	337	P	P	17 53 09.7	+1.9		
	baz=148,SNR=13								
ERPA	Erie	30.48	28	P	P	17 53 06.1	-1.5		
	baz=217								
YHL	Hebgen Lake	30.54	342	IAmb	IAmb	17 53 20.8			
	comp=Z,50nm,1.6s								
M55A	Ridgway	30.54	30	IAmb	IAmb	17 53 08.5			
	comp=Z,70nm,1.5s								
ATAH	Atahualpa	30.59	138	LR	LR	18 03 02.3			
	comp=Z,658nm,18.6s,baz=323,slow=32								
BAUV	El Baul	30.69	100	P	P	17 53 08.6	-1.3		
ORV	Oroville	30.71	324	IAmb	IAmb	17 53 14.0			
	comp=Z,34nm,1.7s								
D32A	Dogwood Acres,	30.96	2	P	P	17 53 10.6	-1.3		
D32A				IAmb	IAmb	17 53 12.5			
	comp=Z,15nm,0.6s								
GLMI	Grayling	30.97	20	P	P	17 53 11.1	-1.0		
	baz=206								
LAO	LASA Array	31.13	350	IAmb	IAmb	17 53 27.2			
	comp=Z,30nm,1.2s								
LAO	LASA Array	31.13	350	P	P	17 53 14.5	+1.1		
	baz=165,SNR=6.3								
LAO	LASA Array	31.13	350	P	P	17 53 14.1	+0.6		
	baz=165,SNR=6.3								
WVOR	Wild Horse Val	31.33	331	P	P	17 53 16.2	+0.9		
WVOR				IAmb	IAmb	17 53 18.7			
	comp=Z,47nm,1.6s								
WVOR	Wild Horse Val	31.33	331	P	P	17 53 16.2	+0.9		
WVOR				pmax	pmax				
	comp=Z,47nm,1.6s								
BOZ	Bozeman (W)	31.35	342	IAmb	IAmb	17 53 19.0			
	comp=Z,19nm,1.2s								
BOZ	Bozeman (W)	31.35	342	P	P	17 53 17.3	+1.8		
	baz=155,SNR=10								
MDND	Maddock	31.65	359	P	P	17 53 18.8	+0.8		
	baz=178,SNR=27								
MDND	Maddock	31.65	359	P	P	17 53 18.2	+0.2		
	baz=178,SNR=27								
E43A	Lone Tree Farm	31.70	15	IAmb	IAmb	17 53 19.1			
	comp=Z,33nm,1.1s								
E43A	Lone Tree Farm	31.70	15	P	P	17 53 17.6	-0.8		
	baz=201,SNR=6.8								
D41A	Chassel	31.97	13	P	P	17 53 19.9	-0.8		
D41A	Chassel	31.97	13	P	P	17 53 20.6	-0.2		
	baz=198,SNR=9.6								
J08A	Circle Bar Ran	31.98	332	IAmb	IAmb	17 53 33.5			
	comp=Z,31nm,1.0s								
AGMN	Agassiz Nation	32.18	3	P	P	17 53 22.4	-0.1		
	baz=184,SNR=34								
AGMN	Agassiz Nation	32.18	3	P	P	17 53 22.1	-0.4		
	baz=184,SNR=34								
EYMN	Ely	32.29	9	P	P	17 53 22.6	-0.9		
	baz=192								
PLID	Pearl Lake	32.37	337	IAmb	IAmb	17 53 35.8			
	comp=Z,35nm,1.3s								
B35A	Bob, Littlefor	32.41	6	IAmb	IAmb	17 53 25.3			
	comp=Z,19nm,1.1s								
B35A	Bob, Littlefor	32.41	6	P	P	17 53 23.6	-1.0		
	baz=188,SNR=7.3								
BINY	Binghamton	32.47	32	P	P	17 53 23.0	-2.3		
	baz=223								
DGMT	Dagmar	32.59	353	P	P	17 53 26.5	+0.3		
	baz=169,SNR=9.4								
DGMT	Dagmar	32.59	353	P	P	17 53 27.7	+1.5		
	baz=169,SNR=9.4								
BMO	Blue Mountains	32.68	335	P	P	17 53 27.4	+0.2		
BMO	Blue Mountains	32.68	335	P	P	17 53 27.4	+0.2		
BMO				pmax	pmax				
	comp=Z,8.0nm,0.9s								
PAL	Palisades	32.76	36	P	P	17 53 26.2	-1.5		
	baz=228								
SADO	Sadowa	32.97	26	P	P	17 53 27.0	-2.5		
SADO	Sadowa	32.97	26	LR	LR	18 08 55.2			
	comp=Z,280nm,18.9s,baz=227,slow=41								
L04D	Klamath Falls	33.00	327	IAmb	IAmb	17 53 32.0			
	comp=Z,36nm,1.4s								
EGMT	Eagleton	33.11	346	P	P	17 53 32.3	+1.4		
	baz=159,SNR=7.0								
J05D	Fort Rock, OR	33.22	329	P	P	17 53 32.6	+0.6		
J57A	Williamstown	33.35	31	IAmb	IAmb	17 54 04.0			
	comp=Z,22nm,0.9s								
KRMB	Red Mountain	33.39	324	IAmb	IAmb	17 53 36.9			
	comp=Z,24nm,1.1s								
F10A	Beach Ranch, E	33.58	336	IAmb	IAmb	17 53 38.8			
	comp=Z,29nm,0.9s								
PCRV	Puerto La Cruz	33.62	96	LR	LR	18 08 15.6			
	comp=Z,718nm,18.3s,slow=38								
G08A	Pilot Rock	33.72	334	IAmb	IAmb	17 53 38.8			
	comp=Z,20nm,1.1s								
KBO	Bosley Butte	34.03	325	P	P	17 53 39.6	+0.7		
ULM	Lac du Bonnet	34.12	3	IAmb	IAmb	17 53 40.3			
	comp=Z,36nm,1.2s								
ULM	Lac du Bonnet	34.12	3	P	P	17 53 38.7	-0.8		
	comp=Z,13nm,0.9s,baz=186,slow=11,SNR=17								
ULM				LR	LR	18 07 48.1			
	comp=Z,626nm,18.6s,baz=172,slow=37								
	comp=Z,13nm,0.9s								
I04A	Tendick Farm,	34.18	329	IAmb	IAmb	17 53 42.8			
	comp=Z,61nm,2.0s								
L61B	Northampton	34.41	35	P	P	17 53 41.1	-1.0		
	baz=228								
G06A	Carlson Farm,	34.41	332	P	P	17 53 43.5	+1.3		
G06A				IAmb	IAmb	17 53 47.4			
	comp=Z,44nm,1.8s								
H04A	Detroit Lake	34.72	330	IAmb	IAmb	17 53 56.8			
	comp=Z,27nm,1.1s								
LONY	Lake Ozonia	34.93	31	P	P	17 53 46.0	-0.6		
	baz=223								
M65A	Busby, Falmout	35.00	38	P	P	17 53 45.6	-1.6		
	baz=232								
HRV	Adam Dziewonsk	35.07	36	P	P	17 53 46.7	-1.1		
	baz=230								
NNA	Nana	35.29	141	LR	LR	18 05 14.1			
	comp=Z,682nm,21.5s,baz=333,slow=31								
NEW	Newport	35.47	339	P	P	17 53 52.6	+1.3		
	baz=148								
NEW	Newport	35.47	339	P	P	17 53 52.2	+0.9		
	comp=Z,3.6nm,0.7s,baz=145,slow=8.9,SNR=7.3								
	comp=Z,3.6nm,0.7s								
LTY	Liberty	36.01	334	IAmb	IAmb	17 54 07.5			
	comp=Z,32nm,1.2s								
LBNH	Lisbon	36.02	33	P	P	17 53 54.8	-1.1		
	baz=227								
TRQ	Mont Tremblant	36.13	29	IAmb	IAmb	17 54 07.3			
	comp=Z,49nm,1.5s								
GNW	Green Mountain	37.17	333	IAmb	IAmb	17 54 08.1			
	comp=Z,33nm,1.4s								
PKME	Peaks-Kenny Pk	38.10	34	P	P	17 54 11.6	-2.0		
	baz=230								
FFC	Flin Flon	38.62	357	P	P	17 54 16.7	-1.2		
FFC				IAmb	IAmb	17 54 25.9			
	comp=Z,28nm,1.0s								
FFC	Flin Flon	38.62	357	P	P	17 54 16.7	-1.2		
FFC				pmax	pmax				
	comp=Z,28nm,1.0s								
EDM	Edmonton	38.79	346	IAmb	IAmb	17 54 21.3			
	comp=Z,49nm,0.9s								
BRLDA	Berland Lookou	40.62	343	P	P	17 54 34.4	-0.3		
ETMB	Extrema	41.17	127	P	P	17 54 38.6	-0.9		
ETMB				IAmb	IAmb	17 54 46.1			
	comp=Z,66nm,1.8s								
FCC	Fort Churchill	42.71	4	P	P	17 54 49.9	-1.7		
FCC				IAmb	IAmb	17 54 58.9			
	comp=Z,96nm,2.0s								
FCC	Fort Churchill	42.71	4	P	P	17 54 49.9	-1.7		
FCC				pmax	pmax				
	comp=Z,96nm,2.0s								
SAML	Samuel	43.05	123	P	P	17 54 54.8	-0.1		
SAML	Samuel	43.05	123	P	P	17 54 54.8	-0.1		
SAML				pmax	pmax				
	comp=Z,16nm,1.6s								
RPN	Rapa Nui	44.22	194	LR	LR	18 09 27.2			
	comp=Z,343nm,18.6s,baz=36,slow=30								
HILA	High Level	44.51	346	P	P	17 55 05.5	-0.6		
PB16	IPOC Station P	44.67	139	P	P	17 55 09.1	+0.6		
SCHQ	Schefferville	45.77	25	P	P	17 55 15.1	-1.2		
SCHQ	Schefferville	45.77	25	P	P	17 55 15.2	-1.0		
	comp=Z,14nm,0.5s,baz=226,slow=6.1,SNR=33								
SCHQ				LR	LR	18 17 01.1			
	comp=Z,908nm,18.0s,baz=238,slow=40								
	comp=Z,14nm,0.5s								
MDP	Montagnes des	46.42	98	LR	LR	18 14 53.3			
	comp=Z,459nm,21.6s,baz=292,slow=36								
V35K	Ketchikan	46.59	335	P	P	17 55 24.8	+2.2		
	baz=133								
TOAD	Toad River Com	46.96	341	P	P	17 55 27.3	+1.7		
	baz=143								
T35M	Bob Quinn	47.23	337	P	P	17 55 29.6	+2.0		
	baz=136								
CRAG	Craig	47.31	334	P	P	17 55 30.1	+1.8		
	baz=132								
PB09	IPOC Station P	47.44	142	P	P	17 55 30.5	+0.6		
WRAK	Wrangell Islan	47.64	335	P	P	17 55 32.4	+1.5		
	baz=133								
KOTAN	Kotaneelee Air	47.67	343	P	P	17 55 32.1	+1.1		
	baz=146								
YKA	Yellowknife Ar	47.67	350	P	P	17 55 30.0	-1.0		
YKA	Yellowknife Ar	47.67	350	P	P	17 55 31.0	0.0		
YKA	Yellowknife Ar	47.67	350	P	P	17 55 30.9	0.0		
	comp=Z,4.9nm,0.9s,baz=159,slow=7.1,SNR=44								
YKA				LR	LR	18 15 03.8			
	comp=Z,699nm,18.1s,baz=154,slow=36								
	comp=Z,4.9nm,0.9s								
PB10	IPOC Station P	48.02	144	P	P	17 55 36.5	+2.4		
DLBC	Dease Lake	48.22	338	P	P	17 55 37.2	+1.8		
	baz=137								
DLBC	Dease Lake	48.22	338	P	P	17 55 36.3	+0.9		
	comp=Z,3.2nm,0.3s,baz=135,slow=8.6,SNR=5.8								
DLBC				LR	LR	18 15 18.7			
	comp=Z,3µm,18.1s,baz=136,slow=36								
	comp=Z,3.2nm,0.3s								
S34M	Telegraph Cree	48.23	337	P	P	17 55 37.0	+1.6		
	baz=136								
LVC	Limon Verde	48.26	142	LR	LR	18 11 46.3			
	comp=Z,276nm,21.9s,baz=326,slow=31								
SIV	San Ignacio	48.92	129	LR	LR	18 16 13.8			
	comp=Z,181nm,19.1s,baz=329,slow=36								
WTLY	Watson Lake, Y	49.08	341	P	P	17 55 43.3	+1.4		
	baz=140								
R33M	Jennings River	49.26	339	IAmb	IAmb	17 55 47.9			
	comp=Z,14nm,0.8s								
R33M	Jennings River	49.26	339	P	P	17 55 45.0	+1.6		
	baz=137								
SIT	Sitka	49.29	334	P	P	17 55 45.3	+1.8		
	baz=130								
Q32M	Nakina River	49.41	338	P	P	17 55 46.0	+1.4		
	baz=135								
R32K	Eaglecrest	49.77	336	P	P	17 55 49.6	+2.4		
	baz=132								
TGTN	Hyland Airport	50.02	342	P	P	17 55 51.3	+2.2		
	baz=141,SNR=5.8								
WRGLY	Wrigley	50.13	346	IAmb	IAmb	17 56 02.1			
	comp=Z,45nm,1.4s								
WRGLY	Wrigley	50.13	346	P	P	17 55 50.8	+1.1		
	baz=148								
S31K	Pelican	50.25	335	P	P	17 55 52.3	+1.6		
	baz=130								
P32M	Atlin	50.38	338	P	P	17 55 52.2	+0.3		
P32M				IAmb	IAmb	17 57 36.9			
	comp=Z,50nm,1.8s								
P32M	Atlin	50.38	338	P	P	17 55 53.7	+1.9		
	baz=134								
P33M	Teslin, Yukon	50.50	339	P	P	17 55 54.3	+1.6		
	baz=135								
SKAG	Skagway	50.89	337	P	P	17 55 57.3	+1.7		
	baz=132								
N32M	Quiet Lake	51.26	339	P	P	17 56 00.6	+2.1		
	baz=135								
PLBC	Pleasant Camp	51.28	336	P	P	17 56 00.2	+1.7		
	baz=130								
AC02	Maricunga	51.43	146	P	P	17 56 01.8	+1.1		
AC02				IAmb	IAmb	17 56 09.1			
	comp=Z,37nm,1.6s								
WHY	Whitehorse	51.54	338	P	P	17 56 02.7	+2.0		
	baz=133								
MMPY	Sheldon Lake,	51.76	342	IAmb	IAmb	17 56 05.6			
	comp=Z,40nm,1.4s								
MMPY	Sheldon Lake,	51.76	342	P	P	17 56 04.3	+2.1		
	baz=138,SNR=12								
FRB	Frobisher Bay	51.91	16	LR	LR	18 19 07.4			
	comp=Z,465nm,18.1s,baz=202,slow=38								
P29M	Windy Craggy	51.93	336	P	P	17 56 05.6	+2.2		
	baz=129								
P30M	Million Dollar	51.95	337	P	P	17 56 06.2	+2.6		
	baz=130								
O30N	Mendenhall	52.05	338	P	P	17 56 06.4	+2.0		
	baz=132								
FARO	Faro, Yukon	52.13	340	IAmb	IAmb	17 56 21.9			
	comp=Z,32nm,1.7s								
FARO	Faro, Yukon	52.13	340	P	P	17 56 07.0	+2.1		
	baz=136								
M31M	Drury Creek, Y	52.45	340	P	P	17 56 09.5	+2.1		
	baz=134								
PNL	Peninsula	52.61	335	P	P	17 56 10.4	+1.9		
	baz=127								
HYT	Haines Junctio	52.61	337	P	P	17 56 10.4	+1.8		
	baz=130								
O29M	Mount Kennedy	52.68	336	P	P	17 56 11.0	+1.8		
	baz=129								
H03N2	Juan Fernandez	52.75	159	T	T	18 52 57.2			
	baz=337,slow=77								
H03N1	Juan Fernandez	52.76	159	T	T	18 52 58.4			
	baz=337,slow=77								
H03N3	Juan Fernandez	52.77	159	T	T	18 52 57.3			
	baz=337,slow=77								
N30M	Aishikik Lake	52.88	338	IAmb	IAmb	17 56 20.1			
	comp=Z,70nm,2.0s								
N30M	Aishikik Lake	52.88	338	P	P	17 56 13.0	+2.5		
	baz=131								
YUK6	Outpost Mounta	53.01	337	P	P	17 56 13.6	+1.9		
	baz=129								
YUK4	Talbot Arm	53.37	337	P	P	17 56 16.4	+2.0		
	baz=129								
M30M	Minto, Yukon	53.52	339	P	P	17 56 17.4	+2.1		
	baz=132								
YUK8	Steele Glacier	53.75	337	P	P	17 56 19.2	+2.0		
	baz=128								
MESA	MESA	53.95	335	P	P	17 56 20.3	+1.8		
	baz=125								
M29M	Somme Creek	54.01	338	P	P	17 56 21.3	+2.4		
	baz=130								
CTG	Chitna Glacier	54.16	336	P	P	17 56 22.0	+1.9		
	baz=126								
YUK3	Moose Creek	54.32	337	P	P	17 56 22.7	+1.4		
	baz=127								
L29M	L29M	54.34	339	IAmb	IAmb	17 56 24.6			
	comp=Z,20nm,0.9s								
L29M	L29M	54.34	339	P	P	17 56 22.1	+1.0		
	baz=131								
BGLC	Bering Glacier	54.46	334	P	P	17 56 23.5	+1.5		
	baz=123								
K29M	Barlow Dome	54.62	340	IAmb	IAmb	17 56 26.4			
	comp=Z,46nm,1.8s								
K29M	Barlow Dome	54.62	340	P	P	17 56 24.2	+0.9		
	baz=132								
J30M	Hart River	54.74	341	P	P	17 56 25.3	+1.0		
J30M				IAmb	IAmb	17 56 27.6			
	comp=Z,17nm,1.2s								
J30M	Hart River	54.74	341	P	P	17 56 25.8	+1.6		
	baz=133,SNR=5.8								
KAIM	Kayak Island	54.83	334	P	P	17 56 26.4	+1.6		
	baz=122								
H31M	Peel River	55.04	343	IAmb	IAm

K27K **Chicken** 56.29 339 IAmb IAmb 17 56 38.8
comp=Z,32nm,1.1s
K27K **Chicken** 56.29 339 P **P** **17 56 37.1 +2.0**
baz=127
KLU **Klutina** 56.29 335 P **P** **17 56 36.3 +1.0**
baz=121
G30M **tAoh Zraii Nji** 56.41 343 P **P** **17 56 36.2 +0.1**
baz=135
EGAK **Eagle** 56.44 340 IAmb IAmb 17 57 45.2
comp=Z,13nm,0.8s
EGAK **Eagle** 56.44 340 P **P** **17 56 36.2 0.0**
baz=128,SNR=9.6
I28M **Miner Creek** 56.47 341 P **P** **17 56 36.7 +0.2**
baz=130
HARP **HAARP** 56.48 336 P **P** **17 56 37.0 +0.4**
baz=123
H29M **Whitestone** 56.50 342 IAmb IAmb 17 56 44.9
comp=Z,15nm,1.0s
H29M **Whitestone** 56.50 342 P **P** **17 56 37.4 +0.8**
baz=132
INK **Inuvik** 56.68 345 IAmb IAmb 17 56 40.0
comp=Z,18nm,1.1s
INK **Inuvik** 56.68 345 P **P** **17 56 38.0 +0.1**
baz=138,SNR=19
INK **Inuvik** 56.68 345 P **P** **17 56 38.0 +0.1**
comp=Z,8.9nm,0.7s,baz=129,slow=7.9,SNR=37
INK LR LR 18 20 50.8
comp=Z,628nm,19.2s,baz=177,slow=36
comp=Z,8.9nm,0.7s
M24K **Tolsona, Glenn** 56.72 335 P **P** **17 56 39.8 +1.4**
baz=122
F30M **Barrier River** 56.75 344 P **P** **17 56 39.7 +1.3**
baz=136
G29M **Pine Creek** 56.87 343 IAmb IAmb 17 56 41.0
comp=Z,27nm,1.4s
G29M **Pine Creek** 56.87 343 P **P** **17 56 40.2 +0.9**
baz=133
PAX **Paxson** 56.91 337 P **P** **17 56 40.9 +1.1**
baz=123
SCRK **Sand Creek** 56.93 338 P **P** **17 56 41.0 +1.1**
SCRK IAmb IAmb 17 56 49.0
comp=Z,44nm,1.6s
SCRK **Sand Creek** 56.93 338 P **P** **17 56 41.6 +1.7**
baz=125
SCM **Sheep Creek Mo** 57.05 335 P **P** **17 56 41.6 +0.9**
baz=120
J26L **Joseph Creek** 57.09 339 P **P** **17 56 42.8 +1.8**
baz=126,SNR=24
I27K **Kandik River** 57.11 340 P **P** **17 56 41.9 +0.9**
baz=128
SEW **Seward** 57.11 332 P **P** **17 56 41.6 +0.6**
baz=117
RIDG **Independent Ri** 57.11 338 P **P** **17 56 42.3 +1.2**
baz=124
M23K **Glacier View** 57.19 335 P **P** **17 56 42.2 +0.6**
baz=120
KNK **Knik Glacier** 57.30 334 P **P** **17 56 43.2 +0.7**
baz=119
I26K **Coal Creek Min** 57.43 340 IAmb IAmb 17 56 45.8
comp=Z,30nm,1.6s
I26K **Coal Creek Min** 57.43 340 P **P** **17 56 44.5 +1.2**
baz=126
SML **Sawmill** 57.44 335 P **P** **17 56 44.4 +0.9**
baz=119
H27K **Steamboat Moun** 57.47 341 P **P** **17 56 44.4 +0.8**
baz=129
K24K **Donnelly Dome** 57.49 337 P **P** **17 56 44.3 +0.6**
baz=123
BRSE **Bradley Lake S** 57.52 332 P **P** **17 56 45.9 +1.9**
baz=115
KDAK **Kodiak Island** 57.58 329 P **P** **17 56 46.2 +1.8**
baz=112
KDAK **Kodiak Island** 57.58 329 P **P** **17 56 45.2 +0.8**
comp=Z,14nm,1.0s,baz=30,slow=10.0,SNR=10
KDAK LR LR 18 20 35.6
comp=Z,554nm,18.1s,baz=162,slow=35
comp=Z,14nm,1.0s
WAT6 **Susitna Watana** 57.59 336 P **P** **17 56 46.1 +1.4**
baz=120
GHO **Glory Hole Cre** 57.67 334 P **P** **17 56 46.1 +1.0**
GHO IAmb IAmb 17 56 54.1
comp=Z,22nm,1.0s
PMR **Palmer** 57.67 334 P **P** **17 56 45.3 +0.4**
baz=118
RC01 **Rabbit Creek A** 57.69 333 P **P** **17 56 46.2 +1.0**
baz=117
DHY **Denali Highway** 57.71 336 IAmb IAmb 17 57 36.7
comp=Z,23nm,1.4s
DHY **Denali Highway** 57.71 336 P **P** **17 56 46.6 +1.2**
baz=121
OHAK **Old Harbor** 57.72 328 P **P** **17 56 46.9 +1.5**
baz=111
J25K **Salcha River,** 57.79 338 IAmb IAmb 17 56 48.2
comp=Z,31nm,1.6s
J25K **Salcha River,** 57.79 338 P **P** **17 56 47.0 +1.1**
baz=124
Q20K **Shuyak Island** 57.82 330 P **P** **17 56 47.0 +1.0**
baz=113
E29M **Blow River** 57.86 344 IAmb IAmb 17 56 54.7
comp=Z,22nm,1.1s
E29M **Blow River** 57.86 344 P **P** **17 56 47.0 +0.7**
baz=134,SNR=12
F28M **Old Crow** 57.88 343 IAmb IAmb 17 56 58.5
comp=Z,24nm,1.2s
F28M **Old Crow** 57.88 343 P **P** **17 56 47.2 +0.9**
baz=131,SNR=23
G27K **Doyon Strip** 57.88 341 P **P** **17 56 47.6 +1.1**
baz=129
HOM **Homer** 57.90 331 P **P** **17 56 48.0 +1.4**
baz=114
SII **Sitkinak Islan** 57.94 327 P **P** **17 56 48.5 +1.5**
baz=110
A36M **Sachs Harbour** 58.02 351 P **P** **17 56 46.5 -0.8**
A36M IAmb IAmb 17 56 54.5
comp=Z,24nm,1.1s
A36M **Sachs Harbour** 58.02 351 P **P** **17 56 47.2 -0.1**
baz=149,SNR=9.8
WAT1 **Susitna Watana** 58.04 336 P **P** **17 56 48.9 +1.2**
baz=119
CAPN **Captain Cook N** 58.16 333 P **P** **17 56 48.8 +0.4**
baz=116
M22K **Willow** 58.16 334 P **P** **17 56 49.7 +1.3**
baz=117
HDA **Harding Lake** 58.25 338 IAmb IAmb 17 56 57.1
comp=Z,27nm,1.4s
HDA **Harding Lake** 58.25 338 P **P** **17 56 49.8 +0.7**
baz=122,SNR=7.2
SUA **Susitna One** 58.30 334 P **P** **17 56 49.9 +0.3**
baz=116,SNR=7.3
PRP **Porcupine Dome** 58.36 339 P **P** **17 56 50.5 +0.5**
baz=124,SNR=14
IL31 58.42 338 IAmb IAmb 17 56 52.7
comp=Z,26nm,1.1s
ILAR **Eielson Array** 58.42 338 P **P** **17 56 49.7 -0.5**
ILAR **Eielson Array** 58.42 338 P **P** **17 56 50.8 +0.6**
comp=Z,7.0nm,0.9s,baz=142,slow=4.3,SNR=44
ILAR LR LR 18 21 12.8
comp=Z,760nm,18.6s,baz=122,slow=35
comp=Z,7.0nm,0.9s
CHIR **Chirikof Islan** 58.44 326 P **P** **17 56 50.7 +0.2**
baz=108
E28M **Babbage River** 58.45 344 P **P** **17 56 50.6 +0.3**
baz=132,SNR=9.0
RND **Reindeer** 58.45 336 IAmb IAmb 17 56 59.3
comp=Z,30nm,1.1s
O20K **Slope Mountain** 58.53 332 P **P** **17 56 52.4 +1.2**
baz=114
CUT **Chulitna** 58.53 335 P **P** **17 56 51.4 +0.4**
baz=117
Q19K **Cape Douglas,** 58.54 330 P **P** **17 56 52.2 +1.0**
baz=112
RES **Resolute Bay** 58.61 1 IAmb IAmb 17 56 51.7
comp=Z,23nm,1.6s
RES **Resolute Bay** 58.61 1 LR LR 18 21 41.4
comp=Z,364nm,19.2s,baz=190,slow=36
G26K **Porcupine Rive** 58.63 341 P **P** **17 56 52.4 +0.7**
baz=126
P19K **Oil Pt** 58.63 331 P **P** **17 56 51.4 -0.4**
baz=113
MCK **McKinley** 58.65 336 P **P** **17 56 53.1 +1.3**
baz=120,SNR=8.9
CCB **Clear Creek Bu** 58.69 338 IAmb IAmb 17 57 01.0
comp=Z,11nm,1.0s
D28M **Stokes Point** 58.73 344 P **P** **17 56 53.2 +1.0**
baz=133,SNR=9.3
E27K **Coleen River** 58.75 343 P **P** **17 56 52.7 +0.3**
E27K IAmb IAmb 17 56 54.4
comp=Z,28nm,1.4s
baz=130
POKR **Poker Plat Res** 58.81 338 IAmb IAmb 17 56 56.4
comp=Z,11nm,0.8s
POKR **Poker Plat Res** 58.81 338 P **P** **17 56 54.0 +1.0**
baz=122,SNR=7.3
N20K **Mount Spurr** 58.81 333 P **P** **17 56 53.9 +0.8**
baz=115
COLA **College** 58.83 338 P **P** **17 56 53.5 +0.5**
COLA **College** 58.83 338*c i* P **P** **17 56 53.4 +0.5**
COLA pmax pmax
comp=Z,42nm,2.7s
COLA **College** 58.83 338 P **P** **17 56 53.5 +0.5**
baz=121
SKT **Skwentna** 58.86 334 IAmb IAmb 17 57 01.8
comp=Z,31nm,1.2s
SKT **Skwentna** 58.86 334 P **P** **17 56 54.3 +1.0**
baz=116,SNR=6.6
H25L **Birch Creek** 58.89 340 P **P** **17 56 54.1 +0.7**
baz=124
MDM **Murphy Dome** 59.01 338 IAmb IAmb 17 57 02.1
comp=Z,16nm,1.2s
TRF **Thorofare Moun** 59.04 336 P **P** **17 56 55.6 +0.8**
baz=118,SNR=17
BDFB **Brasilia** 59.11 120 P **P** **17 56 59.4 +3.5**
comp=Z,4.0nm,0.7s,baz=298,slow=9.1,SNR=5.1
comp=Z,4.0nm,0.7s
NEA2 **Nenana** 59.13 337 IAmb IAmb 17 56 57.6
comp=Z,27nm,1.4s
NEA2 **Nenana** 59.13 337 P **P** **17 56 56.6 +1.5**
baz=120,SNR=5.7
BMAR **Burnt Mountain** 59.17 341 P **P** **17 56 55.4 -0.1**
F26K **Sheenjek River** 59.19 342 P **P** **17 56 56.5 +0.9**
baz=126,SNR=7.2
D27M **Malcolm River** 59.26 344 P **P** **17 56 56.7 +0.6**
baz=131,SNR=9.1
G25K **Bearman Lake** 59.26 340 P **P** **17 56 56.9 +0.9**
baz=124
KTH **Kantishna Hill** 59.34 336 IAmb IAmb 17 57 04.5
comp=Z,19nm,1.0s
H24K **Noodor Dome** 59.35 339 P **P** **17 56 57.5 +0.7**
baz=122
Q17K **Contact Creek** 59.40 329 P **P** **17 56 57.9 +0.7**
baz=110
P18K **Big Mountain,** 59.48 330 P **P** **17 56 58.2 +0.5**
baz=111
M20K **Styx River** 59.50 333 P **P** **17 56 58.3 +0.4**
baz=114
I23K **Minto, Yukon-K** 59.52 338 P **P** **17 56 59.1 +1.3**
baz=120
PPLA **Purkeypile** 59.55 335 P **P** **17 56 58.7 +0.4**
baz=116,SNR=5.7
SFJD **Kangerlussuaq** 59.58 20 P **P** **17 56 57.9 -0.3**
SFJD IAmb IAmb 17 56 59.0
comp=Z,23nm,1.1s
SFJD **Kangerlussuaq** 59.58 20 P **P** **17 56 57.9 -0.3**
SFJD pmax pmax
comp=Z,23nm,1.2s
SFJD **Kangerlussuaq** 59.58 20 *i* P **P** **17 56 57.2 -1.0**
SFJD IAmb IAmb 17 56 59.3
comp=Z,24nm,1.1s
SFJD **Kangerlussuaq** 59.58 20 LR LR 18 24 40.9
comp=Z,330nm,18.1s,baz=231,slow=38
F25K **Christian Rive** 59.59 341 P **P** **17 56 59.2 +0.9**
baz=125
BPAW **Bear Paw Mtn.** 59.62 336 IAmb IAmb 17 57 06.5
comp=Z,25nm,1.2s
BPAW **Bear Paw Mtn.** 59.62 336 P **P** **17 56 59.0 +0.4**
baz=118,SNR=7.1
O18K **Koktuh Hills** 59.63 331 P **P** **17 56 59.4 +0.6**
baz=111
N19K **Bonanza Creek** 59.67 332 P **P** **17 56 59.6 +0.6**
baz=112
G24K **Hadweenzic Riv** 59.68 340 IAmb IAmb 17 57 01.0
comp=Z,27nm,1.4s
G24K **Hadweenzic Riv** 59.68 340 P **P** **17 57 00.0 +1.1**
baz=122
CAST **Castle Rocks** 59.74 335 P **P** **17 56 59.7 +0.3**
baz=116,SNR=12
E25K **Arctic Village** 59.88 342 P **P** **17 57 01.2 +0.9**
E25K IAmb IAmb 17 57 08.8
comp=Z,31nm,1.6s
E25K **Arctic Village** 59.88 342 P **P** **17 57 01.7 +1.4**
baz=125,SNR=6.4
Q16K **King Salmon** 59.92 329 P **P** **17 57 01.7 +1.1**
baz=109
MLY **Manley** 59.97 337 P **P** **17 57 01.8 +0.8**
baz=118,SNR=12
P17K **Kvichak River** 59.99 330 P **P** **17 57 02.0 +0.9**
baz=110
R16K **Pilot Point** 60.02 328 P **P** **17 57 03.0 +1.6**
baz=108
CHUM **Lake Minchumin** 60.04 336 P **P** **17 57 02.3 +0.9**
baz=116
M19K **Big River Lodg** 60.06 333 P **P** **17 57 02.6 +1.0**
baz=113
L20K **Farewell, AK** 60.07 334 P **P** **17 57 02.0 +0.3**
baz=114
CHGN **Chignik** 60.08 326 P **P** **17 57 02.6 +0.8**
baz=106
N18K **Kilae Creek** 60.26 332 P **P** **17 57 02.8 -0.2**
N18K **Kilae Creek** 60.26 332 P **P** **17 57 03.5 +0.5**
baz=111
F24K **Squaw Lake** 60.26 340 P **P** **17 57 03.4 +0.4**
baz=122
PPT **Papeete** 60.31 238 LR LR 18 16 10.1
comp=Z,275nm,18.3s,baz=66,slow=29
CHNA **Chernabura Isl** 60.32 324 P **P** **17 57 04.8 +1.3**
baz=104
L19K **White Mountain** 60.37 333 IAmb IAmb 17 57 11.8
comp=Z,19nm,1.0s
L19K **White Mountain** 60.37 333 P **P** **17 57 04.4 +0.6**
baz=113
O17K **Koliganek Bris** 60.50 330 P **P** **17 57 05.8 +1.2**
baz=109
I21K **Tanana** 60.50 337 P **P** **17 57 05.6 +1.0**
baz=117,SNR=10
K20K **Telida** 60.52 335 P **P** **17 57 05.3 +0.6**
baz=114
M18K **Stony River** 60.53 332 P **P** **17 57 05.7 +0.9**
baz=111
G23K **Bananza Creek** 60.55 339 IAmb IAmb 17 57 13.2
comp=Z,14nm,1.1s
G23K **Bananza Creek** 60.55 339 P **P** **17 57 05.8 +0.9**
baz=120,SNR=9.4
H22K **Ishtalitna Cre** 60.62 338 P **P** **17 57 06.2 +0.8**
baz=118
S14K **Fog Glacier** 60.68 326 P **P** **17 57 06.9 +0.9**
baz=105
P16K **Nushagak River** 60.69 329 P **P** **17 57 07.1 +1.2**
baz=108
E24K **Your Creek** 60.76 341 IAmb IAmb 17 57 09.2
comp=Z,18nm,1.4s
E24K **Your Creek** 60.76 341 P **P** **17 57 07.5 +1.1**
baz=122
C26K **Camden Bay** 60.76 343 P **P** **17 57 07.6 +1.3**
baz=127,SNR=5.3
DY2G **Dye2** 60.78 21 *i* P **P** **17 57 05.6 -1.2**
N17K **Nushagak Hills** 60.80 331 P **P** **17 57 07.8 +1.1**
baz=110
D25K **Kavik River** 60.82 342 IAmb IAmb 17 57 15.1
comp=Z,22nm,1.1s
D25K **Kavik River** 60.82 342 P **P** **17 57 07.5 +0.7**
baz=125
COLD **Coldfoot** 60.87 340 P **P** **17 57 08.5 +1.4**
baz=120,SNR=8.2
J20K **Nowinta River** 60.89 336 P **P** **17 57 07.0 -0.3**
J20K IAmb IAmb 17 57 15.1
comp=Z,24nm,1.1s
J20K **Nowinta River** 60.89 336 P **P** **17 57 07.6 +0.4**
baz=114
O16K **Kokwok River B** 60.92 330 P **P** **17 57 08.2 +0.7**
baz=108
SDPT **Sand Point** 60.95 325 P **P** **17 57 07.9 +0.1**
baz=104
H21K **Melozitna Rive** 61.03 337 IAmb IAmb 17 57 15.9
comp=Z,14nm,1.2s
H21K **Melozitna Rive** 61.03 337 P **P** **17 57 08.8 +0.6**
baz=116
E23K **Chandalar** 61.11 341 P **P** **17 57 10.0 +1.2**
baz=121
TTA **Tatalina** 61.15 334 P **P** **17 57 08.5 -0.7**
TTA IAmb IAmb 17 57 16.7
comp=Z,19nm,1.1s
TTA **Tatalina** 61.15 334 P **P** **17 57 08.5 -0.7**
TTA pmax pmax
comp=Z,19nm,1.1s
TTA **Tatalina** 61.15 334 P **P** **17 57 09.9 +0.7**
baz=112,SNR=9.6
G22K **Bettles** 61.16 339 P **P** **17 57 09.6 +0.6**
baz=118
L18K **Granite Mounta** 61.18 333 IAmb IAmb 17 57 15.8
comp=Z,17nm,0.9s
L18K **Granite Mounta** 61.18 333 P **P** **17 57 09.9 +0.7**
baz=111
M17K **Holitna River** 61.22 332 P **P** **17 57 10.4 +0.9**
baz=110
I20K **Naaghedeneel** 61.28 336 P **P** **17 57 10.8 +0.9**
baz=114
TOLK **Toolik Lake Re** 61.40 341 P **P** **17 57 11.6 +0.9**
baz=121,SNR=11
J19K **Poorman** 61.41 335 P **P** **17 57 10.8 +0.1**
baz=113,SNR=16
D24K **Happy Valley** 61.45 342 P **P** **17 57 12.2 +1.2**
baz=122
N16K **Nishlik Lake** 61.52 331 P **P** **17 57 12.7 +1.0**
baz=108,SNR=6.9
IMAR **Indian Mountai** 61.52 338 P **P** **17 57 10.8 -0.7**
O15K **Ungalikthiuk R** 61.63 329 P **P** **17 57 12.6 +0.3**
baz=106
J18K **Innoko River** 61.65 334 IAmb IAmb 17 57 20.0
comp=Z,20nm,1.1s
J18K **Innoko River** 61.65 334 P **P** **17 57 13.0 +0.6**
baz=112
G21K **Allakaket** 61.67 338 IAmb IAmb 17 57 20.5
comp=Z,16nm,1.2s
G21K **Allakaket** 61.67 338 P **P** **17 57 12.8 +0.2**
baz=116,SNR=6.8
C24K **Franklin Bluff** 61.72 342 P **P** **17 57 13.0 +0.2**
baz=123
H20K **Anotleneega Mo** 61.73 337 P **P** **17 57 13.2 +0.3**
baz=114,SNR=7.1
M16K **Timber Creek** 61.78 331 P **P** **17 57 13.4 +0.1**
M16K IAmb IAmb 17 57 20.2
comp=Z,15nm,0.9s
M16K **Timber Creek** 61.78 331 P **P** **17 57 14.2 +0.8**
baz=108
L17K **Donlin** 61.85 333 P **P** **17 57 14.1 +0.4**
baz=109
S12K **Black Hills** 61.90 325 P **P** **17 57 14.4 +0.2**
baz=102
D23K **Nanushuk River** 61.92 341 P **P** **17 57 15.1 +1.0**
baz=120
F21K **Alatna River** 61.99 339 P **P** **17 57 16.0 +1.3**
baz=117
N15K **Kwethluk River** 62.05 330 P **P** **17 57 15.3 +0.1**
baz=107
K17K **Iditarod** 62.05 333 IAmb IAmb 17 57 16.8
comp=Z,18nm,1.1s
K17K **Iditarod** 62.05 333 P **P** **17 57 15.3 +0.2**
baz=110
GCSA **Galena City Sc** 62.21 336 P **P** **17 57 16.7 +0.6**
baz=112
L16K **Owhat River** 62.24 332 P **P** **17 57 16.5 +0.1**
L16K IAmb IAmb 17 57 23.1
comp=Z,14nm,1.0s
L16K **Owhat River** 62.24 332 P **P** **17 57 17.4 +1.0**
baz=108,SNR=6.8
PLCA **Paso Flores** 62.29 156 P **P** **17 57 21.4 +4.3**
comp=Z,4.9nm,0.9s,baz=312,slow=10.0,SNR=5.9
PLCA LR LR 18 17 49.5
comp=Z,395nm,20.4s,baz=340,slow=30
comp=Z,4.9nm,0.9s
H19K **Roundabout Mou** 62.34 337 P **P** **17 57 16.4 -0.6**
H19K IAmb IAmb 17 57 24.7
comp=Z,15nm,1.1s
H19K **Roundabout Mou** 62.34 337 P **P** **17 57 17.1 +0.2**
baz=113,SNR=6.9
C23K **Itkillik River** 62.35 342 P **P** **17 57 18.1 +1.1**
baz=121
O14K **Tigyukauivet M** 62.37 329 P **P** **17 57 18.0 +0.8**
baz=105
FALS **False Pass** 62.48 324 P **P** **17 57 17.9 -0.2**
baz=101
M15K **Kasigluk River** 62.49 331 P **P** **17 57 18.6 +0.6**
baz=106
D22K **Ayikyak River** 62.50 341 P **P** **17 57 18.7 +0.7**
baz=118
J17K **VABM Dome** 62.62 334 P **P** **17 57 19.4 +0.5**
baz=109
F20K **Avaraart Lake** 62.70 338 IAmb IAmb 17 57 27.7
comp=Z,13nm,1.1s
F20K **Avaraart Lake** 62.70 338 P **P** **17 57 20.1 +0.8**
baz=114,SNR=11
E21K **Killik River** 62.71 340 P **P** **17 57 20.1 +0.6**
baz=117
N14K **Kuskokwak Cree** 62.75 330 P **P** **17 57 19.6 -0.2**
baz=105
G19K **Purcell Mounta** 62.83 337 P **P** **17 57 20.7 +0.4**
baz=112,SNR=13
H18K **Honhosa River** 62.95 336 P **P** **17 57 21.8 +0.8**
baz=111
M14K **Bethel** 63.11 331 P **P** **17 57 22.8 +0.7**
baz=105,SNR=8.8
L15K **Ungalak Mounta** 63.15 332 P **P** **17 57 23.4 +1.0**
baz=106
J16K **Anvik River** 63.23 333 P **P** **17 57 22.5 -0.5**
J16K **Anvik River** 63.23 333 P **P** **17 57 24.5 +1.5**
baz=108,SNR=11
C21K **Knifeblade Rid** 63.30 341 P **P** **17 57 24.6 +1.3**
baz=116,SNR=14
G18K **Tagagawik** 63.33 337 P **P** **17 57 24.4 +0.8**
baz=111
K15K **Wolf Creek Mou** 63.34 332 P **P** **17 57 25.0 +1.3**
baz=106
F19K **Shaleruckik Mo** 63.35 338 P **P** **17 57 24.7 +1.0**
baz=112
E20K **Nigu River** 63.37 339 P **P** **17 57 24.6 +0.7**
baz=114
E19K **Redstone River** 63.40 338 IAmb IAmb 17 57 32.2
comp=Z,24nm,1.2s
E19K **Redstone River** 63.40 338 P **P** **17 57 25.1 +1.0**
baz=113
B22K **Teshekpuk Lake** 63.43 342 P **P** **17 57 23.7 -0.5**
B22K **Teshekpuk Lake** 63.43 342 P **P** **17 57 24.6 +0.5**
baz=118
B21K **Ikpikpuk River** 63.46 341 P **P** **17 57 25.1 +0.7**
baz=117,SNR=5.7
I17K **Unalakleet** 63.46 334 IAmb IAmb 17 57 33.5
comp=Z,27nm,1.3s
I17K **Unalakleet** 63.46 334 P **P** **17 57 26.1 +1.7**
baz=108
H17K **Granite Mounta** 63.48 335 IAmb IAmb 17 57 31.9
comp=Z,15nm,1.1s
H17K **Granite Mounta** 63.48 335 P **P** **17 57 25.9 +1.2**
baz=109
L14K **Kuka Creek** 63.60 331 P **P** **17 57 26.2 +0.8**
baz=105
M13K **Dall Lake** 63.68 330 P **P** **17 57 26.1 +0.2**
M13K **Dall Lake** 63.68 330 P **P** **17 57 27.1 +1.2**
baz=104
D20K **Etivluk River** 63.70 340 P **P** **17 57 26.7 +0.7**
baz=114,SNR=12
F18K **Selawik** 63.96 337 P **P** **17 57 28.8 +1.1**
baz=110
G17K **Kiwalik Mounta** 63.97 336 P **P** **17 57 29.3 +1.5**
baz=109
UNV **Unalaska Valle** 64.09 322 P **P** **17 57 29.6 +0.8**
baz=98
D19K **Kuna River** 64.12 339 IAmb IAmb 17 57 36.8
comp=Z,14nm,1.1s
D19K **Kuna River** 64.12 339 P **P** **17 57 29.7 +0.9**
baz=112
A22K **Sinclair Lake** 64.20 342 P **P** **17 57 30.1 +0.9**
baz=117
ICESG **Greenland Ices** 64.20 20 *i* P **P** **17 57 28.2 -1.5**
H16K **Elim** 64.33 335 P **P** **17 57 31.4 +1.2**
baz=107,SNR=13
J14K **Nanvaranak Lak** 64.37 332 P **P** **17 57 31.5 +1.1**
baz=105
B20K **Meade River** 64.42 341 P **P** **17 57 31.3 +0.6**
baz=114,SNR=16
F17K **Baldwin Pennin** 64.51 337 P **P** **17 57 32.6 +1.4**
baz=108
E18K **Tukpahlearik C** 64.60 338 P **P** **17 57 31.6 -0.3**
E18K **Tukpahlearik C** 64.60 338 P **P** **17 57 32.5 +0.6**
baz=110
G16K **Koyuk River** 64.61 335 P **P** **17 57 33.5 +1.6**
baz=107,SNR=11
AY01 **Puyuhuapi** 64.75 160 P **P** **17 57 35.0 +1.9**
AY01 IAmb IAmb 17 57 38.6
comp=Z,12nm,0.9s
A21K **Barrow** 64.82 342 P **P** **17 57 33.8 +0.6**
baz=115
C19K **Lookout Ridge** 64.85 340 P **P** **17 57 34.8 +1.2**
baz=111

E17K	**Hotham Inlet**	**64.93**	**337**	P		**P**	**17 57 34.8**	**+0.8**
	baz=108,SNR=17							
M11K	**Mekoryuk**	**65.06**	**330**	P		**P**	**17 57 35.7**	**+0.7**
	baz=101							
G15K	**Niukluk**	**65.17**	**335**	P		**P**	**17 57 37.2**	**+1.5**
	baz=105,SNR=7.1							
C18K	**Utukok River**	**65.23**	**339**	IAmb		IAmb	17 57 43.7	
	comp=Z,31nm,1.4s							
C18K	**Utukok River**	**65.23**	**339**	P		**P**	**17 57 36.3**	**+0.2**
	baz=110,SNR=9.0							
NIKH	**Nikolski High**	**65.38**	**321**	P		**P**	**17 57 37.5**	**+0.2**
	baz=95							
D17K	**Noatak River**	**65.59**	**338**	P		**P**	**17 57 38.9**	**+0.6**
	baz=107,SNR=8.4							
F15K	**North Star Dit**	**65.61**	**335**	P		**P**	**17 57 39.9**	**+1.3**
	baz=105,SNR=13							
ANM	**Nome**	**65.62**	**334**	P		**P**	**17 57 39.2**	**+0.7**
ANM	**Nome**	**65.62**	**334**	P		**P**	**17 57 39.2**	**+0.7**
ANM				pmax		pmax		
	comp=Z,74nm,2.0s							
ANM	**Nome**	**65.62**	**334**	P		**P**	**17 57 39.3**	**+0.7**
	baz=104							
RDOG	**Red Dog Mine**	**65.64**	**338**	IAmb		IAmb	17 57 46.6	
	comp=Z,19nm,1.2s							
RDOG	**Red Dog Mine**	**65.64**	**338**	P		**P**	**17 57 38.7**	**+0.1**
	baz=108							
B18K	**Kokolik River**	**65.68**	**340**	P		**P**	**17 57 39.8**	**+0.9**
	baz=109,SNR=9.6							
NEEM	**North Greenlan**	**65.73**	**10**	*i* P		**P**	**17 57 38.7**	**-0.8**
A19K	**Wainwright**	**65.73**	**341**	P		**P**	**17 57 39.7**	**+0.5**
	baz=110							
RCBR	**Riachuelo**	**65.79**	**104**	LR		LR	18 28 56.6	
	comp=Z,356nm,18.1s,baz=260,slow=38							
C17K	**DeLong Mountai**	**65.86**	**339**	P		**P**	**17 57 41.0**	**+0.9**
	baz=108							
SUMG	**Summit**	**65.99**	**17**	P		**P**	**17 57 39.8**	**-1.5**
SUMG				IAmb		IAmb	17 57 48.9	
	comp=Z,20nm,1.0s							
SUMG	**Summit**	**65.99**	**17**	P		**P**	**17 57 39.8**	**-1.5**
SUMG				pmax		pmax		
	comp=Z,20nm,1.0s							
SUMG	**Summit**	**65.99**	**17**	*i* P		**P**	**17 57 39.9**	**-1.4**
P08K	**Saint George I**	**66.18**	**325**	P		**P**	**17 57 43.1**	**+0.8**
	baz=96							
F14K	**Arctic Creek**	**66.23**	**335**	P		**P**	**17 57 43.4**	**+0.9**
	baz=103							
C16K	**Lisburne Hills**	**66.57**	**338**	P		**P**	**17 57 45.3**	**+0.7**
	baz=105							
SPIA	**Saint Paul Isl**	**66.63**	**326**	P		**P**	**17 57 46.5**	**+1.3**
	baz=96							
SOEG	**Soedalen**	**66.76**	**22**	*i* P		**P**	**17 57 46.7**	**+0.9**
SOEG				IAmb		IAmb	17 57 48.6	
	comp=Z,21nm,1.1s							
TNA	**Tin City**	**66.90**	**335**	P		**P**	**17 57 47.7**	**+0.9**
	baz=102,SNR=7.6							
GAMB	**Gambell**	**68.19**	**333**	P		**P**	**17 57 56.0**	**+1.1**
	baz=97							
RAR	**Rarotonga**	**70.49**	**240**	LR		LR	18 19 58.1	
	comp=Z,273nm,18.9s,baz=63,slow=28							
DAG	**Danmarks Havn**	**72.13**	**14**	*i* P		**P**	**17 58 17.1**	**-1.8**
NOR	**Nord**	**72.99**	**9**	*e*P		**P**	**17 58 23.1**	**-0.9**
JMIC	**Jan Mayen**	**74.94**	**20**	LR		LR	18 34 13.8	
	comp=Z,323nm,18.3s,baz=252,slow=38							
BILL	**Bilibino**	**77.08**	**337**	P		**P**	**17 58 47.3**	**-0.5**
BILL				IAmb		IAmb	17 58 59.9	
	comp=Z,18nm,1.1s							
SPITS	**Spitsbergen Ar**	**79.28**	**11**	P		**P**	**17 58 59.6**	**-0.2**
	comp=Z,19nm,1.0s,baz=297,slow=16,SNR=2.1							
SPITS				LR		LR	18 36 53.8	
	comp=Z,525nm,18.5s,baz=287,slow=38							
	comp=Z,19nm,1.0s							
EKA	**Eskdalemuir Ar**	**79.99**	**35**	P		**P**	**17 59 03.6**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=278,slow=5.1,SNR=7.5							
	comp=Z,2.0nm,0.6s							
ESDC	**Sonseca Array**	**83.41**	**51**	P		**P**	**17 59 22.1**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=303,slow=5.7,SNR=4.6							
ESDC				LR		LR	18 36 20.4	
	comp=Z,280nm,18.1s,baz=300,slow=36							
	comp=Z,1.4nm,0.9s							
SEY	**Seymchan**	**84.12**	**334**⅄	*e*P		**P**	**17 59 26.5**	**+0.9**
SEY				pmax		pmax		
	comp=Z,23nm,1.9s							
SEY	**Seymchan**	**84.12**	**334**	LR		LR	18 38 02.9	
	comp=Z,325nm,18.3s,baz=78,slow=37							
MDT	**Midelt**	**84.74**	**58**	LR		LR	18 32 05.2	
	comp=Z,167nm,21.1s,baz=340,slow=32							
PMSA	**Palmer Station**	**84.85**	**166**	LR		LR	18 28 53.3	
	comp=Z,141nm,18.4s,baz=326,slow=30							
PETK	**Petropavlovsk-**	**85.22**	**324**	P		**P**	**17 59 31.8**	**+0.4**
	comp=Z,5.6nm,0.9s,baz=112,slow=26,SNR=1.5							
PETK				LR		LR	18 37 46.3	
	comp=Z,239nm,18.5s,baz=43,slow=36							
	comp=Z,5.6nm,0.9s							
NB2	**NORSAR Subarra**	**85.30**	**27**	P		**P**	**17 59 32.3**	**+0.6**
	comp=Z,4.2nm,0.8s,baz=301,slow=5.1							
NOA	**NORSAR Array B**	**85.30**	**27**	P		**P**	**17 59 31.9**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=299,slow=5.0,SNR=4.5							
NOA				LR		LR	18 39 23.6	
	comp=Z,67nm,18.9s,baz=280,slow=37							
	comp=Z,0.9nm,0.7s							
ARCES	**ARCESS Array B**	**86.08**	**17**	P		**P**	**17 59 35.1**	**-0.3**
	comp=Z,3.3nm,1.0s,baz=291,slow=7.6,SNR=1.6							
ARCES				LR		LR	18 41 25.5	
	comp=Z,165nm,19.3s,baz=300,slow=38							
	comp=Z,3.3nm,1.0s							
MA2	**Magadan**	**86.25**	**331**	LR		LR	18 37 37.7	
	comp=Z,319nm,21.8s,baz=58,slow=35							
TIXI	**Tiksi**	**86.79**	**346**	P		**P**	**17 59 37.9**	**-0.9**
TIXI	**Tiksi**	**86.79**	**346**⅄	*e*P		**P**	**17 59 38.3**	**-0.5**
TIXI				pmax		pmax		
	comp=Z,34nm,2.4s							
TIXI	**Tiksi**	**86.79**	**346**	LR		LR	18 43 47.8	
	comp=Z,202nm,18.1s,baz=80,slow=40							
HFS	**Hagfors**	**86.80**	**28**	P		**P**	**17 59 37.9**	**-1.1**
	comp=Z,2.0nm,0.9s,baz=270,slow=5.8,SNR=1.6							
HFS				LR		LR	18 40 58.3	
	comp=Z,98nm,18.5s,baz=282,slow=38							
	comp=Z,2.0nm,0.9s							
CLL	**Collm**	**90.45**	**36**	*e*P		**P**	**17 59 57.0**	**+0.5**
CLL				*e*			18 10 24.0	
CLL				*e*S		**S**	**18 10 47.0**	**-4.6**
DAVOX	**Davos/Dischmat**	**90.55**	**41**	LR		LR	18 40 55.1	
	comp=Z,148nm,20.8s,baz=262,slow=36							
BRG	**Berggiesshubel**	**91.18**	**36**	P		**P**	**18 00 04.3**	**+4.4**
BRG							18 03 40.0	
BRG				pmax		pmax		
	comp=Z,6.0nm,1.2s							
BRG				pmax		pmax		
	comp=Z,3.0nm,0.9s							
BRG				smax		smax		
	comp=Z,445nm,19.2s							
BRG	**Berggiesshubel**	**91.18**	**36**	P		**P**	**18 00 04.4**	**+4.4**
BRG				Amp			18 00 07.0	
	comp=Z,5.6nm,1.1s							
FINES	**FINESS Array B**	**91.22**	**23**	P		**P**	**17 59 58.7**	**-1.2**
	comp=Z,3.5nm,1.0s,baz=291,slow=4.2,SNR=3.6							
FINES				LR		LR	18 41 37.1	
	comp=Z,192nm,20.9s,baz=310,slow=36							
	comp=Z,3.5nm,1.0s							
DBIC	**Dimbokro**	**91.80**	**83**	LR		LR	18 37 02.8	
	comp=Z,123nm,20.1s,baz=264,slow=33							
GERES	**GERESS Array B**	**91.97**	**38**	LR		LR	18 43 12.6	
	comp=Z,145nm,18.1s,baz=304,slow=37							
YAK	**Yakutsk**	**93.33**	**339**	LR		LR	18 45 29.6	
	comp=Z,319nm,18.1s,baz=42,slow=38							
VRAC	**Vranov**	**93.43**	**36**	LR		LR	18 44 55.6	
	comp=Z,106nm,18.4s,baz=316,slow=38							
KEST	**Kesra**	**94.66**	**51**	LR		LR	18 40 15.7	
	comp=Z,151nm,18.5s,baz=287,slow=34							
URZ	**Urewera**	**95.40**	**232**	LR		LR	18 35 42.2	
	comp=Z,167nm,18.3s,baz=121,slow=30							
TORD	**Torodi Ar. Bea**	**96.07**	**75**	LR		LR	18 40 57.6	
	comp=Z,274nm,19.6s,baz=306,slow=34							
AKASG	**Malin Array Be**	**99.34**	**31**	LR		LR	18 48 06.0	
	comp=Z,104nm,18.1s,baz=326,slow=37							
OBN	**Obninsk**	**99.57**	**24**	LR		LR	18 45 46.5	
	comp=Z,196nm,21.7s,baz=356,slow=36							
BVAR	**Borovoye Array**	**110.50**	**7**	PP		**PP**	**18 06 02.6**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=345,slow=4.5,SNR=3.9							
KIV	**Kislovodsk**	**110.56**	**29**	*i* PKIKP		**PKiKP**	**18 05 33.4**	**+5.6**
KIV				pmax		pmax		
	comp=Z,4.0nm,1.0s							
KIV				MLR		MLR		
	comp=Z,138nm,21.0s							
MAK	**Makhachkala**	**113.50**	**26**	*e*P		**Pdif**	**18 01 44.0**	**+3.7**
MAK				*i*			18 05 35.3	
MAK				*e*			18 06 23.2	
MAK				*e*PPP		PPP	18 08 44.6	
MAK				*e*			18 12 16.9	
MAK				*e*PS		**PS**	**18 15 56.5**	**-3.8**
MAK				*e*SS		SS	18 22 08.5	-1.3
MAK				*e*SSS		SSS	18 26 14.9	
MAK				pmax		pmax		
	comp=Z,219nm,1.5s							
KURBB	**Kurchatov Arra**	**113.51**	**2**	PP		**PP**	**18 06 21.9**	**-1.4**
	comp=Z,1.0nm,0.9s,baz=359,slow=6.2,SNR=6.6							
HHC	**Hu-ho-hao-te**	**116.77**	**335**	SS		SS	18 23 02.8	+10
HHC				AMB		AMB		
	comp=Z,150nm,5.1s							
HHC				LR		LR		
	comp=N,360nm,16.3s							
HHC				LR		LR		
	comp=E,320nm,14.1s							
HHC				LR		LR		
	comp=Z,510nm,16.4s							
MKAR	**Makanchi Array**	**117.38**	**359**	PKP		**PKiKP**	**18 05 44.4**	**+3.6**
	comp=Z,0.5nm,0.9s,baz=3.8,slow=2.2,SNR=3.5							
WMQ	**Urumqi**	**120.08**	**355**	*e*P		**PKiKP**	**18 05 49.3**	**+3.2**
WMQ				LR		LR		
	comp=Z,250nm,19.1s							
NJ2	**Nanjing**	**120.12**	**323**	*e*P		**PKiKP**	**18 05 48.8**	**+2.4**
NJ2				pmax		pmax		
	comp=Z,10.0nm,1.7s							
STKA	**Stephens Creek**	**123.42**	**242**	PKP		**PKiKP**	**18 05 56.1**	**+3.2**
	comp=Z,4.3nm,1.0s,baz=55,slow=7.5,SNR=2.9							
ENH	**Enshi**	**126.51**	**329**			**PKPdf**	**18 05 56.9**	**-1.8**
CD2	**Chengdu**	**128.52**	**335**	PKP		**PKiKP**	**18 06 04.0**	**+0.8**
WRA	**Warramunga Arr**	**129.63**	**257**	PKP		**PKiKP**	**18 06 08.8**	**+3.2**
	comp=Z,3.0nm,0.9s,baz=81,slow=1.6,SNR=8.7							
ASAR	**Alice Springs**	**130.24**	**252**			**PKPdf**	**18 06 04.9**	**-1.0**
ASAR	**Alice Springs**	**130.24**	**252**	PKIKP		**PKPdf**	**18 06 04.9**	**-1.0**
ASAR	**Alice Springs**	**130.24**	**252**	PKP		**PKiKP**	**18 06 10.2**	**+3.5**
	comp=Z,2.0nm,0.9s,baz=87,slow=2.0,SNR=6.6							
PZH	**PanZhiHua**	**133.23**	**335**	PKP		**PKiKP**	**18 06 13.0**	**+0.1**
QIZ	**Qiongzhong**	**135.22**	**320**	PKP		**PKiKP**	**18 06 17.4**	**+0.5**
QIZ				PP		**PP**	**18 08 53.3**	**+3.3**
QIZ	**Qiongzhong**	**135.22**	**320**	SS		SS	18 26 45.3	+0.4
QIZ				LR		LR		
	comp=N,230nm,13.8s							
QIZ				LR		LR		
	comp=E,260nm,17.8s							
QIZ				LR		LR		
	comp=Z,200nm,15.3s							
CMAR	**Chiang Mai Arr**	**141.53**	**333**			**PKPdf**	**18 06 24.5**	**-2.5**
CMAR	**Chiang Mai Arr**	**141.53**	**333**	PKIKP		**PKPdf**	**18 06 24.5**	**-2.5**
CMAR	**Chiang Mai Arr**	**141.53**	**333**	PKP		**PKiKP**	**18 06 30.3**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=328,slow=1.8,SNR=10.0							
KSM	**Kuching**	**146.48**	**299**			**PKPdf**	**18 06 34.7**	**-1.1**
HYB	**Hyderabad**	**146.57**	**5**	*e*PKPab		**PKPbc**	**18 06 37.4**	**+0.1**
ABPO	**Ambohimpanom**	**147.37**	**100**			**PKPbc**	**18 06 39.8**	**+0.1**
ABPO	**Ambohimpanom**	**147.37**	**100**	PKP2		**PKPbc**	**18 06 39.8**	**+0.1**
SRIT	**Nakonsritamara**	**149.51**	**322**			**PKPdf**	**18 06 40.2**	**-0.5**
KULM	**Kulim**	**151.41**	**317**			**PKPdf**	**18 06 43.3**	**-0.5**

*SJA **20** 18:00:56.2±1.9,24.°19S×66.°93W,h206km±14km,ML3.2, MW3.6*
*GUC **20** 18:00:58.3±0.5,24.°11S×67.°28W,h236km±12km,ML3.8*
ISC 20 18:00:55.0±2.0,24.°17S±0.°04×66.°94W±0.°05,
h220km±18km,n29,σ1°41/55,1C,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.42**	**113**	*e*P	**Pn**	**18 01 30.3**	**+0.2**
SLA				*e*S	**S**	**18 01 55.6**	**-1.7**
FSA	**Cafayete**	**2.12**	**156**	*e*P	**Pn**	**18 01 36.9**	**+0.4**
FSA				*e*S	**S**	**18 02 08.3**	**-0.5**
YJA	**Yavi**	**2.38**	**34**	*e*P	**Pn**	**18 01 41.2**	**+1.8**
YJA				*e*S	**S**	**18 02 14.0**	**+0.1**
LVC	**Limon Verde**	**2.38**	**310**	*e*P	**Pn**	**18 01 40.5**	**+1.1**
LVC				*e*S	**S**	**18 02 12.3**	**-1.4**
LVC				IAML		18 02 16.7	
	comp=Z,33nm,1.4s						
PB15	**IPOC Station P**	**2.50**	**292**	*e*P	**Pn**	**18 01 41.8**	**+1.3**
PB15				*e*S	**S**	**18 02 15.0**	**-0.8**
PB15	**IPOC Station P**	**2.50**	**292**	*e*P	**Pn**	**18 01 42.0**	**+1.5**
PB15				*i* S	**S**	**18 02 14.8**	**-1.0**
GO02	**Mina Guanaco**	**2.60**	**247**	*e*P	**Pn**	**18 01 42.6**	**+1.0**
GO02				*e*S	**S**	**18 02 17.6**	**-0.2**
GO02	**Mina Guanaco**	**2.60**	**247**	*e*P	**Pn**	**18 01 43.3**	**+1.7**
GO02				*i* S	**S**	**18 02 18.1**	**+0.2**
PB06	**IPOC Station P**	**2.82**	**301**	*e*P	**Pn**	**18 01 45.0**	**+1.2**
PB06				*e*S	**S**	**18 02 20.8**	**-1.1**
PB06				IAML		18 02 23.0	
	comp=Z,91nm,0.1s						
PB06	**IPOC Station P**	**2.82**	**301**	*e*P	**Pn**	**18 01 45.1**	**+1.2**
PB06				*i* S	**S**	**18 02 20.4**	**-1.5**
PB06				IAML		18 02 22.7	
	comp=E,163nm,0.2s						
PB09	**IPOC Station P**	**3.17**	**318**	*e*P	**Pn**	**18 01 49.7**	**+1.8**
PB09				*e*S	**S**	**18 02 29.6**	**+0.5**
PB09				IAML		18 02 31.8	
	comp=Z,26nm,1.0s						
PB09	**IPOC Station P**	**3.17**	**318**	*e*P	**Pn**	**18 01 49.9**	**+2.0**
PB09				*i* S	**S**	**18 02 28.6**	**-0.6**
PB14	**IPOC Station P**	**3.19**	**261**	*e*P	**Pn**	**18 01 49.5**	**+1.4**
PB14				*e*S	**S**	**18 02 28.9**	**-0.7**
PB14				IAML		18 02 33.9	
	comp=Z,54nm,0.3s						
PB05	**IPOC Station P**	**3.26**	**293**	*e*P	**Pn**	**18 01 50.2**	**+1.3**
PB05				*e*S	**S**	**18 02 30.5**	**-0.5**
PB05				IAML		18 02 38.5	
	comp=Z,29nm,1.8s						
PB05	**IPOC Station P**	**3.26**	**293**⅄	*e*P	**Pn**	**18 01 50.1**	**+1.2**
PB05				*i* S	**S**	**18 02 28.7**	**-2.3**
PB10	**IPOC Station P**	**3.37**	**280**	*e*P	**Pn**	**18 01 51.6**	**+1.6**
PB10				*e*S	**S**	**18 02 32.2**	**-0.8**
PB10				IAML		18 02 33.9	
	comp=Z,35nm,0.4s						
PB04	**IPOC Station P**	**3.47**	**301**	*e*P	**Pn**	**18 01 53.1**	**+1.8**
PB04				*e*S	**S**	**18 02 34.4**	**-1.0**
PB04				IAML		18 02 37.2	
	comp=Z,65nm,0.3s						
PB04	**IPOC Station P**	**3.47**	**301**	*e*P	**Pn**	**18 01 52.4**	**+1.1**
PB04				*i* S	**S**	**18 02 33.2**	**-2.1**
PB07	**IPOC Station P**	**3.64**	**311**	*e*P	**Pn**	**18 01 54.5**	**+1.1**
PB07				IAML		18 02 40.6	
	comp=Z,54nm,0.2s						
PB07	**IPOC Station P**	**3.64**	**311**	*e*P	**Pn**	**18 01 54.5**	**+1.1**
PB07				*i* S	**S**	**18 02 37.1**	**-2.0**
AC01	**Pan de Azucar**	**3.85**	**238**	*e*P	**Pn**	**18 01 55.9**	**+0.1**
AC01				*e*S	**S**	**18 02 41.8**	**-1.6**
AC01				IAML		18 02 42.8	
	comp=Z,29nm,0.6s						
PB01	**IPOC Station P**	**3.90**	**322**	*e*P	**Pn**	**18 01 57.5**	**+1.1**
PB01				*i* S	**S**	**18 02 43.2**	**-1.3**
PB02	**IPOC Station P**	**3.93**	**316**	*e*P	**Pn**	**18 01 58.2**	**+1.4**
PB02				*e*S	**S**	**18 02 44.5**	**-0.8**
PB02				IAML		18 02 49.6	
	comp=Z,67nm,0.4s						
PB02	**IPOC Station P**	**3.93**	**316**	*e*P	**Pn**	**18 01 57.9**	**+1.1**
PB08	**IPOC Station P**	**4.50**	**332**	*e*P	**Pn**	**18 02 02.4**	**-1.7**
PB08				*e*S	**S**	**18 03 00.3**	**+1.9**
PB08				IAML		18 03 43.9	
	comp=Z,10nm,3.6s						
GO03	**Copiap**	**4.52**	**220**	*e*P	**Pn**	**18 02 04.7**	**+0.8**
GO03				*e*S	**S**	**18 02 57.1**	**-1.2**
GO01	**Chusmiza**	**4.94**	**335**	*e*P	**Pn**	**18 02 06.7**	**-2.9**
PB11	**IPOC Station P**	**5.05**	**330**	*e*P	**Pn**	**18 02 08.4**	**-2.4**
PB11				*e*S	**S**	**18 03 09.2**	**-1.4**
PB11				IAML		18 03 14.1	
	comp=Z,12nm,1.9s						
ACLC	**CERRO LA CRUZ**	**5.24**	**180**	*e*P	**Pn**	**18 02 14.9**	**+1.9**
ACLC				*e*S	**S**	**18 03 14.5**	**-0.3**
ACLC				IAML		18 03 20.7	
	comp=Z,5.7nm,3.3s						

*IDC **20** 18:05:52.7±1.2,6.°73S×143.°54E,h0km,mb3.6/4, mbtmp3.8/6,ML1.6/1,MS2.9/2,Error ellipse: s-maj=39.7km s-min=25.3km az=60.0*
ISC 20 18:05:54.0±0.8,6.°9S±0.°1×143.°4E±0.°1,h10km,n9,σ1°30/9, mb3.7/4,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.48**	**125**	Pn	**Pn**	**18 07 01.4**	**-0.6**
	2.3nm,0.3s,baz=352,slow=9.5,SNR=8.5						
PMG				Sn	**Sn**	**18 07 55.0**	**+0.7**
	1.8nm,0.3s,baz=6.2,slow=19,SNR=3.9						
PMG				LR	LR	18 09 07.0	
	comp=Z,124nm,18.1s,baz=114,slow=44						
	5.5nm,0.4s						
WRA	**Warramunga Arr**	**15.72**	**213**	Pn	**Pn**	**18 09 33.9**	**-1.9**
	0.2nm,0.3s,baz=31,slow=13,SNR=11						
WRA				Lg	Lg	18 14 16.6	
	0.1nm,0.3s,baz=19,slow=28,SNR=3.1						
ASAR	**Alice Springs**	**19.06**	**208**	P	**P**	**18 10 18.4**	**+1.7**
	13nm,0.7s,baz=34,slow=9.6,SNR=133						
ASAR				Lg	Lg	18 16 05.7	
	baz=21,slow=31,SNR=2.9						
GUMO	**Guam**	**20.36**	**4**	LR	LR	18 17 35.4	
	comp=Z,43nm,21.3s,baz=81,slow=35						
KSRS	**Korea Array**	**46.40**	**343**	P	**P**	**18 14 20.4**	**-0.3**
	0.7nm,0.6s,baz=174,slow=6.3,SNR=1.4						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**75.92**	**322**	P	**P**	**18 17 41.5**	**+0.4**
	0.2nm,0.6s,baz=101,slow=7.5,SNR=2.5						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**85.38**	**325**	P	**P**	**18 18 31.9**	**+0.3**
	0.3nm,0.5s,baz=104,slow=4.6,SNR=3.6						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**87.67**	**24**	P	**P**	**18 18 41.7**	**-0.8**
	0.2nm,0.7s,baz=235,slow=4.3,SNR=1.1						
	0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**141.84**	**283**	PKP	**PKPdf**	**18 25 28.4**	**+1.3**
	0.9nm,0.9s,baz=75,slow=1.6,SNR=4.1						

*IDC **20** 18:07:16.9±2.4,16.°35N×98.°30W,h0km,mb3.8/9, mbtmp3.8/11,ML3.7/2,MS3.9/16,Error ellipse: s-maj=52.6km s-min=18.0km az=29.0*
*MEX **20** 18:07:17.9±0.5,16.°05N×98.°68W,h16km±853km,MD4.6*
*NEIC **20** 18:07:18.6±1.8,16.°28N±0.°06×98.°51W±0.°05,h10km±1km, mb4.3/112,Md4.6/92(MEX),Error ellipse: s-maj=11.2km s-min=6.5km az=211.0*
ISC 20 18:07:14.8±1.3,16.°10N±0.°04×98.°63W±0.°02,h1km±8km, n241,σ2°33/303,mb4.3/49,MS3.8/14,1C,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.56**	**59**		**Pb**	**18 07 27.9**	**+0.5**
PNIG	**Pinotepa**	**0.56**	**59**	*e*P	**Pb**	**18 07 27.9**	**+0.5**
PNIG				*i* S	**Sb**	**18 07 36.3**	**+0.3**
CRIG	**Cruz Grande**	**0.80**	**323**		**Pg**	**18 07 30.5**	**+0.4**
CRIG					**Sg**	**18 07 40.4**	**0.0**
CRIG	**Cruz Grande**	**0.80**	**323**	*e*P	**Pg**	**18 07 30.5**	**+0.4**
CRIG				*e*S	**Sg**	**18 07 40.4**	**0.0**
MGIG	**Malinaltepec**	**1.13**	**360**		**Pg**	**18 07 36.5**	**+0.1**
MGIG					**Sg**	**18 07 50.7**	**-0.4**
MGIG	**Malinaltepec**	**1.13**	**360**	*i* P	**Pg**	**18 07 36.5**	**+0.1**
MGIG				*e*S	**Sg**	**18 07 50.7**	**-0.4**
YOIG	**Yosondua**	**1.28**	**54**		**Pg**	**18 07 39.0**	**-0.4**
YOIG					**Sn**	**18 07 57.5**	**-0.6**
YOIG	**Yosondua**	**1.28**	**54**	*e*P	**Pg**	**18 07 39.0**	**-0.4**
YOIG				*e*S	**Sg**	**18 07 54.7**	**-1.3**
DAIG	**Los Arroyos**	**1.34**	**313**		**Pn**	**18 07 38.2**	**-2.4**
DAIG					**Sb**	**18 07 54.5**	**-3.9**
DAIG	**Los Arroyos**	**1.34**	**313**	*e*P	**Pn**	**18 07 38.2**	**-2.4**
DAIG				*i* S	**Sb**	**18 07 54.5**	**-3.9**
VNTA	**La Mica**	**1.40**	**306**	*e*P	**Pn**	**18 07 41.0**	**-0.4**
VNTA				*e*S	**Sb**	**18 07 54.9**	**-5.2**
TXIG	**Tlaxiaco**	**1.41**	**36**		**Pn**	**18 07 41.0**	**-0.9**
TXIG					**Sn**	**18 08 02.4**	**+1.1**
TXIG	**Tlaxiaco**	**1.41**	**36**	*e*P	**Pn**	**18 07 41.0**	**-0.9**
TXIG				*e*S	**Sb**	**18 07 59.5**	**-1.3**
PEIG	**Puerto Escondi**	**1.43**	**94**		**Pn**	**18 07 40.3**	**-1.5**
PEIG					**Sb**	**18 07 56.9**	**-4.0**
PEIG	**Puerto Escondi**	**1.43**	**94**	*e*P	**Pn**	**18 07 40.3**	**-1.5**
PEIG				*e*S	**Sb**	**18 07 56.9**	**-4.0**
ACP2	**Acapulco**	**1.43**	**303**		**Pn**	**18 07 42.4**	**+0.5**
ACP2					**Sb**	**18 07 59.5**	**-1.6**
ACP2	**Acapulco**	**1.43**	**303**	*e*P	**Pn**	**18 07 42.4**	**+0.5**
ACP2				*e*S	**Sb**	**18 07 59.5**	**-1.6**
TLIG	**Tlapa**	**1.46**	**2**		**Pn**	**18 07 41.2**	**-1.1**
TLIG	**Tlapa**	**1.46**	**2**	*e*P	**Pn**	**18 07 41.4**	**-0.9**
TLIG				*e*S	**Sb**	**18 07 58.2**	**-3.6**
HMTT	**Tlapaneco**	**1.69**	**2**		**Pn**	**18 07 44.5**	**-1.0**
HMTT					**Sn**	**18 08 05.7**	**-2.2**
HMTT	**Tlapaneco**	**1.69**	**2**	*e*P	**Pn**	**18 07 44.5**	**-1.0**
HMTT				*i* S	**Sn**	**18 08 05.7**	**-2.2**
CAIG	**El Cayaco**	**1.83**	**301**	*e*P	**Pn**	**18 07 45.4**	**-2.0**
CAIG				*e*S	**Sn**	**18 08 09.7**	**-1.6**
FTIG	**Fresnillo de T**	**1.86**	**15**	*e*P	**Pn**	**18 07 47.5**	**-0.4**
FTIG				*e*S	**Sn**	**18 08 05.5**	**-6

APVM	**Azcapotzalco**	**3.42**	**351**	*e*P		**Pb**	**18 08 17.0**	**+0.7**
APVM				*e*S		**Sn**	**18 08 49.8**	**-0.9**
PTVM	**Pico Tres Padr**	**3.50**	**353**	*e*P		**Pb**	**18 08 16.4**	**-1.4**
PTVM				*e*S		**Sn**	**18 08 48.8**	**-4.1**
AZVM	**Cuida Lopez Ma**	**3.52**	**350**	*e*P		**Pb**	**18 08 15.7**	**-2.4**
AZVM				*e*S		**Sn**	**18 08 50.8**	**-2.6**
UON	**La Union**	**3.57**	**302**	*e*S		**Sn**	**18 08 56.5**	**+2.3**
VTVM	**Tizayuca**	**3.65**	**358**	*i* P		**Pn**	**18 08 13.3**	**+0.5**
VTVM				*e*S		**Sn**	**18 08 59.2**	**+2.6**
JAUV	**Jalcomulco**	**3.69**	**28**	*e*P		**Pn**	**18 08 11.8**	**-1.1**
JAUV				*e*S		**Sn**	**18 08 58.0**	**+0.9**
ZUVM	**ZUMPANGO**	**3.73**	**353**	*e*P		**Pb**	**18 08 18.7**	**-3.0**
ZUVM				*e*S		**Sn**	**18 08 55.9**	**-2.6**
XALA	**Xalapa**	**3.79**	**25**	*e*S		**Sn**	**18 09 00.9**	**+1.2**
ATVM	**ATLACOMULCO**	**3.82**	**343**	*i* P		**Pb**	**18 08 23.0**	**-0.2**
ATVM				*e*S		**Sn**	**18 08 59.0**	**-1.8**
NILT	**Santiago Nilte**	**3.88**	**83**	*e*P		**Pn**	**18 08 15.3**	**-0.3**
NILT				*e*S		**Sn**	**18 09 00.5**	**-1.3**
ACIG	**Acambay**	**4.04**	**343**	*e*P		**Pn**	**18 08 22.2**	**+4.2**
ACIG				*e*S		**Sn**	**18 09 05.7**	**-0.3**
PMUV	**Sontecomapan**	**4.14**	**54**	*e*P		**Pn**	**18 08 16.9**	**-2.3**
PMUV				*i* S		**Sn**	**18 09 06.1**	**-2.2**
LVIG	**Laguna Verde**	**4.17**	**30**	*e*P		**Pn**	**18 08 16.9**	**-2.7**
LVIG				*e*S		**Sb**	**18 09 14.6**	**-5.3**
DHIG	**Demacu**	**4.20**	**355**			**Pb**	**18 08 29.3**	**-0.2**
DHIG						**Sn**	**18 09 08.6**	**-1.3**
DEIG	**Demacu**	**4.20**	**355**	*e*P		**Pb**	**18 08 29.3**	**-0.3**
DEIG				*e*S		**Sn**	**18 09 08.6**	**-1.3**
MOIG	**Morelia**	**4.31**	**326**			**Pn**	**18 08 24.7**	**+3.0**
MOIG	**Morelia**	**4.31**	**326**	*e*P		**Pn**	**18 08 25.4**	**+3.6**
MOIG				*e*S		**Sn**	**18 09 11.0**	**-1.9**
TUIG	**Tuzandepetl**	**4.46**	**64**	*e*P		**Pn**	**18 08 22.3**	**-1.2**
TUIG				*e*S		**Sn**	**18 09 14.0**	**-2.1**
UXUV	**UXUV**	**4.46**	**74**	*e*P		**Sn**	**18 08 22.7**	**-0.9**
UXUV				*e*S		**Sn**	**18 09 15.4**	**-0.8**
CARR	**Arriaga**	**4.53**	**87**	*e*P		**Pn**	**18 08 24.1**	**-0.5**
CARR				*e*S		**Sn**	**18 09 15.6**	**-2.3**
JRQG	**Juriquilla Cam**	**4.89**	**340**		Pn	**Pn**	**18 08 33.1**	**+3.4**
MMIG	**Aquila**	**5.01**	**296**			**Pn**	**18 08 31.1**	**+0.1**
MMIG						**Sn**	**18 09 25.2**	**-4.3**
MMIG	**Aquila**	**5.01**	**296**	*e*P		**Pn**	**18 08 31.1**	**+0.1**
MMIG				⇑*e*S		**Sn**	**18 09 25.2**	**-4.3**
PCIG		**5.22**	**94**			**Pn**	**18 08 34.0**	**0.0**
PCIG						**Sn**	**18 09 26.3**	**-8.5**
PCIG		**5.22**	**94**	*e*P		**Pn**	**18 08 34.0**	**0.0**
PCIG				*i* S		**Sn**	**18 09 26.3**	**-8.5**
IGIG	**Irapuato, Guan**	**5.29**	**331**	*e*P		**Pn**	**18 08 37.0**	**+1.8**
IGIG				*e*S		**Sn**	**18 09 36.9**	**0.0**
CTUV	**Llano Grande**	**5.35**	**3**	*e*P		**Pn**	**18 08 39.1**	**+3.3**
CTUV				*e*S		**Sn**	**18 09 36.5**	**-1.5**
COIG	**Colima**	**5.72**	**303**	*e*P		**Sn**	**18 08 44.1**	**+3.2**
COIG				*e*S		**Sn**	**18 09 48.5**	**+1.3**
JUBC	**Volcan de Coli**	**5.80**	**307**	*e*P		**Sn**	**18 08 43.4**	**+1.1**
JUBC				*e*S		**Sn**	**18 09 42.5**	**-7.3**
EZ5V		**5.81**	**306**			**Pn**	**18 08 45.5**	**+3.1**
EZ5V		**5.81**	**306**	*e*P		**Pn**	**18 08 45.5**	**+3.1**
EZ5V				*e*S		**Sn**	**18 09 43.1**	**-6.7**
MNGA	**Volcan de Coli**	**5.82**	**306**	*e*P		**Pn**	**18 08 46.0**	**+3.6**
MNGA				*e*S		**Sn**	**18 09 42.2**	**-7.7**
INCO	**Volcan de Coli**	**5.84**	**306**	*e*P		**Pn**	**18 08 44.9**	**+2.1**
INCO				*e*S		**Sn**	**18 09 51.8**	**+1.1**
SOMAC	**Volcano de Col**	**5.86**	**306**	*e*P		**Pn**	**18 08 46.9**	**+3.8**
SOMAC				*e*S		**Sn**	**18 09 45.2**	**-5.9**
CDAR	**Ciudad de Arme**	**5.86**	**300**	*e*P		**Pn**	**18 08 44.5**	**+1.7**
CDAR				*e*S		**Sn**	**18 09 47.8**	**-2.9**
RPIG	**Rio Verde**	**5.89**	**348**	*i* P		**Pn**	**18 08 45.9**	**+2.5**
RPIG				*e*S		**Sn**	**18 09 54.1**	**+2.4**
CEGR	**Campo Tres**	**5.96**	**304**	*e*P		**Pn**	**18 08 46.8**	**+2.5**
CEGR				*e*S		**Sn**	**18 09 51.1**	**-2.3**
PATR	**El Naranjo**	**6.24**	**98**	*e*P		**Pn**	**18 08 49.0**	**+0.7**
PATR				*e*S		**Sn**	**18 09 56.6**	**-3.7**
CCIG	**Comitan**	**6.24**	**87**		Pn	**Pn**	**18 08 48.8**	**+0.6**
CCIG	**Comitan**	**6.24**	**87**	*e*P		**Pn**	**18 08 49.3**	**+1.1**
CCIG				*e*S		**Sn**	**18 10 01.6**	**+1.3**
PAVE	**Pavencul**	**6.28**	**97**	*e*P		**Pn**	**18 08 51.3**	**+2.5**
PAVE				*e*S		**Sn**	**18 09 52.9**	**-8.5**
CHUJ	**Union Juarez**	**6.36**	**98**	*e*P		**Pn**	**18 08 50.7**	**+0.8**
CHUJ				*i* S		**Sn**	**18 09 57.1**	**-6.3**
CIHU	**Emiliano Zapat**	**6.62**	**299**	*e*P		**Pn**	**18 08 53.6**	**+0.4**
AAIG	**Aguscalientes**	**6.83**	**329**	*e*P		**Pn**	**18 08 58.0**	**+1.7**
AAIG				*e*S		**Sn**	**18 10 13.7**	**-1.2**
GTIG	**Gomez Farias**	**6.95**	**356**			**Pn**	**18 08 57.0**	**-0.8**
GTIG						**Sn**	**18 10 16.8**	**-0.8**
GTIG	**Gomez Farias**	**6.95**	**356**	*e*P		**Pn**	**18 08 57.0**	**-0.8**
GTIG				*e*S		**Sn**	**18 10 16.8**	**-0.8**
CJM	**Chamela**	**6.98**	**300**	*e*P		**Pn**	**18 08 59.5**	**+1.3**
CJM				*e*S		**Sn**	**18 10 21.1**	**+2.8**
ESTA	**Talpa de Allen**	**7.29**	**307**	*e*P		**Pn**	**18 09 06.0**	**+3.4**
ANIG	**Ahuacatlan**	**7.45**	**312**	*e*P		**Pn**	**18 09 03.3**	**-1.4**
ANIG				*e*S		**Sn**	**18 10 28.6**	**-1.4**
ZAIG	**Zacatecas**	**7.60**	**331**		Pn	**Pn**	**18 09 09.8**	**+2.8**
ZAIG	**Zacatecas**	**7.60**	**331**	*e*P		**Pn**	**18 09 09.2**	**+2.1**
APG	**El Apazote**	**7.94**	**97**		Pn	**Pn**	**18 09 10.7**	**-0.9**
	baz=298,slow=23,SNR=1.3							
APG					Sn	**Sn**	**18 10 41.1**	**-1.2**
	0.2nm,0.3s,baz=238,slow=19,SNR=7.3							
APG					Lg	Lg	18 11 17.9	
	0.1nm,0.3s,baz=238,slow=19,SNR=3.8							
TEIG	**Tepich**	**10.66**	**66**		Pn	**Pn**	**18 09 47.6**	**-1.1**
TEIG	**Tepich**	**10.66**	**66**		LR	LR	18 14 02.1	
	comp=Z,4µm,19.9s,slow=39							
PDIG	**Papasquiaro**	**10.92**	**326**	*e*P		Pn	18 09 57.9	+5.5
PDIG				*e*S		**Sn**	**18 11 55.5**	**+0.1**
BOAB	**BOACO BROADBAN**	**13.08**	**104**		Pn	**Pn**	**18 10 22.7**	**+0.9**
HNDO	**Hondo**	**13.38**	**358**		Pn	**Pn**	**18 10 25.8**	**-0.1**
HZTE	**Horizontes, Gu**	**13.76**	**111**		Pn	**Pn**	**18 10 30.3**	**-0.9**
TXAR	**Lajitas Array**	**13.96**	**341**		Pn	**Pn**	**18 10 34.9**	**+0.9**
TXAR	**Lajitas Array**	**13.96**	**341**		Pn	**Pn**	**18 10 36.2**	**+2.3**
	baz=163,slow=14,SNR=7.5							
TXAR					Lg	Lg	18 14 35.4	
	0.1nm,0.3s,baz=261,slow=16,SNR=2.1							
TXAR					LR	LR	18 15 56.4	
	comp=Z,326nm,19.1s,baz=152,slow=38							
	0.8nm,0.9s							
TX31	**Lajitas Ar. Si**	**13.96**	**341**			**Pn**	**18 10 34.9**	**+0.9**
ORTG	**Ortega, Santa**	**14.03**	**112**		Pn	**Pn**	**18 10 35.5**	**+0.6**
SAND	**Sanderson**	**14.16**	**348**		Pn	**Pn**	**18 10 37.6**	**+1.0**
JTS	**Las Juntas de**	**14.51**	**112**		Pn	**Pn**	**18 10 42.4**	**+1.0**
JTS	**Las Juntas de**	**14.51**	**112**		Pn	**Pn**	**18 10 42.0**	**+0.5**
	0.7nm,0.3s,baz=285,slow=17,SNR=1.4							
	1.9nm,0.3s							
OZNA	**Ozona**	**14.93**	**352**			**Pn**	**18 10 48.1**	**+1.0**
BRDY	**Brady**	**15.12**	**359**			**Pn**	**18 10 49.8**	**+0.2**
LCR2	**La Lucha 2**	**15.59**	**112**		Pn	**Pn**	**18 10 56.5**	**+0.5**
LCR2					lAmb	lAmb	18 11 08.1	
	comp=Z,9.3nm,0.6s							
MNHN	**Monahans**	**15.63**	**347**			**Pn**	**18 10 57.9**	**+1.4**
MNHN					lAmb	lAmb	18 11 04.0	
	comp=Z,9.3nm,0.7s							
VHRN	**Van Horn**	**15.73**	**339**		Pn	**Pn**	**18 10 59.2**	**+1.4**
SGCY	**Sterling City**	**15.91**	**352**			**Pn**	**18 11 01.7**	**+1.7**
PECS	**Pecos**	**15.94**	**343**			**Pn**	**18 11 01.6**	**+1.3**
PEZE	**Perez Zeledon,**	**16.03**	**113**		Pn	**Pn**	**18 11 01.9**	**+0.2**
PEZE					lAmb	lAmb	18 11 29.4	
	comp=Z,17nm,0.9s							
SRBA	**San Rafael, Bu**	**16.38**	**113**			**Pn**	**18 11 06.7**	**+0.5**
ABTX	**Abilene, Hawle**	**16.48**	**357**			**Pn**	**18 11 07.8**	**+0.5**
ABTX					lAmb	lAmb	18 11 12.3	
	comp=Z,25nm,1.0s							
PLPT	**Palo Pinto**	**16.64**	**1**		Pn	**Pn**	**18 11 08.7**	**-0.7**
PLPT					lAmb	lAmb	18 11 14.0	
	comp=Z,64nm,1.3s							
SN05	**Snyder 5**	**16.83**	**353**		Pn	**Pn**	**18 11 12.2**	**+0.3**
SN07	**Snyder 07**	**17.04**	**354**			**Pn**	**18 11 14.8**	**+0.4**
APMT	**Aspermont**	**17.20**	**356**		P	**Pn**	**18 11 19.9**	**+0.4**
DKNS	**Dickens**	**17.61**	**354**		P	**P**	**18 11 22.7**	**0.0**
319A	**Douglas**	**18.05**	**329**		P	**P**	**18 11 28.3**	**+0.8**
MSTX	**Muleshoe**	**18.18**	**349**			**Pn**	**18 11 28.7**	**0.0**
121A	**Cookes Peak, D**	**18.35**	**335**		P	**P**	**18 11 31.4**	**+0.5**
WMOK	**Wichita Mounta**	**18.56**	**360**		P	**P**	**18 11 32.9**	**-0.2**
AMTX	**Amarillo**	**18.91**	**352**		P	**P**	**18 11 37.1**	**+0.1**
SMWD	**Samnorwood**	**18.98**	**356**			**P**	**18 11 37.8**	**+0.1**
SMWD					lAmb	lAmb	18 11 47.4	
	comp=Z,11nm,0.7s							
LRAL	**Lakeview Retre**	**19.88**	**30**		P	**P**	**18 11 47.7**	**+0.2**
LRAL					lAmb	lAmb	18 11 49.9	
	comp=Z,11nm,0.9s							
ANMO	**Albuquerque**	**20.04**	**341**		P	Pn	18 11 50.8	-0.4
ANMO	**Albuquerque**	**20.04**	**341**		P	Pn	18 11 50.6	-0.5
ANMO					lAmb	lAmb	18 11 59.2	
	comp=Z,7.9nm,1.0s							

OK048	**Pawnee Station**	**20.29**	**4**		P	**P**	**18 11 51.5**	**-0.5**
OK048					lAmb	lAmb	18 12 00.1	
	comp=Z,29nm,1.0s							
214A	**Organ Pipe Nat**	**20.38**	**323**		P	**P**	**18 11 53.9**	**+0.8**
FCAR	**Ozark Folk Cen**	**20.55**	**15**		P	**P**	**18 11 54.4**	**-0.4**
RTBA	**Rita Blanca**	**20.58**	**351**		P	**P**	**18 11 55.4**	**+0.1**
RTBA					lAmb	lAmb	18 11 57.8	
	comp=Z,16nm,1.0s							
U38A	**Gravette**	**20.61**	**10**		P	**P**	**18 11 54.7**	**-0.8**
T35A	**Sooner Cattle**	**20.82**	**5**		P	**P**	**18 11 56.7**	**-1.1**
T35A					lAmb	lAmb	18 12 03.5	
	comp=Z,13nm,0.8s							
Y49A	**Blount Mountai**	**20.83**	**30**		P	**P**	**18 11 57.2**	**-0.7**
Y49A					lAmb	lAmb	18 11 59.5	
	comp=Z,11nm,0.8s							
LCAR	**Lake Charles**	**20.98**	**17**			**P**	**18 11 59.7**	**+0.3**
LCAR					lAmb	lAmb	18 12 08.6	
	comp=Z,21nm,1.4s							
X18A	**Snowflake**	**20.98**	**333**		P	Pn	18 12 01.8	-0.4
X18A					lAmb	lAmb	18 12 06.6	
	comp=Z,12nm,1.0s							
X48A	**Hartselle**	**21.03**	**28**		P	**P**	**18 11 59.1**	**-0.9**
X48A					lAmb	lAmb	18 12 04.5	
	comp=Z,14nm,0.8s							
PLAL	**Pickwick Lake**	**21.05**	**25**		P	**P**	**18 12 00.3**	**+0.1**
113A	**Mohawk Valley,**	**21.53**	**323**		P	**P**	**18 12 07.0**	**+1.7**
113A					lAmb	lAmb	18 12 08.8	
	comp=Z,13nm,1.3s							
X16A	**Lo Mia Camp, P**	**21.57**	**330**		P	**P**	**18 12 07.8**	**+1.7**
X16A					lAmb	lAmb	18 12 20.9	
	comp=Z,15nm,1.0s							
T25A	**Trinidad**	**21.57**	**347**		P	**P**	**18 12 06.8**	**+0.7**
T25A					lAmb	lAmb	18 12 21.9	
	comp=Z,25nm,1.2s							
PBMO	**Poplar Bluff**	**21.84**	**18**		P	**P**	**18 12 08.1**	**-0.7**
S39A	**Bolivar**	**22.01**	**11**		P	**P**	**18 12 10.6**	**0.0**
S39A					lAmb	lAmb	18 12 15.0	
	comp=Z,8.4nm,0.8s							
Y52A	**Lilburn**	**22.03**	**34**		P	**P**	**18 12 09.7**	**-1.0**
Y52A					lAmb	lAmb	18 12 15.9	
	comp=Z,18nm,1.1s							
WVT	**Waverly**	**22.15**	**24**		P	**P**	**18 12 11.8**	**-0.3**
SWET	**Sewanee**	**22.17**	**28**		P	**P**	**18 12 11.2**	**-1.1**
SWET					lAmb	lAmb	18 12 12.1	
	comp=Z,19nm,1.0s							
V48A	**Smith Brothers**	**22.22**	**26**		P	**P**	**18 12 11.6**	**-1.2**
V48A					lAmb	lAmb	18 12 15.6	
	comp=Z,12nm,1.1s							
GLA	**Glamis**	**22.35**	**322**		P	**P**	**18 12 16.2**	**+1.9**
GLA					lAmb	lAmb	18 12 39.8	
	comp=Z,9.6nm,0.9s							
SDCO	**Great Sand Dun**	**22.40**	**346**		P	**P**	**18 12 15.4**	**+0.4**
WUAZ	**Wupatki**	**22.44**	**332**		P	**P**	**18 12 17.5**	**+2.1**
WUAZ					lAmb	lAmb	18 12 20.4	
	comp=Z,16nm,1.0s							
W50A	**Signal Mountai**	**22.45**	**30**		P	**P**	**18 12 14.9**	**-0.4**
W50A					lAmb	lAmb	18 12 18.8	
	comp=Z,17nm,1.1s							
MVCO	**Mesa Verde**	**22.77**	**339**		P	**P**	**18 12 19.6**	**+0.7**
MVCO					lAmb	lAmb	18 12 21.8	
	comp=Z,22nm,1.1s							
R40A	**Maddies Statio**	**22.80**	**13**		P	**P**	**18 12 19.0**	**0.0**
CCM	**Cathedral Cave**	**22.82**	**15**		P	**P**	**18 12 18.8**	**-0.4**
CCM					lAmb	lAmb	18 12 24.0	
	comp=Z,11nm,1.0s							
W52A	**Murphy**	**23.05**	**32**		P	**P**	**18 12 21.6**	**0.0**
W52A					lAmb	lAmb	18 12 22.8	
	comp=Z,16nm,0.8s							
S44A	**Carbondale**	**23.05**	**19**		P	**P**	**18 12 21.3**	**-0.2**
SIUC	**Southern Illin**	**23.08**	**19**		P	**P**	**18 12 21.9**	**0.0**
KSCO	**Kaye Shedlock'**	**23.09**	**352**		P	**P**	**18 12 22.0**	**-0.1**
T47A	**Sharon Grove**	**23.18**	**24**		P	**P**	**18 12 22.9**	**0.0**
U49A	**Red Boiling Sp**	**23.32**	**27**		lAmb	lAmb	18 12 29.8	
	comp=Z,12nm,0.9s							
TKL	**Tuckaleechee C**	**23.57**	**31**		P	**P**	**18 12 26.3**	**-0.5**
	comp=Z,3.5nm,0.8s,baz=197,slow=16,SNR=2.2							
	comp=Z,3.5nm,0.8s							
U15A	**North Rim**	**23.61**	**332**		P	**P**	**18 12 28.8**	**+1.2**
PFO	**Pinyon Flats O**	**23.72**	**321**		P	**P**	**18 12 30.9**	**+2.4**
	comp=Z,1.1nm,0.6s,baz=139,slow=12,SNR=1.3							
PFO					LR	LR	18 22 10.5	
	comp=Z,325nm,18.9s,baz=1.0,slow=38							
	comp=Z,1.1nm,0.6s							
T50A	**Nancy**	**24.16**	**28**		P	**P**	**18 12 32.4**	**-0.1**
T50A					lAmb	lAmb	18 12 35.5	
	comp=Z,6.4nm,0.8s							
KNB	**Kanab**	**24.34**	**332**		lAmb	lAmb	18 12 38.6	
	comp=Z,9.5nm,1.1s							
ISCO	**Idaho Springs**	**24.39**	**347**		lAmb	lAmb	18 12 37.3	
	comp=Z,11nm,1.1s							
PKCU	**Pink Cliffs**	**24.46**	**333**		P	**P**	**18 12 36.9**	**+1.2**
PKCU					lAmb	lAmb	18 12 48.0	
	comp=Z,8.7nm,1.0s							
MTPU	**Mount Pierson**	**24.91**	**334**		lAmb	lAmb	18 12 51.5	
	comp=Z,8.7nm,0.9s							
GSC	**Goldstone, Bar**	**25.10**	**323**		lAmb	lAmb	18 13 11.2	
	comp=Z,8.5nm,1.4s							
SRU	**San Rafael Swe**	**25.18**	**338**		P	**P**	**18 12 42.7**	**+0.7**
Q16A	**Castle Valley**	**25.25**	**337**		lAmb	lAmb	18 12 53.6	
	comp=Z,8.4nm,0.8s							
P17A	**Butcher Ranch,**	**25.58**	**338**		lAmb	lAmb	18 13 24.3	
	comp=Z,5.3nm,1.0s							
QSM	**Queen of Sheba**	**25.61**	**324**		P	**P**	**18 12 47.4**	**+1.7**
QSM					lAmb	lAmb	18 12 51.0	
	comp=Z,5.9nm,1.1s							
PSUT	**Pine Spring**	**26.05**	**332**		lAmb	lAmb	18 13 33.3	
	comp=Z,5.6nm,1.2s							
RDMU	**Red Mountain**	**26.17**	**341**		lAmb	lAmb	18 13 04.5	
	comp=Z,5.9nm,0.8s							
P49A	**Miami Univ. Ec**	**26.32**	**25**		P	**P**	**18 12 51.1**	**-1.1**
NLU	**North Lily Min**	**26.50**	**336**		P	**P**	**18 12 55.1**	**+1.1**
NLU					lAmb	lAmb	18 13 00.7	
	comp=Z,4.9nm,0.9s							
BSUT	**Blindstream Ca**	**26.53**	**339**		P	**P**	**18 12 55.5**	**+1.0**
BSUT					lAmb	lAmb	18 13 09.3	
	comp=Z,6.4nm,0.9s							
DUG	**Dugway, Tooele**	**27.00**	**336**		lAmb	lAmb	18 13 09.8	
	comp=Z,6.1nm,1.1s							
N47A	**Urbana**	**27.12**	**22**		P	**P**	**18 12 58.6**	**-0.7**
TCUT	**Toone Canyon**	**27.27**	**339**		lAmb	lAmb	18 13 07.1	
	comp=Z,6.7nm,0.7s							
NVAR	**Mina Array Bea**	**28.18**	**326**		LR	LR	18 25 56.3	
	comp=Z,462nm,18.3s,baz=131,slow=40							
PD31	**Pinedale Array**	**28.18**	**343**		P	**P**	**18 13 09.6**	**+0.6**
PD31					lAmb	lAmb	18 13 30.4	
	comp=Z,4.4nm,1.1s							
PDAR	**Pinedale Array**	**28.18**	**343**		P	**P**	**18 13 10.3**	**+1.3**
	comp=Z,1.3nm,0.8s,baz=140,slow=9.5,SNR=9.3							
PDAR					LR	LR	18 25 57.6	
	comp=Z,207nm,21.7s,baz=168,slow=40							
	comp=Z,1.3nm,0.8s							
SDV	**Santo Domingo**	**28.23**	**101**		LR	LR	18 25 57.0	
	comp=Z,187nm,18.2s,baz=12,slow=40							
HVU	**Hansel Valley**	**28.35**	**337**		lAmb	lAmb	18 13 22.4	
	comp=Z,3.7nm,1.0s							
ELK	**Elko**	**28.47**	**333**		LR	LR	18 26 23.8	
	comp=Z,300nm,21.6s,baz=166,slow=40							
TPAW	**Teton Pass**	**29.25**	**341**		lAmb	lAmb	18 13 36.6	
	comp=Z,6.3nm,1.1s							
LOHW	**Long Hollow**	**29.26**	**342**		P	**P**	**18 13 19.5**	**+0.8**
LOHW					lAmb	lAmb	18 13 46.9	
	comp=Z,4.9nm,1.2s							
MDND	**Maddock**	**31.67**	**359**		P	**P**	**18 13 39.6**	**-0.1**
PLID	**Pearl Lake**	**32.39**	**337**		lAmb	lAmb	18 13 48.6	
	comp=Z,8.0nm,1.3s							
SADO	**Sadowa**	**32.97**	**26**		LR	LR	18 32 04.3	
	comp=Z,100nm,18.0s,baz=282,slow=46							
PCRV	**Puerto La Cruz**	**33.59**	**96**		LR	LR	18 28 56.6	
	comp=Z,168nm,18.1s,slow=39							
F10A	**Beach Ranch, E**	**33.60**	**336**		lAmb	lAmb	18 14 02.2	
	comp=Z,6.1nm,1.0s							
G08A	**Pilot Rock**	**33.75**	**334**		lAmb	lAmb	18 13 59.9	
	comp=Z,6.6nm,1.3s							
ULM	**Lac du Bonnet**	**34.14**	**3**		P	**P**	**18 14 00.0**	**-1.2**
	comp=Z,1.9nm,0.8s,baz=158,slow=4.3,SNR=4.5							
	comp=Z,1.9nm,0.8s							
NNA	**Nana**	**35.26**	**141**		LR	LR	18 25 13.1	
	comp=Z,115nm,21.1s,baz=358,slow=30							
NEW	**Newport**	**35.49**	**339**		LR	LR	18 29 27.4	
	comp=Z,102nm,21.0s,baz=158,slow=38							
FFC	**Flin Flon**	**38.63**	**357**		P	**P**	**18 14 39.3**	**-0.2**
FFC					lAmb	lAmb	18 14 47.8	
	comp=Z,4.0nm,0.9s							
EDM	**Edmonton**	**38.81**	**346**		lAmb	lAmb	18 14 43.0	
	comp=Z,10nm,1.0s							
ETMB	**Extrema**	**41.14**	**127**		P	**P**	**18 15 04.2**	**+3.3**
ETMB					lAmb	lAmb	18 15 08.0	
	comp=Z,10nm,1.4s							
RPN	**Rapa Nui**	**44.21**	**194**		LR	LR	18 29 12.8	
	comp=Z,111nm,19.6s,baz=186,slow=30							
SCHQ	**Schefferville**	**45.77**	**25**		P	**P**	**18 15 37.4**	**-0.5**
	comp=Z,6.0nm,0.9s,baz=215,slow=8.0,SNR=5.9							
	comp=Z,6.0nm,0.9s							
MDP	**Montagnes des**	**46.40**	**98**		LR	LR	18 36 13.0	
	comp=Z,54nm,18.1s,baz=247,slow=38							
YKA	**Yellowknife Ar**	**47.69**	**350**		P	**P**	**18 15 53.3**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=160,slow=7.3,SNR=9.6							
	comp=Z,1.0nm,0.9s							
DLBC	**Dease Lake**	**48.24**	**338**		LR	LR	18 35 51.9	
	comp=Z,314nm,21.7s,baz=128,slow=36							
H03N2	**Juan Fernandez**	**52.73**	**159**		T	T	19 13 18.2	
	baz=338,slow=77,SNR=379							
H03N1	**Juan Fernandez**	**52.74**	**159**		T	T	19 13 24.5	
	baz=338,slow=77,SNR=732							
H03N3	**Juan Fernandez**	**52.75**	**159**		T	T	19 13 23.3	
	baz=338,slow=77,SNR=737							
ILAR	**Eielson Array**	**58.45**	**338**		P	**P**	**18 17 13.5**	**+1.5**
	comp=Z,0.8nm,0.8s,baz=152,slow=4.6,SNR=8.7							
	comp=Z,0.8nm,0.8s							
E27K	**Coleen River**	**58.77**	**343**		P	**P**	**18 17 14.5**	**+0.2**
E27K					lAmb	lAmb	18 17 31.0	
	comp=Z,5.8nm,1.4s							
PPT	**Papeete**	**60.33**	**238**		LR	LR	18 37 37.3	
	comp=Z,105nm,21.3s,baz=69,slow=30							
BORG	**Borgarnes**	**70.15**	**26**		LR	LR	18 49 43.6	
	comp=Z,132nm,19.5s,baz=326,slow=36							
EKA	**Eskdalemuir Ar**	**79.99**	**35**		P	**P**	**18 19 25.7**	**0.0**
	comp=Z,0.3nm,0.5s,baz=280,slow=4.2,SNR=1.9							
	comp=Z,0.3nm,0.5s							
ESDC	**Sonseca Array**	**83.40**	**51**		P	**P**	**18 19 44.1**	**0.0**
	comp=Z,0.2nm,0.4s,baz=280,slow=4.4,SNR=1.3							
	comp=Z,0.2nm,0.4s							

*ISN **20** 18:10:06.6±0.3,33°.66N×45°.57E,h14km±7km, ML2.7*
*TEH **20** 18:10:07.5,33°.69N×45°.58E,h8km±59km, ML2.7*
ISC 20 18:10:07.6±0.9,33°.68N±0'.04×45°.61E±0'.04,h13km,n12,
σ0s68/16,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.50**	**96**	Pg	**Pb**	**18 10 18.2**	**-0.2**
ILBA				Sg	**Sb**	**18 10 25.7**	**+0.1**
IBDR	**Badra**	**0.63**	**155**	*e*Pg	**Pg**	**18 10 19.0**	**-0.9**
IBDR				*e*Sg	**Sg**	**18 10 28.0**	**-0.2**
IBDR				AML	AML	18 10 42.3	
	comp=E,271nm,0.4s						
IBDR				AML	AML	18 11 00.9	
	comp=N,348nm,0.7s						

MSVF	**Nonsavu**	**3.48**	**278**	P	**P**	**18 39 14.9**	**+1.8**
PINNC	**Pines Island,**	**14.03**	**249**	P	**P**	**18 40 58.5**	**-0.1**
NNZ	**Nelson**	**23.99**	**196**	P	**P**	**18 42 35.7**	**+2.8**
ARMA	**Armidale**	**29.85**	**240**	P	**P**	**18 43 24.0**	**-0.7**
ARMA				IAmb	IAmb	18 43 35.2	
	comp=Z,36nm,1.5s						
TOO	**Toolangi**	**37.03**	**231**	P	**P**	**18 44 25.4**	**+0.1**
COEN	**Coen**	**37.18**	**271**	P	**P**	**18 44 27.5**	**+0.6**
COEN				IAmb	IAmb	18 44 36.1	
	comp=Z,22nm,1.4s						
STKA	**Stephens Creek**	**38.54**	**242**	P	**P**	**18 44 38.2**	**+0.4**
STKA	**Stephens Creek**	**38.54**	**242**	P	**P**	**18 44 37.9**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=108,slow=15,SNR=3.5						
	comp=Z,2.1nm,0.6s						
BBOO	**Buckleboo**	**43.32**	**241**	P	**P**	**18 45 15.6**	**-0.2**
BBOO				IAmb	IAmb	18 45 31.5	
	comp=Z,23nm,1.2s						
WB0	**Warramunga Arr**	**44.62**	**260**	P	**P**	**18 45 25.1**	**-1.0**
WB0				IAmb	IAmb	18 45 53.1	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**44.64**	**260**	P	**P**	**18 45 25.4**	**-0.9**
WB2				IAmb	IAmb	18 45 47.1	
	comp=Z,7.8nm,1.1s						
WRA	**Warramunga Arr**	**44.65**	**260**	P	**P**	**18 45 25.6**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=98,slow=6.1,SNR=30						
	comp=Z,1.4nm,0.5s						
AS31	**Alice Springs**	**44.77**	**255**	P	**P**	**18 45 27.2**	**-0.2**
ASAR	**Alice Springs**	**44.78**	**255**	P	**P**	**18 45 26.8**	**-0.5**
ASAR	**Alice Springs**	**44.78**	**255**	P	**P**	**18 45 27.3**	**0.0**
	comp=Z,9.5nm,0.5s,baz=89,slow=8.6,SNR=421						
	comp=Z,9.5nm,0.5s						
MTN	**Manton Dam**	**48.86**	**269**	P	**P**	**18 45 57.8**	**-0.5**
KNRA	**Kununurra**	**50.53**	**264**	P	**P**	**18 46 10.5**	**-0.1**
KNRA				IAmb	IAmb	18 46 45.8	
	comp=Z,38nm,1.4s						
KNRA				PcP	**PcP**	**18 47 15.8**	**-4.1**
FITZ	**Fitzroy Crossi**	**53.05**	**261**	P	**P**	**18 46 28.7**	**-0.1**
MBWA	**Marble Bar**	**58.07**	**256**	P	**P**	**18 47 03.2**	**-0.6**
QSPA	**South Pole Qui**	**71.83**	**180**	P	**P**	**18 48 28.5**	**-1.5**
QSPA	**South Pole Qui**	**71.83**	**180**	P	**P**	**18 48 29.3**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=83,slow=3.1,SNR=9.7						
	comp=Z,0.8nm,0.5s						
NVAR	**Mina Array Bea**	**79.60**	**44**	P	**P**	**18 49 13.9**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=219,slow=8.1,SNR=2.6						
	comp=Z,0.2nm,0.4s						
K15K	**Wolf Creek Mou**	**81.35**	**8**	P	**P**	**18 49 22.4**	**+0.5**
K15K				IAmb	IAmb	18 49 31.4	
	comp=Z,11nm,1.4s						
L18K	**Granite Mounta**	**81.99**	**10**	P	**P**	**18 49 26.0**	**+0.8**
L18K				IAmb	IAmb	18 49 48.4	
	comp=Z,12nm,1.4s						
TXAR	**Lajitas Array**	**86.10**	**58**	P	**P**	**18 49 47.4**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=219,slow=6.1,SNR=14						
	comp=Z,0.9nm,0.7s						
ILAR	**Eielson Array**	**86.18**	**13**	P	**P**	**18 49 45.6**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=226,slow=5.9,SNR=4.8						
	comp=Z,0.3nm,0.8s						
PDAR	**Pinedale Array**	**87.53**	**43**	P	**P**	**18 49 52.2**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=224,slow=2.5,SNR=2.3						
	comp=Z,0.2nm,0.5s						
AKASG	**Malin Array Be**	**140.87**	**332**	PKP	**PKPdf**	**18 56 31.3**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=62,slow=0.2,SNR=1.1						
BRTR	**Keskin Array B**	**145.06**	**315**	PKPbc	**PKPab**	**18 56 41.2**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=105,slow=2.9,SNR=2.3						
GERES	**GERESS Array B**	**147.93**	**345**	PKPbc	**PKiKP**	**18 56 48.2**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=28,slow=6.0,SNR=4.7						

*SJA **20** 18:46:35.0±1.5, 22°.57S×67°.80W, h125km, ML3.7, MW3.5*
*GUC **20** 18:46:36.4±0.8, 22°.55S×67°.97W, h154km±5km, ML3.5*
ISC 20 18:46:35.8±1.5, 22°.59S±0°.04×68°.00W±0°.06, h158km±10km, n33, σ0°68/56, 3C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AF01	**San Pedro de A**	**0.40**	**205**	*eP*	**Pn**	**18 46 57.3**	**-0.7**
AF01				IAML		18 47 16.6	
	comp=E,651nm,0.8s						
LVC	**Limon Verde**	**0.84**	**268**	*eP*	**Pn**	**18 47 00.5**	**-0.1**
LVC				*eS*	**Sn**	**18 47 18.3**	**-1.1**
LVC	**Limon Verde**	**0.84**	**268**	*eP*	**Pn**	**18 47 00.3**	**-0.2**
LVC				*eS*	**Sn**	**18 47 18.2**	**-1.3**
LVC				IAML		18 47 19.7	
	comp=E,1μm,0.7s						
PB09	**IPOC Station P**	**1.40**	**304**	*eP*	**Pn**	**18 47 05.4**	**+0.2**
PB09				*eS*	**Sn**	**18 47 27.9**	**+0.3**
PB09				IAML		18 47 28.7	
	comp=Z,435nm,0.5s						
PB09	**IPOC Station P**	**1.40**	**304**	*eP*	**Pn**	**18 47 05.8**	**+0.7**
PB09				*eS*	**Sn**	**18 47 27.2**	**-0.3**
PB09				IAML		18 47 29.1	
	comp=N,512nm,0.6s						
PB06	**IPOC Station P**	**1.46**	**265**	*eP*	**Pn**	**18 47 06.2**	**+0.5**
PB06				*eS*	**Sn**	**18 47 30.2**	**+1.5**
PB06				IAML		18 47 30.9	
	comp=Z,249nm,0.3s						
PB06	**IPOC Station P**	**1.46**	**265**	*eP*	**Pn**	**18 47 06.5**	**+0.7**
PB06				*eS*	**Sn**	**18 47 28.9**	**+0.2**
PB06				IAML		18 47 32.3	
	comp=E,346nm,0.1s						
PB15	**IPOC Station P**	**1.49**	**245**	*eP*	**Pn**	**18 47 06.4**	**+0.3**
PB15				*eS*	**Sn**	**18 47 30.7**	**+1.3**
PB15				IAML		18 47 33.6	
	comp=Z,2μm,0.2s						
PB15	**IPOC Station P**	**1.49**	**245**	⇑ *iP*	**Pn**	**18 47 06.9**	**+0.7**
PB15				*eS*	**Sn**	**18 47 29.6**	**+0.2**
PB07	**IPOC Station P**	**1.95**	**296**	*eP*	**Pn**	**18 47 11.3**	**+0.3**
PB07				*eS*	**Sn**	**18 47 38.0**	**-0.1**
PB07				IAML		18 47 38.1	
	comp=Z,484nm,0.2s						
PB07	**IPOC Station P**	**1.95**	**296**	⇑ *iP*	**Pn**	**18 47 11.5**	**+0.4**
PB07				*eS*	**Sn**	**18 47 37.1**	**-0.9**
PB04	**IPOC Station P**	**2.01**	**277**	*eP*	**Pn**	**18 47 12.1**	**+0.4**
PB04				*eS*	**Sn**	**18 47 39.4**	**+0.2**
PB04				IAML		18 47 40.4	
	comp=Z,365nm,0.4s						
PB04	**IPOC Station P**	**2.01**	**277**	*eP*	**Pn**	**18 47 12.0**	**+0.4**
PB04				IAML		18 47 40.5	
	comp=N,466nm,0.2s						
PB05	**IPOC Station P**	**2.05**	**262**	*eP*	**Pn**	**18 47 12.5**	**+0.4**
PB05				*eS*	**Sn**	**18 47 40.9**	**+0.8**
PB05	**IPOC Station P**	**2.05**	**262**	⇑ *iP*	**Pn**	**18 47 12.6**	**+0.4**
PB01	**IPOC Station P**	**2.07**	**318**	*eP*	**Pn**	**18 47 12.5**	**+0.1**
PB01				*eP*		18 47 12.5	
PB01				*eS*	**Sn**	**18 47 40.2**	**-0.2**
PB01				IAML		18 47 41.1	
	comp=Z,197nm,0.1s						
PB01	**IPOC Station P**	**2.07**	**318**	*eP*	**Pn**	**18 47 12.3**	**0.0**
PB01				IAML		18 47 42.1	
	comp=E,422nm,0.2s						
PB02	**IPOC Station P**	**2.17**	**305**	*eP*	**Pn**	**18 47 13.6**	**+0.1**
PB02				*eS*	**Sn**	**18 47 41.7**	**-0.7**
PB02				IAML		18 47 42.6	
	comp=Z,535nm,0.1s						
PB02	**IPOC Station P**	**2.17**	**305**	*eP*	**Pn**	**18 47 13.6**	**+0.1**
YJA	**Yavi**	**2.33**	**80**	*eP*	**Pn**	**18 47 16.6**	**+0.9**
YJA	**Yavi**	**2.33**	**80**	*eP*	**Pn**	**18 47 16.0**	**+0.2**
PB10	**IPOC Station P**	**2.53**	**248**	*eP*	**Pn**	**18 47 17.9**	**+0.2**
PB10				*eS*	**Sn**	**18 47 49.9**	**-0.1**
PB10	**IPOC Station P**	**2.53**	**248**	*eP*	**Pn**	**18 47 17.9**	**+0.2**
PB10				IAML		18 47 52.3	
	comp=E,79nm,0.2s						
PB08	**IPOC Station P**	**2.66**	**336**	*eP*	**Pn**	**18 47 19.9**	**+0.2**
PB08				*eS*	**Sn**	**18 47 54.0**	**+0.5**
PB08	**IPOC Station P**	**2.66**	**336**	*eP*	**Pn**	**18 47 20.3**	**+0.6**
PB08				*eS*	**Sn**	**18 47 53.2**	**-0.3**
TA01	**Diego Aracena**	**2.86**	**314**	*eP*	**Pn**	**18 47 21.7**	**0.0**
TA01				*eS*	**Sn**	**18 47 56.5**	**-0.8**
TA01				IAML		18 47 58.1	
	comp=Z,92nm,0.3s						
GO02	**Mina Guanaco**	**2.95**	**209**	*eP*	**Pn**	**18 47 23.7**	**+0.6**
GO02				*eS*	**Sn**	**18 48 00.1**	**+0.2**
GO02				IAML		18 48 04.7	
	comp=Z,222nm,0.1s						
GO01	**Chusmiza**	**3.11**	**339**	*eP*	**Pn**	**18 47 25.1**	**-0.3**
GO01				*eS*	**Sn**	**18 48 05.2**	**+1.5**
GO01	**Chusmiza**	**3.11**	**339**	*eP*	**Pn**	**18 47 25.7**	**+0.3**
GO01				*eS*	**Sn**	**18 48 03.5**	**-0.2**
PB11	**IPOC Station P**	**3.21**	**331**	*eP*	**Pn**	**18 47 25.6**	**-0.7**
PB11				*eS*	**Sn**	**18 48 04.5**	**-1.0**
PB11				IAML		18 48 06.2	
	comp=Z,89nm,0.3s						
AC01	**Pan de Azucar**	**4.27**	**213**	*eP*	**Pn**	**18 47 39.0**	**-0.8**
AC01				*eS*	**Sn**	**18 48 27.7**	**-1.9**
AC02	**Maricunga**	**4.36**	**193**	*eP*	**Pn**	**18 47 41.8**	**+0.5**
PB16	**IPOC Station P**	**4.46**	**341**	*eP*	**Pn**	**18 47 42.6**	**-0.3**

IDC 20 18:53:36.9±2.0, 6°.15S×142°.49E, h0km, mb3.4/1, mbtmp3.2/4, ML3.1/2, Error ellipse: s-maj=43.3km s-min=30.6km az=51.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.65**	**125**	Pn	Pn	18 55 01.7	-0.4
	10nm,1.0s,baz=300,slow=16,SNR=2.4						
PMG				Sn	Sn	18 56 08.6	+0.8
	0.7nm,0.3s,baz=331,slow=19,SNR=0.9						
WRA	**Warramunga Arr**	**15.84**	**209**	Pn	Pn	18 57 20.6	-0.8
	0.1nm,0.3s,baz=25,slow=12,SNR=2.0						
WRA				Sn	Sn	19 00 09.2	-8.6
	0.1nm,0.3s,baz=32,slow=27,SNR=2.1						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**19.28**	**204**	P	Pn	18 58 04.0	-0.3
	0.1nm,0.3s,baz=31,slow=11,SNR=9.3						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**74.80**	**322**	P	P	19 05 19.1	0.0
	0.4nm,1.0s,baz=101,slow=4.7,SNR=2.0						
	0.4nm,1.0s						

*GCG **20** 19:31:19.8±0.3, 13°.37N×89°.65W, h10km±7km, MD3.8*
*CATAC **20** 19:31:20.9±0.5, 13°.48N×89°.84W, h67km±4km, ML3.2*
*SNET **20** 19:31:21.8±0.7, 13°.68N×89°.65W, h85km±4km, ML3.6*
ISC 20 19:31:25.0±1.5, 13°.65N±0°.07×89°.61W±0°.04, h70km±7km, n45, σ1⇟41/69, 1C-5D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAYA	**Jayaque - finc**	**0.16**	**88**	*eP*	**Pn**	**19 31 34.3**	**-1.3**
JAYA				*eS*	**Sn**	**19 31 44.5**	**+1.1**
JAYA				IAML		19 31 45.6	
	comp=Z,3μm,0.2s						
JAYA	**Jayaque - finc**	**0.16**	**88**	*i P*	**Pn**	**19 31 34.3**	**-1.3**
JAYA				*i S*	**Sn**	**19 31 44.4**	**+1.1**
JAYA				IAML		19 31 45.5	
	comp=Z,7μm,1.0s						
CEVE	**Cerro Verde**	**0.18**	**356**	*eP*	**Pn**	**19 31 34.9**	**-0.9**
CEVE	**Cerro Verde**	**0.18**	**356**	*i P*	**Pn**	**19 31 34.7**	**-1.1**
CEVE				*i S*	**Sn**	**19 31 45.2**	**+1.6**
CEVE				IAML		19 31 46.4	
	comp=Z,2μm,1.0s						
SBLS	**San Blas**	**0.19**	**357**	⇓ *eP*	**Pn**	**19 31 34.8**	**-1.0**
SBLS				*eS*	**Sn**	**19 31 44.8**	**+1.1**
SNJE	**San Jose**	**0.22**	**1**	⇓ *eP*	**Pn**	**19 31 34.9**	**-1.0**
RTR	**El Retiro**	**0.25**	**352**	*eP*	**Pn**	**19 31 35.1**	**-1.0**
PMON	**Piamonte**	**0.29**	**78**	*i P*	**Pn**	**19 31 35.2**	**-1.0**
PMON				*i S*	**Sn**	**19 31 46.3**	**+1.9**
PMON				IAML		19 31 51.1	
	comp=Z,2μm,1.0s						
NUBE	**Las Nubes**	**0.30**	**327**	⇓ *eP*	**Pn**	**19 31 34.9**	**-1.5**
NUBE	**Las Nubes**	**0.30**	**327**	*i P*	**Pn**	**19 31 34.8**	**-1.5**
NUBE				*i S*	**Sn**	**19 31 44.7**	**+0.1**
NUBE				IAML		19 31 51.1	
	comp=Z,560nm,1.0s						
LALI	**Alcalda de L**	**0.32**	**119**	*eP*	**Pn**	**19 31 35.2**	**-1.1**
LALI	**Alcalda de L**	**0.32**	**119**	*i P*	**Pn**	**19 31 34.8**	**-1.5**
LALI				*i S*	**Sn**	**19 31 45.9**	**+1.4**
LALI				IAML		19 31 48.2	
	comp=Z,260nm,1.0s						
BOQS	**Boqueron**	**0.33**	**75**	*eP*	**Pn**	**19 31 35.5**	**-1.1**
UNIC	**Universidad Ca**	**0.34**	**10**	*i P*	**Pn**	**19 31 35.0**	**-1.5**
UNIC				IAML		19 31 35.6	
	comp=Z,550nm,1.0s						
UNIC				*i S*	**Sn**	**19 31 45.0**	**+0.1**
PIC2	**El Picacho**	**0.36**	**75**	*eP*	**Pn**	**19 31 36.2**	**-0.6**
SNET	**Serv Nac Est T**	**0.37**	**84**	*eP*	**Pn**	**19 31 35.5**	**-1.2**
SNET	**Serv Nac Est T**	**0.37**	**84**	*i P*	**Pn**	**19 31 35.5**	**-1.2**
SNET				*i S*	**Sn**	**19 31 46.8**	**+1.5**
SNET				IAML		19 31 49.2	
	comp=Z,2μm,1.0s						
QUEZ	**Alcaldia de Qu**	**0.38**	**61**	*i P*	**Pn**	**19 31 35.6**	**-1.1**
QUEZ				IAML		19 31 40.8	
	comp=Z,3μm,1.0s						
LOAL	**Lomas de Alarc**	**0.38**	**335**	*i P*	**Pn**	**19 31 35.3**	**-1.5**
LOAL				*i S*	**Sn**	**19 31 46.4**	**+0.9**
LOAL				IAML		19 32 02.5	
	comp=Z,2μm,1.0s						
SLOZ	**Alcaldia de Sa**	**0.41**	**336**	*eP*	**Pn**	**19 31 35.5**	**-1.5**
PANCS	**Alcalda de**	**0.42**	**95**	*i P*	**Pn**	**19 31 35.9**	**-1.2**
PANCS				*i S*	**Sn**	**19 31 46.8**	**+0.8**
PANCS				IAML		19 31 49.1	
	comp=Z,4μm,1.0s						
LOMA	**Loma Larga**	**0.43**	**91**	*eP*	**Pn**	**19 31 36.2**	**-1.0**
LOMA				IAML		19 31 50.0	
	comp=Z,1μm,0.2s						
LOMA	**Loma Larga**	**0.43**	**91**	*i P*	**Pn**	**19 31 36.1**	**-1.1**
LOMA				*i S*	**Sn**	**19 31 48.2**	**+2.0**
LOMA				IAML		19 31 49.8	
	comp=Z,1μm,1.0s						
LFRS	**El Faro**	**0.54**	**93**	⇑ *eP*	**Pn**	**19 31 37.2**	**-1.0**
LFRS				*eS*	**Sn**	**19 31 49.3**	**+1.4**
SJTE	**Alcalda de S**	**0.59**	**93**	*i P*	**Pn**	**19 31 37.4**	**-1.3**
SJTE				*i S*	**Sn**	**19 31 50.0**	**+1.1**
SJTE				IAML		19 31 52.6	
	comp=Z,680nm,1.0s						
PAVA	**Las Pavas**	**0.66**	**84**	*eP*	**Pn**	**19 31 38.4**	**-1.1**
PAVA	**Las Pavas**	**0.66**	**84**	*i P*	**Pn**	**19 31 38.2**	**-1.3**
PAVA				IAML		19 31 38.7	
	comp=Z,2μm,1.0s						
PAVA				*i S*	**Sn**	**19 31 51.8**	**+1.6**
COEG	**Centro de Oper**	**0.71**	**92**	*eP*	**Pn**	**19 31 38.7**	**-1.3**
COEG	**Centro de Oper**	**0.71**	**92**	*i P*	**Pn**	**19 31 38.6**	**-1.4**
COEG				*i S*	**Sn**	**19 31 52.2**	**+1.0**
COEG				IAML		19 31 56.3	
	comp=Z,360nm,1.0s						
MTO3	**Montecristo**	**0.78**	**18**	⇓ *iP*	**Pn**	**19 31 39.8**	**-1.3**
UESV	**Universidad de**	**0.80**	**91**	*i P*	**Pn**	**19 31 39.7**	**-1.4**
UESV				IAML		19 32 04.0	
	comp=Z,190nm,1.0s						
TECO	**Alcaldia de Te**	**0.81**	**98**	*i P*	**Pn**	**19 31 39.5**	**-1.7**
TECO				*i S*	**Sn**	**19 31 54.0**	**+0.8**
TECO				IAML		19 31 57.6	
	comp=Z,240nm,1.0s						
LLGN	**La Laguna**	**0.82**	**52**	*i P*	**Pn**	**19 31 39.9**	**-1.5**
LLGN				IAML		19 31 40.4	
	comp=Z,360nm,1.0s						
LLGN				*i S*	**Sn**	**19 31 54.6**	**+1.0**
SCLA	**Alcaldia de Sa**	**0.86**	**86**	⇓ *iP*	**Pn**	**19 31 40.4**	**-1.3**
SCLA	**Alcaldia de Sa**	**0.86**	**86**	*i P*	**Pn**	**19 31 40.5**	**-1.3**
SCLA				*i S*	**Sn**	**19 31 55.7**	**+1.5**
SCLA				IAML		19 32 34.2	
	comp=Z,86nm,1.0s						
ESQI	**Esquipulas**	**0.94**	**16**	*i P*	**Pn**	**19 31 41.5**	**-1.4**
ESQI				IAML		19 31 41.8	
	comp=Z,730nm,1.0s						
ESQI				*i S*	**Sn**	**19 31 57.8**	**+1.7**
NBG	**Las Nubes**	**1.18**	**323**	*eP*	**Pn**	**19 31 45.2**	**-0.8**
PCG	**Pacaya**	**1.22**	**307**	*eP*	**Pn**	**19 31 46.8**	**+0.4**
PCG				*eS*	**Sn**	**19 32 04.6**	**+2.1**
PACA	**Pacayal**	**1.27**	**98**	*eP*	**Pn**	**19 31 45.8**	**-1.1**
PACA	**Pacayal**	**1.27**	**98**	*i P*	**Pn**	**19 31 46.0**	**-1.0**
PACA				*i S*	**Sn**	**19 32 05.9**	**+2.5**
PACA				IAML		19 32 10.6	
	comp=Z,1μm,1.0s						
JUCU	**Jucuarɲn**	**1.38**	**106**	*i S*	**Sn**	**19 32 06.4**	**+0.3**
FUG	**Fuego 3**	**1.44**	**304**	*eP*	**Pn**	**19 31 46.4**	**-2.8**
FUG				*eS*	**Sn**	**19 32 09.9**	**+2.4**
INTHN	**La Esperanza I**	**1.61**	**66**	*i P*	**Pn**	**19 31 50.1**	**-1.5**
CNCH	**Conchagua**	**1.77**	**102**	*i P*	**Pn**	**19 31 52.1**	**-1.5**
CNCH				*i S*	**Sn**	**19 32 17.8**	**+2.5**
CNCH				IAML		19 32 21.5	
	comp=Z,260nm,1.0s						
STG3	**Santiaguito 3,**	**2.17**	**299**	*eP*	**Pn**	**19 31 58.0**	**-1.2**

*IDC **20** 19:32:18.5±3.7, 9°.20S×109°.13W, h0km, mb3.6/6, mbtmp3.6/6, MS3.4/7, Error ellipse: s-maj=144.8km s-min=41.2km az=119.0*
ISC 20 19:32:18.9±3.7, 9°.45S±0°.5×109°.00W±0°.9, h10km, n21, σ1⇟05/8, mb3.6/6, MS3.3/6, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**17.67**	**181**	LR	LR	19 41 28.0	
	comp=Z,78nm,21.3s,baz=120,slow=31						
ATAH	**Atahualpa**	**30.36**	**88**	LR	LR	19 47 39.4	
	comp=Z,43nm,19.4s,baz=220,slow=30						
NNA	**Nana**	**31.70**	**98**	LR	LR	19 48 14.0	
	comp=Z,63nm,21.1s,baz=262,slow=30						
H03N2	**Juan Fernandez**	**36.60**	**135**	T	T	20 18 21.6	
	baz=308,slow=77,SNR=12						
H03N3	**Juan Fernandez**	**36.62**	**135**	T	T	20 18 22.4	
	baz=308,slow=77,SNR=14						
H03N1	**Juan Fernandez**	**36.62**	**135**	T	T	20 18 25.1	
	baz=308,slow=77,SNR=15						
TXAR	**Lajitas Array**	**38.81**	**7**	P	**P**	**19 39 44.7**	**+0.5**
	0.7nm,1.1s,baz=188,slow=5.5,SNR=4.3						
	0.7nm,1.1s						
LVC	**Limon Verde**	**40.59**	**114**	LR	LR	19 52 20.9	
	comp=Z,69nm,19.1s,baz=222,slow=30						
NVAR	**Mina Array Bea**	**48.33**	**350**	P	**P**	**19 41 01.8**	**+0.8**
	1.6nm,1.1s,baz=180,slow=9.7,SNR=6.4						
NVAR				LR	LR	19 57 05.2	
	comp=Z,32nm,18.9s,baz=231,slow=31						
	1.6nm,1.1s						
CPUP	**Villa Florida**	**51.64**	**116**	LR	LR	19 59 04.8	
	comp=Z,32nm,21.1s,baz=214,slow=31						
PDAR	**Pinedale Array**	**51.88**	**359**	P	**P**	**19 41 27.6**	**-0.3**
	0.1nm,0.4s,baz=168,slow=4.6,SNR=4.2						
PDAR				LR	LR	20 00 38.1	
	comp=Z,69nm,18.8s,baz=247,slow=33						
	0.1nm,0.4s						
ULM	**Lac du Bonnet**	**60.45**	**10**	P	**P**	**19 42 28.1**	**-0.6**
	1.7nm,0.7s,baz=229,slow=9.3						
	1.7nm,0.7s						
YKA	**Yellowknife Ar**	**71.77**	**357**	P	**P**	**19 43 40.9**	**-0.2**
	0.5nm,0.9s,baz=175,slow=6.1,SNR=6.1						
	0.5nm,0.9s						
ILAR	**Eielson Array**	**79.18**	**344**	P	**P**	**19 44 23.5**	**-0.2**
	0.5nm,1.0s,baz=160,slow=2.9,SNR=4.4						
	0.5nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**87.59**	**289**	T	T	21 22 03.5	
	baz=100,slow=75,SNR=30						
H11S1	**WAKE ISLAND Hy**	**87.59**	**289**	T	T	21 21 57.6	
	baz=100,slow=75,SNR=27						
H11S3	**WAKE ISLAND Hy**	**87.60**	**289**	T	T	21 21 57.6	
	baz=100,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy**	**87.62**	**290**	T	T	21 21 59.9	
	baz=102,slow=74,SNR=8.6						
H11N2	**WAKE ISLAND Hy**	**87.64**	**290**	T	T	21 22 01.1	
	baz=102,slow=74,SNR=8.2						
H11N1	**WAKE ISLAND Hy**	**87.64**	**290**	T	T	21 22 01.6	
	baz=102,slow=74,SNR=7.4						
CMAR	**Chiang Mai Arr**	**151.45**	**291**	PKPbc	**PKiKP**	**19 52 16.2**	**+1.6**
	0.8nm,0.9s,baz=47,slow=1.6,SNR=6.8						
CMAR				PKPab	**PKPab**	**19 52 21.1**	**-1.3**
	1.1nm,0.8s,baz=50,slow=1.0,SNR=8.5						

*IDC **20** 19:43:02.9±0.6, 27°.02N×140°.32E, h332km±6km, mb3.4/15, mbtmp4.1/19, Error ellipse: s-maj=15.6km s-min=9.1km az=76.0*
*JMA **20** 19:43:06.7±0.2, 27°N±1°×14°1E±°, h364km, MV4.2/49, W OFF OGASAWARA*
ISC 20 19:43:04.7±0.6, 27°.17N±0°.07×140°.4E±0°.1, h350km, n34, σ1⇟91/47, mb3.6/15, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.62**	**92**	P	**Pn**	**19 43 54.6**	**+1.0**
CBIJ				*eS*	**S**	**19 44 32.4**	**-0.3**
JCJ	**Chichijima**	**1.62**	**92**	P	**Pn**	**19 43 50.4**	**-3.2**
	72nm,0.3s,baz=246,slow=10.0,SNR=136						
JCJ				S	**S**	**19 44 28.2**	**-4.6**
	325nm,0.3s,baz=279,slow=19,SNR=17						
JHH2	**Haha-jima-NKT2**	**1.70**	**108**	*eP*	**Pn**	**19 43 55.4**	**+1.3**
JHH2				*eS*	**S**	**19 44 33.7**	**0.0**
JHH2	**Haha-jima-NKT2**	**1.70**	**108**	A	A	19 43 55.4	
	comp=E,7.0nm,0.5s,comp=N,6.0nm,0.3s						
JHJ2	**Mitsune**	**5.94**	**356**	*eP*	**Pn**	**19 44 38.1**	**+3.4**
JHJ	**Hachijo jima 2**	**5.95**	**355**	P	**Pn**	**19 44 35.1**	**+0.2**
	comp=N,215nm,0.4s,baz=63,slow=22,SNR=1.4						
JHJ				S	**S**	**19 45 45.7**	**-2.4**
	comp=N,175nm,0.4s,baz=108,slow=20,SNR=1.4						
BSO1	**Boso 1**	**7.48**	**4**	P	**Pn**	**19 44 54.6**	**+2.5**
BSO3	**Boso 3**	**7.61**	**1**	P	**Pn**	**19 44 55.8**	**+1.9**
BSO3				S	**S**	**19 46 20.7**	**-2.2**
BSO4	**Boso 4**	**7.80**	**360**	P	**Pn**	**19 44 58.3**	**+2.1**
BSO4				*eS*	**S**	**19 46 27.3**	**+0.1**
JOD2	**Odawara 2**	**8.14**	**353**	P	**P**	**19 45 03.0**	**-0.5**
JOD2				*eS*	**S**	**19 46 34.5**	**-0.5**
JHU	**Hanno**	**8.71**	**354**	P	**Pn**	**19 45 08.1**	**+0.9**
JHU				*eS*	**S**	**19 46 41.8**	**-5.4**
JRY	**Ryog

RSSD	**Black Hills**	**1.21**	**59**			**Pb**	**19 58 28.5**	**0.0**
PHWY	**Pilot Hill**	**2.21**	**180**			**Pb**	**19 58 44.5**	**-1.0**
RWWY	**Rawlins**	**2.23**	**216**			**Pb**	**19 58 45.8**	**-0.1**
RWWY					IAML		19 59 25.9	
	65nm,1.4s							
N23A	**Red Feather La**	**2.64**	**188**			**Pb**	**19 58 52.5**	**-0.4**
N23A					IAML		19 59 42.2	
	comp=E,53nm,0.8s							
N23A					IAML		19 59 52.7	
	comp=N,52nm,0.8s							
PD31	**Pinedale Array**	**3.08**	**257**			**Pb**	**19 58 58.9**	**-1.5**
PDAR	**Pinedale Array**	**3.08**	**257**	Pn		**Pb**	**19 58 59.9**	**-0.5**
PDAR	**Pinedale Array**	**3.08**	**257**	Pn		**Pb**	**19 59 01.2**	**+0.8**
	comp=N,1.4nm,0.3s,baz=77,slow=16,SNR=25							
PDAR				Lg		Lg	19 59 47.3	
	comp=N,3.2nm,0.3s,baz=72,slow=35,SNR=9.4							
	comp=N,1.5nm,0.4s							
RLMT	**Red Lodge**	**3.16**	**302**			**Pb**	**19 59 00.8**	**-1.0**
RLMT					IAML		20 00 57.8	
	comp=N,45nm,0.3s							
RLMT					IAML		20 00 57.9	
	comp=N,46nm,0.3s							
LAO	**LASA Array**	**3.22**	**351**			**Pn**	**19 58 57.3**	**+0.8**
YMP	**Mirror Lake Pl**	**3.59**	**292**			**Pn**	**19 59 03.2**	**+1.4**
OGNE	**Ogallala**	**3.62**	**134**			**Pn**	**19 59 04.0**	**+2.0**
LKWY	**Lake**	**3.70**	**288**	Pn		**Pn**	**19 59 03.8**	**+0.5**
LKWY					IAML		19 59 43.5	
	comp=N,30nm,2.9s							
ISCO	**Idaho Springs**	**3.71**	**182**			**Pn**	**19 59 04.2**	**+0.7**
LOHW	**Long Hollow**	**3.73**	**273**			**Pn**	**19 59 05.0**	**+1.3**
LOHW					IAML		20 00 17.4	
	comp=N,16nm,1.5s							
LOHW					IAML		20 00 33.8	
	comp=N,16nm,1.3s							
H17A	**Grant Village**	**3.79**	**285**			**Pn**	**19 59 06.3**	**+1.8**
FLWY	**Flagg Ranch**	**3.83**	**280**			**Pn**	**19 59 07.2**	**+2.2**
FLWY					IAML		20 00 18.1	
	comp=N,30nm,2.0s							
FLWY					IAML		20 00 22.4	
	comp=N,22nm,2.1s							
MOOW	**Moose Ponds**	**3.83**	**275**			**Pn**	**19 59 06.1**	**+1.1**
REDW	**Red Top Meadow**	**3.92**	**270**			**Pn**	**19 59 07.2**	**+0.9**
O20A	**White River Ci**	**3.96**	**212**			**Pn**	**19 59 08.0**	**+1.2**
IMW	**Indian Meadow**	**3.98**	**277**			**Pn**	**19 59 09.1**	**+1.9**
IMW					IAML		20 01 17.5	
	comp=N,20nm,0.5s							
IMW					IAML		20 01 25.5	
	comp=N,15nm,0.3s							
TPAW	**Teton Pass**	**3.98**	**272**			**Pn**	**19 59 09.3**	**+2.1**
TPAW					IAML		20 00 30.8	
	comp=N,15nm,1.8s							
TPAW					IAML		20 00 39.1	
	comp=N,19nm,1.3s							
FXWY	**Fox Creek**	**4.04**	**274**			**Pn**	**19 59 10.0**	**+2.1**
YHH	**Holmes Hill**	**4.07**	**290**			**Pn**	**19 59 09.9**	**+1.5**
AHID	**Auburn Hatcher**	**4.18**	**262**			**Pn**	**19 59 11.2**	**+1.4**
AHID					IAML		20 00 46.3	
	comp=N,21nm,1.4s							
AHID					IAML		20 00 47.2	
	comp=N,15nm,1.1s							
RDMU	**Red Mountain**	**4.23**	**227**			**Pn**	**19 59 09.8**	**-0.8**
RDMU					IAML		20 00 47.3	
	comp=E,18nm,1.1s							
RDMU					IAML		20 00 55.6	
	comp=N,14nm,1.8s							
YHL	**Hebgen Lake**	**4.32**	**290**			**Pn**	**19 59 11.7**	**-0.2**
YHL					IAML		20 00 38.6	
	comp=N,16nm,1.4s							
YHL					IAML		20 00 45.0	
	comp=E,15nm,2.1s							
K30B	**Basset**	**4.37**	**99**	Pn		**Pn**	**19 59 11.0**	**-1.3**
BOZ	**Bozeman (W)**	**4.87**	**298**			**Pn**	**19 59 18.5**	**-0.7**
HWUT	**Hardware Ranch**	**4.88**	**249**			**Pn**	**19 59 18.8**	**-0.7**
HWUT					IAML		20 00 57.8	
	comp=E,14nm,0.9s							
HWUT					IAML		20 01 17.9	
	comp=E,12nm,0.9s							
BSUT	**Blindstream Ca**	**4.93**	**235**			**Pn**	**19 59 19.2**	**-1.1**
BSUT					IAML		20 00 17.4	
	comp=N,8.9nm,4.4s							
BSUT					IAML		20 02 07.6	
	comp=E,13nm,4.1s							
DGMT	**Dagmar**	**5.04**	**10**			**Pn**	**19 59 20.3**	**-1.1**
P18A	**Preston Nutter**	**5.28**	**224**	Pn		**Pn**	**19 59 23.9**	**-1.1**
P17A	**Butcher Ranch,**	**5.65**	**226**	Pn		**Pn**	**19 59 29.2**	**-0.8**
T25A	**Trinidad**	**6.42**	**172**			**Pn**	**19 59 40.3**	**-0.2**
I10CA	**LAC DU BONNET**	**9.31**	**41**	I		I	20 51 10.0	
	baz=222,slow=326,SNR=8.8							
ULM	**Lac du Bonnet**	**9.41**	**41**	Pn		**Pn**	**20 00 20.8**	**-0.5**
	comp=E,0.3nm,0.3s,baz=231,slow=11,SNR=2.1							
ULM				Lg		Lg	20 02 55.3	
	comp=E,0.8nm,0.3s,baz=225,slow=16,SNR=2.7							
	comp=E,0.8nm,0.3s							
TXAR	**Lajitas Array**	**14.22**	**174**	Pn		**Pn**	**20 01 28.5**	**+1.2**
	comp=E,0.1nm,0.4s,baz=356,slow=12,SNR=1.7							
TKL	**Tuckaleechee C**	**18.44**	**108**	P		**P**	**20 02 21.8**	**+0.1**
	comp=E,0.1nm,0.3s,baz=304,slow=15,SNR=1.9							
	comp=E,2.4nm,0.6s							

NEIC ***20*** *19:59:56.5±1.7, 43.78N±0.05 × 105.30W±0.06, h0km±1km, ML3.0/59, Error ellipse: s-maj=9.3km s-min=7.3km az=16.0*

IDC ***20*** *20:00:00.1±1.2, 44.29N × 105.95W, h0km, mbtmp3.3/4, ML3.0/3, Error ellipse: s-maj=29.8km s-min=10.2km az=146.0*

ISC 20 19:59:56.5±1.1, **43.65N**±0.07 × **105.12W**±0.06, **h0**km, **n36, σ1§30/35, Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RSSD	**Black Hills**	**0.92**	**59**			**Pn**	**20 00 16.9**	**+0.1**
K22A	**Casper**	**1.43**	**226**	Pg		**Pn**	**20 00 23.8**	**-0.1**
PHWY	**Pilot Hill**	**2.36**	**186**	Pn		**Pb**	**20 00 39.7**	**-0.4**
PHWY					IAML		20 01 16.5	
	68nm,0.3s							
PHWY					IAML		20 01 18.5	
	73nm,0.4s							
RWWY	**Rawlins**	**2.49**	**219**			**Pb**	**20 00 41.2**	**-1.1**
RWWY					IAML		20 01 20.0	
	95nm,0.7s							
RWWY					IAML		20 01 20.6	
	92nm,0.7s							
N23A	**Red Feather La**	**2.82**	**193**	Pn		**Pb**	**20 00 46.8**	**-1.2**
N23A					IAML		20 01 29.1	
	comp=N,60nm,0.6s							
N23A					IAML		20 01 30.7	
	comp=E,52nm,0.3s							
BRIGG	**Briggsdale**	**3.13**	**169**	Pn		**Pb**	**20 00 51.1**	**-2.0**
LAO	**LASA Array**	**3.13**	**346**	Pn		**Pn**	**20 00 46.4**	**-0.8**
PD31	**Pinedale Array**	**3.36**	**256**	Pn		**Pn**	**20 00 50.3**	**-0.1**
PDAR	**Pinedale Array**	**3.36**	**256**	Pn		**Pn**	**20 00 50.7**	**+0.2**
PDAR	**Pinedale Array**	**3.36**	**256**	Pn		**Pn**	**20 00 51.6**	**+1.1**
	comp=E,7.1nm,0.3s,baz=53,slow=19,SNR=15							
PDAR				Lg		Lg	20 01 35.6	
	comp=E,8.7nm,0.3s,baz=67,slow=34,SNR=3.1							
OGNE	**Ogallala**	**3.55**	**139**	Pn		**Pb**	**20 00 57.6**	**-2.6**
LOHW	**Long Hollow**	**3.98**	**271**			**Pn**	**20 01 00.9**	**+2.0**
H17A	**Grant Village**	**4.00**	**283**	Pn		**Pn**	**20 00 59.0**	**-0.3**
FLWY	**Flagg Ranch**	**4.05**	**278**	Pn		**Pn**	**20 00 59.5**	**-0.5**
FLWY					IAML		20 02 07.3	
	comp=E,22nm,2.1s							
FLWY					IAML		20 03 08.2	
	comp=E,23nm,4.0s							
MOOW	**Moose Ponds**	**4.08**	**273**	Pn		**Pn**	**20 00 59.4**	**-0.9**
REDW	**Red Top Meadow**	**4.18**	**268**	Pn		**Pn**	**20 01 01.7**	**0.0**
O20A	**White River Ci**	**4.22**	**215**	Pn		**Pn**	**20 01 03.6**	**+1.4**
O20A					IAML		20 02 18.1	
	comp=E,20nm,0.3s							
IMW	**Indian Meadow**	**4.22**	**275**	Pn		**Pn**	**20 01 02.7**	**+0.4**
IMW					IAML		20 01 31.2	
	comp=E,16nm,0.6s							
IMW					IAML		20 02 11.7	
	comp=E,14nm,0.7s							
TPAW	**Teton Pass**	**4.24**	**270**	Pn		**Pn**	**20 01 01.9**	**-0.7**
TPAW					IAML		20 02 17.7	
	comp=E,11nm,0.7s							
TPAW					IAML		20 02 25.5	
	comp=E,18nm,1.3s							
FXWY	**Fox Creek**	**4.28**	**272**	Pn		**Pn**	**20 01 04.4**	**+1.3**
AHID	**Auburn Hatcher**	**4.46**	**261**	Pn		**Pn**	**20 01 06.0**	**+0.5**
AHID					IAML		20 02 19.9	
	comp=E,16nm,0.8s							
AHID					IAML		20 02 30.5	
	comp=E,14nm,1.2s							
YHL	**Hebgen Lake**	**4.51**	**287**	Pn		**Pn**	**20 01 07.4**	**+1.1**
YHL					IAML		20 02 03.3	
	comp=N,14nm,3.8s							
YHL					IAML		20 02 27.6	
	comp=E,13nm,0.8s							
SMCO	**Snowmass**	**4.68**	**198**	Pn		**Pn**	**20 01 10.0**	**+1.2**
SMCO					IAML		20 02 35.0	
	comp=E,14nm,0.3s							
SMCO					IAML		20 02 35.9	
	comp=E,13nm,1.2s							
Q24A	**Divide**	**4.69**	**180**	Pn		**Pn**	**20 01 10.6**	**+1.8**
DGMT	**Dagmar**	**4.86**	**7**	Pn		**Pn**	**20 01 11.8**	**+0.9**
BOZ	**Bozeman (W)**	**5.03**	**295**			**Pn**	**20 01 13.2**	**-0.2**
BOZ					IAML		20 01 52.9	
	comp=E,9.7nm,4.3s							
BOZ					IAML		20 02 44.0	
	comp=E,9.4nm,3.6s							
HWUT	**Hardware Ranch**	**5.17**	**249**	Pn		**Pn**	**20 01 15.8**	**+0.4**
BSUT	**Blindstream Ca**	**5.22**	**235**	Pn		**Pn**	**20 01 16.5**	**+0.3**
BSUT					IAML		20 02 57.8	
	comp=N,11nm,4.0s							
P18A	**Preston Nutter**	**5.56**	**225**	Pn		**Pn**	**20 01 21.9**	**+1.2**
BGNE	**Belgrade**	**5.62**	**111**			**Pn**	**20 01 23.1**	**+1.8**
MDND	**Maddock**	**5.70**	**41**			**Pn**	**20 01 23.7**	**+1.2**
SPUT	**South Promonto**	**5.90**	**249**	Pn		**Pn**	**20 01 26.6**	**+1.3**
ECSD	**EROS Data Cent**	**6.17**	**86**			**Pn**	**20 01 31.7**	**+2.8**
ELK	**Elko**	**8.05**	**252**	Pn		**Pn**	**20 01 57.2**	**+2.3**
	comp=N,0.3nm,0.3s,baz=72,slow=9.6,SNR=3.4							
	comp=N,0.5nm,0.3s							
ULM	**Lac du Bonnet**	**9.13**	**41**	Pn		**Pn**	**20 02 10.5**	**+1.0**
	comp=N,1.3nm,0.3s,baz=229,slow=14,SNR=3.5							
ULM				Lg		Lg	20 04 40.8	
	comp=N,0.4nm,0.3s,baz=275,slow=15,SNR=1.9							
	comp=N,2.5nm,0.3s							
TXAR	**Lajitas Array**	**14.34**	**175**	Pn		P	20 03 36.1	+7.9
	baz=356,slow=13,SNR=1.6							
	comp=N,0.1nm,0.4s							

IDC 20 20:11:52.2±1.7, **8.23S** × **130.82E, h0**km, **mb3.5**/2, **mbtmp3.6**/5, **ML3.6**/3, **Error ellipse: s-maj=38.4km s-min=24.5km az=73.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BATI	**Baumata**	**7.34**	**254**	Pn		Pn	20 13 42.4	+1.7
	1.3nm,0.3s,baz=66,slow=19,SNR=2.2							
BATI				Sn		Sn	20 15 05.5	+0.7
	0.8nm,0.3s,baz=66,slow=20,SNR=2.1							
	4.4nm,0.3s							
WRA	**Warramunga Arr**	**12.14**	**164**	Pn		Pn	20 14 46.5	0.0
	0.3nm,0.3s,baz=345,slow=13,SNR=24							
WRA				Sn		Sn	20 17 02.4	-0.3
	0.6nm,0.3s,baz=337,slow=21,SNR=7.9							
	0.4nm,0.3s							
ASAR	**Alice Springs**	**15.64**	**169**	Pn		Pn	20 15 34.6	+0.5
	0.4nm,0.3s,baz=7.5,slow=12,SNR=22							
ASAR				Sn		Sn	20 18 27.9	-0.3
	0.2nm,0.3s,baz=355,slow=27,SNR=5.2							
	0.6nm,0.5s							
MKAR	**Makanchi Array**	**69.69**	**327**	P		P	20 23 04.3	+0.4
	0.3nm,0.6s,baz=126,slow=6.2,SNR=3.1							
	0.3nm,0.6s							
ZALV	**Zalesovo Beam**	**73.04**	**334**	P		P	20 23 23.2	-0.7
	0.3nm,0.5s,baz=140,slow=4.7,SNR=1.6							
	0.3nm,0.5s							

IDC ***20*** *20:12:00.9±2.3, 1.00S × 136.26E, h0km, mb3.6/4, mbtmp3.8/6, ML3.9/2, MS3.1/1, Error ellipse: s-maj=90.9km s-min=23.3km az=84.0*

ISC 20 20:12:08.2±1.8, **1.2S**±0.1 × **135.6E**±0.4, **h35**km, **n13, σ1§29/6, mb3.6**/4, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BATI	**Baumata**	**14.85**	**233**	Pn		**P**	**20 15 41.2**	**0.0**
	2.7nm,0.3s,baz=83,slow=8.1,SNR=4.6							
	9.3nm,0.4s							
WRA	**Warramunga Arr**	**18.67**	**184**	P		**Pn**	**20 16 24.5**	**+0.6**
	0.2nm,0.3s,baz=5.3,slow=11,SNR=5.7							
	0.8nm,0.5s							
ASAR	**Alice Springs**	**22.39**	**184**	P		**P**	**20 17 03.0**	**-0.8**
	1.7nm,0.6s,baz=6.8,slow=12,SNR=9.8							
	1.7nm,0.6s							
H11S3	**WAKE ISLAND Hy**	**36.31**	**56**	T		T	20 56 55.5	
	baz=239							
H11S2	**WAKE ISLAND Hy**	**36.32**	**56**	T		T	20 56 57.6	
	baz=239							
H11S1	**WAKE ISLAND Hy**	**36.33**	**56**	T		T	20 57 02.0	
	baz=239							
H11N1	**WAKE ISLAND Hy**	**37.08**	**54**	T		T	20 58 04.9	
	baz=242							
H11N2	**WAKE ISLAND Hy**	**37.09**	**54**	T		T	20 58 07.4	
	baz=242							
H11N3	**WAKE ISLAND Hy**	**37.10**	**54**	T		T	20 58 10.4	
	baz=242							
KLR	**Kul'dur**	**50.34**	**357**	LR		LR	20 40 22.0	
	comp=Z,18nm,19.7s,baz=72,slow=34							
MKAR	**Makanchi Array**	**66.71**	**323**	P		**P**	**20 22 54.8**	**-1.1**
	0.3nm,0.5s,baz=109,slow=7.7,SNR=5.5							
	0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**70.72**	**326**	P		**P**	**20 23 19.5**	**-1.1**
	0.4nm,0.6s,baz=122,slow=5.3,SNR=4.8							
	0.4nm,0.6s							
BVAR	**Borovoye Array**	**76.31**	**326**	P		**P**	**20 23 54.8**	**+1.3**
	0.2nm,0.4s,baz=99,slow=7.4,SNR=2.3							
	0.2nm,0.4s							

NEIC ***20*** *20:17:39.1±1.7, 43.75N±0.05 × 105.25W±0.08, h0km±1km, ML3.1/78, Error ellipse: s-maj=10.1km s-min=8.8km az=88.0*

IDC ***20*** *20:17:44.8±1.1, 43.95N × 105.69W, h0km, mbtmp3.1/4, ML2.8/3, Error ellipse: s-maj=26.8km s-min=9.5km az=147.0*

ISC 20 20:17:40.4±0.9, **43.72N**±0.05 × **105.33W**±0.05, **h0**km, **n52, σ1§51/50, Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
RSSD	**Black Hills**	**1.02**	**66**			**Pg**	**20 17 57.4**	**-2.6**
K22A	**Casper**	**1.38**	**220**			**Pg**	**20 18 03.6**	**-3.2**
PHWY	**Pilot Hill**	**2.42**	**182**			**Pn**	**20 18 21.6**	**+0.1**
PHWY					IAML		20 19 01.2	
	70nm,0.4s							
PHWY					IAML		20 19 02.0	
	138nm,0.4s							
RWWY	**Rawlins**	**2.46**	**215**			**Pn**	**20 18 21.9**	**0.0**
RWWY					IAML		20 19 02.7	
	160nm,0.3s							
N23A	**Red Feather La**	**2.86**	**189**			**Pn**	**20 18 29.1**	**+1.5**
N23A					IAML		20 19 14.7	
	comp=E,88nm,0.5s							
LAO	**LASA Array**	**3.04**	**348**	Pn		**Pn**	**20 18 29.6**	**-0.2**
RLMT	**Red Lodge**	**3.15**	**298**	Pn		**Pn**	**20 18 30.7**	**-0.7**
RLMT					IAML		20 19 24.1	
	comp=E,58nm,0.3s							
RLMT					IAML		20 19 24.1	
	comp=E,42nm,0.3s							
BRIGG	**Briggsdale**	**3.23**	**166**	Pn		**Pn**	**20 18 32.8**	**+0.4**
PD31	**Pinedale Array**	**3.23**	**254**			**Pn**	**20 18 34.8**	**+2.2**
PDAR	**Pinedale Array**	**3.23**	**254**			**Pn**	**20 18 34.1**	**+1.5**
PDAR	**Pinedale Array**	**3.23**	**254**	Pn		**Pb**	**20 18 37.5**	**-1.3**
	comp=E,4.3nm,0.3s,baz=72,slow=16,SNR=32							
PDAR				Lg		Lg	20 19 20.2	
	comp=E,6.8nm,0.3s,baz=74,slow=24,SNR=2.8							
YMP	**Mirror Lake Pl**	**3.61**	**288**			**Pn**	**20 18 37.7**	**-0.2**
OGNE	**Ogallala**	**3.70**	**137**	Pn		**Pn**	**20 18 38.9**	**0.0**
LOHW	**Long Hollow**	**3.83**	**270**			**Pn**	**20 18 41.7**	**+0.9**
H17A	**Grant Village**	**3.84**	**282**			**Pn**	**20 18 41.9**	**+0.9**
H17A					IAML		20 19 47.3	
	comp=E,25nm,0.5s							
H17A					IAML		20 19 47.4	
	comp=N,27nm,0.4s							
FLWY	**Flagg Ranch**	**3.90**	**277**	Pn		**Pn**	**20 18 44.0**	**+2.3**
FLWY					IAML		20 19 53.8	
	comp=N,25nm,2.2s							
FLWY					IAML		20 20 05.1	
	comp=N,21nm,2.1s							
ISCO	**Idaho Springs**	**3.92**	**183**	Pn		**Pn**	**20 18 43.9**	**+1.7**
MOOW	**Moose Ponds**	**3.92**	**272**			**Pn**	**20 18 43.0**	**+0.9**
SNOW	**Snow King Moun**	**3.95**	**268**	Pn		**Pn**	**20 18 45.4**	**+2.9**
SNOW					IAML		20 20 01.4	
	comp=N,30nm,0.8s							
SNOW					IAML		20 20 02.0	
	comp=N,41nm,0.5s							
REDW	**Red Top Meadow**	**4.03**	**267**			**Pn**	**20 18 43.8**	**+0.3**
YFT	**Old Faithful**	**4.03**	**282**			**Pn**	**20 18 44.0**	**+0.4**
IMW	**Indian Meadow**	**4.06**	**274**	Pn		**Pn**	**20 18 46.0**	**+1.9**
IMW					IAML		20 19 57.0	
	comp=N,21nm,0.7s							
IMW					IAML		20 19 59.2	
	comp=N,24nm,0.6s							
TPAW	**Teton Pass**	**4.09**	**269**			**Pn**	**20 18 45.7**	**+1.3**
TPAW					IAML		20 20 07.9	
	comp=N,20nm,0.7s							
TPAW					IAML		20 20 12.2	
	comp=N,18nm,0.6s							
YHH	**Holmes Hill**	**4.11**	**287**			**Pn**	**20 18 46.6**	**+1.9**
FXWY	**Fox Creek**	**4.13**	**271**			**Pn**	**20 18 47.1**	**+2.1**
O20A	**White River Ci**	**4.19**	**212**			**Pn**	**20 18 47.2**	**+1.5**
O20A					IAML		20 20 08.5	
	comp=N,31nm,1.2s							
O20A					IAML		20 20 09.3	
	comp=E,31nm,0.7s							
K30B	**Basset**	**4.31**	**102**	Pn		**Pn**	**20 18 45.0**	**-2.3**
AHID	**Auburn Hatcher**	**4.32**	**259**			**Pn**	**20 18 47.9**	**+0.3**
AHID					IAML		20 20 01.8	
	comp=E,19nm,0.8s							
AHID					IAML		20 20 06.1	
	comp=E,27nm,0.5s							
YHL	**Hebgen Lake**	**4.35**	**287**			**Pn**	**20 18 49.1**	**+1.0**
YHL					IAML		20 20 10.4	
	comp=N,18nm,0.9s							
YHL					IAML		20 20 16.1	
	comp=E,20nm,0.8s							
RDMU	**Red Mountain**	**4.45**	**226**			**Pn**	**20 18 50.7**	**+1.4**
RDMU					IAML		20 20 02.7	
	comp=E,21nm,0.7s							
RDMU					IAML		20 20 10.8	
	comp=N,24nm,1.2s							
SUSD	**Miller**	**4.65**	**79**	Pn		**Pn**	**20 18 51.9**	**-0.1**
SMCO	**Snowmass**	**4.70**	**196**	Pn		**Pn**	**20 18 55.1**	**+2.1**
SMCO					IAML		20 20 17.5	
	comp=N,28nm,0.3s							
SMCO					IAML		20 20 20.0	
	comp=N,15nm,1.0s							
Q24A	**Divide**	**4.75**	**178**			**Pn**	**20 18 53.9**	**+0.3**
DGMT	**Dagmar**	**4.82**	**9**	Pn		**Pn**	**20 18 55.9**	**+1.6**
BOZ	**Bozeman (W)**	**4.87**	**295**			**Pn**	**20 18 56.6**	**+1.6**
HWUT	**Hardware Ranch**	**5.06**	**247**	Pn		**Pn**	**20 18 59.6**	**+1.9**
HWUT					IAML		20 20 34.5	
	comp=N,16nm,1.4s							
HWUT					IAML		20 20 36.2	
	comp=N,14nm,1.1s							
BSUT	**Blindstream Ca**	**5.14**	**234**			**Pn**	**20 18 59.9**	**+0.9**
BSUT					IAML		20 19 45.0	
	comp=E,9.2nm,3.6s							
BSUT					IAML		20 20 35.7	
	comp=N,12nm,3.8s							
TCUT	**Toone Canyon**	**5.19**	**242**			**Pn**	**20 18 59.9**	**+0.3**
EGMT	**Eagleton**	**5.30**	**326**	Pn		**Pn**	**20 19 01.6**	**+0.7**
P18A	**Preston Nutter**	**5.50**	**224**			**Pn**	**20 19 05.8**	**+2.0**
MDND	**Maddock**	**5.75**	**42**	Pn		**Pn**	**20 19 07.4**	**+0.3**
SPUT	**South Promonto**	**5.78**	**248**			**Pn**	**20 19 08.8**	**+1.1**
P17A	**Butcher Ranch,**	**5.87**	**226**	Pn		**Pn**	**20 19 09.7**	**+0.9**
LYMT	**Lyon Mountain**	**5.88**	**306**	Pn		**Pn**	**20 19 08.6**	**-0.4**
SRU	**San Rafael Swe**	**6.03**	**222**			**Pn**	**20 19 11.8**	**+0.7**
ECSD	**EROS Data Cent**	**6.32**	**87**	Pn		**Pn**	**20 19 15.0**	**+0.2**
HMU	**Henry Mountain**	**7.08**	**217**			**Pn**	**20 19 26.5**	**+0.9**
MSU	**Marysvale**	**7.33**	**227**			**Pn**	**20 19 27.7**	**-1.2**
I10CA	**LAC DU BONNET**	**9.08**	**41**	I		I	21 13 10.0	
	baz=223,slow=328,SNR=4.8							
ULM	**Lac du Bonnet**	**9.19**	**41**	Pn		**Pn**	**20 19 56.6**	**+2.5**
	comp=N,0.8nm,0.3s,baz=225,slow=13,SNR=7.2							
ULM				Lg		Lg	20 22 25.9	
	comp=N,0.2nm,0.3s,baz=246,slow=19,SNR=1.4							
	comp=N,1.5nm,0.3s							
NVAR	**Mina Array Bea**	**11.12**	**246**	Pn		Pn	20 20 26.9	+6.0
	comp=N,0.1nm,0.3s,baz=69,slow=13,SNR=1.6							
	comp=N,0.1nm,0.4s							
TXAR	**Lajitas Array**	**14.42**	**174**	Pn		**P**	**20 21 15.2**	**+2.2**
	baz=356,slow=11,SNR=1.9							
	comp=N,0.2nm,0.7s							

IDC ***20*** *20:26:25.7±3.9, 0.56N × 13.26W, h0km, mb3.7/2, mbtmp4.0/4, ML3.9/2, MS3.3/11, Error ellipse: s-maj=152.0km s-min=27.8km az=147.0*

ISC 20 20:26:24.1±3.3, **0.5N**±0.7 × **13.8W**±0.4, **h10**km, **n21, σ3§08/11, MS3.4/9, 6C, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**8.28**	**185**	T		T	20 35 11.6	
	baz=9.0,slow=74							
H10N3	**ASCENSION HYDR**	**8.30**	**185**	T		T	20 34 44.8	
	baz=9.0,slow=74							
H10N1	**ASCENSION HYDR**	**8.30**	**185**	T		T	20 34 40.6	
	baz=9.0,slow=74							
LIC	**Lamto**	**10.43**	**57**	*e*	PKIKP	**Pn**	**20 28 56.9**	**+3.2**
	9.7nm,0.7s							
LIC	**Lamto**	**10.43**	**57**	*e*	P	Sn	20 30 59.2	+8.5
	23nm,0.5s							
TIC	**Toumodi**	**10.66**	**55**	*e*	PKIKP	**Pn**	**20 28 57.2**	**+0.2**
	1.6nm,0.3s							
TIC	**Toumodi**	**10.66**	**55**	*e*	P	**Sn**	**20 31 01.8**	**+5.2**
	9.0nm,0.5s							
KIC	**Kosan Boka**	**10.74**	**57**	*e*	PKIKP	**Pn**	**20 28 56.7**	**-1.3**
	8.7nm,0.7s							
KIC	**Kosan Boka**	**10.74**	**57**	*e*	P	**Sn**	**20 30 59.6**	**+1.

ARNU S **Sg** **20 35 18.8 -0.1**
ARNU Arnoeviken 0.30 289 ⇓P Pg 20 35 14.8 -0.1
ARNU S **Sg** **20 35 18.8 -0.1**
ARNU Arnoeviken 0.30 289 ⇓P Pg 20 35 14.8 -0.1
ARNU S **Sg** **20 35 18.8 -0.1**
ARNU Arnoeviken 0.30 289 *i* P **Pg** **20 35 14.7 -0.1**
ARNU *i* S **Sg** **20 35 18.7 -0.1**
HUDU Hudiksvall 0.43 290 ⇓P Pg 20 35 17.0 -0.2
HUDU S **Sg** **20 35 22.7 -0.3**
HUDU Hudiksvall 0.43 290 ⇓P Pg 20 35 17.0 -0.2
HUDU S **Sg** **20 35 22.7 -0.3**
HUDU Hudiksvall 0.43 290 ⇓P Pg 20 35 17.0 -0.2
HUDU S **Sg** **20 35 22.7 -0.3**
HUDU Hudiksvall 0.43 290 ⇓*i*P Pg 20 35 17.0 -0.2
HUDU *i* S **Sg** **20 35 22.7 -0.3**
IGGU Iggoen 0.79 204 ⇑P Pg 20 35 23.8 -0.2
IGGU S **Sg** **20 35 34.2 0.0**
IGGU Iggoen 0.79 204 ⇑P Pg 20 35 23.8 -0.2
IGGU S **Sg** **20 35 34.2 0.0**
IGGU Iggoen 0.79 204 ⇑P Pg 20 35 23.8 -0.2
IGGU S **Sg** **20 35 34.2 0.0**
IGGU Iggoen 0.79 204 ⇑*i*P Pg 20 35 23.8 -0.2
IGGU *i* S **Sg** **20 35 34.2 0.0**
HASU Hassela 0.86 312 ⇓P Pg 20 35 24.5 -0.7
HASU S **Sg** **20 35 35.7 -0.6**
HASU Hassela 0.86 312 ⇓P Pg 20 35 24.5 -0.7
HASU S **Sg** **20 35 35.7 -0.6**
HASU Hassela 0.86 312 ⇓P Pg 20 35 24.5 -0.7
HASU S **Sg** **20 35 35.7 -0.6**
HASU Hassela 0.86 312 ⇓*i*P Pg 20 35 24.5 -0.7
HASU *i* S **Sg** **20 35 35.7 -0.6**
ROTU Roteberg 1.05 261 ⇓P Pg 20 35 28.3 -0.6
ROTU S **Sg** **20 35 41.9 -0.7**
ROTU Roteberg 1.05 261 ⇓P Pg 20 35 28.3 -0.6
ROTU S **Sg** **20 35 41.9 -0.7**
ROTU Roteberg 1.05 261 ⇓P Pg 20 35 28.3 -0.6
ROTU S **Sg** **20 35 41.9 -0.7**
ROTU Roteberg 1.05 261 ⇓*e*P Pg 20 35 28.3 -0.6
ROTU *e*S **Sg** **20 35 41.9 -0.7**
HEMU Hemsoen 1.09 1 P Pg 20 35 28.7 -0.9
HEMU Hemsoen 1.09 1 P Pg 20 35 28.7 -0.9
HEMU Hemsoen 1.09 1 P Pg 20 35 28.7 -0.9
HEMU Hemsoen 1.09 1 *e*P Pg 20 35 28.8 -0.8
FORU Forsmark 1.21 175 ⇑P Pg 20 35 31.3 -0.7
FORU S **Sg** **20 35 47.0 -0.8**
FORU Forsmark 1.21 175 ⇑P Pg 20 35 31.3 -0.7
FORU S **Sg** **20 35 47.0 -0.8**
FORU Forsmark 1.21 175 ⇑P Pg 20 35 31.3 -0.7
FORU S **Sg** **20 35 47.0 -0.8**
FORU Forsmark 1.21 175 ⇑*e*P Pg 20 35 31.3 -0.7
FORU *e*S **Sg** **20 35 47.0 -0.8**
GRAU Graesoe 1.29 167 ⇓P Pn 20 35 32.6 -0.1
GRAU S **Sb** **20 35 49.3 -0.3**
GRAU Graesoe 1.29 167 ⇓P Pn 20 35 32.6 -0.1
GRAU S **Sb** **20 35 49.3 -0.3**
GRAU Graesoe 1.29 167 ⇓P Pn 20 35 32.6 -0.1
GRAU S **Sb** **20 35 49.3 -0.3**
GRAU Graesoe 1.29 167 ⇓*e*P Pn 20 35 32.6 -0.1
GRAU *e*S **Sb** **20 35 49.3 -0.3**
OSTU Oestervaala 1.43 197 ⇑P Pn 20 35 35.0 +0.4
OSTU S **Sb** **20 35 53.5 0.0**
OSTU Oestervaala 1.43 197 ⇑P Pn 20 35 35.0 +0.4
OSTU S **Sb** **20 35 53.5 0.0**
OSTU Oestervaala 1.43 197 ⇑P Pn 20 35 35.0 +0.4
OSTU S **Sb** **20 35 53.5 0.0**
OSTU Oestervaala 1.43 197 ⇑*e*P Pn 20 35 35.0 +0.4
OSTU *e*SG **Sb** **20 35 53.5 0.0**
FALU Falun 1.52 224 ⇑P Pn 20 35 36.4 +0.5
FALU S **Sn** **20 35 55.7 +0.1**
FALU Falun 1.52 224 ⇑P Pn 20 35 36.4 +0.5
FALU S **Sn** **20 35 55.7 +0.1**
FALU Falun 1.52 224 ⇑P Pn 20 35 36.4 +0.5
FALU S **Sn** **20 35 55.7 +0.1**
FALU Falun 1.52 224 ⇑*e*P Pn 20 35 36.4 +0.5
FALU *e*S **Sn** **20 35 55.7 +0.1**
SOLU Sollefteaa 1.69 349 P Pn 20 35 38.8 +0.5
SOLU S **Sn** **20 36 00.6 +0.7**
SOLU Sollefteaa 1.69 349 P Pn 20 35 38.8 +0.5
SOLU S **Sn** **20 36 00.6 +0.7**
SOLU Sollefteaa 1.69 349 P Pn 20 35 38.8 +0.5
SOLU S **Sn** **20 36 00.6 +0.7**
SOLU Sollefteaa 1.69 349 *e*P Pn 20 35 38.8 +0.5
SOLU *e*S **Sn** **20 36 00.6 +0.7**
FIBU Brunna 1.73 191 ⇓P Pn 20 35 39.6 +0.9
FIBU S **Sn** **20 36 02.4 +1.7**
FIBU Brunna 1.73 191 ⇓P Pn 20 35 39.6 +0.9
FIBU S **Sn** **20 36 02.4 +1.7**
FIBU Brunna 1.73 191 ⇓P Pn 20 35 39.6 +0.9
FIBU S **Sn** **20 36 02.4 +1.7**
AAL Aland 1.73 144 *e*P Pn 20 35 39.2 +0.5
AAL Aland 1.73 144 *e*P Pn 20 35 39.3 +0.5
AAL *e*S **Sn** **20 36 01.1 +0.4**
UPP Uppsala 1.75 186 P Pn 20 35 40.0 +1.0
UPP S **Sn** **20 36 02.8 +1.5**
UPP Uppsala 1.75 186 P Pn 20 35 40.0 +1.0
UPP S **Sn** **20 36 02.8 +1.5**
UPP Uppsala 1.75 186 *e*P Pn 20 35 40.3 +1.3
UPP Uppsala 1.75 186 P Pn 20 35 40.0 +1.0
UPP S **Sn** **20 36 02.8 +1.5**
UPP Uppsala 1.75 186 *e*P Pn 20 35 40.0 +1.0
UPP *e*S **Sn** **20 36 02.8 +1.5**
RAF Rauma 1.92 106 *e*P Pn 20 35 41.9 +0.6
RAF Rauma 1.92 106 *e*P Pn 20 35 42.8 +1.5
RAF *e*S **Sn** **20 36 07.2 +1.8**
RAF MSG 20 36 08.4
comp=Z,42nm,0.2s
NRTU Norrtaelje 1.95 170 *e*P Pn 20 35 42.7 +0.9
NRTU *e*SB **Sb** **20 36 08.9 +0.4**
KPF Kankaanpaa 1.96 81 *e*P Pn 20 35 43.3 +1.3
KPF *e*SB **Sb** **20 36 09.2 +0.2**
KPF MSG 20 36 11.2
comp=Z,18nm,0.2s
HFS Hagfors 2.56 237 Pn **Pn** **20 35 51.7 +1.6**
baz=56,slow=16
HFS Sn **Sn** **20 36 22.0 +0.8**
baz=50,slow=37
HFS Sg **Sb** **20 36 25.4 -0.6**
baz=60,slow=37
HFS Hagfors 2.56 237 Pn **Pn** **20 35 51.7 +1.6**
baz=56,slow=16
HFS Sn **Sn** **20 36 22.0 +0.8**
baz=50,slow=37
HFS Lg Lg 20 36 25.4
baz=60,slow=37
HFS Hagfors 2.56 237 Pn **Pn** **20 35 51.7 +1.6**
comp=Z,0.9nm,0.3s,baz=59,slow=14,SNR=42
HFS Lg Lg 20 36 25.1
comp=Z,8.2nm,0.3s,baz=54,slow=30,SNR=44
comp=Z,2.8nm,0.2s
VAF Ylistaro 2.63 54 *e*P Pb 20 35 54.8 -1.1
VAF Ylistaro 2.63 54 *e*PB Pn 20 35 54.0 +2.9
VAF *e*SB **Sb** **20 36 26.6 -1.6**
VAF MSG 20 36 31.8
comp=Z,15nm,0.2s
VIKU Vikbolandet 3.17 192 *e*P Pn 20 35 58.8 +0.3
NC303 NORSAR Array S 3.20 266 *e*P Pn 20 35 59.7 +0.8
NC303 *e*S **Sn** **20 36 38.5 +1.4**
NC303 IAML 20 36 48.8
comp=Z,9.8nm,0.3s
NC602 NORSAR Array S 3.23 257 IAML 20 36 54.1
comp=Z,12nm,0.4s
NRA0 NORESS Array S 3.23 257 Pn **Pn** **20 36 00.0 +0.6**
baz=62,slow=10
NRA0 Pg **Pb** **20 36 06.9 +0.7**
baz=73,slow=18
NRA0 Sn **Sn** **20 36 39.8 +1.8**
baz=82,slow=28
NRA0 Sg **Sb** **20 36 49.4 +3.9**
baz=75,slow=37
NRA0 NORESS Array S 3.23 257 Pn **Pn** **20 36 00.0 +0.6**
baz=62,slow=10
NRA0 Pg **Pb** **20 36 06.9 +0.7**
baz=73,slow=18
NRA0 Sn **Sn** **20 36 39.8 +1.8**
baz=82,slow=28
NRA0 Lg Lg 20 36 49.4
baz=75,slow=37
NB201 NORSAR Array S 3.27 263 IAML 20 36 53.9
comp=Z,13nm,0.4s
NB2 NORSAR Subarra 3.31 263 Pn **Pn** **20 36 01.3 +0.8**
baz=81,slow=14
NB2 Sn **Sn** **20 36 40.8 +1.0**
baz=76,slow=28
NB2 Sg **Sb** **20 36 51.5 +3.8**
NB2 NORSAR Subarra 3.31 263 Pn **Pn** **20 36 01.3 +0.8**
baz=81,slow=14
NB2 Sn **Sn** **20 36 40.8 +1.0**
baz=76,slow=28
NB2 Lg Lg 20 36 51.5
NOA NORSAR Array B 3.31 263 Pn **Pn** **20 36 00.8 +0.3**
baz=78,slow=17,SNR=1.6
NOA Sn **Sn** **20 36 42.1 +2.3**
comp=Z,0.2nm,0.3s,baz=191,slow=19,SNR=8.9
NOA Lg Lg 20 36 50.9
comp=Z,0.4nm,0.3s,baz=76,slow=18,SNR=6.8
comp=Z,0.2nm,0.3s
KEF Keuruu 3.31 77 *e*P Pn 20 36 03.9 +3.3
KEF Keuruu 3.31 77 *e*P Pn 20 36 03.0 +2.4
KEF *e*S **Sn** **20 36 42.0 +2.1**
NUR Nurmijrvi 3.42 106 *e*P Pn 20 36 03.5 +1.5
NUR *e*S **Sn** **20 36 43.9 +1.3**
MEF Metsahovi 3.43 111 *e*P Pn 20 36 04.1 +2.1
MEF Metsahovi 3.43 111 *e*P Pn 20 36 03.8 +1.8
MEF *e*S **Sn** **20 36 43.7 +1.1**
NAO01 NORSAR Array S 3.51 261 IAML 20 37 01.7
comp=Z,11nm,0.7s
HEL1 Helsinki 3.66 110 *e*S **Sn** **20 36 50.4 +2.0**
FIA0 FINESS Array S 3.88 89 Pn **Pn** **20 36 10.4 +2.0**
baz=270,slow=12
FIA0 Sn **Sn** **20 36 56.2 +2.2**
baz=268,slow=22
FIA0 FINESS Array S 3.88 89 Pn **Pn** **20 36 10.4 +2.0**
baz=270,slow=12
FIA0 Sn **Sn** **20 36 56.2 +2.2**
baz=268,slow=22
FIA0 FINESS Array S 3.88 89 *e*P Pn 20 36 10.0 +1.7
FIA0 *e*S **Sn** **20 36 55.9 +2.0**
FINES FINESS Array B 3.88 89 Pn **Pn** **20 36 10.2 +1.8**
comp=Z,0.4nm,0.3s,baz=278,slow=13,SNR=14
FINES Sn **Sn** **20 36 56.1 +2.2**
comp=Z,1.3nm,0.3s,baz=277,slow=23,SNR=6.9
FINES Lg Lg 20 37 09.0
comp=Z,4.3nm,0.3s,baz=278,slow=24,SNR=11
comp=Z,1.7nm,0.6s
PVF Pernaja 3.97 102 *e*P Pn 20 36 11.6 +2.0
KAF Kangasniemi 3.98 79 *e*P Pn 20 36 12.6 +2.9
KAF *e*S **Sn** **20 36 58.1 +1.8**
MTSE Matsula 4.11 132 *e*P Pn 20 36 13.4 +2.1
MTSE *e*S **Sn** **20 37 00.5 +1.2**
OUF Merijarvi 4.15 45 *e*SB **Sb** **20 37 14.1 +2.2**
STRU Stroemstad 4.24 236 *e*P Pn 20 36 13.5 +0.2
STRU *e*S **Sn** **20 37 01.9 -0.8**
STRU Stroemstad 4.24 236 *i* P **Pn** **20 36 13.4 +0.2**
STRU Stroemstad 4.24 236 *e*P Pn 20 36 13.8 +0.6
DOMB Dombas 4.25 280 *e*P Pn 20 36 13.9 +0.5
DOMB *e*S **Sn** **20 37 02.9 -0.1**
DOMB IAML 20 37 21.8
comp=Z,18nm,0.4s
ARBE Arbavere 4.51 115 *e*S **Sn** **20 37 09.7 +0.4**
SLIT Slitere, Latvi 4.54 149 *e*P Pn 20 36 17.8 +0.5
SLIT Slitere, Latvi 4.54 149 *e*P Pn 20 36 18.6 +1.2
SLIT *e*S **Sn** **20 37 09.4 -0.7**
KON Kongsberg 4.56 248 Pn **Pn** **20 36 18.0 +0.4**
KON Sn **Sn** **20 37 08.0 -2.7**
KON Lg Lg 20 37 29.4
KONO Kongsberg 4.56 248 *e*P Pn 20 36 17.7 0.0
KONO IAML 20 37 30.9
comp=Z,6.7nm,0.5s
BORU Boraas 4.77 216 *i* P **Pn** **20 36 22.2 +1.7**
BORU *e*S **Sn** **20 37 16.4 +0.7**
VJF Virojoki 4.77 99 *e*S **Sn** **20 37 15.5 -0.2**
SKAR Skarslia 4.78 263 *e*P Pn 20 36 20.3 -0.4
SKAR *e*S **Sn** **20 37 13.9 -2.0**
SKAR IAML 20 37 38.8
comp=Z,6.1nm,0.3s
TJOU Tjoern 4.80 225 *i* P **Pn** **20 36 22.4 +1.5**
OUL Oulu 5.00 42 Pn **Pn** **20 36 25.6 +2.0**
OUL Sn **Sn** **20 37 23.1 +1.8**
OUL Sg **Sb** **20 37 41.4 +5.2**
OUL Oulu 5.00 42 Pn **Pn** **20 36 25.6 +2.0**
OUL Sn **Sn** **20 37 23.1 +1.8**
OUL Lg Lg 20 37 41.4
ONAU Onsala 5.22 219 *i* P **Pn** **20 36 27.8 +1.1**
AKN Aaknes 5.23 281 Pn **Pn** **20 36 26.9 +0.1**
AKN Sn **Sn** **20 37 25.3 -1.7**
AKN Aaknes 5.23 281 Pn **Pn** **20 36 26.9 +0.1**
AKN Sn **Sn** **20 37 25.3 -1.7**
FABU Falkenberg 5.33 213 *i* P **Pn** **20 36 29.7 +1.4**
BLEU Blekinge 5.42 193 *i* P **Pn** **20 36 29.0 -0.4**
DEL Delary 5.56 204 *i* P **Pn** **20 36 31.3 -0.1**
DEL Delary 5.56 204 *e*P Pn 20 36 33.1 +1.8
ODD1 Odda 5.81 258 *e*P Pn 20 36 34.6 -0.3
ODD1 *e*S **Sn** **20 37 39.1 -2.4**
ODD1 IAML 20 38 14.8
comp=Z,5.3nm,0.3s
JOF Joensuu 6.37 72 *e*P Pn 20 36 44.3 +1.9
LUNU Lund 6.43 204 *i* P **Pn** **20 36 42.7 -0.5**
BSD Bornholm Skovb 6.69 195 *i* P **Pn** **20 36 45.6 -1.3**
BSD *e*S **Sn** **20 37 58.5 -4.6**
BSD IAML 20 38 01.2
comp=Z,22nm,1.3s
HEF Hetta 7.25 17 Pn **Pn** **20 36 55.7 +1.2**
HEF Sn **Sn** **20 38 12.3 -4.5**
HEF Hetta 7.25 17 Pn **Pn** **20 36 55.7 +1.2**
HEF Sn **Sn** **20 38 12.3 -4.5**
ISAL Salakas 7.38 141 *e*P Pn 20 36 57.2 +0.8
KIF Kilpisjarvi 7.54 8 Pn **Pn** **20 36 58.7 +0.3**
KIF Sn **Sn** **20 38 19.1 -4.6**
KIF Kilpisjarvi 7.54 8 Pn **Pn** **20 36 58.7 +0.3**
KIF Sn **Sn** **20 38 19.1 -4.6**
ARA0 ARCESS Array S 8.55 18 Pn **Pn** **20 37 11.1 -1.3**
baz=210,slow=16
ARA0 Sn **Sn** **20 38 42.9 -5.9**
baz=199,slow=22
ARA0 ARCESS Array S 8.55 18 Pn **Pn** **20 37 11.1 -1.3**
baz=210,slow=16
ARA0 Sn **Sn** **20 38 42.9 -5.9**
baz=199,slow=22
ARCES ARCESS Array B 8.55 18 Pn **Pn** **20 37 11.6 -0.8**
comp=Z,0.5nm,0.3s,baz=208,slow=13,SNR=32
ARCES Sn **Sn** **20 38 45.1 -3.7**
comp=Z,0.1nm,0.3s,baz=205,slow=25,SNR=1.8
ARCES Lg Lg 20 39 38.0
comp=Z,0.3nm,0.3s,baz=204,slow=27,SNR=5.4

AUST 20 21:20:22.4±1.2, 30.32S×131.78E, h10km, Error ellipse: s-maj=27.6km s-min=11.1km az=1.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MULG	**Mulgathing**	**1.97**	**89**	P	Pb	21 20 57.2	-1.2
MULG	baz=2.0			S	Sb	21 21 22.1	-0.9
FORT	**Forrest**	**3.24**	**261**	P	Pn	21 21 14.4	+1.0
FORT	baz=3.2			S	Sn	21 21 52.3	+0.2
OOD	**Oodnadatta**	**4.25**	**55**	P	Pn	21 21 26.0	-1.2
OOD	baz=4.6			S	Sn	21 22 12.9	-3.9
BBOO	**Buckleboo**	**4.41**	**125**	P	Pn	21 21 28.9	-0.7
BBOO	baz=4.4			S	Sn	21 22 18.0	-3.0
LCRK	**Leigh Creek**	**5.56**	**93**	P	Pn	21 21 44.3	-1.0
LCRK	baz=5.6			S	Sn	21 22 46.7	-2.6
WRKA	**Warakurna**	**6.10**	**329**	P	Pn	21 21 53.1	+0.4
WRKA	baz=6.1			S	Sn	21 22 59.5	-3.2
	baz=6.1						

*IDC **20** 21:23:12.8±0.7, 32.44N×83.60E, h0km, mb4.0/19, mbtmp4.0/23, ML3.6/4, MS3.5/37, Error ellipse: s-maj=21.2km s-min=14.5km az=44.0*
*NDI **20** 21:23:15.2±3.3, 32.81N×83.95E, h10km, MW4.1, mb4.4(NEIC)*
*BJI **20** 21:23:16.1±0.0, 32.57N×83.75E, h14km, mb4.2/31, mB4.5/1, Ms3.9/24, Ms7 3.8/23*
*MOS **20** 21:23:16.3±1.3, 32.40N×83.38E, h31km, mb4.5/9, Error ellipse: s-maj=10.4km s-min=5.1km az=117.9*
*NEIC **20** 21:23:18.3±1.1, 32.48N±0.09×83.61E±0.04, h33km±5km, mb4.4/34, Error ellipse: s-maj=13.5km s-min=2.5km az=198.0*

ISC 20 21:23:14.7±0.4, 32.48N±0.05×83.63E±0.04, h10km, n156, σ1.96/140, mb4.3/45, MS3.5/37, 8C-6D, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTH	**Pithoragarh**	**4.14**	**226**	*e*P	**Pb**	**21 24 23.1**	**-4.7**
LGTI	**Lohaghat**	**4.19**	**225**	*e*P	**Pb**	**21 24 25.7**	**-2.8**
VLK	**Valmikinagar**	**5.15**	**178**	*e*P	**Pn**	**21 24 35.2**	**+3.4**
DDI	**Dehra Dun**	**5.23**	**247**	*ex*	**Sg**	**21 26 02.5**	**-0.1**
SMLA	**Simla**	**5.67**	**258**	*e*P	Pn	21 24 44.9	+6.0
SMLA				*e*S	**Sn**	**21 25 50.1**	**+6.1**
DHRM	**DHARAMSHALA**	**6.21**	**270**	*e*P	**Pn**	**21 24 49.7**	**+3.1**
DHRM				*ex*	**Sg**	**21 26 38.9**	**+4.8**
BHK	**Bhakra**	**6.22**	**262**	*e*P	Pn	21 24 52.7	+6.1
BHK				*ex*	x	21 25 39.7	
GTK	**Tadong**	**6.71**	**139**	*e*P	**Pn**	**21 24 56.0**	**+2.6**
GTK				*ex*	**Sn**	**21 26 11.4**	**+1.3**
LSA	**Lhasa**	**7.02**	**111**		**Pn**	**21 25 00.3**	**+2.3**
LSA	**Lhasa**	**7.02**	**111**	P	**Pn**	**21 25 00.3**	**+2.3**
NIL	**Nilore**	**8.79**	**280**		**Pn**	**21 25 21.1**	**-0.8**
NIL	**Nilore**	**8.79**	**280**	P	**Pn**	**21 25 21.1**	**-0.8**
BOK	**Bokaro**	**8.88**	**167**	*e*P	**Pn**	**21 25 24.3**	**+1.2**
BOK				*ex*	**Sn**	**21 27 07.5**	**+4.3**
KSH	**Kashi**	**9.37**	**321**	P	**Pn**	**21 25 32.8**	**+2.9**
KSH				pP		21 25 36.4	
KSH				sP		21 25 46.0	
KSH				S	**Sn**	**21 27 17.4**	**+2.1**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KSH				LR	LR		
	comp=E,320nm,9.4s						
KSH				LR	LR		
	comp=Z,360nm,9.0s						
SHL	**Shillong**	**9.98**	**132**	*e*P	**Pn**	**21 25 35.8**	**-2.5**
SHL				*e*S	**Sn**	**21 27 24.7**	**-5.7**
TARG	**Taragay, Kyrgy**	**10.34**	**335**		**Pn**	**21 25 44.1**	**+0.7**
TARG	**Taragay, Kyrgy**	**10.34**	**335**	P	**Pn**	**21 25 44.1**	**+0.7**
PRZ	**Przheval'sk**	**10.81**	**339**	Pn	**Pn**	**21 25 50.8**	**+1.1**
PRZ	**Przheval'sk**	**10.81**	**339**	P	**Pn**	**21 25 50.8**	**+1.1**
NRN	**Naryn**	**10.82**	**328**	Pn	**Pn**	**21 25 51.3**	**+1.4**
NRN	**Naryn**	**10.82**	**328**	P	**Pn**	**21 25 51.3**	**+1.4**
WMQ	**Urumqi**	**11.76**	**15**	*e*P	Pn	21 26 07.8	+5.2
WMQ				LR	LR		
	comp=N,470nm,13.5s						
WMQ				LR	LR		
	comp=Z,190nm,16.3s						
DRK	**Karamyk**	**11.85**	**309**		**Pn**	**21 26 04.1**	**0.0**
ARSB	**Arslanbob**	**12.26**	**319**		**Pn**	**21 26 10.6**	**+1.1**
ARSB	**Arslanbob**	**12.26**	**319**	P	**Pn**	**21 26 10.6**	**+1.1**
KBL	**Kabul**	**12.35**	**284**	Pn	**Pn**	**21 26 11.0**	**+0.2**
KBL	**Kabul**	**12.35**	**284**	P	**Pn**	**21 26 11.0**	**+0.2**
AAK	**Ala-Archa**	**12.46**	**327**	Pn	**Pn**	**21 26 14.3**	**+2.2**
AAK	**Ala-Archa**	**12.46**	**327**	⇓*e*P	**Pn**	**21 26 15.8**	**+3.7**
AAK	**Ala-Archa**	**12.46**	**327**	Pn	**Pn**	**21 26 14.0**	**+1.8**
	0.1nm,0.3s,baz=196,slow=9.1,SNR=2.8						
AAK				Sn	**Sn**	**21 28 25.0**	**-6.1**
	0.1nm,0.3s,baz=187,slow=13,SNR=1.3						
AAK				LR	LR	21 31 18.9	
	comp=Z,301nm,18.9s,baz=142,slow=39						
	0.6nm,0.5s						
BTK	**Batken**	**12.80**	**310**		**Pn**	**21 26 17.1**	**+0.3**
BTK	**Batken**	**12.80**	**310**	P	**Pn**	**21 26 17.1**	**+0.3**
SIMJ	**Simiganj**	**13.40**	**301**	Pn	**Pn**	**21 26 23.9**	**-1.1**
MK31	**Makanchi Array**	**14.33**	**356**	Pn	**Pn**	**21 26 37.7**	**0.0**
MK31	**Makanchi Array**	**14.33**	**356**	⇑*e*P	**Pn**	**21 26 37.9**	**+0.2**
MKAR	**Makanchi Array**	**14.33**	**356**	Pn	**Pn**	**21 26 37.3**	**-0.3**
MKAR	**Makanchi Array**	**14.33**	**356**	*i* P	**Pn**	**21 26 39.7**	**+2.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**14.33**	**356**	Pn	**Pn**	**21 26 38.4**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=185,slow=12,SNR=11						
MKAR				LR	LR	21 33 00.2	
	comp=Z,99nm,20.2s,baz=238,slow=41						
	comp=Z,0.9nm,0.7s						
MAKZ	**Makanchi**	**14.37**	**355**	Pn	**Pn**	**21 26 38.1**	**0.0**
MAKZ	**Makanchi**	**14.37**	**355**	P	**Pn**	**21 26 38.1**	**0.0**
GTA	**Gaotai**	**14.81**	**58**	P	**Pn**	**21 26 42.4**	**-1.9**
GTA				sP	P	21 26 54.1	+3.8
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
GTA				LR	LR		
	comp=Z,270nm,10.9s						
GTA				LR	LR		
	comp=Z,190nm,10.5s						
GTA				LR	LR		
	comp=Z,290nm,10.2s						
KK31	**Karatay Array**	**14.81**	**319**	Pn	**Pn**	**21 26 43.5**	**-0.8**
KK31	**Karatay Array**	**14.81**	**319**	P	**Pn**	**21 26 43.5**	**-0.8**
KKAR	**Karatay Array**	**14.81**	**319**	Pn	**Pn**	**21 26 44.0**	**-0.2**
KKAR	**Karatay Array**	**14.81**	**319**	P	**Pn**	**21 26 44.1**	**-0.2**
PZH	**PanZhiHua**	**16.85**	**106**	P	**Pn**	**21 27 10.8**	**0.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
DGZ	**Jazzator, Alta**	**17.44**	**8**	*ce*P	**P**	**21 27 22.0**	**+2.6**
HRA	**Herat**	**17.95**	**282**	P	**P**	**21 27 25.3**	**+0.1**
KMI	**Kunming**	**18.27**	**109**	⇑P	**Pn**	**21 27 28.0**	**-0.6**
KMI				pmax	pmax		
	comp=Z,17nm,0.9s						
KMI				LR	LR		
	comp=Z,260nm,9.2s						
KMI				LR	LR		
	comp=Z,200nm,9.5s						
KURBB	**Kurchatov Arra**	**18.52**	**350**	P	**P**	**21 27 31.2**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=168,slow=11,SNR=2.1						
KURBB				LR	LR	21 35 33.6	
	comp=Z,98nm,20.0s,baz=175,slow=40						
	comp=Z,5.6nm,0.8s						
KURK	**Kurchatov**	**18.59**	**350**	P	**P**	**21 27 32.0**	**+0.2**
KURK	**Kurchatov**	**18.59**	**350**	⇑*e*P	**Pn**	**21 27 33.5**	**+1.4**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CM31	**Chiang Mai Arr**	**19.61**	**132**	P	**P**	**21 27 43.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**19.61**	**132**	P	**P**	**21 27 42.5**	**-0.8**
CMAR	**Chiang Mai Arr**	**19.61**	**132**	*ce*P	Pn	21 27 52.4	+7.7
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**19.61**	**132**	P	**P**	**21 27 43.6**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=311,slow=10,SNR=19						
CMAR				LR	LR	21 35 32.9	
	comp=Z,100nm,18.6s,baz=320,slow=38						
	comp=Z,2.7nm,0.6s						
PHRA	**Phrae**	**20.41**	**129**	P	Pn	21 27 53.0	-1.1
XAN	**Xi'an**	**21.19**	**79**	⇑P	**P**	**21 28 01.3**	**+0.9**
XAN				pmax	pmax		
	comp=Z,16nm,1.1s						
XAN				LR	LR		
	comp=Z,320nm,11.0s						
XAN				LR	LR		
	comp=Z,380nm,9.6s						
ZAA0	**Zalesovo Array**	**21.48**	**2**	P	**P**	**21 28 03.4**	**+0.2**
ZAA0				IAmb	IAmb	21 28 10.1	
	comp=Z,8.6nm,0.7s						
ZALV	**Zalesovo Beam**	**21.48**	**2**	P	**P**	**21 28 02.6**	**-0.6**
ZALV	**Zalesovo Beam**	**21.48**	**2**	*i* P	**P**	**21 28 05.8**	**+2.6**
ZALV				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ZALV	**Zalesovo Beam**	**21.48**	**2**	P	**P**	**21 28 02.9**	**-0.4**
	comp=Z,6.0nm,0.7s,baz=178,slow=11,SNR=19						
ZALV				LR	LR	21 36 13.3	
	comp=Z,34nm,20.7s,baz=206,slow=36						
	comp=Z,6.0nm,0.7s						
GEYT	**Alibeck**	**21.52**	**292**	P	**P**	**21 28 03.5**	**-0.3**
GEYT				IAmb	IAmb	21 28 10.1	
	comp=Z,14nm,1.1s						
GEYT	**Alibeck**	**21.52**	**292**	P	**P**	**21 28 04.6**	**+0.7**
	comp=Z,5.8nm,0.8s,baz=100,slow=15,SNR=5.0						
GEYT				LR	LR	21 37 36.6	
	comp=Z,152nm,18.6s,baz=138,slow=40						
	comp=Z,5.8nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**21.52**	**292**	P	**P**	**21 28 03.4**	**-0.5**
GYA0B				IAmb	IAmb	21 28 10.7	
	comp=Z,12nm,1.1s						
ENH	**Enshi**	**22.17**	**89**	P	**P**	**21 28 10.7**	**-0.3**
ENH				IAmb	IAmb	21 28 17.8	
	comp=Z,22nm,1.3s						
BVAR	**Borovoye Array**	**22.65**	**339**	P	**P**	**21 28 15.4**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=163,slow=12,SNR=4.5						
BVAR				LR	LR	21 37 49.9	
	comp=Z,44nm,18.6s,baz=153,slow=39						
	comp=Z,0.8nm,0.6s						
BRVK	**Borovoye**	**22.71**	**339**	P	**P**	**21 28 16.6**	**+0.2**

BRVK	**Borovoye**	**22.71**	**339**	⇓*e*P		**P**		**21 28 20.0**	**+3.5**
BRVK				pmax		pmax			
	comp=Z,7.0nm,1.3s								
MOY	**Mondy**	**22.99**	**28**	*e*P		**P**		**21 28 23.8**	**+4.2**
MOY				pmax		pmax			
	comp=Z,10.0nm,1.7s								
SONM	**Songino Array**	**23.07**	**42**	P		**P**		**21 28 20.8**	**+0.4**
SONM	**Songino Array**	**23.07**	**42**	P		**P**		**21 28 20.9**	**+0.5**
	comp=Z,2.3nm,0.9s,baz=233,slow=10,SNR=12								
SONM				LR		LR		21 37 15.5	
	comp=Z,84nm,18.7s,baz=183,slow=36								
	comp=Z,2.3nm,0.9s								
ULN	**Ulaanbaatar**	**23.46**	**42**	P		**P**		**21 28 25.0**	**+0.6**
ULN	**Ulaanbaatar**	**23.46**	**42**	⇓*e*P		**P**		**21 28 28.4**	**+4.0**
ULN				pmax		pmax			
	comp=Z,8.0nm,2.5s								
HHC	**Hu-ho-hao-te**	**23.84**	**62**	*e*P		**P**		**21 28 28.8**	**+0.7**
HHC				pP		sP		21 28 39.5	+5.1
HHC				S		**S**		**21 32 40.0**	**-4.0**
HHC				pmax		pmax			
	comp=Z,6.0nm,0.6s								
HHC				LR		LR			
	comp=Z,300nm,12.7s								
HHC				LR		LR			
	comp=Z,160nm,13.5s								
ABKAR	**Akbulak array**	**24.38**	**320**	P		**P**		**21 28 33.3**	**+0.4**
ABKAR				IAmb		IAmb		21 28 40.1	
	comp=Z,4.8nm,0.8s								
ABKAR	**Akbulak array**	**24.38**	**320**	P		**P**		**21 28 33.1**	**+0.2**
PALK	**Pallekele**	**25.23**	**187**	LR		LR		21 38 47.5	
	comp=Z,42nm,19.7s,baz=99,slow=37								
HNS	**HongShan**	**25.88**	**70**	⇑P		**P**		**21 28 52.8**	**+6.2**
AKTO	**Aktyubinsk**	**26.07**	**321**	LR		LR		21 40 06.3	
	comp=Z,147nm,18.2s,baz=94,slow=39								
UBPT	**Khong Chiam**	**26.21**	**126**	P		**P**		**21 28 49.4**	**-0.4**
UBPT				IAmb		IAmb		21 29 03.9	
	comp=Z,10nm,1.1s								
ARU	**Arti**	**29.58**	**332**	LR		LR		21 42 02.7	
	comp=Z,80nm,18.4s,baz=120,slow=38								
MAK	**Makhachkala**	**30.22**	**301**	*e*P		**P**		**21 29 24.2**	**-1.2**
MAK				*e*S		**S**		**21 34 20.2**	**-4.6**
MAK				pmax		pmax			
	comp=Z,205nm,1.3s								
MAK				MLR		MLR			
	comp=Z,76nm,14.0s								
GNI	**Garni**	**32.06**	**295**	LR		LR		21 43 50.8	
	comp=Z,64nm,20.5s,baz=74,slow=39								
BELG	**Belogornoye**	**32.72**	**318**	LR		LR		21 44 14.1	
	comp=Z,74nm,18.1s,baz=115,slow=38								
KBZ	**Khabaz**	**33.65**	**301**	LR		LR		21 45 28.3	
	comp=Z,59nm,19.8s,baz=88,slow=40								
KIV	**Kislovodsk**	**33.83**	**302**	*e*P		**P**		**21 29 55.7**	**-1.5**
KIV				pmax		pmax			
	comp=Z,3.0nm,1.0s								
KIV				MLR		MLR			
	comp=Z,53nm,15.0s								
KIRV	**Kirov**	**34.78**	**329**	⇓*e*P		**P**		**21 30 05.3**	**+0.2**
KIRV	**Kirov**	**34.78**	**329**	LR		LR		21 45 10.7	
	comp=Z,59nm,22.0s,baz=118,slow=38								
KSRS	**Korea Array**	**36.38**	**70**	LR		LR		21 46 09.3	
	comp=Z,63nm,19.4s,baz=255,slow=38								
ANN	**Anapa**	**37.65**	**303**	*e*P		**P**		**21 30 27.5**	**-2.3**
ANN				*e**PP		**sP**		**21 30 37.8**	**+1.5**
ANN				*e*				21 31 53.4	
ANN				*e*S		**S**		**21 36 12.7**	**-6.8**
ANN				pmax		pmax			
	comp=Z,42nm,0.8s								
USRK	**Ussuriysk Ar.**	**39.17**	**58**	LR		LR		21 47 47.0	
	comp=Z,107nm,18.4s,baz=301,slow=38								
ASF	**Jabal al Asfar**	**39.24**	**283**	LR		LR		21 49 14.9	
	comp=Z,55nm,21.0s,baz=159,slow=40								
KLR	**Kul'dur**	**39.33**	**50**	LR		LR		21 48 22.1	
	comp=Z,88nm,20.1s,baz=261,slow=38								
JNU	**Nakatsue**	**39.45**	**76**	LR		LR		21 47 51.7	
	comp=Z,59nm,19.7s,baz=308,slow=37								
KLMR	**Klimovskoe**	**40.26**	**328**	*e*P		P		21 30 46.3	-5.2
KLMR				pmax		pmax			
	comp=Z,25nm,2.0s								
BRTR	**Keskin Array B**	**40.60**	**295**	P		**P**		**21 30 55.6**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=92,slow=10,SNR=2.5								
	comp=Z,0.6nm,0.8s								
EIL	**Elat**	**41.51**	**279**	LR		LR		21 50 56.7	
	comp=Z,62nm,19.4s,baz=64,slow=40								
AKASG	**Malin Array Be**	**43.51**	**311**	P		**P**		**21 31 18.1**	**0.0**
AKASG				LR		LR		21 51 45.2	
	comp=Z,72nm,18.9s,baz=76,slow=39								
	comp=Z,0.2nm,0.3s								
AKBB	**Malin Array Si**	**43.51**	**311**	P		**P**		**21 31 17.8**	**-0.4**
AKBB				IAmb		IAmb		21 31 44.5	
	comp=Z,13nm,1.4s								
AKBB	**Malin Array Si**	**43.51**	**311**	P		**P**		**21 31 17.8**	**-0.4**
AKBB				pmax		pmax			
	comp=Z,13nm,1.4s								
ELL	**Elmali**	**43.94**	**291**	P		**P**		**21 31 21.8**	**-0.2**
ELL	**Elmali**	**43.94**	**291**	P		**P**		**21 31 21.8**	**-0.2**
ELL				pmax		pmax			
	comp=Z,45nm,0.8s								
MJAR	**Matsushiro Arr**	**44.66**	**69**	LR		LR		21 51 26.6	
	comp=Z,31nm,19.7s,baz=188,slow=38								
MLR	**Muntele Rosu**	**45.73**	**304**	LR		LR		21 52 50.3	
	comp=Z,98nm,20.8s,baz=66,slow=39								
TIXI	**Tiksi**	**45.94**	**18**	LR		LR		21 51 48.1	
	comp=Z,55nm,18.4s,baz=207,slow=37								
BURAR	**Bucovina Array**	**46.13**	**307**	P		**P**		**21 31 39.8**	**+0.6**
FIA1	**FINESS Array S**	**46.64**	**326**	P		**P**		**21 31 43.1**	**+0.2**
FINES	**FINESS Array B**	**46.64**	**326**	P		**P**		**21 31 43.0**	**+0.1**
FINES	**FINESS Array B**	**46.64**	**326**	*i* P		**P**		**21 31 43.2**	**+0.3**
FINES				pmax		pmax			
	comp=Z,3.0nm,0.6s								
FINES	**FINESS Array B**	**46.64**	**326**	P		**P**		**21 31 42.6**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=107,slow=8.5,SNR=15								
FINES				LR		LR		21 51 43.8	
	comp=Z,108nm,21.1s,baz=95,slow=37								
	comp=Z,2.6nm,0.6s								
PABE	**Paberze**	**46.97**	**318**	P		**P**		**21 31 45.6**	**0.0**
ARCES	**ARCESS Array B**	**48.91**	**337**	P		**P**		**21 32 01.6**	**+1.2**
ARCES	**ARCESS Array B**	**48.91**	**337**	P		**P**		**21 32 01.6**	**+1.2**
ARCES				pmax		pmax			
	comp=Z,15nm,1.3s								
ARCES	**ARCESS Array B**	**48.91**	**337**	P		**P**		**21 32 00.3**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=94,slow=6.3,SNR=1.8								
ARCES				LR		LR		21 53 16.3	
	comp=Z,60nm,18.5s,baz=103,slow=37								
	comp=Z,1.9nm,0.6s								
MA2	**Magadan**	**51.16**	**37**	LR		LR		21 54 13.4	
	comp=Z,52nm,19.6s,baz=248,slow=36								
VRAC	**Vranov**	**51.69**	**310**	LR		LR		21 56 38.4	
	comp=Z,63nm,20.4s,baz=96,slow=39								
SEY	**Seymchan**	**52.02**	**33**	⇓*e*P		**P**		**21 32 27.9**	**+3.9**
SEY				pmax		pmax			
	comp=Z,5.0nm,1.7s								
HFS	**Hagfors**	**52.57**	**324**	P		**P**		**21 32 27.3**	**-0.8**
	comp=Z,3.5nm,0.8s,baz=104,slow=6.3,SNR=8.5								
HFS				LR		LR		21 55 03.6	
	comp=Z,78nm,19.4s,baz=94,slow=36								
	comp=Z,3.5nm,0.8s								
GERES	**GERESS Array B**	**53.64**	**310**	P		**P**		**21 32 36.3**	**-0.1**
GERES	**GERESS Array B**	**53.64**	**310**	P		**P**		**21 32 36.3**	**-0.1**
GERES	**GERESS Array B**	**53.64**	**310**	P		**P**		**21 32 35.9**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=83,slow=8.0,SNR=10								
GERES				LR		LR		21 57 45.3	
	comp=Z,67nm,19.0s,baz=82,slow=39								
	comp=Z,2.4nm,0.8s								
KHC	**Kasperske Hory**	**53.67**	**310**	P		**P**		**21 32 36.3**	**-0.2**
KHC				IAmb		IAmb		21 32 38.0	
	comp=Z,2.7nm,0.7s								
KHC	**Kasperske Hory**	**53.67**	**310**	⇓*e*P		**P**		**21 32 36.9**	**+0.4**
KHC				pmax		pmax			
	comp=Z,24nm,2.5s								
NB2	**NORSAR Subarra**	**53.76**	**325**	P		**P**		**21 32 36.3**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=86,slow=7.4								
NOA	**NORSAR Array B**	**53.76**	**325**	P		**P**		**21 32 36.3**	**-0.7**
	comp=Z,2.0nm,0.9s,baz=87,slow=7.2,SNR=5.2								
NOA				LR		LR		21 55 52.8	
	comp=Z,64nm,21.6s,baz=95,slow=36								
	comp=Z,2.0nm,0.9s								
NC204	**NORSAR Array S**	**53.97**	**325**	P		**P**		**21 32 38.1**	**-0.4**
FUORN	**Ofenpass-Fuorn**	**56.36**	**308**	P		**P**		**21 32 55.5**	**-0.7**
FUORN				IAmb		IAmb		21 33 04.5	
	comp=Z,7.6nm,1.4s								
DAVOX	**Davos/Dischmat**	**56.58**	**308**	LR		LR		21 59 45.3	
	comp=Z,87nm,19.8s,baz=80,slow=39								
EKA	**Eskdalemuir Ar**	**62.25**	**320**	P		**P**		**21 33 35.7**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=74,slow=6.2,SNR=4.0								
	comp=Z,0.8nm,0.7s								
C16K	**Lisburne Hills**	**67.47**	**22**	P		**P**		**21 34 10.7**	**+0.4**
C16K				IAmb		IAmb		21 34 15.3	
	comp=Z,3.2nm,0.9s								
ESDC	**Sonseca Array**	**68.46**	**304**	P		**P**		**21 34 16.8**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=50,slow=6.8,SNR=7.3								
ESDC				LR		LR		22 11 05.2	
	comp=Z,20nm,18.4s,baz=50,slow=42								
	comp=Z,1.2nm,0.7s								
C19K	**Lookout Ridge**	**68.76**	**20**	P		**P**		**21 34 19.1**	**+0.6**
C19K				IAmb		IAmb		21 34 24.6	
	comp=Z,2.0nm,0.9s								
B20K	**Meade River**	**68.90**	**19**	P		**P**		**21 34 19.9**	**+0.7**
B20K				IAmb		IAmb		21 34 24.8	
	comp=Z,6.5nm,1.4s								
WRA	**Warramunga Arr**	**71.19**	**130**	P		**P**		**21 34 33.4**	**-0.6**
WRA	**Warramunga Arr**	**71.19**	**130**	P		**P**		**21 34 33.7**	**-0.3**
	comp=Z,2.8nm,0.8s,baz=324,slow=6.1,SNR=6.2								
	comp=Z,2.8nm,0.8s								
WB2	**Warramunga Arr**	**71.20**	**130**	P		**P**		**21 34 33.5**	**-0.6**
TOLK	**Toolik Lake Re**	**71.83**	**18**	P		**P**		**21 34 37.3**	**0.0**
TOLK				IAmb		IAmb		21 34 40.5	
	comp=Z,5.9nm,1.3s								
ASAR	**Alice Springs**	**73.62**	**133**	P		**P**		**21 34 48.4**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=323,slow=5.8,SNR=6.9								
ASAR				LR		LR		22 12 31.1	
	comp=Z,52nm,18.4s,baz=178,slow=40								
	comp=Z,1.5nm,0.8s								
BMAR	**Burnt Mountain**	**74.00**	**17**	P		**P**		**21 34 50.3**	**+0.1**
MLY	**Manley**	**74.04**	**21**	P		**P**		**21 34 51.0**	**+0.5**
MLY				IAmb		IAmb		21 34 54.9	
	comp=Z,6.1nm,1.2s								
F28M	**Old Crow**	**75.00**	**16**	P		**P**		**21 34 57.5**	**+1.6**
F28M				IAmb		IAmb		21 35 14.2	
	comp=Z,2.4nm,1.2s								
ILAR	**Eielson Array**	**75.37**	**20**	P		**P**		**21 34 57.7**	**-0.4**
ILAR	**Eielson Array**	**75.37**	**20**	P		**P**		**21 34 57.9**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=318,slow=5.2,SNR=9.1								
	comp=Z,1.3nm,0.8s								
TOA0	**Torodi Ar. Sit**	**76.33**	**277**	P		**P**		**21 35 03.8**	**-0.6**
TOA0				IAmb		IAmb		21 35 17.4	
	comp=Z,8.3nm,1.4s								
TORD	**Torodi Ar. Bea**	**76.33**	**277**	P		**P**		**21 35 03.9**	**-0.5**
TORD				IAmb		IAmb		21 35 17.4	
	comp=Z,5.1nm,1.5s								
TORD	**Torodi Ar. Bea**	**76.33**	**277**	P		**P**		**21 35 03.4**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=53,slow=5.4,SNR=18								
	comp=Z,0.6nm,0.3s								
KDAK	**Kodiak Island**	**78.49**	**27**	LR		LR		22 11 23.8	
	comp=Z,73nm,18.9s,baz=340,slow=37								
FRB	**Frobisher Bay**	**81.59**	**348**	LR		LR		22 15 10.4	
	comp=Z,33nm,18.6s,baz=236,slow=38								
BOSA	**Boshof**	**82.24**	**229**	P		**P**		**21 35 35.4**	**-1.0**
BOSA	**Boshof**	**82.24**	**229**	P		**P**		**21 35 35.4**	**-1.0**
YKA	**Yellowknife Ar**	**84.22**	**8**	*ce*P		**P**		**21 35 49.4**	**+3.3**
YKA				pmax		pmax			
	comp=Z,1.0nm,0.9s								
YKA	**Yellowknife Ar**	**84.22**	**8**	P		**P**		**21 35 45.7**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=339,slow=5.0,SNR=7.7								
	comp=Z,0.9nm,0.9s								
DBIC	**Dimbokro**	**85.19**	**275**	P		**P**		**21 35 50.8**	**-1.0**
DBIC	**Dimbokro**	**85.19**	**275**	P		**P**		**21 35 51.3**	**-0.5**
	comp=Z,4.9nm,1.0s,baz=34,slow=7.3,SNR=3.4								
	comp=Z,4.9nm,1.0s								
CPUP	**Villa Florida**	**145.58**	**270**	PKPbc		**PKPdf**		**21 42 52.8**	**-0.8**
	comp=Z,3.5nm,0.7s,baz=81,slow=4.1,SNR=7.6								

IDC ***20*** *22:26:13.5±2.2,29.44N×131.02E,h0km,mb3.9/9, mbtmp3.8/13,ML3.5/4,MS3.4/17, Error ellipse: s-maj=45.2km s-min=28.2km az=125.0*
NEIC ***20*** *22:26:18.2±1.7,29.81N±0.03×131.1E±0.1,h10km±1km, mb4.3/16, Error ellipse: s-maj=19.0km s-min=4.8km az=95.0*
NIED ***20*** *22:26:23.2,30.02N×130.94E,h26km,MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.22; $M_{\theta\theta}$0.03; $M_{\phi\phi}$-0.25; $M_{r\theta}$0.68; $M_{\theta\phi}$-0.54; $M_{r\phi}$0.93; Fault plane solution: $M_0$1.24000×1015 NP1:φs35.00000°, δ80.00000°, λ88.00000°. NP2:φs225.00000°, δ11.00000°, λ99.00000°.*
JMA ***20*** *22:26:23.2±0.2,30.0N±0.8×130.9E±0.6,h26km±1km, MV3.6/29, NEAR TANEGASHIMA ISLAND*
ISC 20 22:26:18.0±1.4,29.82N±0.04×131.09E±0.05,h12km±8km, n61,σ1s05/57,mb4.2/17,MS3.4/13,9D,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JMTN	**Minamitane**	**0.60**	**344**	⇓*i*P		**Pb**	**22 26 31.3**	**+0.9**
JYAK	**Yakushimahirau**	**0.65**	**310**	⇓*i*P		**Pn**	**22 26 32.1**	**-1.0**
JYAK				⇓*e*S		**Sg**	**22 26 38.9**	**-0.4**
JTN	**Tanegashima 3**	**0.84**	**354**	⇓*i*P		**Pb**	**22 26 35.4**	**+0.9**
JTN				⇓*e*S		**Sg**	**22 26 44.6**	**-0.5**
JKC	**Kuchinoerabu**	**1.00**	**310**	⇓*e*P		**Pn**	**22 26 38.1**	**+0.2**
JKC				⇓*e*S		**Sg**	**22 26 47.8**	**-2.6**
JNN	**Nakanoshima**	**1.05**	**271**	⇓P		**Pn**	**22 26 41.0**	**+2.4**
JNN				⇓*e*S		**Sn**	**22 26 54.1**	**+0.8**
JTSR	**Tashiro 2**	**1.35**	**354**	P		**Pb**	**22 26 43.9**	**+0.6**
JNAR	**Kushima--Naru**	**1.71**	**5**	P		**Pb**	**22 26 49.5**	**+0.2**
JSU	**Suzuyama**	**1.77**	**342**	P		**Pn**	**22 26 49.0**	**+0.5**
JTAJ	**Takarajima**	**1.77**	**248**	*e*P		**Pg**	**22 26 52.8**	**+0.8**
JAM	**Amami Oshima**	**1.91**	**223**	*e*P		**Pg**	**22 26 55.8**	**+1.2**
JAMN	**Amaminishikomi**	**2.30**	**227**	P		**Pg**	**22 27 01.1**	**-0.9**
JAMN				*e*S		**Sg**	**22 27 29.9**	**-1.9**
JTK	**Tokunoshima**	**2.76**	**223**	P		**Pb**	**22 27 08.1**	**+0.8**
JTK				S		**Sb**	**22 27 41.5**	**+0.4**
JNU	**Nakatsue**	**3.30**	**357**			**Pn**	**22 27 09.0**	**-0.5**
JNU	**Nakatsue**	**3.30**	**357**	Pn		**Pn**	**22 27 11.1**	**+1.6**
	5.2nm,0.3s,baz=169,slow=8.9,SNR=14							
JNU				LR		LR	22 28 50.4	
	comp=Z,437nm,18.3s,baz=183,slow=43							
	16nm,0.4s							
JOW	**Kunigami**	**3.87**	**220**	Pn		Pn	22 27 08.8	-8.6
	4.9nm,0.3s,baz=102,slow=30,SNR=2.0							
JOW				Sn		**Sn**	**22 28 02.0**	**-0.8**
	5.6nm,0.3s,baz=216,slow=28,SNR=2.1							
	15nm,0.4s							
JMZ	**Minamidaito 2**	**3.99**	**178**	Pn		**Pn**	**22 27 19.7**	**+0.8**
JMN	**Monobe**	**4.56**	**31**	Pn		**Pn**	**22 27 26.3**	**-0.6**
INU	**Inuyama**	**7.44**	**41**	Pn		**Pn**	**22 28 08.3**	**+1.9**
KSRS	**Korea Array**	**8.06**	**342**	Pn		**Pn**	**22 28 16.8**	**+1.9**
	0.5nm,0.3s,baz=156,slow=16,SNR=4.8							
KSRS				LR		LR	22 31 03.7	
	comp=Z,73nm,18.8s,baz=165,slow=34							
	2.1nm,0.7s							
USA0B	**Ussuriysk Arra**	**14.37**	**3**			**Pn**	**22 29 40.9**	**-0.4**
USRK	**Ussuriysk Ar.**	**14.37**	**3**	Pn		**Pn**	**22 29 41.5**	**+0.3**
USRK	**Ussuriysk Ar.**	**14.37**	**3**	Pn		**P**	**22 29 50.0**	**+1.8**
	0.4nm,0.3s,baz=183,slow=9.5,SNR=11							
ASAJ	**Asahikawa**	**16.95**	**30**	LR		LR	22 36 51.2	
	comp=Z,81nm,19.6s,baz=232,slow=37							
KLR	**Kul'dur**	**19.39**	**1**	P		**P**	**22 30 43.9**	**+0.1**
	0.3nm,0.3s,baz=189,slow=8.3,SNR=9.0							
KLR				LR		LR	22 39 11.6	
	comp=Z,46nm,18.1s,baz=176,slow=39							
	1.6nm,0.5s							
SONM	**Songino Array**	**26.16**	**320**	P		**P**	**22 31 51.4**	**-0.9**
SONM	**Songino Array**	**26.16**	**320**	P		**P**	**22 31 51.4**	**-0.9**
	0.6nm,0.5s,baz=127,slow=11,SNR=6.5							
SONM				LR		LR	22 43 19.0	
	comp=Z,84nm,18.6s,baz=180,slow=39							
	0.6nm,0.5s							
PETK	**Petropavlovsk-**	**30.33**	**32**	LR		LR	22 44 55.8	
	comp=Z,32nm,20.0s,baz=65,slow=37							
CMAR	**Chiang Mai Arr**	**31.34**	**256**	LR		LR	22 46 12.3	
	comp=Z,32nm,18.9s,baz=65,slow=38							
MA2	**Magadan**	**32.61**	**19**	LR		LR	22 47 23.7	
	comp=Z,34nm,18.3s,baz=84,slow=38							
ZALV	**Zalesovo Beam**	**41.05**	**319**	P		**P**	**22 34 00.1**	**-1.0**
	0.6nm,0.4s,baz=115,slow=13,SNR=3.8							
ZALV				LR		LR	22 52 21.4	
	comp=Z,43nm,19.4s,baz=94,slow=38							
	0.6nm,0.4s							
MK31	**Makanchi Array**	**41.17**	**308**	P		**P**	**22 34 01.7**	**-0.6**
MKAR	**Makanchi Array**	**41.17**	**308**	P		**P**	**22 34 01.7**	**-0.5**
	1.1nm,0.5s,baz=89,slow=10,SNR=22							
MKAR				LR		LR	22 51 22.6	
	comp=Z,31nm,19.8s,baz=46,slow=36							
	1.1nm,0.5s							
TIXI	**Tiksi**	**41.90**	**359**	P		**P**	**22 34 07.4**	**-0.5**
PMG	**Port Moresby**	**41.96**	**156**	LR		LR	22 51 37.0	
	comp=Z,49nm,18.8s,baz=248,slow=37							
KURK	**Kurchatov**	**44.07**	**314**	P		**P**	**22 34 25.6**	**-0.1**
KURK				IAmb		IAmb	22 34 26.9	
	comp=Z,3.1nm,1.0s							
KURBB	**Kurchatov Arra**	**44.12**	**313**	P		**P**	**22 34 25.4**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=99,slow=8.6,SNR=7.4							
KURBB				LR		LR	22 54 21.0	
	comp=Z,110nm,18.7s,baz=164,slow=38							
	comp=Z,0.8nm,0.5s							
NRN	**Naryn**	**45.56**	**300**	P		**P**	**22 34 38.5**	**+0.3**
NRN				IAmb		IAmb	22 34 39.4	
	comp=Z,2.1nm,0.5s							
AAK	**Ala-Archa**	**46.61**	**302**	P		**P**	**22 34 46.1**	**-0.2**
AAK				IAmb		IAmb	22 34 47.7	
	comp=Z,2.5nm,1.1s							
BVAR	**Borovoye Array**	**49.37**	**316**	P		**P**	**22 35 07.0**	**-0.2**
	comp=Z,2.9nm,0.6s,baz=99,slow=9.5,SNR=33							
	comp=Z,2.9nm,0.6s							
BRVK	**Borovoye**	**49.43**	**316**	P		**P**	**22 35 07.8**	**+0.1**
KK31	**Karatay Array**	**49.49**	**303**	P		**P**	**22 35 09.0**	**+0.6**
KK31				IAmb		IAmb	22 35 10.5	
	comp=Z,3.1nm,0.9s							
SIMJ	**Simiganj**	**51.22**	**297**	P		**P**	**22 35 22.0**	**+0.4**
SIMJ				IAmb		IAmb	22 35 23.7	
	comp=Z,3.0nm,0.9s							
CHGN	**Chignik**	**55.08**	**40**	P		**P**	**22 35 48.2**	**-1.4**
D19K	**Kuna River**	**55.58**	**25**	P		**P**	**22 35 54.6**	**+1.6**
ABKAR	**Akbulak array**	**56.10**	**312**	P		**P**	**22 35 57.1**	**0.0**
ABKAR	**Akbulak array**	**56.10**	**312**	P		**P**	**22 35 57.0**	**0.0**
ABKAR				IAmb		IAmb	22 35 58.0	
	comp=Z,5.8nm,1.4s							
ARU	**Arti**	**56.20**	**320**	P		**P**	**22 35 57.2**	**-0.4**
ARU				IAmb		IAmb	22 35 58.2	
	comp=Z,4.4nm,1.1s							
ARU	**Arti**	**56.20**	**320**	LR		LR	23 02 29.7	
	comp=Z,111nm,18.3s,baz=75,slow=39							
AKTO	**Aktyubinsk**	**57.17**	**313**	LR		LR	23 02 25.6	
	comp=Z,104nm,18.3s,baz=154,slow=38							
D22K	**Ayikyak River**	**57.58**	**25**	P		**P**	**22 36 08.3**	**+1.0**
D22K				IAmb		IAmb	22 36 36.4	
	comp=Z,2.9nm,1.2s							
ILAR	**Eielson Array**	**60.09**	**29**	P		**P**	**22 36 25.5**	**+0.7**

ISN ***20*** *21:34:27.0±0.5,33.76N×45.74E,h18km±13km,ML2.8*
TEH ***20*** *21:34:27.1,33.78N×45.75E,h8km±74km,ML2.8*
ISC 20 21:34:27.2±0.9,33.74N±0.05×45.79E±0.04,h10km,n11, σ0s51/14,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.36**	**108**	Pg		**Pb**	**21 34 35.2**	**-0.5**
IBDR	**Badra**	**0.64**	**170**	*e*Pg		**Pb**	**21 34 40.0**	**-0.3**
IBDR				*e*Sg		**Sb**	**21 34 49.0**	**-0.3**
KGS1	**Ghasr-e-Shirin**	**0.79**	**348**	Pg		**Pg**	**21 34 41.6**	**-0.7**
IGHG	**Ghaleghazi**	**0.87**	**47**	Pg		**Pg**	**21 34 43.6**	**-0.4**
IDHR	**Dehrash**	**1.08**	**27**	Pg		**Pg**	**21 34 47.3**	**-0.6**
KCHF	**Cheshme Sefid,**	**1.17**	**62**	Pg		**Pn**	**21 34 50.2**	**+0.5**
BHD	**Baghdad**	**1.27**	**249**	*e*Pn		**Pn**	**21 34 51.0**	**+0.1**
BHD				*e*Sn		**Sg**	**21 35 09.0**	**+1.0**
ILIN	**Lien**	**1.52**	**39**	Pg		**Pg**	**21 34 56.4**	**0.0**
IKFM	**Kafar-mosalman**	**1.73**	**96**	Pg		**Pg**	**21 35 00.2**	**-0.1**
IBZA	**Bozab**	**1.86**	**66**	Pn		**Pb**	**21 35 01.6**	**+0.1**
IKRK	**Kirkuk**	**2.05**	**325**	*e*Pn		**Pn**	**21 35 02.0**	**+0.3**
IKRK				*e*Sn		**Sn**	**21 35 27.5**	**+0.2**

ISK ***20*** *22:17:22.4,34.32N×23.22E,h5km,ML3.1/7*
IDC ***20*** *22:17:26.6±1.5,34.22N×23.74E,h0km,mb3.4/5, mbtmp3.3/7,ML3.2/2,MS3.0/4, Error ellipse: s-maj=81.5km s-min=25.6km az=137.0*
AFAD ***20*** *22:17:45.0±0.0,34.78N×24.93E,h15km,ML2.6*
ISC 20 22:17:28.2±1.1,34.35N±0.09×23.61E±0.08,h10km,n33, σ1s78/32,mb3.5/5,MS2.9/4,Crete

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

comp=Z,0.6nm,1.0s,baz=278,slow=6.3,SNR=2.4
comp=Z,0.6nm,1.0s

BMAR Burnt Mountain 60.69 26 P **P** **22 36 30.9 +2.0**
BELG Belogornoye 63.15 317 LR LR 23 05 58.3
comp=Z,39nm,19.2s,baz=316,slow=38
G30M tAoh Zraii Nji 63.97 26 P **P** **22 36 51.7 +0.8**
ARCES ARCESS Array B 67.60 339 P **P** **22 37 14.0 -0.2**
comp=Z,2.2nm,0.9s,baz=67,slow=6.9,SNR=5.2
comp=Z,2.2nm,0.9s
FINES FINESS Array B 70.99 331 P **P** **22 37 34.4 -0.8**
FINES FINESS Array B 70.99 331 P **P** **22 37 33.8 -1.5**
comp=Z,0.6nm,0.5s,baz=68,slow=7.4,SNR=8.1
comp=Z,0.6nm,0.5s
AKASG Malin Array Be 74.44 320 LR LR 23 13 27.7
comp=Z,42nm,18.5s,baz=46,slow=38
NOA NORSAR Array B 77.20 334 P **P** **22 38 10.5 -1.1**
comp=Z,0.3nm,0.5s,baz=57,slow=4.3,SNR=1.1
comp=Z,0.3nm,0.5s
BURAR Bucovina Array 78.26 318 P **P** **22 38 17.7 -0.2**
MLR Muntele Rosu 78.93 316 LR LR 23 16 25.8
comp=Z,41nm,19.2s,baz=325,slow=38

IDC 20 22:33:15.6±7.8, 17°.94S×173°.16W, h0km, mb3.8/3, mbtmp3.8/3, MS2.3/1, Error ellipse: s-maj=335.6km s-min=41.6km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**13.03**	**107**	LR	LR	22 39 17.8	
	comp=Z,14nm,21.5s,baz=347,slow=28						
HNR	**Honiara**	**27.43**	**284**	LR	LR	22 48 07.1	
	comp=Z,1μm,19.8s,baz=135,slow=32						
WRA	**Warramunga Arr**	**49.53**	**259**	P	P	22 42 08.1	-0.5
	0.5nm,0.5s,baz=98,slow=7.0,SNR=8.9						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**49.59**	**254**	P	P	22 42 09.2	+0.2
	2.5nm,0.7s,baz=87,slow=8.3,SNR=26						
	2.5nm,0.7s						
ILAR	**Eielson Array**	**84.88**	**11**	P	P	22 45 51.9	0.0
	0.4nm,0.8s,baz=210,slow=5.2,SNR=2.0						
	0.4nm,0.8s						

*IDC **20** 22:56:04.7±1.3, 16°.12N×95°.03W, h0km, mb3.8/6, mbtmp3.7/7, ML2.9/2, MS3.3/8, Error ellipse: s-maj=24.6km s-min=14.4km az=92.0*
*MEX **20** 22:56:06.3±1.1, 15°.94N×95°.16W, h50km±27km, MD4.5*
*NEIC **20** 22:56:07.7±2.6, 15°.89N±0°.03×95°.21W±0°.04, h39km±17km, mb4.1/20, Md4.5/116(MEX), Error ellipse: s-maj=6.1km s-min=3.2km az=119.0*

ISC 20 22:56:03.3±1.4, 15°.96N±0°.03×95°.19W±0°.02, h1km±9km, n131, σ2°.28/174, mb3.9/9, MS3.1/7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NILT	**Santiago Nilte**	**0.81**	**42**	*e*P	**Pg**	**22 56 18.4**	**-0.5**
NILT				*e*S	**Sg**	**22 56 28.8**	**-0.6**
HUIG	**Huatulco**	**0.91**	**258**		**Pb**	**22 56 20.8**	**-1.1**
HUIG					**Sg**	**22 56 34.0**	**+1.4**
HUIG	**Huatulco**	**0.91**	**258**	*e*P	**Pb**	**22 56 20.8**	**-1.1**
HUIG				*e*S	**Sg**	**22 56 34.0**	**+1.4**
CMIG	**Matias Romero**	**1.16**	**14**	LR	LR	22 56 21.9	
	comp=Z,41nm,20.9s,baz=84,slow=18						
CMIG				Pg	Pn	22 56 23.3	-3.4
	150nm,0.3s,baz=200,slow=14,SNR=903						
CMIG				Lg	Lg	22 56 37.1	
	1μm,0.3s,baz=32,slow=8.2,SNR=34						
CMIG	**Matias Romero**	**1.16**	**14**	*e*P	Pn	22 56 23.3	-3.4
CMIG				*e*S	**Sb**	**22 56 37.2**	**-4.5**
CARR	**Arriaga**	**1.26**	**77**	*e*P	**Pn**	**22 56 28.1**	**+0.1**
CARR				*e*S	**Sb**	**22 56 44.6**	**+0.1**
UXUV	**UXUV**	**1.68**	**36**	*e*P	**Pn**	**22 56 32.4**	**-1.5**
UXUV				*e*S	**Sn**	**22 56 54.0**	**-2.0**
NEUV	**Arroyo Zacate**	**1.84**	**341**	*e*P	**Pn**	**22 56 34.5**	**-1.5**
NEUV				*e*S	**Sn**	**22 56 55.9**	**-4.1**
OXIG	**Oaxaca**	**1.85**	**307**		**Pn**	**22 56 34.9**	**-1.6**
VHO	**Vista Hermosa**	**1.85**	**307**	*e*P	**Pn**	**22 56 34.9**	**-1.6**
VHO				*e*S	**Sn**	**22 56 56.9**	**-3.7**
PEIG	**Puerto Escondi**	**1.89**	**271**		**Pn**	**22 56 35.7**	**-1.0**
PEIG					**Sn**	**22 56 59.8**	**-1.5**
PEIG	**Puerto Escondi**	**1.89**	**271**	*e*P	**Pn**	**22 56 35.7**	**-1.0**
PEIG				*e*S	**Sn**	**22 56 59.8**	**-1.5**
PCIG		**1.91**	**97**		**Pn**	**22 56 38.3**	**+1.3**
PCIG					**Sn**	**22 57 01.0**	**-0.8**
PCIG		**1.91**	**97**	*e*P	**Pn**	**22 56 38.3**	**+1.3**
PCIG				*e*S	**Sn**	**22 57 01.0**	**-0.8**
TUIG	**Tuzandepetl**	**2.19**	**19**	*e*P	**Pn**	**22 56 41.4**	**+0.5**
TUIG				*e*S	**Sn**	**22 57 09.2**	**+0.6**
YOIG	**Yosondua**	**2.43**	**292**		**Pn**	**22 56 45.0**	**+0.5**
YOIG					**Sn**	**22 57 14.6**	**-0.5**
YOIG	**Yosondua**	**2.43**	**292**	*e*P	**Pn**	**22 56 45.0**	**+0.5**
YOIG				*e*S	**Sn**	**22 57 14.6**	**-0.5**
PMUV	**Sontecomapan**	**2.57**	**1**	*e*P	**Pn**	**22 56 44.4**	**-1.8**
PMUV				*e*S	Sn	22 57 06.5	-12
TOIG	**Toxpalan**	**2.78**	**320**		**Pn**	**22 56 51.4**	**+2.2**
TOIG					**Sn**	**22 57 24.9**	**+1.4**
TOIG	**Toxpalan**	**2.78**	**320**	*e*P	**Pn**	**22 56 51.4**	**+2.2**
TOIG				*e*S	**Sn**	**22 57 24.9**	**+1.4**
TXIG	**Tlaxiaco**	**2.79**	**298**		**Pn**	**22 56 50.7**	**+1.3**
TXIG	**Tlaxiaco**	**2.79**	**298**	*e*P	**Pn**	**22 56 50.7**	**+1.3**
TXIG				*e*S	**Sn**	**22 57 25.4**	**+1.6**
PNIG	**Pinotepa**	**2.86**	**279**		**Pn**	**22 56 50.3**	**+0.1**
PNIG					**Sn**	**22 57 24.4**	**-0.8**
PNIG	**Pinotepa**	**2.86**	**279**	*e*P	**Pn**	**22 56 50.3**	**+0.1**
PNIG				*e*S	**Sn**	**22 57 24.4**	**-0.8**
CCIG	**Comitan**	**2.95**	**83**		**Pn**	**22 56 52.2**	**+0.7**
CCIG				Sn	**Sn**	**22 57 28.7**	**+1.0**
CCIG	**Comitan**	**2.95**	**83**	*e*P	**Pn**	**22 56 54.0**	**+2.5**
CCIG				*e*S	**Sn**	**22 57 28.0**	**+0.3**
PATR	**El Naranjo**	**2.97**	**106**	*e*P	**Pn**	**22 56 53.5**	**+1.6**
PATR				*e*S	**Sn**	**22 57 27.2**	**-1.0**
PAVE	**Pavencul**	**3.00**	**104**	*e*P	**Pn**	**22 56 54.1**	**+1.9**
PAVE				*e*S	**Sn**	**22 57 30.4**	**+1.3**
THIG		**3.01**	**110**		**Sn**	**22 57 28.4**	**-0.5**
THIG		**3.01**	**110**	*e*P	Pn	22 56 48.3	-3.9
THIG				*e*S	**Sn**	**22 57 28.4**	**-0.5**
CHUJ	**Union Juarez**	**3.09**	**106**	*e*P	**Pn**	**22 56 55.9**	**+2.4**
CHUJ				*e*S	**Sn**	**22 57 32.2**	**+1.0**
HLIG	**Huajuapan de L**	**3.12**	**307**	*e*P	**Pn**	**22 56 57.9**	**+4.0**
HLIG				*e*S	**Sn**	**22 57 34.3**	**+2.4**
TPIG	**Tehuac#an**	**3.21**	**320**	*e*P	**Pb**	**22 57 00.9**	**-0.4**
TPIG				*e*S	**Sb**	**22 57 39.1**	**-1.8**
FTIG	**Fresnillo de T**	**3.42**	**305**	*e*P	**Pb**	**22 57 03.9**	**-1.0**
FTIG				*e*S	**Sn**	**22 57 41.3**	**+2.0**
SMSP	**San Marcos**	**3.43**	**106**	*e*S	**Sn**	**22 57 40.7**	**+1.0**
MGIG	**Malinaltepec**	**3.54**	**291**		**Pn**	**22 57 01.6**	**+2.0**
MGIG	**Malinaltepec**	**3.54**	**291**	*e*P	**Pn**	**22 57 01.6**	**+2.0**
MGIG				*e*S	**Sn**	**22 57 46.8**	**+4.6**
HUEH	**Huehuetenango**	**3.61**	**100**	Pn	**Pn**	**22 57 01.6**	**+1.0**
HUEH	**Huehuetenango**	**3.61**	**100**	*e*P	**Pn**	**22 57 03.3**	**+2.7**
HUEH				*e*S	**Sn**	**22 57 40.8**	**-3.2**
TLIG	**Tlapa**	**3.61**	**297**		**Pn**	**22 57 02.7**	**+2.1**
TLIG	**Tlapa**	**3.61**	**297**	*e*P	**Pb**	**22 57 07.4**	**-0.7**
TLIG				*e*S	**Sb**	**22 57 49.5**	**-2.9**
RTAL	**Retalhuleu**	**3.66**	**113**	Pn	**Pn**	**22 57 02.8**	**+1.6**
RTAL	**Retalhuleu**	**3.66**	**113**	*e*P	**Pn**	**22 57 03.5**	**+2.3**
RTAL				*e*S	**Sn**	**22 57 43.5**	**-1.6**
JAUV	**Jalcomulco**	**3.72**	**336**	*e*P	**Pn**	**22 57 05.4**	**+3.4**
JAUV				*e*S	**Sn**	**22 57 49.0**	**+2.5**
CRIG	**Cruz Grande**	**3.86**	**282**		**Pn**	**22 57 04.3**	**+0.3**
CRIG	**Cruz Grande**	**3.86**	**282**	*e*P	**Pn**	**22 57 04.3**	**+0.3**
CRIG				*e*S	Sn	22 57 39.7	-10
CRIG				*e*S	Sn	22 57 40.1	-10
LVIG	**Laguna Verde**	**3.92**	**343**	*e*P	**Pn**	**22 57 07.4**	**+2.7**
LVIG				*e*S	**Sn**	**22 57 56.4**	**+5.0**
DAIG	**Los Arroyos**	**4.41**	**284**		**Pn**	**22 57 11.0**	**-0.5**
DAIG	**Los Arroyos**	**4.41**	**284**	*e*P	**Pn**	**22 57 11.0**	**-0.5**
DAIG				*e*S	**Sn**	**22 57 56.6**	**-6.9**
APG	**El Apazote**	**4.65**	**101**	Pn	**Pn**	**22 57 16.0**	**+1.0**
	0.1nm,0.3s,baz=242,slow=17,SNR=4.4						
APG				Sn	**Sn**	**22 58 10.6**	**+0.8**
	1.1nm,0.3s,baz=66,slow=20,SNR=12						
AMVM	**AMECAMECA**	**4.66**	**313**	*e*P	Pn	22 57 05.8	-9.4
AMVM				*e*S	**Sn**	**22 58 04.6**	**-5.5**
MEIG	**Mezcala**	**4.67**	**295**		**Pn**	**22 57 16.6**	**+1.5**
MEIG					**Sn**	**22 58 09.4**	**-0.6**
MEIG	**Mezcala**	**4.67**	**295**	*e*P	**Pn**	**22 57 16.6**	**+1.5**
MEIG				*e*S	**Sn**	**22 58 09.4**	**-0.6**
YAIG	**Yautepec**	**4.69**	**308**		**Sn**	**22 58 11.8**	**+1.0**
YAIG	**Yautepec**	**4.69**	**308**	*e*P	Pn	22 57 22.8	+7.3
YAIG				*e*S	**Sn**	**22 58 11.8**	**+1.0**
PLIG	**Platanillo**	**4.78**	**301**		**Pn**	**22 57 17.3**	**+0.7**
PLIG	**Platanillo**	**4.78**	**301**	*e*P	**Pn**	**22 57 17.3**	**+0.7**
PLIG				*e*S	**Sn**	**22 58 17.0**	**+4.2**
SCIG	**Sabancuy**	**4.85**	**51**	*e*P	**Pn**	**22 57 18.4**	**+0.9**
SCIG				*e*S	**Sn**	**22 58 09.9**	**-4.4**
THVM	**De Xico**	**4.91**	**313**	*e*P	**Pn**	**22 57 19.3**	**+0.7**
THVM				*e*S	**Sn**	**22 58 11.8**	**-4.4**
TLVM	**San Miguel Top**	**4.97**	**311**	*e*P	**Pn**	**22 57 22.0**	**+2.4**
TLVM				*e*S	**Sn**	**22 58 16.9**	**-1.0**
XCVM	**Xochimilco**	**4.97**	**312**	*e*P	**Pn**	**22 57 21.0**	**+1.5**
XCVM				*e*S	**Sn**	**22 58 09.9**	**-7.9**
CAIG	**El Cayaco**	**4.99**	**283**		**Sn**	**22 58 14.7**	**-3.2**
CAIG	**El Cayaco**	**4.99**	**283**	*e*P	Pn	22 57 15.9	-3.6
CAIG				*e*S	**Sn**	**22 58 14.7**	**-3.2**
COVM	**Coyoacan**	**5.07**	**312**	*e*S	**Sn**	**22 58 20.5**	**+0.4**
PBVM	**Pinon**	**5.08**	**314**	*e*S	**Sn**	**22 58 13.0**	**-6.9**
VTVM	**Tizayuca**	**5.10**	**318**	*e*P	**Pn**	**22 57 25.3**	**+4.1**
VTVM				*e*S	**Sn**	**22 58 27.3**	**+6.3**
AOVM	**Tlapan**	**5.13**	**310**	*e*P	**Pn**	**22 57 20.6**	**-1.3**
AOVM				*e*S	**Sn**	**22 58 19.6**	**-2.4**
MHVM	**Bosque de Chap**	**5.14**	**312**	*e*S	**Sn**	**22 58 23.1**	**+1.1**
CJVM	**Cuajimalpa**	**5.17**	**311**	*e*S	**Sn**	**22 58 21.8**	**-0.7**
INVM	**La Marquesa**	**5.19**	**310**	*e*S	**Sn**	**22 58 20.0**	**-3.4**
PETF	**Flores**	**5.19**	**79**		**Pn**	**22 57 22.9**	**+0.7**
PETF	**Flores**	**5.19**	**79**	*e*P	**Pn**	**22 57 23.3**	**+1.0**
PETF				*e*S	**Sn**	**22 58 18.7**	**-4.1**
PTVM	**Pico Tres Padr**	**5.20**	**315**		**Pn**	**22 57 23.7**	**+1.1**
PTVM	**Pico Tres Padr**	**5.20**	**315**	*e*P	**Pn**	**22 57 23.7**	**+1.1**
PTVM				*e*S	**Sn**	**22 58 20.2**	**-3.2**
AZVM	**Cuida Lopez Ma**	**5.31**	**313**		**Sn**	**22 58 25.1**	**-1.0**
AZVM	**Cuida Lopez Ma**	**5.31**	**313**	*e*S	**Sn**	**22 58 25.1**	**-1.0**
ZUVM	**ZUMPANGO**	**5.34**	**317**		**Sn**	**22 58 28.7**	**+3.9**
ZUVM	**ZUMPANGO**	**5.34**	**317**	*e*P	Pn	22 57 30.9	+6.4
ZUVM				*e*S	**Sn**	**22 58 28.7**	**+1.9**
TOVM	**TOLUCA**	**5.41**	**308**		**Sn**	**22 58 29.1**	**+0.5**
TOVM	**TOLUCA**	**5.41**	**308**	*e*P	**Pn**	**22 57 29.1**	**+3.6**
TOVM				*e*S	**Sn**	**22 58 29.1**	**+0.5**
ARIG	**Puente Sto Nin**	**5.45**	**296**		**Pn**	**22 57 26.1**	**+0.3**
ARIG	**Puente Sto Nin**	**5.45**	**296**	*e*P	**Pn**	**22 57 26.1**	**+0.3**
ARIG				*e*S	**Sn**	**22 58 36.0**	**+6.9**
DHIG	**Demacu**	**5.66**	**320**		**Pn**	**22 57 29.0**	**+0.1**
DHIG					**Sn**	**22 58 32.1**	**-2.5**
DEIG	**Demacu**	**5.66**	**320**	*e*P	**Pn**	**22 57 29.0**	**+0.1**
DEIG				*e*S	**Sn**	**22 58 32.1**	**-2.5**
ATVM	**ATLACOMULCO**	**5.82**	**311**		**Sn**	**22 58 37.7**	**-1.2**
ATVM	**ATLACOMULCO**	**5.82**	**311**	*e*S	**Sn**	**22 58 37.7**	**-1.2**
ACIG	**Acambay**	**5.99**	**312**		**Sn**	**22 58 39.7**	**-3.1**
ACIG	**Acambay**	**5.99**	**312**	*e*P	Pn	22 57 38.2	+4.8
ACIG				*e*S	**Sn**	**22 58 39.7**	**-3.1**
ZIIG	**Zihuatanejo**	**6.23**	**286**	*e*P	**Pn**	**22 57 33.5**	**-3.0**
ZIIG				*e*S	**Sn**	**22 58 51.9**	**+3.4**
CTUV	**Llano Grande**	**6.25**	**332**	*e*P	Pn	22 57 43.5	+6.7
CTUV				*e*S	**Sn**	**22 58 52.2**	**+3.4**
MOIG	**Morelia**	**6.81**	**304**	Pn	**Pn**	**22 57 46.7**	**+2.1**
TEIG	**Tepich**	**7.82**	**56**	Pn	**Pn**	**22 57 57.7**	**-0.6**
TEIG	**Tepich**	**7.82**	**56**	LR	LR	23 01 16.2	
	comp=Z,844nm,18.2s,slow=41						
MMIG	**Aquila**	**8.14**	**288**	*e*P	**Pn**	**22 58 01.7**	**-1.0**
ZAIG	**Zacatecas**	**9.71**	**315**	Pn	**Pn**	**22 58 26.4**	**+1.8**
SRBA	**San Rafael, Bu**	**13.34**	**119**	Pn	**Pn**	**22 59 14.3**	**+0.3**
SOR	**Soroa**	**13.34**	**58**	Pn	**Pn**	**22 59 13.9**	**-0.1**
435B	**Jarrell**	**14.91**	**352**	Pn	**Pn**	**22 59 35.3**	**-0.2**
TXAR	**Lajitas Array**	**15.43**	**331**		**Pn**	**22 59 45.1**	**+2.7**
TXAR	**Lajitas Array**	**15.43**	**331**	Pn	**Pn**	**22 59 46.2**	**+3.9**
	baz=149,slow=13,SNR=10						
	0.8nm,0.8s						
BRDY	**Brady**	**15.64**	**348**	Pn	**Pn**	**22 59 45.7**	**+0.5**
MNHN	**Monahans**	**16.80**	**337**	P	**Pn**	**23 00 01.6**	**+1.6**
MNHN				IAmb	IAmb	23 00 11.4	
	comp=Z,6.9nm,0.6s						
APMT	**Aspermont**	**17.85**	**346**	P	**Pn**	**23 00 14.7**	**+1.5**
X37A	**Clayton**	**18.55**	**360**	P	**P**	**23 00 21.6**	**+0.1**
X37A				IAmb	IAmb	23 00 28.9	
	comp=Z,24nm,1.3s						
MIAR	**Mount Ida**	**18.56**	**4**	P	**P**	**23 00 21.2**	**-0.5**
WMOK	**Wichita Mounta**	**18.97**	**351**	P	**P**	**23 00 27.1**	**+0.9**
FCAR	**Ozark Folk Cen**	**20.03**	**7**	P	**P**	**23 00 36.1**	**-1.7**
FCAR				IAmb	IAmb	23 00 38.5	
	comp=Z,12nm,1.0s						
121A	**Cookes Peak, D**	**20.07**	**328**	P	**P**	**23 00 40.1**	**+1.6**
121A				IAmb	IAmb	23 00 56.5	
	comp=Z,7.0nm,1.0s						
QUOK	**Quay**	**20.17**	**356**		**P**	**23 00 37.9**	**-1.4**
QUOK				IAmb	IAmb	23 00 40.0	
	comp=Z,18nm,1.0s						
U38A	**Gravette**	**20.41**	**2**	P	**P**	**23 00 41.2**	**-0.6**
U38A				IAmb	IAmb	23 00 46.7	
	comp=Z,5.1nm,0.8s						
T35A	**Sooner Cattle**	**20.90**	**357**	P	**P**	**23 00 46.1**	**-1.1**
T35A				IAmb	IAmb	23 00 47.9	
	comp=Z,16nm,0.9s						
WVT	**Waverly**	**21.13**	**17**	P	**P**	**23 00 51.1**	**+1.5**
WVT				IAmb	IAmb	23 01 03.8	
	comp=Z,7.2nm,1.3s						
ANMO	**Albuquerque**	**21.44**	**334**	P	**P**	**23 00 53.0**	**-0.2**
S39A	**Bolivar**	**21.70**	**4**	P	**P**	**23 00 55.6**	**-0.3**
S39A				IAmb	IAmb	23 00 59.8	
	comp=Z,9.8nm,1.2s						
CCM	**Cathedral Cave**	**22.28**	**8**	P	**P**	**23 01 00.8**	**-1.3**
CCM				IAmb	IAmb	23 01 03.8	
	comp=Z,14nm,1.4s						
SDV	**Santo Domingo**	**24.97**	**103**	LR	LR	23 11 33.9	
	comp=Z,62nm,19.5s,baz=290,slow=37						
SCIA	**State Center**	**25.91**	**3**	P	**P**	**23 01 35.4**	**-1.6**
O49A	**Covington**	**25.92**	**19**	P	**P**	**23 01 35.9**	**-1.2**
PFO	**Pinyon Flats O**	**26.02**	**316**	LR	LR	23 11 53.9	
	comp=Z,60nm,19.1s,baz=230,slow=36						
JFWS	**Jewell Farm**	**27.19**	**8**	P	**P**	**23 01 47.4**	**-1.2**
ATAH	**Atahualpa**	**28.34**	**143**	LR	LR	23 11 03.1	
	comp=Z,68nm,18.6s,baz=327,slow=32						
PDAR	**Pinedale Array**	**29.41**	**338**	P	**P**	**23 02 11.1**	**+2.5**
	comp=Z,0.5nm,0.8s,baz=124,slow=9.1,SNR=2.9						
	comp=Z,0.5nm,0.8s						
NVAR	**Mina Array Bea**	**30.23**	**322**	P	**P**	**23 02 16.1**	**+0.1**
NVAR	**Mina Array Bea**	**30.23**	**322**	P	**P**	**23 02 18.1**	**+2.1**
	comp=Z,2.0nm,0.7s,baz=133,slow=8.7,SNR=18						
NVAR				LR	LR	23 16 42.7	
	comp=Z,22nm,19.4s,baz=196,slow=41						
	comp=Z,2.0nm,0.7s						
NNA	**Nana**	**33.18**	**146**	LR	LR	23 14 06.5	
	comp=Z,25nm,19.0s,baz=315,slow=33						
MDP	**Montagnes des**	**43.11**	**100**	LR	LR	23 23 12.4	
	comp=Z,19nm,18.0s,baz=220,slow=38						
YKA	**Yellowknife Ar**	**48.45**	**348**	P	**P**	**23 04 46.8**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=152,slow=7.1,SNR=7.2						
	comp=Z,0.5nm,0.7s						
ILAR	**Eielson Array**	**59.84**	**337**	P	**P**	**23 06 09.8**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=116,slow=4.1,SNR=5.4						
	comp=Z,0.5nm,0.8s						
EKA	**Eskdalemuir Ar**	**78.18**	**36**	P	**P**	**23 08 04.7**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=285,slow=5.7,SNR=4.0						
	comp=Z,1.1nm,0.8s						
ESDC	**Sonseca Array**	**80.91**	**51**	P	**P**	**23 08 19.8**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=297,slow=7.1,SNR=3.1						
	comp=Z,1.1nm,0.9s						
DBIC	**Dimbokro**	**88.51**	**84**	LR	LR	23 49 13.5	
	comp=Z,25nm,18.4s,baz=132,slow=36						

*CATAC **20** 23:05:11.6±0.5, 11°.41N×87°.55W, h10km, ML3.5*
*SNET **20** 23:05:15.5±0.5, 11°.61N×87°.54W, h14km±14km, ML3.0*

ISC 20 23:05:14.5±2.9, 11°.51N±0°.09×87°.47W±0°.06, h18km±12km, n28, σ1°.13/38, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEVN	**Ruinas Leon Vi**	**1.22**	**43**	*i* P	**Pn**	**23 05 34.9**	**-1.8**
LEVN				*i* S	**Sb**	**23 05 52.0**	**-0.5**
LEVN				IAML		23 06 02.5	
	comp=Z,750nm,1.0s						
MACN	**El Madrono**	**1.23**	**39**	*i* P	**Pn**	**23 05 35.8**	**-1.1**
MACN				IAML		23 06 06.9	
	comp=Z,460nm,1.0s						
CNGN	**Cerro Negro**	**1.24**	**37**	*e*S	**Sb**	**23 05 53.7**	**+0.5**
CNGN	**Cerro Negro**	**1.24**	**37**	*i* P	**Pn**	**23 05 34.8**	**-2.3**
CNGN				IAML		23 05 44.0	
	comp=Z,700nm,1.0s						
CNGN				*i* S	**Sg**	**23 05 54.9**	**+0.1**
CRIN	**San Cristobal**	**1.25**	**19**	*e*P	**Pn**	**23 05 36.8**	**-0.5**
CRIN	**San Cristobal**	**1.25**	**19**	*i* P	**Pn**	**23 05 36.5**	**-0.8**
CRIN				*i* S	**Sg**	**23 05 55.0**	**-0.2**
CRIN				IAML		23 06 09.5	
	comp=Z,1μm,1.0s						
HERN	**Volcan Telica**	**1.26**	**30**	*i* P	**Pn**	**23 05 36.4**	**-1.0**
HERN				IAML		23 06 00.9	
	comp=Z,740nm,1.0s						
MOMN	**Momotombo**	**1.27**	**45**	*i* P	**Pn**	**23 05 36.0**	**-1.6**
MOMN				*i* S	**Sg**	**23 05 56.3**	**+0.4**
MOMN				IAML		23 06 03.7	
	comp=Z,26nm,1.0s						
APYN	**Apoyeque**	**1.31**	**56**	*i* P	**Pn**	**23 05 36.7**	**-1.3**
APYN				IAML		23 06 05.1	
	comp=Z,410nm,1.0s						
APQ2	**Apoyeque**	**1.31**	**58**	*i* P	**Pn**	**23 05 36.6**	**-1.4**
APQ2				*i* S	**Sn**	**23 05 55.8**	**+0.7**
APQ2				IAML		23 06 04.8	
	comp=Z,730nm,1.0s						
UNAN	**Cigeo UNAN**	**1.31**	**63**	*i* P	**Pn**	**23 05 36.8**	**-1.3**
UNAN				*i* S	**Sg**	**23 05 58.6**	**+1.4**
UNAN				IAML		23 06 05.8	
	comp=Z,3μm,1.0s						
MOM2	**El Cardon**	**1.33**	**46**	*i* P	**Pn**	**23 05 35.8**	**-2.5**
MOM2				IAML		23 05 46.5	
	comp=Z,390nm,1.0s						
MOM2				*i* S	**Sg**	**23 05 57.8**	**+0.1**
R1628	**Naciones Unida**	**1.35**	**64**	*i* P	**Pn**	**23 05 38.3**	**-0.2**
R1628				IAML		23 06 15.8	
	comp=Z,2μm,1.0s						
R0529	**La Mascota**	**1.35**	**63**	*i* P	**Pn**	**23 05 38.4**	**-0.2**
R0529				IAML		23 06 05.9	
	comp=Z,580nm,1.0s						
R4DEC	**Barrio San Lui**	**1.35**	**62**	*i* P	**Pn**	**23 05 38.3**	**-0.3**
R4DEC				IAML		23 06 08.6	
	comp=Z,500nm,1.0s						
MAS3	**Al N del Volca**	**1.36**	**68**	*i* P	**Pn**	**23 05 37.8**	**-1.0**
MAS3				*i* S	**Sn**	**23 05 58.0**	**+1.5**
MAS3				IAML		23 06 00.3	
	comp=Z,500nm,1.0s						
MASN	**Masaya**	**1.37**	**70**	*i* P	**Pn**	**23 05 37.3**	**-1.6**
MASN				IAML		23 05 50.0	
	comp=Z,150nm,1.0s						
R45A8	**Distro VI**	**1.38**	**62**	*i* P	**Pn**	**23 05 38.4**	**-0.5**
R45A8				IAML		23 06 04.5	
	comp=Z,560nm,1.0s						
WILN	**Americas 2**	**1.41**	**62**	*i* P	**Pn**	**23 05 39.0**	**-0.4**
WILN				*i* S	**Sn**	**23 05 59.2**	**+1.7**
WILN				IAML		23 06 04.6	
	comp=Z,420nm,1.0s						
CNCH	**Conchagua**	**1.79**	**348**	*e*P	**Pn**	**23 05 44.8**	**0.0**
CNCH	**Conchagua**	**1.79**	**348**	*i* P	**Pn**	**23 05 43.5**	**-1.3**
CNCH				IAML		23 06 17.3	
	comp=Z,510nm,1.0s						
LCND	**La Caada**	**1.84**	**347**	*e*P	**Pn**	**23 05 44.8**	**-0.5**
LCND				IAML		23 06 19.4	
	comp=Z,158nm,0.5s						
BOAB	**BOACO BROADBAN**	**1.99**	**62**	*i* P	**Pn**	**23 05 46.2**	**-1.2**
BOAB				IAML		23 06 08.2	
	comp=Z,87nm,1.0s						
HZTE	**Horizontes, Gu**	**2.00**	**113**	*i* P	**Pn**	**23 05 46.6**	**-0.9**
HZTE				IAML		23 06 41.1	
	comp=Z,220nm,1.0s						
RANC	**El Ranchito**	**2.08**	**337**	*i* P	**Pn**	**23 05 48.4**	**-0.3**
RANC				IAML		23 06 21.9	
	comp=Z,180nm,1.0s						
PACA	**Pacayal**	**2.12**	**337**	*e*P	**Pn**	**23 05 48.8**	**-0.5**
PACA				*e*S	**Sn**	**23 06 15.2**	**-0.1**
PACA	**Pacayal**	**2.12**	**337**	*i* P	**Pn**	**23 05 49.5**	**+0.2**
PACA				IAML		23 06 35.7	
	comp=Z,1μm,1.0s						
YUSH	**Yuscaran**	**2.51**	**14**	*i* P	**Pn**	**23 05 54.0**	**-0.6**

*SNET **20** 23:17:24.2±1.3, 12°.15N×86°.96W, h117km±16km

YUSH	**Yuscaran**	**1.74**	**1**	*eP*		**Pn**	**23 17 55.1**	**+0.4**
YUSH	**Yuscaran**	**1.74**	**1**	*i* P		**Pn**	**23 17 54.5**	**-0.2**
YUSH				*i* S		**Sn**	**23 18 17.1**	**-0.6**
TGUH	**Tegucigalpa,Un**	**1.88**	**348**	*i* P		**Pn**	**23 17 56.6**	**+0.2**
TGUH				*i* S		**Sn**	**23 18 21.6**	**+0.8**
TGUH				IAML			23 18 37.5	
	comp=Z,80nm,1.0s							
PACA	**Pacayal**	**1.89**	**312**	*eP*		**Pn**	**23 17 57.2**	**+0.7**
PACA				*eS*		**Sn**	**23 18 22.2**	**+1.2**
HZTE	**Horizontes, Gu**	**1.94**	**140**	*i* P		**Pn**	**23 17 57.4**	**+0.3**
HZTE				*i* S		**Sn**	**23 18 22.8**	**+0.8**
HZTE				IAML			23 18 27.4	
	comp=Z,180nm,1.0s							
TECO	**Alcaldia de Te**	**2.28**	**306**	*eS*		**Sn**	**23 18 29.1**	**-0.5**
TECO	**Alcaldia de Te**	**2.28**	**306**	*i* S		**Sn**	**23 18 28.2**	**-1.4**
ORTG	**Ortega, Santa**	**2.30**	**143**	*i* P		**Pn**	**23 18 01.9**	**+0.2**
ORTG				IAML			23 18 04.9	
	comp=Z,110nm,1.0s							
ORTG				*i* S		**Sn**	**23 18 29.3**	**-0.9**
SJTE	**Alcalda de S**	**2.50**	**304**	*eS*		**Sn**	**23 18 35.3**	**+0.4**
SJTE	**Alcalda de S**	**2.50**	**304**	*i* S		**Sn**	**23 18 33.1**	**-1.8**
PMON	**Piamonte**	**2.81**	**302**	*eS*		**Sn**	**23 18 42.0**	**+0.1**
PMON	**Piamonte**	**2.81**	**302**	*i* S		**Sn**	**23 18 41.7**	**-0.3**
JAYA	**Jayaque - finc**	**2.89**	**300**	*eP*		**Pn**	**23 18 09.3**	**0.0**
JAYA				*eS*		**Sn**	**23 18 43.5**	**-0.5**
JAYA				IAML			23 18 46.3	
	comp=Z,170nm,0.2s							
JAYA	**Jayaque - finc**	**2.89**	**300**	*i* S		**Sn**	**23 18 41.8**	**-2.2**
SNJE	**San Jose**	**3.13**	**302**	*eS*		**Sn**	**23 18 50.1**	**+0.4**

NEIC ***20*** *23:24:56.2±1.5,36.45N±0.01×98.76W±0.02,h5km±1km, Error ellipse: s-maj=3.2km s-min=2.2km az=297.0*
TUL ***20*** *23:24:56.5±1.3,36.45N±0.01×98.77W±0.02,h8km±6km, ML3.4,mb_Lg3.1/93(NEIC),ML3.4/16(NEIC),Error ellipse: s-maj=2.5km s-min=1.8km az=124.0*
ANF ***20*** *23:24:57.1±0.5,36.39N×98.79W,h8km,ML3.9/8,Error ellipse: s-maj=5.8km s-min=4.0km az=0.0*

ISC 20 23:24:56.6±0.8,36.45N±0.03×98.75W±0.02,h11km±6km, n106,σ0§71/105,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.03**	**12**		**Pg**	**23 24 58.5**	**-0.1**
OK038				Sg	**Sg**	**23 24 60.0**	**-0.1**
U32A	**Winter Ranch,**	**0.21**	**251**	Pg	**Pg**	**23 25 00.9**	**-0.2**
U32A				Sg	**Sg**	**23 25 04.1**	**0.0**
U32A				IAML		23 25 04.5	
	comp=E,9µm,0.3s						
U32A	**Winter Ranch,**	**0.21**	**251**	P	**Pg**	**23 25 00.6**	**-0.5**
	baz=68						
U32A				S	**Sg**	**23 25 04.3**	**+0.1**
	baz=68						
OK035	**E0210 Rd and N**	**0.26**	**7**	Pg	**Pg**	**23 25 02.1**	**+0.1**
OK035				Sg	**Sg**	**23 25 06.2**	**+0.7**
OK032	**Salt Plains WL**	**0.56**	**51**	Pg	**Pg**	**23 25 07.5**	**0.0**
OK032				Sg	**Sg**	**23 25 15.4**	**+0.5**
OK032				IAML		23 25 15.6	
	comp=E,3µm,0.3s						
OK032				IAML		23 25 15.7	
	comp=E,2µm,0.2s						
CROK	**Carrier**	**0.62**	**85**	Pg	**Pg**	**23 25 08.6**	**0.0**
CROK				Sg	**Sg**	**23 25 17.4**	**+0.6**
CROK				IAML		23 25 22.2	
	comp=E,2µm,0.3s						
ELIS	**Ellis County**	**0.66**	**235**	Pg	**Pg**	**23 25 09.1**	**-0.3**
ELIS				Sg	**Sg**	**23 25 18.3**	**+0.2**
ELIS				IAML		23 25 18.9	
	comp=E,2µm,0.3s						
ELIS				IAML		23 25 21.6	
	comp=N,2µm,0.3s						
CSTR	**Hydro, Custer**	**0.80**	**176**	Pg	**Pg**	**23 25 11.9**	**-0.2**
CSTR				Sg	**Sg**	**23 25 22.9**	**+0.4**
KAN14	**Manchester OK**	**0.81**	**51**	Pg	**Pg**	**23 25 12.0**	**-0.2**
KAN14				Sg	**Sg**	**23 25 23.1**	**+0.3**
GC02	**Grant County #**	**0.82**	**60**	Pg	**Pg**	**23 25 12.1**	**-0.3**
GC02				Sg	**Sg**	**23 25 23.5**	**+0.4**
KAN10	**Anthony SW Sta**	**0.85**	**38**	Pg	**Pg**	**23 25 12.6**	**-0.4**
KAN10				Sg	**Sg**	**23 25 24.3**	**+0.1**
KAN05	**Bluff City Nor**	**0.96**	**47**	Pg	**Pg**	**23 25 14.6**	**-0.5**
KAN05				Sg	**Sg**	**23 25 27.9**	**+0.2**
KAN17	**Caldwell West**	**0.99**	**53**	Pg	**Pg**	**23 25 15.1**	**-0.5**
KAN17				Sg	**Sg**	**23 25 28.4**	**-0.1**
KAN08	**Anthony NE Sta**	**1.00**	**39**	Pg	**Pg**	**23 25 15.3**	**-0.5**
KAN08				Sg	**Sg**	**23 25 28.8**	**0.0**
KAN12	**Harper NE Stat**	**1.04**	**35**	Pg	**Pg**	**23 25 16.1**	**-0.5**
KAN12				Sg	**Sg**	**23 25 29.5**	**-0.6**
KAN01	**Argonia South**	**1.06**	**48**	Pg	**Pg**	**23 25 16.4**	**-0.6**
KAN01				Sg	**Sg**	**23 25 30.7**	**-0.1**
KAN06	**Argonia West S**	**1.07**	**42**	Pg	**Pg**	**23 25 16.3**	**-0.9**
KAN06				Sg	**Sg**	**23 25 30.9**	**-0.2**
KAN09	**Caldwell North**	**1.14**	**53**	Pg	**Pg**	**23 25 17.7**	**-0.8**
KAN09				Sg	**Sg**	**23 25 33.0**	**-0.3**
KAN13	**South Haven SW**	**1.17**	**61**	Pg	**Pb**	**23 25 18.4**	**-0.3**
KAN13				Sg	**Sg**	**23 25 34.0**	**-0.2**
KS21	**Milan North St**	**1.21**	**46**	Pg	**Pb**	**23 25 19.2**	**-0.3**
OK029	**Liberty Lake**	**1.23**	**121**	Pg	**Pn**	**23 25 19.2**	**-0.6**
ADOK	**Arcadia Dam**	**1.37**	**125**		**Pn**	**23 25 21.6**	**-0.1**
OKCSW	**OKLAHOMA CITY**	**1.49**	**134**		**Pn**	**23 25 23.1**	**-0.2**
FNO	**Franklin**	**1.62**	**137**	Pn	**Pn**	**23 25 26.1**	**+1.0**
WMOK	**Wichita Mounta**	**1.71**	**181**	P	**Pn**	**23 25 26.2**	**-0.2**
	baz=0.3						
SMWD	**Samnorwood**	**1.81**	**223**	Pn	**Pn**	**23 25 28.4**	**+0.7**
T35B	**Sooner Cattle**	**1.86**	**75**	P	**Pn**	**23 25 29.2**	**+0.8**
	baz=256						
T35B				S	**Sb**	**23 25 55.1**	**+1.3**
	baz=256						
DEOK	**Depew**	**1.92**	**108**	Pn	**Pn**	**23 25 29.8**	**+0.6**
R32A	**Long Quarter,**	**1.97**	**1**	IAmb_Lg		23 26 01.3	
	comp=Z,77nm,0.8s						
R32A	**Long Quarter,**	**1.97**	**1**	P	**Pn**	**23 25 30.9**	**+0.9**
	baz=181						
R32A				S	**Sb**	**23 25 58.3**	**+1.2**
	baz=181						
W35A	**Tecumseh**	**2.00**	**130**	Pn	**Pn**	**23 25 30.7**	**+0.4**
TUL3	**Leonard**	**2.45**	**102**	Pn	**Pn**	**23 25 37.1**	**+0.5**
TUL3				IAmb_Lg		23 26 16.5	
	comp=Z,48nm,0.8s						
TUL3	**Leonard**	**2.45**	**102**	P	**Pn**	**23 25 36.9**	**+0.3**
	baz=284						
TUL3				S	**Sb**	**23 26 11.7**	**+0.8**
	baz=284						
CBKS	**Cedar Bluff**	**2.49**	**342**	S	**Sb**	**23 26 12.7**	**+0.7**
	baz=162						
LOOK	**Love County**	**2.77**	**152**	Pn	**Pn**	**23 25 41.4**	**+0.5**
LOOK				IAmb_Lg		23 26 26.6	
	comp=Z,66nm,0.8s						
KSU1	**Kansas State U**	**3.14**	**32**	Pn	**Pn**	**23 25 47.3**	**+1.3**
KSU1	**Kansas State U**	**3.14**	**32**	P	**Pn**	**23 25 47.4**	**+1.3**
	baz=214						
RTBA	**Rita Blanca**	**3.21**	**271**	Pn	**Pn**	**23 25 48.1**	**+0.9**
DKNS	**Dickens**	**3.30**	**213**	Pn	**Pn**	**23 25 49.8**	**+1.5**
APMT	**Aspermont**	**3.31**	**200**	Pn	**Pn**	**23 25 49.3**	**+0.8**
X37A	**Clayton**	**3.32**	**123**	Pn	**Pn**	**23 25 49.0**	**+0.5**
X37A				IAmb_Lg		23 26 49.3	
	comp=Z,66nm,0.8s						
X37A	**Clayton**	**3.32**	**123**	P	**Pn**	**23 25 49.1**	**+0.5**
	baz=305						
Z35A	**Perchaven, San**	**3.34**	**158**	Pn	**Pn**	**23 25 49.5**	**+0.6**
U38A	**Gravette**	**3.52**	**89**	Pn	**Pn**	**23 25 51.9**	**+0.6**
U38A				IAmb_Lg		23 26 51.4	
	comp=Z,43nm,0.9s						
FW06	**Azle**	**3.60**	**164**	Pn	**Pn**	**23 25 53.5**	**+1.1**
PLPT	**Palo Pinto**	**3.65**	**174**	Pn	**Pn**	**23 25 53.3**	**+0.3**
SN07	**Snyder 07**	**3.79**	**208**	Pn	**Pn**	**23 25 55.7**	**+0.7**
SN07				IAmb_Lg		23 26 59.9	
	comp=Z,42nm,0.9s						
HHAR	**Hobbs**	**3.88**	**91**	Pn	**Pn**	**23 25 56.4**	**+0.1**
HHAR				IAmb_Lg		23 27 02.9	
	comp=Z,39nm,0.8s						
ABTX	**Abilene, Hawle**	**3.89**	**191**	Pn	**Pn**	**23 25 56.6**	**+0.3**
SN05	**Snyder 5**	**3.97**	**207**	Pn	**Pn**	**23 25 57.3**	**-0.2**
SN05				IAmb_Lg		23 27 05.0	
	comp=Z,55nm,1.0s						
KSCO	**Kaye Shedlock'**	**4.00**	**311**	IAmb_Lg		23 27 10.7	
	comp=Z,52nm,0.9s						
POST	**Post**	**4.06**	**215**	Pn	**Pn**	**23 25 59.2**	**+0.4**
POST				IAmb_Lg		23 27 08.6	
	comp=Z,36nm,0.7s						
MSTX	**Muleshoe**	**4.12**	**234**	Pn	**Pn**	**23 26 00.2**	**+0.7**
FW16	**Waxahatchie**	**4.24**	**158**	IAmb_Lg		23 27 22.5	
	comp=Z,53nm,0.8s						
N33A	**J Bar K, Exete**	**4.40**	**13**	Pn	**Pn**	**23 26 03.0**	**-0.4**
N33A				IAmb_Lg		23 27 25.2	
	comp=Z,34nm,0.8s						
Z38A	**Mt. Pleasant**	**4.44**	**135**	IAmb_Lg		23 27 18.5	
	comp=Z,45nm,1.0s						
S39A	**Bolivar**	**4.51**	**72**	Pn	**Pn**	**23 26 05.3**	**+0.4**
S39A				IAmb_Lg		23 27 27.5	
	comp=Z,48nm,0.9s						
WHTX	**Lake Whitney,**	**4.57**	**166**	Pn	**Pn**	**23 26 06.2**	**+0.5**
T25A	**Trinidad**	**4.59**	**280**	Pn	**Pn**	**23 26 06.3**	**+0.1**
T25A				IAmb_Lg		23 27 28.8	
	comp=Z,47nm,0.9s						
MIAR	**Mount Ida**	**4.63**	**113**	Pn	**Pn**	**23 26 06.9**	**+0.4**
MIAR				IAmb_Lg		23 27 27.2	
	comp=Z,31nm,1.0s						
SGCY	**Sterling City**	**4.93**	**204**	Pn	**Pn**	**23 26 10.9**	**+0.2**
SGCY				IAmb_Lg		23 27 39.9	
	comp=Z,28nm,0.8s						
BGNE	**Belgrade**	**4.97**	**5**	Pn	**Pn**	**23 26 11.5**	**+0.2**
BGNE				IAmb_Lg		23 27 41.7	
	comp=Z,42nm,0.8s						
N35A	**Tabor**	**5.03**	**28**	Pn	**Pn**	**23 26 12.6**	**+0.5**
237A	**Washetta, Mont**	**5.06**	**150**	IAmb_Lg		23 27 46.7	
	comp=Z,37nm,0.9s						
BRDY	**Brady**	**5.15**	**182**	Pn	**Pn**	**23 26 13.3**	**-0.4**
OGNE	**Ogallala**	**5.17**	**331**	Pn	**Pn**	**23 26 13.9**	**-0.1**
P38A	**Dawn**	**5.20**	**51**	Pn	**Pn**	**23 26 14.8**	**+0.6**
P38A				IAmb_Lg		23 27 51.1	
	comp=Z,27nm,0.8s						
X40A	**Basin Creek Fa**	**5.21**	**110**	Pn	**Pn**	**23 26 14.4**	**0.0**
MGMO	**Mountain Grove**	**5.25**	**80**	Pn	**Pn**	**23 26 15.6**	**+0.6**
MGMO				IAmb_Lg		23 27 50.4	
	comp=Z,30nm,0.8s						
WHAR	**Wooly Hollow**	**5.37**	**101**	Pn	**Pn**	**23 26 18.0**	**+1.3**
WLAR	**White Oak Lake**	**5.38**	**119**	IAmb_Lg		23 27 52.3	
	comp=Z,21nm,0.8s						
FCAR	**Ozark Folk Cen**	**5.39**	**94**	Pn	**Pn**	**23 26 14.5**	**-2.5**
FCAR				IAmb_Lg		23 27 47.5	
	comp=Z,30nm,0.9s						
R40A	**Maddies Statio**	**5.48**	**68**	Pn	**Pn**	**23 26 18.3**	**+0.1**
R40A				IAmb_Lg		23 27 57.2	
	comp=Z,31nm,0.7s						
UALR	**University of**	**5.48**	**106**	IAmb_Lg		23 28 04.3	
	comp=Z,29nm,0.8s						
SDCO	**Great Sand Dun**	**5.55**	**285**	Pn	**Pn**	**23 26 17.9**	**-1.5**
435B	**Jarrell**	**5.73**	**170**	IAmb_Lg		23 28 14.3	
	comp=Z,33nm,0.9s						
L34A	**Svendsen Farm,**	**5.81**	**18**	Pn	**Pn**	**23 26 21.2**	**-1.5**
OZNA	**Ozona**	**5.86**	**200**	Pn	**Pn**	**23 26 22.4**	**-1.0**
OZNA				IAmb_Lg		23 28 10.7	
	comp=Z,23nm,0.8s						
JCT	**Junction City**	**6.02**	**189**	Pn	**Pn**	**23 26 25.9**	**+0.3**
JCT				IAmb_Lg		23 28 16.8	
	comp=Z,23nm,0.7s						
MNHN	**Monahans**	**6.09**	**214**	Pn	**Pn**	**23 26 24.8**	**-1.8**
P40A	**Paris**	**6.12**	**58**	Pn	**Pn**	**23 26 26.4**	**-0.5**
LCAR	**Lake Charles**	**6.15**	**91**	Pn	**Pn**	**23 26 26.9**	**-0.5**
LCAR				IAmb_Lg		23 28 18.8	
	comp=Z,18nm,0.8s						
T42A	**Van Buren**	**6.18**	**82**	IAmb_Lg		23 28 17.0	
	comp=Z,33nm,1.1s						
K30B	**Basset**	**6.25**	**354**	Pn	**Pn**	**23 26 28.8**	**0.0**
ISCO	**Idaho Springs**	**6.36**	**304**	Pn	**Pn**	**23 26 31.2**	**+0.6**
PBMO	**Poplar Bluff**	**6.70**	**85**	IAmb_Lg		23 28 36.1	
	comp=Z,32nm,0.8s						
FVM	**French Village**	**6.82**	**75**	IAmb_Lg		23 28 36.4	
	comp=Z,30nm,0.8s						
SCIA	**State Center**	**6.94**	**37**	IAmb_Lg		23 28 44.9	
	comp=Z,31nm,0.8s						
SAND	**Sanderson**	**7.07**	**205**	Pn	**Pn**	**23 26 39.4**	**-0.6**
SLM	**Saint Louis**	**7.11**	**70**	IAmb_Lg		23 28 43.2	
	comp=Z,29nm,0.9s						
PHWY	**Pilot Hill**	**7.13**	**315**	IAmb_Lg		23 28 47.9	
	comp=Z,19nm,0.7s						
N23A	**Red Feather La**	**7.17**	**310**	IAmb_Lg		23 29 01.6	
	comp=Z,23nm,0.8s						
DRIO	**Del Rio**	**7.18**	**193**	Pn	**Pn**	**23 26 41.0**	**-0.5**
ALPN	**Alpine**	**7.31**	**215**	Pn	**Pn**	**23 26 42.4**	**-1.1**
CGM3	**Cape Girardeau**	**7.34**	**81**	IAmb_Lg		23 28 56.1	
	comp=Z,18nm,0.7s						
ECSD	**EROS Data Cent**	**7.46**	**12**	Pn	**Pn**	**23 26 43.5**	**-1.9**
VHRN	**Van Horn**	**7.67**	**224**	Pn	**Pn**	**23 26 49.0**	**+0.5**
EPT	**El Paso**	**7.94**	**236**	IAmb_Lg		23 29 20.3	
	comp=Z,19nm,1.0s						
SUSD	**Miller**	**7.99**	**359**	IAmb_Lg		23 29 22.0	
	comp=Z,26nm,0.9s						
TX31	**Lajitas Ar. Si**	**8.21**	**212**	Pn	**Pn**	**23 26 55.3**	**-0.5**
TXAR	**Lajitas Arroy**	**8.21**	**212**	Pn	**Pn**	**23 26 55.2**	**-0.6**
121A	**Cookes Peak, D**	**8.42**	**245**	IAmb_Lg		23 29 45.7	
	comp=Z,19nm,1.2s						
K22A	**Casper**	**8.62**	**318**	IAmb_Lg		23 29 33.9	
	comp=Z,18nm,0.8s						
RSSD	**Black Hills**	**8.66**	**334**	IAmb_Lg		23 29 41.4	
	comp=Z,16nm,0.7s						
JFWS	**Jewell Farm**	**9.20**	**43**	IAmb_Lg		23 29 54.2	
	comp=Z,21nm,0.7s						
I40A	**Norwalk**	**9.69**	**37**	IAmb_Lg		23 30 08.7	
	comp=Z,16nm,0.9s						

IDC ***20*** *23:25:17.2±0.9,35.30N×140.71E,h0km,mb3.6/9, mbtmp3.6/10,ML2.7/1,MS3.1/3,Error ellipse: s-maj=24.3km s-min=20.8km az=48.0*
JMA ***20*** *23:25:22.9±0.2,35.4N±0.5×140.5E±0.9,h57km±1km, MV3.4/35,KUJUKURI COAST BOSO PEN*
JMA Felt I J1 at KUJUKURI COAST BOSO PEN .
NIED ***20*** *23:25:22.9,35.44N×140.46E,h57km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-1.37; Mθθ3.01; Mϕϕ-1.64; Mrθ-2.63; Mϕθ0.40; Mϕr4.72; Fault plane solution: M₀5.81000×10¹⁴ NP1: ϕs138.00000°,δ85.00000°,λ-66.00000°. NP2: ϕs239.00000°,δ24.00000°,λ-168.00000°.*

ISC 20 23:25:24.4±0.8,35.39N±0.04×140.45E±0.05,h52km±6km, n37,σ1§08/34,mb3.6/9,13D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.20**	**279**	⇓P	**Pn**	**23 25 32.6**	**-0.4**
JCN				⇓S	**Sn**	**23 25 40.1**	**+1.1**
JSMT	**Sammumatsuo**	**0.26**	**0**	⇓P	**Pn**	**23 25 32.3**	**-1.0**
JSMT				⇓S	**Sn**	**23 25 39.4**	**-0.3**
KTR	**Katsuura**	**0.26**	**204**	P	**Pn**	**23 25 32.5**	**-0.8**
KTR				S	**Sn**	**23 25 39.8**	**+0.1**
JKUC	**kamogawauchiur**	**0.30**	**222**	⇓P	**Pn**	**23 25 33.1**	**-0.6**
JKUC				⇓S	**Sn**	**23 25 40.4**	**0.0**
BSO4	**Boso 4**	**0.41**	**193**	⇓iP	**Pn**	**23 25 34.5**	**-0.1**
BSO4				⇓X		23 25 43.7	
BSO3	**Boso 3**	**0.59**	**175**	⇓iP	**Pn**	**23 25 36.1**	**-0.4**
BSO3				⇓X		23 25 46.1	
BSO1	**Boso 1**	**0.85**	**149**	P	**Pn**	**23 25 38.8**	**-0.8**
BSO1				X		23 25 51.7	
JIM2	**Oshima 2**	**1.07**	**232**	P	**Pn**	**23 25 41.5**	**-1.5**
JIM2				S	**Sn**	**23 25 54.8**	**-2.1**
JOD2	**Odawara 2**	**1.12**	**264**	⇓iP	**Pn**	**23 25 42.5**	**-1.2**
JOD2				⇓S	**Sn**	**23 25 56.7**	**-1.4**
JAG	**Ashikaga**	**1.31**	**322**	⇓iP	**Pn**	**23 25 45.1**	**-1.3**
MJAR	**Matsushiro Arr**	**2.15**	**303**	Pn	**Pn**	**23 25 56.9**	**-0.9**
	1.7nm,0.3s,baz=133,slow=13,SNR=53						
	8.7nm,0.4s						
MAJO	**Matsushiro**	**2.15**	**303**	P	**Pn**	**23 25 57.2**	**-0.6**
JHJ2	**Mitsune**	**2.33**	**193**	P	**Pn**	**23 26 01.4**	**+1.2**
JMM	**Marumori**	**2.49**	**6**	P	**Pn**	**23 26 01.9**	**-0.5**
JGF	**Kuroka**	**2.53**	**276**	P	**Pn**	**23 26 03.6**	**+0.6**
INU	**Inuyama**	**2.80**	**270**	P	**Pn**	**23 26 06.8**	**+0.1**
JTM	**Tenmabayashi**	**5.41**	**5**	P	**Pn**	**23 26 42.0**	**-0.5**
ERM	**Erimo**	**6.95**	**17**	P	**Pn**	**23 27 02.5**	**-1.0**
JEM	**Erimo**	**6.95**	**17**	P	**Pn**	**23 27 02.3**	**-1.2**
KSRS	**Korea Array**	**10.30**	**285**	LR	LR	23 31 44.2	
	comp=Z,27nm,21.4s,baz=110,slow=37						
JOW	**Kunigami**	**13.46**	**234**	LR	LR	23 33 24.1	
	comp=Z,190nm,21.0s,baz=262,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.04**	**117**	T	T	00 00 34.8	
	baz=309,slow=75,SNR=40						
H11N1	**WAKE ISLAND Hy**	**28.05**	**117**	T	T	00 00 35.3	
	baz=309,slow=75,SNR=40						
H11N3	**WAKE ISLAND Hy**	**28.06**	**117**	T	T	00 00 36.1	
	baz=309,slow=75,SNR=36						
SONM	**Songino Array**	**28.10**	**307**	P	**P**	**23 31 12.4**	**+1.2**
	0.2nm,0.5s,baz=115,slow=10,SNR=2.2						
	0.2nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**28.68**	**119**	T	T	00 01 23.1	
	baz=311,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**28.68**	**119**	T	T	00 01 15.7	
	baz=311,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**28.70**	**119**	T	T	00 01 16.2	
	baz=311,slow=76,SNR=15						
ZALV	**Zalesovo Beam**	**42.47**	**314**	P	**P**	**23 33 14.6**	**+0.6**
	0.4nm,0.3s,baz=82,slow=12,SNR=1.7						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**44.35**	**303**	P	**P**	**23 33 30.2**	**+0.8**
	0.3nm,0.6s,baz=87,slow=10,SNR=5.6						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**46.41**	**309**	P	**P**	**23 33 48.0**	**+2.4**
	0.6nm,0.5s,baz=84,slow=7.5,SNR=10						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**51.30**	**32**	P	**P**	**23 34 22.3**	**-0.6**
	0.9nm,0.7s,baz=267,slow=6.1,SNR=11						
	0.9nm,0.7s						
WRA	**Warramunga Arr**	**55.33**	**187**	P	**P**	**23 34 51.3**	**-1.6**
	1.1nm,0.8s,baz=1.3,slow=7.6,SNR=9.4						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**59.06**	**187**	P	**P**	**23 35 20.1**	**+1.0**
	0.5nm,0.7s,baz=15,slow=9.9,SNR=2.3						
	0.5nm,0.7s						
NVAR	**Mina Array Bea**	**76.61**	**52**	P	**P**	**23 37 09.8**	**0.0**
	0.5nm,0.7s,baz=302,slow=6.1,SNR=4.0						
	0.5nm,0.7s						
PDAR	**Pinedale Array**	**79.38**	**45**	P	**P**	**23 37 24.4**	**-0.7**
	0.5nm,0.6s,baz=270,slow=1.8,SNR=5.5						
	0.5nm,0.6s						
SCHQ	**Schefferville**	**87.13**	**15**	LR	LR	00 22 06.8	
	comp=Z,19nm,18.3s,baz=258,slow=39						

IDC ***20*** *23:51:35.4±0.6,2.70S×139.17E,h0km,mb4.3/14, mbtmp4.4/17,ML3.9/2,MS4.1/49,Error ellipse: s-maj=26.6km s-min=10.1km az=85.0*
DJA ***20*** *23:51:38.5±0.2,3.S±4.×13.9E±.,h10km,M5.1/16,mB5.4/5, mb5.0/16,MLv5.2/5,Mw(mB)4.9/5*
GCMT ***20*** *23:51:40.3±0.3,2.54S±0.02×139.34E±0.03,h31km±1km, MW4.9/57,Moment Tensor Solution. s27,c31; s57,c74; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.74±.20; Mθθ-2.23±.12; Mϕϕ0.49±.15; Mrθ-2.00±.18; Mϕθ0.92±.08; Mϕr0.17±.23; Best double couple: M₀2.93800×10¹⁶ NP1:ϕs276.00000°,δ67.00000°,λ78.00000°. NP2: ϕs124.00000°,δ25.00000°,λ116.00000°. Principal axes: T 2.5930, Plg66.0000°, Azm166.0000°; N 0.6910, Plg11.0000°, Azm280.0000°; P -3.2830, Plg21.0000°, Azm15.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***20*** *23:51:41.3±1.4,2.79S±0.09×139.08E±0.02,h35km±2km, mb4.8/71 Error ellipse: s-maj=14.7km s-min=3.0km az=191.0*

ISC 20 23:51:40.0±0.5,2.71S±0.04×139.34E±0.04,h28km±3km, h28km:pP-P,n202,σ1§80/168,mb4.8/51,MS4.0/46,2C-2D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.83**	**82**	P	**Pb**	**23 51 54.8**	**-1.1**
GENI				S	**Sb**	**23 52 06.1**	**-0.6**
JAY	**Jayapura**	**1.37**	**82**	P	**Pn**	**23 52 01.6**	**-1.7**
JAY				S	**Sn**	**23 52 20.3**	**-0.3**
TABU	**Tabubil**	**3.16**	**144**	P	**Pb**	**23 52 35.4**	**-0.1**
MMPI	**Merauke**	**5.81**	**170**	P	**Pn**	**23 53 05.1**	**+0.7**
	669nm,0.6s,26µm10nm						
FAKI	**Fak Fak**	**7.09**	**268**		**Pn**	**23 53 20.7**	**-1.2**
FAKI	**Fak Fak**	**7.09**	**268**	P	**Pn**	**23 53 22.8**	**+0.9**
	37nm,0.8s,0.3nm						
MANU	**Manus Island**	**8.04**	**85**	Pn	**Pn**	23 53 40.7	+5.6
SWI	**Sorong**	**8.29**	**283**	P	**Pn**	**23 53 39.6**	**+1.3**
	54nm,0.6s,1µm						
PMG	**Port Moresby**	**10.23**	**131**	P	**Pn**	23 54 13.5	+8.5
PMG	**Port Moresby**	**10.23**	**131**	P	**Pn**	23 54 13.9	+8.9
PMG	**Port Moresby**	**10.23**	**131**	Pn	**Pn**	**23 54 06.5**	**+1.5**
PMG	**Port Moresby**	**10.23**	**131**	Pn	**Pn**	**23 54 07.0**	**+2.0**
	4.5nm,0.3s,baz=323,slow=14,SNR=3.8						
PMG				LR	LR	23 59 22.4	
	comp=Z,1µm,21.1s,baz=283,slow=45						
COEN	**Coen**	**11.80**	**162**	P	**Pn**	**23 54 27.5**	**+1.0**
	baz=12,SNR=18						
COEN	**Coen**	**11.80**	**162**	P	**Pn**	**23 54 30.0**	**+3.5**
COEN	**Coen**	**11.80**	**162**	Pn	**Pn**	**23 54 26.1**	**-0.4**
KDU	**Kakadu**	**12.02**	**214**	P	**Pn**	**23 54 27.8**	**-1.8**
	baz=12

comp=Z,8.9nm,0.7s,baz=23,slow=9.9,SNR=93
ASAR S **S** **00 00 25.4 +1.7**
comp=Z,17nm,0.8s,baz=14,slow=27,SNR=5.3
ASAR Lg Lg 00 02 57.0
baz=14,slow=32
ASAR LR LR 00 05 18.6
comp=Z,2µm,18.7s,baz=18,slow=38
comp=Z,8.9nm,0.7s
RK1H Rockhampton Ha 23.22 153 P **P** **23 56 48.9 +4.0**
QLP Quilpie 24.20 169 P **P** **23 56 57.3 +3.1**
WRKA Warakurna 24.62 205 P **P** **23 56 56.3 -1.9**
baz=25,SNR=8.4
WRKA Warakurna 24.62 205 P **P** **23 56 58.4 +0.2**
TGY Tagaytay City 24.74 313 LR LR 00 07 30.1
comp=Z,333nm,18.5s,baz=86,slow=39
INKA Innaminka 24.93 177 P **P** **23 57 04.3 +3.5**
OOD Oodnadatta 25.19 188 P **P** **23 57 05.9 +2.7**
EIDS Eidsvold 25.20 154 P **P** **23 57 04.8 +1.3**
baz=25,SNR=7.5
EIDS Eidsvold 25.20 154 P **P** **23 57 06.9 +3.5**
EIDS Eidsvold 25.20 154 P **P** **23 57 05.1 +1.6**
KMMI Kalianget 25.64 259 P **P** **23 57 10.1 +2.6**
MBWA Marble Bar 26.48 225 P **P** **23 57 14.0 -1.0**
PSA00 Pilbara Seismi 26.67 224 P **P** **23 57 13.3 -3.5**
PSA00 IAmb IAmb 23 57 52.3
comp=Z,48nm,1.9s
AULRC Lightning Ridg 27.81 164 P **P** **23 57 29.5 +2.6**
STKA Stephens Creek 29.09 176 P **P** **23 57 38.4 +0.1**
baz=29,SNR=7.2
STKA Stephens Creek 29.09 176 P **P** **23 57 37.4 -0.9**
STKA Stephens Creek 29.09 176 P **P** **23 57 37.2 -1.0**
comp=Z,3.2nm,0.5s,baz=0.7,slow=9.6,SNR=9.6
STKA LR LR 00 10 31.1
comp=Z,2µm,18.8s,baz=356,slow=39
comp=Z,3.2nm,0.5s
CMSA Cobar Meteorol 29.29 169 P **P** **23 57 41.7 +1.6**
baz=30,SNR=11
CMSA Cobar Meteorol 29.29 169 P **P** **23 57 42.6 +2.5**
JCJ Chichijima 29.76 5 LR LR 00 08 12.2
comp=Z,379nm,19.0s,baz=114,slow=34
FORT Forrest 29.89 200 P **P** **23 57 44.1 -1.2**
ARMA Armidale 29.91 158 P **P** **23 57 46.9 +1.2**
BBOO Buckleboo 30.10 186 P **P** **23 57 46.5 -0.7**
BBOO IAmb IAmb 23 58 50.6
comp=Z,30nm,1.1s
HTT Hallett 30.57 181 P **P** **23 57 52.5 +1.2**
baz=31,SNR=4.1
JOW Kunigami 31.25 341 LR LR 00 08 03.6
comp=Z,377nm,20.5s,baz=234,slow=32
LEM Lembang 31.87 261 LR LR 00 14 37.7
comp=Z,92nm,18.5s,baz=126,slow=44
YNG Young 32.54 166 P **P** **23 58 10.2 +1.4**
baz=33,SNR=6.4
YNG Young 32.54 166 P **P** **23 58 11.2 +2.5**
DZM Mont Dzumac 32.61 128 *e*S **S** **00 03 27.6 +3.7**
comp=Z,131nm,28.4s
DZM *e*LR LR 00 06 42.5
comp=Z,387nm,28.6s
DZM Mont Dzumac 32.61 128 LR LR 00 11 13.8
comp=Z,187nm,21.5s,baz=272,slow=36
CAN Canberra 33.66 166 P **P** **23 58 20.5 +1.9**
CAN pP **sP** **23 58 30.6 +0.2**
ARPS Mount Arapiles 33.97 176 P **P** **23 58 22.3 +1.1**
baz=34,SNR=6.0
ARPS Mount Arapiles 33.97 176 P **P** **23 58 23.4 +2.3**
TOO Toolangi 35.15 172 P **P** **23 58 33.8 +2.4**
QIZ Qiongzhong 36.17 308 P **P** **23 58 40.8 +0.4**
QIZ LR LR
comp=N,250nm,15.3s
QIZ LR LR
comp=E,230nm,11.3s
QIZ LR LR
comp=Z,340nm,16.2s
NWAO Narrogin (SRO) 36.51 212 LR LR 00 14 44.2
comp=Z,2µm,18.6s,baz=46,slow=38
JNU Nakatsue 36.53 348 LR LR 00 11 31.7
comp=Z,316nm,20.8s,baz=174,slow=33
MJAR Matsushiro Arr 39.06 359 LR LR 00 13 13.3
comp=Z,323nm,19.6s,baz=144,slow=33
MAJO Matsushiro 39.06 359 P **P** **23 59 03.2 -1.4**
MAJO IAmb IAmb 00 00 14.0
comp=Z,46nm,1.7s
MJB9 Matsu-Tunnel 39.07 359 P **P** **23 59 03.9 -0.8**
MJB9 IAmb IAmb 00 00 14.9
comp=Z,40nm,1.6s
NJ2 Nanjing 39.67 332 *e*P **P** **23 59 11.0 +1.3**
NJ2 pP **sP** **23 59 20.0 -1.7**
NJ2 sP **pP** **23 59 25.3 +7.1**
NJ2 pmax pmax
comp=Z,7.0nm,0.9s
NJ2 pmax pmax
comp=Z,650nm,4.7s
KSRS Korea Array 41.34 346 LR LR 00 14 21.6
comp=Z,184nm,21.7s,baz=160,slow=33
PHRA Phrae 43.89 300 P **P** **23 59 43.7 -0.8**
CRAI Chiangrai 44.51 303 P **P** **23 59 48.2 -1.2**
CM31 Chiang Mai Arr 44.99 300 P **P** **23 59 51.2 -2.0**
CM31 IAmb IAmb 00 00 49.2
comp=Z,14nm,1.4s
CMAR Chiang Mai Arr 44.99 300 P **P** **23 59 51.5 -1.8**
CMAR Chiang Mai Arr 44.99 300 P **P** **23 59 52.2 -1.0**
CMAR PcP **PcP** **00 01 35.0 +0.8**
comp=Z,1.5nm,0.6s,baz=122,slow=6.6,SNR=14
CMAR LR LR 00 18 10.9
comp=Z,1.0nm,0.4s,baz=121,slow=2.6,SNR=4.1
comp=Z,61nm,21.3s,baz=125,slow=36
comp=Z,1.5nm,0.6s
PZH PanZhiHua 46.50 311 P **P** **00 00 06.0 +0.8**
PZH pmax pmax
comp=Z,10.0nm,0.2s
PZH pmax pmax
comp=Z,150nm,6.4s
ASAJ Asahikawa 46.71 3 LR LR 00 19 53.7
comp=Z,88nm,18.1s,baz=42,slow=36
USRK Ussuriysk Ar. 47.16 353 P **P** **00 00 10.8 +0.8**
comp=Z,0.9nm,0.5s,baz=169,slow=8.5,SNR=3.0
USRK LR LR 00 16 51.5
comp=Z,299nm,21.9s,baz=158,slow=32
comp=Z,0.9nm,0.5s
CD2 Chengdu 47.61 317 *e*P **P** **00 00 14.0 +0.3**
MDJ Mudanjiang 47.92 351 P **P** **00 00 16.8 +1.0**
MDJ pmax pmax
comp=Z,9.0nm,2.3s
MDJ pmax pmax
comp=Z,160nm,3.9s
BNX BinXian 49.39 349 ||P **P** **00 00 29.3 +2.2**
BNX pmax pmax
comp=Z,8.0nm,1.4s
BNX pmax pmax
comp=Z,250nm,5.4s
URZ Urewera 49.41 141 LR LR 00 22 11.5
comp=Z,209nm,19.1s,baz=41,slow=37
TUWZ Tuamarina 49.52 146 P **P** **00 00 28.7 +0.6**
RPZ Rata Peaks 49.57 150 P **P** **00 00 29.4 +0.8**
MRZ Mangatainoka R 49.95 144 P **P** **00 00 31.6 +0.1**
HHC Hu-ho-hao-te 50.22 333 *e*P **P** **00 00 37.4 +3.7**
HHC sP sP 00 00 51.3 +5.4
HHC PcP **PcP** **00 01 55.5 +2.9**
HHC *e*S **S** **00 07 43.8 -0.5**
HHC sS sS 00 08 13.8 +15
HHC pmax pmax
comp=Z,6.0nm,0.6s
HHC pmax pmax
comp=Z,95nm,6.0s
HHC LR LR
comp=N,210nm,17.1s
HHC LR LR
comp=E,170nm,12.2s
HHC LR LR
comp=Z,300nm,20.4s
LZH Lanzhou 50.86 323 *e*P **P** **00 00 41.8 +3.1**
LZH pP pP 00 00 46.6 -0.8
LZH pmax pmax
comp=Z,15nm,1.2s
KLR Kul'dur 52.15 354 LR LR 00 19 26.1
comp=Z,155nm,21.0s,baz=194,slow=32
GTA Gaotai 55.45 323 *e*P **P** **00 01 13.1 +0.8**
GTA pmax pmax
comp=Z,6.0nm,0.7s
PETK Petropavlovsk- 57.72 13 P **P** **00 01 28.1 +0.1**
PETK Petropavlovsk- 57.72 13 P **P** **00 01 28.8 +0.8**
PETK LR LR 00 22 56.2
comp=Z,1.5nm,0.6s,baz=166,slow=8.2,SNR=1.1
comp=Z,130nm,21.8s,baz=203,slow=33
comp=Z,1.5nm,0.6s
SONM Songino Array 57.99 334 P **P** **00 01 29.8 -0.4**
SONM lAmb lAmb 00 01 32.1
comp=Z,16nm,1.9s
SONM Songino Array 57.99 334 P **P** **00 01 30.1 -0.2**
comp=Z,0.5nm,0.5s,baz=154,slow=7.1,SNR=6.1
SONM LR LR 00 27 00.2
comp=Z,286nm,18.9s,baz=178,slow=37
comp=Z,0.5nm,0.5s
PALK Pallekele 59.35 280 LR LR 00 28 44.2
comp=Z,32nm,18.2s,baz=205,slow=38
RAR Rarotonga 61.94 113 LR LR 00 27 55.8
comp=Z,44nm,19.2s,baz=314,slow=35
SHEM Shemya Is, Ala 62.49 23 LR LR 00 25 47.1
comp=Z,190nm,20.9s,baz=150,slow=33
MA2 Magadan 62.75 7 LR LR 00 26 39.8
comp=Z,50nm,21.9s,baz=197,slow=34
DRV Dumont d'Urvil 63.84 180 P **P** **00 02 09.6 +0.2**
DRV pP **sP** **00 02 19.7 -2.0**
YAK Yakutsk 64.99 355 LR LR 00 29 11.4
comp=Z,117nm,19.0s,baz=152,slow=35
SEY Seymchan 66.21 6 LR LR 00 28 27.3
comp=Z,79nm,21.5s,baz=333,slow=33
CASY Casey 66.61 192 P **P** **00 02 27.6 +0.2**
MK31 Makanchi Array 70.18 322 P **P** **00 02 49.6 -0.6**
MKAR Makanchi Array 70.18 322 P **P** **00 02 49.6 -0.6**
MKAR Makanchi Array 70.18 322 P **P** **00 02 49.5 -0.8**
comp=Z,2.6nm,0.7s,baz=105,slow=7.7,SNR=31
MKAR LR LR 00 36 05.5
comp=Z,58nm,18.1s,baz=68,slow=38
comp=Z,2.6nm,0.7s
MAKZ Makanchi 70.37 322 P **P** **00 02 50.2 -1.2**
MAKZ lAmb lAmb 00 02 51.9
comp=Z,6.4nm,0.8s
MAKZ Makanchi 70.37 322 P **P** **00 02 50.7 -0.8**
MAKZ pP **pP** **00 03 01.0 +0.5**
PRZ Przheval'sk 70.90 317 P **P** **00 02 54.7 -0.2**
PRZ lAmb lAmb 00 03 02.7
comp=Z,14nm,1.4s
PPT Papeete 71.15 108 LR LR 00 31 02.2
comp=Z,58nm,21.7s,baz=268,slow=33
TBI Tubuai 71.67 114 *e*LR LR 00 24 51.4
comp=Z,766nm,33.2s
NIL Nilore 71.83 307 P **P** **00 02 58.3 -2.3**
NIL lAmb lAmb 00 03 00.7
comp=Z,10nm,0.8s
NIL Nilore 71.83 307 P **P** **00 03 00.3 -0.3**
NRN Naryn 72.18 315 P **P** **00 03 01.6 -1.3**
ZALV Zalesovo Beam 72.25 330 P **P** **00 03 02.3 -0.3**
ZALV Zalesovo Beam 72.25 330 P **P** **00 03 01.0 -1.6**
comp=Z,1.9nm,0.7s,baz=131,slow=4.1,SNR=9.2
ZALV LR LR 00 34 26.4
comp=Z,98nm,21.5s,baz=100,slow=36
comp=Z,1.9nm,0.7s
AAK Ala-Archa 73.65 316 LR LR 00 38 11.2
comp=Z,57nm,18.5s,baz=106,slow=38
KURK Kurchatov 74.08 325 P **P** **00 03 11.1 -2.4**
KURBB Kurchatov Arra 74.09 325 P **P** **00 03 12.0 -1.5**
comp=Z,1.9nm,0.8s,baz=115,slow=5.6,SNR=19
comp=Z,1.9nm,0.8s
ARSB Arslanbob 74.29 314 P **P** **00 03 13.6 -1.5**
TIXI Tiksi 74.54 357 LR LR 00 33 43.3
comp=Z,79nm,21.4s,baz=199,slow=34
DRK Karamyk 74.60 312 P **P** **00 03 15.9 -1.2**
KBL Kabul 75.44 307 P **P** **00 03 19.6 -2.3**
BTK Batken 75.49 312 P **P** **00 03 21.1 -0.8**
BTK lAmb lAmb 00 03 31.9
comp=Z,26nm,1.9s
VNDA Vanda 75.72 175 P **P** **00 03 22.6 +0.1**
VNDA Vanda 75.72 175 P **P** **00 03 22.9 +0.4**
comp=Z,18nm,0.8s,baz=324,slow=6.6,SNR=98
VNDA LR LR 00 36 59.1
comp=Z,382nm,18.2s,baz=332,slow=36
comp=Z,18nm,0.8s
SIMJ Simiganj 76.47 311 P **P** **00 03 26.0 -1.7**
SIMJ lAmb lAmb 00 03 36.4
comp=Z,6.2nm,0.8s
KK31 Karatay Array 76.57 315 P **P** **00 03 27.4 -0.6**
KKAR Karatay Array 76.57 315 P **P** **00 03 26.6 -1.4**
BVAR Borovoye Array 79.67 325 P **P** **00 03 44.2 -0.8**
comp=Z,3.5nm,0.7s,baz=114,slow=6.6,SNR=26
comp=Z,3.5nm,0.7s
BRVK Borovoye 79.75 325 P **P** **00 03 44.0 -1.4**
KDAK Kodiak Island 80.78 30 LR LR 00 36 34.3
comp=Z,200nm,18.9s,baz=247,slow=33
TTA Tatalina 81.14 25 P **P** **00 03 53.7 +1.0**
TTA lAmb lAmb 00 06 05.4
comp=Z,24nm,1.8s
H19K Roundabout Mou 82.05 22 lAmb lAmb 00 07 03.4
comp=Z,26nm,1.9s
G19K Purcell Mounta 82.07 22 lAmb lAmb 00 04 01.9
comp=Z,20nm,1.9s
MAW Mawson 82.36 202 P **P** **00 03 58.8 -0.1**
comp=Z,11nm,1.0s,baz=55,slow=8.5,SNR=6.4
MAW LR LR 00 38 28.2
comp=Z,321nm,19.0s,baz=84,slow=34
comp=Z,11nm,1.0s
J20K Nowinta River 82.41 24 P **P** **00 04 00.4 +1.1**
J20K lAmb lAmb 00 04 04.1
comp=Z,26nm,1.7s
WSAR Wadi Sarin 82.54 294 LR LR 00 46 54.4
comp=Z,28nm,18.0s,baz=126,slow=40
C19K Lookout Ridge 82.56 18 lAmb lAmb 00 04 14.9
comp=Z,7.5nm,1.1s
E19K Redstone River 82.59 20 lAmb lAmb 00 04 04.1
comp=Z,5.0nm,0.8s
D19K Kuna River 82.75 19 lAmb lAmb 00 04 04.7
comp=Z,5.1nm,0.8s
CAST Castle Rocks 82.98 25 P **P** **00 04 01.7 -0.6**
CAST lAmb lAmb 00 04 30.8
comp=Z,22nm,1.7s
MLY Manley 84.08 24 P **P** **00 04 09.1 +1.1**
MLY lAmb lAmb 00 04 12.3
comp=Z,9.3nm,1.3s
RND Reindeer 84.35 25 P **P** **00 04 10.4 +1.0**
B21K Ikpikpuk River 84.37 19 P **P** **00 04 10.6 +1.4**
GEYT Alibeck 84.74 308 P **P** **00 04 11.1 -0.8**
GEYT lAmb lAmb 00 04 21.6
comp=Z,6.0nm,0.9s
GEYT Alibeck 84.74 308 P **P** **00 04 11.6 -0.3**
comp=Z,2.7nm,0.8s,baz=103,slow=6.5,SNR=7.1
GEYT LR LR 00 44 34.9
comp=Z,60nm,20.8s,baz=96,slow=38
comp=Z,2.7nm,0.8s
GYA0B ALIBECK ARRAY 84.74 308 P **P** **00 04 10.9 -0.9**
GYA0B lAmb lAmb 00 04 21.1
comp=Z,4.6nm,0.8s
G23K Bananza Creek 84.92 22 lAmb lAmb 00 04 16.6
comp=Z,9.9nm,1.4s
WRH Wood River Hil 84.99 25 P **P** **00 04 13.0 +0.5**
WRH lAmb lAmb 00 04 14.9
comp=Z,10.0nm,1.2s
ABKAR Akbulak array 85.13 320 P **P** **00 04 12.4 -1.1**
CCB Clear Creek Bu 85.16 24 P **P** **00 04 13.7 +0.4**
IL31 85.57 24 P **P** **00 04 14.6 -0.7**
ILAR Eielson Array 85.57 24 P **P** **00 04 14.2 -1.2**
comp=Z,2.2nm,0.7s,baz=265,slow=4.5,SNR=16
ILAR LR LR 00 39 18.2
comp=Z,61nm,19.5s,baz=228,slow=33
comp=Z,2.2nm,0.7s
TOLK Toolik Lake Re 85.70 20 P **P** **00 04 17.6 +1.5**
TOLK lAmb lAmb 00 04 20.1
comp=Z,10.0nm,1.2s
C23K Itkillik River 85.75 19 lAmb lAmb 00 04 20.0
comp=Z,9.2nm,1.0s
F24K Squaw Lake 85.96 22 lAmb lAmb 00 04 48.0
comp=Z,17nm,1.6s
D24K Happy Valley 86.12 20 lAmb lAmb 00 04 22.9
comp=Z,13nm,1.2s
E25K Arctic Village 86.97 21 P **P** **00 04 22.7 +0.4**
BMAR Burnt Mountain 87.17 22 P **P** **00 04 24.2 +0.9**
QSPA South Pole Qui 87.24 180 P **P** **00 04 23.7 0.0**
comp=Z,31nm,0.8s,baz=330,slow=1.4,SNR=147
QSPA LR LR 00 42 58.3
comp=Z,357nm,19.7s,baz=11,slow=35
G27K Doyon Strip 88.15 23 P **P** **00 04 29.0 +1.0**
INK Inuvik 91.43 22 LR LR 00 45 12.4
comp=Z,61nm,19.4s,baz=176,slow=35
KIRV Kirov 92.25 328 LR LR 00 48 09.2
comp=Z,108nm,19.6s,baz=82,slow=37
BELG Belogornoye 93.18 322 LR LR 00 48 52.7
comp=Z,48nm,21.7s,baz=138,slow=37
BBB Bella Bella 93.69 38 LR LR 00 39 08.4
comp=Z,89nm,20.9s,baz=264,slow=30
RAYN Ar Rayn 94.59 293 P **P** **00 04 56.0 -2.8**
RAYN lAmb lAmb 00 04 57.5
comp=Z,2.4nm,1.0s
GNI Garni 95.25 310 LR LR 00 53 49.7
comp=Z,16nm,18.9s,baz=73,slow=39
ELIB Princess Elisa 95.27 196 *d*P **P** **00 05 01.7 +0.6**
comp=Z,4.7nm,1.0s
KVAR Kislovodsk Arr 96.66 314 LR LR 00 53 56.3
comp=Z,162nm,20.6s,baz=268,slow=39
SPITS Spitsbergen Ar 99.09 350 LR LR 00 49 25.2
comp=Z,97nm,21.2s,baz=14,slow=35
YKA Yellowknife Ar 99.78 27 LR LR 00 46 17.6
comp=Z,128nm,19.9s,baz=268,slow=33
TROLL Troll, Antarti 100.47 192 ⇑Pdiff **Pdif** **00 05 23.9 -0.5**
comp=Z,208nm,0.9s
ARCES ARCESS Array B 100.72 341 P **Pdif** **00 05 23.4 -2.0**
comp=Z,5.0nm,1.1s,baz=68,slow=9.8,SNR=4.2
SNAA Sanae 101.84 191 ⇑Pdiff **Pdif** **00 05 30.2 -0.2**
comp=Z,99nm,1.1s
TORD Torodi Ar. Bea 136.86 286 PKP **PKPdf** **00 10 59.8 -1.3**
comp=Z,1.6nm,0.7s,baz=55,slow=3.9,SNR=12
DBIC Dimbokro 144.11 278 PKP **PKPab** **00 11 11.1 -0.8**
comp=Z,7.9nm,0.8s,baz=92,slow=3.5,SNR=7.0
CPUP Villa Florida 146.93 152 PKPbc **PKPbc** **00 11 20.8 +0.1**
comp=Z,1.7nm,0.7s,baz=201,slow=6.2,SNR=3.8

CATAC ***21*** *00:00:34.4±0.5, 13.°04N×89.°18W, h23km±3km, ML4.4*
SNET ***21*** *00:00:35.7±1.1, 13.°10N×89.°16W, h42km, ML4.3*
IDC ***21*** *00:00:37.0±1.5, 13.°62N×88.°52W, h67km±26km, mb3.1/4, mbtmp3.4/5, MS3.4/2, Error ellipse: s-maj=93.9km s-min=10.3km az=41.0*
NEIC ***21*** *00:00:37.0±2.8, 13.°18N±0.°08×89.°1W±0.°1, h52km±6km, mb4.0/9, Error ellipse: s-maj=18.7km s-min=7.6km az=56.0*
GCG ***21*** *00:00:37.7±0.5, 13.°19N×89.°19W, h35km±84km, MD4.0*
ISC 21 00:00:34.4±1.0, **13.°06N**±0.°05×**89.°16W**±0.°03, **h49**km±8km, **n111**, σ**1**§**31**/154, **mb3.8**/7, **1D**, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.46**	**339**	*e*P		**Pn**		**00 00 45.7**	**+0.5**
LALI				*e*S		**Sn**		**00 00 54.1**	**+1.3**
LALI	**Alcalda de L**	**0.46**	**339**	*i* P		**Pn**		**00 00 45.6**	**+0.4**
LALI				*i* S		**Sn**		**00 00 53.0**	**+0.1**
LALI					IAML			00 00 53.5	
comp=Z,5µm,1.0s									
PANCS	**Alcalda de**	**0.55**	**358**	*e*P		**Pn**		**00 00 46.7**	**+0.3**
PANCS	**Alcalda de**	**0.55**	**358**	*i* P		**Pn**		**00 00 46.5**	**+0.1**
PANCS				*i* S		**Sn**		**00 00 55.3**	**+0.4**
PANCS					IAML			00 00 57.8	
comp=Z,16µm,1.0s									
SJTE	**Alcalda de S**	**0.57**	**15**	*i* P		**Pn**		**00 00 46.9**	**+0.2**
SJTE	**Alcalda de S**	**0.57**	**15**	*i* P		**Pn**		**00 00 46.9**	**+0.2**
SJTE				*i* S		**Sn**		**00 00 56.1**	**+0.7**
SJTE					IAML			00 00 58.1	
comp=Z,8µm,1.0s									
LOMA	**Loma Larga**	**0.58**	**359**	*e*P		**Pn**		**00 00 47.3**	**+0.4**
LOMA				*e*S		**Sn**		**00 00 57.5**	**+1.7**
LOMA	**Loma Larga**	**0.58**	**359**	*i* P		**Pn**		**00 00 47.3**	**+0.4**
LOMA				*i* S		**Sn**		**00 00 56.7**	**+0.9**
LOMA					IAML			00 00 59.3	
comp=Z,11µm,1.0s									
TECO	**Alcaldia de Te**	**0.60**	**37**	*e*P		**Pn**		**00 00 47.4**	**+0.4**
TECO	**Alcaldia de Te**	**0.60**	**37**	*i* P		**Pn**		**00 00 47.2**	**+0.2**
TECO				*i* S		**Sn**		**00 00 56.8**	**+0.8**
TECO					IAML			00 00 57.7	
comp=Z,6µm,1.0s									
COEG	**Centro de Oper**	**0.62**	**26**	*e*P		**Pn**		**00 00 47.7**	**+0.5**
COEG				*e*S		**Sn**		**00 00 57.7**	**+1.2**
COEG	**Centro de Oper**	**0.62**	**26**	*i* P		**Pn**		**00 00 47.6**	**+0.3**
COEG				*i* S		**Sn**		**00 00 57.4**	**+0.9**
COEG					IAML			00 00 58.6	
comp=Z,8µm,1.0s									
ITCA	**Escuela Especi**	**0.62**	**349**	*e*P		**Pn**		**00 00 47.8**	**+0.4**
ITCA	**Escuela Especi**	**0.62**	**349**	*i* P		**Pn**		**00 00 47.7**	**+0.4**
ITCA				*i* S		**Sn**		**00 00 57.3**	**+0.7**
ITCA					IAML			00 00 58.8	
comp=Z,52µm,1.0s									
SNET	**Serv Nac Est T**	**0.63**	**353**			**Pn**		**00 00 47.8**	**+0.5**
SNET					Sn	**Sn**		**00 00 58.1**	**+1.4**
SNET	**Serv Nac Est T**	**0.63**	**353**	*e*P		**Pn**		**00 00 47.8**	**+0.5**
SNET				*e*S		**Sn**		**00 00 57.6**	**+1.0**
SNET	**Serv Nac Est T**	**0.63**	**353**	*i* P		**Pn**		**00 00 47.7**	**+0.5**
SNET				*i* S		**Sn**		**00 00 57.7**	**+1.0**
SNET					IAML			00 01 00.6	
comp=Z,20µm,1.0s									
SNVI	**San Vicente**	**0.63**	**29**	*e*P		**Pn**		**00 00 47.9**	**+0.5**
MAGS	**Ministerio de**	**0.64**	**348**	*e*P		**Pn**		**00 00 47.9**	**+0.4**
AEIL	**Aeropuerto Ilo**	**0.64**	**3**	*i* P		**Pn**		**00 00 48.1**	**+0.6**
UTEC	**Universidad Te**	**0.64**	**356**	*i* P		**Pn**		**00 00 48.0**	**+0.5**
UTEC				*i* S		**Sn**		**00 00 58.1**	**+1.2**
UTEC					IAML			00 01 04.1	
comp=Z,7µm,1.0s									
SEMO	**Seminario San**	**0.65**	**354**	*i* P		**Pn**		**00 00 48.0**	**+0.4**
SEMO				*i* S		**Sn**		**00 00 58.1**	**+1.1**
SEMO					IAML			00 01 03.1	
comp=Z,31µm,1.0s									
IGN	**Direccin Gen**	**0.65**	**359**	*e*P		**Pn**		**00 00 48.3**	**+0.7**
IGN	**Direccin Gen**	**0.65**	**359**	*i* P		**Pn**		**00 00 48.2**	**+0.5**
IGN				*i* S		**Sn**		**00 00 58.2**	**+1.0**
IGN					IAML			00 01 00.5	
comp=Z,43µm,1.0s									
JAYA	**Jayaque - finc**	**0.66**	**334**	*i* P		**Pn**		**00 00 48.0**	**+0.2**
JAYA				*i* S		**Sn**		**00 00 58.2**	**+0.7**
JAYA					IAML			00 00 59.3	
comp=Z,560µm,1.0s									
UEES	**Universidad Ev**	**0.66**	**353**	*i* P		**Pn**		**00 00 48.4**	**+0.5**
UEES	**Universidad Ev**	**0.66**	**353**	*i* P		**Pn**		**00 00 48.3**	**+0.5**
UEES				*i* S		**Sn**		**00 00 58.7**	**+1.3**
UEES					IAML			00 01 02.1	
comp=Z,12µm,1.0s									
PMON	**Piamonte**	**0.67**	**347**	*i* P		**Pn**		**00 00 48.4**	**+0.5**
PMON				*i* S		**Sn**		**00 00 58.9**	**+1.3**
PMON					IAML			00 01 01.9	
comp=Z,34µm,1.0s									
UESV	**Universidad de**	**0.68**	**32**	*e*P		**Pn**		**00 00 48.4**	**+0.5**
UESV				*e*S		**Sn**		**00 00 58.8**	**+1.1**
UESV	**Universidad de**	**0.68**	**32**	*i* P		**Pn**		**00 00 48.4**	**+0.5**
UESV				*i* S		**Sn**		**00 00 58.8**	**+1.1**
UESV					IAML			00 01 00.3	
comp=Z,6µm,1.0s									
BOQS	**Boqueron**	**0.68**	**350**	*i* P		**Pn**		**00 00 48.8**	**+0.6**
PAVA	**Las Pavas**	**0.69**	**18**	*e*P		**Pn**		**00 00 48.7**	**+0.6**
PAVA	**Las Pavas**	**0.69**	**18**	*i* P		**Pn**		**00 00 48.7**	**+0.6**
PAVA				*i* S		**Sn**		**00 00 59.2**	**+1.2**
PAVA					IAML			00 01 01.6	
comp=Z,17µm,1.0s									
PIC2	**El Picacho**	**0.69**	**352**	*e*P		**Pn**		**00 00 49.1**	**+0.8**
SCLA	**Alcaldia de Sa**	**0.76**	**33**	*e*P		**Pn**		**00 00 50.0**	**+0.8**
SCLA	**Alcaldia de Sa**	**0.76**	**33**	*i* P		**Pn**		**00 00 49.9**	**+0.8**
SCLA					IAML			00 00 50.8	
comp=Z,4µm,1.0s									
SCLA				*i* S		**Sn**		**00 01 01.1**	**+1.4**
TECA	**Tecapa**	**0.77**	**56**	*e*P		**Pn**		**00 00 50.1**	**+0.9**
CEDA	**San Andres**	**0.78**	**343**	*e*P		**Pn**		**00 00 49.8**	**+0.5**
CEDA	**San Andres**	**0.78**	**343**	*i* P		**Pn**		**00 00 49.7**	**+0.5**
CEDA				*i* S		**Sn**		**00 01 01.3**	**+1.3**
CEDA					IAML			00 01 14.8	
comp=Z,21µm,1.0s									
QUEZ	**Alcaldia de Qu**	**0.78**	**352**	*e*P		**Pn**		**00 00 50.1**	**+0.8**
QUEZ	**Alcaldia de Qu**	**0.78**	**352**	*i* P		**Pn**		**00 00 50.0**	**+0.7**
QUEZ				*i* S		**Sn**		**00 01 02.2**	**+2.1**
QUEZ					IAML			00 01 08.9	
comp=Z,24µm,1.0s									
CEVE	**Cerro Verde**	**0.89**	**329**	*e*P		**Pn**		**00 00 51.5**	**+0.6**
CEVE	**Cerro Verde**	**0.89**	**329**	*i* P		**Pn**		**00 00 51.4**	**+0.4**
CEVE				*i* S		**Sn**		**00 01 03.9**	**+0.9**
CEVE					IAML			00 01 07.1	
comp=Z,16µm,1.0s									
SBLS	**San Blas**	**0.90**	**330**	*e*P		**Pn**		**00 00 51.5**	**+0.5**
JUCU	**Jucuarın**	**0.91**	**77**	*e*P		**Pn**		**00 00 51.5**	**+0.5**
JUCU	**Jucuarın**	**0.91**	**77**	*i* P		**Pn**		**00 00 51.5**	**+0.5**
JUCU				*i* S		**Sn**		**00 01 04.0**	**+0.9**
JUCU					IAML			00 01 08.7	
comp=Z,6µm,1.0s									
PACA	**Pacayal**	**0.91**	**63**	*e*P		**Pn**		**00 00 52.6**	**+1.5**
PACA	**Pacayal**	**0.91**	**63**	*i* P		**Pn**		**00 00 52.2**	**+1.1**
PACA				*i* S		**Sn**		**00 01 05.1**	**+1.9**
PACA					IAML			00 01 06.0	
comp=Z,130µm,1.0s									
LCY	**Lacayo**	**0.91**	**66**	*e*P		**Pn**		**00 00 52.4**	**+1.3**
SNJE	**San Jose**	**0.92**	**332**	*e*P		**Pn**		**00 00 51.7**	**+0.5**
SNJE				*e*P				00 00 51.8	
RANC	**El Ranchito**	**0.92**	**66**	*e*P		**Pn**		**00 00 52.5**	**+1.3**
RANC	**El Ranchito**	**0.92**	**66**	*i* P		**Pn**		**00 00 52.6**	**+1.3**
RANC				*i* S		**Sn**		**00 01 05.7**	**+2.1**

RANC					IAML			00 01 12.4	
	comp=Z,9μm,1.0s								
RTR	**El Retiro**	**0.96**	**330**	*e*P		**Pn**		**00 00 52.7**	**+0.8**
BLLM	**Bellamira**	**0.97**	**67**	*i* P		**Pn**		**00 00 52.8**	**+1.0**
UNIC	**Universidad Ca**	**0.99**	**337**	*i* P		**Pn**		**00 00 53.1**	**+0.9**
UNIC	**Universidad Ca**	**0.99**	**337**	*i* P		**Pn**		**00 00 53.0**	**+0.9**
UNIC					IAML			00 00 53.3	
	comp=Z,3μm,1.0s								
UNIC				*i* S		**Sn**		**00 01 06.5**	**+1.3**
NUBE	**Las Nubes**	**1.04**	**324**	*e*P		**Pn**		**00 00 53.2**	**+0.3**
NUBE				*e*S		**Sn**		**00 01 06.7**	**+0.3**
NUBE	**Las Nubes**	**1.04**	**324**	*i* P		**Pn**		**00 00 53.1**	**+0.3**
NUBE				*i* S		**Sn**		**00 01 06.6**	**+0.3**
NUBE					IAML			00 01 09.5	
	comp=Z,6μm,1.0s								
CNRM	**Centro Naciona**	**1.04**	**67**	*e*P		**Pn**		**00 00 53.9**	**+1.1**
CNRM				*e*S		**Sn**		**00 01 09.2**	**+2.9**
CNRM	**Centro Naciona**	**1.04**	**67**	*i* P		**Pn**		**00 00 53.9**	**+1.1**
CNRM				*i* S		**Sn**		**00 01 09.1**	**+2.8**
CNRM					IAML			00 01 23.1	
	comp=Z,27μm,1.0s								
LOAL	**Lomas de Alarc**	**1.11**	**327**	*e*P		**Pn**		**00 00 55.2**	**+1.4**
LOAL	**Lomas de Alarc**	**1.11**	**327**	*i* P		**Pn**		**00 00 54.6**	**+0.8**
LOAL				*i* S		**Sn**		**00 01 09.7**	**+1.6**
LOAL					IAML			00 01 14.4	
	comp=Z,7μm,1.0s								
LLGN	**La Laguna**	**1.12**	**11**	*e*P		**Pn**		**00 00 54.6**	**+0.7**
LLGN	**La Laguna**	**1.12**	**11**	*i* P		**Pn**		**00 00 54.6**	**+0.7**
LLGN					IAML			00 00 54.9	
	comp=Z,2μm,1.0s								
LLGN				*i* S		**Sn**		**00 01 10.6**	**+2.4**
SLOZ	**Alcaldia de Sa**	**1.14**	**328**	*e*P		**Pn**		**00 00 55.1**	**+0.9**
LCND	**La Caada**	**1.26**	**78**	*e*P		**Pn**		**00 00 57.0**	**+1.3**
LCND				*e*S		**Sn**		**00 01 13.6**	**+2.1**
LCND	**La Caada**	**1.26**	**78**	*i* P		**Pn**		**00 00 57.0**	**+1.3**
LCND					IAML			00 02 20.1	
	comp=Z,11μm,1.0s								
CNCH	**Conchagua**	**1.31**	**80**	*e*P		**Pn**		**00 00 57.3**	**+0.8**
CNCH				*e*S		**Sn**		**00 01 14.9**	**+2.0**
CNCH	**Conchagua**	**1.31**	**80**	*i* P		**Pn**		**00 00 57.4**	**+1.0**
CNCH				*i* S		**Sn**		**00 01 14.6**	**+1.8**
CNCH					IAML			00 01 17.9	
	comp=Z,9μm,1.0s								
MTO3	**Montecristo**	**1.35**	**352**	ǁ *i* P		**Pn**		**00 00 57.8**	**+0.7**
AMPH	**Amapala**	**1.48**	**81**	*e*P		**Pn**		**00 01 00.1**	**+1.5**
AMPH				*e*S		**Sn**		**00 01 19.6**	**+2.8**
ESQI	**Esquipulas**	**1.50**	**353**	Pn		**Pn**		**00 01 00.1**	**+1.0**
ESQI						**Sn**		**00 01 18.7**	**+1.0**
NBG	**Las Nubes**	**1.91**	**323**	*e*P		**Pn**		**00 01 07.2**	**+2.4**
PCG	**Pacaya**	**1.94**	**313**	*e*P		**Pn**		**00 01 07.5**	**+2.4**
MRL	**Marmol**	**2.08**	**346**	*e*P		**Pn**		**00 01 09.0**	**+1.9**
TGUH	**Tegucigalpa,Un**	**2.08**	**61**	Pn		**Pn**		**00 01 07.9**	**+0.8**
CRIN	**San Cristobal**	**2.08**	**100**	Pn		**Pn**		**00 01 07.7**	**+0.6**
FUG	**Fuego 3**	**2.14**	**310**	*e*P		**Pn**		**00 01 09.9**	**+1.9**
FUG				*e*S		**Sn**		**00 01 35.6**	**+2.1**
APG	**El Apazote**	**2.31**	**327**	P		**Pn**		**00 01 11.4**	**+1.0**
	comp=Z,1.5nm,0.5s,baz=116,slow=11,SNR=16								
APG				S		**Sn**		**00 01 42.0**	**+4.3**
	comp=Z,6.1nm,0.6s,baz=83,slow=17,SNR=6.7								
YUSH	**Yuscaran**	**2.42**	**68**	*i* P		**Pn**		**00 01 12.7**	**+1.1**
CNGN	**Cerro Negro**	**2.46**	**103**	Pn		**Pn**		**00 01 10.2**	**-1.9**
STG3	**Santiaguito 3,**	**2.86**	**305**	*e*P		**Pn**		**00 01 20.5**	**+2.7**
STG3				*e*S		**Sn**		**00 01 53.6**	**+2.4**
RTAL	**Retalhuleu**	**2.87**	**301**	Pn		Pn		00 01 15.3	-2.4
BOAB	**BOACO BROADBAN**	**2.46**	**100**	Pn		**Pn**		**00 01 24.4**	**-1.4**
PETF	**Flores**	**3.90**	**350**	Pn		**Pn**		**00 01 33.3**	**+1.5**
ACON	**Acoyapa**	**4.04**	**105**	Pn		**Pn**		**00 01 33.1**	**-0.6**
HZTE	**Horizontes, Gu**	**4.19**	**123**	Pn		**Pn**		**00 01 38.5**	**+2.6**
ESPN	**Las Esperanzas**	**4.82**	**100**	Pn		**Pn**		**00 01 45.1**	**+0.6**
JTS	**Las Juntas de**	**4.95**	**123**	Pn		**Pn**		**00 01 48.9**	**+2.5**
JTS	**Las Juntas de**	**4.95**	**123**	P		**Pn**		**00 01 45.3**	**-1.0**
	comp=Z,2.6nm,0.3s,baz=300,slow=20,SNR=1.3								
JTS				S		**Sn**		**00 02 43.4**	**+1.0**
	comp=Z,8.8nm,0.4s,baz=297,slow=21,SNR=1.2								
ARE1	**Arenal 1**	**5.05**	**120**	Pn		**Pn**		**00 01 49.7**	**+2.0**
JACO	**JACO, Garabito**	**5.55**	**127**	Pn		**Pn**		**00 01 56.4**	**+1.8**
LCR2	**La Lucha 2**	**6.03**	**123**	Pn		**Pn**		**00 02 04.5**	**+3.1**
SRBA	**San Rafael, Bu**	**6.84**	**123**	Pn		**Pn**		**00 02 14.9**	**+2.5**
DRK0	**Durika**	**6.92**	**122**	Pn		**Pn**		**00 02 16.3**	**+2.9**
TEIG	**Tepich**	**7.18**	**7**	Pn		**Pn**		**00 02 17.9**	**+1.0**
TEIG	**Tepich**	**7.18**	**7**	LR		LR		00 05 27.6	
	comp=Z,605nm,19.9s,slow=44								
BRDY	**Brady**	**20.28**	**335**			**P**		**00 05 05.6**	**-0.4**
BRDY					IAmb	IAmb		00 05 07.4	
	comp=Z,4.3nm,0.6s								
GOGA	**Godfrey**	**20.92**	**13**	P		**P**		**00 05 13.2**	**+0.4**
GOGA					IAmb	IAmb		00 05 24.6	
	comp=Z,17nm,1.4s								
TXAR	**Lajitas Array**	**21.07**	**323**	P		**P**		**00 05 14.2**	**-0.5**
TXAR	**Lajitas Array**	**21.07**	**323**	P		**P**		**00 05 15.2**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=138,slow=10,SNR=11								
	comp=Z,0.5nm,0.5s								
TX31	**Lajitas Ar. Si**	**21.07**	**323**	P		**P**		**00 05 14.7**	**+0.1**
BAUV	**El Baul**	**21.12**	**99**	P		**P**		**00 05 14.3**	**-0.9**
SN07	**Snyder 07**	**22.64**	**334**	P		**P**		**00 05 31.3**	**-0.2**
SN07					IAmb	IAmb		00 05 32.2	
	comp=Z,6.6nm,1.2s								
TKL	**Tuckaleechee C**	**23.02**	**11**	LR		LR		00 13 25.9	
	comp=Z,41nm,19.2s,baz=255,slow=34								
WMOK	**Wichita Mounta**	**23.28**	**340**	P		**P**		**00 05 37.3**	**-0.6**
AMTX	**Amarillo**	**24.51**	**335**	P		**P**		**00 05 48.3**	**-1.1**
AMTX					IAmb	IAmb		00 05 50.1	
	comp=Z,4.3nm,0.9s								
CCM	**Cathedral Cave**	**24.96**	**356**			**P**		**00 05 54.3**	**+1.0**
CCM					IAmb	IAmb		00 06 13.4	
	comp=Z,6.3nm,1.2s								
PDAR	**Pinedale Array**	**34.47**	**333**	P		**P**		**00 07 18.6**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=134,slow=10,SNR=2.3								
PDAR				PcP		**PcP**		**00 09 50.7**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=161,slow=3.6,SNR=3.8								
	comp=Z,0.2nm,0.6s								
YKA	**Yellowknife Ar**	**52.60**	**345**	P		**P**		**00 09 40.9**	**-2.2**
	comp=Z,0.6nm,0.6s,baz=141,slow=7.4,SNR=13								
	comp=Z,0.6nm,0.6s								
ILAR	**Eielson Array**	**64.80**	**336**	P		**P**		**00 11 06.2**	**-1.6**
	comp=Z,0.5nm,1.0s,baz=154,slow=4.8,SNR=4.8								
	comp=Z,0.5nm,1.0s								

*ISK **21** 00:20:18.7,35°.25N×28°.94E,h18km,ML2.2/12*
*NIC **21** 00:20:18.4,35°.19N×29°.18E,h36km±27km,Ml2.9/8*
*GII **21** 00:20:22.5±0.4,34°.660N±0°.003×29°.339E±0°.001,h40km, Mws2.8,confirmed*
*AFAD **21** 00:20:24.7±0.0,35°.68N×28°.76E,h7km±4km,ML2.0*
*THE **21** 00:20:25.6,35°.41N×28°.58E,h19km±18km,ML1.8/2,Error ellipse: s-maj=23.6km s-min=1.4km az=118.0*

ISC 21 00:20:18.5±1.4,35°.22N±0°.05×29°.07E±0°.03,h78km±21km, n66,σ1§97/64,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**1.10**	**23**	Pn	**Pn**	**00 20 39.7**	**+0.8**
AKAS				Sn	**Sn**	**00 20 55.9**	**+1.8**
AKAS	**Kas**	**1.10**	**23**	P	**Pn**	**00 20 40.0**	**+1.1**
AKAS				*i* AML	AML	00 21 09.0	
	comp=N,67nm,0.9s						
IZZE	**Mula-Seydike**	**1.22**	**6**	P	**Pn**	**00 20 40.5**	**+0.2**
IZZE				*i* AML	AML	00 20 58.0	
	comp=N,48nm,0.3s						
ARG	**Arkhangelos**	**1.26**	**323**	Pn	**Pn**	**00 20 41.1**	**+0.4**
ARG				Sn	**Sn**	**00 20 57.4**	**+0.1**
ARG	**Arkhangelos**	**1.26**	**323**	P	**Pn**	**00 20 41.1**	**+0.4**
ARG				S	**Sn**	**00 20 54.2**	**-3.1**
	55nm,0.0s						
ARG	**Arkhangelos**	**1.26**	**323**	P	**Pn**	**00 20 41.1**	**+0.4**
ARG				S	**Sn**	**00 20 58.2**	**+0.9**
ARG				AML	AML	00 21 11.8	
	0.1nm,0.0s						
ARG				AML	AML	00 21 11.9	
	0.1nm,0.2s						
FETY	**Fethiye**	**1.42**	**0**	Pn	**Pn**	**00 20 43.3**	**+0.6**
FETY				Sn	**Sn**	**00 21 02.1**	**+1.1**
FETY	**Fethiye**	**1.42**	**0**	P	**Pn**	**00 20 43.7**	**+0.9**
KARP	**Karpathos**	**1.59**	**282**	Pn	**Pn**	**00 20 45.9**	**+0.8**
KARP				Sn	**Sn**	**00 21 04.9**	**-0.2**
KARP	**Karpathos**	**1.59**	**282**	P	**Pn**	**00 20 45.9**	**+0.8**
KARP				S	**Sn**	**00 21 00.4**	**-4.7**
	42nm,0.2s						
KARP	**Karpathos**	**1.59**	**282**	P	**Pn**	**00 20 45.8**	**+0.8**
KARP				AML	AML	00 21 06.6	
	0.1nm,0.3s						
KARP				S	**Sn**	**00 21 06.8**	**+1.7**
KARP				AML	AML	00 21 07.8	
	0.1nm,0.2s						
DALY	**Dalyan (Mula)**	**1.63**	**348**	Pn	**Pn**	**00 20 46.7**	**+1.2**
DALY				Sn	**Sn**	**00 21 06.7**	**+0.8**
ELL	**Elmali**	**1.67**	**24**	Pn	**Pn**	**00 20 48.1**	**+1.9**
ELL	**Elmali**	**1.67**	**24**	P	**Pn**	**00 20 45.9**	**-0.3**
ELL				S	**Sn**	**00 21 06.0**	**-1.1**
ELL				AML	AML	00 21 11.3	
	0.2nm,0.5s						
ELL				AML	AML	00 21 18.5	
	0.1nm,0.4s						
KNIK	**Mula-Seydike**	**1.68**	**14**	P	**Pn**	**00 20 47.6**	**+1.4**
KNIK				S	**Sn**	**00 21 06.3**	**-0.9**
TURN	**Turunc**	**1.69**	**337**	Pn	**Pn**	**00 20 46.9**	**+0.6**
TURN	**Turunc**	**1.69**	**337**	P	**Pn**	**00 20 47.4**	**+1.1**
TURN				S	**Sn**	**00 21 00.9**	**-6.4**
CAME	**Cameli-Denizli**	**1.73**	**6**	Pn	**Pn**	**00 20 48.8**	**+1.8**
CAEL	**Denizli, Camel**	**1.91**	**6**	P	**Pn**	**00 20 51.6**	**+2.2**
CAEL				S	**Sn**	**00 21 11.3**	**-1.5**
CAEL				*i* AML	AML	00 21 23.0	
	comp=N,32nm,0.4s						
DAT	**Datca**	**1.93**	**322**	Pn	**Pn**	**00 20 50.8**	**+1.2**
DAT	**Datca**	**1.93**	**322**	P	**Pn**	**00 20 50.8**	**+1.2**
DAT				S	**Sn**	**00 21 09.8**	**-3.4**
DAT	**Datca**	**1.93**	**322**	P	**Pn**	**00 20 50.1**	**+0.5**
DAT				S	Sn	00 21 01.9	-11
DAT				*i* AML	AML	00 21 19.0	
	comp=N,21nm,0.7s						
YAZI	**Mula-Dat§a-**	**1.96**	**319**	P	**Pn**	**00 20 50.0**	**+0.1**
GOLH	**Golhisar**	**2.06**	**11**	P	**Pn**	**00 20 54.1**	**+2.9**
GOLH				S	**Sn**	**00 21 17.0**	**+0.9**
GOLH				*i* AML	AML	00 21 22.0	
	comp=N,19nm,0.4s						
DNZT	**Denizli-Tavas-**	**2.06**	**359**	P	**Pn**	**00 20 52.8**	**+1.5**
DNZT				S	**Sn**	**00 21 13.1**	**-3.1**
MULA	**Mugla, Merkez-**	**2.12**	**344**	P	**Pn**	**00 20 54.1**	**+2.0**
MULA				S	Sn	00 21 06.3	-11
TAVA	**DENIZLI_Tavas**	**2.25**	**357**	P	**Pn**	**00 20 55.4**	**+1.6**
TAVA				S	**Sn**	**00 21 16.8**	**-3.9**
TAVA				*i* AML	AML	00 21 25.0	
	comp=N,14nm,0.3s						
TAVA				*i* AML	AML	00 21 25.0	
	comp=E,12nm,0.2s						
APMY	**Acipayam-Deniz**	**2.26**	**5**	Pn	**Pn**	**00 20 56.3**	**+2.4**
BDRM	**Kayabasi**	**2.27**	**325**	P	Pn	00 20 49.8	-4.2
BODT	**Bodrum**	**2.33**	**323**	Pn	**Pn**	**00 20 55.8**	**+1.0**
BODT				Sn	**Sn**	**00 21 23.1**	**+0.6**
BODT	**Bodrum**	**2.33**	**323**	P	**Pn**	**00 20 55.7**	**+1.0**
BODT				S	**Sn**	**00 21 19.0**	**-3.5**
ZKR	**Zakros**	**2.34**	**268**	Pn	**Pn**	**00 20 55.7**	**+0.8**
ZKR				Sn	**Sn**	**00 21 22.7**	**-0.1**
ZKR	**Zakros**	**2.34**	**268**	P	**Pn**	**00 20 55.7**	**+0.8**
ZKR	**Zakros**	**2.34**	**268**	P	**Pn**	**00 20 55.5**	**+0.6**
ZKR				S	**Sn**	**00 21 24.0**	**+1.2**
ZKR				AML	AML	00 21 26.6	
	0.1nm,0.4s						
ZKR				AML	AML	00 21 29.1	
DNIZ	**Denizli-Tavas-**	**2.40**	**359**	P	**Pn**	**00 20 57.5**	**+1.6**
DNIZ				S	**Sn**	**00 21 22.4**	**-2.1**
ESEN	**Aydn-Nazilli**	**2.64**	**348**	P	**Pn**	**00 21 00.7**	**+1.7**
AKMS	**Akamas**	**2.68**	**93**	P	Pn	00 20 58.5	-1.1
AKMS				S	**Sn**	**00 21 28.4**	**-2.7**
AKMS				AML	AML	00 21 29.2	
	0.1nm,0.2s						
AKMS				AML	AML	00 21 34.5	
	0.1nm,0.4s						
ALFC	**Alefka**	**2.89**	**90**	P	Pn	00 21 01.2	-1.2
ALFC				S	**Sn**	**00 21 34.1**	**-2.1**
ALFC				AML	AML	00 21 36.9	
	0.1nm,0.3s						
ALFC				AML	AML	00 21 37.5	
	0.2nm,0.3s						
NATA	**Nata**	**2.91**	**98**	P	Pn	00 21 01.7	-0.9
NATA				S	**Sn**	**00 21 33.6**	**-3.0**
NATA				AML	AML	00 21 36.5	
	0.2nm,0.5s						
NATA				AML	AML	00 21 41.1	
	0.1nm,0.4s						
KSTL	**Kastelli Herak**	**3.27**	**273**	P	Pn	00 21 05.7	-1.8
KSTL				S	Sn	00 21 37.7	-7.7
APE	**Apeiranthos**	**3.41**	**304**	P	Pn	00 22 10.6	+61
IDI	**Anoyia**	**3.42**	**272**	P	**Pn**	**00 21 10.8**	**+1.2**
ASGA	**Asgata**	**3.46**	**96**	P	Pn	00 21 09.1	-1.0
ASGA				S	**Sn**	**00 21 49.4**	**-0.5**
ASGA				AML	AML	00 21 50.3	
	0.1nm,0.2s						
ASGA				AML	AML	00 21 52.6	
	0.1nm,0.4s						
CSS	**Mathiatis**	**3.50**	**93**	P	Pn	00 21 09.8	-0.9
CSS	**Mathiatis**	**3.50**	**93**	P	Pn	00 22 11.0	+60
MVOU	**Mavrovouni**	**3.75**	**92**	P	Pn	00 21 13.3	-0.6
IMMV	**Iera Moni Meta**	**4.17**	**275**	P	**Pn**	**00 21 22.0**	**+2.3**
MMA0B	**Mount Meron ar**	**5.69**	**111**	S	Sn	00 23 40.4	+56
MMA0B	**Mount Meron ar**	**5.69**	**111**	P	Pn	00 22 38.8	+58
KSHT	**Keshet**	**6.02**	**110**	P	Pn	00 22 43.8	+59
KSHT	**Keshet**	**6.02**	**110**	S	Sn	00 23 48.4	+56
HMDT	**Nahal Hemdat**	**6.14**	**117**	P	Pn	00 22 45.5	+59
KZIT	**Kziot**	**6.20**	**132**	S	Sn	00 23 49.4	+52
KZIT	**Kziot**	**6.20**	**132**	P	Pn	00 22 45.5	+58
YTIR	**Yattir**	**6.36**	**126**	P	Pn	00 22 46.8	+57
YTIR	**Yattir**	**6.36**	**126**	S	Sn	00 23 54.2	+53
DSI	**Dead Sea**	**6.41**	**123**	P	Pn	00 22 48.2	+58
MSBI	**Mazada**	**6.55**	**125**	P	Pn	00 22 50.4	+58
GHAJ	**Ghor Haditha**	**6.70**	**124**	P	**Pn**	**00 21 56.8**	**+2.6**
PRNI	**Paran**	**6.96**	**133**	P	Pn	00 22 55.4	+57
KRMI	**Paran Flat**	**6.97**	**135**	P	Pn	00 22 55.4	+57
KRMI	**Paran Flat**	**6.97**	**135**	S	Sn	00 24 07.2	+51
HRFI	**Mount Harif**	**7.21**	**134**	S	Sn	00 24 12.9	+51
HRFI	**Mount Harif**	**7.21**	**134**	P	Pn	00 22 58.1	+57
EIL	**Elat**	**7.43**	**136**	P	Pn	00 23 01.4	+57
EIL	**Elat**	**7.43**	**136**	S	Sn	00 24 18.7	+52

IDC 21 00:26:57.4±6.2,1°.99S×140°.39E,h0km,mb3.4/3, mbtmp3.5/4,ML3.9/1,Error ellipse: s-maj=259.0km s-min=25.9km az=89.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.79**	**198**	P	P	00 31 17.6	-0.9
	0.4nm,0.3s,baz=14,slow=12,SNR=19						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**22.44**	**196**	P	P	00 31 58.8	+0.6
	1.3nm,0.6s,baz=27,slow=10.0,SNR=10						
	1.3nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**32.93**	**51**	T	T	01 09 25.0	
	baz=236,slow=75,SNR=7.9						
H11S2	**WAKE ISLAND Hy**	**32.94**	**51**	T	T	01 09 23.5	
	baz=236,slow=75,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**32.95**	**51**	T	T	01 09 26.7	
	baz=236,slow=75,SNR=5.7						
SONM	**Songino Array**	**57.81**	**334**	P	P	00 36 51.1	+0.4
	0.2nm,0.5s,baz=141,slow=5.3,SNR=2.2						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**70.26**	**322**	P	P	00 38 12.1	-0.4
	0.3nm,0.7s,baz=100,slow=6.7,SNR=3.6						
	0.3nm,0.7s						

IDC 21 00:30:02.0±1.5,5°.98S×142°.40E,h0km,mb3.5/2, mbtmp3.6/5,ML3.4/2,MS2.8/1,Error ellipse: s-maj=32.8km s-min=24.5km az=97.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.82**	**126**	Pn	Pn	00 31 31.0	+1.4
	5.5nm,0.4s,baz=267,slow=19,SNR=1.7						
PMG				Sn	Sn	00 32 36.3	-0.7
	1.3nm,0.3s,baz=314,slow=15,SNR=1.9						
WRA	**Warramunga Arr**	**15.93**	**209**	Pn	Pn	00 33 46.3	-1.5
	0.1nm,0.3s,baz=28,slow=12,SNR=4.4						
WRA				Sn	Sn	00 36 34.1	-11
	0.1nm,0.3s,baz=28,slow=23,SNR=2.7						
WRA				Lg	Lg	00 38 30.0	
	0.1nm,0.3s,baz=33,slow=26,SNR=5.7						
	1.3nm,0.8s						
ASAR	**Alice Springs**	**19.39**	**204**	P	P	00 34 30.1	+0.3
	0.1nm,0.3s,baz=30,slow=11,SNR=9.0						
ASAR				Lg	Lg	00 40 15.1	
	0.1nm,0.3s,baz=23,slow=28,SNR=2.2						
	1.5nm,0.8s						
GUMO	**Guam**	**19.60**	**7**	LR	LR	00 41 56.7	
	comp=Z,26nm,20.7s,baz=61,slow=36						
MKAR	**Makanchi Array**	**74.61**	**322**	P	P	00 41 43.8	+0.6
	0.2nm,0.7s,baz=112,slow=6.4,SNR=2.5						
	0.2nm,0.7s						
ILAR	**Eielson Array**	**87.29**	**24**	P	P	00 42 49.6	-0.8
	0.5nm,0.9s,baz=259,slow=5.6,SNR=2.7						
	0.5nm,0.9s						

*NEIC **21** 00:32:43.8±0.6,54°.3N±0°.1×164°.1W±0°.1,h75km±9km, ML2.9/14,ML2.6(AEIC),Error ellipse: s-maj=20.7km s-min=5.3km az=153.0*

AEIC 21 00:32:43.1±0.9,54°.4N±0°.1×164°.2W±0°.1,h82km±4km, Error ellipse: s-maj=17.9km s-min=5.2km az=155.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESN	**West Dahl Nort**	**0.29**	**306**		Pn	00 32 56.4	+0.8
SSLS	**Shishaldin Sou**	**0.33**	**18**		Pn	00 32 56.3	+0.4
SSLS					Sn	00 33 06.5	+1.2
WECS	**Westdahl Cape**	**0.38**	**291**		Pn	00 32 56.8	+0.7
WECS					Sn	00 33 07.7	+1.9
WEBT	**Westdahl Beart**	**0.39**	**300**		Pn	00 32 56.7	+0.5
WEBT					Sn	00 33 08.2	+2.4
ISLZ	**Isanotski Laza**	**0.43**	**39**		Pn	00 32 56.7	+0.2
ISNN	**Isanotski Nort**	**0.49**	**28**		Pn	00 32 57.8	+0.8
FALS	**False Pass**	**0.64**	**43**		Pn	00 32 58.5	+0.2
FALS				Sn	Sn	00 33 09.4	-0.1
AKSA	**Akutan Strait**	**0.93**	**254**		Pn	00 33 02.4	+1.0
AKSA	**Akutan Strait**	**0.93**	**254**		Pn	00 33 02.3	+0.9
AKSA					Sn	00 33 16.7	+1.6
AKUT	**Akutan**	**0.97**	**255**	Pn	Pn	00 33 02.4	+0.5
AKUT				Sn	Sn	00 33 16.9	+1.0
AKUT				IAML		00 33 18.0	
	comp=N,249nm,0.5s						
AKUT				IAML		00 33 18.3	
	comp=E,137nm,1.0s						
AKBBA	**Akutan Broad B**	**1.07**	**254**		Pn	00 33 03.9	+0.8
ZRO	**Akutan Zero**	**1.10**	**255**		Pn	00 33 04.3	+0.8
AKRB	**Akutan Reef Bi**	**1.14**	**257**		Pn	00 33 04.7	+0.7
AKRB					Sn	00 33 22.2	+2.6
UNV	**Unalaska Valle**	**1.48**	**249**	Pn	Pn	00 33 08.4	+0.2
MTBL	**Makushin Table**	**1.53**	**255**		Pn	00 33 09.6	+0.7
MNAT	**Makushin Natee**	**1.56**	**252**		Pn	00 33 09.8	+0.5
HAG	**Hague Volcano**	**1.60**	**54**		Pn	00 33 10.6	+0.7
MSW	**Makushin Switc**	**1.61**	**254**		Pn	00 33 10.5	+0.6
MSW					Sn	00 33 30.9	+0.8
PN7A	**Pavlof North-7**	**1.63**	**50**		Pn	00 33 11.0	+0.7
PS4A	**Pavlof South-4**	**1.64**	**54**		Pn	00 33 11.0	+0.7
PS4A					Sn	00 33 32.9	+2.0
MGOD	**Makushin Gods**	**1.70**	**250**		Pn	00 33 11.9	+0.8
MAPS	**Pakushin South**	**1.73**	**251**		Pn	00 33 12.2	+0.7
MAPS					Sn	00 33 34.0	+1.0
PS1A	**Pavlof South-1**	**1.74**	**53**		Pn	00 33 12.3	+0.7
S12K	**Black Hills**	**1.79**	**42**	Pn	Pn	00 33 12.5	+0.3
S12K				IAML		00 33 35.3	
	comp=N,48nm,1.0s						
SDPT	**Sand Point**	**2.34**	**64**	Pn	Pn	00 33 19.8	+0.3
SDPT				IAML		00 33 51.3	
	comp=E,40nm,0.7s						
SDPT				IAML		00 33 54.4	
	comp=N,45nm,0.7s						
OKFG	**Magazine Ridge**	**2.42**	**247**		Pn	00 33 21.5	+0.9
OKTU	**Okmok Mt. Tuli**	**2.50**	**248**		Pn	00 33 22.8	+1.0
CNBA	**Chernabura Isl**	**2.70**	**79**	Pn	Pn	00 33 24.3	-0.1
VNFG	**Fog Glacier, M**	**3.25**	**52**	Pn	Pn	00 33 32.4	+0.5
CHGN	**Chignik**	**3.80**	**58**	Pn	Pn	00 33 41.0	+1.7
CHGN				IAML		00 36 00.4	
	comp=E,61nm,0.1s						
O14K	**Tigyukauivet M**	**5.12**	**17**	Pn	Pn	00 33 58.5	+1.3
O14K				IAML		00 34 50.4	
	comp=E,6.0nm,1.2s						
P16K	**Nushagak River**	**5.76**	**34**		Pn	00 34 07.3	+1.5
M13K	**Dall Lake**	**6.05**	**4**	Pn	Pn	00 34 12.5	+2.7
N15K	**Kwethluk River**	**6.19**	**19**	Pn	Pn	00 34 13.3	+1.5
L14K	**Kuka Creek**	**7.01**	**6**	Pn	Pn	00 34 23.6	+0.7
M16K	**Timber Creek**	**7.20**	**21**	Pn	Pn	00 34 25.9	+0.3
L16K	**Owhat River**	**7.74**	**17**	Pn	Pn	00 34 34.3	+1.3

KUR			*i* S	Sb	01 12 04.8	-2.3
KUR			A	A	01 12 06.8	
	660nm,0.6s					
KUR			A	A	01 12 06.8	
	500nm,0.6s					
SHO	**Shikotan**	**2.17 258**	*i* P	**Pn**	**01 11 51.8**	**+0.3**
SHO			*e*S	**Sn**	**01 12 19.0**	**+1.8**
SHO			A	A	01 12 21.7	
	70nm,0.4s					
SHO			A	A	01 12 21.7	
	90nm,0.4s					
YUK	**Yuzh-Kuril'sk**	**2.83 265**	*e*S	**Sn**	**01 12 36.1**	**+2.7**
YUK			A	A	01 12 38.9	
	310nm,0.9s					
YUK			A	A	01 12 38.9	
	290nm,0.9s					
NEM2	**Nemuro 2**	**3.07 253**	*e*P	**Pn**	**01 12 04.5**	**+0.5**
NEM2			*e*S	**Sn**	**01 12 38.1**	**-1.3**
NMR	**Nemuro--Hokkai**	**3.08 253**	*i* P	**Pn**	**01 12 04.3**	**+0.2**
NMR			AMB	AMB	01 12 06.5	
	30nm,0.2s					
NMR			*e*S	**Sn**	**01 12 41.2**	**+1.5**
NMR			A	A	01 12 47.0	
	90nm,0.4s					
NMR			A	A	01 12 47.0	
	40nm,0.4s					
JRA	**Rausu**	**3.37 265**	*e*P	**Pn**	**01 12 10.6**	**+2.6**
JNK	**Nakash**	**3.72 260**	*e*P	**Pn**	**01 12 14.2**	**+1.2**
AKK	**Akkeshi**	**3.81 251**	*i* P	**Pn**	**01 12 15.3**	**+1.2**
AKK			AMB	AMB	01 12 16.5	
	40nm,0.4s					
AKK			*e*S	**Sn**	**01 13 00.4**	**+2.7**
JAK	**Akkeshi**	**3.92 252**	*e*P	**Pn**	**01 12 16.4**	**+0.8**
JAK			*e*S	**Sn**	**01 12 59.2**	**-1.2**
JTKR	**Abashiri--Toko**	**4.23 267**	*e*P	**Pn**	**01 12 22.1**	**+2.2**
JAR	**Ashorobuto**	**4.46 258**	*e*P	**Pn**	**01 12 24.8**	**+1.7**
JOB	**Onbets**	**4.54 253**	*e*P	**Pn**	**01 12 25.6**	**+1.4**
JCH	**Churui**	**4.97 252**	*e*P	**Pn**	**01 12 31.4**	**+1.3**
JCH			*e*S	**Sn**	**01 13 25.1**	**-1.2**
JNBK	**Urakawa-nobuka**	**5.52 250**	*e*S	**Sn**	**01 13 38.0**	**-1.8**
JANG	**Nango**	**7.29 240**	*e*S	**Sn**	**01 14 18.1**	**-5.3**

SJA **21** *01:18:22.7±0.6,21˚38S×67˚34W,h211km±4km,ML4.6, MW4.2*
IDC **21** *01:18:23.4±0.9,21˚30S×67˚13W,h168km±9km,mb3.8/10, mbtmp4.3/17,MS2.8/1,Error ellipse: s-maj=13.3km s-min=11.6km az=162.0*
NEIC **21** *01:18:24±2.1,21˚39S±0˚06×67˚24W±0˚08,h185km±7km, mb4.5/56,Error ellipse: s-maj=10.3km s-min=8.5km az=96.0*
SCB **21** *01:18:25.7±1.6,21˚43S×67˚35W,h165km±13km,ML4.8/5, MW4.8,Error ellipse: s-maj=6.8km s-min=3.0km az=0.0*
GUC **21** *01:18:25.9±0.8,21˚42S×67˚53W,h209km±11km,ML4.5*
VAO **21** *01:18:25.1±0.3,21˚20S×67˚21W,h177km,mb4.3*
ISC 21 01:18:24.0±0.6,**21˚38S**±0˚04×**67˚30W**±0˚04,**h185**km±6km, **n219,σ1§49/255,mb4.5/34,4C-3D,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.56**	**86**	Pg		**Pn**	**01 18 58.7**	**+1.3**
MOCB				Sg		**Sn**	**01 19 23.9**	**+0.8**
MOCB				IAML			01 19 25.7	
	8μm,0.8s							
AF01	**San Pedro de A**	**1.76**	**207**	Pn		**Pn**	**01 19 00.7**	**+1.5**
AF01				Sn		**Sn**	**01 19 27.0**	**+0.3**
YJA	**Yavi**	**1.84**	**116**	*e*P		**Pn**	**01 19 02.4**	**+2.3**
YJA				*e*S		**Sn**	**01 19 31.5**	**+3.4**
PB09	**IPOC Station P**	**1.85**	**257**			**Pn**	**01 19 00.8**	**+0.8**
PB09				Sn		**Sn**	**01 19 28.6**	**+0.7**
PB09	**IPOC Station P**	**1.85**	**257**	*e*P		**Pn**	**01 19 00.8**	**+0.8**
PB09				*e*S		**Sn**	**01 19 29.7**	**+1.8**
PB09				IAML			01 19 31.4	
	comp=Z,2μm,0.3s							
PB09	**IPOC Station P**	**1.85**	**257**	⇑*i*P		**Pn**	**01 19 01.4**	**+1.4**
PB09				*e*S		**Sn**	**01 19 28.7**	**+0.7**
PB09				IAML			01 19 32.5	
	comp=E,2μm,0.5s							
PB09	**IPOC Station P**	**1.85**	**257**	Pg		**Pn**	**01 19 01.3**	**+1.3**
LVC	**Limon Verde**	**1.93**	**230**			**Pn**	**01 19 02.2**	**+1.1**
LVC	**Limon Verde**	**1.93**	**230**	*e*P		**Pn**	**01 19 02.1**	**+1.1**
LVC				*e*S		**Sn**	**01 19 30.9**	**+1.1**
LVC	**Limon Verde**	**1.93**	**230**	P		**Pn**	**01 19 02.1**	**+1.1**
	comp=E,478nm,0.3s,baz=42,slow=8.6,SNR=2181							
LVC				S		**Sn**	**01 19 30.3**	**+0.5**
	comp=E,258nm,0.3s,baz=202,slow=19,SNR=4.1							
LVC				LR		LR	01 19 46.3	
	comp=E,204nm,18.4s,baz=129,slow=39							
LVC	**Limon Verde**	**1.93**	**230**	*e*P		**Pn**	**01 19 02.2**	**+1.1**
PB01	**IPOC Station P**	**2.07**	**279**			**Pn**	**01 19 03.5**	**+1.3**
PB01	**IPOC Station P**	**2.07**	**279**	*e*P		**Pn**	**01 19 03.0**	**+0.7**
PB01				*e*S		**Sn**	**01 19 32.9**	**+1.0**
PB01				IAML			01 19 33.2	
	comp=Z,2μm,0.2s							
PB01	**IPOC Station P**	**2.07**	**279**	*e*P		**Pn**	**01 19 02.8**	**+0.6**
PB01				*e*S		**Sn**	**01 19 32.0**	**+0.1**
PB01				IAML			01 19 33.3	
	comp=N,4μm,0.3s							
PB01	**IPOC Station P**	**2.07**	**279**	Pg		**Pn**	**01 19 03.1**	**+0.9**
PB01				Sg		**Sn**	**01 19 30.1**	**-1.8**
PB01				IAML			01 19 33.4	
	comp=N,4μm,0.3s							
PB08	**IPOC Station P**	**2.13**	**305**	Pn		**Pn**	**01 19 04.9**	**+1.7**
PB08	**IPOC Station P**	**2.13**	**305**	*e*P		**Pn**	**01 19 04.9**	**+1.7**
PB08				*e*S		**Sn**	**01 19 36.2**	**+2.6**
PB08	**IPOC Station P**	**2.13**	**305**	⇓*i*P		**Pn**	**01 19 05.0**	**+1.8**
PB08				*e*S		**Sn**	**01 19 34.6**	**+1.1**
PB08				IAML			01 19 38.2	
	comp=E,1μm,0.3s							
PB08	**IPOC Station P**	**2.13**	**305**	Pg		**Pn**	**01 19 04.5**	**+1.3**
PB08				Sg		**Sn**	**01 19 33.7**	**+0.1**
PB08				IAML			01 19 38.0	
	comp=E,1μm,0.3s							
AOVT	**TarijaAcel**	**2.42**	**94**	Pg		**Pn**	**01 19 07.7**	**+1.4**
PB02	**IPOC Station P**	**2.42**	**271**			**Pn**	**01 19 07.0**	**+0.8**
PB02	**IPOC Station P**	**2.42**	**271**	*e*P		**Pn**	**01 19 06.8**	**+0.6**
PB02				*e*S		**Sn**	**01 19 32.3**	**-6.6**
PB02	**IPOC Station P**	**2.42**	**271**	*e*P		**Pn**	**01 19 06.8**	**+0.6**
PB02				*e*S		**Sn**	**01 19 37.7**	**-1.2**
PB02	**IPOC Station P**	**2.42**	**271**	Pg		**Pn**	**01 19 06.9**	**+0.8**
PB02				Sg		**Sn**	**01 19 37.2**	**-1.7**
PB02				IAML			01 19 38.5	
	comp=E,21μm,0.5s							
PB07	**IPOC Station P**	**2.43**	**261**			**Pn**	**01 19 07.0**	**+0.6**
PB07	**IPOC Station P**	**2.43**	**261**	*e*P		**Pn**	**01 19 07.0**	**+0.6**
PB07				*e*S		**Sn**	**01 19 38.9**	**-0.4**
PB07				IAML			01 19 39.8	
	comp=Z,3μm,0.3s							
GO01	**Chusmiza**	**2.46**	**313**			**Pn**	**01 19 08.3**	**+1.3**
GO01	**Chusmiza**	**2.46**	**313**	*e*P		**Pn**	**01 19 08.3**	**+1.3**
GO01				*e*S		**Sn**	**01 19 44.9**	**+4.5**
GO01	**Chusmiza**	**2.46**	**313**	⇓*i*P		**Pn**	**01 19 08.3**	**+1.3**
GO01				*e*S		**Sn**	**01 19 44.4**	**+4.0**
GO01				IAML			01 19 47.5	
GO01	**Chusmiza**	**2.46**	**313**	Pg		**Pn**	**01 19 08.4**	**+1.3**
PB06	**IPOC Station P**	**2.49**	**238**			**Pn**	**01 19 07.5**	**+0.5**
PB06	**IPOC Station P**	**2.49**	**238**	*e*P		**Pn**	**01 19 07.6**	**+0.7**
PB06				*e*S		**Sn**	**01 19 40.4**	**0.0**
PB06				IAML			01 19 43.0	
	comp=Z,1μm,0.3s							
PB06	**IPOC Station P**	**2.49**	**238**	⇑*i*P		**Pn**	**01 19 07.4**	**+0.5**
PB06				*e*S		**Sn**	**01 19 39.6**	**-0.8**
PB06				IAML			01 19 41.4	
	comp=E,2μm,0.4s							
PB15	**IPOC Station P**	**2.71**	**227**			**Pn**	**01 19 10.4**	**+0.8**
PB15	**IPOC Station P**	**2.71**	**227**	*e*P		**Pn**	**01 19 09.8**	**+0.1**
PB15				*e*S		**Sn**	**01 19 46.0**	**+0.8**
PB15				IAML			01 19 47.8	
	comp=Z,4μm,0.1s							
PB15	**IPOC Station P**	**2.71**	**227**	⇑*i*P		**Pn**	**01 19 10.3**	**+0.6**
PB15				*e*S		**Sn**	**01 19 44.9**	**-0.3**
PB15	**IPOC Station P**	**2.71**	**227**	Pg		**Pn**	**01 19 10.2**	**+0.6**
PB11	**IPOC Station P**	**2.73**	**306**			**Pn**	**01 19 10.7**	**+0.8**
PB11	**IPOC Station P**	**2.73**	**306**	*e*P		**Pn**	**01 19 10.4**	**+0.6**
PB11				*e*S		**Sn**	**01 19 45.1**	**-0.4**
PB11				IAML			01 19 47.1	
	comp=Z,1μm,0.2s							
PB11	**IPOC Station P**	**2.73**	**306**	*i* P		**Pn**	**01 19 10.5**	**+0.6**
PB11				*e*S		**Sn**	**01 19 44.5**	**-1.1**
PB11	**IPOC Station P**	**2.73**	**306**	Pg		**Pn**	**01 19 10.5**	**+0.6**
PB11				Sg		**Sn**	**01 19 44.5**	**-1.0**
PB11				IAML			01 19 46.3	
	comp=Z,2μm,0.2s							
PB04	**IPOC Station P**	**2.81**	**250**			**Pn**	**01 19 10.7**	**-0.1**
PB04	**IPOC Station P**	**2.81**	**250**	*e*P		**Pn**	**01 19 11.1**	**+0.3**
PB04				*e*S		**Sn**	**01 19 45.9**	**-1.3**
PB04				IAML			01 19 47.8	
	comp=Z,2μm,0.1s							
PB04	**IPOC Station P**	**2.81**	**250**	⇑*i*P		**Pn**	**01 19 10.7**	**-0.1**
TA01	**Diego Aracena**	**2.81**	**286**			**Pn**	**01 19 10.7**	**+0.1**
TA01	**Diego Aracena**	**2.81**	**286**	*e*P		**Pn**	**01 19 10.6**	**-0.1**
TA01				*e*S		**Sn**	**01 19 45.1**	**-1.8**
TA01				IAML			01 19 47.9	
	comp=Z,1μm,0.5s							
TA01	**Diego Aracena**	**2.81**	**286**	⇓*i*P		**Pn**	**01 19 10.5**	**-0.1**
TA01				*e*S		**Sn**	**01 19 44.8**	**-2.2**
TA01				IAML			01 19 47.4	
	comp=N,2μm,0.7s							
SOEO	**Opoqueri**	**2.86**	**349**	Pg		**Pn**	**01 19 13.8**	**+2.1**
TA02	**Huaiquique**	**2.87**	**292**			**Pn**	**01 19 11.4**	**+0.1**
TA02	**Huaiquique**	**2.87**	**292**	*e*P		**Pn**	**01 19 11.3**	**+0.1**
TA02				*e*S		**Sn**	**01 19 46.9**	**-1.3**
TA02				IAML			01 19 49.0	
	comp=Z,2μm,0.1s							
PB05	**IPOC Station P**	**3.06**	**241**			**Pn**	**01 19 13.7**	**0.0**
PB05	**IPOC Station P**	**3.06**	**241**	*e*P		**Pn**	**01 19 13.9**	**+0.2**
PB05				*e*S		**Sn**	**01 19 50.6**	**-2.0**
PB05				IAML			01 19 52.3	
	comp=Z,900nm,0.4s							
SOET	**ToroToro**	**3.54**	**24**	Pg		**Pn**	**01 19 21.4**	**+1.5**
PB16	**IPOC Station P**	**3.67**	**325**	Pn		**Pn**	**01 19 23.9**	**+2.1**
PB16	**IPOC Station P**	**3.67**	**325**	*e*P		**Pn**	**01 19 22.8**	**+1.1**
PB16				*e*S		**Sn**	**01 20 09.0**	**+2.2**
PB16				IAML			01 20 10.5	
	comp=Z,334nm,0.5s							
PB16	**IPOC Station P**	**3.67**	**325**	Pg		**Pn**	**01 19 23.6**	**+1.8**
PB10	**IPOC Station P**	**3.68**	**234**	Pn		**Pn**	**01 19 20.9**	**-0.4**
SLA	**San Lorenzo**	**3.71**	**154**	*e*P		**Pn**	**01 19 24.0**	**+2.2**
AOEA	**Aiquile**	**3.73**	**32**	Pg		**Pn**	**01 19 23.8**	**+1.6**
AOEA	**Aiquile**	**3.73**	**32**	Pg		**Pn**	**01 19 24.0**	**+1.8**
PB12	**IPOC Station P**	**3.96**	**313**	Pn		**Pn**	**01 19 23.8**	**-1.0**
PB12	**IPOC Station P**	**3.96**	**313**	*e*P		**Pn**	**01 19 23.9**	**-1.0**
PB12				*e*S		**Sn**	**01 20 10.4**	**-2.2**
PB12				IAML			01 20 11.9	
	comp=Z,286nm,0.5s							
GO02	**Mina Guanaco**	**4.31**	**209**	Pn		**Pn**	**01 19 29.0**	**-0.5**
GO02	**Mina Guanaco**	**4.31**	**209**	*e*P		**Pn**	**01 19 29.6**	**+0.1**
GO02				*e*S		**Sn**	**01 20 19.3**	**-1.7**
PB14	**IPOC Station P**	**4.31**	**221**	Pn		**Pn**	**01 19 28.6**	**-1.0**
SOEJ	**Jacaque**	**4.46**	**349**	Pg		**Pn**	**01 19 34.7**	**+3.0**
BBOE	**La Paz, Chanca**	**4.59**	**352**	Pg		**Pn**	**01 19 36.4**	**+3.0**
BBOD	**La Paz, Gloria**	**4.88**	**345**	Pg		**Pn**	**01 19 39.4**	**+2.4**
AC01	**Pan de Azucar**	**5.63**	**212**	Pn		**Pn**	**01 19 44.0**	**-2.1**
AC02	**Maricunga**	**5.68**	**197**	Pn		**Pn**	**01 19 46.7**	**-0.6**
AC06	**Mina Casimiro**	**6.57**	**204**	Pn		**Pn**	**01 19 55.7**	**-2.8**
GO03	**Copiap**	**6.74**	**203**			**Pn**	**01 19 58.6**	**-2.1**
BBSD	**Serra de San D**	**7.57**	**58**	*e*P		**Pn**	**01 20 09.6**	**-2.1**
AC04	**Llanos de Chal**	**7.61**	**206**	Pn		**Pn**	**01 20 07.7**	**-4.5**
AC05	**El Transito**	**7.90**	**199**	Pn		**Pn**	**01 20 13.0**	**-3.0**
SIV	**San Ignacio**	**7.97**	**49**	P		**Pn**	**01 20 15.4**	**-1.7**
	comp=Z,85nm,0.4s,baz=238,slow=12,SNR=719							
SIV				S		**Sn**	**01 21 40.3**	**-6.4**
	comp=Z,37nm,0.8s,baz=294,slow=20,SNR=6.4							
TICA	**Tres Isletas**	**8.06**	**130**	*e*P		**Pn**	**01 20 18.7**	**+0.7**
LCO	**Las Campanas**	**8.20**	**201**	Pn		**Pn**	**01 20 17.2**	**-2.9**
COO1	**Juntas del Tor**	**8.92**	**196**	Pn		**Pn**	**01 20 27.9**	**-1.7**
MURT	**Monte Murtinho**	**9.03**	**94**	*e*P		**Pn**	**01 20 30.0**	**-0.8**
PTLB	**Pontes e Lacer**	**9.74**	**54**	Pn		**Pn**	**01 20 37.8**	**-2.3**
PTLB	**Pontes e Lacer**	**9.74**	**54**	*e*P		**Pn**	**01 20 38.4**	**-1.7**
CO03	**El Pedregal**	**9.90**	**197**			**Pn**	**01 20 39.2**	**-3.0**
BDQN	**Bodoquena, MS**	**9.90**	**87**	*e*P		**Pn**	**01 20 41.4**	**-0.9**
CPUP	**Villa Florida**	**10.37**	**120**	Pn		**Pn**	**01 20 48.1**	**-0.1**
CPUP	**Villa Florida**	**10.37**	**120**	P		**Pn**	**01 20 47.2**	**-1.0**
	comp=Z,17nm,0.6s,baz=300,slow=11,SNR=35							
CPUP	**Villa Florida**	**10.37**	**120**	*e*P		**Pn**	**01 20 49.1**	**+0.8**
ANTJ	**Antonio Joao (**	**10.52**	**95**	*e*P		**Pn**	**01 20 51.2**	**+0.8**
VILB	**Vilhena**	**10.78**	**40**	Pn		**Pn**	**01 20 53.4**	**-0.3**
VILB	**Vilhena**	**10.78**	**40**	*e*P		**Pn**	**01 20 52.5**	**-1.2**
AQDB	**Aquidauana**	**10.88**	**87**	*e*P		**Pn**	**01 20 56.0**	**+1.1**
AMBA	**Amambai (Brazi**	**11.51**	**100**	*e*P		**Pn**	**01 21 03.8**	**+0.7**
ETMB	**Extrema**	**11.54**	**5**	Pn		**Pn**	**01 21 00.9**	**-2.7**
ETMB	**Extrema**	**11.54**	**5**	*e*P		**Pn**	**01 21 02.4**	**-1.2**
VA06	**Catapilco**	**11.69**	**197**	Pn		**Pn**	**01 21 01.1**	**-4.2**
VA03	**San Esteban**	**11.70**	**194**	Pn		**Pn**	**01 21 05.0**	**-0.5**
SALV	**Santo Antonio**	**12.27**	**66**	*e*P		**Pn**	**01 21 12.7**	**-0.2**
MT02	**Curacav**	**12.31**	**195**	Pn		**Pn**	**01 21 11.5**	**-1.8**
MT03	**Universidad Ad**	**12.40**	**193**	Pn		**Pn**	**01 21 12.5**	**-1.9**
LMEL	**Las Melosas**	**12.68**	**191**	Pn		**Pn**	**01 21 15.6**	**-2.5**
ITQB	**Itaqui**	**12.68**	**133**	*e*P		**P**	**01 21 19.9**	**-2.3**
MT09	**Talagante**	**12.77**	**194**	Pn		**Pn**	**01 21 17.4**	**-1.8**
BO04	**La Punta**	**12.90**	**192**	Pn		**Pn**	**01 21 18.6**	**-2.1**
MT01	**Popeta**	**12.92**	**195**	Pn		**Pn**	**01 21 19.7**	**-1.2**
SAML	**Samuel**	**12.98**	**18**	Pn		**Pn**	**01 21 19.8**	**-2.1**
SAML	**Samuel**	**12.98**	**18**	*e*P		**Pn**	**01 21 20.9**	**-1.0**
PSAL	**Palomas, Salto**	**12.99**	**140**	*e*P		**P**	**01 21 24.9**	**-0.6**
NNA	**Nana**	**13.06**	**314**	Pn		**Pn**	**01 21 21.6**	**-1.4**
NNA	**Nana**	**13.06**	**314**	P		**Pn**	**01 21 23.7**	**+0.8**
	comp=Z,15nm,0.8s,baz=146,slow=7.3,SNR=2.0							
UNIS	**Unistalda (Bra**	**13.45**	**127**	*e*P		**P**	**01 21 30.8**	**+0.2**
CRSM	**Crissiumal (Br**	**13.52**	**119**	*e*P		**P**	**01 21 31.2**	**-0.2**
TRCB	**Terra Rica**	**13.67**	**99**	Pn		**Pn**	**01 21 29.4**	**-1.2**
TRCB	**Terra Rica**	**13.67**	**99**	*e*P		**P**	**01 21 33.1**	**-0.1**
BO02	**Sierra Bellavi**	**13.71**	**192**	Pn		**Pn**	**01 21 29.3**	**-1.6**
PDRB	**Porto dos Gac**	**14.03**	**48**	*e*P		**Pn**	**01 21 33.8**	**-1.2**
RODS	**Rosario do Sul**	**14.08**	**132**	*e*P		**P**	**01 21 39.0**	**+1.4**
GO05	**Huala**	**14.18**	**196**	Pn		**Pn**	**01 21 34.2**	**-2.5**
TBOT	**Tacuaremb**	**14.43**	**138**	*e*P		**P**	**01 21 43.2**	**+1.7**
CZSB	**Cruzeiro do Su**	**14.54**	**338**	*e*P		**P**	**01 21 44.1**	**+1.2**
ML02	**Panimavida**	**14.78**	**193**	Pn		**Pn**	**01 21 42.6**	**-1.4**
ITAB	**Concordia**	**15.00**	**116**			**P**	**01 21 46.8**	**-1.1**
ITAB	**Concordia**	**15.00**	**116**	*e*P		**P**	**01 21 47.9**	**0.0**
LDASE	**Londrina, Braz**	**15.10**	**101**	*e*P		**P**	**01 21 51.1**	**+2.0**
CPSB	**Cacapava Do Su**	**15.36**	**129**	*e*P		**P**	**01 21 51.8**	**0.0**
PLTB	**Pedras Altas**	**16.02**	**133**	P		**P**	**01 21 57.6**	**-1.5**
PLTB				IAmb		IAmb	01 22 01.8	
	comp=Z,9,7nm,0.8s							
PLTB	**Pedras Altas**	**16.02**	**133**	*e*P		**Pn**	**01 21 59.5**	**+0.3**
FRTB	**Fartura**	**16.52**	**100**	*e*P		**Pn**	**01 22 06.5**	**+1.0**
CNLB	**Canela**	**16.82**	**121**	*e*P		**Pn**	**01 22 09.1**	**+0.1**
TRQA	**Tornquist**	**17.24**	**166**	P		**Pn**	**01 22 12.6**	**-1.2**
TRQA				IAmb		IAmb	01 22 34.0	
	comp=Z,39nm,1.5s							
BB19B	**Bebedouro**	**17.51**	**92**	*e*P		**Pn**	**01 22 17.1**	**-0.1**
ATAH	**Atahualpa**	**17.76**	**321**	P		**Pn**	**01 22 20.7**	**+0.1**
	comp=Z,4.2nm,0.5s,baz=162,slow=13,SNR=5.0							
SNDB	**Serra Nova Dou**	**17.95**	**61**	*e*P		**P**	**01 22 20.7**	**+0.3**
TEFE	**Tefe**	**17.95**	**9**	*e*P		**P**	**01 22 19.6**	**-0.9**
IPMB	**Ipameri, GO**	**18.29**	**83**	*e*P		**Pn**	**01 22 25.3**	**-1.2**
NPGB	**Novo Progresso**	**18.34**	**41**	*e*P		**P**	**01 22 24.3**	**-0.5**
RCLB	**Rio Claro- Sao**	**18.38**	**97**	*e*P		**Pn**	**01 22 26.0**	**-1.4**
GO06	**Curarrehue**	**18.49**	**190**	P		**Pn**	**01 22 26.4**	**-2.3**
PET01	**Itanhaem-SP**	**18.68**	**103**	*e*P		**Pn**	**01 22 30.0**	**-0.9**
VAO	**Valinhos**	**18.90**	**99**	*e*P		**Pn**	**01 22 31.8**	**-1.7**
BDFB	**Brasilia**	**19.15**	**76**	P		**P**	**01 22 31.8**	**-1.9**
BDFB				IAmb		IAmb	01 22 37.5	
	comp=Z,6.9nm,0.5s							
BDFB	**Brasilia**	**19.15**	**76**	P		**P**	**01 22 32.1**	**-1.5**
	comp=Z,3.0nm,0.3s,baz=233,slow=7.9,SNR=9.9							
LR05	**Currie**	**19.21**	**191**	P		**P**	**01 22 33.5**	**-0.4**
MACA	**Manacapuru-AM**	**19.22**	**20**	P		**P**	**01 22 33.1**	**-1.1**
MACA	**Manacapuru-AM**	**19.22**	**20**	*e*P		**P**	**01 22 33.1**	**-1.1**
PLCA	**Paso Flores**	**19.49**	**187**	P		**P**	**01 22 36.7**	**-0.2**
PLCA				IAmb		IAmb	01 23 02.8	
	comp=Z,16nm,1.5s							
PLCA	**Paso Flores**	**19.49**	**187**	P		**Pn**	**01 22 37.5**	**-2.9**
	comp=Z,1.1nm,0.6s,baz=355,slow=10,SNR=6.6							
PLCA	**Paso Flores**	**19.49**	**187**	*e*P		**Pn**	**01 22 40.7**	**+0.3**
PMNB	**Patos De Minas**	**19.81**	**85**	*e*P		**Pn**	**01 22 41.7**	**-2.8**
PARB	**Paraibuna**	**20.14**	**100**	*e*P		**P**	**01 22 44.2**	**+0.1**
ITTB	**Itaituba**	**20.30**	**35**	*e*P		**P**	**01 22 44.7**	**-1.2**
MCRA	**Macar, Loja**	**20.90**	**322**	P		**P**	**01 22 52.9**	**+0.6**
LL01	**San Ignacio de**	**21.37**	**190**	P		**P**	**01 22 56.6**	**-0.3**
DIAM	**Diamantina, MG**	**22.43**	**86**	*e*P		**P**	**01 23 08.4**	**+0.5**
JANB	**Januaria**	**22.71**	**78**	*e*P		**P**	**01 23 09.5**	**-0.8**
SDBA	**SAO DESIDERIO**	**23.10**	**71**	*e*P		**P**	**01 23 14.5**	**-0.1**
MALB	**Monte Alegre**	**23.20**	**35**	*e*P		**P**	**01 23 14.4**	**-0.2**
BOAV	**Boa Vista**	**24.54**	**16**	P		**P**	**01 23 26.8**	**-0.1**
BOAV				IAmb		IAmb	01 23 30.4	
	comp=Z,12nm,0.7s							
MCPB	**Macapa, AP**	**25.65**	**37**	*e*P		**P**	**01 23 36.7**	**-0.2**
GUA01	**Guaratinga, BA**	**26.41**	**84**	*e*P		**P**	**01 23 44.0**	**+0.2**
NBLA	**Lagarto - SE**	**30.11**	**75**	*e*P		**P**	**01 24 15.4**	**-1.2**
NBPB	**Pedra_Branca-C**	**31.12**	**64**	*e*P		**P**	**01 24 25.7**	**+0.2**
NBAN	**Anadia - AL**	**32.01**	**73**	*e*P		**P**	**01 24 33.0**	**-0.3**
GRGR	**Grenville**	**33.76**	**10**	P		**P**	**01 24 49.1**	**+0.7**
RCBR	**Riachuelo**	**34.10**	**68**	P		**P**	**01 24 51.8**	**+0.4**
RCBR				IAmb		IAmb	01 25 13.4	
	comp=Z,13nm,1.1s							
FDF	**Fort de France**	**36.39**	**10**	P		**P**	**01 25 09.9**	**-0.9**
LRAL	**Lakeview Retre**	**57.29**	**340**	P		**P**	**01 27 52.4**	**0.0**
Y49A	**Blount Mountai**	**57.87**	**341**	P		**P**	**01 27 56.0**	**-0.6**
833A	**Chaparral WMA,**	**58.33**	**327**	P		**P**	**01 28 00.9**	**+1.2**
833A				IAmb		IAmb	01 28 01.7	
	comp=Z,9,1nm,0.8s							
X48A	**Hartselle**	**58.62**	**341**	P		**P**	**01 28 00.6**	**-1.1**
X48A				IAmb		IAmb	01 28 02.6	
	comp=Z,5,6nm,0.7s							
W50A	**Signal Mountai**	**58.81**	**343**	P		**P**	**01 28 02.9**	**-0.2**
W50A				IAmb		IAmb	01 28 07.1	
	comp=Z,14nm,1.4s							
SWET	**Sewanee**	**59.00**	**342**	P		**P**	**01 28 03.3**	**-1.0**
PLAL	**Pickwick Lake**	**59.42**	**340**	P		**P**	**01 28 06.1**	**-1.0**
PLAL				IAmb		IAmb	01 28 18.3	
	comp=Z,16nm,1.5s							
V48A	**Smith Brothers**	**59.74**	**342**	P		**P**	**01 28 08.7**	**-0.6**
CLTN	**Cedars of Leba**	**59.93**	**342**	P		**P**	**01 28 10.8**	**+0.2**
CLTN				IAmb		IAmb	01 28 43.2	
	comp=Z,12nm,1.4s							
U49A	**Red Boiling Sp**	**60.17**	**343**	P		**P**	**01 28 11.5**	**-0.8**
U49A				IAmb		IAmb	01 28 12.5	
	comp=Z,6.9nm,0.7s							
T50A	**Nancy**	**60.40**	**344**	P		**P**	**01 28 12.9**	**-0.9**
T50A				IAmb		IAmb	01 28 16.0	
	comp=Z,16nm,1.5s							
WVT	**Waverly**	**60.41**	**341**	P		**P**	**01 28 13.4**	**-0.5**
WVT				IAmb		IAmb	01 28 14.2	
	comp=Z,8.1nm,0.7s							
BRDY	**Brady**	**60.56**	**329**	P		**P**	**01 28 15.2**	**+0.2**
MIAR	**Mount Ida**	**60.97**	**335**	P		**P**	**01 28 17.1**	**-0.7**
MIAR				IAmb		IAmb	01 28 40.7	
	comp=Z,14nm,1.5s							
OZNA	**Ozona**	**61.31**	**327**	P		**P**	**01 28 20.3**	**+0.2**
OZNA				IAmb		IAmb	01 28 21.9	
	comp=Z,8.6nm,1.4s							
TXAR	**Lajitas Array**	**61.40**	**324**	P		**P**	**01 28 21.4**	**+0.6**
	comp=Z,0.

0.6nm,0.9s,baz=238,slow=5.2,SNR=3.7
0.6nm,0.9s

*IDC **21** 01:27:15.9±28.0, 37.06N×20.58E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=540.8km s-min=44.9km az=35.0*
*ATH **21** 01:27:21.8, 37.46N×20.99E, h6km±1km, ML3.3/6, Error ellipse: s-maj=2.5km s-min=1.0km az=207.0*
*THE **21** 01:27:23.5, 37.57N×20.97E, h18km, ML3.4/10, Error ellipse: s-maj=1.1km s-min=0.5km az=223.0*

ISC 21 01:27:23.4±0.9, 37.58N±0.04×21.01E±0.04, h18km±5km, n50, σ0s82/73, mb3.6/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRI1	**kERI**	**0.17**	**298**	P	**Pg**	**01 27 27.9**	**0.0**
KRI1				S	**Sg**	**01 27 31.3**	**+0.4**
	27μm,0.5s						
LTHK	**Lithakia**	**0.19**	**313**	P	**Pg**	**01 27 28.0**	**-0.1**
LTHK				S	**Sg**	**01 27 31.6**	**+0.4**
	28μm,0.3s						
LTHK	**Lithakia**	**0.19**	**313**	P	**Pg**	**01 27 27.8**	**-0.3**
LTHK				S	**Sg**	**01 27 31.3**	**+0.1**
LTHK				AML	AML	01 27 35.9	
	comp=E,47828μm,0.3s						
LTHK				AML	AML	01 27 36.0	
	comp=N,61115μm,0.4s						
RLS	**Riolos of Patr**	**0.60**	**37**	P	**Pb**	**01 27 34.9**	**-0.4**
RLS				S	**Sb**	**01 27 44.5**	**+1.0**
	comp=N,2μm,0.4s						
RLS	**Riolos of Patr**	**0.60**	**37**	P	**Pb**	**01 27 35.0**	**-0.4**
RLS				S	**Sb**	**01 27 44.0**	**+0.5**
RLS				AML	AML	01 27 46.7	
	comp=N,3368μm,0.4s						
RLS				AML	AML	01 27 46.8	
	comp=E,2734μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.63**	**328**	P	**Pg**	**01 27 35.1**	**-0.7**
PSDA				S	**Sb**	**01 27 44.9**	**+0.6**
	comp=E,5μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.63**	**328**	P	**Pg**	**01 27 35.3**	**-0.5**
PSDA				S	**Sb**	**01 27 45.2**	**+0.8**
DRO	**Drossia**	**0.67**	**56**	P	**Pb**	**01 27 36.1**	**-0.5**
DRO				S	**Sn**	**01 27 47.1**	**-1.0**
	comp=E,3μm,0.5s						
VLS	**Valsamata**	**0.68**	**331**	P	**Pg**	**01 27 35.9**	**-0.9**
VLS				S	**Sb**	**01 27 45.7**	**-0.2**
	comp=E,1μm,0.3s						
VLS	**Valsamata**	**0.68**	**331**	P	**Pg**	**01 27 36.0**	**-0.9**
VLS				S	**Sb**	**01 27 46.5**	**+0.6**
VLS				AML	AML	01 27 46.9	
	comp=N,3033μm,0.4s						
VLS				AML	AML	01 27 52.0	
	comp=E,2585μm,0.4s						
LXR1	**Lixouri, Cepha**	**0.76**	**324**	P	**Pg**	**01 27 37.7**	**-0.7**
LXR1				S	**Sb**	**01 27 49.2**	**+0.9**
	comp=E,6μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.76**	**324**	P	**Pg**	**01 27 37.7**	**-0.6**
LXRA				S	**Sn**	**01 27 50.0**	**-0.4**
LXRA				AML	AML	01 27 51.8	
	comp=N,6748μm,0.3s						
LXRA				AML	AML	01 27 55.9	
	comp=E,5567μm,0.4s						
KEF3	**Kipouria, Keph**	**0.81**	**320**	P	**Pg**	**01 27 38.4**	**-0.8**
KEF3	**Kipouria, Keph**	**0.81**	**320**	P	**Pg**	**01 27 38.4**	**-0.8**
KEF3				S	**Sn**	**01 27 51.3**	**-0.3**
KEF5	**Kardakata, Kep**	**0.81**	**329**	P	**Pg**	**01 27 38.7**	**-0.6**
KEF5				S	**Sb**	**01 27 49.5**	**-0.3**
	comp=E,8μm,0.4s						
KEF5	**Kardakata, Kep**	**0.81**	**329**	P	**Pg**	**01 27 38.6**	**-0.7**
KEF5				S	**Sn**	**01 27 51.9**	**+0.2**
DMLN	**Damoulianata-K**	**0.82**	**323**	P	**Pg**	**01 27 38.1**	**-1.4**
DMLN				S	**Sb**	**01 27 50.4**	**+0.3**
	comp=E,2μm,0.7s						
DMLN	**Damoulianata-K**	**0.82**	**323**	P	**Pg**	**01 27 39.0**	**-0.5**
DMLN				S	**Sn**	**01 27 51.7**	**-0.3**
VSK1	**VASILIKIADES**	**0.90**	**337**	P	**Pg**	**01 27 39.9**	**-1.0**
PYL	**PYLOS**	**0.90**	**139**	P	**Pg**	**01 27 40.3**	**-0.6**
PYL				S	**Sg**	**01 27 52.9**	**+0.1**
	comp=E,1μm,0.7s						
UPR	**University Cam**	**0.93**	**41**	P	**Pn**	**01 27 41.5**	**-0.2**
KLMT	**Kalamata**	**0.99**	**121**	P	**Pb**	**01 27 42.2**	**+0.2**
KLV	**Kalavryta, Ach**	**1.02**	**63**	P	**Pn**	**01 27 42.2**	**-0.7**
KLV	**Kalavryta, Ach**	**1.02**	**63**	P	**Pn**	**01 27 42.6**	**-0.3**
EVGI	**Lefkada island**	**1.07**	**345**	P	**Pb**	**01 27 43.0**	**-0.5**
EVGI	**Lefkada island**	**1.07**	**345**	P	**Pn**	**01 27 44.1**	**+0.5**
EVGI				S	**Sn**	**01 28 00.2**	**+2.1**
EFP	**Efpalio**	**1.10**	**40**	P	**Pn**	**01 27 43.7**	**-0.3**
EFP	**Efpalio**	**1.10**	**40**	P	**Pn**	**01 27 43.8**	**-0.3**
EFP				S	**Sn**	**01 28 01.1**	**+2.3**
EFP				AML	AML	01 28 05.4	
	comp=N,1788μm,0.7s						
EFP				AML	AML	01 28 07.3	
	comp=E,881μm,0.6s						
ALIK	**Aliki, Aigiali**	**1.10**	**52**	P	**Pn**	**01 27 44.2**	**+0.2**
PVO	**Paravola**	**1.11**	**21**	P	**Pn**	**01 27 43.3**	**-0.8**
PVO	**Paravola**	**1.11**	**21**	P	**Pn**	**01 27 44.1**	**0.0**
PVO				S	**Sn**	**01 28 01.2**	**+2.2**
GUR	**Goura**	**1.12**	**71**	P	**Pn**	**01 27 44.0**	**-0.3**
GUR	**Goura**	**1.12**	**71**	P	**Pn**	**01 27 44.2**	**-0.1**
DRAG	**Dragano-Lefkad**	**1.15**	**343**	P	**Pb**	**01 27 44.0**	**-0.8**
DRAG	**Dragano-Lefkad**	**1.15**	**343**	P	**Pb**	**01 27 44.3**	**-0.5**
NYDR	**Nydri-Lefkada**	**1.16**	**348**	P	**Pb**	**01 27 44.1**	**-0.8**
NYDR	**Nydri-Lefkada**	**1.16**	**348**	P	**Pn**	**01 27 45.5**	**+0.8**
NYDR				S	**Sn**	**01 28 02.3**	**+2.3**
LKD2	**Lefkada island**	**1.24**	**347**	P	**Pb**	**01 27 45.6**	**-0.7**
LKD2	**Lefkada island**	**1.24**	**347**	P	**Pg**	**01 27 46.5**	**-0.8**
LKD2				S	**Sn**	**01 28 04.1**	**+1.9**
LKD2				AML	AML	01 28 10.4	
	comp=N,3414μm,0.7s						
LKD2				AML	AML	01 28 12.6	
	comp=E,2444μm,0.4s						
ANX	**Ano Chora**	**1.24**	**35**	P	**Pn**	**01 27 46.0**	**0.0**
ANX	**Ano Chora**	**1.24**	**35**	P	**Pn**	**01 27 46.2**	**+0.2**
TSLK	**Tsoukalades, L**	**1.27**	**345**	P	**Pn**	**01 27 45.8**	**-1.1**
THAL	**Thalero**	**1.39**	**70**	P	**Pn**	**01 27 47.6**	**-0.3**
EVR	**Evrytania**	**1.47**	**25**	P	**Pn**	**01 27 48.8**	**-0.4**
EVR	**Evrytania**	**1.47**	**25**	P	**Pg**	**01 27 50.9**	**-0.9**
HFS	**Hagfors**	**23.05**	**351**	P	**P**	**01 32 27.1**	**-0.4**
	comp=E,1.4nm,0.7s,baz=151,slow=9.9,SNR=6.3						
	comp=E,1.4nm,0.7s						
FINES	**FINESS Array B**	**24.10**	**6**	P	**P**	**01 32 38.2**	**+0.6**
	comp=E,1.2nm,0.8s,baz=202,slow=10,SNR=1.3						
	comp=E,1.2nm,0.8s						
KURBB	**Kurchatov Arra**	**42.28**	**53**	P	**P**	**01 35 15.6**	**0.0**
	comp=E,0.3nm,0.3s,baz=281,slow=9.4,SNR=1.7						
	comp=E,0.3nm,0.3s						
MKAR	**Makanchi Array**	**45.29**	**58**	P	**P**	**01 35 39.4**	**-0.6**
	comp=E,0.2nm,0.4s,baz=278,slow=9.1,SNR=4.1						
	comp=E,0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**45.80**	**48**	P	**P**	**01 35 44.0**	**+0.1**
	comp=E,0.4nm,0.4s,baz=265,slow=8.5,SNR=2.4						
	comp=E,0.4nm,0.4s						

*IDC **21** 01:54:50.1±4.2, 0.72S×101.04E, h73km±34km, mb3.5/11, mbtmp3.8/11, MS3.4/2, Error ellipse: s-maj=52.3km s-min=20.1km az=46.0*
*DJA **21** 01:55:07.8±0.4, 0.7N±3.3×10.0E±., h164km±5km, M4.4/13, mb4.6/3, mB5.8/1, MLv4.3/13, Mw(mB)5.4/1*

ISC 21 01:55:06.0±0.7, 0.22N±0.08×100.36E±0.08, h150km, n28, σ2s56/26, mb3.7/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKNI	**Bangkinang**	**0.69**	**81**	P	**Pn**	**01 55 32.9**	**+4.5**
PDSI	**Padang**	**1.13**	**175**	P	**Pn**	**01 55 35.3**	**+3.3**
PDSI				S	**Sn**	**01 55 55.8**	**+4.0**
SISI	**Saibi**	**1.99**	**219**	P	**Pn**	**01 55 43.3**	**+2.3**
PBSI	**Pulau Batu**	**2.09**	**262**	P	**Pn**	**01 55 45.1**	**+2.9**
KRJI	**Kerinci**	**2.55**	**154**	P	**Pn**	**01 55 49.9**	**+2.1**
GSI	**Gunungsitoli**	**2.98**	**291**	P	**Pn**	**01 55 55.9**	**+2.8**
PPSI	**Pulau Pagai**	**2.98**	**187**	P	**Pn**	**01 55 54.4**	**+1.2**
KCSI	**Kotacane, Aceh**	**4.17**	**322**	P	**Pn**	**01 56 10.9**	**+2.4**
SNSI	**Sinabang, Aceh**	**4.58**	**298**	P	**Pn**	**01 56 15.9**	**+2.1**
MNAI	**Manna**	**5.24**	**150**	P	**Pn**	**01 56 24.4**	**+1.8**
	163nm,1.4s,1.2nm						
MLSI	**Meulaboh, Aceh**	**5.63**	**316**	P	**Pn**	**01 56 29.7**	**+1.9**
	56nm,0.6s,0.5nm						
PPBI	**Pangkal Pinang**	**6.25**	**112**	P	**Pn**	**01 56 37.3**	**+1.3**
STKI	**Sintang**	**11.12**	**91**	P	P	01 57 56.0	+6.8
BATI	**Baumata**	**25.40**	**115**	LR	LR	02 12 10.1	
	comp=Z,92nm,18.8s,baz=171,slow=43						

WRA	**Warramunga Arr**	**38.85**	**123**	P	P	02 01 59.1	-18
	0.4nm,0.6s,baz=314,slow=13,SNR=13						
WRA				ScP	**ScP**	**02 07 55.4**	**-4.1**
	0.4nm,1.1s,baz=318,slow=2.8,SNR=4.9						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**40.31**	**128**	ScP	**ScP**	**02 08 00.7**	**-4.4**
	0.6nm,0.6s,baz=307,slow=4.3,SNR=4.8						
SONM	**Songino Array**	**47.71**	**5**	P	**P**	**02 03 27.7**	**0.0**
	0.3nm,0.5s,baz=195,slow=9.6,SNR=1.9						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**49.01**	**344**	P	**P**	**02 03 37.2**	**-0.2**
	0.5nm,0.4s,baz=158,slow=8.8,SNR=12						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**53.54**	**343**	P	**P**	**02 04 10.8**	**-0.2**
	0.3nm,0.5s,baz=164,slow=7.5,SNR=4.4						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**55.07**	**349**	P	**P**	**02 04 21.7**	**-0.4**
	0.6nm,0.3s,baz=169,slow=7.8,SNR=4.4						
	0.6nm,0.3s						
ASAJ	**Asahikawa**	**57.60**	**35**	LR	LR	02 30 14.7	
	comp=Z,36nm,20.4s,baz=150,slow=37						
BVAR	**Borovoye Array**	**58.24**	**339**	P	**P**	**02 04 43.3**	**-1.2**
	0.6nm,0.5s,baz=129,slow=8.7,SNR=7.1						
	0.6nm,0.5s						
KBZ	**Khabaz**	**66.88**	**318**	P	**P**	**02 05 41.6**	**-0.3**
	2.3nm,0.8s,baz=144,slow=7.1,SNR=4.4						
	2.3nm,0.8s						
MMAI	**Mount Meron Ar**	**69.03**	**305**	P	**P**	**02 05 56.5**	**+0.7**
	0.5nm,0.4s,baz=102,slow=10,SNR=2.4						
	0.5nm,0.4s						
BRTR	**Keskin Array B**	**72.10**	**312**	P	**P**	**02 06 13.5**	**-0.9**
	1.1nm,0.7s,baz=135,slow=7.3,SNR=8.3						
	1.1nm,0.7s						
FINES	**FINESS Array B**	**82.32**	**332**	P	**P**	**02 07 10.2**	**-0.5**
	0.6nm,0.5s,baz=115,slow=6.3,SNR=7.1						
	0.6nm,0.5s						
ARCES	**ARCESS Array B**	**84.52**	**340**	P	**P**	**02 07 21.2**	**-0.5**
	1.1nm,0.6s,baz=92,slow=6.3,SNR=4.4						
	1.1nm,0.6s						
TXAR	**Laabs Array**	**142.72**	**36**	PKP	**PKPdf**	**02 14 18.1**	**-4.2**
	0.2nm,0.5s,baz=318,slow=1.2,SNR=4.7						

RSNC 21 01:56:30.9±0.0, 12.7N±1.7×73.3W±., h17km±2km, M3.0, mb4.0, ML2.7, MLv3.5, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRJC	**Cerrejon, Guaj**	**1.24**	**177**	P	Pn	01 56 51.8	-1.8
CRJC				S	Sb	01 57 08.3	-1.5
SMRC	**Santa Marta, M**	**1.66**	**229**	P	Pn	01 56 57.1	-2.2
SMRC				S	Sn	01 57 17.3	-3.0
ARGC	**Ariguani, Magd**	**2.71**	**208**	P	Pn	01 57 12.7	-1.1
ARGC				S	Sn	01 57 46.1	-0.1
LL7C	**La Loma 7 Curu**	**2.95**	**189**	P	Pn	01 57 15.9	-1.1
LL7C				S	Sn	01 57 53.1	+1.0
SJCC	**San Jacinto, C**	**3.22**	**223**	P	Pn	01 57 18.6	-2.2
SJCC				S	Sb	01 58 03.5	-3.1
AGCC	**Aguachica**	**3.79**	**190**	P	Pn	01 57 27.1	-1.5
AGCC				S	Sn	01 58 12.5	-0.3
OCAC	**Ocana**	**4.02**	**185**	P	Pn	01 57 31.6	-0.3
OCAC				S	Sn	01 58 20.0	+1.2
PAMC	**Pamplona, Colo**	**4.91**	**177**	P	Pn	01 57 44.8	+0.4
PAMC				S	Sn	01 58 43.1	+2.1
VMM07	**Puerto Wilches**	**4.96**	**190**	P	Pn	01 57 44.2	-0.5
VMM07				S	Sn	01 58 46.5	+4.8
ZARC	**Zaragoza, Cauc**	**5.11**	**202**	P	Pn	01 57 48.6	+1.9
ZARC				S	Sn	01 58 47.9	+2.6
VMM09	**Lebrija**	**5.12**	**184**	P	Pn	01 57 47.0	0.0
	18nm,0.6s,0.1nm						
VMM09				S	Sn	01 58 47.5	+1.6
	18nm,0.6s,0.1nm						
BARC	**Barichara**	**5.65**	**182**	P	Pn	01 57 56.6	+2.3
BARC				S	Sn	01 59 00.1	+1.1
PTBC	**PUERTO BERRIO,**	**5.88**	**195**	P	Pn	01 57 58.0	+0.6
	7.5nm,0.5s						
PTBC				S	Sn	01 59 08.5	+4.0
	7.5nm,0.5s						
TAMC	**Tame, Arauca**	**5.91**	**169**	P	Pn	01 57 56.2	-1.6
	9.3nm,0.4s						
TAMC				S	Sn	01 59 04.9	-0.3
	9.3nm,0.4s						
RUSC	**La Rusia**	**6.34**	**181**	P	Pn	01 58 05.0	+0.9
RUSC				S	Sn	01 59 17.9	+1.5
SPBC	**San Pablo de B**	**6.67**	**190**	P	Pn	01 58 11.0	+2.7
SPBC				S	Sn	01 59 28.4	+4.4
NORC	**Norcasia**	**6.93**	**196**	P	Pn	01 58 14.2	+2.4
NORC				S	Sn	01 59 37.8	+7.5
CBOC	**Ciudad Bolivar**	**7.05**	**206**	P	Pn	01 58 16.4	+2.9
	3.8nm,0.9s						
GUY2C	**Guyana, Caldas**	**7.40**	**199**	P	Pn	01 58 20.0	+1.4
	9.0nm,0.6s						
GUY2C				S	Sn	01 59 43.8	+1.4
	9.0nm,0.6s						
GTBY	**Guantanamo Bay**	**7.89**	**345**	P	Pn	01 58 23.0	-1.9
GTBY				S	Sn	01 59 47.3	-6.6

*IDC **21** 02:32:46.3±1.6, 16.98S×167.91E, h0km, mb4.1/5, mbtmp4.1/6, ML4.3/1, MS3.5/11, Error ellipse: s-maj=47.4km s-min=30.6km az=134.0*
*NOU **21** 02:32:49.8, 17.09S×167.89E, h0km, MLv4.8/5, Vanuatu Islands*

ISC 21 02:32:49.6±1.3, 17.1S±0.1×167.9E±0.2, h21km, n14, σ0s74/7, mb4.0/5, MS3.6/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.14**	**195**	Pn	**Pn**	**02 34 06.4**	**+0.9**
	10.0nm,0.3s,baz=17,slow=17,SNR=70						
DZM				Sn	**Sn**	**02 35 03.3**	**-1.0**
	3.0nm,0.3s,baz=294,slow=23,SNR=1.1						
DZM				LR	LR	02 35 03.3	
	comp=Z,72nm,20.8s,baz=62,slow=26						
	35nm,0.4s						
HNR	**Honiara**	**10.86**	**314**	LR	LR	02 38 43.1	
	comp=Z,1μm,20.6s,baz=158,slow=33						
CTA	**Charters Tower**	**20.74**	**258**	LR	LR	02 44 45.0	
	comp=Z,105nm,18.1s,baz=181,slow=35						
WRA	**Warramunga Arr**	**31.93**	**260**	P	**P**	**02 39 13.9**	**-0.1**
	0.5nm,0.7s,baz=94,slow=9.3,SNR=2.1						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**32.48**	**253**	P	**P**	**02 39 19.3**	**+0.3**
	4.1nm,0.7s,baz=79,slow=9.0,SNR=32						
ASAR				LR	LR	02 51 24.7	
	comp=Z,116nm,18.9s,baz=133,slow=34						
	4.1nm,0.7s						
GUMO	**Guam**	**38.04**	**322**	LR	LR	02 54 14.9	
	comp=Z,55nm,20.6s,baz=91,slow=34						
CMAR	**Chiang Mai Arr**	**76.47**	**294**	P	**P**	**02 44 38.0**	**-0.4**
	2.8nm,0.3s,baz=134,slow=5.2,SNR=4.5						
	2.8nm,0.3s						
MA2	**Magadan**	**77.66**	**351**	LR	LR	03 14 56.5	
	comp=Z,22nm,19.4s,baz=137,slow=33						
YAK	**Yakutsk**	**84.45**	**343**	LR	LR	03 17 06.3	
	comp=Z,24nm,20.7s,baz=283,slow=32						
SONM	**Songino Array**	**84.75**	**324**	P	**P**	**02 45 22.5**	**+0.2**
	0.7nm,0.9s,baz=113,slow=3.3,SNR=3.8						
	0.7nm,0.9s						
PFO	**Pinyon Flats O**	**87.88**	**54**	LR	LR	03 16 54.4	
	comp=Z,33nm,20.4s,baz=248,slow=30						
NVAR	**Mina Array Bea**	**88.34**	**49**	P	**P**	**02 45 40.0**	**-0.2**
	0.6nm,0.8s,baz=224,slow=6.3,SNR=4.5						
NVAR				LR	LR	03 17 13.6	
	comp=Z,31nm,20.2s,baz=260,slow=30						
	0.6nm,0.8s						
BBB	**Bella Bella**	**88.39**	**34**	LR	LR	03 20 24.8	
	comp=Z,22nm,19.6s,baz=196,slow=32						
INK	**Inuvik**	**94.92**	**19**	LR	LR	03 22 34.6	
	comp=Z,24nm,20.3s,baz=184,slow=32						

IDC 21 02:39:33.5±2.0, 16.61S×173.82W, h0km, mb4.1/5, mbtmp4.1/5, Error ellipse: s-maj=58.2km s-min=32.7km az=119.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**22.99**	**199**	P	P	02 44 39.8	-0.1
	5.9nm,0.3s,baz=46,slow=2.3,SNR=8.0						
	5.9nm,0.3s						
STKA	**Stephens Creek**	**43.09**	**241**	P	P	02 47 36.7	+1.1
	1.4nm,0.4s,baz=80,slow=6.4,SNR=3.7						
	1.4nm,0.4s						
WRA	**Warramunga Arr**	**49.19**	**258**	P	P	02 48 23.3	-0.6
	0.3nm,0.4s,baz=98,slow=7.3,SNR=13						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**49.37**	**253**	P	P	02 48 24.9	-0.4
	7.0nm,0.6s,baz=88,slow=8.7,SNR=74						
	7.0nm,0.6s						
ILAR	**Eielson Array**	**83.70**	**11**	P	P	02 52 03.8	0.0
	0.2nm,0.7s,baz=228,slow=6.7,SNR=4.2						
	0.2nm,0.7s						

*TEH **21** 03:13:30.8, 34.42N×45.76E, h6km±6km, ML3.4*
*ISN **21** 03:13:30.2±0.8, 34.40N×45.74E, h6km±5km, ML3.5*
*IDC **21** 03:13:31.4±2.0, 34.38N×45.67E, h0km, mb3.6/6, mbtmp3.6/10, ML3.2/4, MS2.6/4, Error ellipse: s-maj=42.1km s-min=16.3km az=163.0*

ISC 21 03:13:32.4±0.7, 34.41N±0.03×45.75E±0.03, h10km, n43, σ1s63/40, mb3.8/5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.16**	**307**	Pg	**Pg**	**03 13 35.0**	**-1.0**
IDHR	**Dehrash**	**0.60**	**61**	Pg	**Pb**	**03 13 43.6**	**-1.7**
IGHG	**Ghaleghazi**	**0.68**	**96**	Pg	**Pb**	**03 13 45.1**	**-1.5**
ILBA	**Ilam Banvizeh**	**0.87**	**154**	Pg	**Pn**	**03 13 48.7**	**-2.1**
KCHF	**Cheshme Sefid,**	**1.08**	**97**	Pg	**Pn**	**03 13 52.8**	**-1.0**
ILIN	**Lien**	**1.12**	**63**	Pg	**Pn**	**03 13 53.8**	**-0.7**
IBDR	**Badra**	**1.30**	**173**	*e*Pg	**Pg**	**03 13 57.0**	**-0.5**
IBDR				*e*Sg	**Sg**	**03 14 16.0**	**+1.6**
IKRK	**Kirkuk**	**1.52**	**311**	*e*Pn	**Pg**	**03 14 00.0**	**-1.7**
IKRK				*e*Sn	**Sg**	**03 14 21.0**	**-0.4**
IKRK				AML	AML	03 14 28.1	
	comp=N,686nm,0.3s						
IKRK				AML	AML	03 14 28.7	
	comp=E,885nm,0.4s						
BHD	**Baghdad**	**1.61**	**225**	*e*Pn	**Pb**	**03 14 01.0**	**-1.2**
BHD				*e*Sn	**Sg**	**03 14 23.0**	**-1.1**
IBZA	**Bozab**	**1.75**	**87**	Pg	**Pg**	**03 14 05.0**	**-1.0**
SDS1	**Sardasht. Az.**	**1.75**	**353**	Pg	**Pg**	**03 14 04.7**	**-1.4**
IKFM	**Kafar-mosalman**	**1.96**	**116**	Pn	**Pg**	**03 14 07.9**	**-2.1**
IDOA	**Doab**	**2.11**	**106**	Pn	**Pb**	**03 14 10.0**	**-0.9**
MAHB	**Mahabad**	**2.35**	**359**	Pn	**Pb**	**03 14 13.5**	**-1.6**
HSAM	**Samen**	**2.37**	**94**	Pn	**Pb**	**03 14 13.4**	**-2.0**
HAGD	**Aghdareh**	**2.83**	**81**	Pn	**Pb**	**03 14 19.8**	**-3.4**
IRAZ	**Razeghan**	**3.58**	**73**	Pn	Pb	03 14 30.4	-5.6
ISRB	**Sarab**	**3.75**	**24**	Pn	**Pn**	**03 14 32.5**	**+2.0**
IHRS	**Heris**	**4.04**	**15**	Pn	**Pn**	**03 14 36.6**	**+2.0**
IMRD	**Marand**	**4.30**	**360**	Pn	**Pn**	**03 14 39.9**	**+1.9**
IPIR	**Pirpir**	**4.63**	**110**	Pn	**Pn**	**03 14 44.0**	**+1.3**
JHBN	**Jahan bin**	**4.66**	**116**	Pn	**Pn**	**03 14 44.5**	**+1.4**
QAMS	**Qamsar**	**4.74**	**97**	Pn	**Pn**	**03 14 46.5**	**+2.4**
ZNGN	**Zangian**	**4.85**	**117**	Pn	**Pn**	**03 14 47.2**	**+1.4**
MZPU	**Pul - Mazandar**	**5.17**	**65**	Pn	**Pn**	**03 14 52.7**	**+2.7**
KRSH	**Karshahi**	**5.31**	**93**	Pn	**Pn**	**03 14 53.9**	**+1.9**
IPRN	**Peran**	**5.69**	**69**	Pn	**Pn**	**03 14 59.3**	**+2.1**
IZEF	**Zefreh**	**5.69**	**104**	Pn	**Pn**	**03 14 59.0**	**+1.6**
GNI	**Garni**	**5.79**	**352**	Pn	Pn	03 15 03.6	+5.1
	comp=E,0.5nm,0.3s,baz=350,slow=22,SNR=1.9						
GNI				Lg	Lg	03 16 40.8	
	comp=E,0.2nm,0.3s,baz=132,slow=19,SNR=1.4						
	comp=E,1.4nm,0.3s						
KLNJ	**Kolanjah**	**5.98**	**123**	Pn	**Pn**	**03 15 03.0**	**+1.7**
IRAM	**Ramesheh**	**6.14**	**113**	Pn	**Pn**	**03 15 05.2**	**+1.7**
ASF	**Jabal al Asfar**	**7.74**	**256**	Pn	**Pn**	**03 15 25.1**	**-0.2**
	comp=E,0.2nm,0.3s,baz=152,slow=11,SNR=2.1						
ASF				Lg	Lg	03 17 34.0	
	comp=E,0.2nm,0.3s,baz=334,slow=21,SNR=1.4						
ASF				LR	LR	03 19 19.6	
	comp=E,49nm,18.3s,baz=152,slow=45						
	comp=E,0.9nm,0.4s						
MMAI	**Mount Meron Ar**	**8.73**	**264**	Pn	**Pn**	**03 15 39.4**	**+0.5**
	comp=E,0.4nm,0.3s,baz=72,slow=23,SNR=2.5						
MMAI				Lg	Lg	03 18 06.3	
	comp=E,0.3nm,0.3s,baz=97,slow=34,SNR=1.5						
	comp=E,0.3nm,0.4s						
EIL	**Elat**	**10.31**	**246**	LR	LR	03 19 47.4	
	comp=E,24nm,20.9s,baz=69,slow=37						
BRTR	**Keskin Array B**	**11.03**	**302**	LR	LR	03 21 34.8	
	comp=E,21nm,20.5s,baz=118,slow=44						
AKTO	**Aktyubinsk**	**18.36**	**26**	P	**P**	**03 17 47.4**	**+0.3**
	comp=E,0.1nm,0.3s,baz=237,slow=8.7,SNR=5.2						
	comp=E,1.7nm,0.7s						
AKASG	**Malin Array Be**	**20.25**	**329**	P	Pn	03 18 07.3	-2.4
	comp=E,0.4nm,0.5s,baz=141,slow=10.0,SNR=4.9						
	comp=E,0.4nm,0.5s						
BVAR	**Borovoye Array**	**25.55**	**36**	P	**P**	**03 19 02.0**	**+0.8**
	comp=E,0.7nm,0.6s,baz=247,slow=7.4,SNR=6.7						
	comp=E,0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**28.79**	**46**	P	**P**	**03 19 31.6**	**+1.3**
	comp=E,1.4nm,0.8s,baz=252,slow=9.0,SNR=8.6						
	comp=E,1.4nm,0.8s			

SGSI	**Sangihe**	**2.65**	**351**	P		**Pn**	03 24 46.7	**-2.6**
GTOI	**Gorontalo**	**2.94**	**262**	P		Pn	03 25 00.3	+7.0
LUWI	**Luwuk**	**3.77**	**237**			**Pn**	03 25 02.1	**-2.7**
LUWI	**Luwuk**	**3.77**	**237**	P		Pn	03 25 11.4	+6.7
TOLI2	**Tolitoli**	**5.14**	**271**			**Pn**	03 25 22.2	**-1.3**
FITZ	**Fitzroy Crossi**	**19.03**	**181**			**Pn**	03 28 27.4	**-1.1**
WB0	**Warramunga Arr**	**22.29**	**159**	P		**P**	03 29 02.3	**-0.5**
WB0	comp=Z,21nm,1.2s			IAmb		IAmb	03 29 07.7	
WRA	**Warramunga Arr**	**22.43**	**159**	P		**P**	03 29 03.3	**-1.0**
WRA	**Warramunga Arr**	**22.43**	**159**	P		**P**	03 29 03.3	**-1.0**
	comp=Z,3.4nm,0.5s,baz=335,slow=11,SNR=30 comp=Z,3.4nm,0.5s							
WB2	**Warramunga Arr**	**22.44**	**159**	P		**P**	03 29 03.5	**-0.8**
WB2	comp=Z,15nm,1.1s			IAmb		IAmb	03 29 09.2	
WR0	**Warramunga Arr**	**22.52**	**158**	P		**P**	03 29 03.8	**-1.4**
WR0	comp=Z,6.7nm,1.1s			IAmb		IAmb	03 29 10.3	
COEN	**Coen**	**22.68**	**132**	P		**P**	03 29 06.2	**-0.8**
AS31	**Alice Springs**	**25.76**	**163**	P		**P**	03 29 34.9	**-0.9**
ASAR	**Alice Springs**	**25.76**	**163**	P		**P**	03 29 34.9	**-0.9**
ASAR	**Alice Springs**	**25.76**	**163**	P		**P**	03 29 35.3	**-0.5**
	comp=Z,0.9nm,0.4s,baz=346,slow=12,SNR=18 comp=Z,0.9nm,0.4s							
BBOO	**Buckleboo**	**35.01**	**165**	P		**P**	03 30 56.8	**-0.6**
STKA	**Stephens Creek**	**35.96**	**157**	P		**P**	03 31 04.6	**-1.0**
KS19	**Wonju Array Si**	**36.32**	**3**	P		**P**	03 31 09.4	**+0.8**
JMM	**Marumori**	**39.11**	**19**	P		**P**	03 31 31.1	**-1.0**
USRK	**Ussuriysk Ar.**	**43.30**	**6**	P		**P**	03 32 07.2	**+0.7**
USRK	**Ussuriysk Ar.**	**43.30**	**6**	P		**P**	03 32 07.8	**+1.3**
	comp=Z,0.9nm,0.5s,baz=191,slow=6.8,SNR=2.5 comp=Z,0.9nm,0.5s							
SONM	**Songino Array**	**49.59**	**343**	P		**P**	03 32 57.4	**+1.5**
SONM	comp=Z,2.3nm,1.3s			IAmb		IAmb	03 33 19.7	
SONM	**Songino Array**	**49.59**	**343**	P		**P**	03 32 57.4	**+1.5**
	comp=Z,0.4nm,0.6s,baz=122,slow=5.2,SNR=1.9 comp=Z,0.4nm,0.6s							
MK31	**Makanchi Array**	**59.31**	**327**	P		**P**	03 34 07.4	**+0.9**
MKAR	**Makanchi Array**	**59.31**	**327**	P		**P**	03 34 07.3	**+0.8**
MKAR	**Makanchi Array**	**59.31**	**327**	P		**P**	03 34 07.2	**+0.7**
	comp=Z,0.7nm,0.4s,baz=126,slow=7.4,SNR=24 comp=Z,0.7nm,0.4s							
BKZ	**Black Stump Fm**	**61.17**	**137**	P		**P**	03 34 19.0	**-0.3**
ZALV	**Zalesovo Beam**	**62.61**	**334**	P		**P**	03 34 29.6	**+0.9**
KURBB	**Kurchatov Arra**	**63.57**	**328**	P		**P**	03 34 35.7	**+0.6**
	comp=Z,0.9nm,0.5s,baz=128,slow=6.0,SNR=13 comp=Z,0.9nm,0.5s							
KURK	**Kurchatov**	**63.57**	**329**	P		**P**	03 34 36.0	**+0.9**
KURK	comp=Z,2.8nm,0.9s			IAmb		IAmb	03 34 41.6	
BVAR	**Borovoye Array**	**69.13**	**328**	P		**P**	03 35 11.2	**+0.6**
	comp=Z,1.0nm,0.7s,baz=115,slow=6.8,SNR=4.9 comp=Z,1.0nm,0.7s							
BILL	**Bilibino**	**72.33**	**15**	P		**P**	03 35 30.2	**+0.4**
BILL	comp=Z,7.7nm,1.3s			IAmb		IAmb	03 36 05.7	
ABKAR	**Akbulak array**	**73.72**	**321**	P		**P**	03 35 39.4	**+1.0**
ABKAR	**Akbulak array**	**73.72**	**321**	P		**P**	03 35 39.6	**+1.2**
ABKAR	comp=Z,1.0nm,0.8s			IAmb		IAmb	03 35 44.5	
VNDA	**Vanda**	**80.89**	**173**	P		**P**	03 36 18.7	**+0.7**
	comp=Z,0.6nm,0.8s,baz=322,slow=6.9,SNR=2.5 comp=Z,0.6nm,0.8s							
G19K	**Purcell Mounta**	**83.79**	**23**	P		**P**	03 36 34.8	**+1.4**
G19K	comp=Z,2.0nm,0.7s			IAmb		IAmb	03 36 36.1	
D19K	**Kuna River**	**83.90**	**21**	P		**P**	03 36 35.7	**+1.7**
D19K	comp=Z,7.2nm,1.4s			IAmb		IAmb	03 36 47.0	
H19K	**Roundabout Mou**	**83.93**	**24**	P		**P**	03 36 36.1	**+2.0**
H19K	comp=Z,2.6nm,0.9s			IAmb		IAmb	03 36 55.6	
B20K	**Meade River**	**84.55**	**20**	P		**P**	03 36 38.8	**+1.6**
B20K	comp=Z,4.3nm,1.3s			IAmb		IAmb	03 36 56.2	
IMAR	**Indian Mountai**	**85.10**	**24**	P		**P**	03 36 40.5	**+0.5**
B21K	**Ikpikpuk River**	**85.35**	**20**	P		**P**	03 36 42.6	**+1.4**
B21K	comp=Z,3.9nm,1.3s			IAmb		IAmb	03 37 19.3	
C23K	**Itkillik River**	**86.76**	**20**	P		**P**	03 36 48.9	**+0.7**
C23K	comp=Z,5.0nm,1.4s			IAmb		IAmb	03 36 57.8	
BMAR	**Burnt Mountain**	**88.84**	**23**	P		**P**	03 36 59.1	**+0.9**
BCAR	**Beaver Creek A**	**90.12**	**27**	P		**P**	03 37 03.9	**-0.4**
LOGN	**Logan Glacier**	**90.60**	**29**	P		**P**	03 37 05.7	**-1.0**
E28M	**Babbage River**	**90.69**	**21**	P		**P**	03 37 07.6	**+0.8**
E28M	comp=Z,1.6nm,1.2s			IAmb		IAmb	03 37 22.7	

IDC 21 03:25:57.9±2.1, 5.72°S×142.40°E, h0km, mb3.8/3, mbtmp3.9/4, ML3.6/1, Error ellipse: s-maj=84.0km s-min=35.7km az=101.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.16**	**208**	Pn	Pn	03 29 41.8	**-4.9**
	baz=29,slow=13						
WRA				Sn	Sn	03 32 30.5	-16
	0.1nm,0.3s,baz=40,slow=25,SNR=3.9						
WRA				Lg	Lg	03 34 21.3	
	0.1nm,0.3s,baz=28,slow=28,SNR=2.7						
ASAR	**Alice Springs**	**19.63**	**204**	P	P	03 30 28.2	0.0
	0.2nm,0.3s,baz=35,slow=10,SNR=19						
ASAR				S	Sn	03 33 51.8	-19
	0.3nm,0.7s,baz=43,slow=19,SNR=1.7						
ASAR				Lg	Lg	03 36 10.6	
	baz=25,slow=29 5.2nm,0.9s						
MKAR	**Makanchi Array**	**74.41**	**322**	P	P	03 37 38.1	+0.3
	0.8nm,0.7s,baz=108,slow=7.2,SNR=6.7 0.8nm,0.7s						
BVAR	**Borovoye Array**	**83.88**	**325**	P	P	03 38 29.1	-0.4
	1.0nm,0.7s,baz=108,slow=9.3,SNR=6.5 1.0nm,0.7s						
ILAR	**Eielson Array**	**87.06**	**24**	P	P	03 38 45.4	+0.2
	0.4nm,0.9s,baz=260,slow=5.4,SNR=3.1 0.4nm,0.9s						

IDC 21 03:31:38.6±1.0, 29.°15N×142.°55E, h0km, mb3.7/8, mbtmp3.6/10, ML2.8/2, Error ellipse: s-maj=33.9km s-min=16.8km az=82.0

ISC 21 03:31:42.4±0.9, 29.°14N±0.°07×142.°5E±0.°2, h27km, n11, σ1s93/13, mb3.8/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.05**	**187**	Pn	**Pn**	**03 32 13.4**	**-1.7**
JCJ	4.5nm,0.3s,baz=321,slow=20,SNR=1.6			Sn	**Sn**	**03 32 40.1**	**+0.2**
	5.7nm,0.3s,baz=99,slow=21,SNR=2.1						
MJAR	**Matsushiro Arr**	**8.21**	**335**	Pn	**Pn**	**03 33 38.5**	**-1.3**
	0.1nm,0.3s,baz=164,slow=12,SNR=4.7 2.3nm,0.8s						
USRK	**Ussuriysk Ar.**	**17.20**	**334**	P	**Pn**	**03 35 40.7**	**0.0**
	0.5nm,0.6s,baz=156,slow=9.2,SNR=2.2						
SONM	**Songino Array**	**33.46**	**314**	P	**P**	**03 38 19.8**	**+0.6**
	0.8nm,0.8s,baz=118,slow=8.0,SNR=5.0 0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**48.14**	**318**	P	**P**	**03 40 20.3**	**+0.4**
	0.5nm,0.4s,baz=104,slow=6.1,SNR=2.8 0.5nm,0.4s						
MKAR	**Makanchi Array**	**49.40**	**308**	P	**P**	**03 40 30.0**	**+0.2**
	0.6nm,0.7s,baz=93,slow=9.7,SNR=8.4 0.6nm,0.7s						
WRA	**Warramunga Arr**	**49.42**	**190**	P	**P**	**03 40 31.4**	**+1.3**
	1.6nm,0.7s,baz=7.8,slow=7.8,SNR=9.1						
WRA				PcP	**PcP**	**03 41 52.5**	**+0.4**
	0.3nm,0.6s,baz=6.5,slow=2.9,SNR=1.6 1.6nm,0.7s						
KURBB	**Kurchatov Arra**	**51.82**	**313**	P	**P**	**03 40 48.3**	**+0.4**
	1.2nm,0.5s,baz=93,slow=6.4,SNR=15 1.2nm,0.5s						
ILAR	**Eielson Array**	**55.80**	**29**	P	**P**	**03 41 16.2**	**-0.6**
	0.5nm,1.1s,baz=269,slow=6.3,SNR=2.5 0.5nm,1.1s						
BVAR	**Borovoye Array**	**56.73**	**317**	P	**P**	**03 41 24.4**	**+0.8**
	1.2nm,0.5s,baz=90,slow=8.9,SNR=8.8 1.2nm,0.5s						
YKA	**Yellowknife Ar**	**70.23**	**29**	P	**P**	**03 42 53.2**	**+0.6**
	0.1nm,0.4s,baz=297,slow=6.8,SNR=1.4 0.1nm,0.4s						

NEIC 21 03:49:00.7±0.9, 19.°22N±0.°03×155.°42W±0.°02, h41km±3km, Error ellipse: s-maj=4.4km s-min=2.4km az=156.0

HVO 21 03:49:02.5±0.9, 19.°21N±0.°05×155.°41W±0.°05, h33km±6km, ML3.1/38, ML3.3/52(NEIC), Error ellipse: s-maj=7.7km s-min=5.8km az=142.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.03**	**16**		Pb	03 49 07.7	-0.3
HLP	**Hilina Pali**	**0.12**	**47**		Pn	03 49 08.0	-0.1
HLP	**Hilina Pali**	**0.12**	**47**	IAML		03 49 12.5	
HLP	comp=N,3μm,0.6s			IAML		03 49 18.8	
	comp=E,3μm,0.6s						
KHU	**Kahuku**	**0.20**	**280**		Pb	03 49 08.4	-0.9
KHU					Sn	03 49 12.9	-0.6
KHU	**Kahuku**	**0.20**	**280**	IAML		03 49 13.0	
KHU	comp=N,4μm,0.2s			IAML		03 49 13.1	
	comp=E,4μm,0.3s						
SDHHI	**Sand Hill**	**0.21**	**31**		Pb	03 49 08.5	-0.8
SDHHI					Sn	03 49 13.0	-0.5
SDHHI	**Sand Hill**	**0.21**	**31**	IAML		03 49 13.4	
SDHHI	comp=E,14μm,0.3s			IAML		03 49 13.6	
	comp=N,7μm,0.4s						
WRMHI	**West Rim**	**0.22**	**27**		Pb	03 49 08.6	-0.9
WRMHI					Sn	03 49 13.1	-0.8
WRMHI	**West Rim**	**0.22**	**27**	IAML		03 49 13.6	
WRMHI	comp=E,6μm,0.5s			IAML		03 49 19.3	
	comp=N,5μm,0.6s						
RIM	**Rim**	**0.22**	**34**		Pb	03 49 08.6	-0.9
RIM					Sn	03 49 13.1	-0.9
RIM	**Rim**	**0.22**	**34**	IAML		03 49 17.2	
RIM	comp=E,3μm,0.5s			IAML		03 49 18.7	
	comp=N,4μm,0.5s						
KKO	**Keanakako`i**	**0.23**	**35**		Pb	03 49 08.7	-0.8
KKO					Sn	03 49 13.4	-0.8
KKO	**Keanakako`i**	**0.23**	**35**	IAML		03 49 13.6	
KKO	comp=E,3μm,0.6s			IAML		03 49 17.8	
	comp=N,5μm,0.5s						
NPH	**North Pit**	**0.23**	**30**		Pb	03 49 08.6	-0.9
NPH					Sn	03 49 13.0	-1.2
UWE	**Uwekahuna**	**0.23**	**27**		Pb	03 49 08.7	-0.9
UWE					Sn	03 49 13.3	-1.0
UWE	**Uwekahuna**	**0.23**	**27**	IAML		03 49 18.9	
UWE	comp=E,4μm,0.5s			IAML		03 49 21.7	
	comp=N,3μm,0.5s						
OBL	**Observatory Le**	**0.24**	**29**		Pb	03 49 08.7	-0.9
OBL	**Observatory Le**	**0.24**	**29**	IAML		03 49 14.1	
OBL	comp=E,4μm,0.6s			IAML		03 49 17.2	
	comp=N,5μm,0.4s						
PUH	**Pauahi**	**0.24**	**48**		Pb	03 49 08.7	-0.9
PUH					Sb	03 49 13.3	-1.2
PUH	**Pauahi**	**0.24**	**48**	IAML		03 49 13.6	
PUH	comp=E,2μm,0.6s			IAML		03 49 14.2	
	comp=N,2μm,0.6s						
BYL	**Byron's Ledge**	**0.24**	**34**		Pb	03 49 08.7	-0.9
BYL	**Byron's Ledge**	**0.24**	**34**	IAML		03 49 15.8	
BYL	comp=N,2μm,0.6s			IAML		03 49 18.2	
	comp=E,2μm,0.7s						
UWB	**Uwekahuna B**	**0.24**	**30**		Pb	03 49 08.9	-0.8
UWB					Sb	03 49 13.1	-1.4
HATHI	**Halema`uma`u T**	**0.25**	**33**		Pb	03 49 08.8	-0.9
HATHI					Sb	03 49 13.5	-1.1
HATHI	**Halema`uma`u T**	**0.25**	**33**	IAML		03 49 14.2	
HATHI	comp=E,3μm,0.6s			IAML		03 49 17.4	
	comp=N,2μm,0.4s						
SBLHI	**Steaming Bluff**	**0.25**	**31**		Pb	03 49 08.7	-1.1
SBLHI	**Steaming Bluff**	**0.25**	**31**	IAML		03 49 13.6	
SBLHI	comp=E,2μm,0.4s			IAML		03 49 13.7	
	comp=N,3μm,0.3s						
RSD	**Rainshed**	**0.28**	**26**		Pb	03 49 09.0	-1.1
RSD					Sb	03 49 13.9	-1.4
RSD	**Rainshed**	**0.28**	**26**	IAML		03 49 14.3	
RSD	comp=N,1μm,2.4s			IAML		03 49 21.0	
	comp=E,968nm,0.3s						
KNHH	**Kane Nui o Ham**	**0.28**	**53**		Pb	03 49 09.2	-0.9
MLH	**Mauna Loa**	**0.28**	**4**		Pb	03 49 09.4	-0.9
MLH					Sb	03 49 14.5	-1.0
MLH	**Mauna Loa**	**0.28**	**4**	IAML		03 49 14.7	
MLH	comp=E,4μm,0.4s			IAML		03 49 15.0	
	comp=N,4μm,0.3s						
STCH	**Steam Cracks**	**0.32**	**57**		Pb	03 49 09.4	-1.1
STCH					Sb	03 49 14.8	-1.2
STCH	**Steam Cracks**	**0.32**	**57**	IAML		03 49 15.0	
STCH	comp=N,1μm,0.7s			IAML		03 49 15.1	
	comp=E,1μm,0.5s						
MWH	**Moku'aweowe**	**0.33**	**327**		Pb	03 49 09.9	-1.2
MWH					Sb	03 49 15.3	-1.6
MWH	**Moku'aweowe**	**0.33**	**327**	IAML		03 49 15.7	
MWH	comp=E,5μm,0.6s			IAML		03 49 15.7	
	comp=N,5μm,0.2s						
NPOC	**North of Pu'u**	**0.33**	**57**		Pb	03 49 09.7	-1.1
NPOC					Sb	03 49 14.9	-1.4
JCUZ	**Jacuzzi**	**0.34**	**59**	IAML		03 49 15.5	
JCUZ	comp=N,2μm,0.5s **Jacuzzi**	**0.34**	**59**		Pb	03 49 09.9	-0.9
JCUZ					Sb	03 49 15.0	-1.4
MLOA	**Mauna Loa Obse**	**0.36**	**334**		Pb	03 49 10.2	-1.2
MLOA					Sb	03 49 15.8	-1.7
MLOA	**Mauna Loa Obse**	**0.36**	**334**	IAML		03 49 16.0	
MLOA	comp=N,4μm,0.4s			IAML		03 49 16.5	
	comp=E,2μm,0.1s						
HMH	**Humu'ula Sheep**	**0.40**	**349**		Pb	03 49 10.9	-0.9
HMH					Sb	03 49 17.0	-1.1
HMH	**Humu'ula Sheep**	**0.40**	**349**	IAML		03 49 17.3	
HMH	comp=N,5μm,0.2s			IAML		03 49 17.7	
	comp=E,2μm,0.4s						
ALEP	**Alea Permanent**	**0.40**	**326**		Pb	03 49 10.3	-1.5
ALEP					Sb	03 49 16.4	-1.9
JOKA	**Jonika Flow**	**0.44**	**60**		Pb	03 49 10.8	-1.4
JOKA					Pn	03 49 17.1	+4.5
POHA	**Pohakuloa**	**0.56**	**348**		Pb	03 49 11.1	-3.1
POHA	comp=E,2μm,0.4s			IAML		03 49 25.7	
POHA				IAML		03 49 26.1	
	comp=E,1μm,0.3s						
POHA	**Pohakuloa**	**0.56**	**348**		Sb	03 49 19.9	-2.3
KHLU	**Kahalu`u**	**0.60**	**310**		Pb	03 49 12.7	-2.0
KHLU					Sb	03 49 20.0	-3.1
KHLU	**Kahalu`u**	**0.60**	**310**	IAML		03 49 20.7	
KHLU	comp=E,1μm,0.2s			IAML		03 49 20.7	
	comp=N,2μm,0.1s						
HUH	**Hualalai**	**0.62**	**319**		Pb	03 49 13.5	-1.7
HUH	**Hualalai**	**0.62**	**319**	IAML		03 49 28.3	
	comp=N,2μm,0.4s						
KKH	**Kailua Kona**	**0.73**	**308**		Pn	03 49 14.3	-2.2
KKH					Sn	03 49 23.1	-3.4
HPAH	**Hawaii Prepara**	**0.86**	**341**		Pn	03 49 16.1	-2.3
HPAH					Sn	03 49 26.0	-3.9
HPAH	**Hawaii Prepara**	**0.86**	**341**	IAML		03 49 26.9	
HPAH	comp=E,926nm,0.1s			IAML		03 49 27.2	
	comp=N,640nm,0.1s						
MHA	**Mahukona**	**1.08**	**334**		Pn	03 49 19.3	-2.1
MHA					Sn	03 49 31.6	-3.6
HLK	**Haleakala**	**1.73**	**333**		Pn	03 49 27.9	-2.7
HLK					Sn	03 49 46.6	-5.1
KHLH	**Kahului Airpor**	**1.93**	**330**		Pn	03 49 31.3	-1.8
KHLH					Sn	03 49 53.0	-3.2

DJA 21 03:51:47.3±1.4, 4.°N±13.°×12.°6E±.°, h10km, M4.0/6, mb4.2/4, mB5.8/1, MLv3.9/6, Mw(mB)5.4/1, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.21**	**192**	P	Pg	03 51 53.4	+1.8
GTOI	**Gorontalo**	**4.12**	**218**	P	Pn	03 52 50.6	+0.2
SANI	**Sanana**	**5.92**	**176**	P	Pn	03 53 14.2	-0.8
	11nm,0.7s,0.1nm						
NLAI	**Namlea**	**7.25**	**168**	P	Pn	03 53 31.7	-1.6
TTSI	**Tana Toraja**	**8.97**	**220**	P	Pn	03 53 56.8	-0.2

IDC 21 04:02:45.3±1.2, 0.°44S×124.°68E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=89.3km s-min=22.2km az=67.0

DJA 21 04:02:50.2±0.4, 0.°S±4.°×12.°5E±.°, h10km, M4.0/8, mb4.0/1, MLv4.0/8

ISC 21 04:02:52.3±0.9, 0.°44S±0.°08×125.°03E±0.°07, h52km, n12, σ1s41/12, mb3.7/5, Southern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.45**	**314**	P	**Pn**	**04 03 15.5**	**-0.8**
SANI	**Sanana**	**1.86**	**149**	P	**Pn**	**04 03 22.0**	**+0.1**
GTOI	**Gorontalo**	**2.29**	**298**	P	**Pn**	**04 03 29.6**	**+2.0**
LUWI	**Luwuk**	**2.34**	**255**	P	**Pn**	**04 03 29.8**	**+1.5**
LBMI	**Labuha**	**2.48**	**95**	P	**Pn**	**04 03 32.2**	**+1.9**
NLAI	**Namlea**	**3.47**	**143**	P	**Sn**	**04 04 22.0**	**-1.7**
TTSI	**Tana Toraja**	**5.82**	**244**	P	**Pn**	**04 04 16.8**	**+0.7**
WRA	**Warramunga Arr**	**21.42**	**155**	P	**P**	**04 07 36.2**	**0.0**
	0.5nm,0.7s,baz=330,slow=11,SNR=4.8 0.5nm,0.7s						
ASAR	**Alice Springs**	**24.64**	**160**	P	**P**	**04 08 09.4**	**+1.1**
	0.6nm,0.8s,baz=345,slow=6.8,SNR=2.6 0.6nm,0.8s						
KLR	**Kul'dur**	**49.81**	**6**	P	**P**	**04 11 40.0**	**+0.1**
	0.6nm,0.4s,baz=180,slow=20,SNR=2.8 0.6nm,0.4s						
MKAR	**Makanchi Array**	**60.06**	**327**	P	**P**	**04 12 53.5**	**-0.6**
	0.3nm,0.3s,baz=117,slow=8.2,SNR=10 0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**64.37**	**329**	P	**P**	**04 13 21.2**	**-1.6**
	0.3nm,0.4s,baz=134,slow=6.0,SNR=8.4 0.3nm,0.4s						

IDC 21 04:19:24.7±9.0, 6.°34S×130.°31E, h106km±86km, mb3.6/4, mbtmp4.0/7, ML4.1/3, Error ellipse: s-maj=95.7km s-min=22.2km az=55.0

ISC 21 04:19:22.7±1.2, 6.°3S±0.°1×130.°5E±0.°2, h90km, n7, σ0s87/7, mb4.0/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.79**	**239**	P	**Pn**	**04 21 13.3**	**-0.1**
	14nm,0.3s,baz=140,slow=6.8,SNR=6.8						
BATI				S	Sn	04 22 27.3	-13
	15nm,0.3s,baz=116,slow=10,SNR=1.6 42nm,0.4s						
WRA	**Warramunga Arr**	**14.12**	**165**	P	**Pn**	**04 22 38.1**	**-0.5**
	0.4nm,0.3s,baz=345,slow=13,SNR=19						
WRA				S	Sn	04 25 04.2	-10
	1.9nm,0.5s,baz=352,slow=22,SNR=9.3 0.7nm,0.3s						
ASAR	**Alice Springs**	**17.63**	**170**	P	**Pn**	**04 23 23.9**	**+1.3**
	0.7nm,0.3s,baz=339,slow=9.3,SNR=26						
ASAR				S	Sn	04 26 27.6	-11
	0.7nm,0.5s,baz=356,slow=27,SNR=3.9 2.8nm,0.6s						
STKA	**Stephens Creek**	**27.54**	**159**	P	**P**	**04 25 01.1**	**0.0**
	1.8nm,0.4s,baz=338,slow=11,SNR=5.4 1.8nm,0.4s						
SONM	**Songino Array**	**57.88**	**341**	P	**P**	**04 29 05.1**	**-0.2**
	0.3nm,0.3s,baz=155,slow=4.8,SNR=2.9 0.3nm,0.3s						
MKAR	**Makanchi Array**	**67.86**	**326**	P	**P**	**04 30 12.3**	**+0.9**
	1.4nm,0.6s,baz=125,slow=7.5,SNR=17 1.4nm,0.6s						
KURBB	**Kurchatov Arra**	**72.12**	**328**	P	**P**	**04 30 36.9**	**-0.5**
	0.1nm,0.4s,baz=124,slow=5.2,SNR=2.2 0.1nm,0.4s						

IDC 21 04:31:39.9±1.3, 2.°25S×127.°09E, h0km, mb3.5/4, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=95.8km s-min=23.2km az=73.0

DJA 21 04:31:50.3±1.2, 3.°S±5.°×12.°7E±.°, h15km±12km, M3.9/11, mb4.1/4, MLv3.8/11

ISC 21 04:31:43.8±0.9, 2.°31S±0.°07×127.°65E±0.°06, h29km, n11, σ3s09/10, mb3.5/4, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.07**	**211**	P	**Pb**	**04 32 03.8**	**0.0**
LBMI	**Labuha**	**1.67**	**355**	P	Pb	04 32 25.5	+12
SANI	**Sanana**	**1.68**	**279**	P	**Pb**	**04 32 16.9**	**+2.8**
SWI	**Sorong**	**3.88**	**68**	P	**Pb**	**04 32 53.4**	**+1.8**
FAKI	**Fak Fak**	**4.63**	**98**	P	**Pb**	**04 33 00.3**	**-4.1**
GTOI	**Gorontalo**	**5.49**	**302**	P	**Pb**	**04 33 15.0**	**-3.9**
	7.0nm,0.8s,0.0nm						
WRA	**Warramunga Arr**	**18.70**	**160**	P	**Pn**	**04 36 02.2**	**+1.6**
	0.1nm,0.3s,baz=340,slow=11,SNR=8.3 0.4nm,0.4s						
ASAR	**Alice Springs**	**22.08**	**165**	P	**P**	**04 36 39.4**	**+2.8**
	0.3nm,0.3s,baz=345,slow=11,SNR=2.6 0.3nm,0.3s						
KLR	**Kul'dur**	**51.46**	**3**	P	**P**	**04 40 48.4**	**+2.0**
	1.4nm,0.8s,baz=204,slow=10.0,SNR=2.9 1.4nm,0.8s						
SONM	**Songino Array**	**53.29**	**342**	P	**P**	**04 40 58.0**	**-2.1**
	0.3nm,0.4s,baz=140,slow=9.2,SNR=1.7 0.3nm,0.4s						
MKAR	**Makanchi Array**	**63.05**	**327**	P	**P**	**04 42 06.1**	**-2.2**
	0.3nm,0.9s,baz=130,slow=6.6,SNR=2.2 0.3nm,0.9s						

IDC 21 04:35:24.1±2.0, 6.°36S×143.°62E, h0km, mb3.9/3, mbtmp3.9/4, ML3.5/1, Error ellipse: s-maj=76.6km s-min=30.0km az=108.0

ISC 21 04:35:25.6±1.0, 6.°5S±0.°1×143.°4E±0.°1, h10km, n6, σ1s93/6, mb3.8/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.72**	**128**	Sn	**Sn**	**04 37 31.9**	**+0.1**
	1.2nm,0.3s,baz=268,slow=18,SNR=1.3						
WRA	**Warramunga Arr**	**16.01**	**212**	Pn	**Pn**	**04 39 08.8**	**-2.2**
	0.1nm,0.3s,baz=18,slow=13,SNR=3.1						
WRA				Lg	Lg	04 43 51.9	
	baz=34,slow=31,SNR=4.0						
ASAR	**Alice Springs**	**19.37**	**207**	P	**P**	**04 39 54.0**	**+2.4**
	0.2nm,0.3s,baz=35,slow=10,SNR=27						
ASAR				Lg	Lg	04 45 45.4	
	baz=34,slow=36 3.4nm,0.8s						
MKAR	**Makanchi Array**	**75.62**	**322**	P	**P**	**04 47 11.2**	**+0.3**
	0.5nm,0.7s,baz=105,slow=7.6,SNR=6.8 0.5nm,0.7s						
BVAR	**Borovoye Array**	**85.07**	**325**	P	**P**	**04 48 01.9**	**+0.3**
	1.4nm,0.8s,baz=103,slow=6.2,SNR=5.7 1.4nm,0.8s						
ILAR	**Eielson Array**	**87.35**	**24**	P	**P**	**04 48 11.9**	**-0.7**
	0.6nm,0.9s,baz=246,slow=6.8,SNR=5.3 0.6nm,0.9s						

*IDC 21 04:46:40.1±6.9, 11.°64S

ILAR	**Eielson Array**	**83.82**	**18**	P		**P**	04 58 54.9	-0.7
	0.2nm,0.5s,baz=230,slow=4.6,SNR=5.6							
	0.2nm,0.5s							
MKAR	**Makanchi Array**	**94.31**	**317**	P		**P**	04 59 46.1	+0.2
	1.3nm,0.5s,baz=91,slow=6.0,SNR=17							
	1.3nm,0.5s							
TXAR	**Lajitas Array**	**95.55**	**61**	P		P	04 59 49.2	-2.8
	0.2nm,0.8s,baz=246,slow=3.8,SNR=2.0							
	0.2nm,0.8s							
ARCES	**ARCESS Array B**	**116.99**	**346**	PKP		**PKPdf**	05 05 09.2	-1.0
	3.0nm,1.1s,baz=89,slow=1.7,SNR=7.6							

JMA ***21*** *04:50:01.9±0.2,24.0°N±0.3×12.2°E±°, h0km, TAIWAN REGION*

TAP ***21*** *04:50:02.8,24.01°N×121.61°E,h9km,ML3.5,B*

ISC 21 04:50:02.8±0.8,24.00N±0.01×121.66E±0.01,h11km±4km, n141,σ0s85/278,1C-29D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.05**	**249**	⇑*i*	P		**Pg**	**04 50 05.0**	**+0.1**
HWA	baz=181			*i*	S		**Sg**	**04 50 06.7**	**+0.2**
TWD	**Chiawan**	**0.10**	**325**	⇓*i*	P		**Pg**	**04 50 05.4**	**-0.1**
TWD	baz=354			*i*	S		**Sg**	**04 50 07.0**	**-0.5**
ETM	**Tongmen**	**0.16**	**259**	⇓	P		**Pg**	**04 50 05.8**	**-0.6**
ETM	baz=251				S		**Sg**	**04 50 07.7**	**-1.1**
ETL	**Fush Village**	**0.17**	**348**	⇓	P		**Pg**	**04 50 06.5**	**-0.1**
ETL	baz=3.0				S		**Sg**	**04 50 08.9**	**-0.1**
NACB	**Ninganchiao**	**0.19**	**341**	⇓	P		**Pg**	**04 50 06.7**	**-0.2**
NACB	baz=2.0				S		**Sg**	**04 50 09.2**	**-0.4**
SHUL	**Shoufeng**	**0.23**	**203**		P		**Pg**	**04 50 08.2**	**+0.7**
SHUL	baz=199				S		**Sg**	**04 50 12.4**	**+1.7**
LXIB	**Xiulin Townshi**	**0.23**	**276**	⇓	P		**Pg**	**04 50 07.0**	**-0.6**
LXIB	baz=269				*e*S		**Sg**	**04 50 10.2**	**-0.7**
ETLH	**Xiulin Townshi**	**0.27**	**322**	⇓	P		**Pg**	**04 50 08.0**	**-0.3**
ETLH	baz=329				S		**Sg**	**04 50 11.3**	**-0.6**
ESL	**Shilin**	**0.28**	**229**	⇓*i*	P		**Pg**	**04 50 07.9**	**-0.5**
ESL	baz=226			*i*	S		**Sg**	**04 50 11.3**	**-0.9**
EHP	**Heping Village**	**0.32**	**13**	*e*	P		**Pg**	**04 50 09.6**	**+0.3**
EHP	baz=22				S		**Sg**	**04 50 14.3**	**+0.7**
EAHA	**Aohua**	**0.34**	**12**		P		**Pg**	**04 50 09.7**	**+0.1**
EAHA	baz=27				S		**Sg**	**04 50 14.7**	**+0.6**
WARBT	**Fenglin Townsh**	**0.37**	**222**	⇓	P		**Pg**	**04 50 09.7**	**-0.5**
WARBT	baz=225				S		**Sg**	**04 50 14.3**	**-0.9**
EGFH	**Guangfu**	**0.39**	**213**		P		**Pg**	**04 50 10.3**	**-0.2**
EGFH	baz=215				S		**Sg**	**04 50 16.1**	**+0.4**
WHF	**Hehuan Shan**	**0.39**	**292**	⇓*i*	P		**Pg**	**04 50 10.2**	**-0.5**
WHF	baz=294			*i*	S		**Sg**	**04 50 15.0**	**-0.9**
ENA	**Nanau**	**0.44**	**10**	⇓*i*	P		**Pg**	**04 50 11.6**	**+0.2**
ENA	baz=16			*i*	S		**Sg**	**04 50 17.3**	**+0.1**
OWD	**Renai**	**0.44**	**265**		P		**Pg**	**04 50 11.1**	**-0.4**
OWD	baz=274				S		**Sg**	**04 50 16.8**	**-0.7**
CHGB	**Renai**	**0.45**	**278**	⇓	P		**Pg**	**04 50 11.4**	**-0.3**
CHGB	baz=278				*e*S		**Sg**	**04 50 17.1**	**-0.5**
FUSS	**Fushou**	**0.46**	**303**	⇓	P		**Pg**	**04 50 11.6**	**-0.2**
FUSS	baz=306				S		**Sg**	**04 50 17.9**	**0.0**
EWUT	**Wuta**	**0.46**	**14**		P		**Pg**	**04 50 12.1**	**+0.2**
EWUT	baz=19				S		**Sg**	**04 50 18.0**	**0.0**
WUSB	**Renai**	**0.50**	**270**	⇓	P		**Pg**	**04 50 12.3**	**-0.2**
WUSB	baz=269				S		**Sg**	**04 50 18.6**	**-0.5**
NNSB	**Datong**	**0.50**	**330**	⇓	P		**Pg**	**04 50 12.5**	**-0.1**
NNSB	baz=334				S		**Sg**	**04 50 18.8**	**-0.4**
NNSH	**Datong**	**0.50**	**330**		P		**Pg**	**04 50 12.6**	**0.0**
NNSH	baz=333				S		**Sg**	**04 50 18.8**	**-0.5**
TWT	**Tachien**	**0.51**	**300**	⇓*i*	P		**Pb**	**04 50 12.9**	**-1.0**
TWT	baz=301				S		**Sb**	**04 50 20.7**	**-0.7**
NNS	**Nan Shan**	**0.51**	**329**	⇓*i*	P		**Pg**	**04 50 12.8**	**-0.1**
NNS	baz=334			*i*	S		**Sg**	**04 50 19.3**	**-0.4**
TDCB	**Techi**	**0.53**	**299**	⇓	P		**Pg**	**04 50 13.0**	**-0.1**
TDCB	baz=301				*e*S		**Sg**	**04 50 19.6**	**-0.5**
VWDT	**VWDT**	**0.53**	**243**	⇓	P		**Pg**	**04 50 13.0**	**-0.2**
VWDT	baz=241				S		**Sg**	**04 50 19.8**	**-0.5**
HGSD	**Ruisui**	**0.55**	**203**		P		**Pb**	**04 50 14.3**	**-0.2**
HGSD	baz=213				*e*S		**Sb**	**04 50 23.5**	**+1.2**
LATG	**Datong**	**0.55**	**347**	⇓	P		**Pg**	**04 50 13.5**	**-0.1**
LATG	baz=351				S		**Sg**	**04 50 21.0**	**+0.1**
EHYH	**Wanrong**	**0.58**	**210**		P		**Pg**	**04 50 13.8**	**-0.3**
EHYH	baz=215				S		**Sg**	**04 50 22.1**	**+0.4**
EHY	**Hungye**	**0.58**	**212**	⇓*i*	P		**Pg**	**04 50 13.6**	**-0.5**
EHY	baz=217				S		**Sb**	**04 50 22.2**	**-1.0**
ESAO	**Su ao**	**0.60**	**16**		P		**Pb**	**04 50 14.7**	**-0.7**
ESAO	baz=25				S		**Sg**	**04 50 22.4**	**0.0**
EOS4	**EOS4**	**0.61**	**78**	*e*	P		**Pn**	**04 50 17.4**	**+0.2**
EOS4	baz=78				*e*S		**Sn**	**04 50 26.9**	**0.0**
NDT	**Datong Townshi**	**0.62**	**348**		P		**Pb**	**04 50 15.1**	**-0.6**
NDT	baz=351				S		**Sg**	**04 50 23.2**	**+0.2**
TWC	**Suao**	**0.63**	**16**	*i*	P		**Pb**	**04 50 15.5**	**-0.5**
TWC	baz=10.0			*i*	S		**Sb**	**04 50 24.2**	**-0.7**
NDS	**Dongshan**	**0.64**	**5**		P		**Pb**	**04 50 15.4**	**-0.6**
NDS	baz=8.0				S		**Sb**	**04 50 24.2**	**-0.7**
WPL	**Puli Township**	**0.64**	**272**		P		**Pg**	**04 50 14.9**	**-0.3**
WPL	baz=271				S		**Sg**	**04 50 22.8**	**-0.9**
DPDB	**Guoxing**	**0.67**	**273**		P		**Pb**	**04 50 15.9**	**-0.8**
DPDB	baz=273				*e*S		**Sg**	**04 50 24.3**	**-0.3**
EOS2	**EOS2**	**0.67**	**51**	*e*	P		**Pn**	**04 50 18.8**	**+0.6**
EOS2	baz=66				*e*S		**Sn**	**04 50 30.9**	**+2.3**
SSLB	**Suanglung**	**0.68**	**252**	⇓	P		**Pg**	**04 50 15.5**	**-0.5**
SSLB	baz=263				S		**Sg**	**04 50 23.5**	**-1.4**
WCS	**Beigang Elemen**	**0.69**	**275**	⇓	P		**Pb**	**04 50 16.0**	**-0.8**
WCS	baz=275				S		**Sb**	**04 50 25.8**	**-0.6**
YULB	**Yu-li**	**0.69**	**209**		P		**Pg**	**04 50 15.7**	**-0.4**
YULB	baz=215				*e*S		**Sb**	**04 50 25.8**	**-0.6**
ECBN	**Changbin**	**0.70**	**196**		P		**Pg**	**04 50 16.3**	**-0.1**
ECBN	baz=182				*e*S		**Sb**	**04 50 28.2**	**+1.4**
SMLT	**Sun Moon Lake**	**0.70**	**261**	⇓*i*	P		**Pg**	**04 50 16.2**	**-0.2**
SMLT	baz=260			*i*	S		**Sg**	**04 50 25.4**	**-0.3**
WHP	**Taichung City**	**0.71**	**293**	⇓	P		**Pb**	**04 50 16.7**	**-0.6**
WHP	baz=288				S		**Sb**	**04 50 27.2**	**+0.1**
EYUL	**Yuli**	**0.72**	**206**		P		**Pg**	**04 50 16.1**	**-0.6**
EYUL	baz=216				*e*S		**Sb**	**04 50 28.2**	**+1.0**
YHNB	**Yeheng**	**0.72**	**339**		P		**Pb**	**04 50 16.9**	**-0.6**
YHNB	baz=342				*e*S		**Sb**	**04 50 26.5**	**-0.9**
TWE	**Neicheng**	**0.72**	**1**	⇓*i*	P		**Pb**	**04 50 17.2**	**-0.3**
TWE	baz=5.0			*i*	S		**Sg**	**04 50 26.4**	**+0.2**
TWF1	**Yuli**	**0.72**	**207**	*i*	P		**Pg**	**04 50 16.1**	**-0.6**
TWF1	baz=215			*i*	S		**Sb**	**04 50 27.8**	**+0.4**
NSK	**Sanguang**	**0.73**	**338**	⇓*i*	P		**Pb**	**04 50 17.0**	**-0.6**
NSK	baz=341			*i*	S		**Sg**	**04 50 26.4**	**-0.2**
TYC	**Yuchr**	**0.74**	**263**	⇓*i*	P		**Pg**	**04 50 16.7**	**-0.4**
TYC	baz=263			*i*	S		**Sg**	**04 50 25.8**	**-1.0**
FUSB	**Fushanzhiwuyua**	**0.76**	**355**		P		**Pb**	**04 50 17.9**	**-0.3**
FUSB	baz=358				S		**Sb**	**04 50 28.1**	**-0.6**
ILA	**Ilan**	**0.77**	**6**	*e*	P		**Pg**	**04 50 17.2**	**-0.5**
ILA	baz=10.0				*e*S		**Sb**	**04 50 28.6**	**-0.1**
NWLT	**Wulai**	**0.79**	**350**		P		**Pb**	**04 50 18.4**	**-0.3**
NWLT	baz=352				S		**Sg**	**04 50 28.1**	**-0.3**
WHYT	**Xinyi Township**	**0.80**	**248**		P		**Pb**	**04 50 18.4**	**-0.3**
WHYT	baz=255				S		**Sb**	**04 50 28.6**	**-1.0**
NFF	**Wufeng Townshi**	**0.80**	**322**	⇓	P		**Pb**	**04 50 18.5**	**-0.3**
NFF	baz=324				S		**Sb**	**04 50 28.9**	**-0.9**
CHKH	**Chenggong**	**0.84**	**197**		P		**Pb**	**04 50 19.6**	**+0.2**
CHKH	baz=183				S		**Sb**	**04 50 32.2**	**+1.6**
FULB	**Fuli**	**0.86**	**203**		P		**Pb**	**04 50 20.3**	**+0.5**
FULB	baz=216				*e*S		**Sb**	**04 50 32.7**	**+1.3**
WJS	**Zhushan**	**0.87**	**259**		P		**Pb**	**04 50 20.1**	**+0.1**
WJS	baz=258				S		**Sb**	**04 50 31.8**	**+0.2**
NSTT	**Nanjuang**	**0.87**	**317**	⇓*i*	P		**Pb**	**04 50 20.0**	**0.0**
NSTT	baz=319			*i*	S		**Sb**	**04 50 31.9**	**+0.2**
TWQ1	**Liyutan**	**0.88**	**294**	*i*	P		**Pb**	**04 50 20.5**	**+0.3**
TWQ1	baz=307				S		**Sn**	**04 50 33.3**	**-0.8**
WNT	**Mingjian**	**0.90**	**263**	*i*	P		**Pn**	**04 50 21.0**	**-0.5**
WNT	baz=262			*i*	S		**Sn**	**04 50 33.9**	**-0.6**
WNT1	**Nantou City**	**0.90**	**265**		P		**Pn**	**04 50 21.2**	**-0.3**
WNT1	baz=264				S		**Sn**	**04 50 35.0**	**+0.5**
NJD	**Zhudong**	**0.90**	**325**	*e*	P		**Pn**	**04 50 21.0**	**-0.5**
NJD	baz=327				*e*S		**Sn**	**04 50 33.7**	**-0.8**
TCU	**Taichung**	**0.91**	**280**		P		**Pb**	**04 50 20.9**	**+0.3**
TCU	baz=275				*e*S		**Sb**	**04 50 33.1**	**+0.3**
ALS	**Alishan**	**0.92**	**238**	*i*	P		**Pb**	**04 50 20.5**	**-0.5**
ALS	baz=226				*e*S		**Sb**	**04 50 33.8**	**+0.4**
NSY	**Sanyi**	**0.92**	**297**	*i*	P		**Pb**	**04 50 21.1**	**+0.2**
NSY	baz=311				S		**Sb**	**04 50 33.3**	**+0.2**
CHKT	**Chengkung**	**0.93**	**197**	*i*	P		**Pg**	**04 50 20.5**	**-0.3**
CHKT	baz=174			*i*	S		**Sn**	**04 50 35.4**	**+0.1**
EHD	**Haiduan**	**0.94**	**206**		P		**Pg**	**04 50 20.6**	**-0.4**
EHD	baz=217				*e*S		**Sb**	**04 50 34.5**	**+0.8**
NMLH	**Miaoli**	**0.96**	**304**		P		**Pn**	**04 50 22.5**	**+0.2**
NMLH	baz=306				S		**Sn**	**04 50 35.6**	**-0.4**
HSN1	**Hsinchu**	**0.97**	**323**	*e*	P		**Pn**	**04 50 22.8**	**+0.3**
HSN1	baz=325				*e*S		**Sb**	**04 50 35.2**	**+0.6**
CHN5	**Tsauling**	**0.98**	**246**	*i*	P		**Pb**	**04 50 22.1**	**+0.2**
CHN5	baz=247			*i*	S		**Sn**	**04 50 36.7**	**0.0**
TIPB	**Shuangxi**	**0.98**	**9**		P		**Pb**	**04 50 21.9**	**0.0**
TIPB	baz=2.0				S		**Sb**	**04 50 35.1**	**+0.2**
ECS	**Chishang**	**0.98**	**204**	*e*	P		**Pb**	**04 50 22.1**	**+0.2**
ECS	baz=215				*e*S		**Sb**	**04 50 35.9**	**+1.0**
WDJ	**Dajia District**	**0.99**	**291**		P		**Pn**	**04 50 23.4**	**+0.6**
WDJ	baz=292				S		**Sn**	**04 50 37.6**	**+0.7**
ELDTW	**Lidau**	**1.00**	**216**	*i*	P		**Pg**	**04 50 21.0**	**-1.0**
ELDTW	baz=206				S		**Sb**	**04 50 35.0**	**-0.4**
SBCB	**Hsinchu**	**1.00**	**322**	*e*	P		**Pb**	**04 50 22.5**	**+0.2**
SBCB	baz=324				*e*S		**Sn**	**04 50 36.7**	**-0.4**
WCHH	**Zhanghua**	**1.01**	**275**		P		**Pn**	**04 50 23.4**	**+0.4**
WCHH	baz=276				S		**Sn**	**04 50 37.3**	**+0.1**
HSN	**Hsinchu**	**1.02**	**322**	*e*	P		**Pn**	**04 50 24.1**	**+1.0**
HSN	baz=327				*e*S		**Sb**	**04 50 36.6**	**+0.6**
TWB1	**Santiao Chiao**	**1.05**	**16**		P		**Pn**	**04 50 24.2**	**+0.6**
TWB1	baz=12				*i* S		**Sb**	**04 50 37.0**	**+0.2**
WGK	**Gukeng**	**1.05**	**253**	*i*	P		**Pn**	**04 50 23.3**	**-0.2**
WGK	baz=254			*i*	S		**Sn**	**04 50 39.2**	**+0.9**
NCUH	**Zhongli**	**1.06**	**336**		P		**Pn**	**04 50 24.6**	**+0.9**
NCUH	baz=338				S		**Sn**	**04 50 40.7**	**+2.3**
WDLH	**Douliu**	**1.07**	**254**		P		**Pn**	**04 50 24.5**	**+0.7**
WDLH	baz=254				S		**Sn**	**04 50 38.4**	**-0.3**
NWF	**Wu-fen Shan**	**1.08**	**6**	*i*	P		**Pg**	**04 50 22.3**	**-1.3**
NWF	baz=7.0				S		**Sn**	**04 50 38.7**	**-0.3**
WFSB	**Wu-fen Shan**	**1.08**	**6**		P		**Pg**	**04 50 22.1**	**-1.4**
WFSB	baz=7.0				S		**Sb**	**04 50 38.4**	**+0.8**
SXI1	**Grass Mountain**	**1.11**	**10**		P		**Pn**	**04 50 25.0**	**+0.6**
SXI1	baz=353				*e*S		**Sn**	**04 50 40.0**	**+0.1**
WCKO	**Fanlu**	**1.11**	**240**		P		**Pn**	**04 50 24.4**	**-0.1**
WCKO	baz=241				S		**Sn**	**04 50 40.9**	**+1.1**
TWS1	**Kuangyinshan**	**1.12**	**349**	*i*	P		**Pn**	**04 50 25.9**	**+1.4**
TWS1	baz=359				*e*S		**Sn**	**04 50 40.3**	**+0.3**
YM01	**YM01**	**1.15**	**356**		P		**Pn**	**04 50 25.7**	**+0.8**
YM01	baz=357				*e*S		**Sn**	**04 50 40.6**	**-0.2**
NHW	**Xinwu Township**	**1.15**	**331**	*e*	P		**Pn**	**04 50 25.9**	**+0.9**
NHW	baz=333				S		**Sn**	**04 50 41.2**	**+0.5**
TNOU	**National Taiwa**	**1.15**	**5**	*e*	P		**Pn**	**04 50 25.7**	**+0.7**
TNOU	baz=6.0				*e*S		**Sn**	**04 50 41.1**	**+0.3**
STYH	**Taoyuan**	**1.16**	**225**		P		**Pb**	**04 50 24.8**	**0.0**
STYH	baz=225				S		**Sn**	**04 50 41.5**	**+0.8**
CHN4	**Tsaushan**	**1.17**	**237**	*i*	P		**Pn**	**04 50 25.6**	**+0.4**
CHN4	baz=224			*i*	S		**Sn**	**04 50 43.7**	**+2.6**
TPUB	**Ta-pu**	**1.17**	**234**		P		**Pn**	**04 50 25.3**	**+0.1**
TPUB	baz=221				*e*S		**Sn**	**04 50 41.5**	**+0.2**
STYT	**Tauyuan**	**1.17**	**225**	*i*	P		**Pn**	**04 50 25.2**	**0.0**
STYT	baz=225				S		**Sn**	**04 50 41.8**	**+0.5**
WRL	**Guolierlin Hig**	**1.18**	**266**		P		**Pn**	**04 50 25.3**	**0.0**
WRL	baz=255				S		**Sn**	**04 50 42.8**	**+1.5**
NTST	**Danshui**	**1.18**	**351**	*e*	P		**Pn**	**04 50 26.8**	**+1.5**
NTST	baz=2.0				S		**Sn**	**04 50 43.8**	**+2.4**
YM08	**YM08**	**1.19**	**357**		P		**Pn**	**04 50 26.2**	**+0.7**
YM08	baz=345				*e*S		**Sn**	**04 50 42.2**	**+0.6**
ANP	**Anpu**	**1.19**	**354**	*i*	P		**Pn**	**04 50 26.1**	**+0.5**
ANP	baz=356				*e*S		**Sn**	**04 50 41.9**	**0.0**
RLNB	**Erlin**	**1.19**	**265**		P		**Pn**	**04 50 26.3**	**+0.8**
RLNB	baz=266				S		**Sn**	**04 50 43.1**	**+1.4**
WTK	**Tuku**	**1.20**	**255**		P		**Pn**	**04 50 26.0**	**+0.3**
WTK	baz=257				S		**Sn**	**04 50 43.2**	**+1.2**
WTP	**Ta-pu**	**1.22**	**232**	*i*	P		**Pn**	**04 50 26.0**	**+0.2**
WTP	baz=233			*i*	S		**Sn**	**04 50 43.3**	**+1.0**
JYNG	**Yonagunijimaku**	**1.26**	**69**	*e*	P		**Pg**	**04 50 26.2**	**-0.8**
JYNG				*e*	S		**Sg**	**04 50 42.6**	**-0.8**
TWGBT	**Beinan**	**1.29**	**205**		P		**Pg**	**04 50 24.8**	**-2.8**
TWG	baz=205 **Pinlang**	**1.29**	**205**	*i*	P		**Pg**	**04 50 26.7**	**-0.9**
TWG	baz=205				*e*S		**Sn**	**04 50 44.7**	**+0.6**
TWK	**Hsinying**	**1.30**	**236**	*i*	P		**Pb**	**04 50 27.8**	**+0.5**
TWK	baz=237				S		**Sn**	**04 50 46.4**	**+2.0**
CHN1	**Nanshi**	**1.31**	**232**	*i*	P		**Pb**	**04 50 28.2**	**+0.6**
CHN1	baz=234				S		**Sn**	**04 50 46.7**	**+1.9**
SNST	**Tainan City**	**1.32**	**234**		P		**Pb**	**04 50 28.6**	**+1.1**
SNST	baz=236				S		**Sn**	**04 50 47.8**	**+3.0**
YOJ	**Yonaguni jima**	**1.32**	**69**	*e*	S		**Sg**	**04 50 44.3**	**-1.0**
LDUT	**Ludao**	**1.33**	**188**		P		**Pn**	**04 50 25.5**	**-1.9**
LDUT	baz=170				S		**Sg**	**04 50 44.1**	**-1.5**
SGST	**Jiashian**	**1.34**	**228**	*i*	P		**Pn**	**04 50 27.8**	**+0.2**
SGST	baz=229			*i*	S		**Sn**	**04 50 47.5**	**+2.0**
SLGT	**Liugui**	**1.36**	**223**		P		**Pn**	**04 50 28.1**	**+0.3**
SLGT	baz=225				S		**Sn**	**04 50 47.5**	**+1.5**
WSF	**Szhu**	**1.36**	**255**	*e*	P		**Pg**	**04 50 28.4**	**-0.6**
WSF	baz=256				S		**Sn**	**04 50 47.6**	**+1.7**
ICHU	**Yijhu**	**1.42**	**244**		P		**Pb**	**04 50 29.1**	**-0.1**
ICHU	baz=246				S		**Sn**	**04 50 49.5**	**+2.3**
CHN8	**Yiju**	**1.48**	**244**	*e*	P		**Pg**	**04 50 30.6**	**-0.5**
CHN8	baz=246				S		**Sg**	**04 50 50.7**	**+0.3**
ECL	**Taimali**	**1.54**	**205**		P		**Pn**	**04 50 28.6**	**-1.6**
ECL	baz=189				*e*S		**Sn**	**04 50 49.4**	**-0.8**
SCST	**Cishan**	**1.54**	**224**		P		**Pg**	**04 50 32.0**	**-0.3**
SCST	baz=227				*e*S		**Sg**	**04 50 53.9**	**+1.5**
SHHT	**Tainan City**	**1.55**	**231**	*e*	P		**Pg**	**04 50 32.4**	**-0.1**
SHHT	baz=251				*e*S		**Sg**	**04 50 55.4**	**+2.8**
TSMG	**Majia**	**1.59**	**216**		P		**Pb**	**04 50 31.8**	**-0.4**
TSMG	baz=232				S		**Sg**	**04 50 54.4**	**+0.5**
MASBT	**Mashibuluo**	**1.67**	**215**		P		**Pn**	**04 50 32.5**	**+0.5**
MASBT	baz=218				S		**Sg**	**04 50 57.1**	**+0.6**
EAST	**Anshuo**	**1.77**	**205**	*i*	P		**Pn**	**04 50 33.3**	**-0.2**
EAST	baz=196				*e*S		**Sn**	**04 50 56.5**	**+0.4**
SCZT	**Fangliau**	**1.88**	**211**	*i*	P		**Pn**	**04 50 35.0**	**0.0**
SCZT	baz=216				*e*S		**Sg**	**04 51 02.2**	**-1.0**
SLIU	**Shizi**	**1.94**	**204**		P		**Pb**	**04 50 37.4**	**-0.9**
SLIU	baz=191				S		**Sb**	**04 51 01.9**	**-0.6**
LAY	**Lan-yu**	**1.95**	**183**	*e*	P		**Pn**	**04 50 34.5**	**-1.4**
LAY	baz=168				*e*S		**Sn**	**04 50 59.2**	**-1.3**

	baz=168							
HATJ	**Hateruma jima**	**1.96**	**88**	S	**Sn**	**04 51 01.3**	**+0.5**
PHUB	**P'eng-hu**	**1.97**	**256**	P	**Pn**	**04 50 36.9**	**+0.7**
	baz=259							
PHUB				S	**Sb**	**04 51 03.1**	**-0.3**
	baz=259							
PNG	**Penghu**	**1.98**	**258**	*i* P	**Pn**	**04 50 37.0**	**+0.8**
	baz=260							
PNG				S	**Sb**	**04 51 03.6**	**+0.2**
	baz=260							
WDGT	**Dungji**	**1.98**	**249**	*i* P	**Pn**	**04 50 37.1**	**+0.8**
	baz=252							
WDGT				S	**Sb**	**04 51 03.2**	**-0.3**
	baz=252							
LYUB	**Lan-yu**	**1.99**	**182**	*e*P	**Pn**	**04 50 35.1**	**-1.3**
	baz=167							
LYUB				*e*S	**Sn**	**04 51 00.1**	**-1.2**
	baz=167							
VCHM	**Qimei**	**2.19**	**249**	P	**Pn**	**04 50 40.0**	**+0.8**
	baz=238							
VCHM				S	**Sn**	**04 51 08.1**	**+1.7**
	baz=238							
VWUC	**VWUC**	**2.24**	**297**	P	**Pn**	**04 50 39.7**	**-0.3**
	baz=298							
VWUC				S	**Sn**	**04 51 06.7**	**-1.0**
	baz=298							
JIJ	**Ishigaki jima**	**2.30**	**80**	*e*P	**Pn**	**04 50 41.7**	**+1.0**
JIJ				S	**Sn**	**04 51 09.1**	**+0.1**
JISG	**Ishigakijimahi**	**2.49**	**76**	P	**Pn**	**04 50 43.7**	**+0.3**
JISG				*e*S	**Sn**	**04 51 13.5**	**-0.2**
PTMZ	**Houxiangcun**	**2.54**	**295**	P	**Pn**	**04 50 43.2**	**-0.7**
	baz=296							
PTMZ				S	**Sn**	**04 51 15.1**	**+0.2**
	baz=296							
MATB	**Ma-tsu**	**2.65**	**324**	P	**Pn**	**04 50 46.0**	**+0.4**
	baz=311							
MATB				*e*S	**Sn**	**04 51 17.8**	**+0.1**
	baz=311							
JTJ	**Tarama**	**2.85**	**76**	*e*S	**Sn**	**04 51 23.5**	**+0.9**
KNM	**Kinmen**	**2.98**	**279**	P	**Pn**	**04 50 51.9**	**+1.9**
	baz=280							
KNM				*e*S	**Sb**	**04 51 30.3**	**-2.0**
	baz=280							
KNMB	**Chin-men Tao**	**3.02**	**280**	*e*P	**Pn**	**04 50 50.3**	**-0.4**
	baz=281							
KNMB				*e*S	**Sn**	**04 51 28.1**	**+1.2**
	baz=281							
LYJJ	**Jianjiangzhen**	**3.07**	**326**	*e*P	**Pn**	**04 50 51.9**	**+0.6**
	baz=327							
LYJJ				*e*S	**Sn**	**04 51 29.0**	**+1.0**
	baz=327							
MHZQ	**Yeshan**	**3.17**	**312**	*e*P	**Pn**	**04 50 53.1**	**+0.3**
	baz=312							
MHZQ				S	**Sn**	**04 51 31.8**	**+1.2**
	baz=312							
XPSS	**Dashiqiu**	**3.21**	**336**	*e*P	**Pn**	**04 50 55.2**	**+2.0**
	baz=337							
XPSS				*e*S	**Sn**	**04 51 32.7**	**+1.2**
	baz=337							
ZPLA	**Ao Xicun**	**3.58**	**270**	*e*P	**Pn**	**04 50 58.3**	**0.0**
	baz=272							
ZPLA				*e*S	**Sn**	**04 51 40.6**	**0.0**
	baz=272							

*IDC **21** 05:03:18.8±0.8,6°.04S×142°.67E,h0km,mb4.1/11, mbtmp4.1/13,ML2.5/1,MS3.3/3,Error ellipse: s-maj=36.0km s-min=17.4km az=75.0*
*NEIC **21** 05:03:20.7±1.9,6°.0S±0°.1×142°.53E±0°.10,h10km±2km, mb4.2/12,Error ellipse: s-maj=24.0km s-min=13.0km az=28.0*

ISC 21 05:03:20.0±0.6,6°.11S±0°.08×142°.56E±0°.08,h10km,n32, σ1°50/32,mb4.1/12,New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.61**	**126**			**Pn**	**05 04 45.0**	**+1.4**
PMG	**Port Moresby**	**5.61**	**126**	Pn		**Pn**	**05 04 45.0**	**+1.4**
	8.8nm,0.3s,baz=325,slow=9.3,SNR=7.7							
PMG				Sn		**Sn**	**05 05 44.6**	**-3.6**
	7.0nm,0.3s,baz=229,slow=19,SNR=2.4							
PMG				LR		LR	05 06 49.3	
	comp=Z,123nm,19.5s,baz=180,slow=38							
	21nm,0.4s							
COEN	**Coen**	**7.82**	**176**	Pn		**Pn**	**05 05 15.4**	**+1.5**
FAKI	**Fak Fak**	**10.75**	**287**	Pn		**Pn**	**05 05 53.1**	**-1.1**
MTN	**Manton Dam**	**13.10**	**238**	Pn		**Pn**	**05 06 24.6**	**-1.7**
CTA	**Charters Tower**	**14.35**	**166**	LR		LR	05 11 56.8	
	comp=Z,106nm,21.1s,baz=180,slow=36							
WB0	**Warramunga Arr**	**15.73**	**210**	Pn		**Pn**	**05 07 00.3**	**-1.5**
WB0				IAmb		IAmb	05 07 22.7	
	comp=Z,12nm,0.7s							
WR0	**Warramunga Arr**	**15.82**	**209**			**Pn**	**05 07 01.0**	**-2.0**
WR0				IAmb		IAmb	05 07 16.4	
	comp=Z,14nm,0.8s							
WB2	**Warramunga Arr**	**15.90**	**209**	Pn		**Pn**	**05 07 02.0**	**-2.1**
WB2				IAmb		IAmb	05 07 18.1	
	comp=Z,9.6nm,0.6s							
WRA	**Warramunga Arr**	**15.90**	**209**			**Pn**	**05 07 02.1**	**-2.0**
WRA	**Warramunga Arr**	**15.90**	**209**	Pn		**Pn**	**05 07 01.4**	**-2.7**
	comp=Z,0.9nm,0.3s,baz=26,slow=13,SNR=27							
WRA				Sn		Sn	05 09 47.9	-13
	comp=Z,0.6nm,0.3s,baz=41,slow=24,SNR=5.0							
WRA				Lg		Lg	05 11 41.9	
	comp=Z,0.4nm,0.3s,baz=23,slow=28,SNR=5.3							
KNRA	**Kununurra**	**16.54**	**234**	Pn		**Pn**	**05 07 10.4**	**-1.8**
KNRA				IAmb		IAmb	05 07 23.4	
	comp=Z,20nm,0.8s							
SOEI	**Soe**	**18.47**	**258**			**P**	**05 07 35.5**	**-0.9**
AS31	**Alice Springs**	**19.34**	**205**	P		**P**	**05 07 46.6**	**+0.9**
AS31				IAmb		IAmb	05 07 50.6	
	comp=Z,4.9nm,0.7s							
ASAR	**Alice Springs**	**19.34**	**205**	P		**P**	**05 07 46.9**	**+1.1**
ASAR	**Alice Springs**	**19.34**	**205**	P		**P**	**05 07 47.5**	**+1.7**
	comp=Z,14nm,0.7s,baz=29,slow=10,SNR=68							
ASAR				S		Sn	05 11 11.6	-12
	comp=Z,1.7nm,0.7s,baz=21,slow=28,SNR=4.0							
ASAR				Lg		Lg	05 13 30.4	
	baz=18,slow=31							
ASAR				LR		LR	05 15 33.6	
	comp=Z,203nm,18.8s,baz=30,slow=38							
FITZ	**Fitzroy Crossi**	**20.36**	**233**	P		**P**	**05 07 57.5**	**+0.6**
KAPI	**Kappang**	**22.72**	**272**	P		**P**	**05 08 22.8**	**+0.4**
TOLI2	**Tolitoli**	**22.89**	**288**	P		**P**	**05 08 23.7**	**-0.5**
TOLI2				IAmb		IAmb	05 08 26.3	
	comp=Z,8.0nm,0.7s							
STKA	**Stephens Creek**	**25.65**	**182**	P		**P**	**05 08 51.6**	**+1.5**
STKA	**Stephens Creek**	**25.65**	**182**	P		**P**	**05 08 49.5**	**-0.5**
	comp=Z,3.9nm,0.9s,baz=339,slow=17,SNR=3.7							
	comp=Z,3.9nm,0.9s							
PSA00	**Pilbara Seismi**	**26.82**	**233**	P		**P**	**05 09 00.8**	**+0.1**
MJAR	**Matsushiro Arr**	**42.62**	**355**	P		**P**	**05 11 15.7**	**-0.9**
	comp=Z,1.8nm,0.7s,baz=169,slow=6.9,SNR=1.5							
	comp=Z,1.8nm,0.7s							
CMAR	**Chiang Mai Arr**	**49.45**	**300**	P		**P**	**05 12 11.8**	**+1.0**
	comp=Z,1.3nm,0.3s,baz=113,slow=6.9,SNR=4.6							
	comp=Z,1.3nm,0.3s							
SONM	**Songino Array**	**62.43**	**333**	P		**P**	**05 13 43.8**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=151,slow=3.3,SNR=2.7							
	comp=Z,0.2nm,0.3s							
VNDA	**Vanda**	**72.10**	**176**	P		**P**	**05 14 46.0**	**+1.9**
	comp=Z,0.8nm,0.8s,baz=348,slow=7.5,SNR=3.2							
	comp=Z,0.8nm,0.8s							
MKAR	**Makanchi Array**	**74.81**	**322**	P		**P**	**05 15 01.8**	**+1.1**
	comp=Z,1.9nm,0.9s,baz=109,slow=7.3,SNR=13							
	comp=Z,1.9nm,0.9s							
ZALV	**Zalesovo Beam**	**76.79**	**329**	P		**P**	**05 15 12.0**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=109,slow=7.8,SNR=3.6							
	comp=Z,0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**78.70**	**324**	P		**P**	**05 15 22.9**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=119,slow=4.4,SNR=6.6							
	comp=Z,1.2nm,0.9s							
QSPA	**South Pole Qui**	**83.86**	**180**	P		**P**	**05 15 49.7**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=261,slow=1.9,SNR=2.5							
	comp=Z,1.1nm,0.7s							
BVAR	**Borovoye Array**	**84.28**	**325**	P		**P**	**05 15 52.8**	**+0.7**
	comp=Z,6.2nm,0.9s,baz=112,slow=6.9,SNR=22							
	comp=Z,6.2nm,0.9s							
ILAR	**Eielson Array**	**87.34**	**24**	P		**P**	**05 16 06.2**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=251,slow=4.8,SNR=20							
	comp=Z,1.6nm,0.8s							

*IDC **21** 05:04:23.9±4.0,24°.26S×179°.97W,h524km±42km,mb3.4/8, mbtmp4.3/10,Error ellipse: s-maj=29.4km s-min=18.6km az=51.0*

ISC 21 05:04:21.9±0.8,24°.3S±0°.1×179°.8W±0°.1,h505km,n15, σ1°24/16,mb3.9/8,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.83**	**277**	P		**P**	**05 07 10.9**	**+1.4**
	9.8nm,0.9s,baz=12,slow=23,SNR=5.8							
URZ	**Urewera**	**14.19**	**190**	P		**P**	**05 07 23.8**	**+0.4**
	7.7nm,0.8s,baz=347,slow=2.7,SNR=6.7							
URZ				S		**S**	**05 09 51.7**	**-1.3**
	10nm,0.6s,baz=9.9,slow=23,SNR=7.7							
CTA	**Charters Tower**	**31.65**	**271**	P		**P**	**05 10 03.8**	**+0.4**
	11nm,0.3s,baz=90,slow=8.5,SNR=4.2							
	11nm,0.3s							
STKA	**Stephens Creek**	**34.75**	**249**	P		**P**	**05 10 29.4**	**-0.1**
	2.6nm,0.5s,baz=95,slow=13,SNR=4.7							
	2.6nm,0.5s							
ASAR	**Alice Springs**	**42.15**	**261**	P		**P**	**05 11 28.9**	**-0.9**
	1.4nm,0.3s,baz=94,slow=6.7,SNR=10							
	1.4nm,0.3s							
WRA	**Warramunga Arr**	**42.55**	**266**	P		**P**	**05 11 32.0**	**-1.0**
	4.8nm,0.3s,baz=97,slow=8.3,SNR=20							
	4.8nm,0.3s							
VNDA	**Vanda**	**54.02**	**185**	P		**P**	**05 12 58.2**	**+0.4**
	0.7nm,0.9s,baz=34,slow=9.0,SNR=1.7							
	0.7nm,0.9s							
QSPA	**South Pole Qui**	**65.81**	**180**	P		**P**	**05 14 17.4**	**+0.8**
	2.2nm,0.6s,baz=290,slow=0.4,SNR=15							
	2.2nm,0.6s							
TXAR	**Lajitas Array**	**90.48**	**58**	P		**P**	**05 16 31.4**	**+1.6**
	0.5nm,0.7s,baz=215,slow=4.4,SNR=4.4							
	0.5nm,0.7s							
ILAR	**Eielson Array**	**92.35**	**13**	P		**P**	**05 16 36.5**	**-1.0**
	0.7nm,0.8s,baz=210,slow=5.2,SNR=2.7							
	0.7nm,0.8s							
KURBB	**Kurchatov Arra**	**115.63**	**316**	PKP		**PKPdf**	**05 22 05.4**	**-0.7**
	0.1nm,0.4s,baz=82,slow=2.0,SNR=1.6							
BVAR	**Borovoye Array**	**120.83**	**319**	PKP		**PKPdf**	**05 22 15.4**	**-0.7**
	0.4nm,0.3s,baz=107,slow=3.3,SNR=2.7							
HFS	**Hagfors**	**142.94**	**349**	PKP		**PKPdf**	**05 22 54.3**	**-2.9**
	2.3nm,0.4s,baz=73,slow=4.8,SNR=20							
AKASG	**Malin Array Be**	**145.38**	**327**	PKPbc		**PKPdf**	**05 23 02.1**	**+0.4**
	1.3nm,0.4s,baz=44,slow=4.2,SNR=8.1							
MMAI	**Mount Meron Ar**	**148.01**	**294**	PKPbc		**PKPbc**	**05 23 11.0**	**+0.3**
	1.3nm,0.4s,baz=80,slow=9.4,SNR=4.1							

*SOME **21** 05:07:45.8,42°.58N×79°.53E,h10km*
*NNC **21** 05:07:45.5±0.7,42°.58N×79°.61E,h0km,mb3.3,mpv3.0, Error ellipse: s-maj=4.5km s-min=2.4km az=135.0*
*KRNET **21** 05:07:49.5±0.1,42°.44N×79°.19E,h10km,mb2.2*

ISC 21 05:07:43.6±1.5,42°.49N±0°.05×79°.61E±0°.04,h4km±11km, n47,σ1°16/83,11C-5D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.78**	**327**	*e*P		**Pg**	**05 07 59.4**	**+0.7**
	4.7nm,0.1s							
UZB				*e*S		**Sb**	**05 08 09.7**	**-1.2**
	70nm,0.2s							
UZB	**Uzynbulak**	**0.78**	**327**	P		**Pg**	**05 07 59.4**	**+0.7**
	4.7nm,0.1s							
UZB				S		**Sb**	**05 08 09.8**	**-1.1**
	70nm,0.2s							
PDGK	**Podgornoye**	**0.84**	**354**	P		**Pg**	**05 08 00.1**	**+0.4**
	8.6nm,0.2s							
PDGK				S		**Sb**	**05 08 10.8**	**-1.7**
	7.6nm,0.2s							
PDGK	**Podgornoye**	**0.84**	**354**	⇓P		**Pg**	**05 07 59.9**	**+0.1**
	3.2nm,0.2s							
PDGK				⇑S		**Sb**	**05 08 10.8**	**-1.7**
	15nm,0.8s							
PRZ	**Przheval'sk**	**0.89**	**270**	⇑*e*P		**Pg**	**05 08 01.1**	**+0.4**
	baz=76							
PRZ				⇑*e*S		**Sg**	**05 08 09.5**	**-2.8**
	baz=76							
SATY	**Saty**	**1.05**	**303**	*e*P		**Pb**	**05 08 04.7**	**+0.3**
	2.7nm,0.2s							
SATY				*e*S		**Sn**	**05 08 18.5**	**-1.9**
	37nm,0.1s							
SATY	**Saty**	**1.05**	**303**	P		**Pb**	**05 08 04.7**	**+0.3**
	2.7nm,0.2s							
SATY				S		**Sn**	**05 08 18.5**	**-1.9**
	37nm,0.1s							
ZHN	**Zhinishke**	**1.10**	**308**	*e*P		**Pg**	**05 08 05.1**	**+0.5**
	9.2nm,0.2s							
ZHN				*e*S		**Sb**	**05 08 19.2**	**-0.6**
	58nm,0.3s							
ZHN	**Zhinishke**	**1.10**	**308**	P		**Pg**	**05 08 05.1**	**+0.5**
	9.2nm,0.2s							
ZHN				S		**Sb**	**05 08 19.2**	**-0.6**
	58nm,0.3s							
KTMS	**Ketmen**	**1.10**	**30**	*e*P		**Pg**	**05 08 04.8**	**+0.1**
	1.3nm,0.1s							
KTMS				*e*S		**Sg**	**05 08 18.7**	**-0.2**
	5.9nm,0.3s							
KTMS	**Ketmen**	**1.10**	**30**	P		**Pg**	**05 08 04.8**	**+0.1**
	1.3nm,0.1s							
KTMS				S		**Sg**	**05 08 18.7**	**-0.2**
	5.9nm,0.3s							
KURS	**Kuram**	**1.45**	**314**	*e*P		**Pg**	**05 08 11.8**	**+0.4**
	1.4nm,0.3s							
KURS				*e*S		**Sg**	**05 08 30.6**	**+0.4**
	5.6nm,0.2s							
KURS	**Kuram**	**1.45**	**314**	P		**Pg**	**05 08 11.8**	**+0.4**
	1.4nm,0.3s							
KURS				S		**Sg**	**05 08 30.6**	**+0.4**
	5.6nm,0.2s							
ANVS	**Anan'yevo**	**1.46**	**282**	⇑*e*P		**Pb**	**05 08 12.1**	**+0.7**
	baz=87							
ANVS				⇑*e*S		**Sb**	**05 08 28.5**	**-1.9**
	baz=87							
TARG	**Taragay, Kyrgy**	**1.54**	**241**	⇓*e*P		**Pn**	**05 08 13.5**	**+1.3**
	baz=36							
TARG				⇓*e*S		**Sn**	**05 08 31.2**	**-1.6**
	baz=36							
BLB	**Baldybastay**	**1.80**	**333**	P		**Pb**	**05 08 17.8**	**+0.5**
	5.8nm,0.2s							
BLB				S		**Sg**	**05 08 41.1**	**-0.4**
	11nm,0.2s							
KDJ	**Kajisay**	**1.84**	**259**	⇑*e*P		**Pb**	**05 08 18.2**	**+0.4**
	baz=59							
KDJ				⇑*e*S		**Sn**	**05 08 39.1**	**-0.7**
	baz=59							
DJR	**Jarkent**	**1.84**	**4**	*e*P		**Pb**	**05 08 18.0**	**+0.1**
	5.1nm,0.2s							
DJR				*e*S		**Sg**	**05 08 42.1**	**-0.7**
	8.6nm,0.2s							
DJR	**Jarkent**	**1.84**	**4**	P		**Pb**	**05 08 18.0**	**+0.1**
	5.1nm,0.2s							
DJR				S		**Sg**	**05 08 42.1**	**-0.7**
	8.6nm,0.2s							
KNOS	**Konyrlen**	**1.89**	**351**	P		**Pb**	**05 08 19.1**	**+0.4**
	8.1nm,0.2s							
KNOS				S		**Sg**	**05 08 43.4**	**-1.0**
	17nm,0.2s							
KOTS	**Kotyrbulak**	**1.98**	**293**	*e*P		**Pg**	**05 08 22.3**	**+0.8**
	5.6nm,0.3s							
KOTS				*e*S		**Sg**	**05 08 49.2**	**+2.1**
	23nm,0.3s							
KOTS	**Kotyrbulak**	**1.98**	**293**	Pg		**Pg**	**05 08 22.3**	**+0.8**
	5.6nm,0.3s							
KOTS				Lg		Lg	05 08 49.2	
	23nm,0.3s							
MDOK	**Medeo**	**2.00**	**290**	*e*P		**Pb**	**05 08 21.4**	**+0.8**
	5.3nm,0.3s							
MDOK				*e*S		**Sg**	**05 08 47.1**	**-0.7**
	10nm,0.5s							
MDOK	**Medeo**	**2.00**	**290**	Pn		**Pb**	**05 08 20.9**	**+0.3**
	1.7nm,0.3s							
MDOK				Pg		**Pb**	**05 08 21.4**	**+0.8**
	5.3nm,0.3s							
MDOK				Lg		Lg	05 08 47.1	
	10nm,0.5s							
MDOK				Sn		**Sg**	**05 08 47.8**	**0.0**
	11nm,0.7s							
TNSS	**Tian-Shan**	**2.03**	**286**	*e*P		**Pb**	**05 08 22.2**	**+0.9**
	6.3nm,0.2s							
TNSS				*e*S		**Sg**	**05 08 48.4**	**-0.5**
	2.6nm,0.2s							
TNSS	**Tian-Shan**	**2.03**	**286**	Pg		**Pb**	**05 08 22.2**	**+0.9**
	6.3nm,0.2s							
TNSS				Lg		Lg	05 08 48.4	
	2.6nm,0.2s							
ARXS	**Arharly**	**2.16**	**324**	*e*P		**Pb**	**05 08 23.7**	**+0.5**
	1.1nm,0.2s							
ARXS				*e*S		**Sg**	**05 08 51.3**	**-1.5**
	24nm,0.5s							
ARXS	**Arharly**	**2.16**	**324**	Pg		**Pb**	**05 08 23.7**	**+0.5**
	1.1nm,0.2s							
ARXS				Lg		Lg	05 08 51.3	
	24nm,0.5s							
IZV	**Izvestkoviy**	**2.27**	**285**	*e*P		**Pb**	**05 08 26.7**	**+1.5**
	5.2nm,0.2s							
IZV				*e*S		**Sg**	**05 08 56.4**	**-0.2**
	8.4nm,0.2s							
IZV	**Izvestkoviy**	**2.27**	**285**	Pg		**Pb**	**05 08 26.7**	**+1.5**
	5.2nm,0.2s							
IZV				Lg		Lg	05 08 56.4	
	8.4nm,0.2s							
CHKK	**Chushkaly**	**2.35**	**306**	*e*P		**Pb**	**05 08 27.6**	**+1.1**
	1.3nm,0.1s							
CHKK				*e*S		**Sg**	**05 08 57.9**	**-1.2**
	13nm,0.3s							
CHKK	**Chushkaly**	**2.35**	**306**	Pg		**Pb**	**05 08 27.6**	**+1.1**
	1.3nm,0.1s							
CHKK				Lg		Lg	05 08 57.9	
	13nm,0.3s							
MTBS	**Maitube**	**2.42**	**286**	*e*P		**Pb**	**05 08 29.2**	**+1.4**
	5.9nm,0.3s							
MTBS				*e*S		**Sg**	**05 09 00.5**	**-1.0**
	12nm,0.4s							
MTBS	**Maitube**	**2.42**	**286**	Pg		**Pb**	**05 08 29.2**	**+1.4**
	5.9nm,0.3s							
MTBS				Lg		Lg	05 09 00.5	
	12nm,0.4s							
KTBS	**Karatobe**	**2.46**	**301**	*e*P		**Pb**	**05 08 29.7**	**+1.2**
	3.1nm,0.3s							
KTBS				*e*S		**Sg**	**05 09 01.5**	**-1.2**
	35nm,0.5s							
KTBS	**Karatobe**	**2.46**	**301**	Pg		**Pb**	**05 08 29.7**	**+1.2**
	3.1nm,0.3s							
KTBS				Lg		Lg	05 09 01.5	
	35nm,0.5s							
BOOM	**Boomskoye usch**	**2.71**	**271**	⇓*e*P		**Pb**	**05 08 31.9**	**-0.8**
	baz=72							
BOOM				⇓*e*S		**Sn**	**05 09 03.5**	**+2.1**
	baz=72							
KST	**Kastek**	**2.74**	**283**	*e*P		**Pg**	**05 08 35.5**	**-0.5**
	3.2nm,0.2s							
KST				*e*S		**Sg**	**05 09 11.4**	**-0.1**
	3.9nm,0.4s							
KST	**Kastek**	**2.74**	**283**	Pg		**Pg**	**05 08 35.5**	**-0.5**
	3.2nm,0.2s							
KST				Lg		Lg	05 09 11.4	
	3.9nm,0.4s							
KAPS	**Kapalarasan**	**2.80**	**356**	*e*P		**Pb**	**05 08 34.6**	**+0.5**
	0.8nm,0.2s							
KAPS				*e*S		**Sb**	**05 09 09.8**	**+1.1**
	4.0nm,0.4s							
KAPS	**Kapalarasan**	**2.80**	**356**	Pg		**Pb**	**05 08 34.6**	**+0.5**
	0.8nm,0.2s							
KAPS				Lg		Lg	05 09 09.8	
	4.0nm,0.4s							
DGS	**Degeres**	**2.92**	**286**	*e*P		**Pb**	**05 08 38.2**	**+2.0**
	3.5nm,0.4s							
DGS				*e*S		**Sg**	**05 09 16.1**	**-1.2**
	11nm,0.5s							
DGS	**Degeres**	**2.92**	**286**	Pg		**Pb**	**05 08 38.2**	**+2.0**
	3.5nm,0.4s							
DGS				Lg		Lg	05 09 16.1	
	11nm,0.5s							
TKM2	**Tokmak 2**	**2.99**	**280**	⇑Pg		**Pb**	**05 08 37.1**	**-0.4**
	0.4nm,0.3s							
TKM2				⇑Lg		Lg	05 09 18.1	
	2.1nm,0.6s							
TKM2	**Tokmak 2**	**2.99**	**280**	⇑*e*P		**Pb**	**05 08 36.3**	**-1.1**
	baz=81							
TKM2				⇑*e*S		**Sn**	**05 09 10.5**	**+2.3**
	baz=81							
KRBS	**Karabastau**	**3.12**	**294**	*e*P		**Pb**	**05 08 41.0**	**+1.4**
	1.4nm,0.3s							
KRBS				*e*S		**Sg**	**05 09 20.9**	**-2.9**
	4.1nm,0.3s							
KRBS	**Karabastau**	**3.12**	**294**	Pg		**Pb**	**05 08 41.0**	**+1.4**
	1.4nm,0.3s							
KRBS				Lg		Lg	05 09 20.9	
	4.1nm,0.3s							

*IDC **21** 05:11:59.9±1.2,30°.00S×178°.80W,h293km±11km,mb3.4/5, mbtmp4.2/8,Error ellipse: s-maj=27.9km s-min=17.1km az=131.0*

ISC 21 05:11:58.8±0.7,29°.99S±0°.07×178°.4W±0°.1,h300km,n82, σ1°74/120,mb3.5/4,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**0.85**	**31**	P		**Pn**	**05 12 37.9**	**-0.8**
GLKZ				S		S	05 12 59.5	-11
RAO	**Raoul Island**	**0.86**	**31**	P		**Pn**	**05 12 39.8**	**+1.1**
	654nm,0.2s,baz=81,slow=12,SNR=7.7							
RAO				S		**S**	**05 13 02.3**	**-8.1**
	560nm,0.2s,baz=63,slow=20,SNR=4.0							
WMGZ	**Waiomatatini S**	**8.23**	**198**	P		**Pn**	**05 13 57.8**	**+2.7**
WMGZ				S		**S**	**05 15 30.6**	**+1.0**
HAZ	**Te Kaha**	**8.36**	**201**	P		**Pn**	**05 13 58.4**	**+1.8**
HAZ				S		**S**	**05 15 35.4**	**+3.1**
PKGZ	**Pakihiroa**	**8.39**	**199**	P		**Pn**	**05 13 58.5**	**+1.3**
PKGZ				S		**S**	**05 15 32.0**	**-1.3**
PUZ	**Puketiti**	**8.51**	**198**	P		**Pn**	**05 13 59.3**	**+0.7**
PUZ				S		**S**	**05 15 37.1**	**+1.2**
RUGZ	**Raukumara Rang**	**8.58**	**201**	P		**Pn**	**05 14 00.8**	**+1.2**
RUGZ				S		**S**	**05 15 39.6**	**+2.0**
TWGZ	**Tauwhareparae**	**8.69**	**199**	P		**Pn**	**05 14 02.4**	**+1.6**
TWGZ				S		**S**	**05 15 43.3**	**+3.4**
CNGZ	**Carnagh Statio**	**8.91**	**197**	P		**Pn**	**05 14 02.8**	**-0.7**
MWZ	**Matawai**	**8.97**	**201**	P		**Pn**	**05 14 04.2**	**0.0**
MWZ				S		**S**	**05 15 45.9**	**-0.4**
URZ	**Urewera**	**9.04**	**203**	P		**Pn**	**05 14 05.6**	**+0.6**
	12nm,0.3s,baz=332,slow=4.2,SNR=26							
URZ				S		**S**	**05 15 45.3**	**-2.3**
	11nm,0.3s,baz=195,slow=3.2,SNR=2.1							
URZ	**Urewera**	**9.04**	**203**	P		**Pn**	**05 14 05.3**	**+0.3**
URZ				S		**S**	**05

KAHZ	Kahuranaki	10.51	200	P	Pn	05	14	22.1 -1.0
KAHZ				S	S	05	16	19.1 -2.0
TRVZ	Turoa	10.52	206	P	P	05	14	26.2 -0.3
WNVZ	Wahianoa	10.53	206	P	Pn	05	14	24.0 +0.5
WNVZ				S	S	05	16	20.5 -1.2
KRHZ	Kereru	10.53	203	P	Pn	05	14	21.6 -1.8
KRHZ				S	S	05	16	20.3 -1.3
MOVZ	Moawhango	10.54	205	P	P	05	14	25.8 -0.7
MOVZ				S	S	05	16	17.5 -4.4
PKVZ	Pokaka	10.59	207	P	P	05	14	26.7 -0.3
VRZ	Vera Road	10.70	210	P	P	05	14	30.5 +2.4
PXZ	Pawanui	10.73	200	P	P	05	14	28.3 -0.2
PXZ				S	S	05	16	23.7 -2.3
PNHZ	Pukenui	10.83	203	P	Pn	05	14	25.1 -1.9
PNHZ				S	S	05	16	25.4 -3.0
WPHZ	Waipukurau	10.89	201	P	Pn	05	14	28.4 +0.6
WPHZ				S	S	05	16	28.7 -1.0
PRHZ	Porangahau	11.02	200	P	P	05	14	31.5 -0.2
PRHZ				S	S	05	16	32.9 +0.4
TSZ	Takapari Road	11.04	203	P	Pn	05	14	30.5 +0.9
TSZ				S	S	05	16	30.3 -2.9
PKEZ	Pukeiti	11.10	212	P	P	05	14	37.0 +4.3
NEZ	North Egmont	11.11	212	P	P	05	14	36.1 +3.2
WAZ	Wanganui	11.13	207	P	P	05	14	33.8 +0.8
WAZ				S	S	05	16	31.9 -3.3
DVHZ	Dannevirke	11.19	202	P	P	05	14	32.5 -1.1
DVHZ				S	S	05	16	34.5 -2.0
POWZ	Post Office Ro	11.41	203	P	P	05	14	36.2 +0.2
PRWZ	Pori Road	11.48	202	P	P	05	14	36.4 -0.5
BFZ	Birch Farm	11.51	201	P	Pn	05	14	34.6 -0.7
MRZ	Mangatainoka R	11.71	203	P	Pn	05	14	38.1 +0.4
TIWZ	Tintock	11.71	202	P	P	05	14	39.1 -0.4
CPWZ	Castlepoint	11.74	200	P	P	05	14	40.8 +1.1
OGWZ	Otaki Gorge	11.99	204	P	P	05	14	42.4 -0.2
DZM	Mont Dzumac	15.71	297	P	P	05	15	23.0 -0.9
	8.2nm,0.6s,baz=145,slow=13,SNR=13							
RPZ	Rata Peaks	16.05	209	P	P	05	15	26.1 -1.3
	16nm,1.0s,baz=20,slow=12,SNR=2.0							
RPZ				S	S	05	18	17.8 -2.7
	5.2nm,0.3s,baz=130,slow=23,SNR=8.3							
ASAR	Alice Springs	42.76	267	P	P	05	19	26.9 -0.8
	0.3nm,0.4s,baz=228,slow=38,SNR=2.0							
	0.3nm,0.4s							
WRA	Warramunga Arr	43.71	272	P	P	05	19	33.8 -1.5
	1.0nm,0.3s,baz=108,slow=11,SNR=29							
	1.0nm,0.3s							
PETK	Petropavlovsk-	85.33	346	P	P	05	24	02.4 +0.4
	2.9nm,0.6s,baz=109,slow=7.9,SNR=4.3							
	2.9nm,0.6s							
NVAR	Mina Array Bea	88.19	43	P	P	05	24	19.0 +2.6
	0.5nm,0.7s,baz=233,slow=10,SNR=3.0							
	0.5nm,0.7s							
ILAR	Eielson Array	97.61	13	P	Pdif	05	25	01.8 +3.1
	0.6nm,1.1s,baz=197,slow=5.4,SNR=1.9							
	0.6nm,1.1s							
MKAR	Makanchi Array	117.23	310	PKP	PKiKP	05	30	09.3 +1.0
	0.1nm,0.4s,baz=91,slow=0.3,SNR=2.8							
KURBB	Kurchatov Arra	120.54	314	PKP	PKiKP	05	30	15.2 +0.7
	0.6nm,0.6s,baz=104,slow=1.7,SNR=7.5							
BVAR	Borovoye Array	125.86	316	PKP	PKiKP	05	30	26.1 +1.0
	1.0nm,0.7s,baz=99,slow=1.9,SNR=3.6							
FINES	FINESS Array B	144.64	340	PKP	PKPdf	05	30	59.4 +0.3
	5.2nm,0.5s,baz=52,slow=3.9,SNR=59							
NB2	NORSAR Subarra	148.29	351	PKP	PKiKP	05	31	10.7 +0.2
	comp=Z,1.5nm,0.6s,baz=12,slow=2.7							
NOA	NORSAR Array B	148.29	351	PKPbc	PKiKP	05	31	10.4 -0.1
	comp=Z,0.6nm,0.7s,baz=29,slow=3.2,SNR=7.9							
HFS	Hagfors	148.77	348	PKPbc	PKiKP	05	31	11.5 0.0
	comp=Z,2.5nm,0.5s,baz=64,slow=3.4,SNR=14							
AKASG	Malin Array Be	150.75	323	PKPbc	PKiKP	05	31	15.9 0.0
	comp=Z,2.0nm,0.5s,baz=46,slow=2.7,SNR=10							
MMAI	Mount Meron Ar	151.07	285	PKPbc	PKiKP	05	31	19.2 +2.0
	comp=Z,2.4nm,0.5s,baz=96,slow=5.8,SNR=4.6							

*IDC **21** 05:40:55.1±3.0,53.°54N×87.°70E,h0km,mbtmp2.7/2, ML2.4/2,Error ellipse: s-maj=25.7km s-min=14.6km az=64.0*

*NNC **21** 05:40:56.7±2.1,53.°43N×87.°69E,h0km,mb2.6,mpv2.3, Error ellipse: s-maj=18.9km s-min=7.6km az=56.0, Suspected Mining explosion.*

ISC 21 05:40:56.2±3.5,53.°5N±0.°1×87.°6E±0.°2,h0km,n9,σ1§32/12, 6C-6D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.72	285	I	I		05 53 20.0	
	baz=98,slow=338,SNR=6.0							
ZAA0	Zalesovo Array	1.72	285	⇑P		Pb	05 41 28.1	-0.6
	0.2nm,0.3s							
ZAA0				⇑S		Sg	05 41 52.9	+1.6
	3.0nm,0.9s							
ZALV	Zalesovo Beam	1.72	285	Pg		Pn	05 41 27.2	-0.1
	0.7nm,0.3s,baz=101,slow=14,SNR=8.4							
ZALV				Lg		Lg	05 41 50.6	
	2.2nm,0.3s,baz=100,slow=30,SNR=14							
KURK	Kurchatov	6.23	247	⇑Pn		Pn	05 42 30.1	+0.8
	0.1nm,0.3s							
KURK				⇑Lg		Lg	05 44 10.6	
	2.8nm,1.0s							
KURBB	Kurchatov Arra	6.32	246	Pn		Pn	05 42 31.1	+0.5
	baz=61,slow=13,SNR=4.2							
KURBB				Lg		Lg	05 44 13.8	
	baz=61,slow=31,SNR=2.1							
	0.4nm,0.5s							
KURBB	Kurchatov Arra	6.32	246	⇓Pn		Pn	05 42 29.9	-0.8
	0.1nm,0.3s							
KURBB				⇓Lg		Lg	05 44 13.4	
	5.6nm,0.8s							
MK31	Makanchi Array	7.58	209	⇑Pn		Pn	05 42 49.0	+1.1
	0.1nm,0.3s,baz=28,slow=14,SNR=3.1							
MK31				⇓Sn		Sn	05 44 15.2	+0.8
	0.2nm,0.5s							
MK31				⇓Lg		Lg	05 44 54.6	
	0.5nm,0.7s,baz=26,slow=32,SNR=3.6							
MKAR	Makanchi Array	7.58	209	Pn		Pn	05 42 48.6	+0.7
	0.1nm,0.3s,baz=30,slow=12,SNR=5.4							
MKAR				Sn		Sn	05 44 12.1	-2.3
	baz=32,slow=28,SNR=3.0							
MKAR				Lg		Lg	05 44 55.2	
	baz=31,slow=30,SNR=6.8							
	0.2nm,0.3s							
MAKZ	Makanchi	7.66	211	⇓Pn		Pn	05 42 49.9	+1.0
	0.1nm,0.3s							
MAKZ				⇓Sn		Sn	05 44 14.7	-1.6
	0.4nm,0.6s							
MAKZ				⇑Lg		Lg	05 44 55.1	
	0.5nm,0.8s							

IDC 21 05:53:21.6±5.3,60.°57S×150.°21E,h0km,mb3.8/2, mbtmp3.7/3,ML3.1/1,MS3.6/12,Error ellipse: s-maj=534.1km s-min=36.5km az=76.0,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
VNDA	Vanda	17.46	172	P		Pn	05 57 26.4	+0.3
	0.1nm,0.3s,baz=343,slow=12,SNR=3.3							
VNDA				LR		LR	06 03 58.0	
	comp=Z,20nm,21.4s,baz=323,slow=36							
	1.0nm,0.9s							
URZ	Urewera	28.00	49	LR		LR	06 08 08.4	
	comp=Z,187nm,19.9s,baz=300,slow=32							
QSPA	South Pole Qui	29.52	180	LR		LR	06 12 00.4	
	comp=Z,130nm,18.2s,baz=14,slow=38							
H01W1	Cape Leeuwin H	34.57	302	T		T	06 38 02.8	
	baz=146,slow=75,SNR=45							
H01W2	Cape Leeuwin H	34.58	301	T		T	06 38 03.2	
	baz=146,slow=75,SNR=40							
H01W3	Cape Leeuwin H	34.59	302	T		T	06 38 04.0	
	baz=146,slow=75,SNR=35							
NWAO	Narrogin (SRO)	35.03	307	LR		LR	06 11 42.8	
	comp=Z,94nm,20.9s,baz=36,slow=31							
MAW	Mawson	35.71	221	LR		LR	06 14 39.0	
	comp=Z,115nm,18.4s,baz=126,slow=36							
ASAR	Alice Springs	38.58	336	P		P	06 00 46.3	+0.2
	1.1nm,1.0s,baz=166,slow=8.3,SNR=5.1							
	1.1nm,1.0s							
DZM	Mont Dzumac	40.12	24	LR		LR	06 13 05.4	
	comp=Z,101nm,21.2s,baz=168,slow=30							
CTA	Charters Tower	40.54	354	LR		LR	06 15 11.4	
	comp=Z,67nm,18.3s,baz=180,slow=32							
WRA	Warramunga Arr	42.12	337	P		P	06 01 14.8	-0.5
	1.8nm,0.9s,baz=168,slow=6.2,SNR=4.7							
	1.8nm,0.9s							
SNAA	Sanae	46.72	191	LR		LR	06 19 50.3	
	comp=Z,117nm,18.6s,baz=352,slow=34							
PMG	Port Moresby	51.11	356	LR		LR	06 20 52.0	
	comp=Z,94nm,18.7s,baz=150,slow=32							
PPT	Papeete	60.34	72	LR		LR	06 27 07.6	
	comp=Z,39nm,18.4s,baz=146,slow=34							
H08S2	Diego Garcia H	77.34	277	T		T	07 32 08.1	
	baz=149,slow=76,SNR=32							
H08S1	Diego Carcia H	77.35	277	T		T	07 32 16.2	
	baz=149,slow=76,SNR=26							
H08S3	Diego Garcia H	77.36	277	T		T	07 32 13.6	
	baz=149,slow=76,SNR=29							
H03S1	Juan Fernandez	77.70	140	T		T	07 31 00.5	
	baz=202							
H03S2	Juan Fernandez	77.70	140	T		T	07 31 01.9	
	baz=202							
H03S3	Juan Fernandez	77.72	140	T		T	07 30 48.6	
	baz=202							
H03N3	Juan Fernandez	78.06	140	T		T	07 31 01.3	
	baz=206							
H03N2	Juan Fernandez	78.07	140	T		T	07 30 57.9	
	baz=206							
H03N1	Juan Fernandez	78.07	140	T		T	07 31 01.7	
	baz=206							
CMAR	Chiang Mai Arr	88.87	312	LR		LR	06 44 42.9	
	comp=Z,9.1nm,20.3s,baz=160,slow=35							
JHJ	Hachijo jima 2	93.74	351	LR		LR	06 48 03.6	
	comp=Z,71nm,21.8s,baz=321,slow=35							

*IDC **21** 05:57:47.4±2.8,56.°21N×148.°39W,h0km,mb3.1/1, mbtmp3.3/6,ML3.1/5,MS2.0/1,Error ellipse: s-maj=40.4km s-min=23.7km az=6.0*

*NEIC **21** 05:57:49.9±2.2,56.°31N±0.°09×148.°3W±0.°1,h23km±10km, ML3.4/50,ML3.3(AEIC),Error ellipse: s-maj=14.6km s-min=8.6km az=153.0*

*AEIC **21** 05:57:53.3±2.0,56.°34N±0.°09×148.°4W±0.°1,h10km±7km, Error ellipse: s-maj=15.3km s-min=4.5km az=152.0*

ISC 21 05:57:48.7±1.2,56.°42N±0.°08×148.°33W±0.°05,h10km, n180,σ1§40/182,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.69	302			Pn	05 58 32.1	+0.1
KDAK	Kodiak Island	2.69	302			Sn	05 59 02.2	-2.5
KDAK	Kodiak Island	2.69	302	S		Sn	05 59 02.4	-2.2
	baz=120							
KDAK	Kodiak Island	2.69	302	Pn		Pn	05 58 32.1	+0.1
	7.7nm,0.3s,baz=134,slow=7.3,SNR=66							
KDAK						Sn	05 59 02.9	-1.8
	4.8nm,0.3s,baz=244,slow=23,SNR=10.0							
KDAK						LR	05 59 06.6	
	comp=Z,28nm,18.4s,baz=63,slow=28							
	17nm,0.2s							
OHAK	Old Harbor	2.84	289	P		Pn	05 58 33.6	-0.5
OHAK	Old Harbor	2.84	289			Pn	05 58 33.6	-0.5
OHAK						Sn	05 59 04.9	-3.4
OHAK	Old Harbor	2.84	289	P		Pn	05 58 33.8	-0.3
	baz=106							
OHAK				S		Sn	05 59 05.2	-3.1
	baz=106							
SYI	Shuyak Island	3.10	317			Pn	05 58 36.7	-0.9
SYI						Sn	05 59 13.7	-1.1
SYI	Shuyak Island	3.10	317	IAML			05 59 25.8	
	comp=E,60nm,1.4s							
Q20K	Shuyak Island	3.10	317	P		Pn	05 58 36.7	-1.0
	baz=134							
Q20K				S		Sn	05 59 13.7	-1.1
	baz=134							
SII	Sitkinak Islan	3.25	275	Pn		Pn	05 58 39.5	-0.2
SII				IAML			05 59 15.9	
	comp=N,98nm,1.2s							
SII				IAML			06 00 23.0	
	comp=E,96nm,1.4s							
CNPM	China Poot	3.48	335			Pn	05 58 43.3	+0.4
CNPM						Sn	05 59 23.2	-1.0
BRSE	Bradley Lake S	3.57	340			Pn	05 58 44.3	+0.2
BRSE						Sn	05 59 24.3	-2.1
BRSE	Bradley Lake S	3.57	340	P		Pn	05 58 44.6	+0.4
	baz=159							
BRSE				S		Sn	05 59 24.9	-1.5
	baz=159							
BRLK	Bradley Lake	3.62	339			Pn	05 58 45.0	+0.1
BRLK						Sn	05 59 26.1	-1.5
BRLK	Bradley Lake	3.62	339	IAML			05 59 28.0	
	comp=N,45nm,1.2s							
HOM	Homer	3.70	333			Pn	05 58 46.9	+1.1
HOM	Homer	3.70	333	P		Pn	05 58 46.9	+1.1
	baz=151							
SEW	Seward	3.75	351			Pn	05 58 46.6	+0.1
SEW						Sn	05 59 27.4	-3.1
SEW	Seward	3.75	351	P		Pn	05 58 47.0	+0.5
	baz=171							
SEW				S		Sn	05 59 28.0	-2.6
	baz=171							
Q19K	Cape Douglas,	3.81	314			Pn	05 58 47.9	+0.5
Q19K	Cape Douglas,	3.81	314	P		Pn	05 58 49.2	+1.8
	baz=130							
AUJK	Augustine Jueg	4.00	319			Pn	05 58 50.8	+0.8
KAIM	Kayak Island	4.08	29			Pn	05 58 51.9	+0.7
KAIM	Kayak Island	4.08	29	IAML			05 59 52.0	
	comp=E,80nm,1.3s							
KAIM				IAML			05 59 54.6	
	comp=N,92nm,1.5s							
KAIM	Kayak Island	4.08	29	P		Pn	05 58 51.9	+0.7
	baz=212							
O22K	Cooper Landing	4.14	350	Pn		Pn	05 58 53.4	+1.4
O22K						Sn	05 59 39.1	-1.2
P19K	Oil Pt	4.16	323			Pn	05 58 53.1	+0.9
P19K	Oil Pt	4.16	323	IAML			05 59 44.4	
	comp=E,93nm,1.4s							
P19K				IAML			05 59 45.6	
	comp=N,70nm,1.0s							
P19K	Oil Pt	4.16	323	P		Pn	05 58 53.8	+1.5
	baz=140							
ACHA	Angle Creek He	4.20	298			Pn	05 58 54.1	+1.3
SLKM	Skilak Lake	4.22	347			Pn	05 58 53.4	+0.3
KAHC	Katmai Hardscr	4.24	305			Pn	05 58 54.7	+1.4
KAHC	Katmai Hardscr	4.24	305	P		Pn	05 58 54.7	+1.4
	baz=120							
ANCK	Angle Creek	4.28	298			Pn	05 58 55.4	+1.5
O20K	Slope Mountain	4.32	330			Pn	05 58 55.1	+0.6
O20K	Slope Mountain	4.32	330	P		Pn	05 58 55.1	+0.6
	baz=147							
EYAK	Cordova Ski Ar	4.36	17	P		Pn	05 58 56.0	+1.1
EYAK	Cordova Ski Ar	4.36	17			Pn	05 58 55.3	+0.3
EYAK	Cordova Ski Ar	4.36	17	P		Pn	05 58 55.5	+0.6
	baz=199							
IVE	Iliamna Volcan	4.38	328			Pn	05 58 56.1	+0.8
SUCK	Suckling Hills	4.39	31	IAML			05 59 46.8	
	comp=N,45nm,1.4s							
SUCK				IAML			05 59 47.3	
	comp=E,51nm,1.3s							
ILSW	Iliamna Southw	4.39	327			Pn	05 58 55.7	+0.3
ILSW	Iliamna Southw	4.39	327	IAML			05 59 47.0	
	comp=N,28nm,0.7s							
ILSW				IAML			05 59 53.2	
	comp=E,26nm,1.2s							
NICHA	Nichawak Mount	4.47	29			Pn	05 58 57.4	+1.0
CNTC	Contact Creek	4.49	298			Pn	05 58 58.1	+1.2
Q17K	Contact Creek	4.49	297	P		Pn	05 58 58.6	+1.8
	baz=112							
RED	Redoubt Volcan	4.64	332			Pn	05 58 59.0	+0.1
BERG	Berg Lake	4.67	29			Pn	05 59 00.3	+1.0
RSO	Redoubt South	4.67	332			Sn	05 59 53.9	+0.1
RSO	Redoubt South	4.67	332			Pn	05 58 59.9	+0.4
GRIN	Grindle Hills	4.69	32			Pn	05 59 00.5	+0.9
P18K	Big Mountain,	4.74	312			Pn	05 59 00.5	+0.4
P18K	Big Mountain,	4.74	312	P		Pn	05 59 00.6	+0.4
	baz=127							
RC01	Rabbit Creek A	4.74	352	Pn		Pn	05 59 01.5	+1.3
RC01						Sn	05 59 53.3	-2.0
RC01				IAML			05 59 56.1	
	comp=N,30nm,0.6s							
RC01				IAML			05 59 57.0	
	comp=E,36nm,0.4s							
SNH	Sunshine Point	4.76	35	Pn		Pn	05 59 01.5	+1.0
SNH				IAML			06 00 56.3	
	comp=E,38nm,1.3s							
SNH				IAML			06 02 14.4	
	comp=N,41nm,1.4s							
DFR	Drift River	4.77	333			Pn	05 59 00.7	+0.1
NCT	North Crescent	4.81	332			Pn	05 59 01.6	+0.4
KHIT	Khitrov Hills	4.84	31			Pn	05 59 01.9	+0.2
O19K	Port Alsworth	4.93	323			Pn	05 59 02.9	+0.1
O19K						Sn	05 59 59.1	-0.7
BMRM	Bremner River	4.96	22			Pn	05 59 04.0	+0.8
BMRM	Bremner River	4.96	22	P		Pn	05 59 04.0	+0.8
	baz=204							
WAX	Waxell Ridge	4.96	33	IAML			06 00 01.5	
	comp=E,50nm,1.3s							
KNK	Knik Glacier	5.01	359			Pn	05 59 05.3	+1.3
KNK	Knik Glacier	5.01	359	IAML			06 00 03.8	
	comp=N,16nm,1.5s							
KNK				IAML			06 00 21.7	
	comp=E,20nm,1.5s							
KNK	Knik Glacier	5.01	359	P		Pn	05 59 05.3	+1.3
	baz=179							
O18K	Koktuh Hills	5.01	316			Pn	05 59 04.6	+0.6
O18K	Koktuh Hills	5.01	316	P		Pn	05 59 04.8	+0.8
	baz=131							
Q16K	King Salmon	5.02	300			Pn	05 59 05.0	+1.0
Q16K	King Salmon	5.02	300	P		Pn	05 59 05.4	+1.4
	baz=114							
P17K	Kvichak River	5.15	306			Pn	05 59 06.9	+1.1
P17K	Kvichak River	5.15	306	P		Pn	05 59 07.5	+1.7
	baz=120							
PMR	Palmer	5.21	356	P		Pn	05 59 08.5	+1.9
PMR	Palmer	5.21	356	Pn		Pn	05 59 08.1	+1.6
PMR				IAML			06 00 08.2	
	comp=N,14nm,0.6s							
PMR				IAML			06 00 08.3	
	comp=E,16nm,1.1s							
SUA	Susitna One	5.21	347	Pn		Pn	05 59 07.7	+0.9
SUA				IAML			06 00 27.6	
	comp=E,14nm,1.5s							
SUA				IAML			06 01 29.9	
	comp=N,14nm,1.5s							
BAGL	Bagley Icefiel	5.24	36			Pn	05 59 07.8	+0.9
KLU	Klutina	5.24	13			Pn	05 59 08.1	+0.9
KLU	Klutina	5.24	13	IAML			06 00 07.6	
	comp=N,25nm,0.5s							
KLU				IAML			06 00 08.2	
	comp=E,24nm,0.7s							
KLU	Klutina	5.24	13	P		Pn	05 59 08.1	+0.9
	baz=195							
ISLE	Juniper Island	5.24	34	Pn		Pn	05 59 09.4	+2.1
ISLE				IAML			06 01 38.5	
	comp=E,22nm,1.5s							
SPCG	Spurr Capps Gl	5.25	340			Pn	05 59 08.0	+0.7
SPCP	Crater Peak Br	5.25	339			Pn	05 59 08.2	+0.8
GHO	Glory Hole Cre	5.38	357			Pn	05 59 10.5	+1.4
SML	Sawmill	5.41	0			Pn	05 59 10.4	+1.0
SML	Sawmill	5.41	0	P		Pn	05 59 10.4	+1.0
	baz=180							
STLK	Strandline Lak	5.41	342			Pn	05 59 10.2	+0.8
VRDI	Verde Repeater	5.45	26			Pn	05 59 10.7	+0.6
SAMH	Samovar Hills	5.45	44			Pn	05 59 11.5	+1.5
N19K	Bonanza Creek	5.46	326			Pn	05 59 10.1	+0.1
SPNN	North Nagishla	5.46	337			Pn	05 59 11.1	+0.9
SCM	Sheep Creek Mo	5.46	5	Pn		Pn	05 59 12.4	+2.3
KIAG	Kiagna River	5.49	32			Pn	05 59 11.2	+0.6
TABL	Table Mountain	5.53	40			Pn	05 59 12.3	+1.2
N25K	Chitina, Valde	5.55	19			Pn	05 59 12.5	+1.1
N25K	Chitina, Valde	5.55	19	P		Pn	05 59 12.5	+1.1
	baz=202							
GLB	Gilahina Butte	5.56	23			Sn	06 00 13.4	-1.9
GLB	Gilahina Butte	5.56	23			Pn	05 59 12.3	+0.8
CHGN	Chignik	5.61	273	Pn		Pn	05 59 12.3	+0.3
PTPK	Patty Peak	5.67	30			Pn	05 59 13.9	+0.8
MCARA	McCarthy VSAT	5.69	27	Pn		Pn	05 59 14.1	+0.8
O17K	Koliganek Bris	5.74	310			Pn	05 59 14.5	+0.7
PNL	Peninsula	5.76	52	P		Pn	05 59 15.7	+1.5
PNL	Peninsula	5.76	52			Pn	05 59 15.3	+1.1
PNL	Peninsula	5.76	52	P		Pn	05 59 15.5	+1.3
	baz=239							
P16K	Nushagak River	5.80	301			Pn	05 59 15.7	+1.0
P16K	Nushagak River	5.80	301	P		Pn	05 59 16.2	+1.5
	baz=113							
BCPM	Bancas Point	5.81	49			Pn	05 59 15.9	+1.1
M24K	Tolsona, Glenn	5.81	10	Pn		Pn	05 59 16.9	+1.9
SKT	Skwentna	5.82	345	Pn		Pn	05 59 16.8	+1.8
SKT						Sn	06 00 20.8	-0.9
N18K	Kilae Creek	5.82	320			Pn	05 59 15.2	+0.1
CTG	Chitna Glacier	5.84	36	P		Pn	05 59 16.2	+0.9
	baz=221							
CTGM	Chitina Glacie	5.84	36			Pn	05 59 16.2	+0.8
LOGN	Logan Glacier	5.85	38			Pn	05 59 16.3	+0.8
M20K	Styx River	6.01	338			Pn	05 59 18.2	+0.5
M20K	Styx River	6.01	338	P		Pn	05 59 18.2	+0.5
	baz=154							
SVW2	Sparrevohn	6.02	324	P		Pn	05 59 18.3	+0.6
SVW2	Sparrevohn	6.02	324	Pn		Pn	05 59 17.4	-0.3
O16K	Kokwok River B	6.09	306			Pn	05 59 19.5	+0.9
O16K	Kokwok River B	6.09	306	P		Pn	05 59 19.7	+1.0
	baz=118							
N17K	Nushagak Hills	6.21	315			Pn	05 59 20.9	+0.6
N17K	Nushagak Hills	6.21	315	P		Pn	05 59 21.1	+0.8
	baz=128							
M18K	Stony River	6.39	326			Pn	05 59 22.9	+0.1
WAT1	Susitna Watana	6.43	359			Pn	05 59 25.2	+1.8
WAT1	Susitna Watana	6.43	359	P		Pn	05 59 25.2	+1.8
	baz=179							
O29M	Mount Kennedy	6.44	49			Pn	05 59 25.5	+1.9
P29M	Windy Craggy	6.48	56			Pn	05 59 24.2	0.0
P29M	Windy Craggy	6.48	56	P		Pn	05 59 25.1	+1.0
	baz=244							
CNBA	Chernabura Isl	6.57	261			Pn	05 59 25.0	-0.3
L19K	White Mountain	6.67	333			Pn	05 59 26.6	-0.1
L19K	White Mountain	6.67	333	P		Pn	05 59 26.8	0.0
	baz=148							
DHY	Denali Highway	6.70	4			Pn	05 59 28.3	+

INK	**Inuvik**	**13.71**	**24**	Pn		**Pn**	**06 01 06.6**	**+3.8**
	baz=202,slow=14,SNR=1.9							
	comp=E,0.6nm,0.8s							
YKA	**Yellowknife Ar**	**18.03**	**56**	P		**Pn**	**06 02 00.9**	**+1.9**
	baz=266,slow=9.2,SNR=5.3							
	comp=E,0.4nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**49.41**	**241**	T		T	06 59 52.9	
	baz=31,slow=76,SNR=5.1							
H11N3	**WAKE ISLAND Hy**	**49.41**	**241**	T		T	07 00 04.1	
	baz=31,slow=76,SNR=4.6							
H11N1	**WAKE ISLAND Hy**	**49.43**	**241**	T		T	06 59 59.0	
	baz=31,slow=76,SNR=4.5							
H11S1	**WAKE ISLAND Hy**	**50.55**	**240**	T		T	07 01 56.4	
	baz=29							
H11S2	**WAKE ISLAND Hy**	**50.56**	**240**	T		T	07 02 06.0	
	baz=29							
H11S3	**WAKE ISLAND Hy**	**50.57**	**240**	T		T	07 01 56.9	
	baz=29							
MKAR	**Makanchi Array**	**68.79**	**325**	P		**P**	**06 08 53.5**	**+0.9**
	comp=E,0.1nm,0.6s,baz=33,slow=5.5,SNR=1.6							
	comp=E,0.1nm,0.6s							

*CATAC **21** 06:02:19.8±1.0, 11°.48N×87°.07W, h5km, ML3.4*
*SNET **21** 06:02:22.4±0.8, 11°.44N×87°.10W, h30km, ML3.1*
ISC 21 06:02:18.8±3.1, 11°.5N±0°.1×87°.02W±0°.06, h3km±12km, n16, σ0s92/23, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APQ2	**Apoyeque**	**1.00**	**43**	*i* P	**Pn**	**06 02 40.5**	**+0.8**
APQ2				*i* S	**Sn**	**06 02 54.9**	**+0.6**
APQ2				IAML		06 02 59.8	
	comp=Z,430nm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.01**	**23**	*i* P	**Pg**	**06 02 37.4**	**-0.8**
LEVN				*i* S	**Sn**	**06 02 54.2**	**-0.5**
MOMN	**Momotombo**	**1.05**	**27**	*i* P	**Pg**	**06 02 38.1**	**-0.8**
MOMN				*i* S	**Sb**	**06 02 54.2**	**+0.4**
MOMN				IAML		06 02 56.1	
	comp=Z,34nm,1.0s						
PACN	**Al O del Volca**	**1.05**	**12**	*i* S	Sg	06 02 44.3	-8.4
ROCN	**Rota Cerro Neg**	**1.08**	**14**	*i* P	**Pg**	**06 02 38.3**	**-1.2**
ROCN				IAML		06 02 38.6	
	comp=Z,1μm,1.0s						
ROCN				*i* S	**Sg**	**06 02 52.7**	**-0.9**
MOM2	**El Cardon**	**1.10**	**28**	*i* P	**Pn**	**06 02 41.4**	**+0.3**
MOM2				IAML		06 02 41.7	
	comp=Z,770nm,1.0s						
MOM2				*i* S	**Sb**	**06 02 56.0**	**+0.8**
HERN	**Volcan Telica**	**1.15**	**9**	*i* S	Sb	06 02 42.4	-14
PKGN	**Cerro Pekin**	**1.20**	**2**	*i* P	**Pg**	**06 02 42.8**	**+1.0**
PKGN				*i* S	**Sg**	**06 02 58.2**	**+0.9**
PKGN				IAML		06 03 02.6	
	comp=Z,2μm,1.0s						
CRIN	**San Cristobal**	**1.23**	**359**	*e*P	**Pg**	**06 02 43.5**	**+1.1**
CRIN	**San Cristobal**	**1.23**	**359**	*i* P	**Pg**	**06 02 43.1**	**+0.8**
CRIN				*i* S	**Sg**	**06 02 59.0**	**+0.7**
CRIN				IAML		06 03 03.1	
	comp=Z,1μm,1.0s						
BRAN	**Las Pilas**	**1.41**	**28**	*i* P	Pn	06 02 38.6	-6.8
BRAN				*i* S	Sn	06 02 49.5	-15
BRAN				IAML		06 02 59.6	
	comp=Z,940nm,1.0s						
AMPH	**Amapala**	**1.91**	**341**	*e*P	**Pb**	**06 02 53.7**	**-0.7**
AMPH				*e*S	**Sn**	**06 03 17.0**	**0.0**
CNCH	**Conchagua**	**1.97**	**336**	*e*P	**Pn**	**06 02 53.8**	**+0.6**
CNCH				*e*S	**Sn**	**06 03 18.5**	**0.0**
LCND	**La Caada**	**2.02**	**335**	*e*P	**Pn**	**06 02 54.4**	**+0.6**
LCND				*e*S	**Sb**	**06 03 19.8**	**-2.0**
LCND				IAML		06 03 22.9	
	comp=Z,156nm,0.4s						
JUCU	**Jucuar¡n**	**2.14**	**326**	*e*P	**Pn**	**06 02 56.3**	**+0.8**
COEG	**Centro de Oper**	**2.81**	**320**	*e*S	**Sn**	**06 03 38.5**	**-0.7**

*IDC **21** 06:13:52.9±1.0, 6°.17S×143°.27E, h0km, mb3.9/5, mbtmp4.0/7, ML1.7/1, Error ellipse: s-maj=39.9km s-min=23.7km az=65.0*
ISC 21 06:13:57.8±0.9, 6°.61S±0°.09×142°.93E±0°.10, h35km, n8, σ2s49/11, mb3.9/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.03**	**124**	Pn	**Pn**	**06 15 09.8**	**-0.9**
	1.8nm,0.3s,baz=315,slow=7.1,SNR=1.7						
PMG				Sn	**Sn**	**06 16 07.6**	**0.0**
	2.9nm,0.3s,baz=287,slow=17,SNR=1.8						
	6.0nm,0.3s						
WRA	**Warramunga Arr**	**15.66**	**211**	Pn	**P**	**06 17 38.6**	**-1.1**
	0.4nm,0.3s,baz=31,slow=13,SNR=13						
WRA				Sn	**Sn**	**06 20 25.9**	**-2.7**
	0.4nm,0.3s,baz=36,slow=24,SNR=4.6						
WRA				Lg	Lg	06 22 23.7	
	0.2nm,0.3s,baz=28,slow=28,SNR=5.0						
ASAR	**Alice Springs**	**19.05**	**206**	P	**Pn**	**06 18 22.9**	**+4.7**
	7.9nm,0.8s,baz=32,slow=10,SNR=49						
ASAR				S	**S**	**06 21 49.1**	**-2.6**
	0.4nm,0.5s,baz=16,slow=28,SNR=2.3						
ASAR				Lg	Lg	06 24 15.7	
	baz=25,slow=27,SNR=1.8						
MKAR	**Makanchi Array**	**75.43**	**322**	P	**P**	**06 25 38.0**	**-0.2**
	0.4nm,0.6s,baz=102,slow=6.6,SNR=5.9						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**79.32**	**324**	P	**P**	**06 25 59.3**	**-0.5**
	0.2nm,0.5s,baz=101,slow=6.1,SNR=2.6						
	0.2nm,0.5s						
QSPA	**South Pole Qui**	**83.36**	**180**	P	**P**	**06 26 24.0**	**+2.8**
	0.7nm,0.6s,baz=327,slow=2.4,SNR=1.7						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**84.90**	**325**	P	**P**	**06 26 29.1**	**+0.1**
	2.4nm,0.6s,baz=112,slow=6.5,SNR=13						
	2.4nm,0.6s						
ILAR	**Eielson Array**	**87.64**	**24**	P	**P**	**06 26 40.5**	**-1.8**
	0.5nm,0.7s,baz=256,slow=4.1,SNR=8.2						
	0.5nm,0.7s						

ISC 21 06:35:08.4±3.1, 53°.59N×87°.78E, h0km, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=30.4km s-min=17.9km az=85.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.79**	**283**	I	I	06 46 50.0	
	baz=102,slow=340,SNR=2.2						
ZALV	**Zalesovo Beam**	**1.79**	**283**	Pn	Pn	06 35 40.3	-0.3
	2.3nm,0.3s,baz=101,slow=15,SNR=19						
ZALV				Sn	Sb	06 36 05.2	+0.1
	1.3nm,0.3s,baz=102,slow=25,SNR=7.8						
KURBB	**Kurchatov Arra**	**6.42**	**246**	Pn	Pn	06 36 44.5	+0.3
	0.1nm,0.3s,baz=61,slow=14,SNR=6.7						
KURBB				Sn	Sn	06 37 57.4	-0.7
	baz=62,slow=18,SNR=1.5						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.65**	**210**	Pn	Pn	06 37 02.1	+1.0
	0.1nm,0.3s,baz=27,slow=14,SNR=6.2						
MKAR				Sn	Sn	06 38 29.7	+1.2
	baz=33,slow=28,SNR=3.2						
MKAR				Lg	Lg	06 39 10.0	
	baz=23,slow=22,SNR=1.9						
	0.1nm,0.3s						

*IDC **21** 07:06:59.0±0.8, 38°.78N×144°.30E, h0km, mb3.8/16, mbtmp3.8/20, ML3.5/4, MS2.9/4, Error ellipse: s-maj=19.0km s-min=17.1km az=154.0*
*JMA **21** 07:07:03.9±0.2, 38°.9N±0°.7×144°.1E±1°.0, h58km, MV3.8/30, FAR E OFF SANRIKU*
*NIED **21** 07:07:03.9, 38°.93N×144°.07E, h58km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}=7.17; $M_{\theta\theta}$=0.94; $M_{\phi\phi}$=6.23; $M_{r\theta}$=0.98; $M_{\theta\phi}$=3.95; $M_{r\phi}$=3.14; Fault plane solution: M_o=8.43000×10¹⁴ NP1: ϕ_s=203.00000°, δ57.00000°, λ-96.00000°. NP2:ϕ_s=34.00000°, δ34.00000°, λ-81.00000°.*
*NEIC **21** 07:07:07.0±1.2, 39°.07N±0°.08×144°.1E±0°.1, h36km±9km, mb4.3/17 Error ellipse: s-maj=17.6km s-min=10.2km az=116.0*
ISC 21 07:07:05.2±1.4, 38°.96N±0°.05×144°.22E±0°.06, h43km±11km, n66, σ2s21/81, mb4.1/27, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.96**	**289**	*i* P	**Pn**	**07 07 34.3**	**-1.6**
MIYJ				*e*S	**Sn**	**07 07 56.7**	**-2.5**
OFUJ	**Ofunato**	**1.99**	**274**	*i* P	**Pn**	**07 07 34.5**	**-1.7**
OFUJ				*e*S	**Sn**	**07 07 56.9**	**-3.1**
JTH	**Tanohata**	**2.07**	**299**	P	**Pn**	**07 07 35.8**	**-1.5**
JTH				*e*S	**Sn**	**07 08 00.2**	**-1.7**
JKMT	**Kesennumamotoy**	**2.15**	**267**	P	**Pn**	**07 07 36.6**	**-1.9**
JKMT				S	**Sn**	**07 08 00.7**	**-3.1**
JOM	**Ohasama**	**2.33**	**284**	*i* P	**Pn**	**07 07 39.8**	**-1.2**
JMK	**Ichinoseki**	**2.34**	**271**	P	**Pn**	**07 07 39.5**	**-1.6**
JMK				*e*S	**Sn**	**07 08 05.7**	**-2.9**
JANG	**Nango**	**2.52**	**305**	P	**Pn**	**07 07 41.6**	**-1.9**
JANG				*e*S	**Sn**	**07 08 10.4**	**-2.6**
JMM	**Marumori**	**2.90**	**249**		**Pn**	**07 07 47.1**	**-1.8**
JYK	**Kaneyama**	**3.01**	**270**	P	**Pn**	**07 07 49.4**	**-0.9**
JYK				*e*S	**Sn**	**07 08 23.0**	**-2.1**
JTM	**Tenmabayashi**	**3.03**	**308**	Pn	**Pn**	**07 07 49.6**	**-1.0**
ERM	**Erimo**	**3.16**	**346**		**Pn**	**07 07 52.0**	**-0.4**
JOTO	**OTAMA OYAMA**	**3.36**	**247**	P	**Pn**	**07 07 54.0**	**-1.2**
JOT	**Ohata**	**3.43**	**316**	*e*P	**Pn**	**07 07 55.0**	**-1.0**
JOT				*e*S	**Sn**	**07 08 33.4**	**-2.0**
JNBK	**Urakawa-nobuka**	**3.50**	**342**	P	**Pn**	**07 07 56.6**	**-0.4**
JNBK				*e*S	**Sn**	**07 08 36.3**	**-0.8**
JCH	**Churui**	**3.71**	**350**	P	**Pn**	**07 07 58.5**	**-1.4**
JCH				*e*S	**Sn**	**07 08 39.4**	**-2.9**
NEM2	**Nemuro 2**	**4.55**	**14**	P	**Pn**	**07 08 08.4**	**-3.0**
NEM2				S	**Sn**	**07 08 57.0**	**-6.0**
JSD	**Sado**	**4.76**	**261**	Pn	**Pn**	**07 08 14.2**	**-0.2**
JTKR	**Abashiri--Toko**	**5.01**	**357**	*e*P	**Pn**	**07 08 15.8**	**-1.9**
JTKR				S	**Sn**	**07 09 10.6**	**-3.8**
JHR	**Hokuryu**	**5.13**	**339**	P	**Pn**	**07 08 19.9**	**+0.4**
JHR				*e*S	**Sn**	**07 09 17.4**	**0.0**
JRY	**Ryogami san**	**5.15**	**237**	P	**Pn**	**07 08 17.6**	**-2.1**
JKA	**Kamikawa-asahi**	**5.29**	**347**	Pn	**Pn**	**07 08 22.2**	**+0.6**
ASAJ	**Asahikawa**	**5.29**	**347**	Pn	**Pn**	**07 08 21.3**	**-0.3**
	2.3nm,0.3s,baz=210,slow=12,SNR=9.3						
ASAJ				Sn	**Sn**	**07 09 20.2**	**-1.2**
	2.5nm,0.3s,baz=162,slow=20,SNR=1.7						
	7.3nm,0.4s						
MJAR	**Matsushiro Arr**	**5.34**	**245**	Pn	**Pn**	**07 08 20.7**	**-1.6**
	0.4nm,0.3s,baz=58,slow=11,SNR=20						
MJAR				Sn	**Sn**	**07 09 21.7**	**-0.8**
	baz=52,slow=22						
	5.6nm,0.6s						
MAJO	**Matsushiro**	**5.34**	**245**		**Pn**	**07 08 22.5**	**+0.2**
MJB9	**Matsu-Tunnel**	**5.34**	**245**		**Pn**	**07 08 23.6**	**+1.3**
JGF	**Kuroka**	**6.41**	**241**	Pn	**Pn**	**07 08 38.6**	**+1.5**
USRK	**Ussuriysk Ar.**	**10.55**	**304**	Pn	**Pn**	**07 09 34.1**	**+0.5**
	0.5nm,0.3s,baz=104,slow=15,SNR=3.6						
USRK				LR	LR	07 13 27.9	
	comp=Z,82nm,19.9s,baz=192,slow=36						
	3.9nm,0.6s						
JNU	**Nakatsue**	**12.26**	**246**	LR	LR	07 14 31.0	
	comp=Z,81nm,18.4s,baz=50,slow=37						
MDJ	**Mudanjiang**	**12.29**	**302**	P	**Pn**	**07 09 56.8**	**-0.6**
MDJ				sP	P	07 10 09.0	+0.2
MDJ				S	**Sn**	**07 12 18.3**	**+5.4**
MDJ				SS	**S**	**07 12 35.0**	**-4.6**
MDJ				PcP	**PcP**	**07 15 31.8**	**-5.4**
MDJ				ScP	**ScP**	**07 19 00.9**	**-5.7**
MDJ				PcS	**PcS**	**07 19 06.4**	**-4.8**
KSRS	**Korea Array**	**12.91**	**268**	LR	LR	07 14 03.0	
	comp=Z,30nm,18.8s,baz=70,slow=33						
KLR	**Kul'dur**	**13.61**	**323**	Pn	**Pn**	**07 10 16.4**	**+1.1**
	0.1nm,0.3s,baz=155,slow=12,SNR=4.3						
KLR				LR	LR	07 15 17.9	
	comp=Z,33nm,18.2s,baz=218,slow=36						
	1.2nm,0.6s						
MA2	**Magadan**	**21.05**	**9**	P	**P**	**07 11 46.0**	**+0.7**
	1.9nm,0.3s,baz=193,slow=14,SNR=2.2						
	1.9nm,0.3s						
HHC	**Hu-ho-hao-te**	**25.04**	**285**	*e*P	**P**	**07 12 26.3**	**+0.9**
HHC				sP	pP	07 12 39.1	+3.9
HHC				pmax	pmax		
	comp=E,6.0nm,0.6s						
HHC				pmax	pmax		
	comp=E,120nm,4.7s						
H11N2	**WAKE ISLAND Hy**	**27.40**	**128**	T	T	07 41 16.1	
	baz=320						
H11N1	**WAKE ISLAND Hy**	**27.41**	**128**	T	T	07 41 24.4	
	baz=320						
H11N3	**WAKE ISLAND Hy**	**27.42**	**128**	T	T	07 41 20.0	
	baz=320						
SONM	**Songino Array**	**28.64**	**300**	P	**P**	**07 12 58.4**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=77,slow=7.7,SNR=1.8						
	comp=Z,0.3nm,0.5s						
QIZ	**Qiongzhong**	**35.73**	**246**	P	**P**	**07 14 00.9**	**+1.0**
QIZ				S	**S**	**07 19 35.8**	**+1.8**
QIZ				LR	LR		
	comp=N,240nm,13.5s						
QIZ				LR	LR		
	comp=E,160nm,16.0s						
QIZ				LR	LR		
	comp=Z,240nm,11.8s						
PZH	**PanZhiHua**	**37.51**	**264**	P	**P**	**07 14 16.1**	**+1.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.4s						
PZH				pmax	pmax		
	comp=Z,190nm,6.2s						
ANM	**Nome**	**38.80**	**32**	P	**P**	**07 14 27.7**	**+2.4**
C16K	**Lisburne Hills**	**40.00**	**27**	P	**P**	**07 14 36.7**	**+1.4**
C16K				IAmb	IAmb	07 14 37.8	
	comp=Z,4.4nm,0.8s						
F17K	**Baldwin Pennin**	**40.95**	**30**	P	**P**	**07 14 45.6**	**+2.4**
F17K				IAmb	IAmb	07 14 46.3	
	comp=Z,3.4nm,0.7s						
C18K	**Utukok River**	**41.57**	**27**	P	**P**	**07 14 50.2**	**+1.9**
C18K				IAmb	IAmb	07 14 51.1	
	comp=Z,5.1nm,0.7s						
G18K	**Tagagawik**	**41.86**	**31**	P	**P**	**07 14 52.7**	**+2.0**
C19K	**Lookout Ridge**	**42.26**	**26**	P	**P**	**07 14 55.7**	**+1.8**
C19K				IAmb	IAmb	07 14 57.2	
	comp=Z,6.8nm,0.9s						
ZALV	**Zalesovo Beam**	**42.29**	**311**	P	**P**	**07 14 55.1**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=86,slow=9.7,SNR=1.8						
	comp=Z,0.5nm,0.4s						
D19K	**Kuna River**	**42.62**	**27**	P	**P**	**07 14 59.1**	**+2.2**
D19K				IAmb	IAmb	07 15 28.3	
	comp=Z,6.7nm,1.1s						
H19K	**Roundabout Mou**	**42.70**	**32**	P	**P**	**07 14 59.2**	**+1.8**
H19K				IAmb	IAmb	07 15 00.9	
	comp=Z,6.0nm,0.9s						
B20K	**Meade River**	**43.31**	**25**	P	**P**	**07 15 04.8**	**+2.4**
B21K	**Ikpikpuk River**	**44.09**	**26**	IAmb	IAmb	07 15 45.0	
	comp=Z,11nm,1.5s						
MK31	**Makanchi Array**	**45.00**	**301**	P	**P**	**07 15 17.1**	**+0.9**
MKAR	**Makanchi Array**	**45.00**	**301**	P	**P**	**07 15 16.9**	**+0.6**
	comp=Z,0.9nm,1.0s,baz=78,slow=10,SNR=5.1						
	comp=Z,0.9nm,1.0s						
KURBB	**Kurchatov Arra**	**46.59**	**307**	P	**P**	**07 15 29.4**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=82,slow=8.3,SNR=8.5						
	comp=Z,0.9nm,0.7s						
ILAR	**Eielson Array**	**46.68**	**33**	P	**P**	**07 15 29.2**	**0.0**
	comp=Z,1.1nm,0.9s,baz=267,slow=6.7,SNR=9.8						
	comp=Z,1.1nm,0.9s						
E29M	**Blow River**	**50.04**	**28**	P	**P**	**07 15 57.6**	**+2.6**
E29M				IAmb	IAmb	07 15 58.7	
	comp=Z,2.8nm,0.8s						
BVAR	**Borovoye Array**	**50.93**	**312**	P	**P**	**07 16 04.5**	**+2.5**
	comp=Z,0.3nm,0.5s,baz=72,slow=7.4,SNR=1.6						
	comp=Z,0.3nm,0.5s						
I30M	**Mount Dempster**	**51.08**	**32**	P	**P**	**07 16 04.2**	**+1.2**
I30M				IAmb	IAmb	07 16 06.3	
	comp=Z,5.4nm,1.1s						
WRA	**Warramunga Arr**	**59.32**	**191**	P	**P**	**07 17 01.1**	**-1.7**
	comp=Z,1.2nm,0.7s,baz=9.3,slow=7.1,SNR=5.7						
	comp=Z,1.2nm,0.7s						
YKA	**Yellowknife Ar**	**61.02**	**31**	P	**P**	**07 17 14.7**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=292,slow=6.2,SNR=3.2						
	comp=Z,0.3nm,0.8s						
ASAR	**Alice Springs**	**63.04**	**191**	P	**P**	**07 17 26.8**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=10,slow=6.7,SNR=3.3						
	comp=Z,0.6nm,0.8s						
FINES	**FINESS Array B**	**68.13**	**333**	P	**P**	**07 18 01.7**	**+1.4**
	comp=Z,1.6nm,0.8s,baz=67,slow=7.7,SNR=2.8						
	comp=Z,1.6nm,0.8s						
NVAR	**Mina Array Bea**	**72.07**	**55**	P	**P**	**07 18 26.2**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=270,slow=6.6,SNR=5.8						
	comp=Z,0.6nm,0.7s						
HFS	**Hagfors**	**73.22**	**337**	P	**P**	**07 18 32.6**	**+1.3**
	comp=Z,1.4nm,0.6s,baz=70,slow=9.6,SNR=5.7						
	comp=Z,1.4nm,0.6s						
AKASG	**Malin Array Be**	**74.11**	**323**	P	**P**	**07 18 37.5**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=42,slow=6.2,SNR=7.8						
	comp=Z,1.2nm,0.6s						
PDAR	**Pinedale Array**	**74.74**	**47**	P	**P**	**07 18 41.6**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=290,slow=1.6,SNR=6.9						
	comp=Z,0.4nm,0.6s						
TXAR	**Lajitas Array**	**87.20**	**54**	P	**P**	**07 19 48.1**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=316,slow=3.5,SNR=3.8						
	comp=Z,0.3nm,0.7s						

*IDC **21** 07:12:24.4±0.8, 2°.53N×95°.34E, h0km, mb4.1/15, mbtmp4.1/17, ML4.0/2, MS3.4/4, Error ellipse: s-maj=28.7km s-min=16.0km az=59.0*
*DJA **21** 07:12:26.2±1.3, 3°.N±4°×9°.5E±1°.2, h10km, M4.7/11, mb4.8/7, mB5.4/4, MLv4.6/11, Mw(mB)4.8/4*
*NEIC **21** 07:12:30.6±0.9, 2°.73N±0°.09×95°.6E±0°.1, h28km±7km, mb4.6/26, Error ellipse: s-maj=20.6km s-min=11.2km az=65.0*
ISC 21 07:12:28.6±0.5, 2°.67N±0°.06×95°.46E±0°.09, h25km, n70, σ0s82/57, mb4.4/28, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.91**	**107**	P	**Pn**	**07 12 44.7**	**-1.1**
MLSI	**Meulaboh, Aceh**	**1.84**	**31**	P	**Pn**	**07 12 57.9**	**-0.8**
KCSI	**Kotacane, Aceh**	**2.46**	**70**	P	**Pn**	**07 13 07.1**	**-0.1**
GSI	**Gunungsitoli**	**2.52**	**123**	Pn	**Pn**	**07 13 08.2**	**+0.3**
GSI	**Gunungsitoli**	**2.52**	**123**	P	**Pn**	**07 13 08.1**	**+0.2**
LHMI	**Lhok Sumawe**	**2.94**	**30**	P	Pb	07 13 30.5	+10
PBSI	**Pulau Batu**	**3.91**	**134**	P	**Pn**	**07 13 27.7**	**+0.6**
SISI	**Saibi**	**5.38**	**138**	P	**Pn**	**07 13 48.0**	**+0.7**
KULM	**Kulim**	**5.80**	**63**		**Pn**	**07 13 53.0**	**-0.1**
IPM	**Ipoh**	**5.84**	**72**		**Pn**	**07 13 53.5**	**-0.1**
PDSI	**Padang**	**6.14**	**125**	P	**Pn**	**07 13 58.3**	**+0.5**
	23nm,0.7s,6μm0.4nm						
PPSI	**Pulau Pagai**	**7.06**	**140**	P	**Pn**	**07 14 09.9**	**-0.5**
	121nm,0.9s,3μm0.6nm						
SRIT	**Nakonsritamara**	**7.18**	**35**	Pn	**Pn**	**07 14 11.7**	**-0.5**
MNAI	**Manna**	**10.25**	**133**	P	**Pn**	**07 14 54.0**	**-0.1**
	82nm,1.2s						
PALK	**Pallekele**	**15.39**	**288**	Pn	**Pn**	**07 16 02.7**	**-1.6**
	0.2nm,0.3s,baz=4.2,slow=17,SNR=1.5						
PALK				Sn	Sn	07 18 40.9	-13
	1.0nm,0.3s,baz=271,slow=1.7,SNR=5.3						
PALK				LR	LR	07 21 38.6	
	comp=Z,131nm,18.1s,baz=212,slow=36						
	0.9nm,0.3s						
CMAR	**Chiang Mai Arr**	**16.05**	**12**	P	**Pn**	**07 16 11.3**	**-1.5**
CMAR	**Chiang Mai Arr**	**16.05**	**12**	Pn	**P**	**07 16 15.5**	**-0.5**
	0.5nm,0.3s,baz=202,slow=11,SNR=34						
CMAR				LR	LR	07 23 21.0	
	comp=Z,93nm,18.4s,baz=215,slow=40						
	8.0nm,0.8s						
PHRA	**Phrae**	**16.41**	**16**	P	**Pn**	**07 16 15.9**	**-1.4**
PHRA				IAmb	IAmb	07 16 20.7	
	comp=Z,52nm,1.0s						
KKM	**Kota Kinabalu**	**20.96**	**80**	P	**P**	**07 17 09.8**	**-0.4**
H08S2	**Diego Garcia H**	**25.10**	**246**	T	T	07 44 04.2	
	baz=66,slow=75,SNR=1336						
H08S3	**Diego Garcia H**	**25.10**	**246**	T	T	07 44 04.9	
	baz=66,slow=75,SNR=1666						
H08S1	**Diego Garcia H**	**25.12**	**246**	T	T	07 44 05.5	
	baz=66,slow=75,SNR=1998						
LSA	**Lhasa**	**27.19**	**352**	P	**P**	**07 18 11.3**	**+0.5**
LSA				IAmb	IAmb	07 18 14.7	
	comp=Z,7.5nm,0.8s						
SOEI	**Soe**	**31.24**	**114**	P	**P**	**07 18 46.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**36.20**	**126**	P	**P**	**07 19 29.2**	**-0.4**
H01W3	**Cape Leeuwin H**	**41.27**	**156**	T	T	08 03 56.6	
	baz=332,slow=76,SNR=88						
H01W2	**Cape Leeuwin H**	**41.28**	**156**	T	T	08 03 57.6	
	baz=332,slow=76,SNR=93						
H01W1	**Cape Leeuwin H**	**41.29**	**156**	T	T	08 03 57.8	
	baz=332,slow=76,SNR=67						
BJT	**Baijiatuan**	**41.65**	**24**	P	**P**	**07 20 15.2**	**+0.2**
BJT				IAmb	IAmb	07 20 17.5	
	comp=Z,9.8nm,0.8s						
NRN	**Naryn**	**42.37**	**338**	P	**P**	**07 20 21.8**	**+0.5**
DRK	**Karamyk**	**42.48**	**333**	P	**P**	**07 20 23.6**	**+1.4**
WB0	**Warramunga Arr**	**44.26**	**122**	P	**P**	**07 20 36.4**	**0.0**
WRA	**Warramunga Arr**	**44.29**	**122**	P	**P**	**07 20 36.5**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=298,slow=9.4,SNR=12						
	comp=Z,1.5nm,0.8s						
WB2	**Warramunga Arr**	**44.30**	**122**	P	**P**	**07 20 36.8**	**0.0**
WB2				IAmb	IAmb	07 21 02.0	
	comp=Z,15nm,1.4s						
WR0	**Warramunga Arr**	**44.47**	**122**	P	**P**	**07 20 38.2**	**+0.1**
WR0				IAmb	IAmb	07 20 56.5	
	comp=Z,12nm,1.4s						
MK31	**Makanchi Array**	**45.42**	**347**	P	**P**	**07 20 46.1**	**+0.9**
MK31				IAmb	IAmb	07 20 54.0	
	comp=Z,7.9nm,0.9s						
MKAR	**Makanchi Array**	**45.42**	**347**	P	**P**	**07 20 46.3**	**+1.0**
	comp=Z,9.1nm,0.7s,baz=160,slow=8.4,SNR=93						
	comp=Z,9.1nm,0.7s						
MAKZ	**Makanchi**	**45.50**	**347**	P	**P**	**07 20 46.9**	**+0.9**
MAKZ				IAmb	IAmb	07 20 47.4	
	comp=Z,7.1nm,0.7s						
FORT	**Forrest**	**45.52**	**139**	P	**P**	**07 20 47.6**	**+1.3**
ASAR	**Alice Springs**	**45.67**

comp=Z,1.1nm,0.9s
ARCES ARCESS Array B 80.57 340 P **P** 07 24 38.2 -0.3
comp=Z,2.1nm,0.8s,baz=20,slow=3.9,SNR=3.8
comp=Z,2.1nm,0.8s
GERES GERESS Array B 82.56 319 P **P** 07 24 49.5 -0.1
comp=Z,0.2nm,0.3s,baz=77,slow=6.1,SNR=1.4
comp=Z,0.2nm,0.3s
F20K Avaraart Lake 94.81 22 P **P** 07 25 48.5 +0.7
F20K IAmb IAmb 07 25 49.3
comp=Z,1.9nm,0.8s
H19K Roundabout Mou 95.00 23 P **P** 07 25 49.8 +1.0

*GCG **21** 07:13:01.6±1.0, 13°.91N×92°.39W, h61km±84km, MD3.9*
*SNET **21** 07:13:05.5±1.1, 14°.07N×92°.05W, h30km, ML3.4*
ISC 21 07:13:01.3±4.5, 13°.7N±0°.2×92°.4W±0°.2, h50km, n12, σ1§48/15, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**1.01**	**53**	*e*P	**Pn**	**07 13 19.3**	**+0.2**
STG3	**Santiaguito 3,**	**1.29**	**38**	*e*P	**Pn**	**07 13 21.8**	**-1.3**
FUG	**Fuego 3**	**1.68**	**63**	*e*P	**Pn**	**07 13 27.6**	**-0.9**
PCG	**Pacaya**	**1.87**	**68**	*e*P	**Pn**	**07 13 31.1**	**0.0**
NBG	**Las Nubes**	**2.17**	**66**	*e*P	**Pn**	**07 13 35.9**	**+0.6**
NBG				*e*S	**Sn**	**07 14 01.8**	**+0.6**
NUBE	**Las Nubes**	**2.55**	**85**	*e*P	**Pn**	**07 13 40.3**	**+0.1**
SLOZ	**Alcaldia de Sa**	**2.56**	**82**	*e*P	**Pn**	**07 13 41.2**	**+0.9**
RTR	**El Retiro**	**2.68**	**85**	*e*P	**Pn**	**07 13 41.9**	**-0.2**
CEVE	**Cerro Verde**	**2.69**	**87**	*e*P	**Pn**	**07 13 43.2**	**+0.8**
CEVE				*e*S	**Sn**	**07 14 12.3**	**-1.6**
JAYA	**Jayaque - finc**	**2.86**	**90**	*e*P	**Pn**	**07 13 45.3**	**+0.7**
JAYA				*e*S	**Sn**	**07 14 16.4**	**-1.5**
MRL	**Marmol**	**2.97**	**62**	*e*P	**Pn**	**07 13 50.1**	**+4.0**
COEG	**Centro de Oper**	**3.41**	**91**	*e*P	**Pn**	**07 13 52.7**	**+0.6**
COEG				IAML		07 14 45.7	
	comp=Z,97nm,0.3s						

*OSPL **21** 07:26:30.3±2.2, 20°.15N×70°.87W, h5km±10km, ML2.4*
*SDD **21** 07:26:30.0±2.0, 20°.16N×70°.71W, h22km±66km, MD3.5, ML2.8, MW3.2*
ISC 21 07:26:28.2±1.7, 20°.15N±0°.04×70°.81W±0°.04, h8km±12km, n19, σ0§82/30, 10C-5D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC01	**Santiago de lo**	**0.72**	**174**	⇑*e*Pg	**Pb**	**07 26 43.3**	**+0.2**
SC01				IAML		07 26 56.9	
	comp=N,298nm,0.6s						
SC01				IAML		07 27 07.5	
	comp=E,186nm,1.0s						
SC01	**Santiago de lo**	**0.72**	**174**	*i* P	**Pb**	**07 26 43.4**	**+0.4**
SC01				*e*S	**Sb**	**07 26 53.7**	**+0.6**
SC01				IAML		07 26 59.5	
	comp=Z,157nm,1.2s						
MCDR	**Montecristi**	**0.84**	**252**	*e*Pg	**Pb**	**07 26 45.5**	**+0.5**
MCDR				⇑*e*Sg	**Sn**	**07 26 59.6**	**+0.8**
MCDR				IAML		07 27 04.7	
	comp=E,111nm,0.1s						
MCDR				IAML		07 27 07.9	
	comp=N,144nm,0.5s						
REDR	**Restauracion**	**1.12**	**210**	IAML		07 27 08.3	
	comp=E,432nm,0.5s						
REDR				IAML		07 27 08.6	
	comp=N,371nm,0.2s						
NADR	**Nagua**	**1.20**	**131**	⇑*e*Pg	**Pn**	**07 26 50.8**	**-0.4**
NADR				IAML		07 27 13.0	
	comp=N,214nm,0.3s						
NADR				IAML		07 27 15.3	
	comp=E,265nm,1.2s						
SDDR	**Presa de Saban**	**1.25**	**201**	⇑*e*Pg	**Pg**	**07 26 51.7**	**-0.5**
SDDR				⇓*e*Sg	**Sb**	**07 27 09.2**	**+1.0**
SDDR				IAML		07 27 12.5	
	comp=N,163nm,0.3s						
SDDR				IAML		07 27 13.3	
	comp=E,108nm,0.3s						
SDDR	**Presa de Saban**	**1.25**	**201**	⇓*i* P	**Pg**	**07 26 51.7**	**-0.5**
SDDR				*e*S	**Sg**	**07 27 08.9**	**+0.5**
SDDR				IAML		07 27 11.6	
	comp=Z,79nm,1.0s						
ABDR	**Alto Bandera**	**1.34**	**173**	⇑*e*Pg	**Pn**	**07 26 53.1**	**-0.5**
ABDR				⇑*e*Sg	**Sb**	**07 27 11.4**	**+0.2**
ABDR				IAML		07 27 11.7	
	comp=N,172nm,0.6s						
ABDR				IAML		07 27 12.1	
	comp=E,151nm,0.3s						
GRTK	**Grand Turk**	**1.39**	**347**	⇓*e*Pg	**Pn**	**07 26 53.8**	**-0.1**
GRTK				⇑*e*Sg	**Sn**	**07 27 13.5**	**+1.0**
GRTK				IAML		07 27 15.5	
	comp=E,234nm,0.7s						
GRTK				IAML		07 27 15.8	
	comp=N,293nm,0.7s						
GRTK	**Grand Turk**	**1.39**	**347**	*i* P	**Pn**	**07 26 53.9**	**+0.1**
GRTK				*e*S	**Sn**	**07 27 13.2**	**+0.8**
GRTK				IAML		07 27 18.6	
	comp=Z,114nm,1.1s						
NEDR	**Neiba UASD**	**1.75**	**199**	⇓*e*Sg	**Sg**	**07 27 25.3**	**+0.7**
NEDR				IAML		07 27 27.4	
	comp=N,53nm,0.8s						
NEDR				IAML		07 27 28.3	
	comp=E,52nm,0.4s						
BANI	**BANI**	**1.80**	**166**	*e*Pg	**Pn**	**07 27 00.2**	**+0.6**
BANI				IAML		07 27 26.1	
	comp=E,148nm,0.5s						
BANI				IAML		07 27 27.4	
	comp=N,140nm,1.2s						
SDD	**Santo Domingo**	**1.88**	**153**	*e*S	**Sn**	**07 27 24.5**	**-0.1**
HATOM	**Hato Mayor del**	**1.91**	**135**	⇑*e*Pg	**Pn**	**07 27 01.6**	**+0.5**
HATOM				⇑*e*Sg	**Sb**	**07 27 26.2**	**-1.1**
HATOM				IAML		07 27 31.7	
	comp=N,24nm,0.8s						
HATOM				IAML		07 27 33.6	
	comp=E,33nm,0.6s						
JIDR	**Jimani**	**1.92**	**211**	⇓*e*Pg	**Pb**	**07 27 03.2**	**-0.3**
JIDR				⇑*e*Sg	**Sg**	**07 27 30.2**	**+0.2**
JIDR				IAML		07 27 30.6	
	comp=E,401nm,0.6s						
JIDR				IAML		07 27 30.9	
	comp=N,303nm,0.7s						
PODR	**Polo**	**2.02**	**193**	*e*Pg	**Pb**	**07 27 05.8**	**+0.4**
PODR				IAML		07 27 35.6	
	comp=N,104nm,0.8s						
PODR	**Polo**	**2.02**	**193**	*i* P	**Pb**	**07 27 05.4**	**+0.1**
PODR				*e*S	**Sb**	**07 27 31.7**	**+1.0**
MIDR	**Miches**	**2.02**	**125**	*e*Pg	**Pn**	**07 27 02.6**	**0.0**
MIDR				*e*Sg	**Sb**	**07 27 29.6**	**-1.0**
MIDR				IAML		07 27 33.9	
	comp=E,15nm,0.9s						
MIDR				IAML		07 27 35.8	
	comp=N,21nm,1.2s						
MASC	**Masc**	**3.21**	**271**	*i* P	**Pn**	**07 27 18.1**	**-0.9**
MASC				*e*S	**Sn**	**07 27 54.9**	**-2.6**

IDC 21 07:34:54.7±3.3, 53°.84N×88°.17E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=26.1km s-min=17.7km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.99**	**274**	I	I	07 48 50.0	
	0.1nm,1.2s,baz=89,slow=339,SNR=3.5						
ZALV	**Zalesovo Beam**	**1.99**	**274**	Pg	Pn	07 35 30.1	+0.6
	0.9nm,0.3s,baz=89,slow=16,SNR=31						
ZALV				Lg	Lg	07 35 58.2	
	2.6nm,0.3s,baz=90,slow=30,SNR=29						
KURBB	**Kurchatov Arra**	**6.74**	**245**	Pn	Pn	07 36 35.8	+0.9
	0.1nm,0.3s,baz=61,slow=14,SNR=6.1						
KURBB				Sn	Sn	07 37 51.5	-0.8
	baz=64,slow=22,SNR=1.2						
KURBB				Lg	Lg	07 38 26.4	
	baz=63,slow=35,SNR=1.6						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**8.00**	**210**	Pn	Pn	07 36 53.0	+0.9
	baz=27,slow=13,SNR=2.9						
MKAR				Sn	Sn	07 38 23.4	+0.2
	0.1nm,0.3s,baz=28,slow=16,SNR=1.8						
MKAR				Lg	Lg	07 39 04.8	
	baz=28,slow=23,SNR=2.1						
	0.3nm,0.7s						

*IDC **21** 07:35:47.6±2.8, 34°.67N×45°.14E, h0km, mb3.8/6, mbtmp3.8/7, ML3.7/1, MS2.8/5, Error ellipse: s-maj=58.9km s-min=31.1km az=26.0*
*ISN **21** 07:35:49.4±0.9, 34°.69N×45°.20E, h6km±14km, ML4.0*
*TEH **21** 07:35:50.2, 34°.68N×45°.17E, h18km±16km, ML4.2*
ISC 21 07:35:49.8±0.7, 34°.69N±0°.03×45°.17E±0°.04, h10km, n53, σ1§51/53, mb3.7/6, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.39**	**118**	Pg	**Pb**	**07 35 58.6**	**-0.3**
IKRK	**Kirkuk**	**0.98**	**316**	*e*Pg	**Pn**	**07 36 10.5**	**+0.8**
IKRK				*e*Sg	**Sn**	**07 36 24.5**	**+0.9**
IDHR	**Dehrash**	**1.00**	**89**	Pg	**Pg**	**07 36 09.2**	**+0.1**
IGHG	**Ghaleghazi**	**1.21**	**107**	Pg	**Pg**	**07 36 13.5**	**+0.4**
IGHG				Sg	**Sn**	**07 36 30.9**	**+1.3**
ILBA	**Ilam Banvizeh**	**1.37**	**141**	Pg	**Pb**	**07 36 15.6**	**+0.1**
SDS1	**Sardasht. Az.**	**1.48**	**10**	Pg	**Pb**	**07 36 18.3**	**+0.9**
ILIN	**Lien**	**1.49**	**81**	Pg	**Pb**	**07 36 18.1**	**+0.3**
BHD	**Baghdad**	**1.56**	**205**	*e*Pn	**Pg**	**07 36 20.0**	**+0.2**
BHD				*e*Sn	**Sg**	**07 36 41.5**	**+1.5**
KCHF	**Cheshme Sefid,**	**1.60**	**105**	Pg	**Pb**	**07 36 20.0**	**+0.5**
IBDR	**Badra**	**1.70**	**158**	*e*Pn	**Pb**	**07 36 21.0**	**-0.1**
IBDR				*e*Sn	**Sg**	**07 36 44.5**	**+0.1**
IBDR				AML	AML	07 36 50.3	
	comp=E,2μm,0.3s						
IBDR				AML	AML	07 36 58.6	
	comp=N,2μm,0.6s						
MAHB	**Mahabad**	**2.12**	**12**	Pn	**Pn**	**07 36 27.0**	**+1.6**
IBZA	**Bozab**	**2.23**	**95**	Pn	**Pn**	**07 36 28.5**	**+1.4**
IKFM	**Kafar-mosalman**	**2.51**	**117**	Pn	**Pn**	**07 36 32.2**	**+1.6**
IDOB	**Doab**	**2.65**	**109**	Pn	**Pn**	**07 36 33.9**	**+1.1**
HSAM	**Samen**	**2.88**	**99**	Pn	**Pn**	**07 36 37.2**	**+1.3**
IAZR	**Azarshahr**	**3.05**	**12**	Pn	**Pn**	**07 36 40.1**	**+1.7**
RAFI	**Al-Rafai**	**3.06**	**165**	*e*Pn	**Pn**	**07 36 40.0**	**+1.7**
RAFI				*e*Sn	**Sn**	**07 37 17.5**	**+2.5**
HAGD	**Aghdareh**	**3.27**	**87**	Pn	**Pn**	**07 36 42.3**	**+1.0**
ISHB	**Shabestar**	**3.60**	**6**	Pn	**Pn**	**07 36 47.3**	**+1.4**
IHRS	**Heris**	**3.92**	**22**	Pn	**Pn**	**07 36 52.0**	**+1.7**
IRAZ	**Razeghan**	**3.97**	**78**	Pn	**Pn**	**07 36 52.8**	**+1.8**
IQOM	**Qom**	**4.86**	**87**	Pn	**Pn**	**07 37 04.5**	**+1.3**
IPIR	**Pirpir**	**5.17**	**111**	Pn	**Pn**	**07 37 08.0**	**+0.4**
JHBN	**Jahan bin**	**5.21**	**117**	Pn	**Pn**	**07 37 08.9**	**+0.9**
QAMS	**Qamsar**	**5.25**	**99**	Pn	**Pn**	**07 37 10.4**	**+1.9**
IVRN	**Varamin**	**5.40**	**85**	Pn	**Pn**	**07 37 11.3**	**+0.8**
ZNGN	**Zangian**	**5.40**	**117**	Pn	**Pn**	**07 37 11.9**	**+1.1**
IKLH	**Kolahrood**	**5.50**	**103**	Pn	**Pn**	**07 37 14.1**	**+2.2**
MZPU	**Pul - Mazandar**	**5.50**	**70**	Pn	**Pn**	**07 37 13.9**	**+1.9**
ISFB	**Sefidab**	**5.85**	**91**	Pn	**Pn**	**07 37 18.3**	**+1.6**
IGAR	**Gharneh**	**6.17**	**110**	Pn	**Pn**	**07 37 22.4**	**+1.1**
IZEF	**Zefreh**	**6.22**	**105**	Pn	**Pn**	**07 37 23.2**	**+1.2**
ILAS	**Lasjerd**	**6.43**	**82**	Pn	**Pn**	**07 37 26.7**	**+1.9**
KLNJ	**Kolanjah**	**6.53**	**122**	Pn	**Pn**	**07 37 27.3**	**+1.0**
ASF	**Jabal al Asfar**	**7.36**	**252**	LR	LR	07 41 13.0	
	comp=N,48nm,20.1s,baz=328,slow=44						
DSBU	**Dashti - Bushe**	**8.17**	**139**	Pn	**Pn**	**07 37 49.0**	**+0.4**
EIL	**Elat**	**10.00**	**243**	LR	LR	07 41 56.9	
	comp=N,42nm,21.8s,baz=58,slow=37						
SHME	**Shamm**	**12.79**	**129**	Pn	**Pn**	**07 38 49.3**	**-2.5**
MSFE	**Esma-Masafi**	**13.30**	**131**	Pn	**Pn**	**07 38 57.0**	**-1.7**
ASUD	**Al Ashush, Dub**	**13.36**	**136**	Pn	**Pn**	**07 38 56.3**	**-3.2**
MDH	**Madha**	**13.43**	**131**	Pn	**Pn**	**07 38 57.7**	**-2.7**
UOSS	**Minazif**	**13.63**	**132**	Pn	Pn	07 38 58.7	-4.5
HATD	**Hatta, Dubai**	**13.68**	**133**	Pn	**Pn**	**07 39 00.7**	**-3.1**
ASHO	**Ashiyiah**	**13.74**	**134**	Pn	**Pn**	**07 39 01.9**	**-2.8**
ASHO				Sn	Sn	07 41 25.7	-12
WSAR	**Wadi Sarin**	**16.38**	**131**	LR	LR	07 48 13.8	
	comp=N,29nm,21.9s,baz=258,slow=46						
AKTO	**Aktyubinsk**	**18.32**	**27**	P	**Pn**	**07 40 02.3**	**-1.6**
	comp=N,0.2nm,0.3s,baz=241,slow=12,SNR=3.1						
	comp=N,1.1nm,0.5s						
KIRV	**Kirov**	**24.07**	**5**	LR	LR	07 51 02.1	
	comp=N,47nm,18.3s,baz=160,slow=38						
BVAR	**Borovoye Array**	**25.60**	**37**	P	**P**	**07 41 18.3**	**-0.8**
	comp=N,0.5nm,0.5s,baz=219,slow=8.6,SNR=4.8						
BVAR				LR	LR	07 53 17.7	
	comp=N,40nm,19.8s,baz=256,slow=41						
	comp=N,0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**28.94**	**46**	P	**P**	**07 41 49.5**	**+0.5**
	comp=N,0.3nm,0.7s,baz=256,slow=7.6,SNR=3.1						
	comp=N,0.3nm,0.7s						
MKAR	**Makanchi Array**	**30.33**	**55**	P	**P**	**07 42 01.4**	**-0.1**
	comp=N,1.4nm,0.8s,baz=261,slow=6.9,SNR=8.9						
	comp=N,1.4nm,0.8s						
HFS	**Hagfors**	**32.62**	**331**	P	**P**	**07 42 20.6**	**-0.8**
	comp=N,1.8nm,0.4s,baz=120,slow=8.8,SNR=11						
	comp=N,1.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**50.17**	**94**	P	**P**	**07 44 44.8**	**-1.0**
	comp=N,0.9nm,0.3s,baz=300,slow=9.2,SNR=5.8						
	comp=N,0.9nm,0.3s						
ILAR	**Eielson Array**	**80.41**	**5**	P	**P**	**07 48 01.3**	**+0.1**
	comp=N,0.5nm,1.0s,baz=343,slow=6.0,SNR=3.3						
	comp=N,0.5nm,1.0s						

*IDC **21** 07:38:44.2±3.3, 53°.62N×90°.84E, h0km, mbtmp2.9/3, ML2.4/3, Error ellipse: s-maj=27.2km s-min=22.2km az=63.0*
*NNC **21** 07:38:45.1±3.1, 53°.76N×90°.67E, h16km±14km, mb2.9, mpv2.6, Error ellipse: s-maj=26.0km s-min=18.6km az=28.0, Suspected Mining explosion.*
ISC 21 07:38:46.2±3.9, 53°.6N±0°.1×90°.6E±0°.2, h0km, n9, σ1§11/15, 8C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.42**	**279**	I	I	08 03 30.0	
	baz=89,slow=340,SNR=2.4						
ZAA0	**Zalesovo Array**	**3.42**	**279**	⇑Pg	**Pb**	**07 39 47.9**	**+0.3**
	0.1nm,0.3s						
ZAA0				⇑Lg	Lg	07 40 37.1	
	1.3nm,0.8s						
ZALV	**Zalesovo Beam**	**3.42**	**279**	Pn	**Pn**	**07 39 42.3**	**+1.6**
	0.4nm,0.3s,baz=91,slow=12,SNR=2.5						
ZALV				Pg	**Pg**	**07 39 50.4**	**-1.3**
	0.8nm,0.3s,baz=94,slow=15,SNR=7.5						
ZALV				Lg	Lg	07 40 37.3	
	1.2nm,0.3s,baz=95,slow=25,SNR=6.4						
	0.7nm,0.3s						
KURK	**Kurchatov**	**7.88**	**253**	⇓Pn	**Pn**	**07 40 41.3**	**-0.5**
	0.2nm,0.4s						
KURK				⇓Sn	**Sn**	**07 42 12.5**	**+0.9**
	3.0nm,0.7s						
KURK				⇑Lg	Lg	07 42 59.8	
	3.4nm,1.0s						
KURBB	**Kurchatov Arra**	**7.97**	**253**	Pn	**Pn**	**07 40 43.2**	**0.0**
	0.1nm,0.3s,baz=65,slow=15,SNR=9.0						
KURBB				Sn	**Sn**	**07 42 14.5**	**+0.6**
	baz=67,slow=25,SNR=6.9						
KURBB				Lg	Lg	07 43 03.7	
	baz=71,slow=35,SNR=5.0						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**7.97**	**253**	⇑Pn	**Pn**	**07 40 42.6**	**-0.6**
	0.9nm,0.3s						
KURBB				⇑Sn	**Sn**	**07 42 13.0**	**-0.9**
	5.4nm,0.7s						
KURBB				⇓Lg	Lg	07 43 02.7	
	5.6nm,0.8s						
MK31	**Makanchi Array**	**8.61**	**221**	⇓Pn	**Pn**	**07 40 51.3**	**-0.7**
	0.1nm,0.5s,baz=38,slow=14,SNR=7.2						
MK31				⇓Sn	**Sn**	**07 42 30.6**	**+1.0**
	0.4nm,0.6s						
MK31				⇑Lg	Lg	07 43 21.4	
	1.2nm,0.8s,baz=32,slow=31						
MKAR	**Makanchi Array**	**8.61**	**221**	Pn	**Pn**	**07 40 52.8**	**+0.8**
	0.1nm,0.3s,baz=33,slow=12,SNR=5.8						
MKAR				Sn	**Sn**	**07 42 30.7**	**+1.0**
	0.1nm,0.3s,baz=33,slow=19,SNR=3.9						
MKAR				Lg	Lg	07 43 20.8	
	baz=36,slow=20						
	0.3nm,0.4s						
MAKZ	**Makanchi**	**8.72**	**222**	⇓Pn	**Pn**	**07 40 52.3**	**-1.2**
	0.1nm,0.5s						
MAKZ				⇑Sn	**Sn**	**07 42 34.3**	**+1.8**
	0.4nm,0.5s						
MAKZ				⇑Lg	Lg	07 43 30.2	
	1.1nm,0.9s						

*JMA **21** 07:53:40.5±0.3, 43°.1N×14°.8E±°, h0km, MV3.6/16, E OFF HOKKAIDO*
*SKHL **21** 07:53:41.5±0.4, 43°.10N×148°.70E, h39km±3km, mb4.3/3*
ISC 21 07:53:39.9±3.3, 43°.2N±0°.1×148°.5E±0°.1, h4km±15km, n13, σ1§38/23, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**1.39**	**300**	*e*P	**Pg**	**07 54 06.5**	**-0.1**
SHO				*e*S	**Sn**	**07 54 25.5**	**+0.5**
SHO				A	A	07 54 27.0	
	270nm,0.4s						
SHO				A	A	07 54 27.0	
	260nm,0.4s						
NEM2	**Nemuro 2**	**2.02**	**276**	*e*P	**Pn**	**07 54 15.2**	**+0.5**
NEM2				*e*S	**Sb**	**07 54 40.6**	**-2.0**
NMR	**Nemuro--Hokkai**	**2.03**	**276**	*i* P	**Pn**	**07 54 15.3**	**+0.4**
NMR				*e*S	**Sb**	**07 54 40.8**	**-2.1**
YUK	**Yuzh-Kuril'sk**	**2.09**	**295**	*e*P	**Pn**	**07 54 16.6**	**+0.8**
YUK				AMB	AMB	07 54 17.3	
	40nm,0.3s						
YUK				*e*S	**Sn**	**07 54 42.7**	**+0.4**
YUK				A	A	07 54 43.0	
	220nm,0.5s						
YUK				A	A	07 54 43.0	
	300nm,0.5s						
KUR	**Kuril'sk**	**2.10**	**348**	*e*P	**Pn**	**07 54 16.0**	**+0.2**
KUR				AMB	AMB	07 54 17.6	
	100nm,0.5s						
KUR				*i* S	**Sn**	**07 54 41.6**	**-0.8**
KUR				A	A	07 54 45.6	
	100nm,0.3s						
KUR				A	A	07 54 45.6	
	70nm,0.3s						
JRA	**Rausu**	**2.56**	**288**	*e*S	**Sn**	**07 54 55.0**	**+1.1**
AKK	**Akkeshi**	**2.68**	**268**	*e*P	**Pn**	**07 54 24.8**	**+1.0**
AKK				*e*S	**Sn**	**07 54 56.6**	**-0.1**
JAK	**Akkeshi**	**2.79**	**267**	*e*P	**Pn**	**07 54 25.9**	**+0.6**
JAK				*e*S	**Sn**	**07 54 58.9**	**-0.5**
JTKR	**Abashiri--Toko**	**3.42**	**285**	*e*P	**Pn**	**07 54 36.0**	**+1.9**
JTKR				*e*S	**Sn**	**07 55 16.9**	**+1.8**
JAR	**Ashorobuto**	**3.45**	**273**	*e*P	**Pn**	**07 54 36.1**	**+1.6**
JAR				*e*S	**Sn**	**07 55 16.8**	**+0.9**
JCH	**Churui**	**3.81**	**263**	*e*P	**Pn**	**07 54 41.0**	**+1.5**
JCH				*e*S	**Sn**	**07 55 25.6**	**+0.9**
JNBK	**Urakawa-nobuka**	**4.33**	**260**	*e*P	**Pn**	**07 54 47.4**	**+1.0**
JOT	**Ohata**	**5.81**	**254**	*e*S	**Sn**	**07 56 11.1**	**-2.8**

IDC 21 07:55:44.7±2.5, 54°.17N×86°.15E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=18.7km s-min=11.1km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.81**	**255**	I	I	08 00 50.0	
	baz=78,slow=330,SNR=1.8						
ZALV	**Zalesovo Beam**	**0.81**	**255**	Pg	Pg	07 55 58.3	-1.9
	1.0nm,0.3s,baz=71,slow=17,SNR=9.0						
ZALV				Lg	Lg	07 56 12.3	
	3.3nm,0.3s,baz=73,slow=30,SNR=8.0						
KURBB	**Kurchatov Arra**	**5.86**	**236**	Pn	Pn	07 57 13.9	+1.2
	0.1nm,0.3s,baz=51,slow=13,SNR=1.9						
KURBB				Lg	Lg	07 58 52.4	
	0.1nm,0.3s,baz=49,slow=34,SNR=2.3						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**7.78**	**200**	Pn	Pn	07 57 40.5	+1.4
	0.1nm,0.3s,baz=22,slow=13,SNR=7.4						
MKAR				Lg	Lg	07 59 53.9	
	baz=23,slow=22						
	0.2nm,0.3s						

IDC 21 08:00:26.7±3.0, 53°.53N×87°.74E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=23.9km s-min=14.7km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.78**	**285**	I	I	08 10 40.0	
	baz=103,slow=331,SNR=1.5						
ZALV	**Zalesovo Beam**	**1.78**	**285**	Pg	Pn	08 00 58.7	-0.1
	2.0nm,0.3s,baz=104,slow=12,SNR=13						
ZALV				Lg	Lg	08 01 22.9	
	2.5nm,0.3s,baz=104,slow=24,SNR=12						
KURBB	**Kurchatov Arra**	**6.38**	**247**	Pn	Pn	08 02 02.6	+0.8
	0.1nm,0.3s,baz=61,slow=14,SNR=4.6						
KURBB				Sn	Sn	08 03 15.4	0.0
	baz=57,slow=36,SNR=1.3						
KURBB				Lg	Lg	08 03 49.0	
	baz=60,slow=29,SNR=5.1						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**7.60**	**210**	Pn	Pn	08 02 19.5	+0.8
	0.1nm,0.3s,baz=30,slow=14,SNR=4.6						
MKAR				Sn	Sn	08 03 45.7	+0.3
	0.2nm,0.3s,baz=29,slow=27,SNR=3.0						
MKAR				Lg	Lg	08 04 27.4	
	0.1nm,0.3s,baz=26,slow=31,SNR=1.5						
	0.2nm,0.3s						

*IDC **21** 08:00:20.9±0.6, 5°.91S×142°.76E, h0km, mb4.3/18, mbtmp4.4/22, ML3.3/2, MS3.6/25, Error ellipse: s-maj=22.8km s-min=13.4km az=75.0*
*NEIC **21** 08:00:24.7±2.7, 6°.05S±0°.07×142°.45E±0°.09, h10km±1km, mb4.9/78, Error ellipse: s-maj=14.5km s-min=12.6km az=96.0*
*DJA **21** 08:00:25.0±0.3, 6°.S±3°×14°.3E±°, h10km, M5.1/12, mB5.3/4, mb4.8/12, MLv5.4/6, Mw(mB)4.7/4*
ISC 21 08:00:26.2±0.4, 6°.18S±0°.05×142°.58E±0°.06, h28km, n150, σ2§06/109, mb4.8/66, MS3.6/19, 1C-2D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPI	**Merauke**	**3.15**	**224**	P	**Pn**	**08 01 16.4**	**+2.4**
JAY	**Jayapura**	**4.09**	**333**	P	**Pn**	**08 01 25.5**	**-1.5**
GENI	**Genyem**	**4.30**	**326**	P	**Pn**	**08 01 29.8**	**0.0**
PMG	**Port Moresby**	**5.56**	**126**		**Pn**	**08 01 46.8**	**-0.4**
PMG	**Port Moresby**	**5.56**	**126**	Pn	**Pn**	**08 01 46.9**	**-0.2**
	25nm,0.3s,baz=325,slow=7.5,SNR=73						
PMG				Sn	**Sn**	**08 02 51.0**	**+0.9**
	26nm,0.3s,baz=208,slow=21,SNR=8.6						
PMG				LR	LR	08 04 57.1	
	comp=Z,892nm,20.0s,baz=158,slow=50						
	156nm,0.5s						
MANU	**Manus Island**	**

comp=Z,482nm,18.3s,baz=89,slow=43
AS31 Alice Springs 19.28 205 Pn **Pn 08 04 51.9 +1.7**
ASAR Alice Springs 19.29 205 Pn **Pn 08 04 51.6 +1.4**
ASAR Alice Springs 19.29 205 P **Pn 08 04 51.5 +1.3**
comp=Z,31nm,0.6s,baz=31,slow=10,SNR=213
ASAR S **S 08 08 19.9 -6.1**
comp=Z,7.6nm,0.8s,baz=17,slow=28,SNR=4.8
ASAR Lg Lg 08 10 39.1
baz=16,slow=29
ASAR LR LR 08 12 26.5
comp=Z,458nm,20.0s,baz=37,slow=37
GUMO Guam 19.77 7 LR LR 08 11 21.2
comp=Z,84nm,21.5s,baz=182,slow=34
FITZ Fitzroy Crossi 20.33 233 P **P 08 05 01.5 +1.0**
FITZ Fitzroy Crossi 20.33 233 P **P 08 05 01.3 +0.8**
QLP Quilpie 20.35 176 P Pn 08 05 04.4 +1.7
LUWI Luwuk 20.41 284 P Pn 08 05 05.2 +1.7
LUWI Luwuk 20.41 284 P **P 08 05 00.5 -0.8**
comp=Z,75nm,0.8s,comp=Z,4um
EIDS Eidsvold 20.75 158 P Pn 08 05 07.7 +0.3
EIDS IAmb IAmb 08 05 11.4
comp=Z,30nm,0.7s
EDFI Ende, Flores 20.86 262 P **P 08 05 07.3 +0.9**
comp=Z,29nm,1.0s
INKA Innaminka 21.52 184 P **P 08 05 15.9 +2.8**
OOD Oodnadatta 22.47 196 P **P 08 05 25.2 +1.8**
TTSI Tana Toraja 22.89 277 P P 08 05 42.3 +14
TOLI2 Tolitoli 22.93 288 P **P 08 05 27.8 -0.6**
WRKA Warakurna 23.21 215 P **P 08 05 32.1 +0.9**
MULG Mulgathing 25.28 197 P **P 08 05 52.4 +2.1**
ARMA Armidale 25.57 162 P **P 08 05 55.9 +2.7**
STKA Stephens Creek 25.58 182 P **P 08 05 57.0 +3.9**
STKA Stephens Creek 25.58 182 P **P 08 05 52.8 -0.3**
STKA Stephens Creek 25.58 182 P **P 08 05 53.5 +0.4**
comp=Z,5.7nm,1.0s,baz=349,slow=11,SNR=4.6
STKA LR LR 08 16 26.4
comp=Z,305nm,20.6s,baz=356,slow=37
comp=Z,5.7nm,1.0s
PSA00 Pilbara Seismi 26.79 233 P **P 08 06 03.1 -1.1**
BBOO Buckleboo 27.18 192 P **P 08 06 10.0 +2.5**
DZM Mont Dzumac 27.95 127 *e*LR LR 08 13 31.2
comp=Z,210nm,21.3s
FORT Forrest 28.01 207 P **P 08 06 16.1 +1.2**
FORT IAmb IAmb 08 07 04.9
comp=Z,28nm,0.8s
CAN Canberra 29.60 169 P **P 08 06 30.8 +1.6**
LEM Lembang 34.74 267 LR LR 08 25 44.2
comp=Z,73nm,18.0s,baz=296,slow=44
NWAO Narrogin (SRO) 35.55 218 LR LR 08 21 22.9
comp=Z,199nm,20.5s,baz=84,slow=35
MJAR Matsushiro Arr 42.69 355 P **P 08 08 16.7 -4.1**
comp=Z,1.5nm,0.6s,baz=165,slow=9.7,SNR=2.9
MJAR LR LR 08 25 00.4
comp=Z,72nm,18.2s,baz=178,slow=35
comp=Z,1.5nm,0.6s
JSD Sado 44.17 355 P **P 08 08 33.6 +0.9**
NJ2 Nanjing 44.23 331 *e*P **P 08 08 34.8 +1.5**
NJ2 pmax pmax
comp=Z,23nm,0.5s
NJ2 pmax pmax
comp=Z,470nm,5.6s
KSRS Korea Array 45.51 344 P **P 08 08 39.1 -4.2**
comp=Z,2.6nm,1.0s,baz=169,slow=8.8,SNR=3.1
KSRS LR LR 08 25 24.9
comp=Z,28nm,20.4s,baz=145,slow=33
comp=Z,2.6nm,1.0s
LYN LuoYang 49.49 327 ⇓P **P 08 09 17.6 +3.2**
LYN pmax pmax
comp=Z,13nm,1.3s
CMAR Chiang Mai Arr 49.50 301 P **P 08 09 14.0 -0.7**
comp=Z,1.9nm,0.4s,baz=132,slow=5.5,SNR=8.7
comp=Z,1.9nm,0.4s
ASAJ Asahikawa 50.06 0 P **P 08 09 16.0 -2.5**
comp=Z,4.5nm,1.0s,baz=225,slow=14,SNR=1.1
ASAJ LR LR 08 30 28.6
comp=Z,15nm,20.2s,baz=168,slow=36
comp=Z,4.5nm,1.0s
USA0B Ussuriysk Arra 51.05 350 P **P 08 09 26.0 0.0**
USRK Ussuriysk Ar. 51.05 350 P **P 08 09 26.1 +0.2**
USRK Ussuriysk Ar. 51.05 350 P **P 08 09 23.9 -2.1**
comp=Z,7.6nm,0.8s,baz=183,slow=8.9,SNR=1.3
comp=Z,7.6nm,0.8s
XAN Xi'an 51.12 324 P P 08 09 33.4 +6.6
XAN pP sP 08 09 37.0 -2.0
XAN pmax pmax
comp=Z,11nm,1.0s
PZH PanZhiHua 51.20 311 P **P 08 09 29.3 +1.7**
PZH pmax pmax
comp=Z,10.0nm,0.4s
PZH pmax pmax
comp=Z,200nm,6.5s
MDJ Mudanjiang 51.90 348 P **P 08 09 33.8 +1.5**
MDJ sP pP 08 09 38.3 -2.8
MDJ PcP **PcP 08 10 48.3 +3.5**
MDJ ScP **ScP 08 14 40.3 +0.4**
MDJ S **S 08 16 53.9 +0.6**
MDJ sS pS 08 17 00.0 -4.4
MDJ Mudanjiang 51.90 348 SS **SS 08 20 35.8 +5.1**
MDJ pmax pmax
comp=Z,8.0nm,0.9s
MDJ pmax pmax
comp=Z,340nm,5.5s
MDJ Mudanjiang 51.90 348 IAmb IAmb 08 09 39.3
comp=Z,14nm,1.1s
BJI Beijing 52.03 334 P **P 08 09 32.1 -1.3**
BJI pmax pmax
comp=Z,4.0nm,1.2s
CD2 Chengdu 52.33 317 P **P 08 09 36.1 +0.2**
BNX BinXian 53.44 347 ⇑P **P 08 09 42.0 -1.7**
BNX pmax pmax
comp=Z,7.0nm,0.7s
BNX pmax pmax
comp=Z,210nm,4.6s
HHC Hu-ho-hao-te 54.78 331 *e*P **P 08 09 56.4 +2.7**
HHC sP pP 08 10 03.1 +0.6
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,110nm,4.9s
LZH Lanzhou 55.56 322 *e*P P 08 10 06.0 +6.5
LZH pP sP 08 10 11.8 0.0
LZH pmax pmax
comp=Z,13nm,1.0s
KLR Kul'dur 55.98 351 P **P 08 10 00.3 -1.7**
comp=Z,3.6nm,0.8s,baz=196,slow=5.0,SNR=10
KLR LR LR 08 31 32.0
comp=Z,24nm,21.4s,baz=224,slow=34
comp=Z,3.6nm,0.8s
RAR Rarotonga 57.66 111 LR LR 08 33 01.3
comp=Z,48nm,20.7s,baz=316,slow=34
GTA Gaotai 60.14 323 P **P 08 10 35.4 +3.8**
GTA pP pP 08 10 38.6 -1.9
GTA pmax pmax
comp=Z,4.0nm,0.9s
PETK Petropavlovsk- 60.44 10 P **P 08 10 33.3 +0.1**
PETK Petropavlovsk- 60.44 10 P **P 08 10 30.1 -3.1**
comp=Z,6.4nm,0.9s,baz=191,slow=6.6,SNR=1.5
PETK LR LR 08 39 00.6
comp=Z,12nm,18.3s,baz=114,slow=39
comp=Z,6.4nm,0.9s
SONM Songino Array 62.50 333 P **P 08 10 46.4 -1.1**
comp=Z,0.5nm,0.5s,baz=147,slow=6.6,SNR=2.0
comp=Z,0.5nm,0.5s
PALK Pallekele 63.16 281 LR LR 08 41 27.3
comp=Z,49nm,19.8s,baz=215,slow=39
MA2 Magadan 65.87 5 P **P 08 11 09.1 0.0**
MA2 IAmb IAmb 08 11 15.2
comp=Z,13nm,1.0s
PPT Papeete 67.06 106 LR LR 08 36 16.7
comp=Z,31nm,20.4s,baz=269,slow=32
PPT2 Papeete2 67.06 106 *e*LR LR 08 31 31.6
comp=Z,127nm,32.5s
YAK Yakutsk 68.74 354 LR LR 08 40 11.2
comp=Z,28nm,19.4s,baz=96,slow=35
WMQ Urumqi 70.11 321 *e*P **P 08 11 39.5 +3.3**
WMQ pmax pmax
comp=Z,13nm,0.7s
VNDA Vanda 72.03 176 P **P 08 11 48.3 +1.1**
comp=Z,1.2nm,0.8s,baz=336,slow=10.0,SNR=6.0
VNDA LR LR 08 42 21.0
comp=Z,81nm,18.0s,baz=337,slow=35
comp=Z,1.2nm,0.8s
MKAR Makanchi Array 74.88 322 P **P 08 12 03.9 -0.6**
MKAR Makanchi Array 74.88 322 P **P 08 12 03.1 -1.4**
comp=Z,1.2nm,0.7s,baz=100,slow=7.5,SNR=13
comp=Z,1.2nm,0.7s
MAKZ Makanchi 75.08 322 P **P 08 12 06.0 +0.4**
NIL Nilore 76.48 307 P **P 08 12 13.4 -0.6**
NIL IAmb IAmb 08 12 22.2
comp=Z,12nm,0.8s
ZAA0 Zalesovo Array 76.86 329 P **P 08 12 16.6 +1.0**
ZALV Zalesovo Beam 76.86 329 P **P 08 12 16.2 +0.6**
ZALV Zalesovo Beam 76.86 329 P **P 08 12 13.1 -2.5**
comp=Z,0.5nm,0.4s,baz=72,slow=4.8,SNR=2.6
ZALV LR LR 08 47 44.9
comp=Z,21nm,18.3s,baz=95,slow=37
comp=Z,0.5nm,0.4s
AAK Ala-Archa 78.36 316 P **P 08 12 24.1 -0.4**
comp=Z,0.8nm,0.6s,baz=93,slow=13,SNR=4.2
comp=Z,0.8nm,0.6s
KURK Kurchatov 78.76 324 P **P 08 12 26.8 +0.6**
KURBB Kurchatov Arra 78.77 324 P **P 08 12 25.1 -1.1**
comp=Z,1.1nm,0.2s,baz=114,slow=4.3,SNR=2.5
comp=Z,1.1nm,0.2s
M14K Bethel 79.42 24 P **P 08 12 29.2 -0.4**
M14K IAmb IAmb 08 12 36.2
comp=Z,22nm,1.2s
L14K Kuka Creek 79.45 24 IAmb IAmb 08 12 36.4
comp=Z,33nm,1.4s
N15K Kwethluk River 79.88 25 IAmb IAmb 08 12 36.1
comp=Z,17nm,1.1s
K15K Wolf Creek Mou 80.44 23 IAmb IAmb 08 12 41.4
comp=Z,16nm,1.1s
M16K Timber Creek 80.80 25 IAmb IAmb 08 12 43.3
comp=Z,11nm,0.9s
L16K Owhat River 80.95 24 IAmb IAmb 08 12 49.3
comp=Z,7.9nm,0.9s
F15K North Star Dit 81.29 19 IAmb IAmb 08 12 46.2
comp=Z,12nm,1.2s
M17K Holitna River 81.63 25 P **P 08 12 41.2 -0.3**
G16K Koyuk River 81.88 20 IAmb IAmb 08 12 49.3
comp=Z,12nm,1.2s
K17K Iditarod 81.94 24 IAmb IAmb 08 12 49.9
comp=Z,17nm,0.9s
H17K Granite Mounta 82.49 21 IAmb IAmb 08 12 51.5
comp=Z,8.4nm,0.9s
F17K Baldwin Pennin 82.84 20 IAmb IAmb 08 12 59.1
comp=Z,5.4nm,0.7s
RDOG Red Dog Mine 83.23 18 IAmb IAmb 08 12 55.1
comp=Z,5.9nm,0.8s
E18K Tukpahlearik C 83.60 19 IAmb IAmb 08 12 57.5
comp=Z,5.9nm,1.0s
J19K Poorman 83.62 23 IAmb IAmb 08 12 59.0
comp=Z,6.5nm,1.1s
M20K Styx River 83.67 25 IAmb IAmb 08 12 57.5
comp=Z,13nm,1.1s
QSPA South Pole Qui 83.79 180 P **P 08 12 52.8 -0.1**
comp=Z,8.4nm,0.7s,baz=312,slow=0.9,SNR=59
QSPA LR LR 08 49 26.4
comp=Z,127nm,18.9s,baz=15,slow=35
comp=Z,8.4nm,0.7s
K20K Telida 83.94 24 IAmb IAmb 08 13 00.3
comp=Z,15nm,1.2s
G19K Purcell Mounta 84.12 21 IAmb IAmb 08 13 00.3
comp=Z,12nm,1.1s
J20K Nowinta River 84.28 23 IAmb IAmb 08 13 01.4
comp=Z,16nm,1.3s
BVAR Borovoye Array 84.35 325 P **P 08 12 54.4 -1.4**
comp=Z,3.6nm,0.6s,baz=112,slow=7.1,SNR=20
comp=Z,3.6nm,0.6s
BRVK Borovoye 84.42 325 P **P 08 12 55.6 -0.5**
BRVK IAmb IAmb 08 13 01.2
comp=Z,10nm,0.9s
E19K Redstone River 84.73 20 IAmb IAmb 08 13 08.2
comp=Z,6.8nm,0.8s
CAST Castle Rocks 84.77 24 P **P 08 12 57.2 -0.5**
CAST IAmb IAmb 08 13 02.6
comp=Z,8.9nm,1.1s
C19K Lookout Ridge 84.83 18 IAmb IAmb 08 13 04.7
comp=Z,12nm,1.0s
H21K Melozitna Rive 85.45 22 IAmb IAmb 08 13 54.5
comp=Z,23nm,1.9s
I21K Tanana 85.56 23 IAmb IAmb 08 13 07.5
comp=Z,5.9nm,1.0s
MLY Manley 85.97 23 IAmb IAmb 08 13 09.1
comp=Z,8.8nm,1.0s
DHY Denali Highway 86.60 25 IAmb IAmb 08 13 09.9
comp=Z,6.9nm,0.8s
B21K Ikpikpuk River 86.62 18 IAmb IAmb 08 13 12.1
comp=Z,6.7nm,0.8s
WSAR Wadi Sarin 86.88 294 LR LR 08 57 38.6
comp=Z,14nm,18.4s,baz=92,slow=40
ILAR Eielson Array 87.40 24 P **P 08 13 07.2 -3.4**
comp=Z,3.2nm,0.7s,baz=256,slow=4.6,SNR=30
ILAR LR LR 08 48 27.6
comp=Z,28nm,19.3s,baz=262,slow=33
comp=Z,3.2nm,0.7s
G24K Hadweenzie Riv 87.85 22 IAmb IAmb 08 13 18.8
comp=Z,11nm,1.2s
F24K Squaw Lake 88.00 21 IAmb IAmb 08 13 23.6
comp=Z,9.2nm,1.1s
E25K Arctic Village 89.03 21 IAmb IAmb 08 13 24.4
comp=Z,6.9nm,1.1s
K27K Chicken 89.16 25 IAmb IAmb 08 13 25.5
comp=Z,14nm,1.1s
BMAR Burnt Mountain 89.17 22 P **P 08 13 18.7 -0.3**
GEYT Alibeck 89.40 308 P **P 08 13 19.7 -1.1**
comp=Z,6.6nm,0.3s,baz=37,slow=0.7,SNR=1.8
comp=Z,0.6nm,0.3s
EGAK Eagle 89.74 25 P **P 08 13 20.7 -1.0**
EGAK IAmb IAmb 08 13 27.4
comp=Z,7.2nm,0.9s
ABKAR Akbulak array 89.84 319 P **P 08 13 20.0 -2.5**
G27K Doyon Strip 90.08 23 P **P 08 13 22.5 -0.7**
G27K IAmb IAmb 08 14 59.5
comp=Z,15nm,1.8s
ELIB Princess Elisa 92.85 196 *d*P **P 08 13 36.6 +0.3**
comp=Z,3.5nm,0.9s
INK Inuvik 93.44 22 LR LR 08 47 45.0
comp=Z,34nm,21.7s,baz=172,slow=30
KIRV Kirov 96.88 328 LR LR 08 58 50.1
comp=Z,30nm,21.5s,baz=89,slow=36
YKA Yellowknife Ar 101.37 28 P **Pdif 08 14 12.4 -2.3**
comp=Z,0.1nm,0.4s,baz=278,slow=4.9,SNR=2.0
TORD Torodi Ar. Bea 140.86 283 PKhKP PKPpre 08 19 47.9
comp=Z,0.3nm,0.7s,baz=65,slow=4.0,SNR=3.1
TORD PKP **PKPdf 08 19 53.0 -1.7**
comp=Z,0.7nm,0.6s,baz=60,slow=4.1,SNR=4.4
ROSC El Rosal 143.25 90 PKP PKPbc 08 19 56.8 +0.2
comp=Z,4.5nm,0.6s,baz=208,slow=20,SNR=1.7
DBIC Dimbokro 147.64 273 PKPbc **PKPbc 08 20 08.3 -0.9**
comp=Z,5.6nm,0.9s,baz=171,slow=0.3,SNR=5.1

*IDC **21** 08:10:16.2±1.1,5.°99S×142.°24E,h0km,mb3.8/5, mbtmp3.8/8,ML2.9/3,Error ellipse: s-maj=33.1km s-min=23.5km az=77.0*

ISC 21 08:10:20.8±0.9,6.°24S±0.°10×142.°1E±0.°1,h35km,n8, σ1§31/10,mb3.8/5,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.95**	**122**	Pn	**Pn**	**08 11 46.2**	**-0.3**
	2.5nm,0.3s,baz=300,slow=20,SNR=2.8						
PMG				Sn	**Sn**	**08 12 54.0**	**+0.5**
	0.9nm,0.3s,baz=299,slow=18,SNR=2.1						
	6.6nm,0.4s						
WRA	**Warramunga Arr**	**15.55**	**208**	Pn	**P**	**08 14 00.1**	**-1.4**
	0.1nm,0.3s,baz=30,slow=11,SNR=1.1						
WRA				Sn	**Sn**	**08 16 47.7**	**-1.1**
	0.1nm,0.3s,baz=25,slow=23,SNR=3.3						
WRA				Lg	Lg	08 18 39.1	
	0.1nm,0.3s,baz=46,slow=32,SNR=2.3						
	1.7nm,0.8s						
ASAR	**Alice Springs**	**19.02**	**204**	P	**Pn**	**08 14 43.0**	**+2.2**
	0.1nm,0.3s,baz=32,slow=8.7,SNR=2.3						
ASAR				Lg	Lg	08 20 29.0	
	baz=14,slow=28,SNR=2.0						
	1.7nm,0.8s						
SONM	**Songino Array**	**62.33**	**334**	P	**P**	**08 20 38.7**	**-1.1**
	1.6nm,0.8s,baz=120,slow=5.2,SNR=2.8						
	1.6nm,0.8s						
MKAR	**Makanchi Array**	**74.60**	**322**	P	**P**	**08 21 57.6**	**+1.2**
	0.2nm,0.5s,baz=99,slow=7.4,SNR=4.4						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**78.52**	**324**	P	**P**	**08 22 18.7**	**+0.2**
	0.5nm,0.2s,baz=114,slow=5.6,SNR=1.4						
	0.5nm,0.2s						
BVAR	**Borovoye Array**	**84.10**	**325**	P	**P**	**08 22 48.8**	**+0.8**
	0.3nm,0.5s,baz=94,slow=4.5,SNR=1.9						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**87.66**	**24**	P	**P**	**08 23 04.8**	**-0.7**
	0.4nm,0.7s,baz=248,slow=5.9,SNR=5.5						
	0.4nm,0.7s						

*WEL **21** 08:24:06.1±0.7,33.°5S±6.°×17.°9W±1.°5,h33km,M4.3/12, mB4.8/7,ML4.8/20,MLv4.4/12,Mw(mB)4.1/7,Error ellipse: s-maj=0.0km s-min=0.0km az=109.4*

*IDC **21** 08:24:12.4±4.1,33.°33S×179.°44W,h64km±39km,mb3.7/4, mbtmp4.0/5,ML3.5/1,Error ellipse: s-maj=31.3km s-min=23.8km az=149.0*

ISC 21 08:24:06.2±0.9,33.°28S±0.°06×178.°8W±0.°1,h35km,n34, σ1§50/44,mb3.6/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**4.07**	**10**	P	**Pn**	**08 25 05.3**	**-0.7**
GLKZ				S	**Sn**	**08 25 53.0**	**+0.6**
WMGZ	**Waiomatatini S**	**5.08**	**206**	P	**Pn**	**08 25 22.3**	**+2.6**
WMGZ				S	**Sn**	**08 26 17.9**	**+0.8**
PKGZ	**Pakihiroa**	**5.27**	**208**	P	**Pn**	**08 25 22.4**	**-0.1**
PKGZ				S	**Sn**	**08 26 19.0**	**-2.9**
HAZ	**Te Kaha**	**5.28**	**211**	P	**Pn**	**08 25 22.6**	**+0.2**
HAZ				S	**Sn**	**08 26 25.4**	**+3.3**
PUZ	**Puketiti**	**5.36**	**206**	P	**Pn**	**08 25 23.9**	**+0.3**
PUZ				S	**Sn**	**08 26 23.6**	**-0.5**
RUGZ	**Raukumara Rang**	**5.50**	**211**	P	**Pn**	**08 25 24.6**	**-1.0**
TWGZ	**Tauwhareparae**	**5.55**	**208**	P	**Pn**	**08 25 27.1**	**+0.7**
TWGZ				S	**Sn**	**08 26 30.6**	**+1.7**
CNGZ	**Carnagh Statio**	**5.74**	**204**	P	**Pn**	**08 25 29.1**	**+0.2**
TKGZ	**Te Karaka**	**5.83**	**207**	P	**Pn**	**08 25 31.0**	**+0.9**
TKGZ				S	**Sn**	**08 26 35.1**	**-0.6**
MWZ	**Matawai**	**5.87**	**210**	P	**Pn**	**08 25 31.0**	**+0.3**
MWZ				S	**Sn**	**08 26 35.4**	**-1.4**
URZ	**Urewera**	**5.99**	**213**	P	**Pn**	**08 25 32.8**	**+0.5**
	1.5nm,0.3s,baz=350,slow=5.9,SNR=27						
URZ				S	**Sn**	**08 26 38.1**	**-1.5**
	15nm,0.6s,baz=210,slow=20,SNR=2.4						
	7.3nm,0.4s						
URZ	**Urewera**	**5.99**	**213**	P	**Pn**	**08 25 31.2**	**-1.0**
URZ				S	**Sn**	**08 26 37.6**	**-2.1**
RIGZ	**Rimuhau**	**6.10**	**206**	P	**Pn**	**08 25 32.4**	**-1.5**
RIGZ				S	**Sn**	**08 26 41.6**	**-0.8**
WCZ	**Waipu Caves**	**6.27**	**243**	P	**Pn**	**08 25 37.8**	**+1.7**
MUGZ	**Murupara**	**6.32**	**214**	P	**Pn**	**08 25 35.8**	**-1.1**
RTZ	**Ruatahuna**	**6.34**	**212**	P	**Pn**	**08 25 38.1**	**+0.9**
MHGZ	**Mahia Peninsul**	**6.45**	**204**	P	**Pn**	**08 25 38.5**	**-0.1**
OUZ	**Omahuta**	**6.61**	**251**	P	**Pn**	**08 25 38.7**	**-2.1**
NMHZ	**Naumai**	**6.82**	**210**	P	**Pn**	**08 25 44.2**	**+0.5**
MCHZ	**McNeill Hill**	**7.16**	**209**	P	**Pn**	**08 25 49.1**	**+0.8**
KWHZ	**Kaweka Forest**	**7.25**	**211**	P	**Pn**	**08 25 48.5**	**-1.2**
NTVZ	**North Tongarir**	**7.34**	**216**	P	**Pn**	**08 25 51.0**	**+0.1**
TMVZ	**Te Maari**	**7.34**	**216**	P	**Pn**	**08 25 50.8**	**-0.1**
KAHZ	**Kahuranaki**	**7.38**	**207**	P	**Pn**	**08 25 50.8**	**-0.7**
OTVZ	**Oturere**	**7.39**	**216**	P	**Pn**	**08 25 51.2**	**-0.5**
NGZ	**Ngauruhoe**	**7.44**	**216**	P	**Pn**	**08 25 52.2**	**-0.1**
FWVZ	**Far West T-bar**	**7.52**	**216**	P	**Pn**	**08 25 52.9**	**-0.6**
WNVZ	**Wahianoa**	**7.55**	**215**	P	**Pn**	**08 25 53.2**	**-0.7**
CTZ	**Chatham Island**	**10.57**	**171**	S	**Sn**	**08 28 27.7**	**-4.5**
RAR	**Rarotonga**	**20.69**	**59**	P	Pn	08 28 53.6	+7.9
	10nm,0.6s,baz=202,slow=6.6,SNR=3.1						
	10nm,0.6s						
ASAR	**Alice Springs**	**42.39**	**270**	P	**P**	**08 31 56.9**	**-0.6**
	0.7nm,0.5s,baz=110,slow=7.7,SNR=8.5						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**43.64**	**276**	P	**P**	**08 32 06.3**	**-1.2**
	1.1nm,0.8s,baz=118,slow=7.6,SNR=12						
	1.1nm,0.8s						
QSPA	**South Pole Qui**	**56.84**	**180**	P	**P**	**08 33 50.2**	**+3.3**
	1.1nm,0.8s,baz=342,slow=3.2,SNR=5.9						
	1.1nm,0.8s						
FINES	**FINESS Array B**	**147.59**	**338**	PKPbc	**PKPbc**	**08 43 45.8**	**-0.2**
	1.4nm,0.8s,baz=28,slow=3.9,SNR=7.4						

IDC 21 08:31:05.4±3.3,53.°67N×87.°93E,h0km,mbtmp3.0/2, ML2.4/1,Error ellipse: s-maj=27.9km s-min=17.7km az=57.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.86**	**280**	I	I	08 44 20.0	
	baz=94,slow=334,SNR=1.5						
ZALV	**Zalesovo Beam**	**1.86**	**280**	Pg	Pb	08 31 39.5	-0.8
	0.9nm,0.3s,baz=97,slow=15,SNR=12						
ZALV				Lg	Lg	08 32 04.5	
	2.4nm,0.3s,baz=101,slow=28,SNR=16						
KURBB	**Kurchatov Arra**	**6.54**	**246**	Pn	Pn	08 32 43.4	+0.6
	0.1nm,0.3s,baz=60,slow=14,SNR=1.6						
KURBB				Lg	Lg	08 34 32.4	
	0.1nm,0.3s,baz=62,slow=32,SNR=1.9						
	0.9nm,0.2s						
MKAR	**Makanchi Array**	**7.78**	**210**	Pn	Pn	08 33 00.9	+1.1
	0.2nm,0.3s,baz=27,slow=15,SNR=1.4						
MKAR				Lg	Lg	08 35 11.6	
	baz=20,slow=32,SNR=2.2						

IDC 21 08:35:53.5±271.0,53.°57N×45.°09E,h0km,Error ellipse: s-maj=129.7km s-min=93.2km az=138.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**5.51**	**308**	I	I	09 07 10.0	
	baz=123,slow=333,SNR=1.5						
I31KZ	**AKTYUBINSK INF**	**8.59**	**106**	I	I	09 31 10.0	
	baz=300,slow=318,SNR=2.1						
I37NO	**I37NO**	**19.81**	**332**	I	I	10 45 10.0	
	baz=133,slow=336,SNR=0.8						
I46RU	**ZALESOVO INFRA**	**23.28**	**73**	I	I	10 57 24.2	
	baz=287,slow=310,SNR=7.6						
I34MN	**SONGINO INFRAS**	**38.20**	**73**	I	I	12 25 10.0	
	baz=303,slow=330,SNR=0.4						

IDC 21 09:13:01.4±3.4,54.°42N×87.°23E,h0km,mbtmp2.9/2, ML2.6/2,Error ellipse: s-maj=30.8km s-min=19.2km az=48.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.49**	**253**	I	I	09 23 00.0	
	baz=70,slow=336,SNR=2.2						
ZALV	**Zalesovo Beam**	**1.49**	**253**	Pg	Pn	09 13 28.1	-1.3
	1.1nm,0.3s,baz=70,slow=17,SNR=12						
ZALV				Lg	Lg	09 13 48.9	
	1.6nm,0.3s,baz=74,slow=29,SNR=6.8						
KURBB	**Kurchatov Arra**	**6.53**	**238**	Pn	Pn	09 14 38.7	+0.2
	0.1nm,0.3s,baz=58,slow=13,SNR=1.7						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**8.25**	**204**	Pn	Pn	09 15 03.6	+1.4
	0.1nm,0.3s,baz=27,slow=14,SNR=6.6						
	0.2nm,0.3s						

*IDC **21** 09:18:40.7±1.3,6.°54S×109.°15E,h0km,mb3.8/4, mbtmp3.8/4,Error ellipse: s-maj=39.0km s-min=18.0km az=14.0*

*DJA **21** 09:18:50.3±0.3,8.°3S±4.°×10.°8E±.°,h75km±5km,M4.2/12, mb4.3/4,MLv4.1/12*

ISC 21 09:18:51.6±1.1,7.°87S±0.°06×108.°03E±0.°06,h70km,n26, σ1§68/23,mb3.5/4,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**0.42**	**78**	P	**Pn**	**09 19 04.4**	**+0.7**
CMJI				S	**Sn**	**09 19 14.6**	**+2.1**
BBJI	**Bungbulang**	**0.56**	**317**	P	**Pn**	**09 19 05.2**	**+0.1**
KPJI	**Karang Pucung**	**1.04**	**59**	P	**Pn**	**09 19 08.9**	**-1.7**
LEM	**Lembang**	**1.12**	**338**	Pn	**Pn**	**09 19 10.3**	**-1.5**
	143nm,0.3s,baz=64,slow=12,SNR=52						
LEM				Sn	**Sn**	**09 19 30.8**	**+4.1**
	51nm,0.3s,baz=345,slow=20,SNR=7.7						
LEM	**Lembang**	**1.12**	**338**	P	**Pn**	**09 19 10.4**	**-1.4**
SKJI	**Sukabumi**	**1.70**	**300**	P	**Pn**	**09 19 19.1**	**-0.1**
DBJI	**Dramaga**	**1.83**	**316**	P	**Pn**	**09 19 20.1**	**-0.9**
UGM	**Wanagama**	**2.47**	**91**	P	**Pn**	**09 19 28.4**	**-1.2**
SMRI	**Semarang**	**2.52**	**71**	P	**Pn**	**09 19 29.0**	**-1.3**
SMRI	**Semarang**	**2.52**	**71**	P	**Pn**	**09 19 28.7**	**-1.6**
XMI	**Christmas Isla**	**3.45**	**222**	P	**Pn**	**09 19 42.7**	**-0.3**
XMIS	**Christmas Isla**	**3.50**	**222**	P	**Pn**	**09 19 42.9**	**-0.8**
PWJI	**Pagerwojo**	**3.74**	**93**	P	**Pn**	**09 19 45.8**	**-1.1**
GMJI	**Gumukmas**	**5.37**	**95**	P	**Pn**	**09 20 07.7**	**-1.5**
JAGI	**Jajag, Banyuwa**	**6.09**	**96**	P	**Pn**	**09 20 19.9**	**+0.9**
JAGI	**Jajag, Banyuwa**	**6.09**	**96**	P	**Pn**	**09 20 18.7**	**-0.3**
	34nm,1.0s,0.2nm						
MNAI	**Manna**	**6.14**	**304**	P	**Pn**	**09 20 18.1**	**-1.6**

	139nm,1.2s,0.8nm							
TWSI	**Taliwang, Sumb**	**8.80**	**96**	P		Pn	09 20 53.0	-3.1
	20nm,1.3s							
PLAI	**Plampang**	**9.69**	**96**	P		**Pn**	**09 21 08.8**	**+0.5**
PLAI	**Plampang**	**9.69**	**96**	P		**Pn**	**09 21 06.0**	**-2.3**
GIRL	**Giralia**	**15.85**	**159**	P		**Pn**	**09 22 32.4**	**+1.8**
FITZ	**Fitzroy Crossi**	**19.92**	**122**	P		**P**	**09 23 15.6**	**-2.2**
WRA	**Warramunga Arr**	**28.16**	**118**	P		P	09 24 33.6	-4.0
	0.4nm,0.3s,baz=296,slow=11,SNR=12							
	0.4nm,0.3s							
ASAR	**Alice Springs**	**29.35**	**125**	P		P	09 24 44.5	-3.6
	0.5nm,0.6s,baz=300,slow=9.0,SNR=10							
	0.5nm,0.6s							
STKA	**Stephens Creek**	**39.30**	**132**	P		P	09 26 11.3	-2.6
	4.4nm,0.4s,baz=313,slow=7.6,SNR=15							
	4.4nm,0.4s							
MKAR	**Makanchi Array**	**59.05**	**340**	P		P	09 28 36.4	-8.0
	0.2nm,0.4s,baz=162,slow=7.7,SNR=2.7							
	0.2nm,0.4s							

*IDC **21** 09:25:37.3±1.1,6˚03S×142˚71E,h0km,mb4.0/4, mbtmp4.0/7,ML4.0/2,MS2.8/2,Error ellipse: s-maj=31.9km s-min=23.1km az=81.0*

ISC 21 09:25:39.5±1.0,6˚32S±0˚08×142˚47E±0˚08,h10km,n15, σ2ᵖ60/13,mb4.0/4,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.62**	**310**	P	**Pn**	**09 26 07.7**	**-0.5**
PMG	**Port Moresby**	**5.56**	**124**	Pn	**Pn**	**09 27 02.3**	**-0.1**
	5.6nm,0.4s,baz=220,slow=14,SNR=2.4						
PMG				Sn	**Sn**	**09 28 06.1**	**-0.3**
	2.4nm,0.3s,baz=222,slow=23,SNR=6.0						
COEN	**Coen**	**7.62**	**175**	P	**Pb**	**09 27 51.8**	**0.0**
FAKI	**Fak Fak**	**10.73**	**288**	P	Pn	09 28 03.5	-10
	78nm,1.5s						
KDU	**Kakadu**	**11.71**	**237**	P	**Pn**	**09 28 29.3**	**+2.5**
CTA	**Charters Tower**	**14.17**	**165**	LR	LR	09 35 06.3	
	comp=Z,46nm,19.7s,baz=182,slow=40						
QIS	**Mount Isa**	**14.42**	**191**	P	P	09 29 17.5	+6.7
WRA	**Warramunga Arr**	**15.68**	**210**	Pn	**Pn**	**09 29 22.4**	**+1.8**
	0.4nm,0.3s,baz=29,slow=13,SNR=14						
WRA				Sn	**Sn**	**09 32 07.7**	**-6.8**
	0.4nm,0.3s,baz=23,slow=21,SNR=5.7						
WRA				Lg	Lg	09 34 06.6	
	0.3nm,0.3s,baz=34,slow=25,SNR=6.1						
	0.5nm,0.3s						
KNRA	**Kununurra**	**16.34**	**234**	P	**Pn**	**09 29 30.7**	**+1.5**
ASAR	**Alice Springs**	**19.11**	**205**	P	**Pn**	**09 30 06.3**	**+2.8**
	0.8nm,0.3s,baz=32,slow=11,SNR=49						
ASAR				S	**Sn**	**09 33 37.6**	**-0.2**
	0.4nm,0.4s,baz=6.0,slow=3.8,SNR=4.6						
	6.3nm,0.7s						
DAV	**Davao City (W)**	**21.47**	**308**	LR	LR	09 38 19.9	
	comp=Z,28nm,22.0s,baz=352,slow=36						
MKAR	**Makanchi Array**	**74.92**	**322**	P	**P**	**09 37 19.9**	**-0.9**
	1.0nm,0.8s,baz=122,slow=6.4,SNR=6.9						
	1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**78.83**	**324**	P	**P**	**09 37 41.9**	**-0.7**
	0.6nm,0.9s,baz=115,slow=4.4,SNR=3.2						
	0.6nm,0.9s						
BVAR	**Borovoye Array**	**84.40**	**325**	P	**P**	**09 38 11.5**	**-0.6**
	2.5nm,0.7s,baz=116,slow=6.2,SNR=11						
	2.5nm,0.7s						
ILAR	**Eielson Array**	**87.57**	**24**	P	P	09 38 24.4	-3.1
	0.9nm,0.7s,baz=263,slow=5.1,SNR=10						
	0.9nm,0.7s						

*TRN **21** 09:33:41.3,19˚88N×62˚26W,h8km,MD3.8,Far North of Anguilla.*
*NEIC **21** 09:33:46.5±0.8,19˚82N±0˚08×64˚01W±0˚05,h35km±2km, ML3.0/26,Md3.4/4(RSPR),Error ellipse: s-maj=16.4km s-min=3.1km az=328.0*
*RSPR **21** 09:33:47.1,19˚74N×64˚00W,h88km±17km,MD3.4/4*

ISC 21 09:33:45.3±3.7,19˚9N±0˚2×63˚97W±0˚10,h35km,n29, σ0ᵖ61/30,9C,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SABA	**Saba**	**2.35**	**163**	Pn	**Pn**	**09 34 21.8**	**+0.3**
SABA				IAML		09 35 39.6	
	comp=N,146nm,0.8s						
HUMP	**Col San Antoni**	**2.48**	**226**	*ePˆ*	**Pn**	**09 34 23.4**	**+0.2**
HUMP	**Col San Antoni**	**2.48**	**226**	*eS*	**Sn**	**09 34 52.5**	**+0.2**
HUMP	**Col San Antoni**	**2.48**	**226**		**Pn**	**09 34 23.0**	**-0.2**
HUMP				IAML		09 34 55.4	
	comp=E,72nm,0.3s						
HUMP				IAML		09 34 59.5	
	comp=N,42nm,0.3s						
GCPR	**Guaynabo City**	**2.54**	**232**	Pn	**Pn**	**09 34 24.2**	**+0.2**
GCPR				Sn	**Sn**	**09 34 53.6**	**-0.1**
SEUS	**St. Eustatius**	**2.55**	**158**	Pn	**Pn**	**09 34 24.1**	**-0.2**
IGPR	**InterUniversit**	**2.78**	**227**	*ePˆ*	**Pn**	**09 34 27.8**	**+0.5**
IGPR	**InterUniversit**	**2.78**	**227**	*eS*	**Sn**	**09 34 59.4**	**-0.3**
IGPR	**InterUniversit**	**2.78**	**227**		**Pn**	**09 34 27.4**	**+0.1**
IGPR				IAML		09 35 09.0	
	comp=N,58nm,0.3s						
EMPR	**Esperanza - Ma**	**2.79**	**240**	*ePˆ*	**Pn**	**09 34 28.3**	**+0.8**
EMPR	**Esperanza - Ma**	**2.79**	**240**		**Pn**	**09 34 27.4**	**-0.2**
EMPR				Sn	**Sn**	**09 34 58.0**	**-2.0**
EMPR				IAML		09 35 36.3	
	comp=N,76nm,2.0s						
EMPR				IAML		09 35 39.6	
	comp=E,81nm,2.4s						
AOPR	**Arecibo Observ**	**3.04**	**240**	*ePˆ*	**Pn**	**09 34 32.0**	**+1.0**
AOPR	**Arecibo Observ**	**3.04**	**240**		**Pn**	**09 34 31.2**	**+0.2**
AOPR				IAML		09 35 22.6	
	comp=N,37nm,0.3s						
AOPR				IAML		09 35 23.5	
	comp=E,67nm,0.3s						
CELP	**Cerrillos**	**3.05**	**234**	*ePˆ*	**Pn**	**09 34 31.7**	**+0.6**
CELP	**Cerrillos**	**3.05**	**234**	*eS*	**Sn**	**09 35 06.6**	**+0.1**
CELP	**Cerrillos**	**3.05**	**234**		**Pn**	**09 34 31.7**	**+0.6**
UUPR	**Utuado, UPR, P**	**3.06**	**239**	*ePˆ*	**Pn**	**09 34 32.4**	**+1.2**
UUPR	**Utuado, UPR, P**	**3.06**	**239**	*eS*	**Sn**	**09 35 06.8**	**+0.1**
UUPR	**Utuado, UPR, P**	**3.06**	**239**		**Pn**	**09 34 31.6**	**+0.4**
OBIP	**Obispado Ponce**	**3.09**	**234**	Pn	**Pn**	**09 34 31.6**	**-0.1**
OBIP				Sn	**Sn**	**09 35 07.5**	**+0.1**
AGPR	**Aguadilla, PR**	**3.28**	**245**	Pn	**Pn**	**09 34 34.4**	**+0.1**
AGPR				IAML		09 35 36.6	
	comp=N,58nm,2.4s						
AGPR				IAML		09 36 45.9	
	comp=E,56nm,2.6s						
LSP	**Las Mesas**	**3.40**	**241**	*ePˆ*	**Pn**	**09 34 35.3**	**-0.6**
LSP	**Las Mesas**	**3.40**	**241**		**Pn**	**09 34 35.3**	**-0.6**
MLPR	**Magueyes Islan**	**3.47**	**237**	*ePˆ*	**Pn**	**09 34 37.7**	**+0.7**
MLPR	**Magueyes Islan**	**3.47**	**237**		**Pn**	**09 34 37.3**	**+0.4**
MLPR				IAML		09 35 37.5	
	comp=E,17nm,3.1s						
MLPR				IAML		09 36 47.4	
	comp=N,17nm,2.3s						
CRPR	**Cabo Rojo, PR**	**3.51**	**238**	*ePˆ*	**Pn**	**09 34 37.5**	**+0.1**
CRPR	**Cabo Rojo, PR**	**3.51**	**238**		**Pn**	**09 34 37.5**	**+0.1**
CRPR				IAML		09 35 28.9	
	comp=E,19nm,2.6s						
CRPR				IAML		09 35 29.9	
	comp=N,21nm,2.6s						
ANBD	**Bethesda, Anti**	**3.51**	**143**	*eP*	Pn	09 34 29.3	-8.1
ANBD				*eS*	Sn	09 35 04.5	-13
CBE	**Ff, Capester**	**4.41**	**149**	*eP*	Pn	09 34 43.3	-6.5
CBE				*eS*	Sn	09 35 28.9	-11

WEL 21 09:34:25.9±1.1,35˚S±6˚×17˚8E±1˚2,h33km,M3.4/10, ML3.7/12,MLv3.4/10,Error ellipse: s-maj=0.0km s-min=0.0km az=89.8,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**2.54**	**181**	P	Pn	09 35 06.2	+1.3
HAZ				S	Sn	09 35 36.2	+1.6
WMGZ	**Waiomatatini S**	**2.64**	**170**	P	Pn	09 35 06.7	+0.5
WMGZ				S	Sn	09 35 38.5	+1.3
PKGZ	**Pakihiroa**	**2.68**	**176**	P	Pn	09 35 07.8	+1.0
PKGZ				S	Sn	09 35 39.5	+1.3
RUGZ	**Raukumara Rang**	**2.75**	**183**	P	Pn	09 35 08.8	+0.9
RUGZ				S	Sn	09 35 40.5	+0.5
PUZ	**Puketiti**	**2.87**	**173**	P	Pn	09 35 09.0	-0.5
PUZ				S	Sn	09 35 42.1	-0.8
TWGZ	**Tauwhareparae**	**2.96**	**178**	P	Pn	09 35 11.1	+0.4
TWGZ				S	Sn	09 35 45.3	+0.2
MWZ	**Matawai**	**3.13**	**184**	P	Pn	09 35 13.3	+0.3
MWZ				S	Sn	09 35 50.8	+1.7
TKGZ	**Te Karaka**	**3.22**	**180**	P	Pn	09 35 13.6	-0.6
TKGZ				S	Sn	09 35 51.1	-0.3
CNGZ	**Carnagh Statio**	**3.28**	**175**	P	Pn	09 35 14.1	-0.9
RAGZ	**Rawiri**	**3.29**	**186**	P	Pn	09 35 15.6	+0.3
RAGZ				S	Sn	09 35 54.3	+0.9
MUGZ	**Murupara**	**3.37**	**194**	P	Pn	09 35 17.7	+1.4
MUGZ				S	Sn	09 35 58.3	+3.1
RIGZ	**Rimuhau**	**3.49**	**181**	P	Pn	09 35 16.7	-1.3
RIGZ				S	Sn	09 35 56.7	-1.4
MTHZ	**Maungataniwha**	**3.72**	**192**	P	Pn	09 35 21.0	-0.1
MTHZ				S	Sn	09 36 07.4	+3.6
SNVZ	**South Ngauruho**	**4.34**	**203**	P	Pn	09 35 28.9	-0.9
KWHZ	**Kaweka Forest**	**4.35**	**195**	P	Pn	09 35 28.6	-1.2
KWHZ				S	Sn	09 36 20.0	+0.5
BHHZ	**Black Hill Sta**	**4.50**	**198**	P	Pn	09 35 31.0	-0.8
BHHZ				S	Sn	09 36 22.4	-0.6

IDC 21 09:40:51.0±3.1,53˚81N×87˚08E,h0km,mbtmp2.5/2, ML1.9/2,Error ellipse: s-maj=29.3km s-min=17.8km az=65.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.35**	**277**	I	I	09 50 20.0	
	baz=96,slow=337,SNR=1.4						
ZALV	**Zalesovo Beam**	**1.35**	**277**	Pg	Pg	09 41 15.6	-1.1
	0.6nm,0.3s,baz=91,slow=24,SNR=6.3						
ZALV				Lg	Lg	09 41 33.9	
	0.5nm,0.3s,baz=94,slow=29,SNR=6.5						
KURBB	**Kurchatov Arra**	**6.15**	**242**	Pn	Pn	09 42 24.0	+1.0
	baz=58,slow=14,SNR=1.6						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**7.67**	**205**	Pn	Pn	09 42 45.0	+1.2
	baz=27,slow=4.8,SNR=2.1						
	0.1nm,0.4s						

IDC 21 09:51:56.9±3.0,53˚75N×86˚98E,h0km,mbtmp2.7/2, ML2.5/2,Error ellipse: s-maj=29.2km s-min=16.9km az=67.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**280**	I	I	10 01 20.0	
	baz=97,slow=332,SNR=0.3						
ZALV	**Zalesovo Beam**	**1.29**	**280**	Pg	Pn	09 52 22.5	+0.2
	0.8nm,0.3s,baz=102,slow=13,SNR=4.1						
ZALV				Lg	Lg	09 52 37.8	
	0.6nm,0.3s,baz=96,slow=27,SNR=2.0						
KURBB	**Kurchatov Arra**	**6.07**	**242**	Pn	Pn	09 53 28.3	+0.5
	0.1nm,0.3s,baz=57,slow=13,SNR=3.2						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.58**	**205**	Pn	Pn	09 53 49.7	+1.1
	0.1nm,0.3s,baz=23,slow=13,SNR=5.4						
	0.2nm,0.3s						

KRSC 21 09:54:56.1±1.4,49˚03N×156˚69E,h49km±25km,Ml4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.69**	**348**	*eS*	Sn	09 55 44.8	+1.1
PAU	**Pauzhetka**	**2.44**	**2**	*eP*	Pn	09 55 36.7	+3.3
PAU				*eS*	Sn	09 56 05.8	+3.8
KDTR	**Khodutka, Kamc**	**2.92**	**17**	*eP*	Pn	09 55 43.1	+3.1
KDTR				*eS*	Sn	09 56 18.9	+5.2
ASAK	**Asacha**	**3.44**	**12**	*eP*	Pn	09 55 50.7	+3.5
MTVR	**Mutnovka**	**3.58**	**15**	*eP*	Pn	09 55 52.8	+3.5
MTVR				*eS*	Sn	09 56 35.5	+5.2
RUS	**Russkaya**	**3.60**	**18**	*eP*	Pn	09 55 52.2	+2.9
RUS				*eS*	Sn	09 56 34.2	+3.8
KOK	**Koryaka**	**4.44**	**15**	*eP*	Pn	09 56 05.3	+4.4
KRX	**Arik**	**4.50**	**15**	*eP*	Pn	09 56 05.2	+3.4

IDC 21 09:55:06.1±3.0,53˚56N×87˚84E,h0km,mbtmp2.8/2, ML2.5/2,Error ellipse: s-maj=24.2km s-min=15.0km az=66.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.83**	**283**	I	I	10 08 15.0	
	baz=96,slow=338,SNR=3.6						
ZALV	**Zalesovo Beam**	**1.83**	**283**	Pg	Pn	09 55 39.2	+0.5
	1.2nm,0.3s,baz=100,slow=14,SNR=12						
ZALV				Lg	Lg	09 56 04.0	
	1.7nm,0.3s,baz=100,slow=29,SNR=13						
KURBB	**Kurchatov Arra**	**6.45**	**247**	Pn	Pn	09 56 43.3	+1.1
	0.1nm,0.3s,baz=62,slow=14,SNR=7.0						
KURBB				Sn	Sn	09 57 54.5	-1.8
	baz=62,slow=33,SNR=1.9						
KURBB				Lg	Lg	09 58 31.5	
	baz=65,slow=31,SNR=7.1						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**7.65**	**210**	Pn	Pn	09 56 59.8	+1.0
	0.1nm,0.3s,baz=32,slow=13,SNR=2.5						
MKAR				Sn	Sn	09 58 26.3	+0.2
	0.1nm,0.3s,baz=30,slow=24,SNR=5.5						
MKAR				Lg	Lg	09 59 04.8	
	0.1nm,0.3s,baz=21,slow=28,SNR=2.7						
	0.1nm,0.3s						

*SJA **21** 09:56:23.5±0.7,32˚70S×71˚52W,h11km±2km,ML3.7, MW3.5*
*NEIC **21** 09:56:26.8±0.8,32˚75S±0˚01×71˚32W±0˚07,h45km±6km, mb4.2/5,Error ellipse: s-maj=8.2km s-min=1.3km az=80.0*
*GUC **21** 09:56:26.5±0.7,32˚78S×71˚37W,h52km±3km,ML3.8*

ISC 21 09:56:26.5±1.0,32˚77S±0˚03×71˚45W±0˚04,h39km±1km, n85,σ1ᵖ81/119,mb4.2/3,14C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.25**	**32**	Pn	**Pn**	**09 56 34.3**	**-0.4**
VA06				Sn	**Sn**	**09 56 40.9**	**-0.7**
VA06	**Catapilco**	**0.25**	**32**	*iPˆ*	**Pn**	**09 56 34.6**	**-0.1**
VA06				*iS*	**Sn**	**09 56 40.9**	**-0.7**
VA01	**Torpederas**	**0.30**	**213**		**Pn**	**09 56 35.4**	**+0.6**
VA01				Sn	**Sn**	**09 56 42.9**	**+1.5**
VA01	**Torpederas**	**0.30**	**213**	*ePˆ*	**Pn**	**09 56 35.6**	**+0.9**
VA01	**Torpederas**	**0.30**	**213**	*iPˆ*	**Pn**	**09 56 35.8**	**+1.0**
VA01				*eS*	**Sn**	**09 56 42.9**	**+1.5**
VA01	**Torpederas**	**0.30**	**213**	*i,iPˆ*	**Pn**	**09 56 35.8**	**+1.0**
VA01				*iS*	**Sn**	**09 56 42.8**	**+1.4**
ROC1	**El Roble**	**0.42**	**119**	*ePˆ*	**Pn**	**09 56 35.9**	**-0.4**
ROC1				*eS*	**Sn**	**09 56 44.0**	**+0.6**
ROCH	**El Roble**	**0.42**	**118**	*iPˆ*	**Pn**	**09 56 36.4**	**+0.1**
ROCH				*eS*	**Sn**	**09 56 43.9**	**+0.6**
ROCH	**El Roble**	**0.42**	**118**	*iPˆ*	**Pn**	**09 56 36.4**	**+0.1**
ROCH				IAML		09 56 44.8	
	comp=N,10μm,0.5s						
MT02	**Curacav**	**0.55**	**151**		**Pn**	**09 56 37.6**	**-0.4**
MT02	**Curacav**	**0.55**	**151**	*ePˆ*	**Pn**	**09 56 37.8**	**-0.2**
MT02				*eS*	**Sn**	**09 56 47.4**	**+1.4**
MT02	**Curacav**	**0.55**	**151**	*iPˆ*	**Pn**	**09 56 37.9**	**-0.2**
MT02				*eS*	**Sn**	**09 56 46.2**	**+0.1**
MT02	**Curacav**	**0.55**	**151**	*iPˆ*	**Pn**	**09 56 37.8**	**-0.2**
MT02				*iS*	**Sn**	**09 56 45.9**	**-0.2**
PEL	**Peldehue**	**0.74**	**120**		**Pn**	**09 56 39.8**	**-0.9**
PEL	**Peldehue**	**0.74**	**120**	*ePˆ*	**Pn**	**09 56 40.0**	**-0.6**
PEL				*eS*	**Sn**	**09 56 51.5**	**+0.7**
PEL	**Peldehue**	**0.74**	**120**	*iPˆ*	**Pn**	**09 56 39.7**	**-0.9**
PEL				*iS*	**Sn**	**09 56 50.8**	**0.0**
PEL				IAML		09 56 51.2	
	comp=N,4μm,0.3s						
VA03	**San Esteban**	**0.76**	**89**	Pn	**Pn**	**09 56 40.1**	**-0.8**
VA03	**San Esteban**	**0.76**	**89**	*ePˆ*	**Pn**	**09 56 39.5**	**-1.3**
VA03				*eS*	**Sn**	**09 56 51.1**	**-0.1**
VA03				IAML		09 56 52.5	
	comp=Z,3μm,0.1s						
MT05	**Renca**	**0.86**	**136**		**Pn**	**09 56 41.8**	**-0.4**
MT05	**Renca**	**0.86**	**136**	*ePˆ*	**Pn**	**09 56 42.1**	**-0.1**
MT05				*eS*	**Sn**	**09 56 54.3**	**+0.6**
MT05				IAML		09 56 56.8	
	comp=Z,1μm,0.2s						
MT05	**Renca**	**0.86**	**136**	*iPˆ*	**Pn**	**09 56 42.1**	**-0.1**
MT05				*iS*	**Sn**	**09 56 53.5**	**-0.2**
MT05				IAML		09 56 54.5	
	comp=E,3μm,0.3s						
VA05	**Santo Domingo**	**0.89**	**189**		**Pn**	**09 56 42.7**	**+0.2**
VA05	**Santo Domingo**	**0.89**	**189**	*iPˆ*	**Pn**	**09 56 42.8**	**+0.2**
VA05				*i* S	**Sn**	**09 56 54.4**	**+0.2**
VA05				IAML		09 56 58.8	
	comp=N,11μm,0.2s						
MT14	**Cerro Cal¡n**	**0.99**	**129**	*iPˆ*	**Pn**	**09 56 43.8**	**-0.2**
MT14				*eS*	**Sn**	**09 56 56.8**	**0.0**
MT14	**Cerro Cal¡n**	**0.99**	**129**	*iPˆ*	**Pn**	**09 56 43.8**	**-0.2**
MT14				*i* S	**Sn**	**09 56 56.8**	**0.0**
MT14				IAML		09 56 58.0	
	comp=N,4μm,0.2s						
MT16	**CCHEN**	**1.02**	**130**		**Pn**	**09 56 43.8**	**-0.6**
MT16	**CCHEN**	**1.02**	**130**	*i* P	**Pn**	**09 56 44.2**	**-0.2**
MT16				*eS*	**Sn**	**09 56 57.5**	**0.0**
MT16	**CCHEN**	**1.02**	**130**	*iPˆ*	**Pn**	**09 56 44.2**	**-0.2**
MT16				*i* S	**Sn**	**09 56 57.5**	**0.0**
MT03	**Universidad Ad**	**1.07**	**132**		**Pn**	**09 56 44.6**	**-0.5**
MT03	**Universidad Ad**	**1.07**	**132**	*ePˆ*	**Pn**	**09 56 44.9**	**-0.2**
MT03				*eS*	**Sn**	**09 56 59.4**	**+0.6**
MT03				IAML		09 57 01.2	
	comp=Z,2μm,0.6s						
MT03	**Universidad Ad**	**1.07**	**132**	*iPˆ*	**Pn**	**09 56 45.0**	**-0.2**
MT03				*i* S	**Sn**	**09 56 58.7**	**-0.1**
MT03				IAML		09 57 00.5	
	comp=N,8μm,0.2s						
MT09	**Talagante**	**1.07**	**159**		**Pn**	**09 56 45.6**	**+0.4**
MT09	**Talagante**	**1.07**	**159**	*iPˆ*	**Pn**	**09 56 47.5**	**+0.5**
MT09				*i* S	**Sn**	**09 57 00.2**	**+1.2**
MT09				IAML		09 57 01.5	
	comp=N,6μm,0.2s						
MT01	**Popeta**	**1.10**	**171**		**Pn**	**09 56 45.4**	**0.0**
MT01	**Popeta**	**1.10**	**171**	*ePˆ*	**Pn**	**09 56 45.8**	**+0.4**
MT01				*eS*	**Sn**	**09 57 01.3**	**+1.9**
MT01				IAML		09 57 02.6	
	comp=Z,1μm,0.1s						
FCH	**Farellones**	**1.12**	**120**	*iPˆ*	**Pn**	**09 56 45.6**	**-0.4**
FCH				*eS*	**Sn**	**09 57 00.2**	**-0.2**
FCH	**Farellones**	**1.12**	**120**	*iPˆ*	**Pn**	**09 56 45.6**	**-0.4**
FCH				*i* S	**Sn**	**09 57 00.1**	**-0.4**
FCH				IAML		09 57 00.6	
	comp=E,6μm,0.2s						
MT12	**Pirque**	**1.22**	**142**	*iPˆ*	**Pn**	**09 56 47.2**	**+0.1**
MT12				*i* S	**Sn**	**09 57 02.9**	**+0.5**
MT12				IAML		09 57 08.5	
	comp=N,4μm,0.3s						
BO04	**La Punta**	**1.40**	**150**		**Pn**	**09 56 49.7**	**+0.1**
LMEL	**Las Melosas**	**1.50**	**136**	Pn	**Pn**	**09 56 50.8**	**-0.2**
CO02	**Combarbal**	**1.61**	**14**		**Pn**	**09 56 52.3**	**-0.3**
CO02	**Combarbal**	**1.61**	**14**	*eP*	**Pn**	**09 56 52.1**	**-0.5**
CO02				*eS*	**Sn**	**09 57 14.6**	**+2.4**
CO02				IAML		09 57 15.7	
	comp=Z,2μm,0.2s						
BO01	**Tunca**	**1.64**	**169**	Pn	**Pn**	**09 56 53.0**	**+0.1**
BO01	**Tunca**	**1.64**	**169**	*eP*	**Pn**	**09 56 53.1**	**+0.1**
BO01				*eS*	**Sn**	**09 57 19.3**	**+6.5**
CO03	**El Pedregal**	**2.04**	**19**		**Pn**	**09 56 58.6**	**+0.2**
CO03	**El Pedregal**	**2.04**	**19**	*eP*	**Pn**	**09 56 58.3**	**0.0**
CO03				*eS*	**Sn**	**09 57 25.4**	**+2.8**
CO03				IAML		09 57 28.1	
	comp=Z,894nm,0.2s						
RTLS	**Leoncito**	**2.07**	**63**	*eP*	**Pn**	**09 57 01.3**	**+2.3**
RTLS				*eS*	**Sn**	**09 57 28.7**	**+5.0**
RTLS				IAML		09 57 31.3	
	comp=Z,751nm,0.3s						
BO02	**Sierra Bellavi**	**2.09**	**165**	Pn	**Pn**	**09 56 59.5**	**+0.4**
BO02	**Sierra Bellavi**	**2.09**	**165**	*eS*	**Sn**	**09 57 30.4**	**+6.4**
BO02				IAML		09 57 34.7	
	comp=Z,708nm,0.2s						
CO06	**Fray Jorge**	**2.10**	**356**		**Pn**	**09 56 58.7**	**-0.4**
ARCO	**CERRO ARCO**	**2.12**	**93**	*eP*	**Pn**	**09 57 02.7**	**+3.1**
ARCO				*eS*	**Sn**	**09 57 20.3**	**-4.6**
ARCO				IAML		09 57 33.5	
	comp=Z,218nm,0.4s						
ASAL	**Salagasta**	**2.22**	**86**	*eP*	**Pn**	**09 57 03.9**	**+3.1**
ASAL				*eP*		09 57 04.0	
AAGR	**Agrelo**	**2.23**	**99**	*eP*	**Pn**	**09 57 04.0**	**+3.0**
GO05	**Huala**	**2.27**	**190**	*eP*	**Pn**	**09 57 04.0**	**+2.6**
GO05				*eS*	**Sn**	**09 57 34.0**	**+5.9**
AVIZ	**Vizcacheras**	**2.56**	**107**	*eP*	**Pn**	**09 57 08.9**	**+3.3**
RTCV	**Cerro Valdivia**	**2.63**	**71**	*eP*	**Pn**	**09 57 09.4**	**+2.9**
RTCV				*eS*	**Sn**	**09 57 42.7**	**+5.5**
GO04	**Tololo Observa**	**2.65**	**12**		**Pn**	**09 57 06.9**	**-0.1**
GO04	**Tololo Observa**	**2.65**	**12**	*eP*	**Pn**	**09 57 07.2**	**+0.2**
DOCA	**Reserva Natura**	**2.72**	**49**	*eP*	**Pn**	**09 57 10.0**	**+2.0**
DOCA				*eS*	**Sn**	**09 57 44.2**	**+4.4**
DOCA				IAML		09 57 46.7	
	comp=Z,582nm,0.5s						
CO05	**La Serena**	**2.85**	**4**		**Pn**	**09 57 09.1**	**-0.4**
RTLL	**Cerro Villicun**	**2.91**	**61**	*eP*	**Pn**	**09 57 12.3**	**+1.9**
ACCO	**Cerro Coronel**	**2.98**	**44**	*eP*	**Pn**	**09 57 13.9**	**+2.3**
ACCO				*eS*	**Sn**	**09 57 46.5**	**+0.2**
ACCO				IAML		09 57 58.5	
	comp=Z,226nm,0.4s						
CO01	**Juntas del Tor**	**3.02**	**23**		**Pn**	**09 57 12.8**	**+0.7**
CO01	**Juntas del Tor**	**3.02**	**23**	*eP*	**Pn**	**09

GVZ	Greta Valley S	1.13	211	P		Pb	09 57 02.8	-0.6
PLWZ	Palliser	1.15	68	P		Pb	09 57 02.4	-1.4
TKNZ	Takaka Hill	1.17	326	P		Pb	09 57 03.6	-0.5
TKNZ				S		Sg	09 57 19.8	+0.4
DUWZ	D'Urville Isla	1.20	3	P		Pb	09 57 04.0	-0.7
CAW	Cannon Point	1.29	46	P		Pn	09 57 05.0	-0.9
PAWZ	Paruwai Farm	1.35	63	P		Pn	09 57 05.0	-1.7
LTZ	Lake Taylor	1.39	236	P		Pn	09 57 07.0	-0.4
KIW	Kapiti Island	1.40	36	P		Pn	09 57 07.0	-0.4
AMCZ	Amberley	1.46	216	P		Pn	09 57 07.1	-1.2
MTW	Mount Morrison	1.51	57	P		Pn	09 57 07.2	-1.8
TRWZ	Traveller	1.52	67	P		Pn	09 57 07.0	-2.0
QRZ	Quartz Range	1.53	320	P		Pn	09 57 09.7	+0.5
DSZ	Dennistoun Nort	1.54	279	P		Pb	09 57 10.2	-0.2
OGWZ	Otaki Gorge	1.56	41	P		Pn	09 57 08.8	-0.8
HOWZ	Holdsworth Sta	1.68	49	P		Pn	09 57 09.8	-1.5
TMWZ	Te Maipa	1.79	61	P		Pn	09 57 10.7	-2.1
OXZ	Oxford	1.87	224	P		Pn	09 57 12.1	-1.8
MRZ	Mangatainoka R	1.88	45	P		Pn	09 57 12.7	-1.4
MQZ	McQueen's Vall	1.91	207	P		Pn	09 57 11.9	-2.6
INZ	Inchbonnie	1.91	247	P		Pn	09 57 14.4	0.0
TIWZ	Tintock	1.97	52	P		Pn	09 57 13.8	-1.6
AKCZ	Akaroa Harbour	1.99	200	P		Pn	09 57 13.4	-2.1
OHWZ	Ohakea	2.12	32	P		Pn	09 57 17.9	+0.6
RACZ	Rakaia	2.12	215	P		Pn	09 57 15.2	-2.2
PRWZ	Pori Road	2.17	49	P		Pn	09 57 16.2	-1.8
POWZ	Post Office Ro	2.17	43	P		Pn	09 57 16.8	-1.3
BFZ	Birch Farm	2.25	55	P		Pn	09 57 16.5	-2.6
MHCZ	Mount Hutt	2.26	227	P		Pn	09 57 17.4	-1.9
WAZ	Wanganui	2.41	22	P		Pn	09 57 23.2	+1.8
WACZ	Wakanui South	2.43	216	P		Pn	09 57 19.4	-2.2
DVHZ	Dannevirke	2.45	47	P		Pn	09 57 19.6	-2.3
ANWZ	Angora Road	2.52	53	P		Pn	09 57 20.7	-2.1
TSZ	Takapari Road	2.52	40	P		Pn	09 57 21.4	-1.6
WVZ	Waitaha Valley	2.52	244	P		Pn	09 57 22.5	-0.4
LREZ	Lake Rotokare	2.58	10	P		Pb	09 57 27.5	-0.7
RPZ	Rata Peaks	2.66	229	P		Pn	09 57 23.0	-1.8
PREZ	Palmer Road	2.67	5	P		Pb	09 57 29.3	-0.4
KHEZ	Kahui Hut	2.71	3	P		Pn	09 57 29.0	-1.5
NEZ	North Egmont	2.74	4	P		Pb	09 57 29.8	-1.1
PRHZ	Porangahau	2.74	52	P		Pn	09 57 23.4	-2.5
ARCZ	Arundel	2.75	224	P		Pn	09 57 24.1	-2.0
PNHZ	Pukenui	2.75	41	P		Pn	09 57 24.2	-1.9
WPHZ	Waipukurau	2.77	46	P		Pn	09 57 24.2	-2.0
PKE	Pukeiti	2.81	2	P		Pb	09 57 29.9	-2.2
DREZ	Durham Road	2.83	6	P		Pb	09 57 30.1	-2.3
MTVZ	Mangateitei	2.90	26	P		Pb	09 57 32.6	-1.0
GCSZ	Gaunt Creek Bo	2.90	242	P		Pn	09 57 27.5	-0.5
PKVZ	Pokaka	2.95	24	P		Pn	09 57 30.0	+1.2
MHEZ	Mangahewa	2.95	7	P		Pn	09 57 26.3	-2.5
VRZ	Vera Road	2.96	14	P		Pn	09 57 30.8	+1.9
MOVZ	Moawhango	2.98	30	P		Pn	09 57 29.0	-0.2
WNVZ	Wahianoa	2.99	27	P		Pn	09 57 30.3	+0.8
TRVZ	Turoa	3.00	26	P		Pn	09 57 31.4	+1.7
WHVZ	Whangaehu Hut	3.03	27	P		Pn	09 57 31.3	+1.3
BHHZ	Black Hill Sta	3.03	35	P		Pn	09 57 28.9	-1.0
FWVZ	Far West T-bar	3.04	26	P		Pn	09 57 31.0	+0.7
KRHZ	Kereru	3.04	40	P		Pn	09 57 28.0	-2.0
TUVZ	Tukino	3.06	27	P		Pn	09 57 30.8	+0.3
COVZ	Chateau Observ	3.09	25	P		Pb	09 57 36.5	-0.4
NGZ	Ngauruhoe	3.13	26	P		Pn	09 57 31.9	+0.6
SNVZ	South Ngauruho	3.13	27	P		Pn	09 57 32.1	+0.6
TMZ	Timaru	3.15	220	P		Pn	09 57 29.5	-2.1
OTVZ	Oturere	3.16	27	P		Pn	09 57 31.9	+0.1
NNVZ	North Ngauruho	3.17	26	P		Pn	09 57 32.6	+0.6
TWVZ	Taurewa	3.17	23	P		Pn	09 57 32.7	+0.8
WTVZ	West Tongariro	3.18	25	P		Pn	09 57 33.2	+1.3
KAHZ	Kahuranaki	3.19	47	P		Pn	09 57 29.7	-2.4
ETVZ	East Tongariro	3.20	27	P		Pn	09 57 32.6	+0.3
KRVZ	Karewarewa	3.22	26	P		Pn	09 57 35.3	+2.7
TMVZ	Te Maari	3.22	27	P		Pn	09 57 32.9	+0.3
NTVZ	North Tongarir	3.22	26	P		Pn	09 57 33.4	+0.7
KWHZ	Kaweka Forest	3.24	38	P		Pn	09 57 30.9	-2.0
FOZ	Fox Glacier	3.33	241	P		Pn	09 57 33.4	-0.6
KATZ	Kakaramea	3.34	26	P		Pb	09 57 39.8	-1.4
BKZ	Black Stump Fm	3.48	36	P		Pb	09 57 41.2	-2.4
HIZ	Hauiti	3.57	13	P		Pn	09 57 40.5	+3.2
LBZ	Lake Benmore	3.58	227	P		Pn	09 57 35.9	-1.4
ODZ	Otahua Downs	3.82	216	P		Pn	09 57 38.3	-2.4
MTHZ	Maungataniwha	3.90	37	P		Pn	09 57 40.5	-1.3
TLZ	Tolley Road	3.90	20	P		Pn	09 57 44.3	+2.5
TOZ	Tahuroa Road	4.46	17	P		Pn	09 57 52.0	+2.6
URZ	Urewera	4.51	35	P		Pn	09 57 47.7	-2.4
EAZ	Earnscleugh	4.60	224	P		Pn	09 57 49.3	-2.2
AWAZ	Awhitu Peninsu	4.97	41	P		Pn	09 58 00.2	+3.6
TWGZ	Tauwhareparae	4.97	41	P		Pn	09 57 59.4	+2.8
TUZ	Tuapeka	4.98	216	P		Pn	09 57 54.5	-2.1
RUGZ	Raukumara Rang	5.00	37	P		Pn	09 57 54.5	-2.6
MKAZ	Moumakai	5.00	12	P		Pn	09 57 59.1	+2.1
HAZ	Te Kaha	5.22	37	P		Pn	09 57 57.6	-2.3
MBAZ	Motutapu North	5.29	9	P		Pn	09 58 03.6	+2.7
WIAZ	Waiheke Island	5.30	11	P		Pn	09 58 03.8	+2.7
APZ	The Paps	6.39	219	P		Pn	09 58 20.4	+4.4
CTZ	Chatham Island	7.23	107	P		Pn	09 58 24.7	-2.8

*IDC **21** 09:58:06.0±1.5, 67.95N×20.35E, h0km, mbtmp2.9/3, ML2.0/3, Error ellipse: s-maj=22.7km s-min=7.7km az=122.0*

ISC 21 09:58:07.1±1.4, **67.93N**±0.09×**20.3E**±0.1, **h10**km, **n7**, σ1§**46**/6, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIF	**Kilpisjarvi**	**1.10**	**10**	*eP*	**Pg**	**09 58 30.0**	**+1.7**
I37NO	**I37NO**	**1.30**	**333**	I	I	10 07 50.0	
	baz=154,slow=328,SNR=6.6						
HEF	**Hetta**	**1.36**	**68**	*eP*	**Pb**	**09 58 31.6**	**-1.1**
ARCES	**ARCESS Array B**	**2.51**	**47**	Pn	**Pn**	**09 58 47.8**	**-0.1**
	0.4nm,0.3s,baz=233,slow=14,SNR=32						
ARCES				Sn	**Sn**	**09 59 18.4**	**-0.1**
	0.2nm,0.3s,baz=228,slow=14,SNR=3.6						
ARCES				Lg	Lg	09 59 23.2	
	1.5nm,0.3s,baz=232,slow=23,SNR=16						
	0.7nm,0.3s						
FINES	**FINESS Array B**	**6.97**	**156**	Pn	**Pn**	**09 59 50.4**	**+1.3**
	0.1nm,0.3s,baz=343,slow=14,SNR=2.1						
FINES				Lg	Lg	10 01 44.1	
	0.4nm,0.3s,baz=348,slow=26,SNR=7.9						
	1.0nm,0.8s						
NOA	**NORSAR Array B**	**7.93**	**214**	Lg	Lg	10 02 14.5	
	baz=36,slow=22,SNR=4.0						
HFS	**Hagfors**	**8.33**	**203**	Pn	**Pn**	**10 00 07.0**	**-0.7**
	0.2nm,0.3s,baz=23,slow=19,SNR=1.3						
HFS				Lg	Lg	10 02 26.2	
	0.1nm,0.3s,baz=23,slow=22,SNR=2.0						
	0.5nm,0.5s						

DJA 21 10:00:55.2±0.3, **8°S**±3°×**107°E**±°, **h10**km, **M4.2**/11, **mb4.7**/2, **mB5.4**/1, **MLv3.9**/11, **Mw(mB)4.9**/1, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**1.17**	**67**	P	Pb	10 01 17.3	-0.3
CMJI				S	Sb	10 01 31.3	-1.6
LEM	**Lembang**	**1.44**	**10**	P	Pb	10 01 22.4	+0.2
SKJI	**Sukabumi**	**1.47**	**327**	P	Pn	10 01 21.3	-0.5
KPJI	**Karang Pucung**	**1.80**	**60**	P	Pn	10 01 26.3	-0.1
UGM	**Wanagama**	**3.15**	**84**	P	Pn	10 01 44.8	-0.1
SMRI	**Semarang**	**3.28**	**69**	P	Pn	10 01 46.6	-0.1
PWJI	**Pagerwojo**	**4.41**	**87**	P	Pn	10 02 03.6	+1.4
MNAI	**Manna**	**5.84**	**311**	P	Pn	10 02 22.1	+0.2

*IDC **21** 10:05:07.4±2.6, 49.20N×153.33E, h0km, mb3.4/4, mbtmp3.4/5, ML2.5/1, MS3.2/1, Error ellipse: s-maj=80.6km s-min=28.5km az=176.0*

*KRSC **21** 10:05:36.9±1.0, 50.55N×157.28E, h98km±15km, Ml3.9*

ISC 21 10:05:36.9±2.3, **50.4N**±0.2×**157.5E**±0.2, **h87**km±25km, **n17**, σ0§**98**/21, **mb3.5**/4, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.91**	**290**	*eP*	**Pn**	**10 05 55.7**	**+0.4**
SKR				*eS*	**Sn**	**10 06 08.7**	**-0.3**
PAU	**Pauzhetka**	**1.17**	**339**	*eP*	**Pn**	**10 05 57.9**	**-0.3**
PAU				*eS*	**Sn**	**10 06 13.8**	**-0.4**
KDTR	**Khodutka, Kamc**	**1.48**	**15**	*eP*	**Pn**	**10 06 03.3**	**+1.1**
KDTR				*eS*	**Sn**	**10 06 21.8**	**+0.5**
ASAK	**Asacha**	**2.02**	**8**	*eP*	**Pn**	**10 06 09.7**	**+0.4**
ASAK				*eS*	**Sn**	**10 06 34.0**	**-0.1**
MTVR	**Mutnovka**	**2.15**	**12**	*eP*	**Pn**	**10 06 11.6**	**+0.5**
MTVR				*eS*	**Sn**	**10 06 36.6**	**-0.6**
RUS	**Russkaya**	**2.16**	**17**	*eP*	**Pn**	**10 06 11.2**	**+0.2**
RUS				*eS*	**Sn**	**10 06 35.6**	**-1.5**
PETK	**Petropavlovsk-**	**2.74**	**3**	Pn	**Pn**	**10 06 21.1**	**+2.4**
	0.9nm,0.3s,baz=179,slow=12,SNR=25						
	3.2nm,0.6s						
DALK	**Dalny**	**2.77**	**16**	*eP*	**Pn**	**10 06 19.4**	**+0.2**
DALK				*eS*	**Sn**	**10 06 50.0**	**-1.7**
AVH	**Avacha**	**3.00**	**15**	*eP*	**Pn**	**10 06 23.3**	**+1.0**
SMAR	**Somma**	**3.00**	**15**	*eP*	**Pn**	**10 06 23.1**	**+0.6**
KOK	**Koryaka**	**3.01**	**14**	*eP*	**Pn**	**10 06 23.4**	**+1.0**
KRX	**Arik**	**3.07**	**13**	*eP*	**Pn**	**10 06 23.9**	**+0.6**
ZALV	**Zalesovo Beam**	**42.91**	**304**	P	P	10 12 54.2	-32
	0.5nm,0.4s,baz=81,slow=8.9,SNR=2.3						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**47.88**	**296**	P	P	10 13 32.2	-34
	0.2nm,0.6s,baz=72,slow=4.7,SNR=2.8						
	0.2nm,0.6s						
AKTO	**Aktyubinsk**	**58.44**	**312**	LR	LR	10 40 29.0	
	comp=Z,23nm,21.6s,baz=205,slow=37						
PDAR	**Pinedale Array**	**60.31**	**58**	P	**P**	**10 15 36.5**	**0.0**
	0.5nm,0.7s,baz=318,slow=2.0,SNR=5.4						
	0.5nm,0.7s						
TXAR	**Lajitas Array**	**73.25**	**64**	P	**P**	**10 16 58.4**	**-0.3**
	0.3nm,0.7s,baz=283,slow=4.8,SNR=4.0						
	0.3nm,0.7s						

*ISK **21** 10:05:49.8, 40.30N×37.39E, h7km, ML2.6/5*

*AFAD **21** 10:05:50.7±0.0, 40.38N×37.37E, h8km±1km, ML1.9*

ISC 21 10:05:50.3±1.0, **40.36N**±0.04×**37.39E**±0.03, **h10**km±7km, **n12**, σ0§**51**/22, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSDY	**Resadiye-TOKAT**	**0.06**	**306**	Pg	**Pg**	**10 05 52.3**	**-0.1**
RSDY				Sg	**Sg**	**10 05 54.1**	**+0.1**
SVSK	**Karacayir**	**0.54**	**215**	Pg	**Pg**	**10 06 00.1**	**-0.6**
SVSK				Sg	**Sg**	**10 06 08.1**	**+0.4**
CUZAR	**Zara_SIVAS**	**0.55**	**148**	P	**Pg**	**10 06 01.4**	**+0.3**
CUZAR				S	**Sb**	**10 06 10.0**	**-0.2**
SUSE	**Susehri**	**0.64**	**103**	P	**Pg**	**10 06 02.6**	**-0.1**
SUSE				S	**Sb**	**10 06 12.8**	**+0.1**
SUSE				*i* AML	AML	10 06 14.0	
	comp=N,66nm,0.8s						
TOKT	**Tokat**	**0.65**	**267**	Pg	**Pg**	**10 06 02.4**	**-0.5**
TOKT				Sg	**Sg**	**10 06 11.5**	**+0.1**
ORDU	**Ordu-Boztepe**	**0.72**	**29**	P	**Pg**	**10 06 04.0**	**-0.2**
ORDU				S	**Sg**	**10 06 13.9**	**+0.2**
ORDU				*i* AML	AML	10 06 14.0	
	comp=N,75nm,0.5s						
CUKAN	**kangal_SIVAS**	**1.04**	**177**	P	**Pg**	**10 06 09.5**	**-0.8**
CUKAN				S	**Sn**	**10 06 25.6**	**-0.3**
ALUC	**Giresun/Alucra**	**1.05**	**90**	P	**Pg**	**10 06 09.6**	**-0.9**
ALUC				S	**Sg**	**10 06 24.5**	**+0.3**
ALUC				*i* AML	AML	10 06 30.0	
	comp=E,36nm,0.4s						
ESPY	**Espiye-Giresun**	**1.16**	**61**	Pn	**Pg**	**10 06 12.3**	**-0.2**
CUAYA	**Sivas-Altinyay**	**1.20**	**205**	P	**Pg**	**10 06 13.1**	**-0.3**
CUAYA				*i* AML	AML	10 06 31.0	
	comp=N,18nm,0.5s						
CUAYA				S	**Sn**	**10 06 31.1**	**+1.3**
KELT	**Kelkit**	**1.44**	**98**	P	**Pn**	**10 06 16.6**	**-0.1**
KELT				S	**Sb**	**10 06 35.5**	**-0.3**
ARPR	**Arapgir-MALATY**	**1.46**	**150**	Pn	**Pn**	**10 06 16.9**	**0.0**

*IDC **21** 10:06:57.6±2.8, 2.50S×68.45E, h0km, mb3.8/6, mbtmp3.8/6, MS3.5/19, Error ellipse: s-maj=92.3km s-min=27.3km az=65.0*

ISC 21 10:07:00.5±2.7, **2.4S**±0.3×**68.6E**±0.6, **h13**km, **n29**, σ0§**95**/10, **mb4.0**/6, **MS3.5**/18, **Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S3	**Diego Garcia H**	**6.52**	**143**	Pn	**Pn**	**10 08 35.5**	**-0.5**
	baz=334,slow=20						
H08S1	**Diego Garcia H**	**6.53**	**143**	Pn	**Pn**	**10 08 36.7**	**+0.7**
	baz=334,slow=20						
H08S2	**Diego Garcia H**	**6.54**	**143**	Pn	**Pn**	**10 08 36.7**	**+0.5**
	baz=334,slow=20						
PALK	**Pallekele**	**15.46**	**52**	LR	LR	10 15 31.7	
	comp=Z,201nm,20.3s,baz=339,slow=33						
CMAR	**Chiang Mai Arr**	**36.38**	**54**	LR	LR	10 27 22.2	
	comp=Z,38nm,20.6s,baz=240,slow=34						
LEM	**Lembang**	**39.18**	**98**	LR	LR	10 27 37.3	
	comp=Z,86nm,20.9s,baz=309,slow=32						
GEYT	**Allbeck**	**41.26**	**347**	LR	LR	10 30 42.9	
	comp=Z,55nm,20.1s,baz=202,slow=34						
LSZ	**Lusaka**	**41.79**	**250**	LR	LR	10 28 47.1	
	comp=Z,67nm,19.8s,baz=126,slow=31						
AAK	**Ala-Archa**	**45.13**	**6**	LR	LR	10 34 13.9	
	comp=Z,47nm,19.2s,baz=170,slow=36						
H04N2	**CROZET ISLANDS**	**46.00**	**196**	T	T	11 05 34.9	
	baz=25,slow=74,SNR=9.3						
H04N1	**CROZET ISLANDS**	**46.01**	**196**	T	T	11 05 31.9	
	baz=25,slow=74,SNR=8.7						
H04N3	**CROZET ISLANDS**	**46.02**	**196**	T	T	11 05 32.5	
	baz=25,slow=74,SNR=10						
LBTB	**Lobatse**	**47.09**	**238**	LR	LR	10 32 16.8	
	comp=Z,71nm,19.7s,baz=90,slow=32						
BOSA	**Boshof**	**48.77**	**233**	LR	LR	10 32 56.2	
	comp=Z,66nm,19.2s,baz=146,slow=32						
MKAR	**Makanchi Array**	**50.44**	**12**	P	**P**	**10 15 56.1**	**-1.7**
	0.4nm,0.9s,baz=152,slow=6.5,SNR=3.1						
MKAR				LR	LR	10 36 41.4	
	comp=Z,39nm,19.2s,baz=156,slow=35						
	0.4nm,0.9s						
TSUM	**Tsumeb**	**52.54**	**248**	LR	LR	10 35 46.5	
	comp=Z,44nm,18.9s,baz=148,slow=33						
KURBB	**Kurchatov Arra**	**53.49**	**8**	P	**P**	**10 16 21.3**	**+0.9**
	0.3nm,0.3s,baz=200,slow=7.5,SNR=3.9						
KURBB				LR	LR	10 39 01.5	
	comp=Z,44nm,20.1s,baz=164,slow=36						
	0.3nm,0.3s						
SUR	**Sutherland**	**53.80**	**231**	LR	LR	10 35 18.4	
	comp=Z,87nm,20.6s,baz=116,slow=32						
BVAR	**Borovoye Array**	**55.23**	**1**	LR	LR	10 40 20.9	
	comp=Z,17nm,20.3s,baz=232,slow=36						
DAV	**Davao City (W)**	**57.68**	**80**	LR	LR	10 44 17.5	
	comp=Z,13nm,18.4s,baz=295,slow=39						
ZALV	**Zalesovo Beam**	**57.75**	**11**	P	**P**	**10 16 51.4**	**+0.5**
	0.4nm,0.3s,baz=201,slow=7.7,SNR=3.6						
ZALV				LR	LR	10 40 52.7	
	comp=Z,20nm,19.9s,baz=273,slow=35						
	0.4nm,0.3s						
SONM	**Songino Array**	**59.93**	**29**	P	**P**	**10 17 07.3**	**+0.8**
	2.8nm,1.0s,baz=221,slow=7.4,SNR=10						
	2.8nm,1.0s						
WRA	**Warramunga Arr**	**66.45**	**111**	P	**P**	**10 17 49.5**	**-0.7**
	1.1nm,0.9s,baz=286,slow=6.1,SNR=5.3						
	1.1nm,0.9s						
ASAR	**Alice Springs**	**66.52**	**115**	P	**P**	**10 17 50.4**	**-0.2**
	1.0nm,0.8s,baz=290,slow=6.4,SNR=8.2						
	1.0nm,0.8s						
CTA	**Charters Tower**	**77.64**	**110**	LR	LR	10 53 14.0	
	comp=Z,28nm,18.1s,baz=180,slow=36						
YAK	**Yakutsk**	**78.99**	**25**	LR	LR	10 54 33.2	
	comp=Z,34nm,20.5s,baz=253,slow=36						
TIXI	**Tiksi**	**89.25**	**16**	LR	LR	10 57 53.8	
	comp=Z,50nm,18.5s,baz=22,slow=37						
MA2	**Magadan**	**88.09**	**30**	LR	LR	11 01 40.4	
	comp=Z,18nm,18.2s,baz=196,slow=37						
TXAR	**Lajitas Array**	**152.19**	**345**	PKPbc	**PKPbc**	**10 26 56.3**	**-0.5**
	0.3nm,0.9s,baz=158,slow=1.0,SNR=2.6						

*IDC **21** 10:29:29.6±2.0, 10.80S×123.64E, h0km, mb3.4/1, mbtmp3.2/3, ML3.0/2, MS3.3/1, Error ellipse: s-maj=57.2km s-min=13.0km az=87.0*

*DJA **21** 10:29:34.0±0.4, 11°S±3°×12°4E±°, h10km, M3.8/10, mb4.2/4, MLv3.6/10*

ISC 21 10:29:30.8±0.9, **10.67S**±0.08×**123.99E**±0.08, **h10**km, **n12**, σ1§**72**/15, **Timor region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**0.57**	**325**	Pg	**Pg**	**10 29 41.2**	**-0.6**
	186nm,0.3s,baz=162,slow=4.4,SNR=100						
BATI				Lg	Lg	10 29 48.7	
	359nm,0.3s,baz=143,slow=20,SNR=17						
BATI	**Baumata**	**0.57**	**325**	P	**Pg**	**10 29 41.0**	**-0.8**
SOEI	**Soe**	**0.95**	**17**	P	**Pb**	**10 29 50.2**	**+0.7**
MMRI	**Maumere**	**2.66**	**319**	P	**Pn**	**10 30 14.2**	**+0.4**
EDFI	**Ende, Flores**	**2.97**	**310**	P	**Pn**	**10 30 18.7**	**+0.6**
EDFI				S	**Sn**	**10 30 53.2**	**-0.6**
BASI	**Baing, Sumba**	**3.39**	**277**	P	**Pn**	**10 30 25.5**	**+1.7**
PLAI	**Plampang**	**6.39**	**286**	P	**Pn**	**10 31 06.3**	**+1.1**
	18nm,0.8s,0.1nm						
PLAI				S	**Sn**	**10 32 15.8**	**-2.5**
	18nm,0.8s,0.1nm						
TWSI	**Taliwang, Sumb**	**7.27**	**285**	P	**Pn**	**10 31 18.8**	**+1.6**
WRA	**Warramunga Arr**	**13.58**	**134**	Pn	**Pn**	**10 32 44.7**	**+1.1**
	0.1nm,0.3s,baz=305,slow=11,SNR=5.3						
WRA				Sn	**Sn**	**10 35 13.0**	**-1.7**
	0.2nm,0.3s,baz=306,slow=24,SNR=2.0						
	0.6nm,1.1s						
ASAR	**Alice Springs**	**16.01**	**145**	Pn	**Pn**	**10 33 18.3**	**+2.1**
	0.1nm,0.3s,baz=319,slow=12,SNR=4.8						
ASAR				Sn	**Sn**	**10 36 10.5**	**-3.4**
	0.1nm,0.3s,baz=318,slow=23,SNR=3.1						
	0.2nm,0.4s						
NWAO	**Narrogin (SRO)**	**23.00**	**195**	LR	LR	10 44 42.2	
	comp=Z,72nm,18.7s,baz=204,slow=40						
MKAR	**Makanchi Array**	**68.25**	**331**	P	**P**	**10 40 31.7**	**-0.2**
	0.2nm,0.6s,baz=141,slow=7.8,SNR=2.3						
	0.2nm,0.6s						

*NEIC **21** 10:32:22.2±1.3, 44.3N±0.1×150.2E±0.1, h10km±1km, mb4.1/9, Error ellipse: s-maj=22.3km s-min=12.1km az=153.0*

*IDC **21** 10:32:24.3±2.7, 45.02N×149.89E, h0km, mb3.8/8, mbtmp3.9/10, ML3.7/2, MS3.1/2, Error ellipse: s-maj=74.8km s-min=24.0km az=170.0*

*SKHL **21** 10:32:24.4±0.3, 44.40N×150.20E, h35km±5km, mb4.5/3*

*JMA **21** 10:32:25.1±0.7, 45°N±3°×15°0E±°, h30km, MV4.2/15, SE OFF ETOROFU*

*NIED **21** 10:32:25.1, 44.65N×149.99E, h30km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}4.44; $M_{\theta\theta}$-1.01; $M_{\phi\phi}$-3.43; $M_{r\theta}$2.09; $M_{\theta\phi}$-2.15; $M_{r\phi}$2.17; Fault plane solution: $M_0$5.47000×10^{14} NP1:ϕ_{ss}38.00000°, δ62.00000°, λ_{ss}98.00000°. NP2:ϕ_{ss}202.00000°, δ29.00000°, λ76.00000°.*

ISC 21 10:32:25.0±0.8, **44°15N**±0.09×**150°11E**±0.07, **h35**km, **n50**, σ1§**77**/53, **mb4.0**/13, **East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.93**	**305**	*i* P	**Pn**	**10 32 53.5**	**-1.9**
KUR				AMB	AMB	10 32 55.4	
	150nm,0.3s						
KUR				*i* S	**Sn**	**10 33 15.6**	**-2.8**
KUR				A	A	10 33 16.0	
	250nm,0.4s						
KUR				A	A	10 33 16.0	
	310nm,0.4s						
SHO	**Shikotan**	**2.38**	**264**	*eP*	**Pn**	**10 33 02.3**	**+0.8**
SHO				AMB	AMB	10 33 02.6	
	20nm,0.3s						
SHO				*eS*	**Sn**	**10 33 30.5**	**+1.1**
SHO				A	A	10 33 39.0	
	150nm,0.3s						
SHO				A	A	10 33 39.0	
	160nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.06**	**269**	*i* P	**Pn**	**10 33 11.9**	**+1.0**
YUK				AMB	AMB	10 33 13.1	
	150nm,0.3s						
YUK				*i* S	**Sn**	**10 33 46.5**	**+0.3**
YUK				A	A	10 33 54.1	
	260nm,0.6s						
YUK				A	A	10 33 54.1	
	280nm,0.6s						
NEM2	**Nemuro 2**	**3.26**	**258**	*eP*	**Pn**	**10 33 14.1**	**+0.5**
NEM2				*eS*	**Sn**	**10 33 50.3**	**-0.7**
NMR	**Nemuro--Hokkai**	**3.27**	**258**	*i* P	**Pn**	**10 33 14.2**	**+0.5**
NMR				*eS*	**Sn**	**10 33 51.5**	**+0.2**
JRA	**Rausu**	**3.60**	**268**	*eP*	**Pn**	**10 33 20.1**	**+1.8**
JNK	**Nakash**	**3.94**	**264**	*eP*	**Pn**	**10 33 24.0**	**+1.1**
JNK				*eS*	**Sn**	**10 34 07.7**	**-0.2**
AKK	**Akkeshi**	**3.99**	**255**	*eP*	**Pn**	**10 33 25.6**	**+2.0**
AKK				*eS*	**Sn**	**10 34 10.8**	**+1.7**
JAK	**Akkeshi**	**4.09**	**256**	*eP*	**Pn**	**10 33 25.9**	**+0.8**
JAK				*eS*	**Sn**	**10 34 10.7**	**-1.0**
JTKR	**Abashi

JMA ***21*** *10:44:19.7±0.1,24.5N±0.3×121.8E±0.6,h15km,MV3.1/14, TAIWAN REGION*

ASIES ***21*** *10:44:19.3,24.54N×121.84E,h9km,ML3.6,Mw3.2, Moment Tensor Solution. Moment tensor: Scale 10^20Nm; Mrr-0.01; Mθθ3.54; Mφφ-3.59; Mrθ2.56; Mθφ3.19; Mφr4.12; Fault plane solution: M0 6.81070×10^20 NP1:φs25.04000°, δ88.97000°,λ134.89000°. NP2:φs116.07000°,δ44.90000°, λ1.46000°. Principal axes: T Plg30.9030°, Azm330.6000°; N Plg44.8810°, Azm204.0090°; P Plg29.2190°, Azm80.1600°;*

TAP ***21*** *10:44:19.3,24.54N×121.84E,h9km,ML3.6,B*

ISC 21 10:44:19.3±0.8,24.54N±0.01×121.86E±0.01,h10km±4km, n157,σ0♀79/303,18C-15D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ESAO	**Su ao** baz=1.0	**0.04**	**334**	⇑P			**Pg**	**10 44 21.2**	**+0.1**
ESAO				S			**Sg**	**10 44 22.2**	**-0.3**
TWC	**Suao** baz=12	**0.07**	**349**	⇑*i*P			**Pg**	**10 44 21.6**	**+0.1**
TWC				*i*S			**Sg**	**10 44 22.9**	**-0.2**
EWUT	**Wuta** baz=213	**0.12**	**221**	P			**Pg**	**10 44 22.3**	**+0.2**
EWUT				S			**Sg**	**10 44 24.2**	**+0.1**
ENA	**Nanau** baz=218	**0.16**	**226**	⇓*i*P			**Pg**	**10 44 22.9**	**+0.2**
ENA				*i*S			**Sg**	**10 44 24.9**	**-0.2**
NDS	**Dongshan** baz=309	**0.17**	**306**	⇑P			**Pg**	**10 44 23.2**	**+0.3**
NDS				S			**Sg**	**10 44 25.4**	**0.0**
EAHA	**Aohua** baz=204	**0.24**	**209**	⇑P			**Pg**	**10 44 24.4**	**+0.3**
EAHA				S			**Sg**	**10 44 27.4**	**+0.1**
ILA	**Ilan** baz=335	**0.25**	**335**	⇑*i*P			**Pg**	**10 44 25.0**	**+0.7**
ILA				S			**Sg**	**10 44 29.0**	**+1.2**
EHP	**Heping Village** baz=199	**0.25**	**206**	P			**Pg**	**10 44 24.8**	**+0.4**
EHP				S			**Sg**	**10 44 28.4**	**+0.5**
TWE	**Neicheng** baz=320	**0.26**	**316**	⇑*i*P			**Pg**	**10 44 24.8**	**+0.3**
TWE				*i*S			**Sg**	**10 44 27.8**	**-0.2**
LATG	**Datong** baz=269	**0.31**	**270**	⇓P			**Pg**	**10 44 25.6**	**+0.1**
LATG				S			**Sg**	**10 44 29.7**	**+0.1**
EGS		**0.31**	**11**	*i*P			**Pg**	**10 44 25.1**	**-0.4**
EGS	baz=28			*i*S			**Sg**	**10 44 29.9**	**+0.2**
NTC	**Toucheng** baz=358	**0.32**	**354**	P			**Pb**	**10 44 26.4**	**-0.7**
NTC				*e*S			**Sb**	**10 44 32.2**	**-0.1**
NDT	**Datong Townshi** baz=282	**0.33**	**282**	⇓P			**Pg**	**10 44 26.1**	**+0.4**
NDT				S			**Sg**	**10 44 30.2**	**+0.1**
FUSB	**Fushanzhiwuyua** baz=313	**0.34**	**311**	⇑P			**Pg**	**10 44 26.4**	**+0.4**
FUSB				S			**Sb**	**10 44 31.4**	**-1.4**
EOS2	**EOS2** baz=114	**0.35**	**109**	⇓*e*P			**Pb**	**10 44 27.5**	**-0.1**
EOS2				*e*S			**Sb**	**10 44 33.8**	**+0.6**
NWLT	**Wulai** baz=296	**0.41**	**306**	P			**Pg**	**10 44 27.7**	**+0.4**
NWLT				S			**Sg**	**10 44 32.5**	**-0.1**
TIPB	**Shuangxi** baz=358	**0.43**	**355**	⇑P			**Pg**	**10 44 28.2**	**+0.4**
TIPB				S			**Sb**	**10 44 35.0**	**-0.7**
ETL	**Fush Village** baz=207	**0.44**	**210**	⇑P			**Pg**	**10 44 27.9**	**+0.1**
ETL				S			**Sg**	**10 44 34.1**	**+0.5**
NACB	**Ninganchiao**	**0.44**	**214**	P			**Pg**	**10 44 27.8**	**0.0**
NACB	**Ninganchiao** baz=212	**0.44**	**214**	⇑P			**Pg**	**10 44 27.8**	**0.0**
NACB				S			**Sg**	**10 44 33.3**	**-0.3**
NNSB	**Datong** baz=255	**0.45**	**256**	⇓P			**Pg**	**10 44 28.1**	**0.0**
NNSB				S			**Sb**	**10 44 35.9**	**-0.3**
NNSH	**Datong** baz=246	**0.45**	**256**	⇓P			**Pg**	**10 44 28.1**	**0.0**
NNSH				*e*S			**Sb**	**10 44 34.9**	**-1.4**
NNS	**Nan Shan** baz=256	**0.46**	**258**	⇓*i*P			**Pg**	**10 44 28.2**	**-0.1**
NNS				*i*S			**Sg**	**10 44 34.6**	**+0.3**
YHNB	**Yeheng**	**0.46**	**287**	P			**Pb**	**10 44 28.7**	**-0.9**
YHNB	**Yeheng** baz=286	**0.46**	**287**	⇓P			**Pb**	**10 44 28.8**	**-0.9**
YHNB				S			**Sg**	**10 44 33.5**	**-1.0**
ETLH	**Xiulin Townshi** baz=233	**0.48**	**227**	P			**Pg**	**10 44 28.6**	**-0.1**
ETLH				S			**Sg**	**10 44 34.2**	**-0.7**
NSK	**Sanguang** baz=293	**0.48**	**287**	⇓*i*P			**Pg**	**10 44 28.9**	**+0.3**
NSK				*i*S			**Sg**	**10 44 33.8**	**-1.2**
EOS3	**EOS3** baz=124	**0.48**	**121**	*e*P			**Pb**	**10 44 29.9**	**+0.2**
EOS3				*e*S			**Sb**	**10 44 37.5**	**+0.6**
TWB1	**Santiao Chiao** baz=8.0	**0.48**	**13**	⇑*i*P			**Pg**	**10 44 29.0**	**+0.3**
TWB1				*i*S			**Sg**	**10 44 35.9**	**+0.8**
TWD	**Chiawan** baz=204	**0.52**	**208**	⇑*i*P			**Pg**	**10 44 29.3**	**0.0**
TWD				*i*S			**Sg**	**10 44 36.1**	**0.0**
NWF	**Wu-fen Shan** baz=344	**0.54**	**352**	⇑*i*P			**Pb**	**10 44 30.5**	**-0.4**
NWF				*i*S			**Sb**	**10 44 38.6**	**-0.1**
WFSB	**Wu-fen Shan** baz=346	**0.54**	**352**	⇑P			**Pb**	**10 44 30.4**	**-0.4**
WFSB				S			**Sb**	**10 44 38.6**	**0.0**
SXI1	**Grass Mountain** baz=11	**0.56**	**1**	P			**Pg**	**10 44 30.7**	**+0.6**
SXI1				*e*S			**Sb**	**10 44 39.6**	**+0.4**
TATO	**Taipei**	**0.56**	**322**	P			**Pb**	**10 44 30.9**	**-0.2**
TATO	**Taipei** baz=323	**0.56**	**322**	P			**Pb**	**10 44 30.7**	**-0.4**
TATO				S			**Sg**	**10 44 37.5**	**+0.2**
NHY	**Taipei** baz=341	**0.57**	**332**	*e*P			**Pb**	**10 44 31.6**	**+0.3**
NHY				*e*S			**Sb**	**10 44 39.4**	**-0.1**
EOS4	**EOS4** baz=123	**0.59**	**135**	P			**Pb**	**10 44 31.9**	**+0.5**
EOS4				S			**Sb**	**10 44 40.6**	**+1.0**
TAP	**Taipei** baz=329	**0.60**	**327**	*i*P			**Pb**	**10 44 31.8**	**0.0**
TAP				*i*S			**Sb**	**10 44 39.9**	**-0.4**
HWA	**Hwalien** baz=199	**0.61**	**203**	*i*P			**Pb**	**10 44 31.6**	**-0.4**
HWA				*i*S			**Sb**	**10 44 40.0**	**-0.6**
TNOU	**National Taiwa** baz=346	**0.62**	**352**	P			**Pb**	**10 44 31.9**	**-0.3**
TNOU				*e*S			**Sg**	**10 44 39.7**	**+0.4**
FUSS	**Fushou** baz=242	**0.64**	**243**	⇓P			**Pg**	**10 44 31.4**	**-0.2**
FUSS				S			**Sg**	**10 44 40.1**	**+0.1**
LXIB	**Xiulin Townshi** baz=217	**0.66**	**219**	P			**Pg**	**10 44 31.9**	**-0.1**
LXIB				S			**Sg**	**10 44 40.9**	**+0.2**
ETM	**Tongmen** baz=208	**0.66**	**211**	P			**Pg**	**10 44 31.9**	**-0.2**
ETM				S			**Sg**	**10 44 40.2**	**-0.5**
YM01	**YM01** baz=337	**0.66**	**336**	⇑P			**Pb**	**10 44 33.1**	**+0.2**
YM01				S			**Sb**	**10 44 41.9**	**-0.4**
WHF	**Hehuan Shan** baz=233	**0.67**	**235**	*i*P			**Pg**	**10 44 32.3**	**-0.1**
WHF				*i*S			**Sg**	**10 44 40.7**	**-0.6**
NFF	**Wufeng Townshi** baz=277	**0.69**	**278**	P			**Pb**	**10 44 33.0**	**-0.3**
NFF				S			**Sg**	**10 44 41.3**	**-0.2**
NWRT	**Kuosheng** baz=346	**0.69**	**344**	*e*P			**Pb**	**10 44 33.1**	**-0.2**
NWRT				*e*S			**Sb**	**10 44 43.1**	**+0.2**
TWT	**Tachien** baz=236	**0.69**	**246**	*i*P			**Pg**	**10 44 32.7**	**+0.1**
TWT				S			**Sb**	**10 44 42.3**	**-0.8**
NTY	**Taoyuan** baz=322	**0.69**	**312**	P			**Pb**	**10 44 33.3**	**-0.1**
NTY				S			**Sb**	**10 44 42.9**	**-0.1**
TWS1	**Kuangyinshan** baz=325	**0.69**	**324**	*i*P			**Pb**	**10 44 33.9**	**+0.5**
TWS1				S			**Sb**	**10 44 43.5**	**+0.4**
YM08	**YM08** baz=340	**0.69**	**339**	⇑P			**Pb**	**10 44 33.4**	**-0.1**
YM08				*e*S			**Sb**	**10 44 44.2**	**+1.0**
TDCB	**Techi** baz=236	**0.70**	**246**	P			**Pg**	**10 44 32.8**	**-0.1**
TDCB				*e*S			**Sb**	**10 44 42.4**	**-1.1**
ANP	**Anpu** baz=336	**0.72**	**334**	⇑*i*P			**Pb**	**10 44 34.0**	**0.0**
ANP				*e*S			**Sb**	**10 44 44.3**	**+0.4**
NTST	**Danshui** baz=330	**0.73**	**329**	P			**Pb**	**10 44 34.7**	**+0.6**
NTST				S			**Sn**	**10 44 45.7**	**-1.1**
NCU	**National Centr** baz=316	**0.75**	**305**	S			**Sn**	**10 44 45.9**	**-1.5**
NCUH	**Zhongli** baz=315	**0.75**	**305**	P			**Pn**	**10 44 35.9**	**-0.1**
NCUH				S			**Sn**	**10 44 46.1**	**-1.3**
TWY	**Chenhua** baz=343	**0.77**	**342**	*i*P			**Pb**	**10 44 35.1**	**+0.3**
TWY				*e*S			**Sn**	**10 44 47.0**	**-1.0**
NSM	**Shimen** baz=342	**0.79**	**342**	P			**Pn**	**10 44 36.3**	**-0.2**
NSM				*e*S			**Sn**	**10 44 47.3**	**-1.0**
CHGB	**Renai** baz=239	**0.79**	**233**	⇓P			**Pg**	**10 44 34.3**	**-0.2**
CHGB				S			**Sb**	**10 44 45.1**	**-1.0**
NSTT	**Nanjuang** baz=276	**0.79**	**277**	⇓*i*P			**Pb**	**10 44 35.2**	**+0.1**
NSTT				*i*S			**Sb**	**10 44 45.1**	**-0.8**
SHUL	**Shoufeng** baz=206	**0.80**	**200**	P			**Pb**	**10 44 35.3**	**+0.1**
SHUL				S			**Sb**	**10 44 46.7**	**+0.7**
HSN1	**Hsinchu** baz=279	**0.81**	**287**	P			**Pn**	**10 44 37.0**	**+0.3**
HSN1				S			**Sn**	**10 44 47.8**	**-1.0**
ESL	**Shilin** baz=206	**0.82**	**209**	⇑*i*P			**Pg**	**10 44 34.7**	**-0.4**
ESL				*i*S			**Sg**	**10 44 45.6**	**-0.2**
SBCB	**Hsinchu** baz=280	**0.84**	**288**	P			**Pn**	**10 44 37.1**	**0.0**
SBCB				S			**Sn**	**10 44 50.1**	**+0.5**
OWD	**Renai** baz=226	**0.85**	**227**	P			**Pg**	**10 44 35.6**	**-0.2**
OWD				S			**Sg**	**10 44 45.5**	**-1.4**
HSN	**Hsinchu** baz=275	**0.86**	**288**	*i*P			**Pn**	**10 44 37.1**	**-0.3**
HSN				*i*S			**Sb**	**10 44 48.3**	**+0.5**
WUSB	**Renai** baz=237	**0.87**	**232**	⇓P			**Pg**	**10 44 35.9**	**-0.2**
WUSB				S			**Sb**	**10 44 47.5**	**-0.8**
WHP	**Taichung City** baz=252	**0.88**	**253**	⇓P			**Pb**	**10 44 36.5**	**-0.2**
WHP				S			**Sn**	**10 44 49.3**	**-1.3**
NHW	**Xinwu Township** baz=302	**0.88**	**302**	P			**Pn**	**10 44 37.5**	**-0.2**
NHW				S			**Sn**	**10 44 49.6**	**-1.0**
NJN	**Zhunan** baz=268	**0.92**	**279**	*e*P			**Pb**	**10 44 37.2**	**0.0**
NJN				*e*S			**Sb**	**10 44 49.9**	**+0.4**
WARBT	**Fenglin Townsh** baz=206	**0.93**	**208**	P			**Pg**	**10 44 36.5**	**-0.6**
WARBT				S			**Sg**	**10 44 48.1**	**-1.0**
EGFH	**Guangfu** baz=212	**0.95**	**205**	P			**Pg**	**10 44 37.2**	**-0.4**
EGFH				S			**Sb**	**10 44 50.3**	**-0.2**
NMLH	**Miaoli** baz=269	**0.98**	**270**	P			**Pn**	**10 44 39.6**	**+0.5**
NMLH				S			**Sn**	**10 44 52.0**	**-1.0**
WPL	**Puli Township** baz=236	**0.98**	**238**	P			**Pb**	**10 44 38.2**	**-0.2**
WPL				S			**Sg**	**10 44 50.4**	**-0.5**
JYNG	**Yonagunijimaku**	**0.99**	**95**	P			**Pg**	**10 44 37.7**	**-0.6**
JYNG				S			**Sg**	**10 44 51.6**	**+0.4**
DPDB	**Guoxing** baz=248	**0.99**	**240**	P			**Pb**	**10 44 38.4**	**-0.2**
DPDB				*e*S			**Sb**	**10 44 51.5**	**-0.2**
WCS	**Beigang Elemen** baz=249	**0.99**	**241**	P			**Pb**	**10 44 38.3**	**-0.3**
WCS				S			**Sn**	**10 44 52.3**	**-1.0**
NSY	**Sanyi** baz=262	**1.01**	**263**	*i*P			**Pn**	**10 44 39.8**	**+0.3**
NSY				S			**Sn**	**10 44 52.8**	**-1.1**
TWQ1	**Liyutan** baz=258	**1.01**	**260**	*i*P			**Pn**	**10 44 39.7**	**+0.1**
TWQ1				*e*S			**Sb**	**10 44 52.2**	**-0.1**
VWDT	**VWDT** baz=229	**1.02**	**220**	P			**Pg**	**10 44 38.8**	**-0.1**
VWDT				S			**Sb**	**10 44 52.5**	**-0.1**
YOJ	**Yonaguni jima**	**1.05**	**94**	P			**Pg**	**10 44 39.5**	**+0.1**
YOJ	**Yonaguni jima** baz=95	**1.05**	**94**	P			**Pg**	**10 44 39.0**	**-0.4**
YOJ				*e*S			**Sg**	**10 44 53.4**	**+0.4**
YOJ	**Yonaguni jima**	**1.05**	**94**	P			**Pg**	**10 44 39.1**	**-0.2**
YOJ							**Sg**	**10 44 53.1**	**0.0**
SMLT	**Sun Moon Lake** baz=222	**1.09**	**234**	*i*P			**Pb**	**10 44 40.3**	**0.0**
SMLT				*i*S			**Sn**	**10 44 55.6**	**-0.4**
PCYT	**Pengchaiyu** baz=12	**1.10**	**10**	*e*P			**Pb**	**10 44 40.6**	**+0.2**
PCYT				*e*S			**Sn**	**10 44 56.0**	**-0.2**
HGSD	**Ruisui** baz=213	**1.11**	**201**	P			**Pn**	**10 44 40.8**	**-0.1**
HGSD				*e*S			**Sn**	**10 44 56.8**	**+0.4**
TYC	**Yuchr** baz=225	**1.11**	**236**	*i*P			**Pg**	**10 44 40.3**	**-0.3**
TYC				*i*S			**Sb**	**10 44 55.2**	**0.0**
SSLB	**Suanglung**	**1.12**	**228**	P			**Pg**	**10 44 40.3**	**-0.4**
SSLB	**Suanglung** baz=227	**1.12**	**228**	⇓P			**Pg**	**10 44 40.1**	**-0.6**
SSLB				S			**Sg**	**10 44 54.2**	**-1.1**
WDJ	**Dajia District** baz=259	**1.13**	**261**	P			**Pn**	**10 44 42.8**	**+1.6**
WDJ				*e*S			**Sn**	**10 44 56.4**	**-0.4**
EHY	**Hungye** baz=211	**1.14**	**206**	*i*P			**Pg**	**10 44 40.5**	**-0.7**
EHY				*i*S			**Sg**	**10 44 55.8**	**-0.2**
TCU	**Taichung** baz=249	**1.15**	**251**	*i*P			**Pn**	**10 44 43.3**	**+1.8**
TCU				S			**Sn**	**10 44 59.1**	**+1.8**
WWF	**Wufeng** baz=244	**1.17**	**245**	P			**Pn**	**10 44 43.3**	**+1.5**
WWF				*e*S			**Sn**	**10 44 58.7**	**+0.9**
WHYT	**Xinyi Township** baz=219	**1.25**	**228**	P			**Pg**	**10 44 43.0**	**-0.2**
WHYT				S			**Sn**	**10 45 00.4**	**+0.7**
WNT1	**Nantou City** baz=238	**1.25**	**240**	P			**Pg**	**10 44 44.5**	**+1.3**
WNT1				S			**Sn**	**10 45 03.2**	**+3.5**
YULB	**Yu-li**	**1.25**	**205**	P			**Pn**	**10 44 42.8**	**-0.1**
YULB	**Yu-li** baz=213	**1.25**	**205**	P			**Pn**	**10 44 42.7**	**-0.1**
YULB				S			**Sg**	**10 44 59.3**	**-0.3**
WJS	**Zhushan** baz=234	**1.26**	**236**	P			**Pg**	**10 44 44.5**	**+1.1**
WJS				S			**Sn**	**10 45 01.8**	**+1.8**
WNT	**Mingjian** baz=237	**1.26**	**239**	*i*P			**Pg**	**10 44 44.1**	**+0.6**
WNT				*i*S			**Sn**	**10 45 02.6**	**+2.6**
WCHH	**Zhanghua** baz=247	**1.28**	**249**	*e*P			**Pg**	**10 44 44.6**	**+0.8**
WCHH				*e*S			**Sn**	**10 45 02.2**	**+1.9**
EYUL	**Yuli** baz=211	**1.28**	**203**	P			**Pn**	**10 44 43.4**	**+0.1**
EYUL				*e*S			**Sg**	**10 45 00.5**	**-0.2**
TWF1	**Yuli** baz=212	**1.29**	**204**	*i*P			**Pn**	**10 44 43.0**	**-0.4**
TWF1				*i*S			**Sn**	**10 45 00.9**	**+0.3**
CHKH	**Chenggong** baz=213	**1.41**	**198**	*e*P			**Pb**	**10 44 45.4**	**-0.3**
CHKH				S			**Sg**	**10 45 04.6**	**+0.1**
ALS	**Alishan** baz=212	**1.41**	**224**	*i*P			**Pg**	**10 44 46.5**	**+0.1**
ALS				*i*S			**Sg**	**10 45 06.2**	**+1.5**
FULB	**Fuli** baz=214	**1.43**	**202**	P			**Pn**	**10 44 45.7**	**+0.4**
FULB				S			**Sg**	**10 45 05.1**	**-0.2**
WGK	**Gukeng** baz=233	**1.46**	**235**	*i*P			**Pg**	**10 44 47.5**	**+0.2**
WGK				*i*S			**Sg**	**10 45 09.4**	**+3.2**
WDLH	**Douliu** baz=234	**1.48**	**235**	P			**Pg**	**10 44 49.0**	**+1.4**
WDLH				S			**Sg**	**10 45 09.4**	**+2.6**
WRL	**Guolierlin Hig** baz=243	**1.50**	**245**	P			**Pb**	**10 44 47.0**	**-0.2**
WRL				S			**Sg**	**10 45 07.8**	**+0.3**
CHKT	**Chengkung** baz=212	**1.50**	**198**	P			**Pg**	**10 44 47.7**	**-0.4**
CHKT				S			**Sg**	**10 45 07.2**	**-0.4**
EHD	**Haiduan** baz=200	**1.51**	**204**	P			**Pb**	**10 44 47.2**	**-0.2**
EHD				S			**Sb**	**10 45 06.8**	**+0.2**
ELDTW	**Lidau** baz=208	**1.55**	**210**	*i*P			**Pn**	**10 44 47.5**	**+0.5**
ELDTW				*i*S			**Sn**	**10 45 07.4**	**+0.1**
ECS	**Chishang** baz=213	**1.55**	**203**	*e*P			**Pg**	**10 44 48.9**	**-0.2**
ECS				*e*S			**Sg**	**10 45 09.0**	**-0.2**
WCKO	**Fanlu** baz=237	**1.59**	**227**	P			**Pg**	**10 44 49.9**	**+0.1**
WCKO				S			**Sg**	**10 45 12.3**	**+1.9**
WTK	**Tuku** baz=236	**1.59**	**238**	P			**Pg**	**10 44 49.3**	**-0.5**
WTK				S			**Sg**	**10 45 11.4**	**+1.0**
CHN4	**Tsaushan** baz=208	**1.66**	**225**	*i*P			**Pg**	**10 44 51.4**	**+0.3**
CHN4				*i*S			**Sg**	**10 45 14.2**	**+1.7**
TPUB	**Ta-pu**	**1.67**	**223**	P			**Pg**	**10 44 50.6**	**-0.7**
TPUB	**Ta-pu** baz=207	**1.67**	**223**	P			**Pg**	**10 44 51.2**	**-0.1**
TPUB				S			**Sg**	**10 45 13.2**	**+0.2**
STYH	**Taoyuan** baz=203	**1.69**	**216**	P			**Pb**	**10 44 50.7**	**+0.3**
STYH				S			**Sg**	**10 45 13.7**	**+0.1**
STYT	**Tauyuan** baz=204	**1.70**	**217**	*i*P			**Pg**	**10 44 51.7**	**-0.2**
STYT				*i*S			**Sg**	**10 45 13.4**	**-0.6**
IRIF	**Iriomote-Funau**	**1.71**	**96**	P			**Pn**	**10 44 48.7**	**-0.5**
IRIF				S			**Sn**	**10 45 10.5**	**-0.6**
WTP	**Ta-pu** baz=208	**1.72**	**222**	*i*P			**Pg**	**10 44 52.1**	**-0.2**
WTP				*i*S			**Sg**	**10 45 16.0**	**+1.4**
WSF	**Szhu** baz=237	**1.75**	**240**	*e*P			**Pg**	**10 44 52.4**	**-0.4**
WSF				*i*S			**Sg**	**10 45 15.5**	**0.0**
LONT	**Longtian** baz=199	**1.76**	**203**	P			**Pn**	**10 44 49.7**	**-0.1**
LONT				*e*S			**Sb**	**10 45 13.3**	**-0.5**
SNST	**Tainan City** baz=207	**1.81**	**224**	P			**Pb**	**10 44 53.0**	**+0.5**
SNST				S			**Sg**	**10 45 18.1**	**+0.5**
CHN1	**Nanshi** baz=206	**1.82**	**223**	*i*P			**Pg**	**10 44 53.9**	**-0.2**
CHN1				S			**Sg**	**10 45 18.3**	**+0.5**
HATJ	**Hateruma jima**	**1.83**	**105**	P			**Pn**	**10 44 51.4**	**+0.6**
TWG	**Pinlang** baz=199	**1.86**	**203**	*i*P			**Pn**	**10 44 51.6**	**+0.5**
TWG				*e*S			**Sn**	**10 45 15.4**	**+0.7**
TWGBT	**Beinan**	**1.86**	**203**	P			**Pb**	**10 44 53.3**	**0.0**
TWGBT	**Beinan** baz=199	**1.86**	**203**	P			**Pn**	**10 44 51.4**	**+0.3**
TWGBT				*e*S			**Sb**	**10 45 16.9**	**+0.3**
ICHU	**Yijhu** baz=229	**1.86**	**231**	P			**Pg**	**10 44 54.5**	**-0.5**
ICHU				S			**Sg**	**10 45 19.4**	**+0.2**
SGST	**Jiashian** baz=203	**1.86**	**219**	*i*P			**Pb**	**10 44 53.0**	**-0.4**

SGST				*i* S		**Sg**	**10 45 19.6**	**+0.3**
	baz=203									
SLGT	**Liugui**	**1.90**	**216**	P		**Pg**	**10 44 55.4**	**-0.3**
	baz=214									
SLGT				S		**Sg**	**10 45 20.3**	**0.0**
	baz=214									
CHN8	**Yiju**	**1.92**	**232**	*i* P		**Pg**	**10 44 55.5**	**-0.6**
	baz=230									
CHN8				*i* S		**Sg**	**10 45 21.4**	**+0.3**
	baz=230									
JKRS	**Kuro-shima**	**1.98**	**98**	P		**Pn**	**10 44 52.9**	**+0.1**
JKRS				S		**Sn**	**10 45 17.4**	**-0.2**
SCST	**Cishan**	**2.07**	**218**	*e*P		**Pb**	**10 44 57.0**	**+0.1**
	baz=215									
SCST				*e*S		**Sg**	**10 45 26.1**	**+0.3**
	baz=215									
JIJ	**Ishigaki jima**	**2.08**	**94**	P		**Pn**	**10 44 53.6**	**-0.7**
JIJ				S		**Sn**	**10 45 18.9**	**-1.5**
ECL	**Taimali**	**2.10**	**204**	P		**Pn**	**10 44 54.8**	**+0.2**
	baz=185									
ECL				*e*S		**Sn**	**10 45 21.5**	**+0.7**
	baz=185									
TSCK	**Chigu Township**	**2.14**	**230**	P		**Pb**	**10 44 57.9**	**-0.2**
	baz=241									
TSCK				S		**Sg**	**10 45 26.1**	**-1.8**
	baz=241									
TSMG	**Majia**	**2.14**	**212**	P		**Pb**	**10 44 58.3**	**+0.1**
	baz=209									
TSMG				S		**Sg**	**10 45 26.6**	**-1.5**
	baz=209									
MASBT	**Mashibuluo**	**2.22**	**211**	P		**Pb**	**10 44 58.5**	**-1.0**
	baz=208									
MASBT				S		**Sb**	**10 45 28.1**	**+0.9**
	baz=208									
JISG	**Ishigakijimahi**	**2.23**	**88**	P		**Pn**	**10 44 55.8**	**-0.5**
JISG				S		**Sn**	**10 45 23.2**	**-0.7**
VWUC	**VWUC**	**2.24**	**282**	P		**Pn**	**10 44 56.0**	**-0.4**
	baz=280									
VWUC				*e*S		**Sn**	**10 45 23.6**	**-0.6**
	baz=280									
PNG	**Penghu**	**2.32**	**246**	*e*P		**Pb**	**10 44 59.4**	**-1.9**
	baz=245									
PNG				*e*S		**Sb**	**10 45 28.5**	**-1.5**
	baz=245									
PHUB	**P'eng-hu**	**2.33**	**245**	P		**Pn**	**10 44 58.4**	**+0.7**
	baz=243									
PHUB				S		**Sb**	**10 45 30.1**	**-0.2**
	baz=243									
EAST	**Anshuo**	**2.34**	**204**	*i* P		**Pn**	**10 44 59.2**	**+1.4**
	baz=187									
EAST				S		**Sn**	**10 45 27.6**	**+0.9**
	baz=187									
MATB	**Ma-tsu**	**2.37**	**313**	P		**Pn**	**10 44 57.9**	**-0.3**
	baz=311									
MATB				S		**Sn**	**10 45 28.4**	**+1.1**
	baz=311									
WDGT	**Dungji**	**2.38**	**238**	*e*P		**Pb**	**10 45 00.8**	**-1.5**
	baz=236									
WDGT				*e*S		**Sb**	**10 45 30.3**	**-1.5**
	baz=236									
SCZT	**Fangliau**	**2.44**	**208**	*i* P		**Pb**	**10 45 02.1**	**-1.1**
	baz=206									
SCZT				*e*S		**Sb**	**10 45 34.3**	**+0.9**
	baz=206									
SLIU	**Shizi**	**2.51**	**203**	P		**Pn**	**10 45 02.2**	**+2.1**
	baz=187									
SLIU				*e*S		**Sb**	**10 45 33.9**	**-1.5**
	baz=187									
LYUB	**Lan-yu**	**2.54**	**186**	*e*P		**Pn**	**10 45 01.0**	**+0.5**
	baz=171									
LYUB				*e*S		**Sn**	**10 45 30.4**	**-1.1**
	baz=171									
PTMZ	**Houxiangcun**	**2.54**	**282**	P		**Pn**	**10 45 01.7**	**+1.1**
	baz=280									
PTMZ				*e*S		**Sn**	**10 45 32.0**	**+0.3**
	baz=280									
JTJ	**Tarama**	**2.58**	**87**	P		**Pn**	**10 45 01.6**	**+0.4**
VCHM	**Qimei**	**2.59**	**240**	*e*P		**Pn**	**10 45 03.0**	**+1.7**
	baz=253									
VCHM				*e*S		**Sb**	**10 45 35.9**	**-1.9**
	baz=253									
LYJJ	**Jianjiangzhen**	**2.76**	**317**	P		**Pn**	**10 45 03.7**	**+0.1**
	baz=315									
LYJJ				*e*S		**Sn**	**10 45 37.8**	**+0.8**
	baz=315									
XPSS	**Dashiqiu**	**2.82**	**328**	P		**Pn**	**10 45 03.7**	**-0.7**
	baz=327									
XPSS				*e*S		**Sn**	**10 45 39.6**	**+1.1**
	baz=327									
MHZQ	**Yeshan**	**3.00**	**302**	P		**Pn**	**10 45 09.5**	**+2.6**
	baz=301									
MHZQ				*e*S		**Sn**	**10 45 43.6**	**+0.7**
	baz=301									
KNMB	**Chin-men Tao**	**3.17**	**269**	*e*P		**Pn**	**10 45 09.0**	**-0.2**
	baz=267									
KNMB				*e*S		**Sn**	**10 45 47.7**	**+0.6**
	baz=267									

IDC ***21*** *10:50:02.3±1.8,9˚.01S×122˚.18E,h0km,mb3.4/1, mbtmp3.2/3,ML3.1/2,Error ellipse: s-maj=223.5km s-min=32.1km az=54.0*
DJA ***21*** *10:50:13.3±0.6,9˚S±4˚×12˚2E±˚,h30km±7km,M3.7/11, mb4.2/2,MLv3.4/11*

ISC 21 10:50:09.1±1.0,**9˚46S**±0.07˚×**122˚2E**±0.1˚,**h35**km,**n12,** σ2**s55**/13,**Savu Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
MMRI	**Maumere**	**0.82**	**3**	P	**Pn**	**10 50 27.4**	**+3.2**	
MMRI				S	**Sn**	**10 50 38.2**	**+3.1**	
EDFI	**Ende, Flores**	**0.87**	**325**	P	**Pn**	**10 50 25.6**	**+0.7**	
EDFI				S	**Sn**	**10 50 36.0**	**-0.4**	
BATI	**Baumata**	**1.62**	**117**	P	Pn	10 50 44.1	+8.9	
BASI	**Baing, Sumba**	**1.77**	**245**	P	**Pn**	**10 50 40.1**	**+3.0**	
SOEI	**Soe**	**2.06**	**98**	P	Pn	10 50 49.2	+7.9	
PLAI	**Plampang**	**4.41**	**278**	P	**Pn**	**10 51 15.4**	**+1.8**	
BKSI	**Bulukumba**	**4.60**	**333**	P	**Pn**	**10 51 17.6**	**+1.4**	
TWSI	**Taliwang, Sumb**	**5.30**	**277**	P	**Pn**	**10 51 28.0**	**+2.2**	
	16nm,1.0s,0.1nm							
ABJI	**Asem Bagus**	**8.05**	**281**	P	**Pn**	**10 52 02.6**	**-0.9**	
WRA	**Warramunga Arr**	**15.69**	**133**	Pn	**Pn**	**10 53 47.1**	**-0.5**	
	0.1nm,0.3s,baz=309,slow=14,SNR=5.4							
WRA				S	Sn	10 56 35.7	-4.7	
	0.1nm,0.3s,baz=307,slow=25,SNR=1.9 0.3nm,0.6s							
ASAR	**Alice Springs**	**18.02**	**143**	P	**P**	**10 54 20.0**	**+2.9**	
	0.1nm,0.3s,baz=317,slow=11,SNR=10							
ASAR				PcP	**PcP**	**10 58 49.9**	**-1.0**	
	0.1nm,0.4s,baz=333,slow=2.1,SNR=4.3 0.3nm,0.4s							
MKAR	**Makanchi Array**	**66.34**	**331**	P	**P**	**11 00 50.3**	**-3.9**	
	0.2nm,0.4s,baz=144,slow=6.5,SNR=2.3 0.2nm,0.4s							

IDC ***21*** *11:04:29.1±1.5,54˚.37N×35˚.19W,h0km,mb3.7/9, mbtmp3.7/11,ML3.0/2,MS3.4/33,Error ellipse: s-maj=41.6km s-min=23.9km az=13.0*

ISC 21 11:04:33.6±2.2,**55˚.0N**±0.5˚×**35˚.1W**±0.1˚,**h10**km,**n40,** σ0**s34**/11,**mb3.9**/9,**MS3.4**/30,**Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
SFJD	**Kangerlussuaq**	**14.16**	**335**	LR	LR	11 12 35.6		
	comp=Z,79nm,21.7s,baz=178,slow=33							
SCHQ	**Schefferville**	**18.16**	**283**	P	**Pn**	**11 08 45.3**	**-0.3**	
	0.1nm,0.3s,baz=78,slow=18,SNR=3.7							
SCHQ				LR	LR	11 15 25.8		
	comp=Z,35nm,18.6s,baz=72,slow=36 4.2nm,0.9s							
EKA	**Eskdalemuir Ar**	**18.19**	**76**	P	**P**	**11 08 46.5**	**+0.3**	
	baz=281,slow=6.7 2.2nm,0.9s							
FRB	**Frobisher Bay**	**18.96**	**311**	LR	LR	11 14 47.7		
	comp=Z,104nm,18.8s,baz=344,slow=32							
NOA	**NORSAR Array B**	**24.84**	**57**	LR	LR	11 18 27.4		
	comp=Z,41nm,18.6s,baz=280,slow=33							
ESDC	**Sonseca Array**	**25.79**	**113**	LR	LR	11 17 53.2		
	comp=Z,63nm,19.2s,baz=284,slow=31							
HFS	**Hagfors**	**26.19**	**59**	LR	LR	11 18 21.9		
	comp=Z,74nm,21.6s,baz=284,slow=31							
DAVOX	**Davos/Dischmat**	**29.11**	**87**	LR	LR	11 21 51.5		
	comp=Z,125nm,18.0s,baz=250,slow=36							
RES	**Resolute Bay**	**30.15**	**333**	LR	LR	11 21 47.0		
	comp=Z,24nm,19.4s,baz=15,slow=34							
VRAC	**Vranov**	**31.62**	**78**	LR	LR	11 22 27.2		
	comp=Z,57nm,18.7s,baz=304,slow=34							
FINES	**FINESS Array B**	**31.79**	**53**	LR	LR	11 22 33.5		
	comp=Z,48nm,18.1s,baz=260,slow=34							
ULM	**Lac du Bonnet**	**36.17**	**288**	LR	LR	11 24 56.4		
	comp=Z,98nm,18.9s,baz=74,slow=34							
AKASG	**Malin Array Be**	**37.88**	**69**	P	**P**	**11 11 50.1**	**-0.2**	
	0.2nm,0.2s,baz=313,slow=8.7,SNR=3.0							
AKASG				LR	LR	11 27 27.2		
	comp=Z,33nm,19.1s,baz=31,slow=36 0.2nm,0.2s							
TKL	**Tuckaleechee C**	**38.34**	**260**	LR	LR	11 26 45.4		
	comp=Z,41nm,19.1s,baz=58,slow=35							
MLR	**Muntele Rosu**	**39.02**	**78**	LR	LR	11 27 16.8		
	comp=Z,86nm,19.1s,baz=308,slow=35							
YKA	**Yellowknife Ar**	**39.43**	**314**	P	**P**	**11 12 03.4**	**+0.2**	
	0.3nm,0.8s,baz=61,slow=9.0,SNR=3.7							
YKA				LR	LR	11 26 10.9		
	comp=Z,38nm,19.4s,baz=284,slow=33 0.3nm,0.8s							
INK	**Inuvik**	**43.36**	**328**	LR	LR	11 29 14.3		
	comp=Z,61nm,20.4s,baz=352,slow=34							
KIRV	**Kirov**	**43.56**	**49**	LR	LR	11 28 53.1		
	comp=Z,41nm,18.7s,baz=274,slow=33							
BELG	**Belogornoye**	**46.35**	**57**	LR	LR	11 31 37.0		
	comp=Z,54nm,18.9s,baz=167,slow=35							
BRTR	**Keskin Array B**	**47.06**	**79**	P	**P**	**11 13 05.1**	**-0.2**	
	1.2nm,0.6s,baz=296,slow=9.3,SNR=2.3							
BRTR				LR	LR	11 33 57.5		
	comp=Z,31nm,18.7s,baz=323,slow=38 1.2nm,0.6s							
DLBC	**Dease Lake**	**48.02**	**315**	LR	LR	11 32 37.0		
	comp=Z,59nm,18.4s,baz=211,slow=35							
PDAR	**Pinedale Array**	**48.19**	**288**	LR	LR	11 32 43.5		
	comp=Z,66nm,18.2s,baz=46,slow=35							
NEW	**Newport**	**48.59**	**298**	LR	LR	11 32 16.7		
	comp=Z,54nm,19.0s,baz=22,slow=34							
TORD	**Torodi Ar. Bea**	**50.62**	**131**	P	P	11 13 26.0	-6.6	
	0.5nm,0.8s,baz=347,slow=5.9,SNR=2.3 0.5nm,0.8s							
AKTO	**Aktyubinsk**	**52.56**	**54**	LR	LR	11 34 58.6		
	comp=Z,41nm,20.7s,baz=228,slow=35							
ELK	**Elko**	**52.68**	**290**	LR	LR	11 35 09.0		
	comp=Z,69nm,18.7s,baz=54,slow=35							
TEIG	**Tepich**	**52.73**	**251**	LR	LR	11 36 20.0		
	comp=Z,231nm,19.2s,slow=36							
GNI	**Garni**	**52.95**	**71**	LR	LR	11 37 25.5		
	comp=Z,25nm,19.3s,baz=206,slow=37							
SDV	**Santo Domingo**	**53.90**	**225**	LR	LR	11 34 16.7		
	comp=Z,15nm,21.3s,baz=64,slow=33							
DBIC	**Dimbokro**	**53.91**	**142**	LR	LR	11 35 00.1		
	comp=Z,42nm,18.6s,baz=340,slow=34							
BVAR	**Borovoye Array**	**56.09**	**45**	P	**P**	**11 14 12.1**	**-0.4**	
	0.8nm,0.7s,baz=324,slow=7.1,SNR=2.8							
BVAR				LR	LR	11 36 07.4		
	comp=Z,32nm,21.9s,baz=307,slow=34 0.8nm,0.7s							
PFO	**Pinyon Flats O**	**58.50**	**285**	LR	LR	11 37 42.1		
	comp=Z,48nm,18.0s,baz=201,slow=34							
CMIG	**Matias Romero**	**58.91**	**255**	LR	LR	11 40 06.0		
	comp=Z,35nm,18.5s,baz=80,slow=36							
JTS	**Las Juntas**	**59.26**	**241**	LR	LR	11 36 39.1		
	comp=Z,30nm,21.5s,baz=64,slow=33							
ZALV	**Zalesovo Beam**	**60.74**	**36**	P	**P**	**11 14 45.0**	**+0.1**	
	0.7nm,0.8s,baz=297,slow=7.9,SNR=2.5 0.7nm,0.8s							
KURBB	**Kurchatov Arra**	**61.16**	**42**	P	**P**	**11 14 47.7**	**0.0**	
	0.9nm,0.6s,baz=321,slow=7.6,SNR=9.6 0.9nm,0.6s							
LPIG	**La Paz**	**62.20**	**273**	LR	LR	11 41 30.2		
	comp=Z,50nm,19.4s,baz=13,slow=36							
MKAR	**Makanchi Array**	**65.72**	**42**	P	**P**	**11 15 17.9**	**-0.2**	
	0.7nm,0.8s,baz=332,slow=5.7,SNR=6.0 0.7nm,0.8s							
SONM	**Songino Array**	**72.57**	**26**	P	**P**	**11 16 00.7**	**+0.1**	
	0.6nm,0.7s,baz=316,slow=4.1,SNR=3.8 0.6nm,0.7s							
ASAR	**Alice Springs**	**147.69**	**19**	PKPbc	**PKPdf**	**11 24 16.1**	**+0.6**	
	1.3nm,0.7s,baz=349,slow=2.3,SNR=12							

IDC ***21*** *11:05:46.6±0.8,33˚.53N×76˚.49E,h0km,mb3.9/16, mbtmp3.9/20,ML3.4/4,MS3.8/3,Error ellipse: s-maj=24.0km s-min=15.6km az=45.0*

ISC 21 11:05:51.5±0.8,**33˚.65N**±0.09˚×**76˚.6E**±0.1˚,**h31**km,**n25,** σ1**s58**/25,**mb3.9**/16,**MS3.9**/3,**4C,Kashmir-India border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
AAK	**Ala-Archa**	**9.12**	**350**	Pn	**Pn**	**11 08 04.2**	**+3.0**	
	0.3nm,0.3s,baz=135,slow=6.7,SNR=3.8							
AAK				Sn	**Sn**	**11 09 41.7**	**-1.1**	
	baz=202,slow=19							
AAK				LR	LR	11 11 57.6		
	comp=Z,28nm,21.0s,baz=209,slow=40 2.4nm,0.5s							
TKM2	**Tokmak 2**	**9.29**	**356**	⇑Pn	**Pn**	**11 08 05.6**	**+2.1**	
	0.6nm,0.3s							
TKM2				⇑Sn	Sn	11 10 08.8	+22	
	0.9nm,0.6s							
KK31	**Karatay Array**	**10.57**	**335**	⇑Pn	**Pn**	**11 08 17.6**	**-3.2**	
	0.5nm,0.3s,baz=144,slow=12,SNR=39							
KK31				⇑Sn	**Sn**	**11 10 19.7**	**+1.7**	
	3.3nm,0.7s,baz=149,slow=22,SNR=6.7							
MKAR	**Makanchi Array**	**13.83**	**17**	Pn	**Pn**	**11 09 05.2**	**-0.1**	
	0.3nm,0.3s,baz=202,slow=14,SNR=13							
MKAR				Sn	**Sn**	**11 11 34.5**	**-3.2**	
	0.1nm,0.3s,baz=199,slow=22,SNR=3.5 0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**17.02**	**4**	P	**Pn**	**11 09 45.8**	**-1.3**	
	0.1nm,0.3s,baz=192,slow=11,SNR=15 3.2nm,1.0s							
BVAR	**Borovoye Array**	**19.87**	**349**	P	**P**	**11 10 20.5**	**+0.5**	
	0.1nm,0.3s,baz=160,slow=13,SNR=12 1.5nm,0.4s							
ZALV	**Zalesovo Beam**	**21.11**	**14**	P	**P**	**11 10 33.0**	**-0.5**	
	1.8nm,0.3s,baz=203,slow=11,SNR=9.0 1.8nm,0.3s							
AKTO	**Aktyubinsk**	**21.61**	**326**	P	**P**	**11 10 39.1**	**+0.3**	
	8.7nm,0.7s,baz=119,slow=8.9,SNR=26 8.7nm,0.7s							
CMAR	**Chiang Mai Arr**	**25.07**	**122**	P	**P**	**11 11 14.8**	**+1.4**	
	1.4nm,0.3s,baz=307,slow=9.2,SNR=12 1.4nm,0.3s							
SONM	**Songino Array**	**26.47**	**49**	P	**P**	**11 11 28.2**	**+2.2**	
	1.0nm,0.5s,baz=245,slow=9.3,SNR=7.6 1.0nm,0.5s							
AKASG	**Malin Array Be**	**38.28**	**311**	P	**P**	**11 13 09.2**	**+0.3**	
	1.2nm,0.7s,baz=105,slow=8.5,SNR=6.0 1.2nm,0.7s							
MLR	**Muntele Rosu**	**40.16**	**303**	P	**P**	**11 13 25.5**	**+0.6**	
	2.4nm,0.8s,baz=167,slow=4.9,SNR=3.5 2.4nm,0.6s							
FINES	**FINESS Array B**	**42.38**	**327**	P	**P**	**11 13 43.6**	**+0.9**	
	1.6nm,0.7s,baz=120,slow=11,SNR=5.4 1.6nm,0.7s							
JNU	**Nakatsue**	**44.89**	**75**	LR	LR	11 35 56.0		
	comp=Z,140nm,20.5s,baz=134,slow=40							
ARCES	**ARCESS Array B**	**45.52**	**337**	P	**P**	**11 14 08.7**	**+0.9**	
	1.7nm,0.7s,baz=50,slow=1.9,SNR=9.9 1.7nm,0.7s							
HFS	**Hagfors**	**48.10**	**323**	P	**P**	**11 14 28.2**	**+0.1**	
	1.1nm,0.7s,baz=138,slow=8.8,SNR=1.5 1.1nm,0.7s							
NOA	**NORSAR Array B**	**49.38**	**324**	P	**P**	**11 14 38.4**	**+0.5**	
	0.5nm,0.6s,baz=103,slow=7.3,SNR=2.0 0.5nm,0.6s							
MJAR	**Matsushiro Arr**	**49.75**	**68**	LR	LR	11 35 20.3		
	comp=Z,71nm,20.5s,baz=160,slow=36							
BATI	**Baumata**	**62.48**	**126**	LR	LR	11 49 18.5		
	comp=Z,102nm,19.2s,baz=338,slow=42							
TORD	**Torodi Ar. Bea**	**70.33**	**273**	P	**P**	**11 17 01.1**	**-1.5**	
	0.7nm,0.7s,baz=52,slow=5.9,SNR=5.0 0.7nm,0.7s							
ILAR	**Eielson Array**	**76.18**	**18**	P	**P**	**11 17 36.2**	**0.0**	
	0.4nm,0.8s,baz=314,slow=6.3,SNR=6.0 0.4nm,0.8s							
WRA	**Warramunga Arr**	**76.61**	**125**	P	**P**	**11 17 38.2**	**-1.2**	
	1.3nm,1.1s,baz=1.9,slow=3.7,SNR=3.0 1.3nm,1.1s							
ASAR	**Alice Springs**	**78.89**	**128**	P	**P**	**11 17 51.2**	**-0.8**	
	0.6nm,0.9s,baz=320,slow=4.7,SNR=2.8 0.6nm,0.9s							
YKA	**Yellowknife Ar**	**83.77**	**5**	P	**P**	**11 18 16.2**	**-1.0**	
	0.1nm,0.5s,baz=23,slow=11,SNR=3.6 0.1nm,0.5s							
SCHQ	**Schefferville**	**86.42**	**340**	P	**P**	**11 18 30.3**	**-0.5**	
	2.0nm,0.8s,baz=322,slow=17,SNR=1.9 2.0nm,0.8s							

IDC ***21*** *11:06:54.1±4.9,54˚.19N×35˚.09W,h0km,mb3.6/5, mbtmp3.6/5,Error ellipse: s-maj=191.8km s-min=36.0km az=166.0*

ISC 21 11:06:55.5±5.6,**54˚N**±1˚×**35˚1W**±0˚4,**h14**km,**n6,** σ0**s26**/6, **mb3.7**/5,**Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
PDAR	**Pinedale Array**	**48.53**	**289**	P	**P**	**11 15 38.1**	**0.0**	
	0.3nm,0.7s,baz=65,slow=9.0,SNR=2.8 0.3nm,0.7s							
BVAR	**Borovoye Array**	**56.76**	**44**	P	**P**	**11 16 38.6**	**+0.1**	
	0.5nm,0.5s,baz=317,slow=8.3,SNR=1.9 0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**61.86**	**41**	P	**P**	**11 17 13.4**	**-0.4**	
	0.5nm,0.5s,baz=324,slow=7.1,SNR=6.2 0.5nm,0.5s							
MKAR	**Makanchi Array**	**66.42**	**42**	P	**P**	**11 17 43.7**	**-0.1**	
	0.4nm,0.6s,baz=329,slow=7.3,SNR=5.6 0.4nm,0.6s							
SONM	**Songino Array**	**73.42**	**26**	P	**P**	**11 18 27.0**	**0.0**	
	0.2nm,0.3s,baz=345,slow=6.3,SNR=1.8 0.2nm,0.3s							
ASAR	**Alice Springs**	**148.59**	**20**	PKPbc	**PKPbc**	**11 26 41.8**	**-0.1**	
	1.0nm,0.6s,baz=351,slow=2.4,SNR=14							

IDC ***21*** *11:23:12.3±3.1,18˚.28N×146˚.69E,h63km±28km,mb4.1/19, mbtmp4.4/21,ML4.1/2,MS3.5/25,Error ellipse: s-maj=21.6km s-min=12.4km az=84.0*
NEIC ***21*** *11:23:15.4±1.6,18˚.25N±0˚.09×146˚.4E±0˚.2,h76km±6km, mb4.5/39,Error ellipse: s-maj=22.5km s-min=13.1km az=92.0*

ISC 21 11:23:12.9±0.5,**18˚.25N**±0˚.06×**146˚.7E**±0˚.1,**h64**km,**n98,** σ0**s92**/83,**mb4.5**/44,**2D,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
GUMO	**Guam**	**4.95**	**201**		**Pn**	**11 24 26.1**	**+1.3**	
GUMO	**Guam**	**4.95**	**201**	P	**Pn**	**11 24 24.5**	**-0.3**	
	28nm,0.3s,baz=53,slow=4.4,SNR=14							
GUMO				S	**Sn**	**11 25 21.8**	**+1.1**	
	110nm,0.4s,baz=131,slow=19,SNR=1.6							
GUMO				LR	LR	11 26 19.5		
	comp=Z,470nm,18.5s,baz=36,slow=38 106nm,0.3s							
H11S3	**WAKE ISLAND Hy**	**19.02**	**86**	T	T	11 46 49.7		
	baz=272,slow=74,SNR=9.4							
H11S1	**WAKE ISLAND Hy**	**19.03**	**86**	T	T	11 46 48.8		
	baz=272,slow=74,SNR=10							
H11S2	**WAKE ISLAND Hy**	**19.03**	**86**	T	T	11 46 50.9		
	baz=272,slow=74,SNR=6.6							
INU	**Inuyama**	**19.06**	**335**	P	**P**	**11 27 29.8**	**-0.2**	
INU				IAmb	IAmb	11 27 38.3		
	comp=Z,21nm,0.8s							
JGF	**Kuroka**	**19.14**	**336**	P	**P**	**11 27 31.3**	**+0.2**	
MJAR	**Matsushiro Arr**	**19.68**	**339**	P	**P**	**11 27 36.8**	**-0.1**	
	comp=Z,0.2nm,0.3s,baz=166,slow=10,SNR=7.1 comp=Z,4.0nm,0.7s							
MAJO	**Matsushiro**	**19.68**	**339**		**P**	**11 27 36.3**	**-0.6**	
MAJO				IAmb	IAmb	11 27 43.4		
	comp=Z,17nm,0.8s							
MJB9	**Matsu-Tunnel**	**19.69**	**339**	P	**P**	**11 27 36.8**	**-0.2**	
MJB9				IAmb	IAmb	11 27 44.4		
	comp=Z,17nm,0.8s							
JMM	**Marumori**	**20.20**	**346**	P	**P**	**11 27 43.5**	**+1.1**	
JSD	**Sado**	**21.03**	**341**	P	**P**	**11 27 52.9**	**+1.4**	
JTM	**Tenmabayashi**	**22.96**	**349**	P	**P**	**11 28 13.0**	**+1.0**	
DAV	**Davao City (W)**	**23.34**	**244**	LR	LR	11 35 26.0		
	comp=Z,180nm,22.0s,baz=100,slow=31							
ERM	**Erimo**	**23.87**	**354**	P	**P**	**11 28 21.6**	**+1.2**	
ERM				IAmb	IAmb	11 29 01.0		
	comp=Z,16nm,1.1s							
TGY	**Tagaytay City**	**25.03**	**264**	LR	LR	11 36 52.7		
	comp=Z,145nm,21.5s,baz=218,slow=33							
KSRS	**Korea Array**	**25.21**	**323**	P	**P**	**11 28 30.9**	**-1.8**	
	comp=Z,2.1nm,0.7s,baz=144,slow=8.4,SNR=8.4							
KSRS				LR	LR	11 38 04.4		
	comp=Z,202nm,21.6s,baz=130,slow=35 comp=Z,2.1nm,0.7s							
NJ2	**Nanjing**	**28.57**	**304**	*e*P	**P**	**11 29 04.0**	**+1.1**	
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
NJ2				pmax	pmax			
	comp=Z,660nm,4.6s							
USRK	**Ussuriysk Ar.**	**28.65**	**338**	P	**P**	**11 29 03.9**	**+0.3**	
	comp=Z,5.9nm,0.8s,baz=139,slow=12,SNR=6.9 comp=Z,5.9nm,0.8s							
MDJ	**Mudanjiang**	**29.92**	**335**	P	**P**	**11 29 15.6**	**+0.9**	
MDJ				sP	sP	11 29 42.3	+6.0	
MDJ				PcP	PcP	11 32 05.8	-10	
MDJ				S	S	11 34 20.3	+13	
MDJ				sS	sS	11 34 51.9	+20	
MDJ				SS	**ScP**	**11 35 53.8**	**+0.9**	
MDJ				PcS	**PcS**	**11 35 55.5**	**-3.9**	
MDJ	**Mudanjiang**	**29.92**	**335**	ScS	ScS	11 39 40.0	-8.1	
MDJ				pmax	pmax			
	comp=Z,5.0nm,0.6s							
MDJ				pmax	pmax			
	comp=Z,96nm,4.1s							
BNX	**BinXian**	**31.73**	**334**	⇓P	**P**	**11 29 31.6**	**+0.9**	
BNX				pmax	pmax			
	comp=Z,13nm,0.6s							
BNX				pmax	pmax			
	comp=Z,180nm,4.6s							
KLR	**Kul'dur**	**33.16**	**342**	LR	LR	11 46 33.8		
	comp=Z,23nm,18.1s,baz=171,slow=42							
HNS	**HongShan**	**33.85**	**311**	⇓P	**P**	**11 29 51.0**	**+1.7**	
HNS				pmax	pmax			
	comp=Z,10.0nm,0.9s							
HEH	**HeiHe**	**35.45**	**339**	*e*P	**P**	**11 30 02.6**	**-0.3**	
HEH				pmax	pmax			
	comp=Z,17nm,1.1s							
HHC	**Hu-ho-hao-te**	**37.56**	**314**	*e*P	**P**	**11 30 21.6**	**+0.4**	
HHC

ZALV	**Zalesovo Beam**	**58.92**	**323**	P		**P**		**11 33 05.4**	**+0.1**
ZALV	**Zalesovo Beam**	**58.92**	**323**	P		**P**		**11 33 04.8**	**-0.5**
	comp=Z,6.0nm,0.7s,baz=108,slow=7.8,SNR=24								
ZALV				LR		LR		11 59 03.1	
	comp=Z,50nm,20.4s,baz=94,slow=36								
	comp=Z,6.0nm,0.7s								
KDAK	**Kodiak Island**	**59.23**	**33**	LR		LR		11 55 14.0	
	comp=Z,40nm,21.8s,baz=286,slow=32								
MK31	**Makanchi Array**	**59.42**	**314**	P		**P**		**11 33 08.7**	**-0.3**
MK31				IAmb		IAmb		11 33 10.6	
	comp=Z,2.1nm,0.7s								
MKAR	**Makanchi Array**	**59.42**	**314**	P		**P**		**11 33 09.0**	**0.0**
	comp=Z,3.2nm,0.6s,baz=90,slow=9.1,SNR=41								
MKAR				PcP		**PcP**		**11 33 55.1**	**-1.1**
	comp=Z,1.5nm,0.8s,baz=74,slow=8.9,SNR=4.8								
MKAR				PKP2bc				12 02 49.3	
	comp=Z,0.3nm,0.8s,baz=298,slow=2.6,SNR=3.6								
	comp=Z,3.2nm,0.6s								
MAKZ	**Makanchi**	**59.64**	**314**	P		**P**		**11 33 10.2**	**-0.3**
C19K	**Lookout Ridge**	**60.52**	**19**	P		**P**		**11 33 17.6**	**+1.5**
C19K				IAmb		IAmb		11 33 18.2	
	comp=Z,3.5nm,0.8s								
MLY	**Manley**	**62.13**	**25**	P		**P**		**11 33 27.2**	**+0.1**
MLY				IAmb		IAmb		11 33 44.1	
	comp=Z,6.4nm,1.2s								
KURK	**Kurchatov**	**62.21**	**318**	P		**P**		**11 33 27.6**	**-0.2**
KURK				IAmb		IAmb		11 33 29.8	
	comp=Z,2.8nm,0.8s								
KURBB	**Kurchatov Arra**	**62.26**	**318**	P		**P**		**11 33 26.8**	**-1.3**
	comp=Z,5.5nm,0.6s,baz=94,slow=7.3,SNR=61								
KURBB				LR		LR		12 02 12.1	
	comp=Z,94nm,18.0s,baz=190,slow=38								
	comp=Z,5.5nm,0.6s								
ILAR	**Eielson Array**	**63.64**	**26**	P		**P**		**11 33 35.4**	**-1.7**
	comp=Z,1.1nm,0.8s,baz=253,slow=5.8,SNR=13								
ILAR				LR		LR		11 59 03.2	
	comp=Z,45nm,20.3s,baz=268,slow=34								
	comp=Z,1.1nm,0.8s								
AAK	**Ala-Archa**	**64.85**	**309**	LR		LR		12 04 04.8	
	comp=Z,28nm,18.3s,baz=80,slow=38								
PALK	**Pallekele**	**64.96**	**270**	LR		LR		11 59 41.9	
	comp=Z,40nm,20.1s,baz=129,slow=34								
F28M	**Old Crow**	**66.97**	**24**	P		**P**		**11 33 58.9**	**+0.3**
F28M				IAmb		IAmb		11 34 27.2	
	comp=Z,6.0nm,1.4s								
BVAR	**Borovoye Array**	**67.39**	**321**	P		**P**		**11 34 00.9**	**-0.6**
	comp=Z,11nm,0.6s,baz=94,slow=7.9,SNR=70								
BVAR				LR		LR		12 04 51.3	
	comp=Z,46nm,20.0s,baz=80,slow=37								
	comp=Z,11nm,0.6s								
BRVK	**Borovoye**	**67.46**	**321**	P		**P**		**11 34 02.3**	**+0.4**
BRVK				IAmb		IAmb		11 34 03.2	
	comp=Z,7.3nm,0.8s								
KK31	**Karatay Array**	**67.75**	**310**	P		**P**		**11 34 03.6**	**-0.3**
KK31				IAmb		IAmb		11 34 05.6	
	comp=Z,4.7nm,0.8s								
KKAR	**Karatay Array**	**67.75**	**310**	P		**P**		**11 34 04.3**	**+0.4**
KKAR				IAmb		IAmb		11 34 05.6	
	comp=Z,4.7nm,0.8s								
M31M	**Drury Creek, Y**	**68.88**	**30**	P		**P**		**11 34 11.0**	**+0.3**
M31M				IAmb		IAmb		11 34 53.6	
	comp=Z,7.7nm,1.4s								
G31M	**Satah River**	**69.08**	**24**	P		**P**		**11 34 12.2**	**+0.5**
G31M				IAmb		IAmb		11 34 21.0	
	comp=Z,5.0nm,1.1s								
SIMJ	**Simiganj**	**69.34**	**305**	P		**P**		**11 34 13.5**	**-0.6**
INK	**Inuvik**	**69.42**	**23**	P		**P**		**11 34 13.6**	**-0.3**
INK	**Inuvik**	**69.42**	**23**	LR		LR		12 03 27.4	
	comp=Z,35nm,20.9s,baz=0.0,slow=35								
DLBC	**Dease Lake**	**71.16**	**34**	P		**P**		**11 34 26.4**	**+1.6**
DLBC				IAmb		IAmb		11 34 29.3	
	comp=Z,5.8nm,1.1s								
A36M	**Sachs Harbour**	**72.20**	**19**	P		**P**		**11 34 31.1**	**+0.5**
A36M				IAmb		IAmb		11 34 43.2	
	comp=Z,6.8nm,1.1s								
C36M	**Paulatuk**	**72.82**	**22**	P		**P**		**11 34 34.5**	**+0.1**
C36M				IAmb		IAmb		11 35 01.1	
	comp=Z,11nm,1.4s								
ARU	**Arti**	**73.95**	**325**	P		**P**		**11 34 41.3**	**0.0**
ARU				IAmb		IAmb		11 34 42.0	
	comp=Z,7.9nm,0.8s								
ABKAR	**Akbulak array**	**74.28**	**317**	P		**P**		**11 34 42.4**	**-1.0**
AKTO	**Aktyubinsk**	**75.30**	**319**	LR		LR		12 10 23.2	
	comp=Z,55nm,18.2s,baz=74,slow=38								
YKA	**Yellowknife Ar**	**77.95**	**28**	P		**P**		**11 35 03.5**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=290,slow=6.0,SNR=15								
	comp=Z,1.3nm,0.8s								
KIRV	**Kirov**	**78.32**	**328**	LR		LR		12 11 12.3	
	comp=Z,27nm,21.5s,baz=80,slow=37								
PINE	**Pine Mountain**	**79.29**	**47**	P		**P**		**11 35 13.0**	**+1.1**
PINE				IAmb		IAmb		11 35 28.2	
	comp=Z,7.4nm,1.1s								
K05A	**Summer Lake**	**79.60**	**48**	P		**P**		**11 35 13.3**	**-0.3**
K05A				IAmb		IAmb		11 35 15.8	
	comp=Z,8.2nm,1.2s								
RES	**Resolute Bay**	**79.64**	**14**	P		**P**		**11 35 13.3**	**+0.3**
RES				IAmb		IAmb		11 35 27.7	
	comp=Z,8.4nm,1.4s								
SPITS	**Spitsbergen Ar**	**79.75**	**351**	LR		LR		12 13 10.9	
	comp=Z,20nm,19.7s,baz=327,slow=38								
BELG	**Belogornoye**	**81.11**	**322**	LR		LR		12 13 18.3	
	comp=Z,45nm,19.4s,baz=258,slow=37								
KEV	**Kevo**	**82.63**	**342**	P		**P**		**11 35 29.1**	**+0.2**
NVAR	**Mina Array Bea**	**82.70**	**52**	P		**P**		**11 35 31.1**	**+0.9**
NVAR	**Mina Array Bea**	**82.70**	**52**	P		**P**		**11 35 30.3**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=271,slow=5.9,SNR=6.1								
	comp=Z,0.5nm,0.6s								
ARCES	**ARCESS Array B**	**83.19**	**342**	P		**P**		**11 35 32.5**	**+0.7**
ARCES	**ARCESS Array B**	**83.19**	**342**	P		**P**		**11 35 32.1**	**+0.2**
	comp=Z,4.4nm,0.6s,baz=64,slow=8.2,SNR=24								
ARCES				LR		LR		12 16 09.0	
	comp=Z,22nm,21.9s,baz=37,slow=38								
	comp=Z,4.4nm,0.6s								
DAG	**Danmarks Havn**	**84.76**	**357**	*i* P		**P**		**11 35 40.0**	**+0.3**
PDAR	**Pinedale Array**	**87.49**	**46**	P		**P**		**11 35 54.3**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=111,slow=2.5,SNR=2.3								
	comp=Z,0.2nm,0.5s								
FINES	**FINESS Array B**	**87.66**	**336**	P		**P**		**11 35 52.5**	**-1.7**
	comp=Z,4.5nm,0.6s,baz=68,slow=5.1,SNR=14								
	comp=Z,4.5nm,0.6s								
AKASG	**Malin Array Be**	**92.18**	**326**	LR		LR		12 21 14.4	
	comp=Z,37nm,18.7s,baz=36,slow=38								
HFS	**Hagfors**	**93.13**	**338**	P		**P**		**11 36 18.8**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=29,slow=3.4,SNR=5.4								
	comp=Z,1.5nm,0.6s								
NOA	**NORSAR Array B**	**93.30**	**340**	P		**P**		**11 36 19.6**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=46,slow=5.4,SNR=1.9								
NOA				LR		LR		12 22 48.7	
	comp=Z,18nm,20.0s,baz=35,slow=38								
	comp=Z,0.6nm,0.6s								
TORD	**Torodi Ar. Bea**	**133.44**	**310**	PKP		**PKPdf**		**11 42 22.3**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=59,slow=0.9,SNR=2.5								
PLCA	**Paso Flores**	**141.04**	**133**	PKP		**PKPdf**		**11 42 34.2**	**-2.1**
	comp=Z,2.4nm,0.8s,baz=240,slow=0.7,SNR=3.2								
CO02	**Combarbal**	**143.63**	**118**	PKPdf		PKPbc		11 42 40.4	+1.6
LCO	**Las Campanas**	**144.28**	**114**	PKPdf		**PKPdf**		**11 42 42.9**	**+0.3**
CO01	**Juntas del Tor**	**144.63**	**116**	PKPdf		**PKPdf**		**11 42 44.3**	**+1.1**
ETMB	**Extrema**	**147.07**	**80**			**PKPbc**		**11 42 49.6**	**0.0**

*EST **21** 11:25:58.0±0.1,59°.23N×27°.86E,h0km,ML1.4(HEL), Explosion*

*LVSN **21** 11:26:08.2±8.6,58°.98N×26°.47E,h0km±262km,ML1.1*
HEL 21 11:25:58.7±0.2,59°.22N×27°.74E,h0km,ML1.5, Suspected explosion,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
VSU	**Vasula**	**0.92**	**215**	*e*P	Pg	11	26	14.9	-1.3
VSU				*e*S	Sg	11	26	27.6	-0.5
VSU				AML	AML	11	26	36.2	
	comp=E,16nm,0.5s								
VSU				AML	AML	11	26	36.9	
	comp=Z,8.0nm,0.3s								
VSU				AML	AML	11	26	42.3	
	comp=N,15nm,0.4s								
VSU	**Vasula**	**0.92**	**215**	*e*P	Pg	11	26	15.1	-1.1
VJF	**Virojoki**	**1.33**	**356**	*e*P	Pg	11	26	21.7	-2.5
VJF				MSG		11	26	38.9	
	comp=Z,2.8nm,0.2s								
VJF				*e*SB	Sg	11	26	39.2	-2.3
EE07	**Piusa Caves, O**	**1.39**	**186**	*e*P	Pg	11	26	23.2	-2.0
EE07				*e*S	Sg	11	26	41.1	-2.0
EE08	**Sarghaua, Vand**	**1.41**	**248**	*e*P	Pn	11	26	24.0	-1.6
EE08				*e*S	Sg	11	26	43.2	-0.8
EE02	**Kiisa, Saku**	**1.56**	**270**	*e*P	Pn	11	26	26.9	-0.8
EE02				*e*S	Sn	11	26	47.3	-1.3
PVF	**Pernaja**	**1.64**	**325**	*e*PG	Pn	11	26	27.9	-0.8
PVF				MSG		11	26	47.7	
	comp=Z,2.5nm,0.2s								
PVF				*e*S	Sn	11	26	48.9	-1.5
MEF	**Metsahovi**	**1.97**	**302**	*e*P	Pn	11	26	34.1	+0.8
MEF				*e*S	Sb	11	26	59.6	-0.8
MEF				AML	AML	11	27	00.5	
	comp=N,6.8nm,0.5s								
MEF				AML	AML	11	27	01.4	
	comp=Z,4.0nm,0.5s								
MEF				AML	AML	11	27	01.4	
	comp=E,3.5nm,0.4s								
MEF	**Metsahovi**	**1.97**	**302**	*e*PG	Pn	11	26	34.0	+0.8
MEF				*e*SG	Sb	11	26	59.7	-0.8
MEF				MSG		11	27	00.6	
	comp=Z,1.1nm,0.1s								
NUR	**Nurmijrvi**	**2.03**	**311**	*e*PG	Pn	11	26	34.9	+0.9
NUR				MSG		11	26	58.8	
	comp=Z,1.9nm,0.2s								
NUR				*e*SB	Sn	11	27	01.0	+0.9
MTSE	**Matsula**	**2.09**	**258**	*e*S	Sn	11	26	50.7	-11
MTSE	**Matsula**	**2.09**	**258**	*e*PB	Pn	11	26	35.8	+0.9
EE01	**Perakula, Nova**	**2.12**	**272**	*e*PB	Pn	11	26	36.2	+0.9
EE01				*e*SB	Sb	11	27	03.9	-0.8
RUF	**Ruokolahti**	**2.30**	**15**	*e*PB	Pn	11	26	37.6	-0.2
RUF				MSG		11	27	06.6	
	comp=Z,2.2nm,0.2s								
RUF				*e*SG	Sn	11	27	08.2	+1.4
FIA0	**FINESS Array S**	**2.38**	**340**	*e*PB	Pn	11	26	39.5	+0.6
FIA0				MSG		11	27	09.2	
	comp=Z,1.7nm,0.2s								
FIA0				*e*SG	Sb	11	27	12.1	-0.3
FIA1	**FINESS Array S**	**2.38**	**340**	*e*PB	Pn	11	26	39.5	+0.6
JOF	**Joensuu**	**4.10**	**24**	*e*P	Pn	11	27	01.3	-1.3

*NOU **21** 11:37:52.7,31°.81S×175°.12W,h0km,mb5.3/10, Kermadec Islands Region*

*WEL **21** 11:38:46.6±0.7,34°.5S±6°×17°.9W±1°.3,h33km,M4.9/33, mB5.4/24,ML5.6/33,MLv5.3/33,Mw(mB)4.9/24, Error ellipse: s-maj=0.0km s-min=0.0km az=111.7*

*GCMT **21** 11:38:49.9±0.3,34°.03S±0°.02×179°.13W±0°.02,h41km±1km, MW5.0/78,Moment Tensor Solution. s47,c61; s78,c102; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.04±.21; Mθθ0.56±.15; Mϕϕ-3.60±.14; Mrθ-0.20±.14; Mrϕ-1.02±.11; Mθϕ1.80±.12; Best double couple: M03.90300×10^16^ NP1:ϕS206.00000°,δ59.00000°,λ77.00000°. NP2: ϕS206.00000°,δ33.00000°,λ111.00000°. Principal axes: T 3.5640, Plg72.0000°, Azm240.0000°; N 0.6790, Plg11.0000°, Azm9.0000°; P -4.2420, Plg13.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **21** 11:38:49.9±1.4,33°.98S±0°.05×179°.3W±0°.2,h40km±12km, mb4.5/23 Error ellipse: s-maj=22.4km s-min=4.8km az=76.0*

*IDC **21** 11:38:50.5±2.2,33°.66S×179°.44W,h57km±18km,mb4.3/6, mbtmp4.5/6,ML5.3/1,MS4.1/41,Error ellipse: s-maj=21.0km s-min=15.9km az=107.0*

ISC 21 11:38:48.3±0.5,33°.96S±0°.05×178°.96W±0°.08,h50km, n204,σ1s79/178,mb4.6/17,MS4.2/42,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
MXZ	**Matakaoa Point**	**4.23**	**211**	P	**Pn**	**11**	**39**	**49.0**	**-1.1**
MXZ	**Matakaoa Point**	**4.23**	**211**		**Pn**	**11**	**39**	**49.1**	**-1.1**
MXZ	**Matakaoa Point**	**4.23**	**211**	P	**Pn**	**11**	**39**	**49.0**	**-1.1**
MXZ				S	**Sn**	**11**	**40**	**38.0**	**-0.3**
WMGZ	**Waiomatatini S**	**4.40**	**208**	P	**Pn**	**11**	**39**	**52.3**	**-0.2**
PKGZ	**Pakihiroa**	**4.60**	**211**	P	**Pn**	**11**	**39**	**54.5**	**-0.9**
PKGZ				S	**Sn**	**11**	**40**	**47.4**	**-0.1**
HAZ	**Te Kaha**	**4.62**	**214**	P	**Pn**	**11**	**39**	**55.1**	**-0.5**
HAZ				S	**Sn**	**11**	**40**	**49.7**	**+1.8**
PUZ	**Puketiti**	**4.68**	**208**	P	**Pn**	**11**	**39**	**54.9**	**-1.5**
PUZ				S	**Sn**	**11**	**40**	**49.1**	**-0.4**
WIZ	**White Island**	**4.74**	**220**	P	**Pn**	**11**	**39**	**57.4**	**+0.2**
WSRZ	**White Island S**	**4.74**	**220**	P	**Pn**	**11**	**39**	**59.7**	**+2.4**
GLKZ	**Green Lake**	**4.76**	**11**	P	**Pn**	**11**	**39**	**55.0**	**-2.6**
GLKZ				S	**Sn**	**11**	**40**	**51.8**	**+0.3**
RAO	**Raoul Island**	**4.77**	**11**	P	**Pn**	**11**	**39**	**56.9**	**-0.8**
	138nm,0.3s,baz=270,slow=20,SNR=2.2								
RAO				S	**Sn**	**11**	**40**	**49.0**	**-2.8**
	375nm,0.3s,baz=172,slow=22,SNR=2.2								
RUGZ	**Raukumara Rang**	**4.84**	**213**	P	**Pn**	**11**	**39**	**57.6**	**-1.1**
RUGZ				S	**Sn**	**11**	**40**	**54.5**	**+1.0**
TWGZ	**Tauwhareparae**	**4.88**	**210**	P	**Pn**	**11**	**39**	**57.9**	**-1.3**
CNGZ	**Carnagh Station**	**5.06**	**206**	P	**Pn**	**11**	**40**	**00.7**	**-1.0**
CNGZ				S	**Sn**	**11**	**41**	**00.4**	**+1.6**
WHRZ	**Whale Island**	**5.10**	**219**	P	**Pn**	**11**	**40**	**03.8**	**+1.6**
MYRZ	**Mayor Island**	**5.12**	**228**	P	**Pn**	**11**	**40**	**05.0**	**+2.5**
TKGZ	**Te Karaka**	**5.16**	**209**	P	**Pn**	**11**	**40**	**01.4**	**-1.6**
TKGZ				S	**Sn**	**11**	**41**	**01.8**	**+0.6**
MWZ	**Matawai**	**5.21**	**212**	P	**Pn**	**11**	**40**	**02.0**	**-1.7**
MWZ				S	**Sn**	**11**	**41**	**01.7**	**-0.8**
URZ	**Urewera**	**5.34**	**215**	P	**Pn**	**11**	**40**	**05.0**	**-0.5**
URZ	**Urewera**	**5.34**	**215**	P	**Pn**	**11**	**40**	**03.7**	**-1.8**
	58nm,0.3s,baz=29,slow=1.4,SNR=126								
URZ				S	**Sn**	**11**	**41**	**03.3**	**-2.4**
	144nm,0.5s,baz=53,slow=20,SNR=1.5								
URZ	**Urewera**	**5.34**	**215**	P	**Pn**	**11**	**40**	**03.8**	**-1.7**
URZ				S	**Sn**	**11**	**41**	**04.1**	**-1.5**
RAGZ	**Rawiri**	**5.39**	**212**	P	**Pn**	**11**	**40**	**04.4**	**-1.8**
RAGZ				S	**Sn**	**11**	**41**	**07.6**	**+0.5**
TGRZ	**Tauranga**	**5.41**	**225**	P	**Pn**	**11**	**40**	**06.6**	**+0.2**
EDRZ	**Edgecumbe**	**5.41**	**219**	P	**Pn**	**11**	**40**	**06.3**	**-0.2**
RIGZ	**Rimuhau**	**5.43**	**208**	P	**Pn**	**11**	**40**	**04.3**	**-2.4**
RIGZ				S	**Sn**	**11**	**41**	**08.3**	**+0.5**
PRGZ	**Paritu Road**	**5.57**	**206**	P	**Pn**	**11**	**40**	**06.6**	**-2.0**
MKRZ	**Makatiti**	**5.58**	**220**	P	**Pn**	**11**	**40**	**12.1**	**+3.3**
OMRZ	**Omania**	**5.61**	**221**	P	**Pn**	**11**	**40**	**12.0**	**+2.9**
KARZ	**Kaharoa**	**5.62**	**222**	P	**Pn**	**11**	**40**	**09.8**	**+0.5**
TARZ	**Mount Tarawera**	**5.63**	**219**	P	**Pn**	**11**	**40**	**11.3**	**+1.8**
SNGZ	**Shannon Statio**	**5.66**	**211**	P	**Pn**	**11**	**40**	**09.5**	**-0.4**
SNGZ				S	**Sn**	**11**	**41**	**12.9**	**-0.7**
KMRZ	**Kaimai**	**5.67**	**225**	P	Pn	11	40	14.3	+4.3
RTZ	**Ruatahuna**	**5.69**	**214**		**Pn**	**11**	**40**	**09.9**	**-0.4**
RTZ	**Ruatahuna**	**5.69**	**214**	P	**Pn**	**11**	**40**	**08.5**	**-1.7**
RRRZ	**Republican Roa**	**5.70**	**219**	P	**Pn**	**11**	**40**	**12.7**	**+2.3**
NGRZ	**Ngongotaha**	**5.71**	**222**	P	**Pn**	**11**	**40**	**12.0**	**+1.5**
MHGZ	**Mahia Peninsul**	**5.76**	**205**	P	**Pn**	**11**	**40**	**09.4**	**-1.9**
HSRZ	**Hossack Road**	**5.82**	**220**	P	**Pn**	**11**	**40**	**16.0**	**+3.9**
WCZ	**Waipu Caves**	**5.84**	**248**	P	**Pn**	**11**	**40**	**12.7**	**+0.4**
HRRZ	**Handcock Road**	**5.86**	**220**	P	**Pn**	**11**	**40**	**15.8**	**+3.1**
TOZ	**Tahuroa Road**	**5.87**	**228**		**Pn**	**11**	**40**	**12.9**	**+0.3**
PRRZ	**Plateau Road**	**5.88**	**218**	P	**Pn**	**11**	**40**	**12.6**	**-0.4**
RAHZ	**Arahi**	**5.88**	**212**	P	**Pn**	**11**	**40**	**11.9**	**-1.0**
GRRZ	**Galatos Road**	**5.92**	**221**	P	**Pn**	**11**	**40**	**15.6**	**+2.1**
MTHZ	**Maungataniwha**	**5.94**	**214**	P	**Pn**	**11**	**40**	**12.7**	**-1.1**
WHHZ	**Waihua**	**5.96**	**210**	P	**Pn**	**11**	**40**	**13.1**	**-0.8**
ALRZ	**Allen Road**	**5.96**	**218**	P	**Pn**	**11**	**40**	**13.8**	**-0.1**
WPRZ	**Whakapapatarin**	**6.02**	**219**	P	**Pn**	**11**	**40**	**15.7**	**+0.9**
MRHZ	**Matea Rd**	**6.13**	**216**	P	**Pn**	**11**	**40**	**14.7**	**-1.6**
NMHZ	**Naumai**	**6.16**	**212**	P	**Pn**	**11**	**40**	**16.2**	**-0.6**
KUTZ	**Kaahu Road**	**6.18**	**221**	P	**Pn**	**11**	**40**	**17.6**	**+0.6**
ARHZ	**Aropaoanui**	**6.21**	**210**	P	**Pn**	**11**	**40**	**16.5**	**-0.9**
TLZ	**Tolley Road**	**6.23**	**224**	P	**Pn**	**11**	**40**	**18.3**	**+0.6**
OUZ	**Omahuta**	**6.27**	**256**	P	**Pn**	**11**	**40**	**17.6**	**-0.6**
OUZ	**Omahuta**	**6.27**	**256**	P	**Pn**	**11**	**40**	**17.5**	**-0.6**
BKZ	**Black Stump Fm**	**6.36**	**214**	P	**Pn**	**11**	**40**	**17.9**	**-1.5**
BKZ	**Black Stump Fm**	**6.36**	**214**		**Pn**	**11**	**40**	**17.0**	**-2.4**
BKZ	**Black Stump Fm**	**6.36**	**214**	P	**Pn**	**11**	**40**	**17.9**	**-1.5**
WATZ	**Wairara**	**6.39**	**221**	P	**Pn**	**11**	**40**	**20.2**	**+0.4**
RATZ	**Rangitukua**	**6.48**	**219**	P	**Pn**	**11**	**40**	**20.4**	**-0.8**
MCHZ	**McNeill Hill**	**6.49**	**211**	P	**Pn**	**11**	**40**	**20.4**	**-0.9**
CKHZ	**Cape Kidnapper**	**6.52**	**208**	P	**Pn**	**11**	**40**	**21.6**	**0.0**
RITZ	**Rihia Road**	**6.52**	**218**	P	**Pn**	**11**	**40**	**22.1**	**+0.4**
KWHZ	**Kaweka Forest**	**6.60**	**213**	P	**Pn**	**11**	**40**	**20.7**	**-2.1**
KATZ	**Kakaramea**	**6.60**	**219**	P	**Pn**	**11**	**40**	**23.6**	**+0.7**
TMVZ	**Te Maari**	**6.70**	**218**	P	**Pn**	**11**	**40**	**23.2**	**-1.0**
NTVZ	**North Tongarir**	**6.71**	**219**	P	**Pn**	**11**	**40**	**22.8**	**-1.4**
KAHZ	**Kahuranaki**	**6.71**	**209**	P	**Pn**	**11**	**40**	**20.4**	**-3.9**
ETVZ	**East Tongariro**	**6.71**	**218**	P	**Pn**	**11**	**40**	**23.5**	**-0.9**
KRVZ	**Karewarewa**	**6.72**	**219**	P	**Pn**	**11**	**40**	**23.8**	**-0.7**
HIZ	**Hauiti**	**6.75**	**226**	P	**Pn**	**11**	**40**	**25.2**	**+0.4**
HIZ	**Hauiti**	**6.75**	**226**	P	**Pn**	**11**	**40**	**25.3**	**+0.4**
OTVZ	**Oturere**	**6.76**	**218**	P	**Pn**	**11**	**40**	**23.9**	**-1.1**
NNVZ	**North Ngauruho**	**6.76**	**219**	P	**Pn**	**11**	**40**	**25.3**	**+0.2**
WTVZ	**West Tongariro**	**6.76**	**219**	P	**Pn**	**11**	**40**	**24.5**	**-0.5**
SNVZ	**South Ngauruho**	**6.79**	**218**	P	**Pn**	**11**	**40**	**24.3**	**-1.1**
KRHZ	**Kereru**	**6.80**	**212**	P	**Pn**	**11**	**40**	**23.0**	**-2.5**
NGZ	**Ngauruhoe**	**6.80**	**218**	P	**Pn**	**11**	**40**	**25.3**	**-0.3**
TWVZ	**Taurewa**	**6.81**	**220**	P	**Pn**	**11**	**40**	**24.7**	**-1.0**
BHHZ	**Black Hill Sta**	**6.81**	**214**	P	**Pn**	**11**	**40**	**24.2**	**-1.5**
TUVZ	**Tukino**	**6.84**	**218**	P	**Pn**	**11**	**40**	**25.5**	**-0.7**
COVZ	**Chateau Observ**	**6.85**	**219**	P	**Pn**	**11**	**40**	**26.9**	**+0.6**
FWVZ	**Far West T-bar**	**6.88**	**218**	P	**Pn**	**11**	**40**	**25.8**	**-1.0**
WHVZ	**Whangaehu Hut**	**6.89**	**218**	P	**Pn**	**11**	**40**	**28.7**	**+1.8**
MAVZ	**Matarangi**	**6.89**	**218**	P	**Pn**	**11**	**40**	**29.2**	**+2.2**
MOVZ	**Moawhango**	**6.90**	**216**	P	**Pn**	**11**	**40**	**25.1**	**-1.8**
WNVZ	**Wahianoa**	**6.92**	**218**	P	**Pn**	**11**	**40**	**25.6**	**-1.6**
TRVZ	**Turoa**	**6.92**	**218**	P	**Pn**	**11**	**40**	**27.5**	**+0.2**
PXZ	**Pawanui**	**6.92**	**208**	P	**Pn**	**11**	**40**	**25.6**	**-1.5**
PKVZ	**Pokaka**	**7.02**	**219**	P	**Pn**	**11**	**40**	**27.6**	**-0.9**
PNHZ	**Pukenui**	**7.09**	**212**	P	**Pn**	**11**	**40**	**27.0**	**-2.6**
WPHZ	**Waipukurau**	**7.12**	**210**	P	**Pn**	**11**	**40**	**28.3**	**-1.5**
PRHZ	**Porangahau**	**7.21**	**208**	P	**Pn**	**11**	**40**	**29.0**	**-2.1**
VRZ	**Vera Road**	**7.22**	**223**	P	**Pn**	**11**	**40**	**30.5**	**-0.6**
TSZ	**Takapari Road**	**7.32**	**212**	P	**Pn**	**11**	**40**	**29.7**	**-2.9**
DVHZ	**Dannevirke**	**7.43**	**210**	P	**Pn**	**11**	**40**	**31.8**	**-2.3**
ANWZ	**Angora Road**	**7.44**	**208**	P	**Pn**	**11**	**40**	**32.2**	**-2.0**
WAZ	**Wanganui**	**7.55**	**218**	P	**Pn**	**11**	**40**	**34.0**	**-1.8**
POWZ	**Post Office Ro**	**7.68**	**212**	P	**Pn**	**11**	**40**	**36.8**	**-0.6**
NEZ	**North Egmont**	**7.70**	**224**	P	**Pn**	**11**	**40**	**40.6**	**+2.8**
BFZ	**Birch Farm**	**7.72**	**208**	P	**Pn**	**11**	**40**	**34.0**	**-4.1**
BFZ	**Birch Farm**	**7.72**	**208**	P	**Pn**	**11**	**40**	**33.8**	**-4.3**
PRWZ	**Pori Road**	**7.72**	**210**	P	**Pn**	**11**	**40**	**35.7**	**-2.4**
MRZ	**Mangatainoka R**	**7.98**	**211**	P	**Pn**	**11**	**40**	**36.9**	**-4.8**
HOWZ	**Holdsworth Sta**	**8.20**	**211**	P	**Pn**	**11**	**40**	**41.0**	**-3.7**
TMWZ	**Te Maipa**	**8.22**	**208**	P	**Pn**	**11**	**41**	**3.3**	**-3.7**
OGWZ	**Otaki Gorge**	**8.29**	**213**	P	**Pn**	**11**	**40**	**41.5**	**-4

MJAR	**Matsushiro Arr**	**80.72**	**326**	LR	LR	12 24 18.7	
	comp=Z,37nm,19.1s,baz=149,slow=34						
JNU	**Nakatsue**	**81.69**	**319**	LR	LR	12 21 23.8	
	comp=Z,74nm,20.1s,baz=70,slow=31						
ASAJ	**Asahikawa**	**85.23**	**333**	LR	LR	12 22 36.3	
	comp=Z,152nm,21.0s,baz=172,slow=31						
SHEM	**Shemya Is, Ala**	**86.53**	**356**	LR	LR	12 24 00.2	
	comp=Z,214nm,20.8s,baz=58,slow=31						
KSRS	**Korea Array**	**86.54**	**320**	LR	LR	12 27 57.3	
	comp=Z,28nm,19.4s,baz=160,slow=34						
LPIG	**La Paz**	**87.09**	**58**	LR	LR	12 25 59.3	
	comp=Z,104nm,18.1s,baz=222,slow=32						
PETK	**Petropavlovsk-**	**89.05**	**346**	P	**P**	**11 51 38.8**	**+1.4**
	comp=Z,2.7nm,0.7s,baz=142,slow=6.2,SNR=8.7						
PETK				LR	LR	12 30 42.9	
	comp=Z,50nm,18.2s,baz=148,slow=35						
	comp=Z,2.7nm,0.7s						
PFO	**Pinyon Flats O**	**89.20**	**48**	LR	LR	12 28 10.1	
	comp=Z,89nm,18.1s,baz=226,slow=33						
USRK	**Ussuriysk Ar.**	**89.68**	**327**	LR	LR	12 29 19.3	
	comp=Z,50nm,18.5s,baz=109,slow=34						
NVAR	**Mina Array Bea**	**91.39**	**43**	P	**P**	**11 51 50.9**	**+1.9**
NVAR				LR	LR	12 25 21.9	
	comp=Z,101nm,21.0s,baz=234,slow=30						
	comp=Z,1.0nm,0.9s						
LVC	**Limon Verde**	**92.91**	**120**	LR	LR	12 25 08.9	
	comp=Z,136nm,21.2s,baz=218,slow=30						
NNA	**Nana**	**93.21**	**107**	LR	LR	12 24 52.9	
	comp=Z,214nm,21.3s,baz=222,slow=30						
KLR	**Kul'dur**	**93.70**	**330**	LR	LR	12 32 01.7	
	comp=Z,75nm,18.4s,baz=162,slow=34						
CMAR	**Chiang Mai Arr**	**93.81**	**290**	LR	LR	12 35 23.1	
	comp=Z,244nm,20.1s,baz=160,slow=36						
KDAK	**Kodiak Island**	**94.05**	**14**	LR	LR	12 29 46.2	
	comp=Z,50nm,18.8s,baz=221,slow=33						
CMIG	**Matias Romero**	**94.61**	**73**	LR	LR	12 25 08.0	
	comp=Z,64nm,20.7s,baz=190,slow=29						
ELK	**Elko**	**94.70**	**43**	LR	LR	12 27 45.7	
	comp=Z,101nm,20.6s,baz=224,slow=31						
ATAH	**Atahualpa**	**94.74**	**102**	LR	LR	12 25 19.7	
	comp=Z,78nm,21.4s,baz=235,slow=29						
TXAR	**Lajitas Array**	**94.98**	**58**	LR	LR	12 30 21.0	
	comp=Z,59nm,18.5s,baz=216,slow=32						
MA2	**Magadan**	**96.50**	**345**	LR	LR	12 31 34.5	
	comp=Z,76nm,20.3s,baz=166,slow=33						
BBB	**Bella Bella**	**96.60**	**29**	LR	LR	12 30 49.6	
	comp=Z,55nm,18.9s,baz=230,slow=32						
CPUP	**Villa Florida**	**98.39**	**129**	LR	LR	12 28 50.3	
	comp=Z,155nm,21.8s,baz=224,slow=30						
NEW	**Newport**	**98.72**	**37**	LR	LR	12 28 08.3	
	comp=Z,68nm,20.5s,baz=206,slow=30						
JTS	**Las Juntas de**	**98.97**	**84**	LR	LR	12 27 14.6	
	comp=Z,66nm,20.9s,baz=254,slow=29						
PDAR	**Pinedale Array**	**99.25**	**44**	LR	LR	12 32 23.9	
	comp=Z,66nm,18.6s,baz=241,slow=32						
MKAR	**Makanchi Array**	**119.39**	**309**	PKP	**PKPdf**	**11 57 31.2**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=203,slow=0.9,SNR=7.7						
ZALV	**Zalesovo Beam**	**120.11**	**317**	PKP	**PKPdf**	**11 57 31.6**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=177,slow=5.6,SNR=2.5						
KURBB	**Kurchatov Arra**	**122.91**	**312**	PKP	**PKPdf**	**11 57 38.0**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=114,slow=2.1,SNR=11						
BVAR	**Borovoye Array**	**128.33**	**314**	PKP	**PKiKP**	**11 57 49.1**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=132,slow=1.6,SNR=13						
SPITS	**Spitsbergen Ar**	**135.18**	**356**	PKP	**PKPdf**	**11 58 01.4**	**+0.4**
	comp=Z,17nm,0.9s,baz=53,slow=5.6,SNR=5.8						
ARCES	**ARCESS Array B**	**141.86**	**346**	PKP	**PKPdf**	**11 58 13.9**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=33,slow=2.0,SNR=8.3						
JOF	**Joensuu**	**145.37**	**336**	*e*P	**PKPab**	**11 58 20.3**	**+0.4**
VAF	**Ylistaro**	**147.89**	**342**	*e*P	**PKPbc**	**11 58 25.9**	**-1.0**
KEF	**Keuruu**	**147.97**	**339**	*e*P	**PKPbc**	**11 58 27.4**	**+0.2**
FINES	**FINESS Array B**	**148.15**	**337**	PKPbc	**PKPbc**	**11 58 27.5**	**-0.3**
	comp=Z,7.0nm,0.5s,baz=40,slow=4.9,SNR=58						
MMAI	**Mount Meron Ar**	**151.40**	**278**	PKPbc	**PKiKP**	**11 58 37.4**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=80,slow=6.0,SNR=3.8						
UPP	**Uppsala**	**151.89**	**342**	*e*P	**PKPdf**	**11 58 30.8**	**+0.5**
NOA	**NORSAR Array B**	**152.11**	**349**	PKPbc	**PKiKP**	**11 58 37.3**	**-0.4**
	comp=Z,5.6nm,1.0s,baz=15,slow=4.6,SNR=13						
HFS	**Hagfors**	**152.53**	**346**	PKPbc	**PKiKP**	**11 58 38.5**	**-0.1**
	comp=Z,4.8nm,0.5s,baz=64,slow=3.4,SNR=11						
VIKU	**Vikbolandet**	**153.30**	**342**	*e*P	**PKPdf**	**11 58 35.4**	**+2.9**
AKASG	**Malin Array Be**	**153.50**	**318**	PKPbc	**PKiKP**	**11 58 40.5**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=40,slow=2.1,SNR=6.8						
TORD	**Torodi Ar. Bea**	**159.28**	**182**	PKPab	**PKPab**	**11 59 20.8**	**+2.0**
	comp=Z,2.3nm,0.8s,baz=124,slow=4.0,SNR=8.4						

IDC 21 11:51:49.8±302.0, 53°.91N×44°.43E, h0km, Error ellipse: s-maj=166.5km s-min=100.5km az=146.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.99**	**307**	I	I	12 23 10.0	
	baz=121,slow=331,SNR=1.6						
I46RU	**ZALESOVO INFRA**	**23.56**	**73**	I	I	14 16 32.8	
	baz=286,slow=308,SNR=1.9						
I34MN	**SONGINO INFRAS**	**38.48**	**73**	I	I	15 46 40.0	
	baz=304,slow=328,SNR=0.4						

TAP 21 12:05:53.1, 25°.07N×122°.88E, h52km±1km, ML3.7, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.61**	**168**	*e*P	Pn	12 06 06.6	+0.8
YOJ	baz=169			*i* S	Sn	12 06 15.3	+0.3
TWB1	**Santiao Chiao**	**0.81**	**266**	*i* P	Pn	12 06 08.1	-0.1
TWB1	baz=266			*i* S	Sn	12 06 19.4	+0.1
EOS2	**EOS2**	**0.87**	**222**	P	Pn	12 06 10.7	+1.8
EOS2	baz=227			*i* S	Sn	12 06 22.4	+1.7
EGS	baz=227	**0.88**	**256**	*e*P	Pn	12 06 10.0	+0.7
SXI1	baz=256 **Grass Mountain**	**0.91**	**272**	P	Pn	12 06 09.1	-0.6
PCYT	baz=267 **Pengchaiyu**	**0.92**	**308**	P	Pn	12 06 10.5	+0.8
EOS3	baz=308 **EOS3**	**0.93**	**213**	P	Pn	12 06 12.1	+2.4
EOS3	baz=217			S	Sn	12 06 23.9	+2.0
TIPB	baz=217 **Shuangxi**	**0.96**	**265**	P	Pn	12 06 10.6	+0.3
TIPB	baz=259			*e*S	Sn	12 06 20.9	-2.0
NWF	baz=259 **Wu-fen Shan**	**0.99**	**271**	P	Pn	12 06 11.4	+0.6
NWF	baz=271			S	Sn	12 06 23.2	-0.7
WFSB	baz=271 **Wu-fen Shan**	**0.99**	**271**	P	Pn	12 06 10.7	0.0
WFSB	baz=271			S	Sn	12 06 23.5	-0.3
TWC	baz=271 **Suao**	**1.04**	**244**	*i* P	Pn	12 06 11.6	+0.3
TWC	baz=250			*i* S	Sn	12 06 24.3	-0.5
ESAO	baz=250 **Su ao**	**1.06**	**243**	P	Pn	12 06 12.6	+1.1
ESAO	baz=243			*e*S	Sn	12 06 24.9	-0.4
NDS	baz=243 **Dongshan**	**1.14**	**248**	*e*P	Pn	12 06 13.9	+1.2
NDS	baz=248			*e*S	Sn	12 06 28.5	+1.2
TWE	baz=248 **Neicheng**	**1.15**	**253**	P	Pn	12 06 15.2	+2.3
TWE	baz=244			S	Sn	12 06 28.0	+0.5
EWUT	baz=244 **Wuta**	**1.17**	**239**	*e*P	Pn	12 06 15.3	+2.1
EWUT	baz=238			S	Sn	12 06 28.1	0.0
TWY	baz=238 **Chenhua**	**1.18**	**281**	*e*P	Pn	12 06 13.4	+0.2
YM01	baz=281 **YM01**	**1.19**	**274**	*e*P	Pn	12 06 14.3	+0.9
ENA	baz=274 **Nanau**	**1.21**	**239**	*i* S	Sn	12 06 29.7	+0.6
EAHA	baz=238 **Aohua**	**1.27**	**235**	*e*S	Sn	12 06 31.6	+1.2
	baz=242						
NWLT	**Wulai**	**1.28**	**257**	*e*P	Pn	12 06 14.6	-0.1
	baz=258						
NDT	**Datong Townshi**	**1.32**	**250**	*e*S	Sn	12 06 33.2	+1.5
	baz=250						
LATG	**Datong**	**1.33**	**247**	*e*P	Pn	12 06 16.5	+1.0
LATG	baz=247			*e*S	Sn	12 06 33.0	+0.8
NSK	baz=247 **Sanguang**	**1.43**	**255**	*e*S	Sn	12 06 37.0	+2.5
ETL	baz=266 **Fush Village**	**1.45**	**232**	*e*S	Sn	12 06 36.7	+1.7
NACB	baz=232 **Ninganchiao**	**1.47**	**233**	*e*P	Pn	12 06 19.2	+2.1
NACB	baz=220			*e*S	Sn	12 06 36.9	+1.7
NNSB	baz=220 **Datong**	**1.50**	**245**	*e*S	Sn	12 06 38.0	+1.8
NNS	baz=245 **Nan Shan**	**1.50**	**246**	*e*S	Sn	12 06 38.8	+2.5
ETLH	baz=246 **Xiulin Townshi**	**1.53**	**236**	*e*S	Sn	12 06 39.2	+2.3
LXIB	baz=224 **Xiulin Townshi**	**1.69**	**232**	*e*S	Sn	12 06 43.0	+2.1
FUSS	baz=232 **Fushou**	**1.69**	**242**	*e*S	Sn	12 06 44.6	+3.4
WHF	baz=245 **Hehuan Shan**	**1.73**	**238**	*e*S	Sn	12 06 44.6	+2.3
	baz=226						

*JMA **21** 12:09:28.7±0.2, 23°.9N±1°.0×122°.3E±0°.4, h25km±4km, MV2.8/12, TAIWAN REGION*
*TAP **21** 12:09:28.3, 23°.94N×122°.27E, h13km, ML2.9, C*
ISC 21 12:09:28.6±1.1, 23°.92N±0°.03×122°.28E±0°.02, h18km±4km, n90, σ0°.44/107, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.20**	**10**	*i* P	**Pg**	**12 09 33.2**	**-0.1**
EOS4	baz=14			*e*S	**Sg**	**12 09 36.8**	**+0.2**
EOS3	**EOS3**	**0.37**	**6**	*i* P	**Pg**	**12 09 36.1**	**-0.1**
EOS3	baz=7.0			*i* S	**Sg**	**12 09 41.6**	**+0.2**
EOS2	**EOS2**	**0.50**	**355**	*i* P	**Pb**	**12 09 38.7**	**0.0**
EOS2	baz=356			S	**Sb**	**12 09 45.9**	**+0.2**
EAHA	baz=356 **Aohua**	**0.64**	**310**	*e*P	**Pg**	**12 09 41.9**	**+0.6**
TWD	baz=308 **Chiawan**	**0.65**	**285**	*e*P	**Pg**	**12 09 41.4**	**+0.1**
TWD	baz=283			*e*S	**Sg**	**12 09 50.6**	**+0.7**
ETL	**Fush Village**	**0.65**	**292**	*e*P	**Pg**	**12 09 41.6**	**+0.3**
SHUL	baz=290 **Shoufeng**	**0.67**	**259**	*e*P	**Pg**	**12 09 41.9**	**+0.1**
NACB	baz=256 **Ninganchiao**	**0.68**	**292**	P	**Pg**	**12 09 41.9**	**0.0**
NACB	**Ninganchiao**	**0.68**	**292**	*e*P	**Pb**	**12 09 41.6**	**-0.1**
EWUT	baz=290 **Wuta**	**0.70**	**319**	*e*P	**Pb**	**12 09 41.7**	**-0.5**
ENA	baz=318 **Nanau**	**0.71**	**316**	*e*P	**Pb**	**12 09 41.7**	**-0.6**
ETM	baz=315 **Tongmen**	**0.72**	**274**	*e*P	**Pb**	**12 09 42.5**	**-0.1**
ESAO	baz=272 **Su ao**	**0.77**	**329**	*e*P	**Pb**	**12 09 42.7**	**-0.7**
ESL	baz=328 **Shilin**	**0.78**	**263**	*e*P	**Pb**	**12 09 43.2**	**-0.4**
ETLH	baz=260 **Xiulin Townshi**	**0.78**	**292**	*e*P	**Pb**	**12 09 43.5**	**-0.2**
ETLH	baz=290			*e*S	**Sg**	**12 09 54.7**	**+0.3**
TWC	baz=290 **Suao**	**0.79**	**330**	*e*P	**Pb**	**12 09 42.7**	**-1.1**
LXIB	baz=330 **Xiulin Townshi**	**0.80**	**278**	*e*P	**Pb**	**12 09 43.9**	**-0.1**
JYNG	baz=275 **Yonagunijimaku**	**0.81**	**49**	P	**Pb**	**12 09 44.0**	**-0.1**
JYNG				S	**Sn**	**12 09 56.1**	**-0.4**
EGFH	**Guangfu**	**0.82**	**253**	*e*P	**Pn**	**12 09 45.0**	**-0.2**
EGFH	baz=250			*e*S	**Sn**	**12 09 56.2**	**-0.7**
WARBT	baz=250 **Fenglin Townsh**	**0.84**	**257**	*e*P	**Pb**	**12 09 44.3**	**-0.3**
YOJ	baz=254 **Yonaguni jima**	**0.86**	**51**	P	**Pg**	**12 09 45.3**	**-0.1**
YOJ	**Yonaguni jima**	**0.86**	**51**	*e*P	**Pb**	**12 09 45.1**	**+0.2**
YOJ	baz=51 **Yonaguni jima**	**0.86**	**51**	P	**Pb**	**12 09 44.9**	**-0.1**
YOJ				S	**Sg**	**12 09 57.2**	**+0.4**
NDS	**Dongshan**	**0.88**	**324**	*e*P	**Pb**	**12 09 44.8**	**-0.5**
HGSD	baz=324 **Ruisui**	**0.89**	**242**	*e*P	**Pg**	**12 09 45.9**	**-0.1**
LATG	baz=240 **Datong**	**0.92**	**312**	*e*P	**Pb**	**12 09 45.8**	**-0.3**
WHF	baz=311 **Hehuan Shan**	**0.95**	**284**	*e*P	**Pb**	**12 09 46.6**	**-0.3**
NNSB	baz=282 **Datong**	**0.96**	**302**	*e*P	**Pb**	**12 09 46.5**	**-0.3**
EHY	baz=301 **Hungye**	**0.97**	**245**	*e*P	**Pg**	**12 09 47.3**	**-0.1**
EHY	baz=243			*e*S	**Sg**	**12 09 59.9**	**-0.3**
TWE	baz=243 **Neicheng**	**0.97**	**325**	*e*P	**Pb**	**12 09 46.8**	**-0.1**
NDT	baz=325 **Datong Townshi**	**0.98**	**314**	P	**Pb**	**12 09 46.9**	**-0.1**
NNS	baz=313 **Nan Shan**	**0.98**	**302**	P	**Pb**	**12 09 46.8**	**-0.2**
NNS	baz=301			*e*S	**Sg**	**12 10 00.1**	**-0.4**
FUSS	**Fushou**	**1.00**	**289**	*e*P	**Pb**	**12 09 47.4**	**-0.2**
FUSS	baz=288			*e*S	**Sg**	**12 10 01.2**	**-0.1**
OWD	baz=288 **Renai**	**1.01**	**272**	*e*P	**Pb**	**12 09 47.5**	**-0.1**
CHGB	baz=270 **Renai**	**1.02**	**278**	*e*P	**Pb**	**12 09 47.6**	**-0.2**
YULB	baz=276 **Yu-li**	**1.04**	**240**	P	**Pn**	**12 09 48.2**	**-0.1**
YULB	**Yu-li**	**1.04**	**240**	*e*P	**Pn**	**12 09 48.1**	**-0.2**
YULB	baz=238			*e*S	**Sn**	**12 10 01.8**	**-0.5**
EYUL	baz=238 **Yuli**	**1.05**	**237**	*e*P	**Pg**	**12 09 48.5**	**-0.4**
EYUL	baz=235			*e*S	**Sg**	**12 10 02.9**	**+0.2**
FUSB	baz=235 **Fushanzhiwuyua**	**1.05**	**323**	P	**Pb**	**12 09 48.1**	**-0.1**
VWDT	baz=322 **VWDT**	**1.05**	**261**	*e*P	**Pn**	**12 09 48.3**	**-0.1**
TWF1	baz=259 **Yuli**	**1.06**	**238**	*e*P	**Pn**	**12 09 48.6**	**+0.1**
WUSB	baz=236 **Renai**	**1.06**	**274**	*e*P	**Pb**	**12 09 48.3**	**-0.2**
TDCB	baz=272 **Techi**	**1.08**	**288**	*e*P	**Pn**	**12 09 48.8**	**0.0**
NWLT	baz=287 **Wulai**	**1.11**	**321**	*e*P	**Pn**	**12 09 49.1**	**-0.1**
YHNB	baz=320 **Yeheng**	**1.11**	**312**	P	**Pn**	**12 09 48.9**	**-0.4**
YHNB	**Yeheng**	**1.11**	**312**	*e*P	**Pn**	**12 09 48.9**	**-0.4**
TIPB	baz=311 **Shuangxi**	**1.13**	**339**	*e*P	**Pn**	**12 09 49.2**	**-0.2**
NSK	baz=338 **Sanguang**	**1.13**	**312**	*e*P	**Pn**	**12 09 49.1**	**-0.4**
FULB	baz=311 **Fuli**	**1.15**	**232**	*e*P	**Pg**	**12 09 51.2**	**+0.4**
FULB	baz=230			*e*S	**Sg**	**12 10 06.4**	**+0.4**
SSLB	baz=230 **Suanglung**	**1.22**	**264**	P	**Pb**	**12 09 51.0**	**-0.1**
SSLB	**Suanglung**	**1.22**	**264**	*e*P	**Pn**	**12 09 50.7**	**-0.1**
SXI1	baz=262 **Grass Mountain**	**1.23**	**343**	*e*P	**Pn**	**12 09 50.1**	**-0.8**
NWF	baz=342 **Wu-fen Shan**	**1.23**	**339**	*e*P	**Pb**	**12 09 51.1**	**-0.3**
EHD	baz=338 **Haiduan**	**1.25**	**232**	*e*P	**Pn**	**12 09 50.9**	**-0.2**
WCS	baz=231 **Beigang Elemen**	**1.26**	**277**	*e*P	**Pb**	**12 09 51.5**	**-0.3**
SMLT	baz=275 **Sun Moon Lake**	**1.26**	**269**	*e*P	**Pb**	**12 09 51.6**	**-0.3**
	baz=267						
WHP	**Taichung City**	**1.27**	**287**	*e*P	**Pg**	**12 09 52.8**	**-0.3**
NFF	baz=285 **Wufeng Townshi**	**1.28**	**304**	*e*P	**Pb**	**12 09 52.0**	**-0.1**
TATO	baz=303 **Taipei**	**1.28**	**326**	P	**Pb**	**12 09 52.3**	**+0.2**
TYC	**Yuchr**	**1.30**	**270**	*e*P	**Pb**	**12 09 52.2**	**-0.3**
WHYT	baz=268 **Xinyi Township**	**1.32**	**261**	*e*P	**Pb**	**12 09 53.1**	**+0.3**
NSTT	baz=259 **Nanjuang**	**1.36**	**302**	*e*P	**Pb**	**12 09 53.5**	**-0.1**
NSTT	baz=300			*e*S	**Sb**	**12 10 11.2**	**+0.5**
ELDTW	**Lidau**	**1.37**	**238**	*e*P	**Pn**	**12 09 52.9**	**+0.1**
YM01	baz=236 **YM01**	**1.38**	**332**	*e*P	**Pn**	**12 09 53.3**	**+0.3**
HATJ	baz=332 **Hateruma jima**	**1.40**	**84**	S	**Sn**	**12 10 11.0**	**-0.2**
ALS	**Alishan**	**1.41**	**254**	*e*P	**Pb**	**12 09 53.9**	**-0.6**
YM08	baz=252 **YM08**	**1.41**	**334**	*e*P	**Pn**	**12 09 53.3**	**-0.1**
WJS	baz=333 **Zhushan**	**1.42**	**266**	*e*P	**Pb**	**12 09 54.8**	**+0.2**
TWQ1	baz=265 **Liyutan**	**1.44**	**288**	*e*P	**Pb**	**12 09 55.0**	**+0.1**
LONT	baz=286 **Longtian**	**1.46**	**227**	*e*P	**Pb**	**12 09 54.5**	**-0.7**
NSY	baz=225 **Sanyi**	**1.47**	**290**	*e*P	**Pb**	**12 09 55.2**	**-0.2**
TWGBT	baz=289 **Beinan**	**1.55**	**225**	*e*P	**Pn**	**12 09 55.8**	**+0.5**
TWG	baz=224 **Pinlang**	**1.56**	**226**	*e*P	**Pb**	**12 09 56.1**	**-0.7**
STYH	baz=224 **Taoyuan**	**1.57**	**242**	*e*P	**Pb**	**12 09 56.2**	**-0.8**
WCKO	baz=240 **Fanlu**	**1.61**	**253**	*e*P	**Pb**	**12 09 57.2**	**-0.5**
TPUB	baz=251 **Ta-pu**	**1.63**	**248**	*e*P	**Pb**	**12 09 58.3**	**+0.1**
CHN4	baz=247 **Tsaushan**	**1.65**	**250**	*e*P	**Pb**	**12 09 58.5**	**+0.1**
WTP	baz=249 **Ta-pu**	**1.67**	**247**	*e*P	**Pb**	**12 09 58.4**	**-0.4**
WRL	baz=245 **Guolierlin Hig**	**1.74**	**270**	*e*P	**Pb**	**12 09 59.8**	**-0.1**
WRL	baz=268			*e*S	**Sb**	**12 10 22.5**	**+1.0**
WTK	baz=268 **Tuku**	**1.75**	**263**	*e*P	**Pb**	**12 09 59.5**	**-0.6**
SLGT	baz=261 **Liugui**	**1.76**	**239**	*e*P	**Pb**	**12 10 00.4**	**+0.1**
JIJ	baz=237 **Ishigaki jima**	**1.76**	**75**	P	**Pn**	**12 09 57.4**	**-0.7**
JIJ				*e*S	**Sn**	**12 10 20.4**	**+0.4**
CHN1	**Nanshi**	**1.76**	**246**	*e*P	**Pb**	**12 09 59.6**	**-0.8**
TWK	baz=244 **Hsinying**	**1.77**	**249**	*e*P	**Pb**	**12 09 59.6**	**-0.8**
SNST	baz=247 **Tainan City**	**1.78**	**247**	*e*P	**Pb**	**12 09 59.7**	**-0.9**
ECL	baz=246 **Taimali**	**1.79**	**223**	*e*P	**Pb**	**12 10 00.1**	**-0.8**
TSMG	baz=221 **Majia**	**1.93**	**232**	*e*P	**Pb**	**12 10 02.1**	**-1.1**
JISG	baz=230 **Ishigakijimahi**	**1.97**	**70**	*e*S	**Sn**	**12 10 25.9**	**+0.6**
MASBT	**Mashibuluo**	**2.00**	**230**	*e*P	**Pn**	**12 10 02.5**	**+1.2**
EAST	baz=228 **Anshuo**	**2.02**	**221**	*e*P	**Pn**	**12 10 02.8**	**+1.1**
	baz=219						

*JMA **21** 12:12:18.0±0.1, 36°.6N±0°.3×140°.8E±0°.6, h86km, MV3.3/38, E OFF IBARAKI PREF*
JMA Felt l J1 at E OFF IBARAKI PREF .
*IDC **21** 12:12:23.2±5.8, 36°.52N×140°.14E, h137km±58km, mb3.0/2, mbtmp3.4/2, Error ellipse: s-maj=98.7km s-min=58.3km az=106.0*
ISC 21 12:12:17.3±1.2, 36°.55N±0°.06×140°.86E±0°.07, h89km±8km, n14, σ0°.74/26, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.24**	**285**	⇓*i* P	**Pn**	**12 12 30.7**	**+0.3**
JHO				⇓S	**Sn**	**12 12 39.6**	**-0.5**
JHYU	**Hitachinakayam**	**0.30**	**226**	⇓*i* P	**Pn**	**12 12 31.0**	**+0.4**
JHYU				⇓S	**Sn**	**12 12 40.5**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.55**	**355**	⇓*i* P	**Pn**	**12 12 32.5**	**+0.1**
ONAJ				⇓S	**Sn**	**12 12 43.3**	**-0.5**
JFK	**Kawauchi**	**0.82**	**1**	⇓*i* P	**Pn**	**12 12 35.0**	**+0.1**
JFK				⇓S	**Sn**	**12 12 47.6**	**-0.6**
JOTO	**OTAMA OYAMA**	**1.09**	**338**	*i* P	**Pn**	**12 12 38.3**	**+0.3**
JOTO				S	**Sn**	**12 12 53.6**	**0.0**
JAG	**Ashikaga**	**1.14**	**264**	⇓*i* P	**Pn**	**12 12 38.6**	**+0.1**
JAG				⇓S	**Sn**	**12 12 53.9**	**-0.6**
JFY	**Yanaizu**	**1.26**	**313**	P	**Pn**	**12 12 40.5**	**+0.5**
JFY				S	**Sn**	**12 12 57.5**	**+0.4**
JKT	**Katashina**	**1.31**	**280**	P	**Pn**	**12 12 41.1**	**+0.4**
JKT				S	**Sn**	**12 12 59.0**	**+0.6**
JMM	**Marumori**	**1.32**	**358**	*i* P	**Pn**	**12 12 40.8**	**+0.1**
JMM				S	**Sn**	**12 12 57.8**	**-0.5**
JUON	**Uonuma**	**1.58**	**295**	P	**Pn**	**12 12 44.6**	**+0.5**
JUON				S	**Sn**	**12 13 04.3**	**0.0**
JRY	**Ryogami san**	**1.67**	**252**	P	**Pn**	**12 12 45.6**	**+0.4**
JRY				S	**Sn**	**12 13 05.9**	**-0.4**
MJAR	**Matsushiro Arr**	**2.13**	**271**	P	**Pn**	**12 12 51.6**	**+0.5**
	9.5nm,0.4s,baz=90,slow=15,SNR=29						
MJAR				S	**Sn**	**12 13 14.2**	**-2.9**
	7.8nm,0.3s,baz=120,slow=5.3,SNR=6.3						
WRA	**Warramunga Arr**	**56.52**	**187**	P	**P**	**12 21 50.1**	**-0.2**
	0.3nm,0.4s,baz=1.9,slow=7.2,SNR=11						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**60.25**	**187**	P	**P**	**12 22 16.6**	**+0.4**
	0.3nm,0.7s,baz=6.8,slow=8.6,SNR=2.2						
	0.3nm,0.7s						

*MDD **21** 12:19:01.9±0.4, 39°.72N×6°.39W, h0km, mb_Lg2.1/4, Error ellipse: s-maj=3.9km s-min=2.6km az=116.0*
*SFS **21** 12:19:02.4, 39°.90N×6°.41W, h24km, ML2.2/10, ML2.7/7, MLv2.0/10*
*INMG **21** 12:19:02.5±1.4, 39°.70N×6°.39W, h0km, ML1.8, Error ellipse: s-maj=2.6km s-min=1.9km az=82.0*
ISC 21 12:19:00.9±1.1, 39°.75N±0°.02×6°.39W±0°.02, h13km±10km, n25, σ1°.15/47, 2C-1D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPLA	**Plasencia**	**0.39**	**37**	Pg	**Pb**	**12 19 09.9**	**+0.1**
EPLA				*i* Vmb_Lg		12 19 12.8	
EPLA				Sg	**Sb**	**12 19 16.6**	**+0.8**
PMRV	**Marv??o**	**0.84**	**248**	⇑*e*P	**Pb**	**12 19 17.3**	**-0.1**
PMRV				*e*S	**Sg**	**12 19 28.3**	**+0.2**
PMRV				A	A	12 19 30.4	
	12nm,0.4s						
PCBR	**Castelo Branco**	**0.85**	**277**	*e*P	**Pn**	**12 19 19.1**	**+0.5**
PCBR				*e*S	**Sb**	**12 19 29.1**	**+0.3**
PCBR				A	A	12 19 35.0	
	12nm,0.8s						
MTE	**Manteigas**	**1.10**	**307**	*e*P	**Pn**	**12 19 23.1**	**+1.0**
MTE				*e*S	**Sn**	**12 19 37.9**	**+0.6**
MTE				A	A	12 19 39.9	
	17nm,0.5s						
EBAD	**Badajoz**	**1.10**	**206**	Sn	**Sb**	**12 19 37.0**	**+0.8**
EBAD				Pn	**Pn**	**12 19 22.5**	**+0.4**
EBAD	**Badajoz**	**1.10**	**206**	Pg	**Pn**	**12 19 22.5**	**+0.4**
EBAD				Sg	**Sb**	**12 19 36.8**	**+0.6**
EBAD				*i* Vmb_Lg		12 19 39.4	
PESTR	**Estremoz**	**1.28**	**227**	*e*P	**Pg**	**12 19 25.3**	**-0.3**
PESTR				*e*S	**Sn**	**12 19 42.4**	**+0.7**
PESTR				A	A	12 19 46.9	
	9.4nm,0.4s						
PESTR	**Estremoz**	**1.28**	**227**	Pn	**Pb**	**12 19 25.1**	**+0.2**
PESTR				Sn	**Sb**	**12 19 41.5**	**+0.1**
EJUZ	**Juzbado, Salam**	**1.39**	**16**	Sg	**Sb**	**12 19 44.6**	**+0.1**
MVO	**Moncorvo**	**1.50

PAB				Sg	Sg	12 19 52.1	+0.1	
PBAR	**Barrancos**	**1.65**	**198**	Pn	Pb	12 19 30.9	-0.3	
PBAR				Sn	Sg	12 19 53.8	-0.3	
PCAS	**Casmilo, Conde**	**1.65**	**281**	*e*P	Pb	12 19 31.7	+0.5	
PCAS				*e*S	Sg	12 19 53.6	-0.5	
PCAS				A	A	12 19 54.4		
	12nm,0.6s							
EVO	**Evora**	**1.75**	**227**	Sn	Sn	12 19 54.1	+0.8	
EVO				Pg	Pb	12 19 33.6	+0.6	
ECAB	**El Cabril**	**1.83**	**155**	Pn	Pb	12 19 33.9	-0.4	
ECAB				Sn	Sn	12 19 56.4	+1.1	
ECAB	**El Cabril**	**1.83**	**155**	Pg	Pb	12 19 34.1	-0.2	
ECAB				Sg	Sg	12 19 56.0	-0.9	
ECAB				*i* Vmb_Lg		12 20 01.4		
GUD	**Guadarrama**	**1.93**	**62**	Pg	Pg	12 19 38.5	+0.6	
GUD				Sg	Sg	12 20 03.0	+0.1	
EMIN	**Mina Concepcio**	**1.99**	**187**	Sn	Sb	12 20 00.9	-0.8	
EMIN				Pg	Pg	12 19 38.4	-0.7	
EMIN	**Mina Concepcio**	**1.99**	**187**	Sg	Sg	12 20 03.8	-1.1	
EADA	**Adamuz**	**2.12**	**138**	Pg	Pg	12 19 41.5	0.0	
EADA				Sg	Sg	12 20 08.8	-0.2	
EADA	**Adamuz**	**2.12**	**138**	Pg	Pg	12 19 40.8	-0.7	
EADA				Sg	Sg	12 20 08.8	-0.2	
EADA				*i* Vmb_Lg		12 20 15.5		
ECAL	**Calabor**	**2.21**	**353**	Sn	Sn	12 19 58.1	-6.4	
PNCL	**Nicolau / Gran**	**2.34**	**226**	Sg	Sg	12 20 15.2	-0.8	
PNCL				Pg	Pg	12 19 45.1	-0.6	
PVAQ	**Vaqueiros**	**2.56**	**204**	Pg	Pb	12 19 47.8	+1.0	
PVAQ				Sg	Sg	12 20 22.2	-1.0	

MIRAS ***21*** *12:20:21.0,54˚.81N×61˚.34E,h0km,ML2.6/3*
ISC 21 12:20:21.5±1.4,54˚.71N±0˚.07×61˚.3E±0˚.1,h10km,n5,
σ2$04/8,4D,Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KAUR	**Kamensk Uralsk**	**1.73**	**4**	*e*P		**Pn**	**12 20 51.1**	**-0.5**
	baz=3.2							
KAUR				*e*S		**Sn**	**12 21 12.4**	**-1.3**
	34nm,0.4s,baz=3.2							
KAUR				*i* AML		AML	12 21 14.2	
	107nm,1.9s							
SVE	**Sverdlovsk**	**2.16**	**350**	*e*P		**Pn**	**12 20 57.2**	**-0.3**
	20nm,0.2s,baz=349							
SVE				*e*S		**Sn**	**12 21 25.8**	**+1.6**
	baz=349							
SVE				*i* AML		AML	12 21 28.5	
	23nm,0.3s							
ARU	**Arti**	**2.32**	**319**	*e*P		**Pn**	**12 21 00.4**	**+0.6**
	9.2nm,0.4s,baz=317							
ARU				*e*S		**Sn**	**12 21 29.5**	**+1.2**
	16nm,0.5s,baz=317							
ARU				*i* AML		AML	12 21 31.1	
	23nm,1.1s							
AKTO	**Aktyubinsk**	**4.73**	**206**	⇓Pg		**Pb**	**12 21 41.4**	**-3.0**
	0.1nm,0.4s							
AKTO				⇓Lg		Lg	12 22 50.3	
	1.9nm,1.1s							
AB31	**Akbulak array**	**5.53**	**189**	⇓Pg		**Pb**	**12 22 00.3**	**+2.4**
	0.1nm,0.4s,baz=4.2,slow=14							
AB31				⇓Lg		Lg	12 23 15.9	
	3.2nm,0.7s,baz=7.0,slow=27,SNR=8.6							

MOS ***21*** *12:33:07.9±1.0,27˚.57N×56˚.64E,h13km,mb4.9/33,Error ellipse: s-maj=5.8km s-min=3.9km az=85.0*
IDC ***21*** *12:33:07.4±0.5,27˚.58N×56˚.67E,h0km,mb4.4/30, mbtmp4.4/35,ML4.3/5,MS3.8/41,Error ellipse: s-maj=12.8km s-min=11.3km az=3.0*
NEIC ***21*** *12:33:10.0±1.2,27˚.61N±0˚.04×56˚.64E±0˚.08,h10km±1km, mb4.7/80,Error ellipse: s-maj=11.8km s-min=6.7km az=254.0*
DSN ***21*** *12:33:09.3±0.8,27˚.70N×56˚.68E,h11km,mb5.3/2, ML4.4/15,Error ellipse: s-maj=16.6km s-min=7.4km az=97.0*
OMAN ***21*** *12:33:09.9±0.0,27˚.53N×56˚.70E,h10km,mb5.0/18, ml4.6/24,Error ellipse: s-maj=0.7km s-min=0.5km az=289.0*
THR ***21*** *12:33:09.9±0.9,27˚.51N×56˚.66E,h15km,ML4.8*
TEH ***21*** *12:33:10.5,27˚.61N×56˚.74E,h15km±26km,ML4.8*
ISC 21 12:33:11.4±0.9,27˚.61N±0˚.03×56˚.67E±0˚.03,h24km±7km,
n439,σ1$40/458,mb4.6/105,MS3.8/45,14C-7D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.20**	**217**	Pg		**Pb**	**12 33 16.6**	**-0.3**
BNDS	**Bandar-Abbas**	**0.49**	**245**	*e*Pg		**Pb**	**12 33 22.1**	**+0.5**
KHNJ	**Kahnooj**	**0.98**	**69**	Pg		**Pn**	**12 33 27.5**	**-2.1**
KHNJ				Sg		**Sb**	**12 33 41.1**	**-1.0**
SHME	**Shamm**	**1.62**	**197**	*e*P		**Pn**	**12 33 39.7**	**+1.2**
	SNR=216							
SHME	**Shamm**	**1.62**	**197**	P		**Pb**	**12 33 40.1**	**-0.5**
	SNR=234							
SHME				S		**Sb**	**12 34 00.1**	**-0.5**
	SNR=6.7							
BANOM	**Banah**	**1.71**	**191**	*e*P		**Pn**	**12 33 40.6**	**+0.9**
	SNR=45							
BANOM	**Banah**	**1.71**	**191**	P		**Pb**	**12 33 41.5**	**-0.7**
BANOM				S		**Sb**	**12 34 02.4**	**-0.8**
NGRK	**Negar Kerman**	**2.03**	**1**	Pn		**Pb**	**12 33 46.4**	**-1.5**
JASK	**Jask - Hormozg**	**2.03**	**148**	Pn		**Pn**	**12 33 45.2**	**+1.1**
JASK	**Jask - Hormozg**	**2.03**	**148**	P		**Pn**	**12 33 45.2**	**+1.1**
	SNR=66							
JASK				S		**Sn**	**12 34 08.4**	**-0.4**
LAR1	**LAR**	**2.04**	**272**	Pn		**Pb**	**12 33 46.6**	**-1.2**
KBAM	**BAM**	**2.19**	**45**	Pn		**Pn**	**12 33 48.3**	**+1.9**
UMQ	**Umm Al-Quwin**	**2.26**	**204**	*e*P		**Pn**	**12 33 48.1**	**+0.9**
	SNR=12							
UMQ	**Umm Al-Quwin**	**2.26**	**204**	P		**Pb**	**12 33 50.2**	**-1.3**
	SNR=11							
UMQ				S		**Sn**	**12 34 14.8**	**+0.4**
MASF	**Masafi**	**2.27**	**192**	P		**Pn**	**12 33 49.5**	**+2.0**
	SNR=186							
MASF				S		**Sn**	**12 34 14.5**	**-0.2**
MSFE	**Esma-Masafi**	**2.28**	**192**	*e*P		**Pn**	**12 33 47.7**	**+0.1**
	SNR=51							
MDH	**Madha**	**2.32**	**188**	*e*P		**Pn**	**12 33 47.7**	**-0.4**
	SNR=9.0							
MDH	**Madha**	**2.32**	**188**	P		**Pn**	**12 33 49.1**	**+1.0**
	SNR=9.0							
MDH				S		**Sn**	**12 34 16.0**	**+0.1**
KRBR	**Kerman**	**2.37**	**2**	*e*Pn		**Pb**	**12 33 52.6**	**-1.0**
KRBR				IAML			12 34 26.8	
	comp=E,4μm,0.7s							
KRBR				IAML			12 34 27.4	
	comp=N,5μm,0.5s							
CHMN	**Cheshme madani**	**2.37**	**19**	Pn		**Pb**	**12 33 51.5**	**-2.2**
TVBK	**TV Kerman**	**2.37**	**2**	Pn		**Pb**	**12 33 52.1**	**-1.5**
UOSS	**Minazif**	**2.68**	**189**			**Pn**	**12 33 52.5**	**-0.6**
UOSS	**Minazif**	**2.68**	**189**	*e*P		**Pn**	**12 33 52.8**	**-0.3**
	SNR=40							
NAZ	**Nazwa, Dubai**	**2.76**	**199**	*e*P		**Pn**	**12 33 55.8**	**+1.6**
	SNR=30							
NAZ	**Nazwa, Dubai**	**2.76**	**199**	P		**Pn**	**12 33 56.6**	**+2.4**
	SNR=54							
NAZ				S		**Sn**	**12 34 26.6**	**-0.1**
KHGB	**Koh Gabri**	**2.77**	**356**	Pn		**Pn**	**12 33 56.1**	**+1.7**
HATD	**Hatta, Dubai**	**2.81**	**190**	*e*P		**Pn**	**12 33 54.9**	**0.0**
	SNR=23							
HATD	**Hatta, Dubai**	**2.81**	**190**	P		**Pn**	**12 33 57.2**	**+2.3**
	SNR=24							
JHRM	**Jahrom**	**2.88**	**289**	Pn		**Pn**	**12 33 58.1**	**+2.2**
KRM1	**Kerman Provinc**	**2.94**	**10**	Pn		**Pn**	**12 33 58.7**	**+2.0**
ASHO	**Ashiyiah**	**2.96**	**191**	*i* P		**Pn**	**12 33 58.2**	**+1.3**
	SNR=93							
ASHO				S		**Sb**	**12 34 36.1**	**-3.2**
ASHO	**Ashiyiah**	**2.96**	**191**	P		**Pn**	**12 33 59.0**	**+2.0**
	SNR=93							
FAQ	**Al Faqa, Dubai**	**3.01**	**199**	*i* P		**Pn**	**12 33 59.7**	**+2.1**
	SNR=136							
FAQ	**Al Faqa, Dubai**	**3.01**	**199**	P		**Pn**	**12 33 59.9**	**+2.4**
	SNR=136							
LMD1	**Lamerd**	**3.13**	**266**	Pn		**Pn**	**12 34 01.6**	**+2.4**
ASUD	**Al Ashush, Dub**	**3.20**	**202**	*i* P		**Pn**	**12 34 02.5**	**+2.3**
	SNR=85							
ASUD	**Al Ashush, Dub**	**3.20**	**202**	P		**Pn**	**12 34 03.1**	**+2.8**
	SNR=85							
QIR1	**Qir**	**3.32**	**286**	Pn		**Pn**	**12 34 03.7**	**+1.8**
GHIR	**Ghir-Karzin**	**3.33**	**283**	*e*Pn		**Pn**	**12 34 04.7**	**+2.6**
ZRDN	**Zarand Kerman**	**3.35**	**358**	Pn		**Pn**	**12 34 05.5**	**+3.0**
AJN	**Ajban**	**3.39**	**207**	*i* P		**Pn**	**12 34 04.6**	**+1.9**
	SNR=82							
AJN	**Ajban**	**3.39**	**207**	P		**Pn**	**12 34 05.2**	**+2.4**
	SNR=82							
AJN				S		**Sn**	**12 34 41.7**	**-0.5**
SOHO	**SOHO**	**3.46**	**182**	*i* P		**Pn**	**12 34 02.8**	**-0.9**
	SNR=12							
ALNE	**Al Ain**	**3.63**	**193**	*i* P		**Pn**	**12 34 06.7**	**+0.6**
	SNR=19							
ALNE	**Al Ain**	**3.63**	**193**	P		**Pn**	**12 34 07.7**	**+1.6**
	SNR=19							
ALNE				S		**Sn**	**12 34 49.4**	**+1.2**
CHBR	**Chabahar**	**3.95**	**120**	*e*Pn		**Pn**	**12 34 11.3**	**+0.7**
HOQ	**Hoqain**	**4.05**	**172**	P		**Pn**	**12 34 12.4**	**+0.6**
	SNR=23							
HOQ				S		**Sn**	**12 34 58.6**	**+0.1**
ZHDN	**Zahedan**	**4.06**	**63**	Pn		**Pn**	**12 34 15.1**	**+3.0**
IBAF	**Bafgh**	**4.09**	**347**	Pn		**Pn**	**12 34 14.6**	**+2.1**
ZHSF	**Zahedan**	**4.12**	**60**	*e*Pn		**Pn**	**12 34 15.4**	**+2.3**
IMEH	**Mehriz**	**4.18**	**335**	Pn		**Pn**	**12 34 16.0**	**+2.1**
SHI	**Shiraz**	**4.18**	**300**	Pn		**Pn**	**12 34 15.9**	**+2.0**
ARQ	**Araqi**	**4.25**	**182**	P		**Pn**	**12 34 16.2**	**+1.5**
	SNR=98							
BIDO	**Bidbid**	**4.27**	**162**	P		**Pn**	**12 34 14.9**	**-0.1**
	SNR=30							
BIDO				S		**Sn**	**12 35 03.9**	**-0.2**
JRN	**Qarnain Island**	**4.34**	**233**	P		**Pn**	**12 34 17.4**	**+1.6**
	SNR=11							
MZWR	**Madinat Zayed**	**4.58**	**214**	P		**Pn**	**12 34 20.7**	**+1.5**
MZWR				S		**Sn**	**12 35 14.1**	**+2.5**
WSAR	**Wadi Sarin**	**4.69**	**157**	Pn		**Pn**	**12 34 20.2**	**-0.5**
	comp=N,105nm,0.3s,baz=350,slow=12,SNR=460							
WSAR				Sn		**Sn**	**12 35 12.8**	**-1.7**
	comp=N,68nm,0.3s,baz=0.0,slow=20,SNR=11							
WSAR				LR		LR	12 36 56.7	
	comp=N,648nm,18.4s,baz=346,slow=49							
	comp=N,235nm,0.3s							
SMDO	**Samad**	**4.70**	**164**	P		**Pn**	**12 34 21.5**	**+0.7**
	SNR=68							
SMDO				S		**Sn**	**12 35 14.6**	**-0.1**
NHDN	**Nehbandan**	**4.79**	**37**	Pn		**Pn**	**12 34 24.4**	**+2.3**
KAZ2	**Kazeron-Fars-I**	**4.84**	**296**	Pn		**Pn**	**12 34 24.2**	**+1.5**
BSRN	**Basiran**	**4.84**	**26**	*e*Pn		**Pn**	**12 34 25.6**	**+2.7**
BSRN				IAML			12 35 58.3	
	comp=E,344nm,0.6s							
DSBU	**Dashti - Bushe**	**4.84**	**280**	Pn		**Pn**	**12 34 23.9**	**+1.1**
BSY	**Bisya**	**4.86**	**174**	P		**Pn**	**12 34 25.0**	**+1.9**
	SNR=14							
BSY				S		**Sn**	**12 35 19.1**	**+0.5**
GHWR	**Ruwais**	**4.99**	**224**	P		**Pn**	**12 34 25.4**	**+0.7**
GHWR				S		**Sn**	**12 35 22.8**	**+1.1**
ISAD	**Sadrabad**	**5.02**	**330**	Pn		**Pn**	**12 34 28.1**	**+2.7**
UMZA	**Um Al Zommool**	**5.06**	**196**	P		**Pn**	**12 34 26.3**	**+0.6**
UMZA				S		**Sn**	**12 35 24.6**	**+1.2**
SRVN	**Saravan**	**5.09**	**91**	Pn		**Pn**	**12 34 28.0**	**+1.7**
YZKH	**Yazd**	**5.10**	**340**	*e*Pn		**Pn**	**12 34 28.8**	**+2.4**
YZKH				IAML			12 36 10.7	
	comp=N,323nm,0.9s							
IKOO	**Kooshah**	**5.21**	**22**	Pn		**Pn**	**12 34 30.3**	**+2.2**
JMDO	**Jabal Madar**	**5.37**	**166**	P		**Pn**	**12 34 31.3**	**+1.2**
	SNR=46							
JMDO				S		**Sn**	**12 35 30.7**	**-0.5**
WBK	**Wadi Bani Khal**	**5.39**	**157**	P		**Pn**	**12 34 30.7**	**+0.3**
	SNR=50							
WBK				S		**Sn**	**12 35 31.4**	**-0.3**
SHMA	**Al-Shehemyia**	**5.39**	**252**	P		**Pn**	**12 34 31.1**	**+0.8**
	SNR=93							
SHMA				S		**Sn**	**12 35 32.6**	**+1.0**
TPRV	**Parvadeh(Tabas**	**5.41**	**0**	Pn		**Pn**	**12 34 32.6**	**+2.0**
MZR	**Muzera**	**5.42**	**213**	*i* P		**Pn**	**12 34 31.6**	**+0.9**
	SNR=7.4							
MZR	**Muzera**	**5.42**	**213**	P		**Pn**	**12 34 31.9**	**+1.2**
	SNR=7.7							
MZR				S		**Sn**	**12 35 33.4**	**+1.1**
ITEG	**Tejag**	**5.57**	**18**	Pn		**Pn**	**12 34 35.9**	**+3.0**
KLNJ	**Kolanjah**	**5.58**	**309**	Pn		**Pn**	**12 34 35.5**	**+2.2**
BAGH	**Bagheran - Bir**	**5.61**	**22**	Pn		**Pn**	**12 34 36.0**	**+2.5**
IRAM	**Ramesheh**	**5.61**	**319**	Pn		**Pn**	**12 34 35.6**	**+2.1**
TRNA	**Turayna**	**5.68**	**241**	P		**Pn**	**12 34 35.3**	**+1.1**
	SNR=16							
TRNA				S		**Sn**	**12 35 38.4**	**-0.3**
SLWR	**Sila**	**5.70**	**233**	P		**Pn**	**12 34 34.6**	**0.0**
SLWR				S		**Sn**	**12 35 38.7**	**-0.7**
SAKB	**Bahrain**	**5.72**	**255**	P		**Pn**	**12 34 37.8**	**+3.0**
SAKB				S		**Sn**	**12 35 40.9**	**+1.3**
JLN	**Jalan Bani Buh**	**5.97**	**155**	P		**Pn**	**12 34 38.4**	**0.0**
	SNR=10							
JLN				S		**Sn**	**12 35 43.8**	**-2.2**
SMRA	**Abu-Samra**	**5.98**	**243**	P		**Pn**	**12 34 40.0**	**+1.6**
	SNR=34							
SMRA				S		**Sn**	**12 35 47.0**	**+0.9**
TKDS	**Koohdasht(Taba**	**6.00**	**4**	Pn		**Pn**	**12 34 41.3**	**+2.5**
TABS	**Tabas**	**6.04**	**4**	*e*Pn		**Pn**	**12 34 42.3**	**+3.0**
ANAR	**Anarak**	**6.12**	**336**	Pn		**Pn**	**12 34 42.3**	**+1.9**
AFRZ	**Afriz**	**6.14**	**19**	Pn		**Pn**	**12 34 43.0**	**+2.3**
NASN	**Na'in**	**6.16**	**328**	*e*Pn		**Pn**	**12 34 43.4**	**+2.2**
IGAR	**Gharneh**	**6.24**	**321**	Pn		**Pn**	**12 34 44.6**	**+2.4**
TNSJ	**Nastanj**	**6.34**	**360**	Pn		**Pn**	**12 34 46.0**	**+2.5**
IBRJ	**Brojen**	**6.37**	**314**	Pn		**Pn**	**12 34 46.4**	**+2.5**
IZEF	**Zefreh**	**6.47**	**326**	Pn		**Pn**	**12 34 46.8**	**+1.4**
MHTO	**MHTO**	**6.69**	**170**	P		**Pn**	**12 34 49.4**	**+1.2**
	SNR=44							
MHTO				S		**Sn**	**12 36 04.0**	**+0.3**
ZNGN	**Zangian**	**6.76**	**313**	Pn		**Pn**	**12 34 51.7**	**+2.3**
SHRT	**Shahrakht**	**6.78**	**26**	*e*Pn		**Pn**	**12 34 53.0**	**+3.5**
JHBN	**Jahan bin**	**6.96**	**313**	Pn		**Pn**	**12 34 54.0**	**+1.9**
IPIR	**Pirpir**	**7.12**	**317**	Pn		**Pn**	**12 34 56.0**	**+1.6**
IKLH	**Kolahrood**	**7.19**	**324**	Pn		**Pn**	**12 34 56.9**	**+1.6**
KRSH	**Karshahi**	**7.45**	**330**	Pn		**Pn**	**12 35 00.9**	**+2.2**
QAMS	**Qamsar**	**7.61**	**325**	Pn		**Pn**	**12 35 03.0**	**+1.9**
DQM	**DQM**	**7.68**	**174**	P		**Pn**	**12 35 01.5**	**-0.3**
ISFB	**Sefidab**	**7.73**	**332**	Pn		**Pn**	**12 35 04.5**	**+2.1**
KBD	**Kabd**	**8.06**	**283**	P		**Pn**	**12 35 07.4**	**+0.4**
KBD				S		**Sn**	**12 36 36.8**	**-0.6**
GHVR	**GHOM**	**8.26**	**327**	*e*Pn		**Pn**	**12 35 12.4**	**+2.6**
HRA	**Herat**	**8.28**	**34**	Pn		**Pn**	**12 35 10.2**	**0.0**
SHRO	**Shahrood**	**8.38**	**356**	*e*Pn		**Pn**	**12 35 14.9**	**+3.5**
KHMZ	**Khomeyn**	**8.41**	**318**	*e*Pn		**Pn**	**12 35 13.5**	**+1.5**
IVRN	**Varamin**	**8.49**	**331**	Pn		**Pn**	**12 35 15.5**	**+2.5**
IFIR	**Firoozkooh**	**8.68**	**338**	Pn		**Pn**	**12 35 18.2**	**+2.5**
SBZV	**Sabzevar**	**8.79**	**5**	Pn		**Pn**	**12 35 19.8**	**+2.6**
IDMV	**Damavand**	**8.88**	**335**	Pn		**Pn**	**12 35 20.6**	**+2.2**
DAMV	**Damavand**	**8.95**	**335**	*e*Pn		**Pn**	**12 35 21.6**	**+2.3**
ASAO	**Ashtian**	**8.96**	**322**	*e*Pn		**Pn**	**12 35 21.6**	**+2.0**
IHSB	**Hasanabad**	**9.06**	**331**	Pn		**Pn**	**12 35 23.3**	**+2.5**
IGLO	**Ghaloghah**	**9.19**	**346**	Pn		**Pn**	**12 35 25.3**	**+2.6**
DOK	**Doka**	**9.25**	**195**	P		**Pn**	**12 35 23.0**	**-0.3**
	SNR=7.8							
IPRN	**Peran**	**9.36**	**338**	Pn		**Pn**	**12 35 28.2**	**+3.2**
IKRD	**Kardeh**	**9.46**	**14**	Pn		**Pn**	**12 35 29.1**	**+2.8**
CHTH	**Charan**	**9.53**	**332**	*e*Pn		**Pn**	**12 35 29.5**	**+2.2**
SHAO	**Shalim**	**9.59**	**186**	*i* P		**Pn**	**12 35 26.6**	**-1.3**
	SNR=50							
SHAO	**Shalim**	**9.59**	**186**	P		**Pn**	**12 35 26.9**	**-1.1**
	SNR=50							
SHAO				P		**Pn**	**12 35 27.9**	**-0.1**
THKV	**Tehran--Karaj**	**9.64**	**331**	*e*Pn		**Pn**	**12 35 31.9**	**+3.1**
IEMG	**Emamgholi**	**9.92**	**9**	Pn		**Pn**	**12 35 35.1**	**+2.4**
DMTO	**DMTO**	**9.97**	**190**	P		**Pn**	**12 35 32.3**	**-0.9**
WHFO	**Wadi Hawf**	**10.01**	**196**	P		**Pn**	**12 35 32.8**	**-0.9**
	SNR=9.9							
MRVT	**Maraveh tapeh**	**10.04**	**357**	*e*Pn		**Pn**	**12 35 37.2**	**+3.1**
BJRD	**Bojnurd**	**10.09**	**3**	*e*Pn		**Pn**	**12 35 38.8**	**+3.9**
RBK	**Rabkut**	**10.31**	**193**	P		**Pn**	**12 35 38.9**	**+1.0**
GEYT	**Alibeck**	**10.37**	**6**			**Pn**	**12 35 39.0**	**+0.4**
GEYT	**Alibeck**	**10.37**	**6**	P		**Pn**	**12 35 39.0**	**+0.4**
GEYT	**Alibeck**	**10.37**	**6**	Pn		**Pn**	**12 35 41.0**	**+2.4**
	comp=N,0.2nm,0.3s,baz=216,slow=20,SNR=2.6							
GYA0B	**ALIBECK ARRAY**	**10.37**	**6**			**Pn**	**12 35 38.6**	**+0.1**
ABTO	**Aybut**	**10.67**	**198**	P		**Pn**	**12 35 41.8**	**-1.0**
	SNR=7.8							
ILBA	**Ilam Banvizeh**	**10.82**	**306**	*e*Pn		**Pn**	**12 35 44.0**	**-1.0**
RAYN	**Ar Rayn**	**10.87**	**251**			**Pn**	**12 35 43.0**	**-2.5**
RAYN	**Ar Rayn**	**10.87**	**251**	*i* P		**Pn**	**12 35 43.4**	**-2.1**
	SNR=24							
RAYN	**Ar Rayn**	**10.87**	**251**	P		**Pn**	**12 35 43.1**	**-2.5**
RAYN	**Ar Rayn**	**10.87**	**251**	P		**Pn**	**12 35 43.9**	**-1.7**
KBL	**Kabul**	**12.65**	**54**			**Pn**	**12 36 10.4**	**+0.4**
KBL	**Kabul**	**12.65**	**54**	P		**Pn**	**12 36 10.4**	**+0.4**
KBL	**Kabul**	**12.65**	**54**	P		**Pn**	**12 36 09.7**	**-0.3**
SIMJ	**Simiganj**	**15.09**	**40**			**Pn**	**12 36 42.9**	**-0.3**
NIL	**Nilore**	**15.48**	**63**			**Pn**	**12 36 47.7**	**-0.6**
NIL				IAmb		IAmb	12 37 07.9	
	comp=Z,72nm,1.1s							
NIL	**Nilore**	**15.48**	**63**	P		**Pn**	**12 36 47.7**	**-0.6**
NIL				pmax		pmax		
	comp=Z,72nm,1.1s							
NIL	**Nilore**	**15.48**	**63**	P		**Pn**	**12 36 48.4**	**+0.1**
GNI	**Garni**	**15.94**	**325**	Pn		**Pn**	**12 36 53.7**	**-0.5**
GNI				IAmb		IAmb	12 37 31.8	
	comp=Z,28nm,0.8s							
GNI	**Garni**	**15.94**	**325**	⇓*e*P		**Pn**	**12 36 54.8**	**+0.6**
GNI				pmax		pmax		
	comp=Z,10.0nm,0.9s							
GNI	**Garni**	**15.94**	**325**	Pn		**Pn**	**12 36 54.0**	**-0.2**
	comp=Z,1.5nm,0.3s,baz=263,slow=20,SNR=1.7							
	comp=Z,3.9nm,0.3s							
GNI	**Garni**	**15.94**	**325**	P		**Pn**	**12 36 55.1**	**+0.9**
GURO	**Guroymak-BITLI**	**16.40**	**315**			**Pn**	**12 37 00.8**	**+0.7**
MAK	**Makhachkala**	**17.03**	**336**	*e*P		**Pn**	**12 37 08.5**	**+0.6**
MAK				*e*S		**Sn**	**12 40 17.8**	**+1.3**
MAK				pmax		pmax		
	comp=Z,132nm,1.0s							
MAK				MLR		MLR		
	comp=Z,216nm,16.0s							
BTK	**Batken**	**17.07**	**40**	P		**Pn**	**12 37 08.1**	**-0.4**
BTK	**Batken**	**17.07**	**40**	P		**Pn**	**12 37 08.1**	**-0.4**
BTK				pmax		pmax		
	comp=Z,23nm,0.9s							
KARS	**Kars**	**17.16**	**323**	P		**Pn**	**12 37 08.4**	**-1.3**
KARS				IAmb		IAmb	12 37 41.4	
	comp=Z,52nm,0.7s							
KARS	**Kars**	**17.16**	**323**	P		**Pn**	**12 37 08.4**	**-1.3**
KARS				pmax		pmax		
	comp=Z,53nm,0.7s							
DRK	**Karamyk**	**17.27**	**43**	P		**P**	**12 37 12.9**	**+0.4**
DRK				IAmb		IAmb	12 37 26.4	
	comp=Z,48nm,0.6s							
IUG	**Iuzhnay**	**18.15**	**33**	*e*P		**P**	**12 37 22.8**	**+0.8**
TRKS	**Terek-Say**	**18.26**	**37**	P		**P**	**12 37 23.7**	**+0.3**
ONI	**Oni**	**18.42**	**328**	P		**Pn**	**12 37 27.7**	**+2.6**
ONI	**Oni**	**18.42**	**328**	P		**Pn**	**12 37 27.7**	**+2.6**
ONI				pmax		pmax		
	comp=Z,8.0nm,0.8s							
GHAJ	**Ghor Haditha**	**18.74**	**286**	P		**P**	**12 37 27.9**	**-0.6**
GHAJ				IAmb		IAmb	12 38 05.9	
	comp=Z,82nm,1.2s							
BALJ	**Balqa**	**18.78**	**289**	P		**P**	**12 37 28.8**	**-0.1**
BALJ				IAmb		IAmb	12 37 32.9	
	comp=Z,34nm,0.8s							
GAZ	**Gaziantep**	**18.97**	**305**	P		**P**	**12 37 30.0**	**-1.1**
ARPR	**Arapgir-MALATY**	**19.09**	**312**	P		**P**	**12 37 31.2**	**-1.3**
ARPR				IAmb		IAmb	12 38 03.4	
	comp=Z,31nm,0.9s							
KK31	**Karatay Array**	**19.10**	**32**	P		**P**	**12 37 31.9**	**-0.5**
KK31	**Karatay Array**	**19.10**	**32**	P		**P**	**12 37 31.9**	**-0.5**
KK31				pmax		pmax		
	comp=Z,15nm,0.8s							
KKAR	**Karatay Array**	**19.10**	**32**	P		**P**	**12 37 32.7**	**+0.3**
KKAR	**Karatay Array**	**19.10**	**32**	P		**P**	**12 37 32.7**	**+0.3**
KKAR				pmax		pmax		
	comp=Z,15nm,0.8s							
MMAI	**Mount Meron Ar**	**19.13**	**292**	P		**P**	**12 37 33.0**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=102,slow=16,SNR=9.5							
MMAI				S		**Sn**	**12 41 03.3**	**-4.2**
	comp=Z,0.9nm,0.4s,baz=116,slow=37,SNR=2.0							
MMAI				LR		LR	12 47 05.9	
	comp=Z,339nm,18.1s,baz=24,slow=44							
	comp=Z,4.5nm,0.6s							
ARSB	**Arslanbob**	**19.14**	**40**	P		**P**	**12 37 33.2**	**+0.3**
ARSB	**Arsl

ANTO pmax pmax
comp=Z,33nm,0.7s
ARXS Arharly 23.73 40 *e*P **P 12 38 22.1 +0.4**
UZB Uzynbulak 23.82 44 *e*P **P 12 38 23.5 +0.8**
OTUK Ortayu 23.94 26 P **P 12 38 24.2 +0.6**
SHLS Shalkode 24.10 44 *e*P **P 12 38 27.4 +2.2**
PDGK Podgornoye 24.21 44 P **P 12 38 25.7 -0.6**
MDUB Mudurnu 24.61 308 P **P 12 38 30.3 +0.5**
SIM Simferopol' 24.97 320 *e*P **P 12 38 34.8 +1.8**
SIM pmax pmax
comp=Z,19nm,0.7s
BRZS Berezniki 25.48 24 *e*P **P 12 38 37.5 -0.1**
BELG Belogornoye 25.67 347 *c i*P **P 12 38 39.4 +0.2**
BELG pmax pmax
comp=Z,7.0nm,0.9s
BELG Belogornoye 25.67 347 LR LR 12 50 23.5
comp=Z,98nm,21.3s,baz=327,slow=40
VRH Novokhopyorsk 26.14 338 *e*P **P 12 38 41.5 -2.0**
VRH pmax pmax
comp=Z,30nm,0.6s
VORD Divnogorie 26.80 335 *e*P **P 12 38 51.6 +2.2**
VORD pmax pmax
comp=Z,9.0nm,0.6s
VSR Storozhevoye 27.05 335 *e*P **P 12 38 49.7 -2.0**
VSR pmax pmax
comp=Z,8.0nm,0.8s
BRVK Borovoye 27.36 18 P **P 12 38 54.7 +0.2**
BRVK IAmb IAmb 12 39 11.3
comp=Z,15nm,0.8s
BRVK Borovoye 27.36 18 *de*P **P 12 38 55.4 +0.9**
BRVK pmax pmax
comp=Z,10.0nm,1.3s
BRVK Borovoye 27.36 18 P **P 12 38 54.9 +0.4**
BVA0 Borovoye Array 27.36 18 *i*P **P 12 38 55.2 +0.7**
BVAR Borovoye Array 27.36 18 P **P 12 38 54.3 -0.2**
comp=Z,5.0nm,0.6s,baz=201,slow=7.9,SNR=28
BVAR LR LR 12 50 19.8
comp=Z,162nm,21.1s,baz=210,slow=38
comp=Z,5.0nm,0.6s
VORR Voronezh 27.40 336 *e*P **P 12 38 53.6 -1.2**
VORR pmax pmax
comp=Z,71nm,0.4s
MAKZ Makanchi 27.62 39 P **P 12 38 57.2 +0.3**
MAKZ IAmb IAmb 12 39 27.4
comp=Z,8.0nm,0.8s
MAKZ Makanchi 27.62 39 P **P 12 38 57.2 +0.3**
MAKZ pmax pmax
comp=Z,8.0nm,0.8s
MK31 Makanchi Array 27.79 40 P **P 12 38 58.4 0.0**
MK31 Makanchi Array 27.79 40 P **P 12 38 58.4 0.0**
MK31 pmax pmax
comp=Z,7.0nm,1.2s
MKAR Makanchi Array 27.79 40 P **P 12 38 58.4 0.0**
MKAR Makanchi Array 27.79 40 *ce*P **P 12 38 58.2 -0.2**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 27.79 40 P **P 12 38 58.0 -0.4**
comp=Z,0.7nm,0.5s,baz=223,slow=8.7,SNR=13
MKAR LR LR 12 51 38.4
comp=Z,176nm,19.6s,baz=236,slow=40
comp=Z,0.7nm,0.5s
IDI Anoyia 28.09 294 P **P 12 39 01.6 +0.3**
comp=Z,0.1nm,0.5s,baz=91,slow=10,SNR=7.1
KURBB Kurchatov Arra 28.36 30 P **P 12 39 03.9 +0.4**
comp=Z,3.8nm,0.8s,baz=228,slow=8.6,SNR=58
KURBB LR LR 12 51 33.8
comp=Z,125nm,19.2s,baz=164,slow=39
comp=Z,3.8nm,0.8s
KURK Kurchatov 28.47 30 P **P 12 39 04.8 +0.4**
KURK Kurchatov 28.47 30 *ce*P **P 12 39 05.3 +0.9**
KURK pmax pmax
comp=Z,9.0nm,1.7s
KURK Kurchatov 28.47 30 P **P 12 39 05.2 +0.9**
ARU Arti 28.84 2 P **P 12 39 07.3 -0.3**
ARU Arti 28.84 2 P **P 12 39 08.0 +0.4**
ARU 12 39 57.5
ARU S **S 12 43 56.3 +0.3**
ARU Arti 28.84 2 P **P 12 39 07.8 +0.2**
comp=Z,1.9nm,0.3s,baz=280,slow=5.2,SNR=3.3
ARU LR LR 12 51 08.3
comp=Z,142nm,20.7s,baz=180,slow=37
comp=Z,1.9nm,0.3s
WMQ Urumqi 29.71 49 *e*P **P 12 39 15.3 -0.4**
WMQ pP sP 12 39 28.3 +2.1
WMQ pmax pmax
comp=Z,13nm,0.9s
WMQ LR LR
comp=N,260nm,12.7s
WMQ LR LR
comp=Z,230nm,16.9s
MLR Muntele Rosu 30.21 314 P **P 12 39 20.7 +0.7**
comp=Z,1.7nm,0.5s,baz=86,slow=13,SNR=2.4
comp=Z,1.7nm,0.5s
PALK Pallekele 30.45 127 LR LR 12 52 15.9
comp=Z,140nm,19.1s,baz=67,slow=38
AKASG Malin Array Be 31.07 325 P **P 12 39 27.6 +0.2**
AKASG Malin Array Be 31.07 325 P **P 12 39 27.7 +0.2**
AKASG pmax pmax
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 31.07 325 P **P 12 39 27.4 0.0**
comp=Z,8.3nm,0.6s,baz=133,slow=8.6,SNR=52
AKASG LR LR 12 54 53.0
comp=Z,106nm,20.5s,baz=62,slow=42
comp=Z,8.3nm,0.6s
AKBB Malin Array Si 31.07 325 P **P 12 39 27.0 -0.5**
AKBB Malin Array Si 31.07 325 *d i*P **P 12 39 27.4 0.0**
KIEV Kiev 31.07 325 P **P 12 39 27.1 -0.4**
KIEV Kiev 31.07 325 *i*P **P 12 39 27.1 -0.4**
SNR=17
KIEV Kiev 31.07 325 P **P 12 39 27.1 -0.4**
KIEV pmax pmax
comp=Z,20nm,0.7s
OBN Obninsk 31.12 338 *e*P **P 12 39 27.8 0.0**
OBN *e* 12 40 33.0
OBN *e*PPP PPP 12 40 38.8
OBN *e* 12 42 18.0
OBN pmax pmax
comp=Z,56nm,1.7s
OBN MLR MLR
comp=Z,64nm,16.0s
KIRV Kirov 31.38 353 *de*P **P 12 39 31.2 +1.2**
KIRV Kirov 31.38 353 LR LR 12 54 57.5
comp=Z,343nm,18.5s,baz=172,slow=42
BUR08 Bucovina Ar. S 31.64 318 P **P 12 39 34.1 +1.5**
FNA Florina 31.80 304 P **P 12 39 34.2 +0.2**
FNA Florina 31.80 304 P **P 12 39 34.2 +0.2**
FNA pmax pmax
comp=Z,4.0nm,0.7s
KBN Korca 32.20 303 P **P 12 39 37.6 +0.1**
KBN Korca 32.20 303 P **P 12 39 37.7 +0.1**
KBN pmax pmax
comp=Z,22nm,0.8s
DGZ Jazzator, Alta 32.25 38⇑ *e*P **P 12 39 39.0 +0.9**
DGZ pmax pmax
comp=Z,2.0nm,1.0s
GOMU GeErMu 33.32 65 P **P 12 39 49.3 +1.4**
GOMU pP pP 12 39 56.4 +1.0
GOMU sP sP 12 40 05.1 +6.7
GOMU pmax pmax
comp=Z,5.0nm,1.0s
ZAA0 Zalesovo Array 33.45 30 P **P 12 39 48.4 +0.1**
ZAA0 IAmb IAmb 12 39 49.6
comp=Z,12nm,0.7s
ZALV Zalesovo Beam 33.45 30 P **P 12 39 48.4 +0.1**
ZALV Zalesovo Beam 33.45 30 *i*P **P 12 39 48.5 +0.1**
ZALV pmax pmax
comp=Z,7.0nm,0.3s
ZALV Zalesovo Beam 33.45 30 P **P 12 39 48.6 +0.3**
comp=Z,7.5nm,0.3s,baz=243,slow=9.3,SNR=59
ZALV LR LR 12 55 10.4
comp=Z,131nm,18.5s,baz=226,slow=40
comp=Z,7.5nm,0.3s
MNK Minsk 34.10 330 *i*P **P 12 39 52.3 -1.7**
comp=E,9.0nm,0.8s
MNK *i*P **P 12 39 52.3 -1.7**
comp=N,21nm,0.8s
MNK *i*P **P 12 39 52.3 -1.7**
comp=Z,19nm,0.7s,baz=130
MNK *i* PP **PnPn 12 41 06.7 -1.0**
MNK *i* PPP PPP 12 41 19.0
MNK *i* S **S 12 45 17.2 -1.1**
MNK *i* SS **SnSn 12 47 24.9 -1.7**
MNK *i* SSS SSS 12 47 44.8
MNK *i* LQ LQ 12 51 15.9
MNK *i* LR LR 12 54 30.6
MNK *i* LRM MLR 12 56 24.0
comp=N,383nm,21.3s
MNK *i* LRM MLR 12 56 28.5
comp=E,106nm,20.5s
MNK *i* LRM MLR 12 56 31.8
comp=Z,48nm,15.6s
MNK Minsk 34.10 330 *i*P **P 12 39 52.2 -1.7**
MNK *i* 12 41 06.7
MNK *i* 12 42 28.5
MNK *i* S **S 12 45 17.2 -1.1**
MNK *i* SS **SnSn 12 47 24.8 -1.7**
MNK *i* 12 50 09.2
MNK pmax pmax
comp=E,9.0nm,0.8s
MNK pmax pmax
comp=Z,19nm,0.7s
MNK pmax pmax
comp=N,21nm,0.9s
MNK MLR MLR
comp=N,383nm,21.0s
MNK MLR MLR
comp=E,106nm,21.0s
MNK MLR MLR
comp=Z,48nm,16.0s
KIBK Kibwezi 34.76 214 P **P 12 40 00.8 +0.6**
KIBK IAmb IAmb 12 40 03.5
comp=Z,12nm,1.4s
NACGM Naroch 34.85 330 *e*P **P 12 40 01.9 +1.5**
comp=Z,13nm,1.0s,baz=130
KLMR Klimovskoe 35.21 345 *e*P **P 12 40 00.1 -3.3**
KLMR pmax pmax
comp=Z,39nm,2.0s
ISAL Salakas 35.56 330 *e*P **P 12 40 07.7 +1.2**
SUW Suwalki 36.01 326 *e*P **P 12 40 11.4 +1.0**
SUW Suwalki 36.01 326 P **P 12 40 11.1 +0.7**
SUW Suwalki 36.01 326 P **P 12 40 11.1 +0.7**
SUW pmax pmax
comp=Z,111nm,1.4s
SUW Suwalki 36.01 326 *e*P **P 12 40 11.2 +0.9**
PABE Paberze 36.49 329 P **P 12 40 14.6 +0.1**
PABE Paberze 36.49 329 *e*P **P 12 40 15.4 +0.9**
RONA Rosalia, Austr 37.20 314 *i*P **P 12 40 21.3 +0.6**
comp=Z,5.8nm,0.4s
VSU Vasula 37.22 334 *c i*P **P 12 40 21.1 +0.5**
VSU pmax pmax
comp=Z,18nm,0.6s
GTA Gaotai 37.52 60 P **P 12 40 24.4 +0.7**
GTA sP sP 12 40 40.5 +6.3
GTA pmax pmax
comp=Z,9.0nm,0.8s
GTA LR LR
comp=N,92nm,17.8s
GTA LR LR
comp=E,90nm,16.0s
GTA LR LR
comp=Z,150nm,17.5s
DPC Dobruska-Polom 38.08 318 *e*P P 12 40 34.3 +6.2
DPC Dobruska-Polom 38.08 318 *e*P P 12 40 34.3 +6.2
NRCA Norcia 38.25 305 P **P 12 40 29.5 -0.2**
CHVC Chvalec 38.32 318 *e*P **P 12 40 30.8 +0.7**
CHVC Chvalec 38.32 318 *e*P **P 12 40 30.8 +0.7**
PRED Cave del Predi 38.65 311 P **P 12 40 33.2 +0.2**
PRED IAmb IAmb 12 40 40.2
comp=Z,11nm,0.9s
BIOA Bad Ischl, Aus 38.92 313 *e*P **P 12 40 36.2 +1.1**
comp=Z,6.5nm,0.5s
KBA Koelnbreinsper 38.95 312 *i*P **P 12 40 36.3 +0.6**
comp=Z,3.5nm,0.5s
JOF Joensuu 39.03 342 *e*P **P 12 40 37.6 +1.8**
GERES GERESS Array B 39.20 315 P **P 12 40 37.2 -0.3**
GERES GERESS Array B 39.20 315 P **P 12 40 36.2 -1.3**
comp=Z,2.3nm,0.6s,baz=99,slow=8.6,SNR=7.7
GERES LR LR 12 59 50.2
comp=Z,87nm,21.1s,baz=91,slow=41
comp=Z,2.3nm,0.6s
MEF Metsahovi 39.29 335 *e*P **P 12 40 39.0 +1.0**
KHC Kasperske Hory 39.36 315 P **P 12 40 39.4 +0.6**
KHC IAmb IAmb 12 40 41.3
comp=Z,10nm,0.8s
KHC Kasperske Hory 39.36 315 *e*P **P 12 40 39.1 +0.3**
KHC Kasperske Hory 39.36 315⇑ *e*P **P 12 40 39.3 +0.5**
KHC pmax pmax
comp=Z,38nm,1.3s
LESA Schwarzleotal 39.48 312 *e*P **P 12 40 40.6 +0.7**
comp=Z,4.7nm,0.6s
FIA1 FINESS Array S 39.53 337 P **P 12 40 40.2 +0.2**
FINES FINESS Array B 39.53 337 P **P 12 40 40.4 +0.4**
FINES FINESS Array B 39.53 337 *i*P **P 12 40 40.5 +0.5**
FINES pmax pmax
comp=Z,9.0nm,0.6s
FINES FINESS Array B 39.53 337 P **P 12 40 39.5 -0.6**
comp=Z,9.3nm,0.6s,baz=124,slow=10,SNR=34
comp=Z,9.3nm,0.6s
CMAR Chiang Mai Arr 39.79 94 P **P 12 40 43.8 +1.0**
comp=Z,0.7nm,0.7s,baz=297,slow=7.7,SNR=1.8
CMAR LR LR 13 02 21.2
comp=Z,86nm,18.3s,baz=285,slow=44
comp=Z,0.7nm,0.7s
PZH PanZhiHua 39.98 81 P **P 12 40 45.0 +0.6**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,150nm,5.9s
WTTA Wattenberg 40.13 312 *i*P **P 12 40 45.5 +0.1**
comp=Z,10nm,0.5s
WATA Walderalm 40.18 312 *e*P **P 12 40 45.5 -0.3**
comp=Z,7.5nm,0.6s
CLL Collm 40.38 318 *e*P **P 12 40 50.0 +2.8**
CLL Collm 40.38 318 *e*P **P 12 40 50.0 +2.8**
CLL AMS AMS 13 01 00.0
comp=Z,100nm,21.0s
SQTA Sankt Quirin 40.40 311 *e*P **P 12 40 47.4 -0.2**
comp=Z,12nm,0.4s
KEF Keuruu 40.45 338 *e*P **P 12 40 48.6 +1.0**
CRAI Chiangrai 40.45 91 P **P 12 40 48.9 +0.6**
MOTA Moosalm 40.50 312 *e*P **P 12 40 48.4 -0.1**
comp=Z,6.8nm,0.6s
LZH Lanzhou 40.63 66 *e*P **P 12 40 52.4 +2.7**
LZH pP sP 12 41 03.0 +2.7
LZH pmax pmax
comp=Z,12nm,1.1s
FETA Feichten 40.68 311 *e*P **P 12 40 50.0 +0.1**
comp=Z,16nm,0.6s
VSL Villasalto 40.74 299 P **P 12 40 52.5 +2.1**
BSD Bornholm Skovb 40.75 324 *i*P **P 12 40 49.0 -1.2**
BSD Bornholm Skovb 40.75 324 *e*P **P 12 40 49.8 -0.4**
RETA Reutte 40.76 312 *e*P **P 12 40 50.0 -0.5**
comp=Z,12nm,1.2s
KEST Kesra 40.77 294 P **P 12 40 51.9 +1.1**
comp=Z,4.7nm,0.8s,baz=214,slow=10.0,SNR=2.1
comp=Z,4.7nm,0.8s
BLEU Blekinge 40.82 326 *i*P **P 12 40 50.9 +0.1**
MOY Mondy 40.88 42 *e*P **P 12 40 52.9 +1.4**
FUORN Ofenpass-Fuorn 40.91 310 P **P 12 40 53.0 +1.0**
AAL Aland 40.98 333 *e*P **P 12 40 52.3 +0.3**
CD2 Chengdu 40.98 74 P **P 12 40 51.9 -0.6**
KMI Kunming 41.17 83⇑ P **P 12 40 55.8 +1.4**
KMI pP pP 12 41 02.8 +0.9
KMI pmax pmax
comp=Z,21nm,0.8s
DAVA Damuels 41.30 311 *e*P **P 12 40 55.0 -0.1**
comp=Z,23nm,0.5s
VIKU Vikbolandet 41.47 329 *e*P **P 12 40 56.5 +0.4**
TUE Stuetta 41.51 310 P **P 12 40 57.4 +0.5**
TUE IAmb IAmb 12 41 37.2
comp=Z,6.8nm,0.8s
LUNU Lund 41.73 324 *e*P **P 12 41 00.7 +2.5**
FABU Falkenberg 42.66 326 *i*P **P 12 41 06.6 +0.8**
SENIN Lac Senin/Sane 42.89 309 P **P 12 41 07.6 -0.5**
BORU Boraas 42.90 327 *i*P **P 12 41 08.2 +0.4**
ONAU Onsala 43.22 326 *i*P **P 12 41 10.7 +0.4**
ECH Echery 43.28 312 P **P 12 41 10.8 -0.2**
ECH IAmb IAmb 12 41 17.4
comp=Z,11nm,1.1s
ECH Echery 43.28 312 P **P 12 41 10.8 -0.2**
ECH pmax pmax
comp=Z,11nm,1.1s
SONM Songino Array 43.35 48 P **P 12 41 12.0 +0.2**
SONM Songino Array 43.35 48 P **P 12 41 12.0 +0.2**
SONM Songino Array 43.35 48 P **P 12 41 12.0 +0.2**
comp=Z,2.0nm,0.7s,baz=258,slow=9.5,SNR=11
SONM LR LR 13 01 31.6
comp=Z,227nm,19.6s,baz=185,slow=39
comp=Z,2.0nm,0.7s
HFS Hagfors 43.61 330 P **P 12 41 13.8 +0.3**
comp=Z,10nm,0.7s,baz=128,slow=9.6,SNR=27
comp=Z,10nm,0.7s
ULN Ulaanbaatar 43.79 49 P **P 12 41 15.6 +0.2**
ULN Ulaanbaatar 43.79 49 *ce*P **P 12 41 15.8 +0.5**
ULN pmax pmax
comp=Z,5.0nm,1.0s
XAN Xi'an 44.93 68 *e*P **P 12 41 26.4 +1.9**
NC405 NORSAR Array S 44.94 331 P **P 12 41 23.9 -0.2**
GIVF Givet 45.12 314 P **P 12 41 27.3 +1.6**
NB2 NORSAR Subarra 45.12 331 P **P 12 41 25.1 -0.5**
comp=Z,9.6nm,0.8s,baz=114,slow=7.9
NB2 NORSAR Subarra 45.12 331 P **P 12 41 22.1 -3.5**
NOA NORSAR Array B 45.12 331 P **P 12 41 25.4 -0.2**
comp=Z,7.0nm,0.7s,baz=115,slow=7.9,SNR=39
NOA LR LR 13 02 27.9
comp=Z,56nm,20.7s,baz=90,slow=39
comp=Z,7.0nm,0.7s
SMF Signal de Mont 45.29 309 P **P 12 41 26.5 -0.7**
LOR Lormes 45.35 310 P **P 12 41 27.7 +0.1**
KEV Kevo 45.53 346 P **P 12 41 29.5 +0.8**
KEV Kevo 45.53 346 P **P 12 41 29.5 +0.8**
KEV pmax pmax
comp=Z,63nm,1.4s
SSF Saint Saulge 45.56 310 P **P 12 41 28.8 -0.5**
AVF Avril sur Loir 45.64 310 P **P 12 41 29.6 -0.3**
ARCES ARCESS Array B 45.69 345 P **P 12 41 30.4 +0.5**
ARCES IAmb IAmb 12 41 38.5
comp=Z,22nm,1.3s
ARCES ARCESS Array B 45.69 345 P **P 12 41 30.4 +0.5**
ARCES pmax pmax
comp=Z,22nm,1.3s
ARCES ARCESS Array B 45.69 345 P **P 12 41 29.2 -0.8**
comp=Z,4.5nm,0.8s,baz=140,slow=8.0,SNR=11
ARCES LR LR 13 01 41.9
comp=Z,143nm,20.9s,baz=71,slow=38
comp=Z,4.5nm,0.8s
BGF Bois d'Agland 45.97 309 P **P 12 41 32.6 +0.1**
TCF Toulx Ste Croi 46.39 309 P **P 12 41 35.4 -0.4**
HHC Hu-ho-hao-te 46.57 59 *e*P **P 12 41 39.8 +2.4**
HHC pP sP 12 41 49.0 +0.9
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,140nm,6.7s
LDF La Druitiere 48.14 312 P **P 12 41 47.7 -1.7**
BOD Bodaibo 49.78 36 *e*P **P 12 42 01.9 +0.1**
BOD pmax pmax
comp=Z,15nm,1.4s
WHN Wuhan 50.03 72⇑ P **P 12 42 04.3 +0.2**
QUIF Quistinic 50.13 311 P **P 12 42 04.0 -0.6**
ROSF Rostrenen 50.22 311 P **P 12 42 02.0 -3.3**
EKA Eskdalemuir Ar 50.72 320 P **P 12 42 08.4 -0.6**
comp=Z,1.0nm,0.4s,baz=98,slow=7.2,SNR=8.6
comp=Z,1.0nm,0.4s
LSZ Lusaka 50.79 216 LR LR 13 06 10.8
comp=Z,111nm,19.1s,baz=10.0,slow=39
ESDC Sonseca Array 51.03 300 P **P 12 42 10.8 -0.8**
comp=Z,1.2nm,0.6s,baz=75,slow=7.2,SNR=6.6
comp=Z,1.2nm,0.6s
PAB San Pablo 51.34 300 P **P 12 42 14.0 0.0**
PAB IAmb IAmb 12 42 23.8
comp=Z,5.1nm,0.8s
PAB San Pablo 51.34 300 P **P 12 42 14.0 0.0**
PAB pmax pmax
comp=Z,5.0nm,0.9s
TOA0 Torodi Ar. Sit 53.11 266 P **P 12 42 27.0 -0.3**
TOA0 IAmb IAmb 12 42 42.2
comp=Z,6.2nm,0.6s
TORD Torodi Ar. Bea 53.11 266 P **P 12 42 26.9 -0.4**
TORD IAmb IAmb 12 42 42.2
comp=Z,4.7nm,0.6s
TORD Torodi Ar. Bea 53.11 266 P **P 12 42 25.2 -2.1**
comp=Z,3.4nm,0.6s,baz=62,slow=7.8,SNR=36
comp=Z,3.4nm,0.6s
NJ2 Nanjing 53.48 69 *e*P **P 12 42 29.4 -0.5**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 pmax pmax
comp=Z,580nm,4.7s
SPITS Spitsbergen Ar 53.80 350 P **P 12 42 32.1 +0.5**
SPITS pmax pmax
comp=Z,80nm,1.4s
SPITS Spitsbergen Ar 53.80 350 P **P 12 42 31.4 -0.2**
comp=Z,3.3nm,0.6s,baz=121,slow=8.2,SNR=8.2
comp=Z,3.3nm,0.6s
ZEA Zeya 56.90 42 *e*P **P 12 42 55.6 +1.4**
HEH HeiHe 57.23 46 *e*P **P 12 42 56.1 -0.5**
HEH pmax pmax
comp=Z,7.0nm,0.7s
BNX BinXian 57.72 51⇑ P **P 12 42 59.8 -0.3**
BNX pmax pmax
comp=Z,5.0nm,0.9s
BNX pmax pmax
comp=Z,120nm,4.9s
YAK Yakutsk 58.08 32 LR LR 13 09 53.1
comp=Z,81nm,19.2s,baz=280,slow=38
TIXI Tiksi 58.46 21 P **P 12 43 05.3 +0.5**
TIXI IAmb IAmb 12 43 47.5
comp=Z,4.5nm,0.6s
TIXI Tiksi 58.46 21⇑ *e*P **P 12 43 05.2 +0.4**
TIXI pmax pmax
comp=Z,1.0nm,0.8s
TIXI Tiksi 58.46 21 LR LR 13 11 44.6
comp=Z,108nm,19.0s,baz=7.0,slow=40
MDJ Mudanjiang 59.42 52 P **P 12 43 12.6 +0.6**
MDJ pmax pmax
comp=Z,3.0nm,0.6s
MDJ pmax pmax
comp=Z,210nm,4.5s
KSRS Korea Array 59.59 61 P **P 12 43 12.1 -1.2**
comp=Z,1.9nm,0.7s,baz=281,slow=6.9,SNR=6.0
KSRS LR LR 13 13 14.5
comp=Z,62nm,18.1s,baz=270,slow=40
comp=Z,1.9nm,0.7s
LEM Lembang 59.95 117 LR LR 13 11 27.6
comp=Z,45nm,19.4s,baz=255,slow=38
DAG Danmarks Havn 59.98 345 *i*P **P 12 43 14.0 -1.3**
TSUM Tsumeb 59.98 223 LR LR 13 10 39.8
comp=Z,99nm,19.1s,baz=56,slow=38
KLR Kul'dur 60.14 47‖ *e*P **P 12 43 16.0 -0.9**
KLR pmax pmax
comp=Z,6.0nm,1.7s
KLR Kul'dur 60.14 47 LR LR 13 11 54.2
comp=Z,131nm,19.3s,baz=284,slow=39
LBTB Lobatse 60.28 213 P **P 12 43 17.7 -0.5**
LBTB Lobatse 60.28 213 P **P 12 43 17.7 -0.5**
LBTB pmax pmax
comp=Z,29nm,1.5s
LBTB Lobatse 60.28 213 LR LR 13 09 35.4
comp=Z,75nm,18.5s,baz=44,slow=36
USRK Ussuriysk Ar. 61.18 53 P **P 12 43 22.9 -1.2**
comp=Z,1.4nm,0.7s,baz=264,slow=4.3,SNR=2.1
USRK LR LR 13 12 57.2
comp=Z,79nm,18.1s,baz=306,slow=39
comp=Z,1.4nm,0.7s
DBIC Dimbokro 61.74 262 P **P 12 43 27.9 -0.4**
DBIC Dimbokro 61.74 262 P **P 12 43 27.9 -0.4**
DBIC pmax pmax
comp=Z,10.0nm,0.8s
DBIC Dimbokro 61.74 262 P **P 12 43 28.2 -0.1**
comp=Z,2.6nm,0.7s,baz=64,slow=10,SNR=2.1
comp=Z,2.6nm,0.7s
JNU Nakatsue 63.04 65 LR LR 13 16 46.3
comp=Z,98nm,19.1s,baz=300,slow=42
BOSA Boshof 63.50 211 P **P 12 43 39.9 +0.1**
BOSA Boshof 63.50 211 P **P 12 43 39.9 +0.1**
BOSA pmax pmax
comp=Z,13nm,1.1s
BOSA Boshof 63.50 211 P **P 12 43 40.2 +0.4**
comp=Z,2.7nm,0.5s,baz=15,slow=5.6,SNR=6.9
comp=Z,2.7nm,0.5s
SUMG Summit 65.44 341 P **P 12 43 52.9 +0.6**
SUMG IAmb IAmb 12 44 20.2
comp=Z,7.3nm,0.8s
SUMG Summit 65.44 341 P **P 12 43 52.9 +0.6**
SUMG pmax pmax
comp=Z,7.0nm,0.8s
SUMG Summit 65.44 341 *e*P **P 12 43 50.3 -2.0**
MJAR Matsushiro Arr 67.76 59 LR LR 13 15 51.7
comp=Z,44nm,18.7s,baz=265,slow=38
YSS Yuzh-Sakhalins 67.83 48‖ *e*P **P 12 44 05.8 -1.7**
YSS pmax pmax
comp=Z,48nm,1.7s
SEY Seymchan 68.32 29⇑ *e*P **P 12 44 10.8 +0.6**
SEY pmax pmax
comp=Z,6.0nm,1.0s

SEY	**Seymchan**	**68.32**	**29**	LR	LR	13 16 47.5		
	comp=Z,85nm,20.9s,baz=302,slow=38							
ASAJ	**Asahikawa**	**68.58**	**51**	LR	LR	13 17 07.0		
	comp=Z,47nm,18.1s,baz=298,slow=38							
MA2	**Magadan**	**68.62**	**33‖**	*eP*	**P**	**12 44 12.4**	**+0.2**	
MA2				pmax	pmax			
	comp=Z,5.0nm,1.0s							
MA2	**Magadan**	**68.62**	**33**	LR	LR	13 17 40.1		
	comp=Z,32nm,20.5s,baz=262,slow=39							
SUR	**Sutherland**	**68.72**	**212**	LR	LR	13 14 41.5		
	comp=Z,49nm,19.9s,baz=1.5,slow=36							
BILL	**Bilibino**	**71.63**	**22**	*eP*	**P**	**12 44 34.2**	**+3.7**	
PETK	**Petropavlovsk-**	**74.61**	**38**	LR	LR	13 20 57.9		
	comp=Z,68nm,19.7s,baz=274,slow=38							
BATI	**Baumata**	**74.91**	**110**	LR	LR	13 21 21.2		
	comp=Z,112nm,18.6s,baz=343,slow=39							
RES	**Resolute Bay**	**76.29**	**353**	LR	LR	13 22 26.5		
	comp=Z,61nm,21.6s,baz=24,slow=39							
MORW	**Morawa**	**80.03**	**130**	P	**P**	**12 45 18.5**	**-0.5**	
MORW				IAmb	IAmb	12 45 53.5		
	comp=Z,23nm,1.5s							
A36M	**Sachs Harbour**	**80.67**	**1**	P	**P**	**12 45 22.1**	**+0.3**	
A36M				IAmb	IAmb	12 45 38.2		
	comp=Z,9.9nm,0.7s							
KNRA	**Kununurra**	**82.00**	**112**	P	**P**	**12 45 29.8**	**0.0**	
TOLK	**Toolik Lake Re**	**82.11**	**9**	P	**P**	**12 45 30.2**	**+0.6**	
TOLK				IAmb	IAmb	12 46 06.4		
	comp=Z,3.5nm,0.8s							
E25K	**Arctic Village**	**83.14**	**8**	P	**P**	**12 45 35.1**	**+0.2**	
E25K				IAmb	IAmb	12 46 03.8		
	comp=Z,3.2nm,0.9s							
C36M	**Paulatuk**	**83.33**	**0**	P	**P**	**12 45 35.5**	**-0.3**	
C36M				IAmb	IAmb	12 45 36.5		
	comp=Z,7.2nm,1.2s							
IMAR	**Indian Mountai**	**83.84**	**12**	P	**P**	**12 45 37.9**	**-0.7**	
BMAR	**Burnt Mountain**	**83.92**	**8**	P	**P**	**12 45 39.8**	**+0.8**	
INK	**Inuvik**	**84.08**	**4**	LR	LR	13 26 58.8		
	comp=Z,24nm,18.4s,baz=258,slow=38							
F31M	**Tsiigehtchic**	**84.92**	**4**	P	**P**	**12 45 43.8**	**-0.2**	
G31M	**Satah River**	**85.40**	**4**	P	**P**	**12 45 46.0**	**-0.3**	
G31M				IAmb	IAmb	12 45 47.4		
	comp=Z,9.9nm,1.1s							
BPAW	**Bear Paw Mtn.**	**86.05**	**12**	P	**P**	**12 45 49.9**	**+0.2**	
BPAW				IAmb	IAmb	12 45 51.5		
	comp=Z,12nm,1.2s							
TTA	**Tatalina**	**86.09**	**14**	P	**P**	**12 45 49.7**	**-0.3**	
TTA				IAmb	IAmb	12 45 56.5		
	comp=Z,6.2nm,1.4s							
TTA	**Tatalina**	**86.09**	**14**	P	**P**	**12 45 49.7**	**-0.3**	
TTA				pmax	pmax			
	comp=Z,6.0nm,1.4s							
ILAR	**Eielson Array**	**86.11**	**10**	P	**P**	**12 45 48.6**	**-1.4**	
	comp=Z,0.7nm,0.8s,baz=331,slow=4.1,SNR=8.7							
ILAR				LR	LR	13 27 16.9		
	comp=Z,43nm,21.7s,baz=299,slow=38							
	comp=Z,0.7nm,0.8s							
EGAK	**Eagle**	**86.88**	**8**	P	**P**	**12 45 53.5**	**-0.2**	
EGAK				IAmb	IAmb	12 45 55.1		
	comp=Z,10nm,1.1s							
WRA	**Warramunga Arr**	**88.74**	**113**	P	**P**	**12 46 03.2**	**-0.1**	
WRA	**Warramunga Arr**	**88.74**	**113**	*iP*	**P**	**12 46 04.0**	**+0.6**	
WRA				pmax	pmax			
	comp=Z,5.0nm,0.8s							
WRA	**Warramunga Arr**	**88.74**	**113**	P	**P**	**12 46 03.0**	**-0.4**	
	comp=Z,4.3nm,0.8s,baz=314,slow=4.0,SNR=26							
	comp=Z,4.3nm,0.8s							
WB2	**Warramunga Arr**	**88.75**	**113**	P	**P**	**12 46 03.8**	**+0.4**	
WB2				IAmb	IAmb	12 46 31.7		
	comp=Z,8.6nm,1.1s							
YKA	**Yellowknife Ar**	**89.94**	**356**	*iP*	**P**	**12 46 09.1**	**+0.8**	
YKA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
YKA	**Yellowknife Ar**	**89.94**	**356**	P	**P**	**12 46 08.8**	**+0.5**	
	comp=Z,2.1nm,0.9s,baz=358,slow=5.1,SNR=26							
YKA				LR	LR	13 31 18.1		
	comp=Z,43nm,20.0s,baz=298,slow=39							
	comp=Z,2.1nm,0.9s							
ASAR	**Alice Springs**	**90.24**	**117**	P	**P**	**12 46 10.6**	**+0.2**	
	comp=Z,1.4nm,0.7s,baz=301,slow=4.5,SNR=17							
	comp=Z,1.4nm,0.7s							
KDAK	**Kodiak Island**	**91.46**	**15**	LR	LR	13 31 18.7		
	comp=Z,37nm,21.1s,baz=9.4,slow=38							
NVAR	**Mina Array Bea**	**114.14**	**356**	PKP	PKPdf	12 51 49.7	+0.5	
	comp=Z,0.9nm,0.9s,baz=283,slow=0.6,SNR=3.9							
TXAR	**Lajitas Array**	**120.33**	**340**	PKP	**PKiKP**	**12 52 01.6**	**+0.3**	
	comp=Z,0.2nm,0.5s,baz=48,slow=1.3,SNR=5.2							
PLCA	**Paso Flores**	**135.04**	**239**	PKP	**PKPdf**	**12 52 29.1**	**+0.5**	
	comp=Z,2.0nm,1.0s,baz=143,slow=6.0,SNR=2.6							

*DJA **21** 12:45:46.4±0.4, 7°S±3°×13°1E±°, h145km±14km, M4.3/11, mb4.1/6, mB5.0/3, MLv4.4/11, Mw(mB)4.3/3*

ISC 21 12:45:46.9±0.9, 6.73S±0.07°×130.64E±0.09, h150km, n21, σ1§40/22, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.41**	**152**	P	**Pn**	**12 46 15.3**	**-0.2**
SAUI	**Saumlaki**	**1.41**	**152**	P	**Pn**	**12 46 14.8**	**-0.7**
BNDI	**Bandanaira**	**2.31**	**342**	P	**Pn**	**12 46 25.8**	**0.0**
FAKI	**Fak Fak**	**4.11**	**23**	P	**Pn**	**12 46 49.4**	**+0.7**
FAKI	**Fak Fak**	**4.11**	**23**	P	**Pn**	**12 46 49.3**	**+0.6**
FAKI				S	**Sn**	**12 47 34.8**	**-2.0**
NLAI	**Namlea**	**4.94**	**314**	P	**Pn**	**12 46 59.9**	**+0.3**
DRS	**Darwin Rock St**	**5.67**	**177**	P	**Pn**	**12 47 09.0**	**-0.2**
SWI	**Sorong**	**5.86**	**6**	P	**Pn**	**12 47 12.1**	**+0.3**
	27nm,0.8s,1μm0.5nm						
MTN	**Manton Dam**	**6.09**	**175**	P	**Pn**	**12 47 14.9**	**0.0**
KDU	**Kakadu**	**6.19**	**163**	P	**Pn**	**12 47 15.3**	**-0.9**
SANI	**Sanana**	**6.56**	**315**	P	**Pn**	**12 47 24.0**	**+2.8**
LBMI	**Labuha**	**6.81**	**333**	P	**Pn**	**12 47 24.8**	**+0.3**
	32nm,0.9s,0.2nm						
SOEI	**Soe**	**6.98**	**244**	P	**Pn**	**12 47 26.2**	**-0.7**
SOEI	**Soe**	**6.98**	**244**	P	**Pn**	**12 47 25.9**	**-1.0**
	31nm,0.8s,0.2nm						
BATI	**Baumata**	**7.71**	**243**	P	**Pn**	**12 47 35.1**	**-1.4**
	25nm,0.5s,0.1nm						
KNRA	**Kununurra**	**9.08**	**192**	P	**Pn**	**12 47 52.6**	**-2.1**
EDFI	**Ende, Flores**	**9.09**	**257**	P	**Pn**	**12 47 55.2**	**+0.2**
PLAI	**Plampang**	**12.91**	**260**	P	**Pn**	**12 48 44.2**	**-0.8**
COEN	**Coen**	**14.27**	**121**	P	**P**	**12 49 05.9**	**+0.8**
QIS	**Mount Isa**	**16.26**	**149**	P	**P**	**12 49 30.9**	**+3.7**
WRKA	**Warakurna**	**18.34**	**187**	P	**Pn**	**12 49 52.2**	**+0.4**

*IDC **21** 12:53:22.6±8.0, 27°91S×177°34W, h31km±55km, mb3.8/7, mbtmp4.0/8, ML3.2/1, MS2.8/1, Error ellipse: s-maj=29.5km s-min=23.5km az=75.0*
*NEIC **21** 12:53:24±0.9, 28°0S±0°1×177°1W±0°2, h44km±10km, mb4.3/11, Error ellipse: s-maj=26.0km s-min=10.9km az=120.0*

ISC 21 12:53:24.3±0.6, 27°93S±0°08×177°2W±0°1, h49km, n40, σ0§78/34, mb4.1/14, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.45**	**204**		**Pn**	**12 53 48.4**	**+0.3**
RAO				Sn	**Sn**	**12 54 05.7**	**-0.2**
RAO	**Raoul Island**	**1.45**	**204**	Pn	**Pn**	**12 53 45.9**	**-2.2**
	624nm,0.3s,baz=67,slow=22,SNR=20						
RAO				Sn	**Sn**	**12 54 05.8**	**-0.2**
	2μm,0.3s,baz=299,slow=23,SNR=30						
NIUE	**Niue**	**11.07**	**39**	Pn	**Pn**	**12 55 58.4**	**-1.6**
URZ	**Urewera**	**11.34**	**203**	Pn	Pn	12 55 50.4	-13
	0.2nm,0.3s,baz=95,slow=14,SNR=1.8						
URZ				Sn	Sn	12 57 57.7	-11
	0.6nm,0.3s,baz=36,slow=17,SNR=2.2						
DZM	**Mont Dzumac**	**15.89**	**288**		**Pn**	**12 57 03.4**	**-1.4**
	0.1nm,0.3s,baz=106,slow=20,SNR=1.4						
	5.7nm,0.9s						
PPT	**Papeete**	**27.46**	**74**	LR	LR	13 08 54.3	
	comp=Z,20nm,18.8s,baz=32,slow=34						
TOO	**Toolangi**	**32.61**	**243**	P	**P**	**12 59 51.7**	**+0.4**
TOO				IAmb	IAmb	13 00 12.6	
	comp=Z,4.7nm,0.9s						
STKA	**Stephens Creek**	**35.75**	**253**	P	**P**	**13 00 19.2**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=86,slow=19,SNR=1.6						
	comp=Z,0.7nm,0.4s						
PMG	**Port Moresby**	**38.23**	**292**	P	**P**	**13 00 40.4**	**+0.7**
BBOO	**Buckleboo**	**40.33**	**251**	P	**P**	**13 00 57.9**	**+0.7**
BBOO				IAmb	IAmb	13 00 59.5	
	comp=Z,7.1nm,0.9s						
ASAR	**Alice Springs**	**43.96**	**264**	P	**P**	**13 01 26.9**	**0.0**
ASAR	**Alice Springs**	**43.96**	**264**	P	**P**	**13 01 25.9**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=94,slow=7.3,SNR=17						

ASAR				PcP	**PcP**	**13 03 12.4**	**+0.3**	
	comp=Z,0.3nm,0.7s,baz=109,slow=4.1,SNR=2.4							
	comp=Z,0.8nm,0.6s							
WR0	**Warramunga Arr**	**44.55**	**269**	P	**P**	**13 01 31.7**	**+0.2**	
WR0				IAmb	IAmb	13 01 48.7		
	comp=Z,3.1nm,0.9s							
WB2	**Warramunga Arr**	**44.72**	**269**	P	**P**	**13 01 33.2**	**+0.3**	
WRAB	**Tennant Creek**	**44.72**	**269**	P	**P**	**13 01 33.4**	**+0.4**	
WRAB				IAmb	IAmb	13 01 33.9		
	comp=Z,4.3nm,0.9s							
WRA	**Warramunga Arr**	**44.73**	**269**	P	**P**	**13 01 32.8**	**-0.3**	
WRA	**Warramunga Arr**	**44.73**	**269**	P	**P**	**13 01 32.6**	**-0.5**	
	comp=Z,0.9nm,0.3s,baz=108,slow=6.1,SNR=44							
	comp=Z,0.9nm,0.3s							
WB0	**Warramunga Arr**	**44.74**	**270**	P	**P**	**13 01 33.0**	**-0.1**	
WB0				IAmb	IAmb	13 01 33.6		
	comp=Z,2.9nm,0.9s							
MTN	**Manton Dam**	**50.31**	**276**	P	**P**	**13 02 15.6**	**-0.8**	
SBA	**Scott Base**	**50.55**	**184**	P	**P**	**13 02 17.2**	**-0.1**	
SBA				IAmb	IAmb	13 02 23.4		
	comp=Z,2.6nm,0.9s							
VNDA	**Vanda**	**50.62**	**186**	P	**P**	**13 02 17.4**	**-0.4**	
KNRA	**Kununurra**	**51.23**	**272**	P	**P**	**13 02 23.4**	**+0.1**	
KNRA				IAmb	IAmb	13 02 48.2		
	comp=Z,5.5nm,0.9s							
FITZ	**Fitzroy Crossi**	**53.08**	**268**	P	**P**	**13 02 37.4**	**+0.5**	
QSPA	**South Pole Qui**	**62.18**	**180**	P	**P**	**13 03 41.0**	**+0.5**	
QSPA	**South Pole Qui**	**62.18**	**180**	P	**P**	**13 03 41.1**	**+0.6**	
	comp=Z,2.1nm,0.6s,baz=350,slow=0.7,SNR=19							
	comp=Z,2.1nm,0.6s							
MAW	**Mawson**	**74.85**	**200**	P	**P**	**13 04 59.5**	**+0.3**	
	comp=Z,1.9nm,0.9s,baz=47,slow=12,SNR=1.8							
	comp=Z,1.9nm,0.9s							
H03S2	**Juan Fernandez**	**81.28**	**124**	T	T	14 35 38.7		
	baz=244							
H03S1	**Juan Fernandez**	**81.29**	**124**	T	T	14 35 40.8		
	baz=244,slow=74							
H03S3	**Juan Fernandez**	**81.29**	**124**	T	T	14 35 28.7		
	baz=244,slow=74							
H03N3	**Juan Fernandez**	**81.45**	**123**	T	T	14 35 41.7		
	baz=245,slow=73,SNR=5.2							
H03N2	**Juan Fernandez**	**81.45**	**123**	T	T	14 35 38.7		
	baz=245,slow=73,SNR=5.5							
H03N1	**Juan Fernandez**	**81.47**	**123**	T	T	14 35 41.2		
	baz=245,slow=73,SNR=6.6							
NVAR	**Mina Array Bea**	**85.97**	**42**	P	**P**	**13 06 00.8**	**+1.2**	
	comp=Z,0.1nm,0.3s,baz=232,slow=10,SNR=3.3							
	comp=Z,0.1nm,0.3s							
ILAR	**Eielson Array**	**95.38**	**13**	P	**P**	**13 06 43.7**	**+1.0**	
	comp=Z,0.3nm,0.8s,baz=201,slow=7.4,SNR=4.4							
	comp=Z,0.3nm,0.8s							
MKAR	**Makanchi Array**	**116.68**	**311**	PKP	**PKPdf**	**13 12 01.9**	**-1.0**	
	comp=Z,0.1nm,0.3s,baz=146,slow=1.0,SNR=3.0							
KURBB	**Kurchatov Arra**	**119.84**	**315**	PKP	**PKPdf**	**13 12 08.2**	**-0.6**	
	comp=Z,0.2nm,0.6s,baz=109,slow=2.0,SNR=4.7							
BVAR	**Borovoye Array**	**125.08**	**317**	PKP	**PKPdf**	**13 12 19.0**	**+0.3**	
	comp=Z,0.6nm,0.5s,baz=139,slow=3.0,SNR=2.7							
FINES	**FINESS Array B**	**143.03**	**342**	PKhKP	PKPpre	13 12 48.7		
	comp=Z,1.6nm,0.8s,baz=11,slow=2.8,SNR=6.8							
HFS	**Hagfors**	**146.94**	**350**	PKPbc	**PKPbc**	**13 13 01.0**	**+0.2**	
	comp=Z,1.3nm,0.5s,baz=64,slow=3.4,SNR=5.5							
AKASG	**Malin Array Be**	**149.68**	**326**	PKPbc	**PKPbc**	**13 13 08.2**	**0.0**	
	comp=Z,1.3nm,0.5s,baz=39,slow=3.2,SNR=5.9							

*IDC **21** 13:10:23.3±0.9, 6°12S×143°08E, h0km, mb4.0/8, mbtmp4.1/10, ML1.7/1, Error ellipse: s-maj=35.5km s-min=20.4km az=66.0*

ISC 21 13:10:28.7±0.8, 6°3S±0°1×142°9E±0°1, h35km, n11, σ1§25/12, mb4.0/8, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.22**	**127**	Pn	**Pn**	**13 11 44.3**	**+0.1**
	1.7nm,0.3s,baz=319,slow=20,SNR=7.3						
PMG				Sn	**Sn**	**13 12 43.3**	**+0.1**
	1.7nm,0.3s,baz=211,slow=22,SNR=2.0						
	7.7nm,0.4s						
WRA	**Warramunga Arr**	**15.96**	**211**	Pn	**Pn**	**13 14 08.0**	**-2.8**
	0.3nm,0.3s,baz=31,slow=13,SNR=17						
WRA				Sn	Sn	13 16 54.2	-13
	0.2nm,0.3s,baz=31,slow=23,SNR=1.2						
WRA				Lg	Lg	13 18 50.8	
	0.1nm,0.3s,baz=31,slow=26,SNR=2.2						
ASAR	**Alice Springs**	**19.37**	**206**	P	**P**	**13 14 53.4**	**+1.9**
	7.7nm,0.7s,baz=36,slow=8.2,SNR=101						
ASAR				Sn	S	13 18 20.2	-8.6
	0.1nm,0.3s,baz=21,slow=27,SNR=2.5						
ASAR				Lg	Lg	13 20 40.3	
	baz=23,slow=29,SNR=0.9						
CMAR	**Chiang Mai Arr**	**49.86**	**300**	P	**P**	**13 19 19.6**	**+0.7**
	0.4nm,0.3s,baz=134,slow=6.4,SNR=1.1						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**75.16**	**322**	P	**P**	**13 22 07.8**	**+0.2**
	0.8nm,0.7s,baz=97,slow=7.4,SNR=7.7						
	0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**77.12**	**329**	P	**P**	**13 22 17.8**	**-0.7**
	0.3nm,0.4s,baz=106,slow=4.7,SNR=1.9						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**79.05**	**324**	P	**P**	**13 22 29.2**	**0.0**
	0.7nm,0.8s,baz=121,slow=4.6,SNR=6.2						
	0.7nm,0.8s						
MAW	**Mawson**	**80.46**	**203**	P	**P**	**13 22 37.2**	**+0.7**
	5.0nm,1.0s,baz=45,slow=14,SNR=2.5						
	5.0nm,1.0s						
QSPA	**South Pole Qui**	**83.71**	**180**	P	**P**	**13 22 54.1**	**+0.3**
	1.4nm,0.8s,baz=74,slow=20,SNR=5.9						
	1.4nm,0.8s						
BVAR	**Borovoye Array**	**84.62**	**325**	P	**P**	**13 22 59.0**	**+0.5**
	4.7nm,0.8s,baz=110,slow=6.7,SNR=21						
	4.7nm,0.8s						
ILAR	**Eielson Array**	**87.33**	**24**	P	**P**	**13 23 10.6**	**-1.1**
	0.7nm,0.7s,baz=255,slow=5.3,SNR=9.6						
	0.7nm,0.7s						

*IDC **21** 13:32:15.0±1.0, 0.7°2N×127°47E, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=53.2km s-min=18.7km az=76.0*
*DJA **21** 13:32:31.7±0.8, 1°N±6°×12°8E±°, h167km±7km, M4.2/9, mb4.0/6, mB5.0/1, MLv4.4/9, Mw(mB)4.4/1*

ISC 21 13:32:32.2±0.8, 0.54N±0.07°×127.56E±0.10, h162km, n17, σ1§04/17, mb3.6/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.30**	**320**	P	**Pn**	**13 32 54.8**	**+0.6**
LBMI	**Labuha**	**1.18**	**183**	P	**Pn**	**13 33 00.2**	**+0.6**
SANI	**Sanana**	**3.02**	**211**	P	**Pn**	**13 33 19.0**	**-1.3**
KMSI	**Cibinong**	**3.58**	**271**	P	**Pn**	**13 33 27.4**	**0.0**
SGSI	**Sangihe**	**3.72**	**327**	P	**Pn**	**13 33 29.4**	**+0.2**
NLAI	**Namlea**	**3.79**	**187**	P	**Pn**	**13 33 30.3**	**+0.2**
GTOI	**Gorontalo**	**4.55**	**271**	P	**Pn**	**13 33 41.9**	**+2.0**
LUWI	**Luwuk**	**5.04**	**252**	P	**Pn**	**13 33 45.3**	**-1.1**
	47nm,0.7s,3μm0.6nm						
EDFI	**Ende, Flores**	**10.93**	**212**	P	**Pn**	**13 35 03.7**	**-0.7**
	4.9nm,0.6s						
JAGI	**Jajag, Banyuwa**	**16.08**	**236**	P	**Pn**	**13 36 08.9**	**-0.6**
WRA	**Warramunga Arr**	**21.42**	**162**	P	**P**	**13 37 06.8**	**-0.8**
	1.5nm,0.3s,baz=340,slow=11,SNR=73						
	1.5nm,0.3s						
ASAR	**Alice Springs**	**24.84**	**166**	P	**P**	**13 37 41.0**	**+1.2**
	0.6nm,0.3s,baz=344,slow=11,SNR=29						
	0.6nm,0.3s						
MJAR	**Matsushiro Arr**	**37.16**	**14**	P	**P**	**13 39 25.6**	**-1.8**
	0.6nm,0.4s,baz=218,slow=12,SNR=1.6						
	0.6nm,0.4s						
SONM	**Songino Array**	**50.56**	**342**	P	**P**	**13 41 14.9**	**+0.6**
	0.4nm,0.7s,baz=140,slow=9.2,SNR=2.0						
	0.4nm,0.7s						
PETK	**Petropavlovsk-**	**58.07**	**21**	P	**P**	**13 42 09.3**	**+1.0**
	14nm,1.3s,baz=182,slow=4.8,SNR=5.4						
	14nm,1.3s						
MKAR	**Makanchi Array**	**60.63**	**326**	P	**P**	**13 42 26.6**	**+0.5**
	0.4nm,0.3s,baz=114,slow=7.9,SNR=11						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**64.86**	**328**	P	**P**	**13 42 54.0**	**+0.1**
	0.4nm,0.4s,baz=128,slow=5.7,SNR=5.2						
	0.4nm,0.4s						

IDC 21 13:39:40.4±3.1, 50°23N×27°53E, h0km, mbtmp3.6/2, ML2.7/2, Error ellipse: s-maj=27.1km s-min=14.9km az=30.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKASG	**Malin Array Be**	**1.18**	**66**	Pg	Pg	13 40 02.9	-0.1
	15nm,0.3s,baz=251,slow=17,SNR=43						
AKASG				Lg	Lg	13 40 19.7	
	11nm,0.3s,baz=248,slow=30,SNR=13						
FINES	**FINESS Array B**	**11.27**	**356**	Pn	Pn	13 42 17.8	-4.7
	0.1nm,0.3s,baz=170,slow=13,SNR=4.0						
	0.5nm,0.4s						
ARCES	**ARCESS Array B**	**19.39**	**358**	P	P	13 44 05.7	-1.9
	0.1nm,0.3s,baz=175,slow=12,SNR=2.1						
	3.0nm,1.0s						

*ISK **21** 13:55:08.9, 38°23N×42°54E, h6km, ML3.1/13*
*AFAD **21** 13:55:09.4±0.0, 38°25N×42°49E, h4km, 2km, ML3.1*

ISC 21 13:55:09.4±1.1, 38°25N±0°02×42°52E±0°02, h7km±10km, n25, σ0§58/41, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PERV	**Siirt/Pervari-**	**0.30**	**177**	P	**Pg**	**13 55 15.5**	**+0.2**
PERV				S	**Sb**	**13 55 21.5**	**-0.8**
PERV				*i* AML	AML	13 55 23.0	
	comp=N,5μm,0.5s						
PERV				*i* AML	AML	13 55 24.0	
	comp=E,5μm,0.4s						
BLIS	**Bitlis-Merkez**	**0.36**	**298**	P	**Pg**	**13 55 16.8**	**+0.3**
BLIS				S	**Sg**	**13 55 21.6**	**+0.3**
BLIS				*i* AML	AML	13 55 24.0	
	comp=N,2μm,0.3s						
AKDM	**Akdamar-Van**	**0.37**	**77**	Pg	**Pg**	**13 55 16.5**	**-0.2**
AKDM				Sg	**Sg**	**13 55 22.3**	**+0.8**
GEVA	**Gevas**	**0.43**	**81**	P	**Pg**	**13 55 17.8**	**+0.1**
GEVA				*i* AML	AML	13 55 25.0	
	comp=N,1μm,0.4s						
GEVA				S	**Sb**	**13 55 25.2**	**-0.8**
GEVA				*i* AML	AML	13 55 26.0	
	comp=E,2μm,0.5s						
GURO	**Guroymak-BITLI**	**0.49**	**309**	Pg	**Pg**	**13 55 18.7**	**-0.2**
GURO				Sg	**Sb**	**13 55 26.8**	**-1.1**
ADCV	**BITLIS_Adilcev**	**0.58**	**16**	P	**Pg**	**13 55 21.1**	**+0.4**
ADCV				*i* AML	AML	13 55 30.0	
	comp=E,1μm,0.2s						
ADCV				S	**Sb**	**13 55 30.0**	**-0.6**
ADCV				*i* AML	AML	13 55 32.0	
	comp=N,986nm,0.3s						
SIRN	**Sırnak**	**0.75**	**187**	P	**Pb**	**13 55 24.5**	**-0.3**
SIRN				S	**Sb**	**13 55 36.0**	**+0.6**
SIRN				*i* AML	AML	13 55 40.0	
	comp=N,853nm,0.4s						
SIRN				*i* AML	AML	13 55 40.0	
	comp=E,604nm,0.4s						
VANB	**Van**	**0.77**	**63**	Pg	**Pg**	**13 55 23.5**	**-0.6**
MLAZ	**Malazgirt-MUS**	**0.90**	**1**	Pg	**Pg**	**13 55 26.5**	**-0.1**
MLAZ				Sg	**Sb**	**13 55 40.1**	**+0.6**
MUSM	**Mu-Merkez**	**0.93**	**301**	P	**Pg**	**13 55 27.0**	**-0.2**
MUSM				S	**Sb**	**13 55 39.8**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.05**	**265**	Pg	**Pb**	**13 55 29.7**	**-0.1**
SVAN				Sg	**Sn**	**13 55 45.1**	**-0.3**
BTMN	**Batman**	**1.05**	**251**	P	**Pn**	**13 55 30.7**	**+0.1**
BTMN				S	**Sn**	**13 55 45.5**	**0.0**
BTMN				*i* AML	AML	13 55 47.0	
	comp=N,518nm,0.4s						
BTMN				*i* AML	AML	13 55 47.0	
	comp=E,637nm,0.6s						
MIDY	**Mardin/Midyat-**	**1.22**	**227**	P	**Pn**	**13 55 33.9**	**+1.0**
MIDY				S	**Sn**	**13 55 50.3**	**+0.5**
MIDY				*i* AML	AML	13 55 56.0	
	comp=E,285nm,0.8s						
CUKT	**Cukurca**	**1.32**	**139**	Pn	**Pn**	**13 55 34.3**	**0.0**
SLHN	**Bingol, Solhan**	**1.37**	**302**	P	**Pg**	**13 55 35.8**	**+0.1**
SLHN				S	**Sn**	**13 55 54.5**	**+1.0**
AGRB	**Hanur-Agry**	**1.38**	**15**	Pn	**Pb**	**13 55 35.5**	**-0.1**
KARO	**Karliova-Bingo**	**1.57**	**313**	Pn	**Pn**	**13 55 38.2**	**+0.4**
BNGB	**Bingl**	**1.62**	**298**	Pn	**Pn**	**13 55 38.9**	**+0.4**
MARD	**Mardin**	**1.67**	**237**	P	**Pb**	**13 55 39.6**	**-0.8**
MARD				S	**Sg**	**13 56 02.8**	**-0.1**
MARD				*i* AML	AML	13 56 08.0	
	comp=E,356nm,0.7s						
MARD				*i* AML	AML	13 56 10.0	
	comp=N,508nm,0.5s						
HANI	**Diyarbakir_Han**	**1.68**	**276**	P	**Pb**	**13 55 40.3**	**-0.3**
HANI				S	**Sg**	**13 56 02.9**	**-0.4**
HANI				*i* AML	AML	13 56 04.0	
	comp=E,192nm,0.8s						
HANI				*i* AML	AML	13 56 10.0	
	comp=N,223nm,0.5s						
KOPR	**Koprukoy-ERZUR**	**1.82**	**344**	Pn	**Pb**	**13 55

ISC 21 14:36:22.7±0.4, 7°62S±0.05×128°98E±0.05, h131km, n104, σ2§09/105, mb4.3/27, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.32**	**99**	P	**Pn**	**14 37 00.5**	**-0.2**
SAUI	**Saumlaki**	**2.32**	**99**	Pn	**Pn**	**14 36 59.9**	**-0.9**
SAUI	**Saumlaki**	**2.32**	**99**	P	**Pn**	**14 37 00.5**	**-0.2**
BNDI	**Bandanaira**	**3.21**	**17**	P	**Pn**	**14 37 09.3**	**-2.8**
BNDI	**Bandanaira**	**3.21**	**17**	P	**Pn**	**14 37 08.9**	**-3.2**
SOEI	**Soe**	**5.12**	**245**	P	**Pn**	**14 37 37.6**	**-0.1**
SOEI	**Soe**	**5.12**	**245**	Pn	**Pn**	**14 37 36.7**	**-1.0**
SOEI	**Soe**	**5.12**	**245**	P	**Pn**	**14 37 37.0**	**-0.7**
	165nm,0.6s,7µm1.1nm						
DRS	**Darwin Rock St**	**5.14**	**159**	P	**Pn**	**14 37 37.6**	**-0.2**
MTN	**Manton Dam**	**5.61**	**158**	P	**Pn**	**14 37 43.8**	**-0.2**
MTN	**Manton Dam**	**5.61**	**158**	Pn	**Pn**	**14 37 42.9**	**-1.2**
FAKI	**Fak Fak**	**5.69**	**35**	P	**Pn**	**14 37 42.0**	**-3.1**
FAKI	**Fak Fak**	**5.69**	**35**		**Pn**	**14 37 42.2**	**-2.9**
FAKI	**Fak Fak**	**5.69**	**35**	P	**Pn**	**14 37 42.6**	**-2.5**
	84nm,0.6s,0.5nm						
BATI	**Baumata**	**5.85**	**244**	P	**Pn**	**14 37 46.7**	**-0.7**
	248nm,0.3s,baz=103,slow=18,SNR=94						
BATI				S	**Sn**	**14 38 51.4**	**-2.0**
	99nm,0.4s,baz=95,slow=21,SNR=2.4						
BATI	**Baumata**	**5.85**	**244**	P	**Pn**	**14 37 46.4**	**-0.9**
	279nm,0.4s,9µm2.0nm						
KDU	**Kakadu**	**6.10**	**146**	P	**Pn**	**14 37 49.3**	**-1.3**
SANI	**Sanana**	**6.28**	**331**	P	**Pn**	**14 37 53.5**	**+0.4**
SANI	**Sanana**	**6.28**	**331**	P	**Pn**	**14 37 52.4**	**-0.7**
	67nm,1.1s,0.2nm						
MMRI	**Maumere**	**6.76**	**261**	P	**Pn**	**14 37 58.9**	**-0.6**
MMRI	**Maumere**	**6.76**	**261**	Pn	**Pn**	**14 37 58.2**	**-1.3**
MMRI	**Maumere**	**6.76**	**261**	P	**Pn**	**14 37 58.2**	**-1.3**
	48nm,0.5s,0.3nm						
SWI	**Sorong**	**7.08**	**19**	P	**Pn**	**14 38 03.0**	**-0.8**
	34nm,0.7s,0.3nm						
LBMI	**Labuha**	**7.09**	**348**	P	**Pn**	**14 38 03.4**	**-0.5**
	33nm,0.8s,0.2nm						
EDFI	**Ende, Flores**	**7.31**	**261**	P	**Pn**	**14 38 06.3**	**-0.7**
	18nm,0.7s,811nm0.1nm						
KNRA	**Kununurra**	**8.02**	**182**	P	**Pn**	**14 38 15.2**	**-1.2**
KNRA	**Kununurra**	**8.02**	**182**	Pn	**Pn**	**14 38 14.8**	**-1.6**
BASI	**Baing, Sumba**	**8.70**	**252**	P	**Pn**	**14 38 23.4**	**-2.2**
	170nm,0.5s,3µm						
LUWI	**Luwuk**	**9.00**	**316**		**Pn**	**14 38 26.5**	**-3.2**
BKSI	**Bulukumba**	**9.10**	**284**	P	**Pn**	**14 38 31.1**	**+0.1**
	26nm,1.0s						
KAPI	**Kappang**	**9.53**	**285**	Pn	**Pn**	**14 38 36.0**	**-0.9**
FITZ	**Fitzroy Crossi**	**10.92**	**197**	Pn	**Pn**	**14 38 51.7**	**-3.6**
PLAI	**Plampang**	**11.16**	**263**	P	**Pn**	**14 38 57.3**	**-1.3**
PLAI	**Plampang**	**11.16**	**263**	P	**Pn**	**14 38 56.4**	**-2.2**
TOLI2	**Tolitoli**	**11.92**	**316**	Pn	**Pn**	**14 39 05.7**	**-2.9**
TWSI	**Taliwang, Sumb**	**12.03**	**264**	P	**Pn**	**14 39 05.5**	**-4.6**
	20nm,1.6s						
TABU	**Tabubil**	**12.38**	**80**	P	**Pn**	**14 39 13.2**	**-1.5**
WB0	**Warramunga Arr**	**13.17**	**157**	Pn	**Pn**	**14 39 22.0**	**-2.9**
WRA	**Warramunga Arr**	**13.31**	**158**	Pn	**Pn**	**14 39 23.4**	**-3.3**
WRA	**Warramunga Arr**	**13.31**	**158**	P	**Pn**	**14 39 24.2**	**-2.4**
	6.6nm,0.3s,baz=331,slow=13,SNR=68						
WRA				S	Sn	14 41 43.0	-11
	78nm,1.0s,baz=333,slow=22,SNR=12						
JAGI	**Jajag, Banyuwa**	**14.71**	**266**	P	**P**	**14 39 45.6**	**-1.6**
COEN	**Coen**	**15.29**	**116**	P	**Pn**	**14 39 52.6**	**+0.8**
COEN	**Coen**	**15.29**	**116**		**Pn**	**14 39 51.3**	**-0.5**
COEN				IAmb	IAmb	14 40 06.1	
	comp=Z,13nm,0.7s						
MBWA	**Marble Bar**	**16.16**	**213**	P	**Pn**	**14 40 01.6**	**-0.9**
MBWA	**Marble Bar**	**16.16**	**213**	Pn	**Pn**	**14 40 01.6**	**-0.9**
MBWA				IAmb	IAmb	14 40 15.6	
	comp=Z,41nm,1.3s						
PSA00	**Pilbara Seismi**	**16.44**	**211**	P	**P**	**14 40 05.5**	**-0.8**
PSA00	**Pilbara Seismi**	**16.44**	**211**		**Pn**	**14 40 05.3**	**-0.6**
QIS	**Mount Isa**	**16.47**	**142**	P	**Pn**	**14 40 06.4**	**+0.1**
AS31	**Alice Springs**	**16.64**	**164**		**P**	**14 40 08.8**	**+0.2**
ASAR	**Alice Springs**	**16.64**	**164**	P	**P**	**14 40 08.8**	**+0.2**
ASAR	**Alice Springs**	**16.64**	**164**	P	**Pn**	**14 40 08.0**	**-0.4**
	comp=Z,8.2nm,0.5s,baz=331,slow=10.0,SNR=84						
ASAR				S	**Sn**	**14 43 04.0**	**-10**
	comp=Z,12nm,0.6s,baz=345,slow=29,SNR=12						
WRKA	**Warakurna**	**17.34**	**182**	P	**Pn**	**14 40 16.7**	**-0.1**
PMG	**Port Moresby**	**18.06**	**97**	P	**P**	**14 40 24.1**	**-0.1**
PMG	**Port Moresby**	**18.06**	**97**	P	**Pn**	**14 40 26.8**	**+1.3**
	comp=Z,15nm,0.8s,baz=243,slow=7.6,SNR=6.3						
PMG				S	**S**	**14 43 36.3**	**-8.5**
	comp=Z,3.6nm,0.4s,baz=0.0,slow=20,SNR=1.6						
MANU	**Manus Island**	**19.13**	**74**	P	**P**	**14 40 37.0**	**+1.2**
GIRL	**Giralia**	**20.61**	**222**	P	Pn	14 40 53.1	-2.2
CTA	**Charters Tower**	**20.82**	**128**	P	**P**	**14 40 56.5**	**+2.4**
	comp=Z,2.3nm,0.8s,baz=270,slow=9.1,SNR=1.9						
	comp=Z,2.3nm,0.8s						
FORT	**Forrest**	**23.06**	**182**	P	**P**	**14 41 19.2**	**+2.4**
MORW	**Morawa**	**24.58**	**208**	P	**P**	**14 41 33.9**	**+3.2**
MORW				IAmb	IAmb	14 41 35.7	
	comp=Z,12nm,0.8s						
BBOO	**Buckleboo**	**25.92**	**166**	P	**P**	**14 41 45.0**	**+2.3**
BBOO				IAmb	IAmb	14 42 10.5	
	comp=Z,25nm,1.5s						
STKA	**Stephens Creek**	**26.85**	**156**	P	**P**	**14 41 53.8**	**+2.7**
STKA	**Stephens Creek**	**26.85**	**156**	P	**P**	**14 41 55.0**	**+3.9**
	comp=Z,1.7nm,0.7s,baz=318,slow=15,SNR=2.0						
	comp=Z,1.7nm,0.7s						
HNR	**Honiara**	**30.67**	**96**	LR	LR	14 55 50.0	
	comp=Z,985nm,18.0s,baz=166,slow=38						
CMAR	**Chiang Mai Arr**	**39.37**	**311**	P	**P**	**14 43 40.4**	**+0.7**
	comp=Z,2.2nm,0.7s,baz=142,slow=7.1,SNR=16						
	comp=Z,2.2nm,0.7s						
KSRS	**Korea Array**	**44.84**	**359**	P	**P**	**14 44 23.9**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=172,slow=8.6,SNR=11						
	comp=Z,1.9nm,0.6s						
USRK	**Ussuriysk Ar.**	**51.64**	**3**	P	**P**	**14 45 15.6**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=197,slow=10,SNR=4.6						
	comp=Z,1.3nm,0.7s						
JKA	**Kamikawa-asahi**	**52.94**	**12**	P	**P**	**14 45 25.5**	**0.0**
GTA	**Gaotai**	**54.03**	**332**	P	**P**	**14 45 34.3**	**+0.6**
GTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SONM	**Songino Array**	**58.71**	**342**	P	**P**	**14 46 07.0**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=151,slow=6.3,SNR=6.0						
	comp=Z,1.4nm,0.7s						
PETK	**Petropavlovsk-**	**65.22**	**19**	P	**P**	**14 46 50.6**	**+0.6**
PETK	**Petropavlovsk-**	**65.22**	**19**	P	**P**	**14 46 50.9**	**+0.9**
	comp=Z,3.0nm,0.7s,baz=170,slow=3.2,SNR=7.7						
PETK				LR	LR	15 16 50.6	
	comp=Z,7.2nm,18.9s,baz=36,slow=37						
	comp=Z,3.0nm,0.7s						
MK31	**Makanchi Array**	**68.19**	**327**	P	**P**	**14 47 09.7**	**+0.7**
MK31				IAmb	IAmb	14 47 11.6	
	comp=Z,3.1nm,0.6s						
MKAR	**Makanchi Array**	**68.19**	**327**	P	**P**	**14 47 09.6**	**+0.6**
MKAR	**Makanchi Array**	**68.19**	**327**	P	**P**	**14 47 09.9**	**+0.9**
	comp=Z,4.1nm,0.4s,baz=116,slow=8.0,SNR=119						
	comp=Z,4.1nm,0.4s						
MAKZ	**Makanchi**	**68.37**	**327**	P	**P**	**14 47 11.1**	**+1.0**
BOOM	**Boomskoye usch**	**69.38**	**321**	P	**P**	**14 47 17.9**	**+1.2**
BOOM				IAmb	IAmb	14 47 19.6	
	comp=Z,3.2nm,0.6s						
AAK	**Ala-Archa**	**70.36**	**320**	P	**P**	**14 47 24.4**	**+1.8**
ZAA0	**Zalesovo Array**	**71.69**	**334**	P	**P**	**14 47 30.4**	**+0.2**
ZALV	**Zalesovo Beam**	**71.69**	**334**	P	**P**	**14 47 30.0**	**-0.2**
ZALV	**Zalesovo Beam**	**71.69**	**334**	P	**P**	**14 47 29.6**	**-0.6**
	comp=Z,1.5nm,0.5s,baz=122,slow=4.9,SNR=9.0						
	comp=Z,1.5nm,0.5s						
SIMJ	**Simiganj**	**72.16**	**315**	P	**P**	**14 47 34.3**	**+0.8**
SIMJ				IAmb	IAmb	14 47 35.3	
	comp=Z,5.8nm,1.1s						
KURBB	**Kurchatov Arra**	**72.51**	**329**	P	**P**	**14 47 35.6**	**+0.4**
	comp=Z,4.5nm,0.5s,baz=125,slow=4.9,SNR=53						
	comp=Z,4.5nm,0.5s						
KURK	**Kurchatov**	**72.52**	**329**	P	**P**	**14 47 35.5**	**+0.3**
KURK				IAmb	IAmb	14 47 37.5	
	comp=Z,8.9nm,0.9s						
KK31	**Karatay Array**	**73.14**	**319**	P	**P**	**14 47 40.5**	**+1.4**
MAW	**Mawson**	**74.01**	**201**	P	**P**	**14 47 46.4**	**+2.7**
BVAR	**Borovoye Array**	**78.05**	**328**	P	**P**	**14 48 07.1**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=127,slow=9.4,SNR=14						
	comp=Z,1.5nm,0.5s						
TIXI	**Tiksi**	**79.10**	**360**	P	**P**	**14 48 12.0**	**-0.2**
TIXI				IAmb	IAmb	14 48 13.1	
	comp=Z,3.2nm,0.6s						
GEYT	**Alibeck**	**79.84**	**311**	P	**P**	**14 48 18.7**	**+1.8**
	comp=Z,1.2nm,0.6s,baz=92,slow=12,SNR=1.8						
	comp=Z,1.2nm,0.6s						
VOI	**Vohitsoka**	**79.98**	**249**	P	**P**	**14 48 20.1**	**+1.9**
VOI				IAmb	IAmb	14 48 54.2	
	comp=Z,13nm,1.3s						
ABKAR	**Akbulak array**	**82.36**	**322**	P	**P**	**14 48 30.3**	**+0.3**
QSPA	**South Pole Qui**	**82.37**	**180**	P	**P**	**14 48 32.4**	**+2.5**
QSPA				IAmb	IAmb	14 49 07.3	
	comp=Z,12nm,1.4s						
QSPA	**South Pole Qui**	**82.37**	**180**	P	**P**	**14 48 32.9**	**+3.0**
	comp=Z,1.8nm,0.8s,baz=344,slow=4.6,SNR=9.9						
	comp=Z,1.8nm,0.8s						
L14K	**Kuka Creek**	**86.50**	**27**	P	**P**	**14 48 51.6**	**+1.1**
L14K				IAmb	IAmb	14 48 53.2	
	comp=Z,5.2nm,0.9s						
M14K	**Bethel**	**86.60**	**27**	P	**P**	**14 48 52.1**	**+1.1**
K15K	**Wolf Creek Mou**	**87.36**	**26**	P	**P**	**14 48 56.7**	**+1.9**
L16K	**Owhat River**	**88.06**	**27**	P	**P**	**14 48 58.8**	**+0.7**
L16K				IAmb	IAmb	14 49 15.7	
	comp=Z,6.3nm,1.4s						
J16K	**Anvik River**	**88.12**	**25**	P	**P**	**14 48 59.5**	**+1.2**
J16K				IAmb	IAmb	14 49 35.5	
	comp=Z,8.1nm,1.4s						
G16K	**Koyuk River**	**88.20**	**23**	P	**P**	**14 48 59.8**	**+1.2**
G16K				IAmb	IAmb	14 49 39.1	
	comp=Z,8.7nm,1.5s						
H17K	**Granite Mounta**	**88.99**	**24**	P	**P**	**14 49 03.3**	**+0.9**
H17K				IAmb	IAmb	14 49 04.3	
	comp=Z,2.8nm,0.9s						
ILAR	**Eielson Array**	**94.33**	**25**	P	**P**	**14 49 26.6**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=278,slow=4.5,SNR=5.4						
	comp=Z,0.3nm,0.6s						
PDAR	**Pinedale Array**	**118.04**	**45**	PKP	**PKiKP**	**14 54 56.7**	**+2.0**
	comp=Z,0.2nm,0.5s,baz=325,slow=1.4,SNR=1.9						
EKA	**Eskdalemuir Ar**	**119.22**	**331**	PKP	**PKPdf**	**14 54 56.0**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=54,slow=3.6,SNR=1.6						
TORD	**Torodi Ar. Bea**	**127.94**	**281**	PKP	**PKiKP**	**14 55 15.8**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=67,slow=3.4,SNR=4.0						
CPUP	**Villa Florida**	**145.71**	**170**	PKPbc	**PKiKP**	**14 55 49.6**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=137,slow=0.1,SNR=3.1						

*IDC **21** 14:46:39.6±3.0, 21°.98S×170°.23E, h0km, mb3.8/5, mbtmp3.9/6, ML4.7/1, MS2.8/2, Error ellipse: s-maj=90.9km s-min=43.1km az=153.0*
*NOU **21** 14:46:40.3, 22°.18S×170°.28E, h0km, MLv4.3/11, Southeast of Loyalty Islands*

ISC 21 14:46:46.0±1.6, 22°2S±0.1×170°2E±0.1, h50km, n16, σ1§10/17, mb3.8/5, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**2.08**	**289**	P	**Pn**	**14 47 17.4**	**-1.1**
PINNC	**Pines Island,**	**2.54**	**260**	P	**Pn**	**14 47 24.0**	**-0.7**
LIFNC	**LIFOU**	**3.04**	**297**	P	**Pn**	**14 47 30.5**	**-1.1**
OUENC	**Ouen Island, N**	**3.07**	**265**	P	**Pn**	**14 47 31.6**	**-0.4**
ONTNC	**Ouen Toro**	**3.43**	**267**	P	**Pn**	**14 47 36.7**	**-0.2**
DZM	**Mont Dzumac**	**3.44**	**271**	P	**Pn**	**14 47 37.1**	**0.0**
DZM	**Mont Dzumac**	**3.44**	**271**	Pn	**Pn**	**14 47 36.9**	**-0.3**
	60nm,0.3s,baz=129,slow=16,SNR=3520						
DZM				Sn	**Sn**	**14 48 14.9**	**-1.8**
	17nm,0.3s,baz=47,slow=6.6,SNR=6.6						
DZM				LR	LR	14 48 50.0	
	comp=Z,71nm,21.8s,baz=62,slow=37						
	137nm,0.3s						
NOUC	**Port Laguerre**	**3.57**	**270**	P	**Pn**	**14 47 38.7**	**-0.1**
KOUNC	**Koumac, New Ca**	**5.70**	**285**	P	**Pn**	**14 48 08.8**	**+0.7**
NFK	**Norfolk Island**	**7.13**	**196**	P	**Pn**	**14 48 26.1**	**-1.5**
CTA	**Charters Tower**	**22.38**	**271**	P	**P**	**14 51 41.5**	**+1.3**
	2.9nm,0.6s,baz=87,slow=8.5,SNR=1.4						
CTA				LR	LR	14 58 49.2	
	comp=Z,53nm,20.5s,baz=1.0,slow=32						
	2.9nm,0.6s						
STKA	**Stephens Creek**	**27.14**	**243**	P	**P**	**14 52 26.8**	**+2.2**
	2.0nm,0.8s,baz=84,slow=16,SNR=2.1						
	2.0nm,0.8s						
ASAR	**Alice Springs**	**33.36**	**260**	P	**P**	**14 53 20.4**	**+0.7**
	0.7nm,0.6s,baz=87,slow=9.4,SNR=13						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**33.45**	**267**	P	**P**	**14 53 20.2**	**-0.2**
	0.7nm,0.5s,baz=101,slow=8.2,SNR=12						
	0.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**80.48**	**294**	P	**P**	**14 58 52.7**	**-0.3**
	0.4nm,0.6s,baz=142,slow=4.5,SNR=2.4						
	0.4nm,0.6s						
GERES	**GERESS Array B**	**147.46**	**331**	PKPbc	**PKPab**	**15 06 25.9**	**-0.6**
	0.3nm,0.3s,baz=51,slow=7.9,SNR=2.2						

*AEIC **21** 15:02:09.8±2.0, 52°.3N±0°.2×173°.3W±0°.1, h134km±5km, Error ellipse: s-maj=31.8km s-min=7.2km az=166.0*
*NEIC **21** 15:02:10.1±1.7, 52°.3N±0°.2×173°.3W±0°.1, h137km±6km, mb3.7/25, ML3.5/8, MS3.2(AEIC), Error ellipse: s-maj=32.4km s-min=7.7km az=166.0*

ISC 21 15:02:09.5±1.5, 52°3N±0°3×173°20W±0°07, h140km±10km, n70, σ1§28/75, mb3.7/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**0.53**	**281**		**Pn**	**15 02 30.0**	**+0.2**
KOSE					**Sn**	**15 02 44.5**	**-0.7**
KOFP	**Korovin Flat P**	**0.55**	**273**		**Pn**	**15 02 30.4**	**+0.5**
KOFP					**Sn**	**15 02 45.5**	**0.0**
ATKA	**Atka Island**	**0.61**	**266**	P	**Pn**	**15 02 30.4**	**+0.2**
ATKA	**Atka Island**	**0.61**	**266**		**Pn**	**15 02 30.2**	**0.0**
ATKA					**Sn**	**15 02 45.4**	**-0.5**
ATKA				IAML		15 02 46.2	
	comp=E,710nm,0.6s						
ATKA				IAML		15 02 46.3	
	comp=N,671nm,0.5s						
KOKL	**Mount Kliuchef**	**0.62**	**277**		**Pn**	**15 02 30.8**	**+0.4**
GSTR	**Great Sitkin T**	**1.77**	**266**	Pn	**Pn**	**15 02 41.6**	**+0.4**
GSMY	**Great Sitkin M**	**1.77**	**264**		**Pn**	**15 02 41.6**	**+0.3**
GSTD	**Great Sitkin T**	**1.82**	**265**		**Pn**	**15 02 42.2**	**+0.3**
GSTD					**Sn**	**15 03 07.3**	**+0.5**
GSCK	**Great Sitkin C**	**1.84**	**264**		**Pn**	**15 02 42.6**	**+0.5**
CLES	**Cleveland East**	**2.10**	**73**	Pn	**Pn**	**15 02 46.1**	**+1.0**
ADK	**Adak**	**2.18**	**262**	P	**Pn**	**15 02 46.7**	**+0.6**
ADK	**Adak**	**2.18**	**262**	Pn	**Pn**	**15 02 46.3**	**+0.3**
ADK	**Adak**	**2.18**	**262**	Sn	**Sn**	**15 03 13.2**	**-1.0**
CLCO	**Concord Point,**	**2.19**	**74**		**Pn**	**15 02 46.3**	**+0.1**
CLCO					**Sn**	**15 03 15.4**	**+1.0**
KIWB	**Kanaga Island**	**2.47**	**262**	Pn	**Pn**	**15 02 50.4**	**+0.7**
NIKH	**Nikolski High**	**2.75**	**73**	P	**Pn**	**15 02 56.5**	**+3.4**
NIKH	**Nikolski High**	**2.75**	**73**		**Sn**	**15 03 26.6**	**-0.2**
NIKH	**Nikolski High**	**2.75**	**73**	Pn	**Pn**	**15 02 51.9**	**-1.3**
TASE	**Tanaga Southea**	**3.01**	**264**		**Pn**	**15 02 57.5**	**+0.9**
OKTU	**Okmok Mt. Tuli**	**3.33**	**68**		**Pn**	**15 03 01.9**	**+1.2**
GANE	**Gareloi Northe**	**3.47**	**265**		**Pn**	**15 03 03.6**	**+1.2**
MAPS	**Pakushin South**	**4.09**	**65**		**Pn**	**15 03 11.5**	**+1.0**
MREP	**Makushin Rep't**	**4.20**	**66**		**Pn**	**15 03 13.3**	**+1.2**
MSW	**Makushin Switc**	**4.22**	**64**		**Pn**	**15 03 13.1**	**+0.9**
UNV	**Unalaska Valle**	**4.35**	**66**	P	**Pn**	**15 03 15.1**	**+1.2**
UNV	**Unalaska Valle**	**4.35**	**66**	Pn	**Pn**	**15 03 13.9**	**0.0**
AKUT	**Akutan**	**4.85**	**64**	Pn	**Pn**	**15 03 22.0**	**+1.4**
AKUT				IAML		15 05 15.2	
	comp=E,36nm,1.5s						
AKUT				IAML		15 06 27.1	
	comp=N,26nm,1.4s						
S12K	**Black Hills**	**7.42**	**58**	Pn	**Pn**	**15 03 55.7**	**+0.7**
SDPT	**Sand Point**	**8.15**	**63**	P	**Pn**	**15 04 04.1**	**-0.6**
SDPT	**Sand Point**	**8.15**	**63**	Pn	**Pn**	**15 04 04.6**	**-0.1**
CNBA	**Chernabura Isl**	**8.51**	**67**	Pn	**Pn**	**15 04 08.0**	**-1.6**
CHGN	**Chignik**	**9.55**	**59**	Pn	**Pn**	**15 04 21.0**	**-2.4**
OHAK	**Old Harbor**	**12.52**	**59**	P	**Pn**	**15 04 59.5**	**-3.1**
N18K	**Kilae Creek**	**12.73**	**42**	Pn	**Pn**	**15 05 05.5**	**+0.3**
KDAK	**Kodiak Island**	**13.04**	**57**	Pn	**Pn**	**15 05 05.9**	**-3.4**
L18K	**Granite Mounta**	**13.36**	**35**	P	**P**	**15 05 19.4**	**+1.5**
N19K	**Bonanza Creek**	**13.38**	**43**	P	**P**	**15 05 18.3**	**0.0**
L19K	**White Mountain**	**14.01**	**38**	P	**P**	**15 05 25.6**	**+0.5**
TTA	**Tatalina**	**14.07**	**34**	P	**P**	**15 05 27.6**	**+1.8**
CNPM	**China Poot**	**14.27**	**51**	Pn	**Pn**	**15 05 25.0**	**+0.1**
BRLK	**Bradley Lake**	**14.52**	**50**	Pn	**Pn**	**15 05 28.4**	**+0.3**
H18K	**Honhosa River**	**15.00**	**25**	P	**P**	**15 05 36.2**	**+0.2**
SML	**Sawmill**	**16.47**	**45**		**Pn**	**15 05 51.7**	**-0.5**
SCM	**Sheep Creek Mo**	**16.92**	**45**	P	**P**	**15 05 55.8**	**-1.5**
RND	**Reindeer**	**16.99**	**39**	P	**P**	**15 05 56.2**	**-1.8**
RND				IAmb	IAmb	15 06 32.9	
	comp=Z,6.3nm,1.2s						
KLU	**Klutina**	**17.42**	**47**	P	**P**	**15 06 02.2**	**-0.7**
I23K	**Minto, Yukon-K**	**17.74**	**34**	P	**P**	**15 06 06.7**	**+0.5**
I23K				IAmb	IAmb	15 06 37.4	
	comp=Z,4.3nm,1.3s						
D19K	**Kuna River**	**17.83**	**18**	P	**Pn**	**15 06 08.0**	**-0.5**
D19K				IAmb	IAmb	15 06 30.6	
	comp=Z,4.3nm,1.4s						
POKR	**Poker Plat Res**	**18.40**	**36**	P	**Pn**	**15 06 15.5**	**+0.2**
IL31		**18.42**	**37**	P	**P**	**15 06 13.8**	**+0.1**
IL31				IAmb	IAmb	15 06 15.1	
	comp=Z,2.1nm,0.5s						
ILAR	**Eielson Array**	**18.42**	**37**	P	**P**	**15 06 13.5**	**-0.2**
H24K	**Noodor Dome**	**18.64**	**33**	P	**P**	**15 06 16.3**	**+0.1**
RIDG	**Independent Ri**	**18.73**	**41**	P	**P**	**15 06 16.5**	**-0.7**
J25K	**Salcha River,**	**18.91**	**38**	P	**P**	**15 06 18.4**	**-0.7**
J25K				IAmb	IAmb	15 06 20.3	
	comp=Z,4.8nm,1.0s						
SCRK	**Sand Creek**	**19.18**	**41**	P	**P**	**15 06 21.3**	**-0.7**
D22K	**Ayikyak River**	**19.31**	**23**	P	**P**	**15 06 23.9**	**+0.6**
D22K				IAmb	IAmb	15 06 37.6	
	comp=Z,4.0nm,1.3s						
J26L	**Joseph Creek**	**19.56**	**40**	P	**P**	**15 06 25.4**	**-0.8**
K27K	**Chicken**	**19.98**	**42**	P	**P**	**15 06 30.4**	**-0.1**
I26K	**Coal Creek Min**	**20.07**	**38**	P	**P**	**15 06 30.8**	**-0.7**
I26K				IAmb	IAmb	15 07 05.8	
	comp=Z,5.0nm,1.3s						
B22K	**Teshekpuk Lake**	**20.29**	**19**	P	**P**	**15 06 34.6**	**+0.8**
B22K				IAmb	IAmb	15 06 40.0	
	comp=Z,5.1nm,1.4s						
C23K	**Itkillik River**	**20.52**	**22**	P	**P**	**15 06 35.9**	**-0.3**
C23K				IAmb	IAmb	15 06 39.6	
	comp=Z,3.1nm,1.1s						
EGAK	**Eagle**	**20.62**	**40**	P	**P**	**15 06 37.1**	**-0.4**
EGAK				IAmb	IAmb	15 07 18.5	
	comp=Z,4.3nm,1.3s						
BMAR	**Burnt Mountain**	**20.63**	**32**	P	**P**	**15 06 38.4**	**+0.9**
I28M	**Miner Creek**	**21.36**	**39**	P	**P**	**15 06 45.0**	**-0.4**
H29M	**Whitestone**	**22.25**	**38**	P	**P**	**15 06 53.4**	**-1.1**
J30M	**Hart River**	**22.52**	**43**	P	**P**	**15 06 56.1**	**-1.3**
J30M				IAmb	IAmb	15 06 57.6	
	comp=Z,5.9nm,1.4s						
JIS	**Juneau Island**	**22.68**	**59**	P	**P**	**15 07 04.5**	**+5.8**
I30M	**Mount Dempster**	**22.69**	**41**	P	**P**	**15 06 57.4**	**-1.5**
I30M				IAmb	IAmb	15 07 10.4	
	comp=Z,5.3nm,1.5s						
E29M	**Blow River**	**23.30**	**33**	P	**P**	**15 07 05.0**	**+0.6**
E29M				IAmb	IAmb	15 07 09.4	
	comp=Z,3.7nm,1.4s						
G31M	**Satah River**	**24.03**	**37**	P	**P**	**15 07 10.6**	**-0.4**

*IDC **21** 15:18:46.1±1.7, 0°.19S×122°.35E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=213.0km s-min=26.9km az=61.0*
*DJA **21** 15:18:54.8±0.6, 0°.N±6°×12°.2E±°, h96km±7km, M3.5/8, mb4.0/1, MLv3.3/8*

ISC 21 15:18:54.6±1.3, 0°.31N±0°.10×122°.39E±0°.06, h100km, n10, σ1§56/10, mb3.4/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.48**	**290**	P	**Pn**	**15 19 10.9**	**+0.7**
MRSI				S	**Sn**	**15 19 22.9**	**+1.0**
GTOI	**Gorontalo**	**0.70**	**62**	P	**Pn**	**15 19 13.8**	**+1.9**
LUWI	**Luwuk**	**1.39**	**164**	P	**Pn**	**15 19 21.5**	**+2.0**
MPSI	**Mapaga**	**2.50**	**271**	P	**Pn**	**15 19 33.7**	**+0.1**
TTSI	**Tana Toraja**	**4.21**	**218**	P	**Pn**	**15

17nm,0.7s,1µm
BATI Baumata 12.99 199 LR LR 15 41 55.6
comp=Z,2µm,18.9s,baz=19,slow=40
GENI Genyem 13.18 111 P Pn **15 36 18.3 -0.2**
47nm,1.5s,3µm
MTN Manton Dam 15.27 168 Pn Pn **15 36 44.5 -2.3**
JAGI Jajag, Banyuwa 17.28 232 Pn Pn **15 37 12.1 -0.3**
JAGI IAmb IAmb 15 37 30.1
comp=Z,50nm,1.0s
KNRA Kununurra 17.75 177 P Pn **15 37 18.1 -0.2**
FITZ Fitzroy Crossi 20.26 186 P P **15 37 46.8 +0.6**
YULB Yu-li 22.04 344 P P **15 38 05.4 0.0**
YULB IAmb IAmb 15 38 20.2
comp=Z,31nm,1.1s
COEN Coen 22.07 137 P P **15 38 05.8 -0.1**
COEN IAmb IAmb 15 38 17.1
comp=Z,24nm,1.3s
TPUB Ta-pu 22.14 342 P P **15 38 07.0 +0.4**
SSLB Suanglung 22.51 343 P P **15 38 11.0 +0.5**
SSLB IAmb IAmb 15 38 13.8
comp=Z,22nm,0.8s
WB0 Warramunga Arr 22.72 164 P P **15 38 14.1 +1.3**
WB0 IAmb IAmb 15 38 23.1
comp=Z,18nm,0.8s
WRA Warramunga Arr 22.88 164 P P **15 38 14.2 -0.2**
WRA Warramunga Arr 22.88 164 P P **15 38 15.0 +0.6**
comp=Z,4.8nm,0.9s,baz=341,slow=10,SNR=18
comp=Z,4.8nm,0.9s
WB2 Warramunga Arr 22.88 164 P P **15 38 14.6 +0.2**
WB2 IAmb IAmb 15 38 23.7
comp=Z,16nm,0.8s
WR0 Warramunga Arr 22.95 164 P P **15 38 15.1 0.0**
WR0 IAmb IAmb 15 38 26.0
comp=Z,19nm,1.1s
YHNB Yeheng 23.23 345 P P **15 38 19.1 +1.1**
MBWA Marble Bar 24.51 199 P P **15 38 27.7 -2.4**
MBWA IAmb IAmb 15 38 41.1
comp=Z,37nm,1.4s
AS31 Alice Springs 26.34 167 P P **15 38 47.0 +0.3**
ASAR Alice Springs 26.34 167 P P **15 38 47.7 +1.0**
ASAR Alice Springs 26.34 167 P P **15 38 46.6 -0.1**
comp=Z,0.7nm,0.8s,baz=348,slow=7.4,SNR=9.4
comp=Z,0.7nm,0.8s
IPM Ipoh 26.89 276 P P **15 38 51.3 -0.4**
GSI Gunungsitoli 30.29 269 P P **15 39 21.7 -0.3**
JNU Nakatsue 30.92 5 P P **15 39 27.2 -0.1**
PHRA Phrae 31.57 303 P P **15 39 32.1 -1.1**
CM31 Chiang Mai Arr 32.64 302 P P **15 39 40.9 -1.8**
CM31 IAmb IAmb 15 40 01.1
comp=Z,7.0nm,1.3s
CMAR Chiang Mai Arr 32.64 302 P P **15 39 41.6 -1.1**
CMAR Chiang Mai Arr 32.64 302 P P **15 39 44.1 +1.5**
comp=Z,1.2nm,0.8s,baz=107,slow=6.9,SNR=9.0
comp=Z,1.2nm,0.8s
ENH Enshi 32.94 330 P P **15 39 44.7 -0.4**
ENH IAmb IAmb 15 39 48.3
comp=Z,8.6nm,0.9s
MORW Morawa 33.06 199 P P **15 39 45.3 -0.9**
MORW IAmb IAmb 15 40 02.1
comp=Z,11nm,1.3s
JGF Kuroka 34.41 14 P P **15 39 58.7 +0.9**
KSRS Korea Array 35.11 0 P P **15 40 05.4 +1.6**
comp=Z,2.2nm,0.8s,baz=183,slow=11,SNR=5.8
KSRS PcP **PcP** **15 42 36.7 +1.7**
comp=Z,0.7nm,0.7s,baz=238,slow=2.4,SNR=1.5
comp=Z,2.2nm,0.8s
KS19 Wonju Array Si 35.16 0 P P **15 40 04.5 +0.3**
KS19 IAmb IAmb 15 40 23.6
comp=Z,4.5nm,0.8s
MJAR Matsushiro Arr 35.51 14 P P **15 40 06.3 -1.0**
comp=Z,1.5nm,0.7s,baz=191,slow=9.4,SNR=2.3
comp=Z,1.5nm,0.7s
BBOO Buckleboo 35.64 168 P P **15 40 08.7 +0.2**
STKA Stephens Creek 36.28 160 P P **15 40 14.4 +0.4**
STKA Stephens Creek 36.28 160 P P **15 40 12.5 -1.5**
comp=Z,5.6nm,0.8s,baz=340,slow=7.0,SNR=10.0
comp=Z,5.6nm,0.8s
JMM Marumori 37.46 17 P P **15 40 22.6 -1.2**
BJT Baijiatuau 39.14 346 P P **15 40 38.4 +0.4**
BJT IAmb IAmb 15 40 43.9
comp=Z,8.3nm,0.6s
USA0B Ussuriysk Arra 42.01 4 P P **15 41 00.9 -0.7**
USRK Ussuriysk Ar. 42.01 4 P P **15 41 01.1 -0.6**
USRK Ussuriysk Ar. 42.01 4 P P **15 41 01.7 0.0**
comp=Z,3.7nm,0.8s,baz=186,slow=5.7,SNR=6.5
comp=Z,3.7nm,0.8s
MDJ Mudanjiang 42.30 2 P P **15 41 03.9 -0.1**
MDJ IAmb IAmb 15 41 07.3
comp=Z,12nm,1.2s
LSA Lhasa 44.31 312 P P **15 41 21.1 0.0**
LSA IAmb IAmb 15 41 36.1
comp=Z,7.6nm,0.6s
KLR Kul'dur 47.00 3 P P **15 41 41.4 0.0**
comp=Z,2.1nm,0.7s,baz=214,slow=3.5,SNR=7.8
comp=Z,2.1nm,0.7s
ULN Ulaanbaatar 48.95 342 P P **15 41 58.6 +1.9**
ULN IAmb IAmb 15 42 00.9
comp=Z,6.3nm,1.1s
SONM Songino Array 49.13 341 P P **15 41 58.8 +0.7**
SONM Songino Array 49.13 341 P P **15 41 58.8 +0.7**
comp=Z,2.0nm,0.8s,baz=162,slow=9.0,SNR=7.0
comp=Z,2.0nm,0.8s
PETK Petropavlovsk- 56.45 21 P P **15 42 52.9 +1.0**
comp=Z,3.3nm,0.8s,baz=183,slow=5.9,SNR=6.2
comp=Z,3.3nm,0.8s
MK31 Makanchi Array 59.47 325 P P **15 43 14.5 +1.2**
MK31 IAmb IAmb 15 43 15.9
comp=Z,5.2nm,1.1s
MKAR Makanchi Array 59.47 325 P P **15 43 13.9 +0.6**
MKAR Makanchi Array 59.47 325 P P **15 43 14.8 +1.6**
comp=Z,4.4nm,0.8s,baz=119,slow=7.8,SNR=35
comp=Z,4.4nm,0.8s
PRZ Przheval'sk 59.62 319 P P **15 43 16.2 +1.6**
MAKZ Makanchi 59.66 325 P P **15 43 14.6 0.0**
YAK Yakutsk 59.73 1 P P **15 43 15.2 +0.5**
NIL Nilore 59.77 308 P P **15 43 16.2 +0.6**
MA2 Magadan 59.94 13 P P **15 43 17.5 +1.3**
MA2 IAmb IAmb 15 43 18.9
comp=Z,5.5nm,0.9s
NRN Naryn 60.74 317 P P **15 43 23.6 +1.2**
NRN IAmb IAmb 15 43 25.9
comp=Z,2.8nm,0.7s
BOOM Boomskoye usch 61.24 318 P P **15 43 27.3 +1.7**
AAK Ala-Archa 62.27 318 P P **15 43 34.2 +1.7**
ZAAQ Zalesovo Array 62.48 333 P P **15 43 33.6 0.0**
ZALV Zalesovo Beam 62.48 333 P P **15 43 33.4 -0.2**
ZALV Zalesovo Beam 62.48 333 P P **15 43 34.0 +0.5**
comp=Z,2.6nm,0.8s,baz=108,slow=4.8,SNR=8.7
comp=Z,2.6nm,0.8s
ARSB Arslanbob 62.76 316 P P **15 43 36.2 +0.3**
DRK Karamyk 62.90 314 P P **15 43 37.0 0.0**
KBL Kabul 63.37 308 P P **15 43 40.6 +0.5**
KBL IAmb IAmb 15 43 42.9
comp=Z,4.4nm,0.8s
KURBB Kurchatov Array 63.65 327 P P **15 43 42.2 +0.9**
comp=Z,4.5nm,0.5s,baz=127,slow=6.2,SNR=37
comp=Z,4.5nm,0.5s
KURK Kurchatov 63.66 327 P P **15 43 42.1 +0.7**
BTK Batken 63.81 314 P P **15 43 41.8 -0.9**
BTK IAmb IAmb 15 43 58.0
comp=Z,3.3nm,0.8s
SIMJ Simiganj 64.66 312 P P **15 43 48.4 0.0**
SIMJ IAmb IAmb 15 43 52.2
comp=Z,7.1nm,1.2s
KK31 Karatay Array 65.14 317 P P **15 43 52.0 +0.7**
KK31 IAmb IAmb 15 43 54.9
comp=Z,8.4nm,1.3s
KKAR Karatay Array 65.14 317 P P **15 43 51.9 +0.6**
KKAR IAmb IAmb 15 43 54.9
comp=Z,8.3nm,1.3s
BVAR Borovoye Array 69.24 327 P P **15 44 18.0 +0.9**
comp=Z,3.1nm,0.6s,baz=126,slow=7.5,SNR=13
comp=Z,3.1nm,0.6s
BRVK Borovoye 69.31 327 P P **15 44 17.8 +0.3**
BRVK IAmb IAmb 15 44 19.4
comp=Z,7.8nm,1.1s
TIXI Tiksi 69.38 0 P P **15 44 17.6 0.0**
TIXI IAmb IAmb 15 44 19.7
comp=Z,4.1nm,0.7s
GEYT Alibeck 72.75 309 P P **15 44 39.4 +0.6**
GYA0B ALIBECK ARRAY 72.75 309 P P **15 44 39.5 +0.8**
GYA0B IAmb IAmb 15 44 56.1
comp=Z,3.7nm,0.8s
ABKAR Akbulak array 74.07 321 P P **15 44 46.0 -0.1**
ABKAR Akbulak array 74.07 321 P P **15 44 45.1 -1.1**
ARU Arti 76.85 328 P P **15 45 00.5 -1.5**
ARU IAmb IAmb 15 45 04.0
comp=Z,14nm,1.4s
E18K Tukpahlearik C 80.97 22 P P **15 45 25.4 +1.0**
E18K IAmb IAmb 15 45 28.0
comp=Z,3.0nm,0.7s
VNDA Vanda 81.75 173 P P **15 45 28.2 -0.1**
VNDA Vanda 81.75 173 P P **15 45 28.2 -0.1**
comp=Z,1.1nm,0.7s,baz=305,slow=7.2,SNR=5.7
comp=Z,1.1nm,0.7s
C19K Lookout Ridge 81.80 20 P P **15 45 30.2 +1.3**
C19K IAmb IAmb 15 45 38.8
comp=Z,6.6nm,1.1s
G19K Purcell Mounta 82.00 23 P P **15 45 30.0 +0.1**
RAYN Ar Rayn 82.13 293 P P **15 45 31.1 -0.4**
D19K Kuna River 82.16 21 P P **15 45 31.5 +0.8**
D19K IAmb IAmb 15 45 34.1
comp=Z,3.7nm,0.8s
B21K Ikpikpuk River 83.64 20 P P **15 45 39.6 +1.3**
B21K IAmb IAmb 15 45 48.4
comp=Z,4.8nm,1.1s
SKT Skwentna 83.67 28 P P **15 45 40.0 +1.4**
KARS Kars 84.63 310 P P **15 45 43.4 -0.8**
ILAR Eielson Array 86.02 25 P P **15 45 49.9 -0.5**
comp=Z,0.2nm,0.6s,baz=352,slow=1.8,SNR=1.6
comp=Z,0.2nm,0.6s
QSPA South Pole Qui 92.09 180 P P **15 46 19.1 -0.1**
comp=Z,2.2nm,1.1s,baz=285,slow=4.9,SNR=3.0
comp=Z,2.2nm,1.1s
ARCES ARCESS Array B 92.29 340 P P **15 46 19.9 0.0**
comp=Z,1.4nm,0.7s,baz=91,slow=6.7,SNR=3.6
comp=Z,1.4nm,0.7s
TORD Torodi Ar. Bea 124.47 287 PKP PKPdf **15 52 10.0 -0.3**
comp=Z,0.5nm,0.8s,baz=51,slow=3.3,SNR=5.4
VA03 San Esteban 145.00 152 PKPbc PKPab **15 52 46.9 -0.5**
CO02 Combarbal 146.06 150 PKPdf **15 52 49.9 -0.1**

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*IDC **21** 15:33:45.9±0.5, 1.61N×128.12E, h0km, mb4.7/30, mbtmp4.7/32, ML4.4/2, MS4.4/2/6, Error ellipse: s-maj=19.5km s-min=10.8km az=83.0*
*NEIC **21** 15:33:47.9±1.8, 1.48N±0.05×127.94E±0.06, h8km±4km, mb5.2/111, Mww5.2/18, Error ellipse: s-maj=10.7km s-min=2.0km az=129.0*
*MOS **21** 15:33:48.7±1.1, 1.46N×128.01E, h29km, mb5.1/48, Error ellipse: s-maj=10.4km s-min=5.3km az=111.4*
*GCMT **21** 15:33:49.8±0.1, 1.66N±0.01×127.81E±0.01, h14km, MW5.1/130, Moment Tensor Solution. s69,c100; s130,c217; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.86±.12; Mθθ=4.35±.10; Mϕϕ 6.21±.14; Mrθ=0.66±.22; Mθϕ=-3.41±.10; Mϕr=1.06±.24; Best double couple: M=6.44200×10^16 NP1:ϕs28.00000°,δ84.00000°, λ=14.00000°. NP2:ϕs119.00000°,δ76.00000°, λ=174.00000°. Principal axes: T 7.2910, Plg5.0000°, Azm74.0000°; N -1.6990, Plg75.0000°, Azm184.0000°; P -5.5920, Plg14.0000°, Azm343.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **21** 15:33:52.5, 1.43N×127.90E, h12km*
*NEIC **21** 15:33:52.5, 1.43N×127.90E, h12km, Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10^16Nm; Mrr=2.52; Mθθ-2.92; Mϕϕ5.44; Mrθ-1.45; Mθϕ-3.50; Mϕr-4.88; Fault plane solution: M0 7.68000×10^16 NP1: ϕs15.77000°,δ77.98000°,λ-48.68000°. NP2:ϕs119.09000°, δ42.73000°,λ-162.13000°. Principal axes: T 8.3579, Plg22.0000°, Azm76.0000°; N -1.3558, Plg40.0000°, Azm185.0000°; P -7.0021, Plg42.0000°, Azm325.0000°;*
ISC 21 15:33:49.2±0.5, 1.39N±0.03×128.02E±0.05, h20km±1km, h20km:pP-P, n384, σ1s69/416, mb5.0/141, MS4.4/30, 20C-7D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.89**	**227**		**Pb**	**15 34 05.0**	**-1.1**
TNTI				Sg	**Sb**	**15 34 17.0**	**-0.6**
LUWI	**Luwuk**	**5.77**	**245**	Pn	**Pn**	**15 35 14.8**	**+1.0**
FAKI	**Fak Fak**	**6.02**	**135**	Pn	**Pn**	**15 35 19.1**	**+1.9**
DAV	**Davao City (W)**	**6.14**	**337**	Pn	**Pn**	**15 35 17.5**	**-1.5**
	45nm,0.3s,baz=240,slow=20,SNR=1.6						
DAV				Sn	**Sn**	**15 36 29.8**	**+1.0**
	107nm,0.3s,baz=61,slow=13,SNR=1.8						
	160nm,0.4s						
DAV	**Davao City (W)**	**6.14**	**337**	P	**Pn**	**15 35 18.7**	**-0.3**
TOLI2	**Tolitoli**	**7.24**	**268**	Pn	**Pn**	**15 35 32.1**	**-1.9**
KAPI	**Kappang**	**10.42**	**232**	Pn	**Pn**	**15 36 17.4**	**-0.3**
KAPI	**Kappang**	**10.42**	**232**	P	**Pn**	**15 36 17.4**	**-0.3**
KAPI	**Kappang**	**10.42**	**232**	P	**Pn**	**15 36 21.7**	**+4.0**
MMRI	**Maumere**	**11.50**	**210**	Pn	**Pn**	**15 36 30.4**	**-2.1**
BATI	**Baumata**	**12.31**	**201**	Pn	**Pn**	**15 36 46.0**	**+2.5**
	0.4nm,0.3s,baz=72,slow=20,SNR=3.8						
	18nm,0.8s						
KKM	**Kota Kinabalu**	**12.65**	**292**	Pn	**Pn**	**15 36 45.7**	**-2.7**
TGY	**Tagaytay City**	**14.44**	**331**	LR	LR	15 44 15.9	
	comp=Z,1µm,18.8s,baz=136,slow=44						
MTN	**Manton Dam**	**14.47**	**168**	P	**P**	**15 37 18.8**	**-1.0**
	baz=15,SNR=3.8						
MTN	**Manton Dam**	**14.47**	**168**	Pn	**Pn**	**15 37 14.2**	**+1.1**
KDU	**Kakadu**	**14.67**	**163**	P	**Pn**	**15 37 17.5**	**+1.7**
	baz=15,SNR=3.5						
JAGI	**Jajag, Banyuwa**	**16.94**	**234**	Pn	**Pn**	**15 37 44.1**	**-1.2**
JAGI				IAmb	IAmb	15 37 53.4	
	comp=Z,89nm,0.9s						
KNRA	**Kununurra**	**16.97**	**178**	Pn	**Pn**	**15 37 45.5**	**-0.2**
KSM	**Kuching**	**17.70**	**270**		**Pn**	**15 37 53.3**	**-1.5**
FITZ	**Fitzroy Crossi**	**19.50**	**187**	P	**P**	**15 38 15.8**	**+0.4**
	baz=20,SNR=5.7						
FITZ	**Fitzroy Crossi**	**19.50**	**187**	P	**P**	**15 38 15.3**	**-0.1**
UGM	**Wanagama**	**19.74**	**242**	P	**P**	**15 38 18.0**	**-0.1**
GUMO	**Guam**	**20.62**	**53**	P	**P**	**15 38 24.2**	**-3.3**
	comp=Z,109nm,1.1s,baz=198,slow=19,SNR=2.0						
GUMO				LR	LR	15 45 01.6	
	comp=Z,1µm,21.9s,baz=242,slow=33						
	comp=Z,109nm,1.1s						
COEN	**Coen**	**21.40**	**136**	P	**P**	**15 38 38.9**	**+2.8**
LEM	**Lembang**	**21.93**	**248**	P	**P**	**15 38 44.1**	**+2.2**
	comp=Z,59nm,0.8s,baz=50,slow=4.9,SNR=7.1						
	comp=Z,59nm,0.8s						
WB0	**Warramunga Arr**	**21.93**	**164**	P	**P**	**15 38 43.3**	**+1.5**
WB0				IAmb	IAmb	15 38 49.5	
	comp=Z,127nm,1.0s						
WRAB	**Tennant Creek**	**22.08**	**164**	P	**P**	**15 38 43.6**	**+0.4**
WRAB				IAmb	IAmb	15 38 51.0	
	comp=Z,122nm,1.0s						
WRAB	**Tennant Creek**	**22.08**	**164**	P	**P**	**15 38 43.7**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,121nm,1.0s						
WRA	**Warramunga Arr**	**22.09**	**164**	P	**P**	**15 38 42.4**	**-1.0**
WRA	**Warramunga Arr**	**22.09**	**164**	P	**P**	**15 38 42.4**	**-1.0**
WRA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
WRA	**Warramunga Arr**	**22.09**	**164**	P	**P**	**15 38 45.2**	**+1.8**
	comp=Z,85nm,1.0s,baz=343,slow=9.6,SNR=56						
	comp=Z,85nm,1.0s						
WB2	**Warramunga Arr**	**22.09**	**164**	P	**P**	**15 38 42.3**	**-1.1**
WB2				IAmb	IAmb	15 38 50.5	
	comp=Z,140nm,1.1s						
WR0	**Warramunga Arr**	**22.16**	**164**	P	**P**	**15 38 44.4**	**+0.3**
WR0				IAmb	IAmb	15 38 51.2	
	comp=Z,104nm,1.1s						
TWG	**Pinlang**	**22.35**	**343**	P	**P**	**15 38 42.7**	**-3.4**
TWG				IAmb	IAmb	15 38 50.9	
	comp=Z,96nm,0.8s						
YULB	**Yu-li**	**22.82**	**344**	P	**P**	**15 38 49.8**	**-1.4**
YULB				IAmb	IAmb	15 39 09.1	
	comp=Z,59nm,0.9s						
TPUB	**Ta-pu**	**22.93**	**342**	P	**P**	**15 38 51.1**	**-1.2**
SSLB	**Suanglung**	**23.30**	**343**	P	**P**	**15 38 55.2**	**-0.8**
NACB	**Ninganchiao**	**23.49**	**345**	P	**P**	**15 38 58.4**	**+0.5**
NACB				IAmb	IAmb	15 39 14.0	
	comp=Z,69nm,1.2s						
YHNB	**Yeheng**	**24.02**	**345**	P	**P**	**15 39 02.8**	**-0.3**
PSA00	**Pilbara Seismi**	**24.18**	**199**	P	**P**	**15 39 04.3**	**-0.2**
QIZ	**Qiongzhong**	**24.99**	**316**	P	**P**	**15 39 12.8**	**+0.9**
QIZ				pmax	pmax		
	comp=Z,350nm,7.3s						
QIZ				LR	LR		
	comp=Z,1µm,18.5s						
QIZ				LR	LR		
	comp=Z,1µm,16.8s						
QIZ				LR	LR		
	comp=Z,680nm,16.0s						
QZH	**Quanzhou**	**25.12**	**340**	*iP*	**P**	**15 39 15.8**	**+2.8**
QZH				S	**S**	**15 43 40.6**	**+3.6**
QZH				pmax	pmax		
	comp=Z,130nm,1.5s						
QZH				LR	LR		
	comp=Z,1µm,24.7s						
XMIS	**Christmas Isla**	**25.18**	**242**	P	**P**	**15 39 12.7**	**-1.1**
JOW	**Kunigami**	**25.30**	**1**	P	**P**	**15 39 12.2**	**-2.4**
	comp=Z,38nm,1.0s,baz=201,slow=13,SNR=1.9						
	comp=Z,38nm,1.0s						
AS31	**Alice Springs**	**25.55**	**167**	P	**P**	**15 39 15.3**	**-1.7**
ASAR	**Alice Springs**	**25.55**	**167**	P	**P**	**15 39 16.3**	**-0.8**
ASAR	**Alice Springs**	**25.55**	**167**	P	**P**	**15 39 18.4**	**+1.4**
	comp=Z,12nm,0.8s,baz=351,slow=9.8,SNR=7.1						
ASAR				PcP	**PcP**	**15 42 49.9**	**+1.6**
	comp=Z,2.8nm,0.8s,baz=11,slow=2.6,SNR=4.5						
	comp=Z,12nm,0.8s						
WRKA	**Warakurna**	**26.27**	**179**	P	**P**	**15 39 27.4**	**+3.9**
	baz=27,SNR=7.1						
BKNI	**Bangkinang**	**27.00**	**268**	P	**P**	**15 39 27.7**	**-2.4**
BKNI				IAmb	IAmb	15 39 47.7	
	comp=Z,43nm,0.5s						
GSI	**Gunungsitoli**	**30.43**	**270**	P	**P**	**15 39 59.1**	**-1.7**
GSI				IAmb	IAmb	15 40 03.6	
	comp=Z,17nm,0.8s						
JNU	**Nakatsue**	**31.68**	**5**	P	**P**	**15 40 09.3**	**-2.2**
	comp=Z,18nm,0.9s,baz=164,slow=2.8,SNR=4.4						
	comp=Z,18nm,0.9s						
NJ2	**Nanjing**	**31.70**	**345**	*eP*	**P**	**15 40 14.3**	**+2.6**
NJ2				pP	**pP**	**15 40 16.3**	**-1.4**
NJ2				sP	**sP**	**15 40 18.0**	**-2.1**
NJ2				S	**S**	**15 45 25.4**	**+5.0**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,390nm,4.8s						
NJ2				LR	LR		
	comp=Z,860nm,16.1s						
NJ2				LR	LR		
	comp=Z,510nm,12.3s						
NJ2				LR	LR		
	comp=Z,610nm,14.2s						
WHN	**Wuhan**	**31.76**	**337**	⇑P	**P**	**15 40 16.4**	**+4.1**
WHN				sP	**sP**	**15 40 21.5**	**+0.8**
WHN				S	**S**	**15 45 25.8**	**+4.4**
WHN				LR	LR		
	comp=Z,4µm,24.3s						
PHRA	**Phrae**	**32.13**	**304**	P	**P**	**15 40 15.9**	**+0.2**
GYA	**Guiyang**	**32.29**	**322**	⇑P	**P**	**15 40 20.0**	**+2.8**
GYA				S	**S**	**15 45 32.1**	**+2.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GYA				pmax	pmax		
	comp=Z,200nm,5.3s						
GYA				LR	LR		
	comp=Z,320nm,9.7s						
GYA				LR	LR		
	comp=Z,470nm,14.9s						
GYA				LR	LR		
	comp=Z,580nm,19.2s						
CRAI	**Chiangrai**	**32.87**	**307**	P	**P**	**15 40 21.1**	**-1.1**
CRAI				IAmb	IAmb	15 40 27.7	
	comp=Z,21nm,1.0s						
CM31	**Chiang Mai Arr**	**33.18**	**303**	P	**P**	**15 40 23.3**	**-1.7**
CM31				IAmb	IAmb	15 40 30.5	
	comp=Z,24nm,1.1s						
CMAR	**Chiang Mai Arr**	**33.18**	**303**		**P**	**15 40 24.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**33.18**	**303**	P	**P**	**15 40 24.9**	**-0.1**
	comp=Z,5.9nm,0.9s,baz=118,slow=6.9,SNR=16						
CMAR				PcP	**PcP**	**15 43 07.8**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=151,slow=2.1,SNR=4.3						
	comp=Z,5.9nm,0.9s						
ENH	**Enshi**	**33.69**	**330**	P	**P**	**15 40 27.7**	**-1.5**
ENH				IAmb	IAmb	15 40 36.3	
	comp=Z,24nm,0.9s						
KMI	**Kunming**	**33.94**	**316**	⇓P	P	15 40 36.5	+4.8
KMI				S	**S**	**15 46 01.8**	**+5.9**
KMI				pmax	pmax		
	comp=Z,26nm,1.0s						
KMI				LR	LR		
	comp=Z,760nm,22.5s						
KMI				LR	LR		
	comp=Z,730nm,25.3s						
KMI				LR	LR		
	comp=Z,720nm,23.6s						
STKA	**Stephens Creek**	**35.50**	**160**	P	**P**	**15 40 47.0**	**+2.1**
	baz=36,SNR=9.8						
STKA	**Stephens Creek**	**35.50**	**160**	P	**P**	**15 40 46.1**	**+1.3**
STKA	**Stephens Creek**	**35.50**	**160**	⇑*eP*	**P**	**15 40 46.1**	**+1.3**
STKA	**Stephens Creek**	**35.50**	**160**	P	**P**	**15 40 46.6**	**+1.8**
	comp=Z,56nm,1.1s,baz=338,slow=9.0,SNR=16						
	comp=Z,56nm,1.1s						
PZH	**PanZhiHua**	**35.52**	**317**	P	**P**	**15 40 47.3**	**+2.1**
PZH				pP	**pP**	**15 40 49.9**	**-1.3**
PZH				S	**S**	**15 46 22.0**	**+2.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
PZH				pmax	pmax		
	comp=Z,170nm,5.3s						
PZH				LR	LR		
	comp=Z,390nm,18.8s						
PZH				LR	LR		
	comp=Z,370nm,18.2s						
PZH				LR	LR		
	comp=Z,490nm,19.6s						
KSRS	**Korea Array**	**35.89**	**360**	P	**P**	**15 40 46.5**	**-1.5**
	comp=Z,5.3nm,0.7s,baz=177,slow=10,SNR=14						
	comp=Z,5.3nm,0.7s						
LYN	**LuoYang**	**36.05**	**338**	⇓*eP*	**P**	**15 40 52.0**	**+2.5**
LYN				S	**S**	**15 46 34.3**	**+6.6**
LYN				pmax	pmax		
	comp=Z,100nm,0.9s						
LYN				pmax	pmax		
	comp=Z,410nm,6.2s						
LYN				LR	LR		
	comp=Z,620nm,22.1s						
LYN				LR	LR		
	comp=Z,530nm,17.3s						
LYN				LR	LR		
	comp=Z,1µm,25.1s						
TIA	**Tai'an**	**36.09**	**345**	P	**P**	**15 40 52.8**	**+3.0**
TIA				S	**S**	**15 46 30.1**	**+1.8**
TIA				pmax	pmax		
	comp=Z,7.0nm,1.4s						
TIA				pmax	pmax		
	comp=Z,140nm,5.9s						
TIA				LR	LR		
	comp=Z,270nm,9.3s						
TIA				LR	LR		
	comp=Z,330nm,13.9s						
TIA				LR	LR		
	comp=Z,220nm,16.4s						
MAJO	**Matsushiro**	**36.23**	**14**	⇑*eP*	**P**	**15 40 49.6**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MJAR	**Matsushiro Arr**	**36.23**	**14**	P	**P**	**15 40 47.9**	**-3.1**
	comp=Z,6.0nm,0.6s,baz=191,slow=8.7,SNR=13						
	comp=Z,6.0nm,0.6s						
TNCH	**TengChong**	**36.92**	**312**	*eP*	**P**	**15 40 57.9**	**+0.6**
TNCH				pP	pP	15 41 00.3	-3.1
TNCH				sP	sP	15 41 02.3	-3.4
TNCH				S	**S**	**15 46 42.1**	**+0.5**
TNCH				SS	**SnSn**	**15 49 10.1**	**-4.6**
TNCH				ScS	**ScS**	**15 51 12.0**	**-0.3**
TNCH				pmax	pmax		
	comp=Z,19nm,1.2s						
TNCH				pmax	pmax		
	comp=Z,170nm,3.6s						
TNCH				LR	LR		
	comp=Z,210nm,12.7s						
TNCH				LR	LR		
	comp=Z,180nm,14.4s						
TNCH				LR	LR		
	comp=Z,260nm,14.8s						
XAN	**Xi'an**	**37.07**	**333**	P	**P**	**15 40 59.8**	**+1.5**
XAN				pP	pP	15 41 04.1	-0.3
XAN				S	**S**	**15 46 46.6**	**+3.1**
XAN				pmax	pmax		
	comp=Z,67nm,1.3s						
XAN				LR	LR		
	comp=Z,630nm,19.2s						
XAN				LR	LR		
	comp=Z,700nm,19.2s						
XAN				LR	LR		
	comp=Z,740nm,19.2s						
CD2	**Chengdu**	**37.28**	**324**	P	**P**	**15 40 59.8**	**-0.3**
CD2				S	**S**	**15 46 49.8**	**+3.0**

CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 LR LR
comp=Z,540nm,16.3s
CD2 LR LR
comp=Z,720nm,16.3s
CD2 LR LR
comp=Z,610nm,17.1s
HNS HongShan 37.88 343 ⇑P **P** **15 41 05.8 +0.8**
HNS S **S** **15 46 58.5 +3.0**
HNS pmax pmax
comp=Z,28nm,1.0s
HNS LR LR
comp=Z,470nm,17.5s
HNS LR LR
comp=Z,500nm,14.9s
HNS LR LR
comp=Z,530nm,19.1s
TIY Taiyuan 38.89 340 *e*P **P** **15 41 16.3 +2.7**
TIY S **S** **15 47 08.9 -2.1**
TIY pmax pmax
comp=Z,26nm,0.7s
BJT Baijiatuau 39.93 346 P **P** **15 41 20.5 -1.7**
BJT IAmb IAmb 15 41 33.0
comp=Z,36nm,0.8s
BJT Baijiatuau 39.93 346 P **P** **15 41 20.5 -1.7**
BJT pmax pmax
comp=Z,36nm,0.8s
BJI Beijing 39.95 346 P **P** **15 41 21.3 -1.0**
BJI S **S** **15 47 33.1 +6.4**
BJI pmax pmax
comp=Z,24nm,0.8s
BJI LR LR
comp=Z,200nm,14.0s
BJI LR LR
comp=Z,140nm,12.0s
BJI LR LR
comp=Z,200nm,14.9s
MSHR Mys Shultsa 41.11 4⇑ *e*P **P** **15 41 32.0 +0.2**
MSHR pmax pmax
comp=Z,15nm,0.9s
LZH Lanzhou 41.16 330⇑ *i*P **P** **15 41 34.9 +2.3**
LZH pP pP 15 41 39.4 +0.7
LZH S **S** **15 47 48.3 +3.1**
LZH pmax pmax
comp=Z,54nm,1.2s
LZH pmax pmax
comp=Z,350nm,5.2s
LZH LR LR
comp=Z,670nm,16.8s
LZH LR LR
comp=Z,580nm,17.7s
LZH LR LR
comp=Z,900nm,19.8s
H11S3 WAKE ISLAND Hy 41.56 63 T T 16 25 42.8
baz=250,slow=75,SNR=220
H11S2 WAKE ISLAND Hy 41.57 63 T T 16 25 43.2
baz=250,slow=75,SNR=58
H11S1 WAKE ISLAND Hy 41.57 63 T T 16 25 43.4
baz=250,slow=75,SNR=53
TOO Toolangi 42.01 159 P **P** **15 41 37.6 -1.8**
baz=42,SNR=4.4
HHC Hu-ho-hao-te 42.01 341 *e*P **P** **15 41 39.8 +0.3**
HHC pP pP 15 41 44.8 -0.8
HHC PP 15 43 23.3
HHC S **S** **15 47 59.1 +1.5**
HHC sS pS 15 48 05.8 +0.9
HHC ScS **ScS** **15 51 39.9 -1.5**
HHC pmax pmax
comp=Z,37nm,0.8s
HHC pmax pmax
comp=Z,280nm,6.1s
HHC LR LR
comp=Z,560nm,15.7s
HHC LR LR
comp=Z,230nm,12.2s
HHC LR LR
comp=Z,610nm,16.2s
H11N1 WAKE ISLAND Hy 42.16 62 T T 16 26 29.7
baz=249,slow=75,SNR=144
H11N2 WAKE ISLAND Hy 42.17 62 T T 16 26 30.5
baz=249,slow=75,SNR=86
H11N3 WAKE ISLAND Hy 42.17 62 T T 16 26 33.1
baz=249,slow=75,SNR=169
CN2 Changchun 42.29 357 *e*P **P** **15 41 44.3 +2.8**
CN2 *e*S **S** **15 48 02.3 +0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,3.0s
BTO Baotou 42.31 340 *e*P **P** **15 41 42.6 +0.7**
BTO pP **sP** **15 41 52.1 +1.7**
BTO S **S** **15 48 01.3 -0.7**
BTO pmax pmax
comp=Z,20nm,0.6s
BTO pmax pmax
comp=Z,650nm,5.0s
BTO LR LR
comp=Z,770nm,14.6s
BTO LR LR
comp=Z,650nm,13.0s
BTO LR LR
comp=Z,760nm,13.6s
USA0B Ussuriysk Arra 42.77 4 P **P** **15 41 44.6 -0.8**
USA0B Ussuriysk Arra 42.77 4 *c e*P **P** **15 41 46.2 +0.7**
USRK Ussuriysk Ar. 42.77 4 P **P** **15 41 44.4 -1.1**
USRK Ussuriysk Ar. 42.77 4 P **P** **15 41 44.4 -1.1**
USRK Ussuriysk Ar. 42.77 4 P **P** **15 41 44.5 -0.9**
comp=Z,8.3nm,0.8s,baz=193,slow=6.5,SNR=11
comp=Z,8.3nm,0.8s
MDJ Mudanjiang 43.07 2 P **P** **15 41 48.8 +1.0**
MDJ PcS **PcS** **15 47 26.6 -3.3**
MDJ S **S** **15 48 17.1 +4.3**
MDJ ScS **ScS** **15 51 43.3 -4.2**
MDJ pmax pmax
comp=Z,9.0nm,0.8s
MDJ pmax pmax
comp=Z,130nm,3.8s
MDJ LR LR
comp=Z,470nm,16.8s
MDJ LR LR
comp=Z,350nm,16.1s
MDJ LR LR
comp=Z,660nm,18.9s
MDJ Mudanjiang 43.07 2 P **P** **15 41 47.4 -0.4**
MDJ IAmb IAmb 15 41 53.3
comp=Z,33nm,1.2s
XLT XiLinHaoTe 43.64 347 *e*P **P** **15 41 55.1 +2.5**
XLT S **S** **15 48 20.6 -0.8**
XLT SS SS 15 51 25.8 -11
XLT pmax pmax
comp=Z,20nm,1.1s
XLT pmax pmax
comp=Z,170nm,4.7s
XLT LR LR
comp=Z,41nm,13.4s
XLT LR LR
comp=Z,330nm,13.5s
XLT LR LR
comp=Z,480nm,16.7s
LSA Lhasa 44.95 312 P **P** **15 42 02.9 -0.9**
LSA Lhasa 44.95 312 P **P** **15 42 02.9 -0.9**
LSA pmax pmax
comp=Z,173nm,2.0s
GTA Gaotai 45.75 329 P **P** **15 42 12.8 +3.2**
GTA S **S** **15 48 54.1 +1.8**
GTA pmax pmax
comp=Z,16nm,1.5s
GTA pmax pmax
comp=Z,200nm,5.8s
GTA LR LR
comp=Z,260nm,20.0s
GTA LR LR
comp=Z,350nm,19.3s
GTA LR LR
comp=Z,480nm,19.6s
YSS Yuzh-Sakhalins 47.17 14 *e*P **P** **15 42 21.9 +1.5**
YSS *e*S **S** **15 49 09.0 -3.0**
YSS pmax pmax
comp=Z,20nm,1.2s
KLR Kul'dur 47.77 3⇑ *e*P **P** **15 42 26.1 +1.1**
KLR pmax pmax
comp=Z,9.0nm,1.0s
KLR Kul'dur 47.77 3 P **P** **15 42 23.3 -1.8**
comp=Z,9.4nm,1.0s,baz=228,slow=2.8,SNR=5.7
comp=Z,9.4nm,1.0s

HEH HeiHe 48.69 359 *e*P **P** **15 42 31.8 -0.3**
HEH pmax pmax
comp=Z,13nm,1.0s
HEH LR LR
comp=Z,440nm,18.2s
HEH LR LR
comp=Z,640nm,17.5s
HEH LR LR
comp=Z,930nm,18.3s
GRNR Gornyy 49.72 7⇑ *i*P **P** **15 42 42.1 +2.1**
GRNR pmax pmax
comp=Z,8.0nm,1.1s
ULN Ulaanbaatar 49.73 342 P **P** **15 42 38.2 -2.1**
ULN IAmb IAmb 15 42 44.7
comp=Z,52nm,1.2s
ULN Ulaanbaatar 49.73 342 *c e*P **P** **15 42 39.0 -1.3**
ULN pmax pmax
comp=Z,13nm,0.8s
ULN Ulaanbaatar 49.73 342 P **P** **15 42 39.5 -0.9**
ULN P **P** **15 42 39.5 -0.9**
SONM Songino Array 49.91 341 **P** **15 42 40.2 -1.5**
SONM Songino Array 49.91 341 P **P** **15 42 40.2 -1.5**
SONM pmax pmax
comp=Z,11nm,0.9s
SONM Songino Array 49.91 341 P **P** **15 42 39.9 -1.8**
comp=Z,8.4nm,0.7s,baz=155,slow=8.3,SNR=11
SONM PcP **PcP** **15 44 03.0 +1.1**
comp=Z,4.4nm,0.9s,baz=159,slow=4.2,SNR=2.9
SONM PP **PP** **15 44 35.1 -1.6**
comp=Z,1.5nm,1.0s,baz=166,slow=8.9,SNR=1.2
comp=Z,8.4nm,0.7s
HYB Hyderabad 51.14 291 *e*P **P** **15 42 50.6 -0.7**
CIT Chita 51.90 349 *e*P **P** **15 42 52.4 -4.1**
CIT *e* 15 44 05.4
CIT *e* 15 45 00.2
CIT pmax pmax
comp=Z,60nm,1.8s
ZEA Zeya 52.18 359 *e*P **P** **15 42 59.3 +0.8**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZAK Zakamensk 53.15 340 *e*P **P** **15 43 03.5 -2.3**
ZAK pmax pmax
comp=Z,7.0nm,1.4s
IRK Irkutsk 54.43 342 *e*P **P** **15 43 15.3 +0.2**
IRK pmax pmax
comp=Z,30nm,1.7s
WMQ Urumqi 55.37 325 ⇓P **P** **15 43 24.3 +2.2**
WMQ S **S** **15 51 07.8 +2.1**
WMQ pmax pmax
comp=Z,25nm,1.1s
WMQ pmax pmax
comp=Z,200nm,3.7s
WMQ LR LR
comp=Z,540nm,16.5s
WMQ LR LR
comp=Z,300nm,19.9s
WMQ LR LR
comp=Z,220nm,24.7s
PETK Petropavlovsk- 57.12 21 P **P** **15 43 33.0 -1.3**
comp=Z,4.8nm,0.8s,baz=213,slow=4.3,SNR=8.1
comp=Z,4.8nm,0.8s
BOD Bodaibo 57.36 351 *e*P **P** **15 43 34.8 -1.1**
BOD pmax pmax
comp=Z,25nm,1.9s
ZSN Zaisan 59.16 327 *e*P **P** **15 43 49.2 +0.4**
comp=Z,8.8nm,1.2s,baz=327
ZSN Zaisan 59.16 327 *e*P **P** **15 43 49.1 +0.4**
ZSN pmax pmax
comp=Z,9.0nm,1.2s
DGZ Jazzator, Alta 59.25 331⇑ *e*P **P** **15 43 51.0 +1.5**
DGZ pmax pmax
comp=Z,11nm,1.3s
SHLS Shalkode 59.96 321 *e*P **P** **15 43 52.6 -2.0**
comp=Z,14nm,1.1s,baz=321
SHLS Shalkode 59.96 321 *e*P **P** **15 43 52.5 -2.0**
SHLS pmax pmax
comp=Z,14nm,1.1s
MK31 Makanchi Array 60.20 325 P **P** **15 43 54.5 -1.5**
MK31 IAmb IAmb 15 43 59.0
comp=Z,12nm,0.8s
MK31 Makanchi Array 60.20 325 *d e*P **P** **15 43 55.4 -0.6**
MKAR Makanchi Array 60.20 325 P **P** **15 43 54.2 -1.8**
MKAR Makanchi Array 60.20 325 *i* P **P** **15 43 55.5 -0.5**
MKAR pmax pmax
comp=Z,15nm,0.7s
MKAR Makanchi Array 60.20 325 P **P** **15 43 54.9 -1.1**
comp=Z,14nm,0.7s,baz=121,slow=8.6,SNR=18
comp=Z,14nm,0.7s
UZB Uzynbulak 60.23 320 *e*P **P** **15 43 56.7 +0.2**
comp=Z,9.1nm,1.2s,baz=320
UZB Uzynbulak 60.23 320 *e*P **P** **15 43 56.6 +0.2**
UZB pmax pmax
comp=Z,9.0nm,1.2s
PRZ Przheval'sk 60.31 320 P **P** **15 43 56.7 -0.3**
PRZ Przheval'sk 60.31 320 P **P** **15 43 56.7 -0.3**
PRZ pmax pmax
comp=Z,72nm,1.6s
NIL Nilore 60.37 308 P **P** **15 43 57.5 +0.1**
NIL Nilore 60.37 308 P **P** **15 43 57.5 +0.1**
NIL pmax pmax
comp=Z,82nm,1.4s
NIL Nilore 60.37 308 P **P** **15 44 00.3 +2.9**
NIL P **P** **15 44 00.3 +2.9**
MAKZ Makanchi 60.39 325 P **P** **15 43 56.7 -0.5**
MAKZ IAmb IAmb 15 44 00.7
comp=Z,26nm,1.1s
MAKZ Makanchi 60.39 325 P **P** **15 43 56.7 -0.5**
MAKZ pmax pmax
comp=Z,26nm,1.1s
YAK Yakutsk 60.51 1 **P** **15 43 55.4 -2.2**
YAK Yakutsk 60.51 1 *e*P **P** **15 43 55.7 -2.0**
YAK *e**PP **sP** **15 44 05.5 -0.8**
YAK *e* 15 44 40.8
YAK *e*S **S** **15 52 09.1 -3.0**
YAK *e**SS **sS** **15 52 26.5 +4.1**
YAK *e* 15 53 44.0
YAK *e*SS **SS** **15 56 09.1 -1.3**
YAK pmax pmax
comp=Z,47nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.4s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=Z,262nm,6.1s
YAK pmax pmax
comp=N,70nm,6.3s
YAK pmax pmax
comp=E,134nm,7.2s
YAK smax smax
comp=N,164nm,5.6s
YAK smax smax
comp=E,88nm,5.4s
SATY Saty 60.58 320 *e*P **P** **15 43 58.7 -0.2**
comp=E,9.7nm,1.0s,baz=320
SATY Saty 60.58 320 *e*P **P** **15 43 58.6 -0.2**
SATY pmax pmax
comp=Z,10.0nm,1.0s
KSH Kashi 60.60 316 P **P** **15 44 01.3 +2.3**
KSH S **S** **15 52 16.8 +2.4**
KSH pmax pmax
comp=Z,20nm,1.0s
KSH LR LR
comp=Z,320nm,13.5s
KSH LR LR
comp=Z,150nm,16.1s
KSH LR LR
comp=Z,310nm,16.9s
ZHN Zhinishke 60.62 320 *e*P **P** **15 43 59.3 +0.2**
comp=Z,6.8nm,1.1s,baz=320
ZHN Zhinishke 60.62 320 *e*P **P** **15 43 59.2 +0.2**
ZHN pmax pmax
comp=Z,7.0nm,1.1s
MA2 Magadan 60.66 13 P **P** **15 43 58.5 -0.4**
MA2 IAmb IAmb 15 44 04.6
comp=Z,17nm,1.0s
MA2 Magadan 60.66 13⇓ *e*P **P** **15 43 58.6 -0.2**
MA2 pmax pmax
comp=Z,20nm,2.4s
NRN Naryn 61.41 318 P **P** **15 44 04.8 +0.2**
NRN IAmb IAmb 15 44 13.0
comp=Z,12nm,0.9s
NRN Naryn 61.41 318 P **P** **15 44 04.9 +0.2**
NRN pmax pmax
comp=Z,12nm,0.9s
MDOK Medeo 61.51 320 *e*P **P** **15 44 05.1 -0.1**
baz=320
MDOK Medeo 61.51 320 *e*P **P** **15 44 05.0 -0.1**
CHKK Chushkaly 61.87 320 *e*P **P** **15 44 07.3 -0.1**
baz=320
CHKK Chushkaly 61.87 320 *e*P **P** **15 44 07.2 -0.1**
BOOM Boomskoye usch 61.92 319 P **P** **15 44 05.6 -2.4**
BOOM Boomskoye usch 61.92 319 P **P** **15 44 05.6 -2.4**
AAK Ala-Archa 62.95 318⇑ *e*P **P** **15 44 13.9 -0.9**
AAK pmax pmax
comp=Z,2.0nm,0.7s
AAK Ala-Archa 62.95 318 P **P** **15 44 17.8 +3.0**
AAK P **P** **15 44 17.8 +3.0**
SGDS Sogindy 63.21 319 *e*P **P** **15 44 16.5 +0.1**
baz=319
SGDS Sogindy 63.21 319 *e*P **P** **15 44 16.5 +0.1**
ZAA0 Zalesovo Array 63.24 333 P **P** **15 44 15.7 -0.6**
ZALV Zalesovo Beam 63.24 333 P **P** **15 44 15.3 -1.0**
ZALV Zalesovo Beam 63.24 333 P **P** **15 44 15.0 -1.3**
ZALV Zalesovo Beam 63.24 333 P **P** **15 44 15.0 -1.3**
comp=Z,3.8nm,0.8s,baz=111,slow=6.5,SNR=8.1
comp=Z,3.8nm,0.8s
SEM Semipalatinsk 63.36 328 *e*P **P** **15 44 17.6 +0.1**
baz=328
SEM Semipalatinsk 63.36 328 *e*P **P** **15 44 17.5 +0.1**
KBL Kabul 63.96 308 P **P** **15 44 21.6 -0.1**
KBL Kabul 63.96 308 P **P** **15 44 21.6 -0.1**
KBL pmax pmax
comp=Z,41nm,1.1s
KBL Kabul 63.96 308 P **P** **15 44 23.4 +1.7**
SNR=14
KBL P **P** **15 44 23.4 +1.7**
SNR=14
SEY Seymchan 64.02 12⇑ *e*P **P** **15 44 22.0 +0.7**
SEY pmax pmax
comp=Z,11nm,1.8s
BTLS Baital 64.29 320 *e*P **P** **15 44 23.1 -0.3**
comp=Z,7.7nm,1.2s,baz=320
BTLS Baital 64.29 320 *e*P **P** **15 44 23.1 -0.3**
BTLS pmax pmax
comp=Z,8.0nm,1.2s
KURBB Kurchatov Arra 64.39 328 P **P** **15 44 22.1 -1.8**
comp=Z,19nm,0.8s,baz=126,slow=6.0,SNR=20
comp=Z,19nm,0.8s
KURK Kurchatov 64.39 328 P **P** **15 44 22.3 -1.6**
KURK Kurchatov 64.39 328 P **P** **15 44 22.3 -1.6**
KURK pmax pmax
comp=Z,33nm,0.9s
KURK Kurchatov 64.39 328 P **P** **15 44 25.5 +1.6**
KURK P **P** **15 44 25.5 +1.6**
DZA Taraz 65.18 317 *e*P **P** **15 44 29.6 +0.3**
baz=317
DZA Taraz 65.18 317 *e*P **P** **15 44 29.5 +0.3**
SIMJ Simiganj 65.29 312 P **P** **15 44 31.2 +1.0**
IUG Iuzhnay 65.78 316 *e*P **P** **15 44 33.7 +0.4**
comp=Z,13nm,0.8s,baz=316
IUG Iuzhnay 65.78 316 *e*P **P** **15 44 33.7 +0.4**
IUG pmax pmax
comp=Z,13nm,0.8s
KKAR Karatay Array 65.81 317 IAmb IAmb 15 44 41.8
comp=Z,31nm,1.1s
BRLS Boroldaу 66.24 317 *e*P **P** **15 44 36.2 +0.1**
comp=Z,11nm,1.1s,baz=317
BRLS Boroldaу 66.24 317 *e*P **P** **15 44 36.2 +0.1**
BRLS pmax pmax
comp=Z,11nm,1.1s
BRZS Berezniki 67.33 325 *e*P **P** **15 44 43.1 +0.2**
baz=325
BRZS Berezniki 67.33 325 *e*P **P** **15 44 43.1 +0.2**
HRA Herat 69.34 306 IAmb IAmb 15 45 04.2
comp=Z,25nm,1.1s
JLN Jalan Bani Buh 69.69 293 P **P** **15 45 00.4 +2.2**
BVAR Borovoye Array 69.97 327 P **P** **15 44 58.0 -1.3**
BVAR Borovoye Array 69.97 327 P **P** **15 44 58.0 -1.3**
comp=Z,9.4nm,0.9s,baz=127,slow=6.5,SNR=12
comp=Z,9.4nm,0.9s
BRVK Borovoye 70.04 327 P **P** **15 44 59.8 +0.1**
BRVK IAmb IAmb 15 45 09.6
comp=Z,26nm,1.1s
BRVK Borovoye 70.04 327 *d e*P **P** **15 45 00.6 +0.9**
BRVK pmax pmax
comp=Z,14nm,1.0s
BRVK Borovoye 70.04 327 P **P** **15 45 01.2 +1.4**
BRVK P **P** **15 45 01.2 +1.4**
WBK Wadi Bani Khal 70.15 293 P **P** **15 45 01.3 +0.3**
WBK P **P** **15 45 01.3 +0.3**
TIXI Tiksi 70.16 0⇑ *e*P **P** **15 45 00.2 +0.1**
TIXI pmax pmax
comp=Z,22nm,1.3s
MHTO MHTO 70.89 292 P **P** **15 45 06.2 +0.6**
MHTO P **P** **15 45 06.2 +0.6**
JMDO Jabal Madar 70.92 293 P **P** **15 45 06.6 +0.8**
JMDO P **P** **15 45 06.6 +0.8**
BIDO Bidbid 71.03 294 P **P** **15 45 06.9 +0.5**
SMDO Samad 71.05 294 P **P** **15 45 07.1 +0.5**
BILL Bilibino 71.48 14 *e*P **P** **15 45 08.0 -0.2**
JASK Jask - Hormozg 71.56 297 P **P** **15 45 10.9 +1.4**
HOQ Hoqain 71.78 294 P **P** **15 45 13.0 +2.1**
SNR=5.6
HOQ P **P** **15 45 13.0 +2.1**
SNR=5.6
BSY Bisya 71.79 293 P **P** **15 45 12.3 +1.3**
ARQ Araqi 72.47 294 P **P** **15 45 16.1 +1.0**
ARQ P **P** **15 45 16.1 +1.0**
SOHO SOHO 72.55 295 P **P** **15 45 17.3 +1.8**
SOHO P **P** **15 45 17.3 +1.8**
SHAO Shalim 72.83 288 P **P** **15 45 19.2 +1.9**
UOSS Minazif 72.94 296 P **P** **15 45 20.8 +3.0**
UOSS P **P** **15 45 20.8 +3.0**
MASF Masafi 73.03 296 P **P** **15 45 21.4 +3.0**
ASHO Ashiyiah 73.04 295 P **P** **15 45 21.2 +2.7**
ALNE Al Ain 73.25 295 P **P** **15 45 21.2 +1.5**
SNR=12
ALNE P **P** **15 45 21.2 +1.5**
SNR=12
GEYT Alibeck 73.36 309 P **P** **15 45 19.4 -0.7**
GEYT Alibeck 73.36 309 P **P** **15 45 19.4 -0.7**
GEYT pmax pmax
comp=Z,68nm,1.6s
GEYT Alibeck 73.36 309 P **P** **15 45 19.5 -0.7**
comp=Z,7.2nm,0.9s,baz=142,slow=5.1,SNR=14
GEYT LR LR 16 21 36.8
comp=Z,78nm,20.7s,baz=101,slow=39
comp=Z,7.2nm,0.9s
GYA0B ALIBECK ARRAY 73.36 309 P **P** **15 45 20.5 +0.4**
FAQ Al Faqa, Dubai 73.47 295 P **P** **15 45 22.7 +1.7**
UMZA Um Al Zommool 73.66 293 P **P** **15 45 22.7 +0.6**
UMZA P **P** **15 45 22.7 +0.6**
ASUD Al Ashush, Dub 73.70 295 P **P** **15 45 25.1 +2.8**
ASUD P **P** **15 45 25.1 +2.8**
AJN Ajban 74.00 295 P **P** **15 45 25.8 +1.7**
SNR=5.7
AJN P **P** **15 45 25.8 +1.7**
SNR=5.7
DOK Doka 74.29 289 P **P** **15 45 26.3 +0.4**
DOK P **P** **15 45 26.3 +0.4**
WHFO Wadi Hawf 74.59 288 P **P** **15 45 28.1 +0.4**
SNR=6.9
WHFO P **P** **15 45 28.1 +0.4**
SNR=6.9
ABKAR Akbulak array 74.77 321 P **P** **15 45 28.6 +0.6**
ABTO Aybut 75.00 287 P **P** **15 45 31.4 +1.3**
SNR=6.4
ABTO P **P** **15 45 31.4 +1.3**
SNR=6.4
GHWR Ruwais 75.86 294 P **P** **15 45 39.1 +4.3**
JRN Qarnain Island 75.97 295 P **P** **15 45 38.2 +2.8**
SNR=7.7
SVE Sverdlovsk 76.61 329 *e*P **P** **15 45 40.7 +2.3**
SVE pmax pmax
comp=Z,21nm,1.0s
TRNA Turayna 77.44 295 P **P** **15 45 48.0 +4.3**
SNR=12
ARU Arti 77.59 328 P **P** **15 45 44.2 +0.3**
ARU IAmb IAmb 15 45 54.7
comp=Z,11nm,0.9s
ARU Arti 77.59 328 *d i*P **P** **15 45 44.3 +0.4**
ARU 15 48 34.2
ARU S **S** **15 55 35.3 +0.9**
ARU SS **SS** **16 00 35.2 +1.3**
ARU pmax pmax
comp=Z,13nm,1.3s
ARU Arti 77.59 328 LR LR 16 22 24.3
comp=Z,108nm,19.9s,baz=103,slow=38
SHMA Al-Shehemyia 77.75 296 P **P** **15 45 49.4 +4.0**
SMRA Abu-Samra 77.79 295 P **P** **15 45 47.6 +1.9**

SNR=10
SDPT Sand Point 78.41 34 P **P** **15 45 49.4 +0.9**
L14K Kuka Creek 78.96 27 P **P** **15 45 51.8 +0.4**
L14K IAmb IAmb 15 46 05.6
comp=Z,16nm,0.9s
N14K Kuskokwak Cree 79.02 29 P **P** **15 45 52.2 +0.6**
baz=254
M14K Bethel 79.12 28 P **P** **15 45 52.5 +0.2**
baz=253
L15K Ungalak Mounta 79.61 27 P **P** **15 45 55.5 +0.5**
baz=253
H16K Elim 80.17 24 P **P** **15 45 58.0 +0.1**
baz=252
C16K Lisburne Hills 80.22 20 P **P** **15 45 59.5 +1.4**
G16K Koyuk River 80.35 23 P **P** **15 45 59.4 +0.6**
baz=252
J16K Anvik River 80.46 26 IAmb IAmb 15 46 10.0
comp=Z,50nm,1.9s
J16K Anvik River 80.46 26 P **P** **15 46 00.1 +0.6**
baz=254
L16K Owhat River 80.54 27 P **P** **15 45 60.0 0.0**
L16K IAmb IAmb 15 46 14.6
comp=Z,42nm,1.8s
L16K Owhat River 80.54 27 P **P** **15 46 00.6 +0.6**
baz=255
N16K Nishlik Lake 80.57 29 P **P** **15 46 01.0 +0.8**
baz=256
I17K Unalakleet 80.59 25 IAmb IAmb 15 46 11.8
comp=Z,14nm,1.1s
I17K Unalakleet 80.59 25 P **P** **15 46 01.2 +1.0**
baz=254
M16K Timber Creek 80.61 28 IAmb IAmb 15 46 15.1
comp=Z,39nm,1.4s
O16K Kokwok River B 80.69 30 P **P** **15 46 01.2 +0.4**
baz=257
LKRN Lenkeran, Azer 80.73 309 P **P** **15 46 01.1 -0.4**
D17K Noatak River 80.82 21 P **P** **15 46 02.2 +0.9**
baz=251
VNDA Vanda 80.96 173 P **P** **15 46 02.1 +0.2**
VNDA Vanda 80.96 173 P **P** **15 46 02.1 +0.2**
VNDA pmax pmax
comp=Z,6.0nm,1.1s
VNDA Vanda 80.96 173 P **P** **15 46 02.6 +0.7**
comp=Z,2.1nm,0.8s,baz=297,slow=6.7,SNR=8.5
comp=Z,2.1nm,0.8s
C17K DeLong Mountai 81.04 20 P **P** **15 46 02.5 0.0**
baz=251
G17K Kiwalik Mounta 81.06 24 P **P** **15 46 03.4 +0.7**
baz=254
E17K Hotham Inlet 81.08 22 P **P** **15 46 03.2 +0.4**
baz=252
F17K Baldwin Pennin 81.11 23 P **P** **15 46 03.3 +0.5**
baz=253
L17K Donlin 81.19 27 P **P** **15 46 04.1 +0.7**
baz=256
H17K Granite Mounta 81.21 24 P **P** **15 46 04.2 +0.7**
baz=254
O17K Koliganek Bris 81.22 30 P **P** **15 46 03.8 +0.1**
baz=258
K17K Iditarod 81.33 27 P **P** **15 46 04.7 +0.5**
baz=256
E18K Tukpahlearik C 81.64 22 IAmb IAmb 15 46 19.7
comp=Z,12nm,0.9s
E18K Tukpahlearik C 81.64 22 P **P** **15 46 06.3 +0.6**
baz=253
C18K Utukok River 81.79 20 P **P** **15 46 06.1 -0.4**
C18K Utukok River 81.79 20 P **P** **15 46 06.6 0.0**
baz=253
B18K Kokolik River 81.80 20 P **P** **15 46 07.4 +0.9**
baz=252
L18K Granite Mounta 81.94 27 P **P** **15 46 08.3 +0.8**
baz=258
G18K Tagagawik 81.97 23 IAmb IAmb 15 46 16.5
comp=Z,39nm,1.9s
G18K Tagagawik 81.97 23 P **P** **15 46 08.4 +0.9**
baz=255
MAW Mawson 82.02 201 P **P** **15 46 07.1 -0.6**
comp=Z,4.5nm,0.9s,baz=143,slow=9.2,SNR=3.6
comp=Z,4.5nm,0.9s
SEKA Sheki 82.17 311 P **P** **15 46 08.4 -0.8**
J18K Innoko River 82.20 26 P **P** **15 46 09.3 +0.6**
baz=258
MNGR Mingechevir, A 82.22 311 P **P** **15 46 09.0 -0.3**
VOI Vohitsoka 82.37 248 P **P** **15 46 15.3 +4.7**
VOI Vohitsoka 82.37 248 P **P** **15 46 10.3 -0.4**
VOI IAmb IAmb 15 46 16.1
comp=Z,14nm,0.7s
TTA Tatalina 82.40 27 P **P** **15 46 09.2 -0.7**
TTA IAmb IAmb 15 46 15.8
comp=Z,24nm,1.7s
TTA Tatalina 82.40 27 P **P** **15 46 10.3 +0.4**
baz=258
TTA Tatalina 82.40 27 P **P** **15 46 09.2 -0.7**
TTA pmax pmax
comp=Z,24nm,1.7s
C19K Lookout Ridge 82.48 20 IAmb IAmb 15 46 20.6
comp=Z,15nm,0.8s
C19K Lookout Ridge 82.48 20 P **P** **15 46 11.3 +1.2**
baz=254
F19K Shaleruckik Mo 82.55 23 P **P** **15 46 12.0 +1.5**
baz=256
RAYN Ar Rayn 82.58 293 P **P** **15 46 10.2 -1.5**
RAYN IAmb IAmb 15 46 21.9
comp=Z,26nm,1.0s
RAYN Ar Rayn 82.58 293 P **P** **15 46 10.2 -1.5**
RAYN pmax pmax
comp=Z,26nm,1.0s
RAYN Ar Rayn 82.58 293 P **P** **15 46 13.6 +1.9**
ZKTA Zakatala 82.64 312 P **P** **15 46 11.2 -0.4**
G19K Purcell Mounta 82.65 23 IAmb IAmb 15 46 22.4
comp=Z,23nm,0.9s
G19K Purcell Mounta 82.65 23 P **P** **15 46 11.9 +0.8**
baz=257
H19K Roundabout Mou 82.77 24 P **P** **15 46 12.6 +1.0**
baz=258
L19K White Mountain 82.78 27 P **P** **15 46 11.9 +0.1**
L19K IAmb IAmb 15 46 24.0
comp=Z,18nm,1.3s
J19K Poorman 82.79 26 IAmb IAmb 15 46 22.7
comp=Z,22nm,1.0s
GANJ Ganja 82.79 311 P **P** **15 46 11.9 -0.5**
D19K Kuna River 82.83 21 IAmb IAmb 15 46 18.6
comp=Z,25nm,1.1s
D19K Kuna River 82.83 21 P **P** **15 46 12.6 +0.6**
baz=256
KIRV Kirov 82.88 329⇑ *e*P **P** **15 46 12.9 +0.6**
BELG Belogornoye 83.03 323⇑ *e*P **P** **15 46 15.4 +2.1**
BELG pmax pmax
comp=Z,4.0nm,1.1s
PPT2 Papeete2 83.18 108 *e*LR LR 16 12 16.6
comp=Z,483nm,26.8s
PPT2 *e*LR LR 16 12 33.4
comp=Z,348nm,27.8s
NAX Nakhchivan 83.32 309 P **P** **15 46 15.0 -0.2**
K20K Telida 83.35 26 IAmb IAmb 15 46 25.2
comp=Z,18nm,0.9s
K20K Telida 83.35 26 P **P** **15 46 15.4 +0.6**
baz=260
F20K Avaraart Lake 83.38 23 P **P** **15 46 15.5 +0.7**
baz=258
H20K Anotleneega Mo 83.40 24 P **P** **15 46 15.5 +0.5**
baz=259
D20K Etivluk River 83.42 21 P **P** **15 46 15.7 +0.7**
baz=257
I20K Naaghedeneel 83.43 25 P **P** **15 46 16.0 +0.9**
baz=259
J20K Nowinta River 83.46 26 P **P** **15 46 16.0 +0.8**
baz=260
B20K Meade River 83.53 20 IAmb IAmb 15 46 26.3
comp=Z,20nm,1.1s
B20K Meade River 83.53 20 P **P** **15 46 16.0 +0.5**
baz=256
TBI Tubuai 83.68 114 *e*SS SS 16 02 02.4 -4.1
comp=Z,1μm,32.5s
TBI Tubuai 83.68 114 *e*LR LR 16 12 26.1
comp=Z,1μm,36.2s
TBI *e*LR LR 16 12 57.6
comp=Z,2μm,31.0s
IMAR Indian Mountai 83.95 24 P **P** **15 46 17.8 0.0**
GNI Garni 83.96 310 *ce*P **P** **15 46 17.4 -1.2**
GNI pmax pmax
comp=Z,4.0nm,0.8s
PPLA Purkeypile 84.11 27 P **P** **15 46 19.4 +0.6**
baz=262
C21K Knifeblade Rid 84.16 21 P **P** **15 46 19.9 +1.1**
baz=259
CAST Castle Rocks 84.24 26 IAmb IAmb 15 46 30.0
comp=Z,8.5nm,0.8s
CAST Castle Rocks 84.24 26 P **P** **15 46 19.5 +0.2**
baz=262
SKT Skwentna 84.29 28 IAmb IAmb 15 46 28.7
comp=Z,21nm,0.9s
SKT Skwentna 84.29 28 P **P** **15 46 19.1 -0.5**
baz=262
B21K Ikpikpuk River 84.31 20 P **P** **15 46 19.1 -0.4**
B21K IAmb IAmb 15 46 29.6
comp=Z,20nm,1.0s
B21K Ikpikpuk River 84.31 20 P **P** **15 46 20.3 +0.8**
baz=259
A22K Sinclair Lake 84.47 19 P **P** **15 46 21.0 +0.7**
baz=258
BPAW Bear Paw Mtn. 84.82 26 P **P** **15 46 22.0 -0.3**
baz=263
B22K Teshekpuk Lake 84.85 19 IAmb IAmb 15 46 32.1
comp=Z,19nm,1.0s
B22K Teshekpuk Lake 84.85 19 P **P** **15 46 23.1 +0.9**
baz=260
M22K Willow 84.92 28 P **P** **15 46 24.1 +1.4**
MLY Manley 85.04 25 P **P** **15 46 23.8 +0.4**
baz=263
PMR Palmer 85.38 28 P **P** **15 46 25.2 +0.2**
PMR IAmb IAmb 15 46 34.5
comp=Z,24nm,1.0s
PMR Palmer 85.38 28 P **P** **15 46 25.2 +0.2**
PMR pmax pmax
comp=Z,24nm,1.0s
KBZ Khabaz 85.51 314⇑ *e*P **P** **15 46 27.2 +1.1**
KBZ pmax pmax
comp=Z,11nm,1.4s
KBZ Khabaz 85.51 314 P **P** **15 46 24.6 -1.5**
comp=Z,3.8nm,1.0s,baz=119,slow=16,SNR=3.3
comp=Z,3.8nm,1.0s
COLD Coldfoot 85.54 23 P **P** **15 46 26.7 +0.9**
baz=263
D23K Nanushuk River 85.58 21 P **P** **15 46 27.3 +1.4**
baz=262
I23K Minto, Yukon-K 85.64 25 IAmb IAmb 15 46 39.8
comp=Z,25nm,1.6s
KIV Kislovodsk 85.67 314 *e*P **P** **15 46 25.7 -1.3**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,66nm,20.0s
C23K Itkillik River 85.72 20 IAmb IAmb 15 46 37.5
comp=Z,14nm,1.0s
C23K Itkillik River 85.72 20 P **P** **15 46 27.5 +0.9**
baz=262
WAT1 Susitna Watana 85.76 27 P **P** **15 46 26.6 -0.4**
baz=265
E23K Chandalar 85.86 22 P **P** **15 46 28.4 +0.9**
baz=264
TOLK Toolik Lake Re 85.94 21 P **P** **15 46 27.8 0.0**
TOLK IAmb IAmb 15 46 38.1
comp=Z,10.0nm,0.9s
TOLK Toolik Lake Re 85.94 21 P **P** **15 46 28.4 +0.7**
baz=264
M23K Glacier View 86.06 28 P **P** **15 46 28.0 -0.5**
baz=266
D24K Happy Valley 86.27 21 IAmb IAmb 15 46 40.2
comp=Z,8.7nm,0.8s
D24K Happy Valley 86.27 21 P **P** **15 46 29.4 +0.1**
baz=264
C24K Franklin Bluff 86.37 20 P **P** **15 46 30.5 +0.8**
baz=264
F24K Squaw Lake 86.46 23 P **P** **15 46 31.6 +1.2**
baz=265
G24K Hadweenzic Riv 86.55 23 P **P** **15 46 30.5 -0.3**
baz=266
VRH Novokhopyorsk 86.60 321 *e*P **P** **15 46 31.9 +0.6**
VRH pmax pmax
comp=Z,10.0nm,0.8s
ILAR Eielson Array 86.65 25 P **P** **15 46 28.7 -2.6**
comp=Z,0.4nm,0.4s,baz=248,slow=4.8,SNR=13
ILAR LR LR 16 18 46.6
comp=Z,160nm,20.8s,baz=259,slow=31
comp=Z,0.4nm,0.4s
BMAR Burnt Mountain 87.72 23 P **P** **15 46 35.7 -0.8**
F26K Sheenjek River 87.90 22 P **P** **15 46 38.5 +1.2**
baz=269
KLMR Klimovskoe 88.06 331 *e*P **P** **15 46 37.7 -0.4**
KLMR pmax pmax
comp=Z,31nm,1.6s
J26L Joseph Creek 88.07 26 IAmb IAmb 15 46 47.7
comp=Z,6.3nm,0.8s
J26L Joseph Creek 88.07 26 P **P** **15 46 37.6 -0.7**
baz=269
VORR Voronezh 88.18 321 *e*P P 15 46 44.0 +5.1
VORR pmax pmax
comp=Z,50nm,0.4s
VSR Storozhevoye 88.20 321 *e*P **P** **15 46 43.1 +4.1**
VSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR Galich'ya Gora 88.35 322 *e*P P 15 46 46.2 +6.5
LPSR pmax pmax
comp=Z,20nm,0.9s
E27K Coleen River 88.87 22 P **P** **15 46 41.8 -0.1**
I27K Kandik River 88.90 25 P **P** **15 46 42.0 -0.2**
baz=271
D27M Malcolm River 89.07 21 P **P** **15 46 42.8 -0.1**
ANN Anapa 89.45 315 *e*P P 15 46 35.7 -9.3
ANN pmax pmax
comp=Z,135nm,1.4s
F28M Old Crow 89.53 23 P **P** **15 46 45.0 -0.1**
baz=273
I28M Miner Creek 89.60 25 IAmb IAmb 15 46 55.2
comp=Z,15nm,0.9s
I28M Miner Creek 89.60 25 P **P** **15 46 45.1 -0.3**
baz=273
KIBK Kibwezi 90.03 268 P **P** **15 46 47.4 -1.1**
QSPA South Pole Qui 91.31 180 P **P** **15 46 54.5 +1.1**
comp=Z,2.3nm,1.1s,baz=304,slow=3.6,SNR=2.3
comp=Z,2.3nm,1.1s
MMAI Mount Meron Ar 91.45 303 P **P** **15 46 56.4 +1.6**
comp=Z,0.3nm,0.3s,baz=111,slow=7.9,SNR=2.3
comp=Z,0.3nm,0.3s
INK Inuvik 91.85 22 LR LR 16 30 39.9
comp=Z,75nm,19.7s,baz=208,slow=37
F31M Tsiigehtchic 91.90 22 P **P** **15 46 56.0 +0.1**
F31M IAmb IAmb 15 47 25.2
comp=Z,18nm,1.6s
BRTR Keskin Array B 92.50 310 P **P** **15 46 58.2 -1.4**
comp=Z,0.8nm,0.5s,baz=132,slow=4.3,SNR=2.0
comp=Z,0.8nm,0.5s
FARO Faro, Yukon 92.81 28 P **P** **15 46 59.9 -0.5**
FARO IAmb IAmb 15 47 10.3
comp=Z,12nm,0.8s
SPITS Spitsbergen Ar 93.01 349 P **P** **15 46 59.9 -1.1**
comp=Z,8.3nm,0.9s,baz=343,slow=2.6,SNR=2.1
comp=Z,8.3nm,0.9s
ARCES ARCESS Array B 93.08 340 P **P** **15 46 59.5 -1.9**
comp=Z,5.8nm,0.7s,baz=74,slow=4.4,SNR=6.4
comp=Z,5.8nm,0.7s
FINES FINESS Array B 94.49 332 P **P** **15 47 07.0 -1.0**
FINES FINESS Array B 94.49 332 P **P** **15 47 07.0 -1.0**
comp=Z,0.4nm,0.5s,baz=64,slow=3.2,SNR=1.1
comp=Z,0.4nm,0.5s
AKASG Malin Array Be 94.51 321 P **P** **15 47 09.7 +1.4**
comp=Z,0.1nm,0.3s,baz=79,slow=1.3,SNR=1.4
comp=Z,0.1nm,0.3s
MNK Minsk 94.76 325 *i* P **P** **15 47 07.5 -1.9**
MNK *i* 15 50 55.9
MNK *i* PPP PPP 15 52 57.7
MNK *i* S **SKSac** **15 57 40.0 -3.9**
MNK *i* PS **PS** **15 59 39.4 -1.0**
MNK *i* SS **SS** **16 04 43.9 -1.8**
MNK *i* SSS SSS 16 08 26.6
MNK pmax pmax
comp=E,6.0nm,0.6s
MNK pmax pmax
comp=Z,11nm,0.6s
MNK pmax pmax
comp=N,12nm,0.8s
MNK MLR MLR
comp=N,263nm,22.0s
MNK MLR MLR
comp=E,49nm,20.0s
MNK MLR MLR
comp=Z,110nm,17.0s
DAG Danmarks Havn 99.73 353 *i* P **Pdif** **15 47 32.0 +0.6**
HFS Hagfors 100.67 332 P **Pdif** **15 47 36.2 +0.3**
comp=Z,2.7nm,0.9s,baz=107,slow=7.7,SNR=2.1
YKA Yellowknife Ar 101.08 25 P **Pdif** **15 47 34.6 -3.0**
comp=Z,0.1nm,0.4s,baz=240,slow=5.6,SNR=3.5
CLL Collm 104.28 324 *e*Sdif Sdif 15 59 42.0 -0.6
CLL *e*PS PS 16 01 12.0 -11
CLL *e*PPS PPS 16 02 12.0
CLL *e*SS SS 16 07 00.0 +1.3
CLL *e*SSS SSS 16 10 48.0
CLL *ex* x 16 14 06.0
TXAR Lajitas Array 121.97 54 PKP **PKPdf** **15 52 42.8 -0.4**
comp=Z,0.1nm,0.3s,baz=208,slow=4.9,SNR=2.2
TORD Torodi Ar. Bea 124.85 287 PKP **PKPdf** **15 52 47.4 -1.5**
comp=Z,0.2nm,0.4s,baz=49,slow=1.3,SNR=4.6
TORD PP **PP** **15 54 38.3 +1.3**
comp=Z,2.2nm,1.2s,baz=57,slow=9.1,SNR=2.7
PLCA Paso Flores 137.38 159 PKP **PKiKP** **15 53 14.0 +0.1**
comp=Z,1.8nm,1.0s,baz=281,slow=5.2,SNR=2.3
AC02 Maricunga 149.81 148 PKPdf **PKPdf** **15 53 33.8 -0.9**
CPUP Villa Florida 154.67 169 PKPbc **PKiKP** **15 53 51.1 +1.3**
comp=Z,6.2nm,1.2s,baz=149,slow=5.3,SNR=3.8

*IDC **21** 15:42:43.4±1.1, 1°.77N×128°.27E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=72.5km s-min=20.4km az=71.0*
ISC 21 15:42:55.2±1.1, 1°.6N±0°.2×128°.1E±0°.5, h100km, n10, σ1s30/7, mb3.6/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.23**	**164**	P	**P**	**15 47 42.8**	**-1.0**
	2.4nm,0.8s,baz=345,slow=10,SNR=10						
	2.4nm,0.8s						
ASAR	**Alice Springs**	**25.70**	**168**	P	**P**	**15 48 17.4**	**+1.1**
	0.7nm,0.8s,baz=355,slow=16,SNR=5.5						
	0.7nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**42.04**	**62**	T	T	16 35 31.4	
	baz=248						
H11N2	**WAKE ISLAND Hy**	**42.05**	**62**	T	T	16 35 32.2	
	baz=248						
H11N3	**WAKE ISLAND Hy**	**42.06**	**62**	T	T	16 35 35.5	
	baz=248						
SONM	**Songino Array**	**49.77**	**341**	P	**P**	**15 51 37.4**	**-0.3**
	0.5nm,0.4s,baz=146,slow=10,SNR=1.6						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**60.09**	**325**	P	**P**	**15 52 53.7**	**+1.8**
	0.4nm,0.6s,baz=129,slow=7.9,SNR=3.3						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**64.28**	**327**	P	**P**	**15 53 19.1**	**-0.7**
	0.3nm,0.2s,baz=126,slow=6.3,SNR=2.7						
	0.3nm,0.2s						
BVAR	**Borovoye Array**	**69.86**	**327**	P	**P**	**15 53 54.2**	**-0.8**
	0.2nm,0.5s,baz=114,slow=6.5,SNR=1.7						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**86.49**	**25**	P	**P**	**15 55 26.9**	**+0.3**
	0.2nm,0.7s,baz=263,slow=5.1,SNR=2.8						
	0.2nm,0.7s						

*IDC **21** 15:57:28.9±4.2, 20°.18S×177°.64W, h567km±48km, mb3.1/8, mbtmp4.1/10, Error ellipse: s-maj=31.4km s-min=25.1km az=169.0*
*NEIC **21** 15:57:28.3±0.5, 20°.0S±0°.1×177°.7W±0°.2, h559km±14km, mb4.4/18, Error ellipse: s-maj=26.4km s-min=14.0km az=65.0*
ISC 21 15:57:27.6±0.7, 20°.1S±0°.1×177°.6W±0°.1, h550km, n38, σ1s20/38, mb4.1/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.70**	**299**	P	**P**	**15 58 56.0**	**+0.9**
DZM	**Mont Dzumac**	**14.99**	**260**	P	**P**	**16 00 39.4**	**+2.3**
	5.8nm,0.8s,baz=145,slow=22,SNR=11						
URZ	**Urewera**	**18.68**	**193**	P	**P**	**16 01 09.9**	**-1.6**
	4.0nm,0.3s,baz=7.0,slow=3.9,SNR=17						
QRZ	**Quartz Range**	**22.32**	**200**	P	**P**	**16 01 44.2**	**-0.1**
TKNZ	**Takaka Hill**	**22.38**	**199**	P	**P**	**16 01 44.6**	**-0.3**
THZ	**Tophouse**	**23.06**	**198**	P	**P**	**16 01 51.2**	**+0.2**
WHZ	**Wether Hill Ro**	**28.35**	**201**	P	**P**	**16 02 38.5**	**+1.0**
WHZ				IAmb	IAmb	16 02 39.5	
	comp=Z,20nm,0.9s						
COEN	**Coen**	**37.90**	**273**	P	**P**	**16 03 58.4**	**0.0**
COEN				IAmb	IAmb	16 04 12.1	
	comp=Z,22nm,1.5s						
STKA	**Stephens Creek**	**38.28**	**244**	P	**P**	**16 04 01.8**	**+0.4**
STKA	**Stephens Creek**	**38.28**	**244**	P	**P**	**16 04 01.7**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=80,slow=10,SNR=4.8						
	comp=Z,1.5nm,0.6s						
BBOO	**Buckleboo**	**43.04**	**243**	P	**P**	**16 04 38.8**	**-0.4**
BBOO				IAmb	IAmb	16 04 52.4	
	comp=Z,37nm,1.5s						
WR0	**Warramunga Arr**	**44.80**	**262**	P	**P**	**16 04 52.4**	**-0.7**
WR0				IAmb	IAmb	16 05 01.2	
	comp=Z,9.8nm,1.2s						
AS31	**Alice Springs**	**44.94**	**256**	P	**P**	**16 04 53.5**	**-0.6**
ASAR	**Alice Springs**	**44.95**	**256**	P	**P**	**16 04 53.4**	**-0.8**
ASAR	**Alice Springs**	**44.95**	**256**	P	**P**	**16 04 54.0**	**-0.1**
	comp=Z,4.5nm,0.7s,baz=87,slow=8.3,SNR=80						
ASAR				PcP	**PcP**	**16 06 23.7**	**0.0**
	comp=Z,0.6nm,0.5s,baz=106,slow=3.8,SNR=6.5						
	comp=Z,4.5nm,0.7s						
WB0	**Warramunga Arr**	**44.97**	**262**	P	**P**	**16 04 53.5**	**-0.8**
WB0				IAmb	IAmb	16 04 54.5	
	comp=Z,5.4nm,0.4s						
WB2	**Warramunga Arr**	**44.98**	**262**	P	**P**	**16 04 53.6**	**-0.8**
WB2				IAmb	IAmb	16 05 00.9	
	comp=Z,7.1nm,1.4s						
WRA	**Warramunga Arr**	**44.99**	**262**	P	**P**	**16 04 53.6**	**-1.0**
WRA	**Warramunga Arr**	**44.99**	**262**	P	**P**	**16 04 53.8**	**-0.8**
	comp=Z,9.9nm,0.4s,baz=98,slow=8.2,SNR=90						
	comp=Z,2.9nm,0.4s						
KNRA	**Kununurra**	**51.02**	**266**	P	**P**	**16 05 38.9**	**-0.6**
KNRA				IAmb	IAmb	16 06 16.0	
	comp=Z,23nm,1.3s						
FITZ	**Fitzroy Crossi**	**53.42**	**262**	P	**P**	**16 05 56.5**	**-0.1**
MBWA	**Marble Bar**	**58.28**	**257**	P	**P**	**16 06 29.4**	**-0.8**
MBWA				IAmb	IAmb	16 06 29.8	
	comp=Z,24nm,1.3s						
MJAR	**Matsushiro Arr**	**70.07**	**323**	P	**P**	**16 07 44.0**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=111,slow=7.9,SNR=5.6						
	comp=Z,1.6nm,0.8s						
SSLB	**Suanglung**	**74.02**	**303**	P	**P**	**16 08 07.3**	**-0.6**
TPUB	**Ta-pu**	**74.03**	**303**	P	**P**	**16 08 05.7**	**-2.2**
K15K	**Wolf Creek Mou**	**83.08**	**8**	P	**P**	**16 08 56.1**	**+0.9**
K15K				IAmb	IAmb	16 09 36.1	
	comp=Z,13nm,1.4s						
L18K	**Granite Mounta**	**83.69**	**10**	P	**P**	**16 08 58.3**	**0.0**
L18K				IAmb	IAmb	16 09 35.7	
	comp=Z,7.7nm,1.4s						
TXAR	**Lajitas Array**	**86.54**	**57**	P	**P**	**16 09 14.8**	**+1.8**
	comp=Z,0.2nm,0.6s,baz=224,slow=3.5,SNR=4.0						
	comp=Z,0.2nm,0.6s						
ILAR	**Eielson Array**	**87.83**	**13**	P	**P**	**16 09 17.3**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=212,slow=6.3,SNR=4.6						
	comp=Z,0.3nm,0.6s						
PDAR	**Pinedale Array**	**88.42**	**43**	P	**P**	**16 09 22.5**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=116,slow=3.4,SNR=3.0						
	comp=Z,0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**90.29**	**289**	P	**P**	**16 09 31.9**	**+1.4**
	comp=Z,0.7nm,0.9s,baz=86,slow=2.1,SNR=4.8						
	comp=Z,0.7nm,0.9s						
MKAR	**Makanchi Array**	**111.15**	**314**	PKiKP	**PKiKP**	**16 14 57.7**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=90,slow=0.6,SNR=1.9						
BVAR	**Borovoye Array**	**118.97**	**320**	PKP	**PKPdf**	**16 15 12.8**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=133,slow=1.2,SNR=4.9						
HFS	**Hagfors**	**139.17**	**351**	PKhKP	PKPpre	16 15 43.3	
	comp=Z,1.1nm,0.7s,baz=76,slow=6.3,SNR=4.5						
AKASG	**Malin Array Be**	**142.81**	**332**	PKP	**PKPdf**	**16 15 55.2**	**-3.2**
	comp=Z,0.8nm,0.3s,baz=44,slow=4.4,SNR=11						
BRTR	**Keskin Array B**	**146.80**	**313**	PKPbc	**PKPdf**	**16 16 08.1**	**+2.3**
	comp=Z,0.9nm,0.5s,baz=114,slow=6.9,SNR=2.6						
MMAI	**Mount Meron Ar**	**147.90**	**300**	PKPbc	**PKPbc**	**16 16 12.3**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=82,slow=6.0,SNR=4.0						
GERES	**GERESS Array B**	**149.88**	**345**	PKPbc	**PKPbc**	**16 16 14.3**	**-1.6**
	comp=Z,1.0nm,0.7s,baz=53,slow=6.9,SNR=5.1						

*NEIC **21** 16:02:07.8±1.8, 55°.55N±0°.07×150°.8W±0°.1, h10km±2km, mb3.8/2, ML3.6/32, ML3.6(AEIC), Error ellipse: s-maj=12.4km s-min=8.4km az=144.0*
*AEIC **21** 16:02:12.7±1.6, 55°.55N±0°.08×150°.7W±0°.1, h10km±7km, Error ellipse: s-maj=12.0km s-min=8.9km az=155.0*
*IDC **21** 16:02:15.1±1.9, 55°.79N×149°.77W, mb3.4/3, mbtmp3.3/5, ML2.9/2, MS3.2/4, Error ellipse: s-maj=37.7km s-min=28.7km az=61.0*
ISC 21 16:02:09.2±1.0, 55°.71N±0°.08×150°.81W±0°.06, h10km, n217, σ1s15/215, mb3.6/3, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.05**	**319**	Pn	**Pn**	**16 02 42.5**	**-1.1**
OHAK	**Old Harbor**	**2.05**	**319**	P	**Pn**	**16 02 44.9**	**+1.3**
	baz=139						
OHAK				S	**Sn**	**16 03 08.8**	**-0.4**
	baz=139						
SII	**Sitkinak Islan**	**2.07**	**296**	Pn	**Pn**	**16 02 42.4**	**-1.6**
SII				IAML		16 03 11.3	
	comp=N,522nm,0.8s						
SII				IAML		16 03 11.4	
	comp=E,532nm,0.6s						
SII	**Sitkinak Islan**	**2.07**	**296**	P	**Pn**	**16 02 44.3**	**+0.3**
	baz=116						
SII				S	**Sn**	**16 03 09.4**	**-0.5**
	baz=116						
KDAK	**Kodiak Island**	**2.30**	**336**	Pn	**Pn**	**16 02 47.2**	**+0.1**
KDAK					**Sn**	**16 03 14.5**	**-0.8**
KDAK	**Kodiak Island**	**2.30**	**336**	S	**Sn**	**16 03 14.9**	**-0.5**
	baz=155						
KDAK	**Kodiak Island**	**2.30**	**336**	LR	LR	16 04 01.1	
	comp=E,199nm,21.9s,baz=220,slow=42						
CHIR	**Chirikof Islan**	**2.72**	**274**	Pn	**Pn**	**16 02 49.4**	**-3.5**
CHIR				Sn	**Sn**	**16 03 23.1**	**-2.7**
CHIR				IAML		16 03 27.0	
	comp=N,153nm,2.4s						
CHIR				IAML		16 03 57.5	
	comp=E,118nm,2.2s						
CHIR	**Chirikof Islan**	**2.72**	**274**	P	**Pn**	**16 02 51.6**	**-1.3**
	baz=94						
CHIR				S	**Sn**	**16 03 23.7**	**-2.1**
	baz=94						
Q20K	**Shuyak Island**	**3.03**	**344**	P	**Pn**	**16 02 58.4**	**+1.2**
	baz=163						
Q20K				S	**Sn**	**16 03 34.9**	**+1.4**
	baz=163						
SYI	**Shuyak Island**	**3.03**	**344**	Pn	**Pn**	**16 02 57.0**	**-0.2**
SYI				Sn	**Sn**	**16 03 33.0**	**-0.5**
KAKN	**Katmai Knife C**	**3.48**	**320**		**Pn**	**16 03 05.3**	**+1.9**
KAKN					**Sn**	**16 03 45.3**	**+0.5**
ACHA	**Angle Creek He**	**3.52**	**317**		**Pn**	**16 03 05.6**	**+1.7**
Q19K	**Cape Douglas,**	**3.57**	**336**	Pn	**Pn**	**16 03 05.5**	**+0.9**
Q19K	**Cape Douglas,**	**3.57**	**336**	P	**Pn**	**16 03 05.3**	**+0.6**
	baz=154						
ANCK	**Angle Creek**	**3.58**	**316**		**Pn**	**16 03 06.4**	**+1.7**
CNTC	**Contact Creek**	**3.78**	**315**		**Pn**	**16 03 08.7**	**+1.2**
Q17K	**Contact Creek**	**3.78**	**315**	P	**Pn**	**16 03 09.1**	**+1.6**
	baz=132						
CNPM	**China Poot**	**3.83**	**357**	Pn	**Pn**	**16 03 08.4**	**+0.2**
CNPM				IAML		16 03 49.2	
	comp=N,61nm,3.3s						
CNPM				Sn	**Sn**	**16 03 51.7**	**-1.6**
CNPM				IAML		16 05 11.4	
	comp=E,64nm,3.0s						
AUJK	**Augustine Jueg**	**3.91**	**340**		**Pn**	**16 03 11.4**	**+2.1**
HOM	**Homer**	**3.98**	**354**	Pn	**Pn**	**16 03 10.0**	**-0.3**
BRSE	**Bradley Lake S**	**4.04**	**0**		**Pn**	**16 03 10.7**	**-0.4**
BRSE	**Bradley Lake S**	**4.04**	**0**	P	**Pn**	**16 03 10.7**	**-0.4**
	baz=180						
BRLK	**Bradley Lake**	**4.07**	**359**	Pn	**Pn**	**16 03 10.9**	**-0.5**
BRLK				IAML		16 04 21.9	
	comp=E,49nm,4.1s						
BRLK				IAML		16 05 23.0	
	comp=N,48nm,3.2s						
P19K	**Oil Pt**	**4.16**	**343**	Pn	**Pn**	**16 03 13.7**	**+1.0**
P19K				IAML		16 04 17.4	
	comp=E,102nm,1.2s						
P19K				IAML		16 04 17.7	
	comp=N,98nm,0.5s						
P19K	**Oil Pt**	**4.16**	**343**	P	**Pn**	**16 03 14.4**	**+1.7**
	baz=161						
CHGN	**Chignik**	**4.31**	**281**	Pn	**Pn**	**16 03 13.8**	**-0.9**
CHGN				IAML		16 04 07.0	
	comp=N,66nm,0.3s						
CHGN				IAML		16 04 09.3	
	comp=E,48nm,0.3s						
CHGN	**Chignik**	**4.31**	**281**	P	**Pn**	**16 03 14.7**	**0.0**
	baz=97						
P18K	**Big Mountain,**	**4.39**	**329**	Pn	**Pn**	**16 03 16.3**	**+0.4**
P18K	**Big Mountain,**	**4.39**	**329**	P	**Pn**	**16 03 16.9**	**+1.0**
	baz=146						
IVE	**Iliamna Volcan**	**4.48**	**346**		**Pn**	**16 03 18.3**	**+1.2**
O20K	**Slope Mountain**	**4.49**	**348**		**Pn**	**16 03 19.1**	**+1.9**
O20K	**Slope Mountain**	**4.49**	**348**	P	**Pn**	**16 03 19.1**	**+1.9**
	baz=167						
P17K	**Kvichak River**	**4.63**	**321**		**Pn**	**16 03 20.3**	**+1.2**
P17K	**Kvichak River**	**4.63**	**321**	P	**Pn**	**16 03 20.9**	**+1.8**
	baz=138						
VNHG	**Veniaminof 1**	**4.72**	**280**		**Pn**	**16 03 20.7**	**+0.2**
O18K	**Koktuh Hills**	**4.78**	**332**	Pn	**Pn**	**16 03 21.6**	**+0.5**
O18K				IAML		16 04 18.7	
	comp=N,50nm,0.9s						
O18K				IAML		16 04 20.1	
	comp=E,39nm,1.0s						
O18K	**Koktuh Hills**	**4.78**	**332**	P	**Pn**	**16 03 22.2**	**+1.0**
	baz=149						
O19K	**Port Alsworth**	**4.87**	**339**	Pn	**Pn**	**16 03 24.0**	**+1.6**
RSO	**Redoubt South**	**4.88**	**349**	Pn	**Pn**	**16 03 23.3**	**+0.6**
S14K	**Fog Glacier**	**4.94**	**280**	P	**Pn**	**16 03 23.6**	**+0.1**
	baz=95						
VNFG	**Fog Glacier, M**	**4.94**	**280**	Pn	**Pn**	**16 03 22.9**	**-0.6**
CHNA	**Chernabura Isl**	**5.10**	**264**	P	**Pn**	**16 03 23.6**	**-1.9**
	baz=78						
CNBA	**Chernabura Isl**	**5.10**	**264**	Pn	**Pn**	**16 03 22.9**	**-2.6**
CNBA				IAML		16 04 29.0	
	comp=N,23nm,0.6s						
CNBA				IAML		16 04 39.2	
	comp=E,27nm,4.6s						
P16K	**Nushagak River**	**5.12**	**314**		**Pn**	**16 03 26.7**	**+1.0**
P16K	**Nushagak River**	**5.12**	**314**	P	**Pn**	**16 03 27.0**	**+1.2**
	baz=129						
O17K	**Koliganek Bris**	**5.28**	**323**		**Pn**	**16 03 29.1**	**+1.0**
O17K	**Koliganek Bris**	**5.28**	**323**	P	**Pn**	**16 03 29.4**	**+1.4**
	baz=139						
RC01	**Rabbit Creek A**	**5.42**	**6**		**Pn**	**16 03 30.3**	**+0.3**
KAIM	**Kayak Island**	**5.43**	**36**	Pn	**Pn**	**16 03 29.4**	**-0.7**
KAIM	**Kayak Island**	**5.43**	**36**	P	**Pn**	**16 03 30.4**	**+0.2**
	baz=220						
N19K	**Bonanza Creek**	**5.47**	**341**	Pn	**Pn**	**16 03 31.6**	**+0.9**
N19K	**Bonanza Creek**	**5.47**	**341**	P	**Pn**	**16 03 32.5**	**+1.7**
	baz=158						
SDPT	**Sand Point**	**5.50**	**270**	Pn	**Pn**	**16 03 30.0**	**-1.1**
SDPT	**Sand Point**	**5.50**	**270**	P	**Pn**	**16 03 30.4**	**-0.7**
	baz=84						
O16K	**Kokwok River B**	**5.52**	**318**	Pn	**Pn**	**16 03 31.8**	**+0.6**
O16K	**Kokwok River B**	**5.52**	**318**	P	**Pn**	**16 03 32.3**	**+1.0**
	baz=133						
EYAK	**Cordova Ski Ar**	**5.54**	**27**	Pn	**Pn**	**16 03 30.5**	**-1.1**
EYAK	**Cordova Ski Ar**	**5.54**	**27**	P	**Pn**	**16 03 33.0**	**+1.4**
	baz=210						
N18K	**Kilae Creek**	**5.66**	**334**	Pn	**Pn**	**16 03 33.3**	**0.0**
N18K	**Kilae Creek**	**5.66**	**334**	P	**Pn**	**16 03 34.6**	**+1.3**
	baz=150						
SUCK	**Suckling Hills**	**5.76**	**38**	Pn	**Pn**	**16 03 34.0**	**-0.7**
SUA	**Susitna One**	**5.77**	**0**	Pn	**Pn**	**16 03 34.5**	**-0.4**
HMT	**Hamilton**	**5.80**	**34**	Pn	**Pn**	**16 03 34.6**	**-0.6**
NICHA	**Nichawak Mount**	**5.82**	**36**		**Pn**	**16 03 35.4**	**0.0**
KNK	**Knik Glacier**	**5.85**	**11**	Pn	**Pn**	**16 03 35.6**	**-0.3**
N17K	**Nushagak Hills**	**5.89**	**328**	Pn	**Pn**	**16 03 36.2**	**-0.3**
SVW2	**Sparrevohn**	**5.96**	**337**	Pn	**Pn**	**16 03 38.0**	**+0.7**
PMR	**Palmer**	**5.96**	**8**	Pn	**Pn**	**16 03 38.4**	**+1.0**
O15K	**Ungalikthiuk R**	**5.98**	**309**		**Pn**	**16 03 38.5**	**+0.9**
O15K	**Ungalikthiuk R**	**5.98**	**309**	P	**Pn**	**16 03 38.8**	**+1.2**
	baz=123						
GRIN	**Grindle Hills**	**6.07**	**38**		**Pn**	**16 03 38.8**	**-0.1**
GHO	**Glory Hole Cre**	**6.16**	**8**	Pn	**Pn**	**16 03 39.5**	**-0.7**
SNH	**Sunshine Point**	**6.17**	**40**	Pn	**Pn**	**16 03 39.8**	**-0.5**
BMRM	**Bremner River**	**6.20**	**29**	Pn	**Pn**	**16 03 40.1**	**-0.6**
BMRM	**Bremner River**	**6.20**	**29**	P	**Pn**	**16 03 41.0**	**+0.3**
	baz=214						
PS1A	**Pavlof South-1**	**6.21**	**272**		**Pn**	**16 03 40.2**	**-0.6**
SML	**Sawmill**	**6.25**	**11**	Pn	**Pn**	**16 03 41.4**	**0.0**
PS4A	**Pavlof South-4**	**6.29**	**271**		**Pn**	**16 03 40.9**	**-1.0**
SKT	**Skwentna**	**6.30**	**357**	Pn	**Pn**	**16 03 43.1**	**+1.1**
HAG	**Hague Volcano**	**6.32**	**271**		**Pn**	**16 03 41.6**	**-0.7**
KLU	**Klutina**	**6.33**	**22**	Pn	**Pn**	**16 03 43.2**	**+0.6**
KLU	**Klutina**	**6.33**	**22**	P	**Pn**	**16 03 42.9**	**+0.3**
	baz=205						
WAX	**Waxell Ridge**	**6.35**	**38**	Pn	**Pn**	**16 03 42.2**	**-0.6**
PN7A	**Pavlof North-7**	**6.35**	**272**		**Pn**	**16 03 42.3**	**-0.6**
M18K	**Stony River**	**6.36**	**338**		**Pn**	**16 03 43.3**	**+0.4**
M18K	**Stony River**	**6.36**	**338**	P	**Pn**	**16 03 43.3**	**+0.4**
	baz=154						
S12K	**Black Hills**	**6.36**	**275**	Pn	**Pn**	**16 03 41.3**	**-1.6**
S12K	**Black Hills**	**6.36**	**275**	P	**Pn**	**16 03 42.4**	**-0.5**
	baz=87						
SCM	**Sheep Creek Mo**	**6.40**	**15**	Pn	**Pn**	**16 03 44.2**	**+0.7**
CRQE	**Cirque**	**6.49**	**36**	P	**Pn**	**16 03 44.7**	**-0.1**
	baz=221						
MESA	**MESA**	**6.50**	**43**	Pn	**Pn**	**16 03 44.9**	**-0.1**
ISLE	**Juniper Island**	**6.64**	**39**	Pn	**Pn**	**16 03 47.1**	**+0.3**
BAGL	**Bagley Icefiel**	**6.66**	**40**		**Pn**	**16 03 46.7**	**-0.2**
N15K	**Kwethluk River**	**6.66**	**316**	Pn	**Pn**	**16 03 47.4**	**+0.4**
N15K	**Kwethluk River**	**6.66**	**316**	P	**Pn**	**16 03 47.5**	**+0.5**
	baz=129						
O14K	**Tigyukauivet M**	**6.66**	**307**	Pn	**Pn**	**16 03 48.1**	**+1.2**
O14K	**Tigyukauivet M**	**6.66**	**307**	P	**Pn**	**16 03 48.4**	**+1.5**
	baz=119						
M17K	**Holitna River**	**6.67**	**331**	Pn	**Pn**	**16 03 47.8**	**+0.6**
N25K	**Chitina, Valde**	**6.74**	**26**	Pn	**Pn**	**16 03 48.8**	**+0.6**
N25K	**Chitina, Valde**	**6.74**	**26**	P	**Pn**	**16 03 48.7**	**+0.6**
	baz=211						
VRDI	**Verde Repeater**	**6.74**	**32**	Pn	**Pn**	**16 03 47.4**	**-0.9**
GLB	**Gilahina Butte**	**6.81**	**30**	Pn	**Pn**	**16 03 48.7**	**-0.4**
L19K	**White Mountain**	**6.82**	**344**	Pn	**Pn**	**16 03 48.7**	**-0.5**
L19K	**White Mountain**	**6.82**	**344**	P	**Pn**	**16 03 49.9**	**+0.8**
	baz=161						
M16K	**Timber Creek**	**6.83**	**325**	Pn	**Pn**	**16 03 50.8**	**+1.5**
M24K	**Tolsona, Glenn**	**6.85**	**19**	Pn	**Pn**	**16 03 50.2**	**+0.6**
KIAG	**Kiagna River**	**6.86**	**37**		**Pn**	**16 03 49.8**	**-0.2**
GRNC	**Granite Creek**	**6.94**	**40**	Pn	**Pn**	**16 03 49.8**	**-1.2**
TABL	**Table Mountain**	**6.98**	**43**	Pn	**Pn**	**16 03 50.9**	**-0.7**
MCARA	**McCarthy VSAT**	**6.99**	**32**	Pn	**Pn**	**16 03 51.4**	**-0.2**
PTPK	**Patty Peak**	**7.02**	**35**		**Pn**	**16 03 52.8**	**+0.7**
WAT6	**Susitna Watana**	**7.07**	**12**		**Pn**	**16 03 54.7**	**+2.0**
WAT6	**Susitna Watana**	**7.07**	**12**	P	**Pn**	**16 03 54.7**	**+2.0**
	baz=194						
N14K	**Kuskokwak Cree**	**7.18**	**310**		**Pn**	**16 03 55.5**	**+1.5**
N14K	**Kuskokwak Cree**	**7.18**	**310**	P	**Pn**	**16 03 55.5**	**+1.5**
	baz=122						
L18K	**Granite Mounta**	**7.20**	**337**	Pn	**Pn**	**16 03 53.7**	**-0.6**
BARN	**Barnard Glacie**	**7.20**	**38**	Pn	**Pn**	**16 03 54.5**	**0.0**
CTG	**Chitna Glacier**	**7.25**	**40**	P	**Pn**	**16 03 55.1**	**-0.1**
	baz=227						
CTGM	**Chitina Glacie**	**7.25**	**40**	Pn	**Pn**	**16 03 54.5**	**-0.8**
LOGN	**Logan Glacier**	**7.28**	**41**	Pn	**Pn**	**16 03 54.9**	**-0.7**
PNL	**Peninsula**	**7.29**	**52**		**Pn**	**16 03 55.6**	**0.0**
PNL	**Peninsula**	**7.29**	**52**	P	**Pn**	**16 03 55.6**	**0.0**
	baz=241						
BCPM	**Bancas Point**	**7.32**	**50**	Pn	**Pn**	**16 03 55.5**	**-0.6**
ISLZ	**Isanotski Laza**	**7.45**	**268**		**Pn**	**16 03 56.0**	**-1.8**
ISNN	**Isanotski Nort**	**7.46**	**269**		**Pn**	**16 03 57.1**	**-0.9**
L16K	**Owhat River**	**7.51**	**327**	Pn	**Pn**	**16 03 59.8**	**+1.1**
L16K	**Owhat River**	**7.51**	**327**	P	**Pn**	**16 03 58.6**	**-0.1**
	baz=140						
TTA	**Tatalina**	**7.71**	**342**	Pn	**Pn**	**16 04 00.9**	**-0.6**
TTA	**Tatalina**	**7.71**	**342**	P	**Pn**	**16 04 01.6**	**+0.1**
	baz=158						
M14K	**Bethel**	**7.75**	**315**	Pn	**Pn**	**16 04 02.3**	**+0.4**
CAST	**Castle Rocks**	**7.76**	**356**	Pn	**Pn**	**16 04 02.7**	**+0.7**
TRF	**Thorofare Moun**	**7.77**	**2**	Pn	**Pn**	**16 04 03.3**	**+1.0**
RND	**Reindeer**	**7.78**	**7**	Pn	**Pn**	**16 04 03.5**	**+1.1**
M26K	**Nabesna, AK**	**7.82**	**28**	Pn	**Pn**	**16 04 03.3**	**+0.4**
K20K	**Telida**	**7.85**	**349**	Pn	**Pn**	**16 04 03.9**	**+0.7**
KTH	**Kantishna Hill**	**7.87**	**360**	Pn	**Pn**	**16 04 04.4**	**+0.8**
O29M	**Mount Kennedy**	**7.96**	**50**	Pn	**Pn**	**16 04 05.2**	**+0.3**
O29M	**Mount Kennedy**	**7.96**	**50**	P	**Pn**	**16 04 05.3**	**+0.4**
	baz=239						
K17K	**Iditarod**	**8.00**	**334**	Pn	**Pn**	**16 04 06.1**	**+0.7**
P29M	**Windy Craggy**	**8.03**	**55**	Pn	**Pn**	**16 04 04.6**	**-1.2**
P29M	**Windy Craggy**	**8.03**	**55**	P	**Pn**	**16 04 05.4**	**-0.4**
	baz=245						
M27K	**Edge Creek, AK**	**8.10**	**31**	Pn	**Pn**	**16 04 06.9**	**+0.1**
MENT	**Mentasta**	**8.10**	**24**	Pn	**Pn**	**16 04 07.9**	**+1.2**
M13K	**Dall Lake**	**8.14**	**310**	Pn	**Pn**	**16 04 08.8**	**+1.5**
S31K	**Pelican**	**8.31**	**68**	Pn	**Pn**	**16 04 07.1**	**-2.4**
S31K	**Pelican**	**8.31**	**68**	P	**Pn**	**16 04 07.4**	**-2.1**
	baz=259						
J18K	**Innoko River**	**8.33**	**341**	Pn	**Pn**	**16 04 08.9**	**-0.9**
L14K	**Kuka Creek**	**8.39**	**317**	Pn	**Pn**	**16 04 10.1**	**-0.5**
BPAW	**Bear Paw Mtn.**	**8.42**	**359**	Pn	**Pn**	**16 04 11.5**	**+0.4**
BWN	**Browne**	**8.52**	**4**	Pn	**Pn**	**16 04 13.7**	**+1.3**
K15K	**Wolf Creek Mou**	**8.60**	**324**	Pn	**Pn**	**16 04 13.5**	**-0.1**
J19K	**Poorman**	**8.65**	**346**	Pn	**Pn**	**16 04 15.4**	**+1.2**
J20K	**Nowinta River**	**8.66**	**350**	Pn	**Pn**	**16 04 13.0**	**-1.3**
L27K	**Beaver Creek,**	**8.67**	**28**	Pn	**Pn**	**16 04 14.3**	**-0.3**
BCAR	**Beaver Creek A**	**8.69**	**28**	Pn	**Pn**	**16 04 15.2**	**+0.4**
NEA2	**Nenana**	**8.95**	**5**	Pn	**Pn**	**16 04 18.3**	**-0.2**
SCRK	**Sand Creek**	**8.97**	**20**	Pn	**Pn**	**16 04 17.8**	**-0.9**
J16K	**Anvik River**	**9.07**	**331**	Pn	**Pn**	**16 04 20.9**	**+0.9**
CCB	**Clear Creek Bu**	**9.09**	**8**	Pn	**Pn**	**16 04 20.5**	**+0.2**
S32K	**Killisnoo**	**9.13**	**72**	Pn	**Pn**	**16 04 18.5**	**-2.3**
N30M	**Aishikik Lake**	**9.18**	**46**	Pn	**Pn**	**16 04 21.4**	**-0.2**
M29M	**Somme Creek**	**9.26**	**38**	Pn	**Pn**	**16 04 23.0**	**+0.3**
O30N	**Mendenhall**	**9.26**	**51**	Pn	**Pn**	**16 04 22.7**	**0.0**
IL31		**9.30**	**10**	Pn	**Pn**	**16 04 24.0**	**+0.9**
ILAR	**Eielson Array**	**9.30**	**10**	Pn	**Pn**	**16 04 24.2**	**+1.2**
ILAR	**Eielson Array**	**9.30**	**10**	Pn	**Pn**	**16 04 24.7**	**+1.6**
	comp=E,0.1nm,0.3s,baz=191,slow=13,SNR=7.3						
ILAR				Sn	**Sn**	**16 06 02.7**	**-4.9**
	comp=E,0.1nm,0.3s,baz=193,slow=19,SNR=1.2						
	comp=E,0.8nm,0.8s						
JIS	**Juneau Island**	**9.32**	**67**	Pn	**Pn**	**16 04 21.4**	**-2.1**
J25K	**Salcha River,**	**9.33**	**15**	Pn	**Pn**	**16 04 25.4**	**+1.7**
MLY	**Manley**	**9.35**	**0**	Pn	**Pn**	**16 04 25.4**	**+1.5**
MDM	**Murphy Dome**	**9.37**	**7**	Pn	**Pn**	**16 04 25.5**	**+1.4**
K27K	**Chicken**	**9.42**	**24**	Pn	**Pn**	**16 04 25.4**	**+0.7**
I23K	**Minto, Yukon-K**	**9.50**	**4**	Pn	**Pn**	**16 04 26.7**	**+0.9**
J14K	**Nanvaranak Lak**	**9.60**	**322**	Pn	**Pn**	**16 04 28.5**	**+1.3**
L29M	**L29M**	**9.82**	**36**	Pn	**Pn**	**16 04 30.4**	**+0.1**
M30M	**Minto, Yukon**	**9.94**	**41**	Pn	**Pn**	**16 04 32.4**	**+0.4**
P32M	**Atlin**	**9.95**	**60**	Pn	**Pn**	**16 04 30.8**	**-1.2**
H21K	**Melozitna Rive**	**10.03**	**355**	Pn	**Pn**	**16 04 34.8**	**+1.6**
H18K	**Honhosa River**	**10.17**	**342**	Pn	**Pn**	**16 04 35.4**	**+0.3**
H24K	**Noodor Dome**	**10.26**	**7**	Pn	**Pn**	**16 04 37.1**	**+0.7**
EGAK	**Eagle**	**10.27**	**24**	Pn	**Pn**	**16 04 37.4**	**+1.0**
H17K	**Granite Mounta**	**10.28**	**338**	Pn	**Pn**	**16 04 38.5**	**+1.9**
I26K	**Coal Creek Min**	**10.33**	**18**	Pn	**Pn**	**16 04 38.5**	**+1.2**
K29M	**Barlow Dome**	**10.53**	**34**	Pn	**Pn**	**16 04 41.3**	**+1.2**
P33M	**Teslin, Yukon**	**10.56**	**57**	Pn	**Pn**	**16 04 39.0**	**-1.4**
M31M	**Drury Creek, Y**	**10.66**	**46**	Pn	**Pn**	**16 04 42.6**	**+0.7**
G23K	**Bananza Creek**	**11.05**	**2**	Pn	**Pn**	**16 04 47.1**	**+0.1**
G24K	**Hadweenzic Riv**	**11.14**	**7**	Pn	**Pn**	**16 04 49.0**	**+0.7**
R33M	**Jennings River**	**11.27**	**63**	Pn	**Pn**	**16 04 48.1**	**-2.1**
J30M	**Hart River**	**11.42**	**33**	Pn	**Pn**	**16 04 54.0**	**+1.8**
DLBC	**Dease Lake**	**11.62**	**68**	LR	LR	16 08 33.1	
	comp=E,134nm,20.8s,baz=249,slow=34						
F17K	**Baldwin Pennin**	**11.87**	**339**	Pn	**Pn**	**16 04 58.2**	**-0.1**
BMAR	**Burnt Mountain**	**12.12**	**12**	Pn	**Pn**	**16 05 02.9**	**+1.2**
G29M	**Pine Creek**	**12.77**	**23**	Pn	**Pn**	**16 05 10.8**	**+0.2**
G31M	**Satah River**	**13.70**	**28**	Pn	**Pn**	**16 05 23.7**	**+0.5**
BBB	**Bella Bella**	**13.80**	**95**	LR	LR	16 09 11.8	
	comp=E,96nm,18.6s,baz=340,slow=32						
D25K	**Kavik River**	**13.81**	**7**	Pn	**Pn**	**16 05 26.3**	**+1.5**
E28M	**Babbage River**	**13.93**	**17**	Pn	**Pn**	**16 05 26.9**	**+0.6**
E29M	**Blow River**	**14.04**	**20**	Pn	**Pn**	**16 05 27.1**	**-0.7**
C23K	**Itkillik River**	**14.18**	**0**	Pn	**Pn**	**16 05 32.2**	**+2.4**
C16K	**Lisburne Hills**	**14.27**	**338**	P	**P**	**16 05 40.2**	**+1.9**
D27M	**Malcolm River**	**14.29**	**14**		**Pn**	**16 05 31.3**	**-0.1**
B22K	**Teshekpuk Lake**	**14.73**	**357**	Pn	**Pn**	**16 05 36.8**	**-0.5**
INK	**Inuvik**	**14.93**	**25**	Pn	**Pn**	**16 05 40.2**	**+0.2**
INK				IAmb	IAmb	16 05 49.3	
	comp=E,4.7nm,1.1s						
A36M	**Sachs Harbour**	**19.55**	**24**		**P**	**16 06 36.2**	**-0.3**
A36M				IAmb	IAmb	16 06 44.5	
	comp=E,5.0nm,0.8s						
YKA	**Yellowknife Ar**	**19.57**	**55**	P	**P**	**16 06 36.5**	**-0.4**
YKA	**Yellowknife Ar**	**19.57**	**55**	P	**Pn**	**16 06 37.8**	**-0.4**
	baz=266,slow=10.0,SNR=6.6						
	comp=E,0.3nm,0.6s						
TXAR	**Lajitas Array**	**42.44**	**108**	P	**P**	**16 10 06.9**	**+2.8**
	comp=Z,0.1nm,0.4s,baz=302,slow=8.4,SNR=1.3						
	comp=Z,0.1nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**47.85**	**239**	T	T	17 03 00.9	
	baz=31,slow=74						
H11N3	**WAKE ISLAND Hy**	**47.86**	**239**	T	T	17 03 02.2	
	baz=31						
H11N1	**WAKE ISLAND Hy**	**47.87**	**239**	T	T	17 02 56.3	
	baz=31,slow=74						
USRK	**Ussuriysk Ar.**	**48.48**	**290**	LR	LR	16 32 20.6	
	comp=Z,42nm,18.4s,baz=8.3,slow=37						
H11S1	**WAKE ISLAND Hy**	**48.99**	**238**	T	T	17 04 27.6	
	baz=28,slow=76,SNR=19						
H11S2	**WAKE ISLAND Hy**	**49.01**	**238**	T	T	17 04 27.1	
	baz=28,slow=76,SNR=7.6						
H11S3	**WAKE ISLAND Hy**	**49.01**	**238**	T	T	17 04 26.3	
	baz=28,slow=76,SNR=6.1						
SONM	**Songino Array**	**58.35**	**309**	P	P	16 12 14.0	+10
	comp=Z,0.5nm,0.8s,baz=23,slow=7.8,SNR=2.7						
	comp=Z,0.5nm,0.8s						
FINES	**FINESS Array B**	**63.16**	**2**	P	P	16 12 44.2	+7.6
	comp=Z,0.8nm,0.7s,baz=3.6,slow=11,SNR=4.3						
	comp=Z,0.8nm,0.7s						

*IDC **21** 16:14:43.8±1.8, 1°.25N×127°.07E, h0km, mb3.7/5, mbtmp3.8/5, Error ellipse: s-maj=176.5km s-min=20.1km az=67.0*
*DJA **21** 16:14:45.7±0.6,2°N±5°×12°8E±°, h10km, M3.8/6, MLv3.8/6*
ISC 21 16:14:44.9±1.1,1°.54N±0°.07×127°.84E±0°.08,h10km,n16,
σ1s21/12,mb3.9/5,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.89**	**212**	P	**Pg**	**16 15 01.9**	**-0.2**
TNTI				S	**Sg**	**16 15 14.5**	**+0.7**
LBMI	**Labuha**	**2.19**	**189**	P	**Pn**	**16 15 22.5**	**+1.1**
LBMI				S	**Sb**	**16 15 51.7**	**-0.1**
KMSI	**Cibinong**	**3.97**	**256**	P	**Pn**	**16 15 48.2**	**+2.3**
SANI	**Sanana**	**4.01**	**207**	P	**Pn**	**16 15 45.8**	**-0.7**
SWI	**Sorong**	**4.17**	**125**	P	**Pn**	**16 15 50.4**	**+1.7**
WRA	**Warramunga Arr**	**22.28**	**164**	P	**P**	**16 19 42.2**	**-0.3**
	6.6nm,0.9s,baz=340,slow=10,SNR=23						
	6.6nm,0.9s						
ASAR	**Alice Springs**	**25.74**	**167**	P	**P**	**16 20 15.4**	**-0.5**
	2.2nm,0.9s,baz=351,slow=11,SNR=13						
	2.2nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**41.65**	**64**	T	T	17 06 39.4	
	baz=250,slow=75,SNR=18						
H11S2	**WAKE ISLAND Hy**	**41.67**	**64**	T	T	17 06 38.1	
	baz=250,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hy**	**41.67**	**64**	T	T	17 06 38.4	
	baz=250,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy**	**42.25**	**62**	T	T	17 07 33.0	
	baz=249,slow=75,SNR=9.3						
H11N2	**WAKE ISLAND Hy**	**42.27**	**62**	T	T	17 07 29.8	
	baz=249,slow=75,SNR=7.0						
H11N3	**WAKE ISLAND Hy**	**42.27**	**62**	T	T	17 07 35.2	
	baz=249,slow=75,SNR=9.6						
MKAR	**Makanchi Array**	**59.97**	**325**	P	**P**	**16 24 51.4**	**-0.2**
	0.5nm,0.6s,baz=116,slow=8.2,SNR=8.2						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**64.17**	**328**	P	**P**	**16 25 19.0**	**-0.7**
	0.5nm,0.6s,baz=126,slow=6.4,SNR=4.1						
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**69.75**	**327**	P	**P**	**16 25 53.8**	**-1.4**
	0.2nm,0.4s,baz=106,slow=4.7,SNR=2.2						
	0.2nm,0.4s						

*IDC **21** 16:18:52.9

comp=Z,120nm,4.3s
CRAI Chiangrai 37.98 265 P P 16 26 07.9 +0.4
CRAI IAmb IAmb 16 26 09.3
comp=Z,5.1nm,0.7s
PHRA Phrae 38.78 263 P P 16 26 14.8 +0.5
CMAR Chiang Mai Arr 39.91 264 P P 16 26 23.9 +0.2
CMAR Chiang Mai Arr 39.91 264 P P 16 26 23.7 -0.1
comp=Z,1.6nm,0.6s,baz=67,slow=5.4,SNR=17
comp=Z,1.6nm,0.6s
TIXI Tiksi 42.69 354 P P 16 26 45.2 -0.6
TIXI IAmb IAmb 16 26 46.6
comp=Z,2.6nm,0.4s
BATI Baumata 42.97 206 P P 16 26 48.4 -0.4
comp=Z,6.3nm,0.5s,baz=106,slow=6.6,SNR=1.3
comp=Z,6.3nm,0.5s
KULM Kulim 45.19 246 P P 16 27 07.4 +0.8
ZAA0 Zalesovo Array 47.05 318 P P 16 27 19.7 -1.1
ZALV Zalesovo Beam 47.05 318 P P 16 27 20.2 -0.6
comp=Z,1.6nm,0.4s,baz=89,slow=8.7,SNR=11
ZALV PcP **PcP 16 28 52.2 0.0**
comp=Z,2.5nm,0.6s,baz=102,slow=4.5,SNR=11
comp=Z,1.6nm,0.4s
MK31 Makanchi Array 48.23 308 P P 16 27 28.6 -1.5
MKAR Makanchi Array 48.23 308 P P 16 27 29.4 -0.7
MKAR Makanchi Array 48.23 308 P P 16 27 29.2 -0.9
comp=Z,2.3nm,0.6s,baz=90,slow=9.5,SNR=30
MKAR PcP **PcP 16 28 56.7 +0.2**
comp=Z,0.6nm,0.5s,baz=87,slow=3.2,SNR=7.1
comp=Z,2.3nm,0.6s
SDPT Sand Point 48.41 41 P P 16 27 30.6 -0.7
MAKZ Makanchi 48.45 308 P P 16 27 30.9 -0.9
MAKZ IAmb IAmb 16 27 31.8
comp=Z,2.1nm,0.6s
CNBA Chernabura Isl 48.86 41 P P 16 27 35.2 +0.5
F15K North Star Dit 48.88 26 P P 16 27 35.9 +1.2
F15K IAmb IAmb 16 28 05.9
comp=Z,5.8nm,1.3s
K15K Wolf Creek Mou 49.18 31 P P 16 27 37.4 +0.3
N15K Kwethluk River 49.39 34 P P 16 27 38.3 -0.4
C16K Lisburne Hills 49.58 23 P P 16 27 40.6 +0.5
C16K IAmb IAmb 16 27 53.0
comp=Z,4.5nm,1.4s
WRA Warramunga Arr 49.64 188 P P 16 27 39.7 -1.4
comp=Z,3.1nm,0.6s,baz=4.5,slow=7.6,SNR=9.4
comp=Z,3.1nm,0.6s
GSI Gunungsitoli 50.05 244 P P 16 27 43.3 -1.0
F17K Baldwin Pennin 50.44 26 P P 16 27 47.1 +0.6
F17K IAmb IAmb 16 27 48.7
comp=Z,7.1nm,1.4s
KURK Kurchatov 50.63 313 P P 16 27 47.2 -1.1
KURK IAmb IAmb 16 27 48.3
comp=Z,3.1nm,0.8s
KURBB Kurchatov Arra 50.69 313 P P 16 27 48.0 -0.7
comp=Z,0.9nm,0.3s,baz=91,slow=7.9,SNR=28
KURBB PcP **PcP 16 29 05.0 -0.4**
comp=Z,0.6nm,0.5s,baz=99,slow=3.6,SNR=5.3
comp=Z,0.9nm,0.3s
H18K Honhosa River 51.24 28 P P 16 27 51.7 -0.9
H18K IAmb IAmb 16 28 28.9
comp=Z,4.8nm,1.3s
G18K Tagagawik 51.30 27 P P 16 27 53.4 +0.3
H19K Roundabout Mou 52.10 28 P P 16 28 00.6 +1.6
H19K IAmb IAmb 16 28 25.3
comp=Z,5.8nm,1.4s
K20K Telida 52.74 31 P P 16 28 04.5 +0.6
K20K IAmb IAmb 16 28 15.9
comp=Z,3.2nm,1.0s
IMAR Indian Mountai 53.28 28 P P 16 28 08.3 +0.5
KSH Kashi 53.56 299 P P 16 28 13.8 +3.4
KSH pmax pmax
comp=Z,4.0nm,0.7s
H21K Melozitna Rive 53.62 28 P P 16 28 11.2 +1.0
H21K IAmb IAmb 16 28 27.3
comp=Z,4.6nm,1.4s
CAST Castle Rocks 53.64 31 P P 16 28 10.8 +0.4
CAST IAmb IAmb 16 28 21.1
comp=Z,5.8nm,1.4s
B21K Ikpikpuk River 53.68 23 P P 16 28 11.4 +0.8
B21K IAmb IAmb 16 28 15.4
comp=Z,4.7nm,1.4s
AAK Ala-Archa 54.13 303 P P 16 28 13.0 -1.5
AAK IAmb IAmb 16 28 14.7
comp=Z,1.9nm,0.7s
C23K Itkillik River 55.09 23 P P 16 28 20.5 -0.3
C23K IAmb IAmb 16 28 37.4
comp=Z,5.1nm,1.4s
D24K Happy Valley 55.62 24 P P 16 28 25.8 +1.1
D24K IAmb IAmb 16 28 27.1
comp=Z,2.4nm,0.8s
BVAR Borovoye Array 55.64 316 P P 16 28 24.9 -0.2
comp=Z,8.5nm,0.5s,baz=94,slow=7.9,SNR=65
BVAR PcP **PcP 16 29 24.6 +0.5**
comp=Z,1.9nm,0.6s,baz=97,slow=4.5,SNR=6.5
comp=Z,8.5nm,0.5s
BRVK Borovoye 55.70 316 P P 16 28 25.1 -0.4
F24K Squaw Lake 55.79 26 P P 16 28 26.7 +0.7
ILAR Eielson Array 56.02 29 P P 16 28 27.8 +0.2
comp=Z,0.5nm,0.8s,baz=264,slow=5.9,SNR=4.6
comp=Z,0.5nm,0.8s
D25K Kavik River 56.50 24 P P 16 28 32.3 +1.3
E25K Arctic Village 56.71 25 P P 16 28 33.8 +1.3
E25K IAmb IAmb 16 29 02.6
comp=Z,5.7nm,1.4s
DZM Mont Dzumac 56.81 152 LR LR 16 49 04.8
comp=Z,55nm,21.4s,baz=12,slow=32
KK31 Karatay Array 56.93 304 P P 16 28 33.8 -0.7
KK31 IAmb IAmb 16 28 34.7
comp=Z,3.2nm,0.7s
KKAR Karatay Array 56.93 304 P P 16 28 33.6 -0.8
KKAR IAmb IAmb 16 28 34.7
comp=Z,3.2nm,0.7s
BMAR Burnt Mountain 57.05 26 P P 16 28 36.6 +1.6
D27M Malcolm River 58.42 24 P P 16 28 45.6 +1.1
I28M Miner Creek 58.95 29 P P 16 28 49.5 +1.2
G29M Pine Creek 59.62 27 P P 16 28 54.5 +1.6
G29M IAmb IAmb 16 29 23.4
comp=Z,7.0nm,1.5s
I30M Mount Dempster 60.46 29 P P 16 28 58.7 -0.1
G31M Satah River 61.09 27 P P 16 29 03.0 +0.2
G31M IAmb IAmb 16 29 29.9
comp=Z,3.2nm,1.1s
ARU Arti 61.94 321 P P 16 29 08.6 -0.1
ABKAR Akbulak array 62.75 313 P P 16 29 13.9 -0.4
SPITS Spitsbergen Ar 67.81 349 P P 16 29 48.0 +1.4
comp=Z,3.7nm,0.8s,baz=40,slow=9.8,SNR=1.3
comp=Z,3.7nm,0.8s
YKA Yellowknife Ar 70.42 29 P P 16 30 02.7 -0.2
comp=Z,0.1nm,0.5s,baz=338,slow=6.5,SNR=2.1
YKA LR LR 17 01 42.5
comp=Z,19nm,20.9s,baz=289,slow=36
comp=Z,0.1nm,0.5s
ARCES ARCESS Array B 70.93 340 P P 16 30 06.4 +0.4
comp=Z,3.6nm,0.8s,baz=60,slow=5.8,SNR=7.8
comp=Z,3.6nm,0.8s
FIA1 FINESS Array S 75.35 333 P P 16 30 32.2 0.0
FINES FINESS Array B 75.35 333 P P 16 30 32.3 +0.2
FINES FINESS Array B 75.35 333 P P 16 30 32.1 0.0
comp=Z,1.4nm,0.4s,baz=79,slow=4.0,SNR=20
comp=Z,1.4nm,0.4s
KBZ Khabaz 75.68 312 P P 16 30 35.0 +0.6
comp=Z,2.8nm,0.7s,baz=91,slow=6.7,SNR=6.3
comp=Z,2.8nm,0.7s
SUMG Summit 78.15 360 P P 16 30 49.5 +1.2
SUMG IAmb IAmb 16 30 53.5
comp=Z,3.3nm,1.1s
NVAR Mina Array Bea 79.72 52 P P 16 30 58.1 +0.8
comp=Z,0.5nm,0.6s,baz=285,slow=5.7,SNR=5.2
comp=Z,0.5nm,0.6s
AKASG Malin Array Be 80.11 323 P P 16 30 58.6 -0.2
AKASG Malin Array Be 80.11 323 P P 16 30 58.2 -0.6
comp=Z,1.1nm,0.5s,baz=51,slow=5.4,SNR=16
comp=Z,1.1nm,0.5s
AKBB Malin Array Si 80.11 323 P P 16 30 58.2 -0.6
KIEV Kiev 80.12 323 P P 16 30 58.2 -0.7
NC405 NORSAR Array S 80.78 338 P P 16 31 02.4 0.0
HFS Hagfors 80.82 336 P P 16 31 02.3 -0.2
comp=Z,1.1nm,0.5s,baz=115,slow=6.7,SNR=8.3
comp=Z,1.1nm,0.5s
NB2 NORSAR Subarra 81.00 338 P P 16 31 03.9 +0.4
comp=Z,2.0nm,0.6s,baz=44,slow=5.3
NOA NORSAR Array B 81.00 338 P P 16 31 03.9 +0.4
comp=Z,0.6nm,0.6s,baz=55,slow=6.4,SNR=4.1
comp=Z,0.6nm,0.6s
RAYN Ar Rayn 83.34 293 P P 16 31 16.3 -0.2
RAYN IAmb IAmb 16 31 17.2
comp=Z,2.6nm,0.7s

BRTR Keskin Array B 83.68 312 P P 16 31 18.2 +0.1
BRTR Keskin Array B 83.68 312 P P 16 31 17.6 -0.4
comp=Z,5.2nm,0.8s,baz=103,slow=4.0,SNR=12
comp=Z,5.2nm,0.8s
BURAR Bucovina Array 84.06 322 P P 16 31 20.1 +0.4
MMAI Mount Meron Ar 86.14 306 P P 16 31 30.1 -0.3
comp=Z,1.4nm,0.5s,baz=52,slow=5.5,SNR=4.6
comp=Z,1.4nm,0.5s
GERES GERESS Array B 88.95 328 P P 16 31 42.3 -1.3
comp=Z,0.5nm,0.5s,baz=62,slow=12,SNR=2.2
comp=Z,0.5nm,0.5s
QSPA South Pole Qui 119.31 180 PKP PKPdf 16 37 36.5 -0.8
comp=Z,1.4nm,1.0s,baz=350,slow=1.0,SNR=6.1
PLCA Paso Flores 151.92 122 PKPbc PKPbc 16 38 44.1 +0.3
comp=Z,2.4nm,1.0s,baz=311,slow=2.4,SNR=3.2

IDC 21 16:21:57.8±2.4, 1°.67N×126°.77E, h0km, mb3.2/3, mbtmp3.2/3, MS3.5/1, Error ellipse: s-maj=192.8km s-min=28.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.73**	**161**	P	P	16 27 02.2	+0.6
	0.3nm,0.4s,baz=340,slow=11,SNR=7.9						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**26.12**	**165**	P	P	16 27 33.1	-0.7
	0.5nm,1.0s,baz=344,slow=8.7,SNR=2.2						
	0.5nm,1.0s						
ASAJ	**Asahikawa**	**44.54**	**16**	LR	LR	16 48 51.2	
	comp=Z,53nm,19.3s,baz=184,slow=36						
MKAR	**Makanchi Array**	**59.27**	**326**	P	P	16 32 01.2	0.0
	0.1nm,0.5s,baz=115,slow=7.1,SNR=1.7						
	0.1nm,0.5s						

*IDC **21** 16:22:10.0±2.1, 18°.55N×147°.54E, h0km, mb3.8/8, mbtmp3.8/10, ML3.3/2, MS3.3/1, Error ellipse: s-maj=52.3km s-min=35.2km az=100.0*

ISC 21 16:22:15.4±1.3, 18°.41N±0°.10×147°.3E±0°.3, h35km, n16, σ1§32/13, mb4.1/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.33**	**206**	Pn	Pn	16 23 33.7	+1.3
	3.5nm,0.3s,baz=7.6,slow=21,SNR=1.5						
GUMO				Sn	Sn	16 24 30.8	-1.8
	6.5nm,0.3s,baz=356,slow=22,SNR=1.6						
	51nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**18.40**	**87**	T	T	16 45 59.1	
	baz=273						
H11S1	**WAKE ISLAND Hy**	**18.41**	**87**	T	T	16 45 56.9	
	baz=273						
H11S2	**WAKE ISLAND Hy**	**18.42**	**87**	T	T	16 45 59.5	
	baz=273						
MJAR	**Matsushiro Arr**	**19.76**	**338**	P	P	16 26 41.3	-1.1
	baz=169,slow=9.2,SNR=1.2						
	0.7nm,0.5s						
USRK	**Ussuriysk Ar.**	**28.75**	**337**	P	P	16 28 08.0	-1.6
	0.7nm,0.7s,baz=144,slow=10,SNR=2.1						
	0.7nm,0.7s						
KLR	**Kul'dur**	**33.21**	**341**	P	P	16 28 51.4	+2.6
	2.0nm,0.5s,baz=161,slow=6.0,SNR=8.2						
CTA	**Charters Tower**	**38.27**	**182**	LR	LR	16 43 36.6	
	comp=Z,43nm,20.2s,baz=179,slow=34						
AS01	**Alice Springs**	**43.80**	**198**	P	P	16 30 18.2	+0.2
SONM	**Songino Array**	**44.32**	**321**	P	P	16 30 22.1	0.0
	0.6nm,0.7s,baz=136,slow=9.0,SNR=4.3						
	0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**59.17**	**322**	P	P	16 32 12.8	+0.1
	0.9nm,0.6s,baz=118,slow=7.9,SNR=5.8						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**59.76**	**314**	P	P	16 32 17.1	+0.2
	0.6nm,0.6s,baz=89,slow=9.0,SNR=7.5						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**62.55**	**318**	P	P	16 32 36.3	+0.6
	0.9nm,0.6s,baz=92,slow=7.4,SNR=14						
	0.9nm,0.6s						
BVAR	**Borovoye Array**	**67.66**	**321**	P	P	16 33 09.3	+0.5
	2.1nm,0.6s,baz=93,slow=7.8,SNR=15						
	2.1nm,0.6s						
YKA	**Yellowknife Ar**	**77.53**	**28**	P	P	16 34 06.1	-1.2
	0.1nm,0.5s,baz=288,slow=7.0,SNR=2.0						
	0.1nm,0.5s						
FINES	**FINESS Array B**	**87.78**	**336**	P	P	16 35 00.7	+0.1
	0.8nm,0.7s,baz=48,slow=2.8,SNR=1.6						
	0.8nm,0.7s						

*IDC **21** 16:22:23.0±0.6, 1°.66N×128°.03E, h0km, mb4.1/18, mbtmp4.1/18, MS3.5/2, Error ellipse: s-maj=26.2km s-min=13.3km az=77.0*
*DJA **21** 16:22:24.9±0.6, 2°N±6°×12°.8E±°, h10km, M4.4/13, mB4.9/3, mb4.5/13, MLv4.4/12, Mw(mB)4.2/3*
*NEIC **21** 16:22:25.1±1.2, 1°.56N±0°.05×127°.89E±0°.07, h10km±1km, mb4.6/55, Error ellipse: s-maj=13.3km s-min=6.8km az=122.0*

ISC 21 16:22:24.8±0.4, 1°.58N±0°.05×127°.92E±0°.07, h10km, n116, σ1§10/109, mb4.5/55, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.98**	**215**	Pg	**Pg**	16 22 42.6	-1.0
TNTI				Sg	**Sg**	16 22 55.6	-0.7
TNTI	**Ternate**	**0.98**	**215**	P	**Pg**	16 22 42.9	-0.7
LBMI	**Labuha**	**2.24**	**191**	P	**Pn**	16 23 03.5	+1.5
KMSI	**Cibinong**	**4.06**	**256**	P	**Pn**	16 23 27.8	+0.7
SANI	**Sanana**	**4.09**	**208**	P	**Pn**	16 23 27.7	+0.2
SWI	**Sorong**	**4.13**	**126**	P	**Pn**	16 23 29.2	+1.2
NLAI	**Namlea**	**4.86**	**190**	P	**Pn**	16 23 40.1	+2.1
GTOI	**Gorontalo**	**5.00**	**259**	P	**Pn**	16 23 39.3	-0.6
	42nm,0.9s,394nm0.2nm						
LUWI	**Luwuk**	**5.77**	**243**	Pn	**Pn**	16 23 50.4	-0.1
LUWI	**Luwuk**	**5.77**	**243**	P	**Pn**	16 23 51.3	+0.8
	128nm,1.1s,4μm0.5nm						
MRSI	**Marisa**	**6.08**	**260**	P	**Pn**	16 23 55.8	+1.0
	90nm,1.0s,715nm0.3nm						
FAKI	**Fak Fak**	**6.22**	**136**	Pn	**Pn**	16 23 57.4	+0.6
FAKI	**Fak Fak**	**6.22**	**136**	P	**Pn**	16 23 57.4	+0.6
	33nm,1.0s,0.2nm						
TOLI2	**Tolioli**	**7.15**	**266**	Pn	**Pn**	16 24 08.6	-1.0
MPSI	**Mapaga**	**8.12**	**261**	P	**Pn**	16 24 23.6	+0.8
	22nm,1.4s						
TTSI	**Tana Toraja**	**9.31**	**240**	P	**Pn**	16 24 38.3	-0.9
	46nm,1.2s						
SAUI	**Saumlaki**	**10.08**	**161**	Pn	**Pn**	16 24 49.4	-0.4
BKSI	**Bulukumba**	**10.38**	**229**	P	**Pn**	16 24 54.3	+0.5
	28nm,0.5s						
EDFI	**Ende, Flores**	**11.99**	**211**	P	**Pn**	16 25 17.9	+1.8
	14nm,0.8s						
BATI	**Banmatta**	**12.45**	**200**	P	**Pn**	16 25 24.3	+2.0
	27nm,1.0s						
PLAI	**Plampang**	**14.46**	**224**	P	**Pn**	16 25 50.9	+1.2
	28nm,0.8s						
MTN	**Manton Dam**	**14.68**	**168**	Pn	**Pn**	16 25 52.6	-0.1
KNRA	**Kununurra**	**17.17**	**177**	Pn	**Pn**	16 26 23.8	-1.2
FITZ	**Fitzroy Crossi**	**19.68**	**186**	P	**P**	16 26 53.1	-1.2
LEM	**Lembang**	**21.92**	**247**	P	**P**	16 27 18.9	+0.2
	9.5nm,0.5s,baz=148,slow=23,SNR=2.0						
	9.5nm,0.5s						
PMG	**Port Moresby**	**22.05**	**120**	LR	LR	16 38 45.8	
	comp=Z,107nm,18.7s,baz=288,slow=45						
WB0	**Warramunga Arr**	**22.15**	**164**	P	**P**	16 27 21.1	+0.1
WB0				IAmb	IAmb	16 27 28.9	
	comp=Z,24nm,1.0s						
WRAB	**Tennant Creek**	**22.29**	**164**	P	**P**	16 27 22.1	-0.4
WRAB				IAmb	IAmb	16 27 25.7	
	comp=Z,19nm,0.8s						
WRA	**Warramunga Arr**	**22.30**	**164**	P	**P**	16 27 22.3	-0.3
WRA	**Warramunga Arr**	**22.30**	**164**	P	**P**	16 27 22.9	+0.3
	comp=Z,15nm,0.9s,baz=342,slow=9.9,SNR=40						
	comp=Z,15nm,0.9s						
WB2	**Warramunga Arr**	**22.30**	**164**	P	**P**	16 27 22.8	+0.2
WB2				IAmb	IAmb	16 27 25.3	
	comp=Z,26nm,1.0s						
WR0	**Warramunga Arr**	**22.37**	**163**	P	**P**	16 27 22.6	-0.7
WR0				IAmb	IAmb	16 27 25.9	
	comp=Z,17nm,1.0s						
TPUB	**Ta-pu**	**22.72**	**342**	P	**P**	16 27 27.5	+0.5
MBWA	**Marble Bar**	**23.98**	**199**	P	**P**	16 27 38.4	-1.3
MBWA				IAmb	IAmb	16 27 40.2	
	comp=Z,23nm,1.1s						
PSA00	**Pilbara Seismi**	**24.33**	**199**	P	**P**	16 27 42.1	-0.8
PSA00				IAmb	IAmb	16 28 09.1	
	comp=Z,32nm,1.4s						
AS31	**Alice Springs**	**25.76**	**167**	P	**P**	16 27 54.5	-1.5

ASAR Alice Springs 25.76 167 P P 16 27 55.7 -0.2
ASAR Alice Springs 25.76 167 P P 16 27 56.2 +0.2
comp=Z,6.5nm,0.9s,baz=353,slow=16,SNR=46
comp=Z,6.5nm,0.9s
NJ2 Nanjing 31.49 345 eP P 16 28 48.4 +1.5
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
FORT Forrest 32.18 180 P P 16 28 52.2 -0.7
MORW Morawa 32.53 200 P P 16 28 57.2 +1.1
MORW IAmb IAmb 16 29 20.2
comp=Z,8.9nm,1.4s
CM31 Chiang Mai Arr 33.00 302 P P 16 29 01.4 +1.0
CMAR Chiang Mai Arr 33.00 302 P P 16 29 01.2 +0.9
comp=Z,2.3nm,0.9s,baz=120,slow=7.2,SNR=13
comp=Z,2.3nm,0.9s
PZH PanZhiHua 35.31 317 P P 16 29 21.9 +1.4
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,140nm,6.1s
KSRS Korea Array 35.70 0 P P 16 29 23.1 -0.4
comp=Z,1.1nm,0.6s,baz=180,slow=9.4,SNR=5.0
comp=Z,1.1nm,0.6s
STKA Stephens Creek 35.72 160 P P 16 29 23.5 -0.2
STKA Stephens Creek 35.72 160 P P 16 29 23.4 -0.4
comp=Z,3.5nm,0.7s,baz=334,slow=9.6,SNR=7.9
comp=Z,3.5nm,0.7s
MJAR Matsushiro Arr 36.07 14 P P 16 29 24.7 -2.0
comp=Z,1.9nm,0.7s,baz=238,slow=5.7,SNR=2.8
comp=Z,1.9nm,0.7s
XAN Xi'an 36.86 333 P P 16 29 34.1 +0.6
XAN pP sP 16 29 38.8 +0.7
XAN pmax pmax
comp=Z,18nm,0.9s
LZH Lanzhou 40.95 330 eP P 16 30 09.4 +1.5
LZH pP sP 16 30 13.4 +0.9
LZH pmax pmax
comp=Z,18nm,1.0s
H11S3 WAKE ISLAND Hy 41.56 64 T T 17 14 19.2
baz=250,slow=75,SNR=33
H11S2 WAKE ISLAND Hy 41.57 64 T T 17 14 21.0
baz=250,slow=75,SNR=14
H11S1 WAKE ISLAND Hy 41.57 64 T T 17 14 20.4
baz=250,slow=75,SNR=13
HHC Hu-ho-hao-te 41.80 341 eP P 16 30 18.0 +3.2
HHC sP sP 16 30 26.8 +7.4
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,80nm,4.6s
H11N1 WAKE ISLAND Hy 42.15 62 T T 17 15 10.3
baz=249,slow=75,SNR=9.3
H11N2 WAKE ISLAND Hy 42.16 62 T T 17 15 09.3
baz=249,slow=75,SNR=10
H11N3 WAKE ISLAND Hy 42.17 62 T T 17 15 10.2
baz=249,slow=75,SNR=12
USA0B Ussuriysk Arra 42.59 4 P P 16 30 22.0 +1.0
USRK Ussuriysk Ar. 42.59 4 P P 16 30 21.3 +0.3
comp=Z,1.1nm,0.8s,baz=184,slow=13,SNR=4.1
comp=Z,1.1nm,0.8s
MDJ Mudanjiang 42.88 2 P P 16 30 27.8 +4.4
MDJ pmax pmax
comp=Z,6.0nm,1.0s
MDJ pmax pmax
comp=Z,190nm,4.1s
GTA Gaotai 45.54 329 P P 16 30 46.3 +1.3
GTA pP sP 16 30 50.8 +1.2
GTA pmax pmax
comp=Z,6.0nm,1.1s
KLR Kul'dur 47.58 3 P P 16 31 00.0 -0.7
comp=Z,0.7nm,0.6s,baz=202,slow=10,SNR=2.4
comp=Z,0.7nm,0.6s
HEH HeiHe 48.49 360 eP P 16 31 07.3 -0.4
ULN Ulaanbaatar 49.52 342 P P 16 31 15.5 -0.3
ULN IAmb IAmb 16 31 17.4
comp=Z,7.8nm,0.9s
SONM Songino Array 49.70 341 P P 16 31 16.6 -0.6
SONM Songino Array 49.70 341 P P 16 31 17.0 -0.2
comp=Z,6.6nm,0.8s,baz=153,slow=8.4,SNR=15
comp=Z,2.6nm,0.8s
WMQ Urumqi 55.16 325 eP P 16 31 58.9 +1.2
WMQ pmax pmax
comp=Z,10.0nm,0.7s
PETK Petropavlovsk- 56.98 21 P P 16 32 08.8 -1.7
comp=Z,1.7nm,0.9s,baz=231,slow=9.1,SNR=1.1
comp=Z,1.7nm,0.9s
MK31 Makanchi Array 59.99 325 P P 16 32 31.2 -0.4
MK31 IAmb IAmb 16 32 38.3
comp=Z,5.3nm,0.8s
MKAR Makanchi Array 59.99 325 P P 16 32 31.2 -0.4
MKAR Makanchi Array 59.99 325 P P 16 32 31.5 -0.1
comp=Z,4.3nm,0.9s,baz=122,slow=8.4,SNR=31
comp=Z,4.3nm,0.9s
PRZ Przheval'sk 60.10 320 P P 16 32 33.4 +0.7
PRZ IAmb IAmb 16 32 43.6
comp=Z,7.2nm,1.1s
MAKZ Makanchi 60.17 325 P P 16 32 32.1 -0.8
YAK Yakutsk 60.31 1 P P 16 32 33.2 -0.3
KSH Kashi 60.40 316 P P 16 32 38.6 +3.9
KSH pP sP 16 32 44.3 +4.9
KSH pmax pmax
comp=Z,4.0nm,1.3s
NRN Naryn 61.21 318 P P 16 32 40.2 -0.2
NRN IAmb IAmb 16 32 50.3
comp=Z,3.1nm,0.9s
ZALV Zalesovo Beam 63.03 333 P P 16 32 50.5 -1.5
ZALV Zalesovo Beam 63.03 333 P P 16 32 50.7 -1.3
comp=Z,0.4nm,0.3s,baz=101,slow=7.7,SNR=5.0
comp=Z,0.4nm,0.3s
ARSB Arslanbob 63.22 316 P P 16 32 54.0 +0.3
KURBB Kurchatov Arra 64.18 328 P P 16 32 59.0 -0.6
comp=Z,4.6nm,0.8s,baz=126,slow=6.1,SNR=41
comp=Z,4.6nm,0.8s
KURK Kurchatov 64.18 328 P P 16 32 58.7 -0.9
BTK Batken 64.26 314 P P 16 32 59.8 -0.7
BTK IAmb IAmb 16 33 08.2
comp=Z,5.8nm,1.1s
SIMJ Simiganj 65.09 312 P P 16 33 05.9 -0.2
KK31 Karatay Array 65.61 317 P P 16 33 09.0 -0.2
KK31 IAmb IAmb 16 33 09.7
comp=Z,2.7nm,0.9s
KKAR Karatay Array 65.61 317 P P 16 33 08.4 -0.7
BVAR Borovoye Array 69.76 327 P P 16 33 34.3 -0.9
comp=Z,3.1nm,0.9s,baz=116,slow=6.8,SNR=9.0
comp=Z,3.1nm,0.9s
BRVK Borovoye 69.83 327 P P 16 33 35.1 -0.5
BRVK IAmb IAmb 16 33 36.0
comp=Z,4.3nm,0.9s
TIXI Tiksi 69.97 0 P P 16 33 35.5 -0.5
GEYT Alibeck 73.16 309 P P 16 33 56.3 +0.2
comp=Z,1.1nm,0.8s,baz=78,slow=15,SNR=1.8
comp=Z,1.1nm,0.8s
ABKAR Akbulak array 74.56 321 P P 16 34 03.1 -0.8
M14K Bethel 79.00 28 P P 16 34 28.8 +0.1
K15K Wolf Creek Mou 79.64 27 P P 16 34 32.4 +0.2
C16K Lisburne Hills 80.07 20 P P 16 34 34.4 0.0
C16K IAmb IAmb 16 34 42.7
comp=Z,6.5nm,1.2s
J16K Anvik River 80.33 26 P P 16 34 36.8 +0.9
J16K IAmb IAmb 16 34 51.5
comp=Z,14nm,1.5s
L16K Owhat River 80.42 27 P P 16 34 36.5 0.0
L16K IAmb IAmb 16 34 47.0
comp=Z,4.6nm,1.1s
H17K Granite Mounta 81.07 24 P P 16 34 40.5 +0.6
VNDA Vanda 81.16 173 P P 16 34 40.8 +0.6
comp=Z,0.2nm,0.5s,baz=315,slow=4.3,SNR=2.1
comp=Z,0.2nm,0.5s
E18K Tukpahlearik C 81.49 22 P P 16 34 41.9 -0.2
E18K IAmb IAmb 16 34 52.8
comp=Z,4.3nm,0.9s
L18K Granite Mounta 81.82 27 P P 16 34 42.7 -1.2
L18K IAmb IAmb 16 35 18.6
comp=Z,7.8nm,1.4s
J18K Innoko River 82.07 26 P P 16 34 45.1 -0.1
J18K IAmb IAmb 16 35 10.0
comp=Z,5.4nm,1.3s
TTA Tatalina 82.27 27 P P 16 34 47.1 +0.7
TTA IAmb IAmb 16 35 26.9
comp=Z,5.4nm,1.3s
C19K Lookout Ridge 82.33 20 P P 16 34 47.3 +0.7
C19K IAmb IAmb 16 34 55.6
comp=Z,3.7nm,0.8s
G19K Purcell Mounta 82.51 23 P P 16 34 47.5 +0.1
G19K IAmb IAmb 16 34 56.9
comp=Z,4.9nm,0.9s

H19K	**Roundabout Mou**	**82.63**	**24**	P	**P**	**16 34 48.0**	**0.0**
KDAK	**Kodiak Island**	**83.06**	**32**	LR	LR	17 09 03.6	
	comp=Z,30nm,21.4s,baz=280,slow=34						
F20K	**Avaraart Lake**	**83.24**	**23**	P	**P**	**16 34 51.6**	**+0.4**
F20K				IAmb	IAmb	16 35 00.2	
	comp=Z,4.3nm,1.0s						
J20K	**Nowinta River**	**83.33**	**26**	P	**P**	**16 34 51.8**	**0.0**
J20K				IAmb	IAmb	16 35 01.2	
	comp=Z,3.9nm,0.9s						
B20K	**Meade River**	**83.39**	**20**	P	**P**	**16 34 54.1**	**+2.2**
B20K				IAmb	IAmb	16 35 01.7	
	comp=Z,5.2nm,1.0s						
M20K	**Styx River**	**83.40**	**28**	P	**P**	**16 34 52.9**	**+0.6**
IMAR	**Indian Mountai**	**83.81**	**24**	P	**P**	**16 34 54.7**	**+0.5**
CAST	**Castle Rocks**	**84.11**	**26**	P	**P**	**16 34 56.2**	**+0.3**
CAST				IAmb	IAmb	16 35 05.4	
	comp=Z,2.9nm,1.0s						
B21K	**Ikpikpuk River**	**84.17**	**20**	P	**P**	**16 34 56.0**	**+0.1**
B21K				IAmb	IAmb	16 35 04.6	
	comp=Z,4.0nm,0.9s						
B22K	**Teshekpuk Lake**	**84.70**	**19**	P	**P**	**16 34 58.9**	**+0.3**
ILAR	**Eielson Array**	**86.52**	**25**	P	**P**	**16 35 05.5**	**-2.4**
	comp=Z,0.4nm,1.1s,baz=252,slow=5.5,SNR=1.9						
	comp=Z,0.4nm,1.1s						
YKA	**Yellowknife Ar**	**100.94**	**25**	P	**Pdif**	**16 36 15.0**	**+0.8**
	comp=Z,0.1nm,0.6s,baz=301,slow=5.0,SNR=1.6						
TORD	**Torodi Ar. Bea**	**124.70**	**287**	PKP	**PKiKP**	**16 41 27.3**	**+1.1**
	comp=Z,0.7nm,0.9s,baz=32,slow=5.6,SNR=3.5						

*IDC **21** 16:26:24.9±7.6, 7°.11S×129°.54E, h129km±79km, mb3.2/6, mbtmp3.7/9, Error ellipse: s-maj=67.7km s-min=26.5km az=36.0*
*DJA **21** 16:26:26.7±0.4, 7°.5±3°×12°.9E±°, h195km±13km, M4.0/9, mb3.7/7, mB4.9/1, MLv4.2/9, Mw(mB)4.2/1, MwMwp4.7/1, Mwp5.0/1*

ISC 21 16:26:26.7±0.7, 7°.07S±0°.07×129°.37E±0°.07, h139km, n27, σ1§65/28, mb3.4/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.12**	**116**	P	**Pn**	**16 27 05.5**	**+2.9**
SAUI	**Saumlaki**	**2.12**	**116**	P	**Pn**	**16 27 05.5**	**+2.9**
NLAI	**Namlea**	**4.43**	**329**	P	**Pn**	**16 27 32.0**	**-0.4**
FAKI	**Fak Fak**	**5.02**	**35**	P	**Pn**	**16 27 41.0**	**+0.7**
DRS	**Darwin Rock St**	**5.54**	**164**	P	**Pn**	**16 27 48.4**	**+1.3**
SOEI	**Soe**	**5.71**	**242**	P	**Pn**	**16 27 52.0**	**+2.4**
	17nm,1.5s,0.2nm						
MTN	**Manton Dam**	**6.00**	**163**	P	**Pn**	**16 27 53.7**	**+0.4**
KDU	**Kakadu**	**6.36**	**152**	P	**Pn**	**16 27 58.1**	**-0.1**
SWI	**Sorong**	**6.45**	**17**	P	**Pn**	**16 28 00.8**	**+1.5**
	19nm,0.9s,0.1nm						
BATI	**Baumata**	**6.45**	**241**	P	**Pn**	**16 28 01.1**	**+1.7**
	9.2nm,0.3s,baz=74,slow=7.4,SNR=9.4						
BATI				S	**Sn**	**16 29 11.4**	**-0.4**
	52nm,0.7s,baz=59,slow=20,SNR=11						
BATI	**Baumata**	**6.45**	**241**	P	**Pn**	**16 28 01.0**	**+1.6**
	11nm,0.4s,0.2nm						
EDFI	**Ende, Flores**	**7.79**	**257**	P	**Pn**	**16 28 20.7**	**+3.2**
	2.9nm,0.7s,0.0nm						
KNRA	**Kununurra**	**8.58**	**184**	P	**Pn**	**16 28 26.8**	**-1.1**
PLAI	**Plampang**	**11.62**	**261**	P	**Pn**	**16 29 07.5**	**-0.9**
WRA	**Warramunga Arr**	**13.68**	**160**	P	**Pn**	**16 29 31.4**	**-3.6**
	3.1nm,0.6s,baz=322,slow=14,SNR=22						
WRA				S	Sn	16 31 55.5	-11
	2.3nm,0.3s,baz=333,slow=22,SNR=7.9						
COEN	**Coen**	**15.19**	**118**	P	**P**	**16 29 56.3**	**+0.3**
QIS	**Mount Isa**	**16.68**	**145**	P	**P**	**16 30 12.9**	**+0.6**
ASAR	**Alice Springs**	**17.07**	**166**	P	**P**	**16 30 15.7**	**-1.0**
	2.0nm,0.6s,baz=341,slow=9.1,SNR=13						
ASAR				S	S	16 33 17.2	-10
	1.1nm,0.6s,baz=348,slow=26,SNR=5.4						
WRKA	**Warakurna**	**17.90**	**183**	P	**Pn**	**16 30 27.4**	**+0.3**
MTSU	**Mount Surprise**	**18.25**	**128**	P	**Pn**	**16 30 31.5**	**+0.3**
OOD	**Oodnadatta**	**21.47**	**165**	P	**P**	**16 31 05.7**	**+1.5**
CMAR	**Chiang Mai Arr**	**39.30**	**311**	P	**P**	**16 33 43.5**	**+1.1**
	0.5nm,0.7s,baz=131,slow=8.2,SNR=4.3						
	0.5nm,0.7s						
SONM	**Songino Array**	**58.31**	**342**	P	**P**	**16 36 05.6**	**-1.5**
	0.1nm,0.4s,baz=151,slow=3.3,SNR=1.7						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**67.94**	**327**	P	**P**	**16 37 11.4**	**+0.8**
	0.7nm,0.5s,baz=116,slow=8.5,SNR=12						
	0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**71.37**	**334**	P	**P**	**16 37 30.1**	**-1.3**
	0.3nm,0.3s,baz=128,slow=5.8,SNR=2.1						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**72.24**	**329**	P	**P**	**16 37 36.8**	**+0.1**
	0.3nm,0.4s,baz=124,slow=4.8,SNR=7.1						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**77.79**	**328**	P	**P**	**16 38 08.4**	**0.0**
	0.3nm,0.6s,baz=119,slow=8.4,SNR=1.9						
	0.3nm,0.6s						

*IDC **21** 16:55:53.2±5.3, 27°.88N×141°.10E, h70km±46km, mb3.3/6, mbtmp3.6/7, ML2.6/1, MS3.0/1, Error ellipse: s-maj=91.5km s-min=29.2km az=76.0*

ISC 21 16:55:51.5±2.2, 27°.8N±0°.2×140°.8E±0°.6, h47km, n14, σ0§59/7, mb3.7/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**9.03**	**346**	P	**Pn**	**16 57 59.7**	**+0.5**
	0.1nm,0.3s,baz=162,slow=13,SNR=2.3						
	1.8nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**25.13**	**103**	T	T	17 26 45.2	
	baz=301						
H11N1	**WAKE ISLAND Hy**	**25.14**	**103**	T	T	17 26 33.2	
	baz=301						
H11N3	**WAKE ISLAND Hy**	**25.15**	**103**	T	T	17 26 43.9	
	baz=301						
H11S3	**WAKE ISLAND Hy**	**25.47**	**106**	T	T	17 26 24.5	
	baz=296,slow=74						
H11S1	**WAKE ISLAND Hy**	**25.47**	**106**	T	T	17 26 30.7	
	baz=296						
H11S2	**WAKE ISLAND Hy**	**25.49**	**106**	T	T	17 26 30.0	
	baz=296,slow=74						
SONM	**Songino Array**	**33.40**	**316**	P	**P**	**17 02 25.7**	**+0.1**
	0.1nm,0.4s,baz=114,slow=6.8,SNR=1.7						
	0.1nm,0.4s						
YAK	**Yakutsk**	**35.06**	**351**	LR	LR	17 17 34.5	
	comp=Z,23nm,19.3s,baz=112,slow=37						
WRA	**Warramunga Arr**	**47.84**	**188**	P	**P**	**17 04 25.0**	**+0.3**
	0.4nm,0.3s,baz=7.3,slow=8.4,SNR=2.5						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**49.12**	**309**	P	**P**	**17 04 34.7**	**+0.3**
	0.7nm,1.2s,baz=80,slow=9.2,SNR=1.7						
	0.7nm,1.2s						
KURBB	**Kurchatov Arra**	**51.71**	**314**	P	**P**	**17 04 53.4**	**-0.5**
	0.3nm,0.5s,baz=89,slow=6.8,SNR=7.1						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**56.73**	**317**	P	**P**	**17 05 30.2**	**-0.2**
	0.4nm,0.4s,baz=77,slow=6.4,SNR=2.8						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**76.81**	**333**	P	**P**	**17 07 37.2**	**-0.8**
	0.8nm,0.3s,baz=76,slow=4.6,SNR=16						
	0.8nm,0.3s						

*IDC **21** 16:57:29.7±2.1, 6°.48S×128°.99E, h0km, mb3.6/1, mbtmp3.4/3, ML3.4/2, MS3.5/1, Error ellipse: s-maj=152.6km s-min=30.6km az=67.0*
*DJA **21** 16:57:40.3±0.5, 6°.5±3°×13°.1E±°, h202km±13km, M4.0/10, mb3.5/7, mB5.1/1, MLv4.2/10, Mw(mB)4.4/1*

ISC 21 16:57:41.2±1.0, 6°.45S±0°.07×130°.6E±0°.1, h150km, n16, σ2§43/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.04**	**339**	P	**Pn**	**16 58 18.6**	**+1.7**
BNDI	**Bandanaira**	**2.04**	**339**	P	**Pn**	**16 58 16.3**	**-0.6**
FAKI	**Fak Fak**	**3.86**	**25**	P	**Pn**	**16 58 38.8**	**-1.0**
FAKI	**Fak Fak**	**3.86**	**25**	P	**Pn**	**16 58 39.2**	**-0.6**
SWI	**Sorong**	**5.59**	**7**	P	**Pn**	**16 59 00.5**	**-2.0**
DRS	**Darwin Rock St**	**5.95**	**177**	P	**Pn**	**16 59 10.5**	**+3.2**
SANI	**Sanana**	**6.36**	**313**	P	**Pn**	**16 59 10.6**	**-2.2**
	8.4nm,1.9s,0.1nm						
LBMI	**Labuha**	**6.56**	**332**	P	**Pn**	**16 59 13.4**	**-2.1**
	27nm,1.3s,0.1nm						
SOEI	**Soe**	**7.10**	**242**	P	**Pn**	**16 59 22.9**	**+0.2**
	13nm,1.9s,0.1nm						
TNTI	**Ternate**	**7.88**	**336**	P	Pn	16 59 23.7	-9.3
	31nm,1.5s,0.1nm						
EDFI	**Ende, Flores**	**9.14**	**255**	P	**Pn**	**16 59 51.3**	**+1.2**
	3.1nm,1.9s						
KNRA	**Kununurra**	**9.35**	**191**	P	**Pn**	**16 59 54.3**	**+1.7**
WRA	**Warramunga Arr**	**13.89**	**165**	Pn	**Pn**	**17 00 52.9**	**+1.1**
	0.2nm,0.3s,baz=340,slow=12,SNR=9.8						
WRA				Sn	**Sn**	**17 03 21.6**	**-4.2**
	0.6nm,0.3s,baz=334,slow=22,SNR=8.6						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**17.41**	**170**	P	**Pn**	**17 01 39.2**	**+4.1**
	0.1nm,0.3s,baz=356,slow=11,SNR=15						
ASAR				S	**S**	**17 04 45.0**	**-2.8**
	0.6nm,0.7s,baz=352,slow=26,SNR=5.5						
	0.6nm,0.7s						
DZM	**Mont Dzumac**	**37.90**	**118**	LR	LR	17 22 33.9	
	comp=Z,56nm,18.9s,baz=359,slow=38						
MKAR	**Makanchi Array**	**68.11**	**326**	P	**P**	**17 08 26.1**	**+1.1**
	0.3nm,0.4s,baz=113,slow=7.8,SNR=8.6						
	0.3nm,0.4s						

*GUC **21** 16:58:14.8±0.8, 28°.33S×69°.61W, h120km±7km, ML3.5*
*IDC **21** 16:58:20.9±10.0, 28°.49S×69°.24W, h152km±82km, mb3.4/2, mbtmp3.8/3, Error ellipse: s-maj=108.1km s-min=39.6km az=122.0*

ISC 21 16:58:15.8±0.9, 28°.31S±0°.05×69°.6W±0°.1, h114km±9km, n16, σ0§65/23, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO03	**Copiap**	**0.91**	**322**	↓*i*P	**Pn**	**16 58 36.1**	**-0.4**
GO03				*e*S	**Sn**	**16 58 52.2**	**0.0**
GO03				IAML		16 58 53.6	
	comp=E,2μm,0.2s						
AC06	**Mina Casimiro**	**1.17**	**325**	*e*P	**Pn**	**16 58 38.6**	**-0.5**
AC06				*e*S	**Sn**	**16 58 56.4**	**-0.3**
LCO	**Las Campanas**	**1.19**	**234**	*e*P	**Pn**	**16 58 38.7**	**-0.9**
LCO				*e*S	**Sn**	**16 58 57.5**	**-0.1**
AC04	**Llanos de Chal**	**1.31**	**274**	*e*P	**Pn**	**16 58 40.7**	**+0.1**
AC04				*e*S	**Sn**	**16 58 59.8**	**+0.4**
AC04				IAML		16 59 01.4	
	comp=N,928nm,0.1s						
AC02	**Maricunga**	**1.53**	**16**	↑*i*P	**Pn**	**16 58 43.4**	**-0.3**
AC02				*e*S	**Sn**	**16 59 04.9**	**0.0**
AC02				IAML		16 59 05.6	
	comp=N,436nm,0.3s						
CO01	**Juntas del Tor**	**1.71**	**195**	*e*P	**Pn**	**16 58 45.5**	**-0.2**
CO01				*e*S	**Sn**	**16 59 08.5**	**+0.1**
GO04	**Tololo Observa**	**2.13**	**209**	*e*P	**Pn**	**16 58 49.9**	**-1.0**
GO04				*e*S	**Sn**	**16 59 16.9**	**-0.7**
AC01	**Pan de Azucar**	**2.33**	**337**	*e*P	**Pn**	**16 58 53.1**	**-0.2**
AC01				IAML		16 59 29.4	
	comp=E,167nm,0.5s						
PLCA	**Paso Flores**	**12.41**	**183**	P	**Pn**	**17 01 10.3**	**+1.7**
	comp=E,1.1nm,0.5s,baz=60,slow=15,SNR=2.4						
QSPA	**South Pole Qui**	**61.91**	**180**	P	**P**	**17 08 23.5**	**+0.4**
	comp=E,0.5nm,0.5s,baz=350,slow=6.2,SNR=1.7						
	comp=E,0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**80.28**	**69**	P	**P**	**17 10 13.6**	**-0.9**
	comp=E,0.5nm,0.5s,baz=258,slow=5.5,SNR=3.4						
	comp=E,0.5nm,0.5s						
ASAR	**Alice Springs**	**123.58**	**206**	PKP	**PKPdf**	**17 16 59.7**	**-0.8**
	comp=E,0.7nm,1.1s,baz=112,slow=1.4,SNR=2.7						
WRA	**Warramunga Arr**	**126.74**	**208**	PKP	**PKPdf**	**17 17 06.4**	**-0.3**
	comp=E,0.5nm,0.9s,baz=125,slow=2.8,SNR=1.6						
KURBB	**Kurchatov Arra**	**147.21**	**38**	PKPbc	**PKPbc**	**17 17 45.6**	**+0.1**
	comp=E,0.2nm,0.6s,baz=304,slow=3.1,SNR=7.7						
ZALV	**Zalesovo Beam**	**148.28**	**29**	PKPbc	**PKPbc**	**17 17 48.5**	**+0.3**
	comp=E,0.5nm,0.3s,baz=305,slow=3.1,SNR=3.4						
MKAR	**Makanchi Array**	**151.30**	**42**	PKPbc	**PKPbc**	**17 17 56.0**	**+0.1**
	comp=E,0.6nm,0.7s,baz=314,slow=2.1,SNR=7.8						

*SJA **21** 17:05:52.2±0.8, 30°.34S×69°.40W, h16km±2km, ML3.7, MW3.7*
*GUC **21** 17:05:55.0±0.8, 30°.28S×69°.48W, h37km±5km, ML3.6*
*IDC **21** 17:06:03.4±5.0, 22°.62S×68°.90W, h0km, mb4.0/1, mbtmp3.9/2, ML4.2/1, Error ellipse: s-maj=207.5km s-min=32.9km az=29.0*

ISC 21 17:05:53.3±0.9, 30°.35S±0°.02×69°.38W±0°.02, h15km±6km, n45, σ1§82/70, 4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AROD	**Rodeo**	**0.20**	**336**	*e*P	**Pb**	**17 05 59.1**	**+0.3**
ACDV	**Cuesta del Vie**	**0.29**	**53**	*e*P	**Pb**	**17 06 00.2**	**-0.1**
ACDV				IAML		17 06 06.0	
	comp=Z,5μm,0.5s						
ACCO	**Cerro Coronel**	**0.36**	**131**	*e*P	**Pb**	**17 06 01.6**	**-0.1**
DOCA	**Reserva Natura**	**0.65**	**157**	*e*P	**Pg**	**17 06 05.7**	**-0.6**
DOCA				IAML		17 06 18.3	
	comp=Z,5μm,0.8s						
CO01	**Juntas del Tor**	**0.72**	**301**	*e*P	**Pg**	**17 06 06.5**	**-0.9**
CO01				*e*S	**Sb**	**17 06 17.3**	**-0.1**
CO01	**Juntas del Tor**	**0.72**	**301**	↓*i*P	**Pg**	**17 06 06.7**	**-0.7**
CO01				*e*S	**Sb**	**17 06 16.4**	**-1.0**
CO01				IAML		17 06 17.3	
	comp=N,3μm,0.3s						
AGUA	**GUANDACOL**	**1.16**	**42**	*e*P	**Pb**	**17 06 14.1**	**-1.0**
AGUA				*e*S	**Sn**	**17 06 30.6**	**0.0**
AGUA				IAML		17 06 31.7	
	comp=Z,2μm,0.2s						
CO03	**El Pedregal**	**1.23**	**246**	*e*P	**Pn**	**17 06 15.6**	**-0.5**
CO03				*e*S	**Sb**	**17 06 32.3**	**+0.3**
CO03				IAML		17 06 32.5	
	comp=Z,2μm,0.5s						
CO03	**El Pedregal**	**1.23**	**246**	↓*i*P	**Pn**	**17 06 15.6**	**-0.5**
CO03				*e*S	**Sb**	**17 06 31.6**	**-0.4**
CO03				IAML		17 06 32.5	
	comp=N,2μm,0.5s						
GO04	**Tololo Observa**	**1.24**	**278**	*e*P	**Pn**	**17 06 15.7**	**-0.6**
GO04				*e*S	**Sg**	**17 06 32.4**	**-1.0**
GO04	**Tololo Observa**	**1.24**	**278**	↓*i*P	**Pn**	**17 06 15.6**	**-0.6**
GO04				*e*S	**Sb**	**17 06 30.4**	**-2.0**
GO04				IAML		17 06 33.2	
	comp=E,2μm,0.2s						
RTLL	**Cerro Villicun**	**1.25**	**142**	*e*S	**Sb**	**17 06 32.3**	**-0.4**
RTLL				IAML		17 06 32.6	
	comp=Z,736nm,0.4s						
RTLS	**Leoncito**	**1.45**	**177**	*e*P	**Pn**	**17 06 19.7**	**+0.4**
RTLS				*e*S	**Sg**	**17 06 40.0**	**-0.2**
RTLS				IAML		17 06 44.1	
	comp=Z,699nm,0.4s						
CO02	**Combarbal**	**1.63**	**238**	*e*P	**Pb**	**17 06 22.7**	**-0.5**
CO02				*e*S	**Sg**	**17 06 45.3**	**-0.7**
CO02				IAML		17 06 47.0	
	comp=Z,1μm,0.5s						
CO02	**Combarbal**	**1.63**	**238**	↓*i*P	**Pb**	**17 06 22.7**	**-0.5**
CO02				*e*S	**Sb**	**17 06 43.9**	**+0.2**
CO02				IAML		17 06 46.0	
	comp=N,3μm,0.6s						
RTCV	**Cerro Valdivia**	**1.68**	**155**	*e*P	**Pn**	**17 06 23.1**	**+1.0**
RTCV				*e*S	**Sg**	**17 06 47.2**	**-0.1**
AVFE	**Valle Fertil**	**1.69**	**101**	*e*P	**Pn**	**17 06 22.4**	**0.0**
AVFE				*e*S	**Sn**	**17 06 44.5**	**+0.7**
AVFE				IAML		17 06 47.7	
	comp=Z,1μm,0.2s						
LCO	**Las Campanas**	**1.76**	**319**	*e*P	**Pb**	**17 06 24.2**	**-1.2**
LCO				*e*S	**Sb**	**17 06 47.8**	**+0.4**
LCO				IAML		17 06 51.1	
	comp=Z,912nm,0.5s						
LCO	**Las Campanas**	**1.76**	**319**	*e*P	**Pn**	**17 06 23.8**	**+0.3**
VCA	**Vinchina**	**1.90**	**33**	*e*P	**Pb**	**17 06 27.4**	**-0.4**
VCA				*e*S	**Sg**	**17 06 53.5**	**-1.2**
VCA				IAML		17 06 57.6	
	comp=Z,2μm,0.5s						
VCA	**Vinchina**	**1.90**	**33**	*e*P	**Pb**	**17 06 27.0**	**-0.8**
VCA				*e*S	**Sb**	**17 06 51.1**	**-0.4**
VCA				IAML		17 06 59.9	
	comp=N,2μm,0.5s						
CO06	**Fray Jorge**	**1.97**	**260**	*e*P	**Pn**	**17 06 26.5**	**+0.3**
CO06				IAML		17 06 56.8	
	comp=N,380nm,0.4s						
ASAL	**Salagasta**	**2.29**	**168**	*e*P	**Pb**	**17 06 33.4**	**-0.9**
ASAL				*e*S	**Sb**	**17 07 01.4**	**-1.0**
ACLC	**CERRO LA CRUZ**	**2.30**	**67**	*e*P	**Pn**	**17 06 32.4**	**+1.5**
ACLC				*e*S	**Sb**	**17 07 02.3**	**-0.7**
ACLC				IAML		17 07 03.1	
	comp=Z,1μm,0.4s						
APLL	**PUNTA DE LOS L**	**2.47**	**92**	*e*P	**Pn**	**17 06 34.2**	**+1.1**
APLL				*e*S	**Sb**	**17 07 06.3**	**-1.3**
ACHE	**Chepes**	**2.48**	**110**	*e*P	**Pn**	**17 06 34.6**	**+1.3**
ACHE				*e*S	**Sn**	**17 07 01.4**	**-1.9**
ACHE				*e*S	**Sb**	**17 07 01.9**	**-6.1**
ARCO	**CERRO ARCO**	**2.52**	**171**	*e*P	**Pb**	**17 06 36.9**	**-1.5**
ARCO				*e*S	**Sb**	**17 07 07.7**	**-1.5**
ARCO				IAML		17 07 13.5	
	comp=Z,171nm,0.9s						
AC04	**Llanos de Chal**	**2.59**	**325**	*e*P	**Pn**	**17 06 36.2**	**+1.4**
AC04				*e*S	**Sn**	**17 07 06.6**	**+0.6**
AC04				IAML		17 07 13.9	
	comp=Z,181nm,0.9s						
AC04	**Llanos de Chal**	**2.59**	**325**	*e*P	**Pn**	**17 06 35.1**	**+0.4**
AC04				IAML		17 07 15.1	
	comp=N,375nm,0.2s						
VA03	**San Esteban**	**2.61**	**202**	*e*S	**Sn**	**17 07 08.9**	**+2.4**
VA03				IAML		17 07 20.4	
	comp=Z,451nm,0.7s						
VA03	**San Esteban**	**2.61**	**202**	*e*P	**Pn**	**17 06 37.0**	**+2.0**
VA03				IAML		17 07 17.9	
	comp=E,678nm,0.4s						
AAGR	**Agrelo**	**2.77**	**170**	*e*P	**Pb**	**17 06 40.5**	**-2.2**
AAGR				*e*S	**Sb**	**17 07 16.2**	**-0.2**
AAGR				IAML		17 07 23.6	
	comp=Z,151nm,0.7s						
GO03	**Copiap**	**2.84**	**345**	*e*P	**Pn**	**17 06 39.6**	**+1.4**
GO03				*e*S	**Sn**	**17 07 09.4**	**-2.8**
GO03	**Copiap**	**2.84**	**345**	*e*P	**Pn**	**17 06 38.9**	**+0.7**
GO03				IAML		17 07 22.1	
	comp=E,133nm,0.5s						
ROC1	**El Roble**	**2.97**	**208**	*e*P	**Pn**	**17 06 42.0**	**+1.9**
ROC1				*e*S	**Sn**	**17 07 17.9**	**+2.3**
PEL	**Peldehue**	**3.00**	**201**	*e*P	**Pn**	**17 06 41.1**	**+0.8**
PEL				*e*S	**Sb**	**17 07 22.6**	**-0.3**
AC06	**Mina Casimiro**	**3.10**	**344**	*e*P	**Pn**	**17 06 41.7**	**0.0**
AC06				IAML		17 07 24.3	
	comp=E,70nm,0.4s						
MT05	**Renca**	**3.25**	**200**	*e*S	**Sn**	**17 07 22.4**	**+0.2**
MT05				IAML		17 07 42.3	
	comp=Z,170nm,0.9s						
CYA	**Choya**	**3.66**	**60**	*e*P	**Pn**	**17 06 50.1**	**+0.7**
CYA				IAML		17 07 51.3	
	comp=Z,97nm,0.5s						
RFA	**San Rafael**	**4.48**	**170**	IAML		17 08 24.1	
	comp=Z,42nm,0.4s						
CPUP	**Villa Florida**	**11.35**	**72**	Pn	Pn	17 08 44.5	+10
	comp=Z,0.4nm,0.3s,baz=270,slow=9.7,SNR=2.9						
CPUP				Sn	**Sn**	**17 10 50.2**	**+8.8**
	comp=Z,0.2nm,0.3s,baz=349,slow=20,SNR=1.6						
CPUP				Lg	Lg	17 11 58.3	
	comp=Z,0.3nm,0.3s,baz=340,slow=18,SNR=2.6						
	comp=Z,1.1nm,0.3s						
TORD	**Torodi Ar. Bea**	**80.83**	**69**	P	**P**	**17 18 02.9**	**-4.0**
	comp=Z,0.9nm,0.6s,baz=256,slow=4.3,SNR=9.5						
	comp=Z,0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**148.66**	**41**	PKP	**PKPdf**	**17 25 35.9**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=301,slow=3.2,SNR=4.4						
ZALV	**Zalesovo Beam**	**149.94**	**31**	PKP	**PKPdf**	**17 25 39.7**	**+2.0**
	comp=Z,0.9nm,0.4s,baz=309,slow=2.3,SNR=6.6						
MKAR	**Makanchi Array**	**152.63**	**45**	PKPbc	**PKPdf**	**17 25 45.6**	**+3.5**
	comp=Z,0.4nm,0.7s,baz=292,slow=3.6,SNR=5.0						

IDC 21 17:22:18.5±2.3, 11°.32N×125°.00E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=203.9km s-min=28.5km az=69.0, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**35.84**	**166**	P	P	17 29 20.1	-0.1
	0.2nm,0.6s,baz=353,slow=8.2,SNR=1.9						
	0.2nm,0.6s						
SONM	**Songino Array**	**39.61**	**340**	P	P	17 29 51.9	0.0
	1.3nm,1.2s,baz=148,slow=8.5,SNR=3.5						
	1.3nm,1.2s						
MKAR	**Makanchi Array**	**50.44**	**323**	P	P	17 31 17.6	-0.4
	0.6nm,0.9s,baz=124,slow=7.3,SNR=5.7						
	0.6nm,0.9s						
KURBB	**Kurchatov Arra**	**54.51**	**325**	P	P	17 31 48.1	+0.1
	0.3nm,0.3s,baz=131,slow=6.8,SNR=4.6						
	0.3nm,0.3s						

IDC 21 17:54:03.4±660.0, 51°.13N×83°.31E, h0km, Error ellipse: s-maj=269.9km s-min=70.4km az=20.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**2.97**	**18**	I	I	18 12 45.0	
	0.1nm,1.3s,baz=199,slow=312,SNR=1.8						
I34MN	**SONGINO INFRAS**	**15.37**	**93**	I	I	19 25 50.0	
	baz=290,slow=327,SNR=0.4						
I18DK	**QAANAAQ INFRAS**	**50.53**	**353**	I	I	23 14 40.0	
	baz=18,slow=347,SNR=3.1						

*ANF **21** 18:04:42.5±0.2, 35°.98N×97°.81W, h6km, ML2.9/5, Error ellipse: s-maj=3.4km s-min=2.3km az=175.0*
*NEIC **21** 18:04:42.5±1.0, 35°.96N±0°.02×97°.81W±0°.01, h21km±7km, Error ellipse: s-maj=3.0km s-min=1.0km az=189.0*
*TUL **21** 18:04:42.9±0.7, 35°.97N±0°.02×97°.79W±0°.02, h6km±5km, ML3.0, mb_Lg2.7/43(NEIC), ML3.0/57(NEIC), Error ellipse: s-maj=2.3km s-min=1.9km az=188.0*

**ISC 21 18:04:41.7±0.8, 35°.97N±0°.02×97°.81W±0°.02, h10km, n72, σ

ELIS				IAML		18 05 30.0		
	comp=E,342nm,0.2s							
KS21	**Milan North St**	**1.32**	**5**		**Pg**	**18 05 07.2**	**0.0**	
T35A	**Sooner Cattle**	**1.41**	**47**		**Pg**	**18 05 08.4**	**-0.3**	
T35B	**Sooner Cattle**	**1.41**	**47**	P	**Pg**	**18 05 08.8**	**0.0**	
	baz=228							
T35B				S	**Sg**	**18 05 27.3**	**+0.1**	
	baz=228							
WMOK	**Wichita Mounta**	**1.46**	**213**		**Pb**	**18 05 08.8**	**-0.2**	
WMOK	**Wichita Mounta**	**1.46**	**213**	P	**Pg**	**18 05 09.4**	**-0.3**	
	baz=33							
WMOK				S	**Sg**	**18 05 29.6**	**+0.9**	
	baz=33							
TUL3	**Leonard**	**1.64**	**91**		**Pb**	**18 05 11.6**	**-0.4**	
TUL3				IAmb_Lg		18 05 37.6		
	comp=Z,46nm,0.8s							
TUL3	**Leonard**	**1.64**	**91**	P	**Pb**	**18 05 11.9**	**0.0**	
	baz=273							
TUL3				S	**Sg**	**18 05 34.2**	**-0.1**	
	baz=273							
LOOK	**Love County**	**2.04**	**165**	Pn	**Pn**	**18 05 16.6**	**+0.5**	
LOOK				IAmb_Lg		18 05 49.5		
	comp=Z,38nm,1.0s							
SMWD	**Samnorwood**	**2.16**	**247**		**Pn**	**18 05 18.3**	**+0.5**	
SMWD				IAmb_Lg		18 05 53.4		
	comp=Z,32nm,0.8s							
WTFS	**Witchita Falls**	**2.26**	**194**		**Pn**	**18 05 19.6**	**+0.5**	
RLO	**Rose Lookout**	**2.27**	**84**		**Pn**	**18 05 19.4**	**+0.1**	
X37A	**Clayton**	**2.42**	**124**		**Pb**	**18 05 23.8**	**-1.5**	
X37A				IAmb_Lg		18 06 00.6		
	comp=Z,25nm,1.1s							
X37A	**Clayton**	**2.42**	**124**	P	**Pb**	**18 05 23.4**	**-1.9**	
	baz=306							
R32A	**Long Quarter,**	**2.56**	**344**	Pn	**Pn**	**18 05 23.6**	**+0.4**	
U38A	**Gravette**	**2.81**	**79**		**Pn**	**18 05 26.5**	**-0.2**	
FW03	**Perrin-Whitt E**	**2.93**	**184**	Pn	**Pn**	**18 05 28.1**	**-0.2**	
FW06	**Azle**	**2.99**	**176**	Pn	**Pn**	**18 05 29.0**	**-0.2**	
FW06				IAmb_Lg		18 06 16.3		
	comp=Z,16nm,1.0s							
PLPT	**Palo Pinto**	**3.17**	**188**		**Pn**	**18 05 31.1**	**-0.6**	
APMT	**Aspermont**	**3.25**	**217**		**Pn**	**18 05 33.0**	**+0.2**	
KSU1	**Kansas State U**	**3.27**	**17**	Pg	**Pg**	**18 05 42.7**	**-1.6**	
DKNS	**Dickens**	**3.44**	**229**		**Pn**	**18 05 36.1**	**+0.7**	
ABTX	**Abilene, Hawle**	**3.66**	**205**		**Pn**	**18 05 38.6**	**+0.2**	
ABTX				IAmb_Lg		18 06 47.0		
	comp=Z,12nm,0.9s							
MIAR	**Mount Ida**	**3.74**	**111**		**Pn**	**18 05 42.1**	**+2.6**	
SN07	**Snyder 07**	**3.83**	**222**	IAmb_Lg		18 06 48.2		
	comp=Z,23nm,0.8s							
WHTX	**Lake Whitney,**	**3.98**	**176**	Pn	**Pn**	**18 05 44.4**	**+1.7**	
S39A	**Bolivar**	**3.99**	**63**	IAmb_Lg		18 06 53.6		
	comp=Z,12nm,0.8s							
SN05	**Snyder 5**	**3.99**	**220**	IAmb_Lg		18 06 53.9		
	comp=Z,22nm,0.8s							
RTBA	**Rita Blanca**	**4.01**	**278**		**Pn**	**18 05 44.0**	**+0.6**	
POST	**Post**	**4.20**	**228**		**Pn**	**18 05 45.9**	**0.0**	
POST				IAmb_Lg		18 06 58.0		
	comp=Z,12nm,0.8s							
X40A	**Basin Creek Fa**	**4.33**	**108**		**Pb**	**18 05 58.9**	**+1.0**	
X40A				IAmb_Lg		18 07 01.6		
	comp=Z,18nm,1.0s							
MSTX	**Muleshoe**	**4.54**	**245**	Pn	**Pn**	**18 05 50.6**	**+0.1**	
WHAR	**Wooly Hollow**	**4.55**	**97**		**Pn**	**18 05 50.2**	**-0.4**	
WHAR				IAmb_Lg		18 07 14.9		
	comp=Z,17nm,0.8s							
FCAR	**Ozark Folk Cen**	**4.61**	**89**	IAmb_Lg		18 07 15.8		
	comp=Z,18nm,0.8s							
MGMO	**Mountain Grove**	**4.62**	**73**	IAmb_Lg		18 07 17.7		
	comp=Z,23nm,0.7s							
BRDY	**Brady**	**4.77**	**192**		**Pn**	**18 05 53.8**	**+0.1**	
BRDY				IAmb_Lg		18 07 13.9		
	comp=Z,10nm,0.7s							
KSCO	**Kaye Shedlock'**	**4.89**	**310**		**Pg**	**18 06 12.6**	**-2.8**	
KSCO				IAmb_Lg		18 07 23.1		
	comp=Z,13nm,0.7s							
P38A	**Dawn**	**4.98**	**42**		**Pn**	**18 05 55.7**	**-0.8**	
P38A				IAmb_Lg		18 07 23.9		
	comp=Z,15nm,0.8s							
N35A	**Tabor**	**5.17**	**19**		**Pn**	**18 05 58.2**	**-1.0**	
T25A	**Trinidad**	**5.44**	**284**	IAmb_Lg		18 07 47.7		
	comp=Z,15nm,1.0s							
CCM	**Cathedral Cave**	**5.65**	**66**	IAmb_Lg		18 07 56.4		
	comp=Z,16nm,0.9s							
P40A	**Paris**	**5.79**	**50**	Pg	**Pb**	**18 06 26.8**	**+4.1**	
OGNE	**Ogallala**	**5.97**	**328**	Pn	**Pn**	**18 06 10.7**	**+0.4**	
HKT	**Hockley**	**6.22**	**164**		**Pb**	**18 06 30.4**	**+0.3**	
FVM	**French Village**	**6.24**	**69**	IAmb_Lg		18 08 12.5		
	comp=Z,14nm,0.8s							
DRIO	**Del Rio**	**6.94**	**201**	IAmb_Lg		18 08 40.9		
	comp=Z,8.9nm,1.1s							
SAND	**Sanderson**	**7.00**	**212**	IAmb_Lg		18 08 38.7		
	comp=Z,8.9nm,1.1s							

*UPP **21** 18:06:03.5±0.1, 67.07N×20.92E, h0km, ML2.2, Suspected explosion*
*IDC **21** 18:06:03.9±1.0, 67.20N×21.13E, h0km, mbtmp2.8/4, ML1.9/4, Error ellipse: s-maj=17.5km s-min=7.3km az=112.0*
ISC 21 18:06:03.4±1.3, 67.09N±0.05×20.93E±0.04, h3km±13km, n16, σ1°48/18, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.15**	**283**	P	**Pg**	**18 06 06.5**	**+0.3**
DUNU				S	**Sg**	**18 06 08.6**	**+0.4**
MASU	**Masugnsbyn**	**0.56**	**48**	P	**Pb**	**18 06 14.4**	**-1.3**
PAJU	**Pajala**	**0.86**	**93**	P	**Pg**	**18 06 19.4**	**-0.4**
RATU	**Laukkuluspa**	**0.90**	**326**	P	**Pg**	**18 06 20.3**	**-0.4**
HARU	**Harads**	**0.93**	**179**	P	**Pg**	**18 06 20.5**	**-0.7**
SALU	**Saltoluokta**	**0.99**	**288**	P	**Pg**	**18 06 21.9**	**-0.4**
LANU	**Lannavaara**	**1.04**	**22**	P	**Pb**	**18 06 23.2**	**-0.9**
KALU	**Kalix**	**1.57**	**141**	P	**Pn**	**18 06 32.5**	**+0.3**
SJUU	**Sjulsmark**	**1.61**	**170**	P	**Pn**	**18 06 32.8**	**+0.1**
HEF	**Hetta**	**1.68**	**37**	*eP*	**Pb**	**18 06 34.3**	**-0.7**
KTK1	**Kautokeino**	**2.12**	**23**	*eP*	**Pb**	**18 06 42.0**	**-0.3**
I37NO	**I37NO**	**2.18**	**337**	I	I	18 21 20.0	
	baz=155,slow=334,SNR=8.1						
ARCES	**ARCESS Array B**	**2.99**	**33**	Pn	**Pn**	**18 06 52.3**	**+0.7**
	0.1nm,0.3s,baz=215,slow=15,SNR=27						
ARCES				Lg	Lg	18 07 31.1	
	0.2nm,0.3s,baz=210,slow=28,SNR=6.8						
	0.7nm,0.2s						
FINES	**FINESS Array B**	**6.09**	**156**	Pn	**Pn**	**18 07 37.3**	**+3.1**
	0.1nm,0.3s,baz=343,slow=13,SNR=6.0						
FINES				Sn	**Sn**	**18 08 45.9**	**+1.6**
	0.1nm,0.3s,baz=347,slow=22,SNR=5.3						
FINES				Lg	Lg	18 09 18.2	
	0.1nm,0.3s,baz=349,slow=28,SNR=1.9						
	0.5nm,0.7s						
NOA	**NORSAR Array B**	**7.41**	**220**	Pn	**Pn**	**18 07 53.1**	**+0.8**
	baz=38,slow=10,SNR=1.7						
	0.9nm,1.0s						
HFS	**Hagfors**	**7.69**	**208**	Pn	**Pn**	**18 07 57.4**	**+1.3**
	0.1nm,0.3s,baz=20,slow=13,SNR=1.2						
HFS				Sn	**Sn**	**18 09 20.2**	**-3.3**
	0.1nm,0.3s,baz=29,slow=22,SNR=1.6						
	0.7nm,0.6s						

IDC 21 18:09:29.5±999.0, 48.08N×70.10E, h0km, Error ellipse: s-maj=845.1km s-min=214.4km az=57.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**10.97**	**52**	I	I	19 17 25.0	
	0.1nm,1.3s,baz=245,slow=314,SNR=3.9						
I34MN	**SONGINO INFRAS**	**24.19**	**77**	I	I	20 36 20.0	
	baz=284,slow=324,SNR=2.0						
I45RU	**USSURIYSK INFR**	**42.03**	**71**	I	I	22 26 10.0	
	baz=298,slow=333,SNR=1.5						
I18DK	**QAANAAQ INFRAS**	**52.20**	**350**	I	I	23 35 20.0	
	baz=32,slow=350,SNR=2.2						

*SDD **21** 18:14:45.1±0.3, 19.49N×65.77W, h113km±26km, MD3.5, ML2.6, MW3.0*
*NEIC **21** 18:14:47.2±1.2, 19.42N±0.08×65.71W±0.09, h35km±2km, ML2.4/18, Md3.3/6(RSPR), Error ellipse: s-maj=14.0km s-min=13.3km az=54.0*
RSPR 21 18:14:48.7, 19.32N×65.78W, h74km±7km, MD3.3/6, 8C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**1.05**	**196**	*eP*	Pn	18 15 07.3	-0.8
GCPR	**Guaynabo City**	**1.05**	**196**	*eS*	Sn	18 15 21.8	-0.7
GCPR	**Guaynabo City**	**1.05**	**196**	IAML		18 15 27.5	
	comp=N,51nm,0.4s						
GCPR	**Guaynabo City**	**1.05**	**196**		Pn	18 15 07.3	-0.8
GCPR					Sn	18 15 21.8	-0.7
EMPR	**Esperanza - Ma**	**1.10**	**220**	*eP*	Pn	18 15 08.1	-0.6
EMPR	**Esperanza - Ma**	**1.10**	**220**	*eS*	Sn	18 15 22.9	-0.7
EMPR	**Esperanza - Ma**	**1.10**	**220**		Pn	18 15 08.1	-0.6
EMPR	**Esperanza - Ma**	**1.10**	**220**		Sn	18 15 22.9	-0.7
EMPR	**Esperanza - Ma**	**1.10**	**220**	IAML		18 15 18.8	
	comp=N,97nm,1.3s						
EMPR	**Esperanza - Ma**	**1.10**	**220**	IAML		18 15 50.2	
	comp=E,129nm,1.4s						
HUMP	**Col San Antoni**	**1.17**	**183**	Pn	Pn	18 15 07.3	-2.4
HUMP				IAML		18 15 26.7	
	comp=N,42nm,0.2s						
HUMP				IAML		18 15 28.2	
	comp=E,65nm,0.2s						
AOPR	**Arecibo Observ**	**1.34**	**224**	*eP*	Pn	18 15 10.1	-1.6
AOPR	**Arecibo Observ**	**1.34**	**224**	*eS*	Sn	18 15 29.1	0.0
AOPR	**Arecibo Observ**	**1.34**	**224**		Pn	18 15 10.1	-1.6
AOPR					Sn	18 15 29.1	0.0
AOPR	**Arecibo Observ**	**1.34**	**224**	*ePg*	Pn	18 15 10.6	-1.2
AOPR				IAML		18 15 31.3	
	comp=E,135nm,0.2s						
AOPR				IAML		18 15 37.7	
	comp=N,100nm,0.3s						
IGPR	**InterUniversit**	**1.38**	**193**	*eP*	Pn	18 15 11.4	-0.9
IGPR	**InterUniversit**	**1.38**	**193**	*eS*	Sn	18 15 29.9	-0.2
IGPR	**InterUniversit**	**1.38**	**193**		Pn	18 15 11.4	-0.9
IGPR					Sn	18 15 29.9	-0.2
IGPR	**InterUniversit**	**1.38**	**193**	IAML		18 15 31.5	
	comp=N,86nm,0.3s						
IGPR				IAML		18 15 35.1	
	comp=E,93nm,0.3s						
UUPR	**Utuado, UPR, P**	**1.39**	**220**		Pn	18 15 10.6	-1.8
CELP	**Cerrillos**	**1.45**	**212**	*eP*	Pn	18 15 12.1	-1.1
CELP	**Cerrillos**	**1.45**	**212**	*eS*	Sn	18 15 31.1	-0.6
CELP	**Cerrillos**	**1.45**	**212**		Pn	18 15 12.1	-1.1
CELP					Sn	18 15 31.1	-0.6
CELP	**Cerrillos**	**1.45**	**212**	*ePg*	Pn	18 15 12.1	-1.1
CELP				*eSg*	Sn	18 15 32.1	+0.4
CELP				IAML		18 15 33.8	
	comp=N,25nm,0.3s						
MLPR	**Magueyes Islan**	**1.80**	**222**	*eP*	Pn	18 15 17.6	-0.2
MLPR	**Magueyes Islan**	**1.80**	**222**	*eS*	Sn	18 15 38.1	-1.0
MLPR	**Magueyes Islan**	**1.80**	**222**		Pn	18 15 17.6	-0.2
MLPR					Sn	18 15 38.9	-1.0
MLPR	**Magueyes Islan**	**1.80**	**222**	IAML		18 15 45.4	
	comp=N,24nm,2.8s						
MLPR	**Magueyes Islan**	**1.80**	**222**	*ePg*	Pn	18 15 16.1	-1.7
MLPR				IAML		18 15 44.4	
	comp=N,22nm,3.0s						
CRPR	**Cabo Rojo, PR**	**1.82**	**224**	*eP*	Pn	18 15 17.6	-0.4
CRPR	**Cabo Rojo, PR**	**1.82**	**224**		Pn	18 15 17.6	-0.4
CRPR	**Cabo Rojo, PR**	**1.82**	**224**	IAML		18 16 27.0	
	comp=E,24nm,2.8s						
CRPR				IAML		18 16 27.9	
	comp=N,23nm,2.6s						

*NOU **21** 18:16:42.8, 37.04S×177.39E, h557km, MLv4.0/6, Off E. Coast of N. Island, N.Z.*
*WEL **21** 18:17:37.7±0.5, 39.3S±4.×17.5E±., h66km±4km, M2.6/35, ML2.9/34, MLv2.6/35, Error ellipse: s-maj=0.0km s-min=0.0km az=175.1*
ISC 21 18:17:36.2±1.4, 39.42S±0.03×175.29E±0.03, h87km±7km, n100, σ0°91/124, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	**0.14**	**20**	P	**Pn**	**18 17 48.6**	**-0.1**
MTVZ	**Mangateitei**	**0.15**	**76**	P	**Pn**	**18 17 48.7**	**0.0**
MTVZ				S	**Sn**	**18 17 57.7**	**-0.2**
TRVZ	**Turoa**	**0.24**	**59**	P	**Pn**	**18 17 49.2**	**-0.1**
TRVZ				S	**Sn**	**18 17 58.4**	**-0.5**
WNVZ	**Wahianoa**	**0.26**	**69**	P	**Pn**	**18 17 49.2**	**-0.1**
WNVZ				S	**Sn**	**18 17 58.7**	**-0.3**
MAVZ	**Matarangi**	**0.26**	**55**	P	**Pn**	**18 17 49.3**	**-0.2**
MAVZ				S	**Sn**	**18 17 58.8**	**-0.4**
FWVZ	**Far West T-bar**	**0.27**	**52**	P	**Pn**	**18 17 49.3**	**-0.1**
FWVZ				S	**Sn**	**18 17 58.2**	**-0.9**
WHVZ	**Whangaehu Hut**	**0.27**	**60**	P	**Pn**	**18 17 49.3**	**-0.1**
WHVZ				S	**Sn**	**18 17 58.4**	**-0.7**
COVZ	**Chateau Observ**	**0.30**	**42**	P	**Pn**	**18 17 49.3**	**-0.1**
TUVZ	**Tukino**	**0.32**	**62**	P	**Pn**	**18 17 49.6**	**0.0**
TUVZ				S	**Sn**	**18 17 59.1**	**-0.4**
NGZ	**Ngauruhoe**	**0.35**	**45**	P	**Pn**	**18 17 49.6**	**-0.1**
NGZ				S	**Sn**	**18 17 59.2**	**-0.5**
SNVZ	**South Ngauruho**	**0.36**	**50**	P	**Pn**	**18 17 49.9**	**+0.1**
SNVZ				S	**Sn**	**18 17 59.3**	**-0.6**
MOVZ	**Moawhango**	**0.36**	**88**	P	**Pn**	**18 17 49.4**	**-0.3**
MOVZ				S	**Sn**	**18 17 58.5**	**-1.2**
TWVZ	**Taurewa**	**0.37**	**19**	P	**Pn**	**18 17 49.6**	**-0.2**
TWVZ				S	**Sn**	**18 17 59.1**	**-0.7**
NNVZ	**North Ngauruho**	**0.39**	**42**	P	**Pn**	**18 17 49.9**	**-0.1**
NNVZ				S	**Sn**	**18 17 59.8**	**-0.3**
WTVZ	**West Tongariro**	**0.39**	**38**	P	**Pn**	**18 17 49.8**	**-0.1**
WTVZ				S	**Sn**	**18 17 59.6**	**-0.4**
OTVZ	**Oturere**	**0.39**	**49**	P	**Pn**	**18 17 50.0**	**0.0**
OTVZ				S	**Sn**	**18 18 00.2**	**0.0**
WAZ	**Wanganui**	**0.41**	**215**	P	**Pn**	**18 17 50.4**	**+0.5**
WAZ				S	**Sn**	**18 18 01.1**	**+1.0**
KRVZ	**Karewarewa**	**0.43**	**40**	P	**Pn**	**18 17 50.0**	**-0.3**
KRVZ				S	**Sn**	**18 18 00.3**	**-0.2**
ETVZ	**East Tongariro**	**0.44**	**49**	P	**Pn**	**18 17 50.3**	**+0.1**
ETVZ				S	**Sn**	**18 18 00.9**	**+0.2**
NTVZ	**North Tongarir**	**0.44**	**43**	P	**Pn**	**18 17 50.3**	**-0.1**
TMVZ	**Te Maari**	**0.45**	**47**	P	**Pn**	**18 17 50.5**	**+0.2**
TMVZ				S	**Sn**	**18 18 00.6**	**-0.2**
VRZ	**Vera Road**	**0.51**	**306**	P	**Pn**	**18 17 50.9**	**+0.2**
VRZ				S	**Sn**	**18 18 02.0**	**+0.7**
KATZ	**Kakaramea**	**0.55**	**36**	P	**Pn**	**18 17 51.2**	**0.0**
BHHZ	**Black Hill Sta**	**0.61**	**97**	P	**Pn**	**18 17 51.1**	**-0.5**
BHHZ				S	**Sn**	**18 18 01.4**	**-1.6**
RITZ	**Rihia Road**	**0.63**	**45**	P	**Pn**	**18 17 52.0**	**+0.2**
RITZ				S	**Sn**	**18 18 04.1**	**+0.7**
RATZ	**Rangitukua**	**0.67**	**35**	P	**Pn**	**18 17 52.2**	**0.0**
LREZ	**Lake Rotokare**	**0.69**	**266**	P	**Pn**	**18 17 52.9**	**+0.6**
LREZ				S	**Sn**	**18 18 05.9**	**+1.7**
WATZ	**Wairara**	**0.79**	**26**	P	**Pn**	**18 17 53.7**	**+0.2**
WATZ				S	**Sn**	**18 18 06.7**	**+0.5**
TSZ	**Takapari Road**	**0.82**	**141**	P	**Pn**	**18 17 54.7**	**+0.9**
PNHZ	**Pukenui**	**0.86**	**125**	P	**Pn**	**18 17 55.2**	**+1.0**
KRHZ	**Kereru**	**0.87**	**105**	P	**Pn**	**18 17 54.5**	**+0.3**
KRHZ				S	**Sn**	**18 18 08.7**	**+1.0**
PREZ	**Palmer Road**	**0.88**	**275**	P	**Pn**	**18 17 55.7**	**+1.3**
KWHZ	**Kaweka Forest**	**0.88**	**91**	P	**Pn**	**18 17 54.7**	**+0.3**
NEZ	**North Egmont**	**0.94**	**279**	P	**Pn**	**18 17 56.2**	**+1.2**
HIZ	**Hauiti**	**0.97**	**340**	P	**Pn**	**18 17 55.6**	**+0.3**
HIZ	**Hauiti**	**0.97**	**340**	P	**Pn**	**18 17 55.6**	**+0.3**
BKZ	**Black Stump Fm**	**0.97**	**75**	P	**Pn**	**18 17 55.2**	**-0.2**
BKZ	**Black Stump Fm**	**0.97**	**75**	P	**Pn**	**18 17 55.1**	**-0.3**
KHEZ	**Kahui Hut**	**0.99**	**277**	P	**Pn**	**18 17 56.7**	**+1.1**
PKE	**Pukeiti**	**1.03**	**282**	P	**Pn**	**18 17 56.9**	**+0.8**
POWZ	**Post Office Ro**	**1.04**	**159**	P	**Pn**	**18 17 57.6**	**+1.4**
MRHZ	**Matea Rd**	**1.06**	**57**	P	**Pn**	**18 17 56.0**	**-0.4**
MCHZ	**McNeill Hill**	**1.09**	**92**	P	**Pn**	**18 17 58.8**	**+2.1**
WPHZ	**Waipukurau**	**1.10**	**126**	P	**Pn**	**18 17 58.5**	**+1.6**
TLZ	**Tolley Road**	**1.11**	**10**	P	**Pn**	**18 17 57.0**	**0.0**
DVHZ	**Dannevirke**	**1.11**	**143**	P	**Pn**	**18 17 58.5**	**+1.5**
WPRZ	**Whakapapatarin**	**1.13**	**38**	P	**Pn**	**18 17 57.2**	**0.0**
NMHZ	**Naumai**	**1.22**	**75**	P	**Pn**	**18 17 59.4**	**+0.9**
PRWZ	**Pori Road**	**1.25**	**155**	P	**Pn**	**18 17 59.3**	**+0.7**
MRZ	**Mangatainoka R**	**1.26**	**170**	P	**Pn**	**18 17 58.8**	**0.0**
PRRZ	**Plateau Road**	**1.26**	**44**	P	**Pn**	**18 17 58.9**	**0.0**
KAHZ	**Kahuranaki**	**1.28**	**107**	P	**Pn**	**18 18 01.1**	**+2.0**
ARHZ	**Aropaoanui**	**1.34**	**84**	P	**Pn**	**18 18 00.8**	**+1.1**
MTHZ	**Maungataniwha**	**1.34**	**65**	P	**Pn**	**18 17 59.6**	**-0.2**
PRHZ	**Porangahau**	**1.34**	**130**	P	**Pn**	**18 18 00.1**	**+0.3**
OGWZ	**Otaki Gorge**	**1.40**	**184**	P	**Pn**	**18 18 00.9**	**+0.4**
TIWZ	**Tintock**	**1.43**	**161**	P	**Pn**	**18 18 01.3**	**+0.4**
BFZ	**Birch Farm**	**1.46**	**150**	P	**Pn**	**18 18 01.7**	**+0.4**
BFZ	**Birch Farm**	**1.46**	**150**	P	**Pn**	**18 18 01.3**	**0.0**
KIW	**Kapiti Island**	**1.47**	**191**	P	**Pn**	**18 18 01.6**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.49**	**173**	P	**Pn**	**18 18 01.7**	**0.0**
RAHZ	**Arahi**	**1.49**	**71**	P	**Pn**	**18 18 02.0**	**+0.3**
RTZ	**Ruatahuna**	**1.55**	**59**	P	**Pn**	**18 18 02.4**	**-0.1**
WHHZ	**Waihua**	**1.55**	**78**	P	**Pn**	**18 18 05.3**	**+2.9**
OMRZ	**Omania**	**1.56**	**33**	P	**Pn**	**18 18 02.9**	**+0.3**
CAW	**Cannon Point**	**1.69**	**186**	P	**Pn**	**18 18 04.2**	**-0.1**
TOZ	**Tahuroa Road**	**1.69**	**6**	P	**Pn**	**18 18 04.2**	**-0.1**
SNGZ	**Shannon Statio**	**1.72**	**69**	P	**Pn**	**18 18 05.7**	**+1.1**
DUWZ	**D'Urville Isla**	**1.73**	**217**	P	**Pn**	**18 18 04.9**	**+0.1**
MTW	**Mount Morrison**	**1.74**	**175**	P	**Pn**	**18 18 04.5**	**-0.4**
TMWZ	**Te Maipa**	**1.75**	**165**	P	**Pn**	**18 18 04.8**	**-0.2**
URZ	**Urewera**	**1.84**	**51**	P	**Pn**	**18 18 05.8**	**-0.4**
RAGZ	**Rawiri**	**1.90**	**62**	P	**Pn**	**18 18 07.9**	**+0.9**
WEL	**Wellington**	**1.90**	**192**	P	**Pn**	**18 18 06.6**	**-0.4**
TCW	**Tory Channel**	**1.95**	**203**	P	**Pn**	**18 18 07.3**	**-0.3**
MHGZ	**Mahia Peninsul**	**2.05**	**83**	P	**Pn**	**18 18 08.7**	**-0.3**
RIGZ	**Rimuhau**	**2.06**	**70**	P	**Pn**	**18 18 08.7**	**-0.4**
MWZ	**Matawai**	**2.06**	**59**	P	**Pn**	**18 18 08.7**	**-0.4**
PLWZ	**Palliser**	**2.15**	**181**	P	**Pn**	**18 18 09.3**	**-0.9**
TKGZ	**Te Karaka**	**2.23**	**65**	P	**Pn**	**18 18 15.6**	**+4.3**
TUWZ	**Tuamarina**	**2.25**	**207**	P	**Pn**	**18 18 11.1**	**-0.5**
NNZ	**Nelson**	**2.31**	**218**	P	**Pn**	**18 18 12.0**	**-0.4**
MKAZ	**Moumakai**	**2.31**	**358**	P	**Pn**	**18 18 12.7**	**+0.2**
RUGZ	**Raukumara Rang**	**2.37**	**53**	P	**Pn**	**18 18 12.6**	**-0.7**
TKNZ	**Takaka Hill**	**2.40**	**227**	P	**Pn**	**18 18 13.3**	**-0.4**
TWGZ	**Tauwhareparae**	**2.44**	**60**	P	**Pn**	**18 18 14.3**	**0.0**
BSWZ	**Blackbirch Sta**	**2.53**	**205**	P	**Pn**	**18 18 14.4**	**-0.9**
QRZ	**Quartz Range**	**2.54**	**236**	P	**Pn**	**18 18 15.3**	**-0.1**
QRZ	**Quartz Range**	**2.54**	**236**	P	**Pn**	**18 18 14.9**	**-0.5**
HAZ	**Te Kaha**	**2.57**	**50**	P	**Pn**	**18 18 14.7**	**-1.1**
MRNZ	**Matariki Terra**	**2.76**	**224**	P	**Pn**	**18 18 17.7**	**-0.8**
THZ	**Tophouse**	**2.96**	**217**	P	**Pn**	**18 18 20.4**	**-0.7**
KHZ	**Kahutara**	**3.27**	**203**	P	**Pn**	**18 18 23.8**	**-1.5**
KHZ	**Kahutara**	**3.27**	**203**	P	**Pn**	**18 18 23.8**	**-1.5**
DSZ	**Dannisten Nort**	**3.52**	**228**	P	**Pn**	**18 18 27.2**	**-1.6**
GVZ	**Greta Valley S**	**3.93**	**205**	P	**Pn**	**18 18 31.9**	**-2.3**
LTZ	**Lake Taylor**	**4.06**	**213**	P	**Pn**	**18 18 33.4**	**-2.6**
INZ	**Inchbonnie**	**4.40**	**220**	P	**Pn**	**18 18 41.3**	**+0.8**
WVZ	**Waitaha Valley**	**5.01**	**222**	P	**Pn**	**18 18 50.5**	**+1.7**
GCSZ	**Gaunt Creek Bo**	**5.39**	**222**	P	**Pn**	**18 18 54.9**	**+0.9**

*DJA **21** 18:59:53.4±2.1, 2.7N±3.×9.9E±., h14km±17km, M4.3/8, mb5.1/1, MLv3.9/8*
*IDC **21** 18:59:53.1±12.0, 2.15N×99.04E, h162km±117km, mb3.4/7, mbtmp3.9/8, Error ellipse: s-maj=104.6km s-min=13.6km az=57.0*
ISC 21 18:59:52.6±0.8, 2.24N±0.08×99.24E±0.09, h150km, n15, σ0°99/16, mb3.7/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.90**	**241**	P	**Pn**	**19 00 27.7**	**+1.1**
GSI				S	**Sn**	**19 00 51.9**	**-0.8**
KCSI	**Kotacane, Aceh**	**1.94**	**311**	P	**Pn**	**19 00 26.9**	**-0.1**
PBSI	**Pulau Batu**	**2.47**	**203**	P	**Pn**	**19 00 34.7**	**+1.3**
SNSI	**Sinabang, Aceh**	**2.91**	**273**	P	**Pn**	**19 00 39.2**	**+0.4**
PDSI	**Padang**	**3.36**	**159**	P	**Pn**	**19 00 46.6**	**+2.0**
PPSI	**Pulau Pagai**	**5.03**	**171**	P	**Pn**	**19 01 04.9**	**-1.5**
MNAI	**Manna**	**7.54**	**150**	P	**Pn**	**19 01 39.9**	**0.0**
CMAR	**Chiang Mai Arr**	**16.12**	**359**	P	**Pn**	**19 03 31.6**	**+0.8**
	3.0nm,0.8s,baz=191,slow=11,SNR=24						
WRA	**Warramunga Arr**	**40.90**	**124**	P	**P**	**19 07 20.8**	**+0.5**
	1.6nm,0.8s,baz=300,slow=9.3,SNR=19						
	1.6nm,0.8s						
ASAR	**Alice Springs**	**42.44**	**129**	P	**P**	**19 07 32.5**	**-0.3**
	0.4nm,0.7s,baz=303,slow=7.6,SNR=13						
	0.4nm,0.7s						
SONM	**Songino Array

	comp=E,26nm,1.3s						
TPAW	**Teton Pass**	**3.38**	**241**		**Pn**	**19 04 17.0**	**-0.8**
TPAW				IAML		19 05 27.3	
	comp=E,32nm,1.4s						
REDW	**Red Top Meadow**	**3.39**	**238**		**Pn**	**19 04 18.6**	**+0.7**
EGMT	**Eagleton**	**3.44**	**326**		**Pn**	**19 04 19.3**	**+1.0**
EGMT				IAML		19 05 47.5	
	comp=E,52nm,1.2s						
RWWY	**Rawlins**	**3.53**	**184**	Pn	**Pn**	**19 04 20.4**	**+0.6**
RWWY				IAML		19 05 28.1	
	comp=E,42nm,1.4s						
DGMT	**Dagmar**	**3.75**	**29**		**Pn**	**19 04 24.1**	**+1.6**
AHID	**Auburn Hatcher**	**3.90**	**233**		**Pn**	**19 04 25.2**	**+0.3**
AHID				IAML		19 05 45.3	
	comp=E,22nm,1.4s						
AHID				IAML		19 06 01.5	
	comp=E,22nm,1.5s						
PHWY	**Pilot Hill**	**4.05**	**165**	Pn	**Pn**	**19 04 25.6**	**-1.3**
PHWY				IAML		19 05 34.0	
	comp=E,28nm,1.4s						
N23A	**Red Feather La**	**4.37**	**171**		**Pb**	**19 04 40.9**	**-0.4**
N23A				IAML		19 05 59.0	
	comp=E,28nm,1.4s						
BPMT	**Black Pine Rid**	**4.75**	**287**	Pn	**Pn**	**19 04 35.8**	**-0.7**
HWUT	**Hardware Ranch**	**4.96**	**225**		**Pb**	**19 04 50.3**	**-0.9**
HWUT				IAML		19 06 21.3	
	comp=E,16nm,1.4s						
RDMU	**Red Mountain**	**5.04**	**204**		**Pn**	**19 04 41.7**	**+1.2**
RDMU				IAML		19 06 07.5	
	comp=N,15nm,1.4s						
O20A	**White River Ci**	**5.17**	**192**	Pn	**Pn**	**19 04 43.3**	**+1.0**
TCUT	**Toone Canyon**	**5.26**	**221**		**Pb**	**19 04 55.8**	**-0.6**
BSUT	**Blindstream Ca**	**5.47**	**213**	Pn	**Pn**	**19 04 49.2**	**+2.6**
MDND	**Maddock**	**5.68**	**60**		**Pn**	**19 04 52.6**	**+3.5**
K30B	**Basset**	**5.83**	**113**	Pn	**Pn**	**19 04 51.2**	**-0.1**
P18A	**Preston Nutter**	**6.11**	**205**		**Pn**	**19 04 55.3**	**+0.1**
KSCO	**Kaye Shedlock'**	**6.96**	**151**	Pn	**Pn**	**19 05 04.8**	**-2.0**
I10CA	**LAC DU BONNET**	**8.86**	**52**	I	I	19 53 30.0	
	comp=N,0.1nm,0.9s,baz=235,slow=322,SNR=7.3						
ULM	**Lac du Bonnet**	**8.97**	**52**	Pn	**Pn**	**19 05 33.3**	**-0.9**
	comp=N,0.5nm,0.3s,baz=244,slow=14,SNR=7.6						
ULM				Lg	Lg	19 08 00.7	
	comp=N,0.3nm,0.3s,baz=231,slow=3.3,SNR=2.2						
	comp=N,1.8nm,0.3s						

*IDC **21** 19:08:22.5±2.7,43°.25N×105°.16W,h0km,mbtmp3.1/2, ML2.9/2,Error ellipse: s-maj=55.6km s-min=11.1km az=155.0*
*NEIC **21** 19:08:25.1±2.2,43°.54N±0°.05×105°.37W±0°.08,h0km±1km, ML2.9/62,Error ellipse: s-maj=10.4km s-min=7.7km az=59.0*
ISC 21 19:08:25.1±1.1,**43°.58N**±0°.06×**105°.28W**±0°.05,**h0km,n40,** σ1§**66**/38,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RSSD	**Black Hills**	**1.05**	**58**			**Pg**	**19 08 43.7**	**-1.4**
RSSD				IAML			19 08 59.8	
	218nm,0.4s							
K22A	**Casper**	**1.30**	**225**			**Pg**	**19 08 49.3**	**-0.7**
PHWY	**Pilot Hill**	**2.28**	**183**			**Pn**	**19 09 04.7**	**+0.5**
PHWY				IAML			19 09 39.3	
	74nm,0.6s							
RWWY	**Rawlins**	**2.37**	**218**			**Pn**	**19 09 04.2**	**-1.2**
RWWY				IAML			19 09 43.0	
	82nm,0.9s							
N23A	**Red Feather La**	**2.73**	**191**	Pn		**Pn**	**19 09 11.3**	**+0.9**
N23A				IAML			19 09 53.8	
	comp=N,57nm,0.5s							
N23A				IAML			19 10 03.6	
	comp=E,49nm,0.8s							
BRIGG	**Briggsdale**	**3.08**	**166**			**Pn**	**19 09 17.0**	**+1.9**
LAO	**LASA Array**	**3.18**	**348**	Pn		**Pn**	**19 09 17.2**	**+0.8**
PD31	**Pinedale Array**	**3.24**	**257**	Pn		**Pn**	**19 09 17.7**	**+0.3**
PDAR	**Pinedale Array**	**3.24**	**257**	Pn		**Pn**	**19 09 18.2**	**+0.9**
PDAR	**Pinedale Array**	**3.24**	**257**	Pn		**Pn**	**19 09 18.4**	**+1.1**
	comp=E,1.0nm,0.3s,baz=89,slow=14,SNR=15							
PDAR				Lg		Lg	19 10 03.8	
	comp=E,3.0nm,0.3s,baz=81,slow=32,SNR=3.8							
	comp=E,0.8nm,0.3s							
RLMT	**Red Lodge**	**3.25**	**300**	Pn		**Pn**	**19 09 16.9**	**-0.7**
RLMT				IAML			19 10 51.1	
	comp=E,22nm,4.3s							
OGNE	**Ogallala**	**3.57**	**136**	Pn		**Pn**	**19 09 24.3**	**+2.5**
YMP	**Mirror Lake Pl**	**3.70**	**290**	Pn		**Pn**	**19 09 24.6**	**+0.8**
YMP				IAML			19 10 30.4	
	comp=N,22nm,0.4s							
ISCO	**Idaho Springs**	**3.79**	**184**	Pn		**Pn**	**19 09 25.9**	**+0.9**
LOHW	**Long Hollow**	**3.87**	**272**			**Pn**	**19 09 28.5**	**+2.4**
LOHW				IAML			19 10 30.4	
	comp=N,16nm,4.3s							
H17A	**Grant Village**	**3.91**	**284**			**Pn**	**19 09 28.4**	**+1.8**
H17A				IAML			19 10 41.1	
	comp=E,14nm,4.9s							
FLWY	**Flagg Ranch**	**3.96**	**279**	Pn		**Pn**	**19 09 30.1**	**+2.8**
FLWY				IAML			19 11 40.4	
	comp=E,22nm,3.9s							
FLWY				IAML			19 11 44.9	
	comp=E,19nm,4.7s							
MOOW	**Moose Ponds**	**3.97**	**274**	Pn		**Pn**	**19 09 29.5**	**+2.1**
REDW	**Red Top Meadow**	**4.07**	**269**			**Pn**	**19 09 30.4**	**+1.7**
IMW	**Indian Meadow**	**4.12**	**276**	Pn		**Pn**	**19 09 31.1**	**+1.5**
IMW				IAML			19 11 14.1	
	comp=E,10nm,4.0s							
IMW				IAML			19 11 34.1	
	comp=E,10nm,0.6s							
TPAW	**Teton Pass**	**4.13**	**271**	Pn		**Pn**	**19 09 30.4**	**+0.8**
TPAW				IAML			19 10 23.6	
	comp=E,14nm,4.7s							
TPAW				IAML			19 11 57.7	
	comp=E,16nm,4.6s							
FXWY	**Fox Creek**	**4.18**	**273**			**Pn**	**19 09 30.8**	**+0.5**
YHH	**Holmes Hill**	**4.19**	**289**	Pn		**Pn**	**19 09 33.1**	**+2.6**
AHID	**Auburn Hatcher**	**4.34**	**261**	Pn		**Pn**	**19 09 33.9**	**+1.4**
AHID				IAML			19 10 14.1	
	comp=E,15nm,4.8s							
AHID				IAML			19 11 05.1	
	comp=E,16nm,2.9s							
RDMU	**Red Mountain**	**4.39**	**228**	Pn		Pn	19 09 28.4	-4.8
RDMU				IAML			19 10 41.6	
	comp=N,13nm,4.3s							
RDMU				IAML			19 10 57.3	
	comp=E,15nm,3.6s							
E28A	**Huff**	**4.42**	**46**			**Pn**	**19 09 36.4**	**+3.1**
YHL	**Hebgen Lake**	**4.43**	**289**	Pn		**Pn**	**19 09 35.1**	**+1.2**
YHL				IAML			19 11 20.4	
	comp=E,13nm,4.4s							
YHL				IAML			19 12 04.8	
	comp=N,12nm,3.9s							
SMCO	**Snowmass**	**4.58**	**197**	Pn		**Pn**	**19 09 32.5**	**-3.5**
Q24A	**Divide**	**4.61**	**179**	Pn		**Pn**	**19 09 34.1**	**-2.2**
HWUT	**Hardware Ranch**	**5.04**	**249**	Pn		**Pn**	**19 09 42.7**	**+0.5**
HWUT				IAML			19 10 20.1	
	comp=N,9.4nm,4.0s							
BSUT	**Blindstream Ca**	**5.09**	**235**	Pn		**Pn**	**19 09 44.3**	**+1.3**
P18A	**Preston Nutter**	**5.43**	**225**	Pn		**Pn**	**19 09 49.2**	**+1.6**
EGMT	**Eagleton**	**5.44**	**326**	Pn		**Pn**	**19 09 49.0**	**+1.5**
SRU	**San Rafael Swe**	**5.96**	**223**	Pn		**Pn**	**19 09 54.3**	**-0.4**
LYMT	**Lyon Mountain**	**6.00**	**307**	Pn		**Pn**	**19 09 55.5**	**+0.2**
ECSD	**EROS Data Cent**	**6.29**	**86**	Pn		**Pn**	**19 09 59.7**	**+0.7**
CBKS	**Cedar Bluff**	**6.33**	**137**	Pn		**Pn**	**19 10 00.7**	**+1.0**
HMU	**Henry Mountain**	**7.00**	**218**			**Pn**	**19 10 09.7**	**+0.6**
I10CA	**LAC DU BONNET**	**9.16**	**40**	I		I	20 05 10.0	
	baz=222,slow=324,SNR=2.4							
ULM	**Lac du Bonnet**	**9.26**	**41**	Pn		**Pn**	**19 10 37.7**	**-2.2**
	comp=N,0.3nm,0.3s,baz=226,slow=9.7,SNR=1.9							
ULM				Lg		Lg	19 13 13.7	
	comp=N,0.3nm,0.3s,baz=179,slow=8.2,SNR=1.6							
	comp=N,0.8nm,0.3s							

*IDC **21** 19:16:01.7±1.5,1°.47N×127°.33E,h0km,mb3.6/5, mbtmp3.6/5,Error ellipse: s-maj=149.4km s-min=20.6km az=69.0*
*DJA **21** 19:16:04.6±0.6,1°.N±6°×12°8E±°,h10km,M3.8/8,mb3.9/2, MLv3.7/8*
ISC 21 19:16:02.9±0.9,**1°.53N**±0°.07×**127°.89E**±0°.07,**h10km,n24,** σ1§**97**/**17**,**mb3.8/5**,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TNTI	**Ternate**	**0.92**	**215**	P		**Pg**	**19 16 19.5**	**-1.1**
TNTI				S		**Sg**	**19 16 32.1**	**-0.4**
LBMI	**Labuha**		**2.19**	**190**	P	**Pn**	**19 16 39.3**	**-0.1**
KMSI	**Cibinong**		**4.02**	**256**	P	**Pn**	**19 17 05.7**	**+1.2**
SANI	**Sanana**		**4.03**	**208**	P	**Pn**	**19 17 05.0**	**+0.3**
SWI	**Sorong**		**4.13**	**125**	P	**Pn**	**19 17 07.1**	**+1.1**
NLAI	**Namlea**		**4.80**	**189**	P	**Pn**	**19 17 15.0**	**-0.3**
GTOI	**Gorontalo**		**4.96**	**260**	P	**Pn**	**19 17 20.1**	**+2.7**
	5.8nm,1.2s,0.0nm							
FAKI	**Fak Fak**		**6.21**	**135**	P	**Pn**	**19 17 35.1**	**+0.4**
PLAI	**Plampang**		**14.40**	**224**	P	**Pn**	**19 19 30.0**	**+3.0**
TWSI	**Taliwang, Sumb**		**14.98**	**227**	P	Pn	19 19 25.6	-9.2
TWSI					S	**P**	**19 19 41.1**	**+0.7**
SRBI	**Singaraja**		**15.84**	**233**	P	Pn	19 19 37.3	-8.9
JAGI	**Jajag, Banyuwa**		**16.92**	**234**	P	Pn	19 19 50.2	-10
GMJI	**Gumukmas**		**17.39**	**236**	P	**Pn**	**19 20 00.4**	**-5.4**
WRA	**Warramunga Arr**		**22.26**	**164**	P	**P**	**19 21 01.6**	**+1.3**
	3.5nm,1.0s,baz=342,slow=10.0,SNR=12							
	3.5nm,1.0s							
ASAR	**Alice Springs**		**25.72**	**167**	P	**P**	**19 21 34.0**	**+0.4**
	1.0nm,1.0s,baz=334,slow=8.0,SNR=5.7							
	1.0nm,1.0s							
H11S3	**WAKE ISLAND Hy**		**41.61**	**64**	T	T	20 07 53.5	
	baz=250,slow=75,SNR=12							
H11S2	**WAKE ISLAND Hy**		**41.62**	**64**	T	T	20 07 54.0	
	baz=250,slow=75,SNR=10							
H11S1	**WAKE ISLAND Hy**		**41.62**	**64**	T	T	20 07 53.7	
	baz=250,slow=75,SNR=11							
H11N1	**WAKE ISLAND Hy**		**42.20**	**62**	T	T	20 08 47.1	
	baz=249,slow=75,SNR=5.1							
H11N2	**WAKE ISLAND Hy**		**42.22**	**62**	T	T	20 08 49.0	
	baz=249,slow=75,SNR=4.3							
H11N3	**WAKE ISLAND Hy**		**42.22**	**62**	T	T	20 08 54.1	
	baz=249,slow=75,SNR=3.8							
SONM	**Songino Array**		**49.74**	**341**	P	**P**	**19 24 55.1**	**-0.4**
	0.3nm,0.6s,baz=152,slow=6.2,SNR=2.7							
	0.3nm,0.6s							
MKAR	**Makanchi Array**		**60.01**	**325**	P	**P**	**19 26 09.1**	**-0.8**
	0.5nm,0.7s,baz=116,slow=8.3,SNR=5.5							
	0.5nm,0.7s							
KURBB	**Kurchatov Arra**		**64.20**	**328**	P	**P**	**19 26 36.5**	**-1.3**
	0.3nm,0.4s,baz=125,slow=6.3,SNR=4.1							
	0.3nm,0.4s							

*IDC **21** 19:36:12.4±1.5,6°.53S×128°.01E,h327km±16km,mb3.7/15, mbtmp4.5/17,Error ellipse: s-maj=18.2km s-min=8.0km az=70.0*
*NEIC **21** 19:36:12.8±1.4,6°.46S±0°.08×128°.09E±0°.04,h327km±9km, mb4.2/34,Error ellipse: s-maj=11.5km s-min=5.3km az=169.0*
*DJA **21** 19:36:12.0±0.2,7°S±2°×12°8E±°,h336km±5km,M4.5/20, mB4.9/6,mb4.4/20,MLv4.6/13,Mw(mB)4.2/6*
ISC 21 19:36:14.3±0.4,**6°.59S**±0°.05×**127°.95E**±0°.07,**h353**km,**n122,** σ1§**43**/123,**mb4.1**/36,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NLAI	**Namlea**		**3.43**	**346**	P	**Pn**	**19 37 15.5**	**-2.4**
SAUI	**Saumlaki**		**3.60**	**113**	Pn	**Pn**	**19 37 15.3**	**-4.2**
SAUI					S		19 37 59.0	-13
SAUI	**Saumlaki**		**3.60**	**113**	P	**Pn**	**19 37 15.6**	**-3.9**
SOEI	**Soe**		**4.82**	**229**	P	**Pn**	**19 37 31.5**	**-0.8**
SOEI	**Soe**		**4.82**	**229**		**Pn**	**19 37 31.1**	**-1.1**
SOEI	**Soe**		**4.82**	**229**	P	**Pn**	**19 37 31.4**	**-0.8**
	762nm,0.6s,9µm3.2nm							
SANI	**Sanana**		**4.91**	**336**	P	**Pn**	**19 37 30.0**	**-3.2**
SANI	**Sanana**		**4.91**	**336**	P	**Pn**	**19 37 29.8**	**-3.4**
BATI	**Baumata**		**5.56**	**229**	P	**Pn**	**19 37 40.0**	**-0.4**
	707nm,0.4s,baz=67,slow=3.3,SNR=449							
BATI					S	**S**	**19 38 46.0**	**-4.0**
	438nm,0.6s,baz=122,slow=2.0,SNR=15							
BATI	**Baumata**		**5.56**	**229**	P	**Pn**	**19 37 39.9**	**-0.4**
	749nm,0.5s,11µm3.4nm							
FAKI	**Fak Fak**		**5.62**	**50**	P	Pn	19 37 34.9	-6.1
FAKI	**Fak Fak**		**5.62**	**50**	Pn	Pn	19 37 35.0	-6.0
FAKI	**Fak Fak**		**5.62**	**50**	P	Pn	19 37 34.5	-6.5
	45nm,0.8s,0.3nm							
MMRI	**Maumere**		**6.02**	**250**	P	**Pn**	**19 37 45.2**	**-0.3**
MMRI	**Maumere**		**6.02**	**250**		**Pn**	**19 37 44.4**	**-1.1**
MMRI	**Maumere**		**6.02**	**250**	P	**Pn**	**19 37 45.6**	**+0.1**
	32nm,0.5s,1µm0.2nm							
DRS	**Darwin Rock St**		**6.49**	**154**	P	**Pn**	**19 37 49.9**	**-1.0**
EDFI	**Ende, Flores**		**6.57**	**251**	P	**Pn**	**19 37 52.1**	**+0.2**
	26nm,0.7s,1µm0.1nm							
SWI	**Sorong**		**6.57**	**30**	P	Pn	19 37 46.3	-5.6
	22nm,0.9s,0.1nm							
MTN	**Manton Dam**		**6.96**	**153**	P	**Pn**	**19 37 54.2**	**-2.1**
MTN	**Manton Dam**		**6.96**	**153**	Pn	**Pn**	**19 37 53.6**	**-2.7**
KDU	**Kakadu**		**7.52**	**144**	P	**Pn**	**19 38 00.6**	**-2.3**
BKSI	**Bulukumba**		**7.89**	**279**	P	**Pn**	**19 38 07.4**	**+0.2**
	22nm,1.0s							
BASI	**Baing, Sumba**		**8.14**	**243**	P	**Pn**	**19 38 09.3**	**-0.9**
	63nm,0.8s,2µm							
KMSI	**Cibinong**		**8.14**	**331**	P	**Pn**	**19 38 08.8**	**-1.5**
	11nm,0.9s							
GTOI	**Gorontalo**		**8.71**	**325**	P	**P**	**19 38 18.7**	**-0.6**
	31nm,0.9s,284nm							
KNRA	**Kununurra**		**9.07**	**175**	P	**Pn**	**19 38 20.5**	**-0.7**
KNRA	**Kununurra**		**9.07**	**175**		**Pn**	**19 38 19.6**	**-1.6**
MRSI	**Marisa**		**9.23**	**319**	P	**Pn**	**19 38 22.4**	**-0.8**
	105nm,0.9s,912nm							
PLAI	**Plampang**		**10.33**	**257**	P	**Pn**	**19 38 36.1**	**-0.1**
PLAI	**Plampang**		**10.33**	**257**	P	**Pn**	**19 38 35.1**	**-1.1**
	35nm,1.0s							
TOLI2	**Tolitoli**		**10.47**	**317**	P	**Pn**	**19 38 36.8**	**-1.2**
TOLI2	**Tolitoli**		**10.47**	**317**	Pn	**Pn**	**19 38 36.1**	**-1.9**
MPSI	**Mapaga**		**10.58**	**310**	P	**P**	**19 38 39.8**	**-0.3**
	44nm,1.0s							
TWSI	**Taliwang, Sumb**		**11.18**	**258**	P	**Pn**	**19 38 44.9**	**-1.5**
	14nm,1.2s							
FITZ	**Fitzroy Crossi**		**11.66**	**191**	Pn	**Pn**	**19 38 50.4**	**-1.6**
GENI	**Genyem**		**12.80**	**73**	P	P	19 39 00.1	-4.7
	57nm,1.1s							
JAGI	**Jajag, Banyuwa**		**13.81**	**261**	P	**Pn**	**19 39 17.4**	**0.0**
JAGI	**Jajag, Banyuwa**		**13.81**	**261**	P	**P**	**19 39 14.0**	**-1.8**
WB0	**Warramunga Arr**		**14.52**	**155**		**P**	**19 39 23.3**	**-0.3**
WRAB	**Tennant Creek**		**14.65**	**156**	P	**P**	**19 39 23.6**	**-1.4**
WRA	**Warramunga Arr**		**14.65**	**156**	P	**P**	**19 39 23.6**	**-1.5**
WRA	**Warramunga Arr**		**14.65**	**156**	P	**P**	**19 39 25.3**	**+0.2**
	23nm,0.3s,baz=329,slow=12,SNR=187							
WRA					S	**S**	**19 42 01.3**	**-2.0**
	5.0nm,0.6s,baz=334,slow=20,SNR=3.1							
WB2	**Warramunga Arr**		**14.66**	**156**		**P**	**19 39 25.0**	**-0.1**
WR0	**Warramunga Arr**		**14.75**	**155**	P	**P**	**19 39 25.8**	**-0.3**
MBWA	**Marble Bar**		**16.53**	**208**	P	**Pn**	**19 39 47.3**	**-1.5**
COEN	**Coen**		**16.66**	**117**	P	**P**	**19 39 46.3**	**-0.7**
COEN	**Coen**		**16.66**	**117**	P	**P**	**19 39 45.9**	**-1.0**
PSA00	**Pilbara Seismi**		**16.84**	**207**	P	**Pn**	**19 39 50.7**	**-1.7**
PSA00	**Pilbara Seismi**		**16.84**	**207**	P	**Pn**	**19 39 50.6**	**-1.8**
QIS	**Mount Isa**		**17.90**	**142**	P	**P**	**19 40 00.4**	**+0.2**
AS31	**Alice Springs**		**17.92**	**162**		**P**	**19 40 01.2**	**+0.8**
ASAR	**Alice Springs**		**17.92**	**162**	P	**P**	**19 40 01.2**	**+0.9**
	47nm,0.5s,baz=346,slow=11,SNR=809							
ASAR					S	**S**	**19 43 08.3**	**+0.5**
	6.0nm,0.7s,baz=347,slow=23,SNR=14							
ASAR					ScP	**ScP**	**19 47 21.3**	**+2.0**
	0.6nm,0.5s,baz=356,slow=2.8,SNR=2.1							
AS01	**Alice Springs**		**17.93**	**162**	P	**P**	**19 40 01.4**	**+0.9**
WRKA	**Warakurna**		**18.35**	**179**	P	**P**	**19 40 06.4**	**+1.5**
MEEK	**Meekatharra**		**21.84**	**203**	P	**P**	**19 40 41.0**	**+2.1**
CTA	**Charters Tower**		**22.26**	**129**	P	**P**	**19 40 43.6**	**+0.8**
	14nm,0.9s,baz=268,slow=5.8,SNR=9.4							
	14nm,0.9s							
CTAO	**Charters Tower**		**22.26**	**129**	P	**P**	**19 40 43.5**	**+0.7**
CTAO	**Charters Tower**		**22.26**	**129**	P	**P**	**19 40 43.2**	**+0.4**
OOD	**Oodnadatta**		**22.33**	**162**	P	**P**	**19 40 44.1**	**+0.8**
FORT	**Forrest**		**24.07**	**180**	P	**P**	**19 41 00.8**	**+1.8**
FORT	**Forrest**		**24.07**	**180**	P	**P**	**19 41 00.1**	**+1.1**
MULG	**Mulgathing**		**24.26**	**167**	P	**P**	**19 41 01.9**	**+1.1**
INKA	**Innaminka**		**24.29**	**152**	P	**P**	**19 41 02.9**	**+1.9**
MORW	**Morawa**		**25.03**	**205**	P	**P**	**19 41 09.6**	**+1.9**
MORW	**Morawa**		**25.03**	**205**	P	**P**	**19 41 08.1**	**+0.4**
MORW					IAmb	IAmb	19 41 11.5	
	comp=Z,17nm,1.4s							
LCRK	**Leigh Creek**		**25.62**	**159**	P	**P**	**19 41 13.9**	**+1.0**
BLDU	**Hallidu**		**26.13**	**202**	P	**P**	**19 41 19.2**	**+1.7**
BBOO	**Buckleboo**		**27.16**	**165**	P	**P**	**19 41 27.7**	**+1.1**
BBOO	**Buckleboo**		**27.16**	**165**	P	**P**	**19 41 27.5**	**+0.9**
BBOO					IAmb	IAmb	19 41 28.3	
	comp=Z,13nm,0.7s							
STKA	**Stephens Creek**		**28.20**	**155**	P	**P**	**19 41 36.9**	**+1.1**
STKA	**Stephens Creek**		**28.20**	**155**	P	**P**	**19 41 36.3**	**+0.5**
STKA	**Stephens Creek**		**28.20**	**155**	P	**P**	**19 41 36.7**	**+0.9**
	comp=Z,10nm,0.5s,baz=329,slow=9.3,SNR=31							
	comp=Z,10nm,0.5s							
HTT	**Hallett**		**28.59**	**161**	P	**P**	**19 41 40.6**	**+1.4**
CMSA	**Cobar Meteorol**		**29.86**	**148**	P	**P**	**19 41 51.6**	**+1.3**
UBPT	**Khong Chiam**		**31.12**	**314**	P	**P**	**19 42 01.7**	**+0.1**
UBPT					IAmb	IAmb	19 42 13.7	
	comp=Z,22nm,1.4s							
ARPS	**Mount Arapiles**		**32.61**	**159**	P	**P**	**19 42 16.0**	**+1.8**
CAN	**Canberra**		**34.53**	**149**	P	**P**	**19 42 32.6**	**+1.9**
CAN	**Canberra**		**34.53**	**149**	P	**P**	**19 42 32.4**	**+1.7**
TOO	**Toolangi**		**34.73**	**155**	P	**P**	**19 42 34.6**	**+2.3**
TOO					IAmb	IAmb	19 42 38.4	
	comp=Z,18nm,1.2s							
CMAR	**Chiang Mai Arr**		**37.92**	**311**	P	**P**	**19 43 00.2**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=134,slow=7.7,SNR=4.3							
CMAR					PcP	**PcP**	**19 45 09.5**	**+2.4**
	comp=Z,0.5nm,0.3s,baz=141,slow=2.2,SNR=4.5							
	comp=Z,0.6nm,0.3s							
KSRS	**Korea Array**		**43.81**	**360**	P	**P**	**19 43 46.4**	**-0.1**
	comp=Z,4.6nm,0.6s,baz=178,slow=9.5,SNR=19							
	comp=Z,4.6nm,0.6s							
KS19	**Wonju Array Si**		**43.86**	**360**	P	**P**	**19 43 46.5**	**-0.5**
KS19					IAmb	IAmb	19 44 09.8	
	comp=Z,28nm,1.4s							
MJAR	**Matsushiro Arr**		**43.97**	**12**	P	**P**	**19 43 45.6**	**-2.2**
	comp=Z,5.4nm,1.0s,baz=192,slow=10.0,SNR=6.1							
	comp=Z,5.4nm,1.0s							
MAJO	**Matsushiro**		**43.97**	**12**	P	**P**	**19 43 45.4**	**-2.4**
MAJO					IAmb	IAmb	19 43 56.4	
	comp=Z,22nm,1.4s							
MJB9	**Matsu-Tunnel**		**43.97**	**12**	P	**P**	**19 43 46.4**	**-1.5**
MJB9					IAmb	IAmb	19 43 57.4	
	comp=Z,20nm,1.4s							
LZH	**Lanzhou**		**48.11**	**334**	*eP*	**P**	**19 44 20.9**	**+0.9**
LZH					pmax	pmax		
	comp=Z,19nm,1.3s							
LSA	**Lhasa**		**50.51**	**318**	P	**P**	**19 44 38.5**	**0.0**
USA0B	**Ussuriysk Arra**		**50.68**	**4**	P	**P**	**19 44 38.6**	**-0.3**
USA0B					IAmb	IAmb	19 44 39.3	
	comp=Z,6.7nm,1.0s							
USRK	**Ussuriysk Ar.**		**50.68**	**4**	P	**P**	**19 44 37.3**	**-1.6**
USRK	**Ussuriysk Ar.**		**50.68**	**4**	P	**P**	**19 44 37.9**	**-1.0**
	comp=Z,2.8nm,0.7s,baz=194,slow=9.0,SNR=7.6							
	comp=Z,2.8nm,0.7s							
GTA	**Gaotai**		**52.65**	**333**	P	**P**	**19 44 54.1**	**+0.5**
GTA					pmax	pmax		
	comp=Z,6.0nm,0.8s							
HEH	**HeiHe**		**56.61**	**360**	*eP*	**P**	**19 45 21.1**	**-0.3**
HEH					pmax	pmax		
	comp=Z,6.0nm,1.2s							
ULN	**Ulaanbaatar**		**57.27**	**343**	P	**P**	**19 45 26.6**	**+0.4**
ULN					IAmb	IAmb	19 45 28.4	
	comp=Z,4.5nm,0.7s							
SONM	**Songino Array**		**57.43**	**343**	P	**P**	**19 45 28.2**	**+0.9**
SONM					IAmb	IAmb	19 45 29.5	
	comp=Z,4.8nm,0.8s							
SONM	**Songino Array**		**57.43**	**343**	P	**P**	**19 45 28.2**	**+0.9**
	comp=Z,5.8nm,0.8s,baz=164,slow=7.2,SNR=43							
	comp=Z,5.8nm,0.8s							
PETK	**Petropavlovsk-**		**64.59**	**19**	P	**P**	**19 46 14.9**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=179,slow=4.2,SNR=6.9							
	comp=Z,1.8nm,0.6s							
KSH	**Kashi**		**66.35**	**318**	P	**P**	**19 46 28.0**	**+1.6**
KSH					pmax	pmax		
	comp=Z,3.0nm,0.8s							
PRZ	**Przheval'sk**		**66.42**	**322**	P	**P**	**19 46 28.7**	**+1.9**
PRZ					IAmb	IAmb	19 46 29.7	
	comp=Z,2.7nm,0.8s							
MK31	**Makanchi Array**		**66.78**	**328**	P	**P**	**19 46 29.6**	**+0.8**
MK31					IAmb	IAmb	19 46 30.4	
	comp=Z,3.4nm,0.7s							
MKAR	**Makanchi Array**		**66.78**	**328**	P	**P**	**19 46 29.5**	**+0.7**
MKAR	**Makanchi Array**		**66.78**	**328**	P	**P**	**19 46 29.6**	**+0.9**
	comp=

LKWY			IAML			20 04 00.4
	comp=E,21nm,0.6s					
LKWY			IAML			20 04 42.9
	comp=E,34nm,0.6s					
LOHW	**Long Hollow**	**3.83 270**			**Pn**	**20 03 35.2 +0.2**
H17A	**Grant Village**	**3.84 282**			**Pn**	**20 03 35.4 +0.1**
H17A			IAML			20 04 39.9
	comp=N,23nm,0.6s					
FLWY	**Flagg Ranch**	**3.90 277**	Pn		**Pn**	**20 03 38.3 +2.2**
FLWY			IAML			20 04 45.3
	comp=N,24nm,2.3s					
FLWY			IAML			20 05 19.6
	comp=N,21nm,4.0s					
ISCO	**Idaho Springs**	**3.91 183**			**Pn**	**20 03 38.9 +2.6**
MOOW	**Moose Ponds**	**3.92 272**			**Pn**	**20 03 38.8 +2.4**
REDW	**Red Top Meadow**	**4.03 267**			**Pn**	**20 03 40.1 +2.2**
YFT	**Old Faithful**	**4.03 283**			**Pn**	**20 03 34.3 -3.7**
IMW	**Indian Meadow**	**4.06 275**	Pn		**Pn**	**20 03 40.7 +2.4**
IMW			IAML			20 04 50.0
	comp=N,24nm,0.6s					
TPAW	**Teton Pass**	**4.08 269**			**Pn**	**20 03 40.3 +1.6**
TPAW			IAML			20 05 05.8
	comp=N,21nm,0.7s					
TPAW			IAML			20 06 04.0
	comp=N,15nm,4.3s					
YHH	**Holmes Hill**	**4.11 287**			**Pn**	**20 03 39.4 +0.4**
FXWY	**Fox Creek**	**4.13 271**			**Pn**	**20 03 37.6 -1.7**
FXWY			IAML			20 05 46.9
	comp=N,14nm,4.9s					
O20A	**White River Ci**	**4.18 212**	Pn		**Pn**	**20 03 40.4 +0.5**
O20A			IAML			20 05 53.0
	comp=E,26nm,4.2s					
AHID	**Auburn Hatcher**	**4.32 259**			**Pn**	**20 03 44.3 +2.5**
AHID			IAML			20 04 59.3
	comp=E,21nm,0.7s					
AHID			IAML			20 05 06.3
	comp=E,17nm,0.6s					
YHL	**Hebgen Lake**	**4.35 287**			**Pn**	**20 03 43.8 +1.4**
YHL			IAML			20 05 01.8
	comp=E,17nm,0.7s					
YHL			IAML			20 05 07.2
	comp=N,14nm,0.7s					
E28A	**Huff**	**4.36 47**			**Pn**	**20 03 42.8 +0.5**
SMCO	**Snowmass**	**4.69 196**	Pg		**Pb**	**20 03 56.0 -2.1**
SMCO			IAML			20 04 47.1
	comp=N,18nm,4.7s					
SMCO			IAML			20 05 06.3
	comp=N,18nm,0.3s					
DGMT	**Dagmar**	**4.83 9**	Pn		**Pn**	**20 03 50.0 +1.3**
BOZ	**Bozeman (W)**	**4.87 295**			**Pn**	**20 03 48.9 -0.5**
BOZ			IAML			20 05 13.1
	comp=N,9.4nm,0.6s					
BOZ			IAML			20 05 23.6
	comp=N,11nm,2.9s					
HWUT	**Hardware Ranch**	**5.05 248**	Pn		**Pn**	**20 03 50.8 -1.1**
KSCO	**Kaye Shedlock'**	**5.11 156**	Pn		**Pn**	**20 03 53.9 +1.2**
BSUT	**Blindstream Ca**	**5.13 234**	Pn		**Pn**	**20 03 55.0 +1.9**
BSUT			IAML			20 05 27.6
	comp=N,14nm,4.7s					
EGMT	**Eagleton**	**5.31 326**	Pn		**Pn**	**20 03 55.3 0.0**
P18A	**Preston Nutter**	**5.49 224**			**Pn**	**20 03 59.4 +1.4**
I10CA	**LAC DU BONNET**	**9.09 41**	I		I	20 59 20.0
	baz=223,slow=323,SNR=3.0					
ULM	**Lac du Bonnet**	**9.20 41**	Pn		**Pn**	**20 04 48.1 -0.4**
	comp=N,2.8nm,0.3s,baz=230,slow=13,SNR=27					
ULM			Lg		Lg	20 07 20.9
	comp=N,0.3nm,0.3s,baz=133,slow=18,SNR=2.9					
	comp=N,4.3nm,0.3s					
NVAR	**Mina Array Bea**	**11.12 246**	Pn		**Pn**	**20 05 18.7 +3.6**
	comp=N,0.4nm,0.5s,baz=52,slow=12,SNR=1.9					
MKAR	**Makanchi Array**	**89.63 355**	P		**P**	**20 15 34.5 +0.2**
	comp=N,0.3nm,0.6s,baz=11,slow=4.9,SNR=5.1					
	comp=N,0.3nm,0.6s					

KRSC 21 20:13:59.2±0.6, 56°25N×164°42E, h64km±16km, MI3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**0.96**	**271**	*eP*	Pn	20 14 16.5	-0.2
BKI	**Bering**	**1.37**	**139**	*eP*	Pn	20 14 24.3	+2.2
BKI				*eS*	Sn	20 14 41.4	+2.0
BDR	**Baidarnaya**	**1.81**	**281**	*eP*	Pn	20 14 30.7	+2.5
BDR				*eS*	Sn	20 14 53.4	+3.2
KLY	**Klyuchi**	**2.10**	**273**	*eP*	Pn	20 14 33.2	+1.2
KLY				*eS*	Sn	20 14 56.3	-0.8
KRSR	**Krestovskiy**	**2.15**	**271**	*eP*	Pn	20 14 36.4	+3.6
TUMD	**Tumrok D**	**2.51**	**247**	*eP*	Pn	20 14 40.7	+3.1
TUMD				*eS*	Sn	20 15 08.3	+1.4
TUMR	**Tumrok**	**2.60**	**250**	*eP*	Pn	20 14 42.2	+3.3
SRDR	**Sredinnyy**	**2.62**	**273**	*eP*	Pn	20 14 41.5	+2.3
OSSR	**Ossora**	**3.09**	**347**	*eP*	Pn	20 14 48.2	+2.8
OSSR				*eS*	Sn	20 15 22.8	+1.6
KRER	**Koryakskii**	**4.42**	**230**	*eP*	Pn	20 15 07.4	+3.6
KRX	**Arik**	**4.42**	**231**	*eP*	Pn	20 15 07.2	+3.4
SMAR	**Somma**	**4.42**	**230**	*eP*	Pn	20 15 07.1	+3.2
AVH	**Avacha**	**4.45**	**230**	*eP*	Pn	20 15 07.5	+3.4
KOK	**Koryaka**	**4.47**	**231**	*eP*	Pn	20 15 08.0	+3.6
KRMR	**Karymshinskiy**	**5.02**	**229**	*eP*	Pn	20 15 15.8	+4.0
KRMR				*eS*	Sn	20 16 11.7	+3.3
RUS	**Russkaya**	**5.16**	**225**	*eP*	Pn	20 15 16.6	+2.9
MTVR	**Mutnovka**	**5.25**	**227**	*eP*	Pn	20 15 19.0	+3.9
ASAK	**Asacha**	**5.44**	**227**	*eP*	Pn	20 15 21.8	+4.1
KDTR	**Khodutka, Kamc**	**5.81**	**223**	*eP*	Pn	20 15 25.0	+2.3
KMSK	**Kamenskaya**	**6.30**	**8**	*eP*	Pn	20 15 34.1	+4.8

*IDC **21** 20:33:00.6±1.4, 16°.74S×178°.21W, h0km, mb4.1/7, mbtmp4.1/7, Error ellipse: s-maj=88.7km s-min=17.1km az=153.0*

*NEIC **21** 20:33:56.2±1.3, 17°.9S±0°.2×178°.2W±0°.1, h598km±15km, mb4.3/18, Error ellipse: s-maj=31.0km s-min=16.4km az=171.0*

ISC 21 20:33:58.3±1.0, 18°.0S±0°.2×178°.5W±0°.2, h600km, n27, σ1s83/26, mb4.1/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.29**	**274**	P	**P**	**20 35 18.8**	**-0.5**
DZM	**Mont Dzumac**	**14.71**	**251**	P	**P**	**20 37 04.3**	**+0.3**
DZM				IAmb	IAmb	20 37 05.0	
	comp=Z,40nm,1.5s						
EIDS	**Eidsvold**	**29.15**	**250**	P	**P**	**20 39 12.4**	**-0.5**
EIDS				IAmb	IAmb	20 39 14.3	
	comp=Z,15nm,1.2s						
ARMA	**Armidale**	**29.82**	**240**	P	**P**	**20 39 19.3**	**+0.6**
STKA	**Stephens Creek**	**38.51**	**241**	P	**P**	**20 40 31.8**	**+0.9**
STKA	**Stephens Creek**	**38.51**	**241**	P	**P**	**20 40 32.1**	**+1.2**
	comp=Z,4.9nm,0.8s,baz=95,slow=10,SNR=11						
	comp=Z,4.9nm,0.8s						
BBOO	**Buckleboo**	**43.29**	**241**	P	**P**	**20 41 09.0**	**+0.4**
BBOO				IAmb	IAmb	20 41 21.9	
	comp=Z,15nm,1.2s						
WR0	**Warramunga Arr**	**44.34**	**260**	P	**P**	**20 41 16.7**	**-0.2**
WR0				IAmb	IAmb	20 41 21.1	
	comp=Z,5.6nm,1.1s						
WB0	**Warramunga Arr**	**44.49**	**260**	P	**P**	**20 41 17.6**	**-0.5**
WB0				IAmb	IAmb	20 41 40.8	
	comp=Z,11nm,1.3s						
WB2	**Warramunga Arr**	**44.52**	**260**	P	**P**	**20 41 17.7**	**-0.6**
WB2				IAmb	IAmb	20 41 19.0	
	comp=Z,6.3nm,1.0s						
WRA	**Warramunga Arr**	**44.53**	**260**	P	**P**	**20 41 17.4**	**-1.0**
WRA	**Warramunga Arr**	**44.53**	**260**	P	**P**	**20 41 18.4**	**0.0**
	comp=Z,2.1nm,0.5s,baz=90,slow=7.8,SNR=54						
WRA				S	S	20 48 00.1	+49
	comp=Z,1.3nm,0.8s,baz=85,slow=20,SNR=1.7						
	comp=Z,2.1nm,0.5s						
AS31	**Alice Springs**	**44.68**	**254**	P	**P**	**20 41 19.8**	**+0.3**
AS31				IAmb	IAmb	20 41 21.0	
	comp=Z,3.8nm,0.6s						
ASAR	**Alice Springs**	**44.68**	**254**	P	**P**	**20 41 18.8**	**-0.7**
ASAR	**Alice Springs**	**44.68**	**254**	P	**P**	**20 41 20.1**	**+0.6**
	comp=Z,15nm,0.6s,baz=88,slow=8.6,SNR=212						
	comp=Z,15nm,0.6s						
MTN	**Manton Dam**	**48.70**	**269**	P	**P**	**20 41 49.4**	**-0.4**
KNRA	**Kununurra**	**50.39**	**264**	P	**P**	**20 42 02.4**	**+0.3**
KNRA				IAmb	IAmb	20 42 13.8	
	comp=Z,22nm,1.2s						
FITZ	**Fitzroy Crossi**	**52.92**	**261**	P	**P**	**20 42 20.0**	**-0.3**
SOEI	**Soe**	**55.98**	**270**	P	**P**	**20 42 41.3**	**-0.5**
SOEI				IAmb	IAmb	20 43 18.7	
	comp=Z,33nm,1.3s						

MBWA	**Marble Bar**	**57.97**	**256**	P	**P**	**20 42 55.3 +0.2**
MBWA				IAmb	IAmb	20 43 07.0
	comp=Z,24nm,1.2s					
GIRL	**Giralia**	**62.78**	**253**	P	**P**	**20 43 28.5 +1.8**
JSG	**Sagara**	**66.61**	**322**	P	**P**	**20 43 49.2 -1.3**
QSPA	**South Pole Qui**	**72.07**	**180**	P	**P**	**20 44 21.1 -1.5**
NVAR	**Mina Array Bea**	**79.54**	**44**	P	**P**	**20 45 05.7 +1.3**
	comp=Z,0.6nm,0.7s,baz=221,slow=8.0,SNR=3.7					
	comp=Z,0.6nm,0.7s					
ILAR	**Eielson Array**	**85.98**	**13**	P	**P**	**20 45 35.5 -0.2**
	comp=Z,0.3nm,0.4s,baz=225,slow=5.0,SNR=4.6					
	comp=Z,0.3nm,0.4s					
TXAR	**Lajitas Array**	**86.11**	**58**	P	P	20 45 39.3 +2.1
	comp=Z,0.6nm,0.7s,baz=211,slow=6.6,SNR=7.1					
	comp=Z,0.6nm,0.7s					
PDAR	**Pinedale Array**	**87.47**	**43**	P	**P**	**20 45 44.3 +0.8**
	comp=Z,0.5nm,0.6s,baz=236,slow=2.9,SNR=6.2					
	comp=Z,0.5nm,0.6s					

*NEIC **21** 20:34:03.7±0.6, 36°.52N±0°.03×98°.99W±0°.05, h15km±7km, Error ellipse: s-maj=6.3km s-min=3.6km az=104.0*

TUL 21 20:34:04±1.0, 36°.52N±0°.02×98°.99W±0°.05, h6km±6km, ML2.7, mb_Lg2.5/20(NEIC), ML2.8/8(NEIC), Error ellipse: s-maj=6.0km s-min=2.5km az=110.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.14**	**185**	Pg	Pg	20 34 07.4	+0.4
U32A				IAML		20 34 10.3	
	comp=E,4μm,0.1s						
OK038	**West end E0370**	**0.20**	**103**		Pg	20 34 08.5	+0.5
OK038				IAML		20 34 12.0	
	comp=E,2μm,0.4s						
OK035	**E0210 Rd and N**	**0.29**	**50**	Pg	Pg	20 34 10.1	+0.4
OK035				IAML		20 34 14.7	
	comp=E,1μm,0.2s						
ELIS	**Ellis County**	**0.58**	**218**		Pg	20 34 15.2	+0.1
ELIS				IAML		20 34 28.8	
	comp=N,549nm,0.3s						
OK032	**Salt Plains WL**	**0.68**	**66**		Pg	20 34 16.7	-0.5
CSTR	**Hydro, Custer**	**0.91**	**165**	Pg	Pg	20 34 20.9	-0.6
KAN14	**Manchester OK**	**0.93**	**62**	Pg	Pg	20 34 21.3	-0.5
GC02	**Grant County #**	**0.96**	**70**	Pg	Pg	20 34 22.2	-0.3
KAN05	**Bluff City Nor**	**1.07**	**57**	Pg	Pg	20 34 24.0	-0.5
KAN08	**Anthony NE Sta**	**1.07**	**49**	Pg	Pg	20 34 24.2	-0.4
KAN12	**Harper NE Stat**	**1.10**	**45**		Pg	20 34 24.5	-0.7
KAN17	**Caldwell West**	**1.11**	**62**		Pg	20 34 24.6	-0.7
KAN01	**Argonia South**	**1.17**	**57**	Pg	Pg	20 34 26.0	-0.4
KAN09	**Caldwell North**	**1.25**	**60**	Pg	Pn	20 34 27.2	-0.9
KAN13	**South Haven SW**	**1.30**	**68**	Pg	Pn	20 34 28.0	-0.7
OK029	**Liberty Lake**	**1.44**	**120**		Pn	20 34 30.5	0.0
BLOK	**Blackwell**	**1.44**	**80**	Pg	Pn	20 34 29.9	-0.7
OK048	**Pawnee Station**	**1.65**	**93**		Pn	20 34 33.7	+0.2
OK033	**Mehan**	**1.72**	**106**	Pn	Pn	20 34 32.1	-2.3
SMWD	**Samnorwood**	**1.75**	**216**		Pn	20 34 35.0	+0.1
WWOK	**Wichita Mounta**	**1.79**	**175**	Pn	Pn	20 34 35.1	-0.3
OK052	**Battle Ridge R**	**1.84**	**106**	Pn	Pn	20 34 35.6	-0.5
QUOK	**Quay**	**1.87**	**100**	Pn	Pn	20 34 36.3	-0.3
R32A	**Long Quarter,**	**1.91**	**6**	Pn	Pn	20 34 36.3	-0.8
R32A				IAmb_Lg		20 35 06.4	
	comp=Z,27nm,0.7s						
T35A	**Sooner Cattle**	**2.02**	**78**	Pn	Pn	20 34 37.9	-0.7
T35A				IAmb_Lg		20 35 12.4	
	comp=Z,18nm,0.7s						
W35A	**Tecumseh**	**2.19**	**128**	Pn	Pn	20 34 39.7	-1.3
CBKS	**Cedar Bluff**	**2.36**	**346**	Pg	Pb	20 34 45.9	-1.1
AMTX	**Amarillo**	**2.74**	**234**	Pn	Pn	20 34 47.2	-1.3
AMTX				IAmb_Lg		20 35 31.8	
	comp=Z,14nm,0.8s						
WTFS	**Witchita Falls**	**2.78**	**171**	Pn	Pn	20 34 48.0	-1.1
DKNS	**Dickens**	**3.26**	**210**	Pn	Pn	20 34 53.2	-2.5
APMT	**Aspermont**	**3.33**	**197**		Pb	20 35 04.5	+1.1
X37A	**Clayton**	**3.52**	**122**	Pn	Pn	20 34 58.4	-0.8
X37A				IAmb_Lg		20 36 02.4	
	comp=Z,16nm,1.0s						
SN07	**Snyder 07**	**3.77**	**205**	Pg	Pb	20 35 12.4	+1.5
KSCO	**Kaye Shedlock'**	**3.81**	**312**	IAmb_Lg		20 36 07.6	
	comp=Z,14nm,0.7s						
MSTX	**Muleshoe**	**4.01**	**232**	Pg	Pb	20 35 13.7	-1.5
POST	**Post**	**4.02**	**212**	Pn	Pn	20 35 03.4	-2.8
POST				IAmb_Lg		20 36 17.8	
	comp=Z,9.7nm,1.0s						
S39A	**Bolivar**	**4.67**	**74**	IAmb_Lg		20 36 35.9	
	comp=Z,7.9nm,0.9s						
OGNE	**Ogallala**	**5.02**	**333**	IAmb_Lg		20 36 45.2	
	comp=Z,12nm,0.7s						
JCT	**Junction City**	**6.07**	**187**	IAmb_Lg		20 37 31.5	
	comp=Z,7.5nm,0.9s						

*CNRM **21** 20:34:20.1, 35°.83N×4°.26W, h52km, ML2.5*

*MDD **21** 20:34:20.6±1.4, 35°.93N×4°.24W, h0km, mb_Lg2.1/4, Error ellipse: s-maj=10.9km s-min=6.1km az=149.0*

ISC 21 20:34:16.2±0.9, 35°.85N±0°.03×4°.23W±0°.04, h8km, n19, σ1s30/24, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.68**	**160**	S	**Sn**	**20 34 44.1**	**+1.1**
EMIJ	**Mijas**	**0.84**	**328**	Pg	**Pn**	**20 34 35.0**	**+0.7**
EMIJ				Sg	**Sb**	**20 34 45.1**	**+0.6**
EMIJ				*i* Vmb_Lg		20 34 50.1	
SMIR	**Smir Dam**	**0.95**	**260**	P	**Pn**	**20 34 37.5**	**+1.6**
SMIR	**Smir Dam**	**0.95**	**260**	S	**Sn**	**20 34 50.2**	**+0.5**
ELGU	**Los Guajares,**	**1.12**	**25**	Pg	**Pn**	**20 34 39.3**	**+0.9**
ELGU				Sg	**Sn**	**20 34 53.8**	**-0.2**
ELGU				*i* Vmb_Lg		20 34 55.7	
GOG	**Mont Gurugu**	**1.19**	**122**	P	**Pn**	**20 34 40.8**	**+1.6**
GOG	**Mont Gurugu**	**1.19**	**122**	S	**Sn**	**20 34 55.9**	**+0.3**
TAF	**Taforalt**	**1.81**	**124**	P	**Pb**	**20 34 49.2**	**-0.4**
TAF	**Taforalt**	**1.81**	**124**	S	**Sb**	**20 35 11.3**	**-1.2**
JBK	**JBK**	**2.04**	**138**	P	**Pb**	**20 34 52.6**	**-1.0**
JBK	**JBK**	**2.04**	**138**	S	**Sn**	**20 35 16.6**	**-0.1**
EADA	**Adamuz**	**2.33**	**353**	Pn	**Pb**	**20 34 58.2**	**-0.3**
EADA				Sn	**Sb**	**20 35 26.3**	**-1.1**
EADA				*i* Vmb_Lg		20 35 34.4	
ECAB	**El Cabril**	**2.42**	**337**	Pn	**Pb**	**20 34 59.8**	**-0.2**
ECAB				Sn	**Sb**	**20 35 27.6**	**-2.3**
ECAB				*i* Vmb_Lg		20 35 36.5	
MD31	**MD31**	**3.01**	**189**	P	**Pn**	**20 35 05.6**	**+1.3**
MD31	**MD31**	**3.01**	**189**	S	**Sn**	**20 35 40.1**	**-0.5**
MDT	**Midelt**	**3.05**	**186**	P	**Pn**	**20 35 05.5**	**+0.7**
MDT	**Midelt**	**3.05**	**186**	S	**Sn**	**20 35 41.8**	**+0.2**
PVAQ	**Vaqueiros**	**3.21**	**300**	*eP*	**Pb**	**20 35 10.6**	**-2.8**
PVAQ				*eS*	**Sn**	**20 35 47.0**	**+1.7**
PBAR	**Barrancos**	**3.23**	**317**	*eS*	**Sn**	**20 35 48.1**	**+2.2**
PBAR				A	A	20 35 49.1	
	0.8nm,1.2s						

*BJI **21** 20:41:16.7±0.0, 27°.72N×56°.17E, h25km, mb4.8/66, mB5.2/39, Ms4.7/44, Ms7 4.5/44*

*MOS **21** 20:41:17.3±0.9, 27°.56N×56°.62E, h10km, mb5.0/49, MS4.0/9, Error ellipse: s-maj=4.8km s-min=3.5km az=95.4*

*IDC **21** 20:41:17.9±0.5, 27°.61N×56°.70E, h0km, mb4.5/30, mbtmp4.5/36, ML4.1/6, MS4.1/53, Error ellipse: s-maj=12.2km s-min=9.2km az=2.0*

*GCMT **21** 20:41:19.9±0.2, 27°.42N±0°.02×56°.62E±0°.02, h19km, MW4.9/79, Moment Tensor Solution. s37,c43; s79,c121; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.01±.13; Mθθ 1.25±.10; Mφφ 0.76±.09; Mrθ 0.34±.19; Mφθ-1.89±.06; Mφr 0.01±.19; Best double couple: Mo2.49600×10^16 NP1:φs301.00000°, δ49.00000°, λ-105.00000°. NP2: φs143.00000°, δ43.00000°, λ-74.00000°. Principal axes: T 2.9240, Plg3.0000°, Azm41.0000°; N -0.8560, Plg11.0000°, Azm311.0000°; P -2.0670, Plg79.0000°, Azm146.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **21** 20:41:19.9±1.2, 27°.58N±0°.05×56°.61E±0°.07, h10km±1km, mb5.0/156 Error ellipse: s-maj=12.0km s-min=5.9km az=130.0*

*THR **21** 20:41:19.6±1.0, 27°.47N×56°.66E, h15km, ML4.9*

*TEH **21** 20:41:20.7, 27°.57N×56°.76E, h19km±20km, ML5.0*

*DSN **21** 20:41:21.0±0.5, 27°.61N×56°.70E, h15km, mb5.3/6, ML5.0/16, Error ellipse: s-maj=10.0km s-min=5.4km az=101.0*

*OMAN **21** 20:41:23.5±0.1, 27°.49N×56°.68E, h26km±1km, mb4.3/12, ml5.0/25, Mwp5.1/13, Error ellipse: s-maj=1.8km s-min=0.8km az=28.0*

ISC 21 20:41:20.1±0.7, 27°.60N±0°.02×56°.67E±0°.02, h17km±3km, n842, σ1s55/850, mb4.9/199, MS4.2/78, 24C-43D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.19**	**218**	Pg	**Pb**	**20 41 26.7**	**+1.5**
GENO	**Geno**	**0.48**	**246**	Pg	**Pn**	**20 41 31.8**	**-0.7**
BNDS	**Bandar-Abbas**	**0.49**	**246**	*e*Pg	**Pn**	**20 41 32.1**	**-0.4**
KHNJ	**Kahnooj**	**0.98**	**69**	Pg	**Pb**	**20 41 37.8**	**-1.0**
KHNJ				Sg	**Sb**	**20 41 51.4**	**0.0**
SHME	**Shamm**	**1.61**	**197**	*e*P	**Pb**	**20 41 49.8**	**+0.3**
	SNR=200						
SHME	**Shamm**	**1.61**	**197**	P	**Pb**	**20 41 49.8**	**+0.3**
	SNR=297						
SHME				S	**Sb**	**20 42 10.5**	**+0.9**
BANOM	**Banah**	**1.70**	**191**	*e*P	**Pb**	**20 41 50.8**	**-0.3**
	SNR=89						
BANOM				S	**Sg**	**20 42 14.3**	**-0.8**
BANOM	**Banah**	**1.70**	**191**	P	**Pb**	**20 41 50.9**	**-0.1**
BANOM				S	**Sb**	**20 42 11.4**	**-0.8**
JASK	**Jask - Hormozg**	**2.03**	**148**	Pn	**Pn**	**20 41 55.0**	**+1.4**
JASK	**Jask - Hormozg**	**2.03**	**148**	P	**Pn**	**20 41 55.1**	**+1.4**
	SNR=385						
JASK				S	**Sn**	**20 42 18.9**	**+0.3**
LAR1	**LAR**	**2.04**	**273**	Pn	**Pb**	**20 41 56.7**	**-0.1**
NGRK	**Negar Kerman**	**2.04**	**1**	Pn	**Pb**	**20 41 56.8**	**-0.2**
KBAM	**BAM**	**2.19**	**45**	Pn	**Pb**	**20 41 58.4**	**-1.1**
UMQ	**Umm Al-Quwin**	**2.25**	**204**	*e*P	**Pb**	**20 41 59.1**	**-1.3**
	SNR=40						
UMQ	**Umm Al-Quwin**	**2.25**	**204**	P	**Pb**	**20 41 59.6**	**-0.8**
	SNR=42						
UMQ				P	**Pb**	**20 41 59.6**	**-0.8**
	SNR=42						
UMQ				S	**Sn**	**20 42 22.8**	**-1.3**
UMQ				S	**Sn**	**20 42 22.8**	**-1.3**
MASF	**Masafi**	**2.27**	**192**	P	**Pb**	**20 41 59.2**	**-1.4**
	SNR=565						
MASF				S	**Sn**	**20 42 25.3**	**+0.8**
MSFE	**Esma-Masafi**	**2.28**	**192**	*e*P	**Pb**	**20 41 58.8**	**-2.0**
	SNR=585						
MDH	**Madha**	**2.31**	**188**	*e*P	**Pn**	**20 41 57.5**	**-0.1**
	SNR=75						
MDH	**Madha**	**2.31**	**188**	P	**Pn**	**20 41 57.7**	**+0.2**
	SNR=64						
MDH				P	**Pn**	**20 41 57.7**	**+0.2**
	SNR=64						
MDH				S	**Sn**	**20 42 26.5**	**+0.8**
MDH				S	**Sn**	**20 42 26.5**	**+0.8**
KRBR	**Kerman**	**2.38**	**2**	*e*Pn	**Pb**	**20 42 02.4**	**-0.3**
KRBR				IAML		20 42 37.7	
	comp=N,9μm,0.3s						
KRBR				IAML		20 42 45.4	
	comp=E,7μm,0.7s						
CHMN	**Cheshme madani**	**2.38**	**18**	Pn	**Pb**	**20 42 01.8**	**-1.0**
TVBK	**TV Kerman**	**2.38**	**2**	Pn	**Pb**	**20 42 02.3**	**-0.5**
UOSS	**Minazif**	**2.68**	**189**		**Pn**	**20 42 02.6**	**+0.1**
UOSS	**Minazif**	**2.68**	**189**	*e*P	**Pn**	**20 42 02.6**	**+0.1**
	SNR=102						
UOSS	**Minazif**	**2.68**	**189**	P	**Pn**	**20 42 02.7**	**+0.1**
NAZ	**Nazwa, Dubai**	**2.75**	**199**	*e*P	**Pb**	**20 42 06.3**	**-2.6**
	SNR=47						
NAZ	**Nazwa, Dubai**	**2.75**	**199**	P	**Pb**	**20 42 06.3**	**-2.6**
	SNR=264						
NAZ				P	**Pb**	**20 42 06.3**	**-2.6**
	SNR=264						
KHGB	**Koh Gabri**	**2.77**	**357**	Pn	**Pb**	**20 42 07.7**	**-1.7**
HATD	**Hatta, Dubai**	**2.80**	**190**	*e*P	**Pn**	**20 42 05.0**	**+0.8**
	SNR=88						
HATD	**Hatta, Dubai**	**2.80**	**190**	P	**Pn**	**20 42 04.9**	**+0.6**
	SNR=16						
HATD				P	**Pn**	**20 42 04.9**	**+0.6**
	SNR=16						
JHRM	**Jahrom**	**2.88**	**289**	Pn	**Pb**	**20 42 09.0**	**-2.2**
KRM1	**Kerman Provinc**	**2.94**	**10**	Pn	**Pb**	**20 42 09.6**	**-2.7**
ASHO	**Ashiyiah**	**2.96**	**191**	*e*P	**Pn**	**20 42 08.4**	**+2.0**
	SNR=153						
ASHO	**Ashiyiah**	**2.96**	**191**	P	**Pn**	**20 42 08.8**	**+2.5**
	SNR=152						
ASHO				S	**Sn**	**20 42 42.6**	**+1.1**
FAQ	**Al Faqa, Dubai**	**3.00**	**199**	*i* P	**Pn**	**20 42 09.8**	**+2.7**
	SNR=337						
FAQ	**Al Faqa, Dubai**	**3.00**	**199**	P	**Pn**	**20 42 09.7**	**+2.7**
	SNR=336						
FAQ				P	**Pn**	**20 42 09.7**	**+2.7**
	SNR=336						
FAQ				S	**Sn**	**20 42 44.1**	**+1.5**
FAQ				S	**Sn**	**20 42 44.1**	**+1.5**
LMD1	**Lamerd**	**3.13**	**266**	Pn	**Pn**	**20 42 11.9**	**+3.1**
ASUD	**Al Ashush, Dub**	**3.20**	**202**	*i* P	**Pn**	**20 42 12.8**	**+3.1**
	SNR=469						
ASUD	**Al Ashush, Dub**	**3.20**	**202**	P	**Pb**	**20 42 13.0**	**-3.5**
	SNR=469						
ASUD				P	**Pb**	**20 42 13.0**	**-3.5**
	SNR=469						
ASUD				S	**Sn**	**20 42 48.3**	**+0.9**
ASUD				S	**Sn**	**20 42 48.3**	**+0.9**
QIR1	**Qir**	**3.32**	**286**	Pn	**Pn**	**20 42 14.6**	**+3.2**
GHIR	**Ghir-Karzin**	**3.33**	**283**	*e*Pn	**Pn**	**20 42 14.6**	**+3.0**
ZRDN	**Zarand Kerman**	**3.36**	**358**	Pn	**Pn**	**20 42 15.5**	**+3.4**
AJN	**Ajban**	**3.38**	**207**	*i* P	**Pn**	**20 42 14.5**	**+2.3**

ISAD	**Sadrabad**	**5.02**	**330**	Pn		**Pn**	**20 42 38.5**	**+3.5**
ICHK	**Chekchek**	**5.03**	**338**	Pn		**Pn**	**20 42 37.7**	**+2.6**
UMZA	**Um Al Zommool**	**5.05**	**196**	P		**Pn**	**20 42 36.1**	**+0.9**
UMZA				P		**Pn**	**20 42 36.1**	**+0.9**
SRVN	**Saravan**	**5.09**	**91**	Pn		**Pn**	**20 42 37.9**	**+2.0**
YZKH	**Yazd**	**5.10**	**340**	*e*Pn		**Pn**	**20 42 38.9**	**+2.9**
IKOO	**Kooshah**	**5.22**	**22**	Pn		**Pn**	**20 42 40.4**	**+2.7**
JMDO	**Jabal Madar**	**5.37**	**166**	P		**Pn**	**20 42 41.1**	**+1.6**
	SNR=88							
JMDO				S		**Sn**	**20 43 42.3**	**+1.3**
WBK	**Wadi Bani Khal**	**5.39**	**157**	Pn		**Pn**	**20 42 40.4**	**+0.6**
WBK	**Wadi Bani Khal**	**5.39**	**157**	P		**Pn**	**20 42 40.3**	**+0.6**
	SNR=258							
WBK				P		**Pn**	**20 42 40.3**	**+0.6**
	SNR=258							
WBK				S		**Sn**	**20 43 40.8**	**-0.7**
WBK				S		**Sn**	**20 43 40.8**	**-0.7**
SHMA	**Al-Shehemyia**	**5.39**	**253**	P		**Pn**	**20 42 42.5**	**+2.7**
	SNR=166							
SHMA				P		**Pn**	**20 42 43.0**	**+3.2**
	SNR=34							
TPRV	**Parvadeh(Tabas**	**5.41**	**0**	Pn		**Pn**	**20 42 43.3**	**+3.1**
MZR	**Muzera**	**5.41**	**213**	*i* P		**Pn**	**20 42 41.4**	**+1.2**
	SNR=7.3							
MZR	**Muzera**	**5.41**	**213**	P		**Pn**	**20 42 42.2**	**+2.1**
	SNR=7.6							
MZR				S		**Sn**	**20 43 43.4**	**+1.3**
ITEG	**Tejag**	**5.58**	**18**	Pn		**Pn**	**20 42 45.7**	**+3.1**
KLNJ	**Kolanjah**	**5.59**	**309**	Pn		**Pn**	**20 42 45.7**	**+2.9**
IRAM	**Rameshen**	**5.61**	**319**	Pn		**Pn**	**20 42 45.9**	**+2.8**
TRNA	**Turayna**	**5.67**	**241**	P		**Pn**	**20 42 45.2**	**+1.6**
	SNR=89							
TRNA				P		**Pn**	**20 42 45.3**	**+1.6**
	SNR=89							
TRNA				S		**Sn**	**20 43 48.5**	**0.0**
	SNR=6.6							
SLWR	**Sila**	**5.70**	**233**	P		**Pn**	**20 42 44.7**	**+0.7**
SLWR				S		**Sn**	**20 43 49.4**	**+0.3**
SAKB	**Bahrain**	**5.71**	**255**	P		**Pn**	**20 42 46.8**	**+2.5**
SAKB				S		**Sn**	**20 43 51.3**	**+1.8**
IDAH	**Dahanechah**	**5.82**	**28**	Pn		**Pn**	**20 42 49.4**	**+3.4**
JLN	**Jalan Bani Buh**	**5.97**	**155**	P		**Pn**	**20 42 48.0**	**+0.3**
	SNR=133							
JLN				S		**Sn**	**20 43 52.7**	**-3.1**
SMRA	**Abu-Samra**	**5.97**	**243**	P		**Pn**	**20 42 49.9**	**+2.1**
	SNR=56							
SMRA				P		**Pn**	**20 42 50.0**	**+2.1**
	SNR=56							
SMRA				S		**Sn**	**20 43 56.3**	**+0.5**
TKDS	**Koohdasht(Taba**	**6.01**	**4**	Pn		**Pn**	**20 42 51.8**	**+3.3**
TABS	**Tabas**	**6.04**	**4**	*e*Pn		**Pn**	**20 42 52.9**	**+4.0**
ANAR	**Anarak**	**6.12**	**336**	Pn		**Pn**	**20 42 52.5**	**+2.5**
AFRZ	**Afriz**	**6.15**	**19**	Pn		**Pn**	**20 42 53.4**	**+3.1**
NASN	**Na'in**	**6.17**	**328**	*e*Pn		**Pn**	**20 42 53.8**	**+3.0**
IGAR	**Gharneh**	**6.25**	**321**	Pn		**Pn**	**20 42 54.6**	**+2.8**
TNSJ	**Nastanj**	**6.34**	**360**	Pn		**Pn**	**20 42 56.0**	**+3.0**
ABEH	**Behbahan**	**6.36**	**300**	Pn		**Pn**	**20 42 57.0**	**+3.8**
IBRJ	**Brojen**	**6.37**	**314**	Pn		**Pn**	**20 42 56.2**	**+2.7**
IZEF	**Zefreh**	**6.48**	**326**	Pn		**Pn**	**20 42 57.0**	**+2.0**
MHTO	**MHTO**	**6.69**	**170**	P		**Pn**	**20 42 59.1**	**+1.4**
	SNR=182							
MHTO				S		**Sn**	**20 44 13.0**	**-0.5**
ZNGN	**Zangian**	**6.77**	**313**	Pn		**Pn**	**20 43 02.1**	**+3.1**
SHRT	**Shahrakht**	**6.79**	**26**	*e*Pn		**Pn**	**20 43 03.2**	**+4.1**
SHRT	**Shahrakht**	**6.79**	**26**	Pn		**Pn**	**20 43 02.0**	**+2.9**
JHBN	**Jahan bin**	**6.96**	**313**	Pn		**Pn**	**20 43 04.0**	**+2.3**
IPIR	**Pirpir**	**7.12**	**317**	Pn		**Pn**	**20 43 05.7**	**+1.8**
IKLH	**Kolahrood**	**7.20**	**324**	Pn		**Pn**	**20 43 08.2**	**+3.3**
DQM	**DQM**	**7.68**	**174**	P		**Pn**	**20 43 11.4**	**+0.1**
DQM				S		**Sn**	**20 44 36.0**	**-1.9**
ISFB	**Sefidab**	**7.73**	**332**	Pn		**Pn**	**20 43 14.6**	**+2.6**
KBD	**Kabd**	**8.06**	**283**	P		**Pn**	**20 43 17.8**	**+1.2**
TBJM	**Torbat-e-JAM**	**8.26**	**21**	Pn		**Pn**	**20 43 22.5**	**+3.2**
GHVR	**GHOM**	**8.26**	**327**	*e*Pn		**Pn**	**20 43 23.2**	**+3.9**
HRA	**Herat**	**8.28**	**34**	Pn		**Pn**	**20 43 21.1**	**+1.4**
ILAS	**Lasjerd**	**8.38**	**339**	Pn		**Pn**	**20 43 24.7**	**+3.6**
SHRO	**Shahrood**	**8.38**	**356**	*e*Pn		**Pn**	**20 43 24.5**	**+3.4**
KHMZ	**Khomeyn**	**8.42**	**318**	*e*Pn		**Pn**	**20 43 23.3**	**+1.7**
IVRN	**Varamin**	**8.50**	**331**	Pn		**Pn**	**20 43 25.7**	**+3.1**
SBZV	**Sabzevar**	**8.80**	**5**	Pn		**Pn**	**20 43 30.2**	**+3.4**
IDMV	**Damavand**	**8.88**	**335**	Pn		**Pn**	**20 43 30.7**	**+2.7**
DAMV	**Damavand**	**8.95**	**335**	*e*Pn		**Pn**	**20 43 32.1**	**+3.1**
ASAO	**Ashtian**	**8.97**	**322**	*e*Pn		**Pn**	**20 43 32.0**	**+2.9**
IPAY	**Payeh**	**9.04**	**12**	Pn		Pn	20 43 35.0	+4.8
IAKL	**Akhelmad**	**9.15**	**11**	Pn		**Pn**	**20 43 35.9**	**+4.2**
DOK	**Doka**	**9.24**	**195**	P		**Pn**	**20 43 32.0**	**-0.7**
	SNR=50							
IPRN	**Peran**	**9.37**	**338**	Pn		**Pn**	**20 43 37.2**	**+2.6**
ISFR	**Sfrayin**	**9.49**	**6**	Pn		**Pn**	**20 43 39.8**	**+3.4**
CHTH	**Charan**	**9.53**	**332**	*e*Pn		**Pn**	**20 43 40.4**	**+3.5**
SHAO	**Shalim**	**9.58**	**186**	*i* P		**Pn**	**20 43 37.0**	**-0.4**
	SNR=82							
SHAO	**Shalim**	**9.58**	**186**	P		**Pn**	**20 43 37.0**	**-0.4**
	SNR=81							
THKV	**Tehran--Karaj**	**9.64**	**331**	*e*Pn		**Pn**	**20 43 42.0**	**+3.6**
IEMG	**Emamgholi**	**9.93**	**9**	Pn		**Pn**	**20 43 46.3**	**+3.9**
DMTO	**DMTO**	**9.96**	**190**	P		**Pn**	**20 43 42.0**	**-0.6**
	SNR=46							
WHFO	**Wadi Hawf**	**10.00**	**196**	P		**Pn**	**20 43 42.6**	**-0.5**
	SNR=98							
MRVT	**Maraveh tapeh**	**10.04**	**357**	*e*Pn		Pn	20 43 48.6	+4.9
RBK	**Rabkut**	**10.30**	**193**	P		**Pn**	**20 43 47.1**	**-0.2**
	SNR=8.1							
GEYT	**Alibeck**	**10.37**	**6**	Pn		**Pn**	**20 43 49.8**	**+1.5**
	comp=E,0.2nm,0.3s,baz=195,slow=17,SNR=3.7							
GEYT				Lg		Lg	20 46 45.8	
	baz=191,slow=21,SNR=1.3							
	comp=E,2.3nm,0.8s							
GYA0B	**ALIBECK ARRAY**	**10.37**	**6**	Pn		**Pn**	**20 43 48.1**	**-0.1**
ABTO	**Aybut**	**10.66**	**198**	P		**Pn**	**20 43 51.0**	**-1.3**
	SNR=18							
ILBA	**Ilam Banvizeh**	**10.83**	**306**	*e*Pn		**Pn**	**20 43 54.2**	**-0.3**
RAYN	**Ar Rayn**	**10.87**	**251**	Pn		**Pn**	**20 43 53.4**	**-1.7**
RAYN				Sn		**Sn**	**20 45 47.4**	**-8.9**
RAYN	**Ar Rayn**	**10.87**	**251**	*i* P		**Pn**	**20 43 54.3**	**-0.8**
	SNR=51							
RAYN	**Ar Rayn**	**10.87**	**251**	P		**Pn**	**20 43 53.4**	**-1.7**
RAYN	**Ar Rayn**	**10.87**	**251**	P		**Pn**	**20 43 54.6**	**-0.5**
KBL	**Kabul**	**12.66**	**54**	Pn		**Pn**	**20 44 20.8**	**+1.2**
KBL	**Kabul**	**12.66**	**54**	P		**Pn**	**20 44 20.8**	**+1.2**
GRMI	**Germi**	**13.37**	**329**	*e*Pn		**Pn**	**20 44 33.0**	**+3.8**
IHRS	**Heris**	**13.39**	**325**	Pn		**Pn**	**20 44 31.5**	**+1.9**
NAX	**Nakhchivan**	**14.83**	**324**	P		**P**	**20 44 57.7**	**+2.7**
SIMJ	**Simiganj**	**15.10**	**40**	Pn		**Pn**	**20 44 54.1**	**+1.2**
MNGR	**Mingechevir, A**	**15.33**	**331**	P		**P**	**20 45 03.4**	**+3.0**
NIL	**Nilore**	**15.49**	**63**	Pn		**Pn**	**20 44 58.2**	**+0.3**
NIL				IAmb		IAmb	20 45 01.7	
	comp=Z,53nm,0.8s							
NIL	**Nilore**	**15.49**	**63**	P		**Pn**	**20 44 58.2**	**+0.3**
NIL				pmax		pmax		
	comp=Z,53nm,0.8s							
GANJ	**Ganja**	**15.56**	**329**	P		**P**	**20 45 04.9**	**+1.8**
SEKA	**Sheki**	**15.65**	**333**	P		**P**	**20 45 06.7**	**+2.7**
GNI	**Garni**	**15.94**	**325**			**Pn**	**20 45 04.0**	**+0.1**
GNI	**Garni**	**15.94**	**325**	P		**Pn**	**20 45 04.0**	**+0.1**
GNI				pmax		pmax		
	comp=Z,18nm,0.7s							
GNI	**Garni**	**15.94**	**325**	Pn		**P**	**20 45 09.5**	**+2.1**
	comp=Z,2.5nm,0.3s,baz=76,slow=4.6,SNR=15							
GNI				LR		LR	20 52 08.9	
	comp=Z,502nm,18.3s,baz=114,slow=41							
ZKTA	**Zakatala**	**16.25**	**332**	P		**P**	**20 45 10.9**	**+0.3**
GURO	**Guroymak-BITLI**	**16.40**	**315**	Pn		**Pn**	**20 45 10.2**	**+0.4**
MAK	**Makhachkala**	**17.04**	**336**	⇑*i*P		**P**	**20 45 18.9**	**-0.4**
MAK				*e*S		**S**	**20 48 32.2**	**-4.0**
MAK				pmax		pmax		
	comp=Z,100nm,1.7s							
MAK				MLR		MLR		
	comp=Z,647nm,16.0s							
BTK	**Batken**	**17.08**	**40**			**Pn**	**20 45 18.5**	**+0.3**
BTK	**Batken**	**17.08**	**40**	P		**Pn**	**20 45 18.5**	**+0.3**
BTK				pmax		pmax		
	comp=Z,24nm,0.8s							
KARS	**Kars**	**17.16**	**323**			**Pn**	**20 45 16.4**	**-3.0**
KARS				IAmb		IAmb	20 45 25.3	
	comp=Z,139nm,1.3s							
KARS	**Kars**	**17.16**	**323**	P		**Pn**	**20 45 16.4**	**-3.0**
KARS				pmax		pmax		
	comp=Z,139nm,1.3s							
DRK	**Karamyk**	**17.28**	**43**	P		**P**	**20 45 23.1**	**+0.8**
DRK				IAmb		IAmb	20 45 24.8	
	comp=Z,65nm,0.8s							
ASF	**Jabal al Asfar**	**17.74**	**290**	P		**Pn**	**20 45 24.9**	**-1.6**
	comp=Z,1.3nm,0.3s,baz=73,slow=1.0,SNR=14							
ASF				S		**Sn**	**20 48 40.1**	**-3.7**
	comp=Z,2.9nm,0.3s,baz=243,slow=15,SNR=1.7							
	comp=Z,10nm,0.7s							
CHM	**Chimkent**	**18.08**	**32**	*e*P		**P**	**20 45 31.1**	**+0.2**
	baz=32							
CHM	**Chimkent**	**18.08**	**32**	*e*P		**P**	**20 45 31.1**	**+0.2**
IUG	**Iuzhnay**	**18.15**	**33**	*e*P		**P**	**20 45 32.7**	**+0.9**
	baz=33							
IUG				*e*S		**S**	**20 48 57.8**	**-1.5**
	baz=33							
IUG	**Iuzhnay**	**18.15**	**33**	*e*P		**P**	**20 45 32.7**	**+0.9**
IUG				*e*S		**S**	**20 48 57.7**	**-1.5**
ONI	**Oni**	**18.42**	**328**	P		**P**	**20 45 34.3**	**-0.4**
ONI	**Oni**	**18.42**	**328**	P		**P**	**20 45 34.3**	**-0.4**
ONI				pmax		pmax		
	comp=Z,13nm,0.9s							
BRLS	**Borolday**	**18.74**	**31**	*e*P		**P**	**20 45 35.5**	**-2.6**
	baz=31							
BRLS				*e*S		**Sn**	**20 49 04.2**	**-3.6**
	baz=31							
BRLS	**Borolday**	**18.74**	**31**	*e*P		**P**	**20 45 35.5**	**-2.6**
BRLS				*e*S		**Sn**	**20 49 04.2**	**-3.6**
GHAJ	**Ghor Haditha**	**18.74**	**286**	P		**P**	**20 45 36.0**	**-2.2**
GHAJ				IAmb		IAmb	20 45 44.5	
	comp=Z,124nm,1.6s							
BALJ	**Balqa**	**18.78**	**289**	P		**P**	**20 45 34.1**	**-4.5**
GAZ	**Gaziantep**	**18.98**	**305**	P		**Pn**	**20 45 42.1**	**+0.5**
NCK	**Nalchik**	**19.06**	**330**⇑	*e*P		**P**	**20 45 41.1**	**-0.5**
NCK				pmax		pmax		
	comp=Z,27nm,0.8s							
ARPR	**Arapgir-MALATY**	**19.09**	**312**			**P**	**20 45 42.3**	**+0.1**
ARPR				IAmb		IAmb	20 45 54.0	
	comp=Z,73nm,1.2s							
KK31	**Karatay Array**	**19.11**	**32**	P		**Pn**	**20 45 42.9**	**-0.2**
KK31	**Karatay Array**	**19.11**	**32**	P		**Pn**	**20 45 42.9**	**-0.2**
KK31				pmax		pmax		
	comp=Z,25nm,0.9s							
KKAR	**Karatay Array**	**19.11**	**32**	P		**Pn**	**20 45 42.9**	**-0.2**
KKAR	**Karatay Array**	**19.11**	**32**	P		**Pn**	**20 45 42.9**	**-0.2**
KKAR				pmax		pmax		
	comp=Z,25nm,0.9s							
MMAI	**Mount Meron Ar**	**19.13**	**292**	P		**Pn**	**20 45 43.9**	**+0.5**
	comp=Z,1.9nm,0.3s,baz=99,slow=14,SNR=23							
MMAI				S		**Sn**	**20 49 10.3**	**-7.1**
	comp=Z,1.0nm,0.5s,baz=104,slow=18,SNR=1.4							
MMAI				LR		LR	20 55 16.2	
	comp=Z,1μm,18.9s,baz=52,slow=44							
	comp=Z,7.3nm,0.6s							
ARSB	**Arslanbob**	**19.15**	**40**	P		**P**	**20 45 42.0**	**-0.8**
ARSB	**Arslanbob**	**19.15**	**40**	P		**P**	**20 45 42.0**	**-0.8**
ARSB				pmax		pmax		
	comp=Z,8.0nm,0.9s							
EIL	**Elat**	**19.18**	**281**	P		**Pn**	**20 45 44.5**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=72,slow=6.4,SNR=6.6							
EIL				S		**S**	**20 49 21.3**	**+1.4**
	comp=Z,5.1nm,0.7s,baz=287,slow=10,SNR=1.4							
EIL				LR		LR	20 54 22.9	
	comp=Z,307nm,18.7s,baz=70,slow=41							
	comp=Z,8.9nm,0.9s							
DZA	**Taraz**	**19.35**	**34**	*e*P		**P**	**20 45 45.3**	**+0.5**
	baz=34							
DZA	**Taraz**	**19.35**	**34**	*e*P		**P**	**20 45 45.3**	**+0.5**
KBZ	**Khabaz**	**19.56**	**329**⇑	*e*P		**Pn**	**20 45 48.2**	**-0.2**
KBZ	**Khabaz**	**19.56**	**329**	P		**Pn**	**20 45 48.9**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=139,slow=9.1,SNR=18							
	comp=Z,7.3nm,0.8s							
KVAR	**Kislovodsk Arr**	**19.83**	**329**	P		**Pn**	**20 45 52.2**	**+0.4**
	baz=83,slow=22							
	comp=Z,4.8nm,0.6s							
KIV	**Kislovodsk**	**19.83**	**329**	P		**Pn**	**20 45 51.9**	**+0.1**
KIV	**Kislovodsk**	**19.83**	**329**	*i* P		**Pn**	**20 45 52.7**	**+0.9**
	SNR=13							
KIV	**Kislovodsk**	**19.83**	**329**	*e*P		**Pn**	**20 45 51.8**	**+0.1**
KIV				*e*S		**Sn**	**20 49 36.4**	**+2.2**
KIV				pmax		pmax		
	comp=Z,38nm,1.1s							
KIV				MLR		MLR		
	comp=Z,121nm,14.0s							
KSH	**Kashi**	**19.95**	**49**	P		**P**	**20 45 45.4**	**-6.2**
KSH				S		S	20 49 17.9	-18
KSH				pmax		pmax		
	comp=Z,60nm,0.8s							
KSH				LR		LR		
	comp=Z,2μm,12.9s							
KSH				LR		LR		
	comp=Z,1μm,10.8s							
KSH				LR		LR		
	comp=Z,2μm,13.7s							
EKS2	**Erkin-Say**	**20.47**	**38**	P		**P**	**20 45 58.3**	**+1.1**
	SNR=43							
ATD	**Arta Tunnel**	**20.59**	**222**	P		**P**	**20 45 57.5**	**-1.0**
ATD	**Arta Tunnel**	**20.59**	**222**	P		Pn	20 46 00.8	0.0
	comp=Z,0.6nm,0.6s,baz=35,slow=7.7,SNR=6.8							
ATD				LR		LR	20 54 46.9	
	comp=Z,24nm,19.9s,baz=42,slow=39							
UCH	**Uchtor**	**20.61**	**40**	P		**P**	**20 45 59.4**	**+0.5**
	SNR=26							
BNN	**Bunyan**	**20.67**	**308**	P		Pn	20 46 01.1	-0.6
VSLR	**Vesyoloye**	**20.77**	**324**	*e*P		Pn	20 46 02.0	-0.7
VSLR				pmax		pmax		
	comp=Z,44nm,1.0s							
AAK	**Ala-Archa**	**20.86**	**39**	P		**P**	**20 46 02.1**	**+0.8**
	SNR=28							
AAK	**Ala-Archa**	**20.86**	**39**	P		**P**	**20 46 02.5**	**+1.1**
AAK	**Ala-Archa**	**20.86**	**39**	*i* P		**P**	**20 46 02.2**	**+0.8**
	SNR=36							
AAK	**Ala-Archa**	**20.86**	**39**	*d i*P		**P**	**20 46 02.4**	**+1.1**
AAK				pmax		pmax		
	comp=Z,28nm,1.3s							
AAK	**Ala-Archa**	**20.86**	**39**	P		**P**	**20 46 02.5**	**+1.1**
	comp=Z,12nm,0.6s,baz=221,slow=7.1,SNR=67							
AAK				LR		LR	20 55 28.8	
	comp=Z,1μm,18.6s,baz=237,slow=41							
	comp=Z,12nm,0.6s							
NRN	**Naryn**	**21.01**	**44**	P		**P**	**20 46 03.7**	**+0.4**
NRN	**Naryn**	**21.01**	**44**	P		**P**	**20 46 03.7**	**+0.4**
NRN				pmax		pmax		
	comp=Z,87nm,0.7s							
SOC	**Sochi**	**21.02**	**324**	*e*P		**P**	**20 46 03.2**	**+0.3**
SOC				*e*PPP		PPP	20 46 26.4	
SOC				*e*S		Sn	20 50 00.0	-2.7
SOC				*e*SS		**SnSn**	**20 50 20.0**	**+2.3**
SOC				*e*SSS		SSS	20 50 31.8	
SOC				pmax		pmax		
	comp=Z,43nm,0.7s							
SOC				MLR		MLR		
	comp=Z,328nm,17.0s							
FRU1	**Bishkek**	**21.05**	**39**	IAmb		IAmb	20 46 18.6	
	comp=Z,121nm,1.6s							
CSS	**Mathiatis**	**21.23**	**296**	IAmb		IAmb	20 46 16.5	
	comp=Z,43nm,0.8s							
LABN	**Labinsk**	**21.27**	**327**	*e*P		**P**	**20 46 05.7**	**+0.1**
LABN				*e*S		**S**	**20 50 03.1**	**+1.8**
LABN				pmax		pmax		
	comp=Z,61nm,0.5s							
USP	**Ospenovka**	**21.27**	**38**	P		**P**	**20 46 05.3**	**-0.4**
	SNR=9.7							
SGDS	**Sogindy**	**21.46**	**38**	*e*P		**P**	**20 46 08.4**	**+0.5**
	baz=38							
SGDS	**Sogindy**	**21.46**	**38**	*e*P		**P**	**20 46 08.3**	**+0.5**
ULHL	**Ulahol**	**21.63**	**42**	P		**P**	**20 46 11.0**	**+1.3**
	SNR=29							
TKM2	**Tokmak 2**	**21.66**	**40**	P		**P**	**20 46 10.1**	**0.0**
	SNR=19							
ABKAR	**Akbulak array**	**21.77**	**6**	IAmb		IAmb	20 46 27.0	
	comp=Z,55nm,0.8s							
ERBR	**Yeremizino-Bor**	**22.19**	**329**	*e*P		**P**	**20 46 17.0**	**+1.6**
ERBR				*e*			20 46 38.4	
ERBR				*e*S		**S**	**20 50 22.7**	**+3.6**
ERBR				pmax		pmax		
	comp=Z,25nm,0.8s							
BTLS	**Baital**	**22.26**	**34**	*e*P		**P**	**20 46 16.5**	**+0.2**
	baz=34							
BTLS	**Baital**	**22.26**	**34**	*e*P		**P**	**20 46 16.4**	**+0.2**
TARG	**Taragay, Kyrgy**	**22.30**	**45**	IAmb		IAmb	20 46 32.6	
	comp=Z,31nm,0.7s							
TNSS	**Tian-Shan**	**22.52**	**42**	*e*P		**P**	**20 46 20.0**	**+0.4**
	baz=41							
TNSS	**Tian-Shan**	**22.52**	**42**	*e*P		**P**	**20 46 19.9**	**+0.4**
HYB	**Hyderabad**	**22.58**	**112**	*e*P		**P**	**20 46 20.7**	**+0.8**
HYB				IVmB_BB			20 46 23.0	
	comp=Z,446nm,1.0s							
BRTR	**Keskin Array B**	**22.59**	**308**	P		**P**	**20 46 20.3**	**+0.2**
BRTR	**Keskin Array B**	**22.59**	**308**	P		**P**	**20 46 21.1**	**+1.1**
	comp=Z,12nm,0.9s,baz=133,slow=9.1,SNR=45							
BRTR				LR		LR	20 57 33.3	
	comp=Z,876nm,18.2s,baz=118,slow=43							
	comp=Z,12nm,0.9s							
BR131	**Keskin Array S**	**22.60**	**308**	P		**P**	**20 46 21.3**	**+1.3**
BR131				IAmb		IAmb	20 46 31.6	
	comp=Z,45nm,0.8s							
BR131	**Keskin Array S**	**22.60**	**308**	*de*P		**P**	**20 46 20.6**	**+0.5**
MDOK	**Medeo**	**22.65**	**41**	*e*P		**P**	**20 46 20.7**	**0.0**
	baz=41							
MDOK				*e*S		**S**	**20 50 30.2**	**+2.1**
MDOK	**Medeo**	**22.65**	**41**	*e*P		**P**	**20 46 20.7**	**0.0**
MDOK				*e*S		**S**	**20 50 30.2**	**+2.1**
AKTO	**Aktyubinsk**	**22.83**	**2**	LR		LR	20 57 08.8	
	comp=Z,1μm,18.8s,baz=182,slow=42							
CHKK	**Chushkaly**	**23.04**	**40**	*e*P		**P**	**20 46 25.2**	**+0.6**
	baz=40							
CHKK	**Chushkaly**	**23.04**	**40**	*e*P		**P**	**20 46 25.1**	**+0.6**
ANN	**Anapa**	**23.05**	**323**	*e*P		**P**	**20 46 24.7**	**+0.1**
ANN				*e*S		**S**	**20 50 36.6**	**+1.9**
ANN				*e*SS		**SnSn**	**20 51 11.6**	**+4.2**
ANN				pmax		pmax		
	comp=Z,97nm,1.1s							
ANN				MLR		MLR		
	comp=Z,400nm,16.0s							
PRZ	**Przheval'sk**	**23.08**	**44**	P		**P**	**20 46 25.7**	**+0.5**
PRZ				IAmb		IAmb	20 46 50.0	
	comp=Z,105nm,1.7s							
PRZ	**Przheval'sk**	**23.08**	**44**	P		**P**	**20 46 25.7**	**+0.5**
PRZ				pmax		pmax		
	comp=Z,105nm,1.7s							
SATY	**Saty**	**23.40**	**43**	*e*P		**P**	**20 46 29.2**	**+0.8**
	baz=43							
SATY				*e*S		**S**	**20 50 43.0**	**+2.1**
	baz=43							
SATY	**Saty**	**23.40**	**43**	*e*P		**P**	**20 46 29.1**	**+0.8**
SATY				*e*S		**S**	**20 50 42.9**	**+2.1**
ZHN	**Zhinishke**	**23.48**	**43**	*e*P		**P**	**20 46 30.0**	**+0.8**
	baz=43							
ZHN	**Zhinishke**	**23.48**	**43**	*e*P		**P**	**20 46 29.9**	**+0.8**
UZB	**Uzynbulak**	**23.83**	**44**	*e*P		**P**	**20 46 33.2**	**+0.7**
	baz=43							
UZB	**Uzynbulak**	**23.83**	**44**	*e*P		**P**	**20 46 33.2**	**+0.7**
SHLS	**Shalkode**	**24.10**	**44**	*e*P		**P**	**20 46 38.1**	**+3.0**
	comp=Z,13nm,0.8s,baz=44							
SHLS	**Shalkode**	**24.10**	**44**	*e*P		**P**	**20 46 38.1**	**+3.0**
SHLS				pmax		pmax		
	comp=Z,13nm,0.8s							
ISP	**Isparta**	**24.18**	**302**⇑	*e*P		**P**	**20 46 35.1**	**-0.7**
ISP				pmax		pmax		
	comp=Z,8.0nm,0.8s							
TDK	**Taldyorghan**	**24.54**	**39**	*e*P		**P**	**20 46 39.2**	**+0.3**
	comp=Z,20nm,0.8s,baz=39							
TDK	**Taldyqorghan**	**24.54**	**39**	*e*P		**P**	**20 46 39.2**	**+0.3**
TDK				pmax		pmax		
	comp=Z,20nm,0.8s							
SIM	**Simferopol'**	**24.98**	**320**	*e*P		**P**	**20 46 40.7**	**-2.1**
SIM				pmax		pmax		
	comp=Z,20nm,0.7s							
BRZS	**Berezniki**	**25.49**	**24**	*e*P		**P**	**20 46 48.6**	**+1.1**
	baz=24							
BRZS				*e*S		**S**	**20 51 17.4**	**+3.5**
	baz=24							
BRZS	**Berezniki**	**25.49**	**24**	*e*P		**P**	**20 46 48.5**	**+1.1**
BRZS				*e*S		**S**	**20 51 17.4**	**+3.5**
BELG	**Belogornoye**	**25.68**	**347**	*ce*P		**P**	**20 46 49.4**	**+0.4**
BELG				pmax		pmax		
	comp=Z,11nm,0.9s							
BELG	**Belogornoye**	**25.68**	**347**	LR		LR	21 00 22.6	
	comp=Z,299nm,18.2s,baz=143,slow=45							
VRH	**Novokhopyorsk**	**26.15**	**338**	*e*P		**P**	**20 46 53.4**	**0.0**
VRH				pmax		pmax		
	comp=Z,51nm,0.8s							
VSR	**Storozhevoye**	**27.05**	**335**	*e*P		**P**	**20 46 59.7**	**-1.8**
VSR				pmax		pmax		
	comp=Z,20nm,1.6s							
BVAR	**Borovoye Array**	**27.37**	**18**	P		**P**

PALK Pallekele 30.45 127 LR LR 21 00 34.7
comp=Z,372nm,18.7s,baz=71,slow=38
VOIR 30.76 314 ⇑P **P** **20 47 36.4 +1.7**
VOIR 30.76 314 ⇑P **P** **20 47 36.4 +1.7**
DOPR Dopca 30.77 315 ⇓P **P** **20 47 34.7 0.0**
ARR Arges 31.00 313 ⇓P **P** **20 47 37.2 +0.4**
AKASG Malin Array Be 31.07 325 IAmb IAmb 20 47 38.5
comp=Z,20nm,0.9s
AKASG Malin Array Be 31.07 325 P **P** **20 47 37.5 +0.2**
comp=Z,11nm,0.7s,baz=133,slow=8.4,SNR=47
AKASG LR LR 21 03 13.6
comp=Z,233nm,19.0s,baz=131,slow=42
comp=Z,11nm,0.7s
AKBB Malin Array Si 31.07 325*d* *i*P **P** **20 47 37.3 0.0**
KIEV Kiev 31.08 325 ⇑P **P** **20 47 37.5 +0.1**
KIEV Kiev 31.08 325 P **P** **20 47 35.6 -1.7**
KIEV Kiev 31.08 325 *i* P **P** **20 47 37.6 +0.3**
SNR=16
KIEV Kiev 31.08 325 P **P** **20 47 35.6 -1.7**
KIEV pmax pmax
comp=Z,30nm,0.8s
OBN Obninsk 31.13 338 P **P** **20 47 38.3 +0.6**
OBN Obninsk 31.13 338*de*P **P** **20 47 38.6 +0.9**
OBN *e**PP **sP** **20 47 44.3 -0.9**
OBN *e* 20 48 38.6
OBN pmax pmax
comp=Z,73nm,1.7s
OBN MLR MLR
comp=Z,217nm,18.0s
MOS Moscow 31.30 339 *e*P **P** **20 47 39.0 -0.1**
MOS *e*S **S** **20 52 49.6 +4.5**
KIRV Kirov 31.38 353*ce*P **P** **20 47 40.8 +0.9**
KIRV Kirov 31.38 353 LR LR 21 03 09.7
comp=Z,780nm,18.1s,baz=176,slow=42
LODK Lodwar 31.50 224 P **P** **20 47 38.5 -3.0**
LODK Lodwar 31.50 224 P **P** **20 47 45.1 +3.7**
SNR=9.3
BURAR Bucovina Array 31.62 318 ⇑P **P** **20 47 43.2 +0.9**
BURAR Bucovina Array 31.62 318 ⇑P **P** **20 47 43.2 +0.9**
BUR08 Bucovina Ar. S 31.64 318 IAmb IAmb 20 48 51.1
comp=Z,33nm,2.0s
FNA Florina 31.80 304 IAmb IAmb 20 47 53.6
comp=Z,7.7nm,0.6s
GZR Gura Zlata 32.21 313 ⇓P **P** **20 47 47.5 +0.1**
DGZ Jazzator, Alta 32.26 38*de*P **P** **20 47 48.4 +0.5**
DGZ pmax pmax
comp=Z,6.0nm,1.0s
HERR Herculane 32.27 311 ⇓P **P** **20 47 47.2 -0.7**
MDVR Moldovita 32.70 311 ⇓P **P** **20 47 53.2 +1.5**
SURR Surduc 32.77 313 ⇓P **P** **20 47 53.7 +1.5**
DRGR 32.80 315 ⇓P **P** **20 47 51.8 -0.8**
DRGR 32.80 315 ⇓P **P** **20 47 51.8 -0.8**
BZS Buzias 33.05 312 ⇑P **P** **20 47 54.5 -0.2**
BZS Buzias 33.05 312 ⇑P **P** **20 47 54.5 -0.2**
GOMU GeErMu 33.33 65 P **P** **20 47 59.1 +1.4**
GOMU pP pP 20 48 03.6 +0.6
GOMU pmax pmax
comp=Z,12nm,1.0s
GOMU LR LR
comp=Z,310nm,14.9s
GOMU LR LR
comp=Z,420nm,14.1s
GOMU LR LR
comp=Z,560nm,13.2s
ZAA0 Zalesovo Array 33.46 30 IAmb IAmb 20 47 59.5
comp=Z,23nm,0.8s
ZALV Zalesovo Beam 33.46 30 P **P** **20 47 58.4 +0.3**
comp=Z,12nm,0.4s,baz=242,slow=9.4,SNR=91
ZALV LR LR 21 03 11.1
comp=Z,249nm,18.8s,baz=237,slow=39
comp=Z,12nm,0.4s
KOLS Kolonicke sedl 33.97 318 *e*P **P** **20 48 04.9 +2.2**
KOLS pmax pmax
comp=Z,15nm,1.0s
KOLS Kolonicke sedl 33.97 318 *e*P **P** **20 48 04.9 +2.2**
KWP Kalwaria Pacla 34.03 320 *e*P **P** **20 48 05.5 +2.3**
MNK Minsk 34.11 330 *i* P **P** **20 48 01.4 -2.4**
comp=E,13nm,0.9s
MNK *i* P **P** **20 48 01.4 -2.4**
comp=N,16nm,0.9s
MNK *i* P **P** **20 48 01.4 -2.4**
comp=Z,25nm,0.8s,baz=130
MNK *i* PP **PnPn** **20 49 15.0 -2.4**
MNK *i* PPP PPP 20 49 26.4
MNK *i* S **S** **20 53 28.2 -0.7**
MNK *i* SS **SnSn** **20 55 37.0 +0.3**
MNK *i* SSS SSS 20 55 52.8
MNK *i* LQ LQ 20 59 20.3
MNK *i* LR LR 21 01 56.1
MNK *i* LRM MLR 21 02 43.5
comp=E,145nm,17.5s
MNK *i* LRM MLR 21 04 38.2
comp=N,250nm,18.2s
MNK *i* LRM MLR 21 04 43.7
comp=Z,192nm,17.5s
MNK Minsk 34.11 330 *i* P **P** **20 48 01.3 -2.4**
MNK *i* 20 49 14.9
MNK *i* 20 50 38.3
MNK *i* S **S** **20 53 28.2 -0.7**
MNK *i* SS **SnSn** **20 55 37.0 +0.3**
MNK *i* 20 58 25.5
MNK pmax pmax
comp=Z,25nm,0.8s
MNK pmax pmax
comp=N,16nm,0.9s
MNK pmax pmax
comp=E,13nm,0.9s
MNK MLR MLR
comp=E,145nm,18.0s
MNK MLR MLR
comp=N,250nm,18.0s
MNK MLR MLR
comp=Z,192nm,18.0s
CRVS Cervenica-Dubn 34.44 318 *e*P **P** **20 48 09.1 +2.3**
CRVS pmax pmax
comp=Z,42nm,2.0s
CRVS Cervenica-Dubn 34.44 318 *e*P **P** **20 48 09.1 +2.3**
KIBK Kibwezi 34.75 214 P **P** **20 48 12.8 +3.0**
SNR=9.6
NACGM Naroch 34.86 330 *e*P **P** **20 48 11.1 +0.9**
comp=Z,35nm,1.0s,baz=129
KLMR Klimovskoe 35.22 346 *e*P **P** **20 48 10.7 -2.6**
KLMR pmax pmax
comp=Z,39nm,1.7s
KLMR MLR MLR
comp=Z,635nm,15.0s
ISAL Salakas 35.57 330 *e*P **P** **20 48 18.5 +2.1**
VYHS Vyhne 35.87 316 *e*P **P** **20 48 20.2 +1.1**
VYHS Vyhne 35.87 316 *e*P **P** **20 48 20.2 +1.1**
SRO Srobarova 35.95 315 *e*P **P** **20 48 21.2 +1.4**
SRO pmax pmax
comp=Z,11nm,0.9s
SRO Srobarova 35.95 315 *e*P **P** **20 48 21.2 +1.4**
SUW Suwalki 36.02 326 *e*P **P** **20 48 20.9 +0.7**
SUW Suwalki 36.02 326 *e*P **P** **20 48 21.4 +1.2**
MND Mandalay 36.12 90 P **P** **20 48 22.0 +0.4**
PABE Paberze 36.50 329 *e*P **P** **20 48 24.9 +0.6**
JAVC Velka Javorina 36.72 316 *e*P **P** **20 48 27.1 +0.6**
MODS Modra-Piesok 36.80 315 *e*P **P** **20 48 28.1 +1.0**
MODS pmax pmax
comp=Z,88nm,1.9s
MODS Modra-Piesok 36.80 315 *e*P **P** **20 48 28.1 +1.0**
MORC Moravsky Berou 37.14 317 *e*P **P** **20 48 29.7 -0.2**
RONA Rosalia, Austr 37.20 314 *i* P **P** **20 48 31.2 +0.7**
comp=Z,8.1nm,0.8s,SNR=6.6
VSU Vasula 37.22 334*de*P **P** **20 48 31.0 +0.5**
VSU pmax pmax
comp=Z,79nm,2.5s
TNCH TengChong 37.47 84 ⇓P **P** **20 48 34.9 +1.6**
TNCH pP pP 20 48 37.9 -0.7
TNCH S **S** **20 54 22.8 +1.2**
TNCH pmax pmax
comp=Z,22nm,1.0s
TNCH pmax pmax
comp=Z,140nm,4.6s
TNCH LR LR
comp=Z,180nm,15.7s
TNCH LR LR
comp=Z,170nm,13.4s
TNCH LR LR
comp=Z,320nm,14.9s
GTA Gaotai 37.53 60 P **P** **20 48 34.3 +0.8**
GTA pmax pmax
comp=Z,26nm,0.9s
GTA LR LR
comp=Z,310nm,14.2s
GTA LR LR
comp=Z,330nm,15.3s
GTA LR LR
comp=Z,430nm,14.9s
VRAC Vranov 37.55 316 *e*P **P** **20 48 34.0 +0.6**
CONA Conrad Observa 37.55 314 *e*P **P** **20 48 34.5 +1.0**
comp=Z,8.4nm,1.3s
ARSA Arzberg 37.57 313 *e*P **P** **20 48 34.7 +1.1**
comp=Z,5.6nm,0.9s
KRUC Moravsky 37.58 316 *e*P **P** **20 48 34.3 +0.6**
KRLC Kraliky 37.70 317 *e*P **P** **20 48 34.8 0.0**
KRLC Kraliky 37.70 317 *e*P **P** **20 48 34.8 0.0**
VALR Valaam 37.92 340*ce*P **P** **20 48 37.0 +0.7**
VALR pmax pmax
comp=Z,15nm,0.9s
OBKA Obir 38.01 311 *e*P **P** **20 48 38.4 +1.0**
comp=Z,23nm,1.3s
DPC Dobruska-Polom 38.08 318 *e*P **P** **20 48 37.3 -0.6**
DPC Dobruska-Polom 38.08 318 *e*P **P** **20 48 37.3 -0.6**
CHVC Chvalec 38.33 318 *e*P **P** **20 48 40.9 +0.9**
CHVC Chvalec 38.33 318 *e*P **P** **20 48 40.9 +0.9**
MOA Molln 38.55 313 P **P** **20 48 42.6 +0.7**
comp=Z,9.1nm,0.7s,SNR=6.8
MYKA Terra Mystica 38.65 311 *e*P **P** **20 48 43.8 +1.1**
comp=Z,1.1nm,0.3s
PRED Cave del Predi 38.65 311 IAmb IAmb 20 48 51.9
comp=Z,18nm,0.9s
CKRC Cesky Krumlov 38.81 315 *e*P **P** **20 48 44.0 0.0**
CKRC *ex* x 20 48 49.3
CKRC Cesky Krumlov 38.81 315 *e*P **P** **20 48 44.0 0.0**
CKRC *e* 20 48 49.3
BIOA Bad Ischl, Aus 38.92 313 *e*P **P** **20 48 45.5 +0.5**
comp=Z,11nm,0.8s
KBA Koelnbreinsper 38.95 312 *e*P **P** **20 48 45.4 -0.1**
comp=Z,11nm,0.8s
PRU Pruhonice 39.03 317 AMS AMS 21 09 30.0
comp=Z,400nm,17.9s
JOF Joensuu 39.03 342 *e*P **P** **20 48 46.9 +1.2**
GEC2 GERESS Array S 39.20 315 *e*P **P** **20 48 46.4 -1.0**
comp=Z,6.9nm,1.1s,baz=105,slow=8.5
GERES GERESS Array B 39.20 315 P **P** **20 48 47.1 -0.3**
comp=Z,3.3nm,0.9s,baz=103,slow=9.7,SNR=13
GERES PcP **PcP** **20 50 56.8 +0.3**
comp=Z,2.0nm,0.8s,baz=72,slow=3.2,SNR=3.9
comp=Z,3.3nm,0.9s
MEF Metsahovi 39.29 335 *e*P **P** **20 48 48.7 +0.9**
KHC Kasperske Hory 39.36 315 *e*P **P** **20 48 49.0 +0.3**
KHC *ep*P **pP** **20 48 54.3 +0.1**
KHC AMS AMS 21 10 00.0
comp=Z,500nm,21.6s
KHC Kasperske Hory 39.36 315*c* *i*P **P** **20 48 49.2 +0.5**
KHC pmax pmax
comp=Z,33nm,1.2s
ABTA Abfaltersbach 39.43 311 *i* P **P** **20 48 49.9 +0.5**
comp=Z,19nm,1.0s,SNR=6.6
LESA Schwarzleotal 39.48 312 *e*P **P** **20 48 49.7 0.0**
comp=Z,12nm,0.9s
FINES FINESS Array B 39.54 337 P **P** **20 48 50.0 +0.2**
FINES FINESS Array B 39.54 337 P **P** **20 48 50.4 +0.6**
comp=Z,13nm,0.7s,baz=131,slow=9.5,SNR=39
comp=Z,13nm,0.7s
BRG Berggiesshubel 39.68 318 *e*P **P** **20 48 51.7 +0.4**
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG MLR MLR
comp=N,82nm,19.6s
BRG MLR MLR
comp=E,188nm,15.6s
BRG MLR MLR
comp=Z,265nm,13.9s
BRG Berggiesshubel 39.68 318 *e*P **P** **20 48 51.7 +0.4**
BRG Amp 20 48 53.6
comp=Z,5.0nm,0.9s
BRG Amp 21 09 24.0
comp=N,0.1nm,19.6s
BRG Amp 21 09 28.0
comp=E,0.2nm,15.6s
BRG Amp 21 09 40.0
comp=Z,0.3nm,13.9s
BRG Berggiesshubel 39.68 318 *e*P **P** **20 48 50.8 -0.5**
comp=Z,6.2nm,1.1s,baz=105,slow=8.5
CMAR Chiang Mai Arz 39.79 94 P **P** **20 48 53.5 +1.0**
comp=Z,0.9nm,0.7s,baz=290,slow=10,SNR=6.3
CMAR PcP **PcP** **20 50 59.8 +1.1**
comp=Z,1.8nm,0.7s,baz=287,slow=4.7,SNR=7.8
comp=Z,0.9nm,0.7s
WET Wettzell 39.80 315 *e*P **P** **20 48 52.0 -0.4**
comp=Z,34nm,1.8s,baz=105,slow=8.5
CTI Castel Tesino 39.86 310 IAmb IAmb 20 48 55.1
comp=Z,52nm,1.9s
PZH PanZhiHua 39.99 81 P **P** **20 48 55.0 +0.7**
PZH PcP **PcP** **20 50 59.5 +0.1**
PZH PcS **PcS** **20 54 50.1 +0.2**
PZH S **S** **20 55 03.4 +4.1**
PZH SS **SS** **20 57 57.3 +0.9**
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,160nm,5.9s
PZH LR LR
comp=Z,400nm,15.9s
PZH LR LR
comp=Z,280nm,13.5s
PZH LR LR
comp=Z,310nm,13.7s
WTTA Wattenberg 40.13 312 *i* P **P** **20 48 55.4 +0.2**
comp=Z,26nm,1.1s,SNR=7.1
WATA Walderalm 40.19 312 *i* P **P** **20 48 55.7 0.0**
comp=Z,18nm,1.0s,SNR=7.3
CLL Collm 40.39 318 *i* P **P** **20 48 57.7 +0.6**
CLL *e*S **S** **20 54 59.0 -5.4**
CLL pmax pmax
comp=Z,14nm,1.2s
CLL MLR MLR
comp=Z,300nm,19.2s
CLL Collm 40.39 318 *e*P **P** **20 48 57.5 +0.4**
comp=Z,11nm,1.2s,baz=105,slow=8.5
ROTZ Rotzenmuhle 40.40 316 *e*P **P** **20 48 57.8 +0.5**
comp=Z,10.0nm,1.7s,baz=105,slow=8.5
SQTA Sankt Quirin 40.41 311 *i* P **P** **20 48 57.3 -0.2**
comp=Z,18nm,0.6s,SNR=14
KEF Keuruu 40.45 338 *e*P **P** **20 48 58.4 +0.9**
CRAI Chiangrai 40.46 91 P **P** **20 48 58.8 +0.7**
MOTA Moosalm 40.50 312 *e*P **P** **20 48 57.8 -0.5**
comp=Z,28nm,0.9s
MANZ Manzenberg 40.52 316 *e*P **P** **20 48 59.0 +0.7**
comp=Z,1.7nm,1.3s,baz=105,slow=8.5
LZH Lanzhou 40.63 66 *e*P **P** **20 49 00.3 +0.7**
LZH pP pP 20 49 05.3 +0.2
LZH pmax pmax
comp=Z,15nm,1.1s
LZH LR LR
comp=Z,410nm,13.4s
LZH LR LR
comp=Z,500nm,12.5s
LZH LR LR
comp=Z,560nm,14.3s
FETA Feichten 40.68 311 *e*P **P** **20 48 60.0 +0.2**
comp=Z,24nm,1.1s,SNR=16
BSD Bornholm Skovb 40.75 324 *i* P **P** **20 49 00.3 +0.2**
BSD IAmb IAmb 20 49 04.9
comp=Z,44nm,0.7s
BSD Bornholm Skovb 40.75 324 *e*P **P** **20 49 01.4 +1.3**
RETA Reutte 40.76 312 *e*P **P** **20 49 00.3 0.0**
comp=Z,12nm,0.7s
KEST Kesra 40.77 294 P **P** **20 49 02.0 +1.5**
comp=Z,5.8nm,0.8s,baz=97,slow=4.4,SNR=5.9
KEST LR LR 21 10 04.9
comp=Z,131nm,19.2s,baz=346,slow=42
comp=Z,5.8nm,0.8s
BLEU Blekinge 40.82 326 *i* P **P** **20 49 01.0 +0.4**
MOY Mondy 40.89 42 *e*P **P** **20 49 02.6 +1.2**
MOY pmax pmax
comp=Z,20nm,2.0s
FUORN Ofenpass-Fuorn 40.92 310 P **P** **20 49 02.5 +0.6**
CD2 Chengdu 40.98 74 P **P** **20 49 02.8 +0.4**
CD2 S **S** **20 55 14.4 +0.5**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,270nm,12.9s
CD2 LR LR
comp=Z,360nm,13.9s
CD2 LR LR
comp=Z,580nm,16.3s
AAL Aland 40.98 333 *e*P **P** **20 49 02.7 +0.8**
GRA1 Grafenberg Arr 40.99 315 IAmb IAmb 20 49 11.6
comp=Z,17nm,0.7s
GRF Grafenberg Arr 40.99 315 *e*P **P** **20 49 02.5 +0.3**
comp=Z,17nm,1.0s,baz=105,slow=8.5
GRFO Grafenberg 41.00 315 P **P** **20 49 02.2 0.0**
GRFO IAmb IAmb 20 49 11.5
comp=Z,16nm,0.8s
GRFO Grafenberg 41.00 315 P **P** **20 49 02.2 0.0**
GRFO pmax pmax
comp=Z,16nm,0.8s
NEUB Neuenburg 41.09 318 *e*P **P** **20 49 03.1 +0.2**
comp=Z,13nm,1.0s,baz=105,slow=8.5
KMI Kunming 41.17 83 ⇓P **P** **20 49 05.6 +1.4**
KMI pP sP 20 49 13.1 +1.2
KMI S **S** **20 55 16.4 -0.8**
KMI SS **SS** **20 58 14.0 -6.2**
KMI pmax pmax
comp=Z,53nm,0.8s
KMI LR LR
comp=Z,300nm,14.9s
KMI LR LR
comp=Z,220nm,15.1s
KMI LR LR
comp=Z,300nm,15.1s
DAVOX Davos/Dischmat 41.21 311 LR LR 21 10 30.8
comp=Z,167nm,20.1s,baz=98,slow=42
UBR Ueberruh 41.23 312 *e*P **P** **20 49 03.8 -0.4**
comp=Z,21nm,0.9s,baz=105,slow=8.5
DAVA Damuels 41.30 311 *e*P **P** **20 49 05.0 +0.1**
comp=Z,40nm,0.5s
VIKU Vikbolandet 41.47 329 *e*P **P** **20 49 06.4 +0.5**
SRDT SRDT 41.57 100 P **P** **20 49 09.4 +2.1**
LUNU Lund 41.73 324 *i* P **P** **20 49 09.1 +1.0**
FLTG Flechtingen 41.75 319 *e*P **P** **20 49 08.2 -0.1**
comp=Z,33nm,1.3s,baz=105,slow=8.5
UPP Uppsala 41.78 332 *e*P **P** **20 49 08.7 +0.2**
VAF Ylistaro 41.80 338 *e*P **P** **20 49 08.5 0.0**
DEL Delary 41.86 326 *i* P **P** **20 49 09.2 0.0**
DEL Delary 41.86 326 *e*P **P** **20 49 09.7 +0.5**
ZAK Zakamensk 41.90 44 *e*P **P** **20 49 09.3 -0.4**
ZAK pmax pmax
comp=Z,6.0nm,1.5s
CLZ Clausthal 42.11 318 *e*P **P** **20 49 12.7 +1.3**
comp=Z,23nm,1.2s,baz=105,slow=8.5
GTTG Gottingen 42.27 317 *e*P **P** **20 49 13.7 +1.1**
comp=Z,20nm,1.3s,baz=105,slow=8.5
APA Apatity 42.40 347 ⇓*i*P **P** **20 49 12.3 -1.1**
APA *i* 20 50 48.9
APA *i* 20 51 12.2
APA *i* S **S** **20 55 34.0 +0.1**
APA pmax pmax
comp=Z,11nm,0.7s
APA MLR MLR
comp=Z,700nm,14.0s
NRDL Niedersach Rie 42.46 319 *e*P **P** **20 49 14.8 +0.7**
comp=Z,15nm,1.0s,baz=105,slow=8.5
BSEG Bad Segeberg 42.79 321 *e*P **P** **20 49 16.6 -0.1**
comp=Z,13nm,1.0s,baz=105,slow=8.5
TNS Taunus Mts 42.86 315 *e*P **P** **20 49 18.3 +0.8**
comp=Z,8.9nm,1.0s,baz=105,slow=8.5
SENIN Lac Senin/Sane 42.89 309 IAmb IAmb 20 49 28.2
comp=Z,40nm,0.8s
BORU Boraas 42.91 327 *i* P **P** **20 49 18.0 +0.4**
IRK Irkutsk 43.00 42 *e*P **P** **20 49 15.7 -2.8**
IRK pmax pmax
comp=Z,27nm,2.3s
MBDF Montbardon 43.06 307 P **P** **20 49 20.0 +0.7**
KASTN Kahler Asten 43.12 317 *e*P **P** **20 49 20.3 +0.8**
comp=Z,6.9nm,1.0s,baz=105,slow=8.5
LPG La Plagne 43.16 308 *e*P **P** **20 49 21.8 +1.6**
LPL La Plagne 43.17 308 *e*P **P** **20 49 19.3 -1.0**
ONAU Onsala 43.23 326 *i* P **P** **20 49 20.3 +0.1**
SONM Songino Array 43.36 48 P **P** **20 49 22.0 +0.4**
SONM Songino Array 43.36 48 P **P** **20 49 22.0 +0.4**
SONM pmax pmax
comp=Z,9.0nm,0.8s
SONM Songino Array 43.36 48 P **P** **20 49 22.4 +0.8**
comp=Z,7.0nm,0.8s,baz=258,slow=9.0,SNR=66
SONM LR LR 21 09 53.1
comp=Z,698nm,18.1s,baz=176,slow=40
comp=Z,7.0nm,0.8s
HINF Hinteralfeld 43.42 311 P **P** **20 49 21.1 -0.9**
NAYO Nakonayok 43.51 98 P **P** **20 49 25.2 +2.1**
HFS Hagfors 43.62 330 P **P** **20 49 23.7 +0.3**
comp=Z,14nm,0.8s,baz=129,slow=8.6,SNR=32
HFS LR LR 21 10 39.7
comp=Z,224nm,21.2s,baz=117,slow=40
comp=Z,14nm,0.8s
TJOU Tjoern 43.63 327 *i* P **P** **20 49 23.4 0.0**
IBBN Ibbenburen 43.79 318 *e*P **P** **20 49 26.1 +1.2**
comp=Z,20nm,1.2s,baz=105,slow=8.5
ULN Ulaanbaatar 43.80 49 P **P** **20 49 25.3 +0.1**
ULN Ulaanbaatar 43.80 49*de*P **P** **20 49 25.5 +0.3**
ULN pmax pmax
comp=Z,21nm,1.7s
BUG Bochum--Univer 43.87 317 *e*P **P** **20 49 25.9 +0.4**
comp=Z,22nm,1.2s,baz=105,slow=8.5
WLF Walferdange 44.20 314 *d*P **P** **20 49 28.8 +0.6**
STRU Stroemstad 44.26 328 *i* P **P** **20 49 28.5 0.0**
GYA Guiyang 44.30 79 ⇑P **P** **20 49 30.1 +0.6**
GYA S **S** **20 56 02.9 -0.1**
GYA pmax pmax
comp=Z,13nm,1.0s
GYA pmax pmax
comp=Z,91nm,7.8s
GYA LR LR
comp=Z,410nm,20.3s
GYA LR LR
comp=Z,220nm,13.5s
GYA LR LR
comp=Z,180nm,18.4s
MLSI Meulaboh, Aceh 44.38 114 P **P** **20 49 30.0 -0.1**
comp=Z,55nm,0.8s
BTNL Ternell 44.39 315 *d*P **P** **20 49 31.1 +1.3**
MEM Membach 44.47 315 *d*P **P** **20 49 31.1 +0.7**
NC602 NORSAR Array S 44.84 330 P **P** **20 49 33.3 +0.1**
RCHB Rochefort 44.87 315 *d*P **P** **20 49 34.5 +0.9**
BCLA Clavier 44.88 315 *d*P **P** **20 49 35.1 +1.5**
XAN Xi'an 44.93 68 P **P** **20 49 34.5 +0.2**
XAN pmax pmax
comp=Z,15nm,1.0s
XAN LR LR
comp=Z,460nm,15.1s
XAN LR LR
comp=Z,550nm,18.5s
XAN LR LR
comp=Z,650nm,12.9s
NC405 NORSAR Array S 44.94 331 P **P** **20 49 34.0 0.0**
NC405 IAmb IAmb 20 49 34.9
comp=Z,28nm,0.8s
BGES Gesves 45.00 315 *d*P **P** **20 49 36.0 +1.4**
comp=Z,9.0nm,0.9s
GIVF Givet 45.12 314 P **P** **20 49 36.3 +0.8**
NB2 NORSAR Subarra 45.13 331 P **P** **20 49 34.9 -0.6**
comp=Z,7.7nm,0.8s,baz=113,slow=7.9
NOA NORSAR Array B 45.13 331 P **P** **20 49 35.2 -0.3**
comp=Z,11nm,0.8s,baz=115,slow=7.9,SNR=40
NOA LR LR 21 11 33.2
comp=Z,146nm,18.5s,baz=115,slow=40
comp=Z,11nm,0.8s
NAO01 NORSAR Array S 45.18 330 IAmb IAmb 20 49 36.9
comp=Z,24nm,0.9s
BMRD Maredsous 45.19 315 *d*P **P** **20 49 36.7 +0.6**
HOMB Homborsund 45.25 326 *i* P **P** **20 49 36.8 +0.4**
DOU Dourbes 45.27 314 *d*P **P** **20 49 37.9 +1.2**
SMF Signal de Mont 45.30 309 P **P** **20 49 36.5 -0.5**
LOR Lormes 45.35 310 P **P** **20 49 36.8 -0.7**
BTO Baotou 45.40 59 *e*P **P** **20 49 37.9 -0.2**
BTO S **S** **20 56 14.4 -4.3**
BTO pmax pmax
comp=Z,42nm,0.8s
BTO pmax pmax
comp=Z,390nm,4.3s
BTO LR LR
comp=Z,300nm,7.7s
BTO LR LR
comp=Z,310nm,7.6s
BTO LR LR
comp=Z,2μm,15.5s
BAIF Baives 45.51 314 P **P** **20 49 39.5 +0.9**
SSF Saint Saulge 45.57 310 P **P** **20 49 38.8 -0.4**
AVF Avril sur Loir 45.65 310 P **P** **20 49 39.2 -0.6**
ARCES ARCESS Array B 45.70 345 P **P** **20 49 39.6 -0.3**
comp=Z,5.6nm,0.8s,baz=136,slow=6.5,SNR=16

ARCES LR LR 21 10 03.2
comp=Z,246nm,20.8s,baz=118,slow=38
comp=Z,5.6nm,0.8s
KCSI Kotacane, Aceh 45.92 114 P **P** **20 49 40.4 -1.9**
comp=Z,13nm,1.0s
ENH Enshi 45.96 73 P **P** **20 49 44.7 +2.2**
TAM Tamanrasset 46.27 276 P **P** **20 49 44.9 -0.3**
TAM IAmb IAmb 20 49 53.5
comp=Z,13nm,0.9s
TAM Tamanrasset 46.27 276 P **P** **20 49 44.9 -0.3**
TAM pmax pmax
comp=Z,13nm,0.9s
HHC Hu-ho-hao-te 46.57 59 *e*P **P** **20 49 48.8 +1.5**
HHC sP sP 20 49 55.8 +0.7
HHC pmax pmax
comp=Z,19nm,0.6s
HHC pmax pmax
comp=Z,140nm,5.1s
HHC LR LR
comp=Z,240nm,16.0s
HHC LR LR
comp=Z,290nm,12.5s
HHC LR LR
comp=Z,410nm,14.8s
OPO Ambohidratompo 46.81 192 LR LR 21 07 38.0
comp=Z,120nm,19.8s,baz=178,slow=34
GSI Gunungsitoli 47.08 117 P **P** **20 49 51.7 +0.3**
comp=Z,20nm,1.1s
IPM Ipoh 48.05 110 P **P** **20 49 57.9 -1.1**
HNS HongShan 49.24 63 ⇓P P 20 50 13.0 +5.1
HNS LR LR
comp=Z,340nm,17.5s
HNS LR LR
comp=Z,330nm,14.2s
HNS LR LR
comp=Z,360nm,17.5s
QIZ Qiongzhong 49.26 88 P **P** **20 50 08.0 -0.3**
QIZ S **S** **20 57 17.0 +3.1**
QIZ LR LR
comp=Z,250nm,15.1s
SGMF Saint Gilles 49.74 311 P P 20 50 16.4 +4.9
BOD Bodaibo 49.79 36 *e*P **P** **20 50 11.6 -0.1**
BOD pmax pmax
comp=Z,32nm,1.6s
XLT XiLinHaoTe 49.84 55 *e*P **P** **20 50 13.8 +1.3**
XLT pmax pmax
comp=Z,13nm,0.8s
XLT pmax pmax
comp=Z,100nm,4.9s
VOI Vohitsoka 50.13 192 P **P** **20 50 17.2 +2.4**
VOI Vohitsoka 50.13 192 P **P** **20 50 14.6 -0.3**
VOI IAmb IAmb 20 50 24.4
comp=Z,22nm,1.2s
QUIF Quistinic 50.14 311 P **P** **20 50 15.5 +1.0**
EKA Eskdalemuir Ar 50.73 320 P **P** **20 50 19.0 +0.1**
EKA Eskdalemuir Ar 50.73 320 P **P** **20 50 18.9 +0.1**
comp=Z,1.6nm,0.4s,baz=99,slow=7.8,SNR=9.6
comp=Z,1.6nm,0.4s
LSZ Lusaka 50.79 216 LR LR 21 11 32.9
comp=Z,131nm,18.3s,baz=25,slow=36
ESDC Soneca Array 51.03 300 P **P** **20 50 20.9 -0.6**
comp=Z,1.4nm,0.5s,baz=74,slow=7.0,SNR=15
ESDC LR LR 21 16 49.6
comp=Z,111nm,18.5s,baz=108,slow=42
comp=Z,1.4nm,0.5s
TIA Tai'an 51.32 64 P **P** **20 50 24.3 +0.7**
TIA pmax pmax
comp=Z,3.0nm,0.8s
TIA pmax pmax
comp=Z,160nm,5.0s
TIA LR LR
comp=Z,140nm,16.1s
TIA LR LR
comp=Z,140nm,11.1s
TIA LR LR
comp=Z,130nm,5.8s
PAB San Pablo 51.34 300 P **P** **20 50 24.0 +0.2**
PAB IAmb IAmb 20 51 28.2
comp=Z,63nm,2.0s
PAB San Pablo 51.34 300 P **P** **20 50 24.0 +0.2**
PAB pmax pmax
comp=Z,63nm,2.0s
HIA Hailar 52.30 48 P **P** **20 50 31.8 +1.0**
HIA Hailar 52.30 48 P **P** **20 50 31.9 +1.1**
HIA IAmb IAmb 20 50 31.9
comp=Z,9.7nm,0.8s
HIA Hailar 52.30 48 P **P** **20 50 31.9 +1.1**
HIA pmax pmax
comp=Z,10.0nm,0.8s
TOA0 Torodi Ar. Sit 53.11 266 P **P** **20 50 36.6 -0.6**
TOA0 IAmb IAmb 20 50 43.7
comp=Z,11nm,0.8s
TORD Torodi Ar. Bea 53.11 266 P **P** **20 50 36.5 -0.7**
TORD Torodi Ar. Bea 53.11 266 P **P** **20 50 37.1 -0.1**
comp=Z,6.5nm,0.6s,baz=63,slow=8.0,SNR=47
TORD LR LR 21 16 09.7
comp=Z,441nm,18.6s,baz=69,slow=39
comp=Z,6.5nm,0.6s
NJ2 Nanjing 53.48 69 *e*P **P** **20 50 39.0 -0.7**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
NJ2 pmax pmax
comp=Z,450nm,3.6s
SPITS Spitsbergen Ar 53.81 350 P **P** **20 50 41.3 -0.1**
comp=Z,4.9nm,0.7s,baz=122,slow=11,SNR=12
SPITS LR LR 21 17 56.1
comp=Z,367nm,18.9s,baz=104,slow=41
comp=Z,4.9nm,0.7s
JMIC Jan Mayen 56.12 339 LR LR 21 16 20.5
comp=Z,103nm,19.2s,baz=90,slow=38
CN2 Changchun 56.60 54 *e*P **P** **20 51 02.1 0.0**
CN2 *e*S **S** **20 58 46.5 -6.9**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,300nm,4.0s
ZEA Zeya 56.91 42 *e*P **P** **20 51 04.9 +0.8**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ZEA MLR MLR
comp=N,200nm,13.0s
HEH HeiHe 57.23 46 *e*P **P** **20 51 05.6 -0.9**
HEH pmax pmax
comp=N,19nm,0.8s
HEH LR LR
comp=N,360nm,13.5s
HEH LR LR
comp=N,460nm,12.7s
HEH LR LR
comp=N,640nm,14.9s
BNX BinXian 57.72 51 ⇓P **P** **20 51 09.8 -0.2**
BNX pmax pmax
comp=N,14nm,1.1s
BNX pmax pmax
comp=N,170nm,4.9s
YAK Yakutsk 58.09 32 *e*P **P** **20 51 11.2 -1.0**
YAK *e* 20 52 02.0
YAK *e* 20 53 20.3
YAK *e*S **S** **20 59 09.6 -2.7**
YAK *e**SS sS 20 59 35.0 +13
YAK *e* 21 00 57.9
YAK *e*SS **SS** **21 03 13.2 +10**
YAK pmax pmax
comp=Z,26nm,1.9s
YAK pmax pmax
comp=N,2.0nm,1.4s
YAK pmax pmax
comp=E,14nm,2.0s
YAK pmax pmax
comp=Z,171nm,7.1s
YAK pmax pmax
comp=N,35nm,4.9s
YAK pmax pmax
comp=E,171nm,7.6s
YAK smax smax
comp=E,167nm,6.2s
YAK smax smax
comp=N,133nm,10.1s
TIXI Tiksi 58.46 21 P **P** **20 51 14.3 -0.4**
TIXI IAmb IAmb 20 51 26.9
comp=Z,7.9nm,0.8s
TIXI Tiksi 58.46 21 *ce*P **P** **20 51 15.2 +0.5**
TIXI pmax pmax
comp=Z,9.0nm,1.7s
TIXI Tiksi 58.46 21 LR LR 21 20 47.7
comp=Z,85nm,18.1s,baz=338,slow=40

MDJ Mudanjiang 59.42 52 P **P** **20 51 22.3 +0.4**
MDJ ScP **ScP** **20 56 05.3 -4.4**
MDJ PcS **PcS** **20 56 06.9 -4.6**
MDJ sS sS 20 59 48.3 +8.8
MDJ pmax pmax
comp=Z,3.0nm,0.9s
MDJ pmax pmax
comp=Z,170nm,3.8s
MDJ LR LR
comp=Z,390nm,14.4s
MDJ LR LR
comp=Z,340nm,15.5s
MDJ LR LR
comp=Z,340nm,20.3s
KSRS Korea Array 59.60 61 P **P** **20 51 22.7 -0.5**
comp=Z,3.7nm,0.7s,baz=274,slow=6.9,SNR=11
KSRS LR LR 21 19 53.7
comp=Z,178nm,19.1s,baz=275,slow=39
comp=Z,3.7nm,0.7s
LEM Lembang 59.95 117 LR LR 21 19 27.0
comp=Z,91nm,18.1s,baz=238,slow=38
TSUM Tsumeb 59.98 223 LR LR 21 18 39.2
comp=Z,257nm,18.1s,baz=50,slow=37
DAG Danmarks Havn 59.98 345 *i*P **P** **20 51 25.1 -0.1**
DAG IAmb IAmb 20 51 26.7
comp=Z,2.5nm,0.7s
DBG Daneborg 60.12 342 *i*P **P** **20 51 27.3 +1.1**
DBG IAmb IAmb 20 51 28.8
comp=Z,4.0nm,0.9s
KLR Kul'dur 60.15 47 *ce*P **P** **20 51 26.6 -0.2**
KLR pmax pmax
comp=Z,27nm,1.7s
KLR Kul'dur 60.15 47 LR LR 21 20 06.8
comp=Z,365nm,19.0s,baz=282,slow=39
LBTB Lobatse 60.27 213 P **P** **20 51 28.1 +0.1**
LBTB Lobatse 60.27 213 P **P** **20 51 28.1 +0.1**
LBTB pmax pmax
comp=Z,23nm,1.0s
LBTB Lobatse 60.27 213 LR LR 21 17 54.8
comp=Z,141nm,19.1s,baz=44,slow=36
BORG Bogarnes 60.30 331 LR LR 21 19 25.0
comp=Z,111nm,18.6s,baz=118,slow=38
NOR Nord 60.45 351 *i*P **P** **20 51 27.8 -0.6**
TGY Tagaytay City 60.96 89 LR LR 21 19 44.7
comp=Z,140nm,21.8s,baz=280,slow=38
USRK Ussuriysk Ar. 61.19 53 P **P** **20 51 32.9 -1.1**
comp=Z,4.4nm,0.7s,baz=280,slow=7.9,SNR=7.0
USRK LR LR 21 21 00.7
comp=Z,243nm,18.5s,baz=272,slow=39
comp=Z,4.4nm,0.7s
DBIC Dimbokro 61.74 262 P **P** **20 51 37.8 -0.3**
comp=Z,6.9nm,0.9s,baz=49,slow=8.2,SNR=4.4
DBIC LR LR 21 22 05.2
comp=Z,198nm,21.7s,baz=37,slow=40
comp=Z,6.9nm,0.9s
JNU Nakatsue 63.04 65 LR LR 21 22 36.5
comp=Z,264nm,20.0s,baz=293,slow=39
BOSA Boshof 63.49 211 P **P** **20 51 50.3 +0.7**
BOSA Boshof 63.49 211 P **P** **20 51 50.3 +0.7**
BOSA pmax pmax
comp=Z,73nm,2.0s
BOSA Boshof 63.49 211 P **P** **20 51 50.2 +0.6**
comp=Z,8.0nm,0.7s,baz=29,slow=6.5,SNR=16
BOSA LR LR 21 21 06.3
comp=Z,147nm,18.4s,baz=23,slow=38
comp=Z,8.0nm,0.7s
SUMG Summit 65.45 341 *i*P **P** **20 52 01.3 -0.9**
SUMG IAmb IAmb 20 52 04.7
comp=Z,16nm,1.2s
MPSI Mapaga 66.27 103 P **P** **20 52 10.0 +2.1**
TYV Tymovskoe 66.68 44 *e*P **P** **20 52 09.1 -0.9**
TYV pmax pmax
comp=Z,100nm,3.5s
TYV pmax pmax
comp=Z,7.0nm,0.9s
ICESG Greenland Ices 66.73 337 *i*P **P** **20 52 10.0 -0.4**
ISOG Isortoq, Green 67.50 333 *i*P **P** **20 52 15.1 +0.2**
ISOG IAmb IAmb 20 52 16.4
comp=Z,22nm,0.9s
MJAR Matsushiro Arr 67.77 59 P **P** **20 52 17.0 -0.2**
MJAR Matsushiro Arr 67.77 59 P **P** **20 52 17.0 -0.2**
comp=Z,1.2nm,0.7s,baz=256,slow=3.4,SNR=2.5
MJAR LR LR 21 24 26.4
comp=Z,73nm,19.7s,baz=292,slow=38
comp=Z,1.2nm,0.7s
YSS Yuzh-Sakhalins 67.84 48 P **P** **20 52 17.3 -0.1**
YSS Yuzh-Sakhalins 67.84 48 P **P** **20 52 16.5 -0.8**
YSS Yuzh-Sakhalins 67.84 48 *ce*P **P** **20 52 17.7 +0.3**
YSS pmax pmax
comp=Z,65nm,1.7s
DAV Davao City (W) 68.08 93 LR LR 21 25 45.7
comp=Z,145nm,20.5s,baz=312,slow=39
SEY Seymchan 68.32 29 *ce*P **P** **20 52 20.8 +0.7**
SEY pmax pmax
comp=Z,18nm,1.3s
SEY Seymchan 68.32 29 LR LR 21 25 00.2
comp=Z,208nm,20.1s,baz=282,slow=38
ASAJ Asahikawa 68.59 51 LR LR 21 25 53.1
comp=Z,196nm,21.8s,baz=160,slow=39
MA2 Magadan 68.63 33 P **P** **20 52 22.1 0.0**
MA2 Magadan 68.63 33 P **P** **20 52 22.0 -0.2**
MA2 IAmb IAmb 20 52 23.1
comp=Z,12nm,0.9s
MA2 Magadan 68.63 33 *ce*P **P** **20 52 22.6 +0.5**
MA2 pmax pmax
comp=Z,11nm,1.0s
SUR Sutherland 68.72 212 LR LR 21 23 46.4
comp=Z,179nm,19.6s,baz=359,slow=37
DY2G Dye2 69.98 335 *i*P **P** **20 52 30.5 -0.2**
DY2G IAmb IAmb 20 52 32.4
comp=Z,18nm,0.8s
EUNU Eureka 70.70 354 P **P** **20 52 35.2 +0.5**
BILL Bilibino 71.64 22 *e*P **P** **20 52 41.8 +1.4**
MMRI Maumere 72.89 110 P **P** **20 52 47.1 -1.7**
MMRI Maumere 72.89 110 P **P** **20 52 46.5 -2.3**
JCJ Chichijima 74.30 67 LR LR 21 30 18.2
comp=Z,176nm,18.6s,baz=140,slow=40
PETK Petropavlovsk- 74.61 38 LR LR 21 28 50.4
comp=Z,215nm,19.0s,baz=291,slow=38
BATI Baumata 74.91 110 LR LR 21 28 19.3
comp=Z,183nm,20.9s,baz=308,slow=38
SOEI Soe 75.18 109 P **P** **20 53 02.4 +0.1**
A21K Barrow 78.62 10 P **P** **20 53 20.8 +0.2**
baz=330
A19K Wainwright 78.80 12 P **P** **20 53 21.7 +0.1**
baz=326
A22K Sinclair Lake 79.16 10 P **P** **20 53 23.2 -0.4**
baz=332
FRB Frobisher Bay 79.33 338 P **P** **20 53 25.1 +0.5**
comp=Z,8.2nm,0.8s,baz=49,slow=4.7,SNR=13
FRB LR LR 21 30 06.6
comp=Z,108nm,21.8s,baz=358,slow=37
comp=Z,8.2nm,0.8s
B18K Kokolik River 79.36 13 P **P** **20 53 24.6 -0.2**
baz=326
C16K Lisburne Hills 79.50 15 P **P** **20 53 25.3 -0.2**
baz=323
B20K Meade River 79.68 11 IAmb IAmb 20 53 47.8
comp=Z,14nm,1.4s
B20K Meade River 79.68 11 P **P** **20 53 26.6 +0.2**
baz=330
C17K DeLong Mountai 79.81 14 P **P** **20 53 27.3 +0.1**
baz=325
B22K Teshekpuk Lake 79.99 10 IAmb IAmb 20 53 56.4
comp=Z,10nm,0.9s
B22K Teshekpuk Lake 79.99 10 P **P** **20 53 28.6 +0.5**
baz=333
C19K Lookout Ridge 80.01 12 P **P** **20 53 28.7 +0.4**
baz=328
C18K Utukok River 80.08 13 P **P** **20 53 28.9 +0.1**
baz=326,SNR=5.0
RDOG Red Dog Mine 80.22 14 P **P** **20 53 29.2 -0.2**
baz=325
B21K Ikpikpuk River 80.45 11 IAmb IAmb 20 54 03.3
comp=Z,24nm,1.6s
B21K Ikpikpuk River 80.45 11 P **P** **20 53 31.2 +0.7**
baz=332
D17K Noatak River 80.47 14 P **P** **20 53 30.8 +0.1**
baz=325,SNR=6.0
A36M Sachs Harbour 80.68 1 IAmb IAmb 20 53 43.4
comp=Z,21nm,0.8s
A36M Sachs Harbour 80.68 1 P **P** **20 53 32.3 +0.5**
baz=358
D19K Kuna River 80.82 12 IAmb IAmb 20 54 22.3
comp=Z,19nm,1.4s
D19K Kuna River 80.82 12 P **P** **20 53 32.6 -0.1**
baz=329

C21K Knifeblade Rid 80.83 11 P **P** **20 53 32.7 0.0**
baz=332
C23K Itkillik River 80.87 9 P **P** **20 53 33.3 +0.5**
baz=336
D20K Etivluk River 80.90 12 P **P** **20 53 33.4 +0.3**
baz=330
TNA Tin City 81.02 17 P **P** **20 53 34.4 +0.7**
baz=321
E18K Tukpahlearik C 81.23 14 IAmb IAmb 20 53 36.2
comp=Z,13nm,1.3s
E18K Tukpahlearik C 81.23 14 P **P** **20 53 35.3 +0.4**
baz=327
C24K Franklin Bluff 81.24 9 P **P** **20 53 35.4 +0.6**
baz=337
E17K Hotham Inlet 81.26 14 P **P** **20 53 35.0 0.0**
baz=326
GAMB Gambell 81.32 20 P **P** **20 53 35.5 +0.2**
baz=318
E20K Nigu River 81.38 12 P **P** **20 53 35.9 +0.2**
baz=331
D22K Ayikyak River 81.42 10 P **P** **20 53 36.5 +0.6**
baz=334
C26K Camden Bay 81.52 7 P **P** **20 53 37.4 +1.0**
baz=341
D23K Nanushuk River 81.65 10 P **P** **20 53 37.7 +0.6**
baz=336
F15K North Star Dit 81.73 16 IAmb IAmb 20 54 00.3
comp=Z,15nm,1.4s
F15K North Star Dit 81.73 16 P **P** **20 53 37.9 +0.4**
baz=324
D24K Happy Valley 81.75 9 P **P** **20 53 37.7 +0.2**
baz=337
E19K Redstone River 81.88 13 IAmb IAmb 20 54 16.1
comp=Z,23nm,1.8s
E19K Redstone River 81.88 13 P **P** **20 53 38.6 +0.3**
baz=330
D25K Kavik River 81.91 8 P **P** **20 53 38.1 -0.4**
baz=340
F17K Baldwin Pennin 81.92 14 P **P** **20 53 38.3 -0.1**
baz=327
TOLK Toolik Lake Re 82.11 9 P **P** **20 53 39.2 -0.4**
baz=337
F18K Selawik 82.13 14 P **P** **20 53 39.2 -0.4**
baz=328,SNR=5.9
F19K Shaleruckik Mo 82.32 13 P **P** **20 53 40.5 0.0**
baz=330
G15K Niukluk 82.46 16 P **P** **20 53 41.4 +0.1**
baz=324
ANM Nome 82.47 17 P **P** **20 53 41.6 +0.2**
baz=323
F20K Avaraart Lake 82.53 12 IAmb IAmb 20 54 38.0
comp=Z,15nm,1.9s
F20K Avaraart Lake 82.53 12 P **P** **20 53 41.7 0.0**
baz=331
G16K Koyuk River 82.54 15 IAmb IAmb 20 53 57.8
comp=Z,13nm,1.5s
G16K Koyuk River 82.54 15 P **P** **20 53 42.4 +0.6**
baz=326
D27M Malcolm River 82.59 6 P **P** **20 53 42.4 +0.4**
baz=344
E23K Chandalar 82.65 10 P **P** **20 53 43.1 +0.7**
baz=337
D28M Stokes Point 82.70 5 P **P** **20 53 42.6 +0.1**
baz=346
F21K Alatna River 82.78 11 P **P** **20 53 43.2 +0.2**
baz=333
G17K Kiwalik Mounta 82.84 15 P **P** **20 53 43.4 0.0**
baz=327
G18K Tagagawik 82.95 14 P **P** **20 53 43.8 -0.1**
baz=329
G19K Purcell Mounta 83.06 13 IAmb IAmb 20 53 57.5
comp=Z,5.3nm,0.8s
G19K Purcell Mounta 83.06 13 P **P** **20 53 44.7 +0.2**
baz=330,SNR=5.7
E25K Arctic Village 83.15 8 IAmb IAmb 20 53 56.1
comp=Z,11nm,1.2s
E25K Arctic Village 83.15 8 P **P** **20 53 45.6 +0.7**
baz=340
H16K Elim 83.20 16 P **P** **20 53 45.3 +0.2**
baz=326
COLD Coldfoot 83.32 10 P **P** **20 53 45.6 -0.2**
baz=336
C36M Paulatuk 83.34 0 IAmb IAmb 20 53 46.1
comp=Z,11nm,1.0s
C36M Paulatuk 83.34 0 P **P** **20 53 45.6 -0.1**
baz=359
E28M Babbage River 83.34 6 IAmb IAmb 20 53 48.0
comp=Z,13nm,1.6s
E28M Babbage River 83.34 6 P **P** **20 53 46.5 +0.6**
baz=346
G22K Bettles 83.39 11 P **P** **20 53 46.4 +0.3**
baz=335
F24K Squaw Lake 83.40 9 P **P** **20 53 46.8 +0.5**
baz=338
G21K Allakaket 83.41 12 IAmb IAmb 20 53 48.3
comp=Z,18nm,1.8s
G21K Allakaket 83.41 12 P **P** **20 53 46.4 +0.1**
baz=333
H17K Granite Mounta 83.49 15 IAmb IAmb 20 54 08.4
comp=Z,31nm,1.9s
H17K Granite Mounta 83.49 15 P **P** **20 53 47.0 +0.3**
baz=328
E27K Coleen River 83.54 7 IAmb IAmb 20 53 57.6
comp=Z,9.7nm,1.3s
E27K Coleen River 83.54 7 P **P** **20 53 47.4 +0.4**
baz=344
F25K Christian Rive 83.64 8 P **P** **20 53 47.6 +0.1**
baz=340
H18K Honhosa River 83.65 14 P **P** **20 53 47.8 +0.3**
baz=329
E29M Blow River 83.69 5 IAmb IAmb 20 53 50.3
comp=Z,17nm,1.7s
E29M Blow River 83.69 5 P **P** **20 53 48.1 +0.5**
baz=347
H19K Roundabout Mou 83.72 13 P **P** **20 53 47.5 -0.3**
baz=331
F26K Sheenjek River 83.73 8 P **P** **20 53 47.8 -0.2**
baz=342
G23K Bananza Creek 83.83 10 IAmb IAmb 20 54 28.0
comp=Z,6.9nm,1.2s
G23K Bananza Creek 83.83 10 P **P** **20 53 48.7 +0.3**
baz=336
H20K Anotleneega Mo 84.07 13 P **P** **20 53 49.7 +0.1**
baz=332
INK Inuvik 84.08 4 P **P** **20 53 49.8 +0.2**
baz=351
INK Inuvik 84.08 4 LR LR 21 33 50.8
comp=Z,94nm,21.8s,baz=0.5,slow=38
I17K Unalakleet 84.20 16 P **P** **20 53 50.2 -0.1**
baz=327
G24K Hadweenzic Riv 84.22 9 P **P** **20 53 50.9 +0.5**
baz=339
F28M Old Crow 84.27 6 IAmb IAmb 20 54 31.2
comp=Z,6.8nm,1.2s
F28M Old Crow 84.27 6 P **P** **20 53 50.8 +0.2**
baz=345
H21K Melozitna Rive 84.31 12 IAmb IAmb 20 53 52.9
comp=Z,11nm,1.2s
H21K Melozitna Rive 84.31 12 P **P** **20 53 51.4 +0.5**
baz=334
H22K Ishtalitna Cre 84.35 11 P **P** **20 53 52.0 +0.9**
baz=335
G25K Bearman Lake 84.36 9 P **P** **20 53 51.5 +0.5**
baz=340
J14K Nanvaranak Lak 84.42 17 P **P** **20 53 52.0 +0.6**
baz=325
G26K Porcupine Rive 84.48 8 P **P** **20 53 52.3 +0.6**
baz=342
F30M Barrier River 84.62 5 P **P** **20 53 52.8 +0.4**
baz=349
SCHQ Schefferville 84.70 331 P **P** **20 53 52.8 -0.3**
comp=Z,2.5nm,0.8s,baz=45,slow=3.8,SNR=5.1
comp=Z,2.5nm,0.8s
H23K Yukon River 84.72 11 IAmb IAmb 20 54 04.0
comp=Z,10nm,1.2s
H23K Yukon River 84.72 11 P **P** **20 53 53.3 +0.3**
baz=337
J16K Anvik River 84.73 16 IAmb IAmb 20 54 13.7
comp=Z,9.7nm,1.1s
J16K Anvik River 84.73 16 P **P** **20 53 53.6 +0.6**
baz=327
I20K Naaghedeneel 84.77 13 P **P** **20 53 53.2 0.0**
baz=333
H25L Birch Creek 84.86 9 P **P** **20 53 54.0 +0.4**
baz=340
G27K Doyon Strip 84.86 7 IAmb IAmb 20 54 37.3
comp=Z,13nm,1.4s
G27K Doyon Strip 84.86 7 P **P** **20 53 53.9 +0.2**
baz=344

F31M	**Tsiigehtchic**	**84.93**	**4**	P	**P**	**20 53 54.3**	**+0.4**
	baz=351,SNR=8.7						
H24K	**Noodor Dome**	**84.97**	**10**	P	**P**	**20 53 54.8**	**+0.6**
	baz=338						
G29M	**Pine Creek**	**85.13**	**6**	P	**P**	**20 53 55.5**	**+0.5**
	baz=347						
G30M	**tAoh Zraii Nji**	**85.21**	**5**	P	**P**	**20 53 55.6**	**+0.2**
	baz=349						
J19K	**Poorman**	**85.24**	**14**	IAmb	IAmb	20 54 51.2	
	comp=Z,32nm,1.9s						
J19K	**Poorman**	**85.24**	**14**	P	**P**	**20 53 56.2**	**+0.6**
	baz=332						
MLY	**Manley**	**85.25**	**11**	P	**P**	**20 53 56.1**	**+0.4**
MLY				IAmb	IAmb	20 53 57.4	
	comp=Z,23nm,1.7s						
MLY	**Manley**	**85.25**	**11**	P	**P**	**20 53 55.9**	**+0.2**
	baz=336						
K15K	**Wolf Creek Mou**	**85.33**	**17**	P	**P**	**20 53 56.1**	**+0.1**
	baz=327						
I23K	**Minto, Yukon-K**	**85.37**	**11**	IAmb	IAmb	20 53 58.3	
	comp=Z,19nm,1.4s						
I23K	**Minto, Yukon-K**	**85.37**	**11**	P	**P**	**20 53 57.0**	**+0.8**
	baz=337						
J20K	**Nowinta River**	**85.38**	**13**	IAmb	IAmb	20 53 58.2	
	comp=Z,16nm,1.4s						
J20K	**Nowinta River**	**85.38**	**13**	P	**P**	**20 53 56.3**	**0.0**
	baz=333						
G31M	**Satah River**	**85.41**	**4**	IAmb	IAmb	20 53 57.7	
	comp=Z,18nm,1.1s						
G31M	**Satah River**	**85.41**	**4**	P	**P**	**20 53 56.7**	**+0.4**
	baz=350,SNR=9.4						
H27K	**Steamboat Moun**	**85.44**	**7**	P	**P**	**20 53 57.1**	**+0.5**
	baz=344						
J18K	**Innoko River**	**85.47**	**14**	P	**P**	**20 53 57.3**	**+0.5**
	baz=331						
M11K	**Mekoryuk**	**85.59**	**20**	P	**P**	**20 53 58.2**	**+0.9**
	baz=323						
PRP	**Porcupine Dome**	**85.61**	**9**	P	**P**	**20 53 58.1**	**+0.4**
	baz=340						
POKR	**Poker Plat Res**	**85.71**	**10**	P	**P**	**20 53 58.4**	**+0.5**
	baz=339						
MDM	**Murphy Dome**	**85.73**	**10**	IAmb	IAmb	20 53 59.6	
	comp=Z,15nm,1.2s						
K17K	**Iditarod**	**85.77**	**15**	P	**P**	**20 53 58.2**	**0.0**
	baz=329						
EPYK	**Eagle Plains**	**85.77**	**5**	P	**P**	**20 53 58.4**	**+0.2**
	baz=348,SNR=5.5						
H29M	**Whitestone**	**85.77**	**6**	P	**P**	**20 53 58.3**	**+0.1**
	baz=347						
L14K	**Kuka Creek**	**85.82**	**18**	P	**P**	**20 53 59.1**	**+0.7**
	baz=326						
L15K	**Ungalak Mounta**	**85.86**	**17**	P	**P**	**20 53 58.7**	**0.0**
	baz=327						
NEA2	**Nenana**	**85.94**	**11**	P	**P**	**20 53 58.7**	**-0.3**
	baz=337						
CHUM	**Lake Minchumin**	**86.01**	**12**	P	**P**	**20 53 59.4**	**0.0**
	baz=334,SNR=6.4						
I27K	**Kandik River**	**86.03**	**8**	P	**P**	**20 53 59.9**	**+0.4**
	baz=344						
BPAW	**Bear Paw Mtn.**	**86.06**	**12**	P	**P**	**20 53 59.8**	**+0.1**
	baz=336,SNR=9.2						
TTA	**Tatalina**	**86.10**	**14**	P	**P**	**20 54 00.7**	**+0.7**
	baz=331						
ILAR	**Eielson Array**	**86.12**	**10**	P	**P**	**20 53 59.4**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=331,slow=3.9,SNR=14						
	comp=Z,1.6nm,0.8s						
K20K	**Telida**	**86.13**	**13**	IAmb	IAmb	20 54 01.9	
	comp=Z,18nm,1.2s						
K20K	**Telida**	**86.13**	**13**	P	**P**	**20 54 00.3**	**+0.2**
	baz=333						
L17K	**Donlin**	**86.27**	**16**	P	**P**	**20 54 01.1**	**+0.4**
	baz=329						
L16K	**Owhat River**	**86.34**	**16**	P	**P**	**20 54 01.9**	**+0.8**
	baz=328						
I28M	**Miner Creek**	**86.37**	**7**	IAmb	IAmb	20 54 14.6	
	comp=Z,14nm,1.3s						
I28M	**Miner Creek**	**86.37**	**7**	P	**P**	**20 54 01.5**	**+0.2**
	baz=345						
M13K	**Dall Lake**	**86.40**	**19**	P	**P**	**20 54 02.2**	**+0.9**
	baz=325						
HDA	**Harding Lake**	**86.45**	**10**	P	**P**	**20 54 01.6**	**+0.1**
	baz=339						
CAST	**Castle Rocks**	**86.47**	**13**	P	**P**	**20 54 02.0**	**+0.3**
	baz=335,SNR=14						
J25K	**Salcha River,**	**86.49**	**9**	IAmb	IAmb	20 54 02.7	
	comp=Z,12nm,1.2s						
J25K	**Salcha River,**	**86.49**	**9**	P	**P**	**20 54 02.0**	**+0.1**
	baz=341						
M14K	**Bethel**	**86.50**	**18**	P	**P**	**20 54 02.7**	**+0.9**
	baz=326						
L18K	**Granite Mounta**	**86.57**	**15**	P	**P**	**20 54 02.4**	**+0.2**
	baz=331						
MCK	**McKinley**	**86.76**	**11**	P	**P**	**20 54 03.3**	**+0.2**
	baz=338						
SPIA	**Saint Paul Isl**	**86.77**	**23**	P	**P**	**20 54 03.2**	**0.0**
	baz=320						
TRF	**Thorofare Moun**	**86.78**	**12**	P	**P**	**20 54 03.7**	**+0.3**
	baz=336						
J26L	**Joseph Creek**	**86.85**	**9**	IAmb	IAmb	20 54 05.0	
	comp=Z,12nm,0.8s						
J26L	**Joseph Creek**	**86.85**	**9**	P	**P**	**20 54 03.8**	**+0.1**
	baz=342						
EGAK	**Eagle**	**86.88**	**8**	IAmb	IAmb	20 54 05.2	
	comp=Z,19nm,1.1s						
EGAK	**Eagle**	**86.88**	**8**	P	**P**	**20 54 04.2**	**+0.6**
	baz=344,SNR=6.7						
M15K	**Kasigluk River**	**86.89**	**17**	P	**P**	**20 54 04.3**	**+0.5**
	baz=327						
PPLA	**Purkeypile**	**86.92**	**13**	P	**P**	**20 54 03.8**	**-0.3**
	baz=335						
I30M	**Mount Dempster**	**86.93**	**5**	IAmb	IAmb	20 54 05.2	
	comp=Z,9.2nm,0.8s						
I30M	**Mount Dempster**	**86.93**	**5**	P	**P**	**20 54 04.3**	**+0.2**
	baz=348						
L20K	**Farewell, AK**	**86.96**	**14**	P	**P**	**20 54 04.5**	**+0.3**
	baz=333						
L19K	**White Mountain**	**87.01**	**14**	P	**P**	**20 54 05.1**	**+0.7**
	baz=332						
M16K	**Timber Creek**	**87.06**	**17**	P	**P**	**20 54 05.2**	**+0.6**
	baz=329						
RND	**Reindeer**	**87.07**	**11**	IAmb	IAmb	20 54 39.8	
	comp=Z,19nm,1.2s						
M17K	**Holitna River**	**87.11**	**16**	P	**P**	**20 54 05.4**	**+0.6**
	baz=330						
K24K	**Donnelly Dome**	**87.20**	**10**	P	**P**	**20 54 05.9**	**+0.6**
	baz=340						
N14K	**Kuskokwak Cree**	**87.27**	**18**	P	**P**	**20 54 06.1**	**+0.5**
	baz=327						
SCRK	**Sand Creek**	**87.29**	**9**	IAmb	IAmb	20 54 07.7	
	comp=Z,12nm,1.0s						
SCRK	**Sand Creek**	**87.29**	**9**	P	**P**	**20 54 06.6**	**+0.7**
	baz=342,SNR=11						
RIDG	**Independent Ri**	**87.39**	**9**	P	**P**	**20 54 05.0**	**-1.2**
	baz=341						
M18K	**Stony River**	**87.41**	**15**	P	**P**	**20 54 05.2**	**-1.1**
	baz=332						
P08K	**Saint George I**	**87.46**	**24**	P	**P**	**20 54 06.6**	**+0.1**
	baz=320						
K27K	**Chicken**	**87.49**	**8**	P	**P**	**20 54 07.4**	**+0.7**
	baz=344						
J30M	**Hart River**	**87.57**	**6**	IAmb	IAmb	20 54 14.7	
	comp=Z,8.0nm,0.8s						
J30M	**Hart River**	**87.57**	**6**	P	**P**	**20 54 07.4**	**+0.2**
	baz=348						
N16K	**Nishlik Lake**	**87.58**	**17**	P	**P**	**20 54 07.7**	**+0.5**
	baz=329						
DHY	**Denali Highway**	**87.63**	**11**	P	**P**	**20 54 08.0**	**+0.5**
	baz=339						
M20K	**Styx River**	**87.65**	**14**	P	**P**	**20 54 07.0**	**-0.6**
	baz=334						
WAT1	**Susitna Watana**	**87.66**	**11**	P	**P**	**20 54 08.4**	**+0.9**
	baz=338						
CUT	**Chulitna**	**87.74**	**12**	P	**P**	**20 54 08.4**	**+0.5**
	baz=336						
DAWY	**Dawson**	**87.77**	**7**	P	**P**	**20 54 08.4**	**+0.4**
DAWY	**Dawson**	**87.77**	**7**	P	**P**	**20 54 08.5**	**+0.4**
	baz=346,SNR=8.8						
SKT	**Skwentna**	**87.89**	**13**	P	**P**	**20 54 08.4**	**-0.2**
	baz=335						
O14K	**Tigyukauivet M**	**87.95**	**18**	P	**P**	**20 54 09.6**	**+0.7**
	baz=327						
WAT6	**Susitna Watana**	**88.03**	**11**	P	**P**	**20 54 09.9**	**+0.5**
	baz=339						
PAX	**Paxson**	**88.03**	**10**	P	**P**	**20 54 09.5**	**+0.1**
	baz=340						
K29M	**Barlow Dome**	**88.18**	**6**	IAmb	IAmb	20 54 11.7	
	comp=Z,10nm,0.8s						
K29M	**Barlow Dome**	**88.18**	**6**	P	**P**	**20 54 10.7**	**+0.6**
	baz=348						
L26K	**Log Cabin Wild**	**88.29**	**9**	P	**P**	**20 54 10.8**	**+0.3**
	baz=342						
N19K	**Bonanza Creek**	**88.31**	**15**	P	**P**	**20 54 11.2**	**+0.4**
	baz=333						
M22K	**Willow**	**88.37**	**12**	P	**P**	**20 54 11.4**	**+0.6**
	baz=336						
O15K	**Ungalikthiuk R**	**88.42**	**18**	P	**P**	**20 54 11.3**	**+0.1**
	baz=328						
L27K	**Beaver Creek,**	**88.46**	**8**	P	**P**	**20 54 12.3**	**+0.9**
	baz=344						
SUA	**Susitna One**	**88.51**	**13**	P	**P**	**20 54 12.4**	**+0.7**
	baz=336						
O16K	**Kokwok River B**	**88.52**	**17**	P	**P**	**20 54 12.0**	**+0.4**
	baz=330						
MAYO	**Mayo, Yukon**	**88.57**	**6**	P	**P**	**20 54 12.5**	**+0.6**
	baz=349						
O17K	**Koliganek Bris**	**88.61**	**16**	P	**P**	**20 54 12.6**	**+0.6**
	baz=330						
SML	**Sawmill**	**88.65**	**12**	P	**P**	**20 54 12.5**	**+0.2**
	baz=338						
PMR	**Palmer**	**88.70**	**12**	P	**P**	**20 54 12.9**	**+0.5**
	baz=337						
WRA	**Warramunga Arr**	**88.73**	**113**	P	**P**	**20 54 13.8**	**+0.5**
WRA	**Warramunga Arr**	**88.73**	**113**	*i* P	**P**	**20 54 13.8**	**+0.5**
WRA				pmax	pmax		
	comp=Z,11nm,0.9s						
WRA	**Warramunga Arr**	**88.73**	**113**	P	**P**	**20 54 13.9**	**+0.6**
	comp=Z,11nm,0.9s,baz=314,slow=3.8,SNR=40						
	comp=Z,11nm,0.9s						
M24K	**Tolsona, Glenn**	**88.74**	**11**	P	**P**	**20 54 13.5**	**+0.8**
	baz=340						
WB2	**Warramunga Arr**	**88.75**	**113**	P	**P**	**20 54 13.4**	**+0.1**
M23K	**Glacier View**	**88.77**	**11**	P	**P**	**20 54 12.7**	**-0.1**
	baz=339						
SCM	**Sheep Creek Mo**	**88.80**	**11**	P	**P**	**20 54 13.7**	**+0.7**
	baz=339						
L29M	**L29M**	**88.84**	**7**	P	**P**	**20 54 13.7**	**+0.5**
	baz=347						
O19K	**Port Alsworth**	**88.90**	**15**	P	**P**	**20 54 14.2**	**+0.8**
	baz=333						
M26K	**Nabesna, AK**	**88.93**	**9**	P	**P**	**20 54 14.3**	**+0.7**
	baz=343						
O18K	**Koktuh Hills**	**89.00**	**15**	P	**P**	**20 54 14.3**	**+0.4**
	baz=332						
P16K	**Nushagak River**	**89.03**	**17**	P	**P**	**20 54 14.4**	**+0.5**
	baz=330						
RC01	**Rabbit Creek A**	**89.05**	**12**	P	**P**	**20 54 14.0**	**-0.2**
	baz=337						
M27K	**Edge Creek, AK**	**89.13**	**9**	P	**P**	**20 54 15.3**	**+0.7**
	baz=344						
BVCY	**Beaver Creek**	**89.20**	**8**	P	**P**	**20 54 15.3**	**+0.5**
	baz=345						
P17K	**Kvichak River**	**89.28**	**16**	P	**P**	**20 54 15.4**	**+0.3**
	baz=331						
KLU	**Klutina**	**89.36**	**11**	P	**P**	**20 54 16.5**	**+0.9**
	baz=340						
M29M	**Somme Creek**	**89.45**	**7**	P	**P**	**20 54 16.7**	**+0.6**
	baz=347						
WRGLY	**Wrigley**	**89.49**	**0**	IAmb	IAmb	20 54 23.7	
	comp=Z,7.8nm,0.9s						
WRGLY	**Wrigley**	**89.49**	**0**	P	**P**	**20 54 17.1**	**+1.0**
	baz=360						
M30M	**Mini, Yukon**	**89.49**	**6**	P	**P**	**20 54 16.7**	**+0.5**
	baz=348						
P19K	**Oil Pt**	**89.64**	**15**	P	**P**	**20 54 15.6**	**-1.4**
	baz=334						
Q16K	**King Salmon**	**89.68**	**17**	P	**P**	**20 54 16.9**	**-0.2**
	baz=331						
YUK3	**Moose Creek**	**89.87**	**8**	P	**P**	**20 54 19.0**	**+0.8**
	baz=345						
MMPY	**Sheldon Lake,**	**89.87**	**4**	P	**P**	**20 54 18.8**	**+0.8**
	baz=353						
MCARA	**McCarthy VSAT**	**89.91**	**9**	P	**P**	**20 54 18.6**	**+0.5**
	baz=343						
YKA	**Yellowknife Ar**	**89.95**	**356**	P	**P**	**20 54 19.4**	**+1.1**
YKA	**Yellowknife Ar**	**89.95**	**356**	P	**P**	**20 54 19.2**	**+1.0**
	comp=Z,4.1nm,0.8s,baz=358,slow=5.2,SNR=54						
YKA				LR	LR	21 39 10.5	
	comp=Z,108nm,20.7s,baz=270,slow=39						
	comp=Z,4.1nm,0.8s						
M31M	**Drury Creek, Y**	**90.07**	**5**	P	**P**	**20 54 19.2**	**+0.3**
	baz=350						
BRSE	**Bradley Lake S**	**90.09**	**13**	P	**P**	**20 54 19.8**	**+0.8**
	baz=336						
FARO	**Faro, Yukon**	**90.12**	**5**	P	**P**	**20 54 20.1**	**+0.9**
	baz=351						
ASAR	**Alice Springs**	**90.24**	**117**	P	**P**	**20 54 20.6**	**+0.3**
	comp=Z,3.1nm,0.8s,baz=308,slow=4.8,SNR=28						
	comp=Z,3.1nm,0.8s						
Q17K	**Contact Creek**	**90.24**	**17**	P	**P**	**20 54 19.6**	**-0.2**
	baz=332						
EYAK	**Cordova Ski Ar**	**90.28**	**11**	P	**P**	**20 54 19.3**	**-0.5**
	baz=340						
P23K	**Montague Islan**	**90.50**	**12**	P	**P**	**20 54 20.9**	**0.0**
	baz=339						
YUK4	**Talbot Arm**	**90.51**	**7**	P	**P**	**20 54 20.9**	**-0.3**
	baz=347						
CTG	**Chitna Glacier**	**90.54**	**9**	P	**P**	**20 54 20.7**	**-0.6**
	baz=344						
N30M	**Aishikik Lake**	**90.56**	**7**	P	**P**	**20 54 22.0**	**+0.7**
	baz=348						
KAIM	**Kayak Island**	**91.08**	**10**	P	**P**	**20 54 24.0**	**+0.4**
	baz=342						
HYT	**Haines Junctio**	**91.14**	**7**	P	**P**	**20 54 24.9**	**+0.9**
	baz=348						
N32M	**Quiet Lake**	**91.21**	**5**	P	**P**	**20 54 23.9**	**-0.3**
	baz=351						
KDAK	**Kodiak Island**	**91.47**	**15**	LR	LR	21 44 01.5	
	comp=Z,103nm,19.0s,baz=15,slow=41						
SDPT	**Sand Point**	**91.48**	**20**	P	**P**	**20 54 25.0**	**-0.5**
	baz=328						
O29M	**Mount Kennedy**	**91.53**	**8**	P	**P**	**20 54 26.3**	**+0.5**
	baz=347						
WHY	**Whitehorse**	**91.56**	**6**	P	**P**	**20 54 25.3**	**-0.7**
	baz=350						
PNL	**Peninsula**	**92.05**	**8**	P	**P**	**20 54 28.5**	**+0.4**
	baz=346						
P33M	**Teslin, Yukon**	**92.17**	**5**	P	**P**	**20 54 28.8**	**+0.1**
	baz=352						
PLBC	**Pleasant Camp**	**92.60**	**7**	P	**P**	**20 54 30.6**	**0.0**
	baz=348						
P32M	**Atlin**	**92.71**	**5**	P	**P**	**20 54 31.0**	**-0.2**
	baz=351						
R33M	**Jennings River**	**93.10**	**4**	P	**P**	**20 54 33.3**	**+0.2**
	baz=353						
Q32M	**Nakina River**	**93.45**	**5**	P	**P**	**20 54 34.9**	**+0.1**
	baz=352						
TOAD	**Toad River Com**	**93.86**	**1**	P	**P**	**20 54 37.0**	**+0.5**
	baz=358						
S31K	**Pelican**	**94.08**	**7**	P	**P**	**20 54 37.4**	**0.0**
	baz=349						
DLBC	**Dease Lake**	**94.11**	**4**	P	**P**	**20 54 37.7**	**0.0**
	baz=354						
LBNH	**Lisbon**	**94.45**	**326**	P	**P**	**20 54 39.2**	**-0.3**
	baz=44						
S34M	**Telegraph Cree**	**94.57**	**4**	P	**P**	**20 54 39.8**	**+0.1**
	baz=353						
LONY	**Lake Ozonia**	**95.47**	**327**	P	**P**	**20 54 44.1**	**-0.1**
	baz=42						
HRV	**Adam Dziewonsk**	**95.50**	**324**	P	**P**	**20 54 43.8**	**-0.5**
	baz=44						
L61B	**Northampton**	**96.12**	**325**	P	**P**	**20 54 47.0**	**-0.1**
	baz=44						
V35K	**Ketchikan**	**97.11**	**5**	P	**P**	**20 54 50.7**	**-0.6**
	baz=353						
SADO	**Sadowa**	**97.46**	**330**	LR	LR	21 40 24.4	
	comp=Z,84nm,19.2s,baz=5.5,slow=36						
CTA	**Charters Tower**	**98.70**	**108**	LR	LR	21 44 13.6	
	comp=Z,38nm,18.8s,baz=1.0,slow=38						
EYMN	**Ely**	**99.54**	**339**	P	**Pdif**	**20 55 02.7**	**+0.3**
	baz=28						
MDND	**Maddock**	**101.93**	**344**	P	**Pdif**	**20 55 12.2**	**-0.8**
	baz=21						
ACSO	**Alum Creek Sta**	**102.79**	**329**	P	**Pdif**	**20 55 16.4**	**-0.6**
	baz=36						
EGMT	**Eagleton**	**103.74**	**351**	P	**Pdif**	**20 55 20.8**	**-0.4**
	baz=12						
NVAR	**Mina Array Bea**	**114.15**	**356**	PKP	PKPdf	21 00 00.2	+1.1
	comp=Z,0.8nm,0.7s,baz=315,slow=0.6,SNR=4.1						
QSPA	**South Pole Qui**	**117.44**	**180**	PKP	**PKPdf**	**21 00 03.7**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=252,slow=3.2,SNR=6.3						
TXAR	**Lajitas Array**	**120.34**	**340**	PKP	**PKPdf**	**21 00 10.8**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=72,slow=1.6,SNR=5.6						
PPT2	**Papeete2**	**153.85**	**73**	*e*LR	LR	21 52 25.3	
	comp=Z,77nm,24.2s						
PPT2				*e*LR	LR	21 52 31.6	
	comp=Z,103nm,24.5s						

*RSNC **21** 20:44:00.1±0.0,1°N×3°×7°8W, h9km±2km, ML3.7*
*IGQ **21** 20:44:26±0.7, 1°N×3°×7°8W±°, h7km*
*IDC **21** 20:44:30.4±1.3,0°.76N×78°.19W, h0km, mb3.7/2,*
mbtmp4.0/6, ML3.3/4, MS3.7/5, Error ellipse: s-maj=27.3km
s-min=17.3km az=104.0

ISC 21 20:44:28.1±0.7,0°.69N±0°.02×77°.89W±0°.02, h10km, n80,
σ1°99/88, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TULM	**Tulcn-Chalpat**	**0.11**	**75**	P	**Pg**	**20 44 29.0**	**-2.2**
TULM				S	**Sg**	**20 44 31.7**	**-1.8**
TULM	**Tulcn-Chalpat**	**0.11**	**75**	P	**Pg**	**20 44 28.0**	**-3.2**
TULM				S	**Sg**	**20 44 30.0**	**-3.5**
CHL1	**Volc¡n Chiles**	**0.12**	**332**	P	**Pg**	**20 44 29.0**	**-2.4**
CHL1				S	**Sg**	**20 44 30.0**	**-3.8**
LNGL	**El Angel-Carch**	**0.12**	**295**	P	**Pg**	**20 44 29.0**	**-2.5**
ECEN	**Cerro Negro**	**0.16**	**330**	P	**Pg**	**20 44 29.0**	**-3.0**
ATLC	**Ecuador-Tulcan**	**0.23**	**52**	P	**Pg**	**20 44 31.0**	**-2.1**
ATLC				S	**Sg**	**20 44 35.0**	**-1.4**
CHMA	**Chilma**	**0.24**	**316**	P	**Pg**	**20 44 31.0**	**-2.3**
CMBC	**Cumbal**	**0.26**	**15**	P	**Pg**	**20 44 32.1**	**-1.6**
CMBC				S	**Sg**	**20 44 36.2**	**-1.1**
CMBC	**Cumbal**	**0.26**	**15**	P	**Pg**	**20 44 32.0**	**-1.6**
YAHU	**Yahuarcocha**	**0.36**	**210**	P	**Pg**	**20 44 34.0**	**-1.5**
AIB2	**Ibarra (Univer**	**0.40**	**212**	P	**Pg**	**20 44 35.0**	**-1.2**
BONI	**La Bonita**	**0.43**	**123**	P	**Pg**	**20 44 35.0**	**-1.7**
BONI				S	**Sg**	**20 44 41.3**	**-1.1**
BONI	**La Bonita**	**0.43**	**123**	P	**Pg**	**20 44 34.0**	**-2.7**
URCU	**Urcuqui**	**0.44**	**236**	P	**Pg**	**20 44 35.0**	**-1.9**
ALIT	**Ecuador-Imbabu**	**0.48**	**283**	P	**Pg**	**20 44 35.0**	**-2.6**
IMBA	**Imbabura, San**	**0.51**	**217**	P	**Pg**	**20 44 38.0**	**-0.2**
COTA	**Cotacachi**	**0.57**	**232**	P	**Pg**	**20 44 38.0**	**-1.3**
COTA				S	**Sg**	**20 44 47.0**	**+0.2**
CUIC	**Cuicocha-Domo**	**0.60**	**231**	P	**Pg**	**20 44 38.0**	**-1.9**
CUSE	**Cuicocha Este**	**0.63**	**233**	P	**Pg**	**20 44 38.0**	**-2.5**
ANGU	**Angureal**	**0.65**	**190**	P	**Pg**	**20 44 39.0**	**-1.8**
CAYR	**Refugio Cayamb**	**0.68**	**190**	P	**Pg**	**20 44 39.0**	**-2.4**
GCUF	**Volcan Galeras**	**0.77**	**46**	P	**Pg**	**20 44 41.3**	**-1.7**
GCUF				S	**Sg**	**20 44 51.6**	**-1.4**
CASC	**Dorado de Casc**	**0.78**	**135**	P	**Pg**	**20 44 41.0**	**-2.1**
REVN	**San Rafael**	**0.80**	**161**	P	**Pg**	**20 44 41.0**	**-2.7**
LAV4	**Lava4-Reventad**	**0.82**	**161**	P	**Pg**	**20 44 42.0**	**-1.9**
REVS	**Reventador Sur**	**0.83**	**161**	P	**Pg**	**20 44 42.0**	**-2.2**
AV03	**Acelerografo,**	**0.85**	**138**	P	**Pg**	**20 44 42.0**	**-2.6**
PULU	**Pululahua**	**0.90**	**223**	P	**Pg**	**20 44 43.0**	**-2.5**
AV05	**Acelerografo,**	**0.91**	**167**	P	**Pg**	**20 44 43.0**	**-2.6**
PAC1	**Pacto, Paraso**	**0.99**	**245**	P	**Pg**	**20 44 45.0**	**-2.2**
APR1	**Acelerografo,**	**1.03**	**225**	P	**Pg**	**20 44 46.0**	**-1.9**
YANA	**Yana**	**1.05**	**220**	P	**Pg**	**20 44 46.0**	**-2.4**
PINO	**Pino**	**1.10**	**220**	P	**Pg**	**20 44 47.0**	**-2.4**
GGPC	**Guagua Pichinc**	**1.11**	**219**	P	**Pg**	**20 44 47.0**	**-2.6**
TERV	**Terraza Guagua**	**1.11**	**220**	P	**Pg**	**20 44 47.0**	**-2.6**
SNLR	**San Lorenzo-Es**	**1.13**	**302**	P	**Pb**	**20 44 48.0**	**-1.7**
JUA2	**San Juan 2**	**1.15**	**219**	P	**Pg**	**20 44 48.0**	**-2.2**
ANTI	**Antisana**	**1.16**	**193**	P	**Pg**	**20 44 48.0**	**-2.5**
GGPT	**Toaza - Volcan**	**1.16**	**219**	P	**Pg**	**20 44 48.0**	**-2.5**
HPAL	**Hacienda Las P**	**1.18**	**220**	P	**Pb**	**20 44 49.0**	**-1.8**
ANTS	**Antisana-Sarah**	**1.21**	**193**	P	**Pg**	**20 44 49.0**	**-2.4**
ANTG	**Antisana-Guama**	**1.24**	**197**	P	**Pb**	**20 44 50.0**	**-1.9**
ANTM	**Antisana-La Mi**	**1.26**	**195**	P	**Pn**	**20 44 50.0**	**-2.3**
TOMA	**Boca Toma-Volc**	**1.30**	**205**	P	**Pn**	**20 44 51.0**	**-1.7**
PITA	**Cotopaxi Volc**	**1.35**	**204**	P	**Pn**	**20 44 52.0**	**-1.5**
VC1	**Cotopaxi 1**	**1.42**	**201**	P	**Pn**	**20 44 54.0**	**-0.4**
BVC2	**Cotopaxi Volca**	**1.43**	**201**	P	**Pn**	**20 44 54.0**	**-0.7**
BTAM	**Cotopaxi Volca**	**1.44**	**200**	P	**Pn**	**20 44 54.0**	**-0.8**
SUCR	**Mariscal Sucre**	**1.45**	**205**	P	**Pn**	**20 44 54.0**	**-0.8**
TAMB	**Tambo**	**1.45**	**199**	P	**Pn**	**20 44 54.0**	**-0.9**
BREF	**Cotopaxi Volca**	**1.46**	**202**	P	**Pn**	**20 44 54.0**	**-1.1**
BNAS	**Cotopaxi Volca**	**1.47**	**204**	P	**Pg**	**20 44 56.0**	**-0.4**
BBAC	**Balboa, Cauca**	**1.47**	**26**	P	**Pn**	**20 44 53.7**	**-1.2**
BBAC				S	**Sg**	**20 45 14.7**	**-0.9**
BBAC	**Balboa, Cauca**	**1.47**	**26**	P	**Pn**	**20 44 53.0**	**-1.9**
CAMI	**Rancho Maria**	**1.49**	**204**	P	**Pn**	**20 44 55.0**	**-0.3**
BMOR	**Cotopaxi Volca**	**1.52**	**202**	P	**Pn**	**20 44 55.0**	**-0.9**
SLOR	**San Lorenzo -**	**1.53**	**203**	P	**Pn**	**20 44 55.0**	**-1.0**
RVRD	**Rio Verde**	**1.54**	**284**	P	**Pn**	**20 44 54.0**	**-1.7**
VCES	**Cotopaxi**	**1.56**	**199**	P	**Pn**	**20 44 56.0**	**-0.4**
BRRN	**Barrancas-Volc**	**1.57**	**202**	P	**Pn**	**20 44 56.0**	**-0.5**
PIAT	**Ana Tenorio**	**1.71**	**192**	P	**Pn**	**20 44 58.0**	**-0.4**
POPC	**Popayan, Colom**	**2.21**	**33**	P	**Pb**	**20 45 06.0**	**-2.3**
POPC				S	**Sb**	**20 45 35.0**	**-0.4**
FLF1	**Flavio Alfaro-**	**2.21**	**242**	P	**Pn**	**20 45 06.0**	**-1.1**
TUYU	**Q. Yuibug Volc**	**2.23**	**195**	P	**Pb**	**20 45 09.0**	**+0.2**
BMAS	**Trigal station**	**2.25**	**195**	P	**Pb**	**20 45 09.0**	**-0.2**
PORT	**Chimborazo Vol**	**2.31**	**202**	P	**Pb**	**20 45 09.0**	**-1.3**
CHSH	**Refugio Sur-Vo**	**2.38**	**204**	P	**Pb**	**20 45 10.0**	**-1.4**
TAMH	**Tambohuasha Ch**	**2.39**	**202**	P	**Pb**	**20

TXIG	**Tlaxiaco**	**1.04**	**19**	*eP*	**Pb**	**20 49 09.0**	**-1.6**	**CARR**	**Arriaga**	**4.04**	**90**	*eP*	**Pn**	**20 49 49.8**	**-2.1**		baz=141														
TXIG				*eS*	**Sb**	**20 49 21.6**	**-2.4**	**ACIG**	**Acambay**	**4.06**	**336**		**Pn**	**20 49 55.2**	**+2.9**	**OK052**	**Battle Ridge R**	**19.68**	**3**		**P**	**20 53 18.6**	**-0.6**
CRIG	**Cruz Grande**	**1.08**	**296**		**Pb**	**20 49 09.9**	**-1.1**	ACIG					**Sn**	**20 50 43.1**	**+3.5**	**OK033**	**Mehan**	**19.73**	**3**		**P**	**20 53 18.5**	**-1.2**
CRIG					**Sb**	**20 49 24.3**	**-0.6**	**ACIG**	**Acambay**	**4.06**	**336**	*eP*	**Pn**	**20 49 55.2**	**+2.9**	OK033				IAmb	IAmb	20 53 21.5	
CRIG	**Cruz Grande**	**1.08**	**296**	*eP*	**Pb**	**20 49 09.9**	**-1.1**	ACIG				*eS*	**Sn**	**20 50 43.1**	**+3.5**		comp=Z,45nm,1.3s						
CRIG				*i* S	**Sb**	**20 49 24.3**	**-0.6**	**DHIG**	**Demacu**	**4.11**	**348**		**Pn**	**20 49 54.3**	**+1.2**	**RLO**	**Rose Lookout**	**20.01**	**7**		**P**	**20 53 20.6**	**-2.2**
MGIG	**Malinaltepec**	**1.08**	**333**		**Pb**	**20 49 09.8**	**-1.5**	DHIG					**Sn**	**20 50 37.9**	**-3.0**	RLO				IAmb	IAmb	20 53 34.4	
MGIG					**Sb**	**20 49 22.7**	**-2.5**	**DEIG**	**Demacu**	**4.11**	**348**	*eP*	**Pn**	**20 49 54.3**	**+1.2**		comp=Z,14nm,1.1s						
MGIG	**Malinaltepec**	**1.08**	**333**	*eP*	**Pb**	**20 49 09.8**	**-1.5**	DEIG				*eS*	**Sn**	**20 50 37.9**	**-3.0**	**ANMO**	**Albuquerque**	**20.05**	**340**	P	**P**	**20 53 23.7**	**+0.3**
MGIG				*eS*	**Sb**	**20 49 22.7**	**-2.5**	**MOIG**	**Morelia**	**4.48**	**320**	Pn	**Pn**	**20 49 59.1**	**+0.9**	**ANMO**	**Albuquerque**	**20.05**	**340**	P	**P**	**20 53 24.2**	**+0.8**
TLIG	**Tlapa**	**1.36**	**342**		**Pn**	**20 49 13.9**	**-1.3**	**MOIG**	**Morelia**	**4.48**	**320**	*eP*	**Pn**	**20 50 00.9**	**+2.7**		baz=156						
TLIG	**Tlapa**	**1.36**	**342**	*eP*	**Pn**	**20 49 14.2**	**-1.0**	MOIG				*i* S	**Sn**	**20 50 50.5**	**+0.4**	**OK048**	**Pawnee Station**	**20.10**	**3**	P	**P**	**20 53 21.0**	**-2.7**
TLIG				*eS*	**Sn**	**20 49 29.2**	**-3.7**	**PCIG**		**4.74**	**96**		**Pn**	**20 49 58.0**	**-3.6**	OK048				IAmb	IAmb	20 53 32.2	
OXIG	**Oaxaca**	**1.55**	**59**		**Pn**	**20 49 17.0**	**-0.9**	PCIG					**Sn**	**20 50 53.9**	**-2.4**		comp=Z,20nm,1.1s						
OXIG					**Sn**	**20 49 36.9**	**-0.9**	**PCIG**		**4.74**	**96**	*eP*	**Pn**	**20 49 58.0**	**-3.6**	**CROK**	**Carrier**	**20.16**	**0**	P	**P**	**20 53 21.7**	**-2.7**
VHO	**Vista Hermosa**	**1.55**	**59**	*eP*	**Pn**	**20 49 17.0**	**-0.9**	PCIG				*eS*	**Sn**	**20 50 53.9**	**-2.4**	**U38A**	**Gravette**	**20.37**	**9**	P	**P**	**20 53 26.1**	**-0.5**
VHO				*i* S	**Sn**	**20 49 36.9**	**-0.8**	**JRQG**	**Juriquilla Cam**	**4.94**	**334**		**Pb**	**20 50 13.8**	**-3.2**	**BLOK**	**Blackwell**	**20.43**	**2**	P	**P**	**20 53 25.4**	**-1.9**
HLIG	**Huajuapan de L**	**1.58**	**11**		**Pn**	**20 49 17.4**	**-0.9**	**JRQG**	**Juriquilla Cam**	**4.94**	**334**	*eP*	**Pn**	**20 50 07.5**	**+3.0**	**OK032**	**Salt Plains WL**	**20.46**	**360**		**P**	**20 53 26.7**	**-1.0**
HLIG					**Sn**	**20 49 36.9**	**-1.7**	JRQG				*eS*	**Sn**	**20 51 03.4**	**+2.1**	**RTBA**	**Rita Blanca**	**20.51**	**349**		**P**	**20 53 28.1**	**-0.2**
HLIG	**Huajuapan de L**	**1.58**	**11**	*eP*	**Pn**	**20 49 17.4**	**-0.9**	**CTUV**	**Llano Grande**	**5.18**	**358**	*eP*	Pb	20 50 16.1	-4.9	RTBA				IAmb	IAmb	20 53 29.8	
HLIG				*i* S	**Sn**	**20 49 36.9**	**-1.7**	CTUV				*eS*	**Sn**	**20 51 11.3**	**+4.2**		comp=Z,25nm,1.2s						
FTIG	**Fresnillo de T**	**1.63**	**359**		**Pn**	**20 49 18.3**	**-0.7**	**MMIG**	**Aquila**	**5.38**	**293**		**Pn**	**20 50 11.4**	**+1.0**	**214A**	**Organ Pipe Nat**	**20.55**	**322**	P	**P**	**20 53 28.6**	**-0.1**
FTIG					**Sn**	**20 49 38.7**	**-0.9**	MMIG					**Sn**	**20 51 09.7**	**-2.3**	**214A**	**Organ Pipe Nat**	**20.55**	**322**	P	Pn	20 53 30.3	-0.6
FTIG	**Fresnillo de T**	**1.63**	**359**	*eP*	**Pn**	**20 49 18.3**	**-0.7**	**MMIG**	**Aquila**	**5.38**	**293**	*eP*	**Pn**	**20 50 11.4**	**+1.0**		baz=136						
FTIG				*eS*	**Sn**	**20 49 38.7**	**-0.9**	MMIG				*eS*	**Sn**	**20 51 09.7**	**-2.3**	**T35A**	**Sooner Cattle**	**20.62**	**4**		**P**	**20 53 28.8**	**-0.6**
DAIG	**Los Arroyos**	**1.65**	**297**		**Pn**	**20 49 17.9**	**-1.2**	**IGIG**	**Irapuato, Guan**	**5.40**	**326**		**Sn**	**20 51 14.6**	**+1.7**	T35A				IAmb	IAmb	20 53 40.0	
DAIG					**Sn**	**20 49 38.6**	**-1.4**	**IGIG**	**Irapuato, Guan**	**5.40**	**326**	*eS*	**Sn**	**20 51 14.6**	**+1.7**		comp=Z,20nm,0.9s						
DAIG	**Los Arroyos**	**1.65**	**297**	*eP*	**Pn**	**20 49 17.9**	**-1.2**	**CCIG**	**Comitan**	**5.74**	**89**	*eP*	**Pn**	**20 50 18.6**	**+3.0**	**PIX**	**Pinacate**	**20.66**	**320**	P	**P**	**20 53 30.2**	**+0.3**
DAIG				*eS*	**Sn**	**20 49 38.6**	**-1.4**	CCIG				*eS*	**Sn**	**20 51 24.8**	**+3.6**	**KAN13**	**South Haven SW**	**20.67**	**1**	P	**P**	**20 53 27.6**	**-2.3**
HUIG	**Huatulco**	**1.99**	**104**		**Pb**	**20 49 26.8**	**+0.1**	**PATR**	**El Naranjo**	**5.78**	**101**	*eP*	Pn	20 50 21.1	+5.0	**LCAR**	**Lake Charles**	**20.68**	**16**	P	**P**	**20 53 27.1**	**-2.8**
HUIG					**Sn**	**20 49 45.5**	**-2.9**	PATR				*eS*	**Sn**	**20 51 22.7**	**+0.5**	**KAN17**	**Caldwell West**	**20.70**	**1**	P	**P**	**20 53 28.5**	**-1.7**
HUIG	**Huatulco**	**1.99**	**104**	*eP*	**Pn**	**20 49 26.8**	**+0.1**	**PAVE**	**Pavencul**	**5.82**	**100**	*eP*	Pn	20 50 22.0	+5.4	**GNAR**	**Gosnell**	**20.91**	**19**	P	**P**	**20 53 28.8**	**-3.6**
HUIG				*eS*	**Sn**	**20 49 45.5**	**-2.9**	PAVE				*eS*	**Sn**	**20 51 23.0**	**-0.1**	**X18A**	**Snowflake**	**21.06**	**332**	P	**P**	**20 53 36.0**	**+1.6**
TOIG	**Toxpalan**	**2.08**	**29**		**Pn**	**20 49 24.3**	**-0.8**	**RPIG**	**Rio Verde**	**5.86**	**343**		Pn	20 50 11.9	-5.2	X18A				IAmb	IAmb	20 53 38.2	
TOIG					**Sn**	**20 49 47.0**	**-3.7**	RPIG					**Sn**	**20 51 27.6**	**+3.6**		comp=Z,27nm,1.2s						
TOIG	**Toxpalan**	**2.08**	**29**	*eP*	**Pn**	**20 49 24.3**	**-0.8**	**RPIG**	**Rio Verde**	**5.86**	**343**	*eP*	Pn	20 50 11.9	-5.2	**SFX**	**San Felipe**	**21.20**	**317**		**P**	**20 53 36.6**	**+0.9**
TOIG				*eS*	**Sn**	**20 49 47.0**	**-3.7**	RPIG				*eS*	**Sn**	**20 51 27.6**	**+3.6**	**MGMO**	**Mountain Grove**	**21.44**	**13**	P	**P**	**20 53 39.9**	**+1.6**
MEIG	**Mezcala**	**2.19**	**319**		**Pn**	**20 49 26.4**	**-0.2**	**CHUJ**	**Union Juarez**	**5.90**	**101**	*eP*	**Pn**	**20 50 20.1**	**+2.2**	MGMO				IAmb	IAmb	20 53 41.6	
MEIG					**Sn**	**20 49 47.9**	**-5.5**	**JUBC**	**Volcan de Coli**	**6.12**	**303**	*eP*	**Pn**	**20 50 22.8**	**+2.1**		comp=Z,30nm,1.2s						
MEIG	**Mezcala**	**2.19**	**319**	*eP*	**Pn**	**20 49 26.4**	**-0.2**	JUBC				*i* S	**Sn**	**20 51 27.4**	**-3.1**	**W18A**	**Petrified Fore**	**21.46**	**333**	P	**P**	**20 53 39.3**	**+0.6**
MEIG				*eS*	**Sn**	**20 49 47.9**	**-5.5**	**EZ5V**		**6.12**	**302**		**Pn**	**20 50 23.4**	**+2.6**	W18A				IAmb	IAmb	20 53 57.1	
CAIG	**El Cayaco**	**2.20**	**291**		**Pn**	**20 49 26.1**	**-0.5**	**EZ5V**		**6.12**	**302**	*eP*	**Pn**	**20 50 23.4**	**+2.6**		comp=Z,24nm,1.2s						
CAIG					**Sn**	**20 49 54.4**	**+0.8**	EZ5V				*eS*	**Sn**	**20 51 28.2**	**-2.4**	**W18A**	**Petrified Fore**	**21.46**	**333**	P	**P**	**20 53 39.5**	**+0.8**
CAIG	**El Cayaco**	**2.20**	**291**	*eP*	**Pn**	**20 49 26.1**	**-0.5**	**MNGA**	**Volcan de Coli**	**6.13**	**302**	*eP*	**Pn**	**20 50 23.6**	**+2.7**		baz=148						
CAIG				*eS*	**Sn**	**20 49 54.4**	**+0.8**	MNGA				*eS*	**Sn**	**20 51 27.1**	**-3.8**	**T25A**	**Trinidad**	**21.53**	**346**	P	**P**	**20 53 40.2**	**+0.9**
TPIG	**Tehuac#an**	**2.26**	**19**		**Pn**	**20 49 27.9**	**+0.3**	**INCO**	**Volcan de Coli**	**6.15**	**303**	*eP*	**Pn**	**20 50 25.1**	**+3.9**	**T25A**	**Trinidad**	**21.53**	**346**	P	**P**	**20 53 40.3**	**+0.9**
TPIG					**Sb**	**20 49 58.2**	**-0.9**	INCO				*eS*	**Sn**	**20 51 32.2**	**+0.7**		baz=163,SNR=12						
TPIG	**Tehuac#an**	**2.26**	**19**	*eP*	**Pn**	**20 49 27.9**	**+0.3**	**SOMAC**	**Volcano de Col**	**6.17**	**303**	*eP*	Pn	20 50 26.0	+4.4	**PBMO**	**Poplar Bluff**	**21.54**	**17**	P	**P**	**20 53 37.8**	**-1.5**
TPIG				*i* S	**Sb**	**20 49 58.2**	**-0.9**	SOMAC				*eS*	**Sn**	**20 51 25.5**	**-6.5**	PBMO				IAmb	IAmb	20 53 42.8	
PLIG	**Platanillo**	**2.50**	**328**		**Pn**	**20 49 31.2**	**+0.4**	**CDAR**	**Ciudad de Arme**	**6.22**	**296**	*eP*	**Pn**	**20 50 24.5**	**+2.7**		comp=Z,12nm,1.0s						
PLIG					**Sn**	**20 50 02.0**	**+1.1**	CDAR				*eS*	**Sn**	**20 51 34.1**	**+1.5**	**X16A**	**Lo Mia Camp, P**	**21.68**	**329**	P	**P**	**20 53 43.2**	**+2.2**
PLIG	**Platanillo**	**2.50**	**328**	*eP*	**Pn**	**20 49 31.2**	**+0.4**	**CEGR**	**Campo Tres**	**6.29**	**300**	*eP*	**Pn**	**20 50 26.3**	**+3.3**	X16A				IAmb	IAmb	20 53 53.2	
PLIG				*eS*	**Sn**	**20 50 02.0**	**+1.1**	CEGR				*eS*	**Sn**	**20 51 35.1**	**+0.5**		comp=Z,20nm,0.9s						
NEUV	**Arroyo Zacate**	**2.64**	**57**	*eP*	**Pn**	**20 49 32.3**	**-0.4**	**CIHU**	**Emiliano Zapat**	**6.97**	**296**	*eP*	**Pn**	**20 50 34.1**	**+1.8**	**113A**	**Mohawk Valley,**	**21.70**	**322**	P	**P**	**20 53 43.2**	**+2.2**
NEUV				*i* S	**Sn**	**20 50 02.6**	**-1.7**	CIHU				*eS*	Sn	20 52 00.5	+9.2	**S39A**	**Bolivar**	**21.76**	**10**	P	**P**	**20 53 41.0**	**-0.7**
YAIG	**Yautepec**	**2.74**	**341**		**Pn**	**20 49 35.5**	**+1.4**	**APG**	**El Apazote**	**7.48**	**99**	Pn	**Pn**	**20 50 41.1**	**+1.7**	S39A				IAmb	IAmb	20 53 54.2	
YAIG					**Sn**	**20 50 04.3**	**-2.6**		baz=79,slow=18,SNR=1.2								comp=Z,25nm,1.4s						
YAIG	**Yautepec**	**2.74**	**341**	*eP*	**Pn**	**20 49 35.5**	**+1.4**	APG				Sn	**Sn**	**20 52 05.7**	**+1.6**	**WVT**	**Waverly**	**21.80**	**23**	P	**P**	**20 53 39.2**	**-2.9**
YAIG				*eS*	**Sn**	**20 50 04.3**	**-2.6**		baz=216,slow=17,SNR=2.3							WVT				IAmb	IAmb	20 53 41.4	
PPIG	**Popocatepetl**	**2.83**	**350**		**Pn**	**20 49 36.2**	**+0.5**	APG				Lg	Lg	20 52 51.4			comp=Z,13nm,0.8s						
PPIG					**Sn**	**20 50 07.8**	**-1.9**		0.1nm,0.3s,baz=226,slow=19,SNR=3.2							**V48A**	**Smith Brothers**	**21.86**	**25**	P	**P**	**20 53 40.2**	**-2.6**
PPM	**Popocatepetl**	**2.83**	**350**	*eP*	**Pn**	**20 49 36.2**	**+0.5**	**ESTA**	**Talpa de Allen**	**7.60**	**304**	*eP*	**Pn**	**20 50 37.1**	**-3.9**	V48A				IAmb	IAmb	20 53 51.5	
PPM				*eS*	**Sn**	**20 50 07.8**	**-1.9**	ESTA				*eS*	**Sn**	**20 52 08.3**	**+1.5**		comp=Z,30nm,1.1s						
AMVM	**AMECAMECA**	**2.92**	**348**		**Pn**	**20 49 39.3**	**+2.5**	**ZAIG**	**Zacatecas**	**7.71**	**328**	Pn	**Pn**	**20 50 41.2**	**-1.5**	**Y14A**	**Wickenburg**	**22.12**	**325**	P	**P**	**20 53 44.7**	**-1.0**
AMVM					**Sn**	**20 50 12.4**	**+0.7**	**TEIG**	**Tepich**	**10.14**	**66**	LR	LR	20 55 53.3		Y14A				IAmb	IAmb	20 53 49.2	
AMVM	**AMECAMECA**	**2.92**	**348**	*eP*	**Pn**	**20 49 39.3**	**+2.5**		comp=Z,3µm,18.4s,slow=42								comp=Z,28nm,1.3s						
AMVM				*i* S	**Sn**	**20 50 12.4**	**+0.7**	**833A**	**Chaparral WMA,**	**12.06**	**355**	Pn	**Pn**	**20 51 40.3**	**-1.6**	**CGM3**	**Cape Girardeau**	**22.25**	**18**	P	**P**	**20 53 46.7**	**-0.2**
ARIG	**Puente Sto Nin**	**2.92**	**314**		**Pn**	**20 49 37.3**	**+0.7**	**833A**	**Chaparral WMA,**	**12.06**	**355**	P	**Pn**	**20 51 44.4**	**+2.5**	**SDCO**	**Great Sand Dun**	**22.37**	**344**	P	**P**	**20 53 49.1**	**+0.6**
ARIG					**Sn**	**20 50 09.9**	**-1.5**		baz=174							SDCO				IAmb	IAmb	20 54 01.0	
ARIG	**Puente Sto Nin**	**2.92**	**314**	*eP*	**Pn**	**20 49 37.3**	**+0.7**	**HNDO**	**Hondo**	**13.25**	**356**	Pn	**Pn**	**20 51 57.2**	**-1.0**		comp=Z,18nm,1.4s						
ARIG				*eS*	**Sn**	**20 50 09.9**	**-1.5**	**DRIO**	**Del Rio**	**13.30**	**350**	Pn	**Pn**	**20 51 58.0**	**-0.9**	**SDCO**	**Great Sand Dun**	**22.37**	**344**	P	**P**	**20 53 49.3**	**+0.8**
AOVM	**Tlapan**	**3.20**	**339**	*eP*	**Pn**	**20 49 42.0**	**+1.2**	**TX31**	**Lajitas Ar. Si**	**13.97**	**340**		**Pn**	**20 52 07.4**	**-0.8**		baz=161,SNR=7.9						
AOVM				*eS*	**Sn**	**20 50 17.6**	**-1.2**	**TXAR**	**Lajitas Array**	**13.97**	**340**	Pn	**Pn**	**20 52 10.2**	**+2.0**	**CBKS**	**Cedar Bluff**	**22.51**	**357**		**P**	**20 53 50.1**	**+0.3**
CMIG	**Matias Romero**	**3.21**	**75**		**Pn**	**20 49 39.5**	**-1.0**		0.2nm,0.3s,baz=162,slow=15,SNR=7.1							CBKS				IAmb	IAmb	20 54 01.9	
CMIG					**Sb**	**20 50 27.0**	**+0.9**	TXAR				Lg	Lg	20 56 11.8			comp=Z,18nm,0.8s						
CMIG	**Matias Romero**	**3.21**	**75**	Pn	**Pn**	**20 49 39.7**	**-0.8**		baz=156,slow=22							**GLA**	**Glamis**	**22.53**	**321**	P	**P**	**20 53 50.0**	**0.0**
	0.9nm,0.3s,baz=258,slow=14,SNR=7.6							TXAR				LR	LR	20 58 20.7		GLA				IAmb	IAmb	20 54 03.5	
CMIG				Lg	Lg	20 50 32.1			comp=Z,439nm,19.1s,baz=144,slow=41								comp=Z,17nm,1.1s						
	34nm,0.3s,baz=341,slow=18,SNR=16							**SAND**	**Sanderson**	**14.11**	**346**	Pn	**Pn**	**20 52 10.1**	**-0.1**	**GLA**	**Glamis**	**22.53**	**321**	P	**P**	**20 53 52.5**	**+2.5**
CMIG				LR	LR	20 51 14.6		**JCT**	**Junction City**	**14.23**	**354**	Pn	**Pn**	**20 52 11.1**	**-0.6**		baz=134						
	comp=Z,604nm,18.3s,baz=258,slow=45							**435B**	**Jarrell**	**14.46**	**2**	Pn	**Pn**	**20 52 16.4**	**+1.6**	**WUAZ**	**Wupatki**	**22.53**	**331**		**P**	**20 53 51.9**	**+1.7**
CMIG	**Matias Romero**	**3.21**	**75**	*eP*	**Pn**	**20 49 39.5**	**-1.0**	**OZNA**	**Ozona**	**14.85**	**350**		**Pn**	**20 52 17.8**	**-2.4**	WUAZ				IAmb	IAmb	20 53 55.6	
CMIG				*eS*	**Sn**	**20 50 17.6**	**-2.3**	**ALPN**	**Alpine**	**14.93**	**341**	Pn	Pn	20 52 16.8	-4.5		comp=Z,17nm,1.0s						
UNM	**Universidad Na**	**3.21**	**342**		**Pn**	**20 49 41.3**	**+0.5**	**BRDY**	**Brady**	**14.97**	**357**	P	**Pn**	**20 52 19.1**	**-2.7**	**WUAZ**	**Wupatki**	**22.53**	**331**	P	**P**	**20 53 52.4**	**+2.3**
UNM	**Universidad Na**	**3.21**	**342**	*eP*	**Pn**	**20 49 43.9**	**+3.1**	**MNHN**	**Monahans**	**15.59**	**345**		**Pn**	**20 52 28.1**	**-1.9**		baz=145,SNR=8.4						
UNM				*eS*	**Sn**	**20 50 17.7**	**-1.1**	MNHN				IAmb	IAmb	20 52 41.9		**CCM**	**Cathedral Cave**	**22.54**	**14**	P	**P**	**20 53 50.8**	**+0.8**
COVM	**Coyoacan**	**3.23**	**342**	*eP*	**Pn**	**20 49 40.5**	**-0.5**		comp=Z,23nm,1.2s							CCM				IAmb	IAmb	20 54 02.9	
COVM				*i* S	**Sn**	**20 50 14.7**	**-4.5**	**WHTX**	**Lake Whitney,**	**15.67**	**2**	Pn	**Pn**	**20 52 31.0**	**+0.1**		comp=Z,22nm,1.2s						
COVM				*eS*	**Sb**	**20 50 21.8**	**-5.2**	WHTX				IAmb	IAmb	20 52 35.9		**CCM**	**Cathedral Cave**	**22.54**	**14**	P	**P**	**20 53 53.5**	**+3.5**
INVM	**La Marquesa**	**3.24**	**338**	*eP*	**Pb**	**20 49 47.6**	**-0.6**		comp=Z,34nm,1.1s								baz=197						
INVM				*eS*	**Sn**	**20 50 18.6**	**-1.1**	**WHTX**	**Lake Whitney,**	**15.67**	**2**	P	**P**	**20 52 33.2**	**-1.7**	**ESJX**	**Sierra Juarez**	**22.54**	**317**	P	**P**	**20 53 50.9**	**+0.6**
TXVM	**Universitario**	**3.24**	**347**	*eP*	**Pn**	**20 49 42.3**	**+1.1**		baz=182							**R40A**	**Maddies Statio**	**22.54**	**12**	P	**P**	**20 53 48.1**	**-1.9**
TXVM				*eS*	**Sn**	**20 50 18.5**	**-1.1**	**237A**	**Washetta, Mont**	**15.81**	**7**	Pn	**Pn**	**20 52 31.0**	**-1.7**	R40A				IAmb	IAmb	20 54 00.5	
BJVM	**Benito Juarez**	**3.25**	**342**	*eP*	**Pb**	**20 49 48.2**	**-0.1**	237A				IAmb	IAmb	20 52 37.1			comp=Z,16nm,1.2s						
BJVM				*eS*	**Sn**	**20 50 21.0**	**+1.2**		comp=Z,30nm,1.1s							**CPCT**	**Cooper Cave**	**22.64**	**30**	P	**P**	**20 53 49.6**	**-1.5**
CJVM	**Cuajimalpa**	**3.27**	**340**	*eP*	**Pn**	**20 49 38.6**	**-3.1**	**SGCY**	**Sterling City**	**15.82**	**351**		**Pn**	**20 52 30.5**	**-2.4**	CPCT				IAmb	IAmb	20 54 00.9	
CJVM				*eS*	**Sn**	**20 50 22.9**	**+2.6**	**PECS**	**Pecos**	**15.93**	**342**		**Pn**	**20 52 34.8**	**+0.5**		comp=Z,30nm,1.3s						
VRVM	**Mexico City**	**3.28**	**343**	*i* P	Pn	20 49 33.8	-7.9	**FW13**	**Cleburne**	**16.03**	**2**	Pn	**Pn**	**20 52 34.4**	**-5.1**	**S44A**	**Carbondale**	**22.73**	**18**	P	**P**	**20 53 49.8**	**-2.3**
VRVM				*eS*	**Sn**	**20 50 16.4**	**-4.0**	**FW16**	**Waxahatchie**	**16.18**	**4**	Pn	**Pn**	**20 52 33.6**	**-3.9**	S44A				IAmb	IAmb	20 54 25.3	
PBVM	**Pinon**	**3.29**	**344**		**Pn**	**20 49 46.7**	**-2.1**	FW16				IAmb	IAmb	20 52 37.5			comp=Z,14nm,0.8s						
PBVM					**Sn**	**20 50 21.9**	**+1.5**		comp=Z,32nm,0.5s							**SIUC**	**Southern Illin**	**22.77**	**18**	P	**P**	**20 53 49.5**	**-2.9**
PBVM	**Pinon**	**3.29**	**344**	*eP*	**Pn**	**20 49 46.7**	**-2.1**	**ODSA**	**Odessa**	**16.29**	**346**		**Pn**	**20 52 36.1**	**-2.8**	SIUC				IAmb	IAmb	20 54 03.1	
PBVM				*eS*	**Sn**	**20 50 21.9**	**+1.5**	**ABTX**	**Abilene, Hawle**	**16.35**	**355**	Pn	**Pn**	**20 52 37.8**	**-1.8**		comp=Z,20nm,0.9s						
MHVM	**Bosque de Chap**	**3.29**	**342**	*eP*	**Pb**	**20 49 48.1**	**-1.0**	ABTX				IAmb	IAmb	20 52 53.2		**KSU1**	**Kansas State U**	**22.79**	**3**	P	**P**	**20 53 53.1**	**+0.5**
MHVM				*eS*	**Sn**	**20 50 23.2**	**+2.3**		comp=Z,54nm,1.1s								baz=184						
JAUV	**Jalcomulco**	**3.33**	**22**	*eP*	**Pn**	**20 49 42.3**	**+0.1**	**ABTX**	**Abilene, Hawle**	**16.35**	**355**	P	**Pn**	**20 52 40.9**	**+1.2**	**MVCO**	**Mesa Verde**	**22.80**	**338**	P	**P**	**20 53 53.5**	**+0.5**
JAUV				*i* S	**Sn**	**20 50 17.8**	**-3.6**		baz=175,SNR=8.5							**MVCO**	**Mesa Verde**	**22.80**	**338**	P	**P**	**20 54 54.1**	**+1.1**
TOVM	**TOLUCA**	**3.35**	**334**		**Pn**	**20 49 46.2**	**+3.4**	**PLPT**	**Palo Pinto**	**16.48**	**359**		**Pn**	**20 52 38.5**	**-2.8**		baz=153,SNR=7.4						
TOVM					**Sb**	**20 50 29.3**	**-1.3**	**FW06**	**Azle**	**16.64**	**2**	Pn	**Pn**	**20 52 41.1**	**-2.3**	**BLYC**	**Blythe**	**22.84**	**323**	P	**P**	**20 53 52.9**	**-0.3**
TOVM	**TOLUCA**	**3.35**	**334**	*eP*	**Pn**	**20 49 46.2**	**+3.4**	FW06				IAmb	IAmb	20 52 55.3		**YUH**	**Yuha Desert**	**22.94**	**319**	P	**P**	**20 53 54.1**	**-0.1**
TOVM				*i* S	**Sb**	**20 50 29.3**	**-1.3**		comp=Z,66nm,1.5s							**KSCO**	**Kaye Shedlock'**	**23.00**	**351**	P	**P**	**20 53 55.2**	**+0.2**
APVM	**Azcapotzalco**	**3.37**	**342**	*eP*	**Pn**	**20 49 45.4**	**+2.4**	**MNTX**	**Cornudas Mount**	**16.73**	**338**	P	**Pn**	**20 52 45.5**	**+1.0**		baz=169						
APVM				*eS*	**Sn**	**20 50 21.9**	**-0.8**		baz=155							**PDMCI**	**Parker Dam,Lak**	**23.02**	**324**	P	**P**	**20 53 57.1**	**+2.0**
NILT	**Santiago Nilte**	**3.37**	**84**	*eP*	**Pn**	**20 49 42.0**	**-0.8**	**SN05**	**Snyder 5**	**16.73**	**352**		**Pn**	**20 52 42.5**	**-2.0**		baz=137						
NILT				*eS*	**Sn**	**20 50 22.1**	**-0.3**	SN05				IAmb	IAmb	20 52 57.4		**SWSC**	**Sam W. Stewart**	**23.05**	**319**	P	**P**	**20 53 58.4**	**+2.9**
PTVM	**Pico Tres Padr**	**3.44**	**344**		**Pn**	**20 49 47.9**	**+3.9**		comp=Z,38nm,1.1s								baz=132						
PTVM					**Sn**	**20 50 23.0**	**-1.5**	**SN07**	**Snyder 07**	**16.94**	**352**		**Pn**	**20 52 46.0**	**-1.2**	**IKP**	**In-Ko-Pah, Jac**	**23.06**	**318**	P	**P**	**20 53 58.2**	**+2.6**
PTVM	**Pico Tres Padr**	**3.44**	**344**	*eP*	**Pn**	**20 49 47.9**	**+3.9**	**POST**	**Post**	**17.01**	**350**		**Pn**	**20 52 45.6**	**-2.4**		baz=131						
PTVM				*eS*	**Sn**	**20 50 23.0**	**-1.5**	POST				IAmb	IAmb	20 53 00.5		**BC3**	**Big Chuckawall**	**23.32**	**321**	P	**P**	**20 54 01.3**	**+3.0**
ZIIG	**Zihuatanejo**	**3.47**	**293**		**Pn**	**20 49 45.1**	**+1.0**		comp=Z,60nm,1.3s								baz=134,SNR=7.2						
ZIIG					**Sn**	**20 50 25.3**	**+0.5**	**APMT**	**Aspermont**	**17.08**	**354**	Pn	**Pn**	**20 52 45.2**	**-3.7**	**Q24A**	**Divide**	**23.44**	**346**	P	**P**	**20 53 58.4**	**-1.2**
ZIIG	**Zihuatanejo**	**3.47**	**293**	*eP*	**Pn**	**20 49 45.1**	**+1.0**	**Z38A**	**Mt. Pleasant**	**17.16**	**9**	Pn	**Pn**	**20 52 47.8**	**-2.0**	Q24A				IAmb	IAmb	20 54 02.4	
ZIIG				*eS*	**Sn**	**20 50 25.3**	**+0.5**	Z38A				IAmb	IAmb	20 52 52.1			comp=Z,12nm,1.1s						
AZVM	**Cuida Lopez Ma**	**3.48**	**342**		**Pn**	**20 49 47.5**	**+2.9**		comp=Z,20nm,0.8s							**Q24A**	**Divide**	**23.44**	**346**	P	**P**	**20 53 59.8**	**+0.1**
AZVM					**Sn**	**20 50 27.0**	**+1.4**	**HSIG**		**17.34**	**319**	Pn	**Pn**	**20 52 49.6**	**-2.6**		baz=163						
AZVM	**Cuida Lopez Ma**	**3.48**	**342**	*eP*	**Pn**	**20 49 47.5**	**+2.9**	**WTFS**	**Witchita Falls**	**17.43**	**359**	Pn	**Pn**	**20 52 51.3**	**-1.9**	**W13A**	**Hualapai Mount**	**23.47**	**326**	P	**P**	**20 53 59.5**	**-0.4**
AZVM				*eS*	**Sn**	**20 50 27.0**	**+1.4**	**DKNS**	**Dickens**	**17.51**	**352**		**Pn**	**20 52 51.5**	**-2.8**	W13A				IAmb	IAmb	20 54 03.9	
VTVM	**Tizayuca**	**3.54**	**350**		**Pb**	**20 49 53.6**	**+0.4**	DKNS				IAmb	IAmb	20 53 05.0			comp=Z,18nm,1.5s						
VTVM					**Sb**	**20 50 34.0**	**-2.1**		comp=Z,40nm,1.4s							**IRM**	**Iron Mountain**	**23.49**	**322**	P	**P**	**20 54 03.0**	**+3.1**
VTVM	**Tizayuca**	**3.54**	**350**	*eP*	**Pb**	**20 49 53.6**	**+0.4**	**MSTX**	**Muleshoe**	**18.12**	**347**	Pn	**Pn**	**20 52 59.1**	**-2.8**		baz=135,SNR=17						
VTVM				*eS*	**Sb**

V12A	Nelson	24.46	326	P	P	20 54 08.4	-0.7
PKCU	Pink Cliffs	24.55	332	P	P	20 54 10.1	0.0
LCMT	Little Creek M	24.63	330	P	P	20 54 09.7	-1.0
LCMT				IAmb	IAmb	20 54 25.8	
	comp=Z,12nm,1.5s						
HEC	Hector,Ludlow	24.66	322	P	P	20 54 13.3	+2.4
	baz=134						
OGNE	Ogallala	24.83	353	P	P	20 54 13.9	+1.6
	baz=171						
TUQ	Turquoise Moun	24.85	324	P	P	20 54 15.1	+2.5
	baz=136						
SCI2	San Clemente I	24.86	316	P	P	20 54 16.5	+3.9
	baz=127						
MTPU	Mount Pierson	24.98	333	P	P	20 54 15.4	+1.3
SZCU	Shurtz Canyon	25.02	331	P	P	20 54 14.8	+0.5
SZCU				IAmb	IAmb	20 54 30.0	
	comp=Z,7.7nm,1.1s						
CIS	Catalina Islan	25.03	317	P	P	20 54 17.6	+3.4
	baz=128						
BFSC	Mount Baldy Ra	25.07	319	P	P	20 54 17.6	+2.9
	baz=131						
CCUT	Cedar City	25.12	331	P	P	20 54 12.8	-2.4
P46A	Rosedale	25.14	20	P	P	20 54 13.0	-2.0
SHPR	Sheep Range	25.21	326	P	P	20 54 16.1	+0.2
SRU	San Rafael Swe	25.22	337	P	P	20 54 16.6	+0.5
SRU				IAmb	IAmb	20 54 28.0	
	comp=Z,22nm,1.2s						
O44A	Mansfield	25.24	18	P	P	20 54 15.8	-0.1
GSC	Goldstone, Bar	25.27	322	P	P	20 54 18.9	+2.5
	baz=134						
Q16A	Castle Valley	25.30	336	P	P	20 54 17.3	+0.5
Q16A				IAmb	IAmb	20 54 29.5	
	comp=Z,11nm,0.9s						
O20A	White River Ci	25.36	342	P	P	20 54 16.7	-0.6
O20A	White River Ci	25.36	342	P	P	20 54 19.0	+1.7
	baz=157,SNR=8.9						
MSU	Marysvale	25.37	334	P	P	20 54 16.4	-1.0
MVU	Marysvale	25.38	334	P	P	20 54 16.7	-0.9
N23A	Red Feather La	25.46	346	P	P	20 54 18.1	-0.2
N23A	Red Feather La	25.46	346	P	P	20 54 20.0	+1.7
	baz=162,SNR=6.8						
TCRU	Three Creeks R	25.57	333	P	P	20 54 18.8	-0.5
TCRU				IAmb	IAmb	20 54 28.9	
	comp=Z,12nm,1.2s						
P18A	Preston Nutter	25.57	338	P	P	20 54 19.7	+0.4
P17A	Butcher Ranch,	25.62	337	P	P	20 54 18.8	-0.8
P17A				IAmb	IAmb	20 54 24.3	
	comp=Z,16nm,1.3s						
EDW2	Edwards Air Fo	25.70	320	P	P	20 54 22.4	+2.1
	baz=131						
SCIA	State Center	25.90	8	P	P	20 54 20.8	-1.2
SCIA	State Center	25.90	8	P	P	20 54 22.4	+0.5
	baz=191						
CHSH	Refugio Sur-Vo	25.94	131	P	P	20 54 21.2	-2.0
P49A	Miami Univ. Ec	25.97	24	P	P	20 54 21.5	-1.1
PSUT	Pine Spring	26.14	331	P	P	20 54 25.5	+1.1
RDMU	Red Mountain	26.18	340	P	P	20 54 24.6	-0.1
RDMU				IAmb	IAmb	20 54 38.4	
	comp=Z,20nm,1.3s						
S11A	Rachel	26.38	327	P	P	20 54 23.9	-2.5
S11A				IAmb	IAmb	20 55 06.3	
	comp=Z,16nm,1.3s						
MPU	Maple Canyon	26.43	336	P	P	20 54 26.2	-0.8
MPU				IAmb	IAmb	20 54 41.2	
	comp=Z,16nm,1.5s						
O48B	Farmland	26.43	23	P	P	20 54 24.9	-1.9
ISA	Isabella, Lake	26.51	321	P	P	20 54 26.8	-0.8
RWWY	Rawlins	26.52	345	P	P	20 54 27.9	0.0
RWWY				IAmb	IAmb	20 54 32.5	
	comp=Z,20nm,1.2s						
NLU	North Lily Min	26.55	335	P	P	20 54 26.5	-1.6
BSUT	Blindstream Ca	26.56	338	P	P	20 54 29.1	+0.7
BSUT				IAmb	IAmb	20 54 41.7	
	comp=Z,10nm,1.1s						
SPR3	Spring Creek 3	26.73	331	P	P	20 54 29.5	-0.4
SPR3				IAmb	IAmb	20 54 32.5	
	comp=Z,10.0nm,1.3s						
R11B	Troy Canyon, C	26.83	328	P	P	20 54 31.9	+1.3
GMN	Gold Mountain	26.93	325	P	P	20 54 30.8	-0.8
Q12A	Willow Creek R	27.00	330	P	P	20 54 32.1	0.0
Q12A				IAmb	IAmb	20 54 35.4	
	comp=Z,10nm,1.2s						
VES	Vestal, Richgr	27.00	320	P	P	20 54 35.3	+3.3
	baz=131						
DUG	Dugway, Tooele	27.05	335	P	P	20 54 32.8	+0.2
DUG				IAmb	IAmb	20 54 41.7	
	comp=Z,9.0nm,1.2s						
DUG	Dugway, Tooele	27.05	335	P	P	20 54 34.8	+2.3
	baz=148						
SDV	Santo Domingo	27.79	102	LR	LR	21 06 21.9	
	comp=Z,103nm,20.0s,baz=312,slow=38						
O53A	New Philadelph	28.05	28	P	P	20 54 45.6	+4.2
	baz=216						
BW06	Boulder Array	28.17	342	P	P	20 54 39.8	-2.8
BW06				IAmb	IAmb	20 54 54.0	
	comp=Z,12nm,1.4s						
PDAR	Pinedale Array	28.17	342	P	P	20 54 40.9	-1.7
PDAR	Pinedale Array	28.17	342	P	P	20 54 45.0	+2.4
	comp=Z,1.6nm,0.9s,baz=153,slow=13,SNR=5.2						
PDAR				LR	LR	21 06 59.8	
	comp=Z,355nm,18.1s,baz=166,slow=39						
	comp=Z,1.6nm,0.9s						
NVAR	Mina Array Bea	28.32	325	P	P	20 54 43.4	-0.6
NVAR	Mina Array Bea	28.32	325	P	P	20 54 46.7	+2.7
	comp=Z,2.9nm,1.0s,baz=132,slow=9.1,SNR=10						
NVAR				LR	LR	21 06 34.7	
	comp=Z,127nm,21.3s,baz=107,slow=38						
	comp=Z,2.9nm,1.0s						
HVU	Hansel Valley	28.39	337	P	P	20 54 44.6	+0.2
HVU				IAmb	IAmb	20 54 47.2	
	comp=Z,6.6nm,1.2s						
ELK	Elko	28.55	332	LR	LR	21 05 58.9	
	comp=Z,222nm,18.6s,baz=152,slow=36						
AHID	Auburn Hatcher	28.65	340	P	P	20 54 46.8	-0.1
HSFM	Saint Francis	29.12	319		S	20 59 43.7	+1.5
HFEM	San Felipe	29.17	320		S	20 59 46.2	+3.3
SPMN	Marine on St.	29.21	8	P	P	20 54 49.8	-1.8
SPMN				IAmb	IAmb	20 55 00.7	
	comp=Z,17nm,1.4s						
CDC	Canada Road	29.25	319		S	20 59 45.9	+1.8
HERM	Elkhorn Road	29.25	319		S	20 59 44.5	+0.4
TPAW	Teton Pass	29.25	341	P	P	20 54 51.8	-0.5
TPAW				IAmb	IAmb	20 55 07.8	
	comp=Z,16nm,1.4s						
LOHW	Long Hollow	29.26	341	P	P	20 54 50.6	-1.7
LOHW				IAmb	IAmb	20 55 11.5	
	comp=Z,4.4nm,0.8s						
GHS	Gilroy Hot Spr	29.27	320		S	20 59 47.4	+2.8
HCOM	Corn Cob Canyo	29.30	319		S	20 59 44.2	-0.8
HLPM	Lions Peak	29.35	319		S	20 59 45.7	0.0
MOOW	Moose Ponds	29.42	341		P	20 54 54.4	+0.7
JLAB	Laurel Hill	29.48	319		S	20 59 48.4	+0.5
CCOB	Coe Ranch Numb	29.51	320		S	20 59 50.7	+2.4
ATAH	Atahualpa	30.36	138	LR	LR	21 04 48.8	
	comp=Z,168nm,20.0s,baz=310,slow=32						
HLID	Hailey	30.54	336	P	P	20 55 05.4	+1.8
	baz=148						
WVOR	Wild Horse Val	31.45	330	P	P	20 55 12.4	+0.8
WVOR				IAmb	IAmb	20 55 14.7	
	comp=Z,11nm,1.1s						
MDND	Maddock	31.52	358	P	P	20 55 10.9	-1.0
AGMN	Agassiz Nation	32.00	3	P	P	20 55 13.4	-2.8
AGMN				IAmb	IAmb	20 55 16.5	
	comp=Z,9.7nm,1.1s						
J08A	Circle Bar Ran	32.09	331	P	P	20 55 17.6	+0.5
PLID	Pearl Lake	32.44	336	P	P	20 55 20.8	+0.5
F10A	Beach Ranch, E	33.65	336		P	20 55 31.4	+0.7
F10A				IAmb	IAmb	20 55 48.7	
	comp=Z,3.7nm,0.9s						
NNA	Nana	35.08	142	LR	LR	21 07 01.3	
	comp=Z,164nm,21.6s,baz=336,slow=31						
NEW	Newport	35.52	338	LR	LR	21 11 49.7	
	comp=Z,563nm,18.1s,baz=158,slow=39						
LTY	Liberty	36.10	334	P	P	20 55 52.4	+0.5
FFC	Flin Flon	38.50	356	P	P	20 56 11.6	-0.4
FFC				IAmb	IAmb	20 56 12.9	
	comp=Z,7.8nm,1.1s						
EDM	Edmonton	38.77	345	P	P	20 56 13.2	-1.1
EDM				IAmb	IAmb	20 56 15.9	
	comp=Z,17nm,1.2s						
BBB	Bella Bella	42.99	333	LR	LR	21 14 23.4	
	comp=Z,128nm,20.9s,baz=120,slow=36						
LPAZ	La Paz	43.83	136	LR	LR	21 13 20.3	
	comp=Z,135nm,20.7s,baz=272,slow=34						
YKA	Yellowknife Ar	47.61	350	P	P	20 57 25.9	+0.3
	comp=Z,1.0nm,0.9s,baz=158,slow=6.9,SNR=6.7						
	comp=Z,1.0nm,0.9s						
SIV	San Ignacio	48.62	129	LR	LR	21 17 27.9	
	comp=Z,157nm,18.1s,baz=278,slow=35						
R33M	Jennings River	49.31	339	P	P	20 57 41.4	+2.5
	baz=137						
S32K	Killisnoo	49.34	335	P	P	20 57 41.6	+2.7
	baz=131						
S31K	Pelican	50.33	335	P	P	20 57 50.3	+3.8
	baz=130						
WHY	Whitehorse	51.60	338	P	P	20 57 56.6	+0.4
	baz=133						
MMPY	Sheldon Lake,	51.78	341	P	P	20 57 59.8	+2.3
	baz=138						
P29M	Windy Craggy	52.00	336	P	P	20 58 01.8	+2.6
	baz=129						
O30N	Mendenhall	52.11	338	P	P	20 58 02.2	+2.3
	baz=132						
FARO	Faro, Yukon	52.16	340	P	P	20 58 02.6	+2.3
	baz=135						
HYT	Haines Junctio	52.67	337	P	P	20 58 06.4	+2.2
	baz=130						
H03N2	Juan Fernandez	52.71	160	T	T	21 54 59.0	
	baz=337,slow=77,SNR=104						
H03N1	Juan Fernandez	52.72	160	T	T	21 55 00.1	
	baz=337,slow=77,SNR=164						
H03N3	Juan Fernandez	52.73	160	T	T	21 54 59.1	
	baz=337,slow=77,SNR=152						
M30M	Minto, Yukon	53.57	339	P	P	20 58 12.5	+1.8
	baz=132						
M29M	Somme Creek	54.06	338	P	P	20 58 17.2	+2.8
	baz=130						
L29M	L29M	54.38	339	P	P	20 58 18.8	+2.2
	baz=130						
M27K	Ede Creek, AK	55.27	337	P	P	20 58 26.1	+2.9
	baz=126						
BMRM	Bremner River	55.56	335	P	P	20 58 27.3	+2.1
	baz=122						
L27K	Beaver Creek,	55.67	338	P	P	20 58 28.7	+2.8
	baz=126						
M26K	Nabesna, AK	55.72	337	P	P	20 58 28.6	+2.4
	baz=125						
G31M	Satah River	55.84	344	P	P	20 58 28.5	+1.5
	baz=137						
K27K	Chicken	56.34	338	P	P	20 58 31.8	+1.2
K27K	Chicken	56.34	338	P	P	20 58 32.1	+1.5
	baz=127						
KLU	Klutina	56.38	335	P	P	20 58 33.7	+2.7
	baz=121						
HARP	HAARP	56.55	336	P	P	20 58 34.0	+1.8
	baz=123						
INK	Inuvik	56.67	345	P	P	20 58 34.0	+1.1
	baz=138						
F30M	Barr River	56.74	344	P	P	20 58 35.2	+1.7
	baz=135						
SCRK	Sand Creek	56.99	338	P	P	20 58 37.4	+2.0
	baz=125						
SCM	Sheep Creek Mo	57.13	335	P	P	20 58 39.3	+2.9
	baz=120						
J26L	Joseph Creek	57.14	338	P	P	20 58 36.5	0.0
J26L				IAmb	IAmb	20 59 12.3	
	comp=Z,6.5nm,1.1s						
J26L	Joseph Creek	57.14	338	P	P	20 58 38.4	+2.0
	baz=125						
RIDG	Independent Ri	57.17	337	P	P	20 58 38.9	+2.3
	baz=124						
SML	Sawmill	57.53	334	P	P	20 58 42.3	+3.1
	baz=119						
WAT6	Susitna Watana	57.67	335	P	P	20 58 42.9	+2.6
	baz=120						
E29M	Blow River	57.86	344	P	P	20 58 42.5	+1.2
	baz=133						
OHAK	Old Harbor	57.86	328	P	P	20 58 44.0	+2.5
	baz=111						
F28M	Old Crow	57.89	342	P	P	20 58 43.1	+1.6
	baz=131						
Q20K	Shuyak Island	57.95	330	P	P	20 58 45.2	+3.1
	baz=113						
WAT1	Susitna Watana	58.12	335	P	P	20 58 45.0	+1.7
	baz=119						
HDA	Harding Lake	58.31	337	P	P	20 58 45.5	+0.9
	baz=122						
PRP	Porcupine Dome	58.41	339	P	P	20 58 46.6	+1.3
	baz=124						
E28M	Babbage River	58.45	343	P	P	20 58 46.2	+0.7
	baz=132						
ILAR	Eielson Array	58.48	338	P	P	20 58 44.6	-1.2
ILAR	Eielson Array	58.48	338	P	P	20 58 46.9	+1.2
	comp=Z,1.8nm,1.1s,baz=141,slow=4.2,SNR=9.4						
	comp=Z,1.8nm,1.1s						
RND	Reindeer	58.52	336	P	P	20 58 47.1	+0.9
CUT	Chulitna	58.62	334	P	P	20 58 48.7	+2.0
	baz=117						
E27K	Coleen River	58.76	342	P	P	20 58 49.3	+1.6
	baz=129						
POKR	Poker Plat Res	58.86	338	P	P	20 58 49.5	+1.1
	baz=122						
N20K	Mount Spurr	58.91	333	P	P	20 58 50.5	+1.5
	baz=115						
SKT	Skwentna	58.96	334	P	P	20 58 51.2	+2.0
	baz=116						
TRF	Thorofare Moun	59.11	336	P	P	20 58 52.2	+1.8
	baz=118						
D27M	Malcolm River	59.26	344	P	P	20 58 52.3	+1.1
	baz=130						
H24K	Noodor Dome	59.40	339	P	P	20 58 54.5	+2.3
	baz=122						
Q17K	Contact Creek	59.53	329	P	P	20 58 54.8	+1.5
	baz=110						
P18K	Big Mountain,	59.60	330	P	P	20 58 54.3	+0.6
	baz=111						
F25K	Christian Rive	59.62	341	P	P	20 58 54.6	+1.0
	baz=125						
BPAW	Bear Paw Mtn.	59.69	336	P	P	20 58 55.3	+1.1
	baz=118						
G24K	Hadweenzic Riv	59.72	340	P	P	20 58 54.9	+0.6
	baz=122						
O18K	Koktuh Hills	59.76	331	P	P	20 58 56.7	+2.0
	baz=111						
N19K	Bonanza Creek	59.78	332	P	P	20 58 55.6	+0.7
	baz=112						
CAST	Castle Rocks	59.82	335	P	P	20 58 54.6	-0.4
CAST	Castle Rocks	59.82	335	P	P	20 58 56.4	+1.4
	baz=116						
E25K	Arctic Village	59.90	341	P	P	20 58 56.6	+1.0
	baz=125						
MLY	Manley	60.03	337	P	P	20 58 57.2	+0.6
	baz=118						
P17K	Kvichak River	60.12	330	P	P	20 58 58.3	+1.2
	baz=109						
L20K	Farewell, AK	60.16	334	P	P	20 58 59.3	+1.9
	baz=114						
R16K	Pilot Point	60.16	328	P	P	20 58 59.0	+1.6
	baz=108						
G23K	Bananza Creek	60.59	339	P	P	20 59 01.6	+1.3
	baz=120						
K20K	Tetlin	60.60	335	P	P	20 59 01.6	+1.2
	baz=114						
O17K	Koliganek Bris	60.62	330	P	P	20 59 02.7	+2.1
	baz=109						
M18K	Stony River	60.63	332	P	P	20 59 01.7	+1.1
	baz=111						
COLD	Coldfoot	60.91	339	P	P	20 59 03.9	+1.4
	baz=120						
J20K	Nowinta River	60.97	335	P	P	20 59 03.6	+0.8
	baz=114						
H21K	Melozitna Rive	61.09	337	P	P	20 59 04.4	+0.7
	baz=116						
SDPT	Sand Point	61.12	325	P	P	20 59 06.5	+2.5
	baz=104						
E23K	Chandalar	61.14	340	P	P	20 59 06.0	+1.9
	baz=121						
G22K	Bettles	61.21	339	P	P	20 59 05.9	+1.5
	baz=118						
L18K	Granite Mounta	61.28	333	P	P	20 59 06.1	+1.1
	baz=111						
M17K	Holitna River	61.33	332	P	P	20 59 07.8	+2.5
	baz=110						
I20K	Naaghedeneel	61.36	336	P	P	20 59 06.7	+1.2
	baz=114						
TOLK	Toolik Lake Re	61.43	341	P	P	20 59 07.3	+1.3
	baz=121						
D24K	Happy Valley	61.47	342	P	P	20 59 07.7	+1.6
	baz=122						
J19K	Poorman	61.49	335	P	P	20 59 07.1	+0.7
J19K	Poorman	61.49	335	P	P	20 59 07.7	+1.3
	baz=113						
N16K	Nishlik Lake	61.64	331	P	P	20 59 08.5	+0.9
	baz=108						
G21K	Allakaket	61.73	338	P	P	20 59 08.7	+0.7
	baz=116						
C24K	Franklin Bluff	61.74	342	P	P	20 59 09.3	+1.4
	baz=123						
J18K	Innoko River	61.74	334	P	P	20 59 08.8	+0.7
	baz=111						
H20K	Anotleneega Mo	61.80	337	P	P	20 59 10.0	+1.5
	baz=114						
M16K	Timber Creek	61.90	331	P	P	20 59 10.7	+1.5
	baz=108						
F21K	Alatna River	62.03	339	P	P	20 59 10.1	0.0
F21K	Alatna River	62.03	339	P	P	20 59 11.5	+1.5
	baz=116						
PLCA	Paso Flores	62.22	157	LR	LR	21 19 50.9	
	comp=Z,80nm,19.9s,baz=331,slow=30						
L16K	Owhat River	62.35	332	P	P	20 59 14.4	+2.2
	baz=108						
C23K	Itkillik River	62.36	342	P	P	20 59 13.0	+0.8
	baz=121						
D22K	Ayikyak River	62.53	341	P	P	20 59 14.1	+0.8
	baz=118						
F20K	Avaraart Lake	62.75	338	P	P	20 59 16.1	+1.3
	baz=114						
G19K	Purcell Mounta	62.89	337	P	P	20 59 16.4	+0.6
G19K				IAmb	IAmb	20 59 17.5	
	comp=Z,6.2nm,1.2s						
G19K	Purcell Mounta	62.89	337	P	P	20 59 16.9	+1.1
	baz=112						
H18K	Honhosa River	63.02	336	P	P	20 59 18.1	+1.5
	baz=111						
M14K	Bethel	63.23	330	P	P	20 59 20.2	+2.1
	baz=105						
L15K	Ungalak Mounta	63.26	331	P	P	20 59 19.6	+1.3
	baz=106						
J16K	Anvik River	63.33	333	P	P	20 59 19.8	+1.0
	baz=108						
C21K	Knifeblade Rid	63.33	340	P	P	20 59 19.5	+0.9
	baz=116						
G18K	Tagagawik	63.40	336	P	P	20 59 20.3	+1.1
	baz=111						
F19K	Shaleruckik Mo	63.41	338	P	P	20 59 20.4	+1.3
	baz=112						
E20K	Nigu River	63.41	339	P	P	20 59 20.2	+0.9
	baz=114						
E19K	Redstone River	63.45	338	P	P	20 59 20.9	+1.4
	baz=113						
H17K	Granite Mounta	63.56	335	P	P	20 59 20.9	+0.6
H17K	Granite Mounta	63.56	335	P	P	20 59 22.4	+2.1
	baz=109						
L14K	Kuka Creek	63.72	331	P	P	20 59 23.2	+1.9
	baz=105						
D20K	Etivluk River	63.74	340	P	P	20 59 22.9	+1.5
	baz=114						
G17K	Kiwalik Mounta	64.04	336	P	P	20 59 25.0	+1.7
	baz=108						
D19K	Kuna River	64.16	339	P	P	20 59 25.1	+1.0
	baz=112						
A22K	Sinclair Lake	64.22	342	P	P	20 59 25.6	+1.2
	baz=117						
H16K	Elim	64.42	335	P	P	20 59 27.9	+2.0
	baz=107						
B20K	Meade River	64.45	341	P	P	20 59 27.6	+1.6
	baz=114						
J14K	Nanvaranak Lak	64.47	332	P	P	20 59 27.9	+1.7
	baz=104						
F17K	Baldwin Pennin	64.57	337	P	P	20 59 28.8	+2.0
	baz=108						
E18K	Tukpahlearik C	64.65	338	P	P	20 59 28.5	+1.2
	baz=110						
G16K	Koyuk River	64.69	335	P	P	20 59 29.6	+2.0
	baz=107						
C19K	Lookout Ridge	64.89	340	P	P	20 59 28.4	-0.6
C19K				IAmb	IAmb	20 59 31.1	
	comp=Z,6.3nm,1.2s						
C19K	Lookout Ridge	64.89	340	P	P	20 59 29.9	+0.9
	baz=111						
E17K	Hotham Inlet	64.99	337	P	P	20 59 31.3	+1.7
	baz=108						
G15K	Niukluk	65.26	335	P	P	20 59 33.1	+1.8
	baz=105						
C18K	Utukok River	65.27	339	P	P	20 59 32.2	+0.7
	baz=109						
NIKH	Nikolski High	65.59	321	P	P	20 59 36.7	+3.0
	baz=95						
D17K	Noatak River	65.64	338	P	P	20 59 35.1	+1.3
	baz=107						
RDOG	Red Dog Mine	65.69	338	P	P	20 59 35.1	+1.1
	baz=108						
F15K	North Star Dit	65.69	335	P	P	20 59 35.1	+1.0
F15K	North Star Dit	65.69	335	P	P	20 59 36.2	+2.0
	baz=105						
ANM	Nome	65.71	334	P	P	20 59 35.8	+1.6
	baz=104						
B18K	Kokolik River	65.72	340	P	P	20 59 35.5	+1.3
	baz=109						
A19K	Wainwright	65.77	341	P	P	20 59 35.8	+1.3
	baz=110						
C17K	DeLong Mountai	65.91	338	P	P	20 59 37.5	+2.0
	baz=107						
F14K	Arctic Creek	66.31	335	P	P	20 59 40.4	+2.2
	baz=103						
SPIA	Saint Paul Isl	66.80	326	P	P	20 59 43.0	+1.7
	baz=96						
NOA	NORSAR Array B	84.93	27	LR	LR	21 42 06.4	
	comp=Z,15nm,18.1s,baz=265,slow=38						
FINES	FINESS Array B	90.88	23	LR	LR	21 44 01.8	
	comp=Z,40nm,20.3s,baz=267,slow=36						
GERES	GERESS Array B	91.54	38	LR	LR	21 43 17.0	
	comp=Z,29nm,20.2s,baz=298,slow=36						
AKASG	Malin Array Be	98.95	31	LR	LR	21 49 52.8	
	comp=Z,26nm,19.1s,baz=262,slow=37						

DSN ***21*** *20:49:50.2±1.4,27.84N×57.35E,h15km,ML2.9/6, Error ellipse: s-maj=44.7km s-min=12.2km az=105.0*
TEH ***21*** *20:49:55.9,27.52N×56.80E,h16km±28km,ML3.4*
ISC 21 20:49:56.2±1.1,27.50N±0.04×56.82E±0.05,h10km,n23,
σ0.72/24,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	Bandar-abas	0.25	258	Pg	Pg	20 50 01.5	+0.1
GENO	Geno	0.58	260	Pg	Pg	20 50 07.4	-0.2
KHNJ	Kahnooj	0.91	60	Pg	Pg	20 50 12.9	-0.8
SHME	Shamm	1.57	203	*e*P	Pn	20 50 24.5	+0.4
	SNR=15						
BANOM	Banah	1.64	196	*e*P	Pn	20 50 25.4	+0.2
	SNR=8.7						
JASK	Jask - Hormozg	1.88	150	Pn	Pn	20 50 29.3	+0.9
NGRK	Negar Kerman	2.14	358	Pn	Pn	20 50 31.9	-0.4
KBAM	BAM	2.17	41	Pn	Pn	20 50 33.7	+1.1
MSFE	Esma-Masafi	2.21	196	*e*P	Pn	20 50 33.3	+0.2
	SNR=9.1						
MDH	Madha	2.24	192	P	Pn	20 50 31.8	-1.6
CHMN	Cheshme madani	2.44	15	Pn	Pn	20 50 37.2	+0.8
TVBK	TV Kerman	2.48	359	Pn	Pn	20 50 37.4	+0.4
UOSS	Minazif	2.60	192	P	Pn	20 50 39.0	+0.6
KHGB	Koh Gabri	2.88	354	Pn	Pn	20 50 42.5	+0.1
ASHO	Ashiyiah	2.89	194	*i* P	Pn	20 50 42.9	+0.6
	SNR=12						
ASHO				S	Sb	20 51 22.7	-0.6
FAQ	Al Faqa, Dubai	2.96	202	*i* P	Pn	20 50 43.8	+0.6
	SNR=38						
KRM1	Kerman Provinc	3.02	7	Pn	Pn	20 50 45.4	+1.1
ASUD	Al Ashush, Dub	3.16	205	*i* P	Pn	20 50 46.6	+0.6
	SNR=46						
AJN	Ajban	3.36	210	*i* P	Pn	20 50 49.7	+0.9
	SNR=7.8						
ZRDN	Zarand Kerman	3.46	356	Pn	Pn	20 50 50.9	+0.5
ALNE	Al Ain	3.56	196	P	Pn	20 50 52.0	+0.4
IKOO	Kooshah	5.26	21	Pn	Pn	20 51 15.5	+0.3
KLNJ	Kolanjah	5.75	309	Pn	Pn	20 51 21.7	-0.2

**DJA 21 20:

	312nm,0.8s,8µm							
MNAI	**Manna**	**1.67**	**301**	P	Pb	20 51 22.7	-0.1
MNAI				S	Sb	20 51 44.3	+0.3

SKHL ***21*** *20:55:31.6±0.1,46°.60N×152°.80E,h75km±5km,mb4.5/6*
JMA ***21*** *20:55:33.2±0.7,46°.N±7°×15°3E±°,h122km,MV3.6/12,*
KURILE ISLANDS REGION

ISC 21 20:55:27.2±2.5,46°.3N±0°.2×153°.2E±0°.2,h40km,n17,
σ2s34/28,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.86**	**256**	*e*P	**Pn**	**20 56 26.6**	**+2.7**
KUR				AMB	AMB	20 56 28.0	
	90nm,0.5s						
KUR				*e*S	**Sn**	**20 57 07.8**	**-0.2**
KUR				A	A	20 57 17.6	
	90nm,0.4s						
KUR				A	A	20 57 17.6	
	50nm,0.4s						
SKR	**Severo-Kuril's**	**4.83**	**23**	*e*P	**Pn**	**20 56 39.3**	**+2.1**
SKR				AMB	AMB	20 56 41.6	
	30nm,0.4s						
SKR				*e*S	**Sn**	**20 57 30.2**	**-1.6**
SKR				A	A	20 57 36.1	
	120nm,0.6s						
SKR				A	A	20 57 36.1	
	130nm,0.6s						
SHO	**Shikotan**	**5.10**	**244**	*e*P	**Pn**	**20 56 44.2**	**+3.3**
SHO				AMB	AMB	20 56 46.5	
	20nm,0.2s						
SHO				*e*S	**Sn**	**20 57 38.7**	**+0.2**
SHO				A	A	20 57 39.1	
	40nm,0.2s						
SHO				A	A	20 57 39.1	
	40nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**5.63**	**249**	*e*P	**Pn**	**20 56 51.6**	**+3.3**
YUK				AMB	AMB	20 56 53.7	
	110nm,0.8s						
YUK				*e*S	**Sn**	**20 57 51.1**	**-0.6**
YUK				A	A	20 58 20.8	
	110nm,0.7s						
YUK				A	A	20 58 20.8	
	80nm,0.7s						
PAU	**Pauzhetka**	**5.72**	**23**	*e*P	**Pn**	**20 56 51.4**	**+1.9**
PAU				AMB	AMB	20 56 53.1	
	10.0nm,0.3s						
PAU				*i* S	**Sn**	**20 57 51.7**	**-2.2**
PAU				A	A	20 57 54.2	
	50nm,0.3s						
PAU				A	A	20 57 54.2	
	60nm,0.3s						
NEM2	**Nemuro 2**	**6.03**	**244**	P	**Pn**	**20 56 55.2**	**+1.4**
NEM2				*e*S	**Sn**	**20 57 57.9**	**-3.6**
NMR	**Nemuro--Hokkai**	**6.04**	**244**	*e*P	**Pn**	**20 56 55.4**	**+1.5**
NMR				*e*S	**Sn**	**20 57 59.3**	**-2.4**
JRA	**Rausu**	**6.16**	**251**	*e*P	**Pn**	**20 56 58.0**	**+2.5**
JNK	**Nakash**	**6.58**	**249**	P	**Pn**	**20 57 03.3**	**+2.1**
JNK				*e*S	**Sn**	**20 58 13.9**	**-1.0**
AKK	**Akkeshi**	**6.78**	**244**	*e*P	**Pn**	**20 57 05.3**	**+1.3**
JAK	**Akkeshi**	**6.88**	**245**	*e*P	**Pn**	**20 57 06.2**	**+0.8**
JAK				S	**Sn**	**20 58 18.1**	**-4.2**
JTKR	**Abashiri--Toko**	**6.95**	**254**	P	**Pn**	**20 57 08.4**	**+2.1**
JAR	**Ashorobuto**	**7.32**	**249**	*e*P	**Pn**	**20 57 13.8**	**+2.3**
JAR				*e*S	**Sn**	**20 58 31.4**	**-1.9**
JOB	**Onbets**	**7.47**	**247**	*e*P	**Pn**	**20 57 15.1**	**+1.6**
JOB				*e*S	**Sn**	**20 58 32.7**	**-4.2**
JKK2	**Kamakawa 2**	**7.76**	**256**	*e*P	**Pn**	**20 57 19.2**	**+1.7**
JCH	**Churui**	**7.92**	**246**	P	**Pn**	**20 57 20.8**	**+1.2**
JCH				*e*S	Sn	20 58 41.8	-6.1
JNBK	**Urakawa-nobuka**	**8.47**	**246**	*e*P	**Pn**	**20 57 27.0**	**-0.3**

VIE 21 21:10:00.4±1.4,45°.20N×15°.01E,h8km,mb2.0/1,ml2.1/3,
Error ellipse: s-maj=8.3km s-min=5.0km az=156.0,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOJS	**Bojanci**	**0.35**	**30**	*i* Pg	Pb	21 10 08.2	-0.7
BOJS				*i* Sg	Sb	21 10 14.9	+0.4
BOJS				IAML		21 10 16.6	
	comp=Z,33nm,0.2s						
GBRS	**Gornja Briga**	**0.36**	**337**	*i* Pg	Pg	21 10 07.5	+0.1
GBRS				*i* Sg	Sb	21 10 15.2	+0.4
GBRS				IAML		21 10 15.5	
	comp=Z,14nm,0.1s						
RIY	**Rijeka**	**0.39**	**289**	*e*Pg	Pg	21 10 06.2	-1.8
RIY				Sg	Sg	21 10 12.8	-0.3
RABC	**Rab**	**0.48**	**199**	*e*Pg	Pg	21 10 04.9	-4.8
RABC				Sg	Sg	21 10 10.4	-5.6
OZLJ	**Ozalj**	**0.53**	**38**	*e*Pg	Pb	21 10 11.2	-0.6
OZLJ				Sg	Sb	21 10 20.0	+0.4
PLIT	**Plitvice**	**0.55**	**126**	*e*Pg	Pg	21 10 08.9	-2.0
PLIT				Sg	Sg	21 10 15.6	-2.5
KNDS	**Knezji Dol**	**0.55**	**307**	*e*Pg	Pg	21 10 10.1	-0.9
KNDS				*i* Sg	Sb	21 10 19.6	-0.8
KNDS				IAML		21 10 20.8	
	comp=Z,4.9nm,0.1s						
VISS	**Visnje**	**0.61**	**349**	*i* Pg	Pg	21 10 12.3	0.0
VISS				*i* Sg	Sb	21 10 22.7	+0.5
VISS				IAML		21 10 25.1	
	comp=Z,9.4nm,0.1s						
SMRN	**Sveta Marina**	**0.62**	**255**	*e*Pg	Pg	21 10 09.4	-3.1
SMRN				Sg	Sg	21 10 18.3	-2.3
NVLJ	**Novalja**	**0.65**	**189**	*e*Pg	Pg	21 10 08.0	-4.9
NVLJ				Sg	Sg	21 10 16.0	-5.3
CEY	**Cerknica**	**0.67**	**323**	*e*Pg	Pg	21 10 12.9	-0.5
CEY				*e*Sg	Sb	21 10 25.1	+1.2
CEY				IAML		21 10 26.4	
	comp=Z,11nm,0.1s						
CRES	**Cresnjev**	**0.70**	**27**	*i* Sg	Sb	21 10 25.4	+0.7
SKDS	**Skadanscina**	**0.78**	**297**	*i* Pg	Pg	21 10 13.1	-2.3
SKDS				*i* Sg	Sg	21 10 25.8	+0.3
SKDS				IAML		21 10 27.3	
	comp=Z,9.1nm,0.1s						
UDBI	**Udbina**	**0.86**	**141**	*e*Pg	Pg	21 10 14.3	-2.7
A251A	**Rujevac**	**0.90**	**94**	*e*Pg	Pg	21 10 16.2	-1.4
VIRC	**Vir**	**0.91**	**178**	*e*Pg	Pg	21 10 12.8	-5.1
VIRC				Sg	Sg	21 10 24.9	-4.9
BRJN	**Brijuni**	**0.94**	**252**	*e*Pg	Pg	21 10 15.6	-2.8
DUGI	**Dugi Otok**	**1.21**	**178**	*e*Pg	Pb	21 10 18.4	-5.2
DUGI				Sg	Sg	21 10 34.9	-4.4
OBKA	**Obir**	**1.34**	**346**	*i* Pg	Pg	21 10 26.6	+0.4
	comp=Z,0.8nm,0.1s						
OBKA				Sg	Sn	21 10 45.4	+1.7
	comp=Z,10nm,0.3s						
MORI	**Morici**	**1.43**	**159**	*e*Pg	Pn	21 10 22.9	-3.7
SOKA	**Soboth**	**1.48**	**1**	*e*Pg	Pg	21 10 29.6	+0.9
	comp=Z,1.6nm,0.3s						
SOKA				*e*Sg	Sg	21 10 47.9	0.0
	comp=Z,2.9nm,0.2s						
ZIRJ	**Zirje**	**1.61**	**163**	*e*Pg	Pn	21 10 26.1	-3.0
MYKA	**Terra Mystica**	**1.72**	**327**	*e*Sg	Sg	21 10 58.5	+3.0
	comp=Z,3.7nm,0.2s						

RSNC 21 21:21:00.2±0.0,1°.N±4°×7°.8W±°,h9km±8km,mb4.1,ML3.3,
Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TULM	**Tulcn-Chalpat**	**0.14**	**104**	P	Pg	21 21 26.6	+23
TULM				S	Sg	21 21 28.1	+22
GCUF	**Volcan Galeras**	**0.74**	**51**	P	Pn	21 21 39.0	+22
GCUF				S	Sn	21 21 50.1	+21
PAC1	**Pacto, Paraso**	**0.99**	**241**	P	Pn	21 21 42.9	+22
PAC1				S	Sn	21 21 56.8	+22
BBAC	**Balboa, Cauca**	**1.43**	**28**	P	Pg	21 21 51.5	+24
BBAC				S	Sg	21 22 12.6	+26
POPC	**Popayan, Colom**	**2.17**	**35**	P	Pg	21 22 03.8	+22
POPC				S	Sg	21 22 31.7	+22
GR1C	**Gorgona, Isla**	**2.25**	**354**	P	Pg	21 22 06.1	+23
FLOC	**Florencia**	**2.41**	**70**	P	Pg	21 22 07.9	+21
FLOC				S	Sg	21 22 39.3	+21
JAMC	**Jamundi, Valle**	**2.75**	**27**	P	Pg	21 22 14.0	+21
GARC	**Garzon, Huila**	**2.81**	**60**	P	Pg	21 22 15.8	+22
GARC				S	Sg	21 22 51.2	+20
YOTC	**Yotoco, Valle**	**3.58**	**26**	P	Pg	21 22 26.9	+18
PLMC	**San Jos del P**	**4.44**	**22**	P	Pg	21 22 37.5	+12
GUY2C	**Guyana, Caldas**	**5.12**	**30**	P	Pg	21 22 48.3	+10
	16nm,0.8s						

NORC	**Norcasia**	**5.67**	**32**	P	Pg	21 22 54.8	+5.9

DSN ***21*** *21:33:05.4±1.1,27°.76N×56°.36E,h15km,ML3.0/6,Error*
ellipse: s-maj=43.2km s-min=9.9km az=98.0
TEH ***21*** *21:33:05.8,27°.56N×56°.74E,h20km±22km,ML3.3*
OMAN ***21*** *21:33:07.9±1.3,27°.51N×56°.97E,h14km±37km,mb3.5/1,*
ml3.0/18,Error ellipse: s-maj=39.5km s-min=7.6km az=2.0

ISC 21 21:33:06.3±1.4,27°.57N±0°.04×56°.80E±0°.04,h8km±10km,
n48,σ1s16/64,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.26**	**243**	Pg	**Pg**	**21 33 11.3**	**-0.1**
GENO	**Geno**	**0.58**	**254**	Pg	**Pg**	**21 33 16.9**	**-0.6**
KHNJ	**Kahnooj**	**0.89**	**64**	Pg	**Pg**	**21 33 23.0**	**-0.4**
SHME	**Shamm**	**1.62**	**201**	P	**Pn**	**21 33 34.7**	**-0.3**
SHME				S	**Sb**	**21 33 57.5**	**+0.5**
SHME	**Shamm**	**1.62**	**201**	P	**Pn**	**21 33 35.3**	**+0.2**
	SNR=13						
SHME				S	**Sg**	**21 33 59.1**	**+0.7**
BANOM	**Banah**	**1.69**	**195**	P	**Pn**	**21 33 35.6**	**-0.6**
BANOM	**Banah**	**1.69**	**195**	P	**Pn**	**21 33 36.0**	**-0.1**
BANOM				S	**Sn**	**21 33 57.5**	**-0.5**
JASK	**Jask - Hormozg**	**1.94**	**150**	Pn	**Pn**	**21 33 39.4**	**-0.1**
JASK	**Jask - Hormozg**	**1.94**	**150**	P	**Pn**	**21 33 39.8**	**+0.3**
NGRK	**Negar Kerman**	**2.07**	**358**	Pn	**Pn**	**21 33 41.7**	**0.0**
KBAM	**BAM**	**2.14**	**43**	Pn	**Pn**	**21 33 43.6**	**+1.2**
LAR1	**LAR**	**2.15**	**273**	Pn	**Pn**	**21 33 41.7**	**-0.8**
MASF	**Masafi**	**2.26**	**195**	P	**Pn**	**21 33 44.6**	**+0.6**
MASF				S	**Sn**	**21 34 14.0**	**+2.1**
MSFE	**Esma-Masafi**	**2.27**	**195**	P	**Pn**	**21 33 44.6**	**+0.5**
MDH	**Madha**	**2.30**	**191**	P	**Pn**	**21 33 45.6**	**+1.1**
MDH	**Madha**	**2.30**	**191**	P	**Pn**	**21 33 44.5**	**0.0**
MDH				S	**Sn**	**21 34 14.4**	**+1.5**
CHMN	**Cheshme madani**	**2.38**	**16**	Pn	**Pn**	**21 33 46.6**	**+0.7**
TVBK	**TV Kerman**	**2.41**	**359**	Pn	**Pn**	**21 33 46.9**	**+0.6**
UOSS	**Minazif**	**2.66**	**192**	P	**Pn**	**21 33 50.4**	**+0.9**
UOSS	**Minazif**	**2.66**	**192**	P	**Pn**	**21 33 51.7**	**+2.2**
UOSS				S	**Sn**	**21 34 23.5**	**+1.6**
NAZ	**Nazwa, Dubai**	**2.76**	**202**	P	**Pn**	**21 33 51.6**	**+0.8**
HATD	**Hatta, Dubai**	**2.79**	**192**	P	**Pn**	**21 33 52.5**	**+1.2**
HATD				S	**Sb**	**21 34 29.5**	**-1.3**
KHGB	**Koh Gabri**	**2.81**	**354**	Pn	**Pn**	**21 33 52.1**	**+0.4**
ASHO	**Ashiyiah**	**2.94**	**193**	P	**Pn**	**21 33 53.5**	**+0.1**
ASHO	**Ashiyiah**	**2.94**	**193**	P	**Pn**	**21 33 54.9**	**+1.5**
KRM1	**Kerman Provinc**	**2.96**	**8**	Pn	**Pn**	**21 33 54.2**	**+0.5**
JHRM	**Jahrom**	**3.00**	**289**	Pn	**Pn**	**21 33 53.5**	**-0.6**
FAQ	**Al Faqa, Dubai**	**3.01**	**201**	P	**Pn**	**21 33 53.7**	**-0.5**
FAQ	**Al Faqa, Dubai**	**3.01**	**201**	P	**Pn**	**21 33 54.3**	**+0.1**
	SNR=32						
FAQ				S	**Sn**	**21 34 31.0**	**+0.5**
ASUD	**Al Ashush, Dub**	**3.21**	**205**	P	**Pn**	**21 33 57.5**	**+0.6**
	SNR=38						
SOHO	**SOHO**	**3.42**	**184**	P	**Pn**	**21 34 00.4**	**+0.5**
ALNE	**Al Ain**	**3.62**	**195**	P	**Pn**	**21 34 03.6**	**+1.0**
ALNE				S	**Sn**	**21 34 47.2**	**+1.7**
ZHDN	**Zahedan**	**3.98**	**62**	Pn	**Pn**	**21 34 08.7**	**+1.1**
HOQ	**Hoqain**	**3.99**	**173**	P	**Pn**	**21 34 08.3**	**+0.6**
HOQ				S	**Sn**	**21 34 53.0**	**-1.8**
BIDO	**Bidbid**	**4.20**	**163**	P	**Pn**	**21 34 09.5**	**-1.1**
BIDO				S	**Sn**	**21 35 00.4**	**+0.5**
ARQ	**Araqi**	**4.22**	**183**	P	**Pn**	**21 34 11.5**	**+0.6**
IMEH	**Mehriz**	**4.26**	**334**	Pn	**Pn**	**21 34 10.8**	**-0.8**
SMDO	**Samad**	**4.63**	**166**	P	**Pn**	**21 34 16.8**	**+0.2**
SMDO				S	**Sn**	**21 35 10.2**	**-0.4**
BSY	**Bisya**	**4.81**	**176**	P	**Pn**	**21 34 19.7**	**+0.7**
BSY				S	**Sn**	**21 35 18.0**	**+3.0**
ISAD	**Sadrabad**	**5.11**	**329**	Pn	**Pn**	**21 34 23.3**	**-0.1**
IKOO	**Kooshah**	**5.21**	**21**	Pn	**Pn**	**21 34 25.5**	**+0.9**
JMDO	**Jabal Madar**	**5.31**	**167**	P	**Pn**	**21 34 26.6**	**+0.8**
JMDO				S	**Sn**	**21 35 27.0**	**-0.2**
WBK	**Wadi Bani Khal**	**5.31**	**158**	P	**Pn**	**21 34 25.7**	**-0.3**
	SNR=6.4						
WBK				S	**Sn**	**21 35 23.7**	**-3.6**
KLNJ	**Kolanjah**	**5.70**	**308**	Pn	**Pn**	**21 34 30.8**	**-0.6**
JLN	**Jalan Bani Buh**	**5.89**	**156**	P	**Pn**	**21 34 33.5**	**-0.3**
JLN				S	**Sn**	**21 35 37.7**	**-3.8**
TNSJ	**Nastanj**	**6.38**	**359**	Pn	**Pn**	**21 34 41.1**	**+0.5**
MHTO	**MHTO**	**6.64**	**170**	P	**Pn**	**21 34 44.1**	**0.0**
ZNGN	**Zangian**	**6.87**	**313**	Pn	**Pn**	**21 34 47.0**	**-0.5**

SJA ***21*** *21:38:26.6±0.6,35°.00S×71°.08W,h104km±2km,ML3.7,*
MW3.7
GUC ***21*** *21:38:27.7±0.9,35°.02S×71°.11W,h98km±3km,ML3.8*

ISC 21 21:38:27.5±1.4,35°.01S±0°.03×71°.13W±0°.05,h101km±8km,
n51,σ0s54/80,8C,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO02	**Sierra Bellavi**	**0.36**	**52**	*e*P	**Pn**	**21 38 42.6**	**0.0**
BO02				*e*S	**Sn**	**21 38 54.3**	**+0.4**
BO02	**Sierra Bellavi**	**0.36**	**52**	*e*P	**Pn**	**21 38 42.3**	**-0.3**
BO02				*e*S	**Sn**	**21 38 53.5**	**-0.4**
BO01	**Tunca**	**0.62**	**3**	*e*P	**Pn**	**21 38 44.2**	**-0.2**
BO01				*e*S	**Sn**	**21 38 57.1**	**+0.2**
BO01				IAML		21 38 58.0	
	comp=Z,2µm,0.2s						
BO01	**Tunca**	**0.62**	**3**	⇑*i*P	**Pn**	**21 38 44.4**	**0.0**
BO01				*e*S	**Sn**	**21 38 56.4**	**-0.5**
BO01				IAML		21 38 57.4	
	comp=N,5µm,0.2s						
GO05	**Huala**	**0.66**	**270**	*e*P	**Pn**	**21 38 45.2**	**+0.5**
GO05				*e*S	**Sn**	**21 38 59.1**	**+1.5**
GO05	**Huala**	**0.66**	**270**	*e*P	**Pn**	**21 38 45.0**	**+0.3**
GO05				*e*S	**Sn**	**21 38 57.3**	**-0.3**
GO05				IAML		21 38 59.8	
	comp=E,3µm,0.3s						
ML02	**Panimavida**	**0.79**	**198**	*e*P	**Pn**	**21 38 45.6**	**-0.3**
ML02				*e*S	**Sn**	**21 38 59.3**	**-0.2**
ML02				IAML		21 39 01.1	
	comp=E,2µm,0.3s						
BO03	**Pichilemu**	**0.86**	**307**	*e*S	**Sn**	**21 39 01.3**	**+0.5**
BO03				IAML		21 39 04.0	
	comp=N,2µm,0.5s						
BO04	**La Punta**	**1.11**	**23**	⇑*i*P	**Pn**	**21 38 49.1**	**-0.2**
BO04				*e*S	**Sn**	**21 39 05.5**	**-0.2**
BO04				IAML		21 39 08.0	
	comp=N,3µm,0.3s						
MT01	**Popeta**	**1.15**	**355**	*e*P	**Pn**	**21 38 49.8**	**0.0**
MT01				*e*S	**Sn**	**21 39 06.6**	**+0.1**
MT01				IAML		21 39 08.2	
	comp=Z,1µm,0.1s						
MT01	**Popeta**	**1.15**	**355**	⇑*i*P	**Pn**	**21 38 49.8**	**0.0**
MT01				*e*S	**Sn**	**21 39 05.8**	**-0.6**
MT01				IAML		21 39 08.2	
	comp=E,2µm,0.2s						
MT09	**Talagante**	**1.24**	**5**	⇑*i*P	**Pn**	**21 38 51.0**	**+0.2**
MT09				*e*S	**Sn**	**21 39 07.9**	**-0.6**
MT09				IAML		21 39 09.4	
	comp=E,4µm,0.2s						
MT12	**Pirque**	**1.36**	**21**	*e*P	**Pn**	**21 38 52.2**	**-0.1**
MT12				*e*S	**Sn**	**21 39 10.4**	**-0.5**
MT12				IAML		21 39 12.4	
	comp=N,2µm,0.3s						
LMEL	**Las Melosas**	**1.39**	**34**	*e*P	**Pn**	**21 38 53.0**	**+0.3**
LMEL				*e*S	**Sn**	**21 39 12.2**	**+0.5**
LMEL				IAML		21 39 15.0	
	comp=N,4µm,0.2s						
VA05	**Santo Domingo**	**1.41**	**343**	*e*P	**Pn**	**21 38 52.8**	**+0.1**
VA05				*e*S	**Sn**	**21 39 11.8**	**0.0**
VA05				IAML		21 39 16.4	
	comp=E,2µm,0.4s						
MT03	**Universidad Ad**	**1.60**	**19**	*e*P	**Pn**	**21 38 55.0**	**-0.1**
MT03				*e*S	**Sn**	**21 39 16.6**	**+0.4**
MT03				IAML		21 39 17.7	
	comp=Z,1µm,0.1s						
MT03	**Universidad Ad**	**1.60**	**19**	*e*P	**Pn**	**21 38 55.1**	**-0.1**
MT03				*e*S	**Sn**	**21 39 15.8**	**-0.4**
MT03				IAML		21 39 19.2	
	comp=E,2µm,0.2s						
EDS3	**Malargue**	**1.60**	**119**	*e*P	**Pn**	**21 38 55.3**	**+0.1**
MT05	**Renca**	**1.65**	**11**	*e*P	**Pn**	**21 38 56.1**	**+0.4**
MT05				*e*S	**Sn**	**21 39 18.1**	**+0.9**
MT05				IAML		21 39 19.8	
	comp=Z,701nm,0.3s						
MT05	**Renca**	**1.65**	**11**	*e*P	**Pn**	**21 38 56.2**	**+0.4**
MT05				*e*S	**Sn**	**21 39 16.6**	**-0.5**
MT05				IAML		21 39 19.6	
	comp=E,2µm,0.2s						
BI02	**San Fabin de**	**1.65**	**184**	⇑*i*P	**Pn**	**21 38 55.9**	**+0.1**
BI02				*e*S	**Sn**	**21 39 16.5**	**-0.8**
MT16	**CCHEN**	**1.66**	**18**	*e*P	**Pn**	**21 38 55.8**	**-0.1**
MT16				IAML		21 39 19.3	
	comp=E,449nm,0.2s						
MT14	**Cerro Cal¡n**	**1.69**	**17**	*e*P	**Pn**	**21 38 56.2**	**0.0**
MT14				*e*S	**Sn**	**21 39 17.6**	**-0.4**
MT14				IAML		21 39 19.9	
	comp=E,1µm,0.3s						
MT02	**Curacav**	**1.75**	**360**	*e*P	**Pn**	**21 38 57.2**	**+0.2**
MT02				IAML		21 39 29.5	
	comp=Z,267nm,0.4s						
MT02	**Curacav**	**1.75**	**360**	⇑*i*P	**Pn**	**21 38 57.0**	**+0.1**
MT02				IAML		21 39 23.3	
	comp=E,407nm,0.3s						
MT04	**Ro Olivares**	**1.80**	**27**	⇑*i*P	**Pn**	**21 38 58.1**	**+0.3**
MT04				*e*S	**Sn**	**21 39 21.3**	**+0.4**
MT04				IAML		21 39 24.2	
	comp=N,1µm,0.1s						
FCH	**Farellones**	**1.82**	**23**	*e*P	**Pn**	**21 38 58.0**	**-0.1**
FCH				*e*S	**Sn**	**21 39 21.3**	**-0.1**
FCH				IAML		21 39 23.6	
	comp=N,1µm,0.2s						
PEL	**Peldehue**	**1.90**	**11**	*e*P	**Pn**	**21 38 59.1**	**+0.2**
PEL				*e*S	**Sn**	**21 39 24.1**	**+1.2**
PEL	**Peldehue**	**1.90**	**11**	*e*P	**Pn**	**21 38 58.7**	**-0.2**
PEL				*e*S	**Sn**	**21 39 22.0**	**-0.8**
PEL				IAML		21 39 24.4	
	comp=N,1µm,0.4s						
VA01	**Torpederas**	**2.03**	**348**	*e*P	**Pn**	**21 39 00.9**	**+0.4**
VA01				IAML		21 39 29.0	
	comp=Z,222nm,0.2s						
ROC1	**El Roble**	**2.03**	**3**	*e*P	**Pn**	**21 39 00.8**	**0.0**
ROCH	**El Roble**	**2.04**	**3**	*e*P		21 39 00.8	
ROCH				⇑*i*P	**Pn**	**21 39 00.7**	**-0.2**
ROCH				*e*S	**Sn**	**21 39 26.1**	**-0.2**
ROCH				*e*S		21 39 26.1	
ROCH				IAML		21 39 28.4	
	comp=N,873nm,0.2s						
ROCH				IAML		21 39 30.1	
	comp=N,387nm,0.3s						
RFA	**San Rafael**	**2.20**	**84**	*e*P	**Pn**	**21 39 02.1**	**-0.7**
VA03	**San Esteban**	**2.29**	**12**	*e*P	**Pn**	**21 39 04.2**	**+0.1**
VA03				IAML		21 39 40.2	
	comp=Z,269nm,0.3s						
VA03	**San Esteban**	**2.29**	**12**	*e*P	**Pn**	**21 39 04.0**	**-0.1**
VA03				*e*S	**Sn**	**21 39 31.5**	**-0.5**
VA03				IAML		21 39 34.4	
	comp=E,886nm,0.1s						
BI05	**Punta Hualpn**	**2.41**	**223**	*e*P	**Pn**	**21 39 05.0**	**-0.5**
BI05				IAML		21 39 36.0	
	comp=E,356nm,0.4s						
VA06	**Catapilco**	**2.45**	**357**	*e*P	**Pn**	**21 39 05.8**	**-0.2**
VA06				*e*S	**Sn**	**21 39 35.1**	**-0.4**
VA06				IAML		21 39 39.5	
	comp=E,572nm,0.4s						
AVIZ	**Vizcacheras**	**2.65**	**55**	*e*P	Pn	21 39 21.8	+13
AAGR	**Agrelo**	**2.71**	**45**	*e*P	**Pn**	**21 39 10.6**	**+1.0**
ARCO	**CERRO ARCO**	**2.83**	**41**	*e*P	**Pn**	**21 39 12.3**	**+1.1**
CANA	**Caviahue**	**2.87**	**179**	*e*P	**Pn**	**21 39 12.4**	**+0.7**
ASAL	**Salagasta**	**3.08**	**39**	*e*P	**Pn**	**21 39 15.7**	**+1.2**
RTLS	**Leoncito**	**3.55**	**26**	*e*P	**Pn**	**21 39 21.9**	**+0.8**
RTLS				IAML		21 40 07.6	
	comp=Z,133nm,0.3s						
CO02	**Combarbal**	**3.80**	**2**	*e*P	**Pn**	**21 39 23.8**	**-0.4**
CO02				IAML		21 40 22.4	
	comp=Z,109nm,0.2s						
CO03	**El Pedregal**	**4.18**	**5**	*e*P	**Pn**	**21 39 29.4**	**+0.1**
CO03				IAML		21 40 19.6	
	comp=Z,84nm,0.1s						
RTLL	**Cerro Villicun**	**4.29**	**32**	*e*P	**Pn**	**21 39 30.9**	**+0.1**
RTLL				IAML		21 40 21.3	
	comp=Z,47nm,0.4s						
DOCA	**Reserva Natura**	**4.40**	**24**	*e*P	**Pn**	**21 39 32.5**	**-0.1**
DOCA				*e*S	**Sn**	**21 40 21.2**	**-1.7**
DOCA				IAML		21 40 24.6	
	comp=Z,83nm,0.3s						
ACCO	**Cerro Coronel**	**4.74**	**22**	*e*P	**Pn**	**21 39 36.7**	**-0.4**
ACCO				*e*S	**Sn**	**21 40 31.7**	**+0.6**
ACCO				IAML		21 40 32.6	
	comp=Z,45nm,0.4s						
GO04	**Tololo Observa**	**4.83**	**3**	*e*P	**Pn**	**21 39 37.3**	**-0.9**
AROD	**Rodeo**	**5.03**	**17**	*e*P	**Pn**	**21 39 41.2**	**+0.2**
AROD				*e*S	**Sn**	**21 40 39.1**	**+1.0**
CO01	**Juntas del Tor**	**5.10**	**10**	*e*P	**Pn**	**21 39 41.8**	**-0.1**

IDC ***21*** *21:39:48.9±6.3,14°.69S×167°.24E,h146km±46km,mb3.5/5,*
mbtmp4.0/6,Error ellipse: s-maj=49.2km s-min=25.6km
az=33.0

ISC 21 21:39:49.5±1.7,14°.7S±0°.1×167°.3E±0°.3,h150km,n7,
σ0s92/8,mb3.8/5,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.35**	**186**	P	**Pn**	**21 41 34.6**	**+0.2**
	4.0nm,0.3s,baz=113,slow=20,SNR=15						
DZM				S	**Sn**	**21 42 56.1**	**-0.6**
	5.2nm,0.4s,baz=136,slow=23,SNR=2.0						
STKA	**Stephens Creek**	**29.00**	**229**	P	**P**	**21 45 36.7**	**+1.5**
	0.9nm,0.4s,baz=54,slow=10,SNR=4.9						
	0.9nm,0.4s						
WRA

ASF	**Jabal al Asfar**	**2.00**	**161**	P		**Pn**	**21 40 54.3**	**+0.6**

IDC 21 21:51:41.2±3.5, 21°97S×179°42W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=168.2km s-min=41.9km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.97**	**246**	P	P	21 58 42.4	-1.5
	1.1nm,0.4s,baz=80,slow=12,SNR=4.4 1.1nm,0.4s						
ASAR	**Alice Springs**	**42.91**	**258**	P	P	21 59 42.0	0.0
	0.4nm,0.5s,baz=92,slow=7.2,SNR=6.1 0.4nm,0.5s						
WRA	**Warramunga Arr**	**43.10**	**264**	P	P	21 59 44.8	+1.2
	1.0nm,0.3s,baz=98,slow=8.5,SNR=28 1.0nm,0.3s						
HFS	**Hagfors**	**140.76**	**350**	PKhKP	PKPpre	22 11 08.2	
	2.7nm,0.5s,baz=83,slow=4.6,SNR=21						
EKA	**Eskdalemuir Ar**	**146.57**	**4**	PKPbc	PKPab	22 11 24.9	-0.4
	0.3nm,0.3s,baz=12,slow=3.9,SNR=3.4						
MMAI	**Mount Meron Ar**	**147.34**	**297**	PKPbc	PKPdf	22 11 24.7	-0.3
	1.4nm,0.6s,baz=80,slow=4.6,SNR=5.1						

IDC 21 22:14:11.5±31.0, 22°57S×68°66E, h0km, mb3.9/4, mbtmp3.9/4, MS3.6/2, Error ellipse: s-maj=778.8km s-min=105.5km az=178.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**15.28**	**15**	T	T	22 32 48.4	
	baz=193,slow=76,SNR=35						
H08S2	**Diego Garcia H**	**15.29**	**15**	T	T	22 32 50.7	
	baz=193,slow=76,SNR=64						
H08S3	**Diego Garcia H**	**15.30**	**15**	T	T	22 32 51.9	
	baz=193,slow=76,SNR=53						
H04N2	**CROZET ISLANDS**	**27.23**	**206**	T	T	22 49 16.5	
	baz=37,slow=75,SNR=107						
H04N1	**CROZET ISLANDS**	**27.24**	**206**	T	T	22 49 20.5	
	baz=37,slow=75,SNR=130						
H04N3	**CROZET ISLANDS**	**27.25**	**206**	T	T	22 49 16.2	
	baz=37,slow=75,SNR=98						
LBTB	**Lobatse**	**39.36**	**258**	LR	LR	22 35 22.2	
	comp=Z,84nm,19.1s,baz=168,slow=32						
TSUM	**Tsumeb**	**47.65**	**264**	LR	LR	22 40 48.3	
	comp=Z,52nm,18.1s,baz=154,slow=34						
CMAR	**Chiang Mai Arr**	**50.39**	**38**	P	P	22 23 10.7	-0.1
	1.6nm,0.4s,baz=234,slow=7.6,SNR=5.1 1.6nm,0.4s						
MKAR	**Makanchi Array**	**70.13**	**10**	P	P	22 25 25.6	0.0
	0.8nm,0.8s,baz=195,slow=5.6,SNR=7.6 0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**73.39**	**7**	P	P	22 25 45.3	+0.2
	0.4nm,0.7s,baz=208,slow=6.1,SNR=3.9 0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**77.47**	**10**	P	P	22 26 08.4	0.0
	1.0nm,0.7s,baz=197,slow=4.5,SNR=4.9 1.0nm,0.7s						

*DJA **21** 22:15:44.3±0.6, 6°S±5°×14°4E±°, h252km±7km, M4.8/6, mB4.9/1, mb4.2/6, MLv5.1/4, Mw(mB)4.2/1*
*IDC **21** 22:15:44.9±0.9, 6.04S×142.62E, h0km, mb4.0/12, mbtmp4.0/13, ML4.2/1, MS3.3/9, Error ellipse: s-maj=45.4km s-min=17.0km az=85.0*
*NEIC **21** 22:15:45.5±1.2, 6.25S±0.10×142.38E±0.11, h10km±1km, mb4.4/16, Error ellipse: s-maj=22.6km s-min=15.5km az=71.0*

ISC 21 22:15:45.6±0.7, 6.29S±0.05×142.80E±0.09, h10km, n50, σ2s41/43, mb4.2/20, MS3.5/7, 1D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPI	**Merauke**	**3.23**	**228**	P	**Pg**	**22 16 49.2**	**+1.7**
MMPI				S	**Sg**	**22 17 35.6**	**+6.1**
JAY	**Jayapura**	**4.29**	**331**	P	**Pn**	**22 16 53.3**	**+2.3**
JAY				S	**Sb**	**22 17 52.2**	**-0.9**
GENI	**Genyem**	**4.51**	**324**	P	**Pn**	**22 16 56.5**	**+2.5**
COEN	**Coen**	**7.63**	**177**	Pn	**Pn**	**22 17 37.1**	**+0.2**
FAKI	**Fak Fak**	**11.04**	**287**		**Pn**	**22 18 23.7**	**+0.1**
MTN	**Manton Dam**	**13.22**	**240**	Pn	**Pn**	**22 18 51.5**	**-2.0**
CTA	**Charters Tower**	**14.12**	**167**	Lg	Lg	22 23 18.2	
	0.2nm,0.3s,baz=90,slow=9.5,SNR=1.5						
CTA				LR	LR	22 23 44.7	
	comp=Z,112nm,21.4s,baz=0.0,slow=33						
WB0	**Warramunga Arr**	**15.70**	**211**	Pn	**Pn**	**22 19 24.0**	**-2.9**
WB0				IAmb	IAmb	22 19 39.4	
	comp=Z,16nm,1.0s						
WRA	**Warramunga Arr**	**15.87**	**210**	Pn	**Pn**	**22 19 25.6**	**-3.7**
WRA	**Warramunga Arr**	**15.87**	**210**	Pn	**Pn**	**22 19 26.0**	**-3.2**
	comp=Z,0.7nm,0.3s,baz=24,slow=13,SNR=25						
WRA				Sn	**Sn**	**22 22 15.8**	**-10**
	comp=Z,0.2nm,0.3s,baz=31,slow=23,SNR=5.9						
WRA				Lg	Lg	22 24 11.9	
	comp=Z,0.2nm,0.3s,baz=34,slow=27,SNR=3.4						
LBMI	**Labuha**	**16.27**	**290**	P	Pn	22 19 24.4	-10
	comp=Z,70nm,0.6s						
KNRA	**Kununurra**	**16.63**	**235**	Pn	**Pn**	**22 19 36.6**	**-2.3**
KNRA				IAmb	IAmb	22 20 02.4	
	comp=Z,24nm,0.7s						
SOEI	**Soe**	**18.67**	**258**		**Pn**	**22 20 04.0**	**-0.4**
SOEI	**Soe**	**18.67**	**258**	P	P	22 19 53.8	-10
	comp=Z,62nm,0.8s						
AS31	**Alice Springs**	**19.28**	**205**		**P**	**22 20 10.8**	**+0.1**
AS31				IAmb	IAmb	22 20 19.5	
	comp=Z,7.7nm,0.6s						
ASAR	**Alice Springs**	**19.28**	**205**		**Pn**	**22 20 11.9**	**+0.2**
ASAR	**Alice Springs**	**19.28**	**205**	P	**Pn**	**22 20 11.6**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=30,slow=9.8,SNR=33						
ASAR				Lg	Lg	22 26 04.3	
	comp=Z,0.1nm,0.3s,baz=27,slow=31,SNR=4.6						
ASAR				LR	LR	22 28 04.6	
	comp=Z,122nm,20.8s,baz=32,slow=38 comp=Z,7.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.45**	**233**		**P**	**22 20 22.8**	**-0.6**
EDFI	**Ende, Flores**	**21.07**	**262**	P	P	22 20 18.8	-12
DAV	**Davao City (W)**	**21.71**	**307**	LR	LR	22 30 47.9	
	comp=Z,26nm,18.2s,baz=274,slow=42						
TOLI2	**Tolitoli**	**23.18**	**288**	P	**P**	**22 20 51.2**	**-1.4**
TOLI2				IAmb	IAmb	22 21 08.4	
	comp=Z,9.0nm,0.7s						
STKA	**Stephens Creek**	**25.48**	**182**	P	**P**	**22 21 14.3**	**+0.3**
STKA	**Stephens Creek**	**25.48**	**182**	P	**P**	**22 21 18.4**	**+4.4**
	comp=Z,2.1nm,0.8s,baz=349,slow=15,SNR=3.6						
STKA				LR	LR	22 30 56.2	
	comp=Z,135nm,18.7s,baz=200,slow=35 comp=Z,2.1nm,0.8s						
PSA00	**Pilbara Seismi**	**26.91**	**233**	P	**P**	**22 21 26.1**	**-1.0**
BBOO	**Buckleboo**	**27.13**	**193**	P	**P**	**22 21 28.4**	**-0.5**
DZM	**Mont Dzumac**	**27.71**	**127**	LR	LR	22 33 22.5	
	comp=Z,114nm,18.2s,baz=202,slow=38						
URZ	**Urewera**	**44.48**	**141**	LR	LR	22 43 06.7	
	comp=Z,113nm,18.1s,baz=126,slow=37						
KSRS	**Korea Array**	**45.68**	**343**	P	**P**	**22 24 05.0**	**-1.6**
	comp=Z,2.7nm,1.0s,baz=164,slow=8.7,SNR=3.6 comp=Z,2.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**49.75**	**300**	P	**P**	**22 24 38.7**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=106,slow=6.7,SNR=2.1 comp=Z,1.1nm,0.4s						
USRK	**Uusuriysk Ar.**	**51.19**	**350**	P	**P**	**22 24 48.4**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=185,slow=9.6,SNR=3.7 comp=Z,0.9nm,0.7s						
PZH	**PanZhiHua**	**51.44**	**311**	P	**P**	**22 24 51.6**	**+0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,130nm,5.7s						
BNX	**BinXian**	**53.59**	**347**	⇓P	P	22 25 11.3	+4.5
BNX				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BNX				pmax	pmax		
	comp=Z,190nm,4.9s						
HHC	**Hu-ho-hao-te**	**54.98**	**331**	*e*P	**P**	**22 25 18.4**	**+1.2**
HHC				sP	sP	22 25 25.4	+3.5
HHC				pmax	pmax		
	comp=Z,6.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,220nm,4.8s						
RAR	**Rarotonga**	**57.42**	**111**	LR	LR	22 48 28.3	
	comp=Z,95nm,18.6s,baz=296,slow=34						
PETK	**Petropavlovsk-**	**60.50**	**10**	LR	LR	22 51 18.9	
	comp=Z,5.9nm,20.0s,baz=137,slow=35						
SONM	**Songino Array**	**62.70**	**333**	P	**P**	**22 26 10.0**	**-0.8**
	comp=Z,0.7nm,1.0s,baz=143,slow=5.0,SNR=3.4						
SONM				LR	LR	22 54 15.1	
	comp=Z,27nm,19.9s,baz=181,slow=37 comp=Z,0.7nm,1.0s						
VNDA	**Vanda**	**71.91**	**176**	P	**P**	**22 27 11.1**	**+2.6**
	comp=Z,0.7nm,0.8s,baz=319,slow=11,SNR=3.6 comp=Z,0.7nm,0.8s						
MK31	**Makanchi Array**	**75.10**	**322**	P	**P**	**22 27 26.9**	**-1.0**
MKAR	**Makanchi Array**	**75.10**	**322**	P	**P**	**22 27 27.1**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=108,slow=7.8,SNR=6.8 comp=Z,1.2nm,0.7s						
ZALV	**Zalesovo Beam**	**77.07**	**329**	P	**P**	**22 27 38.4**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=134,slow=4.2,SNR=2.3 comp=Z,0.6nm,0.6s						
KURK	**Kurchatov**	**78.97**	**324**	P	**P**	**22 27 48.3**	**-1.2**
KURK				IAmb	IAmb	22 27 49.2	
	comp=Z,3.5nm,1.1s						
KURBB	**Kurchatov Arra**	**78.99**	**324**	P	**P**	**22 27 48.1**	**-1.5**
	comp=Z,1.0nm,0.8s,baz=109,slow=4.8,SNR=5.7 comp=Z,1.0nm,0.8s						
J19K	**Poorman**	**83.63**	**23**	P	**P**	**22 28 14.4**	**+0.4**
J19K				IAmb	IAmb	22 28 17.7	
	comp=Z,4.0nm,1.1s						
QSPA	**South Pole Qui**	**83.68**	**180**	P	**P**	**22 28 13.8**	**-0.7**
QSPA	**South Pole Qui**	**83.68**	**180**	P	**P**	**22 28 16.2**	**+1.7**
	comp=Z,2.1nm,0.9s,baz=53,slow=5.1,SNR=5.1 comp=Z,2.1nm,0.9s						
BVAR	**Borovoye Array**	**84.56**	**325**	P	**P**	**22 28 18.1**	**-0.9**
	comp=Z,3.2nm,0.8s,baz=104,slow=6.3,SNR=14 comp=Z,3.2nm,0.8s						
BRVK	**Borovoye**	**84.64**	**325**	P	**P**	**22 28 18.5**	**-0.9**
BRVK				IAmb	IAmb	22 28 26.9	
	comp=Z,4.1nm,0.9s						
E19K	**Redstone River**	**84.75**	**20**	P	**P**	**22 28 19.0**	**-0.6**
E19K				IAmb	IAmb	22 28 40.0	
	comp=Z,4.6nm,1.3s						
IMAR	**Indian Mountai**	**85.26**	**22**	P	**P**	**22 28 21.9**	**-0.3**
ILAR	**Eielson Array**	**87.41**	**24**	P	**P**	**22 28 33.4**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=259,slow=5.1,SNR=6.9 comp=Z,0.8nm,0.7s						

*IDC **21** 22:25:59.8±0.8, 27°55N×56°64E, h0km, mb3.9/19, mbtmp3.9/22, ML3.9/3, MS3.3/4, Error ellipse: s-maj=18.7km s-min=15.1km az=17.0*
*NEIC **21** 22:26:02.0±1.4, 27°62N±0°07×56°61E±0°06, h10km±1km, mb4.1/25, Error ellipse: s-maj=11.8km s-min=8.8km az=187.0*
*DSN **21** 22:26:01.3±1.2, 27°80N×56°60E, h15km, ML3.8/13, Error ellipse: s-maj=16.6km s-min=9.7km az=76.0*
*TEH **21** 22:26:03.3, 27°54N×56°73E, h22km±22km, ML4.1*
*OMAN **21** 22:26:04.2±0.1, 27°55N×56°71E, h19km, mb4.0/11, ml3.9/23, Error ellipse: s-maj=0.7km s-min=0.6km az=292.0*

ISC 21 22:26:03.4±1.0, 27°56N±0°03×56°72E±0°03, h25km±8km, n162, σ1s69/190, mb4.0/33, MS3.0/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.20**	**235**	Pg	**Pb**	**22 26 08.8**	**-0.1**
GENO	**Geno**	**0.51**	**252**	Pg	**Pb**	**22 26 14.1**	**+0.2**
KHNJ	**Kahnooj**	**0.95**	**66**	Pg	**Pb**	**22 26 20.3**	**-1.0**
SHME	**Shamm**	**1.59**	**199**	*e*P	**Pb**	**22 26 31.6**	**-0.4**
	SNR=68						
SHME				S	**Sb**	**22 26 54.9**	**+3.1**
SHME	**Shamm**	**1.59**	**199**	P	**Pb**	**22 26 31.7**	**-0.4**
	SNR=50						
SHME				S	**Sb**	**22 26 53.7**	**+1.9**
	SNR=7.5						
BANOM	**Banah**	**1.67**	**193**	*e*P	**Pb**	**22 26 32.8**	**-0.7**
	SNR=21						
BANOM	**Banah**	**1.67**	**193**	P	**Pb**	**22 26 33.2**	**-0.4**
BANOM				S	**Sb**	**22 26 55.2**	**+1.0**
JASK	**Jask - Hormozg**	**1.97**	**148**	Pn	**Pb**	**22 26 37.0**	**-1.6**
JASK	**Jask - Hormozg**	**1.97**	**148**	P	**Pb**	**22 26 37.0**	**-1.6**
	SNR=41						
JASK				S	**Sb**	**22 27 01.3**	**-1.5**
NGRK	**Negar Kerman**	**2.08**	**0**	Pn	**Pn**	**22 26 39.1**	**+2.1**
LAR1	**LAR**	**2.09**	**274**	Pn	**Pn**	**22 26 38.6**	**+1.8**
KBAM	**BAM**	**2.19**	**44**	Pn	**Pb**	**22 26 41.0**	**-1.3**
MASF	**Masafi**	**2.24**	**193**	P	**Pb**	**22 26 41.6**	**-1.5**
	SNR=90						
UMQ	**Umm Al-Quwin**	**2.24**	**205**	*e*P	**Pb**	**22 26 40.8**	**-2.3**
	SNR=9.2						
UMQ	**Umm Al-Quwin**	**2.24**	**205**	P	**Pb**	**22 26 42.2**	**-0.9**
UMQ				S	**Sb**	**22 27 08.0**	**-2.3**
MSFE	**Esma-Masafi**	**2.25**	**193**	*e*P	**Pn**	**22 26 40.7**	**+1.7**
	SNR=98						
MDH	**Madha**	**2.29**	**190**	*e*P	**Pn**	**22 26 40.6**	**+1.1**
	SNR=9.7						
MDH	**Madha**	**2.29**	**190**	P	**Pn**	**22 26 40.7**	**+1.2**
	SNR=10						
MDH				S	**Sb**	**22 27 09.7**	**-2.0**
CHMN	**Cheshme madani**	**2.40**	**17**	Pn	**Pn**	**22 26 44.1**	**+2.6**
TVBK	**TV Kerman**	**2.42**	**1**	Pn	**Pn**	**22 26 44.2**	**+2.5**
UOSS	**Minazif**	**2.65**	**190**	Pn	**Pn**	**22 26 45.6**	**+1.1**
UOSS	**Minazif**	**2.65**	**190**	*e*P	**Pn**	**22 26 46.1**	**+1.6**
	SNR=41						
UOSS	**Minazif**	**2.65**	**190**	P	**Pn**	**22 26 46.5**	**+2.0**
UOSS				S	**Sn**	**22 27 18.5**	**+2.7**
NAZ	**Nazwa, Dubai**	**2.73**	**201**	*e*P	**Pn**	**22 26 48.2**	**+2.6**
	SNR=6.6						
NAZ	**Nazwa, Dubai**	**2.73**	**201**	P	**Pb**	**22 26 48.6**	**-2.9**
	SNR=6.5						
NAZ				S	**Sn**	**22 27 19.1**	**+1.1**
HATD	**Hatta, Dubai**	**2.77**	**191**	*i* P	**Pn**	**22 26 48.0**	**+1.7**
	SNR=11						
HATD	**Hatta, Dubai**	**2.77**	**191**	P	**Pn**	**22 26 48.8**	**+2.6**
HATD				S	**Sb**	**22 27 22.5**	**-3.4**
KHGB	**Koh Gabri**	**2.81**	**356**	Pn	**Pn**	**22 26 49.9**	**+2.9**
ASHO	**Ashiyiah**	**2.93**	**192**	*i* P	**Pn**	**22 26 50.5**	**+2.2**
	SNR=35						
ASHO	**Ashiyiah**	**2.93**	**192**	P	**Pn**	**22 26 50.8**	**+2.5**
	SNR=35						
ASHO				S	**Sb**	**22 27 26.4**	**-3.8**
JHRM	**Jahrom**	**2.94**	**289**	Pn	**Pn**	**22 26 50.3**	**+1.8**
KRM1	**Kerman Provinc**	**2.97**	**9**	Pn	**Pn**	**22 26 51.4**	**+2.2**
FAQ	**Al Faqa, Dubai**	**2.98**	**200**	*i* P	**Pn**	**22 26 51.6**	**+2.6**
	SNR=16						
FAQ	**Al Faqa, Dubai**	**2.98**	**200**	P	**Pn**	**22 26 51.7**	**+2.6**
	SNR=16						
FAQ				S	**Sn**	**22 27 27.3**	**+3.2**
LMD1	**Lamerd**	**3.17**	**267**	Pn	**Pn**	**22 26 53.4**	**+1.7**
ASUD	**Al Ashush, Dub**	**3.18**	**204**	*i* P	**Pn**	**22 26 54.6**	**+2.8**
	SNR=118						
ASUD	**Al Ashush, Dub**	**3.18**	**204**	P	**Pn**	**22 26 54.8**	**+3.0**
	SNR=118						
ASUD				S	**Sn**	**22 27 32.2**	**+3.3**
AJN	**Ajban**	**3.37**	**208**	*i* P	**Pn**	**22 26 57.1**	**+2.7**
	SNR=21						
AJN	**Ajban**	**3.37**	**208**	P	**Pn**	**22 26 57.0**	**+2.7**
	SNR=21						
AJN				S	**Sn**	**22 27 35.8**	**+2.2**
QIR1	**Qir**	**3.38**	**287**	Pn	**Pn**	**22 26 56.5**	**+1.9**
ZRDN	**Zarand Kerman**	**3.40**	**357**	Pn	**Pn**	**22 26 57.5**	**+2.5**
SOHO	**SOHO**	**3.42**	**183**	P	**Pn**	**22 26 56.0**	**+1.0**
SOHO				S	**Sn**	**22 27 39.0**	**+4.2**
ALNE	**Al Ain**	**3.60**	**194**	*i* P	**Pn**	**22 26 60.0**	**+2.4**
	SNR=8.6						
ALNE	**Al Ain**	**3.60**	**194**	P	**Pn**	**22 26 59.8**	**+2.2**
	SNR=9.1						
ALNE				S	**Sn**	**22 27 43.0**	**+3.7**
CHBR	**Chabahar**	**3.90**	**119**	Pn	**Pn**	**22 27 03.0**	**+1.3**
HOQ	**Hoqain**	**4.00**	**172**	Pn	**Pn**	**22 27 04.4**	**+1.3**
HOQ	**Hoqain**	**4.00**	**172**	P	**Pn**	**22 27 04.1**	**+1.0**
	SNR=15						
HOQ				S	**Sn**	**22 27 49.7**	**+0.5**
ZHDN	**Zahedan**	**4.04**	**62**	Pn	**Pn**	**22 27 05.7**	**+2.0**
IBAF	**Bafgh**	**4.14**	**346**	Pn	**Pn**	**22 27 06.8**	**+1.7**
ARQ	**Araqi**	**4.21**	**183**	P	**Pn**	**22 27 08.4**	**+2.4**
	SNR=28						
BIDO	**Bidbid**	**4.22**	**162**	P	**Pn**	**22 27 06.7**	**+0.6**
	SNR=10						
BIDO				S	**Sn**	**22 27 55.7**	**+1.1**
IMEH	**Mehriz**	**4.24**	**335**	Pn	**Pn**	**22 27 08.3**	**+1.8**
MZWR	**Madinat Zayed**	**4.57**	**215**	P	**Pn**	**22 27 12.3**	**+1.3**
MZWR				S	**Sn**	**22 28 04.2**	**+0.9**
WSAR	**Wadi Sarin**	**4.64**	**158**	Pn	**Pn**	**22 27 13.2**	**+1.3**
	18nm,0.3s,baz=0.9,slow=9.7,SNR=288						
WSAR				Sn	**Sn**	**22 28 04.6**	**-0.4**
	19nm,0.3s,baz=154,slow=23,SNR=16 32nm,0.3s						
SMDO	**Samad**	**4.64**	**165**	P	**Pn**	**22 27 13.3**	**+1.3**
	SNR=15						
SMDO				S	**Sn**	**22 28 05.5**	**+0.4**
NHDN	**Nehbandan**	**4.80**	**36**	Pn	**Pn**	**22 27 16.4**	**+2.2**
BSY	**Bisya**	**4.81**	**175**	P	**Pn**	**22 27 16.8**	**+2.5**
	SNR=18						
BSY				S	**Sn**	**22 28 13.4**	**+4.0**
BSRN	**Basiran**	**4.86**	**25**	Pn	**Pn**	**22 27 17.1**	**+2.0**
DSBU	**Dashti - Bushe**	**4.90**	**281**	Pn	**Pn**	**22 27 16.8**	**+1.3**
GHWR	**Ruwais**	**4.99**	**225**	P	**Pn**	**22 27 17.2**	**+0.5**
GHWR				S	**Sn**	**22 28 13.7**	**+0.2**
UMZA	**Um Al Zommool**	**5.03**	**197**	P	**Pn**	**22 27 18.6**	**+1.4**
UMZA				S	**Sn**	**22 28 14.4**	**-0.2**
SRVN	**Saravan**	**5.04**	**90**	Pn	**Pn**	**22 27 20.1**	**+2.5**
ISAD	**Sadrabad**	**5.08**	**329**	Pn	**Pn**	**22 27 20.4**	**+2.3**
ICHK	**Chekchek**	**5.08**	**337**	Pn	**Pn**	**22 27 19.9**	**+1.7**
IKOO	**Kooshah**	**5.24**	**22**	Pn	**Pn**	**22 27 22.9**	**+2.6**
JMDO	**Jabal Madar**	**5.32**	**166**	P	**Pn**	**22 27 23.3**	**+2.0**
JMDO				S	**Sn**	**22 28 21.9**	**+0.1**
WBK	**Wadi Bani Khal**	**5.33**	**157**	Pn	**Pn**	**22 27 22.8**	**+1.3**
WBK	**Wadi Bani Khal**	**5.33**	**157**	P	**Pn**	**22 27 22.5**	**+1.0**
	SNR=28						
WBK				S	**Sn**	**22 28 21.4**	**-0.7**
MZR	**Muzera**	**5.41**	**214**	P	**Pn**	**22 27 24.1**	**+1.6**
MZR				S	**Sn**	**22 28 25.2**	**+1.3**
	SNR=6.2						
SHMA	**Al-Shehemyia**	**5.42**	**253**	P	**Pn**	**22 27 25.2**	**+2.6**
	SNR=28						
TPRV	**Parvadeh(Tabas**	**5.45**	**360**	Pn	**Pn**	**22 27 25.6**	**+2.5**
KLNJ	**Kolanjah**	**5.65**	**309**	Pn	**Pn**	**22 27 28.5**	**+2.4**
IRAM	**Ramesheh**	**5.67**	**319**	Pn	**Pn**	**22 27 28.1**	**+1.8**
TRNA	**Turayna**	**5.70**	**242**	P	**Pn**	**22 27 27.4**	**+1.0**
	SNR=11						
TRNA				S	**Sn**	**22 28 30.6**	**-0.4**
	SNR=9.0						
SLWR	**Sila**	**5.71**	**234**	P	**Pn**	**22 27 28.0**	**+1.3**
SLWR				S	**Sn**	**22 28 30.4**	**-1.0**
SAKB	**Bahrain**	**5.75**	**255**	P	**Pn**	**22 27 29.2**	**+2.0**
SAKB				S	**Sn**	**22 28 31.2**	**-1.1**
JLN	**Jalan Bani Buh**	**5.91**	**155**	P	**Pn**	**22 27 30.3**	**+0.9**
	SNR=10						
JLN				S	**Sn**	**22 28 35.0**	**-1.4**
	SNR=5.8						
SMRA	**Abu-Samra**	**6.00**	**243**	P	**Pn**	**22 27 32.0**	**+1.5**
	SNR=7.0						
SMRA				S	**Sn**	**22 28 37.1**	**-1.3**
TKDS	**Koohdasht(Taba**	**6.04**	**3**	Pn	**Pn**	**22 27 33.7**	**+2.4**
AFRZ	**Afriz**	**6.17**	**18**	Pn	**Pn**	**22 27 35.7**	**+2.6**
ANAR	**Anarak**	**6.18**	**336**	Pn	**Pn**	**22 27 34.7**	**+1.5**
IGAR	**Gharneh**	**6.31**	**321**	Pn	**Pn**	**22 27 37.1**	**+2.1**
TNSJ	**Nastanj**	**6.38**	**359**	Pn	**Pn**	**22 27 38.4**	**+2.5**
MHTO	**MHTO**	**6.64**	**170**	P	**Pn**	**22 27 41.5**	**+2.0**
	SNR=33						
SHRT	**Shahrakht**	**6.80**	**26**	Pn	**Pn**	**22 27 43.8**	**+2.2**
ZNGN	**Zangian**	**6.83**	**313**	Pn	**Pn**	**22 27 44.3**	**+2.1**
KRSH	**Karshahi**	**7.51**	**329**	Pn	**Pn**	**22 27 54.4**	**+2.9**
DQM	**DQM**	**7.63**	**174**	P	**Pn**	**22 27 54.4**	**+1.3**
KBD	**Kabd**	**8.12**	**284**	P	**Pn**	**22 28 00.6**	**+1.0**
HRA	**Herat**	**8.29**	**33**	Pn	**Pn**	**22 28 03.5**	**+1.3**
DOK	**Doka**	**9.21**	**196**	P	**Pn**	**22 28 14.7**	**0.0**
SHAO	**Shalim**	**9.55**	**186**	P	**Pn**	**22 28 19.7**	**+0.4**
DMTO	**DMTO**	**9.93**	**190**	P	**Pn**	**22 28 24.6**	**0.0**
WHFO	**Wadi Hawf**	**9.97**	**196**	P	**Pn**	**22 28 24.7**	**-0.5**
	SNR=12						
ABTO	**Aybut**	**10.64**	**198**	P	**Pn**	**22 28 34.0**	**-0.4**
RAYN	**Ar Rayn**	**10.90**	**251**	Pn	**Pn**	**22 28 35.6**	**-2.3**
RAYN	**Ar Rayn**	**10.90**	**251**	*i* P	**Pn**	**22 28 35.5**	**-2.3**
	SNR=7.3						
RAYN	**Ar Rayn**	**10.90**	**251**	P	**Pn**	**22 28 36.6**	**-1.3**
NIL	**Nilore**	**15.47**	**63**	P	**Pn**	**22 29 41.5**	**+1.5**
GNI	**Garni**	**16.00**	**325**	P	**P**	**22 29 49.8**	**-0.4**
GNI				IAmb	IAmb	22 29 54.4	
	comp=Z,9.6nm,1.0s						
GURO	**Guroymak-BITLI**	**16.46**	**315**	P	**P**	**22 29 54.9**	**-0.5**
BTK	**Batken**	**17.08**	**40**	P	**Pn**	**22 30 01.4**	**+0.9**
BTK				IAmb	IAmb	22 30 10.2	
	comp=Z,7.6nm,0.9s						
DRK	**Karamyk**	**17.27**	**43**		**P**	**22 30 04.3**	**-0.1**
DRK				IAmb	IAmb	22 30 15.8	
	comp=Z,8.9nm,0.8s						
KK31	**Karatay Array**	**19.12**	**32**	P	**P**	**22 30 24.9**	**+0.4**
KKAR	**Karatay Array**	**19.12**	**32**	P	**P**	**22 30 24.9**	**+0.4**
MMAI	**Mount Meron Ar**	**19.19**	**292**	P	**Pn**	**22 30 26.4**	**0.0**
	comp=Z,0.4nm,0.3s,baz=106,slow=15,SNR=4.7 comp=Z,0.6nm,0.5s						
EIL	**Elat**	**19.23**	**281**	LR	LR	22 39 02.2	
	comp=Z,34nm,18.1s,baz=68,slow=41						
KBZ	**Khabaz**	**19.61**	**329**	P	**Pn**	**22 30 31.2**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=104,slow=8.3,SNR=2.9 comp=Z,1.8nm,0.8s						
KIV	**Kislovodsk**	**19.89**	**329**	P	**Pn**	**22 30 34.5**	**-0.1**
KSH	**Kashi**	**19.95**	**48**	P	**P**	**22 30 30.0**	**-3.7**
KSH				pP

SONM	**Songino Array**	**43.35**	**48**	P		**P**	**22 34 04.5**	**+0.9**	
	comp=Z,0.9nm,0.7s,baz=248,slow=8.9,SNR=9.2								
	comp=Z,0.9nm,0.7s								
HFS	**Hagfors**	**43.67**	**330**	P		**P**	**22 34 05.9**	**0.0**	
	comp=Z,3.0nm,0.6s,baz=141,slow=9.6,SNR=12								
	comp=Z,3.0nm,0.6s								
NC405	**NORSAR Array S**	**45.00**	**331**	P		**P**	**22 34 14.9**	**-1.5**	
NB2	**NORSAR Subarra**	**45.18**	**331**	P		**P**	**22 34 17.5**	**-0.4**	
	comp=Z,1.0nm,0.7s,baz=113,slow=7.9								
NOA	**NORSAR Array B**	**45.18**	**331**	P		**P**	**22 34 17.6**	**-0.4**	
	comp=Z,1.4nm,0.7s,baz=114,slow=7.9,SNR=7.3								
	comp=Z,1.4nm,0.7s								
ARCES	**ARCESS Array B**	**45.74**	**345**	P		**P**	**22 34 21.2**	**-1.0**	
	comp=Z,3.8nm,1.0s,baz=142,slow=8.0,SNR=1.9								
	comp=Z,3.8nm,1.0s								
EKA	**Eskdalemuir Ar**	**50.78**	**320**	P		**P**	**22 35 00.5**	**-0.8**	
	comp=Z,0.6nm,0.5s,baz=95,slow=8.8,SNR=1.5								
	comp=Z,0.6nm,0.5s								
ESDC	**Sonseca Array**	**51.09**	**300**	P		**P**	**22 35 03.3**	**-0.6**	
	comp=Z,0.3nm,0.5s,baz=78,slow=7.3,SNR=5.6								
	comp=Z,0.3nm,0.5s								
TOA0	**Torodi Ar. Sit**	**53.15**	**266**	P		**P**	**22 35 18.4**	**-1.2**	
TOA0				IAmb		IAmb	22 35 30.6		
	comp=Z,1.9nm,0.9s								
TORD	**Torodi Ar. Bea**	**53.15**	**266**	P		**P**	**22 35 18.5**	**-1.0**	
TORD	**Torodi Ar. Bea**	**53.15**	**266**	P		**P**	**22 35 18.8**	**-0.8**	
	comp=Z,1.0nm,0.5s,baz=63,slow=7.9,SNR=16								
	comp=Z,1.0nm,0.5s								
JMIC	**Jan Mayen**	**56.17**	**339**	LR		LR	23 00 07.7		
	comp=Z,183nm,20.6s,baz=232,slow=36								
BOSA	**Boshof**	**63.48**	**211**	P		**P**	**22 36 31.9**	**+0.3**	
TOLK	**Toolik Lake Re**	**82.14**	**9**	P		**P**	**22 38 22.6**	**+0.9**	
TOLK				IAmb		IAmb	22 38 49.1		
	comp=Z,2.5nm,1.1s								
BMAR	**Burnt Mountain**	**83.96**	**8**	P		**P**	**22 38 31.9**	**+0.8**	
G31M	**Satah River**	**85.44**	**4**	P		**P**	**22 38 37.9**	**-0.6**	
BPAW	**Bear Paw Mtn.**	**86.08**	**12**	P		**P**	**22 38 41.6**	**-0.2**	
BPAW				IAmb		IAmb	22 38 46.6		
	comp=Z,1.2nm,0.9s								
WRA	**Warramunga Arr**	**88.68**	**113**	P		**P**	**22 38 55.8**	**+0.8**	
	comp=Z,0.5nm,0.6s,baz=316,slow=4.0,SNR=6.0								
	comp=Z,0.5nm,0.6s								
YKA	**Yellowknife Ar**	**89.99**	**356**	P		**P**	**22 39 00.8**	**+0.4**	
	comp=Z,0.4nm,0.7s,baz=0.3,slow=5.0,SNR=7.6								
	comp=Z,0.4nm,0.7s								
ASAR	**Alice Springs**	**90.18**	**117**	P		**P**	**22 39 02.9**	**+0.9**	
	comp=Z,0.4nm,0.6s,baz=308,slow=4.5,SNR=4.3								
	comp=Z,0.4nm,0.6s								

IDC 21 22:40:54.1±3.7, 17°.08N×83°.39W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=80.0km s-min=53.4km az=164.0, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TXAR	**Lajitas Array**	**22.23**	**307**	P		P	22 45 53.1	+0.5
	0.2nm,0.6s,baz=135,slow=12,SNR=2.6							
	0.2nm,0.6s							
SCHQ	**Schefferville**	**39.78**	**15**	P		P	22 48 28.7	+0.1
	4.3nm,1.1s,baz=214,slow=7.3,SNR=6.6							
	4.3nm,1.1s							
ILAR	**Eielson Array**	**63.47**	**335**	P		P	22 51 25.2	-0.5
	0.6nm,0.8s,baz=111,slow=4.9,SNR=6.8							
	0.6nm,0.8s							
ASAR	**Alice Springs**	**144.51**	**253**	PKP		PKPdf	23 00 33.2	-0.1
	0.5nm,0.7s,baz=116,slow=4.2,SNR=3.2							

TRN 21 22:42:40.1, 18°.09N×62°.67W, h35km, MD3.6, North-east of Anguilla., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ANDO	**Antigua, Disas**	**1.25**	**140**	*e*P		Pn	22 43 02.2	+1.0
ANDO				*e*S		Sb	22 43 19.6	+0.5
ANBD	**Bethesda, Anti**	**1.34**	**140**	*e*P		Pn	22 43 03.4	+1.0
ANBD				*e*S		Sb	22 43 21.7	0.0
MBFL	**Flemmings, Mon**	**1.40**	**162**	*e*P		Pb	22 43 04.7	-1.0
MBFL				*e*S		Sb	22 43 22.0	-1.3
ABD	**La Joyeuse, An**	**1.96**	**145**	*e*S		Sn	22 43 36.6	+2.4
CBE	**Ff, Capester**	**2.25**	**153**	*e*S		Sn	22 43 43.1	+1.7

REY 21 22:56:02.1, 64°.62N×17°.42W, h5km
IDC 21 22:56:03.2±0.6, 64°.52N×17°.55W, h0km, mb3.7/17, mbtmp3.7/21, ML2.5/3, MS3.2/20, Error ellipse: s-maj=19.9km s-min=9.1km az=11.0
NEIC 21 22:56:04.5±1.6, 64°.57N±0°.09×17°.78W±0°.1, h7km±4km, mb4.3/32, Error ellipse: s-maj=13.8km s-min=6.8km az=204.0

ISC 21 22:56:04.2±0.4, 64°.62N±0°.02×17°.43W±0°.02, h10km, n123, σ2s33/129, mb4.2/35, MS3.2/16, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IKIS	**Kista**	**0.08**	**311**	P		**Pg**	**22 56 03.9**	**-2.8**
	baz=312							
IKIS				S		**Sg**	**22 56 05.6**	**-2.9**
	baz=312							
IDJK	**Dyngjujokull**	**0.15**	**145**	P		**Pg**	**22 56 05.3**	**-2.3**
	baz=146							
IDJK				S		**Sg**	**22 56 07.3**	**-2.7**
	baz=146							
IVON	**Vonarskard**	**0.15**	**290**	P		**Pg**	**22 56 05.6**	**-2.0**
	baz=290							
IVON				S		**Sg**	**22 56 07.5**	**-2.5**
	baz=290							
IGRF	**Grimsfjall**	**0.23**	**162**	P		**Pg**	**22 56 07.1**	**-1.9**
	baz=163							
IGRF				S		**Sg**	**22 56 09.8**	**-2.4**
	baz=163							
IURH	**Urdarhals**	**0.23**	**31**	P		**Pg**	**22 56 06.7**	**-2.3**
	baz=30							
IURH				S		**Sg**	**22 56 09.5**	**-2.7**
	baz=30							
IHUS	**Husbondi**	**0.34**	**197**	P		**Pg**	**22 56 08.7**	**-2.4**
	baz=198							
IHUS				S		**Sg**	**22 56 14.6**	**-1.1**
	baz=198							
THOR	**Thorvaldshraun**	**0.45**	**46**	P		**Pg**	**22 56 10.6**	**-2.4**
	baz=45							
THOR				S		**Sg**	**22 56 16.9**	**-2.0**
	baz=45							
IJOK	**Jokulheimar**	**0.46**	**229**	P		**Pg**	**22 56 10.4**	**-2.9**
	baz=229							
IJOK				S		**Sg**	**22 56 17.8**	**-1.6**
	baz=229							
IKRE	**Kreppuhraun**	**0.48**	**70**	P		**Pg**	**22 56 10.8**	**-2.8**
	baz=69							
IKRE				S		**Sg**	**22 56 18.1**	**-1.7**
	baz=69							
IASK	**Askja**	**0.54**	**37**	P		**Pg**	**22 56 12.0**	**-2.8**
	baz=37							
IASK				S		**Sg**	**22 56 19.9**	**-2.1**
	baz=37							
IMKO	**Mokollar**	**0.59**	**52**	P		**Pg**	**22 56 12.9**	**-2.7**
	baz=52							
IMKO				S		**Sg**	**22 56 20.3**	**-3.0**
	baz=52							
IIEY	**Innrieyrar**	**0.61**	**210**	P		**Pg**	**22 56 12.5**	**-3.5**
	baz=210							
IIEY				S		**Sg**	**22 56 21.9**	**-2.1**
	baz=210							
IKSK	**Karasker**	**0.62**	**138**	P		**Pg**	**22 56 12.5**	**-3.7**
	baz=138							
IHAE	**Haedir**	**0.63**	**162**	P		**Pg**	**22 56 13.1**	**-3.3**
	baz=162							
IKAL	**Kalfafell**	**0.69**	**190**	P		**Pg**	**22 56 14.1**	**-3.4**
	baz=190							
IKAL				S		**Sg**	**22 56 24.1**	**-2.3**
	baz=190							
IFAL	**Falljokull**	**0.72**	**158**	P		**Pg**	**22 56 14.8**	**-3.2**
	baz=158							
ISVA	**Svartarkot**	**0.72**	**6**	P		**Pg**	**22 56 15.1**	**-3.0**
	baz=5.6							
IVSH	**V-Sauoahnukur**	**0.75**	**75**	P		**Pg**	**22 56 15.3**	**-3.4**
	baz=75							
IVSH				S		**Sg**	**22 56 24.7**	**-3.9**
	baz=75							
IKVI	**Kvisker**	**0.78**	**146**	P		**Pg**	**22 56 15.4**	**-3.7**
	baz=146							
IVAT	**Vatnsfell**	**0.78**	**237**	P		**Pg**	**22 56 16.2**	**-3.1**
	baz=237							
IHOX	**Haoxl**	**0.80**	**153**	P		**Pg**	**22 56 16.1**	**-3.5**
	baz=153							
IFAG	**Fagurholsmyri**	**0.82**	**155**	P		**Pg**	**22 56 16.4**	**-3.6**
	baz=156							
IFAG				S		**Sg**	**22 56 28.3**	**-2.5**
	baz=156							
IADA	**Aoalbol**	**0.89**	**63**	P		**Pg**	**22 56 17.5**	**-3.7**
	baz=62							
IADA				S		**Sg**	**22 56 29.4**	**-3.4**
	baz=62							
ISTE	**Stelbrattur**	**0.97**	**285**	P		**Pg**	**22 56 19.0**	**-3.9**
	baz=285							
IMEL	**Melhnausar**	**1.00**	**19**	P		**Pg**	**22 56 19.4**	**-4.1**
	baz=18							
ISNB	**Snabyli**	**1.03**	**211**	P		**Pg**	**22 56 20.3**	**-3.8**
	baz=211							
ISNB				S		**Sg**	**22 56 34.6**	**-2.9**
	baz=211							
IREN	**Reynihlio**	**1.05**	**12**	P		**Pg**	**22 56 20.9**	**-3.5**
	baz=12							
IHES	**Hestalda**	**1.09**	**239**	P		**Pg**	**22 56 21.6**	**-3.6**
	baz=239							
IKVO	**Krokottuvotn**	**1.12**	**12**	P		**Pb**	**22 56 21.4**	**-4.3**
	baz=12							
IGRS	**Grimsstaoir**	**1.16**	**28**	P		**Pb**	**22 56 22.0**	**-4.3**
	baz=28							
IGRS				S		**Sb**	**22 56 36.5**	**-4.9**
	baz=28							
BORG	**Borgarnes**	**1.68**	**276**	Pn		**Pn**	**22 56 31.2**	**-2.4**
BORG	**Borgarnes**	**1.68**	**276**	Pg		**Pn**	**22 56 31.3**	**-2.3**
	38nm,0.3s,baz=99,slow=6.0,SNR=65							
BORG				Lg		Lg	22 56 55.1	
	19nm,0.3s,baz=222,slow=22,SNR=3.3							
SCO	**Scoresbysund**	**6.13**	**346**	Pn		**Pn**	**22 57 33.7**	**-1.0**
SCO	**Scoresbysund**	**6.13**	**346**	*e*P		**Pn**	**22 57 38.1**	**+3.4**
SCO				IAML			22 57 48.1	
	comp=Z,71nm,0.7s							
SOEG	**Soedalen**	**6.64**	**309**	*e*P		**Pn**	**22 57 46.3**	**+4.6**
DBG	**Daneborg**	**9.78**	**356**	*e*P		**Pn**	22 58 34.2	+10
EKA	**Eskdalemuir Ar**	**11.71**	**136**	Pn		**Pn**	**22 58 49.7**	**-1.3**
	comp=Z,2.4nm,0.6s,baz=322,slow=13,SNR=7.0							
ESK	**Eskdalemuir**	**11.71**	**136**	Pn		**Pn**	**22 58 49.2**	**-1.8**
DAG	**Danmarks Havn**	**12.22**	**359**	*i* P		Pn	22 59 05.0	+7.1
NOA	**NORSAR Array B**	**13.50**	**92**	Pn		**Pn**	**22 59 15.8**	**+0.2**
	baz=304,slow=12,SNR=1.8							
NOA				LR		LR	23 04 17.5	
	comp=Z,33nm,20.0s,baz=300,slow=36							
	comp=Z,0.6nm,0.8s							
SFJD	**Kangerlussuaq**	**13.71**	**295**	LR		LR	23 04 04.2	
	comp=Z,136nm,19.5s,baz=84,slow=35							
IVI	**Ivigtut**	**14.33**	**270**	Pn		**Pn**	**22 59 24.1**	**-2.7**
HFS	**Hagfors**	**15.01**	**93**	Pn		**Pn**	**22 59 36.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=265,slow=8.5,SNR=2.5							
	comp=Z,2.9nm,0.9s							
ARCES	**ARCESS Array B**	**17.12**	**54**	LR		LR	23 05 26.9	
	comp=Z,85nm,21.6s,baz=276,slow=33							
KEV	**Kevo**	**17.62**	**54**			**P**	**23 00 12.5**	**+2.1**
KEV				IAmb		IAmb	23 00 24.5	
	comp=Z,52nm,1.5s							
FINES	**FINESS Array B**	**19.68**	**79**	P		**Pn**	**23 00 35.1**	**+0.7**
FINES	**FINESS Array B**	**19.68**	**79**	P		**Pn**	**23 00 35.3**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=295,slow=14,SNR=2.4							
FINES				LR		LR	23 07 44.9	
	comp=Z,55nm,18.9s,baz=260,slow=36							
	comp=Z,1.8nm,0.8s							
CLL	**Collm**	**20.66**	**116**	P		**P**	**23 00 44.7**	**+1.0**
CLL	**Collm**	**20.66**	**116**	*i* P		**P**	**23 00 44.5**	**+0.8**
CLL				*i* x		x	23 00 47.3	
	comp=Z,31nm,1.7s							
ECH	**Echery**	**21.10**	**129**	P		**P**	**23 00 49.1**	**+0.5**
BRG	**Berggiesshubel**	**21.37**	**115**	*e*P		**P**	**23 00 52.0**	**+0.6**
BRG				Amp			23 00 57.3	
	comp=Z,7.9nm,1.1s							
BFO	**Black Forest**	**21.40**	**127**	P		**P**	**23 00 51.8**	**0.0**
BFO				IAmb		IAmb	23 00 57.5	
	comp=Z,19nm,1.3s							
FRB	**Frobisher Bay**	**21.79**	**291**	LR		LR	23 07 57.8	
	comp=Z,56nm,21.3s,baz=122,slow=33							
PABE	**Paberze**	**22.18**	**95**	P		**P**	**23 01 02.2**	**+2.3**
CHVC	**Chvalec**	**22.42**	**113**	*e*P		**P**	**23 01 08.6**	**+5.9**
KHC	**Kasperske Hory**	**22.63**	**118**	P		**P**	**23 01 05.8**	**+0.9**
KHC	**Kasperske Hory**	**22.63**	**118**	*e*P		**P**	**23 01 05.2**	**+0.3**
DPC	**Dobruska-Polom**	**22.71**	**113**	*e*P		**P**	**23 01 06.9**	**+1.0**
GEC2	**GERESS Array S**	**22.91**	**119**	P		**P**	**23 01 09.4**	**+1.4**
GEC2				IAmb		IAmb	23 01 14.7	
	comp=Z,13nm,1.3s							
GERES	**GERESS Array B**	**22.91**	**119**	P		**P**	**23 01 08.5**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=322,slow=7.8,SNR=8.0							
GERES				LR		LR	23 09 53.1	
	comp=Z,78nm,18.6s,baz=322,slow=36							
	comp=Z,1.0nm,0.7s							
DAVOX	**Davos/Dischmat**	**23.27**	**127**	LR		LR	23 10 48.4	
	comp=Z,58nm,19.4s,baz=312,slow=38							
VRAC	**Vranov**	**23.65**	**114**	*e*P		**P**	**23 01 18.3**	**+3.0**
VRAC	**Vranov**	**23.65**	**114**	LR		LR	23 10 44.8	
	comp=Z,47nm,18.4s,baz=344,slow=37							
MORC	**Moravsky Berou**	**23.65**	**112**	P		**P**	**23 01 16.1**	**+0.7**
MORC				IAmb		IAmb	23 01 20.1	
	comp=Z,9.2nm,1.3s							
MORC	**Moravsky Berou**	**23.65**	**112**	*e*P		**P**	**23 01 18.1**	**+2.7**
KRUC	**Moravsky**	**23.77**	**115**	*e*P		**P**	**23 01 18.8**	**+2.3**
CONA	**Conrad Observa**	**24.48**	**117**	*e*P		**P**	**23 01 24.6**	**+1.3**
	comp=Z,2.9nm,0.8s							
ZST	**Bratislava**	**24.75**	**115**	*e*P		**P**	**23 01 26.9**	**+1.4**
VYHS	**Vyhne**	**25.19**	**112**	*e*P		**P**	**23 01 31.0**	**+1.5**
KLMR	**Klimovskoe**	**25.59**	**72**	*e*P		**P**	**23 01 32.3**	**-0.7**
	comp=Z,102nm,4.1s							
LSH	**Leshukonskoye**	**25.96**	**60**	*e*P		**P**	**23 01 35.2**	**-1.1**
	comp=Z,87nm,2.8s							
SCHQ	**Schefferville**	**26.07**	**272**	P		**P**	**23 01 36.8**	**-0.7**
SCHQ	**Schefferville**	**26.07**	**272**	P		**P**	**23 01 36.6**	**-0.8**
	comp=Z,3.4nm,0.7s,baz=40,slow=7.9,SNR=8.3							
SCHQ				LR		LR	23 09 52.8	
	comp=Z,52nm,20.8s,baz=257,slow=32							
	comp=Z,3.4nm,0.7s							
PSZ	**Piszkesteto**	**26.07**	**112**	P		**P**	**23 01 38.6**	**+1.0**
ESDC	**Sonseca Array**	**26.20**	**156**	P		**P**	**23 01 38.8**	**0.0**
	comp=Z,0.9nm,0.7s,baz=348,slow=8.9,SNR=5.8							
ESDC				LR		LR	23 10 56.5	
	comp=Z,76nm,20.8s,baz=300,slow=34							
	comp=Z,0.9nm,0.7s							
RES	**Resolute Bay**	**26.52**	**324**	LR		LR	23 10 53.0	
	comp=Z,41nm,18.7s,baz=262,slow=34							
AKASG	**Malin Array Be**	**27.81**	**98**	P		**P**	**23 01 52.4**	**-0.6**
	comp=Z,0.1nm,0.2s,baz=322,slow=10,SNR=1.9							
AKASG				LR		LR	23 12 00.0	
	comp=Z,50nm,18.1s,baz=28,slow=34							
	comp=Z,0.1nm,0.2s							
BURAR	**Bucovina Array**	**28.48**	**106**	P		**P**	**23 02 00.7**	**+1.4**
MLR	**Muntele Rosu**	**30.49**	**108**	LR		LR	23 15 35.3	
	comp=Z,36nm,19.9s,baz=98,slow=38							
ARU	**Arti**	**36.07**	**66**	LR		LR	23 17 53.3	
	comp=Z,38nm,19.0s,baz=318,slow=36							
BRTR	**Keskin Array B**	**38.44**	**105**	P		**P**	**23 03 27.1**	**+1.2**
BRTR	**Keskin Array B**	**38.44**	**105**	P		**P**	**23 03 26.1**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=309,slow=5.4,SNR=4.0							
	comp=Z,1.6nm,0.9s							
SADO	**Sadowa**	**38.85**	**270**	LR		LR	23 17 37.4	
	comp=Z,53nm,18.3s,baz=278,slow=33							
KBZ	**Khabaz**	**39.08**	**92**	P		**P**	**23 03 31.6**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=328,slow=9.1,SNR=5.5							
	comp=Z,1.9nm,0.8s							
YKA	**Yellowknife Ar**	**39.27**	**313**	P		**P**	**23 03 32.2**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=39,slow=8.8,SNR=8.7							
YKA				PcP		**PcP**	**23 05 42.5**	**+1.7**
	comp=Z,0.8nm,1.1s,baz=42,slow=3.3,SNR=4.6							
	comp=Z,0.9nm,0.9s							
D25K	**Kavik River**	**41.64**	**335**	P		**P**	**23 03 52.9**	**+0.9**
C23K	**Itkillik River**	**41.91**	**338**	P		**P**	**23 03 55.7**	**+1.5**
C23K				IAmb		IAmb	23 04 01.9	
	comp=Z,7.9nm,1.1s							
ABKAR	**Akbulak array**	**41.97**	**73**	P		**P**	**23 03 56.3**	**+1.4**
ABKAR				IAmb		IAmb	23 04 01.5	
	comp=Z,7.0nm,1.4s							
ABKAR	**Akbulak array**	**41.97**	**73**	P		**P**	**23 03 56.0**	**+1.1**
TIXI	**Tiksi**	**42.07**	**15**	P		**P**	**23 03 57.2**	**+1.9**
D24K	**Happy Valley**	**42.22**	**336**	P		**P**	**23 03 57.4**	**+0.8**
D24K				IAmb		IAmb	23 04 04.3	
	comp=Z,8.9nm,1.0s							
E25K	**Arctic Village**	**42.54**	**334**	P		**P**	**23 04 00.6**	**+1.3**
TOLK	**Toolik Lake Re**	**42.80**	**336**	P		**P**	**23 04 02.6**	**+1.1**
TOLK				IAmb		IAmb	23 04 09.1	
	comp=Z,10nm,1.1s							
BVAR	**Borovoye Array**	**43.19**	**62**	P		**P**	**23 04 05.7**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=324,slow=7.3,SNR=8.4							
BVAR				LR		LR	23 20 11.7	
	comp=Z,34nm,19.2s,baz=318,slow=34							
	comp=Z,1.5nm,0.8s							
F21K	**Alatna River**	**44.73**	**337**	P		**P**	**23 04 17.7**	**+0.7**
F21K				IAmb		IAmb	23 04 24.7	
	comp=Z,6.5nm,1.2s							
E19K	**Redstone River**	**45.11**	**339**	P		**P**	**23 04 21.8**	**+1.8**
E19K				IAmb		IAmb	23 04 27.3	
	comp=Z,4.7nm,1.1s							
F20K	**Avaraart Lake**	**45.26**	**338**	P		**P**	**23 04 22.6**	**+1.6**
F20K				IAmb		IAmb	23 04 28.3	
	comp=Z,5.3nm,1.1s							
ILAR	**Eielson Array**	**45.74**	**332**	P		**P**	**23 04 27.1**	**+2.2**
	comp=Z,0.9nm,0.9s,baz=20,slow=6.7,SNR=8.5							
ILAR				PcP		**PcP**	**23 06 03.5**	**+1.1**
	comp=Z,0.9nm,0.9s,baz=5.7,slow=3.7,SNR=6.5							
ILAR				LR		LR	23 25 03.5	
	comp=Z,26nm,19.5s,baz=8.5,slow=38							
	comp=Z,0.9nm,0.9s							
IMAR	**Indian Mountai**	**45.91**	**337**	P		**P**	**23 04 27.4**	**+1.2**
H21K	**Melozitna Rive**	**46.05**	**336**	P		**P**	**23 04 28.8**	**+1.4**
ZALV	**Zalesovo Beam**	**47.64**	**51**	P		**P**	**23 04 40.6**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=335,slow=6.4,SNR=2.1							
	comp=Z,0.4nm,0.5s							
KURK	**Kurchatov**	**48.11**	**58**	P		**P**	**23 04 45.4**	**+1.8**
KURK				IAmb		IAmb	23 04 46.3	
	comp=Z,4.0nm,1.0s							
KURBB	**Kurchatov Arra**	**48.15**	**58**	P		**P**	**23 04 43.5**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=325,slow=7.4,SNR=9.8							
	comp=Z,1.5nm,0.8s							
KK31	**Karatay Array**	**51.26**	**70**	P		**P**	**23 05 09.8**	**+2.0**
KK31				IAmb		IAmb	23 05 13.6	
	comp=Z,5.6nm,1.5s							
KKAR	**Karatay Array**	**51.26**	**70**	P		**P**	**23 05 09.8**	**+2.1**
KKAR				IAmb		IAmb	23 05 13.6	
	comp=Z,5.6nm,1.5s							
NEW	**Newport**	**51.47**	**303**	LR		LR	23 29 08.3	
	comp=Z,40nm,18.3s,baz=16,slow=39							
MKAR	**Makanchi Array**	**52.72**	**58**	P		**P**	**23 05 20.2**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=302,slow=8.3,SNR=3.9							
	comp=Z,0.5nm,0.8s							
TOA0	**Torodi Ar. Sit**	**53.09**	**156**	P		**P**	**23 05 22.2**	**+0.6**
TOA0				IAmb		IAmb	23 05 24.7	
	comp=Z,4.3nm,1.1s							
TORD	**Torodi Ar. Bea**	**53.09**	**156**	P		**P**	**23 05 22.0**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=352,slow=10.0,SNR=7.4							
	comp=Z,1.3nm,0.8s							
PD31	**Pinedale Array**	**53.22**	**293**	P		**P**	**23 05 23.1**	**+0.5**
PDAR	**Pinedale Array**	**53.22**	**293**	P		**P**	**23 05 22.9**	**+0.3**
PDAR	**Pinedale Array**	**53.22**	**293**	P		**P**	**23 05 23.6**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=57,slow=5.8,SNR=14							
PDAR				LR		LR	23 27 58.9	
	comp=Z,39nm,18.0s,baz=8.5,slow=36							
	comp=Z,1.2nm,0.7s							
AAK	**Ala-Archa**	**53.25**	**67**	P		**P**	**23 05 25.1**	**+2.4**
AAK	**Ala-Archa**	**53.25**	**67**	P		**P**	**23 05 25.1**	**+2.4**
	comp=Z,1.3nm,0.7s,baz=302,slow=11,SNR=3.7							
	comp=Z,1.3nm,0.7s							
BTK	**Batken**	**53.94**	**72**	P		**P**	**23 05 30.6**	**+2.9**
DRK	**Karamyk**	**54.83**	**71**	P		**P**	**23 05 37.3**	**+2.8**
NRN	**Naryn**	**54.86**	**67**	P		**P**	**23 05 36.8**	**+2.1**
KSH	**Kashi**	**56.49**	**68**	P		P	23 05 51.6	+5.5
KSH				pmax		pmax		
	comp=Z,6.0nm,0.9s							
ELK	**Elko**	**57.17**	**296**	LR		LR	23 30 23.6	
	comp=Z,59nm,19.6s,baz=26,slow=36							
SONM	**Songino Array**	**59.65**	**40**	P		**P**	**23 06 09.2**	**+1.0**
	comp=Z,0.6nm,0.9s,baz=352,slow=2.0,SNR=3.0							
	comp=Z,0.6nm,0.9s							
TXAR	**Lajitas Array**	**62.32**	**280**	P		**P**	**23 06 27.9**	**+1.3**
	comp=Z,0.6nm,1.0s,baz=76,slow=5.3,SNR=3.8							
	comp=Z,0.6nm,1.0s							
HHC	**Hu-ho-hao-te**	**67.53**	**40**	*e*P		**P**	**23 07 01.0**	**+0.8**
HHC				pP		sP	23 07 05.3	-0.2
HHC				sP		pP	23 07 08.4	+4.3
HHC				pmax		pmax		
	comp=Z,6.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,65nm,6.0s							
PZH	**PanZhiHua**	**77.74**	**53**	P		**P**	**23 08 02.6**	**+1.4**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,130nm,6.5s							

IDC 21 22:58:21.2±1.1, 26°.24N×89°.72E, h0km, mb3.6/9, mbtmp3.6/10, MS4.1/1, Error ellipse: s-maj=53.3km s-min=16.6km az=58.0
NEIC 21 22:58:23.2±1.8, 26°.31N±0°.08×89°.90E±0°.08, h10km±1km, mb4.0/20, Error ellipse: s-maj=16.0km s-min=8.6km az=215.0
NDI 21 22:58:24.4±2.2, 26°.18N×89°.73E, h10km, ML4.0, MW3.8, mb4.0(NEIC)

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KURBB **Kurchatov Arra** 25.73 343 P **P** 23 03 54.0 +0.2
comp=Z,0.5nm,0.6s,baz=162,slow=9.1,SNR=8.3
comp=Z,0.5nm,0.6s
ZALV **Zalesovo Beam** 27.82 354 P **P** 23 04 12.7 +0.1
comp=Z,0.4nm,0.3s,baz=170,slow=9.5,SNR=2.6
comp=Z,0.4nm,0.3s
ABKAR **Akbulak array** 32.49 323 P **P** 23 04 54.7 +0.7
ABKAR **Akbulak array** 32.49 323 P **P** 23 04 54.7 +0.7
ABKAR IAmb IAmb 23 05 14.6
comp=Z,2.9nm,1.4s
MLR **Muntele Rosu** 53.69 308 P **P** 23 07 45.9 +0.3
BURAR **Bucovina Array** 54.14 311 P **P** 23 07 48.0 -0.7
BUR08 **Bucovina Ar. S** 54.15 311 P **P** 23 07 48.3 -0.5
BUR08 IAmb IAmb 23 07 50.8
comp=Z,3.0nm,1.2s
FINES **FINESS Array B** 54.68 328 P **P** 23 07 52.1 -0.2
HFS **Hagfors** 60.65 326 P **P** 23 08 33.9 -0.4
comp=Z,2.3nm,0.8s,baz=96,slow=12,SNR=6.9
comp=Z,2.3nm,0.8s
WB0 **Warramunga Arr** 63.05 132 P **P** 23 08 49.1 -1.9
WRA **Warramunga Arr** 63.14 132 P **P** 23 08 50.8 -0.8
comp=Z,0.9nm,0.6s,baz=324,slow=6.9,SNR=8.3
comp=Z,0.9nm,0.6s
WB2 **Warramunga Arr** 63.15 132 P **P** 23 08 50.0 -1.7
ASAR **Alice Springs** 65.52 135 P **P** 23 09 06.4 -0.8
comp=Z,0.6nm,0.6s,baz=311,slow=6.5,SNR=7.9
comp=Z,0.6nm,0.6s
EKA **Eskdalemuir Ar** 70.37 323 P **P** 23 09 36.5 -0.7
comp=Z,0.9nm,0.6s,baz=77,slow=6.6,SNR=2.0
comp=Z,0.9nm,0.6s
H18K **Honhosa River** 75.01 24 P **P** 23 10 04.8 +0.1
H18K IAmb IAmb 23 10 17.2
comp=Z,4.4nm,1.5s
K15K **Wolf Creek Mou** 75.19 27 P **P** 23 10 06.3 +0.5
IMAR **Indian Mountai** 76.18 22 P **P** 23 10 11.4 +0.1
J19K **Poorman** 76.63 24 P **P** 23 10 14.1 +0.2
BMAR **Burnt Mountain** 78.16 19 P **P** 23 10 23.1 +0.6
SCRK **Sand Creek** 80.68 21 P **P** 23 10 36.0 -0.4
SCRK IAmb IAmb 23 10 45.3
comp=Z,2.4nm,1.2s
DLBC **Dease Lake** 89.28 20 LR LR 23 54 00.5
comp=Z,99nm,19.1s,baz=288,slow=37

MOS ***21*** *23:11:42.4±0.9, 10˚.82S×165˚.87E, h58km, mb5.1/20, Error ellipse: s-maj=10.0km s-min=9.4km az=126.2*
IDC ***21*** *23:11:44.0±0.4, 10˚.83S×165˚.92E, h59km±3km, mb4.3/21, mbtmp4.5/21, MS4.0/38, Error ellipse: s-maj=12.9km s-min=10.8km az=87.0*
NEIC ***21*** *23:11:44.9±1.4, 10˚.88S±0˚.08×165˚.93E±0˚.09, h62km±5km, mb5.1/93, Error ellipse: s-maj=12.8km s-min=11.5km az=67.0*
GCMT ***21*** *23:11:45.9±0.2, 10˚.82S±0˚.01×165˚.80E±0˚.01, h55km±1km, MW5.1/97, Moment Tensor Solution. s88,c123; s97,c155; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.36±.16; $M_{\theta\theta}$-5.31±.11; $M_{\phi\phi}$0.95±.12; $M_{r\theta}$-0.21±.11; $M_{\theta\phi}$-1.23±.12; $M_{\phi r}$2.17±.09; Best double couple: M_o5.50600×10^{16} NP1:ϕ_s55.00000°, δ52.00000°, λ55.00000°. NP2:ϕ_s284.00000°, δ50.00000°, λ126.00000°. Principal axes: T 5.4650, Plg63.0000°, Azm261.0000°; N 0.0860, Plg27.0000°, Azm78.0000°; P -5.5470, Plg1.0000°, Azm169.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BJI ***21*** *23:11:45.1±0.0, 10˚.51S×166˚.06E, h78km, mb4.9/60, mB5.2/25, Ms4.8/14, Ms7 4.5/19*
NOU ***21*** *23:11:46.1, 10˚.84S×165˚.77E, h61km, mb5.2/49, Santa Cruz Islands*

ISC 21 23:11:44.0±0.4, **10˚.85S**±0˚.04×**165˚.93E**±0˚.05, **h57**km±3km, **h58**km:**pP-P, n581**, σ0**98**/589, **mb5.0**/97, **MS4.1**/47, **12C-8D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
HNR	**Honiara**	**6.06**	**283**	P	**Pn**	**23 13 10.0**	**-1.0**
HNR	**Honiara**	**6.06**	**283**	P	**Pn**	**23 13 12.3**	**+1.3**
	8μm,0.5s,baz=97,slow=1.5,SNR=13						
HNR				S	**Sn**	**23 14 17.3**	**-1.7**
	4μm,0.5s,baz=182,slow=22,SNR=1.2						
HNR				LR	LR	23 15 47.6	
	comp=Z,37μm,20.5s,baz=116,slow=40						
KOUNC	**Koumac, New Ca**	**9.78**	**189**	P	**Pn**	**23 14 04.3**	**+2.4**
KOUNC	**Koumac, New Ca**	**9.78**	**189**	Pn	**Pn**	**23 14 02.8**	**+0.9**
LIFNC	**LIFOU**	**9.95**	**173**	P	**Pn**	**23 14 06.0**	**+1.7**
LIFNC	**LIFOU**	**9.95**	**173**	Pn	**Pn**	**23 14 03.6**	**-0.7**
MARNC	**Mare, Loyalty**	**10.76**	**169**	P	**Pn**	**23 14 16.0**	**+0.6**
MARNC	**Mare, Loyalty**	**10.76**	**169**		**Pn**	**23 14 15.0**	**-0.4**
DZM	**Mont Dzumac**	**11.17**	**178**	Pn	**Pn**	**23 14 22.0**	**+0.9**
DZM	**Mont Dzumac**	**11.17**	**178**	*e*P	**Pn**	**23 14 22.5**	**+1.4**
	409nm,0.9s						
DZM				*e*LR	LR	23 16 33.2	
	4μm,25.4s						
DZM	**Mont Dzumac**	**11.17**	**178**	P	**Pn**	**23 14 22.5**	**+1.4**
	131nm,0.4s,baz=350,slow=12,SNR=273						
NOUC	**Port Laguerre**	**11.20**	**178**	P	**Pn**	**23 14 23.4**	**+2.1**
ONTNC	**Ouen Toro**	**11.41**	**178**	P	**Pn**	**23 14 26.8**	**+2.6**
OUENC	**Ouen Island, N**	**11.54**	**176**	Pn	**Pn**	**23 14 27.5**	**+1.5**
PINNC	**Pines Island,**	**11.79**	**173**	P	**Pn**	**23 14 31.5**	**+2.1**
PINNC	**Pines Island,**	**11.79**	**173**	Pn	**Pn**	**23 14 30.4**	**+1.0**
MSVF	**Nonsavu**	**13.59**	**122**	P	**P**	**23 14 59.5**	**-1.8**
MSVF	**Nonsavu**	**13.59**	**122**	Pn	**Pn**	**23 14 53.6**	**-0.5**
MSVF	**Nonsavu**	**13.59**	**122**	⇑*e*P	**P**	**23 14 59.3**	**-2.0**
MSVF				pmax	pmax		
	comp=Z,7.0nm,1.1s						
TARA	**Tarawa**	**13.97**	**30**		**Pn**	**23 15 00.9**	**+1.7**
PMG	**Port Moresby**	**18.54**	**273**	P	**Pn**	**23 15 57.1**	**+0.3**
PMG	**Port Moresby**	**18.54**	**273**	P	**Pn**	**23 15 57.3**	**+0.5**
PMG	**Port Moresby**	**18.54**	**273**	*de*P	**Pn**	**23 15 56.9**	**+0.1**
PMG				pmax	pmax		
	comp=Z,26nm,1.1s						
PATS	**Pohnpei**	**19.14**	**336**	P	**Pn**	**23 16 04.6**	**+0.6**
RK1H	**Rockhampton Ha**	**19.30**	**228**	P	**Pn**	**23 16 05.9**	**+0.1**
EIDS	**Eidsvold**	**20.16**	**222**	P	Pn	23 16 15.6	-0.4
	baz=20,SNR=30						
EIDS	**Eidsvold**	**20.16**	**222**	P	Pn	23 16 15.3	-0.8
EIDS	**Eidsvold**	**20.16**	**222**	P	**P**	**23 16 14.8**	**+1.1**
EIDS				IAmb	IAmb	23 16 16.6	
	comp=Z,104nm,0.8s						
MANU	**Manus Island**	**20.40**	**294**	P	**P**	**23 16 16.4**	**0.0**
MANU				IAmb	IAmb	23 16 19.0	
	comp=Z,152nm,1.1s						
CTA	**Charters Tower**	**21.05**	**242**	P	**P**	**23 16 24.4**	**+1.0**
	comp=Z,35nm,0.8s,baz=90,slow=6.5,SNR=25						
CTA				LR	LR	23 23 15.5	
	comp=Z,534nm,21.0s,baz=180,slow=33						
	comp=Z,35nm,0.8s						
CTAO	**Charters Tower**	**21.05**	**242**	P	**P**	**23 16 24.2**	**+0.8**
CTAO	**Charters Tower**	**21.05**	**242**	P	**P**	**23 16 23.6**	**+0.1**
CTAO				IAmb	IAmb	23 16 25.5	
	comp=Z,200nm,1.7s						
CTAO	**Charters Tower**	**21.05**	**242**	P	**P**	**23 16 23.6**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,200nm,1.7s						
MTSU	**Mount Surprise**	**22.13**	**248**	P	**P**	**23 16 35.4**	**+0.4**
	baz=22,SNR=31						
MTSU	**Mount Surprise**	**22.13**	**248**	P	**P**	**23 16 35.5**	**+0.4**
COEN	**Coen**	**22.44**	**260**	P	**P**	**23 16 37.2**	**-1.1**
ARMA	**Armidale**	**23.58**	**212**	P	**P**	**23 16 50.9**	**+1.2**
	baz=24,SNR=9.5						
ARMA	**Armidale**	**23.58**	**212**	P	**P**	**23 16 50.1**	**+0.4**
ARMA				IAmb	IAmb	23 16 52.2	
	comp=Z,166nm,1.7s						
QLP	**Quilpie**	**25.77**	**230**	P	**P**	**23 17 09.8**	**+0.3**
	baz=26,SNR=5.2						
QLP	**Quilpie**	**25.77**	**230**	P	**P**	**23 17 10.8**	**+1.3**
QIS	**Mount Isa**	**27.08**	**246**	P	**P**	**23 17 21.3**	**-0.2**
	baz=27,SNR=8.6						
QIS	**Mount Isa**	**27.08**	**246**	P	**P**	**23 17 21.7**	**+0.2**
TOZ	**Tahuroa Road**	**28.12**	**164**	P	**P**	**23 17 31.1**	**+0.7**
LIRZ	**Lichensteins R**	**28.62**	**163**	P	**P**	**23 17 34.2**	**-0.8**
OMRZ	**Omania**	**28.71**	**163**	P	**P**	**23 17 39.3**	**+3.5**
HAZ	**Te Kaha**	**28.83**	**160**	P	**P**	**23 17 38.2**	**+1.4**
RUGZ	**Raukumara Rang**	**28.99**	**161**	P	**P**	**23 17 38.8**	**+0.4**
INKA	**Innaminka**	**29.01**	**231**	P	**P**	**23 17 40.2**	**+1.6**
PKGZ	**Pakihiroa**	**29.05**	**160**	P	**P**	**23 17 39.4**	**+0.5**
URZ	**Urewera**	**29.08**	**162**	LR	LR	23 27 31.8	
	comp=Z,782nm,21.8s,baz=104,slow=33						
KATZ	**Kakaramea**	**29.34**	**164**	P	**P**	**23 17 43.4**	**+1.9**
TWVZ	**Taurewa**	**29.36**	**165**	P	**P**	**23 17 43.3**	**+1.6**
RTZ	**Ruatahuna**	**29.36**	**162**	P	**P**	**23 17 41.3**	**-0.4**
RTZ				IAmb	IAmb	23 17 43.2	
	comp=Z,36nm,0.6s						
WTVZ	**West Tongariro**	**29.44**	**165**	P	**P**	**23 17 44.9**	**+2.5**
NTVZ	**North Tongarir**	**29.45**	**164**	P	**P**	**23 17 44.5**	**+2.1**
NNVZ	**North Ngauruho**	**29.46**	**165**	P	**P**	**23 17 44.8**	**+2.2**
TMVZ	**Te Maari**	**29.47**	**164**	P	**P**	**23 17 44.8**	**+2.1**
ETVZ	**East Tongariro**	**29.49**	**164**	P	**P**	**23 17 45.7**	**+2.8**
NGZ	**Ngauruhoe**	**29.50**	**165**	P	**P**	**23 17 45.6**	**+2.6**
OTVZ	**Oturere**	**29.50**	**165**	P	**P**	**23 17 45.1**	**+2.1**
SNVZ	**South Ngauruho**	**29.52**	**165**	P	**P**	**23 17 45.3**	**+2.2**
TRVZ	**Turoa**	**29.60**	**165**	P	**P**	**23 17 45.9**	**+1.9**
CNGZ	**Carnagh Statio**	**29.63**	**160**	P	**P**	**23 17 44.6**	**+0.7**
BKZ	**Black Stump Fm**	**29.73**	**163**	P	**P**	**23 17 45.9**	**+1.0**
BKZ	**Black Stump Fm**	**29.73**	**163**	P	**P**	**23 17 45.2**	**+0.4**
BHHZ	**Black Hill Sta**	**29.92**	**164**	P	**P**	**23 17 46.8**	**+0.3**
KWHZ	**Kaweka Forest**	**29.95**	**164**	P	**P**	**23 17 47.7**	**+0.8**
KRHZ	**Kereru**	**30.14**	**164**	P	**P**	**23 17 48.5**	**0.0**
QRZ	**Quartz Range**	**30.42**	**170**	P	**P**	**23 17 51.7**	**+0.8**
STKA	**Stephens Creek**	**30.71**	**223**	P	**P**	**23 17 54.4**	**+0.8**
	baz=31,SNR=9.5						
STKA	**Stephens Creek**	**30.71**	**223**	P	**P**	**23 17 54.8**	**+1.2**
STKA	**Stephens Creek**	**30.71**	**223**	P	**P**	**23 17 53.9**	**+0.3**
STKA	**Stephens Creek**	**30.71**	**223**	P	**P**	**23 17 53.9**	**+0.3**
STKA				pmax	pmax		
	comp=Z,15nm,1.9s						
STKA	**Stephens Creek**	**30.71**	**223**	P	**P**	**23 17 54.3**	**+0.8**
	comp=Z,4.7nm,0.5s,baz=46,slow=11,SNR=13						
STKA				LR	LR	23 29 41.7	
	comp=Z,457nm,19.9s,baz=44,slow=35						
	comp=Z,4.7nm,0.5s						
MRNZ	**Matariki Terra**	**31.02**	**170**	P	**P**	**23 17 56.9**	**+0.7**
THZ	**Tophouse**	**31.40**	**170**	P	**P**	**23 18 00.0**	**+0.4**
THZ				IAmb	IAmb	23 18 01.4	
	comp=Z,76nm,1.3s						
WR0	**Warramunga Arr**	**31.54**	**249**	P	**P**	**23 18 00.1**	**-1.0**
WR0				IAmb	IAmb	23 18 01.6	
	comp=Z,42nm,0.9s						
WB2	**Warramunga Arr**	**31.71**	**250**	P	**P**	**23 18 02.1**	**-0.5**
	baz=32						
WB1	**Warramunga Ar.**	**31.72**	**250**	P	**P**	**23 18 02.3**	**-0.4**
WRA	**Warramunga Arr**	**31.72**	**250**	P	**P**	**23 18 00.8**	**-1.9**
WRA	**Warramunga Arr**	**31.72**	**250**	P	**P**	**23 18 00.8**	**-1.9**
WRA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WRA	**Warramunga Arr**	**31.72**	**250**	P	**P**	**23 18 02.0**	**-0.7**
	comp=Z,55nm,0.7s,baz=81,slow=8.9,SNR=253						
WRA				PcP	**PcP**	**23 20 53.3**	**0.0**
	comp=Z,0.8nm,0.6s,baz=70,slow=3.0,SNR=4.5						
WRA				LR	LR	23 30 35.1	
	comp=Z,376nm,20.1s,baz=62,slow=36						
LCRK	**Leigh Creek**	**32.30**	**229**	P	**P**	**23 18 09.0**	**+1.4**
TOO	**Toolangi**	**32.34**	**211**	P	**P**	**23 18 09.0**	**+1.2**
	baz=32,SNR=5.6						
TOO	**Toolangi**	**32.34**	**211**	P	**P**	**23 18 07.3**	**-0.5**
TOO	**Toolangi**	**32.34**	**211**	P	**P**	**23 18 07.3**	**-0.5**
TOO				pmax	pmax		
	comp=Z,15nm,0.8s						
KDU	**Kakadu**	**32.80**	**263**	P	**P**	**23 18 10.5**	**-1.6**
	baz=33,SNR=4.8						
AS01	**Alice Springs**	**33.00**	**243**	P	**P**	**23 18 13.1**	**-0.8**
OOD	**Oodnadatta**	**33.01**	**235**	P	**P**	**23 18 15.1**	**+1.3**
AS31	**Alice Springs**	**33.04**	**243**	P	**P**	**23 18 13.0**	**-1.2**
ASAR	**Alice Springs**	**33.05**	**243**	P	**P**	**23 18 13.1**	**-1.2**
ASAR	**Alice Springs**	**33.05**	**243**	P	**P**	**23 18 13.2**	**-1.1**
	comp=Z,19nm,0.7s,baz=64,slow=10,SNR=134						
ASAR				PcP	**PcP**	**23 20 55.9**	**-1.1**
	comp=Z,2.0nm,0.6s,baz=68,slow=3.1,SNR=6.0						
ASAR				LR	LR	23 30 09.8	
	comp=Z,455nm,21.8s,baz=76,slow=34						
	comp=Z,19nm,0.7s						
ASPA	**Alice Springs**	**33.05**	**243**	P	**P**	**23 18 13.5**	**-0.8**
	baz=33						
HTT	**Hallett**	**33.45**	**224**	P	**P**	**23 18 17.9**	**+0.3**
	baz=33,SNR=12						
HTT	**Hallett**	**33.45**	**224**	P	**P**	**23 18 18.4**	**+0.8**
MTN	**Manton Dam**	**34.10**	**263**	P	**P**	**23 18 22.8**	**-0.6**
	baz=34,SNR=5.2						
MTN	**Manton Dam**	**34.10**	**263**	P	**P**	**23 18 22.3**	**-1.1**
MTN				IAmb	IAmb	23 18 25.5	
	comp=Z,18nm,0.7s						
RAR	**Rarotonga**	**34.46**	**112**	LR	LR	23 30 38.2	
	comp=Z,54nm,20.7s,baz=295,slow=33						
BBOO	**Buckleboo**	**35.10**	**227**	P	**P**	**23 18 31.9**	**+0.1**
	baz=35,SNR=63						
BBOO	**Buckleboo**	**35.10**	**227**	P	**P**	**23 18 32.2**	**+0.3**
BBOO	**Buckleboo**	**35.10**	**227**	P	**P**	**23 18 31.7**	**-0.2**
MULG	**Mulgathing**	**35.37**	**232**	P	**P**	**23 18 33.8**	**-0.4**
KNRA	**Kununurra**	**36.46**	**258**	P	**P**	**23 18 43.1**	**-0.7**
	baz=36,SNR=18						
KNRA	**Kununurra**	**36.46**	**258**	P	**P**	**23 18 43.7**	**-0.1**
KNRA	**Kununurra**	**36.46**	**258**	P	**P**	**23 18 43.0**	**-0.7**
WRKA	**Warakurna**	**38.34**	**243**	P	**P**	**23 18 59.0**	**-0.6**
	baz=38,SNR=33						
WRKA	**Warakurna**	**38.34**	**243**	P	**P**	**23 18 59.5**	**-0.1**
NLAI	**Namlea**	**39.24**	**278**	P	**P**	**23 19 09.6**	**+2.4**
LBMI	**Labuha**	**39.51**	**282**	P	P	23 19 15.1	+5.6
FITZ	**Fitzroy Crossi**	**39.61**	**255**	P	**P**	**23 19 10.0**	**-0.2**
	baz=39,SNR=92						
FITZ	**Fitzroy Crossi**	**39.61**	**255**	P	**P**	**23 19 10.3**	**+0.1**
FITZ	**Fitzroy Crossi**	**39.61**	**255**	P	**P**	**23 19 09.5**	**-0.8**
FITZ				IAmb	IAmb	23 19 10.9	
	comp=Z,29nm,0.7s						
FORT	**Forrest**	**40.31**	**235**	P	**P**	**23 19 16.0**	**+0.1**
	baz=40,SNR=7.4						
FORT	**Forrest**	**40.31**	**235**	P	**P**	**23 19 16.2**	**+0.3**
FORT	**Forrest**	**40.31**	**235**	P	**P**	**23 19 15.4**	**-0.5**
SANI	**Sanana**	**40.60**	**280**	P	**P**	**23 19 19.6**	**+1.1**
SANI	**Sanana**	**40.60**	**280**	P	**P**	**23 19 17.4**	**-1.1**
	comp=Z,24nm,1.3s						
SOEI	**Soe**	**40.99**	**268**	P	**P**	**23 19 21.2**	**-0.6**
SOEI				IAmb	IAmb	23 19 23.1	
	comp=Z,28nm,0.9s						
BATI	**Baumata**	**41.54**	**267**	LR	LR	23 36 34.6	
	comp=Z,180nm,19.6s,baz=128,slow=36						
BATI	**Baumata**	**41.54**	**267**	P	**P**	**23 19 26.5**	**+0.2**
	comp=Z,64nm,1.3s						
MMRI	**Maumere**	**43.09**	**269**	P	**P**	**23 19 38.7**	**-0.2**
MMRI	**Maumere**	**43.09**	**269**	P	**P**	**23 19 37.8**	**-1.1**
MMRI	**Maumere**	**43.09**	**269**	P	**P**	**23 19 37.8**	**-1.1**
	comp=Z,105nm,1.5s						
PPT	**Papeete**	**43.56**	**104**	LR	LR	23 34 07.6	
	comp=Z,143nm,18.0s,baz=264,slow=31						
EDFI	**Ende, Flores**	**43.62**	**269**	P	**P**	**23 19 42.2**	**-1.1**
	comp=Z,50nm,1.5s,comp=Z,636nm						
JCJ	**Chichijima**	**44.20**	**329**	LR	LR	23 34 31.6	
	comp=Z,253nm,21.0s,baz=142,slow=31						
TBI	**Tubuai**	**44.24**	**112**	*e*LQ	LQ	23 29 59.7	
	comp=Z,5μm,31.8s						
TBI				*e*LR	LR	23 31 42.2	
	comp=Z,4μm,30.2s						
BASI	**Baing, Sumba**	**44.56**	**266**	P	**P**	**23 19 50.7**	**0.0**
	comp=Z,88nm,1.6s,comp=Z,2μm						
PSA00	**Pilbara Seismi**	**45.37**	**250**	P	**P**	**23 19 57.5**	**+0.5**
PSA00	**Pilbara Seismi**	**45.37**	**250**	P	**P**	**23 19 56.5**	**-0.5**
PSA00	**Pilbara Seismi**	**45.37**	**250**	P	**P**	**23 19 56.5**	**-0.5**
PSA00				IAmb	IAmb	23 19 59.5	
	comp=Z,68nm,1.2s						
MBWA	**Marble Bar**	**45.44**	**251**	P	**P**	**23 19 56.8**	**-0.7**
MBWA	**Marble Bar**	**45.44**	**251**	P	**P**	**23 19 57.4**	**-0.2**
MBWA	**Marble Bar**	**45.44**	**251**	P	**P**	**23 19 57.9**	**+0.4**
KMBL	**Kambalda**	**45.51**	**236**	P	**P**	**23 19 58.2**	**+0.1**
	baz=45,SNR=5.0						
KMBL	**Kambalda**	**45.51**	**236**	P	**P**	**23 19 58.7**	**+0.7**
KAPI	**Kappang**	**46.07**	**273**	P	**P**	**23 20 01.7**	**-0.9**
KAPI	**Kappang**	**46.07**	**273**	P	**P**	**23 20 01.7**	**-0.9**
KAPI				pmax	pmax		
	comp=Z,63nm,1.2s						
TOLI2	**Tolitoli**	**46.44**	**282**	P	**P**	**23 20 03.8**	**-1.8**
MEEK	**Meekatharra**	**47.20**	**244**	P	**P**	**23 20 11.9**	**+0.5**
	baz=47,SNR=40						
MEEK	**Meekatharra**	**47.20**	**244**	P	**P**	**23 20 12.1**	**+0.7**
PLAI	**Plampang**	**47.45**	**268**	P	**P**	**23 20 12.6**	**-0.9**
PLAI	**Plampang**	**47.45**	**268**	P	**P**	**23 20 12.5**	**-0.9**
	comp=Z,82nm,1.5s,comp=Z,1μm						
TWSI	**Taliwang, Sumb**	**48.34**	**268**	P	**P**	**23 20 18.2**	**-2.1**
	comp=Z,32nm,1.2s						
KLBR	**Kellerberrin**	**48.97**	**237**	P	**P**	**23 20 24.8**	**-0.2**
	baz=49,SNR=8.8						
KLBR	**Kellerberrin**	**48.97**	**237**	P	**P**	**23 20 25.1**	**+0.2**
BLDU	**Ballidu**	**49.62**	**239**	P	**P**	**23 20 29.7**	**-0.2**
	baz=50,SNR=13						
BLDU	**Ballidu**	**49.62**	**239**	P	**P**	**23 20 30.3**	**+0.4**
NWAO	**Narrogin (SRO)**	**49.73**	**236**	P	**P**	**23 20 30.8**	**+0.1**
	baz=50,SNR=4.5						
NWAO				P	**P**	**23 20 30.8**	**+0.1**
	baz=50,SNR=4.5						
NWAO	**Narrogin (SRO)**	**49.73**	**236**	P	**P**	**23 20 30.6**	**-0.1**
NWAO				IAmb	IAmb	23 20 31.7	
	comp=Z,36nm,1.1s						
NWAO	**Narrogin (SRO)**	**49.73**	**236**	P	**P**	**23 20 30.6**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,36nm,1.1s						
NWAO	**Narrogin (SRO)**	**49.73**	**236**	LR	LR	23 40 51.0	
	comp=Z,515nm,21.3s,baz=58,slow=35						
NWAO	**Narrogin (SRO)**	**49.73**	**236**	P	**P**	**23 20 30.8**	**+0.1**
MORW	**Morawa**	**49.88**	**241**	P	**P**	**23 20 32.3**	**+0.3**
	baz=50,SNR=31						
MORW	**Morawa**	**49.88**	**241**	P	**P**	**23 20 32.6**	**+0.7**
MORW	**Morawa**	**49.88**	**241**	P	**P**	**23 20 31.8**	**-0.2**
MUN	**Mundaring**	**50.34**	**237**	P	**P**	**23 20 36.0**	**+0.7**
GIRL	**Giralia**	**50.65**	**250**	P	**P**	**23 20 38.9**	**+1.1**
	baz=50,SNR=5.6						
GIRL	**Giralia**	**50.65**	**250**	P	**P**	**23 20 38.6**	**+0.8**
TGY	**Tagaytay City**	**51.04**	**298**	LR	LR	23 39 41.4	
	comp=Z,158nm,21.1s,baz=111,slow=33						
JAGI	**Jajag, Banyuwa**	**51.05**	**268**	P	**P**	**23 20 39.1**	**-1.9**
KKM	**Kota Kinabalu**	**52.26**	**286**	P	**P**	**23 20 49.2**	**-0.8**
KKM				IAmb	IAmb	23 21 11.6	
	comp=Z,19nm,0.9s						
JGF	**Kuroka**	**53.51**	**331**	P	**P**	**23 20 58.4**	**-0.5**
JGF				IAmb	IAmb	23 21 01.5	
	comp=Z,47nm,1.7s						
JMN	**Monobe**	**53.80**	**327**	P	**P**	**23 21 01.3**	**+0.3**
MJA0	**Matsu Arr-Jizo**	**53.86**	**332**	*e*P	**P**	**23 21 00.7**	**-0.7**
MJA0				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MJAR	**Matsushiro Ar**	**53.88**	**332**	P	**P**	**23 21 00.8**	**-0.7**
	comp=Z,5.3nm,0.9s,baz=158,slow=7.2,SNR=6.7						
MJAR				pP	**pP**	**23 21 16.1**	**-0.6**
	comp=Z,5.4nm,0.8s,baz=165,slow=9.1,SNR=4.5						
	comp=Z,5.3nm,0.9s						
UGM	**Wanagama**	**54.69**	**268**	P	**P**	**23 21 07.2**	**-0.6**
JNU	**Nakatsue**	**55.03**	**324**	P	**P**	**23 21 09.4**	**-0.5**
JNU	**Nakatsue**	**55.03**	**324**	P	**P**	**23 21 09.2**	**-0.7**
	comp=Z,17nm,0.8s,baz=153,slow=4.5,SNR=8.3						
JNU				pP	**pP**	**23 21 25.1**	**0.0**
	comp=Z,15nm,0.8s,baz=91,slow=7.9,SNR=4.1						
JNU				LR	LR	23 42 30.1	
	comp=Z,68nm,20.4s,baz=134,slow=34						
	comp=Z,17nm,0.8s						
LEM	**Lembang**	**57.69**	**269**	LR	LR	23 48 44.3	
	comp=Z,52nm,19.1s,baz=121,slow=38						
DRV	**Dumont d'Urvil**	**58.44**	**192**	P	**P**	**23 21 33.7**	**+0.2**
ASAJ	**Asahikawa**	**58.67**	**340**	LR	LR	23 42 29.8	
	comp=Z,236nm,21.6s,baz=172,slow=32						
KSRS	**Korea Array**	**59.82**	**325**	P	**P**	**23 21 43.6**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=145,slow=6.5,SNR=6.3						
KSRS				pP	**pP**	**23 21 59.4**	**+0.6**
	comp=Z,2.6nm,0.7s,baz=144,slow=7.5,SNR=3.9						
KSRS				LR	LR	23 46 45.9	
	comp=Z,56nm,18.4s,baz=150,slow=35						
	comp=Z,2.4nm,0.7s						
KSAR	**Wonju Array Be**	**59.83**	**325**	P	**P**	**23 21 42.9**	**-0.7**
KSAR	**Wonju Array Be**	**59.83**	**325**	P	**P**	**23 21 42.9**	**-0.7**
YSS	**Yuzh-Sakhalins**	**61.16**	**342**	*e*P	**P**	**23 21 53.7**	**+1.3**
YSS				*e*		23 24 07.1	
YSS				*e*S	**S**	**23 30 14.5**	**+7.0**
YSS				*e*SS	**SS**	**23 34 03.6**	**-5.1**
NJ2	**Nanjing**	**62.01**	**315**	*e*P	**P**	**23 22 00.3**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,570nm,5.0s						
PSTR	**Posyet**	**62.19**	**331**	⇓*e*P	**P**	**23 21 59.7**	**+0.2**
QIZ	**Qiongzhong**	**62.75**	**298**	P	**P**	**23 22 04.1**	**+0.4**
QIZ				pP	**sP**	**23 22 23.5**	**-1.9**
QIZ				S	**S**	**23 30 30.3**	**+1.6**
QIZ				pmax	pmax		
	comp=Z,26nm,1.4s						
QIZ				LR	LR		
	comp=Z,210nm,20.2s						
QIZ				LR	LR		
	comp=Z,200nm,16.8s						
QIZ				LR	LR		
	comp=Z,260nm,20.2s						
USA0B	**Ussuriysk Arra**	**62.85**	**333**	P	**P**	**23 22 03.5**	**-0.3**
USA0B	**Ussuriysk Arra**	**62.85**	**333**	*ce*P	**P**	**23 22 04.1**	**+0.2**
USRK	**Ussuriysk Ar.**	**62.85**	**333**	P	**P**	**23 22 03.6**	**-0.3**
**USRK

comp=Z,28nm,0.6s
HNS HongShan 67.86 318 ⇓P **P** **23 22 36.9 +0.5**
HNS pmax pmax
comp=Z,15nm,0.9s
ENH Enshi 67.92 309 P **P** **23 22 35.8 -1.2**
ENH IAmb IAmb 23 22 53.0
comp=Z,21nm,1.0s
BJT Baijiatuau 68.44 321 P **P** **23 22 39.2 -0.7**
BJT IAmb IAmb 23 22 41.0
comp=Z,27nm,1.6s
BJT Baijiatuau 68.44 321 P **P** **23 22 39.3 -0.7**
BJT pmax pmax
comp=Z,27nm,1.6s
CCD Concordia, Ant 68.44 191 P **P** **23 22 40.0 0.0**
BJI Beijing 68.44 321 P **P** **23 22 39.9 -0.1**
BJI pmax pmax
comp=Z,5.0nm,1.2s
GYA Guiyang 68.46 304 ⇑P **P** **23 22 41.3 +0.7**
GYA pmax pmax
comp=Z,13nm,1.7s
SRIT Nakonsritamara 68.76 284 P **P** **23 22 42.2 -0.3**
SRIT IAmb IAmb 23 22 44.2
comp=Z,44nm,1.5s
SURA Surathani 68.89 284 P **P** **23 22 44.1 +0.8**
GSI Gunungsitoli 69.02 276 P **P** **23 22 44.1 -0.1**
GSI Gunungsitoli 69.02 276 P **P** **23 22 43.1 -1.1**
GSI IAmb IAmb 23 22 44.9
comp=Z,27nm,0.9s
GSI Gunungsitoli 69.02 276 P **P** **23 22 43.8 -0.4**
HEH HeiHe 69.51 335 *e*P **P** **23 22 46.3 -0.1**
HEH pmax pmax
comp=Z,12nm,1.2s
XAN Xi'an 70.12 312 P **P** **23 22 50.8 +0.2**
XAN pP pP 23 23 06.9 +0.5
XAN pmax pmax
comp=Z,26nm,0.7s
XAN LR LR
comp=Z,290nm,20.6s
XAN LR LR
comp=Z,330nm,20.6s
XAN LR LR
comp=Z,630nm,24.7s
SRDT SRDT 70.80 289 P **P** **23 22 56.0 +1.0**
XLT XiLinHaoTe 70.81 324 *e*P **P** **23 22 54.8 +0.1**
XLT pmax pmax
comp=Z,23nm,1.1s
XLT pmax pmax
comp=Z,120nm,4.0s
PHRA Phrae 71.06 294 P **P** **23 22 56.1 -0.4**
KMI Kunming 71.18 301 ⇑P **P** **23 22 58.0 +0.6**
KMI pP pP 23 23 14.8 +1.9
KMI pmax pmax
comp=Z,18nm,1.6s
MA2 Magadan 71.24 352 *ce*P **P** **23 22 55.7 -1.1**
MA2 pmax pmax
comp=Z,5.0nm,1.3s
MA2 Magadan 71.24 352 LR LR 23 49 01.5
comp=Z,192nm,22.0s,baz=164,slow=31
CRAI Chiangrai 71.49 296 P **P** **23 22 58.8 -0.4**
CRAI IAmb IAmb 23 23 00.7
comp=Z,33nm,1.6s
HHC Hu-ho-hao-te 71.80 320 *e*P **P** **23 23 03.4 +2.7**
HHC pP PcP 23 23 21.4 +2.0
HHC *e*S **S** **23 32 21.5 +4.5**
HHC pmax pmax
comp=Z,4.0nm,0.5s
HHC pmax pmax
comp=Z,69nm,4.0s
HHC LR LR
comp=Z,140nm,20.1s
HHC LR LR
comp=Z,170nm,22.1s
HHC LR LR
comp=Z,280nm,19.2s
CM31 Chiang Mai Arr 72.20 293 P **P** **23 23 02.8 -0.6**
CM31 IAmb IAmb 23 23 05.0
comp=Z,39nm,1.7s
CMAR Chiang Mai Arr 72.20 293 P **P** **23 23 03.1 -0.4**
CMAR Chiang Mai Arr 72.20 293 P **P** **23 23 04.0 +0.6**
comp=Z,4.3nm,0.8s,baz=120,slow=4.5,SNR=26
CMAR pP **pP** **23 23 19.9 +0.6**
comp=Z,4.9nm,0.9s,baz=120,slow=4.4,SNR=6.7
comp=Z,4.3nm,0.8s
HIA Hailar 72.29 330 P **P** **23 23 03.7 +0.3**
HIA Hailar 72.29 330 P **P** **23 23 03.7 +0.3**
HIA pmax pmax
comp=Z,111nm,1.2s
PZH PanZhiHua 72.53 302 P **P** **23 23 05.1 -0.3**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,160nm,5.9s
CD2 Chengdu 72.63 307 P **P** **23 23 05.8 0.0**
CD2 S **S** **23 32 25.8 -1.0**
CD2 pmax pmax
comp=Z,20nm,0.4s
CD2 LR LR
comp=Z,270nm,17.7s
CD2 LR LR
comp=Z,270nm,24.2s
CD2 LR LR
comp=Z,270nm,24.4s
S14K Fog Glacier 72.77 19 P **P** **23 23 06.6 +0.4**
baz=216
CHGN Chignik 73.16 20 P **P** **23 23 09.2 +0.9**
baz=217
SEY Seymchan 74.30 354 LR LR 23 51 04.1
comp=Z,236nm,21.3s,baz=138,slow=32
LZH Lanzhou 74.76 312 *e*P **P** **23 23 18.8 +0.4**
LZH pP pP 23 23 36.6 +2.3
LZH pmax pmax
comp=Z,20nm,1.0s
LZH LR LR
comp=Z,280nm,15.8s
LZH LR LR
comp=Z,380nm,17.0s
M13K Dall Lake 75.12 15 P **P** **23 23 20.8 +1.2**
baz=211
N14K Kuskokwak Cree 75.15 16 P **P** **23 23 20.1 +0.4**
baz=213
P16K Nushagak River 75.49 18 P **P** **23 23 22.1 +0.4**
baz=217
Q17K Contact Creek 75.56 20 P **P** **23 23 23.1 +0.8**
baz=219
Q16K King Salmon 75.63 19 P **P** **23 23 23.1 +0.5**
baz=218
M14K Bethel 75.77 16 P **P** **23 23 24.0 +0.6**
baz=213
N15K Kwethluk River 75.80 17 P **P** **23 23 24.3 +0.8**
baz=214
M15K Kasigluk River 76.07 16 P **P** **23 23 25.6 +0.6**
baz=214
L14K Kuka Creek 76.08 15 P **P** **23 23 26.1 +1.0**
baz=212
O17K Koliganek Bris 76.36 18 P **P** **23 23 27.1 +0.4**
baz=218
N16K Nishlik Lake 76.42 17 P **P** **23 23 28.1 +0.9**
baz=216
P18K Big Mountain, 76.65 19 P **P** **23 23 27.9 -0.5**
P18K Big Mountain, 76.65 19 P **P** **23 23 28.6 +0.2**
baz=219
L15K Ungalak Mounta 76.68 15 P **P** **23 23 29.1 +0.6**
baz=213
M16K Timber Creek 76.82 17 P **P** **23 23 30.5 +1.2**
M16K IAmb IAmb 23 23 31.4
comp=Z,17nm,1.1s
M16K Timber Creek 76.82 17 P **P** **23 23 29.9 +0.6**
baz=216
Q19K Cape Douglas, 76.82 20 P **P** **23 23 29.8 +0.4**
baz=221
N17K Nushagak Hills 76.93 18 P **P** **23 23 30.8 +0.9**
baz=217
Q20K Shuyak Island 77.01 21 P **P** **23 23 31.5 +1.1**
baz=222
J14K Nanvaranak Lak 77.08 14 P **P** **23 23 31.6 +0.9**
baz=211
K15K Wolf Creek Mou 77.19 15 P **P** **23 23 32.1 +0.7**
K15K IAmb IAmb 23 23 33.5
comp=Z,36nm,1.4s
K15K Wolf Creek Mou 77.19 15 P **P** **23 23 32.1 +0.7**
baz=213
L16K Owhat River 77.24 16 P **P** **23 23 32.4 +0.8**
L16K IAmb IAmb 23 23 33.5
comp=Z,28nm,1.6s
L16K Owhat River 77.24 16 P **P** **23 23 32.2 +0.6**
baz=215

N18K Kilae Creek 77.45 18 P **P** **23 23 33.5 +0.6**
baz=218
M17K Holitna River 77.56 17 P **P** **23 23 34.3 +0.9**
baz=217
O19K Port Alsworth 77.56 19 P **P** **23 23 34.8 +1.3**
baz=220
L17K Donlin 77.91 16 P **P** **23 23 36.1 +0.7**
baz=216
YAK Yakutsk 77.96 343 LR LR 23 58 59.2
comp=Z,96nm,18.2s,baz=118,slow=36
N19K Bonanza Creek 77.99 19 P **P** **23 23 36.1 +0.2**
baz=220
HOM Homer 78.05 20 P **P** **23 23 36.8 +0.6**
baz=223
M18K Stony River 78.10 18 P **P** **23 23 37.5 +1.0**
baz=218
ULN Ulaanbaatar 78.25 324 P **P** **23 23 37.3 -0.5**
ULN IAmb IAmb 23 23 39.1
comp=Z,44nm,1.6s
ULN Ulaanbaatar 78.25 324 *ci*P **P** **23 23 37.7 -0.1**
ULN pmax pmax
comp=Z,9.0nm,0.9s
J16K Anvik River 78.25 15 P **P** **23 23 38.5 +1.2**
baz=214
ANM Nome 78.26 12 P **P** **23 23 38.2 +0.9**
baz=209
K17K Iditarod 78.38 16 P **P** **23 23 38.8 +0.8**
baz=216
L18K Granite Mounta 78.43 17 P **P** **23 23 39.2 +0.9**
baz=218
SONM Songino Array 78.62 324 P **P** **23 23 39.4 -0.4**
SONM Songino Array 78.62 324 P **P** **23 23 39.7 -0.1**
comp=Z,2.8nm,0.6s,baz=134,slow=5.4,SNR=18
SONM pP **pP** **23 23 56.4 +0.5**
comp=Z,2.4nm,1.0s,baz=148,slow=8.9,SNR=4.2
SONM LR LR 23 58 30.9
comp=Z,37nm,19.4s,baz=184,slow=36
comp=Z,2.8nm,0.6s
TNA Tin City 78.65 11 P **P** **23 23 40.0 +0.7**
baz=206
BILL Bilibino 78.68 0 P **P** **23 23 39.6 +0.1**
BILL IAmb IAmb 23 23 40.8
comp=Z,24nm,1.1s
BILL Bilibino 78.68 0 *i*P **P** **23 23 39.8 +0.3**
I17K Unalakleet 78.73 14 P **P** **23 23 40.3 +0.5**
baz=214
F14K Arctic Creek 78.87 11 P **P** **23 23 41.3 +0.7**
baz=208
G15K Niukluk 78.92 13 P **P** **23 23 41.7 +0.8**
baz=210
L19K White Mountain 78.93 18 P **P** **23 23 41.7 +0.6**
baz=219
H16K Elim 79.00 13 P **P** **23 23 42.2 +0.8**
baz=212
GTA Gaotai 79.05 314 P **P** **23 23 43.0 +0.6**
GTA pP pP 23 23 59.3 +0.8
GTA sP sP 23 24 06.9 +2.1
GTA pmax pmax
comp=Z,13nm,1.4s
GTA LR LR
comp=Z,100nm,22.2s
GTA LR LR
comp=Z,110nm,21.1s
GTA LR LR
comp=Z,140nm,21.4s
SEW Seward 79.14 21 P **P** **23 23 43.0 +0.8**
baz=225
QSPA South Pole Qui 79.16 180 P **P** **23 23 42.1 -0.4**
QSPA IAmb IAmb 23 24 17.4
comp=Z,39nm,1.6s
QSPA South Pole Qui 79.16 180 P **P** **23 23 41.9 -0.6**
comp=Z,3.4nm,0.8s,baz=5.8,slow=0.8,SNR=12
QSPA pP **pP** **23 23 59.7 +1.8**
comp=Z,6.5nm,0.8s,baz=339,slow=2.6,SNR=6.4
QSPA LR LR 23 53 58.3
comp=Z,130nm,20.6s,baz=350,slow=32
comp=Z,3.4nm,0.8s
TTA Tatalina 79.19 17 P **P** **23 23 43.2 +0.7**
baz=218,SNR=6.0
M20K Styx River 79.23 18 P **P** **23 23 43.0 +0.3**
baz=221
F15K North Star Dit 79.41 12 P **P** **23 23 44.1 +0.5**
baz=209
J18K Innoko River 79.42 16 P **P** **23 23 44.1 +0.5**
baz=217,SNR=5.2
L20K Farewell, AK 79.45 18 P **P** **23 23 44.6 +0.7**
baz=220,SNR=7.4
G16K Koyuk River 79.62 13 P **P** **23 23 45.4 +0.6**
G16K Koyuk River 79.62 13 P **P** **23 23 45.8 +1.1**
baz=212
H17K Granite Mounta 79.80 14 P **P** **23 23 46.5 +0.8**
baz=214
K20K Telida 80.07 17 P **P** **23 23 47.7 +0.5**
baz=220
G17K Kwalik Mounta 80.10 13 P **P** **23 23 48.1 +0.8**
baz=213
J19K Poorman 80.13 16 P **P** **23 23 48.2 +0.7**
baz=218
PPLA Purkeypile 80.28 18 P **P** **23 23 48.9 +0.3**
baz=222
PMR Palmer 80.31 20 P **P** **23 23 49.0 +0.5**
baz=225
H18K Honhosa River 80.35 14 P **P** **23 23 49.3 +0.6**
baz=216
KNK Knik Glacier 80.41 20 P **P** **23 23 49.5 +0.4**
baz=225
RPN Rapa Nui 80.49 116 LR LR 23 51 48.9
comp=Z,94nm,19.9s,baz=274,slow=30
J20K Nowinta River 80.68 17 P **P** **23 23 51.0 +0.6**
baz=220
CAST Castle Rocks 80.70 18 P **P** **23 23 50.8 +0.2**
baz=222
SML Sawmill 80.73 20 P **P** **23 23 51.3 +0.4**
baz=226
F17K Baldwin Pennin 80.76 13 P **P** **23 23 51.2 +0.4**
baz=213
G18K Tagagawik 80.89 14 P **P** **23 23 51.7 +0.2**
baz=215
M23K Glacier View 80.93 20 P **P** **23 23 52.1 +0.3**
baz=226
SCM Sheep Creek Mo 81.09 20 P **P** **23 23 52.9 +0.1**
baz=226
H19K Roundabout Mou 81.13 15 **P** **23 23 53.4 +0.6**
H19K Roundabout Mou 81.13 15 P **P** **23 23 53.3 +0.6**
baz=217
E17K Hotham Inlet 81.18 12 P **P** **23 23 53.2 +0.2**
baz=212,SNR=17
F18K Selawik 81.24 13 P **P** **23 23 53.7 +0.4**
baz=214,SNR=9.2
TRF Thorofare Moun 81.27 18 P **P** **23 23 54.2 +0.4**
baz=224
KLU Klutina 81.35 21 P **P** **23 23 54.2 0.0**
baz=228
WAT1 Susitna Watana 81.38 19 P **P** **23 23 54.1 -0.2**
baz=225
D17K Noatak River 81.45 11 P **P** **23 23 54.9 +0.4**
baz=211
G19K Purcell Mounta 81.47 14 **P** **23 23 54.9 +0.3**
G19K Purcell Mounta 81.47 14 P **P** **23 23 55.1 +0.5**
baz=217
WAT6 Susitna Watana 81.47 20 P **P** **23 23 55.1 +0.2**
baz=226
H20K Anotleneega Mo 81.51 15 P **P** **23 23 55.5 +0.6**
baz=219
C16K Lisburne Hills 81.53 10 P **P** **23 23 55.8 +1.0**
baz=209
ZAK Zakamensk 81.65 325 *e*P **P** **23 23 54.7 -1.3**
ZAK *e* 23 24 11.1
ZAK pmax pmax
comp=Z,7.0nm,1.3s
ZAK pmax pmax
comp=Z,5.0nm,1.2s
E18K Tukpahlearik C 81.72 12 P **P** **23 23 56.6 +0.7**
baz=213
RDOG Red Dog Mine 81.79 11 P **P** **23 23 56.7 +0.4**
baz=211
F19K Shaleruckik Mo 81.86 14 P **P** **23 23 57.4 +0.7**
baz=216
MCK McKinley 81.90 19 P **P** **23 23 57.3 +0.4**
baz=225
N25K Chitina, Valde 81.90 22 P **P** **23 23 57.2 +0.1**
baz=229
CRQE Cirque 81.90 23 P **P** **23 23 57.6 +0.5**
baz=230
VRDI Verde Repeater 82.07 22 P **P** **23 23 57.9 -0.2**
VRDI IAmb IAmb 23 24 18.7
comp=Z,48nm,1.7s
GLB Gilahina Butte 82.08 22 P **P** **23 23 57.9 -0.1**

GLB IAmb IAmb 23 23 59.1
comp=Z,32nm,1.4s
C17K DeLong Mountai 82.11 11 P **P** **23 23 58.6 +0.6**
baz=211
IMAR Indian Mountai 82.19 16 P **P** **23 23 58.5 +0.1**
H21K Melozitna Rive 82.19 16 P **P** **23 23 58.8 +0.3**
baz=221
MLY Manley 82.30 17 P **P** **23 23 58.9 -0.2**
baz=223
MCARA McCarthy VSAT 82.33 22 P **P** **23 23 59.5 +0.3**
baz=230
NEA2 Nenana 82.47 18 P **P** **23 24 00.6 +0.7**
baz=224
E19K Redstone River 82.49 13 P **P** **23 24 01.0 +1.1**
baz=216
PAX Paxson 82.50 20 P **P** **23 24 00.7 +0.5**
baz=228
F20K Avaraart Lake 82.52 14 P **P** **23 24 00.7 +0.6**
baz=218
C18K Utukok River 82.64 12 P **P** **23 24 01.5 +0.8**
baz=213
G21K Allakaket 82.66 15 P **P** **23 24 01.1 +0.3**
baz=220
WRH Wood River Hil 82.69 18 P **P** **23 24 00.8 -0.2**
CTG Chitna Glacier 82.70 23 P **P** **23 24 02.2 +0.8**
baz=232
H22K Ishtalitna Cre 82.76 16 P **P** **23 24 02.5 +1.1**
baz=222
I23K Minto, Yukon-K 82.78 17 P **P** **23 24 02.3 +0.8**
baz=224
CCB Clear Creek Bu 82.90 18 P **P** **23 24 02.3 +0.2**
K24K Donnelly Dome 82.96 20 P **P** **23 24 03.2 +0.7**
baz=228
MDM Murphy Dome 82.99 18 P **P** **23 24 02.6 0.0**
M26K Nabesna, AK 82.99 21 P **P** **23 24 03.2 +0.5**
baz=230
SIT Sitka 83.00 28 P **P** **23 24 02.8 +0.1**
baz=238
HDA Harding Lake 83.00 19 P **P** **23 24 02.8 +0.2**
HDA IAmb IAmb 23 24 03.5
comp=Z,24nm,1.0s
HDA Harding Lake 83.00 19 P **P** **23 24 02.7 +0.1**
baz=226
COLA College 83.04 18 *ce*P **P** **23 24 01.7 -1.1**
COLA pmax pmax
comp=Z,14nm,0.9s
B18K Kokolik River 83.13 11 P **P** **23 24 03.7 +0.5**
baz=212
D19K Kuna River 83.14 13 P **P** **23 24 04.2 +0.8**
baz=216
F21K Alatna River 83.21 15 P **P** **23 24 04.3 +0.6**
baz=220
H23K Yukon River 83.22 17 P **P** **23 24 03.7 -0.1**
baz=224
RIDG Independent Ri 83.22 20 P **P** **23 24 03.8 -0.1**
RIDG IAmb IAmb 23 24 05.4
comp=Z,17nm,1.2s
RIDG Independent Ri 83.22 20 P **P** **23 24 03.8 -0.1**
baz=228,SNR=5.5
IL31 83.27 18 P **P** **23 24 04.4 +0.5**
ILAR Eielson Array 83.27 18 P **P** **23 24 04.1 +0.1**
ILAR Eielson Array 83.27 18 P **P** **23 24 04.1 +0.1**
ILAR Eielson Array 83.27 18 P **P** **23 24 03.1 -0.9**
comp=Z,4.2nm,0.8s,baz=238,slow=4.8,SNR=31
ILAR pP **pP** **23 24 19.8 -0.5**
comp=Z,2.7nm,0.7s,baz=231,slow=5.8,SNR=5.9
ILAR LR LR 23 56 44.6
comp=Z,45nm,21.1s,baz=272,slow=32
comp=Z,4.2nm,0.8s
L26K Log Cabin Wild 83.27 21 P **P** **23 24 04.2 +0.1**
baz=230
C19K Lookout Ridge 83.34 12 P **P** **23 24 05.1 +0.7**
baz=214
M27K Edge Creek, AK 83.37 22 P **P** **23 24 04.9 +0.2**
baz=231
E20K Nigu River 83.37 13 P **P** **23 24 05.1 +0.5**
baz=217
G22K Bettles 83.49 16 P **P** **23 24 05.7 +0.7**
baz=222
YUK3 Moose Creek 83.53 23 P **P** **23 24 05.8 0.0**
baz=233
R31K City Hall, Gus 83.54 27 P **P** **23 24 06.3 +0.8**
baz=237
S32K Killisnoo 83.56 28 P **P** **23 24 06.6 +1.0**
baz=238
J25K Salcha River, 83.64 19 P **P** **23 24 05.7 -0.4**
baz=228
D20K Etivluk River 83.64 13 P **P** **23 24 06.4 +0.4**
baz=217
SCRK Sand Creek 83.67 20 P **P** **23 24 06.6 +0.3**
SCRK IAmb IAmb 23 24 07.9
comp=Z,20nm,1.1s
SCRK Sand Creek 83.67 20 P **P** **23 24 06.8 +0.6**
baz=229,SNR=7.0
G23K Bananza Creek 83.73 16 P **P** **23 24 07.0 +0.5**
baz=223
L27K Beaver Creek, 83.83 21 P **P** **23 24 07.4 +0.4**
baz=231
PLBC Pleasant Camp 83.84 26 P **P** **23 24 07.9 +0.9**
baz=237
BCAR Beaver Creek A 83.84 21 P **P** **23 24 07.5 +0.4**
V35K Ketchikan 83.90 31 P **P** **23 24 07.6 +0.2**
baz=241
P30M Million Dollar 83.96 25 P **P** **23 24 07.6 -0.1**
baz=236
SCI2 San Clemente I 83.96 55 P **P** **23 24 08.0 -0.4**
baz=253
YUK4 Talbot Arm 83.98 24 P **P** **23 24 08.7 +0.7**
baz=234
A19K Wainwright 83.98 11 P **P** **23 24 08.2 +0.7**
baz=213
COLD Coldfoot 84.06 16 P **P** **23 24 09.0 +0.9**
baz=223
HYT Haines Junctio 84.13 24 P **P** **23 24 08.8 +0.1**
baz=236
J26L Joseph Creek 84.15 20 P **P** **23 24 09.2 +0.5**
baz=230
PRP Porcupine Dome 84.20 18 P **P** **23 24 09.5 +0.6**
baz=228
VOG Valley Oaks Go 84.30 52 P **P** **23 24 09.8 -0.1**
baz=252
BBB Bella Bella 84.31 34 LR LR 23 55 26.8
comp=Z,123nm,19.2s,baz=244,slow=31
K27K Chicken 84.35 20 P **P** **23 24 10.4 +0.9**
K27K IAmb IAmb 23 24 12.0
comp=Z,25nm,1.2s
K27K Chicken 84.35 20 P **P** **23 24 10.3 +0.7**
baz=231
VES Vestal, Richgr 84.39 52 P **P** **23 24 10.6 +0.3**
baz=252
C21K Knifeblade Rid 84.40 13 P **P** **23 24 10.4 +0.7**
baz=219
G24K Hadweenzic Riv 84.43 17 P **P** **23 24 10.3 +0.3**
baz=226
B20K Meade River 84.57 12 P **P** **23 24 11.1 +0.6**
B20K Meade River 84.57 12 P **P** **23 24 11.2 +0.7**
baz=216
N30M Aishikik Lake 84.66 24 P **P** **23 24 11.2 0.0**
baz=236
D22K Ayikyak River 84.67 14 P **P** **23 24 12.3 +1.2**
baz=221
O30N Mendenhall 84.68 25 P **P** **23 24 11.4 +0.1**
baz=237
E03A Lebam 84.78 41 P **P** **23 24 12.3 +0.2**
E03A IAmb IAmb 23 24 13.9
comp=Z,20nm,1.1s
B21K Ikpikpuk River 84.80 13 P **P** **23 24 12.6 +0.9**
baz=219
I26K Coal Creek Min 84.81 19 P **P** **23 24 12.1 +0.3**
baz=230
ISA Isabella, Lake 84.81 52 P **P** **23 24 13.1 +0.5**
baz=253
E23K Chandalar 84.82 15 P **P** **23 24 12.7 +0.7**
baz=224
G25K Bearman Lake 84.87 17 P **P** **23 24 13.0 +0.8**
baz=227
F24K Squaw Lake 84.89 16 P **P** **23 24 13.3 +1.0**
baz=225
EDW2 Edwards Air Fo 84.95 53 P **P** **23 24 13.6 +0.2**
baz=253
MAW Mawson 84.97 202 P **P** **23 24 13.6 +0.9**
baz=85,SNR=10
MAW Mawson 84.97 202 P **P** **23 24 13.3 +0.6**
MAW Mawson 84.97 202 P **P** **23 24 13.3 +0.6**
MAW pmax pmax
comp=Z,13nm,1.5s
MAW Mawson 84.97 202 P **P** **23 24 13.0 +0.3**
comp=Z,16nm,0.8s,baz=113,slow=6.1,SNR=22

MAW				LR		LR		23 54 55.7	
	comp=Z,184nm,19.6s,baz=195,slow=30								
	comp=Z,16nm,0.8s								
BFSC	**Mount Baldy Ra**	**85.04**	**54**	P		**P**		**23 24 14.8**	**+1.0**
	baz=253								
WHY	**Whitehorse**	**85.12**	**25**	P		**P**		**23 24 14.0**	**+0.4**
	baz=238								
EGAK	**Eagle**	**85.13**	**20**	P		**P**		**23 24 13.8**	**+0.3**
EGAK				IAmb		IAmb		23 24 15.1	
	comp=Z,35nm,1.3s								
EGAK	**Eagle**	**85.13**	**20**	P		**P**		**23 24 13.8**	**+0.3**
	baz=232,SNR=10.0								
J05D	**Fort Rock, OR**	**85.18**	**44**	P		**P**		**23 24 14.7**	**+0.3**
J05D				IAmb		IAmb		23 24 42.9	
	comp=Z,16nm,1.3s								
L29M	**L29M**	**85.20**	**22**	P		**P**		**23 24 14.0**	**+0.1**
	baz=235								
D23K	**Nanushuk River**	**85.22**	**14**	P		**P**		**23 24 14.8**	**+1.0**
	baz=223								
TOLK	**Toolik Lake Re**	**85.25**	**15**	P		**P**		**23 24 14.9**	**+0.8**
	baz=224								
DAWY	**Dawson**	**85.31**	**21**	P		**P**		**23 24 15.1**	**+0.7**
	baz=234								
CWC	**Cottonwood Cre**	**85.34**	**52**	P		**P**		**23 24 16.2**	**+0.8**
	baz=253								
M30M	**Minto, Yukon**	**85.40**	**23**	P		**P**		**23 24 15.4**	**+0.5**
	baz=236								
I27K	**Kandik River**	**85.49**	**19**	P		**P**		**23 24 16.1**	**+0.7**
	baz=231,SNR=7.5								
F25K	**Christian Rive**	**85.57**	**17**	P		**P**		**23 24 16.4**	**+0.7**
	baz=228								
B22K	**Teshekpuk Lake**	**85.62**	**13**	P		**P**		**23 24 16.7**	**+0.9**
	baz=220,SNR=8.5								
MONP2	**Monument Peak**	**85.65**	**56**	P		**P**		**23 24 17.9**	**+0.8**
	baz=254								
G26K	**Porcupine Rive**	**85.68**	**18**	P		**P**		**23 24 17.0**	**+0.8**
	baz=229								
MPMC	**Manual Prospec**	**85.69**	**52**	P		**P**		**23 24 17.9**	**+0.7**
	baz=253								
NVAR	**Mina Array Bea**	**85.75**	**50**	P		**P**		**23 24 17.4**	**-0.1**
NVAR	**Mina Array Bea**	**85.75**	**50**	P		**P**		**23 24 17.9**	**+0.5**
	comp=Z,3.1nm,1.0s,baz=234,slow=7.1,SNR=12								
NVAR				pP		**pP**		**23 24 35.6**	**+1.8**
	comp=Z,2.3nm,1.0s,baz=230,slow=6.9,SNR=3.7								
	comp=Z,3.1nm,1.0s								
P33M	**Teslin, Yukon**	**85.76**	**26**	P		**P**		**23 24 17.1**	**+0.3**
	baz=240								
BMAR	**Burnt Mountain**	**85.76**	**17**	P		**P**		**23 24 17.5**	**+0.9**
A22K	**Sinclair Lake**	**85.81**	**12**	P		**P**		**23 24 17.3**	**+0.6**
	baz=218								
D24K	**Happy Valley**	**85.81**	**15**	P		**P**		**23 24 17.7**	**+0.9**
	baz=224								
IKP	**In-Ko-Pah, Jac**	**85.84**	**56**	P		**P**		**23 24 18.6**	**+0.8**
	baz=254								
K29M	**Barlow Dome**	**85.85**	**22**	P		**P**		**23 24 17.7**	**+0.5**
	baz=235								
C23K	**Itkillik River**	**85.88**	**14**	P		**P**		**23 24 18.3**	**+1.3**
	baz=223								
H27K	**Steamboat Moun**	**85.91**	**19**	P		**P**		**23 24 18.5**	**+1.1**
	baz=232								
TIXI	**Tiksi**	**85.93**	**349**	P		**P**		**23 24 16.1**	**-1.1**
TIXI				IAmb		IAmb		23 24 17.9	
	comp=Z,24nm,1.4s								
TIXI	**Tiksi**	**85.93**	**349**	⇑*e*P		**P**		**23 24 16.4**	**-0.9**
TIXI				pmax		pmax			
	comp=Z,18nm,1.4s								
TIXI	**Tiksi**	**85.93**	**349**	LR		LR		23 57 44.6	
	comp=Z,71nm,21.9s,baz=190,slow=32								
E25K	**Arctic Village**	**85.95**	**16**	P		**P**		**23 24 18.3**	**+0.8**
	baz=228								
F26K	**Sheenjek River**	**86.06**	**17**	P		**P**		**23 24 18.7**	**+0.5**
	baz=229								
M31M	**Drury Creek, Y**	**86.14**	**24**	P		**P**		**23 24 18.8**	**+0.2**
	baz=238								
DLBC	**Dease Lake**	**86.15**	**28**	LR		LR		00 03 31.7	
	comp=Z,46nm,18.1s,baz=286,slow=36								
G27K	**Doyon Strip**	**86.24**	**18**	P		**P**		**23 24 19.7**	**+0.7**
	baz=231,SNR=7.3								
HEC	**Hector,Ludlow**	**86.25**	**54**	P		**P**		**23 24 20.7**	**+0.8**
	baz=254								
C24K	**Franklin Bluff**	**86.25**	**14**	P		**P**		**23 24 20.1**	**+1.2**
	baz=224								
BELC	**Belle Mtn. Jos**	**86.29**	**55**	P		**P**		**23 24 20.5**	**+0.4**
	baz=254								
D25K	**Kavik River**	**86.56**	**15**	P		**P**		**23 24 20.9**	**+0.4**
	baz=227								
BC3	**Big Chuckawall**	**86.64**	**55**	P		**P**		**23 24 22.6**	**+0.8**
	baz=255								
GMRC	**Granite Mounta**	**86.77**	**54**	P		**P**		**23 24 23.0**	**+0.5**
	baz=254								
GLA	**Glamis**	**86.99**	**56**	P		**P**		**23 24 25.0**	**+1.5**
	baz=255								
IRM	**Iron Mountain**	**87.02**	**55**	P		**P**		**23 24 24.3**	**+0.8**
	baz=255								
I30M	**Mount Dempster**	**87.03**	**21**	P		**P**		**23 24 23.2**	**+0.2**
	baz=236								
E27K	**Coleen River**	**87.12**	**17**	P		**P**		**23 24 24.2**	**+0.9**
	baz=231,SNR=14								
F28M	**Old Crow**	**87.28**	**18**	P		**P**		**23 24 25.8**	**+1.7**
	baz=233								
C26K	**Camden Bay**	**87.34**	**15**	P		**P**		**23 24 25.8**	**+1.6**
	baz=228								
G29M	**Pine Creek**	**87.44**	**19**	P		**P**		**23 24 25.5**	**+0.7**
	baz=235								
EPYK	**Eagle Plains**	**87.56**	**20**	P		**P**		**23 24 26.0**	**+0.6**
	baz=236								
SHPR	**Sheep Range**	**87.62**	**52**	P		**P**		**23 24 26.4**	**-0.1**
R11B	**Troy Canyon, C**	**87.78**	**50**	P		**P**		**23 24 28.5**	**+1.2**
	baz=254								
PDMCI	**Parker Dam,Lak**	**87.86**	**55**	P		**P**		**23 24 28.2**	**+0.7**
	baz=255								
D27M	**Malcolm River**	**87.96**	**17**			**P**		**23 24 28.1**	**+0.7**
D27M	**Malcolm River**	**87.96**	**17**	P		**P**		**23 24 28.7**	**+1.4**
	baz=232								
E28M	**Babbage River**	**87.98**	**17**	P		**P**		**23 24 28.1**	**+0.8**
	baz=233,SNR=5.5								
G30M	**tAoh Zraii Nji**	**88.07**	**19**	P		**P**		**23 24 28.2**	**+0.4**
	baz=236								
214A	**Organ Pipe Nat**	**88.37**	**57**	P		**P**		**23 24 30.4**	**+0.3**
214A				IAmb		IAmb		23 24 32.4	
	comp=Z,16nm,1.5s								
214A	**Organ Pipe Nat**	**88.37**	**57**	P		**P**		**23 24 31.2**	**+1.1**
	baz=256								
F30M	**Barrier River**	**88.56**	**19**	P		**P**		**23 24 30.5**	**+0.5**
	baz=237								
D28M	**Stokes Point**	**88.64**	**17**	P		**P**		**23 24 31.3**	**+0.9**
	baz=234								
G31M	**Satah River**	**88.68**	**20**	P		**P**		**23 24 30.9**	**+0.3**
	baz=238								
LPIG	**La Paz**	**88.76**	**65**	LR		LR		23 56 32.9	
	comp=Z,50nm,20.6s,baz=326,slow=30								
WMQ	**Urumqi**	**89.09**	**315**	*e*P		**P**		**23 24 32.5**	**-0.7**
WMQ				pmax		pmax			
	comp=Z,12nm,1.7s								
WMQ				LR		LR			
	comp=Z,180nm,24.9s								
F31M	**Tsiigehtchic**	**89.13**	**20**	P		**P**		**23 24 33.1**	**+0.4**
	baz=239								
NEW	**Newport**	**89.47**	**41**	LR		LR		23 58 11.7	
	comp=Z,45nm,18.6s,baz=272,slow=31								
KNB	**Kanab**	**89.56**	**52**	P		**P**		**23 24 35.9**	**+0.1**
KNB				IAmb		IAmb		23 24 38.1	
	comp=Z,24nm,1.6s								
KNB	**Kanab**	**89.56**	**52**	P		**P**		**23 24 35.9**	**+0.1**
KNB				pmax		pmax			
	comp=Z,24nm,1.6s								
INK	**Inuvik**	**89.65**	**19**	P		**P**		**23 24 35.8**	**+0.7**
	baz=239								
INK	**Inuvik**	**89.65**	**19**	LR		LR		23 58 23.2	
	comp=Z,110nm,21.4s,baz=184,slow=31								
HLID	**Hailey**	**90.01**	**46**	P		**P**		**23 24 38.3**	**+0.7**
	baz=255								
TUC	**Tucson**	**90.12**	**57**	P		**P**		**23 24 39.7**	**+1.4**
	baz=257								
DUG	**Dugway, Tooele**	**90.33**	**49**	P		**P**		**23 24 40.2**	**+1.0**
	baz=256								
WUAZ	**Wupatki**	**90.36**	**54**	P		**P**		**23 24 40.3**	**+0.9**
	baz=257								
DGZ	**Jazzator, Alta**	**90.86**	**320**	*de*P		**P**		**23 24 40.8**	**-0.7**
DGZ				pmax		pmax			
	comp=Z,4.0nm,0.8s								
W18A	**Petrified Fore**	**91.58**	**55**	P		**P**		**23 24 46.4**	**+1.2**
	baz=258								
OVMT	**Ovando**	**91.85**	**43**	P		**P**		**23 24 45.0**	**-1.0**
BOZ	**Bozeman (W)**	**92.43**	**44**	P		**P**		**23 24 48.3**	**-0.5**
BOZ				IAmb		IAmb		23 26 14.2	
	comp=Z,4.7nm,0.7s								
BOZ	**Bozeman (W)**	**92.43**	**44**	P		**P**		**23 24 49.1**	**+0.3**
	baz=257								
BOZ	**Bozeman (W)**	**92.43**	**44**	P		**P**		**23 24 48.3**	**-0.5**
BOZ				pmax		pmax			
	comp=Z,5.0nm,0.7s								
C36M	**Paulatuk**	**93.19**	**20**	P		**P**		**23 24 51.2**	**-0.4**
	baz=248								
BW06	**Boulder Array**	**93.28**	**47**	P		**P**		**23 24 53.0**	**+0.1**
	baz=258								
PDAR	**Pinedale Array**	**93.28**	**47**	P		**P**		**23 24 52.5**	**-0.4**
	comp=Z,1.1nm,1.0s,baz=273,slow=1.5,SNR=5.7								
PDAR				pP		**pP**		**23 25 08.8**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=248,slow=0.8,SNR=3.3								
PDAR				LR		LR		23 59 29.9	
	comp=Z,34nm,20.4s,baz=272,slow=31								
	comp=Z,1.1nm,1.0s								
MK31	**Makanchi Array**	**93.50**	**317**	P		**P**		**23 24 52.9**	**-0.8**
MK31	**Makanchi Array**	**93.50**	**317**	*c*P		**P**		**23 24 52.8**	**-0.8**
MKAR	**Makanchi Array**	**93.50**	**317**	P		**P**		**23 24 52.4**	**-1.2**
MKAR	**Makanchi Array**	**93.50**	**317**	P		**P**		**23 24 53.0**	**-0.6**
	comp=Z,5.0nm,0.7s,baz=90,slow=6.5,SNR=21								
MKAR				pP		**pP**		**23 25 09.3**	**-0.6**
	comp=Z,6.7nm,0.7s,baz=97,slow=6.2,SNR=13								
	comp=Z,5.0nm,0.7s								
ZAA0	**Zalesovo Array**	**93.50**	**324**	P		**P**		**23 24 51.7**	**-1.7**
ZAA0				IAmb		IAmb		23 24 53.7	
	comp=Z,18nm,1.6s								
ZALV	**Zalesovo Beam**	**93.50**	**324**	P		**P**		**23 24 51.5**	**-1.9**
ZALV	**Zalesovo Beam**	**93.50**	**324**	P		**P**		**23 24 51.5**	**-1.9**
ZALV	**Zalesovo Beam**	**93.50**	**324**	P		**P**		**23 24 52.1**	**-1.3**
	comp=Z,2.6nm,0.8s,baz=118,slow=3.2,SNR=8.4								
ZALV				pP		**pP**		**23 25 08.0**	**-1.8**
	comp=Z,3.0nm,0.8s,baz=108,slow=4.8,SNR=5.2								
ZALV				LR		LR		00 06 07.0	
	comp=Z,52nm,20.6s,baz=82,slow=35								
	comp=Z,2.6nm,0.8s								
MAKZ	**Makanchi**	**93.72**	**317**	P		**P**		**23 24 53.4**	**-1.2**
MAKZ				IAmb		IAmb		23 24 55.1	
	comp=Z,16nm,1.2s								
MAKZ	**Makanchi**	**93.72**	**317**	P		**P**		**23 24 53.4**	**-1.2**
MAKZ				pmax		pmax			
	comp=Z,16nm,1.3s								
ELIB	**Princess Elisa**	**93.76**	**191**	*d*P		**P**		**23 24 54.0**	**-0.5**
ELIB				*dp*P		**pP**		**23 25 12.8**	**+2.2**
A36M	**Sachs Harbour**	**93.86**	**17**	P		**P**		**23 24 54.3**	**-0.3**
A36M				IAmb		IAmb		23 24 55.4	
	comp=Z,9.0nm,0.9s								
A36M	**Sachs Harbour**	**93.86**	**17**	P		**P**		**23 24 54.8**	**+0.3**
	baz=247								
MNTX	**Cornudas Mount**	**94.50**	**59**	P		**P**		**23 24 58.3**	**-0.2**
	baz=260								
YKA	**Yellowknife Ar**	**94.71**	**27**	pP		**pP**		**23 25 13.4**	**-1.7**
	comp=Z,0.6nm,0.7s,baz=256,slow=4.6,SNR=5.2								
YKA				LR		LR		00 02 36.1	
	comp=Z,47nm,18.4s,baz=272,slow=32								
TXAR	**Lajitas Array**	**95.57**	**61**	P		**P**		**23 25 02.9**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=231,slow=4.3,SNR=3.5								
TXAR				LR		LR		00 00 35.7	
	comp=Z,56nm,20.5s,baz=248,slow=31								
	comp=Z,0.2nm,0.6s								
KURK	**Kurchatov**	**96.61**	**320**	*de*P		**P**		**23 25 06.4**	**-1.2**
KURK				pmax		pmax			
	comp=Z,4.0nm,1.2s								
KURBB	**Kurchatov Arra**	**96.65**	**320**	P		**P**		**23 25 06.0**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=82,slow=3.5,SNR=1.9								
KURBB				LR		LR		00 11 00.7	
	comp=Z,63nm,18.2s,baz=170,slow=37								
	comp=Z,0.3nm,0.5s								
KSH	**Kashi**	**96.77**	**309**	P		**P**		**23 25 09.9**	**+1.1**
KSH				pmax		pmax			
	comp=Z,5.0nm,0.9s								
AAK	**Ala-Archa**	**98.30**	**312**	⇑*e*P		**P**		**23 25 13.9**	**-1.8**
AAK				pmax		pmax			
	comp=Z,1.0nm,0.8s								
ARCES	**ARCESS Array B**	**116.19**	**346**	PKP		**PKiKP**		**23 30 19.3**	**-1.0**
	comp=Z,3.2nm,0.4s,baz=84,slow=2.1,SNR=53								
JOF	**Joensuu**	**118.82**	**338**	*e*P		**PKPdf**		**23 30 24.5**	**-1.0**
OBN	**Obninsk**	**120.73**	**329**	*e*PKIKP		**PKPdf**		**23 30 28.3**	**-1.0**
OBN				*e*				23 30 49.1	
OBN				*e*				23 31 58.7	
OBN				*e*PPP		PPP		23 34 30.7	
OBN				pmax		pmax			
	comp=Z,5.0nm,0.9s								
KIV	**Kislovodsk**	**121.22**	**315**	*i* PKIKP		**PKPdf**		**23 30 30.1**	**-0.7**
KIV				pmax		pmax			
	comp=Z,4.0nm,1.1s								
FINES	**FINESS Array B**	**121.66**	**339**	PKP		**PKPdf**		**23 30 30.0**	**-1.0**
	comp=Z,1.8nm,0.6s,baz=16,slow=3.1,SNR=18								
VAF	**Ylistaro**	**121.68**	**341**	*e*P		**PKPdf**		**23 30 30.2**	**-0.8**
RAYN	**Ar Rayn**	**122.07**	**291**	PKPdf		**PKPdf**		**23 30 31.8**	**-1.2**
RAYN	**Ar Rayn**	**122.07**	**291**	PKIKP		**PKPdf**		**23 30 31.8**	**-1.2**
GURO	**Guroymak-BITLI**	**123.07**	**309**	PKPdf		**PKPdf**		**23 30 34.1**	**-0.5**
MEF	**Metsahovi**	**123.09**	**338**	*e*P		**PKPdf**		**23 30 33.1**	**-0.6**
RAF	**Rauma**	**123.44**	**340**	*e*P		**PKPdf**		**23 30 33.3**	**-1.1**
CPUP	**Villa Florida**	**124.02**	**132**	PKP		**PKPdf**		**23 30 35.7**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=243,slow=4.5,SNR=4.8								
BOSA	**Boshof**	**125.39**	**223**	PKP		**PKPdf**		**23 30 39.1**	**-0.3**
	comp=Z,4.1nm,0.9s,baz=147,slow=3.6,SNR=7.4								
SIV	**San Ignacio**	**126.38**	**119**	PKP		**PKPdf**		**23 30 40.8**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=243,slow=4.5,SNR=5.3								
PABE	**Paberze**	**126.44**	**334**	*e*P		**PKPdf**		**23 30 40.1**	**-0.2**
NB2	**NORSAR Subarra**	**126.56**	**345**	PKPdf		**PKPdf**		**23 30 39.6**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=31,slow=1.9								
NOA	**NORSAR Array B**	**126.56**	**345**	PKP		**PKPdf**		**23 30 39.7**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=34,slow=2.1,SNR=8.1								
HFS	**Hagfors**	**126.65**	**343**	PKP		**PKPdf**		**23 30 39.4**	**-1.2**
	comp=Z,2.3nm,0.6s,baz=87,slow=6.2,SNR=5.5								
AKASG	**Malin Array Be**	**126.80**	**327**	*e*PKIKP		**PKPdf**		**23 30 41.4**	**+0.2**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.5s								
AKASG	**Malin Array Be**	**126.80**	**327**	PKP		**PKPdf**		**23 30 40.7**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=70,slow=1.5,SNR=6.2								
PBUR	**Pabuge**	**126.94**	**336**	*e*P		**PKPdf**		**23 30 38.2**	**-3.0**
BRTR	**Keskin Array B**	**128.97**	**313**	PKP		**PKPdf**		**23 30 45.5**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=128,slow=2.4,SNR=2.5								
MMAI	**Mount Meron Ar**	**129.62**	**304**	PKP		**PKiKP**		**23 30 47.8**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=83,slow=4.5,SNR=5.5								
BUR08	**Bucovina Ar. S**	**130.69**	**326**	PKPdf		**PKiKP**		**23 30 49.8**	**+0.1**
EKA	**Eskdalemuir Ar**	**134.80**	**351**	PKP		**PKPdf**		**23 30 55.8**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=29,slow=1.6,SNR=4.5								
RONA	**Rosalia, Austr**	**135.27**	**331**	*e*PKiKP		**PKiKP**		**23 30 58.8**	**-0.1**
	comp=Z,1.1nm,0.5s								
CONA	**Conrad Observa**	**135.31**	**332**	*e*PKiKP		**PKiKP**		**23 30 58.8**	**-0.2**
	comp=Z,1.6nm,0.5s								
CKRC	**Cesky Krumlov**	**135.36**	**333**	*e*PKPDF		**PKiKP**		**23 30 58.9**	**-0.1**
CKRC	**Cesky Krumlov**	**135.36**	**333**	*e*PKIKP		**PKiKP**		**23 30 58.9**	**-0.1**
KHC	**Kasperske Hory**	**135.44**	**334**	*e*PKPDF		**PKiKP**		**23 30 59.2**	**0.0**
KHC	**Kasperske Hory**	**135.44**	**334**	*e*PKIKP		**PKiKP**		**23 30 59.2**	**0.0**
GERES	**GERESS Array B**	**135.61**	**334**	PKP		**PKPdf**		**23 30 58.4**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=74,slow=4.2,SNR=6.4								
KBA	**Koelnbreinsper**	**137.10**	**332**	*e*PKiKP		**PKPdf**		**23 31 01.6**	**+0.6**
	comp=Z,1.3nm,0.5s								
WATA	**Waldenstein**	**137.68**	**334**	*e*PKiKP		**PKPdf**		**23 31 03.0**	**+1.0**
	comp=Z,2.2nm,0.5s								
WTTA	**Wattenberg**	**137.71**	**334**	*e*PKiKP		**PKiKP**		**23 31 03.7**	**-0.4**
	comp=Z,1.7nm,0.3s								
MOTA	**Moosalm**	**137.88**	**334**	*e*PKiKP		**PKPdf**		**23 31 03.4**	**+1.1**
	comp=Z,1.1nm,0.4s								
RETA	**Reutte**	**137.91**	**335**	*i* PKiKP		**PKiKP**		**23 31 03.8**	**-0.5**
	comp=Z,0.4nm,0.4s								
SQTA	**Sankt Quirin**	**137.93**	**334**	*e*PKiKP		**PKiKP**		**23 31 03.6**	**-0.8**
	comp=Z,1.5nm,0.4s								
KEST	**Kesra**	**147.37**	**323**	PKPbc		**PKPbc**		**23 31 21.9**	**0.0**
	comp=Z,13nm,0.8s,baz=105,slow=1.4,SNR=15								
KEST				pPKPbc		**pPKPdf**		**23 31 37.7**	**+1.3**
	comp=Z,13nm,0.9s,baz=2.3,slow=4.6,SNR=5.2								
PGAV	**Gavieira, Arco**	**148.59**	**352**	*e*PKPbc		**PKPbc**		**23 31 24.9**	**0.0**
MVO	**Moncorvo**	**149.17**	**350**	*e*PKPbc		**PKPbc**		**23 31 26.5**	**+0.1**
PVRL	**Vila Real**	**149.18**	**351**	*e*PKPbc		**PKPbc**		**23 31 26.7**	**+0.3**
PTO	**Porto**	**149.45**	**352**	*e*PKPbc		**PKPbc**		**23 31 27.0**	**0.0**
PVIS	**Viseu**	**149.75**	**351**	*e*PKPbc		**PKPbc**		**23 31 27.9**	**+0.1**
ESDC	**Sonseca Array**	**149.92**	**344**	PKPbc		**PKPbc**		**23 31 27.7**	**-0.6**
	comp=Z,4.0nm,0.8s,baz=7.3,slow=3.9,SNR=22								
MTE	**Manteigas**	**150.00**	**350**	*e*PKPbc		**PKPbc**		**23 31 28.6**	**+0.1**
PCAS	**Casmilo, Conde**	**150.50**	**351**	*e*PKPbc		**PKPbc**		**23 31 29.3**	**-0.3**
PCBR	**Castelo Branco**	**150.54**	**350**	*e*PKPbc		**PKPbc**		**23 31 29.6**	**-0.1**
PMRV	**Marv??o**	**150.92**	**349**	*e*PKPbc		**PKPbc**		**23 31 30.4**	**-0.2**
PSBE	**So Bento**	**151.07**	**352**	*e*PKPbc		**PKPbc**		**23 31 31.2**	**+0.2**
PMTG	**Montargil**	**151.42**	**350**	*e*PKPbc		**PKPbc**		**23 31 31.4**	**-0.4**
PESTR	**Estremoz**	**151.50**	**349**	*e*PKPbc		**PKPbc**		**23 31 31.6**	**-0.4**
LIS	**Lisbon**	**151.90**	**352**	*e*PKPbc		**PKPbc**		**23 31 33.0**	**+0.1**
EVO	**Evora**	**151.90**	**350**	*e*PKPbc		**PKPbc**		**23 31 32.8**	**-0.1**
PBAR	**Barrancos**	**152.07**	**348**	*e*PKPbc		**PKPbc**		**23 31 33.2**	**-0.1**
PBEJ	**Beja**	**152.37**	**349**	*e*PKPbc		**PKPbc**		**23 31 34.0**	**0.0**
PNCL	**Nicolau / Gran**	**152.40**	**351**	*e*PKPbc		**PKPbc**		**23 31 34.0**	**0.0**
PCVE	**Castro Verde**	**152.78**	**349**	*e*PKPbc		**PKiKP**		**23 31 35.1**	**0.0**
TORD	**Torodi Ar. Bea**	**164.41**	**280**	PKP		**PKPdf**		**23 31 41.5**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=26,slow=1.6,SNR=7.3								
TORD				PKPab		**PKPab**		**23 32 35.5**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=57,slow=5.5,SNR=6.2								

OMAN 21 23:12:08.9±1.6, 14°63N×51°65E, h10^{km}±63^{km}, mb4.8/1, ml3.3/4, Error ellipse: s-maj=113.2km s-min=5.1km az=36.0, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABTO	**Aybut**	**3.14**	**30**	P	Pn	23 12 58.6	0.0
ABTO				S	Sn	23 13 36.5	+0.3
RBK	**Rabkut**	**3.77**	**40**	P	Pn	23 13 07.6	+0.4
	SNR=19						
RBK				S	Sn	23 13 52.9	+1.2
WHFO	**Wadi Hawf**	**3.86**	**32**	P	Pn	23 13 08.8	+0.4
	SNR=17						
WHFO				S	Sn	23 13 54.8	+1.0
DMTO	**DMTO**	**4.42**	**45**	P	Pn	23 13 16.0	0.0
	SNR=11						
DMTO				S	Sn	23 14 08.7	+1.1
DOK	**Doka**	**4.63**	**31**	P	Pn	23 13 19.0	+0.1
	SNR=9.6						
DOK				S	Sn	23 14 14.2	+1.4
SHAO	**Shalim**	**5.10**	**48**	P	Pn	23 13 25.4	0.0
UMZA	**Um Al Zommool**	**8.71**	**22**	P	Pn	23 14 15.9	+0.9
MHTO	**MHTO**	**8.73**	**43**	P	Pn	23 14 15.5	+0.2
BSY	**Bisya**	**9.64**	**32**	P	Pn	23 14 27.8	+0.1
ARQ	**Araqi**	**9.81**	**27**	P	Pn	23 14 30.6	+0.4
JMDO	**Jabal Madar**	**9.84**	**38**	P	Pn	23 14 30.3	-0.2

*NEIC **21** 23:15:06.5±1.0, 42°28N±0°05×141°45E±0°08, h105^{km}±6^{km}, mb4.5/68, Error ellipse: s-maj=9.0km s-min=6.3km az=120.0*

*NIED **21** 23:15:06.4, 42°25N×141°46E, h98^{km}, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.63; $M_{\theta\theta}$-0.34; $M_{\phi\phi}$-0.28; $M_{r\theta}$-0.30; $M_{\theta\phi}$-0.74; $M_{\phi r}$-1.37; Fault plane solution: $M_0$1.68000×10^{15} NP1: ϕ_s196.00000°, δ78.00000°, λ67.00000°. NP2:ϕ_s79.00000°, δ26.00000°, λ150.00000°.*

*JMA **21** 23:15:06.4±0.1, 42°3N±0°3×141°5E±0°5, h98^{km}±1^{km}, MD4.1/40, MV4.0/40, S OFF TOMAKOMAI*

JMA Felt II J1 at S OFF TOMAKOMAI .

*IDC **21** 23:15:06.5±1.2, 42°31N×141°45E, h104^{km}±9^{km}, mb4.0/25, mbtmp4.3/30, MS3.9/1, Error ellipse: s-maj=13.2km s-min=9.3km az=143.0*

ISC 21 23:15:06.1±0.6, 42°26N±0°04×141°48E±0°04, h103^{km}±5^{km}, n175, σ0^{s}87/170, mb4.4/65, 2C-9D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNB	**Noboribetsu**	**0.39**	**302**	P	**Pn**	**23 15 21.0**	**-0.4**
JNB				S	**Sn**	**23 15 32.2**	**-0.8**
JIAM	**Iburiatsuma**	**0.48**	**42**

HNS	**HongShan**	**21.09**	**266**	‖P		**P**		**23**	**19**	**41.3**	**-0.8**
HNS				pmax	pmax						
	comp=Z,11nm,0.9s										
HHC	**Hu-ho-hao-te**	**22.38**	**276**	*e*P		**P**		**23**	**19**	**54.3**	**-1.6**
HHC				pmax	pmax						
	comp=Z,12nm,0.7s										
HHC				pmax	pmax						
	comp=Z,93nm,4.4s										
ULN	**Ulaanbaatar**	**24.81**	**295**	P		**P**		**23**	**20**	**17.8**	**-0.8**
SONM	**Songino Array**	**25.26**	**295**	P		**P**		**23**	**20**	**21.4**	**-1.2**
SONM	**Songino Array**	**25.26**	**295**	P		**P**		**23**	**20**	**21.4**	**-1.2**
	comp=Z,4.9nm,0.6s,baz=78,slow=8.0,SNR=43										
	comp=Z,4.9nm,0.6s										
XAN	**Xi'an**	**26.76**	**263**	P		**P**		**23**	**20**	**36.5**	**+0.3**
XAN				sP		sP		23	21	15.0	+4.1
XAN				pmax	pmax						
	comp=Z,9.0nm,0.9s										
H11N2	**WAKE ISLAND Hy**	**31.08**	**128**	T		T		23	53	58.7	
	baz=322,slow=75,SNR=44										
H11N1	**WAKE ISLAND Hy**	**31.09**	**128**	T		T		23	53	59.5	
	baz=322,slow=75,SNR=40										
H11N3	**WAKE ISLAND Hy**	**31.10**	**128**	T		T		23	53	60.0	
	baz=322,slow=75,SNR=54										
GTA	**Gaotai**	**31.43**	**279**	P		**P**		**23**	**21**	**19.9**	**+2.3**
GTA				pmax	pmax						
	comp=Z,5.0nm,0.6s										
H11S1	**WAKE ISLAND Hy**	**31.93**	**130**	T		T		23	55	01.2	
	baz=323,slow=76,SNR=31										
H11S3	**WAKE ISLAND Hy**	**31.94**	**130**	T		T		23	54	59.7	
	baz=323,slow=76,SNR=9.9										
H11S2	**WAKE ISLAND Hy**	**31.95**	**130**	T		T		23	55	02.9	
	baz=323,slow=76,SNR=6.5										
PZH	**PanZhiHua**	**36.01**	**257**	P		**P**		**23**	**21**	**58.8**	**+1.4**
PZH				pmax	pmax						
	comp=Z,10.0nm,0.5s										
PZH				pmax	pmax						
	comp=Z,160nm,5.5s										
J14K	**Nanvaranak Lak**	**37.72**	**38**	P		**P**		**23**	**22**	**11.7**	**+0.5**
J14K				IAmb	IAmb			23	22	13.5	
	comp=Z,14nm,1.4s										
M14K	**Bethel**	**38.32**	**41**	P		**P**		**23**	**22**	**17.5**	**+1.2**
ZAA0	**Zalesovo Array**	**38.59**	**308**	P		**P**		**23**	**22**	**18.2**	**-0.5**
ZALV	**Zalesovo Beam**	**38.59**	**308**	P		**P**		**23**	**22**	**18.5**	**-0.2**
ZALV	**Zalesovo Beam**	**38.59**	**308**	P		**P**		**23**	**22**	**18.6**	**-0.1**
	comp=Z,4.1nm,0.3s,baz=87,slow=7.8,SNR=29										
	comp=Z,4.1nm,0.3s										
WMQ	**Urumqi**	**38.76**	**291**	*e*P		**P**		**23**	**22**	**21.4**	**+1.0**
WMQ				pmax	pmax						
	comp=Z,10.0nm,0.9s										
L16K	**Owhat River**	**39.55**	**40**	P		**P**		**23**	**22**	**27.2**	**+0.6**
L16K				IAmb	IAmb			23	22	28.2	
	comp=Z,4.9nm,0.7s										
E19K	**Redstone River**	**40.91**	**31**	P		**P**		**23**	**22**	**37.6**	**-0.1**
MK31	**Makanchi Array**	**41.58**	**297**	P		**P**		**23**	**22**	**43.2**	**-0.4**
MK31				IAmb	IAmb			23	22	45.1	
	comp=Z,3.9nm,0.7s										
MKAR	**Makanchi Array**	**41.58**	**297**	P		**P**		**23**	**22**	**42.9**	**-0.6**
MKAR	**Makanchi Array**	**41.58**	**297**	P		**P**		**23**	**22**	**43.2**	**-0.4**
	comp=Z,3.3nm,0.5s,baz=83,slow=7.8,SNR=55										
	comp=Z,3.3nm,0.5s										
MAKZ	**Makanchi**	**41.78**	**297**	P		**P**		**23**	**22**	**44.9**	**-0.3**
MAKZ				IAmb	IAmb			23	22	46.9	
	comp=Z,6.0nm,0.6s										
LSA	**Lhasa**	**42.05**	**269**	P		**P**		**23**	**22**	**47.9**	**-0.2**
LSA				IAmb	IAmb			23	22	56.9	
	comp=Z,2.6nm,0.5s										
IMAR	**Indian Mountai**	**42.19**	**33**	P		**P**		**23**	**22**	**48.1**	**-0.1**
KURK	**Kurchatov**	**42.90**	**304**	P		**P**		**23**	**22**	**53.4**	**-0.8**
CAST	**Castle Rocks**	**42.95**	**37**	P		**P**		**23**	**22**	**55.1**	**+0.7**
CAST				IAmb	IAmb			23	22	56.8	
	comp=Z,5.7nm,0.8s										
KURBB	**Kurchatov Arra**	**42.98**	**304**	P		**P**		**23**	**22**	**54.5**	**-0.3**
	comp=Z,10.0nm,0.4s,baz=77,slow=9.1,SNR=34										
	comp=Z,10.0nm,0.4s										
CMAR	**Chiang Mai Arr**	**43.11**	**250**	P		**P**		**23**	**22**	**57.3**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=41,slow=6.9,SNR=7.2										
	comp=Z,1.0nm,0.5s										
TNTI	**Ternate**	**43.22**	**201**	P		**P**		**23**	**22**	**57.0**	**0.0**
KDAK	**Kodiak Island**	**43.28**	**46**	P		**P**		**23**	**22**	**57.2**	**0.0**
KTH	**Kantishna Hill**	**43.46**	**37**	P		**P**		**23**	**22**	**59.2**	**+0.6**
KTH				IAmb	IAmb			23	23	00.6	
	comp=Z,8.2nm,0.9s										
TRF	**Thorofare Moun**	**43.75**	**37**	P		**P**		**23**	**23**	**01.3**	**+0.2**
TRF				IAmb	IAmb			23	23	10.3	
	comp=Z,8.2nm,1.3s										
TOLK	**Toolik Lake Re**	**43.85**	**30**	P		**P**		**23**	**23**	**01.6**	**-0.1**
SML	**Sawmill**	**44.83**	**39**	P		**P**		**23**	**23**	**09.6**	**+0.1**
IL31		**45.12**	**35**	P		**P**		**23**	**23**	**11.6**	**0.0**
ILAR	**Eielson Array**	**45.12**	**35**	P		**P**		**23**	**23**	**11.3**	**-0.4**
ILAR	**Eielson Array**	**45.12**	**35**	P		**P**		**23**	**23**	**11.7**	**0.0**
	comp=Z,2.7nm,0.8s,baz=272,slow=6.7,SNR=28										
	comp=Z,2.7nm,0.8s										
PRP	**Porcupine Dome**	**45.61**	**34**	P		**P**		**23**	**23**	**16.1**	**+0.4**
TARG	**Taragay, Kyrgy**	**46.31**	**292**	P		**P**		**23**	**23**	**22.1**	**+0.2**
TARG				IAmb	IAmb			23	23	24.5	
	comp=Z,4.1nm,0.6s										
BVAR	**Borovoye Array**	**47.21**	**309**	P		**P**		**23**	**23**	**28.3**	**+0.1**
	comp=Z,8.4nm,0.4s,baz=72,slow=8.9,SNR=99										
	comp=Z,8.4nm,0.4s										
BRVK	**Borovoye**	**47.26**	**309**	P		**P**		**23**	**23**	**28.1**	**-0.6**
BRVK				IAmb	IAmb			23	23	33.6	
	comp=Z,5.8nm,0.7s										
BCAR	**Beaver Creek A**	**47.61**	**37**	P		**P**		**23**	**23**	**32.3**	**+1.0**
I28M	**Miner Creek**	**47.92**	**33**			**P**		**23**	**23**	**34.3**	**+0.6**
I28M				IAmb	IAmb			23	23	36.0	
	comp=Z,4.6nm,0.8s										
AAK	**Ala-Archa**	**48.21**	**294**	P		**P**		**23**	**23**	**35.7**	**-0.7**
AAK				IAmb	IAmb			23	23	36.6	
	comp=Z,2.5nm,0.5s										
KSH	**Kashi**	**48.49**	**290**	P		**P**		**23**	**23**	**41.4**	**+2.9**
KSH				pmax	pmax						
	comp=Z,2.0nm,1.0s										
L29M	**L29M**	**49.22**	**36**	P		**P**		**23**	**23**	**44.8**	**+1.1**
L29M				IAmb	IAmb			23	23	46.4	
	comp=Z,7.0nm,1.1s										
INK	**Inuvik**	**49.75**	**29**	P		**P**		**23**	**23**	**47.4**	**0.0**
INK				IAmb	IAmb			23	23	49.3	
	comp=Z,4.4nm,0.6s										
ARSB	**Arslanbob**	**49.78**	**293**	P		**P**		**23**	**23**	**48.2**	**-0.1**
KK31	**Karatay Array**	**50.69**	**297**	P		**P**		**23**	**23**	**54.4**	**-0.6**
KK31				IAmb	IAmb			23	23	55.2	
	comp=Z,3.7nm,0.7s										
KKAR	**Karatay Array**	**50.69**	**297**	P		**P**		**23**	**23**	**54.5**	**-0.5**
KKAR				IAmb	IAmb			23	23	55.2	
	comp=Z,3.7nm,0.7s										
ARU	**Arti**	**52.56**	**316**	P		**P**		**23**	**24**	**08.3**	**-0.3**
C36M	**Paulatuk**	**52.70**	**26**	P		**P**		**23**	**24**	**09.5**	**+0.1**
C36M				IAmb	IAmb			23	24	10.2	
	comp=Z,3.5nm,0.6s										
NIL	**Nilore**	**53.19**	**285**	P		**P**		**23**	**24**	**13.7**	**0.0**
ABKAR	**Akbulak array**	**54.71**	**307**	P		**P**		**23**	**24**	**24.1**	**-0.3**
ABKAR	**Akbulak array**	**54.71**	**307**	P		**P**		**23**	**24**	**24.1**	**-0.3**
ABKAR				IAmb	IAmb			23	24	25.1	
	comp=Z,5.4nm,0.5s										
SPB1	**Spitsbergen Ar**	**55.41**	**348**	P		**P**		**23**	**24**	**29.0**	**0.0**
SPITS	**Spitsbergen Ar**	**55.41**	**348**	P		**P**		**23**	**24**	**29.0**	**-0.1**
	comp=Z,6.2nm,0.8s,baz=76,slow=8.1,SNR=24										
	comp=Z,6.2nm,0.8s										
DIB	**Dawson Inlet,**	**55.52**	**47**	P		**P**		**23**	**24**	**30.5**	**+0.4**
KBL	**Kabul**	**55.73**	**288**	P		**P**		**23**	**24**	**31.0**	**-1.3**
KBL				IAmb	IAmb			23	24	38.9	
	comp=Z,3.0nm,0.9s										
RES	**Resolute Bay**	**57.54**	**15**	P		**P**		**23**	**24**	**43.8**	**-0.4**
RES				IAmb	IAmb			23	24	44.5	
	comp=Z,3.4nm,0.7s										
ARCES	**ARCESS Array B**	**59.14**	**338**	P		**P**		**23**	**24**	**54.7**	**-0.7**
ARCES	**ARCESS Array B**	**59.14**	**338**	P		**P**		**23**	**24**	**55.1**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=54,slow=6.3,SNR=11										
	comp=Z,1.1nm,0.5s										
YKA	**Yellowknife Ar**	**59.30**	**32**	P		**P**		**23**	**24**	**56.0**	**-0.5**
YKA	**Yellowknife Ar**	**59.30**	**32**	P		**P**		**23**	**24**	**56.6**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=305,slow=6.9,SNR=14										
	comp=Z,0.4nm,0.4s										
YKA	**Yellowknife Ar**	**59.30**	**32**	*ce*P		**P**		**23**	**24**	**57.0**	**+0.5**
HRA	**Herat**	**60.57**	**291**	P		**P**		**23**	**25**	**05.4**	**-0.6**
HRA				IAmb	IAmb			23	25	06.7	
	comp=Z,3.5nm,0.7s										
GEYT	**Alibeck**	**61.45**	**297**	P		**P**		**23**	**25**	**11.1**	**-0.5**
GEYT				IAmb	IAmb			23	25	12.2	
	comp=Z,3.4nm,0.8s										
GEYT	**Alibeck**	**61.45**	**297**	P		**P**		**23**	**25**	**11.2**	**-0.5**
	comp=Z,2.8nm,0.6s,baz=66,slow=4.0,SNR=5.4										
	comp=Z,2.8nm,0.6s										
WB0	**Warramunga Arr**	**62.06**	**188**	P		**P**		**23**	**25**	**14.5**	**-1.2**
WB0				IAmb	IAmb			23	25	41.9	
	comp=Z,6.0nm,1.1s										
WR0	**Warramunga Arr**	**62.24**	**187**	P		**P**		**23**	**25**	**16.0**	**-0.9**
WRA	**Warramunga Arr**	**62.24**	**188**	P		**P**		**23**	**25**	**15.9**	**-1.1**
WRA	**Warramunga Arr**	**62.24**	**188**	P		**P**		**23**	**25**	**16.1**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=4.7,slow=6.9,SNR=13										
	comp=Z,0.8nm,0.6s										
FIA1	**FINESS Array S**	**64.24**	**331**	P		**P**		**23**	**25**	**29.3**	**-0.4**
FINES	**FINESS Array B**	**64.24**	**331**	P		**P**		**23**	**25**	**29.3**	**-0.4**
	comp=Z,4.4nm,0.4s,baz=32,slow=8.7,SNR=53										
	comp=Z,4.4nm,0.4s										
SUMG	**Summit**	**65.46**	**360**	P		**P**		**23**	**25**	**38.6**	**+0.7**
SUMG				IAmb	IAmb			23	25	50.6	
	comp=Z,9.3nm,1.4s										
ASAR	**Alice Springs**	**65.97**	**188**	P		**P**		**23**	**25**	**41.4**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=5.6,slow=6.4,SNR=4.4										
	comp=Z,0.6nm,0.8s										
D08A	**Wollman Farm,**	**66.15**	**47**	P		**P**		**23**	**25**	**42.0**	**-0.3**
D08A				IAmb	IAmb			23	25	43.4	
	comp=Z,4.2nm,0.5s										
KIV	**Kislovodsk**	**67.57**	**309**	P		**P**		**23**	**25**	**51.0**	**-0.5**
KBZ	**Khabaz**	**67.59**	**309**	P		**P**		**23**	**25**	**51.9**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=38,slow=5.1,SNR=8.4										
	comp=Z,2.9nm,0.8s										
BMO	**Blue Mountains**	**68.39**	**49**	P		**P**		**23**	**25**	**57.1**	**+0.5**
NC405	**NORSAR Array S**	**69.19**	**336**	P		**P**		**23**	**26**	**00.8**	**-0.4**
NC405				IAmb	IAmb			23	26	14.5	
	comp=Z,13nm,1.3s										
FFC	**Flin Flon**	**69.31**	**34**	P		**P**		**23**	**26**	**02.2**	**+0.2**
FFC				IAmb	IAmb			23	26	07.5	
	comp=Z,7.9nm,1.5s										
OVMT	**Ovando**	**69.31**	**45**	P		**P**		**23**	**26**	**02.0**	**-0.4**
FCC	**Fort Churchill**	**69.32**	**27**	P		**P**		**23**	**26**	**01.3**	**-0.6**
HFS	**Hagfors**	**69.36**	**335**	P		**P**		**23**	**26**	**02.1**	**-0.1**
	comp=Z,3.5nm,0.3s,baz=40,slow=5.7,SNR=50										
	comp=Z,3.5nm,0.3s										
NB2	**NORSAR Subarra**	**69.40**	**337**	P		**P**		**23**	**26**	**02.0**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=41,slow=6.5										
NOA	**NORSAR Array B**	**69.40**	**337**	P		**P**		**23**	**26**	**02.1**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=31,slow=5.1,SNR=16										
	comp=Z,1.1nm,0.5s										
BPMT	**Black Pine Rid**	**69.48**	**45**	P		**P**		**23**	**26**	**03.4**	**-0.2**
AKASG	**Malin Array Be**	**70.22**	**321**	P		**P**		**23**	**26**	**07.0**	**-0.6**
	comp=Z,1.9nm,0.5s,baz=44,slow=6.0,SNR=15										
	comp=Z,1.9nm,0.5s										
AK05	**Malin Array Si**	**70.29**	**321**	P		**P**		**23**	**26**	**07.7**	**-0.3**
AK05				IAmb	IAmb			23	26	08.1	
	comp=Z,4.2nm,0.6s										
UOSS	**Minazif**	**70.33**	**286**	P		**P**		**23**	**26**	**07.7**	**-1.1**
UOSS				IAmb	IAmb			23	26	12.9	
	comp=Z,8.4nm,1.2s										
EGMT	**Eagleton**	**70.34**	**42**	P		**P**		**23**	**26**	**08.8**	**+0.2**
EGMT				IAmb	IAmb			23	26	10.0	
	comp=Z,7.7nm,0.8s										
GURO	**Guroymak-BITLI**	**71.32**	**305**	P		**P**		**23**	**26**	**15.2**	**+0.6**
GURO				IAmb	IAmb			23	26	16.5	
	comp=Z,4.1nm,0.6s										
KVN	**Kaiserville**	**71.58**	**54**	P		**P**		**23**	**26**	**16.9**	**+0.5**
KVN				IAmb	IAmb			23	26	18.2	
	comp=Z,4.1nm,0.7s										
NVAR	**Mina Array Bea**	**71.86**	**54**	P		**P**		**23**	**26**	**18.8**	**+0.7**
NVAR	**Mina Array Bea**	**71.86**	**54**	P		**P**		**23**	**26**	**19.4**	**+1.3**
	comp=Z,1.8nm,0.6s,baz=299,slow=6.0,SNR=9.4										
	comp=Z,1.8nm,0.6s										
RLMT	**Red Lodge**	**72.55**	**44**	P		**P**		**23**	**26**	**22.2**	**+0.2**
MOOW	**Moose Ponds**	**72.69**	**46**	P		**P**		**23**	**26**	**23.6**	**+0.7**
R11B	**Troy Canyon, C**	**73.54**	**53**	P		**P**		**23**	**26**	**28.0**	**0.0**
PD31	**Pinedale Array**	**74.00**	**46**	P		**P**		**23**	**26**	**30.7**	**+0.1**
PDAR	**Pinedale Array**	**74.00**	**46**	P		**P**		**23**	**26**	**30.7**	**+0.1**
PDAR	**Pinedale Array**	**74.00**	**46**	P		**P**		**23**	**26**	**31.1**	**+0.4**
	comp=Z,1.9nm,0.5s,baz=241,slow=0.1,SNR=38										
	comp=Z,1.9nm,0.5s										
BUR08	**Bucovina Ar. S**	**74.25**	**321**	P		**P**		**23**	**26**	**31.7**	**-0.1**
BURAR	**Bucovina Array**	**74.27**	**321**	P		**P**		**23**	**26**	**31.8**	**-0.2**
ULM	**Lac du Bonnet**	**75.13**	**34**	P		**P**		**23**	**26**	**36.9**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=307,slow=7.0,SNR=5.2										
	comp=Z,1.8nm,0.5s										
RDMU	**Red Mountain**	**75.49**	**48**	P		**P**		**23**	**26**	**39.4**	**+0.2**
RDMU				IAmb	IAmb			23	26	41.1	
	comp=Z,6.9nm,0.7s										
CLL	**Collm**	**76.60**	**330**	*i* P		**P**		**23**	**26**	**44.4**	**-0.6**
	comp=Z,4.0nm,0.8s										
B35A	**Bob, Littlefor**	**77.48**	**34**	P		**P**		**23**	**26**	**49.8**	**-0.3**
B35A				IAmb	IAmb			23	26	50.4	
	comp=Z,7.1nm,0.6s										
MMAI	**Mount Meron Ar**	**79.01**	**305**	P		**P**		**23**	**26**	**59.9**	**+1.0**
	comp=Z,1.8nm,0.6s,baz=35,slow=4.5,SNR=8.1										
	comp=Z,1.8nm,0.6s										
SCHQ	**Schefferville**	**80.30**	**16**	P		**P**		**23**	**27**	**05.5**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=348,slow=9.3,SNR=3.7										
	comp=Z,1.4nm,0.6s										
TXAR	**Lajitas Array**	**86.89**	**53**	P		**P**		**23**	**27**	**40.3**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=294,slow=3.0,SNR=16										
	comp=Z,0.7nm,0.5s										
TKL	**Tuckaleechee C**	**92.10**	**35**	LR		LR		00	11	43.3	
	comp=Z,63nm,20.1s,baz=290,slow=37										
ESDC	**Sonseca Array**	**92.62**	**334**	P		**P**		**23**	**28**	**06.5**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=15,slow=3.3,SNR=2.8										
	comp=Z,0.5nm,0.9s										
SIV	**San Ignacio**	**147.44**	**43**	PKPbc		**PKPbc**		**23**	**34**	**38.6**	**+0.3**
	comp=Z,4.3nm,0.6s,baz=334,slow=1.5,SNR=20										

IDC ***21*** *23:26:29.8±0.9,6°.72N×73°.02W,h161km±18km,mb3.2/3, mbtmp3.9/7,Error ellipse: s-maj=47.4km s-min=7.7km az=134.0*
RSNC ***21*** *23:26:32.8±0.0,7°.N×2°.×7°.3W±°,h141km±4km,mb4.0, mB5.5,ML3.2,Mw(mB)5.0*
ISC 21 23:26:29.7±0.8,6°.85N±0°.03×73°.10W±0°.04,h154km±6km, n47,σ1°31/77,mb3.5/3,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
BARC	**Barichara**	**0.27**	**197**	P		**Pn**	**23**	**26**	**51.1**	**+0.1**
BARC				S		**Sn**	**23**	**27**	**05.9**	**-1.3**
PAMC	**Pamplona, Colo**	**0.63**	**40**	P		**Pn**	**23**	**26**	**53.8**	**+1.0**
PAMC				S		**Sn**	**23**	**27**	**10.9**	**+0.5**
RUSC	**La Rusia**	**0.95**	**179**	P		**Pn**	**23**	**26**	**55.0**	**-0.1**
RUSC				S		**Sn**	**23**	**27**	**13.4**	**-1.1**
TAMC	**Tame, Arauca**	**1.37**	**108**	P		**Pn**	**23**	**26**	**59.4**	**+1.1**
TAMC				S		**Sn**	**23**	**27**	**20.8**	**+0.6**
PTBC	**PUERTO BERRIO,**	**1.38**	**257**	P		**Pn**	**23**	**26**	**57.8**	**-0.6**
PTBC				S		**Sn**	**23**	**27**	**18.2**	**-2.2**
OCAC	**Ocana**	**1.39**	**351**	P		**Pn**	**23**	**26**	**59.1**	**+0.4**
OCAC				S		**Sn**	**23**	**27**	**21.3**	**+0.3**
SPBC	**San Pablo de B**	**1.53**	**219**	P		**Pn**	**23**	**27**	**00.1**	**0.0**
SPBC				S		**Sn**	**23**	**27**	**22.6**	**-0.8**
ZARC	**Zaragoza, Cauc**	**1.85**	**290**	P		**Pn**	**23**	**27**	**03.8**	**+0.3**
ZARC				S		**Sn**	**23**	**27**	**29.2**	**-0.2**
NORC	**Norcasia**	**2.17**	**234**	P		**Pn**	**23**	**27**	**07.1**	**-0.1**
NORC				S		**Sn**	**23**	**27**	**35.2**	**-0.9**
ROSC	**El Rosal**	**2.34**	**211**	P		**Pn**	**23**	**27**	**10.9**	**+1.4**
	135nm,0.4s,baz=88,slow=20,SNR=178									
ROSC				S		**Sn**	**23**	**27**	**39.4**	**-0.7**
	315nm,0.3s,baz=356,slow=23,SNR=29									
ROSC	**El Rosal**	**2.34**	**211**	P		**Pn**	**23**	**27**	**10.8**	**+1.3**
ROSC				S		**Sn**	**23**	**27**	**39.5**	**-0.7**
HELC	**Santa Helena**	**2.50**	**255**	P		**Pn**	**23**	**27**	**11.9**	**+0.5**
CVER	**Cruz Verde, Cu**	**2.51**	**203**	P		**Pn**	**23**	**27**	**12.5**	**+0.8**
CVER				S		**Sn**	**23**	**27**	**45.5**	**+1.5**
GUY2C	**Guyana, Caldas**	**2.77**	**234**	P		**Pn**	**23**	**27**	**15.5**	**+0.6**
GUY2C				P			23	27	15.7	
GUY2C				P			23	27	15.8	
GUY2C				S		**Sn**	**23**	**27**	**49.9**	**+0.2**
VILC	**Villavicencio,**	**2.79**	**192**	P		**Pn**	**23**	**27**	**14.5**	**-0.2**
VILC				S		**Sn**	**23**	**27**	**49.0**	**-0.6**
PTGC	**Puerto Gaitan,**	**2.81**	**160**	P		**Pn**	**23**	**27**	**14.2**	**-0.7**
PTGC				S		**Sn**	**23**	**27**	**47.3**	**-2.5**
RECRC	**Villamaria, Ca**	**2.92**	**230**	P		**Pn**	**23**	**27**	**19.1**	**+2.3**
RECRC				S		**Sn**	**23**	**27**	**53.8**	**+0.6**
NIZA	**Niza - Manizal**	**2.95**	**233**	P		**Pn**	**23**	**27**	**19.6**	**+2.6**
NIZA				S		**Sn**	**23**	**27**	**56.2**	**+2.7**
CBOC	**Ciudad Bolivar**	**3.05**	**251**	P		**Pn**	**23**	**27**	**19.0**	**+0.9**
CBOC				S		**Sn**	**23**	**27**	**53.9**	**-1.7**
DBBC	**Dabeiba**	**3.09**	**273**	P		**Pn**	**23**	**27**	**18.8**	**+0.3**
DBBC				S		**Sn**	**23**	**27**	**54.6**	**-1.6**
SDV	**Santo Domingo**	**3.17**	**50**	P		**Pn**	**23**	**27**	**20.6**	**+0.9**
	81nm,0.3s,baz=229,slow=9.8,SNR=62									
SDV				S		**Sn**	**23**	**27**	**59.7**	**+1.4**
	43nm,0.4s,baz=352,slow=23,SNR=11									
ARGC	**Ariguani, Magd**	**3.19**	**339**	P		**Pn**	**23**	**27**	**21.7**	**+2.0**
ARGC				S		**Sn**	**23**	**27**	**59.6**	**+1.0**
ANIL	**Santa Ana**	**3.28**	**224**	P		**Pn**	**23**	**27**	**22.4**	**+1.3**
ANIL				S		**Sn**	**23**	**28**	**03.6**	**+2.7**
APAC	**Apartado, Choc**	**3.60**	**287**	P		**Pn**	**23**	**27**	**25.2**	**+0.2**
APAC				S		**Sn**	**23**	**28**	**05.1**	**-2.7**
ORTC	**Ortega, Tolima**	**3.62**	**216**	P		**Pn**	**23**	**27**	**25.4**	**+0.1**
ORTC				S		**Sn**	**23**	**28**	**09.0**	**+0.6**
SJCC	**San Jacinto, C**	**3.66**	**326**	P		**Pn**	**23**	**27**	**25.0**	**-0.7**
SJCC				S		**Sn**	**23**	**28**	**06.6**	**-2.7**
PLMC	**San Jos del P**	**3.71**	**239**	P		**Pn**	**23**	**27**	**26.8**	**+0.4**
PLMC				S		**Sn**	**23**	**28**	**10.1**	**-0.3**
CRJC	**Cerrejon, Guaj**	**4.15**	**3**	P		**Pn**	**23**	**27**	**31.6**	**-0.5**
CRJC				S		**Sn**	**23**	**28**	**18.2**	**-2.5**
GUVC	**San Jose del G**	**4.30**	**174**	P		**Pn**	**23**	**27**	**33.7**	**-0.4**
GUVC				S		**Sn**	**23**	**28**	**24.4**	**+0.1**
YOTC	**Yotoco, Valle**	**4.31**	**229**	P		**Pn**	**23**	**27**	**34.0**	**-0.3**
SMRC	**Santa Marta, M**	**4.42**	**346**	P		**Pn**	**23**	**27**	**36.2**	**+0.5**
SMRC				S		**Sn**	**23**	**28**	**24.4**	**-2.7**
PIZC	**Pizarro, Choco**	**4.63**	**246**	P		**Pn**	**23**	**27**	**39.9**	**+1.5**
PTAC	**Punta Ardita,**	**4.68**	**274**	P		**Pn**	**23**	**27**	**38.9**	**-0.1**
MACC	**Macarena, Meta**	**4.74**	**189**	P		**Pn**	**23**	**27**	**38.2**	**-1.6**
MACC				S		**Sn**	**23**	**28**	**31.0**	**-3.5**
BETC	**Betania**	**4.75**	**209**	P		**Pn**	**23**	**27**	**39.4**	**-0.7**
JAMC	**Jamundi, Valle**	**5.07**	**225**	P		**Pn**	**23**	**27**	**43.9**	**-0.5**
	16nm,0.7s									
MALC	**Bahia Malaga**	**5.07**	**236**	P		**Pn**	**23**	**27**	**45.5**	**+1.3**
GARC	**Garzon, Huila**	**5.21**	**207**	P		**Pn**	**23**	**27**	**45.4**	**-0.9**
POPC	**Popayan, Colom**	**5.57**	**220**	P		**Pn**	**23**	**27**	**51.3**

BOZK	**Kars-Merkez-Bo**	**1.43**	**207**	P	**Pb**	**23 47 25.4**	**-0.5**
BOZK				*i* AML	AML	23 47 45.0	
	comp=E,96nm,0.5s						
BOZK				S	**Sn**	**23 47 45.1**	**+0.3**
BOZK				*i* AML	AML	23 47 49.0	
	comp=N,58nm,0.7s						
STDR	**Stavd-Durt**	**1.51**	**6**	*e*Pg	**Pg**	**23 47 27.8**	**+0.3**
STDR				*e*Sg	**Sg**	**23 47 49.7**	**+2.6**
BTKR	**Batakoyurt**	**1.59**	**19**	*e*Pg	**Pb**	**23 47 28.4**	**-0.2**
BTKR				*e*Sg	**Sg**	**23 47 53.0**	**+3.2**
NCK	**Nalchik**	**1.64**	**354**	*e*Pg	**Pb**	**23 47 29.3**	**0.0**
NCK				*e*Sg	**Sg**	**23 47 52.5**	**+1.2**
DAGI	**Agillar**	**1.65**	**242**	P	**Pn**	**23 47 28.5**	**+0.1**
DAGI				S	**Sb**	**23 47 50.2**	**-0.5**
BCA	**Borcka**	**1.71**	**257**	Pn	**Pn**	**23 47 29.3**	**+0.1**
BCA				Sn	**Sb**	**23 47 52.5**	**0.0**
SENK	**Senkaya-Erzuru**	**1.72**	**221**	Pn	**Pb**	**23 47 30.5**	**-0.4**
LGD	**Lagodekhi**	**1.80**	**90**	P	**Pn**	**23 47 30.2**	**-0.2**
LGD				S	**Sb**	**23 47 54.9**	**0.0**
DBAD	**Bademkaya**	**1.82**	**243**	P	**Pb**	**23 47 31.6**	**-0.9**
DBAD				S	**Sn**	**23 47 54.4**	**+0.1**
DBAD				*i* AML	AML	23 47 59.0	
	comp=E,63nm,0.3s						
GDB	**GEDABAY**	**1.84**	**128**	P	**Pn**	**23 47 29.9**	**-1.2**
GDB				S	**Sn**	**23 47 54.0**	**-1.0**
GNI	**Garni**	**1.85**	**158**	Pn	**Pb**	**23 47 32.2**	**-0.8**
GNI				Sn	**Sg**	**23 47 57.3**	**-0.6**
DDEM	**Demirkent**	**1.85**	**239**	P	**Pb**	**23 47 31.9**	**-1.1**
DDEM				S	**Sb**	**23 47 56.5**	**0.0**
TASB	**TASBURUN-IGDIR**	**1.91**	**171**	Pn	**Pb**	**23 47 33.2**	**-0.7**
TASB				Sn	**Sg**	**23 47 59.3**	**-0.5**
DVE	**Vedeno**	**2.01**	**56**	*e*Pg	**Pn**	**23 47 34.2**	**+0.8**
DVE				*e*Sg	**Sb**	**23 48 01.3**	**0.0**
VSHL	**Vashlovani**	**2.02**	**107**	P	**Pn**	**23 47 34.3**	**+0.8**
VSHL				S	**Sb**	**23 48 01.4**	**-0.1**
ZKTA	**Zakatala**	**2.10**	**95**	P	**Pn**	**23 47 34.4**	**-0.1**
ZKTA				S	**Sn**	**23 48 01.9**	**+0.9**
KOTA	**Agri, Merkez-K**	**2.12**	**193**	P	**Pb**	**23 47 36.6**	**-1.0**
GANJ	**Ganja**	**2.23**	**122**	P	**Pn**	**23 47 36.2**	**-0.2**
GANJ				S	**Sn**	**23 48 05.0**	**+0.5**
XNZR	**Khunzakh**	**2.23**	**71**	*e*Pn	**Pn**	**23 47 38.2**	**+1.7**
	14nm,0.3s						
XNZR				*e*Sn	**Sb**	**23 48 07.4**	**-0.2**
	96nm,0.5s						
KIV	**Kislovodsk**	**2.25**	**338**	Pn	**Pn**	**23 47 36.3**	**-0.4**
UNCR	**Uncukul**	**2.35**	**68**	*e*Pn	**Pb**	**23 47 40.0**	**-1.5**
	17nm,0.4s						
UNCR				*e*Sn	**Sb**	**23 48 10.7**	**-0.2**
	50nm,0.6s						
AGRB	**Hanur-Agry**	**2.38**	**196**	Pn	**Pb**	**23 47 40.1**	**-2.0**
GNBR	**Gunib**	**2.38**	**76**	*e*Pn	**Pn**	**23 47 40.1**	**+1.6**
	17nm,0.7s						
GNBR				*e*Sn	**Sb**	**23 48 11.2**	**-0.6**
	268nm,0.3s						
DLMR	**Dylym**	**2.39**	**59**	*e*Pn	**Pn**	**23 47 40.3**	**+1.8**
	48nm,0.7s						
DLMR				*e*Sn	**Sb**	**23 48 11.9**	**-0.1**
	34nm,0.3s						
KOPR	**Koprukoy-ERZUR**	**2.40**	**219**	Pn	**Pb**	**23 47 40.7**	**-1.8**
CHOM	**Cayeli-Rize**	**2.44**	**253**	Pn	**Pn**	**23 47 40.7**	**+1.5**
ARKR	**Arakani**	**2.46**	**72**	*e*Pn	**Pn**	**23 47 41.0**	**+1.5**
	13nm,0.4s						
ARKR				*e*Sn	**Sb**	**23 48 12.7**	**-1.2**
	16nm,0.5s						
KRNR	**Karanay**	**2.47**	**66**	*e*Pn	**Pn**	**23 47 41.7**	**+2.0**
	8.0nm,0.5s						
KRNR				*e*Sn	**Sb**	**23 48 14.6**	**+0.2**
	14nm,0.4s						
DBC	**Dubki**	**2.50**	**61**	*e*Pn	**Pn**	**23 47 42.1**	**+2.0**
	6.0nm,0.8s						
DBC				*e*Sn	**Sb**	**23 48 15.2**	**+0.1**
	67nm,0.8s						
BUJR	**Buynaksk**	**2.61**	**67**	*e*Pn	**Pn**	**23 47 43.3**	**+1.8**
	14nm,0.3s						
BUJR				*e*Sn	**Sb**	**23 48 17.0**	**-1.2**
	14nm,0.5s						
SEKA	**Sheki**	**2.61**	**103**	P	**Pn**	**23 47 41.1**	**-0.5**
SEKA				S	**Sb**	**23 48 16.7**	**-1.5**
MNGR	**Mingechevir, A**	**2.68**	**113**	P	**Pn**	**23 47 43.3**	**+0.8**
MNGR				S	**Sn**	**23 48 17.2**	**+1.9**
KRIK	**Erzurum-spir**	**2.68**	**236**	P	**Pb**	**23 47 47.9**	**+0.7**
KRIK				S	**Sg**	**23 48 27.2**	**+2.5**
IZDR	**Rize**	**2.69**	**247**	P	**Pn**	**23 47 44.3**	**+1.6**
IZDR				S	**Sb**	**23 48 20.1**	**-0.7**
SBZ	**Shahbuz**	**2.79**	**152**	P	**Pn**	**23 47 44.7**	**+0.5**
SBZ				S	**Sn**	**23 48 16.4**	**-1.8**
URKR	**Urkarakh**	**2.84**	**83**	*e*Pn	**Pn**	**23 47 46.1**	**+1.3**
	8.0nm,0.2s						
URKR				*e*Sn	**Sn**	**23 48 22.4**	**+2.7**
	24nm,0.6s						
SGKR	**Sergokala**	**2.90**	**77**	*e*Pn	**Pn**	**23 47 47.1**	**+1.6**
	13nm,0.4s						
SGKR				*e*Sn	**Sn**	**23 48 23.7**	**+2.8**
	1.0nm,0.4s						
AKT	**Akhty**	**2.94**	**96**	*e*Pn	**Pn**	**23 47 46.8**	**+0.6**
	9.0nm,0.3s						
AKT				*e*Sn	**Sn**	**23 48 23.2**	**+1.2**
	32nm,0.6s						
NAX	**Nakhchivan**	**2.97**	**154**	P	**Pn**	**23 47 47.6**	**+1.0**
NAX				S	**Sn**	**23 48 20.5**	**-2.2**
BRDA	**Brd**	**2.99**	**121**	P	**Pn**	**23 47 48.0**	**+1.2**
BRDA				S	**Sn**	**23 48 22.2**	**-0.8**
AGDM	**Agdam**	**3.04**	**124**	P	**Pn**	**23 47 47.4**	**0.0**
AGDM				S	**Sn**	**23 48 24.0**	**-0.2**
QBL	**Gabala**	**3.15**	**106**	P	**Pn**	**23 47 49.6**	**+0.7**
QBL				S	**Sn**	**23 48 28.9**	**+1.9**
BAYT	**Aydıntepe-Bayb**	**3.16**	**243**	Pn	**Pn**	**23 47 51.0**	**+1.8**
KSMR	**Kasumkent**	**3.22**	**93**	*e*Pn	**Pn**	**23 47 51.9**	**+1.9**
	46nm,0.3s						
KSMR				*e*Sn	**Sn**	**23 48 32.5**	**+3.7**
	1.0nm,0.4s						
XNQ	**Khinaliq**	**3.30**	**101**	P	**Pn**	**23 47 52.4**	**+1.1**
XNQ				S	**Sn**	**23 48 31.3**	**+0.2**
ZRD	**Zardab**	**3.31**	**117**	P	**Pn**	**23 47 51.4**	**+0.3**
ZRD				S	**Sn**	**23 48 30.6**	**-0.4**
QSAR	**Qusar**	**3.33**	**95**	P	**Pn**	**23 47 53.4**	**+1.9**
QSAR				S	**Sn**	**23 48 32.8**	**+1.2**
ORD	**Ordubad**	**3.37**	**150**	P	**Pn**	**23 47 51.6**	**-0.4**
ORD				S	**Sn**	**23 48 31.5**	**-0.9**
IML	**Ismayilli**	**3.44**	**107**	P	**Pn**	**23 47 53.7**	**+0.7**
IML				S	**Sn**	**23 48 34.4**	**+0.1**
QUBA	**Quba, Azerbaij**	**3.53**	**97**	P	**Pn**	**23 47 54.7**	**+0.5**
QUBA				S	**Sn**	**23 48 39.0**	**+2.7**
BLQ	**Beylaqan**	**3.54**	**126**	S	**Pn**	**23 48 35.8**	**+1.9**
QRD	**Qoradiz**	**3.58**	**131**	P	**Pn**	**23 47 55.2**	**+0.4**
QRD				S	**Sn**	**23 48 37.3**	**-0.1**
PQL	**Pirkuli**	**3.74**	**105**	P	**Pn**	**23 47 57.9**	**+0.7**
PQL				S	**Sn**	**23 48 43.8**	**+2.1**
SIZA	**Siyzn**	**3.88**	**100**	P	**Pn**	**23 47 59.7**	**+0.6**
SIZA				S	**Sn**	**23 48 46.9**	**+1.7**
ATGJ	**Altiaghaj**	**3.97**	**103**	P	**Pn**	**23 48 01.5**	**+1.2**
ATGJ				S	**Sn**	**23 48 49.1**	**+1.8**
GBS	**Qobustan**	**4.07**	**107**	P	**Pn**	**23 48 02.5**	**+0.8**
GBS				S	**Sn**	**23 48 51.9**	**+2.0**
GLBA	**Clilabad**	**4.35**	**126**	S	**Sn**	**23 48 56.4**	**-0.1**
YRD	**Yardimli**	**4.47**	**130**	P	**Pn**	**23 48 07.5**	**+0.3**
YRD				S	**Sn**	**23 48 57.9**	**-2.0**
GOBA	**Gobu**	**4.69**	**106**	S	**Sn**	**23 49 06.9**	**+2.1**
LRK	**Lerik**	**4.71**	**132**	S	**Sn**	**23 49 05.4**	**-0.4**
NDR	**Nardaran**	**4.81**	**103**	S	**Sn**	**23 49 08.2**	**+0.3**
LKRN	**Lenkeran, Azer**	**4.92**	**128**	S	**Sn**	**23 49 10.2**	**-0.4**

NEIC ***21*** *23:56:01.1±0.5,36°.231N±0°.004×98°.44W±0°.01, h5km±1km, Error ellipse: s-maj=2.7km s-min=2.0km az=142.0*

TUL 21 23:56:01.4±0.6,36°.24N±0°.01×98°.44W±0°.01, h6km±3km, ML2.5, mb_Lg2.3/9(NEIC), ML2.6/30(NEIC), Error ellipse: s-maj=1.9km s-min=1.2km az=221.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.34**	**314**	Pg	Pg	23 56 08.5	+0.4
OK038				IAML		23 56 13.9	
	694nm,0.2s						
OK038				IAML		23 56 16.4	
	756nm,0.2s						
CROK	**Carrier**	**0.45**	**54**	Pg	Pg	23 56 10.4	+0.2
CROK				Sg	Sg	23 56 16.9	+0.8
U32A	**Winter Ranch,**	**0.48**	**287**		Pg	23 56 10.8	+0.2
U32A				Sg	Sg	23 56 17.6	+0.8
U32A				IAML		23 56 18.1	
	comp=E,360nm,0.1s						
U32A				IAML		23 56 20.4	
	comp=N,558nm,0.4s						
OK035	**E0210 Rd and N**	**0.52**	**335**	Pg	Pg	23 56 11.5	+0.1
GC02	**Grant County #**	**0.77**	**37**		Pg	23 56 16.1	-0.1
GC02				Sg	Sg	23 56 26.6	+0.4
ELIS	**Ellis County**	**0.81**	**258**		Pg	23 56 16.8	-0.2
ELIS				Sg	Sg	23 56 27.9	+0.3
ELIS				IAML		23 56 38.4	
	comp=E,170nm,0.2s						
ELIS				IAML		23 56 44.9	
	comp=N,246nm,0.4s						
KAN14	**Manchester OK**	**0.81**	**28**	Pg	Pg	23 56 16.9	-0.2
KAN14				Sg	Sg	23 56 28.0	+0.4
OK029	**Liberty Lake**	**0.91**	**119**	Pg	Pg	23 56 18.4	-0.5
OK029				Sg	Sg	23 56 31.0	+0.3
OK029				IAML		23 56 31.5	
	comp=N,194nm,0.4s						
KAN17	**Caldwell West**	**0.97**	**34**	Pg	Pg	23 56 19.6	-0.4
KAN17				Sg	Sg	23 56 33.0	+0.3
KAN05	**Bluff City Nor**	**0.98**	**27**	Pg	Pg	23 56 19.9	-0.4
KAN08	**Anthony NE Sta**	**1.06**	**21**	Pg	Pg	23 56 21.2	-0.5
KAN01	**Argonia South**	**1.06**	**31**	Pg	Pg	23 56 21.3	-0.5
KAN13	**South Haven SW**	**1.09**	**45**	Pg	Pg	23 56 21.9	-0.5
KAN09	**Caldwell North**	**1.11**	**36**	Pg	Pg	23 56 22.1	-0.7
KAN12	**Harper NE Stat**	**1.11**	**18**	Pg	Pg	23 56 22.3	-0.5
OKCSW	**OKLAHOMA CITY**	**1.16**	**135**	Pg	Pg	23 56 22.6	-1.1
OKCSW				IAML		23 56 27.8	
	comp=E,166nm,0.1s						
OKCSW				IAML		23 56 45.8	
	comp=N,181nm,0.1s						
KS21	**Milan North St**	**1.22**	**30**	Pg	Pg	23 56 24.0	-0.8
OK048	**Pawnee Station**	**1.22**	**81**		Pg	23 56 24.0	-0.8
OK033	**Mehan**	**1.23**	**99**	Pg	Pg	23 56 24.2	-0.7
FNO	**Franklin**	**1.29**	**139**		Pn	23 56 25.2	-0.9
OK052	**Battle Ridge R**	**1.35**	**100**		Pn	23 56 26.1	-0.7
QUOK	**Quay**	**1.40**	**92**		Pn	23 56 27.1	-0.4
WMOK	**Wichita Mounta**	**1.52**	**191**		Pn	23 56 28.6	-0.6
DEOK	**Depew**	**1.62**	**104**		Pn	23 56 30.6	+0.1
W35A	**Tecumseh**	**1.67**	**130**		Pn	23 56 31.1	-0.2
T35A	**Sooner Cattle**	**1.69**	**66**		Pn	23 56 31.8	+0.3
SMWD	**Samorwood**	**1.85**	**233**		Pn	23 56 34.3	+0.5
TUL3	**Leonard**	**2.17**	**98**	Pn	Pn	23 56 37.9	-0.2
R32A	**Long Quarter,**	**2.19**	**354**		Pn	23 56 38.6	+0.2
RLO	**Rose Lookout**	**2.76**	**90**	Pn	Pn	23 56 45.9	-0.4
CBKS	**Cedar Bluff**	**2.77**	**338**	IAmb_Lg		23 57 36.0	
	comp=Z,9.6nm,0.8s						
X37A	**Clayton**	**3.00**	**122**	Pn	Pn	23 56 49.3	-0.2
FW03	**Perrin-Whitt E**	**3.21**	**174**	IAmb_Lg		23 57 40.7	
	comp=Z,8.1nm,0.7s						
KSU1	**Kansas State U**	**3.21**	**26**	IAmb_Lg		23 57 45.9	
	comp=Z,7.9nm,0.7s						
U38A	**Gravette**	**3.28**	**85**	Pn	Pn	23 56 53.1	-0.2
RTBA	**Rita Blanca**	**3.48**	**275**	Pn	Pn	23 56 57.1	+0.9
SN07	**Snyder 07**	**3.73**	**213**	IAmb_Lg		23 58 05.4	
	comp=Z,6.6nm,0.9s						
S39A	**Bolivar**	**4.34**	**69**	Pn	Pn	23 57 07.8	-0.2
SIUC	**Southern Illin**	**7.53**	**76**	IAmb_Lg		00 00 10.6	
	comp=Z,7.2nm,0.7s						

MOS ***22*** *00:07:59.0±0.9,4°.41S×102°.90E, h42km, mb5.5/93, Error ellipse: s-maj=7.5km s-min=3.7km az=117.5*

DJA ***22*** *00:08:02.0±0.2,5°.S±2°×10°.3E±°, h57km±2km, M5.1/72, mb5.3/72, mB5.5/31, MLv5.5/26, Mw5.0/17, Mw(mB)5.0/31, MwMwp4.7/3, Mwp5.0/3*

IDC ***22*** *00:08:03.2±0.5,4°.50S×102°.89E, h69km±4km, mb4.8/39, mbtmp5.1/40, MS3.9/48, Error ellipse: s-maj=12.4km s-min=8.8km az=55.0*

NEIC ***22*** *00:08:03.3±1.8,4°.54S±0°.06×102°.85E±0°.07, h64km±3km, mb5.3/154, Error ellipse: s-maj=9.6km s-min=8.8km az=67.0*

GCMT ***22*** *00:08:04.3±0.2,5°.00S±0°.02×102°.75E±0°.02, h65km±1km, MW5.0/92, Moment Tensor Solution. s60,c75; s92,c142; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr3.11±.13; Mθθ-2.64±.11; Mφφ-0.46±.13; Mrθ1.24±.08; Mrφ2.17±.08; Mθφ-0.87±.09; Best double couple: M0 3.85500×10^16 NP1: φs124.00000°, δ57.00000°, λ92.00000°. NP2: φs299.00000°, δ33.00000°, λ87.00000°. Principal axes: T 3.4220, Plg78.0000°, Azm41.0000°; N 0.8700, Plg2.0000°, Azm302.0000°; P -4.2890, Plg12.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 00:08:02.8±0.3,4°.62S±0°.03×102°.86E±0°.04, h67km±2km, h68km:pP-P,n1143,σ1§17/1231,mb5.2/208,72C-27D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.28**	**21**	P	**Pn**	**00 08 16.3**	**+2.7**
MNAI	**Manna**	**0.28**	**21**		**Pn**	**00 08 13.2**	**-0.3**
MNAI					**Sn**	**00 08 20.9**	**-0.6**
MNAI	**Manna**	**0.28**	**21**	P	**Pn**	**00 08 13.3**	**-0.3**
MNAI				S	**Sn**	**00 08 21.3**	**-0.1**
LHSI	**Lahat**	**1.03**	**40**	P	**Pn**	**00 08 23.0**	**+1.4**
LWLI	**Liwa**	**1.26**	**108**	P	**Pn**	**00 08 24.9**	**+0.2**
LWLI				S	**Sn**	**00 08 41.2**	**+0.1**
KASI	**Kota Agung**	**1.87**	**119**	P	**Pn**	**00 08 32.6**	**0.0**
KASI				S	**Sn**	**00 08 53.9**	**-1.3**
PMBI	**Palembang**	**2.55**	**49**	P	**Pn**	**00 08 45.0**	**+3.2**
PMBI	**Palembang**	**2.55**	**49**	Pn	**Pn**	**00 08 42.3**	**+0.5**
PMBI	**Palembang**	**2.55**	**49**	P	**Pn**	**00 08 43.0**	**+1.2**
KRJI	**Kerinci**	**2.87**	**331**	P	**Pn**	**00 08 48.1**	**+1.8**
JMBI	**JAMBI**	**3.07**	**15**	P	**Pn**	**00 08 51.2**	**+2.3**
PPSI	**Pulau Pagai**	**3.38**	**303**	P	**Pn**	**00 08 53.9**	**+0.6**
SBJI	**Serang**	**3.58**	**115**	P	**Pn**	**00 08 57.7**	**+1.7**
PPBI	**Pangkal Pinang**	**4.08**	**53**	P	**Pn**	**00 09 04.4**	**+1.6**
DBJI	**Dramaga**	**4.33**	**117**	P	**Pn**	**00 09 08.6**	**+2.4**
SKJI	**Sukabumi**	**4.38**	**123**	P	**Pn**	**00 09 09.0**	**+2.1**
PDSI	**Padang**	**4.39**	**327**	P	**Pn**	**00 09 07.3**	**+0.3**
DSRI	**Dabo**	**4.46**	**23**	P	**Pn**	**00 09 10.4**	**+2.5**
SISI	**Saibi**	**4.98**	**311**	P	**Pn**	**00 09 14.7**	**-0.4**
LEM	**Lembang**	**5.22**	**115**	P	**Pn**	**00 09 19.7**	**+1.1**
	257nm,0.8s,baz=297,slow=20,SNR=23						
LEM				S	**Sn**	**00 10 15.2**	**-2.3**
	406nm,0.6s,baz=162,slow=20,SNR=2.3						
LEM				LR	LR	00 11 44.6	
	comp=Z,2μm,19.0s,baz=280,slow=42						
LEM	**Lembang**	**5.22**	**115**	P	**Pn**	**00 09 20.7**	**+2.2**
	416nm,0.9s,5μm2.1nm						
BKNI	**Bangkinang**	**5.24**	**340**	P	**Pn**	**00 09 22.0**	**+3.4**
BKNI	**Bangkinang**	**5.24**	**340**		**Pn**	**00 09 19.6**	**+1.0**
BKNI	**Bangkinang**	**5.24**	**340**	P	**Pn**	**00 09 20.0**	**+1.4**
	723nm,0.9s,8μm2μm5.6nm						
BBJI	**Bungbulang**	**5.54**	**121**	P	**Pn**	**00 09 23.5**	**+0.7**
JCJI	**Jatiwangi**	**5.70**	**109**	P	**Pn**	**00 09 23.4**	**-1.5**
	377nm,0.8s,2.8nm						
TPRI	**Tanjung Pinang**	**5.75**	**17**	P	**Pn**	**00 09 28.3**	**+2.7**
	232nm,0.5s,5μm1.2nm						
CMJI	**Cimerak**	**6.39**	**120**	P	**Pn**	**00 09 34.9**	**+0.6**
	329nm,0.6s,6μm2.0nm						
PBSI	**Pulau Batu**	**6.44**	**315**	P	**Pn**	**00 09 34.1**	**-0.9**
	555nm,0.8s,6μm3.2nm						
MYKOM	**Kota Tinggi**	**6.44**	**9**	Pn	**Pn**	**00 09 36.1**	**+1.0**
KPJI	**Karang Pucung**	**6.62**	**114**	P	**Pn**	**00 09 39.5**	**+2.0**
	135nm,0.7s,0.9nm						
GSI	**Gunungsitoli**	**7.90**	**318**	P	**Pn**	**00 09 54.1**	**-1.0**
GSI	**Gunungsitoli**	**7.90**	**318**	Pn	**Pn**	**00 09 53.6**	**-1.5**
GSI	**Gunungsitoli**	**7.90**	**318**	P	**Pn**	**00 09 53.6**	**-1.5**
	231nm,0.5s,5μm1.2nm						
SMRI	**Semarang**	**7.92**	**108**	P	Pn	00 10 00.2	+4.8
SMRI	**Semarang**	**7.92**	**108**		**Pn**	**00 09 57.2**	**+1.8**
SMRI	**Semarang**	**7.92**	**108**	P	**Pn**	**00 09 53.9**	**-1.5**
	286nm,1.8s,1.2nm						
UGM	**Wanagama**	**8.29**	**114**	Pn	**Pn**	**00 10 01.4**	**+0.9**
NGJI	**Ngawi**	**8.98**	**108**	P	**Pn**	**00 10 09.8**	**-0.1**
	160nm,1.3s						
IPM	**Ipoh**	**9.22**	**349**		**Pn**	**00 10 14.0**	**+0.9**
PWJI	**Pagerwojo**	**9.52**	**111**	P	**Pn**	**00 10 18.3**	**+1.2**
	128nm,0.8s						
KCSI	**Kotacane, Aceh**	**9.55**	**328**	P	**Pn**	**00 10 14.8**	**-2.8**
	31nm,0.8s						
SNSI	**Sinabang, Aceh**	**9.55**	**317**	P	**Pn**	**00 10 16.5**	**-1.2**
	399nm,0.8s,3μm						
COCO	**West Island**	**9.59**	**218**		**Pn**	**00 10 14.9**	**-3.3**
COCO	**West Island**	**9.59**	**218**	P	**Pn**	**00 10 14.9**	**-3.3**
KSM	**Kuching**	**9.60**	**51**		**Pn**	**00 10 18.5**	**+0.2**
STKI	**Sintang**	**9.79**	**62**	P	Pn	00 10 29.6	+8.7
KULM	**Kulim**	**10.09**	**347**	Pn	**Pn**	**00 10 24.7**	**-0.2**
MLSI	**Meulaboh, Aceh**	**10.93**	**324**	P	**Pn**	**00 10 34.5**	**-2.0**
	184nm,0.6s						

BLJI	**Banyuglugur**	**11.12**	**107**	P	**Pn**	**00 10 39.5**	**+0.4**
	89nm,0.7s,8μm							
LHMI	**Lhok Sumawe**	**11.42**	**329**	Pn	Pn	**00 10 41.0**	**-2.2**
ABJI	**Asem Bagus**	**11.74**	**106**	P	**Pn**	**00 10 50.8**	**+3.2**
	438nm,0.9s,4μm							
JAGI	**Jajag, Banyuwa**	**11.86**	**109**	Pn	**Pn**	**00 10 48.8**	**-0.3**
JAGI	**Jajag, Banyuwa**	**11.86**	**109**	P	**Pn**	**00 10 48.8**	**-0.3**
	219nm,0.8s,3μm							
MTKI	**Muara Teweh, K**	**12.57**	**73**	P	**P**	**00 11 03.8**	**-4.2**
	358nm,0.8s							
SRBI	**Singaraja**	**12.75**	**106**	P	**Pn**	**00 11 01.3**	**-0.1**
	162nm,0.6s							
SRIT	**Nakonsritamara**	**13.52**	**346**		**Pn**	**00 11 09.6**	**-2.1**
BKB	**Balikpapan**	**14.41**	**77**		**P**	**00 11 26.6**	**-1.9**
BKB	**Balikpapan**	**14.41**	**77**	P	**P**	**00 11 27.9**	**-0.6**
	216nm,0.7s							
TWSI	**Taliwang, Sumb**	**14.52**	**107**	P	**Pn**	**00 11 21.8**	**-3.1**
	74nm,0.6s,1μm							
SMKI	**Samarinda**	**14.92**	**74**	P	**P**	**00 11 36.9**	**+2.7**
PLAI	**Plampang**	**15.39**	**107**	P	**P**	**00 11 38.3**	**-1.1**
PLAI	**Plampang**	**15.39**	**107**	P	**Pn**	**00 11 31.9**	**-4.3**
	162nm,0.7s,2μm							
KAPI	**Kappang**	**16.84**	**92**	Pn	Pn	**00 11 53.9**	**-0.4**
KAPI	**Kappang**	**16.84**	**92**	P	**Pn**	**00 11 53.9**	**-0.4**
KAPI				pmax	pmax			
	comp=Z,72nm,0.9s							
KAPI	**Kappang**	**16.84**	**92**	P	**Pn**	**00 11 52.6**	**-1.8**
KAPI				P	**Pn**	**00 11 52.6**	**-1.8**
TTSI	**Tana Toraja**	**17.00**	**85**	P	**P**	**00 11 59.9**	**+2.7**
	comp=Z,93nm,0.9s,comp=Z,1μm							
KKM	**Kota Kinabalu**	**17.03**	**52**		**Pn**	**00 11 56.1**	**-0.8**
BKSI	**Bulukumba**	**17.22**	**93**	P	**Pn**	**00 11 59.3**	**+0.3**
	comp=Z,146nm,0.8s,comp=Z,1μm							
BASI	**Baing, Sumba**	**18.43**	**109**	P	**P**	**00 12 10.1**	**-2.9**
	comp=Z,264nm,0.8s,comp=Z,3μm							
TOLI2	**Tolitoli**	**18.79**	**73**	P	**Pn**	**00 12 17.8**	**-0.3**
TOLI2				IAmb	IAmb	00 12 25.9		
	comp=Z,135nm,0.7s							
EDFI	**Ende, Flores**	**19.15**	**103**	P	**P**	**00 12 19.2**	**-1.8**
	comp=Z,51nm,0.6s							
MMRI	**Maumere**	**19.66**	**103**	P	**Pn**	**00 12 27.7**	**-0.7**
MMRI	**Maumere**	**19.66**	**103**	P	**P**	**00 12 25.4**	**-1.0**
MMRI				IAmb	IAmb	00 12 30.7		
	comp=Z,91nm,0.6s							
MMRI	**Maumere**	**19.66**	**103**	P	**P**	**00 12 26.3**	**-0.1**
	comp=Z,122nm,0.8s							
UBPT	**Khong Chiam**	**19.94**	**7**	P	**P**	**00 12 28.8**	**-0.6**
UBPT				IAmb	IAmb	00 12 45.3		
	comp=Z,74nm,0.9s							
LUWI	**Luwuk**	**20.20**	**80**	P	**P**	**00 12 32.9**	**+0.5**
LUWI				IAmb	IAmb	00 12 42.0		
	comp=Z,169nm,0.8s							
LUWI	**Luwuk**	**20.20**	**80**	P	Pn	00 12 34.2	-0.6	
	comp=Z,262nm,0.9s,comp=Z,3μm							
GTOI	**Gorontalo**	**20.80**	**76**	P	**P**	**00 12 40.0**	**+1.2**
	comp=Z,73nm,0.8s,comp=Z,686nm							
GIRL	**Giralia**	**21.03**	**149**	P	**P**	**00 12 41.9**	**+0.7**
	baz=21,SNR=5.5							
GIRL	**Giralia**	**21.03**	**149**	P	**P**	**00 12 41.3**	**+0.1**
BATI	**Baumata**	**21.36**	**106**	P	**P**	**00 12 45.0**	**+0.2**
	comp=Z,69nm,0.4s,baz=210,slow=4.2,SNR=22							
BATI				S	**S**	**00 16 32.0**	**-6.5**	
	comp=Z,18nm,0.5s,baz=288,slow=20,SNR=2.3							
	comp=Z,69nm,0.4s							
BATI	**Baumata**	**21.36**	**106**	P	**P**	**00 12 45.4**	**+0.6**
	comp=Z,178nm,0.7s,comp=Z,2μm							
SOEI	**Soe**	**21.84**	**105**	P	**P**	**00 12 51.5**	**+1.4**
SOEI	**Soe**	**21.84**	**105**	P	**P**	**00 12 49.1**	**-1.0**
SOEI				IAmb	IAmb	00 13 12.8		
	comp=Z,128nm,0.9s							
SOEI	**Soe**	**21.84**	**105**	P	**P**	**00 12 48.8**	**-1.3**
	comp=Z,155nm,0.9s							
PHRA	**Phrae**	**23.12**	**354**	P	**P

KMI LR LR
comp=Z,190nm,18.2s
KMI LR LR
comp=Z,650nm,14.8s
KMI Kunming 29.56 360 P **P** **00 14 01.1 -0.5**
KMI Kunming 29.56 360 P **P** **00 14 01.1 -0.5**
KMI pmax pmax
comp=Z,25nm,1.0s
KDU Kakadu 30.33 107 P **P** **00 14 06.3 -2.0**
baz=30,SNR=7.5
H08S2 Diego Garcia H 30.33 263 T T 00 46 11.9
baz=86,slow=76
H08S3 Diego Garcia H 30.34 263 T T 00 46 09.4
baz=86,slow=76
H08S1 Diego Carcia H 30.35 263 T T 00 46 02.4
baz=86,slow=76
PZH PanZhiHua 30.96 358 P **P** **00 14 17.6 +3.8**
PZH S **S** **00 19 18.3 +4.6**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,190nm,6.1s
PZH LR LR
comp=Z,190nm,10.9s
PZH LR LR
comp=Z,200nm,10.4s
PZH LR LR
comp=Z,290nm,15.5s
GYA Guiyang 31.11 7⇑*i*P **P** **00 14 16.4 +1.2**
GYA pP pP 00 14 31.6 +0.1
GYA pmax pmax
comp=Z,44nm,0.8s
GYA LR LR
comp=Z,490nm,15.3s
NWAO Narrogin (SRO) 31.20 156 P **P** **00 14 15.6 -0.2**
NWAO Narrogin (SRO) 31.20 156 P **P** **00 14 15.6 -0.2**
NWAO pmax pmax
comp=Z,19nm,0.8s
NWAO Narrogin (SRO) 31.20 156 LR LR 00 25 28.7
comp=Z,406nm,21.8s,baz=358,slow=33
WRKA Warakurna 31.77 132 P **P** **00 14 21.5 +0.6**
baz=32,SNR=15
WRKA Warakurna 31.77 132 P **P** **00 14 22.3 +1.4**
H01W3 Cape Leeuwin H 31.88 162 T T 00 48 00.1
baz=340,slow=76
H01W2 Cape Leeuwin H 31.89 162 T T 00 48 08.3
baz=340,slow=76
H01W1 Cape Leeuwin H 31.89 162 T T 00 47 44.7
baz=340,slow=76
KMBL Kambalda 32.06 148 P **P** **00 14 23.6 +0.3**
baz=32,SNR=13
KMBL Kambalda 32.06 148 P **P** **00 14 24.4 +1.0**
HYB Hyderabad 32.48 313 *e*P **P** **00 14 27.6 +0.3**
WB0 Warramunga Arr 34.21 119 P **P** **00 14 42.1 -0.1**
WB0 IAmb IAmb 00 14 43.3
comp=Z,35nm,1.0s
WRA Warramunga Arr 34.23 119 P **P** **00 14 41.8 -0.6**
WRA Warramunga Arr 34.23 119 P **P** **00 14 41.8 -0.6**
WRA pmax pmax
comp=Z,5.0nm,0.9s
WRA Warramunga Arr 34.23 119 P **P** **00 14 42.7 +0.3**
comp=Z,21nm,0.8s,baz=278,slow=8.5,SNR=19
WRA PcP **PcP** **00 17 18.0 0.0**
comp=Z,5.3nm,0.7s,baz=299,slow=2.1,SNR=4.9
WRA S **S** **00 20 03.0 -1.6**
comp=Z,5.4nm,1.0s,baz=295,slow=17,SNR=5.0
WRA LR LR 00 28 37.4
comp=Z,115nm,21.2s,baz=248,slow=36
comp=Z,21nm,0.8s
WB2 Warramunga Arr 34.24 119 P **P** **00 14 42.4 -0.1**
baz=34
FORT Forrest 35.22 141 P **P** **00 14 51.7 +0.9**
baz=35,SNR=17
FORT Forrest 35.22 141 P **P** **00 14 51.4 +0.6**
FORT IAmb IAmb 00 15 16.8
comp=Z,41nm,0.8s
ENH Enshi 35.27 10 P **P** **00 14 51.7 +0.5**
ENH Enshi 35.27 10 P **P** **00 14 50.8 -0.5**
ENH IAmb IAmb 00 14 52.3
comp=Z,40nm,1.0s
CD2 Chengdu 35.34 1 P **P** **00 14 51.1 -0.7**
CD2 pP pP 00 15 08.4 0.0
CD2 sP sP 00 15 16.3 0.0
CD2 S **S** **00 20 25.0 +3.6**
CD2 pmax pmax
comp=Z,80nm,0.9s
CD2 pmax pmax
comp=Z,180nm,5.0s
CD2 LR LR
comp=Z,720nm,17.8s
CD2 LR LR
comp=Z,410nm,14.6s
CD2 LR LR
comp=Z,690nm,15.7s
ASPA Alice Springs 35.42 125 P **P** **00 14 53.2 +0.6**
baz=36
ASAR Alice Springs 35.42 125 P **P** **00 14 52.7 0.0**
ASAR PcP **PcP** **00 17 22.5 +1.1**
ASAR Alice Springs 35.42 125 P **P** **00 14 53.3 +0.6**
comp=Z,26nm,0.7s,baz=300,slow=8.0,SNR=118
ASAR PcP **PcP** **00 17 21.8 +0.4**
comp=Z,9.1nm,0.7s,baz=313,slow=2.3,SNR=9.1
ASAR S **S** **00 20 22.3 -0.7**
comp=Z,2.6nm,0.8s,baz=303,slow=15,SNR=6.2
ASAR ScP **ScP** **00 21 00.6 -1.0**
comp=Z,4.7nm,1.1s,baz=286,slow=3.8,SNR=5.9
ASAR LR LR 00 31 00.8
comp=Z,135nm,19.3s,baz=290,slow=39
comp=Z,26nm,0.7s
AS31 Alice Springs 35.42 125 P **P** **00 14 52.9 +0.2**
AS01 Alice Springs 35.46 125 P **P** **00 14 53.9 +0.9**
LSA Lhasa 35.92 342 P **P** **00 14 56.9 -0.5**
LSA IAmb IAmb 00 14 58.4
comp=Z,25nm,0.9s
LSA Lhasa 35.92 342 P **P** **00 14 57.2 -0.1**
LSA Lhasa 35.92 342 P **P** **00 14 56.9 -0.5**
LSA pmax pmax
comp=Z,25nm,0.9s
LSA Lhasa 35.92 342 P **P** **00 14 57.6 +0.3**
LSA P **P** **00 14 57.6 +0.3**
LSA Lhasa 35.92 342 P **P** **00 14 57.2 -0.1**
WHN Wuhan 36.65 17 ⇓P **P** **00 15 04.1 +1.1**
WHN LR LR
comp=Z,2μm,23.1s
OOD Oodnadatta 38.82 130 P **P** **00 15 22.6 +1.2**
XAN Xi'an 38.87 8 ⇓P **P** **00 15 21.8 0.0**
XAN sP sP 00 15 44.0 -2.3
XAN pmax pmax
comp=Z,110nm,0.8s
XAN LR LR
comp=Z,570nm,19.9s
XAN LR LR
comp=Z,330nm,15.8s
XAN LR LR
comp=Z,740nm,19.2s
XAN Xi'an 38.87 8 P **P** **00 15 21.2 -0.6**
XAN Xi'an 38.87 8 P **P** **00 15 21.2 -0.6**
XAN pmax pmax
comp=Z,73nm,1.0s
MULG Mulgathing 38.95 135 P **P** **00 15 23.6 +1.1**
QIS Mount Isa 39.07 117 P **P** **00 15 24.0 +0.3**
baz=39,SNR=38
QIS Mount Isa 39.07 117 P **P** **00 15 24.3 +0.6**
NJ2 Nanjing 39.52 22 *e*P **P** **00 15 30.6 +3.5**
NJ2 pP **pP** **00 15 45.5 +1.7**
NJ2 sP **sP** **00 15 52.8 +1.2**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
NJ2 pmax pmax
comp=Z,410nm,5.0s
LYN LuoYang 40.00 12 ⇓P **P** **00 15 32.1 +1.0**
LYN pP pP 00 15 48.3 +0.3
LYN sP sP 00 15 53.9 -1.9
LYN pmax pmax
comp=Z,140nm,0.8s
LYN pmax pmax
comp=Z,320nm,5.0s
LYN LR LR
comp=Z,710nm,15.8s
LYN LR LR
comp=Z,290nm,10.7s
LYN LR LR
comp=Z,750nm,17.2s
LZH Lanzhou 40.50 1⇑*i*P **P** **00 15 35.9 +0.5**
LZH pP pP 00 15 53.1 +0.9
LZH PcP **PcP** **00 17 38.3 +1.4**

LZH pmax pmax
comp=Z,100nm,1.1s
LZH pmax pmax
comp=Z,290nm,4.8s
LZH LR LR
comp=Z,380nm,15.3s
LZH LR LR
comp=Z,340nm,13.4s
LZH LR LR
comp=Z,490nm,16.0s
COEN Coen 40.80 106 P **P** **00 15 38.0 0.0**
baz=41,SNR=4.4
COEN Coen 40.80 106 P **P** **00 15 37.3 -0.7**
GOMU GeErMu 41.30 350 P **P** **00 15 41.9 -0.3**
GOMU pmax pmax
comp=Z,17nm,1.0s
GOMU LR LR
comp=Z,190nm,16.0s
GOMU LR LR
comp=Z,150nm,17.3s
GOMU LR LR
comp=Z,290nm,16.5s
BBOO Buckleboo 41.80 136 P **P** **00 15 46.6 +0.6**
baz=42,SNR=22
BBOO Buckleboo 41.80 136 P **P** **00 15 47.2 +1.2**
BBOO Buckleboo 41.80 136 P **P** **00 15 46.5 +0.5**
BBOO IAmb IAmb 00 15 47.6
comp=Z,38nm,0.9s
LCRK Leigh Creek 42.07 132 P **P** **00 15 49.8 +1.6**
MTSU Mount Surprise 42.68 112 P **P** **00 15 54.1 +0.7**
baz=43,SNR=31
MTSU Mount Surprise 42.68 112 P **P** **00 15 54.6 +1.2**
INKA Innaminka 42.75 127 P **P** **00 15 56.2 +2.4**
WHYH Whyalla 42.98 135 P **P** **00 15 56.7 +1.2**
TIY Taiyuan 43.05 11 *e*P **P** **00 15 56.6 +0.5**
TIY pmax pmax
comp=Z,47nm,0.7s
HNS HongShan 43.24 14 ⇓P **P** **00 15 57.9 +0.4**
HNS sP **sP** **00 16 19.8 -2.4**
HNS PP **PcP** **00 17 46.3 +0.6**
HNS *e*S **S** **00 22 15.8 -3.8**
HNS pmax pmax
comp=Z,27nm,1.0s
HNS LR LR
comp=Z,280nm,14.7s
HNS LR LR
comp=Z,270nm,11.5s
HNS LR LR
comp=Z,440nm,20.7s
GTA Gaotai 43.90 357 P **P** **00 16 03.3 +0.3**
GTA pP pP 00 16 19.4 -0.5
GTA sP sP 00 16 31.6 +3.9
GTA PcP **PcP** **00 17 48.9 +0.8**
GTA pmax pmax
comp=Z,33nm,0.9s
GTA LR LR
comp=Z,370nm,19.3s
GTA LR LR
comp=Z,230nm,18.9s
GTA LR LR
comp=Z,550nm,19.6s
HTT Hallett 44.14 135 P **P** **00 16 05.6 +0.7**
baz=44,SNR=28
HTT Hallett 44.14 135 P **P** **00 16 06.6 +1.6**
PMG Port Moresby 44.20 99 P **P** **00 16 06.7 +1.0**
PMG Port Moresby 44.20 99*de*P **P** **00 16 05.9 +0.2**
PMG pmax pmax
comp=Z,39nm,0.9s
CTA Charters Tower 44.92 114 P **P** **00 16 12.4 +1.0**
CTA Charters Tower 44.92 114 PcP **PcP** **00 17 52.1 +0.2**
comp=Z,6.0nm,0.6s,baz=271,slow=2.4,SNR=1.4
CTA LR LR 00 39 04.8
comp=Z,71nm,18.0s,baz=181,slow=41
CTAO Charters Tower 44.92 114 P **P** **00 16 12.4 +1.0**
CTAO Charters Tower 44.92 114 P **P** **00 16 11.5 +0.2**
CTAO Charters Tower 44.92 114 P **P** **00 16 11.5 +0.2**
CTAO pmax pmax
comp=Z,116nm,0.8s
CTAO Charters Tower 44.92 114 P **P** **00 16 11.9 +0.5**
CTAO pP **pP** **00 16 28.1 -0.1**
QLP Quilpie 45.14 123 P **P** **00 16 14.0 +1.0**
baz=45,SNR=28
QLP Quilpie 45.14 123 P **P** **00 16 14.9 +1.9**
TV1H Townsville Har 45.23 113 P **P** **00 16 14.9 +1.2**
STKA Stephens Creek 45.29 131 P **P** **00 16 15.3 +1.2**
baz=45,SNR=81
STKA Stephens Creek 45.29 131 P **P** **00 16 15.6 +1.5**
STKA Stephens Creek 45.29 131 P **P** **00 16 14.9 +0.8**
STKA IAmb IAmb 00 16 16.2
comp=Z,22nm,0.7s
STKA Stephens Creek 45.29 131*c i*P **P** **00 16 14.9 +0.8**
STKA Stephens Creek 45.29 131 P **P** **00 16 15.2 +1.2**
comp=Z,103nm,0.7s,baz=305,slow=7.9,SNR=196
STKA S **S** **00 22 49.4 -0.5**
comp=Z,1.1nm,0.4s,baz=18,slow=19,SNR=1.7
STKA LR LR 00 37 23.0
comp=Z,88nm,20.6s,baz=303,slow=39
comp=Z,103nm,0.7s
GUMO Guam 45.45 66 LR LR 00 36 03.4
comp=Z,41nm,21.5s,baz=59,slow=37
BTO Baotou 45.48 8 *e*P **P** **00 16 16.6 +1.1**
BTO pP **pP** **00 16 33.8 +1.3**
BTO sP **sP** **00 16 46.5 +6.3**
BTO S **S** **00 22 53.6 +1.2**
BTO SS **ScS** **00 26 04.8 -1.0**
BTO pmax pmax
comp=Z,42nm,1.1s
BTO pmax pmax
comp=Z,360nm,4.5s
BTO LR LR
comp=Z,350nm,11.0s
BTO LR LR
comp=Z,470nm,9.4s
BTO LR LR
comp=Z,330nm,15.9s
HHC Hu-ho-hao-te 45.95 9 *e*P **P** **00 16 19.9 +0.7**
HHC S **S** **00 22 53.0 -6.1**
HHC pmax pmax
comp=Z,40nm,0.8s
HHC pmax pmax
comp=Z,120nm,4.9s
HHC LR LR
comp=Z,260nm,13.7s
HHC LR LR
comp=Z,200nm,13.7s
HHC LR LR
comp=Z,360nm,15.3s
JNU Nakatsue 45.98 33 P **P** **00 16 18.8 -0.7**
JNU IAmb IAmb 00 16 21.9
comp=Z,44nm,1.0s
BJT Baijiatuau 46.08 14 P **P** **00 16 20.9 +0.8**
BJT Baijiatuau 46.08 14 P **P** **00 16 20.0 -0.1**
BJT IAmb IAmb 00 16 21.3
comp=Z,31nm,0.9s
BJT PcP **PcP** **00 17 55.7 +0.2**
BJT Baijiatuau 46.08 14 P **P** **00 16 20.3 +0.2**
BJT pP **pP** **00 16 35.7 -1.4**
BJT PcP **PcP** **00 17 55.9 +0.5**
BJI Beijing 46.10 14 P **P** **00 16 20.4 +0.2**
BJI pP **pP** **00 16 35.4 -1.9**
BJI sP **sP** **00 16 48.3 +3.3**
BJI PcP **PcP** **00 17 56.3 +0.8**
BJI pmax pmax
comp=Z,19nm,0.7s
NIL Nilore 47.25 326 P **P** **00 16 28.8 -0.6**
NIL Nilore 47.25 326 P **P** **00 16 28.8 -0.6**
NIL pmax pmax
comp=Z,67nm,0.8s
NIL Nilore 47.25 326 P **P** **00 16 29.1 -0.3**
NIL P **P** **00 16 29.1 -0.3**
NIL Nilore 47.25 326 P **P** **00 16 28.9 -0.5**
NIL pP **pP** **00 16 45.0 -1.5**
KSAR Wonju Array Be 47.90 27 P **P** **00 16 34.8 +0.5**
KSAR PcP **PcP** **00 18 02.3 +0.3**
KSAR Wonju Array Be 47.90 27 P **P** **00 16 34.8 +0.5**
KSRS Korea Array 47.92 27 P **P** **00 16 34.5 0.0**
comp=Z,7.5nm,0.9s,baz=236,slow=7.7,SNR=19
KSRS PcP **PcP** **00 18 01.7 -0.3**
comp=Z,6.0nm,0.8s,baz=207,slow=3.2,SNR=9.5
KSRS LR LR 00 36 46.3
comp=Z,62nm,20.0s,baz=210,slow=36
comp=Z,7.5nm,0.9s
ARPS Mount Arapiles 47.95 137 P **P** **00 16 35.5 +0.8**
baz=48,SNR=5.5
ARPS Mount Arapiles 47.95 137 P **P** **00 16 35.4 +0.6**

JMN Monobe 48.11 35 P **P** **00 16 36.8 +0.7**
JMN Monobe 48.11 35 P **P** **00 16 35.9 -0.2**
CMSA Cobar Meteorol 48.26 129 P **P** **00 16 38.3 +1.0**
baz=48,SNR=72
CMSA Cobar Meteorol 48.26 129 P **P** **00 16 38.8 +1.5**
AUHPC Hawkesdale P12 48.99 138 P **P** **00 16 45.6 +2.9**
AULRC Lightning Ridg 49.26 125 P **P** **00 16 46.2 +1.2**
JCJ Chichijima 49.37 48 LR LR 00 39 51.0
comp=Z,58nm,18.4s,baz=284,slow=39
XLT XiLinHaoTe 49.75 13 *e*P **P** **00 16 48.5 0.0**
XLT pP pP 00 17 09.1 +3.3
XLT sP sP 00 17 13.3 -0.2
XLT PcP **PcP** **00 18 06.5 -2.1**
XLT pmax pmax
comp=Z,52nm,0.8s
XLT pmax pmax
comp=Z,130nm,4.1s
XLT LR LR
comp=Z,21nm,14.5s
XLT LR LR
comp=Z,180nm,12.3s
XLT LR LR
comp=Z,300nm,14.5s
WMQ Urumqi 50.12 346⇑*i*P **P** **00 16 51.8 +0.5**
WMQ pP pP 00 17 07.3 -1.2
WMQ pmax pmax
comp=Z,130nm,1.1s
WMQ LR LR
comp=Z,130nm,24.1s
JLN Jalan Bani Buh 50.14 304 P **P** **00 16 53.6 +1.9**
JLN P **P** **00 16 53.6 +1.9**
KBL Kabul 50.32 323 P **P** **00 16 52.2 -0.9**
KBL IAmb IAmb 00 16 55.6
comp=Z,16nm,0.8s
KBL Kabul 50.32 323 P **P** **00 16 52.2 -0.9**
KBL pmax pmax
comp=Z,16nm,0.8s
KBL Kabul 50.32 323 P **P** **00 16 52.7 -0.4**
SNR=8.9
KBL P **P** **00 16 52.7 -0.4**
SNR=8.9
KSH Kashi 50.43 333 P **P** **00 16 52.3 -1.5**
KSH pP pP 00 17 07.8 -3.2
KSH S **S** **00 23 58.6 -3.9**
KSH pmax pmax
comp=Z,47nm,0.8s
WUS Wushi 50.46 337 P **P** **00 16 54.2 +0.1**
EIDS Eidsvold 50.59 119 P **P** **00 16 55.6 +0.5**
baz=51,SNR=4.5
EIDS Eidsvold 50.59 119 P **P** **00 16 55.3 +0.2**
EIDS IAmb IAmb 00 17 45.1
comp=Z,90nm,1.9s
DQM DQM 50.77 300 P **P** **00 16 58.7 +2.1**
AUDCS Dubbo College 50.83 128 P **P** **00 16 59.2 +2.4**
MHTO MHTO 50.84 302 P **P** **00 16 57.8 +0.7**
MHTO P **P** **00 16 57.8 +0.7**
TOO Toolangi 50.86 136 P **P** **00 16 58.4 +1.4**
TOO IAmb IAmb 00 17 15.7
comp=Z,22nm,1.2s
TOO Toolangi 50.86 136 P **P** **00 16 58.4 +1.4**
TOO pmax pmax
comp=Z,22nm,1.2s
WSAR Wadi Sarin 51.27 305 P **P** **00 17 01.2 +0.9**
comp=Z,15nm,1.1s,baz=131,slow=9.9,SNR=6.8
WSAR LR LR 00 37 47.7
comp=Z,67nm,18.5s,baz=116,slow=35
comp=Z,15nm,1.1s
JMDO Jabal Madar 51.32 303 P **P** **00 17 01.9 +1.3**
JMDO P **P** **00 17 02.0 +1.3**
JGF Kuroka 51.46 36 P **P** **00 17 00.7 -0.8**
JGF IAmb IAmb 00 17 02.7
comp=Z,15nm,0.9s
TARG Taragay, Kyrgy 51.47 336 P **P** **00 17 01.6 -0.4**
TARG IAmb IAmb 00 17 11.6
comp=Z,19nm,0.8s
TARG Taragay, Kyrgy 51.47 336 P **P** **00 17 01.6 -0.4**
TARG pmax pmax
comp=Z,19nm,0.8s
YNG Young 51.48 131 P **P** **00 17 03.1 +1.5**
baz=52,SNR=12
YNG Young 51.48 131 P **P** **00 17 03.5 +1.8**
SMDO Samad 51.67 304 P **P** **00 17 04.9 +1.6**
SMDO P **P** **00 17 04.9 +1.6**
BIDO Bidbid 51.81 305 P **P** **00 17 06.1 +1.8**
SNR=6.0
PRZ Przheval'sk 51.88 337 P **P** **00 17 04.9 +0.2**
PRZ Przheval'sk 51.88 337 P **P** **00 17 04.9 +0.2**
PRZ pmax pmax
comp=Z,60nm,1.1s
NRN Naryn 51.98 334 P **P** **00 17 04.9 -0.7**
NRN IAmb IAmb 00 17 06.4
comp=Z,39nm,1.0s
NRN PcP **PcP** **00 18 18.3 +1.0**
NRN Naryn 51.98 334 P **P** **00 17 04.9 -0.7**
NRN 00 18 18.3
NRN pmax pmax
comp=Z,39nm,1.0s
SHLS Shalkode 52.05 338 *e*P **P** **00 17 04.8 -1.1**
comp=Z,21nm,0.9s,baz=339
SHLS Shalkode 52.05 338 *e*P **P** **00 17 04.7 -1.1**
SHLS pmax pmax
comp=Z,21nm,0.9s
PDGK Podgornoye 52.19 339 P **P** **00 17 06.6 -0.3**
AUPHS Peel High Scho 52.20 126 P **P** **00 17 08.7 +1.6**
UZB Uzynbulak 52.21 338 *e*P **P** **00 17 06.9 -0.1**
comp=Z,18nm,1.0s,baz=338
UZB Uzynbulak 52.21 338 *e*P **P** **00 17 06.9 -0.1**
UZB pmax pmax
comp=Z,18nm,1.0s
DMTO DMTO 52.22 296 P **P** **00 17 08.6 +1.2**
BSY Bisya 52.23 303 P **P** **00 17 08.5 +1.0**
BSY P **P** **00 17 08.5 +1.0**
SONM Songino Array 52.32 3 P **P** **00 17 08.2 +0.4**
SONM PcP **PcP** **00 18 18.1 0.0**
SONM Songino Array 52.32 3 P **P** **00 17 08.2 +0.4**
SONM 00 18 18.1
SONM pmax pmax
comp=Z,77nm,0.8s
SONM Songino Array 52.32 3 P **P** **00 17 08.3 +0.5**
comp=Z,64nm,0.7s,baz=181,slow=9.4,SNR=550
SONM PcP **PcP** **00 18 18.2 0.0**
comp=Z,18nm,0.7s,baz=192,slow=4.5,SNR=7.6
SONM LR LR 00 41 45.3
comp=Z,166nm,19.6s,baz=182,slow=39
comp=Z,64nm,0.7s
CN2 Changchun 52.33 21 *e*P **P** **00 17 06.8 -0.9**
CN2 pmax pmax
comp=Z,30nm,0.7s
CAN Canberra 52.35 132 P **P** **00 17 07.6 -0.6**
CAN Canberra 52.35 132 P **P** **00 17 07.6 -0.6**
CAN pmax pmax
comp=Z,80nm,1.4s
CAN Canberra 52.35 132 P **P** **00 17 10.0 +1.8**
CAN PcP **PcP** **00 18 20.0 +1.5**
SATY Saty 52.36 337 *e*P **P** **00 17 08.1 -0.1**
comp=Z,20nm,0.9s,baz=337
SATY Saty 52.36 337 *e*P **P** **00 17 08.1 -0.1**
SATY pmax pmax
comp=Z,20nm,0.9s
ULN Ulaanbaatar 52.39 4 P **P** **00 17 08.6 +0.3**
ULN IAmb IAmb 00 17 09.8
comp=Z,37nm,0.8s
ULN Ulaanbaatar 52.39 4*c i*P **P** **00 17 08.6 +0.3**
ULN pmax pmax
comp=Z,50nm,1.0s
ULN Ulaanbaatar 52.39 4 P **P** **00 17 09.0 +0.7**
ULN P **P** **00 17 09.0 +0.7**
ULN Ulaanbaatar 52.39 4 P **P** **00 17 08.7 +0.4**
ULN pP **pP** **00 17 25.4 -0.3**
ULN PcP **PcP** **00 18 18.3 -0.1**
DRK Karamyk 52.39 330 P **P** **00 17 09.0 +0.3**
DRK IAmb IAmb 00 17 29.0
comp=Z,32nm,0.8s
ZHN Zhinishke 52.45 338 *e*P **P** **00 17 08.7 -0.1**
baz=338
ZHN Zhinishke 52.45 338 *e*P **P** **00 17 08.6 -0.2**
HOQ Hoqain 52.51 304 P **P** **00 17 11.1 +1.6**
SNR=6.0
HOQ P **P** **00 17 11.1 +1.6**
SNR=6.0
ULHL Ulahol 52.55 335 P **P** **00 17 09.5 -0.2**
SNR=30
ARMA Armidale 52.57 125 P **P** **00 17 12.0 +2.0**
baz=53,SNR=6.0
ARMA Armidale 52.57 125 P **P** **00 17 12.6 +2.6**

ARMA Armidale 52.57 125 P **P** 00 17 11.5 +1.5
ARMA IAmb IAmb 00 17 12.7
comp=Z,40nm,0.9s
MAJO Matsushiro 52.60 36 P **P** 00 17 09.3 -0.7
MAJO Matsushiro 52.60 36⇑*eP* **P** 00 17 09.1 -0.9
MAJO pmax pmax
comp=Z,17nm,0.9s
MAJO Matsushiro 52.60 36 P **P** 00 17 08.5 -1.5
MJAR Matsushiro Arr 52.60 36 P **P** 00 17 08.9 -1.1
comp=Z,17nm,0.8s,baz=214,slow=7.0,SNR=32
MJAR pP **pP** 00 17 27.4 0.0
comp=Z,1.4nm,0.3s,baz=308,slow=42,SNR=1.4
MJAR PcP **PcP** 00 18 19.1 -0.2
comp=Z,6.1nm,0.7s,baz=196,slow=4.0,SNR=5.3
comp=Z,17nm,0.8s
MJB9 Matsu-Tunnel 52.60 36 P **P** 00 17 09.5 -0.4
RBK Rabkut 52.81 296 P **P** 00 17 13.8 +2.0
RBK P **P** 00 17 13.8 +2.0
TNSS Tian-Shan 52.91 336 *eP* **P** 00 17 12.2 -0.4
baz=336
TNSS Tian-Shan 52.91 336 *eP* **P** 00 17 12.2 -0.4
MDOK Medeo 52.98 336 *i* P **P** 00 17 12.8 0.0
baz=336
MDOK Medeo 52.98 336 *i* P **P** 00 17 12.7 0.0
ARQ Araqi 53.05 304 P **P** 00 17 15.2 +1.8
ARQ P **P** 00 17 15.2 +1.8
AAA Alma-Ata 53.07 336 *eP* **P** 00 17 13.0 -0.4
comp=Z,17nm,0.7s,baz=336
AAA Alma-Ata 53.07 336 *eP* **P** 00 17 13.0 -0.4
AAA pmax pmax
comp=Z,17nm,0.7s
JASK Jask - Hormozg 53.10 307 P **P** 00 17 16.0 +2.3
ARSB Arslanbob 53.24 332 P **P** 00 17 14.3 -0.5
ARSB IAmb IAmb 00 17 15.8
comp=Z,15nm,0.9s
ARSB Arslanbob 53.24 332 P **P** 00 17 14.3 -0.5
ARSB pmax pmax
comp=Z,15nm,0.9s
DOK Doka 53.26 297 P **P** 00 17 16.6 +1.5
UCH Uchtor 53.27 334 P **P** 00 17 15.3 0.0
SNR=31
BTK Batken 53.33 329 P **P** 00 17 15.0 -0.3
BTK IAmb IAmb 00 17 17.6
comp=Z,18nm,0.7s
BTK Batken 53.33 329 P **P** 00 17 15.0 -0.3
BTK pmax pmax
comp=Z,18nm,0.7s
WHFO Wadi Hawf 53.34 296 P **P** 00 17 17.1 +1.4
TKM2 Tokmak 2 53.37 335 P **P** 00 17 15.6 -0.2
SNR=59
TKM2 Tokmak 2 53.37 335 P **P** 00 17 14.9 -0.8
SOHO SOHO 53.39 305 *i* P **P** 00 17 16.3 +0.4
SNR=10.0
SOHO SOHO 53.39 305 P **P** 00 17 17.3 +1.4
KBK Karagaybulak 53.43 335 P **P** 00 17 16.5 +0.4
SNR=26
PSTR Posyet 53.44 25*ce*P **P** 00 17 16.2 +0.3
MSHR Mys Shultsa 53.54 26*de*P **P** 00 17 16.6 -0.1
ARXS Arharly 53.57 338 *i* P **P** 00 17 15.7 -1.3
ABTO Aybut 53.57 295 P **P** 00 17 18.9 +1.5
SNR=5.7
ABTO P **P** 00 17 18.9 +1.5
SNR=5.7
CHKK Chushkaly 53.58 337 *eP* **P** 00 17 16.1 -1.0
baz=337
CHKK Chushkaly 53.58 337 *eP* **P** 00 17 16.0 -1.0
AAK Ala-Archa 53.61 334 P **P** 00 17 17.5 0.0
SNR=18
AAK Ala-Archa 53.61 334 P **P** 00 17 17.5 0.0
AAK IAmb IAmb 00 17 46.5
comp=Z,15nm,0.8s
AAK Ala-Archa 53.61 334 *i* P **P** 00 17 17.3 -0.2
SNR=24
AAK Ala-Archa 53.61 334*ce*P **P** 00 17 17.0 -0.4
AAK pmax pmax
comp=Z,11nm,0.8s
AAK Ala-Archa 53.61 334 P **P** 00 17 17.2 -0.2
comp=Z,12nm,0.9s,baz=142,slow=5.9,SNR=42
AAK pP **pP** 00 17 35.4 +0.6
comp=Z,6.0nm,0.8s,baz=179,slow=12,SNR=3.7
AAK PcP **PcP** 00 18 23.6 +0.4
comp=Z,10nm,0.7s,baz=186,slow=5.2,SNR=5.1
AAK LR LR 00 44 22.8
comp=Z,32nm,18.4s,baz=145,slow=41
comp=Z,12nm,0.9s
AAK Ala-Archa 53.61 334 P **P** 00 17 17.4 0.0
AAK P **P** 00 17 17.4 0.0
AAK Ala-Archa 53.61 334 P **P** 00 17 17.4 0.0
AAK PcP **PcP** 00 18 24.3 +1.1
FRU1 Bishkek 53.69 334 P **P** 00 17 17.7 -0.2
FRU1 Bishkek 53.69 334 P **P** 00 17 17.7 -0.2
FRU1 pmax pmax
comp=Z,47nm,1.0s
UMZA Um Al Zommool 53.93 302 P **P** 00 17 21.0 +1.1
UMZA P **P** 00 17 21.0 +1.1
EKS2 Erkin-Say 53.94 334 P **P** 00 17 19.9 +0.1
SNR=112
ALNE Al Ain 54.00 304 *i* P **P** 00 17 21.5 +1.1
SNR=34
ALNE Al Ain 54.00 304 P **P** 00 17 21.9 +1.5
SNR=15
ALNE P **P** 00 17 21.9 +1.5
SNR=15
UOSS Minazif 54.01 305 P **P** 00 17 20.4 -0.2
UOSS IAmb IAmb 00 17 22.3
comp=Z,25nm,1.2s
UOSS Minazif 54.01 305 *i* P **P** 00 17 21.1 +0.5
SNR=9.1
UOSS Minazif 54.01 305 P **P** 00 17 21.7 +1.2
UOSS Minazif 54.01 305 P **P** 00 17 21.1 +0.5
UOSS PcP **PcP** 00 18 25.6 +0.7
ASHO Ashiyiah 54.02 305 *i* P **P** 00 17 21.7 +1.1
SNR=16
ASHO Ashiyiah 54.02 305 P **P** 00 17 21.8 +1.2
SNR=6.0
ASHO P **P** 00 17 21.8 +1.2
SNR=6.0
HATD Hatta, Dubai 54.02 305 *i* P **P** 00 17 21.6 +1.0
SNR=9.6
HATD Hatta, Dubai 54.02 305 P **P** 00 17 22.0 +1.4
SNR=6.6
HATD P **P** 00 17 22.0 +1.4
SNR=6.6
TDK Taldyqorghan 54.03 339⇑*iP* **P** 00 17 19.7 -0.6
comp=Z,11nm,0.8s,baz=339
TDK Taldyqorghan 54.03 339*c iP* **P** 00 17 19.6 -0.6
TDK pmax pmax
comp=Z,11nm,0.8s
MDH Madha 54.09 306 *i* P **P** 00 17 21.3 +0.2
SNR=12
MDH Madha 54.09 306 P **P** 00 17 21.5 +0.5
SNR=5.6
USP Ospenovka 54.12 335 P **P** 00 17 21.1 +0.1
SNR=10.0
ZSN Zaisan 54.22 345⇑*iP* **P** 00 17 21.9 +0.3
comp=Z,26nm,0.8s,baz=345
ZSN Zaisan 54.22 345*c iP* **P** 00 17 21.9 +0.3
ZSN pmax pmax
comp=Z,26nm,0.8s
MSFE Esma-Masafi 54.23 306 *i* P **P** 00 17 23.2 +1.1
SNR=9.7
MASF Masafi 54.24 306 P **P** 00 17 23.9 +1.7
SNR=5.7
MK31 Makanchi Array 54.33 343 P **P** 00 17 22.1 -0.3
MK31 Makanchi Array 54.33 343 P **P** 00 17 22.1 -0.3
MK31 pmax pmax
comp=Z,57nm,0.8s
MKAR Makanchi Array 54.33 343 P **P** 00 17 22.0 -0.5
MKAR Makanchi Array 54.33 343*ce*P **P** 00 17 21.8 -0.6
MKAR pmax pmax
comp=Z,75nm,0.7s
MKAR Makanchi Array 54.33 343 P **P** 00 17 21.9 -0.5
comp=Z,74nm,0.7s,baz=145,slow=7.9,SNR=727
MKAR LR LR 00 45 01.8
comp=Z,87nm,21.5s,baz=148,slow=41
comp=Z,74nm,0.7s
FAQ Al Faqa, Dubai 54.42 305 *i* P **P** 00 17 25.0 +1.5
SNR=6.4
FAQ Al Faqa, Dubai 54.42 305 P **P** 00 17 25.0 +1.5
SNR=11
MAKZ Makanchi 54.44 342 P **P** 00 17 22.2 -1.0
MAKZ IAmb IAmb 00 17 23.6
comp=Z,34nm,0.9s
MAKZ Makanchi 54.44 342 P **P** 00 17 22.2 -1.0
MAKZ pmax pmax
comp=Z,34nm,1.0s

MAKZ Makanchi 54.44 342 P **P** 00 17 22.4 -0.8
NAZ Nazwa, Dubai 54.47 305 P **P** 00 17 24.8 +1.0
NAZ Nazwa, Dubai 54.47 305 P **P** 00 17 25.2 +1.3
SNR=5.9
NAZ P **P** 00 17 25.2 +1.3
SNR=5.9
HRA Herat 54.49 319 P **P** 00 17 23.1 -0.9
HRA IAmb IAmb 00 18 28.8
comp=Z,12nm,0.8s
MDJ Mudanjiang 54.56 23 P **P** 00 17 23.8 -0.4
MDJ PP **PP** 00 19 29.0 +1.8
MDJ ScP **ScP** 00 22 16.4 -2.8
MDJ PcS **PcS** 00 22 24.0 -2.1
MDJ S **S** 00 25 06.3 +7.8
MDJ pmax pmax
comp=Z,14nm,1.0s
MDJ pmax pmax
comp=Z,150nm,4.6s
MDJ Mudanjiang 54.56 23 P **P** 00 17 24.2 +0.1
MDJ Mudanjiang 54.56 23 P **P** 00 17 23.7 -0.4
ASUD Al Ashush, Dub 54.59 305 *i* P **P** 00 17 26.1 +1.4
SNR=11
ASUD Al Ashush, Dub 54.59 305 P **P** 00 17 26.7 +2.0
ASUD P **P** 00 17 26.7 +2.0
BNX BinXian 54.70 21 ⇑P **P** 00 17 24.8 -0.3
BNX pmax pmax
comp=Z,98nm,0.9s
BNX pmax pmax
comp=Z,210nm,6.2s
ZAK Zakamensk 54.78 0 *eP* **P** 00 17 25.3 -0.4
ZAK *e* 00 18 26.5
ZAK pmax pmax
comp=Z,19nm,1.0s
ZAK pmax pmax
comp=Z,7.0nm,1.0s
AJN Ajban 54.84 304 P **P** 00 17 27.4 +0.9
AJN Ajban 54.84 304 P **P** 00 17 27.9 +1.4
AJN P **P** 00 17 27.9 +1.4
JMM Marumori 55.02 36 P **P** 00 17 26.6 -0.9
USA0B Ussuriysk Arra 55.20 25 P **P** 00 17 28.6 -0.1
USA0B IAmb IAmb 00 17 29.5
comp=Z,36nm,0.8s
USA0B Ussuriysk Arra 55.20 25*ce*P **P** 00 17 28.2 -0.5
USRK Ussuriysk Ar. 55.20 25 P **P** 00 17 28.4 -0.3
comp=Z,31nm,0.7s,baz=216,slow=6.8,SNR=61
USRK pP **pP** 00 17 45.9 -0.3
comp=Z,6.9nm,0.6s,baz=227,slow=4.6,SNR=3.7
USRK LR LR 00 42 46.3
comp=Z,68nm,18.4s,baz=214,slow=38
comp=Z,31nm,0.7s
DZA Taraz 55.24 332 *eP* **P** 00 17 27.9 -1.2
baz=332
DZA Taraz 55.24 332 *eP* **P** 00 17 27.9 -1.2
IUG Iuzhnay 55.29 331 *eP* **P** 00 17 29.1 -0.5
comp=Z,19nm,0.8s,baz=331
IUG Iuzhnay 55.29 331 *eP* **P** 00 17 29.0 -0.5
IUG pmax pmax
comp=Z,19nm,0.8s
MZWR Madinat Zayed 55.43 303 P **P** 00 17 32.3 +1.5
CHM Chimkent 55.63 330 *eP* **P** 00 17 31.0 -0.9
baz=330
CHM Chimkent 55.63 330 *eP* **P** 00 17 30.9 -0.9
HIA Hailar 55.64 13 P **P** 00 17 31.6 -0.2
HIA Hailar 55.64 13 P **P** 00 17 30.8 -1.0
HIA IAmb IAmb 00 17 31.9
comp=Z,19nm,0.8s
HIA PcP **PcP** 00 18 30.3 -0.3
HIA Hailar 55.64 13*de*P **P** 00 17 31.2 -0.6
HIA pmax pmax
comp=Z,18nm,0.9s
HIA Hailar 55.64 13 P **P** 00 17 31.3 -0.6
HIA PcP **PcP** 00 18 30.7 0.0
DGZ Jazzator, Alta 55.73 348*c iP* **P** 00 17 32.4 -0.2
DGZ pmax pmax
comp=Z,117nm,0.8s
BTLS Baital 55.75 336⇑*iP* **P** 00 17 31.6 -1.1
baz=336
BTLS Baital 55.75 336*c iP* **P** 00 17 31.5 -1.1
KK31 Karatay Array 55.78 332 P **P** 00 17 31.9 -1.1
KK31 Karatay Array 55.78 332 P **P** 00 17 31.9 -1.1
KK31 pmax pmax
comp=Z,8.0nm,0.7s
BRLS Boroldaу 56.05 331 *eP* **P** 00 17 32.9 -2.0
baz=331
BRLS Boroldaу 56.05 331 *eP* **P** 00 17 32.8 -2.0
MOY Mondy 56.09 359 *eP* **P** 00 17 37.0 +1.9
MOY pmax pmax
comp=Z,23nm,1.8s
GHWR Ruwais 56.35 303 P **P** 00 17 38.5 +1.2
IRK Irkutsk 56.66 1 *eP* **P** 00 17 38.9 -0.1
IRK pmax pmax
comp=Z,41nm,2.1s
JRN Qarnain Island 56.77 304 P **P** 00 17 41.1 +0.8
SNR=6.9
HNR Honiara 56.81 98 LR LR 00 43 39.3
comp=Z,933nm,21.8s,baz=318,slow=38
VOI Vohitsoka 56.87 247 P **P** 00 17 41.3 0.0
VOI IAmb IAmb 00 18 03.6
comp=Z,16nm,1.0s
SLWR Sila 57.39 302 P **P** 00 17 45.9 +1.2
SLWR P **P** 00 17 45.9 +1.2
TRNA Turayna 58.05 303 P **P** 00 17 50.4 +1.1
SNR=7.7
SMRA Abu-Samra 58.38 303 P **P** 00 17 52.7 +1.1
SNR=12
HEH HeiHe 58.62 18 *eP* **P** 00 17 52.5 -0.3
HEH pmax pmax
comp=Z,73nm,1.0s
HEH pmax pmax
comp=Z,180nm,4.9s
SHMA Al-Shehemyia 58.69 304 P **P** 00 17 54.9 +1.1
SNR=5.7
KURBB Kurchatov Arra 58.88 342 P **P** 00 17 54.0 -0.6
comp=Z,51nm,0.8s,baz=158,slow=6.4,SNR=350
KURBB PcP **PcP** 00 18 42.6 -0.7
comp=Z,8.5nm,0.6s,baz=156,slow=3.5,SNR=7.0
KURBB LR LR 00 47 49.0
comp=Z,128nm,18.3s,baz=189,slow=41
comp=Z,51nm,0.8s
KURK Kurchatov 58.93 342 P **P** 00 17 54.3 -0.6
KURK Kurchatov 58.93 342*ce*P **P** 00 17 54.1 -0.8
KURK pmax pmax
comp=Z,84nm,0.9s
KURK Kurchatov 58.93 342 P **P** 00 17 54.6 -0.4
KURK P **P** 00 17 54.6 -0.4
KURK Kurchatov 58.93 342 P **P** 00 17 54.4 -0.6
OTUK Ortayu 59.04 337 P **P** 00 17 54.5 -1.3
SAKB Bahrain 59.10 304 P **P** 00 17 57.5 +0.9
ERM Erimo 59.12 34 P **P** 00 17 56.3 -0.2
ERM Erimo 59.12 34 P **P** 00 17 56.3 -0.2
ERM pmax pmax
comp=Z,99nm,1.3s
KLR Kul'dur 59.22 22*c iP* **P** 00 17 56.1 -0.9
KLR pmax pmax
comp=Z,24nm,0.8s
KLR Kul'dur 59.22 22 LR LR 00 43 51.1
comp=Z,168nm,21.6s,baz=215,slow=36
GEYT Alibeck 59.27 320 P **P** 00 17 56.9 -0.8
GEYT IAmb IAmb 00 17 58.6
comp=Z,25nm,0.8s
GEYT Alibeck 59.27 320 P **P** 00 17 56.9 -0.8
GEYT pmax pmax
comp=Z,25nm,0.9s
GEYT Alibeck 59.27 320 P **P** 00 17 56.8 -0.9
comp=Z,23nm,0.8s,baz=145,slow=8.3,SNR=29
GEYT LR LR 00 45 25.4
comp=Z,64nm,20.6s,baz=143,slow=38
comp=Z,23nm,0.8s
GYA0B ALIBECK ARRAY 59.27 320 P **P** 00 17 57.1 -0.5
GYA0B IAmb IAmb 00 17 58.6
comp=Z,19nm,0.8s
ASAJ Asahikawa 60.23 32 P **P** 00 18 03.3 -0.7
ASAJ pmax pmax
comp=Z,22nm,0.7s
ASAJ Asahikawa 60.23 32 P **P** 00 18 03.1 -0.8
comp=Z,18nm,0.6s,baz=240,slow=11,SNR=15
ASAJ LR LR 00 44 39.9
comp=Z,61nm,20.6s,baz=250,slow=36
comp=Z,18nm,0.6s
JKA Kamikawa-asahi 60.23 32 P **P** 00 18 03.3 -0.7
JKA IAmb IAmb 00 18 05.3
comp=Z,22nm,0.7s
ZAA0 Zalesovo Array 60.28 348 P **P** 00 18 03.5 -0.6
ZALV Zalesovo Beam 60.28 348 P **P** 00 18 03.5 -0.7
comp=Z,125nm,0.8s,baz=163,slow=4.8,SNR=429

ZALV LR LR 00 47 15.7
comp=Z,292nm,19.9s,baz=148,slow=39
comp=Z,125nm,0.8s
ZEA Zeya 61.64 16 *eP* **P** 00 18 13.5 +0.1
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZEA pmax pmax
comp=E,20nm,1.2s
ZEA pmax pmax
comp=N,30nm,0.9s
ZEA pmax pmax
comp=Z,50nm,1.0s
KOUNC Koumac, New Ca 61.66 111 P **P** 00 18 15.1 +0.9
KOUNC IAmb IAmb 00 18 16.9
comp=Z,31nm,0.9s
YSS Yuzh-Sakhalins 62.25 30 P **P** 00 18 18.3 +0.7
YSS Yuzh-Sakhalins 62.25 30*de*P **P** 00 18 17.9 +0.3
YSS pmax pmax
comp=Z,77nm,1.3s
RAYN Ar Rayn 62.49 299 P **P** 00 18 19.8 0.0
RAYN IAmb IAmb 00 18 21.6
comp=Z,58nm,1.6s
RAYN Ar Rayn 62.49 299 *i* P **P** 00 18 20.7 +0.9
SNR=26
RAYN Ar Rayn 62.49 299 P **P** 00 18 19.8 0.0
RAYN pmax pmax
comp=Z,58nm,1.6s
RAYN Ar Rayn 62.49 299 P **P** 00 18 20.7 +0.9
RAYN Ar Rayn 62.49 299 P **P** 00 18 20.5 +0.7
RAYN pP **pP** 00 18 36.0 -1.6
KBD Kabd 62.67 306 P **P** 00 18 21.7 +0.9
BOD Bodaibo 62.88 7 *eP* **P** 00 18 20.7 -0.9
BOD pmax pmax
comp=Z,39nm,0.9s
BVA0 Borovoye Array 63.62 339 *i* P **P** 00 18 24.8 -1.8
BVAR Borovoye Array 63.62 339 P **P** 00 18 25.7 -1.0
comp=Z,52nm,0.7s,baz=141,slow=8.7,SNR=192
BVAR LR LR 00 51 05.5
comp=Z,96nm,18.0s,baz=130,slow=41
comp=Z,52nm,0.7s
BRVK Borovoye 63.69 339 P **P** 00 18 25.8 -1.2
BRVK IAmb IAmb 00 18 27.0
comp=Z,31nm,0.8s
BRVK Borovoye 63.69 339*c iP* **P** 00 18 26.0 -1.0
BRVK pmax pmax
comp=Z,28nm,0.9s
BRVK Borovoye 63.69 339 P **P** 00 18 26.2 -0.9
BRVK Borovoye 63.69 339 P **P** 00 18 26.0 -1.0
NOUC Port Laguerre 63.70 112 P **P** 00 18 29.0 +1.3
DZM Mont Dzumac 63.82 112 P **P** 00 18 28.5 -0.2
DZM IAmb IAmb 00 18 56.5
comp=Z,30nm,1.1s
DZM Mont Dzumac 63.82 112 P **P** 00 18 30.1 +1.4
OUENC Ouen Island, N 64.22 113 P **P** 00 18 31.9 +0.8
OUENC IAmb IAmb 00 18 33.0
comp=Z,34nm,1.1s
KIBK Kibwezi 64.71 270 P **P** 00 18 34.2 -0.5
KIBK Kibwezi 64.71 270 P **P** 00 18 36.6 +1.9
AB31 Akbulak array 65.30 331 *i* P **P** 00 18 36.5 -1.1
ABKAR Akbulak array 65.30 331 P **P** 00 18 36.9 -0.7
ABKAR Akbulak array 65.30 331 P **P** 00 18 37.0 -0.7
ABKAR IAmb IAmb 00 18 37.9
comp=Z,28nm,0.7s
LKRN Lenkeran, Azer 65.94 316 P **P** 00 18 42.5 +0.5
AKTO Aktyubinsk 67.01 331 P **P** 00 18 47.4 -1.3
comp=Z,4.7nm,0.3s,baz=134,slow=2.5,SNR=18
AKTO LR LR 00 51 58.1
comp=Z,41nm,18.4s,baz=22,slow=39
comp=Z,4.7nm,0.3s
DRV Dumont d'Urvil 67.06 165 P **P** 00 18 49.0 +0.5
LODK Lodwar 67.91 276 P **P** 00 18 55.5 +0.5
LODK Lodwar 67.91 276 P **P** 00 18 57.6 +2.6
MNGR Mingechevir, A 68.05 317 P **P** 00 18 56.4 +1.1
SEKA Sheki 68.17 318 P **P** 00 18 56.9 +0.7
NAX Nakhchivan 68.43 315 P **P** 00 18 58.4 +0.5
MAW Mawson 68.50 195 P **P** 00 18 59.3 +1.7
MAW Mawson 68.50 195 P **P** 00 18 59.3 +1.7
MAW pmax pmax
comp=Z,3.0nm,0.9s
MAW Mawson 68.50 195 P **P** 00 18 58.1 +0.5
comp=Z,2.3nm,0.8s,baz=315,slow=8.6,SNR=1.7
MAW LR LR 00 41 55.5
comp=Z,345nm,22.0s,baz=35,slow=30
comp=Z,2.3nm,0.8s
GANJ Ganja 68.51 317 P **P** 00 18 58.9 +0.6
ZKTA Zakatala 68.76 318 P **P** 00 19 00.3 +0.5
MAK Makhachkala 68.79 320 *eP* **P** 00 18 56.7 -3.2
MAK *e**PP **pP** 00 19 14.1 -3.9
MAK *e**SP **PcP** 00 19 23.0 -1.1
MAK *eS* **S** 00 27 53.3 -5.2
MAK *e**SS **sS** 00 28 26.0 -3.1
MAK pmax pmax
comp=Z,40nm,0.6s
GNI Garni 69.38 316 P **P** 00 19 03.8 -0.1
GNI IAmb IAmb 00 19 11.5
comp=Z,17nm,0.8s
GNI Garni 69.38 316 P **P** 00 19 04.2 +0.3
GNI Garni 69.38 316*c iP* **P** 00 19 04.2 +0.3
GNI pmax pmax
comp=Z,22nm,1.0s
GNI Garni 69.38 316 P **P** 00 19 04.1 +0.3
comp=Z,17nm,0.8s,baz=198,slow=22,SNR=10
GNI LR LR 00 53 04.0
comp=Z,35nm,18.4s,baz=118,slow=39
comp=Z,17nm,0.8s
GNI Garni 69.38 316 P **P** 00 19 04.3 +0.5
GNI Garni 69.38 316 P **P** 00 19 04.2 +0.3
YAK Yakutsk 69.58 13 P **P** 00 19 02.9 -1.5
YAK Yakutsk 69.58 13 *eP* **P** 00 19 02.6 -1.8
YAK *e**PP **pP** 00 19 24.7 +2.2
YAK *e* 00 21 36.0
YAK *e*PPP PPP 00 23 19.6
YAK *eS* **S** 00 28 04.2 -2.9
YAK *e**SS **sS** 00 28 42.2 +4.1
YAK *e* 00 28 56.1
YAK *e*SS **SS** 00 32 34.3 -2.0
YAK pmax pmax
comp=Z,64nm,0.9s
YAK pmax pmax
comp=N,20nm,1.1s
YAK pmax pmax
comp=E,11nm,1.3s
YAK pmax pmax
comp=Z,110nm,4.6s
YAK pmax pmax
comp=N,88nm,3.8s
YAK pmax pmax
comp=E,105nm,4.2s
YAK smax smax
comp=N,40nm,3.3s
YAK smax smax
comp=E,26nm,2.5s
YAK Yakutsk 69.58 13 LR LR 00 50 51.6
comp=E,113nm,21.3s,baz=257,slow=37
SVE Sverdlovsk 70.18 337 *eP* **P** 00 19 08.3 +0.1
SVE pmax pmax
comp=Z,53nm,1.0s
GURO Guroymak-BITLI 70.65 313 P **P** 00 19 11.7 0.0
GURO IAmb IAmb 00 19 13.4
comp=Z,20nm,0.8s
KARS Kars 70.73 316 P **P** 00 19 12.7 +0.6
KARS Kars 70.73 316 P **P** 00 19 12.7 +0.6
KARS pmax pmax
comp=Z,117nm,0.8s
ARU Arti 70.74 336 P **P** 00 19 10.4 -1.2
ARU IAmb IAmb 00 19 12.2
comp=Z,28nm,0.9s
ARU Arti 70.74 336*c iP* **P** 00 19 10.7 -0.9
ARU *PP **pP** 00 19 28.7 -1.0
ARU 00 19 32.0
ARU 00 21 48.4
ARU S **S** 00 28 21.4 +0.6
ARU SS **SS** 00 32 51.0 -3.3
ARU pmax pmax
comp=Z,38nm,1.0s
ARU Arti 70.74 336 P **P** 00 19 11.0 -0.6
comp=Z,20nm,0.8s,baz=153,slow=2.0,SNR=38
ARU pP **pP** 00 19 29.8 +0.1
comp=Z,14nm,0.6s,baz=107,slow=11,SNR=4.5
ARU LR LR 00 52 53.0
comp=Z,58nm,21.3s,baz=150,slow=38
comp=Z,20nm,0.8s
ARU Arti 70.74 336 P **P** 00 19 11.0 -0.6
ARU sP **PcP** 00 19 34.1 +2.1
ONI Oni 71.29 318 P **P** 00 19 15.2 -0.2

ONI **Oni** 71.29 318 P P 00 19 15.2 -0.2
ONI pmax pmax
comp=Z,9.0nm,0.7s
CCD **Concordia, Ant** 71.41 175 P P 00 19 17.9 +2.1
NCK **Nalchik** 71.58 319 *ce*P P 00 19 17.5 +0.5
NCK pmax pmax
comp=Z,30nm,0.9s
MRNZ **Matariki Terra** 71.92 132 P P 00 19 19.5 +0.4
THZ **Tophouse** 72.09 132 P P 00 19 20.1 -0.1
MBAR **Mbarara** 72.13 271 P P 00 19 21.1 0.0
MBAR **Mbarara** 72.13 271 *de*P P 00 19 23.1 +2.0
MBAR pmax pmax
comp=Z,10.0nm,0.9s
MBAR **Mbarara** 72.13 271 P P 00 19 23.2 +2.1
KBZ **Khabaz** 72.14 319 *c i*P P 00 19 20.5 +0.2
KBZ pmax pmax
comp=Z,30nm,0.9s
KBZ **Khabaz** 72.14 319 P P 00 19 20.6 +0.2
comp=Z,28nm,0.8s,baz=123,slow=5.6,SNR=68
comp=Z,28nm,0.8s
KIV **Kislovodsk** 72.38 319 ⇓P P 00 19 22.6 +0.7
KIV **Kislovodsk** 72.38 319 P P 00 19 21.6 -0.3
KIV IAmb IAmb 00 19 23.6
comp=Z,21nm,0.8s
KIV **Kislovodsk** 72.38 319 *i* P P 00 19 22.1 +0.2
SNR=10.0
KIV **Kislovodsk** 72.38 319 *e*P P 00 19 21.6 -0.3
KIV pmax pmax
comp=Z,21nm,1.0s
KIV **Kislovodsk** 72.38 319 P P 00 19 22.3 +0.4
GOF **Gofitskoye** 72.61 320 *ce*P P 00 19 23.4 +0.3
GHAJ **Ghor Haditha** 73.26 304 P P 00 19 27.7 +0.5
EIL **Elat** 73.33 303 LR LR 00 50 57.3
comp=Z,58nm,19.6s,baz=65,slow=35
BELG **Belogornoye** 73.43 328 *c i*P P 00 19 27.0 -0.7
BELG pmax pmax
comp=Z,6.0nm,0.9s
BELG **Belogornoye** 73.43 328 P P 00 19 27.1 -0.7
comp=Z,37nm,0.8s,baz=214,slow=1.7,SNR=8.1
BELG pP **pP** 00 19 47.5 +1.5
comp=Z,37nm,0.8s,baz=197,slow=4.3,SNR=4.6
BELG LR LR 00 55 13.7
comp=Z,46nm,21.8s,baz=172,slow=39
comp=Z,37nm,0.8s
ARPR **Arapgir-MALATY** 73.53 313 P P 00 19 28.4 -0.5
ARPR IAmb IAmb 00 19 30.8
comp=Z,24nm,1.1s
PEA0B **Petropavlovsk-** 73.61 31 P P 00 19 28.1 -0.8
PEA0B **Petropavlovsk-** 73.61 31 *de*P P 00 19 30.5 +1.7
PETK **Petropavlovsk-** 73.61 31 P P 00 19 27.6 -1.1
PETK **Petropavlovsk-** 73.61 31 P P 00 19 27.7 -1.1
PETK **Petropavlovsk-** 73.61 31 P P 00 19 27.0 -1.8
comp=Z,4.2nm,0.7s,baz=204,slow=3.3,SNR=4.6
PETK LR LR 00 53 12.1
comp=Z,46nm,19.3s,baz=236,slow=37
comp=Z,4.2nm,0.7s
GAZ **Gaziantep** 73.72 311 P P 00 19 29.7 -0.2
GAZ IAmb IAmb 00 19 31.8
comp=Z,34nm,0.8s
MMAI **Mount Meron Ar** 73.87 306 P P 00 19 32.7 +1.8
comp=Z,20nm,0.6s,baz=99,slow=7.7,SNR=103
MMAI pP **pP** 00 19 49.8 +0.7
comp=Z,2.9nm,0.5s,baz=97,slow=7.0,SNR=3.0
comp=Z,20nm,0.6s
LSZ **Lusaka** 74.02 256 P P 00 19 31.9 -0.2
LSZ **Lusaka** 74.02 256 P P 00 19 31.9 -0.2
LSZ pmax pmax
comp=Z,8.0nm,0.9s
LSZ **Lusaka** 74.02 256 LR LR 00 46 40.3
comp=Z,178nm,21.8s,baz=114,slow=31
LSZ **Lusaka** 74.02 256 P P 00 19 33.5 +1.3
PET **Petropavlovsk** 74.06 31 *e*P P 00 19 30.6 -0.8
PET *e*S **SKiKP** 00 28 55.8 +2.3
PET pmax pmax
comp=Z,19nm,0.6s
PET MLR MLR
comp=Z,100nm,18.0s
MA2 **Magadan** 74.27 23 P P 00 19 33.2 +0.7
MA2 **Magadan** 74.27 23 P P 00 19 32.4 -0.1
MA2 **Magadan** 74.27 23 *de*P P 00 19 32.7 +0.2
MA2 pmax pmax
comp=Z,29nm,1.7s
MA2 **Magadan** 74.27 23 P P 00 19 32.3 -0.2
comp=Z,3.8nm,0.3s,baz=205,slow=7.9,SNR=7.7
MA2 LR LR 00 52 29.9
comp=Z,51nm,21.6s,baz=272,slow=36
comp=Z,3.8nm,0.3s
BKZ **Black Stump Fm** 74.42 129 P P 00 19 34.8 +0.8
BKZ **Black Stump Fm** 74.42 129 P P 00 19 34.3 +0.3
BKZ IAmb IAmb 00 19 35.2
comp=Z,35nm,0.6s
MSVF **Nonsavu** 74.52 107 P P 00 19 35.6 +0.7
MSVF **Nonsavu** 74.52 107 P P 00 19 34.5 -0.4
MSVF **Nonsavu** 74.52 107 ⇓*e*P P 00 19 35.7 +0.8
MSVF pmax pmax
comp=Z,6.0nm,0.8s
RTZ **Ruatahuna** 74.73 129 P P 00 19 35.8 -0.1
URZ **Urewera** 74.80 128 LR LR 00 55 29.7
comp=Z,139nm,18.9s,baz=303,slow=38
BNN **Bunyan** 75.28 312 P P 00 19 39.0 0.0
BNN IAmb IAmb 00 19 40.1
comp=Z,34nm,0.8s
KIRV **Kirov** 75.94 334 *c i*P P 00 19 41.8 -0.3
CSS **Mathiatis** 76.07 308 P P 00 19 43.9 +0.4
CSS IAmb IAmb 00 19 45.3
comp=Z,48nm,0.8s
VRH **Novokhopyorsk** 76.08 325 *e*P P 00 19 42.4 -0.7
VRH pmax pmax
comp=Z,65nm,0.7s
DGTI **Dogotuki** 76.14 106 P P 00 19 45.3 +1.1
LBTB **Lobatse** 76.52 246 P P 00 19 46.6 +0.3
LBTB **Lobatse** 76.52 246 P P 00 19 46.7 +0.3
LBTB pmax pmax
comp=Z,20nm,1.3s
LBTB **Lobatse** 76.52 246 LR LR 00 47 15.1
comp=Z,262nm,20.8s,baz=100,slow=31
SOE **Somerset East** 76.83 238 P P 00 19 48.3 +0.4
BOSA **Boshof** 76.92 242 P P 00 19 49.2 +0.6
BOSA **Boshof** 76.92 242 P P 00 19 49.2 +0.6
BOSA pmax pmax
comp=Z,13nm,0.9s
BOSA **Boshof** 76.92 242 P P 00 19 49.4 +0.8
comp=Z,5.9nm,0.7s,baz=70,slow=4.1,SNR=12
BOSA pP **pP** 00 20 07.1 +0.5
comp=Z,12nm,1.0s,baz=91,slow=7.7,SNR=5.0
BOSA LR LR 00 48 01.0
comp=Z,235nm,18.1s,baz=116,slow=31
comp=Z,5.9nm,0.7s
SEY **Seymchan** 77.01 21 ⇓*e*P P 00 19 48.0 -0.1
SEY pmax pmax
comp=Z,10.0nm,0.8s
SEY **Seymchan** 77.01 21 P P 00 19 47.2 -0.9
comp=Z,4.4nm,0.5s,baz=217,slow=7.3,SNR=19
SEY LR LR 00 56 56.7
comp=Z,48nm,18.5s,baz=286,slow=38
comp=Z,4.4nm,0.5s
BR131 **Keskin Array S** 77.18 312 P P 00 19 49.5 -0.3
BR131 IAmb IAmb 00 19 50.3
comp=Z,28nm,0.7s
BR131 **Keskin Array S** 77.18 312 *c i*P P 00 19 48.9 -0.9
BRTR **Keskin Array B** 77.18 312 P P 00 19 49.1 -0.7
BRTR **Keskin Array B** 77.18 312 P P 00 19 49.4 -0.4
comp=Z,23nm,0.7s,baz=133,slow=7.0,SNR=52
BRTR pP **pP** 00 20 06.7 -1.5
comp=Z,6.2nm,0.9s,baz=116,slow=5.6,SNR=3.3
BRTR LR LR 00 55 25.0
comp=Z,46nm,21.9s,baz=101,slow=37
comp=Z,23nm,0.7s
VORD **Divnogorie** 77.37 325 *e*P P 00 19 49.0 -1.4
VORD pmax pmax
comp=Z,20nm,0.8s
VSR **Storozhevoye** 77.54 325 *e*P P 00 19 49.9 -1.4
VSR pmax pmax
comp=Z,40nm,0.7s
VORR **Voronezh** 77.70 325 *e*P P 00 19 51.2 -1.0
VORR pmax pmax
comp=Z,49nm,0.6s
ANTO **Ankara** 77.85 312 ⇑P P 00 19 54.1 +0.6
ANTO **Ankara** 77.85 312 P P 00 19 53.0 -0.3
ANTO IAmb IAmb 00 19 54.4
comp=Z,28nm,0.9s
ANTO **Ankara** 77.85 312 P P 00 19 53.1 -0.3
ANTO pmax pmax
comp=Z,28nm,0.9s
ANTO **Ankara** 77.85 312 P P 00 19 52.9 -0.5
BR231 **Keskin MP Arra** 77.85 312 P P 00 19 53.2 -0.3
BR231 IAmb IAmb 00 19 54.5
comp=Z,26nm,0.9s
TIXI **Tiksi** 78.00 8 P P 00 19 51.6 -1.8
TIXI IAmb IAmb 00 19 52.9
comp=Z,55nm,1.9s
TIXI **Tiksi** 78.00 8 ⇑*e*P P 00 19 51.3 -2.2
TIXI pmax pmax
comp=Z,26nm,1.8s
TIXI **Tiksi** 78.00 8 LR LR 00 58 57.8
comp=Z,266nm,18.1s,baz=206,slow=39
LPSR **Galich'ya Gora** 78.24 326 *e*P P 00 19 53.9 -1.3
LPSR pmax pmax
comp=Z,50nm,0.8s
SIM **Simferopol'** 78.44 318 *c i*P P 00 19 56.4 -0.1
SIM *e* 00 20 05.0
SIM pmax pmax
comp=Z,128nm,1.0s
VNDA **Vanda** 79.06 169 P P 00 20 00.6 +1.3
VNDA **Vanda** 79.06 169 P P 00 20 00.6 +1.3
VNDA pmax pmax
comp=Z,7.0nm,0.8s
VNDA **Vanda** 79.06 169 P P 00 20 00.5 +1.3
comp=Z,2.0nm,0.7s,baz=309,slow=6.3,SNR=14
comp=Z,2.0nm,0.7s
MDUB **Mudurnu** 79.19 313 P P 00 20 00.7 -0.1
ELL **Elmali** 79.21 309 P P 00 20 00.6 -0.5
ELL **Elmali** 79.21 309 P P 00 20 00.6 -0.5
ELL pmax pmax
comp=Z,58nm,0.8s
SBA **Scott Base** 80.15 169 P P 00 20 07.2 +2.0
SBA **Scott Base** 80.15 169 P P 00 20 07.2 +2.0
SBA pmax pmax
comp=Z,25nm,1.4s
MOS **Moscow** 80.20 329 *e*P P 00 20 05.1 -0.7
MOS *e* 00 20 13.5
MOS *e* 00 23 05.4
MOS pmax pmax
comp=Z,41nm,0.7s
OBN **Obninsk** 80.51 328 P P 00 20 07.2 -0.3
OBN IAmb IAmb 00 20 08.6
comp=Z,37nm,0.6s
OBN **Obninsk** 80.51 328 *i* P P 00 20 07.4 -0.1
OBN pmax pmax
comp=Z,26nm,0.6s
OBN MLR MLR
comp=Z,77nm,24.0s
SUR **Sutherland** 80.83 238 P P 00 20 10.8 +0.8
SUR **Sutherland** 80.83 238 LR LR 00 49 00.7
comp=Z,84nm,21.5s,baz=149,slow=30
KARP **Karpathos** 81.11 307 P P 00 20 11.8 +0.6
KLMR **Klimovskoe** 81.42 334 *e*P P 00 20 05.4 -6.8
KLMR pmax pmax
comp=Z,54nm,1.4s
TLCR 82.11 317 ⇑P P 00 20 16.9 +0.7
TLCR 82.11 317 P P 00 20 16.9 +0.7
TIRR **Tirgusor** 82.21 316 ⇑P P 00 20 17.6 +0.9
TIRR **Tirgusor** 82.21 316 P P 00 20 16.4 -0.3
TIRR **Tirgusor** 82.21 316 P P 00 20 16.4 -0.3
TIRR pmax pmax
comp=Z,62nm,0.8s
ELIB **Princess Elisa** 82.38 198 *d*P P 00 20 17.1 -0.2
comp=Z,16nm,1.1s
TLBR **Topalu** 82.48 316 ⇑P P 00 20 19.1 +1.0
MILM **Milestii Mici** 82.55 318 ⇑P P 00 20 18.4 -0.1
MILM **Milestii Mici** 82.55 318 *i*P P 00 20 18.0 -0.4
comp=Z,80nm,1.0s
MILM **Milestii Mici** 82.55 318 *c i*P P 00 20 17.0 -1.4
MILM pmax pmax
comp=Z,80nm,1.0s
KIS **Kishinev** 82.57 318 *e*P P 00 20 18.5 0.0
comp=Z,250nm,0.7s
KIS **Kishinev** 82.57 318 *e*P P 00 20 18.5 0.0
KIS pmax pmax
comp=Z,250nm,0.7s
CFR **Carcaliu** 82.57 317 ⇑P P 00 20 18.8 +0.2
CFR **Carcaliu** 82.57 317 P P 00 20 18.7 +0.2
HARR **Harsova** 82.60 316 ⇑P P 00 20 19.7 +0.9
HARR **Harsova** 82.60 316 P P 00 20 19.6 +0.9
PRD **Provadia** 82.60 314 P P 00 20 19.4 +0.6
LEOM **Leova** 82.82 318 ⇑P P 00 20 20.9 +1.0
LEOM **Leova** 82.82 318 P P 00 20 20.8 +1.0
IDI **Anoyia** 82.88 306 P P 00 20 21.0 +0.5
IDI pmax pmax
comp=Z,43nm,0.8s
JMB **Yambol** 83.08 314 P P 00 20 21.9 +0.6
ALN **Alexandroupoli** 83.09 312 P P 00 20 21.3 -0.1
ALN IAmb IAmb 00 20 22.7
comp=Z,20nm,0.8s
ALN **Alexandroupoli** 83.09 312 P P 00 20 21.3 -0.1
ALN pmax pmax
comp=Z,20nm,0.8s
SORM **Soroca** 83.17 319 ⇑P P 00 20 21.6 0.0
SORM **Soroca** 83.17 319 P P 00 20 21.5 0.0
GHRR 83.28 317 ⇓P P 00 20 23.5 +1.2
AKASG **Malin Array Be** 83.29 322 P P 00 20 21.3 -0.8
AKASG **Malin Array Be** 83.29 322 *ce*P P 00 20 21.7 -0.5
AKASG pmax pmax
comp=Z,13nm,0.7s
AKASG **Malin Array Be** 83.29 322 P P 00 20 21.4 -0.7
comp=Z,8.2nm,0.7s,baz=87,slow=4.8,SNR=51
comp=Z,8.2nm,0.7s
AKBB **Malin Array Si** 83.29 322 P P 00 20 21.4 -0.8
AKBB IAmb IAmb 00 20 22.7
comp=Z,19nm,0.7s
AKBB **Malin Array Si** 83.29 322 *ce*P P 00 20 21.2 -1.0
KIEV **Kiev** 83.29 322 ⇑P P 00 20 21.7 -0.5
KIEV **Kiev** 83.29 322 P P 00 20 21.7 -0.5
KIEV IAmb IAmb 00 20 22.7
comp=Z,17nm,0.8s
KIEV **Kiev** 83.29 322 *i* P P 00 20 21.9 -0.3
SNR=11
KIEV **Kiev** 83.29 322 P P 00 20 21.7 -0.5
RAZG **Razgrad** 83.33 315 ⇑P P 00 20 23.3 +0.7
RDO **Rodhopi** 83.52 312 P P 00 20 23.3 -0.3
SZH **Strazhitsa** 83.65 314 P P 00 20 24.8 +0.6
ELND **Elena** 83.65 314 ⇑P P 00 20 24.7 +0.4
ISR **Istrita** 83.66 316 ⇓P P 00 20 25.3 +1.0
ISR **Istrita** 83.66 316 P P 00 20 25.3 +1.0
DIM **Dimitrovgrad** 83.68 313 P P 00 20 25.3 +0.9
VRI **Vrincioaia** 83.70 317 ⇓P P 00 20 25.3 +0.9
VRI **Vrincioaia** 83.70 317 P P 00 20 25.3 +0.9
PLOR **Plostina** 83.75 317 ⇓P P 00 20 25.4 +0.7
PLOR **Plostina** 83.75 317 P P 00 20 25.4 +0.7
KDZ **Kurdzhali** 83.77 313 P P 00 20 24.4 -0.5
TESR **Tescani** 83.90 318 ⇑P P 00 20 26.2 +0.8
TSUM **Tsumeb** 84.04 251 P P 00 20 25.7 -1.3
TSUM IAmb IAmb 00 20 48.0
comp=Z,25nm,1.6s
TSUM **Tsumeb** 84.04 251 LR LR 00 52 30.0
comp=Z,104nm,21.8s,baz=124,slow=32
MLR **Muntele Rosu** 84.15 316 ⇑P P 00 20 27.7 +0.8
MLR **Muntele Rosu** 84.15 316 P P 00 20 27.4 +0.5
MLR IAmb IAmb 00 20 29.4
comp=Z,47nm,1.0s
MLR **Muntele Rosu** 84.15 316 P P 00 20 27.4 +0.5
MLR pmax pmax
comp=Z,47nm,1.0s
RZN **Rozhen** 84.22 313 P P 00 20 28.1 +0.7
TURR **Turia** 84.22 317 ⇑P P 00 20 27.9 +0.8
PLD **Plovdiv** 84.30 313 P P 00 20 27.8 +0.2
PRAR **RASCA** 84.37 318 ⇑P P 00 20 28.9 +1.1
HUMR **Humele** 84.61 315 ⇓P P 00 20 29.1 0.0
BILL **Bilibino** 84.62 20 *e*P P 00 20 27.4 -1.2
DOPR **Dopca** 84.63 317 ⇑P P 00 20 30.2 +1.1
VOIR 84.75 316 ⇑P P 00 20 30.3 +0.4
VOIR 84.75 316 P P 00 20 30.3 +0.4
PGB **Panagyurishte** 84.79 313 P P 00 20 30.6 +0.5
ARR **Arges** 85.03 316 ⇑P P 00 20 31.4 +0.2
MNK **Minsk** 85.08 326 *i* P P 00 20 30.9 -0.3
MNK comp=E,7.0nm,0.9s *i* P P 00 20 30.9 -0.3
MNK comp=N,10.0nm,0.9s *i* P P 00 20 30.9 -0.3
MNK comp=Z,35nm,0.9s,baz=105 *i* pP **pP** 00 20 47.8 -2.1
MNK *i* sP **sP** 00 20 54.6 -2.5
MNK *i* PP **PP** 00 23 48.2 -1.0
MNK *i* PPP PPP 00 25 41.3
MNK *i* S **SKSac** 00 30 49.2 -0.7
MNK *i* sS **sS** 00 31 28.9 +2.0
MNK *i* SS SS 00 35 43.8 -46
MNK **Minsk** 85.08 326 *i* P P 00 20 30.9 -0.3
MNK *i* *PP **pP** 00 20 47.7 -2.1
MNK *i* 00 23 48.1
MNK *i* PPP PPP 00 25 41.3
MNK *i* S **SKSac** 00 30 49.1 -0.7
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK pmax pmax
comp=Z,35nm,0.9s
MNK pmax pmax
comp=N,10.0nm,0.9s
BURAR **Bucovina Array** 85.10 318 ⇑P P 00 20 33.0 +1.4
BURAR **Bucovina Array** 85.10 318 P P 00 20 32.5 +0.9
BURAR **Bucovina Array** 85.10 318 P P 00 20 33.0 +1.4
BUR08 **Bucovina Ar. S** 85.11 318 P P 00 20 32.5 +0.9
BUR08 IAmb IAmb 00 20 34.0
comp=Z,26nm,0.8s
MPEP **Malo Peshtene** 85.26 314 P P 00 20 33.0 +0.6
QSPA **South Pole Qui** 85.36 180 P P 00 20 32.9 +0.4
QSPA **South Pole Qui** 85.36 180 P P 00 20 33.1 +0.5
comp=Z,1.5nm,0.7s,baz=289,slow=1.3,SNR=6.3
QSPA LR LR 00 56 20.2
comp=Z,98nm,21.5s,baz=274,slow=34
comp=Z,1.5nm,0.7s
KKB **Krupnik** 85.43 312 P P 00 20 33.4 +0.1
VTS **Vitosha** 85.49 313 P P 00 20 34.1 +0.4
VALR **Valaam** 85.50 333 *de*P P 00 20 33.3 +0.2
VALR pmax pmax
comp=Z,25nm,0.9s
VALD **Valchedram** 85.54 314 P P 00 20 34.2 +0.5
ARCR **ARCALIA** 85.56 318 ⇑P P 00 20 35.2 +1.4
LIT **Litokhoron** 85.60 311 P P 00 20 33.7 -0.5
LIT **Litokhoron** 85.60 311 P P 00 20 33.7 -0.5
LIT pmax pmax
comp=Z,47nm,0.8s
BAIL **Bailesti** 85.67 315 ⇑P P 00 20 34.7 +0.4
VAY **Valandovo** 85.75 312 *i* P P 00 20 33.9 -1.0
JOF **Joensuu** 85.80 334 *e*P P 00 20 34.8 +0.2
CJR **Cluj-Napoca** 86.00 317 ⇑P P 00 20 36.8 +0.8
CJR **Cluj-Napoca** 86.00 317 P P 00 20 36.8 +0.8
BLKB **Belogradchik** 86.07 314 ⇑P P 00 20 36.7 +0.2
BMR **Baia Mare** 86.25 318 ⇑P P 00 20 38.2 +1.1
BMR **Baia Mare** 86.25 318 P P 00 20 38.2 +1.1
MARR **Marisel-Cluj** 86.31 317 ⇑P P 00 20 39.0 +1.3
DEV **Deva** 86.32 316 ⇓P P 00 20 39.1 +1.6
DEV **Deva** 86.32 316 P P 00 20 39.1 +1.6
GZR **Gura Zlata** 86.32 316 ⇓P P 00 20 38.2 +0.6
GZR **Gura Zlata** 86.32 316 P P 00 20 38.2 +0.6
LVV **L'vov** 86.32 320 *e*P P 00 20 37.3 -0.2
ISAL **Salakas** 86.32 326 *e*P P 00 20 38.3 +0.9
HERR **Herculane** 86.48 315 ⇑P P 00 20 38.8 +0.4
MESR **Meseneni** 86.52 318 ⇑P P 00 20 39.8 +1.3
APA **Apatity** 86.54 339 ⇓*i*P P 00 20 35.2 -2.9
APA pmax pmax
comp=Z,10.0nm,1.2s
APA MLR MLR
comp=Z,800nm,1.2s
DRGR 86.61 317 ⇑P P 00 20 40.0 +0.9
DRGR 86.61 317 P P 00 20 39.9 +0.9
VSU **Vasula** 86.70 329 *de*P P 00 20 39.5 +0.4
VSU pmax pmax
comp=Z,74nm,2.5s
SURR **Surduc** 86.83 316 ⇓P P 00 20 40.9 +0.8
KWP **Kalwaria Pacla** 87.13 320 *e*P P 00 20 42.5 +1.1
KWP **Kalwaria Pacla** 87.13 320 P P 00 20 41.8 +0.4
KWP **Kalwaria Pacla** 87.13 320 P P 00 20 41.8 +0.4
KWP pmax pmax
comp=Z,72nm,1.6s
BZS **Buzias** 87.16 316 ⇑P P 00 20 42.3 +0.6
BZS **Buzias** 87.16 316 P P 00 20 42.2 +0.6
SIRR **Siria** 87.24 317 ⇑P P 00 20 42.6 +0.6
KOLS **Kolonicke sedl** 87.28 319 *e*P P 00 20 43.4 +1.2
KOLS pmax pmax
comp=Z,46nm,0.9s
KOLS **Kolonicke sedl** 87.28 319 *e*P P 00 20 43.4 +1.2
PABE **Paberze** 87.51 326 P P 00 20 42.9 -0.2
PABE **Paberze** 87.51 326 *e*P P 00 20 43.6 +0.6
VSVD **Vaisvydziai** 87.62 326 *e*P P 00 20 44.2 +0.7
SUW **Suwalki** 87.66 324 *e*P P 00 20 44.0 +0.1
SUW **Suwalki** 87.66 324 P P 00 20 43.9 0.0
SUW **Suwalki** 87.66 324 P P 00 20 43.9 +0.1
SUW pmax pmax
comp=Z,76nm,0.9s
SUW **Suwalki** 87.66 324 *e*P P 00 20 44.2 +0.4
FIA1 **FINESS Array S** 87.74 332 P P 00 20 44.1 0.0
FINES **FINESS Array B** 87.74 332 P P 00 20 43.9 -0.2
FINES **FINESS Array B** 87.74 332 *i* P P 00 20 44.2 +0.2
FINES pmax pmax
comp=Z,8.0nm,0.6s
FINES **FINESS Array B** 87.74 332 P P 00 20 43.5 -0.5
comp=Z,8.0nm,0.6s,baz=116,slow=3.8,SNR=42
FINES LR LR 01 04 00.8
comp=Z,54nm,20.3s,baz=50,slow=38
comp=Z,8.0nm,0.6s
CRVS **Cervenica-Dubn** 87.80 319 *e*P P 00 20 45.5 +0.8
CRVS pmax pmax
comp=Z,9.0nm,1.0s
CRVS **Cervenica-Dubn** 87.80 319 *e*P P 00 20 45.5 +0.8
STHS **Stebnicka Huta** 88.03 320 *e*P P 00 20 46.1 +0.3
STHS pmax pmax
comp=Z,18nm,0.9s
STHS **Stebnicka Huta** 88.03 320 *e*P P 00 20 46.1 +0.3
MEF **Metsahovi** 88.27 331 *e*P P 00 20 47.3 +0.8
FRGS **Fruska Gora** 88.34 315 ⇑P P 00 20 47.5 +0.2
KECS **Kecovo** 88.38 319 *e*P P 00 20 47.9 +0.5
KECS pmax pmax
comp=Z,16nm,0.9s
KECS **Kecovo** 88.38 319 *e*P P 00 20 47.8 +0.4
KEF **Keuruu** 88.47 333 *e*P P 00 20 47.7 +0.3
NIE **Niedzica** 88.64 320 *e*P P 00 20 50.6 +1.9
PSZ **Piszkesteto** 88.68 318 ⇓P P 00 20 50.0 +1.0
PSZ **Piszkesteto** 88.68 318 P P 00 20 48.4 -0.5
PSZ IAmb IAmb 00 20 50.7
comp=Z,15nm,0.9s
PSZ **Piszkesteto** 88.68 318 P P 00 20 48.4 -0.5
PSZ pmax pmax
comp=Z,15nm,0.9s
BEL **Belsk** 88.70 322 *e*P P 00 20 49.9 +1.1
PBUR **Paburge** 88.73 326 *e*P P 00 20 49.4 +0.5
VYHS **Vyhne** 89.46 319 *e*P P 00 20 52.9 +0.4
VYHS pmax pmax
comp=Z,18nm,1.3s
VYHS **Vyhne** 89.46 319 *e*P P 00 20 52.9 +0.4
VAF **Ylistaro** 89.64 333 *e*P P 00 20 53.9 +1.0
RAF **Rauma** 89.70 331 *e*P P 00 20 53.5 +0.3
SRO **Srobarova** 89.72 318 *e*P P 00 20 54.1 +0.4
SRO pmax pmax
comp=Z,24nm,0.8s
SRO **Srobarova** 89.72 318 *e*P P 00 20 54.1 +0.4
ARCES **ARCESS Array B** 89.89 340 P P 00 20 53.9 -0.2
ARCES **ARCESS Array B** 89.89 340 P P 00 20 53.9 -0.2
ARCES pmax pmax
comp=Z,34nm,1.2s
ARCES **ARCESS Array B** 89.89 340 P P 00 20 53.3 -0.8
comp=Z,7.1nm,0.7s,baz=105,slow=5.0,SNR=36
ARCES LR LR 01 05 48.1
comp=Z,75nm,20.7s,baz=92,slow=39
comp=Z,7.1nm,0.7s
MATE **Matera** 90.06 311 ⇑P P 00 20 56.5 +1.1
OKC **Ostrava-Krasne** 90.08 320 *e*P P 00 20 56.4 +1.1
OKC **Ostrava-Krasne** 90.08 320 *e*P P 00 20 56.4 +1.1
MAUC **Maruska** 90.23 319 *e*P P 00 20 57.2 +1.1
JAVC **Velka Javorina** 90.28 319 *e*P P 00 20 57.8 +1.4
CEL **Celeste** 90.44 308 P P 00 20 57.7 +0.3
MORC **Moravsky Berou** 90.46 320 ⇑P P 00 20 58.2 +1.0
MORC **Moravsky Berou** 90.46 320 P P 00 20 57.3 +0.1
MORC IAmb IAmb 00 20 59.3
comp=Z,13nm,0.8s
MORC **Moravsky Berou** 90.46 320 *e*P P 00 20 58.0 +0.8
MORC **Moravsky Berou** 90.46 320 P P 00 20 57.3 +0.1
MORC pmax pmax
comp=Z,13nm,0.8s
MODS **Modra-Piesok** 90.48 318 *e*P P 00 20 58.0 +0.7
MODS pmax pmax
comp=Z,33nm,1.2s
MODS **Modra-Piesok** 90.48 318 *e*P P 00 20 58.0 +0.7
ZST **Bratislava** 90.58 318 *e*P P 00 20 58.5 +0.8
ZST pmax pmax
comp=Z,46nm,1.4s
ZST **Bratislava** 90.58 318 *e*P P 00 20 58.5 +0.8
KOGS **Kog** 90.97 316 *i* P P 00 21 00.4 +0.9
KRLC **Kraliky** 90.98 320 *e*P P 00 21 00.7 +1.1
KRLC **Kraliky** 90.98 320 *e*P P 00 21 00.7 +1.1
VRAC **Vranov** 91.03 319 *e*P P 00 21 00.7 +0.9
RONA **Rosalia, Austr** 91.06 318 *e*P P 00 21 00.2 +0.2

comp=Z,1.7nm,0.6s
KRUC **Moravsky** 91.13 319 *e*P P 00 21 00.7 +0.4
DPC **Dobruska-Polom** 91.31 320 *e*P P 00 21 02.2 +1.1
DPC **Dobruska-Polom** 91.31 320 *e*P P 00 21 02.2 +1.1
CONA **Conrad Observa** 91.38 318 *e*P P 00 21 02.3 +0.8
comp=Z,3.1nm,0.9s
OSTC **Ostas** 91.39 320 *e*P P 00 21 02.5 +1.0
OSTC **Ostas** 91.39 320 *e*P P 00 21 02.5 +1.0
GROS **Grobnik** 91.49 316 *i* P P 00 21 02.8 +0.7
CHVC **Chvalec** 91.50 320 *e*P P 00 21 03.1 +1.1
CHVC **Chvalec** 91.50 320 *e*P P 00 21 03.1 +1.1
UPC **Upice** 91.52 320 *e*P P 00 21 03.3 +1.3
UPC **Upice** 91.52 320 *e*P P 00 21 03.3 +1.3
ARSA **Arzberg** 91.54 317 *e*PcP PcP 00 21 03.9 +0.8
comp=Z,2.2nm,0.5s
UPP **Uppsala** 91.56 330 *e*P P 00 21 02.0 0.0
SOKA **Soboth** 91.83 316 *i* PcP PcP 00 21 04.9 +0.4
comp=Z,8.2nm,0.8s,SNR=8.9
VISS **Visnje** 91.89 316 *i* P P 00 21 04.7 +0.8
OBKA **Obir** 92.15 316 *e*PcP PcP 00 21 06.2 +0.3
comp=Z,3.4nm,0.6s
PRU **Pruhonice** 92.42 320 *e*P P 00 21 07.0 +0.8
PRU **Pruhonice** 92.42 320 *e*P P 00 21 07.0 +0.8
MOA **Molln** 92.44 318 *e*P P 00 21 06.7 +0.3
comp=Z,0.9nm,0.5s
CKRC **Cesky Krumlov** 92.48 319 *e*P P 00 21 07.3 +0.7
CKRC **Cesky Krumlov** 92.48 319 *e*P P 00 21 07.3 +0.7
NIKH **Nikolski High** 92.62 37 P P 00 21 07.5 +0.4
baz=266
PRED **Cave del Predi** 92.82 316 P P 00 21 08.4 +0.2
PRED IAmb IAmb 00 21 09.6
comp=Z,18nm,1.0s
BRG **Berggiesshubel** 92.86 321 *i* P P 00 21 08.9 +0.7
BRG pmax pmax
comp=Z,6.0nm,0.7s
BRG **Berggiesshubel** 92.86 321 *i* P P 00 21 08.9 +0.7
BRG Amp 00 21 09.6
comp=Z,5.5nm,0.7s
GEC2 **GERESS Array S** 92.89 319 P P 00 21 08.3 -0.2
GERES **GERESS Array B** 92.89 319 P P 00 21 09.1 +0.6
comp=Z,2.5nm,0.7s,baz=63,slow=6.1,SNR=14
comp=Z,2.5nm,0.7s
KHC **Kasperske Hory** 92.98 319 *e*P P 00 21 08.9 0.0
KHC *e*pP pP 00 21 29.8 +2.2
KHC **Kasperske Hory** 92.98 319 *e*P P 00 21 08.9 0.0
KHC *e* 00 21 29.8
KBA **Koelnbreinsper** 93.01 317 *e*P P 00 21 09.4 +0.1
comp=Z,2.0nm,0.7s
HSKC **Hora Svate Kat** 93.17 320 *e*P P 00 21 10.1 +0.4
CLL **Collm** 93.48 321 *i* P P 00 21 11.6 +0.6
CLL pmax pmax
comp=Z,8.0nm,1.0s
CLL **Collm** 93.48 321 *i* P P 00 21 11.6 +0.6
comp=Z,8.0nm,1.0s
CLL *e*PP PP 00 24 56.0 -0.2
CLL AMS AMS 01 10 00.0
comp=Z,100nm,18.3s
LESA **Schwarzleotal** 93.49 317 *e*P P 00 21 11.1 -0.2
comp=Z,3.6nm,0.8s
HFS **Hagfors** 93.55 330 P P 00 21 11.0 -0.1
comp=Z,11nm,0.9s,baz=122,slow=5.4,SNR=7.6
comp=Z,11nm,0.9s
ABTA **Abfaltersbach** 93.56 316 *e*P P 00 21 12.1 +0.4
comp=Z,2.4nm,0.7s
SPITS **Spitsbergen Ar** 93.77 348 P P 00 21 11.1 -0.8
comp=Z,1.8nm,0.4s,baz=112,slow=9.1,SNR=29
SPITS LR LR 01 08 57.7
comp=Z,114nm,20.8s,baz=60,slow=39
comp=Z,1.8nm,0.4s
TNA **Tin City** 93.85 25 P P 00 21 13.0 +0.6
baz=267
CTI **Castel Tesino** 94.13 316 P P 00 21 14.2 -0.1
CTI IAmb IAmb 00 21 16.0
comp=Z,19nm,1.1s
CTI **Castel Tesino** 94.13 316 P P 00 21 14.2 -0.1
CTI pmax pmax
comp=Z,19nm,1.1s
WTTA **Wattenberg** 94.19 317 *e*P P 00 21 12.0 -2.7
comp=Z,2.6nm,0.6s
SQTA **Sankt Quirin** 94.48 317 *e*P P 00 21 15.9 0.0
comp=Z,2.2nm,0.7s
F14K **Arctic Creek** 94.51 25 P P 00 21 15.8 +0.4
baz=269
GRF **Grafenberg Arr** 94.55 319 *e*P P 00 21 16.6 +0.6
comp=Z,6.5nm,0.8s,baz=116,slow=3.2
MOTA **Moosalm** 94.55 317 *e*P P 00 21 15.9 -0.4
comp=Z,2.1nm,0.5s
RETA **Reutte** 94.79 317 *e*P P 00 21 17.2 -0.1
comp=Z,1.1nm,0.4s
NB2 **NORSAR Subarra** 94.81 331 P P 00 21 16.7 -0.3
comp=Z,1.3nm,0.7s,baz=93,slow=4.6
NOA **NORSAR Array B** 94.81 331 P P 00 21 16.3 -0.7
comp=Z,2.3nm,0.8s,baz=92,slow=4.6,SNR=6.9
NOA LR LR 01 08 44.7
comp=Z,34nm,18.5s,baz=55,slow=38
comp=Z,2.3nm,0.8s
ANM **Nome** 94.90 26 P P 00 21 17.6 +0.3
baz=270
C16K **Lisburne Hills** 94.93 22 P P 00 21 17.5 +0.2
baz=270
FUORN **Ofenpass-Fuorn** 95.11 316 P P 00 21 19.0 0.0
FUORN IAmb IAmb 00 21 20.5
comp=Z,6.1nm,1.0s
RAR **Rarotonga** 95.20 112 LR LR 01 05 26.3
comp=Z,22nm,19.8s,baz=208,slow=36
F15K **North Star Dit** 95.21 25 P P 00 21 18.6 0.0
baz=270
DAVA **Damuels** 95.38 317 *e*P P 00 21 20.2 +0.1
comp=Z,2.5nm,0.6s
G15K **Niukluk** 95.47 25 P P 00 21 20.0 +0.1
baz=271
KEST **Kesra** 95.52 305 P P 00 21 22.1 +1.2
comp=Z,6.6nm,0.8s,baz=281,slow=4.0,SNR=5.3
comp=Z,6.6nm,0.8s
C17K **DeLong Mountai** 95.73 22 P P 00 21 21.2 +0.2
baz=272
D17K **Noatak River** 95.79 22 P P 00 21 21.5 +0.2
baz=272
L14K **Kuka Creek** 96.17 29 P P 00 21 23.3 +0.3
baz=272
G16K **Koyuk River** 96.17 25 P P 00 21 22.9 -0.2
G16K IAmb IAmb 00 21 23.7
comp=Z,7.4nm,0.8s
G16K **Koyuk River** 96.17 25 P P 00 21 23.3 +0.3
baz=272
B18K **Kokolik River** 96.18 21 P P 00 21 23.1 +0.1
baz=273
H16K **Elim** 96.25 26 P P 00 21 23.4 -0.1
baz=272
E17K **Hotham Inlet** 96.30 23 P P 00 21 23.8 +0.2
baz=273
A19K **Wainwright** 96.38 20 P P 00 21 24.5 +0.6
baz=274
C18K **Utukok River** 96.45 22 P P 00 21 24.6 +0.3
baz=274
F17K **Baldwin Pennin** 96.57 24 P P 00 21 25.4 +0.6
baz=274
E18K **Tukpahlearik C** 96.76 23 P P 00 21 25.9 +0.3
baz=274
G17K **Kiwalik Mounta** 96.88 25 P P 00 21 26.5 +0.2
baz=274
I17K **Unalakleet** 96.97 26 P P 00 21 27.2 +0.6
baz=274
C19K **Lookout Ridge** 96.99 21 P P 00 21 27.2 +0.4
baz=276
J16K **Anvik River** 97.05 27 P Pdif 00 21 27.3 +0.2
baz=274
M15K **Kasigluk River** 97.17 30 P P 00 21 27.8 +0.2
baz=273
F18K **Selawik** 97.19 24 P P 00 21 27.7 0.0
baz=275
H17K **Granite Mounta** 97.23 25 P Pdif 00 21 28.0 +0.1
baz=275
N15K **Kwethluk River** 97.50 30 P P 00 21 29.3 +0.1
baz=274
D19K **Kuna River** 97.59 22 P P 00 21 29.5 0.0
baz=277
L16K **Owhat River** 97.68 28 P Pdif 00 21 30.3 +0.3
baz=275
A21K **Barrow** 97.72 19 P P 00 21 29.8 -0.1
baz=279
B20K **Meade River** 97.73 20 P Pdif 00 21 30.2 +0.2
baz=278
H18K **Honhosa River** 97.86 25 P P 00 21 30.4 -0.3
baz=276
F19K **Shaleruckik Mo** 97.91 23 P P 00 21 30.1 -0.8
F19K **Shaleruckik Mo** 97.91 23 P P 00 21 30.8 -0.1
baz=277
E19K **Redstone River** 98.05 23 P Pdif 00 21 31.6 +0.1
baz=278
D20K **Etivluk River** 98.11 21 P P 00 21 31.7 -0.1
baz=278
N16K **Nishlik Lake** 98.13 30 P Pdif 00 21 32.2 +0.1
baz=275
K17K **Iditarod** 98.14 27 P Pdif 00 21 32.4 +0.4
baz=276
L17K **Donlin** 98.20 28 P Pdif 00 21 32.6 +0.3
baz=276
G19K **Purcell Mounta** 98.27 24 P P 00 21 32.5 0.0
baz=277
A22K **Sinclair Lake** 98.30 19 P Pdif 00 21 33.1 +0.6
baz=280
E20K **Nigu River** 98.33 22 P P 00 21 32.5 -0.3
baz=279
H19K **Roundabout Mou** 98.61 24 P Pdif 00 21 34.2 +0.1
baz=278
B21K **Ikpikpuk River** 98.67 20 P P 00 21 33.9 -0.2
B21K IAmb IAmb 00 21 35.2
comp=Z,8.3nm,0.8s
B21K **Ikpikpuk River** 98.67 20 P P 00 21 34.2 0.0
baz=280
F20K **Avaraart Lake** 98.68 23 P Pdif 00 21 34.6 +0.3
baz=279
C21K **Knifeblade Rid** 98.69 21 P Pdif 00 21 34.5 +0.1
baz=280
NOR **Nord** 98.71 353 *i* P P 00 21 32.6 -1.6
J18K **Innoko River** 98.77 27 P P 00 21 34.5 -0.3
baz=277
B22K **Teshekpuk Lake** 98.94 19 P P 00 21 35.3 0.0
baz=282
O17K **Koliganek Bris** 99.03 30 P Pdif 00 21 36.2 +0.1
baz=276
TTA **Tatalina** 99.16 27 P Pdif 00 21 36.7 0.0
J19K **Poorman** 99.18 26 P Pdif 00 21 36.8 +0.2
baz=278
H20K **Anotleneega Mo** 99.27 24 P Pdif 00 21 37.0 0.0
baz=279
P17K **Kvichak River** 99.43 31 P Pdif 00 21 38.3 +0.5
baz=277
D22K **Ayikyak River** 99.48 21 P Pdif 00 21 38.0 +0.1
baz=282
F21K **Alatna River** 99.52 23 P Pdif 00 21 38.5 +0.4
baz=281
G21K **Allakaket** 99.64 23 P Pdif 00 21 38.8 +0.2
baz=281
L19K **White Mountain** 99.80 28 P Pdif 00 21 39.9 +0.4
baz=279
K20K **Telida** 99.97 26 P Pdif 00 21 40.5 +0.3
baz=280
C23K **Hilltik River** 99.98 20 P Pdif 00 21 40.2 +0.2
baz=284
D23K **Nanushuk River** 100.17 21 P Pdif 00 21 41.0 +0.1
baz=284
G22K **Bettles** 100.34 23 P Pdif 00 21 41.4 -0.3
baz=283
H22K **Ishtalitna Cre** 100.61 24 P Pdif 00 21 43.2 +0.2
baz=283
TOLK **Toolik Lake Re** 100.64 21 P Pdif 00 21 43.1 0.0
baz=285
C24K **Frklin Bluff** 100.66 20 P Pdif 00 21 43.2 +0.2
baz=286
D24K **Happy Valley** 100.77 20 P Pdif 00 21 43.8 +0.2
baz=286
E23K **Chandalar** 100.78 21 P Pdif 00 21 43.9 +0.1
baz=285
Q19K **Cape Douglas,** 100.90 31 P Pdif 00 21 45.1 +0.7
baz=279
MLY **Manley** 101.06 25 P Pdif 00 21 45.5 +0.5
baz=283
BPAW **Bear Paw Mtn.** 101.17 25 P Pdif 00 21 45.2 -0.3
baz=283
OHAK **Old Harbor** 101.36 33 P Pdif 00 21 45.6 -0.9
baz=279
SKT **Skwentna** 101.37 28 P Pdif 00 21 46.5 0.0
baz=282
DAG **Danmarks Havn** 101.41 348 *i* P Pdif 00 21 44.0 -2.3
F24K **Squaw Lake** 101.55 22 P Pdif 00 21 47.6 +0.4
baz=286
D25K **Kavik River** 101.56 20 P Pdif 00 21 47.1 -0.1
baz=288
C26K **Camden Bay** 101.85 19 P Pdif 00 21 49.0 +0.6
baz=290
G24K **Hadweenzic Riv** 101.94 23 P Pdif 00 21 48.7 -0.2
baz=286
H24K **Noodor Dome** 102.02 23 P Pdif 00 21 48.8 -0.5
baz=286
M22K **Willow** 102.08 28 P Pdif 00 21 49.1 -0.4
baz=283
F25K **Christian Rive** 102.35 21 P Pdif 00 21 50.8 0.0
baz=288
WAT1 **Susitna Watana** 102.53 26 P Pdif 00 21 50.9 -0.7
baz=285
ILAR **Eielson Array** 102.72 24 PKKPbc PKKPbc 00 37 52.3 -1.6
comp=Z,0.5nm,0.7s,baz=161,slow=2.6,SNR=4.4
HDA **Harding Lake** 102.80 25 P Pdif 00 21 52.5 -0.2
baz=286
WAT6 **Susitna Watana** 102.96 27 P Pdif 00 21 53.3 -0.3
baz=285
PRP **Porcupine Dome** 103.05 23 P Pdif 00 21 54.0 0.0
baz=288
D27M **Malcolm River** 103.39 19 P Pdif 00 21 54.9 -0.4
baz=293
KLU **Klutina** 104.08 27 P Pdif 00 21 58.3 -0.3
baz=287
G27K **Doyon Strip** 104.08 22 P Pdif 00 21 58.7 +0.3
baz=292
E28M **Babbage River** 104.12 20 P Pdif 00 21 59.6 +1.0
baz=294
J26L **Joseph Creek** 104.17 24 P Pdif 00 21 59.6 +0.7
baz=290
SCRK **Sand Creek** 104.17 25 P Pdif 00 21 59.6 +0.6
baz=289
TBI **Tubuai** 104.29 115 *e*LR LR 00 56 21.0
comp=Z,629nm,32.8s
H27K **Steamboat Moun** 104.35 22 P Pdif 00 21 59.9 +0.3
baz=292
F28M **Old Crow** 104.41 21 P Pdif 00 22 00.0 +0.2
baz=294
G29M **Pine Creek** 105.36 21 P PKiKP 00 26 17.6 0.0
baz=296
H29M **Whitestone** 105.53 22 P PKiKP 00 26 18.2 +0.3
baz=295
F30M **Barrier River** 105.82 20 P PKiKP 00 26 18.7 +0.3
baz=298
G30M **tAoh Zraii Nji** 105.96 21 P PKiKP 00 26 18.8 +0.1
baz=297
EPYK **Eagle Plains** 106.06 21 P PKiKP 00 26 18.9 0.0
baz=297
INK **Inuvik** 106.23 19 P PKiKP 00 26 19.4 +0.4
baz=300
F31M **Tsiigehtchic** 106.59 20 P PKiKP 00 26 20.1 +0.3
baz=300
G31M **Satah River** 106.67 20 P PKiKP 00 26 20.8 +0.9
baz=299
K29M **Barlow Dome** 106.86 24 P PKiKP 00 26 21.3 +0.8
baz=295
J30M **Hart River** 107.01 23 P PKiKP 00 26 21.6 +0.7
baz=297
M29M **Somme Creek** 107.06 25 P PKiKP 00 26 21.5 +0.6
baz=294
YUK4 **Talbot Arm** 107.42 26 P PKiKP 00 26 22.2 +0.4
baz=294
YUK6 **Outpost Mounta** 107.70 27 P PKiKP 00 26 22.5 +0.2
baz=294
PNL **Peninsula** 107.73 28 P PKiKP 00 26 22.6 +0.4
baz=292
N30M **Aishikik Lake** 108.06 26 P PKiKP 00 26 23.1 +0.3
baz=295
HYT **Haines Junctio** 108.14 27 P PKiKP 00 26 23.3 +0.3
baz=294
R32K **Eaglecrest** 110.60 28 P PKiKP 00 26 28.2 +0.6
baz=296
SIT **Sitka** 110.74 30 P PKiKP 00 26 28.5 +0.7
baz=295
S32K **Killisnoo** 110.93 29 P PKiKP 00 26 28.9 +0.8
baz=296
WRGLY **Wrigley** 112.53 21 P PKiKP 00 26 31.5 +0.5
baz=309
CRAG **Craig** 112.54 31 P PKiKP 00 26 31.6 +0.3
baz=297
T35M **Bob Quinn** 113.24 28 P PKiKP 00 26 33.4 +0.7
baz=300
V35K **Ketchikan** 113.37 30 P PKiKP 00 26 33.8 +0.9
baz=298
TOAD **Toad River Com** 114.48 25 P PKPdf 00 26 35.3 +0.3
baz=306
YKA **Yellowknife Ar** 115.99 18 PKP PKiKP 00 26 36.6 -1.1
comp=Z,1.9nm,0.8s,baz=327,slow=2.6,SNR=23
YKA PP PP 00 27 42.7 +0.4
comp=Z,0.3nm,0.8s,baz=333,slow=6.5,SNR=4.1
F04A **Amboy** 123.15 36 PKPdf 00 26 52.1 +0.1
EDM **Edmonton** 123.20 25 PKPdf PKPdf 00 26 51.6 -0.3
EDM **Edmonton** 123.20 25 PKiKP PKiKP 00 26 51.6 -0.3
H04D **Lebanon** 123.70 38 PKiKP PKiKP 00 26 53.8 +0.4
FCC **Fort Churchill** 124.42 11 PKPdf PKPdf 00 26 53.4 -0.6
FCC **Fort Churchill** 124.42 11 PKiKP PKiKP 00 26 53.4 -0.6
HUMO **Hull Mountain** 124.53 40 PKPdf PKiKP 00 26 55.8 +0.7
HAWA **Hanford** 124.56 35 PKPdf PKPdf 00 26 54.6 -0.1
NEW **Newport** 124.74 31 P PKiKP 00 26 55.4 0.0
baz=309
FFC **Flin Flon** 126.15 18 PKPdf PKPdf 00 26 57.4 -0.1
FFC **Flin Flon** 126.15 18 PKiKP PKPdf 00 26 57.4 -0.1
PLID **Pearl Lake** 127.33 34 PKPdf PKPdf 00 27 00.3 0.0
OVMT **Ovando** 127.64 30 PKPdf 00 26 59.9 -0.9
AFDM **Forest Hills D** 127.65 43 PKPdf PKPdf 00 27 01.1 +0.2
BPMT **Black Pine Rid** 127.83 31 PKPdf PKPdf 00 27 01.2 -0.1
EGMT **Eagleton** 128.53 28 PKPdf PKPdf 00 27 01.8 -0.6
EGMT **Eagleton** 128.53 28 P PKiKP 00 27 02.9 -0.2
baz=317,SNR=6.7
HLID **Hailey** 129.17 35 P PKiKP 00 27 04.4 -0.2
baz=309
SCHQ **Schefferville** 129.25 352 PKP PKPdf 00 27 01.9 -1.5
comp=Z,5.8nm,0.7s,baz=1.2,slow=2.8,SNR=9.3
BOZ **Bozeman (W)** 129.33 31 PKPdf 00 27 03.9 -0.2
BOZ **Bozeman (W)** 129.33 31 P PKiKP 00 27 04.9 +0.1
baz=313
BOZ **Bozeman (W)** 129.33 31 PKiKP PKPdf 00 27 03.9 -0.2
NVAR **Mina Array Bea** 129.71 42 PKPdf 00 27 04.8 -0.3
NVAR **Mina Array Bea** 129.71 42 PKP PKPdf 00 27 03.8 -1.4
comp=Z,3.0nm,0.7s,baz=311,slow=2.2,SNR=15
ELK **Elko** 130.39 38 PKPdf PKiKP 00 27 07.3 +0.1
ELK **Elko** 130.39 38 PKiKP PKiKP 00 27 07.3 +0.1
PKM **Mcpherson Peak** 130.40 47 P PKiKP 00 27 07.1 -0.2
baz=298
DGMT **Dagmar** 130.58 23 P PKiKP 00 27 07.3 +0.3
baz=324
RLMT **Red Lodge** 130.86 30 P PKiKP 00 27 07.7 -0.3
baz=316
CWC **Cottonwood Cre** 130.88 44 P PKiKP 00 27 08.2 -0.1
baz=300
SCZ2 **Santa Cruz Isl** 130.93 48 P PKiKP 00 27 08.3 +0.1
baz=297
ISA **Isabella, Lake** 130.99 45 P PKiKP 00 27 08.2 -0.1
baz=300
ARVC **Arvin** 131.00 46 P PKPdf 00 27 07.9 +0.5
baz=299
LAO **LASA Array** 131.13 26 P PKiKP 00 27 08.5 +0.2
baz=320,SNR=5.3
HVU **Hansel Valley** 131.23 35 PKPdf PKPdf 00 27 07.9 +0.1
HVU **Hansel Valley** 131.23 35 PKiKP PKPdf 00 27 07.9 +0.1
MPMC **Manual Prospec** 131.49 44 P PKiKP 00 27 09.3 -0.2
baz=301,SNR=6.8
R11B **Troy Canyon, C** 131.55 41 P PKiKP 00 27 09.5 0.0
baz=304
EDW2 **Edwards Air Fo** 131.72 46 P PKiKP 00 27 09.8 0.0
baz=299
ULM **Lac du Bonnet** 131.86 16 PKPdf PKPdf 00 27 07.8 -0.7
ULM **Lac du Bonnet** 131.86 16 PKiKP PKPdf 00 27 07.8 -0.7
ULM **Lac du Bonnet** 131.86 16 PKP PKPdf 00 27 07.9 -0.6
comp=Z,9.5nm,0.7s,baz=353,slow=3.2,SNR=20
BFSC **Mount Baldy Ra** 132.27 47 P PKiKP 00 27 10.8 -0.2
baz=299
GSC **Goldstone, Bar** 132.35 45 P PKiKP 00 27 11.1 -0.1
baz=301,SNR=6.8
BW06 **Boulder Array** 132.36 32 P PKPdf 00 27 10.5 +0.5
baz=314
PDAR **Pinedale Array** 132.36 32 PKhKP PKPpre 00 26 58.4
comp=Z,0.5nm,0.8s,baz=46,slow=6.4,SNR=3.5
PDAR PKP PKPdf 00 27 09.1 -0.9
comp=Z,1.8nm,0.7s,baz=203,slow=1.7,SNR=10
MDND **Maddock** 132.81 21 P PKiKP 00 27 11.3 -0.3
baz=329
TUQ **Turquoise Moun** 132.90 44 P PKiKP 00 27 11.8 -0.5
baz=302
HEC **Hector,Ludlow** 132.92 45 P PKiKP 00 27 11.9 -0.3
baz=301
GMRC **Granite Mounta** 133.42 45 P PKiKP 00 27 13.2 -0.1
baz=302,SNR=12
PFO **Pinyon Flats O** 133.44 47 P PKPdf 00 27 12.8 +0.6
baz=300
TPFO **Pinon Flats** 133.45 47 P PKPdf 00 27 12.9 +0.7
baz=300
BELC **Belle Mtn. Jos** 133.58 46 P PKiKP 00 27 13.5 -0.2
baz=300,SNR=5.9
MONP2 **Monument Peak** 133.82 48 P PKPdf 00 27 13.5 +0.5
baz=299
K22A **Casper** 134.01 30 P PKPdf 00 27 13.8 +0.7
baz=317
RSSD **Black Hills** 134.09 27 PKPdf PKPdf 00 27 13.0 -0.2
RSSD **Black Hills** 134.09 27 P PKiKP 00 27 14.1 -0.4
baz=321
RSSD **Black Hills** 134.09 27 PKiKP PKPdf 00 27 13.0 -0.2
IRM **Iron Mountain** 134.11 45 P PKiKP 00 27 14.9 +0.2
baz=301
BC3 **Big Chuckawall** 134.15 46 P PKiKP 00 27 14.9 +0.1
baz=301
IKP **In-Ko-Pah, Jac** 134.17 48 P PKiKP 00 27 14.8 -0.1
baz=299
SWSC **Sam W. Stewart** 134.25 47 P PKiKP 00 27 14.5 -0.4
baz=300
PDMCI **Parker Dam,Lak** 134.74 45 P PKiKP 00 27 15.8 0.0
baz=303
O20A **White River Ci** 134.89 34 P PKiKP 00 27 15.8 -0.5
baz=314
GLA **Glamis** 134.91 46 P PKiKP 00 27 16.2 -0.1
baz=301
EYMN **Ely** 135.11 14 P PKiKP 00 27 16.2 0.0
baz=340
N23A **Red Feather La** 135.59 31 P PKiKP 00 27 17.2 -0.6
baz=317
WUAZ **Wupatki** 135.94 41 P PKiKP 00 27 18.4 0.0
baz=306
SUSD **Miller** 135.95 23 P PKiKP 00 27 17.9 -0.2
baz=328
F36A **Milaca** 136.51 17 P PKPdf 00 27 17.3 -0.1
baz=336
ISCO **Idaho Springs** 136.56 32 P PKiKP 00 27 19.5 -0.3
baz=316
MVCO **Mesa Verde** 136.70 37 P PKiKP 00 27 19.5 -0.6
baz=311
SPMN **Marine on St.** 137.30 16 P PKiKP 00 27 20.4 -0.3
baz=337
ECSD **EROS Data Cent** 137.42 21 PKPdf PKPdf 00 27 19.6 +0.5
E46A **Sault Ste Mari** 137.95 7 PKPdf PKPdf 00 27 19.5 -0.5
SDCO **Great Sand Dun** 138.08 34 P PKiKP 00 27 22.3 -0.6
baz=315
TUC **Tucson** 138.18 45 P PKiKP 00 27 22.5 -0.6
baz=304
I37B **Waseca** 138.23 18 P PKPdf 00 27 20.5 -0.1
baz=335
BGNE **Belgrade** 138.82 24 PKPdf PKPdf 00 27 20.9 -0.9
BGNE **Belgrade** 138.82 24 P PKPdf 00 27 21.5 -0.3
baz=327
T25A **Trinidad** 139.12 34 P PKiKP 00 27 24.3 -0.7
baz=316
ANMO **Albuquerque** 139.43 38 PKPdf PKPdf 00 27 22.4 -0.9
ANMO **Albuquerque** 139.43 38 P PKiKP 00 27 25.1 -0.6
baz=312
ANMO **Albuquerque** 139.43 38 ⇧*i*PKiKP PKPdf 00 27 23.3 0.0
ANMO pmax pmax
comp=Z,10.0nm,2.5s
LONY **Lake Ozonia** 140.10 357 P PKiKP 00 27 26.4 -0.1
baz=4.1
121A **Cookes Peak, D** 140.11 42 P PKiKP 00 27 26.7 -0.4
baz=308
JFWS **Jewell Farm** 140.13 15 P PKiKP 00 27 26.3 -0.3
baz=340
SCIA **State Center** 140.19 19 P PKiKP 00 27 26.7 0.0
baz=335
KSU1 **Kansas State U** 141.40 25 P PKiKP 00 27 28.7 -0.6
baz=328
MNTX **Cornudas Mount** 142.22 41 P PKPdf 00 27 28.1 -0.1
baz=310
AMTX **Amarillo** 142.28 34 P PKiKP 00 27 30.5 -0.8
baz=318
MSTX **Muleshoe** 142.32 36 P PKiKP 00 27 31.5 0.0
baz=315
BINY **Binghamton** 142.57 359 P PKPdf 00 27 29.8 +1.3
baz=2.0
ERPA **Erie** 142.58 3 P PKiKP 00 27 30.3 -1.3
baz=356

M53A	WI Miller and baz=354	143.20	4	P		PKiKP	00 27 31.7	-1.3
T35B	Sooner Cattle baz=327,SNR=8.4	143.28	26	P		PKPab	00 27 26.3	+0.5
SFIN	Lafayette baz=343	143.29	13	P		PKiKP	00 27 32.3	-0.8
PAL	Palisades baz=5.6	143.66	356	P		PKiKP	00 27 32.7	-1.2
POST	Post	143.70	36			PKPab	00 27 28.1	+0.4
TRCB	Terra Rica	143.72	220		PKPdf	PKPbc	00 27 29.8	+1.0
CPUP	Villa Florida	143.74	211			PKPbc	00 27 29.4	+0.7
CPUP	Villa Florida	143.74	211		PKIKP	PKPbc	00 27 29.4	+0.7
CPUP	Villa Florida comp=Z,5.5nm,0.7s,baz=168,slow=2.2,SNR=13	143.74	211		PKP	PKPdf	00 27 29.9	-1.1
R40A	Maddies Statio baz=334,SNR=21	143.76	20	P		PKPab	00 27 27.4	-0.3
O48B	Farmland	143.79	10			PKPab	00 27 27.8	+0.1
OK033	Mehan	143.80	28			PKPab	00 27 28.0	+0.1
S39A	Bolivar baz=332,SNR=21	143.91	22	P		PKPab	00 27 28.3	0.0
WMOK	Wichita Mounta	143.94	31			PKPab	00 27 28.6	+0.1
WMOK	Wichita Mounta baz=322,SNR=40	143.94	31	P		PKPab	00 27 28.6	+0.1
WMOK	Wichita Mounta	143.94	31	PKIKP		PKPab	00 27 28.6	+0.1
O49A	Covington baz=348	144.00	9	P		PKPbc	00 27 29.3	+0.2
O49A	baz=348			P		PKPbc	00 27 29.3	+0.2
MNHN	Monahans	144.14	39			PKPbc	00 27 30.0	+0.2
ACSO	Alum Creek Sta	144.16	8			PKPab	00 27 28.8	-0.2
ACSO	Alum Creek Sta baz=350	144.16	8	P		PKPab	00 27 29.2	+0.1
UPAO	U. Pittsburgh baz=355	144.20	4	P		PKPbc	00 27 29.7	0.0
APMT	Aspermont	144.30	34			PKPbc	00 27 30.2	0.0
CCM	Cathedral Cave	144.32	19	PKPdf		PKPab	00 27 29.5	-0.2
CCM	Cathedral Cave baz=336,SNR=16	144.32	19	P		PKPab	00 27 29.3	-0.5
CCM	Cathedral Cave	144.32	19	PKIKP		PKPab	00 27 29.5	-0.2
O52A	Adamsville baz=352,SNR=6.5	144.41	6	P		PKPab	00 27 29.7	-0.3
O52A	baz=352,SNR=6.5			P		PKPab	00 27 29.7	-0.3
TUL3	Leonard baz=327,SNR=26	144.43	27	P		PKPab	00 27 30.2	0.0
O54A	Avella baz=355	144.47	4	P		PKPab	00 27 30.2	-0.1
O54A	baz=355			P		PKPab	00 27 30.2	-0.1
PABK	Blue Knob Stat baz=358	144.49	2	P		PKPab	00 27 30.0	-0.3
P48A	Milroy baz=346,SNR=6.7	144.51	11	P		PKPab	00 27 30.0	-0.4
P48A	baz=346,SNR=6.7			P		PKPab	00 27 30.0	-0.4
P49A	Miami Univ. Ec	144.57	10			PKPab	00 27 30.1	-0.5
P49A	Miami Univ. Ec baz=347,SNR=12	144.57	10	P		PKPab	00 27 30.1	-0.5
U38A	Gravette	144.59	24	PKPdf		PKPab	00 27 30.2	-0.6
U38A	Gravette baz=330,SNR=66	144.59	24	P		PKPab	00 27 30.4	-0.5
OLIL	Olney baz=341,SNR=12	144.61	15	P		PKPab	00 27 29.6	-1.2
FVM	French Village	144.65	18			PKPab	00 27 30.3	-0.6
FVM	French Village baz=337,SNR=11	144.65	18	P		PKPab	00 27 30.4	-0.6
FVM	French Village	144.65	18	PKIKP		PKPab	00 27 30.3	-0.6
MVL	Millersville	144.77	359			PKPab	00 27 31.4	+0.1
MGMO	Mountain Grove	144.78	21			PKPab	00 27 30.6	-0.9
BDFB	Brasilia comp=Z,23nm,0.5s,baz=120,slow=3.3,SNR=50	144.83	235		PKP	PKPdf	00 27 33.8	+0.5
P52A	Corning	144.85	7			PKPab	00 27 30.6	-1.1
P52A	Corning baz=352,SNR=16	144.85	7	P		PKPab	00 27 30.8	-0.9
TX31	Lajitas Ar. Si	144.86	43	PKPdf		PKPdf	00 27 32.9	-0.1
TXAR	Lajitas Array	144.86	43	PKPdf		PKPdf	00 27 33.0	0.0
TXAR	Lajitas Array comp=Z,40nm,0.7s,baz=285,slow=1.4,SNR=443	144.86	43	PKP		PKPdf	00 27 32.9	-0.2
HPIG		144.88	48	PKPdf		PKPab	00 27 30.8	-1.6
P51A	Williamsport baz=350,SNR=14	144.88	8	P		PKPab	00 27 30.9	-0.8
P51A	baz=350,SNR=14			P		PKPab	00 27 30.9	-0.8
GEDE	Greenville baz=2.8,SNR=5.2	144.94	358	P		PKPab	00 27 31.5	-0.4
MCWV	Mont Chateau	145.03	4			PKPbc	00 27 31.3	-1.0
MCWV	Mont Chateau baz=356,SNR=12	145.03	4	P		PKPbc	00 27 31.8	-0.5
MCWV	Mont Chateau baz=356,SNR=12	145.03	4	P		PKPbc	00 27 31.9	-0.5
P53A	Whipple baz=353,SNR=17	145.08	6	P		PKPbc	00 27 31.7	-0.7
P53A	baz=353,SNR=17			P		PKPbc	00 27 31.7	-0.7
ABTX	Abilene, Hawle	145.09	34			PKPbc	00 27 32.6	-0.2
ABTX	Abilene, Hawle baz=318	145.09	34	P		PKPbc	00 27 32.7	-0.1
ABTX	Abilene, Hawle baz=318,SNR=25	145.09	34	P		PKPbc	00 27 32.2	-0.6
U40A	Yellville baz=332,SNR=111	145.27	23	P		PKPbc	00 27 32.6	-0.6
U40A	baz=332,SNR=111			P		PKPbc	00 27 32.6	-0.6
S44A	Carbondale baz=339,SNR=40	145.27	17	P		PKPbc	00 27 32.7	-0.4
P57A	Homestead Farm baz=359,SNR=11	145.28	1	P		PKPbc	00 27 32.4	-0.8
P57A	baz=359,SNR=11			P		PKPbc	00 27 32.4	-0.8
Q51A	Peebles baz=349,SNR=23	145.29	8	P		PKPbc	00 27 32.5	-0.7
Q51A	baz=349,SNR=23			P		PKPbc	00 27 32.5	-0.7
SDMD	Soldier's Deli	145.37	360			PKPbc	00 27 32.3	-1.1
SDMD	Soldier's Deli baz=0.7,SNR=8.5	145.37	360	P		PKPbc	00 27 32.9	-0.4
Q52A	Bidwell baz=351,SNR=22	145.50	7	P		PKPdf	00 27 33.1	-0.6
Q52A	baz=351,SNR=22			P		PKPdf	00 27 33.1	-0.6
WCI	Wyandotte Cave	145.52	13	PKPdf		PKPdf	00 27 33.4	-0.4
WCI	Wyandotte Cave baz=344	145.52	13	P		PKPdf	00 27 33.7	-0.2
WCI	Wyandotte Cave baz=344,SNR=59	145.52	13	P		PKPdf	00 27 33.6	-0.2
WCI	Wyandotte Cave	145.52	13	PKIKP		PKPdf	00 27 33.4	-0.4
Q54A	Coxs Mills baz=354,SNR=20	145.63	5	P		PKPdf	00 27 33.7	-0.2
Q54A	baz=354,SNR=20			P		PKPdf	00 27 33.7	-0.2
R49A	Shelbyville baz=346,SNR=22	145.69	11	P		PKPdf	00 27 33.8	-0.2
R49A	baz=346,SNR=22			P		PKPdf	00 27 33.8	-0.2
X37A	Clayton baz=327,SNR=12	145.72	27	P		PKPdf	00 27 34.2	0.0
PBMO	Poplar Bluff baz=336,SNR=63	145.75	19	P		PKPdf	00 27 34.1	-0.1
Z35A	Perchaven, San baz=323,SNR=29	145.83	31	P		PKPdf	00 27 34.2	-0.2
R50A	Paris baz=347,SNR=12	145.86	10	P		PKPdf	00 27 34.2	-0.2
R50A	baz=347,SNR=12			P		PKPdf	00 27 34.2	-0.2
FCAR	Ozark Folk Cen	145.95	22			PKPdf	00 27 34.2	-0.4
LCAR	Lake Charles	146.15	21			PKPdf	00 27 34.8	-0.1
LCAR	Lake Charles baz=335	146.15	21	P		PKPdf	00 27 35.3	+0.4
T47A	Sharon Grove baz=342,SNR=8.1	146.51	15	P		PKPdf	00 27 35.7	+0.2
MIAR	Mount Ida	146.55	25			PKPbc	00 27 36.6	-0.6
MIAR	Mount Ida baz=330,SNR=44	146.55	25	P		PKPbc	00 27 36.8	-0.3
MIAR	Mount Ida	146.55	25	PKP2		PKPbc	00 27 36.6	-0.6
JCT	Junction City	146.56	37			PKPdf	00 27 36.7	+0.8
JCT	Junction City baz=316	146.56	37	P		PKPbc	00 27 37.7	+0.3
JCT	Junction City baz=316	146.56	37	P		PKPdf	00 27 36.4	+0.5
JCT	Junction City	146.56	37	PKP2		PKPdf	00 27 36.7	+0.8
CBN	Corbin Frederi baz=360	146.57	0	P		PKPbc	00 27 36.6	-0.5
S51A	Beattyville baz=348,SNR=17	146.61	9	P		PKPbc	00 27 36.6	-0.6
S51A	baz=348,SNR=17			P		PKPbc	00 27 36.6	-0.6
WHTX	Lake Whitney, baz=321	146.77	33	P		PKPbc	00 27 38.0	+0.1
R58B	Mineral baz=359,SNR=6.4	146.80	1	P		PKPdf	00 27 36.4	+0.4
R58B	baz=359,SNR=6.4			P		PKPdf	00 27 36.4	+0.4
S57A	Dark Hollow, R baz=357	146.97	3	P		PKPdf	00 27 36.7	+0.5
S57A	baz=357			P		PKPdf	00 27 36.7	+0.5
T50A	Nancy baz=346	146.99	11	P		PKPdf	00 27 35.9	-0.4
T50A	baz=346			P		PKPdf	00 27 35.9	-0.4
WVT	Waverly	147.13	16	PKPdf		PKPdf	00 27 36.6	0.0
WVT	Waverly baz=340	147.13	16	P		PKPbc	00 27 38.3	-0.5
WVT	Waverly baz=340,SNR=32	147.13	16	P		PKPdf	00 27 36.4	-0.1
WVT	Waverly	147.13	16	PKIKP		PKPdf	00 27 36.6	0.0
U49A	Red Boiling Sp baz=344	147.28	13	P		PKPdf	00 27 36.0	-0.8
AQDB	Aquidauana	147.36	219			PKPbc	00 27 39.7	-0.2
BLA	Blacksburg baz=354	147.42	5	P		PKPbc	00 27 39.4	-0.2
WLAR	White Oak Lake	147.48	25			PKPdf	00 27 38.3	+1.1
CLTN	Cedars of Leba	147.56	14			PKPdf	00 27 37.7	+0.4
237A	Washetta, Mont	147.62	31			PKPbc	00 27 39.8	-0.5
435B	Jarrell	147.63	34	PKPdf		PKPdf	00 27 36.7	-0.9
435B	Jarrell baz=320	147.63	34	P		PKPbc	00 27 40.5	+0.2
TZTN	Tazewell baz=348	147.69	10	P		PKPbc	00 27 39.9	-0.4
V48A	Smith Brothers baz=342,SNR=12	147.77	15	P		PKPdf	00 27 37.2	-0.4
T59A	Double "B" Far baz=359,SNR=7.7	147.80	1	P		PKPdf	00 27 38.6	+1.0
T59A	baz=359,SNR=7.7			P		PKPdf	00 27 38.6	+1.0
OXF	Oxford baz=337	148.15	19	P		PKPbc	00 27 41.2	-0.4
OXF	Oxford baz=337	148.15	19	P		PKPbc	00 27 40.8	-0.7
833A	Chaparral WMA,	148.33	39			PKPbc	00 27 40.9	-1.4
833A	Chaparral WMA, baz=314	148.33	39	P		PKPbc	00 27 42.9	+0.6
V52A	Sevierville baz=348,SNR=6.3	148.36	10	P		PKPdf	00 27 38.4	-0.2
NATX	Nacogdoches baz=325	148.39	29	P		PKPbc	00 27 43.1	+0.8
TKL	Tuckaleechee C baz=348	148.51	10	P		PKPdf	00 27 38.0	-0.9
CPCT	Cooper Cave	148.57	12	PKPdf		PKPdf	00 27 38.3	-0.7
W50A	Signal Mountai baz=344	148.65	13	P		PKPdf	00 27 38.0	-1.1
V53A	Saluda baz=349,SNR=7.6	148.66	9	P		PKPdf	00 27 38.3	-0.9
V53A	baz=349,SNR=7.6			P		PKPdf	00 27 38.3	-0.9
X48A	Hartselle baz=341,SNR=14	148.93	16	P		PKPbc	00 27 42.7	-0.9
W52A	Murphy baz=347,SNR=6.7	149.03	11	P		PKPbc	00 27 43.3	-0.6
CASEE	Lake Jocassee baz=349,SNR=8.8	149.30	9	P		PKPdf	00 27 41.1	+1.0
X51A	Calhoun baz=345	149.35	13	P		PKPdf	00 27 41.1	+0.9
X51A	baz=345			P		PKPdf	00 27 41.1	+0.9
KMSC	Kings Mountain baz=352	149.38	7	P		PKPbc	00 27 44.3	-0.4
KMSC	Kings Mountain baz=352,SNR=5.9	149.38	7	P		PKPbc	00 27 44.2	-0.4
W57A	Gilead baz=355	149.50	5	P		PKPbc	00 27 44.7	-0.3
W57A	baz=355			P		PKPbc	00 27 44.7	-0.3
CNNC	Cliffs of the baz=359	149.52	1	P		PKPbc	00 27 45.5	+0.4
CNNC	Cliffs of the baz=359	149.52	1	P		PKPbc	00 27 45.4	+0.4
PAULI	Pauline baz=351,SNR=6.2	149.64	8	P		PKPbc	00 27 44.7	-0.6
Y49A	Blount Mountai baz=342,SNR=13	149.66	15	P		PKPbc	00 27 44.7	-0.7
Z47A	Carrollton baz=338,SNR=8.6	149.79	18	P		PKPbc	00 27 45.3	-0.4
VBMS	Vicksburg baz=333	149.82	23	P		PKPbc	00 27 46.1	+0.3
BIRD	Birdtown, Kers baz=354	149.97	5	P		PKPbc	00 27 45.4	-0.8
146A	Union baz=336,SNR=8.2	149.98	20	P		PKPbc	00 27 46.1	-0.1
HODGE	Hodges baz=350	150.15	9	P		PKPbc	00 27 45.9	-0.7
Y52A	Lilburn baz=346,SNR=9.9	150.20	12	P		PKPbc	00 27 46.8	0.0
Y52A	baz=346,SNR=9.9			P		PKPbc	00 27 46.8	0.0
LRAL	Lakeview Retre	150.27	17			PKPbc	00 27 46.1	-0.9
LRAL	Lakeview Retre baz=340	150.27	17	P		PKPbc	00 27 47.1	+0.1
LRAL	Lakeview Retre baz=340	150.27	17	P		PKPbc	00 27 46.0	-0.9
Y57A	Sumter baz=354	150.59	5	P		PKPbc	00 27 47.6	-0.1
Y57A	baz=354			P		PKPbc	00 27 47.6	-0.1
GOGA	Godfrey baz=347	150.75	11	P		PKiKP	00 27 48.5	-0.2
152A	Waverly Hall baz=344	151.21	13	P		PKPbc	00 27 48.9	-0.3
250A	Grady baz=341	151.47	16	P		PKPbc	00 27 49.0	-0.8
TIGA	Tifton baz=346	152.64	12	P		PKPbc	00 27 52.0	-0.4
BBSD	Serra de San D	152.87	217	*eP*		PKPdf	00 27 48.2	+2.1
LPAZ	La Paz comp=Z,1.9nm,0.6s,baz=158,slow=4.8,SNR=5.9	157.40	203	PKPab		PKPab	00 28 24.1	-0.3

NOU ***22*** *00:08:07.6, 39.˙02S×174.˚78E, h70km, MLv3.6/7, North Island, New Zealand*
WEL ***22*** *00:08:07.7±0.2, 39˚S±2˚×17˚5E±˚, h17km±2km, M3.4/37, ML3.7/36, MLv3.4/37, Error ellipse: s-maj=0.0km s-min=0.0km az=170.2*

ISC 22 00:08:08.5±0.9, 39˚22S±0˙02×174˚99E±0˙02, h25km±7km, n115, σ0.64/132, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VRZ	Vera Road	0.20	298	P	Pb		00 08 14.3	+0.1
VRZ				S	Sb		00 08 19.3	+1.3
PKVZ	Pokaka	0.28	104	P	Pb		00 08 14.9	-0.4
PKVZ				S	Sb		00 08 20.0	+0.1
TWVZ	Taurewa	0.38	67	P	Pb		00 08 16.3	-0.4
MTVZ	Mangateitei	0.41	114	P	Pb		00 08 16.6	-0.6
COVZ	Chateau Observ	0.43	87	P	Pb		00 08 17.2	-0.4
FWVZ	Far West T-bar	0.44	94	P	Pb		00 08 17.3	-0.5
TRVZ	Turoa	0.44	100	P	Pb		00 08 17.3	-0.5
MAVZ	Matarangi	0.45	96	P	Pb		00 08 17.5	-0.5
WHVZ	Whangaehu Hut	0.47	98	P	Pb		00 08 17.7	-0.6
NGZ	Ngauruhoe	0.48	85	P	Pb		00 08 18.0	-0.4
WTVZ	West Tongariro	0.48	77	P	Pb		00 08 18.0	-0.4
WNVZ	Wahianoa	0.48	103	P	Pb		00 08 18.0	-0.5
WNVZ				S	Sb		00 08 24.9	-0.4
NNVZ	North Ngauruho	0.49	80	P	Pb		00 08 18.3	-0.4
SNVZ	South Ngauruho	0.51	86	P	Pb		00 08 18.6	-0.3
LREZ	Lake Rotokare	0.51	242	P	Pb		00 08 18.6	-0.3
LREZ				S	Sb		00 08 27.1	+1.1
TUVZ	Tukino	0.52	95	P	Pb		00 08 18.8	-0.2
KRVZ	Karewarewa	0.52	76	P	Pb		00 08 18.7	-0.4
KRVZ				S	Sb		00 08 26.2	-0.2
OTVZ	Oturere	0.53	84	P	Pb		00 08 19.0	-0.3
OTVZ				S	Sb		00 08 26.7	+0.1
WAZ	Wanganui	0.53	180	P	Pb		00 08 18.6	-0.7
NTVZ	North Tongarir	0.55	77	P	Pb		00 08 19.2	-0.4
NTVZ				S	Sb		00 08 26.8	-0.3
TMVZ	Te Maari	0.56	79	P	Pb		00 08 19.5	-0.3
ETVZ	East Tongariro	0.57	81	P	Pb		00 08 19.6	-0.3
KATZ	Kakaramea	0.60	66	P	Pb		00 08 20.1	-0.3
KATZ				S	Sb		00 08 28.6	0.0
DREZ	Durham Road	0.61	273	P	Pb		00 08 20.5	-0.1
MOVZ	Moawhango	0.62	108	P	Pb		00 08 20.1	-0.7
MOVZ				S	Sb		00 08 28.1	-1.0
PREZ	Palmer Road	0.66	259	P	Pb		00 08 21.3	-0.1
PREZ				S	Sn		00 08 32.1	+0.2
NEZ	North Egmont	0.70	266	P	Pb		00 08 21.7	-0.3
NEZ				S	Sn		00 08 32.8	-0.1
RATZ	Rangitukua	0.70	60	P	Pb		00 08 21.9	-0.3
HIZ	Hauiti	0.72	352	P	Pb		00 08 22.3	0.0
HIZ	Hauiti	0.72	352	P	Pb		00 08 22.2	-0.1
HIZ				S	Sn		00 08 33.0	-0.2
RITZ	Rihia Road	0.72	70	P	Pb		00 08 22.4	0.0
KHEZ	Kahui Hut	0.76	264	P	Pb		00 08 23.0	-0.1
KHEZ	Kahui Hut	0.76	264	P	Pb		00 08 22.9	-0.1
WATZ	Wairara	0.77	49	P	Pb		00 08 22.9	-0.4
WATZ				S	Sb		00 08 33.5	0.0
PKE	Pukeiti	0.78	272	P	Pb		00 08 23.1	-0.3
BHHZ	Black Hill Sta	0.87	108	P	Pn		00 08 23.8	-1.5
BHHZ				S	Sb		00 08 35.0	-1.4
NBEZ	Newall Road No	0.87	267	P	Pn		00 08 24.6	-0.6
NMEZ	Namu Road	0.88	257	P	Pn		00 08 24.7	-0.6
NMEZ				S	Sn		00 08 37.8	+0.4
KUTZ	Kaahu Road	0.98	42	P	Pn		00 08 26.5	-0.2
KUTZ				S	Sn		00 08 39.6	-0.2
TLZ	Tolley Road	0.99	26	P	Pn		00 08 25.7	-1.2
OHWZ	Ohakea	1.01	166	P	Pn		00 08 26.5	-0.7
TSZ	Takapari Road	1.12	138	P	Pn		00 08 28.2	-0.4
KWHZ	Kaweka Forest	1.13	101	P	Pn		00 08 28.2	-0.6
KRHZ	Kereru	1.15	112	P	Pn		00 08 28.6	-0.4
WPRZ	Whakapapatarin	1.15	53	P	Pn		00 08 29.1	0.0
PNHZ	Pukenui	1.16	127	P	Pn		00 08 28.8	-0.4
BKZ	Black Stump Fm	1.17	88	P	Pb		00 08 30.0	0.0
BKZ	Black Stump Fm	1.17	88	P	Pn		00 08 29.2	-0.1
MRHZ	Matea Rd	1.18	71	P	Pn		00 08 29.3	-0.2
GRRZ	Galatos Road	1.23	45	P	Pn		00 08 30.4	+0.2
POWZ	Post Office Ro	1.31	153	P	Pn		00 08 31.8	+0.6
HSRZ	Hossack Road	1.34	48	P	Pb		00 08 33.2	+0.4
MCHZ	McNeill Hill	1.34	100	P	Pb		00 08 33.8	+0.9
WPHZ	Waipukurau	1.40	127	P	Pb		00 08 34.6	+0.7
UTU	Utuhina	1.41	42	P	Pb		00 08 34.0	0.0
DVHZ	Dannevirke	1.41	140	P	Pb		00 08 33.8	-0.3
NMHZ	Naumai	1.42	86	P	Pb		00 08 35.8	+1.5
NGRZ	Ngongotaha	1.46	40	P	Pb		00 08 35.3	+0.4
MTHZ	Maungataniwha	1.49	76	P	Pn		00 08 34.0	+0.3
MRZ	Mangatainoka R	1.51	163	P	Pn		00 08 34.1	+0.2
PRWZ	Pori Road	1.53	151	P	Pb		00 08 35.5	-0.7
TOZ	Tahuroa Road	1.54	15	P	Pn		00 08 33.5	-0.9
ARHZ	Aropaoanui	1.56	92	P	Pb		00 08 37.0	+0.4
KAHZ	Kahuranaki	1.57	112	P	Pb		00 08 37.3	+0.5
MUGZ	Murupara	1.58	62	P	Pb		00 08 37.8	+0.9
OGWZ	Otaki Gorge	1.60	175	P	Pn		00 08 35.2	0.0
KIW	Kapiti Island	1.64	182	P	Pn		00 08 35.2	-0.6
PRHZ	Porangahau	1.64	130	P	Pb		00 08 37.2	+0.9
PXZ	Pawanui	1.66	120	P	Pb		00 08 40.6	+2.3
RAHZ	Arahi	1.66	80	P	Pb		00 08 38.9	+0.6
RTZ	Ruatahuna	1.67	69	P	Pb		00 08 38.7	+0.2
TIWZ	Tintock	1.70	156	P	Pn		00 08 37.5	+0.9
HOWZ	Holdsworth Sta	1.72	167	P	Pn		00 08 37.5	+0.6
BFZ	Birch Farm	1.75	147	P	Pb		00 08 40.0	+0.1
BFZ	Birch Farm	1.75	147	P	Pb		00 08 39.9	+0.1
DUWZ	D'Urville Isla	1.78	207	P	Pn		00 08 37.3	-0.4
DUWZ				S	Sn		00 08 59.9	+0.4
CAW	Cannon Point	1.88	178	P	Pn		00 08 39.3	+0.2
CAW				S	Sb		00 09 05.2	-0.1
URZ	Urewera	1.92	61	P	Pb		00 08 42.3	-0.5
MTW	Mount Morrison	1.97	169	P	Pn		00 08 40.7	+0.4
TMWZ	Te Maipa	2.00	160	P	Pn		00 08 42.3	+1.5
RAGZ	Rawiri	2.03	70	P	Pn		00 08 42.4	+1.3
TCW	Tory Channel	2.06	195	P	Pn		00 08 41.0	-0.5
TCW				S	Sn		00 09 07.4	+1.0
WEL	Wellington	2.07	185	P	Pn		00 08 42.6	+1.0
SNZO	South Karori	2.10	186	P	Pn		00 08 42.7	+0.7
MKAZ	Moumakai	2.12	4	P	Pn		00 08 41.8	-0.6
MKAZ				S	Sn		00 09 06.7	-1.2
KBAZ	Karaka Road Bo	2.13	358	P	Pn		00 08 42.7	+0.3
AWAZ	Awhitu Peninsu	2.17	353	P	Pn		00 08 43.1	0.0
MWZ	Matawai	2.17	67	P	Pn		00 08 45.0	+1.9
PAWZ	Paruwai Farm	2.18	171	P	Pb		00 08 46.3	-1.0
BHW	Baring Head	2.19	182	P	Pb		00 08 46.5	-0.8
TRWZ	Traveller	2.24	166	P	Pb		00 08 49.4	+1.1
ETAZ	East Tamaki Re	2.27	359	P	Pn		00 08 44.5	+0.2
WTAZ	Waiatarua	2.31	352	P	Pn		00 08 45.5	+0.5
NNZ	Nelson	2.34	211	P	Pn		00 08 45.6	+0.2
TUWZ	Tuamarina	2.35	200	P	Pn		00 08 45.6	+0.1
PLWZ	Palliser	2.35	175	P	Pn		00 08 45.5	-0.1
TKNZ	Takaka Hill	2.39	220	P	Pn		00 08 45.7	-0.4
WIAZ	Waiheke Island	2.43	3	P	Pn		00 08 46.3	-0.3
MBAZ	Mototapu North	2.45	358	P	Pn		00 08 46.5	-0.4
RUGZ	Raukumara Rang	2.45	60	P	Pn		00 08 47.9	+0.9
QRZ	Quartz Range	2.48	229	P	Pn		00 08 46.1	-1.2
QRZ	Quartz Range	2.48	229	P	Pn		00 08 46.1	-1.2
ABAZ	Army Bay	2.62	357	P	Pn		00 08 49.4	+0.1
BSWZ	Blackbirch Sta	2.63	198	P	Pn		00 08 50.6	+1.2
MRNZ	Matariki Terra	2.76	217	P	Pn		00 08 51.1	-0.1
THZ	Tophouse	2.99	211	P	Pn		00 08 54.9	+0.4
WCZ	Waipu Caves	3.32	351	P	Pn		00 08 58.8	0.0
KHZ	Kahutara	3.38	199	P	Pn		00 08 59.8	+0.2
KHZ	Kahutara	3.38	199	P	Pn		00 08 59.8	+0.2
DSZ	Denniston Nort	3.50	223	P	Pn		00 09 00.6	-0.7
GVZ	Greta Valley S	4.02	201	P	Pn		00 09 08.1	-0.4
LTZ	Lake Taylor	4.11	209	P	Pn		00 09 09.1	-0.6
INZ	Inchbonnie	4.41	216	P	Pn		00 09 13.4	-0.4
FOZ	Fox Glacier	5.80	220	P	Pn		00 09 32.1	-0.8
TMZ	Timaru	5.95	209	P	Pn		00 09 33.8	-1.2

NEIC 22 00:09:11.2±1.1, 31˚27N±0˙05×103˚59W±0˙03, h5km±6km, mb_Lg2.6/20, ML2.5/44, Error ellipse: s-maj=7.7km s-min=3.2km az=188.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PECS	Pecos	0.26	292	Pg	Pg		00 09 16.8	+0.6
PECS				Sg	Sg		00 09 20.6	+1.0
PECS				IAML			00 09 22.9	
	761nm,0.6s							
MNHN	Monahans	0.71	84		Pg		00 09 24.8	-0.1
MNHN				Sg	Sg		00 09 34.8	+0.7
MNHN				IAML			00 09 42.1	
	141nm,0.5s							
ALPN	Alpine	0.90	183	Pg	Pg		00 09 27.9	-0.5
ODSA	Odessa	1.22	46		Pg		00 09 34.2	-0.5
ODSA				IAML			00 09 55.7	
	113nm,0.3s							
VHRN	Van Horn	1.29	248		Pg		00 09 35.2	-0.7
VHRN				IAML			00 09 59.6

NEIC ***22*** *00:27:44.5±0.8,38°.43N±0°.01×111°.66W±0°.02, h13km±11km, Error ellipse: s-maj=2.6km s-min=1.0km az=132.0*
ANF ***22*** *00:27:44.7±0.5,38°.49N×111°.48W, h0km, ML3.5/9, Error ellipse: s-maj=5.5km s-min=4.4km az=63.0*
UUSS ***22*** *00:27:44.6±0.8,38°.417N±0°.010×111°.66W±0°.01, h16km±7km, ML3.1/16, ML3.1/104(NEIC), Error ellipse: s-maj=2.0km s-min=0.7km az=48.0*

ISC 22 00:27:44.1±1.2,38°.41N±0°.02×111°.67W±0°.02,h2km±13km, n84,σ1§25/91,Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMU	**Miners Mountai**	**0.36**	**126**		**Pg**	**00 27 51.9**	**+0.7**
OWUT	**Old Woman Plat**	**0.41**	**27**		**Pg**	**00 27 52.9**	**+0.8**
MSU	**Marysvale**	**0.41**	**284**	Pg	**Pg**	**00 27 53.0**	**+0.9**
MVU	**Marysvale**	**0.44**	**282**		**Pg**	**00 27 53.5**	**+0.9**
MVU				Sg	**Sg**	**00 27 59.0**	**+0.6**
MTPU	**Mount Pierson**	**0.55**	**228**	Pg	**Pg**	**00 27 55.7**	**+1.0**
MTPU				IAML		00 28 04.0	
	comp=E,709nm,0.6s						
MTPU	**Mount Pierson**	**0.55**	**228**		**Sg**	**00 28 03.4**	**+1.5**
Q16A	**Castle Valley**	**0.64**	**37**		**Pg**	**00 27 56.8**	**+0.4**
Q16A					**Sg**	**00 28 05.2**	**+0.6**
Q16A	**Castle Valley**	**0.64**	**37**	IAML		00 28 05.3	
	comp=N,1µm,0.5s						
Q16A				IAML		00 28 05.4	
	comp=E,1µm,0.4s						
TCRU	**Three Creeks R**	**0.65**	**288**		**Pg**	**00 27 57.2**	**+0.7**
TCRU				Sg	**Sg**	**00 28 06.2**	**+1.3**
TCRU				IAML		00 28 07.1	
	comp=N,1µm,0.2s						
TCRU				IAML		00 28 08.9	
	comp=E,1µm,0.6s						
WCU	**Willow Creek**	**0.65**	**329**		**Pg**	**00 27 56.9**	**+0.4**
BTU	**Barney Top**	**0.68**	**194**		**Pg**	**00 27 58.0**	**+0.9**
SGU	**Sterling**	**0.77**	**1**		**Pg**	**00 27 59.3**	**+0.4**
HMU	**Henry Mountain**	**0.87**	**123**		**Pb**	**00 28 00.8**	**-1.3**
HMU				IAML		00 28 19.4	
	comp=E,735nm,0.7s						
HMU				IAML		00 28 21.4	
	comp=N,842nm,0.8s						
SNO	**Snow College**	**0.91**	**6**		**Pb**	**00 28 01.7**	**-1.0**
NMUT	**North Mineral**	**0.94**	**277**		**Pb**	**00 28 02.5**	**-0.7**
DBD	**Des Bee Dove**	**1.00**	**26**		**Pb**	**00 28 03.4**	**-1.0**
FLU	**Fool Peak**	**1.04**	**338**		**Pb**	**00 28 03.9**	**-1.2**
PKCU	**Pink Cliffs**	**1.09**	**208**	Pg	**Pb**	**00 28 05.5**	**-0.5**
PKCU				IAML		00 28 22.5	
	comp=N,560nm,0.3s						
PKCU				IAML		00 28 24.6	
	comp=E,881nm,0.2s						
DWU	**Dry Willow Pea**	**1.09**	**254**		**Pn**	**00 28 05.8**	**-0.9**
LEVU	**Levan**	**1.10**	**354**		**Pb**	**00 28 04.8**	**-1.2**
SRU	**San Rafael Swe**	**1.13**	**52**		**Pb**	**00 28 05.5**	**-1.0**
SRU				IAML		00 28 23.8	
	comp=E,366nm,0.4s						
SRU				IAML		00 28 24.1	
	comp=N,225nm,0.4s						
IMU	**Iron Mountain**	**1.19**	**281**		**Pb**	**00 28 07.2**	**-0.4**
ELU	**Electric Lake**	**1.28**	**16**		**Pn**	**00 28 08.0**	**-1.3**
P17A	**Butcher Ranch,**	**1.28**	**34**		**Pb**	**00 28 08.2**	**-0.9**
P17A	**Butcher Ranch,**	**1.28**	**34**	IAML		00 28 24.9	
	comp=E,318nm,0.4s						
P17A				IAML		00 28 25.2	
	comp=N,244nm,0.6s						
SZCU	**Shurtz Canyon**	**1.39**	**234**		**Pb**	**00 28 10.8**	**-0.1**
SZCU				IAML		00 28 30.0	
	comp=E,303nm,0.2s						
SZCU				IAML		00 28 30.0	
	comp=N,278nm,0.3s						
EKU	**East Kanab**	**1.49**	**207**		**Pb**	**00 28 12.2**	**-0.5**
PGAZ	**Page**	**1.51**	**174**		**Pn**	**00 28 11.4**	**-0.9**
NLU	**North Lily Min**	**1.57**	**348**		**Pb**	**00 28 12.8**	**-1.2**
NLU				IAML		00 28 36.9	
	comp=E,174nm,0.8s						
NLU				IAML		00 28 37.8	
	comp=N,171nm,0.6s						
CCUT	**Cedar City**	**1.59**	**238**		**Pb**	**00 28 14.1**	**-0.4**
MPU	**Maple Canyon**	**1.60**	**1**		**Pb**	**00 28 13.7**	**-0.8**
P18A	**Preston Nutter**	**1.64**	**42**		**Pb**	**00 28 15.1**	**-0.2**
P18A				IAML		00 28 38.1	
	comp=E,430nm,0.5s						
P18A				IAML		00 28 40.1	
	comp=N,246nm,0.4s						
KNB	**Kanab**	**1.67**	**214**		**Pb**	**00 28 15.2**	**-0.5**
KNB				IAML		00 28 39.9	
	comp=E,112nm,0.5s						
PSUT	**Pine Spring**	**1.72**	**275**		**Pb**	**00 28 15.2**	**-1.4**
FSU	**Fish Springs**	**1.88**	**315**		**Pb**	**00 28 17.7**	**-1.5**
LCMT	**Little Creek M**	**1.88**	**222**		**Pb**	**00 28 18.6**	**-0.6**
LCMT				IAML		00 28 46.9	
	comp=N,145nm,0.2s						
LCMT				IAML		00 28 47.5	
	comp=E,201nm,0.2s						
R19A	**Curley Farm, L**	**1.89**	**93**		**Pb**	**00 28 19.2**	**-0.3**
DUG	**Dugway, Tooele**	**1.99**	**334**	Pn	**Pn**	**00 28 17.6**	**-1.3**
DUG				IAML		00 28 47.9	
	comp=E,119nm,0.6s						
DUG				IAML		00 28 50.4	
	comp=E,107nm,0.6s						
DUG	**Dugway, Tooele** baz=153,SNR=42	**1.99**	**334**	P	**Pn**	**00 28 17.4**	**-1.5**
DUG				S	**Sb**	**00 28 46.6**	**+0.2**
	baz=153						
U15A	**North Rim**	**2.04**	**194**		**Pb**	**00 28 21.1**	**-1.0**
U15A				IAML		00 28 48.3	
	comp=N,270nm,0.4s						
PV05	**Paradox Valley**	**2.05**	**99**		**Pg**	**00 28 22.9**	**-0.5**
PV21	**Cone Mtn., Par**	**2.12**	**85**		**Pb**	**00 28 22.3**	**-1.0**
SPR3	**Spring Creek 3**	**2.17**	**287**		**Pn**	**00 28 21.7**	**+0.2**
ICU	**Indian Springs**	**2.19**	**236**		**Pb**	**00 28 25.4**	**+0.9**
BSUT	**Blindstream Ca**	**2.23**	**18**		**Pb**	**00 28 24.3**	**-1.1**
BSUT				IAML		00 28 56.9	
	comp=E,78nm,0.6s						
CTU	**Camp Tracy**	**2.28**	**358**		**Pn**	**00 28 23.0**	**+0.1**
CTU				IAML		00 28 57.3	
	comp=N,68nm,0.6s						
CTU				IAML		00 28 57.9	
	comp=E,105nm,0.6s						
Q12A	**Willow Creek R**	**2.55**	**285**		**Pn**	**00 28 26.5**	**-0.2**
Q12A				IAML		00 29 13.3	
	comp=N,63nm,0.8s						
RDMU	**Red Mountain**	**2.70**	**36**		**Pn**	**00 28 28.8**	**+0.1**
RDMU				IAML		00 29 08.9	
	comp=E,46nm,0.8s						
TCUT	**Toone Canyon**	**2.71**	**4**		**Pn**	**00 28 30.0**	**+1.0**
BGU	**Big Grassy Mou**	**2.72**	**338**		**Pn**	**00 28 28.9**	**-0.1**
BGU				IAML		00 29 16.9	
	comp=E,48nm,1.1s						
MVCO	**Mesa Verde**	**2.78**	**115**		**Pn**	**00 28 30.9**	**+1.1**
MVCO	**Mesa Verde** baz=297,SNR=37	**2.78**	**115**	P	**Pn**	**00 28 30.4**	**+0.5**
MVCO				Sb	**Sb**	**00 29 09.6**	**+0.3**
	baz=297						
WUAZ	**Wupatki**	**2.90**	**175**		**Pb**	**00 28 33.7**	**-3.0**
WUAZ	**Wupatki** baz=356	**2.90**	**175**	P	**Pb**	**00 28 34.0**	**-2.6**
WUAZ				S	**Sb**	**00 29 11.4**	**-1.2**
	baz=356						
SPUT	**South Promonto**	**2.96**	**348**		**Pn**	**00 28 32.5**	**+0.3**
R11B	**Troy Canyon, C**	**3.08**	**270**		**Pn**	**00 28 32.9**	**-1.1**
R11B	**Troy Canyon, C** baz=88,SNR=9.9	**3.08**	**270**	Pb	**Pg**	**00 28 42.2**	**-1.0**
R11B				Sb	**Sg**	**00 29 22.9**	**-0.2**
	baz=88						
O20A	**White River Ci**	**3.17**	**56**		**Pn**	**00 28 35.3**	**+0.2**
O20A				IAML		00 29 33.5	
	comp=N,84nm,0.9s						
O20A	**White River Ci** baz=238	**3.17**	**56**	Pb	**Pb**	**00 28 38.8**	**-2.4**
O20A				Sg	**Sg**	**00 29 23.3**	**-2.5**
	baz=238						
HWUT	**Hardware Ranch**	**3.19**	**1**		**Pn**	**00 28 35.5**	**+0.1**
HWUT				IAML		00 29 27.1	
	comp=N,32nm,1.0s						
HWUT				IAML		00 29 32.5	
	comp=N,29nm,0.9s						
S11A	**Rachel**	**3.31**	**258**		**Pn**	**00 28 37.0**	**-0.1**
S11A				IAML		00 29 39.0	
	comp=N,39nm,0.5s						
S11A				IAML		00 29 53.9	
	comp=E,31nm,1.8s						
SHPR	**Sheep Range**	**3.37**	**237**		**Pn**	**00 28 37.3**	**-0.6**
HVU	**Hansel Valley**	**3.47**	**346**		**Pn**	**00 28 39.3**	**0.0**
HVU				IAML		00 29 38.3	
	comp=N,36nm,0.8s						
HVU				IAML		00 29 40.5	
	comp=E,30nm,0.7s						
ELK	**Elko**	**3.61**	**311**		**Pn**	**00 28 41.1**	**-0.2**
W18A	**Petrified Fore**	**3.63**	**154**		**Pn**	**00 28 42.8**	**+1.3**
W18A	**Petrified Fore** baz=336,SNR=5.6	**3.63**	**154**	P	**Pn**	**00 28 43.2**	**+1.7**
W18A				Sb	**Sb**	**00 29 36.4**	**+2.6**
	baz=336						
SMCO	**Snowmass**	**3.74**	**77**		**Pn**	**00 28 43.7**	**+0.4**
SMCO				IAML		00 29 45.7	
	comp=E,37nm,0.7s						
W13A	**Hualapai Mount**	**3.76**	**209**		**Pn**	**00 28 44.2**	**+1.0**
W13A				IAML		00 29 47.8	
	comp=E,22nm,0.9s						
W13A				IAML		00 29 50.7	
	comp=N,19nm,0.8s						
X16A	**Lo Mia Camp, P**	**3.99**	**177**		**Pn**	**00 28 48.0**	**+1.5**
X18A	**Snowflake**	**4.11**	**160**		**Pn**	**00 28 49.5**	**+1.3**
TUQ	**Turquoise Moun** baz=48	**4.52**	**230**	Sb	**Sg**	**00 30 10.9**	**+1.4**
BW06	**Boulder Array** baz=201	**4.64**	**20**	Sb	**Sb**	**00 30 04.5**	**+1.9**
PD31	**Pinedale Array**	**4.64**	**20**		**Pn**	**00 28 56.8**	**+1.4**
PDAR	**Pinedale Array**	**4.64**	**20**	Pn	**Pn**	**00 28 57.9**	**+2.5**
GMRC	**Granite Mounta** baz=40	**4.84**	**223**	Sb	**Sg**	**00 30 17.5**	**-2.1**
N23A	**Red Feather La**	**5.06**	**59**		**Pn**	**00 29 02.2**	**+1.0**
N23A				IAML		00 30 27.9	
	comp=E,25nm,0.6s						
N23A	**Red Feather La** baz=242	**5.06**	**59**	Sb	**Sb**	**00 30 17.3**	**+2.3**
IRM	**Iron Mountain** baz=32	**5.09**	**215**	Sb	**Sg**	**00 30 23.7**	**-4.0**
DSP	**Deep Springs**	**5.09**	**260**		**Pn**	**00 29 02.3**	**+0.9**
DSP				IAML		00 30 44.5	
	comp=E,7.5nm,4.4s						
DSP				IAML		00 31 45.8	
	comp=N,7.5nm,4.6s						
TPAW	**Teton Pass**	**5.10**	**6**		**Pn**	**00 29 03.2**	**+1.4**
TPAW				IAML		00 30 09.8	
	comp=N,17nm,4.2s						
TPAW				IAML		00 30 44.1	
	comp=N,19nm,4.9s						
LOHW	**Long Hollow**	**5.26**	**8**	Pn	**Pn**	**00 29 05.2**	**+1.4**
LOHW				IAML		00 31 10.8	
	comp=N,12nm,4.7s						
LOHW				IAML		00 31 32.2	
	comp=N,15nm,4.6s						
ANMO	**Albuquerque**	**5.43**	**128**		**Pn**	**00 29 07.0**	**+0.7**
ANMO	**Albuquerque** baz=311	**5.43**	**128**	P	**Pn**	**00 29 07.0**	**+0.7**
IMW	**Indian Meadow**	**5.51**	**5**		**Pn**	**00 29 06.5**	**-0.9**

NOU ***22*** *00:44:42.8, 15°.30S×167°.67E, h123km, mb5.0/37, Vanuatu Islands*
IDC ***22*** *00:44:43.1±0.9, 15°.38S×167°.64E, h132km±7km, mb4.2/11, mbtmp4.8/13, Error ellipse: s-maj=18.4km s-min=14.8km az=87.0*
NEIC ***22*** *00:44:43.8±1.5, 15°.41S±0°.05×167°.7E±0°.1, h129km±6km, mb4.8/31, Error ellipse: s-maj=16.9km s-min=7.7km az=86.0*

ISC 22 00:44:43.3±0.7,15°.44S±0°.06×167°.63E±0°.07,h128km±5km, n104,σ1§18/115,mb4.7/31,1D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**5.32**	**184**	P	**Pn**	**00 46 00.9**	**+0.2**
LIFNC	**LIFOU**	**5.32**	**184**	Pn	**Pn**	**00 46 00.1**	**-0.6**
KOUNC	**Koumac, New Ca**	**6.00**	**212**	P	**Pn**	**00 46 10.9**	**+1.1**
KOUNC	**Koumac, New Ca**	**6.00**	**212**	Pn	**Pn**	**00 46 10.6**	**+0.8**
MARNC	**Mare, Loyalty**	**6.02**	**176**	P	**Pn**	**00 46 10.4**	**+0.3**
MARNC	**Mare, Loyalty**	**6.02**	**176**		**Pn**	**00 46 09.4**	**-0.8**
DZM	**Mont Dzumac**	**6.69**	**189**	P	**Pn**	**00 46 20.5**	**+1.3**
DZM	**Mont Dzumac**	**6.69**	**189**	Pn	**Pn**	**00 46 19.9**	**+0.6**
DZM	**Mont Dzumac** 91nm,0.3s,baz=39,slow=17,SNR=194	**6.69**	**189**	P	**Pn**	**00 46 19.7**	**+0.4**
DZM				S	**Sn**	**00 47 30.4**	**-3.8**
	119nm,0.5s,baz=317,slow=23,SNR=13						
NOUC	**Port Laguerre**	**6.74**	**191**	P	**Pn**	**00 46 22.1**	**+2.2**
ONTNC	**Ouen Toro**	**6.92**	**189**	P	**Pn**	**00 46 23.6**	**+1.4**
OUENC	**Ouen Island, N**	**6.98**	**186**	P	**Pn**	**00 46 25.0**	**+1.9**
OUENC	**Ouen Island, N**	**6.98**	**186**	Pn	**Pn**	**00 46 24.4**	**+1.3**
HNR	**Honiara** 689nm,0.5s,baz=165,slow=12,SNR=1.5	**9.59**	**308**	P	**Pn**	**00 46 57.6**	**-0.6**
HNR				S	**Sn**	**00 48 43.1**	**-1.1**
	556nm,0.3s,baz=47,slow=19,SNR=1.4						
MSVF	**Nonsavu**	**10.25**	**104**		**Pn**	**00 47 08.9**	**+1.7**
EIDS	**Eidsvold**	**18.37**	**235**	P	**Pn**	**00 48 50.1**	**+0.2**
EIDS	**Eidsvold**	**18.37**	**235**	P	**Pn**	**00 48 49.6**	**-0.3**
CTA	**Charters Tower** 16nm,0.7s,baz=90,slow=6.7,SNR=13	**20.87**	**254**	P	**P**	**00 49 15.9**	**+0.5**
	16nm,0.7s						
CTAO	**Charters Tower**	**20.87**	**254**	P	**P**	**00 49 15.8**	**+0.5**
CTAO				IAmb	IAmb	00 49 19.2	
	comp=Z,29nm,1.1s						
ARMA	**Armidale**	**20.92**	**222**	P	**P**	**00 49 18.1**	**+2.1**
ARMA	**Armidale**	**20.92**	**222**	P	**P**	**00 49 16.8**	**+0.9**
ARMA				IAmb	IAmb	00 49 43.6	
	comp=Z,129nm,1.8s						
MTSU	**Mount Surprise**	**22.47**	**260**	P	**P**	**00 49 33.4**	**+1.1**
TOZ	**Tahuroa Road**	**23.27**	**164**	P	**P**	**00 49 40.4**	**+0.8**
TOZ				IAmb	IAmb	00 49 41.7	
	comp=Z,40nm,0.7s						
COEN	**Coen**	**23.70**	**270**	P	**P**	**00 49 44.5**	**+0.8**
COEN				IAmb	IAmb	00 49 46.3	
	comp=Z,88nm,1.6s						
HIZ	**Hauiti**	**23.85**	**166**	P	**P**	**00 49 46.7**	**+1.9**
HIZ	**Hauiti**	**23.85**	**166**	P	**P**	**00 49 46.3**	**+1.5**
URZ	**Urewera**	**24.22**	**162**	P	**P**	**00 49 49.5**	**+1.3**
QLP	**Quilpie**	**24.45**	**239**	P	**P**	**00 49 52.0**	**+1.6**
RTZ	**Ruatahuna**	**24.51**	**162**	P	**P**	**00 49 51.4**	**+0.4**
RTZ				IAmb	IAmb	00 49 52.8	
	comp=Z,64nm,1.2s						
BKZ	**Black Stump Fm**	**24.89**	**163**	P	**P**	**00 49 55.2**	**+0.9**
BKZ	**Black Stump Fm**	**24.89**	**163**	P	**P**	**00 49 54.8**	**+0.5**
BKZ				IAmb	IAmb	00 49 56.2	
	comp=Z,74nm,1.5s						
CMSA	**Cobar Meteorol**	**25.64**	**227**	P	**P**	**00 50 01.9**	**+0.7**
QRZ	**Quartz Range**	**25.65**	**171**	P	**P**	**00 50 01.8**	**+0.7**
BFZ	**Birch Farm**	**26.25**	**165**	P	**P**	**00 50 07.0**	**+0.5**
QIS	**Mount Isa**	**27.11**	**255**	P	**P**	**00 50 15.0**	**+0.4**
KHZ	**Kahutara**	**27.36**	**170**	P	**P**	**00 50 17.3**	**+0.9**
STKA	**Stephens Creek**	**28.80**	**231**	P	**P**	**00 50 30.2**	**+0.7**
STKA	**Stephens Creek**	**28.80**	**231**	P	**P**	**00 50 30.0**	**+0.5**
STKA	**Stephens Creek** comp=Z,7.2nm,0.5s,baz=46,slow=9.1,SNR=16	**28.80**	**231**	P	**P**	**00 50 29.8**	**+0.3**
STKA				PcP	**PcP**	**00 53 34.6**	**-1.6**
	comp=Z,2.6nm,0.6s,baz=295,slow=6.7,SNR=4.4						
	comp=Z,7.2nm,0.5s						
LCRK	**Leigh Creek**	**30.81**	**236**	P	**P**	**00 50 47.8**	**+0.6**
WB0	**Warramunga Arr**	**31.94**	**257**	P	**P**	**00 50 56.0**	**-1.2**
WB0				IAmb	IAmb	00 50 56.8	
	comp=Z,18nm,0.7s						
WRA	**Warramunga Arr**	**32.00**	**257**	P	**P**	**00 50 56.0**	**-1.7**
WRA	**Warramunga Arr** comp=Z,8.1nm,0.6s,baz=85,slow=8.8,SNR=73	**32.00**	**257**	P	**P**	**00 50 56.4**	**-1.4**
WRA				PcP	**PcP**	**00 53 42.7**	**-2.2**
	comp=Z,0.7nm,0.7s,baz=87,slow=3.0,SNR=2.3						
	comp=Z,8.1nm,0.6s						
OOD	**Oodnadatta**	**32.03**	**242**	P	**P**	**00 50 59.0**	**+1.0**
AS01	**Alice Springs**	**32.71**	**250**	P	**P**	**00 51 03.4**	**-0.6**
AS31	**Alice Springs**	**32.75**	**250**	P	**P**	**00 51 03.7**	**-0.6**
AS31				IAmb	IAmb	00 51 04.7	
	comp=Z,7.8nm,0.6s						
ASAR	**Alice Springs**	**32.75**	**250**	P	**P**	**00 51 03.7**	**-0.6**
ASAR	**Alice Springs** comp=Z,19nm,0.6s,baz=78,slow=8.9,SNR=156	**32.75**	**250**	P	**P**	**00 51 03.5**	**-0.8**
ASAR				PcP	**PcP**	**00 53 46.0**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=94,slow=3.1,SNR=3.3						
ASAR				ScP	**ScP**	**00 57 19.2**	**0.0**
	comp=Z,2.8nm,0.9s,baz=92,slow=4.5,SNR=11						
	comp=Z,19nm,0.6s						
BBOO	**Buckleboo**	**33.42**	**233**	P	**P**	**00 51 11.0**	**+1.0**
BBOO	**Buckleboo**	**33.42**	**233**	P	**P**	**00 51 10.6**	**+0.5**
MULG	**Mulgathing**	**34.12**	**238**	P	**P**	**00 51 16.5**	**+0.4**
MTN	**Manton Dam**	**35.46**	**269**	P	**P**	**00 51 27.8**	**0.0**
FAKI	**Fak Fak**	**37.00**	**286**	P	**P**	**00 51 41.6**	**+0.7**
FAKI	**Fak Fak**	**37.00**	**286**	P	**P**	**00 51 40.5**	**-0.3**
KNRA	**Kununurra**	**37.41**	**264**	P	**P**	**00 51 44.2**	**-0.1**
KNRA	**Kununurra**	**37.41**	**264**	P	**P**	**00 51 43.2**	**-1.1**
WRKA	**Warakurna**	**38.00**	**249**	P	**P**	**00 51 49.2**	**-0.1**
FORT	**Forrest**	**39.24**	**240**	P	**P**	**00 52 00.6**	**+1.1**
FORT	**Forrest**	**39.24**	**240**	P	**P**	**00 51 59.4**	**0.0**
FITZ	**Fitzroy Crossi**	**40.23**	**260**	P	**P**	**00 52 07.4**	**-0.4**
FITZ				IAmb	IAmb	00 52 08.3	
	comp=Z,8.1nm,0.6s						
EDFI	**Ende, Flores**	**45.34**	**273**	P	**P**	**00 52 48.9**	**-0.3**
MBWA	**Marble Bar**	**45.70**	**255**	P	**P**	**00 52 52.2**	**+0.4**
MBWA	**Marble Bar**	**45.70**	**255**	P	**P**	**00 52 51.3**	**-0.5**
MBWA				IAmb	IAmb	00 52 53.2	
	comp=Z,29nm,1.1s						
MBWA	**Marble Bar**	**45.70**	**255**	P	**P**	**00 52 51.7**	**-0.1**
MEEK	**Meekatharra**	**46.83**	**248**	P	**P**	**00 53 00.6**	**-0.1**
MORW	**Morawa**	**49.27**	**245**	P	**P**	**00 53 19.4**	**0.0**
MORW	**Morawa**	**49.27**	**245**	P	**P**	**00 53 19.3**	**-0.1**
MORW				IAmb	IAmb	00 53 20.1	
	comp=Z,8.9nm,0.8s						
DRV	**Dumont d'Urvil**	**54.33**	**193**	P	**P**	**00 53 56.1**	**-0.2**
DRV				pP	**pP**	**00 54 27.0**	**+0.6**
VNDA	**Vanda**	**62.16**	**181**	P	**P**	**00 54 50.9**	**+0.3**
VNDA	**Vanda** comp=Z,3.9nm,0.7s,baz=354,slow=7.2,SNR=33	**62.16**	**181**	P	**P**	**00 54 50.5**	**-0.1**
	comp=Z,3.9nm,0.7s						
VNDA	**Vanda**	**62.16**	**181**	P	**P**	**00 54 50.6**	**+0.1**
SBA	**Scott Base**	**62.43**	**180**	P	**P**	**00 54 53.7**	**+1.3**
SBA				IAmb	IAmb	00 54 54.9	
	comp=Z,15nm,0.9s						
SBA	**Scott Base**	**62.43**	**180**	P	**P**	**00 54 53.5**	**+1.1**
CASY	**Casey**	**63.00**	**202**	P	**P**	**00 54 56.2**	**-0.1**
CASY				IAmb	IAmb	00 55 26.6	
	comp=Z,37nm,1.8s						
CCD	**Concordia, Ant**	**64.28**	**192**	P	**P**	**00 55 05.1**	**+0.1**
CCD				PcP	**PcP**	**00 55 38.4**	**-0.3**
NJ2	**Nanjing**	**66.42**	**316**	*e*P	**P**	**00 55 22.1**	**+3.1**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,310nm,4.5s						
XAN	**Xi'an**	**74.42**	**313**	*e*P	**P**	**00 56 05.5**	**-2.2**
XAN				pP	pP	00 56 32.5	-6.9
XAN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
QSPA	**South Pole Qui**	**74.59**	**180**	P	**P**	**00 56 08.4**	**+0.1**
QSPA				IAmb	IAmb	00 56 09.3	
	comp=Z,20nm,0.8s						
QSPA	**South Pole Qui** comp=Z,18nm,0.8s,baz=345,slow=0.8,SNR=42	**74.59**	**180**	P	**P**	**00 56 07.8**	**-0.4**
	comp=Z,18nm,0.8s						
XLT	**XiLinHaoTe**	**75.48**	**324**	*e*P	**P**	**00 56 14.8**	**+1.2**
XLT				PcP	**PcP**	**00 56 26.3**	**+0.2**
XLT				pP	pwP	00 56 46.9	+1.6
XLT				sP	sP	00 57 05.0	+6.1
XLT				pmax	pmax		
	comp=Z,6.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,140nm,4.7s						
CMAR	**Chiang Mai Arr**	**75.55**	**294**	P	**P**	**00 56 14.4**	**0.0**
	comp=Z,1.2nm,0.4s,baz=133,slow=5.6,SNR=5.5						
CMAR				pP	**pP**	**00 56 46.6**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=111,slow=4.6,SNR=2.4						
	comp=Z,1.2nm,0.4s						
HHC	**Hu-ho-hao-te**	**76.35**	**320**	*e*P	**P**	**00 56 21.5**	**+2.9**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,82nm,5.3s						
PZH	**PanZhiHua**	**76.37**	**303**	P	**P**	**00 56 22.8**	**+3.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.4s						
PZH				pmax	pmax		
	comp=Z,150nm,5.9s						
ULN	**Ulaanbaatar**	**82.91**	**324**	P	**P**	**00 56 53.4**	**-0.5**
TTA	**Tatalina**	**83.11**	**16**	P	**P**	**00 56 54.4**	**-0.2**
TTA				IAmb	IAmb	00 57 06.5	
	comp=Z,14nm,1.7s						
SONM	**Songino Array**	**83.27**	**324**	P	**P**	**00 56 55.6**	**-0.2**
SONM	**Songino Array** comp=Z,1.9nm,0.7s,baz=146,slow=6.3,SNR=10	**83.27**	**324**	P	**P**	**00 56 55.6**	**-0.2**
	comp=Z,1.9nm,0.7s						
GTA	**Gaotai**	**83.41**	**314**	P	**P**	**00 56 58.0**	**+1.3**
GTA				sP	sP	00 57 38.4	-4.0
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
H17K	**Granite Mounta**	**83.84**	**13**	P	**P**	**00 56 57.2**	**-0.9**
H17K				IAmb	IAmb	00 57 20.2	
	comp=Z,17nm,1.8s						
BELA	**Belgrano 2**	**85.99**	**175**	P	**P**	**00 57 07.9**	**-1.0**
BELA				IAmb	IAmb	00 57 08.7	
	comp=Z,16nm,1.0s						
E19K	**Redstone River**	**86.56**	**13**	P	**P**	**00 57 11.3**	**-0.3**
ILAR	**Eielson Array**	**87.09**	**18**	P	**P**	**00 57 12.2**	**-2.1**
	comp=Z,0.6nm,0.7s,baz=236,slow=5.3,SNR=7.3						
ILAR				pP	**pwP**	**00 57 47.6**	**-2.4**
	comp=Z,0.8nm,0.9s,baz=229,slow=4.9,SNR=2.7						
	comp=Z,0.6nm,0.7s						
ELIB	**Princess Elisa** comp=Z,5.7nm,0.9s	**89.58**	**190**	*d*P	**P**	**00 57 25.8**	**-0.5**
WMQ	**Urumqi**	**93.47**	**314**	*e*P	**P**	**00 57 46.1**	**+1.5**
MK31	**Makanchi Array**	**97.95**	**316**		Pdif	00 58 04.8	-0.1
MKAR	**Makanchi Array**	**97.95**	**316**	P	Pdif	00 58 04.5	-0.5
MKAR	**Makanchi Array** comp=Z,0.9nm,0.7s,baz=101,slow=6.0,SNR=11	**97.95**	**316**	P	**P**	**00 58 03.3**	**-1.6**
MKAR				pP	**pP**	**00 58 38.2**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=81,slow=3.0,SNR=2.3						
	comp=Z,0.9nm,0.7s

ECHI				Sg	**Sg**	**00 49 39.2**	**-0.4**
ECHI	**Chisagues Biel**	**2.59**	**103**	S	**Sb**	**00 49 33.9**	**-0.3**
ECHI	**Chisagues Biel**	**2.59**	**103**	P	**Pn**	**00 49 01.1**	**+3.2**
EPF	**Esparros**	**2.62**	**95**	*e*Pn	**Pn**	**00 49 00.2**	**+1.9**
EPF				*e*Sn	**Sn**	**00 49 30.7**	**+0.8**
	1.0nm,0.2s						
EPF				*e*Sg	**Sg**	**00 49 40.6**	**-0.1**
	1.2nm,0.2s						
LRVF	**chteau la Riv**	**2.67**	**51**	P	**Pn**	**00 49 01.3**	**+2.5**
LRVF				S	**Sn**	**00 49 33.8**	**+2.9**
ECAL	**Calabor**	**2.92**	**244**	Pn	**Pn**	**00 49 04.1**	**+1.7**
ECAL				Sn	**Sn**	**00 49 37.9**	**+0.5**
ECAL				Sg	**Sg**	**00 49 48.7**	**-1.6**
ECAL	**Calabor**	**2.92**	**244**	Pn	**Pn**	**00 49 04.1**	**+1.7**
ECAL				Pg	**Pg**	**00 49 10.7**	**-1.7**
ECAL				Sn	**Sn**	**00 49 38.4**	**+1.0**
ECAL				Sg	**Sg**	**00 49 49.0**	**-1.4**
ECAL				*i* Vmb_Lg		00 49 57.3	
UCM	**Universidad Co**	**2.99**	**180**	Pn	**Pn**	**00 49 04.9**	**+1.7**
UCM				Sn	**Sn**	**00 49 37.9**	**-0.9**
UCM				Sg	**Sg**	**00 49 49.2**	**-3.1**
LFF	**La Frestale**	**3.29**	**59**	*e*Pn	**Pn**	**00 49 08.9**	**+1.4**
LFF	**La Frestale**	**3.29**	**59**	*e*Pg	**Pg**	**00 49 18.9**	**-0.6**
LFF				*e*Sn	**Sn**	**00 49 46.0**	**-0.4**
LFF				*e*Sg	**Sg**	**00 50 00.4**	**-1.8**
	1.5nm,0.2s						
MONQ	**Montcuq**	**3.37**	**70**	P	**Pn**	**00 49 10.1**	**+1.6**
CHIF	**Chize**	**3.48**	**34**	P	**Pn**	**00 49 11.3**	**+1.3**
MVO	**Moncorvo**	**3.54**	**234**	*e*Pn	**Pn**	**00 49 12.4**	**+1.5**
MVO				*e*Sn	**Sn**	**00 49 54.2**	**+1.7**
MVO				*e*Sg	**Sg**	**00 50 09.8**	**-0.2**
MVO				A	A	00 50 14.8	
	5.1nm,0.2s						
EMOS	**Mosqueruela**	**3.58**	**144**	Sg	**Sg**	**00 50 07.3**	**-4.1**
EMOS				*i* Vmb_Lg		00 50 11.6	
EAGO	**Agolada(Pontev**	**3.60**	**264**	Sn	**Sn**	**00 49 55.4**	**+1.5**
EAGO				Sg	**Sg**	**00 50 08.4**	**-3.6**
EAGO				*i* Vmb_Lg		00 50 13.1	
EPOB	**Poblet**	**3.73**	**120**	Pn	**Pn**	**00 49 14.8**	**+1.2**
EPOB				Sn	**Sn**	**00 49 58.9**	**+1.5**
EPOB				Sg	**Sg**	**00 50 12.5**	**-3.9**
PAB	**San Pablo**	**3.84**	**193**	Pn	**Pn**	**00 49 16.2**	**+1.1**
PAB				Sn	**Sn**	**00 50 01.1**	**+1.1**
PAB				Sg	**Sg**	**00 50 15.8**	**-3.9**
PAB				*i* Vmb_Lg		00 50 22.3	
ELOB	**Lobios**	**3.85**	**250**	Sg	**Sg**	**00 50 15.9**	**-4.0**
ELOB				*i* Vmb_Lg		00 50 23.6	
EPLA	**Plasencia**	**3.87**	**214**	Pn	**Pn**	**00 49 16.7**	**+1.3**
EPLA				Pg	**Pb**	**00 49 24.9**	**+0.4**
EPLA				Sg	**Sg**	**00 50 18.3**	**-2.5**
RJF	**Les Rejaudoux**	**3.95**	**58**	*e*Pn	**Pn**	**00 49 17.8**	**+1.3**
RJF				*e*Sn	**Sn**	**00 50 01.0**	**-1.6**
	1.4nm,0.3s						
RJF				*e*Sg	**Sg**	**00 50 20.3**	**-3.0**
	1.1nm,0.2s						
PGAV	**Gavieira, Arco**	**3.95**	**252**	*e*Pn	**Pn**	**00 49 18.8**	**+2.2**
PGAV				*e*Sn	**Sn**	**00 50 04.4**	**+1.6**
PGAV				A	A	00 50 22.4	
	3.1nm,0.7s						
MFF	**Saint Martin d**	**3.96**	**32**	*e*Pn	**Pn**	**00 49 18.0**	**+1.3**
MFF				*e*Sn	**Sn**	**00 50 01.1**	**-1.7**
	0.8nm,0.1s						
MFF				*e*Sg	**Sg**	**00 50 21.3**	**-2.3**
	0.7nm,0.2s						
MFF	**Saint Martin d**	**3.96**	**32**	P	**Pn**	**00 49 18.4**	**+1.7**
MTLF	**Montolieu**	**3.97**	**87**	*e*Pn	**Pn**	**00 49 18.1**	**+1.3**
MTLF				*e*Sg	**Sg**	**00 50 23.8**	**-0.1**
	1.8nm,0.2s						
MTLF	**Montolieu**	**3.97**	**87**	P	**Pn**	**00 49 18.3**	**+1.5**
CAF	**Calviac**	**4.14**	**65**	*e*Pn	**Pn**	**00 49 20.4**	**+1.2**
CAF				*e*Sn	**Sn**	**00 50 05.6**	**-1.8**
	0.9nm,0.2s						
CAF				*e*Sg	**Sg**	**00 50 27.3**	**-2.1**
	0.8nm,0.2s						
MTE	**Manteigas**	**4.33**	**230**	*e*Sg	**Sg**	**00 50 36.5**	**+1.0**
QUIF	**Quistinic**	**4.62**	**0**	*e*Pn	**Pn**	**00 49 25.7**	**0.0**
QUIF				*e*Sn	**Sn**	**00 50 16.9**	**-2.1**
	0.3nm,0.2s						
ETOB	**Tobarra**	**4.82**	**164**	Pn	**Pn**	**00 49 30.8**	**+2.3**
TCF	**Toulx Ste Croi**	**4.89**	**50**	*e*Pn	**Pn**	**00 49 30.6**	**+1.2**
TCF				*e*Sn	**Sn**	**00 50 23.7**	**-2.0**
	1.0nm,0.2s						
PMRV	**Marv??o**	**4.98**	**220**	*e*Pn	**Pn**	**00 49 32.7**	**+2.1**
PMRV				*e*Sn	**Sn**	**00 50 29.6**	**+1.7**
PMRV				A	A	00 51 06.8	
	2.2nm,0.7s						
SGMF	**Saint Gilles**	**4.98**	**5**	*e*Pn	**Pn**	**00 49 30.6**	**0.0**
SGMF				*e*Sn	**Sn**	**00 50 25.5**	**-2.4**
ROSF	**Rostrenen**	**5.04**	**360**	*e*Pn	**Pn**	**00 49 32.6**	**+1.1**
ROSF				*e*Sn	**Sn**	**00 50 25.3**	**-4.1**
	0.7nm,0.2s						
LASF	**Ste Croix**	**5.20**	**79**	*e*Pn	**Pn**	**00 49 35.2**	**+1.6**
LASF				*e*Sn	**Sn**	**00 50 30.7**	**-2.6**
	0.5nm,0.2s						
EADA	**Adamuz**	**5.22**	**192**	Sn	**Sn**	**00 50 31.6**	**-2.5**
GRR	**Gorron**	**5.35**	**17**	*e*Pn	**Pn**	**00 49 37.0**	**+1.2**
GRR				*e*Sn	**Sn**	**00 50 34.4**	**-2.7**
	0.6nm,0.2s						
BGF	**Bois d'Agland**	**5.41**	**51**	*e*Pn	**Pn**	**00 49 37.8**	**+1.3**
BGF				*e*Sn	**Sn**	**00 50 35.9**	**-2.5**
	2.5nm,0.4s						
BGF				*e*Sg	**Sg**	**00 51 06.7**	**-3.1**
	0.8nm,0.2s						
ECAB	**El Cabril**	**5.47**	**198**	Pn	**Pn**	**00 49 38.6**	**+1.1**
ECAB				Sn	**Sn**	**00 50 36.5**	**-3.8**
PESTR	**Estremoz**	**5.52**	**218**	Sn	**Sn**	**00 50 40.1**	**-1.2**
LDF	**La Druitiere**	**5.72**	**21**	*e*Pn	**Pn**	**00 49 41.9**	**+1.1**
LDF				*e*Sn	**Sn**	**00 50 43.1**	**-3.1**
	0.1nm,0.2s						
AVF	**Avril sur Loir**	**5.82**	**51**	*e*Pn	**Pn**	**00 49 43.4**	**+1.2**
PBAR	**Barrancos**	**5.88**	**211**	*e*Pn	**Pn**	**00 49 45.2**	**+2.2**
PBAR	**Barrancos**	**5.88**	**211**	Pn	**Pn**	**00 49 43.9**	**+0.9**
SMF	**Signal de Mont**	**6.03**	**54**	*e*Pn	**Pn**	**00 49 45.8**	**+0.8**
SMF				*e*Sn	**Sn**	**00 50 53.1**	**-0.6**
	0.9nm,0.3s						
SMF				*e*Sg	**Sg**	**00 51 25.4**	**-4.4**
	0.2nm,0.2s						
SSF	**Saint Saulge**	**6.07**	**49**	*e*Pn	**Pn**	**00 49 46.7**	**+1.2**

*NSSP **22** 00:55:53.0,38.67N×43.08E,h10km,Ms3.3*
*ISK **22** 00:55:54.4,38.71N×43.08E,h5km,ML3.5/18*
*AFAD **22** 00:55:54.9±0.0,38.70N×43.09E,h23km±1km,ML3.5*
ISC 22 00:55:54.7±1.1,**38.70N**±0.02×**43.08E**±0.02,**h10**km±10km, **n41**,σ1.04/67,**2C-2D,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VANB	**Van**	**0.27**	**114**	Pg		**Pb**	**00 56 02.2**	**+0.5**
VANB				Sg		**Sb**	**00 56 07.5**	**+1.1**
ADCV	**BITLIS_Adilcev**	**0.29**	**291**	P		**Pb**	**00 56 02.6**	**+0.4**
ADCV				S		**Sb**	**00 56 07.5**	**+0.3**
TVAN	**Van**	**0.31**	**124**	P		**Pb**	**00 56 02.2**	**-0.3**
TVAN				S		**Sb**	**00 56 07.3**	**-0.5**
ERCV	**ERCIS-VAN**	**0.38**	**33**	Pg		**Pg**	**00 56 02.5**	**+0.2**
ERCV				Sg		**Sb**	**00 56 08.8**	**-0.8**
AKDM	**Akdamar-Van**	**0.38**	**191**	Pg		**Pb**	**00 56 03.2**	**-0.5**
AKDM				Sg		**Sb**	**00 56 09.4**	**-0.3**
GEVA	**Gevas**	**0.39**	**182**	P		**Pb**	**00 56 03.6**	**-0.2**
GEVA				S		**Sb**	**00 56 10.0**	**+0.1**
GEVA				*i* AML		AML	00 56 15.0	
	comp=N,3μm,0.4s							
VMUR	**Van-Muradiye**	**0.48**	**54**	P		**Pb**	**00 56 04.7**	**-0.7**
VMUR				S		**Sb**	**00 56 11.7**	**-1.0**
VMUR				*i* AML		AML	00 56 14.0	
	comp=E,4μm,0.4s							
VMUR				*i* AML		AML	00 56 14.0	
	comp=N,4μm,0.5s							
MLAZ	**Malazgirt-MUS**	**0.60**	**317**	Pg		**Pb**	**00 56 07.1**	**-0.3**
MLAZ				Sg		**Sb**	**00 56 16.7**	**+0.7**
DORK	**Agr/Tutak/Do**	**0.72**	**342**	P		**Pb**	**00 56 09.0**	**-0.5**
DORK				S		**Sb**	**00 56 18.6**	**-0.9**
OZAP	**Van, Ozalp-Mer**	**0.72**	**93**	P		**Pn**	**00 56 10.0**	**-1.1**
OZAP				S		**Sn**	**00 56 22.2**	**-0.2**
BLIS	**Bitlis-Merkez**	**0.81**	**249**	P		**Pb**	**00 56 11.2**	**+0.3**
BLIS				S		**Sb**	**00 56 21.7**	**-0.2**
BLIS				*i* AML		AML	00 56 23.0	
	comp=E,2μm,0.6s							
BLIS				*i* AML		AML	00 56 24.0	
	comp=N,2μm,0.4s							
GURO	**Guroymak-BITLI**	**0.83**	**260**	Pg		**Pb**	**00 56 11.6**	**+0.3**
PERV	**Siirt/Pervari-**	**0.86**	**209**	P		**Pb**	**00 56 11.9**	**0.0**
PERV				S		**Sn**	**00 56 26.2**	**+0.4**
PERV				*i* AML		AML	00 56 28.0	
	comp=N,1μm,0.3s							
PERV				*i* AML		AML	00 56 29.0	
	comp=E,2μm,0.8s							
AGRB	**Hanur-Agry**	**0.87**	**356**	Pg		**Pb**	**00 56 11.7**	**-0.4**
DYDN	**Diyadin**	**0.96**	**29**	P		**Pg**	**00 56 13.1**	**-0.2**
KOTA	**Agri, Merkez-K**	**1.10**	**5**	P		**Pg**	**00 56 15.4**	**-0.6**
KOTA				S		**Sg**	**00 56 29.9**	**-0.4**
HAKT	**HAKKARI**	**1.25**	**156**	P		**Pg**	**00 56 18.5**	**-0.2**
HAKT				S		**Sn**	**00 56 39.2**	**+3.9**
VRTB	**Varto-Mus**	**1.34**	**290**	Pn		**Pg**	**00 56 20.6**	**+0.1**
VRTB				Sn		**Sg**	**00 56 40.5**	**+2.5**
IGDI	**IGDIR**	**1.40**	**33**	P		**Pg**	**00 56 21.2**	**-0.4**
IGDI				S		**Sg**	**00 56 42.3**	**+2.5**
VNNZ	**Vanand**	**1.51**	**22**	*e*P		**Pg**	**00 56 23.6**	**-0.2**
VNNZ				*e*S		**Sg**	**00 56 44.9**	**+1.4**
CUKT	**Cukurca**	**1.51**	**164**	Pn		**Pg**	**00 56 23.8**	**0.0**
TASB	**TASBURUN-IGDIR**	**1.56**	**35**	Pn		**Pg**	**00 56 24.7**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.57**	**250**	Pn		**Pg**	**00 56 24.4**	**-0.5**
KOPR	**Koprukoy-ERZUR**	**1.60**	**324**	Pn		**Pg**	**00 56 24.9**	**-0.5**
METS	**Metsamor**	**1.64**	**28**	*e*P		**Pg**	**00 56 25.8**	**-0.5**
METS				*e*S		**Sg**	**00 56 50.5**	**+3.0**
KARO	**Karliova-Bingo**	**1.69**	**292**	Pn		**Pb**	**00 56 26.3**	**+0.3**
ARUZ	**Aruch**	**1.76**	**26**	*e*P		**Pb**	**00 56 27.3**	**+0.1**
ARUZ				*e*S		**Sg**	**00 56 52.0**	**+0.6**
NRKZ	**NAREK**	**1.79**	**43**	*e*P		**Pb**	**00 56 27.2**	**-0.4**
NRKZ				*e*S		**Sg**	**00 56 52.3**	**+0.1**
EDAM	**Erzurum-Paland**	**1.84**	**311**	Pn		**Pb**	**00 56 28.4**	**-0.2**
MIDY	**Mardin/Midyat-**	**1.85**	**226**	P		**Pb**	**00 56 28.5**	**-0.2**
MIDY				S		**Sg**	**00 56 54.3**	**0.0**
BNGB	**Bingl**	**1.89**	**279**	Pn		**Pb**	**00 56 29.0**	**-0.4**
AMBZ	**Amberd**	**1.92**	**28**	*e*P		**Pb**	**00 56 29.4**	**-0.5**
AMBZ				*e*S		**Sg**	**00 56 56.3**	**0.0**
KARS	**Kars**	**1.92**	**0**	Pn		**Pb**	**00 56 29.3**	**-0.6**
GNI	**Garni**	**1.94**	**41**	Pn		**Pb**	**00 56 29.5**	**-0.7**
GNI	**Garni**	**1.94**	**41**	⇓*i*P		**Pb**	**00 56 29.6**	**-0.7**
GNI				⇑*i*S		**Sg**	**00 56 56.5**	**-0.5**
SENK	**Senkaya-Erzuru**	**1.94**	**343**	Pn		**Pb**	**00 56 29.8**	**-0.5**
KAPZ	**Kaputan**	**2.05**	**37**	*e*P		**Pb**	**00 56 31.1**	**-1.0**
KAPZ				*e*S		**Sb**	**00 56 58.4**	**+0.7**
MARD	**Mardin**	**2.28**	**233**	P		**Pb**	**00 56 35.0**	**-1.1**
MARD				S		**Sg**	**00 57 07.8**	**-0.4**
MARD				*i* AML		AML	00 57 11.0	
	comp=E,342nm,0.5s							
MARD				*i* AML		AML	00 57 13.0	
	comp=N,584nm,0.5s							
MAZI	**Mazidag**	**2.42**	**240**	Pn		**Pb**	**00 56 36.4**	**-2.0**
DYBB	**Diyarbakir**	**2.43**	**253**	Pn		**Pb**	**00 56 36.4**	**-2.1**
GRS	**Goris**	**2.66**	**72**	⇓*i*P		**Pb**	**00 56 41.0**	**-1.5**
GRS				⇑*i*S		**Sb**	**00 57 17.0**	**+1.8**

*JMA **22** 01:00:11.3±0.3,29.5N±0.9×13.1E±, h31km±4km, MV3.7/29,NEAR AMAMI-OSHIMA ISLAND*
*NIED **22** 01:00:11.3,29.53N×130.95E,h31km,MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=0.58; Mθθ0.19; Mφφ0.39; Mrθ0.99; Mθφ-0.09; Mφr1.12; Fault plane solution: M₀1.55000×10¹⁵ NP1: φs29.00000°,δ82.00000°,λ-85.00000°. NP2:φs9.00000°, δ9.00000°,λ-121.00000°.*
*IDC **22** 01:00:20.1±7.8,29.60N×130.78E,h108km±71km,mb3.3/7, mbtmp3.7/8,ML3.3/1,MS2.7/1 Error ellipse: s-maj=39.1km s-min=26.3km az=61.0*
ISC 22 01:00:10.4±1.7,**29.58N**±0.05×**130.99E**±0.08,**h24**km±12km, **n23**,σ0.81/29,**mb3.6/7,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JYAK	**Yakushimahirau**	**0.78**	**328**	*i* P		**Pn**	**01 00 26.1**	**+0.2**
JYAK				S		**Sn**	**01 00 37.0**	**+0.1**
JMTN	**Minamitane**	**0.82**	**355**	*i* P		**Pn**	**01 00 27.5**	**+1.0**
JNN	**Nakanoshima**	**1.00**	**285**	P		**Pn**	**01 00 29.0**	**0.0**
JNN				*e*S		**Sn**	**01 00 42.6**	**+0.1**
JTN	**Tanegashima 3**	**1.07**	**360**	P		**Pb**	**01 00 31.1**	**+0.7**
JTN				S		**Sn**	**01 00 45.9**	**+1.8**
JKC	**Kuchinoerabu**	**1.12**	**322**	P		**Pb**	**01 00 31.6**	**+0.5**
JTSR	**Tashiro 2**	**1.58**	**358**	P		**Pb**	**01 00 38.6**	**-0.4**
JTSR				*e*S		**Sb**	**01 00 58.6**	**-0.1**
JAM	**Amami Oshima**	**1.68**	**226**	P		**Pn**	**01 00 38.9**	**+0.6**
JNAR	**Kushima--Naru**	**1.96**	**7**	P		**Pb**	**01 00 44.3**	**-1.0**
JNAR				*e*S		**Sb**	**01 01 09.7**	**+0.3**
JSU	**Suzuyama**	**1.98**	**347**	P		**Pn**	**01 00 43.3**	**+0.8**
JAMN	**Amaminishikomi**	**2.07**	**230**	P		**Pn**	**01 00 44.4**	**+0.6**
JNKG	**Nichinankitago**	**2.10**	**9**	*e*P		**Pb**	**01 00 46.4**	**-1.5**
JNKG				S		**Sb**	**01 01 12.7**	**-0.9**
JTK	**Tokunoshima**	**2.53**	**226**	P		**Pn**	**01 00 50.8**	**+0.7**
JOE	**Okinoerabujima**	**3.07**	**224**	P		**Pn**	**01 00 58.0**	**+0.5**
JYRO	**Yoronjima**	**3.39**	**222**	P		**Pn**	**01 01 02.1**	**+0.3**
KSRS	**Korea Array**	**8.26**	**343**	LR		LR	01 05 21.2	
	comp=Z,58nm,21.1s,baz=170,slow=37							
USRK	**Ussuriysk Ar.**	**14.62**	**3**	P		**P**	**01 03 42.5**	**+0.7**
	0.1nm,0.3s,baz=196,slow=11,SNR=2.6 1.8nm,0.6s							
SONM	**Songino Array**	**26.29**	**321**	P		**P**	**01 05 43.8**	**-0.4**
	1.1nm,0.8s,baz=138,slow=9.2,SNR=7.1 1.1nm,0.8s							
MKAR	**Makanchi Array**	**41.25**	**308**	P		**P**	**01 07 53.1**	**-0.5**
	0.7nm,0.8s,baz=97,slow=9.9,SNR=6.9							
MKAR				PcP		**PcP**	**01 09 51.7**	**-0.5**
	0.2nm,0.6s,baz=80,slow=1.6,SNR=2.7 0.7nm,0.8s							
KURBB	**Kurchatov Arra**	**44.22**	**314**	P		**P**	**01 08 17.1**	**-0.5**
	0.5nm,0.6s,baz=94,slow=8.9,SNR=12 0.5nm,0.6s							
WRA	**Warramunga Arr**	**49.34**	**176**	P		**P**	**01 08 58.5**	**+0.6**
	0.8nm,0.9s,baz=354,slow=7.6,SNR=2.8 0.8nm,0.9s							
BVAR	**Borovoye Array**	**49.48**	**316**	P		**P**	**01 08 58.6**	**-0.1**
	1.7nm,0.6s,baz=89,slow=10,SNR=16 1.7nm,0.6s							
ILAR	**Eielson Array**	**60.34**	**29**	P		**P**	**01 10 17.7**	**+0.6**
	0.1nm,0.4s,baz=280,slow=5.4,SNR=2.0 0.1nm,0.4s							
FINES	**FINESS Array B**	**71.16**	**331**	P		**P**	**01 11 25.2**	**-1.6**
	1.2nm,0.8s,baz=37,slow=7.1,SNR=5.1 1.2nm,0.8s							

TAP 22 01:32:51.5,24.51N×121.92E,h12km,ML2.2,6C-5D,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ESAO	**Su ao**	**0.10**	**315**	⇑*i*P		Pg	01 32 54.4	0.0
ESAO	baz=315			*i* S		Sg	01 32 56.5	+0.1
TWC	**Suao**	**0.12**	**328**	⇑*i*P		Pg	01 32 54.6	-0.1
TWC	baz=331			S		Sg	01 32 56.6	-0.3
EWUT	**Wuta**	**0.14**	**244**	P		Pg	01 32 55.1	+0.1
EWUT	baz=245			*i* S		Sg	01 32 57.5	+0.1
ENA	**Nanau**	**0.18**	**244**	⇓P		Pg	01 32 55.6	0.0
ENA	baz=243			S		Sg	01 32 58.7	+0.3
NDS	**Dongshan**	**0.22**	**304**	⇑P		Pg	01 32 56.8	+0.5
NDS	baz=299			S		Sg	01 33 00.6	+1.0
EAHA	**Aohua**	**0.24**	**223**	⇓*i*P		Pg	01 32 56.4	-0.2
EAHA	baz=223			S		Sg	01 33 00.3	+0.3
EOS2	**EOS2**	**0.30**	**107**	*i* P		Pg	01 32 57.0	-0.6
EOS2	baz=114			*e*S		Sg	01 33 01.5	-0.1
TWE	**Neicheng**	**0.31**	**313**	*e*P		Pb	01 32 58.6	-0.5
TWE	baz=320			*e*S		Sb	01 33 05.3	+1.1
LATG	**Datong**	**0.36**	**275**	⇓P		Pg	01 32 59.2	+0.4
LATG	baz=275			*i* S		Sg	01 33 04.5	+0.8
NDT	**Datong Townshi**	**0.38**	**284**	P		Pb	01 32 59.8	-0.5
NDT	baz=285			*i* S		Sb	01 33 05.3	-0.8
FUSB	**Fushanzhiwuyua**	**0.39**	**310**	⇑P		Pb	01 33 00.1	-0.5
FUSB	baz=311			*i* S		Sb	01 33 05.7	-0.8
EOS3	**EOS3**	**0.42**	**121**	⇑P		Pg	01 32 59.2	-0.7
EOS3	baz=128			*i* S		Sg	01 33 05.0	-0.5
NACB	**Ninganchiao**	**0.44**	**222**	⇓P		Pg	01 32 59.9	-0.4
NACB	baz=222			*i* S		Sg	01 33 06.5	+0.2
NWLT	**Wulai**	**0.47**	**305**	*e*P		Pb	01 33 01.6	-0.1
NWLT	baz=297			*e*S		Sg	01 33 07.5	+0.6
TIPB	**Shuangxi**	**0.47**	**350**	*i* P		Pg	01 33 01.0	+0.2
TIPB	baz=350			*e*S		Sg	01 33 07.6	+0.4
NNSB	**Datong**	**0.49**	**261**	*i* P		Pg	01 33 01.6	+0.3
NNSB	baz=261			S		Sg	01 33 08.3	+0.4
ETLH	**Xiulin Townshi**	**0.50**	**233**	⇑P		Pg	01 33 01.1	-0.2
ETLH	baz=233			*e*S		Sg	01 33 07.8	-0.2
NNS	**Nan Shan**	**0.50**	**262**	P		Pg	01 33 00.9	-0.6
NNS	baz=262			*i* S		Sg	01 33 08.6	+0.5
TWB1	**Santiao Chiao**	**0.50**	**7**	P		Pg	01 33 01.4	-0.1
TWB1				S		Sg	01 33 08.5	+0.4
TWD	**Chiawan**	**0.52**	**215**	*e*P		Pg	01 33 01.1	-0.6
YHNB	**Yeheng**	**0.52**	**288**	⇓P		Pb	01 33 02.4	-0.3
YHNB	baz=294			S		Sb	01 33 09.5	-0.7
NSK	**Sanguang**	**0.54**	**288**	*e*P		Pb	01 33 02.6	-0.4
NSK	baz=294			*e*S		Sg	01 33 09.2	0.0
NWF	**Wu-fen Shan**	**0.57**	**347**	*e*P		Pg	01 33 02.5	-0.3
NWF	baz=335			*e*S		Sg	01 33 09.6	-0.9
WFSB	**Wu-fen Shan**	**0.57**	**347**	P		Pg	01 33 02.7	-0.1
WFSB	baz=337			*e*S		Sg	01 33 09.6	-0.8
SXI1	**Grass Mountain**	**0.59**	**356**	*e*P		Pb	01 33 03.7	-0.1
SXI1	baz=1.0			S		Sb	01 33 11.9	-0.2
HWA	**Hwalien**	**0.60**	**209**	P		Pg	01 33 02.6	-0.7
WHF	**Hehuan Shan**	**0.70**	**239**	P		Pg	01 33 05.1	-0.1
NFF	**Wufeng Townshi**	**0.74**	**280**	*e*P		Pg	01 33 05.4	-0.5
NFF	baz=280			*e*S		Sg	01 33 16.1	+0.4
CHGB	**Renai**	**0.81**	**237**	*e*P		Pb	01 33 08.0	+0.3
OWD	**Renai**	**0.87**	**231**	*e*P		Pg	01 33 08.5	0.0

TAP 22 01:33:07.5,23.94N×121.48E,h16km,ML1.9,3C-2D,A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ETM	**Tongmen**	**0.03**	**29**	⇑*i*P		Pg	01 33 10.3	-0.1
ETM	baz=29			S		Sg	01 33 12.6	+0.2
LXIB	**Xiulin Townshi**	**0.10**	**325**	*i* P		Pg	01 33 10.8	-0.3
LXIB	baz=325			S		Sg	01 33 13.5	-0.1
HWA	**Hwalien**	**0.12**	**72**	P		Pb	01 33 11.4	-0.1
HWA	baz=73			*e*S		Sb	01 33 14.9	+0.7
HWA	**Hwalien**	**0.12**	**72**	*e*S		Pb	01 33 11.4	-0.1
ESL	**Shilin**	**0.13**	**198**	⇑*i*P		Pg	01 33 11.1	-0.2
ESL	baz=194			*i* S		Sg	01 33 13.9	+0.1
SHUL	**Shoufeng**	**0.17**	**152**	P		Pb	01 33 12.1	-0.2
SHUL	baz=152			*e*S		Sb	01 33 16.0	+0.6
TWD	**Chiawan**	**0.18**	**38**	*i* P		Pg	01 33 11.8	-0.1
TWD	baz=39			S		Sg	01 33 15.0	0.0
WARBT	**Fenglin Townsh**	**0.23**	**201**	⇑P		Pg	01 33 12.4	-0.5
WARBT	baz=200			*e*S		Sg	01 33 16.1	-0.3
ETL	**Fush Village**	**0.26**	**31**	*e*S		Sg	01 33 16.4	-0.8
NACB	**Ninganchiao**	**0.26**	**25**	*e*P		Pg	01 33 12.5	-0.8
NACB	baz=24			*e*S		Sg	01 33 16.6	-0.5
ETLH	**Xiulin Townshi**	**0.27**	**1**	P		Pg	01 33 13.1	-0.4
ETLH	baz=1.0			S		Sg	01 33 16.6	-0.9
EGFH	**Guangfu**	**0.27**	**189**	*i* P		Pg	01 33 13.3	-0.1
EGFH	baz=189			S		Sg	01 33 17.3	-0.2
OWD	**Renai**	**0.28**	**273**	P		Pg	01 33 13.5	-0.1
OWD	baz=273			*i* S		Sg	01 33 17.6	-0.2
OWD	**Renai**	**0.28**	**273**	*e*S		Sg	01 33 17.6	-0.1
WHF	**Hehuan Shan**	**0.28**	**317**	*i* P		Pg	01 33 13.4	-0.5
WHF	baz=317			S		Sg	01 33 18.1	-0.2
CHGB	**Renai**	**0.30**	**294**	P		Pg	01 33 14.2	+0.1
CHGB	baz=293			*e*S		Sb	01 33 19.1	-0.4
CHGB	**Renai**	**0.30**	**294**	S		Sg	01 33 18.6	0.0
WUSB	**Renai**	**0.33**	**279**	*i* P		Pg	01 33 14.4	-0.2
WUSB	baz=279			*i* S		Sg	01 33 19.4	0.0
VWDT	**VWDT**	**0.36**	**239**	P		Pg	01 33 14.9	0.0
VWDT	baz=239			*e*S		Sb	01 33 20.5	-0.4
FUSS	**Fushou**	**0.37**	**325**	*e*P		Pg	01 33 13.8	-1.6
FUSS	baz=325			S		Sg	01 33 20.5	-0.

NNS					S	Sg	01 33 24.6	0.0
	baz=350								
WCS	**Beigang Elemen**	**0.53**	**283**	*i*	P	Pg	01 33 17.6	-0.4
	baz=282								
WCS					S	Sg	01 33 25.4	+0.3
	baz=282								
ENA	**Nanau**	**0.55**	**26**	*e*	P	Pb	01 33 18.6	-0.2
	baz=27								
ENA					*e*S	Sb	01 33 27.1	+0.8
	baz=27								
TYC	**Yuchr**	**0.57**	**267**		P	Pg	01 33 17.9	-0.9
	baz=266								
TYC					S	Sg	01 33 26.0	-0.4
	baz=266								
YULB	**Yu-li**	**0.57**	**197**	⇓ *i*	P	Pg	01 33 18.2	-0.6
	baz=196								
YULB					*e*S	Sb	01 33 26.8	-0.1
	baz=196								
LATG	**Datong**	**0.60**	**4**	*i*	P	Pg	01 33 18.9	-0.5
	baz=4.0								
LATG					S	Sg	01 33 26.9	-0.5
	baz=4.0								
EYUL	**Yuli**	**0.60**	**194**		P	Pg	01 33 18.8	-0.7
	baz=193								
EYUL				*i*	S	Sg	01 33 27.2	-0.3
	baz=193								
TWF1	**Yuli**	**0.61**	**196**	*e*	P	Pg	01 33 18.3	-1.2
	baz=194								
TWF1					*e*S	Sb	01 33 27.9	-0.1
	baz=194								
WHYT	**Xinyi Township**	**0.62**	**247**		P	Pg	01 33 19.4	-0.4
	baz=247								
WHYT					*e*S	Sg	01 33 27.4	-0.7
	baz=247								
WNT	**Mingjian**	**0.73**	**265**		P	Pg	01 33 21.0	-0.7
	baz=265								
WNT					*e*S	Sg	01 33 30.9	-0.5
	baz=265								
NSK	**Sanguang**	**0.74**	**352**		P	Pg	01 33 21.3	-0.8
	baz=352								
NSK					S	Sg	01 33 31.0	-0.9
	baz=352								
TWC	**Suao**	**0.75**	**27**	*e*	P	Pg	01 33 21.2	-1.0
	baz=27								
TWC					S	Sg	01 33 31.8	-0.4
	baz=27								
EOS4	**EOS4**	**0.79**	**77**	*e*	P	Pg	01 33 22.8	0.0
	baz=76								
EHD	**Haiduan**	**0.82**	**198**	*i*	P	Pb	01 33 22.6	-0.9
	baz=197								
EHD					*e*S	Sb	01 33 33.8	-0.5
	baz=197								
NWLT	**Wulai**	**0.84**	**2**		P	Pb	01 33 23.1	-0.6
	baz=1.0								
NWLT					*e*S	Sb	01 33 33.7	-1.1
	baz=1.0								
EOS2	**EOS2**	**0.84**	**55**	*e*	P	Pb	01 33 23.5	-0.1
	baz=55								
EOS3	**EOS3**	**0.84**	**66**	*e*	P	Pb	01 33 23.7	0.0
	baz=65								
EOS3					*e*S	Sn	01 33 36.0	-0.6
	baz=65								
CHN4	**Tsaushan**	**1.00**	**234**	*i*	P	Pb	01 33 25.5	-0.9
	baz=234								
CHN4					*e*S	Sb	01 33 39.5	+0.1
	baz=234								
WFSB	**Wu-fen Shan**	**1.16**	**14**		P	Pn	01 33 28.4	-0.8
	baz=13								
WFSB					*e*S	Sb	01 33 43.8	-0.3
	baz=13								
TWGBT	**Beinan**	**1.17**	**198**		S	Sb	01 33 44.0	-0.4
	baz=198								

SCB ***22*** *01:46:50.7±1.1,21°.80S×67°.30W,h160km±10km,ML3.2/5, MW3.9,Error ellipse: s-maj=4.9km s-min=2.4km az=0.0*

ISC 22 01:46:49.0±2.1,21°.84S±0°.06×67°.31W±0°.05, h184km±18km,n27,σ1§12/41,4C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MOCB	**Mochara**	**1.66**	**70**	Pg		**Pn**	**01 47 23.9**	**+0.5**
MOCB				Sg		**Sn**	**01 47 48.4**	**-1.5**
MOCB				IAML			01 47 57.5	
	41nm,0.7s							
PB09	**IPOC Station P**	**1.80**	**271**	*e*P		**Pn**	**01 47 25.6**	**+1.0**
PB09				*i* S		**Sn**	**01 47 53.6**	**+1.6**
PB09	**IPOC Station P**	**1.80**	**271**	Pg		**Pn**	**01 47 25.5**	**+1.0**
PB01	**IPOC Station P**	**2.18**	**291**	⇑ *i*	P	**Pn**	**01 47 28.9**	**+0.3**
PB01				*i* S		**Sn**	**01 47 59.1**	**0.0**
PB01				IAML			01 48 00.1	
	comp=N,253nm,0.3s							
PB01	**IPOC Station P**	**2.18**	**291**	Pg		**Pn**	**01 47 28.8**	**+0.3**
PB01				Sg		**Sn**	**01 47 58.2**	**-0.9**
PB01				IAML			01 48 00.2	
	comp=N,207nm,0.3s							
PB07	**IPOC Station P**	**2.40**	**272**	*e*P		**Pn**	**01 47 31.4**	**+0.3**
PB07				*i* S		**Sn**	**01 48 02.6**	**-1.1**
PB07				IAML			01 48 03.9	
	comp=N,173nm,0.5s							
PB08	**IPOC Station P**	**2.42**	**314**	⇑ *i*	P	**Pn**	**01 47 32.9**	**+1.5**
PB08	**IPOC Station P**	**2.42**	**314**	Pg		**Pn**	**01 47 32.5**	**+1.0**
PB15	**IPOC Station P**	**2.42**	**235**	⇑ *e*P		**Pn**	**01 47 33.1**	**+1.8**
PB15				*i* S		**Sn**	**01 48 03.9**	**-0.4**
PB15				IAML			01 48 09.2	
	comp=N,180nm,0.3s							
PB15	**IPOC Station P**	**2.42**	**235**	Pg		**Pn**	**01 47 32.9**	**+1.6**
PB15				Sg		**Sn**	**01 48 04.0**	**-0.2**
PB15				IAML			01 48 10.7	
	comp=N,170nm,0.3s							
PB02	**IPOC Station P**	**2.47**	**282**	*e*P		**Pn**	**01 47 31.9**	**+0.2**
PB02				*i* S		**Sn**	**01 48 03.7**	**-1.2**
PB02				IAML			01 48 04.4	
PB02	**IPOC Station P**	**2.47**	**282**	Pg		**Pn**	**01 47 32.5**	**+0.8**
PB02				Sg		**Sn**	**01 48 03.8**	**-1.1**
PB02				IAML			01 48 04.6	
	comp=N,115nm,0.7s							
GO01	**Chusmiza**	**2.79**	**320**	*e*P		**Pn**	**01 47 36.8**	**+0.9**
GO01				*i* S		**Sn**	**01 48 12.5**	**+0.1**
GO01				IAML			01 48 18.4	
	comp=N,64nm,0.2s							
GO01	**Chusmiza**	**2.79**	**320**	Pg		**Pn**	**01 47 37.1**	**+1.2**
PB05	**IPOC Station P**	**2.87**	**249**	⇑ *e*P		**Pn**	**01 47 36.5**	**+0.1**
PB05				*i* S		**Sn**	**01 48 10.7**	**-2.6**
TA01	**Diego Aracena**	**2.97**	**295**	*e*P		**Pn**	**01 47 37.2**	**-0.3**
TA01				*i* S		**Sn**	**01 48 13.2**	**-2.1**
TA01				IAML			01 48 14.5	
	comp=E,74nm,0.3s							
PB11	**IPOC Station P**	**3.02**	**313**	*e*P		**Pn**	**01 47 38.4**	**+0.1**
PB11				*i* S		**Sn**	**01 48 15.4**	**-1.3**
PB11				IAML			01 48 17.4	
	comp=N,63nm,0.2s							
PB11	**IPOC Station P**	**3.02**	**313**	Pg		**Pn**	**01 47 38.6**	**+0.3**
PB11				Sg		**Sn**	**01 48 15.6**	**-1.1**
PB11				IAML			01 48 16.8	
	comp=N,37nm,0.2s							
PB10	**IPOC Station P**	**3.43**	**240**	*e*P		**Pn**	**01 47 43.4**	**+0.2**
SOET	**ToroToro**	**3.96**	**21**	Pg		**Pn**	**01 47 50.8**	**+0.6**
PB16	**IPOC Station P**	**4.05**	**329**	*e*P		**Pn**	**01 47 52.8**	**+1.2**
PB16	**IPOC Station P**	**4.05**	**329**	Pg		**Pn**	**01 47 52.6**	**+1.0**
AOEA	**Aiquile**	**4.13**	**29**	Pg		**Pn**	**01 47 52.2**	**-0.1**
SOEJ	**Jacaque**	**4.91**	**350**	Pg		**Pn**	**01 48 03.5**	**+1.0**
BBOE	**La Paz, Chanca**	**5.04**	**353**	Pg		**Pn**	**01 48 05.6**	**+1.4**
BBOD	**La Paz, Gloria**	**5.32**	**346**	Pg		**Pn**	**01 48 08.6**	**+0.8**
LPAZ	**La Paz**	**5.58**	**352**	Pg		**Pn**	**01 48 12.5**	**+1.3**

ISK ***22*** *02:17:28.6,34°.63N×33°.99E,h46km±2km,ML2.4/24*
GRAL ***22*** *02:17:29.9±0.3,34°.58N×33°.99E,h22km±3km,MD3.3*
GII ***22*** *02:17:31.6±0.4,34°.59N±0°.02×33°.871E±0°.009,h31km, Mws2.2,confirmed*
NIC ***22*** *02:17:31.1,34°.67N×33°.83E,h26km,MI2.0/9*
AFAD ***22*** *02:17:32.1±0.0,34°.93N×33°.80E,h43km±1km,ML2.0*

ISC 22 02:17:29.0±1.0,34°.62N±0°.02×33°.97E±0°.03,h30km±10km, n103,σ0§75/128,2D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PARAL	**Paralimni**	**0.38**	**9**	P		**Pn**	**02 17 39.0**	**+0.5**
PARAL				S		**Sn**	**02 17 46.0**	**+1.3**
PARAL				AML		AML	02 17 49.8	
	0.7nm,0.6s							
PARAL				AML		AML	02 17 51.6	
	0.8nm,0.8s							
MVOU	**Mavrovouni**	**0.48**	**325**	⇑ P		**Pb**	**02 17 39.4**	**+0.2**
MVOU				S		**Sb**	**02 17 46.4**	**+0.2**
MVOU				AML		AML	02 17 46.8	
	0.2nm,0.3s							
MVOU				AML		AML	02 17 47.8	
	0.3nm,0.4s							
AKIN	**Akıncılar- Kıb**	**0.57**	**313**	Pg		**Pn**	**02 17 41.4**	**+0.2**
AKIN				Sg		**Sn**	**02 17 49.3**	**-0.3**
ASGA	**Asgata**	**0.62**	**286**	⇓ P		**Pb**	**02 17 41.4**	**0.0**
ASGA				S		**Sb**	**02 17 49.7**	**-0.1**
ASGA				AML		AML	02 17 51.1	
	0.5nm,0.4s							
ASGA				AML		AML	02 17 51.4	
	0.4nm,0.5s							
CSS	**Mathiatis**	**0.63**	**303**	Pg		**Pb**	**02 17 41.7**	**+0.1**
CSS				Sg		**Sn**	**02 17 51.9**	**+0.9**
CSS	**Mathiatis**	**0.63**	**303**	⇓ P		**Pb**	**02 17 41.7**	**+0.1**
CSS				S		**Sb**	**02 17 49.5**	**-0.7**
CSS				AML		AML	02 17 51.3	
	0.3nm,0.6s							
CSS				AML		AML	02 17 53.3	
	0.3nm,0.5s							
CSS	**Mathiatis**	**0.63**	**303**	P		**Pb**	**02 17 41.5**	**-0.1**
ATHAL	**Athalassa**	**0.70**	**318**	P		**Pn**	**02 17 43.2**	**+0.3**
ATHAL				S		**Sn**	**02 17 53.5**	**+0.7**
ATHAL				AML		AML	02 17 59.5	
	0.3nm,0.8s							
ATHAL				AML		AML	02 18 02.4	
	0.4nm,0.5s							
LFK	**Lefkose**	**0.75**	**331**	Pg		**Pb**	**02 17 43.5**	**-0.1**
LFK				Sg		**Sn**	**02 17 54.5**	**+0.5**
EREN	**Erenkoy**	**0.92**	**10**	Pg		**Pn**	**02 17 45.8**	**-0.1**
EREN				Sg		**Sb**	**02 17 58.1**	**-0.3**
EREN	**Erenkoy**	**0.92**	**10**	P		**Pn**	**02 17 46.2**	**+0.2**
EREN				S		**Sn**	**02 18 00.0**	**+1.8**
EREN				*i* AML		AML	02 18 02.0	
	comp=E,121nm,0.7s							
EREN				*i* AML		AML	02 18 03.0	
	comp=N,79nm,0.5s							
TROD	**Troodos**	**0.97**	**290**	P		**Pn**	**02 17 47.0**	**+0.2**
TROD				S		**Sb**	**02 17 59.2**	**-0.7**
TROD				AML		AML	02 18 02.4	
	0.3nm,0.5s							
TROD				AML		AML	02 18 02.7	
	0.2nm,0.5s							
LEF	**Lefka**	**1.02**	**299**	Pg		**Pb**	**02 17 47.9**	**-0.2**
LEF				Sg		**Sb**	**02 18 01.5**	**+0.3**
LEF	**Lefka**	**1.02**	**299**	P		**Pb**	**02 17 48.1**	**0.0**
LEF				S		**Sb**	**02 18 01.0**	**-0.2**
NATA	**Nata**	**1.17**	**278**	⇑ P		**Pb**	**02 17 50.2**	**-0.4**
NATA				S		**Sn**	**02 18 04.3**	**0.0**
NATA				AML		AML	02 18 08.6	
	1.0nm,0.6s							
NATA				AML		AML	02 18 09.7	
	0.7nm,0.3s							
ALFC	**Alefka**	**1.25**	**296**	P		**Pn**	**02 17 50.4**	**-0.1**
ALFC				S		**Sn**	**02 18 06.9**	**+0.6**
ALFC				AML		AML	02 18 13.7	
	0.1nm,0.4s							
ALFC				AML		AML	02 18 13.8	
	0.1nm,0.2s							
AKMS	**Akamas**	**1.40**	**287**	P		**Pn**	**02 17 53.7**	**+1.1**
AKMS				S		**Sn**	**02 18 10.4**	**+0.3**
AKMS				AML		AML	02 18 14.2	
	0.1nm,0.2s							
AKMS				AML		AML	02 18 16.0	
	0.1nm,0.2s							
AKK2	**Akkuyu-Mersin**	**1.55**	**347**	Pn		**Pn**	**02 17 54.7**	**+0.1**
TISA	**Tisan-Mersin**	**1.56**	**351**	Pn		**Pn**	**02 17 54.7**	**0.0**
AKK1	**Akkuyu-Mersin**	**1.56**	**347**	Pn		**Pn**	**02 17 54.8**	**+0.1**
BHL	**Bhannes**	**1.57**	**117**	*e*P		**Pn**	**02 17 55.1**	**+0.2**
AKKU	**Akkuyu-Mersin**	**1.57**	**347**	Pn		**Pn**	**02 17 54.9**	**0.0**
YESI	**Yesilovacik-Me**	**1.59**	**350**	Pn		**Pn**	**02 17 55.3**	**+0.1**
GULN	**MERSIN_Gulnar**	**1.60**	**347**	P		**Pn**	**02 17 55.3**	**+0.1**
GULN				S		**Sn**	**02 18 13.6**	**-1.3**
GULN				*i* AML		AML	02 18 16.0	
	comp=E,25nm,0.7s							
GULN				*i* AML		AML	02 18 17.0	
	comp=N,16nm,0.7s							
DQRL	**Deir Qamar**	**1.61**	**124**	*e*P		**Pn**	**02 17 55.8**	**+0.3**
IKL	**Isikli**	**1.63**	**352**	Pn		**Pn**	**02 17 55.7**	**0.0**
HWQ	**Hawqa**	**1.67**	**101**	*e*P		**Pn**	**02 17 56.7**	**+0.4**
HWQ				eS		**Sn**	**02 18 13.6**	**-0.3**
TEKE	**Tekeli-Mersin**	**1.67**	**335**	Pn		**Pn**	**02 17 56.3**	**0.0**
SILI	**Silifke-Mersin**	**1.74**	**359**	Pn		**Pn**	**02 17 57.0**	**-0.2**
ZAHL	**Zahle**	**1.76**	**115**	*e*P		**Pn**	**02 17 57.8**	**+0.2**
SLFK	**Silifke-Mersin**	**1.77**	**359**	Pn		**Pn**	**02 17 57.6**	**0.0**
QRWL	**Qaraoun**	**1.78**	**127**	*e*P		**Pn**	**02 17 58.0**	**+0.2**
BEIL	**Beino**	**1.83**	**92**	*e*P		**Pn**	**02 17 59.1**	**+0.7**
BEIL				*e*S		**Sn**	**02 18 20.5**	**-0.1**
HNTI	**Hanita**	**1.83**	**147**	P		**Pb**	**02 18 02.5**	**+0.6**
HNTI	**Hanita**	**1.83**	**147**	S		**Sn**	**02 18 21.0**	**+0.3**
HNTI	**Hanita**	**1.83**	**147**	P		**Pn**	**02 17 59.1**	**+0.6**
KIZK	**Mersin**	**1.86**	**4**	Pn		**Pn**	**02 17 58.9**	**0.0**
KIZK	**Mersin**	**1.86**	**4**	P		**Pn**	**02 17 58.8**	**0.0**
KIZK				S		**Sn**	**02 18 19.9**	**-1.4**
TEVE	**Tevekalti-Mers**	**1.86**	**347**	Pn		**Pn**	**02 17 59.2**	**+0.2**
RCY	**Rachaya**	**1.91**	**125**	*e*P		**Pn**	**02 18 00.1**	**+0.3**
MMC1	**Mount Meron ar**	**1.98**	**143**	P		**Pn**	**02 18 01.8**	**+1.1**
MMC7	**Mount Meron ar**	**1.99**	**143**	P		**Pn**	**02 18 01.5**	**+0.8**
GEM	**Giv'at Ha'Em**	**1.99**	**135**	P		**Pn**	**02 18 01.6**	**+0.9**
GEM	**Giv'at Ha'Em**	**1.99**	**135**	S		**Sn**	**02 18 24.0**	**-0.6**
GEM	**Giv'at Ha'Em**	**1.99**	**135**	P		**Pn**	**02 18 01.5**	**+0.8**
MMA0B	**Mount Meron ar**	**2.00**	**143**	P		**Pn**	**02 18 01.8**	**+1.0**
MMA0B	**Mount Meron ar**	**2.00**	**143**	S		**Sn**	**02 18 25.4**	**+0.6**
NATI	**Neve Ativ**	**2.00**	**132**	P		**Pn**	**02 18 01.7**	**+1.0**
NATI	**Neve Ativ**	**2.00**	**132**	S		**Sn**	**02 18 25.0**	**+0.3**
NATI	**Neve Ativ**	**2.00**	**132**	P		**Pn**	**02 18 01.7**	**+1.0**
MMB1	**Mount Meron ar**	**2.00**	**143**	P		**Pn**	**02 18 01.4**	**+0.5**
GAZI	**Gazipasa**	**2.10**	**320**	Pn		**Pn**	**02 18 02.9**	**+0.7**
GAZI	**Gazipasa**	**2.10**	**320**	P		**Pn**	**02 18 02.5**	**+0.3**
GAZI				S		**Sn**	**02 18 25.0**	**-2.3**
GAZI				*i* AML		AML	02 18 28.0	
	comp=N,12nm,0.3s							
OFRI	**`Ofer**	**2.17**	**157**	P		**Pn**	**02 18 02.5**	**-0.6**
OFRI				S		**Sn**	**02 18 28.1**	**-0.9**
OFRI	**`Ofer**	**2.17**	**157**	S		**Sn**	**02 18 27.5**	**-1.5**
OFRI	**`Ofer**	**2.17**	**157**	P		**Pn**	**02 18 03.6**	**+0.5**
KSHT	**Keshet**	**2.24**	**136**	S		**Sn**	**02 18 31.6**	**+0.8**
KSHT	**Keshet**	**2.24**	**136**	P		**Pn**	**02 18 05.1**	**+0.9**
DED	**Mersin**	**2.43**	**16**	P		**Pn**	**02 18 06.7**	**-0.1**
DED				S		**Sn**	**02 18 34.4**	**-1.0**
DED				*i* AML		AML	02 18 35.0	
	comp=E,13nm,0.8s							
MMLI	**Mount Malkishu**	**2.49**	**151**	S		**Sn**	**02 18 37.4**	**+0.4**
MMLI	**Mount Malkishu**	**2.49**	**151**	P		**Pn**	**02 18 08.1**	**+0.5**
TAHT	**Tahtakopru-Hat**	**2.51**	**45**	Pn		**Pn**	**02 18 08.3**	**+0.4**
SLTI	**Sal'it**	**2.54**	**159**	P		**Pb**	**02 18 11.5**	**-2.4**
SLTI	**Sal'it**	**2.54**	**159**	P		**Pn**	**02 18 08.7**	**+0.6**
SLTI	**Sal'it**	**2.54**	**159**	S		**Sn**	**02 18 38.2**	**+0.1**
KRMN	**Karaman**	**2.61**	**347**	Pn		**Pn**	**02 18 09.7**	**+0.4**
HDMB	**Hadim**	**2.63**	**333**	Pn		**Pn**	**02 18 10.4**	**+0.7**
QRNJ	**Al-Qirein**	**2.65**	**149**	P		**Pn**	**02 18 11.4**	**+1.8**
QRNJ				S		**Sn**	**02 18 42.4**	**+1.7**
HMDT	**Nahal Hemdat**	**2.70**	**151**	P		**Pn**	**02 18 11.1**	**+0.7**
HMDT	**Nahal Hemdat**	**2.70**	**151**	P		**Pn**	**02 18 11.0**	**+0.6**
HMDT	**Nahal Hemdat**	**2.70**	**151**	S		**Sn**	**02 18 42.3**	**+0.3**
KARA	**Karaisali**	**2.78**	**18**	Pn		**Pn**	**02 18 11.9**	**+0.4**
UJAP	**Al Uja**	**2.94**	**154**	P		**Pn**	**02 18 15.6**	**+1.9**
UJAP	**Al Uja**	**2.94**	**154**	P		**Pn**	**02 18 14.3**	**+0.6**
UJAP	**Al Uja**	**2.94**	**154**	S		**Sn**	**02 18 48.1**	**+0.1**
CMRD	**Camardi-Nigde**	**3.14**	**15**	Pn		**Pn**	**02 18 17.3**	**+0.7**
YESY	**Yesilyurt**	**3.16**	**357**	Pn		**Pn**	**02 18 17.6**	**+0.7**
AMAZ	**Amatzia**	**3.18**	**165**	P		**Pn**	**02 18 17.5**	**+0.4**
AMAZ	**Amatzia**	**3.18**	**165**	S		**Sn**	**02 18 54.1**	**+0.1**
DSI	**Dead Sea**	**3.27**	**158**	P		**Pn**	**02 18 19.8**	**+1.6**
DSI				S		**Sn**	**02 18 57.9**	**+1.9**
DSI	**Dead Sea**	**3.27**	**158**	S		**Sn**	**02 18 55.8**	**-0.2**
DSI	**Dead Sea**	**3.27**	**158**	P		**Pn**	**02 18 18.6**	**+0.4**
SEYD	**Seydisehir-KON**	**3.27**	**329**	Pn		**Pn**	**02 18 19.3**	**+0.9**
YTIR	**Yattir**	**3.39**	**163**	S		**Sn**	**02 18 59.4**	**+0.2**
YTIR	**Yattir**	**3.39**	**163**	P		**Pn**	**02 18 20.6**	**+0.7**
MDBI	**Mazsada**	**3.50**	**160**	P		**Pn**	**02 18 21.4**	**0.0**
MDBI	**Mazsada**	**3.50**	**160**	S		**Sn**	**02 19 01.3**	**-0.4**
MSBI	**Mazada**	**3.50**	**160**	P		**Pn**	**02 18 21.9**	**+0.6**
MSBI	**Mazada**	**3.50**	**160**	S		**Sn**	**02 19 01.8**	**+0.1**
GHAJ	**Ghor Haditha**	**3.57**	**158**	P		**Pn**	**02 18 23.0**	**+0.6**
GHAJ	**Ghor Haditha**	**3.57**	**158**	S		**Sn**	**02 19 03.7**	**+0.2**
KZIT	**Kziot**	**3.72**	**174**	P		**Pn**	**02 18 25.1**	**+0.6**
KZIT	**Kziot**	**3.72**	**174**	S		**Sn**	**02 19 06.8**	**-0.5**
PRNI	**Paran**	**4.35**	**168**	S		**Sn**	**02 19 22.5**	**-0.3**
PRNI	**Paran**	**4.35**	**168**	P		**Pn**	**02 18 33.4**	**+0.3**
KRMI	**Paran Flat**	**4.54**	**172**	P		**Pn**	**02 18 36.5**	**+0.8**
KRMI	**Paran Flat**	**4.54**	**172**	P		**Pn**	**02 18 36.1**	**+0.4**
KRMI	**Paran Flat**	**4.54**	**172**	S		**Sn**	**02 19 27.3**	**-0.2**
HRFI	**Mount Harif**	**4.66**	**169**	P		**Pn**	**02 18 38.1**	**+0.7**
HRFI	**Mount Harif**	**4.66**	**169**	P		**Pn**	**02 18 37.9**	**+0.5**
HRFI	**Mount Harif**	**4.66**	**169**	S		**Sn**	**02 19 29.0**	**-1.5**
EIL	**Elat**	**5.01**	**170**	P		**Pn**	**02 18 42.6**	**+0.5**
EIL	**Elat**	**5.01**	**170**	S		**Sn**	**02 19 39.1**	**0.0**

IDC 22 02:21:54.1±1.9,12°.67N×90°.78E,h0km,mb3.9/4, mbtmp3.9/5,ML4.4/1,Error ellipse: s-maj=65.1km s-min=23.1km az=63.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMAR	**Chiang Mai Arr**	**9.75**	**53**	Pn		Pn	02 24 15.8	+0.1
	1.0nm,0.3s,baz=238,slow=16,SNR=4.2							
	1.6nm,0.3s							
MKAR	**Makanchi Array**	**34.76**	**350**	P		P	02 28 45.5	-0.7
	0.3nm,0.7s,baz=147,slow=8.4,SNR=4.4							
	0.3nm,0.7s							
KURBB	**Kurchatov Arra**	**39.15**	**348**	P		P	02 29 23.3	-0.1
	0.7nm,0.2s,baz=151,slow=7.9,SNR=2.3							
	0.7nm,0.2s							
WRA	**Warramunga Arr**	**53.74**	**126**	P		P	02 31 17.9	-0.6
	1.2nm,0.6s,baz=302,slow=10.0,SNR=16							
	1.2nm,0.6s							
ASAR	**Alice Springs**	**55.52**	**131**	P		P	02 31 32.1	+0.7
	1.9nm,0.4s,baz=308,slow=6.7,SNR=31							
	1.9nm,0.4s							

IDC ***22*** *02:31:03.4±1.2,6°.26S×131°.51E,h0km,mb3.8/6, mbtmp4.0/9,ML4.4/3,MS3.2/2,Error ellipse: s-maj=50.7km s-min=20.7km az=72.0*
DJA ***22*** *02:31:10.2±0.6,6°.5S±4°×13°.2E±°,h85km±31km,M4.5/9, mB5.6/3,mb4.5/6,MLv4.5/9,Mw(mB)5.1/3*

ISC 22 02:31:09.9±0.8,6°.24S±0°.04×131°.47E±0°.08,h61km,n23, σ3§49/26,mb3.6/6,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SAUI	**Saumlaki**	**1.74**	**186**	P		**Pn**	**02 31 41.7**	**+3.8**
SAUI	**Saumlaki**	**1.74**	**186**	P		**Pn**	**02 31 40.9**	**+3.0**
SAUI				S		**Sn**	**02 31 55.6**	**-3.5**
BNDI	**Bandanaira**	**2.31**	**317**	P		**Pn**	**02 31 47.2**	**+1.6**
BNDI	**Bandanaira**	**2.31**	**317**	P		**Pn**	**02 31 47.1**	**+1.5**
BNDI				S		**Sn**	**02 32 06.1**	**-6.8**
FAKI	**Fak Fak**	**3.38**	**13**	P		**Pn**	**02 32 00.2**	**-0.1**
FAKI	**Fak Fak**	**3.38**	**13**	P		**Pn**	**02 31 58.9**	**-1.4**
FAKI				S		**Sn**	**02 32 34.1**	**-5.1**
NLAI	**Namlea**	**5.28**	**304**	P		**Pn**	**02 32 29.7**	**+3.5**
	52nm,0.7s,8μm0.2nm							
SWI	**Sorong**	**5.34**	**358**	P		**Pn**	**02 32 26.8**	**-0.3**
	26nm,0.7s,4μm0.7nm							
DRS	**Darwin Rock St**	**6.18**	**185**	P		**Pn**	**02 32 40.8**	**+2.2**
KDU	**Kakadu**	**6.49**	**171**	P		**Pn**	**02 32 43.0**	**+0.2**
MTN	**Manton Dam**	**6.58**	**183**	P		**Pn**	**02 32 45.2**	**+1.2**
SANI	**Sanana**	**6.87**	**307**	P		**Pn**	**02 32 51.9**	**+3.9**
SANI	**Sanana**	**6.87**	**307**	P		**Pn**	**02 32 50.4**	**+2.4**
BATI	**Baumata**	**8.68**	**242**	Pn		**Pn**	**02 33 11.2**	**-1.6**
	3.4nm,0.3s,baz=63,slow=16,SNR=1.5							
BATI				Sn		**Sn**	**02 34 45.6**	**-3.6**
	1.4nm,0.3s,baz=15,slow=19,SNR=1.0							
	9.7nm,0.3s							
WRA	**Warramunga Arr**	**13.91**	**169**	Pn		Pn	02 34 19.9	-4.2
	1.6nm,0.3s,baz=344,slow=13,SNR=37							
WRA				Sn		Sn	02 36 46.4	-11
	2.0nm,0.3s,baz=315,slow=8.6,SNR=9.6							
	5.8nm,0.5s							
PMG	**Port Moresby**	**15.86**	**102**	LR		LR	02 41 36.4	
	comp=Z,64nm,19.4s,baz=112,slow=40							
ASAR	**Alice Springs**	**17.49**	**173**	P		**Pn**	**02 35 08.1**	**-1.6**
	1.6nm,0.3s,baz=350,slow=9.0,SNR=97							
ASAR				S		**Sn**	**02 38 14.6**	**-9.3**
	1.8nm,0.6s,baz=354,slow=24,SNR=6.8							
ASAR				LR		LR	02 41 28.6	
	comp=Z,91nm,20.9s,baz=164,slow=36							
	4.7nm

PTQR					S	Sb	02 33 03.2	-1.0			
PTQR					AML	AML					
	comp=N,127μm,1.4s										
PTQR					AML	AML					
	comp=E,167μm,1.2s										
PTQR					AML	AML					
	comp=N,127μm,0.6s										
RMP	**Rome, Mte Porz**	**0.40**	**293**		P	Pg	02 32 57.4	+0.7			
RMP					AML	AML					
	comp=N,384μm,0.2s										
MA9	**Marino**	**0.42**	**286**		P	Pb	02 32 57.9	-0.5			
MA9					S	Sb	02 33 04.3	-0.6			
MA9					AML	AML					
	comp=E,436μm,1.4s										
MA9					AML	AML					
	comp=N,510μm,1.1s										
MA9					AML	AML					
	comp=E,436μm,0.6s										
SAMA	**S.Maria delle**	**0.47**	**286**		P	Pb	02 32 58.9	-0.4			
SAMA					S	Sb	02 33 05.8	-0.5			
MTCE	**Montecelio**	**0.50**	**317**		P	Pg	02 32 58.7	+0.1			
MTCE					S	Sb	02 33 06.7	-0.6			
FIAM	**Fiamignano**	**0.62**	**354**		P	Pg	02 33 00.7	0.0			
FAGN	**Fagnano**	**0.67**	**25**		P	Pb	02 33 02.4	-0.4			
FAGN					AML	AML					
	comp=E,252μm,0.4s										
FAGN					AML	AML					
	comp=N,171μm,0.5s										

ROM 22 02:33:24.2±0.1, 41°.654N±0°.004×13°.203E±0°.004, h9km, ML2.1/30, 2C-2D, Error ellipse: s-maj=0.3km s-min=0.3km az=178.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GIUL	**Giuliano Di Ro**	**0.10**	**158**	⇓P	Pg	02 33 27.5	+0.7
GIUL				S	Sg	02 33 29.5	+1.0
GIUL				AML	AML		
	comp=E,1890μm,0.6s						
GIUL				AML	AML		
	comp=N,2140μm,0.7s						
GIUL				AML	AML		
	comp=N,2140μm,1.3s						
GUAR	**Guarcino**	**0.16**	**30**	P	Pg	02 33 28.6	+0.8
GUAR				S	Sg	02 33 31.4	+1.2
GUAR				AML	AML		
	comp=E,2565μm,1.6s						
GUAR				AML	AML		
	comp=N,3985μm,1.6s						
GUAR				AML	AML		
	comp=N,3985μm,0.4s						
GUAR				AML	AML		
	comp=E,2565μm,0.4s						
LATB	**Latina**	**0.24**	**229**	⇑P	Pg	02 33 29.7	+0.6
LATB				S	Sg	02 33 33.5	+1.2
LATB				AML	AML		
	comp=E,234μm,0.4s						
LATB				AML	AML		
	comp=N,255μm,0.5s						
RCAV	**Rocca di Cave**	**0.27**	**315**	P	Pg	02 33 30.4	+0.7
RCAV				S	Sb	02 33 35.2	-1.0
RCAV				AML	AML		
	comp=E,750μm,1.6s						
RCAV				AML	AML		
	comp=E,750μm,1.6s						
RCAV				AML	AML		
	comp=E,750μm,0.4s						
RCAV				AML	AML		
	comp=N,846μm,0.3s						
LRP	**Arpino**	**0.29**	**91**	P	Pg	02 33 30.7	+0.8
LRP				S	Sb	02 33 35.8	-0.8
LRP				AML	AML		
	comp=E,837μm,0.2s						
LRP				AML	AML		
	comp=N,1020μm,0.0s						
LIK	**San Giovanni I**	**0.30**	**119**	P	Pb	02 33 31.3	-0.6
LIK				S	Sb	02 33 36.4	-0.6
LIK				AML	AML		
	comp=E,641μm,0.0s						
LIK				AML	AML		
	comp=N,714μm,0.2s						
CERT	**Cerreto**	**0.34**	**331**	⇓P	Pg	02 33 31.2	+0.3
CERT				S	Sb	02 33 37.4	-0.7
CERT				AML	AML		
	comp=E,554μm,0.5s						
CERT				AML	AML		
	comp=E,554μm,1.5s						
CERT				AML	AML		
	comp=N,354μm,0.4s						
VIVA	**Pratoni del Vi**	**0.34**	**287**	P	Pg	02 33 31.6	+0.7
VIVA				S	Sb	02 33 37.6	-0.5
VIVA				AML	AML		
	comp=E,2325μm,0.3s						
VIVA				AML	AML		
	comp=E,2325μm,1.7s						
VIVA				AML	AML		
	comp=N,2655μm,0.4s						
LAV9	**Lanuvio**	**0.38**	**274**	P	Pb	02 33 32.5	-0.7
LAV9				S	Sb	02 33 38.5	-0.7
RDP	**Rocca di Papa**	**0.38**	**286**	P	Pb	02 33 32.5	-0.7
RDP				S	Sb	02 33 39.1	-0.2
VVLD	**Villa Vallelon**	**0.38**	**55**	⇑P	Pg	02 33 32.1	+0.3
VVLD				S	Sb	02 33 38.1	-1.2
VVLD				AML	AML		
	comp=N,405μm,0.3s						
VVLD				AML	AML		
	comp=E,574μm,1.2s						
VVLD				AML	AML		
	comp=N,405μm,1.7s						
VVLD				AML	AML		
	comp=E,574μm,0.8s						
POFI	**Posta Fibreno**	**0.39**	**80**	P	Pb	02 33 32.6	-0.7
POFI				S	Sb	02 33 39.0	-0.5
POFI				AML	AML		
	comp=E,329μm,0.3s						
POFI				AML	AML		
	comp=N,251μm,1.3s						
POFI				AML	AML		
	comp=N,251μm,0.7s						
POFI				AML	AML		
	comp=E,304μm,0.3s						
POFI				AML	AML		
	comp=N,214μm,0.2s						
PTQR	**Pietraquaria**	**0.40**	**22**	P	Pg	02 33 32.6	+0.5
PTQR				S	Sb	02 33 38.6	-1.2
PTQR				AML	AML		
	comp=E,316μm,1.2s						
PTQR				AML	AML		
	comp=N,284μm,1.4s						
PTQR				AML	AML		
	comp=E,316μm,0.8s						
RMP	**Rome, Mte Porz**	**0.41**	**293**	P	Pg	02 33 32.8	+0.6
RMP				S	Sb	02 33 39.6	-0.4
RMP				AML	AML		
	comp=E,685μm,1.4s						
RMP				AML	AML		
	comp=N,841μm,1.3s						
RMP				AML	AML		
	comp=E,685μm,0.6s						
MA9	**Marino**	**0.42**	**286**	P	Pg	02 33 33.0	+0.5
MA9				S	Sb	02 33 39.9	-0.6
SAMA	**S.Maria delle**	**0.47**	**286**	P	Pb	02 33 34.2	-0.6
MCI	**Monte Cassino**	**0.49**	**110**	P	Pg	02 33 34.2	+0.5
MTCE	**Montecelio**	**0.51**	**317**	P	Pg	02 33 34.2	+0.1
MTCE				S	Sb	02 33 42.6	-0.2
MTCE				AML	AML		
	comp=N,118μm,0.3s						
MTCE				AML	AML		
	comp=E,144μm,0.5s						
FIAM	**Fiamignano**	**0.62**	**354**	P	Pb	02 33 36.8	-0.5
FIAM				S	Sb	02 33 45.8	-0.4
FAGN	**Fagnano**	**0.68**	**25**	P	Pb	02 33 38.0	-0.2
SRES	**S.Oreste - Sor**	**0.78**	**319**	P	Pg	02 33 39.0	-0.3
SRES				S	Sb	02 33 50.5	-0.2
SRES				AML	AML		
	comp=E,55μm,0.4s						
SRES				AML	AML		
	comp=N,89μm,0.4s						

*HEL **22** 02:45:49.8±0.2, 67°.80N×20°.14E, h0km, ML2.4, Explosion*
*IDC **22** 02:45:50.5±0.6, 67°.80N×20°.28E, h0km, mb3.5/7, mbtmp3.4/14, ML3.2/7, Error ellipse: s-maj=11.6km s-min=6.3km az=112.0*

*UPP **22** 02:45:50.3±0.1, 67°.83N×20°.21E, h0km, ML2.7, Confirmed Induced event*
*BER **22** 02:45:53.4±2.0, 67°.86N×20°.32E, h1km, ML2.5, Confirmed Induced event*

ISC 22 02:45:49.8±0.5, 67°.82N±0°.02×20°.20E±0°.02, h0km, n66, σ1§41/106, mb3.4/6, 1D, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.15**	**20**	P	Pg	**02 45 53.2**	**+0.6**
KUA				S	Sg	**02 45 55.0**	**+0.4**
KOVU	**Salmi**	**0.41**	**358**	P	Pg	**02 45 57.9**	**+0.2**
DUNU	**Dundret**	**0.71**	**168**	P	Pg	**02 46 04.0**	**+0.6**
LANU	**Lannavaara**	**0.72**	**70**	P	Pg	**02 46 03.8**	**+0.2**
LANU				S	Sg	**02 46 13.2**	**+0.4**
LANU	**Lannavaara**	**0.72**	**70**	PG	Pg	**02 46 01.7**	**-1.8**
LANU				SB	Sg	**02 46 13.1**	**+0.4**
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pg	**02 46 05.1**	**+0.4**
SALU	**Saltoluokta**	**0.78**	**237**	P	Pg	**02 46 05.3**	**+0.6**
KIF	**Kilpisjarvi**	**1.22**	**10**	*eP*	Pg	**02 46 12.9**	**-0.1**
KIF				*eS*	Sb	**02 46 30.2**	**+0.4**
KIF	**Kilpisjarvi**	**1.22**	**10**	PG	Pg	**02 46 12.5**	**-0.6**
KIF				MSG		02 46 28.4	
	comp=Z,53nm,0.2s						
KIF				SB	Sg	**02 46 29.5**	**+0.7**
PAJU	**Pajala**	**1.38**	**124**	P	Pg	**02 46 15.7**	**-0.5**
PAJU	**Pajala**	**1.38**	**124**	PG	Pg	**02 46 14.6**	**-1.5**
	baz=303						
PAJU				SG	Sg	**02 46 34.2**	**+0.2**
HEF	**Hetta**	**1.43**	**64**	*eP*	Pn	**02 46 16.4**	**-0.5**
HEF				*eS*	Sg	**02 46 34.7**	**-0.8**
HEF	**Hetta**	**1.43**	**64**	PG	Pn	**02 46 15.5**	**-1.4**
	baz=250						
HEF				MSG		02 46 33.6	
	comp=E,44nm,0.2s						
HEF				SG	Sg	**02 46 35.1**	**-0.4**
KLF	**Kolari**	**1.56**	**110**	PG	Pn	**02 46 17.8**	**-0.9**
	baz=297						
KLF				MSG		02 46 37.0	
	comp=Z,40nm,0.2s						
KLF				SN	Sn	**02 46 40.0**	**+0.4**
KTK1	**Kautokeino**	**1.65**	**42**	*eP*	Pn	**02 46 19.9**	**0.0**
KTK1				*eS*	Sn	**02 46 41.4**	**-0.3**
KTK1				IAML		02 46 45.2	
	comp=Z,106nm,0.4s						
KTK1	**Kautokeino**	**1.65**	**42**	PG	Pn	**02 46 20.0**	**0.0**
KTK1				SN	Sg	**02 46 43.2**	**+0.6**
HARU	**Harads**	**1.69**	**169**	P	Pn	**02 46 21.0**	**+0.6**
JETT	**Jettan, Norway**	**1.75**	**2**	*eP*	Pn	**02 46 21.6**	**+0.2**
JETT				*eS*	Sn	**02 46 44.3**	**-0.1**
JETT				IAML		02 46 48.4	
	comp=Z,348nm,0.5s						
STEI	**Steigen**	**1.88**	**276**	⇓*iP*	Pb	**02 46 24.7**	**-0.2**
STEI				*eS*	Sb	**02 46 49.3**	**+0.3**
STEI				IAML		02 46 52.8	
	comp=Z,112nm,0.3s						
TRO	**Tromso**	**1.88**	**346**	*eP*	Pn	**02 46 23.9**	**+0.7**
TRO				*eS*	Sn	**02 46 48.3**	**+0.7**
TRO				IAML		02 46 52.7	
	comp=E,81nm,0.5s						
TRO	**Tromso**	**1.88**	**346**	PG	Pn	**02 46 23.5**	**+0.3**
TRO				SG	Sb	**02 46 49.0**	**0.0**
FAUS	**Fauske**	**1.93**	**259**	*eP*	Pb	**02 46 25.4**	**-0.4**
FAUS				*eS*	Sb	**02 46 50.8**	**+0.4**
FAUS				IAML		02 46 55.8	
	comp=Z,131nm,0.5s						
KALU	**Kalix**	**2.33**	**146**	PG	Pn	**02 46 30.3**	**+1.1**
	baz=325						
KALU				SG	Sb	**02 47 01.4**	**-0.3**
TOF	**Tornio**	**2.38**	**135**	PB	Pn	**02 46 31.3**	**+1.3**
TOF				MSG		02 47 00.5	
	comp=E,28nm,0.2s						
TOF				SG	Sb	**02 47 03.2**	**-0.1**
SGF	**Sodankyl**	**2.45**	**96**	PB	Pn	**02 46 31.5**	**+0.6**
	baz=286						
SGF				SB	Sn	**02 47 03.4**	**+1.9**
LOF	**Lofoten**	**2.53**	**280**	*e*	Pb	**02 46 35.1**	**-0.9**
LOF				*eS*	Sn	**02 47 03.5**	**0.0**
LOF				*e*		02 47 09.2	
LOF				IAML		02 47 13.3	
	comp=E,65nm,0.3s						
RNF	**Rovaniemi**	**2.57**	**115**	PB	Pn	**02 46 34.1**	**+1.6**
	baz=303						
RNF				SG	Sb	**02 47 08.6**	**-0.1**
ARA0	**ARCESS Array S**	**2.60**	**46**	*eP*	Pn	**02 46 33.7**	**+0.7**
ARA0				IAML		02 47 10.8	
	comp=Z,37nm,0.4s						
ARA0	**ARCESS Array S**	**2.60**	**46**	PN	Pn	**02 46 33.7**	**+0.7**
ARA0				SB	Sb	**02 47 08.1**	**-1.5**
ARCES	**ARCESS Array B**	**2.60**	**46**	Pn	Pn	**02 46 33.9**	**+0.9**
	comp=Z,2.9nm,0.3s,baz=225,slow=15,SNR=172						
ARCES				Sn	Sn	**02 47 07.5**	**+2.3**
	comp=Z,10nm,0.3s,baz=228,slow=25,SNR=20						
	comp=E,6.5nm,0.3s						
KMNF	**Kaamanen**	**2.84**	**59**	PN	Pn	**02 46 36.7**	**+0.4**
KMNF				SB	Sn	**02 47 13.4**	**+2.2**
KONS	**Konsvik**	**3.06**	**248**	*eP*	Pn	**02 46 40.7**	**+1.3**
KONS				IAML		02 47 28.1	
	comp=Z,48nm,0.4s						
HAMF	**Hammerfest**	**3.10**	**22**	*eP*	Pn	**02 46 40.9**	**+1.1**
HAMF				*eS*	Sn	**02 47 17.4**	**-0.1**
HAMF				IAML		02 47 20.2	
	comp=Z,105nm,0.4s						
RAJF	**Raja-Jooseppi**	**3.11**	**74**	PN	Pn	**02 46 39.7**	**-0.3**
RAJF				SG	Sb	**02 47 24.2**	**0.0**
KEV	**Kevo**	**3.15**	**49**	*eP*	Pn	**02 46 41.2**	**+0.6**
KEV				*eS*	Sn	**02 47 18.0**	**-0.8**
KEV	**Kevo**	**3.15**	**49**	PN	Pn	**02 46 41.0**	**+0.5**
	baz=240						
KEV				SN	Sn	**02 47 20.2**	**+1.4**
RANF	**Ranua**	**3.16**	**122**	PB	Pn	**02 46 42.0**	**+1.3**
RANF				SG	Sb	**02 47 27.4**	**+1.6**
BURU	**Burvik**	**3.28**	**171**	PB	Pn	**02 46 44.1**	**+1.7**
BURU				SB	Sn	**02 47 26.1**	**+4.1**
OUL	**Oulu**	**3.57**	**138**	PN	Pn	**02 46 47.8**	**+1.5**
	baz=323						
OUL				SG	Sb	**02 47 38.8**	**+1.3**
VRF	**Varrio**	**3.58**	**87**	PN	Pn	**02 46 47.0**	**+0.5**
VRF				SN	Sn	**02 47 29.5**	**+0.2**
OBF4	**Vikkela, Lumij**	**3.60**	**144**	PB	Pn	**02 46 49.2**	**+2.5**
OLKF	**Oulanka, Finla**	**3.90**	**108**	PN	Pn	**02 46 51.7**	**+0.8**
OLKF				SG	Sb	**02 47 51.0**	**+4.0**
OUF	**Merijarvi**	**3.92**	**150**	PN	Pn	**02 46 52.4**	**+1.2**
MSF	**Maaselka**	**3.98**	**115**	PN	Pn	**02 46 52.9**	**+0.9**
VADS	**Vadso**	**4.03**	**51**	*eP*	Pn	**02 46 53.3**	**+0.6**
KU6	**Riekki**	**4.22**	**111**	PN	Pn	**02 46 56.0**	**+0.8**
	baz=296						
KU6				SG	Sg	**02 48 02.0**	**-3.0**
HUSU	**Husum**	**4.51**	**186**	PG	Pb	**02 47 11.3**	**+1.6**
FINES	**FINESS Array B**	**6.87**	**156**	Pn	Pn	**02 47 32.6**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=349,slow=13,SNR=38						
FINES				Pg	Pb	**02 47 47.7**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=355,slow=15,SNR=4.5						
FINES				Sn	Sn	**02 48 50.3**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=345,slow=21,SNR=6.6						
FINES				Lg	Lg	02 49 24.1	
	comp=Z,2.3nm,0.3s,baz=342,slow=29,SNR=14						
	comp=Z,2.8nm,0.4s						
NC303	**NORSAR Array S**	**7.62**	**214**	*eP*	Pn	**02 47 43.0**	**+1.0**
NC303				*eS*	Sn	**02 49 05.2**	**-3.7**
NC303				IAML		02 49 11.9	
	comp=Z,2.8nm,0.9s						
NOA	**NORSAR Array B**	**7.83**	**214**	Pn	Pn	**02 47 44.9**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=20,slow=11,SNR=14						
NOA				Sn	Sn	**02 49 09.0**	**-4.9**
	baz=87,slow=9.9,SNR=2.5						
NOA				Lg	Lg	02 49 55.3	
	comp=Z,0.1nm,0.3s,baz=228,slow=26,SNR=6.8						
	comp=Z,0.4nm,0.5s						
AKN	**Aaknes**	**7.94**	**231**	*eP*	Pn	**02 47 46.7**	**+0.4**
AKN				IAML		02 49 16.4	
	comp=Z,2.2nm,0.5s						
NC602	**NORSAR Array S**	**8.03**	**212**	*eP*	Pn	**02 47 48.9**	**+1.3**
NC602				*eS*	Sn	**02 49 14.4**	**-4.6**
NC602				IAML		02 49 26.0	
	comp=Z,1.7nm,0.5s						
HFS	**Hagfors**	**8.22**	**203**	Pn	Pn	**02 47 48.1**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=25,slow=11,SNR=11						
HFS				Sn	Sn	**02 49 20.0**	**-3.5**
	comp=Z,0.8nm,0.3s,baz=27,slow=23,SNR=5.1						
HFS				Lg	Lg	02 50 08.6	
	comp=Z,1.3nm,0.3s,baz=28,slow=27,SNR=5.5						
	comp=Z,1.6nm,0.6s						
HOPEN	**Hopen**	**8.86**	**7**	*eP*	Pn	**02 47 57.7**	**-1.1**
STRU	**Stroemstad**	**9.68**	**209**	*eP*	Pn	**02 48 09.4**	**-0.7**
SPA0	**Spitsbergen Ar**	**10.47**	**356**	*eP*	Pn	**02 48 20.3**	**-0.6**
SPITS	**Spitsbergen Ar**	**10.47**	**356**	Pn	Pn	**02 48 20.2**	**-0.7**
	baz=162,slow=19						
	comp=Z,0.7nm,0.3s						
AKASG	**Malin Array Be**	**17.74**	**161**	P	Pn	**02 49 58.2**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=346,slow=11,SNR=4.9						
	comp=Z,0.6nm,0.5s						
GERES	**GERESS Array B**	**19.31**	**193**	P	P	**02 50 16.4**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=13,slow=18,SNR=2.7						
	comp=Z,0.4nm,0.5s						
ARU	**Arti**	**20.83**	**104**	P	P	**02 50 31.3**	**-1.2**
	comp=Z,1.6nm,0.3s,baz=329,slow=7.3,SNR=5.1						
	comp=Z,1.6nm,0.3s						
BVAR	**Borovoye Array**	**27.86**	**97**	P	P	**02 51 40.6**	**0.0**
	comp=Z,1.0nm,0.6s,baz=322,slow=10,SNR=9.4						
	comp=Z,1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**32.84**	**92**	P	P	**02 52 24.2**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=328,slow=7.4,SNR=8.1						
	comp=Z,0.3nm,0.6s						
MKAR	**Makanchi Array**	**37.41**	**92**	P	P	**02 53 05.5**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=351,slow=6.8,SNR=3.6						
	comp=Z,0.2nm,0.6s						
ILAR	**Eielson Array**	**47.38**	**353**	P	P	**02 54 25.6**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=359,slow=6.1,SNR=11						
	comp=Z,0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**55.95**	**202**	P	P	**02 55 29.0**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=7.4,slow=7.9,SNR=4.8						
	comp=Z,0.2nm,0.5s						
TXAR	**Lajitas Array**	**74.57**	**311**	P	P	**02 57 30.6**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=46,slow=6.4,SNR=3.1						
	comp=Z,0.2nm,0.6s						

*MOS **22** 02:46:24.9±0.9, 0°.33N×125°.95E, h14km, mb5.0/50, Error ellipse: s-maj=11.1km s-min=5.4km az=111.9*
*IDC **22** 02:46:24.3±0.4, 0°.35N×126°.01E, h0km, mb4.7/26, mbtmp4.7/28, ML4.6/2, MS3.7/28, Error ellipse: s-maj=22.1km s-min=9.7km az=74.0*
*NEIC **22** 02:46:27.8±1.8, 0°.30N±0°.07×126°.08E±0°.05, h13km±3km, mb5.0/84, Error ellipse: s-maj=11.1km s-min=6.9km az=160.0*
*BJI **22** 02:46:27.8±0.0, 0°.02S×126°.28E, h54km, mb4.8/53, mB5.2/26, Ms4.4/8, Ms7 4.1/12*
*DJA **22** 02:46:30.0±1.0, 0°N±3°×12°6E±°, h18km±8km, M5.0/16, mB5.9/6, mb4.9/16, MLv4.8/12, Mw(mB)5.5/6*
*GCMT **22** 02:46:31.8±0.3, 0°.40N±0°.02×126°.10E±0°.03, h31km, MW5.0/71, Moment Tensor Solution. s52,c61; s71,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.96±.17; $M_{\theta\theta}$-1.20±.10; $M_{\phi\phi}$-1.76±.12; $M_{r\theta}$-2.15±.22; $M_{\theta\phi}$-1.80±.08; $M_{\phi r}$1.52±.21; Best double couple: M_o3.95100×10^{16} NP1:ϕ_s249.00000°, δ56.00000°, λ129.00000°. NP2: ϕ_s14.00000°, δ50.00000°, λ47.00000°. Principal axes: T 4.5870, Plg58.0000°, Azm218.0000°; N -1.2710, Plg32.0000°, Azm45.0000°; P -3.3150, Plg3.0000°, Azm313.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 02:46:29.7±0.8, 0°.34N±0°.04×126°.06E±0°.04, h32km±5km, n371, σ1§46/361, mb4.9/119, MS3.8/35, 9C-17D, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.37**	**72**	Pn	Pn	**02 46 52.7**	**+0.1**
TNTI				Sn	Sn	**02 47 09.9**	**+0.2**
TNTI	**Ternate**	**1.37**	**72**	P	Pb	**02 46 53.8**	**-1.0**
LBMI	**Labuha**	**1.73**	**124**	P	Pn	**02 46 57.9**	**+0.3**
KMSI	**Cibinong**	**2.10**	**276**	P	Pb	**02 47 03.9**	**-3.2**
SANI	**Sanana**	**2.37**	**182**	P	Pn	**02 47 06.4**	**0.0**
SGSI	**Sangihe**	**3.37**	**351**	P	Pb	02 47 36.1	+7.3
LUWI	**Luwuk**	**3.57**	**247**	Pn	Pn	**02 47 23.6**	**+0.7**
LUWI	**Luwuk**	**3.57**	**247**	P	Pb	**02 47 28.4**	**-3.7**
NLAI	**Namlea**	**3.70**	**164**	P	Pn	**02 47 26.1**	**+1.4**
MRSI	**Marisa**	**4.12**	**272**	P	Pn	02 47 33.8	+3.3
SWI	**Sorong**	**5.33**	**103**	P	Pb	02 47 56.8	-5.4
TOLI2	**Tolitoli**	**5.34**	**278**	Pn	Pn	**02 47 48.1**	**+1.0**
BNDI	**Bandanaira**	**6.17**	**142**	P	Pn	**02 47 59.1**	**+0.5**
	365nm,0.8s,2.1nm						
TTSI	**Tana Toraja**	**7.09**	**242**	P	Pn	**02 48 14.1**	**+2.8**
	156nm,1.1s,3μm0.6nm						
BKSI	**Bulukumba**	**8.18**	**226**	P	Pn	02 48 30.6	+4.4
KAPI	**Kappang**	**8.25**	**230**	Pn	Pn	**02 48 27.4**	**+0.2**
KAPI	**Kappang**	**8.25**	**230**	P	Pn	**02 48 27.4**	**+0.2**
EDFI	**Ende, Flores**	**10.03**	**206**	P	Pn	**02 48 54.1**	**+2.4**
	39nm,0.9s,491nm						
SOEI	**Soe**	**10.19**	**190**	P	Pn	02 49 02.6	+8.7
BATI	**Baumata**	**10.74**	**193**	Pn	Pn	**02 48 59.8**	**-1.7**
	3.2nm,0.3s,baz=117,slow=2.3,SNR=1.4						
	13nm,0.4s						
BATI	**Baumata**	**10.74**	**193**	P	Pn	02 49 09.8	+8.3
KKM	**Kota Kinabalu**	**11.35**	**300**	Pn	Pn	**02 49 11.5**	**+1.7**
PLAI	**Lampang**	**12.29**	**222**	P	P	**02 49 37.9**	**+3.4**
TWSI	**Taliwang, Sumb**	**12.85**	**225**	P	P	02 49 45.5	+4.9
TGY	**Tagaytay City**	**14.59**	**340**	LR	LR	02 56 39.3	
	comp=Z,276nm,18.7s,baz=152,slow=42						
JAGI	**Jagaj, Banyuwa**	**14.75**	**233**	Pn	Pn	**02 49 56.1**	**-0.1**
JAGI	**Jagaj, Banyuwa**	**14.75**	**233**	P	P	**02 50 04.2**	**+2.4**
GMJI	**Gumukmas**	**15.21**	**235**	P	P	**02 50 09.9**	**+3.0**
KSM	**Kuching**	**15.79**	**274**		P	**02 50 13.6**	**+0.2**
NGJI	**Ngawi**	**16.45**	**242**	P	P	**02 50 24.7**	**+4.0**
PWJI	**Pagerwojo**	**16.46**	**239**	P	P	**02 50 23.2**	**+2.3**
FITZ	**Fitzroy Crossi**	**18.33**	**181**		Pn	**02 50 40.1**	**-1.4**
KPJI	**Karang Pucung**	**18.71**	**246**	P	Pn	**02 50 48.1**	**+1.8**
	99nm,1.6s						
LEM	**Lembang**	**19.73**	**249**	P	P	**02 50 56.2**	**-0.8**
	2.7nm,0.3s,baz=294,slow=22,SNR=2.1						
	45nm,1.0s						
DLV	**T Lat**	**20.91**	**304**	P	P	**02 51 09.8**	**-0.1**
DLV				IAmb	IAmb	02 51 13.5	
	comp=Z,40nm,0.8s						
WB0	**Warramunga Arr**	**21.59**	**158**	P	P	**02 51 16.1**	**-0.8**
WB0				IAmb	IAmb	02 51 21.9	
	comp=Z,73nm,0.8s						
WRAB	**Tennant Creek**	**21.72**	**159**	P	P	**02 51 16.7**	**-1.7**
WRAB				IAmb	IAmb	02 51 33.8	
	comp=Z,47nm,0.8s						
WRAB	**Tennant Creek**	**21.72**	**159**	P	P	**02 51 16.7**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,47nm,0.8s						
WRA	**Warramunga Arr**	**21.73**	**159**	P	P	**02 51 17.2**	**-1.2**
WRA	**Warramunga Arr**	**21.73**	**159**	P	P	**02 51 17.2**	**-1.2**
WRA	**Warramunga Arr**	**21.73**	**159**	P	P	**02 51 17.4**	**-1.0**
	comp=Z,44nm,0.8s,baz=337,slow=11,SNR=136						
WRA				S	S	**02 55 17.4**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=239,slow=24,SNR=2.4						
	comp=Z,44nm,0.8s						
WB2	**Warramunga Arr**	**21.73**	**159**	P	P	**02 51 16.7**	**-1.7**
WB2				IAmb	IAmb	02 51 22.9	
	comp=Z,50nm,0.7s						
WR0	**Warramunga Arr**	**21.82**	**158**	P	P	**02 51 18.4**	**-0.9**
WR0				IAmb	IAmb	02 51 27.6	
	comp=Z,39nm,0.8s						
COEN	**Coen**	**22.11**	**131**	P	P	**02 51 22.5**	**-0.

UBPT IAmb IAmb 02 51 54.1
comp=Z,40nm,1.3s
WRKA Warakurna 25.32 175 P **P** **02 51 53.4 -0.3**
PDSI Padang 25.63 267 P **P** **02 51 57.7 +1.0**
comp=Z,31nm,1.1s,comp=Z,8µm
KULM Kulim 25.85 281 P **P** **02 51 58.7 +0.1**
KULM IAmb IAmb 02 52 00.2
comp=Z,41nm,1.4s
MEEK Meekatharra 27.76 194 P **P** **02 52 16.1 +0.4**
CTA Charters Tower 28.34 137 LR LR 03 05 45.7
comp=Z,221nm,19.4s,baz=359,slow=41
OOD Oodnadatta 29.46 162 P **P** **02 52 30.4 -0.3**
MORW Morawa 30.77 197 P **P** **02 52 41.3 -1.1**
MORW Morawa 30.77 197 P **P** **02 52 41.1 -1.2**
JCJ Chichijima 30.79 29 LR LR 03 03 09.9
comp=Z,128nm,21.6s,baz=119,slow=33
FORT Forrest 31.00 177 P **P** **02 52 44.0 -0.4**
FORT Forrest 31.00 177 P **P** **02 52 43.8 -0.6**
PHRA Phrae 31.13 307 P **P** **02 52 46.2 +0.5**
MULG Mulgathing 31.39 167 P **P** **02 52 47.7 -0.1**
KMBL Kambalda 31.78 187 P **P** **02 52 50.6 -0.6**
BLDU Ballidu 32.04 195 P **P** **02 52 53.5 0.0**
CMAR Chiang Mai Arr 32.15 306 *ce*P **P** **02 52 54.9 +0.2**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR Chiang Mai Arr 32.15 306 P **P** **02 52 54.0 -0.7**
comp=Z,1.8nm,0.3s,baz=137,slow=7.8,SNR=12
CMAR PcP **PcP** **02 55 44.2 +0.8**
comp=Z,2.6nm,0.3s,baz=162,slow=2.6,SNR=9.0
CMAR LR LR 03 06 26.0
comp=Z,95nm,20.9s,baz=120,slow=37
comp=Z,1.8nm,0.3s
NJ2 Nanjing 32.27 348 *e*P **P** **02 52 58.5 +3.0**
NJ2 pP **pwP** **02 53 05.3 -1.9**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,150nm,3.6s
LCRK Leigh Creek 32.73 160 P **P** **02 52 59.9 +0.4**
KMI Kunming 33.40 319 ⇓P **P** **02 53 07.4 +1.7**
KMI LR LR
comp=Z,250nm,26.8s
KMI LR LR
comp=Z,230nm,16.9s
KMI LR LR
comp=Z,290nm,22.5s
NWAO Narrogin (SRO) 34.12 193 LR LR 03 08 56.7
comp=Z,165nm,19.8s,baz=326,slow=40
BBOO Buckleboo 34.29 165 P **P** **02 53 12.9 -0.3**
BBOO Buckleboo 34.29 165 P **P** **02 53 13.2 0.0**
PZH PanZhiHua 35.00 320 P **P** **02 53 23.0 +3.5**
PZH pmax pmax
comp=Z,10.0nm,0.3s
PZH pmax pmax
comp=Z,170nm,5.1s
HNR Honiara 35.10 107 LR LR 03 08 35.1
comp=Z,3µm,21.0s,baz=288,slow=38
STKA Stephens Creek 35.25 157 P **P** **02 53 21.6 +0.1**
STKA Stephens Creek 35.25 157 P **P** **02 53 21.5 0.0**
STKA Stephens Creek 35.25 157 *de*P **P** **02 53 20.7 -0.8**
STKA Stephens Creek 35.25 157 P **P** **02 53 21.4 0.0**
comp=Z,6.1nm,0.6s,baz=332,slow=7.7,SNR=16
STKA PcP **PcP** **02 55 51.4 -0.5**
comp=Z,2.3nm,0.6s,baz=285,slow=12,SNR=1.7
comp=Z,6.1nm,0.6s
HTT Hallett 35.70 161 P **P** **02 53 26.0 +0.6**
TJN Taejon 35.88 2⇑ *e*P **P** **02 53 23.5 -3.2**
TNCH TengChong 36.21 315 P **P** **02 53 32.3 +2.3**
TNCH pmax pmax
comp=Z,200nm,3.5s
LYN LuoYang 36.34 341 ⇓P **P** **02 53 30.8 +0.1**
LYN pmax pmax
comp=Z,14nm,0.9s
CMSA Cobar Meteorol 36.76 151 P **P** **02 53 35.0 +0.6**
KSRS Korea Array 36.97 2 P **P** **02 53 35.1 -0.9**
comp=Z,3.6nm,0.7s,baz=179,slow=9.7,SNR=14
KSRS LR LR 03 08 50.0
comp=Z,46nm,21.7s,baz=140,slow=36
comp=Z,3.6nm,0.7s
MJAR Matsushiro Arr 37.74 16 P **P** **02 53 41.6 -1.1**
comp=Z,5.3nm,0.6s,baz=187,slow=8.7,SNR=12
comp=Z,5.3nm,0.6s
HNS HongShan 38.34 345 ⇓P **P** **02 53 47.8 +0.2**
HNS *e*S **S** **02 59 39.9 -0.2**
HNS pmax pmax
comp=Z,11nm,0.8s
HNS LR LR
comp=Z,230nm,24.0s
TIY Taiyuan 39.26 343 P **P** **02 53 58.3 +2.8**
TIY pmax pmax
comp=Z,33nm,0.6s
BJT Baijiatuau 40.51 348 P **P** **02 54 05.6 -0.1**
BJT Baijiatuau 40.51 348 P **P** **02 54 05.6 -0.1**
BJT pmax pmax
comp=Z,10.0nm,0.6s
BJI Beijing 40.53 348 P **P** **02 54 07.3 +1.4**
BJI pmax pmax
comp=Z,7.0nm,0.7s
LZH Lanzhou 41.12 332 *e*P **P** **02 54 11.3 +0.2**
LZH pP pwP 02 54 22.1 -0.4
LZH pmax pmax
comp=Z,21nm,1.0s
MSHR Mys Shultsa 42.30 6⇑ *e*P **P** **02 54 20.3 0.0**
MSHR pmax pmax
comp=Z,36nm,1.0s
PSTR Posyet 42.34 5⇓ *e*P **P** **02 54 20.5 -0.1**
HHC Hu-ho-hao-te 42.42 344 *e*P **P** **02 54 23.8 +2.3**
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,140nm,5.6s
HHC LR LR
comp=Z,160nm,18.3s
HHC LR LR
comp=Z,100nm,19.1s
HHC LR LR
comp=Z,300nm,19.9s
BTO Baotou 42.65 342 *e*P **P** **02 54 24.0 +0.6**
BTO pP **pwP** **02 54 37.0 +1.6**
BTO sP sP 02 54 43.9 +8.0
BTO PP **PcP** **02 56 11.3 -3.8**
BTO S **S** **03 00 44.5 -0.1**
BTO SS **SS** **03 03 50.8 -4.9**
BTO pmax pmax
comp=Z,25nm,0.6s
BTO pmax pmax
comp=Z,180nm,5.8s
BTO LR LR
comp=Z,310nm,6.1s
BTO LR LR
comp=Z,260nm,5.9s
BTO LR LR
comp=Z,580nm,14.2s
CN2 Changchun 43.28 359 *e*P P 02 54 38.3 +10
CN2 pmax pmax
comp=Z,10.0nm,0.7s
USA0B Ussuriysk Arra 43.99 6 P **P** **02 54 35.8 +1.8**
USA0B Ussuriysk Arra 43.99 6 *ce*P **P** **02 54 34.9 +0.9**
USRK Ussuriysk Ar. 43.99 6 P **P** **02 54 35.5 +1.6**
USRK Ussuriysk Ar. 43.99 6 P **P** **02 54 34.4 +0.4**
comp=Z,11nm,0.8s,baz=192,slow=7.5,SNR=28
comp=Z,11nm,0.8s
MDJ Mudanjiang 44.20 4 P **P** **02 54 36.8 +1.1**
MDJ pmax pmax
comp=Z,20nm,1.1s
MDJ pmax pmax
comp=Z,260nm,3.5s
MDJ Mudanjiang 44.20 4 P **P** **02 54 36.6 +0.9**
MDJ IAmb IAmb 02 54 38.0
comp=Z,20nm,1.1s
XLT XiLinHaoTe 44.28 350 *e*P **P** **02 54 37.6 +1.2**
XLT pP pwP 02 54 53.9 +5.5
XLT PP **PcP** **02 56 22.5 +2.0**
XLT pmax pmax
comp=Z,11nm,0.7s
XLT pmax pmax
comp=Z,130nm,4.3s
BNX BinXian 45.23 1 ⇓P **P** **02 54 44.3 +0.5**
BNX pmax pmax
comp=Z,8.0nm,0.8s
BNX pmax pmax
comp=Z,160nm,5.7s
GTA Gaotai 45.69 331 P **P** **02 54 50.8 +3.0**
GTA PcP **PcP** **02 56 26.6 +1.1**
GTA pmax pmax
comp=Z,14nm,1.2s
GTA LR LR
comp=Z,150nm,18.9s
GTA LR LR
comp=Z,120nm,19.6s
GTA LR LR
comp=Z,230nm,19.6s
GOMU GeErMu 45.98 324 P **P** **02 54 52.1 +1.7**
GOMU pmax pmax
comp=Z,6.0nm,1.0s
ASAJ Asahikawa 46.01 17 LR LR 03 11 40.2
comp=Z,49nm,21.7s,baz=334,slow=33
KLR Kul'dur 48.95 5⇓ *e*P **P** **02 55 13.7 +0.9**
KLR pmax pmax
comp=Z,15nm,1.7s
HIA Hailar 49.04 355 P **P** **02 55 14.4 +0.8**
HIA IAmb IAmb 02 55 16.0
comp=Z,24nm,1.2s
HIA Hailar 49.04 355⇓ *e*P **P** **02 55 12.9 -0.7**
HIA pmax pmax
comp=Z,12nm,1.0s
HYB Hyderabad 49.71 293 *e*P **P** **02 55 19.1 -0.2**
HEH HeiHe 49.74 1 *e*P **P** **02 55 19.3 +0.4**
HEH pmax pmax
comp=Z,14nm,0.9s
ULN Ulaanbaatar 50.14 343 P **P** **02 55 21.9 -0.3**
ULN Ulaanbaatar 50.14 343 *de*P **P** **02 55 22.8 +0.7**
ULN pmax pmax
comp=Z,16nm,1.7s
SONM Songino Array 50.30 343 P **P** **02 55 23.9 +0.5**
SONM Songino Array 50.30 343 P **P** **02 55 23.9 +0.5**
SONM pmax pmax
comp=Z,6.0nm,0.8s
SONM Songino Array 50.30 343 P **P** **02 55 23.0 -0.4**
comp=Z,3.8nm,0.7s,baz=160,slow=7.4,SNR=22
SONM PcP **PcP** **02 56 41.8 -0.1**
comp=Z,3.1nm,0.9s,baz=155,slow=2.8,SNR=4.0
SONM LR LR 03 18 07.4
comp=Z,57nm,19.9s,baz=182,slow=38
comp=Z,3.8nm,0.7s
CIT Chita 52.56 350 *e*P **P** **02 55 41.4 +1.3**
CIT *e* 02 55 47.4
CIT pmax pmax
comp=Z,71nm,1.7s
ZAK Zakamensk 53.51 342 *e*P **P** **02 55 48.0 +0.9**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
WMQ Urumqi 55.14 327 *e*P **P** **02 56 01.8 +2.6**
WMQ pmax pmax
comp=Z,16nm,1.1s
WMQ LR LR
comp=Z,160nm,24.2s
MOY Mondy 55.34 341 *e*P **P** **02 56 01.8 +1.3**
MOY pmax pmax
comp=Z,22nm,1.6s
BOD Bodaibo 58.11 352 *e*P **P** **02 56 19.8 -0.1**
BOD pmax pmax
comp=Z,15nm,1.2s
PETK Petropavlovsk- 58.80 22 P **P** **02 56 25.3 +0.5**
comp=Z,8.2nm,0.6s,baz=188,slow=4.3,SNR=24
PETK LR LR 03 21 26.5
comp=Z,23nm,21.9s,baz=196,slow=36
comp=Z,8.2nm,0.6s
ZSN Zaisan 59.00 329 *e*P **P** **02 56 25.3 -1.0**
comp=Z,9.7nm,1.1s,baz=329
ZSN Zaisan 59.00 329 *e*P **P** **02 56 25.3 -1.0**
ZSN pmax pmax
comp=Z,10.0nm,1.1s
DGZ Jazzator, Alta 59.22 332 *de*P **P** **02 56 28.1 +0.1**
DGZ pmax pmax
comp=Z,12nm,1.0s
SHLS Shalkode 59.55 322 *e*P **P** **02 56 27.7 -2.7**
comp=Z,5.7nm,1.0s,baz=322
SHLS Shalkode 59.55 322 *e*P **P** **02 56 27.7 -2.7**
SHLS pmax pmax
comp=Z,6.0nm,1.0s
UZB Uzynbulak 59.82 322 *e*P **P** **02 56 31.6 -0.7**
comp=Z,3.3nm,0.5s,baz=322
UZB Uzynbulak 59.82 322 *e*P **P** **02 56 31.5 -0.7**
UZB pmax pmax
comp=Z,3.0nm,0.5s
MK31 Makanchi Array 59.98 327 P **P** **02 56 32.7 -0.4**
MK31 IAmb IAmb 02 56 36.1
comp=Z,8.6nm,0.8s
MK31 Makanchi Array 59.98 327 *de*P **P** **02 56 32.7 -0.4**
MKAR Makanchi Array 59.98 327 P **P** **02 56 32.6 -0.5**
comp=Z,7.1nm,0.5s,baz=121,slow=7.6,SNR=55
MKAR LR LR 03 24 17.6
comp=Z,122nm,19.4s,baz=102,slow=38
comp=Z,7.1nm,0.5s
KSH Kashi 60.00 317 P **P** **02 56 36.8 +3.3**
KSH pmax pmax
comp=Z,5.0nm,1.1s
SATY Saty 60.16 321 *e*P **P** **02 56 33.9 -0.7**
comp=Z,6.3nm,0.9s,baz=322
SATY Saty 60.16 321 *e*P **P** **02 56 33.8 -0.7**
SATY pmax pmax
comp=Z,6.0nm,0.9s
MAKZ Makanchi 60.16 327 P **P** **02 56 34.0 -0.3**
MAKZ IAmb IAmb 02 56 37.3
comp=Z,13nm,0.8s
MAKZ Makanchi 60.16 327 P **P** **02 56 34.0 -0.3**
MAKZ pmax pmax
comp=Z,13nm,0.8s
URZ Urewera 60.58 135 LR LR 03 24 30.8
comp=Z,64nm,18.1s,baz=18,slow=38
NRN Naryn 60.89 319 P **P** **02 56 39.2 -0.6**
NRN Naryn 60.89 319 P **P** **02 56 39.2 -0.6**
NRN pmax pmax
comp=Z,4.0nm,0.7s
MDOK Medeo 61.06 321 *e*P **P** **02 56 40.0 -0.7**
baz=321
MDOK Medeo 61.06 321 *e*P **P** **02 56 40.0 -0.7**
AAA Alma-Ata 61.17 321 *e*P **P** **02 56 40.3 -1.1**
comp=Z,5.5nm,0.6s,baz=321
AAA Alma-Ata 61.17 321 *e*P **P** **02 56 40.2 -1.1**
AAA pmax pmax
comp=Z,6.0nm,0.6s
TDK Taldyqorghan 61.19 323 *e*P **P** **02 56 40.9 -0.5**
comp=Z,6.5nm,0.9s,baz=323
TDK Taldyqorghan 61.19 323 *e*P **P** **02 56 40.8 -0.5**
TDK pmax pmax
comp=Z,6.0nm,0.9s
CHKK Chushkaly 61.45 322 *e*P **P** **02 56 42.3 -0.9**
baz=322
CHKK Chushkaly 61.45 322 *e*P **P** **02 56 42.2 -0.9**
YAK Yakutsk 61.60 2 *e*P **P** **02 56 42.8 -0.9**
YAK *e* 02 57 24.4
YAK *e* 02 58 58.4
YAK *e*PPP PPP 03 00 25.6
YAK *e*S **S** **03 05 00.1 -3.3**
YAK *e**SS sS 03 05 27.9 +9.1
YAK *e* 03 06 31.7
YAK *e*SS **SS** **03 09 01.8 -3.3**
YAK *e*SSS SSS 03 11 53.5
YAK pmax pmax
comp=Z,32nm,0.9s
YAK pmax pmax
comp=N,12nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK pmax pmax
comp=Z,21nm,0.3s
YAK pmax pmax
comp=N,34nm,2.0s
YAK pmax pmax
comp=E,91nm,4.2s
YAK smax smax
comp=E,74nm,3.7s
YAK smax smax
comp=N,36nm,3.2s
YAK Yakutsk 61.60 2 LR LR 03 24 30.6
comp=N,28nm,21.4s,baz=206,slow=37
MA2 Magadan 62.13 14 P **P** **02 56 48.0 +0.5**
MA2 Magadan 62.13 14 *ce*P **P** **02 56 49.0 +1.6**
MA2 pmax pmax
comp=Z,13nm,0.7s
AAK Ala-Archa 62.44 319 P **P** **02 56 49.8 -0.3**
AAK Ala-Archa 62.44 319⇓ *e*P **P** **02 56 50.4 +0.3**
AAK pmax pmax
comp=Z,14nm,1.7s
ARSB Arslanbob 62.85 317 P **P** **02 56 53.0 +0.2**
ARSB Arslanbob 62.85 317 P **P** **02 56 53.0 +0.2**
KBL Kabul 63.09 309 P **P** **02 56 52.9 -1.6**
KBL IAmb IAmb 02 56 57.6
comp=Z,17nm,1.4s
KBL Kabul 63.09 309 P **P** **02 56 52.9 -1.6**
KBL pmax pmax
comp=Z,17nm,1.4s
ZAA0 Zalesovo Array 63.31 334 P **P** **02 56 54.5 -0.9**
ZAA0 IAmb IAmb 02 56 58.4
comp=Z,13nm,1.1s
ZALV Zalesovo Beam 63.31 334 *i*P **P** **02 56 54.7 -0.7**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 63.31 334 P **P** **02 56 54.3 -1.0**
comp=Z,3.3nm,0.5s,baz=125,slow=7.7,SNR=14
ZALV LR LR 03 26 16.8
comp=Z,69nm,20.3s,baz=122,slow=38
comp=Z,3.3nm,0.5s
BTK Batken 63.81 315 P **P** **02 56 59.1 0.0**
BTK Batken 63.81 315 P **P** **02 56 59.1 0.0**
BTK pmax pmax
comp=Z,53nm,1.9s
BTLS Baital 63.87 322 *e*P **P** **02 56 58.0 -1.3**
baz=322
BTLS Baital 63.87 322 *e*P **P** **02 56 57.9 -1.3**
KURBB Kurchatov Arra 64.24 329 P **P** **02 57 01.0 -0.5**
comp=Z,7.5nm,0.6s,baz=124,slow=6.3,SNR=68
comp=Z,7.5nm,0.6s
KURK Kurchatov 64.25 329 P **P** **02 57 00.8 -0.8**
KURK Kurchatov 64.25 329 *de*P **P** **02 57 01.4 -0.2**
KURK pmax pmax
comp=Z,49nm,1.7s
SIMJ Simiganj 64.57 313 P **P** **02 57 02.7 -1.4**
SIMJ IAmb IAmb 02 57 07.3
comp=Z,12nm,1.1s
DZA Taraz 64.64 318 *e*P **P** **02 57 03.4 -1.0**
comp=Z,3.8nm,0.6s,baz=318
DZA Taraz 64.64 318 *e*P **P** **02 57 03.4 -1.0**
DZA pmax pmax
comp=Z,4.0nm,0.6s
IUG Iuzhnay 65.20 317 *e*P **P** **02 57 07.3 -1.0**
comp=Z,5.3nm,0.7s,baz=317
IUG Iuzhnay 65.20 317 *e*P **P** **02 57 07.2 -1.0**
IUG pmax pmax
comp=Z,5.0nm,0.7s
KK31 Karatay Array 65.27 318 P **P** **02 57 07.9 -0.6**
KK31 Karatay Array 65.27 318 P **P** **02 57 07.9 -0.6**
KK31 pmax pmax
comp=Z,7.0nm,0.9s
KKAR Karatay Array 65.27 318 P **P** **02 57 08.0 -0.5**
KKAR Karatay Array 65.27 318 P **P** **02 57 08.0 -0.5**
KKAR pmax pmax
comp=Z,7.0nm,0.9s
SEY Seymchan 65.46 13⇓ *e*P **P** **02 57 11.4 +2.1**
SEY pmax pmax
comp=Z,6.0nm,1.3s
CHM Chimkent 65.56 317 *e*P **P** **02 57 09.5 -0.9**
comp=Z,7.1nm,0.5s,baz=317
CHM Chimkent 65.56 317 *e*P **P** **02 57 09.5 -0.9**
CHM pmax pmax
comp=Z,7.0nm,0.5s
BRLS Boroldaу 65.69 318 *e*P **P** **02 57 10.2 -1.0**
baz=318
BRLS Boroldaу 65.69 318 *e*P **P** **02 57 10.2 -1.0**
WSAR Wadi Sarin 69.19 295 LR LR 03 28 23.9
comp=Z,nm,22.0s,baz=91,slow=36
BVAR Borovoye Array 69.80 328 P **P** **02 57 36.5 -0.3**
comp=Z,7.8nm,0.7s,baz=126,slow=7.5,SNR=23
comp=Z,7.8nm,0.7s
BRVK Borovoye 69.87 328 P **P** **02 57 36.9 -0.4**
BRVK IAmb IAmb 02 57 40.9
comp=Z,22nm,1.1s
BRVK Borovoye 69.87 328 *ce*P **P** **02 57 36.9 -0.4**
BRVK pmax pmax
comp=Z,31nm,1.7s
TIXI Tiksi 71.22 1 P **P** **02 57 45.0 -0.2**
TIXI IAmb IAmb 02 57 46.7
comp=Z,19nm,1.4s
TIXI Tiksi 71.22 1⇓ *e*P **P** **02 57 45.0 -0.2**
TIXI pmax pmax
comp=Z,26nm,2.5s
TIXI Tiksi 71.22 1 LR LR 03 30 16.0
comp=Z,52nm,21.9s,baz=81,slow=37
GEYT Alibeck 72.51 310 P **P** **02 57 53.4 -0.3**
comp=Z,2.9nm,0.7s,baz=144,slow=5.3,SNR=5.7
comp=Z,2.9nm,0.7s
BILL Bilibino 72.98 15 *e*P **P** **02 57 56.8 +1.0**
ABKAR Akbulak array 74.36 322 P **P** **02 58 03.9 -0.4**
ABKAR Akbulak array 74.36 322 P **P** **02 58 04.0 -0.2**
AKTO Aktyubinsk 75.90 322 LR LR 03 33 30.9
comp=Z,58nm,20.4s,baz=260,slow=37
SVE Sverdlovsk 76.50 329 *e*P **P** **02 58 16.1 -0.2**
SVE pmax pmax
comp=Z,36nm,1.1s
ARU Arti 77.44 328 P **P** **02 58 21.5 -0.2**
ARU Arti 77.44 328 *ci*P **P** **02 58 21.2 -0.5**
ARU S **S** **03 08 11.1 +1.0**
ARU SS **SS** **03 13 08.6 -0.7**
ARU pmax pmax
comp=Z,21nm,0.8s
ARU Arti 77.44 328 P **P** **02 58 20.9 -0.8**
comp=Z,11nm,0.6s,baz=49,slow=0.6,SNR=14
comp=Z,11nm,0.6s
VNDA Vanda 80.17 173 P **P** **02 58 36.6 +0.3**
VNDA Vanda 80.17 173 P **P** **02 58 36.6 +0.3**
VNDA pmax pmax
comp=Z,5.0nm,0.9s
VNDA Vanda 80.17 173 P **P** **02 58 36.0 -0.3**
comp=Z,3.6nm,0.8s,baz=309,slow=5.4,SNR=16
VNDA LR LR 03 35 47.2
comp=Z,85nm,18.4s,baz=352,slow=37
comp=Z,3.6nm,0.8s
SDPT Sand Point 80.36 34 P **P** **02 58 38.4 +0.7**
SDPT Sand Point 80.36 34 P **P** **02 58 38.5 +0.7**
baz=256
L14K Kuka Creek 80.79 28 P **P** **02 58 41.6 +1.7**
baz=254
RAYN Ar Rayn 81.21 294 P **P** **02 58 43.3 +0.3**
RAYN Ar Rayn 81.21 294 P **P** **02 58 43.3 +0.3**
RAYN pmax pmax
comp=Z,9.0nm,0.9s
L15K Ungalak Mounta 81.43 27 P **P** **02 58 45.0 +1.7**
baz=254
C16K Lisburne Hills 81.88 20 P **P** **02 58 46.5 +1.0**
C16K IAmb IAmb 02 59 16.9
comp=Z,22nm,1.6s
C16K Lisburne Hills 81.88 20 P **P** **02 58 47.4 +1.9**
baz=250
H16K Elim 81.92 24 P **P** **02 58 47.6 +1.8**
baz=253
G16K Koyuk River 82.09 24 P **P** **02 58 49.2 +2.5**
baz=253
J16K Anvik River 82.25 26 P **P** **02 58 48.9 +1.3**
J16K IAmb IAmb 02 58 50.4
comp=Z,14nm,1.1s
J16K Anvik River 82.25 26 P **P** **02 58 50.2 +2.6**
baz=255
I17K Unalakleet 82.36 25 P **P** **02 58 49.2 +1.0**
I17K IAmb IAmb 02 58 51.6
comp=Z,24nm,1.1s
I17K Unalakleet 82.36 25 P **P** **02 58 50.5 +2.4**
baz=255
L16K Owhat River 82.37 28 P **P** **02 58 49.3 +1.1**
L16K IAmb IAmb 02 58 51.2
comp=Z,16nm,1.2s
L16K Owhat River 82.37 28 P **P** **02 58 49.8 +1.6**
baz=256
D17K Noatak River 82.50 21 P **P** **02 58 51.5 +2.7**
baz=252
BELG Belogornoye 82.68 323 *ce*P **P** **02 58 49.6 -0.4**
BELG pmax pmax
comp=Z,6.0nm,0.9s
BELG Belogornoye 82.68 323 P **P** **02 58 49.3 -0.7**
comp=Z,46nm,1.0s,baz=215,slow=2.4,SNR=6.7
BELG LR LR 03 38 23.8
comp=Z,56nm,20.1s,baz=109,slow=38
comp=Z,46nm,1.0s
C17K DeLong Mountai 82.70 21 P **P** **02 58 52.2 +2.3**
baz=252
KIRV Kirov 82.76 329⇑ *e*P **P** **02 58 49.6 -0.7**
KIRV Kirov 82.76 329 P **P** **02 58 49.8 -0.6**
comp=Z,14nm,0.6s,baz=96,slow=4.7,SNR=3.3
comp=Z,14nm,0.6s
E17K Hotham Inlet 82.78 22 P **P** **02 58 52.7 +2.4**
baz=254
G17K Kiwalik Mounta 82.80 24 P **P** **02 58 52.8 +2.3**
baz=255
F17K Baldwin Pennin 82.82 23 P **P** **02 58 51.5 +1.1**
F17K IAmb IAmb 02 59 22.2
comp=Z,8.8nm,1.0s

F17K	**Baldwin Pennin**	**82.82**	**23**	P	**P**	**02 58 52.6**	**+2.1**
	baz=254						
H17K	**Granite Mounta**	**82.96**	**24**	P	**P**	**02 58 53.0**	**+1.7**
H17K				IAmb	IAmb	02 58 54.4	
	comp=Z,22nm,1.2s						
H17K	**Granite Mounta**	**82.96**	**24**	P	**P**	**02 58 53.5**	**+2.2**
	baz=256						
K17K	**Iditarod**	**83.13**	**27**	P	**P**	**02 58 54.0**	**+1.8**
K17K	**Iditarod**	**83.13**	**27**	P	**P**	**02 58 54.7**	**+2.5**
	baz=257						
GNI	**Garni**	**83.14**	**310**	*de*P	**P**	**02 58 52.7**	**-0.3**
GNI				pmax	pmax		
	comp=Z,10.0nm,1.4s						
GNI	**Garni**	**83.14**	**310**	LR	LR	03 43 09.3	
	comp=Z,16nm,18.6s,baz=102,slow=41						
E18K	**Tukpahlearik C**	**83.33**	**22**	P	**P**	**02 58 55.0**	**+1.9**
E18K				IAmb	IAmb	02 58 56.2	
	comp=Z,16nm,1.1s						
E18K	**Tukpahlearik C**	**83.33**	**22**	P	**P**	**02 58 55.5**	**+2.4**
	baz=255						
B18K	**Kokolik River**	**83.44**	**20**	P	**P**	**02 58 56.3**	**+2.7**
	baz=253						
C18K	**Utukok River**	**83.45**	**21**	P	**P**	**02 58 55.3**	**+1.5**
C18K				IAmb	IAmb	02 58 56.4	
	comp=Z,20nm,1.4s						
C18K	**Utukok River**	**83.45**	**21**	P	**P**	**02 58 55.4**	**+1.5**
	baz=254						
H18K	**Honhosa River**	**83.65**	**24**	P	**P**	**02 58 56.0**	**+1.1**
H18K				IAmb	IAmb	02 58 57.3	
	comp=Z,9.0nm,1.1s						
H18K	**Honhosa River**	**83.65**	**24**	P	**P**	**02 58 56.1**	**+1.2**
	baz=257						
G18K	**Tagagawik**	**83.70**	**24**	P	**P**	**02 58 56.7**	**+1.6**
G18K	**Tagagawik**	**83.70**	**24**	P	**P**	**02 58 56.5**	**+1.4**
	baz=257						
L18K	**Granite Mounta**	**83.77**	**27**	P	**P**	**02 58 57.0**	**+1.6**
L18K				IAmb	IAmb	02 58 58.2	
	comp=Z,16nm,1.1s						
L18K	**Granite Mounta**	**83.77**	**27**	P	**P**	**02 58 57.8**	**+2.3**
	baz=259						
A19K	**Wainwright**	**83.92**	**19**	P	**P**	**02 58 58.7**	**+2.6**
	baz=254						
J18K	**Innoko River**	**84.00**	**26**	P	**P**	**02 58 57.9**	**+1.3**
J18K	**Innoko River**	**84.00**	**26**	P	**P**	**02 58 58.6**	**+1.9**
	baz=259						
M18K	**Stony River**	**84.03**	**28**	P	**P**	**02 58 58.9**	**+2.0**
	baz=260						
C19K	**Lookout Ridge**	**84.13**	**20**	P	**P**	**02 58 59.8**	**+2.6**
	baz=255						
TTA	**Tatalina**	**84.21**	**27**	P	**P**	**02 58 59.0**	**+1.2**
TTA	**Tatalina**	**84.21**	**27**	P	**P**	**02 58 59.7**	**+1.9**
	baz=259						
TTA	**Tatalina**	**84.21**	**27**	P	**P**	**02 58 59.0**	**+1.2**
TTA				pmax	pmax		
	comp=Z,35nm,2.0s						
G19K	**Purcell Mounta**	**84.38**	**23**	P	**P**	**02 58 59.6**	**+1.1**
G19K				IAmb	IAmb	02 59 01.2	
	comp=Z,14nm,1.1s						
G19K	**Purcell Mounta**	**84.38**	**23**	P	**P**	**02 59 00.5**	**+1.9**
	baz=258						
D19K	**Kuna River**	**84.50**	**21**	P	**P**	**02 59 00.5**	**+1.3**
D19K	**Kuna River**	**84.50**	**21**	P	**P**	**02 59 00.9**	**+1.8**
	baz=257						
H19K	**Roundabout Mou**	**84.52**	**24**	P	**P**	**02 59 00.2**	**+1.0**
H19K	**Roundabout Mou**	**84.52**	**24**	P	**P**	**02 59 00.9**	**+1.8**
	baz=259						
N19K	**Bonanza Creek**	**84.56**	**29**	P	**P**	**02 59 00.8**	**+1.1**
E19K	**Redstone River**	**84.60**	**22**	P	**P**	**02 59 01.1**	**+1.5**
E19K				IAmb	IAmb	02 59 24.6	
	comp=Z,12nm,1.1s						
E19K	**Redstone River**	**84.60**	**22**	P	**P**	**02 59 01.5**	**+1.9**
	baz=258						
PPT	**Papeete**	**84.72**	**108**	LR	LR	03 32 53.5	
	comp=Z,27nm,21.7s,baz=273,slow=33						
PPT2	**Papeete2**	**84.72**	**108**	*e*P	P	02 58 54.9	-6.4
	comp=Z,36nm,23.5s						
PPT2	**Papeete2**	**84.72**	**108**	*e*S	**SKSac**	**03 09 25.3**	**+1.4**
	comp=Z,63nm,27.5s						
PPT2				*e*SS	**SS**	**03 14 54.4**	**-5.4**
	comp=Z,57nm,24.0s						
PPT2	**Papeete2**	**84.72**	**108**	*e*LR	LR	03 25 40.9	
	comp=Z,120nm,28.8s						
PPT2				*e*LR	LR	03 25 54.5	
	comp=Z,76nm,23.0s						
KBZ	**Khabaz**	**84.82**	**314**	*de*P	**P**	**02 59 01.8**	**+0.6**
KBZ				pmax	pmax		
	comp=Z,11nm,1.0s						
KBZ	**Khabaz**	**84.82**	**314**	P	**P**	**02 59 00.8**	**-0.3**
	comp=Z,8.5nm,1.0s,baz=156,slow=2.7,SNR=11						
KBZ				LR	LR	03 40 57.2	
	comp=Z,35nm,19.3s,baz=78,slow=39						
	comp=Z,8.5nm,1.0s						
KIV	**Kislovodsk**	**84.99**	**314**	*e*P	**P**	**02 59 02.7**	**+0.5**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TBI	**Tubuai**	**85.06**	**113**	*e*LR	LR	03 25 39.7	
	comp=Z,384nm,25.2s						
D20K	**Etivluk River**	**85.09**	**21**	P	**P**	**02 59 03.6**	**+1.6**
	baz=258						
F20K	**Avaraart Lake**	**85.09**	**23**	P	**P**	**02 59 03.8**	**+1.7**
	baz=259						
KDAK	**Kodiak Island**	**85.09**	**32**	LR	LR	03 31 19.3	
	comp=Z,92nm,20.2s,baz=258,slow=32						
GURO	**Guroymak-BITLI**	**85.11**	**308**	P	**P**	**02 59 03.5**	**+0.5**
E20K	**Nigu River**	**85.15**	**21**	P	**P**	**02 59 04.0**	**+1.6**
	baz=259						
B20K	**Meade River**	**85.17**	**20**	P	**P**	**02 59 03.6**	**+1.3**
B20K	**Meade River**	**85.17**	**20**	P	**P**	**02 59 05.0**	**+2.6**
	baz=258						
A21K	**Barrow**	**85.62**	**18**	P	**P**	**02 59 06.7**	**+2.1**
	baz=258						
C21K	**Knifeblade Rid**	**85.82**	**21**	P	**P**	**02 59 07.7**	**+2.0**
	baz=260						
B21K	**Ikpikpuk River**	**85.96**	**20**	P	**P**	**02 59 07.5**	**+1.1**
B21K				IAmb	IAmb	02 59 41.6	
	comp=Z,10nm,1.3s						
B21K	**Ikpikpuk River**	**85.96**	**20**	P	**P**	**02 59 07.8**	**+1.4**
	baz=260						
A22K	**Sinclair Lake**	**86.09**	**19**	P	**P**	**02 59 08.7**	**+1.8**
	baz=260						
VRH	**Novokhopyorsk**	**86.18**	**321**	*e*P	**P**	**02 59 07.3**	**-0.5**
VRH				pmax	pmax		
	comp=Z,26nm,0.8s						
B22K	**Teshekpuk Lake**	**86.49**	**20**	P	**P**	**02 59 09.9**	**+1.0**
B22K				IAmb	IAmb	03 02 09.7	
	comp=Z,27nm,1.9s						
B22K	**Teshekpuk Lake**	**86.49**	**20**	P	**P**	**02 59 10.1**	**+1.2**
	baz=261						
G22K	**Bettles**	**86.71**	**23**	P	**P**	**02 59 11.3**	**+1.2**
	baz=263						
E22K	**Anaktuvuk Pass**	**86.75**	**22**	P	**P**	**02 59 11.7**	**+1.4**
	baz=263						
MLY	**Manley**	**86.81**	**25**	P	**P**	**02 59 11.3**	**+0.6**
MLY				IAmb	IAmb	03 02 20.6	
	comp=Z,25nm,1.9s						
MLY	**Manley**	**86.81**	**25**	P	**P**	**02 59 11.3**	**+0.6**
	baz=264						
COLD	**Coldfoot**	**87.25**	**23**	P	**P**	**02 59 14.2**	**+1.4**
	baz=264						
G23K	**Bananza Creek**	**87.27**	**23**	P	**P**	**02 59 13.6**	**+0.6**
G23K	**Bananza Creek**	**87.27**	**23**	P	**P**	**02 59 14.6**	**+1.7**
	baz=264						
C23K	**Itkillik River**	**87.37**	**20**	P	**P**	**02 59 14.2**	**+1.0**
C23K				IAmb	IAmb	02 59 17.5	
	comp=Z,12nm,1.2s						
C23K	**Itkillik River**	**87.37**	**20**	P	**P**	**02 59 14.5**	**+1.2**
	baz=264						
I23K	**Minto, Yukon-K**	**87.41**	**25**	P	**P**	**02 59 14.3**	**+0.8**
	baz=265						
MCK	**McKinley**	**87.48**	**26**	P	**P**	**02 59 14.1**	**+0.2**
	baz=266						
E23K	**Chandalar**	**87.56**	**22**	P	**P**	**02 59 15.5**	**+1.2**
	baz=265						
TOLK	**Toolik Lake Re**	**87.62**	**21**	P	**P**	**02 59 15.7**	**+1.1**
	baz=265						
VORD	**Divnogorie**	**87.70**	**321**	*e*P	**P**	**02 59 12.9**	**-2.3**
VORD				pmax	pmax		
	comp=Z,10.0nm,1.1s						
VORR	**Voronezh**	**87.78**	**322**	*e*P	**P**	**02 59 17.1**	**+1.5**
VSR	**Storozhevoye**	**87.79**	**321**	*e*P	**P**	**02 59 13.4**	**-2.2**
VSR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
LPSR	**Galich'ya Gora**	**87.99**	**322**	*e*P	**P**	**02 59 14.1**	**-2.4**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KLMR	**Klimovskoe**	**88.02**	**331**	*e*P	**P**	**02 59 13.9**	**-2.6**
KLMR				pmax	pmax		
	comp=Z,21nm,1.1s						
C24K	**Franklin Bluff**	**88.03**	**20**	P	**P**	**02 59 17.1**	**+0.7**
	baz=266						
KIBK	**Kibwezi**	**88.03**	**268**	P	**P**	**02 59 17.2**	**-0.5**
KIBK				IAmb	IAmb	02 59 19.7	
	comp=Z,7.6nm,1.1s						
ILAR	**Eielson Array**	**88.43**	**25**	P	**P**	**02 59 17.0**	**-1.4**
ILAR	**Eielson Array**	**88.43**	**25**	P	**P**	**02 59 16.9**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=247,slow=4.6,SNR=14						
	comp=Z,0.6nm,0.5s						
MOS	**Moscow**	**88.84**	**326**	*e*P	**P**	**02 59 23.0**	**+2.5**
MOS				*e*		03 02 53.3	
E25K	**Arctic Village**	**89.08**	**22**	P	**P**	**02 59 22.7**	**+1.2**
	baz=269						
RIDG	**Independent Ri**	**89.29**	**26**	P	**P**	**02 59 22.7**	**+0.1**
	baz=269						
OBN	**Obninsk**	**89.43**	**325**	*i* P	**P**	**02 59 21.8**	**-1.5**
OBN				*i*		02 59 26.6	
OBN				pmax	pmax		
	comp=Z,14nm,0.5s						
OBN				MLR	MLR		
	comp=Z,55nm,17.0s						
HMT	**Hamilton**	**89.55**	**30**	P	**P**	**02 59 23.6**	**-0.2**
J26L	**Joseph Creek**	**89.86**	**26**	P	**P**	**02 59 25.5**	**+0.3**
	baz=270						
QSPA	**South Pole Qui**	**90.27**	**180**	P	**P**	**02 59 26.4**	**-0.7**
QSPA				IAmb	IAmb	02 59 28.6	
	comp=Z,15nm,1.2s						
QSPA	**South Pole Qui**	**90.27**	**180**	P	**P**	**02 59 26.5**	**-0.6**
	comp=Z,4.6nm,0.6s,baz=286,slow=1.1,SNR=22						
	comp=Z,4.6nm,0.6s						
MMAI	**Mount Meron Ar**	**90.37**	**303**	P	**P**	**02 59 27.1**	**-1.2**
	comp=Z,2.3nm,0.7s,baz=49,slow=5.6,SNR=6.9						
	comp=Z,2.3nm,0.7s						
K27K	**Chicken**	**90.52**	**26**	P	**P**	**02 59 29.9**	**+1.7**
	baz=272						
E27K	**Coleen River**	**90.56**	**22**	P	**P**	**02 59 29.4**	**+1.1**
	baz=272						
I27K	**Kandik River**	**90.66**	**25**	P	**P**	**02 59 29.9**	**+1.0**
	baz=272						
L27K	**Beaver Creek,**	**90.66**	**27**	P	**P**	**02 59 30.3**	**+1.3**
	baz=272						
EIL	**Elat**	**90.80**	**300**	LR	LR	03 46 02.7	
	comp=Z,35nm,18.8s,baz=66,slow=39						
F28M	**Old Crow**	**91.25**	**22**	P	**P**	**02 59 31.5**	**-0.1**
F28M	**Old Crow**	**91.25**	**22**	P	**P**	**02 59 32.1**	**+0.5**
	baz=274						
E28M	**Babbage River**	**91.30**	**21**	P	**P**	**02 59 32.1**	**+0.4**
E28M				IAmb	IAmb	02 59 42.8	
	comp=Z,9.3nm,1.4s						
E28M	**Babbage River**	**91.30**	**21**	P	**P**	**02 59 32.5**	**+0.8**
	baz=274						
I28M	**Miner Creek**	**91.36**	**25**	P	**P**	**02 59 33.3**	**+1.0**
	baz=274						
BRTR	**Keskin Array B**	**91.66**	**310**	*i* P	**P**	**02 59 37.2**	**+3.0**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRTR	**Keskin Array B**	**91.66**	**310**	P	**P**	**02 59 33.9**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=151,slow=5.4,SNR=4.0						
	comp=Z,1.4nm,0.7s						
E29M	**Blow River**	**91.92**	**22**	P	**P**	**02 59 36.3**	**+1.7**
	baz=276						
G29M	**Pine Creek**	**92.02**	**23**	P	**P**	**02 59 35.9**	**+0.7**
	baz=276						
L29M	**L29M**	**92.34**	**27**	P	**P**	**02 59 38.4**	**+1.7**
	baz=275						
EPYK	**Eagle Plains**	**92.59**	**24**	P	**P**	**02 59 38.7**	**+0.9**
	baz=277						
G30M	**tAoh Zraii Nji**	**92.72**	**23**	P	**P**	**02 59 38.7**	**+0.3**
	baz=277						
N30M	**Aishikik Lake**	**92.99**	**29**	P	**P**	**02 59 40.2**	**+0.4**
ARCES	**ARCESS Array B**	**93.38**	**340**	P	**P**	**02 59 39.1**	**-2.3**
	comp=Z,3.5nm,0.8s,baz=140,slow=0.8,SNR=8.3						
	comp=Z,3.5nm,0.8s						
G31M	**Satah River**	**93.48**	**23**	P	**P**	**02 59 41.8**	**-0.1**
	baz=279						
INK	**Inuvik**	**93.54**	**21**	P	**P**	**02 59 42.0**	**-0.1**
	baz=280						
SPITS	**Spitsbergen Ar**	**93.65**	**349**	P	**P**	**02 59 41.7**	**-0.8**
	comp=Z,7.4nm,1.0s,baz=104,slow=1.8,SNR=2.2						
SPITS				LR	LR	03 47 11.6	
	comp=Z,34nm,19.6s,baz=38,slow=39						
	comp=Z,7.4nm,1.0s						
AKASG	**Malin Array Be**	**94.08**	**321**	P	**P**	**02 59 42.9**	**-2.0**
	comp=Z,0.3nm,0.4s,baz=79,slow=1.4,SNR=1.7						
FINES	**FINESS Array B**	**94.48**	**332**	*i* P	**P**	**02 59 50.4**	**+3.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**94.48**	**332**	P	**P**	**02 59 45.4**	**-1.1**
	comp=Z,1.9nm,0.9s,baz=198,slow=2.8,SNR=2.6						
	comp=Z,1.9nm,0.9s						
FARO	**Faro, Yukon**	**94.64**	**28**	P	**P**	**02 59 48.0**	**+0.7**
FARO				IAmb	IAmb	02 59 49.6	
	comp=Z,10nm,1.1s						
FARO	**Faro, Yukon**	**94.64**	**28**	P	**P**	**02 59 48.6**	**+1.3**
	baz=280						
C36M	**Paulatuk**	**96.61**	**20**	P	**P**	**02 59 56.1**	**0.0**
C36M				IAmb	IAmb	02 59 57.0	
	comp=Z,7.3nm,1.1s						
C36M	**Paulatuk**	**96.61**	**20**	P	**P**	**02 59 56.3**	**+0.2**
	baz=289						
BUR08	**Bucovina Ar. S**	**97.07**	**318**	P	Pdif	02 59 59.1	+0.1
LSZ	**Lusaka**	**97.69**	**255**	LR	LR	03 41 20.0	
	comp=Z,73nm,19.7s,baz=132,slow=34						
CRVS	**Cervenica-Dubn**	**99.32**	**320**	*e*P	**Pdif**	**03 00 07.8**	**-1.0**
CRVS	**Cervenica-Dubn**	**99.32**	**320**	*e*PDIFF	**Pdif**	**03 00 07.8**	**-1.0**
LBTB	**Lobatse**	**99.63**	**245**	LR	LR	03 40 51.6	
	comp=Z,74nm,21.8s,baz=149,slow=33						
BOSA	**Boshof**	**99.65**	**241**	LR	LR	03 46 31.4	
	comp=Z,78nm,18.3s,baz=156,slow=36						
PDAR	**Pinedale Array**	**114.32**	**42**	PKKPab	PKKPab	03 15 52.4	-1.2
	comp=Z,0.3nm,0.5s,baz=129,slow=6.3,SNR=4.2						
ULM	**Lac du Bonnet**	**118.23**	**29**	PKP	**PKPdf**	**03 05 12.7**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=264,slow=9.3,SNR=3.5						
ULM				PKKPbc	**PKKPbc**	**03 15 32.7**	**-1.4**
	comp=Z,1.2nm,0.6s,baz=17,slow=2.5,SNR=3.5						
MNTX	**Cornudas Mount**	**121.88**	**52**	P	**PKiKP**	**03 05 22.7**	**+1.2**
	baz=293						
TOA0	**Torodi Ar. Sit**	**123.27**	**286**		**PKPdf**	**03 05 24.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**123.27**	**286**	PKP	**PKPdf**	**03 05 24.2**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=55,slow=3.8,SNR=17						
TORD				PKKPab	**PKKPab**	**03 15 14.9**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=284,slow=2.4,SNR=4.8						
TXAR	**Lajitas Array**	**124.16**	**54**	PKP	**PKiKP**	**03 05 26.4**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=203,slow=1.0,SNR=9.3						
JCT	**Junction City**	**126.74**	**51**	P	**PKiKP**	**03 05 31.7**	**+0.5**
	baz=296						
S39A	**Bolivar**	**127.56**	**39**	PKPdf	**PKiKP**	**03 05 32.3**	**-0.3**
LMEL	**Las Melosas**	**143.34**	**157**		**PKPdf**	**03 06 01.0**	**-0.7**
LCR2	**La Lucha 2**	**148.44**	**71**		**PKiKP**	**03 06 16.7**	**+0.7**
AC06	**Mina Casimiro**	**148.85**	**151**	PKPdf	**PKPdf**	**03 06 10.3**	**-0.7**
CPUP	**Villa Florida**	**153.95**	**173**	PKPbc	**PKiKP**	**03 06 27.6**	**+0.8**
	comp=Z,10nm,0.9s,baz=172,slow=1.8,SNR=3.4						

IDC 22 02:58:04.0±3.4, 1°.16S×132°.61E, h0km, mb3.5/3, mbtmp3.5/4, ML3.2/1, Error ellipse: s-maj=246.8km s-min=25.0km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.75**	**175**	P	Pn	03 02 25.8	+0.8
	0.1nm,0.3s,baz=350,slow=15,SNR=2.8						
	0.9nm,1.0s						
ASAR	**Alice Springs**	**22.41**	**177**	P	P	03 03 03.4	-1.0
	0.4nm,0.5s,baz=344,slow=12,SNR=2.9						
	0.4nm,0.5s						
SONM	**Songino Array**	**53.88**	**338**	P	P	03 07 27.9	-1.2
	0.4nm,0.4s,baz=144,slow=6.3,SNR=5.5						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**64.91**	**324**	P	P	03 08 46.4	+1.0
	0.7nm,0.7s,baz=107,slow=5.2,SNR=6.6						
	0.7nm,0.7s						

*IDC **22** 03:23:17.4±0.6, 23°.48N×125°.82E, h0km, mb4.2/23, mbtmp4.2/26, ML3.5/3, MS3.3/16, Error ellipse: s-maj=19.1km s-min=14.3km az=88.0*
*NEIC **22** 03:23:18.7±1.5, 23°.41N±0°.09×125°.72E±0°.07, h9km±5km, mb4.6/24, Error ellipse: s-maj=13.5km s-min=9.5km az=162.0*
*NIED **22** 03:23:22.3, 23°.57N×125°.54E, h91km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr=2.39; Mθθ=2.69; Mφφ=-0.30; Mrθ=-0.49; Mθφ=0.23; Mφr=0.22; Fault plane solution: M0=2.61000×10^15^ NP1:φs=92.00000°, δ=51.00000°, λ=-81.00000°. NP2:φs=259.00000°, δ=40.00000°, λ=-100.00000°.*

*JMA **22** 03:23:22.3±0.2, 23°.6N±1°.0×125°.5E±0°.8, h91km, MV3.8/18, NEAR MIYAKOJIMA ISLAND*

ISC 22 03:23:19.7±1.6, 23°.49N±0°.05×125°.69E±0°.04, h15km±9km, n98, σ1s=14/106, mb4.3/33, MS3.3/12, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	**Miyako jima3**	**1.29**	**345**	*i* P	**Pg**	**03 23 44.2**	**-0.5**
JMJ2				S	**Sn**	**03 24 00.9**	**+0.6**
JOGS	**Gusukube**	**1.30**	**348**	P	**Pg**	**03 23 44.6**	**-0.1**
JOGS				S	**Sg**	**03 24 01.6**	**-0.1**
JMJ	**Miyako jima 2**	**1.37**	**345**	P	**Pn**	**03 23 44.2**	**-0.1**
JIRB	**Irabujima**	**1.42**	**341**	*i* P	**Pb**	**03 23 45.8**	**-0.1**
JIRB				S	**Sn**	**03 24 02.8**	**-0.6**
JTJ	**Tarama**	**1.46**	**322**	*i* P	**Pn**	**03 23 46.1**	**+0.6**
JTJ				S	**Sn**	**03 24 03.7**	**-0.8**
JIKM	**Ikemajima**	**1.49**	**344**	P	**Pb**	**03 23 47.0**	**-0.1**
JIKM				S	**Sn**	**03 24 05.3**	**+0.2**
JIJ	**Ishigaki jima**	**1.67**	**302**	P	**Pn**	**03 23 48.3**	**-0.1**
JISG	**Ishigakijimahi**	**1.67**	**311**	*i* P	**Pn**	**03 23 48.9**	**+0.4**
JKRS	**Kuro-shima**	**1.71**	**296**	P	**Pn**	**03 23 49.2**	**+0.2**
JKRS				S	**Sn**	**03 24 09.1**	**-1.5**
HATJ	**Hateruma jima**	**1.82**	**289**	P	**Pn**	**03 23 50.3**	**-0.1**
HATJ				S	**Sn**	**03 24 10.8**	**-2.5**
IRIF	**Iriomote-Funau**	**1.98**	**296**	P	**Pn**	**03 23 52.8**	**+0.1**
IRIF				S	**Sn**	**03 24 15.0**	**-2.3**
YOJ	**Yonaguni jima**	**2.64**	**292**	P	**Pn**	**03 24 02.0**	**+0.3**
YOJ	**Yonaguni jima**	**2.64**	**292**	Pn	**Pn**	**03 24 01.4**	**-0.4**
JYNG	**Yonagunijimaku**	**2.69**	**292**	P	**Pn**	**03 24 02.6**	**+0.1**
JYNG				S	**Sn**	**03 24 31.1**	**-3.6**
JKE	**Kume jima 2**	**3.00**	**19**	P	**Pn**	**03 24 07.2**	**+0.6**
JKE				S	**Sn**	**03 24 40.9**	**-1.4**
JAGN	**Aguni-jima**	**3.40**	**24**	*e*P	**Pn**	**03 24 13.2**	**+1.0**
JAGN				*e*S	**Sn**	**03 24 50.6**	**-1.6**
JNTH	**Nagotoyohara**	**3.69**	**35**	*e*P	**Pn**	**03 24 16.3**	**+0.2**
JNTH				*e*S	**Sn**	**03 24 56.8**	**-2.5**
NACB	**Ninganchiao**	**3.81**	**281**	P	**Pn**	**03 24 16.6**	**-1.3**
NACB	**Ninganchiao**	**3.81**	**281**		**Pn**	**03 24 16.7**	**-1.2**
YULB	**Yu-li**	**4.04**	**270**	P	**Pn**	**03 24 18.8**	**-2.2**
YULB	**Yu-li**	**4.04**	**270**	Pn	**Pn**	**03 24 19.1**	**-1.9**
JOW	**Kunigami**	**4.07**	**35**	P	**Pn**	**03 24 22.2**	**+0.7**
JOW	**Kunigami**	**4.07**	**35**	Pn	**Pn**	**03 24 21.4**	**-0.1**
JOW	**Kunigami**	**4.07**	**35**	Pn	**Pn**	**03 24 20.7**	**-0.8**
	19nm,0.3s,baz=151,slow=20,SNR=12						
JOW				Sn	**Sn**	**03 25 05.7**	**-3.2**
	28nm,0.3s,baz=256,slow=26,SNR=8.8						
JOW				LR	LR	03 25 11.3	
	comp=Z,161nm,20.6s,baz=230,slow=28						
	85nm,0.6s						
TATO	**Taipei**	**4.11**	**292**	Pn	**Pn**	**03 24 22.3**	**+0.2**
YHNB	**Yeheng**	**4.12**	**288**	P	**Pn**	**03 24 22.7**	**+0.6**
YHNB	**Yeheng**	**4.12**	**288**		**Pn**	**03 24 22.6**	**+0.4**
TWGBT	**Beinan**	**4.30**	**262**	P	**Pn**	**03 24 24.5**	**0.0**
TWG	**Pinlang**	**4.30**	**262**		**Pn**	**03 24 24.4**	**-0.2**
SSLB	**Suanglung**	**4.36**	**275**	P	**Pn**	**03 24 25.8**	**+0.4**
SSLB	**Suanglung**	**4.36**	**275**		**Pn**	**03 24 25.9**	**+0.5**
TPUB	**Ta-pu**	**4.65**	**269**	P	**Pn**	**03 24 29.3**	**-0.2**
TPUB	**Ta-pu**	**4.65**	**269**	Pn	**Pn**	**03 24 29.5**	**0.0**
JMZ	**Minamidaito 2**	**5.54**	**64**	Pn	**Pn**	**03 24 41.2**	**-0.5**
KNMB	**Chin-men Tao**	**6.75**	**280**	Pn	**Pn**	**03 24 58.7**	**+0.4**
TGY	**Tagaytay City**	**10.36**	**207**	Pn	**Pn**	**03 25 49.3**	**+1.4**
	72nm,0.3s,baz=27,slow=7.9,SNR=4.6						
JNU	**Nakatsue**	**10.63**	**24**	Pn	**Pn**	**03 25 51.5**	**0.0**
JNU	**Nakatsue**	**10.63**	**24**	Pn	**Pn**	**03 25 52.9**	**+1.4**
	0.8nm,0.3s,baz=233,slow=3.8,SNR=4.7						
KSRS	**Korea Array**	**14.05**	**7**	Pn	**Pn**	**03 26 36.0**	**-2.3**
	0.2nm,0.3s,baz=188,slow=13,SNR=1.1						
KSRS				Sn	**Sn**	**03 29 10.5**	**-3.4**
	0.3nm,0.3s,baz=184,slow=14,SNR=1.3						
KSRS				LR	LR	03 32 23.9	
	comp=Z,100nm,18.6s,baz=185,slow=39						
	1.0nm,0.7s						
JCJ	**Chichijima**	**15.34**	**73**	LR	LR	03 32 26.7	
	comp=Z,60nm,18.7s,baz=178,slow=36						
MAJO	**Matsushiro**	**16.91**	**37**	Pn	**Pn**	**03 27 15.5**	**-0.4**
MAJO				IAmb	IAmb	03 27 35.4	
	comp=Z,35nm,1.4s						
MJAR	**Matsushiro Arr**	**16.91**	**37**	Pn	**Pn**	**03 27 16.3**	**+0.4**
	baz=221,slow=9.8,SNR=1.9						
MJAR				LR	LR	03 33 45.7	
	comp=Z,58nm,20.9s,baz=227,slow=37						
	comp=Z,0.5nm,0.5s						
MJB9	**Matsu-Tunnel**	**16.91**	**37**	Pn	**Pn**	**03 27 15.2**	**-0.7**
MJB9				IAmb	IAmb	03 27 36.4	
	comp=Z,36nm,1.4s						
BJT	**Baijiatuan**	**18.34**	**336**	P	**Pn**	**03 27 33.2**	**-0.3**
USRK	**Ussuriysk Ar.**	**21.30**	**13**	P	**P**	**03 28 05.0**	**-0.7**
USRK	**Ussuriysk Ar.**	**21.30**	**13**	P	**P**	**03 28 04.8**	**-0.9**
	comp=Z,2.6nm,0.6s,baz=188,slow=8.7,SNR=4.2						
USRK			

comp=Z,2.7nm,0.6s,baz=106,slow=11,SNR=7.6
comp=Z,2.7nm,0.6s
ABKAR Akbulak array 56.88 314 P **P** **03 33 04.8 +1.0**
ABKAR Akbulak array 56.88 314 P **P** **03 33 04.7 +0.8**
ABKAR IAmb IAmb 03 33 09.5
comp=Z,4.1nm,0.8s
GEYT Alibeck 58.70 301 P **P** **03 33 18.3 +1.4**
comp=Z,1.9nm,0.6s,baz=69,slow=4.9,SNR=2.8
comp=Z,1.9nm,0.6s
C16K Lisburne Hills 60.63 24 P **P** **03 33 29.7 +0.2**
C16K IAmb IAmb 03 33 32.4
comp=Z,3.3nm,1.0s
D19K Kuna River 63.31 24 P **P** **03 33 49.6 +1.9**
E19K Redstone River 63.59 25 P **P** **03 33 50.1 +0.6**
E19K IAmb IAmb 03 34 07.9
comp=Z,6.5nm,1.1s
B20K Meade River 63.75 22 P **P** **03 33 51.8 +1.3**
B20K IAmb IAmb 03 33 57.3
comp=Z,4.0nm,0.9s
ILAR Eielson Array 67.93 28 P **P** **03 34 17.0 -0.6**
comp=Z,0.3nm,0.8s,baz=281,slow=6.9,SNR=4.7
comp=Z,0.3nm,0.8s
KBZ Khabaz 69.12 310 P **P** **03 34 25.6 +0.3**
comp=Z,2.1nm,0.8s,baz=16,slow=1.8,SNR=6.2
comp=Z,2.1nm,0.8s
SPITS Spitsbergen Ar 71.03 348 P **P** **03 34 36.9 +0.4**
comp=Z,4.0nm,0.9s,baz=54,slow=7.3,SNR=1.4
comp=Z,4.0nm,0.9s
ARCES ARCESS Array B 71.71 339 P **P** **03 34 42.4 +1.7**
comp=Z,2.3nm,0.9s,baz=70,slow=5.2,SNR=1.0
comp=Z,2.3nm,0.9s
FINES FINESS Array B 74.11 330 P **P** **03 34 55.8 +0.8**
comp=Z,1.7nm,0.7s,baz=79,slow=5.5,SNR=12
comp=Z,1.7nm,0.7s
AKASG Malin Array Be 76.11 319 P **P** **03 35 06.3 -0.5**
comp=Z,0.3nm,0.4s,baz=64,slow=5.9,SNR=1.8
comp=Z,0.3nm,0.4s
BRTR Keskin Array B 76.89 308 P **P** **03 35 12.4 +0.7**
comp=Z,2.5nm,1.1s,baz=64,slow=6.6,SNR=4.3
comp=Z,2.5nm,1.1s
WTLY Watson Lake, Y 77.29 30 P **P** **03 35 12.0 -1.3**
DAG Danmarks Havn 77.66 352 *i* P **P** **03 35 15.0 0.0**
RES Resolute Bay 78.65 10 P **P** **03 35 21.5 +0.9**
comp=Z,3.0nm,0.9s,baz=308,slow=5.2,SNR=12
comp=Z,3.0nm,0.9s
NEEM North Greenlan 79.27 359 *i* P **P** **03 35 23.4 -1.0**
BURAR Bucovina Array 79.70 317 P **P** **03 35 27.2 +0.3**
HFS Hagfors 80.16 332 P **P** **03 35 29.8 +0.7**
comp=Z,3.5nm,0.9s,baz=123,slow=7.1,SNR=2.8
comp=Z,3.5nm,0.9s
NB2 NORSAR Subarra 80.73 333 P **P** **03 35 32.7 +0.5**
comp=Z,2.0nm,0.8s,baz=60,slow=5.3
NOA NORSAR Array B 80.73 333 P **P** **03 35 32.2 0.0**
comp=Z,1.0nm,0.8s,baz=52,slow=5.3,SNR=3.9
NOA LR LR 04 14 20.1
comp=Z,33nm,18.0s,baz=75,slow=38
comp=Z,1.0nm,0.8s
NBO00 NORSAR Array S 80.92 333 P **P** **03 35 33.0 -0.2**
YKA Yellowknife Ar 81.97 24 P **P** **03 35 38.2 -0.4**
comp=Z,1.7nm,1.1s,baz=308,slow=5.1,SNR=12
comp=Z,1.7nm,1.1s
GERES GERESS Array B 85.96 322 P **P** **03 35 59.5 0.0**
comp=Z,1.2nm,0.8s,baz=50,slow=4.2,SNR=5.4
comp=Z,1.2nm,0.8s

*IDC **22** 03:40:50.3±0.7, 3.25S×131.15E, h0km, mb4.2/13, mbtmp4.3/14, ML4.9/1, MS3.5/22, Error ellipse: s-maj=33.3km s-min=14.9km az=75.0*
*DJA **22** 03:40:53.7±0.6, 3.3S×13.31E°, h15km±5km, M4.5/12, mB5.7/2, mb4.9/12, MLv4.3/8, Mw(mB)5.2/2*
*NEIC **22** 03:40:55.8±0.9, 3.41S±0.08×130.90E±0.07, h29km±5km, mb4.5/32, Error ellipse: s-maj=12.9km s-min=8.8km az=148.0*
ISC 22 03:40:54.8±0.4, **3.33S**±0.05×**130.90E**±0.05, **h30**km, **n88,** σ1°**98**/69, **mb4.4**/23, **MS3.5**/20, **Seram**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.41**	**73**		**Pn**	**03 41 19.2**	**+0.8**
FAKI				Sn	**Sb**	**03 41 38.3**	**+0.3**
FAKI	**Fak Fak**	**1.41**	**73**	P	**Pn**	**03 41 19.0**	**+0.6**
BNDI	**Bandanaira**	**1.54**	**220**	P	**Pb**	**03 41 23.8**	**+1.0**
SWI	**Sorong**	**2.48**	**8**	P	**Pn**	**03 41 31.6**	**-1.6**
NLAI	**Namlea**	**3.80**	**271**	P	**Pn**	**03 41 53.2**	**+1.9**
LBMI	**Labuha**	**4.33**	**308**	P	**Pn**	**03 41 58.0**	**-0.6**
SANI	**Sanana**	**5.07**	**284**	P	**Pn**	**03 42 07.1**	**-1.7**
	52nm,0.7s,0.2nm						
MTN	**Manton Dam**	**9.45**	**179**	Pn	**Pn**	**03 43 08.5**	**-0.5**
BATI	**Baumata**	**9.91**	**226**	Pn	**Pn**	**03 43 19.4**	**+4.0**
	11nm,0.3s,baz=93,slow=3.0,SNR=7.6						
BATI				LR	LR	03 47 54.9	
	comp=Z,177nm,19.8s,baz=84,slow=42						
	56nm,0.5s						
BATI	**Baumata**	**9.91**	**226**	P	**Pn**	**03 43 16.2**	**+0.8**
	77nm,0.6s						
EDFI	**Ende, Flores**	**10.62**	**239**	P	**Pn**	**03 43 28.1**	**+3.0**
	22nm,1.0s						
DAV	**Davao City (W)**	**11.62**	**333**	LR	LR	03 48 51.3	
	comp=Z,246nm,19.0s,baz=89,slow=41						
PLAI	**Plampang**	**14.14**	**247**	P	**Pn**	**03 44 15.5**	**+2.3**
	36nm,0.7s						
BKB	**Balikpapan**	**14.14**	**278**	P	**Pn**	**03 44 11.8**	**-1.4**
	220nm,0.5s,10μm						
TWSI	**Taliwang, Sumb**	**14.94**	**248**	P	P	03 44 36.3	+7.0
FITZ	**Fitzroy Crossi**	**15.55**	**199**	Pn	**Pn**	**03 44 26.8**	**-5.3**
COEN	**Coen**	**16.07**	**132**	Pn	**Pn**	**03 44 38.5**	**-0.3**
COEN				IAmb	IAmb	03 45 00.6	
	comp=Z,34nm,1.2s						
WB0	**Warramunga Arr**	**16.69**	**168**		**Pn**	**03 44 41.4**	**-5.2**
WB0				IAmb	IAmb	03 44 58.6	
	comp=Z,45nm,1.1s						
WRAB	**Tennant Creek**	**16.84**	**169**	Pn	**Pn**	**03 44 46.7**	**-1.8**
WRA	**Warramunga Ar**	**16.85**	**169**		Pn	03 44 41.7	-6.9
WRA	**Warramunga Arr**	**16.85**	**169**	Pn	**Pn**	**03 44 42.0**	**-6.6**
	comp=Z,0.3nm,0.3s,baz=352,slow=13,SNR=14						
WRA				Sn	Sn	03 47 41.9	-13
	comp=Z,0.7nm,0.3s,baz=48,slow=25,SNR=3.5						
WB2	**Warramunga Arr**	**16.85**	**169**	Pn	**Pn**	**03 44 42.5**	**-6.1**
WB2				IAmb	IAmb	03 45 00.5	
	comp=Z,34nm,1.2s						
WR0	**Warramunga Arr**	**16.90**	**168**	Pn	**Pn**	**03 44 45.7**	**-3.6**
WR0				IAmb	IAmb	03 45 01.2	
	comp=Z,53nm,1.4s						
JAGI	**Jajag, Banyuwa**	**17.42**	**252**	Pn	**Pn**	**03 44 55.5**	**-0.3**
JAGI				IAmb	IAmb	03 45 15.6	
	comp=Z,42nm,1.3s						
BLJI	**Banyuglugur**	**17.77**	**255**	P	Pn	03 44 51.9	-8.2
AS31	**Alice Springs**	**20.42**	**172**	P	**P**	**03 45 29.6**	**-0.2**
AS31				IAmb	IAmb	03 45 31.7	
	comp=Z,19nm,0.5s						
ASAR	**Alice Springs**	**20.42**	**172**		**P**	**03 45 29.4**	**-0.3**
ASAR	**Alice Springs**	**20.42**	**172**	P	**P**	**03 45 30.6**	**+0.9**
	comp=Z,36nm,0.6s,baz=351,slow=11,SNR=277						
ASAR				S	**S**	**03 49 16.5**	**-0.6**
	comp=Z,4.9nm,0.8s,baz=356,slow=24,SNR=9.1						
	comp=Z,36nm,0.6s						
MBWA	**Marble Bar**	**20.79**	**211**	P	**P**	**03 45 32.0**	**-1.7**
MBWA				IAmb	IAmb	03 45 42.3	
	comp=Z,30nm,1.3s						
PSA00	**Pilbara Seismi**	**21.08**	**210**	P	**P**	**03 45 35.5**	**-1.3**
PSA00				IAmb	IAmb	03 45 45.1	
	comp=Z,16nm,0.8s						
CTA	**Charters Tower**	**22.40**	**139**	LR	LR	03 55 54.1	
	comp=Z,238nm,20.3s,baz=359,slow=40						
GIRL	**Giralia**	**25.09**	**219**	P	**P**	**03 46 16.9**	**-0.1**
FORT	**Forrest**	**27.43**	**185**	P	**P**	**03 46 38.6**	**+0.5**
MORW	**Morawa**	**29.23**	**207**	P	**P**	**03 46 53.5**	**-0.6**
MORW				IAmb	IAmb	03 47 00.2	
	comp=Z,15nm,1.2s						
BBOO	**Buckleboo**	**29.72**	**171**	P	**P**	**03 46 57.9**	**-0.6**
BBOO				IAmb	IAmb	03 47 21.9	
	comp=Z,21nm,1.4s						
JOW	**Kunigami**	**30.09**	**355**	LR	LR	03 57 52.0	
	comp=Z,172nm,21.6s,baz=162,slow=34						
STKA	**Stephens Creek**	**30.12**	**162**	P	**P**	**03 47 01.4**	**-0.6**
STKA	**Stephens Creek**	**30.12**	**162**	P	**P**	**03 47 01.6**	**-0.4**
	comp=Z,5.2nm,0.8s,baz=329,slow=6.8,SNR=8.4						
STKA				LR	LR	04 00 08.7	
	comp=Z,191nm,19.4s,baz=358,slow=38						
	comp=Z,5.2nm,0.8s						
NWAO	**Narrogin (SRO)**	**32.10**	**202**	P	**P**	**03 47 19.1**	**-0.4**
JCJ	**Chichijima**	**32.15**	**19**	LR	LR	03 58 39.2	
	comp=Z,86nm,18.9s,baz=232,slow=33						
ARMA	**Armidale**	**33.31**	**146**	P	**P**	**03 47 30.5**	**+0.3**
JNU	**Nakatsue**	**36.26**	**360**	LR	LR	04 03 54.8	
	comp=Z,51nm,18.0s,baz=184,slow=38						
CMAR	**Chiang Mai Arr**	**38.20**	**306**	P	**P**	**03 48 12.8**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=132,slow=6.2,SNR=6.9						
	comp=Z,1.2nm,0.3s						
MJAR	**Matsushiro Arr**	**40.25**	**9**	P	**P**	**03 48 27.9**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=204,slow=11,SNR=2.3						
MJAR				LR	LR	04 01 30.4	
	comp=Z,52nm,22.0s,baz=194,slow=31						
	comp=Z,1.5nm,0.6s						
KSRS	**Korea Array**	**40.67**	**356**	LR	LR	04 04 48.2	
	comp=Z,65nm,21.0s,baz=175,slow=35						
LYN	**LuoYang**	**41.48**	**337**	*e*P	P	03 48 50.3	+11
LYN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**47.33**	**1**	P	**P**	**03 49 27.4**	**+1.7**
USRK	**Ussuriysk Ar.**	**47.33**	**1**	P	**P**	**03 49 26.8**	**+1.0**
	comp=Z,2.1nm,0.6s,baz=192,slow=8.8,SNR=7.4						
	comp=Z,2.1nm,0.6s						
ASAJ	**Asahikawa**	**48.39**	**11**	LR	LR	04 10 45.4	
	comp=Z,36nm,18.0s,baz=182,slow=37						
XLT	**XiLinHaoTe**	**48.87**	**346**	*e*P	P	03 49 42.8	+4.9
XLT				pP	pP	03 49 47.1	+0.4
XLT				PcP	**PcP**	**03 51 02.0**	**-0.1**
XLT				PP	**PP**	**03 51 27.1**	**-4.3**
XLT				pmax	pmax		
	comp=Z,9.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,160nm,5.2s						
PALK	**Pallekele**	**51.19**	**282**	LR	LR	04 13 54.1	
	comp=Z,50nm,19.9s,baz=209,slow=39						
GTA	**Gaotai**	**51.26**	**329**	P	**P**	**03 49 57.3**	**+1.2**
GTA				pP	sP	03 50 10.4	+2.0
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KLR	**Kul'dur**	**52.35**	**1**	LR	LR	04 11 53.9	
	comp=Z,30nm,19.9s,baz=214,slow=36						
SONM	**Songino Array**	**55.30**	**340**	P	**P**	**03 50 25.0**	**-0.6**
	comp=Z,1.1nm,1.0s,baz=169,slow=8.8,SNR=4.9						
	comp=Z,1.1nm,1.0s						
PETK	**Petropavlovsk-**	**60.58**	**18**	LR	LR	04 12 25.7	
	comp=Z,22nm,21.6s,baz=198,slow=31						
MA2	**Magadan**	**64.65**	**11**	LR	LR	04 20 12.0	
	comp=Z,27nm,18.4s,baz=156,slow=37						
MK31	**Makanchi Array**	**65.70**	**326**	P	**P**	**03 51 37.5**	**+0.9**
MKAR	**Makanchi Array**	**65.70**	**326**	P	**P**	**03 51 37.3**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=125,slow=7.7,SNR=18						
	comp=Z,1.9nm,0.8s						
MAKZ	**Makanchi**	**65.88**	**325**	P	**P**	**03 51 37.8**	**0.0**
MAKZ				IAmb	IAmb	03 51 39.7	
	comp=Z,4.1nm,1.1s						
SEY	**Seymchan**	**68.06**	**10**	LR	LR	04 21 52.3	
	comp=Z,22nm,18.6s,baz=308,slow=36						
KURBB	**Kurchatov Arra**	**69.89**	**328**	P	**P**	**03 52 03.5**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=126,slow=6.0,SNR=4.5						
	comp=Z,1.1nm,0.7s						
KURK	**Kurchatov**	**69.90**	**328**	P	**P**	**03 52 04.5**	**+1.6**
KURK				IAmb	IAmb	03 52 29.7	
	comp=Z,5.6nm,1.1s						
TIXI	**Tiksi**	**74.86**	**359**	LR	LR	04 25 15.0	
	comp=Z,34nm,20.6s,baz=192,slow=36						
BVAR	**Borovoye Array**	**75.47**	**327**	P	**P**	**03 52 36.2**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=128,slow=6.2,SNR=10.0						
	comp=Z,1.7nm,0.7s						
VNDA	**Vanda**	**75.96**	**173**	P	**P**	**03 52 39.0**	**+0.6**
VNDA	**Vanda**	**75.96**	**173**	P	**P**	**03 52 38.8**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=314,slow=6.7,SNR=7.2						
VNDA				LR	LR	04 27 36.2	
	comp=Z,84nm,18.4s,baz=179,slow=37						
	comp=Z,0.6nm,0.4s						
GEYT	**Alibeck**	**78.56**	**310**	P	**P**	**03 52 55.0**	**+1.2**
	comp=Z,2.2nm,0.6s,baz=216,slow=7.1,SNR=3.6						
	comp=Z,2.2nm,0.6s						
MAW	**Mawson**	**78.67**	**201**	P	**P**	**03 52 54.7**	**+1.0**
MAW	**Mawson**	**78.67**	**201**	LR	LR	04 28 38.2	
	comp=Z,100nm,18.1s,baz=202,slow=36						
ABKAR	**Akbulak array**	**80.22**	**321**	P	**P**	**03 53 03.7**	**+1.2**
ABKAR	**Akbulak array**	**80.22**	**321**	P	**P**	**03 53 03.4**	**+0.9**
AKTO	**Aktyubinsk**	**81.75**	**322**	LR	LR	04 32 36.0	
	comp=Z,23nm,21.1s,baz=248,slow=38						
VOI	**Vohitsoka**	**83.30**	**248**	P	**P**	**03 53 19.6**	**0.0**
M16K	**Timber Creek**	**83.41**	**27**	P	**P**	**03 53 21.2**	**+2.1**
J16K	**Anvik River**	**83.46**	**25**	P	**P**	**03 53 20.6**	**+1.3**
C16K	**Lisburne Hills**	**83.64**	**20**	P	**P**	**03 53 21.5**	**+1.4**
C16K				IAmb	IAmb	03 53 24.8	
	comp=Z,3.5nm,0.9s						
L18K	**Granite Mounta**	**84.82**	**27**	P	**P**	**03 53 27.7**	**+1.5**
QSPA	**South Pole Qui**	**86.62**	**180**	P	**P**	**03 53 35.1**	**-0.2**
QSPA	**South Pole Qui**	**86.62**	**180**	P	**P**	**03 53 34.7**	**-0.5**
	comp=Z,3.2nm,1.1s,baz=48,slow=16,SNR=2.8						
	comp=Z,3.2nm,1.1s						
F20K	**Avaraart Lake**	**86.62**	**22**	P	**P**	**03 53 33.0**	**-2.0**
F20K				IAmb	IAmb	03 54 00.8	
	comp=Z,3.8nm,1.5s						
RAYN	**Ar Rayn**	**87.10**	**294**	P	**P**	**03 53 39.2**	**+0.7**
RAYN				IAmb	IAmb	03 53 58.2	
	comp=Z,3.8nm,0.9s						
ILAR	**Eielson Array**	**89.67**	**25**	P	**P**	**03 53 48.0**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=252,slow=5.4,SNR=6.0						
	comp=Z,0.5nm,0.7s						
KBZ	**Khabaz**	**90.83**	**314**	LR	LR	04 42 24.4	
	comp=Z,22nm,18.0s,baz=147,slow=41						
SPITS	**Spitsbergen Ar**	**98.16**	**349**	LR	LR	04 41 11.6	
	comp=Z,30nm,21.0s,baz=21,slow=37						
BBB	**Bella Bella**	**99.36**	**38**	LR	LR	04 33 13.9	
	comp=Z,22nm,20.4s,baz=184,slow=32						
TORD	**Tordi Ar. Bea**	**128.89**	**284**	PKP	**PKPdf**	**04 00 00.9**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=41,slow=2.2,SNR=2.9						
CPUP	**Villa Florida**	**149.46**	**165**	PKPbc	**PKPbc**	**04 00 42.0**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=38,slow=7.4,SNR=3.3						
LPAZ	**La Paz**	**152.91**	**137**	PKPbc	**PKiKP**	**04 00 52.1**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=192,slow=3.6,SNR=6.8						

*NEIC **22** 03:44:11.3±1.4, 51.52N±0.10×178.7E±0.1, h72km±3km, mb4.0/79, ML3.9(AEIC), Error ellipse: s-maj=14.4km s-min=10.3km az=189.0*
*IDC **22** 03:44:12.2±2.4, 51.78N×178.91E, h72km±19km, mb3.6/14, mbtmp4.0/17, MS3.4/2, Error ellipse: s-maj=31.3km s-min=11.7km az=1.0*
*AEIC **22** 03:44:12.7±3.4, 51.57N±0.10×178.9E±0.1, h56km±4km, Error ellipse: s-maj=14.4km s-min=8.8km az=195.0*
ISC 22 03:44:11.2±0.6, **51.51N**±0.08×**178.82E**±0.04, **h72**km, **n132,** σ0°**84**/134, **mb4.0**/46, **Rat Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.33**	**114**	Pn	**Pn**	**03 44 22.7**	**-0.1**
AMKA	**Amchitka**	**0.33**	**114**		**Sn**	**03 44 30.9**	**-0.3**
LSSE	**Little Sitkin**	**0.45**	**339**		**Pn**	**03 44 23.9**	**+0.1**
LSPA	**Little Sitkin**	**0.47**	**341**		**Pn**	**03 44 23.9**	**0.0**
LSPA					**Sn**	**03 44 33.4**	**+0.1**
LSNW	**Little Sitkin**	**0.49**	**337**		**Pn**	**03 44 24.1**	**-0.1**
CESW	**Semis' Southwe**	**0.60**	**50**		**Pn**	**03 44 25.2**	**0.0**
CEAP	**Semis' Anvil P**	**0.68**	**43**		**Pn**	**03 44 26.1**	**+0.1**
CEPE	**Semis' Perret**	**0.68**	**48**		**Pn**	**03 44 26.2**	**+0.1**
GANO	**Gareloi North**	**1.51**	**77**		**Pn**	**03 44 37.0**	**+0.7**
GANE	**Gareloi Northe**	**1.52**	**78**		**Pn**	**03 44 37.3**	**+0.7**
TANO	**Tanaga North**	**1.94**	**77**		**Pn**	**03 44 43.0**	**+0.9**
TASE	**Tanaga Southea**	**1.98**	**79**		**Pn**	**03 44 43.6**	**+0.9**
TAFP	**Tanaga Falls P**	**2.02**	**78**		**Pn**	**03 44 43.8**	**+0.6**
TAFP					**Sn**	**03 45 07.9**	**+0.3**
KICM	**Kanaga Island**	**2.51**	**79**		**Pn**	**03 44 51.0**	**+1.2**
KIWB	**Kanaga Island**	**2.53**	**81**		**Pn**	**03 44 50.9**	**+0.9**
ADK	**Adak**	**2.82**	**81**		**Pn**	**03 44 54.4**	**+0.4**
ADK	**Adak**	**2.82**	**81**		**Sn**	**03 45 27.5**	**+0.7**
SHEM	**Shemya Is, Ala**	**3.16**	**295**	P	**Pn**	**03 44 59.8**	**+1.3**
	50nm,0.3s,baz=114,slow=3.6,SNR=11						
SHEM				S	**Sn**	**03 45 35.1**	**+0.1**
	91nm,0.3s,baz=297,slow=19,SNR=13						
GSTD	**Great Sitkin T**	**3.17**	**78**		**Sn**	**03 45 36.5**	**+1.0**
GSMY	**Great Sitkin M**	**3.22**	**79**		**Pn**	**03 45 00.0**	**+0.6**
ATKA	**Atka Island**	**4.38**	**78**		**Pn**	**03 45 16.1**	**+0.9**
ATKA					**Sn**	**03 46 04.8**	**-0.1**
KOFP	**Korovin Flat P**	**4.45**	**77**		**Pn**	**03 45 17.7**	**+1.5**
OKTU	**Okmok Mt. Tuli**	**8.24**	**72**		**Pn**	**03 46 10.5**	**+2.5**
MAPS	**Pakushin South**	**8.95**	**70**		**Pn**	**03 46 19.7**	**+2.1**
MGOD	**Makushin Gods**	**8.99**	**70**		**Pn**	**03 46 19.9**	**+1.7**
UNV	**Unalaska Valle**	**9.21**	**70**	Pn	**Pn**	**03 46 23.0**	**+1.8**
PETK	**Petropavlovsk-**	**13.02**	**285**	P	**Pn**	**03 47 14.8**	**+1.8**
	3.0nm,0.9s,baz=85,slow=16,SNR=1.6						
N15K	**Kwethluk River**	**14.62**	**45**	Pn	**Pn**	**03 47 35.4**	**+1.4**
M17K	**Holitna River**	**16.34**	**44**		**P**	**03 47 58.6**	**+1.1**
M17K				IAmb	IAmb	03 48 02.4	
	comp=Z,13nm,1.2s						
K17K	**Iditarod**	**16.62**	**39**		**P**	**03 48 00.6**	**-0.1**
K17K				IAmb	IAmb	03 48 22.8	
	comp=Z,11nm,1.4s						
KDAK	**Kodiak Island**	**17.60**	**58**	P	**Pn**	**03 48 09.0**	**-2.4**
	comp=Z,10nm,0.8s,baz=258,slow=1.9,SNR=28						
RSO	**Redoubt South**	**18.11**	**49**		**Pn**	**03 48 18.8**	**+1.0**
M20K	**Styx River**	**18.41**	**45**		**Pn**	**03 48 21.9**	**+0.6**
M20K				IAmb	IAmb	03 48 54.3	
	comp=Z,9.9nm,1.2s						
G19K	**Purcell Mounta**	**19.05**	**31**	P	**P**	**03 48 27.9**	**+0.7**
SKT	**Skwentna**	**19.15**	**45**	P	**P**	**03 48 28.7**	**+0.3**
SKT				IAmb	IAmb	03 48 55.1	
	comp=Z,10nm,1.1s						
F19K	**Shaleruckik Mo**	**19.28**	**28**		**P**	**03 48 29.3**	**-0.5**
SUA	**Susitna One**	**19.34**	**47**	P	**P**	**03 48 30.5**	**-0.1**
CAST	**Castle Rocks**	**19.45**	**41**	P	**P**	**03 48 32.1**	**+0.4**
CAST				IAmb	IAmb	03 48 42.7	
	comp=Z,9.9nm,1.5s						
C18K	**Utukok River**	**19.69**	**22**	P	**P**	**03 48 35.1**	**+0.9**
F20K	**Avaraart Lake**	**20.04**	**29**	P	**P**	**03 48 38.1**	**+0.1**
D19K	**Kuna River**	**20.33**	**25**	P	**P**	**03 48 42.0**	**+0.8**
SML	**Sawmill**	**20.55**	**47**	P	**P**	**03 48 42.9**	**-0.7**
SML				IAmb	IAmb	03 49 06.4	
	comp=Z,19nm,1.3s						
F21K	**Alatna River**	**20.84**	**31**		**P**	**03 48 48.0**	**+1.3**
F21K				IAmb	IAmb	03 49 04.1	
	comp=Z,9.1nm,1.5s						
SCM	**Sheep Creek Mo**	**21.02**	**47**	P	**P**	**03 48 48.5**	**-0.2**
NEA2	**Nenana**	**21.14**	**39**	P	**P**	**03 48 51.0**	**+1.0**
NEA2				IAmb	IAmb	03 49 24.2	
	comp=Z,15nm,1.5s						
I23K	**Minto, Yukon-K**	**21.25**	**38**	P	**P**	**03 48 51.7**	**+0.7**
DHY	**Denali Highway**	**21.33**	**44**	P	**P**	**03 48 52.1**	**+0.1**
DHY				IAmb	IAmb	03 49 17.3	
	comp=Z,8.4nm,1.1s						
M24K	**Tolsona, Glenn**	**21.61**	**47**	P	**P**	**03 48 55.4**	**+0.4**
B20K	**Meade River**	**21.66**	**22**	P	**P**	**03 48 55.8**	**+0.5**
G23K	**Bananza Creek**	**21.72**	**34**	P	**P**	**03 48 57.2**	**+1.1**
G23K				IAmb	IAmb	03 49 16.0	
	comp=Z,5.1nm,1.1s						
E22K	**Anaktuvuk Pass**	**21.89**	**30**	P	**P**	**03 48 58.5**	**+0.5**
HDA	**Harding Lake**	**21.93**	**41**	P	**P**	**03 48 58.6**	**+0.3**
HDA				IAmb	IAmb	03 49 20.7	
	comp=Z,7.3nm,1.4s						
B21K	**Ikpikpuk River**	**22.02**	**25**	P	**P**	**03 48 59.4**	**+0.1**
B21K				IAmb	IAmb	03 49 03.7	
	comp=Z,5.0nm,1.2s						
D22K	**Ayikyak River**	**22.08**	**27**	P	**P**	**03 49 00.8**	**+0.9**
D22K				IAmb	IAmb	03 49 19.8	
	comp=Z,4.8nm,1.1s						
ILAR	**Eielson Array**	**22.08**	**40**	P	**P**	**03 48 58.8**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=236,slow=8.0,SNR=15						
	comp=Z,0.5nm,0.6s						
H24K	**Noodor Dome**	**22.11**	**37**	P	**P**	**03 49 01.3**	**+1.0**
PAX	**Paxson**	**22.14**	**45**	P	**P**	**03 49 00.9**	**+0.2**
PAX				IAmb	IAmb	03 49 03.2	
	comp=Z,3.6nm,0.7s						
GLB	**Gilahina Butte**	**22.58**	**49**	P	**P**	**03 49 05.3**	**-0.2**
RIDG	**Independent Ri**	**22.61**	**43**	P	**P**	**03 49 04.3**	**-1.4**
RIDG				IAmb	IAmb	03 49 05.2	
	comp=Z,11nm,1.4s						
J25K	**Salcha River,**	**22.64**	**41**	P	**P**	**03 49 05.4**	**-0.6**
J25K				IAmb	IAmb	03 49 38.3	
	comp=Z,5.8nm,1.4s						
B22K	**Teshekpuk Lake**	**22.81**	**24**	P	**P**	**03 49 07.2**	**-0.4**
F24K	**Squaw Lake**	**22.84**	**33**	P	**P**	**03 49 08.8**	**+0.7**
TOLK	**Toolik Lake Re**	**22.87**	**30**		**P**	**03 49 08.4**	**+0.1**
TOLK				IAmb	IAmb	03 49 26.8	
	comp=Z,7.8nm,1.4s						
SCRK	**Sand Creek**	**23.04**	**43**		**P**	**03 49 08.7**	**-1.5**
C23K	**Itkillik River**	**23.24**	**27**	P	**P**	**03 49 11.9**	**0.0**
C23K				IAmb	IAmb	03 49 53.1	
	comp=Z,6.4nm,1.4s						
J26L	**Joseph Creek**	**23.36**	**42**	P	**P**	**03 49 12.7**	**-0.4**
J26L				IAmb	IAmb	03 49 15.2	
	comp=Z,4.0nm,0.6s						
D24K	**Happy Valley**	**23.37**	**29**		**P**	**03 49 13.6**	**+0.5**
D24K				IAmb	IAmb	03 49 14.5	
	comp=Z,4.1nm,0.8s						
L27K	**Beaver Creek,**	**23.78**	**46**	P	**P**	**03 49 17.6**	**+0.7**
L27K				IAmb	IAmb	03 49 19.6	
	comp=Z,4.2nm,0.7s						
BCAR	**Beaver Creek A**	**23.80**	**46**	P	**P**	**03 49 17.0**	**0.0**
K27K	**Chicken**	**23.87**	**43**	P	**P**	**03 49 18.5**	**+0.9**
K27K				IAmb	IAmb	03 49 19.3	
	comp=Z,3.0nm,0.6s						
EGAK	**Eagle**	**24.43**	**42**		**P**	**03 49 23.0**

MK31				IAmb	IAmb	03 54 20.3		
	comp=Z,2.7nm,1.5s							
MKAR	**Makanchi Array**	**58.77**	**307**	P	**P**	**03 54 01.2**	**-0.3**	
MKAR	**Makanchi Array**	**58.77**	**307**	P	**P**	**03 54 01.1**	**-0.5**	
	comp=Z,0.9nm,0.4s,baz=51,slow=6.2,SNR=13							
	comp=Z,0.9nm,0.4s							
MAKZ	**Makanchi**	**58.92**	**307**	P	**P**	**03 54 02.5**	**-0.1**	
MAKZ				IAmb	IAmb	03 54 03.2		
	comp=Z,2.1nm,0.9s							
BVAR	**Borovoye Array**	**59.81**	**318**	P	**P**	**03 54 09.0**	**+0.4**	
	comp=Z,2.1nm,0.4s,baz=53,slow=6.9,SNR=19							
	comp=Z,2.1nm,0.4s							
BRVK	**Borovoye**	**59.83**	**319**	P	**P**	**03 54 08.7**	**0.0**	
TX31	**Lajitas Ar. Si**	**60.10**	**80**	P	**P**	**03 54 11.7**	**+0.7**	
TXAR	**Lajitas Array**	**60.10**	**80**	P	**P**	**03 54 10.7**	**-0.3**	
TXAR	**Lajitas Array**	**60.10**	**80**	P	**P**	**03 54 11.4**	**+0.4**	
	comp=Z,0.7nm,0.6s,baz=303,slow=5.0,SNR=9.3							
	comp=Z,0.7nm,0.6s							
MIAR	**Mount Ida**	**62.47**	**68**	P	**P**	**03 54 26.6**	**-0.2**	
BOOM	**Boomskoye usch**	**65.02**	**307**	P	**P**	**03 54 43.5**	**-0.2**	
BOOM				IAmb	IAmb	03 55 12.9		
	comp=Z,2.2nm,1.2s							
AAK	**Ala-Archa**	**65.62**	**308**	P	**P**	**03 54 46.8**	**-0.8**	
AAK				IAmb	IAmb	03 54 47.5		
	comp=Z,4.2nm,1.5s							
AAK	**Ala-Archa**	**65.62**	**308**	LR	LR	04 25 48.1		
	comp=Z,35nm,18.0s,baz=110,slow=38							
L56A	**Greenwood**	**65.64**	**53**	P	**P**	**03 54 47.0**	**-0.5**	
AKTO	**Aktyubinsk**	**66.70**	**323**	P	**P**	**03 54 54.6**	**+0.5**	
	comp=Z,2.4nm,0.4s,baz=62,slow=7.2,SNR=7.9							
	comp=Z,2.4nm,0.4s							
ABKAR	**Akbulak array**	**66.92**	**321**	P	**P**	**03 54 55.9**	**+0.4**	
ABKAR				IAmb	IAmb	03 54 56.7		
	comp=Z,1.0nm,0.5s							
ABKAR	**Akbulak array**	**66.92**	**321**	P	**P**	**03 54 55.7**	**+0.2**	
F64A	**Sherman**	**67.10**	**44**	P	**P**	**03 54 55.0**	**-1.7**	
NBO00	**NORSAR Array S**	**67.40**	**354**	P	**P**	**03 54 58.2**	**-0.1**	
AKASG	**Malin Array Be**	**74.94**	**341**	P	**P**	**03 55 43.0**	**-1.1**	
	comp=Z,0.2nm,0.3s,baz=21,slow=6.2,SNR=2.7							
	comp=Z,0.2nm,0.3s							
KIEV	**Kiev**	**74.95**	**341**	P	**P**	**03 55 43.8**	**-0.3**	
KIEV				IAmb	IAmb	03 55 53.6		
	comp=Z,2.9nm,1.1s							
BURAR	**Bucovina Array**	**78.69**	**342**	P	**P**	**03 56 05.2**	**-0.2**	
EIDS	**Eidsvold**	**80.35**	**205**	P	**P**	**03 56 12.4**	**-1.8**	
WB2	**Warramunga Arr**	**81.10**	**222**	P	**P**	**03 56 18.1**	**-0.3**	

*WEL **22** 03:55:48.7±0.3, 42°S±2°×17°4E±°, h8km±3km, M3.4/17, ML3.7/17, MLv3.4/17, Error ellipse: s-maj=0.0km s-min=0.0km az=150.1*
*NOU **22** 03:55:48.1, 41°.79S×174°.43E, h5km, MLv3.8/7, Cook Strait, New Zealand*
ISC 22 03:55:48.2±0.9, 41°.75S±0°.03×174°.36E±0°.03, h17km±5km, n96, σ1§33/115, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.11**	**270**	P		**Pg**	**03 55 52.0**	**+0.1**
CMWZ				S		**Sg**	**03 55 55.3**	**+1.0**
WDFS	**Ward Fire Stat**	**0.18**	**244**	P		**Pb**	**03 55 53.1**	**0.0**
WDFS				S		**Sg**	**03 55 57.0**	**+1.1**
SEDS	**Seddon Fire St**	**0.22**	**290**	P		**Pg**	**03 55 52.7**	**-0.8**
SEDS				S		**Sg**	**03 55 59.9**	**-1.0**
KEKS	**Kekerengu Vall**	**0.35**	**233**	P		**Pb**	**03 56 02.2**	**+0.2**
KEKS				S		**Sb**	**03 56 02.2**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.36**	**275**	P		**Pg**	**03 55 55.0**	**-0.8**
BSWZ				S		**Sg**	**03 55 59.9**	**-1.0**
TUWZ	**Tuamarina**	**0.45**	**316**	P		**Pg**	**03 55 56.2**	**-1.1**
TUWZ				S		**Sg**	**03 56 01.8**	**-1.5**
BWRS	**Waikakaho Road**	**0.46**	**312**	P		**Pg**	**03 55 56.4**	**-1.1**
BWRS				S		**Sg**	**03 56 02.3**	**-1.5**
SNZO	**South Karori**	**0.51**	**31**	P		**Pb**	**03 55 58.6**	**-0.1**
BHW	**Baring Head**	**0.51**	**49**	P		**Pb**	**03 55 59.4**	**+0.6**
BHW				S		**Sb**	**03 56 07.4**	**+1.4**
TCW	**Tory Channel**	**0.54**	**354**	P		**Pg**	**03 55 58.1**	**-0.9**
TCW				S		**Sg**	**03 56 04.2**	**-2.1**
WNAS	**Wellington Int**	**0.54**	**39**	S		**Sb**	**03 56 06.3**	**-0.4**
TEPS	**Wellington Te**	**0.56**	**35**	S		**Sb**	**03 56 08.1**	**+1.0**
WEL	**Wellington**	**0.56**	**34**	P		**Pb**	**03 55 59.7**	**+0.2**
WEL				S		**Sb**	**03 56 08.1**	**+0.9**
MKBS	**Makara Bunker**	**0.58**	**26**	P		**Pb**	**03 55 59.8**	**-0.1**
PLWZ	**Palliser**	**0.70**	**75**	P		**Pn**	**03 56 03.5**	**+0.2**
MSWZ	**Moikau Station**	**0.75**	**64**	P		**Pn**	**03 56 04.3**	**+0.3**
MSWZ				S		**Sn**	**03 56 15.4**	**+0.5**
CAW	**Cannon Point**	**0.83**	**40**	P		**Pb**	**03 56 04.5**	**+0.2**
CAW				S		**Sb**	**03 56 16.4**	**+1.3**
PAWZ	**Paruwai Farm**	**0.88**	**66**	P		**Pn**	**03 56 06.0**	**+0.1**
PAWZ				S		**Sn**	**03 56 18.6**	**+0.3**
KHZ	**Kahutara**	**0.90**	**222**	P		**Pn**	**03 56 06.1**	**0.0**
KHZ	**Kahutara**	**0.90**	**222**	P		**Pn**	**03 56 06.1**	**0.0**
KHZ				S		**Sn**	**03 56 20.0**	**+1.2**
NNZ	**Nelson**	**0.91**	**306**	P		**Pg**	**03 56 04.2**	**-1.7**
KIW	**Kapiti Island**	**0.98**	**25**	P		**Pb**	**03 56 06.5**	**-0.2**
KIW				S		**Sb**	**03 56 21.2**	**+1.9**
DUWZ	**D'Urville Isla**	**1.00**	**341**	P		**Pg**	**03 56 05.9**	**-1.8**
DUWZ				S		**Sg**	**03 56 19.4**	**-1.4**
MTW	**Mount Morrison**	**1.04**	**56**	P		**Pn**	**03 56 08.1**	**0.0**
TRWZ	**Traveller**	**1.06**	**71**	P		**Pn**	**03 56 08.2**	**-0.1**
THZ	**Tophouse**	**1.09**	**269**	P		**Pg**	**03 56 08.1**	**-1.2**
THZ				S		**Sg**	**03 56 22.7**	**-0.9**
OGWZ	**Otaki Gorge**	**1.11**	**34**	P		**Pb**	**03 56 09.0**	**0.0**
OGWZ				S		**Sn**	**03 56 24.8**	**+0.8**
HOWZ	**Holdsworth Sta**	**1.22**	**46**	P		**Pn**	**03 56 10.5**	**0.0**
MRNZ	**Matariki Terra**	**1.25**	**286**	P		**Pn**	**03 56 10.8**	**-0.1**
MRNZ				S		**Sg**	**03 56 27.9**	**-0.8**
TKNZ	**Takaka Hill**	**1.27**	**304**	P		**Pn**	**03 56 10.7**	**-0.6**
TMWZ	**Te Maipa**	**1.32**	**61**	P		**Pn**	**03 56 11.7**	**-0.2**
MRZ	**Mangatainoka R**	**1.43**	**41**	P		**Pn**	**03 56 13.3**	**0.0**
TIWZ	**Tintock**	**1.51**	**50**	P		**Pn**	**03 56 14.4**	**-0.1**
GVZ	**Greta Valley S**	**1.56**	**218**	P		**Pn**	**03 56 15.1**	**-0.1**
QRZ	**Quartz Range**	**1.66**	**303**	P		**Pn**	**03 56 17.2**	**+0.7**
QRZ	**Quartz Range**	**1.66**	**303**	P		**Pn**	**03 56 17.1**	**+0.6**
PRWZ	**Pori Road**	**1.71**	**46**	P		**Pn**	**03 56 17.0**	**-0.1**
POWZ	**Post Office Ro**	**1.73**	**39**	P		**Pn**	**03 56 17.7**	**+0.3**
BFZ	**Birch Farm**	**1.78**	**54**	P		**Pn**	**03 56 17.6**	**-0.6**
BFZ	**Birch Farm**	**1.78**	**54**	P		**Pn**	**03 56 17.4**	**-0.8**
LTZ	**Lake Taylor**	**1.86**	**236**	P		**Pn**	**03 56 19.2**	**-0.2**
DSZ	**Denniston Nort**	**1.91**	**269**	P		**Pn**	**03 56 20.7**	**+0.7**
DVHZ	**Dannevirke**	**1.99**	**44**	P		**Pn**	**03 56 20.6**	**-0.5**
WAZ	**Wanganui**	**2.05**	**14**	P		**Pb**	**03 56 24.6**	**-0.4**
TSZ	**Takapari Road**	**2.08**	**36**	P		**Pn**	**03 56 22.5**	**+0.1**
PRHZ	**Porangahau**	**2.27**	**50**	P		**Pn**	**03 56 24.0**	**-1.0**
LREZ	**Lake Rotokare**	**2.29**	**1**	P		**Pn**	**03 56 26.2**	**-0.8**
PNHZ	**Pukenui**	**2.31**	**38**	P		**Pn**	**03 56 25.0**	**-0.5**
WPHZ	**Waipukurau**	**2.31**	**44**	P		**Pg**	**03 56 32.4**	**-0.1**
NMEZ	**Namu Road**	**2.36**	**351**	P		**Pb**	**03 56 29.8**	**-0.5**
INZ	**Inchbonnie**	**2.37**	**245**	P		**Pn**	**03 56 26.8**	**+0.5**
PREZ	**Palmer Road**	**2.41**	**356**	P		**Pn**	**03 56 29.7**	**+2.9**
KHEZ	**Kahui Hut**	**2.46**	**354**	P		**Pn**	**03 56 30.3**	**+2.6**
KHEZ	**Kahui Hut**	**2.46**	**354**	P		**Pn**	**03 56 30.4**	**+2.6**
NEZ	**North Egmont**	**2.48**	**355**	P		**Pn**	**03 56 30.4**	**+2.5**
NBEZ	**Newall Road No**	**2.51**	**351**	P		**Pn**	**03 56 30.6**	**+2.5**
MTVZ	**Mangateitei**	**2.51**	**20**	P		**Pb**	**03 56 32.4**	**-0.4**
DREZ	**Durham Road**	**2.56**	**357**	P		**Pn**	**03 56 31.7**	**+2.8**
PXZ	**Pawanui**	**2.56**	**49**	P		**Pb**	**03 56 34.0**	**+0.3**
PKE	**Pukeiti**	**2.57**	**354**	P		**Pn**	**03 56 30.9**	**+1.8**
MOVZ	**Moawhango**	**2.57**	**25**	P		**Pn**	**03 56 29.9**	**+0.8**
PKVZ	**Pokaka**	**2.57**	**17**	P		**Pn**	**03 56 32.0**	**+2.9**
WNVZ	**Wahianoa**	**2.60**	**22**	P		**Pn**	**03 56 30.5**	**+0.9**
KRHZ	**Kereru**	**2.60**	**37**	P		**Pn**	**03 56 28.8**	**-0.8**
BHHZ	**Black Hill Sta**	**2.60**	**30**	P		**Pn**	**03 56 29.6**	**0.0**
TRVZ	**Turoa**	**2.61**	**21**	P		**Pn**	**03 56 31.6**	**+1.8**
WHVZ	**Whangaehu Hut**	**2.64**	**21**	P		**Pn**	**03 56 31.4**	**+1.2**
VRZ	**Vera Road**	**2.64**	**7**	P		**Pn**	**03 56 32.7**	**+2.7**
MAVZ	**Matarangi**	**2.64**	**21**	P		**Pb**	**03 56 34.5**	**-0.8**
FWVZ	**Far West T-bar**	**2.65**	**20**	P		**Pn**	**03 56 31.7**	**+1.3**
TUVZ	**Tukino**	**2.67**	**22**	P		**Pn**	**03 56 31.4**	**+0.8**
COVZ	**Chateau Observ**	**2.70**	**20**	P		**Pb**	**03 56 34.8**	**-1.4**
KAHZ	**Kahuranaki**	**2.73**	**45**	P		**Pn**	**03 56 30.4**	**-1.0**
NGZ	**Ngauruhoe**	**2.74**	**21**	P		**Pn**	**03 56 32.9**	**+1.4**
SNVZ	**South Ngauruho**	**2.74**	**21**	P		**Pn**	**03 56 32.7**	**+1.1**
OTVZ	**Oturere**	**2.77**	**22**	P		**Pn**	**03 56 32.8**	**+0.9**
NNVZ	**North Ngauruho**	**2.78**	**21**	P		**Pn**	**03 56 33.3**	**+1.1**
WTVZ	**West Tongariro**	**2.79**	**20**	P		**Pn**	**03 56 33.9**	**+1.6**
TWVZ	**Taurewa**	**2.80**	**17**	P		**Pn**	**03 56 34.8**	**+2.5**
KWHZ	**Kaweka Forest**	**2.80**	**35**	P		**Pn**	**03 56 31.7**	**-0.7**
ETVZ	**East Tongariro**	**2.81**	**22**	P		**Pn**	**03 56 33.4**	**+0.9**
TMVZ	**Te Maari**	**2.82**	**22**	P		**Pn**	**03 56 33.2**	**+0.5**
KRVZ	**Karewarewa**	**2.83**	**21**	P		**Pn**	**03 56 34.1**	**+1.4**
NTVZ	**North Tongarir**	**2.83**	**21**	P		**Pn**	**03 56 33.7**	**+0.9**
KATZ	**Kakaramea**	**2.95**	**21**	P		**Pb**	**03 56 38.3**	**-2.2**
WVZ	**Waitaha Valley**	**2.99**	**242**	P		**Pb**	**03 56 40.4**	**-0.6**
BKZ	**Black Stump Fm**	**3.05**	**33**	P		**Pb**	**03 56 42.7**	**+0.6**
RATZ	**Rangitukua**	**3.08**	**21**	P		**Pb**	**03 56 41.1**	**-1.4**
HIZ	**Hauiti**	**3.25**	**7**	P		**Pn**	**03 56 40.7**	**+2.2**
HIZ	**Hauiti**	**3.25**	**7**	P		**Pn**	**03 56 41.1**	**+2.6**
TLZ	**Tolley Road**	**3.53**	**15**	P		**Pn**	**03 56 46.1**	**+3.7**
URZ	**Urewera**	**4.08**	**32**	P		**Pn**	**03 56 52.2**	**+2.4**
URZ	**Urewera**	**4.08**	**32**	P		**Pb**	**03 56 56.6**	**-2.9**
MKAZ	**Moumakai**	**4.68**	**8**	P		**Pn**	**03 56 59.8**	**+1.7**
AWAZ	**Awhitu Peninsu**	**4.68**	**3**	P		**Pn**	**03 57 00.7**	**+2.6**
CTZ	**Chatham Island**	**6.94**	**110**	P		**Pn**	**03 57 29.0**	**0.0**

IDC 22 04:13:47.2±4.5, 14°.63S×164°.88E, h0km, mb3.9/5, mbtmp3.8/5, Error ellipse: s-maj=125.1km s-min=36.7km az=118.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**27.33**	**227**	P		P	04 19 33.6	-0.3
	1.7nm,0.4s,baz=55,slow=8.4,SNR=5.3							
	1.7nm,0.4s							
WRA	**Warramunga Arr**	**29.61**	**255**	P		P	04 19 54.6	+0.3
	0.3nm,0.7s,baz=86,slow=9.2,SNR=6.0							
	0.3nm,0.7s							
ASAR	**Alice Springs**	**30.55**	**248**	P		P	04 20 02.7	-0.1
	0.6nm,0.5s,baz=74,slow=9.4,SNR=11							
	0.6nm,0.5s							
SONM	**Songino Array**	**81.06**	**324**	P		P	04 26 03.6	-0.6
	0.3nm,0.6s,baz=134,slow=4.2,SNR=2.5							
	0.3nm,0.6s							
MKAR	**Makanchi Array**	**95.54**	**317**	P		P	04 27 14.9	+0.6
	0.4nm,0.6s,baz=107,slow=6.3,SNR=6.6							
	0.4nm,0.6s							

IDC 22 04:15:24.3±33.0, 12°.82N×125°.66E, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=587.6km s-min=266.0km az=154.0, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**33.66**	**165**	P		P	04 22 06.0	-1.0
	2.6nm,0.9s,baz=345,slow=9.4,SNR=8.8							
	2.6nm,0.9s							
ASAR	**Alice Springs**	**37.15**	**167**	P		P	04 22 38.5	+1.4
	1.0nm,0.9s,baz=349,slow=9.4,SNR=6.1							
	1.0nm,0.9s							
STKA	**Stephens Creek**	**46.99**	**161**	P		P	04 23 56.6	-0.8
	1.1nm,0.3s,baz=320,slow=7.9,SNR=3.1							
	1.1nm,0.3s							

*IDC **22** 04:30:46.4±0.7, 32°.01S×68°.62W, h0km, mb4.1/9, mbtmp4.1/14, ML3.7/5, MS3.7/14, Error ellipse: s-maj=21.4km s-min=14.7km az=99.0*
*VAO **22** 04:30:46.2±1.2, 32°.45S×68°.98W, h10km, mb4.6*
*SJA **22** 04:30:48.2±0.6, 31°.94S×69°.05W, h10km±2km, ML4.6, MW4.2*
*GUC **22** 04:30:48.5±0.9, 31°.87S×69°.06W, h7km±10km, ML4.7*
*NEIC **22** 04:30:51.2, 32°.00S×68°.93W, h24km*
*NEIC **22** 04:30:51.4±1.9, 32°.00S±0°.05×68°.93W±0°.07, h25km±4km, mb4.7/26, Mwr4.3/67, Error ellipse: s-maj=8.4km s-min=6.7km az=102.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=0.66; Mθθ=0.69; Mφφ=-0.03; Mrθ=0.60; Mrφ=2.73; Mθφ=-1.42; Fault plane solution: M0 3.21000×10¹⁵ NP1:ϕ=269.90000°, δ=63.28000°, λ=-16.41000°. NP2:ϕ=7.44000°, δ=75.39000°, λ=-152.32000°. Principal axes: T 3.1514, Plg8.0000°, Azm137.0000°; N 0.1095, Plg59.0000°, Azm33.0000°; P -3.2609, Plg30.0000°, Azm231.0000°;*
*PPT **22** 04:30:54.2±0.3, 31°.96S×69°.52W, h10km, mb4.8/7, MLv5.1/8 Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 22 04:30:47.5±1.1, 31°.98S±0°.02×69°.01W±0°.02, h5km±7km, n175, σ1§50/190, mb4.7/19, MS3.8/10, 11D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
RTLS	**Leoncito**	**0.30**	**305**	*eP*		**Pb**	**04 30 54.9**	**-0.7**
RTLS				*eS*		**Sb**	**04 30 59.5**	**-1.6**
RTLS				IAML			04 31 01.0	
	comp=Z,49μm,0.3s							
RTCV	**Cerro Valdivia**	**0.41**	**74**	*eP*		**Pb**	**04 30 57.5**	**+0.1**
RTCV				*eS*		**Sb**	**04 31 05.2**	**+1.3**
SJA	**San Juan**	**0.59**	**40**	*eP*		**Pb**	**04 31 00.9**	**+0.6**
ASAL	**Salagasta**	**0.63**	**167**	*eP*		**Pb**	**04 31 01.5**	**+0.4**
ASAL				*eS*		**Sb**	**04 31 11.6**	**+1.3**
RTLL	**Cerro Villicun**	**0.79**	**35**	*eP*		**Pg**	**04 31 01.9**	**-0.8**
RTLL				IAML			04 31 15.5	
	comp=Z,9μm,0.7s							
ARCO	**CERRO ARCO**	**0.86**	**176**	*eP*		**Pb**	**04 31 05.8**	**+0.6**
ARCO				*eS*		**Sb**	**04 31 18.2**	**+1.1**
DOCA	**Reserva Natura**	**1.03**	**356**	*eP*		**Pg**	**04 31 07.4**	**+0.2**
DOCA				*eS*		**Sb**	**04 31 21.7**	**-0.2**
DOCA				IAML			04 31 22.8	
	comp=Z,19μm,0.6s							
AAGR	**Agrelo**	**1.12**	**172**	*eP*		**Pn**	**04 31 10.3**	**+0.4**
ACCO	**Cerro Coronel**	**1.39**	**358**	*eP*		**Pg**	**04 31 13.7**	**-0.4**
VA03	**San Esteban**	**1.52**	**239**			**Pb**	**04 31 16.2**	**-0.1**
VA03				Sn		**Sg**	**04 31 36.4**	**-0.2**
VA03	**San Esteban**	**1.52**	**239**	*eP*		**Pg**	**04 31 16.5**	**-0.3**
VA03				*eS*		**Sg**	**04 31 36.7**	**+0.1**
VA03				IAML			04 31 39.1	
	comp=Z,8μm,0.5s							
VA03	**San Esteban**	**1.52**	**239**	*↓iP*		**Pb**	**04 31 16.2**	**-0.1**
VA03				*i* S		**Sg**	**04 31 36.9**	**+0.3**
VA03				IAML			04 31 46.5	
	comp=N,15μm,0.5s							
AVIZ	**Vizcacheras**	**1.55**	**165**	*eP*		**Pg**	**04 31 18.2**	**+1.0**
MT04	**Ro Olivares**	**1.71**	**214**	*↓iP*		**Pb**	**04 31 19.9**	**+0.2**
MT04				IAML			04 31 47.0	
	comp=N,3μm,0.4s							
ACDV	**Cuesta del Vie**	**1.80**	**357**	*eP*		**Pb**	**04 31 21.1**	**0.0**
ACDV				*eS*		**Sg**	**04 31 44.8**	**-0.7**
ACDV				IAML			04 31 48.5	
	comp=Z,3μm,0.6s							
CO03	**El Pedregal**	**1.83**	**308**			**Pb**	**04 31 21.1**	**-0.5**
CO03	**El Pedregal**	**1.83**	**308**	*eP*		**Pb**	**04 31 21.1**	**-0.5**
CO03				*eS*		**Sg**	**04 31 45.4**	**-1.1**
CO03				IAML			04 31 53.6	
	comp=Z,4μm,0.4s							
PEL	**Peldehue**	**1.83**	**230**			**Pb**	**04 31 21.5**	**0.0**
PEL	**Peldehue**	**1.83**	**230**	*eP*		**Pb**	**04 31 21.6**	**0.0**
PEL	**Peldehue**	**1.83**	**230**	*↓iP*		**Pb**	**04 31 21.6**	**0.0**
PEL				*i* S		**Sg**	**04 31 46.8**	**+0.3**
PEL				IAML			04 31 54.0	
	comp=E,5μm,0.2s							
AROD	**Rodeo**	**1.85**	**347**	*eP*		**Pb**	**04 31 22.2**	**+0.2**
AVFE	**Valle Fertil**	**1.87**	**46**	*eP*		**Pb**	**04 31 22.0**	**-0.1**
AVFE				*eS*		**Sb**	**04 31 46.6**	**+0.8**
AVFE				IAML			04 31 48.9	
	comp=Z,4μm,0.6s							
CO02	**Combarbal**	**1.87**	**294**			**Pb**	**04 31 21.7**	**-0.5**
CO02	**Combarbal**	**1.87**	**294**	*eP*		**Pb**	**04 31 21.7**	**-0.5**
CO02				*eS*		**Sg**	**04 31 46.7**	**-0.9**
CO02				IAML			04 31 55.0	
	comp=Z,7μm,0.3s							
MT14	**Cerro Calฺn**	**1.92**	**222**	*↓iP*		**Pg**	**04 31 23.7**	**-0.6**
MT14				*i* S		**Sg**	**04 31 49.5**	**+0.4**
MT14				IAML			04 31 59.7	
	comp=E,9μm,0.4s							
MT16	**CCHEN**	**1.93**	**221**			**Pb**	**04 31 23.6**	**+0.3**
ROCH	**El Roble**	**1.96**	**239**	*↓iP*		**Pb**	**04 31 24.0**	**+0.1**
ROCH				*i* S		**Sg**	**04 31 50.1**	**-0.5**
ROCH				IAML			04 31 55.5	
	comp=N,15μm,0.4s							
ROC1	**El Roble**	**1.97**	**239**	*eP*		**Pb**	**04 31 24.0**	**-0.1**
ROC1				*eS*		**Sg**	**04 31 50.4**	**-0.5**
MT03	**Universidad Ad**	**1.97**	**220**			**Pb**	**04 31 23.8**	**-0.3**
MT03	**Universidad Ad**	**1.97**	**220**	*eP*		**Pb**	**04 31 24.4**	**+0.3**
MT03				IAML			04 32 00.1	
	comp=Z,3μm,0.4s							
VA06	**Catapilco**	**2.03**	**253**			**Pb**	**04 31 24.6**	**-0.2**
VA06	**Catapilco**	**2.03**	**253**	*↓iP*		**Pb**	**04 31 24.2**	**-0.7**
VA06				*i* S		**Sb**	**04 31 51.0**	**+0.6**
MT05	**Renca**	**2.03**	**226**			**Pb**	**04 31 25.6**	**+0.6**
MT05	**Renca**	**2.03**	**226**	*eP*		**Pg**	**04 31 26.1**	**-0.4**
MT05				IAML			04 31 56.9	
	comp=Z,7μm,0.5s							
MT05	**Renca**	**2.03**	**226**	*↓iP*		**Pg**	**04 31 25.8**	**-0.7**
MT05				*i* S		**Sg**	**04 31 52.8**	**0.0**
MT05				IAML			04 31 59.1	
	comp=E,12μm,0.2s							
LMEL	**Las Melosas**	**2.12**	**208**			**Pb**	**04 31 26.9**	**+0.3**
ACHE	**Chepes**	**2.16**	**68**	*eP*		**Pb**	**04 31 27.1**	**-0.1**
MT12	**Pirque**	**2.18**	**216**	*↓iP*		**Pb**	**04 31 27.9**	**+0.4**
MT12				IAML			04 32 06.1	
	comp=E,7μm,0.7s							
CO01	**Juntas del Tor**	**2.20**	**335**			**Pb**	**04 31 28.0**	**+0.1**
CO01	**Juntas del Tor**	**2.20**	**335**	*eP*		**Pb**	**04 31 27.6**	**-0.4**
MT02	**Curacav**	**2.21**	**234**			**Pb**	**04 31 27.9**	**-0.1**
MT02	**Curacav**	**2.21**	**234**	*eP*		**Pb**	**04 31 27.8**	**-0.1**
MT02				*eS*		**Sg**	**04 31 57.9**	**-0.6**
MT02				IAML			04 31 59.3	
	comp=Z,3μm,0.7s							
MT02	**Curacav**	**2.21**	**234**	*↓iP*		**Pb**	**04 31 27.8**	**-0.1**
MT02				*i* S		**Sg**	**04 31 57.2**	**-1.3**
GO04	**Tololo Observa**	**2.37**	**319**			**Pb**	**04 31 29.7**	**-1.1**
GO04	**Tololo Observa**	**2.37**	**319**	*eP*		**Pb**	**04 31 31.3**	**+0.5**
GO04				*eS*		**Sg**	**04 32 04.5**	**+0.8**
BO04	**La Punta**	**2.42**	**213**			**Pb**	**04 31 31.6**	**0.0**
MT09	**Talagante**	**2.45**	**222**			**Pb**	**04 31 30.8**	**-1.3**
MT09	**Talagante**	**2.45**	**222**	*↓iP*		**Pb**	**04 31 31.8**	**-0.3**
MT09				*i* S		**Sg**	**04 32 04.6**	**-1.7**
MT09				IAML			04 32 08.3	
	comp=N,6μm,0.3s							
VA01	**Torpederas**	**2.46**	**244**			**Pn**	**04 31 29.9**	**+1.6**
VA01	**Torpederas**	**2.46**	**244**	*eP*		**Pb**	**04 31 30.3**	**-1.9**
VA01				*eS*		**Sb**	**04 32 04.5**	**+1.6**
VA01				IAML			04 32 07.0	
	comp=Z,5μm,0.6s							
VA01	**Torpederas**	**2.46**	**244**	*eP*		**Pb**	**04 31 30.4**	**-1.9**
VA01				*i* S		**Sb**	**04 32 03.5**	**+0.5**
VA01				IAML			04 32 05.9	
	comp=E,5μm,0.3s							
AGUA	**GUANDACOL**	**2.52**	**10**	*eP*		**Pb**	**04 31 33.4**	**0.0**
AGUA				*eS*		**Sb**	**04 32 06.5**	**+1.8**
AGUA				IAML			04 32 07.7	
	comp=Z,13μm,0.4s							
CO06	**Fray Jorge**	**2.60**	**299**	Pn		**Pn**	**04 31 32.0**	**+1.8**
APLL	**PUNTA DE LOS L**	**2.65**	**54**	*eS*		**Sb**	**04 32 09.7**	**+1.5**
MT01	**Popeta**	**2.67**	**224**			**Pb**	**04 31 33.9**	**-1.9**
VA05	**Santo Domingo**	**2.76**	**232**			**Pn**	**04 31 34.8**	**+2.3**
VA05	**Santo Domingo**	**2.76**	**232**	*↓iP*		**Pb**	**04 31 35.0**	**-2.3**
VA05				IAML			04 32 18.0	
	comp=E,6μm,0.6s							
CO05	**La Serena**	**2.81**	**316**			**Pn**	**04 31 35.2**	**+2.1**
RFA	**San Rafael**	**2.82**	**171**	*eP*		**Pn**	**04 31 34.6**	**+1.2**
RFA				IAML			04 32 22.8	
	comp=Z,5μm,0.6s							
BO01	**Tunca**	**2.97**	**215**			**Pn**	**04 31 37.9**	**+2.5**
BO02	**Sierra Bellavi**	**3.18**	**207**			**Pb**	**04 31 42.0**	**-2.5**
BO02	**Sierra Bellavi**	**3.18**	**

comp=Z,14nm,1.1s
BDFB Brasilia 25.09 54 P **P 04 36 11.7 -1.7**
comp=Z,2.3nm,0.6s,baz=245,slow=11,SNR=5.6
BDFB LR LR 04 46 55.9
comp=Z,281nm,18.4s,baz=250,slow=39
comp=Z,2.3nm,0.6s
TEFE Tefe 28.61 9 *e*P **P 04 36 47.3 +2.4**
PMSA Palmer Station 32.97 176 LR LR 04 48 43.2
comp=Z,134nm,20.5s,baz=320,slow=33
ROSC El Rosal 36.96 351 LR LR 04 54 48.4
comp=Z,120nm,21.4s,baz=210,slow=39
MDP Montagnes des 40.03 26 LR LR 04 56 32.8
comp=Z,112nm,18.4s,baz=140,slow=39
RCBR Riachuelo 40.41 57 LR LR 04 56 07.4
comp=Z,127nm,18.9s,baz=244,slow=38
JTS Las Juntas de 44.71 337 LR LR 04 56 48.4
comp=Z,22nm,20.1s,baz=79,slow=35
HUEH Huehuetenango 51.74 332 P **P 04 39 57.5 +1.2**
NMDO Nuevo Mundo 52.55 353 P **P 04 40 02.8 +0.9**
NMDO IAmb IAmb 04 40 36.9
comp=Z,26nm,1.4s
QSPA South Pole Qui 58.26 180 P **P 04 40 42.9 0.0**
QSPA IAmb IAmb 04 40 53.8
comp=Z,6.5nm,1.0s
QSPA South Pole Qui 58.26 180 P **P 04 40 42.2 -0.7**
comp=Z,2.9nm,0.6s,baz=142,slow=2.8,SNR=22
comp=Z,2.9nm,0.6s
VBMS Vicksburg 67.01 340 P **P 04 41 42.5 +1.2**
HNDO Hondo 67.59 332 P **P 04 41 45.8 +0.6**
HNDO IAmb IAmb 04 41 56.0
comp=Z,8.8nm,0.9s
TX31 Lajitas Ar. Si 69.30 328 P **P 04 41 55.7 -0.2**
TXAR Lajitas Array 69.30 328 P **P 04 41 55.9 0.0**
comp=Z,0.7nm,0.6s,baz=151,slow=8.9,SNR=12
comp=Z,0.7nm,0.6s
OZNA Ozona 69.57 331 P **P 04 41 57.6 0.0**
OZNA IAmb IAmb 04 42 07.7
comp=Z,5.6nm,0.7s
WVT Waverly 70.01 344 P **P 04 41 59.2 -0.8**
TBI Tubuai 70.29 254 *e*LR LR 05 03 11.3
comp=Z,441nm,26.0s
MNHN Monahans 70.62 330 P **P 04 42 04.3 +0.3**
MNHN IAmb IAmb 04 42 12.3
comp=Z,6.2nm,0.6s
DBIC Dimbokro 72.11 70 P **P 04 42 12.7 -0.6**
DBIC IAmb IAmb 04 42 55.2
comp=Z,8.6nm,1.1s
DBIC Dimbokro 72.11 70 P **P 04 42 10.6 -2.7**
comp=Z,6.1nm,0.9s,baz=253,slow=9.4,SNR=4.3
DBIC LR LR 05 09 38.9
comp=Z,71nm,21.9s,baz=191,slow=32
comp=Z,6.1nm,0.9s
MSTX Muleshoe 72.90 331 P **P 04 42 18.3 +0.6**
MSTX IAmb IAmb 04 42 28.1
comp=Z,8.4nm,0.8s
S39A Bolivar 72.93 340 P **P 04 42 18.6 +0.9**
S39A IAmb IAmb 04 42 26.4
comp=Z,7.6nm,0.9s
PPT2 Papeete2 73.08 260 *e*LR LR 05 04 24.3
comp=Z,36nm,25.2s
R40A Maddies Statio 73.19 341 P **P 04 42 18.8 -0.4**
121A Cookes Peak, D 73.88 327 P **P 04 42 23.6 -0.1**
TSUM Tsumeb 77.29 105 LR LR 05 11 36.9
comp=Z,57nm,21.7s,baz=160,slow=32
BOSA Boshof 78.72 117 P **P 04 42 49.5 -1.9**
comp=Z,3.0nm,0.8s,baz=243,slow=9.0,SNR=4.3
comp=Z,3.0nm,0.8s
LBTB Lobatse 80.81 114 LR LR 05 13 15.5
comp=Z,70nm,19.0s,baz=199,slow=32
TOA0 Torodi Ar. Sit 81.11 69 P **P 04 43 04.0 -0.3**
TOA0 IAmb IAmb 04 43 04.3
comp=Z,5.5nm,0.7s
TORD Torodi Ar. Bea 81.11 69 P **P 04 43 03.6 -0.6**
TORD IAmb IAmb 04 43 04.2
comp=Z,4.5nm,0.7s
TORD Torodi Ar. Bea 81.11 69 P **P 04 43 02.8 -1.5**
comp=Z,3.6nm,0.7s,baz=222,slow=3.1,SNR=26
comp=Z,3.6nm,0.7s
GMN Gold Mountain 82.34 323 P **P 04 43 11.5 +0.9**
GMN IAmb IAmb 04 43 32.4
comp=Z,7.9nm,0.8s
PDAR Pinedale Array 83.17 331 P **P 04 43 16.1 +1.3**
PDAR Pinedale Array 83.17 331 P **P 04 43 15.8 +1.1**
comp=Z,0.2nm,0.5s,baz=126,slow=4.6,SNR=2.9
comp=Z,0.2nm,0.5s
NVAR Mina Array Bea 83.74 323 P **P 04 43 19.8 +2.1**
comp=Z,0.1nm,0.3s,baz=140,slow=5.8,SNR=1.5
comp=Z,0.1nm,0.3s
ULM Lac du Bonnet 85.26 343 P **P 04 43 26.9 +2.1**
comp=Z,2.4nm,0.7s,baz=190,slow=22,SNR=2.1
comp=Z,2.4nm,0.7s
HLID Hailey 85.88 329 P **P 04 43 29.1 +0.7**
WRA Warramunga Arr 123.74 207 PKP **PKPdf 04 49 45.1 -2.0**
comp=Z,0.4nm,0.6s,baz=164,slow=1.8,SNR=1.6
BVAR Borovoye Array 144.07 42 PKP PKPbc 04 50 22.8 +1.0
comp=Z,0.4nm,0.5s,baz=289,slow=4.4,SNR=2.4
KURBB Kurchatov Arra 149.66 43 PKPbc **PKPbc 04 50 36.9 -0.9**
comp=Z,1.2nm,0.6s,baz=300,slow=3.2,SNR=12
ZALV Zalesovo Beam 151.15 33 PKPbc **PKPbc 04 50 40.1 -1.2**
comp=Z,2.6nm,0.6s,baz=305,slow=3.1,SNR=13
MKAR Makanchi Array 153.52 48 PKPbc **PKPbc 04 50 45.9 -1.0**
comp=Z,0.4nm,0.7s,baz=307,slow=2.0,SNR=4.1
MKAR PKPab **PKPab 04 50 57.6 -1.8**
comp=Z,0.7nm,0.7s,baz=295,slow=3.1,SNR=4.5
SONM Songino Array 163.78 11 PKPab **PKPab 04 51 43.1 -0.6**
comp=Z,0.4nm,0.7s,baz=344,slow=3.6,SNR=1.8

*TAP **22** 04:32:59.0,22.56N×120.99E,h19km,ML3.8,B*
*IDC **22** 04:33:32.5±39.0,25.50N×117.75E,h0km,mb3.4/3,*
mbtmp3.4/3,Error ellipse: s-maj=670.3km s-min=149.1km
az=136.0
ISC 22 04:32:59.3±0.8,22.54N±0.02×121.03E±0.02,h18km±3km,
n132,σ1℘05/189,mb3.3/3,1C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECL	**Taimali**	**0.09**	**306**	*i* P	**Pg**	**04 33 02.7**	**-0.2**
	baz=323						
ECL				*i* S	**Sg**	**04 33 05.2**	**-0.1**
	baz=323						
TAW	**Tawu**	**0.23**	**215**	⇓*i* P	**Pg**	**04 33 04.6**	**0.0**
	baz=197						
TAW				*i* S	**Sg**	**04 33 08.5**	**+0.3**
	baz=197						
TTN	**Taitung**	**0.23**	**26**	*i* P	**Pg**	**04 33 05.5**	**+0.8**
	baz=40						
TTN				*e*S	**Sg**	**04 33 10.6**	**+2.1**
	baz=40						
EAST	**Anshuo**	**0.23**	**227**	*i* P	**Pb**	**04 33 04.7**	**-0.3**
	baz=210						
EAST				S	**Sg**	**04 33 08.5**	**-0.1**
	baz=210						
TAWH	**Dawu Township**	**0.24**	**214**	⇓*i* P	**Pg**	**04 33 04.8**	**-0.1**
	baz=200						
TAWH				*i* S	**Sg**	**04 33 09.0**	**+0.2**
	baz=200						
TWGBT	**Beinan**	**0.28**	**9**	P	**Pb**	**04 33 05.1**	**-0.6**
TWGBT	**Beinan**	**0.28**	**9**	*i* P	**Pb**	**04 33 05.0**	**-0.7**
	baz=20						
TWGBT				S	**Sb**	**04 33 09.2**	**-0.8**
	baz=20						
TWG	**Pinlang**	**0.28**	**7**	*i* P	**Pb**	**04 33 05.0**	**-0.8**
	baz=20						
TWG				*i* S	**Sb**	**04 33 09.2**	**-0.8**
	baz=20						
LONT	**Longtian**	**0.37**	**14**	P	**Pg**	**04 33 06.5**	**-0.6**
	baz=24						
LONT				*e*S	**Sg**	**04 33 12.2**	**-0.2**
	baz=24						
MASBT	**Mashibuluo**	**0.38**	**280**	⇑*i* P	**Pg**	**04 33 06.5**	**-0.7**
	baz=278						
MASBT				*i* S	**Sg**	**04 33 11.4**	**-1.2**
	baz=278						
SLIU	**Shizi**	**0.39**	**214**	P	**Pg**	**04 33 07.1**	**-0.3**
	baz=198						
SLIU				*e*S	**Sg**	**04 33 12.8**	**-0.1**
	baz=198						
SCZT	**Fangliau**	**0.42**	**246**	*i* P	**Pg**	**04 33 07.7**	**-0.3**
	baz=238						
SCZT				*i* S	**Sg**	**04 33 13.3**	**-0.5**
	baz=238						
LDUT	**Ludao**	**0.42**	**72**	P	**Pb**	**04 33 08.3**	**0.0**
	baz=77						
LDUT				*e*S	**Sb**	**04 33 15.5**	**+1.1**
	baz=77						
SSD	**Sandimen**	**0.42**	**299**	*i* P	**Pg**	**04 33 07.2**	**-0.8**
	baz=301						
SSD				S	**Sg**	**04 33 12.2**	**-1.6**
	baz=301						
SGLT	**Jiouru**	**0.53**	**290**	P	**Pg**	**04 33 10.2**	**+0.2**
	baz=291						
SGLT				*e*S	**Sn**	**04 33 19.5**	**-1.1**
	baz=291						
SLGT	**Liugui**	**0.57**	**321**	P	**Pg**	**04 33 10.5**	**-0.2**
	baz=325						
ECS	**Chishang**	**0.57**	**17**	P	**Pb**	**04 33 10.0**	**-0.8**
	baz=16						
ECS				*e*S	**Sb**	**04 33 18.1**	**-0.5**
	baz=16						
HEN	**Hengchun**	**0.60**	**207**	*e*P	**Pg**	**04 33 11.2**	**0.0**
	baz=195						
SCST	**Cishan**	**0.60**	**304**	P	**Pg**	**04 33 11.5**	**+0.2**
	baz=306						
EHD	**Haiduan**	**0.62**	**15**	*e*P	**Pb**	**04 33 09.8**	**-1.8**
	baz=21						
EHD				*e*S	**Sg**	**04 33 20.2**	**+0.2**
	baz=21						
TWM1	**Shoushan**	**0.63**	**296**	P	**Pn**	**04 33 12.4**	**-0.9**
	baz=297						
TWK1	**Hengchun**	**0.63**	**200**	*e*P	**Pb**	**04 33 11.3**	**-0.5**
	baz=188						
TWKBT	**Hengchun**	**0.63**	**199**	*e*P	**Pb**	**04 33 11.2**	**-0.6**
	baz=188						
ELDTW	**Lidau**	**0.64**	**359**	*e*P	**Pb**	**04 33 11.1**	**-1.0**
	baz=13						
ELDTW				*e*S	**Sb**	**04 33 20.2**	**-0.5**
	baz=13						
KAU	**Kaohsiung**	**0.67**	**272**	*e*P	**Pn**	**04 33 14.9**	**+1.0**
	baz=270						
SGST	**Jiashian**	**0.68**	**322**	P	**Pb**	**04 33 11.8**	**-0.8**
	baz=326						
SGST				S	**Sg**	**04 33 22.4**	**+0.6**
	baz=326						
SNJT	**Kaohsiung City**	**0.68**	**288**	*e*P	**Pn**	**04 33 13.3**	**-0.7**
	baz=288						
LAY	**Lan-yu**	**0.69**	**136**	P	**Pb**	**04 33 11.9**	**-1.0**
	baz=133						
FULB	**Fuli**	**0.69**	**20**	*i* P	**Pb**	**04 33 11.9**	**-1.0**
	baz=27						
FULB				S	**Sb**	**04 33 21.4**	**-0.8**
	baz=27						
WSSB	**Gushan**	**0.72**	**278**	P	**Pn**	**04 33 15.1**	**+0.5**
	baz=277						
WSSB				*e*S	**Sn**	**04 33 27.6**	**+2.4**
	baz=277						
CHKH	**Chenggong**	**0.73**	**27**	P	**Pb**	**04 33 12.1**	**-1.3**
	baz=33						
CHKH				S	**Sb**	**04 33 21.8**	**-1.2**
	baz=33						
LYUB	**Lan-yu**	**0.74**	**137**	P	**Pb**	**04 33 11.2**	**-2.5**
	baz=134						
CHN1	**Nanshi**	**0.79**	**324**	P	**Pn**	**04 33 15.3**	**-0.3**
	baz=327						
CHN1				S	**Sn**	**04 33 27.0**	**+0.1**
	baz=327						
SHHT	**Tainan City**	**0.79**	**307**	*e*P	**Pn**	**04 33 16.7**	**+1.1**
	baz=309						
SHHT				*e*S	**Sn**	**04 33 29.7**	**+2.7**
	baz=309						
WTP	**Ta-pu**	**0.80**	**331**	*i* P	**Pn**	**04 33 15.2**	**-0.5**
	baz=347						
WTP				S	**Sn**	**04 33 26.9**	**-0.4**
	baz=347						
CHN3	**Shinhua**	**0.81**	**311**	*e*S	**Sn**	**04 33 30.6**	**+3.1**
	baz=324						
SNST	**Tainan City**	**0.83**	**324**	*e*P	**Pn**	**04 33 16.0**	**-0.2**
	baz=327						
SNST				*e*S	**Sn**	**04 33 28.1**	**0.0**
	baz=327						
TPUB	**Ta-pu**	**0.84**	**334**	P	**Pn**	**04 33 16.0**	**-0.3**
TPUB	**Ta-pu**	**0.84**	**334**	P	**Pn**	**04 33 15.9**	**-0.3**
	baz=338						
TPUB				*e*S	**Sn**	**04 33 27.8**	**-0.5**
	baz=338						
TWF1	**Yuli**	**0.84**	**17**	*e*P	**Pb**	**04 33 14.1**	**-1.3**
	baz=32						
EYUL	**Yuli**	**0.84**	**18**	P	**Pb**	**04 33 14.3**	**-1.2**
	baz=34						
TWK	**Hsinying**	**0.88**	**325**	P	**Pn**	**04 33 16.5**	**-0.3**
	baz=329						
TWK				*e*S	**Sn**	**04 33 29.6**	**+0.4**
	baz=329						
YULB	**Yu-li**	**0.88**	**16**	P	**Pb**	**04 33 13.9**	**-2.2**
YULB	**Yu-li**	**0.88**	**16**	*e*P	**Pb**	**04 33 13.8**	**-2.2**
	baz=30						
CHN4	**Tsaushan**	**0.90**	**333**	P	**Pg**	**04 33 17.0**	**+0.1**
	baz=337						
CHN4				*e*S	**Sn**	**04 33 29.9**	**+0.2**
	baz=337						
SSHA	**Shanhua**	**0.91**	**311**	*e*S	**Sn**	**04 33 32.5**	**+2.8**
	baz=313						
WCKO	**Fanlu**	**0.97**	**336**	*e*P	**Pg**	**04 33 18.4**	**+0.2**
	baz=340						
WCKO				*e*S	**Sg**	**04 33 33.1**	**+2.0**
	baz=340						
ALS	**Alishan**	**0.98**	**348**	*e*P	**Pg**	**04 33 18.6**	**+0.1**
	baz=1.0						
ALS				*e*S	**Sn**	**04 33 32.2**	**+0.1**
	baz=1.0						
EHYH	**Wanrong**	**0.99**	**17**	*e*P	**Pb**	**04 33 17.7**	**-0.2**
	baz=30						
EHY	**Hungye**	**0.99**	**15**	*e*P	**Pb**	**04 33 17.3**	**-0.7**
	baz=35						
SCLT	**Jiali**	**1.00**	**309**	*e*P	**Pg**	**04 33 18.4**	**-0.3**
	baz=312						
SCLT				*e*S	**Sg**	**04 33 32.8**	**+1.0**
	baz=312						
HGSD	**Ruisui**	**1.01**	**21**	*e*P	**Pb**	**04 33 16.6**	**-1.7**
	baz=34						
TSCK	**Chigu Township**	**1.06**	**305**	*e*P	**Pn**	**04 33 18.8**	**-0.5**
	baz=307						
TSCK				*e*S	**Sg**	**04 33 34.8**	**+0.9**
	baz=307						
ICHU	**Yijhu**	**1.07**	**320**	P	**Pn**	**04 33 19.2**	**-0.2**
	baz=323						
ICHU				*e*S	**Sg**	**04 33 34.3**	**+0.1**
	baz=323						
CHN5	**Tsauling**	**1.10**	**343**	*e*P	**Pg**	**04 33 20.8**	**+0.1**
	baz=328						
CHN8	**Yiju**	**1.10**	**317**	*e*P	**Pg**	**04 33 20.1**	**-0.6**
	baz=319						
CHY	**Chiayi**	**1.10**	**329**	P	**Pg**	**04 33 20.8**	**+0.1**
	baz=333						
CHY				*i* S	**Sg**	**04 33 37.2**	**+2.0**
	baz=333						
WHYT	**Xinyi Township**	**1.16**	**352**	P	**Pg**	**04 33 21.0**	**-0.8**
	baz=2.0						
WHYT				*e*S	**Sg**	**04 33 37.0**	**+0.1**
	baz=2.0						
EGFH	**Guangfu**	**1.18**	**18**	*e*P	**Pn**	**04 33 20.5**	**-0.4**
	baz=35						
VWDT	**VWDT**	**1.21**	**5**	*e*P	**Pn**	**04 33 20.9**	**-0.4**
	baz=13						
WARBT	**Fenglin Townsh**	**1.21**	**15**	*e*P	**Pn**	**04 33 20.9**	**-0.6**
	baz=35						
WGK	**Gukeng**	**1.22**	**339**	P	**Pg**	**04 33 22.4**	**-0.4**
	baz=327						
WGK				*e*S	**Sg**	**04 33 40.2**	**+1.4**
	baz=327						
WSL	**Shuilin Townsh**	**1.23**	**323**	*e*P	**Pb**	**04 33 21.8**	**-0.2**
	baz=326						
WSL				*e*S	**Sg**	**04 33 38.8**	**-0.3**
	baz=326						
WDLH	**Douliu**	**1.23**	**338**	P	**Pg**	**04 33 22.6**	**-0.5**
	baz=325						
WDLH				S	**Sg**	**04 33 40.5**	**+1.4**
	baz=325						
SSLB	**Suanglung**	**1.24**	**357**	P	**Pb**	**04 33 22.4**	**+0.2**
SSLB	**Suanglung**	**1.24**	**357**	*e*P	**Pb**	**04 33 22.1**	**-0.1**
	baz=10.0						
SSLB				*e*S	**Sg**	**04 33 41.3**	**+1.8**
	baz=10.0						
WTK	**Tuku**	**1.28**	**333**	P	**Pb**	**04 33 22.5**	**-0.4**
	baz=336						
WTK				*e*S	**Sg**	**04 33 40.1**	**-0.8**
	baz=336						
WJS	**Zhushan**	**1.30**	**348**	P	**Pg**	**04 33 23.9**	**-0.6**
	baz=352						
WJS				*e*S	**Sg**	**04 33 42.9**	**+1.4**
	baz=352						
ESL	**Shilin**	**1.32**	**16**	*e*P	**Pn**	**04 33 22.0**	**-0.8**
	baz=34						
WSF	**Szhu**	**1.32**	**326**	P	**Pn**	**04 33 22.7**	**-0.2**
	baz=329						
WSF				*e*S	**Sg**	**04 33 41.7**	**-0.4**
	baz=329						
SMLT	**Sun Moon Lake**	**1.34**	**355**	P	**Pg**	**04 33 24.7**	**-0.5**
	baz=8.0						
SMLT				*e*S	**Sg**	**04 33 44.9**	**+2.2**
	baz=8.0						
TYC	**Yuchr**	**1.36**	**353**	*i* P	**Pg**	**04 33 25.1**	**-0.5**
	baz=360						
TYC				S	**Sg**	**04 33 44.9**	**+1.4**
	baz=360						
WNT	**Mingjian**	**1.37**	**346**	P	**Pg**	**04 33 24.8**	**-0.9**
	baz=351						
WNT				*e*S	**Sg**	**04 33 43.0**	**-0.6**
	baz=351						
OWD	**Renai**	**1.41**	**5**	*e*P	**Pg**	**04 33 25.7**	**-0.9**
	baz=19						
WUSB	**Renai**	**1.44**	**3**	*e*P	**Pn**	**04 33 24.4**	**-0.2**
	baz=17						
WUSB				*e*S	**Sg**	**04 33 46.9**	**+0.8**
	baz=17						
WDGT	**Dungji**	**1.45**	**300**	*e*P	**Pn**	**04 33 23.5**	**-1.2**
	baz=300						
ETM	**Tongmen**	**1.48**	**17**	*e*P	**Pn**	**04 33 23.9**	**-1.1**
	baz=33						
WRL	**Guolierlin Hig**	**1.48**	**336**	*e*P	**Pb**	**04 33 25.4**	**-0.9**
	baz=324						
WRL				*e*S	**Sg**	**04 33 46.0**	**-1.2**
	baz=324						
LXIB	**Xiulin Townshi**	**1.51**	**13**	*e*P	**Pn**	**04 33 23.2**	**-2.4**
	baz=32						
WCS	**Beigang Elemen**	**1.51**	**356**	P	**Pb**	**04 33 27.2**	**+0.4**
	baz=11						
WCS				*e*S	**Sg**	**04 33 46.9**	**-1.2**
	baz=11						
CHGB	**Renai**	**1.52**	**5**	*e*P	**Pn**	**04 33 25.2**	**-0.6**
	baz=18						
HWA	**Hwalien**	**1.52**	**20**	*e*P	**Pb**	**04 33 26.9**	**-0.1**
	baz=41						
WHF	**Hehuan Shan**	**1.61**	**8**	*e*P	**Pn**	**04 33 26.4**	**-0.8**
	baz=14						
TWD	**Chiawan**	**1.61**	**19**	*e*P	**Pn**	**04 33 25.9**	**-1.0**
	baz=40						
VCHM	**Qimei**	**1.62**	**294**	*i* P	**Pn**	**04 33 25.8**	**-1.2**
	baz=296						
VCHM				*e*S	**Sn**	**04 33 45.2**	**-2.2**
	baz=296						
TCU	**Taichung**	**1.63**	**348**	P	**Pb**	**04 33 28.4**	**-0.4**
	baz=354						
TCU				*e*S	**Sg**	**04 33 50.9**	**-1.0**
	baz=354						
PHUB	**P'eng-hu**	**1.66**	**306**	P	**Pn**	**04 33 26.4**	**-1.1**
	baz=308						
PHUB				S	**Sn**	**04 33 46.3**	**-2.0**
	baz=308						
ETL	**Fush Village**	**1.70**	**18**	*e*P	**Pn**	**04 33 28.4**	**+0.4**
	baz=35						
PNG	**Penghu**	**1.70**	**307**	*e*P	**Pn**	**04 33 26.8**	**-1.3**
	baz=309						
PNG				*e*S	**Sn**	**04 33 47.1**	**-2.3**
	baz=309						
NACB	**Ninganchiao**	**1.70**	**18**	P	**Pn**	**04 33 27.3**	**-0.8**
NACB	**Ninganchiao**	**1.70**	**18**	*e*P	**Pn**	**04 33 28.4**	**+0.3**
	baz=34						
TDCB	**Techi**	**1.71**	**4**	*e*P	**Pb**	**04 33 30.1**	**-0.1**
	baz=19						
TDCB				*e*S	**Sg**	**04 33 53.5**	**-0.9**
	baz=19						
ETLH	**Xiulin Townshi**	**1.71**	**14**	*e*P	**Pn**	**04 33 28.4**	**+0.1**
	baz=38						
FUSS	**Fushou**	**1.71**	**6**	*e*P	**Pb**	**04 33 30.9**	**+0.6**
	baz=14						
TWT	**Tachien**	**1.71**	**4**	*e*P	**Pb**	**04 33 30.7**	**+0.4**
	baz=18						
WHP	**Taichung City**	**1.73**	**357**	P	**Pb**	**04 33 30.4**	**-0.2**
	baz=10.0						
WHP				*e*S	**Sg**	**04 33 54.8**	**-0.3**
	baz=10.0						
TWQ1	**Liyutan**	**1.81**	**352**	P	**Pb**	**04 33 32.0**	**0.0**
	baz=340						
TWQ1				S	**Sg**	**04 33 57.0**	**-0.7**
	baz=340						
NSY	**Sanyi**	**1.88**	**352**	*e*P	**Pb**	**04 33 32.5**	**-0.6**
	baz=339						
NSY				*e*S	**Sg**	**04 33 58.6**	**-1.3**
	baz=339						
EAHA	**Aohua**	**1.89**	**20**	*e*P	**Pb**	**04 33 31.6**	**-1.7**
	baz=40						
NNSB	**Datong**	**1.90**	**10**	*e*P	**Pb**	**04 33 32.9**	**-0.7**
	baz=35						
NNS	**Nan Shan**	**1.91**	**9**	P	**Pb**	**04 33 34.4**	**+0.6**
	baz=35						
EOS4	**EOS4**	**1.96**	**37**	*e*P	**Pn**	**04 33 30.4**	**-1.0**
	baz=44						
ENA	**Nanau**	**1.98**	**19**	*e*P	**Pb**	**04 33 33.3**	**-1.6**
	baz=40						
NMLH	**Miaoli**	**2.00**	**354**	*e*P	**Pb**	**04 33 35.0**	**-0.1**
	baz=341						
EWUT	**Wuta**	**2.01**	**20**	*e*P	**Pn**	**04 33 32.9**	**+0.5**
	baz=39						
LATG	**Datong**	**2.03**	**13**	*e*P	**Pb**	**04 33 35.0**	**-0.8**
	baz=35						
NSTT	**Nanjuang**	**2.08**	**359**	*e*P	**Pb**	**04 33 34.8**	**-1.7**
	baz=7.0						
NFF	**Wufeng Townshi**	**2.08**	**2**	*e*P	**Pb**	**04 33 35.4**	**-1.2**
	baz=12						
NFF				*e*S	**Sb**	**04 34 02.8**	**+0.7**
	baz=12						
NDT	**Datong Townshi**	**2.10**	**12**	*e*P	**Pb**	**04 33 35.7**	**-1.1**
	baz=34						
YHNB	**Yeheng**	**2.14**	**8**	P	**Pn**	**04 33 34.7**	**+0.5**
YHNB	**Yeheng**	**2.14**	**8**	*e*P	**Pn**	**04 33 34.6**	**+0.4**
	baz=16						
NSK	**Sanguang**	**2.14**	**8**	*e*P	**Pn**	**04 33 34.7**	**+0.4**
	baz=16						
ESAO	**Su ao**	**2.15**	**20**	*e*P	**Pn**	**04 33 35.6**	**+1.3**
	baz=39						
NDS	**Dongshan**	**2.17**	**17**	*e*P	**Pb**	**04 33 37.1**	**-1.0**
	baz=38						
TWC	**Suao**	**2.19**	**20**	*e*P	**Pb**	**04 33 36.7**	**-1.6**
	baz=39						
TWE	**Neicheng**	**2.24**	**15**	*e*P	**Pb**	**04 33 38.2**	**-1.1**
	baz=38						
FUSB	**Fushanzhiwuyua**	**2.26**	**13**	*e*P	**Pb**	**04 33 38.4**	**-1.3**
	baz=37						
NWLT	**Wulai**	**2.27**	**11**	*e*P	**Pb**	**04 33 38.5**	**-1.1**
	baz=359						
TATO	**Taipei**	**2.46**	**10**	P	**Pn**	**04 33 39.8**	**+1.3**
TIPB	**Shuangxi**	**2.52**	**17**	*e*P	**Pn**	**04 33 40.1**	**+0.7**
	baz=38						
SXI1	**Grass Mountain**	**2.65**	**17**	*e*P	**Pn**	**04 33 42.3**	**+1.0**
	baz=28						
VWUC	**VWUC**	**2.84**	**330**	*e*P	**Pn**	**04 33 42.6**	**-1.1**
	baz=332						
KNM	**Kinmen**	**3.03**	**308**	*e*P	**Pn**	**04 33 47.4**	**+1.0**
	baz=307						
KNMB	**Chin-men Tao**	**3.09**	**309**	*e*P	**Pn**	**04 33 45.1**	**-2.1**
	baz=309						
MATB	**Ma-tsu**	**3.73**	**345**	*e*P	**Pn**	**04 33 55.5**	**-0.5**
	baz=351						
MHZQ	**Yeshan**	**3.98**	**333**	*e*P	**Pn**	**04 33 59.7**	**+0.2**
	baz=336						
LYJJ	**Jianjiangzhen**	**4.15**	**344**	*e*P	**Pn**	**04 34 01.9**	**+0.1**
	baz=351						
XPSS	**Dashiqiu**	**4.43**	**350**	*e*P	**Pn**	**04 34 05.0**	**-0.7**
	baz=359						
SXFK	**Yanhouchang**	**4.93**	**322**	*e*P	**Pn**	**04 34 11.0**	**-1.5**
	baz=323						
SONM	**Songino Array**	**27.83**	**339**	P	**P**	**04 38 49.3**	**+1.6**
	0.4nm,0.6s,baz=151,slow=9.4,SNR=3.6						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**39.43**	**317**	P	**P**	**04 40 28.4**	**+0.2**
	0.2nm,0.6s,baz=102,slow=9.0,SNR=1.9						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**41.55**	**328**	P	**P**	**04 40 47.6**	**+2.0**
	0.8nm,0.3s,baz=118,slow=8.8,SNR=5.1						
	0.8nm,0.3s						

IDC 22 04:46:40.9±1.7,1.70N×124.75E,h0km,mb3.6/4,
mbtmp3.6/4,Error ellipse: s-maj=208.6km
s-min=22.7km az=64.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.48**	**157**	P	P	04 51 52.4	0.0
	0.3nm,0.3s,baz=335,slow=11,SNR=9.4						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**26.74**	**161**	P	P	04 52 22.6	+0.1
	0.2nm,0.3s,baz=5.7,slow=10,SNR=2.0						

0.2nm,0.3s
MKAR Makanchi Array 58.12 327 P P 04 56 36.6 +0.2
0.2nm,0.5s,baz=117,slow=7.2,SNR=4.4
0.2nm,0.5s
KURBB Kurchatov Arra 62.40 329 P P 04 57 05.3 -0.3
0.7nm,0.2s,baz=130,slow=5.8,SNR=4.4
0.7nm,0.2s

IDC 22 05:07:32.4±41.0, 15°08'S×170°00'W, h0km, mb4.3/3, mbtmp4.3/3, Error ellipse: s-maj=816.5km s-min=179.4km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**47.05**	**240**	P	P	05 16 06.1	+0.1
	2.4nm,0.5s,baz=85,slow=9.5,SNR=8.2						
	2.4nm,0.5s						
WRA	**Warramunga Arr**	**53.11**	**256**	P	P	05 16 51.8	-0.5
	0.4nm,0.4s,baz=94,slow=6.8,SNR=20						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**53.33**	**252**	P	P	05 16 53.9	+0.1
	5.3nm,0.4s,baz=89,slow=8.1,SNR=52						
	5.3nm,0.4s						

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*IDC **22** 05:16:05.7±1.1, 55°24'N×166°90'E, h0km, mb3.6/9, mbtmp3.7/11, ML3.7/2, MS2.4/1, Error ellipse: s-maj=40.2km s-min=15.0km az=179.0*
*KRSC **22** 05:16:07.3±1.9, 55°05'N×166°86'E, h38km±16km, Ml4.0*
ISC 22 05:16:08.3±0.8, 55°13'N±0°09'×166°97'E±0°05, h19km, n44, σ1°38/53, mb3.5/9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.57**	**278**	*e*P	**Pb**	**05 16 18.8**	**-0.8**
BKI				*e*S	**Sb**	**05 16 26.7**	**-0.6**
KBG	**Krutoberegovo**	**2.66**	**297**	*e*P	**Pn**	**05 16 48.4**	**-1.7**
KBG				*e*S	**Sn**	**05 17 20.6**	**-1.2**
ZLN	**Zelenaya**	**3.61**	**287**	*e*P	**Pn**	**05 17 04.5**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**3.65**	**285**	*e*P	**Pn**	**05 17 04.8**	**+1.0**
BZMR	**Bezymyannaya**	**3.77**	**285**	*e*P	**Pn**	**05 17 06.4**	**+1.0**
TUMD	**Tumrok D**	**3.77**	**274**	*e*P	**Pn**	**05 17 06.7**	**+1.3**
TUMD				*e*S	**Sn**	**05 17 50.9**	**+1.7**
BZWR	**Bezymyannyi-We**	**3.77**	**285**	*e*P	**Pn**	**05 17 06.7**	**+1.2**
KRSR	**Krestovskiy**	**3.78**	**289**	*e*P	**Pn**	**05 17 06.2**	**+0.6**
KRSR				*e*S	**Sn**	**05 17 52.1**	**+2.4**
KIRR	**Kirishev**	**3.85**	**285**	*e*P	**Pn**	**05 17 07.4**	**+0.7**
KIRR				*e*S	**Sn**	**05 17 51.2**	**-0.2**
KMNR	**Kamenistaya**	**3.88**	**282**	*e*P	**Pn**	**05 17 08.6**	**+1.6**
TUMR	**Tumrok**	**3.91**	**275**	*e*P	**Pn**	**05 17 09.4**	**+2.0**
KPT	**Kopyto**	**3.92**	**285**	*e*P	**Pn**	**05 17 08.6**	**+1.0**
KOZ	**Kozyrevsk**	**4.13**	**286**	*e*P	**Pn**	**05 17 12.0**	**+1.7**
SRDR	**Sredinnyy**	**4.27**	**289**	*e*P	**Pn**	**05 17 13.6**	**+1.3**
SPN	**Mys Shipunskii**	**4.56**	**246**	*e*P	**Pn**	**05 17 16.8**	**+0.6**
SHEM	**Shemya Is, Ala**	**4.86**	**117**	Pn	**Pn**	**05 17 19.6**	**-0.6**
	18nm,0.3s,baz=258,slow=20,SNR=17						
SHEM				Sn	**Sn**	**05 18 14.5**	**-1.4**
	2.6nm,0.3s,baz=299,slow=21,SNR=1.2						
	41nm,0.3s						
SMAR	**Somma**	**5.15**	**252**	*e*P	**Pn**	**05 17 26.0**	**+1.6**
KRER	**Koryakskii**	**5.16**	**253**	*e*P	**Pn**	**05 17 26.3**	**+1.7**
KRER				*e*S	**Sn**	**05 18 24.3**	**+0.6**
AVH	**Avacha**	**5.18**	**252**	*e*P	**Pn**	**05 17 26.2**	**+1.4**
AVH				*e*S	**Sn**	**05 18 25.1**	**+1.0**
KRX	**Arik**	**5.19**	**253**	*e*P	**Pn**	**05 17 26.1**	**+1.1**
KRX				*e*S	**Sn**	**05 18 24.6**	**+0.2**
KOK	**Koryaka**	**5.22**	**253**	*e*P	**Pn**	**05 17 26.6**	**+1.2**
PET	**Petropavlovsk**	**5.33**	**250**	*e*S	**Sn**	**05 18 26.4**	**-1.1**
GNL	**Ganaly**	**5.46**	**258**	*e*P	**Pn**	**05 17 30.6**	**+1.9**
RUS	**Russkaya**	**5.69**	**245**	*e*P	**Pn**	**05 17 32.1**	**+0.4**
RUS				*e*S	**Sn**	**05 18 34.4**	**-2.1**
KRMR	**Karymshinskiy**	**5.70**	**250**	*e*P	**Pn**	**05 17 33.4**	**+1.6**
KRMR				*e*S	**Sn**	**05 18 36.2**	**-0.5**
PETK	**Petropavlovsk-**	**5.81**	**253**	Pn	**Pn**	**05 17 33.1**	**-0.4**
	2.1nm,0.3s,baz=77,slow=32,SNR=23						
PETK				Sn	**Sn**	**05 18 42.0**	**+2.4**
	1.6nm,0.3s,baz=311,slow=14,SNR=6.8						
PETK				LR	LR	05 19 51.8	
	comp=Z,33nm,20.7s,baz=58,slow=39						
	3.6nm,0.4s						
MTVR	**Mutnovka**	**5.84**	**247**	*e*P	**Pn**	**05 17 34.9**	**+0.9**
MTVR				*e*S	**Sn**	**05 18 39.3**	**-1.1**
ASAK	**Asacha**	**6.04**	**247**	*e*P	**Pn**	**05 17 38.1**	**+1.5**
ASAK				*e*S	**Sn**	**05 18 45.1**	**-0.1**
KDTR	**Khodutka, Kamc**	**6.26**	**242**	*e*P	**Pn**	**05 17 40.0**	**+0.4**
KDTR				*e*S	**Sn**	**05 18 46.1**	**-4.5**
ILAR	**Eielson Array**	**24.47**	**48**	P	**P**	**05 21 24.6**	**-1.1**
	0.6nm,0.7s,baz=251,slow=7.8,SNR=9.4						
	0.6nm,0.7s						
H11N2	**WAKE ISLAND Hy 35.34**		**180**	T	T	06 00 10.6	
	baz=0.2,slow=76,SNR=253						
H11N3	**WAKE ISLAND Hy 35.36**		**180**	T	T	06 00 08.5	
	baz=0.2,slow=76,SNR=234						
H11N1	**WAKE ISLAND Hy 35.36**		**180**	T	T	06 00 08.8	
	baz=0.2,slow=76,SNR=236						
H11S1	**WAKE ISLAND Hy 36.56**		**180**	T	T	06 01 44.2	
	baz=360,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy 36.57**		**180**	T	T	06 01 43.5	
	baz=360,slow=76,SNR=7.8						
H11S2	**WAKE ISLAND Hy 36.58**		**180**	T	T	06 01 44.1	
	baz=360,slow=76,SNR=20						
SONM	**Songino Array**	**37.34**	**285**	P	**P**	**05 23 19.5**	**+0.2**
	0.2nm,0.4s,baz=72,slow=9.3,SNR=1.9						
	0.2nm,0.4s						
YKA	**Yellowknife Ar**	**38.87**	**46**	P	**P**	**05 23 31.9**	**+0.1**
	0.2nm,0.6s,baz=297,slow=8.5,SNR=3.5						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**50.13**	**304**	P	**P**	**05 25 01.4**	**-0.5**
	1.3nm,0.7s,baz=54,slow=7.7,SNR=16						
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**50.84**	**298**	P	**P**	**05 25 06.4**	**-1.0**
	0.9nm,0.4s,baz=52,slow=6.4,SNR=18						
	0.9nm,0.4s						
NVAR	**Mina Array Bea**	**51.28**	**76**	P	**P**	**05 25 12.0**	**+0.9**
	0.4nm,0.6s,baz=312,slow=7.4,SNR=3.9						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**52.21**	**311**	P	**P**	**05 25 17.3**	**-0.3**
	1.2nm,0.7s,baz=57,slow=11,SNR=5.2						
	1.2nm,0.7s						
PDAR	**Pinedale Array**	**52.99**	**66**	P	**P**	**05 25 24.1**	**+0.4**
	0.3nm,0.8s,baz=290,slow=2.7,SNR=3.6						
	0.3nm,0.8s						
TXAR	**Lajitas Array**	**66.14**	**73**	P	**P**	**05 26 55.4**	**+1.1**
	0.4nm,0.5s,baz=299,slow=4.7,SNR=9.4						
	0.4nm,0.5s						

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*RSPR **22** 05:24:15.6, 18°73'N×67°27'W, h66km±4km, MD2.5/3*
*SDD **22** 05:24:24.9±1.9, 18°32'N×67°15'W, h52km±25km, MD1.8, ML1.5, MW2.8*
ISC 22 05:24:23.5±1.3, 18°29'N±0°08×67°05'W±0°05, h50km, n18, σ2°52/19, 5C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**0.12**	**199**	*e*S	**Sn**	**05 24 38.0**	**+1.0**
AOPR	**Arecibo Observ**	**0.28**	**78⇑**	*e*P	**Pn**	**05 24 28.2**	**-4.3**
AOPR	**Arecibo Observ**	**0.28**	**78**	*e*S	**Sn**	**05 24 38.9**	**-0.1**
AOPR	**Arecibo Observ**	**0.28**	**78**	*e*Pg	**Pn**	**05 24 35.9**	**+3.4**
AOPR				⇓*e*Sg	**Sn**	**05 24 40.4**	**+1.5**
AOPR				IAML		05 24 40.5	
	comp=E,15nm,0.8s						
AOPR				IAML		05 25 20.6	
	comp=N,22nm,4.3s						
CRPR	**Cabo Rojo, PR**	**0.28**	**192⇑**	*e*P	**Pn**	**05 24 30.3**	**-2.2**
CRPR	**Cabo Rojo, PR**	**0.28**	**192**	*e*S	**Sn**	**05 24 41.0**	**+2.1**
CRPR	**Cabo Rojo, PR**	**0.28**	**192**	*e*Sg	**Sn**	**05 24 40.7**	**+1.9**
CRPR				IAML		05 24 46.6	
	comp=N,25nm,1.6s						
UUPR	**Utuado, UPR, P**	**0.31**	**96⇑**	*e*P	**Pn**	**05 24 29.8**	**-2.9**
UUPR	**Utuado, UPR, P**	**0.31**	**96**	*e*S	**Sn**	**05 24 41.1**	**+1.8**
MLPR	**Magueyes Islan**	**0.31**	**180⇑**	*e*P	**Pn**	**05 24 30.7**	**-2.0**
MLPR	**Magueyes Islan**	**0.31**	**180**	*e*S	**Sn**	**05 24 42.2**	**+2.9**
MLPR	**Magueyes Islan**	**0.31**	**180**	*e*Sg	**Sn**	**05 24 40.7**	**+1.4**
MLPR				IAML		05 24 56.0	
	comp=N,17nm,2.2s						
OBIP	**Obispado Ponce**	**0.48**	**120**	*e*S	**Sn**	**05 24 44.8**	**+2.4**
CELP	**Cerrillos**	**0.49**	**115⇑**	*e*P	**Pn**	**05 24 32.0**	**-2.6**
CELP	**Cerrillos**	**0.49**	**115**	*e*S	**Sn**	**05 24 45.6**	**+3.0**
CELP	**Cerrillos**	**0.49**	**115**	*e*Sg	**Sn**	**05 24 44.9**	**+2.3**
CELP				IAML		05 24 46.0	
	comp=N,11nm,2.4s						
PCDR	**Punta Cana, DR**	**1.29**	**280**	*i* P	**Pn**	**05 24 43.9**	**-1.2**
PCDR				IAML		05 25 29.5	
	comp=N,112nm,2.4s						
HATOM	**Hato Mayor del**	**2.27**	**283**	*i* P	**Pn**	**05 24 57.6**	**-1.0**

IDC 22 06:02:07.3±2.7, 54°19'N×86°70'E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=21.5km s-min=14.2km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.13**	**259**	I	I	06 10 00.0	
	baz=80,slow=334,SNR=2.4						
ZALV	**Zalesovo Beam**	**1.13**	**259**	Pg	Pg	06 02 27.8	-1.1
	0.4nm,0.3s,baz=73,slow=17,SNR=7.1						
ZALV				Lg	Lg	06 02 44.3	
	1.3nm,0.3s,baz=76,slow=30,SNR=9.9						
KURBB	**Kurchatov Arra**	**6.14**	**238**	Pn	Pn	06 03 40.1	+0.9
	baz=54,slow=13,SNR=8.8						
KURBB				Sn	Sn	06 04 49.6	-0.4
	baz=50,slow=29						
KURBB				Lg	Lg	06 05 22.7	
	baz=48,slow=29,SNR=3.0						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**7.92**	**203**	Pn	Pn	06 04 04.5	+1.0
MKAR	0.1nm,0.3s,baz=16,slow=12,SNR=8.5			Lg	Lg	06 06 19.9	
	baz=26,slow=31						
	0.2nm,0.2s						

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*IDC **22** 06:38:59.3±2.6, 54°26'N×87°29'E, h0km, mbtmp3.1/3, ML2.4/3, Error ellipse: s-maj=22.6km s-min=15.6km az=67.0*
*NNC **22** 06:39:00.1±0.9, 54°32'N×86°98'E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=9.6km s-min=4.5km az=178.0, Suspected Mining explosion.*
ISC 22 06:38:60.0±4.2, 54°4'N±0°2×86°9'E±0°2, h0km, n9, σ1°76/14, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.30**	**251**	I	I	06 49 10.0	
	0.1nm,1.0s,baz=76,slow=330,SNR=8.8						
ZAA0	**Zalesovo Array**	**1.30**	**251**	⇑P	**Pg**	**06 39 24.7**	**-0.1**
	0.8nm,0.8s						
ZAA0				⇓S	**Sn**	**06 39 43.2**	**-0.1**
	1.7nm,0.7s						
ZALV	**Zalesovo Beam**	**1.30**	**251**	Pg	**Pb**	**06 39 25.0**	**-0.2**
	1.8nm,0.3s,baz=76,slow=18,SNR=21						
ZALV				Lg	Lg	06 39 46.4	
	0.8nm,0.3s,baz=78,slow=28,SNR=9.1						
KURK	**Kurchatov**	**6.24**	**237**	⇑Pn	**Pn**	**06 40 33.5**	**+0.3**
	1.8nm,0.7s						
KURK				⇑Lg	Lg	06 42 17.3	
	4.6nm,1.1s						
KURBB	**Kurchatov Arra**	**6.34**	**237**	Pn	**Pn**	**06 40 35.7**	**+1.1**
	0.1nm,0.3s,baz=56,slow=14,SNR=17						
KURBB				Sn	**Sn**	**06 41 49.5**	**+1.7**
	baz=56,slow=24,SNR=1.6						
KURBB				Lg	Lg	06 42 25.9	
	baz=46,slow=30,SNR=5.1						
	2.0nm,0.6s						
KURBB	**Kurchatov Arra**	**6.34**	**237**	⇓Pn	**Pn**	**06 40 35.8**	**+1.2**
	4.8nm,0.8s						
KURBB				⇓Sn	**Sn**	**06 41 48.7**	**+0.9**
	3.7nm,0.7s						
KURBB				⇑Lg	Lg	06 42 21.1	
	4.0nm,0.7s						
MK31	**Makanchi Array**	**8.14**	**203**	⇓Pn	**Pn**	**06 40 59.6**	**+0.3**
	0.5nm,0.7s,baz=25,slow=11,SNR=4.5						
MK31				Sn	**Sn**	**06 42 32.7**	**+0.6**
	0.6nm,0.6s,baz=130,slow=29,SNR=3.8						
MK31				⇑Lg	Lg	06 43 17.3	
	2.1nm,0.8s,baz=131,slow=30,SNR=4.2						
MKAR	**Makanchi Array**	**8.14**	**203**	Pn	**Pn**	**06 41 00.0**	**+0.6**
	0.1nm,0.3s,baz=22,slow=13,SNR=4.9						
MKAR				Sn	**Sn**	**06 42 30.4**	**-1.7**
	0.1nm,0.3s,baz=28,slow=28,SNR=7.2						
MKAR				Lg	Lg	06 43 18.2	
	0.1nm,0.3s,baz=27,slow=34,SNR=5.5						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**9.88**	**269**	Pn	**Pn**	**06 41 25.9**	**+2.7**
	baz=70,slow=12,SNR=3.2						
BVAR				Sn	**Sn**	**06 43 10.7**	**-4.1**
	baz=98,slow=18,SNR=5.4						
	0.6nm,0.6s						

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*IDC **22** 06:39:59.4±1.2, 34°58'N×45°62'E, h0km, mb3.6/10, mbtmp3.7/14, ML3.4/4, MS2.7/3, Error ellipse: s-maj=24.1km s-min=17.3km az=149.0*
*TEH **22** 06:40:00.5, 34°66'N×45°64'E, h8km±39km, ML3.5*
*ISN **22** 06:40:00.7±0.5, 34°64'N×45°74'E, h10km, ML3.5*
ISC 22 06:40:01.6±1.1, 34°64'N±0°03×45°63'E±0°04, h11km±8km, n41, σ1°33/43, mb3.6/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.14**	**194**	Pg	**Pg**	**06 40 04.8**	**-0.1**
IDHR	**Dehrash**	**0.62**	**85**	Pg	**Pg**	**06 40 13.1**	**-0.7**
IGHG	**Ghaleghazi**	**0.83**	**112**	Pg	**Pg**	**06 40 17.4**	**-0.4**
IGHG				Sg	Sn	**06 40 31.3**	**-0.7**
ILIN	**Lien**	**1.13**	**76**	Pg	**Pg**	**06 40 22.6**	**-0.7**
KCHF	**Cheshme Sefid,**	**1.22**	**107**	Pg	**Pb**	**06 40 24.6**	**-0.2**
SDS1	**Sardasht. Az.**	**1.51**	**355**	Pg	**Pb**	**06 40 30.2**	**+0.5**
IBDR	**Badra**	**1.55**	**171**	*e*Pn	**Pb**	**06 40 30.0**	**-0.3**
IBDR				*e*Sn	**Sg**	**06 40 51.0**	**-0.5**
BHD	**Baghdad**	**1.72**	**218**	*e*Pn	**Pb**	**06 40 33.0**	**-0.2**
BHD				*e*Sn	**Sg**	**06 40 57.0**	**+0.1**
BHD				AML	AML	06 41 10.0	
	comp=E,657nm,0.5s						
IBZA	**Bozab**	**1.85**	**95**	Pn	**Pb**	**06 40 35.8**	**+0.2**
MAHB	**Mahabad**	**2.12**	**2**	Pn	**Pb**	**06 40 39.5**	**-0.6**
IKFM	**Kafar-mosalman**	**2.15**	**121**	Pn	**Pb**	**06 40 39.9**	**-0.7**
IDOB	**Doab**	**2.28**	**111**	Pn	**Pn**	**06 40 41.1**	**+1.7**
RAFI	**Al-Rafai**	**2.94**	**172**	*e*Pn	**Pn**	**06 40 49.5**	**+1.2**
RAFI				*e*Sn	**Sn**	**06 41 25.0**	**+1.4**
IHSH	**Hashtrud**	**2.97**	**26**	Pn	**Pn**	**06 40 50.8**	**+1.8**
IAZR	**Azarshahr**	**3.04**	**5**	Pn	**Pn**	**06 40 51.7**	**+1.7**
ISRB	**Sarab**	**3.58**	**27**	Pn	**Pn**	**06 40 59.2**	**+1.9**
ISHB	**Shabestar**	**3.63**	**360**	Pn	**Pn**	**06 40 59.0**	**+1.0**
IHRS	**Heris**	**3.84**	**17**	Pn	**Pn**	**06 41 03.1**	**+2.2**
IMRD	**Marand**	**4.06**	**1**	Pn	**Pn**	**06 41 06.3**	**+2.4**
IQOM	**Qom**	**4.48**	**86**	Pn	**Pn**	**06 41 11.6**	**+1.9**
QAMS	**Qamsar**	**4.86**	**99**	Pn	**Pn**	**06 41 17.7**	**+2.7**
KRSH	**Karshahi**	**5.42**	**95**	Pn	**Pn**	**06 41 24.4**	**+1.7**
GNI	**Garni**	**5.54**	**353**	Pn	**Pn**	**06 41 26.0**	**+1.8**
	comp=E,1.8nm,0.3s,baz=14,slow=16,SNR=1.9						
GNI				Lg	Lg	06 42 59.8	
	comp=E,0.9nm,0.3s,baz=225,slow=15,SNR=1.6						
GNI				LR	LR	06 44 02.6	
	comp=E,57nm,19.3s,baz=172,slow=43						
	comp=E,4.5nm,0.3s						
IZEF	**Zefreh**	**5.84**	**105**	Pn	**Pn**	**06 41 30.8**	**+2.4**
ASF	**Jabal al Asfar**	**7.71**	**254**	Pn	**Pn**	**06 41 53.9**	**0.0**
	comp=E,0.5nm,0.3s,baz=63,slow=23,SNR=2.2						
ASF				Lg	Lg	06 44 04.1	
	comp=E,0.4nm,0.3s,baz=242,slow=22,SNR=2.2						
	comp=E,1.3nm,0.4s						
EIL	**Elat**	**10.32**	**244**	LR	LR	06 47 21.2	
	comp=E,50nm,18.8s,baz=65,slow=43						
GEYT	**Alibeck**	**10.60**	**68**	LR	LR	06 47 24.9	
	comp=E,50nm,21.8s,baz=278,slow=42						
BELG	**Belogornoye**	**17.80**	**4**	P	**Pn**	**06 44 08.4**	**-0.8**
	comp=E,0.3nm,0.3s,baz=251,slow=2.8,SNR=4.6						
	comp=E,6.5nm,0.7s						
AKTO	**Aktyubinsk**	**18.19**	**26**	P	**P**	**06 44 14.8**	**+0.5**
	baz=217,slow=10,SNR=2.3						
	comp=E,1.6nm,0.7s						
AKASG	**Malin Array Be**	**20.00**	**328**	P	**P**	**06 44 34.6**	**+0.5**
	comp=E,0.6nm,0.5s,baz=3.3,slow=34,SNR=1.8						
	comp=E,0.6nm,0.5s						
ARU	**Arti**	**23.52**	**18**	P	**P**	**06 45 11.8**	**+0.4**
	comp=E,5.7nm,0.2s,baz=292,slow=17,SNR=1.1						
BVAR	**Borovoye Array**	**25.41**	**36**	P	**P**	**06 45 30.4**	**+1.3**
	comp=E,1.1nm,0.6s,baz=243,slow=9.8,SNR=5.9						
	comp=E,1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**28.70**	**46**	P	**P**	**06 45 58.4**	**-0.2**
	comp=E,0.5nm,0.8s,baz=240,slow=7.3,SNR=2.6						
	comp=E,0.5nm,0.8s						
FINES	**FINESS Array B**	**29.59**	**341**	P	**P**	**06 46 05.4**	**-0.9**
	comp=E,1.0nm,0.8s,baz=184,slow=28,SNR=1.1						
	comp=E,1.0nm,0.8s						
MKAR	**Makanchi Array**	**30.05**	**55**	P	**P**	**06 46 11.7**	**+1.1**
	comp=E,0.8nm,0.9s,baz=249,slow=9.0,SNR=6.1						
	comp=E,0.8nm,0.9s						
HFS	**Hagfors**	**32.85**	**331**	P	**P**	**06 46 34.3**	**-0.9**
	comp=E,1.2nm,0.5s,baz=126,slow=9.9,SNR=5.9						
	comp=E,1.2nm,0.5s						
ZALV	**Zalesovo Beam**	**33.47**	**43**	P	**P**	**06 46 40.1**	**-0.5**
	comp=E,0.3nm,0.4s,baz=232,slow=11,SNR=1.5						
	comp=E,0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**45.07**	**253**	P	**P**	**06 48 18.0**	**+0.1**
	comp=E,0.3nm,0.8s,baz=46,slow=10,SNR=1.7						
	comp=E,0.3nm,0.8s						
ILAR	**Eielson Array**	**80.42**	**5**	P	**P**	**06 52 12.3**	**-0.6**
	comp=E,0.2nm,0.7s,baz=335,slow=4.0,SNR=2.1						
	comp=E,0.2nm,0.7s						
YKA	**Yellowknife Ar**	**81.90**	**351**	P	**P**	**06 52 19.8**	**-1.0**
	comp=E,0.4nm,0.8s,baz=14,slow=5.8,SNR=6.7						
	comp=E,0.4nm,0.8s						
WRA	**Warramunga Arr**	**100.04**	**107**	P	**Pdif**	**06 53 44.6**	**-2.8**
	comp=E,0.6nm,0.9s,baz=304,slow=6.8,SNR=2.3						

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*DJA **22** 06:40:47.5±0.5, 4°S±4°×10°4E±°, h164km±8km, M4.7/12, mb4.8/4, MLv4.7/12*
*NEIC **22** 06:40:48.2±1.2, 3°97S±0°05×103°60E±0°07, h154km±5km, mb4.5/41, Error ellipse: s-maj=10.1km s-min=7.3km az=85.0*
*IDC **22** 06:40:48.8±0.7, 3°95S×103°79E, h166km±5km, mb4.1/26, mbtmp4.5/27, Error ellipse: s-maj=15.6km s-min=6.6km az=54.0*
ISC 22 06:40:47.5±0.3, 4°05S±0°05×103°65E±0°05, h150km, n132, σ1°33/145, mb4.4/50, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.75**	**246**		**Pn**	**06 41 11.5**	**+1.1**
MNAI	**Manna**	**0.75**	**246**	P	**Pn**	**06 41 12.1**	**+1.7**
MNAI				S	**Sn**	**06 41 29.6**	**+1.8**
LWLI	**Liwa**	**1.04**	**157**	P	**Pn**	**06 41 13.7**	**+0.9**
PMBI	**Palembang**	**1.58**	**45**	Pn	**Pn**	**06 41 19.2**	**+1.2**
PMBI	**Palembang**	**1.58**	**45**	P	**Pn**	**06 41 20.0**	**+2.0**
KRJI	**Kerinci**	**2.92**	**312**	P	**Pn**	**06 41 37.0**	**+3.0**
PPBI	**Pangkal Pinang**	**3.12**	**53**	P	**Pn**	**06 41 38.5**	**+2.1**
SBJI	**Serang**	**3.22**	**130**	P	**Pn**	**06 41 38.6**	**+0.9**
DSRI	**Dabo**	**3.67**	**15**	P	**Pn**	**06 41 45.0**	**+1.5**
SKJI	**Sukabumi**	**4.12**	**135**	P	**Pn**	**06 41 48.6**	**-0.8**
PDSI	**Padang**	**4.45**	**314**	P	**Pn**	**06 41 53.4**	**-0.4**
LEM	**Lembang**	**4.82**	**125**	P	**Pn**	**06 42 00.2**	**+1.4**
	38nm,0.5s,baz=326,slow=17,SNR=4.6						
LEM				S	**Sn**	**06 42 55.3**	**+1.1**
	26nm,0.4s,baz=324,slow=19,SNR=1.4						
LEM	**Lembang**	**4.82**	**125**	P	**Pn**	**06 42 00.5**	**+1.8**
BKNI	**Bangkinang**	**5.07**	**329**	Pn	**Pn**	**06 42 03.9**	**+2.0**
BKNI	**Bangkinang**	**5.07**	**329**	P	**Pn**	**06 42 02.8**	**+0.9**
	261nm,0.9s,1.1nm						
BBJI	**Bungbulang**	**5.23**	**131**	P	**Pn**	**06 42 02.9**	**-1.2**
MYKOM	**Kota Tinggi**	**5.81**	**2**	Pn	**Pn**	**06 42 11.2**	**-0.5**
CMJI	**Cimerak**	**6.05**	**128**	P	**Pn**	**06 42 12.8**	**-2.1**
	172nm,1.8s,0.7nm						
KPJI	**Karang Pucung**	**6.19**	**122**	P	**Pn**	**06 42 17.3**	**+0.5**
XMI	**Christmas Isla**	**6.67**	**162**	P	Pn	06 42 17.1	-6.2
XMIS	**Christmas Isla**	**6.69**	**163**	P	Pn	06 42 16.8	-6.7
XMIS	**Christmas Isla**	**6.69**	**163**	Pn	Pn	06 42 17.3	-6.2
UGM	**Wanagama**	**7.84**	**120**	P	**Pn**	**06 42 38.3**	**-0.6**
UGM	**Wanagama**	**7.84**	**120**	Pn	**Pn**	**06 42 38.2**	**-0.7**
GSI	**Gunungsitoli**	**8.07**	**311**	Pn	**Pn**	**06 42 40.6**	**-1.3**
IPM	**Ipoh**	**8.87**	**343**		**Pn**	**06 42 51.8**	**-0.8**
COCO	**West Island**	**10.53**	**219**	Pn	**Pn**	**06 43 14.2**	**-0.4**
JAGI	**Jajag, Banyuwa**	**11.33**	**113**	P	**Pn**	**06 43 25.0**	**-0.1**
JAGI	**Jajag, Banyuwa**	**11.33**	**113**	Pn	**Pn**	**06 43 24.9**	**-0.3**
PLAI	**Plampang**	**14.82**	**109**	P	**Pn**	**06 44 10.6**	**+0.8**
GIRL	**Giralia**	**21.14**	**152**	P	**P**	**06 45 22.6**	**+1.9**
GIRL	**Giralia**	**21.14**	**152**	P	**P**	**06 45 22.1**	**+1.4**
PHRA	**Phrae**	**22.66**	**352**	P	**P**	**06 45 36.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**22.84**	**348**	P	**P**	**06 45 37.1**	**-0.9**
CMAR	**Chiang Mai Arr**	**22.84**	**348**	P	**P**	**06 45 36.5**	**-1.4**
	3.3nm,0.4s,baz=183,slow=7.7,SNR=18						
CMAR				pP	**pP**	**06 46 09.6**	**+3.6**
	2.1nm,0.3s,baz=184,slow=8.6,SNR=3.0						
CMAR				ScP	**ScP**	**06 52 46.2**	**-2.0**
	1.6nm,0.3s,baz=194,slow=3.4,SNR=2.4						
	3.3nm,0.4s						
MBWA	**Marble Bar**	**23.10**	**139**	P	**P

comp=Z,97nm,4.4s
WMQ Urumqi 49.77 345 *e*P **P 06 49 26.1 +1.2**
WMQ pmax pmax
comp=Z,25nm,0.7s
KSH Kashi 50.29 332 P **P 06 49 27.1 -1.8**
KSH pmax pmax
comp=Z,9.0nm,0.6s
SONM Songino Array 51.72 2 P **P 06 49 39.7 +0.2**
SONM IAmb IAmb 06 49 42.2
comp=Z,3.4nm,0.6s
SONM Songino Array 51.72 2 P **P 06 49 39.2 -0.3**
comp=Z,4.8nm,0.5s,baz=183,slow=9.0,SNR=32
SONM pP **pP 06 50 17.8 +3.9**
comp=Z,3.9nm,0.8s,baz=179,slow=8.8,SNR=6.7
SONM PcP **PcP 06 50 49.4 -1.4**
comp=Z,1.0nm,0.4s,baz=192,slow=4.6,SNR=5.9
SONM ScP **ScP 06 54 30.0 -3.6**
comp=Z,0.2nm,0.4s,baz=172,slow=4.4,SNR=1.9
comp=Z,4.8nm,0.5s
NRN Naryn 51.82 334 P **P 06 49 39.7 -0.8**
NRN IAmb IAmb 06 49 40.4
comp=Z,6.4nm,0.5s
CAN Canberra 52.15 133 P **P 06 49 43.1 +0.3**
BOOM Boomskoye usch 52.70 334 P **P 06 49 46.0 -0.9**
BOOM IAmb IAmb 06 49 46.8
comp=Z,4.5nm,0.6s
UCH Uchtor 53.12 333 P **P 06 49 49.4 -0.9**
SNR=5.8
TKM2 Tokmak 2 53.20 334 P **P 06 49 50.0 -0.5**
SNR=22
SIMJ Simiganj 53.21 326 P **P 06 49 48.1 -2.5**
SIMJ IAmb IAmb 06 49 49.4
comp=Z,7.1nm,0.6s
BTK Batken 53.25 329 P **P 06 49 50.0 -0.8**
KBK Karagaybulak 53.27 334 P **P 06 49 51.1 +0.1**
SNR=7.5
AAK Ala-Archa 53.45 333 P **P 06 49 50.9 -1.5**
AAK Ala-Archa 53.45 333 P **P 06 49 52.0 -0.3**
comp=Z,2.3nm,0.4s,baz=154,slow=7.2,SNR=7.6
comp=Z,2.3nm,0.4s
EKS2 Erkin-Say 53.79 333 P **P 06 49 54.7 -0.1**
SNR=17
USP Ospenovka 53.95 334 P **P 06 49 55.1 -0.7**
SNR=6.0
MK31 Makanchi Array 54.03 342 P **P 06 49 55.3 -1.0**
MK31 IAmb IAmb 06 49 56.8
comp=Z,4.2nm,0.7s
MKAR Makanchi Array 54.03 342 P **P 06 49 55.4 -0.9**
MKAR Makanchi Array 54.03 342 P **P 06 49 55.6 -0.7**
comp=Z,5.7nm,0.5s,baz=152,slow=9.1,SNR=115
comp=Z,5.7nm,0.5s
MAKZ Makanchi 54.14 342 P **P 06 49 55.9 -1.2**
USRK Ussuriysk Ar. 54.36 25 P **P 06 49 58.7 +0.1**
comp=Z,3.5nm,0.6s,baz=207,slow=2.8,SNR=5.6
comp=Z,3.5nm,0.6s
KK31 Karatay Array 55.67 331 P **P 06 50 06.9 -1.2**
KKAR Karatay Array 55.67 331 P **P 06 50 06.9 -1.2**
HEH HeiHe 57.84 18 *e*P **P 06 50 24.5 +1.2**
KURBB Kurchatov Arra 58.59 342 P **P 06 50 27.8 -0.6**
comp=Z,2.5nm,0.7s,baz=159,slow=6.2,SNR=17
comp=Z,2.5nm,0.7s
KURK Kurchatov 58.64 342 P **P 06 50 28.2 -0.6**
KURK IAmb IAmb 06 50 29.3
comp=Z,4.7nm,0.8s
GEYT Alibeck 59.36 319 P **P 06 50 32.7 -1.5**
GEYT IAmb IAmb 06 50 34.0
comp=Z,2.8nm,0.7s
GEYT Alibeck 59.36 319 P **P 06 50 32.9 -1.3**
comp=Z,2.5nm,0.3s,baz=124,slow=6.1,SNR=7.6
comp=Z,2.5nm,0.3s
ZAA0 Zalesovo Array 59.90 347 P **P 06 50 36.6 -0.8**
ZAA0 IAmb IAmb 06 50 38.0
comp=Z,8.5nm,0.9s
ZALV Zalesovo Beam 59.90 347 P **P 06 50 36.4 -1.0**
comp=Z,6.7nm,0.4s,baz=157,slow=5.5,SNR=44
comp=Z,6.7nm,0.4s
CASY Casey 62.30 177 P **P 06 50 54.6 +1.2**
CASY IAmb IAmb 06 51 37.8
comp=Z,17nm,1.4s
BVAR Borovoye Array 63.39 338 P **P 06 50 59.3 -1.5**
comp=Z,3.5nm,0.3s,baz=147,slow=9.2,SNR=28
comp=Z,3.5nm,0.3s
BRVK Borovoye 63.45 338 P **P 06 50 59.8 -1.4**
BRVK IAmb IAmb 06 51 00.2
comp=Z,3.4nm,0.7s
ABKAR Akbulak array 65.20 330 P **P 06 51 11.0 -1.7**
AKTO Aktyubinsk 66.91 330 P **P 06 51 21.3 -2.3**
comp=Z,1.3nm,0.4s,baz=114,slow=1.4,SNR=6.6
comp=Z,1.3nm,0.4s
MAW Mawson 69.25 196 P **P 06 51 39.3 +1.5**
MAW Mawson 69.25 196 P **P 06 51 37.5 -0.3**
comp=Z,2.4nm,0.5s,baz=63,slow=4.7,SNR=6.9
comp=Z,2.4nm,0.5s
ARU Arti 70.55 335 P **P 06 51 44.9 -1.1**
comp=Z,9.0nm,0.2s,baz=116,slow=4.2,SNR=6.1
comp=Z,9.0nm,0.2s
KBZ Khabaz 72.24 318 P **P 06 51 55.9 -0.5**
comp=Z,5.4nm,0.8s,baz=111,slow=6.1,SNR=11
comp=Z,5.4nm,0.8s
PETK Petropavlovsk- 72.72 31 P **P 06 51 59.0 -0.1**
BELG Belogornoye 73.37 328 P **P 06 52 01.4 -1.4**
comp=Z,5.6nm,0.7s,baz=90,slow=3.0,SNR=4.3
comp=Z,5.6nm,0.7s
NRIK Noril'sk 74.06 354 P **P 06 52 04.9 -1.7**
comp=Z,2.0nm,0.4s,baz=136,slow=2.4,SNR=2.6
comp=Z,2.0nm,0.4s
BKZ Black Stump Fm 74.17 129 P **P 06 52 07.8 -0.2**
BRTR Keskin Array B 77.39 312 P **P 06 52 25.1 -1.2**
BRTR Keskin Array B 77.39 312 P **P 06 52 25.7 -0.6**
comp=Z,3.6nm,0.7s,baz=133,slow=6.9,SNR=7.2
comp=Z,3.6nm,0.7s
LBTB Lobatse 77.47 245 P **P 06 52 27.1 +0.1**
LBTB IAmb IAmb 06 52 52.5
comp=Z,11nm,1.3s
SOE Somerset East 77.80 238 P **P 06 52 28.4 -0.3**
BOSA Boshof 77.88 242 P **P 06 52 29.8 +0.5**
BOSA IAmb IAmb 06 52 58.1
comp=Z,8.2nm,1.4s
BOSA Boshof 77.88 242 P **P 06 52 30.0 +0.7**
comp=Z,4.8nm,0.6s,baz=100,slow=4.1,SNR=11
comp=Z,4.8nm,0.6s
VNDA Vanda 79.47 169 P **P 06 52 37.6 +0.8**
VNDA Vanda 79.47 169 P **P 06 52 37.1 +0.3**
comp=Z,1.4nm,0.6s,baz=323,slow=5.9,SNR=14
comp=Z,1.4nm,0.6s
SBA Scott Base 80.55 169 P **P 06 52 44.0 +1.4**
SBA IAmb IAmb 06 52 58.8
comp=Z,18nm,1.2s
SUR Sutherland 81.80 238 P **P 06 52 51.5 +1.1**
AKASG Malin Array Be 83.33 322 P **P 06 52 56.5 -1.1**
comp=Z,0.9nm,0.5s,baz=85,slow=5.2,SNR=10
comp=Z,0.9nm,0.5s
MLR Muntele Rosu 84.28 316 P **P 06 53 02.7 0.0**
comp=Z,4.1nm,0.7s,baz=141,slow=4.4,SNR=5.6
comp=Z,4.1nm,0.7s
BUR08 Bucovina Ar. S 85.22 318 P **P 06 53 07.9 +0.5**
BUR08 IAmb IAmb 06 53 09.0
comp=Z,3.3nm,0.7s
QSPA South Pole Qui 85.92 180 P **P 06 53 11.0 +0.5**
QSPA South Pole Qui 85.92 180 P **P 06 53 10.6 +0.1**
comp=Z,0.6nm,0.4s,baz=345,slow=6.1,SNR=8.4
comp=Z,0.6nm,0.4s
KOLS Kolonicke sedl 87.37 319 *e*P **P 06 53 17.9 +0.2**
FINES FINESS Array B 87.61 332 P **P 06 53 17.1 -1.4**
FINES FINESS Array B 87.61 332 P **P 06 53 17.6 -1.0**
comp=Z,1.8nm,0.6s,baz=93,slow=3.8,SNR=9.3
comp=Z,1.8nm,0.6s
ARCES ARCESS Array B 89.63 340 P **P 06 53 26.4 -1.6**
ARCES ARCESS Array B 89.63 340 P **P 06 53 26.6 -1.3**
comp=Z,0.7nm,0.4s,baz=105,slow=5.9,SNR=12
comp=Z,0.7nm,0.4s
IMAR Indian Mountai 98.81 24 P **P 06 54 08.5 -1.5**
PDAR Pinedale Array 131.46 33 PKP **PKPdf 06 59 42.6 -0.3**
comp=Z,0.2nm,0.5s,baz=296,slow=2.9,SNR=2.1
TXAR Lajitas Array 143.91 43 PKP PKPbc 07 00 05.3 +1.2
comp=Z,0.3nm,0.5s,baz=227,slow=0.9,SNR=13
CPUP Villa Florida 144.62 210 PKP **PKPab 07 00 07.0 +0.9**
comp=Z,5.7nm,0.6s,baz=123,slow=5.3,SNR=14
BDFB Brasilia 145.80 234 PKPbc **PKPdf 07 00 10.9 +1.4**
comp=Z,3.4nm,0.4s,baz=128,slow=4.4,SNR=11
LPAZ La Paz 158.22 202 PKPab **PKPab 07 01 03.4 +0.4**
comp=Z,0.6nm,0.5s,baz=186,slow=5.4,SNR=4.8

*IDC **22** 06:54:43.6±1.3,37°.26N×57°.00E,h0km,mb3.5/5, mbtmp3.7/10,ML3.4/5,MS2.6/1,Error ellipse: s-maj=14.1km s-min=5.6km az=48.0*

*TEH **22** 06:54:44.4,37°.28N×57°.19E,h8km±30km,ML3.4*
*NNC **22** 06:54:44.2±1.1,37°.64N×56°.81E,h0km,mb3.9,Error ellipse: s-maj=13.4km s-min=5.1km az=178.0*
ISC 22 06:54:45.5±0.8,**37°.40N**±0°.05×**57°.17E**±0°.04,**h10**km,**n42,** σ1°.**79**/45,**mb3.7**/3,**6C,Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISFR	**Sfrayin**	**0.75**	**117**	Pg	**Pg**	**06 54 59.3**	**-0.7**
GEYT	**Alibeck**	**0.92**	**55**	Pg	**Pg**	**06 55 04.6**	**+1.4**
	63nm,0.3s,baz=231,slow=20,SNR=188						
GEYT				Lg	Lg	06 55 19.9	
	70nm,0.3s,baz=234,slow=48,SNR=9.2						
GYA0B	**ALIBECK ARRAY**	**0.92**	**55**	⇑P	**Pg**	**06 55 04.6**	**+1.4**
GYA0B				⇑S	**Sn**	**06 55 19.7**	**+1.8**
SBZV	**Sabzevar**	**1.07**	**160**	Pg	**Pg**	06 55 03.7	-2.5
IEMG	**Emamgholi**	**1.18**	**89**	Pg	**Pg**	**06 55 07.8**	**-0.5**
IMND	**Minoodasht**	**1.41**	**265**	Pg	**Pn**	**06 55 12.2**	**+1.0**
IAKL	**Akhelmad**	**1.50**	**122**	Pg	**Pn**	**06 55 12.9**	**+0.2**
IPAY	**Payeh**	**1.75**	**122**	Pg	**Pn**	**06 55 16.9**	**+0.8**
IKRD	**Kardeh**	**1.98**	**108**	Pn	**Pn**	**06 55 21.2**	**+1.9**
IMOG	**Moghan**	**2.17**	**126**	Pn	**Pn**	**06 55 23.5**	**+1.6**
IMYA	**Miami**	**2.58**	**113**	Pn	**Pn**	**06 55 29.2**	**+1.7**
IGLO	**Ghaloghah**	**2.82**	**252**	Pn	**Pn**	**06 55 32.9**	**+2.1**
JRKH	**Jarkhoshk**	**2.96**	**119**	Pn	**Pn**	**06 55 33.8**	**+1.1**
TBJM	**Torbat-e-JAM**	**3.33**	**129**	Pn	**Pn**	**06 55 39.2**	**+1.4**
TNSJ	**Nastanj**	**3.46**	**188**	Pn	**Pn**	**06 55 39.7**	**+0.2**
IALA	**Alasht**	**3.74**	**251**	Pn	**Pn**	**06 55 45.5**	**+2.0**
TKDS	**Koohdasht(Taba**	**3.78**	**181**	Pn	**Pn**	**06 55 44.7**	**+0.8**
ILAS	**Lasjerd**	**3.95**	**241**	Pn	**Pn**	**06 55 47.8**	**+1.5**
IFIR	**Firoozkooh**	**3.96**	**245**	Pn	**Pn**	**06 55 48.8**	**+2.2**
IPRN	**Peran**	**4.04**	**255**	Pn	**Pn**	**06 55 49.8**	**+2.2**
AFRZ	**Afriz**	**4.25**	**159**	Pn	**Pn**	**06 55 51.8**	**+1.4**
TPRV	**Parvadeh(Tabas**	**4.38**	**185**	Pn	**Pn**	**06 55 52.6**	**+0.4**
ITEG	**Tejag**	**4.68**	**163**	Pn	**Pn**	**06 55 57.6**	**+1.2**
IVRN	**Varamin**	**5.01**	**243**	Pn	**Pn**	**06 56 02.3**	**+1.5**
ISFB	**Sefidab**	**5.03**	**234**	Pn	**Pn**	**06 56 01.8**	**+0.7**
ANAR	**Anarak**	**5.06**	**215**	Pn	**Pn**	**06 56 01.8**	**+0.3**
IDAH	**Dahanechah**	**5.15**	**154**	Pn	**Pn**	**06 56 03.0**	**0.0**
IKOO	**Kooshah**	**5.19**	**163**	Pn	**Pn**	**06 56 04.0**	**+0.5**
KRSH	**Karshahi**	**5.34**	**232**	Pn	**Pn**	**06 56 06.1**	**+0.8**
IZEF	**Zefreh**	**5.99**	**223**	Pn	**Pn**	**06 56 16.2**	**+1.8**
AB31	**Akbulak array**	**12.02**	**9**	⇑Pn	**Pn**	**06 57 34.8**	**-1.9**
	0.7nm,0.6s,baz=194,slow=14,SNR=5.9						
AB31				⇑Sn	**Sn**	**06 59 48.1**	**-2.7**
	1.4nm,0.6s,baz=193,slow=24,SNR=7.6						
KBZ	**Khabaz**	**12.55**	**305**	Pn	**Pn**	**06 57 42.6**	**-1.3**
	0.2nm,0.3s,baz=117,slow=9.0,SNR=1.9						
	0.7nm,0.4s						
AKTO	**Aktyubinsk**	**13.04**	**2**	Pn	**Pn**	**06 57 49.4**	**-1.4**
	0.1nm,0.3s,baz=180,slow=14,SNR=3.7						
AKTO				Sn	**Sn**	**07 00 11.9**	**-3.9**
	0.2nm,0.3s,baz=339,slow=21,SNR=1.7						
	1.2nm,0.5s						
AKTO	**Aktyubinsk**	**13.04**	**2**	⇑Pn	**Pn**	**06 57 49.0**	**-1.7**
	3.1nm,0.9s						
AKTO				⇑Sn	**Sn**	**07 00 10.7**	**-5.2**
	1.4nm,0.8s						
AAK	**Ala-Archa**	**14.27**	**63**	Pn	**Pn**	**06 58 06.9**	**-0.8**
	0.2nm,0.3s,baz=284,slow=9.2,SNR=3.6						
	1.0nm,0.4s						
BELG	**Belogornoye**	**16.42**	**339**	Pn	**Pn**	**06 58 35.7**	**-0.1**
	0.4nm,0.3s,baz=24,slow=20,SNR=1.5						
	1.3nm,0.5s						
BVAR	**Borovoye Array**	**18.14**	**26**	P	**Pn**	**06 58 58.4**	**+1.1**
	0.1nm,0.3s,baz=197,slow=13,SNR=12						
	2.9nm,0.7s						
KURBB	**Kurchatov Arra**	**20.17**	**42**	P	**P**	**06 59 22.9**	**+3.0**
	0.6nm,0.6s,baz=242,slow=11,SNR=5.5						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**20.80**	**55**	P	**P**	**06 59 29.1**	**+2.3**
	1.2nm,0.6s,baz=244,slow=9.5,SNR=14						
	1.2nm,0.6s						
AKASG	**Malin Array Be**	**23.91**	**313**	P	**P**	**06 59 58.4**	**-0.9**
	0.6nm,0.6s,baz=111,slow=9.7,SNR=3.1						
	0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**25.20**	**40**	P	**P**	**07 00 12.8**	**+1.8**
	0.7nm,0.4s,baz=254,slow=8.4,SNR=2.7						
ZALV				LR	LR	07 11 21.7	
	comp=Z,16nm,21.7s,baz=116,slow=39						
	0.7nm,0.4s						
HFS	**Hagfors**	**35.62**	**324**	P	**P**	**07 01 44.2**	**+1.1**
	0.5nm,0.3s,baz=102,slow=12,SNR=1.3						
	0.5nm,0.3s						

*NNC **22** 07:01:45.7±0.8,51°.94N×74°.30E,h0km,mb3.0,mpv2.6, Error ellipse: s-maj=65.3km s-min=5.0km az=24.0, Suspected Mining explosion.*
*IDC **22** 07:01:47.5±1.0,51°.94N×74°.25E,h0km,mbtmp2.5/3, ML1.9/3,Error ellipse: s-maj=35.9km s-min=8.5km az=26.0*
ISC 22 07:01:48.6±1.5,**51°.8N**±0°.2×**74°.4E**±0°.1,**h0**km,**n10,** σ0°.**66**/9, **4C-4D,Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BVA0	**Borovoye Array**	**2.73**	**298**	⇓Pg	**Pn**	**07 02 34.1**	**+0.4**
	3.7nm,0.8s,baz=321,slow=8.5,SNR=3.7						
BVA0				⇑Lg	Lg	07 03 08.2	
	5.4nm,0.6s,baz=113,slow=27,SNR=12						
BVAR	**Borovoye Array**	**2.73**	**298**	Pg	**Pn**	**07 02 34.1**	**+0.4**
	0.1nm,0.3s,baz=112,slow=14,SNR=10						
BVAR				Lg	Lg	07 03 08.8	
	0.3nm,0.3s,baz=115,slow=28,SNR=16						
BRVK	**Borovoye**	**2.80**	**298**	⇑Pg	**Pn**	**07 02 34.9**	**+0.3**
	3.8nm,0.9s						
BRVK				⇓Lg	Lg	07 03 10.5	
	8.5nm,0.7s						
KURBB	**Kurchatov Arra**	**2.87**	**113**	Pn	**Pn**	**07 02 35.3**	**-0.3**
	0.1nm,0.3s,baz=294,slow=14,SNR=4.1						
KURBB				Pg	**Pb**	**07 02 40.3**	**-0.3**
	baz=300,slow=17						
KURBB				Lg	Lg	07 03 18.6	
	0.2nm,0.3s,baz=293,slow=32,SNR=3.9						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**2.87**	**113**	⇑Pg	**Pb**	**07 02 39.9**	**-0.7**
	1.6nm,0.5s						
KURBB				⇓Lg	Lg	07 03 18.0	
	17nm,0.8s						
KURK	**Kurchatov**	**2.88**	**110**	⇑Pg	**Pb**	**07 02 40.7**	**-0.1**
	1.4nm,0.9s						
KURK				⇓Lg	Lg	07 03 18.8	
	4.0nm,0.6s						
I46RU	**ZALESOVO INFRA**	**6.68**	**67**	I	I	07 39 40.0	
	baz=255,slow=306,SNR=0.4						
ZALV	**Zalesovo Beam**	**6.68**	**67**	Pn	**Pn**	**07 03 27.7**	**-0.2**
	0.1nm,0.3s,baz=255,slow=16,SNR=2.4						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**7.20**	**131**	Pn	**Pn**	**07 03 36.3**	**+1.2**
	baz=318,slow=8.4,SNR=2.5						
MKAR				Lg	Lg	07 05 33.2	
	0.1nm,0.3s,baz=313,slow=26,SNR=7.2						
	0.2nm,0.7s						
AAK	**Ala-Archa**	**9.17**	**179**	Sn	Sn	07 05 34.7	-11
	0.2nm,0.3s,baz=343,slow=22,SNR=5.7						
AAK				Lg	Lg	07 06 37.2	
	0.1nm,0.3s,baz=189,slow=23,SNR=1.6						

*SNET **22** 07:03:19.4±0.8,14°.12N×89°.72W,h5km,ML2.9*
*CATAC **22** 07:03:19.6±0.4,14°.11N×89°.72W,h7km±1km,ML2.8*
ISC 22 07:03:19.6±1.1,**14°.11N**±0°.03×**89.72W**±0°.05,**h13**km±9km, **n31,** σ0°.**41**/50,**3C-3D,Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLOZ	**Alcaldia de Sa**	**0.10**	**214**	⇓*i*P	**Pg**	**07 03 22.4**	**-0.3**
SLOZ				*e*S	**Sg**	**07 03 24.5**	**-0.4**
LOAL	**Lomas de Alarc**	**0.13**	**206**	*i* P	**Pg**	**07 03 22.9**	**-0.1**
LOAL				*i* S	**Sg**	**07 03 25.2**	**-0.2**
LOAL				IAML		07 03 28.1	
	comp=Z,8μm,1.0s						
UNIC	**Universidad Ca**	**0.21**	**128**	*i* P	**Pg**	**07 03 24.4**	**+0.1**
UNIC				*i* S	**Sg**	**07 03 27.8**	**+0.2**
UNIC				IAML		07 03 28.5	
	comp=Z,2μm,1.0s						
NUBE	**Las Nubes**	**0.22**	**195**	⇓*i*P	**Pg**	**07 03 24.5**	**+0.1**
NUBE				*e*S	**Sg**	**07 03 27.7**	**0.0**
NUBE	**Las Nubes**	**0.22**	**195**	*i* P	**Pg**	**07 03 24.5**	**+0.1**
NUBE				IAML		07 03 24.7	
	comp=Z,2μm,1.0s						
NUBE				*i* S	**Sg**	**07 03 27.6**	**-0.1**
JUAM	**Asuncion Mita**	**0.22**	**4**	*i* P	**Pg**	**07 03 24.8**	**+0.3**
JUAM				IAML		07 03 25.0	
	comp=Z,1μm,1.0s						
JUAM				*i* S	**Sg**	**07 03 28.4**	**+0.6**
SNJE	**San Jose**	**0.27**	**155**	⇓*i*P	**Pg**	**07 03 25.6**	**+0.3**
CEVE	**Cerro Verde**	**0.30**	**161**	*e*P	**Pg**	**07 03 26.3**	**+0.4**
CEVE	**Cerro Verde**	**0.30**	**161**	*i* P	**Pg**	**07 03 26.4**	**+0.5**
CEVE				*i* S	**Sb**	**07 03 32.0**	**+0.1**
CEVE				IAML		07 03 37.5	
	comp=Z,1μm,1.0s						
CEDA	**San Andres**	**0.44**	**134**	⇑*e*P	**Pg**	**07 03 28.6**	**+0.2**
CEDA	**San Andres**	**0.44**	**134**	*i* P	**Pg**	**07 03 28.6**	**+0.2**
CEDA				*i* S	**Sg**	**07 03 35.0**	**+0.6**
CEDA				IAML		07 03 36.8	
	comp=Z,2μm,1.0s						
QUEZ	**Alcaldia de Qu**	**0.52**	**122**	*i* P	**Pb**	**07 03 30.2**	**-0.3**
QUEZ				IAML		07 03 30.7	
	comp=Z,6μm,1.0s						
QUEZ				*i* S	**Sb**	**07 03 38.1**	**+0.1**
JAYA	**Jayaque - finc**	**0.53**	**150**	*e*P	**Pg**	**07 03 30.4**	**+0.4**
JAYA	**Jayaque - finc**	**0.53**	**150**	*i* P	**Pg**	**07 03 30.0**	**0.0**
JAYA				IAML		07 03 39.2	
	comp=Z,740nm,1.0s						
PMON	**Piamonte**	**0.56**	**135**	*i* P	**Pb**	**07 03 31.1**	**-0.2**
PMON				*i* S	**Sb**	**07 03 39.8**	**+0.5**
PMON				IAML		07 03 41.3	
	comp=Z,1μm,1.0s						
ESQI	**Esquipulas**	**0.58**	**40**	*i* P	**Pb**	**07 03 31.4**	**-0.2**
ESQI				*i* S	**Sb**	**07 03 39.7**	**-0.1**
ESQI				IAML		07 03 40.0	
	comp=Z,360nm,1.0s						
UEES	**Universidad Ev**	**0.61**	**130**	*e*P	**Pg**	**07 03 31.7**	**+0.1**
UEES	**Universidad Ev**	**0.61**	**130**	*i* P	**Pg**	**07 03 31.7**	**+0.1**
UEES				*i* S	**Sb**	**07 03 41.2**	**+0.4**
UEES				IAML		07 03 43.0	
	comp=Z,410nm,1.0s						
ITCA	**Escuela Especi**	**0.61**	**135**	*i* P	**Pg**	**07 03 31.8**	**+0.2**
ITCA				*i* S	**Sb**	**07 03 40.6**	**-0.2**
ITCA				IAML		07 03 45.6	
	comp=Z,2μm,1.0s						
LLGN	**La Laguna**	**0.76**	**86**	*i* P	**Pg**	**07 03 34.2**	**-0.1**
LLGN				*i* S	**Sb**	**07 03 44.9**	**0.0**
LLGN				IAML		07 03 49.0	
	comp=Z,570nm,1.0s						
SJTE	**Alcalda de S**	**0.85**	**125**	*e*P	**Pg**	**07 03 35.9**	**-0.2**
SJTE	**Alcalda de S**	**0.85**	**125**	*i* P	**Pg**	**07 03 35.9**	**-0.2**
SJTE				*i* S	**Sg**	**07 03 47.4**	**0.0**
SJTE				IAML		07 03 51.6	
	comp=Z,120nm,1.0s						
PAVA	**Las Pavas**	**0.86**	**117**	*e*P	**Pg**	**07 03 36.1**	**-0.1**
PAVA	**Las Pavas**	**0.86**	**117**	*i* P	**Pg**	**07 03 36.2**	**-0.1**
PAVA				*i* S	**Sb**	**07 03 48.2**	**+0.3**
PAVA				IAML		07 03 51.5	
	comp=Z,440nm,1.0s						
COEG	**Centro de Oper**	**0.95**	**121**	⇑*e*P	**Pg**	**07 03 37.7**	**-0.3**
COEG	**Centro de Oper**	**0.95**	**121**	*i* P	**Pg**	**07 03 37.8**	**-0.3**
COEG				*i* S	**Sb**	**07 03 51.4**	**+0.8**
COEG				IAML		07 03 52.9	
	comp=Z,110nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.05**	**113**	⇑*e*P	**Pg**	**07 03 39.2**	**-0.6**
SCLA	**Alcaldia de Sa**	**1.05**	**113**	*i* P	**Pg**	**07 03 39.3**	**-0.6**
SCLA				IAML		07 03 44.6	
	comp=Z,45nm,1.0s						
SCLA				*i* S	**Sb**	**07 03 54.2**	**+0.9**
TECO	**Alcaldia de Te**	**1.08**	**122**	*e*P	**Pg**	**07 03 39.8**	**-0.7**
PQSS	**Presa 15 de Se**	**1.23**	**113**	*e*P	**Pg**	**07 03 42.2**	**-1.1**
PQSS	**Presa 15 de Se**	**1.23**	**113**	*i* P	**Pg**	**07 03 42.5**	**-0.8**
PQSS				*i* S	**Sb**	**07 03 59.0**	**+0.6**
PQSS				IAML		07 04 00.9	
	comp=Z,93nm,1.0s						

IDC 22 07:03:47.4±587.0,**4°.59S×91°.65E,h0km,Error ellipse: s-maj=255.4km s-min=173.3km az=168.0,South Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I06AU	**Cocos Islands**	**9.08**	**146**	I	I	07 58 30.0	
	baz=326,slow=315,SNR=2.8						
I52GB	**DIEGO GARCIA I**	**19.25**	**261**	I	I	08 58 10.0	
	baz=83,slow=322,SNR=2.5						
I07AU	**WARRAMUNGA IN**	**24.25**	**114**	I	I	11 56 30.7	
	baz=282,slow=325,SNR=1.1						

IDC 22 07:04:22.0±2.3,**54°.14N×86°.33E,h0km,mbtmp3.0**/3, **ML2.6**/3,**Error ellipse: s-maj=17.9km s-min=10.6km az=66.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.91**	**259**	I	I	07 11 53.2	
	baz=75,slow=328,SNR=4.8						
ZALV	**Zalesovo Beam**	**0.91**	**259**	Pg	Pg	07 04 38.0	-1.4
	3.9nm,0.3s,baz=74,slow=17,SNR=48						
ZALV				Lg	Lg	07 04 52.8	
	10nm,0.3s,baz=79,slow=30,SNR=28						
KURBB	**Kurchatov Arra**	**5.93**	**237**	Pn	Pn	07 05 52.3	+1.3
	0.1nm,0.3s,baz=54,slow=14,SNR=5.2						
KURBB				Sn	Sn	07 06 58.2	-1.4
	baz=345,slow=29						
KURBB				Lg	Lg	07 07 30.7	
	baz=354,slow=26,SNR=2.1						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**7.79**	**201**	Pn	Pn	07 06 17.4	+0.9
	0.2nm,0.3s,baz=24,slow=14,SNR=8.7						
MKAR				Sn	Sn	07 07 44.3	-1.1
	0.1nm,0.3s,baz=3.9,slow=36,SNR=2.6						
MKAR				Lg	Lg	07 08 29.8	
	baz=24,slow=28						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**9.55**	**270**	Pn	Pn	07 06 40.3	-0.3
	baz=65,slow=16,SNR=2.9						
	0.5nm,0.5s						

*IDC **22** 07:11:14.0±1.7,57°.44S×26°.91W,h0km,mb4.2/3, mbtmp4.2/3,Error ellipse: s-maj=64.5km s-min=40.3km az=176.0*
ISC 22 07:11:14.8±1.8,**57°.6S**±0°.5×**26°.8W**±0°.3,**h10**km,**n7,** σ0°.**43**/7, **mb4.1**/3,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**51.44**	**306**	P	**P**	**07 20 20.9**	**+0.2**
	1.0nm,0.5s,baz=161,slow=11,SNR=9.6						
	1.0nm,0.5s						
DBIC	**Dimbokro**	**66.51**	**24**	P	**P**	**07 22 04.2**	**-0.2**
	5.3nm,1.2s,baz=187,slow=8.1,SNR=1.3						
	5.3nm,1.2s						
TORD	**Torodi Ar. Bea**	**74.32**	**29**	P	**P**	**07 22 52.5**	**+0.3**
	0.8nm,0.4s,baz=199,slow=6.1,SNR=15						
	0.8nm,0.4s						
ARCES	**ARCESS Array B**	**132.31**	**22**	PKP	**PKiKP**	**07 30 28.1**	**-

comp=Z,708nm,19.8s,baz=122,slow=31
comp=Z,5.1nm,0.5s

FORT	**Forrest**	**18.53**	**18**	P	**P**	**07 19 45.0**	**-1.2**
FORT				IAmb	IAmb	07 19 59.7	

comp=Z,19nm,0.8s

CASY	**Casey**	**18.58**	**194**	P	**P**	**07 19 46.3**	**-0.1**
BBOO	**Buckleboo**	**19.23**	**40**	P	**P**	**07 19 53.3**	**-0.5**
BBOO				IAmb	IAmb	07 20 02.2	

comp=Z,26nm,1.2s

MORW	**Morawa**	**20.00**	**346**	P	**P**	**07 20 02.2**	**0.0**
MORW				IAmb	IAmb	07 20 21.1	

comp=Z,52nm,1.5s

TOO	**Toolangi**	**20.63**	**66**	P	Pn	07 20 10.2	-1.2
TOO				IAmb	IAmb	07 20 11.8	

comp=Z,24nm,1.0s

STKA	**Stephens Creek**	**22.60**	**50**	P	**P**	**07 20 30.1**	**-0.2**
STKA	**Stephens Creek**	**22.60**	**50**	P	**P**	**07 20 29.4**	**-0.9**

comp=Z,9.4nm,1.0s,baz=204,slow=12,SNR=7.5

STKA				LR	LR	07 28 18.6		

comp=Z,201nm,18.1s,baz=198,slow=34
comp=Z,9.4nm,1.0s

ASAR	**Alice Springs**	**26.80**	**26**	P	**P**	**07 21 09.3**	**-0.5**
ASAR	**Alice Springs**	**26.80**	**26**	P	**P**	**07 21 10.1**	**+0.2**

comp=Z,5.4nm,1.0s,baz=194,slow=9.2,SNR=22

ASAR				PcP	**PcP**	**07 24 32.4**	**-0.2**	

comp=Z,1.0nm,0.8s,baz=193,slow=2.1,SNR=7.5

ASAR				LR	LR	07 30 31.6		

comp=Z,472nm,21.0s,baz=195,slow=34
comp=Z,5.4nm,1.0s

AS31	**Alice Springs**	**26.80**	**26**	P	**P**	**07 21 09.9**	**0.0**
PSA00	**Pilbara Seismi**	**27.05**	**357**	P	**P**	**07 21 11.7**	**-0.3**
PSA00				IAmb	IAmb	07 21 32.7	

comp=Z,23nm,1.2s

ARMA	**Armidale**	**29.24**	**63**	P	**P**	**07 21 32.6**	**+0.9**
ARMA				IAmb	IAmb	07 21 34.0	

comp=Z,22nm,1.1s

WRA	**Warramunga Arr**	**30.45**	**24**	P	**P**	**07 21 42.9**	**+0.6**
WRA	**Warramunga Arr**	**30.45**	**24**	P	**P**	**07 21 42.4**	**0.0**

comp=Z,5.1nm,1.0s,baz=198,slow=9.0,SNR=7.1

WRA				PcP	**PcP**	**07 24 40.9**	**-0.8**	

comp=Z,2.0nm,1.0s,baz=226,slow=2.4,SNR=5.5
comp=Z,5.1nm,1.0s

VNDA	**Vanda**	**32.81**	**165**	P	**P**	**07 22 02.6**	**+0.1**
VNDA				IAmb	IAmb	07 22 03.4	

comp=Z,8.3nm,1.1s

VNDA	**Vanda**	**32.81**	**165**	P	**P**	**07 22 02.2**	**-0.3**

comp=Z,4.2nm,0.9s,baz=302,slow=9.2,SNR=12
comp=Z,4.2nm,0.9s

MAW	**Mawson**	**34.55**	**215**	P	**P**	**07 22 18.1**	**+0.4**
MAW	**Mawson**	**34.55**	**215**	P	**P**	**07 22 18.0**	**+0.2**

comp=Z,13nm,0.9s,baz=69,slow=9.6,SNR=8.3

MAW				LR	LR	07 33 21.2		

comp=Z,134nm,20.6s,baz=110,slow=31
comp=Z,13nm,0.9s

BSWZ	**Blackbirch Sta**	**36.94**	**99**	P	**P**	**07 22 39.3**	**+0.7**
COEN	**Coen**	**38.95**	**35**	P	**P**	**07 22 56.0**	**+0.3**
COEN				IAmb	IAmb	07 23 21.4	

comp=Z,25nm,1.4s

QSPA	**South Pole Qui**	**41.48**	**180**	P	**P**	**07 23 16.3**	**-0.2**
QSPA				IAmb	IAmb	07 23 18.0	

comp=Z,24nm,1.1s

QSPA	**South Pole Qui**	**41.48**	**180**	P	**P**	**07 23 16.8**	**+0.4**

comp=Z,12nm,1.0s,baz=314,slow=1.5,SNR=33
comp=Z,12nm,1.0s

BELA	**Belgrano 2**	**52.89**	**186**	P	**P**	**07 24 44.3**	**-0.7**
BELA				IAmb	IAmb	07 25 26.5		

comp=Z,18nm,1.4s

SNAA	**Sanae**	**53.73**	**199**	P	**P**	**07 24 51.8**	**+0.5**

comp=Z,31nm,1.1s,baz=188,slow=10,SNR=4.9
comp=Z,31nm,1.1s

H08S2	**Diego Garcia H**	**57.99**	**298**	T	T	08 27 58.4		

baz=144,slow=76,SNR=18

H08S1	**Diego Carcia H**	**58.00**	**298**	T	T	08 27 59.5		

baz=144,slow=76,SNR=15

H08S3	**Diego Garcia H**	**58.01**	**298**	T	T	08 28 00.2		

baz=144,slow=76,SNR=17

CMAR	**Chiang Mai Arr**	**69.77**	**337**	P	**P**	**07 26 40.9**	**+1.0**

comp=Z,2.2nm,0.4s,baz=185,slow=5.5,SNR=14
comp=Z,2.2nm,0.4s

SUR	**Sutherland**	**72.85**	**240**	P	**P**	**07 26 59.2**	**+0.4**
BOSA	**Boshof**	**72.95**	**246**	P	**P**	**07 26 58.7**	**-0.7**
BOSA	**Boshof**	**72.95**	**246**	P	**P**	**07 26 59.4**	**0.0**

comp=Z,2.0nm,0.7s,baz=161,slow=12,SNR=2.1
comp=Z,2.0nm,0.7s

PLCA	**Paso Flores**	**90.36**	**171**	P	**P**	**07 28 31.8**	**+0.8**
PLCA	**Paso Flores**	**90.36**	**171**	P	**P**	**07 28 31.1**	**+0.2**

comp=Z,3.9nm,0.9s,baz=198,slow=6.3,SNR=4.5
comp=Z,3.9nm,0.9s

NIL	**Nilore**	**92.55**	**321**	P	**P**	**07 28 40.4**	**-0.4**
SONM	**Songino Array**	**96.99**	**350**	P	**P**	**07 29 01.2**	**+0.3**

comp=Z,1.1nm,0.9s,baz=188,slow=3.0,SNR=6.7
comp=Z,1.1nm,0.9s

MKAR	**Makanchi Array**	**101.00**	**334**	P	**Pdif**	**07 29 18.7**	**-0.1**

comp=Z,0.5nm,1.0s,baz=101,slow=1.2,SNR=3.6

TORD	**Torodi Ar. Bea**	**119.36**	**256**	PKP	**PKPdf**	**07 34 18.9**	**-0.4**

comp=Z,2.0nm,1.0s,baz=84,slow=0.4,SNR=6.7

TIXI	**Tiksi**	**120.11**	**3**	PKP	**PKPdf**	**07 34 18.9**	**-0.1**

comp=Z,3.1nm,0.6s,baz=99,slow=2.6,SNR=7.9

ILAR	**Eielson Array**	**133.18**	**36**	PKP	**PKPdf**	**07 34 43.5**	**-0.6**

comp=Z,0.7nm,0.7s,baz=274,slow=3.1,SNR=10

TXAR	**Lajitas Array**	**140.63**	**103**	PKP	**PKPdf**	**07 34 58.1**	**-1.1**

comp=Z,1.1nm,1.0s,baz=197,slow=3.9,SNR=6.6

PDAR	**Pinedale Array**	**144.42**	**80**	PKP	PKPbc	07 35 04.1	-0.2	

comp=Z,2.2nm,1.0s,baz=211,slow=1.7,SNR=13

BRDY	**Brady**	**144.93**	**105**	PKPbc	**PKPab**	**07 35 05.5**	**-0.4**
T25A	**Trinidad**	**144.95**	**92**	PKPbc	**PKPab**	**07 35 05.5**	**-0.6**
HILA	**High Level**	**144.97**	**51**		PKPbc	07 35 05.1	-0.1
DKNS	**Dickens**	**145.21**	**100**	PKPbc	**PKPbc**	**07 35 06.2**	**-0.7**
RWWY	**Rawlins**	**145.45**	**83**	PKPdf	**PKPab**	**07 35 07.7**	**-0.1**
435B	**Jarrell**	**145.50**	**107**	PKPdf	**PKPdf**	**07 35 07.5**	**-0.2**
ISCO	**Idaho Springs**	**145.58**	**87**		**PKPab**	**07 35 08.3**	**-0.1**
RLMT	**Red Lodge**	**145.64**	**76**		**PKPab**	**07 35 08.5**	**+0.1**
EDM	**Edmonton**	**145.85**	**61**		**PKPab**	**07 35 08.6**	**-0.1**
EKA	**Eskdalemuir Ar**	**146.07**	**303**	PKPbc	**PKPdf**	**07 35 08.3**	**+0.5**

comp=Z,2.5nm,0.6s,baz=123,slow=4.3,SNR=7.7

YKA	**Yellowknife Ar**	**146.57**	**44**	PKPbc	**PKPdf**	**07 35 08.4**	**-0.1**

comp=Z,9.0nm,1.0s,baz=278,slow=2.9,SNR=69

IDC ***22*** *07:17:03.2±3.1,53.°33N×90.°09E, h0km, mbtmp3.1/3, ML2.6/3, Error ellipse: s-maj=27.0km s-min=21.0km az=62.0*

NNC 22 07:16:57.9±3.5, 53.°58N×90.°52E, h0km, mb3.5, mpv3.2, 4C-5D, Error ellipse: s-maj=30.9km s-min=22.6km az=27.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.40**	**279**	I		I	07 36 43.8	

baz=103,slow=340,SNR=2.3

ZAA0	**Zalesovo Array**	**3.40**	**279**	⇓Pg		Pb	07 17 59.1	+0.1

0.8nm,0.8s

ZAA0				⇑Lg		Lg	07 18 49.6	

6.1nm,0.8s

ZALV	**Zalesovo Beam**	**3.40**	**279**	Pn		Pb	07 17 55.6	-3.4

0.9nm,0.3s,baz=100,slow=13,SNR=10

ZALV				Lg		Lg	07 18 44.1	

0.8nm,0.3s,baz=100,slow=22,SNR=5.2
2.1nm,0.3s

KURK	**Kurchatov**	**7.86**	**253**	⇑Pn		Pn	07 18 53.5	+0.2

2.4nm,0.7s

KURK				⇑Sn		Sn	07 20 23.6	+0.7

6.2nm,0.7s

KURK				⇓Lg		Lg	07 21 09.4	

10nm,0.9s

KURBB	**Kurchatov Arra**	**7.95**	**253**	Pn		Pn	07 18 55.3	+0.6

0.1nm,0.3s,baz=65,slow=15,SNR=16

KURBB				Sn		Sn	07 20 21.7	-3.5

baz=94,slow=38,SNR=1.1

KURBB				Lg		Lg	07 21 06.4	

baz=50,slow=34,SNR=1.5
1.6nm,0.5s

KURBB	**Kurchatov Arra**	**7.95**	**253**	⇑Pn		Pn	07 18 54.7	0.0

3.9nm,0.7s

KURBB				⇓Sn		Sn	07 20 24.9	-0.3

11nm,0.7s

KURBB				⇓Lg		Lg	07 21 09.9	

17nm,0.8s

MK31	**Makanchi Array**	**8.60**	**221**	Pn		Pn	07 19 05.0	+1.4

0.2nm,0.3s,baz=34,slow=13,SNR=11

MK31				⇓Lg		Lg	07 21 32.0	

5.5nm,0.9s,baz=47,slow=29,SNR=3.6

MKAR	**Makanchi Array**	**8.60**	**221**	Pn		Pn	07 19 04.8	+1.2

0.2nm,0.3s,baz=37,slow=13,SNR=10.0

MKAR				Sn		Sn	07 20 37.8	-3.3

baz=28,slow=19,SNR=1.8

MKAR				Lg		Lg	07 21 25.4	

0.1nm,0.3s,baz=40,slow=25,SNR=1.4
0.5nm,0.5s

BJI ***22*** *07:26:21.8±0.0,29.°48S×176.°78W, h8km, mb5.3/42, mB5.9/25, Ms5.1/33, Ms7 4.9/37*
NEIC ***22*** *07:26:26.4,30.°17S×177.°72W, h40km*
NEIC ***22*** *07:26:26.7±1.2,30.°17S±0.°06×177.°7W±0.°1, h22km±3km, mb5.4/131, Ms_20 5.1/117, Mww5.5/20, Error ellipse: s-maj=16.4km s-min=8.8km az=94.0*
NEIC ***22*** *07:26:26.4,30.°07S×177.°26W, h40km, Moment Tensor Solution. Duration: 28s8 Moment tensor: Scale 1017Nm; Mrr1.78; Mθθ 0.17; Mϕϕ -1.96; Mrθ 0.28; Mϕθ -0.46; Mrϕ 0.83; Fault plane solution: Mw 2.11000×10^17 NP1:ϕs 15.14000°, δ57.29000°, λ94.04000°. NP2:ϕs 187.69000°, δ32.93000°, λ83.73000°. Principal axes: T 1.9755, Plg77.0000°, Azm298.0000°; N 0.2627, Plg3.0000°, Azm193.0000°; P -2.2382, Plg12.0000°, Azm102.0000°;*
MOS ***22*** *07:26:27.2±1.0,30.°17S×177.°80W, h36km, mb5.7/32, MS5.1/13 Error ellipse: s-maj=11.6km s-min=8.3km az=97.4*
NOU ***22*** *07:26:27.3,30.°62S×177.°11W, h47km, mb5.6/102, Kermadec Islands, New Zealand*
IDC ***22*** *07:26:28.6±1.6,30.°07S×177.°78W, h40km±13km, mb4.8/17, mbtmp4.9/17, MS4.8/49, Error ellipse: s-maj=13.7km s-min=12.2km az=72.0*
GCMT ***22*** *07:26:30.7±0.1,30.°10S±0.°01×177.°46W±0.°01, h39km, MW5.5/140, Moment Tensor Solution. s135,c248; s140,c257; Duration: 1s4 Moment tensor: Scale 1017 Nm; Mrr1.84±.03; Mθθ -0.09±.02; Mϕϕ -1.75±.02; Mrθ 0.21±.02; Mrϕ -0.38±.01; Mθϕ 1.08±.02; Best double couple: Mw 2.14100×1017 NP1:ϕs 12.00000°, δ60.00000°, λ89.00000°. NP2:ϕs 193.00000°, δ30.00000°, λ91.00000°. Principal axes: T 2.1440, Plg75.0000°, Azm280.0000°; N -0.0050, Plg1.0000°, Azm12.0000°; P -2.1380, Plg15.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 07:26:26.1±0.5, 30.°25S±0.°04×177.°64W±0.°05, h24km±3km, h24km:pP-P, n1161, σ171/1053, mb5.4/135, MS5.1/135, 54C-20D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GLKZ	**Green Lake**	**1.01**	**346**	P		**Pn**	**07 26 42.9**	**-2.0**
GLKZ				S		**Sb**	**07 26 54.4**	**-3.5**
RAO	**Raoul Island**	**1.02**	**346**			**Pn**	**07 26 43.5**	**-1.5**
RAO	**Raoul Island**	**1.02**	**346**	Pn		**Pn**	**07 26 43.4**	**-1.6**

7μm,0.3s,baz=201,slow=3.1,SNR=144

RAO				Sn		**Sb**	**07 26 54.6**	**-3.6**

31μm,0.3s,baz=88,slow=23,SNR=20

RIZ	**Raoul Island**	**1.03**	**346**	P		**Pn**	**07 26 43.2**	**-1.9**
RIZ				S		**Sb**	**07 26 55.3**	**-3.1**
MXZ	**Matakaoa Point**	**8.03**	**204**	Pn		**Pn**	**07 28 20.7**	**-0.6**
PUZ	**Puketiti**	**8.51**	**202**	P		**Pn**	**07 28 25.0**	**-2.9**
PUZ				S		**Sn**	**07 30 01.8**	**-1.4**
TWGZ	**Tauwhareparae**	**8.70**	**203**	P		**Pn**	**07 28 28.9**	**-1.6**
TWGZ				S		**Sn**	**07 30 05.7**	**-2.1**
WCZ	**Waipu Caves**	**8.79**	**228**	P		Pn	07 28 40.1	+8.4
OUZ	**Omahuta**	**8.89**	**234**	P		Pn	07 28 40.7	+7.7
CNGZ	**Carnagh Statio**	**8.90**	**202**	P		**Pn**	**07 28 31.1**	**-2.1**
CNGZ				S		**Sn**	**07 30 15.7**	**+3.0**
MWZ	**Matawai**	**9.00**	**205**	P		**Pn**	**07 28 32.1**	**-2.5**
MWZ				S		**Sn**	**07 30 14.1**	**-1.1**
TGRZ	**Tauranga**	**9.01**	**213**	P		**Pn**	**07 28 37.3**	**+2.5**
URZ	**Urewera**	**9.09**	**207**	P		**Pn**	**07 28 33.8**	**-2.0**
URZ	**Urewera**	**9.09**	**207**	Pn		**Pn**	**07 28 33.1**	**-2.8**

2.6nm,0.3s,baz=0.9,slow=3.6,SNR=37

URZ				Sn		**Sn**	**07 30 17.1**	**-0.3**

47nm,0.3s,baz=334,slow=21,SNR=8.9

TOZ	**Tahuroa Road**	**9.38**	**215**	Pn		**Pn**	**07 28 41.1**	**+1.3**
RTZ	**Ruatahuna**	**9.45**	**207**	Pn		**Pn**	**07 28 38.8**	**-2.0**
TLZ	**Tolley Road**	**9.83**	**213**	P		**Pn**	**07 28 49.2**	**+3.1**
BKZ	**Black Stump Fm**	**10.12**	**207**	Pn		**Pn**	**07 28 49.0**	**-1.0**
RITZ	**Rihia Road**	**10.22**	**210**	P		Pn	07 28 43.5	-7.8
RITZ				S		**Sn**	**07 30 47.8**	**+2.7**
HIZ	**Hauiti**	**10.31**	**215**	P		**Pn**	**07 28 52.7**	**+0.2**
HIZ	**Hauiti**	**10.31**	**215**			**Pn**	**07 28 53.0**	**+0.4**
COVZ	**Chateau Observ**	**10.54**	**210**	P		**Pn**	**07 28 57.1**	**+1.3**
MAVZ	**Matarangi**	**10.59**	**210**	P		**Pn**	**07 28 55.3**	**-1.3**
MAVZ				S		**Sn**	**07 30 49.3**	**-5.3**
WHVZ	**Whangaehu Hut**	**10.59**	**210**	P		**Pn**	**07 29 00.2**	**+3.6**
WHVZ				S		**Sn**	**07 30 54.1**	**-0.4**
TRVZ	**Turoa**	**10.62**	**210**	P		**Pn**	**07 28 56.5**	**-0.5**
TRVZ				S		**Sn**	**07 30 53.9**	**-1.4**
PKVZ	**Pokaka**	**10.70**	**211**	P		**Pn**	**07 28 56.5**	**-1.4**
VRZ	**Vera Road**	**10.84**	**213**	P		**Pn**	**07 29 04.1**	**+4.3**
DVHZ	**Dannevirke**	**11.23**	**205**	P		Pn	07 29 00.6	-4.6
DVHZ				S		**Sn**	**07 31 03.8**	**-6.0**
ANWZ	**Angora Road**	**11.26**	**204**	P		**Pn**	**07 29 01.3**	**-4.2**
ANWZ				S		**Sn**	**07 31 04.9**	**-5.7**
POWZ	**Post Office Ro**	**11.46**	**206**	P		**Pn**	**07 29 06.0**	**-2.3**
POWZ				S		**Sn**	**07 31 09.8**	**-5.6**
PRWZ	**Pori Road**	**11.52**	**205**	P		**Pn**	**07 29 05.1**	**-4.1**
PRWZ				S		**Sn**	**07 31 11.9**	**-5.2**
BFZ	**Birch Farm**	**11.54**	**204**	P		Pn	07 29 04.5	-4.8
BFZ				S		**Sn**	**07 31 10.1**	**-7.2**
MRZ	**Mangatainoka R**	**11.76**	**206**	P		Pn	07 29 07.1	-5.3
MRZ				S		**Sn**	**07 31 14.5**	**-8.4**
KIW	**Kapiti Island**	**12.20**	**208**	P		Pn	07 29 09.9	-8.4
KIW				S		**Sn**	**07 31 25.4**	**-8.1**
CAW	**Cannon Point**	**12.34**	**207**	P		Pn	07 29 14.6	-5.8
PLWZ	**Palliser**	**12.67**	**205**	Pn		**Pn**	**07 29 23.2**	**-1.6**
TCW	**Tory Channel**	**12.75**	**209**	P		Pn	07 29 20.5	-5.3
MSVF	**Nonsavu**	**13.06**	**342**	Pn		**Pn**	**07 29 29.3**	**-1.1**
MSVF	**Nonsavu**	**13.06**	**342**	*i* P		**Pn**	**07 29 29.5**	**-0.9**
TUWZ	**Tuamarina**	**13.07**	**209**			**Pn**	**07 29 28.3**	**-1.9**
TUWZ	**Tuamarina**	**13.07**	**209**	P		Pn	07 29 25.3	-4.9
NNZ	**Nelson**	**13.14**	**211**	P		**Pn**	**07 29 28.5**	**-2.7**
NIUE	**Niue**	**13.14**	**34**	P		Pn	07 29 26.8	-4.6

baz=13,SNR=4.6

TKNZ	**Takaka Hill**	**13.19**	**213**			**Pn**	**07 29 30.8**	**-1.1**
TKNZ	**Takaka Hill**	**13.19**	**213**	P		**Pn**	**07 29 29.5**	**-2.4**
QRZ	**Quartz Range**	**13.23**	**214**	P		**Pn**	**07 29 31.7**	**-0.8**
QRZ	**Quartz Range**	**13.23**	**214**	P		**Pn**	**07 29 32.1**	**-0.4**
BSWZ	**Blackbirch Sta**	**13.33**	**209**			**Pn**	**07 29 32.9**	**-1.0**
CTZ	**Chatham Island**	**13.49**	**177**	P		Pn	07 29 29.8	-6.1
CTZ	**Chatham Island**	**13.49**	**177**	Pn		**Pn**	**07 29 34.4**	**-1.5**
MRNZ	**Matariki Terra**	**13.57**	**212**			**Pn**	**07 29 37.3**	**+0.2**
TAVE	**Taveuni**	**13.64**	**351**	P		**P**	**07 29 46.1**	**-0.7**
THZ	**Tophouse**	**13.79**	**211**			**Pn**	**07 29 39.9**	**-0.3**
KHZ	**Kahutara**	**14.06**	**208**	P		**Pn**	**07 29 41.6**	**-2.1**
KHZ	**Kahutara**	**14.06**	**208**	P		Pn	07 29 38.3	-5.4
DGTI	**Dogotuki**	**14.09**	**350**	P		**P**	**07 29 49.8**	**-2.1**
YSA	**Yasawairara**	**14.18**	**341**	P		**P**	**07 29 53.0**	**+0.2**
DSZ	**Dennisten Nort**	**14.29**	**214**	P		**Pn**	**07 29 45.3**	**-1.7**
GVZ	**Greta Valley S**	**14.72**	**208**	P		Pn	07 29 46.2	-6.6
LTZ	**Lake Taylor**	**14.89**	**210**	P		Pn	07 29 47.9	-7.3
INZ	**Inchbonnie**	**15.21**	**212**	P		**Pn**	**07 29 55.6**	**-3.8**
PINNC	**Pines Island,**	**15.36**	**296**	P		**P**	**07 30 09.4**	**+3.5**
MARNC	**Mare, Loyalty**	**15.56**	**301**	P		**P**	**07 30 11.4**	**+3.2**
WVZ	**Waitaha Valley**	**15.81**	**213**	P		**Pn**	**07 30 04.7**	**-2.5**
OUENC	**Ouen Island, N**	**15.94**	**296**	P		**P**	**07 30 17.1**	**+4.8**
RPZ	**Rata Peaks**	**16.17**	**211**	P		**Pn**	**07 30 09.3**	**-2.5**
RPZ	**Rata Peaks**	**16.17**	**211**	Pn		**Pn**	**07 30 07.2**	**-4.6**

0.9nm,0.3s,baz=330,slow=20,SNR=1.7

RPZ				Sn		Sn	07 32 55.9	-15

3.0nm,0.3s,baz=165,slow=18,SNR=2.3

RPZ	**Rata Peaks**	**16.17**	**211**	P		**Pn**	**07 30 08.7**	**-3.1**
GCSZ	**Gaunt Creek Bo**	**16.19**	**213**	P		Pn	07 30 03.1	-9.0
ONTNC	**Ouen Toro**	**16.30**	**295**	P		**P**	**07 30 19.9**	**+3.6**
ARCZ	**Arundel**	**16.30**	**210**	P		**Pn**	**07 30 07.8**	**-5.7**
DZM	**Mont Dzumac**	**16.43**	**296**	P		**P**	**07 30 22.9**	**+4.9**
DZM	**Mont Dzumac**	**16.43**	**296**	Pn		**P**	**07 30 20.9**	**+2.9**

1.9nm,0.3s,baz=125,slow=19,SNR=17

DZM				LR		LR	07 35 23.7	

comp=Z,9μm,18.8s,baz=139,slow=33

NOUC	**Port Laguerre**	**16.53**	**296**	P		**P**	**07 30 23.9**	**+5.0**
LIFNC	**LIFOU**	**16.57**	**301**	P		**P**	**07 30 24.5**	**+5.1**
FOZ	**Fox Glacier**	**16.60**	**214**	P		**Pn**	**07 30 14.6**	**-2.6**
TMZ	**Timaru**	**16.73**	**209**	P		**Pn**	**07 30 12.8**	**-6.0**
AFI	**Afiamalu**	**17.14**	**20**	P		**Pn**	**07 30 24.0**	**-0.2**
ODZ	**Otahua Downs**	**17.41**	**209**	P		**Pn**	**07 30 24.1**	**-3.3**
JCZ	**Jackson Bay**	**17.50**	**214**	P		**Pn**	**07 30 29.1**	**+0.5**
WKZ	**Wanaka**	**17.95**	**212**	P		**Pn**	**07 30 32.9**	**-1.2**
EAZ	**Earnscleugh**	**18.13**	**211**	P		**Pn**	**07 30 34.2**	**-2.1**
RAR	**Rarotonga**	**18.42**	**65**	P		**P**	**07 30 38.4**	**-1.4**

30nm,0.7s,baz=261,slow=10,SNR=7.0

RAR				S		Sn	07 33 46.5	-19

31nm,0.9s,baz=72,slow=20,SNR=2.4

RAR				LR		LR	07 36 00.4	

comp=Z,3μm,20.8s,baz=248,slow=31

KOUNC	**Koumac, New Ca**	**18.95**	**296**	P		**Pn**	**07 30 50.8**	**+4.5**
GC1S	**Gold Coast 1 S**	**25.24**	**267**	P		**P**	**07 31 54.2**	**+3.9**
AUWSH	**Wavell State H**	**25.81**	**269**	P		**P**	**07 31 59.0**	**+3.4**
ARMA	**Armidale**	**26.49**	**262**	P		**P**	**07 32 04.3**	**+2.5**

baz=27,SNR=24

ARMA	**Armidale**	**26.49**	**262**	P		**P**	**07 32 05.7**	**+3.9**
ARMA	**Armidale**	**26.49**	**262**	P		**P**	**07 32 01.8**	**-0.1**
ARMA				IAmb		IAmb	07 32 06.9	

comp=Z,251nm,1.6s

MGCD	**Mangrove Creek**	**26.69**	**256**	P		**P**	**07 32 07.4**	**+3.9**

baz=27,SNR=19

MGCD	**Mangrove Creek**	**26.69**	**256**	P		**P**	**07 32 07.5**	**+4.0**
WOLH	**Wollongong Har**	**26.87**	**253**	P		**P**	**07 32 08.4**	**+3.4**
SYDH	**Sydney Hard Ro**	**26.98**	**254**	P		**P**	**07 32 09.6**	**+3.5**
AUPHS	**Peel High Scho**	**27.04**	**260**	P		**P**	**07 32 09.8**	**+3.2**
EIDS	**Eidsvold**	**28.04**	**272**	P		**P**	**07 32 17.4**	**+1.8**

baz=28,SNR=20

EIDS	**Eidsvold**	**28.04**	**272**	P		**P**	**07 32 17.1**	**+1.4**
EIDS	**Eidsvold**	**28.04**	**272**	P		**P**	**07 32 15.3**	**-0.3**
EIDS				IAmb		IAmb	07 32 19.5	

comp=Z,69nm,0.9s

CNB	**Canberra Magne**	**28.12**	**251**	P		**P**	**07

JAY Jayapura 48.10 297 P **P** 07 35 03.9 -0.5
comp=Z,34nm,0.9s
SBA Scott Base 48.21 184 P **P** 07 35 03.8 -0.5
SBA Scott Base 48.21 184 P **P** 07 35 03.8 -0.5
SBA pmax pmax
comp=Z,337nm,1.9s
VNDA Vanda 48.28 186 P **P** 07 35 06.1 +1.3
VNDA Vanda 48.28 186 P **P** 07 35 06.1 +1.3
VNDA pmax pmax
comp=Z,18nm,1.1s
VNDA Vanda 48.28 186 P **P** 07 35 06.6 +1.8
comp=Z,3.3nm,0.7s,baz=6.2,slow=7.4,SNR=22
VNDA LR LR 07 52 30.3
comp=Z,385nm,20.2s,baz=29,slow=32
comp=Z,3.3nm,0.7s
KDU Kakadu 49.20 280 P **P** 07 35 12.0 -0.7
baz=49,SNR=16
KDU Kakadu 49.20 280 P **P** 07 35 12.2 -0.5
MTN Manton Dam 50.27 279 P **P** 07 35 20.8 -0.1
MTN Manton Dam 50.27 279 P **P** 07 35 20.7 -0.1
MTN IAmb IAmb 07 35 21.7
comp=Z,55nm,1.1s
DRS Darwin Rock St 50.66 279 P **P** 07 35 23.4 -0.5
KMBL Kambalda 51.36 252 P **P** 07 35 29.4 +0.4
baz=52,SNR=6.6
FITZ Fitzroy Crossi 52.67 270 P **P** 07 35 38.4 -0.4
baz=53,SNR=40
FAKI Fak Fak 54.58 290 P **P** 07 35 49.7 -3.2
comp=Z,57nm,1.8s
KLBR Kellerberrin 54.69 251 P **P** 07 35 52.5 -1.0
baz=55,SNR=10
KLBR Kellerberrin 54.69 251 P **P** 07 35 52.4 -1.1
NWAO Narrogin (SRO) 54.74 249 P **P** 07 35 53.8 0.0
baz=55,SNR=5.6
NWAO P **P** 07 35 53.8 0.0
baz=55,SNR=5.6
NWAO Narrogin (SRO) 54.74 249 LR LR 07 56 60.0
comp=Z,1µm,20.6s,baz=66,slow=34
NWAO Narrogin (SRO) 54.74 249 P **P** 07 35 54.7 +0.9
NWAO P **P** 07 35 54.7 +0.9
CASY Casey 55.42 208 P **P** 07 35 57.6 -0.6
MEEK Meekatharra 55.52 257 P **P** 07 35 58.2 -1.4
baz=56,SNR=19
MEEK Meekatharra 55.52 257 P **P** 07 35 58.9 -0.7
BLDU Ballidu 55.84 252 P **P** 07 36 00.6 -1.2
baz=56,SNR=9.7
MUN Mundaring 55.84 250 P **P** 07 36 01.4 -0.4
baz=56,SNR=3.2
PSA00 Pilbara Seismi 56.29 263 P **P** 07 36 04.7 -0.5
PSA00 Pilbara Seismi 56.29 263 P **P** 07 36 04.2 -1.0
PSA00 IAmb IAmb 07 36 05.2
comp=Z,107nm,1.7s
PSA00 Pilbara Seismi 56.29 263 P **P** 07 36 04.2 -1.0
PSA00 IAmb IAmb 07 36 06.2
comp=Z,31nm,1.4s
MBWA Marble Bar 56.55 263 P **P** 07 36 07.2 +0.2
MBWA Marble Bar 56.55 263 P **P** 07 36 05.8 -1.2
MBWA IAmb IAmb 07 36 12.0
comp=Z,64nm,1.2s
MBWA Marble Bar 56.55 263 P **P** 07 36 06.3 -0.7
MBWA P **P** 07 36 06.3 -0.7
SWI Sorong 56.58 291 P **P** 07 36 03.9 -3.3
comp=Z,113nm,0.9s,comp=Z,µm
SWI Sorong 56.58 291 P **P** 07 36 06.5 -0.7
comp=Z,113nm,0.9s
GUMO Guam 56.59 315 LR LR 07 57 34.6
comp=Z,729nm,20.7s,baz=142,slow=33
MORW Morawa 56.87 253 P **P** 07 36 08.3 -0.8
baz=57,SNR=7.6
MORW Morawa 56.87 253 P **P** 07 36 08.4 -0.8
MORW Morawa 56.87 253 P **P** 07 36 07.8 -1.3
SOEI Soe 57.64 278 P **P** 07 36 17.4 +2.5
SOEI Soe 57.64 278 P **P** 07 36 14.2 -0.8
SOEI Soe 57.64 278 P **P** 07 36 14.6 -0.3
comp=Z,60nm,1.4s
BATI Baumata 57.94 277 LR LR 08 01 49.5
comp=Z,5µm,18.2s,baz=142,slow=37
BATI Baumata 57.94 277 P P 07 36 23.6 +6.7
NLAI Namlea 58.64 286 P **P** 07 36 20.5 -1.2
comp=Z,61nm,1.1s
RPN Rapa Nui 59.18 105 LR LR 07 55 42.2
comp=Z,960nm,21.6s,baz=252,slow=30
QSPA South Pole Qui 59.86 180 P **P** 07 36 30.9 +1.3
QSPA South Pole Qui 59.86 180 P **P** 07 36 32.0 +2.3
comp=Z,22nm,0.6s,baz=359,slow=0.4,SNR=106
QSPA LR LR 07 57 57.9
comp=Z,452nm,21.8s,baz=38,slow=32
comp=Z,22nm,0.6s
SANI Sanana 60.22 287 P **P** 07 36 31.7 -1.0
SANI Sanana 60.22 287 P **P** 07 36 30.2 -2.5
comp=Z,127nm,0.9s,comp=Z,µm
SANI Sanana 60.22 287 P **P** 07 36 31.0 -1.7
comp=Z,127nm,0.9s,comp=Z,µm
EDFI Ende, Flores 60.35 277 P **P** 07 36 31.9 -1.8
comp=Z,36nm,1.1s
EDFI Ende, Flores 60.35 277 P **P** 07 36 33.0 -0.7
comp=Z,36nm,1.1s
GIRL Giralia 60.68 260 P **P** 07 36 35.9 +0.2
baz=61,SNR=10
GIRL Giralia 60.68 260 P **P** 07 36 36.1 +0.4
BKSI Bulukumba 63.41 280 P **P** 07 36 52.8 -1.4
comp=Z,39nm,1.0s
PLAI Plampang 63.67 275 P **P** 07 36 55.9 0.0
PLAI Plampang 63.67 275 P **P** 07 36 54.4 -1.5
comp=Z,85nm,0.8s
PLAI Plampang 63.67 275 P **P** 07 36 55.2 -0.7
comp=Z,85nm,0.8s
KAPI Kappang 63.89 280 P **P** 07 36 56.1 -1.2
TWSI Taliwang, Sumb 64.49 275 P **P** 07 36 58.6 -2.7
comp=Z,51nm,0.9s
TWSI Taliwang, Sumb 64.49 275 P P 07 36 53.4 -7.9
TTSI Tana Toraja 64.86 282 P **P** 07 37 04.1 +0.4
comp=Z,36nm,1.1s
DAV Davao City (W) 65.84 294 LR LR 08 05 07.8
comp=Z,140nm,21.1s,baz=128,slow=35
DAV Davao City (W) 65.84 294 P **P** 07 37 06.4 -3.6
MPSI Mapaga 66.60 285 P **P** 07 37 13.5 -1.4
comp=Z,40nm,0.8s
MPSI Mapaga 66.60 285 P **P** 07 37 13.9 -1.0
JAGI Jajag, Banyuwa 66.97 274 P **P** 07 37 16.2 -1.1
JAGI Jajag, Banyuwa 66.97 274 P **P** 07 37 16.9 -0.4
comp=Z,49nm,1.2s
JCJ Chichijima 68.76 322 LR LR 08 01 30.5
comp=Z,796nm,21.4s,baz=156,slow=31
PMSA Palmer Station 72.27 156 LR LR 08 05 58.2
comp=Z,825nm,18.7s,baz=246,slow=33
MAW Mawson 72.56 200 P **P** 07 37 49.8 -1.0
baz=72,SNR=12
MAW Mawson 72.56 200 P **P** 07 37 51.5 +0.7
comp=Z,18nm,0.6s,baz=126,slow=6.0,SNR=38
MAW LR LR 08 08 09.1
comp=Z,934nm,21.2s,baz=120,slow=34
comp=Z,18nm,0.6s
KKM Kota Kinabalu 72.81 288 P **P** 07 37 52.8 -0.5
KKM Kota Kinabalu 72.81 288 P **P** 07 37 52.4 -0.9
KKM IAmb IAmb 07 37 54.3
comp=Z,52nm,0.8s
LEM Lembang 73.42 272 LR LR 08 12 02.1
comp=Z,840nm,18.8s,baz=140,slow=37
STKI Sintang 73.57 280 P **P** 07 37 58.5 +0.8
comp=Z,72nm,0.6s
TGY Tagaytay City 73.72 297 LR LR 08 09 05.7
comp=Z,270nm,19.7s,baz=112,slow=35
KSM Kuching 75.30 281 P **P** 07 38 07.4 -0.4
KSM Kuching 75.30 281 P **P** 07 38 06.6 -1.2
KSM IAmb IAmb 07 38 12.5
comp=Z,45nm,1.0s
MG05 Puerto Natales 75.43 142 P **P** 07 38 08.9 +1.0
MG05 IAmb IAmb 07 40 27.6
comp=Z,111nm,1.7s
KASI Kota Agung 76.76 271 P **P** 07 38 17.4 +1.3
comp=Z,71nm,1.1s
JOW Kunigami 76.79 312 LR LR 08 07 14.9
comp=Z,489nm,21.7s,baz=138,slow=32
PPBI Pangkal Pinang 77.01 275 P **P** 07 38 20.4 +2.9
ELIB Princess Elisa 77.03 187 *d*P **P** 07 38 18.0 +1.1
comp=Z,36nm,0.6s
PMBI Palembang 77.81 274 IAMs_20 IAMs_20 08 17 31.3
comp=Z,1µm,20.0s
INU Inuyama 77.97 324 P **P** 07 38 22.3 0.0
INU Inuyama 77.97 324 P **P** 07 38 22.0 -0.3
INU IAmb IAmb 07 38 23.9
comp=Z,62nm,1.1s
JGF Kuroka 77.99 324 P **P** 07 38 22.4 -0.1
JGF Kuroka 77.99 324 P **P** 07 38 21.3 -1.1
TROLL Troll, Antarti 78.02 180 ⇑P **P** 07 38 24.3 +1.9
comp=Z,5µm,0.7s
MJAR Matsushiro Arr 78.30 325 P **P** 07 38 23.3 -0.8
comp=Z,14nm,0.8s,baz=160,slow=5.1,SNR=19
MJAR LR LR 08 07 43.2
comp=Z,471nm,20.3s,baz=138,slow=32
comp=Z,14nm,0.8s
SNAA Sanae 78.30 178 P **P** 07 38 23.5 -0.4
comp=Z,12nm,0.8s,baz=186,slow=5.8,SNR=4.1
SNAA LR LR 08 11 51.9
comp=Z,450nm,19.3s,baz=190,slow=35
comp=Z,12nm,0.8s
MAJO Matsushiro 78.30 325 P **P** 07 38 24.6 +0.5
MAJO Matsushiro 78.30 325 P **P** 07 38 23.8 -0.4
MAJO IAmb IAmb 07 38 30.5
comp=Z,57nm,1.2s
MAJO Matsushiro 78.30 325 *i* P **P** 07 38 24.8 +0.7
MAJO pmax pmax
comp=Z,32nm,1.1s
MJB9 Matsu-Tunnel 78.30 325 P **P** 07 38 25.0 +0.8
MJB9 IAmb IAmb 07 38 31.4
comp=Z,55nm,1.2s
VNA3 Neumayer Olymp 78.43 176 ⇑P P 07 38 32.2 +7.6
comp=Z,112nm,0.7s
VNA2 Neumayer--Watz 78.87 177 ⇑P **P** 07 38 28.2 +1.2
comp=Z,71nm,0.6s,baz=179,slow=4.1
NVL N'lazarevskaya 79.04 183 *e*P P 07 38 34.1 +6.3
NVL pmax pmax
comp=Z,39nm,0.9s
JSD Sado 79.45 326 P **P** 07 38 31.6 +1.2
JSD Sado 79.45 326 P **P** 07 38 30.4 0.0
NACB Ninganchiao 79.52 306 P **P** 07 38 29.2 -1.9
NACB IAmb IAmb 07 38 42.4
comp=Z,48nm,1.3s
TPUB Ta-pu 79.65 305 P **P** 07 38 29.4 -2.5
JNU Nakatsue 79.65 318 LR LR 08 09 16.5
comp=Z,187nm,21.5s,baz=109,slow=32
SSLB Suanglung 79.73 305 P **P** 07 38 33.5 +1.2
SSLB Suanglung 79.73 305 P **P** 07 38 30.1 -2.2
LL02 Futaleuf 80.23 134 P **P** 07 38 36.1 +1.2
MYKOM Kota Tinggi 80.98 277 IAMs_20 IAMs_20 08 19 51.5
comp=Z,667nm,18.0s
ADK Adak 81.78 1 P **P** 07 38 42.4 -0.1
ADK Adak 81.78 1 P **P** 07 38 41.9 -0.6
ADK Adak 81.78 1 P **P** 07 38 41.9 -0.6
ADK pmax pmax
comp=Z,282nm,1.3s
PLCA Paso Flores 82.38 133 P **P** 07 38 47.7 +1.3
PLCA Paso Flores 82.38 133 P **P** 07 38 47.6 +1.3
comp=Z,8.4nm,1.1s,baz=245,slow=5.7,SNR=8.8
comp=Z,8.4nm,1.1s
DLV T Lat 82.41 288 P **P** 07 38 47.6 +0.6
DLV T Lat 82.41 288 P **P** 07 38 46.9 0.0
PDSI Padang 82.54 273 P **P** 07 38 46.5 -1.0
BKNI Bangkinang 82.66 275 IAMs_20 IAMs_20 08 17 44.9
comp=Z,1µm,21.0s
SHEM Shemya Is, Ala 82.94 355 LR LR 08 12 53.1
comp=Z,747nm,18.8s,baz=198,slow=34
NIKH Nikolski High 83.22 5 P **P** 07 38 51.0 +1.0
baz=188
SNCC San Nicolas Is 83.72 46 P **P** 07 38 54.3 +1.2
baz=228
TJN Taejon 84.00 318 P **P** 07 38 55.3 +0.9
TJN Taejon 84.00 318 P **P** 07 38 54.2 -0.2
TJN Taejon 84.00 318 *ce*P **P** 07 38 53.6 -0.8
SCI2 San Clemente I 84.14 46 P **P** 07 38 56.2 +0.9
baz=228
SCZ2 Santa Cruz Isl 84.15 45 P **P** 07 38 56.4 +1.1
baz=228
LPIG La Paz 84.19 58 LR LR 08 11 25.7
comp=Z,954nm,18.0s,baz=238,slow=32
UNV Unalaska Valle 84.30 7 P **P** 07 38 57.2 +1.7
baz=190
SBC Santa Barbara 84.40 45 P **P** 07 38 57.5 +1.0
baz=227
KSRS Korea Array 84.44 319 P **P** 07 38 56.6 0.0
comp=Z,6.5nm,0.8s,baz=145,slow=5.5,SNR=18
KSRS LR LR 08 14 16.3
comp=Z,255nm,19.4s,baz=120,slow=34
comp=Z,6.5nm,0.8s
KSAR Wonju Array Be 84.45 319 P **P** 07 38 56.9 +0.2
KSAR Wonju Array Be 84.45 319 P **P** 07 38 56.9 +0.2
CIS Catalina Islan 84.51 46 P **P** 07 38 58.3 +1.1
baz=228
ML02 Panimavida 84.55 128 P **P** 07 38 58.2 +0.7
CCX Cicese 84.61 48 P **P** 07 38 59.4 +1.8
CCX IAmb IAmb 07 39 23.8
comp=Z,25nm,1.3s
PKM Mcpherson Peak 84.64 44 P **P** 07 38 59.2 +1.2
baz=227
YSS Yuzh-Sakhalins 84.75 334 P **P** 07 38 59.1 +1.2
YSS Yuzh-Sakhalins 84.75 334 P **P** 07 38 58.2 +0.3
YSS Yuzh-Sakhalins 84.75 334 *ce*P **P** 07 38 58.7 +0.8
YSS *e**SP **sP** 07 39 09.1 +2.4
YSS *eS* **SKSac** 07 49 21.9 +1.5
YSS pmax pmax
comp=Z,400nm,2.9s
YSS pmax pmax
comp=Z,80nm,1.0s
IPM Ipoh 84.77 278 P **P** 07 38 59.3 +0.3
IPM Ipoh 84.77 278 P **P** 07 38 58.1 -0.9
IPM IAmb IAmb 07 39 07.5
comp=Z,35nm,0.9s
FMP Fort Macarthur 84.79 46 P **P** 07 39 00.5 +2.0
baz=228
SMMC Simmler 84.82 44 P **P** 07 39 00.3 +1.6
baz=227
VTX Valle De La Tr 84.88 49 P **P** 07 38 59.7 +0.5
BCW Bitter Crk WRg 84.92 45 P **P** 07 39 00.1 +0.8
109C Camp Elliot, M 85.00 47 P **P** 07 39 01.4 +1.8
baz=229
TKX Tecate 85.11 48 P **P** 07 39 01.1 +0.9
DECC Green Verdugo 85.12 46 P **P** 07 39 01.6 +1.4
baz=228
OSI Osito Audit: C 85.12 45 P **P** 07 39 01.5 +1.2
baz=228
BAR Barrett 85.14 48 P **P** 07 39 01.2 +0.9
BAR IAmb IAmb 07 39 04.1
comp=Z,39nm,1.6s
PASC Pasadena Art C 85.16 46 P **P** 07 39 00.9 +0.5
PASC IAmb IAmb 07 39 12.4
comp=Z,32nm,1.4s
PASC IAMs_20 IAMs_20 08 14 01.7
comp=Z,719nm,20.0s
QIZ Qiongzhong 85.21 295 P **P** 07 39 02.8 +1.8
QIZ PP **PP** 07 42 21.9 +2.9
QIZ SS SS 07 55 07.1 +2.3
QIZ pmax pmax
comp=Z,190nm,10.1s
QIZ LR LR
comp=Z,220nm,14.3s
QIZ LR LR
comp=Z,270nm,21.6s
QIZ LR LR
comp=Z,470nm,33.2s
ARVC Arvin 85.40 45 P **P** 07 39 03.3 +1.8
baz=228
MURC Murrieta 85.40 47 P **P** 07 39 03.9 +2.2
baz=229,SNR=8.0
MONP2 Monument Peak 85.43 48 P **P** 07 39 03.6 +1.5
baz=230,SNR=11
PET Petropavlovsk 85.46 346 P **P** 07 39 00.8 -0.5
PET Petropavlovsk 85.46 346 *eP* **P** 07 38 59.9 -1.5
PET *e* 07 42 28.6
PET *eS* **S** 07 49 30.8 -0.1
PET pmax pmax
comp=Z,500nm,5.5s
PET pmax pmax
comp=Z,49nm,1.4s
PET pmax pmax
comp=Z,100nm,7.4s
PET MLR MLR
comp=Z,500nm,19.0s
IKP In-Ko-Pah, Jac 85.48 48 P **P** 07 39 03.8 +1.7
baz=230,SNR=5.5
KULM Kulim 85.51 279 P **P** 07 39 02.0 -0.7
KULM IAmb IAmb 07 39 11.5
comp=Z,28nm,0.9s
KULM IAMs_20 IAMs_20 08 21 43.4
comp=Z,817nm,20.0s
BO02 Sierra Bellavi 85.52 128 P **P** 07 39 03.0 +0.5
BO02 IAmb IAmb 07 39 12.2
comp=Z,25nm,1.1s
BFSC Mount Baldy Ra 85.53 46 P **P** 07 39 03.6 +1.2
baz=229,SNR=12
YUH Yuha Desert 85.60 48 P **P** 07 39 03.8 +1.2
FALS False Pass 85.64 8 P **P** 07 39 04.2 +2.0
baz=192
MT01 Popeta 85.71 127 P **P** 07 39 04.0 +0.6
MT01 IAmb IAmb 07 39 12.9
comp=Z,35nm,1.0s
VES Vestal, Richgr 85.72 44 P **P** 07 39 03.7 +0.6
baz=228,SNR=6.4
PEA0B Petropavlovsk- 85.75 345 P **P** 07 39 02.3 -0.6
PEA0B Petropavlovsk- 85.75 345 *ce*P **P** 07 39 02.9 +0.1
PETK Petropavlovsk- 85.75 345 P **P** 07 39 02.7 -0.1
comp=Z,29nm,0.8s,baz=100,slow=4.9,SNR=29
PETK LR LR 08 10 25.9
comp=Z,474nm,22.0s,baz=167,slow=31
comp=Z,29nm,0.8s
EDW2 Edwards Air Fo 85.75 45 P **P** 07 39 04.6 +1.2
baz=228,SNR=13
SWSC Sam W. Stewart 85.87 48 P **P** 07 39 05.4 +1.4
baz=230
TPFO Pinon Flats 85.88 47 P **P** 07 39 05.3 +1.2
baz=229,SNR=9.8
PFO Pinyon Flats O 85.88 47 P **P** 07 39 04.6 +0.5
PFO IAmb IAmb 07 39 23.2
comp=Z,58nm,1.8s
PFO Pinyon Flats O 85.88 47 P **P** 07 39 05.5 +1.4
baz=229,SNR=11
PFO Pinyon Flats O 85.88 47 *i* P **P** 07 39 04.9 +0.8
PFO pmax pmax
comp=Z,14nm,1.2s
PFO Pinyon Flats O 85.88 47 LR LR 08 10 19.8
comp=Z,582nm,20.4s,baz=248,slow=31
PMD Palm Desert 85.95 47 P **P** 07 39 04.6 +0.3
PMD IAmb IAmb 07 39 07.3
comp=Z,29nm,1.4s
ISA Isabella, Lake 85.97 45 P **P** 07 39 05.7 +1.2
ISA IAmb IAmb 07 39 08.3
comp=Z,63nm,1.5s
ISA Isabella, Lake 85.97 45 P **P** 07 39 05.8 +1.3
baz=228,SNR=13
ISA Isabella, Lake 85.97 45 P **P** 07 39 05.7 +1.2
ISA pmax pmax
comp=Z,63nm,1.5s
BBRC Big Bear Solar 86.01 46 P **P** 07 39 05.9 +0.9
baz=229
CNBA Chernabura Isl 86.14 10 P **P** 07 39 05.5 +0.8
GSI Gunungsitoli 86.14 274 P **P** 07 39 05.8 0.0
GSI Gunungsitoli 86.14 274 P **P** 07 39 05.2 -0.6
GSI Gunungsitoli 86.14 274 P **P** 07 39 06.4 +0.6
CHNA Chernabura Isl 86.15 10 P **P** 07 39 06.7 +2.0
baz=196
LRMC Laurel Mtn Rad 86.33 45 P **P** 07 39 08.3 +1.9
baz=229,SNR=13
RRX Edison Barstow 86.36 46 P **P** 07 39 09.0 +2.6
baz=229
NJ2 Nanjing 86.38 310 *e*P **P** 07 39 08.3 +1.8
NJ2 pP **pP** 07 39 12.1 -1.0
NJ2 pmax pmax
comp=Z,12nm,0.5s
NJ2 pmax pmax
comp=Z,220nm,5.0s
NJ2 LR LR
comp=Z,280nm,13.3s
NJ2 LR LR
comp=Z,560nm,16.1s
MSHR Mys Shultsa 86.41 325 *ce*P **P** 07 39 07.0 +0.6
MSHR pmax pmax
comp=Z,30nm,1.3s
BELC Belle Mtn. Jos 86.42 47 P **P** 07 39 08.2 +1.4
baz=230,SNR=13
PEL Peldehue 86.50 126 P **P** 07 39 07.4 0.0
PEL IAmb IAmb 07 39 17.2
comp=Z,27nm,0.9s
PEL Peldehue 86.50 126 P **P** 07 39 07.4 0.0
PEL pmax pmax
comp=Z,27nm,0.9s
SDPT Sand Point 86.52 10 P **P** 07 39 07.7 +1.2
SDPT Sand Point 86.52 10 P **P** 07 39 08.5 +2.0
baz=195
PIX Pinacate 86.52 50 P **P** 07 39 07.2 0.0
BC3 Big Chuckawall 86.55 48 P **P** 07 39 09.2 +1.7
baz=230,SNR=15
GLA Glamis 86.56 48 P **P** 07 39 07.9 +0.5
GLA IAmb IAmb 07 39 26.1
comp=Z,22nm,1.0s
GLA Glamis 86.56 48 P **P** 07 39 09.0 +1.6
baz=230
GLA Glamis 86.56 48 P **P** 07 39 07.9 +0.5
GLA pmax pmax
comp=Z,22nm,1.0s
S12K Black Hills 86.64 9 P **P** 07 39 09.7 +2.5
baz=194
PSTR Posyet 86.64 325 *i* P **P** 07 39 08.3 +0.8
UBPT Khong Chiam 86.67 290 P **P** 07 39 10.4 +2.2
HSIG 86.68 54 P **P** 07 39 08.2 +0.2
CWC Cottonwood Cre 86.73 44 P **P** 07 39 09.5 +1.2
baz=228
HEC Hector,Ludlow 86.74 46 P **P** 07 39 09.6 +1.2
baz=230,SNR=14
GSC Goldstone, Bar 86.76 46 P **P** 07 39 09.0 +0.6
GSC IAmb IAmb 07 39 27.4
comp=Z,44nm,1.3s
GSC Goldstone, Bar 86.76 46 P **P** 07 39 09.7 +1.3
baz=229,SNR=14
GSC Goldstone, Bar 86.76 46 P **P** 07 39 09.0 +0.6
GSC pmax pmax
comp=Z,44nm,1.3s
MPMC Manual Prospec 86.83 45 P **P** 07 39 09.9 +1.1
baz=229,SNR=15
ORV Oroville 86.86 40 IAMs_20 IAMs_20 08 15 11.3
comp=Z,725nm,20.0s
TIN Tinemaha, Big 87.05 44 P **P** 07 39 10.7 +0.9
baz=228
IRM Iron Mountain 87.06 47 P **P** 07 39 11.7 +1.8
baz=230,SNR=18
MLAC Mammoth, Mammo 87.07 43 P **P** 07 39 11.2 +1.1
baz=228
113A Mohawk Valley, 87.08 49 P **P** 07 39 11.0 +1.1
113A IAmb IAmb 07 39 13.1
comp=Z,40nm,1.7s
GMRC Granite Mounta 87.14 47 P **P** 07 39 11.9 +1.6
baz=230,SNR=9.1
QSM Queen of Sheba 87.15 45 P **P** 07 39 10.7 +0.5
QSM IAmb IAmb 07 39 29.0
comp=Z,33nm,1.3s
214A Orgon Pipe Nat 87.20 50 P **P** 07 39 11.7 +1.2
baz=232,SNR=6.5
BLYC Blythe 87.20 48 P **P** 07 39 10.7 +0.3
BLYC IAmb IAmb 07 39 13.9
comp=Z,37nm,1.5s
USA0B Ussuriysk Arra 87.21 326 *i* P **P** 07 39 11.0 +0.8
USRK Ussuriysk Ar. 87.21 326 P **P** 07 39 09.9 -0.3
USRK Ussuriysk Ar. 87.21 326 P **P** 07 39 10.2 0.0
comp=Z,10nm,0.7s,baz=138,slow=3.1,SNR=11
USRK LR LR 08 15 05.7
comp=Z,236nm,19.4s,baz=132,slow=34
comp=Z,10nm,0.7s
SPIA Saint Paul Isl 87.31 4 P **P** 07 39 12.3 +2.0
baz=186
WAKR Walker 87.31 42 P **P** 07 39 11.9 +0.8
WAKR IAmb IAmb 07 39 14.7
comp=Z,44nm,1.4s
TUQ Turquoise Moun 87.39 46 P **P** 07 39 12.6 +1.1
baz=230,SNR=7.0
GWY Greenwater Val 87.42 45 P **P** 07 39 12.0 +0.4
GWY IAmb IAmb 07 39 14.3
comp=Z,24nm,1.2s
SHOC Shoshone, Teco 87.47 46 P **P** 07 39 13.4 +1.6
baz=230,SNR=12
FURC Furnace Creek, 87.48 45 P **P** 07 39 13.0 +1.3
baz=229
GRAC Grapevine Rang 87.53 44 P **P** 07 39 13.5 +1.4
baz=229
S14K Fog Glacier 87.56 10 P **P** 07 39 13.0 +1.3
baz=196
LHV Little Huntoon 87.68 43 P **P** 07 39 13.6 +0.9
LHV IAmb IAmb 07 39 32.1
comp=Z,34nm,1.2s
YERR Yerington 87.75 42 P **P** 07 39 14.0 +0.8
YERR IAmb IAmb 07 39 31.5
comp=Z,21nm,1.2s
CHGN Chignik 87.75 11 P **P** 07 39 14.1 +1.6
baz=197
CHIR Chirikof Islan 87.77 12 P **P** 07 39 14.8 +2.2
baz=199
NEE2 Needles Airpor 87.79 47 P **P** 07 39 15.0 +1.7
baz=230
PDMCI Parker Dam,Lak 87.80 48 P **P** 07 39 14.9 +1.6
baz=231,SNR=9.2
WCT Wildcat Mounta 87.84 45 P **P** 07 39 14.8 +1.2

NVAR **Mina Array Bea** 87.92 43 P **P** 07 39 14.3 +0.2
NVAR **Mina Array Bea** 87.92 43 P **P** 07 39 14.4 +0.3
comp=Z,4.8nm,0.7s,baz=230,slow=7.3,SNR=10
NVAR PKKPbc **PKKPbc** 07 56 59.1 -2.0
comp=Z,0.5nm,0.5s,baz=29,slow=2.4,SNR=4.2
NVAR LR LR 08 15 40.8
comp=Z,921nm,18.1s,baz=228,slow=34
comp=Z,4.8nm,0.7s
RYN Ryan 87.92 42 P **P** 07 39 13.9 -0.1
RYN IAmb IAmb 07 39 32.4
comp=Z,19nm,1.2s
NV11 **Mina Array Sit** 88.01 43 P **P** 07 39 15.7 +1.2
NV11 IAmb IAmb 07 39 32.8
comp=Z,19nm,1.1s
TYV Tymovskoe 88.04 336 *e*P **P** 07 39 15.2 +1.2
TYV pmax pmax
comp=Z,200nm,2.5s
TYV pmax pmax
comp=Z,24nm,1.2s
V12A Nelson 88.25 46 P **P** 07 39 15.9 +0.3
V12A IAmb IAmb 07 39 34.8
comp=Z,36nm,1.6s
TPH Tonopah 88.32 43 P **P** 07 39 16.8 +0.8
TPH Tonopah 88.32 43 P **P** 07 39 16.8 +0.8
TPH pmax pmax
comp=Z,116nm,1.1s
SURA Surathani 88.35 282 P **P** 07 39 18.5 +2.1
KVN Kaiserville 88.45 42 P **P** 07 39 16.5 -0.1
KVN IAmb IAmb 07 39 34.8
comp=Z,16nm,1.0s
KVN Kaiserville 88.45 42 P **P** 07 39 16.5 -0.1
KVN pmax pmax
comp=Z,16nm,1.0s
MDJ Mudanjiang 88.68 325 P **P** 07 39 14.8 -2.4
MDJ PcP **PcP** 07 39 16.6 -2.2
MDJ PP **PP** 07 42 42.3 -4.2
MDJ S **S** 07 50 01.5 -0.9
MDJ pmax pmax
comp=Z,10.0nm,1.9s
MDJ pmax pmax
comp=Z,460nm,4.9s
MDJ LR LR
comp=Z,260nm,12.5s
MDJ LR LR
comp=Z,500nm,13.4s
MDJ LR LR
comp=Z,570nm,17.9s
MDJ Mudanjiang 88.68 325 P **P** 07 39 18.2 +1.0
SII Sitkinak Islan 88.73 13 P **P** 07 39 19.5 +2.3
baz=200
TUC Tucson 88.78 51 P **P** 07 39 19.5 +1.4
TUC Tucson 88.78 51 P **P** 07 39 19.6 +1.5
baz=233
TUC Tucson 88.78 51 P **P** 07 39 19.5 +1.4
TUC pmax pmax
comp=Z,68nm,1.7s
S11A Rachel 88.93 44 P **P** 07 39 20.3 +1.5
S11A IAmb IAmb 07 39 37.5
comp=Z,26nm,1.1s
R16K Pilot Point 89.10 11 P **P** 07 39 20.4 +1.6
baz=197
319A Douglas 89.24 53 P **P** 07 39 20.8 +0.4
319A IAmb IAmb 07 39 40.8
comp=Z,21nm,0.9s
HPIG 89.25 58 P **P** 07 39 20.8 +0.2
COR Corvallis 89.44 35 IAMs_20 IAMs_20 08 10 10.2
comp=Z,1μm,20.0s
R11B Troy Canyon, C 89.48 44 P **P** 07 39 22.2 +0.8
baz=230
OHAK Old Harbor 89.53 13 P **P** 07 39 22.2 +1.3
baz=201
NAYO Nakonayok 89.57 287 P **P** 07 39 24.0 +1.9
X16A Lo Mia Camp, P 89.62 49 P **P** 07 39 22.9 +0.8
H04D Lebanon 89.68 36 P **P** 07 39 22.7 +0.7
BMN Battle Mountai 89.87 42 P **P** 07 39 22.9 -0.3
BMN Battle Mountai 89.87 42 P **P** 07 39 22.9 -0.3
BMN pmax pmax
comp=Z,22nm,1.3s
NONG Nongkai 90.02 291 P **P** 07 39 25.9 +1.7
Q17K Contact Creek 90.04 11 P **P** 07 39 25.2 +1.8
baz=199
LCMT Little Creek M 90.06 46 P **P** 07 39 24.9 +0.8
DUN6 Lazy B Ranch 90.07 52 P **P** 07 39 25.1 +0.9
UNM Universidad Na 90.09 68 IAMs_20 IAMs_20 08 09 20.4
comp=Z,1μm,22.0s
TIA Tai'an 90.10 313 ⇑P **P** 07 39 24.0 -0.1
TIA pmax pmax
comp=Z,16nm,1.0s
TIA LR LR
comp=Z,150nm,22.5s
TIA LR LR
comp=Z,170nm,28.9s
TIA LR LR
comp=Z,320nm,25.5s
KDAK Kodiak Island 90.19 13 P **P** 07 39 26.2 +2.2
baz=202
KDAK Kodiak Island 90.19 13 *i*P **P** 07 39 25.3 +1.4
KDAK pmax pmax
comp=Z,44nm,1.1s
O14K Tigyukauivet M 90.20 8 P **P** 07 39 25.4 +1.5
baz=194
CN2 Changchun 90.21 323 *e*P **P** 07 39 23.8 -0.6
CN2 *e*S **S** 07 50 14.0 -2.7
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,500nm,3.4s
CN2 LR LR
comp=Z,200nm,10.0s
CN2 LR LR
comp=Z,300nm,14.0s
GRNR Gornyy 90.29 333 ⇑*i*P **P** 07 39 25.0 +0.4
GRNR pmax pmax
comp=Z,20nm,1.1s
U15A North Rim 90.30 47 P **P** 07 39 26.2 +0.8
U15A IAmb IAmb 07 39 42.1
comp=Z,21nm,1.1s
Q16K King Salmon 90.31 11 P **P** 07 39 25.7 +1.2
baz=198
O15K Ungalikthiuk R 90.31 9 P **P** 07 39 25.9 +1.4
baz=195
WUAZ Wupatki 90.33 48 P **P** 07 39 25.4 0.0
baz=232
P16K Nushagak River 90.44 10 P **P** 07 39 26.0 +1.0
baz=197
BNX BinXian 90.56 325 ⇑P **P** 07 39 26.3 +0.3
BNX pmax pmax
comp=Z,17nm,1.0s
BNX pmax pmax
comp=Z,150nm,4.9s
NKL Nikolayevsk 90.62 336 *e*P **P** 07 39 23.8 -2.3
NKL *e*S **SKSac** 07 49 59.0 +3.3
NKL pmax pmax
comp=N,21nm,0.8s
NKL pmax pmax
comp=E,55nm,1.1s
NKL pmax pmax
comp=Z,226nm,1.1s
NKL smax smax
comp=E,77nm,2.0s
NKL smax smax
comp=N,106nm,4.5s
NKL MLR MLR
comp=E,4μm,14.0s
NKL MLR MLR
comp=N,2μm,16.0s
NKL MLR MLR
comp=Z,4μm,17.0s
PSUT Pine Spring 90.64 45 P **P** 07 39 27.2 +0.3
SPR3 Spring Creek 3 90.65 44 P **P** 07 39 27.8 +0.8
E03A Lebam 90.71 34 P **P** 07 39 27.4 +0.8
HOOD Mount Hood Mea 90.79 36 P **P** 07 39 27.6 +0.3
HOOD IAmb IAmb 07 39 29.5
comp=Z,20nm,1.1s
M11K Mekoryuk 90.79 6 P **P** 07 39 28.4 +1.7
baz=190
N14K Kuskokwak Cree 90.80 8 P **P** 07 39 28.2 +1.5
baz=194
F04A Amboy 90.83 35 P **P** 07 39 28.4 +1.2
P17K Kvichak River 90.83 11 P **P** 07 39 28.5 +1.6
baz=198
121A Cookes Peak, D 90.95 52 P **P** 07 39 28.8 +0.4
baz=234
O16K Kokwok River B 90.96 10 IAMs_20 IAMs_20 08 15 37.0
comp=Z,761nm,20.0s
O16K Kokwok River B 90.96 10 P **P** 07 39 28.5 +1.0
baz=197
Q20K Shuyak Island 91.00 13 P **P** 07 39 29.9 +2.2
baz=202
KLR Kul'dur 91.06 330 *ce*P **P** 07 39 27.4 -0.9
KLR pmax pmax
comp=Z,16nm,1.0s
KLR Kul'dur 91.06 330 LR LR 08 17 50.4
comp=Z,412nm,19.6s,baz=150,slow=34
Q19K Cape Douglas, 91.06 12 P **P** 07 39 29.2 +1.1
baz=201
M13K Dall Lake 91.09 7 P **P** 07 39 29.8 +1.7
baz=192
W18A Petrified Fore 91.16 49 P **P** 07 39 30.5 +1.2
baz=233
ELK Elko 91.22 42 P **P** 07 39 29.8 +0.3
ELK IAMs_20 IAMs_20 08 18 08.9
comp=Z,940nm,19.0s
ELK Elko 91.22 42 P **P** 07 39 29.8 +0.3
ELK pmax pmax
comp=Z,13nm,1.3s
ELK Elko 91.22 42 LR LR 08 17 27.0
comp=Z,798nm,18.0s,baz=246,slow=34
P18K Big Mountain, 91.22 11 P **P** 07 39 29.3 +0.5
baz=199
N15K Kwethluk River 91.24 9 P **P** 07 39 30.2 +1.4
baz=195
O17K Koliganek Bris 91.28 10 P **P** 07 39 31.0 +2.0
baz=198
SRDT SRDT 91.42 286 P **P** 07 39 32.0 +1.3
TCRU Three Creeks R 91.55 45 P **P** 07 39 31.5 +0.3
M14K Bethel 91.58 8 P **P** 07 39 30.8 +0.5
M14K IAmb IAmb 07 39 35.9
comp=Z,24nm,1.1s
M14K Bethel 91.58 8 P **P** 07 39 32.1 +1.8
baz=194
O18K Koktuh Hills 91.66 11 P **P** 07 39 32.6 +1.8
baz=199
M15K Kasigluk River 91.67 8 P **P** 07 39 32.2 +1.4
baz=195
N16K Nishlik Lake 91.71 9 P **P** 07 39 32.8 +1.8
baz=196
GYA Guiyang 91.75 300 P **P** 07 39 34.5 +2.3
GYA pmax pmax
comp=Z,29nm,0.8s
GYA pmax pmax
comp=Z,190nm,4.8s
GYA LR LR
comp=Z,360nm,20.9s
ENH Enshi 91.77 304 P **P** 07 39 33.9 +1.8
P19K Oil Pt 91.82 12 P **P** 07 39 33.4 +1.9
baz=201
VHRN Van Horn 91.91 55 P **P** 07 39 34.0 +1.1
VHRN IAmb IAmb 07 39 41.9
comp=Z,36nm,1.9s
N17K Nushagak Hills 91.99 10 P **P** 07 39 34.1 +1.8
baz=198
TXAR Lajitas Array 92.05 57 P **P** 07 39 33.8 +0.4
comp=Z,2.9nm,1.1s,baz=205,slow=5.5,SNR=14
TXAR PKKPbc **PKKPbc** 07 56 49.5 -0.6
comp=Z,0.4nm,0.7s,baz=108,slow=2.9,SNR=4.8
TXAR LR LR 08 16 30.4
comp=Z,294nm,18.2s,baz=213,slow=33
comp=Z,2.9nm,1.1s
L14K Kuka Creek 92.07 7 P **P** 07 39 34.0 +1.4
baz=193
HOM Homer 92.12 13 P **P** 07 39 34.8 +1.9
baz=202
O19K Port Alsworth 92.14 11 P **P** 07 39 34.8 +1.9
baz=200
MNTX Cornudas Mount 92.14 54 P **P** 07 39 34.7 +1.0
baz=236
LYN LuoYang 92.14 309 ⇑P P 07 39 38.5 +4.9
LYN SKS **SKSac** 07 50 09.6 +4.3
LYN sS sS 07 50 47.5 +1.8
LYN pmax pmax
comp=Z,25nm,0.8s
LYN pmax pmax
comp=Z,200nm,4.4s
LYN LR LR
comp=Z,430nm,23.0s
LYN LR LR
comp=Z,920nm,22.3s
M16K Timber Creek 92.21 9 P **P** 07 39 34.9 +1.6
baz=196
DUG Dugway, Tooele 92.31 44 IAMs_20 IAMs_20 08 16 48.8
comp=Z,746nm,20.0s
DUG Dugway, Tooele 92.31 44 P **P** 07 39 35.5 +1.1
baz=232
O20K Slope Mountain 92.33 12 P **P** 07 39 35.1 +1.2
baz=202
N18K Kilae Creek 92.34 11 P **P** 07 39 35.0 +1.1
baz=199
MXC Moxie City 92.34 36 P **P** 07 39 35.0 +0.7
HNS HongShan 92.36 313 ⇑P **P** 07 39 34.5 0.0
HNS *e*S **S** 07 50 35.5 -1.0
HNS pmax pmax
comp=Z,15nm,1.1s
HNS LR LR
comp=Z,370nm,23.1s
HNS LR LR
comp=Z,250nm,23.9s
HNS LR LR
comp=Z,530nm,22.6s
BRSE Bradley Lake S 92.37 13 P **P** 07 39 36.3 +2.2
baz=203
CMIG Matias Romero 92.41 72 LR LR 08 11 00.3
comp=Z,258nm,21.5s,baz=242,slow=29
Y22D IRIS PASSCAL I 92.43 52 IAMs_20 IAMs_20 08 16 57.5
comp=Z,647nm,18.0s
Y22D IRIS PASSCAL I 92.43 52 P **P** 07 39 35.0 -0.2
baz=235
Y22F Passcal Instru 92.43 52 P **P** 07 39 35.2 0.0
baz=235
Q16A Castle Valley 92.53 46 P **P** 07 39 35.8 +0.2
Q16A IAmb IAmb 07 41 05.2
comp=Z,9.1nm,0.6s
L15K Ungalak Mounta 92.53 8 P **P** 07 39 36.4 +1.6
baz=194
E07A Sunnyside 92.55 36 P **P** 07 39 36.6 +1.4
E07A IAmb IAmb 07 39 38.4
comp=Z,28nm,1.5s
HAWA Hanford 92.60 36 P **P** 07 39 36.8 +1.3
HAWA IAmb IAmb 07 39 53.7
comp=Z,15nm,1.0s
MFID Camas Ranch 92.60 40 IAMs_20 IAMs_20 08 18 11.3
comp=Z,589nm,19.0s
N19K Bonanza Creek 92.69 11 P **P** 07 39 37.7 +2.0
baz=200
BMO Blue Mountains 92.73 38 IAMs_20 IAMs_20 08 18 09.6
comp=Z,632nm,20.0s
M17K Holitna River 92.79 10 P **P** 07 39 38.1 +2.2
baz=198
L16K Owhat River 92.81 9 P **P** 07 39 37.5 +1.5
baz=196
BBB Bella Bella 92.82 28 LR LR 08 13 29.1
comp=Z,289nm,21.0s,baz=238,slow=30
SEW Seward 92.97 14 P **P** 07 39 38.3 +1.5
baz=204
BJT Baijiatuau 93.03 315 P **P** 07 39 38.4 +0.8
Q23K Middleton Isla 93.03 15 P **P** 07 39 37.8 +0.7
baz=207
BJI Beijing 93.03 315 P **P** 07 39 36.9 -0.7
BJI PcP **PcP** 07 39 40.4 +2.2
BJI pP **pP** 07 39 42.3 -1.9
BJI sP **sP** 07 39 45.0 -1.6
BJI PP **PP** 07 43 19.6 -1.6
BJI pmax pmax
comp=Z,5.0nm,1.7s
M18K Stony River 93.12 10 P **P** 07 39 38.8 +1.4
baz=199
K15K Wolf Creek Mou 93.13 7 P **P** 07 39 38.6 +1.1
baz=194
NNA Nana 93.16 106 LR LR 08 11 40.2
comp=Z,498nm,21.7s,baz=246,slow=29
MVCO Mesa Verde 93.20 48 IAMs_20 IAMs_20 08 17 48.7
comp=Z,622nm,19.0s
MVCO Mesa Verde 93.20 48 P **P** 07 39 38.9 +0.1
baz=234
MA2 Magadan 93.23 345 P **P** 07 39 38.3 +0.2
MA2 Magadan 93.23 345 IAMs_20 IAMs_20 08 15 58.4
comp=Z,787nm,21.0s
MA2 Magadan 93.23 345 *ce*P **P** 07 39 38.2 +0.2
MA2 pmax pmax
comp=Z,6.0nm,0.9s
MA2 Magadan 93.23 345 LR LR 08 16 21.3
comp=Z,622nm,22.0s,baz=163,slow=32
ANMO Albuquerque 93.24 51 P **P** 07 39 40.2 +1.2
baz=235
ANMO Albuquerque 93.24 51 *i*P **P** 07 39 39.7 +0.7
ANMO pmax pmax
comp=Z,4.0nm,1.2s
CAPN Captain Cook N 93.24 13 P **P** 07 39 39.5 +1.5
baz=203
O22K Cooper Landing 93.26 13 P **P** 07 39 39.0 +0.9
baz=204
P23K Montague Islan 93.31 15 P **P** 07 39 38.7 +0.3
baz=206
HVU Hansel Valley 93.31 43 P **P** 07 39 39.5 +0.4
HVU IAmb IAmb 07 39 57.5
comp=Z,21nm,1.1s
HVU Hansel Valley 93.31 43 P **P** 07 39 39.5 +0.4
HVU pmax pmax
comp=Z,21nm,1.1s
J14K Nanvaranak Lak 93.36 6 P **P** 07 39 39.1 +0.6
baz=192
L17K Donlin 93.37 9 P **P** 07 39 39.8 +1.1
baz=197
N20K Mount Spurr 93.45 12 P **P** 07 39 40.0 +0.9
baz=202
CRAG Craig 93.48 24 P **P** 07 39 39.7 +0.4
baz=218
HLID Hailey 93.49 41 P **P** 07 39 40.1 +0.2
HLID IAMs_20 IAMs_20 08 19 56.8
comp=Z,589nm,20.0s
HLID Hailey 93.49 41 P **P** 07 39 40.0 +0.1
baz=231
F10A Beach Ranch, E 93.51 37 P **P** 07 39 39.4 -0.5
F10A IAmb IAmb 07 39 54.2
comp=Z,22nm,1.4s
PLID Pearl Lake 93.59 39 P **P** 07 39 40.8 +0.4
PLID IAMs_20 IAMs_20 08 19 13.3
comp=Z,902nm,19.0s
CMAR Chiang Mai Arr 93.64 289 P **P** 07 39 41.6 +0.6
comp=Z,1.7nm,0.3s,baz=137,slow=4.8,SNR=1.7
CMAR LR LR 08 24 18.3
comp=Z,149nm,19.5s,baz=125,slow=37
comp=Z,1.7nm,0.3s
L18K Granite Mounta 93.68 10 P **P** 07 39 40.6 +0.6
baz=198
LVC Limon Verde 93.74 119 LR LR 08 12 05.7
comp=Z,525nm,21.9s,baz=212,slow=29
HEH HeiHe 93.74 328 *e*P **P** 07 39 40.3 -0.3
HEH pmax pmax
comp=Z,11nm,1.0s
HEH LR LR
comp=Z,490nm,16.1s
HEH LR LR
comp=Z,260nm,16.7s
HEH LR LR
comp=Z,770nm,18.6s
BSUT Blindstream Ca 93.76 45 P **P** 07 39 41.9 +0.5
BSUT IAmb IAmb 07 39 59.0
comp=Z,23nm,1.5s
RC01 Rabbit Creek A 93.81 13 P **P** 07 39 40.5 -0.2
baz=204
GAMB Gambell 93.82 3 P **P** 07 39 42.0 +1.4
baz=185
V35K Ketchikan 93.90 24 P **P** 07 39 42.4 +1.2
baz=219
L19K White Mountain 93.92 10 P **P** 07 39 43.1 +1.9
baz=200
HWUT Hardware Ranch 93.92 43 P **P** 07 39 42.0 0.0
M20K Styx River 93.92 11 P **P** 07 39 43.1 +1.8
baz=201
KAIM Kayak Island 93.93 16 P **P** 07 39 42.4 +1.2
baz=208
K17K Iditarod 93.93 9 IAMs_20 IAMs_20 08 17 20.5
comp=Z,585nm,20.0s
K17K Iditarod 93.93 9 P **P** 07 39 42.8 +1.6
baz=197
SUA Susitna One 93.96 13 P **P** 07 39 42.8 +1.3
baz=203
U33K Whale Pass 94.00 23 P **P** 07 39 42.6 +1.0
baz=218
SIT Sitka 94.03 22 P **P** 07 39 43.2 +1.5
baz=216
KMI Kunming 94.03 297 ⇑P **P** 07 39 43.5 +0.6
KMI pmax pmax
comp=Z,12nm,1.0s
KMI LR LR
comp=Z,220nm,22.2s
KMI LR LR
comp=Z,160nm,23.5s
KMI LR LR
comp=Z,310nm,23.1s
EYAK Cordova Ski Ar 94.17 15 P **P** 07 39 44.0 +1.7
baz=207
J16K Anvik River 94.20 8 P **P** 07 39 44.1 +1.7
baz=195
XAN Xi'an 94.27 307 P **P** 07 39 46.4 +2.9
XAN S **S** 07 50 57.5 +3.8
XAN pmax pmax
comp=Z,16nm,1.2s
XAN LR LR
comp=Z,340nm,18.1s
XAN LR LR
comp=Z,480nm,16.3s
XAN LR LR
comp=Z,660nm,17.5s
SKT Skwentna 94.30 12 IAMs_20 IAMs_20 08 17 52.2
comp=Z,777nm,21.0s
SKT Skwentna 94.30 12 P **P** 07 39 44.4 +1.5
baz=202
DRIO Del Rio 94.33 58 P **P** 07 39 43.6 -0.3
M22K Willow 94.35 13 IAMs_20 IAMs_20 08 17 43.7
comp=Z,655nm,20.0s
M22K Willow 94.35 13 P **P** 07 39 44.2 +1.1
baz=204
L20K Farewell, AK 94.36 11 P **P** 07 39 44.7 +1.5
baz=200
KNK Knik Glacier 94.36 14 P **P** 07 39 45.4 +2.2
baz=205
ATAH Atahualpa 94.37 101 LR LR 08 12 21.4
comp=Z,432nm,22.0s,baz=243,slow=29
PMR Palmer 94.39 13 P **P** 07 39 45.0 +1.7
baz=204
TTA Tatalina 94.46 10 P **P** 07 39 44.1 +0.4
TTA IAmb IAmb 07 39 51.4
comp=Z,13nm,1.0s
TTA Tatalina 94.46 10 P **P** 07 39 45.2 +1.4
baz=199
TTA Tatalina 94.46 10 P **P** 07 39 44.1 +0.4
TTA pmax pmax
comp=Z,13nm,1.0s
S31K Pelican 94.48 21 P **P** 07 39 44.8 +1.0
baz=215
WRAK Wrangell Islan 94.50 23 P **P** 07 39 44.7 +0.8
baz=218
GHO Glory Hole Cre 94.60 13 P **P** 07 39 45.1 +0.8
GHO IAmb IAmb 07 39 55.2
comp=Z,19nm,0.9s
S32K Killisnoo 94.60 22 P **P** 07 39 44.5 +0.2
baz=216
833A Chaparral WMA, 94.66 60 P **P** 07 39 45.8 +0.5
baz=238
SML Sawmill 94.75 13 P **P** 07 39 46.0 +1.0
baz=205
MESA MESA 94.75 17 P **P** 07 39 45.9 +0.7
baz=210
I17K Unalakleet 94.77 7 P **P** 07 39 46.5 +1.5
baz=195
BMRM Bremner River 94.80 15 P **P** 07 39 45.7 +0.4
baz=208
M23K Glacier View 94.86 14 P **P** 07 39 46.0 +0.5
baz=206
J18K Innoko River 94.87 9 IAMs_20 IAMs_20 08 17 50.2
comp=Z,661nm,20.0s
J18K Innoko River 94.87 9 P **P** 07 39 46.0 +0.5
baz=198
AHID Auburn Hatcher 94.90 43 P **P** 07 39 46.7 +0.3
AHID IAmb IAmb 07 40 04.6
comp=Z,27nm,1.4s
AHID IAMs_20 IAMs_20 08 20 55.3
comp=Z,735nm,19.0s
CUT Chulitna 94.92 12 IAMs_20 IAMs_20 08 17 50.8
comp=Z,795nm,20.0s
CUT Chulitna 94.92 12 P **P** 07 39 46.4 +0.7
baz=204
CRQE Cirque 94.97 16 P **P** 07 39 46.6 +0.4
baz=210
KLU Klutina 94.97 15 P **P** 07 39 46.9 +0.8
baz=207
SCM Sheep Creek Mo 94.98 14 P **P** 07 39 47.2 +1.1
baz=206
ANM Nome 94.99 5 P **P** 07 39 46.9 +0.9

baz=191
PNL **Peninsula** 94.99 18 P P 07 39 47.1 +1.0
baz=213
PPLA **Purkeypile** 95.03 11 P P 07 39 46.6 +0.2
baz=202
APG **El Apazote** 95.03 76 LR LR 08 13 11.0
comp=Z,16nm,20.6s,baz=270,slow=30
NEW **Newport** 95.07 36 IAMs_20 IAMs_20 08 13 14.3
comp=Z,824nm,21.0s
NEW **Newport** 95.07 36 P P 07 39 47.5 +0.7
baz=229
NEW **Newport** 95.07 36 LR LR 08 19 12.8
comp=Z,502nm,18.2s,baz=232,slow=33
O20A **White River Ci** 95.07 46 P P 07 39 46.8 -0.5
baz=234
K20K **Telida** 95.16 10 P P 07 39 47.8 +0.9
baz=200
MSTX **Muleshoe** 95.22 54 P P 07 39 48.2 +0.2
baz=237
R32K **Eaglecrest** 95.27 21 P P 07 39 47.2 -0.2
baz=216
SMCO **Snowmass** 95.32 47 P P 07 39 48.7 0.0
SMCO IAmb IAmb 07 41 09.5
comp=Z,26nm,1.9s
SMCO IAMs_20 IAMs_20 08 11 40.7
comp=Z,600nm,21.0s
H16K **Elim** 95.34 7 P P 07 39 48.2 +0.7
baz=193
N25K **Chitina, Valde** 95.37 15 P P 07 39 48.8 +0.9
baz=208
REDW **Red Top Meadow** 95.41 42 P P 07 39 48.6 -0.1
P29M **Windy Craggy** 95.42 19 P P 07 39 48.3 +0.1
baz=214
SNET **Serv Nac Est T** 95.42 77 IAMs_20 IAMs_20 08 11 43.1
comp=Z,835nm,22.0s
TPAW **Teton Pass** 95.42 42 P P 07 39 49.5 +0.6
TPAW IAmb IAmb 07 40 08.3
comp=Z,25nm,1.6s
XLT **XiLinHaoTe** 95.44 318 eP P 07 39 49.9 +1.2
XLT sP sP 07 39 58.0 +0.3
XLT pmax pmax
comp=Z,7.0nm,0.8s
XLT pmax pmax
comp=Z,160nm,4.4s
XLT LR LR
comp=Z,520nm,19.6s
XLT LR LR
comp=Z,490nm,23.8s
SDCO **Great Sand Dun** 95.46 49 P P 07 39 49.2 0.0
baz=236
M24K **Tolsona, Glenn** 95.47 14 P P 07 39 49.7 +1.4
baz=207
FXWY **Fox Creek** 95.47 42 IAMs_20 IAMs_20 08 21 20.3
comp=Z,917nm,20.0s
JCT **Junction City** 95.49 58 P P 07 39 49.3 +0.1
baz=238
PZH **PanZhiHua** 95.51 297 P P 07 39 51.3 +1.8
PZH S S 07 51 07.3 +2.3
PZH pmax pmax
comp=Z,10.0nm,0.4s
PZH pmax pmax
comp=Z,220nm,6.3s
PZH LR LR
comp=Z,230nm,16.7s
PZH LR LR
comp=Z,190nm,18.0s
PZH LR LR
comp=Z,260nm,15.7s
G15K **Niukluk** 95.52 6 P P 07 39 49.2 +0.8
baz=192
J19K **Poorman** 95.52 10 IAMs_20 IAMs_20 08 18 20.6
comp=Z,671nm,20.0s
J19K **Poorman** 95.52 10 P P 07 39 48.7 +0.3
baz=199
CAST **Castle Rocks** 95.54 11 P P 07 39 48.3 -0.2
baz=202
MCARA **McCarthy VSAT** 95.54 16 P P 07 39 48.2 -0.4
baz=210
WAT6 **Susitna Watana** 95.57 13 P P 07 39 49.3 +0.4
baz=206
CTG **Chitna Glacier** 95.59 17 P P 07 39 49.8 +0.8
baz=211
BARN **Barnard Glacie** 95.59 17 IAMs_20 IAMs_20 08 14 46.7
comp=Z,671nm,20.0s
WAT1 **Susitna Watana** 95.63 13 P P 07 39 49.5 +0.4
baz=205
T35M **Bob Quinn** 95.67 24 P P 07 39 50.2 +0.8
baz=220
IMW **Indian Meadow** 95.68 42 IAMs_20 IAMs_20 08 19 58.7
comp=Z,727nm,19.0s
O29M **Mount Kennedy** 95.75 18 P P 07 39 50.9 +1.1
baz=213
TNA **Tin City** 95.80 4 P P 07 39 50.0 +0.4
baz=188
BW06 **Boulder Array** 95.81 43 P P 07 39 50.1 -0.5
baz=234
PDAR **Pinedale Array** 95.81 43 P P 07 39 49.9 -0.8
comp=Z,0.4nm,0.6s,baz=195,slow=4.0,SNR=6.6
PDAR PKKPbc PKKPbc 07 56 40.2 -0.7
comp=Z,1.3nm,0.6s,baz=88,slow=3.8,SNR=15
PDAR LR LR 08 20 26.6
comp=Z,537nm,18.3s,baz=236,slow=34
comp=Z,0.4nm,0.6s
F14K **Arctic Creek** 95.81 5 P P 07 39 50.1 +0.4
baz=190
T25A **Trinidad** 95.84 50 P P 07 39 50.8 -0.1
baz=236
KTH **Kantishna Hill** 95.86 12 IAMs_20 IAMs_20 08 18 52.6
comp=Z,824nm,21.0s
TRF **Thorofare Moun** 95.88 12 P P 07 39 50.7 +0.4
baz=204
H17K **Granite Mounta** 95.88 7 P P 07 39 50.4 +0.4
baz=195
SEY **Seymchan** 95.90 347 ceP P 07 39 50.8 +0.6
SEY pmax pmax
comp=Z,10.0nm,0.9s
SEY **Seymchan** 95.90 347 LR LR 08 18 34.6
comp=Z,670nm,21.0s,baz=152,slow=33
J20K **Nowinta River** 95.92 10 P P 07 39 51.3 +1.1
baz=200
CHUM **Lake Minchumin** 95.93 11 P P 07 39 50.4 +0.2
baz=202
HARP **HAARP** 95.95 15 P P 07 39 51.0 +0.5
baz=208
SKAG **Skagway** 95.98 20 P P 07 39 51.6 +1.0
baz=216
P30M **Million Dollar** 96.05 19 P P 07 39 51.8 +0.7
baz=215
GCSA **Galena City Sc** 96.07 9 P P 07 39 52.0 +1.1
baz=198
G16K **Koyuk River** 96.07 6 P P 07 39 51.5 +0.6
baz=193
S34M **Telegraph Cree** 96.08 23 P P 07 39 52.0 +0.9
baz=219
DHY **Denali Highway** 96.09 13 P P 07 39 51.3 0.0
baz=206
F15K **North Star Dit** 96.17 5 P P 07 39 52.1 +0.7
baz=191
H17A **Grant Village** 96.19 42 P P 07 39 52.1 -0.3
baz=233
YHH **Holmes Hill** 96.26 41 P P 07 39 53.1 +0.4
ZEA **Zeya** 96.27 331 eP P 07 39 52.7 +0.6
ZEA pmax pmax
comp=Z,10.0nm,0.9s
H18K **Honhosa River** 96.27 8 P P 07 39 51.8 0.0
baz=197
CD2 **Chengdu** 96.27 302 P P 07 39 52.9 +0.1
CD2 S S 07 51 13.0 +1.7
CD2 LR LR
comp=Z,320nm,14.3s
CD2 LR LR
comp=Z,270nm,20.8s
CD2 LR LR
comp=Z,300nm,17.6s
BOZ **Bozeman (W)** 96.31 40 P P 07 39 53.1 +0.4
baz=233
YUK6 **Outpost Mounta** 96.34 18 P P 07 39 52.4 -0.2
baz=214
G17K **Kiwalik Mounta** 96.34 7 P P 07 39 53.2 +1.0
baz=195
HHC **Hu-ho-hao-te** 96.35 314 eP P 07 39 52.4 -0.6
HHC SKS SKSac 07 50 27.4 -0.7
HHC S ScS 07 51 12.4 +0.2
HHC pmax pmax
comp=Z,5.0nm,0.9s
HHC pmax pmax
comp=Z,190nm,6.7s
HHC LR LR
comp=Z,200nm,19.9s
HHC LR LR
comp=Z,300nm,19.9s
HHC LR LR
comp=Z,680nm,19.1s
BPAW **Bear Paw Mtn.** 96.35 11 IAMs_20 IAMs_20 08 18 47.6
comp=Z,598nm,21.0s
BPAW **Bear Paw Mtn.** 96.35 11 P P 07 39 52.5 +0.2
baz=203
Q24A **Divide** 96.37 48 P P 07 39 53.2 -0.2
baz=236
MCK **McKinley** 96.38 12 P P 07 39 52.8 +0.4
baz=205
PAX **Paxson** 96.39 14 P P 07 39 53.1 +0.5
baz=208
M26K **Nabesna, AK** 96.43 15 P P 07 39 54.0 +1.2
baz=210
I20K **Naaghedeneel** 96.45 10 IAMs_20 IAMs_20 08 24 16.1
comp=Z,604nm,19.0s
I20K **Naaghedeneel** 96.45 10 P P 07 39 53.3 +0.7
baz=200
AMTX **Amarillo** 96.48 53 P P 07 39 53.3 -0.4
baz=238
HYT **Haines Junctio** 96.48 19 P P 07 39 53.5 +0.4
baz=214
YUK3 **Moose Creek** 96.50 17 P P 07 39 54.0 +0.8
baz=212
Q32M **Nakina River** 96.53 22 P P 07 39 54.0 +0.6
baz=218
ISCO **Idaho Springs** 96.54 48 P P 07 39 53.0 -1.1
baz=236
P32M **Atlin** 96.57 21 P P 07 39 55.2 +1.7
baz=217
YUK4 **Talbot Arm** 96.60 18 P P 07 39 54.3 +0.6
baz=213
M27K **Edge Creek, AK** 96.66 16 P P 07 39 55.2 +1.3
baz=211
ABTX **Abilene, Hawle** 96.72 56 P P 07 39 53.5 -1.2
baz=238
MENT **Mentasta** 96.74 15 P P 07 39 54.3 +0.2
MENT **Mentasta** 96.74 15 P P 07 39 55.1 +1.0
MENT IAmb IAmb 07 40 01.8
comp=Z,8.3nm,0.8s
O30N **Mendenhall** 96.83 19 P P 07 39 54.9 +0.4
baz=215
DLBC **Dease Lake** 96.86 23 P P 07 39 55.5 +0.8
baz=220
DLBC **Dease Lake** 96.86 23 LR LR 08 18 25.9
comp=Z,319nm,19.9s,baz=274,slow=32
H19K **Roundabout Mou** 96.87 9 P P 07 39 55.2 +0.7
baz=198
L26K **Log Cabin Wild** 96.90 15 P P 07 39 56.0 +1.3
baz=210
N23A **Red Feather La** 96.94 46 P P 07 39 55.8 -0.1
baz=236
G18K **Tagagawik** 96.95 8 P P 07 39 55.5 +0.5
baz=196
BVCY **Beaver Creek** 96.95 16 P P 07 39 55.7 +0.7
baz=212
H20K **Anotleneega Mo** 97.05 9 P Pdif 07 39 56.6 +1.1
baz=200
K24K **Donnelly Dome** 97.06 14 P Pdif 07 39 56.2 +0.6
baz=208
WHY **Whitehorse** 97.09 20 P Pdif 07 39 56.2 +0.3
baz=216
N30M **Aishikik Lake** 97.12 18 P Pdif 07 39 56.6 +0.6
baz=215
NEA2 **Nenana** 97.14 12 IAMs_20 IAMs_20 08 19 10.5
comp=Z,884nm,20.0s
NEA2 **Nenana** 97.14 12 P Pdif 07 39 56.6 +0.6
baz=205
F17K **Baldwin Pennin** 97.20 7 P Pdif 07 39 57.4 +1.3
baz=194
RIDG **Independent Ri** 97.20 14 P Pdif 07 39 57.3 +1.0
baz=208
WRH **Wood River Hil** 97.21 12 P P 07 39 55.1 -1.0
WRH IAmb IAmb 07 40 01.4
comp=Z,21nm,1.2s
MLY **Manley** 97.26 11 P Pdif 07 39 58.1 +1.6
baz=203
TGUH **Tegucigalpa,Un** 97.26 78 IAMs_20 IAMs_20 08 13 14.8
comp=Z,650nm,22.0s
L27K **Beaver Creek,** 97.28 16 P Pdif 07 39 57.9 +1.4
baz=211
435B **Jarrell** 97.28 59 P Pdif 07 39 57.6 +0.2
baz=239
R33M **Jennings River** 97.29 22 P Pdif 07 39 57.3 +0.5
baz=219
P33M **Teslin, Yukon** 97.34 21 P Pdif 07 39 58.0 +1.0
baz=218
RLMT **Red Lodge** 97.37 42 P P 07 39 57.6 0.0
baz=234
HDA **Harding Lake** 97.37 13 P Pdif 07 39 58.2 +1.2
baz=206
G19K **Purcell Mounta** 97.38 8 P Pdif 07 39 57.2 +0.3
baz=198
JTS **Las Juntas de** 97.41 82 LR LR 08 14 30.7
comp=Z,483nm,20.1s,baz=268,slow=30
CCB **Clear Creek Bu** 97.42 12 P P 07 39 56.8 -0.3
H21K **Melozitna Rive** 97.51 10 P Pdif 07 39 58.9 +1.3
baz=202
F18K **Selawik** 97.52 7 P Pdif 07 39 58.0 +0.5
baz=196
K22A **Casper** 97.57 45 P P 07 39 58.0 -0.5
baz=236
M29M **Somme Creek** 97.57 17 P Pdif 07 39 58.4 +0.3
baz=214
SCRK **Sand Creek** 97.59 14 P Pdif 07 39 58.4 +0.3
SCRK **Sand Creek** 97.59 14 P Pdif 07 39 59.0 +0.9
baz=209
I23K **Minto, Yukon-K** 97.60 12 P P 07 39 57.4 -0.4
I23K **Minto, Yukon-K** 97.60 12 P Pdif 07 39 59.6 +1.7
baz=204
COLA **College** 97.62 12 P Pdif 07 40 00.0 +2.0
COLA **College** 97.62 12 IAMs_20 IAMs_20 08 19 45.1
comp=Z,652nm,21.0s
COLA **College** 97.62 12 P Pdif 07 39 59.5 +1.5
baz=206
COLA **College** 97.62 12 iP Pdif 07 39 59.3 +1.3
COLA pmax pmax
comp=Z,11nm,1.0s
MDM **Murphy Dome** 97.63 12 IAMs_20 IAMs_20 08 19 36.4
comp=Z,791nm,20.0s
IMAR **Indian Mountai** 97.67 10 P Pdif 07 39 59.1 +0.9
ILAR **Eielson Array** 97.71 13 P P 07 39 57.3 -1.1
comp=Z,1.1nm,0.7s,baz=222,slow=5.7,SNR=12
ILAR PP PP 07 43 51.8 -5.1
comp=Z,1.3nm,1.0s,baz=229,slow=8.2,SNR=4.7
ILAR PKiKP PKiKP 07 44 32.9 +0.7
comp=Z,0.5nm,0.9s,baz=170,slow=2.7,SNR=2.1
ILAR PKKP PKKPdf 07 56 39.9 +0.6
comp=Z,0.5nm,0.7s,baz=24,slow=2.8,SNR=6.9
ILAR LR LR 08 16 47.1
comp=Z,116nm,21.7s,baz=205,slow=31
comp=Z,1.1nm,0.7s
E17K **Hotham Inlet** 97.77 6 P Pdif 07 39 59.3 +0.7
baz=194
J25K **Salcha River,** 97.87 13 P Pdif 07 40 00.1 +0.9
baz=208
POKR **Poker Plat Res** 97.92 12 P Pdif 07 40 00.8 +1.4
baz=206
LPAZ **La Paz** 97.92 114 P Pdif 07 40 02.4 +1.0
comp=Z,0.5nm,0.6s,baz=345,slow=5.0,SNR=4.6
LPAZ LR LR 08 15 21.7
comp=Z,323nm,21.8s,baz=208,slow=30
comp=Z,0.5nm,0.6s
H22K **Ishtalitna Cre** 97.95 11 P Pdif 07 40 00.0 +0.5
baz=203
F19K **Shalerockik Mo** 97.95 8 P Pdif 07 40 01.1 +1.6
baz=197
WHTX **Lake Whitney,** 97.99 58 P P 07 40 00.2 -0.2
baz=239
N32M **Quiet Lake** 98.01 20 P Pdif 07 40 01.2 +1.3
baz=218
KSCO **Kaye Shedlock'** 98.04 49 P Pdif 07 40 01.2 +0.5
baz=238
K27K **Chicken** 98.06 15 P Pdif 07 40 01.5 +1.5
baz=211
M30M **Minto, Yukon** 98.12 18 P Pdif 07 40 01.5 +1.1
baz=215
J26L **Joseph Creek** 98.14 14 P P 07 40 00.2 -0.2
J26L IAmb IAmb 07 40 08.5
comp=Z,8.6nm,0.8s
J26L **Joseph Creek** 98.14 14 P Pdif 07 40 01.7 +1.2
baz=209
G21K **Allakaket** 98.21 10 IAMs_20 IAMs_20 08 19 41.6
comp=Z,682nm,22.0s
G21K **Allakaket** 98.21 10 P Pdif 07 40 02.0 +1.3
baz=201
L29M **L29M** 98.21 17 P Pdif 07 40 02.4 +1.7
baz=214
E18K **Tukpahlearik C** 98.22 7 P Pdif 07 40 02.1 +1.5
baz=195
D17K **Noatak River** 98.26 6 P Pdif 07 40 02.2 +1.4
baz=193
F20K **Avaraart Lake** 98.41 9 P Pdif 07 40 03.0 +1.5
baz=199
WMOK **Wichita Mounta** 98.43 55 P Pdif 07 40 03.1 +0.7
baz=239
M31M **Drury Creek, Y** 98.47 19 P Pdif 07 40 03.8 +1.9
baz=217
H24K **Noodor Dome** 98.49 12 P Pdif 07 40 03.7 +1.7
baz=206
WTLY **Watson Lake, Y** 98.55 22 P Pdif 07 40 03.6 +1.3
baz=221
E19K **Redstone River** 98.61 8 P Pdif 07 40 03.4 +1.0
baz=198
RDOG **Red Dog Mine** 98.62 6 IAMs_20 IAMs_20 08 24 11.3
comp=Z,570nm,20.0s
RDOG **Red Dog Mine** 98.62 6 P Pdif 07 40 03.4 +1.0
baz=193
PRP **Porcupine Dome** 98.64 13 P P 07 40 02.9 +0.2
PRP **Porcupine Dome** 98.64 13 P Pdif 07 40 03.6 +0.9
baz=208
C16K **Lisburne Hills** 98.65 5 P Pdif 07 40 03.2 +0.7
C16K IAmb IAmb 07 40 09.9
comp=Z,15nm,1.4s
C16K **Lisburne Hills** 98.65 5 P Pdif 07 40 03.6 +1.1
baz=191
DAWY **Dawson** 98.71 16 P P 07 40 02.9 0.0
DAWY IAmb IAmb 07 41 06.4
comp=Z,26nm,1.9s
DAWY **Dawson** 98.71 16 P Pdif 07 40 04.8 +1.9
baz=213
BILL **Bilibino** 98.73 354 P P 07 40 02.7 -0.2
BILL IAmb IAmb 07 40 04.1
comp=Z,10nm,1.1s
BILL **Bilibino** 98.73 354 eP Pdif 07 40 03.6 +0.7
FARO **Faro, Yukon** 98.79 19 P Pdif 07 40 04.5 +1.2
baz=218
EGMT **Eagleton** 98.79 39 P Pdif 07 40 05.4 +1.6
baz=234
TOAD **Toad River Com** 98.85 25 P Pdif 07 40 04.8 +1.1
baz=224
F21K **Alatna River** 98.87 9 IAMs_20 IAMs_20 08 20 35.1
comp=Z,588nm,20.0s
F21K **Alatna River** 98.87 9 P Pdif 07 40 04.3 +0.7
baz=201
LZH **Lanzhou** 98.88 307 eP P 07 40 02.4 -2.2
LZH sP pP 07 40 11.6 +0.4
LZH pmax pmax
comp=Z,14nm,1.1s
LZH LR LR
comp=Z,190nm,14.6s
LZH LR LR
comp=Z,410nm,15.8s
EGAK **Eagle** 98.91 15 P Pdif 07 40 05.0 +1.3
baz=211
G23K **Bananza Creek** 98.92 11 P Pdif 07 40 04.7 +0.8
baz=204
I26K **Coal Creek Min** 98.93 14 P Pdif 07 40 05.3 +1.4
baz=210
K29M **Barlow Dome** 98.98 17 P Pdif 07 40 05.6 +1.4
baz=214
C17K **DeLong Mountai** 99.01 5 P Pdif 07 40 05.2 +1.0
baz=193
H25L **Birch Creek** 99.25 12 P Pdif 07 40 07.3 +2.0
baz=208
G24K **Hadweenzic Riv** 99.34 12 IAMs_20 IAMs_20 08 20 28.6
comp=Z,871nm,20.0s
G24K **Hadweenzic Riv** 99.34 12 P Pdif 07 40 05.9 +0.3
baz=206
C18K **Utukok River** 99.35 6 IAMs_20 IAMs_20 08 22 45.6
comp=Z,650nm,21.0s
C18K **Utukok River** 99.35 6 P Pdif 07 40 06.8 +1.0
baz=194
COLD **Coldfoot** 99.37 10 P Pdif 07 40 07.4 +1.7
baz=204
TEIG **Tepich** 99.40 72 LR LR 08 16 51.8
comp=Z,897nm,21.8s,slow=30
E20K **Nigu River** 99.50 8 P Pdif 07 40 08.1 +1.7
baz=199
D19K **Kuna River** 99.51 7 P Pdif 07 40 07.5 +1.1
baz=197
I27K **Kandik River** 99.51 14 P Pdif 07 40 07.7 +1.2
baz=211
G25K **Bearman Lake** 99.64 12 P Pdif 07 40 08.0 +1.0
baz=207
I28M **Miner Creek** 99.75 15 P Pdif 07 40 09.7 +2.1
baz=212
CPUP **Villa Florida** 99.83 128 PKKPbc PKKPbc 07 56 26.4 -2.0
comp=Z,1.5nm,0.8s,baz=42,slow=8.5,SNR=3.3
J30M **Hart River** 99.88 17 P Pdif 07 40 09.8 +1.6
baz=216
D20K **Etivluk River** 99.89 8 P Pdif 07 40 09.9 +1.9
baz=198
RSSD **Black Hills** 99.89 45 P Pdif 07 40 10.0 +1.1
baz=237
OK029 **Liberty Lake** 99.90 54 IAMs_20 IAMs_20 08 21 27.6
comp=Z,770nm,18.0s
NATX **Nacogdoches** 99.93 59 P Pdif 07 40 09.9 +0.8
baz=241
C19K **Lookout Ridge** 99.95 6 P Pdif 07 40 10.1 +1.7
baz=196
E22K **Anaktuvuk Pass** 99.96 10 IAMs_20 IAMs_20 08 21 10.9
comp=Z,578nm,20.0s
E22K **Anaktuvuk Pass** 99.96 10 P Pdif 07 40 10.3 +1.8
baz=203
B18K **Kokolik River** 100.00 6 P Pdif 07 40 10.5 +2.1
baz=194
LAO **LASA Array** 100.01 41 P Pdif 07 40 10.5 +1.4
baz=236
F24K **Squaw Lake** 100.01 11 IAMs_20 IAMs_20 08 21 35.2
comp=Z,878nm,21.0s
F24K **Squaw Lake** 100.01 11 P Pdif 07 40 10.6 +1.9
baz=206
H27K **Steamboat Moun** 100.07 14 P Pdif 07 40 11.5 +2.5
baz=211
E23K **Chandalar** 100.22 10 P Pdif 07 40 11.4 +1.8
baz=204
G26K **Porcupine Rive** 100.24 13 P Pdif 07 40 11.5 +1.9
baz=209
OK033 **Mehan** 100.39 54 IAMs_20 IAMs_20 08 23 25.5
comp=Z,660nm,21.0s
I30M **Mount Dempster** 100.40 16 P Pdif 07 40 11.9 +1.3
baz=216
OK052 **Battle Ridge R** 100.46 55 IAMs_20 IAMs_20 08 21 45.3
comp=Z,773nm,18.0s
F25K **Christian Rive** 100.46 12 P Pdif 07 40 12.4 +1.7
baz=208
C21K **Knifeblade Rid** 100.53 8 P Pdif 07 40 12.5 +1.7
baz=200
D22K **Ayikyak River** 100.53 9 P Pdif 07 40 12.8 +1.9
baz=202
G27K **Doyon Strip** 100.54 14 P Pdif 07 40 11.7 +0.7
baz=211
H29M **Whitestone** 100.75 15 P Pdif 07 40 12.6 +0.7
baz=214
TOLK **Toolik Lake Re** 100.76 10 P Pdif 07 40 12.9 +0.9
baz=205
F26K **Sheenjek River** 100.83 12 P Pdif 07 40 13.0 +0.7
baz=209
A19K **Wainwright** 100.88 6 P Pdif 07 40 13.2 +0.8
baz=195
D23K **Nanushuk River** 100.89 10 P Pdif 07 40 14.5 +2.0
baz=204
E25K **Arctic Village** 100.95 12 IAMs_20 IAMs_20 08 21 52.0
comp=Z,934nm,22.0s
E25K **Arctic Village** 100.95 12 P Pdif 07 40 14.6 +1.8
baz=208
B21K **Ikpikpuk River** 100.98 8 P Pdif 07 40 15.2 +2.4
baz=200
B20K **Meade River** 101.06 7 P Pdif 07 40 15.5 +2.3
baz=198
TUL3 **Leonard** 101.13 55 IAMs_20 IAMs_20 08 27 24.2
comp=Z,744nm,18.0s
TUL3 **Leonard** 101.13 55 P Pdif 07 40 16.3 +1.9
baz=241
EPYK **Eagle Plains** 101.25 16 P Pdif 07 40 16.7 +2.5
baz=215
D24K **Happy Valley** 101.34 10 P Pdif 07 40 17.0 +2.6
baz=205
G29M **Pine Creek** 101.41 15 P Pdif 07 40 16.9 +2.0
baz=214
F28M **Old Crow** 101.60 14 P Pdif 07 40 17.8 +2.2
baz=213

C23K	Itkillik River	101.70	9	P		Pdif	07 40 18.1	+2.0	
	baz=204								
E27K	Coleen River	101.74	13	P		Pdif	07 40 17.8	+1.5	
	baz=211								
G30M	tAoh Zraii Nji	101.87	15	P		Pdif	07 40 18.6	+1.7	
	baz=216								
C24K	Franklin Bluff	101.87	10	P		Pdif	07 40 19.3	+2.5	
	baz=205								
D25K	Kavik River	101.88	11	IAMs_20	IAMs_20		08 22 45.6		
	comp=Z,764nm,21.0s								
D25K	Kavik River	101.88	11	P		Pdif	07 40 19.2	+2.3	
	baz=207								
A22K	Sinclair Lake	102.25	7	P		Pdif	07 40 20.6	+2.2	
	baz=200								
G31M	Satah River	102.28	16	P		Pdif	07 40 20.2	+1.5	
	baz=218								
A21K	Barrow	102.37	7	P		Pdif	07 40 21.4	+2.4	
	baz=199								
F30M	Barrier River	102.48	15	P		Pdif	07 40 21.9	+2.3	
	baz=216								
E28M	Babbage River	102.50	13	IAMs_20	IAMs_20		08 22 54.2		
	comp=Z,599nm,21.0s								
E28M	Babbage River	102.50	13	P		Pdif	07 40 21.5	+1.8	
	baz=213								
WRGLY	Wrigley	102.57	22	P		Pdif	07 40 21.6	+1.5	
	baz=226								
C26K	Camden Bay	102.65	11	P		Pdif	07 40 22.6	+2.3	
	baz=209								
E29M	Blow River	102.66	14	P		Pdif	07 40 22.3	+2.0	
	baz=215								
D27M	Malcolm River	102.76	13	P		Pdif	07 40 22.8	+1.9	
	baz=212								
F31M	Tsiigehtchic	102.82	16	P		Pdif	07 40 22.6	+1.5	
	baz=218								
SONM	Songino Array	103.24	318	Pdiff		Pdif	07 40 22.2	-1.4	
	comp=Z,1.1nm,0.4s,baz=14,slow=41,SNR=3.4								
D28M	Stokes Point	103.27	13	P		Pdif	07 40 25.1	+2.1	
	baz=214								
INK	Inuvik	103.55	15	P		Pdif	07 40 25.6	+1.3	
	baz=218								
MDND	Maddock	104.46	43	P		Pdif	07 40 30.0	+1.1	
	baz=241								
OXF	Oxford	105.11	59	P		PKiKP	07 44 46.1	-0.5	
	baz=244								
YKA	Yellowknife Ar	105.17	25	Pdiff		Pdif	07 40 33.9	+2.2	
	comp=Z,0.1nm,0.5s,baz=49,slow=15,SNR=1.9								
YKA				PKiKP		PKiKP	07 44 45.6	-0.2	
	comp=Z,0.2nm,0.5s,baz=258,slow=1.9,SNR=3.2								
YKA				PKKPbc		PKKPbc	07 56 12.4	-1.8	
	comp=Z,1.0nm,0.9s,baz=36,slow=3.8,SNR=7.8								
SAML	Samuel	106.05	111	IAMs_20	IAMs_20		08 20 45.3		
	comp=Z,618nm,20.0s								
C36M	Paulatuk	106.64	17	P		PKiKP	07 44 49.2	+0.9	
	baz=227								
ULM	Lac du Bonnet	107.74	42	PKKPbc	PKKPbc		07 56 05.7	-0.1	
	comp=Z,2.2nm,0.9s,baz=58,slow=4.5,SNR=4.6								
ULM				PKKP			07 56 19.9		
	comp=Z,4.6nm,0.9s,baz=57,slow=5.7,SNR=4.6								
WMQ	Urumqi	113.38	308	*e*PKP		PKiKP	07 45 03.1	+1.2	
WMQ				LR	LR				
	comp=Z,360nm,24.0s								
BOSA	Boshof	117.52	203	PKP		PKiKP	07 45 10.9	+0.3	
	comp=Z,2.6nm,0.5s,baz=186,slow=2.5,SNR=9.4								
MK31	Makanchi Array	117.91	310	*c* PKiKP		PKPdf	07 45 09.0	-1.5	
MKAR	Makanchi Array	117.91	310	PKP		PKPdf	07 45 09.1	-1.4	
	comp=Z,4.0nm,0.6s,baz=194,slow=0.9,SNR=35								
MKAR				PKKPbc		PKKPbc	07 55 31.7	+0.3	
	comp=Z,0.3nm,0.5s,baz=264,slow=3.6,SNR=5.6								
MAKZ	Makanchi	118.12	310	IAMs_20	IAMs_20		08 31 45.1		
	comp=Z,435nm,22.0s								
MAKZ	Makanchi	118.12	310	PKiKP		PKPdf	07 45 08.4	-2.5	
ZALV	Zalesovo Beam	118.13	318	PKP		PKPdf	07 45 09.4	-1.2	
	comp=Z,1.1nm,0.3s,baz=119,slow=1.9,SNR=12								
PDGK	Podgornoye	118.31	306	PKiKP		PKPdf	07 45 11.0	-1.6	
NRIK	Noril'sk	119.63	336	*c* PKiKP		PKiKP	07 45 13.4	+0.3	
NRIK	Noril'sk	119.63	336	PKP		PKPdf	07 45 12.6	-0.4	
	comp=Z,3.2nm,0.4s,baz=107,slow=3.1,SNR=5.6								
ARXS	Arharly	120.30	306	*e*PKiKP		PKPdf	07 45 13.4	-1.8	
KSH	Kashi	120.43	301	PKP		PKPdf	07 45 15.9	+0.2	
ULHL	Ulahol	120.94	304	P		PKPdf	07 45 16.2	-0.5	
	SNR=14								
KURK	Kurchatov	121.17	314	*c* PKiKP		PKPdf	07 45 15.4	-1.1	
KURK				pmax	pmax				
	comp=Z,23nm,0.8s								
KURK	Kurchatov	121.17	314	P		PKPdf	07 45 15.0	-1.6	
KURBB	Kurchatov Arra	121.21	314	PKP		PKPdf	07 45 15.1	-1.5	
	comp=Z,14nm,0.8s,baz=110,slow=1.9,SNR=83								
KBK	Karagaybulak	121.97	304	P		PKPdf	07 45 17.9	-0.7	
	SNR=6.7								
UCH	Uchtor	122.18	303	P		PKPdf	07 45 19.1	-0.3	
	SNR=36								
AAK	Ala-Archa	122.29	304	P		PKPdf	07 45 18.3	-1.0	
	SNR=8.4								
AAK	Ala-Archa	122.29	304	*c* PKiKP		PKiKP	07 45 19.7	+0.3	
AAK				pmax	pmax				
	comp=Z,19nm,1.7s								
AAK	Ala-Archa	122.29	304	P		PKPdf	07 45 18.4	-0.8	
USP	Ospenovka	122.42	305	P		PKPdf	07 45 18.2	-1.1	
	SNR=12								
EKS2	Erkin-Say	122.81	304	P		PKPdf	07 45 19.5	-0.7	
	SNR=14								
TULEG	Thule	123.55	15	IAMs_20	IAMs_20		08 45 57.5		
	comp=Z,604nm,20.0s								
KBL	Kabul	124.45	293	P		PKPdf	07 45 23.9	+0.3	
OTUK	Ortayu	124.81	310	PKiKP		PKPdf	07 45 22.5	-1.2	
BRZS	Berezniki	124.81	312	*e*PKiKP		PKPdf	07 45 21.4	-2.2	
KK31	Karatay Array	125.25	304	*i* PKiKP		PKPdf	07 45 23.8	-0.9	
IUG	Iuzhnay	125.42	302	*e*PKiKP		PKPdf	07 45 23.5	-1.7	
BVA0	Borovoye Array	126.51	316	*i* PKiKP		PKPdf	07 45 25.8	-1.0	
BVAR	Borovoye Array	126.51	316	PKiKP		PKPdf	07 45 26.0	-0.8	
BVAR	Borovoye Array	126.51	316	PKP		PKPdf	07 45 26.0	-0.8	
	comp=Z,18nm,0.6s,baz=107,slow=1.6,SNR=57								
BRVK	Borovoye	126.58	316	*c* PKiKP		PKPdf	07 45 25.4	-1.5	
BRVK				pmax	pmax				
	comp=Z,49nm,1.7s								
BRVK	Borovoye	126.58	316	P		PKPdf	07 45 25.9	-1.0	
NEEM	North Greenlan	127.01	13	*i* P		PKPdf	07 45 27.1	-0.4	
UPNV	Upernavik	127.82	19	*i* P		PKPdf	07 45 27.4	-1.2	
NUUG	Nuugaatsiaq	129.13	20	*i* P		PKPdf	07 45 30.5	-0.7	
MHTO	MHTO	129.43	273	P		PKPdf	07 45 32.8	-0.5	
JMDO	Jabal Madar	129.83	275	P		PKPdf	07 45 34.2	+0.2	
SMDO	Samad	130.12	276	P		PKiKP	07 45 35.4	-0.1	
BSY	Bisya	130.74	275	P		PKPdf	07 45 36.2	+0.4	
HOQ	Hoqain	130.94	276	P		PKPdf	07 45 36.8	+0.7	
KBS	Kingsbay	131.05	358	*e*PKPdf		PKiKP	07 45 35.6	0.0	
JASK	Jask - Hormozg	131.22	279	P		PKiKP	07 45 38.3	+0.8	
RBK	Rabkut	131.30	267	P		PKiKP	07 45 38.1	+0.2	
ARQ	Araqi	131.54	275	P		PKPdf	07 45 37.3	+0.1	
SPA0	Spitsbergen Ar	131.57	356	*e*PKPdf		PKPdf	07 45 36.3	+0.5	
SPITS	Spitsbergen Ar	131.57	356	PKP		PKPdf	07 45 35.2	-0.5	
	comp=Z,17nm,1.0s,baz=87,slow=6.9,SNR=13								
SOHO	SOHO	131.80	276	P		PKPdf	07 45 37.9	+0.2	
DOK	Doka	131.82	268	P		PKiKP	07 45 39.5	+0.6	
WHFO	Wadi Hawf	131.85	267	P		PKPdf	07 45 36.6	-1.4	
ABTO	Aybut	132.02	267	P		PKiKP	07 45 39.2	-0.2	
UOSS	Minazif	132.35	277	P		PKPdf	07 45 38.7	-0.1	
DAG	Danmarks Havn	132.36	6	*i* P		PKPdf	07 45 34.6	-2.6	
HATD	Hatta, Dubai	132.37	277	P		PKPdf	07 45 39.3	+0.5	
MDH	Madha	132.38	278	P		PKPdf	07 45 38.5	-0.3	
ASHO	Ashiyiah	132.39	277	P		PKPdf	07 45 39.5	+0.7	
HOPEN	Hopen	132.43	353	*e*PKPdf		PKPdf	07 45 37.5	+0.2	
ALNE	Al Ain	132.45	276	P		PKPdf	07 45 39.4	+0.5	
SUMG	Summit	132.47	15	*i* P		PKPdf	07 45 38.4	+0.3	
UMZA	Um Al Zommool	132.49	274	P		PKPdf	07 45 39.4	+0.4	
MASF	Masafi	132.53	278	P		PKPdf	07 45 39.5	+0.4	
SHME	Shamm	132.75	279	P		PKPdf	07 45 39.7	+0.2	
FAQ	Al Faqa, Dubai	132.81	277	P		PKPdf	07 45 39.6	0.0	
NAZ	Nazwa, Dubai	132.83	277	P		PKPdf	07 45 40.0	+0.4	
KIBK	Kibwezi	132.99	233	IAMs_20	IAMs_20		08 43 49.3		
	comp=Z,459nm,20.0s								
KIBK	Kibwezi	132.99	233	P		PKiKP	07 45 42.4	+0.8	
	SNR=9.4								
ASUD	Al Ashush, Dub	133.00	277	P		PKPdf	07 45 40.7	+0.7	
AB31	Akbulak array	133.05	311	*i* PKiKP		PKiKP	07 45 40.2	-0.2	
ARU	Arti	133.17	321	*i* PKiKP		PKPdf	07 45 39.5	+0.2	
DY2G	Dye2	133.53	25	*i* P		PKPdf	07 45 40.4	+0.5	
GEYT	Alibeck	133.78	295	PKP		PKPdf	07 45 40.6	-0.4	
	comp=Z,11nm,0.8s,baz=232,slow=1.7,SNR=16								
ICESG	Greenland Ices	134.32	20	*i* P		PKPdf	07 45 41.5	-0.1	
DBG	Daneborg	134.41	8	*i* P		PKPdf	07 45 40.1	-1.0	
JRN	Qarnain Island	135.23	276	P		PKPdf	07 45 44.4	+0.3	
KIRV	Kirov	137.37	326	*c* PKiKP		PKPdf	07 45 46.9	-0.1	
SCO	Scoresbysund	137.49	12	*i* P		PKPdf	07 45 43.9	-3.1	
HAMF	Hammerfest	137.84	350	*e*PKPdf		PKPdf	07 45 48.6	+1.0	
ATD	Arta Tunnel	138.12	252	IAMs_20	IAMs_20		08 39 43.5		
	comp=Z,433nm,22.0s								
APA	Apatity	138.36	343	⇓*i* PKHKP		PKPpre	07 45 36.2		
APA				*i*			07 48 44.7		
APA				pmax	pmax				
	comp=Z,7.0nm,0.9s								
APA				pmax	pmax				
	comp=Z,12nm,0.9s								
ARA0	ARCESS Array S	138.51	348	*e*PKPdf		PKPdf	07 45 48.5	-0.4	
ARCES	ARCESS Array B	138.51	348	PKHKP		PKPpre	07 45 40.3		
	comp=Z,3.4nm,0.8s,baz=25,slow=3.0,SNR=15								
LODK	Lodwar	138.95	236	P		PKiKP	07 45 54.6	+0.9	
KTK1	Kautokeino	139.36	349	*e*PKPdf		PKPdf	07 45 51.1	+0.7	
TRO	Tromso	139.45	351	*e*PKPdf		PKPdf	07 45 50.5	0.0	
BELG	Belogornoye	140.29	317	*i* PKiKP		PKPdf	07 45 53.4	+0.9	
KLMR	Klimovskoe	140.78	332	*e*PKiKP		PKPdf	07 45 49.2	-4.0	
KLMR				pmax	pmax				
	comp=Z,55nm,1.7s								
RAYN	Ar Rayn	141.12	271	P		PKPdf	07 45 53.6	-1.5	
LOF	Lofoten	141.51	353	*e*PKPdf		PKPdf	07 45 50.8	-3.5	
STEI	Steigen	141.52	352	*e*PKPdf		PKPdf	07 45 51.8	-2.6	
MAK	Makhachkala	142.03	302	*e*P		Pdif	07 43 06.6	-9.4	
MAK				*i*			07 45 54.8		
MAK				*e*			07 53 06.6		
MAK				pmax	pmax				
	comp=Z,210nm,1.8s								
FAUS	Fauske	142.04	352	*e*PKPdf		PKPdf	07 45 51.5	-3.8	
JOF	Joensuu	142.39	339	*e*P		PKPdf	07 45 52.3	-3.7	
KONS	Konsvik	143.14	353	*e*PKPdf		PKPbc	07 45 53.9	-0.3	
MOR8	Moi Rana	143.30	352	*e*PKPdf		PKPab	07 45 52.6	-0.9	
STOK	Stokkvaagen	143.31	353	*e*PKPdf		PKPab	07 45 53.5	+0.1	
VALR	Valaam	143.66	337	*i* PKiKP		PKPab	07 45 54.5	-0.5	
VRH	Novokhopyorsk	144.15	317	*e*PKiKP		PKPab	07 45 56.9	-0.3	
VRH				pmax	pmax				
	comp=Z,49nm,2.4s								
GNI	Garni	144.28	298	*i* PKiKP		PKPdf	07 46 00.5	+0.2	
GNI	Garni	144.28	298	P		PKPab	07 45 58.6	+0.3	
MOS	Moscow	144.38	326	*i* PKHKP		PKPpre	07 45 55.8		
MOS				pmax	pmax				
	comp=Z,71nm,1.1s								
VAF	Ylistaro	144.69	344	*e*P		PKPab	07 45 58.1	-0.7	
NCK	Nalchik	144.82	304	*i* PKiKP		PKPdf	07 46 01.4	+0.4	
KEF	Keuruu	144.86	342	*e*P		PKPab	07 45 58.1	-1.4	
GOF	Gofitskoye	144.95	306	*cei* PKiKP		PKPab	07 45 59.4	-1.0	
ONI	Oni	145.04	302			PKPbc	07 46 00.8	-0.1	
ONI	Oni	145.04	302	PKiKP		PKPbc	07 46 00.8	-0.1	
PYA1	Pyatigorsk	145.09	305	*i* PKiKP		PKPdf	07 46 01.8	+0.4	
FIA1	FINESS Array S	145.11	340			PKPbc	07 45 59.0	-1.3	
FINES	FINESS Array B	145.11	340			PKPbc	07 45 58.9	-1.5	
FINES	FINESS Array B	145.11	340	PKiKP		PKPbc	07 45 58.9	-1.5	
FINES	FINESS Array B	145.11	340	PKP		PKPbc	07 45 59.1	-1.3	
	comp=Z,144nm,0.5s,baz=65,slow=3.4,SNR=870								
NSS	Namsos	145.17	353	*e*PKPbc		PKPbc	07 45 59.5	-0.9	
LPSR	Galich'ya Gora	145.19	320	*e*PKP2		PKPbc	07 45 58.6	-2.3	
LPSR				pmax	pmax				
	comp=Z,80nm,0.8s								
OBN	Obninsk	145.22	326	⇑P		PKPbc	07 45 59.7	-1.2	
OBN	Obninsk	145.22	326			PKPbc	07 45 59.7	-1.2	
OBN	Obninsk	145.22	326	*c* PKP2		PKPbc	07 45 59.8	-1.2	
OBN				pmax	pmax				
	comp=Z,110nm,1.0s								
KBZ	Khabaz	145.28	304	⇑*i* PKiKP		PKPbc	07 46 00.8	-0.7	
KBZ	Khabaz	145.28	304	PKPbc		PKPbc	07 46 00.6	-0.8	
	comp=Z,13nm,0.8s,baz=84,slow=1.5,SNR=15								
KIV	Kislovodsk	145.40	305	⇑P		PKPab	07 46 02.9	+0.7	
KIV	Kislovodsk	145.40	305	*i* PKiKP		PKPbc	07 46 00.8	-1.2	
KIV				pmax	pmax				
	comp=Z,37nm,1.1s								
VORR	Voronezh	145.43	319	*e*PKiKP		PKPdf	07 46 00.9	-0.8	
VORR				pmax	pmax				
	comp=Z,60nm,0.8s								
SHA1	Shidzhatmaz	145.46	304	*c i* PKiKP		PKPdf	07 46 02.4	+0.1	
VSR	Storozhevoye	145.63	318	*e*PKP2		PKPdf	07 46 00.4	-1.6	
VSR				pmax	pmax				
	comp=Z,80nm,0.6s								
VORD	Divnogorie	145.66	318	*e*PKP2		PKPdf	07 45 59.2	-2.9	
VORD				pmax	pmax				
	comp=Z,70nm,0.9s								
GURO	Guroymak-BITLI	146.44	295			PKPdf	07 46 03.8	-0.3	
BCA	Borcka	146.53	300	⇑P		PKPdf	07 46 03.2	-0.7	
ERBR	Yeremizino-Bor	146.57	308	*e*PKP2		PKPdf	07 46 04.1	+0.2	
ERBR				pmax	pmax				
	comp=Z,253nm,1.2s								
MEF	Metsahovi	146.59	340	*e*P		PKPdf	07 46 04.3	+1.0	
RAF	Rauma	146.64	343	*e*P		PKPdf	07 46 03.9	+0.5	
LABN	Labinsk	146.65	306	*e*PKP2		PKPbc	07 46 06.0	+0.3	
LABN				pmax	pmax				
	comp=Z,92nm,0.8s								
VSU	Vasula	147.21	336	*c i* PKP2		PKPbc	07 46 06.2	-0.6	
VSU				pmax	pmax				
	comp=Z,203nm,1.0s								
MOL	Molde	147.49	356	*e*PKPdf		PKPdf	07 46 05.7	+0.8	
SOC	Sochi	147.58	305	*e*PKP2		PKPbc	07 46 07.6	-0.7	
SOC				*e*			07 49 44.4		
SOC				*e*PPP	PPP		07 52 55.2		
SOC				*e*SSS	SSS		08 14 10.0		
SOC				pmax	pmax				
	comp=Z,46nm,0.7s								
SOC				MLR	MLR				
	comp=Z,194nm,19.0s								
AAL	Aland	147.81	343	*e*P		PKPbc	07 46 08.4	+0.1	
DOMB	Dombas	147.90	354	*e*PKPbc		PKPbc	07 46 07.7	-1.0	
AKN	Aaknes	147.92	356	*e*PKPdf		PKPdf	07 46 07.2	+1.5	
NB2	NORSAR Subarra	148.65	352	PKP		PKPbc	07 46 09.6	-1.0	
	comp=Z,172nm,1.4s,baz=15,slow=2.7								
NB2	NORSAR Subarra	148.65	352	PKPab		PKPbc	07 46 09.6	-1.0	
	baz=15,slow=2.7								
NOA	NORSAR Array B	148.65	352	PKPbc		PKPbc	07 46 09.6	-1.0	
	comp=Z,12nm,0.5s,baz=14,slow=4.2,SNR=74								
UPP	Uppsala	148.65	345	*e*P		PKPbc	07 46 11.0	+0.5	
ANN	Anapa	148.89	308	*e*PKP2		PKPbc	07 46 10.2	-1.4	
ANN				pmax	pmax				
	comp=Z,91nm,0.7s								
NC602	NORSAR Array S	148.90	351	*e*PKPdf		PKPdf	07 46 09.4	+2.2	
HYA	Hoyanger	148.97	356	*ep*PKPdf		PKPbc	07 46 11.3	-0.1	
SUE	Sulen	149.15	358	*ep*PKPdf		PKPbc	07 46 11.7	-0.1	
HFS	Hagfors	149.16	349	PKPbc		PKPbc	07 46 10.5	-1.3	
	comp=Z,17nm,0.5s,baz=96,slow=3.0,SNR=18								
ARPR	Arapgir-MALATY	149.29	296	IAMs_20	IAMs_20		08 59 06.8		
	comp=Z,312nm,20.0s								
SKAR	Skarslia	149.31	354	*ep*PKPdf		PKPbc	07 46 11.6	-0.7	
SLIT	Slitere, Latvi	149.33	339	*e*P		PKPbc	07 46 11.7	-0.7	
ISAL	Salakas	149.58	333	*e*P		PKiKP	07 46 15.7	+1.6	
MNK	Minsk	149.61	330	*i* PKHKP		PKPpre	07 46 11.7		
MNK				*i*			07 49 46.6		
MNK				*i* PPP	PPP		07 53 17.7		
MNK				pmax	pmax				
	comp=Z,85nm,1.0s								
MNK				pmax	pmax				
	comp=N,24nm,1.0s								
MNK				pmax	pmax				
	comp=E,8.0nm,1.1s								
MNK				MLR	MLR				
	comp=N,398nm,20.0s								
MNK				MLR	MLR				
	comp=Z,479nm,20.0s								
MNK				MLR	MLR				
	comp=E,261nm,20.0s								
ASK	Askoy	149.71	357	*ep*PKPdf		PKPbc	07 46 12.5	-0.7	
OSL	Oslo	149.78	352	*e*PKPdf		PKPdf	07 46 07.7	-0.9	
BER	Bergen	149.80	357	*ep*PKPdf		PKPbc	07 46 12.3	-1.0	
VIKU	Vikbolandet	150.08	345	*e*P		PKPbc	07 46 13.2	-1.0	
VSVD	Vaisvydziai	150.10	336	*e*P		PKPbc	07 46 14.4	+0.2	
KONO	Kongsberg	150.19	353	*ep*PKPdf		PKPbc	07 46 13.2	-1.2	
KONO	Kongsberg	150.19	353	⇑PKiKP		PKPbc	07 46 13.5	-0.9	
ODD1	Odda	150.20	356	*ep*PKPdf		PKPbc	07 46 13.8	-0.7	
PABE	Paberze	150.45	335	*e*P		PKPbc	07 46 15.7	+0.6	
STRU	Stroemstad	150.59	351	*i* P		PKPbc	07 46 13.6	-1.7	
STRU	Stroemstad	150.59	351	*e*P		PKiKP	07 46 16.8	+0.8	
BLS5	Blasjo	150.70	356	*e*PKPdf		PKPdf	07 46 11.0	+0.8	
PBUR	Paburge	150.75	337	*e*P		PKPbc	07 46 15.5	-0.3	
KMY	Karmoy	150.97	357	*e*PKPdf		PKPdf	07 46 11.2	+0.7	
SIM	Simferopol'	151.09	309	*i* PKiKP		PKPbc	07 46 17.0	0.0	
SIM				*e*			07 46 26.0		
SIM				pmax	pmax				
	comp=Z,90nm,0.8s								
DIKM	Dikmen	151.21	302	⇑P		PKPbc	07 46 17.9	+0.5	
AKASG	Malin Array Be	151.37	323	PKPbc		PKPbc	07 46 16.4	-1.0	
	comp=Z,28nm,0.5s,baz=51,slow=3.2,SNR=84								
KIEV	Kiev	151.38	323	⇑P		PKPbc	07 46 16.5	-1.0	
KIEV	Kiev	151.38	323	⇑PKiKP		PKPbc	07 46 16.5	-1.0	
HOMB	Homborsund	151.67	353	*e*PKPbc		PKPbc	07 46 17.5	-0.3	
HOMB	Homborsund	151.67	353	*i* P		PKPbc	07 46 17.3	-0.6	
BORU	Boraas	151.68	348	*i* P		PKPbc	07 46 16.4	-1.5	
SNART	Snartemo	151.72	355	*e*PKPdf		PKPdf	07 46 12.5	+0.8	
SNART	Snartemo	151.72	355	*i* P		PKPbc	07 46 17.8	-0.2	
MMAI	Mount Meron Ar	151.79	284	PKPbc		PKPbc	07 46 19.4	+0.3	
	comp=Z,19nm,0.4s,baz=69,slow=4.7,SNR=38								
SUW	Suwalki	151.88	334	*e*PKP		PKPbc	07 46 18.9	+0.3	
SUW	Suwalki	151.88	334	*e*P		PKPbc	07 46 18.3	-0.2	
BLEU	Blekinge	152.28	344	*i* P		PKPbc	07 46 18.1	-1.2	
FABU	Falkenberg	152.29	348	*i* P		PKPbc	07 46 18.3	-1.0	
DEL	Delary	152.56	346	*i* P		PKPbc	07 46 19.0	-1.0	
DEL	Delary	152.56	346	*e*P		PKiKP	07 46 20.7	+0.5	
BRTR	Keskin Array B	152.80	299	PKPbc		PKPbc	07 46 20.3	-1.0	
	comp=Z,9.0nm,0.4s,baz=134,slow=4.0,SNR=25								
SORM	Soroca	153.28	319	⇑P		PKPbc	07 46 20.1	-1.7	
SORM	Soroca	153.28	319	⇑PKiKP		PKPbc	07 46 20.1	-1.7	
ANTO	Ankara	153.41	299	⇓P		PKPbc	07 46 20.4	-2.1	
ANTO	Ankara	153.41	299	⇓PKiKP		PKPbc	07 46 20.4	-2.1	
BSD	Bornholm Skovb	153.57	344	*e*P		PKPbc	07 46 20.5	-1.8	
MILM	Milestii Mici	153.64	317	⇑P		PKPbc	07 46 22.2	-0.5	
MILM	Milestii Mici	153.64	317	⇓*i* PKP		PKPbc	07 46 22.9	+0.3	
	comp=Z,40nm,0.4s								
MILM				*e*L	L		08 51 16.0		
MILM				LRM	MLR		08 52 25.0		
	comp=Z,400nm,22.0s								
MILM	Milestii Mici	153.64	317	⇑PKiKP		PKPbc	07 46 22.2	-0.5	
BEL	Belsk	154.48	333	*e*PKP		PKiKP	07 46 25.1	+0.8	
EKA	Eskdalemuir Ar	154.62	7	PKPbc		PKPbc	07 46 22.1	-2.4	
	comp=Z,1.2nm,0.5s,baz=292,slow=2.4,SNR=2.1								
EKA				PKPab		PKPab	07 46 39.1	-0.1	
	comp=Z,13nm,0.7s,baz=323,slow=2.8,SNR=11								
TPGR	Topolog	154.85	313	⇑P		PKPbc	07 46 25.4	+0.1	
CFR	Carcaliu	154.88	314	⇑P		PKPbc	07 46 23.8	-1.5	
CFR	Carcaliu	154.88	314	⇑PKiKP		PKPbc	07 46 23.8	-1.5	
TESR	Tescani	155.12	318	⇓P		PKPdf	07 46 23.3	+6.3	
HARR	Harsova	155.24	313	⇑P		PKPdf	07 46 24.6	+7.4	
HARR	Harsova	155.24	313	⇑PKiKP		PKPdf	07 46 24.6	+7.4	
KWP	Kalwaria Pacla	155.28	327	*e*PKP		PKPab	07 46 42.0	-0.3	
BURAR	Bucovina Array	155.31	321	⇑P		PKPdf	07 46 22.7	+5.4	
BURAR	Bucovina Array	155.31	321	⇑PKiKP		PKPdf	07 46 22.7	+5.4	
VRI	Vrincioaia	155.41	316	⇑P		PKPdf	07 46 23.4

PRU				MLR	MLR			
	comp=Z,500nm,23.3s							
KRUC	**Moravsky**	**158.39**	**334**	*e*PKP	**PKPab**	**07**	**46**	**55.4 -0.2**
TANN	**Tannenbergstha**	**158.47**	**342**	*e*PKPab	**PKPab**	**07**	**46**	**55.4 -0.6**
	baz=22,slow=4.4							
MOX	**Moxa**	**158.48**	**344**	*e*PKPab	**PKPab**	**07**	**46**	**55.0 -0.9**
	baz=22,slow=4.4							
MOX				*e*L	L	09	11	25.0
	comp=Z,346nm,19.4s							
PLN	**Plauen**	**158.49**	**343**	*e*PKPab	**PKPab**	**07**	**46**	**55.4 -0.6**
	baz=22,slow=4.4							
KASTN	**Kahler Asten**	**158.59**	**350**	*e*PKPab	**PKPab**	**07**	**46**	**55.8 -0.6**
	baz=22,slow=4.4							
MODS	**Modra-Piesok**	**158.60**	**332**	*e*PKIKP	**PKPdf**	**07**	**46**	**22.1 +0.7**
MODS				*e*		07	46	56.8
MODS	**Modra-Piesok**	**158.60**	**332**	*e*PKP	**PKPdf**	**07**	**46**	**22.1 +0.7**
MODS				*e*		07	46	56.8
NKC	**Novy Kostel**	**158.64**	**342**	*e*PKPAB	**PKPab**	**07**	**46**	**56.0 -0.7**
NKC	**Novy Kostel**	**158.64**	**342**	*e*PKP2	**PKPab**	**07**	**46**	**56.0 -0.7**
UBBA	**Unterbreizbach**	**158.67**	**347**	*e*PKPab	**PKPab**	**07**	**46**	**56.0 -0.6**
	baz=22,slow=4.4							
ZST	**Bratislava**	**158.81**	**332**	*e*PKIKP	**PKPdf**	**07**	**46**	**23.4 +1.8**
ZST				*e*		07	46	57.7
ZST	**Bratislava**	**158.81**	**332**	*e*PKP	**PKPdf**	**07**	**46**	**23.4 +1.8**
ZST				*e*		07	46	57.7
MDVR	**Moldovita**	**158.95**	**319**	⇓P	**PKPdf**	**07**	**46**	**22.8 +0.8**
MANZ	**Manzenberg**	**158.96**	**342**	*e*PKPab	**PKPab**	**07**	**46**	**57.4 -0.6**
	baz=22,slow=4.4							
ROTZ	**Rotzenmuhle**	**159.13**	**342**	*e*PKPab	**PKPab**	**07**	**46**	**58.5 -0.3**
	baz=22,slow=4.4							
KHC	**Kasperske Hory**	**159.30**	**339**	*e*PKPAB	**PKPab**	**07**	**46**	**59.5 -0.1**
KHC				AMS	AMS	09	12	20.0
	comp=Z,400nm,16.8s							
KHC	**Kasperske Hory**	**159.30**	**339**	*e*PKP2	**PKPab**	**07**	**46**	**59.5 -0.1**
KHC				MLR	MLR			
	comp=Z,400nm,16.8s							
CKRC	**Cesky Krumlov**	**159.34**	**337**	*e*PKPAB	**PKPab**	**07**	**46**	**59.8 0.0**
CKRC				AMS	AMS	09	08	30.0
	comp=Z,400nm,19.6s							
CKRC	**Cesky Krumlov**	**159.34**	**337**	*e*PKP2	**PKPab**	**07**	**46**	**59.8 0.0**
CKRC				MLR	MLR			
	comp=Z,400nm,19.6s							
AHRW	**Bad Neuenahr-A**	**159.42**	**351**	*e*PKPab	**PKPab**	**07**	**46**	**59.4 -0.6**
	baz=22,slow=4.4							
GRF	**Grafenberg Arr**	**159.46**	**343**	*e*PKPab	**PKPab**	**07**	**46**	**59.3 -0.9**
	baz=22,slow=4.4							
GRF				*e*L	L	08	56	19.3
	comp=Z,282nm,22.0s							
MEM	**Membach**	**159.48**	**353**	*d*PKP	**PKPab**	**07**	**46**	**59.3 -1.0**
BTNL	**Ternell**	**159.49**	**353**	*d*PKP	**PKPab**	**07**	**47**	**00.1 -0.2**
WET	**Wettzell**	**159.50**	**340**	*e*PKPab	**PKPab**	**07**	**47**	**00.2 -0.2**
	baz=22,slow=4.4							
GEC2	**GERESS Array S**	**159.51**	**338**	*e*PKPab	**PKPab**	**07**	**46**	**59.8 -0.8**
	baz=22,slow=4.4							
GERES	**GERESS Array B**	**159.51**	**338**	PKP	**PKPdf**	**07**	**46**	**23.4 +0.8**
	comp=Z,2.0nm,0.9s,baz=332,slow=11,SNR=3.7							
GERES				PKPab	**PKPab**	**07**	**46**	**59.7 -0.9**
	comp=Z,5.3nm,0.8s,baz=17,slow=9.8,SNR=7.8							
CONA	**Conrad Observa**	**159.52**	**333**	*e*pPKP	**PKPdf**	**07**	**46**	**26.8 +4.2**
	comp=Z,2.7nm,0.6s							
CONA				*e*PKP	**PKPab**	**07**	**47**	**00.6 -0.1**
	comp=Z,22nm,1.4s							
TNS	**Taunus Mts**	**159.53**	**349**	*e*PKPab	**PKPab**	**07**	**46**	**59.6 -0.9**
	baz=22,slow=4.4							
RONA	**Rosalia, Austr**	**159.54**	**332**	*e*PKP	**PKPab**	**07**	**47**	**00.9 +0.2**
	comp=Z,19nm,1.1s							
BCLA	**Clavier**	**159.73**	**355**	*d*PKP	**PKPab**	**07**	**47**	**00.6 -0.7**
BHOU	**Houvegnez**	**159.73**	**353**	*d*PKP	**PKPab**	**07**	**47**	**00.9 -0.5**
BGES	**Gesves**	**159.78**	**355**	*d*PKP	**PKPab**	**07**	**47**	**00.8 -0.8**
BMRD	**Maredsous**	**159.89**	**356**	*d*PKP	**PKPab**	**07**	**47**	**01.2 -0.8**
DOU	**Dourbes**	**160.10**	**356**	*d*PKP	**PKPab**	**07**	**47**	**01.9 -1.1**
MOA	**Molln**	**160.18**	**336**	*e*PKP	**PKPab**	**07**	**47**	**04.6 +1.1**
	comp=Z,17nm,1.3s							
ARSA	**Arzberg**	**160.21**	**333**	*e*PKP	**PKPab**	**07**	**47**	**02.7 -0.9**
	comp=Z,8.3nm,1.0s							
WLF	**Walferdange**	**160.40**	**353**	*d*PKP	**PKPab**	**07**	**47**	**03.9 -0.3**
WLF	**Walferdange**	**160.40**	**353**	*e*PKPab	**PKPab**	**07**	**47**	**04.0 -0.3**
	baz=22,slow=4.4							
BIOA	**Bad Ischl, Aus**	**160.54**	**337**	*i* PKP	**PKPab**	**07**	**47**	**06.1 +1.1**
	comp=Z,32nm,1.2s,SNR=6.5							
FUR	**Furstenfeldbru**	**160.84**	**342**	*e*PKPab	**PKPab**	**07**	**47**	**05.9 -0.4**
	baz=22,slow=4.4							
SOKA	**Soboth**	**160.87**	**333**	*e*PKP	**PKPab**	**07**	**47**	**07.1 +0.5**
	comp=Z,16nm,1.2s							
LESA	**Schwarzleotal**	**161.09**	**338**	*e*PKP	**PKPdf**	**07**	**46**	**23.9 -0.4**
	comp=Z,11nm,1.1s							
LESA				*e*PKP	**PKPab**	**07**	**47**	**07.5 0.0**
	comp=Z,40nm,1.2s							
KBA	**Koelnbreinsper**	**161.17**	**336**	*e*PKP	**PKPab**	**07**	**47**	**08.0 +0.1**
	comp=Z,8.4nm,0.7s							
BFO	**Black Forest**	**161.37**	**347**	*e*PKPab	**PKPab**	**07**	**47**	**07.6 -1.0**
	baz=22,slow=4.4							
WATA	**Walderlm**	**161.51**	**340**	*e*PKP	**PKPab**	**07**	**47**	**10.2 +0.7**
	comp=Z,47nm,1.4s,SNR=5.9							
WTTA	**Wattenberg**	**161.56**	**340**	*e*PKP	**PKPab**	**07**	**47**	**09.5 -0.2**
	comp=Z,26nm,0.8s							
RETA	**Reutte**	**161.61**	**342**	*i* PKP	**PKPab**	**07**	**47**	**09.4 -0.3**
	comp=Z,33nm,0.9s,SNR=10.0							
MOTA	**Moosalm**	**161.64**	**341**	*e*PKP	**PKPab**	**07**	**47**	**09.1 -0.9**
	comp=Z,59nm,1.2s,SNR=8.9							
SQTA	**Sankt Quirin**	**161.72**	**340**	*e*PKP	**PKPdf**	**07**	**46**	**25.0 0.0**
	comp=Z,12nm,1.4s							
SQTA				*e*PKP	**PKPab**	**07**	**47**	**09.9 -0.4**
	comp=Z,47nm,1.0s,SNR=7.4							
ABTA	**Abfaltersbach**	**161.74**	**337**	*e*PKP	**PKPdf**	**07**	**46**	**25.0 -0.1**
	comp=Z,12nm,1.4s							
ABTA				*e*PKP	**PKPab**	**07**	**47**	**10.0 -0.4**
	comp=Z,14nm,0.8s							
DAVA	**Damuels**	**162.02**	**343**	*e*PKP	**PKPab**	**07**	**47**	**10.7 -0.9**
	comp=Z,42nm,1.1s							
FETA	**Feichten**	**162.04**	**341**	*e*PKP	**PKPdf**	**07**	**46**	**25.8 +0.4**
	comp=Z,9.3nm,1.3s							
FETA				*e*PKP	**PKPab**	**07**	**47**	**11.7 -0.1**
	comp=Z,30nm,1.5s							
TORD	**Torodi Ar. Bea**	**162.97**	**178**	PKP	**PKPdf**	**07**	**46**	**27.4 +0.3**
	comp=Z,4.7nm,1.2s,baz=204,slow=3.2,SNR=6.7							
TORD				PKPab	**PKPab**	**07**	**47**	**16.9 +0.6**
	comp=Z,4.3nm,0.6s,baz=148,slow=2.8,SNR=9.7							
TORD				PP	**PP**	**07**	**51**	**00.7 +1.0**
	comp=Z,1.6nm,0.9s,baz=117,slow=7.6,SNR=4.0							
PGAV	**Gavieira, Arco**	**165.51**	**33**	*e*PKPdf	**PKPdf**	**07**	**46**	**29.6 +0.9**
MVO	**Moncorvo**	**166.72**	**32**	*e*PKPdf	**PKPdf**	**07**	**46**	**30.6 +0.9**
PCBR	**Castelo Branco**	**167.50**	**37**	*e*PKPdf	**PKPdf**	**07**	**46**	**32.4 +2.2**
MESJ	**Messejana**	**168.42**	**46**	*e*PKPdf	**PKPdf**	**07**	**46**	**30.7 -0.2**
MORF	**Marmelete**	**168.45**	**50**	*e*PKPdf	**PKPdf**	**07**	**46**	**35.6 +4.6**
PBAR	**Barrancos**	**168.91**	**42**	*e*PKPdf	**PKPdf**	**07**	**46**	**33.1 +1.9**
ESDC	**Sonseca Array**	**169.27**	**27**	PKP	**PKPdf**	**07**	**46**	**32.7 +1.2**
	comp=Z,0.5nm,0.8s,baz=37,slow=0.8,SNR=5.3							
ESDC				PKPab	**PKPab**	**07**	**47**	**43.4 -0.3**
	comp=Z,2.5nm,1.0s,baz=337,slow=5.3,SNR=4.6							

*IDC **22** 07:54:41.0±1.9, 52°.59N×85°.89E, **h0**km, **mbtmp2.7**/2, **ML2.4**/2, **Error ellipse: s-maj=23.6km s-min=12.1km az=89.0, Southwestern Siberia***

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.51**	**335**	Pg		Pn	Pn	07 55 07.2	-2.1
	0.4nm,0.3s,baz=158,slow=17,SNR=6.6								
ZALV				Lg		Lg	Lg	07 55 29.7	
	1.4nm,0.3s,baz=158,slow=26,SNR=14								
I46RU	**ZALESOVO INFRA**	**1.51**	**335**	I		I	I	08 04 40.9	
	0.1nm,0.7s,baz=153,slow=328,SNR=2.2								
KURBB	**Kurchatov Arra**	**4.99**	**250**	Pn		Pn	Pn	07 55 57.5	+0.5
	0.1nm,0.3s,baz=63,slow=13,SNR=6.3								
	0.5nm,0.3s								
MKAR	**Makanchi Array**	**6.25**	**203**	Pn		Pn	Pn	07 56 16.0	+1.6
	0.2nm,0.3s,baz=24,slow=14,SNR=9.7								
	0.2nm,0.3s								

*IDC **22** 07:57:59.1±4.7, 5°.93S×68°.11E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=138.0km s-min=27.7km az=59.0*

ISC 22 07:58:00.9±4.1, 5°.9S±0°.5×68°.2E±0°.6, h10km, n6, σ0s30/6, mb3.8/5, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**4.63**	**112**	Pn		Pn	**Pn**	**07 59 10.7**	**0.0**
MKAR	**Makanchi Array**	**53.96**	**12**	P		P	**P**	**08 07 24.5**	**-0.3**
	0.2nm,0.5s,baz=188,slow=8.4,SNR=2.3								
	0.2nm,0.5s								
KURBB	**Kurchatov Arra**	**57.02**	**8**	P		P	**P**	**08 07 46.9**	**+0.1**
	0.5nm,1.0s,baz=196,slow=6.4,SNR=4.4								
	0.5nm,1.0s								
SONM	**Songino Array**	**63.21**	**28**	P		P	**P**	**08 08 29.7**	**+0.2**
	0.6nm,0.8s,baz=212,slow=5.3,SNR=4.7								
	0.6nm,0.8s								
ASAR	**Alice Springs**	**65.46**	**113**	P		P	**P**	**08 08 44.5**	**-0.2**
	0.6nm,0.9s,baz=282,slow=6.3,SNR=4.6								
	0.6nm,0.9s								
WRA	**Warramunga Arr**	**65.64**	**109**	P		P	**P**	**08 08 46.1**	**+0.3**
	0.9nm,0.8s,baz=284,slow=5.8,SNR=4.1								
	0.9nm,0.8s								

*VAO **22** 08:03:25.2±0.5, 21°.24S×68°.81W, h10km, mb4.9*
*SJA **22** 08:03:34.8±0.6, 21°.42S×68°.79W, h134km±3km, ML4.6, MW4.5*
*IDC **22** 08:03:35.9±0.8, 21°.37S×68°.46W, h111km±8km, mb4.2/12, mbtmp4.5/18, MS4.2/1, Error ellipse: s-maj=14.8km s-min=12.0km az=90.0*
*GUC **22** 08:03:36.9±0.7, 21°.41S×68°.72W, h119km±4km, ML4.6*
*NEIC **22** 08:03:36.7±2.2, 21°.41S±0°.04×68°.71W±0°.06, h117km±4km, mb4.8/117, Mwr4.5/39, Error ellipse: s-maj=7.8km s-min=5.6km az=78.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=1.46; $M_{\theta\theta}$=3.89; $M_{\phi\phi}$=5.35; $M_{r\theta}$=0.91; $M_{\theta\phi}$=3.07; $M_{r\phi}$=-2.77; Fault plane solution: M_o6.39000×10^{15} NP1:ϕ_s=118.52000°, δ60.55000°, λ=173.65000°. NP2:ϕ_s=25.39000°, δ84.48000°, λ=29.60000°. Principal axes: T 6.9737, Plg16.0000°, Azm76.0000°; N -1.3869, Plg60.0000°, Azm196.0000°; P -5.5868, Plg25.0000°, Azm338.0000°;*
*NEIC **22** 08:03:36.8, 21°.41S×68°.72W, h118km*

ISC 22 08:03:35.7±0.5, 21°.37S±0°.03×68°.64W±0°.04, h114km±5km, n369, σ1s34/402, mb4.8/60, 4C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.70**	**233**				**Pn**	**08 03 55.5**	**+0.9**
PB09							**Sn**	**08 04 09.6**	**+0.6**
PB09	**IPOC Station P**	**0.70**	**233**	*e*P			**Pn**	**08 03 55.4**	**+0.7**
PB09				*e*S			**Sn**	**08 04 10.5**	**+1.5**
PB09				IAML				08 04 10.8	
	comp=Z,18μm,0.9s								
PB09	**IPOC Station P**	**0.70**	**233**	*i* P			**Pn**	**08 03 55.5**	**+0.9**
PB09				*e*S			**Sn**	**08 04 10.2**	**+1.3**
PB09				IAML				08 04 11.0	
	comp=N,22μm,0.5s								
PB01	**IPOC Station P**	**0.85**	**292**				**Pn**	**08 03 56.2**	**+0.4**
PB01				Sn			**Sn**	**08 04 10.8**	**-0.3**
PB01	**IPOC Station P**	**0.85**	**292**	*e*P			**Pn**	**08 03 56.3**	**+0.4**
PB01				*e*S			**Sn**	**08 04 11.9**	**+0.7**
PB01				IAML				08 04 12.5	
	comp=Z,9μm,0.4s								
PB01	**IPOC Station P**	**0.85**	**292**	⇑*i* P			**Pn**	**08 03 56.3**	**+0.4**
PB01				*e*S			**Sn**	**08 04 11.5**	**+0.3**
PB01				IAML				08 04 12.6	
	comp=N,50μm,0.4s								
PB02	**IPOC Station P**	**1.17**	**272**				**Pn**	**08 03 58.5**	**-0.6**
PB02				Sn			**Sn**	**08 04 16.4**	**-0.4**
PB02	**IPOC Station P**	**1.17**	**272**	*e*P			**Pn**	**08 03 59.4**	**+0.3**
PB02				*e*S			**Sn**	**08 04 17.3**	**+0.5**
PB02	**IPOC Station P**	**1.17**	**272**	⇑*i*P			**Pn**	**08 03 59.5**	**+0.3**
PB02				*e*S			**Sn**	**08 04 16.9**	**0.0**
PB07	**IPOC Station P**	**1.21**	**253**	Pn			**Pn**	**08 03 59.2**	**-0.4**
PB07				Sn			**Sn**	**08 04 16.8**	**-0.9**
PB07	**IPOC Station P**	**1.21**	**253**	*e*P			**Pn**	**08 03 59.8**	**+0.2**
PB07				*e*S			**Sn**	**08 04 17.9**	**+0.2**
PB07				IAML				08 04 21.3	
	comp=Z,15μm,0.3s								
PB07	**IPOC Station P**	**1.21**	**253**	*i* P			**Pn**	**08 03 59.9**	**+0.2**
PB07				*e*S			**Sn**	**08 04 17.8**	**0.0**
PB07				IAML				08 04 18.7	
	comp=E,27μm,0.3s								
LVC	**Limon Verde**	**1.26**	**191**	Pn			**Pn**	**08 04 00.5**	**+0.2**
LVC				Sn			**Sn**	**08 04 18.4**	**-0.6**
LVC	**Limon Verde**	**1.26**	**191**	*e*P			**Pn**	**08 04 01.0**	**+0.6**
LVC				*e*S			**Sn**	**08 04 19.4**	**+0.4**
LVC				IAML				08 04 21.7	
	comp=Z,5μm,0.7s								
LVC	**Limon Verde**	**1.26**	**191**	P			**Pn**	**08 04 00.9**	**+0.5**
	comp=Z,2μm,0.4s,baz=13,slow=9.4,SNR=4365								
LVC				S			**Sn**	**08 04 19.6**	**+0.6**
	comp=Z,4μm,0.6s,baz=260,slow=23,SNR=20								
PB08	**IPOC Station P**	**1.32**	**339**				**Pn**	**08 04 02.3**	**+1.2**
PB08				Sn			**Sn**	**08 04 21.3**	**+1.1**
PB08	**IPOC Station P**	**1.32**	**339**	*e*P			**Pn**	**08 04 02.4**	**+1.4**
PB08				*e*S			**Sn**	**08 04 22.8**	**+2.6**
PB08				IAML				08 04 26.1	
	comp=Z,3μm,0.6s								
PB08	**IPOC Station P**	**1.32**	**339**	*i* P			**Pn**	**08 04 02.6**	**+1.5**
PB08				*e*S			**Sn**	**08 04 22.1**	**+1.9**
PB08				IAML				08 04 24.8	
	comp=E,7μm,0.4s								
PX03	**IPOC Station P**	**1.34**	**316**	*e*P			**Pn**	**08 04 00.9**	**-0.1**
PX03				*e*S			**Sn**	**08 04 20.5**	**+0.4**
PX03				IAML				08 04 22.4	
	comp=E,4μm,0.2s								
PB06	**IPOC Station P**	**1.58**	**213**				**Pn**	**08 04 03.6**	**-0.3**
PB06				Sn			**Sn**	**08 04 24.6**	**-0.8**
PB06	**IPOC Station P**	**1.58**	**213**	*e*P			**Pn**	**08 04 03.5**	**-0.4**
PB06				*e*S			**Sn**	**08 04 25.6**	**+0.2**
PB06				IAML				08 04 26.4	
	comp=Z,7μm,0.9s								
AF01	**San Pedro de A**	**1.63**	**165**				**Pn**	**08 04 06.2**	**+1.6**
AF01	**San Pedro de A**	**1.63**	**165**	⇓*i*P			**Pn**	**08 04 06.2**	**+1.6**
TA01	**Diego Aracena**	**1.65**	**299**	Pn			**Pn**	**08 04 04.1**	**-0.4**
TA01				Sn			**Sn**	**08 04 25.5**	**-0.9**
TA01	**Diego Aracena**	**1.65**	**299**	*e*P			**Pn**	**08 04 04.7**	**+0.2**
TA01				*e*S			**Sn**	**08 04 26.4**	**0.0**
TA01				IAML				08 04 27.9	
	comp=Z,5μm,0.4s								
TA01	**Diego Aracena**	**1.65**	**299**	⇑*i*P			**Pn**	**08 04 04.7**	**+0.2**
TA01				*e*S			**Sn**	**08 04 26.0**	**-0.4**
TA01				IAML				08 04 26.9	
	comp=E,21μm,0.4s								
PB04	**IPOC Station P**	**1.69**	**235**				**Pn**	**08 04 04.6**	**-0.6**
PB04				Sn			**Sn**	**08 04 26.2**	**-1.6**
PB04	**IPOC Station P**	**1.69**	**235**	*e*P			**Pn**	**08 04 05.0**	**-0.3**
PB04				IAML				08 04 33.9	
	comp=Z,5μm,0.4s								
GO01	**Chusmiza**	**1.77**	**343**				**Pn**	**08 04 07.3**	**+0.7**
GO01				Sn			**Sn**	**08 04 30.2**	**+0.2**
GO01	**Chusmiza**	**1.77**	**343**	*e*P			**Pn**	**08 04 08.0**	**+1.4**
GO01				*e*S			**Sn**	**08 04 33.0**	**+3.0**
GO01	**Chusmiza**	**1.77**	**343**	⇓*i*P			**Pn**	**08 04 07.7**	**+1.1**
TA02	**Huaiquique**	**1.77**	**308**				**Pn**	**08 04 05.8**	**-0.3**
TA02				Sn			**Sn**	**08 04 27.8**	**-1.3**
TA02	**Huaiquique**	**1.77**	**308**	*e*P			**Pn**	**08 04 06.2**	**+0.1**
TA02				*e*S			**Sn**	**08 04 29.0**	**-0.2**
TA02				IAML				08 04 30.4	
	comp=Z,5μm,0.2s								
TA02	**Huaiquique**	**1.77**	**308**	⇑*i*P			**Pn**	**08 04 06.2**	**+0.1**
PB11	**IPOC Station P**	**1.86**	**329**				**Pn**	**08 04 07.6**	**+0.2**
PB11	**IPOC Station P**	**1.86**	**329**	*e*P			**Pn**	**08 04 07.7**	**+0.4**
PB11				*e*S			**Sn**	**08 04 32.3**	**+0.9**
PB11				IAML				08 04 39.5	
	comp=Z,3μm,0.4s								
PB11	**IPOC Station P**	**1.86**	**329**	*i* P			**Pn**	**08 04 08.0**	**+0.7**
PB11				*e*S			**Sn**	**08 04 32.0**	**+0.6**
PB11				IAML				08 04 34.1	
	comp=N,9μm,0.3s								
PB15	**IPOC Station P**	**1.98**	**203**				**Pn**	**08 04 08.1**	**-0.7**
PB15	**IPOC Station P**	**1.98**	**203**	*e*P			**Pn**	**08 04 09.1**	**+0.2**
PB15				*e*S			**Sn**	**08 04 34.6**	**+0.5**
PB15				IAML				08 04 37.9	
	comp=Z,13μm,0.4s								
PB15	**IPOC Station P**	**1.98**	**203**	*i* P			**Pn**	**08 04 09.3**	**+0.5**
PB15				*e*S			**Sn**	**08 04 34.6**	**+0.5**
PB05	**IPOC Station P**	**2.06**	**224**				**Pn**	**08 04 09.1**	**-0.7**
PB05	**IPOC Station P**	**2.06**	**224**	*e*P			**Pn**	**08 04 09.1**	**-0.7**
PB05				*e*S			**Sn**	**08 04 34.4**	**-1.6**
PB05				IAML				08 04 43.3	
	comp=Z,2μm,0.3s								
PB05	**IPOC Station P**	**2.06**	**224**	*i* P			**Pn**	**08 04 09.4**	**-0.4**
PB05				*e*S			**Sn**	**08 04 34.3**	**-1.6**
PB05				IAML				08 04 43.7	
	comp=N,3μm,0.2s								
PB10	**IPOC Station P**	**2.77**	**219**				**Pn**	**08 04 17.3**	**-1.4**
YJA	**Yavi**	**3.02**	**106**	*e*P			**Pn**	**08 04 25.4**	**+3.0**
YJA				*e*S			**Sn**	**08 05 03.0**	**+4.6**
PB16	**IPOC Station P**	**3.13**	**345**	Pn			**Pn**	**08 04 24.7**	**+0.6**
PB16	**IPOC Station P**	**3.13**	**345**	*e*P			**Pn**	**08 04 25.0**	**+0.9**
PB16				IAML				08 05 32.7	
	comp=Z,530nm,0.7s								
PB12	**IPOC Station P**	**3.17**	**330**	Pn			**Pn**	**08 04 22.9**	**-1.3**
PB12	**IPOC Station P**	**3.17**	**330**	*e*P			**Pn**	**08 04 23.3**	**-0.9**
PB12				IAML				08 05 21.2	
	comp=Z,788nm,0.3s								
PB14	**IPOC Station P**	**3.62**	**206**	Pn			**Pn**	**08 04 28.9**	**-1.4**
PB14	**IPOC Station P**	**3.62**	**206**	*e*P			**Pn**	**08 04 29.8**	**-0.6**
PB14				IAML				08 05 31.9	
	comp=Z,1μm,0.7s								
GO02	**Mina Guanaco**	**3.87**	**193**	Pn			**Pn**	**08 04 32.2**	**-1.5**
GO02	**Mina Guanaco**	**3.87**	**193**	*e*P			**Pn**	**08 04 33.0**	**-0.6**
GO02				*e*S			Sn	08 05 07.8	-11
SLA	**San Lorenzo**	**4.41**	**140**	*e*P			**Pn**	**08 04 43.1**	**+2.3**
AC01	**Pan de Azucar**	**5.08**	**200**	Pn			**Pn**	**08 04 47.2**	**-2.5**
AC01	**Pan de Azucar**	**5.08**	**200**	*e*P			**Pn**	**08 04 47.2**	**-2.5**
AC01				IAML				08 06 01.8	
	comp=Z,444nm,0.7s								
LPAZ	**La Paz**	**5.08**	**6**				**Pn**	**08 04 51.6**	**+1.4**
LPAZ	**La Paz**	**5.08**	**6**	*e*P			**Pn**	**08 04 52.7**	**+2.4**
LPAZ	**La Paz**	**5.08**	**6**	P			**Pn**	**08 04 52.0**	**+1.7**
	comp=Z,79nm,0.5s,baz=202,slow=4.6,SNR=450								
LPAZ				S			**Sn**	**08 05 42.5**	**-5.6**
	comp=Z,41nm,0.7s,baz=146,slow=6.5,SNR=4.2								
AC02	**Maricunga**	**5.46**	**185**	Pn			**Pn**	**08 04 54.0**	**-1.1**
AC02	**Maricunga**	**5.46**	**185**	*e*P			**Pn**	**08 04 54.6**	**-0.6**
AC02				IAML				08 06 35.9	
	comp=Z,370nm,1.1s								
AC06	**Mina Casimiro**	**6.16**	**194**	Pn			**Pn**	**08 05 00.8**	**-3.4**
GO03	**Copiap**	**6.36**	**193**				**Pn**	**08 05 03.8**	**-3.3**
CO01	**Juntas del Tor**	**8.67**	**188**				**Pn**	**08 05 35.0**	**-3.4**
SIV	**San Ignacio**	**8.95**	**55**	P			**Pn**	**08 05 39.5**	**-2.7**
	comp=Z,121nm,0.7s,baz=238,slow=10,SNR=465								
SIV				S			**Sn**	**08 07 16.3**	**-5.0**
	comp=Z,12nm,0.9s,baz=131,slow=22,SNR=3.0								
CO03	**El Pedregal**	**9.60**	**191**				Pn	08 05 45.7	-5.3
CO02	**Combarbal**	**10.02**	**192**				Pn	08 05 50.1	-6.4
PTLB	**Pontes e Lacer**	**10.77**	**58**				**Pn**	**08 06 03.7**	**-3.0**
BDQN	**Bodoquena, MS**	**11.15**	**87**	*e*P			Pn	08 06 08.1	-3.8
CPUP	**Villa Florida**	**11.47**	**118**				**Pn**	**08 06 14.1**	**-1.9**
CPUP	**Villa Florida**	**11.47**	**118**	P			**Pn**	**08 06 13.2**	**-2.8**
	comp=Z,5.5nm,0.7s,baz=303,slow=11,SNR=8.7								
VA03	**San Esteban**	**11.47**	**188**				Pn	08 06 10.2	-6.0
VILB	**Vilhena**	**11.62**	**45**				**Pn**	**08 06 16.1**	**-2.0**
ETMB	**Extrema**	**11.73**	**12**				**Pn**	**08 06 15.8**	**-3.7**
ANTJ	**Antonio Joao (**	**11.77**	**95**	*e*P			Pn	08 06 16.0	-4.0
MT02	**Curacav**	**12.04**	**190**				Pn	08 06 17.7	-5.8
AQDB	**Aquidauana**	**12.13**	**88**	*e*P			Pn	08 06 21.0	-3.8
NNA	**Nana**	**12.19**	**319**	P			**Pn**	**08 06 27.8**	**+2.1**
	comp=Z,4.4nm,0.4s,baz=180,slow=13,SNR=3.8								
NNA				S			**Sn**	**08 08 37.3**	**-2.7**
	comp=Z,7.3nm,0.7s,baz=217,slow=18,SNR=1.8							

NBLV Livramento - P 33.65 70 eP P 08 10 06.6 +0.8
RIMA Rio Macho 34.37 333 P P 08 10 13.6 +1.5
SOCE Pocosol 35.24 332 P P 08 10 20.6 +1.1
SOCE IAmb IAmb 08 10 53.2
comp=Z,52nm,1.1s
MLPR Magueyes Islan 39.13 2 P P 08 10 50.9 -1.3
CRPR Cabo Rojo, PR 39.16 2 P P 08 10 50.8 -1.7
OBIP Obispado Ponce 39.22 3 P P 08 10 51.0 -2.0
CELP Cerrillos 39.26 3 P P 08 10 51.2 -2.0
UUPR Utuado, UPR, P 39.43 3 P P 08 10 52.7 -2.0
UUPR IAmb IAmb 08 10 54.7
comp=Z,14nm,0.8s
GCPR Guaynabo City 39.52 4 P P 08 10 52.9 -2.5
GCPR IAmb IAmb 08 10 53.4
comp=Z,28nm,1.2s
EMPR Esperanza - Ma 39.66 3 P P 08 10 53.5 -3.1
DWPF Disney Wildern 50.72 345 P P 08 12 23.8 0.0
baz=165
ZAIG Zacatecas 54.94 321 P P 08 12 56.4 +1.0
ZAIG IAmb IAmb 08 12 58.6
comp=Z,10.0nm,0.9s
GOGA Godfrey 56.28 345 P P 08 13 03.9 -0.5
baz=164
LRAL Lakeview Retre 56.87 342 P P 08 13 08.4 -0.1
baz=160
KMSC Kings Mountain 57.48 348 P P 08 13 13.2 +0.3
baz=166
833A Chaparral WMA, 57.65 328 P P 08 13 13.6 -0.5
baz=146
NATX Nacogdoches 58.42 334 P P 08 13 19.8 +0.3
baz=152
HNDO Hondo 58.59 329 P P 08 13 21.2 +0.6
HNDO IAmb IAmb 08 13 22.4
comp=Z,8.8nm,0.9s
OXF Oxford 58.98 340 P P 08 13 23.3 0.0
baz=158
237A Washetta, Mont 59.11 333 P P 08 13 24.4 +0.2
DRIO Del Rio 59.16 327 P P 08 13 24.5 -0.1
DRIO IAmb IAmb 08 13 26.0
comp=Z,7.8nm,1.2s
TZTN Tazewell 59.30 346 P P 08 13 25.9 +0.4
baz=164
BLA Blacksburg 59.32 349 P P 08 13 25.9 +0.3
baz=167
V48A Smith Brothers 59.36 343 P P 08 13 25.8 0.0
V48A IAmb IAmb 08 13 26.7
comp=Z,11nm,0.8s
WLAR White Oak Lake 59.52 336 P P 08 13 27.9 +1.0
JCT Junction City 59.62 329 P P 08 13 27.9 0.0
JCT IAmb IAmb 08 13 29.5
comp=Z,8.0nm,1.1s
JCT Junction City 59.62 329 P P 08 13 26.5 -1.4
baz=146
U49A Red Boiling Sp 59.81 344 P P 08 13 28.4 -0.5
U49A IAmb IAmb 08 13 29.0
comp=Z,6.1nm,0.7s
WHTX Lake Whitney, 59.81 332 P P 08 13 28.4 -0.7
baz=149
CBN Corbin Frederi 59.83 352 P P 08 13 29.1 +0.2
baz=171
BRDY Brady 59.91 330 P P 08 13 30.0 +0.2
WVT Waverly 60.00 342 P P 08 13 29.9 -0.4
WVT Waverly 60.00 342 P P 08 13 30.1 -0.1
baz=159
WVT Waverly 60.00 342 P P 08 13 29.8 -0.4
baz=159,SNR=8.7
S54A Dingess, Beckl 60.05 348 P P 08 13 30.9 +0.3
S54A Dingess, Beckl 60.05 348 P P 08 13 30.8 +0.2
baz=166,SNR=5.1
S54A P P 08 13 30.8 +0.2
baz=166,SNR=5.1
SLBS Sierra La Lagu 60.19 316 P P 08 13 33.2 +1.3
SLBS IAmb IAmb 08 13 35.9
comp=Z,22nm,1.4s
R55A Marlinton 60.31 350 P P 08 13 33.4 +1.0
R55A IAmb IAmb 08 13 35.5
comp=Z,18nm,1.1s
SAND Sanderson 60.35 327 P P 08 13 32.1 -0.7
SAND IAmb IAmb 08 13 34.8
comp=Z,9.1nm,1.1s
MIAR Mount Ida 60.45 336 P P 08 13 33.5 +0.1
MIAR IAmb IAmb 08 13 34.2
comp=Z,8.5nm,0.8s
MIAR Mount Ida 60.45 336 P P 08 13 33.3 -0.1
baz=153,SNR=6.0
MIAR Mount Ida 60.45 336 P P 08 13 33.1 -0.2
baz=153,SNR=6.0
OZNA Ozona 60.63 328 P P 08 13 34.6 -0.2
OZNA IAmb IAmb 08 13 36.1
comp=Z,16nm,1.5s
TXAR Lajitas Array 60.67 325 P P 08 13 36.0 +0.9
comp=Z,1.2nm,0.7s,baz=149,slow=8.9,SNR=14
comp=Z,1.2nm,0.7s
TX31 Lajitas Ar. Si 60.67 325 P P 08 13 35.5 +0.4
Z35A Perchaven, San 60.86 333 P P 08 13 36.6 +0.4
Q54A Coxs Mills 61.12 349 P P 08 13 37.8 0.0
X37A Clayton 61.18 335 P P 08 13 39.1 +0.8
X37A IAmb IAmb 08 13 40.2
comp=Z,11nm,0.8s
X37A Clayton 61.18 335 P P 08 13 38.9 +0.6
baz=152,SNR=5.0
ABTX Abilene, Hawle 61.33 330 P P 08 13 39.6 +0.2
ABTX IAmb IAmb 08 13 41.4
comp=Z,11nm,1.1s
ABTX Abilene, Hawle 61.33 330 P P 08 13 39.5 +0.2
baz=147
PBMO Poplar Bluff 61.39 340 P P 08 13 39.1 -0.6
PBMO IAmb IAmb 08 13 40.4
comp=Z,13nm,0.7s
PBMO Poplar Bluff 61.39 340 P P 08 13 39.9 +0.3
baz=157,SNR=7.1
ALPN Alpine 61.47 326 P P 08 13 40.9 +0.4
WCI Wyandotte Cave 61.56 344 P P 08 13 41.1 +0.3
baz=161
MCWV Mont Chateau 61.61 350 P P 08 13 41.5 +0.5
MCWV Mont Chateau 61.61 350 P P 08 13 42.2 +1.1
baz=168
MCWV Mont Chateau 61.61 350 P P 08 13 42.4 +1.3
baz=168,SNR=5.7
CGM3 Cape Girardeau 61.63 341 P P 08 13 41.0 -0.3
CGM3 IAmb IAmb 08 13 42.1
comp=Z,9.3nm,0.8s
P53A Whipple 61.70 349 P P 08 13 42.0 +0.3
MNHN Monahans 61.79 327 P P 08 13 42.4 -0.2
MNHN IAmb IAmb 08 13 44.3
comp=Z,8.3nm,0.8s
U40A Yellville 61.81 338 P P 08 13 42.9 +0.4
baz=154,SNR=5.7
U40A P P 08 13 42.9 +0.4
baz=154,SNR=5.7
SIUC Southern Illin 61.88 342 P P 08 13 42.4 -0.5
P52A Corning 61.98 348 P P 08 13 43.7 +0.1
baz=166
SSPA Standing Stone 62.29 352 P P 08 13 46.2 +0.6
baz=170
SN07 Snyder 07 62.30 330 P P 08 13 45.5 -0.3
SN07 IAmb IAmb 08 13 47.1
comp=Z,15nm,0.9s
MGMO Mountain Grove 62.33 339 P P 08 13 45.6 -0.4
MGMO IAmb IAmb 08 13 47.0
comp=Z,11nm,0.8s
O53A New Philadelph 62.41 349 P P 08 13 46.9 +0.4
baz=167
P49A Miami Univ. Ec 62.43 346 P P 08 13 46.8 +0.2
baz=163
FVM French Village 62.49 341 P P 08 13 47.0 0.0
FVM French Village 62.49 341 P P 08 13 47.5 +0.5
baz=157,SNR=11
TUL3 Leonard 62.50 335 P P 08 13 47.1 0.0
baz=152
VHRN Van Horn 62.51 325 P P 08 13 48.0 +0.5
VHRN IAmb IAmb 08 13 49.3
comp=Z,9.4nm,1.0s
WMOK Wichita Mounta 62.72 332 P P 08 13 48.7 0.0
baz=148
ACSO Alum Creek Sta 62.73 348 P P 08 13 49.0 +0.5
baz=165
CCM Cathedral Cave 62.82 340 P P 08 13 48.6 -0.6
CCM IAmb IAmb 08 13 50.0
comp=Z,15nm,0.7s
CCM Cathedral Cave 62.82 340 P P 08 13 49.4 +0.3
baz=156
CCM Cathedral Cave 62.82 340 P P 08 13 49.2 0.0
baz=156,SNR=7.7
OK052 Battle Ridge R 62.98 335 P P 08 13 50.1 -0.1
OK052 IAmb IAmb 08 13 51.4
comp=Z,16nm,0.9s
S39A Bolivar 63.18 338 P P 08 13 51.5 -0.1
S39A Bolivar 63.18 338 P P 08 13 51.4 -0.1
baz=154,SNR=15
O48B Farmland 63.22 346 P P 08 13 51.9 +0.1
baz=163
R40A Maddies Statio 63.36 339 P P 08 13 52.6 -0.1
R40A Maddies Statio 63.36 339 P P 08 13 53.0 +0.3
baz=156,SNR=8.7
MNTX Cornudas Mount 63.44 325 P P 08 13 53.4 0.0
baz=142
MNTX Cornudas Mount 63.44 325 P P 08 13 54.0 +0.5
baz=142,SNR=7.5
M53A WI Miller and 63.48 350 P P 08 13 54.3 +0.8
baz=168
BINY Binghamton 63.62 354 P P 08 13 55.8 +1.4
baz=172
SFIN Lafayette 63.80 344 P P 08 13 56.0 +0.4
baz=161
MSTX Muleshoe 63.92 329 P P 08 13 57.4 +0.7
baz=145
MSTX Muleshoe 63.92 329 P P 08 13 57.4 +0.7
baz=145,SNR=6.1
ERPA Erie 64.04 351 P P 08 13 58.4 +1.3
baz=168
P40A Paris 64.42 340 P P 08 13 59.7 +0.1
P40A IAmb IAmb 08 14 00.5
comp=Z,11nm,0.8s
P40A Paris 64.42 340 P P 08 13 60.0 +0.3
baz=156,SNR=5.5
319A Douglas 65.34 322 P P 08 14 07.5 +1.5
319A IAmb IAmb 08 14 08.8
comp=Z,15nm,0.7s
121A Cookes Peak, D 65.37 324 P P 08 14 07.0 +0.8
121A IAmb IAmb 08 14 09.2
comp=Z,18nm,1.3s
121A Cookes Peak, D 65.37 324 P P 08 14 06.8 +0.5
baz=140
KSU1 Kansas State U 65.61 336 P P 08 14 08.0 +0.6
baz=152
LONY Lake Ozonia 65.89 355 P P 08 14 10.7 +1.6
baz=174
DUN6 Lazy B Ranch 66.11 323 P P 08 14 11.5 +0.6
DUN6 IAmb IAmb 08 14 13.4
comp=Z,13nm,0.6s
ANMO Albuquerque 66.53 327 P P 08 14 14.2 +0.5
ANMO Albuquerque 66.53 327 P P 08 14 14.6 +1.0
baz=142
ANMO Albuquerque 66.53 327 P P 08 14 15.3 +1.6
baz=142,SNR=6.5
CBKS Cedar Bluff 66.59 334 P P 08 14 15.5 +1.8
baz=149
TUC Tucson 66.89 322 P P 08 14 17.6 +1.8
baz=137
SCIA State Center 66.94 340 P P 08 14 16.9 +1.1
baz=155
JFWS Jewell Farm 67.00 343 P P 08 14 15.7 -0.4
JFWS IAmb IAmb 08 14 16.6
comp=Z,14nm,0.8s
JFWS Jewell Farm 67.00 343 P P 08 14 17.0 +0.8
baz=158
T25A Trinidad 67.26 330 P P 08 14 18.3 0.0
T25A Trinidad 67.26 330 P P 08 14 19.5 +1.3
baz=144
214A Organ Pipe Nat 67.82 320 P P 08 14 23.7 +2.0
baz=136
BGNE Belgrade 68.20 336 P P 08 14 23.8 0.0
BGNE Belgrade 68.20 336 P P 08 14 24.3 +0.5
baz=150
BGNE Belgrade 68.20 336 P P 08 14 24.6 +0.8
baz=150,SNR=5.6
SDCO Great Sand Dun 68.27 329 P P 08 14 26.6 +2.0
baz=143,SNR=9.5
SDCO Great Sand Dun 68.27 329 P P 08 14 26.4 +1.8
baz=143,SNR=9.5
W18A Petrified Fore 68.39 325 P P 08 14 26.7 +1.4
baz=139
SFX San Felipe 68.42 318 P P 08 14 26.6 +1.2
SFX IAmb IAmb 08 14 28.4
comp=Z,8.3nm,0.8s
DBIC Dimbokro 68.46 73 P P 08 14 25.2 -0.7
comp=Z,8.2nm,0.8s,baz=217,slow=6.4,SNR=9.5
comp=Z,8.2nm,0.8s
QSPA South Pole Qui 68.82 180 P P 08 14 29.2 +1.7
comp=Z,2.5nm,0.5s,baz=359,slow=14,SNR=6.6
comp=Z,2.5nm,0.5s
Q24A Divide 69.08 330 P P 08 14 31.5 +1.8
baz=144,SNR=6.5
MVCO Mesa Verde 69.33 327 P P 08 14 31.6 +0.5
MVCO IAmb IAmb 08 14 33.8
comp=Z,11nm,0.8s
MVCO Mesa Verde 69.33 327 P P 08 14 32.7 +1.5
baz=140,SNR=8.8
OGNE Ogallala 69.33 334 P P 08 14 32.9 +2.0
baz=147
Y14A Wickenburg 69.35 322 P P 08 14 32.1 +0.9
WUAZ Wupatki 69.58 324 P P 08 14 33.5 +0.8
WUAZ IAmb IAmb 08 14 36.0
comp=Z,13nm,0.9s
WUAZ Wupatki 69.58 324 P P 08 14 35.2 +2.5
baz=138,SNR=7.9
GLA Glamis 69.80 320 P P 08 14 36.1 +2.2
baz=134
K30B Basset 69.84 336 P P 08 14 34.3 +0.4
K30B IAmb IAmb 08 14 35.6
comp=Z,19nm,0.7s
SPMN Marine on St. 69.84 342 P P 08 14 37.1 +3.3
baz=156
ISCO Idaho Springs 69.96 330 P P 08 14 35.6 +0.5
ISCO Idaho Springs 69.96 330 P P 08 14 36.7 +1.6
baz=144,SNR=5.9
BLYC Blythe 70.11 320 P P 08 14 37.0 +1.3
BLYC IAmb IAmb 08 14 38.9
comp=Z,7.9nm,0.8s
PDMCI Parker Dam,Lak 70.27 321 P P 08 14 38.9 +2.2
baz=135
IKP In-Ko-Pah, Jac 70.31 319 P P 08 14 39.0 +2.0
baz=133
SWSC Sam W. Stewart 70.32 319 P P 08 14 38.4 +1.4
baz=134
BC3 Big Chuckawall 70.60 320 P P 08 14 41.2 +2.4
baz=134,SNR=11
MONP2 Monument Peak 70.66 319 P P 08 14 41.7 +2.3
baz=133,SNR=6.6
BAR Barrett 70.67 318 P P 08 14 40.3 +1.0
BAR IAmb IAmb 08 14 42.3
comp=Z,7.9nm,0.8s
U15A North Rim 70.75 324 P P 08 14 41.2 +1.3
U15A IAmb IAmb 08 14 43.5
comp=Z,10nm,1.0s
IRM Iron Mountain 70.76 320 P P 08 14 41.8 +2.1
baz=134,SNR=6.8
N23A Red Feather La 70.99 331 P P 08 14 44.0 +2.8
baz=144
BELC Belle Mtn. Jos 71.16 320 P P 08 14 44.1 +1.8
baz=134
TPFO Pinon Flats 71.17 319 P P 08 14 44.0 +1.7
baz=133,SNR=7.2
PFO Pinyon Flats O 71.18 319 P P 08 14 43.6 +1.2
PFO Pinyon Flats O 71.18 319 P P 08 14 44.2 +1.8
baz=133,SNR=7.1
O20A White River Ci 71.46 329 P P 08 14 44.7 +0.6
O20A IAmb IAmb 08 14 46.7
comp=Z,10.0nm,0.8s
O20A White River Ci 71.46 329 P P 08 14 46.0 +2.0
baz=141,SNR=8.2
KNB Kanab 71.47 324 P P 08 14 45.8 +1.7
KNB IAmb IAmb 08 14 47.9
comp=Z,20nm,0.9s
GMRC Granite Mounta 71.50 321 P P 08 14 46.2 +1.9
baz=134,SNR=15
MURC Murrieta 71.62 319 P P 08 14 46.3 +1.4
baz=133
V12A Nelson 71.69 322 P P 08 14 46.5 +1.2
LCMT Little Creek M 71.70 324 P P 08 14 47.3 +1.9
ELS Elsinore Mount 71.79 319 P P 08 14 46.7 +0.7
SRU San Rafael Swe 71.81 327 P P 08 14 47.3 +1.2
SRU IAmb IAmb 08 14 48.7
comp=Z,17nm,0.6s
HEC Hector,Ludlow 71.94 320 P P 08 14 48.5 +1.7
baz=134
EYMN Ely 71.99 344 P P 08 14 46.8 0.0
baz=158
P18A Preston Nutter 72.06 327 P P 08 14 48.8 +1.0
P18A IAmb IAmb 08 14 50.6
comp=Z,18nm,0.7s
TUQ Turquoise Moun 72.11 321 P P 08 14 49.3 +1.3
baz=134
MSU Marysvale 72.22 325 P P 08 14 49.6 +1.0
MVU Marysvale 72.23 325 P P 08 14 50.2 +1.5
BFSC Mount Baldy Ra 72.33 319 P P 08 14 51.2 +1.9
baz=133
SHPR Sheep Range 72.41 322 P P 08 14 50.2 +0.4
RDMU Red Mountain 72.44 328 P P 08 14 50.2 +0.3
RDMU IAmb IAmb 08 14 51.9
comp=Z,9.7nm,0.6s
GSC Goldstone, Bar 72.54 320 P P 08 14 52.0 +1.6
GSC Goldstone, Bar 72.54 320 P P 08 14 52.4 +1.9
baz=134,SNR=5.5
SHOC Shoshone, Teco 72.64 321 P P 08 14 52.6 +1.7
baz=134
K22A Casper 72.65 332 P P 08 14 52.9 +1.9
baz=143
RSSD Black Hills 72.79 334 P P 08 14 53.4 +1.5
baz=146
B35A Bob, Littlefor 72.96 343 P P 08 14 52.6 +0.1
baz=156,SNR=8.1
EDW2 Edwards Air Fo 72.97 319 P P 08 14 54.2 +1.2
baz=132,SNR=5.5
BSUT Blindstream Ca 73.00 328 P P 08 14 54.7 +1.3
BSUT IAmb IAmb 08 14 56.3
comp=Z,11nm,0.7s
QSM Queen of Sheba 73.03 321 P P 08 14 54.2 +1.0
LRMC Laurel Mtn Rad 73.18 320 P P 08 14 55.5 +1.2
baz=133
FURC Furnace Creek, 73.37 321 P P 08 14 56.1 +1.0
baz=134
SCZ2 Santa Cruz Isl 73.40 318 P P 08 14 56.3 +0.9
baz=131
MPMC Manual Prospec 73.46 320 P P 08 14 57.8 +1.8
baz=133
AGMN Agassiz Nation 73.52 341 P P 08 14 57.4 +1.7
baz=154
ISA Isabella, Lake 73.78 320 P P 08 14 60.0 +2.2
baz=132,SNR=6.6
DUG Dugway, Tooele 73.79 326 P P 08 15 00.0 +2.2
baz=138,SNR=6.3
R11B Troy Canyon, C 73.95 323 P P 08 15 00.8 +2.1
baz=135,SNR=7.6
CWC Cottonwood Cre 74.07 320 P P 08 15 00.8 +1.3
baz=133
BW06 Boulder Array 74.13 330 P P 08 15 01.3 +1.5
baz=141
PD31 Pinedale Array 74.13 330 P P 08 14 59.9 +0.1
PDAR Pinedale Array 74.13 330 P P 08 15 00.7 +0.9
comp=Z,1.7nm,0.7s,baz=128,slow=8.0,SNR=25
comp=Z,1.7nm,0.7s
HWUT Hardware Ranch 74.21 328 P P 08 15 01.2 +1.0
HWUT IAmb IAmb 08 15 04.1
comp=Z,10nm,0.8s
VES Vestal, Richgr 74.27 319 P P 08 15 01.9 +1.4
baz=132
MDND Maddock 74.30 339 P P 08 15 01.5 +1.1
baz=150
MDND Maddock 74.30 339 P P 08 15 01.6 +1.2
baz=150,SNR=5.2
BGU Big Grassy Mou 74.44 327 P P 08 15 02.6 +1.1
SMMC Simmler 74.48 318 P P 08 15 03.0 +1.2
baz=131
HVU Hansel Valley 74.94 327 P P 08 15 05.0 +0.6
HVU IAmb IAmb 08 15 06.8
comp=Z,12nm,1.2s
REDW Red Top Meadow 75.19 330 P P 08 15 06.4 +0.5
LOHW Long Hollow 75.27 330 P P 08 15 07.1 +0.8
ULM Lac du Bonnet 75.27 342 P P 08 15 05.9 +0.1
comp=Z,3.6nm,0.5s,baz=154,slow=5.5,SNR=12
comp=Z,3.6nm,0.5s
FXWY Fox Creek 75.48 330 P P 08 15 08.7 +1.1
NVAR Mina Array Bea 75.55 322 P P 08 15 09.3 +1.3
comp=Z,3.1nm,0.8s,baz=159,slow=7.3,SNR=18
comp=Z,3.1nm,0.8s
FLWY Flagg Ranch 75.67 330 P P 08 15 10.1 +1.5
FLWY IAmb IAmb 08 15 11.7
comp=Z,17nm,0.7s
LAO LASA Array 75.78 334 P P 08 15 11.2 +2.2
baz=144
RLMT Red Lodge 75.82 332 P P 08 15 11.7 +2.3
baz=141
H17A Grant Village 75.85 330 P P 08 15 12.2 +2.5
baz=140
KVN Kaiserville 75.85 322 P P 08 15 10.4 +0.7
KVN IAmb IAmb 08 15 12.4
comp=Z,8.6nm,0.9s
SCHQ Schefferville 75.91 1 P P 08 15 10.1 +0.7
comp=Z,5.7nm,0.9s,baz=79,slow=2.8,SNR=4.5
comp=Z,5.7nm,0.9s
DGMT Dagmar 76.45 337 P P 08 15 14.9 +2.2
baz=146
HLID Hailey 77.07 328 P P 08 15 18.5 +2.0
baz=137
TOA0 Torodi Ar. Sit 77.08 70 P P 08 15 16.4 -0.4
TOA0 IAmb IAmb 08 15 17.4
comp=Z,7.8nm,0.6s
TORD Torodi Ar. Bea 77.08 70 P P 08 15 16.3 -0.6
TORD IAmb IAmb 08 15 17.4
comp=Z,6.5nm,0.7s
TORD Torodi Ar. Bea 77.08 70 P P 08 15 16.4 -0.5
comp=Z,5.1nm,0.5s,baz=256,slow=4.9,SNR=47
comp=Z,5.1nm,0.5s
EGMT Eagleton 78.30 333 P P 08 15 24.9 +1.9
baz=141
PLID Pearl Lake 78.96 328 P P 08 15 28.2 +1.3
PLID IAmb IAmb 08 15 29.5
comp=Z,10nm,0.8s
I07A Izee 80.05 325 P P 08 15 34.2 +1.5
I07A IAmb IAmb 08 15 35.8
comp=Z,12nm,1.2s
NEW Newport 81.76 330 P P 08 15 43.8 +2.2
baz=135
FCC Fort Churchill 82.57 347 P P 08 15 45.7 +0.3
ESDC Sonseca Array 85.57 44 P P 08 16 01.0 -0.3
comp=Z,0.3nm,0.6s,baz=266,slow=4.9,SNR=1.4
comp=Z,0.3nm,0.6s
YKA Yellowknife Ar 91.15 340 P P 08 16 27.9 +0.8
comp=Z,4.5nm,0.7s,baz=133,slow=4.3,SNR=90
comp=Z,4.5nm,0.7s
S34M Telegraph Cree 94.39 332 P P 08 16 43.6 +1.4
baz=124
P33M Teslin, Yukon 96.38 333 P P 08 16 53.5 +2.1
baz=122
ASAR Alice Springs 130.14 207 PKP PKiKP 08 22 33.4 -0.5
comp=Z,0.8nm,0.7s,baz=129,slow=2.0,SNR=5.7
WRA Warramunga Arr 133.19 210 PKP PKPdf 08 22 39.2 +0.3
comp=Z,0.7nm,0.7s,baz=166,slow=1.8,SNR=7.2
ZALV Zalesovo Beam 141.73 25 PKP PKPdf 08 22 54.2 +0.8
comp=Z,1.4nm,0.5s,baz=292,slow=1.0,SNR=5.4
KSH Kashi 144.83 51 PKP PKiKP 08 23 04.1 +0.7
MKAR Makanchi Array 145.38 36 PKPbc PKPab 08 23 00.8 +0.3
comp=Z,4.4nm,0.8s,baz=320,slow=3.2,SNR=31
USRK Ussuriysk Ar. 151.53 328 PKPbc PKiKP 08 23 17.6 +0.7
comp=Z,2.6nm,0.6s,baz=349,slow=0.9,SNR=5.7
SONM Songino Array 153.30 7 PKPbc PKiKP 08 23 21.3 +0.7
comp=Z,0.9nm,0.5s,baz=332,slow=0.3,SNR=6.7
XLT XiLinHaoTe 157.19 351 eP PKPdf 08 23 18.5 +0.3
XLT pmax pmax
comp=Z,6.0nm,1.0s
XLT pmax pmax
comp=Z,190nm,5.4s
HHC Hu-ho-hao-te 160.58 360 eP PKPdf 08 23 23.3 +1.0
NJ2 Nanjing 167.44 329 eP PKPdf 08 23 29.1 +0.5
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
PZH PanZhiHua 169.83 58 PKP PKPdf 08 23 29.0 -1.5

IDC 22 08:19:54.6 -2.1, 54°51N 83°54E, h0km, mbtmp2.5/2, ML2.2/2, Error ellipse: s-maj=18.4km s-min=9.8km az=163.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.94	126	I	I		08 25 11.7	
	baz=308,slow=320,SNR=8.6							
ZALV	Zalesovo Beam	0.94	126	Pg	Pg		08 20 11.8	-0.8
	2.4nm,0.3s,baz=308,slow=16,SNR=17							
ZALV				Lg	Lg		08 20 26.5	
	5.4nm,0.3s,baz=307,slow=28,SNR=7.3							
KURBB	Kurchatov Arra	4.95	220	Pn	Pn		08 21 10.6	+0.5
	baz=39,slow=13,SNR=4.7							
KURBB				Sn	Sn		08 22 05.3	-2.7
	0.1nm,0.3s,baz=56,slow=33,SNR=4.2							
KURBB				Lg	Lg		08 22 34.4	
	0.1nm,0.3s,baz=114,slow=40,SNR=5.2							
	0.3nm,0.6s							

MKAR	**Makanchi Array**	**7.77**	**186**	Pn	Pn	08 21 49.5	+0.7	
	0.1nm,0.3s,baz=13,slow=12,SNR=4.2							
	0.2nm,0.5s							

IDC 22 08:29:39.0±2.8, 54°.39N×86°.82E, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=23.3km s-min=15.1km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.26**	**250**	I	I	08 38 40.0	
	baz=71,slow=329,SNR=5.8						
ZALV	**Zalesovo Beam**	**1.26**	**250**	Pg	Pg	08 30 01.4	-1.7
	1.2nm,0.3s,baz=68,slow=17,SNR=15						
ZALV				Lg	Lg	08 30 19.5	
	3.4nm,0.3s,baz=66,slow=27,SNR=4.1						
KURBB	**Kurchatov Arra**	**6.31**	**237**	Pn	Pn	08 31 14.1	+0.9
	0.1nm,0.3s,baz=54,slow=14,SNR=18						
KURBB				Sn	Sn	08 32 25.8	-0.1
	baz=118,slow=14,SNR=1.2						
KURBB				Lg	Lg	08 33 00.2	
	baz=335,slow=32,SNR=1.9						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**8.13**	**203**	Pn	Pn	08 31 39.5	+1.3
	0.2nm,0.3s,baz=25,slow=12,SNR=8.9						
MKAR				Sn	Sn	08 33 08.9	-1.8
	0.1nm,0.3s,baz=18,slow=24,SNR=2.2						
MKAR				Lg	Lg	08 33 58.9	
	baz=35,slow=24,SNR=1.9						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**9.84**	**269**	Pn	Pn	08 32 04.2	+2.6
	baz=70,slow=16,SNR=7.2						
BVAR				Sn	Sn	08 33 48.3	-4.4
	baz=72,slow=26,SNR=2.0						

IDC 22 08:33:07.6±1.6, 56°.31N×148°.65W, h0km, mb3.4/3, mbtmp3.4/8, ML3.1/5, MS2.9/1, Error ellipse: s-maj=28.1km s-min=21.8km az=26.0
NEIC 22 08:33:07.7±1.6, 56°.34N±0°.07×148°.8W±0°.1, h22km±8km, mb3.7/3, ML3.7/52, ML3.3(AEIC), Error ellipse: s-maj=11.6km s-min=6.9km az=147.0
AEIC 22 08:33:12.2±1.0, 56°.45N±0°.07×148°.86W±0°.01, h9km±6km, Error ellipse: s-maj=10.8km s-min=1.1km az=179.0

ISC 22 08:33:07.7±0.9, 56°.45N±0°.06×148°.83W±0°.05, h10km, n138, σ1§25/146, mb3.6/4, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.44**	**305**	Pn	Pn	08 33 46.7	-0.9
KDAK	**Kodiak Island**	**2.44**	**305**		Sn	08 34 14.3	-3.1
KDAK	**Kodiak Island**	**2.44**	**305**	S	Sn	08 34 14.3	-3.1
	baz=124						
KDAK	**Kodiak Island**	**2.44**	**305**	Pn	Pn	08 33 47.2	-0.3
	3.8nm,0.3s,baz=123,slow=5.1,SNR=82						
KDAK				Sn	Sn	08 34 14.5	-2.9
	8.8nm,0.3s,baz=29,slow=22,SNR=15						
KDAK				LR	LR	08 35 03.5	
	comp=Z,241nm,20.8s,baz=275,slow=44						
	9.3nm,0.3s						
OHAK	**Old Harbor**	**2.57**	**289**	Pn	Pn	08 33 47.9	-1.4
OHAK	**Old Harbor**	**2.57**	**289**		Sn	08 34 16.8	-3.7
OHAK	**Old Harbor**	**2.57**	**289**	P	Pn	08 33 48.5	-0.8
	baz=108						
OHAK				S	Sn	08 34 16.8	-3.7
	baz=108						
Q20K	**Shuyak Island**	**2.89**	**320**	P	Pn	08 33 53.6	-0.1
	baz=138						
SYI	**Shuyak Island**	**2.89**	**320**	Pn	Pn	08 33 53.2	-0.5
SII	**Sitkinak Island**	**2.97**	**274**		Pn	08 33 54.4	-0.4
SII					Sn	08 34 27.5	-3.0
SII	**Sitkinak Island**	**2.97**	**274**	IAML		08 34 33.9	
	comp=N,177nm,1.1s						
SII				IAML		08 34 58.5	
	comp=E,149nm,3.1s						
SII	**Sitkinak Island**	**2.97**	**274**	P	Pn	08 33 54.4	-0.4
	baz=92						
SII				S	Sn	08 34 27.5	-3.0
	baz=92						
MID	**Middleton Isla**	**3.27**	**23**	Pn	Pn	08 33 58.7	-0.2
MID				IAML		08 36 04.7	
	comp=N,289nm,3.5s						
CNPM	**China Poot**	**3.34**	**338**	Pn	Pn	08 33 59.6	-0.3
CNPM	**China Poot**	**3.34**	**338**		Sn	08 34 38.2	-1.3
BRSE	**Bradley Lake S**	**3.45**	**344**		Pn	08 34 01.1	-0.3
BRSE					Sn	08 34 40.6	-1.7
BRSE	**Bradley Lake S**	**3.45**	**344**	P	Pn	08 34 01.5	0.0
	baz=162						
BRSE				S	Sn	08 34 40.6	-1.7
	baz=162						
BRLK	**Bradley Lake**	**3.50**	**343**		Pn	08 34 01.4	-0.6
BRLK	**Bradley Lake**	**3.50**	**343**		Sn	08 34 42.3	-1.2
HOM	**Homer**	**3.54**	**336**	Pn	Pn	08 34 03.4	+0.7
Q19K	**Cape Douglas,**	**3.58**	**316**	Pn	Pn	08 34 03.3	+0.1
Q19K				IAML		08 34 52.2	
	comp=N,160nm,0.7s						
P23K	**Montague Islan**	**3.64**	**11**		Pn	08 34 03.5	-0.4
P23K					Sn	08 34 43.7	-3.2
P23K	**Montague Islan**	**3.64**	**11**	P	Pn	08 34 03.5	-0.4
	baz=192						
P23K				S	Sn	08 34 43.7	-3.2
	baz=192						
SEW	**Seward**	**3.68**	**355**		Pn	08 34 04.1	-0.4
SEW					Sn	08 34 44.9	-3.0
SEW	**Seward**	**3.68**	**355**	P	Pn	08 34 04.3	-0.2
	baz=175						
SEW				S	Sn	08 34 44.9	-3.0
	baz=175						
KAKN	**Katmai Knife C**	**3.84**	**301**		Pn	08 34 07.5	+0.5
CHIR	**Chirikof Islan**	**3.85**	**263**	Pn	Pn	08 34 05.6	-1.3
CHIR				IAML		08 35 31.1	
	comp=E,114nm,2.3s						
CHIR				IAML		08 36 04.9	
	comp=N,129nm,2.3s						
P19K	**Oil Pt**	**3.97**	**326**	Pn	Pn	08 34 09.1	+0.4
P19K				IAML		08 34 58.8	
	comp=E,90nm,0.5s						
P19K				IAML		08 35 15.1	
	comp=N,81nm,1.5s						
P19K	**Oil Pt**	**3.97**	**326**	P	Pn	08 34 09.0	+0.4
	baz=143						
SLKM	**Skilak Lake**	**4.13**	**350**		Pn	08 34 10.6	-0.2
SLKM					Sn	08 34 56.6	-2.6
HIN	**Hinchinbrook I**	**4.14**	**16**		Pn	08 34 10.5	-0.4
HIN	**Hinchinbrook I**	**4.14**	**16**	IAML		08 34 58.8	
	comp=N,135nm,0.6s						
HIN				IAML		08 35 01.2	
	comp=E,95nm,0.8s						
KAIM	**Kayak Island**	**4.20**	**32**	Pn	Pn	08 34 10.9	-0.7
KAIM	**Kayak Island**	**4.20**	**32**	P	Pn	08 34 11.8	+0.1
	baz=215						
CNTC	**Contact Creek**	**4.23**	**298**		Pn	08 34 12.6	+0.4
Q17K	**Contact Creek**	**4.23**	**298**	P	Pn	08 34 12.6	+0.4
	baz=114						
EYAK	**Cordova Ski Ar**	**4.42**	**20**		Pn	08 34 14.8	+0.2
EYAK	**Cordova Ski Ar**	**4.42**	**20**	P	Pn	08 34 14.8	+0.2
	baz=202						
SUCK	**Suckling Hills**	**4.51**	**34**	Pn	Pn	08 34 15.6	-0.3
SUCK				IAML		08 35 49.9	
	comp=N,118nm,3.3s						
SUCK				IAML		08 36 09.5	
	comp=E,102nm,3.2s						
P18K	**Big Mountain,**	**4.51**	**314**		Pn	08 34 15.3	-0.7
P18K	**Big Mountain,**	**4.51**	**314**	P	Pn	08 34 15.8	-0.1
	baz=129						
RDSO	**Redoubt South**	**4.51**	**335**		Pn	08 34 15.6	-0.5
RSO	**Redoubt South**	**4.52**	**335**		Pn	08 34 16.3	0.0
RDWB	**Redoubt West**	**4.56**	**334**		Pn	08 34 16.7	-0.1
HMT	**Hamilton**	**4.58**	**30**		Pn	08 34 17.1	+0.1
NICHA	**Nichawak Mount**	**4.58**	**32**		Pn	08 34 17.5	+0.5
RC01	**Rabbit Creek A**	**4.67**	**355**	Pn	Pn	08 34 18.7	+0.4
RC01				IAML		08 35 11.5	
	comp=E,52nm,0.5s						
RC01				IAML		08 35 12.7	
	comp=N,37nm,0.5s						
O19K	**Port Alsworth**	**4.74**	**325**		Pn	08 34 18.9	-0.1
O19K				IAML		08 35 20.7	
	comp=N,83nm,0.5s						
BERG	**Berg Lake**	**4.78**	**32**		Pn	08 34 19.6	-0.1
BERG	**Berg Lake**	**4.78**	**32**	IAML		08 35 18.7	
	comp=N,91nm,0.5s						
BERG				IAML		08 37 14.4	
	comp=E,98nm,3.6s						
O18K	**Koktuh Hills**	**4.80**	**318**		Pn	08 34 19.9	-0.1
O18K				IAML		08 35 22.2	
	comp=N,35nm,3.0s						
SNH	**Sunshine Point**	**4.89**	**38**	Pn	Pn	08 34 21.1	-0.2
P17K	**Kvichak River**	**4.91**	**307**		Pn	08 34 21.7	+0.3
P17K	**Kvichak River**	**4.91**	**307**	P	Pn	08 34 21.7	+0.3
	baz=122						
CYK	**Cape Yakataga**	**4.95**	**40**		Pn	08 34 22.0	+0.1
KHIT	**Khitrov Hills**	**4.96**	**34**		Pn	08 34 22.2	-0.1
KNK	**Knik Glacier**	**4.98**	**2**	Pn	Pn	08 34 23.5	+1.1
KNK				IAML		08 35 30.5	
	comp=N,38nm,3.1s						
KNK				IAML		08 36 59.1	
	comp=E,32nm,0.7s						
BMRM	**Bremner River**	**5.04**	**24**		Pn	08 34 23.5	+0.2
BMRM	**Bremner River**	**5.04**	**24**	P	Pn	08 34 23.5	+0.2
	baz=207						
N20K	**Mount Spurr**	**5.07**	**341**	P	Pn	08 34 23.4	-0.4
	baz=159						
SPCR	**Spurr Chakacha**	**5.08**	**341**		Pn	08 34 23.4	-0.4
PMR	**Palmer**	**5.16**	**358**	Pn	Pn	08 34 25.8	+0.9
PMR				IAML		08 35 33.7	
	comp=E,29nm,3.1s						
PMR				IAML		08 35 59.9	
	comp=N,28nm,3.4s						
MESA	**MESA**	**5.21**	**41**	Pn	Pn	08 34 25.7	0.0
CRQM	**Cirque**	**5.24**	**32**		Pn	08 34 26.2	0.0
CRQM	**Cirque**	**5.24**	**32**	IAML		08 35 17.3	
	comp=N,40nm,3.8s						
CRQM				IAML		08 35 22.9	
	comp=E,38nm,3.2s						
CRQE	**Cirque**	**5.25**	**32**	P	Pn	08 34 26.2	-0.1
	baz=216						
KLU	**Klutina**	**5.28**	**15**		Pn	08 34 26.7	+0.1
KLU				IAML		08 35 14.5	
	comp=N,32nm,3.3s						
KLU				IAML		08 35 29.3	
	comp=E,29nm,0.4s						
KLU	**Klutina**	**5.28**	**15**	P	Pn	08 34 26.8	+0.2
	baz=197						
STLK	**Strandline Lak**	**5.29**	**344**		Pn	08 34 26.6	-0.2
SPIN	**North Nagishla**	**5.32**	**340**		Pn	08 34 27.4	+0.1
ISLE	**Juniper Island**	**5.38**	**37**		Pn	08 34 27.7	-0.3
BAGL	**Bagley Icefiel**	**5.38**	**38**		Pn	08 34 28.0	+0.2
SML	**Sawmill**	**5.38**	**3**	Pn	Pn	08 34 27.6	-0.3
O17K	**Koliganek Bris**	**5.50**	**311**		Pn	08 34 29.4	-0.2
O17K	**Koliganek Bris**	**5.50**	**311**	P	Pn	08 34 29.4	-0.2
	baz=124						
VRDI	**Verde Repeater**	**5.54**	**28**	Pn	Pn	08 34 30.0	-0.3
KIAG	**Kiagna River**	**5.61**	**34**		Pn	08 34 31.1	-0.2
N25K	**Chitina, Valde**	**5.61**	**21**		Pn	08 34 31.6	+0.4
N25K	**Chitina, Valde**	**5.61**	**21**	P	Pn	08 34 31.5	+0.3
	baz=204						
GLB	**Gilahina Butte**	**5.64**	**25**		Pn	08 34 31.6	+0.1
TABL	**Table Mountain**	**5.68**	**42**		Pn	08 34 31.7	-0.5
PTPK	**Patty Peak**	**5.79**	**32**		Pn	08 34 33.8	+0.1
MCMA	**McCarthy VSAT**	**5.79**	**29**		Pn	08 34 33.6	+0.1
M24K	**Tolsona, Glenn**	**5.83**	**12**		Pn	08 34 35.3	+1.1
M20K	**Styx River**	**5.88**	**340**		Pn	08 34 34.5	-0.3
M20K	**Styx River**	**5.88**	**340**	P	Pn	08 34 34.5	-0.3
	baz=156						
BARN	**Barnard Glacie**	**5.94**	**36**		Pn	08 34 35.7	-0.1
PNL	**Peninsula**	**5.96**	**53**		Pn	08 34 36.0	+0.1
PNL	**Peninsula**	**5.96**	**53**	P	Pn	08 34 36.0	+0.1
	baz=240						
CTG	**Chitna Glacier**	**5.97**	**38**	P	Pn	08 34 36.3	+0.1
	baz=223						
CTGM	**Chitina Glacie**	**5.98**	**38**		Pn	08 34 35.7	-0.6
LOGN	**Logan Glacier**	**5.99**	**40**	Pn	Pn	08 34 35.8	-0.6
M18K	**Stony River**	**6.21**	**327**		Pn	08 34 38.8	-0.5
M18K	**Stony River**	**6.21**	**327**	P	Pn	08 34 38.8	-0.5
	baz=142						
CHNA	**Chernabura Isl**	**6.30**	**260**	P	Pn	08 34 40.0	-0.6
	baz=72						
CNBA	**Chernabura Isl**	**6.31**	**259**	Pn	Pn	08 34 39.4	-1.3
O29M	**Mount Kennedy**	**6.63**	**50**		Pn	08 34 45.8	+0.6
O29M	**Mount Kennedy**	**6.63**	**50**	P	Pn	08 34 45.8	+0.6
	baz=238						
P29M	**Windy Craggy**	**6.70**	**57**		Pn	08 34 46.1	+0.1
P29M	**Windy Craggy**	**6.70**	**57**	P	Pn	08 34 46.1	+0.1
	baz=216						
YUK7	**Dusty Glacier**	**6.94**	**49**		Pn	08 34 50.4	+1.0
RND	**Reindeer**	**6.98**	**360**	Pn	Pn	08 34 51.2	+1.3
S31K	**Pelican**	**7.01**	**72**	Pn	Pn	08 34 48.5	-1.8
S31K	**Pelican**	**7.01**	**72**	P	Pn	08 34 49.3	-1.0
	baz=262						
YUK6	**Outpost Mounta**	**7.07**	**46**		Pn	08 34 52.4	+1.1
YUK6	**Outpost Mounta**	**7.07**	**46**	P	Pn	08 34 52.4	+1.1
	baz=234						
P30M	**Million Dollar**	**7.26**	**55**		Pn	08 34 53.9	+0.2
P30M	**Million Dollar**	**7.26**	**55**	P	Pn	08 34 53.9	+0.2
	baz=244						
TTA	**Tatalina**	**7.44**	**334**	Pn	Pn	08 34 55.0	-1.2
RIDG	**Independent Ri**	**7.58**	**14**		Pn	08 34 59.2	+1.1
N30M	**Aishikik Lake**	**7.87**	**46**		Pn	08 35 02.5	+0.3
N30M	**Aishikik Lake**	**7.87**	**46**	P	Pn	08 35 02.5	+0.3
	baz=235						
SCRK	**Sand Creek**	**7.92**	**16**	Pn	Pn	08 35 03.7	+0.8
O30N	**Mendenhall**	**7.93**	**52**	Pn	Pn	08 35 02.0	-1.0
O30N	**Mendenhall**	**7.93**	**52**	P	Pn	08 35 03.0	0.0
	baz=242						
M29M	**Somme Creek**	**7.99**	**37**		Pn	08 35 04.5	+0.6
M29M	**Somme Creek**	**7.99**	**37**	P	Pn	08 35 04.5	+0.6
	baz=225						
WRH	**Wood River Hil**	**8.05**	**2**	Pn	Pn	08 35 06.1	+1.5
IL31		**8.40**	**6**		Pn	08 35 10.9	+1.6
ILAR	**Eielson Array**	**8.40**	**6**	Pn	Pn	08 35 10.3	+1.0
	comp=E,0.2nm,0.3s,baz=189,slow=12,SNR=8.2						
ILAR				Sn	Sn	08 36 40.6	-3.6
	comp=E,0.4nm,0.3s,baz=191,slow=24,SNR=7.0						
	comp=E,0.5nm,0.5s						
MDM	**Murphy Dome**	**8.54**	**2**	Pn	Pn	08 35 11.2	-0.1
ISLZ	**Isanotski Laza**	**8.60**	**265**		Pn	08 35 11.6	-0.6
P32M	**Atlin**	**8.62**	**62**	Pn	Pn	08 35 11.5	-0.8
P32M	**Atlin**	**8.62**	**62**	P	Pn	08 35 12.3	0.0
	baz=254						
M30M	**Minto, Yukon**	**8.66**	**40**	Pn	Pn	08 35 12.4	-0.5
DAWY	**Dawson**	**8.95**	**28**	Pn	Pn	08 35 17.9	+0.9
EGAK	**Eagle**	**9.16**	**21**	Pn	Pn	08 35 19.9	+0.2
P33M	**Teslin, Yukon**	**9.22**	**59**		Pn	08 35 20.6	0.0
P33M	**Teslin, Yukon**	**9.22**	**59**	P	Pn	08 35 20.5	-0.2
	baz=252						
DLBC	**Dease Lake**	**10.33**	**71**	Pn	Pn	08 35 37.0	+1.2
	comp=E,0.5nm,0.3s,baz=183,slow=19,SNR=2.1						
	comp=E,1.0nm,0.3s						
INK	**Inuvik**	**13.79**	**24**	Pn	Pn	08 36 25.4	+2.6
	baz=215,slow=12,SNR=3.6						
	comp=E,1.3nm,1.0s						
C36M	**Paulatuk**	**16.97**	**31**	Pn	Pn	08 37 04.4	-0.3
C36M				IAmb	IAmb	08 37 09.0	
	comp=Z,5.8nm,1.2s						
YKA	**Yellowknife Ar**	**18.24**	**57**	P	Pn	08 37 20.1	-0.5
	baz=265,slow=11,SNR=5.2						
	comp=Z,0.8nm,1.1s						
A36M	**Sachs Harbour**	**18.43**	**23**	P	P	08 37 22.4	-0.3
A36M				IAmb	IAmb	08 37 34.2	
	comp=Z,4.9nm,0.8s						
BOZ	**Bozeman (W)**	**25.48**	**99**	P	P	08 38 32.7	-3.2
BOZ				IAmb	IAmb	08 38 36.2	
	comp=Z,2.5nm,0.8s						
NVAR	**Mina Array Bea**	**27.07**	**119**	P	P	08 38 49.8	-0.6
	comp=Z,0.2nm,0.4s,baz=302,slow=9.0,SNR=2.6						
	comp=Z,0.2nm,0.4s						
SONM	**Songino Array**	**58.72**	**310**	P	P	08 43 08.4	+3.1
	comp=Z,0.2nm,0.4s,baz=32,slow=14,SNR=2.2						
	comp=Z,0.2nm,0.4s						
MKAR	**Makanchi Array**	**68.60**	**325**	P	P	08 44 14.3	+3.9
	comp=Z,0.2nm,0.5s,baz=37,slow=8.1,SNR=2.5						
	comp=Z,0.2nm,0.5s						

JMA 22 08:42:09.9±0.3, 44°.N±2°×14°.8E±°, h0km, MV3.6/21, SE OFF ETOROFU
SKHL 22 08:42:11.1±0.2, 44°.30N×148°.00E, h31km±4km, mb4.3/3

ISC 22 08:42:07.2±2.8, 44°.22N±0°.09×148°.2E±0°.2, h13km±11km, n15, σ1§69/24, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**1.03**	**251**	*i* P	Pg	08 42 27.6	+0.5
SHO				AMB	AMB	08 42 27.9	
	90nm,0.2s						
SHO				*i* S	Sg	08 42 39.8	-0.8
SHO				A	A	08 42 40.2	
	210nm,0.2s						
SHO				A	A	08 42 40.2	
	560nm,0.2s						
KUR	**Kuril'sk**	**1.04**	**348**	*i* P	Pg	08 42 27.1	-0.1
KUR				AMB	AMB	08 42 27.7	
	130nm,0.2s						
KUR				*i* S	Sg	08 42 39.2	-1.5
KUR				A	A	08 42 39.7	
	350nm,0.2s						
KUR				A	A	08 42 39.7	
	440nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.68**	**264**	*e*P	Pn	08 42 36.8	+0.6
YUK				AMB	AMB	08 42 37.4	
	110nm,0.2s						
YUK				*i* S	Sn	08 42 55.7	-1.8
YUK				A	A	08 42 58.5	
	310nm,0.4s						
YUK				A	A	08 42 58.5	
	450nm,0.4s						
NEM2	**Nemuro 2**	**1.96**	**245**	P	Pn	08 42 40.2	+0.1
NEM2				S	Sn	08 43 02.3	-2.2
NMR	**Nemuro--Hokkai**	**1.97**	**245**	*e*P	Pn	08 42 40.3	+0.1
NMR				*e*S	Sn	08 43 02.3	-2.4
JRA	**Rausu**	**2.22**	**264**	P	Pn	08 42 45.2	+1.6
JRA				*e*S	Sn	08 43 11.6	+0.7
JNSB	**Nemuroshibetsu**	**2.33**	**260**	P	Pn	08 42 46.7	+1.5
JNSB				S	Sn	08 43 13.8	+0.1
JKHN	**Kushirohamanak**	**2.47**	**244**	*e*S	Sn	08 43 15.4	-1.6
JNK	**Nakash**	**2.58**	**257**	P	Pn	08 42 49.8	+1.1
JNK				S	Sn	08 43 18.4	-1.4
AKK	**Akkeshi**	**2.70**	**245**	*e*P	Pn	08 42 51.0	+0.7
AKK				*e*S	Sn	08 43 21.3	-1.6
JAK	**Akkeshi**	**2.81**	**245**	P	Pn	08 42 52.4	+0.7
JTKR	**Abashiri--Toko**	**3.08**	**267**	P	Pn	08 42 58.8	+3.2
JAR	**Ashorobuto**	**3.32**	**255**	P	Pn	08 43 01.1	+2.2
JCH	**Churui**	**3.86**	**247**	P	Pn	08 43 08.6	+2.4
JNBK	**Urakawa-nobuka**	**4.41**	**246**	P	Pn	08 43 15.9	+2.1

VAO 22 08:43:39.9±1.5, 21°.10S×71°.86W, h10km, mb4.2
SJA 22 08:44:01.0±0.6, 21°.30S×69°.90W, h33km±1km, ML4.1, MW3.9
NEIC 22 08:44:02.8±1.2, 21°.30S±0°.02×69°.94W±0°.05, h51km±4km, mb4.1/7, Error ellipse: s-maj=6.7km s-min=3.5km az=90.0
GUC 22 08:44:03.5±0.7, 21°.31S×69°.85W, h53km±2km, ML3.9

ISC 22 08:44:01.5±0.7, 21°.28S±0°.02×69°.92W±0°.04, h48km±5km, n82, σ2§42/108, mb4.2/4, 7C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB02	**IPOC Station P**	**0.04**	**147**		Pn	08 44 11.4	+2.3
PB02					Sn	08 44 17.1	+2.7
PB02	**IPOC Station P**	**0.04**	**147**	*e*S	Sn	08 44 11.3	-3.1
PB02				IAML		08 44 18.0	
	comp=Z,78μm,0.3s						
PB02	**IPOC Station P**	**0.04**	**147**	*e*P	Sn	08 44 11.3	-3.1
PB02				*e*S	Sn	08 44 17.6	+3.2
PB02	**IPOC Station P**	**0.04**	**147**	⇑*i*P	Pn	08 44 11.4	+2.3
PB02				*e*S	Sn	08 44 17.3	+2.9
PB07	**IPOC Station P**	**0.44**	**176**		Pn	08 44 13.7	+1.5
PB07				Sn	Sn	08 44 20.8	+1.1
PB07	**IPOC Station P**	**0.44**	**176**	*e*S	Pn	08 44 13.6	+1.5
PB07				IAML		08 44 22.3	
	comp=Z,9μm,0.1s						
PB07	**IPOC Station P**	**0.44**	**176**	*e*P	Pn	08 44 13.6	+1.5
PB07				*e*S	Sn	08 44 21.7	+2.0
PB07				IAML		08 44 22.3	
	comp=Z,8μm,0.1s						
PB07	**IPOC Station P**	**0.44**	**176**	⇑*i*P	Pn	08 44 13.7	+1.5
PB07				*e*S	Sn	08 44 21.5	+1.8
PB07				IAML		08 44 22.2	
	comp=N,9μm,0.3s						
PB01	**IPOC Station P**	**0.47**	**60**		Pn	08 44 13.3	+0.9
PB01				Sn	Sn	08 44 21.7	+1.6
PB01	**IPOC Station P**	**0.47**	**60**	*e*S	Sn	08 44 13.8	-6.3
PB01				IAML		08 44 14.1	
	comp=Z,10μm,0.2s						
PB01	**IPOC Station P**	**0.47**	**60**	*e*P	Sn	08 44 13.8	-6.3
PB01				IAML		08 44 24.4	
	comp=Z,6μm,0.2s						
PB01	**IPOC Station P**	**0.47**	**60**	⇓*i*P	Sn	08 44 13.8	-6.3
PB01				*e*S	Sn	08 44 21.8	+1.7
PB01				IAML		08 44 22.1	
	comp=E,10μm,0.1s						
TA01	**Diego Aracena**	**0.75**	**341**		Pn	08 44 17.3	+1.5
TA01				Sn	Sn	08 44 28.2	+2.0
TA01	**Diego Aracena**	**0.75**	**341**	*e*S	Sn	08 44 17.7	-8.5
TA01	**Diego Aracena**	**0.75**	**341**	*e*P	Pn	08 44 17.4	+1.7
TA01				*e*S	Sn	08 44 29.7	+3.5
TA01	**Diego Aracena**	**0.75**	**341**	⇑*i*P	Pn	08 44 17.5	+1.7
TA01				*e*S	Sn	08 44 28.9	+2.6
PB09	**IPOC Station P**	**0.81**	**129**		Pn	08 44 18.0	+1.2
PB09				Sn	Sn	08 44 29.0	+1.0
PB09	**IPOC Station P**	**0.81**	**129**	*e*S	Sn	08 44 29.0	+1.0
PB09	**IPOC Station P**	**0.81**	**129**	*e*P	Pn	08 44 18.0	+1.2
PB09				*e*S	Sn	08 44 29.0	+1.0
PB09				IAML		08 44 29.6	
	comp=Z,8μm,0.4s						
PB09	**IPOC Station P**	**0.81**	**129**	⇓*i*P	Pn	08 44 18.2	+1.3
PB09				*e*S	Sn	08 44 28.8	+0.8
PB09				IAML		08 44 29.9	
	comp=E,7μm,0.2s						
TA02	**Huaiquique**	**1.02**	**349**		Pn	08 44 21.1	+1.6
TA02				Sn	Sn	08 44 34.4	+1.6
TA02	**Huaiquique**	**1.02**	**349**	*e*P	Pn	08 44 21.5	+2.1
TA02	**Huaiquique**	**1.02**	**349**	*e*P	Pn	08 44 21.5	+2.1
TA02				IAML		08 44 38.4	
	comp=Z,5μm,0.1s						
TA02	**Huaiquique**	**1.02**	**349**	*e*P	Pn	08 44 21.6	+2.1
TA02				*e*S	Sn	08 44 35.7	+3.0
PB04	**IPOC Station P**	**1.07**	**191**		Pn	08 44 21.5	+1.2
PB04	**IPOC Station P**	**1.07**	**191**	*e*P	Pn	08 44 21.4	+1.2

LVC	**Limon Verde**	**1.62**	**145**	*e*P		**Pn**	**08 44 29.9**	**+2.0**
LVC				*e*S		**Sn**	**08 44 49.0**	**+1.1**
LVC				IAML			08 44 53.4	
	comp=E,5μm,0.3s							
LVC	**Limon Verde**	**1.62**	**145**	*e*P		**Pn**	**08 44 30.2**	**+2.2**
GO01	**Chusmiza**	**1.74**	**23**			**Pn**	**08 44 32.6**	**+2.8**
GO01	**Chusmiza**	**1.74**	**23**	*e*P		**Pn**	**08 44 32.2**	**+2.4**
GO01				*e*S		**Sn**	**08 44 54.7**	**+3.7**
GO01	**Chusmiza**	**1.74**	**23**	⇑*i*P		**Pn**	**08 44 32.0**	**+2.3**
GO01				*e*S		**Sn**	**08 44 54.0**	**+3.0**
PB15	**IPOC Station P**	**1.96**	**168**			**Pn**	**08 44 34.1**	**+1.7**
PB15	**IPOC Station P**	**1.96**	**168**	*e*P		**Pn**	**08 44 34.3**	**+1.8**
PB15				*e*S		**Sn**	**08 45 01.9**	**+5.9**
PB15	**IPOC Station P**	**1.96**	**168**	*e*P		**Pn**	**08 44 34.2**	**+1.7**
PB15				*e*S		**Sn**	**08 45 01.9**	**+5.9**
PB15				IAML			08 45 05.3	
	comp=Z,3μm,0.4s							
PB10	**IPOC Station P**	**2.30**	**195**			**Pn**	**08 44 37.4**	**+0.6**
AF01	**San Pedro de A**	**2.32**	**136**			**Pn**	**08 44 40.5**	**+3.1**
PB12	**IPOC Station P**	**2.68**	**352**	Pn		**Pn**	**08 44 43.7**	**+1.5**
PB12	**IPOC Station P**	**2.68**	**352**	*e*P		**Pn**	**08 44 44.1**	**+1.9**
PB12	**IPOC Station P**	**2.68**	**352**	*e*P		**Pn**	**08 44 44.0**	**+1.7**
PB12				IAML			08 45 31.4	
	comp=Z,425nm,0.4s							
PB16	**IPOC Station P**	**2.96**	**8**	Pn		**Pn**	**08 44 48.8**	**+2.3**
PB16	**IPOC Station P**	**2.96**	**8**	*e*P		**Pn**	**08 44 49.1**	**+2.6**
PB16	**IPOC Station P**	**2.96**	**8**	*e*P		**Pn**	**08 44 49.3**	**+2.8**
PB16				IAML			08 45 44.0	
	comp=Z,289nm,0.7s							
PB14	**IPOC Station P**	**3.36**	**187**	Pn		**Pn**	**08 44 51.4**	**-0.3**
PB14	**IPOC Station P**	**3.36**	**187**	*e*P		**Pn**	**08 44 51.6**	**-0.1**
PB14				IAML			08 46 02.3	
	comp=Z,169nm,0.4s							
GO02	**Mina Guanaco**	**3.88**	**176**	Pn		**Pn**	**08 44 59.6**	**+0.7**
GO02	**Mina Guanaco**	**3.88**	**176**	*e*P		**Pn**	**08 45 00.1**	**+1.3**
YJA	**Yavi**	**4.19**	**103**	*e*P		Pn	08 45 08.7	+5.4
LPAZ	**La Paz**	**5.25**	**19**			Pn	08 45 22.8	+4.9
AC02	**Maricunga**	**5.58**	**173**	Pn		**Pn**	**08 45 23.6**	**+1.3**
ETMB	**Extrema**	**11.95**	**18**	*e*P		Pn	08 46 37.5	-12
VILB	**Vilhena**	**12.44**	**50**	Pn		**Pn**	**08 46 57.2**	**+1.2**
VILB	**Vilhena**	**12.44**	**50**	*e*P		**Pn**	**08 46 56.0**	**-0.1**
ANTJ	**Antonio Joao (**	**12.96**	**96**	*e*P		**P**	**08 47 08.8**	**-3.6**
TRCB	**Terra Rica**	**16.10**	**99**	Pn		**P**	**08 47 46.2**	**-1.1**
TRCB				IAmb		IAmb	08 47 47.9	
	comp=Z,9.1nm,0.6s							
LDASE	**Londrina, Braz**	**17.52**	**100**	*e*P		**P**	**08 48 04.7**	**+1.6**
TRQA	**Tornquist**	**18.07**	**159**	P		**P**	**08 48 09.7**	**+0.8**
SNDB	**Serra Nova Dou**	**20.09**	**66**	*e*P		**P**	**08 48 29.7**	**-1.5**
ITTB	**Itaituba**	**21.74**	**41**	*e*P		**P**	**08 48 44.1**	**-4.9**
BOAV	**Boa Vista**	**25.27**	**22**	P		**P**	**08 49 23.3**	**0.0**
BOAV				IAmb		IAmb	08 49 26.9	
	comp=Z,9.4nm,1.2s							
LCR2	**La Lucha 2**	**33.79**	**334**	P		**P**	**08 50 38.3**	**-1.0**
QSPA	**South Pole Qui**	**68.91**	**180**	P		**P**	**08 55 02.2**	**+1.0**
QSPA				IAmb		IAmb	08 55 04.0	
	comp=Z,3.1nm,1.2s							
TOA0	**Torodi Ar. Sit**	**78.17**	**71**	P		**P**	**08 55 55.1**	**-1.1**
TOA0				IAmb		IAmb	08 56 15.0	
	comp=Z,6.1nm,1.5s							
TORD	**Torodi Ar. Bea**	**78.17**	**71**	P		**P**	**08 55 55.3**	**-1.0**
TORD				IAmb		IAmb	08 56 00.8	
	comp=Z,0.9nm,0.9s							

IDC 22 08:50:19.1±2.8, 54°10N×87°46E, h0km, mbtmp2.7/3, ML2.3/3, Error ellipse: s-maj=22.9km s-min=15.1km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.57**	**266**	I	I	09 00 40.0	
	baz=80,slow=336,SNR=2.4						
ZALV	**Zalesovo Beam**	**1.57**	**266**	Pg	Pn	08 50 47.3	-0.9
	4.3nm,0.3s,baz=87,slow=15,SNR=36						
ZALV				Lg	Lg	08 51 09.3	
	5.2nm,0.3s,baz=84,slow=23,SNR=4.5						
KURBB	**Kurchatov Arra**	**6.48**	**241**	Pn	Pn	08 51 56.8	+1.1
	0.1nm,0.3s,baz=55,slow=14,SNR=6.6						
KURBB				Sn	Sn	08 53 08.7	-1.6
	0.1nm,0.3s,baz=123,slow=16,SNR=2.4						
KURBB				Lg	Lg	08 53 46.4	
	0.2nm,0.3s,baz=148,slow=33,SNR=5.0						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**8.02**	**206**	Pn	Pn	08 52 17.4	+0.5
	baz=31,slow=21,SNR=1.8						
MKAR				Sn	Sn	08 53 47.5	-0.6
	baz=291,slow=37,SNR=1.7						
MKAR				Lg	Lg	08 54 33.9	
	baz=34,slow=26						
	0.1nm,0.6s						
BVAR	**Borovoye Array**	**10.22**	**271**	Pn	Pn	08 52 46.2	-0.7
	baz=90,slow=1.4,SNR=1.7						
BVAR				Sn	Sn	08 54 36.5	-5.6
	baz=73,slow=27,SNR=2.1						
	0.3nm,0.4s						

IDC 22 08:55:36.3±3.3, 54°52N×86°37E, h0km, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=24.5km s-min=14.3km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.07**	**238**	I	I	09 04 00.0	
	baz=57,slow=328,SNR=1.7						
ZALV	**Zalesovo Beam**	**1.07**	**238**	Pg	Pg	08 55 55.6	-1.2
	0.5nm,0.3s,baz=59,slow=17,SNR=11						
ZALV				Lg	Lg	08 56 12.0	
	1.0nm,0.3s,baz=57,slow=28,SNR=8.6						
KURBB	**Kurchatov Arra**	**6.17**	**234**	Pn	Pn	08 57 09.5	+1.0
	0.1nm,0.3s,baz=49,slow=14,SNR=5.7						
KURBB				Lg	Lg	08 58 51.2	
	baz=42,slow=26,SNR=1.7						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**8.15**	**200**	Pn	Pn	08 57 36.8	+0.9
	baz=33,slow=15,SNR=2.3						
MKAR				Sn	Sn	08 59 07.9	-0.8
	baz=23,slow=30,SNR=2.3						
MKAR				Lg	Lg	08 59 55.1	
	baz=32,slow=34,SNR=2.7						
	0.2nm,0.5s						

*SJA **22** 08:59:44.8±0.7, 34°39S×71°88W, h30km±2km, ML3.7, MW3.8*
*GUC **22** 08:59:46.8±0.8, 34°44S×71°81W, h43km±1km, ML3.8*
ISC 22 08:59:48.3±1.0, 34°44S±0°03×71°80W±0°06, h31km±8km, n47, σ1°48/31, 7C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.15**	**248**	⇓*i*P	**Pb**	**08 59 54.0**	**-0.1**
BO03				*e*S	**Sb**	**08 59 59.2**	**+1.0**
BO03				IAML		08 59 59.4	
	comp=N,18μm,0.3s						
GO05	**Huala**	**0.58**	**191**	*e*P	Pb	08 59 58.2	-2.0
GO05				*e*S	**Sb**	**09 00 07.2**	**-1.0**
GO05	**Huala**	**0.58**	**191**	⇑*i*P	Pb	08 59 58.1	-2.0
GO05				*e*S	**Sb**	**09 00 06.7**	**-1.5**
GO05				IAML		09 00 08.3	
	comp=E,7μm,0.3s						
BO01	**Tunca**	**0.59**	**85**	*e*P	Pb	08 59 58.6	-1.7
BO01				*e*S	**Sb**	**09 00 08.2**	**-0.3**
BO01				IAML		09 00 08.3	
	comp=Z,2μm,0.1s						
BO01	**Tunca**	**0.59**	**85**	⇓*i*P	Pb	08 59 58.6	-1.7
BO01				*e*S	**Sb**	**09 00 07.2**	**-1.3**
BO01				IAML		09 00 08.5	
	comp=N,4μm,0.2s						
MT01	**Popeta**	**0.73**	**38**	*e*P	Pn	08 59 59.6	-2.9
MT01				*e*S	**Sb**	**09 00 10.9**	**-1.5**
MT01				IAML		09 00 12.4	
	comp=Z,3μm,0.5s						
MT01	**Popeta**	**0.73**	**38**	⇑*i*P	Pn	09 00 00.5	-2.1
MT01				*e*S	**Sb**	**09 00 10.8**	**-1.5**
MT01				IAML		09 00 13.0	
	comp=E,7μm,0.1s						
VA05	**Santo Domingo**	**0.80**	**11**	⇑*i*P	Pn	09 00 01.1	-2.2
VA05				*e*S	**Sb**	**09 00 12.2**	**-2.0**
VA05				IAML		09 00 13.3	
	comp=E,5μm,0.3s						
BO02	**Sierra Bellavi**	**0.91**	**113**	*e*P	Pn	09 00 03.1	-1.9
BO02				IAML		09 00 18.1	
	comp=Z,7μm,0.2s						
BO02	**Sierra Bellavi**	**0.91**	**113**	⇓*i*P	Pn	09 00 03.2	-1.9
BO02				*e*S	**Sn**	**09 00 15.7**	**-1.4**
BO02				IAML		09 00 17.0	
	comp=N,11μm,0.3s						
MT09	**Talagante**	**0.94**	**46**	⇑*i*P	Pn	09 00 04.0	-1.6
MT09				*e*S	**Sn**	**09 00 17.0**	**-1.0**
MT09				IAML		09 00 18.6	
	comp=N,10μm,0.2s						
BO04	**La Punta**	**1.08**	**66**	⇓*i*P	Pn	09 00 06.1	-1.3
BO04				*e*S	**Sn**	**09 00 21.0**	**-0.3**
BO04				IAML		09 00 22.9	
	comp=N,4μm,0.2s						
MT12	**Pirque**	**1.25**	**56**	⇓*i*P	Pn	09 00 08.5	-1.2
MT12				*e*S	**Sn**	**09 00 24.5**	**-1.1**
MT12				IAML		09 00 27.6	
	comp=N,7μm,0.5s						
MT02	**Curacav**	**1.30**	**25**	*e*P	Pn	09 00 08.5	-1.8
MT02				*e*S	**Sn**	**09 00 25.6**	**-1.0**
MT02				IAML		09 00 28.9	
	comp=Z,504nm,0.5s						
MT02	**Curacav**	**1.30**	**25**	⇑*i*P	Pn	09 00 08.5	-1.8
MT02				*e*S	**Sn**	**09 00 25.0**	**-1.7**
MT02				IAML		09 00 25.8	
	comp=N,2μm,0.3s						
ML02	**Panimavida**	**1.35**	**167**	⇑*i*P	Pn	09 00 09.4	-1.7
ML02				*e*S	**Sn**	**09 00 26.8**	**-1.2**
ML02				IAML		09 00 30.1	
	comp=E,2μm,0.2s						
MT05	**Renca**	**1.37**	**40**	*e*P	Pn	09 00 10.6	-0.8
MT05				*e*S	**Sn**	**09 00 28.9**	**+0.6**
MT05				IAML		09 00 30.2	
	comp=Z,2μm,0.5s						
MT05	**Renca**	**1.37**	**40**	*i* P	Pn	09 00 10.4	-0.9
MT05				*e*S	**Sn**	**09 00 28.2**	**-0.2**
MT05				IAML		09 00 30.9	
	comp=E,5μm,0.4s						
VA01	**Torpederas**	**1.42**	**5**	*e*P	Pn	09 00 09.9	-2.0
VA01				IAML		09 00 34.6	
	comp=Z,417nm,0.2s						
VA01	**Torpederas**	**1.42**	**5**	*e*P	Pn	09 00 10.1	-1.8
VA01				IAML		09 00 35.8	
	comp=N,4μm,0.1s						
MT03	**Universidad Ad**	**1.43**	**49**	*e*P	Pn	09 00 10.8	-1.4
MT03				*e*S	**Sn**	**09 00 30.4**	**+0.5**
MT03				IAML		09 00 33.1	
	comp=Z,4μm,0.2s						
MT03	**Universidad Ad**	**1.43**	**49**	*e*P	Pn	09 00 10.7	-1.4
MT03				IAML		09 00 31.3	
	comp=E,6μm,0.3s						
LMEL	**Las Melosas**	**1.45**	**66**	⇓*i*P	Pn	09 00 11.4	-1.1
LMEL				IAML		09 00 33.2	
	comp=N,4μm,0.2s						
MT16	**CCHEN**	**1.46**	**47**	*e*P	Pn	09 00 11.3	-1.4
MT16				IAML		09 00 33.5	
	comp=N,2μm,0.6s						
MT14	**Cerro Calįn**	**1.48**	**46**	*e*P	Pn	09 00 11.7	-1.2
MT14				IAML		09 00 34.3	
	comp=N,3μm,0.2s						
PEL	**Peldehue**	**1.59**	**36**	*e*P	Pn	09 00 13.8	-0.5
PEL	**Peldehue**	**1.59**	**36**	*e*P	Pn	09 00 13.7	-0.7
PEL				IAML		09 00 38.3	
	comp=E,2μm,0.6s						
ROC1	**El Roble**	**1.60**	**24**	*e*P	Pn	09 00 13.3	-1.4
ROC1				*e*S	**Sn**	**09 00 36.1**	**+1.7**
ROCH	**El Roble**	**1.60**	**24**	⇑*i*P	Pn	09 00 13.3	-1.5
ROCH				IAML		09 00 38.5	
	comp=N,3μm,0.3s						
FCH	**Farellones**	**1.68**	**49**	*e*P	Pn	09 00 14.5	-1.3
FCH				IAML		09 00 39.7	
	comp=E,2μm,0.2s						
MT04	**Ro Olivares**	**1.72**	**54**	*e*P	Pn	09 00 15.2	-1.2
MT04				IAML		09 00 39.8	
	comp=E,1μm,0.2s						
VA03	**San Esteban**	**1.97**	**32**	*e*P	Pn	09 00 18.5	-1.2
VA03				*e*S	**Sn**	**09 00 46.2**	**+2.9**
VA03				IAML		09 00 49.4	
	comp=Z,1μm,0.4s						
EDS3	**Malargue**	**2.37**	**125**	*e*P	**Pn**	**09 00 26.7**	**+1.4**
RFA	**San Rafael**	**2.77**	**98**	*e*P	**Pn**	**09 00 31.9**	**+1.3**
AAGR	**Agrelo**	**2.82**	**62**	*e*P	**Pn**	**09 00 32.7**	**+1.4**
ARCO	**CERRO ARCO**	**2.87**	**57**	*e*P	**Pn**	**09 00 35.5**	**+3.3**
ARCO				IAML		09 01 17.5	
	comp=Z,89nm,0.6s						
AVIZ	**Vizcacheras**	**2.89**	**71**	*e*P	**Pn**	**09 00 33.9**	**+1.5**
ASAL	**Salagasta**	**3.09**	**54**	*e*P	**Pn**	**09 00 36.7**	**+1.7**
CO02	**Combarbal**	**3.30**	**12**	*e*P	Pn	09 00 36.3	-1.6
CO02				IAML		09 01 32.3	
	comp=Z,214nm,0.3s						
RTLS	**Leoncito**	**3.37**	**39**	*e*P	**Pn**	**09 00 39.9**	**+0.8**
RTLS				IAML		09 01 35.4	
	comp=Z,271nm,0.3s						
CO03	**El Pedregal**	**3.71**	**15**	*e*P	Pn	09 00 42.5	-1.1
CO03				IAML		09 01 44.9	
	comp=Z,115nm,0.6s						
DOCA	**Reserva Natura**	**4.17**	**34**	*e*P	**Pn**	**09 00 50.1**	**0.0**
DOCA				*e*S	Sn	09 01 49.7	+12
DOCA				IAML		09 01 53.2	
	comp=Z,259nm,0.8s						
GO04	**Tololo Observa**	**4.34**	**12**	*e*P	Pn	09 00 50.8	-1.6
ACCO	**Cerro Coronel**	**4.48**	**32**	*e*P	Pn	09 00 53.9	-0.5
ACCO				IAML		09 02 07.1	
	comp=Z,64nm,0.7s						
CO01	**Juntas del Tor**	**4.68**	**18**	*e*P	**Pn**	**09 00 57.0**	**-0.1**
CO01				IAML		09 02 15.3	
	comp=Z,29nm,0.8s						
ACDV	**Cuesta del Vie**	**4.82**	**29**	*e*P	**Pn**	**09 00 59.0**	**0.0**
ACDV				IAML		09 02 25.7	
	comp=Z,22nm,1.0s						
AVFE	**Valle Fertil**	**5.26**	**45**	*e*P	Pn	09 01 04.3	-0.5
AVFE				IAML		09 02 35.0	
	comp=Z,25nm,0.6s						

IDC 22 09:00:10.0±3.3, 53°77N×88°01E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=30.9km s-min=19.4km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.90**	**277**	I	I	09 13 10.0	
	baz=93,slow=331,SNR=1.1						
ZALV	**Zalesovo Beam**	**1.90**	**277**	Pn	Pn	09 00 43.2	-0.4
	1.0nm,0.3s,baz=96,slow=14,SNR=10						
ZALV				Lg	Lg	09 01 10.0	
	1.3nm,0.3s,baz=94,slow=24,SNR=6.8						
KURBB	**Kurchatov Arra**	**6.62**	**245**	Pn	Pn	09 01 49.8	+1.3
	0.1nm,0.3s,baz=60,slow=14,SNR=2.9						
KURBB				Lg	Lg	09 03 39.5	
	0.1nm,0.3s,baz=258,slow=31,SNR=2.7						
	0.7nm,0.2s						
MKAR	**Makanchi Array**	**7.88**	**210**	Pn	Pn	09 02 06.7	+0.9
	0.1nm,0.3s,baz=30,slow=13,SNR=5.7						
	0.1nm,0.4s						

IDC 22 09:26:48.6±1.9, 3°47S×130°21E, h0km, mb3.8/3, mbtmp3.9/4, ML3.9/1, Error ellipse: s-maj=111.9km s-min=26.6km az=71.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.86**	**166**	Pn	Pn	09 30 47.0	+0.8
	0.5nm,0.3s,baz=347,slow=11,SNR=14						
	1.6nm,0.6s						
ASAR	**Alice Springs**	**20.40**	**170**	P	P	09 31 26.9	-0.3
	8.9nm,0.6s,baz=350,slow=10,SNR=142						
	8.9nm,0.6s						
MKAR	**Makanchi Array**	**65.42**	**326**	P	P	09 37 33.5	+0.2
	0.3nm,0.5s,baz=114,slow=8.1,SNR=5.3						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**75.21**	**327**	P	P	09 38 32.8	-0.2
	0.5nm,0.7s,baz=100,slow=6.7,SNR=2.8						
	0.5nm,0.7s						

IDC 22 09:29:15.7±2.4, 3°63S×130°75E, h0km, mb3.9/2, mbtmp3.9/3, ML3.7/1, Error ellipse: s-maj=113.6km s-min=18.0km az=75.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.59**	**168**	Pn	Pn	09 33 09.7	-0.2
	0.3nm,0.3s,baz=347,slow=11,SNR=6.3						
WRA				Sn	Sn	09 36 06.6	-8.2
	0.1nm,0.3s,baz=349,slow=25,SNR=1.5						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**20.15**	**172**	P	P	09 33 50.0	-1.7
ASAR				S	Sn	09 37 40.8	-0.3
	7.3nm,0.6s,baz=351,slow=11,SNR=31						
	0.6nm,0.5s,baz=360,slow=25,SNR=9.0						
	7.3nm,0.6s						
MKAR	**Makanchi Array**	**65.85**	**326**	P	P	09 40 03.5	+0.4
	0.4nm,0.7s,baz=120,slow=7.2,SNR=3.7						
	0.4nm,0.7s						

*MDD **22** 09:50:37.6±0.3, 37°90N×3°21W, h5km±5km, mb_Lg2.4/9, Error ellipse: s-maj=2.6km s-min=2.3km az=112.0*
*SFS **22** 09:50:38.1, 37°87N×3°25W, h0km, ML2.1/7, ML2.5/6, MLv1.8/7*
ISC 22 09:50:36.7±0.9, 37°88N±0°02×3°24W±0°03, h11km±8km, n20, σ1°00/36, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EQES	**Quesada**	**0.15**	**120**	Pg	**Pg**	**09 50 40.4**	**+0.2**
EQES				Sg	**Sg**	**09 50 42.8**	**+0.1**
EQES				*i* Vmb_Lg		09 50 43.0	
EQTA	**Presa de Quent**	**0.69**	**194**	Pg	**Pg**	**09 50 50.2**	**+0.1**
EQTA				Sg	**Sg**	**09 50 59.6**	**+0.5**
EBER	**Berja**	**1.02**	**164**	Pg	**Pb**	**09 50 56.3**	**-0.1**
EBER				Sg	**Sn**	**09 51 10.6**	**-0.9**
EBER	**Berja**	**1.02**	**164**	Pg	**Pb**	**09 50 56.4**	**0.0**
EBER				Sg	**Sb**	**09 51 09.3**	**-0.5**
PSIM	**Granatula de C**	**1.02**	**337**	Pg	**Pn**	**09 50 57.5**	**+0.4**
PSIM				Sg	**Sb**	**09 51 11.0**	**+1.1**
EGOR	**Sierra Gorda,**	**1.03**	**222**	Sg	**Sb**	**09 51 11.0**	**+0.7**
ELGU	**Los Guajares,**	**1.06**	**197**	Pg	**Pb**	**09 50 57.1**	**+0.1**
ELGU				Sg	**Sn**	**09 51 11.9**	**-0.3**
ELGU	**Los Guajares,**	**1.06**	**197**	Pg	**Pn**	**09 50 57.5**	**0.0**
ELGU				Sg	**Sb**	**09 51 11.5**	**+0.6**
EADA	**Adamuz**	**1.10**	**286**	Pg	**Pg**	**09 50 58.1**	**+0.3**
EADA				Sg	**Sb**	**09 51 13.0**	**+1.0**
EADA	**Adamuz**	**1.10**	**286**	Pg	**Pb**	**09 50 58.3**	**+0.6**
EADA				Sg	**Sn**	**09 51 14.1**	**+0.9**
EADA				*i* Vmb_Lg		09 51 16.8	
ETOB	**Tobarra**	**1.53**	**60**	Pn	**Pb**	**09 51 04.7**	**-0.5**
ETOB				Sn	**Sg**	**09 51 26.4**	**+0.3**
ETOB	**Tobarra**	**1.53**	**60**	Pg	**Pb**	**09 51 04.7**	**-0.5**
ETOB				Sg	**Sg**	**09 51 25.0**	**-1.1**
ETOB				*i* Vmb_Lg		09 51 27.7	
EMUR	**La Murta**	**1.58**	**91**	Sn	**Sg**	**09 51 27.2**	**-0.3**
ECAB	**El Cabril**	**1.73**	**277**	Pn	**Pn**	**09 51 07.0**	**+0.2**
ECAB				Sn	**Sb**	**09 51 31.1**	**+0.7**
ECAB	**El Cabril**	**1.73**	**277**	Pn	**Pn**	**09 51 07.2**	**+0.4**
ECAB				Pg	**Pg**	**09 51 10.1**	**+0.2**
ECAB				Sg	**Sb**	**09 51 32.4**	**+2.0**
ECAB				*i* Vmb_Lg		09 51 35.6	
PAB	**San Pablo**	**1.88**	**333**	Pg	**Pg**	**09 51 12.8**	**+0.1**
PAB				Sn	**Sn**	**09 51 32.2**	**-0.4**
PAB				Sg	**Sg**	**09 51 36.4**	**-0.6**
PAB				*i* Vmb_Lg		09 51 39.6	
ESDC	**Sonseca Array**	**1.88**	**343**	Sg	**Sg**	**09 51 36.2**	**-0.9**
ESDC				*i* Vmb_Lg		09 51 39.2	
PBAR	**Barrancos**	**3.02**	**277**	*e*Sg	**Sg**	**09 52 11.7**	**-1.9**
PBAR				A	A	09 52 16.6	
	3.1nm,0.4s						
PMRV	**Marv??o**	**3.60**	**297**	*e*Sg	**Sg**	**09 52 30.2**	**-2.1**
PMRV				A	A	09 52 38.3	
	3.6nm,0.7s						
EVO	**Evora**	**3.82**	**281**	*e*Sg	**Sg**	**09 52 36.1**	**-3.2**

*NEIC **22** 09:54:08.8±1.3, 19°35N±0°01×155°199W±0°007, h8km±2km, Error ellipse: s-maj=1.8km s-min=0.9km az=184.0*
HVO 22 09:54:08.4±0.8, 19°37N±0°01×155°209W±0°006, h2km±3km, ML2.7/23, ML2.2/44(NEIC), Error ellipse: s-maj=1.6km s-min=0.7km az=190.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.01**	**316**		Pg	09 54 10.0	+1.0
KNHH	**Kane Nui o Ham**	**0.04**	**72**		Pg	09 54 09.9	+0.6
KKO	**Keanakako`i**	**0.06**	**300**		Pg	09 54 11.8	+2.1
BYL	**Byron's Ledge**	**0.07**	**313**		Pg	09 54 12.1	+2.3
RIM	**Rim**	**0.07**	**295**	IAML		09 54 11.9	
	comp=N,2μm,0.5s						
RIM	**Rim**	**0.07**	**295**		Pg	09 54 12.1	+2.2
HATHI	**Halema'uma'u T**	**0.07**	**319**		Pg	09 54 12.2	+2.3
NPH	**North Pit**	**0.08**	**303**		Pg	09 54 10.7	+0.6
NPH				IAML		09 54 12.7	
	comp=N,2μm,0.8s						
SBLHI	**Steaming Bluff**	**0.08**	**317**		Pg	09 54 12.3	+2.2
SBLHI	**Steaming Bluff**	**0.08**	**317**	IAML		09 54 12.4	
	comp=E,2μm,0.4s						
SBLHI				IAML		09 54 12.8	
	comp=N,3μm,0.2s						
STCH	**Steam Cracks**	**0.08**	**77**	Pg	Pg	09 54 10.7	+0.6
STCH				IAML		09 54 12.3	
	comp=N,2μm,0.7s						
OBL	**Observatory Le**	**0.09**	**305**		Pg	09 54 11.5	+1.3
OBL				IAML		09 54 12.7	
	comp=E,2μm,0.6s						
OBL				IAML		09 54 12.9	
	comp=N,2μm,0.4s						
UWB	**Uwekahuna B**	**0.09**	**311**		Pg	09 54 12.5	+2.3
UWB	**Uwekahuna B**	**0.09**	**311**	IAML		09 54 12.6	
	comp=N,798nm,0.4s						
UWB				IAML		09 54 12.9	
	comp=E,2μm,0.8s						
WRMHI	**West Rim**	**0.09**	**294**		Pg	09 54 11.0	+0.7
WRMHI	**West Rim**	**0.09**	**294**		Sg	09 54 13.0	+1.4
WRMHI	**West Rim**	**0.09**	**294**	IAML		09 54 12.6	
	comp=N,1μm,1.6s						
UWE	**Uwekahuna**	**0.10**	**304**	Pg	Pg	09 54 10.5	+0.2
UWE				IAML		09 54 13.3	
	comp=N,2μm,0.4s						
NPOC	**North of Pu'u**	**0.10**	**75**		Pg	09 54 11.1	+0.8
NPOC	**North of Pu'u**	**0.10**	**75**	IAML		09 54 13.0	
	comp=N,684nm,0.8s						
NPOC				IAML		09 54 13.2	
	comp=E,953nm,1.1s						
JCUZ	**Jacuzzi**	**0.10**	**81**

comp=N,199nm,1.9s
POHA IAML 09 54 26.0
comp=N,291nm,1.0s
HPAH Hawaii Prepara 0.80 325 Pg Pg 09 54 24.2 +0.3

HEL 22 10:06:09.2±0.1, 63°.96N × 28°.23E, h0 km, ML1.4, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIF	**Nilsia**	**0.60**	**198**	PG	Pg	10 06 19.7	-1.0
	baz=14						
NIF				SG	Sg	10 06 27.4	-1.1
RMF	**Romuvaara**	**0.79**	**70**	PB	Pg	10 06 24.2	-0.1
RMF				MSG		10 06 33.8	
	comp=Z,3.7nm,0.2s						
RMF				SB	Sg	10 06 34.5	-0.1
OUL	**Oulu**	**1.52**	**319**	PN	Pn	10 06 37.0	-0.6
	baz=133						
OUL				SN	Sn	10 06 59.2	+1.2
SUF	**Sumiainen**	**1.56**	**218**	PG	Pn	10 06 37.4	-0.7
SUF				MSG		10 06 55.9	
	comp=Z,1.5nm,0.2s						
SUF				SG	Sn	10 06 58.0	-1.0
OUF	**Merijarvi**	**1.59**	**287**	PG	Pn	10 06 37.7	-0.8
OUF				MSG		10 06 56.6	
	comp=Z,2.5nm,0.2s						
OUF				SN	Sn	10 06 59.0	-0.7
OBF4	**Vikkela, Lumij**	**1.61**	**304**	PG	Pn	10 06 38.3	-0.5
OBF4				MSG		10 06 57.4	
	comp=Z,1.7nm,0.2s						
OBF4				SN	Sb	10 07 00.6	+0.1
JOF	**Joensuu**	**1.73**	**126**	PG	Pn	10 06 40.6	0.0
	baz=306						
JOF				SN	Sn	10 07 03.2	-0.1
OBF0	**Syolatti, Pyha**	**1.83**	**289**	PG	Pn	10 06 42.0	+0.2
	baz=102						
OBF0				MSG		10 07 03.6	
	comp=Z,2.9nm,0.2s						
OBF0				SG	Sn	10 07 05.5	-0.1
MSF	**Maaselka**	**1.99**	**10**	PG	Pb	10 06 45.3	-1.0
MSF				SG	Sb	10 07 10.8	-0.7
KAF	**Kangasniemi**	**2.05**	**206**	PG	Pn	10 06 45.8	+1.0
KAF				MSG		10 07 10.1	
	comp=Z,2.9nm,0.2s						
KAF				SG	Sn	10 07 12.0	+0.9
KU6	**Riekki**	**2.19**	**18**	PG	Pn	10 06 48.2	+1.3
	baz=202						
KU6				MSG		10 07 14.2	
	comp=Z,1.1nm,0.2s						
KU6				SG	Sn	10 07 16.0	+1.3
KEF	**Keuruu**	**2.36**	**222**	PG	Pb	10 06 50.9	-1.7
KEF				MSG		10 07 19.2	
	comp=Z,3.5nm,0.2s						
KEF				SG	Sn	10 07 20.4	+1.6
OLKF	**Oulanka, Finla**	**2.42**	**11**	PG	Pb	10 06 52.4	-1.2
OLKF				MSG		10 07 20.7	
	comp=Z,1.8nm,0.2s						
OLKF				SG	Sb	10 07 23.4	-0.5
RUF	**Ruokolahti**	**2.56**	**172**	MSG		10 07 24.9	
	comp=Z,2.1nm,0.2s						
RUF				SG	Sb	10 07 28.6	+0.5
VAF	**Ylistaro**	**2.66**	**252**	MSG		10 07 27.4	
	comp=Z,1.5nm,0.2s						
VAF				SB	Sb	10 07 29.6	-1.1
FIA0	**FINESS Array S**	**2.71**	**202**	PB	Pb	10 06 56.3	-2.2
FIA0				MSG		10 07 29.0	
	comp=Z,1.4nm,0.2s						
FIA0				SB	Sb	10 07 30.7	-1.6
RNF	**Rovaniemi**	**2.82**	**342**	SB	Sb	10 07 33.6	-1.8
BURU	**Burvik**	**3.06**	**285**	SB	Sn	10 07 36.4	+0.5

HEL 22 10:06:42.1±0.9, 60°.86N × 27°.98E, h0 km, ML1.0, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**0.38**	**213**	PG	Pg	10 06 49.1	-0.3
	baz=28						
VJF				SG	Sg	10 06 53.6	-0.8
RUF	**Ruokolahti**	**0.74**	**39**	PB	Pg	10 06 54.3	-2.0
RUF				MSG		10 07 05.2	
	comp=Z,1.2nm,0.2s						
RUF				SG	Sb	10 07 08.7	+0.2
RUF	**Ruokolahti**	**0.74**	**39**	PB	Pg	10 06 54.3	-2.0
	baz=353						
PVF	**Pernaja**	**1.09**	**254**	PG	Sg	10 07 15.1	-1.9
PVF	**Pernaja**	**1.09**	**254**	PG	Pg	10 07 01.2	-1.7
PVF				SG	Sg	10 07 15.1	-1.9
PVF				MSG		10 07 15.3	
	comp=Z,3.6nm,0.2s						
FIA0	**FINESS Array S**	**1.09**	**303**	MSG		10 07 15.3	
	comp=Z,1.2nm,0.2s						
FIA0				SB	Sg	10 07 16.4	-0.7
MEF	**Metsahovi**	**1.88**	**252**	MSG		10 07 38.1	
	comp=Z,1.6nm,0.2s						
MEF				SG	Sn	10 07 39.9	+0.1

*UPA **22** 10:13:34.0±0.9, 8°.72N × 83°.12W, h40 km ± 8 km, ML3.2*
*CATAC **22** 10:13:34.9±0.4, 8°.63N × 83°.07W, h41 km ± 4 km, ML2.2*
ISC 22 10:13:35.3±1.4, 8°.64N±0°.05 × 83°.04W±0°.04, h41 km ± 10 km, n15, σ0.90/28, 1C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDITO	**Canoas**	**0.18**	**113**	*e*P	**Pn**	**10 13 41.9**	**-0.6**
CDITO				AMP		10 13 42.0	
	comp=Z,1μm,0.1s						
CDITO				*e*S	**Sn**	**10 13 47.5**	**-0.1**
CDITO	**Canoas**	**0.18**	**113**	*i* P	**Pn**	**10 13 41.9**	**-0.6**
CDITO				*i* S	**Sn**	**10 13 47.8**	**+0.2**
CDITO				IAML		10 13 48.3	
	comp=Z,260nm,1.0s						
BRU2	**Volcan**	**0.38**	**67**	*e*P	**Pn**	**10 13 44.5**	**-0.2**
BRU2				*e*S	**Sn**	**10 13 52.3**	**+1.0**
BRU2	**Volcan**	**0.38**	**67**	*i* P	**Pn**	**10 13 44.5**	**-0.2**
BRU2				*i* S	**Sn**	**10 13 52.2**	**+1.0**
BRU2				IAML		10 13 53.4	
	comp=Z,220nm,1.0s						
POTG	**Potrero Grande**	**0.41**	**349**	*i* P	**Pn**	**10 13 44.5**	**-0.6**
POTG				IAML		10 13 44.7	
	comp=Z,420nm,1.0s						
POTG				*i* S	**Sn**	**10 13 52.3**	**+0.4**
BC3P	**Paso Ancho**	**0.46**	**68**	*e*P	**Pn**	**10 13 45.0**	**-0.8**
BC3P				*e*S	**Sn**	**10 13 53.5**	**+0.4**
PTPM	**Petroterminale**	**0.47**	**160**	*e*P	**Pn**	**10 13 45.2**	**-0.4**
PTPM				*e*S	**Sn**	**10 13 54.5**	**+1.6**
BCO2	**Palmira**	**0.51**	**82**	*e*P	**Pn**	**10 13 46.3**	**-0.2**
BCO2				AMP		10 13 47.9	
	comp=Z,1μm,0.1s						
BCO2				*e*S	**Sn**	**10 13 55.4**	**+1.2**
PTAR3	**Potrerillos Ar**	**0.54**	**85**	*e*P	**Pn**	**10 13 46.8**	**0.0**
PTAR3				*e*S	**Sn**	**10 13 55.8**	**+1.0**
SRBA	**San Rafael, Bu**	**0.66**	**332**	*i* P	**Pn**	**10 13 47.6**	**-0.8**
SRBA				*i* S	**Sn**	**10 13 56.9**	**-0.8**
SRBA				IAML		10 13 57.8	
	comp=Z,190nm,1.0s						
PEDE3	**Pedregal, Chir**	**0.67**	**113**	*e*P	**Pn**	**10 13 47.4**	**-0.9**
PEDE3				*e*S	**Sn**	**10 13 55.6**	**-2.0**
OCHAL	**Ojochal**	**0.75**	**307**	*i* P	**Pn**	**10 13 48.5**	**-0.9**
OCHAL				*i* S	**Sn**	**10 13 59.4**	**-0.2**
OCHAL				IAML		10 13 59.9	
	comp=Z,80nm,1.0s						
CDM	**Cerro de Muert**	**1.15**	**322**	*i* P	**Pn**	**10 13 54.8**	**-0.6**
CDM				*i* S	**Sn**	**10 14 09.8**	**-0.3**
CDM				IAML		10 14 54.0	
	comp=Z,27nm,1.0s						
RIMA	**Rio Macho**	**1.38**	**324**	*i* P	**Pn**	**10 13 58.9**	**+0.6**
RIMA				IAML		10 14 22.1	
	comp=Z,20nm,1.0s						
JACO	**JACO, Garabito**	**1.89**	**302**	*i* P	**Pn**	**10 14 06.7**	**+1.6**
JACO				IAML		10 15 40.1	
	comp=Z,48nm,1.0s						

SJA 22 10:18:47.5±0.6, 32°.04S × 67°.93W, h21 km ± 4 km, ML3.5, MW3.5, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTCV	**Cerro Valdivia**	**0.55**	**288**	*e*P	Pb	10 18 58.4	-0.1
SJA	**San Juan**	**0.74**	**313**	*e*P	Pn	10 19 03.4	+0.7
SJA				*e*S	Sn	10 19 13.1	-0.3
SJA				IAML		10 19 14.4	
	comp=Z,739nm,0.2s						
RTLL	**Cerro Villicun**	**0.84**	**327**	*e*P	Pn	10 19 04.0	-0.2
ASAL	**Salagasta**	**0.94**	**234**	*e*P	Pn	10 19 05.6	0.0
ASAL				*e*S	Sn	10 19 18.4	-0.2
ASAL				IAML		10 19 21.0	
	comp=Z,483nm,0.3s						
ARCO	**CERRO ARCO**	**1.17**	**226**	*e*P	Pb	10 19 09.8	+0.8
ARCO				*e*S	Sn	10 19 27.9	+3.7
ARCO				IAML		10 19 29.1	
	comp=Z,1μm,0.2s						
RTLS	**Leoncito**	**1.19**	**281**	*e*P	Pb	10 19 09.8	+0.3
RTLS				*e*S	Sn	10 19 26.5	+1.7
RTLS				IAML		10 19 27.9	
	comp=Z,1μm,0.3s						
AAGR	**Agrelo**	**1.29**	**216**	*e*P	Pb	10 19 12.1	+1.0
AAGR				*e*S	Sb	10 19 30.9	+3.5
AAGR				IAML		10 19 41.0	
	comp=Z,670nm,0.6s						
ACHE	**Chepes**	**1.39**	**51**	*e*P	Pb	10 19 13.4	+0.5
ACHE				*e*S	Sb	10 19 34.2	+4.0
AVFE	**Valle Fertil**	**1.43**	**17**	*e*P	Pb	10 19 14.0	+0.5
AVFE				*e*S	Sb	10 19 33.2	+1.8
AVFE				IAML		10 19 33.4	
	comp=Z,892nm,0.3s						
DOCA	**Reserva Natura**	**1.47**	**317**	*e*P	Pb	10 19 14.7	+0.4
DOCA				*e*S	Sb	10 19 35.1	+2.5
DOCA				IAML		10 19 35.4	
	comp=Z,1μm,0.5s						
AVIZ	**Vizcacheras**	**1.52**	**199**	*e*P	Pb	10 19 16.1	+1.1
AVIZ				*e*S	Sb	10 19 36.0	+2.3
ACCO	**Cerro Coronel**	**1.74**	**326**	*e*P	Pb	10 19 19.8	+0.8
ACCO				*e*S	Sb	10 19 43.5	+3.0
ACCO				IAML		10 19 45.6	
	comp=Z,370nm,0.5s						
APLL	**PUNTA DE LOS L**	**2.03**	**37**	*e*P	Pb	10 19 24.1	+0.3
ACDV	**Cuesta del Vie**	**2.12**	**331**	*e*P	Pb	10 19 26.1	+0.8
ACDV				IAML		10 19 55.2	
	comp=Z,225nm,0.4s						
AROD	**Rodeo**	**2.29**	**324**	*e*P	Pb	10 19 29.1	+0.8
AROD				*e*S	Sb	10 19 59.9	+3.7
VA03	**San Esteban**	**2.33**	**251**	*e*P	Pb	10 19 29.7	+0.8
VA03				*e*S	Sb	10 20 01.3	+4.0
VA03				IAML		10 20 01.7	
	comp=Z,474nm,0.3s						
PEL	**Peldehue**	**2.57**	**244**	*e*P	Pb	10 19 32.1	-0.8
PEL				*e*S	Sb	10 20 08.2	+3.9
AGUA	**GUANDACOL**	**2.59**	**349**	*e*P	Pb	10 19 32.7	-0.6
AGUA				IAML		10 20 12.3	
	comp=Z,226nm,0.2s						
MT03	**Universidad Ad**	**2.61**	**236**	*e*P	Pb	10 19 33.0	-0.7
MT03				IAML		10 20 16.9	
	comp=Z,141nm,1.2s						
CO03	**El Pedregal**	**2.64**	**296**	*e*P	Pb	10 19 34.0	-0.2
CO03				IAML		10 20 15.6	
	comp=Z,206nm,0.6s						
ACLC	**CERRO LA CRUZ**	**2.74**	**18**	*e*P	Pb	10 19 34.0	-1.8
ACLC				IAML		10 20 17.7	
	comp=Z,381nm,0.7s						
CO02	**Combarbal**	**2.75**	**287**	*e*P	Pb	10 19 35.0	-0.9
CO02				*e*S	Sb	10 20 12.1	+2.9
CO02				IAML		10 20 18.3	
	comp=Z,452nm,0.5s						
RFA	**San Rafael**	**2.76**	**189**	*e*P	Pn	10 19 32.0	+1.4
RFA				*e*S	Sb	10 20 13.2	+3.6
CO01	**Juntas del Tor**	**2.77**	**317**	*e*P	Pb	10 19 36.1	-0.4
CO01				*e*S	Sb	10 20 14.2	+4.2
CO01				IAML		10 20 14.7	
	comp=Z,247nm,0.6s						
ROC1	**El Roble**	**2.77**	**249**	*e*P	Pb	10 19 34.6	-1.8
ROC1				*e*S	Sb	10 20 14.4	+4.4
MT02	**Curacav**	**2.97**	**245**	*e*P	Pb	10 19 37.0	-2.7
MT02				IAML		10 20 22.9	
	comp=Z,77nm,0.9s						
VA01	**Torpederas**	**3.29**	**252**	*e*P	Pb	10 19 41.6	-3.6
VA01				IAML		10 20 32.2	
	comp=Z,43nm,0.2s						
VCA	**Vinchina**	**3.30**	**356**	*e*P	Pb	10 19 42.1	-3.3
VCA				IAML		10 20 35.9	
	comp=Z,285nm,0.3s						
BO01	**Tunca**	**3.54**	**228**	*e*P	Pn	10 19 44.9	+3.7
BO01				IAML		10 20 40.6	
	comp=Z,34nm,0.5s						
BO02	**Sierra Bellavi**	**3.64**	**220**	*e*P	Pn	10 19 46.8	+4.2
BO02				IAML		10 20 50.4	
	comp=Z,47nm,0.8s						

*IDC **22** 10:38:25.4±3.4, 24°.28S × 179°.91E, h539 km ± 36 km, mb3.1/11, mbtmp4.0/13, Error ellipse: s-maj=21.4km s-min=19.3km az=60.0*
ISC 22 10:38:25.9±0.6, 24°.37S±0°.10 × 179°.9E±0°.1, h550 km, n20, σ1.8/20/23, mb3.5/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.61**	**278**	P	**P**	**10 41 10.3**	**-0.6**
	12nm,0.7s,baz=75,slow=16,SNR=7.3						
URZ	**Urewera**	**14.06**	**189**	P	**P**	**10 41 25.4**	**0.0**
	5.2nm,0.9s,baz=164,slow=15,SNR=1.4						
URZ				S	**S**	**10 43 52.1**	**-1.2**
	14nm,1.0s,baz=270,slow=22,SNR=8.9						
STKA	**Stephens Creek**	**34.49**	**249**	P	**P**	**10 44 28.6**	**+0.1**
	1.3nm,0.5s,baz=85,slow=6.5,SNR=3.6						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**41.90**	**261**	P	**P**	**10 45 28.8**	**+0.1**
	0.6nm,0.5s,baz=91,slow=6.5,SNR=21						
ASAR				PcP	**pwP**	**10 47 12.2**	**+1.2**
	0.2nm,0.5s,baz=101,slow=4.8,SNR=1.9						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**42.31**	**267**	P	**P**	**10 45 31.6**	**-0.4**
	1.3nm,0.4s,baz=97,slow=8.4,SNR=50						
	1.3nm,0.4s						
QSPA	**South Pole Qui**	**65.72**	**180**	P	**P**	**10 48 17.3**	**+1.1**
	2.6nm,0.6s,baz=309,slow=0.8,SNR=19						
	2.6nm,0.6s						
KSRS	**Korea Array**	**78.56**	**320**	P	**P**	**10 49 31.8**	**+1.1**
	0.4nm,0.5s,baz=0.6,slow=37,SNR=2.1						
	0.4nm,0.5s						
PETK	**Petropavlovsk-**	**79.54**	**347**	P	**P**	**10 49 36.1**	**+0.6**
	1.8nm,0.9s,baz=105,slow=6.7,SNR=1.2						
	1.8nm,0.9s						
NVAR	**Mina Array Bea**	**85.13**	**44**	P	**P**	**10 50 04.4**	**0.0**
	0.3nm,0.6s,baz=217,slow=7.1,SNR=2.2						
	0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**89.63**	**290**	P	**P**	**10 50 27.2**	**+1.4**
	0.8nm,0.2s,baz=66,slow=13,SNR=1.5						
	0.8nm,0.2s						
TXAR	**Lajitas Array**	**90.73**	**58**	P	**P**	**10 50 31.5**	**+0.8**
	0.7nm,0.7s,baz=213,slow=6.1,SNR=10						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**92.50**	**14**	P	**P**	**10 50 37.1**	**-0.7**
	0.2nm,0.5s,baz=216,slow=6.1,SNR=4.8						
	0.2nm,0.5s						
PDAR	**Pinedale Array**	**93.07**	**44**	P	**P**	**10 50 42.6**	**+1.3**
	0.2nm,0.6s,baz=204,slow=1.5,SNR=1.6						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**120.75**	**319**	PKP	**PKiKP**	**10 56 15.8**	**+0.4**
	0.7nm,0.6s,baz=135,slow=2.2,SNR=4.5						
ARCES	**ARCESS Array B**	**132.33**	**348**	PKP	**PKiKP**	**10 56 37.1**	**-1.0**
	1.1nm,0.7s,baz=11,slow=2.5,SNR=4.7						
HFS	**Hagfors**	**142.99**	**349**	PKP	**PKPdf**	**10 56 54.7**	**-2.0**
	3.4nm,0.4s,baz=64,slow=3.4,SNR=33						
AKASG	**Malin Array Be**	**145.33**	**327**	PKPbc	**PKPab**	**10 57 01.3**	**-2.1**
	0.8nm,0.4s,baz=45,slow=4.0,SNR=7.1						
MMAI	**Mount Meron Ar**	**147.83**	**294**	PKPbc	**PKiKP**	**10 57 10.0**	**-1.0**
	0.6nm,0.2s,baz=130,slow=4.5,SNR=2.5						
EKA	**Eskdalemuir Ar**	**148.99**	**3**	PKPbc	**PKiKP**	**10 57 10.1**	**-2.5**
	0.5nm,0.4s,baz=356,slow=3.1,SNR=4.4						
TORD	**Torodi Ar. Bea**	**168.72**	**189**	PKP	**PKPdf**	**10 57 30.8**	**+0.1**
	0.3nm,0.7s,baz=198,slow=2.8,SNR=1.6						
TORD				PKPab	**PKPab**	**10 58 45.5**	**+0.9**
	0.5nm,0.8s,baz=192,slow=3.3,SNR=3.0						

IDC 22 10:42:20.1±2.4, 26°.54N × 96°.04E, h0 km, mb3.0/2, mbtmp3.2/3, ML4.1/1, Error ellipse: s-maj=71.5km s-min=31.2km az=76.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.48**	**161**	Pn	Pn	10 44 24.2	-0.1
	0.6nm,0.3s,baz=339,slow=14,SNR=11						
	1.4nm,0.5s						
SONM	**Songino Array**	**22.76**	**18**	P	P	10 47 24.9	+0.8
	0.4nm,0.5s,baz=219,slow=11,SNR=2.2						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**22.96**	**335**	P	P	10 47 25.4	-0.6
	0.2nm,0.4s,baz=134,slow=8.8,SNR=4.9						
	0.2nm,0.4s						

*IDC **22** 10:47:26.9±3.1, 16°.00N × 98°.45W, h0 km, mb3.6/5, mbtmp3.7/6, ML3.1/2, Error ellipse: s-maj=61.5km s-min=16.0km az=9.0*
*MEX **22** 10:47:28.9±1.0, 15°.95N × 98°.70W, h11 km ± 15 km, MD4.6*
*NEIC **22** 10:47:28.3±2.4, 16°.04N±0°.05 × 98°.65W±0°.04, h24 km ± 9 km, mb4.3/10, Md4.6/94(MEX), Error ellipse: s-maj=8.1km s-min=3.4km az=216.0*
ISC 22 10:47:25.6±1.4, 15°.95N±0°.04 × 98°.66W±0°.03, h5 km ± 8 km, n122, σ2.40/196, mb4.3/10, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.68**	**49**		**Pb**	**10 47 40.0**	**+0.2**
PNIG					**Sb**	**10 47 48.5**	**-1.0**
PNIG	**Pinotepa**	**0.68**	**49**	*i* P	**Pb**	**10 47 40.0**	**+0.2**
PNIG				*e*S	**Sb**	**10 47 48.5**	**-1.0**
CRIG	**Cruz Grande**	**0.91**	**330**		**Pg**	**10 47 42.7**	**-0.4**
CRIG					**Sg**	**10 47 52.9**	**-1.9**
CRIG	**Cruz Grande**	**0.91**	**330**	*e*P	**Pg**	**10 47 42.7**	**-0.4**
CRIG				*e*S	**Sg**	**10 47 52.9**	**-1.9**
MGIG	**Malinaltepec**	**1.28**	**1**		**Pn**	**10 47 48.8**	**-1.5**
MGIG					**Sb**	**10 48 04.5**	**-2.7**
MGIG	**Malinaltepec**	**1.28**	**1**	*e*P	**Pn**	**10 47 48.8**	**-1.5**
MGIG				*i* S	**Sb**	**10 48 04.5**	**-2.7**
YOIG	**Yosondua**	**1.40**	**50**		**Pn**	**10 47 51.2**	**-0.8**
YOIG					**Sn**	**10 48 09.9**	**-1.1**
YOIG	**Yosondua**	**1.40**	**50**	*e*P	**Pn**	**10 47 51.2**	**-0.8**
YOIG				*e*S	**Sn**	**10 48 09.9**	**-1.1**
DAIG	**Los Arroyos**	**1.43**	**318**		**Pn**	**10 47 50.5**	**-1.7**
DAIG	**Los Arroyos**	**1.43**	**318**	*e*P	**Pn**	**10 47 50.5**	**-1.7**
DAIG				*e*S	**Sn**	**10 48 04.9**	**-6.5**
PEIG	**Puerto Escondi**	**1.45**	**88**		**Pn**	**10 47 52.3**	**-0.2**
PEIG					**Sn**	**10 48 10.1**	**-1.9**
PEIG	**Puerto Escondi**	**1.45**	**88**	*e*P	**Pn**	**10 47 52.3**	**-0.2**
PEIG				*e*S	**Sn**	**10 48 10.1**	**-1.9**
VNTA	**La Mica**	**1.47**	**311**	*e*P	**Pg**	**10 47 55.0**	**+1.2**
VNTA				*i* S	**Sg**	**10 48 14.3**	**+1.3**
ACP2	**Acapulco**	**1.50**	**308**	*e*P	**Pg**	**10 47 56.7**	**+2.4**
ACP2				*i* S	**Sg**	**10 48 15.1**	**+1.6**
TXIG	**Tlaxiaco**	**1.56**	**33**		**Pn**	**10 47 53.2**	**-0.9**
TXIG	**Tlaxiaco**	**1.56**	**33**	*e*P	**Pn**	**10 47 53.2**	**-0.9**
TXIG				*e*S	**Sg**	**10 48 15.7**	**0.0**
TLIG	**Tlapa**	**1.61**	**3**	Pn	**Pn**	**10 47 54.2**	**-0.6**
TLIG	**Tlapa**	**1.61**	**3**	*e*P	**Pn**	**10 47 53.8**	**-1.0**
TLIG				*e*S	**Sn**	**10 48 13.9**	**-2.1**
HMTT	**Tlapaneco**	**1.85**	**3**		**Sn**	**10 48 21.4**	**-0.3**
HMTT	**Tlapaneco**	**1.85**	**3**	*e*P	**Pg**	**10 48 01.2**	**+0.2**
HMTT				*i* S	**Sn**	**10 48 21.4**	**-0.3**
CAIG	**El Cayaco**	**1.89**	**306**		**Pn**	**10 47 57.5**	**-1.0**
CAIG	**El Cayaco**	**1.89**	**306**	*e*P	**Pn**	**10 47 57.5**	**-1.0**
CAIG				*e*S	**Sb**	**10 48 25.6**	**+1.0**
FTIG	**Fresnillo de T**	**2.02**	**14**		**Pn**	**10 47 59.9**	**-0.5**
FTIG					**Sn**	**10 48 24.4**	**-1.5**
FTIG	**Fresnillo de T**	**2.02**	**14**	*e*P	**Pn**	**10 47 59.9**	**-0.5**
FTIG				*e*S	**Sn**	**10 48 24.4**	**-1.5**
HLIG	**Huajuapan de L**	**2.04**	**23**		**Pn**	**10 48 00.5**	**-0.3**
HLIG					**Sn**	**10 48 26.2**	**-0.6**
HLIG	**Huajuapan de L**	**2.04**	**23**	*e*P	**Pn**	**10 48 00.5**	**-0.3**
HLIG				*e*S	**Sn**	**10 48 26.2**	**-0.6**
OXIG	**Oaxaca**	**2.16**	**58**		**Pn**	**10 48 02.6**	**+0.2**
OXIG					**Sn**	**10 48 27.0**	**-2.6**
VHO	**Vista Hermosa**	**2.16**	**58**	*e*P	**Pn**	**10 48 02.6**	**+0.3**
VHO				*e*S	**Sn**	**10 48 27.0**	**-2.6**
MEIG	**Mezcala**	**2.17**	**335**		**Pn**	**10 48 02.3**	**-0.2**
MEIG	**Mezcala**	**2.17**	**335**	*e*P	**Pn**	**10 48 02.3**	**-0.2**
MEIG				*e*S	**Sb**	**10 48 31.7**	**-1.0**
HUIG	**Huatulco**	**2.46**	**94**		**Pn**	**10 48 06.8**	**+0.5**
HUIG	**Huatulco**	**2.46**	**94**	*i* P	**Pn**	**10 48 06.8**	**+0.5**
HUIG				*e*S	**Sn**	**10 48 32.1**	**-4.7**
PLIG	**Platanillo**	**2.56**	**342**		**Pn**	**10 48 02.4**	**+0.4**
PLIG	**Platanillo**	**2.56**	**342**	*e*P	**Pn**	**10 48 02.4**	**+0.4**
PLIG				*e*S	**Sb**	**10 48 44.4**	**+0.4**
TOIG	**Toxpalan**	**2.63**	**35**		**Pn**	**10 48 08.2**	**-0.5**
TOIG					**Sn**	**10 48 39.6**	**-1.4**
TOIG	**Toxpalan**	**2.63**	**35**	*e*P	**Pn**	**10 48 08.2**	**-0.5**
TOIG				*e*S	**Sn**	**10 48 39.6**	**-1.4**
TPIG	**Tehuac#an**	**2.75**	**27**		**Pn**	**10 48 11.0**	**+0.5**
TPIG	**Tehuac#an**	**2.75**	**27**	*e*P	**Pn**	**10 48 11.0**	**+0.5**
TPIG				*e*S	**Sn**	**10 48 44.3**	**0.0**
ARIG	**Puente Sto Nin**	**2.83**	**325**		**Pn**	**10 48 12.2**	**+0.8**
ARIG	**Puente Sto Nin**	**2.83**	**325**	*e*P	**Pn**	**10 48 12.2**	**+0.8**
ARIG				*e*S	**Sb**	**10 48 51.4**	**-0.1**
MAVM	**Malinalco, Edo**	**3.10**	**345**	*e*P	**Pn**	**10 48 17.5**	**+2.1**
MAVM				*e*S	**Sn**	**10 48 53.3**	**+0.4**
PPM	**Popocatepetl**	**3.10**	**1**	*e*P	**Pb**	**10 48 21.6**	**+0.1**
PPM				*e*S	**Sb**	**10 48 57.2**	**-2.7**
ZIIG	**Zihuatanejo**	**3.16**	**302**		**Sn**	**10 48 49.1**	**-4.8**
ZIIG	**Zihuatanejo**	**3.16**	**302**	*e*P	**Pb**	**10 48 20.6**	**-1.5**
ZIIG				*e*S	**Sn**	**10 48 49.1**	**-4.8**
AMVM	**AMECAMECA**	**3.17**	**358**	*e*P	**Pn**	**10 48 18.1**	**+1.7**
AMVM				*e*S	**Sn**	**10 48 51.8**	**-3.0**
NEUV	**Arroyo Zacate**	**3.25**	**57**	*e*P	**Pn**	**10 48 17.7**	**+0.5**
OZST	**Orizaba**	**3.26**	**27**	*e*P	**Pn**	**10 48 14.0**	**-3.5**
OZST				*e*S	**S

UXUV	**UXUV**	**4.54**	**72**	*eP*	**Pn**	**10 48 35.1**	**+0.3**
UXUV				*eS*	**Sn**	**10 49 26.6**	**-1.5**
JRQG	**Juriquilla Cam**	**5.03**	**341**	Pn	**Pn**	**10 48 41.4**	**-0.5**
JRQG	**Juriquilla Cam**	**5.03**	**341**	*eP*	Pn	10 48 47.5	+5.7
JRQG				*eS*	**Sn**	**10 49 38.9**	**-1.6**
MMIG	**Aquila**	**5.05**	**298**		**Pn**	**10 48 44.1**	**+2.1**
MMIG					**Sn**	**10 49 36.0**	**-4.7**
MMIG	**Aquila**	**5.05**	**298**	*eP*	**Pn**	**10 48 44.1**	**+2.1**
MMIG				*eS*	**Sn**	**10 49 36.0**	**-4.7**
PCIG		**5.24**	**92**		**Pn**	**10 48 45.9**	**+1.3**
PCIG		**5.24**	**92**	*eP*	**Pn**	**10 48 45.9**	**+1.3**
PCIG				*eS*	**Sn**	**10 49 37.9**	**-7.5**
TGIG		**5.38**	**80**		**Pn**	**10 48 48.7**	**+2.2**
TGIG					**Sn**	**10 49 45.8**	**-3.1**
TGIG		**5.38**	**80**	*eP*	**Pn**	**10 48 48.7**	**+2.2**
TGIG				*eS*	**Sn**	**10 49 45.8**	**-3.1**
JUBC	**Volcan de Coli**	**5.88**	**308**	*eP*	**Sn**	**10 48 57.7**	**+4.1**
JUBC				*eS*	**Sn**	**10 49 59.8**	**-1.7**
EZ5V		**5.88**	**307**	*eP*	**Sn**	**10 48 57.5**	**+3.9**
EZ5V				*eS*	**Sn**	**10 50 03.8**	**+2.3**
MNGA	**Volcan de Coli**	**5.88**	**307**	*eP*	**Sn**	**10 48 58.0**	**+4.3**
MNGA				*eS*	**Sn**	**10 49 58.7**	**-3.0**
INCO	**Volcan de Coli**	**5.91**	**308**	*eP*	**Sn**	**10 48 57.4**	**+3.3**
INCO				*eS*	**Sn**	**10 50 06.6**	**+4.2**
CDAR	**Ciudad de Arme**	**5.91**	**301**	*eP*	**Sn**	**10 48 55.1**	**+1.3**
CDAR				*eS*	**Sn**	**10 50 04.3**	**+2.3**
SOMAC	**Volcano de Col**	**5.93**	**308**	*eP*	**Sn**	**10 48 58.1**	**+3.8**
SOMAC				*eS*	**Sn**	**10 49 57.6**	**-5.2**
CEGR	**Campo Tres**	**6.03**	**305**	*eP*	**Sn**	**10 48 58.6**	**+3.1**
CEGR				*eS*	**Sn**	**10 50 05.4**	**+0.4**
RPIG	**Rio Verde**	**6.04**	**348**	*eP*	**Sn**	**10 48 58.1**	**+2.5**
RPIG				*eS*	**Sn**	**10 50 10.3**	**+5.1**
PATR	**El Naranjo**	**6.25**	**97**	*i* P	**Pn**	**10 49 00.9**	**+2.3**
PATR				*eS*	**Sn**	**10 50 02.7**	**-7.8**
CCIG	**Comitan**	**6.28**	**86**	Pn	**Pn**	**10 48 60.0**	**+1.0**
CCIG	**Comitan**	**6.28**	**86**	*eP*	**Pn**	**10 49 01.2**	**+2.3**
PAVE	**Pavencul**	**6.29**	**96**	*i* P	**Pn**	**10 48 57.1**	**-2.1**
PAVE				*eS*	**Sn**	**10 50 04.3**	**-7.3**
CHUJ	**Union Juarez**	**6.37**	**97**	*i* P	**Pn**	**10 49 02.2**	**+1.9**
CHUJ				*eS*	**Sn**	**10 50 08.8**	**-4.8**
AAIG	**Aguscalientes**	**6.95**	**330**	*e*	**Sn**	**10 50 22.0**	**-5.9**
CJM	**Chamela**	**7.04**	**301**	*e*	**Sn**	**10 50 24.6**	**-5.1**
ZAIG	**Zacatecas**	**7.73**	**332**	*eP*	Pn	10 49 24.4	+5.4
ZAIG				*eS*	**Sn**	**10 50 52.7**	**+5.7**
APG	**El Apazote**	**7.96**	**96**	Pn	**Pn**	**10 49 21.4**	**-0.7**
	baz=76,slow=22,SNR=2.0						
APG				Sn	**Sn**	**10 50 52.4**	**-0.3**
	0.1nm,0.3s,baz=138,slow=7.9,SNR=3.9						
APG				Lg	Lg	10 51 32.0	
	0.1nm,0.3s,baz=66,slow=20,SNR=2.1						
TEIG	**Tepich**	**10.75**	**65**	Pn	**Pn**	**10 49 59.4**	**-0.8**
LPIG	**La Paz**	**13.62**	**308**	Sn	**Sn**	**10 53 12.9**	**+1.6**
	11nm,0.3s,baz=305,slow=0.8,SNR=5.5						
TXAR	**Lajitas Array**	**14.10**	**342**	Sn	**Sn**	**10 53 25.5**	**+2.4**
	baz=146,slow=29,SNR=1.2						
TXAR				Lg	Lg	10 54 55.2	
	baz=146,slow=40,SNR=1.6						
ABTX	**Abilene, Hawle**	**16.63**	**357**	P	**Pn**	**10 51 19.4**	**0.0**
PLPT	**Palo Pinto**	**16.80**	**1**	P	**Pn**	**10 51 22.3**	**+0.8**
PLPT				IAmb	IAmb	10 51 26.8	
	comp=Z,21nm,1.0s						
X16A	**Lo Mia Camp, P**	**21.69**	**330**		**P**	**10 52 16.9**	**-0.7**
PBMO	**Poplar Bluff**	**22.00**	**18**	P	**P**	**10 52 20.1**	**-0.5**
PBMO				IAmb	IAmb	10 52 24.5	
	comp=Z,10.0nm,0.8s						
WVT	**Waverly**	**22.30**	**24**	P	**P**	**10 52 23.3**	**-0.5**
WVT				IAmb	IAmb	10 52 27.3	
	comp=Z,10nm,0.9s						
MVCO	**Mesa Verde**	**22.91**	**339**	P	**P**	**10 52 31.1**	**+0.5**
MVCO				IAmb	IAmb	10 52 34.0	
	comp=Z,11nm,1.1s						
R40A	**Maddies Static**	**22.96**	**13**	P	**P**	**10 52 30.5**	**-0.3**
TULM	**Tulcn-Chalpat**	**25.55**	**124**	P	**P**	**10 52 54.8**	**-1.2**
GWY	**Greenwater Val**	**25.76**	**325**	P	**P**	**10 52 57.7**	**+0.3**
GWY				IAmb	IAmb	10 53 02.0	
	comp=Z,4.5nm,0.7s						
NVAR	**Mina Array Bea**	**28.29**	**326**	P	**P**	**10 53 23.8**	**+3.6**
	comp=Z,0.8nm,0.9s,baz=108,slow=8.6,SNR=2.8						
	comp=Z,0.8nm,0.9s						
PDAR	**Pinedale Array**	**28.32**	**343**	P	**P**	**10 53 23.4**	**+2.9**
	comp=Z,0.5nm,0.7s,baz=141,slow=9.6,SNR=5.1						
	comp=Z,0.5nm,0.7s						
AGMN	**Agassiz Nation**	**32.34**	**3**	P	**P**	**10 53 56.4**	**+0.7**
AGMN				IAmb	IAmb	10 53 58.1	
	comp=Z,4.8nm,0.9s						
SCHQ	**Schefferville**	**45.93**	**25**	P	**P**	**10 55 48.9**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=226,slow=3.8,SNR=6.2						
	comp=Z,1.4nm,0.5s						
YKA	**Yellowknife Ar**	**47.84**	**350**	P	**P**	**10 56 04.9**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=159,slow=6.7,SNR=5.4						
	comp=Z,0.4nm,0.8s						
H03N2	**Juan Fernandez**	**52.59**	**159**	T	T	11 53 37.3	
	baz=337,slow=77,SNR=261						
H03N1	**Juan Fernandez**	**52.60**	**159**	T	T	11 53 38.4	
	baz=337,slow=77,SNR=401						
H03N3	**Juan Fernandez**	**52.61**	**159**	T	T	11 53 37.4	
	baz=337,slow=77,SNR=437						
ILAR	**Eielson Array**	**58.58**	**338**	P	**P**	**10 57 25.6**	**+2.5**
	comp=Z,0.5nm,0.9s,baz=145,slow=5.9,SNR=5.4						
	comp=Z,0.5nm,0.9s						

IDC 22 11:03:22.4±2.1, 52.60N×86.00E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=26.1km s-min=12.4km az=86.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.52**	**333**	I	I	11 13 20.0	
	0.1nm,0.7s,baz=150,slow=312,SNR=1.5						
ZALV	**Zalesovo Beam**	**1.52**	**333**	Pg	Pn	11 03 49.1	-1.8
	0.4nm,0.3s,baz=159,slow=14,SNR=5.9						
ZALV				Lg	Lg	11 04 11.6	
	1.0nm,0.3s,baz=155,slow=26,SNR=10						
KURBB	**Kurchatov Arra**	**5.06**	**250**	Pn	Pn	11 04 39.7	+0.2
	0.1nm,0.3s,baz=65,slow=13,SNR=4.6						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**6.29**	**204**	Pn	Pn	11 04 58.1	+1.7
	0.1nm,0.3s,baz=24,slow=14,SNR=8.5						
	0.2nm,0.3s						

IDC 22 11:15:48.0±0.9, 21.64S×68.12W, h116km±12km, mb3.5/2, mbtmp3.8/5, MS3.1/1, Error ellipse: s-maj=24.0km s-min=12.7km az=112.0
GUC 22 11:15:49.0±0.8, 21.61S×68.44W, h124km±5km, ML3.5
ISC 22 11:15:47.8±0.9, 21.57S±0.04×68.38W±0.07, h124km±9km, n20, σ1°25/37, 9C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.83**	**254**	⇑*iP*	**Pn**	**11 16 09.4**	**+0.6**
PB09				*eS*	**Sn**	**11 16 25.5**	**+0.7**
LVC	**Limon Verde**	**1.15**	**205**	P	**Pn**	**11 16 12.4**	**+0.4**
	120nm,0.4s,baz=53,slow=12,SNR=363						
LVC				S	**Sn**	**11 16 30.8**	**+0.4**
	87nm,0.4s,baz=215,slow=21,SNR=28						
LVC	**Limon Verde**	**1.15**	**205**	*eP*	**Pn**	**11 16 12.2**	**+0.2**
LVC				*eS*	**Sn**	**11 16 30.1**	**-0.2**
LVC				IAML		11 16 32.0	
	743nm,0.3s						
PB01	**IPOC Station P**	**1.16**	**297**	⇑*iP*	**Pn**	**11 16 12.1**	**+0.2**
PB01				*eS*	**Sn**	**11 16 30.0**	**-0.2**
PB01				IAML		11 16 33.5	
	comp=E,847nm,0.2s						
PB07	**IPOC Station P**	**1.41**	**263**	⇑*iP*	**Pn**	**11 16 14.8**	**+0.1**
PB07				*eS*	**Sn**	**11 16 34.3**	**-0.8**
PB07				IAML		11 16 35.2	
	comp=N,818nm,0.5s						
PB02	**IPOC Station P**	**1.44**	**280**	⇑*iP*	**Pn**	**11 16 14.8**	**-0.1**
PB02				*eS*	**Sn**	**11 16 34.5**	**-1.0**
PB02				IAML		11 16 37.9	
	comp=E,1μm,0.3s						
PB06	**IPOC Station P**	**1.58**	**224**	⇑*iP*	**Pn**	**11 16 16.8**	**+0.2**
PB06				*eS*	**Sn**	**11 16 38.3**	**-0.2**
PB06				IAML		11 16 39.1	
	comp=E,417nm,0.2s						
PB08	**IPOC Station P**	**1.60**	**333**	⇑*iP*	**Pn**	**11 16 18.5**	**+1.5**
PB08				*eS*	**Sn**	**11 16 40.7**	**+1.5**
PB08				IAML		11 16 44.0	
	comp=E,353nm,0.2s						
PB04	**IPOC Station P**	**1.81**	**245**	⇑*iP*	**Pn**	**11 16 19.0**	**-0.3**
PB04				*eS*	**Sn**	**11 16 42.1**	**-1.3**
PB04				IAML		11 16 44.9	
	comp=E,293nm,0.2s						
PB15	**IPOC Station P**	**1.92**	**212**	*eP*	**Pn**	**11 16 21.2**	**+0.6**
PB15				*eS*	**Sn**	**11 16 46.1**	**+0.3**
TA01	**Diego Aracena**	**1.96**	**300**	⇑*iP*	**Pn**	**11 16 20.9**	**0.0**
TA01				*eS*	**Sn**	**11 16 45.3**	**-0.9**
TA01				IAML		11 16 47.2	
	comp=E,860nm,0.3s						
GO01	**Chusmiza**	**2.04**	**338**	*i* P	**Pn**	**11 16 23.6**	**+1.1**
GO01				*eS*	**Sn**	**11 16 49.8**	**+0.9**
GO01				IAML		11 16 54.1	
	comp=N,494nm,0.2s						
TA02	**Huaiquique**	**2.09**	**308**	*eP*	**Pn**	**11 16 22.0**	**-0.5**
TA02				*eS*	**Sn**	**11 16 49.0**	**-0.1**
TA02				IAML		11 16 52.4	
	comp=N,1μm,0.2s						
PB05	**IPOC Station P**	**2.12**	**233**	*eP*	**Pn**	**11 16 22.7**	**-0.3**
PB05				*eS*	**Sn**	**11 16 48.2**	**-1.8**
PB05				IAML		11 16 54.6	
	comp=E,100nm,0.2s						
PB11	**IPOC Station P**	**2.16**	**326**	⇑*iP*	**Pn**	**11 16 23.9**	**+0.3**
PB11				*eS*	**Sn**	**11 16 51.3**	**+0.2**
PB11				IAML		11 16 55.1	
	comp=N,510nm,0.1s						
LPAZ	**La Paz**	**5.26**	**3**	P	**Pn**	**11 17 06.7**	**+1.8**
	comp=N,4.6nm,0.3s,baz=174,slow=5.6,SNR=33						
LPAZ				S	**Sn**	**11 18 07.1**	**+2.3**
	comp=N,2.5nm,0.8s,baz=265,slow=23,SNR=1.3						
SIV	**San Ignacio**	**8.87**	**52**	P	**Pn**	**11 17 51.6**	**-1.4**
	comp=N,2.0nm,0.5s,baz=243,slow=10,SNR=9.5						
SIV				S	**Sn**	**11 19 26.7**	**-4.6**
	comp=N,0.4nm,0.5s,baz=304,slow=23,SNR=1.2						
SIV				LR	LR	11 21 18.3	
	comp=N,108nm,18.6s,baz=331,slow=38						
CPUP	**Villa Florida**	**11.16**	**117**	P	**Pn**	**11 18 22.1**	**-1.6**
	comp=N,0.9nm,0.3s,baz=304,slow=8.8,SNR=2.9						
TORD	**Torodi Ar. Bea**	**76.91**	**70**	P	**P**	**11 27 27.6**	**+0.6**
	comp=N,1.1nm,1.1s,baz=226,slow=5.6,SNR=2.9						
	comp=N,1.1nm,1.1s						
YKA	**Yellowknife Ar**	**91.42**	**340**	P	**P**	**11 28 40.2**	**+0.9**
	comp=N,0.3nm,0.5s,baz=131,slow=5.1,SNR=6.4						
	comp=N,0.3nm,0.5s						

SOME 22 11:25:38.9, 42.13N×79.28E, h15km
NNC 22 11:25:38.4±0.9, 42.15N×79.29E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=6.3km s-min=3.1km az=143.0
KRNET 22 11:25:39.0±0.1, 42.13N×79.27E, h16km, mb2.4
ISC 22 11:25:38.5±1.9, 42.06N±0.06×79.35E±0.06, h23km±15km, n37, σ0°76/61, 7C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.83**	**301**	⇑*eP*	**Pb**	**11 25 52.9**	**-1.4**
	baz=0.0						
PRZ				⇑*eS*	**Sb**	**11 26 03.8**	**-1.3**
	baz=0.0						
UZB	**Uzynbulak**	**1.12**	**347**	P	**Pn**	**11 25 58.3**	**-0.5**
	3.3nm,0.2s						
UZB				S	**Sb**	**11 26 12.5**	**-0.9**
	3.2nm,0.1s						
TARG	**Taragay, Kyrgy**	**1.20**	**255**	⇑*eP*	**Pn**	**11 26 00.8**	**+0.6**
	baz=50						
TARG				⇑*eS*	**Sn**	**11 26 16.6**	**+0.6**
	baz=50						
SATY	**Saty**	**1.22**	**325**	*eP*	**Pn**	**11 26 00.1**	**-0.2**
	3.3nm,0.1s						
SATY				*eS*	**Sn**	**11 26 15.1**	**-1.0**
	13nm,0.1s						
SATY	**Saty**	**1.22**	**325**	P	**Pn**	**11 26 00.1**	**-0.2**
	3.3nm,0.1s						
SATY				S	**Sn**	**11 26 15.1**	**-1.0**
	13nm,0.1s						
SATY	**Saty**	**1.22**	**325**	*eP*	**Pn**	**11 26 00.1**	**-0.2**
	baz=26						
SATY				*eS*	**Sn**	**11 26 15.2**	**-1.0**
	baz=26						
PDGK	**Podgornoye**	**1.27**	**4**	P	**Pn**	**11 26 01.3**	**+0.3**
	2.4nm,0.1s						
PDGK				S	**Sn**	**11 26 17.3**	**-0.2**
	2.0nm,0.3s						
PDGK	**Podgornoye**	**1.27**	**4**	⇓P	**Pn**	**11 26 00.1**	**-0.9**
	0.6nm,0.2s						
PDGK				⇑S	**Sn**	**11 26 17.2**	**-0.3**
	1.6nm,0.3s						
ANVS	**Anan'yevo**	**1.45**	**301**	⇓*eP*	**Pn**	**11 26 04.5**	**+1.1**
	baz=99						
ANVS				⇓*eS*	**Sb**	**11 26 23.1**	**+0.2**
	baz=99						
KDJ	**Kajisay**	**1.62**	**273**	⇓*eP*	**Pb**	**11 26 07.8**	**0.0**
	baz=70						
KDJ				⇓*eS*	**Sb**	**11 26 28.5**	**+0.6**
	baz=70						
KOTS	**Kotyrbulak**	**2.03**	**306**	*eP*	**Pb**	**11 26 14.9**	**+0.1**
	2.4nm,0.1s						
KOTS				*eS*	**Sb**	**11 26 40.6**	**+0.9**
	9.0nm,0.3s						
KOTS	**Kotyrbulak**	**2.03**	**306**	Pg	**Pb**	**11 26 14.9**	**+0.1**
	3.3nm,0.4s						
KOTS				Lg	Lg	11 26 40.6	
	9.0nm,0.3s						
MDOK	**Medeo**	**2.03**	**304**	*eP*	**Pb**	**11 26 14.5**	**-0.2**
	3.9nm,0.1s						
MDOK				*eS*	**Sb**	**11 26 40.0**	**+0.3**
	14nm,0.5s						
MDOK	**Medeo**	**2.03**	**304**	Pg	**Pb**	**11 26 14.5**	**-0.2**
	3.9nm,0.3s						
MDOK				Lg	Lg	11 26 40.0	
	14nm,0.5s						
MDOK	**Medeo**	**2.03**	**304**	*eP*	**Pb**	**11 26 14.5**	**-0.2**
	baz=3.0						
MDOK				*eS*	**Sb**	**11 26 39.9**	**+0.3**
	baz=3.0						
TNSS	**Tian-Shan**	**2.03**	**300**	*eP*	**Pb**	**11 26 14.8**	**-0.1**
	3.0nm,0.1s						
TNSS				*eS*	**Sb**	**11 26 40.4**	**+0.5**
	4.8nm,0.1s						
TNSS	**Tian-Shan**	**2.03**	**300**	Pg	**Pb**	**11 26 14.8**	**-0.1**
	3.8nm,0.4s						
TNSS				Lg	Lg	11 26 40.4	
	5.0nm,0.2s						
TNSS	**Tian-Shan**	**2.03**	**300**	*eP*	**Pb**	**11 26 14.8**	**-0.1**
	baz=99						
TNSS				*eS*	**Sb**	**11 26 40.4**	**+0.5**
	baz=99						
BLB	**Baldybastay**	**2.14**	**343**	Pg	**Pb**	**11 26 16.2**	**-0.4**
	5.9nm,0.2s						
BLB				Lg	Lg	11 26 43.2	
	6.8nm,0.3s						
DJR	**Jarkent**	**2.30**	**8**	*eP*	**Pb**	**11 26 19.6**	**+0.4**
	2.6nm,0.1s						
DJR				*eS*	**Sb**	**11 26 48.9**	**+1.7**
	9.3nm,0.3s						
DJR	**Jarkent**	**2.30**	**8**	Pg	**Pb**	**11 26 19.6**	**+0.4**
	2.6nm,0.2s						
DJR				Lg	Lg	11 26 48.9	
	9.3nm,0.3s						
KNOS	**Konyrlen**	**2.30**	**357**	Pg	**Pb**	**11 26 19.4**	**-0.1**
	5.2nm,0.2s						
KNOS				Lg	Lg	11 26 48.6	
	4.6nm,0.2s						
ULHL	**Ulahol**	**2.32**	**276**	⇑*eP*	**Pb**	**11 26 18.8**	**-1.0**
	baz=74						
ULHL				⇑*eS*	**Sb**	**11 26 48.2**	**+0.1**
	baz=74						
MTBS	**Maitube**	**2.41**	**297**	*eP*	**Pb**	**11 26 21.7**	**+0.4**
	1.3nm,0.1s						
MTBS				*eS*	**Sb**	**11 26 52.1**	**+1.6**
	4.6nm,0.1s						
MTBS	**Maitube**	**2.41**	**297**	Pg	**Pb**	**11 26 21.7**	**+0.4**
	1.6nm,0.3s						
MTBS				Lg	Lg	11 26 52.2	
	5.9nm,0.5s						
ARXS	**Arharly**	**2.43**	**333**	*eP*	**Pb**	**11 26 21.1**	**-0.4**
	1.6nm,0.1s						
ARXS				*eS*	**Sb**	**11 26 51.3**	**+0.3**
	4.1nm,0.1s						
ARXS	**Arharly**	**2.43**	**333**	Pg	**Pb**	**11 26 21.1**	**-0.4**
	1.7nm,0.2s						
ARXS				Lg	Lg	11 26 51.8	
	4.1nm,0.4s						
CHKK	**Chushkaly**	**2.50**	**317**	*eP*	**Pb**	**11 26 22.9**	**+0.1**
	2.1nm,0.1s						
CHKK				*eS*	**Sb**	**11 26 54.3**	**+1.3**
	8.3nm,0.1s						
CHKK	**Chushkaly**	**2.50**	**317**	Pg	**Pb**	**11 26 22.8**	**+0.1**
	2.1nm,0.2s						
CHKK				Lg	Lg	11 26 54.3	
	8.3nm,0.3s						
KTBS	**Karatobe**	**2.57**	**311**	*eP*	**Pb**	**11 26 23.8**	**0.0**
	3.5nm,0.1s						
KTBS				*eS*	**Sb**	**11 26 55.9**	**+0.9**
	24nm,0.5s						
KTBS	**Karatobe**	**2.57**	**311**	Pg	**Pb**	**11 26 23.8**	**0.0**
	3.5nm,0.2s						
KTBS				Lg	Lg	11 26 55.9	
	24nm,0.5s						
NRN	**Naryn**	**2.59**	**257**	⇓*eP*	**Pb**	**11 26 23.5**	**-0.9**
	baz=55						
NRN				⇓*eS*	**Sb**	**11 26 55.4**	**-0.4**
	baz=55						
KST	**Kastek**	**2.69**	**293**	*eP*	**Pb**	**11 26 26.4**	**+0.3**
	1.1nm,0.1s						
KST				*eS*	**Sb**	**11 27 00.2**	**+1.5**
	6.2nm,0.2s						
KST	**Kastek**	**2.69**	**293**	Pg	**Pb**	**11 26 26.4**	**+0.3**
	1.1nm,0.2s						
KST				Lg	Lg	11 27 00.2	
	6.4nm,0.4s						
DGS	**Degeres**	**2.90**	**295**	*eP*	**Pb**	**11 26 29.8**	**+0.3**
	1.1nm,0.2s						
DGS				*eS*	**Sb**	**11 27 06.3**	**+1.8**
	3.0nm,0.2s						
DGS	**Degeres**	**2.90**	**295**	Pg	**Pb**	**11 26 29.8**	**+0.3**
	0.9nm,0.3s						
DGS				Lg	Lg	11 27 06.3	
	2.9nm,0.4s						
TKM2	**Tokmak 2**	**2.91**	**289**	Pg	**Pb**	**11 26 28.1**	**-1.7**
	1.6nm,0.9s						
TKM2				Lg	Lg	11 27 05.5	
	1.7nm,0.6s						

ISC 22 11:35:39.7±1.5, 49.40N±0.06×17.06E±0.05, h8km, n5, σ0°40/7, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRAC	**Vranov**	**0.32**	**253**	*e*PG	**Pg**	**11 35 45.9**	**0.0**
VRAC				*e*SG	**Sg**	**11 35 50.6**	**+0.4**
MORC	**Moravsky Berou**	**0.49**	**40**	*e*PG	**Pg**	**11 35 49.0**	**-0.2**
KRUC	**Moravsky**	**0.55**	**232**	*e*PG	**Pg**	**11 35 49.8**	**-0.5**
JAVC	**Velka Javorina**	**0.68**	**143**	*e*PG	**Pg**	**11 35 52.6**	**-0.1**
MODS	**Modra-Piesok**	**1.04**	**172**	*e*PG	**Pg**	**11 35 59.4**	**-0.2**
MODS				*e*SG	**Sb**	**11 36 13.9**	**+0.2**

IDC 22 11:59:07.0±0.8, 5.89S×142.85E, h0km, mb4.0/9, mbtmp4.0/11, ML1.8/1, Error ellipse: s-maj=33.8km s-min=19.3km az=68.0
ISC 22 11:59:09.0±0.8, 6.08S±0.08×142.65E±0.09, h10km, n19, σ1°85/19, mb4.1/10, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.56**	**127**	Pn	**Pn**	**12 00 32.1**	**+0.2**
	1.8nm,0.3s,baz=270,slow=24,SNR=7.2						
PMG				Sn	**Sn**	**12 01 35.5**	**-0.4**
	2.2nm,0.3s,baz=270,slow=24,SNR=1.9						
	12nm,0.5s						
COEN	**Coen**	**7.84**	**176**	P	**Pb**	**12 01 23.8**	**-1.4**
	35nm,2.6s						
KDU	**Kakadu**	**11.99**	**236**	P	**Pn**	**12 02 00.4**	**+0.3**
MTN	**Manton Dam**	**13.19**	**239**	P	**Pn**	**12 02 15.4**	**-1.2**
DRS	**Darwin Rock St**	**13.19**	**241**	P	**Pn**	**12 02 16.8**	**+0.2**
QIS	**Mount Isa**	**14.69**	**191**	P	**P**	**12 02 44.4**	**+1.1**
WRA	**Warrarnga Arr**	**15.97**	**210**	Pn	**Pn**	**12 02 53.2**	**-0.8**
	0.5nm,0.3s,baz=26,slow=13,SNR=22						
WRA				Sn	Sn	12 05 42.9	-8.4
	0.5nm,0.3s,baz=32,slow=22,SNR=3.2						
ASAR	**Alice Springs**	**19.40**	**205**	P	**P**	**12 03 37.8**	**+2.3**
	2.0nm,0.5s,baz=34,slow=10,SNR=17						
ASAR				S	**Sn**	**12 07 11.9**	**-2.5**
	1.3nm,0.8s,baz=19,slow=27,SNR=4.4						
OOD	**Oodnadatta**	**22.58**	**196**	P	**P**	**12 04 13.8**	**+4.0**
	20nm,0.8s						
MULG	**Mulgathing**	**25.39**	**198**	P	**P**	**12 04 41.1**	**+4.4**
MJAR	**Matsushiro Arr**	**42.60**	**355**	P	P	12 07 03.0	-2.5
	1.0nm,0.7s,baz=199,slow=9.9,SNR=1.5						
	1.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**49.51**	**300**	P	**P**	**12 08 00.3**	**0.0**
	0.9nm,0.3s,baz=106,slow=6.3,SNR=5.0						
	0.9nm,0.3s						
USRK	**Ussuriysk Ar.**	**50.97**	**350**	P	**P**	**12 08 09.8**	**-1.0**
	1.7nm,0.8s,baz=132,slow=45,SNR=2.4						
	1.7nm,0.8s						
SONM	**Songino Array**	**62.45**	**333**	P	**P**	**12 09 32.9**	**+0.3**
	0.3nm,0.4s,baz=116,slow=3.4,SNR=2.0						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**74.84**	**322**	P	**P**	**12 10 49.5**	**-0.4**
	1.1nm,0.9s,baz=117,slow=7.0,SNR=8.9						
	1.1nm,0.9s						
KURBB	**Kurchatov Arra**	**78.73**	**324**	P	**P**	**12 11 10.8**	**-0.9**
	0.4nm,0.7s,baz=116,slow=3.8,SNR=4.1						
	0.4nm,0.7s						
QSPA	**South Pole Qui**	**83.89**	**180**	P	**P**	**12 11 39.3**	**+0.3**
	2.4nm,0.6s,baz=293,slow=1.0,SNR=16						
	2.4nm,0.6s						
BVAR	**Borovoye Array**	**84.31**	**325**	P	**P**	**12 11 40.9**	**-0.3**
	3.0nm,0.8s,baz=114,slow=7.3,SNR=14						
	3.0nm,0.8s						
ILAR	**Eielson Array**	**87.28**	**24**	P	P	12 11 53.5	-2.3
	0.9nm,0.7s,baz=258,slow=4.6,SNR=14						
	0.9nm,0.7s						

ISK 22 12:36:04.9, 37.79N×26.89E, h5km, ML3.1/25
ATH 22 12:36:04.6, 37.78N×26.88E, h15km±1km, ML3.3/6, Manual Solution by A.Papageorgiou This location: 2020/05/29 13:41:49 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km
*AFAD 22 12:36

BDRM	**Kayabasi**	**0.85**	**147**	P	**Pb**	**12 36 22.0**	**+0.3**
BDRM				S	**Sb**	**12 36 33.2**	**+0.1**
BDRM				*i* AML	AML	12 36 35.0	
	comp=E,488nm,0.6s						
MLSB	**Milas**	**0.87**	**124**	Pg	**Pb**	**12 36 22.3**	**+0.2**
CHOS	**Chios island**	**0.88**	**313**	P	**Pg**	**12 36 21.9**	**-0.3**
CHOS				S	**Sb**	**12 36 34.5**	**+0.6**
	3µm,0.4s						
CHOS	**Chios island**	**0.88**	**313**	P	**Pb**	**12 36 22.6**	**+0.3**
CHOS				S	**Sg**	**12 36 33.7**	**0.0**
IZMR	**zmir-demi**	**0.92**	**67**	P	**Pb**	**12 36 22.9**	**-0.1**
IZMR				S	**Sg**	**12 36 33.4**	**-1.7**
FOCM	**Foa**	**0.93**	**353**	Pg	**Pg**	**12 36 22.9**	**-0.3**
KARB	**zmir-Karabur**	**0.95**	**338**	P	**Pg**	**12 36 22.6**	**-0.9**
KARB				S	**Sn**	**12 36 37.6**	**+0.2**
KARB				*i* AML	AML	12 36 38.0	
	comp=E,788nm,0.5s						
KARB				*i* AML	AML	12 36 38.0	
	comp=N,840nm,0.5s						
EAG2	**Marmaro, Chios**	**0.96**	**322**	P	**Pb**	**12 36 24.1**	**+0.4**
EAG2				S	**Sg**	**12 36 36.4**	**0.0**
CAND	**Candarli**	**1.17**	**357**	Pn	**Pn**	**12 36 27.9**	**+0.8**
ESEN	**Aydn-Nazilli**	**1.17**	**89**	P	**Pg**	**12 36 26.1**	**-1.6**
ESEN				S	**Sn**	**12 36 44.0**	**+1.1**
ZEDA	**zmir-Bergama**	**1.19**	**8**	P	**Pg**	**12 36 27.0**	**-1.1**
ZEDA				S	**Sb**	**12 36 43.6**	**+0.8**
ZEDA				*i* AML	AML	12 36 47.0	
	comp=N,259nm,0.3s						
IZMD	**zmir-Dikili-**	**1.20**	**2**	P	**Pg**	**12 36 26.7**	**-1.5**
IZMD				S	**Sg**	**12 36 42.5**	**-1.4**
DAT	**Datca**	**1.20**	**152**	Pn	**Pn**	**12 36 28.4**	**+0.8**
DAT	**Datca**	**1.20**	**152**	P	**Pg**	**12 36 27.1**	**-1.2**
GOMA	**Golmarmara-Man**	**1.23**	**42**	Pn	**Pn**	**12 36 28.4**	**+0.4**
PSRA	**Psara**	**1.28**	**307**	P	**Pn**	**12 36 28.5**	**-0.1**
PSRA				S	**Sb**	**12 36 44.8**	**-0.5**
DKL	**Dikili**	**1.28**	**1**	Pn	**Pg**	**12 36 29.8**	**-0.1**
APE	**Apeiranthos**	**1.28**	**237**	Pn	**Pg**	**12 36 30.2**	**+0.3**
APE	**Apeiranthos**	**1.28**	**237**	P	**Pn**	**12 36 27.8**	**-1.0**
APE				S	**Sn**	**12 36 47.8**	**+2.0**
	412nm,0.4s						
APE	**Apeiranthos**	**1.28**	**237**	P	**Pn**	**12 36 27.7**	**-1.1**
APE				S	**Sb**	**12 36 45.2**	**-0.3**
EAG3	**Mitilini, Lesv**	**1.32**	**350**	P	**Pn**	**12 36 28.7**	**-0.5**
EAG3				S	**Sb**	**12 36 46.5**	**0.0**
AKHS	**Akhisar**	**1.32**	**34**	P	**Pn**	**12 36 29.7**	**+0.4**
AKHS				S	**Sg**	**12 36 47.0**	**-0.7**
AKHS				*i* AML	AML	12 36 50.0	
	comp=E,652nm,0.5s						
AKS	**Akhisar**	**1.32**	**34**	Pn	**Pg**	**12 36 30.2**	**-0.3**
MANT	**Manisa**	**1.50**	**62**	P	**Pg**	**12 36 34.0**	**-0.1**
MANT				S	**Sn**	**12 36 51.5**	**0.0**
AYVA	**Ayvalik**	**1.52**	**355**	P	**Pg**	**12 36 33.8**	**-0.7**
AYVA				S	**Sg**	**12 36 54.7**	**+0.4**
AYVA				*i* AML	AML	12 37 00.0	
	comp=E,206nm,0.6s						
AYVA				*i* AML	AML	12 37 03.0	
	comp=N,277nm,0.7s						
PRK	**Paraskevi**	**1.53**	**342**	P	**Pn**	**12 36 31.3**	**-0.8**
PRK				S	**Sb**	**12 36 53.0**	**+0.4**
	640nm,0.6s						
PRK	**Paraskevi**	**1.53**	**342**	P	**Pn**	**12 36 31.4**	**-0.7**
PRK				S	**Sn**	**12 36 50.5**	**-1.4**
KULA	**Kula-Manisa**	**1.59**	**62**	Pn	**Pb**	**12 36 34.5**	**+0.1**
KULA	**Kula-Manisa**	**1.59**	**62**	P	**Pn**	**12 36 33.2**	**+0.2**
SIGR	**SIGRI**	**1.63**	**331**	Pn	**Pb**	**12 36 35.1**	**+0.1**
SIGR	**SIGRI**	**1.63**	**331**	P	**Pn**	**12 36 32.1**	**-1.4**
SIGR				S	**Sn**	**12 36 53.6**	**+0.6**
BUHA	**Balikesir, Bur**	**1.72**	**5**	P	**Pn**	**12 36 33.9**	**-0.8**
DALY	**Dalyan (Mula)**	**1.72**	**124**	Pn	**Pb**	**12 36 36.3**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.72**	**22**	P	**Pb**	**12 36 37.0**	**+0.3**
STEP				S	**Sb**	**12 36 58.9**	**+0.8**
STEP				*i* AML	AML	12 37 04.0	
	comp=N,265nm,0.5s						
STEP				*i* AML	AML	12 37 08.0	
	comp=E,222nm,0.9s						
KOCA	**Canakkale, Ayv**	**1.81**	**342**	P	**Pb**	**12 36 38.9**	**+0.8**
DEMI	**Demirci**	**1.92**	**49**	P	**Pg**	**12 36 41.8**	**-0.2**
USAK	**Uak-Merkez**	**1.93**	**61**	P	**Pg**	**12 36 40.9**	**-1.3**
BAYC	**CANAKKALE_Bayr**	**1.97**	**353**	P	**Pn**	**12 36 37.3**	**-0.8**
EZN	**Ezine**	**2.08**	**348**	Pn	**Pn**	**12 36 41.5**	**+1.9**
SIMA	**Simav-Kutahya**	**2.10**	**51**	Pn	**Pn**	**12 36 41.7**	**+1.6**
BKES	**Balkesir-Mer**	**2.11**	**23**	P	**Pb**	**12 36 43.0**	**-0.3**
CANM	**Can-anakkale**	**2.23**	**4**	Pn	**Pn**	**12 36 43.6**	**+1.9**
COMU	**Canakkale**	**2.33**	**352**	Pn	**Pn**	**12 36 44.9**	**+1.8**
DION	**Dionisos Attik**	**2.34**	**278**	P	**Pn**	**12 36 43.1**	**-0.2**
GONE	**Gonen-Balikesi**	**2.34**	**15**	Pn	**Pn**	**12 36 44.9**	**+1.6**
GADA	**Gvkgeada**	**2.52**	**343**	Pn	**Pn**	**12 36 47.8**	**+2.1**
KRBG	**Karabiga-Canak**	**2.62**	**7**	Pn	**Pn**	**12 36 49.2**	**+2.1**
GELI	**Tayfur-Gelibol**	**2.62**	**353**	Pn	**Pn**	**12 36 47.1**	**0.0**
SMTH	**Samothraki Isl**	**2.88**	**339**	P	**Pn**	**12 36 50.6**	**0.0**

IDC 22 12:36:10.1±1.6, 0.°11N×125.°63E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=171.6km s-min=21.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.68**	**157**	P	P	12 41 02.1	-0.5
	2.0nm,0.7s,baz=335,slow=12,SNR=12						
	2.0nm,0.7s						
ASAR	**Alice Springs**	**24.96**	**162**	P	P	12 41 35.9	+0.4
	0.3nm,0.5s,baz=339,slow=8.0,SNR=11						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**59.93**	**327**	P	P	12 46 18.3	+0.2
	0.3nm,0.6s,baz=118,slow=8.3,SNR=4.7						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**64.21**	**329**	P	P	12 46 46.4	-0.3
	0.4nm,0.7s,baz=131,slow=6.5,SNR=5.1						
	0.4nm,0.7s						

*NEIC **22** 12:38:34.2±0.7, 38.°42N±0.°01×111.°66W±0.°02, h6km±5km, Error ellipse: s-maj=2.1km s-min=1.8km az=166.0*

UUSS 22 12:38:34.4±1.6, 38.°42N±0.°01×111.°65W±0.°02, h15km±8km, ML2.6/12, ML2.6/68(NEIC), Error ellipse: s-maj=2.2km s-min=1.8km az=137.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMU	**Miners Mountai**	**0.36**	**127**		Pg	12 38 41.5	-0.3
OWUT	**Old Woman Plat**	**0.41**	**26**		Pg	12 38 42.6	-0.1
MSU	**Marysvale**	**0.42**	**283**		Pg	12 38 42.7	-0.2
MVU	**Marysvale**	**0.45**	**281**		Pg	12 38 43.2	-0.2
MTPU	**Mount Pierson**	**0.56**	**228**		Pg	12 38 45.4	-0.2
MTPU				IAML		12 38 53.5	
	comp=E,359nm,0.5s						
WCU	**Willow Creek**	**0.65**	**328**		Pg	12 38 46.6	-0.5
TCRU	**Three Creeks R**	**0.65**	**287**	Pg	Pg	12 38 46.9	-0.3
TCRU				IAML		12 38 56.7	
	comp=N,340nm,0.2s						
TCRU				IAML		12 38 56.8	
	comp=E,399nm,0.8s						
TCRU	**Three Creeks R**	**0.65**	**287**		Sg	12 38 56.0	+0.1
BTU	**Barney Top**	**0.68**	**195**		Pg	12 38 47.7	-0.1
SGU	**Sterling**	**0.76**	**1**		Pg	12 38 49.0	-0.4
HMU	**Henry Mountain**	**0.86**	**123**	Pg	Pg	12 38 50.6	-0.6
HMU				Sg	Sg	12 39 01.7	-0.9
HMU				IAML		12 39 06.8	
	comp=E,256nm,0.7s						
HMU				IAML		12 39 14.5	
	comp=N,287nm,0.6s						
SNO	**Snow College**	**0.90**	**6**		Pb	12 38 51.4	-0.5
NMUT	**North Mineral**	**0.94**	**276**		Pb	12 38 52.1	-0.4
DBD	**Des Bee Dove**	**1.00**	**26**		Pb	12 38 53.4	-0.1
LEVU	**Levan**	**1.09**	**353**		Pb	12 38 54.8	-0.3
PKCU	**Pink Cliffs**	**1.10**	**208**		Pb	12 38 55.4	+0.1
PKCU				IAML		12 39 12.1	
	comp=N,198nm,0.3s						
DWU	**Dry Willow Pea**	**1.10**	**254**		Pn	12 38 55.6	+0.1
SRU	**San Rafael Swe**	**1.12**	**52**	Pg	Pb	12 38 55.2	-0.4
SRU				Sg	Sb	12 39 09.7	-0.5
SRU				IAML		12 39 13.5	
	comp=E,176nm,0.4s						
ELU	**Electric Lake**	**1.27**	**16**		Pn	12 38 57.9	-0.1
P17A	**Butcher Ranch,**	**1.27**	**34**		Pn	12 38 57.9	+0.1
P17A				Sg	Sb	12 39 13.8	-0.6
P17A				IAML		12 39 14.6	
	comp=E,153nm,0.5s						
P17A				IAML		12 39 14.8	
	comp=N,111nm,0.6s						
SZCU	**Shurtz Canyon**	**1.40**	**235**	Pn	Pb	12 39 00.5	+0.2
SZCU					Sb	12 39 18.1	0.0
SZCU				IAML		12 39 19.6	
	comp=E,130nm,0.2s						
SZCU				IAML		12 39 19.6	
	comp=N,129nm,0.3s						
EKU	**East Kanab**	**1.50**	**207**		Pb	12 39 01.7	-0.3
NLU	**North Lily Min**	**1.57**	**348**		Pb	12 39 03.4	+0.1
NLU					Sb	12 39 22.6	-0.4
NLU				IAML		12 39 26.6	
	comp=E,80nm,0.8s						
NLU				IAML		12 39 27.0	
	comp=N,65nm,1.1s						
MPU	**Maple Canyon**	**1.60**	**1**		Pb	12 39 03.4	-0.3
MPU				IAML		12 39 28.7	
	comp=N,49nm,0.6s						
CCUT	**Cedar City**	**1.60**	**238**		Pb	12 39 04.2	+0.4
P18A	**Preston Nutter**	**1.63**	**42**		Pb	12 39 04.8	+0.4
P18A				IAML		12 39 27.8	
	comp=E,149nm,0.6s						
P18A				IAML		12 39 29.8	
	comp=N,98nm,0.4s						
KNB	**Kanab**	**1.68**	**214**		Pb	12 39 04.8	-0.3
KNB				IAML		12 39 30.2	
	comp=E,48nm,0.4s						
PSUT	**Pine Spring**	**1.73**	**275**		Pb	12 39 06.1	+0.1
LCMT	**Little Creek M**	**1.89**	**222**		Pb	12 39 08.5	-0.1
LCMT				IAML		12 39 34.1	
	comp=E,73nm,0.2s						
LCMT				IAML		12 39 36.5	
	comp=N,49nm,0.2s						
DUG	**Dugway, Tooele**	**1.99**	**334**		Pb	12 39 09.2	-1.2
DUG				IAML		12 39 37.6	
	comp=N,45nm,0.6s						
DUG				IAML		12 39 40.0	
	comp=N,50nm,0.6s						
U15A	**North Rim**	**2.05**	**195**		Pb	12 39 10.7	-0.7
SPR3	**Spring Creek 3**	**2.17**	**286**		Pn	12 39 11.7	+1.4
BSUT	**Blindstream Ca**	**2.23**	**18**		Pb	12 39 14.2	-0.3
BSUT				IAML		12 39 46.4	
	comp=N,23nm,0.5s						
BSUT				IAML		12 39 46.6	
	comp=E,33nm,0.6s						
CTU	**Camp Tracy**	**2.27**	**358**		Pb	12 39 14.3	-1.0
CTU				IAML		12 39 47.0	
	comp=N,27nm,0.7s						
CTU				IAML		12 39 47.5	
	comp=E,42nm,0.6s						
Q12A	**Willow Creek R**	**2.56**	**285**	Pn	Pn	12 39 17.8	+2.3
Q12A				IAML		12 40 02.9	
	comp=N,24nm,1.1s						
Q12A				IAML		12 40 08.4	
	comp=E,17nm,1.0s						
RDMU	**Red Mountain**	**2.69**	**36**	Pn	Pb	12 39 21.9	-0.4
RDMU				IAML		12 39 57.4	
	comp=E,20nm,0.5s						
RDMU				IAML		12 40 19.6	
	comp=N,22nm,2.8s						
TCUT	**Toone Canyon**	**2.70**	**4**	Pn	Pb	12 39 20.9	-1.7
BGU	**Big Grassy Mou**	**2.72**	**337**	Pn	Pn	12 39 19.9	+2.2
BGU				IAML		12 40 04.0	
	comp=E,18nm,0.4s						
BGU				IAML		12 40 06.7	
	comp=N,16nm,1.1s						
MVCO	**Mesa Verde**	**2.77**	**115**		Pb	12 39 21.3	-2.5
WUAZ	**Wupatki**	**2.90**	**175**		Pb	12 39 23.8	-2.2
SPUT	**South Promonto**	**2.95**	**348**		Pn	12 39 23.2	+2.3
SPUT				IAML		12 40 14.2	
	comp=N,15nm,4.0s						
R11B	**Troy Canyon, C**	**3.09**	**270**	Pn	Pn	12 39 24.6	+1.8
O20A	**White River Ci**	**3.16**	**56**		Pb	12 39 27.2	-3.1
HWUT	**Hardware Ranch**	**3.19**	**1**	Pn	Pb	12 39 27.8	-3.0
HWUT				IAML		12 40 22.2	
	comp=N,12nm,0.9s						
HWUT				IAML		12 40 24.3	
	comp=N,15nm,4.0s						
SMCO	**Snowmass**	**3.73**	**77**		Pb	12 39 37.4	-2.9
X18A	**Snowflake**	**4.12**	**160**		Pn	12 39 39.4	+2.5
PD31	**Pinedale Array**	**4.63**	**20**		Pn	12 39 47.0	+3.1

*IDC **22** 12:44:32.0±0.9, 21.°30S×67.°35W, h167km±8km, mb3.8/9, mbtmp4.2/11, MS3.8/1, Error ellipse: s-maj=18.1km s-min=12.3km az=128.0*

*NEIC **22** 12:44:32.8±1.7, 21.°46S±0.°05×67.°6W±0.°1, h204km±11km, mb4.5/3, Error ellipse: s-maj=16.9km s-min=4.8km az=107.0*

*SJA **22** 12:44:32.2±0.7, 21.°46S×67.°52W, h199km±7km, ML4.2, MW4.0*

*VAO **22** 12:44:33.5±0.3, 21.°25S×67.°41W, h160km, mb4.1*

*SCB **22** 12:44:33.7±1.2, 21.°48S×67.°49W, h177km±9km, mb4.3/5, MW4.3, Error ellipse: s-maj=4.2km s-min=3.0km az=0.0*

*GUC **22** 12:44:34.1±0.7, 21.°45S×67.°77W, h212km±7km, ML4.5*

ISC 22 12:44:33.1±0.6, 21.°47S±0.°03×67.°55W±0.°04, h189km±6km, n142, σ1°39/185, mb4.1/10, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.59**	**202**		**Pn**	**12 45 08.5**	**+1.5**
AF01	**San Pedro de A**	**1.59**	**202**	Pg	**Pn**	**12 45 07.6**	**+0.6**
PB09	**IPOC Station P**	**1.61**	**258**		**Pn**	**12 45 08.2**	**+1.2**
PB09	**IPOC Station P**	**1.61**	**258**	*e*P	**Pn**	**12 45 07.7**	**+0.6**
PB09				*e*S	**S**	**12 45 35.3**	**+1.9**
PB09				IAML		12 45 37.0	
	comp=Z,988nm,0.3s						
PB09	**IPOC Station P**	**1.61**	**258**	*e*P	**Pn**	**12 45 08.3**	**+1.2**
PB09				*i* S	**S**	**12 45 34.1**	**+0.7**
PB09	**IPOC Station P**	**1.61**	**258**	Pg	**Pn**	**12 45 07.9**	**+0.8**
LVC	**Limon Verde**	**1.70**	**228**	Pn	**Pn**	**12 45 09.0**	**+0.8**
LVC	**Limon Verde**	**1.70**	**228**	*e*P	**Pn**	**12 45 09.0**	**+0.8**
LVC				*e*S	**S**	**12 45 35.4**	**+0.1**
LVC				IAML		12 45 38.2	
	comp=Z,414nm,0.2s						
LVC	**Limon Verde**	**1.70**	**228**	P	**Pn**	**12 45 09.0**	**+0.8**
	comp=Z,55nm,0.3s,baz=37,slow=8.5,SNR=134						
LVC				S	**S**	**12 45 35.6**	**+0.3**
	comp=Z,286nm,0.3s,baz=284,slow=20,SNR=36						
LVC				LR	LR	12 46 02.6	
	comp=Z,78nm,21.1s,baz=118,slow=46						
LVC	**Limon Verde**	**1.70**	**228**	*e*P	**Pn**	**12 45 08.9**	**+0.8**
LVC				*e*S	**S**	**12 45 35.2**	**-0.2**
MOCB	**Mochara**	**1.79**	**83**	Pg	**Pn**	**12 45 09.3**	**+0.1**
MOCB				Sg	**S**	**12 45 35.3**	**-1.7**
MOCB				IAML		12 45 37.5	
	comp=Z,2µm,0.4s						
PB01	**IPOC Station P**	**1.86**	**283**		**Pn**	**12 45 10.1**	**+0.6**
PB01	**IPOC Station P**	**1.86**	**283**	*e*P	**Pn**	**12 45 09.4**	**-0.1**
PB01				*e*S	**S**	**12 45 38.2**	**+0.6**
PB01				IAML		12 45 39.3	
	comp=Z,1µm,0.3s						
PB01	**IPOC Station P**	**1.86**	**283**	*e*P	**Pn**	**12 45 09.9**	**+0.4**
PB01				*i* S	**S**	**12 45 37.4**	**-0.2**
PB01				IAML		12 45 38.7	
	comp=N,4µm,0.3s						
PB01	**IPOC Station P**	**1.86**	**283**	Pg	**Pn**	**12 45 10.3**	**+0.8**
PB01				Sg	**S**	**12 45 37.5**	**-0.1**
PB01				IAML		12 45 38.7	
	comp=N,4µm,0.3s						
PB08	**IPOC Station P**	**2.00**	**311**		**Pn**	**12 45 12.5**	**+1.2**
PB08	**IPOC Station P**	**2.00**	**311**	*e*P	**Pn**	**12 45 12.5**	**+1.2**
PB08				*e*S	**S**	**12 45 41.9**	**+1.1**
PB08				IAML		12 45 43.4	
	comp=Z,420nm,0.4s						
PB08	**IPOC Station P**	**2.00**	**311**	*e*P	**Pn**	**12 45 12.5**	**+1.2**
PB08				*i* S	**S**	**12 45 41.5**	**+0.6**
PB08				IAML		12 45 43.4	
	comp=N,1µm,0.5s						
PB08	**IPOC Station P**	**2.00**	**311**	Pg	**Pn**	**12 45 12.4**	**+1.2**
PB08				Sg	**S**	**12 45 41.7**	**+0.9**
PB08				IAML		12 45 43.1	
	comp=N,803nm,0.3s						
YJA	**Yavi**	**2.01**	**111**	*e*P	**Pn**	**12 45 12.1**	**+0.6**
YJA				*e*S	**S**	**12 45 40.2**	**-0.9**
PB07	**IPOC Station P**	**2.19**	**263**		**Pn**	**12 45 13.3**	**+0.2**
PB07	**IPOC Station P**	**2.19**	**263**	*e*P	**Pn**	**12 45 13.7**	**+0.6**
PB07				*e*S	**S**	**12 45 43.6**	**-0.5**
PB07				IAML		12 45 44.8	
	comp=Z,2µm,0.5s						
PB07	**IPOC Station P**	**2.19**	**263**	*e*P	**Pn**	**12 45 13.7**	**+0.6**
PB07				*i* S	**S**	**12 45 43.4**	**-0.7**
PB07				IAML		12 45 44.1	
	comp=N,2µm,0.4s						
PB02	**IPOC Station P**	**2.20**	**273**		**Pn**	**12 45 13.4**	**+0.4**
PB02	**IPOC Station P**	**2.20**	**273**	*e*P	**Pn**	**12 45 13.6**	**+0.6**
PB02				*e*S	**S**	**12 45 43.5**	**-0.5**
PB02				IAML		12 45 46.1	
	comp=Z,3µm,0.4s						
PB02	**IPOC Station P**	**2.20**	**273**	*e*P	**Pn**	**12 45 13.7**	**+0.6**
PB02				*i* S	**S**	**12 45 43.2**	**-0.8**
PB02	**IPOC Station P**	**2.20**	**273**	Pg	**Pn**	**12 45 13.9**	**+0.8**
PX03	**IPOC Station P**	**2.22**	**298**	*e*P	**Pn**	**12 45 13.8**	**+0.4**
PX03				*i* S	**S**	**12 45 43.9**	**-0.6**
PB06	**IPOC Station P**	**2.25**	**236**		**Pn**	**12 45 14.5**	**+0.8**
PB06	**IPOC Station P**	**2.25**	**236**	*e*P	**Pn**	**12 45 14.4**	**+0.7**
PB06				*e*S	**S**	**12 45 45.5**	**+0.3**
PB06				IAML		12 45 51.1	
	comp=Z,865nm,0.6s						
PB06	**IPOC Station P**	**2.25**	**236**	*e*P	**Pn**	**12 45 14.2**	**+0.5**
PB06				*i* S	**S**	**12 45 45.1**	**-0.1**
PB06				IAML		12 45 46.6	
	comp=E,2µm,0.4s						
GO01	**Chusmiza**	**2.37**	**319**		**Pn**	**12 45 16.1**	**+0.8**
GO01	**Chusmiza**	**2.37**	**319**	*e*P	**Pn**	**12 45 16.2**	**+0.8**
GO01				*e*S	**S**	**12 45 51.7**	**+3.6**
GO01	**Chusmiza**	**2.37**	**319**	*e*P	**Pn**	**12 45 16.1**	**+0.8**
GO01				*i* S	**S**	**12 45 48.7**	**+0.6**
GO01				IAML		12 45 51.9	
	comp=N,2µm,0.2s						
GO01	**Chusmiza**	**2.37**	**319**	Pg	**Pn**	**12 45 16.3**	**+0.9**
PB15	**IPOC Station P**	**2.49**	**225**		**Pn**	**12 45 17.4**	**+1.0**
PB15	**IPOC Station P**	**2.49**	**225**	*e*P	**Pn**	**12 45 17.2**	**+0.8**
PB15				*e*S	**S**	**12 45 50.4**	**+0.3**
PB15	**IPOC Station P**	**2.49**	**225**	*e*P	**Pn**	**12 45 17.2**	**+0.8**
PB15				*i* S	**S**	**12 45 50.2**	**+0.1**
PB15	**IPOC Station P**	**2.49**	**225**	Pg	**Pn**	**12 45 17.1**	**+0.7**
PB04	**IPOC Station P**	**2.57**	**250**		**Pn**	**12 45 17.8**	**+0.5**
PB04	**IPOC Station P**	**2.57**	**250**	*e*P	**Pn**	**12 45 17.9**	**+0.5**
PB04				*e*S	**S**	**12 45 50.8**	**-0.8**
PB04				IAML		12 45 53.2	
	comp=Z,1µm,0.3s						
PB04	**IPOC Station P**	**2.57**	**250**	*e*P	**Pn**	**12 45 17.7**	**+0.5**
PB04				*i* S	**S**	**12 45 50.4**	**-1.3**
PB04				IAML		12 45 52.3	
	comp=N,1µm,0.2s						
PB11	**IPOC Station P**	**2.61**	**310**		**Pn**	**12 45 18.1**	**+0.3**
PB11	**IPOC Station P**	**2.61**	**310**	*e*P	**Pn**	**12 45 17.9**	**+0.1**
PB11				*e*S	**S**	**12 45 52.1**	**-0.3**
PB11				IAML		12 45 53.1	
	comp=Z,976nm,0.2s						
PB11	**IPOC Station P**	**2.61**	**310**	*e*P	**Pn**	**12 45 17.8**	**0.0**
PB11				*i* S	**S**	**12 45 51.2**	**-1.2**
PB11				IAML		12 45 53.3	
	comp=E,2µm,0.2s						
PB11	**IPOC Station P**	**2.61**	**310**	Pg	**Pn**	**12 45 18.2**	**+0.4**
PB11				Sg	**S**	**12 45 51.8**	**-0.7**
PB11				IAML		12 45 53.7	
	comp=E,1µm,0.7s						
TA01	**Diego Aracena**	**2.62**	**290**	Pn	**Pn**	**12 45 17.8**	**0.0**
TA01	**Diego Aracena**	**2.62**	**290**	*e*P	**Pn**	**12 45 17.6**	**-0.1**
TA01				*e*S	**S**	**12 45 51.5**	**-0.9**
TA01				IAML		12 45 54.3	
	comp=Z,365nm,0.6s						
TA01	**Diego Aracena**	**2.62**	**290**	*e*P	**Pn**	**12 45 17.6**	**-0.1**
TA01				*i* S	**S**	**12 45 50.7**	**-1.7**
TA01				IAML		12 45 52.0	
	comp=N,1µm,0.2s						
TA02	**Huaiquique**	**2.70**	**296**		**Pn**	**12 45 18.4**	**-0.2**
TA02	**Huaiquique**	**2.70**	**296**	*e*P	**Pn**	**12 45 18.6**	**0.0**
TA02				*e*S	**S**	**12 45 53.1**	**-0.9**
TA02				IAML		12 45 54.2	
	comp=Z,918nm,0.1s						
TA02	**Huaiquique**	**2.70**	**296**	*e*P	**Pn**	**12 45 18.5**	**-0.2**
TA02				*i* S	**S**	**12 45 52.1**	**-1.9**
PB05	**IPOC Station P**	**2.82**	**240**		**Pn**	**12 45 20.8**	**+0.5**
PB05	**IPOC Station P**	**2.82**	**240**	*e*P	**Pn**	**12 45 20.7**	**+0.5**
PB05				*e*S	**S**	**12 45 54.7**	**-2.2**
PB05				IAML		12 45 57.6	
	comp=Z,525nm,0.4s						
PB05	**IPOC Station P**	**2.82**	**240**	*e*P	**Pn**	**12 45 20.7**	**+0.5**
PB05				*i* S	**S**	**12 45 55.5**	**-1.4**
PB05				IAML		12 45 58.7	
	comp=N,827nm,0.3s						
SOEO	**Opoqueri**	**2.91**	**354**	Pg	**Pn**	**12 45 22.9**	**+1.2**
PB16	**IPOC Station P**	**3.62**	**329**	Pn	**Pn**	**12 45 32.0**	**+1.6**
PB16	**IPOC Station P**	**3.62**	**329**	*e*P	**Pn**	**12 45 31.6**	**+1.1**
PB16				*e*S	**S**	**12 46 16.3**	**+1.2**
PB16				IAML		12 46 19.4	
	comp=Z,199nm,0.9s						
PB16	**IPOC Station P**	**3.62**	**329**	*e*P	**Pn**	**12 45 31.3**	**+0.9**
PB16				*i* S	**S**	**12 46 15.2**	**0.0**
PB16	**IPOC Station P**	**3.62**	**329**	Pg	**Pn**	**12 45 31.5**	**+1.1**
PB16				Sg	**S**	**12 46 14.6**	**-0.5**
PB16				IAML		12 46 17.7	
	comp=Z,321nm,0.4s						
SOET	**ToroToro**	**3.71**	**26**	Pg	**Pn**	**12 45 31.6**	**+0.2**
PB12	**IPOC Station P**	**3.86**	**317**	Pn	**Pn**	**12 45 31.9**	**-1.0**
PB12	**IPOC Station P**	**3.86**	**317**	*e*P	**Pn**	**12 45 31.6**	**+1.4**
PB12				*e*S	**S**	**12 46 17.0**	**-2.7**
PB12				IAML		12 46 23.6	
	comp=Z,193nm,0.5s						
PB12	**IPOC Station P**	**3.86**	**317**	*e*P	**Pn**	**12 45 31.4**	**-1.5**
PB12				*i* S	**S**	**12 46 15.8**	**-3.9**
AOEA	**Aiquile**	**3.93**	**34**	Pg	**Pn**	**12 45 34.0**	**+

NPGB	**Novo Progresso**	**18.56**	**41**	*eP*		**Pn**	**12 48 37.1**	**-1.3**
PLCA	**Paso Flores**	**19.37**	**187**	P		**Pn**	**12 48 47.2**	**-0.6**
	comp=E,1.3nm,0.7s,baz=357,slow=14,SNR=3.7							
MACA	**Manacapuru-AM**	**19.38**	**21**	P		**P**	**12 48 42.8**	**-2.0**
MACA				IAmb	IAmb	IAmb	12 48 45.0	
	comp=E,42nm,0.5s							
MACA	**Manacapuru-AM**	**19.38**	**21**	*eP*		**P**	**12 48 44.5**	**-0.3**
ITTB	**Itaituba**	**20.50**	**36**	*eP*		**P**	**12 48 55.8**	**-1.0**
JANB	**Januaria**	**22.95**	**78**	*eP*		**P**	**12 49 21.5**	**+0.3**
MALB	**Monte Alegre**	**23.40**	**35**	*eP*		**P**	**12 49 25.9**	**+0.8**
SDBA	**SAO DESIDERIO**	**23.43**	**71**	*eP*		**P**	**12 49 25.2**	**-0.4**
BOAV	**Boa Vista**	**24.69**	**17**	P		**P**	**12 49 36.5**	**-0.4**
BOAV				IAmb	IAmb	IAmb	12 49 58.0	
	comp=E,15nm,1.5s							
NBLV	**Livramento - P**	**32.72**	**69**	*eP*		**P**	**12 50 50.7**	**+2.5**
TXAR	**Lajitas Array**	**61.34**	**324**	P		**P**	**12 54 30.3**	**+1.2**
	comp=E,0.6nm,1.1s,baz=122,slow=8.6,SNR=1.8							
	comp=E,0.6nm,1.1s							
DBIC	**Dimbokro**	**67.51**	**73**	P		**P**	**12 55 09.2**	**-0.1**
	comp=E,3.6nm,0.7s,baz=230,slow=8.5,SNR=3.7							
	comp=E,3.6nm,0.7s							
QSPA	**South Pole Qui**	**68.72**	**180**	P		**P**	**12 55 18.5**	**+2.3**
	comp=E,1.3nm,0.5s,baz=290,slow=1.1,SNR=19							
	comp=E,1.3nm,0.5s							
PDAR	**Pinedale Array**	**74.72**	**329**	P		**P**	**12 55 53.2**	**+0.8**
	comp=E,0.2nm,0.3s,baz=133,slow=5.3,SNR=2.1							
	comp=E,0.2nm,0.3s							
ULM	**Lac du Bonnet**	**75.68**	**342**	P		**P**	**12 55 57.4**	**+0.1**
	comp=E,2.1nm,0.6s,baz=158,slow=3.6,SNR=4.8							
	comp=E,2.1nm,0.6s							
TORD	**Torodi Ar. Bea**	**76.15**	**70**	P		**P**	**12 56 00.7**	**-0.1**
	comp=E,3.7nm,0.4s,baz=258,slow=5.5,SNR=36							
	comp=E,3.7nm,0.4s							
BOSA	**Boshof**	**82.34**	**118**	P		**P**	**12 56 35.1**	**+0.8**
	comp=E,1.6nm,0.4s,baz=243,slow=4.0,SNR=13							
	comp=E,1.6nm,0.4s							
LBTB	**Lobatse**	**83.88**	**114**	LR		LR	13 30 12.1	
	comp=E,48nm,19.6s,baz=194,slow=33							
MAW	**Mawson**	**83.99**	**163**	P		**P**	**12 56 43.6**	**+1.8**
	comp=E,0.8nm,0.5s,baz=240,slow=8.1,SNR=1.1							
	comp=E,0.8nm,0.5s							
YKA	**Yellowknife Ar**	**91.58**	**340**	P		**P**	**12 57 19.4**	**+1.4**
	comp=E,1.3nm,0.6s,baz=133,slow=4.2,SNR=27							
	comp=E,1.3nm,0.6s							
ASAR	**Alice Springs**	**130.51**	**206**	PKP		**PKiKP**	**13 03 23.2**	**+0.2**
	comp=E,0.9nm,0.8s,baz=141,slow=2.1,SNR=8.7							
WRA	**Warramunga Arr**	**133.61**	**209**	PKP		**PKiKP**	**13 03 29.6**	**+0.3**
	comp=E,0.4nm,0.3s,baz=152,slow=2.0,SNR=8.4							
ZALV	**Zalesovo Beam**	**141.38**	**26**	PKhKP		PKPpre	13 03 35.9	
	comp=E,0.5nm,0.4s,baz=338,slow=3.1,SNR=2.5							
ZALV				PKP		**PKiKP**	**13 03 41.9**	**-2.0**
	comp=E,0.7nm,0.4s,baz=324,slow=2.2,SNR=4.7							
MKAR	**Makanchi Array**	**144.85**	**37**	PKP		**PKiKP**	**13 03 47.9**	**-3.5**
	comp=E,4.3nm,0.7s,baz=320,slow=4.0,SNR=27							
KLR	**Kul'dur**	**148.33**	**336**	PKPbc		**PKPab**	**13 03 57.9**	**-2.7**
	comp=E,0.6nm,0.5s,baz=90,slow=4.3,SNR=6.0							
USRK	**Ussuriysk Ar.**	**152.15**	**329**	PKPbc		**PKiKP**	**13 04 07.6**	**+1.1**
	comp=E,2.2nm,0.8s,baz=59,slow=4.9,SNR=4.5							

*SJA **22** 12:48:35.2±2.0,38.67S×75.52W,h20km,ML5.1*
*IDC **22** 12:48:39.9±0.6,38.84S×75.30W,h0km,mb4.4/12, mbtmp4.4/14,ML4.9/2,MS3.5/13,Error ellipse: s-maj=22.3km s-min=16.7km az=63.0*
*VAO **22** 12:48:39.2±0.9,39.01S×75.59W,h10km,mb4.8*
*NEIC **22** 12:48:40.5,38.74S×75.21W,h10km*
*NEIC **22** 12:48:40.4±2.0,38.74S±0.06×75.23W±0.07,h10km±1km, mb4.7/25,Mwr4.3/57,Error ellipse: s-maj=10.6km s-min=9.2km az=206.0,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=3.18; $M_{\theta\theta}$=0.36; $M_{\phi\phi}$=2.81; $M_{r\theta}$=0.44; $M_{r\phi}$=0.15; $M_{\theta\phi}$=0.42; Fault plane solution: M=3.07000×10^{15} NP1:ϕ_s=190.48000°,δ=41.70000°, λ=-79.10000°. NP2:ϕ_s=356.01000°,δ=49.21000°, λ=-99.56000°. Principal axes: T 2.8465, Plg4.0000°, Azm93.0000°; N 0.4137, Plg7.0000°, Azm2.0000°; P -3.2602, Plg82.0000°, Azm210.0000°;*
*GUC **22** 12:48:42.8±0.6,38.56S×75.10W,h30km±7km,ML4.6*

ISC 22 12:48:40.7±0.5,38.76S±0.04×75.29W±0.05,h10km,n137, σ2s12/143,mb4.6/23,MS3.5/11,5C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BI04	**Isla Mocha**	**1.15**	**73**	*eP*		**Pb**	**12 49 00.5**	**-2.1**
BI04				*i*	S	**Sb**	**12 49 13.3**	**-4.3**
BI04				IAML			12 49 16.3	
	comp=E,24μm,0.3s							
LC02	**Puerto Saavedr**	**1.49**	**92**	Pn		**Pn**	**12 49 06.3**	**-1.2**
LC02	**Puerto Saavedr**	**1.49**	**92**	*iP*		**Pn**	**12 49 06.2**	**-1.2**
LC02				*i*	S	**Sn**	**12 49 24.0**	**-2.9**
LC02				IAML			12 49 31.4	
	comp=N,17μm,0.4s							
BI05	**Punta Hualpn**	**2.61**	**40**	Pn		**Pn**	**12 49 21.1**	**-1.8**
BI05	**Punta Hualpn**	**2.61**	**40**	*eP*		**Pn**	**12 49 20.6**	**-2.3**
BI05				*i*	S	**Sn**	**12 49 50.0**	**-4.5**
BI05				IAML			12 49 53.5	
	comp=E,4μm,0.1s							
LR05	**Currie**	**2.93**	**121**	Pn		**Pn**	**12 49 26.8**	**-0.5**
LR05	**Currie**	**2.93**	**121**	*eP*		**Pn**	**12 49 26.8**	**-0.5**
LR05				*i*	S	**Sn**	**12 49 59.5**	**-3.1**
LR05				IAML			12 50 01.7	
	comp=E,4μm,0.2s							
LL05	**Los Muermos**	**2.98**	**153**			**Pn**	**12 49 26.7**	**-1.3**
GO06	**Curarrehue**	**3.08**	**107**	Pn		**Pn**	**12 49 29.2**	**-0.2**
GO06	**Curarrehue**	**3.08**	**107**	*iP*		**Pn**	**12 49 29.1**	**-0.3**
LL03	**Petrohue**	**3.25**	**138**			**Pn**	**12 49 30.6**	**-1.0**
LL06	**Loncomilla**	**3.67**	**160**	Pn		**Pn**	**12 49 36.4**	**-1.1**
LL06	**Loncomilla**	**3.67**	**160**	*eP*		**Pn**	**12 49 36.2**	**-1.3**
LL06				*i*	S	**Sn**	**12 50 14.2**	**-6.7**
BI02	**San Fabin de**	**3.81**	**58**	*eP*		**Pn**	**12 49 37.8**	**-1.6**
BI02				*i*	S	**Sn**	**12 50 20.9**	**-3.5**
BI02				IAML			12 50 24.2	
	comp=E,700nm,0.5s							
PLCA	**Paso Flores**	**4.15**	**120**	*eP*		**Pn**	**12 49 44.0**	**-0.1**
PLCA				*eS*		**Sn**	**12 50 35.4**	**+2.7**
PLCA	**Paso Flores**	**4.15**	**120**	Pn		**Pn**	**12 49 43.8**	**-0.3**
	comp=E,18nm,0.3s,baz=304,slow=10,SNR=125							
PLCA				Sn		**Sn**	**12 50 34.5**	**+1.8**
	comp=E,18nm,0.3s,baz=190,slow=16,SNR=5.5							
	comp=E,77nm,0.5s							
PLCA	**Paso Flores**	**4.15**	**120**	*eP*		**Pn**	**12 49 43.6**	**-0.4**
PLCA				*eS*		**Sn**	**12 50 34.9**	**+2.2**
LL01	**San Ignacio de**	**4.22**	**150**			**Pn**	**12 49 44.0**	**-1.0**
LL01	**San Ignacio de**	**4.22**	**150**	*eP*		**Pn**	**12 49 43.8**	**-1.3**
LL01				*eS*		**Sn**	**12 50 28.0**	**-6.4**
LL01	**San Ignacio de**	**4.22**	**150**	*eP*		**Pn**	**12 49 44.0**	**-1.0**
LL01				*i*	S	**Sn**	**12 50 27.6**	**-6.8**
ML02	**Panimavida**	**4.30**	**47**			**Pn**	**12 49 44.9**	**-1.2**
ML02	**Panimavida**	**4.30**	**47**	*eP*		**Pn**	**12 49 46.0**	**-0.1**
GO07	**Milladeo Hill,**	**4.52**	**165**			**Pn**	**12 49 48.2**	**-0.9**
GO07	**Milladeo Hill,**	**4.52**	**165**	*eP*		**Pn**	**12 49 48.2**	**-0.9**
GO07				*eS*		**Sn**	**12 50 39.5**	**-2.2**
GO05	**Huala**	**4.61**	**37**			**Pn**	**12 49 49.0**	**-1.5**
GO05	**Huala**	**4.61**	**37**	*eP*		**Pn**	**12 49 48.9**	**-1.6**
GO05				*eS*		**Sn**	**12 50 40.5**	**-3.5**
GO05	**Huala**	**4.61**	**37**	*eP*		**Pn**	**12 49 48.7**	**-1.7**
BO02	**Sierra Bellavi**	**5.36**	**44**	Pn		**Pn**	**12 49 59.9**	**-0.9**
BO02	**Sierra Bellavi**	**5.36**	**44**	*eP*		**Pn**	**12 49 59.4**	**-1.4**
BO02				*eS*		**Sn**	**12 51 01.8**	**-0.9**
BO02				IAML			12 51 04.6	
	comp=Z,900nm,0.2s							
BO01	**Tunca**	**5.52**	**39**			**Pn**	**12 50 01.4**	**-1.5**
H03S1	**Juan Fernandez**	**5.71**	**328**	Pn		**Pn**	**12 50 05.9**	**+0.6**
H03S1				Sn		**Sn**	**12 51 06.1**	**-4.7**
H03S1				T		T	12 56 32.4	
	baz=144,slow=72,SNR=36							
H03S2	**Juan Fernandez**	**5.73**	**328**	Pn		**Pn**	**12 50 05.7**	**+0.3**
H03S2				Sn		**Sn**	**12 51 05.9**	**-5.3**
	baz=67,slow=74							
H03S2				T		T	12 56 34.8	
	baz=144,slow=72,SNR=38							
H03S3	**Juan Fernandez**	**5.73**	**328**	Pn		**Pn**	**12 50 05.4**	**-0.1**
H03S3				Sn		**Sn**	**12 51 06.3**	**-4.9**
	baz=233,slow=74							
H03S3				T		T	12 56 46.2	
	baz=144,slow=72,SNR=38							
VA04	**Juan Fernndez**	**5.86**	**330**	Pn		**Pn**	**12 50 06.6**	**-0.9**
MT01	**Popeta**	**5.87**	**35**			**Pn**	**12 50 05.9**	**-1.9**
VA05	**Santo Domingo**	**5.89**	**31**	Pn		**Pn**	**12 50 05.7**	**-2.3**
AY01	**Puyuhuapi**	**5.99**	**162**	Pn		**Pn**	**12 50 09.1**	**-0.2**
H03N3	**Juan Fernandez**	**6.06**	**330**	Pn		**Pn**	**12 50 10.4**	**+0.3**
H03N3				Sn		**Sn**	**12 51 16.5**	**-2.9**
	baz=277,slow=4.4							
MT09	**Talagante**	**6.07**	**36**			**Pn**	**12 50 08.9**	**-1.7**
H03N1	**Juan Fernandez**	**6.07**	**330**	Pn		**Pn**	**12 50 09.7**	**-0.4**
H03N1				Sn		**Sn**	**12 51 14.0**	**-5.5**
	baz=277,slow=4.4							
BO04	**La Punta**	**6.08**	**40**			**Pn**	**12 50 08.9**	**-1.6**
H03N2	**Juan Fernandez**	**6.08**	**330**	Pn		**Pn**	**12 50 09.9**	**-0.4**
H03N2				Sn		**Sn**	**12 51 15.8**	**-3.9**
	baz=277,slow=4.4							
LMEL	**Las Melosas**	**6.39**	**41**			**Pn**	**12 50 14.3**	**-0.7**
MT05	**Renca**	**6.50**	**36**			**Pn**	**12 50 14.7**	**-1.8**
MT16	**CCHEN**	**6.57**	**37**			**Pn**	**12 50 16.0**	**-1.4**
LCO	**Las Campanas**	**10.44**	**23**			**Pn**	**12 51 08.6**	**-2.2**
TRQA	**Tornquist**	**10.47**	**90**			**Pn**	**12 51 09.8**	**-1.0**
AC02	**Maricunga**	**12.96**	**25**	Pn		**Pn**	**12 51 43.2**	**-2.2**
PSAL	**Palomas, Salto**	**16.38**	**67**	*eP*		**Pn**	**12 52 32.3**	**+1.6**
LVC	**Limon Verde**	**17.00**	**21**	Pn		**Pn**	**12 52 37.5**	**-1.4**
LVC	**Limon Verde**	**17.00**	**21**	P		**P**	**12 52 43.0**	**+2.2**
	comp=Z,9.8nm,0.9s,baz=207,slow=9.5,SNR=4.4							
LVC				LR		LR	12 57 53.1	
	comp=Z,39nm,21.3s,baz=206,slow=32							
PLTB	**Pedras Altas**	**19.01**	**75**	P		**P**	**12 53 00.4**	**-2.1**
PLTB				IAmb		IAmb	12 53 01.9	
	comp=Z,26nm,0.9s							
CPUP	**Villa Florida**	**19.52**	**56**	P		**P**	**12 53 06.3**	**-1.9**
CPUP	**Villa Florida**	**19.52**	**56**	P		**P**	**12 53 08.0**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=231,slow=11,SNR=15							
CPUP				LR		LR	13 00 59.1	
	comp=Z,177nm,20.5s,baz=230,slow=38							
	comp=Z,6.0nm,0.6s							
ALGR	**Alto Alegre (B**	**20.95**	**68**	*eP*		**P**	**12 53 24.6**	**+0.8**
PB16	**IPOC Station P**	**20.97**	**16**	IAmb		IAmb	12 53 32.2	
	comp=Z,17nm,1.0s							
CRSM	**Crissiumal (Br**	**20.99**	**64**	*eP*		**P**	**12 53 25.5**	**+1.3**
ITAB	**Concordia**	**22.50**	**66**	P		**P**	**12 53 38.2**	**-2.2**
ITAB				IAmb		IAmb	12 53 40.9	
	comp=Z,18nm,0.9s							
LPAZ	**La Paz**	**23.25**	**18**	P		**P**	**12 53 50.2**	**+1.3**
LPAZ	**La Paz**	**23.25**	**18**	P		**P**	**12 53 50.5**	**+1.6**
	comp=Z,6.5nm,1.0s,baz=166,slow=6.4,SNR=12							
	comp=Z,6.5nm,1.0s							
LPAZ	**La Paz**	**23.25**	**18**	*eP*		**P**	**12 53 51.1**	**+2.1**
AMBA	**Amambai (Brazi**	**23.43**	**54**	*eP*		**P**	**12 53 51.8**	**+1.7**
ANTJ	**Antonio Joao (**	**23.50**	**50**	*eP*		**P**	**12 53 53.8**	**+3.0**
PTGB	**Pitanga**	**24.12**	**61**	*eP*		**P**	**12 53 58.1**	**+1.3**
BDQN	**Bodoquena, MS**	**24.26**	**47**	*eP*		**P**	**12 53 58.4**	**+0.4**
AQDB	**Aquidauana**	**24.85**	**48**	P		**P**	**12 54 02.7**	**-0.6**
AQDB				IAmb		IAmb	12 54 13.7	
	comp=Z,17nm,0.8s							
AQDB	**Aquidauana**	**24.85**	**48**	*eP*		**P**	**12 54 04.4**	**+1.1**
TRCB	**Terra Rica**	**25.04**	**57**	P		**P**	**12 54 05.7**	**+0.6**
LDASE	**Londrina, Braz**	**25.64**	**60**	*eP*		**P**	**12 54 11.0**	**+0.4**
SIV	**San Ignacio**	**25.89**	**33**	LR		LR	13 06 15.7	
	comp=Z,58nm,18.8s,baz=275,slow=41							
NNA	**Nana**	**26.70**	**357**	LR		LR	13 01 58.2	
	comp=Z,71nm,20.9s,baz=172,slow=30							
PCMB	**Pacaembu**	**26.77**	**57**	*eP*		**P**	**12 54 22.3**	**+1.5**
PMSA	**Palmer Station**	**26.88**	**169**	LR		LR	13 05 00.4	
	comp=Z,107nm,18.5s,baz=293,slow=37							
SALV	**Santo Antonio**	**28.54**	**42**	*eP*		**P**	**12 54 37.6**	**+1.1**
ITRB	**Iturama**	**28.72**	**56**	*eP*		**P**	**12 54 39.1**	**+0.8**
RCLB	**Rio Claro- Sao**	**28.76**	**64**	*eP*		**P**	**12 54 41.5**	**+2.9**
ETMB	**Extrema**	**29.95**	**18**	P		**P**	**12 54 49.3**	**+0.2**
ETMB	**Extrema**	**29.95**	**18**	*eP*		**P**	**12 54 50.6**	**+1.5**
CZSB	**Cruzeiro do Su**	**30.98**	**5**	IAmb		IAmb	12 55 00.6	
	comp=Z,16nm,0.7s							
CZSB	**Cruzeiro do Su**	**30.98**	**5**	*eP*		**P**	**12 54 59.8**	**+1.5**
ATAH	**Atahualpa**	**31.61**	**354**	P		**P**	**12 55 06.4**	**+2.2**
	comp=Z,8.5nm,1.0s,baz=168,slow=7.1,SNR=3.7							
	comp=Z,8.5nm,1.0s							
SAML	**Samuel**	**31.61**	**23**	P		**P**	**12 55 03.7**	**-0.1**
SAML				IAmb		IAmb	12 55 08.7	
	comp=Z,8.8nm,1.3s							
SAML	**Samuel**	**31.61**	**23**	*eP*		**P**	**12 55 05.0**	**+1.2**
PDRB	**Porto dos Gac**	**31.69**	**36**	*eP*		**P**	**12 55 05.2**	**+0.7**
BDFB	**Brasilia**	**33.22**	**54**	P		**P**	**12 55 20.8**	**+2.7**
	comp=Z,1.7nm,0.4s,baz=213,slow=14,SNR=3.6							
BDFB				LR		LR	13 08 25.2	
	comp=Z,186nm,18.2s,baz=301,slow=36							
	comp=Z,1.7nm,0.4s							
DIAM	**Diamantina, MG**	**34.20**	**62**	*eP*		**P**	**12 55 28.2**	**+1.7**
MCRA	**Macar, Loja**	**34.50**	**352**	P		**P**	**12 55 28.8**	**-0.3**
JANB	**Januaria**	**36.04**	**58**	*eP*		**P**	**12 55 45.0**	**+2.6**
TEFE	**Tefe**	**36.41**	**18**	*eP*		**P**	**12 55 46.2**	**+0.8**
SDBA	**SAO DESIDERIO**	**37.63**	**54**	*eP*		**P**	**12 55 57.8**	**+1.9**
NBLA	**Lagarto - SE**	**43.35**	**61**	*eP*		**P**	**12 56 44.5**	**+1.3**
BAUV	**El Baul**	**47.94**	**10**	P		**P**	**12 57 19.1**	**-0.3**
SNAA	**Sanae**	**48.23**	**156**	P		**P**	**12 57 21.9**	**+0.8**
	comp=Z,4.9nm,0.8s,baz=247,slow=13,SNR=1.8							
	comp=Z,4.9nm,0.8s							
RCBR	**Riachuelo**	**48.39**	**58**	LR		LR	13 17 36.3	
	comp=Z,117nm,18.9s,baz=245,slow=36							
MDP	**Montagnes des**	**48.42**	**31**	LR		LR	13 20 07.4	
	comp=Z,42nm,18.1s,baz=249,slow=39							
QSPA	**South Pole Qui**	**51.48**	**180**	P		**P**	**12 57 46.7**	**+0.6**
	comp=Z,3.0nm,0.8s,baz=140,slow=0.9,SNR=11							
	comp=Z,3.0nm,0.8s							
CMIG	**Matias Romero**	**58.52**	**338**	LR		LR	13 18 12.6	
	comp=Z,24nm,21.4s,baz=175,slow=30							
LPIG	**La Paz**	**70.62**	**326**	LR		LR	13 23 24.3	
	comp=Z,42nm,19.2s,baz=188,slow=30							
HNDO	**Hondo**	**71.53**	**338**	P		**P**	**13 00 02.6**	**+0.9**
JCT	**Junction City**	**72.58**	**338**	P		**P**	**13 00 07.8**	**-0.2**
TXAR	**Lajitas Array**	**72.74**	**334**	P		**P**	**13 00 10.6**	**+1.5**
	comp=Z,5.7nm,0.8s,baz=155,slow=8.4,SNR=59							
	comp=Z,5.7nm,0.8s							
TKL	**Tuckaleechee C**	**74.47**	**353**	LR		LR	13 30 56.0	
	comp=Z,15nm,18.7s,baz=236,slow=34							
CCM	**Cathedral Cave**	**77.84**	**347**	P		**P**	**13 00 38.5**	**+0.5**
TUC	**Tucson**	**78.04**	**330**	P		**P**	**13 00 39.3**	**-0.1**
TUC				IAmb		IAmb	13 00 42.7	
	comp=Z,10nm,1.1s							
PIX	**Pinacate**	**78.47**	**327**	P		**P**	**13 00 42.5**	**+0.8**
PIX				IAmb		IAmb	13 00 44.9	
	comp=Z,5.0nm,1.0s							
ANMO	**Albuquerque**	**78.81**	**334**	P		**P**	**13 00 44.7**	**+0.9**
ANMO				IAmb		IAmb	13 00 46.8	
	comp=Z,10nm,0.8s							
DBIC	**Dimbokro**	**79.15**	**72**	P		**P**	**13 00 46.7**	**+0.8**
	comp=Z,3.2nm,0.6s,baz=187,slow=4.5,SNR=6.4							
	comp=Z,3.2nm,0.6s							
BOSA	**Boshof**	**80.14**	**119**	P		**P**	**13 00 53.5**	**+2.1**
	comp=Z,2.9nm,0.8s,baz=254,slow=4.5,SNR=4.2							
	comp=Z,2.9nm,0.8s							
TSUM	**Tsumeb**	**80.39**	**107**	LR		LR	13 29 58.8	
	comp=Z,53nm,20.4s,baz=157,slow=31							
WUAZ	**Wupatki**	**81.10**	**331**	P		**P**	**13 00 56.1**	**0.0**
WUAZ				IAmb		IAmb	13 00 59.5	
	comp=Z,10nm,1.2s							
PFO	**Pinyon Flats O**	**81.52**	**326**	P		**P**	**13 00 58.3**	**0.0**
PFO				IAmb		IAmb	13 01 02.0	
	comp=Z,9.4nm,0.9s							
NLU	**North Lily Min**	**85.27**	**332**	P		**P**	**13 01 17.4**	**-0.2**
NLU				IAmb		IAmb	13 01 20.9	
	comp=Z,12nm,1.3s							
DSP	**Deep Springs**	**85.35**	**327**	P		**P**	**13 01 16.5**	**-1.2**
DSP				IAmb		IAmb	13 01 21.4	
	comp=Z,9.8nm,1.3s							
NVAR	**Mina Array Bea**	**86.39**	**328**	P		**P**	**13 01 25.4**	**+2.2**
	comp=Z,2.1nm,0.7s,baz=158,slow=6.3,SNR=11							
	comp=Z,2.1nm,0.7s							
PDAR	**Pinedale Array**	**86.91**	**335**	P		**P**	**13 01 26.6**	**+1.0**
	comp=Z,2.3nm,0.9s,baz=147,slow=6.0,SNR=17							
	comp=Z,2.3nm,0.9s							
TORD	**Torodi Ar. Bea**	**88.24**	**72**	P		**P**	**13 01 32.5**	**0.0**
	comp=Z,0.5nm,0.7s,baz=227,slow=3.6,SNR=2.5							
	comp=Z,0.5nm,0.7s							
ULM	**Lac du Bonnet**	**90.47**	**347**	P		**P**	**13 01 42.3**	**+0.3**
	comp=Z,3.9nm,0.9s,baz=85,slow=1.8,SNR=5.6							
	comp=Z,3.9nm,0.9s							
LSZ	**Lusaka**	**90.72**	**110**	LR		LR	13 35 08.4	
	comp=Z,58nm,21.1s,baz=196,slow=31							
WRA	**Warramunga Arr**	**115.34**	**211**	PKP		**PKiKP**	**13 07 22.2**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=161,slow=1.6,SNR=6.2							
SLIT	**Slitere, Latvi**	**125.53**	**41**	*eP*		**Pdif**	**13 04 13.5**	**-5.2**
KEF	**Keuruu**	**127.97**	**36**	*eP*		**Pdif**	**13 04 34.6**	**+5.1**
PETK	**Petropavlovsk-**	**141.37**	**310**	PKhKP		PKPpre	13 08 06.3	
	comp=Z,3.9nm,1.1s,baz=15,slow=3.5,SNR=3.5							
SEY	**Seymchan**	**142.68**	**326**	PKhKP		PKPpre	13 08 09.1	
	comp=Z,2.0nm,0.7s,baz=125,slow=2.1,SNR=10							
GEYT	**Alibeck**	**143.75**	**76**	PKP		PKPbc	13 08 14.0	+0.5
	comp=Z,2.7nm,0.8s,baz=54,slow=2.5,SNR=5.9							
MA2	**Magadan**	**144.38**	**321**	PKP		PKPbc	13 08 15.2	+0.6
	comp=Z,5.1nm,0.4s,baz=100,slow=3.3,SNR=18							
ARU	**Arti**	**145.02**	**44**	PKPbc		**PKPab**	**13 08 17.3**	**+0.5**
	comp=Z,4.9nm,0.4s,baz=300,slow=2.2,SNR=16							
AKTO	**Aktyubinsk**	**145.31**	**55**	PKPbc		**PKPbc**	**13 08 18.2**	**+0.3**
	comp=Z,4.8nm,0.9s,baz=278,slow=4.0,SNR=13							
NRIK	**Noril'sk**	**148.00**	**11**	PKPbc		**PKPbc**	**13 08 25.4**	**+0.3**
	comp=Z,1.5nm,0.3s,baz=282,slow=0.7,SNR=3.7							
ASAJ	**Asahikawa**	**151.28**	**293**	PKPbc		**PKiKP**	**13 08 34.7**	**+0.2**
	comp=Z,7.1nm,0.7s,baz=90,slow=20,SNR=6.8							
YAK	**Yakutsk**	**152.13**	**335**	PKPbc		**PKiKP**	**13 08 36.1**	**+0.4**
	comp=Z,25nm,0.8s,baz=296,slow=1.8,SNR=10							
BVAR	**Borovoye Array**	**152.49**	**48**	PKPbc		**PKiKP**	**13 08 37.5**	**+0.7**
	comp=Z,3.5nm,0.7s,baz=318,slow=4.0,SNR=14							
KURBB	**Kurchatov Arra**	**158.06**	**49**	PKP		**PKPdf**	**13 08 36.6**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=312,slow=1.7,SNR=6.1							
KURBB				PKPab		**PKPab**	**13 09 11.3**	**+0.6**
	comp=Z,0.8nm,0.9s,baz=290,slow=4.6,SNR=4.3							
ZALV	**Zalesovo Beam**	**159.63**	**35**	PKP		**PKPdf**	**13 08 39.1**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=296,slow=7.6,SNR=4.0							
ZALV				PKPab		**PKPab**	**13 09 17.9**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=308,slow=5.5,SNR=6.8							
MKAR	**Makanchi Array**	**161.73**	**57**	PKPab		**PKPab**	**13 09 27.1**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=298,slow=2.6,SNR=3.8							
PZH	**PanZhiHua**	**167.52**	**168**	PKP		**PKPdf**	**13 08 46.8**	**-0.6**
SONM	**Songino Array**	**170.85**	**353**	PKPab		**PKPab**	**13 10 08.2**	**+1.1**
	comp=Z,2.0nm,0.9s,baz=358,slow=3.5,SNR=7.1							
HHC	**Hu-ho-hao-te**	**174.33**	**294**	*eP*		**PKPdf**	**13 08 46.0**	**-4.4**

DJA 22 13:13:17.3±0.4,7°S±4°×12°3E±°,h558km±5km,M3.6/9, mb3.5/6,MLv3.7/9,Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EDFI	**Ende, Flores**	**1.90**	**222**	P		P	13 14 27.1	-0.3
EDFI				S		S	13 15 24.8	+0.4
SOEI	**Soe**	**2.73**	**152**	P		P	13 14 31.6	0.0
SOEI				S		S	13 15 31.6	-0.4
BATI	**Baumata**	**2.94**	**167**	P		P	13 14 33.9	+1.2
BASI	**Baing, Sumba**	**3.72**	**219**	P		P	13 14 38.3	+0.6
TTSI	**Tana Toraja**	**5.29**	**323**	P		P	13 14 50.2	+0.1
	14nm,2.0s,0.1nm							
PLAI	**Plamp

DUG					IAML			13 22 39.5	
	comp=N,158nm,0.6s								
CWU	**Camp Williams**	**2.05**	**350**			Pg		13 22 12.5	-0.6
U15A	**North Rim**	**2.05**	**194**			Pn		13 22 07.3	-0.4
ICU	**Indian Springs**	**2.20**	**235**			Pb		13 22 14.5	+1.4
BSUT	**Blindstream Ca**	**2.22**	**18**			Pn		13 22 09.3	-0.9
BSUT					IAML			13 22 46.1	
	comp=E,118nm,0.6s								
RCJ	**Ross Creek**	**2.24**	**4**			Pg		13 22 15.4	-1.3
NOQ	**North Oquirrh**	**2.26**	**351**			Pb		13 22 15.2	+1.0
CTU	**Camp Tracy**	**2.27**	**358**			Pn		13 22 10.3	-0.3
CTU					IAML			13 22 46.7	
	comp=E,129nm,0.6s								
PV15	**Paradox Valley**	**2.50**	**91**			Pn		13 22 12.8	-1.0
PV15					IAML			13 22 57.6	
	comp=E,250nm,0.8s								
PV15					IAML			13 22 59.4	
	comp=N,229nm,0.8s								
Q12A	**Willow Creek R**	**2.56**	**285**			Pn		13 22 14.9	+0.4
Q12A					IAML			13 23 02.4	
	comp=N,72nm,0.9s								
BGU	**Big Grassy Mou**	**2.72**	**337**		Pn	Pn		13 22 17.0	+0.3
BGU					IAML			13 23 03.4	
	comp=E,68nm,0.3s								
MVCO	**Mesa Verde**	**2.78**	**115**			Pn		13 22 16.7	-1.0
WUAZ	**Wupatki**	**2.91**	**175**			Pn		13 22 18.6	-0.8
O20A	**White River Ci**	**3.15**	**56**			Pn		13 22 23.8	+0.9
O20A					IAML			13 23 22.6	
	comp=N,113nm,0.9s								
HWUT	**Hardware Ranch**	**3.18**	**1**			Pn		13 22 23.8	+0.6
HWUT					IAML			13 23 16.2	
	comp=N,42nm,1.1s								
HWUT					IAML			13 23 21.6	
	comp=N,39nm,0.9s								
HVU	**Hansel Valley**	**3.46**	**346**		Pn	Pn		13 22 29.1	+2.1
HVU					IAML			13 23 27.4	
	comp=N,44nm,0.8s								
HVU					IAML			13 23 29.6	
	comp=E,37nm,0.9s								
ELK	**Elko**	**3.61**	**311**			Pn		13 22 28.1	-1.0
W18A	**Petrified Fore**	**3.64**	**154**			Pn		13 22 29.3	-0.2
SMCO	**Snowmass**	**3.74**	**77**			Pn		13 22 31.9	+0.9
SMCO					IAML			13 23 34.0	
	comp=E,50nm,0.6s								
W13A	**Hualapai Mount**	**3.77**	**209**			Pn		13 22 32.5	+1.2
W13A					IAML			13 23 36.9	
	comp=E,26nm,0.9s								
W13A					IAML			13 23 39.6	
	comp=N,26nm,0.8s								
X18A	**Snowflake**	**4.12**	**160**		Pn	Pn		13 22 38.2	+2.2
PDAR	**Pinedale Array**	**4.63**	**20**		Pn	Pn		13 22 42.9	-0.2
SDCO	**Great Sand Dun**	**4.90**	**96**			Pn		13 22 48.2	+1.3
DSP	**Deep Springs**	**5.10**	**260**			Pn		13 22 48.8	-0.5
DSP					IAML			13 26 00.1	
	comp=E,10.0nm,4.6s								
LOHW	**Long Hollow**	**5.25**	**8**			Pn		13 22 52.6	+1.0
LOHW					IAML			13 24 52.5	
	comp=E,16nm,5.0s								
LOHW					IAML			13 26 21.0	
	comp=E,20nm,4.8s								
MOOW	**Moose Ponds**	**5.37**	**7**		Pn	Pn		13 22 54.1	+0.9
MOOW					IAML			13 25 01.3	
	comp=E,13nm,4.6s								
MOOW					IAML			13 26 05.2	
	comp=E,8.7nm,4.8s								
ANMO	**Albuquerque**	**5.43**	**128**		Pn	Pn		13 22 53.4	-0.7
TUC	**Tucson**	**6.14**	**173**		Pn	Pn		13 23 04.0	+0.3

*IDC **22** 13:29:58.7±11.0, 24°.22S×179°.38E, h679km±147km, mb2.8/5, mbtmp3.8/5, Error ellipse: s-maj=63.4km s-min=26.9km az=63.0*

ISC 22 13:29:56.5±1.2, 24°.6S±0°.1×179°.6E±0°.2, h650km, n21, σ2s80/14, mb3.4/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIAZ	**Waiheke Island**	**12.77**	**196**	P	**P**	**13 32 42.5**	**+0.4**
ETAZ	**East Tamaki Re**	**12.98**	**197**	P	**P**	**13 32 45.1**	**+1.1**
MKAZ	**Moumakai**	**13.06**	**196**	P	**P**	**13 32 44.7**	**-0.1**
HAZ	**Te Kaha**	**13.25**	**186**	P	P	13 32 40.6	-5.9
HAZ				S	S	13 34 59.4	-5.8
RUGZ	**Raukumara Rang**	**13.46**	**186**	P	P	13 32 40.2	-8.4
RUGZ				S	**S**	**13 35 07.0**	**-2.1**
PUZ	**Puketiti**	**13.52**	**184**	P	P	13 32 44.5	-4.5
TWGZ	**Tauwhareparae**	**13.65**	**185**	P	P	13 32 43.3	-6.9
URZ	**Urewera**	**13.82**	**188**	P	P	13 32 44.8	-6.9
MWZ	**Matawai**	**13.84**	**187**	P	P	13 32 47.0	-5.0
RAGZ	**Rawiri**	**14.02**	**187**	P	P	13 32 47.5	-6.1
HIZ	**Hauiti**	**14.48**	**195**	P	**P**	**13 32 58.7**	**+0.9**
OTVZ	**Oturere**	**14.93**	**192**	P	**P**	**13 32 57.4**	**-4.7**
SNVZ	**South Ngauruho**	**14.96**	**192**	P	**P**	**13 32 57.6**	**-4.8**
WNVZ	**Wahianoa**	**15.10**	**192**	P	**P**	**13 32 59.3**	**-4.4**
BHHZ	**Black Hill Sta**	**15.18**	**190**	P	P	13 32 58.5	-5.8
ASAR	**Alice Springs**	**41.53**	**261**	P	**P**	**13 36 50.3**	**+0.1**
	0.3nm,0.5s,baz=92,slow=7.7,SNR=6.3						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**41.96**	**267**	P	**P**	**13 36 53.1**	**-0.5**
	0.7nm,0.4s,baz=103,slow=8.2,SNR=43						
	0.7nm,0.4s						
VNDA	**Vanda**	**53.70**	**185**	P	**P**	**13 38 21.3**	**+1.9**
	0.3nm,0.3s,baz=0.0,slow=4.0,SNR=2.5						
	0.3nm,0.3s						
QSPA	**South Pole Qui**	**65.53**	**180**	P	**P**	**13 39 40.4**	**+2.6**
	1.6nm,0.6s,baz=41,slow=6.3,SNR=10						
	1.6nm,0.6s						
TXAR	**Lajitas Array**	**91.12**	**58**	P	**P**	**13 41 54.1**	**-0.2**
	0.4nm,0.7s,baz=211,slow=7.1,SNR=5.3						
	0.4nm,0.7s						
HFS	**Hagfors**	**143.10**	**348**	PKP	**PKPdf**	**13 48 15.5**	**-2.2**
	0.7nm,0.4s,baz=83,slow=3.6,SNR=5.4						

*IDC **22** 13:48:13.9±15.0, 0°.10S×96°.59E, h0km, mb3.7/3, mbtmp3.6/4, Error ellipse: s-maj=391.7km s-min=108.8km az=126.0*

*DJA **22** 13:48:20.4±3.5, 1°.N±4°×9°.6E±°, h21km±32km, M4.1/11, mb4.6/4, MLv3.9/11*

ISC 22 13:48:21.9±1.3, 0°.60N±0°.10×96°.5E±0°.1, h20km, n20, σ0s84/14, mb3.7/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.25**	**56**	P	**Pb**	**13 48 44.2**	**-0.6**
SNSI	**Sinabang, Aceh**	**1.81**	**353**	P	**Pn**	**13 48 50.5**	**-1.5**
PBSI	**Pulau Batu**	**1.86**	**111**	P	**Pn**	**13 48 52.8**	**+0.2**
KCSI	**Kotacane, Aceh**	**3.15**	**23**	P	**Pn**	**13 49 09.8**	**-0.7**
SISI	**Saibi**	**3.19**	**127**	P	**Pn**	**13 49 10.6**	**-0.3**
PDSI	**Padang**	**4.20**	**111**	P	**Pn**	**13 49 24.8**	**-0.1**
BKNI	**Bangkinang**	**4.51**	**93**	P	**Pn**	**13 49 29.3**	**+0.2**
LHMI	**Lhok Sumawe**	**4.62**	**5**	P	**Pn**	**13 49 29.4**	**-1.2**
PPSI	**Pulau Pagai**	**4.81**	**134**	P	**Pn**	**13 49 33.1**	**-0.3**
MNAI	**Manna**	**8.09**	**128**	P	**Pn**	**13 50 17.6**	**-0.7**
	279nm,1.1s						
CMAR	**Chiang Mai Arr**	**17.90**	**7**	P	**P**	**13 52 31.8**	**+1.3**
	0.8nm,0.8s,baz=201,slow=11,SNR=5.5						
H08S2	**Diego Garcia H**	**25.34**	**251**	T	T	14 21 13.4	
	baz=71,slow=75,SNR=12						
H08S3	**Diego Garcia H**	**25.34**	**251**	T	T	14 20 52.2	
	baz=71,slow=75,SNR=14						
H08S1	**Diego Garcia H**	**25.36**	**251**	T	T	14 21 06.0	
	baz=71,slow=75,SNR=13						
MKAR	**Makanchi Array**	**47.67**	**347**	P	**P**	**13 56 57.6**	**+0.6**
	0.5nm,0.7s,baz=157,slow=8.1,SNR=5.2						
	0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**54.05**	**351**	P	**P**	**13 57 45.2**	**+0.4**
	0.6nm,0.3s,baz=162,slow=9.2,SNR=3.6						
	0.6nm,0.3s						
BVAR	**Borovoye Array**	**56.60**	**341**	P	**P**	**13 58 02.7**	**-0.6**
	0.3nm,0.5s,baz=148,slow=8.5,SNR=2.4						
	0.3nm,0.5s						
H04N2	**CROZET ISLANDS**	**60.91**	**214**	T	T	15 05 24.8	
	baz=53						
H04N1	**CROZET ISLANDS**	**60.92**	**214**	T	T	15 05 21.4	
	baz=53,slow=76						
H04N3	**CROZET ISLANDS**	**60.93**	**214**	T	T	15 05 20.1	
	baz=53,slow=76						

*NAO **22** 14:00:58.2±2.1, 75°.82N×6°.78E, ML2.9*

*BER **22** 14:01:00.5±2.5, 75°.84N×6°.99E, h10km, mb(Pn)3.5, ML2.9(NAO), Confirmed Earthquake*

*DNK **22** 14:01:02.9±1.6, 75°.87N×6°.82E, h39km±39km, ML1.3*

*FCIAR **22** 14:01:05.0, 76°.00N×8°.37E, h10km, station SPA0 has station magnitude of 2.90*

ISC 22 14:00:57.0±1.8, 76°.10N±0°.06×6°.82E±0°.04, h15km±12km, n30, σ2s16/46, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**2.23**	**62**	*eP*	**Pb**	**14 01 36.8**	**0.0**
HSPB				*eS*	**Sb**	**14 02 03.1**	**-0.9**
HSPB				IAML		14 02 06.1	
	comp=Z,3.9nm,0.6s						
HSPB	**Hornsund (broa**	**2.23**	**62**	Pn	**Pg**	**14 01 37.6**	**-2.0**
HSPB				Sn	**Sn**	**14 02 01.5**	**+1.1**
BRBA	**Barentsburg A**	**2.57**	**37**	*eP*	**Pb**	**14 01 42.8**	**+0.1**
BRBA				IAML		14 02 13.0	
	comp=Z,5.9nm,0.9s						
BRBA	**Barentsburg A**	**2.57**	**37**	Pn	**Pg**	**14 01 44.4**	**-1.9**
BRBB	**Barentsburg B**	**2.60**	**36**	*eP*	**Pb**	**14 01 44.1**	**+1.0**
BRBB				*eS*	**Sb**	**14 02 13.7**	**-1.0**
BRBB	**Barentsburg B**	**2.60**	**36**	Pn	**Pg**	**14 01 44.9**	**-1.8**
BRBB				Sn	**Sb**	**14 02 16.6**	**+1.9**
SPA0	**Spitsbergen Ar**	**2.98**	**41**	Pn	**Pb**	**14 01 50.0**	**+0.4**
	baz=220,slow=14						
SPA0				Sn	**Sb**	**14 02 23.8**	**-2.0**
	baz=235,slow=22						
SPA0	**Spitsbergen Ar**	**2.98**	**41**	Pn	**Pb**	**14 01 50.0**	**+0.4**
	baz=220,slow=14						
SPA0				Sn	**Sb**	**14 02 23.8**	**-2.0**
	baz=235,slow=22						
SPA0	**Spitsbergen Ar**	**2.98**	**41**	*iP*	**Pb**	**14 01 50.1**	**+0.4**
SPA0				*i* S	**Sb**	**14 02 23.7**	**-2.1**
KBS	**Kingsbay**	**3.05**	**19**	*eP*	**Pb**	**14 01 51.4**	**+0.6**
KBS				*eS*	**Sb**	**14 02 25.8**	**-1.8**
KBS				IAML		14 02 40.4	
	comp=Z,7.5nm,0.2s						
KBS	**Kingsbay**	**3.05**	**19**	Pn	**Pb**	**14 01 51.8**	**+1.0**
KBS	**Kingsbay**	**3.05**	**19**	*eP*	**Pb**	**14 01 51.5**	**+0.7**
KBS				*eS*	**Sb**	**14 02 25.9**	**-1.8**
KBS	**Kingsbay**	**3.05**	**19**	*eP*	**Pb**	**14 01 51.2**	**+0.4**
BJO1	**Bjornoya**	**3.49**	**111**	*eP*	**Pn**	**14 01 53.4**	**+2.9**
BJO1	**Bjornoya**	**3.49**	**111**	Pn	**Pn**	**14 01 52.8**	**+2.2**
BJO1				Sn	**Sn**	**14 02 27.7**	**-3.8**
HOPEN	**Hopen**	**4.33**	**76**	*eP*	**Pn**	**14 02 05.0**	**+3.0**
HOPEN				*eS*	**Sn**	**14 02 52.1**	**-0.1**
HOPEN				IAML		14 02 54.1	
	comp=Z,4.9nm,0.6s						
HOPEN	**Hopen**	**4.33**	**76**	Pn	**Pn**	**14 02 05.9**	**+3.8**
HOPEN				Sn	**Sn**	**14 02 51.8**	**-0.5**
HOPEN	**Hopen**	**4.33**	**76**	*eP*	**Pn**	**14 02 05.4**	**+3.3**
HOPEN				*eS*	**Sn**	**14 02 50.7**	**-1.6**
DAG	**Danmarks Havn**	**6.00**	**289**	*e*	**Pn**	**14 02 27.7**	**+2.7**
	baz=92,slow=14						
DAG				*i* P	Pb	14 02 29.2	-12
DAG				*i* S	**Sn**	**14 03 32.5**	**-0.7**
DAG				IAML		14 03 36.5	
	comp=Z,2.9nm,0.3s						
DAG	**Danmarks Havn**	**6.00**	**289**	*e*	**Pn**	**14 02 27.7**	**+2.7**
	baz=92,slow=14						
DAG				*i* P	Pb	14 02 29.2	-12
DAG				*i* S	**Sn**	**14 03 32.5**	**-0.7**
DAG				IAML		14 03 36.5	
	comp=Z,2.9nm,0.3s						
NOR	**Nord**	**7.07**	**332**	*eP*	Pn	14 02 45.3	+5.7
DBG	**Daneborg**	**7.11**	**269**	*eP*	**Pn**	**14 02 41.8**	**+1.6**
DBG				*i* S	**Sn**	**14 03 56.4**	**-4.0**
DBG				IAML		14 04 03.4	
	comp=Z,0.4nm,0.3s						
DBG	**Daneborg**	**7.11**	**269**	Pn	**Pn**	**14 02 43.4**	**+3.2**
DBG				Sn	**Sn**	**14 03 57.0**	**-3.5**
DBG	**Daneborg**	**7.11**	**269**	*eP*	**Pn**	**14 02 41.8**	**+1.6**
DBG				*i* S	**Sn**	**14 03 56.4**	**-4.0**
DBG				IAML		14 04 03.4	
	comp=Z,0.4nm,0.3s						
ARA0	**ARCESS Array S**	**8.55**	**131**	Pn	**Pn**	**14 02 60.0**	**0.0**
	baz=325,slow=12						
ARA0				Sn	Sn	14 04 26.4	-10
	baz=332,slow=22						
ARA0	**ARCESS Array S**	**8.55**	**131**	Pn	**Pn**	**14 02 60.0**	**0.0**
	baz=325,slow=12						
ARA0				Sn	Sn	14 04 26.4	-10
	baz=332,slow=22						
ZFI2	**Zemlya Franca-**	**9.20**	**41**	*eP*	Pn	14 03 14.4	+5.6
ZFI2				S	**Sn**	**14 04 51.6**	**-0.2**
OMEGA	**Omega**	**9.21**	**41**	*eP*	Pn	14 03 14.6	+5.7
APA0	**Apatity Array**	**11.65**	**123**	Pn	**Pn**	**14 03 45.1**	**+2.8**
	baz=338,slow=12						
APA0	**Apatity Array**	**11.65**	**123**	Pn	**Pn**	**14 03 45.1**	**+2.8**
	baz=338,slow=12						

*MDD **22** 14:12:05.0±0.1, 37°.85N×3°.25W, h11km, mb_Lg4.0/60, Error ellipse: s-maj=1.1km s-min=0.8km az=153.0*

*INMG **22** 14:12:04.4±1.2, 37°.86N×3°.25W, h8km±1km, ML3.8, Error ellipse: s-maj=1.0km s-min=0.9km az=169.0*

*LDG **22** 14:12:05.8±0.1, 37°.85N×3°.23W, h2km, Ml3.9/4, Error ellipse: s-maj=2.4km s-min=1.9km az=159.0*

*IGIL **22** 14:12:05.2, 37°.85N×3°.25W, h11km, ML3.0*

*SFS **22** 14:12:06.4, 37°.88N×3°.26W, h20km, ML4.2/35, ML4.2/26, MLv3.9/35*

*CNRM **22** 14:12:09.3, 37°.57N×2°.77W, h133km, ML3.6*

ISC 22 14:12:03.1±0.9, 37°.88N±0°.01×3°.27W±0°.01, h15km±6km, n156, σ1s56/348, 8C-4D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EQES	**Quesada**	**0.18**	**115**	⇓Pg	**Pg**	**14 12 07.3**	**-0.2**
EQES				Sg	**Sg**	**14 12 09.6**	**-0.8**
EQES				*i* Vmb_Lg		14 12 10.1	
EQTA	**Presa de Quent**	**0.68**	**191**	Sg	**Sb**	**14 12 26.7**	**+0.8**
EQTA				Pg	**Pb**	**14 12 17.3**	**+0.7**
EQUE	**Quentar**	**0.68**	**191**	Pg	**Pb**	**14 12 16.7**	**0.0**
EQUE				Sg	**Sg**	**14 12 25.5**	**0.0**
EQUE				*i* Vmb_Lg		14 12 29.8	
EGOR	**Sierra Gorda,**	**1.01**	**221**	Sg	**Sn**	**14 12 38.7**	**+1.8**
EGOR				Pg	**Pn**	**14 12 23.8**	**+1.0**
EGOR	**Sierra Gorda,**	**1.01**	**221**	Pg	**Pn**	**14 12 23.4**	**+0.6**
EGOR				Sg	**Sn**	**14 12 36.7**	**-0.2**
EGOR				*i* Vmb_Lg		14 12 43.4	
PSIM	**Granatula de C**	**1.01**	**338**	⇓Pg	**Pn**	**14 12 24.3**	**+1.4**
PSIM				Sg	**Sn**	**14 12 38.0**	**+1.2**
EBER	**Berja**	**1.02**	**162**	Sg	**Sn**	**14 12 37.5**	**+0.3**
EBER				Pg	**Pn**	**14 12 23.0**	**0.0**
EBER	**Berja**	**1.02**	**162**	⇓Pg	**Pn**	**14 12 23.0**	**0.0**
EBER				Sg	**Sn**	**14 12 36.7**	**-0.4**
EBER				*i* Vmb_Lg		14 12 46.4	
ELGU	**Los Guajares,**	**1.04**	**196**	Sg	**Sn**	**14 12 38.0**	**+0.5**
ELGU				Pg	**Pn**	**14 12 23.9**	**+0.7**
ELGU	**Los Guajares,**	**1.04**	**196**	Pg	**Pn**	**14 12 23.5**	**+0.2**
ELGU				Sg	**Sn**	**14 12 37.4**	**-0.1**
ELGU				*i* Vmb_Lg		14 12 44.4	
EADA	**Adamuz**	**1.07**	**286**	Sn	**Sn**	**14 12 39.6**	**+1.5**
EADA				Pg	**Pn**	**14 12 24.8**	**+1.3**
EADA	**Adamuz**	**1.07**	**286**	Pg	**Pn**	**14 12 24.6**	**+1.1**
EADA				Sg	**Sn**	**14 12 39.6**	**+1.5**
EADA				*i* Vmb_Lg		14 12 43.3	
ELOR	**Lorca, Murcia**	**1.23**	**101**	Pg	**Pg**	**14 12 26.7**	**-0.2**
ELOR				Sg	**Sg**	**14 12 43.3**	**+0.3**
ELOR				*i* Vmb_Lg		14 12 47.3	
ENIJ	**Nijar**	**1.24**	**136**	Sn	**Sg**	**14 12 44.7**	**+1.6**
ENIJ				Pn	**Pg**	**14 12 26.6**	**-0.4**
ENIJ	**Nijar**	**1.24**	**136**	⇓Pg	**Pg**	**14 12 26.6**	**-0.4**
ENIJ				Sg	**Sb**	**14 12 41.5**	**-0.5**
ENIJ				*i* Vmb_Lg		14 12 46.1	
EZAR	**Zarzadilla de**	**1.25**	**90**	Pg	**Pg**	**14 12 27.1**	**-0.1**
EZAR				Sg	**Sg**	**14 12 43.7**	**+0.1**
EZAR				*i* Vmb_Lg		14 12 46.2	
TLOR	**Lorca, Murcia**	**1.28**	**99**	Sn	**Sg**	**14 12 44.8**	**+0.5**
TLOR				Pn	**Pg**	**14 12 28.7**	**+1.1**
TLOR	**Lorca, Murcia**	**1.28**	**99**	Pg	**Pg**	**14 12 27.5**	**-0.1**
TLOR				Sg	**Sg**	**14 12 44.6**	**+0.3**
E1002	**Yechar (Murcia**	**1.46**	**82**	Pg	**Pg**	**14 12 30.8**	**-0.4**
E1002				Sg	**Sg**	**14 12 50.8**	**+0.6**
E001A	**Albudeite (Mur**	**1.49**	**84**	Pg	**Pg**	**14 12 31.5**	**-0.3**
E001A				Sg	**Sg**	**14 12 51.9**	**+0.7**
ETOB	**Tobarra**	**1.56**	**60**	Pn	**Pb**	**14 12 31.7**	**0.0**
ETOB				Sn	**Sn**	**14 12 50.7**	**+0.5**
ETOB	**Tobarra**	**1.56**	**60**	⇑Pn	**Pb**	**14 12 31.6**	**0.0**
ETOB				Pg	**Pg**	**14 12 33.1**	**0.0**
ETOB				Sg	**Sg**	**14 12 53.6**	**+0.2**
ETOB				*i* Vmb_Lg		14 12 54.8	
EMUR	**La Murta**	**1.61**	**91**	Sg	**Sg**	**14 12 54.3**	**-0.6**
EMUR				Pn	**Pb**	**14 12 32.8**	**+0.3**
EMUR	**La Murta**	**1.61**	**91**	⇑Pg	**Pb**	**14 12 32.7**	**+0.3**
EMUR				Sg	**Sb**	**14 12 53.5**	**+0.9**
EMUR				*i* Vmb_Lg		14 12 56.3	
ECAB	**El Cabril**	**1.71**	**277**	⇑Pn	**Pb**	**14 12 33.9**	**-0.2**
ECAB				Pg	**Pg**	**14 12 35.8**	**0.0**
ECAB				Sn	**Sb**	**14 12 55.6**	**+0.2**
ECAB				Sg	**Sg**	**14 12 58.0**	**0.0**
ECAB				*i* Vmb_Lg		14 13 03.2	
EMIJ	**Mijas**	**1.77**	**223**	Pn	**Pb**	**14 12 36.1**	**+0.8**
EMIJ	**Mijas**	**1.77**	**223**	Pn	**Pn**	**14 12 33.8**	**+0.7**
EMIJ				Pg	**Pg**	**14 12 36.3**	**-0.9**
EMIJ				Sn	**Sn**	**14 12 55.0**	**-0.5**
EMIJ				Sg	**Sg**	**14 13 01.3**	**+1.1**
EMIJ				*i* Vmb_Lg		14 13 08.1	
CART	**Cartagena**	**1.82**	**98**	Pn	**Pn**	**14 12 34.8**	**+1.0**
CART				Sn	**Sb**	**14 12 58.1**	**-0.7**
CART	**Cartagena**	**1.82**	**98**	P	**Pb**	**14 12 35.0**	**-1.2**
CART	**Cartagena**	**1.82**	**98**	S	**Sb**	**14 12 57.9**	**-0.8**
PAB	**San Pablo**	**1.87**	**334**	Pn	**Pn**	**14 12 35.8**	**+1.2**
PAB				Pg	**Pg**	**14 12 39.0**	**+0.1**
PAB				Sn	**Sn**	**14 12 59.3**	**+1.4**
PAB				Sg	**Sg**	**14 13 04.1**	**+1.0**
PAB				*i* Vmb_Lg		14 13 04.3	
ESDC	**Sonseca Array**	**1.87**	**344**	Pn	**Pb**	**14 12 36.0**	**-1.0**
ESDC				Pg	**Pg**	**14 12 38.7**	**-0.4**
ESDC				Sn	**Sn**	**14 12 59.3**	**+1.3**
ESDC				Sg	**Sg**	**14 13 03.3**	**-0.2**
ESDC				*i* Vmb_Lg		14 13 05.1	
EALB	**Alboran**	**1.94**	**174**	Sn	**Sb**	**14 13 01.9**	**-0.2**
EALB				Pn	**Pb**	**14 12 37.5**	**-0.6**
ETRV	**Los Montesinos**	**1.99**	**85**	Pn	**Pn**	**14 12 36.0**	**-0.2**
ETRV				Pg	**Pg**	**14 12 39.0**	**+0.9**
ETRV				Sn	**Sn**	**14 13 01.2**	**+0.5**
ETRV				Sg	**Sg**	**14 13 05.1**	**-2.0**
ETRV				*i* Vmb_Lg		14 13 12.3	
EVIV	**Cofrentes, Val**	**2.19**	**50**	⇑Pn	**Pn**	**14 12 40.1**	**+1.2**
EVIV				Pg	**Pg**	**14 12 44.4**	**-0.7**
EVIV				Sn	**Sn**	**14 13 06.5**	**+0.8**
EVIV				Sg	**Sg**	**14 13 13.7**	**+0.3**
EVIV				*i* Vmb_Lg		14 13 17.0	
EJIF	**Jimena Fronter**	**2.26**	**232**	Pn	**Pn**	**14 12 40.8**	**+1.0**
EJIF				Pg	**Pg**	**14 12 45.4**	**-1.0**
EJIF				Sn	**Sn**	**14 13 08.1**	**+0.7**
EJIF				Sg	**Sg**	**14 13 14.6**	**-1.1**
ESPR	**Espera**	**2.29**	**245**	Pg	**Pg**	**14 12 48.2**	**+1.2**
ESPR				Pn	**Pb**	**14 12 42.8**	**-1.3**
ESPR	**Espera**	**2.29**	**245**	Pn	**Pn**	**14 12 40.9**	**+0.7**
ESPR				Pg	**Pg**	**14 12 46.0**	**-1.0**
ESPR				Sn	**Sn**	**14 13 09.2**	**+1.0**
ESPR				Sg	**Sg**	**14 13 17.5**	**+0.8**
ESPR				*i* Vmb_Lg		14 13 26.7	
AFON	**Font Roja**	**2.29**	**69**	Pn	**Pn**	**14 12 40.9**	**+0.5**
AFON				Pg	**Pb**	**14 12 45.3**	**+1.1**
AFON				Sn	**Sn**	**14 13 08.9**	**+0.6**
AFON				Sg	**Sg**	**14 13 17.3**	**+0.6**
AFON				*i* Vmb_Lg		14 13 22.7	
UCM	**Universidad Co**	**2.43**	**1**	Pg	**Pg**	**14 12 48.9**	**-0.7**
UCM				Pn	**Pn**	**14 12 43.5**	**+1.3**
UCM				Sg	**Sg**	**14 13 20.3**	**-0.8**
ECHE	**Chera**	**2.49**	**46**	Pg	**Pg**	**14 12 50.8**	**+0.1**
ECHE				Pn	**Pn**	**14 12 44.4**	**+1.4**
ECHE	**Chera**	**2.49**	**46**	Pn	**Pn**	**14 12 44.0**	**+1.0**
ECHE				Pg	**Pg**	**14 12 49.3**	**-1.4**
ECHE				Sn	**Sn**	**14 13 13.7**	**+0.6**
ECHE				Sg	**Sg**	**14 13 23.7**	**+0.7**
ECHE				*i* Vmb_Lg		14 13 26.9	
EBEN2	**Beniarda presa**	**2.56**	**71**	Pn	**Pn**	**14 12 44.7**	**+0.7**
EBEN2				Pg	**Pg**	**14 12 50.8**	**-1.3**
EBEN2				Sn	**Sn**	**14 13 14.9**	**+0.2**
EBEN2				Sg	**Sg**	**14 13 23.3**	**-1.9**
EBEN2				*i* Vmb_Lg		14 13 28.7	
EMEL	**Melilla**	**2.58**	**174**	Sn	**Sn**	**14 13 15.1**	**-0.3**
EMEL				*i* Vmb_Lg		14 13 18.9	
EMLI	**Melilla**	**2.58**	**174**	Sn	**Sn**	**14 13 16.5**	**+1.1**
CEU	**Ceuta**	**2.59**	**221**	Pn	**Pb**	**14 12 47.3**	**-1.9**
ECEU	**Ceuta**	**2.60**	**221**	Pn	**Pn**	**14 12 45.3**	**+0.8**
ECEU				Pg	**Pb**	**14 12 49.9**	**+0.6**
GOG	**Mont Gurugu**	**2.66**	**175**	P	**Pn**	**14 12 47.1**	**+1.7**
GOG	**Mont Gurugu**	**2.66**	**175**	S	**Sn**	**14 13 18.2**	**+0.8**
EMIN	**Mina Concepcio**	**2.69**	**269**	⇑Pn	**Pn**	**14 12 47.1**	**+1.3**
EMIN				Pg	**Pg**	**14 12 53.5**	**-1.2**
EMIN				Sn	**Sn**	**14 13 19.9**	**+1.8**
EMIN				Sg	**Sg**	**14 13 28.2**	**-1.4**
EMIN				*i* Vmb_Lg		14 13 31.0	
SMIR	**

PMRV				A	A	14 14 05.8
	330nm,0.4s					
JBK	**JBK**	**3.58 171**		P	**Pn**	**14 13 00.9 +2.7**
JBK				P	Pb	14 13 01.0 -5.2
JBK	**JBK**	**3.58 171**		S	**Sn**	**14 13 41.3 +1.0**
RSA	**Sarsar**	**3.62 215**		P	**Pb**	**14 13 04.7 -2.2**
RSA	**Sarsar**	**3.62 215**		S	**Sb**	**14 13 46.6 -4.1**
PBEJ	**Beja**	**3.63 274**		*e*Pn	**Pn**	**14 13 01.2 +2.5**
PBEJ				*e*Sn	**Sn**	**14 13 40.9 -0.4**
PBEJ				*e*Sg	**Sg**	**14 13 57.5 -2.2**
PBEJ				A	A	14 14 09.6
	98nm,0.3s					
PBDV	**Barranco-do-Ve**	**3.75 262**	⇑	*e*Pn	**Pn**	**14 13 01.7 +1.3**
PBDV				*e*Sn	**Sn**	**14 13 45.1 +0.8**
PBDV				*e*Sg	**Sg**	**14 14 03.3 -0.3**
PBDV				A	A	14 14 09.6
	142nm,0.7s					
PBDV	**Barranco-do-Ve**	**3.75 262**		Pn	**Pn**	**14 13 01.7 +1.3**
PBDV				Sn	**Sn**	**14 13 44.9 +0.5**
PCVE	**Castro Verde**	**3.78 268**		*e*Pn	**Pn**	**14 13 01.9 +1.1**
PCVE	**Castro Verde**	**3.78 268**		*e*Pg	**Pg**	**14 13 13.3 -2.3**
PCVE				*e*Sn	**Sn**	**14 13 44.6 -0.4**
PCVE				*e*Sg	**Sg**	**14 14 01.5 -3.1**
PCVE				A	A	14 14 07.7
	75nm,0.5s					
PCVE	**Castro Verde**	**3.78 268**		Pn	**Pn**	**14 13 02.1 +1.3**
PCVE				Sn	**Sn**	**14 13 44.9 -0.1**
EJUZ	**Juzbado, Salam**	**3.79 329**		Pn	**Pn**	**14 13 02.5 +1.5**
EJUZ				Pg	**Pb**	**14 13 12.1 +2.4**
EJUZ				Sn	**Sn**	**14 13 45.4 +0.1**
EJUZ				Sg	**Sg**	**14 14 02.6 -2.2**
EVO	**Evora**	**3.79 281**		*e*Pg	**Pg**	**14 13 13.8 -1.9**
EVO				*e*Sn	**Sn**	**14 13 46.4 +1.2**
EVO				*e*Sg	**Sg**	**14 14 02.3 -2.5**
EVO				A	A	14 14 08.7
	146nm,0.3s					
EVO	**Evora**	**3.79 281**		Pn	**Pn**	**14 13 03.8 +2.9**
EVO				Sn	**Sn**	**14 13 46.4 +1.2**
EIBI	**Ibiza**	**3.80 71**		Pn	**Pn**	**14 13 01.8 +0.7**
EIBI	**Ibiza**	**3.80 71**		Pn	**Pn**	**14 13 01.4 +0.3**
EIBI				Sn	**Sn**	**14 14 44.0 -1.5**
EIBI				*i* Vmb_Lg		14 13 52.5
PCBR	**Castelo Branco**	**3.82 302**		*e*Pn	**Pn**	**14 13 03.0 +1.7**
PCBR				*e*Sn	**Sn**	**14 13 47.9 +1.9**
PCBR				*e*Sg	**Sg**	**14 14 04.8 -1.0**
PCBR				A	A	14 14 14.2
	198nm,0.6s					
MESJ	**Messejana**	**3.91 271**		*e*Pn	**Pn**	**14 13 03.8 +1.2**
MESJ	**Messejana**	**3.91 271**		*e*Pg	**Pg**	**14 13 16.3 -1.7**
MESJ				*e*Sn	**Sn**	**14 13 48.7 +0.5**
MESJ				*e*Sg	**Sg**	**14 14 06.8 -2.0**
MESJ				A	A	14 14 15.5
	95nm,0.5s					
MESJ	**Messejana**	**3.91 271**		*e*P	**Pn**	**14 13 03.7 +1.2**
MESJ				*e*S	**Sn**	**14 13 46.8 -1.5**
MESJ				IAML		14 13 49.7
	comp=N,33nm,0.2s					
PMTG	**Montargil**	**4.06 289**		*e*Pn	**Pn**	**14 13 05.9 +1.3**
PMTG				*e*Sn	**Sn**	**14 13 52.0 +0.1**
PMTG				*e*Sg	**Sg**	**14 14 13.6 +0.1**
PMTG				A	A	14 14 22.3
	comp=N,200nm,0.6s					
ERTA	**Horta de San J**	**4.16 41**		Pn	**Pn**	**14 13 07.8 +1.8**
ERTA				Pg	**Pb**	**14 13 17.9 +2.0**
ERTA				Sn	**Sn**	**14 13 54.8 +0.5**
ERTA				Sg	**Sg**	**14 14 13.3 -3.2**
ERTA				*i* Vmb_Lg		14 14 20.3
PNCL	**Nicolau / Gran**	**4.16 275**		*e*Pn	**Pn**	**14 13 07.2 +1.4**
PNCL	**Nicolau / Gran**	**4.16 275**		*e*Pg	**Pg**	**14 13 20.6 -2.1**
PNCL				*e*Sn	**Sn**	**14 13 54.4 +0.2**
PNCL				*e*Sg	**Sg**	**14 14 13.2 -3.3**
PNCL				A	A	14 14 23.5
	comp=N,127nm,0.6s					
PNCL	**Nicolau / Gran**	**4.16 275**		Pn	**Pn**	**14 13 07.3 +1.4**
PNCL				Sn	**Sn**	**14 13 54.2 0.0**
MTE	**Manteigas**	**4.17 309**		*e*Pn	**Pn**	**14 13 08.3 +2.2**
MTE	**Manteigas**	**4.17 309**		*e*Pg	**Pg**	**14 13 22.8 -0.1**
MTE				*e*Sn	**Sn**	**14 13 55.7 +1.1**
MTE				*e*Sg	**Sg**	**14 14 16.5 -0.4**
MTE				A	A	14 14 29.6
	comp=N,274nm,0.7s					
MORF	**Marmelete**	**4.31 264**		*e*Pn	**Pn**	**14 13 09.1 +1.0**
MORF				*e*Sn	**Sn**	**14 13 58.6 +0.5**
MORF				*e*Sg	**Sg**	**14 14 21.5 +0.1**
MORF				A	A	14 14 27.7
	comp=N,64nm,0.3s					
MORF	**Marmelete**	**4.31 264**		*e*P	**Pn**	**14 13 09.1 +1.0**
PTEO	**Sao Teotonio**	**4.33 267**		*e*Pn	**Pn**	**14 13 09.8 +1.4**
PTEO				*e*Sn	**Sn**	**14 13 59.3 +0.7**
PTEO				*e*Sg	**Sg**	**14 14 19.1 -3.1**
PTEO				A	A	14 14 28.2
	comp=N,160nm,0.6s					
MVO	**Moncorvo**	**4.38 320**		*e*Pn	**Pn**	**14 13 10.8 +1.7**
MVO	**Moncorvo**	**4.38 320**		*e*Pg	**Pg**	**14 13 28.0 +1.0**
MVO				*e*Sn	**Sn**	**14 13 59.8 -0.1**
MVO				*e*Sg	**Sg**	**14 14 22.9 -0.9**
MVO				A	A	14 14 38.7
	comp=N,128nm,0.7s					
ESAC	**San Caprasio**	**4.41 28**		Pn	**Pn**	**14 13 10.6 +1.1**
ESAC				Pg	**Pg**	**14 13 24.3 -3.2**
ESAC				Sg	**Sg**	**14 14 20.1 -4.4**
ESAC				*i* Vmb_Lg		14 14 29.4
PACT	**Alcochete**	**4.46 283**		*e*Pn	**Pn**	**14 13 12.4 +2.3**
PACT				*e*Sn	**Sn**	**14 14 03.4 +1.7**
PACT				*e*Sg	**Sg**	**14 14 27.1 +0.8**
PACT				A	A	14 14 39.1
	comp=N,184nm,0.7s					
PFVI	**Vila Bisbo**	**4.48 262**		*e*Pn	**Pn**	**14 13 11.4 +1.1**
PFVI				*e*Sn	**Sn**	**14 14 02.0 -0.1**
PFVI				*e*Sg	**Sg**	**14 14 27.5 +0.7**
PFVI				A	A	14 14 37.8
	comp=N,69nm,0.6s					
PFVI	**Vila Bisbo**	**4.48 262**		Pn	**Pn**	**14 13 11.4 +1.1**
PFVI				Sn	**Sn**	**14 14 01.8 -0.3**
PFVI	**Vila Bisbo**	**4.48 262**		P	**Pn**	**14 13 12.1 +1.8**
PFVI	**Vila Bisbo**	**4.48 262**		S	**Sb**	**14 14 16.6 +1.5**
PVIS	**Viseu**	**4.57 310**		*e*Pn	**Pn**	**14 13 14.3 +2.6**
PVIS				*e*Sn	**Sn**	**14 14 05.3 +0.8**
PVIS				*e*Sg	**Sg**	**14 14 27.5 -2.2**
PVIS				A	A	14 14 39.1
	comp=N,97nm,0.4s					
IFR	**Ifrane**	**4.60 200**		Pn	**Pn**	**14 13 14.5 +2.3**
PCAS	**Casmilo, Conde**	**4.62 300**		*e*Pn	**Pn**	**14 13 14.0 +1.8**
PCAS				*e*Sn	**Sn**	**14 14 06.0 +0.5**
PCAS				*e*Sg	**Sg**	**14 14 30.6 -0.6**
PCAS				A	A	14 14 42.6
	comp=N,187nm,0.6s					
PSBE	**So Bento**	**4.62 292**		*e*Pn	**Pn**	**14 13 14.3 +2.0**
PSBE				*e*Sn	**Sn**	**14 14 06.5 +0.8**
PSBE				*e*Sg	**Sg**	**14 14 31.6 +0.3**
PSBE				A	A	14 14 40.2
	comp=N,196nm,0.6s					
COI	**Coimbra**	**4.63 302**		*e*Sn	**Sn**	**14 14 06.3 +0.5**
COI				*e*Sg	**Sg**	**14 14 30.6 -1.0**
PBRG	**Braganca**	**4.74 327**		*e*Pn	**Pn**	**14 13 16.8 +2.8**
PBRG	**Braganca**	**4.74 327**		*e*Pg	**Pg**	**14 13 34.7 +0.8**
PBRG				*e*Sg	**Sg**	**14 14 31.8 -3.5**
PBRG				A	A	14 14 40.6
	comp=N,55nm,0.4s					
PVRL	**Vila Real**	**4.83 316**		*e*Sn	**Sn**	**14 14 09.4 -1.4**
PVRL				*e*Sg	**Sg**	**14 14 37.8 -0.2**
PVRL				A	A	14 14 47.3
	comp=N,83nm,0.6s					
EPOB	**Poblet**	**4.83 43**		Pn	**Pn**	**14 13 16.5 +1.2**
EPOB				Pg	**Pb**	**14 13 30.2 +2.7**
EPOB				Sn	**Sn**	**14 14 09.7 -1.2**
EPOB				Sg	**Sg**	**14 14 36.7 -1.5**
EPOB				*i* Vmb_Lg		14 14 44.0
PMAFR	**Mafra**	**4.84 285**		*e*Pn	**Pn**	**14 13 17.4 +2.0**
PMAFR				*e*Sn	**Sn**	**14 14 11.1 0.0**
PMAFR				*e*Sg	**Sg**	**14 14 36.6 -1.8**
PMAFR				A	A	14 14 45.5
	comp=N,196nm,0.5s					
PMAFR	**Mafra**	**4.84 285**		Pn	**Pn**	**14 13 17.3 +2.0**
ECAL	**Calabor**	**4.85 328**		Pn	**Pn**	**14 13 18.0 +2.4**
ECAL	**Calabor**	**4.85 328**		Pn	**Pn**	**14 13 17.8 +2.3**
ECAL				Pg	**Pb**	**14 13 31.0 +3.2**
ECAL				Sn	**Sn**	**14 14 10.4 -1.2**
ECAL				Sg	**Sg**	**14 14 37.1 -1.8**
ECAL				*i* Vmb_Lg		14 14 44.4
ETOS	**Mallorca**	**5.12 66**		Pn	**Pn**	**14 13 20.9 +1.7**
ETOS				Sn	**Sn**	**14 14 15.3 -2.6**
ETOS	**Mallorca**	**5.12 66**		Pn	**Pn**	**14 13 19.7 +0.6**
ETOS				Sn	**Sn**	**14 14 15.4 -2.6**
ETOS				*i* Vmb_Lg		14 15 06.2
MD31	**MD31**	**5.14 194**		P	**Pn**	**14 13 22.0 +2.4**
MD31	**MD31**	**5.14 194**		S	**Sn**	**14 14 19.6 +0.9**
MDT	**Midelt**	**5.17 193**		P	**Pn**	**14 13 22.0 +2.1**
MDT	**Midelt**	**5.17 193**		S	**Sn**	**14 14 19.8 +0.5**
EORO	**Oroz-Betelu**	**5.23 16**		Sn	**Sn**	**14 14 19.2 -1.6**
EORO				Sg	**Sg**	**14 14 47.9 -3.0**
EORO				*i* Vmb_Lg		14 14 57.7
PTO	**Porto**	**5.25 310**		*e*Pn	**Pn**	**14 13 22.7 +1.8**
PTO				*e*Sn	**Sn**	**14 14 21.0 -0.2**
PTO				*e*Sg	**Sg**	**14 14 51.5 -0.1**
PCAB	**Cabril**	**5.30 318**		*e*Pn	**Pn**	**14 13 24.4 +2.8**
PCAB				*e*Sn	**Sn**	**14 14 20.8 -1.6**
PCAB				*e*Sg	**Sg**	**14 14 50.0 -3.0**
PCAB				A	A	14 15 01.4
	comp=N,69nm,0.4s					
ELAN	**Lanestosa**	**5.35 359**		Pn	**Pn**	**14 13 23.7 +1.3**
ELAN				Pg	**Pb**	**14 13 39.0 +2.7**
ELAN				Sn	**Sn**	**14 14 22.0 -1.7**
ELAN				Sg	**Sg**	**14 14 53.8 -1.0**
ELAN				*i* Vmb_Lg		14 15 08.6
ELOB	**Lobios**	**5.43 319**		Pn	**Pn**	**14 13 25.0 +1.6**
ELOB				Sn	**Sn**	**14 14 24.2 -1.4**
ELOB				Sg	**Sg**	**14 14 55.7 -1.5**
ELOB				*i* Vmb_Lg		14 15 08.7
ETSF	**Etsaut**	**5.43 22**		*e*Pn	**Pn**	**14 13 25.4 +1.9**
ETSF				*e*Sn	**Sn**	**14 14 24.3 -1.3**
ETSF				*e*Sg	**Sg**	**14 14 55.4 -1.8**
	comp=N,39nm,0.5s					
SJPF	**Ste Jean**	**5.46 16**		*e*Pn	**Pn**	**14 13 26.4 +2.6**
SJPF	**Ste Jean**	**5.46 16**		*e*P	Pn	14 13 28.7 +4.9
SJPF				*e*Sn	**Sn**	**14 14 23.7 -2.6**
SJPF				*e*Sg	**Sg**	**14 14 55.0 -3.2**
	comp=N,54nm,0.6s					
EMIR	**Miracle**	**5.47 41**		Pn	**Pn**	**14 13 25.2 +1.2**
EMIR				Sg	**Sg**	**14 14 56.5 -2.0**
EMIR				*i* Vmb_Lg		14 15 10.8
ECHI	**Chisagues Biel**	**5.47 28**		Pn	**Pn**	**14 13 25.2 +1.2**
ECHI				Sn	**Sn**	**14 14 27.7 +1.0**
ECHI				Sg	**Sg**	**14 14 57.5 -1.1**
ECHI				*i* Vmb_Lg		14 15 10.6
PGAV	**Gavieira, Arco**	**5.61 318**		*e*Pn	**Pn**	**14 13 27.6 +1.7**
PGAV				*e*Sn	**Sn**	**14 14 29.2 -0.9**
PGAV				*e*Sg	**Sg**	**14 14 59.6 -3.3**
PGAV				A	A	14 15 21.9
	comp=N,61nm,0.6s					
EARI	**Arriondas**	**5.62 345**		Pn	**Pn**	**14 13 27.4 +1.4**
EARI				Pg	**Pg**	**14 13 47.1 -3.5**
EARI				Sn	**Sn**	**14 14 28.9 -1.4**
EARI				Sg	**Sg**	**14 15 01.6 -1.6**
EARI				*i* Vmb_Lg		14 15 13.3
AVE	**Averroes**	**5.68 218**		Sn	**Sn**	**14 14 30.8 -0.9**
EPF	**Esparros**	**5.84 27**		*e*Pn	**Pn**	**14 13 29.4 +0.3**
EPF	**Esparros**	**5.84 27**		*e*P	**Pn**	**14 13 33.5 +4.4**
EPF				*e*Sn	**Sn**	**14 14 34.3 -1.5**
EPF				*e*Sg	**Sg**	**14 15 07.3 -3.1**
	comp=N,43nm,0.5s					
EAGO	**Agolada(Pontev**	**6.14 325**		Pn	**Pn**	**14 13 35.1 +1.9**
EAGO				Sn	**Sn**	**14 14 41.4 -1.8**
EAGO				Sg	**Sg**	**14 15 16.3 -3.8**
EAGO				*i* Vmb_Lg		14 15 42.4
MTLF	**Montolieu**	**6.87 36**		*e*Pn	**Pn**	**14 13 43.7 +0.5**
MTLF	**Montolieu**	**6.87 36**		*e*P	**Pn**	**14 13 47.9 +4.7**
MTLF	**Montolieu**	**6.87 36**		*e*Pg	**Pg**	**14 14 12.2 -2.4**
MTLF				*e*Sn	**Sn**	**14 14 57.8 -3.3**
MTLF				*e*Sg	**Sg**	**14 15 38.3 -5.2**
	comp=N,16nm,0.5s					
LFF	**La Frestale**	**7.67 22**		*e*Pn	**Pn**	**14 13 54.0 -0.2**
LFF	**La Frestale**	**7.67 22**		*e*P	**Pn**	**14 13 58.7 +4.5**
CAF	**Calviac**	**8.10 28**		*e*Pn	**Pn**	**14 14 01.6 +1.5**

*DJA **22** 14:24:33.6±0.9,3˚N±9˚×12˚6E±˚, h152km±7km, M4.6/12, mb4.6/10, mB5.3/4, MLv4.5/12, Mw(mB)4.7/4*
*IDC **22** 14:24:37.0±1.7, 3˚.29N×125˚.41E, h196km±17km, mb3.6/12, mbtmp4.2/14, Error ellipse: s-maj=41.0km s-min=8.9km az=71.0*
ISC 22 14:24:32.9±0.6, 3˚.46N±0˚.08×125˚.78E±0˚.10, h150km, n27, σ1§23/28, mb4.0/13, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.33**	**312**	P	**Pn**	**14 24 55.7**		**+2.1**
SGSI				S	**Sn**	**14 25 12.0**		**+2.7**
TNTI	**Ternate**	**3.11**	**149**	P	**Pn**	**14 25 22.1**		**+0.4**
KMSI	**Cibinong**	**3.38**	**212**	P	**Pn**	**14 25 25.8**		**+0.6**
DAV	**Davao City (W)**	**3.59**	**357**	P	Pn	14 25 36.7		+8.8
	166nm,0.3s,baz=266,slow=5.9,SNR=4.1							
DAV				S	Sn	14 26 21.6		+11
	136nm,0.3s,baz=339,slow=21,SNR=1.8							
GTOI	**Gorontalo**	**3.94**	**225**	P	**Pn**	**14 25 32.9**		**+0.5**
LBMI	**Labuha**	**4.42**	**157**	P	**Pn**	**14 25 38.8**		**0.0**
MRSI	**Marisa**	**4.85**	**232**	P	**Pn**	**14 25 45.0**		**+0.7**
LUWI	**Luwuk**	**5.39**	**214**	P	**Pn**	**14 25 52.3**		**+0.8**
	135nm,1.1s,2μm0.6nm							
NLAI	**Namlea**	**6.79**	**169**	P	**Pn**	**14 26 08.9**		**-1.3**
	132nm,0.6s,0.9nm							
TTSI	**Tana Toraja**	**8.79**	**223**	P	**Pn**	**14 26 37.2**		**+0.3**
	17nm,0.9s,1μm							
FAKI	**Fak Fak**	**9.06**	**134**	P	**Pn**	**14 26 41.9**		**+1.4**
	46nm,2.2s							
BBSI	**Bau Bau**	**9.45**	**200**	P	**Pn**	**14 26 46.1**		**+0.4**
	100nm,0.9s							
EDFI	**Ende, Flores**	**12.80**	**199**	P	**Pn**	**14 27 31.4**		**+1.7**
	8.9nm,0.9s							
BATI	**Baumata**	**13.74**	**189**	P	**Pn**	**14 27 42.5**		**+0.8**
	21nm,0.4s,baz=333,slow=5.5,SNR=5.4							
WRA	**Warramunga Arr**	**24.73**	**160**	P	**P**	**14 29 39.4**		**-1.2**
	2.4nm,0.5s,baz=339,slow=10,SNR=84							
	2.4nm,0.5s							
ASAR	**Alice Springs**	**28.10**	**164**	P	**P**	**14 30 09.9**		**-0.9**
	0.5nm,0.5s,baz=344,slow=6.9,SNR=33							
ASAR				PcP	**PcP**	**14 33 20.6**		**-1.0**
	0.3nm,0.4s,baz=343,slow=2.3,SNR=5.5							
	0.5nm,0.5s							
CTA	**Charters Tower**	**30.86**	**140**	P	**P**	**14 30 36.2**		**+1.0**
	4.5nm,0.9s,baz=270,slow=10,SNR=2.4							
	4.5nm,0.9s							
KSRS	**Korea Array**	**33.89**	**3**	P	**P**	**14 31 02.8**		**+1.4**
	1.0nm,0.4s,baz=180,slow=11,SNR=8.2							
	1.0nm,0.4s							
STKA	**Stephens Creek**	**38.23**	**158**	P	**P**	**14 31 38.3**		**-0.1**
	1.4nm,0.3s,baz=343,slow=7.9,SNR=13							
	1.4nm,0.3s							
HEH	**HeiHe**	**46.65**	**1**	*e*P	**P**	**14 32 46.9**		**+0.8**
HEH				pmax	pmax			
	comp=Z,5.0nm,0.7s							
HEH				LR	LR			
	comp=N,300nm,14.4s							
HEH				LR	LR			
	comp=E,260nm,13.5s							
HEH				LR	LR			
	comp=Z,200nm,15.1s							
SONM	**Songino Array**	**47.26**	**342**	P	**P**	**14 32 50.5**		**-0.6**
	comp=Z,0.8nm,0.9s,baz=158,slow=8.2,SNR=5.1							
	comp=Z,0.8nm,0.9s							
MKAR	**Makanchi Array**	**57.24**	**326**	P	**P**	**14 34 03.5**		**-1.1**
	comp=Z,0.9nm,0.4s,baz=119,slow=7.6,SNR=34							
	comp=Z,0.9nm,0.4s							
ZALV	**Zalesovo Beam**	**60.40**	**334**	P	**P**	**14 34 24.6**		**-1.6**
	comp=Z,0.5nm,0.3s,baz=111,slow=7.9,SNR=2.4							
	comp=Z,0.5nm,0.3s							
KURBB	**Kurchatov Arra**	**61.45**	**328**	P	**P**	**14 34 32.2**		**-1.2**
	comp=Z,1.9nm,0.5s,baz=130,slow=6.0,SNR=31							
	comp=Z,1.9nm,0.5s							
BVAR	**Borovoye Array**	**67.03**	**327**	P	**P**	**14 35 08.3**		**-1.4**
	comp=Z,0.5nm,0.4s,baz=133,slow=10,SNR=4.6							
	comp=Z,0.5nm,0.4s							
NRIK	**Noril'sk**	**70.46**	**347**	P	**P**	**14 35 30.8**		**+0.1**
	comp=Z,3.2nm,0.6s,baz=109,slow=5.4,SNR=4.2							
	comp=Z,3.2nm,0.6s							
FINES	**FINESS Array B**	**91.62**	**332**	P	**P**	**14 37 21.3**		**-1.4**
	comp=Z,1.0nm,0.7s,baz=66,slow=6.7,SNR=1.9							
	comp=Z,1.0nm,0.7s							

*IDC **22** 14:25:26.0±0.5, 27˚.84S×176˚.49W, h0km, mb4.5/15, mbtmp4.4/15, MS4.1/39, Error ellipse: s-maj=20.0km s-min=15.7km az=135.0*
*NEIC **22** 14:25:28.1±2.2, 28˚.01S±0˚.08×176˚.8W±0˚.2, h10km±1km, mb4.8/17, Error ellipse: s-maj=23.0km s-min=12.7km az=103.0*
*GCMT **22** 14:25:32.1±0.3, 27˚.95S±0˚.04×176˚.23W±0˚.02, h22km±1km, MW4.9/84, Moment Tensor Solution. s32,c37; s84,c114; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.58±.20; $M_{\theta\theta}$0.22±.13; $M_{\phi\phi}$-2.80±.13; $M_{r\theta}$0.48±.25; $M_{r\phi}$-0.13±.08; $M_{\theta\phi}$1.36±.16; Best double couple: M_o3.05800×10^{16} NP1:ϕs11.00000°,δ59.00000°,λ99.00000°. NP2: ϕs173.00000°,δ32.00000°,λ75.00000°. Principal axes: T 2.9750, Plg74.0000°, Azm305.0000°; N 0.1650, Plg8.0000°, Azm186.0000°; P -3.1410, Plg14.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 22 14:25:26.5±0.4, 28˚.11S±0˚.06×176˚.38W±0˚.07, h10km, n113, σ1§96/86, mb4.7/27, MS4.1/37, 1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.77**	**230**	P	**Pn**	**14 25 55.7**		**-1.5**
RAO	**Raoul Island**	**1.77**	**230**	P	**Pb**	**14 26 00.9**		**+1.9**
	695nm,0.3s,baz=74,slow=10,SNR=17							
RAO				Sn	**Sg**	**14 26 25.8**		**+2.5**
	1μm,0.3s,baz=65,slow=24,SNR=8.1							
GLKZ	**Green Lake**	**1.78**	**229**	P	**Pb**	**14 26 00.5**		**+1.4**
GLKZ				S	**Sg**	**14 26 27.0**		**+3.4**
WMGZ	**Waiomatatini S**	**10.62**	**203**	P	Pn	14 27 54.1		-4.6
WMGZ				S	**Sn**	**14 29 55.5**		**-2.2**
HAZ	**Te Kaha**	**10.79**	**206**	P	Pn	14 27 55.3		-5.7
HAZ				S	**Sn**	**14 29 59.4**		**-2.5**
PKGZ	**Pakihiroa**	**10.80**	**204**	P	Pn	14 27 56.8		-4.4
PKGZ				S	**Sn**	**14 29 58.4**		**-3.8**
PUZ	**Puketiti**	**10.90**	**203**	P	Pn	14 27 57.9		-4.6
PUZ				S	**Sn**	**14 30 02.6**		**-2.0**
RUGZ	**Raukumara Rang**	**11.02**	**205**	P	Pn	14 27 60.0		-4.2
OUZ	**Omahuta**	**11.09**	**228**	P	Pn	14 28 13.4		+8.2
CNGZ	**Carnagh Statio**	**11.29**	**202**	P	Pn	14 28 02.8		-5.0
CNGZ				S	Sn	14 30 09.6		-4.4
MWZ	**Matawai**	**11.40**	**205**	P	Pn	14 28 04.3		-5.1
MWZ				S	Sn	14 30 12.1		-4.6
URZ	**Urewera**	**11.49**	**207**	Pn	Pn	14 28 06.0		-4.6
	1.0nm,0.3s,baz=7.0,slow=3.5,SNR=13							
URZ				Sn	**Sn**	**14 30 15.2**		**-3.8**
	6.2nm,0.3s,baz=304,slow=23,SNR=13							
URZ				LR	LR	14 32 35.9		
	comp=Z,734nm,20.1s,baz=114,slow=37							
URZ	**Urewera**	**11.49**	**207**	P	Pn	14 28 05.9		-4.7
URZ				S	**Sn**	**14 30 14.6**		**-4.4**
MSVF	**Nonsavu**	**11.53**	**332**		**Pn**	**14 28 11.3**		**0.0**
RAGZ	**Rawiri**	**11.58**	**205**	P	Pn	14 28 06.8		-5.1
RAGZ				S	Sn	14 30 16.3		-5.0
RTZ	**Ruatahuna**	**11.85**	**206**	Pn	Pn	14 28 10.1		-5.5
BFZ	**Birch Farm**	**13.93**	**204**	Pn	Pn	14 28 48.7		-3.2
AFI	**Afiamalu**	**14.77**	**18**	Pn	Pn	14 28 48.7		-6.8
BSWZ	**Blackbirch Sta**	**15.73**	**208**	P	**Pn**	**14 29 08.7**		**+0.6**
BSWZ				S	Sn	14 31 49.9		-13
THZ	**Tophouse**	**16.19**	**210**	P	**Pn**	**14 29 12.4**		**-1.7**
THZ				S	Sn	14 32 00.4		-13
KHZ	**Kahutara**	**16.46**	**207**	P	Pn	14 29 10.0		-7.4
KHZ				S	Sn	14 32 04.2		-16
RAR	**Rarotonga**	**16.57**	**69**	Pn	**Pn**	**14 29 13.6**		**-5.4**
	3.0nm,0.3s,baz=268,slow=11,SNR=8.9							
RAR				Sn	Sn	14 32 02.0		-21
	1.2nm,0.3s,baz=83,slow=19,SNR=2.6							
RAR				LR	LR	14 34 38.1		
	comp=Z,351nm,20.2s,baz=243,slow=33							
DZM	**Mont Dzumac**	**16.68**	**287**	Pn	**P**	**14 29 26.9**		**+4.0**
	0.4nm,0.3s,baz=115,slow=9.4,SNR=3.8							
DZM				LR	LR	14 34 43.2		
	comp=Z,2μm,18.4s,baz=132,slow=34							
GVZ	**Greta Valley S**	**17.12**	**207**	P	**Pn**	**14 29 21.9**		**-3.9**
GVZ				S	Sn	14 32 20.4		-16
LTZ	**Lake Taylor**	**17.29**	**209**	P	**Pn**	**14 29 23.6**		**-4.3**
LTZ				S	Sn	14 32 24.9		-15
INZ	**Inchbonnie**	**17.61**	**211**	P	**Pn**	**14 29 30.2**		**-1.7**
INZ				S	Sn	14 32 35.9		-12
OXZ	**Oxford**	**17.83**	**209**	P	**Pn**	**14 29 31.2**		**-3.4**
OXZ				S	Sn	14 32 34.4		-19
MHCZ	**Mount Hutt**	**18.20**	**209**	P	**Pn**	**14 29 38.1**		**-1.1**
MHCZ				S	Sn	14 32 45.4		-17
WVZ	**Waitaha Valley**	**18.21**	**212**	P	**Pn**	**14 29 38.4**		**-0.8**
RPZ	**Rata Peaks**	**18.57**	**210**	P	**P**	**14 29 43.6**		**+0.1**
ARCZ	**Arundel**	**18.70**	**209**	P	**P**	**14 29 44.5**		**-0.4**
ARCZ				S	Sn	14 32 57.1		-17
KOUNC	**Koumac, New Ca**	**19.15**	**289**	P	**P**	**14 29 46.3**		**-3.7**
KOUNC				IAmb	IAmb	14 29 56.5		
	comp=Z,68nm,1.1s							
ODZ	**Otahua Downs**	**19.81**	**208**	P	**P**	**14 29 56.1**	

h15km±3km,**n230**,σ1§**53**/411,**mb3.5**/7,**MS3.5**/11,**69C-37D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time h m s	Res	ISC
CHN5	**Tsauling**	**0.07**	**93**	⇓*i*P		**Pg**	**14 27 53.4**	**-2.6**	
baz=85									
CHN5				*i* S		**Sg**	**14 27 55.0**	**-3.0**	
baz=85									
WGK	**Gukeng**	**0.09**	**335**	⇑*i*P		**Pg**	**14 27 54.6**	**-1.6**	
baz=333									
WGK				*i* S		**Sg**	**14 27 56.9**	**-1.4**	
baz=333									
WDLH	**Douliu**	**0.11**	**325**	⇓P		**Pg**	**14 27 54.8**	**-1.5**	
baz=320									
WDLH				S		**Sg**	**14 27 57.7**	**-0.8**	
baz=320									
CHN2	**Minshiung**	**0.14**	**240**	*i* P		**Pg**	**14 27 55.5**	**-1.2**	
baz=246									
CHN2				*i* S		**Sg**	**14 27 58.9**	**-0.2**	
baz=246									
WCKO	**Fanlu**	**0.16**	**180**	⇑P		**Pg**	**14 27 55.3**	**-1.8**	
baz=186									
WCKO				S		**Sg**	**14 27 58.2**	**-1.5**	
baz=186									
CHY	**Chiayi**	**0.20**	**238**	P		**Pg**	**14 27 56.6**	**-1.0**	
baz=242									
CHY				S		**Sg**	**14 28 00.5**	**-0.1**	
baz=242									
ALS	**Alishan**	**0.20**	**116**	⇓*i*P		**Pg**	**14 27 56.4**	**-1.6**	
baz=116									
ALS				*i* S		**Sg**	**14 28 01.1**	**-0.1**	
baz=116									
WTK	**Tuku**	**0.22**	**294**	⇓*i*P		**Pg**	**14 27 56.9**	**-1.0**	
baz=294									
WTK				S		**Sg**	**14 28 01.6**	**+0.4**	
baz=294									
WHYT	**Xinyi Township**	**0.25**	**67**	⇑P		**Pg**	**14 27 57.0**	**-1.5**	
baz=72									
WHYT				S		**Sg**	**14 28 01.1**	**-1.0**	
baz=72									
WJS	**Zhushan**	**0.25**	**27**	⇑P		**Pg**	**14 27 57.5**	**-1.0**	
baz=8.0									
WJS				S		**Sg**	**14 28 02.5**	**+0.4**	
baz=8.0									
CHN4	**Tsaushan**	**0.25**	**183**	⇑*i*P		**Pg**	**14 27 57.2**	**-1.3**	
baz=188									
CHN4				S		**Sg**	**14 28 02.5**	**+0.4**	
baz=188									
WNT	**Mingjian**	**0.29**	**15**	⇑*i*P		**Pb**	**14 27 58.4**	**-1.4**	
baz=11									
WNT				*i* S		**Sb**	**14 28 03.7**	**-0.8**	
baz=11									
TPUB	**Ta-pu**	**0.30**	**176**	⇑P		**Pb**	**14 27 58.1**	**-2.0**	
baz=179									
TPUB				S		**Sb**	**14 28 03.1**	**-1.7**	
baz=179									
WNT1	**Nantou City**	**0.31**	**13**	P		**Pb**	**14 27 58.9**	**-1.4**	
baz=8.0									
WNT1				*e*S		**Sb**	**14 28 04.8**	**-0.5**	
baz=8.0									
TWK	**Hsinying**	**0.35**	**198**	⇑*i*P		**Pb**	**14 27 59.2**	**-1.7**	
baz=200									
TWK				*i* S		**Sb**	**14 28 06.1**	**-0.2**	
baz=200									
WSF	**Szhu**	**0.35**	**276**	⇓*i*P		**Pb**	**14 27 59.3**	**-1.7**	
baz=277									
WSF				*i* S		**Sb**	**14 28 05.8**	**-0.6**	
baz=277									
WTP	**Ta-pu**	**0.35**	**179**	⇑*i*P		**Pb**	**14 27 59.1**	**-1.9**	
baz=182									
WTP				*i* S		**Sb**	**14 28 05.2**	**-1.2**	
baz=182									
WSL	**Shuilin Townsh**	**0.35**	**257**	⇓P		**Pb**	**14 27 59.6**	**-1.4**	
baz=259									
WSL				S		**Sb**	**14 28 06.4**	**-0.1**	
baz=259									
WYL	**Yuanlin Townsh**	**0.36**	**356**	P		**Pb**	**14 27 59.8**	**-1.3**	
baz=353									
WYL				S		**Sb**	**14 28 06.2**	**-0.4**	
baz=353									
WRL	**Guolierlin Hig**	**0.36**	**325**	P		**Pb**	**14 27 59.8**	**-1.4**	
baz=324									
WRL				S		**Sb**	**14 28 06.4**	**-0.4**	
baz=324									
RLNB	**Erlin**	**0.37**	**322**	⇓P		**Pb**	**14 27 59.8**	**-1.5**	
baz=321									
RLNB				*i* S		**Sb**	**14 28 06.1**	**-0.7**	
baz=321									
SSLB	**Suanglung**	**0.37**	**60**	P		**Pb**	**14 27 59.4**	**-1.9**	
SSLB	**Suanglung**	**0.37**	**60**	⇑P		**Pb**	**14 27 59.4**	**-1.9**	
baz=57									
SSLB				S		**Sb**	**14 28 05.1**	**-1.9**	
baz=57									
TYC	**Yuchr**	**0.38**	**37**	⇑*i*P		**Pb**	**14 28 00.0**	**-1.4**	
baz=33									
TYC				*i* S		**Sb**	**14 28 06.5**	**-0.6**	
baz=33									
ICHU	**Yijhu**	**0.38**	**231**	⇑P		**Pb**	**14 28 00.2**	**-1.3**	
baz=235									
ICHU				S		**Sb**	**14 28 07.3**	**+0.1**	
baz=235									
SMLT	**Sun Moon Lake**	**0.39**	**44**	⇑*i*P		**Pb**	**14 28 00.2**	**-1.5**	
baz=40									
SMLT				S		**Sb**	**14 28 07.6**	**0.0**	
baz=40									
SNST	**Tainan City**	**0.39**	**195**	⇑P		**Pb**	**14 27 59.9**	**-1.8**	
baz=199									
SNST				S		**Sb**	**14 28 06.8**	**-0.7**	
baz=199									
WTCT	**Ta-ch'eng**	**0.40**	**312**	⇓*i*P		**Pb**	**14 28 00.1**	**-1.6**	
baz=312									
WTCT				*i* S		**Sb**	**14 28 07.2**	**-0.4**	
baz=312									
WMLT	**Mailiao**	**0.41**	**300**	P		**Pb**	**14 28 00.4**	**-1.5**	
baz=300									
WMLT				S		**Sb**	**14 28 07.5**	**-0.3**	
baz=300									
CHN1	**Nanshi**	**0.42**	**190**	⇑*i*P		**Pb**	**14 28 00.3**	**-1.8**	
baz=194									
CHN1				*i* S		**Sb**	**14 28 07.6**	**-0.8**	
baz=194									
CHN8	**Yiju**	**0.44**	**235**	⇑*i*P		**Pb**	**14 28 01.1**	**-1.4**	
baz=238									
CHN8				*i* S		**Sb**	**14 28 09.0**	**+0.1**	
baz=238									
WWF	**Wufeng**	**0.45**	**11**	⇑P		**Pb**	**14 28 01.6**	**-1.1**	
baz=6.0									
WWF				S		**Sb**	**14 28 08.9**	**-0.2**	
baz=6.0									
STYH	**Taoyuan**	**0.46**	**160**	⇑P		**Pb**	**14 28 00.8**	**-1.9**	
baz=153									
STYH				S		**Sb**	**14 28 07.7**	**-1.7**	
baz=153									
STYT	**Tauyuan**	**0.46**	**162**	⇑*i*P		**Pb**	**14 28 01.1**	**-1.7**	
baz=165									
STYT				*i* S		**Sb**	**14 28 08.1**	**-1.3**	
baz=165									
WCHH	**Zhanghua**	**0.48**	**355**	⇑P		**Pb**	**14 28 02.1**	**-1.1**	
baz=352									
WCHH				S		**Sb**	**14 28 09.9**	**-0.2**	
baz=352									
VWDT	**VWDT**	**0.52**	**73**	⇓P		**Pb**	**14 28 02.5**	**-1.2**	
baz=78									
VWDT				S		**Sb**	**14 28 09.9**	**-1.2**	
baz=78									
SGST	**Jiashian**	**0.52**	**182**	⇑*i*P		**Pg**	**14 28 01.3**	**-2.0**	
baz=186									
SGST				*i* S		**Sb**	**14 28 09.8**	**-1.3**	
baz=186									
WPL	**Puli Township**	**0.52**	**38**	P		**Pb**	**14 28 02.2**	**-1.7**	
baz=33									
WPL				*e*S		**Sb**	**14 28 10.8**	**-0.5**	
baz=33									
DPDB	**Guoxing**	**0.52**	**34**	P		**Pb**	**14 28 02.4**	**-1.5**	
baz=29									
DPDB				S		**Sb**	**14 28 10.8**	**-0.6**	
baz=29									
WCS	**Beigang Elemen**	**0.53**	**32**	⇑P		**Pb**	**14 28 02.6**	**-1.5**	
baz=27									
WCS				S		**Sb**	**14 28 11.0**	**-0.7**	
baz=27									
SSHA	**Shanhua**	**0.55**	**212**	P		**Pb**	**14 28 03.4**	**-0.9**	
baz=217									
SSHA				S		**Sn**	**14 28 13.4**	**-1.8**	
baz=217									
TCU	**Taichung**	**0.55**	**7**	⇑*i*P		**Pb**	**14 28 03.3**	**-1.0**	
baz=3.0									
TCU				*e*S		**Sb**	**14 28 12.1**	**+0.1**	
baz=3.0									
ELDTW	**Lidau**	**0.56**	**137**	⇓*i*P		**Pb**	**14 28 02.8**	**-1.8**	
baz=133									
ELDTW				S		**Sb**	**14 28 11.5**	**-0.9**	
baz=133									
CHN3	**Shinhua**	**0.57**	**203**	⇑*i*P		**Pb**	**14 28 04.0**	**-0.6**	
baz=219									
CHN3				*i* S		**Sn**	**14 28 14.0**	**-1.7**	
baz=219									
SCLT	**Jiali**	**0.57**	**222**	*i* P		**Pb**	**14 28 03.6**	**-1.1**	
baz=225									
SCLT				*i* S		**Sn**	**14 28 14.0**	**-1.7**	
baz=225									
SLGT	**Liugui**	**0.60**	**176**	⇑P		**Pb**	**14 28 03.8**	**-1.5**	
baz=180									
SLGT				S		**Sb**	**14 28 13.4**	**-0.3**	
baz=180									
WUSB	**Renai**	**0.61**	**50**	⇑P		**Pb**	**14 28 03.8**	**-1.7**	
baz=47									
WUSB				S		**Sb**	**14 28 12.3**	**-1.6**	
baz=47									
SHHT	**Tainan City**	**0.62**	**202**	⇑P		**Pb**	**14 28 05.2**	**-0.4**	
baz=218									
SHHT				S		**Sn**	**14 28 15.6**	**-1.5**	
baz=218									
OWD	**Renai**	**0.63**	**56**	⇑P		**Pb**	**14 28 04.4**	**-1.4**	
baz=53									
OWD				S		**Sb**	**14 28 13.2**	**-1.3**	
baz=53									
TAI1	**Yung-k'ang**	**0.66**	**212**	*i* P		**Pn**	**14 28 05.9**	**-1.8**	
baz=215									
TAI1				*i* S		**Sn**	**14 28 17.3**	**-0.5**	
baz=215									
TSCK	**Chigu Township**	**0.66**	**227**	P		**Pb**	**14 28 04.6**	**-1.6**	
baz=244									
TSCK				S		**Sn**	**14 28 15.9**	**-1.9**	
baz=244									
EHY	**Hungye**	**0.67**	**98**	⇓*i*P		**Pb**	**14 28 04.9**	**-1.4**	
baz=102									
EHY				*i* S		**Sb**	**14 28 14.8**	**-0.5**	
baz=102									
YULB	**Yu-li**	**0.67**	**108**	P		**Pb**	**14 28 04.7**	**-1.7**	
YULB	**Yu-li**	**0.67**	**108**	⇓P		**Pb**	**14 28 04.8**	**-1.7**	
baz=108									
YULB				S		**Sb**	**14 28 14.5**	**-1.0**	
baz=108									
TWF1	**Yuli**	**0.68**	**111**	⇓*i*P		**Pb**	**14 28 05.2**	**-1.4**	
baz=111									
TWF1				*i* S		**Sb**	**14 28 15.1**	**-0.8**	
baz=111									
EHYH	**Wanrong**	**0.69**	**99**	P		**Pb**	**14 28 05.3**	**-1.4**	
baz=103									
EHYH				S		**Sb**	**14 28 15.8**	**-0.2**	
baz=103									
CHGB	**Renai**	**0.69**	**49**	⇑P		**Pb**	**14 28 05.3**	**-1.6**	
baz=45									
CHGB				S		**Sb**	**14 28 15.3**	**-1.1**	
baz=45									
EYUL	**Yuli**	**0.70**	**111**	⇓P		**Pb**	**14 28 05.5**	**-1.4**	
baz=118									
EYUL				S		**Sb**	**14 28 15.4**	**-1.0**	
baz=118									
TAI	**Tainan**	**0.71**	**212**	P		**Pn**	**14 28 06.8**	**-1.7**	
baz=229									
TAI				S		**Sn**	**14 28 19.0**	**-0.1**	
baz=229									
EHD	**Haiduan**	**0.71**	**129**	⇓P		**Pb**	**14 28 05.7**	**-1.4**	
baz=130									
EHD				S		**Sb**	**14 28 16.2**	**-0.6**	
baz=130									
SCST	**Cishan**	**0.72**	**188**	⇑P		**Pb**	**14 28 06.5**	**-0.7**	
baz=190									
SCST				S		**Sn**	**14 28 18.4**	**-1.0**	
baz=190									
WARBT	**Fenglin Townsh**	**0.73**	**81**	⇓P		**Pb**	**14 28 06.0**	**-1.3**	
baz=88									
WARBT				S		**Sb**	**14 28 15.9**	**-1.2**	
baz=88									
WHP	**Taichung City**	**0.74**	**25**	⇑P		**Pb**	**14 28 06.6**	**-1.1**	
baz=21									
WHP				S		**Sn**	**14 28 18.6**	**-1.5**	
baz=21									
WDJ	**Dajia District**	**0.74**	**2**	⇑P		**Pb**	**14 28 07.2**	**-0.5**	
baz=360									
WDJ				S		**Sb**	**14 28 18.2**	**+0.5**	
baz=360									
FULB	**Fuli**	**0.75**	**122**	⇓P		**Pb**	**14 28 07.0**	**-0.8**	
baz=122									
FULB				S		**Sn**	**14 28 18.2**	**-2.0**	
baz=122									
ECS	**Chishang**	**0.76**	**132**	⇓P		**Pb**	**14 28 06.8**	**-1.1**	
baz=132									
ECS				S		**Sn**	**14 28 18.1**	**-2.2**	
baz=132									
EGFH	**Guangfu**	**0.76**	**85**	⇓P		**Pb**	**14 28 06.6**	**-1.3**	
baz=82									
EGFH				S		**Sb**	**14 28 16.6**	**-1.4**	
baz=82									
HGSD	**Ruisui**	**0.76**	**98**	⇓P		**Pb**	**14 28 07.1**	**-0.8**	
baz=97									
HGSD				S		**Sn**	**14 28 18.6**	**-1.9**	
baz=97									
TWQ1	**Liyutan**	**0.76**	**12**	⇑*i*P		**Pb**	**14 28 07.2**	**-0.7**	
baz=9.0									
TWQ1				*i* S		**Sn**	**14 28 18.9**	**-1.6**	
baz=9.0									
ESL	**Shilin**	**0.79**	**74**	⇓*i*P		**Pb**	**14 28 07.4**	**-1.1**	
baz=72									
ESL				*i* S		**Sb**	**14 28 17.9**	**-1.0**	
baz=72									
TWM1	**Shoushan**	**0.79**	**192**	⇑*i*P		**Pn**	**14 28 08.9**	**-0.8**	
baz=179									
TWM1				*e*S		**Sn**	**14 28 22.7**	**+1.4**	
baz=179									
WHF	**Hehuan Shan**	**0.81**	**48**	⇑*i*P		**Pb**	**14 28 07.8**	**-1.3**	
baz=45									
WHF				*i* S		**Sb**	**14 28 19.3**	**-0.7**	
baz=45									
NSY	**Sanyi**	**0.82**	**10**	⇑*i*P		**Pn**	**14 28 08.6**	**-1.6**	
baz=7.0									
NSY				*i* S		**Sn**	**14 28 20.9**	**-1.2**	
baz=7.0									
TDCB	**Techi**	**0.82**	**38**	⇑P		**Pb**	**14 28 07.4**	**-1.7**	
baz=34									
TDCB				S		**Sb**	**14 28 19.2**	**-1.0**	
baz=34									
ECBN	**Changbin**	**0.83**	**110**	⇓P		**Pn**	**14 28 09.0**	**-1.1**	
baz=109									
ECBN				*e*S		**Sn**	**14 28 21.5**	**-0.6**	
baz=109									
CHKH	**Chenggong**	**0.83**	**119**	⇓P		**Pn**	**14 28 08.5**	**-1.7**	
baz=127									
CHKH				S		**Sn**	**14 28 21.3**	**-0.9**	
baz=127									
TWT	**Tachien**	**0.83**	**39**	⇑*i*P		**Pg**	**14 28 07.5**	**-1.8**	
baz=35									
TWT				*i* S		**Sb**	**14 28 19.4**	**-1.0**	
baz=35									
LONT	**Longtian**	**0.84**	**145**	⇓P		**Pb**	**14 28 08.1**	**-1.3**	
baz=147									
LONT				S		**Sb**	**14 28 19.9**	**-0.6**	
baz=147									
LXIB	**Xiulin Townshi**	**0.85**	**60**	⇑P		**Pb**	**14 28 08.2**	**-1.4**	
baz=43									
LXIB				S		**Sb**	**14 28 19.8**	**-1.1**	
baz=43									
SSD	**Sandimen**	**0.85**	**178**	⇑*i*P		**Pb**	**14 28 08.5**	**-1.0**	
baz=167									
SSD				S		**Sn**	**14 28 21.5**	**-1.2**	
baz=167									
CHKT	**Chengkung**	**0.86**	**125**	⇓*i*P		**Pb**	**14 28 09.3**	**-1.3**	
baz=133									
CHKT				S		**Sn**	**14 28 22.3**	**-0.5**	
baz=133									
FUSS	**Fushou**	**0.87**	**42**	⇑P		**Pb**	**14 28 08.2**	**-1.8**	
baz=38									
FUSS				S		**Sb**	**14 28 21.3**	**-0.2**	
baz=38									
SGLT	**Jiouru**	**0.88**	**187**	⇑*i*P		**Pn**	**14 28 10.1**	**-0.7**	
baz=190									
SGLT				S		**Sn**	**14 28 24.9**	**+1.6**	
baz=190									
SNJT	**Kaohsiung City**	**0.88**	**196**	⇑P		**Pn**	**14 28 09.7**	**-1.2**	
baz=201									
SNJT				S		**Sn**	**14 28 24.9**	**+1.6**	
baz=201									
TWG	**Pinlang**	**0.89**	**151**	⇓*i*P		**Pb**	**14 28 09.0**	**-1.2**	
baz=153									

BJI ***22*** *14:27:50.2±0.0,23.˙59N×120.˙66E,h8km,mb4.1/13, mB4.5/9,ML4.5/9,Ms4.3/12,Ms7 3.8/12*

IDC ***22*** *14:27:50.6±1.1,23.˙43N×120.˙78E,h0km,mb3.6/7, mbtmp3.7/9,ML4.2/2,MS3.3/12,Error ellipse: s-maj=26.0km s-min=21.0km az=63.0*

JMA ***22*** *14:27:51.1±0.2,23.˙6N±0.˙2×120.˙6E±0.˙5,h1km±1km, MV4.5/18,TAIWAN REGION*

ASIES ***22*** *14:27:51.2,23.˙59N×120.˙62E,h8km,ML4.7,Mw4.1, Moment Tensor Solution. Moment tensor: Scale 1022Nm; Mrr0.63; Mθθ 1.27; Mϕϕ-0.84; Mrθ0.54; Mθϕ-0.87; Mϕr-0.30; Fault plane solution: M0 1.57841×1022 NP1: ϕs157.77000°,δ74.39000°,λ21.58000°. NP2:ϕs61.70000°, δ69.25000°,λ163.28000°. Principal axes: T Plg26.1520°, Azm20.6770°; N Plg63.5860°, Azm191.9940°; P Plg3.4560°, Azm288.9780°;*

TAP ***22*** *14:27:51.2,23.˙59N×120.˙62E,h8km,ML4.7,B*

NIED ***22*** *14:27:51.1,23.˙62N×120.˙60E,h1km,MW4.3,Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr-1.28; Mθθ2.31; Mϕϕ-1.04; Mrθ2.43; Mθϕ-0.90; Mϕr0.22; Fault plane solution: M03.19000×1015 NP1: ϕs262.00000°,δ74.00000°,λ-113.00000°. NP2: ϕs139.00000°,δ28.00000°,λ-36.00000°.*

ISC 22 14:27:53.0±0.6,**23.˙600N**±0.˙010×**120.˙61E**±0.˙01,

TWG *i* S **Sn** **14 28 21.9 -1.6**
baz=153
ETM **Tongmen** **0.89 66** ⇑P **Pb** **14 28 08.9 -1.3**
baz=63
ETM S **Sb** **14 28 21.0 -0.9**
baz=63
TSMG **Majia** **0.89 178** ⇑P **Pb** **14 28 09.1 -1.1**
baz=167
TSMG S **Sb** **14 28 21.7 -0.2**
baz=167
TWGBT **Beinan** **0.89 151** P **Pb** **14 28 09.0 -1.2**
TWGBT **Beinan** **0.89 151** ⇓P **Pb** **14 28 08.9 -1.2**
baz=153
TWGBT S **Sb** **14 28 21.4 -0.5**
baz=153
SHUL **Shoufeng** **0.90 78** ⇓P **Pn** **14 28 09.7 -1.4**
baz=75
SHUL S **Sb** **14 28 21.9 -0.2**
baz=75
TSPT **Pingtung City** **0.93 186** P **Pn** **14 28 10.9 -0.5**
baz=177
TSPT *e*S **Sn** **14 28 26.6 +2.1**
baz=177
WDGT **Dungji** **0.93 249** ⇓*i*P **Pg** **14 28 09.0 -2.0**
baz=250
WDGT *i* S **Sg** **14 28 21.8 -1.4**
baz=250
NMLH **Miaoli** **0.95 10** ⇑P **Pn** **14 28 10.4 -1.4**
baz=7.0
NMLH S **Sn** **14 28 23.9 -1.2**
baz=7.0
PHUB **P'eng-hu** **0.95 265** ⇓P **Pg** **14 28 09.0 -2.4**
baz=266
PHUB S **Sg** **14 28 22.1 -1.8**
baz=266
PNG **Penghu** **0.96 268** ⇓*i*P **Pg** **14 28 09.3 -2.4**
baz=269
PNG *i* S **Sg** **14 28 22.6 -1.7**
baz=269
TTN **Taitung** **0.98 149** *i* P **Pn** **14 28 11.6 -0.6**
baz=151
TTN *i* S **Sn** **14 28 26.8 +1.0**
baz=151
MASBT **Mashibuluo** **0.98 179** ⇑P **Pb** **14 28 10.7 -1.1**
baz=169
MASBT S **Sn** **14 28 24.6 -1.4**
baz=169
HWA **Hwalien** **0.99 68** ⇑*i*P **Pn** **14 28 11.3 -1.1**
baz=65
HWA *i* S **Sn** **14 28 25.2 -0.9**
baz=65
ETLH **Xiulin Townshi** **1.00 53** P **Pb** **14 28 10.8 -1.4**
baz=40
ETLH S **Sn** **14 28 26.0 -0.6**
baz=40
WSSB **Gushan** **1.00 198** ⇓P **Pn** **14 28 12.1 -0.6**
baz=222
WSSB S **Sn** **14 28 28.3 +1.8**
baz=222
TWD **Chiawan** **1.02 62** ⇓*i*P **Pb** **14 28 11.3 -1.1**
baz=59
TWD *i* S **Sb** **14 28 25.1 -0.7**
baz=59
ECL **Taimali** **1.05 162** ⇓*i*P **Pn** **14 28 11.8 -1.3**
baz=152
ECL S **Sn** **14 28 26.6 -0.9**
baz=152
KAU **Kaohsiung** **1.06 195** *i* P **Pn** **14 28 12.8 -0.6**
baz=199
KAU S **Sn** **14 28 30.3 +2.4**
baz=199
NACB **Ninganchiao** **1.07 58** P **Pb** **14 28 12.0 -1.2**
NACB **Ninganchiao** **1.07 58** ⇑P **Pg** **14 28 11.5 -2.2**
baz=54
NACB S **Sb** **14 28 25.9 -1.2**
baz=54
ETL **Fush Village** **1.08 59** P **Pb** **14 28 12.1 -1.4**
baz=55
ETL S **Sb** **14 28 26.7 -0.8**
baz=55
NSTT **Nanjuang** **1.09 19** ⇑*i*P **Pb** **14 28 12.4 -1.1**
baz=16
NSTT *i* S **Sn** **14 28 28.2 -0.4**
baz=16
NNSB **Datong** **1.09 41** ⇑P **Pg** **14 28 11.9 -2.2**
baz=37
NNSB *e*S **Sn** **14 28 28.2 -0.6**
baz=37
NNSH **Datong** **1.09 41** P **Pg** **14 28 12.1 -1.9**
baz=24
NNSH *e*S **Sb** **14 28 26.9 -0.9**
baz=24
NNS **Nan Shan** **1.09 40** ⇑*i*P **Pg** **14 28 12.1 -2.1**
baz=22
NNS *i* S **Sb** **14 28 27.1 -0.7**
baz=22
NJN **Zhunan** **1.10 13** P **Pb** **14 28 12.8 -1.1**
baz=9.0
NJN S **Sn** **14 28 28.8 -0.1**
baz=9.0
NFF **Wufeng Townshi** **1.13 24** ⇑P **Pb** **14 28 13.0 -1.3**
baz=20
NFF S **Sb** **14 28 28.0 -0.9**
baz=20
VCHM **Qimei** **1.15 250** ⇓P **Pg** **14 28 12.3 -2.8**
baz=252
VCHM S **Sg** **14 28 28.0 -2.1**
baz=252
NJD **Zhudong** **1.21 21** P **Pn** **14 28 14.7 -0.7**
baz=17
NJD S **Sn** **14 28 32.2 +0.5**
baz=17
LDUT **Ludao** **1.22 139** P **Pn** **14 28 14.5 -1.0**
baz=140
LDUT S **Sn** **14 28 32.0 +0.2**
baz=140
SCZT **Fangliau** **1.22 179** ⇑*i*P **Pn** **14 28 14.6 -1.0**
baz=183
SCZT *i* S **Sn** **14 28 33.5 +1.6**
baz=183
EAST **Anshuo** **1.23 169** *i* P **Pn** **14 28 14.9 -0.8**
baz=173
EAST *i* S **Sn** **14 28 32.9 +0.8**
baz=173
HSN1 **Hsinchu** **1.23 18** P **Pg** **14 28 14.9 -1.9**
baz=14
HSN1 S **Sn** **14 28 32.5 +0.4**
baz=14
SBCB **Hsinchu** **1.24 16** ⇑P **Pn** **14 28 14.6 -1.2**
baz=12
SBCB S **Sn** **14 28 31.9 -0.3**
baz=12
HSN **Hsinchu** **1.24 15** *i* P **Pn** **14 28 14.8 -1.0**
baz=13
HSN *i* S **Sn** **14 28 33.1 +0.8**
baz=13
LATG **Datong** **1.25 42** ⇑P **Pn** **14 28 14.9 -1.3**
baz=27
LATG S **Sb** **14 28 31.7 -0.8**
baz=27
EHP **Heping Village** **1.26 56** *e*P **Pg** **14 28 15.2 -2.0**
baz=52
EHP *e*S **Sn** **14 28 33.4 +0.7**
baz=52
EAHA **Aohua** **1.27 55** ⇑P **Pn** **14 28 15.0 -1.2**
baz=51
EAHA S **Sn** **14 28 32.1 -0.9**
baz=51
TAW **Tawu** **1.27 168** *i* P **Pg** **14 28 15.4 -2.0**
baz=171
TAW *i* S **Sn** **14 28 33.7 +0.8**
baz=171
TWP **Hsiaoliuchiu** **1.27 190** *i* P **Pg** **14 28 16.6 -0.8**
baz=216
TWP S **Sn** **14 28 36.3 +3.3**
baz=216
NSK **Sanguang** **1.27 33** ⇑*i*P **Pg** **14 28 15.5 -2.1**
baz=12
NSK S **Sn** **14 28 32.5 -0.7**
baz=12
YHNB **Yeheng** **1.28 33** ⇑P **Pb** **14 28 15.4 -1.4**
baz=13
YHNB S **Sg** **14 28 32.5 -1.8**
baz=13
TAWH **Dawu Township** **1.28 168** P **Pg** **14 28 15.9 -1.8**
baz=172
TAWH S **Sn** **14 28 33.8 +0.5**
baz=172

NDT **Datong Townshi** **1.30 40** ⇑P **Pn** **14 28 15.6 -1.0**
baz=18
NDT S **Sn** **14 28 33.4 -0.4**
baz=18
ENA **Nanau** **1.33 51** ⇑*i*P **Pb** **14 28 16.3 -1.3**
baz=48
ENA *i* S **Sn** **14 28 35.2 +0.8**
baz=48
EWUT **Wuta** **1.36 52** ⇑P **Pb** **14 28 16.7 -1.5**
baz=48
EWUT S **Sg** **14 28 35.5 -1.5**
baz=48
SLIU **Shizi** **1.39 173** ⇑P **Pn** **14 28 16.9 -1.0**
baz=176
SLIU S **Sg** **14 28 37.3 -0.6**
baz=176
NWLT **Wulai** **1.43 35** ⇑P **Pb** **14 28 17.8 -1.6**
baz=16
NWLT S **Sg** **14 28 37.1 -2.1**
baz=16
NDS **Dongshan** **1.45 44** ⇓P **Pg** **14 28 18.6 -2.2**
baz=40
NDS S **Sg** **14 28 38.2 -1.4**
baz=40
NHW **Xinwu Township** **1.46 16** *i* P **Pn** **14 28 17.8 -1.0**
baz=12
NHW *i* S **Sn** **14 28 37.2 -0.4**
baz=12
NCUH **Zhongli** **1.46 21** P **Pn** **14 28 17.6 -1.2**
baz=2.0
NCUH S **Sg** **14 28 38.7 -1.5**
baz=2.0
FUSB **Fushanzhiwuyua** **1.46 38** ⇑P **Pb** **14 28 18.4 -1.5**
baz=18
FUSB S **Sg** **14 28 38.6 -1.6**
baz=18
TWE **Neicheng** **1.48 41** ⇓*i*P **Pg** **14 28 19.2 -2.3**
baz=37
TWE *i* S **Sg** **14 28 40.7 0.0**
baz=37
ESAO **Su ao** **1.49 49** P **Pb** **14 28 19.2 -1.2**
baz=45
ESAO S **Sg** **14 28 39.2 -1.9**
baz=45
TWC **Suao** **1.52 48** *i* P **Pb** **14 28 19.7 -1.2**
baz=44
TWC *i* S **Sg** **14 28 40.0 -2.0**
baz=44
NTY **Taoyuan** **1.53 24** *e*P **Pb** **14 28 19.9 -1.2**
baz=20
NTY S **Sg** **14 28 42.3 -0.1**
baz=20
ILA **Ilan** **1.56 42** P **Pg** **14 28 20.8 -2.2**
baz=38
ILA *i* S **Sg** **14 28 43.8 +0.5**
baz=38
SMST **Manzhou Townsh** **1.59 172** *e*P **Pg** **14 28 21.5 -2.0**
baz=176
SMST *e*S **Sg** **14 28 44.0 -0.1**
baz=176
TATO **Taipei** **1.59 30** P **Pn** **14 28 20.1 -0.5**
TATO **Taipei** **1.59 30** P **Pn** **14 28 19.9 -0.7**
baz=26
TATO S **Sg** **14 28 42.9 -1.4**
baz=26
HEN **Hengchun** **1.59 176** *i* P **Pn** **14 28 19.8 -0.8**
baz=179
HEN S **Sg** **14 28 42.4 -2.0**
baz=179
SNW **Nanwan** **1.64 175** *e*P **Pg** **14 28 22.0 -2.5**
baz=180
SNW *e*S **Sg** **14 28 46.4 +0.6**
baz=180
EOS4 **EOS4** **1.65 71** P **Pg** **14 28 22.0 -2.7**
baz=67
EOS4 S **Sb** **14 28 42.8 -0.6**
baz=67
TAP **Taipei** **1.65 30** P **Pb** **14 28 21.7 -1.5**
baz=26
TAP *i* S **Sb** **14 28 43.4 -0.4**
baz=26
TWK1 **Hengchun** **1.66 174** ⇑*i*P **Pn** **14 28 20.8 -0.8**
baz=178
TWK1 *e*S **Sg** **14 28 47.2 +0.7**
baz=178
TWKBT **Hengchun** **1.66 173** ⇑P **Pn** **14 28 20.6 -1.0**
baz=178
TWKBT *e*S **Sg** **14 28 46.8 +0.2**
baz=178
TWS1 **Kuangyinshan** **1.67 26** *i* P **Pn** **14 28 20.9 -0.8**
baz=22
TWS1 S **Sb** **14 28 43.2 -1.0**
baz=22
NHY **Taipei** **1.68 31** *e*P **Pb** **14 28 22.0 -1.7**
baz=11
NHY *e*S **Sb** **14 28 44.0 -0.6**
baz=11
EOS2 **EOS2** **1.70 61** *e*P **Pg** **14 28 24.0 -1.6**
baz=73
EOS2 *e*S **Sg** **14 28 48.9 +1.3**
baz=73
EOS3 **EOS3** **1.71 66** *e*P **Pb** **14 28 23.0 -1.0**
baz=61
EOS3 *e*S **Sg** **14 28 47.2 -0.8**
baz=61
EGS **1.73 44** *i* P **Pb** **14 28 23.7 -0.8**
baz=24
EGS *i* S **Sg** **14 28 48.2 -0.6**
baz=24
NTST **Danshui** **1.74 26** P **Pg** **14 28 24.1 -2.3**
baz=5.0
NTST S **Sb** **14 28 45.4 -0.9**
baz=5.0
VWUC **VWUC** **1.74 323** P **Pn** **14 28 20.6 -2.0**
baz=324
VWUC *e*S **Sn** **14 28 44.3 -0.3**
baz=324
TIPB **Shuangxi** **1.76 39** P **Pn** **14 28 22.7 -0.3**
baz=19
TIPB S **Sb** **14 28 46.2 -0.8**
baz=19
YM01 **YM01** **1.77 30** P **Pn** **14 28 22.1 -1.1**
baz=8.0
YM01 S **Sb** **14 28 46.7 -0.6**
baz=8.0
LAY **Lan-yu** **1.78 150** *i* P **Pn** **14 28 22.2 -1.1**
baz=152
LAY S **Sg** **14 28 47.8 -2.6**
baz=152
ANP **Anpu** **1.79 28** P **Pn** **14 28 22.3 -1.1**
baz=7.0
ANP S **Sn** **14 28 45.8 -0.1**
baz=7.0
NWF **Wu-fen Shan** **1.81 36** *i* P **Pb** **14 28 25.2 -0.8**
baz=32
NWF *i* S **Sb** **14 28 48.0 -0.6**
baz=32
WFSB **Wu-fen Shan** **1.81 36** P **Pn** **14 28 23.5 -0.2**
baz=32
WFSB S **Sg** **14 28 48.6 -2.9**
baz=32
YM08 **YM08** **1.82 29** P **Pn** **14 28 21.6 -2.2**
baz=8.0
YM08 *e*S **Sb** **14 28 48.5 -0.1**
baz=8.0
LYUB **Lan-yu** **1.83 150** P **Pn** **14 28 21.9 -2.0**
baz=152
LYUB S **Sn** **14 28 45.4 -1.5**
baz=152
TNOU **National Taiwa** **1.88 34** P **Pb** **14 28 25.8 -1.2**
baz=13
TNOU S **Sb** **14 28 48.6 -1.6**
baz=13
SXI1 **Grass Mountain** **1.89 38** P **Pn** **14 28 24.2 -0.6**
baz=19
SXI1 S **Sb** **14 28 49.8 -0.8**
baz=19
TWB1 **Santiao Chiao** **1.89 42** *i* P **Pn** **14 28 24.6 -0.1**
baz=19
TWB1 S **Sb** **14 28 49.5 -1.0**
baz=19
TWY **Chenhua** **1.90 28** *i* P **Pn** **14 28 24.3 -0.6**
baz=9.0
TWY S **Sb** **14 28 50.3 -0.6**
baz=9.0
PTMZ **Houxiangcun** **1.97 317** P **Pn** **14 28 24.0 -1.9**
baz=318
PTMZ *e*S **Sb** **14 28 51.7 -1.3**
baz=318

KNM **Kinmen** **2.15 293** *i* P **Pn** **14 28 27.7 -0.6**
baz=292
KNM *e*S **Sg** **14 28 59.6 -2.4**
baz=292
KNMB **Chin-men Tao** **2.20 293** P **Pn** **14 28 26.7 -2.3**
baz=294
KNMB S **Sb** **14 28 58.2 -1.4**
baz=294
QZH **Quanzhou** **2.27 306** ⇑*i*Pn **Pn** **14 28 27.9 -2.1**
QZH Sn **Sn** **14 28 55.0 -2.8**
QZH smax smax
comp=N,2μm,0.5s
QZH smax smax
comp=E,2μm,0.5s
JYNG **Yonaguni jima** **2.30 68** P **Pb** **14 28 31.2 -3.1**
JYNG *e*S **Sb** **14 28 59.5 -3.0**
YOJ **Yonaguni jima** **2.36 68** P **Pb** **14 28 32.0 -3.3**
baz=63
YOJ S **Sb** **14 29 02.8 -1.4**
baz=63
YOJ **Yonaguni jima** **2.36 68** *e*P **Pb** **14 28 32.7 -2.5**
YOJ *e*S **Sb** **14 29 02.9 -1.3**
PCYT **Pengchaiyu** **2.42 33** *i* P **Pn** **14 28 30.9 -1.1**
baz=29
PCYT S **Sn** **14 29 02.5 +1.0**
baz=29
MATB **Ma-tsu** **2.61 347** P **Pn** **14 28 32.5 -2.2**
baz=348
MATB S **Sn** **14 29 04.1 -2.0**
baz=348
MSUT **Lienchiang** **2.63 347** P **Pn** **14 28 33.7 -1.3**
baz=348
MSUT *e*S **Sn** **14 29 04.6 -2.1**
baz=348
ZPLA **Ao Xicun** **2.64 278** P **Pn** **14 28 33.2 -1.8**
baz=279
ZPLA S **Sn** **14 29 06.7 -0.1**
baz=279
MHZQ **Yeshan** **2.87 330** P **Pn** **14 28 37.0 -1.3**
baz=332
MHZQ S **Sn** **14 29 11.1 -1.4**
baz=332
DSXP **Dongshan** **2.92 273** P **Pn** **14 28 37.0 -1.9**
baz=274
DSXP S **Sn** **14 29 11.7 -2.0**
baz=274
IRIF **Iriomote-Funau** **2.95 75** *e*P **Pn** **14 28 40.6 +1.2**
IRIF *e*S **Sn** **14 29 16.8 +2.2**
HATJ **Hateruma jima** **2.96 81** *e*P **Pn** **14 28 40.6 +1.0**
HATJ *e*S **Sn** **14 29 16.4 +1.5**
LYJJ **Jianjiangzhen** **3.04 346** P **Pn** **14 28 38.6 -1.9**
baz=348
LYJJ S **Sn** **14 29 15.3 -1.2**
baz=348
JKRS **Kuro-shima** **3.18 78** P **Pn** **14 28 43.6 +1.1**
JKRS *e*S **Sn** **14 29 22.5 +2.4**
JIJ **Ishigaki jima** **3.32 76** P **Pn** **14 28 44.3 -0.2**
JIJ *e*S **Sn** **14 29 23.4 -0.3**
XPSS **Dashiqiu** **3.34 354** P **Pn** **14 28 42.2 -2.4**
baz=356
XPSS *e*S **Sn** **14 29 23.0 -1.1**
baz=356
JISG **Ishigakijimahi** **3.53 73** P **Pn** **14 28 47.2 0.0**
JISG *e*S **Sn** **14 29 28.9 +0.1**
SXFK **Yanhouchang** **3.87 317** P **Pn** **14 28 50.1 -1.9**
baz=318
SXFK *e*S **Sn** **14 29 38.5 +1.3**
baz=318
JTJ **Tarama** **3.88 74** *e*P **Pn** **14 28 52.9 +0.8**
JTJ *e*S **Sn** **14 29 38.6 +1.1**
JIRB **Irabujima** **4.35 73** *e*P **Pn** **14 28 59.7 +1.1**
JIRB *e*S **Sn** **14 29 49.8 +0.9**
JMJ2 **Miyako jima3** **4.46 74** *e*P **Pn** **14 29 01.9 +1.8**
JMJ2 *e*S **Sn** **14 29 53.1 +1.3**
JOGS **Gusukube** **4.53 74** *e*S **Sn** **14 29 55.6 +2.0**
GZH **Guangzhou** **6.69 267** Pn Pn 14 29 25.3 -5.5
GZH Sn **Sn** **14 30 38.9 -7.9**
GZH smax smax
comp=N,340nm,0.7s
GZH smax smax
comp=E,250nm,0.8s
JOW **Kunigami** **7.65 64** Pn **Pn** **14 29 43.0 -1.0**
12nm,0.3s,baz=145,slow=14,SNR=25
JOW Sn **Sn** **14 31 09.2 -1.3**
0.5nm,0.3s,baz=177,slow=16,SNR=1.4
33nm,0.4s
CNSH **ChangSha** **8.28 305** ⇑P **Pn** **14 29 52.3 -0.3**
CNSH smax smax
comp=N,310nm,0.8s
CNSH smax smax
comp=E,370nm,0.9s
NJ2 **Nanjing** **8.56 350** *e*P **Pn** **14 29 55.8 -0.6**
NJ2 pmax pmax
comp=Z,5.0nm,0.6s
NJ2 smax smax
comp=N,270nm,1.0s
NJ2 smax smax
comp=E,170nm,0.8s
NJ2 LR LR
comp=N,670nm,10.3s
NJ2 LR LR
comp=E,2μm,10.3s
NJ2 LR LR
comp=Z,700nm,10.2s
QIZ **Qiongzhong** **11.01 248** P **Pn** **14 30 28.3 -1.8**
QIZ S **Sn** **14 32 33.3 +0.2**
QIZ LR LR
comp=N,450nm,17.1s
QIZ LR LR
comp=E,350nm,15.1s
QIZ LR LR
comp=Z,310nm,12.6s
HNS **HongShan** **14.66 341** *e*P **P** **14 31 28.4 +2.4**
HNS *e*S **S** **14 34 18.4 -2.5**
HNS LR LR
comp=N,390nm,15.1s
HNS LR LR
comp=E,860nm,15.1s
HNS LR LR
comp=Z,240nm,12.4s
KSRS **Korea Array** **15.17 23** Pn **Pn** **14 31 27.7 +1.0**
comp=Z,0.5nm,0.3s,baz=200,slow=11,SNR=5.9
KSRS LR LR 14 37 47.8
comp=Z,74nm,18.1s,baz=200,slow=39
comp=Z,2.2nm,0.7s
CD2 **Chengdu** **16.64 300** P **Pn** **14 31 43.6 -2.3**
CD2 S **Sn** **14 34 49.0 -1.6**
CD2 LR LR
comp=Z,330nm,11.2s
CD2 LR LR
comp=Z,300nm,8.3s
CD2 LR LR
comp=Z,200nm,9.6s
PZH **PanZhiHua** **17.33 284** P **P** **14 31 58.3 +2.3**
PZH S **Sn** **14 35 08.8 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,120nm,5.7s
PZH LR LR
comp=Z,170nm,10.2s
PZH LR LR
comp=Z,170nm,11.2s
PZH LR LR
comp=Z,120nm,9.8s
BTO **Baotou** **19.15 335** *e*P **Pn** **14 32 17.0 +0.2**
BTO pP **sP** **14 32 21.6 -0.5**
BTO sP **pP** **14 32 24.6 +4.5**
BTO PP **PnPn** **14 32 34.0 +4.4**
BTO pmax pmax
comp=Z,350nm,5.2s
BTO LR LR
comp=Z,640nm,14.2s
BTO LR LR
comp=Z,1μm,15.4s
BTO LR LR
comp=Z,630nm,10.0s
JCJ **Chichijima** **19.81 75** LR LR 14 38 32.7
comp=Z,25nm,21.0s,baz=278,slow=33
MJAR **Matsushiro Arr** **19.92 46** LR LR 14 41 10.5
comp=Z,65nm,20.2s,baz=214,slow=40
CN2 **Changchun** **20.54 10** *e*P Pn 14 32 35.6 +2.5
CN2 *e*S **S** **14 36 21.9 +1.7**
CN2 pmax pmax
comp=Z,10.0nm,0.9s

CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,200nm,11.0s						
CN2				LR	LR		
	comp=Z,400nm,11.0s						
CN2				LR	LR		
	comp=Z,200nm,10.0s						
XLT	**XiLinHaoTe**	**20.59**	**351**	*e*P	Pn	14 32 32.4	-1.4
XLT				pP	sP	14 32 36.5	-1.3
XLT				sP	pP	14 32 40.0	+4.2
XLT				PP	**PnPn**	**14 32 55.4**	**+6.1**
XLT				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,89nm,4.5s						
XLT				LR	LR		
	comp=Z,390nm,15.3s						
XLT				LR	LR		
	comp=Z,160nm,11.5s						
CMAR	**Chiang Mai Arr**	**20.85**	**260**	P	Pn	14 32 35.8	-1.1
	comp=Z,0.6nm,0.7s,baz=63,slow=9.4,SNR=5.5						
CMAR				LR	LR	14 41 33.8	
	comp=Z,90nm,19.2s,baz=85,slow=39						
	comp=Z,0.6nm,0.7s						
GTA	**Gaotai**	**23.64**	**317**	*e*P	**P**	**14 33 09.0**	**+5.2**
GTA				pP	sP	14 33 14.6	+4.4
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
SONM	**Songino Array**	**26.71**	**338**	P	**P**	**14 33 34.3**	**+2.5**
	comp=Z,0.9nm,1.0s,baz=148,slow=8.5,SNR=4.5						
SONM				LR	LR	14 45 41.6	
	comp=Z,63nm,18.1s,baz=200,slow=40						
	comp=Z,0.9nm,1.0s						
KLR	**Kul'dur**	**27.05**	**16**	LR	LR	14 45 15.4	
	comp=Z,65nm,18.8s,baz=197,slow=38						
ASAJ	**Asahikawa**	**27.28**	**36**	LR		14 44 51.9	
	comp=Z,121nm,19.4s,baz=188,slow=37						
MKAR	**Makanchi Array**	**38.39**	**317**	P	**P**	**14 35 15.7**	**+1.9**
	comp=Z,0.6nm,0.6s,baz=109,slow=11,SNR=2.7						
	comp=Z,0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**40.45**	**328**	P	**P**	**14 35 31.7**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=104,slow=9.3,SNR=6.9						
	comp=Z,1.6nm,0.6s						
MA2	**Magadan**	**41.73**	**23**	LR	LR	14 55 12.9	
	comp=Z,52nm,18.0s,baz=188,slow=39						
KURBB	**Kurchatov Arra**	**42.22**	**321**	P	**P**	**14 35 46.7**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=128,slow=6.4,SNR=1.7						
	comp=Z,0.3nm,0.4s						
AAK	**Ala-Archa**	**42.44**	**308**	LR	LR	14 53 48.0	
	comp=Z,43nm,18.6s,baz=96,slow=36						
H11N1	**WAKE ISLAND Hy**	**43.05**	**86**	T	T	15 21 09.8	
	baz=283,slow=74,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**43.05**	**86**	T	T	15 21 10.0	
	baz=283,slow=74,SNR=6.0						
H11N3	**WAKE ISLAND Hy**	**43.07**	**86**	T	T	15 21 11.1	
	baz=283,slow=74,SNR=7.5						
H11S3	**WAKE ISLAND Hy**	**43.17**	**88**	T	T	15 21 10.2	
	baz=284,slow=75,SNR=6.0						
H11S1	**WAKE ISLAND Hy**	**43.18**	**88**	T	T	15 21 19.7	
	baz=284,slow=75,SNR=4.7						
H11S2	**WAKE ISLAND Hy**	**43.19**	**88**	T	T	15 21 20.6	
	baz=284,slow=75,SNR=4.0						
WRA	**Warramunga Arr**	**45.30**	**162**	P	**P**	**14 36 08.4**	**-2.1**
	comp=Z,0.8nm,0.7s,baz=345,slow=8.9,SNR=2.9						
	comp=Z,0.8nm,0.7s						
ASAR	**Alice Springs**	**48.73**	**164**	P	**P**	**14 36 35.5**	**-1.6**
	comp=Z,0.6nm,0.7s,baz=345,slow=6.7,SNR=2.7						
	comp=Z,0.6nm,0.7s						
GEYT	**Alibeck**	**54.64**	**301**	LR	LR	15 01 59.7	
	comp=Z,43nm,21.2s,baz=179,slow=37						
ARU	**Arti**	**55.26**	**323**	LR	LR	15 00 37.1	
	comp=Z,42nm,19.8s,baz=133,slow=35						
KIRV	**Kirov**	**60.39**	**325**	LR	LR	15 03 53.0	
	comp=Z,54nm,18.2s,baz=84,slow=36						

*ISK **22** 14:35:38.6,37˚.78N×26˚.89E,h10km, ML3.4/35*
*AFAD **22** 14:35:38.7±0.0,37˚.79N×26˚.90E,h15km±1km, MW3.6*
*THE **22** 14:35:39.2,37˚.81N×26˚.89E,h4km±2km, ML3.6/5, Error ellipse: s-maj=2.8km s-min=0.8km az=234.0*
*ATH **22** 14:35:39.4,37˚.78N×26˚.89E,h11km±1km, ML3.6/7, Error ellipse: s-maj=2.8km s-min=0.9km az=248.0*

ISC 22 14:35:39.2±0.8,**37.79N**±0˚.02×**26˚.89E**±0˚.02,**h13**km±5km, **n79,σ0s62**/107,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.09**	**207**	P	**Pg**	**14 35 42.0**	**-0.1**
SMG				S	**Sg**	**14 35 44.1**	**0.0**
	68μm,0.2s						
SMG	**Samos**	**0.09**	**207**	P	**Pg**	**14 35 42.0**	**-0.1**
SMG				S	**Sg**	**14 35 44.2**	**0.0**
SMG				AML	AML	14 35 44.3	
SMG				AML	AML	14 35 44.5	
DGB	**zmir**	**0.27**	**359**	P	**Pg**	**14 35 44.5**	**-0.4**
DGB				S	**Sg**	**14 35 49.2**	**+0.6**
DGB				*i* AML	AML	14 35 51.0	
	comp=E,3μm,0.4s						
GCAM	**G?zelcaml?**	**0.29**	**107**	Pg	**Pg**	**14 35 45.0**	**-0.2**
GCAM				Sg	**Sg**	**14 35 49.7**	**+0.5**
GMLD	**Gumuldur**	**0.29**	**4**	Pg	**Pg**	**14 35 44.9**	**-0.4**
GMLD				Sg	**Sg**	**14 35 49.9**	**+0.5**
DDIM	**Aydin, Didim**	**0.43**	**139**	P	**Pg**	**14 35 47.5**	**-0.3**
DDIM				S	**Sg**	**14 35 54.0**	**+0.4**
DDIM				*i* AML	AML	14 35 55.0	
	comp=N,5μm,0.5s						
DDIM				*i* AML	AML	14 35 55.0	
	comp=E,6μm,0.4s						
ZEYE	**Izmir, Urla-Ze**	**0.55**	**326**	P	**Pg**	**14 35 49.2**	**-0.7**
ZEYE				S	**Sg**	**14 35 57.5**	**+0.2**
ZEYE				*i* AML	AML	14 36 00.0	
	comp=N,5μm,0.7s						
ZEYE				*i* AML	AML	14 36 00.0	
	comp=E,2μm,0.4s						
BLCB	**Balcova**	**0.61**	**12**	Pg	**Pg**	**14 35 50.8**	**-0.5**
BLCB				Sg	**Sg**	**14 35 59.2**	**-0.1**
BLCB	**Balcova**	**0.61**	**12**	P	**Pg**	**14 35 50.7**	**-0.5**
BLCB				S	**Sg**	**14 35 59.1**	**-0.2**
URLA	**Izmir**	**0.62**	**338**	Pg	**Pg**	**14 35 51.0**	**-0.4**
URLA				Sg	**Sb**	**14 36 00.5**	**0.0**
CESE	**eme**	**0.71**	**320**	Pg	**Pg**	**14 35 52.9**	**-0.3**
CESE				Sg	**Sb**	**14 36 03.5**	**+0.3**
YKAV	**Yalikavak-Bodr**	**0.73**	**155**	Pg	**Pg**	**14 35 52.9**	**-0.5**
YKAV				Sg	**Sb**	**14 36 03.7**	**0.0**
BODT	**Bodrum**	**0.80**	**155**	Pg	**Pg**	**14 35 54.1**	**-0.6**
BODT	**Bodrum**	**0.80**	**155**	P	**Pg**	**14 35 54.1**	**-0.6**
BODT				S	**Sb**	**14 36 06.2**	**+0.6**
KLNA	**Kalymnos**	**0.83**	**175**	P	**Pg**	**14 35 55.0**	**-0.3**
KLNA				S	**Sg**	**14 35 55.9**	**-0.3**
KLNA				AML	AML	14 36 09.8	
	comp=E,20234μm,0.2s						
KLNA				AML	AML	14 36 10.8	
	comp=N,13565μm,0.3s						
MLSB	**Milas**	**0.86**	**124**	Pg	**Pg**	**14 35 55.5**	**-0.4**
CHOS	**Chios island**	**0.89**	**313**	P	**Pg**	**14 35 56.4**	**-0.1**
CHOS				S	**Sb**	**14 36 08.6**	**+0.2**
	comp=N,3μm,0.5s						
CHOS	**Chios island**	**0.89**	**313**	P	**Pg**	**14 35 55.9**	**-0.6**
CHOS				S	**Sb**	**14 36 08.6**	**+0.2**
CHOS				AML	AML	14 36 10.8	
	comp=E,6056μm,0.6s						
CHOS				AML	AML	14 36 10.9	
	comp=N,4043μm,0.5s						
IZMR	**zmir-demi**	**0.91**	**67**	P	**Pg**	**14 35 56.1**	**-0.8**
IZMR				S	**Sg**	**14 36 07.1**	**-1.7**
IZMR				*i* AML	AML	14 36 09.0	
	comp=N,911nm,0.4s						
IZMR				*i* AML	AML	14 36 12.0	
	comp=N,634nm,0.3s						
FOCM	**Foa**	**0.93**	**352**	Pg	**Pg**	**14 35 56.9**	**-0.4**
KARB	**zmir-Karabur**	**0.95**	**337**	P	**Pg**	**14 35 57.4**	**-0.3**
KARB				S	**Sb**	**14 36 10.3**	**+0.1**
KARB				*i* AML	AML	14 36 12.0	
	comp=N,915nm,1.0s						
KARB				*i* AML	AML	14 36 13.0	
	comp=N,1μm,0.5s						
ESEN	**Aydn-Nazilli**	**1.16**	**89**	P	**Pb**	**14 35 59.5**	**-1.6**
ESEN				S	**Sn**	**14 36 17.5**	**+0.7**
ESEN				*i* AML	AML	14 36 19.0	
	comp=N,149nm,0.2s						
ESEN				*i* AML	AML	14 36 21.0	
	comp=N,273nm,0.6s						
CAND	**Candarli**	**1.17**	**357**	Pn	**Pn**	**14 36 01.4**	**+0.1**
NISR	**Nisiros**	**1.19**	**171**	P	**Pb**	**14 36 01.9**	**+0.3**
NISR	**Nisiros**	**1.19**	**171**	P	**Pb**	**14 36 01.8**	**+0.3**
ZEDA	**zmir-Bergama**	**1.19**	**7**	P	**Pb**	**14 36 01.1**	**-0.5**
ZEDA				S	**Sb**	**14 36 16.7**	**-0.2**
ZEDA				*i* AML	AML	14 36 20.0	
	comp=N,621nm,0.3s						
ZEDA				*i* AML	AML	14 36 20.0	
	comp=N,575nm,0.4s						
DAT	**Datca**	**1.19**	**152**	Pn	**Pb**	**14 36 00.8**	**-0.9**
DAT	**Datca**	**1.19**	**152**	P	**Pb**	**14 36 00.7**	**-0.9**
DAT				S	**Sn**	**14 36 18.4**	**+0.7**
YAZI	**Mula-Dat§a-**	**1.19**	**158**	P	**Pn**	**14 36 01.5**	**-0.1**
YAZI				S	**Sn**	**14 36 19.2**	**+1.7**
YAZI				*i* AML	AML	14 36 20.0	
	comp=N,434nm,0.3s						
GOMA	**Golmarmara-Man**	**1.23**	**41**	Pn	**Pg**	**14 36 02.5**	**-0.4**
MULA	**Mugla, Merkez-**	**1.26**	**114**	P	**Pg**	**14 36 03.1**	**-0.3**
MULA				S	**Sb**	**14 36 18.7**	**-0.2**
MULA				*i* AML	AML	14 36 24.0	
	comp=N,488nm,0.3s						
KIRA	**zmir-Kiraz**	**1.26**	**71**	P	**Pn**	**14 36 01.6**	**-1.1**
KIRA				*i* AML	AML	14 36 21.0	
	comp=N,463nm,0.4s						
KIRA				*i* AML	AML	14 36 25.0	
	comp=N,232nm,0.6s						
DKL	**Dikili**	**1.28**	**1**	Pn	**Pn**	**14 36 02.4**	**-0.4**
PSRA	**Psara**	**1.29**	**306**	P	**Pn**	**14 36 02.9**	**0.0**
AKS	**Akhisar**	**1.31**	**33**	Pn	**Pb**	**14 36 03.7**	**0.0**
TNSA	**Tinos**	**1.39**	**260**	P	**Pn**	**14 36 03.7**	**-0.5**
TURN	**Turunc**	**1.48**	**133**	Pn	**Pn**	**14 36 05.9**	**+0.4**
MANT	**Manisa**	**1.49**	**61**	P	**Pb**	**14 36 06.8**	**-0.2**
MANT				S	**Sn**	**14 36 25.3**	**-0.1**
MANT				*i* AML	AML	14 36 30.0	
	comp=N,316nm,0.3s						
MANT				*i* AML	AML	14 36 30.0	
	comp=N,293nm,0.5s						
PRK	**Paraskevi**	**1.54**	**342**	P	**Pn**	**14 36 05.5**	**-0.8**
PRK				S	**Sb**	**14 36 26.8**	**-0.1**
	comp=N,2μm,0.8s						
PRK	**Paraskevi**	**1.54**	**342**	P	**Pn**	**14 36 06.5**	**+0.2**
PRK				AML	AML	14 36 33.1	
	comp=N,3458μm,0.5s						
PRK				AML	AML	14 36 33.7	
	comp=E,3637μm,0.5s						
KULA	**Kula-Manisa**	**1.58**	**62**	Pn	**Pn**	**14 36 07.3**	**+0.3**
KULA	**Kula-Manisa**	**1.58**	**62**	P	**Pb**	**14 36 08.5**	**+0.2**
KULA				S	**Sn**	**14 36 27.7**	**+0.5**
SIGR	**SIGRI**	**1.64**	**331**	Pn	**Pn**	**14 36 06.8**	**-0.9**
SIGR	**SIGRI**	**1.64**	**331**	P	**Pn**	**14 36 07.0**	**-0.7**
SIGR				S	**Sn**	**14 36 28.5**	**-0.1**
	comp=E,1μm,0.5s						
SIGR	**SIGRI**	**1.64**	**331**	P	**Pn**	**14 36 07.1**	**-0.7**
SIGR				AML	AML	14 36 35.3	
	comp=E,1942μm,0.5s						
SIGR				AML	AML	14 36 36.8	
	comp=N,2132μm,0.6s						
DALY	**Dalyan (Mula)**	**1.71**	**124**	Pn	**Pn**	**14 36 09.1**	**+0.4**
STEP	**BALIKESIR_Sava**	**1.72**	**22**	P	**Pb**	**14 36 10.5**	**-0.1**
STEP				*i* AML	AML	14 36 39.0	
	comp=N,548nm,0.6s						
STEP				*i* AML	AML	14 36 42.0	
	comp=N,350nm,0.6s						
BUHA	**Balikesir, Bur**	**1.72**	**5**	S	**Sg**	**14 36 35.5**	**+0.9**
CMBO	**Columbo, Santo**	**1.77**	**223**	P	**Pn**	**14 36 09.2**	**-0.3**
CMBO				AML	AML	14 36 46.0	
	comp=N,5726μm,0.6s						
CMBO				AML	AML	14 36 46.1	
	comp=E,5244μm,0.6s						
GPNR	**Gulpinar-Canak**	**1.77**	**341**	Pn	**Pn**	**14 36 10.1**	**+0.6**
THR8	**Santorini-Mono**	**1.78**	**220**	P	**Pn**	**14 36 09.5**	**-0.2**
KOCA	**Canakkale, Ayv**	**1.81**	**341**	P	**Pn**	**14 36 08.6**	**-1.5**
KOCA				S	**Sn**	**14 36 33.3**	**+0.4**
THR3	**Thira Island,**	**1.82**	**221**	P	**Pn**	**14 36 10.1**	**0.0**
ARG	**Arkhangelos**	**1.85**	**147**	Pn	**Pn**	**14 36 11.3**	**+0.6**
ARG	**Arkhangelos**	**1.85**	**147**	P	**Pn**	**14 36 10.4**	**-0.3**
ARG				AML	AML	14 36 44.3	
	comp=N,904μm,0.7s						
ARG				AML	AML	14 36 46.8	
	comp=E,959μm,0.5s						
THR6	**Thira Island,**	**1.86**	**220**	P	**Pn**	**14 36 10.2**	**-0.6**
APMY	**Acipayam-Deniz**	**1.94**	**99**	Pn	**Pn**	**14 36 12.4**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**1.97**	**352**	S	**Sg**	**14 36 42.2**	**-0.5**
EZIN	**Ezine**	**2.08**	**348**	Pn	**Pn**	**14 36 15.1**	**+1.3**
FETY	**Fethiye**	**2.10**	**123**	Pn	**Pn**	**14 36 14.7**	**+0.7**
CAME	**Camlı-Denizli**	**2.10**	**113**	Pn	**Pn**	**14 36 14.8**	**+0.6**
CANM	**Can-anakkale**	**2.23**	**3**	Pn	**Pn**	**14 36 16.6**	**+0.8**
KARP	**Karpathos**	**2.25**	**174**	P	**Pn**	**14 36 15.5**	**-0.6**
DST	**Dursunbey**	**2.27**	**36**	Pn	**Pn**	**14 36 17.2**	**+0.8**
COMU	**Canakkale**	**2.33**	**352**	Pn	**Pn**	**14 36 18.1**	**+0.8**
GONE	**Gonen-Balikesi**	**2.34**	**15**	Pn	**Pn**	**14 36 18.5**	**+1.1**
KYMI	**Kymi, Euboea I**	**2.35**	**292**	P	**Pn**	**14 36 18.0**	**+0.5**
DION	**Dionisos Attik**	**2.35**	**278**	P	**Pn**	**14 36 17.4**	**-0.2**
LIA	**Limnos Island**	**2.49**	**328**	P	**Pn**	**14 36 19.7**	**+0.2**
GADA	**Gvkgeada**	**2.52**	**343**	Pn	**Pn**	**14 36 20.8**	**+0.9**
TVSB	**Tavsanli**	**2.61**	**50**	Pn	**Pn**	**14 36 22.2**	**+1.0**
KRBG	**Karabiga-Canak**	**2.62**	**7**	Pn	**Pn**	**14 36 22.1**	**+0.9**
GELI	**Tayfur-Gelibol**	**2.63**	**353**	Pn	**Pn**	**14 36 21.5**	**+0.2**
EDC	**Edincik**	**2.67**	**16**	Pn	**Pn**	**14 36 22.9**	**+1.0**
ZKR	**Zakros**	**2.72**	**192**	P	**Pn**	**14 36 22.8**	**+0.2**
KCTX	**Karacabey (Bur**	**2.73**	**24**	Pn	**Pn**	**14 36 23.7**	**+1.0**
SMTH	**Samothraki Isl**	**2.88**	**339**	P	**Pn**	**14 36 24.3**	**-0.5**
ALN	**Alexandroupoli**	**3.17**	**348**	P	**Pn**	**14 36 28.5**	**-0.3**
AGG	**Agios Georgios**	**3.79**	**290**	P	**Pn**	**14 36 38.1**	**+0.8**

*IDC **22** 14:40:12.7±1.0,5˚.97S×142˚.26E,h0km, mb4.0/6, mbtmp4.0/8, ML1.8/1, MS3.6/2, Error ellipse: s-maj=37.5km s-min=20.7km az=70.0*

ISC 22 14:40:14.1±0.8,**6˚.1S**±0˚.1×**142˚.2E**±0˚.1,**h10**km,**n10, σ0s97/10,mb3.9/6,New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.98**	**124**	Pn	**Pn**	**14 41 42.7**	**-0.1**
	1.4nm,0.3s,baz=7.1,slow=8.1,SNR=1.9						
PMG				Sn	**Sn**	**14 42 51.5**	**+0.1**
	1.3nm,0.3s,baz=340,slow=7.3,SNR=3.5						
	4.3nm,0.4s						
WRA	**Warramunga Arr**	**15.76**	**208**	Pn	**Pn**	**14 43 54.5**	**-1.8**
	0.5nm,0.3s,baz=33,slow=14,SNR=36						
WRA				Lg	Lg	14 48 40.3	
	0.1nm,0.3s,baz=28,slow=35,SNR=2.3						
ASAR	**Alice Springs**	**19.23**	**204**	P	**P**	**14 44 40.0**	**+1.4**
	4.5nm,0.8s,baz=42,slow=11,SNR=34						
STKA	**Stephens Creek**	**25.70**	**181**	P	**P**	**14 45 45.4**	**+0.8**
	1.2nm,0.8s,baz=352,slow=16,SNR=2.9						
STKA				LR	LR	14 57 52.5	
	comp=Z,131nm,18.6s,baz=34,slow=41						
	1.2nm,0.8s						
URZ	**Urewera**	**45.08**	**140**	LR	LR	15 06 16.1	
	comp=Z,55nm,19.1s,baz=302,slow=35						
KSRS	**Korea Array**	**45.27**	**344**	P	**P**	**14 48 32.1**	**+0.2**
	1.3nm,0.9s,baz=167,slow=9.5,SNR=5.2						
	1.3nm,0.9s						
MKAR	**Makanchi Array**	**74.51**	**322**	P	**P**	**14 51 53.4**	**+0.3**
	0.9nm,0.8s,baz=108,slow=7.8,SNR=7.5						
	0.9nm,0.8s						
KURBB	**Kurchatov Arra**	**78.42**	**324**	P	**P**	**14 52 15.0**	**0.0**
	0.9nm,1.0s,baz=115,slow=4.9,SNR=5.7						
	0.9nm,1.0s						
BVAR	**Borovoye Array**	**84.00**	**325**	P	**P**	**14 52 44.9**	**+0.2**
	3.8nm,1.0s,baz=117,slow=5.8,SNR=9.0						
	3.8nm,1.0s						
ILAR	**Eielson Array**	**87.46**	**24**	P	**P**	**14 53 00.9**	**-0.8**
	1.6nm,0.8s,baz=258,slow=4.6,SNR=7.8						
	1.6nm,0.8s						

*ISN **22** 14:47:37.4±0.3,33˚.02N×46˚.06E,h12km±2km, ML2.5*
*TEH **22** 14:47:38.2,33˚.02N×46˚.08E,h10km±67km, ML2.5*

ISC 22 14:47:38.3±1.1,**33˚.04N**±0˚.04×**46˚.07E**±0˚.05,**h9**km±12km, **n9,σ0s97/13,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.14**	**301**	*e*Pg	**Pg**	**14 47 41.0**	**-0.3**
IBDR				*e*Sg	**Sg**	**14 47 43.5**	**+0.1**
IBDR				AML	AML	14 47 52.7	
	comp=N,755nm,0.6s						
IBDR				AML	AML	14 48 02.6	
	comp=E,937nm,0.7s						
ILBA	**Ilam Banvizeh**	**0.59**	**11**	Pg	**Pg**	**14 47 50.1**	**+0.3**
ILBA				Sg	**Sb**	**14 47 59.4**	**-0.1**
RAFI	**Al-Rafai**	**1.31**	**178**	*e*Pn	**Pg**	**14 48 03.0**	**-0.5**
RAFI				*e*Sn	**Sg**	**14 48 22.0**	**+1.5**
IGHG	**Ghaleghazi**	**1.35**	**18**	Pg	**Pg**	**14 48 06.1**	**+1.8**
BHD	**Baghdad**	**1.43**	**280**	*e*Pn	**Pb**	**14 48 05.0**	**-0.2**
BHD				*e*Sn	**Sg**	**14 48 25.0**	**+0.6**
KCHF	**Cheshme Sefid,**	**1.48**	**33**	Pg	**Pg**	**14 48 06.3**	**-0.3**
IKFM	**Kafar-mosalman**	**1.57**	**72**	Pg	**Pb**	**14 48 07.3**	**-0.2**
IDHR	**Dehrash**	**1.68**	**9**	Pg	**Pg**	**14 48 09.8**	**-0.7**
IBZA	**Bozab**	**2.06**	**46**	Pn	**Pb**	**14 48 14.8**	**-1.3**

IDC 22 14:49:17.9±4.8,**6˚.05S×142˚.24E,h0km,mb3.5/1, mbtmp3.9/3,ML3.6/2,Error ellipse: s-maj=157.3km s-min=33.4km az=97.0,New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.81**	**208**	Pn	Pn	14 53 00.7	-1.4
	0.2nm,0.3s,baz=30,slow=13,SNR=6.7						
WRA				Sn	Sn	14 55 56.8	-1.3
	0.1nm,0.3s,baz=32,slow=20,SNR=1.8						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**19.27**	**204**	P	Pn	14 53 45.1	-0.1
	0.6nm,0.3s,baz=32,slow=10,SNR=64						
	14nm,0.8s						
MKAR	**Makanchi Array**	**74.57**	**322**	P	P	15 00 58.8	0.0
	0.3nm,0.8s,baz=103,slow=6.2,SNR=3.0						
	0.3nm,0.8s						

*IDC **22** 14:49:20.7±3.0,55˚.56N×149˚.92W,h0km,mb3.4/2, mbtmp3.6/7,ML3.7/5,MS3.1/3,Error ellipse: s-maj=52.1km s-min=28.5km az=179.0*
*NEIC **22** 14:49:26.4±1.9,56˚.03N±0˚.05×149˚.84W±0˚.08,h27km±8km, mb4.2/3,ML3.8/42,ML3.7(AEIC),Error ellipse: s-maj=8.5km s-min=4.9km az=216.0*
*AEIC **22** 14:49:30.0±1.9,56˚.11N±0˚.08×149˚.82W±0˚.08,h10km±6km, Error ellipse: s-maj=11.4km s-min=6.3km az=180.0*

ISC 22 14:49:25.8±0.8,**56˚.19N**±0˚.07×**149˚.88W**±0˚.05,**h10**km, **n217,σ1s10/218,mb5.0/5,Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.14**	**300**		**Pn**	**14 50 01.8**	**+0.2**
OHAK				Sn	**Sn**	**14 50 26.4**	**-1.7**
OHAK				IAML		14 50 26.9	
	comp=N,455nm,0.3s						
OHAK	**Old Harbor**	**2.14**	**300**	P	**Pn**	**14 50 01.9**	**+0.3**
	baz=120						
OHAK				S	**Sn**	**14 50 26.5**	**-1.7**
	baz=120						
KDAK	**Kodiak Island**	**2.17**	**318**	Pn	**Pn**	**14 50 02.6**	**+0.6**
KDAK	**Kodiak Island**	**2.17**	**318**	Pn	**Pn**	**14 50 02.7**	**+0.7**
	comp=N,11nm,0.3s,baz=132,slow=5.8,SNR=316						
KDAK				Sn	**Sn**	**14 50 27.6**	**-1.3**
	comp=N,33nm,0.3s,baz=45,slow=23,SNR=12						
	comp=N,22nm,0.3s						
SII	**Sitkinak Islan**	**2.42**	**281**	Pn	**Pn**	**14 50 05.4**	**0.0**
SII				IAML		14 50 33.9	
	comp=E,573nm,0.7s						
SII				IAML		14 50 34.2	
	comp=N,410nm,0.7s						
SII	**Sitkinak Islan**	**2.42**	**281**		**Sn**	**14 50 32.9**	**-2.2**
SII	**Sitkinak Islan**	**2.42**	**281**	P	**Pn**	**14 50 05.5**	**+0.1**
	baz=100						
SII				S	**Sn**	**14 50 32.9**	**-2.2**
	baz=100						
SYI	**Shuyak Island**	**2.78**	**332**	Pn	**Pn**	**14 50 11.1**	**+0.8**
SYI	**Shuyak Island**	**2.78**	**332**		**Sn**	**14 50 43.6**	**-0.2**
Q20K	**Shuyak Island**	**2.78**	**332**	P	**Pn**	**14 50 11.1**	**+0.8**
	baz=151						
Q20K				S	**Sn**	**14 50 43.6**	**-0.3**
	baz=151						
CHIR	**Chirikof Islan**	**3.25**	**266**	Pn	**Pn**	**14 50 16.2**	**-0.5**
CHIR				IAML		14 50 52.5	
	comp=E,250nm,0.4s						
CHIR				IAML		14 50 52.6	
	comp=N,221nm,0.4s						
CHIR	**Chirikof Islan**	**3.25**	**266**		**Sn**	**14 50 51.5**	**-3.9**
CHIR	**Chirikof Islan**	**3.25**	**266**	P	**Pn**	**14 50 16.2**	**-0.5**
	baz=83						
CHIR				S	**Sn**	**14 50 51.5**	**-3.9**
	baz=83						
Q19K	**Cape Douglas,**	**3.41**	**325**	Pn	**Pn**	**14 50 20.4**	**+1.3**
Q19K				IAML		14 51 07.5	
	comp=E,420nm,0.8s						
Q19K				IAML		14 51 07.6	
	comp=N,313nm,0.7s						
CNPM	**China Poot**	**3.42**	**348**	Pn	**Pn**	**14 50 19.2**	**+0.1**
CNPM				IAML		14 51 00.2	
	comp=E,138nm,0.7s						
CNPM				IAML		14 51 02.2	
	comp=N,101nm,0.3s						
CNPM	**China Poot**	**3.42**	**348**		**Sn**	**14 50 59.1**	**-0.7**
KAKN	**Katmai Knife C**	**3.52**	**309**		**Pn**	**14 50 22.0**	**+1.4**
BRSE	**Bradley Lake S**	**3.59**	**353**		**Pn**	**14 50 21.2**	**-0.2**
BRSE	**Bradley Lake S**	**3.59**	**353**	P	**Pn**	**14 50 21.5**	**0.0**
	baz=172						
BRLK	**Bradley Lake**	**3.62**	**352**		**Pn**	**14 50 21.6**	**-0.3**
BRLK				IAML		14 51 06.0	
	comp=E,86nm,0.6s						
BRLK				IAML		14 51 06.1	
	comp=N,95nm,0.8s						
KAHC	**Katmai Hardscr**	**3.71**	**314**		**Pn**	**14 50 24.5**	**+1.3**
KAHC	**Katmai Hardscr**	**3.71**	**314**	P	**Pn**	**14 50 24.5**	**+1.3**
	baz=131						
CNTC	**Contact Creek**	**3.87**	**305**		**Pn**	**14 50 26.5**	**+1.1**
Q17K	**Contact Creek**	**3.87**	**305**	P	**

CHGN				IAML			14 51 33.0	
	comp=N,129nm,0.1s							
EYAK	Cordova Ski Ar	4.88	25	Pn	Pn		14 50 39.9	+0.7
EYAK	Cordova Ski Ar	4.88	25	P	Pn		14 50 39.5	+0.4
	baz=207							
RC01	Rabbit Creek A	4.91	1	Pn	Pn		14 50 39.5	-0.1
RC01				IAML			14 51 36.4	
	comp=E,80nm,0.4s							
RC01				IAML			14 51 36.5	
	comp=N,64nm,0.4s							
RC01	Rabbit Creek A	4.91	1	P	Pn		14 50 39.5	-0.1
	baz=181							
SUCK	Suckling Hills	5.06	37	Pn	Pn		14 50 41.5	-0.1
HMT	Hamilton	5.11	33	Pn	Pn		14 50 43.0	+0.7
N20K	Mount Spurr	5.17	347	P	Pn		14 50 43.4	+0.2
	baz=166							
SPCR	Spurr Chakacha	5.17	347		Pn		14 50 43.4	+0.2
GOAT	Goat Mountain	5.17	29		Pn		14 50 43.5	+0.3
CKL	Chakachamna La	5.18	347		Pn		14 50 43.4	0.0
N19K	Bonanza Creek	5.22	334	Pn	Pn		14 50 43.2	-0.7
N19K	Bonanza Creek	5.22	334	P	Pn		14 50 44.1	+0.1
	baz=151							
SUA	Susitna One	5.31	356	Pn	Pn		14 50 46.0	+0.8
BERG	Berg Lake	5.33	35	Pn	Pn		14 50 45.7	+0.5
SPNN	North Nagishla	5.39	345		Pn		14 50 46.4	0.0
PMR	Palmer	5.43	4	Pn	Pn		14 50 46.6	0.0
SNH	Sunshine Point	5.46	40	Pn	Pn		14 50 48.2	+1.0
N18K	Kilae Creek	5.50	327		Pn		14 50 47.8	+0.1
N18K	Kilae Creek	5.50	327	P	Pn		14 50 47.8	+0.1
	baz=143							
BMRM	Bremner River	5.53	28	Pn	Pn		14 50 48.8	+0.7
BMRM	Bremner River	5.53	28	P	Pn		14 50 48.7	+0.7
	baz=211							
O16K	Kokwok River B	5.55	311	Pn	Pn		14 50 50.0	+1.7
GHO	Glory Hole Cre	5.62	5	Pn	Pn		14 50 50.2	+0.8
WAX	Waxell Ridge	5.65	38	Pn	Pn		14 50 49.1	-0.7
CHNA	Chernabura Isl	5.68	260	P	Pn		14 50 49.8	-0.3
	baz=74							
CNBA	Chernabura Isl	5.69	260	Pn	Pn		14 50 49.6	-0.6
SML	Sawmill	5.69	7	Pn	Pn		14 50 50.8	+0.5
SML	Sawmill	5.69	7	P	Pn		14 50 51.1	+0.8
	baz=188							
KLU	Klutina	5.70	19		Pn		14 50 51.3	+0.7
KLU	Klutina	5.70	19	P	Pn		14 50 51.2	+0.7
	baz=202							
SVW2	Sparrevohn	5.75	331	Pn	Pn		14 50 51.0	-0.1
MESA	MESA	5.79	43	Pn	Pn		14 50 51.1	-0.8
MESA	MESA	5.79	43	P	Pn		14 50 51.9	0.0
	baz=229							
SCM	Sheep Creek Mo	5.81	12	Pn	Pn		14 50 54.6	+2.6
SCM	Sheep Creek Mo	5.81	12	P	Pn		14 50 52.7	+0.7
	baz=194							
SKT	Skwentna	5.87	352	Pn	Pn		14 50 53.1	+0.4
SKT	Skwentna	5.87	352	P	Pn		14 50 53.1	+0.4
	baz=171							
ISLE	Juniper Island	5.94	39		Pn		14 50 54.7	+0.9
M20K	Styx River	5.95	345		Pn		14 50 53.9	0.0
M20K	Styx River	5.95	345	P	Pn		14 50 53.9	0.0
	baz=162							
SDPT	Sand Point	6.04	266	Pn	Pn		14 50 54.2	-0.9
SDPT	Sand Point	6.04	266	P	Pn		14 50 54.8	-0.3
	baz=79							
VRDI	Verde Repeater	6.06	31	Pn	Pn		14 50 56.0	+0.5
N25K	Chitina, Valde	6.08	25		Pn		14 50 56.9	+1.2
N25K	Chitina, Valde	6.08	25	P	Pn		14 50 56.5	+0.8
	baz=208							
GLB	Gilahina Butte	6.13	28		Pn		14 50 57.6	+1.1
M18K	Stony River	6.14	332		Pn		14 50 56.6	+0.1
M18K	Stony River	6.14	332	P	Pn		14 50 56.6	+0.1
	baz=148							
M19K	Big River Lodg	6.18	340		Pn		14 50 57.0	-0.1
M19K	Big River Lodg	6.18	340	P	Pn		14 50 57.0	-0.1
	baz=156							
M24K	Tolsona, Glenn	6.23	16	Pn	Pn		14 50 60.0	+2.2
CUT	Chulitna	6.24	358	Pn	Pn		14 50 58.9	+1.2
TABL	Table Mountain	6.27	44		Pn		14 50 59.4	+0.9
MCARA	McCarthy VSAT	6.31	32		Pn		14 51 00.7	+1.9
MCARA	McCarthy VSAT	6.31	32	P	Pn		14 50 59.5	+0.7
	baz=217							
PTPK	Patty Peak	6.33	35		Pn		14 51 00.0	+0.8
WASW	Wrangell South	6.46	25		Pn		14 51 01.5	+0.4
BARN	Barnard Glacie	6.50	38		Pn		14 51 02.2	+0.6
WAT6	Susitna Watana	6.50	9		Pn		14 51 02.1	+0.5
WAT6	Susitna Watana	6.50	9	P	Pn		14 51 02.1	+0.5
	baz=190							
M17K	Holitna River	6.53	326		Pn		14 51 02.4	+0.6
M17K	Holitna River	6.53	326	P	Pn		14 51 02.4	+0.6
	baz=140							
CTG	Chitna Glacier	6.54	39	P	Pn		14 51 02.7	+0.6
	baz=226							
CTGM	Chitina Glacie	6.55	40		Pn		14 51 03.3	+1.1
LOGN	Logan Glacier	6.57	41	Pn	Pn		14 51 03.1	+0.6
PNL	Peninsula	6.58	54		Pn		14 51 03.2	+0.7
PNL	Peninsula	6.58	54	P	Pn		14 51 03.2	+0.7
	baz=242							
BCPM	Bancas Point	6.61	51	Pn	Pn		14 51 03.5	+0.5
L20K	Farewell, AK	6.63	344		Pn		14 51 03.2	0.0
L20K	Farewell, AK	6.63	344	P	Pn		14 51 03.2	0.0
	baz=160							
HARP	HAARP	6.68	19		Pn		14 51 05.2	+1.4
HARP	HAARP	6.68	19	P	Pn		14 51 05.2	+1.4
	baz=203							
WAT7	Susitna Watana	6.68	4		Pn		14 51 05.2	+1.2
PVV	Pavlof Volcano	6.77	268		Pn		14 51 05.0	0.0
HAG	Hague Volcano	6.84	268		Pn		14 51 06.0	-0.1
S12K	Black Hills	6.86	271	Pn	Pn		14 51 06.6	+0.2
S12K	Black Hills	6.86	271	P	Pn		14 51 06.3	0.0
	baz=82							
DHY	Denali Highway	7.02	9		Pn		14 51 09.1	+0.4
DHY	Denali Highway	7.02	9	P	Pn		14 51 09.4	+0.7
	baz=191							
O29M	Mount Kennedy	7.25	51		Pn		14 51 12.9	+1.1
O29M	Mount Kennedy	7.25	51	P	Pn		14 51 12.9	+1.1
	baz=239							
RND	Reindeer	7.26	4	Pn	Pn		14 51 12.7	+0.9
TRF	Thorofare Moun	7.29	359	Pn	Pn		14 51 13.5	+1.2
P29M	Windy Craggy	7.33	57		Pn		14 51 13.1	+0.3
P29M	Windy Craggy	7.33	57	P	Pn		14 51 13.1	+0.3
	baz=246							
CAST	Castle Rocks	7.33	352		Pn		14 51 13.5	+0.6
KTH	Kantishna Hill	7.40	356	Pn	Pn		14 51 14.0	+0.1
L16K	Owhat River	7.43	322	Pn	Pn		14 51 15.2	+1.1
TTA	Tatalina	7.44	338	Pn	Pn		14 51 14.3	-0.1
MENT	Mentasta	7.45	22	Pn	Pn		14 51 15.3	+0.8
MCK	McKinley	7.58	3		Pn		14 51 17.3	+1.1
MCK	McKinley	7.58	3	P	Pn		14 51 17.3	+1.1
	baz=184							
S31K	Pelican	7.65	71	Pn	Pn		14 51 15.5	-1.5
S31K	Pelican	7.65	71	P	Pn		14 51 15.6	-1.5
	baz=261							
YUK4	Talbot Arm	7.79	44	P	Pn		14 51 22.1	+2.8
	baz=232							
K17K	Iditarod	7.82	330		Pn		14 51 19.4	0.0
K17K	Iditarod	7.82	330	P	Pn		14 51 19.4	0.0
	baz=143							
P30M	Million Dollar	7.88	55		Pn		14 51 20.5	+0.1
P30M	Million Dollar	7.88	55	P	Pn		14 51 20.5	+0.1
	baz=245							
PLBC	Pleasant Camp	7.92	60		Pn		14 51 21.3	+0.4
PLBC	Pleasant Camp	7.92	60	P	Pn		14 51 21.3	+0.4
	baz=251							
RIDG	Independent Ri	7.98	16		Pn		14 51 23.4	+1.7
BCAR	Beaver Creek A	8.02	27	Pn	Pn		14 51 23.4	+1.2
SIT	Sitka	8.08	78	Pn	Pn		14 51 19.9	-3.1
SIT	Sitka	8.08	78	P	Pn		14 51 20.5	-2.5
	baz=269							
SSLS	Shishaldin Sou	8.16	265		Pn		14 51 24.5	+0.3
J19K	Poorman	8.33	342	Pn	Pn		14 51 26.4	-0.1
WRH	Wood River Hil	8.36	5	Pn	Pn		14 51 28.6	+1.8
HDA	Harding Lake	8.37	9		Pn		14 51 28.4	+1.4
L14K	Kuka Creek	8.41	313	Pn	Pn		14 51 26.9	-0.7
BESE	Bessie Mountai	8.46	67		Pn		14 51 27.4	-0.9
N30M	Aishikik Lake	8.47	46	Pn	Pn		14 51 28.8	+0.3
S32K	Killisnoo	8.49	75	Pn	Pn		14 51 26.7	-1.9
S32K	Killisnoo	8.49	75	P	Pn		14 51 27.4	-1.3
	baz=267							
CCB	Clear Creek Bu	8.54	6		Pn		14 51 30.1	+0.7
O30N	Mendenhall	8.55	52	Pn	Pn		14 51 30.4	+0.9
M29M	Somme Creek	8.56	38		Pn		14 51 31.1	+1.4
M29M	Somme Creek	8.56	38	P	Pn		14 51 31.1	+1.4
	baz=227							
R32K	Eaglecrest	8.59	70	Pn	Pn		14 51 29.9	-0.2
JIS	Juneau Island	8.66	70	Pn	Pn		14 51 30.3	-0.7
IL31		8.73	8		Pn		14 51 33.5	+1.6
ILAR	Eielson Array	8.73	8	Pn	Pn		14 51 33.4	+1.4
ILAR	Eielson Array	8.73	8	Pn	Pn		14 51 33.2	+1.2
	comp=N,0.5nm,0.3s,baz=190,slow=13,SNR=26							
ILAR				Sn	Sn		14 53 07.4	-3.0
	comp=N,0.8nm,0.3s,baz=197,slow=18,SNR=10							
ILAR				LR	LR		14 55 00.1	
	comp=N,58nm,19.5s,baz=98,slow=36							
	comp=N,1.1nm,0.4s							
IL03	Eielson Array	8.74	9	Pn	Pn		14 51 33.9	+1.9
MDM	Murphy Dome	8.83	5		Pn		14 51 33.2	-0.2
MLY	Manley	8.88	358	Pn	Pn		14 51 34.9	+0.9
J26L	Joseph Creek	8.90	18		Pn		14 51 34.7	+0.3
J16K	Anvik River	8.93	327	Pn	Pn		14 51 35.2	+0.6
I23K	Minto, Yukon-K	8.99	1	Pn	Pn		14 51 35.8	+0.3
L29M	L29M	9.12	36	Pn	Pn		14 51 38.8	+1.4
P32M	Atlin	9.25	62	Pn	Pn		14 51 39.0	-0.2
P32M	Atlin	9.25	62	P	Pn		14 51 39.2	0.0
	baz=255							
U33K	Whale Pass	9.36	84	Pn	Pn		14 51 37.7	-2.8
U33K	Whale Pass	9.36	84	P	Pn		14 51 37.9	-2.6
	baz=277							
CRAG	Craig	9.46	87	Pn	Pn		14 51 39.3	-2.6
DAWY	Dawson	9.46	29	Pn	Pn		14 51 42.7	+0.8
PRP	Porcupine Dome	9.59	11	Pn	Pn		14 51 44.6	+0.7
H21K	Melozitna Rive	9.60	353		Pn		14 51 44.2	+0.3
EGAK	Eagle	9.62	23	Pn	Pn		14 51 43.5	-0.6
UNV	Unalaska Valle	9.83	263	Pn	Pn		14 51 45.4	-1.6
P33M	Teslin, Yukon	9.86	59	Pn	Pn		14 51 46.7	-0.8
H18K	Honhosa River	9.89	339	Pn	Pn		14 51 48.2	+0.4
IMAR	Indian Mountai	10.00	351	Pn	Pn		14 51 48.5	-0.8
G21K	Allakaket	10.50	352	Pn	Pn		14 51 57.1	+0.9
FYU	Fort Yukon	10.64	10	Pn	Pn		14 51 58.7	+0.6
DLBC	Dease Lake	10.96	70	Pn	Pn		14 52 02.5	-0.1
	comp=N,0.5nm,0.3s,baz=261,slow=9.6,SNR=5.9							
	comp=N,1.3nm,0.3s							
BMAR	Burnt Mountain	11.55	10	Pn	Pn		14 52 12.2	+1.7
TOLK	Toolik Lake Re	12.50	1	Pn	Pn		14 52 25.1	+1.6
G31M	Satah River	13.03	28	Pn	Pn		14 52 32.5	+1.8
INK	Inuvik	14.27	25	Pn	Pn		14 52 48.3	+0.8
INK	Inuvik	14.27	25	Pn	Pn		14 52 52.6	+5.1
	comp=N,0.2nm,0.3s,baz=199,slow=7.3,SNR=6.4							
INK				LR	LR		14 58 42.0	
	comp=N,63nm,20.2s,baz=205,slow=38							
	comp=N,1.4nm,0.7s							
C36M	Paulatuk	17.49	31		Pn		14 53 31.4	+2.1
C36M				IAmb	IAmb		14 53 32.6	
	comp=Z,4.4nm,0.9s							
HILA	High Level	17.78	69		Pn		14 53 32.2	-0.8
HILA				IAmb	IAmb		14 53 38.6	
	comp=Z,298nm,1.4s							
AMKA	Amchitka	18.74	268	P	P		14 53 39.5	-5.0
YKA	Yellowknife Ar	18.87	56	P	P		14 53 44.6	-1.2
YKA	Yellowknife Ar	18.87	56	P	P		14 53 46.5	+0.8
	comp=Z,0.2nm,0.3s,baz=266,slow=10,SNR=13							
	comp=Z,1.0nm,0.6s							
A36M	Sachs Harbour	18.90	24	P	P		14 53 45.2	-0.8
A36M				IAmb	IAmb		14 54 01.5	
	comp=Z,9.0nm,0.8s							
H11N2	WAKE ISLAND Hy	48.55	239	T	T		15 49 45.5	
	baz=32,slow=76,SNR=5.3							
H11N3	WAKE ISLAND Hy	48.55	239	T	T		15 49 37.8	
	baz=32,slow=76,SNR=3.5							
H11N1	WAKE ISLAND Hy	48.57	239	T	T		15 49 45.2	
	baz=32,slow=76,SNR=4.4							
HHC	Hu-ho-hao-te	61.50	301	*e*P	P		14 59 42.3	-0.3
HHC				pmax	pmax			
	comp=Z,16nm,0.9s							
HHC				pmax	pmax			
	comp=Z,130nm,5.9s							
HHC				LR	LR			
	comp=N,190nm,16.8s							
HHC				LR	LR			
	comp=E,250nm,16.2s							
HHC				LR	LR			
	comp=Z,320nm,16.4s							
BVAR	Borovoye Array	66.22	335	P	P		15 00 13.5	+0.2
	comp=Z,0.4nm,0.5s,baz=46,slow=6.2,SNR=2.9							
	comp=Z,0.4nm,0.5s							
MKAR	Makanchi Array	68.47	324	P	P		15 00 27.3	-0.4
	comp=Z,0.1nm,0.4s,baz=17,slow=6.3,SNR=4.4							
MKAR				LR	LR		15 33 46.0	
	comp=Z,38nm,19.5s,baz=70,slow=39							
	comp=Z,0.1nm,0.4s							
WMQ	Urumqi	69.20	319	*e*P	P		15 00 34.0	+1.7
WMQ				sP	pwP		15 00 45.3	+4.9
WMQ				PcP	PcP		15 01 00.6	+4.5
WMQ				pmax	pmax			
	comp=Z,9.0nm,0.8s							
PZH	PanZhiHua	77.87	300	P	P		15 01 22.3	-1.4
PZH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
PZH				pmax	pmax			
	comp=Z,160nm,6.3s							

DJA 22 14:59:23.1±0.5, 9°S±6′×11°8E±°, h117km±5km, M3.9/9, mb4.3/4, MLv3.6/9, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	Plampang	0.56	253	P	Pn	14 59 42.5	+1.4
PLAI				S	Sn	14 59 57.1	+2.4
TWSI	Taliwang, Sumb	1.42	267	P	Pn	14 59 50.5	+1.1
BASI	Baing, Sumba	2.71	125	P	Pn	15 00 05.7	+0.1
EDFI	Ende, Flores	3.33	92	P	Pn	15 00 13.8	0.0
BKSI	Bulukumba	3.77	28	P	Pn	15 00 19.2	-0.3
MMRI	Maumere	3.87	90	P	Pn	15 00 21.1	+0.2
JAGI	Jajag, Banyuwa	4.13	272	P	Pn	15 00 23.7	-0.6
BATI	Baumata	5.49	107	P	Pn	15 00 42.1	-0.6
	15nm,1.0s,0.1nm						
SOEI	Soe	5.97	101	P	Pn	15 00 48.9	-0.4
	25nm,1.6s,0.1nm						

*IDC **22** 15:13:53.8±1.9, 5°21S×150°50E, h198km±17km, mb3.4/6, mbtmp4.0/8, MS3.2/1, Error ellipse: s-maj=40.1km s-min=12.6km az=121.0*
*NEIC **22** 15:13:54.9±1.4, 5°33S±0°10×150°49E±0°09, h194km±12km, mb4.6/17, Error ellipse: s-maj=15.6km s-min=12.4km az=143.0*

ISC 22 15:13:54.2±0.7, 5°25S±0°08×150°55E±0°08, h200km, n52, σ0°89/53, mb4.0/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAVG	Kavieng	2.66	5	P	Pn	15 14 40.9	+0.9
MANU	Manus Island	4.50	315	Pn	Pn	15 15 02.9	+0.6
PMG	Port Moresby	5.33	219		Pn	15 15 12.5	-0.4
PMG	Port Moresby	5.33	219	P	Pn	15 15 12.7	-0.2
	187nm,0.6s,baz=51,slow=5.7,SNR=62						
PMG				S	Sn	15 16 16.2	+1.2
	43nm,0.5s,baz=298,slow=21,SNR=1.2						
HNR	Honiara	10.20	115	Pn	Pn	15 16 16.4	+0.2
COEN	Coen	11.30	219	Pn	Pn	15 16 30.0	-0.4
MTSU	Mount Surprise	14.18	205	P	P	15 17 08.5	+0.3
CTA	Charters Tower	15.33	195	P	P	15 17 21.6	+0.7
	5.3nm,0.8s,baz=90,slow=9.1,SNR=5.4						
CTAO	Charters Tower	15.33	195		Pn	15 17 19.4	-1.2
CTAO				IAmb	IAmb	15 17 42.7	
	comp=Z,24nm,1.4s						
RK1H	Rockhampton Ha	18.04	180	P	Pn	15 17 51.9	-0.8
QIS	Mount Isa	18.57	214	P	Pn	15 17 57.4	-1.7
KDU	Kakadu	19.32	246	P	P	15 18 04.8	+0.3
EIDS	Eidsvold	20.02	179	P	P	15 18 13.1	+1.2
EIDS	Eidsvold	20.02	179	P	P	15 18 11.0	-0.9
EIDS				IAmb	IAmb	15 18 52.3	
	comp=Z,39nm,1.5s						
MTN	Manton Dam	20.60	247	P	P	15 18 19.9	+1.7
MTN	Manton Dam	20.60	247	P	P	15 18 17.4	-0.8
MTN				IAmb	IAmb	15 18 22.8	
	comp=Z,33nm,1.1s						
DRS	Darwin Rock St	20.68	248	P	P	15 18 19.6	+0.6
WB0	Warramunga Arr	21.35	226	P	P	15 18 24.8	-1.2
WB0				IAmb	IAmb	15 18 33.9	
	comp=Z,18nm,1.5s						
WRA	Warramunga Arr	21.50	226	P	P	15 18 25.8	-1.9
WRA	Warramunga Arr	21.50	226	P	P	15 18 27.0	-0.6
	comp=Z,1.0nm,0.3s,baz=52,slow=11,SNR=42						
WRA				S	S	15 22 13.2	+0.2
	comp=Z,2.2nm,0.8s,baz=42,slow=18,SNR=5.5						
	comp=Z,1.0nm,0.3s						
QLP	Quilpie	22.06	195	P	P	15 18 33.8	+0.7
LIFNC	LIFOU	22.38	135	P	P	15 18 36.6	+0.4
DZM	Mont Dzumac	22.72	139	P	P	15 18 40.1	+0.8
DZM	Mont Dzumac	22.72	139	P	P	15 18 40.0	+0.6
OUENC	Ouen Island, N	23.23	139	P	P	15 18 44.6	+0.8
INKA	Innaminka	24.24	202	P	P	15 18 53.7	+0.8
AS01	Alice Springs	24.31	220	P	P	15 18 54.3	+0.6
AS31	Alice Springs	24.34	220	P	P	15 18 53.4	-0.5
ASAR	Alice Springs	24.34	220	P	P	15 18 53.7	-0.3
ASAR	Alice Springs	24.34	220	P	P	15 18 54.4	+0.4
	comp=Z,0.7nm,0.4s,baz=53,slow=9.5,SNR=56						
	comp=Z,0.7nm,0.4s						
ARMA	Armidale	25.06	178	P	P	15 19 02.0	+1.6
ARMA	Armidale	25.06	178	P	P	15 19 01.2	+0.7
OOD	Oodnadatta	26.51	211	P	P	15 19 13.4	0.0
FITZ	Fitzroy Crossi	27.49	240	P	P	15 19 23.0	+0.8
FITZ	Fitzroy Crossi	27.49	240	P	P	15 19 22.3	+0.1
FITZ				IAmb	IAmb	15 19 27.6	
	comp=Z,6.2nm,1.5s						
LCRK	Leigh Creek	27.63	203	P	P	15 19 25.2	+1.9
STKA	Stephens Creek	27.79	197	P	P	15 19 24.7	0.0
STKA	Stephens Creek	27.79	197	P	P	15 19 23.6	-1.1
STKA	Stephens Creek	27.79	197	P	P	15 19 24.3	-0.4
	comp=Z,1.9nm,0.6s,baz=38,slow=15,SNR=6.4						
	comp=Z,1.9nm,0.6s						
WRKA	Warakurna	29.04	225	P	P	15 19 36.2	+0.2
MULG	Mulgathing	29.36	210	P	P	15 19 38.3	-0.3
HTT	Hallett	30.06	200	P	P	15 19 46.3	+1.4
BBOO	Buckleboo	30.58	204	P	P	15 19 48.5	-0.8
BBOO				IAmb	IAmb	15 20 21.4	
	comp=Z,7.5nm,1.1s						
FORT	Forrest	33.05	217	P	P	15 20 10.3	-0.7
FORT				IAmb	IAmb	15 20 45.4	
	comp=Z,31nm,1.2s						
RTZ	Ruatahuna	40.97	148	P	P	15 21 17.9	+0.3
TUWZ	Tuamarina	41.65	153	P	P	15 21 22.5	-0.5
GVZ	Greta Valley S	42.51	155	P	P	15 21 29.7	-0.3
MLZ	Mavora Lakes	42.80	162	P	P	15 21 33.1	+0.8
MLZ				IAmb	IAmb	15 21 54.7	
	comp=Z,45nm,1.5s						
MJAR	Matsushiro Arr	43.15	345	LR	LR	15 39 39.5	
	comp=Z,26nm,18.4s,baz=188,slow=36						
PETK	Petropavlovsk-	58.45	5	P	P	15 23 29.2	+0.2
	comp=Z,1.6nm,0.6s,baz=166,slow=6.8,SNR=8.4						
	comp=Z,1.6nm,0.6s						
ILAR	Eielson Array	83.42	23	P	P	15 25 57.4	-1.5
	comp=Z,0.3nm,0.5s,baz=252,slow=4.9,SNR=7.7						
	comp=Z,0.3nm,0.5s						
QSPA	South Pole Qui	84.72	180	P	P	15 26 05.4	-0.2
	comp=Z,0.8nm,0.6s,baz=276,slow=1.5,SNR=5.1						
	comp=Z,0.8nm,0.6s						

*IDC **22** 16:05:35.5±0.6, 15°05S×166°88E, h0km, mb4.2/20, mbtmp4.2/21, ML5.1/2, MS3.5/2, Error ellipse: s-maj=19.0km s-min=14.4km az=89.0*
*NOU **22** 16:05:36.8, 15°05S×166°80E, h0km, MLv5.2/14, Vanuatu Islands*
*BJI **22** 16:05:39.4±0.0, 14°91S×167°00E, h30km, mb4.7/37, mB5.2/19, Ms5.1/1*
*NEIC **22** 16:05:40.9±1.1, 15°12S±0°08×167°0E±0°1, h40km±8km, mb5.1/43, Error ellipse: s-maj=14.6km s-min=11.3km az=78.0*
*GCMT **22** 16:05:50.9±0.3, 15°38S±0°03×166°67E±0°02, h33km, MW5.0/69, Moment Tensor Solution. s24,c30; s69,c85; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.93±.22; Mθθ-0.62±.14; Mφφ-3.31±.14; Mrθ1.09±.17; Mrφ0.42±.08; Mθφ-0.76±.12; Best double couple: Mo3.86100×10¹⁶ NP1:φs159.00000°, δ53.00000°, λ76.00000°. NP2: φs1.00000°, δ39.00000°, λ108.00000°. Principal axes: T 4.2330, Plg77.0000°, Azm22.0000°; N -0.7420, Plg11.0000°, Azm168.0000°; P -3.4890, Plg7.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 16:05:41.8±0.5, 15°09S±0°05×166°87E±0°06, h35km±1km, h36km:pP-P, n145, σ1°43/155, mb4.9/50, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	LIFOU	5.67	176	P	Pn	16 07 00.9	-2.7
LIFNC	LIFOU	5.67	176	Pn	Pn	16 07 00.3	-3.3
KOUNC	Koumac, New Ca	5.96	204	P	Pn	16 07 06.6	-1.0
KOUNC	Koumac, New Ca	5.96	204		Pn	16 07 06.2	-1.4
MARNC	Mare, Loyalty	6.45	170	P	Pn	16 07 14.5	+0.1
MARNC	Mare, Loyalty	6.45	170	Pn	Pn	16 07 13.2	-1.1
DZM	Mont Dzumac	6.96	183	P	Pn	16 07 20.2	-1.2
DZM	Mont Dzumac	6.96	183		Pn	16 07 19.8	-1.5
DZM	Mont Dzumac	6.96	183	*e*Pn	Pn	16 07 21.7	+0.3
	224nm,1.2s						
DZM				*e*Sn	Sn	16 08 37.9	-1.5
	273nm,1.4s						
DZM				*e*LR	LR	16 08 54.7	
	2μm,22.1s						
DZM	Mont Dzumac	6.96	183	Pn	Pn	16 07 20.0	-1.4
	7.7nm,0.3s,baz=325,slow=17,SNR=74						
DZM				Sn	Sn	16 08 38.8	-0.6
	baz=292,slow=23						
	15nm,0.3s						
NOUC	Port Laguerre

MORW	**Morawa**	**48.76**	**244**	P	**P**	**16 14 22.0**	**-1.5**	
TAOE	**Nuku Hiva Isla**	**52.10**	**90**	*e*LR	LR	16 29 49.4		
	comp=Z,214nm,24.5s							
MJAR	**Matsushiro Arr**	**58.04**	**333**	P	**P**	**16 15 30.4**	**-1.1**	
	comp=Z,1.5nm,0.6s,baz=165,slow=7.5,SNR=4.8							
	comp=Z,1.5nm,0.6s							
VNDA	**Vanda**	**62.49**	**181**	P	**P**	**16 16 00.1**	**-1.3**	
	comp=Z,2.5nm,0.8s,baz=359,slow=0.8,SNR=4.1							
	comp=Z,2.5nm,0.8s							
VNDA	**Vanda**	**62.49**	**181**	P	**P**	**16 16 00.8**	**-0.6**	
VNDA				pP	**sP**	**16 16 17.2**	**+0.8**	
SBA	**Scott Base**	**62.78**	**180**	P	**P**	**16 16 01.1**	**-2.1**	
SBA				IAmb	IAmb	16 16 21.2		
	comp=Z,25nm,0.9s							
SBA	**Scott Base**	**62.78**	**180**	P	**P**	**16 16 03.8**	**+0.6**	
SBA				pP	**sP**	**16 16 20.1**	**+1.9**	
CASY	**Casey**	**63.05**	**202**	P	**P**	**16 16 03.3**	**-1.9**	
CASY				IAmb	IAmb	16 17 39.1		
	comp=Z,24nm,1.6s							
CASY	**Casey**	**63.05**	**202**	P	**P**	**16 16 04.1**	**-1.0**	
CASY				pP	**sP**	**16 16 20.2**	**-0.1**	
KSRS	**Korea Array**	**63.82**	**326**	P	**P**	**16 16 09.8**	**-0.8**	
	comp=Z,0.6nm,0.5s,baz=136,slow=7.3,SNR=5.5							
	comp=Z,0.6nm,0.5s							
CCD	**Concordia, Ant**	**64.47**	**191**	P	**P**	**16 16 13.8**	**-1.1**	
CCD				pP	**sP**	**16 16 30.4**	**+0.3**	
NJ2	**Nanjing**	**65.66**	**316**	*e*P	**P**	**16 16 23.8**	**+1.0**	
NJ2				pmax	pmax			
	comp=Z,12nm,0.5s							
NJ2				pmax	pmax			
	comp=Z,180nm,5.5s							
USRK	**Ussuriysk Ar.**	**67.03**	**333**	P	**P**	**16 16 30.5**	**-0.8**	
	comp=Z,4.2nm,1.0s,baz=146,slow=7.0,SNR=6.3							
	comp=Z,4.2nm,1.0s							
PETK	**Petropavlovsk-**	**68.38**	**354**	P	**P**	**16 16 38.5**	**-1.1**	
	comp=Z,4.8nm,0.9s,baz=145,slow=11,SNR=5.1							
	comp=Z,4.8nm,0.9s							
MDJ	**Mudanjiang**	**68.42**	**332**	P	**P**	**16 16 40.8**	**+0.8**	
MDJ				pmax	pmax			
	comp=Z,4.0nm,1.2s							
MDJ				pmax	pmax			
	comp=Z,380nm,4.6s							
GYA	**Guiyang**	**71.60**	**305**	P	**P**	**16 16 59.8**	**-0.3**	
GYA				sP	sP	16 17 16.3	+0.9	
GYA				pmax	pmax			
	comp=Z,8.0nm,0.6s							
HNS	**HongShan**	**71.61**	**318**	*e*P	**P**	**16 17 01.0**	**+1.2**	
HNS				sP	**sP**	**16 17 16.3**	**+1.2**	
PHRA	**Phrae**	**73.62**	**295**	P	**P**	**16 17 10.2**	**-1.9**	
XAN	**Xi'an**	**73.65**	**313**	P	**P**	**16 17 12.3**	**+0.2**	
XAN				sP	PcP	16 17 28.6	+0.8	
XAN				pmax	pmax			
	comp=Z,19nm,0.7s							
HEH	**HeiHe**	**73.71**	**335**	*e*P	**P**	**16 17 11.0**	**-1.0**	
CMAR	**Chiang Mai Arr**	**74.74**	**294**	P	**P**	**16 17 18.6**	**-0.1**	
	comp=Z,2.6nm,0.9s,baz=126,slow=4.5,SNR=14							
CMAR				LR	LR	16 49 31.1		
	comp=Z,17nm,19.7s,baz=325,slow=35							
	comp=Z,2.6nm,0.9s							
QSPA	**South Pole Qui**	**74.94**	**180**	P	**P**	**16 17 18.4**	**-0.8**	
	comp=Z,8.1nm,0.9s,baz=13,slow=2.4,SNR=12							
	comp=Z,8.1nm,0.9s							
PZH	**PanZhiHua**	**75.56**	**303**	P	**P**	**16 17 23.4**	**0.0**	
PZH				sP	**sP**	**16 17 39.5**	**+0.7**	
PZH				S	**S**	**16 27 01.8**	**-0.4**	
PZH				SS	**SS**	**16 31 57.3**	**+3.2**	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.8s							
PZH				pmax	pmax			
	comp=Z,110nm,5.9s							
PZH				LR	LR			
	comp=Z,150nm,6.5s							
PZH				LR	LR			
	comp=Z,150nm,9.0s							
HHC	**Hu-ho-hao-te**	**75.61**	**320**	*e*P	**P**	**16 17 24.6**	**+1.2**	
HHC				pmax	pmax			
	comp=Z,10.0nm,0.8s							
HHC				pmax	pmax			
	comp=Z,79nm,5.1s							
CD2	**Chengdu**	**75.92**	**308**	P	**P**	**16 17 23.9**	**-1.4**	
TNCH	**TengChong**	**77.61**	**300**	*e*P	**P**	**16 17 35.3**	**+0.2**	
TNCH				sP	sP	16 17 51.5	+1.1	
TNCH				pmax	pmax			
	comp=Z,11nm,0.5s							
LZH	**Lanzhou**	**78.27**	**313**	*e*P	**P**	**16 17 40.5**	**+1.9**	
LZH				pmax	pmax			
	comp=Z,9.0nm,1.0s							
N15K	**Kwethluk River**	**79.58**	**16**	P	**P**	**16 17 43.7**	**-1.3**	
N15K				IAmb	IAmb	16 20 26.7		
	comp=Z,35nm,1.4s							
M14K	**Bethel**	**79.60**	**15**	P	**P**	**16 17 43.9**	**-1.1**	
M14K				IAmb	IAmb	16 18 37.6		
	comp=Z,54nm,1.5s							
K15K	**Wolf Creek Mou**	**81.03**	**14**	P	**P**	**16 17 51.0**	**-1.7**	
K15K				IAmb	IAmb	16 18 09.9		
	comp=Z,14nm,0.9s							
J16K	**Anvik River**	**82.11**	**14**	P	**P**	**16 17 57.5**	**-0.9**	
SONM	**Songino Array**	**82.55**	**324**	P	**P**	**16 17 59.7**	**-1.5**	
SONM	**Songino Array**	**82.55**	**324**	P	**P**	**16 18 00.5**	**-0.7**	
	comp=Z,1.3nm,1.0s,baz=131,slow=4.0,SNR=5.8							
	comp=Z,1.3nm,1.0s							
GTA	**Gaotai**	**82.64**	**314**	P	**P**	**16 18 02.4**	**+0.5**	
GTA				sP	sP	16 18 18.6	+1.9	
GTA				pmax	pmax			
	comp=Z,5.0nm,1.4s							
BILL	**Bilibino**	**82.90**	**360**	P	**P**	**16 18 01.4**	**-1.0**	
M20K	**Styx River**	**82.95**	**18**	P	**P**	**16 18 01.1**	**-1.8**	
M20K				IAmb	IAmb	16 20 02.4		
	comp=Z,45nm,1.9s							
J18K	**Innoko River**	**83.22**	**16**	P	**P**	**16 18 03.2**	**-1.0**	
KNK	**Knik Glacier**	**84.06**	**20**	P	**P**	**16 18 07.3**	**-1.2**	
CAST	**Castle Rocks**	**84.45**	**17**	P	**P**	**16 18 08.6**	**-1.9**	
CAST				IAmb	IAmb	16 18 37.2		
	comp=Z,10nm,0.8s							
CAST	**Castle Rocks**	**84.45**	**17**	P	**P**	**16 18 08.6**	**-1.9**	
	baz=220							
J20K	**Nowinta River**	**84.47**	**16**	P	**P**	**16 18 11.0**	**+0.4**	
	baz=218							
F17K	**Baldwin Pennin**	**84.67**	**12**	P	**P**	**16 18 11.9**	**+0.4**	
	baz=211							
SCM	**Sheep Creek Mo**	**84.73**	**20**	P	**P**	**16 18 10.7**	**-1.3**	
HMT	**Hamilton**	**84.74**	**22**	P	**P**	**16 18 10.5**	**-1.5**	
G18K	**Tagagawik**	**84.77**	**14**	P	**P**	**16 18 12.2**	**+0.2**	
	baz=213							
E17K	**Hotham Inlet**	**85.11**	**12**	P	**P**	**16 18 13.8**	**+0.1**	
	baz=210							
F18K	**Selawik**	**85.15**	**13**	P	**P**	**16 18 14.3**	**+0.4**	
	baz=212							
G19K	**Purcell Mounta**	**85.33**	**14**	P	**P**	**16 18 13.7**	**-1.2**	
G19K				IAmb	IAmb	16 18 32.6		
	comp=Z,19nm,1.2s							
G19K	**Purcell Mounta**	**85.33**	**14**	P	**P**	**16 18 15.3**	**+0.5**	
	baz=215							
H20K	**Anotleneega Mo**	**85.34**	**15**	P	**P**	**16 18 15.2**	**+0.3**	
	baz=217							
RND	**Reindeer**	**85.40**	**18**	P	**P**	**16 18 13.5**	**-1.8**	
RND				IAmb	IAmb	16 18 44.7		
	comp=Z,23nm,1.4s							
D17K	**Noatak River**	**85.41**	**11**	P	**P**	**16 18 15.9**	**+0.8**	
	baz=209							
E18K	**Tukpahlearik C**	**85.65**	**12**	P	**P**	**16 18 16.6**	**+0.2**	
	baz=211							
F19K	**Shaleruckik Mo**	**85.75**	**13**	P	**P**	**16 18 16.9**	**0.0**	
	baz=214							
RDOG	**Red Dog Mine**	**85.75**	**11**	P	**P**	**16 18 17.2**	**+0.3**	
	baz=209							
I21K	**Tanana**	**85.84**	**16**	P	**P**	**16 18 17.4**	**0.0**	
	baz=220							
H21K	**Melozitna Rive**	**86.00**	**16**	P	**P**	**16 18 17.1**	**-1.0**	
H21K				IAmb	IAmb	16 18 34.7		
	comp=Z,9.4nm,1.2s							
MLY	**Manley**	**86.07**	**17**	P	**P**	**16 18 16.3**	**-2.3**	
MLY				IAmb	IAmb	16 18 47.5		
	comp=Z,31nm,1.9s							
C17K	**DeLong Mountai**	**86.08**	**11**	P	**P**	**16 18 19.1**	**+0.6**	
	baz=209							
E19K	**Redstone River**	**86.39**	**13**	P	**P**	**16 18 18.8**	**-1.2**	
E19K				IAmb	IAmb	16 18 37.4		
	comp=Z,9.8nm,0.9s							
E19K	**Redstone River**	**86.39**	**13**	P	**P**	**16 18 20.2**	**+0.2**	
	baz=214							
F20K	**Avaraart Lake**	**86.39**	**14**	P	**P**	**16 18 20.2**	**+0.2**	
	baz=216							
WRH	**Wood River Hil**	**86.41**	**18**	P	**P**	**16 18 17.9**	**-2.2**	
WRH				IAmb	IAmb	16 18 38.1		
	comp=Z,17nm,1.6s							
G21K	**Allakaket**	**86.49**	**15**	P	**P**	**16 18 19.4**	**-1.2**	
G21K				IAmb	IAmb	16 18 37.6		
	comp=Z,6.2nm,0.8s							
G21K	**Allakaket**	**86.49**	**15**	P	**P**	**16 18 20.7**	**+0.1**	
	baz=218							
C18K	**Utukok River**	**86.59**	**11**	P	**P**	**16 18 20.1**	**-1.0**	
C18K	**Utukok River**	**86.59**	**11**	P	**P**	**16 18 20.9**	**-0.2**	
	baz=211							
CCB	**Clear Creek Bu**	**86.62**	**18**	P	**P**	**16 18 19.3**	**-1.9**	
CCB				IAmb	IAmb	16 19 00.2		
	comp=Z,23nm,1.8s							
IL31		**86.99**	**18**	P	**P**	**16 18 20.8**	**-2.2**	
ILAR	**Eielson Array**	**86.99**	**18**	P	**P**	**16 18 20.9**	**-2.2**	
ILAR	**Eielson Array**	**86.99**	**18**	P	**P**	**16 18 20.7**	**-2.3**	
	comp=Z,0.7nm,0.5s,baz=253,slow=4.9,SNR=23							
	comp=Z,0.7nm,0.5s							
F21K	**Alatna River**	**87.06**	**14**	P	**P**	**16 18 21.5**	**-1.8**	
F21K				IAmb	IAmb	16 18 40.3		
	comp=Z,8.2nm,1.1s							
F21K	**Alatna River**	**87.06**	**14**	P	**P**	**16 18 23.5**	**+0.1**	
	baz=218							
D19K	**Kuna River**	**87.06**	**12**	P	**P**	**16 18 23.3**	**-0.1**	
	baz=214							
B18K	**Kokolik River**	**87.10**	**11**	P	**P**	**16 18 23.9**	**+0.4**	
	baz=210							
E20K	**Nigu River**	**87.27**	**13**	P	**P**	**16 18 24.8**	**+0.4**	
	baz=215							
C19K	**Lookout Ridge**	**87.29**	**11**	P	**P**	**16 18 24.9**	**+0.4**	
	baz=212							
SCRK	**Sand Creek**	**87.33**	**20**	P	**P**	**16 18 22.7**	**-2.2**	
SCRK				IAmb	IAmb	16 20 35.9		
	comp=Z,21nm,2.0s							
J25K	**Salcha River,**	**87.34**	**19**	P	**P**	**16 18 22.8**	**-2.0**	
J25K				IAmb	IAmb	16 19 53.7		
	comp=Z,30nm,1.9s							
BCAR	**Beaver Creek A**	**87.45**	**21**	P	**P**	**16 18 23.2**	**-2.2**	
D20K	**Etivluk River**	**87.56**	**13**	P	**P**	**16 18 25.9**	**+0.2**	
	baz=215							
NVAR	**Mina Array Bea**	**87.80**	**49**	P	**P**	**16 18 27.2**	**-0.7**	
	comp=Z,0.2nm,0.4s,baz=246,slow=6.8,SNR=1.7							
	comp=Z,0.2nm,0.4s							
A19K	**Wainwright**	**87.95**	**10**	P	**P**	**16 18 27.6**	**+0.1**	
	baz=211							
D22K	**Ayikyak River**	**88.55**	**14**	P	**P**	**16 18 31.2**	**+0.8**	
	baz=219							
B21K	**Ikpikpuk River**	**88.72**	**13**	P	**P**	**16 18 31.9**	**+0.8**	
	baz=217							
EGAK	**Eagle**	**88.78**	**20**	P	**P**	**16 18 29.5**	**-2.1**	
EGAK				IAmb	IAmb	16 19 42.1		
	comp=Z,28nm,1.9s							
D23K	**Nanushuk River**	**89.08**	**14**	P	**P**	**16 18 34.6**	**+1.7**	
	baz=221							
TOLK	**Toolik Lake Re**	**89.10**	**15**	P	**P**	**16 18 33.7**	**+0.6**	
	baz=222							
G26K	**Porcupine Rive**	**89.43**	**17**	P	**P**	**16 18 34.5**	**0.0**	
	baz=227							
C23K	**Itkillik River**	**89.76**	**14**	P	**P**	**16 18 36.9**	**+0.9**	
	baz=221							
ELIB	**Princess Elisa**	**89.79**	**191**	*d*PcP	**P**	**16 18 34.7**	**-1.9**	
C24K	**Franklin Bluff**	**90.11**	**14**	P	**P**	**16 18 38.0**	**+0.4**	
	baz=222							
WMQ	**Urumqi**	**92.70**	**315**	*e*P	**P**	**16 18 50.6**	**+0.2**	
PDAR	**Pinedale Array**	**95.48**	**47**	P	**P**	**16 19 03.4**	**0.0**	
	comp=Z,0.2nm,0.7s,baz=251,slow=5.6,SNR=1.8							
	comp=Z,0.2nm,0.7s							
MKAR	**Makanchi Array**	**97.19**	**316**	P	**P**	**16 19 10.0**	**-0.8**	
	comp=Z,0.8nm,0.7s,baz=88,slow=6.7,SNR=11							
	comp=Z,0.8nm,0.7s							
ZALV	**Zalesovo Beam**	**97.45**	**324**	P	**P**	**16 19 10.2**	**-1.6**	
	comp=Z,0.7nm,0.6s,baz=123,slow=4.1,SNR=4.3							
	comp=Z,0.7nm,0.6s							
YKA	**Yellowknife Ar**	**98.04**	**27**	P	**P**	**16 19 11.9**	**-2.3**	
	comp=Z,0.4nm,0.7s,baz=259,slow=4.7,SNR=5.7							
	comp=Z,0.4nm,0.7s							
ARCES	**ARCESS Array B**	**120.50**	**345**	PKP	**PKPdf**	**16 24 28.4**	**-0.7**	
	comp=Z,4.1nm,0.9s,baz=50,slow=1.9,SNR=7.4							
FINES	**FINESS Array B**	**125.91**	**338**	PKP	**PKPdf**	**16 24 38.2**	**-1.5**	
	comp=Z,0.8nm,0.6s,baz=44,slow=4.5,SNR=2.3							
KBA	**Koelnbreinsper**	**141.24**	**331**	*e*PKiKP	**PKPdf**	**16 25 10.1**	**+1.0**	
	comp=Z,9.9nm,1.3s							
SQTA	**Sankt Quirin**	**142.11**	**333**	*e*PKP	**PKPdf**	**16 25 07.9**	**-2.6**	
	comp=Z,3.4nm,0.7s							
DAVA	**Damuels**	**142.63**	**334**	*e*PKP	**PKPdf**	**16 25 07.9**	**-3.6**	
	comp=Z,4.8nm,0.9s							
ESDC	**Sonseca Array**	**154.22**	**344**	PKPbc	**PKiKP**	**16 25 39.0**	**+0.3**	
	comp=Z,0.3nm,0.6s,baz=17,slow=4.0,SNR=2.0							
ESDC				PKPab	**pPKPbc**	**16 25 51.0**	**+1.1**	
	comp=Z,0.9nm,0.7s,baz=14,slow=2.5,SNR=5.2							
TORD	**Torodi Ar. Bea**	**165.49**	**264**	PKP	**PKPdf**	**16 25 43.0**	**-0.7**	
	comp=Z,0.3nm,0.3s,baz=88,slow=37,SNR=2.2							
TORD				PKPab	**PKPab**	**16 26 40.7**	**-1.4**	
	comp=Z,0.7nm,0.8s,baz=110,slow=4.7,SNR=2.2							

IDC ***22*** *16:05:50.7±1.1, 15°.21S×167°.13E, h0km, mb4.6/9, mbtmp4.6/10, ML4.5/1, Error ellipse: s-maj=38.2km s-min=23.3km az=107.0*

ISC 22 16:05:56.5±0.8, 15°.20S±0°.09×167°.1E±0°.2, h35km, n15, σ1s 60/16, mb4.6/10, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.86**	**185**	Pn	**Pn**	**16 07 33.2**	**-1.5**
DZM	8.5nm,0.3s,baz=168,slow=23,SNR=8.1			Sn	**Sn**	**16 08 53.6**	**+2.0**
	8.0nm,0.3s,baz=316,slow=19,SNR=2.6						
	39nm,0.5s						
WRA	**Warramunga Arr**	**31.51**	**257**	P	**P**	**16 12 14.0**	**-1.5**
	3.9nm,1.0s,baz=79,slow=6.6,SNR=8.1						
	3.9nm,1.0s						
KSRS	**Korea Array**	**64.01**	**326**	P	**P**	**16 16 26.6**	**0.0**
	2.2nm,0.9s,baz=142,slow=6.6,SNR=6.5						
	2.2nm,0.9s						
USRK	**Ussuriysk Ar.**	**67.21**	**333**	P	**P**	**16 16 46.7**	**-0.4**
	9.5nm,1.1s,baz=117,slow=5.8,SNR=7.1						
	9.5nm,1.1s						
PETK	**Petropavlovsk-**	**68.50**	**354**	P	**P**	**16 16 55.0**	**-0.1**
	11nm,0.8s,baz=117,slow=7.2,SNR=8.7						
	11nm,0.8s						
LYN	**LuoYang**	**71.66**	**315**	⇓P	**P**	**16 17 15.6**	**+0.8**
LYN				pmax	pmax		
	comp=Z,48nm,1.0s						
CMAR	**Chiang Mai Arr**	**74.95**	**294**	P	**P**	**16 17 36.0**	**+1.5**
	comp=Z,5.4nm,1.0s,baz=127,slow=3.8,SNR=14						
	comp=Z,5.4nm,1.0s						
ILAR	**Eielson Array**	**87.04**	**18**	P	**P**	**16 18 37.3**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=239,slow=4.9,SNR=5.7						
	comp=Z,1.6nm,0.5s						
MKAR	**Makanchi Array**	**97.39**	**316**	P	**P**	**16 19 26.9**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=94,slow=5.5,SNR=5.1						
	comp=Z,1.5nm,0.7s						
ZALV	**Zalesovo Beam**	**97.64**	**324**	P	**P**	**16 19 26.4**	**-0.9**
	comp=Z,2.0nm,0.8s,baz=104,slow=5.4,SNR=7.0						
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**98.06**	**27**	P	**P**	**16 19 28.3**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=258,slow=4.7,SNR=11						
	comp=Z,1.1nm,0.8s						
FINES	**FINESS Array B**	**126.08**	**338**	PKP	**PKPdf**	**16 24 54.2**	**-0.5**
	comp=Z,1.7nm,1.0s,baz=169,slow=31,SNR=2.7						
NB2	**NORSAR Subarra**	**131.02**	**345**	pPKP		16 28 22.1	
	comp=Z,0.7nm,0.8s,baz=38,slow=4.6						
NB2	**NORSAR Subarra**	**131.02**	**345**	PKPdf	**PKiKP**	**16 25 09.5**	**+4.4**
	comp=Z,1.9nm,0.8s,baz=27,slow=1.8						
TORD	**Torodi Ar. Bea**	**165.65**	**264**	PKP	**PKPdf**	**16 25 57.9**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=5.4,slow=2.9,SNR=5.6						
TORD				PKPab	**PKPab**	**16 26 57.1**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=78,slow=4.4,SNR=5.4						

HEL 22 16:06:40.1±0.1, 67°.59N×33°.88E, h0km, ML1.2, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVZ	**Lovozero**	**0.42**	**43**	PG	Pg	16 06 48.0	-0.3
	baz=225						
LVZ				SG	Sg	16 06 53.2	-0.4
VRF	**Varrio**	**1.64**	**277**	PG	Pn	16 07 09.8	-0.4
VRF				SG	Sn	16 07 28.8	-3.1
VRF				MSG		16 07 29.1	
	comp=Z,1.8nm,0.2s						
OLKF	**Oulanka, Finla**	**2.18**	**236**	PG	Pb	16 07 19.2	-1.2
OLKF				MSG		16 07 44.6	
	comp=Z,1.3nm,0.2s						
OLKF				SG	Sb	16 07 47.7	-0.1
KU6	**Riekki**	**2.23**	**227**	PG	Pb	16 07 20.0	-1.2
KU6				MSG		16 07 46.2	
	comp=Z,0.7nm,0.2s						
KU6				SG	Sb	16 07 49.4	+0.1
RAJF	**Raja-Jooseppi**	**2.27**	**296**	SN	Sn	16 07 46.7	-0.9
MSF	**Maaselka**	**2.56**	**231**	PG	Pb	16 07 26.3	-0.5
SGF	**Sodankyl**	**2.83**	**270**	SB	Sb	16 08 04.6	-2.0
SGF	**Sodankyl**	**2.83**	**270**	SG	Sb	16 08 04.6	-2.0
KMNF	**Kaamanen**	**2.99**	**305**	PN	Pn	16 07 28.0	-0.7
KMNF				SB	Sb	16 08 08.6	-2.6
KMNF	**Kaamanen**	**2.99**	**305**	SG	Pn	16 07 28.0	-0.7
RANF	**Ranua**	**3.22**	**244**	PG	Pb	16 07 36.8	-1.3
	baz=55						
RANF				SG	Sb	16 08 17.1	-0.7
RNF	**Rovaniemi**	**3.23**	**256**	PN	Pn	16 07 32.7	+0.7
RNF				SN	Sn	16 08 11.5	+0.4
KEV	**Kevo**	**3.32**	**314**	SN	Sn	16 08 10.8	-2.5
ARA0	**ARCESS Array S**	**3.64**	**306**	PN	Pn	16 07 35.9	-1.7
TOF	**Tornio**	**4.07**	**253**	SG	Sg	16 08 46.6	-4.0
TOF	**Tornio**	**4.07**	**253**	SB	Sg	16 08 46.6	-4.0
KTK1	**Kautokeino**	**4.20**	**295**	SG	Sb	16 08 48.2	+2.3

HEL 22 16:06:46.8±1.0, 69°.39N×30°.70E, h0km, ML0.9, Suspected explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAJF	**Raja-Jooseppi**	**1.26**	**224**	PG	Pg	16 07 09.0	-1.9
RAJF				SG	Sg	16 07 25.0	-2.2
KMNF	**Kaamanen**	**1.34**	**261**	PG	Pg	16 07 11.6	-0.8
KEV	**Kevo**	**1.35**	**287**	PG	Pg	16 07 10.6	-2.0
KEV				MSG		16 07 27.5	
	comp=Z,0.9nm,0.2s						
KEV				SG	Sg	16 07 28.2	-1.8
ARA0	**ARCESS Array S**	**1.84**	**277**	PG	Pn	16 07 19.1	-0.5
ARA0				SG	Sn	16 07 43.5	0.0
HEF	**Hetta**	**2.73**	**252**	MSG		16 08 07.1	
	comp=Z,0.3nm,0.2s						
HEF				SB	Sb	16 08 08.8	-1.7
RNF	**Rovaniemi**	**3.30**	**214**	PN	Pn	16 07 40.1	+0.4
RANF	**Ranua**	**3.70**	**206**	SN	Sn	16 08 27.9	-1.6
TRO	**Tromso**	**4.14**	**279**	PN	Pn	16 07 50.9	-0.3
TRO				SN	Sn	16 08 40.8	+0.5
OUL	**Oulu**	**4.71**	**206**	SN	Sn	16 08 50.8	-3.3

IDC 22 16:10:24.0±2.9, 30°.67S×177°.46W, h0km, mb3.5/2, mbtmp3.7/3, ML3.0/1, Error ellipse: s-maj=63.2km s-min=24.8km az=98.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.47**	**344**	Pn	Pg	16 10 52.0	-0.1
	111nm,0.3s,baz=46,slow=19,SNR=2.2						
RAO				Sn	Sg	16 11 10.8	-0.3
	210nm,0.3s,baz=101,slow=22,SNR=4.8						
URZ	**Urewera**	**8.80**	**209**	Pn	Pn	16 12 30.6	-1.8
	0.2nm,0.3s,baz=52,slow=17,SNR=1.3						
URZ				Sn	Sn	16 14 08.9	-3.4
	0.4nm,0.3s,baz=282,slow=23,SNR=2.0						
	8.7nm,0.8s						
ASAR	**Alice Springs**	**43.56**	**267**	P	P	16 18 30.3	+0.4
	0.2nm,0.6s,baz=104,slow=6.9,SNR=1.6						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**44.57**	**272**	P	P	16 18 38.0	0.0
	0.5nm,0.4s,baz=111,slow=8.2,SNR=12						
	0.5nm,0.4s						
FINES	**FINESS Array B**	**145.56**	**340**	PKPbc	PKPdf	16 30 02.8	-0.6
	1.0nm,0.5s,baz=36,slow=1.5,SNR=8.5						

IDC ***22*** *16:11:05.9±0.7, 6°.75N×72°.93W, h164km±10km, mb3.2/3, mbtmp3.8/6, Error ellipse: s-maj=33.3km s-min=7.3km az=134.0*

RSNC ***22*** *16:11:07.9±0.0, 7°.N±2°.×7°.3W±°, h148km±4km, mb4.1, mB4.9, ML3.3, Mw(mB)4.2*

ISC 22 16:11:05.6±0.8, 6°.84N±0°.03×73°.10W±0°.04, h156km±6km, n41, σ1s 47/71, mb3.4/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.26**	**198**	P	**Pn**	**16 11 26.7**	**-0.3**
BARC				S	**Sn**	**16 11 42.5**	**-0.9**
PAMC	**Pamplona, Colo**	**0.64**	**39**	P	**Pn**	**16 11 29.7**	**+0.8**
PAMC				S	**Sn**	**16 11 46.3**	**-0.4**
RUSC	**La Rusia**	**0.94**	**179**	P	**Pn**	**16 11 30.7**	**-0.3**
RUSC				S	**Sn**	**16 11 49.7**	**-0.8**
TAMC	**Tame, Arauca**	**1.36**	**107**	P	**Pn**	**16 11 35.1**	**+0.8**
TAMC				S	**Sn**	**16 11 57.2**	**+1.0**
PTBC	**PUERTO BERRIO,**	**1.38**	**257**	P	**Pn**	**16 11 33.1**	**-1.2**
PTBC				S	**Sn**	**16 11 55.1**	**-1.3**
OCAC	**Ocana**	**1.40**	**351**	P	**Pn**	**16 11 35.4**	**+0.6**
OCAC				S	**Sn**	**16 11 57.8**	**+0.5**
SPBC	**San Pablo de B**	**1.52**	**219**	P	**Pn**	**16 11 35.5**	**-0.5**
SPBC				S	**Sn**	**16 11 58.1**	**-1.2**
ZARC	**Zaragoza, Cauc**	**1.86**	**290**	P	**Pn**	**16 11 39.0**	**-0.4**
ZARC				S	**Sn**	**16 12 04.6**	**-0.9**
NORC	**Norcasia**	**

	2.0nm,0.5s								
YKA	**Yellowknife Ar**	**63.25**	**340**	P		**P**		**16 21 17.3**	**+0.1**
	0.3nm,0.6s,baz=125,slow=6.5,SNR=4.4								
	0.3nm,0.6s								
ASAR	**Alice Springs**	**149.14**	**234**	PKPbc		**PKPbc**		**16 30 35.4**	**-1.1**
	0.3nm,0.8s,baz=121,slow=3.5,SNR=4.2								
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc		**PKPbc**		**16 30 38.2**	**-1.3**
	0.2nm,0.4s,baz=108,slow=2.8,SNR=8.4								

*NEIC **22** 16:17:19.5±1.4,56°.32N±0°.08×148°.8W±0°.1, h22km±9km, ML3.5/58,ML3.1(AEIC), Error ellipse: s-maj=12.3km s-min=7.9km az=163.0*

*AEIC **22** 16:17:21.7±1.6,56°.22N±0°.07×148°.7W±0°.1, h9km±6km, Error ellipse: s-maj=10.8km s-min=8.4km az=153.0*

ISC 22 16:17:17.5±1.6,56°.33N±0°.09×148°.78W±0°.06,h10km, n166,σ1§04/168,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.54**	**307**		**Pn**	**16 17 59.3**	**+0.6**
KDAK	**Kodiak Island**	**2.54**	**307**		**Sn**	**16 18 28.2**	**-1.5**
KDAK	**Kodiak Island**	**2.54**	**307**	S	**Sn**	**16 18 28.2**	**-1.5**
	baz=124						
OHAK	**Old Harbor**	**2.64**	**292**		**Pn**	**16 18 00.4**	**+0.3**
OHAK					**Sn**	**16 18 30.1**	**-2.0**
OHAK	**Old Harbor**	**2.64**	**292**	P	**Pn**	**16 18 00.4**	**+0.3**
	baz=108						
OHAK				S	**Sn**	**16 18 30.9**	**-1.2**
	baz=108						
SYI	**Shuyak Island**	**3.00**	**321**		**Pn**	**16 18 06.2**	**+1.0**
SYI	**Shuyak Island**	**3.00**	**321**		**Sn**	**16 18 41.8**	**+0.6**
Q20K	**Shuyak Island**	**3.01**	**321**	P	**Pn**	**16 18 06.2**	**+1.0**
	baz=138						
Q20K				S	**Sn**	**16 18 41.8**	**+0.6**
	baz=138						
SII	**Sitkinak Islan**	**3.01**	**277**		**Pn**	**16 18 05.9**	**+0.6**
SII					**Sn**	**16 18 39.5**	**-1.8**
SII	**Sitkinak Islan**	**3.01**	**277**	IAML		16 18 43.1	
	comp=E,91nm,1.2s						
SII				IAML		16 18 46.5	
	comp=N,108nm,1.0s						
SII	**Sitkinak Islan**	**3.01**	**277**	P	**Pn**	**16 18 05.9**	**+0.6**
	baz=92						
SII				S	**Sn**	**16 18 39.6**	**-1.8**
	baz=92						
Q23K	**Middleton Isla**	**3.37**	**22**		**Pn**	**16 18 10.4**	**+0.3**
Q23K	**Middleton Isla**	**3.37**	**22**	P	**Pn**	**16 18 11.1**	**+1.0**
	baz=203						
MID	**Middleton Isla**	**3.37**	**22**		**Pn**	**16 18 10.3**	**+0.2**
CNPM	**China Poot**	**3.46**	**339**		**Pn**	**16 18 12.6**	**+1.1**
CNPM					**Sn**	**16 18 51.7**	**-0.8**
BRSE	**Bradley Lake S**	**3.58**	**344**		**Pn**	**16 18 13.5**	**+0.5**
BRSE	**Bradley Lake S**	**3.58**	**344**	P	**Pn**	**16 18 13.7**	**+0.7**
	baz=162						
BRLK	**Bradley Lake**	**3.62**	**343**		**Pn**	**16 18 14.3**	**+0.6**
BRLK					**Sn**	**16 18 55.3**	**-1.1**
HOM	**Homer**	**3.67**	**337**	Pn	Pn	16 18 08.5	-5.8
Q19K	**Cape Douglas,**	**3.69**	**317**	Pn	**Pn**	**16 18 16.2**	**+1.6**
Q19K				IAML		16 19 31.8	
	comp=N,140nm,1.3s						
P23K	**Montague Islan**	**3.75**	**11**		**Pn**	**16 18 15.8**	**+0.5**
P23K					**Sn**	**16 18 57.5**	**-2.0**
P23K	**Montague Islan**	**3.75**	**11**	P	**Pn**	**16 18 15.8**	**+0.5**
	baz=192						
P23K				S	**Sn**	**16 18 57.5**	**-2.0**
	baz=192						
SEW	**Seward**	**3.80**	**355**		**Pn**	**16 18 16.7**	**+0.6**
SEW	**Seward**	**3.80**	**355**	P	**Pn**	**16 18 16.7**	**+0.6**
	baz=174						
CHIR	**Chirikof Islan**	**3.87**	**265**	Pn	**Pn**	**16 18 17.5**	**+0.5**
CHIR				IAML		16 19 02.3	
	comp=N,46nm,1.2s						
CHIR				IAML		16 19 15.0	
	comp=E,57nm,1.3s						
KAKN	**Katmai Knife C**	**3.94**	**303**		**Pn**	**16 18 19.8**	**+1.8**
P19K	**Oil Pt**	**4.09**	**326**		**Pn**	**16 18 21.7**	**+1.6**
P19K	**Oil Pt**	**4.09**	**326**	IAML		16 19 19.4	
	comp=E,58nm,0.5s						
P19K				IAML		16 19 23.0	
	comp=N,61nm,0.7s						
HIN	**Hinchinbrook I**	**4.25**	**15**		**Pn**	**16 18 23.0**	**+0.8**
HIN					**Sn**	**16 19 10.2**	**-1.7**
HIN	**Hinchinbrook I**	**4.25**	**15**	IAML		16 19 11.4	
	comp=E,66nm,1.3s						
HIN				IAML		16 19 12.6	
	comp=N,72nm,0.6s						
SLKM	**Skilak Lake**	**4.26**	**350**		**Pn**	**16 18 23.1**	**+0.7**
O20K	**Slope Mountain**	**4.28**	**333**		**Pn**	**16 18 23.8**	**+1.1**
O20K	**Slope Mountain**	**4.28**	**333**	P	**Pn**	**16 18 23.8**	**+1.1**
	baz=150						
KAIM	**Kayak Island**	**4.28**	**31**		**Pn**	**16 18 23.2**	**+0.5**
KAIM	**Kayak Island**	**4.28**	**31**	IAML		16 19 17.6	
	comp=N,78nm,1.5s						
KAIM				IAML		16 19 20.1	
	comp=E,77nm,1.5s						
KAIM	**Kayak Island**	**4.28**	**31**	P	**Pn**	**16 18 23.2**	**+0.5**
	baz=214						
IVE	**Iliamna Volcan**	**4.32**	**330**		**Pn**	**16 18 24.0**	**+0.7**
ILSW	**Iliamna Southw**	**4.33**	**330**	Pn	**Pn**	**16 18 24.4**	**+0.9**
ILSW				IAML		16 19 22.4	
	comp=E,30nm,0.6s						
ILSW				IAML		16 19 23.7	
	comp=N,25nm,1.4s						
SUCK	**Suckling Hills**	**4.59**	**33**	Pn	**Pn**	**16 18 27.7**	**+0.8**
SUCK				IAML		16 19 21.5	
	comp=N,30nm,1.4s						
SUCK				IAML		16 19 24.3	
	comp=E,41nm,1.4s						
RED	**Redoubt Volcan**	**4.61**	**335**		**Pn**	**16 18 27.8**	**+0.6**
P18K	**Big Mountain,**	**4.61**	**314**		**Pn**	**16 18 28.0**	**+0.8**
P18K	**Big Mountain,**	**4.61**	**314**	P	**Pn**	**16 18 28.0**	**+0.8**
	baz=129						
RSO	**Redoubt South**	**4.64**	**335**	Pn	**Pn**	**16 18 28.2**	**+0.4**
NICHA	**Nichawak Mount**	**4.67**	**31**		**Pn**	**16 18 28.9**	**+0.9**
HMT	**Hamilton**	**4.67**	**29**	Pn	Pn	16 18 24.9	-3.2
GOAT	**Goat Mountain**	**4.76**	**25**		**Pn**	**16 18 29.8**	**+0.4**
RC01	**Rabbit Creek A**	**4.80**	**354**	Pn	**Pn**	**16 18 28.2**	**-1.6**
RC01				IAML		16 19 25.7	
	comp=E,29nm,0.5s						
RC01				IAML		16 19 33.0	
	comp=N,24nm,1.5s						
O19K	**Port Alsworth**	**4.86**	**325**		**Pn**	**16 18 31.6**	**+1.1**
O19K				IAML		16 19 38.1	
	comp=E,53nm,0.4s						
O19K				IAML		16 19 51.6	
	comp=N,43nm,0.5s						
BERG	**Berg Lake**	**4.87**	**31**	Pn	Pn	16 18 28.0	-2.8
O18K	**Koktuh Hills**	**4.91**	**319**		**Pn**	**16 18 31.9**	**+0.6**
O18K	**Koktuh Hills**	**4.91**	**319**	P	**Pn**	**16 18 31.9**	**+0.6**
	baz=133						
SNH	**Sunshine Point**	**4.97**	**37**	Pn	**Pn**	**16 18 33.0**	**+0.8**
SNH				IAML		16 19 42.0	
	comp=E,40nm,1.5s						
SNH				IAML		16 20 44.5	
	comp=N,27nm,1.3s						
P17K	**Kvichak River**	**5.01**	**308**		**Pn**	**16 18 34.4**	**+1.7**
P17K	**Kvichak River**	**5.01**	**308**	P	**Pn**	**16 18 34.4**	**+1.7**
	baz=122						
KHIT	**Khitrov Hills**	**5.04**	**33**		**Pn**	**16 18 33.6**	**+0.3**
KNK	**Knik Glacier**	**5.10**	**2**	Pn	**Pn**	**16 18 35.5**	**+1.6**
KNK				IAML		16 19 37.7	
	comp=E,15nm,1.0s						
KNK				IAML		16 19 48.7	
	comp=N,14nm,1.3s						
BMRM	**Bremner River**	**5.13**	**23**		**Pn**	**16 18 35.3**	**+0.9**
BMRM	**Bremner River**	**5.13**	**23**	P	**Pn**	**16 18 35.3**	**+0.9**
	baz=207						
WAX	**Waxell Ridge**	**5.17**	**35**	Pn	**Pn**	**16 18 33.7**	**-1.3**
WAX				IAML		16 19 35.9	
	comp=E,35nm,1.2s						
N20K	**Mount Spurr**	**5.20**	**341**	P	**Pn**	**16 18 36.1**	**+0.7**
	baz=158						
SPCR	**Spurr Chakacha**	**5.20**	**341**		**Pn**	**16 18 36.1**	**+0.7**
MESA	**MESA**	**5.28**	**40**	Pn	**Pn**	**16 18 36.0**	**-0.6**
PMR	**Palmer**	**5.28**	**358**	Pn	**Pn**	**16 18 36.6**	**+0.3**
PMR				IAML		16 19 36.8	
	comp=E,12nm,0.9s						
PMR				IAML		16 19 41.3	
	comp=N,15nm,0.8s						
CRQM	**Cirque**	**5.33**	**31**	Pn	**Pn**	**16 18 38.0**	**+0.8**
CRQM				IAML		16 19 40.3	
	comp=N,27nm,0.5s						
CRQM				IAML		16 19 41.6	
	comp=E,24nm,1.4s						
KLU	**Klutina**	**5.38**	**15**		**Pn**	**16 18 38.9**	**+1.0**
KLU	**Klutina**	**5.38**	**15**	IAML		16 19 41.3	
	comp=N,23nm,0.7s						
KLU				IAML		16 19 42.4	
	comp=E,20nm,0.5s						
KLU	**Klutina**	**5.38**	**15**	P	**Pn**	**16 18 38.9**	**+1.0**
	baz=197						
N19K	**Bonanza Creek**	**5.39**	**329**		**Pn**	**16 18 38.6**	**+0.5**
N19K	**Bonanza Creek**	**5.39**	**329**	P	**Pn**	**16 18 38.6**	**+0.5**
	baz=144						
TGL	**Tana Glacier**	**5.42**	**33**	Pn	**Pn**	**16 18 39.0**	**+0.6**
ISLE	**Juniper Island**	**5.45**	**36**		**Pn**	**16 18 39.4**	**+0.5**
SML	**Sawmill**	**5.50**	**2**	Pn	**Pn**	**16 18 41.0**	**+1.6**
SCM	**Sheep Creek Mo**	**5.57**	**7**	Pn	**Pn**	**16 18 42.2**	**+1.8**
VRDI	**Verde Repeater**	**5.64**	**27**		**Pn**	**16 18 42.1**	**+0.6**
KIAG	**Kiagna River**	**5.69**	**33**		**Pn**	**16 18 42.9**	**+0.6**
N25K	**Chitina, Valde**	**5.71**	**20**	Pn	**Pn**	**16 18 43.8**	**+1.4**
GLB	**Gilahina Butte**	**5.74**	**25**		**Pn**	**16 18 43.2**	**+0.5**
N18K	**Kilae Creek**	**5.74**	**322**		**Pn**	**16 18 43.5**	**+0.8**
N18K	**Kilae Creek**	**5.74**	**322**	P	**Pn**	**16 18 43.5**	**+0.8**
	baz=136						
TABL	**Table Mountain**	**5.75**	**41**	Pn	**Pn**	**16 18 43.6**	**+0.6**
SKT	**Skwentna**	**5.84**	**347**	Pn	**Pn**	**16 18 44.8**	**+0.7**
PTPK	**Patty Peak**	**5.87**	**31**		**Pn**	**16 18 45.2**	**+0.5**
MCARA	**McCarthy VSAT**	**5.88**	**28**		**Pn**	**16 18 45.8**	**+1.2**
O16K	**Kokwok River B**	**5.94**	**307**	Pn	**Pn**	**16 18 46.7**	**+1.3**
M24K	**Tolsona, Glenn**	**5.95**	**12**	Pn	**Pn**	**16 18 47.4**	**+1.8**
SVW2	**Sparrevohn**	**5.95**	**326**	Pn	**Pn**	**16 18 46.7**	**+1.1**
M20K	**Styx River**	**6.00**	**340**	Pn	**Pn**	**16 18 47.1**	**+0.7**
BARN	**Barnard Glacie**	**6.02**	**35**	Pn	**Pn**	**16 18 47.6**	**+0.9**
BCPM	**Bancas Point**	**6.05**	**49**	Pn	**Pn**	**16 18 47.0**	**0.0**
CTGM	**Chitina Glacie**	**6.05**	**37**	Pn	**Pn**	**16 18 47.7**	**+0.5**
LOGN	**Logan Glacier**	**6.07**	**39**		**Pn**	**16 18 47.8**	**+0.4**
N17K	**Nushagak Hills**	**6.10**	**317**	Pn	**Pn**	**16 18 47.7**	**+0.1**
M19K	**Big River Lodg**	**6.29**	**335**		**Pn**	**16 18 50.9**	**+0.6**
M19K	**Big River Lodg**	**6.29**	**335**	P	**Pn**	**16 18 50.8**	**+0.6**
	baz=150						
CHNA	**Chernabura Isl**	**6.31**	**261**	P	**Pn**	**16 18 50.6**	**0.0**
	baz=72						
CNBA	**Chernabura Isl**	**6.32**	**261**		**Pn**	**16 18 50.6**	**0.0**
M18K	**Stony River**	**6.33**	**328**		**Pn**	**16 18 51.4**	**+0.6**
M18K	**Stony River**	**6.33**	**328**	P	**Pn**	**16 18 51.4**	**+0.6**
	baz=142						
L19K	**White Mountain**	**6.64**	**335**	Pn	**Pn**	**16 18 55.7**	**+0.6**
SDPT	**Sand Point**	**6.66**	**266**	Pn	**Pn**	**16 18 56.4**	**+1.0**
O29M	**Mount Kennedy**	**6.69**	**49**		**Pn**	**16 18 55.7**	**-0.1**
P29M	**Windy Craggy**	**6.74**	**56**		**Pn**	**16 18 56.3**	**-0.1**
P29M	**Windy Craggy**	**6.74**	**56**	P	**Pn**	**16 18 56.8**	**+0.4**
	baz=245						
M26K	**Nabesna, AK**	**6.76**	**23**	Pn	**Pn**	**16 18 57.2**	**+0.4**
M17K	**Holitna River**	**6.78**	**322**		**Pn**	**16 18 57.9**	**+0.9**
M17K	**Holitna River**	**6.78**	**322**	P	**Pn**	**16 18 58.2**	**+1.2**
	baz=135						
DHY	**Denali Highway**	**6.80**	**5**	Pn	**Pn**	**16 18 57.8**	**+0.4**
M27K	**Edge Creek, AK**	**7.00**	**27**	Pn	**Pn**	**16 19 00.9**	**+0.8**
S31K	**Pelican**	**7.02**	**71**		**Pn**	**16 18 59.6**	**-0.6**
S31K	**Pelican**	**7.02**	**71**	P	**Pn**	**16 18 59.6**	**-0.6**
	baz=262						
M16K	**Timber Creek**	**7.09**	**316**	Pn	**Pn**	**16 19 01.9**	**+0.7**
RND	**Reindeer**	**7.10**	**360**		**Pn**	**16 19 02.8**	**+1.4**
N15K	**Kwethluk River**	**7.10**	**307**	Pn	**Pn**	**16 19 03.4**	**+2.0**
MENT	**Mentasta**	**7.10**	**19**	Pn	**Pn**	**16 19 01.2**	**-0.2**
L18K	**Granite Mounta**	**7.16**	**329**	Pn	**Pn**	**16 19 01.6**	**-0.5**
TRF	**Thorofare Moun**	**7.18**	**355**	Pn	**Pn**	**16 19 02.9**	**+0.3**
O14K	**Higyukauivet M**	**7.29**	**299**	Pn	**Pn**	**16 19 05.2**	**+1.3**
CAST	**Castle Rocks**	**7.30**	**348**	Pn	**Pn**	**16 19 05.3**	**+1.1**
KTH	**Kantishna Hill**	**7.33**	**352**	Pn	**Pn**	**16 19 06.0**	**+1.4**
HYT	**Haines Junctio**	**7.41**	**48**	Pn	**Pn**	**16 19 06.6**	**+0.8**
S12K	**Black Hills**	**7.47**	**271**	Pn	**Pn**	**16 19 07.6**	**+1.1**
K20K	**Telida**	**7.53**	**342**	Pn	**Pn**	**16 19 08.5**	**+1.2**
TTA	**Tatalina**	**7.56**	**334**	Pn	**Pn**	**16 19 08.3**	**+0.5**
L27K	**Beaver Creek,**	**7.61**	**25**	Pn	**Pn**	**16 19 08.7**	**+0.3**
BCAR	**Beaver Creek A**	**7.62**	**25**	Pn	**Pn**	**16 19 10.2**	**+1.7**
RIDG	**Independent Ri**	**7.69**	**13**	Pn	**Pn**	**16 19 11.3**	**+1.8**
L16K	**Owhat River**	**7.71**	**319**	Pn	**Pn**	**16 19 10.9**	**+1.2**
BPAW	**Bear Paw Mtn.**	**7.87**	**353**	Pn	**Pn**	**16 19 11.0**	**-0.9**
N30M	**Aishikik Lake**	**7.94**	**45**	Pn	**Pn**	**16 19 14.1**	**+1.2**
O30N	**Mendenhall**	**7.98**	**51**	Pn	**Pn**	**16 19 14.5**	**+0.9**
K17K	**Iditarod**	**8.02**	**327**	Pn	**Pn**	**16 19 14.6**	**+0.6**
SCRK	**Sand Creek**	**8.03**	**15**	Pn	**Pn**	**16 19 16.0**	**+1.7**
M29M	**Somme Creek**	**8.07**	**36**	Pn	**Pn**	**16 19 15.7**	**+0.9**
HDA	**Harding Lake**	**8.15**	**6**	Pn	**Pn**	**16 19 18.2**	**+2.4**
WRH	**Wood River Hil**	**8.18**	**2**	Pn	**Pn**	**16 19 17.7**	**+1.6**
J20K	**Nowinta River**	**8.31**	**344**	Pn	**Pn**	**16 19 19.2**	**+1.3**
CCB	**Clear Creek Bu**	**8.36**	**3**	Pn	**Pn**	**16 19 19.3**	**+0.8**
J19K	**Poorman**	**8.40**	**339**	Pn	**Pn**	**16 19 19.1**	**-0.1**
K27K	**Chicken**	**8.41**	**21**	Pn	**Pn**	**16 19 20.8**	**+1.5**
WHY	**Whitehorse**	**8.47**	**53**	Pn	**Pn**	**16 19 21.3**	**+1.1**
IL31		**8.52**	**5**	Pn	**Pn**	**16 19 21.1**	**+0.3**
J26L	**Joseph Creek**	**8.59**	**15**	Pn	**Pn**	**16 19 23.3**	**+1.5**
P32M	**Atlin**	**8.64**	**62**	Pn	**Pn**	**16 19 23.1**	**+0.6**
L29M	**L29M**	**8.66**	**34**	Pn	**Pn**	**16 19 24.0**	**+1.3**
MDM	**Murphy Dome**	**8.66**	**2**	Pn	**Pn**	**16 19 24.9**	**+2.2**
U33K	**Whale Pass**	**8.73**	**85**	Pn	**Pn**	**16 19 23.4**	**-0.3**
M30M	**Minto, Yukon**	**8.73**	**39**	Pn	**Pn**	**16 19 24.8**	**+1.0**
J17K	**VABM Dome**	**8.77**	**328**	Pn	**Pn**	**16 19 24.6**	**+0.4**
L14K	**Kuka Creek**	**8.78**	**311**	Pn	**Pn**	**16 19 25.4**	**+1.1**
I23K	**Minto, Yukon-K**	**8.85**	**358**	Pn	**Pn**	**16 19 26.0**	**+0.7**
J16K	**Anvik River**	**9.16**	**324**	Pn	**Pn**	**16 19 29.0**	**-0.5**
Q32M	**Nakina River**	**9.23**	**67**	Pn	**Pn**	**16 19 31.8**	**+1.1**
P33M	**Teslin, Yukon**	**9.26**	**59**	Pn	**Pn**	**16 19 31.3**	**+0.3**
PRP	**Porcupine Dome**	**9.35**	**8**	Pn	**Pn**	**16 19 34.0**	**+1.7**
K29M	**Barlow Dome**	**9.39**	**32**	Pn	**Pn**	**16 19 34.4**	**+1.6**
I26K	**Coal Creek Min**	**9.41**	**15**	Pn	**Pn**	**16 19 33.7**	**+0.8**
M31M	**Drury Creek, Y**	**9.41**	**45**	Pn	**Pn**	**16 19 35.0**	**+1.9**
H24K	**Noodor Dome**	**9.55**	**2**	Pn	**Pn**	**16 19 35.2**	**+0.3**
H21K	**Melozitna Rive**	**9.56**	**350**	Pn	**Pn**	**16 19 34.7**	**-0.3**
H18K	**Honhosa River**	**10.00**	**336**	Pn	**Pn**	**16 19 41.3**	**+0.2**
I28M	**Miner Creek**	**10.10**	**21**	Pn	**Pn**	**16 19 43.9**	**+1.4**
H17K	**Granite Mounta**	**10.20**	**332**	Pn	**Pn**	**16 19 44.7**	**+0.9**
J30M	**Hart River**	**10.28**	**31**	Pn	**Pn**	**16 19 46.2**	**+1.2**
FYU	**Fort Yukon**	**10.41**	**8**	Pn	**Pn**	**16 19 47.0**	**+0.4**
G21K	**Allakaket**	**10.46**	**350**	Pn	**Pn**	**16 19 48.0**	**+0.6**
MMPY	**Sheldon Lake,**	**10.88**	**47**	Pn	**Pn**	**16 19 54.8**	**+1.6**

*IDC **22** 16:19:17.0±0.8, 15°.14S×166°.82E, h0km, mb4.0/10, mbtmp4.1/11,ML4.2/1,MS3.6/4, Error ellipse: s-maj=29.9km s-min=18.7km az=86.0*

*NOU **22** 16:19:19.0, 15°.08S×166°.82E, h0km, MLv4.8/14, Vanuatu Islands*

*NEIC **22** 16:19:20.8±1.1, 15°.05S±0°.09×166°.83E±0°.10, h31km±7km, mb4.8/15, Error ellipse: s-maj=18.5km s-min=4.8km az=47.0*

ISC 22 16:19:22.0±0.7,15°.10S±0°.07×166°.7E±0°.1,h35km,n49, σ1§07/46,mb4.4/14,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**5.66**	**175**	P	**Pn**	**16 20 44.9**	**+1.2**
LIFNC	**LIFOU**	**5.66**	**175**	Pn	**Pn**	**16 20 43.2**	**-0.5**
KOUNC	**Koumac, New Ca**	**5.90**	**203**	P	**Pn**	**16 20 47.9**	**+0.9**
KOUNC	**Koumac, New Ca**	**5.90**	**203**		**Pn**	**16 20 47.0**	**0.0**
MARNC	**Mare, Loyalty**	**6.46**	**169**	P	**Pn**	**16 20 56.0**	**+1.3**
MARNC	**Mare, Loyalty**	**6.46**	**169**	Pn	**Pn**	**16 20 53.3**	**-1.4**
DZM	**Mont Dzumac**	**6.94**	**182**	P	**Pn**	**16 21 01.4**	**+0.1**
DZM	**Mont Dzumac**	**6.94**	**182**		**Pn**	**16 21 00.6**	**-0.7**
DZM	**Mont Dzumac**	**6.94**	**182**	Pn	**Pn**	**16 21 00.3**	**-1.0**
	4.8nm,0.3s,baz=358,slow=16,SNR=43						
DZM				Sn	**Sn**	**16 22 18.7**	**-0.4**
	4.1nm,0.3s,baz=329,slow=23,SNR=2.3						
DZM				LR	LR	16 23 15.8	
	comp=Z,385nm,19.4s,baz=18,slow=35 11nm,0.3s						
NOUC	**Port Laguerre**	**6.97**	**183**	P	**Pn**	**16 21 02.6**	**+0.9**
ONTNC	**Ouen Toro**	**7.17**	**182**	P	**Pn**	**16 21 05.7**	**+1.2**
OUENC	**Ouen Island, N**	**7.28**	**179**	P	**Pn**	**16 21 07.5**	**+1.6**
OUENC	**Ouen Island, N**	**7.28**	**179**		**Pn**	**16 21 06.7**	**+0.8**
PINNC	**Pines Island,**	**7.50**	**175**	P	**Pn**	**16 21 10.0**	**+1.0**
PINNC	**Pines Island,**	**7.50**	**175**	Pn	**Pn**	**16 21 07.7**	**-1.3**
HNR	**Honiara**	**8.71**	**310**	Pn	**Pn**	**16 21 24.7**	**-0.9**
HNR	**Honiara**	**8.71**	**310**	LR	LR	16 24 37.4	
	comp=Z,2μm,20.9s,baz=164,slow=36						
CTA	**Charters Tower**	**20.14**	**253**	LR	LR	16 30 57.6	
	comp=Z,97nm,18.6s,baz=1.0,slow=35						
TOZ	**Tahuroa Road**	**23.84**	**163**	P	**P**	**16 24 30.8**	**-1.2**
URZ	**Urewera**	**24.82**	**160**	P	**P**	**16 24 41.1**	**+0.2**
	18nm,1.1s,baz=341,slow=3.8,SNR=3.2 18nm,1.1s						
RTZ	**Ruatahuna**	**25.10**	**161**	P	**P**	**16 24 42.3**	**-1.3**
RTZ				IAmb	IAmb	16 24 48.8	
	comp=Z,83nm,1.7s						
BKZ	**Black Stump Fm**	**25.46**	**162**	P	**P**	**16 24 45.8**	**-1.0**
LTZ	**Lake Taylor**	**27.99**	**171**	P	**P**	**16 25 09.4**	**-0.1**
WB0	**Warramunga Arr**	**31.18**	**257**	P	**P**	**16 25 36.4**	**-1.7**
WB0				IAmb	IAmb	16 25 42.3	
	comp=Z,17nm,1.4s						
WRA	**Warramunga Arr**	**31.24**	**256**	P	**P**	**16 25 38.6**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=78,slow=6.4,SNR=5.1 comp=Z,0.9nm,0.9s						
AS31	**Alice Springs**	**32.06**	**249**	P	**P**	**16 25 45.4**	**-0.5**
ASAR	**Alice Springs**	**32.07**	**249**	P	**P**	**16 25 45.0**	**-0.9**
ASAR	**Alice Springs**	**32.07**	**249**	P	**P**	**16 25 45.6**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=71,slow=9.3,SNR=12 comp=Z,0.5nm,0.6s						
RAR	**Rarotonga**	**32.35**	**106**	LR	LR	16 36 22.6	
	comp=Z,33nm,21.1s,baz=280,slow=32						
BBOO	**Buckleboo**	**32.95**	**232**	P	**P**	**16 25 52.5**	**-0.9**
BBOO				IAmb	IAmb	16 26 03.6	
	comp=Z,11nm,1.2s						
FORT	**Forrest**	**38.67**	**239**	P	**P**	**16 26 41.5**	**-1.0**
FORT				IAmb	IAmb	16 26 54.5	
	comp=Z,18nm,0.8s						
FITZ	**Fitzroy Crossi**	**39.45**	**260**	P	**P**	**16 26 48.8**	**-0.4**
MCQ	**Macquarie Isla**	**39.78**	**187**	P	**P**	**16 26 51.4**	**0.0**
VNDA	**Vanda**	**62.48**	**181**	P	**P**	**16 29 42.1**	**+0.6**
VNDA				IAmb	IAmb	16 29 44.3	
	comp=Z,15nm,2.0s						
VNDA	**Vanda**	**62.48**	**181**	P	**P**	**16 29 41.8**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=7.2,slow=8.8,SNR=2.5 comp=Z,0.7nm,0.7s						
VNDA	**Vanda**	**62.48**	**181**	P	**P**	**16 29 42.6**	**+1.1**
SBA	**Scott Base**	**62.77**	**180**	P	**P**	**16 29 42.5**	**-0.9**
SBA				IAmb	IAmb	16 29 53.2	
	comp=Z,14nm,1.4s						
SBA	**Scott Base**	**62.77**	**180**	P	**P**	**16 29 45.1**	**+1.8**
JKA	**Kamikawa-asahi**	**62.92**	**341**	P	**P**	**16 29 44.0**	**-0.7**
CCD	**Concordia, Ant**	**64.44**	**191**	P	**P**	**16 29 55.9**	**+1.0**
PETK	**Petropavlovsk-**	**68.38**	**354**	P	**P**	**16 30 21.7**	**+1.9**
	comp=Z,2.4nm,0.6s,baz=135,slow=7.4,SNR=5.9 comp=Z,2.4nm,0.6s						
CMAR	**Chiang Mai Anr**	**74.64**	**294**	P	**P**	**16 31 00.5**	**+2.1**
	comp=Z,1.1nm,0.9s,baz=123,slow=3.7,SNR=6.3 comp=Z,1.1nm,0.9s						
QSPA	**South Pole Qui**	**74.93**	**180**	P	**P**	**16 30 59.1**	**-0.2**
QSPA	**South Pole Qui**	**74.93**	**180**	P	**P**	**16 30 59.6**	**+0.2**
	comp=Z,3.8nm,1.0s,baz=12,slow=6.9,SNR=5.2 comp=Z,3.8nm,1.0s						
OHAK	**Old Harbor**	**79.32**	**21**	P	**P**	**16 31 21.7**	**-2.1**
SONM	**Songino Array**	**82.50**	**324**	P	**P**	**16 31 42.0**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=116,slow=3.4,SNR=2.9 comp=Z,0.4nm,0.5s						
ILAR	**Eielson Array**	**87.04**	**18**	P	**P**	**16 32 02.4**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=228,slow=5.1,SNR=10 comp=Z,0.9nm,0.7s						
MKAR	**Makanchi Array**	**97.12**	**316**	P	Pdif	16 32 51.8	+0.9
	comp=Z,0.3nm,0.4s,baz=97,slow=5.2,SNR=4.5 comp=Z,0.3nm,0.4s						
ARCES	**ARCESS Array B**	**120.48**	**345**	PKP	**PKiKP**	**16 38 09.5**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=35,slow=3.3,SNR=11						

*IDC **22** 16:24:46.9±0.5,40°.83N×124°.21W, h0km, mb4.5/27, mbtmp4.4/34, ML3.8/7, MS3.8/32, Error ellipse: s-maj=13.3km s-min=7.9km az=37.0*

*NEIC **22** 16:24:49.

K02D Willamette Mer 1.99 14 Pn 16 25 21.2 -0.9
K02D IAML 16 25 45.3
comp=E,2µm,0.7s
K02D IAML 16 25 45.4
comp=N,2µm,0.9s
HOPS Hopland Field 2.01 151 Pn 16 25 20.9 -1.4
HOPS IAML 16 26 17.8
comp=N,2µm,1.2s
HOPS IAML 16 26 19.9
comp=E,3µm,1.6s
LGMM Garner Mountai 2.05 65 Pn 16 25 23.1 +0.1
L04D Klamath Falls 2.10 45 Pn 16 25 24.0 +0.4
LMEM Manzanita Entr 2.10 95 Pn 16 25 22.8 -0.9
HUMO Hull Mountain 2.10 28 Pn 16 25 22.7 -0.9
KEBM Edson Butte 2.11 360 Pn 16 25 22.5 -1.3
KEBM IAML 16 26 31.9
comp=N,2µm,1.0s
KEBM IAML 16 26 39.2
comp=E,3µm,1.5s
GFC Funks Creek 2.11 132 Pn 16 25 24.0 +0.3
M04C Macdoel 2.12 60 Pn 16 25 24.2 +0.1
GBMM Baldy Mountain 2.14 139 Pn 16 25 23.5 -0.6
LMHM Little Mount H 2.16 67 Pn 16 25 24.5 -0.2
HATC Hat Creek Radi 2.16 88 Pn 16 25 24.6 0.0
LTIM Timbered Crate 2.18 78 Pn 16 25 24.5 -0.2
LRDM Redding Peak 2.19 97 Pn 16 25 24.3 -0.5
GRTM Round Top Moun 2.22 145 Pn 16 25 25.3 +0.1
LASM Arnica Sink 2.23 67 Pn 16 25 25.2 -0.3
GSGM Seigler Mounta 2.26 146 Pn 16 25 26.8 +1.1
GDXM Geysers 2.27 149 Pn 16 25 24.8 -1.2
GGPM Geyser Peak 2.29 150 Pn 16 25 25.3 -1.0
GHCM House Creek 2.32 158 Pn 16 25 25.1 -1.5
GCRM Castle Rock Sp 2.34 148 Pn 16 25 26.0 -0.8
OGOM Van Goodin Ran 2.34 117 Pn 16 25 25.5 -1.4
MNRC McLaughlin Min 2.37 142 Pn 16 25 25.7 -1.6
OSUM Sutter Buttes 2.41 127 Pn 16 25 26.9 -0.9
J01E Myrtle Point 2.41 7 Pn 16 25 26.8 -1.0
J01E IAML 16 25 57.2
comp=N,1µm,0.7s
J01E IAML 16 26 22.4
comp=E,1µm,1.1s
NMTM Middletown 2.42 143 Pn 16 25 27.1 -0.9
BBOR Butler Butte 2.45 29 Pn 16 25 28.5 0.0
HOG Hogback Mounta 2.45 52 Pn 16 25 28.8 +0.2
ORV Oroville 2.47 118 Pn Pn 16 25 27.4 -1.3
SUTB Sutter Butte 2.47 127 Pn 16 25 27.3 -1.4
NHSM Mount Saint He 2.48 148 Pn 16 25 27.9 -0.9
DBO Dodson Butte 2.49 18 Pn 16 25 28.0 -1.0
DBO IAML 16 26 24.6
comp=E,1µm,1.5s
DBO IAML 16 26 24.8
comp=N,1µm,1.2s
OSTM Stimpson Lane 2.50 123 Pn 16 25 28.1 -1.0
PAM Palermo 2.51 121 Pn 16 25 28.5 -0.6
OWYM Wyandotte 2.53 120 Pn 16 25 28.2 -1.2
OHCM Honcut 2.59 122 Pn 16 25 29.6 -0.8
NBPM Berryessa Peak 2.65 141 Pn 16 25 31.3 +0.2
K04D Chiloquin, OR 2.67 45 Pn 16 25 31.6 +0.1
CVS Carmenet Viney 2.81 149 Pn 16 25 30.8 -2.5
MCCM Marconi Confer 2.84 157 Pn 16 25 32.1 -1.5
MCCM IAML 16 25 55.8
comp=N,1µm,0.8s
MCCM IAML 16 26 51.2
comp=E,738nm,2.5s
I03D Drain, OR 3.02 13 Pn 16 25 35.3 -0.9
I03D IAML 16 26 49.5
comp=N,788nm,1.4s
I03D IAML 16 26 54.3
comp=E,627nm,1.2s
AFDM Forest Hills D 3.14 124 Pn 16 25 37.6 -0.3
K05A Summer Lake 3.22 51 Pn Pn 16 25 39.3 +0.2
K05A IAML 16 26 51.5
comp=N,815nm,1.3s
K05A IAML 16 27 12.3
comp=E,592nm,2.1s
I04A Tendick Farm, 3.34 24 Pn Pn 16 25 41.2 +0.5
I04A IAML 16 26 20.9
comp=N,946nm,1.0s
I04A IAML 16 26 22.4
comp=E,766nm,0.8s
J05D Fort Rock, OR 3.41 41 Pn Pn 16 25 42.1 +0.5
J05D IAML 16 26 55.2
comp=E,865nm,1.4s
BUCK Buck Mountain 3.57 15 Pn Pn 16 25 44.5 +0.7
BUCK IAML 16 27 08.0
comp=N,606nm,1.4s
MPK Martis Peak 3.60 113 IAML 16 27 00.6
comp=N,700nm,1.1s
COR Corvallis 3.89 11 Pn Pn 16 25 48.0 -0.2
COR IAML 16 27 14.0
comp=N,447nm,1.8s
PAHR Pah Rah Range 3.92 104 Pn 16 25 48.2 -0.5
PINE Pine Mountain 3.93 38 IAML 16 27 11.3
comp=E,306nm,2.2s
PINE IAML 16 27 14.9
comp=N,395nm,1.8s
PNTR Pine Nut 3.99 113 Pn 16 25 49.5 -0.2
I05D Terrebonne, OR 4.19 31 IAML 16 27 18.9
comp=E,318nm,1.5s
I05D IAML 16 27 26.8
comp=N,371nm,1.6s
YERR Yerington 4.29 113 IAML 16 26 58.5
comp=E,376nm,1.0s
YERR IAML 16 27 21.3
comp=N,338nm,1.4s
HEBO Mount Hebo 4.47 5 IAML 16 27 47.9
comp=E,369nm,1.6s
HEBO IAML 16 27 49.2
comp=N,356nm,1.6s
G03D McMinnville, O 4.51 9 IAML 16 27 30.7
comp=E,298nm,2.0s
WVOR Wild Horse Val 4.57 67 IAML 16 27 32.2
comp=E,170nm,2.1s
SAO San Andreas Ge 4.58 150 Pn Pn 16 25 55.8 -1.8
I07A Izee 4.86 45 IAML 16 27 35.3
comp=N,202nm,2.5s
BBGB Big Mountain B 4.90 147 Pn 16 26 01.4 -0.8
HOOD Mount Hood Mea 4.96 22 IAML 16 27 50.8
comp=N,183nm,1.5s
G05A Wamic 4.99 25 IAML 16 27 48.0
comp=E,242nm,2.3s
J08A Circle Bar Ran 5.06 57 IAML 16 26 45.8
comp=E,127nm,0.9s
J08A IAML 16 28 15.7
comp=N,128nm,1.3s
LHV Little Huntoon 5.14 117 Pn 16 26 05.5 +0.2
LHV IAML 16 28 09.4
comp=E,244nm,2.0s
LHV IAML 16 28 16.6
comp=N,229nm,1.7s
NVAR Mina Array Bea 5.19 115 Pn 16 26 05.8 -0.5
NVAR Mina Array Bea 5.19 115 Pn Pn 16 26 06.8 +0.5
comp=N,3.1nm,0.3s,baz=284,slow=14,SNR=78
NVAR LR LR 16 28 23.0
comp=N,913nm,18.5s,baz=289,slow=41
comp=N,17nm,0.7s
F03A Seaside 5.20 6 IAML 16 28 24.5
comp=E,181nm,1.3s
G06A Carlson Farm, 5.22 30 IAML 16 27 51.4
comp=E,114nm,3.7s
G06A IAML 16 27 60.0
comp=N,113nm,2.2s
MLAC Mammoth, Mammo 5.28 125 P Pn 16 26 09.1 +1.6
baz=308
NV11 Mina Array Sit 5.29 114 Pn 16 26 06.7 -0.9
NV11 IAML 16 27 58.1
comp=E,128nm,2.1s
NV11 IAML 16 28 00.5
comp=N,156nm,1.9s
PMPB Monarch Peak 5.31 148 IAML 16 27 16.5
comp=E,174nm,0.8s
PMPB IAML 16 27 26.4
comp=N,163nm,0.8s
F04A Amboy 5.35 14 IAML 16 27 25.7
comp=E,126nm,1.2s
VOG Valley Oaks Go 5.88 137 P Pn 16 26 16.7 +1.2
baz=320
TIN Tinemaha, Big 6.01 126 P Pn 16 26 18.1 +0.6
baz=310
VES Vestal, Richgr 6.40 138 P Pn 16 26 22.5 -0.2
baz=321,SNR=12
SMMC Simmler 6.42 147 P Pn 16 26 22.8 -0.1
baz=329
CWC Cottonwood Cre 6.51 130 P Pn 16 26 26.4 +2.0
baz=313

BMO Blue Mountains 6.58 49 Pn Pn 16 26 25.7 +0.6
MFID Camas Ranch 6.84 64 Pn Pn 16 26 27.7 -1.1
ISA Isabella, Lake 6.86 136 P Pn 16 26 30.5 +1.5
baz=320,SNR=25
PKM Mcpherson Peak 6.86 147 P Pn 16 26 29.9 +0.8
baz=330
ELK Elko 6.89 87 Pn 16 26 29.8 +0.2
ELK Elko 6.89 87 Pn Pn 16 26 31.0 +1.4
comp=E,0.3nm,0.3s,baz=276,slow=13,SNR=36
comp=E,8.7nm,0.7s
ARVC Arvin 7.10 141 P Pn 16 26 33.5 +1.3
baz=324,SNR=8.7
MPMC Manual Prospec 7.12 129 P Pn 16 26 32.4 -0.4
baz=313
R11B Troy Canyon, C 7.16 107 Pn 16 26 32.1 -1.1
R11B Troy Canyon, C 7.16 107 P Pn 16 26 32.9 -0.3
baz=292
PLID Pearl Lake 7.47 52 Pn 16 26 38.7 +1.1
EDW2 Edwards Air Fo 7.71 138 P Pn 16 26 41.9 +1.2
baz=321,SNR=26
HLID Hailey 7.87 66 P Pn 16 26 44.5 +1.6
baz=252,SNR=45
SHOC Shoshone, Teco 7.96 125 P Pn 16 26 45.9 +1.8
baz=310
DECC Green Verdugo 8.04 142 P Pn 16 26 46.3 +1.0
baz=325
GSC Goldstone, Bar 8.05 130 P Pn 16 26 47.2 +1.9
baz=315
PASC Pasadena Art C 8.18 142 Pn Pn 16 26 47.5 +0.3
RRX Edison Barstow 8.24 133 P Pn 16 26 48.3 +0.2
baz=318
BFSC Mount Baldy Ra 8.38 139 P Pn 16 26 51.2 +1.1
baz=323,SNR=9.1
SNCC San Nicolas Is 8.42 151 P Pn 16 26 50.8 +0.5
baz=334
HEC Hector,Ludlow 8.65 131 P Pn 16 26 54.8 +1.1
baz=315
CIS Catalina Islan 8.72 145 P Pn 16 26 55.5 +0.9
baz=329
BBRC Big Bear Solar 8.75 136 P Pn 16 26 55.2 +0.2
baz=320
DUG Dugway, Tooele 8.78 90 P Pn 16 26 57.4 +2.0
baz=277,SNR=26
ELS Elsinore Mount 8.97 140 Pn 16 26 58.0 -0.1
GMRC Granite Mounta 9.08 128 P Pn 16 27 01.2 +1.6
baz=314
NEW Newport 9.09 32 P Pn 16 27 00.8 +1.3
baz=217
NEW Newport 9.09 32 Pn Pn 16 27 00.5 +1.0
comp=E,0.2nm,0.3s,baz=200,slow=13,SNR=4.0
NEW Sn Sn 16 28 37.9 -3.2
comp=E,0.1nm,0.3s,baz=105,slow=22,SNR=0.8
NEW LR LR 16 30 27.8
comp=E,141nm,21.2s,baz=222,slow=38
comp=E,3.4nm,0.7s
MURC Murrieta 9.12 139 P Pn 16 27 00.2 +0.1
baz=324
BELC Belle Mtn. Jos 9.45 133 P Pn 16 27 06.3 +1.7
baz=318
PFO Pinyon Flats O 9.49 136 Pn 16 27 04.4 -0.8
PFO Pinyon Flats O 9.49 136 P Pn 16 27 05.9 +0.7
baz=321
PFO Pinyon Flats O 9.49 136 Pn Pn 16 27 06.3 +1.1
comp=E,0.6nm,0.3s,baz=307,slow=14,SNR=2.8
PFO Sn Sn 16 28 53.9 +2.6
comp=E,0.7nm,0.3s,baz=336,slow=10,SNR=1.7
PFO LR LR 16 31 22.5
comp=E,797nm,18.7s,baz=268,slow=42
comp=E,2.2nm,0.3s
TPFO Pinon Flats 9.50 136 P Pn 16 27 06.6 +1.3
baz=321
HWUT Hardware Ranch 9.65 81 Pn 16 27 08.0 +0.6
NEE2 Needles Airpor 9.73 125 P Pn 16 27 08.6 +0.3
baz=311
IRM Iron Mountain 9.82 129 P Pn 16 27 11.2 +1.6
baz=315
W13A Hualapai Mount 9.98 121 Pn Pn 16 27 12.6 +0.5
BC3 Big Chuckawall 10.01 132 P Pn 16 27 12.7 +0.5
baz=318
MONP2 Monument Peak 10.08 139 P Pn 16 27 14.6 +1.3
baz=323,SNR=6.7
PDMCI Parker Dam,Lak 10.33 125 P Pn 16 27 18.3 +1.7
baz=312
SWSC Sam W. Stewart 10.36 136 P Pn 16 27 17.1 +0.2
baz=321
IKP In-Ko-Pah, Jac 10.43 138 P Pn 16 27 18.5 +0.5
baz=323
BOZ Bozeman (W) 10.44 58 Pn 16 27 17.7 -0.6
BOZ Bozeman (W) 10.44 58 P Pn 16 27 19.2 +1.0
baz=247,SNR=21
FLWY Flagg Ranch 10.60 67 Pn Pn 16 27 20.9 +0.5
H17A Grant Village 10.76 66 P Pn 16 27 25.6 +3.0
baz=255,SNR=12
GLA Glamis 10.80 132 P Pn 16 27 24.8 +1.7
baz=318
BW06 Boulder Array 11.20 75 P Pn 16 27 30.3 +1.6
baz=265,SNR=5.9
PD31 Pinedale Array 11.20 75 Pn 16 27 28.6 -0.1
PDAR Pinedale Array 11.20 75 Pn Pn 16 27 30.7 +2.1
comp=E,0.3nm,0.3s,baz=250,slow=10,SNR=14
PDAR LR LR 16 32 11.9
comp=E,300nm,21.5s,baz=265,slow=40
comp=E,7.2nm,1.1s
WUAZ Wupatki 11.45 113 P Pn 16 27 34.7 +2.7
baz=301,SNR=6.3
BBB Bella Bella 11.72 348 Pn Pn 16 27 35.6 +0.2
comp=E,0.1nm,0.3s,baz=170,slow=12,SNR=2.3
BBB LR LR 16 30 42.3
comp=E,119nm,19.7s,baz=178,slow=30
comp=E,9.9nm,1.1s
RLMT Red Lodge 11.85 63 P Pn 16 27 39.1 +1.6
baz=254
O20A White River Ci 12.26 88 P Pn 16 27 44.6 +1.4
baz=278
EGMT Eagleton 12.68 50 P Pn 16 27 49.5 +0.8
baz=240,SNR=8.9
214A Organ Pipe Nat 12.76 130 P Pn 16 27 51.2 +1.4
baz=317
MVCO Mesa Verde 12.80 101 Pn 16 27 51.3 +0.7
MVCO Mesa Verde 12.80 101 P Pn 16 27 52.2 +1.6
baz=291
K22A Casper 13.43 76 P Pn 16 28 00.9 +1.9
baz=268
TUC Tucson 13.75 124 P Pn 16 28 05.1 +1.7
baz=312
N23A Red Feather La 13.91 83 P Pn 16 28 05.9 +0.2
baz=275,SNR=8.7
BRLDA Berland Lookou 14.12 17 Pn 16 28 07.8 -0.6
ISCO Idaho Springs 14.31 88 P Pn 16 28 11.7 +0.5
baz=280
LAO LASA Array 14.35 60 P Pn 16 28 11.9 +0.5
baz=252,SNR=5.7
EDM Edmonton 14.51 27 Pn 16 28 13.0 -0.7
Q24A Divide 14.83 91 P Pn 16 28 19.2 +0.9
baz=283
SDCO Great Sand Dun 14.88 96 P Pn 16 28 20.8 +1.9
baz=288,SNR=17
ANMO Albuquerque 15.24 107 P Pn 16 28 25.6 +1.8
baz=298
RSSD Black Hills 15.34 71 Pn 16 28 21.9 -3.0
RSSD Black Hills 15.34 71 P Pn 16 28 24.2 -0.7
baz=264
121A Cookes Peak, D 15.58 117 P P 16 28 30.5 -1.8
baz=306
CRAG Craig 15.83 341 P Pn 16 28 32.0 +1.0
baz=155
T25A Trinidad 15.90 97 Pn 16 28 30.9 -1.4
T25A Trinidad 15.90 97 P P 16 28 34.4 -1.4
baz=289
DGMT Dagmar 16.23 55 P Pn 16 28 35.6 -0.7
baz=249
U33K Whale Pass 16.41 342 P Pn 16 28 38.5 0.0
baz=156
WRAK Wrangell Islan 16.53 344 P Pn 16 28 40.5 +0.6
baz=158
T35M Bob Quinn 16.68 349 P Pn 16 28 41.8 -0.1
baz=164
KSCO Kaye Shedlock' 16.73 89 P Pn 16 28 44.0 +1.2
baz=283,SNR=8.9
OGNE Ogallala 16.85 82 Pn Pn 16 28 42.6 -1.7
OGNE IAmb IAmb 16 28 46.2
comp=Z,55nm,1.3s
OGNE Ogallala 16.85 82 P Pn 16 28 43.7 -0.5
baz=277
S34M Telegraph Cree 17.72 348 P P 16 28 56.6 +1.1
baz=163
MNTX Cornudas Mount 17.72 115 P P 16 28 55.9 +0.1
baz=306

E28A Huff 18.02 63 IAmb IAmb 16 28 57.3
comp=Z,54nm,1.1s
DLBC Dease Lake 18.06 350 P P 16 29 00.4 +0.9
baz=166
DLBC Dease Lake 18.06 350 P P 16 29 00.4 +0.9
comp=Z,0.2nm,0.3s,baz=174,slow=9.9,SNR=3.5
comp=Z,3.7nm,0.8s
TOAD Toad River Com 18.12 358 P P 16 29 02.0 +2.0
baz=178
HILA High Level 18.41 12 P 16 29 02.2 -0.9
K30B Basset 18.52 76 IAmb IAmb 16 29 05.7
comp=Z,42nm,0.8s
VHRN Van Horn 18.54 116 P P 16 29 04.1 -0.9
Q32M Nakina River 18.90 347 P Pn 16 29 11.0 +1.5
baz=161
CBKS Cedar Bluff 18.97 88 P P 16 29 09.8 +0.2
baz=284,SNR=6.9
SUSD Miller 19.00 70 P P 16 29 08.2 -1.5
baz=268,SNR=6.1
R33M Jennings River 19.12 350 P Pn 16 29 14.4 +2.4
baz=165
KOTAN Kotaneelee Air 19.39 0 P Pn 16 29 16.5 +1.4
baz=181
BGNE Belgrade 19.71 80 P P 16 29 17.5 -0.1
baz=277
P32M Atlin 19.75 346 P Pn 16 29 19.1 -0.4
baz=159
SKAG Skagway 19.96 343 P Pn 16 29 21.2 -0.6
baz=155
ELIS Ellis County 20.04 95 IAmb IAmb 16 29 31.0
comp=Z,18nm,0.7s
P33M Teslin, Yukon 20.18 348 P Pn 16 29 24.0 -0.6
baz=161,SNR=8.0
TX31 Lajitas Ar. Si 20.33 118 IAmb IAmb 16 29 31.8
comp=Z,18nm,0.9s
TXAR Lajitas Array 20.34 118 Pn 16 29 26.7 +0.1
TXAR Lajitas Array 20.34 118 P P 16 29 25.6 +1.1
comp=Z,3.2nm,0.9s,baz=300,slow=8.7,SNR=34
TXAR PcP PcP 16 33 37.8 +0.6
comp=Z,0.9nm,0.7s,baz=283,slow=0.7,SNR=6.6
comp=Z,3.2nm,0.9s
LPIG La Paz 20.34 140 LR LR 16 37 54.5
comp=Z,630nm,18.7s,baz=336,slow=39
FFC Flin Flon 20.39 39 P P 16 29 23.8 -1.0
P29M Windy Craggy 20.68 340 P Pn 16 29 30.0 -0.4
baz=150
HPIG 20.68 126 P P 16 29 26.6 -1.7
ECSD EROS Data Cent 20.68 73 P P 16 29 24.7 -3.4
OK032 Salt Plains WL 20.70 93 P P 16 29 26.6 -1.8
OK032 IAmb IAmb 16 29 31.8
comp=Z,33nm,1.0s
SLBS Sierra La Lagu 20.87 140 P 16 29 29.4 -0.9
SLBS IAmb IAmb 16 29 43.7
comp=Z,28nm,1.4s
P30M Million Dollar 20.92 342 P Pn 16 29 32.5 -0.7
baz=152
TGTN Hyland Airport 20.93 355 P Pn 16 29 32.5 -0.8
baz=172
F33A 5 Mile Ranch, 20.96 67 IAmb IAmb 16 29 32.7
comp=Z,24nm,0.8s
WHY Whitehorse 20.96 345 P Pn 16 29 32.8 -1.0
baz=157
SAND Sanderson 21.01 114 IAmb IAmb 16 29 38.1
comp=Z,17nm,0.8s
WMOK Wichita Mounta 21.03 98 P P 16 29 31.6 -0.3
baz=294
N32M Quiet Lake 21.11 348 P P 16 29 32.6 -0.1
baz=161
KSU1 Kansas State U 21.28 85 P P 16 29 36.8 +2.3
baz=283
O30N Mendenhall 21.31 344 P P 16 29 36.8 +2.0
baz=155
O29M Mount Kennedy 21.47 340 P P 16 29 37.0 +0.4
baz=149
AGMN Agassiz Nation 21.55 60 P P 16 29 35.5 -1.9
AGMN Agassiz Nation 21.55 60 P P 16 29 35.8 -1.6
baz=260,SNR=27
HYT Haines Junctio 21.67 342 IAmb IAmb 16 29 57.0
comp=Z,23nm,1.2s
HYT Haines Junctio 21.67 342 P P 16 29 41.5 +2.8
baz=152
ULM Lac du Bonnet 21.95 55 P P 16 29 39.2 -2.5
comp=Z,25nm,0.8s,baz=259,slow=9.6,SNR=33
ULM PcP PcP 16 33 39.3 -0.5
comp=Z,2.4nm,0.6s,baz=191,slow=3.2,SNR=4.1
ULM LR LR 16 38 38.1
comp=Z,148nm,18.1s,baz=251,slow=38
comp=Z,25nm,0.8s
N30M Aishikik Lake 22.14 344 P P 16 29 46.8 +3.0
baz=154
FARO Faro, Yukon 22.18 349 P P 16 29 46.8 +2.7
baz=162
PLPT Palo Pinto 22.22 103 P P 16 29 42.9 -1.9
MMPY Sheldon Lake, 22.28 352 P P 16 29 46.7 +1.5
baz=166,SNR=7.3
W35A Tecumseh 22.30 96 IAmb IAmb 16 29 49.9
comp=Z,17nm,0.8s
M31M Drury Creek, Y 22.32 348 P P 16 29 48.2 +2.7
baz=160
JCT Junction City 22.34 110 P P 16 29 44.9 -1.3
JCT IAmb IAmb 16 29 49.6
comp=Z,19nm,1.1s
JCT Junction City 22.34 110 P P 16 29 50.1 +3.9
baz=304
DRIO Del Rio 22.37 113 IAmb IAmb 16 29 49.9
comp=Z,19nm,0.9s
YUK4 Talbot Arm 22.39 342 P P 16 29 50.4 +3.8
baz=151
BRDY Brady 22.48 107 IAmb IAmb 16 29 51.1
comp=Z,19nm,0.8s
YKA Yellowknife Ar 22.53 12 P P 16 29 47.0 -0.8
YKA Yellowknife Ar 22.53 12 P P 16 29 47.6 -0.1
comp=Z,5.6nm,0.8s,baz=199,slow=9.9,SNR=43
YKA PcP PcP 16 33 40.7 0.0
comp=Z,0.6nm,0.8s,baz=212,slow=2.5,SNR=3.7
YKA LR LR 16 38 51.9
comp=Z,227nm,19.4s,baz=337,slow=38
comp=Z,5.6nm,0.8s
CTG Chitna Glacier 22.77 338 P P 16 29 53.7 +3.2
baz=145
BARN Barnard Glacier 22.94 338 P P 16 29 51.9 -0.4
BARN IAmb IAmb 16 30 03.2
comp=Z,24nm,1.0s
M30M Minto, Yukon 23.09 345 P P 16 29 57.2 +3.5
baz=155
YUK3 Moose Creek 23.21 340 P P 16 29 56.8 +1.7
baz=148
WHTX Lake Whitney, 23.26 104 P P 16 29 57.8 +2.2
baz=300
M29M Somme Creek 23.32 343 P P 16 29 57.9 +1.9
baz=152
SPMN Marine on St. 23.39 68 P P 16 29 56.3 -0.5
SPMN IAmb IAmb 16 30 02.3
comp=Z,12nm,0.7s
SPMN Marine on St. 23.39 68 P P 16 29 56.0 -0.8
baz=270
MCARA McCarthy VSAT 23.59 337 P P 16 29 59.8 +1.2
baz=143
X37A Clayton 23.66 96 P P 16 29 59.5 0.0
X37A IAmb IAmb 16 30 01.9
comp=Z,16nm,0.9s
U38A Gravette 23.72 91 P P 16 30 00.0 -0.1
U38A IAmb IAmb 16 30 03.6
comp=Z,21nm,1.1s
BMRM Bremner River 23.75 335 P P 16 30 01.1 +0.9
baz=139
EYAK Cordova Ski Ar 23.82 333 P P 16 30 02.2 +1.5
baz=137
L29M L29M 23.84 344 P P 16 30 02.4 +1.3
baz=154
BVCY Beaver Creek 23.85 341 P P 16 30 02.7 +1.5
baz=148
833A Chaparral WMA, 23.89 114 P P 16 30 02.3 +0.5
baz=308
M27K Edge Creek, AK 24.07 340 P P 16 30 03.2 -0.1
M27K IAmb IAmb 16 30 14.4
comp=Z,20nm,1.1s
M27K Edge Creek, AK 24.07 340 P P 16 30 06.2 +2.9
baz=146
S39A Bolivar 24.14 87 P P 16 30 04.2 +0.2
S39A IAmb IAmb 16 30 33.5
comp=Z,16nm,1.1s
S39A PcP 16 33 44.3 -0.3
N25K Chitina, Valde 24.24 336 P P 16 30 07.3 +2.5
baz=140
E38A The Farm, Brul 24.28 65 P P 16 30 04.8 -0.4
E38A IAmb IAmb 16 30 05.7
comp=Z,13nm,0.8s

K29M **Barlow Dome** 24.39 346 P P 16 30 08.6 +2.4
baz=155,SNR=7.8
M26K **Nabesna, AK** 24.40 339 P P 16 30 07.8 +1.5
baz=144
EYMN **Ely** 24.40 62 P P 16 30 06.0 -0.4
EYMN IAmb IAmb 16 30 15.8
comp=Z,24nm,1.4s
EYMN **Ely** 24.40 62 P P 16 30 04.6 -1.7
baz=265
KLU **Klutina** 24.57 335 P P 16 30 10.7 +2.9
baz=138
P40A **Paris** 24.62 82 IAmb IAmb 16 30 10.6
comp=Z,22nm,0.8s
L27K **Beaver Creek,** 24.64 341 P P 16 30 11.0 +2.6
baz=147
L40A **Anamosa** 24.77 76 IAmb IAmb 16 30 11.5
comp=Z,22nm,1.1s
KDAK **Kodiak Island** 24.83 323 LR LR 16 37 13.3
comp=Z,236nm,21.9s,baz=207,slow=30
J30M **Hart River** 24.85 348 P P 16 30 14.2 +3.8
baz=158
OHAK **Old Harbor** 24.88 321 P P 16 30 12.5 +2.0
baz=119
DAWY **Dawson** 24.95 344 P P 16 30 13.0 +1.8
baz=152,SNR=6.9
SII **Sitkinak Islan** 25.00 319 P P 16 30 13.5 +1.8
baz=117
I40A **Norwalk** 25.01 72 P P 16 30 10.3 -1.6
I40A IAmb IAmb 16 30 13.9
comp=Z,12nm,0.9s
MIAR **Mount Ida** 25.03 94 IAmb IAmb 16 30 16.4
comp=Z,10.0nm,0.8s
MIAR **Mount Ida** 25.03 94 P P 16 30 13.3 +1.1
baz=294
J29N **Klondike Camp** 25.07 346 P P 16 30 14.1 +1.8
baz=155
G40A **Rib Lake** 25.23 68 IAmb IAmb 16 30 14.8
comp=Z,19nm,1.2s
N41A **Harden Midland** 25.27 79 IAmb IAmb 16 30 16.2
comp=Z,18nm,0.9s
SCM **Sheep Creek Mo** 25.28 334 P P 16 30 16.3 +2.1
baz=136
JFWS **Jewell Farm** 25.37 74 P P 16 30 14.1 -1.1
JFWS IAmb IAmb 16 30 16.9
comp=Z,13nm,0.7s
JFWS **Jewell Farm** 25.37 74 P P 16 30 15.4 +0.2
baz=277
M23K **Glacier View** 25.38 334 P P 16 30 17.7 +2.6
baz=135
I30M **Mount Dempster** 25.46 348 P P 16 30 17.8 +1.9
baz=158
K27K **Chicken** 25.52 342 P P 16 30 19.8 +3.5
baz=148
SML **Sawmill** 25.59 333 P P 16 30 19.6 +2.5
baz=134
RC01 **Rabbit Creek A** 25.60 331 P P 16 30 18.6 +1.5
baz=131
CCM **Cathedral Cave** 25.61 85 P P 16 30 18.5 +1.2
baz=286
PMR **Palmer** 25.72 332 P P 16 30 20.3 +2.2
baz=133
H31M **Peel River** 25.73 350 P P 16 30 19.7 +1.5
baz=162
SCRK **Sand Creek** 25.95 340 P P 16 30 23.6 +3.3
baz=144
EGAK **Eagle** 25.95 344 P P 16 30 22.3 +2.1
baz=150
RIDG **Independent Ri** 25.98 339 P P 16 30 24.2 +3.6
baz=143
DHY **Denali Highway** 26.20 336 IAmb IAmb 16 30 33.2
comp=Z,18nm,1.2s
DHY **Denali Highway** 26.20 336 P P 16 30 25.5 +2.8
baz=138
FCC **Fort Churchill** 26.21 36 P P 16 30 22.3 -0.3
FCC IAmb IAmb 16 30 24.2
comp=Z,40nm,1.4s
J26L **Joseph Creek** 26.27 341 P P 16 30 24.2 +1.0
baz=146
I28M **Miner Creek** 26.29 345 P P 16 30 26.4 +3.0
baz=153
D41A **Chassel** 26.34 64 IAmb IAmb 16 30 42.9
comp=Z,17nm,0.8s
WAT1 **Susitna Watana** 26.39 335 P P 16 30 27.2 +2.9
baz=136
EPYK **Eagle Plains** 26.59 349 IAmb IAmb 16 30 35.6
comp=Z,30nm,1.4s
EPYK **Eagle Plains** 26.59 349 P P 16 30 27.1 +1.1
baz=159
N20K **Mount Spurr** 26.60 330 P P 16 30 29.0 +2.8
baz=128
CUT **Chulitna** 26.67 333 P P 16 30 27.3 +0.6
baz=132
H29M **Whitestone** 26.71 347 IAmb IAmb 16 30 36.9
comp=Z,18nm,0.9s
H29M **Whitestone** 26.71 347 P P 16 30 29.8 +2.7
baz=156
I27K **Kandik River** 26.77 344 P P 16 30 31.1 +3.4
baz=150
G31M **Satah River** 26.79 351 P P 16 30 28.6 +0.9
G31M **Satah River** 26.79 351 P P 16 30 29.1 +1.4
baz=163,SNR=7.5
J25K **Salcha River,** 26.82 340 IAmb IAmb 16 30 38.7
comp=Z,24nm,1.5s
J25K **Salcha River,** 26.82 340 P P 16 30 30.7 +2.6
baz=143
SKT **Skwentna** 26.84 331 P P 16 30 30.5 +2.3
baz=130
P18K **Big Mountain,** 26.84 324 P P 16 30 30.1 +1.7
baz=120
I26K **Coal Creek Min** 26.85 343 P P 16 30 30.2 +1.9
baz=147
O19K **Port Alsworth** 26.87 326 P P 16 30 31.0 +2.4
baz=123
CHGN **Chignik** 27.05 317 P P 16 30 32.3 +2.1
baz=111
MCK **McKinley** 27.16 336 P P 16 30 32.1 +1.0
baz=136
F31M **Tsiigehtchic** 27.23 352 P P 16 30 31.7 0.0
baz=164
G29M **Pine Creek** 27.29 348 IAmb IAmb 16 30 41.7
comp=Z,18nm,1.1s
G29M **Pine Creek** 27.29 348 P P 16 30 34.2 +1.9
baz=157
H27K **Steamboat Moun** 27.29 345 P P 16 30 35.4 +3.0
baz=151
ILAR **Eielson Array** 27.35 339 P P 16 30 33.9 +1.1
comp=Z,1.5nm,0.8s,baz=154,slow=8.0,SNR=14
ILAR PcP PcP 16 33 52.4 +1.0
comp=Z,0.9nm,0.6s,baz=182,slow=2.4,SNR=9.5
comp=Z,1.5nm,0.8s
M20K **Styx River** 27.37 330 P P 16 30 36.7 +3.6
baz=127
TRF **Thorofare Moun** 27.39 335 P P 16 30 35.8 +2.4
baz=134
E43A **Lone Tree Farm** 27.43 66 IAmb IAmb 16 30 35.6
comp=Z,19nm,1.1s
PRP **Porcupine Dome** 27.59 341 P P 16 30 37.6 +2.5
baz=144
F30M **Barrier River** 27.63 351 P P 16 30 40.0 +4.8
baz=161
PPLA **Purkeypile** 27.66 333 P P 16 30 37.9 +2.1
baz=130
SDPT **Sand Point** 27.86 314 P P 16 30 40.7 +3.3
baz=106
CAST **Castle Rocks** 27.97 333 PcP 16 33 53.1 +0.1
INK **Inuvik** 28.05 353 P P 16 30 38.7 -0.2
INK IAmb IAmb 16 30 48.1
comp=Z,14nm,1.3s
INK **Inuvik** 28.05 353 P P 16 30 39.6 +0.6
baz=165,SNR=5.2
INK **Inuvik** 28.05 353 LR LR 16 43 14.2
comp=Z,200nm,19.0s,baz=188,slow=40
BPAW **Bear Paw Mtn.** 28.07 335 IAmb IAmb 16 30 48.8
comp=Z,13nm,1.1s
BPAW **Bear Paw Mtn.** 28.07 335 P P 16 30 39.8 +0.5
baz=134
M18K **Stony River** 28.20 328 P P 16 30 40.4 +0.1
baz=123
L19K **White Mountain** 28.20 330 P P 16 30 42.5 +2.0
baz=125
OXF **Oxford** 28.21 91 P P 16 30 41.4 +0.7
baz=293
F28M **Old Crow** 28.23 347 P P 16 30 43.3 +2.7
baz=155
H25L **Birch Creek** 28.26 342 P P 16 30 43.2 +2.3
baz=144
I23K **Minto, Yukon-K** 28.32 338 P P 16 30 43.3 +1.8
baz=137

CHUM **Lake Minchumin** 28.35 334 P P 16 30 43.5 +1.8
baz=131
G26K **Porcupine Rive** 28.38 344 P P 16 30 45.0 +3.1
baz=148
H24K **Noodor Dome** 28.44 340 P P 16 30 45.9 +3.4
baz=140
K20K **Telida** 28.62 332 P P 16 30 47.0 +2.9
baz=128
E29M **Blow River** 28.64 350 P P 16 30 45.8 +1.5
baz=158
MLY **Manley** 28.64 337 P P 16 30 45.7 +1.3
baz=135
C36M **Paulatuk** 28.65 0 P P 16 30 44.8 +0.5
baz=180
G25K **Bearman Lake** 28.73 342 P P 16 30 45.4 +0.3
baz=144
M17K **Holitna River** 28.81 327 IAmb IAmb 16 30 49.5
comp=Z,15nm,0.9s
M17K **Holitna River** 28.81 327 P P 16 30 47.8 +2.0
baz=121
L18K **Granite Mounta** 28.94 329 P P 16 30 47.4 +0.4
baz=123
G24K **Hadweenzic Riv** 29.01 341 P P 16 30 49.0 +1.4
baz=142
E27K **Coleen River** 29.03 347 P P 16 30 50.1 +2.3
baz=152,SNR=7.8
PLAL **Pickwick Lake** 29.04 90 IAmb IAmb 16 30 51.0
comp=Z,9.8nm,0.8s
TTA **Tatalina** 29.07 330 P P 16 30 50.2 +2.0
baz=125
E28M **Babbage River** 29.08 349 P P 16 30 49.7 +1.5
baz=156
F26K **Sheenjek River** 29.08 345 P P 16 30 50.9 +2.6
baz=148
I21K **Tanana** 29.12 336 P P 16 30 51.1 +2.5
baz=134
J20K **Nowinta River** 29.16 333 P P 16 30 50.2 +1.3
baz=129
WCI **Wyandotte Cave** 29.30 82 P P 16 30 50.6 +0.2
baz=287
F25K **Christian Rive** 29.31 343 P P 16 30 52.1 +1.8
baz=146
H22K **Ishtalitna Cre** 29.45 338 P P 16 30 52.7 +1.3
baz=135
L17K **Donlin** 29.53 328 P P 16 30 51.5 -0.8
baz=121
J19K **Poorman** 29.55 332 IAmb IAmb 16 31 02.5
comp=Z,11nm,1.1s
J19K **Poorman** 29.55 332 P P 16 30 53.3 +0.9
baz=127
O48B **Farmland** 29.61 78 P P 16 30 53.3 +0.1
baz=284
D28M **Stokes Point** 29.63 350 P P 16 30 54.6 +1.6
baz=158
J18K **Innoko River** 29.64 331 P P 16 30 56.0 +2.8
baz=125
I20K **Naaghedeneel** 29.66 334 P P 16 30 54.7 +1.3
baz=130
G23K **Bananza Creek** 29.67 340 P P 16 30 52.6 -0.9
G23K IAmb IAmb 16 31 03.9
comp=Z,10nm,1.3s
G23K **Bananza Creek** 29.67 340 P P 16 30 56.0 +2.5
baz=138
H21K **Melotina Rive** 29.70 336 IAmb IAmb 16 31 04.2
comp=Z,9.0nm,1.1s
H21K **Melozitna Rive** 29.70 336 P P 16 30 55.1 +1.3
baz=133
E25K **Arctic Village** 29.74 344 P P 16 30 55.8 +1.8
baz=146
F24K **Squaw Lake** 29.76 342 P P 16 30 53.3 -1.0
baz=142
L16K **Owhat River** 29.81 327 IAmb IAmb 16 30 58.7
comp=Z,16nm,0.9s
L16K **Owhat River** 29.81 327 P P 16 30 57.5 +2.8
baz=118
K17K **Iditarod** 29.84 329 P P 16 30 56.5 +1.6
baz=122
D27M **Malcolm River** 29.88 348 P P 16 30 56.3 +1.0
baz=154
P49A **Miami Univ. Ec** 30.12 79 P P 16 30 58.2 +0.5
baz=285
H20K **Anotleneega Mo** 30.24 335 P P 16 31 01.0 +2.5
G21K **Allakaket** 30.50 337 IAmb IAmb 16 31 11.4
comp=Z,10nm,1.2s
G21K **Allakaket** 30.50 337 P P 16 31 03.3 +2.5
baz=133
E23K **Chandalar** 30.59 342 P P 16 31 04.6 +2.9
baz=140
LRAL **Lakeview Retre** 30.64 93 P P 16 31 03.4 +1.0
baz=296
H19K **Roundabout Mou** 30.77 334 IAmb IAmb 16 31 13.3
comp=Z,17nm,1.1s
H19K **Roundabout Mou** 30.77 334 P P 16 31 04.8 +1.7
baz=128
UNV **Unalaska Valle** 30.98 309 P P 16 31 02.8 -2.3
baz=98
F21K **Alatna River** 30.98 338 P P 16 31 06.3 +1.3
baz=134
L14K **Kuka Creek** 31.03 325 P P 16 31 06.6 +1.1
baz=114
J16K **Anvik River** 31.03 329 P P 16 31 05.4 0.0
baz=119
TOLK **Toolik Lake Re** 31.04 342 P P 16 31 08.3 +2.8
baz=141,SNR=5.2
FPAL **Fort Paine** 31.08 89 IAmb IAmb 16 31 09.6
comp=Z,12nm,0.9s
C26K **Camden Bay** 31.13 346 P P 16 31 08.9 +2.6
baz=149
E22K **Anaktuvuk Pass** 31.19 340 IAmb IAmb 16 31 18.2
comp=Z,13nm,1.1s
E22K **Anaktuvuk Pass** 31.19 340 P P 16 31 09.8 +2.9
baz=138
H18K **Honhosa River** 31.20 333 P P 16 31 08.1 +1.1
baz=125
ACSO **Alum Creek Sta** 31.23 77 P P 16 31 07.6 +0.1
baz=285
D24K **Happy Valley** 31.27 343 P P 16 31 08.6 +1.1
baz=143
A36M **Sachs Harbour** 31.30 359 IAmb IAmb 16 31 19.0
comp=Z,6.2nm,0.8s
A36M **Sachs Harbour** 31.30 359 P P 16 31 09.7 +2.0
baz=179
G19K **Purcell Mounta** 31.36 335 P P 16 31 08.8 +0.4
baz=128
P51A **Williamsport** 31.37 79 P P 16 31 07.2 -1.5
D23K **Nanushuk River** 31.54 342 P P 16 31 12.7 +2.7
baz=140
C24K **Franklin Bluff** 31.70 344 P P 16 31 13.1 +1.8
baz=143
G18K **Tagagawik** 31.72 334 P P 16 31 11.2 -0.4
baz=126
D22K **Ayikyak River** 31.96 341 P P 16 31 15.6 +1.9
baz=137
F19K **Shaleruckik Mo** 32.00 336 P P 16 31 14.7 +0.8
baz=128
TKL **Tuckaleechee C** 32.05 86 LR LR 16 45 24.9
comp=Z,317nm,18.8s,baz=286,slow=39
C23K **Itkillik River** 32.20 343 P P 16 31 18.6 +2.9
baz=141
E19K **Redstone River** 32.23 337 IAmb IAmb 16 31 26.4
comp=Z,12nm,1.1s
E19K **Redstone River** 32.23 337 P P 16 31 19.2 +3.2
baz=129
H16K **Elim** 32.32 330 P P 16 31 19.6 +2.7
baz=119
E20K **Nigu River** 32.45 338 P P 16 31 20.7 +2.8
baz=132
F18K **Selawik** 32.46 335 P P 16 31 20.0 +2.0
baz=125
O53A **New Philadelph** 32.53 77 P P 16 31 18.4 -0.5
baz=285
C21K **Knifeblade Rid** 32.69 340 P P 16 31 21.2 +1.3
baz=135
G16K **Koyuk River** 32.74 332 P P 16 31 20.4 0.0
baz=120
D20K **Etivluk River** 32.87 339 P P 16 31 23.6 +2.0
baz=132
F17K **Baldwin Pennin** 32.91 334 P P 16 31 23.6 +1.8
baz=123
B21K **Ikpikpuk River** 32.97 341 P P 16 31 22.9 +0.5
baz=135
SADO **Sadowa** 33.08 68 P P 16 31 22.9 -0.7
comp=Z,14nm,1.1s,baz=280,slow=8.0,SNR=4.5
comp=Z,14nm,1.1s
D19K **Kuna River** 33.14 338 P P 16 31 26.1 +2.1
baz=130
GOGA **Godfrey** 33.16 90 P P 16 31 25.4 +0.9
baz=295
G15K **Niukluk** 33.17 330 P P 16 31 26.5 +2.3
baz=118
B22K **Teshekpuk Lake** 33.21 343 P P 16 31 26.0 +1.5
baz=138
ANM **Nome** 33.49 329 P P 16 31 28.9 +1.8
baz=115
VLDQ **Val d'Or** 33.81 61 IAmb IAmb 16 31 30.2
comp=Z,9.3nm,1.0s
B20K **Meade River** 33.88 340 P P 16 31 32.3 +2.0
baz=132
WVNY **West Valley, N** 33.91 72 P P 16 31 30.8 -0.3
BLA **Blacksburg** 34.03 81 P P 16 31 32.5 +0.3
baz=290
A22K **Sinclair Lake** 34.05 343 P P 16 31 34.3 +2.5
baz=136
KMSC **Kings Mountain** 34.09 85 P P 16 31 32.2 -0.4
baz=293
C18K **Utukok River** 34.13 337 P P 16 31 32.9 +0.3
baz=126
D17K **Noatak River** 34.19 335 P P 16 31 33.8 +0.7
baz=122
RDOG **Red Dog Mine** 34.33 335 P P 16 31 34.6 +0.3
baz=123
C17K **DeLong Mountai** 34.64 336 P P 16 31 39.6 +2.7
baz=123
CMIG **Matias Romero** 34.64 124 LR LR 16 48 08.1
comp=Z,191nm,18.1s,baz=207,slow=40
A21K **Barrow** 34.66 342 P P 16 31 38.7 +1.7
baz=134
SSPA **Standing Stone** 34.87 75 P P 16 31 39.3 -0.1
baz=286
A19K **Wainwright** 35.03 339 P P 16 31 41.5 +1.2
baz=128
C16K **Lisburne Hills** 35.22 335 IAmb IAmb 16 31 52.2
comp=Z,11nm,1.1s
C16K **Lisburne Hills** 35.22 335 P P 16 31 43.0 +1.1
baz=120
BINY **Binghamton** 35.85 71 P P 16 31 46.8 -0.9
baz=284
RES **Resolute Bay** 36.60 13 P P 16 31 54.1 +0.5
RES **Resolute Bay** 36.60 13 LR LR 16 45 48.8
comp=Z,123nm,18.4s,baz=171,slow=35
TEIG **Tepich** 36.83 113 LR LR 16 51 05.4
comp=Z,614nm,18.3s,slow=43
L61B **Northampton** 38.16 70 P P 16 32 07.9 +0.6
baz=286
LBNH **Lisbon** 38.24 67 P P 16 32 08.6 +0.6
baz=284
SCHQ **Schefferville** 39.94 49 IAmb IAmb 16 32 22.9
comp=Z,20nm,1.1s
SCHQ **Schefferville** 39.94 49 P P 16 32 21.4 -0.6
comp=Z,15nm,0.9s,baz=275,slow=8.6,SNR=18
SCHQ PcP PcP 16 34 27.2 +0.1
comp=Z,5.2nm,0.9s,baz=284,slow=8.3,SNR=3.8
SCHQ LR LR 16 48 13.4
comp=Z,101nm,18.8s,baz=227,slow=35
comp=Z,15nm,0.9s
BILL **Bilibino** 45.33 330 P P 16 33 06.0 +0.5
BILL IAmb IAmb 16 33 14.9
comp=Z,9.2nm,1.1s
DRLN **Deer Lake** 46.58 56 P P 16 33 16.0 +0.3
NEEM **North Greenlan** 46.96 17 *i* P P 16 33 18.5 -0.2
NEEM IAmb IAmb 16 33 22.2
comp=Z,10nm,0.9s
SFJD **Kangerlussuaq** 47.01 31 *i* P P 16 33 19.6 +0.8
SFJD **Kangerlussuaq** 47.01 31 LR LR 16 51 14.5
comp=Z,77nm,18.6s,baz=276,slow=34
SUMG **Summit** 50.45 23 P P 16 33 45.8 +0.1
SUMG IAmb IAmb 16 33 54.5
comp=Z,13nm,1.0s
SUMG **Summit** 50.45 23 *i* P P 16 33 45.8 +0.1
SUMG IAmb IAmb 16 33 48.6
comp=Z,11nm,1.0s
ICESG **Greenland Ices** 50.77 27 *i* P P 16 33 47.8 -0.3
PETK **Petropavlovsk-** 52.11 312 P P 16 33 58.6 +0.7
comp=Z,2.3nm,0.6s,baz=77,slow=12,SNR=10
comp=Z,2.3nm,0.6s
MA2 **Magadan** 53.55 321 P P 16 34 09.1 +0.7
MA2 IAmb IAmb 16 34 18.3
comp=Z,9.2nm,1.0s
DAG **Danmarks Havn** 54.15 16 *i* P P 16 34 12.6 +0.1
DAG IAmb IAmb 16 34 20.9
comp=Z,4.9nm,1.0s
TIXI **Tiksi** 56.82 339 P P 16 34 31.8 0.0
TIXI IAmb IAmb 16 34 33.3
comp=Z,5.4nm,0.8s
SDV **Santo Domingo** 57.02 108 P P 16 34 35.1 +0.8
SDV IAmb IAmb 16 34 36.4
comp=Z,6.4nm,1.0s
TULM **Tulcn-Chalpat** 57.95 121 P P 16 34 40.6 -0.6
BAUV **El Baul** 58.86 106 P P 16 34 47.1 +0.2
SPITS **Spitsbergen Ar** 58.99 9 P P 16 34 47.4 +0.4
comp=Z,13nm,1.0s,baz=350,slow=7.5,SNR=2.5
SPITS LR LR 17 01 31.8
comp=Z,62nm,18.6s,baz=309,slow=37
comp=Z,13nm,1.0s
JMIC **Jan Mayen** 59.60 20 LR LR 17 02 07.2
comp=Z,52nm,18.1s,baz=82,slow=38
MCRA **Macar, Loja** 60.51 127 P P 16 34 58.6 +0.3
H11N3 **WAKE ISLAND Hy** 61.50 272 T T 17 41 46.6
baz=53,slow=75,SNR=445
H11N2 **WAKE ISLAND Hy** 61.50 272 T T 17 41 50.4
baz=53,slow=75,SNR=497
H11N1 **WAKE ISLAND Hy** 61.52 272 T T 17 41 47.4
baz=53,slow=75,SNR=372
YAK **Yakutsk** 61.65 329 P P 16 35 05.8 +0.4
H11S1 **WAKE ISLAND Hy** 62.38 271 T T 17 42 59.6
baz=53,slow=74,SNR=249
H11S2 **WAKE ISLAND Hy** 62.38 271 T T 17 43 00.5
baz=53,slow=74,SNR=132
H11S3 **WAKE ISLAND Hy** 62.40 271 T T 17 42 59.2
baz=53,slow=74,SNR=160
NRIK **Noril'sk** 67.72 348 P P 16 35 45.0 +0.1
NRIK **Noril'sk** 67.72 348 P P 16 35 45.3 +0.5
comp=Z,12nm,0.9s,baz=33,slow=5.2,SNR=25
comp=Z,12nm,0.9s
ARCES **ARCESS Array B** 67.80 11 LR LR 17 06 56.9
comp=Z,29nm,18.2s,baz=272,slow=37
BOAV **Boa Vista** 68.76 106 P P 16 35 51.7 -0.5
HEH **HeiHe** 69.77 319 *eP* P 16 35 58.3 +0.4
HEH pmax pmax
comp=Z,8.0nm,0.7s
USA0B **Ussuriysk Arra** 71.19 312 P P 16 36 05.2 -1.5
USRK **Ussuriysk Ar.** 71.19 312 P P 16 36 05.5 -1.2
USRK **Ussuriysk Ar.** 71.19 312 P P 16 36 07.7 +1.0
comp=Z,6.0nm,0.8s,baz=49,slow=6.1,SNR=19
comp=Z,6.0nm,0.8s
EKA **Eskdalemuir Ar** 71.99 31 P P 16 36 12.1 +0.8
comp=Z,0.6nm,0.6s,baz=308,slow=45,SNR=1.3
comp=Z,0.6nm,0.6s
MJAR **Matsushiro Arr** 72.19 303 P P 16 36 13.5 +0.6
comp=Z,3.4nm,0.8s,baz=38,slow=6.5,SNR=6.5
comp=Z,3.4nm,0.8s
NB2 **NORSAR Subarra** 72.28 21 P P 16 36 13.4 +0.4
comp=Z,3.7nm,0.7s,baz=326,slow=5.9
NOA **NORSAR Array B** 72.28 21 P P 16 36 13.5 +0.4
comp=Z,1.7nm,0.7s,baz=326,slow=5.9,SNR=8.7
NOA LR LR 17 07 58.5
comp=Z,54nm,18.4s,baz=280,slow=36
comp=Z,1.7nm,0.7s
MDP **Montagnes des** 72.82 98 LR LR 17 13 05.7
comp=Z,39nm,19.0s,baz=262,slow=40
HFS **Hagfors** 73.71 20 P P 16 36 21.9 +0.4
comp=Z,5.7nm,0.8s,baz=36,slow=11,SNR=7.5
HFS LR LR 17 09 25.9
comp=Z,53nm,18.7s,baz=355,slow=36
comp=Z,5.7nm,0.8s
JOF **Joensuu** 74.83 11 *eP* P 16 36 27.8 -0.2
FIA1 **FINESS Array S** 75.34 14 P P 16 36 29.7 -1.2
FINES **FINESS Array B** 75.34 14 P P 16 36 31.5 +0.6
comp=Z,9.1nm,0.9s,baz=7.6,slow=5.8,SNR=18
FINES LR LR 17 08 33.6
comp=Z,71nm,20.2s,baz=28,slow=35
comp=Z,9.1nm,0.9s
MEF **Metsahovi** 76.14 15 *eP* P 16 36 35.9 +0.4
LPAZ **La Paz** 77.01 125 P P 16 36 40.0 -1.7
LPAZ IAmb IAmb 16 36 42.8
comp=Z,5.2nm,1.1s
LPAZ **La Paz** 77.01 125 P P 16 36 42.0 +0.3
comp=Z,2.2nm,0.8s,baz=346,slow=7.8,SNR=6.6
LPAZ LR LR 17 11 24.9
comp=Z,39nm,19.2s,baz=275,slow=36
comp=Z,2.2nm,0.8s
KSRS **Korea Array** 77.91 309 P P 16 36 46.3 +0.5
comp=Z,3.5nm,0.8s,baz=56,slow=5.6,SNR=16
comp=Z,3.5nm,0.8s
PABE **Paberze** 80.37 18 P P 16 36 59.5 +0.5

PABE	**Paberze**	**80.37**	**18**	*eP*	**P**	**16 36 59.6**	**+0.7**
ISAL	**Salakas**	**80.79**	**16**	*eP*	**P**	**16 37 01.7**	**+0.5**
KIRV	**Kirov**	**80.88**	**3**	LR	LR	17 17 43.6	
	comp=Z,61nm,18.7s,baz=23,slow=39						
SONM	**Songino Array**	**81.00**	**328**	P	**P**	**16 37 03.8**	**+1.1**
	comp=Z,2.0nm,0.6s,baz=53,slow=3.8,SNR=13						
	comp=Z,2.0nm,0.6s						
CLL	**Collm**	**81.03**	**26**	*eP*	**P**	**16 37 04.0**	**+1.4**
	comp=Z,7.0nm,1.0s						
SIV	**San Ignacio**	**81.32**	**120**	LR	LR	17 17 50.2	
	comp=Z,35nm,20.6s,baz=276,slow=39						
SUW	**Suwalki**	**81.55**	**19**	*eP*	**P**	**16 37 06.5**	**+1.2**
SUW	**Suwalki**	**81.55**	**19**	*eP*	**P**	**16 37 05.8**	**+0.5**
BRG	**Berggiesshubel**	**81.71**	**25**	*eP*	**P**	**16 37 07.1**	**+0.9**
BRG				Amp		16 37 09.7	
	comp=Z,7.5nm,1.1s						
PTLB	**Pontes e Lacer**	**82.22**	**118**	P	**P**	**16 37 09.2**	**-0.1**
PTLB				IAmb	IAmb	16 37 10.4	
	comp=Z,3.9nm,0.9s						
ZALV	**Zalesovo Beam**	**82.39**	**343**	P	**P**	**16 37 10.7**	**+1.0**
	comp=Z,4.1nm,0.7s,baz=23,slow=4.8,SNR=26						
ZALV				LR	LR	17 16 12.4	
	comp=Z,46nm,18.2s,baz=22,slow=38						
	comp=Z,4.1nm,0.7s						
BEL	**Belsk**	**82.91**	**21**	*eP*	**P**	**16 37 08.8**	**-3.6**
ARU	**Arti**	**83.15**	**358**	P	**P**	**16 37 12.2**	**-1.4**
ARU				IAmb	IAmb	16 37 14.5	
	comp=Z,7.3nm,0.8s						
ESDC	**Sonseca Array**	**83.26**	**42**	P	**P**	**16 37 14.8**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=315,slow=5.8,SNR=9.3						
ESDC				LR	LR	17 11 55.4	
	comp=Z,35nm,19.1s,baz=329,slow=34						
	comp=Z,1.9nm,0.9s						
GERES	**GERESS Array B**	**83.38**	**26**	P	**P**	**16 37 15.8**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=338,slow=7.4,SNR=4.9						
	comp=Z,0.9nm,0.6s						
HHC	**Hu-ho-hao-te**	**84.23**	**321**	*eP*	**P**	**16 37 18.0**	**-1.6**
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
HHC				pmax	pmax		
	comp=Z,170nm,5.6s						
CONA	**Conrad Observa**	**84.89**	**26**	*e*PcP	**PcP**	**16 37 24.4**	**-1.7**
	comp=Z,2.3nm,0.6s						
NIE	**Niedzica**	**84.94**	**22**	*eP*	**P**	**16 37 24.7**	**+1.8**
HNS	**HongShan**	**85.30**	**317**	*eP*	**P**	**16 37 26.3**	**+1.4**
ARSA	**Arzberg**	**85.37**	**26**	*eP*	**P**	**16 37 23.3**	**-1.8**
	comp=Z,2.3nm,0.6s						
OBKA	**Obir**	**85.68**	**27**	*eP*	**P**	**16 37 25.2**	**-1.6**
	comp=Z,2.7nm,0.3s						
BRVK	**Borovoye**	**85.71**	**351**	P	**P**	**16 37 27.1**	**+0.4**
BVAR	**Borovoye Array**	**85.73**	**351**	P	**P**	**16 37 27.6**	**+0.9**
	comp=Z,9.2nm,0.7s,baz=3.2,slow=4.4,SNR=43						
	comp=Z,9.2nm,0.7s						
AKASG	**Malin Array Be**	**86.01**	**17**	P	**P**	**16 37 28.1**	**0.0**
	comp=Z,9.3nm,0.9s,baz=341,slow=4.1,SNR=33						
	comp=Z,9.3nm,0.9s						
KIEV	**Kiev**	**86.02**	**17**	P	**P**	**16 37 27.8**	**-0.4**
KURK	**Kurchatov**	**86.71**	**346**	P	**P**	**16 37 31.8**	**+0.2**
KURBB	**Kurchatov Arra**	**86.82**	**346**	P	**P**	**16 37 32.9**	**+0.7**
	comp=Z,14nm,0.8s,baz=16,slow=4.8,SNR=125						
	comp=Z,14nm,0.8s						
BELG	**Belogornoye**	**86.96**	**5**	LR	LR	17 20 47.0	
	comp=Z,34nm,18.1s,baz=129,slow=39						
NJ2	**Nanjing**	**87.00**	**311**	*eP*	**P**	**16 37 32.6**	**-0.8**
NJ2				pP	**pP**	**16 37 38.5**	**-2.1**
NJ2				sP	**sP**	**16 37 41.0**	**-2.2**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,130nm,3.7s						
AKTO	**Aktyubinsk**	**89.16**	**359**	LR	LR	17 18 54.5	
	comp=Z,43nm,21.9s,baz=148,slow=36						
MKAR	**Makanchi Array**	**89.66**	**342**	P	**P**	**16 37 45.9**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=16,slow=5.6,SNR=16						
	comp=Z,1.8nm,0.8s						
MAKZ	**Makanchi**	**89.72**	**342**	P	**P**	**16 37 45.9**	**-0.2**
MLR	**Muntele Rosu**	**90.09**	**20**	LR	LR	17 21 06.0	
	comp=Z,74nm,18.2s,baz=350,slow=38						
XAN	**Xi'an**	**90.87**	**318**	P	**P**	**16 37 52.9**	**+1.2**
XAN				pP	pP	16 37 59.9	+0.9
XAN				pmax	pmax		
	comp=Z,12nm,0.8s						
WMQ	**Urumqi**	**91.00**	**337**	*eP*	**P**	**16 37 52.8**	**+0.7**
WMQ				sP	sP	16 38 08.4	+6.4
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
CPUP	**Villa Florida**	**91.17**	**124**	P	**P**	**16 37 52.4**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=314,slow=1.9,SNR=3.5						
	comp=Z,0.6nm,0.3s						
KBZ	**Khabaz**	**95.11**	**9**	P	**P**	**16 38 10.9**	**0.0**
	comp=Z,4.2nm,0.9s,baz=337,slow=3.4,SNR=7.7						
	comp=Z,4.2nm,0.9s						
URZ	**Urewera**	**95.12**	**222**	LR	LR	17 19 06.0	
	comp=Z,47nm,18.1s,baz=300,slow=34						
KSH	**Kashi**	**97.99**	**344**	P	Pdif	16 38 27.3	+3.0
KSH				pmax	pmax		
	comp=Z,4.0nm,1.3s						
PZH	**PanZhiHua**	**100.58**	**319**	P	**Pdif**	**16 38 35.0**	**-1.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VNDA	**Vanda**	**126.07**	**195**	PKP	**PKiKP**	**16 43 49.4**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=65,slow=2.5,SNR=4.5						
QSPA	**South Pole Qui**	**130.57**	**180**	PKP	**PKiKP**	**16 43 58.5**	**0.0**
	comp=Z,7.7nm,0.8s,baz=87,slow=4.3,SNR=16						
ELIB	**Princess Elisa**	**144.89**	**163**	*d*PKPdf	**PKPdf**	**16 44 23.4**	**-0.5**
BOSA	**Boshof**	**152.34**	**74**	PKPbc	**PKiKP**	**16 44 44.0**	**-0.4**
	comp=Z,15nm,0.7s,baz=309,slow=2.4,SNR=36						
MAW	**Mawson**	**152.82**	**186**	PKPbc	**PKiKP**	**16 44 44.1**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=158,slow=4.0,SNR=4.4						

IDC 22 16:29:27.2±999.0, 50.85N×50.56E, h0km, Error ellipse: s-maj=964.7km s-min=105.6km az=91.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**4.78**	**92**	I	I	17 01 10.0	
	0.4nm,0.6s,baz=278,slow=312,SNR=3.9						
I46RU	**ZALESOVO INFRA**	**21.01**	**68**	I	I	18 37 20.0	
	baz=275,slow=326,SNR=0.9						
I34MN	**SONGINO INFRAS**	**35.79**	**73**	I	I	20 05 00.0	
	baz=297,slow=326,SNR=2.6						

*IDC **22** 16:45:37.5±1.3,33.21S×69.01W,h0km,mb3.9/2, mbtmp3.6/6,ML3.5/4,MS3.0/1,Error ellipse: s-maj=47.7km s-min=18.3km az=114.0*
*SJA **22** 16:45:42.0±1.1,33.36S×68.98W,h26km±4km,ML3.6, MW3.5*
*GUC **22** 16:45:43.8±0.6,33.35S×69.08W,h15km±2km,ML3.2*
ISC 22 16:45:41.9±1.1, 33.33S±0.03×68.96W±0.03, h32km±9km, n49, σ1°52/68, 3D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAGR	**Agrelo**	**0.26**	**24**	*i* P	**Pn**	**16 45 50.1**	**+0.4**
AVIZ	**Vizcacheras**	**0.40**	**112**	*i* P	**Pn**	**16 45 51.9**	**+0.4**
ARCO	**CERRO ARCO**	**0.48**	**2**	*i* P	**Pn**	**16 45 53.0**	**+0.2**
ARCO				*e*S	**Sn**	**16 46 01.2**	**+0.9**
ARCO				IAML		16 46 01.5	
	comp=Z,9μm,0.2s						
ASAL	**Salagasta**	**0.74**	**8**	*eP*	**Pn**	**16 45 57.3**	**+1.1**
ASAL				*e*S	**Sn**	**16 46 07.7**	**+1.3**
ASAL				IAML		16 46 14.2	
	comp=Z,514nm,0.3s						
MT04	**Ro Olivares**	**0.99**	**265↓**	*i* P	**Pn**	**16 46 00.1**	**+0.3**
MT04				*e*S	**Sn**	**16 46 12.7**	**-0.2**
MT04				IAML		16 46 13.9	
	comp=E,1μm,0.3s						
FCH	**Farellones**	**1.12**	**270↓**	*i* P	**Pb**	**16 46 02.4**	**-0.5**
FCH				*e*S	**Sn**	**16 46 16.3**	**+0.2**
FCH				IAML		16 46 17.4	
	comp=E,1μm,0.4s						
LMEL	**Las Melosas**	**1.16**	**243↓**	*i* P	**Pb**	**16 46 03.1**	**-0.5**
LMEL				*e*S	**Sn**	**16 46 17.8**	**+0.7**
LMEL				IAML		16 46 20.2	
	comp=N,1μm,0.2s						
MT03	**Universidad Ad**	**1.31**	**262**	*eP*	**Pb**	**16 46 05.8**	**-0.2**
MT03				*e*S	**Sb**	**16 46 23.1**	**+0.6**
MT03				IAML		16 46 25.8	
	comp=Z,638nm,0.4s						
MT03	**Universidad Ad**	**1.31**	**262**	*eP*	**Pb**	**16 46 05.7**	**-0.3**
MT03				*e*S	**Sb**	**16 46 22.3**	**-0.3**
MT03				IAML		16 46 25.5	
	comp=N,1μm,0.4s						
MT16	**CCHEN**	**1.32**	**265**	*eP*	**Pb**	**16 46 05.8**	**-0.3**
MT16				*e*S	**Sb**	**16 46 22.7**	**0.0**
MT16				IAML		16 46 28.5	
	comp=N,707nm,0.6s						
MT14	**Cerro Cal¡n**	**1.32**	**267**	*eP*	**Pb**	**16 46 06.1**	**-0.1**
MT14				IAML		16 46 25.3	
	comp=E,1μm,0.4s						
MT12	**Pirque**	**1.39**	**253**	*eP*	**Pb**	**16 46 07.0**	**-0.4**
MT12				*e*S	**Sb**	**16 46 24.4**	**-0.4**
MT12				IAML		16 46 30.1	
	comp=E,2μm,0.8s						
VA03	**San Esteban**	**1.45**	**292**	*i* P	**Pb**	**16 46 08.4**	**-0.1**
VA03				*e*S	**Sb**	**16 46 26.9**	**+0.3**
VA03				IAML		16 46 28.3	
	comp=Z,1μm,0.7s						
VA03	**San Esteban**	**1.45**	**292**	*eP*	**Pb**	**16 46 08.4**	**-0.1**
VA03				*e*S	**Sb**	**16 46 26.9**	**+0.3**
PEL	**Peldehue**	**1.46**	**277**	*i* P	**Pb**	**16 46 08.2**	**-0.3**
PEL				*i* S	**Sb**	**16 46 27.5**	**+0.7**
PEL	**Peldehue**	**1.46**	**277**	*eP*	**Pb**	**16 46 08.2**	**-0.3**
PEL				*e*S	**Sb**	**16 46 26.9**	**+0.1**
PEL				IAML		16 46 28.0	
	comp=N,749nm,0.4s						
MT05	**Renca**	**1.49**	**267**	*i* P	**Pb**	**16 46 09.3**	**+0.2**
MT05				IAML		16 46 33.0	
	comp=Z,793nm,0.9s						
MT05	**Renca**	**1.49**	**267**	*eP*	**Pb**	**16 46 09.2**	**+0.1**
MT05				IAML		16 46 32.7	
	comp=E,796nm,0.2s						
RFA	**San Rafael**	**1.50**	**164**	*eP*	**Pb**	**16 46 07.8**	**-1.4**
RFA				*e*S	**Sb**	**16 46 29.3**	**+1.4**
RFA				IAML		16 46 32.7	
	comp=Z,1μm,0.4s						
RTCV	**Cerro Valdivia**	**1.50**	**14**	*e*S	**Sb**	**16 46 31.7**	**+3.8**
RTCV				IAML		16 46 33.4	
	comp=Z,141nm,1.1s						
BO04	**La Punta**	**1.53**	**244**	*eP*	**Pb**	**16 46 09.2**	**-0.5**
BO04				*e*S	**Sb**	**16 46 28.6**	**-0.1**
BO04				IAML		16 46 30.7	
	comp=N,853nm,0.3s						
RTLS	**Leoncito**	**1.55**	**349**	*i* P	**Pb**	**16 46 11.1**	**+0.9**
RTLS				IAML		16 46 35.5	
	comp=Z,2μm,0.4s						
ROC1	**El Roble**	**1.76**	**281**	*i* P	**Pb**	**16 46 13.6**	**-0.2**
ROC1				*e*S	**Sb**	**16 46 36.3**	**+0.7**
MT02	**Curacav**	**1.83**	**272**	*eP*	**Pb**	**16 46 14.0**	**-0.8**
MT02				*e*S	**Sb**	**16 46 38.7**	**+1.4**
MT02				IAML		16 46 39.0	
	comp=Z,366nm,0.5s						
MT01	**Popeta**	**1.99**	**254**	*eP*	**Pb**	**16 46 15.9**	**-1.6**
MT01				*e*S	**Sb**	**16 46 42.1**	**+0.2**
MT01				IAML		16 46 43.4	
	comp=Z,518nm,0.3s						
BO01	**Tunca**	**2.07**	**238**	*eP*	**Pb**	**16 46 17.8**	**-1.0**
BO01				IAML		16 46 46.7	
	comp=Z,458nm,0.5s						
BO02	**Sierra Bellavi**	**2.11**	**226**	*eP*	**Pb**	**16 46 18.1**	**-1.4**
BO02				IAML		16 46 48.2	
	comp=Z,250nm,0.6s						
VA01	**Torpederas**	**2.28**	**277**	*i* P	**Pb**	**16 46 22.0**	**-0.3**
VA01				IAML		16 46 54.0	
	comp=Z,274nm,1.1s						
DOCA	**Reserva Natura**	**2.37**	**357**	*eP*	**Pb**	**16 46 22.6**	**-1.6**
DOCA				*i* S	**Sb**	**16 46 55.4**	**+2.1**
DOCA				IAML		16 47 04.8	
	comp=Z,1μm,0.6s						
EDS3	**Malargue**	**2.46**	**188**	*eP*	**Pn**	**16 46 21.3**	**+1.3**
ACCO	**Cerro Coronel**	**2.73**	**358**	*eP*	**Pb**	**16 46 27.9**	**-2.4**
ACCO				IAML		16 47 19.5	
	comp=Z,186nm,1.0s						
CO02	**Combarbal**	**2.74**	**320**	*eP*	**Pb**	**16 46 27.6**	**-2.7**
CO02				IAML		16 47 12.2	
	comp=Z,492nm,0.3s						
CO03	**El Pedregal**	**2.88**	**329**	*i* P	**Pb**	**16 46 30.4**	**-2.4**
CO03				IAML		16 47 14.8	
	comp=Z,320nm,0.6s						
ACDV	**Cuesta del Vie**	**3.15**	**357**	*eP*	**Pb**	**16 46 34.8**	**-2.5**
ACDV				IAML		16 47 24.1	
	comp=Z,139nm,0.5s						
AROD	**Rodeo**	**3.18**	**352**	*eP*	**Pb**	**16 46 34.8**	**-3.1**
CO01	**Juntas del Tor**	**3.48**	**343**	*eP*	**Pb**	**16 46 40.1**	**-2.8**
CO01				IAML		16 47 34.8	
	comp=Z,79nm,0.6s						
APLL	**PUNTA DE LOS L**	**3.58**	**36**	*i* P	**Pn**	**16 46 38.1**	**+2.9**
APLL				IAML		16 47 41.8	
	comp=Z,6.9nm,0.5s						
AGUA	**GUANDACOL**	**3.85**	**6**	*eP*	**Pn**	**16 46 43.4**	**+4.4**
AGUA				IAML		16 47 54.4	
	comp=Z,130nm,0.3s						
TCA	**Tanti**	**4.19**	**63**	*eP*	**Pn**	**16 46 45.9**	**+2.2**
TCA				IAML		16 48 05.5	
	comp=Z,165nm,0.5s						
ACLC	**CERRO LA CRUZ**	**4.25**	**24**	*eP*	**Pn**	**16 46 47.8**	**+3.2**
ACLC				IAML		16 47 58.5	
	comp=Z,179nm,0.7s						
AC05	**El Transito**	**4.62**	**345**	*i* P	Pn	16 46 54.6	+5.0
AC05				IAML		16 48 17.6	
	comp=Z,53nm,1.4s						
PLCA	**Paso Flores**	**7.50**	**189**	Pn	**Pn**	**16 47 30.1**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=8.9,slow=18,SNR=2.0						
PLCA				Lg	Lg	16 49 37.6	
	comp=Z,0.9nm,0.3s,baz=148,slow=22,SNR=5.3						
	comp=Z,3.0nm,1.0s						
CPUP	**Villa Florida**	**12.26**	**58**	Pn	**Pn**	**16 48 33.4**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=229,slow=20,SNR=3.5						
CPUP				Sn	**Sn**	**16 50 49.2**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=238,slow=19,SNR=1.2						
CPUP				Lg	Lg	16 52 08.7	
	comp=Z,0.1nm,0.3s,baz=151,slow=20,SNR=1.5						
CPUP				LR	LR	16 53 52.2	
	comp=Z,70nm,19.1s,baz=220,slow=40						
	comp=Z,1.0nm,0.4s						
LPAZ	**La Paz**	**16.98**	**3**	Pn	**Pn**	**16 49 34.8**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=217,slow=2.8,SNR=2.0						
	comp=Z,0.4nm,0.5s						
SIV	**San Ignacio**	**18.67**	**24**	P	**P**	**16 49 55.1**	**-2.3**
	baz=307,slow=20,SNR=1.5						
	comp=Z,0.2nm,0.4s						
QSPA	**South Pole Qui**	**56.91**	**180**	P	**P**	**16 55 24.8**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=163,slow=0.7,SNR=6.8						
	comp=Z,1.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**81.57**	**68**	P	**P**	**16 57 57.3**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=237,slow=5.0,SNR=3.9						
	comp=Z,0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**150.60**	**44**	PKPbc	**PKPbc**	**17 05 30.9**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=303,slow=2.9,SNR=6.9						
ZALV	**Zalesovo Beam**	**152.25**	**34**	PKPbc	**PKiKP**	**17 05 34.8**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=315,slow=3.2,SNR=6.6						

*CATAC **22** 16:52:51.4±0.3,8.86N×83.24W,h13km±3km,ML3.2*
*UCR **22** 16:52:52.0±0.8,8.82N×83.27W,h27km±2km,MW3.5*
*UPA **22** 16:52:52.3±0.7,8.88N×83.19W,h16km±2km,ML3.2*
ISC 22 16:52:51.9±0.9, 8.85N±0.03×83.26W±0.02, h16km±8km, n40, σ0°82/61, 2C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDP2	**Potrero Grande**	**0.18**	**25**	*eP*	**Pb**	**16 52 58.1**	**+1.2**
EDP2				*e*S	**Sb**	**16 53 03.4**	**+3.2**
EDAD	**Golfito**	**0.22**	**156**	*eP*	**Pg**	**16 52 57.2**	**+0.2**
EDAD				*e*S	**Sb**	**16 53 01.2**	**0.0**
EDPN	**Palmar Norte**	**0.23**	**299**	*eP*	**Pb**	**16 52 58.2**	**+0.5**
FITO	**Golfito**	**0.25**	**156**	*eP*	**Pg**	**16 52 57.4**	**-0.1**
FITO				*e*S	**Sg**	**16 53 01.6**	**+0.5**
EDBA	**Buenos Aires**	**0.31**	**356**	*eP*	**Pb**	**16 52 59.7**	**+0.5**
SRBA	**San Rafael, Bu**	**0.39**	**345**	*eP*	**Pb**	**16 53 00.5**	**-0.2**
SRBA				*e*S	**Sb**	**16 53 06.8**	**+0.4**
SRBA	**San Rafael, Bu**	**0.39**	**345**	*i* P	**Pb**	**16 53 00.4**	**-0.2**
SRBA				*i* S	**Sb**	**16 53 06.9**	**+0.4**
SRBA				IAML		16 53 08.6	
	comp=Z,1μm,1.0s						
DRK0	**Durika**	**0.41**	**1**	*eP*	**Pb**	**16 53 00.8**	**-0.1**
PIRO	**Carate, Puerto**	**0.45**	**190**	*eP*	**Pg**	**16 53 00.7**	**-0.3**
PIRO	**Carate, Puerto**	**0.45**	**190**	*i* P	**Pg**	**16 53 01.4**	**+0.4**
PIRO				*i* S	**Sb**	**16 53 09.7**	**+1.7**
PIRO				IAML		16 53 10.7	
	comp=Z,5μm,1.0s						
PLAN	**Los Planes de**	**0.46**	**247**	*i* P	**Pg**	**16 53 01.3**	**+0.2**
PLAN				*i* S	**Sb**	**16 53 09.7**	**+1.5**
PLAN				IAML		16 53 11.4	
	comp=Z,5μm,1.0s						
OCHAL	**Ojochal**	**0.46**	**303**	*i* P	**Pg**	**16 53 01.0**	**-0.2**
OCHAL				*i* S	**Sb**	**16 53 08.5**	**+0.3**
OCHAL				IAML		16 53 09.8	
	comp=Z,610nm,1.0s						
CDITO	**Canoas**	**0.47**	**126↑**	*eP*	**Pg**	**16 53 00.8**	**-0.5**
CDITO				*e*S	**Sb**	**16 53 08.5**	**0.0**
CDITO	**Canoas**	**0.47**	**126**	*i* P	**Pg**	**16 53 00.7**	**-0.7**
CDITO				*i* S	**Sb**	**16 53 08.0**	**-0.5**
CDITO				IAML		16 53 09.9	
	comp=Z,670nm,1.0s						
CCOL	**Caracol de Cor**	**0.52**	**148**	*eP*	**Pg**	**16 53 01.8**	**-0.5**
CCOL				*e*S	**Sb**	**16 53 10.3**	**+0.3**
CCOL	**Caracol de Cor**	**0.52**	**148**	*i* P	**Pg**	**16 53 01.6**	**-0.7**
CCOL				IAML		16 53 13.2	
	comp=Z,3μm,1.0s						
BRU2	**Volcan**	**0.56**	**96↓**	*i*P	**Pg**	**16 53 02.9**	**-0.3**
BRU2				AMP		16 53 05.2	
	comp=Z,2μm,0.1s						
BRU2				*i* S	**Sb**	**16 53 11.7**	**+0.4**
BRU2	**Volcan**	**0.56**	**96**	*eP*	**Pg**	**16 53 02.9**	**-0.3**
BRU2				*e*S	**Sb**	**16 53 11.7**	**+0.4**
BRU2	**Volcan**	**0.56**	**96**	*i* P	**Pg**	**16 53 02.8**	**-0.3**
BRU2				*i* S	**Sb**	**16 53 11.7**	**+0.4**
BRU2				IAML		16 53 12.2	
	comp=Z,1μm,1.0s						
BC3P	**Paso Ancho**	**0.64**	**93↑**	*eP*	**Pg**	**16 53 04.0**	**-0.6**
BC3P				*e*S	**Sb**	**16 53 13.4**	**-0.2**
BCO2	**Palmira**	**0.73**	**100**	*eP*	**Pn**	**16 53 09.5**	**+1.8**
BCO2				*e*S	**Sn**	**16 53 19.5**	**+0.9**
PTPM	**Petroterminale**	**0.74**	**150**	*eP*	**Pg**	**16 53 06.5**	**+0.1**
PTPM				*e*S	**Sn**	**16 53 19.1**	**+0.4**
CDM	**Cerro de Muert**	**0.86**	**324**	*eP*	**Pb**	**16 53 07.6**	**-1.2**
CDM	**Cerro de Muert**	**0.86**	**324**	*i* P	**Pb**	**16 53 07.4**	**-1.4**
CDM				*i* S	**Sb**	**16 53 19.4**	**-0.8**
CDM				IAML		16 53 20.2	
	comp=Z,510nm,1.0s						
DVD	**David**	**0.90**	**117**	*eP*	**Pb**	**16 53 08.5**	**-0.7**
DVD				*e*S	**Sb**	**16 53 19.9**	**-0.9**
PSOM3	**Paja de Sombre**	**0.94**	**100**	*eP*	**Pb**	**16 53 08.7**	**-1.1**
PSOM3				*e*S	**Sb**	**16 53 21.0**	**-1.1**
LCR2	**La Lucha 2**	**1.15**	**320**	*eP*	**Pn**	**16 53 12.7**	**-1.0**
LCR2	**La Lucha 2**	**1.15**	**320**	*i* P	**Pn**	**16 53 12.5**	**-1.1**
LCR2				IAML		16 53 28.7	
	comp=Z,200nm,1.0s						
VTCV	**VTCV, Calle Va**	**1.22**	**338**	*eP*	**Pn**	**16 53 14.1**	**-0.4**
VTCV	**VTCV, Calle Va**	**1.22**	**338**	*i* P	**Pn**	**16 53 14.0**	**-0.5**
VTCV				IAML		16 53 34.8	
	comp=Z,950nm,1.0s						
BATAN	**Batan**	**1.25**	**355**	*i* P	**Pn**	**16 53 14.5**	**-0.2**
BATAN				IAML		16 53 34.6	
	comp=Z,2μm,1.0s						
CVTV	**Tajo**	**1.25**	**337**	*eP*	**Pn**	**16 53 14.8**	**-0.2**
VTLA	**Turrialba Volc**	**1.25**	**336**	*eP*	**Pn**	**16 53 14.7**	**-0.4**
LCCO	**El Coco**	**1.26**	**346**	*eP*	**Pn**	**16 53 14.7**	**-0.2**
VTR0	**Volcan Turrial**	**1.26**	**337**	*eP*	**Pn**	**16 53 14.8**	**-0.5**
CVTR	**Volcan Turrial**	**1.26**	**337**	*eP*	**Pn**	**16 53 15.1**	**-0.2**
VICA	**Volcano Irazu**	**1.27**	**333**	*eP*	**Pn**	**16 53 14.1**	**-1.3**
VTUN	**Crater Central**	**1.27**	**337**	*i* P	**Pb**	**16 53 15.6**	**-0.1**
VTUN				*i* S	**Sb**	**16 53 31.8**	**-0.1**
VTUN				IAML		16 53 37.7	
	comp=Z,440nm,1.0s						
JACO	**JACO, Garabito**	**1.60**	**300**	*i* P	**Pn**	**16 53 18.8**	**-0.8**
JACO				IAML		16 53 28.7	
	comp=Z,64nm,1.0s						
TRT1	**Tortuguero**	**1.79**	**346**	*eP*	**Pn**	**16 53 21.9**	**-0.3**

IDC 22 16:55:09.8±1.6, 6.01S×142.32E, h0km, mb3.7/2, mbtmp3.6/5, ML3.6/2, Error ellipse: s-maj=41.6km s-min=27.5km az=60.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.86**	**125**	Pn	Pn	16 56 38.1	0.0
	6.1nm,0.9s,baz=281,slow=22,SNR=1.5						
PMG				Sn	Sn	16 57 46.4	+0.4
	0.4nm,0.3s,baz=333,slow=18,SNR=1.3						
WRA	**Warramunga Arr**	**15.87**	**209**	Pn	Pn	16 58 52.7	-2.1
	0.3nm,0.3s,baz=27,slow=13,SNR=14						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**19.33**	**204**	P	Pn	16 59 37.9	0.0
	0.1nm,0.3s,baz=34,slow=9.8,SNR=14						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**74.59**	**322**	P	P	17 06 51.2	+0.4
	0.5nm,0.9s,baz=123,slow=5.3,SNR=2.9						
	0.5nm,0.9s						
BVAR	**Borovoye Array**	**84.06**	**325**	P	P	17 07 42.0	-0.4
	0.9nm,0.8s,baz=111,slow=3.6,SNR=3.0						
	0.9nm,0.8s						

*NEIC **22** 17:00:44.5±3.2,20.85S±0.10×33.61E±0.06,h10km±2km, mb4.2/5,Error ellipse: s-maj=18.0km s-min=6.5km az=338.0*
*IDC **22** 17:00:45.5±1.1,20.57S×33.60E,h0km,mb3.7/4, mbtmp4.1/9,ML4.2/3,MS3.2/5,Error

BOSA				Sn	**Sn**	**17 05 20.4**	**-1.3**
BOSA	**Boshof**	**10.83**	**222**	*i* P	**Pn**	**17 03 23.4**	**+2.8**
BOSA	**Boshof**	**10.83**	**222**	*e*P	Pn	17 03 26.8	+6.2
BOSA				*e*S	**Sn**	**17 05 21.4**	**-0.3**
BOSA				IAML		17 05 34.5	
	comp=Z,9.3nm,0.5s						
BOSA	**Boshof**	**10.83**	**222**	Pn	**Pn**	**17 03 24.3**	**+3.8**
	comp=Z,1.0nm,0.3s,baz=46,slow=13,SNR=25						
BOSA				Sn	**Sn**	**17 05 20.6**	**-1.0**
	comp=Z,1.9nm,0.3s,baz=342,slow=20,SNR=5.7						
BOSA				Lg	Lg	17 06 33.5	
	comp=Z,2.0nm,0.3s,baz=314,slow=20,SNR=5.0						
BOSA				LR	LR	17 07 25.3	
	comp=Z,60nm,19.0s,baz=43,slow=36						
	comp=Z,6.1nm,0.6s						
VOI	**Vohitsoka**	**12.41**	**98**	Pn	**Pn**	**17 03 41.5**	**-0.7**
VOI				Sn	Sn	17 05 48.6	-12
ABPO	**Ambohimpanom**	**13.00**	**85**	Pn	**Pn**	**17 03 47.1**	**-3.2**
OPO	**Ambohidratompo**	**13.05**	**83**	LR	LR	17 08 40.5	
	comp=Z,76nm,20.2s,baz=358,slow=37						
FOMA	**Nahampoana Res**	**13.08**	**111**	Pn	**Pn**	**17 03 49.6**	**-1.5**
GRAF	**Camdeboo Natio**	**14.01**	**213**	*e*P	**P**	**17 04 10.8**	**-1.1**
BRAK	**Brakfontein**	**14.51**	**219**	*e*P	**P**	**17 04 17.6**	**+0.1**
TSUM	**Tsumeb**	**15.07**	**273**	Pn	**Pn**	**17 04 18.5**	**0.0**
TSUM				IAmb	IAmb	17 04 40.1	
	comp=Z,12nm,0.9s						
TSUM	**Tsumeb**	**15.07**	**273**	Pn	**Pn**	**17 04 18.8**	**+0.2**
	comp=Z,2.3nm,0.3s,baz=104,slow=14,SNR=2.4						
TSUM				Sn	**Sn**	**17 07 01.1**	**-4.4**
	comp=Z,0.5nm,0.3s,baz=53,slow=20,SNR=3.2						
TSUM				Lg	Lg	17 08 45.2	
	comp=Z,0.6nm,0.3s,baz=222,slow=22,SNR=7.4						
GRAN	**Grantham**	**15.31**	**219**	*e*P	**P**	**17 04 28.4**	**+2.0**
WIN	**Windhoek**	**15.38**	**260**	Pn	**Pn**	**17 04 21.1**	**-1.5**
WIN				IAmb	IAmb	17 04 24.9	
	comp=Z,9.6nm,0.6s						
FRAZ	**Fraserburg**	**15.52**	**222**	*e*P	**P**	**17 04 31.3**	**+2.6**
MERW	**Merweville**	**15.96**	**220**	*e*P	**P**	**17 04 38.0**	**+4.4**
SUR	**Sutherland**	**16.20**	**222**	Pn	**Pn**	**17 04 33.1**	**0.0**
SUR	**Sutherland**	**16.20**	**222**	Pn	**P**	**17 04 37.5**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=40,slow=9.9,SNR=15						
SUR				Sn	**S**	**17 07 42.4**	**-3.4**
	comp=Z,0.7nm,0.3s,baz=3.4,slow=19,SNR=3.0						
SUR				LR	LR	17 10 47.1	
	comp=Z,160nm,18.3s,baz=140,slow=37						
	comp=Z,8.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**46.00**	**314**	P	**P**	**17 09 07.4**	**-1.6**
TORD	**Torodi Ar. Bea**	**46.00**	**314**	P	**P**	**17 09 09.4**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=119,slow=7.0,SNR=4.9						
	comp=Z,0.8nm,0.7s						
QSPA	**South Pole Qui**	**69.37**	**180**	P	**P**	**17 11 50.9**	**-2.1**
QSPA				IAmb	IAmb	17 12 14.1	
	comp=Z,1.3nm,1.1s						
MKAR	**Makanchi Array**	**80.36**	**32**	P	**P**	**17 12 56.4**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=219,slow=3.8,SNR=3.7						
	comp=Z,0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**81.40**	**27**	P	**P**	**17 13 02.7**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=230,slow=6.0,SNR=6.9						
	comp=Z,0.6nm,0.3s						
SIV	**San Ignacio**	**88.60**	**254**	LR	LR	17 49 50.5	
	comp=Z,33nm,18.3s,baz=279,slow=33						
ASAR	**Alice Springs**	**90.78**	**116**	P	**P**	**17 13 51.5**	**+2.4**
	comp=Z,0.2nm,0.5s,baz=239,slow=5.0,SNR=6.6						
	comp=Z,0.2nm,0.5s						
NVAR	**Mina Array Bea**	**150.02**	**312**	PKPbc	**PKiKP**	**17 20 39.6**	**+2.3**
	comp=Z,0.6nm,0.6s,baz=83,slow=3.7,SNR=4.1						

CRAAG ***22*** *17:13:03.4, 36°.39N×2°.56E, MI3.3, Algerie 04km SE Oued-Djer*
MDD ***22*** *17:13:04.6±1.1, 36°.41N×2°.58E, h0km, Mb4.2/9, M_mb3.6/9, Error ellipse: s-maj=9.9km s-min=4.2km az=133.0*

ISC 22 17:13:04.2±1.0, 36°.40N±0°.05×2°.55E±0°.04, h18km, n24, σ1§56/34, 9C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABKD	**Sidi Amar**	**0.23**	**305**	P	**Pg**	**17 13 09.7**	**0.0**
ACHR	**Chrea**	**0.27**	**85**	P	**Pg**	**17 13 09.7**	**-0.6**
ADOR	**Douera**	**0.39**	**49**	P	**Pg**	**17 13 13.0**	**+0.5**
EHRZ	**Djelida**	**0.41**	**240**	P	**Pg**	**17 13 12.5**	**-0.2**
EARB	**Arib**	**0.45**	**257**	P	**Pg**	**17 13 13.1**	**-0.3**
EDDR	**Deurdeur**	**0.48**	**214**	P	**Pg**	**17 13 13.5**	**-0.5**
ABA	**Alger-Bouzarea**	**0.56**	**44**	P	**Pg**	**17 13 15.3**	**-0.1**
ADJB	**Djebel Djouab**	**0.76**	**108**	P	**Pb**	**17 13 19.0**	**+0.1**
EBGR	**Bougara**	**0.97**	**211**	P	**Pb**	**17 13 23.2**	**+0.6**
EIBI	**Ibiza**	**2.79**	**340**	Pn	**Pn**	**17 13 49.0**	**+1.1**
EIBI				Sn		**17 14 18.5**	**-2.6**
EIBI	**Ibiza**	**2.79**	**340**	P	**Pn**	**17 13 49.2**	**+1.2**
EIBI				⇑*i*Vmb_V		17 13 49.7	
	577nm,SNR=1.1						
EIBI				S	**Sn**	**17 14 20.9**	**-0.3**
CART	**Cartagena**	**3.08**	**294**	Pn	**Pn**	**17 13 51.6**	**-0.3**
CART				Sn	**Sn**	**17 14 22.7**	**-5.5**
ETOS	**Mallorca**	**3.37**	**3**	Pn	**Pn**	**17 13 56.6**	**+0.6**
ETOS				Sn	**Sn**	**17 14 34.7**	**-0.8**
ETOS	**Mallorca**	**3.37**	**3**	P	**Pn**	**17 13 56.5**	**+0.6**
ETOS				⇑*i*Vmb_V		17 13 59.5	
	461nm,SNR=0.7						
ETOS				S	**Sn**	**17 14 33.8**	**-1.7**
ETOB	**Tobarra**	**3.95**	**306**	Pn	**Pn**	**17 14 06.2**	**-0.8**
ETOB	**Tobarra**	**3.95**	**306**	P	**Pn**	**17 14 06.0**	**+2.0**
ETOB				⇑*i*Vmb_V		17 14 07.3	
	304nm,SNR=1.9						
ETOB				S	**Sn**	**17 14 51.1**	**+1.2**
EVIV	**Cofrentes, Val**	**4.08**	**316**	P	**Pn**	**17 14 07.0**	**+1.3**
EVIV				⇑*i*Vmb_V		17 14 10.0	
	278nm,SNR=1.8						
EVIV				S	**Sn**	**17 14 51.1**	**-1.8**
ECHE	**Chera**	**4.22**	**320**	Pn	**Pn**	**17 14 06.6**	**-1.1**
ECHE	**Chera**	**4.22**	**320**	P	**Pn**	**17 14 07.2**	**-0.5**
ECHE				⇑*i*Vmb_V		17 14 10.4	
	157nm,SNR=0.7						
EBER	**Berja**	**4.40**	**278**	Pn	**Pn**	**17 14 10.5**	**+0.2**
EBER	**Berja**	**4.40**	**278**	P	**Pn**	**17 14 10.8**	**+0.5**
EBER				⇑*i*Vmb_V		17 14 13.2	
	340nm,SNR=0.7						
EBER				S	**Sn**	**17 15 01.5**	**+0.3**
EMOS	**Mosqueruela**	**4.61**	**330**	P	**Pn**	**17 14 14.7**	**+1.5**
EMOS				⇑*i*Vmb_V		17 14 15.4	
	323nm,SNR=1.6						
EMOS				S	**Sn**	**17 15 04.4**	**-2.0**
EQES	**Quesada**	**4.71**	**289**	P	**Pn**	**17 14 16.2**	**+1.8**
EQES				⇑*i*Vmb_V		17 14 21.2	
	180nm,SNR=1.4						
EQES				S	**Sn**	**17 15 10.1**	**+1.5**
EARI	**Arriondas**	**9.11**	**322**	P	**Pn**	**17 15 17.1**	**+2.3**
EARI				⇑*i*Vmb_V		17 15 19.6	
	101nm,SNR=0.7						

NEIC ***22*** *17:15:28.7±1.4, 55°.96N±0°.09×149°.4W±0°.1, h10km±8km, ML3.6/38, ML3.4(AEIC), Error ellipse: s-maj=13.6km s-min=8.6km az=156.0*
AEIC ***22*** *17:15:32.1±1.4, 55°.82N±0°.10×149°.3W±0°.1, h12km±8km, Error ellipse: s-maj=15.0km s-min=9.0km az=159.0*
IDC ***22*** *17:15:38.6±2.0, 56°.3N×150°.13W, h0km, mb3.8/7, mbtmp3.8/8, ML3.0/1, MS3.1/3, Error ellipse: s-maj=40.0km s-min=26.7km az=118.0*

ISC 22 17:15:28.3±1.7, 55°.97N±0°.10×149°.33W±0°.06, h10km, n207, σ0§93/194, mb3.9/7, MS3.0/3, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.52**	**301**	P	**Pn**	**17 16 09.2**	**0.0**
OHAK	**Old Harbor**	**2.52**	**301**		**Pn**	**17 16 09.4**	**+0.1**
OHAK	**Old Harbor**	**2.52**	**301**		**Sn**	**17 16 38.7**	**-1.3**
OHAK	**Old Harbor**	**2.52**	**301**	P	**Pn**	**17 16 09.3**	**+0.1**
	baz=119						
OHAK				S	**Sn**	**17 16 38.7**	**-1.3**
	baz=119						
KDAK	**Kodiak Island**	**2.55**	**317**	Pn	**Pn**	**17 16 09.8**	**+0.2**
KDAK	**Kodiak Island**	**2.55**	**317**		**Sn**	**17 16 39.7**	**-0.9**
KDAK	**Kodiak Island**	**2.55**	**317**	Pn	**Pn**	**17 16 09.9**	**+0.3**
	9.8nm,0.3s,baz=139,slow=5.7,SNR=227						
KDAK				Sn	**Sn**	**17 16 37.8**	**-2.8**
	6.5nm,0.3s,baz=316,slow=21,SNR=11						
KDAK				LR	LR	17 16 52.0	
	comp=Z,90nm,21.1s,baz=197,slow=37						
SII	**Sitkinak Islan**	**2.77**	**284**		**Pn**	**17 16 12.5**	**-0.2**
SII					**Sn**	**17 16 45.5**	**-0.7**
SII	**Sitkinak Islan**	**2.77**	**284**	IAML		17 16 51.5	
	comp=E,256nm,0.4s						
SII				IAML		17 17 02.4	
	comp=N,220nm,0.7s						
SII	**Sitkinak Islan**	**2.77**	**284**	P	**Pn**	**17 16 12.5**	**-0.2**
	baz=101						
SII				S	**Sn**	**17 16 45.5**	**-0.7**
	baz=101						
SYI	**Shuyak Island**	**3.12**	**329**		**Pn**	**17 16 18.4**	**+0.9**
SYI					**Sn**	**17 16 55.6**	**+0.8**
Q20K	**Shuyak Island**	**3.13**	**329**	P	**Pn**	**17 16 18.4**	**+0.9**
	baz=147						
Q20K				S	**Sn**	**17 16 55.6**	**+0.8**
	baz=147						
CNPM	**China Poot**	**3.71**	**345**		**Pn**	**17 16 25.9**	**+0.4**
CNPM					**Sn**	**17 17 09.6**	**+0.3**
CNPM	**China Poot**	**3.71**	**345**	IAML		17 17 12.0	
	comp=E,67nm,0.6s						
Q19K	**Cape Douglas,**	**3.77**	**324**		**Pn**	**17 16 28.0**	**+1.5**
Q19K	**Cape Douglas,**	**3.77**	**324**	IAML		17 17 20.0	
	comp=N,213nm,0.8s						
Q19K	**Cape Douglas,**	**3.77**	**324**	P	**Pn**	**17 16 28.0**	**+1.5**
	baz=140						
Q23K	**Middleton Isla**	**3.82**	**24**		**Pn**	**17 16 27.3**	**+0.3**
Q23K	**Middleton Isla**	**3.82**	**24**	P	**Pn**	**17 16 27.3**	**+0.3**
	baz=206						
MID	**Middleton Isla**	**3.82**	**24**		**Pn**	**17 16 27.4**	**+0.3**
BRSE	**Bradley Lake S**	**3.86**	**349**		**Pn**	**17 16 27.9**	**+0.3**
BRSE	**Bradley Lake S**	**3.86**	**349**	P	**Pn**	**17 16 27.9**	**+0.3**
	baz=168						
BRLK	**Bradley Lake**	**3.90**	**348**		**Pn**	**17 16 28.1**	**0.0**
BRLK					**Sn**	**17 17 13.3**	**-0.6**
BRLK	**Bradley Lake**	**3.90**	**348**	IAML		17 17 18.4	
	comp=E,41nm,0.6s						
BRLK				IAML		17 17 18.4	
	comp=N,45nm,0.7s						
KAKN	**Katmai Knife C**	**3.90**	**309**		**Pn**	**17 16 29.5**	**+1.2**
KAHC	**Katmai Hardscr**	**4.08**	**313**	P	**Pn**	**17 16 32.8**	**+2.0**
	baz=129						
P23K	**Montague Islan**	**4.17**	**13**		**Pn**	**17 16 32.3**	**+0.4**
P23K					**Sn**	**17 17 19.4**	**-1.2**
P23K	**Montague Islan**	**4.17**	**13**	P	**Pn**	**17 16 32.3**	**+0.4**
	baz=195						
P23K				S	**Sn**	**17 17 19.4**	**-1.2**
	baz=195						
P19K	**Oil Pt**	**4.24**	**332**		**Pn**	**17 16 33.8**	**+0.9**
P19K	**Oil Pt**	**4.24**	**332**	IAML		17 17 28.0	
	comp=N,99nm,0.5s						
P19K				IAML		17 17 28.3	
	comp=E,100nm,0.6s						
P19K	**Oil Pt**	**4.24**	**332**	P	**Pn**	**17 16 33.8**	**+0.9**
	baz=149						
Q17K	**Contact Creek**	**4.25**	**305**	P	**Pn**	**17 16 34.4**	**+1.3**
	baz=120						
O20K	**Slope Mountain**	**4.48**	**338**		**Pn**	**17 16 36.8**	**+0.6**
O20K	**Slope Mountain**	**4.48**	**338**	P	**Pn**	**17 16 36.8**	**+0.6**
	baz=156						
ILSW	**Iliamna Southw**	**4.51**	**335**		**Pn**	**17 16 37.1**	**+0.5**
ILSW	**Iliamna Southw**	**4.51**	**335**		**Sn**	**17 17 27.7**	**-1.4**
ILSW				IAML		17 17 32.9	
	comp=N,48nm,0.8s						
ILSW				IAML		17 17 43.9	
	comp=E,35nm,1.0s						
O22K	**Cooper Landing**	**4.53**	**358**		**Pn**	**17 16 38.1**	**+1.3**
SLKM	**Skilak Lake**	**4.58**	**354**		**Pn**	**17 16 37.9**	**+0.4**
P18K	**Big Mountain,**	**4.67**	**320**	Pn	**Pn**	**17 16 39.1**	**+0.4**
P18K	**Big Mountain,**	**4.67**	**320**	P	**Pn**	**17 16 39.4**	**+0.7**
	baz=135						
HIN	**Hinchinbrook I**	**4.69**	**17**	IAML		17 17 38.0	
	comp=E,79nm,1.4s						
HIN				IAML		17 17 38.9	
	comp=N,62nm,1.4s						
KAIM	**Kayak Island**	**4.75**	**31**		**Pn**	**17 16 40.0**	**+0.1**
KAIM	**Kayak Island**	**4.75**	**31**	IAML		17 19 14.5	
	comp=N,57nm,1.5s						
KAIM				IAML		17 19 39.5	
	comp=E,48nm,1.5s						
KAIM	**Kayak Island**	**4.75**	**31**	P	**Pn**	**17 16 40.0**	**+0.1**
	baz=216						
RSO	**Redoubt South**	**4.86**	**340**		**Pn**	**17 16 42.0**	**+0.6**
DFR	**Drift River**	**4.96**	**340**		**Pn**	**17 16 43.5**	**+0.6**
EYAK	**Cordova Ski Ar**	**4.96**	**21**	P	**Pn**	**17 16 43.6**	**+0.8**
EYAK	**Cordova Ski Ar**	**4.96**	**21**		**Pn**	**17 16 43.4**	**+0.7**
EYAK	**Cordova Ski Ar**	**4.96**	**21**	P	**Pn**	**17 16 43.4**	**+0.7**
	baz=204						
O19K	**Port Alsworth**	**5.00**	**330**		**Pn**	**17 16 43.2**	**0.0**
O18K	**Koktuh Hills**	**5.00**	**324**	Pn	**Pn**	**17 16 43.4**	**+0.1**
O18K				IAML		17 17 45.2	
	comp=N,26nm,0.9s						
O18K				IAML		17 17 56.2	
	comp=E,24nm,0.9s						
O18K	**Koktuh Hills**	**5.00**	**324**	P	**Pn**	**17 16 44.0**	**+0.7**
	baz=139						
P17K	**Kvichak River**	**5.01**	**313**		**Pn**	**17 16 44.4**	**+1.1**
P17K	**Kvichak River**	**5.01**	**313**	P	**Pn**	**17 16 44.4**	**+1.1**
	baz=128						
CHGN	**Chignik**	**5.09**	**277**	Pn	**Pn**	**17 16 44.9**	**+0.4**
CHGN				IAML		17 17 45.8	
	comp=E,66nm,0.4s						
CHGN				IAML		17 17 45.9	
	comp=N,48nm,0.6s						
RC01	**Rabbit Creek A**	**5.14**	**358**		**Pn**	**17 16 45.7**	**+0.5**
RC01	**Rabbit Creek A**	**5.14**	**358**	IAML		17 17 51.6	
	comp=E,30nm,0.6s						
RC01				IAML		17 17 53.0	
	comp=N,26nm,0.6s						
RC01	**Rabbit Creek A**	**5.14**	**358**	P	**Pn**	**17 16 45.7**	**+0.5**
	baz=178						
GOAT	**Goat Mountain**	**5.22**	**26**		**Pn**	**17 16 46.8**	**+0.4**
N20K	**Mount Spurr**	**5.46**	**345**	P	**Pn**	**17 16 50.5**	**+0.9**
	baz=163						
SPCR	**Spurr Chakacha**	**5.46**	**345**		**Pn**	**17 16 50.5**	**+0.9**
KNK	**Knik Glacier**	**5.48**	**4**		**Pn**	**17 16 50.8**	**+0.9**
KNK	**Knik Glacier**	**5.48**	**4**	P	**Pn**	**17 16 50.8**	**+0.9**
	baz=185						
KHIT	**Khitrov Hills**	**5.52**	**33**		**Pn**	**17 16 50.7**	**+0.2**
N19K	**Bonanza Creek**	**5.56**	**333**		**Pn**	**17 16 51.2**	**+0.2**
N19K	**Bonanza Creek**	**5.56**	**333**	P	**Pn**	**17 16 51.3**	**+0.2**
	baz=149						
P16K	**Nushagak River**	**5.59**	**307**		**Pn**	**17 16 51.8**	**+0.5**
P16K	**Nushagak River**	**5.59**	**307**	P	**Pn**	**17 16 51.8**	**+0.5**
	baz=120						
O17K	**Koliganek Bris**	**5.63**	**316**		**Pn**	**17 16 52.6**	**+0.7**
O17K	**Koliganek Bris**	**5.63**	**316**	P	**Pn**	**17 16 52.6**	**+0.7**
	baz=130						
STLK	**Strandline Lak**	**5.70**	**348**		**Pn**	**17 16 53.5**	**+0.6**
CRQM	**Cirque**	**5.80**	**32**		**Pn**	**17 16 55.0**	**+0.5**
CRQE	**Cirque**	**5.81**	**32**	P	**Pn**	**17 16 55.0**	**+0.4**
	baz=217						
KLU	**Klutina**	**5.82**	**16**		**Pn**	**17 16 55.2**	**+0.7**
KLU	**Klutina**	**5.82**	**16**	P	**Pn**	**17 16 55.5**	**+1.0**
	baz=199						
GHO	**Glory Hole Cre**	**5.82**	**2**	Pn	**Pn**	**17 16 54.1**	**-0.5**
N18K	**Kilae Creek**	**5.85**	**327**		**Pn**	**17 16 55.4**	**+0.4**
N18K	**Kilae Creek**	**5.85**	**327**	P	**Pn**	**17 16 55.4**	**+0.4**
	baz=141						
SML	**Sawmill**	**5.88**	**5**		**Pn**	**17 16 56.3**	**+0.9**
TGL	**Tana Glacier**	**5.89**	**33**		**Pn**	**17 16 56.1**	**+0.5**
BAGL	**Bagley Icefiel**	**5.93**	**37**		**Pn**	**17 16 56.6**	**+0.6**
ISLE	**Juniper Island**	**5.93**	**36**		**Pn**	**17 16 57.0**	**+0.9**
O16K	**Kokwok River B**	**5.93**	**311**	Pn	**Pn**	**17 16 56.6**	**+0.6**
CHNA	**Chernabura Isl**	**5.96**	**263**	P	**Pn**	**17 16 55.0**	**-1.4**
	baz=75						
CNBA	**Chernabura Isl**	**5.96**	**263**		**Pn**	**17 16 55.0**	**-1.4**
SCM	**Sheep Creek Mo**	**5.97**	**9**		**Sn**	**17 18 04.4**	**-0.7**
SCM	**Sheep Creek Mo**	**5.97**	**9**		**Pn**	**17 16 57.8**	**+1.1**
SCM	**Sheep Creek Mo**	**5.97**	**9**	P	**Pn**	**17 16 57.8**	**+1.1**
	baz=191						
SVW2	**Sparrevohn**	**6.09**	**330**	P	**Pn**	**17 16 58.5**	**+0.2**
SVW2	**Sparrevohn**	**6.09**	**330**		**Pn**	**17 16 58.4**	**+0.1**
SAMH	**Samovar Hills**	**6.16**	**44**		**Pn**	**17 16 59.7**	**+0.3**
N25K	**Chitina, Valde**	**6.16**	**22**		**Pn**	**17 17 00.2**	**+0.9**
N25K	**Chitina, Valde**	**6.16**	**22**	P	**Pn**	**17 17 00.2**	**+0.9**
	baz=206						
KIAG	**Kiagna River**	**6.17**	**33**		**Pn**	**17 16 59.9**	**+0.5**
N17K	**Nushagak Hills**	**6.17**	**321**	Pn	**Pn**	**17 17 00.3**	**+1.0**
GLB	**Gilahina Butte**	**6.19**	**25**		**Pn**	**17 17 00.5**	**+0.8**
M20K	**Styx River**	**6.25**	**343**		**Pn**	**17 16 59.8**	**-0.7**
SDPT	**Sand Point**	**6.34**	**269**	P	**Pn**	**17 17 02.0**	**+0.4**
PTPK	**Patty Peak**	**6.34**	**32**		**Pn**	**17 17 02.4**	**+0.5**
MCARA	**McCarthy VSAT**	**6.34**	**29**		**Pn**	**17 17 01.6**	**-0.1**
M24K	**Tolsona, Glenn**	**6.37**	**14**	Pn	**Pn**	**17 17 03.0**	**+0.9**
PNL	**Peninsula**	**6.47**	**51**	P	**Pn**	**17 17 04.3**	**+0.8**
PNL	**Peninsula**	**6.47**	**51**		**Pn**	**17 17 03.9**	**+0.4**
PNL	**Peninsula**	**6.47**	**51**	P	**Pn**	**17 17 03.9**	**+0.4**
	baz=239						
M18K	**Stony River**	**6.49**	**331**		**Pn**	**17 17 03.8**	**+0.2**
M18K	**Stony River**	**6.49**	**331**	P	**Pn**	**17 17 03.8**	**+0.2**
	baz=146						
BARN	**Barnard Glacie**	**6.49**	**35**		**Pn**	**17 17 03.2**	**-0.7**
O15K	**Ungalikthiuk R**	**6.49**	**304**		**Pn**	**17 17 05.0**	**+1.3**
O15K	**Ungalikthiuk R**	**6.49**	**304**	P	**Pn**	**17 17 05.0**	**+1.3**
	baz=115						
M19K	**Big River Lodg**	**6.50**	**338**		**Pn**	**17 17 04.4**	**+0.5**
M19K	**Big River Lodg**	**6.50**	**338**	P	**Pn**	**17 17 04.4**	**+0.5**
	baz=154						
CTG	**Chitna Glacier**	**6.53**	**37**	P	**Pn**	**17 17 05.1**	**+0.7**
	baz=223						
CTGM	**Chitina Glacie**	**6.53**	**37**		**Pn**	**17 17 05.1**	**+0.7**
LOGN	**Logan Glacier**	**6.54**	**39**		**Pn**	**17 17 05.2**	**+0.6**
WAT6	**Susitna Watana**	**6.68**	**6**		**Pn**	**17 17 07.4**	**+0.9**
WAT6	**Susitna Watana**	**6.68**	**6**	P	**Pn**	**17 17 07.4**	**+0.9**
	baz=188						
L19K	**White Mountain**	**6.85**	**338**		**Pn**	**17 17 09.2**	**+0.5**
L19K	**White Mountain**	**6.85**	**338**	P	**Pn**	**17 17 09.2**	**+0.5**
	baz=153						
M17K	**Holitna River**	**6.89**	**326**	Pn	**Pn**	**17 17 09.6**	**+0.4**
M17K	**Holitna River**	**6.89**	**326**	P	**Pn**	**17 17 10.0**	**+0.8**
	baz=139						
N15K	**Kwethluk River**	**7.09**	**311**	Pn	**Pn**	**17 17 14.0**	**+2.1**
M16K	**Timber Creek**	**7.14**	**319**		**Pn**	**17 17 13.4**	**+0.7**
M16K	**Timber Creek**	**7.14**	**319**	P	**Pn**	**17 17 13.4**	**+0.7**
	baz=131						
O29M	**Mount Kennedy**	**7.16**	**48**		**Pn**	**17 17 13.2**	**+0.2**
O29M	**Mount Kennedy**	**7.16**	**48**	P	**Pn**	**17 17 13.2**	**+0.2**
	baz=237						
S12K	**Black Hills**	**7.18**	**273**		**Pn**	**17 17 12.1**	**-1.1**
S12K	**Black Hills**	**7.18**	**273**	P	**Pn**	**17 17 12.1**	**-1.1**
	baz=83						
PN7A	**Pavlof North-7**	**7.18**	**271**		**Pn**	**17 17 12.0**	**-1.3**
DHY	**Denali Highway**	**7.20**	**7**		**Pn**	**17 17 14.4**	**+0.9**
DHY	**Denali Highway**	**7.20**	**7**	P	**Pn**	**17 17 14.4**	**+0.9**
	baz=189						
P29M	**Windy Craggy**	**7.20**	**55**		**Pn**	**17 17 13.5**	**+0.1**
P29M	**Windy Craggy**	**7.20**	**55**	P	**Pn**	**17 17 13.5**	**+0.1**
	baz=244						
O14K	**Tigyukauivet M**	**7.20**	**302**	Pn	**Pn**	**17 17 14.6**	**+1.1**
M26K	**Nabesna, AK**	**7.22**	**24**		**Pn**	**17 17 14.4**	**+0.6**
M26K	**Nabesna, AK**	**7.22**	**24**	P	**Pn**	**17 17 14.4**	**+0.6**
	baz=210						
L18K	**Granite Mounta**	**7.32**	**332**	Pn	**Pn**	**17 17 14.6**	**-0.5**
S31K	**Pelican**	**7.43**	**69**		**Pn**	**17 17 15.1**	**-1.5**
S31K	**Pelican**	**7.43**	**69**	P	**Pn**	**17 17 15.1**	**-1.5**
	baz=260						
M27K	**Edge Creek, AK**	**7.46**	**28**	Pn	**Pn**	**17 17 17.1**	**0.0**
RND	**Reindeer**	**7.46**	**2**	Pn	**Pn**	**17 17 16.3**	**-0.9**
TRF	**Thorofare Moun**	**7.52**	**357**	Pn	**Pn**	**17 17 18.8**	**+0.8**
CAST	**Castle Rocks**	**7.60**	**351**		**Pn**	**17 17 20.8**	**+1.8**
CAST	**Castle Rocks**	**7.60**	**351**	P	**Pn**	**17 17 20.8**	**+1.8**
	baz=168						
YUK6	**Outpost Mounta**	**7.61**	**45**	P	**Pn**	**17 17 20.8**	**+1.5**
	baz=234						
KTH	**Kantishna Hill**	**7.65**	**355**	Pn	**Pn**	**17 17 21.1**	**+1.5**
YUK4	**Talbot Arm**	**7.75**	**42**	P	**Pn**	**17 17 23.5**	**+2.4**
	baz=230						
TTA	**Tatalina**	**7.76**	**337**	P	**Pn**	**17 17 22.3**	**+1.1**
L16K	**Owhat River**	**7.79**	**322**		**Pn**	**17 17 22.0**	**+0.4**
L16K	**Owhat River**	**7.79**	**322**	P	**Pn**	**17 17 22.0**	**+0.4**
	baz=133						
BCAR	**Beaver Creek A**	**8.08**	**25**	Pn	**Pn**	**17 17 26.8**	**+1.3**
RIDG	**Independent Ri**	**8.11**	**14**		**Pn**	**17 17 26.9**	**+0.8**
K17K	**Iditarod**	**8.16**	**330**		**Pn**	**17 17 27.0**	**+0.3**
K17K	**Iditarod**	**8.16**	**330**	P	**Pn**	**17 17 27.0**	**+0.3**
	baz=142						
J18K	**Innoko River**	**8.39**	**337**	Pn	**Pn**	**17 17 28.2**	**-1.6**
N30M	**Aishikik Lake**	**8.41**	**44**		**Pn**	**17 17 30.3**	**+0.2**
N30M	**Aishikik Lake**	**8.41**	**44**	P	**Pn**	**17 17 30.3**	**+0.2**
	baz=235						
JIS	**Juneau Island**	**8.45**	**68**	P	**Pn**	**17 17 30.7**	**

1.9nm,0.3s,baz=105,slow=3.8,SNR=4.1
BATI S Sn 17 20 01.1 -0.3
6.3nm,0.5s,baz=349,slow=23,SNR=1.8
8.3nm,0.4s
WRA Warramunga Arr 13.13 164 P Pn 17 19 54.6 +1.0
0.1nm,0.3s,baz=347,slow=13,SNR=13
WRA S Sn 17 22 16.6 -1.8
0.8nm,0.6s,baz=346,slow=24,SNR=3.4
0.3nm,0.4s
ASAR Alice Springs 16.63 169 P P 17 20 39.0 +0.8
0.1nm,0.3s,baz=0.0,slow=10,SNR=12
ASAR S Sn 17 23 41.8 -1.1
0.2nm,0.4s,baz=352,slow=25,SNR=5.3
0.4nm,0.6s
MKAR Makanchi Array 68.77 327 P P 17 27 42.8 -0.2
0.2nm,0.5s,baz=125,slow=7.1,SNR=4.2
0.2nm,0.5s

*IDC **22** 17:28:22.9±1.0,26˚.66N×129˚.68E,h0km,mb3.7/9, mbtmp3.7/11,ML3.4/2,MS3.3/4,Error ellipse: s-maj=24.7km s-min=17.5km az=68.0*
*JMA **22** 17:28:25.3±0.1,26˚.6N±0˚.5×129˚.8E±0˚.4,h49km,MV3.3/20, NEAR OKINAWAJIMA ISLAND*
ISC 22 17:28:22.5±2.5,26˚.64N±0˚.04×129˚.78E±0˚.04,h4km±16km, n35,σ1§30/43,mb3.8/9,MS3.6/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.25**	**288**	P	**Pn**	**17 28 46.9**	**+0.3**
JYRO				eS	**Sg**	**17 29 02.4**	**-0.1**
JOKE	**Okinoerabujima**	**1.29**	**304**	P	**Pb**	**17 28 48.1**	**+0.7**
JOKE				eS	**Sb**	**17 29 03.2**	**-1.1**
JOW	**Kunigami**	**1.36**	**279**	P	**Pn**	**17 28 48.8**	**+0.6**
JOW				eS	**Sb**	**17 29 05.3**	**-0.8**
JOW	**Kunigami**	**1.36**	**279**	Pn	**Pn**	**17 28 48.5**	**+0.3**
78nm,0.3s,baz=112,slow=24,SNR=189							
JOW				Sn	**Sb**	**17 29 04.7**	**-1.4**
68nm,0.3s,baz=153,slow=25,SNR=16							
JOW				LR	LR	17 29 09.7	
comp=Z,70nm,19.8s,baz=152,slow=37							
JTK	**Tokunoshima**	**1.36**	**327**	P	**Pn**	**17 28 48.8**	**+0.6**
JKDJ	**Kitadaitoujima**	**1.53**	**116**	P	**Pn**	**17 28 50.6**	**+0.2**
JKDJ				S	**Sn**	**17 29 09.2**	**-1.5**
JMZ	**Minamidaito 2**	**1.53**	**122**	P	**Pn**	**17 28 50.3**	**-0.3**
JMZ				S	**Sn**	**17 29 08.6**	**-2.4**
JNTH	**Nagotoyohara**	**1.57**	**266**	P	**Pn**	**17 28 51.5**	**+0.4**
JNTH				eS	**Sn**	**17 29 10.8**	**-1.1**
JIH	**Iheya**	**1.66**	**284**	P	**Pn**	**17 28 53.3**	**+0.9**
JAMN	**Amaminishikomi**	**1.69**	**342**	eP	**Pn**	**17 28 53.0**	**+0.3**
JAMN				eS	**Sn**	**17 29 13.2**	**-1.6**
JAM	**Amami Oshima**	**1.77**	**355**	P	**Pn**	**17 28 54.3**	**+0.4**
JJT3	**Tamagusuku3**	**1.85**	**255**	P	**Pn**	**17 28 56.0**	**+1.0**
JJT3				eS	**Sn**	**17 29 18.1**	**-0.7**
JAGN	**Aguni-jima**	**2.27**	**269**	P	**Pn**	**17 29 01.6**	**+0.9**
JTAJ	**Takarajima**	**2.56**	**349**	eS	**Sn**	**17 29 33.3**	**-3.0**
JKE	**Kume jima 2**	**2.70**	**264**	P	**Pn**	**17 29 06.8**	**+0.2**
JNN	**Nakanoshima**	**3.19**	**2**	eS	**Sn**	**17 29 49.6**	**-2.3**
JYAK	**Yakushimahirau**	**3.65**	**10**	eP	**Pn**	**17 29 20.0**	**+0.4**
JYAK				eS	**Sn**	**17 30 00.9**	**-2.2**
JNU	**Nakatsue**	**6.53**	**8**	Pn	**Pn**	**17 30 00.7**	**+1.3**
0.8nm,0.3s,baz=340,slow=5.2,SNR=7.5							
JNU				Sn	**Sn**	**17 31 15.3**	**+1.0**
baz=37,slow=20							
3.5nm,0.5s							
NACB	**Ninganchiao**	**7.79**	**253**	P	**Pn**	**17 30 14.9**	**-1.7**
YULB	**Yu-li**	**8.34**	**249**	P	**Pn**	**17 30 21.2**	**-3.0**
SSLB	**Suanglung**	**8.48**	**252**	P	**Pn**	**17 30 24.2**	**-1.9**
TPUB	**Ta-pu**	**8.94**	**250**	P	**Pn**	**17 30 31.5**	**-0.9**
KSRS	**Korea Array**	**10.90**	**352**	Pn	**Pn**	**17 30 58.5**	**-0.7**
0.2nm,0.3s,baz=123,slow=32,SNR=4.8							
KSRS				LR	LR	17 35 32.7	
comp=Z,28nm,18.8s,baz=145,slow=40							
1.4nm,0.7s							
SONM	**Songino Array**	**27.99**	**325**	P	**P**	**17 34 15.5**	**+1.2**
0.2nm,0.4s,baz=121,slow=10,SNR=2.8							
0.2nm,0.4s							
MKAR	**Makanchi Array**	**42.30**	**311**	P	**P**	**17 36 17.3**	**0.0**
0.4nm,0.7s,baz=100,slow=10.0,SNR=5.9							
0.4nm,0.7s							
KURBB	**Kurchatov Arra**	**45.52**	**316**	P	**P**	**17 36 42.9**	**0.0**
0.4nm,0.5s,baz=103,slow=9.0,SNR=4.6							
0.4nm,0.5s							
WRA	**Warramunga Arr**	**46.51**	**174**	P	**P**	**17 36 52.0**	**+0.9**
0.7nm,0.7s,baz=354,slow=8.7,SNR=4.7							
0.7nm,0.7s							
ASAR	**Alice Springs**	**50.17**	**175**	P	**P**	**17 37 20.5**	**+1.3**
0.6nm,0.8s,baz=3.5,slow=14,SNR=9.1							
0.6nm,0.8s							
BVAR	**Borovoye Array**	**50.90**	**318**	P	**P**	**17 37 26.0**	**+1.5**
0.8nm,0.5s,baz=89,slow=9.5,SNR=4.8							
0.8nm,0.5s							
ARCES	**ARCESS Array B**	**70.13**	**339**	LR	LR	18 14 15.0	
comp=Z,34nm,20.2s,baz=290,slow=39							
OBN	**Obninsk**	**70.35**	**322**	LR	LR	18 16 12.7	
comp=Z,34nm,19.0s,baz=6.0,slow=41							
FINES	**FINESS Array B**	**73.19**	**331**	P	**P**	**17 39 54.9**	**+0.7**
0.7nm,0.5s,baz=74,slow=6.9,SNR=8.9							
0.7nm,0.5s							
AKASG	**Malin Array Be**	**76.12**	**320**	P	**P**	**17 40 12.1**	**+0.7**
0.9nm,0.5s,baz=58,slow=6.2,SNR=4.2							
0.9nm,0.5s							
NOA	**NORSAR Array B**	**79.56**	**334**	P	**P**	**17 40 30.8**	**+0.4**
0.7nm,0.7s,baz=51,slow=5.5,SNR=3.3							
0.7nm,0.7s							
VRAC	**Vranov**	**83.89**	**323**	LR	LR	18 22 35.3	
comp=Z,21nm,18.9s,baz=340,slow=39							

*TEH **22** 17:36:00.1,31˚.78N×51˚.20E,h7km±164km,ML2.9*
*IDC **22** 17:36:02.8±2.3,31˚.71N×50˚.92E,h0km,mb3.6/6, mbtmp3.6/6,MS3.3/2,Error ellipse: s-maj=52.6km s-min=28.2km az=159.0*
*DSN **22** 17:36:08.3±1.7,31˚.63N×51˚.52E,h68km,ML3.3/6,Error ellipse: s-maj=59.0km s-min=15.8km az=56.0*
ISC 22 17:36:03.8±0.7,31˚.74N±0˚.04×51˚.17E±0˚.05,h19km,n27, σ1§82/26,mb3.5/6,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZNGN	**Zangian**	**0.47**	**325**	Pg	**Pg**	**17 36 09.5**	**-4.0**
KLNJ	**Kolanjah**	**0.81**	**154**	Pg	**Pb**	**17 36 17.5**	**-1.9**
IPIR	**Pirpir**	**0.97**	**346**	Pg	**Pb**	**17 36 19.8**	**-2.4**
IRAM	**Ramesheh**	**1.03**	**86**	Pg	**Pb**	**17 36 21.5**	**-1.7**
ABEH	**Behbahan**	**1.38**	**215**	Pg	**Pb**	**17 36 29.8**	**+0.8**
IZEF	**Zefreh**	**1.51**	**40**	Pg	**Pn**	**17 36 30.6**	**+0.4**
IKLH	**Kolahrood**	**1.61**	**12**	Pg	**Pn**	**17 36 32.6**	**+1.1**
QAMS	**Qamsar**	**2.00**	**5**	Pn	**Pn**	**17 36 37.7**	**+0.9**
ISAD	**Sadrabad**	**2.15**	**85**	Pn	**Pg**	**17 36 43.5**	**-1.5**
KRSH	**Karshahi**	**2.37**	**20**	Pn	**Pb**	**17 36 46.2**	**+0.2**
IQOM	**Qom**	**3.10**	**358**	Pn	**Pn**	**17 36 52.2**	**+0.3**
IVRN	**Varamin**	**3.28**	**8**	Pn	**Pn**	**17 36 55.2**	**+1.0**
MSFE	**Esma-Masafi**	**7.72**	**144**	P	**Pn**	**17 37 55.5**	**+0.3**
ASUD	**Al Ashush, Dub**	**7.98**	**152**	P	**Pn**	**17 37 60.0**	**+1.3**
UOSS	**Minazif**	**8.09**	**146**	P	**Pn**	**17 37 59.7**	**-0.5**
HATD	**Hatta, Dubai**	**8.15**	**146**	P	**Pn**	**17 38 01.2**	**0.0**
ASHO	**Ashiyiah**	**8.24**	**147**	P	**Pn**	**17 38 01.2**	**-1.2**
ASHO				S	**Sn**	**17 39 32.0**	**-3.0**
ALNE	**Al Ain**	**8.66**	**151**	P	**Pn**	**17 38 06.6**	**-1.4**
SOHO	**SOHO**	**8.93**	**147**	P	**Pn**	**17 38 11.4**	**-0.5**
BRTR	**Keskin Array B**	**16.30**	**304**	LR	LR	17 47 50.8	
comp=Z,63nm,19.4s,baz=305,slow=44							
AKASG	**Malin Array Be**	**24.97**	**326**	P	**P**	**17 41 27.4**	**+1.5**
1.9nm,0.7s,baz=135,slow=8.8,SNR=9.5							
1.9nm,0.7s							
KURBB	**Kurchatov Arra**	**27.68**	**39**	P	**P**	**17 41 53.5**	**+3.1**
0.3nm,0.8s,baz=238,slow=9.8,SNR=2.7							
0.3nm,0.8s							
MKAR	**Makanchi Array**	**28.17**	**49**	P	**P**	**17 41 58.6**	**+3.7**
0.2nm,0.5s,baz=248,slow=7.6,SNR=2.5							
0.2nm,0.5s							
HFS	**Hagfors**	**37.66**	**330**	P	**P**	**17 43 18.5**	**+1.1**
1.0nm,0.6s,baz=126,slow=14,SNR=1.7							
1.0nm,0.6s							
NOA	**NORSAR Array B**	**39.18**	**330**	P	**P**	**17 43 30.7**	**+0.4**
0.2nm,0.4s,baz=121,slow=8.5,SNR=1.7							
0.2nm,0.4s							
TORD	**Torodi Ar. Bea**	**48.88**	**259**	P	**P**	**17 44 48.8**	**+0.2**
0.9nm,0.7s,baz=49,slow=9.1,SNR=6.3							
0.9nm,0.7s							
JMIC	**Jan Mayen**	**50.54**	**339**	LR	LR	18 06 39.5	
comp=Z,63nm,20.1s,baz=82,slow=36							

*IDC **22** 17:38:10.0±0.8,56˚.23N×148˚.72W,h0km,mb4.0/19, mbtmp4.0/24,ML3.6/5,MS3.8/55,Error ellipse: s-maj=21.2km s-min=13.3km az=34.0*
*NEIC **22** 17:38:10.6±1.8,56˚.25N±0˚.04×148˚.63W±0˚.09,h10km±1km, mb4.5/29,ML4.3/60,ML4.1(AEIC),Error ellipse: s-maj=9.9km s-min=3.8km az=123.0*
*AEIC **22** 17:38:15.7±1.8,56˚.28N±0˚.08×148˚.61W±0˚.10,h12km±5km, Error ellipse: s-maj=11.5km s-min=7.2km az=164.0*
ISC 22 17:38:11.7±0.5,56˚.34N±0˚.06×148˚.61W±0˚.04,h10km, n364,σ1§11/296,mb4.4/38,MS3.8/50,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.61**	**305**	Pn	**Pn**	**17 38 53.0**	**-0.9**
KDAK	**Kodiak Island**	**2.61**	**305**		**Sn**	**17 39 22.8**	**-2.8**
KDAK	**Kodiak Island**	**2.61**	**305**	S	**Sn**	**17 39 22.8**	**-2.8**
baz=124							
KDAK	**Kodiak Island**	**2.61**	**305**	Pn	**Pn**	**17 38 52.9**	**-0.9**
16nm,0.3s,baz=133,slow=7.7,SNR=239							
KDAK				Sn	**Sn**	**17 39 24.6**	**-1.0**
12nm,0.3s,baz=248,slow=23,SNR=8.1							
32nm,0.3s							
OHAK	**Old Harbor**	**2.72**	**291**	P	Pn	17 38 53.7	-1.7
OHAK	**Old Harbor**	**2.72**	**291**	Pn	**Pn**	**17 38 53.9**	**-1.5**
OHAK	**Old Harbor**	**2.72**	**291**		**Sn**	**17 39 24.5**	**-3.8**
OHAK	**Old Harbor**	**2.72**	**291**	IAML		17 39 26.1	
comp=N,285nm,1.3s							
OHAK				IAML		17 39 42.2	
comp=E,179nm,0.9s							
OHAK	**Old Harbor**	**2.72**	**291**	P	Pn	17 38 53.7	-1.7
baz=109							
OHAK				S	**Sn**	**17 39 24.5**	**-3.8**
baz=109							
SYI	**Shuyak Island**	**3.06**	**320**	Pn	**Pn**	**17 38 59.9**	**-0.2**
Q20K	**Shuyak Island**	**3.06**	**320**	P	**Pn**	**17 38 59.6**	**-0.5**
baz=138							
SII	**Sitkinak Islan**	**3.10**	**276**	P	**Pn**	**17 38 59.3**	**-1.4**
SII	**Sitkinak Islan**	**3.10**	**276**		**Pn**	**17 38 59.0**	**-1.6**
SII					**Sn**	**17 39 34.1**	**-3.6**
SII	**Sitkinak Islan**	**3.10**	**276**	IAML		17 39 37.6	
comp=E,618nm,1.2s							
SII				IAML		17 39 39.8	
comp=N,543nm,1.2s							
SII	**Sitkinak Islan**	**3.10**	**276**	P	**Pn**	**17 38 59.1**	**-1.6**
baz=93							
SII				S	**Sn**	**17 39 34.1**	**-3.6**
baz=93							
MID	**Middleton Isla**	**3.33**	**20**	P	**Pn**	**17 39 02.9**	**-0.8**
MID	**Middleton Isla**	**3.33**	**20**	Pn	**Pn**	**17 39 03.9**	**+0.1**
MID				IAML		17 39 43.5	
comp=N,574nm,0.7s							
MID				IAML		17 39 50.1	
comp=E,623nm,0.8s							
MID	**Middleton Isla**	**3.33**	**20**		**Sn**	**17 39 40.8**	**-2.5**
Q23K	**Middleton Isla**	**3.33**	**20**		**Sn**	**17 39 41.6**	**-1.7**
Q23K	**Middleton Isla**	**3.33**	**20**	Pn	**Pn**	**17 39 03.9**	**+0.1**
Q23K				IAML		17 39 43.5	
comp=E,710nm,0.8s							
Q23K	**Middleton Isla**	**3.33**	**20**	P	**Pn**	**17 39 02.9**	**-0.8**
baz=202							
Q23K				S	**Sn**	**17 39 41.6**	**-1.7**
baz=202							
CNPM	**China Poot**	**3.49**	**337**	Pn	**Pn**	**17 39 05.8**	**-0.2**
CNPM	**China Poot**	**3.49**	**337**		**Sn**	**17 39 44.5**	**-2.8**
BRSE	**Bradley Lake S**	**3.60**	**343**		**Pn**	**17 39 07.1**	**-0.4**
BRSE	**Bradley Lake S**	**3.60**	**343**	P	**Pn**	**17 39 07.1**	**-0.4**
baz=161							
BRLK	**Bradley Lake**	**3.64**	**342**		**Pn**	**17 39 07.5**	**-0.7**
BRLK				IAML		17 39 55.1	
comp=E,340nm,0.8s							
HOM	**Homer**	**3.70**	**335**	Pn	**Pn**	**17 39 08.9**	**+0.1**
HOM				IAML		17 40 06.7	
comp=E,698nm,0.5s							
HOM				IAML		17 40 12.9	
comp=N,653nm,1.0s							
HOM	**Homer**	**3.70**	**335**	P	**Pn**	**17 39 09.1**	**+0.2**
baz=153							
P23K	**Montague Islan**	**3.73**	**9**		**Pn**	**17 39 08.9**	**-0.3**
P23K					**Sn**	**17 39 49.0**	**-4.1**
P23K					Lg	17 39 51.0	
P23K	**Montague Islan**	**3.73**	**9**	P	**Pn**	**17 39 08.9**	**-0.3**
baz=190							
P23K				S	**Sn**	**17 39 51.0**	**-2.1**
baz=190							
Q19K	**Cape Douglas,**	**3.75**	**316**	Pn	**Pn**	**17 39 10.0**	**+0.4**
Q19K				IAML		17 40 09.8	
comp=N,550nm,0.9s							
Q19K				IAML		17 40 17.7	
comp=E,805nm,1.4s							
Q19K	**Cape Douglas,**	**3.75**	**316**	P	**Pn**	**17 39 09.8**	**+0.2**
baz=133							
AUCH	**Augustine Cone**	**3.98**	**322**		**Pn**	**17 39 13.3**	**+0.5**
ACHA	**Angle Creek He**	**4.10**	**300**		**Pn**	**17 39 14.5**	**+0.1**
P19K	**Oil Pt**	**4.13**	**325**		**Pn**	**17 39 15.1**	**+0.3**
P19K				IAML		17 40 10.6	
comp=N,576nm,0.5s							
P19K	**Oil Pt**	**4.13**	**325**	P	**Pn**	**17 39 15.2**	**+0.3**
baz=142							
KAHC	**Katmai Hardscr**	**4.16**	**307**	P	**Pn**	**17 39 15.4**	**+0.2**
baz=122							
ANCK	**Angle Creek**	**4.18**	**299**		**Pn**	**17 39 15.7**	**+0.2**
O22K	**Cooper Landing**	**4.20**	**352**		**Pn**	**17 39 16.0**	**+0.4**
O22K	**Cooper Landing**	**4.20**	**352**	P	**Pn**	**17 39 15.7**	**0.0**
baz=172							
HIN	**Hinchinbrook I**	**4.22**	**14**		**Pn**	**17 39 16.4**	**+0.4**
KAIM	**Kayak Island**	**4.23**	**30**	Pn	**Pn**	**17 39 15.6**	**-0.5**
KAIM				IAML		17 40 07.8	
comp=E,468nm,1.1s							
KAIM				IAML		17 40 07.8	
comp=N,534nm,0.7s							
KAIM	**Kayak Island**	**4.23**	**30**	P	**Pn**	**17 39 15.8**	**-0.3**
baz=213							
O20K	**Slope Mountain**	**4.31**	**332**		**Pn**	**17 39 17.0**	**-0.3**
O20K	**Slope Mountain**	**4.31**	**332**	P	**Pn**	**17 39 17.0**	**-0.3**
baz=149							
ILSW	**Iliamna Southw**	**4.37**	**329**	IAML		17 40 13.6	
comp=N,228nm,0.7s							
ILSW				IAML		17 40 19.2	
comp=E,213nm,0.7s							
CNTC	**Contact Creek**	**4.39**	**299**		**Pn**	**17 39 18.6**	**+0.1**
Q17K	**Contact Creek**	**4.39**	**299**	P	**Pn**	**17 39 18.6**	**+0.1**
baz=114							
PLK3	**Peulik 3**	**4.40**	**291**		**Pn**	**17 39 18.3**	**-0.2**
EYAK	**Cordova Ski Ar**	**4.48**	**18**	P	**Pn**	**17 39 19.8**	**+0.2**
EYAK	**Cordova Ski Ar**	**4.48**	**18**	P	**Pn**	**17 39 19.5**	**-0.1**
baz=201							
SUCK	**Suckling Hills**	**4.54**	**32**		**Pn**	**17 39 20.0**	**-0.3**
SUCK				IAML		17 40 25.5	
comp=N,450nm,1.1s							
SUCK				IAML		17 40 30.0	
comp=E,409nm,1.5s							
RAGM	**Ragged Mountai**	**4.56**	**25**		**Pn**	**17 39 20.8**	**+0.1**
PLK1	**Peulik 1**	**4.60**	**292**		**Pn**	**17 39 21.0**	**-0.2**
HMT	**Hamilton**	**4.62**	**28**		**Pn**	**17 39 21.3**	**-0.2**
P18K	**Big Mountain,**	**4.68**	**314**		**Pn**	**17 39 21.5**	**-0.8**
P18K	**Big Mountain,**	**4.68**	**314**	P	**Pn**	**17 39 21.5**	**-0.8**
baz=129							
RSO	**Redoubt South**	**4.68**	**334**		**Pn**	**17 39 21.6**	**-0.8**
RDJH	**Redoubt Jeurge**	**4.80**	**334**		**Pn**	**17 39 23.4**	**-0.7**
RC01	**Rabbit Creek A**	**4.80**	**353**		**Pn**	**17 39 24.2**	**+0.2**
RC01				IAML		17 40 20.9	
comp=N,260nm,0.7s							
RC01				IAML		17 40 23.7	
comp=E,206nm,0.5s							
RC01	**Rabbit Creek A**	**4.80**	**353**	P	**Pn**	**17 39 24.2**	**+0.2**
baz=173							
BERG	**Berg Lake**	**4.82**	**30**		**Pn**	**17 39 24.1**	**-0.1**
O19K	**Port Alsworth**	**4.90**	**324**		**Pn**	**17 39 24.8**	**-0.6**
O19K	**Port Alsworth**	**4.90**	**324**	P	**Pn**	**17 39 24.8**	**-0.6**
baz=140							
SNH	**Sunshine Point**	**4.91**	**36**		**Pn**	**17 39 25.2**	**-0.4**
SNH				IAML		17 40 33.0	
comp=E,162nm,1.2s							
SNH				IAML		17 40 36.4	
comp=N,190nm,1.3s							
CYK	**Cape Yakataga**	**4.96**	**38**		**Pn**	**17 39 25.7**	**-0.4**
O18K	**Koktuh Hills**	**4.97**	**318**		**Pn**	**17 39 25.8**	**-0.5**
O18K	**Koktuh Hills**	**4.97**	**318**	P	**Pn**	**17 39 25.6**	**-0.6**
baz=133							
P17K	**Kvichak River**	**5.08**	**308**	P	**Pn**	**17 39 27.9**	**+0.2**
baz=122							
KNK	**Knik Glacier**	**5.09**	**1**		**Pn**	**17 39 28.4**	**+0.4**
KNK				IAML		17 40 34.2	
comp=N,133nm,0.6s							
KNK				IAML		17 40 36.0	
comp=E,133nm,1.0s							
KNK	**Knik Glacier**	**5.09**	**1**	P	**Pn**	**17 39 28.4**	**+0.4**
baz=181							
BMRM	**Bremner River**	**5.09**	**23**		**Pn**	**17 39 27.9**	**-0.1**
BMRM	**Bremner River**	**5.09**	**23**	P	**Pn**	**17 39 27.9**	**-0.1**
baz=206							
WAX	**Waxell Ridge**	**5.12**	**34**		**Pn**	**17 39 27.9**	**-0.5**
MESA	**MESA**	**5.22**	**40**		**Pn**	**17 39 29.5**	**-0.4**
MESA	**MESA**	**5.22**	**40**	IAML		17 40 43.5	
comp=N,196nm,0.9s							
MESA				IAML		17 40 45.7	
comp=E,135nm,0.6s							
MESA	**MESA**	**5.22**	**40**	P	**Pn**	**17 39 29.5**	**-0.4**
baz=225							
N20K	**Mount Spurr**	**5.22**	**341**	P	**Pn**	**17 39 29.4**	**-0.4**
baz=158							
SPCN	**Chakachatna No**	**5.24**	**341**		**Pn**	**17 39 30.0**	**0.0**
SUA	**Susitna One**	**5.26**	**349**		**Pn**	**17 39 30.3**	**-0.1**
SUA				IAML		17 40 32.7	
comp=N,139nm,0.8s							
SPCG	**Spurr Capps Gl**	**5.28**	**342**		**Pn**	**17 39 29.7**	**-0.9**
CRQM	**Cirque**	**5.28**	**31**		**Pn**	**17 39 30.4**	**-0.3**
CRQM	**Cirque**	**5.28**	**31**	IAML		17 40 32.6	
comp=N,240nm,0.6s							
CRQM				IAML		17 40 36.7	
comp=E,175nm,0.9s							
PMR	**Palmer**	**5.28**	**357**	P	**Pn**	**17 39 31.2**	**+0.7**
PMR	**Palmer**	**5.28**	**357**		**Pn**	**17 39 30.9**	**+0.4**
PMR	**Palmer**	**5.28**	**357**	IAML		17 40 32.6	
comp=N,118nm,0.5s							
PMR				IAML		17 40 41.7	
comp=E,122nm,0.7s							
PMR	**Palmer**	**5.28**	**357**	P	**Pn**	**17 39 30.9**	**+0.4**
baz=177							
CRQE	**Cirque**	**5.29**	**31**	P	**Pn**	**17 39 30.4**	**-0.4**
baz=215							
KLU	**Klutina**	**5.36**	**14**	P	**Pn**	**17 39 32.1**	**+0.4**
baz=196							
N19K	**Bonanza Creek**	**5.44**	**328**		**Pn**	**17 39 31.9**	**-0.9**
N19K	**Bonanza Creek**	**5.44**	**328**	P	**Pn**	**17 39 32.0**	**-0.9**
baz=144							
CHGN	**Chignik**	**5.46**	**274**		**Pn**	**17 39 31.6**	**-1.4**
SPNN	**North Nagishla**	**5.47**	**339**		**Pn**	**17 39 33.5**	**+0.2**
SML	**Sawmill**	**5.49**	**1**	Pn	**Pn**	**17 39 34.1**	**+0.6**
SML	**Sawmill**	**5.49**	**1**	P	**Pn**	**17 39 34.0**	**+0.5**
baz=182							
M23K	**Glacier View**	**5.49**	**4**		**Pn**	**17 39 33.9**	**+0.4**
M23K	**Glacier View**	**5.49**	**4**	P	**Pn**	**17 39 33.9**	**+0.4**
baz=185							
SCM	**Sheep Creek Mo**	**5.55**	**6**		**Pn**	**17 39 35.1**	**+0.7**
SCM	**Sheep Creek Mo**	**5.55**	**6**	P	**Pn**	**17 39 35.1**	**+0.7**
baz=187							
O17K	**Koliganek Bris**	**5.67**	**311**		**Pn**	**17 39 35.0**	**-0.8**
O17K	**Koliganek Bris**	**5.67**	**311**	P	**Pn**	**17 39 35.1**	**-0.8**
baz=124							
N25K	**Chitina, Valde**	**5.68**	**20**	P	**Pn**	**17 39 36.3**	**+0.2**
baz=203							
TABL	**Table Mountain**	**5.69**	**41**		**Pn**	**17 39 36.1**	**-0.3**
P16K	**Nushagak River**	**5.71**	**302**		**Pn**	**17 39 35.8**	**-0.6**
P16K	**Nushagak River**	**5.71**	**302**	P	**Pn**	**17 39 35.8**	**-0.6**
baz=115							
N18K	**Kilae Creek**	**5.79**	**322**		**Pn**	**17 39 36.6**	**-0.9**
N18K	**Kilae Creek**	**5.79**	**322**	P	**Pn**	**17 39 36.6**	**-0.9**
baz=136							
MCARA	**McCarthy VSAT**	**5.83**	**27**	P	**Pn**	**17 39 38.5**	**+0.4**
baz=212							
SKT	**Skwentna**	**5.86**	**346**		**Pn**	**17 39 38.6**	**+0.1**
SKT	**Skwentna**	**5.86**	**346**	P	**Pn**	**17 39 38.6**	**+0.1**
baz=164							
M24K	**Tolsona, Glenn**	**5.92**	**11**		**Pn**	**17 39 40.7**	**+1.3**
M24K	**Tolsona, Glenn**	**5.92**	**11**	P	**Pn**	**17 39 40.7**	**+1.3**
baz=193							
PNL	**Peninsula**	**5.93**	**52**	P	**Pn**	**17 39 39.2**	**-0.3**
PNL	**Peninsula**	**5.93**	**52**		**Pn**	**17 39 38.9**	**-0.6**
PNL	**Peninsula**	**5.93**	**52**	P	**Pn**	**17 39 38.9**	**-0.6**
baz=239							
BCPM	**Bancas Point**	**5.98**	**49**		**Pn**	**17 39 39.6**	**-0.5**
CTG	**Chitna Glacier**	**5.99**	**36**	P	**Pn**	**17 39 40.0**	**-0.5**
baz=222							
SVW2	**Sparrevohn**	**6.00**	**326**	P	**Pn**	**17 39 39.6**	**-0.8**
LOGN	**Logan Glacier**	**6.01**	**38**		**Pn**	**17 39 40.1**	**-0.6**
O16K	**Kokwok River B**	**6.01**	**307**		**Pn**	**17 39 39.6**	**-0.9**
O16K	**Kokwok River B**	**6.01**	**307**	P	**Pn**	**17 39 40.2**	**-0.3**
baz=120							
M20K	**Styx River**	**6.03**	**339**		**Pn**	**17 39 40.4**	**-0.5**
M20K	**Styx River**	**6.03**	**339**	P	**Pn**	**17 39 40.4**	**-0.5**
baz=156							
N17K	**Nushagak Hills**	**6.16**	**317**		**Pn**	**17 39 41.7**	**-0.8**
N17K	**Nushagak Hills**	**6.16**	**317**	P	**Pn**	**17 39 41.7**	**-0.8**
baz=130							
WAT6	**Susitna Watana**	**6.28**	**4**		**Pn**	**17 39 44.3**	**-0.1**
WAT6	**Susitna Watana**	**6.28**	**4**	P	**Pn**	**17 39 44.3**	**-0.1**
baz=184							
M19K	**Big River Lodg**	**6.33**	**334**		**Pn**	**17 39 43.8**	**-1.1**
M19K	**Big River Lodg**	**6.33**	**334**	P	**Pn**	**17 39 43.8**	**-1.1**
baz=150							
**HARP

CAST Castle Rocks 7.32 348 P Pn 17 39 58.9 +0.4
baz=165
KTH Kantishna Hill 7.33 352 Pn 17 39 59.0 +0.2
HYT Haines Junctio 7.34 48 P Pn 17 39 59.1 +0.1
baz=237
SIT Sitka 7.35 79 P Pn 17 39 54.8 -4.2
SIT Sitka 7.35 79 Pn Pn 17 39 54.3 -4.6
MCK McKinley 7.42 359 Pn 17 40 01.1 +1.1
MCK McKinley 7.42 359 P Pn 17 40 01.1 +1.1
baz=179
PS4A Pavlof South-4 7.52 268 Pn 17 39 59.6 -1.7
HAG Hague Volcano 7.56 268 Pn 17 40 00.1 -1.7
L27K Beaver Creek, 7.56 24 Pn 17 40 02.1 +0.2
L27K Beaver Creek, 7.56 24 P Pn 17 40 02.1 +0.2
baz=210
S12K Black Hills 7.57 271 Pn Pn 17 40 01.0 -0.9
S12K Black Hills 7.57 271 P Pn 17 40 00.2 -1.8
baz=80
PN7A Pavlof North-7 7.58 269 Pn 17 40 00.2 -2.0
TTA Tatalina 7.60 334 P Pn 17 40 01.7 -0.7
L17K Donlin 7.64 324 Pn 17 40 01.6 -1.3
L17K Donlin 7.64 324 P Pn 17 40 01.6 -1.3
baz=136
SKAG Skagway 7.74 61 P Pn 17 40 04.5 +0.3
SKAG Skagway 7.74 61 Pn Pn 17 40 04.2 -0.1
BESE Bessie Mountai 7.75 67 Pn 17 40 02.9 -1.6
L16K Owhat River 7.77 318 Pn 17 40 03.8 -0.8
L16K Owhat River 7.77 318 P Pn 17 40 03.8 -0.8
baz=130
S32K Killisnoo 7.77 76 Pn 17 40 01.9 -2.7
S32K Killisnoo 7.77 76 P Pn 17 40 01.9 -2.8
baz=267
N30M Aishikik Lake 7.87 45 Pn 17 40 06.0 -0.1
N30M Aishikik Lake 7.87 45 P Pn 17 40 06.0 -0.1
baz=234
BPAW Bear Paw Mtn. 7.88 352 Pn 17 40 06.1 -0.1
BPAW Bear Paw Mtn. 7.88 352 P Pn 17 40 06.1 -0.1
baz=170
O30N Mendenhall 7.91 51 Pn 17 40 05.7 -0.9
O30N Mendenhall 7.91 51 P Pn 17 40 05.7 -0.9
baz=241
M29M Somme Creek 8.01 36 Pn 17 40 08.1 -0.1
M29M Somme Creek 8.01 36 P Pn 17 40 08.1 -0.1
baz=224
K17K Iditarod 8.07 326 Pn 17 40 07.8 -1.0
K17K Iditarod 8.07 326 P Pn 17 40 07.8 -1.0
baz=138
HDA Harding Lake 8.14 5 Pn 17 40 11.2 +1.4
J18K Innoko River 8.22 334 Pn Pn 17 40 09.6 -1.3
J18K Innoko River 8.22 334 P Pn 17 40 09.9 -1.0
baz=147
NEA2 Nenana 8.29 359 Pn 17 40 13.3 +1.5
CCB Clear Creek Bu 8.35 2 Pn Pn 17 40 11.3 -1.3
WHY Whitehorse 8.39 53 Pn Pn 17 40 12.7 -0.7
J19K Poorman 8.43 338 Pn 17 40 12.6 -1.2
J19K Poorman 8.43 338 P Pn 17 40 12.6 -1.2
baz=153
IL31 8.51 5 Pn 17 40 14.3 -0.4
ILAR Eielson Array 8.51 5 Pn 17 40 15.6 +0.8
ILAR Eielson Array 8.51 5 Pn Pn 17 40 14.7 0.0
comp=E,0.6nm,0.3s,baz=189,slow=13,SNR=22
ILAR Sn Sn 17 41 46.0 -4.6
comp=E,0.7nm,0.3s,baz=191,slow=14,SNR=4.5
ILAR LR LR 17 43 47.0
comp=E,399nm,18.4s,baz=192,slow=39
comp=E,1.6nm,0.4s
P32M Atlin 8.56 61 Pn 17 40 14.4 -1.2
P32M Atlin 8.56 61 P Pn 17 40 14.4 -1.2
baz=254
COLA College 8.57 2 P Pn 17 40 18.5 +2.8
L29M L29M 8.60 34 Pn 17 40 16.4 +0.2
L29M L29M 8.60 34 P Pn 17 40 16.4 +0.2
baz=222
MDM Murphy Dome 8.65 1 Pn 17 40 16.1 -0.8
M30M Minto, Yukon 8.67 39 Pn 17 40 16.2 -0.8
M30M Minto, Yukon 8.67 39 P Pn 17 40 16.2 -0.8
baz=229
ISLZ Isanotski Laza 8.72 266 Pn 17 40 15.8 -1.9
MLY Manley 8.79 354 Pn 17 40 18.3 -0.4
MLY Manley 8.79 354 P Pn 17 40 18.3 -0.4
baz=172
I23K Minto, Yukon-K 8.85 358 Pn 17 40 17.7 -1.7
I23K Minto, Yukon-K 8.85 358 P Pn 17 40 19.7 +0.3
baz=177
DAWY Dawson 9.00 27 Pn Pn 17 40 22.2 +0.7
P33M Teslin, Yukon 9.18 58 P Pn 17 40 23.1 -1.0
baz=251
J16K Anvik River 9.21 324 Pn 17 40 23.2 -1.1
J16K Anvik River 9.21 324 P Pn 17 40 23.2 -1.1
baz=134
EGAK Eagle 9.22 20 Pn 17 40 24.5 -0.1
EGAK Eagle 9.22 20 P Pn 17 40 24.5 -0.1
baz=207
K29M Barlow Dome 9.33 32 Pn 17 40 25.7 -0.5
K29M Barlow Dome 9.33 32 P Pn 17 40 25.7 -0.5
baz=221
M31M Drury Creek, Y 9.35 45 Pn 17 40 26.8 +0.5
M31M Drury Creek, Y 9.35 45 P Pn 17 40 26.8 +0.5
baz=237
N32M Quiet Lake 9.39 53 Pn 17 40 25.9 -1.1
N32M Quiet Lake 9.39 53 P Pn 17 40 26.0 -1.1
baz=246
H21K Melozitna Rive 9.57 349 Pn 17 40 28.6 -0.8
H21K Melozitna Rive 9.57 349 P Pn 17 40 28.6 -0.8
baz=166
I17K Unalakleet 9.66 327 Pn Pn 17 40 27.6 -3.0
R33M Jennings River 9.88 65 Pn 17 40 32.5 -1.3
R33M Jennings River 9.88 65 P Pn 17 40 32.5 -1.3
baz=259
IMAR Indian Mountai 9.99 348 Pn Pn 17 40 34.4 -0.7
DLBC Dease Lake 10.25 70 Pn Pn 17 40 38.5 -0.2
comp=E,0.5nm,0.3s,baz=247,slow=15,SNR=7.3
DLBC Sn Sn 17 42 29.8 -3.8
comp=E,0.3nm,0.3s,baz=93,slow=24,SNR=3.4
DLBC LR LR 17 43 56.7
comp=E,757nm,21.7s,baz=286,slow=34
comp=E,1.4nm,0.3s
FYU Fort Yukon 10.39 8 Pn 17 40 40.6 +0.1
MMPY Sheldon Lake, 10.81 47 Pn Pn 17 40 45.6 -0.8
F21K Alatna River 11.16 350 Pn Pn 17 40 49.2 -1.9
F28M Old Crow 12.02 16 Pn Pn 17 41 04.6 +1.7
TOLK Toolik Lake Re 12.36 358 Pn Pn 17 41 09.5 +2.0
G31M Satah River 12.57 27 Pn 17 41 10.9 +0.6
BBB Bella Bella 12.67 101 LR LR 17 44 53.5
comp=E,380nm,19.1s,baz=306,slow=32
INK Inuvik 13.84 24 Pn Pn 17 41 29.8 +2.2
INK Inuvik 13.84 24 Pn Pn 17 41 29.2 +1.6
comp=E,0.2nm,0.3s,baz=206,slow=14,SNR=19
INK LR LR 17 47 08.7
comp=E,456nm,18.4s,baz=183,slow=39
comp=E,16nm,1.1s
C36M Paulatuk 17.00 30 Pn 17 42 09.7 +0.4
C36M IAmb IAmb 17 42 13.7
comp=Z,36nm,1.3s
YKA Yellowknife Ar 18.20 56 Pn 17 42 23.7 -0.4
YKA Yellowknife Ar 18.20 56 P Pn 17 42 24.8 +0.7
comp=Z,0.1nm,0.3s,baz=264,slow=11,SNR=34
YKA LR LR 17 49 12.8
comp=Z,532nm,19.1s,baz=267,slow=36
comp=Z,5.9nm,0.9s
A36M Sachs Harbour 18.48 23 P P 17 42 29.7 +2.3
A36M IAmb IAmb 17 42 37.1
comp=Z,34nm,1.1s
NEW Newport 20.73 100 P P 17 42 53.4 +1.3
comp=Z,3.1nm,0.8s,baz=326,slow=7.3,SNR=3.0
NEW LR LR 17 49 37.4
comp=Z,163nm,20.8s,baz=300,slow=33
comp=Z,3.1nm,0.8s
J05D Fort Rock, OR 21.79 115 P P 17 43 02.0 -1.7
J05D IAmb IAmb 17 43 09.4
comp=Z,22nm,1.3s
BILL Bilibino 23.45 318 P P 17 43 20.8 0.0
ELK Elko 26.70 112 P P 17 43 47.7 -3.4
ELK Elko 26.70 112 LR LR 17 52 37.7
comp=Z,173nm,19.4s,baz=297,slow=32
NVAR Mina Array Bea 26.91 119 P P 17 43 53.3 +0.3
comp=Z,1.9nm,0.8s,baz=303,slow=9.3,SNR=6.8
NVAR LR LR 17 52 40.0
comp=Z,258nm,18.2s,baz=329,slow=32
comp=Z,1.9nm,0.8s
RES Resolute Bay 27.34 28 P P 17 43 54.4 -1.8
RES IAmb IAmb 17 44 27.0
comp=Z,15nm,1.5s
RES Resolute Bay 27.34 28 LR LR 17 55 31.5
comp=Z,274nm,18.6s,baz=194,slow=38

PDAR Pinedale Array 28.31 102 P P 17 44 05.4 -0.1
comp=Z,0.3nm,0.6s,baz=318,slow=2.0,SNR=3.6
PDAR LR LR 17 53 59.3
comp=Z,46nm,18.2s,baz=310,slow=34
comp=Z,0.3nm,0.6s
QSM Queen of Sheba 29.56 120 P P 17 44 14.8 -1.6
SEY Seymchan 29.57 307 LR LR 17 57 20.6
comp=Z,192nm,18.9s,baz=122,slow=39
SRU San Rafael Swe 30.36 108 IAmb IAmb 17 44 32.0
comp=Z,7.3nm,1.2s
PETK Petropavlovsk- 30.52 287 LR LR 17 57 02.6
comp=Z,90nm,20.4s,baz=75,slow=37
V12A Nelson 30.73 118 IAmb IAmb 17 44 29.2
comp=Z,4.3nm,0.7s
MA2 Magadan 31.35 302 LR LR 17 58 29.6
comp=Z,110nm,18.9s,baz=82,slow=39
ULM Lac du Bonnet 31.43 78 LR LR 17 55 35.8
comp=Z,99nm,19.6s,baz=304,slow=33
PFO Pinyon Flats O 31.67 122 LR LR 17 54 39.2
comp=Z,269nm,20.9s,baz=318,slow=31
W13A Hualapai Mount 31.71 117 IAmb IAmb 17 44 37.6
comp=Z,5.4nm,1.1s
BLYC Blythe 32.48 120 P P 17 44 40.7 -1.4
BLYC IAmb IAmb 17 44 44.0
comp=Z,8.2nm,0.9s
X16A Lo Mia Camp, P 33.47 115 IAmb IAmb 17 44 53.5
comp=Z,4.1nm,0.9s
214A Orpn Pipe Nat 34.77 119 IAmb IAmb 17 45 04.1
comp=Z,7.6nm,1.2s
TIXI Tiksi 35.83 328 P P 17 45 11.3 +0.5
TIXI IAmb IAmb 17 45 14.4
comp=Z,6.4nm,1.1s
TIXI Tiksi 35.83 328 LR LR 18 01 36.5
comp=Z,82nm,18.2s,baz=46,slow=39
NEEM North Greenlan 37.40 21 *i* P P 17 45 24.6 +0.1
NEEM IAmb IAmb 17 45 33.4
comp=Z,9.2nm,1.0s
FRB Frobisher Bay 38.13 45 LR LR 18 01 22.9
comp=Z,476nm,18.4s,baz=345,slow=36
OK032 Salt Plains WL 38.71 99 P P 17 45 35.2 -0.4
YAK Yakutsk 39.61 313 P P 17 45 40.4 -2.4
YAK IAmb IAmb 17 45 52.0
comp=Z,8.8nm,0.7s
YAK Yakutsk 39.61 313 LR LR 18 03 02.3
comp=Z,132nm,18.3s,baz=80,slow=38
TXAR Lajitas Array 41.50 111 P P 17 45 59.4 +0.5
comp=Z,1.3nm,1.1s,baz=326,slow=6.0,SNR=6.7
TXAR LR LR 18 02 08.7
comp=Z,86nm,18.5s,baz=316,slow=35
comp=Z,1.3nm,1.1s
LPIG La Paz 42.55 123 LR LR 18 01 26.8
comp=Z,105nm,18.3s,baz=307,slow=33
SUMG Summit 42.76 25 P P 17 46 08.8 -0.2
SUMG Summit 42.76 25 *i* P P 17 46 10.4 +1.3
SUMG IAmb IAmb 17 46 12.7
comp=Z,38nm,1.4s
SFJD Kangerlussuaq 42.84 35 LR LR 18 03 47.5
comp=Z,194nm,21.4s,baz=318,slow=36
DAG Danmarks Havn 43.46 15 *i* P P 17 46 13.4 -0.8
DAG IAmb IAmb 17 46 17.0
comp=Z,10nm,1.2s
SCHQ Schefferville 43.65 56 LR LR 18 04 24.5
comp=Z,304nm,18.4s,baz=282,slow=36
SADO Sadowa 43.77 75 LR LR 18 03 16.5
comp=Z,124nm,18.5s,baz=305,slow=34
ASAJ Asahikawa 43.84 284 LR LR 18 07 19.7
comp=Z,465nm,18.4s,baz=252,slow=40
ICESG Greenland Ices 44.74 29 *i* P P 17 46 24.4 -0.6
KLR Kul'dur 46.14 297 LR LR 18 07 49.6
comp=Z,76nm,20.6s,baz=58,slow=39
TKL Tuckaleechee C 47.56 87 LR LR 18 06 38.3
comp=Z,86nm,18.7s,baz=325,slow=36
HEH HeiHe 47.59 300 *e*P P 17 46 47.3 +0.1
NRIK Noril'sk 48.20 337 P P 17 46 51.8 +0.1
NRIK IAmb IAmb 17 46 53.1
comp=Z,5.6nm,0.9s
NRIK Noril'sk 48.20 337 P P 17 46 52.2 +0.5
comp=Z,3.4nm,0.7s,baz=51,slow=2.9,SNR=7.9
NRIK LR LR 18 11 03.8
comp=Z,198nm,19.5s,baz=35,slow=41
comp=Z,3.4nm,0.7s
H11N2 WAKE ISLAND Hy 49.23 241 T T 18 40 00.9
baz=31,slow=76,SNR=23
H11N3 WAKE ISLAND Hy 49.24 241 T T 18 40 03.1
baz=31,slow=76,SNR=25
H11N1 WAKE ISLAND Hy 49.25 241 T T 18 40 03.8
baz=31,slow=76,SNR=20
USRK Ussuriysk Ar. 49.40 291 LR LR 18 09 55.4
comp=Z,67nm,19.1s,baz=77,slow=39
H11S1 WAKE ISLAND Hy 50.37 240 T T 18 41 59.4
baz=29,slow=76,SNR=62
H11S2 WAKE ISLAND Hy 50.39 240 T T 18 42 07.8
baz=29,slow=76,SNR=23
H11S3 WAKE ISLAND Hy 50.39 240 T T 18 42 04.7
baz=29,slow=76,SNR=2
MJAR Matsushiro Arr 51.52 280 LR LR 18 06 16.4
comp=Z,30nm,21.9s,baz=48,slow=33
BORG Borgarnes 52.73 25 LR LR 18 10 33.7
comp=Z,88nm,19.4s,baz=324,slow=37
ARCES ARCESS Array B 54.36 3 P P 17 47 39.0 +1.1
comp=Z,3.7nm,1.0s,baz=345,slow=6.5,SNR=1.4
comp=Z,3.7nm,1.0s
CMIG Matias Romero 56.10 112 LR LR 18 10 51.0
comp=Z,87nm,20.6s,baz=358,slow=35
KSRS Korea Array 56.40 288 LR LR 18 13 34.3
comp=Z,14nm,18.1s,baz=20,slow=38
JCJ Chichijima 56.46 269 LR LR 18 08 42.9
comp=Z,28nm,20.2s,baz=64,slow=32
XLT XiLinHaoTe 57.54 301 *e*P P 17 47 59.8 -1.3
XLT pP pP 17 48 04.5 +1.5
XLT pmax pmax
comp=Z,8.0nm,1.0s
XLT pmax pmax
comp=Z,130nm,6.0s
JNU Nakatsue 58.08 283 LR LR 18 14 44.6
comp=Z,22nm,20.1s,baz=52,slow=38
SONM Songino Array 58.89 311 P P 17 48 10.5 0.0
SONM Songino Array 58.89 311 P P 17 48 11.0 +0.5
comp=Z,6.0nm,1.2s,baz=47,slow=5.6,SNR=15
SONM LR LR 18 14 08.2
comp=Z,122nm,20.4s,baz=358,slow=37
comp=Z,6.0nm,1.2s
ZALV Zalesovo Baum 61.72 327 P P 17 48 30.1 +0.6
comp=Z,0.4nm,0.4s,baz=39,slow=9.6,SNR=3.8
ZALV LR LR 18 18 48.6
comp=Z,91nm,18.1s,baz=347,slow=40
comp=Z,0.4nm,0.4s
NOA NORSAR Array B 61.89 11 P P 17 48 31.1 +0.4
comp=Z,1.9nm,1.0s,baz=347,slow=6.9,SNR=5.0
comp=Z,1.9nm,1.0s
HHC Hu-ho-hao-te 62.02 302 *e*P P 17 48 28.6 -3.4
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,72nm,5.8s
FINES FINESS Array B 62.48 3 P P 17 48 35.0 +0.4
comp=Z,2.1nm,0.9s,baz=350,slow=4.2,SNR=6.8
comp=Z,2.1nm,0.9s
HFS Hagfors 63.03 10 P P 17 48 37.6 -0.7
comp=Z,1.7nm,0.9s,baz=331,slow=15,SNR=2.0
comp=Z,1.7nm,0.9s
HNS HongShan 63.21 298 *e*P P 17 48 41.0 +1.2
JOW Kunigami 64.37 280 LR LR 18 21 21.6
comp=Z,23nm,18.0s,baz=33,slow=40
KIRV Kirov 64.52 350 LR LR 18 19 11.6
comp=Z,52nm,20.8s,baz=21,slow=38
EKA Eskdalemuir Ar 65.19 21 P P 17 48 52.8 +0.2
comp=Z,1.7nm,0.7s,baz=356,slow=9.2,SNR=2.1
comp=Z,1.7nm,0.7s
ARU Arti 65.46 344 P P 17 48 53.8 -0.4
ARU Arti 65.46 344 LR LR 18 21 38.5
comp=Z,55nm,18.4s,baz=12,slow=40
BVAR Borovoye Array 66.39 335 P P 17 49 00.8 +0.5
comp=Z,0.7nm,0.7s,baz=32,slow=8.7,SNR=4.7
BVAR LR LR 18 23 48.4
comp=Z,75nm,18.1s,baz=26,slow=41
comp=Z,0.7nm,0.7s
KURBB Kurchatov Arra 66.48 329 P P 17 49 01.1 +0.2
comp=Z,0.5nm,0.8s,baz=28,slow=6.1,SNR=3.8
KURBB LR LR 18 22 32.8
comp=Z,103nm,18.1s,baz=164,slow=40
comp=Z,0.5nm,0.8s
GTA Gaotai 68.50 309 P P 17 49 14.1 +0.1
GTA sP pwP 17 49 26.1 +4.6
GTA pmax pmax
comp=Z,3.0nm,1.5s
MKAR Makanchi Array 68.77 325 P P 17 49 15.1 -0.3
comp=Z,0.4nm,0.7s,baz=23,slow=6.0,SNR=4.8

MKAR LR LR 18 23 23.9
comp=Z,131nm,18.5s,baz=51,slow=39
comp=Z,0.4nm,0.7s
MAKZ Makanchi 68.85 325 P P 17 49 15.9 -0.1
MAKZ IAmb IAmb 17 49 44.4
comp=Z,5.4nm,1.5s
LZH Lanzhou 69.44 304 *e*P P 17 49 18.1 -1.9
LZH pP pP 17 49 22.5 +0.6
LZH pmax pmax
comp=Z,18nm,1.3s
AKTO Aktyubinsk 71.33 342 LR LR 18 25 19.3
comp=Z,39nm,18.3s,baz=296,slow=40
CLL Collm 71.65 12 *e*P P 17 49 33.0 0.0
ABKAR Akbulak array 72.12 341 P P 17 49 34.6 -1.2
AKASG Malin Array Be 73.31 1 P P 17 49 42.9 0.0
comp=Z,3.6nm,0.9s,baz=355,slow=5.7,SNR=11
AKASG LR LR 18 24 17.2
comp=Z,43nm,19.0s,baz=30,slow=38
comp=Z,3.6nm,0.9s
AKBB Malin Array Si 73.31 1 P P 17 49 43.0 +0.1
KIEV Kiev 73.32 1 P P 17 49 43.2 +0.3
AAK Ala-Archa 74.90 329 LR LR 18 26 32.8
comp=Z,102nm,18.3s,baz=25,slow=39
KSH Kashi 77.31 326 P P 17 50 08.8 +2.5
KSH pmax pmax
comp=Z,5.0nm,2.2s
PZH PanZhiHua 78.41 301 P P 17 50 10.8 -1.8
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,150nm,6.5s
ESDC Sonseca Array 79.77 27 P P 17 50 21.5 +1.8
comp=Z,1.4nm,0.9s,baz=331,slow=4.5,SNR=6.3
ESDC LR LR 18 25 49.9
comp=Z,74nm,18.4s,baz=330,slow=36
comp=Z,1.4nm,0.9s
KBZ Khabaz 79.83 352 P P 17 50 21.0 +1.1
comp=Z,2.1nm,0.9s,baz=315,slow=6.7,SNR=3.8
KBZ LR LR 18 30 14.3
comp=Z,36nm,18.3s,baz=8.5,slow=39
comp=Z,2.1nm,0.9s
GEYT Alibeck 83.39 339 LR LR 18 33 44.3
comp=Z,46nm,18.1s,baz=2.5,slow=40
ATAH Atahualpa 85.15 110 LR LR 18 27 35.4
comp=Z,34nm,18.7s,baz=336,slow=35
MDT Midelt 86.07 30 LR LR 18 29 39.5
comp=Z,82nm,18.1s,baz=349,slow=36
CMAR Chiang Mai Arr 86.58 298 P P 17 50 54.2 -1.0
CMAR Chiang Mai Arr 86.58 298 P P 17 50 54.3 -0.9
comp=Z,1.4nm,0.9s,baz=10,slow=5.2,SNR=9.2
CMAR LR LR 18 34 02.1
comp=Z,31nm,18.6s,baz=345,slow=39
comp=Z,1.4nm,0.9s
MDP Montagnes des 89.10 82 LR LR 18 29 37.1
comp=Z,27nm,21.7s,baz=314,slow=35
RPN Rapa Nui 89.57 146 LR LR 18 23 05.2
comp=Z,45nm,18.8s,baz=98,slow=30
MMAI Mount Meron Ar 90.94 357 LR LR 18 38 05.7
comp=Z,22nm,18.6s,baz=337,slow=40
URZ Urewera 98.62 207 LR LR 18 29 29.9
comp=Z,73nm,20.1s,baz=121,slow=31
QSPA South Pole Qui 146.13 180 PKPbc **PKPdf** 17 57 49.0 -0.5
comp=Z,2.3nm,0.8s,baz=105,slow=0.9,SNR=3.5

*TAP **22** 17:39:30.9,24.°07N×122.°62E,h32km,ML2.6,C*
*JMA **22** 17:39:30.9±0.2,24.°1N±1.°×122.°6E±0.°7,h29km,MV2.1/10,*
NW OFF ISHIGAKIJIMA IS
ISC 22 17:39:30.3±1.1**,23.°96N**±0.°03×**122.°61E**±0.°02**,h26**km±13km**,**n72**,**σ0s89**/122**,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS4	**EOS4**	**0.31**	**301**	P	**Pn**	**17 39 38.2**	**-0.7**
	baz=281						
EOS3	**EOS3**	**0.42**	**320**	*i* P	**Pn**	**17 39 40.1**	**-0.6**
	baz=308						
EOS2	**EOS2**	**0.57**	**323**	P	**Pn**	**17 39 42.9**	**+0.2**
	baz=316						
EOS2				*e*S	**Sn**	**17 39 52.4**	**+1.1**
	baz=316						
JYNG	**Yonagunijimaku**	**0.58**	**32**	*e*P	**Pb**	**17 39 41.8**	**-0.1**
JYNG				*e*S	**Sb**	**17 39 49.2**	**-0.5**
YOJ	**Yonaguni jima**	**0.62**	**36**	P	**Pn**	**17 39 42.6**	**-0.8**
	baz=46						
YOJ				S	**Sb**	**17 39 49.6**	**-1.3**
	baz=46						
YOJ	**Yonaguni jima**	**0.62**	**36**	*e*P	**Pb**	**17 39 42.4**	**-0.1**
YOJ				*e*S	**Sb**	**17 39 50.3**	**-0.6**
EWUT	**Wuta**	**0.90**	**303**	*e*P	**Pb**	**17 39 47.6**	**+0.2**
	baz=297						
EWUT				*e*S	**Sb**	**17 40 00.8**	**+1.8**
	baz=297						
ENA	**Nanau**	**0.92**	**301**	P	**Pb**	**17 39 47.7**	**0.0**
	baz=295						
ENA				*e*S	**Sb**	**17 40 01.1**	**+1.5**
	baz=295						
ESAO	**Su ao**	**0.93**	**311**	*e*P	**Pb**	**17 39 48.1**	**+0.2**
	baz=305						
TWD	**Chiawan**	**0.94**	**278**	*e*P	**Pn**	**17 39 47.1**	**-0.8**
	baz=271						
TWD				*e*S	**Sn**	**17 39 59.7**	**-0.7**
	baz=271						
TWC	**Suao**	**0.95**	**313**	*e*P	**Pb**	**17 39 48.0**	**-0.2**
	baz=308						
TWC				*e*S	**Sb**	**17 40 00.8**	**+0.4**
	baz=308						
NACB	**Ninganchiao**	**0.95**	**283**	P	**Pn**	**17 39 47.5**	**-0.6**
	baz=262						
NACB				S	**Sb**	**17 40 00.7**	**+0.2**
	baz=262						
SHUL	**Shoufeng**	**0.98**	**260**	*e*P	**Pn**	**17 39 48.2**	**-0.2**
	baz=254						
SHUL				*e*S	**Sn**	**17 40 01.5**	**+0.1**
	baz=254						
ETM	**Tongmen**	**1.02**	**271**	*e*P	**Pn**	**17 39 48.4**	**-0.7**
	baz=253						
ETM				*e*S	**Sn**	**17 40 01.7**	**-0.9**
	baz=253						
NDS	**Dongshan**	**1.06**	**310**	*e*P	**Pb**	**17 39 50.4**	**+0.3**
	baz=295						
ETLH	**Xiulin Townshi**	**1.06**	**284**	P	**Pn**	**17 39 49.3**	**-0.3**
	baz=264						
ETLH				*e*S	**Sn**	**17 40 03.2**	**-0.5**
	baz=264						
IRIF	**Iriomote-Funau**	**1.09**	**70**	*e*P	**Pb**	**17 39 50.5**	**+0.1**
IRIF				*e*S	**Sb**	**17 40 04.5**	**+0.3**
ESL	**Shilin**	**1.09**	**263**	P	**Pn**	**17 39 49.0**	**-1.0**
	baz=257						
LXIB	**Xiulin Townshi**	**1.10**	**273**	P	**Pn**	**17 39 49.6**	**-0.6**
	baz=267						
LXIB				*e*S	**Sn**	**17 40 04.4**	**-0.2**
	baz=267						
EGFH	**Guangfu**	**1.12**	**255**	P	**Pn**	**17 39 50.2**	**-0.2**
	baz=250						
EGFH				*e*S	**Sn**	**17 40 05.3**	**+0.2**
	baz=250						
LATG	**Datong**	**1.15**	**300**	P	**Pb**	**17 39 51.1**	**-0.5**
	baz=295						
TWE	**Neicheng**	**1.15**	**312**	*e*P	**Pb**	**17 39 51.2**	**-0.3**
	baz=307						
WARBT	**Fenglin Townsh**	**1.15**	**258**	P	**Pn**	**17 39 50.0**	**-0.8**
	baz=243						
WARBT				*e*S	**Sn**	**17 40 04.9**	**-0.8**
	baz=243						
HGSD	**Ruisui**	**1.19**	**247**	*e*P	**Pn**	**17 39 50.6**	**-0.7**
	baz=242						
NDT	**Datong Townshi**	**1.19**	**303**	*e*P	**Pb**	**17 39 51.9**	**-0.4**
	baz=286						
NNSB	**Datong**	**1.22**	**293**	P	**Pn**	**17 39 52.0**	**+0.2**
	baz=289						
NNSB				*e*S	**Sb**	**17 40 08.0**	**-0.1**
	baz=289						
FUSB	**Fushanzhiwuyua**	**1.23**	**311**	*e*P	**Pb**	**17 39 52.7**	**-0.3**
	baz=306						
NNS	**Nan Shan**	**1.23**	**293**	P	**Pb**	**17 39 52.4**	**-0.6**
	baz=289						
NNS				S	**Sb**	**17 40 08.3**	**-0.2**
	baz=289						
TIPB	**Shuangxi**	**1.24**	**325**	*e*P	**Pb**	**17 39 53.2**	**+0.1**
	baz=334						
TIPB				*e*S	**Sb**	**17 40 09.3**	**+0.6**
	baz=334						
WHF	**Hehuan Shan**	**1.25**	**279**	*e*P	**Pn**	**17 39 52.3**	**-0.2**
	baz=261						
WHF				*e*S	**Sn**	**17 40 08.3**	**-0.4**
	baz=261						

EHY	**Hungye**	**1.27 249**	P		**Pn**	**17 39 52.0**	**-0.3**
	baz=244						
EHY			*e*S		**Sn**	**17 40 08.1**	**-0.5**
	baz=244						
FUSS	**Fushou**	**1.28 283**	P		**Pn**	**17 39 53.2**	**+0.3**
	baz=265						
FUSS			*e*S		**Sn**	**17 40 09.4**	**0.0**
	baz=265						
NWLT	**Wulai**	**1.30 309**	*e*P		**Pb**	**17 39 53.5**	**-0.7**
	baz=319						
JKRS	**Kuro-shima**	**1.30 77**	*e*P		**Pb**	**17 39 54.0**	**-0.2**
JKRS			*e*S		**Sb**	**17 40 11.6**	**+1.1**
OWD	**Renai**	**1.31 270**	P		**Pn**	**17 39 53.2**	**+0.1**
	baz=265						
OWD			*e*S		**Sn**	**17 40 09.2**	**-0.7**
	baz=265						
SXI1	**Grass Mountain**	**1.31 329**	*e*P		**Pb**	**17 39 53.3**	**-1.1**
	baz=339						
CHGB	**Renai**	**1.32 275**	*i* P		**Pn**	**17 39 53.4**	**+0.1**
	baz=269						
CHGB			*i* S		**Sn**	**17 40 10.3**	**+0.1**
	baz=269						
YHNB	**Yeheng**	**1.33 302**	*i* P		**Pb**	**17 39 54.1**	**-0.6**
	baz=299						
YHNB			*e*S		**Sb**	**17 40 11.9**	**+0.5**
	baz=299						
YULB	**Yu-li**	**1.33 245**	P		**Pn**	**17 39 52.9**	**-0.4**
	baz=230						
YULB			*e*S		**Sn**	**17 40 09.5**	**-0.7**
	baz=230						
EYUL	**Yuli**	**1.33 243**	*e*P		**Pn**	**17 39 52.8**	**-0.5**
	baz=238						
EYUL			*e*S		**Sn**	**17 40 09.6**	**-0.6**
	baz=238						
NSK	**Sanguang**	**1.35 302**	P		**Pb**	**17 39 54.0**	**-1.1**
	baz=299						
NSK			*e*S		**Sb**	**17 40 11.2**	**-0.7**
	baz=299						
TWF1	**Yuli**	**1.35 244**	P		**Pn**	**17 39 53.4**	**-0.1**
	baz=228						
TWF1			*e*S		**Sn**	**17 40 10.4**	**-0.2**
	baz=228						
VWDT	**VWDT**	**1.36 262**	P		**Pn**	**17 39 54.0**	**+0.3**
	baz=257						
VWDT			*e*S		**Sn**	**17 40 10.8**	**-0.1**
	baz=257						
WUSB	**Renai**	**1.37 272**	P		**Pn**	**17 39 54.0**	**0.0**
	baz=266						
WUSB			*e*S		**Sn**	**17 40 11.8**	**+0.5**
	baz=266						
FULB	**Fuli**	**1.43 238**	*e*S		**Sn**	**17 40 11.4**	**-1.2**
	baz=224						
NFF	**Wufeng Townshi**	**1.52 296**	P		**Pb**	**17 39 57.8**	**-0.1**
	baz=294						
NFF			*e*S		**Sb**	**17 40 16.4**	**-0.4**
	baz=294						
EHD	**Haiduan**	**1.52 238**	*e*P		**Pn**	**17 39 55.3**	**-0.6**
	baz=225						
EHD			*e*S		**Sn**	**17 40 14.1**	**-0.8**
	baz=225						
SSLB	**Suanglung**	**1.53 264**	*e*P		**Pn**	**17 39 56.6**	**+0.6**
	baz=259						
WCS	**Beigang Elemen**	**1.56 274**	P		**Pn**	**17 39 57.2**	**+0.8**
	baz=270						
TYC	**Yuchr**	**1.61 268**	*e*P		**Pb**	**17 40 00.2**	**+0.8**
	baz=264						
NSTT	**Nanjuang**	**1.62 295**	*e*P		**Pb**	**17 39 58.6**	**-0.9**
	baz=292						
NSTT			*e*S		**Sb**	**17 40 19.1**	**-0.4**
	baz=292						
ELDTW	**Lidau**	**1.65 243**	*e*P		**Pn**	**17 39 57.1**	**-0.7**
	baz=238						
ELDTW			*e*S		**Sn**	**17 40 16.5**	**-1.8**
	baz=238						
JISG	**Ishigakijimahi**	**1.67 68**	*e*S		**Sn**	**17 40 19.4**	**+0.8**
ALS	**Alishan**	**1.72 255**	P		**Pn**	**17 39 59.7**	**+0.9**
	baz=251						
ALS			S		**Sn**	**17 40 20.8**	**+0.7**
	baz=251						
LONT	**Longtian**	**1.72 233**	*e*S		**Sn**	**17 40 19.7**	**-0.1**
	baz=221						
TWQ1	**Liyutan**	**1.73 283**	*e*P		**Pb**	**17 40 00.4**	**-1.0**
	baz=279						
TWQ1			*e*S		**Sb**	**17 40 23.4**	**+0.7**
	baz=279						
WJS	**Zhushan**	**1.73 266**	P		**Pb**	**17 40 01.8**	**+0.4**
	baz=261						
WJS			*e*S		**Sb**	**17 40 25.6**	**+2.8**
	baz=261						
CHN5	**Tsauling**	**1.81 259**	*e*P		**Pb**	**17 40 02.2**	**-0.6**
	baz=245						
CHN5			*e*S		**Sb**	**17 40 25.9**	**+0.8**
	baz=245						
TWG	**Pinlang**	**1.81 232**	*e*S		**Sn**	**17 40 20.9**	**-1.2**
	baz=219						
STYH	**Taoyuan**	**1.86 245**	*e*P		**Pn**	**17 40 01.5**	**+1.0**
	baz=233						
STYH			*e*S		**Sn**	**17 40 23.4**	**+0.2**
	baz=233						
WGK	**Gukeng**	**1.90 262**	*e*P		**Pb**	**17 40 03.6**	**-0.7**
	baz=258						
WGK			*e*S		**Sb**	**17 40 28.7**	**+1.1**
	baz=258						
WCKO	**Fanlu**	**1.91 255**	*e*P		**Pb**	**17 40 03.6**	**-1.0**
	baz=250						
WCKO			*e*S		**Sb**	**17 40 27.9**	**-0.2**
	baz=250						
WDLH	**Douliu**	**1.92 262**	*e*P		**Pn**	**17 40 03.0**	**+1.6**
	baz=258						
TPUB	**Ta-pu**	**1.93 251**	P		**Pn**	**17 40 03.1**	**+1.6**
	baz=246						
TPUB			*e*S		**Sn**	**17 40 27.6**	**+2.5**
	baz=246						
CHN4	**Tsaushan**	**1.95 252**	P		**Pb**	**17 40 04.2**	**-0.9**
	baz=248						
CHN4			*e*S		**Sb**	**17 40 29.1**	**0.0**
	baz=248						
WTP	**Ta-pu**	**1.97 249**	*e*P		**Pn**	**17 40 04.1**	**+2.0**
	baz=235						
WTP			*e*S		**Sb**	**17 40 28.7**	**-0.9**
	baz=235						
SLGT	**Liugui**	**2.05 242**	*e*P		**Pn**	**17 40 05.6**	**+2.5**
	baz=231						
SLGT			*e*S		**Sb**	**17 40 31.8**	**-0.1**
	baz=231						
SGST	**Jiashian**	**2.06 245**	P		**Pn**	**17 40 05.2**	**+1.9**
	baz=232						
SGST			*e*S		**Sb**	**17 40 31.7**	**-0.5**
	baz=232						
CHN1	**Nanshi**	**2.06 248**	*e*P		**Pb**	**17 40 06.2**	**-0.9**
	baz=236						
CHN1			*e*S		**Sb**	**17 40 31.7**	**-0.7**
	baz=236						
SNST	**Tainan City**	**2.08 250**	P		**Pb**	**17 40 06.1**	**-1.2**
	baz=245						
SNST			S		**Sb**	**17 40 31.7**	**-1.0**
	baz=245						
TSMG	**Majia**	**2.20 236**	*e*P		**Pn**	**17 40 07.4**	**+2.2**
	baz=226						
MASBT	**Mashibuluo**	**2.26 234**	*e*P		**Pn**	**17 40 08.2**	**+2.1**
	baz=225						

IDC 22 17:41:11.0±999.0, 35.60N×113.55W, h0km, Error ellipse: s-maj=631.5km s-min=225.3km az=6.0, Western Arizona

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I56US	**NEWPORT INFRAST**	**2.93**	**349**	I	I	18 59 20.0	
	baz=167,slow=311,SNR=1.2						
I10CA	**LAC DU BONNET**	**19.36**	**36**	I	I	19 36 30.0	
	baz=228,slow=329,SNR=1.4						
I18DK	**QAANAAQ INFRAS**	**46.13**	**12**	I	I	22 22 50.0	
	baz=232,slow=347,SNR=0.8						

*NEIC **22** 17:44:23.4±1.7, 6.07S±0.06×128.7E±0.1, h311km±14km, mb4.4/4, Error ellipse: s-maj=17.8km s-min=7.5km az=110.0*

*IDC **22** 17:44:26.5±3.9, 6.23S×128.38E, h353km±39km, mb2.6/1, mbtmp3.8/3, Error ellipse: s-maj=53.1km s-min=16.1km az=67.0*

ISC 22 17:44:21.6±0.8, 6.03S±0.07×128.77E±0.06, h300km, n31, σ1§56/36, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.17**	**128**	Pn	**Pn**	**17 45 20.5**	**+1.4**
SAUI				Sn	**S**	**17 46 05.2**	**+0.1**
FAKI	**Fak Fak**	**4.65**	**48**	P	**Pn**	**17 45 36.8**	**+1.7**
FAKI	**Fak Fak**	**4.65**	**48**	Pn	**Pn**	**17 45 36.8**	**+1.7**
FAKI				Sn	**S**	**17 46 31.6**	**-2.5**
SANI	**Sanana**	**4.83**	**325**	P	**Pn**	**17 45 38.8**	**+1.6**
SOEI	**Soe**	**5.79**	**230**	P	**Pn**	**17 45 50.7**	**+2.1**
SOEI	**Soe**	**5.79**	**230**		**Pn**	**17 45 50.2**	**+1.6**
BATI	**Baumata**	**6.54**	**230**	P	**Pn**	**17 45 59.1**	**+1.7**
	127nm,0.3s,baz=85,slow=2.8,SNR=98						
BATI				S	**S**	**17 47 13.9**	**-0.9**
	31nm,0.5s,baz=335,slow=5.0,SNR=3.4						
DRS	**Darwin Rock St**	**6.70**	**162**	P	**Pn**	**17 46 01.9**	**+2.6**
MTN	**Manton Dam**	**7.16**	**161**	Pn	**Pn**	**17 46 02.7**	**-2.3**
KDU	**Kakadu**	**7.55**	**151**	P	**Pn**	**17 46 12.0**	**+2.3**
PLAI	**Plampang**	**11.25**	**255**	P	**Pn**	**17 46 55.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**12.38**	**194**	P	**P**	**17 47 10.6**	**+0.9**
FITZ	**Fitzroy Crossi**	**12.38**	**194**	P	**Pn**	**17 47 08.7**	**0.0**
WB0	**Warramunga Arr**	**14.71**	**159**	P	**P**	**17 47 36.2**	**+0.7**
WRA	**Warramunga Arr**	**14.85**	**159**	P	**P**	**17 47 36.8**	**-0.3**
WRA	**Warramunga Arr**	**14.85**	**159**	P	**P**	**17 47 37.7**	**+0.6**
	1.5nm,0.4s,baz=334,slow=13,SNR=42						
WRA				S	**S**	**17 50 16.5**	**-2.9**
	0.7nm,0.7s,baz=332,slow=22,SNR=4.7						
WB2	**Warramunga Arr**	**14.86**	**159**	P	**P**	**17 47 38.1**	**+1.0**
WR0	**Warramunga Arr**	**14.94**	**158**	P	**P**	**17 47 39.0**	**+0.9**
COEN	**Coen**	**16.22**	**120**	P	**P**	**17 47 53.7**	**+1.6**
COEN	**Coen**	**16.22**	**120**	P	**P**	**17 47 53.2**	**+1.1**
MBWA	**Marble Bar**	**17.40**	**209**	P	**P**	**17 48 04.7**	**-0.2**
MBWA				IAmb	IAmb	17 48 43.3	
	comp=Z,23nm,1.3s						
PSA00	**Pilbara Seismi**	**17.70**	**208**	P	**P**	**17 48 08.1**	**0.0**
PSA00				IAmb	IAmb	17 48 28.9	
	comp=Z,22nm,1.4s						
QIS	**Mount Isa**	**17.86**	**145**	P	**P**	**17 48 12.0**	**+2.1**
AS31	**Alice Springs**	**18.22**	**165**	P	**P**	**17 48 14.0**	**+0.3**
ASAR	**Alice Springs**	**18.22**	**165**	P	**P**	**17 48 14.5**	**+0.8**
ASAR	**Alice Springs**	**18.22**	**165**	P	**P**	**17 48 14.9**	**+1.3**
	comp=Z,1.3nm,0.3s,baz=343,slow=11,SNR=56						
ASAR				S	**S**	**17 51 25.2**	**-1.1**
	comp=Z,6.5nm,0.9s,baz=345,slow=21,SNR=34						
WRKA	**Warakurna**	**18.91**	**181**	P	**P**	**17 48 22.0**	**+1.0**
MTSU	**Mount Surprise**	**19.36**	**130**	P	**P**	**17 48 27.5**	**+1.5**
MKAR	**Makanchi Array**	**66.75**	**327**	P	**P**	**17 54 40.5**	**-0.6**
	comp=Z,0.1nm,0.5s,baz=130,slow=5.8,SNR=2.2						
	comp=Z,0.1nm,0.5s						
PSUT	**Pine Spring**	**115.05**	**50**		**PKiKP**	**18 02 26.5**	**-1.3**
GO02	**Mina Guanaco**	**144.22**	**151**	PKPdf	**PKPab**	**18 03 19.2**	**-2.5**

IDC 22 17:52:29.7±1.4, 17.90S×177.34W, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=51.0km s-min=34.7km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.64**	**259**	P	P	18 00 52.2	-0.1
	0.4nm,0.8s,baz=96,slow=7.5,SNR=4.8						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**45.77**	**254**	P	P	18 00 53.5	+0.1
	0.4nm,0.5s,baz=88,slow=8.5,SNR=15						
	0.4nm,0.5s						
QSPA	**South Pole Qui**	**72.16**	**180**	P	P	18 03 56.4	+0.2
	2.1nm,0.9s,baz=209,slow=3.9,SNR=3.1						
	2.1nm,0.9s						
ILAR	**Eielson Array**	**85.65**	**13**	P	P	18 05 10.8	+1.0
	0.2nm,0.4s,baz=217,slow=5.7,SNR=6.0						
	0.2nm,0.4s						
GERES	**GERESS Array B**	**147.86**	**346**	PKPbc	PKPdf	18 12 14.2	+0.3
	0.7nm,0.5s,baz=15,slow=4.1,SNR=2.4						

*IDC **22** 18:11:28.7±1.9, 0.06S×125.48E, h0km, mb3.4/3, mbtmp3.5/3, Error ellipse: s-maj=180.7km s-min=26.7km az=64.0*

*DJA **22** 18:11:30.7±0.4, 0.7°N±6°×12°6E±°, h10km, M4.0/6, mb5.3/1, MLv3.3/6*

ISC 22 18:11:33.9±1.2, 0.20N±0.09×126.11E±0.07, h44km, n8, σ1§50/8, mb3.3/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.38**	**66**	P	**Pn**	**18 11 56.5**	**-0.2**
LBMI	**Labuha**	**1.62**	**121**	P	**Pn**	**18 11 59.8**	**-0.3**
KMSI	**Cibinong**	**2.16**	**280**	P	**Pn**	**18 12 04.9**	**-2.5**
SANI	**Sanana**	**2.24**	**183**	P	**Pn**	**18 12 08.2**	**-0.3**
GTOI	**Gorontalo**	**3.12**	**278**	P	**Pn**	**18 12 22.7**	**+2.0**
WRA	**Warramunga Arr**	**21.58**	**159**	P	**P**	**18 16 19.6**	**-0.5**
	2.1nm,0.8s,baz=335,slow=12,SNR=7.6						
	2.1nm,0.8s						
ASAR	**Alice Springs**	**24.90**	**163**	P	**P**	**18 16 53.7**	**+0.8**
	0.4nm,0.6s,baz=341,slow=8.0,SNR=4.6						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**60.11**	**327**	P	**P**	**18 21 37.1**	**+0.2**
	0.1nm,0.4s,baz=120,slow=8.2,SNR=5.6						
	0.1nm,0.4s						

TAP 22 18:14:02.3, 24.12N×121.67E, h10km, ML1.6, 2D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.06**	**312**	*i* P	Pg	18 14 05.2	+0.8
	baz=310						
ETL				*i* S	Sg	18 14 06.8	+0.9
	baz=310						
TWD	**Chiawan**	**0.08**	**241**	*i* P	Pg	18 14 05.1	+0.6
	baz=238						
TWD				*i* S	Sg	18 14 06.8	+0.6
	baz=238						
NACB	**Ninganchiao**	**0.09**	**308**	⇓*i* P	Pg	18 14 05.5	+0.9
	baz=307						
NACB				*i* S	Sg	18 14 07.4	+1.0
	baz=307						
HWA	**Hwalien**	**0.15**	**203**	*e*P	Pg	18 14 06.3	+0.6
	baz=200						
ETLH	**Xiulin Townshi**	**0.19**	**297**	P	Pg	18 14 07.5	+1.1
	baz=296						
ETLH				S	Sg	18 14 11.2	+1.9
	baz=296						
EAHA	**Aohua**	**0.22**	**16**	P	Pg	18 14 07.6	+0.8
	baz=16						
EAHA				S	Sg	18 14 11.2	+1.4
	baz=16						
ETM	**Tongmen**	**0.22**	**227**	P	Pg	18 14 07.6	+0.7
	baz=226						
ETM				S	Sg	18 14 10.7	+0.8
	baz=226						
LXIB	**Xiulin Townshi**	**0.26**	**248**	*i* P	Pb	18 14 08.3	-0.8
	baz=247						
LXIB				*i* S	Sg	18 14 12.2	+1.1
	baz=247						
ENA	**Nanau**	**0.31**	**12**	⇓*i* P	Pb	18 14 09.5	-0.5
	baz=12						
ENA				*i* S	Sg	18 14 14.0	+1.2
	baz=12						
EWUT	**Wuta**	**0.34**	**17**	P	Pb	18 14 09.8	-0.6
	baz=16						
EWUT				S	Sb	18 14 14.8	-1.2
	baz=16						
SHUL	**Shoufeng**	**0.34**	**197**	*e*P	Pb	18 14 10.2	-0.3
	baz=196						
SHUL				*e*S	Sb	18 14 17.6	+1.5
	baz=196						
WHF	**Hehuan Shan**	**0.37**	**274**	P	Pb	18 14 10.6	-0.7
	baz=273						
WHF				S	Sb	18 14 16.3	-1.0
	baz=273						
ESL	**Shilin**	**0.37**	**216**	P	Pg	18 14 10.3	+0.6
	baz=214						
NNSB	**Datong**	**0.41**	**319**	*i* P	Pb	18 14 11.4	-0.2
	baz=319						
NNSB				S	Sb	18 14 17.4	-0.5
	baz=319						
FUSS	**Fushou**	**0.41**	**288**	P	Pb	18 14 12.0	+0.2
	baz=288						
FUSS				S	Sb	18 14 17.2	-1.1
	baz=288						
NNS	**Nan Shan**	**0.42**	**320**	*i* P	Pb	18 14 12.0	+0.1
	baz=320						
NNS				S	Sb	18 14 18.2	-0.2
	baz=320						
LATG	**Datong**	**0.43**	**342**	*e*P	Pb	18 14 12.0	-0.2
	baz=342						
LATG				*e*S	Sb	18 14 19.8	+0.9
	baz=342						
CHGB	**Renai**	**0.46**	**263**	*e*P	Pg	18 14 10.4	-0.9
	baz=262						
CHGB				*e*S	Sb	18 14 18.8	-0.8
	baz=262						
TWT	**Tachien**	**0.47**	**287**	*e*S	Sb	18 14 20.3	+0.3
	baz=285						
WARBT	**Fenglin Townsh**	**0.48**	**213**	P	Pb	18 14 12.3	-0.5
	baz=213						
WARBT				S	Sb	18 14 20.8	+0.9
	baz=213						
OWD	**Renai**	**0.48**	**250**	*e*P	Pb	18 14 13.1	+0.2
	baz=250						
OWD				*e*S	Sb	18 14 19.6	-0.6
	baz=250						
TDCB	**Techi**	**0.49**	**286**	*e*S	Sb	18 14 20.3	-0.1
	baz=285						
EGFH	**Guangfu**	**0.50**	**207**	*e*P	Pb	18 14 12.8	-0.4
	baz=206						
EGFH				*e*S	Sb	18 14 21.1	+0.5
	baz=206						
NDT	**Datong Townshi**	**0.50**	**343**	*e*P	Pg	18 14 12.6	+0.5
	baz=343						
NDT				*e*S	Sb	18 14 20.3	-0.4
	baz=343						
WUSB	**Renai**	**0.52**	**256**	*e*P	Pb	18 14 13.3	-0.4
	baz=255						
VWDT	**VWDT**	**0.61**	**233**	*e*P	Pb	18 14 15.0	0.0
	baz=233						
YHNB	**Yeheng**	**0.61**	**334**	*e*P	Pb	18 14 15.9	+0.8
	baz=333						
NSK	**Sanguang**	**0.62**	**333**	P	Pb	18 14 16.0	+0.6
	baz=333						
NSK				*e*S	Sb	18 14 25.1	+0.9
	baz=333						
FUSB	**Fushanzhiwuyua**	**0.64**	**353**	*e*P	Pn	18 14 16.6	-0.9
	baz=353						
HGSD	**Ruisui**	**0.66**	**200**	*e*P	Pb	18 14 16.8	+0.8
	baz=199						
NWLT	**Wulai**	**0.67**	**347**	*e*P	Pb	18 14 16.4	+0.2
	baz=346						
WHP	**Taichung City**	**0.68**	**284**	*e*P	Pb	18 14 16.9	+0.6
	baz=283						
EHY	**Hungye**	**0.69**	**208**	*e*P	Pb	18 14 16.9	+0.4
	baz=207						
SSLB	**Suanglung**	**0.73**	**243**	*e*P	Pb	18 14 17.0	-0.2
	baz=243						
YULB	**Yu-li**	**0.80**	**205**	*e*P	Pn	18 14 19.0	-0.6
	baz=205						

JMA 22 18:14:12.7±0.2, 24.2N±0.4×123.8E±0.4, h16km±1km, MV0.8/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.13**	**314**	*e*P	Pg	18 14 16.4	0.0
JKRS	**Kuro-shima**	**0.16**	**91**	P	Pg	18 14 16.8	0.0
JKRS				*e*S	Sg	18 14 19.9	+0.4
HATJ	**Hateruma jima**	**0.19**	**188**	*i* P	Pg	18 14 17.0	-0.1
HATJ				*e*S	Sg	18 14 20.2	0.0
JIJ	**Ishigaki jima**	**0.31**	**67**	P	Pg	18 14 18.9	-0.2
JIJ				*e*S	Sg	18 14 23.2	-0.3
JISG	**Ishigakijimahi**	**0.55**	**52**	*e*P	Pg	18 14 23.6	0.0
JTJ	**Tarama**	**0.89**	**63**	*e*S	Sg	18 14 42.1	+0.6

*IDC **22** 18:22:21.3±0.8, 5.94S×142.35E, h0km, mb4.1/12, mbtmp4.1/14, ML1.7/1, MS3.5/22, Error ellipse: s-maj=29.7km s-min=16.4km az=77.0*

ISC 22 18:22:23.0±0.6, 6.00S±0.08×142.24E±0.09, h10km, n35, σ1§20/22, mb4.2/12, MS3.5/16, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**1.24**	**306**	P	**Pn**	**18 22 46.4**	**-0.1**
GENI	**Genyem**	**3.97**	**329**	P	**Pn**	**18 23 25.9**	**+1.9**
PMG	**Port Moresby**	**5.94**	**125**	Pn	**Pn**	**18 23 50.8**	**-0.3**
	1.2nm,0.3s,baz=4.5,slow=2.4,SNR=5.2						
PMG				Sn	**Sn**	**18 24 59.9**	**+0.8**
	1.1nm,0.3s,baz=39,slow=16,SNR=1.8						
PMG				LR	LR	18 26 44.8	
	comp=Z,107nm,19.5s,baz=303,slow=45						
	6.5nm,0.5s						
CTA	**Charters Tower**	**14.54**	**165**	Lg	Lg	18 30 08.4	
	0.1nm,0.3s,baz=271,slow=6.4,SNR=1.6						
CTA				LR	LR	18 31 36.6	
	comp=Z,261nm,19.9s,baz=0.0,slow=38						
WRA	**Warramunga Arr**	**15.84**	**208**	Pn	**Pn**	**18 26 04.2**	**-2.1**
	0.7nm,0.3s,baz=33,slow=11,SNR=23						
WRA				Lg	Lg	18 30 51.9	
	0.3nm,0.3s,baz=23,slow=34,SNR=4.9						
WRA				LR	LR	18 32 13.3	
	comp=Z,236nm,18.4s,baz=4.0,slow=37						
BATI	**Baumata**	**18.85**	**256**	LR	LR	18 35 56.4	
	comp=Z,264nm,18.4s,baz=98,slow=43						
AS01	**Alice Springs**	**19.29**	**204**	P	**P**	**18 26 49.2**	**+1.0**
ASAR	**Alice Springs**	**19.31**	**204**	P	**P**	**18 26 49.4**	**+1.0**
	7.3nm,0.7s,baz=29,slow=9.7,SNR=77						
ASAR				S	Sn	18 30 11.9	-14
	0.5nm,0.7s,baz=87,slow=33,SNR=1.5						
ASAR				Lg	Lg	18 32 40.2	
	0.1nm,0.3s,baz=24,slow=30,SNR=4.1						
ASAR				LR	LR	18 35 04.1	
	comp=Z,492nm,21.0s,baz=26,slow=39						
GUMO	**Guam**	**19.64**	**8**	LR	LR	18 33 29.9	
	comp=Z,63nm,21.0s,baz=156,slow=34						
QLP	**Quilpie**	**20.55**	**175**	P	**P**	**18 27 04.4**	**+2.5**
OOD	**Oodnadatta**	**22.55**	**195**	P	**P**	**18 27 24.5**	**+1.1**
WRKA	**Warakurna**	**23.17**	**214**	P	**P**	**18 27 30.4**	**+0.5**
STKA	**Stephens Creek**	**25.75**	**181**	P	**P**	**18 27 54.6**	**+0.7**
	3.3nm,0.8s,baz=356,slow=7.5,SNR=7.4						
STKA				LR	LR	18 39 27.2	
	comp=Z,224nm,20.3s,baz=11,slow=40						
	3.3nm,0.8s						
LEM	**Lembang**	**34.41**	**267**	LR	LR	18 47 02.1	
	comp=Z,54nm,18.4s,baz=122,slow=43						
NWAO	**Narrogin (SRO)**	**35.48**	**218**	LR	LR	18 44 31.9	
	comp=Z,226nm,18.1s,baz=55,slow=37						
MJAR	**Matsushiro Arr**	**42.49**	**355**	LR	LR	18 47 08.3	
	comp=Z,39nm,20.5s,baz=166,slow=35						
URZ	**Urewera**	**45.06**	**141**	LR	LR	18 48 43.7	
	comp=Z,85nm,18.1s,baz=302,slow=35						
KSRS	**Korea Array**	**45.25**	**344**	P	**P**	**18 30 40.8**	**+0.1**
	1.6nm,0.8s,baz=165,slow=10.0,SNR=8.4						
	1.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**49.12**	**301**	P	**P**	**18 31 10.4**	**-0.9**
	0.2nm,0.5s,baz=131,slow=6.5,SNR=2.6						
	0.2nm,0.5s						
ASAJ	**Asahikawa**	**49.89**	**0**	LR	LR	18 52 27.0	
	comp=Z,18nm,21.0s,baz=152,slow=36						
KLR	**Kul'dur**	**55.76**	**352**	LR	LR	18 52 19.2	
	comp=Z,44nm,21.6s,baz=171,slow=32						
PETK	**Petropavlovsk-**	**60.33**	**11**	P	**P**	**18 32 31.6**	**-0.4**
	1.8nm,0.7s,baz=128,slow=4.4,SNR=4.7						
PETK				LR	LR	18 57 51.4	
	comp=Z,14nm,19.9s,baz=139,slow=35						
	1.8nm,0.7s						
SONM	**Songino Array**	**62.20**	**334**	P	**P**	**18 32 45.4**	**+0.5**
	0.5nm,0.6s,baz=154,slow=6.8,SNR=4.7						
SONM				LR	LR	18 59 31.6	
	comp=Z,24nm,19.8s,baz=180,slow=36						
	0.5nm,0.6s						
MA2	**Magadan**	**65.72**	**5**	LR	LR	18 59 27.0	
	comp=Z,21nm,21.8s,baz=147,slow=34						
YAK	**Yakutsk**	**68.53**	**354**	LR	LR	19 03 03.8	
	comp=Z,23nm,18.6s,baz=136,slow=36						
MKAR	**Makanchi Array**	**74.53**	**322**	P	**P**	**18 34 02.9**	**+0.9**
	2.2nm,0.7s,baz=109,slow=7.4,SNR=25			

QSPA				LR	LR	19 11 22.5	
	comp=Z,52nm,19.1s,baz=48,slow=35 1.5nm,0.8s						
BVAR	**Borovoye Array**	**84.01**	**325**	P	**P**	**18 34 54.4**	**+0.7**
	6.1nm,0.8s,baz=114,slow=6.6,SNR=18 6.1nm,0.8s						
ILAR	**Eielson Array**	**87.38**	**24**	P	**P**	**18 35 08.7**	**-1.5**
	1.6nm,0.7s,baz=253,slow=4.9,SNR=14						
ILAR				LR	LR	19 09 41.8	
	comp=Z,24nm,19.9s,baz=239,slow=32 1.6nm,0.7s						
INK	**Inuvik**	**93.40**	**22**	LR	LR	19 11 25.2	
	comp=Z,29nm,21.4s,baz=177,slow=32						

WEL 22 18:26:32.2±0.5, 40°S±2°×17°7E±°, h26km±4km, M1.8/10, ML2.3/12, MLv1.8/10, Error ellipse: s-maj=0.0km s-min=0.0km az=104.3, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPWS	**Waipawa Distri**	**0.06**	**111**	P	Pb	18 26 37.6	+0.9
WPWS				S	Sb	18 26 41.7	+2.0
WPHZ	**Waipukurau**	**0.15**	**203**	P	Pn	18 26 38.7	-0.2
WPHZ				S	Sb	18 26 43.9	+2.8
PNHZ	**Pukenui**	**0.24**	**272**	P	Pn	18 26 39.9	-0.3
PNHZ				S	Sb	18 26 45.9	+3.0
PXZ	**Pawanui**	**0.28**	**112**	P	Pb	18 26 39.7	+0.7
PXZ				S	Sn	18 26 45.8	-0.3
KRHZ	**Kereru**	**0.30**	**338**	P	Pb	18 26 40.1	+0.8
KRHZ				S	Sn	18 26 46.5	0.0
KAHZ	**Kahuranaki**	**0.30**	**65**	P	Pn	18 26 40.3	-0.7
KAHZ				S	Sn	18 26 47.0	+0.4
PRHZ	**Porangahau**	**0.35**	**165**	P	Pn	18 26 41.0	-0.7
PRHZ				S	Sn	18 26 48.2	+0.4
PGFS	**Porangahau Fir**	**0.39**	**169**	P	Pn	18 26 41.5	-0.5
PGFS				S	Sn	18 26 49.1	+0.5
TSZ	**Takapari Road**	**0.45**	**252**	P	Pn	18 26 42.8	-0.2
TSZ				S	Sn	18 26 50.5	+0.3
DVHZ	**Dannevirke**	**0.46**	**216**	P	Pn	18 26 42.9	-0.3
DVHZ				S	Sn	18 26 51.1	+0.6
MCHZ	**McNeill Hill**	**0.50**	**16**	P	Pn	18 26 43.6	0.0
MCHZ				S	Sn	18 26 52.5	+1.1
KWHZ	**Kaweka Forest**	**0.51**	**352**	P	Pn	18 26 43.4	-0.3
KWHZ				S	Sn	18 26 52.0	+0.3
CKHZ	**Cape Kidnapper**	**0.51**	**59**	S	Sn	18 26 52.7	+1.2
ANWZ	**Angora Road**	**0.54**	**184**	P	Pn	18 26 43.9	-0.3
ANWZ				S	Sn	18 26 53.4	+1.1
BHHZ	**Black Hill Sta**	**0.56**	**321**	P	Pn	18 26 44.4	-0.1
BHHZ				S	Sn	18 26 53.3	+0.4
ARHZ	**Aropaoanui**	**0.76**	**29**	P	Pn	18 26 46.9	-0.2
ARHZ				S	Sn	18 26 59.0	+1.3
PRWZ	**Pori Road**	**0.76**	**213**	P	Pn	18 26 47.3	+0.1
BKZ	**Black Stump Fm**	**0.76**	**358**	P	Pb	18 26 46.9	+0.2
BFZ	**Birch Farm**	**0.79**	**195**	P	Pb	18 26 46.7	-0.5
BFZ				S	Sn	18 26 59.4	+0.9
MRZ	**Mangatainoka R**	**1.03**	**224**	P	Pn	18 26 50.5	-0.4
MRZ				S	Sb	18 27 04.4	0.0
HOWZ	**Holdsworth Sta**	**1.24**	**218**	P	Pn	18 26 52.9	-0.9
HOWZ				S	Sn	18 27 08.9	-0.8

WEL 22 18:26:34.0±0.6, 39°S±3°×17°8E±°, h21km±5km, M2.1/9, ML2.5/12, MLv2.1/9, Error ellipse: s-maj=0.0km s-min=0.0km az=23.1, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIGZ	**Rimuhau**	**0.07**	**105**	P	Pb	18 26 38.1	+0.2
RIGZ				S	Sb	18 26 41.9	+1.3
RIGZ	**Rimuhau**	**0.07**	**105**	S	Sb	18 26 42.0	+1.4
SNGZ	**Shannon Statio**	**0.28**	**250**	P	Pb	18 26 41.7	+1.2
SNGZ	**Shannon Statio**	**0.28**	**250**	S	Sn	18 26 48.2	-0.3
RAGZ	**Rawiri**	**0.28**	**313**	P	Pb	18 26 41.2	+0.6
RAGZ				S	Sn	18 26 47.0	-1.6
RAGZ	**Rawiri**	**0.28**	**313**	S	Sn	18 26 47.0	-1.6
TKGZ	**Te Karaka**	**0.28**	**29**	P	Pb	18 26 40.6	+0.1
PRGZ	**Paritu Road**	**0.29**	**145**	P	Pb	18 26 41.4	+0.8
PRGZ				S	Sn	18 26 48.5	-0.3
PRGZ	**Paritu Road**	**0.29**	**145**	S	Sn	18 26 48.3	-0.4
MWZ	**Matawai**	**0.37**	**342**	P	Pb	18 26 42.3	+0.5
MWZ				S	Sb	18 26 48.4	+1.3
CNGZ	**Carnagh Statio**	**0.46**	**64**	P	Pn	18 26 44.5	-1.0
MHGZ	**Mahia Peninsul**	**0.50**	**159**	P	Pn	18 26 45.1	-0.9
RAHZ	**Arahi**	**0.51**	**243**	P	Pn	18 26 46.0	-0.2
RAHZ				S	Sn	18 26 55.2	+0.8
WHHZ	**Waihua**	**0.52**	**221**	P	Pn	18 26 46.2	0.0
WHHZ				S	Sn	18 26 56.7	+2.2
TWGZ	**Tauwhareparae**	**0.56**	**25**	P	Pn	18 26 46.3	-0.5
TWGZ				S	Sn	18 26 56.8	+1.2
TWGZ	**Tauwhareparae**	**0.56**	**25**	S	Sn	18 26 56.7	+1.2
URZ	**Urewera**	**0.61**	**314**	P	Pb	18 26 46.7	+0.6
URZ				S	Sn	18 26 56.2	-0.5
URZ	**Urewera**	**0.61**	**314**	S	Sn	18 26 56.5	-0.2
RUGZ	**Raukumara Rang**	**0.72**	**0**	P	Pb	18 26 48.2	+0.2
RUGZ	**Raukumara Rang**	**0.72**	**0**	S	Sn	18 26 59.6	+0.1
NMHZ	**Naumai**	**0.79**	**239**	P	Pb	18 26 48.6	-0.5
NMHZ				S	Sn	18 27 04.6	+3.3
PKGZ	**Pakihiroa**	**0.86**	**22**	P	Pb	18 26 50.2	0.0
PKGZ	**Pakihiroa**	**0.86**	**22**	S	Sn	18 27 03.7	+0.9
HAZ	**Te Kaha**	**0.93**	**5**	P	Pb	18 26 51.3	-0.2

*IDC **22** 18:35:02.9±2.6, 27°.88N×52°.93E, h0km, mb3.7/7, mbtmp3.7/7, MS2.9/2, Error ellipse: s-maj=66.0km s-min=25.7km az=155.0*
*OMAN **22** 18:35:05.8±0.1, 28°.10N×53°.01E, h10km, mb4.5/11, ml3.4/15, Error ellipse: s-maj=1.3km s-min=0.7km az=359.0*
*TEH **22** 18:35:06.1, 28°.13N×52°.91E, h18km±20km, ML3.5*
*DSN **22** 18:35:11.3±0.9, 27°.70N×53°.03E, h15km, ML2.9/12, Error ellipse: s-maj=11.1km s-min=7.4km az=12.0*

ISC 22 18:35:06.1±0.6, 28°.11N±0°.04×52°.99E±0°.04, h14km, n84, σ1§35/105, mb3.7/7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QIR1	**Qir**	**0.37**	**8**	Pg	**Pg**	**18 35 13.8**	**+0.2**
JHRM	**Jahrom**	**0.65**	**53**	Pg	**Pb**	**18 35 19.4**	**+0.1**
LMD1	**Lamerd**	**0.78**	**168**	Pg	**Pg**	**18 35 21.5**	**+0.2**
LAR1	**LAR**	**1.30**	**109**	Pg	**Pg**	**18 35 32.3**	**+1.1**
DSBU	**Dashti - Bushe**	**1.54**	**280**	Pg	**Pn**	**18 35 33.9**	**+0.7**
SHI	**Shiraz**	**1.58**	**345**	Pg	**Pb**	**18 35 35.4**	**+0.1**
KAZ2	**Kazeron-Fars-I**	**1.90**	**322**	Pn	**Pn**	**18 35 38.1**	**0.0**
SHMA	**Al-Shehemyia** SNR=5.7	**2.88**	**219**	P	**Pn**	**18 35 52.5**	**+0.9**
SHMA				S	**Sn**	**18 36 27.9**	**+1.9**
SAKB	**Bahrain**	**3.05**	**226**	P	**Pn**	**18 35 54.1**	**+0.3**
SAKB				S	**Sn**	**18 36 31.7**	**+1.6**
KLNJ	**Kolanjah**	**3.13**	**338**	Pn	**Pn**	**18 35 55.5**	**+0.1**
SHME	**Shamm**	**3.48**	**125**	P	**Pn**	**18 36 01.3**	**+1.5**
SHME	**Shamm**	**3.48**	**125**	P	**Pn**	**18 35 59.4**	**-0.4**
NGRK	**Negar Kerman**	**3.62**	**64**	Pn	**Pn**	**18 36 04.3**	**+2.2**
BANOM	**Banah**	**3.67**	**126**	S	**Sn**	**18 36 46.1**	**+0.5**
TRNA	**Turayna** SNR=21	**3.72**	**206**	P	**Pn**	**18 36 03.7**	**+0.6**
TRNA				S	**Sn**	**18 36 50.1**	**+3.4**
IRAM	**Ramesheh**	**3.72**	**352**	Pn	**Pn**	**18 36 04.5**	**+1.1**
KHGB	**Koh Gabri**	**3.79**	**53**	Pn	**Pn**	**18 36 06.4**	**+2.1**
TVBK	**TV Kerman**	**3.80**	**60**	Pn	**Pn**	**18 36 06.4**	**+1.9**
SMRA	**Abu-Samra** SNR=5.0	**3.87**	**211**	P	**Pn**	**18 36 05.9**	**+0.7**
SMRA				S	**Sn**	**18 36 51.7**	**+1.2**
NAZ	**Nazwa, Dubai**	**3.92**	**142**	P	**Pn**	**18 36 06.7**	**+0.8**
NAZ	**Nazwa, Dubai**	**3.92**	**142**	P	**Pn**	**18 36 07.4**	**+1.5**
NAZ				S	**Sn**	**18 36 54.1**	**+2.3**
MASF	**Masafi** SNR=6.3	**3.94**	**133**	P	**Pn**	**18 36 06.5**	**+0.4**
MASF				S	**Sn**	**18 36 52.1**	**0.0**
MSFE	**Esma-Masafi** SNR=6.3	**3.94**	**133**	*i* P	**Pn**	**18 36 07.1**	**+0.8**
AJN	**Ajban**	**3.96**	**153**	P	**Pn**	**18 36 07.9**	**+1.5**
AJN				S	**Sn**	**18 36 55.3**	**+2.6**
ASUD	**Al Ashush, Dub** SNR=14	**4.06**	**148**	*i* P	**Pn**	**18 36 08.1**	**+0.4**
ASUD	**Al Ashush, Dub** SNR=14	**4.06**	**148**	P	**Pn**	**18 36 09.2**	**+1.4**
ASUD				S	**Sn**	**18 36 56.3**	**+1.2**
IBRJ	**Brojen**	**4.07**	**339**	Pn	**Pn**	**18 36 08.4**	**+0.2**
MDH	**Madha** SNR=6.1	**4.08**	**133**	*i* P	**Pn**	**18 36 10.0**	**+2.0**
MDH	**Madha** SNR=6.0	**4.08**	**133**	P	**Pn**	**18 36 08.9**	**+0.9**
MDH				S	**Sn**	**18 36 56.4**	**+0.8**
MDH				S	Sb	18 36 57.2	-10
FAQ	**Al Faqa, Dubai**	**4.08**	**145**	P	**Pn**	**18 36 09.3**	**+1.1**
FAQ	**Al Faqa, Dubai**	**4.08**	**145**	P	**Pn**	**18 36 09.3**	**+1.1**
FAQ				S	**Sn**	**18 36 56.1**	**+0.3**
GHWR	**Ruwais**	**4.13**	**181**	P	**Pn**	**18 36 10.1**	**+1.4**
SLWR	**Sila**	**4.19**	**196**	P	**Pn**	**18 36 09.5**	**-0.1**
SLWR				S	**Sn**	**18 36 57.9**	**-0.4**
UOSS	**Minazif**	**4.27**	**137**	P	**Pn**	**18 36 10.6**	**-0.1**
UOSS	**Minazif**	**4.27**	**137**	P	**Pn**	**18 36 11.0**	**+0.3**
HATD	**Hatta, Dubai**	**4.32**	**139**	P	**Pn**	**18 36 12.1**	**+0.8**
HATD	**Hatta, Dubai**	**4.32**	**139**	P	**Pn**	**18 36 11.5**	**+0.2**
HATD				S	**Sn**	**18 37 01.3**	**-0.3**
ASHO	**Ashiyiah** SNR=22	**4.38**	**140**	*i* P	**Pn**	**18 36 12.6**	**+0.2**
ASHO				S	**Sn**	**18 37 01.1**	**-2.2**
ASHO	**Ashiyiah** SNR=22	**4.38**	**140**	P	**Pn**	**18 36 13.0**	**+0.7**
ASHO				S	**Sn**	**18 37 02.4**	**-0.8**
ZNGN	**Zangian**	**4.40**	**336**	Pn	**Pn**	**18 36 12.9**	**+0.1**
JHBN	**Jahan bin**	**4.57**	**334**	Pn	**Pn**	**18 36 15.4**	**+0.3**
ALNE	**Al Ain** SNR=8.1	**4.74**	**148**	*i* P	**Pn**	**18 36 17.7**	**+0.5**
ALNE	**Al Ain** SNR=8.1	**4.74**	**148**	P	**Pn**	**18 36 17.7**	**+0.5**
ALNE				S	**Sn**	**18 37 08.2**	**-3.8**
IZEF	**Zefreh**	**4.80**	**353**	Pn	**Pn**	**18 36 18.9**	**+0.6**
JASK	**Jask - Hormozg**	**4.89**	**116**	P	**Pn**	**18 36 18.2**	**-1.1**
KBAM	**BAM**	**4.91**	**77**	Pn	**Pn**	**18 36 22.4**	**+2.8**
SOHO	**SOHO** SNR=14	**5.08**	**140**	*i* P	**Pn**	**18 36 21.8**	**0.0**
SOHO	**SOHO**	**5.08**	**140**	P	**Pn**	**18 36 22.4**	**+0.5**
SOHO				S	**Sn**	**18 37 21.4**	**+1.1**
ANAR	**Anarak**	**5.10**	**7**	Pn	**Pn**	**18 36 23.4**	**+1.1**
MZR	**Muzera**	**5.11**	**175**	P	**Pn**	**18 36 22.9**	**+0.7**
IKLH	**Kolahrood**	**5.33**	**347**	Pn	**Pn**	**18 36 26.3**	**+0.8**
UMZA	**Um Al Zommool**	**5.72**	**159**	P	**Pn**	**18 36 30.6**	**-0.1**
ARQ	**Araqi** SNR=24	**5.72**	**145**	P	**Pn**	**18 36 31.0**	**+0.3**
ARQ				S	**Sn**	**18 37 37.4**	**+1.2**
QAMS	**Qamsar**	**5.77**	**347**	Pn	**Pn**	**18 36 32.2**	**+0.6**
TPRV	**Parvadeh(Tabas**	**5.85**	**32**	Pn	**Pn**	**18 36 34.0**	**+1.5**
KRSH	**Karshahi**	**5.89**	**353**	Pn	**Pn**	**18 36 33.8**	**+0.7**
HOQ	**Hoqain**	**5.96**	**138**	P	**Pn**	**18 36 34.1**	**+0.1**
HOQ				S	**Sn**	**18 37 43.3**	**+1.3**
ISFB	**Sefidab**	**6.25**	**354**	Pn	**Pn**	**18 36 38.6**	**+0.5**
BIDO	**Bidbid**	**6.50**	**133**	P	**Pn**	**18 36 41.5**	**+0.1**
BIDO				S	**Sn**	**18 37 54.4**	**-1.1**
TKDS	**Koohdasht(Taba**	**6.54**	**32**	Pn	**Pn**	**18 36 43.2**	**+1.3**
BSY	**Bisya** SNR=21	**6.56**	**144**	P	**Pn**	**18 36 42.7**	**+0.5**
BSY				S	**Sn**	**18 37 58.8**	**+2.0**
SMDO	**Samad** SNR=11	**6.79**	**137**	P	**Pn**	**18 36 46.0**	**+0.5**
SMDO				S	**Sn**	**18 38 01.3**	**-1.5**
IQOM	**Qom**	**6.91**	**347**	Pn	**Pn**	**18 36 47.1**	**0.0**
IVRN	**Varamin**	**6.95**	**351**	Pn	**Pn**	**18 36 47.7**	**+0.2**
JMDO	**Jabal Madar**	**7.36**	**140**	P	**Pn**	**18 36 53.0**	**-0.1**
IDMV	**Damavand**	**7.49**	**354**	Pn	**Pn**	**18 36 55.9**	**+0.7**
WBK	**Wadi Bani Khal** SNR=29	**7.70**	**134**	P	**Pn**	**18 36 57.2**	**-0.7**
RAYN	**Ar Rayn**	**8.14**	**238**	P	**Pn**	**18 37 02.7**	**-1.3**
JLN	**Jalan Bani Buh**	**8.31**	**134**	P	**Pn**	**18 37 05.7**	**-0.6**
MHO	**MHTO**	**8.41**	**146**	P	**Pn**	**18 37 07.8**	**+0.1**
MHTO				S	**Sn**	**18 38 37.5**	**-5.0**
DQM	**DQM**	**9.14**	**152**	P	**Pn**	**18 37 17.3**	**-0.3**
DOK	**Doka** SNR=6.7	**9.51**	**173**	P	**Pn**	**18 37 20.6**	**-2.1**
WHFO	**Wadi Hawf**	**10.17**	**176**	P	**Pn**	**18 37 29.7**	**-2.0**
WHFO				S	**Sn**	**18 39 28.2**	**+2.6**
DMTO	**DMTO**	**10.50**	**170**	P	**Pn**	**18 37 34.2**	**-2.0**
ABTO	**Aybut**	**10.71**	**178**	P	**Pn**	**18 37 37.1**	**-2.1**
AAK	**Ala-Archa** comp=Z,37nm,19.1s,baz=242,slow=42	**22.66**	**45**	LR	LR	18 50 58.3	
BVAR	**Borovoye Array** 0.2nm,0.5s,baz=217,slow=7.0,SNR=1.7 0.2nm,0.5s	**28.03**	**23**	P	**P**	**18 40 56.8**	**+0.1**
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=224,slow=7.4,SNR=4.5 0.3nm,0.5s	**29.56**	**43**	P	**P**	**18 41 11.2**	**+0.8**
KURBB	**Kurchatov Arra** 0.5nm,0.6s,baz=236,slow=9.0,SNR=5.6 0.5nm,0.6s	**29.66**	**34**	P	**P**	**18 41 12.3**	**+1.2**
ZALV	**Zalesovo Beam** 1.0nm,0.5s,baz=248,slow=8.7,SNR=6.3 1.0nm,0.5s	**34.75**	**33**	P	**P**	**18 41 56.6**	**+0.9**
GERES	**GERESS Array B** comp=Z,14nm,18.4s,baz=250,slow=43	**36.53**	**315**	LR	LR	19 01 17.5	
FINES	**FINESS Array B** 0.8nm,0.6s,baz=143,slow=9.5,SNR=1.6 0.8nm,0.6s	**37.86**	**339**	P	**P**	**18 42 20.8**	**-1.3**
HFS	**Hagfors** 0.9nm,0.5s,baz=113,slow=9.8,SNR=6.4 0.9nm,0.5s	**41.59**	**331**	P	**P**	**18 42 55.2**	**+1.9**
TORD	**Torodi Ar. Bea** 0.9nm,0.6s,baz=53,slow=7.8,SNR=5.8 0.9nm,0.6s	**49.91**	**264**	P	**P**	**18 43 57.7**	**-1.9**

*IDC **22** 18:40:20.2±0.8, 6°.06S×142°.63E, h0km, mb4.0/11, mbtmp4.1/13, ML1.9/1, MS3.3/10, Error ellipse: s-maj=37.7km s-min=17.4km az=77.0*

ISC 22 18:40:24.3±0.6, 6°.11S±0°.08×142°.51E±0°.08, h28km, n32, σ1§24/26, mb4.2/11, MS3.1/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**1.53**	**303**	P	**Pn**	**18 40 49.7**	**-0.2**
PMG	**Port Moresby** 2.4nm,0.3s,baz=287,slow=5.3,SNR=3.9	**5.65**	**126**	Pn	**Pn**	**18 41 46.4**	**0.0**
PMG	4.4nm,0.3s,baz=62,slow=23,SNR=10.0			Sn	**Sn**	**18 42 48.6**	**-1.9**
PMG	comp=Z,110nm,22.0s,baz=211,slow=36 7.1nm,0.4s			LR	LR	18 43 38.2	
COEN	**Coen**	**7.83**	**175**	P	**Pn**	**18 42 18.8**	**+2.4**
FAKI	**Fak Fak**	**10.71**	**287**	P	**Pn**	**18 42 55.0**	**-1.0**
KDU	**Kakadu**	**11.87**	**236**	P	**Pn**	**18 43 10.9**	**-0.9**
MTN	**Manton Dam**	**13.06**	**238**	P	**Pn**	**18 43 26.4**	**-1.8**
CTA	**Charters Tower** comp=Z,117nm,20.9s,baz=180,slow=39	**14.36**	**166**	LR	LR	18 49 34.5	
QIS	**Mount Isa**	**14.64**	**191**	P	**Pn**	**18 43 49.5**	**-0.2**
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=18,slow=13,SNR=37	**15.88**	**209**	Pn	**Pn**	**18 44 02.8**	**-3.3**
WRA	baz=7.1,slow=21			Sn	**Sn**	**18 46 50.8**	**-11**
WRA	0.2nm,0.3s,baz=44,slow=32,SNR=3.3			Lg	Lg	18 48 44.0	
SOEI	**Soe**	**18.43**	**257**	P	**P**	**18 44 37.7**	**-0.2**
BATI	**Baumata** comp=Z,179nm,19.1s,baz=100,slow=42	**19.10**	**256**	LR	LR	18 53 57.4	
AS01	**Alice Springs** 37nm,1.1s	**19.30**	**204**	P	**P**	**18 44 48.5**	**+1.2**
ASAR	**Alice Springs** 14nm,0.6s,baz=32,slow=9.4,SNR=157	**19.32**	**205**	P	**P**	**18 44 48.6**	**+1.1**
ASAR	0.1nm,0.3s,baz=189,slow=40,SNR=2.3			Lg	Lg	18 50 34.1	
ASAR	comp=Z,196nm,21.4s,baz=37,slow=39			LR	LR	18 52 58.9	
GUMO	**Guam** comp=Z,35nm,21.0s,baz=78,slow=36	**19.71**	**7**	LR	LR	18 52 04.1	
OOD	**Oodnadatta**	**22.52**	**196**	P	**P**	**18 45 23.3**	**+1.3**
WRKA	**Warakurna**	**23.23**	**214**	P	**P**	**18 45 29.5**	**0.0**
LCRK	**Leigh Creek**	**24.55**	**189**	P	**P**	**18 45 42.3**	**+0.5**
STKA	**Stephens Creek** 5.5nm,0.9s,baz=334,slow=5.4,SNR=10	**25.65**	**182**	P	**P**	**18 45 51.9**	**+0.1**
STKA	comp=Z,177nm,18.4s,baz=23,slow=40 5.5nm,0.9s			LR	LR	18 57 15.3	
LEM	**Lembang** comp=Z,32nm,19.0s,baz=166,slow=44	**34.68**	**267**	LR	LR	19 05 48.8	
JOW	**Kunigami** comp=Z,32nm,21.7s,baz=300,slow=33	**35.53**	**338**	LR	LR	19 00 07.8	
KSRS	**Korea Array** 1.5nm,0.8s,baz=166,slow=9.7,SNR=6.8 1.5nm,0.8s	**45.43**	**344**	P	**P**	**18 48 40.5**	**-0.2**
CMAR	**Chiang Mai Arr** 0.3nm,0.5s,baz=120,slow=6.3,SNR=3.8 0.3nm,0.5s	**49.41**	**301**	P	**P**	**18 49 12.5**	**+0.3**
KLR	**Kul'dur** comp=Z,15nm,18.0s,baz=184,slow=35	**55.91**	**351**	LR	LR	19 12 34.4	
SONM	**Songino Array** 0.3nm,0.8s,baz=133,slow=5.9,SNR=2.9	**62.41**	**333**	P	**P**	**18 50 45.2**	**+0.3**
	0.3nm,0.8s						
YAK	**Yakutsk** comp=Z,18nm,21.9s,baz=117,slow=33	**68.66**	**354**	LR	LR	19 17 46.8	
MKAR	**Makanchi Array** 1.1nm,0.8s,baz=111,slow=6.9,SNR=10 1.1nm,0.8s	**74.78**	**322**	P	**P**	**18 52 03.0**	**+1.0**
ZALV	**Zalesovo Beam** 0.3nm,0.4s,baz=90,slow=5.8,SNR=1.6 0.3nm,0.4s	**76.77**	**329**	P	**P**	**18 52 13.5**	**+0.4**
KURBB	**Kurchatov Arra** 1.2nm,0.2s,baz=118,slow=4.7,SNR=2.3 1.2nm,0.2s	**78.68**	**324**	P	**P**	**18 52 24.1**	**+0.2**
QSPA	**South Pole Qui** 2.9nm,0.7s,baz=358,slow=1.2,SNR=12 2.9nm,0.7s	**83.86**	**180**	P	**P**	**18 52 51.5**	**+0.2**
NRIK	**Noril'sk** 1.5nm,0.6s,baz=151,slow=7.0,SNR=1.9 1.5nm,0.6s	**84.04**	**343**	P	**P**	**18 52 53.5**	**+1.5**
BVAR	**Borovoye Array** 2.4nm,0.8s,baz=113,slow=6.9,SNR=15 2.4nm,0.8s	**84.25**	**325**	P	**P**	**18 52 54.2**	**+0.9**
ILAR	**Eielson Array** 0.9nm,0.7s,baz=260,slow=5.2,SNR=11 0.9nm,0.7s	**87.36**	**24**	P	**P**	**18 53 07.3**	**-1.2**

*UCR **22** 18:41:46.7±0.4, 11°.06N×86°.63W, h20km±7km, MW4.0*
*CATAC **22** 18:41:47.0±0.4, 11°.07N×86°.58W, h11km±3km, ML3.8*

ISC 22 18:41:46.1±1.7, 11°.05N±0°.04×86°.65W±0°.06, h13km±11km, n42, σ0§85/55, 9C-8D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIN	**Rivas**	**0.90**	**63**	*i* P	**Pg**	**18 42 03.4**	**0.0**
ARIN				*i* S	**Sn**	**18 42 16.1**	**-1.1**
ARIN	comp=Z,6μm,1.0s			IAML		18 42 40.1	
NADN	**Granada**	**0.92**	**41**	⇑*i* P	**Pn**	**18 42 04.5**	**-0.3**
NADN	comp=Z,10μm,1.0s			IAML		18 42 05.2	
LCRUZ	**La Cruz**	**1.00**	**88**	*e*P	**Pn**	**18 42 06.0**	**+0.1**
LCRUZ				*e*S	**Sn**	**18 42 20.1**	**+0.3**
RB213	**Mirador 2 Volc**	**1.04**	**27**	*i* P	**Pn**	**18 42 08.3**	**+1.8**
RB213	comp=Z,4μm,1.0s			IAML		18 42 08.5	
MAS3	**Al N del Volca**	**1.08**	**25**	*i* P	**Pb**	**18 42 06.3**	**-0.3**
MAS3	comp=Z,3μm,1.0s			IAML		18 42 08.8	
HZTE	**Horizontes, Gu**	**1.09**	**108**	*e*P	**Pb**	**18 42 06.8**	**+0.1**
HZTE	**Horizontes, Gu**	**1.09**	**108**	⇓*i* P	**Pb**	**18 42 06.6**	**-0.1**
HZTE	comp=Z,2μm,1.0s			IAML		18 42 25.3	
UNAN	**Cigeo UNAN**	**1.12**	**19**	⇓*i* P	**Pb**	**18 42 07.5**	**+0.1**
UNAN				*i* S	**Sg**	**18 42 22.4**	**0.0**
UNAN	comp=Z,11μm,1.0s			IAML		18 42 35.7	
CONN	**Concepcion**	**1.13**	**63**	⇓*i* P	**Pb**	**18 42 06.7**	**-0.8**
CONN	comp=Z,13μm,1.0s			IAML		18 42 23.9	
R8CCA	**La Lomita**	**1.13**	**20**	*i* P	**Pn**	**18 42 07.8**	**+0.2**
R8CCA	comp=Z,5μm,1.0s			IAML		18 42 08.4	
SAPS	**Ciudad Sandino**	**1.14**	**12**	⇓*i* P	**Pb**	**18 42 07.7**	**0.0**
SAPS	comp=Z,2μm,1.0s			IAML		18 42 27.0	
R0529	**La Mascota**	**1.14**	**21**	*i* P	**Pn**	**18 42 07.9**	**+0.1**
R0529	comp=Z,3μm,1.0s			IAML		18 42 08.5	
R4DEC	**Barrio San Lui**	**1.16**	**20**	⇑*i* P	**Pn**	**18 42 07.9**	**-0.2**
R4DEC	comp=Z,3μm,1.0s			IAML		18 42 08.3	
R45A8	**Distro VI**	**1.17**	**21**	⇑*i* P	**Pn**	**18 42 08.1**	**-0.1**
R45A8	comp=Z,2μm,1.0s			IAML		18 42 31.5	
APQ2	**Apoyeque**	**1.19**	**15**	⇑*i* P	**Pb**	**18 42 08.6**	**+0.1**
APQ2				*i* S	**Sg**	**18 42 24.6**	**+0.1**
APQ2	comp=Z,4μm,1.0s			IAML		18 42 27.1	
WILN	**Americas 2**	**1.20**	**22**	⇓*i* P	**Pn**	**18 42 08.5**	**0.0**
WILN				*i* S	**Sg**	**18 42 24.7**	**0.0**
WILN	comp=Z,2μm,1.0s			IAML		18 42 32.6	
SAJU	**San Juanillo,**	**1.34**	**136**	⇓*i* P	**Pn**	**18 42 09.2**	**-1.3**
SAJU	comp=Z,420nm,1.0s			IAML		18 42 44.4	
LEVN	**Ruinas Leon Vi**	**1.35**	**1**	*i* P	**Pn**	**18 42 10.8**	**+0.2**
LEVN				*i* S	**Sb**	**18 42 29.1**	**+0.7**
LEVN	comp=Z,2μm,1.0s			IAML		18 42 35.3	
ORTG	**Ortega, Santa**	**1.35**	**120**	*i* P	**Pn**	**18 42 11.1**	**+0.4**
ORTG	comp=Z,680nm,1.0s			IAML		18 42 37.0	
MOMN	**Momotombo**	**1.36**	**5**	*i* P	**Pn**	**18 42 10.7**	**-0.1**
MOMN	comp=Z,40nm,1.0s			IAML		18 42 30.8	
MOM2	**El Cardon**	**1.39**	**7**	*i* P	**Pn**	**18 42 11.2**	**0.0**
MOM2				*i* S	**Sb**	**18 42 29.6**	**0.0**
MOM2	comp=Z,700nm,1.0s			IAML		18 42 29.7	
MACN	**El Madrono**	**1.41**	**359**	⇓*i* P	**Pn**	**18 42 12.1**	**+0.6**
MACN	comp=Z,820nm,1.0s			IAML		18 42 36.1	
CNGN	**Cerro Negro**	**1.45**	**358**	*e*P	**Pn**	**18 42 11.5**	**-0.5**
CNGN	**Cerro Negro**	**1.45**	**358**	⇓*i* P	**Pn**	**18 42 11.4**	**-0.6**
CNGN	comp=Z,910nm,1.0s			IAML		18 42 37.6	
PLVR	**Palo Verde**	**1.45**	**118**	*i* Pg	**Pn**	**18 42 11.8**	**-0.4**
PLVR				*e*P	**Pn**

ISC 22 19:06:50.5±1.0, 43°40N±0.05×105°32W±0.04, h0km, n41, σ1s02/40, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	**Casper**	**1.16**	**230**	Pg	**Pg**	**19 07 12.3**	**-0.4**
RSSD	**Black Hills**	**1.18**	**52**	Pg	**Pg**	**19 07 12.7**	**-0.4**
PHWY	**Pilot Hill**	**2.10**	**183**	Pn	**Pn**	**19 07 26.9**	**-0.4**
PHWY				IAML		19 08 05.1	
	86nm,0.4s						
N23A	**Red Feather La**	**2.55**	**191**	Pn	**Pn**	**19 07 34.2**	**+0.8**
N23A				IAML		19 08 18.0	
	comp=N,98nm,0.5s						
N23A				IAML		19 08 27.1	
	comp=E,71nm,0.9s						
BRIGG	**Briggsdale**	**2.92**	**165**	Pn	**Pn**	**19 07 39.0**	**+0.7**
PDAR	**Pinedale Array**	**3.17**	**260**	Pn	**Pb**	**19 07 47.1**	**-0.6**
	comp=E,4.8nm,0.3s,baz=75,slow=15,SNR=17						
PDAR				Lg	Lg	19 08 29.8	
	comp=E,9.8nm,0.3s,baz=79,slow=34,SNR=4.5						
	comp=E,3.7nm,0.3s						
RLMT	**Red Lodge**	**3.31**	**303**	Pn	**Pn**	**19 07 44.0**	**+0.2**
RLMT				IAML		19 08 53.0	
	comp=E,38nm,1.1s						
RLMT				IAML		19 08 56.7	
	comp=E,43nm,2.6s						
LAO	**LASA Array**	**3.35**	**349**	Pn	**Pn**	**19 07 43.5**	**-0.6**
OGNE	**Ogallala**	**3.47**	**134**	Pn	**Pn**	**19 07 45.5**	**-0.3**
ISCO	**Idaho Springs**	**3.61**	**184**	Pn	**Pn**	**19 07 47.9**	**0.0**
YMP	**Mirror Lake Pl**	**3.73**	**293**	Pn	**Pn**	**19 07 49.8**	**+0.2**
LKWY	**Lake**	**3.84**	**289**		**Pn**	**19 07 49.7**	**-1.5**
LKWY				IAML		19 08 16.9	
	comp=E,40nm,1.7s						
LKWY				IAML		19 08 58.3	
	comp=E,28nm,1.4s						
LOHW	**Long Hollow**	**3.85**	**275**		**Pn**	**19 07 51.3**	**+0.1**
LOHW				IAML		19 08 16.2	
	comp=E,24nm,4.7s						
H17A	**Grant Village**	**3.92**	**286**		**Pn**	**19 07 51.0**	**-1.2**
H17A				IAML		19 09 04.5	
	comp=N,23nm,0.9s						
O20A	**White River Ci**	**3.93**	**215**		**Pn**	**19 07 50.8**	**-1.5**
FLWY	**Flagg Ranch**	**3.96**	**282**		**Pn**	**19 07 52.5**	**-0.2**
REDW	**Red Top Meadow**	**4.03**	**271**		**Pn**	**19 07 53.1**	**-0.5**
TPAW	**Teton Pass**	**4.10**	**273**		**Pb**	**19 08 04.9**	**+1.2**
TPAW				IAML		19 10 05.6	
	comp=N,26nm,4.8s						
IMW	**Indian Meadow**	**4.11**	**279**	Pn	**Pn**	**19 07 54.5**	**-0.2**
IMW				IAML		19 09 12.9	
	comp=N,17nm,1.0s						
IMW				IAML		19 09 40.8	
	comp=N,22nm,0.6s						
YFT	**Old Faithful**	**4.12**	**287**		**Pn**	**19 07 55.5**	**+0.6**
YFT				IAML		19 08 28.4	
	comp=E,20nm,1.9s						
YFT				IAML		19 09 34.9	
	comp=N,21nm,1.5s						
FXWY	**Fox Creek**	**4.16**	**275**		**Pn**	**19 07 55.6**	**+0.2**
RDMU	**Red Mountain**	**4.25**	**230**		**Pn**	**19 07 56.7**	**+0.1**
RDMU				IAML		19 09 27.6	
	comp=N,24nm,0.9s						
RDMU				IAML		19 09 39.4	
	comp=E,26nm,3.4s						
K30B	**Basset**	**4.25**	**98**	Pn	**Pn**	**19 07 57.6**	**+1.1**
AHID	**Auburn Hatcher**	**4.28**	**263**		**Pn**	**19 07 57.0**	**-0.1**
AHID				IAML		19 09 16.4	
	comp=E,28nm,1.3s						
AHID				IAML		19 09 24.8	
	comp=E,23nm,2.4s						
YHL	**Hebgen Lake**	**4.46**	**291**	Pn	**Pn**	**19 07 59.9**	**+0.2**
BSUT	**Blindstream Ca**	**4.96**	**237**		**Pn**	**19 08 06.6**	**-0.1**
BSUT				IAML		19 09 40.1	
	comp=N,14nm,1.3s						
BSUT				IAML		19 09 55.3	
	comp=E,16nm,4.5s						
BOZ	**Bozeman (W)**	**5.02**	**298**	Pn	**Pn**	**19 08 07.7**	**+0.6**
BOZ				IAML		19 08 48.0	
	comp=E,17nm,4.6s						
BOZ				IAML		19 09 30.9	
	comp=E,17nm,4.0s						
PV22	**Blue Mesa, Par**	**5.53**	**209**	Pn	**Pn**	**19 08 14.0**	**-0.2**
PV07	**Paradox Valley**	**5.56**	**208**	Pn	**Pn**	**19 08 15.4**	**+0.7**
PV15	**Paradox Valley**	**5.59**	**206**	Pn	**Pn**	**19 08 13.0**	**-2.2**
PV20	**West Nyswonger**	**5.76**	**210**	Pn	**Pn**	**19 08 16.6**	**-0.8**
PV11	**David Mesa, Pa**	**5.77**	**209**	Pn	**Pn**	**19 08 18.2**	**+0.7**
PV16	**Nyswonger Mesa**	**5.77**	**209**	Pn	**Pn**	**19 08 17.1**	**-0.4**
PV03	**Paradox Valley**	**5.80**	**209**	Pn	**Pn**	**19 08 18.1**	**+0.1**
PV02	**Paradox Valley**	**5.80**	**208**	Pn	**Pn**	**19 08 16.4**	**-1.6**
SRU	**San Rafael Swe**	**5.81**	**224**	Pn	**Pn**	**19 08 17.6**	**-0.5**
PV01	**Paradox Valley**	**5.81**	**206**	Pn	**Pn**	**19 08 17.7**	**-0.4**
PV18	**Skein Mesa, Pa**	**5.83**	**209**	Pn	**Pn**	**19 08 17.3**	**-1.0**
WUAZ	**Wupatki**	**9.16**	**213**	Pn	**Pn**	**19 09 08.0**	**+4.0**
I10CA	**LAC DU BONNET**	**9.31**	**40**	I	I	19 58 50.0	
	comp=E,0.1nm,1.1s,baz=222,slow=323,SNR=3.1						
ULM	**Lac du Bonnet**	**9.42**	**40**	Pn	**Pn**	**19 09 07.0**	**-0.3**
	comp=E,0.6nm,0.3s,baz=236,slow=12,SNR=4.9						
ULM				Lg	Lg	19 11 46.2	
	comp=E,0.4nm,0.3s,baz=296,slow=17,SNR=3.2						
	comp=E,1.2nm,0.4s						

*DSN **22** 19:11:48.9±1.8, 27°.85N×56°.50E, h15km, ML3.0/10, Error ellipse: s-maj=45.3km s-min=17.5km az=94.0*
*TEH **22** 19:11:50.7, 27°.56N×56°.75E, h18km±32km, ML3.4*
*OMAN **22** 19:11:58.4±0.1, 27°.04N×56°.76E, h15km, ml2.9/23, Error ellipse: s-maj=1.0km s-min=0.7km az=7.0*

ISC 22 19:11:50.9±1.5, 27°.55N±0°.03×56°.77E±0°.04, h19km±4km, n60, σ1s96/71, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.23**	**244**	Pg	**Pg**	**19 11 56.2**	**-0.1**
GENO	**Geno**	**0.55**	**254**	Pg	**Pb**	**19 12 01.8**	**-0.1**
KHNJ	**Kahnooj**	**0.92**	**64**	Pg	**Pb**	**19 12 07.8**	**-0.4**
SHME	**Shamm**	**1.59**	**201**	P	**Pb**	**19 12 19.6**	**-0.1**
SHME	**Shamm**	**1.59**	**201**	P	**Pg**	**19 12 21.2**	**-0.4**
	SNR=8.8						
SHME				S	**Sn**	**19 12 34.0**	**-4.1**
BANOM	**Banah**	**1.67**	**195**	P	**Pb**	**19 12 20.7**	**-0.4**
BANOM	**Banah**	**1.67**	**195**	P	**Pb**	**19 12 21.0**	**-0.1**
BANOM				S	**Sn**	**19 12 35.1**	**-5.0**
JASK	**Jask - Hormozg**	**1.94**	**149**	Pn	**Pb**	**19 12 24.7**	**-1.0**
JASK	**Jask - Hormozg**	**1.94**	**149**	P	**Pb**	**19 12 24.8**	**-0.9**
	SNR=11						
NGRK	**Negar Kerman**	**2.09**	**359**	Pn	**Pb**	**19 12 26.7**	**-1.6**
KBAM	**BAM**	**2.17**	**43**	Pn	**Pb**	**19 12 28.3**	**-1.3**
MASF	**Masafi**	**2.24**	**194**	P	**Pn**	**19 12 28.4**	**+1.4**
MASF				S	**Sn**	**19 12 51.2**	**-2.8**
UMQ	**Umm Al-Quwin**	**2.25**	**206**	P	**Pn**	**19 12 28.9**	**+1.9**
MSFE	**Esma-Masafi**	**2.25**	**194**	P	**Pn**	**19 12 29.1**	**+2.0**
MSFE				S	**Sb**	**19 13 00.5**	**+2.1**
MDH	**Madha**	**2.28**	**191**	P	**Pn**	**19 12 28.6**	**+1.1**
MDH	**Madha**	**2.28**	**191**	P	**Pn**	**19 12 28.8**	**+1.3**
CHMN	**Cheshme madani**	**2.40**	**16**	Pn	**Pn**	**19 12 31.2**	**+1.7**
TVBK	**TV Kerman**	**2.43**	**360**	Pn	**Pb**	**19 12 32.0**	**-2.2**
UOSS	**Minazif**	**2.64**	**191**	P	**Pb**	**19 12 35.5**	**-2.1**
UOSS	**Minazif**	**2.64**	**191**	P	**Pn**	**19 12 33.7**	**+1.2**
UOSS				S	**Sn**	**19 13 02.4**	**-1.6**
NAZ	**Nazwa, Dubai**	**2.74**	**202**	P	**Pb**	**19 12 35.8**	**+2.0**
HATD	**Hatta, Dubai**	**2.77**	**192**	P	**Pb**	**19 12 37.6**	**-2.2**
HATD	**Hatta, Dubai**	**2.77**	**192**	P	**Pn**	**19 12 36.8**	**+2.5**
KHGB	**Koh Gabri**	**2.83**	**355**	Pn	**Pn**	**19 12 37.4**	**+2.1**
ASHO	**Ashiyiah**	**2.92**	**193**	P	**Pn**	**19 12 38.3**	**+1.9**
ASHO	**Ashiyiah**	**2.92**	**193**	P	**Pn**	**19 12 38.9**	**+2.5**
KRM1	**Kerman Provinc**	**2.98**	**8**	Pn	**Pn**	**19 12 39.5**	**+2.2**
FAQ	**Al Faqa, Dubai**	**2.98**	**201**	P	**Pn**	**19 12 39.1**	**+1.9**
FAQ	**Al Faqa, Dubai**	**2.98**	**201**	P	**Pn**	**19 12 39.4**	**+2.2**
	SNR=8.5						
ASUD	**Al Ashush, Dub**	**3.19**	**204**	P	**Pn**	**19 12 42.4**	**+2.5**
ASUD	**Al Ashush, Dub**	**3.19**	**204**	P	**Pn**	**19 12 42.5**	**+2.5**
	SNR=19						
SOHO	**SOHO**	**3.41**	**184**	P	**Pn**	**19 12 46.6**	**+3.6**
SOHO	**SOHO**	**3.41**	**184**	P	**Pn**	**19 12 43.7**	**+0.7**
ALNE	**Al Ain**	**3.60**	**195**	P	**Pn**	**19 12 46.3**	**+0.7**
HOQ	**Hoqain**	**3.98**	**173**	P	**Pn**	**19 12 52.3**	**+1.3**
HOQ				S	**Sn**	**19 13 37.8**	**+0.7**
BIDO	**Bidbid**	**4.19**	**163**	P	**Pn**	**19 12 54.2**	**+0.4**
BIDO				S	**Sn**	**19 13 44.7**	**+2.4**
ARQ	**Araqi**	**4.20**	**183**	P	**Pn**	**19 12 55.0**	**+1.1**
IMEH	**Mehriz**	**4.26**	**334**	Pn	**Pn**	**19 12 56.1**	**+1.1**
MZWR	**Madinat Zayed**	**4.58**	**215**	P	**Pn**	**19 13 01.1**	**+1.9**
MZWR				S	**Sn**	**19 13 55.0**	**+3.1**
SMDO	**Samad**	**4.62**	**165**	P	**Pn**	**19 13 00.9**	**+1.2**
SMDO				S	**Sn**	**19 13 54.2**	**+1.3**
BSY	**Bisya**	**4.80**	**175**	P	**Pn**	**19 13 03.1**	**+1.0**
GHWR	**Ruwais**	**5.00**	**225**	P	Pn	19 13 09.8	+4.8
UMZA	**Um Al Zommool**	**5.03**	**197**	P	**Pn**	**19 13 06.6**	**+1.3**
IKOO	**Kooshah**	**5.23**	**21**	Pn	**Pn**	**19 13 10.7**	**+2.3**
JMDO	**Jabal Madar**	**5.30**	**166**	P	**Pn**	**19 13 09.9**	**+0.9**
JMDO				S	**Sn**	**19 14 11.6**	**+2.1**
WBK	**Wadi Bani Khal**	**5.31**	**157**	P	**Pn**	**19 13 10.4**	**+1.3**
	SNR=5.7						
WBK				S	**Sn**	**19 14 09.8**	**0.0**
MZR	**Muzera**	**5.42**	**214**	P	**Pn**	**19 13 13.0**	**+2.4**
MZR				S	**Sn**	**19 14 13.2**	**+0.7**
KLNJ	**Kolanjah**	**5.68**	**309**	Pn	**Pn**	**19 13 15.4**	**+0.8**
TRNA	**Turayna**	**5.72**	**242**	P	**Pn**	**19 13 16.5**	**+1.8**
TRNA				S	**Sn**	**19 14 20.4**	**+0.3**
JLN	**Jalan Bani Buh**	**5.89**	**155**	P	**Pn**	**19 13 18.5**	**+1.4**
JLN				S	**Sn**	**19 14 22.4**	**-1.6**
MHTO	**MHTO**	**6.62**	**170**	P	**Pn**	**19 13 28.6**	**+1.3**
MHTO				S	**Sn**	**19 14 41.4**	**-0.9**
DQM	**DQM**	**7.62**	**175**	P	**Pn**	**19 13 40.9**	**0.0**
SHAO	**Shalim**	**9.54**	**187**	P	**Pn**	**19 14 06.5**	**-0.8**
WHFO	**Wadi Hawf**	**9.97**	**197**	P	**Pn**	**19 14 13.9**	**+0.6**
WHFO				S	**Sn**	**19 16 00.8**	**-4.0**
ABTO	**Aybut**	**10.64**	**198**	P	**Pn**	**19 14 20.6**	**-1.8**
ABTO				S	**Sn**	**19 16 16.7**	**-4.4**
RAYN	**Ar Rayn**	**10.93**	**251**	P	Pn	19 14 31.4	+5.0
PALK	**Pallekele**	**30.35**	**127**	P	P	19 18 08.3	+6.6
LODK	**Lodwar**	**31.52**	**224**	P	P	19 18 18.5	+6.5
MSEY	**Mahe Island**	**32.06**	**182**	P	P	19 18 21.9	+5.3
RER	**Riviere de l'E**	**48.43**	**181**	P	P	19 20 39.2	+7.1

*IDC **22** 19:52:22.9±6.1, 36°.54N×70°.87E, h124km±48km, mbtmp3.6/7, Error ellipse: s-maj=70.0km s-min=20.2km az=155.0*
*NNC **22** 19:52:24.1±7.0, 36°.92N×70°.83E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=55.6km s-min=44.4km az=178.0*

ISC 22 19:52:26.7±2.0, 36.7N±0.1×70.79E±0.09, h188km, n10, σ2s01/15, 1C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.38**	**358**	⇑P	**Pn**	**19 53 58.6**	**-0.1**
	2.1nm,0.3s,baz=179,slow=12,SNR=208						
KK31				⇓S	**Sn**	**19 55 10.2**	**-1.3**
	4.5nm,0.6s,baz=265,slow=59,SNR=3.6						
AAK	**Ala-Archa**	**6.56**	**25**	P	**Pn**	**19 53 59.9**	**-1.3**
	2.4nm,0.3s,baz=164,slow=6.8,SNR=12						
AAK				S	**Sn**	**19 55 13.8**	**-2.2**
	4.0nm,0.4s,baz=354,slow=21,SNR=14						
TKM2	**Tokmak 2**	**7.21**	**29**	⇓P	**Pn**	**19 54 08.3**	**-1.5**
	3.3nm,0.5s						
TKM2				⇓S	**Sn**	**19 55 29.0**	**-2.4**
	2.9nm,0.6s						
GEYT	**Alibeck**	**10.16**	**281**	P	**Pn**	**19 54 47.0**	**-1.2**
	1.2nm,0.5s,baz=117,slow=10,SNR=2.4						
GEYT				S	**Sn**	**19 56 38.8**	**-2.7**
	3.4nm,0.9s,baz=96,slow=27,SNR=3.6						
MKAR	**Makanchi Array**	**13.22**	**37**	P	**Pn**	**19 55 26.1**	**-1.1**
	0.2nm,0.4s,baz=219,slow=13,SNR=2.9						
AB31	**Akbulak array**	**14.81**	**331**	⇓P	**P**	**19 55 49.5**	**+1.4**
	0.4nm,0.4s,baz=145,slow=12,SNR=27						
AB31				⇓S	**S**	**19 58 33.3**	**+0.6**
	1.5nm,0.8s,baz=153,slow=22,SNR=4.6						
KURBB	**Kurchatov Arra**	**14.97**	**19**	P	**P**	**19 55 50.8**	**+0.9**
	0.4nm,0.6s,baz=216,slow=15,SNR=3.0						
BVAR	**Borovoye Array**	**16.31**	**359**	P	**Pn**	**19 56 07.8**	**+2.7**
	0.5nm,0.4s,baz=158,slow=9.3,SNR=3.9						
AKTO	**Aktyubinsk**	**16.51**	**330**	P	**Pn**	**19 56 10.4**	**+2.9**
	2.5nm,0.7s,baz=129,slow=9.9,SNR=5.5						
ZALV	**Zalesovo Beam**	**19.79**	**25**	P	**P**	**19 56 43.9**	**+1.5**
	1.9nm,0.3s,baz=224,slow=13,SNR=6.8						

HEL 22 19:53:25.3±0.1, 67°.59N×33°.92E, h0km, ML1.4, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.41**	**42**	PG	Pg	19 53 33.0	-0.3
	baz=225						
LVZ				SG	Sg	19 53 38.3	-0.3
VRF	**Varrio**	**1.65**	**277**	PG	Pn	19 53 55.1	-0.4
VRF				MSG		19 54 14.8	
	comp=Z,2.9nm,0.2s						
VRF				SG	Sn	19 54 15.8	-1.6
OLKF	**Oulanka, Finla**	**2.19**	**236**	PG	Pb	19 54 04.9	-0.8
OLKF				MSG		19 54 30.1	
	comp=Z,1.5nm,0.2s						
OLKF				SG	Sb	19 54 33.4	+0.1
KU6	**Riekki**	**2.24**	**227**	PG	Pb	19 54 05.4	-1.2
	baz=46						
KU6				MSG		19 54 31.6	
	comp=Z,1.0nm,0.2s						
KU6				SG	Sb	19 54 34.2	-0.6
RAJF	**Raja-Jooseppi**	**2.29**	**295**	SN	Sn	19 54 32.0	-1.1
MSF	**Maaselka**	**2.57**	**231**	SG	Sb	19 54 43.6	-0.6
SGF	**Sodankyl**	**2.85**	**270**	PG	Pb	19 54 16.7	-0.2
SGF				SB	Sb	19 54 50.8	-1.4
KMNF	**Kaamanen**	**3.00**	**305**	SB	Sb	19 54 54.6	-2.1
RANF	**Ranua**	**3.24**	**244**	SG	Sb	19 55 03.0	-0.4
RNF	**Rovaniemi**	**3.25**	**256**	SN	Sn	19 54 57.6	+1.0
KEV	**Kevo**	**3.33**	**314**	PN	Pn	19 54 18.4	-0.2
KEV				SN	Sn	19 54 57.1	-1.6
HEF	**Hetta**	**3.95**	**287**	SG	Sb	19 55 26.3	+2.5
OUL	**Oulu**	**4.10**	**236**	SB	Sb	19 55 24.4	-3.8
KTK1	**Kautokeino**	**4.21**	**295**	SG	Sb	19 55 33.6	+2.0

HEL 22 19:54:37.7±0.1, 63°.66N×26°.06E, h0km, ML1.2, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.83**	**108**	PG	Pg	19 54 52.4	-1.1
NIF				SG	Sg	19 55 03.4	-0.8
OUF	**Merijarvi**	**0.92**	**321**	PG	Pg	19 54 54.3	-1.1
OUF				MSG		19 55 06.2	
	comp=Z,1.4nm,0.2s						
OUF				SB	Sg	19 55 06.9	-0.4
SUF	**Sumiainen**	**0.94**	**178**	PG	Pg	19 54 55.1	-0.6
	baz=358						
SUF				MSG		19 55 06.8	
	comp=Z,1.2nm,0.2s						
SUF				SG	Sg	19 55 07.6	-0.3
OBF0	**Syolatti, Pyha**	**1.17**	**317**	PB	Pg	19 54 59.1	-0.9
OBF0				MSG		19 55 13.0	
	comp=Z,1.1nm,0.2s						
OBF0				SN	Sg	19 55 15.3	+0.3
OBF4	**Vikkela, Lumij**	**1.24**	**341**	PG	Pg	19 55 00.6	-0.8
	baz=162						
OBF4				MSG		19 55 15.0	
	comp=Z,1.1nm,0.2s						
OBF4				SB	Sg	19 55 17.6	+0.3
OUL	**Oulu**	**1.44**	**357**	PG	Pn	19 55 03.6	-1.4
	baz=178						
OUL				SG	Sg	19 55 22.1	-1.7
KAF	**Kangasniemi**	**1.55**	**176**	PG	Pn	19 55 06.1	-0.5
KAF				MSG		19 55 24.4	
	comp=Z,3.6nm,0.2s						
KAF				SN	Sn	19 55 26.1	-1.3
KEF	**Keuruu**	**1.59**	**201**	PG	Pn	19 55 06.2	-0.9
KEF				MSG		19 55 25.4	
	comp=Z,1.8nm,0.2s						
KEF				SG	Sn	19 55 26.9	-1.4
VAF	**Ylistaro**	**1.65**	**250**	PG	Pn	19 55 07.7	-0.2
VAF				MSG		19 55 26.9	
	comp=Z,1.6nm,0.2s						
VAF				SN	Sn	19 55 28.8	-0.9
RMF	**Romuvaara**	**1.80**	**70**	SN	Pg	19 55 10.2	-2.0
RMF	**Romuvaara**	**1.80**	**70**	PG	Pn	19 55 10.2	+0.2
RMF				MSG		19 55 31.4	
	comp=Z,3.4nm,0.2s						
RMF				SG	Sn	19 55 33.7	+0.2
FIA0	**FINESS Array S**	**2.22**	**180**	PG	Pn	19 55 16.8	+1.1
	baz=357						
FIA0				MSG		19 55 43.5	
	comp=Z,2.0nm,0.2s						
FIA0				SG	Sb	19 55 45.4	-1.2
BURU	**Burvik**	**2.26**	**296**	PG	Pb	19 55 18.0	-1.3
BURU				SG	Sb	19 55 47.7	0.0
RANF	**Ranua**	**2.39**	**7**	SG	Sb	19 55 50.9	-0.6
UMAU	**Umeaa**	**2.40**	**278**	PG	Pn	19 55 19.9	+1.7
	baz=98						
UMAU				SG	Sb	19 55 50.6	-1.3
JOF	**Joensuu**	**2.48**	**105**	PB	Pn	19 55 20.8	+1.5
JOF				SB	Sb	19 55 52.4	-1.8
KALU	**Kalix**	**2.50**	**334**	SG	Sb	19 55 54.3	-0.3
KPF	**Kankaanpaa**	**2.59**	**227**	SG	Sb	19 55 56.1	-1.2
MSF	**Maaselka**	**2.60**	**28**	SG	Sb	19 55 57.3	-0.3
RUF	**Ruokolahti**	**2.61**	**148**	MSG		19 55 54.7	
	comp=Z,0.8nm,0.2s						
RUF				SG	Sb	19 55 57.8	0.0
KU6	**Riekki**	**2.89**	**33**	MSG		19 56 02.7	
	comp=Z,0.9nm,0.2s						
KU6				SG	Sb	19 56 04.6	-1.2
RNF	**Rovaniemi**	**2.97**	**360**	SG	Sb	19 56 08.3	+0.2
OLKF	**Oulanka, Finla**	**3.03**	**26**	MSG		19 56 06.6	
	comp=Z,0.5nm,0.2s						
OLKF				SG	Sb	19 56 10.5	+0.6
PVF	**Pernaja**	**3.12**	**182**	MSG		19 56 09.4	
	comp=Z,0.7nm,0.2s						
PVF				SG	Sb	19 56 14.6	+2.0
VJF	**Virojoki**	**3.21**	**167**	SG	Sb	19 56 14.4	-0.6
SGF	**Sodankyl**	**3.81**	**3**	PN	Pn	19 55 36.9	-0.6

*IDC **22** 20:01:56.2±1.1, 27°.61N×56°.59E, h0km, mb3.7/14, mbtmp3.8/15, ML4.4/1, MS3.4/1, Error ellipse: s-maj=22.4km s-min=20.6km az=159.0*
*DSN **22** 20:01:58.3±1.5, 27°.70N×56°.62E, h15km, ML3.4/13, Error ellipse: s-maj=18.9km s-min=13.1km az=77.0*
*TEH **22** 20:01:58.5, 27°.56N×56°.79E, h10km±22km, ML3.7*
*OMAN **22** 20:02:03.4±0.1, 27°.27N×56°.62E, h14km, mb4.1/6, ml3.5/24, Error ellipse: s-maj=1.2km s-min=0.6km az=27.0*

ISC 22 20:01:58.4±1.9, 27.58N±0.03×56.72E±0.04, h17km±13km, n77, σ1s77/104, mb3.6/13, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.21**	**230**	Pg	**Pb**	**20 02 03.8**	**+0.1**
GENO	**Geno**	**0.52**	**249**	Pg	**Pn**	**20 02 10.1**	**-1.1**
KHNJ	**Kahnooj**	**0.95**	**67**	Pg	**Pb**	**20 02 15.9**	**-0.6**
SHME	**Shamm**	**1.61**	**199**	*eP*	**Pb**	**20 02 28.1**	**+0.4**
	SNR=34						
SHME				S	**Sg**	**20 02 49.4**	**-1.0**
SHME	**Shamm**	**1.61**	**199**	P	**Pb**	**20 02 28.2**	**+0.4**
	SNR=41						
BANOM	**Banah**	**1.69**	**193**	P	**Pb**	**20 02 29.3**	**+0.1**
BANOM	**Banah**	**1.69**	**193**	P	**Pn**	**20 02 29.3**	**+0.1**
JASK	**Jask - Hormozg**	**1.99**	**149**	Pn	**Pn**	**20 02 33.5**	**+2.1**
JASK	**Jask - Hormozg**	**1.99**	**149**	P	**Pn**	**20 02 33.6**	**+2.2**
	SNR=20						
JASK				S	**Sb**	**20 02 59.7**	**+0.8**
NGRK	**Negar Kerman**	**2.05**	**0**	Pn	**Pb**	**20 02 35.4**	**-0.1**
KBAM	**BAM**	**2.17**	**44**	Pn	**Pb**	**20 02 36.7**	**-0.7**
UMQ	**Umm Al-Quwin**	**2.26**	**205**	P	**Pb**	**20 02 38.5**	**-0.3**
MASF	**Masafi**	**2.26**	**193**	P	**Pb**	**20 02 37.7**	**-1.1**
	SNR=58						
MSFE	**Esma-Masafi**	**2.27**	**193**	*eP*	**Pn**	**20 02 37.5**	**+2.3**
	SNR=64						
MDH	**Madha**	**2.31**	**189**	*eP*	**Pn**	**20 02 36.4**	**+0.7**
	SNR=24						
MDH	**Madha**	**2.31**	**189**	P	**Pn**	**20 02 37.0**	**+1.3**
MDH				S	**Sn**	**20 03 05.1**	**+1.5**
CHMN	**Cheshme madani**	**2.38**	**17**	Pn	**Pb**	**20 02 40.5**	**-0.6**
TVBK	**TV Kerman**	**2.39**	**1**	Pn	**Pb**	**20 02 40.8**	**-0.5**
UOSS	**Minazif**	**2.67**	**190**	P	**Pn**	**20 02 41.8**	**+1.2**
UOSS	**Minazif**	**2.67**	**190**	P	**Pn**	**20 02 42.8**	**+2.1**
UOSS				S	**Sn**	**20 03 13.6**	**+0.9**
NAZ	**Nazwa, Dubai**	**2.75**	**200**	P	**Pn**	**20 02 43.7**	**+1.9**
NAZ	**Nazwa, Dubai**	**2.75**	**200**	P	**Pb**	**20 02 44.9**	**-2.3**
NAZ				S	**Sn**	**20 03 14.8**	**0.0**
KHGB	**Koh Gabri**	**2.79**	**356**	Pn	**Pb**	**20 02 45.7**	**-2.3**
HATD	**Hatta, Dubai**	**2.80**	**191**	P	**Pn**	**20 02 44.0**	**+1.6**
HATD	**Hatta, Dubai**	**2.80**	**191**	P	**Pn**	**20 02 44.9**	**+2.5**
ASHO	**Ashiyiah**	**2.95**	**192**	*i* P	**Pn**	**20 02 47.0**	**+2.5**
	SNR=23						
ASHO	**Ashiyiah**	**2.95**	**192**	P	**Pn**	**20 02 47.0**	**+2.5**
	SNR=23						
FAQ	**Al Faqa, Dubai**	**3.00**	**200**	*i* P	**Pn**	**20 02 46.7**	**+1.5**
	SNR=14						
FAQ	**Al Faqa, Dubai**	**3.00**	**200**	P	**Pn**	**20 02 48.2**	**+2.9**
	SNR=14						
FAQ				S	**Sn**	**20 03 22.8**	**+1.9**
ASUD	**Al Ashush, Dub**	**3.20**	**203**	*i* P	**Pn**	**20 02 51.0**	**+3.0**
	SNR=65						
ASUD	**Al Ashush, Dub**	**3.20**	**203**	P	**Pn**	**20 02 51.2**	**+3.2**
	SNR=65						
AJN	**Ajban**	**3.39**	**208**	*i* P	**Pn**	**20 02 53.1**	**+2.6**
	SNR=14						
AJN	**Ajban**	**3.39**	**208**	P	**Pn**	**20

	0.1nm,0.4s							
KURBB	**Kurchatov Arra**	**28.36**	**30**	P	**P**	**20 07 52.1**	**+0.6**	
	0.4nm,0.5s,baz=228,slow=8.2,SNR=5.4							
	0.4nm,0.5s							
AKASG	**Malin Array Be**	**31.11**	**325**	P	**P**	**20 08 15.3**	**-0.6**	
	0.6nm,0.4s,baz=135,slow=8.2,SNR=7.2							
	0.6nm,0.4s							
ZALV	**Zalesovo Beam**	**33.45**	**30**	P	**P**	**20 08 37.4**	**+1.1**	
	1.3nm,0.4s,baz=251,slow=9.4,SNR=8.0							
	1.3nm,0.4s							
FINES	**FINESS Array B**	**39.57**	**337**	P	**P**	**20 09 28.4**	**0.0**	
	1.8nm,0.7s,baz=139,slow=11,SNR=10							
	1.8nm,0.7s							
SONM	**Songino Array**	**43.34**	**48**	P	**P**	**20 10 00.1**	**+0.4**	
	0.3nm,0.6s,baz=256,slow=10,SNR=3.8							
	0.3nm,0.6s							
HFS	**Hagfors**	**43.65**	**330**	P	**P**	**20 10 01.8**	**-0.1**	
	1.1nm,0.5s,baz=108,slow=9.5,SNR=9.4							
HFS				LR	LR	20 32 03.7		
	comp=Z,43nm,18.1s,baz=264,slow=42							
	1.1nm,0.5s							
NB2	**NORSAR Subarra**	**45.16**	**331**	P	**P**	**20 10 13.1**	**-0.9**	
	comp=Z,0.4nm,0.5s,baz=112,slow=7.9							
NOA	**NORSAR Array B**	**45.16**	**331**	P	**P**	**20 10 13.2**	**-0.8**	
	comp=Z,0.9nm,0.8s,baz=115,slow=8.0,SNR=6.3							
	comp=Z,0.9nm,0.8s							
TORD	**Torodi Ar. Bea**	**53.15**	**266**	P	**P**	**20 11 15.2**	**-0.5**	
	comp=Z,0.4nm,0.5s,baz=63,slow=8.0,SNR=13							
	comp=Z,0.4nm,0.5s							
YKA	**Yellowknife Ar**	**89.97**	**356**	P	**P**	**20 14 56.9**	**+0.3**	
	comp=Z,0.2nm,0.6s,baz=356,slow=5.2,SNR=2.5							
	comp=Z,0.2nm,0.6s							
ASAR	**Alice Springs**	**90.19**	**117**	P	**P**	**20 14 58.9**	**+0.6**	
	comp=Z,0.3nm,0.9s,baz=321,slow=5.4,SNR=1.5							
	comp=Z,0.3nm,0.9s							

*SDD **22** 20:14:05.5±1.5, 19°.15N×73°.71W, h0km±7km, MD3.1, ML2.5,MW2.9*
*SSNC **22** 20:14:09.9±0.6, 19°.67N×73°.67W, h5km, MD3.1, ML1.9*
ISC 22 20:14:07.6±1.5, 19°.8N±0°.1×73°.69W±0°.04, h11km±13km, n12, σ0s56/18, 1D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GTBY	**Guantanamo Bay**	**1.35**	**275**	*e*Pg		**Pb**	**20 14 32.8**	**0.0**
GTBY				*i* S		**Sg**	**20 14 51.6**	**+0.6**
GTBY				IAML			20 14 54.3	
	comp=N,30nm,1.6s							
GTBY				IAML			20 14 55.0	
	comp=E,26nm,0.2s							
GTBY	**Guantanamo Bay**	**1.35**	**275**	*e*P		**Pb**	**20 14 32.9**	**0.0**
GTBY				*e*S		**Sb**	**20 14 50.0**	**-0.1**
GTBY				IAML			20 14 52.3	
	comp=E,18nm,0.1s							
GTBY				IAML			20 14 52.4	
	comp=E,17nm,0.1s							
GTMO	**Guantanamo**	**1.39**	**281**	*e*P		**Pn**	**20 14 32.1**	**-0.9**
MOAC	**Moa**	**1.46**	**305**	*e*P		**Pb**	**20 14 34.4**	**-0.4**
MOAC				*e*S		**Sb**	**20 14 54.2**	**+0.8**
MOAC				IAML			20 14 55.5	
	comp=E,14nm,0.1s							
MOAC				IAML			20 14 56.0	
	comp=N,24nm,0.1s							
SABCS	**La Quijada**	**1.62**	**290**	*e*P		**Pb**	**20 14 37.3**	**-0.3**
SABCS				*e*S		**Sb**	**20 14 58.3**	**+0.2**
SABCS				IAML			20 15 02.4	
	comp=N,21nm,0.2s							
SABCS				IAML			20 15 03.0	
	comp=E,27nm,0.3s							
RCC	**Rio Carpintero**	**1.90**	**276**	*e*P		**Pn**	**20 14 40.7**	**+0.7**
RCC				*e*S		**Sn**	**20 15 03.6**	**-0.3**
RCC				IAML			20 15 07.2	
	comp=E,6.4nm,0.1s							
RCC				IAML			20 15 07.8	
	comp=N,9.5nm,0.1s							
MCDR	**Montecristi**	**1.91**	**87**	*e*Pg		**Pg**	**20 14 43.7**	**-0.6**
MCDR				*e*Sg		**Sg**	**20 15 09.9**	**+0.9**
MCDR				IAML			20 15 14.0	
	comp=N,47nm,0.6s							
MCDR				IAML			20 15 15.1	
	comp=E,53nm,0.6s							
PINC	**Pinares de May**	**2.09**	**289**	*e*S		**Sn**	**20 15 08.8**	**+0.3**
JIDR	**Jimani**	**2.18**	**127**	IAML			20 15 15.0	
	comp=N,49nm,0.2s							
REDR	**Restauracion**	**2.26**	**106**	*e*Pg		Pn	20 14 38.6	-6.2
REDR				*i* S		Sn	20 15 01.1	-12
REDR				IAML			20 15 01.7	
	comp=E,115nm,0.1s							
REDR				IAML			20 15 10.9	
	comp=N,44nm,0.2s							
SDDR	**Presa de Saban**	**2.41**	**110**	*e*Pg		**Pn**	**20 14 47.3**	**+0.3**
SDDR				⇓*e*Sg		**Sn**	**20 15 17.0**	**+0.4**
SDDR				IAML			20 15 18.9	
	comp=E,17nm,0.7s							
SDDR				IAML			20 15 23.9	
	comp=N,22nm,2.9s							
SDDR	**Presa de Saban**	**2.41**	**110**	*e*P		**Pn**	**20 14 46.9**	**-0.1**
SDDR				*e*S		**Sn**	**20 15 16.1**	**-0.5**
SDDR				IAML			20 15 18.2	
	comp=N,2.9nm,0.2s							
SDDR				IAML			20 15 18.4	
	comp=N,9.5nm,0.2s							

*AFAD **22** 20:27:38.8±0.0, 36°.92N×27°.25E, h7km±2km, ML2.7*
*THE **22** 20:27:39.8, 36°.96N×27°.34E, h1km±1km, ML3.1/3, Error ellipse: s-maj=1.5km s-min=0.6km az=244.0*
*ISK **22** 20:27:39.2, 36°.94N×27°.28E, h5km, ML2.6/18*
*ATH **22** 20:27:40.5, 36°.95N×27°.31E, h14km±1km, ML3.0/2, Error ellipse: s-maj=2.0km s-min=1.1km az=238.0*
ISC 22 20:27:39.2±0.8, 36°.94N±0°.02×27°.31E±0°.02, h13km±5km, n41, σ0s50/60, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.13**	**2**	Pg		**Pg**	**20 27 42.6**	**0.0**
BODT				Sg		**Sg**	**20 27 44.9**	**-0.1**
BODT	**Bodrum**	**0.13**	**2**	P		**Pg**	**20 27 42.6**	**0.0**
BODT				S		**Sg**	**20 27 44.8**	**-0.2**
BDRM	**Kayabasi**	**0.17**	**41**	P		**Pg**	**20 27 43.2**	**0.0**
YKAV	**Yalikavak-Bodr**	**0.19**	**354**	Pg		**Pg**	**20 27 43.5**	**0.0**
YKAV				Sg		**Sg**	**20 27 46.6**	**+0.1**
KLNA	**Kalymnos**	**0.27**	**275**	P		**Pb**	**20 27 45.8**	**-0.1**
KLNA				S		**Sb**	**20 27 50.2**	**-0.1**
KLNA				AML	AML		20 27 50.8	
	comp=N,6034μm,0.2s							
KLNA				AML	AML		20 27 51.4	
	comp=E,6255μm,0.2s							
YAZI	**Mula-Dat§a-**	**0.28**	**155**	P		**Pg**	**20 27 45.3**	**+0.2**
DAT	**Datca**	**0.30**	**133**	Pg		**Pg**	**20 27 45.9**	**+0.4**
DAT				Sg		**Sb**	**20 27 51.1**	**-0.4**
DAT	**Datca**	**0.30**	**133**	P		**Pg**	**20 27 45.9**	**+0.4**
DAT				S		**Sb**	**20 27 51.3**	**-0.2**
DAT	**Datca**	**0.30**	**133**	P		**Pg**	**20 27 45.3**	**-0.1**
MLSB	**Milas**	**0.52**	**46**	Pg		**Pb**	**20 27 50.2**	**-0.1**
MLSB				Sg		**Sb**	**20 27 58.1**	**+0.3**
DDIM	**Aydin, Didim**	**0.52**	**354**	P		**Pg**	**20 27 49.1**	**-0.5**
DDIM				S		**Sg**	**20 27 57.4**	**+0.9**
DDIM				*i* AML	AML		20 28 01.0	
	comp=E,363nm,0.3s							
DDIM				*i* AML	AML		20 28 03.0	
	comp=E,494nm,0.7s							
GCAM	**G?zelcaml?**	**0.77**	**356**	Pg		**Pb**	**20 27 54.8**	**+0.4**
GCAM	**G?zelcaml?**	**0.77**	**356**	P		**Pb**	**20 27 54.8**	**+0.4**
GCAM				S		**Sb**	**20 28 05.2**	**+0.4**
GCAM				*i* AML	AML		20 28 08.0	
	comp=E,446nm,0.4s							
TURN	**Turunc**	**0.77**	**102**	Pg		**Pg**	**20 27 54.3**	**+0.1**
TURN				Sg		**Sn**	**20 28 06.7**	**-0.5**
TURN	**Turunc**	**0.77**	**102**	P		**Pg**	**20 27 53.6**	**-0.5**
TURN				S		**Sb**	**20 28 05.9**	**+1.0**
TURN				*i* AML	AML		20 28 08.0	
	comp=E,305nm,0.4s							
TURN				*i* AML	AML		20 28 08.0	
	comp=E,296nm,0.9s							
SMG	**Samos**	**0.86**	**334**	P		**Pg**	**20 27 56.1**	**+0.3**
SMG				S		**Sn**	**20 28 08.6**	**-0.9**
	comp=E,1μm,0.4s							
SMG	**Samos**	**0.86**	**334**	P		**Pg**	**20 27 56.0**	**+0.1**
SMG				S		**Sb**	**20 28 08.1**	**+0.7**
SMG				AML	AML		20 28 11.3	
	comp=E,3027μm,0.5s							
SMG				AML	AML		20 28 12.6	
	comp=N,2122μm,0.3s							

MULA	**Mugla, Merkez-**	**0.87**	**68**	P		**Pn**	**20 27 57.5**	**+0.1**
ARG	**Arkhangelos**	**0.98**	**137**	Pg		**Pn**	**20 27 58.7**	**+0.1**
ARG	**Arkhangelos**	**0.98**	**137**	P		**Pn**	**20 27 58.6**	**0.0**
ARG				S		**Sn**	**20 28 12.8**	**+0.5**
	comp=N,592nm,1.2s							
ARG	**Arkhangelos**	**0.98**	**137**	P		**Pn**	**20 27 58.8**	**+0.1**
ARG				S		**Sn**	**20 28 12.6**	**+0.2**
DALY	**Dalyan (Mula)**	**1.09**	**96**	Pn		**Pg**	**20 28 00.9**	**+0.7**
DGB	**zmir**	**1.17**	**343**	P		**Pn**	**20 28 00.7**	**-0.6**
GMLD	**Gumuldur**	**1.18**	**345**	Pn		**Pg**	**20 28 02.2**	**+0.2**
ESEN	**Aydn-Nazilli**	**1.20**	**44**	P		**Pn**	**20 28 00.8**	**-0.9**
IZMR	**zmir-demi**	**1.30**	**23**	P		**Pb**	**20 28 03.8**	**+0.2**
KARP	**Karpathos**	**1.39**	**185**	P		**Pb**	**20 28 04.9**	**-0.2**
KARP				S		**Sn**	**20 28 22.2**	**-0.4**
APE	**Apeiranthos**	**1.43**	**276**	Pn		**Pb**	**20 28 06.3**	**+0.6**
APE	**Apeiranthos**	**1.43**	**276**	P		**Pb**	**20 28 05.5**	**-0.2**
APE				S		**Sb**	**20 28 23.9**	**+0.1**
FETY	**Fethiye**	**1.46**	**101**	Pn		**Pg**	**20 28 07.4**	**+0.1**
BLCB	**Balcova**	**1.46**	**352**	Pn		**Pb**	**20 28 06.9**	**+0.6**
BLCB	**Balcova**	**1.46**	**352**	P		**Pb**	**20 28 06.5**	**+0.2**
BLCB				S		**Sg**	**20 28 26.5**	**+0.1**
URLA	**Izmir**	**1.53**	**339**	Pn		**Pb**	**20 28 07.9**	**+0.4**
CAME	**Cameli-Denizli**	**1.60**	**89**	Pn		**Pb**	**20 28 09.4**	**+0.7**
THR3	**Thira Island,**	**1.62**	**252**	P		**Pb**	**20 28 08.7**	**-0.2**
APMY	**Acipayam-Deniz**	**1.68**	**71**	Pn		**Pb**	**20 28 10.5**	**+0.4**
CHOS	**Chios island**	**1.76**	**326**	Pn		**Pb**	**20 28 11.2**	**-0.2**
CHOS	**Chios island**	**1.76**	**326**	P		**Pn**	**20 28 10.3**	**+0.9**
CHOS				S		**Sn**	**20 28 30.4**	**-1.3**
KULA	**Kula-Manisa**	**1.91**	**34**	Pn		**Pb**	**20 28 13.1**	**-0.9**
AKAS	**Kas**	**1.98**	**110**	Pn		**Pb**	**20 28 14.8**	**-0.4**
ELL	**Elmali**	**2.10**	**94**	Pn		**Pb**	**20 28 16.0**	**-1.2**

IDC 22 20:46:45.1±2.0, 5°.73S×142°.69E, h0km, mb3.7/3, mbtmp3.6/5, ML3.4/2, MS3.0/1, Error ellipse: s-maj=84.1km s-min=30.7km az=104.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**14.69**	**167**	LR		LR	20 56 32.7	
	comp=Z,60nm,19.3s,baz=358,slow=40							
WRA	**Warramunga Arr**	**16.29**	**209**	Pn		Pn	20 50 33.8	-1.7
	0.1nm,0.3s,baz=30,slow=13,SNR=2.6							
WRA				Sn		Sn	20 53 18.8	-18
	baz=24,slow=27,SNR=3.1							
WRA				Lg		Lg	20 55 11.7	
	baz=27,slow=28							
	0.3nm,0.5s							
ASAR	**Alice Springs**	**19.74**	**204**	P		P	20 51 17.2	+0.6
	0.2nm,0.3s,baz=32,slow=11,SNR=28							
	2.5nm,0.7s							
MKAR	**Makanchi Array**	**74.59**	**322**	P		P	20 58 26.2	+0.1
	0.4nm,0.6s,baz=109,slow=6.2,SNR=4.4							
	0.4nm,0.6s							
BVAR	**Borovoye Array**	**84.05**	**325**	P		P	20 59 17.8	+0.2
	0.7nm,0.7s,baz=94,slow=5.9,SNR=5.3							
	0.7nm,0.7s							
ILAR	**Eielson Array**	**86.95**	**24**	P		P	20 59 31.5	-0.3
	0.4nm,0.8s,baz=237,slow=6.3,SNR=2.5							
	0.4nm,0.8s							

JMA 22 20:56:22.9±0.2, 24°.2N±0°.6×123°.8E±0°.7, h15km±2km, MV0.6/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.12**	**317**	*e*S		Sg	20 56 28.9	+0.1
JKRS	**Kuro-shima**	**0.17**	**92**	P		Pg	20 56 26.9	-0.1
JKRS				S		Sb	20 56 30.5	-0.5
HATJ	**Hateruma jima**	**0.19**	**185**	P		Pg	20 56 27.1	-0.1
HATJ				S		Sg	20 56 30.5	+0.3
JIJ	**Ishigaki jima**	**0.32**	**68**	*e*S		Sg	20 56 33.5	-0.4
JISG	**Ishigakijimahi**	**0.56**	**52**	*e*P		Pg	20 56 34.0	+0.1
JISG				*e*S		Sg	20 56 41.8	+0.4

TAP 22 20:57:15.5, 24°.49N×121°.94E, h13km, ML2.2, 3C-2D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ESAO	**Su ao**	**0.12**	**317**	*i* P		Pb	20 57 19.4	-0.3
	baz=316							
ESAO				*i* S		Sg	20 57 21.6	+0.6
	baz=316							
TWC	**Suao**	**0.15**	**327**	⇑*i* P		Pb	20 57 19.7	-0.5
	baz=330							
TWC				*i* S		Sg	20 57 21.5	-0.1
	baz=330							
EWUT	**Wuta**	**0.15**	**254**	*i* P		Pb	20 57 20.0	-0.2
	baz=253							
EWUT				*i* S		Sb	20 57 22.7	-0.6
	baz=253							
ENA	**Nanau**	**0.19**	**252**	⇓*i* P		Pb	20 57 20.6	-0.3
	baz=250							
ENA				*i* S		Sb	20 57 23.7	-0.7
	baz=250							
EAHA	**Aohua**	**0.24**	**229**	P		Pb	20 57 21.5	-0.2
	baz=228							
EAHA				*e*S		Sb	20 57 25.4	-0.4
	baz=228							
NDS	**Dongshan**	**0.25**	**306**	*i* P		Pb	20 57 21.8	-0.1
	baz=306							
NDS				S		Sb	20 57 25.6	-0.5
	baz=306							
EOS2	**EOS2**	**0.28**	**104**	*i* P		Pg	20 57 21.7	+0.5
	baz=103							
EOS2				*i* S		Sb	20 57 26.3	-0.6
	baz=103							
ILA	**Ilan**	**0.33**	**328**	P		Pb	20 57 23.0	-0.2
	baz=329							
ILA				S		Sb	20 57 29.6	+1.2
	baz=329							
TWE	**Neicheng**	**0.34**	**314**	⇑*i* P		Pb	20 57 23.3	-0.2
	baz=315							
TWE				*i* S		Sb	20 57 28.1	-0.7
	baz=315							
LATG	**Datong**	**0.38**	**278**	⇑*i* P		Pb	20 57 24.1	-0.1
	baz=277							
LATG				*i* S		Sb	20 57 29.5	-0.5
	baz=277							
EOS3	**EOS3**	**0.40**	**120**	*i* P		Pb	20 57 24.0	-0.4
	baz=119							
EOS3				S		Sb	20 57 30.2	-0.2
	baz=119							
NDT	**Datong Townshi**	**0.40**	**287**	P		Pb	20 57 24.7	+0.2
	baz=286							
NDT				S		Sb	20 57 30.2	-0.4
	baz=286							
FUSB	**Fushanzhiwuyua**	**0.42**	**311**	*i* P		Pb	20 57 25.0	+0.1
	baz=310							
FUSB				*i* S		Sb	20 57 31.1	0.0
	baz=310							
ETL	**Fush Village**	**0.43**	**221**	P		Pb	20 57 24.8	-0.3
	baz=221							
ETL				S		Sb	20 57 31.6	+0.1
	baz=221							
NACB	**Ninganchiao**	**0.44**	**225**	⇓*i* P		Pb	20 57 24.8	-0.3
	baz=224							
NACB				*i* S		Sb	20 57 31.2	-0.5
	baz=224							
NWLT	**Wulai**	**0.49**	**306**	P		Pb	20 57 26.4	+0.4
	baz=306							
NWLT				S		Sb	20 57 32.9	-0.2
	baz=306							
TIPB	**Shuangxi**	**0.49**	**348**	P		Pb	20 57 26.3	+0.1
	baz=348							
TIPB				S		Sg	20 57 32.2	+0.3
	baz=348							
ETLH	**Xiulin Townshi**	**0.50**	**236**	P		Pb	20 57 25.9	-0.3
	baz=236							
ETLH				S		Sb	20 57 33.1	-0.3
	baz=236							
EOS4	**EOS4**	**0.50**	**136**	P		Pb	20 57 26.1	+0.1
	baz=136							
NNSB	**Datong**	**0.51**	**264**	P		Pb	20 57 26.6	+0.2
	baz=263							
NNSB				S		Sb	20 57 33.3	-0.4
	baz=263							
TWD	**Chiawan**	**0.51**	**218**	*i* P		Pb	20 57 26.2	-0.2
	baz=216							
TWD				S		Sb	20 57 34.2	+0.5
	baz=216							
NNS	**Nan Shan**	**0.52**	**265**	P		Pg	20 57 25.8	+0.1
	baz=264							
NNS				S		Sb	20 57 33.7	-0.3
	baz=264							
YHNB	**Yeheng**	**0.54**	**290**	*i* P		Pb	20 57 27.4	+0.4
	baz=289							
YHNB				S		Sb	20 57 34.2	-0.5
	baz=289							
NSK	**Sanguang**	**0.56**	**290**	*i* P		Pb	20 57 27.6	+0.4
	baz=289							
NSK				*i* S		Sb	20 57 34.9	-0.3
	baz=289							
WFSB	**Wu-fen Shan**	**0.60**	**346**	*e*P		Pg	20 57 27.5	+0.3
	baz=346							
WFSB				*e*S		Sb	20 57 36.6	+0.4
	baz=346							
SXI1	**Grass Mountain**	**0.61**	**355**	P		Pb	20 57 28.0	-0.1
	baz=354							
SXI1				S		Sb	20 57 36.1	-0.6
	baz=354							
NHY	**Taipei**	**0.64**	**329**	*e*P		Pb	20 57 29.4	+0.8
	baz=328							
NHY				*e*S		Sn	20 57 39.9	-0.5
	baz=328							
ETM	**Tongmen**	**0.66**	**218**	P		Pb	20 57 28.7	-0.2
	baz=217							
ETM				*e*S		Sb	20 57 38.5	+0.6
	baz=217							
LXIB	**Xiulin Townshi**	**0.67**	**226**	P		Pg	20 57 28.8	+0.3
	baz=225							
LXIB				S		Sb	20 57 39.0	+0.7
	baz=225							
FUSS	**Fushou**	**0.67**	**250**	P		Pb	20 57 29.8	+0.5
	baz=249							
FUSS				S		Sb	20 57 38.6	0.0
	baz=249							
WHF	**Hehuan Shan**	**0.70**	**241**	P		Pb	20 57 30.0	+0.2
	baz=240							
WHF				*e*S		Sb	20 57 40.2	+0.6
	baz=240							
TWT	**Tachien**	**0.73**	**252**	P		Pn	20 57 31.3	-0.4
	baz=251							
TWT				S		Sb	20 57 40.8	+0.6
	baz=251							
TDCB	**Techi**	**0.75**	**252**	P		Pb	20 57 31.1	+0.7
	baz=251							
TDCB				S		Sb	20 57 40.7	+0.1
	baz=251							
NFF	**Wufeng Townshi**	**0.76**	**281**	*e*P		Pb	20 57 31.3	+0.6
	baz=281							
NFF				*e*S		Sb	20 57 41.3	+0.4
	baz=281							
TWS1	**Kuangyinshan**	**0.77**	**323**	*e*P		Pn	20 57 32.5	+0.3
	baz=322							
SHUL	**Shoufeng**	**0.78**	**206**	*e*P		Pn	20 57 31.9	-0.2
	baz=206							
ANP	**Anpu**	**0.79**	**332**	*e*P		Pn	20 57 32.4	-0.1
	baz=331							
ESL	**Shilin**	**0.81**	**215**	P		Pb	20 57 31.8	+0.3
	baz=213							
CHGB	**Renai**	**0.81**	**239**	P		Pb	20 57 32.2	+0.5
	baz=238							
CHGB				S		Sb	20 57 42.9	+0.3
	baz=238							
NSTT	**Nanjuang**	**0.86**	**280**	P		Pn	20 57 33.9	+0.5
	baz=279							
OWD	**Renai**	**0.87**	**233**	P		Pn	20 57 33.2	-0.5
	baz=232							
WUSB	**Renai**	**0.90**	**237**	P		Pn	20 57 33.8	-0.2
	baz=236							
WARBT	**Fenglin Townsh**	**0.92**	**213**	*e*P		Pg	20 57 33.2	0.0
	baz=213							
WHP	**Taichung City**	**0.93**	**257**	*e*P		Pn	20 57 35.1	+0.8
	baz=257							
WCS	**Beigang Elemen**	**1.03**	**246**	*e*P		Pn	20 57 36.5	+0.8
	baz=245							
VWDT	**VWDT**	**1.03**	**225**	*e*P		Pn	20 57 36.1	+0.4
	baz=224							
HGSD	**Ruisui**	**1.09**	**205**	*e*P		Pg	20 57 36.8	+0.1
	baz=205							
SMLT	**Sun Moon Lake**	**1.12**	**238**	*e*P		Pg	20 57 38.2	+1.1
	baz=237							
EHY	**Hungye**	**1.13**	**210**	*e*P		Pg	20 57 37.8	+0.6
	baz=209							
SSLB	**Suanglung**	**1.14**	**232**	P		Pg	20 57 38.1	+0.7
	baz=232							
TYC	**Yuchr**	**1.14**	**240**	*e*P		Pg	20 57 38.5	+1.0
	baz=239							
YULB	**Yu-li**	**1.24**	**208**	*e*P		Pg	20 57 39.9	+0.6
	baz=208							
WHYT	**Xinyi Township**	**1.26**	**232**	*e*P		Pg	20 57 39.7	-0.1
	baz=231							

*SJA **22** 20:59:08.1±0.6, 19°.50S×70°.12W, h85km±3km, ML3.5, MW3.5*
*GUC **22** 20:59:09.9±0.7, 19°.49S×70°.09W, h82km±4km, ML3.6*
ISC 22 20:59:10.1±1.4, 19°.51S±0°.03×70°.14W±0°.06, h74km±10km, n29, σ1s17/53, 5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PB11	**IPOC Station P**	**0.52**	**118**	*e*P		**Pn**	**20 59 23.5**	**-0.2**
PB11				*e*S		**Sn**	**20 59 34.9**	**+1.1**
PB11				IAML			20 59 35.6	
	comp=Z,4μm,0.1s							
PB11	**IPOC Station P**	**0.52**	**118**	⇓*i* P		**Pn**	**20 59 23.7**	**0.0**
PB11				*i* S		**Sn**	**20 59 34.1**	**+0.4**
PB11				IAML			20 59 34.7	
	comp=E,5μm,0.3s							
TA02	**Huaiquique**	**0.75**	**179**	*e*P		**Pn**	**20 59 26.1**	**+0.1**
TA02				*e*S		**Sn**	**20 59 38.8**	**+1.1**
TA02				IAML			20 59 41.4	
	comp=Z,4μm,0.1s							
TA02	**Huaiquique**	**0.75**	**179**	*i* P		**Pn**	**20 59 26.0**	**+0.1**
TA02				*i* S		**Sn**	**20 59 38.4**	**+0.7**
GO01	**Chusmiza**	**0.91**	**100**	*e*P		**Pn**	**20 59 23.7**	**-4.5**
GO01				*e*S		**Sn**	**20 59 42.2**	**+0.6**
GO01	**Chusmiza**	**0.91**	**100**	*i* P		**Pn**	**20 59 28.0**	**-0.2**
GO01				*i* S		**Sn**	**20 59 42.0**	**+0.3**
PB12	**IPOC Station P**	**0.91**	**349**	*e*P		**Pn**	**20 59 27.4**	**-0.6**
PB12				*e*S		**Sn**	**20 59 41.4**	**+0.3**
PB12				IAML			20 59 41.5	
	comp=Z,1μm,0.2s							
PB12	**IPOC Station P**	**0.91**	**349**	⇓*i* P		**Pn**	**20 59 27.6**	**-0.3**
PB12				*i* S		**Sn**	**20 59 40.8**	**-0.3**
PB12				IAML			20 59 41.6	
	comp=N,3μm,0.4s							
PX03	**IPOC Station P**	**1.01**	**152**	*i* P		**Pn**	**20 59 28.1**	**-1.0**
TA01	**Diego Aracena**	**1.05**	**182**	*e*P		**Pn**	**20 59 29.3**	**-0.2**
TA01				*e*S		**Sn**	**20 59 45.0**	**+1.1**
TA01				IAML			20 59 46.5	
	comp=Z,731nm,0.3s							
TA01	**Diego Aracena**	**1.05**	**182**	*i* P		**Pn**	**20 59 29.3**	**-0.2**
TA01				*i* S		**Sn**	**20 59 43.9**	**0.0**
TA01				IAML			20 59 46.7	
	comp=E,2μm,0.2s		

PB07					IAML		21 00 14.8	
	comp=Z,200nm,0.1s							
PB07	**IPOC Station P**	**2.22**	**174**	*i* P	**Pn**	**20 59 44.7**	**-0.3**	
PB07				*i* S	**Sn**	**21 00 11.2**	**-0.3**	
PB07				IAML		21 00 15.8		
	comp=E,291nm,0.5s							
PB09	**IPOC Station P**	**2.42**	**160**	*eP*	**Pn**	**20 59 48.0**	**+0.3**	
PB09				*eS*	**Sn**	**21 00 19.7**	**+3.2**	
PB09				IAML		21 00 23.2		
	comp=Z,118nm,0.2s							
PB09	**IPOC Station P**	**2.42**	**160**	*i* P	**Pn**	**20 59 48.1**	**+0.3**	
PB04	**IPOC Station P**	**2.81**	**180**	*eP*	**Pn**	**20 59 52.6**	**-0.4**	
PB04				*eS*	**Sn**	**21 00 24.6**	**-1.2**	
PB04				IAML		21 00 28.0		
	comp=Z,140nm,0.2s							
PB06	**IPOC Station P**	**3.22**	**171**	*eP*	**Pn**	**20 59 57.9**	**-0.7**	
PB06				*eS*	**Sn**	**21 00 35.5**	**-0.4**	
PB06				IAML		21 00 36.7		
	comp=Z,89nm,0.1s							
LVC	**Limon Verde**	**3.29**	**160**	*eP*	**Pn**	**20 59 59.5**	**-0.1**	
LVC				*eS*	**Sn**	**21 00 39.9**	**+2.0**	
PB05	**IPOC Station P**	**3.32**	**181**	*eP*	**Pn**	**20 59 58.8**	**-1.1**	
PB05				*eS*	**Sn**	**21 00 37.9**	**-0.4**	
PB05				IAML		21 00 49.3		
	comp=Z,37nm,0.7s							
PB15	**IPOC Station P**	**3.73**	**170**	*eP*	**Pn**	**21 00 05.8**	**+0.2**	
PB15				*eS*	**Sn**	**21 00 49.1**	**+0.7**	
PB15				IAML		21 00 52.8		
	comp=Z,280nm,0.1s							
LPAZ	**La Paz**	**3.73**	**31**	*eP*	**Pn**	**21 00 07.6**	**+1.6**	

IDC 22 21:02:55.2±2.1, 5°98S×142°01E, h0km, mb3.8/3, mbtmp3.8/5, ML3.8/2, MS3.3/3, Error ellipse: s-maj=82.8km s-min=24.0km az=92.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**14.62**	**164**	LR	LR	21 12 01.8	
	comp=Z,55nm,20.6s,baz=359,slow=37						
WRA	**Warramunga Arr**	**15.75**	**208**	Pn	Pn	21 06 36.5	-2.1
	0.4nm,0.3s,baz=28,slow=13,SNR=14						
WRA				Sn	Sn	21 09 24.2	-10
	0.2nm,0.3s,baz=166,slow=39,SNR=1.9						
WRA				Lg	Lg	21 11 16.6	
	baz=226,slow=23,SNR=2.2						
	1.4nm,0.5s						
BATI	**Baumata**	**18.64**	**256**	LR	LR	21 15 37.0	
	comp=Z,99nm,18.6s,baz=188,slow=41						
ASAR	**Alice Springs**	**19.23**	**203**	P	Pn	21 07 22.6	+0.6
	0.3nm,0.3s,baz=29,slow=11,SNR=21						
ASAR				S	Sn	21 10 56.1	-2.3
	0.8nm,0.9s,baz=18,slow=30,SNR=4.1						
ASAR				Lg	Lg	21 13 10.2	
	baz=144,slow=35						
ASAR				LR	LR	21 15 20.6	
	comp=Z,166nm,18.6s,baz=38,slow=39						
	2.8nm,1.0s						
STKA	**Stephens Creek**	**25.76**	**181**	P	P	21 08 27.0	-0.7
	0.6nm,0.3s,baz=0.0,slow=9.1,SNR=3.4						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**74.38**	**322**	P	P	21 14 35.1	+0.2
	0.5nm,0.8s,baz=131,slow=5.9,SNR=4.1						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	**83.86**	**325**	P	P	21 15 26.7	0.0
	1.2nm,0.8s,baz=112,slow=7.0,SNR=8.4						
	1.2nm,0.8s						

*MDD **22** 21:08:41.4±0.8, 37°06N×12°32W, h0km, Mb4.2/18, M_mb3.6/19, Error ellipse: s-maj=6.2km s-min=4.9km az=40.0*
*IGIL **22** 21:08:42.3, 37°07N×12°37W, h7km, ML2.7*
*INMG **22** 21:08:43.0±1.0, 36°84N×12°67W, h10km±6km, ML2.7, Error ellipse: s-maj=3.3km s-min=2.8km az=133.0*
*CNRM **22** 21:08:46.3, 36°38N×11°57W, h5km, ML2.7*

ISC 22 21:08:38.9±3.0, 37°03N±0°09×12°4W±0°1, h10km, n79, σ2s 06/123, 20C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.84**	**87**	*eP*	**Pn**	**21 09 26.4**	**+2.1**
PFVI				*eS*	**Sn**	**21 09 57.6**	**-0.9**
PFVI				A	A	21 10 00.0	
	37nm,0.1s						
PFVI	**Vila Bisbo**	**2.84**	**87**	Pn	**Pn**	**21 09 26.3**	**+2.1**
PFVI				Sn	**Sn**	**21 09 57.6**	**-0.9**
PFVI	**Vila Bisbo**	**2.84**	**87**	P	**Pn**	**21 09 26.0**	**+1.7**
PFVI	**Vila Bisbo**	**2.84**	**87**	S	**Sn**	**21 09 55.4**	**-3.1**
PTEO	**Sao Teotonio**	**2.96**	**79**	*eP*	**Pn**	**21 09 27.9**	**+2.0**
PTEO				*eS*	**Sn**	**21 10 01.1**	**-0.3**
PTEO				A	A	21 10 01.8	
	20nm,0.2s						
MORF	**Marmelete**	**2.98**	**84**	*eP*	**Pn**	**21 09 28.4**	**+2.1**
MORF				*eS*	**Sn**	**21 10 01.8**	**-0.4**
MORF				A	A	21 10 07.5	
	38nm,0.3s						
MORF	**Marmelete**	**2.98**	**84**	*eP*	**Pn**	**21 09 28.1**	**+1.8**
MORF				*eS*	**Sn**	**21 10 01.7**	**-0.4**
MORF				IAML		21 10 03.7	
	comp=N,55nm,0.3s						
PMAFR	**Mafra**	**3.11**	**51**	*eP*	**Pn**	**21 09 30.4**	**+2.4**
PMAFR				*eS*	**Sn**	**21 10 05.9**	**+0.7**
PMAFR				A	A	21 10 10.6	
	comp=N,25nm,0.4s						
PMAFR	**Mafra**	**3.11**	**51**	Pn	**Pn**	**21 09 30.4**	**+2.4**
PNCL	**Nicolau / Gran**	**3.24**	**69**	*eP*	**Pn**	**21 09 31.7**	**+1.9**
PNCL				*eS*	**Sn**	**21 10 08.8**	**+0.4**
PNCL				A	A	21 10 12.6	
	comp=N,8.8nm,0.1s						
PNCL	**Nicolau / Gran**	**3.24**	**69**	Pn	**Pn**	**21 09 31.7**	**+1.9**
PNCL				Sn	**Sn**	**21 10 08.8**	**+0.4**
PACT	**Alcochete**	**3.30**	**57**	*iP*	**Pn**	**21 09 33.4**	**+2.9**
PACT				*eS*	**Sn**	**21 10 11.8**	**+2.1**
MESJ	**Messejana**	**3.40**	**75**	*eP*	**Pn**	**21 09 34.0**	**+2.0**
MESJ				*eS*	**Sn**	**21 10 12.3**	**-0.2**
MESJ				A	A	21 10 18.9	
	comp=N,11nm,0.2s						
MESJ	**Messejana**	**3.40**	**75**	*eP*	**Pn**	**21 09 34.0**	**+2.0**
MESJ				*eS*	**Sn**	**21 10 11.6**	**-0.8**
MESJ				IAML		21 10 14.7	
	comp=E,11nm,0.1s						
PCVE	**Castro Verde**	**3.51**	**79**	*eP*	**Pn**	**21 09 35.4**	**+1.9**
PCVE				*eS*	**Sn**	**21 10 14.3**	**-0.7**
PCVE				A	A	21 10 16.9	
	comp=E,10nm,0.6s						
PCVE	**Castro Verde**	**3.51**	**79**	Pn	**Pn**	**21 09 35.4**	**+1.9**
PCVE				Sn	**Sn**	**21 10 14.6**	**-0.4**
PBDV	**Barranco-do-Ve**	**3.56**	**85**	*eP*	**Pn**	**21 09 36.3**	**+2.2**
PBDV				*eS*	**Sn**	**21 10 15.1**	**-1.2**
PBDV				A	A	21 10 19.3	
	comp=E,14nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.56**	**85**	Pn	**Pn**	**21 09 36.3**	**+2.2**
PBDV				Sn	**Sn**	**21 10 15.4**	**-0.8**
PBEJ	**Beja**	**3.72**	**73**	*eS*	**Sn**	**21 10 19.1**	**-1.1**
PBEJ				A	A	21 10 21.5	
	comp=E,12nm,0.2s						
PVAQ	**Vaqueiros**	**3.74**	**83**	*eP*	**Pn**	**21 09 38.8**	**+2.2**
PVAQ				*eS*	**Sn**	**21 10 19.7**	**-0.9**
PVAQ				A	A	21 10 22.4	
	comp=E,20nm,0.1s						
PVAQ	**Vaqueiros**	**3.74**	**83**	Pn	**Pn**	**21 09 38.8**	**+2.2**
PVAQ				Sn	**Sn**	**21 10 19.5**	**-1.2**
PVAQ	**Vaqueiros**	**3.74**	**83**	P	**Pn**	**21 09 38.4**	**+1.8**
PVAQ	**Vaqueiros**	**3.74**	**83**	S	**Sn**	**21 10 16.5**	**-4.1**
PSBE	**So Bento**	**3.75**	**48**	*eP*	**Pn**	**21 09 39.5**	**+2.6**
PSBE				*eS*	**Sn**	**21 10 22.2**	**+1.1**
PSBE				A	A	21 10 36.4	
	comp=E,16nm,0.6s						
EVO	**Evora**	**3.77**	**65**	*eP*	**Pn**	**21 09 39.3**	**+2.3**
EVO				*eS*	**Sn**	**21 10 20.8**	**-0.6**
EVO				A	A	21 10 24.8	
	comp=E,26nm,0.1s						
EVO	**Evora**	**3.77**	**65**	Pn	**Pn**	**21 09 38.8**	**+1.8**
EVO				Sn	**Sn**	**21 10 20.6**	**-0.8**
PMTG	**Montargil**	**3.86**	**57**	*iP*	**Pn**	**21 09 40.2**	**+2.0**
PMTG				*eS*	**Sn**	**21 10 23.4**	**-0.2**
PMTG				A	A	21 10 28.7	
	comp=E,6.5nm,0.1s						
EGRO	**El Granado**	**3.93**	**81**	Pn	**Pn**	**21 09 41.1**	**+1.9**
EGRO				Sn	**Sn**	**21 10 23.7**	**-1.7**
EGRO	**El Granado**	**3.93**	**81**	P	**Pn**	**21 09 41.2**	**+1.9**
EGRO				*i*Vmb_V		21 09 45.3	
	comp=E,176nm,SNR=1.5						
EGRO				S	**Sn**	**21 10 25.3**	**-0.2**
PESTR	**Estremoz**	**4.20**	**63**	*eP*	**Pn**	**21 09 44.8**	**+1.7**
PESTR				*eS*	**Sn**	**21 10 31.2**	**-1.0**
PESTR				A	A	21 10 38.7	
	comp=E,4.7nm,0.3s						
PESTR	**Estremoz**	**4.20**	**63**	Pn	**Pn**	**21 09 44.7**	**+1.7**
PESTR				Sn	**Sn**	**21 10 30.9**	**-1.3**
PESTR	**Estremoz**	**4.20**	**63**	P	**Pn**	**21 09 47.4**	**+4.4**
PESTR	**Estremoz**	**4.20**	**63**	S	**Sn**	**21 10 36.6**	**+4.4**
PCAS	**Casmilo, Conde**	**4.28**	**44**	*eP*	**Pn**	**21 09 46.1**	**+2.0**
PCAS				*eS*	**Sn**	**21 10 33.8**	**-0.4**
PCAS				A	A	21 10 36.9	
	comp=E,3.8nm,0.3s						
PBAR	**Barrancos**	**4.39**	**73**	*eP*	**Pn**	**21 09 47.5**	**+1.9**
PBAR				*eS*	**Sn**	**21 10 35.5**	**-1.2**
PBAR				A	A	21 10 37.1	
	comp=E,6.2nm,0.2s						
PBAR	**Barrancos**	**4.39**	**73**	Pn	**Pn**	**21 09 47.3**	**+1.8**
PBAR				Sn	**Sn**	**21 10 35.7**	**-1.0**
EBAD	**Badajoz**	**4.58**	**66**	Pn	**Pn**	**21 09 49.8**	**+1.7**
EBAD				Sn	**Sn**	**21 10 39.8**	**-1.6**
EBAD	**Badajoz**	**4.58**	**66**	P	**Pn**	**21 09 49.9**	**+1.8**
EBAD				*i*Vmb_V		21 09 52.2	
	comp=E,157nm,SNR=2.5						
EBAD				S	**Sn**	**21 10 40.1**	**-1.3**
PMRV	**Marv??o**	**4.60**	**57**	*eP*	**Pn**	**21 09 50.3**	**+1.9**
PMRV				*eS*	**Sn**	**21 10 40.9**	**-1.0**
PMRV				A	A	21 10 44.0	
	comp=E,6.2nm,0.3s						
EMIN	**Mina Concepcio**	**4.60**	**79**	Pn	**Pn**	**21 09 50.1**	**+1.7**
EMIN				Sn	**Sn**	**21 10 39.9**	**-2.0**
EMIN	**Mina Concepcio**	**4.60**	**79**	*i*Vmb_V		21 09 50.2	
	comp=E,92nm,SNR=1.4						
EMIN				P	**Pn**	**21 09 50.2**	**+1.8**
EMIN				S	**Sn**	**21 10 39.8**	**-2.2**
PCBR	**Castelo Branco**	**4.76**	**52**	*eP*	**Pn**	**21 09 52.8**	**+2.1**
PCBR				*eS*	**Sn**	**21 10 45.0**	**-0.9**
PCBR				A	A	21 10 48.8	
	comp=E,2.3nm,0.3s						
MTE	**Manteigas**	**5.06**	**47**	*eP*	**Pn**	**21 09 56.9**	**+2.1**
MTE				*eS*	**Sn**	**21 10 53.0**	**-0.4**
MTE				A	A	21 10 58.5	
	comp=E,4.7nm,0.4s						
PVIS	**Viseu**	**5.08**	**42**	*eP*	**Pn**	**21 09 56.9**	**+1.8**
PVIS				*eS*	**Sn**	**21 10 52.5**	**-1.3**
PVIS				A	A	21 10 55.2	
	comp=E,5.8nm,0.3s						
PMPST	**Porto Santo, M**	**5.11**	**221**	*eP*	Pn	21 09 49.0	-6.4
PMPST				*eS*	Sn	21 10 38.4	-16
ESPR	**Espera**	**5.22**	**90**	P	**Pn**	**21 09 59.0**	**+2.0**
ESPR				*i*Vmb_V		21 10 03.6	
	comp=E,210nm,SNR=1.8						
ESPR				S	**Sn**	**21 10 56.2**	**-1.1**
AVE	**Averroes**	**5.51**	**131**	Pn	**Pn**	**21 10 01.1**	**+0.1**
PVRL	**Vila Real**	**5.58**	**39**	*eP*	**Pn**	**21 10 03.7**	**+1.8**
PVRL				*eS*	**Sn**	**21 11 05.1**	**-1.0**
PVRL				A	A	21 11 08.6	
	comp=E,3.4nm,0.1s						
ECAB	**El Cabril**	**5.62**	**77**	Pn	**Pn**	**21 10 04.2**	**+1.7**
ECAB				Sn	**Sn**	**21 11 04.2**	**-3.1**
ECAB	**El Cabril**	**5.62**	**77**	P	**Pn**	**21 10 04.3**	**+1.7**
ECAB				*i*Vmb_V		21 10 06.4	
	comp=E,87nm,SNR=1.2						
ECAB				S	**Sn**	**21 11 04.2**	**-3.1**
PMAR	**Madeira**	**5.69**	**222**	*eP*	Pn	21 09 58.0	-5.6
PMAR				*eS*	Sn	21 10 56.5	-13
PCAB	**Cabril**	**5.76**	**34**	*eS*	**Sn**	**21 11 09.0**	**-1.6**
PCAB				A	A	21 11 13.3	
	comp=E,10nm,0.2s						
EPLA	**Plasencia**	**5.79**	**56**	P	**Pn**	**21 10 06.8**	**+1.9**
EPLA				*i*Vmb_V		21 10 07.4	
	comp=E,106nm,SNR=1.2						
EPLA				S	**Sn**	**21 11 09.7**	**-1.7**
EZAM	**Zamans**	**5.85**	**28**	P	**Pn**	**21 10 07.6**	**+2.0**
EZAM				*i*Vmb_V		21 10 07.7	
	comp=E,228nm,SNR=1.3						
EZAM				S	**Sn**	**21 11 08.9**	**-3.9**
MVO	**Moncorvo**	**5.86**	**44**	*eP*	**Pn**	**21 10 07.5**	**+1.7**
MVO				*eS*	**Sn**	**21 11 11.3**	**-1.8**
MVO				A	A	21 11 13.1	
	comp=E,3.5nm,0.3s						
PGAV	**Gavieira, Arco**	**5.86**	**31**	*eP*	**Pn**	**21 10 07.7**	**+1.8**
PGAV				*eS*	**Sn**	**21 11 11.0**	**-2.2**
PGAV				A	A	21 11 13.8	
	comp=E,3.4nm,0.4s						
ELOB	**Lobios**	**5.87**	**33**	P	**Pn**	**21 10 08.2**	**+2.2**
ELOB				*i*Vmb_V		21 10 09.8	
	comp=E,218nm,SNR=2.1						
ELOB				S	**Sn**	**21 11 11.5**	**-2.0**
EADA	**Adamuz**	**6.29**	**77**	P	**Pn**	**21 10 13.6**	**+1.8**
EADA				*i*Vmb_V		21 10 15.0	
	comp=E,96nm,SNR=0.9						
EADA				S	**Sn**	**21 11 21.3**	**-2.5**
PBRG	**Braganca**	**6.46**	**41**	*eP*	**Pn**	**21 10 16.0**	**+1.9**
PBRG				*eS*	**Sn**	**21 11 26.0**	**-1.9**
PBRG				A	A	21 11 28.2	
	comp=E,2.2nm,0.2s						
EMAZ	**Mazaricos**	**6.46**	**23**	P	**Pn**	**21 10 15.1**	**+1.0**
EMAZ				*i*Vmb_V		21 10 15.7	
	comp=E,271nm,SNR=1.5						
EMAZ				S	Sn	21 11 22.1	-5.8
ECAL	**Calabor**	**6.56**	**40**	Pn	**Pn**	**21 10 17.4**	**+1.9**
ECAL				Sn	**Sn**	**21 11 28.1**	**-2.3**
ECAL	**Calabor**	**6.56**	**40**	P	**Pn**	**21 10 16.8**	**+1.3**
ECAL				*i*Vmb_V		21 10 17.9	
	comp=E,100nm,SNR=1.2						
EAGO	**Agolada(Pontev**	**6.64**	**28**	P	**Pn**	**21 10 17.9**	**+1.4**
EAGO				*i*Vmb_V		21 10 19.9	
	comp=E,256nm,SNR=1.9						
EAGO				S	**Sn**	**21 11 27.2**	**-5.0**
PAB	**San Pablo**	**6.79**	**66**	P	**Pn**	**21 10 20.9**	**+2.2**
PAB				*i*Vmb_V		21 10 24.1	
	comp=E,78nm,SNR=1.0						
PAB				S	**Sn**	**21 11 32.4**	**-3.8**
LCRM	**LCR**	**6.99**	**116**	P	Pn	21 10 17.8	-3.6
LCRM	**LCR**	**6.99**	**116**	S	Sn	21 11 29.6	-11
PSIM	**Granatula de C**	**7.04**	**73**	P	**Pn**	**21 10 24.1**	**+2.0**
PSIM				S	**Sn**	**21 11 39.1**	**-3.1**
ESDC	**Sonseca Array**	**7.12**	**66**	P	**Pn**	**21 10 25.1**	**+2.0**
ESDC				*i*Vmb_V		21 10 25.4	
	comp=E,76nm,SNR=0.7						
ESDC				S	**Sn**	**21 11 41.7**	**-2.4**
TTIG	**Tnine Tigouga,**	**7.24**	**152**	P	Pn	21 10 19.5	-5.4
TTIG	**Tnine Tigouga,**	**7.24**	**152**	S	Sn	21 11 34.5	-13
EQES	**Quesada**	**7.44**	**81**	*i*Vmb_V		21 10 30.2	
	comp=E,87nm,SNR=0.4						
EQES				S	**Sn**	**21 11 49.0**	**-3.2**
EPON	**Pontenova**	**7.45**	**31**	P	**Pn**	**21 10 29.2**	**+1.5**
EPON				*i*Vmb_V		21 10 33.4	
	comp=E,160nm,SNR=0.7						
EPON				S	**Sn**	**21 11 47.5**	**-4.8**
MD31	**MD31**	**7.50**	**121**	P	**Pn**	**21 10 26.7**	**-1.8**
MD31	**MD31**	**7.50**	**121**	S	Sn	21 11 41.3	-12
MDT	**Midelt**	**7.64**	**121**	P	**Pn**	**21 10 28.2**	**-2.1**
MDT	**Midelt**	**7.64**	**121**	S	Sn	21 11 44.7	-12
OUZM	**OUZ**	**7.68**	**141**	P	Pn	21 10 26.8	-4.1
OUZM	**OUZ**	**7.68**	**141**	S	Sn	21 11 45.6	-12
ETOR	**Torete**	**8.89**	**62**	P	**Pn**	**21 10 49.2**	**+1.8**
ETOR				*i*Vmb_V		21 10 49.4	
	comp=E,147nm,SNR=1.0						
ETOR				S	**Sn**	**21 12 24.0**	**-3.6**

*SJA **22** 21:14:39.0±0.5, 20°49S×67°29W, h227km±6km, ML3.5, MW3.5*
*SCB **22** 21:14:41.0±1.0, 20°54S×67°28W, h200km±6km, ML3.8/6, MW4.0, Error ellipse: s-maj=3.2km s-min=2.3km az=0.0*

ISC 22 21:14:40.1±1.6, 20°57S±0°03×67°33W±0°04, h220km±12km, n51, σ1s 43/88, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.72**	**114**	Pg	**Pn**	**21 15 17.8**	**-0.2**
MOCB				Sg	**S**	**21 15 44.9**	**-2.4**
MOCB				IAML		21 15 47.2	
	392nm,0.8s						
PB08	**IPOC Station P**	**1.77**	**284**	*eP*	**Pn**	**21 15 18.9**	**+0.6**
PB08				*eS*	**S**	**21 15 48.9**	**+0.9**
PB08	**IPOC Station P**	**1.77**	**284**	*eP*	**Pn**	**21 15 19.0**	**+0.7**
PB08				*i* S	**S**	**21 15 48.0**	**+0.1**
PB08				IAML		21 15 51.3	
	comp=N,110nm,0.4s						
PB08	**IPOC Station P**	**1.77**	**284**	Pg	**Pn**	**21 15 18.6**	**+0.2**
GO01	**Chusmiza**	**1.97**	**297**	*eP*	**Pn**	**21 15 20.4**	**0.0**
GO01				*eS*	**S**	**21 15 55.3**	**+3.8**
GO01	**Chusmiza**	**1.97**	**297**	*eP*	**Pn**	**21 15 20.8**	**+0.4**
GO01				*i* S	**S**	**21 15 51.3**	**-0.3**
GO01	**Chusmiza**	**1.97**	**297**	Pg	**Pn**	**21 15 20.5**	**+0.1**
GO01				Sg	**S**	**21 15 50.8**	**-0.8**
GO01				IAML		21 15 57.7	
	comp=N,70nm,0.7s						
SOEO	**Opoqueri**	**2.06**	**345**	Pg	**Pn**	**21 15 21.2**	**-0.1**
PB01	**IPOC Station P**	**2.08**	**256**	*eP*	**Pn**	**21 15 21.4**	**+0.5**
PB01				*eS*	**S**	**21 15 52.6**	**-0.1**
PB01				IAML		21 15 53.1	
	comp=Z,194nm,0.2s						
PB01	**IPOC Station P**	**2.08**	**256**	*eP*	**Pn**	**21 15 21.2**	**+0.2**
PB01				*i* S	**S**	**21 15 52.0**	**-0.8**
PB01				IAML		21 15 53.0	
	comp=E,236nm,0.2s						
PB01	**IPOC Station P**	**2.08**	**256**	Pg	**Pn**	**21 15 21.5**	**+0.5**
PB01				Sg	**S**	**21 15 51.6**	**-1.1**
PB01				IAML		21 15 53.4	
	comp=E,218nm,0.2s						
PB09	**IPOC Station P**	**2.17**	**235**	*eP*	**Pn**	**21 15 23.4**	**+1.4**
PB09				*eS*	**S**	**21 15 55.3**	**+0.7**
PB09				IAML		21 15 57.9	
	comp=Z,77nm,0.3s						
PB09	**IPOC Station P**	**2.17**	**235**	*eP*	**Pn**	**21 15 23.1**	**+1.1**
PB09				*i* S	**S**	**21 15 55.0**	**+0.5**
PB09				IAML		21 15 58.8	
	comp=N,84nm,0.2s						
PB09	**IPOC Station P**	**2.17**	**235**	Pg	**Pn**	**21 15 22.8**	**+0.8**
YJA	**Yavi**	**2.33**	**134**	*eP*	**Pn**	**21 15 24.4**	**+0.5**
YJA				*eS*	**S**	**21 15 57.4**	**-0.6**
PB11	**IPOC Station P**	**2.33**	**290**	*eP*	**Pn**	**21 15 23.7**	**+0.1**
PB11				*eS*	**S**	**21 15 56.5**	**-0.9**
PB11				IAML		21 16 01.5	
	comp=Z,104nm,0.1s						
PB11	**IPOC Station P**	**2.33**	**290**	*eP*	**Pn**	**21 15 23.7**	**+0.1**
PB11				*i* S	**S**	**21 15 56.0**	**-1.5**
PB11				IAML		21 15 56.9	
	comp=N,272nm,0.5s						
PB11	**IPOC Station P**	**2.33**	**290**	Pg	**Pn**	**21 15 23.8**	**+0.1**
PB11				Sg	**S**	**21 15 56.1**	**-1.4**
PB11				IAML		21 15 57.0	
	comp=N,219nm,0.3s						
LVC	**Limon Verde**	**2.51**	**216**	*eP*	**Pn**	**21 15 26.6**	**+0.8**
LVC				*eS*	**S**	**21 16 02.5**	**+1.2**
PB02	**IPOC Station P**	**2.52**	**252**	*eP*	**Pn**	**21 15 25.9**	**+0.4**
PB02				*eS*	**S**	**21 15 58.4**	**-2.5**
PB02	**IPOC Station P**	**2.52**	**252**	*eP*	**Pn**	**21 15 26.1**	**+0.5**
PB02				*i* S	**S**	**21 15 59.5**	**-1.4**
PB02	**IPOC Station P**	**2.52**	**252**	Pg	**Pn**	**21 15 26.2**	**+0.7**
PB02				Sg	**S**	**21 15 59.7**	**-1.2**
PB02				IAML		21 16 00.4	
	comp=N,613nm,0.2s						
TA02	**Huaiquique**	**2.65**	**276**	*eP*	**Pn**	**21 15 28.3**	**+1.4**
TA02				IAML		21 16 08.8	
	comp=Z,158nm,0.2s						
PB07	**IPOC Station P**	**2.66**	**244**	*eP*	**Pn**	**21 15 27.7**	**+0.6**
PB07				*eS*	**S**	**21 16 03.4**	**-0.3**
PB07				IAML		21 16 04.9	
	comp=Z,223nm,0.4s						
PB07	**IPOC Station P**	**2.66**	**244**	*eP*	**Pn**	**21 15 27.7**	**+0.6**
PB07				*i* S	**S**	**21 16 02.4**	**-1.3**
PB07				IAML		21 16 03.8	
	comp=E,357nm,0.4s						
TA01	**Diego Aracena**	**2.68**	**270**	*eP*	**Pn**	**21 15 26.5**	**-0.6**
TA01				*eS*	S	21 15 50.5	-13
TA01				IAML		21 16 06.3	
	comp=Z,47nm,0.3s						
TA01	**Diego Aracena**	**2.68**	**270**	*eP*	**Pn**	**21 15 26.9**	**-0.3**
TA01				*i* S	**S**	**21 16 01.2**	**-2.5**
TA01				IAML		21 16 02.9	
	comp=E,169nm,0.2s						
SOET	**ToroToro**	**2.83**	**31**	Pg	**Pn**	**21 15 28.5**	**-0.8**
PB06	**IPOC Station P**	**2.98**	**224**	*eP*	**Pn**	**21 15 31.7**	**+0.9**
PB06				*eS*	**S**	**21 16 10.0**	**-0.3**
PB06				IAML		21 16 16.8	
	comp=Z,80nm,0.3s						
PB06	**IPOC Station P**	**2.98**	**224**	*eP*	**Pn**	**21 15 31.8**	**+1.0**
PB06				*i* S	**S**	**21 16 09.9**	**-0.5**
PB06				IAML		21 16 10.3	
	comp=E,196nm,0.4s						
PB16	**IPOC Station P**	**3.03**	**317**	*eP*	**Pn**	**21 15 32.8**	**+1.0**
PB16				*eS*	**S**	**21 16 19.5**	**+7.6**
PB16	**IPOC Station P**	**3.03**	**317**	*eP*	**Pn**	**21 15 32.6**	**+0.8**
PB16				*i* S	**S**	**21 16 12.2**	**+0.3**
PB16	**IPOC Station P**	**3.03**	**317**	Pg	**Pn**	**21 15 32.4**	**+0.6**
AOEA	**Aiguile**	**3.09**	**40**	Pg	**Pn**	**21 15 31.5**	**-0.7**
PB04	**IPOC Station P**	**3.17**	**236**	*eP*	**Pn**	**21 15 33.6**	**+0.7**
PB04				*eS*	**S**	**21 16 12.9**	**-1.2**
PB04				IAML		21 16 17.6	
	comp=Z,115nm,0.2s						
PB04	**IPOC Station P**	**3.17**	**236**	*eP*	**Pn**	**21 15 33.5**	**+0.7**
PB04				*i* S	**S**	**21 16 12.2**	**-1.9**
PB15	**IPOC Station P**	**3.30**	**217**	*eP*	**Pn**	**21 15 36.0**	**+1.6**
PB15				*eS*	**S**	**21 16 16.9**	**-0.1**
PB15	**IPOC Station P**	**3.30**	**217**	Pg	**Pn**	**21 15 35.8**	**+1.4**
PB15				Sg	**S**	**21 16 16.9**	**-0.1**
PB15				IAML		21 16 18.8	
	comp=Z,715nm,0.4s						
PB12	**IPOC Station P**	**3.43**	**304**	*eP*	**Pn**	**21 15 35.0**	**-1.0**
PB12				*eS*	**S**	**21 16 17.2**

Moment tensor: Scale 10^{16}Nm; M_{rr}1.07; $M_{\theta\theta}$-0.33; $M_{\phi\phi}$-0.74; $M_{r\theta}$0.98; $M_{r\phi}$-0.14; $M_{\theta\phi}$1.83; Fault plane solution: M_o2.29000×10^{16} NP1:ϕ_s196.2000°,δ12.10000°, λ79.34000°. NP2:ϕ_s27.09000°,δ78.11000°,λ92.27000°. Principal axes: T 2.4235, Plg57.0000°, Azm300.0000°; N -0.3010, Plg2.0000°, Azm207.0000°; P -2.1225, Plg33.0000°, Azm115.0000°;

NIED ***22*** *21:32:20.6, 38°.88N×142°.08E, h45km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.77; $M_{\theta\theta}$-0.08; $M_{\phi\phi}$-1.68; $M_{r\theta}$0.95; $M_{r\phi}$-0.46; $M_{\theta\phi}$2.29; Fault plane solution: M_o3.05000×10^{16} NP1:ϕ_s21.00000°, δ72.00000°,λ94.00000°. NP2:ϕ_s188.00000°,δ18.00000°, λ78.00000°.*

JMA ***22*** *21:32:20.6±0.1, 38°.9N±0°.3×142°.1E±0°.7, h45km±1km, MD5.1/35, MW5.0/35, KINKAZAN REGION*

JMA Felt IV J1 at KINKAZAN REGION .

IDC ***22*** *21:32:21.7±1.6, 38°.88N×142°.01E, h54km±13km, mb4.8/36, mbtmp5.1/43, MS4.1/72, Error ellipse: s-maj=11.5km s-min=9.3km az=105.0*

GCMT ***22*** *21:32:22.6±0.2, 38°.98N±0°.01×142°.13E±0°.02, h49km±1km, MW5.0/112, Moment Tensor Solution. s59,c79; s112,c159; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.42±.15; $M_{\theta\theta}$-0.47±.10; $M_{\phi\phi}$-2.94±.10; $M_{r\theta}$1.20±.07; $M_{\theta\phi}$-0.85±.08; $M_{r\phi}$2.14±.08; Best double couple: M_o4.12000×10^{16} NP1:ϕ_s24.00000°,δ63.00000°, λ96.00000°. NP2:ϕ_s191.00000°,δ27.00000°,λ79.00000°. Principal axes: T 4.2510, Plg71.0000°, Azm307.0000°; N -0.2560, Plg5.0000°, Azm202.0000°; P -3.9890, Plg18.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***22*** *21:32:25.8, 39°.93N×141°.96E, h33km, mb5.2, Ms4.5*

ISC 22 21:32:20.0±0.3, 38°.87N±0°.03×142°.12E±0°.03, h43km±2km, h43km:pP-P, n1427, σ1934/1365, mb5.2/383, MS4.3/106, 104C-57D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.41**	**301**	⇓P		**Pn**	**21 32 30.3**	**+0.6**
OFUJ				⇓S		**Sn**	**21 32 36.8**	**+0.3**
OFUJ	**Ofunato**	**0.41**	**301**	A		A	21 32 30.3	
	comp=E,437nm,3.1s,comp=N,159nm,0.9s							
JKMT	**Kesennumamotoy**	**0.51**	**263**	⇓*i*P		**Pn**	**21 32 31.3**	**+0.3**
JKMT				⇓S		**Sn**	**21 32 38.5**	**-0.2**
JKMT	**Kesennumamotoy**	**0.51**	**263**	A		A	21 32 31.3	
	comp=E,257nm,1.8s,comp=N,191nm,2.9s							
JMK	**Ichinoseki**	**0.70**	**277**	⇓*i*P		**Pn**	**21 32 33.9**	**+0.3**
JMK				⇓S		**Sn**	**21 32 43.2**	**-0.2**
JMK	**Ichinoseki**	**0.70**	**277**	A		A	21 32 33.9	
	comp=E,190nm,1.0s,comp=N,119nm,1.8s							
JIO	**Ouri**	**0.73**	**235**	⇓*i*P		**Pn**	**21 32 34.1**	**+0.2**
JIO				⇓S		**Sn**	**21 32 43.3**	**-0.7**
JIO	**Ouri**	**0.73**	**235**	A		A	21 32 34.1	
	comp=E,228nm,0.6s,comp=N,230nm,1.4s							
MIYJ	**Miyakonagasawa**	**0.74**	**342**	A		A	21 32 34.5	
	comp=E,164nm,0.8s,comp=N,174nm,1.0s							
JIKH	**Ishinomakibobu**	**0.76**	**222**	A		A	21 32 34.8	
	comp=E,171nm,2.2s,comp=N,136nm,3.4s							
JOM	**Ohasama**	**0.88**	**313**	⇓*i*P		**Pn**	**21 32 36.5**	**+0.5**
JOM				⇓S		**Sn**	**21 32 47.7**	**+0.1**
JOM	**Ohasama**	**0.88**	**313**	A		A	21 32 36.5	
	comp=E,318nm,0.3s,comp=N,262nm,0.3s							
JOFO	**Osakifurukawao**	**0.98**	**254**	A		A	21 32 37.9	
	comp=E,562nm,0.6s,comp=N,435nm,1.7s							
JTH	**Tanohata**	**1.08**	**350**	⇓*i*P		**Pn**	**21 32 38.9**	**+0.2**
JTH				⇓eS		**Sn**	**21 32 52.5**	**0.0**
JTH	**Tanohata**	**1.08**	**350**	A		A	21 32 38.9	
	comp=E,43nm,3.5s,comp=N,28nm,2.1s							
JOU	**Okura**	**1.25**	**246**	⇓*i*P		**Pn**	**21 32 41.2**	**+0.2**
JOU				⇓S		**Sn**	**21 32 57.0**	**+0.4**
JOU	**Okura**	**1.25**	**246**	A		A	21 32 41.2	
	comp=E,72nm,2.0s,comp=N,79nm,1.6s							
JSZI	**Iwateshizukuis**	**1.25**	**314**	A		A	21 32 41.8	
	comp=E,126nm,1.8s,comp=N,119nm,2.3s							
JKZ	**Kuzumaki**	**1.27**	**331**	A		A	21 32 42.1	
	comp=E,66nm,2.5s,comp=N,34nm,1.0s							
JRG	**Rokugo**	**1.27**	**295**	⇓*i*P		**Pn**	**21 32 41.7**	**+0.4**
JRG				⇓eS		**Sn**	**21 32 54.0**	**-3.1**
JRG	**Rokugo**	**1.27**	**295**	A		A	21 32 41.7	
	comp=E,75nm,0.6s,comp=N,62nm,1.7s							
JKEN	**Kujiedanarisaw**	**1.37**	**347**	A		A	21 32 43.6	
	comp=E,72nm,0.6s,comp=N,97nm,1.0s							
JYK	**Kaneyama**	**1.37**	**272**	⇓*i*P		**Pn**	**21 32 43.2**	**+0.4**
JYK				⇓S		**Sn**	**21 32 55.4**	**-4.3**
JYK	**Kaneyama**	**1.37**	**272**	A		A	21 32 43.2	
	comp=E,30nm,2.8s,comp=N,28nm,4.0s							
JMM	**Marumori**	**1.45**	**226**	P		**Pn**	**21 32 45.5**	**+1.8**
JMM	**Marumori**	**1.45**	**226**			**Pn**	**21 32 43.4**	**-0.3**
JMM				Sn		**Sn**	**21 33 01.4**	**-0.1**
JMM	**Marumori**	**1.45**	**226**	⇓*i*P		**Pn**	**21 32 43.7**	**0.0**
JMM				⇓S		**Sn**	**21 33 01.6**	**+0.1**
JMM	**Marumori**	**1.45**	**226**	A		A	21 32 43.7	
	comp=E,34nm,1.6s,comp=N,34nm,1.2s							
JMST	**Minamisoumatoc**	**1.50**	**221**	A		A	21 32 45.5	
	comp=E,60nm,1.1s,comp=N,65nm,0.6s							
JANG	**Nango**	**1.57**	**343**	A		A	21 32 46.5	
	comp=E,26nm,1.9s,comp=N,19nm,1.8s							
JYW	**Yuwa**	**1.63**	**295**	A		A	21 32 47.1	
	comp=E,138nm,1.0s,comp=N,105nm,0.9s							
JYYZ	**Yamagatayuza**	**1.71**	**275**	A		A	21 32 48.4	
	comp=E,126nm,2.3s,comp=N,81nm,2.2s							
JYS	**Shirataka**	**1.74**	**249**	A		A	21 32 48.8	
	comp=E,71nm,1.7s,comp=N,64nm,2.4s							
JAH	**Hinai**	**1.74**	**319**	A		A	21 32 48.9	
	comp=E,39nm,2.5s,comp=N,32nm,1.1s							
JFK	**Kawauchi**	**1.80**	**213**	A		A	21 32 49.9	
	comp=E,22nm,3.3s,comp=N,26nm,1.3s							
JYAR	**Yonezawaarcadi**	**1.82**	**239**	A		A	21 32 50.0	
	comp=E,67nm,1.1s,comp=N,83nm,1.2s							
JYA	**Atsumi**	**1.90**	**262**	A		A	21 32 51.0	
	comp=E,43nm,0.7s,comp=N,54nm,0.6s							
JOTO	**OTAMA OYAMA**	**1.92**	**228**	A		A	21 32 51.5	
	comp=E,46nm,1.5s,comp=N,80nm,0.6s							
JTB	**Tobi-shima**	**2.02**	**280**	A		A	21 32 52.7	
	comp=E,24nm,2.1s,comp=N,17nm,4.0s							
ONAJ	**Iwakimizuishiy**	**2.05**	**211**	A		A	21 32 53.4	
	comp=E,64nm,0.3s,comp=N,38nm,0.3s							
JNTW	**Noshirotokiwa**	**2.06**	**313**	A		A	21 32 53.4	
	comp=E,98nm,2.4s,comp=N,112nm,1.7s							
JTM	**Tenmabayashi**	**2.08**	**337**	P		**Pn**	**21 32 54.0**	**+1.6**
JTM	**Tenmabayashi**	**2.08**	**337**			**Pn**	**21 32 53.0**	**+0.7**
JTM	**Tenmabayashi**	**2.08**	**337**	A		A	21 32 53.7	
	comp=E,14nm,2.1s,comp=N,23nm,1.8s							
JFFD	**Fukushimafurud**	**2.16**	**215**	A		A	21 32 55.0	
	comp=E,13nm,3.2s,comp=N,14nm,2.1s							
JARK	**Aomorirokkasho**	**2.21**	**345**	A		A	21 32 55.6	
	comp=E,17nm,1.4s,comp=N,22nm,1.9s							
JHHS	**Hirosakihyakuz**	**2.23**	**323**	A		A	21 32 55.9	
	comp=E,65nm,5.1s,comp=N,75nm,3.8s							
JAW	**Awa shima**	**2.28**	**260**	A		A	21 32 56.5	
	comp=E,14nm,1.3s,comp=N,18nm,7.1s							
JIW	**Iwasaki**	**2.37**	**317**	A		A	21 32 57.9	
	comp=E,30nm,0.7s,comp=N,35nm,0.9s							
JFY	**Yanaizu**	**2.40**	**233**	A		A	21 32 58.4	
	comp=E,12nm,4.6s,comp=N,12nm,3.9s							
JNS	**Sasagawa**	**2.44**	**245**	A		A	21 32 58.9	
	comp=E,13nm,5.1s,comp=N,24nm,4.8s							
JAHD	**Aomorihigashid**	**2.46**	**346**	A		A	21 32 59.4	
	comp=E,47nm,1.3s,comp=N,38nm,0.8s							
JSI2	**Shiura 2**	**2.54**	**330**	A		A	21 33 00.4	
	comp=E,47nm,2.7s,comp=N,41nm,3.4s							
JHO	**Hitachi**	**2.57**	**209**	A		A	21 33 00.8	
	comp=E,12nm,1.9s,comp=N,11nm,1.2s							
JOG3	**Oga3**	**2.57**	**295**	A		A	21 32 53.5	
	comp=E,34nm,1.4s,comp=N,27nm,2.3s							
JSB	**Shiboa**	**2.58**	**223**	A		A	21 33 00.8	
	comp=E,36nm,3.8s,comp=N,39nm,1.3s							
JOT	**Ohata**	**2.64**	**342**	A		A	21 33 01.9	
	comp=E,13nm,2.7s,comp=N,9.0nm,3.1s							
JHYU	**Hitachinakayam**	**2.81**	**206**	A		A	21 33 04.2	
	comp=E,14nm,1.2s,comp=N,13nm,4.8s							
JUON	**Uonuma**	**2.93**	**236**	A		A	21 33 05.8	
	comp=E,6.0nm,3.0s,comp=N,6.0nm,4.2s							
JSR	**Shiriuchi**	**2.96**	**334**	A		A	21 33 06.2	
	comp=E,21nm,5.3s,comp=N,24nm,3.2s							
JIZZ	**Izumozaki**	**3.00**	**245**	A		A	21 33 06.7	
	comp=E,33nm,2.3s,comp=N,36nm,4.7s							
JYT	**Yasato**	**3.05**	**211**	A		A	21 33 07.7	
	comp=E,19nm,1.6s,comp=N,19nm,0.4s							
JOMM	**Oshimamatsumae**	**3.10**	**329**	A		A	21 33 08.2	
	comp=E,6.0nm,7.4s,comp=N,16nm,3.6s							
JKB	**Kayabe**	**3.12**	**345**	A		A	21 33 08.7	
	comp=E,10.0nm,2.9s,comp=N,8.0nm,0.9s							
JSD	**Sado**	**3.14**	**256**	P		**Pn**	**21 33 07.6**	**+0.6**
JSD	**Sado**	**3.14**	**256**			**Pn**	**21 33 06.9**	**-0.1**
JAG	**Ashikaga**	**3.23**	**222**	A		A	21 33 10.1	
	comp=E,8.0nm,0.7s,comp=N,9.0nm,2.8s							
ERM	**Erimo**	**3.24**	**14**	P		**Pn**	**21 33 10.0**	**+1.7**
ERM	**Erimo**	**3.24**	**14**			**Pn**	**21 33 08.9**	**+0.7**
ERM	**Erimo**	**3.24**	**14**	*i* P		**Pn**	**21 33 07.3**	**-1.0**
JEM	**Erimo**	**3.24**	**14**	P		**Pn**	**21 33 10.0**	**+1.7**
JNBK	**Urakawa-nobuka**	**3.44**	**9**	A		A	21 33 13.3	
	comp=E,13nm,2.8s,comp=N,16nm,3.6s							
JYM2	**Yakumo 2**	**3.50**	**338**	A		A	21 33 14.1	
	comp=E,8.0nm,1.6s,comp=N,8.0nm,2.8s							
JSHD	**Hidakashinhida**	**3.54**	**4**	A		A	21 33 14.7	
	comp=E,16nm,1.4s,comp=N,17nm,2.0s							
JIAM	**Iburiatsuma**	**3.75**	**358**	A		A	21 33 17.6	
	comp=E,18nm,2.0s,comp=N,19nm,0.9s							
JHU	**Hanno**	**3.77**	**218**	A		A	21 33 17.7	
	comp=E,12nm,1.1s,comp=N,14nm,1.0s							
MAJO	**Matsushiro**	**3.88**	**234**	P		**Pn**	**21 33 19.6**	**+2.5**
MAJO	**Matsushiro**	**3.88**	**234**			**Pn**	**21 33 16.8**	**-0.3**
MAJO	**Matsushiro**	**3.88**	**234**	*i* P		**Pn**	**21 33 16.3**	**-0.8**
MJAR	**Matsushiro Arr**	**3.88**	**234**	P		**Pn**	**21 33 19.2**	**+2.1**
MJAR	**Matsushiro Arr**	**3.88**	**234**	P		**Pn**	**21 33 19.2**	**+2.1**
	comp=N,158nm,0.4s,baz=33,slow=13,SNR=200							
MJAR				S		**Sn**	**21 34 08.0**	**+6.6**
	comp=N,138nm,0.7s,baz=34,slow=22,SNR=4.8							
MJAR				LR		LR	21 35 00.9	
	comp=N,3μm,21.0s,baz=60,slow=42							
MJB9	**Matsu-Tunnel**	**3.88**	**234**			**Pn**	**21 33 16.5**	**-0.6**
JOB	**Onbets**	**4.23**	**17**	A		A	21 33 24.6	
	comp=E,11nm,1.7s,comp=N,14nm,2.8s							
JOD2	**Odawara 2**	**4.34**	**215**	A		A	21 33 25.8	
	comp=E,10.0nm,1.9s,comp=N,11nm,2.0s							
JAB	**Ashibetsu**	**4.63**	**1**	A		A	21 33 29.9	
	comp=E,9.0nm,2.8s,comp=N,10.0nm,2.0s							
JHTM	**Izuhatsuma**	**4.63**	**213**	A		A	21 33 29.9	
	comp=E,16nm,1.8s,comp=N,17nm,1.1s							
JNY	**Yasuok**	**4.89**	**225**	A		A	21 33 33.5	
	comp=E,9.0nm,2.3s,comp=N,12nm,1.7s							
JGF	**Kuroka**	**5.01**	**231**	P		**Pn**	**21 33 36.1**	**+3.4**
JGF	**Kuroka**	**5.01**	**231**	Pn		**Pn**	**21 33 33.7**	**+0.9**
JSG	**Sagara**	**5.25**	**218**	P		**Pn**	**21 33 38.7**	**+2.8**
JSG	**Sagara**	**5.25**	**218**			**Pn**	**21 33 36.1**	**+0.2**
ASAJ	**Asahikawa**	**5.25**	**4**	P		**Pn**	**21 33 37.4**	**+1.4**
ASAJ				S		**Sn**	**21 34 36.4**	**+1.2**
ASAJ	**Asahikawa**	**5.25**	**4**	P		**Pn**	**21 33 37.4**	**+1.4**
	comp=N,85nm,0.5s,baz=225,slow=11,SNR=80							
ASAJ				S		**Sn**	**21 34 36.4**	**+1.2**
	comp=N,164nm,0.8s,baz=24,slow=30,SNR=1.7							
JKA	**Kamikawa-asahi**	**5.25**	**4**	Pn		**Pn**	**21 33 36.0**	**+0.1**
NMR	**Nemuro--Hokkai**	**5.25**	**30**	*e*P		**Pn**	**21 33 35.3**	**-0.7**
NMR				*e*S		**Sn**	**21 34 31.0**	**-4.2**
INU	**Inuyama**	**5.38**	**231**	P		**Pn**	**21 33 40.8**	**+3.0**
INU	**Inuyama**	**5.38**	**231**			**Pn**	**21 33 39.5**	**+1.6**
RUSJ	**Misakicho**	**5.73**	**23**	*e*P		**Pn**	**21 33 43.0**	**+0.5**
RUSJ				*e*S		**Sn**	**21 34 45.2**	**-1.7**
YUK	**Yuzh-Kuril'sk**	**5.87**	**27**	*e*P		**Pn**	**21 33 44.1**	**-0.4**
YUK				*e*S		**Sn**	**21 34 47.8**	**-2.7**
YUK				smax	smax			
	comp=E,2μm,0.4s							
YUK				smax	smax			
	comp=N,2μm,0.5s							
JHJ2	**Mitsune**	**6.04**	**199**			**Pn**	**21 33 47.1**	**+0.3**
JHJ	**Hachijo jima 2**	**6.04**	**199**	P		**Pn**	**21 33 47.8**	**+0.9**
	comp=N,212nm,0.3s,baz=307,slow=23,SNR=12							
JHJ				S		**Sn**	**21 34 51.5**	**-3.3**
	comp=N,722nm,0.4s,baz=261,slow=23,SNR=6.9							
SHO	**Shikotan**	**6.12**	**34**	*e*P		**Pn**	**21 33 46.5**	**-1.4**
SHO				*e*S		**Sn**	**21 34 50.4**	**-6.2**
SHO				smax	smax			
	comp=N,735nm,0.2s							
SHO				smax	smax			
	comp=E,468nm,0.2s							
TEY	**Ternei**	**7.40**	**328**	*e*P		**Pn**	**21 34 09.3**	**+3.9**
KUR	**Kuril'sk**	**7.66**	**32**	*e*P		**Pn**	**21 34 08.6**	**-0.3**
KUR				*i* S		**Sn**	**21 35 31.4**	**-2.9**
KUR				pmax	pmax			
	comp=Z,186nm,0.7s							
KUR				pmax	pmax			
	comp=N,41nm,0.3s							
KUR				smax	smax			
	comp=N,734nm,0.8s							
KUR				smax	smax			
	comp=E,480nm,0.7s							
YSS	**Yuzh-Sakhalins**	**8.09**	**3**	P		**Pn**	**21 34 17.0**	**+2.1**
YSS	**Yuzh-Sakhalins**	**8.09**	**3**	Pn		**Pn**	**21 34 14.4**	**-0.5**
YSS	**Yuzh-Sakhalins**	**8.09**	**3**	*e*P		**Pn**	**21 34 16.2**	**+1.3**
YSS				*e*S		**Sn**	**21 35 44.1**	**-0.8**
YSS				pmax	pmax			
	comp=Z,190nm,0.7s							
JMN	**Monobe**	**8.40**	**235**	P		**Pn**	**21 34 20.7**	**+1.5**
JMN	**Monobe**	**8.40**	**235**	Pn		**Pn**	**21 34 20.3**	**+1.1**
MSHR	**Mys Shultsa**	**9.11**	**297**	*de*P		**Pn**	**21 34 29.3**	**+0.5**
MSHR				pmax	pmax			
	comp=Z,78nm,0.6s							
USA0B	**Ussuriysk Arra**	**9.27**	**308**			**Pn**	**21 34 31.8**	**+0.8**
USA0B	**Ussuriysk Arra**	**9.27**	**308**	*i* P		**Pn**	**21 34 30.2**	**-0.8**
USRK	**Ussuriysk Ar.**	**9.27**	**308**	Pn		**Pn**	**21 34 31.9**	**+0.9**
USRK	**Ussuriysk Ar.**	**9.27**	**308**	P		**Pn**	**21 34 31.9**	**+0.9**
USRK	**Ussuriysk Ar.**	**9.27**	**308**	P		**Pn**	**21 34 32.2**	**+1.1**
	comp=Z,198nm,0.8s,baz=114,slow=11,SNR=120							
USRK				LR		LR	21 37 57.4	
	comp=Z,2μm,19.9s,baz=122,slow=36							
PSTR	**Posyet**	**9.38**	**297**	*i* P		**Pn**	**21 34 31.7**	**-0.8**
UGL	**Uglegorsk**	**10.20**	**360**	*e*P		Pn	21 34 55.6	+12
UGL				pmax	pmax			
	comp=Z,50nm,1.0s							
JNU	**Nakatsue**	**10.76**	**241**	P		**Pn**	**21 34 53.7**	**+2.2**
JNU	**Nakatsue**	**10.76**	**241**	Pn		**Pn**	**21 34 52.3**	**+0.8**
JNU	**Nakatsue**	**10.76**	**241**	P		**Pn**	**21 34 53.3**	**+1.8**
	comp=Z,29nm,0.4s,baz=128,slow=1.1,SNR=41							
JNU				LR		LR	21 39 18.9	
	comp=Z,2μm,21.0s,baz=44,slow=39							
MDJ	**Mudanjiang**	**10.97**	**306**	P		**Pn**	**21 34 56.3**	**+2.0**
MDJ				PP		**PnPn**	**21 35 07.9**	**+5.9**
MDJ				sP			21 35 09.8	
MDJ				S		**Sn**	**21 36 57.9**	**+2.3**
MDJ				sS			21 37 04.4	
MDJ				SS		**SnSn**	**21 37 11.6**	**+4.1**
MDJ				pmax	pmax			
	comp=Z,4.0nm,0.6s							
MDJ				pmax	pmax			
	comp=Z,380nm,3.6s							
MDJ				LR	LR			
	comp=Z,850nm,15.8s							
MDJ				LR	LR			
	comp=Z,1μm,17.7s							
MDJ				LR	LR			
	comp=Z,2μm,16.9s							
MDJ	**Mudanjiang**	**10.97**	**306**	P		**Pn**	**21 34 55.5**	**+1.2**
MDJ	**Mudanjiang**	**10.97**	**306**	Pn		**Pn**	**21 34 55.3**	**+1.0**
KSRS	**Korea Array**	**11.27**	**267**	P		**Pn**	**21 35 01.6**	**+3.3**
	comp=Z,32nm,0.7s,baz=80,slow=13,SNR=54							
KSRS				LR		LR	21 38 56.8	
	comp=Z,1μm,20.2s,baz=75,slow=35							
KSAR	**Wonju Array Be**	**11.30**	**267**	Pn		**Pn**	**21 35 00.3**	**+1.4**
KSAR	**Wonju Array Be**	**11.30**	**267**	P		**Pn**	**21 35 00.3**	**+1.4**
KS19	**Wonju Array Si**	**11.30**	**267**			**Pn**	**21 34 59.3**	**+0.4**
JCJ	**Chichijima**	**11.75**	**180**	P		Pn	21 34 57.4	-7.6
	comp=Z,48nm,0.3s,baz=265,slow=21,SNR=2.5							
JCJ				S		Sn	21 36 57.1	-18
	comp=Z,64nm,0.5s,baz=295,slow=19,SNR=1.8							
JCJ				LR		LR	21 40 08.8	
	comp=Z,132nm,21.7s,baz=354,slow=40							
TJN	**Taejon**	**11.96**	**263**	P		**Pn**	**21 35 09.4**	**+1.5**
TJN	**Taejon**	**11.96**	**263**	Pn		**Pn**	**21 35 08.4**	**+0.5**
TJN	**Taejon**	**11.96**	**263**	*i* P		**Pn**	**21 35 06.0**	**-1.9**
TYV	**Tymovskoe**	**11.99**	**2**	*e*P		**Pn**	**21 35 07.3**	**-1.0**
TYV				pmax	pmax			
	comp=Z,15nm,0.6s							
TYV				pmax	pmax			
	comp=Z,100nm,2.4s							
INCN	**Inchon**	**12.27**	**268**	P		**Pn**	**21 35 12.6**	**+0.5**
INCN	**Inchon**	**12.27**	**268**	Pn		**Pn**	**21 35 13.4**	**+1.3**
INCN	**Inchon**	**12.27**	**268**	P		**Pn**	**21 35 13.4**	**+1.3**
INCN	**Inchon**	**12.27**	**268**	P		P	21 35 17.9	-5.5
GRNR	**Gornyy**	**12.56**	**343**	⇑*i*P		**Pn**	**21 35 16.2**	**+0.2**
GRNR				pmax	pmax			
	comp=N,10.0nm,0.9s							
GRNR				pmax	pmax			
	comp=Z,20nm,0.7s							
KLR	**Kul'dur**	**12.74**	**328**	*ce*P		**Pn**	**21 35 17.8**	**-0.7**
KLR				pmax	pmax			
	comp=Z,21nm,0.8s							
KLR	**Kul'dur**	**12.74**	**328**	P		**Pn**	**21 35 18.8**	**+0.2**
	comp=Z,20nm,0.9s,baz=133,slow=12,SNR=66							
KLR				LR		LR	21 40 10.6	
	comp=Z,2μm,19.7s,baz=142,slow=37							
BNX	**BinXian**	**12.86**	**307**	⇑P		**Pn**	**21 35 19.4**	**-0.7**
BNX				pP		**P**	**21 35 27.1**	**-2.9**
BNX				sP			21 35 33.3	
BNX				S		**Sn**	**21 37 42.3**	**+0.5**
BNX				pmax	pmax			
	comp=Z,48nm,1.1s							
BNX				pmax	pmax			
	comp=Z,310nm,3.8s							
BNX				LR	LR			
	comp=Z,740nm,17.3s							
BNX				LR	LR			
	comp=Z,1μm,17.9s							
BNX				LR	LR			
	comp=Z,2μm,18.4s							
CN2	**Changchun**	**13.45**	**297**	*e*P		**Pn**	**21 35 29.8**	**+1.6**
CN2				*e*S		**Sn**	**21 37 58.6**	**+2.3**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CN2				pmax	pmax			
	comp=Z,100nm,3.0s							
CN2				LR	LR			
	comp=Z,600nm,15.0s							
CN2				LR	LR			
	comp=Z,800nm,15.0s							
CN2				LR	LR			
	comp=Z,900nm,15.0s							
SNY	**Shenyang**	**14.44**	**288**	⇑P		**Pn**	**21 35 42.8**	**+1.2**
SNY				pmax	pmax			
	comp=Z,9.0nm,1.1s							
SNY				pmax	pmax			
	comp=Z,150nm,3.9s							
SNY				LR	LR			
	comp=Z,280nm,10.8s							
SNY				LR	LR			
	comp=Z,580nm,12.6s							
SNY				LR	LR			
	comp=Z,1μm,26.9s							
HEH	**HeiHe**	**15.44**	**322**	*e*P		**Pn**	**21 35 52.3**	**-2.3**
HEH				pmax	pmax			
	comp=Z,14nm,0.9s							
HEH				LR	LR			
	comp=Z,1μm,16.7s							
HEH				LR	LR			
	comp=Z,1μm,16.9s							
HEH				LR	LR			
	comp=Z,2μm,17.7s							
DL2	**Dalian**	**15.96**	**277**	P		**Pn**	**21 36 01.8**	**+0.4**
DL2				S		**Sn**	**21 38 57.5**	**+0.3**
DL2				pmax	pmax			
	comp=Z,200nm,1.0s							
DL2				pmax	pmax			
	comp=Z,410nm,3.6s							
DL2				LR	LR			
	comp=Z,680nm,14.1s							
DL2				LR	LR			
	comp=Z,1μm,15.4s							
DL2				LR	LR			
	comp=Z,1μm,16.5s							
JOW	**Kunigami**	**16.69**	**228**	P		**Pn**	**21 36 09.4**	**-1.4**
	comp=Z,29nm,0.9s,baz=59,slow=13,SNR=4.3							
PEA0B	**Petropavlovsk-**	**17.83**	**32**	*i* P		**Pn**	**21 36 24.4**	**-0.3**
PETK	**Petropavlovsk-**	**17.83**	**32**	Pn		**Pn**	**21 36 24.1**	**-0.6**
PETK	**Petropavlovsk-**	**17.83**	**32**	P		**Pn**	**21 36 24.1**	**-0.6**
PETK	**Petropavlovsk-**	**17.83**	**32**	P		**Pn**	**21 36 22.4**	**-2.3**
	comp=Z,6.4nm,0.9s,baz=200,slow=7.5,SNR=4.7							
PETK				LR		LR	21 44 28.3	
	comp=Z,315nm,18.6s,baz=216,slow=41							
ZEA	**Zeya**	**18.01**	**330**	*e*P		**Pn**	**21 36 24.2**	**-2.7**
ZEA				pmax	pmax			
	comp=E,40nm,1.1s							
ZEA				pmax	pmax			
	comp=N,60nm,0.7s							
ZEA				pmax	pmax			
	comp=Z,90nm,0.9s							
ZEA				MLR	MLR			
	comp=Z,700nm,15.0s							
PET	**Petropavlovsk**	**18.17**	**33**	P		**P**	**21 36 28.7**	**-0.1**
PET	**Petropavlovsk**	**18.17**	**33**	*i* P		**P**	**21 36 28.4**	**-0.3**
PET				pmax	pmax			
	comp=Z

comp=Z,980nm,15.7s
TATO Taipei 22.26 238 P P 21 37 13.8 +0.5
TATO Taipei 22.26 238 P P 21 37 12.8 -0.5
TATO IAmb IAmb 21 37 15.3
comp=Z,98nm,1.1s
TATO Taipei 22.26 238 P P 21 37 13.6 +0.2
YHNB Yeheng 22.54 237 P P 21 37 16.1 -0.4
NACB Ninganchiao 22.75 236 P P 21 37 17.3 -1.2
TIY Taiyuan 23.28 277 ⇑P P 21 37 24.3 +0.3
TIY pmax pmax
comp=Z,61nm,0.6s
TIY LR LR
comp=Z,360nm,17.9s
TIY LR LR
comp=Z,620nm,17.2s
TIY LR LR
comp=Z,920nm,17.2s
SSLB Suanglung 23.43 236 P P 21 37 22.6 -2.9
SSLB IAmb IAmb 21 37 47.3
comp=Z,40nm,0.8s
HHC Hu-ho-hao-te 23.48 285 *eP* **P 21 37 22.5 -3.4**
HHC pP pP 21 37 31.3 -5.6
HHC S **S** **21 41 29.0 -7.5**
HHC pmax pmax
comp=Z,47nm,1.0s
HHC pmax pmax
comp=Z,100nm,5.0s
HHC LR LR
comp=Z,270nm,13.0s
HHC LR LR
comp=Z,1μm,13.0s
HHC LR LR
comp=Z,1μm,14.3s
YULB Yu-li 23.49 235 P P 21 37 24.2 -1.8
YULB IAmb IAmb 21 37 43.4
comp=Z,35nm,0.6s
CIT Chita 23.79 313 *eP* **P 21 37 28.0 -0.6**
CIT *e* 21 37 36.8
CIT *e* 21 37 45.0
CIT *e* 21 38 05.4
CIT *e* 21 38 15.4
CIT pmax pmax
comp=Z,173nm,1.2s
TPUB Ta-pu 23.99 236 P P 21 37 29.5 -1.1
TPUB Ta-pu 23.99 236 P P 21 37 27.3 -3.3
TPUB IAmb IAmb 21 37 47.7
comp=Z,54nm,0.8s
TWGBT Beinan 24.04 234 P P 21 37 31.5 +0.4
TWG Pinlang 24.05 234 IAmb IAmb 21 37 33.6
comp=Z,67nm,0.8s
LYN LuoYang 24.10 269 ⇑P P 21 37 29.6 -2.0
LYN pP pP 21 37 44.0 +1.0
LYN PP **PnPn** **21 38 06.5 +4.4**
LYN SS **SnSn** **21 42 30.3 +0.2**
LYN pmax pmax
comp=Z,220nm,1.1s
LYN pmax pmax
comp=Z,230nm,5.9s
LYN LR LR
comp=Z,460nm,14.4s
LYN LR LR
comp=Z,800nm,22.3s
LYN LR LR
comp=Z,1μm,26.4s
WHN Wuhan 24.22 258 ⇑P P 21 37 32.3 -0.4
WHN S **S** **21 41 44.9 -3.4**
WHN pmax pmax
comp=Z,230nm,0.9s
WHN LR LR
comp=Z,2μm,16.0s
YAK Yakutsk 24.41 346 P P 21 37 33.0 -1.2
YAK Yakutsk 24.41 346 *eP* **P 21 37 32.9 -1.2**
YAK *e**PP **pP** **21 37 46.7 +1.1**
YAK *e* 21 38 05.5
YAK *e* 21 41 11.1
YAK *e*S **S** **21 41 49.2 -1.5**
YAK *e*SS **SnSn** **21 42 38.6 +1.4**
YAK pmax pmax
comp=Z,220nm,1.0s
YAK pmax pmax
comp=N,61nm,1.1s
YAK pmax pmax
comp=E,47nm,1.2s
YAK pmax pmax
comp=Z,51nm,1.3s
YAK pmax pmax
comp=N,71nm,1.6s
YAK pmax pmax
comp=E,43nm,1.6s
YAK smax smax
comp=N,288nm,2.8s
YAK smax smax
comp=E,112nm,2.2s
YAK Yakutsk 24.41 346 LR LR 21 47 43.0
comp=E,472nm,18.0s,baz=153,slow=38
BTO Baotou 24.67 284 *eP* **P 21 37 36.3 -0.6**
BTO pP **sP** **21 37 51.3 -2.2**
BTO PP **PnPn** **21 38 14.6 +4.7**
BTO S **S** **21 41 53.8 -1.8**
BTO pmax pmax
comp=E,140nm,0.7s
BTO pmax pmax
comp=E,440nm,6.0s
BTO LR LR
comp=E,730nm,13.8s
BTO LR LR
comp=E,3μm,15.5s
BTO LR LR
comp=E,3μm,14.7s
KNMB Chin-men Tao 24.69 241 P P 21 37 35.5 -1.4
KNMB IAmb IAmb 21 37 37.0
comp=Z,68nm,0.9s
SEY Seymchan 24.88 11*ceP* **P 21 37 38.2 -0.2**
SEY pmax pmax
comp=Z,88nm,1.0s
SEY Seymchan 24.88 11 LR LR 21 47 48.5
comp=Z,269nm,21.4s,baz=179,slow=37
GUMO Guam 25.30 174 LR LR 21 47 48.6
comp=Z,140nm,21.5s,baz=358,slow=37
SHEM Shemya Is, Ala 26.00 47 LR LR 21 46 53.7
comp=Z,123nm,21.9s,baz=323,slow=34
BOD Bodaibo 26.30 325 *eP* **P 21 37 50.3 -1.0**
BOD pmax pmax
comp=Z,73nm,1.4s
CNSH ChangSha 26.46 255 ⇑P P 21 37 52.6 -0.4
CNSH pmax pmax
comp=Z,72nm,0.9s
ULN Ulaanbaatar 26.83 301 P P **21 37 56.0 -0.4**
ULN Ulaanbaatar 26.83 301*ceP* **P 21 37 56.1 -0.3**
ULN pmax pmax
comp=Z,30nm,1.3s
ULN Ulaanbaatar 26.83 301 P P **21 37 57.2 +0.8**
ULN S **S** **21 42 31.1 +1.3**
XAN Xi'an 27.04 270 P P **21 37 57.4 -0.9**
XAN pP pP 21 38 07.3 -2.5
XAN S **S** **21 42 30.6 -2.6**
XAN pmax pmax
comp=Z,92nm,0.6s
XAN LR LR
comp=Z,490nm,15.8s
XAN LR LR
comp=Z,860nm,18.9s
XAN LR LR
comp=Z,800nm,19.9s
SONM Songino Array 27.27 301 P P **21 37 59.8 -0.5**
SONM Songino Array 27.27 301 P P **21 37 59.8 -0.5**
SONM pmax pmax
comp=Z,20nm,0.8s
SONM Songino Array 27.27 301 P P **21 38 00.4 0.0**
comp=Z,18nm,0.9s,baz=99,slow=8.9,SNR=58
SONM PcP PcP **21 41 18.8 -0.3**
comp=Z,1.6nm,0.4s,baz=146,slow=2.2,SNR=7.5
SONM LR LR 21 49 16.9
comp=Z,578nm,18.9s,baz=167,slow=37
comp=Z,18nm,0.9s
ENH Enshi 28.09 262 P P **21 38 07.0 -0.7**
H11N2 WAKE ISLAND Hy 28.67 125 T T 22 08 36.0
baz=317,slow=75
H11N1 WAKE ISLAND Hy 28.68 125 T T 22 08 36.7
baz=317,slow=75
H11N3 WAKE ISLAND Hy 28.69 125 T T 22 08 35.8
baz=317,slow=75
IRK Irkutsk 29.32 310 *eP* **P 21 38 16.3 -2.0**
IRK pmax pmax
comp=Z,62nm,1.1s
H11S1 WAKE ISLAND Hy 29.45 127 T T 22 09 30.8
baz=318,slow=76,SNR=3574
H11S3 WAKE ISLAND Hy 29.45 127 T T 22 09 30.9
baz=318,slow=76,SNR=5560
H11S2 WAKE ISLAND Hy 29.46 127 T T 22 09 32.0
baz=318,slow=76,SNR=2683
ZAK Zakamensk 29.61 306 *eP* **P 21 38 20.4 -0.7**
ZAK pmax pmax
comp=Z,50nm,1.1s
LZH Lanzhou 30.35 277 *eP* **P 21 38 27.1 -0.8**
LZH pmax pmax
comp=Z,91nm,1.1s
LZH LR LR
comp=Z,340nm,14.6s
LZH LR LR
comp=Z,700nm,14.6s
LZH LR LR
comp=Z,950nm,17.0s
MOY Mondy 31.21 308 *eP* **P 21 38 34.9 -0.4**
MOY pmax pmax
comp=Z,30nm,1.6s
BILL Bilibino 32.11 17 P P **21 38 42.7 0.0**
BILL IAmb IAmb 21 38 45.0
comp=Z,28nm,1.1s
BILL Bilibino 32.11 17 *eP* **P 21 38 43.1 +0.3**
BILL Bilibino 32.11 17 P P **21 38 43.2 +0.5**
GYA Guiyang 32.11 258 *i*P **P 21 38 42.4 -1.0**
GYA sP sP 21 38 59.6 -0.5
GYA sS sS 21 44 10.9 -1.3
GYA pmax pmax
comp=Z,92nm,1.0s
GYA LR LR
comp=Z,310nm,11.2s
GYA LR LR
comp=Z,510nm,14.0s
GYA LR LR
comp=Z,640nm,20.8s
CD2 Chengdu 32.27 268 P P **21 38 43.6 -1.0**
CD2 pP pP 21 38 54.9 -1.3
CD2 sP sP 21 38 59.4 -1.9
CD2 S **S** **21 43 55.8 +0.6**
CD2 pmax pmax
comp=Z,110nm,0.6s
CD2 pmax pmax
comp=Z,150nm,4.9s
CD2 LR LR
comp=Z,350nm,14.1s
CD2 LR LR
comp=Z,480nm,19.7s
CD2 LR LR
comp=Z,500nm,13.7s
GTA Gaotai 32.60 285 P P **21 38 46.8 -0.7**
GTA PcP **PcP** **21 41 34.0 +1.0**
GTA S **S** **21 43 59.3 -1.0**
GTA ScP **ScP** **21 45 13.6 +0.2**
GTA PcS **PcS** **21 45 18.8 +0.5**
GTA pmax pmax
comp=Z,39nm,1.2s
GTA LR LR
comp=Z,310nm,19.6s
GTA LR LR
comp=Z,870nm,18.9s
GTA LR LR
comp=Z,1μm,18.5s
TIXI Tiksi 33.54 352 P P **21 38 54.7 -0.5**
TIXI IAmb IAmb 21 38 55.6
comp=Z,19nm,1.1s
TIXI Tiksi 33.54 352*ceP* **P 21 38 54.3 -0.9**
TIXI pmax pmax
comp=Z,13nm,0.8s
TIXI Tiksi 33.54 352 LR LR 21 53 50.8
comp=Z,296nm,18.6s,baz=186,slow=38
TIXI Tiksi 33.54 352 P **P** **21 38 54.5 -0.7**
QIZ Qiongzhong 34.21 244 P P **21 39 02.5 +0.9**
QIZ PcP **PcP** **21 41 39.6 +1.9**
QIZ LR LR
comp=Z,380nm,16.0s
QIZ LR LR
comp=Z,140nm,12.9s
QIZ LR LR
comp=Z,400nm,15.6s
DAV Davao City (W) 35.01 210 LR LR 21 54 58.7
comp=Z,107nm,18.6s,baz=20,slow=39
KMI Kunming 35.82 259 ⇑P P 21 39 15.4 -0.3
KMI sP sP 21 39 31.8 -0.6
KMI pmax pmax
comp=Z,52nm,1.5s
KMI pmax pmax
comp=Z,160nm,4.1s
KMI LR LR
comp=Z,340nm,15.6s
KMI LR LR
comp=Z,410nm,20.6s
KMI LR LR
comp=Z,510nm,22.3s
KMI Kunming 35.82 259 P P **21 39 15.4 -0.3**
KMI sP **sP** **21 39 31.6 -0.8**
PZH PanZhiHua 35.87 262 P P **21 39 15.3 -0.7**
PZH S **S** **21 44 51.5 +0.4**
PZH pmax pmax
comp=Z,80nm,0.8s
PZH pmax pmax
comp=Z,210nm,5.9s
PZH LR LR
comp=Z,170nm,9.0s
PZH LR LR
comp=Z,150nm,7.3s
PZH LR LR
comp=Z,330nm,16.3s
SLVN Son La 37.07 253 P P **21 39 25.9 -0.4**
SLVN IAmb IAmb 21 39 29.1
comp=Z,17nm,0.8s
GOMU GeErMu 37.28 281 P P **21 39 28.3 +0.1**
GOMU pmax pmax
comp=Z,45nm,0.7s
GOMU LR LR
comp=Z,340nm,16.7s
GOMU LR LR
comp=Z,290nm,15.3s
GOMU LR LR
comp=Z,520nm,16.7s
TNA Tin City 38.98 30 P P **21 39 42.3 +0.6**
TNA IAmb IAmb 21 39 45.1
comp=Z,34nm,0.9s
TNA Tin City 38.98 30 P P **21 39 44.1 +2.3**
baz=252,SNR=7.4
TNCH TengChong 39.12 263 P P **21 39 44.3 +0.7**
TNCH pP pP 21 39 54.6 -0.7
TNCH sP sP 21 40 01.1 +0.7
TNCH S **S** **21 45 38.4 -2.2**
TNCH sS sS 21 46 00.8 +0.8
TNCH pmax pmax
comp=Z,130nm,1.1s
TNCH pmax pmax
comp=Z,190nm,4.7s
TNCH LR LR
comp=Z,250nm,5.3s
TNCH LR LR
comp=Z,140nm,5.3s
TNCH LR LR
comp=Z,190nm,12.4s
F14K Arctic Creek 39.59 31 P P **21 39 49.6 +2.7**
baz=254,SNR=6.1
NONG Nongkai 39.65 250 P P **21 39 47.9 +0.1**
ANM Nome 39.74 32 P P **21 39 49.3 +1.2**
ANM IAmb IAmb 21 39 52.4
comp=Z,41nm,1.4s
ANM Nome 39.74 32 P P **21 39 50.6 +2.5**
baz=256
ANM Nome 39.74 32 P P **21 39 49.3 +1.2**
ANM pmax pmax
comp=Z,41nm,1.4s
M13K Dall Lake 39.88 39 P P **21 39 51.3 +2.1**
baz=262
J14K Nanvaranak Lak 40.15 35 P P **21 39 53.7 +2.3**
baz=260
L14K Kuka Creek 40.33 38 P P **21 39 55.5 +2.6**
baz=262
F15K North Star Dit 40.33 31 P P **21 39 54.4 +1.4**
F15K IAmb IAmb 21 39 56.7
comp=Z,26nm,0.9s
F15K North Star Dit 40.33 31 P P **21 39 55.7 +2.7**
baz=255,SNR=7.1
CRAI Chiangrai 40.38 255 P P **21 39 53.9 0.0**
CRAI IAmb IAmb 21 39 57.8
comp=Z,49nm,0.7s
G15K Niukluk 40.40 32 P P **21 39 56.0 +2.4**
baz=256
WMQ Urumqi 40.54 295 ⇑*i*P **P 21 39 55.8 +0.8**
WMQ sP sP 21 40 14.3 +2.4
WMQ PcP **PcP** **21 41 57.9 +1.2**
WMQ pmax pmax
comp=Z,170nm,0.7s
WMQ pmax pmax
comp=Z,210nm,3.7s
WMQ LR LR
comp=Z,210nm,14.5s
WMQ LR LR
comp=Z,340nm,24.3s
M14K Bethel 40.60 39 P P **21 39 57.6 +2.4**
baz=263
SWI Sorong 40.78 197 P P **21 39 58.1 +0.9**
comp=Z,26nm,0.8s
C16K Lisburne Hills 40.81 27 P P **21 39 57.3 +0.4**
C16K Lisburne Hills 40.81 27 P P **21 39 58.3 +1.5**
baz=251
L15K Ungalak Mounta 40.94 37 P P **21 40 00.8 +2.8**
baz=263
K15K Wolf Creek Mou 41.00 36 P P **21 39 58.8 +0.3**
K15K IAmb IAmb 21 40 02.1
comp=Z,26nm,1.0s
K15K Wolf Creek Mou 41.00 36 P P **21 40 01.0 +2.5**
baz=262
H16K Elim 41.08 33 P P **21 40 01.2 +2.1**
baz=259,SNR=7.7
ZAA0 Zalesovo Array 41.11 311 P P **21 39 58.6 -0.9**
ZALV Zalesovo Beam 41.11 311 *i*P P **21 39 59.2 -0.3**
ZALV pmax pmax
comp=Z,39nm,0.5s
ZALV Zalesovo Beam 41.11 311 P P **21 39 59.2 -0.3**
comp=Z,39nm,0.5s,baz=87,slow=7.9,SNR=206
ZALV PcP **PcP** **21 41 58.3 0.0**
comp=Z,15nm,0.7s,baz=96,slow=2.8,SNR=5.6
ZALV LR LR 21 57 56.6
comp=Z,648nm,18.1s,baz=80,slow=37
comp=Z,39nm,0.5s
SDPT Sand Point 41.13 47 P P **21 40 01.8 +2.2**
baz=271
G16K Koyuk River 41.18 32 P P **21 40 00.9 +0.9**
G16K Koyuk River 41.18 32 P P **21 40 02.3 +2.4**
baz=258
M15K Kasigluk River 41.22 39 P P **21 40 02.5 +2.2**
baz=265
D17K Noatak River 41.46 28 P P **21 40 04.2 +2.1**
baz=254,SNR=14
N15K Kwethluk River 41.47 40 P P **21 40 04.6 +2.2**
baz=266
PHRA Phrae 41.53 253 P P **21 40 03.1 -0.3**
O15K Ungalikthiuk R 41.54 41 P P **21 40 05.5 +2.5**
baz=267
LBMI Labuha 41.55 202 P P **21 40 03.4 -0.1**
comp=Z,39nm,0.7s
J16K Anvik River 41.56 35 P P **21 40 05.9 +2.8**
baz=262
KMSI Cibinong 41.58 208 P P **21 40 03.0 -0.7**
comp=Z,149nm,0.9s,comp=Z,2μm
I17K Unalakleet 41.61 34 P P **21 40 04.5 +1.1**
I17K Unalakleet 41.61 34 P P **21 40 05.8 +2.3**
baz=261
RDOG Red Dog Mine 41.62 28 P P **21 40 04.7 +1.2**
RDOG Red Dog Mine 41.62 28 P P **21 40 05.1 +1.6**
baz=254
C17K DeLong Mountai 41.64 27 P P **21 40 05.5 +1.8**
baz=254,SNR=6.2
CHNA Chernabura Isl 41.65 48 P P **21 40 05.5 +1.5**
baz=272
CNBA Chernabura Isl 41.66 48 P P **21 40 02.9 -1.0**
E17K Hotham Inlet 41.77 29 P P **21 40 07.0 +2.3**
baz=256,SNR=25
ZSN Zaisan 41.79 301 *eP* **P 21 40 04.8 -0.4**
baz=301
ZSN Zaisan 41.79 301 *eP* **P 21 40 04.8 -0.4**
NRIK Noril'sk 41.84 334 P P **21 40 05.0 -0.4**
NRIK IAmb IAmb 21 40 05.9
comp=Z,74nm,1.4s
NRIK Noril'sk 41.84 334*ceP* **P 21 40 04.5 -0.8**
NRIK pmax pmax
comp=Z,23nm,1.0s
NRIK Noril'sk 41.84 334 P P **21 40 04.8 -0.5**
comp=Z,15nm,0.6s,baz=112,slow=8.9,SNR=26
NRIK LR LR 21 58 24.9
comp=Z,900nm,19.8s,baz=116,slow=37
comp=Z,15nm,0.6s
F17K Baldwin Pennin 41.85 30 P P **21 40 06.4 +1.0**
F17K IAmb IAmb 21 40 08.8
comp=Z,29nm,0.8s
F17K Baldwin Pennin 41.85 30 P P **21 40 07.6 +2.2**
baz=258,SNR=10
GTOI Gorontalo 41.89 209 P P **21 40 05.7 -0.6**
comp=Z,24nm,1.0s
L16K Owhat River 41.90 37 P P **21 40 07.8 +2.0**
baz=265
G17K Kiwalik Mounta 41.90 32 P P **21 40 08.5 +2.6**
baz=259
M16K Timber Creek 42.09 38 P P **21 40 08.7 +1.3**
M16K Timber Creek 42.09 38 P P **21 40 09.7 +2.3**
baz=266
H17K Granite Mounta 42.11 33 P P **21 40 08.5 +0.9**
H17K Granite Mounta 42.11 33 P P **21 40 10.0 +2.4**
baz=261,SNR=9.5
N16K Nishlik Lake 42.14 39 P P **21 40 10.3 +2.4**
baz=267,SNR=5.3
J17K VABM Dome 42.26 35 P P **21 40 10.2 +1.5**
J17K IAmb IAmb 21 40 12.9
comp=Z,31nm,0.9s
J17K VABM Dome 42.26 35 P P **21 40 11.1 +2.4**
baz=263
E18K Tukpahlearik C 42.31 29 P P **21 40 10.8 +1.7**
E18K IAmb IAmb 21 40 12.6
comp=Z,55nm,1.3s
E18K Tukpahlearik C 42.31 29 P P **21 40 11.3 +2.2**
baz=257
TOLI2 Tolitoli 42.35 213 P P **21 40 10.3 +0.2**
B18K Kokolik River 42.37 26 P P **21 40 11.5 +1.9**
baz=254,SNR=9.5
C18K Utukok River 42.39 27 P P **21 40 10.2 +0.3**
C18K IAmb IAmb 21 40 12.3
comp=Z,26nm,1.0s
C18K Utukok River 42.39 27 P P **21 40 11.2 +1.4**
baz=255
O16K Kokwok River B 42.44 41 P P **21 40 12.2 +1.8**
baz=268
MRSI Marisa 42.45 211 P P **21 40 11.0 +0.2**
comp=Z,44nm,0.9s
P16K Nushagak River 42.48 41 P P **21 40 13.5 +2.9**
baz=269
L17K Donlin 42.49 37 P P **21 40 13.2 +2.6**
baz=265
F18K Selawik 42.51 30 P P **21 40 13.2 +2.5**
baz=259,SNR=16
CM31 Chiang Mai Arr 42.52 254 P P **21 40 11.1 -0.3**
CMAR Chiang Mai Arr 42.52 254 P P **21 40 11.0 -0.5**
CMAR Chiang Mai Arr 42.52 254 P P **21 40 11.6 +0.1**
CMAR 21 42 03.7
CMAR Chiang Mai Arr 42.52 254 P P **21 40 11.6 +0.1**
comp=Z,4.7nm,0.7s,baz=47,slow=7.3,SNR=32
CMAR PcP **PcP** **21 42 03.7 +0.2**
comp=Z,6.2nm,0.9s,baz=17,slow=3.2,SNR=7.0
CMAR ScP **ScP** **21 45 49.4 -1.4**
comp=Z,0.3nm,0.3s,baz=49,slow=1.7,SNR=4.2
CMAR LR LR 21 59 45.5
comp=Z,163nm,19.2s,baz=50,slow=39
comp=Z,4.7nm,0.7s
K17K Iditarod 42.54 36 P P **21 40 12.2 +1.2**
K17K IAmb IAmb 21 40 14.8
comp=Z,34nm,0.9s
K17K Iditarod 42.54 36 P P **21 40 13.7 +2.6**
baz=265,SNR=7.4
MND Mandalay 42.60 260 P P **21 40 12.3 +0.3**
LSA Lhasa 42.62 274 P P **21 40 13.0 +0.3**
LSA IAmb IAmb 21 40 16.0
comp=Z,19nm,0.6s
LSA Lhasa 42.62 274 *i*P P **21 40 13.2 +0.5**
SNR=18
LSA Lhasa 42.62 274 P P **21 40 13.0 +0.3**
LSA pmax pmax
comp=Z,19nm,0.6s
LSA Lhasa 42.62 274 P P **21 40 13.4 +0.7**
LSA Lhasa 42.62 274 P P **21 40 13.7 +0.9**
LSA sP **sP** **21 40 29.4 -0.2**
G18K Tagagawik 42.78 31 P P **21 40 14.0 +0.9**
G18K Tagagawik 42.78 31 P P **21 40 15.0 +2.0**
baz=261,SNR=11
H18K Honhosa River 42.79 32 P P **21 40 14.0 +0.9**

H18K IAmb IAmb 21 40 16.2
comp=Z,26nm,0.8s
H18K Honhosa River 42.79 32 P **P** **21 40 15.2 +2.1**
baz=262
A19K Wainwright 42.84 25 P **P** **21 40 15.1 +1.7**
baz=254
M17K Holitna River 42.84 38 P **P** **21 40 15.1 +1.6**
M17K IAmb IAmb 21 40 17.2
comp=Z,31nm,0.8s
M17K Holitna River 42.84 38 P **P** **21 40 15.8 +2.2**
baz=267,SNR=6.0
N17K Nushagak Hills 42.93 39 P **P** **21 40 16.1 +1.8**
N17K Nushagak Hills 42.93 39 P **P** **21 40 16.7 +2.4**
baz=268
O17K Koliganek Bris 42.95 40 P **P** **21 40 16.8 +2.3**
baz=269
C19K Lookout Ridge 43.06 27 P **P** **21 40 16.2 +0.9**
C19K IAmb IAmb 21 40 18.9
comp=Z,44nm,1.3s
C19K Lookout Ridge 43.06 27 P **P** **21 40 17.3 +2.0**
baz=256
L18K Granite Mounta 43.25 37 P **P** **21 40 18.7 +1.9**
L18K Granite Mounta 43.25 37 P **P** **21 40 19.3 +2.5**
baz=267
F19K Shaleruckik Mo 43.28 30 P **P** **21 40 18.0 +1.0**
F19K Shaleruckik Mo 43.28 30 P **P** **21 40 19.6 +2.5**
baz=261
J18K Innoko River 43.32 35 P **P** **21 40 18.7 +1.3**
J18K Innoko River 43.32 35 P **P** **21 40 19.5 +2.1**
baz=265
SANI Sanana 43.35 204 P **P** **21 40 19.1 +1.0**
SANI Sanana 43.35 204 P **P** **21 40 17.8 -0.3**
comp=Z,63nm,1.1s
SANI pP **pP** **21 40 28.7 -1.2**
comp=Z,63nm,1.1s
NAYO Nakonayok 43.41 247 P **P** **21 40 18.9 +0.2**
MPSI Mapaga 43.43 213 P **P** **21 40 17.7 -1.0**
D19K Kuna River 43.45 28 P **P** **21 40 19.2 +0.8**
D19K IAmb IAmb 21 40 21.4
comp=Z,58nm,1.0s
D19K Kuna River 43.45 28 P **P** **21 40 20.1 +1.6**
baz=259
G19K Purcell Mounta 43.45 31 P **P** **21 40 18.8 +0.4**
G19K Purcell Mounta 43.45 31 P **P** **21 40 20.4 +1.9**
baz=262
LUWI Luwuk 43.52 209 P **P** **21 40 19.3 -0.2**
LUWI IAmb IAmb 21 40 42.1
comp=Z,40nm,0.8s
LUWI Luwuk 43.52 209 P **P** **21 40 19.7 +0.2**
comp=Z,64nm,0.8s,comp=Z,3jm
N18K Kilae Creek 43.57 39 P **P** **21 40 20.3 +0.8**
N18K Kilae Creek 43.57 39 P **P** **21 40 22.1 +2.6**
baz=269
Q17K Contact Creek 43.59 43 P **P** **21 40 21.3 +1.5**
baz=272
E19K Redstone River 43.59 29 P **P** **21 40 21.1 +1.5**
E19K IAmb IAmb 21 40 22.8
comp=Z,34nm,0.8s
E19K Redstone River 43.59 29 P **P** **21 40 21.8 +2.2**
baz=261
TTA Tatalina 43.60 36 P **P** **21 40 21.8 +2.1**
TTA Tatalina 43.60 36 P **P** **21 40 19.1 -0.6**
TTA Tatalina 43.60 36 P **P** **21 40 21.4 +1.6**
baz=267
TTA Tatalina 43.60 36 P **P** **21 40 19.1 -0.6**
TTA pmax pmax
comp=Z,12nm,1.1s
M18K Stony River 43.62 38 P **P** **21 40 22.3 +2.5**
baz=268
H19K Roundabout Mou 43.64 32 P **P** **21 40 21.1 +1.3**
H19K IAmb IAmb 21 40 23.2
comp=Z,44nm,0.9s
H19K Roundabout Mou 43.64 32 P **P** **21 40 21.9 +2.0**
baz=263,SNR=40
MK31 Makanchi Array 43.64 301 P **P** **21 40 20.4 +0.2**
MK31 Makanchi Array 43.64 301 *ce*P **P** **21 40 20.0 -0.2**
MKAR Makanchi Array 43.64 301 *ce*P **P** **21 40 20.3 +0.1**
MKAR pmax pmax
comp=Z,92nm,0.8s
MKAR Makanchi Array 43.64 301 P **P** **21 40 20.4 +0.1**
comp=Z,70nm,0.7s,baz=84,slow=9.6,SNR=752
MKAR LR LR 21 59 05.2
comp=Z,388nm,21.1s,baz=83,slow=37
comp=Z,70nm,0.7s
SVW2 Sparrevohn 43.73 38 P **P** **21 40 22.7 +2.0**
SVW2 Sparrevohn 43.73 38 P **P** **21 40 21.7 +1.0**
MAKZ Makanchi 43.84 301 P **P** **21 40 22.1 +0.2**
MAKZ Makanchi 43.84 301 P **P** **21 40 22.1 +0.2**
MAKZ pmax pmax
comp=Z,97nm,1.0s
MAKZ Makanchi 43.84 301 ⇑P **P** **21 40 22.1 +0.2**
MAKZ sP **sP** **21 40 38.3 -0.5**
J19K Poorman 43.85 34 P **P** **21 40 22.9 +1.3**
J19K IAmb IAmb 21 40 25.0
comp=Z,30nm,0.9s
J19K Poorman 43.85 34 P **P** **21 40 23.3 +1.7**
baz=266,SNR=20
P18K Big Mountain, 43.90 41 P **P** **21 40 24.3 +2.1**
baz=271
O18K Koktuh Hills 43.91 40 P **P** **21 40 23.3 +1.1**
O18K Koktuh Hills 43.91 40 P **P** **21 40 24.4 +2.2**
baz=270
D20K Etivluk River 44.04 27 P **P** **21 40 25.2 +2.1**
baz=260
B20K Meade River 44.09 26 P **P** **21 40 24.7 +1.2**
B20K IAmb IAmb 21 40 26.1
comp=Z,50nm,1.1s
B20K Meade River 44.09 26 P **P** **21 40 25.2 +1.7**
baz=258
L19K White Mountain 44.10 37 P **P** **21 40 25.3 +1.6**
L19K White Mountain 44.10 37 P **P** **21 40 25.8 +2.1**
baz=268
E20K Nigu River 44.12 28 P **P** **21 40 25.8 +2.0**
baz=261
F20K Avaraart Lake 44.12 30 P **P** **21 40 24.7 +1.0**
F20K Avaraart Lake 44.12 30 P **P** **21 40 25.7 +2.0**
baz=262,SNR=9.6
N19K Bonanza Creek 44.26 39 P **P** **21 40 26.1 +1.0**
N19K Bonanza Creek 44.26 39 P **P** **21 40 27.2 +2.1**
baz=270
H20K Anotleneega Mo 44.28 32 P **P** **21 40 27.3 +2.2**
baz=265,SNR=12
SEM Semipalatinsk 44.29 306 *e*P **P** **21 40 25.2 -0.4**
comp=Z,11nm,0.4s,baz=306
SEM Semipalatinsk 44.29 306 *e*P **P** **21 40 25.2 -0.4**
SEM pmax pmax
comp=Z,11nm,0.4s
M19K Big River Lodg 44.31 37 P **P** **21 40 26.0 +0.6**
M19K Big River Lodg 44.31 37 P **P** **21 40 27.8 +2.4**
baz=269
O19K Port Alsworth 44.35 40 P **P** **21 40 28.1 +2.5**
baz=271
I20K Naaghedeneel 44.40 33 P **P** **21 40 27.1 +1.1**
I20K IAmb IAmb 21 40 29.4
comp=Z,24nm,0.8s
I20K Naaghedeneel 44.40 33 P **P** **21 40 28.2 +2.3**
baz=266
K20K Telida 44.50 35 P **P** **21 40 27.8 +0.9**
K20K Telida 44.50 35 P **P** **21 40 29.3 +2.4**
baz=268,SNR=8.0
J20K Nowinta River 44.51 34 P **P** **21 40 27.5 +0.6**
J20K IAmb IAmb 21 40 30.8
comp=Z,25nm,1.1s
J20K Nowinta River 44.51 34 P **P** **21 40 29.3 +2.5**
baz=267,SNR=15
A21K Barrow 44.55 24 P **P** **21 40 28.4 +1.3**
baz=257,SNR=5.2
L20K Farewell, AK 44.56 37 P **P** **21 40 29.8 +2.3**
baz=269
C21K Knifeblade Rid 44.76 27 P **P** **21 40 31.1 +2.3**
baz=261
IMAR Indian Mountai 44.79 32 P **P** **21 40 29.2 +0.1**
B21K Ikpikpuk River 44.89 26 P **P** **21 40 30.2 +0.3**
B21K Ikpikpuk River 44.89 26 P **P** **21 40 32.1 +2.2**
baz=261,SNR=45
M20K Styx River 44.91 37 P **P** **21 40 31.0 +0.8**
M20K Styx River 44.91 37 P **P** **21 40 32.6 +2.3**
baz=270
P19K Oil Pt 44.91 41 P **P** **21 40 31.8 +1.6**
baz=272
G21K Allakaket 44.93 31 P **P** **21 40 31.2 +0.9**
G21K Allakaket 44.93 31 P **P** **21 40 32.2 +1.9**
baz=265
E21K Killik River 44.95 28 P **P** **21 40 31.7 +1.2**
E21K IAmb IAmb 21 40 33.7
comp=Z,22nm,0.9s
E21K Killik River 44.95 28 P **P** **21 40 32.2 +1.8**
baz=263
SRDT SRDT 44.99 249 P **P** **21 40 31.6 +0.3**
F21K Alatna River 45.01 30 P **P** **21 40 32.4 +1.5**
F21K Alatna River 45.01 30 P **P** **21 40 32.6 +1.7**
baz=264
A22K Sinclair Lake 45.01 24 P **P** **21 40 32.5 +1.8**
baz=259
OHAK Old Harbor 45.04 44 P **P** **21 40 30.3 -0.8**
OHAK IAmb IAmb 21 40 32.5
comp=Z,42nm,1.3s
OHAK Old Harbor 45.04 44 P **P** **21 40 32.0 +0.9**
baz=275
RSO Redoubt South 45.12 39 P **P** **21 40 32.8 +0.7**
H21K Melozitna Rive 45.16 32 P **P** **21 40 32.7 +0.6**
H21K Melozitna Rive 45.16 32 P **P** **21 40 33.9 +1.9**
baz=267,SNR=7.4
O20K Slope Mountain 45.20 40 P **P** **21 40 34.6 +2.0**
baz=272
KURK Kurchatov 45.26 307 P **P** **21 40 32.9 -0.1**
KURK Kurchatov 45.26 307 *ce*P **P** **21 40 32.8 -0.2**
KURK pmax pmax
comp=Z,164nm,0.9s
KURK Kurchatov 45.26 307 P **P** **21 40 33.0 0.0**
KURK S **S** **21 47 07.5 -2.6**
KURK Kurchatov 45.26 307 P **P** **21 40 32.9 -0.1**
KURK pP **pP** **21 40 44.1 -0.9**
KURK sP **sP** **21 40 48.7 -1.3**
KURK PcP **PcP** **21 42 11.8 -0.5**
CHUM Lake Minchumin 45.30 35 P **P** **21 40 35.8 +2.6**
baz=269,SNR=6.7
KURBB Kurchatov Arra 45.33 307 P **P** **21 40 33.6 0.0**
comp=Z,186nm,0.6s,baz=81,slow=8.2,SNR=407
KURBB PcP **PcP** **21 42 12.2 -0.3**
comp=Z,8.2nm,0.6s,baz=79,slow=3.9,SNR=4.3
KURBB LR LR 22 00 13.1
comp=Z,458nm,18.7s,baz=187,slow=37
PPLA Purkeypile 45.35 36 P **P** **21 40 35.5 +1.8**
baz=270
N20K Mount Spurr 45.37 38 P **P** **21 40 36.2 +2.4**
baz=272,SNR=7.0
KDAK Kodiak Island 45.37 43 P **P** **21 40 35.6 +1.8**
baz=275
KDAK Kodiak Island 45.37 43 LR LR 21 59 21.5
comp=Z,228nm,21.6s,baz=262,slow=36
KDAK Kodiak Island 45.37 43 P **P** **21 40 34.8 +1.0**
KDAK sP **sP** **21 40 51.2 +0.7**
CAST Castle Rocks 45.40 35 P **P** **21 40 34.5 +0.5**
CAST Castle Rocks 45.40 35 P **P** **21 40 36.3 +2.2**
baz=270,SNR=11
Q20K Shuyak Island 45.41 42 P **P** **21 40 35.7 +1.6**
baz=274
B22K Teshekpuk Lake 45.41 25 P **P** **21 40 35.1 +1.2**
B22K IAmb IAmb 21 40 36.6
comp=Z,32nm,1.0s
B22K Teshekpuk Lake 45.41 25 P **P** **21 40 35.6 +1.7**
baz=262
D22K Ayikyak River 45.48 27 P **P** **21 40 36.2 +1.7**
D22K Ayikyak River 45.48 27 P **P** **21 40 36.9 +2.4**
baz=264
I21K Tanana 45.48 33 P **P** **21 40 35.8 +1.2**
I21K Tanana 45.48 33 P **P** **21 40 36.9 +2.4**
baz=268
SKT Skwentna 45.67 37 P **P** **21 40 38.1 +2.0**
baz=272
E22K Anaktuvuk Pass 45.72 29 P **P** **21 40 37.6 +1.1**
E22K IAmb IAmb 21 40 39.8
comp=Z,43nm,0.9s
E22K Anaktuvuk Pass 45.72 29 P **P** **21 40 38.6 +2.1**
baz=265
G22K Bettles 45.75 30 P **P** **21 40 38.2 +1.5**
baz=267
H22K Ishtalitna Cre 45.76 32 P **P** **21 40 39.1 +2.3**
baz=268
BPAW Bear Paw Mtn. 45.89 34 P **P** **21 40 38.4 +0.5**
BPAW IAmb IAmb 21 40 41.0
comp=Z,26nm,1.4s
BPAW Bear Paw Mtn. 45.89 34 P **P** **21 40 40.2 +2.3**
baz=270
CAPN Captain Cook N 45.90 39 P **P** **21 40 39.7 +1.7**
baz=273
KTH Kantishna Hill 45.92 35 P **P** **21 40 38.8 +0.6**
KTH IAmb IAmb 21 40 41.4
comp=Z,24nm,0.9s
MLY Manley 46.00 33 P **P** **21 40 39.3 +0.5**
MLY IAmb IAmb 21 40 42.0
comp=Z,15nm,0.8s
MLY Manley 46.00 33 P **P** **21 40 41.0 +2.2**
baz=269,SNR=11
SUA Susitna One 46.06 38 P **P** **21 40 39.9 +0.5**
SUA IAmb IAmb 21 40 43.0
comp=Z,34nm,1.0s
SUA Susitna One 46.06 38 P **P** **21 40 42.1 +2.7**
baz=273,SNR=5.2
BRLK Bradley Lake 46.09 40 P **P** **21 40 40.2 +0.7**
BRLK IAmb IAmb 21 41 03.0
comp=Z,23nm,1.1s
BRSE Bradley Lake S 46.17 40 P **P** **21 40 42.4 +2.3**
baz=274
D23K Nanushuk River 46.20 27 P **P** **21 40 42.6 +2.3**
baz=266
TRF Thorofare Moun 46.20 35 P **P** **21 40 40.9 +0.4**
TRF Thorofare Moun 46.20 35 P **P** **21 40 42.4 +1.9**
baz=271,SNR=6.8
CUT Chulitna 46.24 37 P **P** **21 40 42.8 +2.2**
baz=272
COLD Coldfoot 46.28 30 P **P** **21 40 43.1 +2.2**
baz=268,SNR=5.8
C23K Itkillik River 46.30 26 P **P** **21 40 42.2 +1.2**
C23K Itkillik River 46.30 26 P **P** **21 40 43.1 +2.1**
baz=265,SNR=57
G23K Bananza Creek 46.33 31 P **P** **21 40 42.4 +1.1**
G23K Bananza Creek 46.33 31 P **P** **21 40 43.2 +1.8**
baz=268
M22K Willow 46.34 37 P **P** **21 40 43.5 +2.1**
baz=273
SHLS Shalkode 46.50 296 *e*P **P** **21 40 40.2 -3.0**
comp=Z,10nm,0.7s,baz=296
SHLS Shalkode 46.50 296 *e*P **P** **21 40 40.1 -3.0**
SHLS pmax pmax
comp=Z,10.0nm,0.7s
E23K Chandalar 46.54 29 P **P** **21 40 45.4 +2.4**
baz=267
BWN Browne 46.55 34 P **P** **21 40 45.0 +1.9**
RC01 Rabbit Creek A 46.57 38 P **P** **21 40 43.2 0.0**
RC01 IAmb IAmb 21 41 02.9
comp=Z,27nm,0.9s
RC01 Rabbit Creek A 46.57 38 P **P** **21 40 44.2 +1.0**
baz=274
TOLK Toolik Lake Re 46.59 28 P **P** **21 40 44.1 +0.8**
TOLK IAmb IAmb 21 40 46.4
comp=Z,20nm,1.0s
TOLK Toolik Lake Re 46.59 28 P **P** **21 40 45.2 +1.8**
baz=267,SNR=11
I23K Minto, Yukon-K 46.59 33 P **P** **21 40 45.2 +2.0**
I23K Minto, Yukon-K 46.59 33 P **P** **21 40 45.6 +2.3**
baz=270
O22K Cooper Landing 46.62 39 P **P** **21 40 44.5 +0.9**
O22K IAmb IAmb 21 41 09.4
comp=Z,34nm,0.8s
O22K Cooper Landing 46.62 39 P **P** **21 40 44.9 +1.3**
baz=274
TDK Taldyqorghan 46.70 299 *e*P **P** **21 40 44.5 -0.1**
comp=Z,13nm,1.0s,baz=299
TDK Taldyqorghan 46.70 299 *e*P **P** **21 40 44.4 -0.1**
TDK pmax pmax
comp=Z,13nm,1.0s
NEA2 Nenana 46.72 34 P **P** **21 40 46.0 +1.6**
NEA2 IAmb IAmb 21 40 47.3
comp=Z,35nm,1.4s
NEA2 Nenana 46.72 34 P **P** **21 40 46.1 +1.7**
baz=271
SEW Seward 46.79 40 P **P** **21 40 46.8 +1.9**
SEW IAmb IAmb 21 41 07.4
comp=Z,19nm,0.8s
SEW Seward 46.79 40 P **P** **21 40 46.7 +1.8**
baz=275
MCK McKinley 46.80 35 P **P** **21 40 45.8 +0.8**
MCK IAmb IAmb 21 40 47.4
comp=Z,15nm,0.9s
MCK McKinley 46.80 35 P **P** **21 40 46.9 +1.8**
baz=272,SNR=5.2
MCK McKinley 46.80 35 P **P** **21 40 45.8 +0.8**
MCK pmax pmax
comp=Z,15nm,0.9s
UZB Uzynbulak 46.81 296 *e*P **P** **21 40 45.0 -0.6**
comp=Z,8.0nm,0.8s,baz=296
UZB Uzynbulak 46.81 296 *e*P **P** **21 40 44.9 -0.6**
UZB pmax pmax
comp=Z,8.0nm,0.8s
PMR Palmer 46.83 38 P **P** **21 40 46.1 +0.9**
PMR IAmb IAmb 21 40 47.7
comp=Z,21nm,1.1s
PMR Palmer 46.83 38 P **P** **21 40 46.3 +1.1**
baz=274,SNR=6.0
PMR Palmer 46.83 38 P **P** **21 40 46.1 +0.9**
PMR pmax pmax
comp=Z,21nm,1.1s
RND Reindeer 46.85 35 P **P** **21 40 46.0 +0.5**
RND IAmb IAmb 21 40 47.6
comp=Z,20nm,1.0s
RND Reindeer 46.85 35 P **P** **21 40 46.0 +0.5**
RND pmax pmax
comp=Z,20nm,1.0s
MTKI Muara Teweh, K 46.86 219 P **P** **21 40 46.1 +0.1**
D24K Happy Valley 46.88 27 P **P** **21 40 46.9 +1.3**
D24K Happy Valley 46.88 27 P **P** **21 40 47.7 +2.2**
baz=267
GHO Glory Hole Cre 46.91 37 P **P** **21 40 46.9 +0.9**
GHO IAmb IAmb 21 41 14.2
comp=Z,27nm,0.9s
C24K Franklin Bluff 46.96 26 P **P** **21 40 48.1 +2.0**
baz=267
WAT1 Susitna Watana 47.02 36 P **P** **21 40 48.0 +1.2**
baz=273
MDM Murphy Dome 47.07 33 P **P** **21 40 48.4 +1.3**
MDM IAmb IAmb 21 41 07.8
comp=Z,18nm,0.9s
WRH Wood River Hil 47.15 34 P **P** **21 40 47.6 -0.1**
KNK Knik Glacier 47.16 38 P **P** **21 40 47.8 -0.1**
KNK IAmb IAmb 21 41 07.3
comp=Z,24nm,1.0s
KNK Knik Glacier 47.16 38 P **P** **21 40 49.3 +1.5**
baz=275
F24K Squaw Lake 47.18 30 P **P** **21 40 49.1 +1.1**
F24K Squaw Lake 47.18 30 P **P** **21 40 49.8 +1.8**
baz=270,SNR=7.1
SML Sawmill 47.19 37 P **P** **21 40 48.8 +0.6**
SML IAmb IAmb 21 41 09.6
comp=Z,26nm,0.8s
SML Sawmill 47.19 37 P **P** **21 40 49.6 +1.5**
baz=274,SNR=5.9
H24K Noodor Dome 47.20 32 P **P** **21 40 49.0 +0.9**
H24K IAmb IAmb 21 40 51.6
comp=Z,15nm,1.1s
H24K Noodor Dome 47.20 32 P **P** **21 40 50.5 +2.4**
baz=271
ZHN Zhinishke 47.21 297 *e*P **P** **21 40 47.8 -0.9**
comp=Z,7.7nm,1.0s,baz=297
ZHN Zhinishke 47.21 297 *e*P **P** **21 40 47.7 -0.9**
ZHN pmax pmax
comp=Z,8.0nm,1.0s
KSM Kuching 47.23 226 P **P** **21 40 50.0 +1.1**
KSM Kuching 47.23 226 P **P** **21 40 49.0 +0.1**
KSM IAmb IAmb 21 40 50.9
comp=Z,25nm,0.9s
COLA College 47.23 33 P **P** **21 40 50.4 +2.0**
COLA College 47.23 33 P **P** **21 40 49.1 +0.8**
COLA IAmb IAmb 21 41 09.7
comp=Z,13nm,0.7s
COLA College 47.23 33 P **P** **21 40 50.3 +2.0**
baz=272
COLA College 47.23 33 *i*P **P** **21 40 48.6 +0.3**
COLA pmax pmax
comp=Z,7.0nm,0.9s
CCB Clear Creek Bu 47.26 33 P **P** **21 40 49.5 +1.0**
CCB IAmb IAmb 21 41 14.0
comp=Z,23nm,1.5s
SATY Saty 47.27 297 *e*P **P** **21 40 48.8 -0.4**
comp=Z,7.7nm,0.7s,baz=296
SATY Saty 47.27 297 *e*P **P** **21 40 48.7 -0.4**
SATY pmax pmax
comp=Z,8.0nm,0.7s
WUS Wushi 47.27 294 P **P** **21 40 49.7 +0.5**
G24K Hadweenzic Riv 47.34 31 P **P** **21 40 50.2 +1.0**
G24K Hadweenzic Riv 47.34 31 P **P** **21 40 51.8 +2.5**
baz=271,SNR=13
POKR Poker Plat Res 47.40 33 P **P** **21 40 51.0 +1.4**
POKR Poker Plat Res 47.40 33 P **P** **21 40 51.9 +2.2**
baz=272,SNR=17
WAT6 Susitna Watana 47.41 36 P **P** **21 40 51.1 +1.2**
baz=274
PRZ Przheval'sk 47.45 296 P **P** **21 40 51.1 +0.5**
PRZ IAmb IAmb 21 40 52.5
comp=Z,27nm,0.8s
PRZ Przheval'sk 47.45 296 P **P** **21 40 51.1 +0.5**
PRZ pmax pmax
comp=Z,27nm,0.8s
JOHN Johnston Islan 47.48 104 P **P** **21 40 49.7 -1.1**
M23K Glacier View 47.48 37 P **P** **21 40 52.0 +1.7**
baz=275
DHY Denali Highway 47.54 36 P **P** **21 40 51.4 +0.4**
DHY IAmb IAmb 21 41 15.4
comp=Z,16nm,1.0s
DHY Denali Highway 47.54 36 P **P** **21 40 52.2 +1.3**
baz=274
HDA Harding Lake 47.64 34 P **P** **21 40 51.8 +0.2**
HDA IAmb IAmb 21 40 53.4
comp=Z,15nm,0.8s
HDA Harding Lake 47.64 34 P **P** **21 40 53.2 +1.6**
baz=273,SNR=10.0
IL31 47.65 33 P **P** **21 40 51.9 +0.4**
IL31 pP 21 40 52.5 -11
IL31 IAmb IAmb 21 40 53.6
comp=Z,18nm,0.8s
ILAR Eielson Array 47.65 33 P **P** **21 40 52.2 +0.6**
ILAR Eielson Array 47.65 33 P **P** **21 40 52.6 +1.0**
ILAR 21 42 20.4
ILAR Eielson Array 47.65 33 P **P** **21 40 52.5 +1.0**
comp=Z,12nm,0.7s,baz=269,slow=6.5,SNR=144
ILAR PcP **PcP** **21 42 20.4 -0.1**
comp=Z,3.1nm,0.8s,baz=267,slow=3.6,SNR=1.3
ILAR LR LR 22 03 01.0
comp=Z,68nm,18.7s,baz=270,slow=39
comp=Z,12nm,0.7s
SCM Sheep Creek Mo 47.66 37 P **P** **21 40 52.4 +0.6**
SCM IAmb IAmb 21 40 54.3
comp=Z,25nm,1.0s
SCM Sheep Creek Mo 47.66 37 P **P** **21 40 53.5 +1.6**
baz=275,SNR=6.6
SCM Sheep Creek Mo 47.66 37 P **P** **21 40 52.4 +0.6**
SCM pmax pmax
comp=Z,25nm,1.0s
BBSI Bau Bau 47.71 207 P **P** **21 40 51.8 -0.8**
comp=Z,246nm,0.9s
STKI Sintang 47.75 224 P **P** **21 40 53.8 +0.8**
comp=Z,33nm,1.0s
D25K Kavik River 47.76 27 P **P** **21 40 53.7 +1.2**
D25K IAmb IAmb 21 40 55.3
comp=Z,27nm,0.8s
D25K Kavik River 47.76 27 P **P** **21 40 54.4 +1.9**
baz=269,SNR=37
G25K Bearman Lake 47.89 31 P **P** **21 40 55.9 +2.5**
baz=272,SNR=6.7
CHKK Chushkaly 48.01 298 *e*P **P** **21 40 54.5 -0.3**
baz=298
CHKK Chushkaly 48.01 298 *e*P **P** **21 40 54.4 -0.3**
H25L Birch Creek 48.02 31 P **P** **21 40 57.2 +2.8**
baz=273,SNR=5.8
F25K Christian Rive 48.04 29 P **P** **21 40 57.2 +2.5**
baz=272
E25K Arctic Village 48.06 29 P **P** **21 40 56.0 +1.2**
E25K IAmb IAmb 21 40 58.5
comp=Z,16nm,1.1s
E25K Arctic Village 48.06 29 P **P** **21 40 57.4 +2.6**
baz=271,SNR=11
M24K Tolsona, Glenn 48.18 37 P **P** **21 40 57.0 +1.2**
M24K Tolsona, Glenn 48.18 37 P **P** **21 40 57.8 +2.0**
baz=276
MDOK Medeo 48.18 297 *e*P **P** **21 40 56.1 -0.2**
baz=297
MDOK Medeo 48.18 297 *e*P **P** **21 40 56.0 -0.2**
PRP Porcupine Dome 48.18 32 P **P** **21 40 56.5 +0.6**
PRP IAmb IAmb 21 40 58.7
comp=Z,16nm,0.8s
PRP Porcupine Dome 48.18 32 P **P** **21 40 57.8 +1.9**
baz=274,SNR=18
K24K Donnelly Dome 48.20 35 P **P** **21 40 57.4 +1.5**
baz=275,SNR=5.7
FYU Fort Yukon 48.24 31 P **P** **21 40 57.7 +1.6**
FYU IAmb IAmb 21 40 59.4
comp=Z,20nm,0.9s

AAA Alma-Ata 48.26 297 *e*P P 21 40 56.3 -0.4
comp=Z,10nm,0.5s,baz=297
AAA Alma-Ata 48.26 297 *e*P P 21 40 56.3 -0.4
AAA pmax pmax
comp=Z,10.0nm,0.5s
C26K Camden Bay 48.28 26 P P 21 40 59.0 +2.7
baz=270,SNR=32
J25K Saicha River, 48.31 33 P P 21 40 58.4 +1.6
baz=274
KAPI Kappang 48.33 210 P P 21 40 57.9 +0.5
KAPI Kappang 48.33 210 P P 21 40 57.9 +0.5
KAPI pmax pmax
comp=Z,51nm,1.2s
KAPI Kappang 48.33 210 P P 21 40 59.1 +1.7
KLU Klutina 48.37 38 P P 21 40 58.2 +0.9
KLU IAmb IAmb 21 41 17.2
comp=Z,34nm,1.1s
KLU Klutina 48.37 38 P P 21 40 58.9 +1.6
baz=277
PAX Paxson 48.41 36 P P 21 40 59.5 +1.8
baz=276
Q23K Middleton Isla 48.42 40 P P 21 40 59.7 +2.1
baz=278
BMAR Burnt Mountain 48.46 30 P P 21 40 59.4 +1.5
BKSI Bulukumba 48.46 210 P P 21 40 58.0 -0.4
comp=Z,22nm,1.1s
SRIT Nakonsritamara 48.56 243 P P 21 41 00.5 +1.3
SRIT Nakonsritamara 48.56 243 P P 21 40 58.6 -0.6
EYAK Cordova Ski Ar 48.57 39 P P 21 41 00.9 +2.2
baz=278
F26K Sheenjek River 48.61 29 P P 21 41 02.0 +3.0
baz=273
RIDG Independent Ri 48.62 35 P P 21 41 00.0 +0.9
RIDG IAmb IAmb 21 41 19.8
comp=Z,12nm,1.0s
RIDG Independent Ri 48.62 35 P P 21 41 00.7 +1.6
baz=276
HARP HAARP 48.62 36 P P 21 41 00.7 +1.6
baz=277
G26K Porcupine Rive 48.79 30 P P 21 41 03.0 +2.6
baz=274
SCRK Sand Creek 48.97 34 P P 21 41 02.7 +0.8
SCRK IAmb IAmb 21 41 04.0
comp=Z,15nm,0.9s
SCRK Sand Creek 48.97 34 P P 21 41 03.1 +1.2
baz=276,SNR=14
N25K Chitina, Valde 48.98 37 P P 21 41 03.8 +1.8
baz=278
ULHL Ulahol 49.04 296 P P 21 41 03.1 +0.2
SNR=13
BMRM Bremner River 49.06 38 P P 21 41 04.4 +1.7
baz=278
J26L Joseph Creek 49.10 33 P P 21 41 04.3 +1.4
baz=276
I26K Coal Creek Min 49.19 32 P P 21 41 04.8 +1.4
baz=276
MENT Mentasta 49.21 36 P P 21 41 04.6 +0.9
MENT IAmb IAmb 21 41 32.3
comp=Z,16nm,1.0s
TKM2 Tokmak 2 49.27 297 P P 21 41 05.4 +0.8
SNR=100
TKM2 Tokmak 2 49.27 297 *i* P P 21 41 04.7 +0.1
TKM2 pmax pmax
comp=Z,50nm,0.6s
L26K Log Cabin Wild 49.37 35 P P 21 41 05.3 +0.5
L26K IAmb IAmb 21 41 08.1
comp=Z,16nm,0.8s
L26K Log Cabin Wild 49.37 35 P P 21 41 07.0 +2.1
baz=278,SNR=8.6
GLB Gilahina Butte 49.38 38 P P 21 41 04.8 -0.2
GLB IAmb IAmb 21 41 30.0
comp=Z,14nm,1.0s
NRN Naryn 49.48 295 IAmb IAmb 21 41 29.5
comp=Z,11nm,0.8s
E27K Coleen River 49.54 29 P P 21 41 07.7 +1.5
E27K IAmb IAmb 21 41 09.6
comp=Z,21nm,1.1s
E27K Coleen River 49.54 29 P P 21 41 08.6 +2.5
baz=275
VRDI Verde Repeater 49.58 38 P P 21 41 07.2 +0.5
VRDI IAmb IAmb 21 41 29.3
comp=Z,19nm,1.0s
BERG Berg Lake 49.59 39 P P 21 41 07.8 +1.2
M26K Nabesna, AK 49.62 36 P P 21 41 08.2 +1.4
M26K IAmb IAmb 21 41 27.2
comp=Z,33nm,1.4s
M26K Nabesna, AK 49.62 36 P P 21 41 09.0 +2.2
baz=278,SNR=7.1
G27K Doyon Strip 49.64 30 P P 21 41 08.6 +1.7
G27K Doyon Strip 49.64 30 P P 21 41 09.0 +2.0
baz=276
BTLS Baital 49.65 300⇑ *i* P P 21 41 06.9 -0.4
comp=Z,11nm,0.9s,baz=300
BTLS Baital 49.65 300 *c i* P P 21 41 06.8 -0.4
BTLS pmax pmax
comp=Z,11nm,0.9s
D27M Malcolm River 49.69 27 P P 21 41 08.9 +1.7
D27M IAmb IAmb 21 41 10.6
comp=Z,17nm,1.0s
H27K Steamboat Moun 49.76 31 P P 21 41 10.1 +2.3
baz=276,SNR=3.4
MCARA McCarthy VSAT 49.76 38 P P 21 41 08.2 +0.3
MCARA IAmb IAmb 21 41 31.6
comp=Z,22nm,0.8s
MCARA McCarthy VSAT 49.76 38 P P 21 41 10.0 +2.1
baz=279
BVAR Borovoye Array 49.76 311 P P 21 41 08.1 +0.1
BVAR 21 42 28.7
BVAR Borovoye Array 49.76 311 P P 21 41 08.1 +0.1
comp=Z,72nm,0.5s,baz=72,slow=8.1,SNR=594
BVAR PcP PcP 21 42 28.7 +0.3
comp=Z,21nm,0.5s,baz=91,slow=4.0,SNR=7.6
BVAR LR LR 22 03 15.5
comp=Z,426nm,18.6s,baz=75,slow=37
comp=Z,72nm,0.5s
I27K Kandik River 49.79 32 P P 21 41 09.9 +1.8
baz=277
K27K Chicken 49.80 34 P P 21 41 09.1 +1.0
K27K IAmb IAmb 21 41 26.6
comp=Z,36nm,1.5s
K27K Chicken 49.80 34 P P 21 41 10.1 +2.0
baz=278
KBK Karagaybulak 49.80 297 P P 21 41 09.2 +0.6
SNR=73
CRQM Cirque 49.81 38 P P 21 41 09.0 +0.6
CRQM IAmb IAmb 21 41 32.3
comp=Z,31nm,0.9s
BRVK Borovoye 49.82 311 P P 21 41 08.6 +0.1
BRVK Borovoye 49.82 311 *ce* P P 21 41 08.4 0.0
BRVK pmax pmax
comp=Z,51nm,0.8s
BRVK Borovoye 49.82 311 P P 21 41 08.6 +0.1
BRVK S S 21 48 15.3 +0.5
BRVK Borovoye 49.82 311 ⇑P P 21 41 08.5 +0.1
BRVK PcP PcP 21 42 28.7 +0.1
BGLC Bering Glacier 49.84 39 P P 21 41 10.5 +2.1
baz=280
USP Ospenovka 49.91 298 P P 21 41 09.5 +0.2
SNR=19
FRU1 Bishkek 49.97 297 P P 21 41 09.8 0.0
FRU1 Bishkek 49.97 297 P P 21 41 09.8 0.0
FRU1 pmax pmax
comp=Z,50nm,1.1s
L27K Beaver Creek, 50.05 35 P P 21 41 10.9 +0.9
L27K IAmb IAmb 21 41 13.9
comp=Z,21nm,1.2s
L27K Beaver Creek, 50.05 35 P P 21 41 12.2 +2.1
baz=279,SNR=9.8
EGAK Eagle 50.09 33 IAmb IAmb 21 41 27.3
comp=Z,9.1nm,0.7s
EGAK Eagle 50.09 33 P P 21 41 11.5 +1.2
baz=278,SNR=5.4
AAK Ala-Archa 50.12 297 P P 21 41 11.2 +0.1
SNR=35
AAK Ala-Archa 50.12 297 P P 21 41 11.3 +0.1
AAK Ala-Archa 50.12 297 *i* P P 21 41 10.9 -0.2
SNR=46
AAK Ala-Archa 50.12 297 *ce* P P 21 41 11.0 -0.1
AAK pmax pmax
comp=Z,13nm,0.9s
AAK Ala-Archa 50.12 297 LR LR 22 03 53.7
comp=Z,276nm,19.2s,baz=76,slow=38
AAK Ala-Archa 50.12 297 P P 21 41 11.2 +0.1
AAK Ala-Archa 50.12 297 P P 21 41 11.2 +0.1
M27K Edge Creek, AK 50.14 36 P P 21 41 11.2 +0.3
M27K IAmb IAmb 21 41 31.1
comp=Z,17nm,1.0s
M27K Edge Creek, AK 50.14 36 P P 21 41 13.0 +2.2
baz=279,SNR=6.7
KSH Kashi 50.18 293 P P 21 41 15.3 +3.8
KSH sP sP 21 41 31.8 +3.2
KSH pmax pmax
comp=Z,23nm,0.9s
KSH LR LR
comp=Z,240nm,13.3s
KSH LR LR
comp=Z,150nm,14.1s
KSH LR LR
comp=Z,320nm,15.1s
KULM Kulim 50.23 239 P P 21 41 12.2 +0.2
F28M Old Crow 50.25 29 P P 21 41 12.4 +1.0
F28M IAmb IAmb 21 41 36.6
comp=Z,13nm,0.9s
F28M Old Crow 50.25 29 P P 21 41 14.1 +2.6
baz=277,SNR=12
UCH Uchtor 50.25 297 P P 21 41 12.9 +0.5
SNR=14
E28M Babbage River 50.26 28 P P 21 41 12.7 +1.2
E28M IAmb IAmb 21 41 15.0
comp=Z,16nm,0.9s
E28M Babbage River 50.26 28 P P 21 41 13.9 +2.3
baz=276,SNR=18
D28M Stokes Point 50.47 27 P P 21 41 15.2 +2.1
baz=276,SNR=5.6
I28M Miner Creek 50.51 32 IAmb IAmb 21 41 34.4
comp=Z,14nm,0.8s
I28M Miner Creek 50.51 32 P P 21 41 15.7 +2.1
baz=278,SNR=13
IPM Ipoh 50.58 238 P P 21 41 14.8 +0.2
BVCY Beaver Creek 50.59 36 P P 21 41 16.6 +2.4
baz=280,SNR=6.4
EKS2 Erkin-Say 50.61 298 P P 21 41 14.8 0.0
SNR=33
CTG Chitna Glacier 50.64 38 P P 21 41 16.8 +2.2
baz=281
MMRI Maumere 50.76 206 P P 21 41 15.7 -0.1
comp=Z,63nm,0.9s
MYKOM Kota Tinggi 50.80 233 P P 21 41 16.8 +0.5
HNR Honiara 50.84 157 LR LR 22 00 58.1
comp=Z,4μm,21.8s,baz=329,slow=34
E29M Blow River 50.89 28 P P 21 41 17.7 +1.5
E29M IAmb IAmb 21 41 19.9
comp=Z,28nm,0.9s
E29M Blow River 50.89 28 P P 21 41 18.9 +2.7
baz=278
YUK3 Moose Creek 50.90 37 P P 21 41 18.6 +1.9
baz=281
DAWY Dawson 50.96 34 P P 21 41 18.1 +1.2
DAWY Dawson 50.96 34 P P 21 41 18.8 +1.8
baz=280
H29M Whitestone 51.03 31 P P 21 41 18.9 +1.5
H29M Whitestone 51.03 31 P P 21 41 19.7 +2.4
baz=279
EDFI Ende, Flores 51.05 206 P P 21 41 17.4 -0.8
comp=Z,24nm,1.1s
G29M Pine Creek 51.05 30 P P 21 41 19.3 +1.7
G29M IAmb IAmb 21 41 21.3
comp=Z,27nm,1.0s
G29M Pine Creek 51.05 30 P P 21 41 20.4 +2.8
baz=279,SNR=14
TPRI Tanjung Pinang 51.07 232 P P 21 41 18.9 +0.6
comp=Z,55nm,1.2s
J29N Klondike Camp 51.40 33 P P 21 41 22.0 +1.8
baz=281
ARSB Arslanbob 51.64 296 IAmb IAmb 21 41 40.6
comp=Z,15nm,1.0s
EPYK Eagle Plains 51.66 31 P P 21 41 23.6 +1.5
EPYK IAmb IAmb 21 41 25.3
comp=Z,41nm,1.1s
EPYK Eagle Plains 51.66 31 P P 21 41 24.2 +2.1
baz=280,SNR=24
M29M Somme Creek 51.69 36 P P 21 41 22.6 +0.1
M29M Somme Creek 51.69 36 P P 21 41 24.8 +2.3
baz=282,SNR=6.3
L29M L29M 51.70 35 P P 21 41 23.6 +1.2
L29M IAmb IAmb 21 41 26.4
comp=Z,31nm,1.1s
L29M L29M 51.70 35 P P 21 41 25.2 +2.7
baz=282,SNR=13
G30M tAoh Zraii Nji 51.74 30 P P 21 41 23.7 +1.0
G30M IAmb IAmb 21 41 25.8
comp=Z,32nm,1.2s
G30M tAoh Zraii Nji 51.74 30 P P 21 41 24.8 +2.1
baz=280
BATI Baumata 51.77 203 LR LR 22 08 30.8
comp=Z,40nm,18.0s,baz=64,slow=42
BATI Baumata 51.77 203 P P 21 41 23.4 0.0
BATI pP pP 21 41 36.6 +1.1
comp=Z,53nm,0.9s
F30M Barrier River 51.80 29 P P 21 41 25.5 +2.4
baz=280
K29M Barlow Dome 51.81 34 P P 21 41 24.6 +1.2
K29M IAmb IAmb 21 41 26.7
comp=Z,15nm,0.9s
K29M Barlow Dome 51.81 34 P P 21 41 25.7 +2.3
baz=282
YUK4 Talbot Arm 51.84 37 P P 21 41 25.7 +2.0
baz=283
I30M Mount Dempster 52.02 32 P P 21 41 25.8 +0.8
I30M IAmb IAmb 21 41 27.9
comp=Z,30nm,0.8s
I30M Mount Dempster 52.02 32 P P 21 41 27.0 +2.1
baz=282,SNR=36
YUK6 Outpost Mounta 52.06 37 P P 21 41 27.7 +2.3
baz=283
O29M Mount Kennedy 52.11 38 P P 21 41 28.4 +2.7
baz=284
DSRI Dabo 52.14 231 P P 21 41 26.2 -0.1
comp=Z,15nm,1.2s
J30M Hart River 52.17 33 P P 21 41 27.6 +1.5
J30M Hart River 52.17 33 P P 21 41 28.2 +2.1
baz=282,SNR=5.2
DZA Taraz 52.22 299 *e* P P 21 41 26.4 -0.2
baz=299
DZA Taraz 52.22 299 *e* P P 21 41 26.4 -0.2
M30M Minto, Yukon 52.41 35 P P 21 41 28.4 +0.6
M30M Minto, Yukon 52.41 35 P P 21 41 30.1 +2.3
baz=283,SNR=6.0
HYT Haines Junctio 52.50 38 P P 21 41 30.3 +1.7
HYT Haines Junctio 52.50 38 P P 21 41 31.4 +2.9
baz=284,SNR=10
INK Inuvik 52.50 28 P P 21 41 29.3 +1.1
INK IAmb IAmb 21 41 30.9
comp=Z,15nm,0.8s
INK Inuvik 52.50 28 P P 21 41 29.7 +1.5
baz=282,SNR=16
INK Inuvik 52.50 28 P P 21 41 29.3 +1.1
INK pmax pmax
comp=Z,15nm,0.9s
INK Inuvik 52.50 28 LR LR 22 06 36.7
comp=Z,66nm,18.9s,baz=2.0,slow=39
G31M Satah River 52.51 30 P P 21 41 29.1 +0.8
G31M IAmb IAmb 21 41 49.8
comp=Z,13nm,0.7s
G31M Satah River 52.51 30 P P 21 41 30.1 +1.7
baz=282,SNR=8.7
N30M Aishikik Lake 52.54 37 P P 21 41 31.1 +2.3
baz=284
COEN Coen 52.56 179 P P 21 41 30.8 +1.5
PLAI Plampang 52.58 211 P P 21 41 27.8 -1.7
comp=Z,20nm,1.2s
F31M Tsiigehtchic 52.60 29 P P 21 41 29.8 +0.8
F31M IAmb IAmb 21 41 31.6
comp=Z,26nm,1.2s
F31M Tsiigehtchic 52.60 29 P P 21 41 30.9 +1.9
baz=282
P29M Windy Craggy 52.68 39 P P 21 41 32.5 +2.7
baz=285
H31M Peel River 52.72 31 P P 21 41 31.2 +1.2
H31M IAmb IAmb 21 41 33.0
comp=Z,34nm,0.9s
H31M Peel River 52.72 31 P P 21 41 32.2 +2.2
baz=283
TWSI Taliwang, Sumb 52.87 212 P P 21 41 30.4 -1.2
comp=Z,27nm,1.0s
P30M Million Dollar 52.94 38 P P 21 41 34.0 +2.3
baz=285
DRK Karamyk 53.18 294 P P 21 41 33.9 -0.2
DRK IAmb IAmb 21 41 47.7
comp=Z,19nm,0.5s
O30N Mendenhall 53.18 37 P P 21 41 35.9 +2.4
baz=285
BRLS Boroldav 53.19 299⇑ *i* P P 21 41 35.1 +1.3
comp=Z,12nm,0.9s,baz=299
BRLS Boroldav 53.19 299 *c i* P P 21 41 35.1 +1.3
BRLS pmax pmax
comp=Z,12nm,0.9s
IUG luznay 53.38 298 *e* P P 21 41 35.2 -0.2
comp=Z,8.0nm,0.5s,baz=298
IUG luznay 53.38 298 *e* P P 21 41 35.2 -0.2
IUG pmax pmax
comp=Z,8.0nm,0.5s
PLBC Pleasant Camp 53.40 39 P P 21 41 37.4 +2.3
baz=286
M31M Drury Creek, Y 53.59 35 P P 21 41 37.3 +0.9
M31M Drury Creek, Y 53.59 35 P P 21 41 38.5 +2.0
baz=286,SNR=6.1
CHM Chimkent 53.61 299 *e* P P 21 41 36.9 -0.1
baz=298
CHM Chimkent 53.61 299 *e* P P 21 41 36.8 -0.1
BTK Batken 53.65 295 IAmb IAmb 21 41 39.0
comp=Z,14nm,0.8s
BKNI Bangkinang 53.70 235 P P 21 41 38.9 +1.1
BKNI Bangkinang 53.70 235 P P 21 41 38.0 +0.2
BKNI Bangkinang 53.70 235 P P 21 41 37.4 -0.4
comp=Z,185nm,1.1s
WHY Whitehorse 53.78 37 P P 21 41 38.5 +0.5
WHY Whitehorse 53.78 37 P P 21 41 40.0 +2.0
baz=286
S31K Pelican 53.90 41 P P 21 41 40.9 +2.2
baz=287
FARO Faro, Yukon 54.05 35 P P 21 41 40.6 +0.8
FARO Faro, Yukon 54.05 35 P P 21 41 41.7 +1.9
baz=286
SVE Sverdlovsk 54.15 318 *d i* P P 21 41 41.1 +0.6
SVE pmax pmax
comp=Z,186nm,0.9s
SVE MLR MLR
comp=Z,569nm,16.0s
A36M Sachs Harbour 54.35 22 P P 21 41 42.9 +1.2
A36M Sachs Harbour 54.35 22 P P 21 41 43.6 +1.8
baz=286,SNR=26
PWJI Pagerwojo 54.50 218 P P 21 41 42.1 -1.4
comp=Z,93nm,0.7s
NIL Nilore 54.58 287 P P 21 41 44.8 +0.7
NIL Nilore 54.58 287 P P 21 41 44.8 +0.7
NIL pmax pmax
comp=Z,106nm,0.9s
NIL Nilore 54.58 287 P P 21 41 44.9 +0.7
NIL Nilore 54.58 287 P P 21 41 44.8 +0.7
MMPY Sheldon Lake, 54.87 34 P P 21 41 46.6 +0.9
MMPY Sheldon Lake, 54.87 34 P P 21 41 48.2 +2.5
baz=288
P33M Teslin, Yukon 54.90 37 P P 21 41 46.5 +0.4
P33M IAmb IAmb 21 42 09.7
comp=Z,19nm,1.2s
P33M Teslin, Yukon 54.90 37 P P 21 41 48.5 +2.5
baz=288,SNR=5.8
UGM Wanagama 55.03 219 P P 21 41 46.2 -1.2
comp=Z,310nm,1.7s
GSI Gunungsitoli 55.23 239 P P 21 41 48.4 -0.5
GSI Gunungsitoli 55.23 239 P P 21 41 48.8 -0.1
comp=Z,75nm,1.3s
KPJI Karang Pucung 55.34 221 P P 21 41 48.4 -1.2
comp=Z,41nm,0.8s
ARU Arti 55.36 318 P P 21 41 49.4 0.0
ARU Arti 55.36 318 *c i* P P 21 41 49.3 0.0
ARU *PP pP 21 42 00.9 -0.6
ARU 21 42 46.3
ARU 21 43 51.6
ARU S S 21 49 33.6 +3.2
ARU SS SS 21 53 16.2 +1.5
ARU pmax pmax
comp=Z,167nm,1.0s
ARU MLR MLR
comp=Z,673nm,17.0s
ARU Arti 55.36 318 P P 21 41 49.4 0.0
comp=Z,149nm,0.8s,baz=79,slow=4.4,SNR=223
ARU LR LR 22 08 03.4
comp=Z,723nm,18.3s,baz=70,slow=39
comp=Z,149nm,0.8s
ARU Arti 55.36 318 ⇑P P 21 41 49.4 0.0
ARU sP sP 21 42 06.0 -0.5
SIMJ Simiganj 55.50 295 P P 21 41 50.3 -0.5
SIMJ Simiganj 55.50 295 P P 21 41 50.6 -0.2
C36M Paulatuk 55.53 25 P P 21 41 50.9 +0.5
C36M IAmb IAmb 21 41 52.6
comp=Z,35nm,1.1s
C36M Paulatuk 55.53 25 P P 21 41 51.7 +1.3
baz=289,SNR=15
PBSI Pulau Batu 55.77 237 P P 21 41 52.5 -0.3
comp=Z,154nm,1.2s
R33M Jennings River 56.05 38 P P 21 41 56.8 +2.4
baz=290
LWLI Liwa 56.08 228 P P 21 41 53.5 -1.6
comp=Z,55nm,0.7s
U33K Whale Pass 56.10 42 P P 21 41 57.2 +2.6
baz=291
SISI Saibi 56.21 235 P P 21 41 56.0 +0.1
comp=Z,37nm,0.9s
S34M Telegraph Cree 56.48 40 P P 21 42 00.2 +2.8
baz=291
TGTN Hyland Airport 56.55 35 P P 21 42 00.6 +2.8
baz=291
DLBC Dease Lake 56.84 39 P P 21 42 02.5 +2.5
baz=291
T35M Bob Quinn 57.27 41 P P 21 42 04.2 +1.2
T35M IAmb IAmb 21 42 24.5
comp=Z,10nm,0.8s
T35M Bob Quinn 57.27 41 P P 21 42 05.8 +2.9
baz=292
KBL Kabul 57.29 290 P P 21 42 03.1 -0.6
KBL IAmb IAmb 21 42 04.2
comp=Z,33nm,0.9s
KBL Kabul 57.29 290 P P 21 42 03.1 -0.6
KBL pmax pmax
comp=Z,33nm,0.9s
KBL Kabul 57.29 290 P P 21 42 03.1 -0.6
SNR=17
KBL P P 21 42 04.3 +0.6
SNR=22
KBL S S 21 49 54.4 -2.6
U35K Hyder 57.79 42 P P 21 42 09.2 +2.6
baz=293
AKTO Aktyubinsk 57.87 311 P P 21 42 06.8 -0.5
AKTO Aktyubinsk 57.87 311 P P 21 42 06.8 -0.5
comp=Z,55nm,0.8s,baz=79,slow=6.3,SNR=92
AKTO LR LR 22 08 32.3
comp=Z,331nm,18.0s,baz=195,slow=38
comp=Z,55nm,0.8s
ALE Alert 58.24 4 P P 21 42 10.0 +0.6
ALE pP pP 21 42 21.8 +0.1
EUNU Eureka 58.29 9 IAmb IAmb 21 42 11.2
comp=Z,22nm,0.8s
HOPEN Hopen 58.39 346 *e* P P 21 42 11.2 +0.7
HOPEN IAmb IAmb 21 42 12.5
comp=Z,54nm,1.1s
FITZ Fitzroy Crossi 58.74 198 P P 21 42 15.0 +1.5
CTA Charters Tower 58.78 175 LR LR 22 06 32.0
comp=Z,34nm,22.0s,baz=182,slow=35
WB0 Warramunga Arr 58.78 189 P P 21 42 13.0 -0.8
SPA0 Spitsbergen Ar 58.83 349 *e* P P 21 42 15.0 +1.4
SPITS Spitsbergen Ar 58.83 349 P P 21 42 13.9 +0.4
SPITS Spitsbergen Ar 58.83 349 P P 21 42 13.9 +0.4
comp=Z,14nm,1.0s,baz=97,slow=6.9,SNR=6.9
comp=Z,14nm,1.0s
KBS Kingsbay 58.94 350 *e* P P 21 42 15.5 +1.2
KBS Kingsbay 58.94 350 *ce* P P 21 42 15.0 +0.7
KBS pmax pmax
comp=Z,34nm,0.9s
WRAB Tennant Creek 58.95 189 P P 21 42 14.8 -0.2
WRAB Tennant Creek 58.95 189 P P 21 42 14.8 -0.2
WRAB pmax pmax
comp=Z,43nm,1.3s
WR0 Warramunga Arr 58.95 188 P P 21 42 14.4 -0.6
WB2 Warramunga Arr 58.96 189 IAmb IAmb 21 42 35.2
comp=Z,26nm,0.9s
WRA Warramunga Arr 58.96 189 P P 21 42 14.8 -0.3
WRA Warramunga Arr 58.96 189 P P 21 42 14.8 -0.3
comp=Z,20nm,0.5s,baz=5.3,slow=6.9,SNR=217
comp=Z,20nm,0.5s
TOAD Toad River Com 58.99 37 P P 21 42 17.2 +2.2
baz=295
KIRV Kirov 59.12 322 *ce* P P 21 42 15.9 +0.1
KIRV Kirov 59.12 322 P P 21 42 16.0 +0.1
comp=Z,97nm,0.8s,baz=53,slow=2.9,SNR=40
KIRV LR LR 22 11 14.7
comp=Z,182nm,18.1s,baz=63,slow=40

comp=Z,97nm,0.8s
NOR Nord 59.25 356 *i* P **P** **21 42 14.8 -1.6**
NOR IAmb IAmb 21 42 17.6
comp=Z,31nm,1.1s
HSPB Hornsund (broa 59.77 348 *eP* **P** **21 42 20.6 +0.6**
BBB Bella Bella 60.37 45 LR LR 22 04 40.7
comp=Z,47nm,21.9s,baz=290,slow=32
RES Resolute Bay 60.68 15 P **P** **21 42 26.5 +0.2**
RES IAmb IAmb 21 42 27.6
comp=Z,25nm,1.0s
RES Resolute Bay 60.68 15 P **P** **21 42 26.5 +0.2**
RES pmax pmax
comp=Z,25nm,1.0s
VADS Vadso 61.05 339 *eP* **P** **21 42 29.0 +0.2**
VADS IAmb IAmb 21 42 31.5
comp=Z,34nm,0.9s
KEV Kevo 61.92 339 P **P** **21 42 34.9 +0.2**
YKA Yellowknife Ar 61.94 31 P **P** **21 42 34.9 -0.1**
YKA Yellowknife Ar 61.94 31 P **P** **21 42 34.9 -0.1**
YKA Yellowknife Ar 61.94 31 P **P** **21 42 35.9 +0.9**
comp=Z,4.8nm,0.7s,baz=303,slow=7.1,SNR=54
YKA LR LR 22 10 08.4
comp=Z,52nm,21.5s,baz=356,slow=36
comp=Z,4.8nm,0.7s
HAMF Hammerfest 62.27 341 *eP* **P** **21 42 36.8 -0.2**
HAMF IAmb IAmb 21 42 37.4
comp=Z,48nm,1.0s
HRA Herat 62.30 293 P **P** **21 42 38.0 -0.1**
ARA0 ARCESS Array S 62.48 339 *eP* **P** **21 42 38.4 -0.1**
ARA0 IAmb IAmb 21 42 41.0
comp=Z,91nm,1.8s
ARA0 *e* 21 42 41.0
ARCES ARCESS Array B 62.48 339 IAmb IAmb 21 42 59.2
comp=Z,10nm,0.9s
ARCES ARCESS Array B 62.48 339 P **P** **21 42 38.6 +0.1**
ARCES ARCESS Array B 62.48 339 P **P** **21 42 38.5 +0.1**
comp=Z,4.3nm,0.5s,baz=52,slow=7.6,SNR=48
ARCES LR LR 22 12 19.0
comp=Z,119nm,21.4s,baz=52,slow=38
comp=Z,4.3nm,0.5s
KLMR Klimovskoe 62.50 327 *eP* **P** **21 42 35.8 -3.0**
KLMR *e**PP **pP** **21 42 48.3 -2.8**
KLMR *e* 21 44 53.6
AS01 Alice Springs 62.68 188 P **P** **21 42 40.7 +0.4**
ASAR Alice Springs 62.69 188 P **P** **21 42 40.5 +0.1**
ASAR Alice Springs 62.69 188 P **P** **21 42 40.5 +0.1**
comp=Z,9.8nm,0.7s,baz=4.3,slow=5.1,SNR=102
ASAR LR LR 22 10 17.4
comp=Z,57nm,21.4s,baz=9.0,slow=36
ASAR PKP2bc 22 11 49.5
comp=Z,0.7nm,1.0s,baz=151,slow=2.1,SNR=4.1
comp=Z,9.8nm,0.7s
BELG Belogornoye 62.84 317 *i* P **P** **21 42 41.4 +0.3**
BELG pmax pmax
comp=Z,11nm,0.9s
BELG Belogornoye 62.84 317 P **P** **21 42 41.1 0.0**
comp=Z,55nm,0.6s,baz=281,slow=1.3,SNR=40
BELG LR LR 22 12 06.5
comp=Z,465nm,19.2s,baz=76,slow=38
comp=Z,55nm,0.6s
PALK Pallekele 63.31 257 LR LR 22 12 40.8
comp=Z,103nm,20.7s,baz=156,slow=38
PALK Pallekele 63.31 257 P **P** **21 42 45.2 +0.4**
PALK Pallekele 63.31 257 P **P** **21 42 44.8 0.0**
PALK pP **pP** **21 42 57.0 -0.3**
PALK sP **sP** **21 43 02.3 +0.1**
KTK1 Kautokeino 63.43 339 *eP* **P** **21 42 44.9 0.0**
KTK1 IAmb IAmb 21 42 45.6
comp=Z,44nm,1.3s
GEYT Alibeck 63.44 298 P **P** **21 42 45.4 -0.1**
GEYT Alibeck 63.44 298 P **P** **21 42 45.4 -0.1**
comp=Z,26nm,0.8s,baz=56,slow=5.6,SNR=42
GEYT LR LR 22 12 14.0
comp=Z,210nm,18.6s,baz=54,slow=38
comp=Z,26nm,0.8s
GYA0B ALIBECK ARRAY 63.44 298 IAmb IAmb 21 42 46.4
comp=Z,28nm,0.9s
NEEM North Greenlan 63.66 3 *i* P **P** **21 42 45.4 -1.2**
NEEM IAmb IAmb 21 42 47.3
comp=Z,30nm,0.8s
JETT Jettan, Norway 63.83 341 *eP* **P** **21 42 47.9 +0.4**
DAG Danmarks Havn 63.99 355 *i* P **P** **21 42 46.9 -1.5**
DAG IAmb IAmb 21 42 49.1
comp=Z,40nm,1.1s
TRO Tromso 64.16 341 *eP* **P** **21 42 49.5 0.0**
TRO IAmb IAmb 21 42 51.2
comp=Z,21nm,1.0s
JOF Joensuu 64.61 332 *eP* **P** **21 42 52.6 +0.1**
DZM Mont Dzumac 64.77 155 LR LR 22 08 43.4
comp=Z,194nm,21.2s,baz=40,slow=34
WRKA Warakurna 64.88 194 P **P** **21 42 55.3 +0.5**
QLP Quilpie 65.14 178 P **P** **21 42 57.4 +1.0**
VALR Valaam 65.70 330 *i* P **P** **21 43 00.2 +0.5**
KULLO Kullorsuaq 66.10 6 *i* P **P** **21 43 00.6 -1.4**
KULLO IAmb IAmb 21 43 02.4
comp=Z,15nm,0.7s
MOS Moscow 66.11 323 *eP* **P** **21 43 01.8 -0.6**
MOS *e* 21 43 13.5
MOS *e* 21 43 30.2
MOS *e* 21 45 24.8
MOS *eS* **S** **21 51 53.3 +5.9**
MOS pmax pmax
comp=Z,80nm,1.1s
MOS MLR MLR
comp=Z,400nm,16.0s
INKA Innaminka 66.28 181 P **P** **21 43 04.8 +1.1**
STEI Steigen 66.32 341 *eP* **P** **21 43 03.4 -0.2**
STEI IAmb IAmb 21 43 03.8
comp=Z,51nm,1.3s
VRH Novokhopyorsk 66.59 318 *eP* **P** **21 43 03.0 -2.6**
VRH *e**SP **pP** **21 43 20.0 +1.9**
VRH pmax pmax
comp=Z,40nm,0.7s
LOF Lofoten 66.60 341 *eP* **P** **21 43 05.0 -0.4**
FAUS Fauske 66.71 340 *eP* **P** **21 43 06.3 +0.2**
FAUS IAmb IAmb 21 43 06.8
comp=Z,37nm,0.7s
OBN Obninsk 66.96 323 *i* P **P** **21 43 07.7 -0.2**
OBN *i* 21 45 35.8
OBN pmax pmax
comp=Z,49nm,1.1s
OBN MLR MLR
comp=Z,250nm,15.0s
OBN Obninsk 66.96 323 P **P** **21 43 07.7 -0.2**
comp=Z,21nm,0.4s,baz=229,slow=23,SNR=11
OBN LR LR 22 14 54.6
comp=Z,281nm,18.3s,baz=0.5,slow=38
comp=Z,21nm,0.4s
LPSR Galich'ya Gora 67.25 320 *eP* **P** **21 43 07.7 -2.1**
LPSR *e**SP **pP** **21 43 24.4 +2.1**
LPSR pmax pmax
comp=Z,60nm,0.8s
KEF Keuruu 67.41 333 *eP* **P** **21 43 10.4 -0.2**
FINES FINESS Array B 67.45 332 P **P** **21 43 10.7 -0.1**
FINES FINESS Array B 67.45 332 P **P** **21 43 10.7 -0.1**
comp=Z,37nm,0.6s,baz=42,slow=8.7,SNR=148
FINES LR LR 22 14 29.9
comp=Z,298nm,21.6s,baz=34,slow=38
comp=Z,37nm,0.6s
EDM Edmonton 67.56 39 P **P** **21 43 12.3 +0.5**
EDM IAmb IAmb 21 43 13.7
comp=Z,15nm,1.1s
EDM Edmonton 67.56 39 P **P** **21 43 12.3 +0.5**
EDM pmax pmax
comp=Z,15nm,1.1s
VAF Ylistaro 67.58 335 *eP* **P** **21 43 12.3 +0.7**
MXC Moxie City 67.58 48 P **P** **21 43 12.7 +0.7**
MXC IAmb IAmb 21 43 38.4
comp=Z,14nm,1.2s
VORR Voronezh 67.64 319 *eP* **P** **21 43 10.0 -2.2**
VORR *e**SP **sP** **21 43 27.6 -2.0**
VORR pmax pmax
comp=Z,40nm,0.9s
MOR8 Moi Rana 67.83 340 *eP* **P** **21 43 12.1 -1.2**
VSR Storozhevoye 67.92 319 *eP* **P** **21 43 13.3 -0.7**
VSR *e**SP **pP** **21 43 28.6 +2.1**
VSR pmax pmax
comp=Z,30nm,0.5s
KONS Konsvik 67.94 340 *eP* **P** **21 43 14.3 +0.4**
VORD Divnogorie 68.00 318 *eP* **P** **21 43 12.9 -1.6**
VORD pmax pmax
comp=Z,30nm,0.8s
STOK Stokkvaagen 68.09 340 *eP* **P** **21 43 14.7 -0.1**
D08A Wollman Farm, 68.10 47 P **P** **21 43 16.2 +1.0**
NEW Newport 68.43 45 P **P** **21 43 18.0 +0.7**

NEW Newport 68.43 45 P **P** **21 43 19.2 +1.8**
baz=304
NEW Newport 68.43 45 P **P** **21 43 18.0 +0.7**
NEW pmax pmax
comp=Z,5.0nm,0.8s
NEW Newport 68.43 45 P **P** **21 43 18.2 +0.8**
comp=Z,3.5nm,0.8s,baz=294,slow=6.8,SNR=5.0
NEW LR LR 22 09 17.6
comp=Z,29nm,21.7s,baz=298,slow=32
comp=Z,3.5nm,0.8s
E09A Wood Farm, Sta 68.85 47 P **P** **21 43 20.8 +0.9**
SUMG Summit 68.85 0 P **P** **21 43 20.7 +0.7**
SUMG Summit 68.85 0 P **P** **21 43 20.7 +0.7**
SUMG pmax pmax
comp=Z,60nm,1.2s
SUMG Summit 68.85 0 *i* P **P** **21 43 18.8 -1.2**
SUMG IAmb IAmb 21 43 21.3
comp=Z,32nm,0.7s
MEF Metsahovi 68.88 332 *eP* **P** **21 43 19.7 -0.1**
SEKA Sheki 68.92 306 P **P** **21 43 19.5 -1.0**
ZKTA Zakatala 69.04 307 P **P** **21 43 20.6 -0.6**
LCRK Leigh Creek 69.06 184 P **P** **21 43 22.4 +1.2**
VSU Vasula 69.15 329 *ceP* **P** **21 43 21.7 +0.1**
VSU pmax pmax
comp=Z,59nm,1.0s
MULG Mulgathing 69.21 187 P **P** **21 43 22.7 +0.6**
MNGR Mingechevir, A 69.23 306 P **P** **21 43 21.8 -0.6**
RAF Rauma 69.28 333 *eP* **P** **21 43 22.4 +0.2**
LKRN Lenkeran, Azer 69.28 303 P **P** **21 43 22.2 -0.5**
GOF Gofitskoye 69.29 312 *c i* P **P** **21 43 23.0 +0.3**
NSS Namsos 69.76 339 *eP* **P** **21 43 26.3 +1.1**
GANJ Ganja 69.78 306 P **P** **21 43 25.2 -0.7**
JASK Jask - Hormozg 70.02 287 P **P** **21 43 27.3 -0.2**
KVAR Kislovodsk Arr 70.12 311 LR LR 22 19 05.9
comp=Z,164nm,18.3s,baz=270,slow=40
KIV Kislovodsk 70.13 311 ⇑P **P** **21 43 28.8 +0.8**
KIV Kislovodsk 70.13 311 P **P** **21 43 27.7 -0.3**
KIV Kislovodsk 70.13 311 *i* P **P** **21 43 28.2 +0.3**
SNR=58
KIV Kislovodsk 70.13 311 *eP* **P** **21 43 28.2 +0.3**
KIV pmax pmax
comp=Z,153nm,1.1s
KIV MLR MLR
comp=Z,120nm,18.0s
KIV Kislovodsk 70.13 311 P **P** **21 43 28.3 +0.3**
KIV Kislovodsk 70.13 311 P **P** **21 43 28.2 +0.3**
KIV sP **sP** **21 43 46.3 +0.9**
KIV PcP **PcP** **21 43 50.3 +0.5**
KBZ Khabaz 70.13 310 P **P** **21 43 28.2 +0.4**
KBZ Khabaz 70.13 310 P **P** **21 43 28.2 +0.4**
comp=Z,47nm,0.9s,baz=56,slow=5.8,SNR=64
KBZ LR LR 22 17 42.1
comp=Z,106nm,19.1s,baz=38,slow=39
comp=Z,47nm,0.9s
SHA1 Shidzhatmaz 70.27 311 *i* P **P** **21 43 28.9 -0.1**
ERBR Yeremizino-Bor 70.39 313 *eP* **P** **21 43 30.0 +0.6**
ERBR *e* 21 43 47.3
ERBR *eS* **S** **21 52 40.1 +1.4**
ERBR pmax pmax
comp=Z,146nm,1.1s
STKA Stephens Creek 70.39 180 *i* P **P** **21 43 29.7 +0.3**
STKA Stephens Creek 70.39 180 P **P** **21 43 29.5 +0.1**
comp=Z,1.5nm,0.5s,baz=2.4,slow=8.0,SNR=5.0
STKA LR LR 22 16 16.4
comp=Z,60nm,18.1s,baz=24,slow=37
comp=Z,1.5nm,0.5s
AAL Aland 70.49 333 *eP* **P** **21 43 29.6 -0.2**
FORT Forrest 70.52 193 P **P** **21 43 30.9 +0.7**
FORT IAmb IAmb 21 43 31.4
comp=Z,32nm,0.9s
LABN Labinsk 70.88 312 *eP* **P** **21 43 33.1 +0.7**
LABN pmax pmax
comp=Z,122nm,0.9s
WSAR Wadi Sarin 70.93 285 LR LR 22 17 25.0
comp=Z,55nm,18.9s,baz=104,slow=38
JLN Jalan Bani Buh 70.96 283 P **P** **21 43 33.5 +0.2**
WBK Wadi Bani Khal 71.03 284 P **P** **21 43 34.5 +0.8**
SNR=8.3
GNI Garni 71.06 307 P **P** **21 43 33.8 0.0**
GNI IAmb IAmb 21 43 59.2
comp=Z,37nm,1.1s
GNI Garni 71.06 307 P **P** **21 43 34.5 +0.7**
GNI Garni 71.06 307 *ceP* **P** **21 43 34.2 +0.4**
GNI pmax pmax
comp=Z,37nm,1.3s
GNI Garni 71.06 307 LR LR 22 17 59.0
comp=Z,228nm,19.2s,baz=62,slow=39
GNI Garni 71.06 307 P **P** **21 43 34.6 +0.7**
GNI Garni 71.06 307 P **P** **21 43 34.6 +0.8**
NAX Nakhchivan 71.14 305 P **P** **21 43 33.6 -0.6**
BIDD Bidbid 71.15 285 P **P** **21 43 35.1 +0.6**
SHME Shamm 71.20 289 *i* P **P** **21 43 33.8 -0.9**
SNR=7.4
SHME Shamm 71.20 289 P **P** **21 43 35.3 +0.7**
MNK Minsk 71.29 326 *i* P **P** **21 43 35.1 +0.4**
MNK *i* PPP PPP 21 47 52.6
MNK *i* S **S** **21 52 48.1 -0.8**
MNK *i* SS **SS** **21 57 24.1 +1.6**
MNK pmax pmax
comp=E,13nm,1.0s
MNK pmax pmax
comp=Z,63nm,0.9s
MNK pmax pmax
comp=N,29nm,1.0s
MNK MLR MLR
comp=E,78nm,16.0s
MNK MLR MLR
comp=Z,307nm,17.0s
MNK MLR MLR
comp=N,178nm,17.0s
ISAL Salakas 71.33 327 *eP* **P** **21 43 35.7 +0.8**
SMDO Samad 71.47 285 P **P** **21 43 37.1 +0.6**
SNR=7.5
MDH Madha 71.51 288 P **P** **21 43 35.3 -1.2**
MDH Madha 71.51 288 P **P** **21 43 36.1 -0.4**
BPMT Black Pine Rid 71.53 45 P **P** **21 43 36.0 -0.6**
UPP Uppsala 71.55 334 *eP* **P** **21 43 36.2 +0.1**
MASF Masafi 71.57 288 P **P** **21 43 37.6 +0.7**
SNR=6.0
MSFE Esma-Masafi 71.58 288 *i* P **P** **21 43 36.9 -0.1**
SNR=12
HOQ Hoqain 71.73 286 P **P** **21 43 38.0 0.0**
SNR=7.2
UOSS Minazif 71.78 288 P **P** **21 43 38.0 -0.3**
UOSS IAmb IAmb 21 43 39.4
comp=Z,38nm,1.1s
UOSS Minazif 71.78 288 *i* P **P** **21 43 37.5 -0.7**
SNR=17
UOSS Minazif 71.78 288 P **P** **21 43 38.0 -0.3**
UOSS Minazif 71.78 288 P **P** **21 43 37.9 -0.3**
JMDO Jabal Madar 71.83 284 P **P** **21 43 38.7 +0.1**
SNR=6.4
FFC Flin Flon 71.86 33 P **P** **21 43 38.7 +0.5**
FFC IAmb IAmb 21 43 40.0
comp=Z,13nm,0.8s
FFC Flin Flon 71.86 33 P **P** **21 43 38.7 +0.5**
FFC pmax pmax
comp=Z,13nm,0.8s
FFC Flin Flon 71.86 33 P **P** **21 43 39.0 +0.8**
FFC pP **pP** **21 43 51.6 +0.9**
HATD Hatta, Dubai 71.90 288 *i* P **P** **21 43 38.6 -0.4**
SNR=22
HATD Hatta, Dubai 71.90 288 P **P** **21 43 39.3 +0.4**
SNR=13
SOHO SOHO 72.00 287 *i* P **P** **21 43 38.8 -0.7**
SNR=10
SOHO SOHO 72.00 287 P **P** **21 43 39.5 0.0**
ASHO Ashiyiah 72.04 287 *i* P **P** **21 43 39.5 -0.3**
SNR=15
ASHO Ashiyiah 72.04 287 P **P** **21 43 40.0 +0.2**
SNR=11
SOC Sochi 72.09 312 *eP* **P** **21 43 38.0 -1.7**
SOC *e* 21 46 19.7
SOC *e*PPP PPP 21 48 01.6
SOC *eS* **S** **21 52 58.1 -0.4**
SOC pmax pmax
comp=Z,26nm,0.6s
SOC MLR MLR
comp=Z,174nm,19.0s
FCC Fort Churchill 72.11 27 IAmb IAmb 21 43 41.1
comp=Z,30nm,1.2s
NAZ Nazwa, Dubai 72.16 288 P **P** **21 43 39.9 -0.6**
NAZ Nazwa, Dubai 72.16 288 P **P** **21 43 40.8 +0.3**
SNR=5.1
BCA Borcka 72.23 309 ⇑P **P** **21 43 41.0 +0.4**

PABE Paberze 72.27 328 *eP* **P** **21 43 41.1 +0.6**
BSY Bisya 72.30 285 P **P** **21 43 41.3 0.0**
ICESG Greenland Ices 72.34 1 *i* P **P** **21 43 40.7 -0.5**
ICESG IAmb IAmb 21 43 42.4
comp=Z,40nm,0.7s
FAQ Al Faqa, Dubai 72.35 288 *i* P **P** **21 43 41.2 -0.4**
SNR=7.7
FAQ Al Faqa, Dubai 72.35 288 P **P** **21 43 41.5 -0.1**
ARQ Araqi 72.46 286 P **P** **21 43 42.3 0.0**
SNR=8.6
NC303 NORSAR Array S 72.51 337 IAmb IAmb 21 43 43.2
comp=Z,49nm,1.2s
MOL Molde 72.53 340 *eP* **P** **21 43 42.8 +0.9**
DOMB Dombas 72.53 339 *eP* **P** **21 43 42.3 +0.2**
ASUD Al Ashush, Dub 72.61 288 *i* P **P** **21 43 43.1 -0.1**
SNR=8.7
ASUD Al Ashush, Dub 72.61 288 P **P** **21 43 43.4 +0.3**
ALNE Al Ain 72.63 287 *i* P **P** **21 43 43.2 -0.1**
SNR=18
ALNE Al Ain 72.63 287 P **P** **21 43 43.2 -0.1**
SNR=9.7
HFS Hagfors 72.64 336 P **P** **21 43 42.8 +0.1**
HFS Hagfors 72.64 336 P **P** **21 43 42.8 +0.1**
comp=Z,24nm,0.8s,baz=45,slow=6.5,SNR=55
HFS LR LR 22 18 34.3
comp=Z,456nm,18.5s,baz=40,slow=38
comp=Z,24nm,0.8s
ANN Anapa 72.66 314 *eP* **P** **21 43 42.7 -0.4**
ANN *e* 21 43 58.9
ANN *e* 21 46 31.1
ANN *eS* **SKiKP** **21 53 10.8 -2.7**
ANN pmax pmax
comp=Z,39nm,0.7s
NB2 NORSAR Subarra 72.71 337 P **P** **21 43 42.8 -0.4**
comp=Z,7.0nm,0.7s,baz=39,slow=6.2
NB2 NORSAR Subarra 72.71 337 P **P** **21 43 42.8 -0.4**
baz=39,slow=6.2
NOA NORSAR Array B 72.71 337 P **P** **21 43 43.1 -0.1**
NOA NORSAR Array B 72.71 337 P **P** **21 43 43.1 -0.1**
comp=Z,18nm,0.9s,baz=38,slow=5.9,SNR=69
NOA LR LR 22 18 17.0
comp=Z,331nm,21.3s,baz=40,slow=38
comp=Z,18nm,0.9s
HLID Hailey 72.72 48 P **P** **21 43 45.6 +1.8**
baz=307
MHTO MHTO 72.73 283 P **P** **21 43 44.0 +0.1**
SNR=11
PBUR Paburge 72.73 329 *eP* **P** **21 43 44.6 +1.3**
NBO00 NORSAR Array S 72.84 338 IAmb IAmb 21 43 45.6
comp=Z,30nm,1.0s
NC602 NORSAR Array S 72.85 337 IAmb IAmb 21 43 44.6
comp=Z,19nm,1.1s
NC602 NORSAR Array S 72.85 337 *eP* **P** **21 43 43.8 -0.1**
NC602 IAmb IAmb 21 43 44.5
comp=Z,19nm,1.0s
VIKU Vikbolandet 72.88 333 *eP* **P** **21 43 44.6 +0.5**
AJN Ajban 72.91 288 P **P** **21 43 44.7 -0.2**
NAO01 NORSAR Array S 72.96 337 IAmb IAmb 21 43 45.0
comp=Z,22nm,1.0s
AKN Aaknes 72.99 340 *eP* **P** **21 43 45.3 +0.4**
BOZ Bozeman (W) 73.04 45 P **P** **21 43 45.3 -0.3**
BOZ Bozeman (W) 73.04 45 P **P** **21 43 47.3 +1.7**
baz=308
BOZ Bozeman (W) 73.04 45 P **P** **21 43 45.3 -0.3**
BOZ pmax pmax
comp=Z,10.0nm,1.1s
AKASG Malin Array Be 73.19 322 P **P** **21 43 45.8 -0.3**
AKASG Malin Array Be 73.19 322 P **P** **21 43 45.8 -0.3**
comp=Z,22nm,0.6s,baz=44,slow=6.2,SNR=116
AKASG LR LR 22 18 51.3
comp=Z,341nm,18.6s,baz=50,slow=38
comp=Z,22nm,0.6s
AKBB Malin Array Si 73.19 322 *ceP* **P** **21 43 45.0 -1.1**
AKBB pmax pmax
comp=Z,51nm,1.0s
KIEV Kiev 73.20 322 ⇓P **P** **21 43 46.2 +0.1**
KIEV Kiev 73.20 322 P **P** **21 43 45.8 -0.3**
KIEV Kiev 73.20 322 *i* P **P** **21 43 45.9 -0.3**
SNR=32
KIEV Kiev 73.20 322 P **P** **21 43 45.8 -0.3**
KVN Kaiserville 73.21 53 P **P** **21 43 46.9 +0.2**
KVN Kaiserville 73.21 53 P **P** **21 43 46.9 +0.2**
KVN pmax pmax
comp=Z,7.0nm,1.0s
NVAR Mina Array Bea 73.45 54 P **P** **21 43 48.8 +0.6**
NVAR Mina Array Bea 73.45 54 P **P** **21 43 49.8 +1.6**
comp=Z,0.5nm,0.3s,baz=254,slow=27,SNR=1.7
NVAR LR LR 22 10 22.9
comp=Z,58nm,21.4s,baz=260,slow=31
KTUT Trabzon 73.62 310 ⇓P **P** **21 43 49.2 +0.3**
SUW Suwalki 73.64 327 *eP* **P** **21 43 48.8 0.0**
DQM DQM 73.67 283 P **P** **21 43 49.5 0.0**
GURO Guroymak-BITLI 73.69 306 IAmb IAmb 21 43 51.3
comp=Z,39nm,1.0s
OSL Oslo 73.73 337 *eP* **P** **21 43 49.2 +0.1**
YHL Hebgen Lake 73.75 45 P **P** **21 43 49.9 -0.1**
UMZA Um Al Zommool 73.84 286 P **P** **21 43 49.7 -0.8**
SKAR Skarslia 73.85 338 *eP* **P** **21 43 50.3 +0.4**
SKAR IAmb IAmb 21 43 51.0
ELK Elko 73.94 50 LR LR 22 14 50.0
comp=Z,31nm,20.2s,baz=251,slow=34
FOO Floro 74.00 340 *eP* **P** **21 43 51.4 +0.8**
SFJD Kangerlussuaq 74.01 5 P **P** **21 43 51.1 +0.5**
SFJD IAmb IAmb 21 43 52.0
comp=Z,21nm,0.9s
SFJD Kangerlussuaq 74.01 5 P **P** **21 43 51.1 +0.5**
SFJD pmax pmax
comp=Z,21nm,1.0s
SFJD Kangerlussuaq 74.01 5 *i* P **P** **21 43 50.0 -0.7**
SFJD IAmb IAmb 21 43 51.7
comp=Z,20nm,0.9s
SFJD Kangerlussuaq 74.01 5 LR LR 22 17 11.3
comp=Z,105nm,21.8s,baz=346,slow=36
HYA Hoyanger 74.05 339 *eP* **P** **21 43 51.2 +0.3**
MZWR Madinat Zayed 74.19 288 P **P** **21 43 51.5 -1.0**
JRN Qarnain Island 74.27 289 P **P** **21 43 52.1 -0.8**
KONO Kongsberg 74.30 337 P **P** **21 43 52.5 +0.1**
KONO IAmb IAmb 21 43 53.7
comp=Z,20nm,1.1s
KONO Kongsberg 74.30 337 *eP* **P** **21 43 52.8 +0.4**
KONO Kongsberg 74.30 337 *ceP* **P** **21 43 52.9 +0.4**
KONO pmax pmax
comp=Z,38nm,2.5s
STRU Stroemstad 74.30 336 *i* P **P** **21 43 52.2 -0.2**
STRU Stroemstad 74.30 336 *eP* **P** **21 43 53.2 +0.7**
TPH Tonopah 74.34 54 P **P** **21 43 53.7 +0.3**
TPH IAmb IAmb 21 44 16.2
comp=Z,27nm,1.0s
TPH Tonopah 74.34 54 P **P** **21 43 53.7 +0.3**
TPH pmax pmax
comp=Z,27nm,1.0s
LKWY Lake 74.37 45 P **P** **21 43 54.4 +0.9**
LKWY Lake 74.37 45 P **P** **21 43 54.4 +0.9**
LKWY pmax pmax
comp=Z,7.0nm,0.9s
H17A Grant Village 74.38 45 P **P** **21 43 55.0 +1.5**
SIM Simferopol 74.41 315 *eP* **P** **21 43 52.5 -0.9**
SIM *e* 21 44 08.0
SIM pmax pmax
comp=Z,47nm,0.8s
KLNR Kaliningrad 74.44 329 *i* P **P** **21 43 53.8 +0.5**
KLNR pmax pmax
comp=Z,65nm,1.0s
MZP Montezuma Peak 74.47 54 P **P** **21 43 53.9 -0.3**
MZP IAmb IAmb 21 43 58.3
comp=Z,16nm,0.6s
FLWY Flagg Ranch 74.51 46 P **P** **21 43 54.7 +0.4**
FXWY Fox Creek 74.60 46 P **P** **21 43 54.5 -0.3**
RLMT Red Lodge 74.63 44 P **P** **21 43 55.9 +0.9**
RLMT Red Lodge 74.63 44 P **P** **21 43 56.6 +1.7**
baz=310
MOOW Moose Ponds 74.69 46 P **P** **21 43 55.9 +0.5**
DY2G Dye2 74.78 3 *i* P **P** **21 43 54.2 -1.3**
DY2G IAmb IAmb 21 43 56.8
comp=Z,26nm,0.8s
GHWR Ruwais 74.82 289 P **P** **21 43 55.5 -0.6**
BLEU Blekinge 74.85 332 *i* P **P** **21 43 54.5 -1.2**
BORU Boraas 74.89 334 *i* P **P** **21 43 54.9 -1.0**
TJOU Tjoern 74.95 335 *i* P **P** **21 43 55.6 -0.6**
ODD1 Odda 74.96 339 *eP* **P** **21 43 56.9 +0.5**
SHMA Al-Shehemyia 75.11 291 P **P** **21 43 57.1 -0.6**
AHID Auburn Hatcher 75.11 47 P **P** **21 43 57.3 -0.5**
AHID IAmb IAmb 21 44 04.8
comp=Z,7.5nm,0.5s
R11B Troy Canyon, C 75.20 53 P **P** **21 43 58.7 +0.3**

R11B Troy Canyon, C 75.20 53 P P 21 43 60.0 +1.6
baz=308
LAO LASA Array 75.22 41 P P 21 43 58.8 +0.6
LAO IAmb IAmb 21 44 00.8
comp=Z,11nm,0.8s
LAO LASA Array 75.22 41 P P 21 43 59.8 +1.6
baz=312
SORM Soroca 75.32 321 ⇑P P 21 43 58.3 -0.3
SORM Soroca 75.32 321 P P 21 43 58.1 -0.5
SAKB Bahrain 75.35 292 P P 21 43 58.4 -0.7
FABU Falkenberg 75.40 334 *i* P P 21 43 57.8 -1.0
DEL Delary 75.42 333 *i* P P 21 43 57.7 -1.3
DEL Delary 75.42 333 *eP* P 21 43 58.6 -0.4
BLS5 Blasjo 75.42 338 *eP* P 21 43 59.4 +0.5
KBD Kabd 75.49 296 P P 21 43 59.3 -0.6
TRNA Turayna 75.59 290 P P 21 43 59.9 -0.6
SLWR Sila 75.63 289 P P 21 44 00.3 -0.5
PURM Purcari 75.63 319 ⇑P P 21 44 00.3 -0.1
DUG Dugway, Tooele 75.74 50 P P 21 44 01.6 +0.3
DUG Dugway, Tooele 75.74 50 P P 21 44 02.9 +1.6
baz=309
DUG Dugway, Tooele 75.74 50 P P 21 44 01.6 +0.3
DUG pmax pmax
comp=Z,6.0nm,1.0s
HOMB Homborsund 75.75 337 *eP* P 21 44 01.3 +0.5
HOMB Homborsund 75.75 337 *i* P P 21 44 00.8 0.0
EDW2 Edwards Air Fo 75.78 57 P P 21 44 02.8 +1.3
baz=308
GWY Greenwater Val 75.84 55 P P 21 44 02.2 +0.2
QSM Queen of Sheba 75.85 55 P P 21 44 02.7 +0.8
SMRA Abu-Samra 75.87 290 P P 21 44 01.4 -0.7
MILM Milestii Mici 75.91 320 ⇑P P 21 44 01.8 -0.2
MILM Milestii Mici 75.91 320 ⇑*iP* P 21 44 01.0 -1.0
comp=Z,60nm,1.2s
MILM *eL* L 22 19 14.0
MILM LRM MLR 22 20 13.0
comp=Z,400nm,20.0s
MILM Milestii Mici 75.91 320 *ciP* P 21 44 01.0 -1.0
MILM pmax pmax
comp=Z,60nm,1.2s
KMY Karmoy 75.94 339 *eP* P 21 44 02.4 +0.5
BW06 Boulder Array 75.99 46 P P 21 44 03.8 +1.0
baz=310
PD31 Pinedale Array 75.99 46 P P 21 44 03.7 +0.9
PDAR Pinedale Array 75.99 46 P P 21 44 03.6 +0.8
PDAR Pinedale Array 75.99 46 P P 21 44 03.9 +1.1
comp=Z,2.6nm,0.7s,baz=281,slow=2.3,SNR=15
PDAR LR LR 22 13 33.0
comp=Z,20nm,21.5s,baz=310,slow=32
comp=Z,2.6nm,0.7s
BSD Bornholm Skovb 76.09 332 *i* P P 21 44 01.0 -1.8
BSD *i* P P 21 44 01.6 -1.3
BSD IAmb IAmb 21 44 03.5
comp=Z,64nm,1.0s
BSD IAmb IAmb 21 44 03.5
comp=Z,64nm,1.0s
BSD Bornholm Skovb 76.09 332 *eP* P 21 44 03.0 +0.2
SNART Snartemo 76.09 337 *eP* P 21 44 03.2 +0.4
SNART Snartemo 76.09 337 *i* P P 21 44 02.5 -0.3
BEL Belsk 76.21 327 *eP* P 21 44 04.3 +0.7
BEL *eL* L 22 20 31.8
comp=Z,297nm,17.8s
LUNU Lund 76.22 333 *i* P P 21 44 02.5 -1.1
LVV L'vov 76.22 324 *eP* P 21 44 04.3 +0.6
SHAO Shalim 76.25 282 P P 21 44 04.5 +0.1
COP Copenhagen 76.53 333 *i* P P 21 44 04.1 -1.2
COP *i* P P 21 44 05.4 +0.1
COP IAmb IAmb 21 44 06.5
comp=Z,124nm,0.8s
COP IAmb IAmb 21 44 06.6
comp=Z,124nm,0.8s
GKP Gorka Klasztor 76.61 330 *eP* P 21 44 06.1 +0.3
GKP *eL* L 22 20 28.6
comp=Z,512nm,19.2s
GKP Gorka Klasztor 76.61 330 *eP* P 21 44 06.2 +0.4
VASR Vaslui 76.62 320 ⇑P P 21 44 06.7 +0.7
NUUK Nuuk 76.70 6 *i* P P 21 44 07.2 +1.0
NUUK IAmb IAmb 21 44 07.6
comp=Z,50nm,1.1s
PRAR RASCA 76.90 321 ⇑P P 21 44 07.3 -0.3
DMTO DMTO 76.95 282 P P 21 44 07.5 -0.9
KWP Kalwaria Pacla 76.96 324 *eP* P 21 44 08.9 +1.0
MUD Monsted U'grnd 77.02 335 *i* P P 21 44 07.2 -0.9
MUD *i* P P 21 44 07.5 -0.6
MUD IAmb IAmb 21 44 09.3
comp=Z,31nm,1.0s
MUD IAmb IAmb 21 44 09.3
comp=Z,31nm,1.0s
DOK Doka 77.04 283 P P 21 44 08.1 -0.7
TLCR 77.08 318 ⇓P P 21 44 08.9 +0.2
TLCR 77.08 318 P P 21 44 08.8 +0.2
VARL Varlezi 77.09 319 ⇓P P 21 44 08.8 +0.1
RGN Rugen 77.11 332 *eP* P 21 44 09.7 +1.1
RGN Rugen 77.11 332 *eP* P 21 44 09.2 +0.6
baz=36,slow=5.4
SCTR Scanteiesti 77.17 319 ⇓P P 21 44 10.3 +1.1
TATR Tatarca 77.20 319 ⇑P P 21 44 09.7 +0.4
BUR08 Bucovina Ar. S 77.20 322 IAmb IAmb 21 44 10.9
comp=Z,35nm,1.1s
GHRR 77.21 320 ⇑P P 21 44 10.1 +0.8
BURAR Bucovina Array 77.21 322 ⇑P P 21 44 09.7 +0.2
BURAR Bucovina Array 77.21 322 IAmb IAmb 21 44 11.2
comp=Z,35nm,1.1s
BURAR Bucovina Array 77.21 322 P P 21 44 09.7 +0.2
TESR Tescani 77.28 320 ⇑P P 21 44 10.0 +0.3
SLCR Slobozia Conac 77.35 319 ⇑P P 21 44 10.8 +0.7
GMRC Granite Mounta 77.35 56 P P 21 44 11.8 +1.3
baz=309
IZVR Izvoarele 77.38 319 ⇓P P 21 44 11.2 +1.0
RDMU Red Mountain 77.40 48 IAmb IAmb 21 44 13.5
comp=Z,19nm,1.0s
P17A Butcher Ranch, 77.43 49 IAmb IAmb 21 44 13.7
comp=Z,12nm,0.9s
CFR Carcaliu 77.44 319 ⇑P P 21 44 10.6 -0.1
CFR Carcaliu 77.44 319 P P 21 44 10.5 -0.1
PANC Panciu 77.47 320 ⇓P P 21 44 12.3 +1.5
TPGR Topolog 77.51 318 ⇑P P 21 44 11.5 +0.4
PFO Pinyon Flats O 77.56 57 P P 21 44 12.7 +1.0
baz=308
PFO Pinyon Flats O 77.56 57 LR LR 22 09 14.3
comp=Z,108nm,21.7s,baz=252,slow=28
TPFO Pinon Flats 77.57 57 P P 21 44 13.0 +1.2
baz=308
ODBI Odobesti 77.59 320 ⇓P P 21 44 13.1 +1.6
SSRD Sdr. Stenderup 77.66 335 *i* P P 21 44 11.1 -0.5
SSRD *i* P P 21 44 11.4 -0.3
SSRD IAmb IAmb 21 44 13.3
comp=Z,90nm,1.1s
SSRD IAmb IAmb 21 44 13.3
comp=Z,90nm,1.1s
ULM Lac du Bonnet 77.67 34 IAmb IAmb 21 44 13.1
comp=Z,23nm,1.5s
ULM Lac du Bonnet 77.67 34 P P 21 44 11.7 -0.1
ULM Lac du Bonnet 77.67 34 P P 21 44 11.7 -0.1
comp=Z,4.7nm,0.7s,baz=323,slow=6.3,SNR=9.3
ULM LR LR 22 21 14.5
comp=Z,35nm,18.7s,baz=0.0,slow=38
comp=Z,4.7nm,0.7s
VRI Vrincioaia 77.69 320 ⇑P P 21 44 11.8 -0.3
VRI Vrincioaia 77.69 320 P P 21 44 11.7 -0.3
MDND Maddock 77.71 37 IAmb IAmb 21 44 14.2
comp=Z,25nm,1.0s
MDND Maddock 77.71 37 P P 21 44 13.2 +1.1
baz=315
WHFO Wadi Hawf 77.73 283 P P 21 44 11.7 -1.0
PLOR Plostina 77.73 320 ⇑P P 21 44 12.8 +0.4
PLOR Plostina 77.73 320 P P 21 44 12.7 +0.4
STHS Stebnicka Huta 77.78 325 *eP* P 21 44 12.6 +0.1
STHS pmax pmax
comp=Z,29nm,1.4s
STHS Stebnicka Huta 77.78 325 *eP* P 21 44 12.6 +0.1
SRU San Rafael Swe 77.79 49 IAmb IAmb 21 44 15.4
comp=Z,13nm,0.9s
TURR Turia 77.91 320 ⇑P P 21 44 14.5 +1.1
BISRR Bisoca 77.92 320 ⇓P P 21 44 14.9 +1.5
COVR Voineasa-Covas 77.96 320 ⇑P P 21 44 14.3 +0.7
BMR Baia Mare 78.00 323 ⇓P P 21 44 14.8 +1.1
BMR Baia Mare 78.00 323 P P 21 44 14.8 +1.1
ARCR ARCALIA 78.00 322 ⇑P P 21 44 15.1 +1.3
MONP2 Monument Peak 78.03 57 P P 21 44 15.5 +1.0
baz=309
BR131 Keskin Array S 78.05 312 IAmb IAmb 21 44 15.7
comp=Z,44nm,1.4s
BR131 Keskin Array S 78.05 312 *i* P P 21 44 14.3 0.0

BRTR Keskin Array B 78.05 312 P P 21 44 14.4 0.0
BRTR Keskin Array B 78.05 312 P P 21 44 14.3 0.0
comp=Z,12nm,0.6s,baz=110,slow=3.5,SNR=39
BRTR PP PP 21 47 08.3 -2.2
comp=Z,6.8nm,1.0s,baz=96,slow=3.8,SNR=7.4
BRTR LR LR 22 22 10.2
comp=Z,118nm,19.9s,baz=63,slow=38
comp=Z,12nm,0.6s
CRVS Cervenica-Dubn 78.05 325 *eP* P 21 44 14.2 +0.2
CRVS pmax pmax
comp=Z,26nm,1.1s
CRVS Cervenica-Dubn 78.05 325 *eP* P 21 44 14.2 +0.2
BOSR Bodos 78.07 320 ⇓P P 21 44 15.8 +1.6
RSSD Black Hills 78.09 42 P P 21 44 15.7 +1.1
RSSD Black Hills 78.09 42 P P 21 44 15.5 +0.8
baz=313
RSSD Black Hills 78.09 42 P P 21 44 15.7 +1.1
RSSD pmax pmax
comp=Z,8.0nm,0.9s
NIE Niedzica 78.19 325 *eP* P 21 44 16.4 +1.6
PGOR Pogoanele 78.22 319 ⇓P P 21 44 16.5 +1.6
DOPR Dopca 78.28 320 ⇑P P 21 44 17.2 +1.8
ISR Istrita 78.30 319 ⇓P P 21 44 17.0 +1.4
ISR Istrita 78.30 319 P P 21 44 16.9 +1.4
ICOR Ion Corvin 78.34 318 ⇑P P 21 44 16.9 +1.2
MLR Muntele Rosu 78.34 320 ⇑P P 21 44 16.2 +0.4
MLR Muntele Rosu 78.34 320 IAmb IAmb 21 44 41.8
comp=Z,17nm,1.1s
MLR Muntele Rosu 78.34 320 P P 21 44 16.2 +0.4
MLR Muntele Rosu 78.34 320 LR LR 22 21 51.7
comp=Z,358nm,18.8s,baz=48,slow=38
ABTO Aybut 78.43 283 P P 21 44 15.7 -0.9
ANTO Ankara 78.45 312 ⇑P P 21 44 17.0 +0.6
ANTO Ankara 78.45 312 P P 21 44 17.0 +0.6
ANTO Ankara 78.45 312 P P 21 44 17.0 +0.6
ANTO Ankara 78.45 312 P P 21 44 17.3 +0.8
O20A White River Ci 78.45 47 P P 21 44 17.9 +1.2
baz=312
RUE Ruedersdorf 78.56 331 *eP* P 21 44 17.3 +0.6
RUE Ruedersdorf 78.56 331 *eP* P 21 44 17.2 +0.5
comp=Z,70nm,1.2s,baz=36,slow=5.4
MESR Meseseni 78.63 323 ⇑P P 21 44 19.0 +1.8
PDMCI Parker Dam,Lak 78.63 55 P P 21 44 19.2 +1.7
baz=309
CJR Cluj-Napoca 78.63 322 ⇑P P 21 44 18.5 +1.2
CJR Cluj-Napoca 78.63 322 P P 21 44 18.5 +1.2
BSEG Bad Segeberg 78.67 333 *eP* P 21 44 17.8 +0.5
comp=Z,48nm,1.0s,baz=36,slow=5.4
LANS Liptovska Anna 78.76 326 *eP* P 21 44 19.5 +1.5
LANS pmax pmax
comp=Z,5.0nm,0.7s
LANS Liptovska Anna 78.76 326 *eP* P 21 44 19.5 +1.5
KECS Kecovo 78.80 325 *eP* P 21 44 18.4 +0.3
KECS Kecovo 78.80 325 *eP* P 21 44 18.4 +0.3
VOIR 78.83 320 ⇓P P 21 44 19.5 +1.1
VOIR 78.83 320 P P 21 44 19.3 +0.8
MARR Marisel-Cluj 78.89 322 ⇑P P 21 44 18.9 +0.1
DRGR 79.00 322 ⇑P P 21 44 20.0 +0.6
DRGR 79.00 322 P P 21 44 19.9 +0.6
OSTC Ostas 79.08 328 ⇑*eP* P 21 44 20.4 +0.7
OSTC Ostas 79.08 328 *eP* P 21 44 20.4 +0.7
ARR Arges 79.08 320 ⇑P P 21 44 21.0 +1.2
AGMN Agassiz Nation 79.11 35 P P 21 44 19.8 0.0
baz=318
MORC Moravsky Berou 79.12 327 ⇑P P 21 44 20.7 +0.7
MORC Moravsky Berou 79.12 327 IAmb IAmb 21 44 21.6
comp=Z,36nm,1.1s
MORC Moravsky Berou 79.12 327 *eP* P 21 44 20.4 +0.5
MORC Moravsky Berou 79.12 327 P P 21 44 20.6 +0.7
CHVC Chvalec 79.12 328 ⇑*iP* P 21 44 20.7 +0.8
CHVC AMS AMS 22 21 50.0
comp=Z,400nm,24.0s
CHVC Chvalec 79.12 328 ⇑*iP* P 21 44 20.7 +0.8
CHVC MLR MLR
comp=Z,400nm,24.0s
DPC Dobruska-Polom 79.20 328 ⇑*iP* P 21 44 21.3 +1.0
DPC AMS AMS 22 21 50.0
comp=Z,300nm,15.7s
DPC Dobruska-Polom 79.20 328 ⇑*iP* P 21 44 21.3 +1.0
DPC MLR MLR
comp=Z,300nm,15.7s
UPC Upice 79.20 328 ⇑*eP* P 21 44 21.0 +0.7
UPC AMS AMS 22 21 50.0
comp=Z,400nm,15.0s
UPC Upice 79.20 328 *eP* P 21 44 21.0 +0.7
UPC MLR MLR
comp=Z,400nm,15.0s
KRLC Kraliky 79.22 328 ⇑AMS AMS 22 22 00.0
comp=Z,300nm,19.8s
N23A Red Feather La 79.25 46 P P 21 44 22.9 +1.8
baz=313
RAZG Razgrad 79.40 318 ⇓P P 21 44 21.9 +0.4
LOTT Latru 79.45 321 ⇓P P 21 44 22.3 +0.3
PSZ Piszkesteto 79.48 325 ⇑P P 21 44 22.7 +0.7
PSZ Piszkesteto 79.48 325 IAmb IAmb 21 44 23.9
comp=Z,36nm,1.1s
PSZ Piszkesteto 79.48 325 P P 21 44 22.7 +0.7
HUMR Humele 79.50 320 ⇓P P 21 44 21.8 -0.2
VYHS Vyhne 79.53 326 *eP* P 21 44 22.6 +0.5
VYHS pmax pmax
comp=Z,18nm,1.0s
VYHS Vyhne 79.53 326 *eP* P 21 44 22.6 +0.5
WUAZ Wupatki 79.60 53 P P 21 44 24.6 +1.7
baz=311
FLTG Flechtingen 79.63 332 *eP* P 21 44 22.3 -0.2
comp=Z,41nm,0.8s,baz=36,slow=5.4
COPA Copaceanca 79.66 319 ⇓P P 21 44 23.1 +0.1
BRG Berggiesshubel 79.75 330 ⇑*iP* P 21 44 23.6 +0.3
BRG 21 47 24.4
BRG pmax pmax
comp=Z,18nm,0.8s
BRG pmax pmax
comp=Z,5.0nm,1.2s
BRG MLR MLR
comp=N,281nm,14.4s
BRG MLR MLR
comp=Z,443nm,14.2s
BRG MLR MLR
comp=E,139nm,19.4s
BRG Berggiesshubel 79.75 330 ⇑*iP* P 21 44 23.6 +0.3
BRG Amp 21 44 24.7
comp=Z,18nm,0.8s
BRG PP PP 21 47 24.4 +0.4
BRG Amp 21 47 26.0
comp=Z,5.4nm,1.2s
BRG Amp 22 22 51.0
comp=N,0.3nm,14.4s
BRG Amp 22 22 55.0
comp=Z,0.4nm,14.2s
BRG Amp 22 22 58.0
comp=E,0.1nm,19.4s
BRG Berggiesshubel 79.75 330 *eP* P 21 44 23.5 +0.3
comp=E,18nm,0.8s,baz=36,slow=5.4
JAVC Velka Javorina 79.76 326 *eP* P 21 44 25.0 +1.5
PVCC Panska Ves 79.77 329 ⇑*iP* P 21 44 24.2 +0.8
PVCC Panska Ves 79.77 329 ⇑*iP* P 21 44 24.2 +0.8
CLL Collm 79.78 330 ⇑*iP* P 21 44 23.4 0.0
CLL *eS* S 21 54 20.0 -2.9
CLL pmax pmax
comp=Z,49nm,1.0s
CLL MLR MLR
comp=Z,300nm,18.2s
CLL Collm 79.78 330 ⇑*iP* P 21 44 23.4 0.0
comp=Z,49nm,1.0s
CLL *ex* x 21 47 07.0
CLL *ePP* PP 21 47 23.0 -1.2
CLL *eS* S 21 54 20.0 -2.9
CLL AMS AMS 22 22 00.0
comp=Z,300nm,18.2s
CLL Collm 79.78 330 *eP* P 21 44 23.3 0.0
comp=Z,43nm,0.9s,baz=36,slow=5.4
VRAC Vranov 79.88 327 ⇑P P 21 44 25.0 +1.0
VRAC Vranov 79.88 327 *eP* P 21 44 24.7 +0.7
VRAC Vranov 79.88 327 P P 21 44 24.9 +0.9
VRAC Vranov 79.88 327 LR LR 22 22 46.2
comp=Z,292nm,19.0s,baz=19,slow=38
SIRR Siria 79.88 323 ⇓P P 21 44 24.8 +0.7
NRDL Niedersach Rie 79.91 333 *eP* P 21 44 24.1 +0.1
comp=Z,16nm,0.9s,baz=36,slow=5.4
RICC Richard 79.95 329 ⇑*eP* P 21 44 25.3 +1.0
GZR Gura Zlata 79.98 321 ⇓P P 21 44 24.5 -0.2
GZR Gura Zlata 79.98 321 P P 21 44 25.0 +0.3
RETH Rethem/Aller, 79.98 333 *eP* P 21 44 24.8 +0.4
comp=Z,21nm,0.9s,baz=36,slow=5.4

ASSE Asse, Remlinge 80.00 332 *eP* P 21 44 24.8 +0.3
comp=Z,15nm,1.0s,baz=36,slow=5.4
SURR Surduc 80.03 322 ⇑P P 21 44 25.5 +0.6
SMOL Smolenice 80.13 326 *eP* P 21 44 26.0 +0.6
SMOL pmax pmax
comp=Z,17nm,1.2s
KRUC Moravsky 80.15 327 *eP* P 21 44 26.0 +0.5
GOPC GO Pecny, Ondr 80.16 329 ⇑*eP* P 21 44 26.3 +0.7
GOPC AMS AMS 22 22 10.0
comp=Z,300nm,17.7s
GOPC GO Pecny, Ondr 80.16 329 *eP* P 21 44 26.3 +0.7
GOPC MLR MLR
comp=Z,300nm,17.7s
HSKC Hora Svate Kat 80.16 330 ⇑*eP* P 21 44 26.0 +0.4
HSKC AMS AMS 22 22 50.0
comp=Z,500nm,19.4s
ELND Elena 80.17 318 ⇓P P 21 44 26.5 +0.7
ISCO Idaho Springs 80.18 46 P P 21 44 27.9 +1.7
baz=313
PRA Prague 80.18 329 ⇑*eP* P 21 44 26.4 +0.8
PRA AMS AMS 22 22 30.0
comp=Z,400nm,18.7s
PRA Prague 80.18 329 *eP* P 21 44 26.4 +0.8
PRA MLR MLR
comp=Z,400nm,18.7s
PRU Pruhonice 80.20 329 ⇑*eP* P 21 44 26.3 +0.6
PRU AMS AMS 22 21 50.0
comp=Z,400nm,20.7s
PRU Pruhonice 80.20 329 *eP* P 21 44 26.3 +0.6
PRU MLR MLR
comp=Z,400nm,20.7s
MVCO Mesa Verde 80.24 50 P P 21 44 27.9 +1.4
baz=312
SRO Srobarova 80.27 325 *eP* P 21 44 26.9 +0.8
SRO pmax pmax
comp=Z,30nm,0.8s
SRO Srobarova 80.27 325 *eP* P 21 44 26.9 +0.8
MODS Modra-Piesok 80.30 326 *eP* P 21 44 26.8 +0.5
MODS pmax pmax
comp=Z,76nm,1.2s
MODS Modra-Piesok 80.30 326 *eP* P 21 44 26.8 +0.5
NEUB Neuenburg 80.33 331 *eP* P 21 44 26.5 +0.1
comp=Z,50nm,1.0s,baz=36,slow=5.4
CLZ Clausthal 80.34 332 *eP* P 21 44 27.0 +0.5
comp=Z,44nm,1.0s,baz=36,slow=5.4
BZS Buzias 80.38 322 ⇑P P 21 44 26.7 -0.1
BZS Buzias 80.38 322 P P 21 44 26.8 0.0
SUSD Miller 80.46 39 IAmb IAmb 21 44 28.8
comp=Z,35nm,0.8s
SUSD Miller 80.46 39 P P 21 44 28.2 +0.9
baz=316
RAYN Ar Rayn 80.47 292 P P 21 44 27.3 -0.4
RAYN IAmb IAmb 21 44 28.5
comp=Z,32nm,1.3s
RAYN Ar Rayn 80.47 292 *i* P P 21 44 27.3 -0.4
SNR=24
RAYN Ar Rayn 80.47 292 P P 21 44 27.3 -0.4
RAYN pmax pmax
comp=Z,32nm,1.3s
RAYN Ar Rayn 80.47 292 P P 21 44 27.5 -0.2
HERR Herculane 80.53 321 ⇓P P 21 44 27.9 +0.3
BAIL Bailesti 80.69 320 ⇓P P 21 44 29.7 +1.3
TANN Tannenbergstha 80.69 330 *eP* P 21 44 28.6 +0.2
comp=Z,10nm,1.0s,baz=36,slow=5.4
GTTG Gottingen 80.73 332 *eP* P 21 44 28.8 +0.3
comp=Z,35nm,0.9s,baz=36,slow=5.4
PLN Plauen 80.76 330 *eP* P 21 44 29.0 +0.2
comp=Z,11nm,1.0s,baz=36,slow=5.4
MOX Moxa 80.84 331 *eP* P 21 44 29.4 +0.2
comp=Z,32nm,1.2s,baz=36,slow=5.4
MOX *eL* L 22 23 35.0
comp=Z,159nm,18.0s
NKC Novy Kostel 80.84 330 ⇑*eP* P 21 44 29.8 +0.6
NKC Novy Kostel 80.84 330 *eP* P 21 44 29.8 +0.6
IBBN Ibbenburen 80.89 334 *eP* P 21 44 29.5 +0.1
comp=Z,29nm,0.7s,baz=36,slow=5.4
MDVR Moldovita 80.94 322 ⇑P P 21 44 29.9 0.0
214A Organ Pipe Nat 80.99 56 P P 21 44 31.6 +1.3
baz=310
Q24A Divide 81.01 47 P P 21 44 32.1 +1.4
baz=313
ISP Isparta 81.13 312 *ceP* P 21 44 31.3 +0.2
ISP pmax pmax
comp=Z,61nm,2.5s
MANZ Manzenberg 81.17 330 *eP* P 21 44 31.3 +0.4
comp=Z,2.8nm,0.8s,baz=36,slow=5.4
CKRC Cesky Krumlov 81.21 328 ⇑*iP* P 21 44 31.5 +0.3
CKRC AMS AMS 22 23 10.0
comp=Z,300nm,18.4s
CKRC Cesky Krumlov 81.21 328 ⇑*iP* P 21 44 31.5 +0.3
CKRC MLR MLR
comp=Z,300nm,18.4s
RONA Rosalia, Austr 81.24 326 *i* P P 21 44 32.5 +1.1
comp=Z,33nm,0.9s,SNR=9.8
CONA Conrad Observa 81.25 327 *i* P P 21 44 32.5 +1.0
comp=Z,30nm,1.1s,SNR=10
KHC Kasperske Hory 81.27 329 IAmb IAmb 21 44 33.1
comp=Z,22nm,0.8s
KHC Kasperske Hory 81.27 329 ⇑*iP* P 21 44 31.7 +0.2
KHC AMS AMS 22 23 00.0
comp=Z,500nm,21.0s
KHC Kasperske Hory 81.27 329 *ceP* P 21 44 31.6 +0.1
KHC pmax pmax
comp=Z,58nm,1.1s
EYMN Ely 81.29 33 P P 21 44 32.4 +0.7
baz=321
UBBA Unterbreizbach 81.31 332 *eP* P 21 44 31.6 +0.1
comp=Z,6.3nm,0.8s,baz=36,slow=5.4
ROTZ Rotzenmuhle 81.31 330 *eP* P 21 44 32.3 +0.6
comp=Z,3.5nm,0.8s,baz=36,slow=5.4
MORH Mrgy, Hungar 81.33 324 ⇑P P 21 44 31.5 -0.3
MMAI Mount Meron Ar 81.35 306 P P 21 44 32.8 +0.5
comp=Z,18nm,0.7s,baz=29,slow=6.0,SNR=37
MMAI LR LR 22 24 03.1
comp=Z,97nm,21.8s,baz=350,slow=38
comp=Z,18nm,0.7s
OGNE Ogallala 81.36 44 P P 21 44 33.7 +1.5
baz=315
CSS Mathiatis 81.37 308 IAmb IAmb 21 44 32.7
comp=Z,18nm,0.8s
K30B Basset 81.40 41 IAmb IAmb 21 44 34.8
comp=Z,33nm,0.8s
GEC2 GERESS Array S 81.44 328 *eP* P 21 44 32.5 0.0
comp=Z,9.8nm,0.8s,baz=36,slow=5.4
GERES GERESS Array B 81.44 328 P P 21 44 32.6 +0.1
GERES GERESS Array B 81.44 328 P P 21 44 32.5 +0.1
comp=Z,8.5nm,0.7s,baz=31,slow=8.3,SNR=24
GERES LR LR 22 23 43.5
comp=Z,347nm,19.1s,baz=46,slow=38
comp=Z,8.5nm,0.7s
WET Wettzell 81.54 329 *eP* P 21 44 33.5 +0.5
comp=Z,14nm,0.9s,baz=36,slow=5.4
KASTN Kahler Asten 81.57 333 *eP* P 21 44 33.2 +0.1
comp=Z,12nm,0.9s,baz=36,slow=5.4
FRGS Fruska Gora 81.57 323 ⇑P P 21 44 33.5 +0.3
EKA Eskdalemuir Ar 81.58 341 P P 21 44 33.0 0.0
EKA Eskdalemuir Ar 81.58 341 P P 21 44 33.0 0.0
comp=Z,5.4nm,0.8s,baz=26,slow=4.7,SNR=12
comp=Z,5.4nm,0.8s
SDCO Great Sand Dun 81.64 48 P P 21 44 35.5 +1.5
baz=313
GRF Grafenberg Arr 81.75 330 *eP* P 21 44 34.7 +0.7
comp=Z,56nm,1.0s,baz=36,slow=5.4
GRF *eL* L 22 24 03.3
comp=Z,210nm,18.2s
GRFO Grafenberg 81.75 330 P P 21 44 35.2 +1.2
GRFO Grafenberg 81.75 330 P P 21 44 35.2 +1.2
GRFO pmax pmax
comp=Z,54nm,1.0s
BUG Bochum--Univer 81.78 333 *eP* P 21 44 34.0 -0.1
comp=Z,20nm,0.9s,baz=36,slow=5.4
ARSA Arzberg 81.92 326 *eP* P 21 44 35.5 +0.6
comp=Z,19nm,1.3s
MOA Molln 81.99 328 *i* P P 21 44 35.7 +0.4
comp=Z,20nm,1.1s,SNR=5.8
TUC Tucson 82.06 55 P P 21 44 37.7 +1.7
baz=311
ECSD EROS Data Cent 82.13 39 IAmb IAmb 21 44 37.5
comp=Z,12nm,0.9s
E38A The Farm, Brul 82.30 34 IAmb IAmb 21 44 38.3
comp=Z,32nm,1.4s
TNS Taunus Mts 82.37 332 *eP* P 21 44 37.5 +0.2
comp=Z,11nm,0.8s,baz=36,slow=5.4
BIOA Bad Ischl, Aus 82.38 328 *i* P P 21 44 37.9 +0.5
comp=Z,35nm,0.9s,SNR=12
GROS Grobnik 82.54 326 *i* P P 21 44 38.2 -0.1

PERS	Pernice	82.57	326	*i* P		P	21 44 38.6	+0.2	
SOKA	Soboth	82.58	326	*i* P		P	21 44 38.9	+0.4	
	comp=Z,61nm,1.1s,SNR=9.2								
AHRW	Bad Neuenahr-A	82.60	333	*e*P		P	21 44 38.7	+0.3	
	comp=Z,23nm,0.9s,baz=36,slow=5.4								
T25A	Trinidad	82.69	48	P		P	21 44 40.6	+1.2	
	baz=314								
SPMN	Marine on St.	82.81	36	P		P	21 44 40.6	+1.0	
	baz=320								
BTNL	Ternell	82.89	333	*d*P		P	21 44 39.9	0.0	
	comp=Z,16nm,1.0s								
MEM	Membach	82.92	334	*d*P		P	21 44 39.9	-0.1	
	comp=Z,22nm,1.0s								
FUR	Furstenfeldbru	82.96	329	*e*P		P	21 44 40.8	+0.4	
	comp=Z,39nm,0.9s,baz=36,slow=5.4								
KBA	Koelnbreinsper	82.98	328	*i* P		P	21 44 40.9	+0.2	
	comp=Z,30nm,0.9s,SNR=8.2								
ANMO	Albuquerque	82.98	50	P		P	21 44 43.2	+2.2	
ANMO	Albuquerque	82.98	50	P		P	21 44 42.6	+1.6	
	baz=313								
ANMO	Albuquerque	82.98	50	*i* P		P	21 44 40.7	-0.3	
ANMO					pmax	pmax			
	comp=Z,8.0nm,1.1s								
ANMO	Albuquerque	82.98	50	P		P	21 44 42.7	+1.8	
	comp=Z,4.4nm,1.0s,baz=58,slow=5.9,SNR=4.3								
ANMO					LR	LR	22 16 36.2		
	comp=Z,34nm,21.5s,baz=48,slow=32								
	comp=Z,4.4nm,1.0s								
LESA	Schwarzleotal	82.98	328	*e*P		P	21 44 41.0	+0.4	
	comp=Z,51nm,1.2s								
VAY	Valandovo	83.04	319	*i* P		P	21 44 41.2	+0.3	
BGNE	Belgrade	83.07	41	P		P	21 44 41.5	+0.4	
	baz=317								
BSTI	Sart Tilman	83.09	334	*d*P		P	21 44 41.4	+0.4	
	comp=Z,3.0nm,0.8s								
SKO	Skopje	83.14	320	*i* P		P	21 44 42.7	+1.3	
MYKA	Terra Mystica	83.21	327	*e*P		P	21 44 41.2	-0.5	
	comp=Z,5nm,0.7s								
URZ	Urewera	83.22	153	LR		LR	22 20 20.3		
	comp=Z,89nm,18.9s,baz=120,slow=35								
STU	Stuttgart	83.28	331	*e*P		P	21 44 42.7	+0.7	
	comp=Z,112nm,1.3s,baz=36,slow=5.4								
BCLA	Clavier	83.32	334	*d*P		P	21 44 41.6	-0.5	
	comp=Z,12nm,1.1s								
PRED	Cave del Predi	83.39	327	IAmb		IAmb	21 44 42.9		
	comp=Z,22nm,0.8s								
SCHQ	Schefferville	83.42	16	P		P	21 44 42.0	-0.6	
	comp=Z,9.0nm,0.9s,baz=350,slow=7.6,SNR=6.3								
SCHQ					LR	LR	22 26 13.9		
	comp=Z,34nm,18.3s,baz=14,slow=39								
	comp=Z,9.0nm,0.9s								
BGES	Gesves	83.42	334	*d*P		P	21 44 42.5	-0.2	
	comp=Z,10nm,1.0s								
WATA	Walderalm	83.51	329	*i* P		P	21 44 43.5	+0.1	
	comp=Z,21nm,1.2s,SNR=5.9								
WTTA	Wattenberg	83.54	329	*i* P		P	21 44 43.9	+0.3	
	comp=Z,31nm,1.2s,SNR=5.2								
RCHB	Rochefort	83.57	334	*d*P		P	21 44 43.1	-0.3	
	comp=Z,13nm,1.1s								
ABTA	Abfaltersbach	83.59	328	*i* P		P	21 44 42.8	-0.9	
	comp=Z,29nm,1.2s,SNR=5.8								
BMRD	Maredsous	83.60	334	*d*P		P	21 44 43.4	-0.1	
	comp=Z,17nm,1.1s								
JAVS	Javornik	83.61	326	*i* P		P	21 44 43.0	-0.9	
WLF	Walferdange	83.66	333	*d*P		P	21 44 44.5	+0.6	
MOTA	Moosalm	83.69	329	*i* P		P	21 44 44.4	+0.1	
	comp=Z,47nm,1.0s,SNR=12								
RETA	Reutte	83.71	329	*i* P		P	21 44 44.7	+0.4	
	comp=Z,62nm,1.1s,SNR=15								
SQTA	Sankt Quirin	83.75	329	*i* P		P	21 44 44.8	+0.2	
	comp=Z,16nm,0.8s,SNR=6.0								
121A	Cookes Peak, D	83.80	53	P		P	21 44 46.8	+1.6	
	baz=313								
UBR	Ueberruh	83.81	330	*e*P		P	21 44 45.2	+0.4	
	baz=36,slow=5.4								
DOU	Dourbes	83.84	334	*d*P		P	21 44 44.5	-0.3	
	comp=Z,8.1nm,1.2s								
EIL	Elat	83.84	303	LR		LR	22 26 27.2		
	comp=Z,122nm,18.9s,baz=46,slow=39								
G40A	Rib Lake	83.94	34	IAmb		IAmb	21 44 46.7		
	comp=Z,12nm,0.9s								
BFO	Black Forest	83.97	331	P		P	21 44 45.2	-0.4	
BFO	Black Forest	83.97	331	*ce*P		P	21 44 45.4	-0.2	
BFO	Black Forest	83.97	331	*e*P		P	21 44 45.8	+0.3	
	comp=Z,75nm,1.3s,baz=36,slow=5.4								
CIMO	Cimolais	83.97	328	IAmb		IAmb	21 44 44.9		
	comp=Z,13nm,0.7s								
BAIF	Baives	84.00	334	P		P	21 44 44.7	-0.9	
OHR	Ohrid	84.10	320	*i* P		P	21 44 46.7	+0.3	
FETA	Feichten	84.10	329	*i* P		P	21 44 46.5	+0.1	
	comp=Z,24nm,0.9s,SNR=9.3								
CBKS	Cedar Bluff	84.12	44	P		P	21 44 47.2	+0.6	
	baz=316								
DAVA	Damuels	84.22	330	*i* P		P	21 44 47.3	+0.2	
	comp=Z,69nm,1.0s,SNR=17								
E43A	Lone Tree Farm	84.42	32	IAmb		IAmb	21 44 48.6		
	comp=Z,8.6nm,0.7s								
ECH	Echery	84.50	332	IAmb		IAmb	21 44 49.3		
	comp=Z,25nm,1.0s								
CTI	Castel Tesino	84.51	328	IAmb		IAmb	21 44 48.3		
	comp=Z,18nm,0.7s								
DAVOX	Davos/Dischmat	84.64	329	LR		LR	22 26 00.8		
	comp=Z,284nm,18.6s,baz=30,slow=38								
HINF	Hinteralfeld	84.95	332	P		P	21 44 50.0	-0.6	
PPT	Papeete	84.97	117	LR		LR	22 17 23.4		
	comp=Z,57nm,20.6s,baz=344,slow=32								
SCIA	State Center	85.15	38	P		P	21 44 52.7	+1.1	
	baz=320								
KSU1	Kansas State U	85.57	42	P		P	21 44 54.2	+0.4	
	baz=318								
I42A	Draeger Farm,	85.59	34	IAmb		IAmb	21 44 55.1		
	comp=Z,16nm,0.9s								
H43A	Windswept, Lux	85.62	33	IAmb		IAmb	21 44 55.5		
	comp=Z,23nm,0.9s								
JFWS	Jewell Farm	85.76	36	P		P	21 44 55.0	+0.4	
	baz=322								
AMTX	Amarillo	85.84	48	IAmb		IAmb	21 44 57.6		
	comp=Z,15nm,1.0s								
AMTX	Amarillo	85.84	48	P		P	21 44 56.9	+1.6	
	baz=316								
MSTX	Muleshoe	85.85	49	P		P	21 44 56.5	+1.1	
	baz=315								
MNTX	Cornudas Mount	85.86	52	P		P	21 44 56.6	+1.3	
	baz=314								
L40A	Anamosa	85.98	37	IAmb		IAmb	21 44 56.9		
	comp=Z,15nm,0.8s								
LOR	Lormes	86.50	333	P		P	21 44 57.3	-0.9	
SMWD	Samnorwood	86.51	47	IAmb		IAmb	21 45 00.8		
	comp=Z,10.0nm,0.8s								
VLDQ	Val d'Or	86.52	25	IAmb		IAmb	21 45 19.4		
	comp=Z,11nm,1.2s								
GLMI	Grayling	86.65	31	P		P	21 45 00.0	+1.0	
	baz=325								
LDF	La Druitiere	86.69	336	P		P	21 44 58.6	-0.5	
P38A	Dawn	86.74	40	IAmb		IAmb	21 45 01.1		
	comp=Z,16nm,0.8s								
SSF	Saint Saulge	86.80	333	P		P	21 44 59.9	+0.2	
LPL	La Plagne	86.92	330	P		P	21 44 59.8	-0.8	
LPG	La Plagne	86.92	330	P		P	21 45 00.0	-0.7	
SMF	Signal de Mont	87.04	333	P		P	21 45 01.2	+0.3	
AVF	Avril sur Loir	87.09	333	P		P	21 45 00.4	-0.7	
DKNS	Dickens	87.15	48	IAmb		IAmb	21 45 04.9		
	comp=Z,13nm,1.0s								
L44A	Lake County Fo	87.40	35	P		P	21 45 03.7	+1.1	
	baz=323								
P40A	Paris	87.55	39	IAmb		IAmb	21 45 05.2		
	comp=Z,22nm,1.0s								
WMOK	Wichita Mounta	87.60	46	P		P	21 45 05.0	+1.2	
	baz=317								
ORIF	Oris-en-Rattie	87.75	331	P		P	21 45 04.5	+0.1	
LPIG	La Paz	87.80	61	LR		LR	22 18 47.2		
	comp=Z,48nm,19.5s,baz=234,slow=32								
HDIL	Hopedale	88.06	37	P		P	21 45 07.0	+1.2	
	baz=322								
QUIF	Quistinic	88.23	337	P		P	21 45 07.3	+0.8	
VIVF	Saint-Julien-l	88.26	331	P		P	21 45 06.1	-0.7	
S39A	Bolivar	88.32	41	IAmb		IAmb	21 45 08.0		
	comp=Z,10nm,0.8s								
TUL3	Leonard	88.38	43	P		P	21 45 09.0	+1.6	
	baz=319								
R40A	Maddies Statio	88.39	40	IAmb		IAmb	21 45 08.8		
	comp=Z,18nm,1.0s								
MFF	Saint Martin d	88.45	335	P		P	21 45 07.3	-0.3	
TXAR	Lajitas Array	88.56	53	P		P	21 45 09.8	+1.2	
TXAR	Lajitas Array	88.56	53	P		P	21 45 09.8	+1.2	
	comp=Z,2.1nm,0.7s,baz=290,slow=3.5,SNR=29								
TXAR					LR	LR	22 22 59.5		
	comp=Z,32nm,20.7s,baz=301,slow=34								
	comp=Z,2.1nm,0.7s								
ABTX	Abilene, Hawle	88.64	48	P		P	21 45 10.7	+1.9	
	baz=317								
U38A	Gravette	88.72	42	IAmb		IAmb	21 45 10.7		
	comp=Z,9.6nm,0.9s								
SADO	Sadowa	88.81	28	LR		LR	22 27 03.6		
	comp=Z,22nm,20.8s,baz=120,slow=37								
CCM	Cathedral Cave	89.08	39	P		P	21 45 11.4	+0.7	
CCM	Cathedral Cave	89.08	39	P		P	21 45 11.9	+1.2	
	baz=321								
CCM	Cathedral Cave	89.08	39	P		P	21 45 11.4	+0.7	
CCM					pmax	pmax			
	comp=Z,25nm,1.0s								
SFIN	Lafayette	89.21	35	P		P	21 45 12.3	+1.1	
	baz=324								
MGMO	Mountain Grove	89.27	41	IAmb		IAmb	21 45 12.9		
	comp=Z,15nm,1.1s								
FVM	French Village	89.54	39	IAmb		IAmb	21 45 14.6		
	comp=Z,14nm,1.1s								
BRDY	Brady	89.99	49	IAmb		IAmb	21 45 35.3		
	comp=Z,16nm,1.3s								
N49A	Columbus Grove	90.05	33	IAmb		IAmb	21 45 16.8		
	comp=Z,21nm,1.0s								
JCT	Junction City	90.10	50	P		P	21 45 16.4	+0.8	
	baz=317								
O48B	Farmland	90.17	34	IAmb		IAmb	21 45 17.2		
	comp=Z,17nm,0.9s								
O48B	Farmland	90.17	34	P		P	21 45 16.5	+0.7	
	baz=325								
FCAR	Ozark Folk Cen	90.32	41	IAmb		IAmb	21 45 18.3		
	comp=Z,12nm,1.1s								
PBMO	Poplar Bluff	90.49	40	IAmb		IAmb	21 45 19.0		
	comp=Z,18nm,0.9s								
LONY	Lake Ozonia	90.54	25	P		P	21 45 18.6	+1.2	
	baz=332								
MIAR	Mount Ida	90.59	43	IAmb		IAmb	21 45 19.7		
	comp=Z,11nm,0.8s								
MIAR	Mount Ida	90.59	43	P		P	21 45 19.0	+1.2	
	baz=320								
WHAR	Wooly Hollow	90.70	42	IAmb		IAmb	21 45 19.8		
	comp=Z,15nm,0.9s								
ERPA	Erie	90.76	30	P		P	21 45 19.6	+1.1	
	baz=328								
P49A	Miami Univ. Ec	90.96	34	P		P	21 45 20.6	+1.1	
	baz=325								
M53A	WI Miller and	91.06	31	P		P	21 45 21.0	+1.1	
	baz=328								
ACSO	Alum Creek Sta	91.13	33	P		P	21 45 21.3	+1.1	
	baz=326								
435B	Jarrell	91.18	48	P		P	21 45 21.7	+1.0	
	baz=318								
WCI	Wyandotte Cave	91.31	36	P		P	21 45 21.8	+0.7	
	baz=324								
PKME	Peaks-Kenny Pk	91.60	22	P		P	21 45 22.6	+0.3	
	baz=336								
833A	Chaparral WMA,	91.91	51	P		P	21 45 25.0	+1.0	
	baz=317								
WVT	Waverly	92.28	38	P		P	21 45 26.3	+0.7	
	baz=323								
OXF	Oxford	92.78	40	P		P	21 45 28.5	+0.6	
	baz=322								
KEST	Kesra	93.89	323	LR		LR	22 32 38.7		
	comp=Z,309nm,18.2s,baz=295,slow=38								
PAL	Palisades	93.97	26	P		P	21 45 33.0	-0.3	
	baz=333								
TKL	Tuckaleechee C	94.57	36	IAmb		IAmb	21 45 38.6		
	comp=Z,12nm,1.0s								
TKL	Tuckaleechee C	94.57	36	LR		LR	22 31 52.5		
	comp=Z,25nm,19.6s,baz=333,slow=38								
ESDC	Sonseca Array	95.88	334	P		P	21 45 42.0	-0.1	
	comp=Z,2.1nm,0.8s,baz=12,slow=4.0,SNR=11								
ESDC					PP	PP	21 49 33.1	-0.4	
	comp=Z,2.6nm,1.1s,baz=34,slow=7.9,SNR=6.1								
ESDC					LR	LR	22 34 13.2		
	comp=Z,237nm,18.0s,baz=16,slow=39								
	comp=Z,2.1nm,0.8s								
TORD	Torodi Ar. Bea	116.41	316	PKP		PKPdf	21 50 58.8	-0.8	
	comp=Z,1.2nm,0.7s,baz=18,slow=2.3,SNR=7.7								
TORD					PP	PP	21 52 02.2	-3.2	
	comp=Z,2.5nm,0.9s,baz=30,slow=7.4,SNR=7.4								
VNDA	Vanda	116.76	175	PKIKP		PKiKP	21 50 58.3	0.0	
VNDA	Vanda	116.76	175	PKP		PKiKP	21 50 58.3	0.0	
	comp=Z,0.8nm,0.8s,baz=3.0,slow=6.9,SNR=3.2								
SDV	Santo Domingo	123.56	40	*e*P		PKiKP	21 51 13.7	-0.1	
DBIC	Dimbokro	125.31	318	PKIKP		PKPdf	21 51 15.9	-0.7	
DBIC	Dimbokro	125.31	318	PKP		PKPdf	21 51 15.9	-0.7	
	comp=Z,3.6nm,0.7s,baz=353,slow=3.1,SNR=5.8								
BOSA	Boshof	127.44	261	PKIKP		PKPdf	21 51 19.7	-0.7	
BOSA	Boshof	127.44	261	PKP		PKPdf	21 51 19.7	-0.7	
	comp=Z,3.4nm,0.5s,baz=82,slow=2.0,SNR=11								
QSPA	South Pole Qui	128.61	180	PKP		PKPdf	21 51 20.6	-0.7	
	comp=Z,2.9nm,0.5s,baz=291,slow=1.3,SNR=27								
ELIB	Princess Elisa	135.32	203	*d*PKPdf		PKPdf	21 51 34.6	+0.6	
TROLL	Troll, Antarti	141.15	199	⇑P		PKiKP	21 51 49.2	+1.8	
	comp=Z,553nm,1.1s								
SAML	Samuel	142.54	44	*e*P		PKiKP	21 51 50.9	-0.9	
SNAA	Sanae	142.67	197	PKhKP		PKPpre	21 51 42.3		
	comp=Z,7.8nm,0.8s,baz=226,slow=8.4,SNR=6.5								
VNA2	Neumayer--Watz	144.24	197	⇑P		PKPab	21 51 48.1	+0.1	
	comp=Z,28nm,0.8s,baz=118,slow=2.1								
VNA3	Neumayer Olymp	144.48	195	⇑P		PKiKP	21 51 53.8	-0.3	
	comp=Z,19nm,0.9s								
NPGB	Novo Progresso	144.60	31	*e*P		PKPdf	21 51 52.2	-0.2	
LPAZ	La Paz	145.27	58	PKIKP		PKPdf	21 51 54.2	0.0	
LPAZ	La Paz	145.27	58	PKPbc		PKPdf	21 51 54.2	0.0	
	comp=Z,7.0nm,0.7s,baz=336,slow=3.3,SNR=25								
H03N2	Juan Fernandez	146.62	94	T		T	00 36 32.4		
	baz=291,slow=76,SNR=24								
H03N3	Juan Fernandez	146.63	94	T		T	00 36 37.8		
	baz=291,slow=76,SNR=34								
H03N1	Juan Fernandez	146.64	94	T		T	00 36 30.8		
	baz=291,slow=76,SNR=31								
PLCA	Paso Flores	154.91	105	PKP2		PKPab	21 52 33.1	+0.9	
PLCA	Paso Flores	154.91	105	PKPab		PKPab	21 52 33.1	+0.9	
	comp=Z,1.2nm,0.5s,baz=268,slow=4.0,SNR=3.2								
BDFB	Brasilia	155.20	24	PKP2		PKPab	21 52 34.6	+0.7	
BDFB	Brasilia	155.20	24	PKPab		PKPab	21 52 34.6	+0.7	
	comp=Z,4.0nm,0.7s,baz=226,slow=4.6,SNR=4.8								

NEIC ***22*** *21:40:15.9±1.2,38°.417N±0°.006×111°.67W±0°.03, h9km±10km, Error ellipse: s-maj=3.3km s-min=1.0km az=89.0*

UUSS 22 21:40:15.9±1.1,38°.41N±0°.02×111°.66W±0°.02, h16km±6km, ML2.6/10, ML2.6/78(NEIC), Error ellipse: s-maj=3.0km s-min=1.6km az=209.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMU	Miners Mountai	0.36	127		Pg	21 40 23.2	-0.2
OWUT	Old Woman Plat	0.41	26		Pg	21 40 24.3	-0.1
MSU	Marysvale	0.42	284	Pg	Pg	21 40 24.1	-0.5
MVU	Marysvale	0.45	282		Pg	21 40 24.7	-0.4
MTPU	Mount Pierson	0.56	228	Pg	Pg	21 40 26.8	-0.3
MTPU	Mount Pierson	0.56	228		Sg	21 40 34.9	+0.2
WCU	Willow Creek	0.65	328		Pg	21 40 28.4	-0.3
TCRU	Three Creeks R	0.65	288		Pg	21 40 28.2	-0.6
TCRU				IAML		21 40 38.3	
	comp=N,291nm,0.2s						
TCRU				IAML		21 40 38.3	
	comp=E,444nm,0.8s						
BTU	Barney Top	0.68	195		Pg	21 40 29.3	0.0
SGU	Sterling	0.77	1		Pg	21 40 30.7	-0.3
HMU	Henry Mountain	0.86	123		Pb	21 40 32.2	-0.5
HMU				IAML		21 40 50.7	
	comp=E,296nm,0.6s						
HMU				IAML		21 40 52.7	
	comp=N,325nm,0.9s						
SNO	Snow College	0.90	6		Pb	21 40 33.1	-0.3
NMUT	North Mineral	0.94	277		Pb	21 40 33.8	-0.1
PKCU	Pink Cliffs	1.10	208	Pg	Pb	21 40 36.6	-0.1
PKCU				IAML		21 40 53.6	
	comp=E,248nm,0.3s						
PKCU				IAML		21 40 58.1	
	comp=N,152nm,0.4s						
LEVU	Levan	1.10	354		Pb	21 40 36.2	-0.4
SRU	San Rafael Swe	1.13	51		Pb	21 40 37.0	-0.1
SRU	San Rafael Swe	1.13	51	IAML		21 40 55.2	
	comp=E,139nm,0.3s						
SRU				IAML		21 40 56.5	
	comp=N,83nm,0.2s						
ELU	Electric Lake	1.27	16		Pb	21 40 39.7	0.0
P17A	Butcher Ranch,	1.28	34		Pb	21 40 39.8	+0.1
P17A				IAML		21 40 56.3	
	comp=E,116nm,0.5s						
P17A				IAML		21 40 56.5	
	comp=N,108nm,0.4s						
SZCU	Shurtz Canyon	1.40	235		Pb	21 40 42.2	+0.5
SZCU				IAML		21 41 01.2	
	comp=N,96nm,0.2s						
SZCU				IAML		21 41 03.3	
	comp=E,107nm,0.2s						
EKU	East Kanab	1.49	207		Pb	21 40 43.4	+0.1
NLU	North Lily Min	1.57	348		Pb	21 40 45.2	+0.5
NLU				IAML		21 41 08.2	
	comp=E,66nm,0.7s						
NLU				IAML		21 41 08.7	
	comp=N,59nm,1.1s						
CCUT	Cedar City	1.60	238		Pb	21 40 45.3	+0.1
MPU	Maple Canyon	1.60	1		Pg	21 40 46.1	-0.6
P18A	Preston Nutter	1.64	42	Pn	Pg	21 40 46.8	-0.6
P18A				IAML		21 41 09.4	
	comp=N,96nm,0.5s						
P18A				IAML		21 41 09.4	
	comp=E,129nm,0.5s						
KNB	Kanab	1.67	214		Pb	21 40 47.0	+0.5
KNB				IAML		21 41 10.9	
	comp=E,40nm,0.7s						
PSUT	Pine Spring	1.73	275	Pn	Pb	21 40 46.8	-0.6
LCMT	Little Creek M	1.88	222		Pb	21 40 50.0	0.0
LCMT				IAML		21 41 15.7	
	comp=E,44nm,0.2s						
LCMT				IAML		21 41 18.1	
	comp=N,39nm,0.2s						
DUG	Dugway, Tooele	1.99	334		Pn	21 40 50.4	+1.3
DUG				IAML		21 41 21.3	
	comp=N,41nm,0.6s						
DUG				IAML		21 41 21.6	
	comp=N,41nm,0.6s						
U15A	North Rim	2.04	195		Pn	21 40 50.2	+0.3
SPR3	Spring Creek 3	2.17	286	Pg	Pg	21 40 56.5	-1.2
BSUT	Blindstream Ca	2.23	18		Pn	21 40 54.2	+1.7
BSUT				IAML		21 41 28.3	
	comp=E,31nm,0.6s						
CTU	Camp Tracy	2.28	358		Pb	21 40 58.1	+1.4
CTU				IAML		21 41 28.6	
	comp=E,31nm,0.6s						
Q12A	Willow Creek R	2.56	285		Pn	21 40 57.2	+0.4
Q12A				IAML		21 41 43.2	
	comp=E,16nm,0.9s						
Q12A				IAML		21 41 44.5	
	comp=N,21nm,0.8s						
RDMU	Red Mountain	2.69	36		Pg	21 41 05.8	-1.8
RDMU				IAML		21 41 39.0	
	comp=E,17nm,0.4s						
RDMU				IAML		21 41 43.1	
	comp=N,16nm,1.6s						
BGU	Big Grassy Mou	2.72	338		Pn	21 40 58.5	-0.6
BGU				IAML		21 41 45.6	
	comp=E,19nm,0.3s						
BGU				IAML		21 41 48.2	
	comp=N,15nm,1.1s						
MVCO	Mesa Verde	2.77	115	Pn	Pn	21 41 01.7	+1.8
PRN	Pahroc Range	2.87	251		Pg	21 41 10.3	-0.6
PRN				IAML		21 41 52.0	
	comp=E,14nm,0.9s						
PRN				IAML		21 41 52.6	
	comp=N,16nm,0.5s						
WUAZ	Wupatki	2.90	175		Pn	21 41 03.4	+1.9
R11B	Troy Canyon, C	3.09	270		Pn	21 41 04.5	+0.3
R11B				IAML		21 41 58.5	
	comp=E,9.4nm,4.1s						
HWUT	Hardware Ranch	3.19	1		Pn	21 41 04.7	-0.9
HWUT				IAML		21 42 00.0	
	comp=E,12nm,1.4s						
HWUT				IAML		21 42 29.6	
	comp=E,13nm,4.8s						
HVU	Hansel Valley	3.47	346		Pn	21 41 09.0	-0.4
HVU				IAML		21 42 10.6	
	comp=N,12nm,0.9s						
HVU				IAML		21 42 11.8	
	comp=E,9.4nm,0.9s						
ELK	Elko	3.62	311	IAML		21 42 24.6	
	comp=E,6.3nm,0.8s						
BMN	Battle Mountai	4.76	297	IAML		21 42 02.9	
	comp=N,8.3nm,0.8s						

IDC 22 22:11:58.3±3.6, 53°.62N×114°.02W, h0km, mbtmp3.5/2, ML2.8/2, Error ellipse: s-maj=43.5km s-min=12.6km az=47.0, Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA	Yellowknife Ar	8.90	358	Pn	Pn	22 14 05.7	-2.3
	0.4nm,0.3s,baz=175,slow=17,SNR=10						
YKA				Sn	Sn	22 15 42.0	-6.8
	0.2nm,0.3s,baz=172,slow=23,SNR=3.6						
YKA				Lg	Lg	22 16 32.8	
	0.1nm,0.3s,baz=174,slow=27,SNR=6.8						
	0.4nm,0.3s						
I10CA	LAC DU BONNET	11.62	100	I	I	23 19 20.0	
	baz=289,slow=323,SNR=2.6						
ULM	Lac du Bonnet	11.69	99	Pn	Pn	22 14 41.6	-4.5
	0.3nm,0.3s,baz=297,slow=14,SNR=2.3						
ULM				Sn	Sn	22 16 49.2	-8.1
	0.3nm,0.3s,baz=278,slow=11,SNR=3.1						
ULM				Lg	Lg	22 18 00.7	
	0.1nm,0.3s,baz=173,slow=22,SNR=1.6						
	0.8nm,0.3s						

NEIC ***22*** *22:17:45.3±0.9, 36°.48N±0°.01×98°.71W±0°.02, h5km±1km, Error ellipse: s-maj=3.2km s-min=2.9km az=288.0*

**TUL 22 22:17:45.4±0.9, 36°.49N±0°.02×98°.73W±0°.02, h8km±8km, ML2.5, mb_Lg2.5/4(NEIC), ML2.4/16(NEIC), Error ellipse: s-maj=2.7km s-min=1.

TAP 22 22:25:34.2, 24°32N×121°81E, h13km, ML1.3, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAHA	**Aohua**	**0.07**	**277**	P	Pg	22 25 37.1	+0.4
	baz=276						
EAHA				S	Sg	22 25 39.1	+0.5
	baz=276						
ENA	**Nanau**	**0.12**	**329**	P	Pb	22 25 38.1	-0.4
	baz=331						
ENA				*i* S	Sb	22 25 40.7	-0.7
	baz=331						
EWUT	**Wuta**	**0.13**	**346**	*i* P	Pb	22 25 38.2	-0.3
	baz=346						
EWUT				*i* S	Sb	22 25 41.0	-0.5
	baz=346						
NACB	**Ninganchiao**	**0.25**	**233**	P	Pb	22 25 40.2	-0.3
	baz=233						
TWC	**Suao**	**0.29**	**7**	S	Sb	22 25 45.5	-0.6
	baz=8.0						
LATG	**Datong**	**0.34**	**309**	*e*S	Sb	22 25 47.5	-0.1
	baz=309						

JMA 22 22:25:41.5±0.1, 24°2N±0°3×123°8E±0°3, h13km±1km, MV0.3/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.13**	**316**	*e*P	Pg	22 25 45.0	0.0
IRIF				*e*S	Sg	22 25 47.5	+0.2
JKRS	**Kuro-shima**	**0.16**	**90**	P	Pg	22 25 45.4	0.0
JKRS				*e*S	Sg	22 25 48.2	+0.2
HATJ	**Hateruma jima**	**0.18**	**188**	P	Pg	22 25 45.5	-0.1
HATJ				*e*S	Sg	22 25 48.9	+0.4
JIJ	**Ishigaki jima**	**0.31**	**66**	*e*P	Pg	22 25 47.8	-0.1
JIJ				*e*S	Sg	22 25 51.9	-0.3
JISG	**Ishigakijimahi**	**0.56**	**51**	*e*P	Pg	22 25 52.4	0.0
JISG				*e*S	Sg	22 26 00.2	+0.4

*NEIC **22** 22:35:23.1±0.9, 19°.31N±0°.09×65°.0W±0°.1, h35km±2km, ML2.4/20, Md3.5/8(RSPR), Error ellipse: s-maj=17.0km s-min=13.8km az=123.0*
*RSPR **22** 22:35:24.6, 19°.29N×65°.05W, h36km±15km, MD3.5/8*
ISC 22 22:35:24.4±2.2, 19°3N±0°.1×65°.11W±0°.05, h35km, n35, σ0s53/39, 6C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.32**	**212**	⇑*e*P	**Pn**	**22 35 45.9**	**-0.4**
HUMP	**Col San Antoni**	**1.32**	**212**	*e*S	**Sn**	**22 36 02.8**	**+0.1**
HUMP	**Col San Antoni**	**1.32**	**212**		**Sn**	**22 36 02.8**	**+0.1**
HUMP	**Col San Antoni**	**1.32**	**212**		**Pn**	**22 35 45.9**	**-0.4**
HUMP	**Col San Antoni**	**1.32**	**212**	IAML		22 36 06.8	
	comp=N,50nm,0.2s						
HUMP				IAML		22 36 11.9	
	comp=E,58nm,0.2s						
GCPR	**Guaynabo City**	**1.32**	**224**	⇑*e*P	**Pn**	**22 35 45.8**	**-0.7**
GCPR	**Guaynabo City**	**1.32**	**224**	*e*S	**Sn**	**22 36 02.9**	**0.0**
GCPR	**Guaynabo City**	**1.32**	**224**		**Pn**	**22 35 45.8**	**-0.7**
GCPR					**Sn**	**22 36 02.9**	**0.0**
EMPR	**Esperanza - Ma**	**1.56**	**240**	⇓*i*P	**Pn**	**22 35 49.6**	**-0.1**
EMPR	**Esperanza - Ma**	**1.56**	**240**	*e*S	**Sn**	**22 36 09.5**	**+0.9**
EMPR	**Esperanza - Ma**	**1.56**	**240**		**Pn**	**22 35 49.6**	**-0.1**
EMPR				IAML		22 36 51.3	
	comp=N,77nm,1.9s						
EMPR	**Esperanza - Ma**	**1.56**	**240**		**Sn**	**22 36 09.5**	**+0.9**
IGPR	**InterUniversit**	**1.60**	**216**	⇑*e*P	**Pn**	**22 35 50.4**	**+0.2**
IGPR	**InterUniversit**	**1.60**	**216**	*e*S	**Sn**	**22 36 10.1**	**+0.4**
IGPR	**InterUniversit**	**1.60**	**216**		**Pn**	**22 35 50.0**	**-0.2**
IGPR				IAML		22 36 13.1	
	comp=N,58nm,0.3s						
IGPR				IAML		22 36 20.8	
	comp=E,61nm,0.3s						
IGPR	**InterUniversit**	**1.60**	**216**		**Sn**	**22 36 10.1**	**+0.4**
AOPR	**Arecibo Observ**	**1.81**	**240**	⇑*e*P	**Pn**	**22 35 52.9**	**-0.2**
AOPR	**Arecibo Observ**	**1.81**	**240**		**Pn**	**22 35 52.9**	**-0.2**
AOPR					**Sn**	**22 36 14.7**	**-0.1**
AOPR	**Arecibo Observ**	**1.81**	**240**	*e*P	**Pn**	**22 35 52.9**	**-0.2**
AOPR				*e*S	**Sn**	**22 36 14.8**	**0.0**
CELP	**Cerrillos**	**1.83**	**230**	⇓*e*P	**Pn**	**22 35 53.2**	**-0.2**
CELP	**Cerrillos**	**1.83**	**230**	*e*S	**Sn**	**22 36 15.7**	**+0.4**
CELP	**Cerrillos**	**1.83**	**230**		**Pn**	**22 35 53.2**	**-0.2**
CELP					**Sn**	**22 36 15.7**	**+0.4**
OBIP	**Obispado Ponce**	**1.87**	**230**	⇑*e*P	**Pn**	**22 35 53.0**	**-0.9**
OBIP	**Obispado Ponce**	**1.87**	**230**	*e*S	**Sn**	**22 36 17.0**	**+0.7**
OBIP	**Obispado Ponce**	**1.87**	**230**		**Pn**	**22 35 53.0**	**-0.9**
OBIP					**Sn**	**22 36 17.0**	**+0.7**
OBIP	**Obispado Ponce**	**1.87**	**230**	IAML		22 36 25.1	
	comp=N,26nm,0.3s						
AGPR	**Aguadilla, PR**	**2.06**	**248**	Pn	**Pn**	**22 35 55.5**	**-1.0**
MLPR	**Magueyes Islan**	**2.24**	**235**	⇑*e*P	**Pn**	**22 35 59.3**	**+0.2**
MLPR	**Magueyes Islan**	**2.24**	**235**	*e*S	**Sn**	**22 36 24.3**	**-1.3**
MLPR	**Magueyes Islan**	**2.24**	**235**	Pn	**Pn**	**22 35 59.3**	**+0.2**
MLPR				IAML		22 36 36.8	
	comp=E,16nm,1.4s						
MLPR				IAML		22 36 52.7	
	comp=N,16nm,2.7s						
CRPR	**Cabo Rojo, PR**	**2.27**	**237**	⇑*i*P	**Pn**	**22 35 59.7**	**+0.2**
CRPR	**Cabo Rojo, PR**	**2.27**	**237**	*e*S	**Sn**	**22 36 26.7**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.27**	**237**		**Pn**	**22 35 59.7**	**+0.2**
CRPR					**Sn**	**22 36 26.7**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.27**	**237**	IAML		22 36 28.9	
	comp=E,20nm,2.7s						
CRPR				IAML		22 36 40.1	
	comp=N,20nm,3.3s						
ANBD	**Bethesda, Anti**	**3.87**	**124**	*e*P	**Pn**	**22 36 21.8**	**+0.3**
ANBD				*e*S	**Sn**	**22 37 05.3**	**-0.4**

*SOME **22** 22:46:46.7, 39°.50N×76°.67E, h15km*
*NNC **22** 22:46:48.5±1.1, 39°.59N×76°.79E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=7.8km s-min=5.4km az=159.0*
*KRNET **22** 22:46:54.5±0.1, 39°.93N×76°.78E, mb2.9*
ISC 22 22:46:51.7±1.6, 39°.55N±0°.07×76°.68E±0°.04, h10km, n58, σ2s41/90, 17C-11D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.96**	**345**	⇑*e*P	**Pn**	**22 47 24.7**	**-0.6**
	baz=38						
NRN				⇑*e*S	**Sn**	**22 47 47.5**	**-2.6**
	baz=38						
KDJ	**Kajisay**	**2.61**	**8**	⇑*e*P	**Pn**	**22 47 34.9**	**+0.7**
	baz=8.0						
KDJ				⇑*e*S	**Sn**	**22 48 04.4**	**-1.6**
	baz=8.0						
ARLS	**Aral**	**2.93**	**323**	⇑*e*P	**Pn**	**22 47 40.9**	**+2.4**
	baz=17						
ARLS				⇑*e*S	**Sn**	**22 48 14.9**	**+1.1**
	baz=17						
OHH	**Osh**	**3.15**	**289**	⇓*e*P	**Pb**	**22 47 47.2**	**-0.6**
	baz=82						
OHH				⇓*e*S	**Sb**	**22 48 25.8**	**-0.5**
	baz=82						
PRZ	**Przheval'sk**	**3.21**	**23**	⇓*e*P	**Pn**	**22 47 43.3**	**+0.9**
	baz=25						
PRZ				⇓*e*S	**Sn**	**22 48 19.5**	**-1.3**
	baz=25						
ANVS	**Anan'yevo**	**3.32**	**13**	⇑*e*P	**Pn**	**22 47 44.4**	**+0.5**
	baz=13						
ANVS				⇑*e*S	**Sn**	**22 48 21.6**	**-1.9**
	baz=13						
ARSB	**Arslanbob**	**3.34**	**303**	⇑*e*P	**Pb**	**22 47 48.6**	**-2.5**
	baz=97						
ARSB				⇑*e*S	**Sb**	**22 48 28.1**	**-3.7**
	baz=97						
TKM2	**Tokmak 2**	**3.47**	**347**	⇓Pg	**Pb**	**22 47 49.9**	**-3.5**
	2.1nm,0.5s						
TKM2				⇓Lg	Lg	22 48 39.1	
	7.2nm,0.5s						
IZV	**Izvestkoviy**	**3.49**	**359**	*e*P	**Pb**	**22 47 51.1**	**-2.6**
	2.2nm,0.4s						
IZV				*e*S	**Sb**	**22 48 37.4**	**+1.2**
	20nm,0.5s						
IZV	**Izvestkoviy**	**3.49**	**359**	Pg	**Pb**	**22 47 51.1**	**-2.6**
	2.2nm,0.4s						
IZV				Lg	Lg	22 48 37.4	
	20nm,0.5s						
TNSS	**Tian-Shan**	**3.49**	**3**	*e*P	**Pb**	**22 47 51.6**	**-2.3**
	5.0nm,0.2s						
TNSS				*e*S	**Sb**	**22 48 38.3**	**+1.7**
	22nm,0.9s						
TNSS	**Tian-Shan**	**3.49**	**3**	Pg	**Pb**	**22 47 51.6**	**-2.3**
	5.0nm,0.2s						
TNSS				Lg	Lg	22 48 38.3	
	22nm,0.9s						
KST	**Kastek**	**3.54**	**351**	*e*P	**Pb**	**22 47 51.8**	**-2.7**
	2.5nm,0.5s						
KST				*e*S	**Sb**	**22 48 38.6**	**+1.1**
	18nm,0.4s						
MTBS	**Maitube**	**3.59**	**357**	*e*P	**Pb**	**22 47 52.4**	**-2.9**
	4.0nm,0.4s						
MTBS				*e*S	**Sb**	**22 48 39.5**	**+0.6**
	13nm,0.3s						
FRU1	**Bishkek**	**3.61**	**335**	⇓*e*P	**Pn**	**22 47 50.4**	**+2.6**
	baz=31						
FRU1				⇓*e*S	**Sn**	**22 48 30.7**	**+0.2**
	baz=31						
MDOK	**Medeo**	**3.62**	**4**	*e*P	**Pb**	**22 47 53.7**	**-2.3**
	4.3nm,0.4s						
MDOK				*e*S	**Sb**	**22 48 41.8**	**+1.7**
	26nm,0.7s						
MDOK	**Medeo**	**3.62**	**4**	Pg	**Pb**	**22 47 53.1**	**-2.9**
	3.5nm,0.5s						
MDOK				Pg	Pn	22 47 53.7	+5.7
	4.3nm,0.4s						
MDOK				Lg	Lg	22 48 41.8	
	26nm,0.7s						
MDOK				Lg	Lg	22 48 42.6	
	38nm,0.7s						
AAA	**Alma-Ata**	**3.66**	**3**	*e*P	**Pb**	**22 47 54.8**	**-1.9**
	9.1nm,0.1s						
AAA				*e*S	**Sb**	**22 48 43.3**	**+2.2**
	15nm,0.3s						
AAA	**Alma-Ata**	**3.66**	**3**	Pg	**Pb**	**22 47 54.8**	**-1.9**
	9.1nm,0.1s						
AAA				Lg	Lg	22 48 43.3	
	15nm,0.3s						
KOTS	**Kotyrbulak**	**3.70**	**5**	*e*P	**Pb**	**22 47 55.2**	**-2.0**
	5.1nm,0.2s						
KOTS				*e*S	**Sb**	**22 48 44.7**	**+2.5**
	56nm,0.5s						
KOTS	**Kotyrbulak**	**3.70**	**5**	Pg	**Pb**	**22 47 55.2**	**-2.0**
	5.1nm,0.2s						
KOTS				Lg	Lg	22 48 44.7	
	56nm,0.5s						
SATY	**Saty**	**3.74**	**20**	*e*P	**Pb**	**22 47 55.9**	**-2.1**
	4.8nm,0.3s						
SATY				*e*S	**Sb**	**22 48 45.5**	**+2.1**
	15nm,0.5s						
SATY	**Saty**	**3.74**	**20**	Pg	**Pb**	**22 47 55.9**	**-2.1**
	4.8nm,0.3s						
SATY				Lg	Lg	22 48 45.5	
	15nm,0.5s						
CHMS	**Chumysh**	**3.74**	**338**	⇑Pg	**Pb**	**22 47 59.7**	**+1.8**
	1.5nm,0.5s						
CHMS				⇑Lg	Lg	22 48 47.5	
	8.6nm,0.7s						
DGS	**Degeres**	**3.76**	**350**	*e*P	**Pb**	**22 47 56.2**	**-2.0**
	3.4nm,0.5s						
DGS				*e*S	**Sb**	**22 48 46.2**	**+2.4**
	14nm,0.6s						
DGS	**Degeres**	**3.76**	**350**	Pg	**Pb**	**22 47 56.2**	**-2.0**
	3.4nm,0.5s						
DGS				Lg	Lg	22 48 46.2	
	14nm,0.6s						
DRK	**Karamyk**	**3.78**	**271**	⇑*e*P	**Pb**	**22 47 58.1**	**-0.6**
	baz=65						
DRK				⇑*e*S	**Sb**	**22 48 44.0**	**-0.6**
	baz=65						
ZHN	**Zhinishke**	**3.85**	**19**	*e*P	**Pb**	**22 47 58.0**	**-1.9**
	10.0nm,0.5s						
ZHN				*e*S	**Sb**	**22 48 48.9**	**+2.3**
	16nm,0.3s						
ZHN	**Zhinishke**	**3.85**	**19**	Pg	**Pb**	**22 47 58.0**	**-1.9**
	10.0nm,0.5s						
ZHN				Lg	Lg	22 48 48.9	
	16nm,0.3s						
UZB	**Uzynbulak**	**4.01**	**25**	*e*P	**Pb**	**22 48 00.8**	**-1.7**
	5.6nm,0.3s						
UZB				*e*S	**Sb**	**22 48 54.0**	**+3.0**
	6.0nm,0.7s						
UZB	**Uzynbulak**	**4.01**	**25**	Pg	**Pb**	**22 48 00.8**	**-1.7**
	5.6nm,0.3s						
UZB				Lg	Lg	22 48 54.0	
	6.0nm,0.7s						
KURS	**Kuram**	**4.09**	**15**	*e*P	**Pb**	**22 48 02.4**	**-1.5**
	4.3nm,0.8s						
KURS				*e*S	**Sb**	**22 48 56.9**	**+3.4**
	6.8nm,0.8s						
KURS	**Kuram**	**4.09**	**15**	Pg	**Pb**	**22 48 02.4**	**-1.5**
	4.3nm,0.8s						
KURS				Lg	Lg	22 48 56.9	
	6.8nm,0.8s						
MRKS	**Merke**	**4.13**	**322**	*e*P	**Pb**	**22 48 03.2**	**-1.3**
	8.6nm,0.2s						
MRKS				*e*S	**Sb**	**22 48 58.2**	**+3.7**
	16nm,0.8s						
MRKS	**Merke**	**4.13**	**322**	Pg	**Pb**	**22 48 03.2**	**-1.3**
	8.6nm,0.2s						
MRKS				Lg	Lg	22 48 58.2	
	16nm,0.8s						
KTBS	**Karatobe**	**4.16**	**360**	*e*P	**Pb**	**22 48 03.9**	**-1.2**
	3.3nm,0.5s						
KTBS				*e*S	**Sb**	**22 48 59.6**	**+4.1**
	23nm,0.6s						
KTBS	**Karatobe**	**4.16**	**360**	Pg	**Pb**	**22 48 03.9**	**-1.2**
	3.3nm,0.5s						
KTBS				Lg	Lg	22 48 59.6	
	23nm,0.6s						
SHLS	**Shalkode**	**4.17**	**29**	*e*P	**Pb**	**22 48 06.4**	**+1.1**
	8.0nm,0.5s						
SHLS				*e*S	**Sg**	**22 49 03.6**	**-2.0**
	7.4nm,0.5s						
SHLS	**Shalkode**	**4.17**	**29**	Pg	**Pb**	**22 48 06.4**	**+1.1**
	8.0nm,0.5s						
SHLS				Lg	Lg	22 49 03.6	
	7.4nm,0.5s						
KRBS	**Karabastau**	**4.21**	**350**	*e*P	**Pb**	**22 48 04.9**	**-1.1**
	1.9nm,0.5s						
KRBS				*e*S	**Sb**	**22 49 01.2**	**+4.2**
	13nm,0.7s						
KRBS	**Karabastau**	**4.21**	**350**	Pg	**Pb**	**22 48 04.9**	**-1.1**
	1.9nm,0.5s						
KRBS				Lg	Lg	22 49 01.2	
	13nm,0.7s						
CHKK	**Chushkaly**	**4.31**	**3**	*e*P	**Pb**	**22 48 06.3**	**-1.3**
	3.1nm,0.2s						
CHKK				*e*S	**Sb**	**22 49 03.6**	**+3.9**
	15nm,0.4s						
CHKK	**Chushkaly**	**4.31**	**3**	Pg	**Pb**	**22 48 06.3**	**-1.3**
	3.1nm,0.2s						
CHKK				Lg	Lg	22 49 03.6	
	15nm,0.4s						
MNAS	**Manas**	**4.32**	**314**	⇑*e*P	**Pn**	**22 48 01.9**	**+4.3**
	baz=10.0						
MNAS				⇑*e*S	**Sn**	**22 48 50.0**	**+2.0**
	baz=10.0						
PDGK	**Podgornoye**	**4.33**	**28**	Pg	**Pb**	**22 48 06.5**	**-1.5**
	2.4nm,0.5s						
PDGK				Lg	Lg	22 49 03.7	
	3.5nm,0.8s						
PDGK	**Podgornoye**	**4.33**	**28**	⇑Pg	**Pb**	**22 48 03.3**	**-4.7**
	3.8nm,0.5s						
PDGK				⇓Lg	Lg	22 49 03.2	
	8.1nm,0.8s						
ARXS	**Arharly**	**4.74**	**10**	*e*P	**Pb**	**22 48 14.5**	**-0.5**
	2.3nm,0.6s						
ARXS				*e*S	**Sb**	**22 49 17.3**	**+5.2**
	9.6nm,0.6s						
ARXS	**Arharly**	**4.74**	**10**	Pg	**Pb**	**22 48 14.5**	**-0.5**
	2.3nm,0.6s						
ARXS				Lg	Lg	22 49 17.3	
	9.6nm,0.6s						
BLB	**Baldybastay**	**4.74**	**16**	Pg	**Pb**	**22 48 14.3**	**-0.8**
	6.4nm,0.2s						
BLB				Lg	Lg	22 49 17.2	
	5.8nm,0.2s						
KNOS	**Konyrlen**	**5.16**	**20**	Pg	**Pb**	**22 48 22.2**	**+0.1**
	4.3nm,0.8s						
KNOS				Lg	Lg	22 49 30.7	
	2.9nm,0.7s						
DJR	**Jarkent**	**5.31**	**25**	*e*P	**Pb**	**22 48 26.7**	**+2.0**
	2.1nm,0.3s						
DJR				*e*S	**Sg**	**22 49 38.6**	**-3.7**
	5.0nm,0.5s						
IUG	**Iuzhnay**	**5.67**	**299**	*e*P	**Pb**	**22 48 32.9**	**+2.0**
	7.0nm,0.3s						
IUG				*e*S	**Sg**	**22 49 49.1**	**-4.7**
	8.4nm,0.6s						
IUG	**Iuzhnay**	**5.67**	**299**	Pg	**Pb**	**22 48 32.9**	**+2.0**
	7.0nm,0.3s						
IUG				Lg	Lg	22 49 49.1	
	8.4nm,0.6s						
BTLS	**Baital**	**5.83**	**341**	*e*P	**Pb**	**22 48 36.7**	**+3.2**
	4.0nm,1.3s						
BTLS				*e*S	**Sg**	**22 49 55.6**	**-3.2**
	4.7nm,0.8s						
BTLS	**Baital**	**5.83**	**341**	Pg	**Pb**	**22 48 36.7**	**+3.2**
	4.0nm,1.3s						
BTLS				Lg	Lg	22 49 55.6	
	4.7nm,0.8s						
KK31	**Karatay Array**	**5.85**	**309**	⇓Pg	**Pb**	**22 48 35.4**	**+1.6**
	0.4nm,0.3s,baz=125,slow=15,SNR=8.1						
KK31				⇓Lg	Lg	22 49 54.4	
	1.8nm,0.7s,baz=127,slow=28,SNR=4.6						
BRLS	**Boroldaу**	**6.22**	**306**	*e*P	**Pb**	**22 48 42.7**	**+2.6**
	1.6nm,0.3s						
BRLS				*e*S	**Sg**	**22 50 06.0**	**-5.3**
	1.7nm,0.6s						
BRLS	**Boroldaу**	**6.22**	**306**	Pg	**Pb**	**22 48 42.7**	**+2.6**
	1.6nm,0.3s						
BRLS				Lg	Lg	22 50 06.0	
	1.7nm,0.6s						

IDC 22 22:48:07.5±3.9, 10°.52S×165°.98E, h0km, mb3.7/3, mbtmp3.7/3, ML6.3/1, Error ellipse: s-maj=83.6km s-min=57.8km az=126.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.04**	**280**	Pn	Pn	22 49 37.3	-0.9
	780nm,0.3s,baz=199,slow=5.9,SNR=5.3						
WRA	**Warramunga Arr**	**31.88**	**249**	P	P	22 54 35.4	+0.5
	0.8nm,0.9s,baz=83,slow=9.7,SNR=4.7						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**33.23**	**243**	P	P	22 54 46.6	-0.1
	1.0nm,0.8s,baz=69,slow=9.0,SNR=7.9						
	1.0nm,0.8s						
MKAR	**Makanchi Array**	**93.30**	**317**	P	P	23 01 24.1	-0.3
	0.2nm,0.7s,baz=99,slow=4.8,SNR=3.1						
	0.2nm,0.7s						

*REN **22** 22:57:55.9, 36°.24N×117°.58W, h7km*
*PAS **22** 22:57:55.8±1.6, 36°.23N±0°.03×117°.57W±0°.04, h1km±2km, ML3.0/26, ML2.9/106(NEIC), Error ellipse: s-maj=4.9km s-min=3.7km az=91.0*
*ANF **22** 22:57:55.5±0.1, 36°.23N×117°.58W, h4km±1km, ML3.1/30, Error ellipse: s-maj=1.0km s-min=0.8km az=56.0*
*NEIC **22** 22:57:56.4±2.2, 36°.22N±0°.01×117°.56W±0°.03, h10km±1km, Error ellipse: s-maj=4.6km s-min=3.0km az=114.0*
ISC 22 22:57:56.0±0.9, 36°23N±0°.01×117°57W±0°.01, h9km±8km, n102, σ0s74/131, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.18**	**160**		**Pg**	**22 57 59.6**	**-0.3**
MPMC	**Manual Prospec**	**0.18**	**160**	P	**Pg**	**22 57 59.6**	**-0.3**
	baz=339,SNR=1000						
MPMC				S	**Sg**	**22 58 02.1**	**-0.5**
	baz=339						
JRC2	**Joshua Ridge**	**0.32**	**218**		**Pg**	**22 58 02.1**	**-0.2**
JRC2					**Sg**	**22 58 06.8**	**+0.3**
WRVM	**Rose V. Centra**	**0.34**	**230**		**Pg**	**22 58 02.6**	**-0.2**
WRVM					**Sg**	**22 58 07.5**	**+0.1**
WVPM	**Volcano Peak E**	**0.35**	**216**		**Pg**	**22 58 02.6**	**-0.3**
TOW	**Tower One**	**0.45**	**201**		**Pg**	**22 58 05.0**	**+0.2**
TOW					**Sb**	**22 58 12.3**	**-0.8**
CWC	**Cottonwood Cre**	**0.46**	**297**		**Pg**	**22 58 04.8**	**-0.3**
CWC					**Sg**	**22 58 11.3**	**+0.1**
CWC	**Cottonwood Cre**	**0.46**	**297**	P	**Pg**	**22 58 04.7**	**-0.3**
	baz=116						
CWC				S	**Sg**	**22 58 11.1**	**-0.1**
	baz=116						
WNMM	**Nine Mile Cany**	**0.47**	**215**		**Pg**	**22 58 05.0**	**-0.2**
SRTC	**Snort**	**0.56**	**195**		**Pg**	**22 58 06.9**	**+0.1**
SRTC					**Sb**	**22 58 15.8**	**-0.4**
FURC	**Furnace Creek,**	**0.61**	**67**		**Pg**	**22 58 08.2**	**+0.3**
FURC	**Furnace Creek,**	**0.61**	**67**	P	**Pg**	**22 58 08.1**	**+0.3**
	baz=249,SNR=63						
QSM	**Queen of Sheba**	**0.63**	**115**		**Pg**	**22 58 08.1**	**0.0**
QSM					**Sg**	**22 58 16.4**	**+0.1**
CCCA	**Chr Cany lake**	**0.72**	**167**		**Pg**	**22 58 09.9**	**0.0**
GWY	**Greenwater Val**	**0.73**	**93**	Pg	**Pg**	**22 58 10.0**	**-0.1**
LRMC	**Laurel Mtn Rad**	**0.76**	**187**		**Pg**	**22 58 10.3**	**-0.3**
LRMC					**Sg**	**22 58 20.8**	**+0.3**
LRMC	**Laurel Mtn Rad**	**0.76**	**187**	P	**Pg**	**22 58 10.2**	**-0.4**
	baz=6.3,SNR=9.7						
LRMC				S	**Sg**	**22 58 20.8**	**+0.3**
	baz=6.3						
WORM	**Onyx Ranch**	**0.77**	**226**		**Pg**	**22 58 10.2**	**-0.5**
WORM					**Sg**	**22 58 20.6**	**-0.1**
GRAC	**Grapevine Rang**	**0.78**	**12**		**Pg**	**22 58 10.7**	**-0.3**
GRAC					**Sg**	**22 58 21.5**	**+0.2**
GRAC	**Grapevine Rang**	**0.78**	**12**	P	**Pg**	**22 58 10.8**	**-0.3**
	baz=193,SNR=12						
GRAC				S	**Sg**	**22 58 21.7**	**+0.5**
	baz=193						
SGV	**South Grapevin**	**0.86**	**30**		**Pg**	**22 58 12.2**	**-0.4**
SGV					**Sg**	**22 58 24.3**	**+0.4**
ISA	**Isabella, Lake**	**0.93**	**233**	Pg	**Pg**	**22 58 13.4**	**-0.5**
ISA				IAML		22 58 30.0	
	comp=E,354nm,0.6s						
ISA				IAML		22 58 30.3	
	comp=N,246nm,0.5s						
ISA	**Isabella, Lake**	**0.93**	**233**	P	**Pg**	**22 58 13.4**	**-0.5**
	baz=51,SNR=89						
ISA				S	**Sg**	**22 58 25.8**	**-0.2**
	baz=51						
WASM	**Alta Sierra Ca**	**0.94**	**239**		**Pg**	**22 58 13.7**	**-0.5**
WASM					**Sg**	**22 58 26.4**	**0.0**
WCT	**Wildcat Mounta**	**0.94**	**53**	Pg	**Pg**	**22 58 13.6**	**-0.5**
WCT				IAML		22 58 30.8	
	comp=E,282nm,0.5s						
SPG2	**Springville 2**	**0.97**	**268**		**Pg**	**22 58 14.1**	**-0.6**
SPG2					**Sg**	**22 58 26.7**	**-0.6**
TIN	**Tinemaha, Big**	**0.98**	**327**		**Pg**	**22 58 13.7**	**-1.2**
TIN					**Sg**	**22 58 27.4**	**-0.1**
TIN	**Tinemaha, Big**	**0.98**	**327**	P	**Pg**	**22 58 14.0**	**-0.8**
	baz=147,SNR=27						
TIN				S	**Sg**	**22 58 27.8**	**+0.2**
	baz=147						
DTP	**Desert Tortois**	**0.99**	**193**		**Pg**	**22 58 14.3**	**-0.8**
DTP					**Sg**	**22 58 27.8**	**0.0**
LCH	**Last Change Ra**	**1.00**	**356**		**Pg**	**22 58 14.3**	**-1.0**
LCH				IAML		22 58 33.6	
	comp=E,381nm,0.9s						
LCH				IAML		22 58 33.8	
	comp=N,246nm,0.6s						
GMN	**Gold Mountain**	**1.09**	**13**		**Pg**	**22 58 17.1**	**+0.1**
GMN				IAML		22 58 33.4	
	comp=N,316nm,0.4s

baz=14,SNR=40
EDW2 S Sg 22 58 41.4 +0.7
baz=14
RRX Edison Barstow 1.43 161 P Pn 22 58 22.4 +0.2
baz=341
RRX S Sg 22 58 43.2 +1.2
baz=341
VOG Valley Oaks Go 1.47 274 Pn 22 58 23.3 +0.6
VOG Valley Oaks Go 1.47 274 Pb Pn 22 58 23.3 +0.6
baz=92
VOG S Sg 22 58 43.3 0.0
baz=92
MZP Montezuma Peak 1.47 6 Pn 22 58 23.0 0.0
MZP IAML 22 58 47.2
comp=E,130nm,0.5s
ARVC Arvin 1.51 223 Pb 22 58 24.1 -0.1
ARVC Arvin 1.51 223 Pb Pb 22 58 24.1 -0.1
baz=42
ARVC S Sg 22 58 44.8 +0.3
baz=42
TUQ Turquoise Moun 1.55 120 Pn 22 58 23.6 -0.4
TUQ Sg 22 58 46.8 +0.8
TUQ Turquoise Moun 1.55 120 P Pn 22 58 23.7 -0.4
baz=302,SNR=62
TUQ S Sg 22 58 46.5 +0.5
baz=302
SBB Saddle Back Bu 1.56 188 Sb 22 58 44.7 -0.2
DSCC Desert Studies 1.61 132 Pn 22 58 24.2 -0.5
HEC Hector,Ludlow 1.72 144 P Pn 22 58 26.0 -0.3
baz=325,SNR=25
HEC Sb Sg 22 58 51.3 -0.1
baz=325
MLAC Mammoth, Mammo 1.73 324 Pb Pn 22 58 27.6 +1.1
baz=144
MLAC Sb Sb 22 58 51.0 +1.0
baz=144
MDPB Devils Postpil 1.85 320 Pn 22 58 28.7 +0.5
MDPB IAML 22 58 56.2
comp=E,96nm,0.6s
TPH Tonopah 1.86 8 Pb 22 58 31.1 +0.8
OSI Osito Audit: C 1.87 211 P Pn 22 58 28.5 +0.2
baz=30
OSI Sb Sg 22 58 55.9 -0.3
baz=30
SHPR Sheep Range 1.96 81 Pn 22 58 30.6 +0.9
BCW Bitter Crk WRg 1.98 230 Pb 22 58 31.5 -0.9
BCW IAML 22 59 11.1
comp=N,81nm,1.3s
BFSC Mount Baldy Ra 1.99 182 Pg Pg 22 58 33.6 -0.6
baz=1.9
BFSC Sb Sg 22 58 59.1 -0.9
baz=1.9
S11A Rachel 2.03 45 Pg 22 58 34.4 -0.5
BBRC Big Bear Solar 2.04 165 Pg Pg 22 58 34.4 -0.7
baz=345
BBRC Sb Sg 22 59 01.1 -0.3
baz=345
WTNK Soaring Height 2.07 90 Pg 22 58 35.0 -0.7
DECC Green Verdugo 2.07 198 Sb Sg 22 59 01.6 -1.0
baz=17
PASC Pasadena Art C 2.12 194 Pg Pg 22 58 37.8 +1.2
GMRC Granite Mounta 2.12 132 P Pn 22 58 31.0 -0.8
baz=314,SNR=17
GMRC Sb Sg 22 59 03.3 -1.0
baz=314
LHV Little Huntoon 2.15 340 Pb 22 58 36.6 +1.5
LHV IAML 22 59 07.6
comp=N,78nm,0.7s
LHV IAML 22 59 10.7
comp=E,94nm,0.9s
SMMC Simmler 2.18 246 Pn 22 58 34.3 +1.8
SMMC Simmler 2.18 246 Pb Pb 22 58 34.9 -0.7
baz=64
V12A Nelson 2.26 102 Pn Pn 22 58 34.3 +0.6
V12A IAML 22 59 13.0
comp=E,76nm,0.5s
V12A IAML 22 59 16.4
comp=N,80nm,0.9s
PRN Pahroc Range 2.33 59 Pn 22 58 35.5 +0.7
PRN IAML 22 59 21.3
comp=E,79nm,0.8s
TPC Twentynine Pal 2.46 149 Pn 22 58 36.5 +0.1
BELC Belle Mtn. Jos 2.57 150 P Pn 22 58 38.0 -0.1
baz=330,SNR=7.0
ELS Elsinore Mount 2.58 177 Pn 22 58 38.6 +0.5
R11B Troy Canyon, C 2.64 36 Pb 22 58 43.8 +0.2
R11B IAML 22 59 21.9
comp=E,40nm,0.7s
R11B Troy Canyon, C 2.64 36 Pb Pb 22 58 43.7 +0.1
baz=218
R11B Sb Sg 22 59 19.2 -1.6
baz=218
PMD Palm Desert 2.76 159 Pg 22 58 47.6 -1.2
PFO Pinyon Flats O 2.77 160 Pg Pb 22 58 46.5 +0.7
PFO Pinyon Flats O 2.77 160 P Pn 22 58 40.7 0.0
baz=341
NEE2 Needles Airpor 2.81 120 Pb Pb 22 58 47.5 +1.0
baz=302
KVN Kaiserville 2.85 352 Pb 22 58 49.1 +2.0
KVN IAML 22 59 29.6
comp=E,24nm,0.8s
IRM Iron Mountain 2.87 136 P Pn 22 58 41.4 -0.6
baz=317,SNR=11
CMB Columbia Colle 2.88 309 Pb 22 58 47.7 +0.1
CMB IAML 22 59 26.0
comp=N,46nm,0.4s
CIS Catalina Islan 2.91 194 Pg Pg 22 58 51.2 -0.6
baz=13
SBI Santa Barbara 3.00 204 Pn 22 58 46.3 +2.6
W13A Hualapai Mount 3.20 110 IAML 22 59 39.6
comp=N,27nm,0.5s
W13A IAML 22 59 43.5
comp=E,20nm,0.7s
PNTR Pine Nut 3.28 331 IAML 22 59 48.5
comp=E,24nm,2.9s
PNTR IAML 23 00 10.6
comp=N,22nm,1.4s
MONP2 Monument Peak 3.46 164 Pg Pg 22 59 01.5 -0.9
baz=344
BLYC Blythe 3.52 134 Pn Pn 22 58 50.6 -0.3
BLYC IAML 22 59 51.7
comp=N,21nm,0.9s
BLYC IAML 22 59 56.0
comp=E,20nm,0.8s
Q12A Willow Creek R 3.55 37 Pg 22 59 02.1 -1.9
Q12A IAML 22 59 51.0
comp=E,27nm,0.8s
LCMT Little Creek M 3.56 76 IAML 22 59 56.4
comp=E,14nm,4.8s
CCUT Cedar City 3.62 67 IAML 23 00 03.7
comp=N,12nm,4.7s
BAR Barrett 3.62 168 Pb 22 59 02.8 +2.6
BAR IAML 22 59 49.9
comp=E,19nm,0.6s
PSUT Pine Spring 3.74 51 IAML 22 59 58.4
comp=E,24nm,0.7s
PSUT IAML 23 00 04.4
comp=N,23nm,0.7s
PAHR Pah Rah Range 3.75 338 IAML 22 59 27.7
comp=N,13nm,4.2s
PAHR IAML 22 59 58.6
comp=E,12nm,4.0s
SPR3 Spring Creek 3 3.77 42 Pb 22 59 03.3 +0.3
SPR3 IAML 22 59 57.4
comp=E,16nm,0.9s
SPR3 IAML 22 59 57.9
comp=N,22nm,0.8s
GLA Glamis 3.90 144 Pg 22 59 08.8 -1.8
GLA IAML 23 00 06.2
comp=N,17nm,0.6s
KNB Kanab 3.90 77 IAML 22 59 57.3
comp=E,18nm,4.6s
KNB IAML 23 00 04.2
comp=N,17nm,3.2s
U15A North Rim 4.26 86 IAML 23 00 13.7
comp=N,13nm,1.3s
U15A IAML 23 00 19.9
comp=E,12nm,2.7s
ELK Elko 4.86 21 Pg Pg 22 59 27.4 -1.7
ELK IAML 23 00 31.4
comp=E,4.9nm,0.7s
ELK IAML 23 00 34.2
comp=E,9.2nm,0.6s

*JMA **22** 23:14:36.7±0.3,42.2°N±0.9″×14°8E±°, h19km, MV3.7/17,*

FAR SE OFF HOKKAIDO
*SKHL **22** 23:14:37.2±0.2,42.2°20N×147.°90E, h45km±5km, mb4.4/3*
ISC 22 23:14:38.2±3.4,**42°2N**±0.1°×**147°9E**±0.1°,**h35km,n11,**
σ0**52**/20,**Off southeast coast of Hokkaido**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**1.79**	**336**	*eP*	**Pn**	**23 15 06.4**	**-0.2**
SHO				AMB	AMB	23 15 08.5	
	60nm,0.4s						
SHO				*i* S	**Sn**	**23 15 27.7**	**-0.4**
SHO				A	A	23 15 29.7	
	140nm,0.3s						
SHO				A	A	23 15 29.7	
	230nm,0.3s						
NEM2	**Nemuro 2**	**1.92**	**307**	*eP*	**Pn**	**23 15 08.2**	**-0.1**
NEM2				*eS*	**Sn**	**23 15 31.1**	**-0.1**
NMR	**Nemuro--Hokkai**	**1.93**	**306**	*i* P	**Pn**	**23 15 08.1**	**-0.3**
NMR				AMB	AMB	23 15 09.0	
	60nm,0.2s						
NMR				*eS*	**Sn**	**23 15 31.3**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**2.31**	**322**	*eP*	**Pn**	**23 15 13.6**	**-0.1**
YUK				AMB	AMB	23 15 14.8	
	50nm,0.2s						
YUK				*eS*	**Sn**	**23 15 40.8**	**-0.1**
YUK				A	A	23 15 46.1	
	250nm,0.3s						
YUK				A	A	23 15 46.1	
	140nm,0.3s						
AKK	**Akkeshi**	**2.35**	**290**	*i* P	**Pn**	**23 15 15.0**	**+0.7**
AKK				*eS*	**Sn**	**23 15 41.4**	**-0.6**
JAK	**Akkeshi**	**2.45**	**289**	*eP*	**Pn**	**23 15 15.6**	**0.0**
JAK				*eS*	**Sn**	**23 15 43.4**	**-0.9**
JRA	**Rausu**	**2.62**	**311**	*eS*	**Sn**	**23 15 49.1**	**+0.5**
KUR	**Kuril'sk**	**2.99**	**0**	*eS*	**Sn**	**23 15 57.6**	**0.0**
KUR				A	A	23 16 02.9	
	100nm,0.6s						
KUR				A	A	23 16 02.9	
	80nm,0.6s						
JCH	**Churui**	**3.34**	**278**	*eP*	**Pn**	**23 15 28.3**	**+0.4**
JCH				*eS*	**Sn**	**23 15 05.4**	**-1.0**
JTKR	**Abashiri--Toko**	**3.37**	**302**	*eP*	**Pn**	**23 15 29.1**	**+0.9**
JTKR				*eS*	**Sn**	**23 16 07.6**	**+0.7**
JNBK	**Urakawa-nobuka**	**3.79**	**272**	*eP*	**Pn**	**23 15 34.0**	**0.0**
JNBK				*eS*	**Sn**	**23 16 17.4**	**+0.1**

*BJI **22** 23:23:20.6±0.0,6°.26S×143°.36E, h19km, mb4.7/51, mB5.1/20*
*IDC **22** 23:23:21.0±0.6,6°.17S×143°.09E, h0km, mb4.5/14, mbtmp4.6/17, ML2.4/1, MS3.7/29, Error ellipse: s-maj=24.2km s-min=13.6km az=81.0*
*NEIC **22** 23:23:23.0±1.4,6°.27S±0°.04×142°.87E±0°.08, h10km±1km, mb5.0/134, Error ellipse: s-maj=14.2km s-min=6.0km az=94.0*
*DJA **22** 23:23:24.4±0.3,6°S±3°×14°3E±°, h10km, M5.1/24, mB5.4/9, mb4.9/24, MLv5.5/4, Mw(mB)4.8/9*
*GCMT **22** 23:23:26.0±0.3,6°.14S±0°.03×142°.74E±0°.02, h21km±1km, MW4.9/69, Moment Tensor Solution. s26,c29; s69,c92; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr 2.81±.18; Mθθ -1.21±.12; Mϕϕ -1.61±.12; Mrθ -0.98±.21; Mϕ 1.37±.07; Mϕr -0.28±.20; Best double couple: M=2.97200×10¹⁶ NP1:ϕ303.00000°, δ52.00000°, λ69.00000°. NP2: ϕ155.00000°, δ43.00000°, λ114.00000°. Principal axes: T 3.1150, Plg73.0000°, Azm153.0000°; N -0.2960, Plg16.0000°, Azm316.0000°; P -2.8290, Plg5.0000°, Azm48.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*PPT **22** 23:23:33.1±0.6,6°.19S×142°.73E, h77km±5km, mb4.9/19, MLv5.6/2 Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 22 23:23:22.8±0.4,**6°29S**±0°.04×**142°92E**±0°.06,**h10km,n350,**
σ1°**08**/307,**mb5.0**/99,**MS3.7**/24,**6C-3D, New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMPI	**Merauke**	**3.32**	**229**	P	**Pn**	**23 24 12.9**	**-1.9**
JAY	**Jayapura**	**4.35**	**329**	P	**Pn**	**23 24 30.2**	**+1.1**
GENI	**Genyem**	**4.58**	**323**	P	**Pn**	**23 24 35.1**	**+2.8**
GENI	**Genyem**	**4.58**	**323**	P	**Pn**	**23 24 33.2**	**+0.9**
PMG	**Port Moresby**	**5.22**	**127**		**Pn**	**23 24 41.8**	**+0.7**
PMG	**Port Moresby**	**5.22**	**127**	Pn	**Pn**	**23 24 41.3**	**+0.3**
	10nm,0.3s,baz=332,slow=4.7,SNR=48						
PMG				Sn	**Sn**	**23 25 39.0**	**-2.3**
	31nm,0.3s,baz=274,slow=22,SNR=7.3						
	97nm,0.6s						
MANU	**Manus Island**	**6.12**	**47**		**Pn**	**23 24 53.6**	**+0.2**
COEN	**Coen**	**7.62**	**178**	P	**Pn**	**23 25 16.8**	**+2.8**
	baz=7.6,SNR=6.4						
COEN	**Coen**	**7.62**	**178**	P	**Pn**	**23 25 16.9**	**+2.8**
COEN	**Coen**	**7.62**	**178**	Pg	**Pg**	**23 25 50.0**	**+1.1**
FAKI	**Fak Fak**	**11.15**	**287**	P	**Pn**	**23 26 02.6**	**+0.2**
SAUI	**Saumlaki**	**11.65**	**261**	Pn	**Pn**	**23 26 07.8**	**-1.6**
MTSU	**Mount Surprise**	**11.85**	**174**	P	**Pn**	**23 26 12.8**	**+0.7**
	baz=12,SNR=6.4						
KDU	**Kakadu**	**12.10**	**238**	P	**Pn**	**23 26 14.6**	**-0.9**
	baz=12,SNR=20						
KDU	**Kakadu**	**12.10**	**238**	P	**Pn**	**23 26 14.8**	**-0.7**
MTN	**Manton Dam**	**13.32**	**240**	P	**Pn**	**23 26 30.3**	**-1.8**
	baz=13,SNR=39						
MTN	**Manton Dam**	**13.32**	**240**	P	**Pn**	**23 26 31.0**	**-1.1**
MTN	**Manton Dam**	**13.32**	**240**		Pn	23 26 29.2	-2.9
DRS	**Darwin Rock St**	**13.33**	**242**	P	**Pn**	**23 26 31.8**	**-0.5**
CTA	**Charters Tower**	**14.09**	**167**	Lg	Lg	23 30 50.2	
	0.7nm,0.3s,baz=90,slow=19,SNR=4.7						
CTA				LR	LR	23 32 05.7	
	comp=Z,321nm,21.5s,baz=0.0,slow=37						
CTAO	**Charters Tower**	**14.09**	**167**	Pn	**Pn**	**23 26 42.7**	**-0.1**
QIS	**Mount Isa**	**14.54**	**192**	P	**Pn**	**23 26 49.1**	**+0.2**
	baz=15,SNR=23						
QIS	**Mount Isa**	**14.54**	**192**	P	**Pn**	**23 26 49.9**	**+1.0**
WB0	**Warramunga Arr**	**15.75**	**211**	Pn	**Pn**	**23 27 03.9**	**-1.1**
WR0	**Warramunga Arr**	**15.84**	**210**		**Pn**	**23 27 04.2**	**-1.9**
WR0				lAmb	lAmb	23 27 12.7	
	comp=Z,46nm,0.7s						
WRAB	**Tennant Creek**	**15.91**	**211**		**Pn**	**23 27 06.4**	**-0.7**
WB2	**Warramunga Arr**	**15.92**	**211**	Pn	**Pn**	**23 27 05.7**	**-1.4**
WB2				lAmb	lAmb	23 27 16.9	
	comp=Z,53nm,0.7s						
WRA	**Warramunga Arr**	**15.93**	**211**	Pn	**Pn**	**23 27 05.8**	**-1.5**
WRA	**Warramunga Arr**	**15.93**	**211**	Pn	**Pn**	**23 27 04.8**	**-2.5**
	comp=Z,1.6nm,0.3s,baz=29,slow=13,SNR=42						
WRA				Sn	Sn	23 29 53.5	-10
	comp=Z,3.6nm,0.3s,baz=32,slow=23,SNR=5.2						
WRA				Lg	Lg	23 31 48.1	
	comp=Z,1.1nm,0.3s,baz=26,slow=35,SNR=5.5						
WRA				LR	LR	23 32 47.1	
	comp=Z,402nm,19.9s,baz=42,slow=35						
SOEI	**Soe**	**18.78**	**258**		**P**	**23 27 39.1**	**-3.5**
SOEI				lAmb	lAmb	23 27 50.8	
	comp=Z,94nm,0.7s						
SOEI	**Soe**	**18.78**	**258**	P	**P**	**23 27 43.3**	**+0.6**
	comp=Z,157nm,0.8s						
AS01	**Alice Springs**	**19.31**	**206**	P	**P**	**23 27 49.9**	**+1.6**
AS31	**Alice Springs**	**19.33**	**206**	P	**P**	**23 27 48.6**	**+0.1**
ASAR	**Alice Springs**	**19.33**	**206**	P	**P**	**23 27 48.6**	**+0.1**
ASAR	**Alice Springs**	**19.33**	**206**	P	**P**	**23 27 50.9**	**+2.3**
	comp=Z,67nm,0.6s,baz=32,slow=9.8,SNR=332						
ASAR				S	**Sn**	**23 31 20.4**	**-6.1**
	comp=Z,4.3nm,0.4s,baz=22,slow=27,SNR=5.5						
ASAR				Lg	Lg	23 33 41.0	
	comp=Z,0.7nm,0.3s,baz=28,slow=30,SNR=4.6						
ASAR				LR	LR	23 35 55.8	
	comp=Z,968nm,20.0s,baz=34,slow=39						
BATI	**Baumata**	**19.45**	**257**	P	**P**	**23 27 51.4**	**+1.5**
	comp=Z,29nm,0.8s,baz=8.8,slow=7.1,SNR=5.2						
BATI				S	Sn	23 31 16.4	-13
	comp=Z,11nm,0.5s,baz=145,slow=20,SNR=1.4						
BATI				LR	LR	23 36 11.6	
	comp=Z,401nm,21.5s,baz=90,slow=39						
BATI	**Baumata**	**19.45**	**257**	P	**P**	**23 27 50.1**	**+0.3**
	comp=Z,66nm,0.8s						
GUMO	**Guam**	**19.84**	**6**	LR	LR	23 35 10.3	
	comp=Z,78nm,21.9s,baz=149,slow=36						
QLP	**Quilpie**	**20.22**	**177**	P	**P**	**23 28 00.3**	**+2.1**
	baz=20,SNR=3.7						
EIDS	**Eidsvold**	**20.52**	**158**	P	**P**	**23 28 04.0**	**+2.6**
	baz=21,SNR=7.1						
EIDS	**Eidsvold**	**20.52**	**158**	P	**P**	**23 28 04.3**	**+2.9**
EIDS	**Eidsvold**	**20.52**	**158**	P	**P**	**23 28 02.2**	**+0.8**
FITZ	**Fitzroy Crossi**	**20.54**	**234**	P	**P**	**23 28 02.4**	**+0.7**
	baz=21,SNR=24						
FITZ	**Fitzroy Crossi**	**20.54**	**234**		**P**	**23 28 01.6**	**-0.1**
LUWI	**Luwuk**	**20.76**	**284**		**P**	**23 28 05.1**	**+0.9**
LUWI	**Luwuk**	**20.76**	**284**	P	**P**	**23 28 05.4**	**+1.3**
	comp=Z,131nm,0.8s,comp=Z,3μm						
GTOI	**Gorontalo**	**21.03**	**288**	P	**P**	**23 28 10.5**	**+3.5**
	comp=Z,104nm,0.7s,comp=Z,896nm						
EDFI	**Ende, Flores**	**21.18**	**262**	P	**P**	**23 28 09.0**	**+0.2**
	comp=Z,38nm,0.8s						
MRSI	**Marisa**	**21.99**	**287**	P	**P**	**23 28 18.3**	**+0.9**
	comp=Z,40nm,0.7s,comp=Z,2μm						
OOD	**Oodnadatta**	**22.46**	**197**	P	**P**	**23 28 24.3**	**+2.0**
BKSI	**Bulukumba**	**22.70**	**271**	P	**P**	**23 28 26.1**	**+1.1**
	comp=Z,74nm,0.9s,comp=Z,924nm						
KAPI	**Kappang**	**23.09**	**272**	P	**P**	**23 28 29.9**	**+0.9**
KAPI				lAmb	lAmb	23 28 40.2	
	comp=Z,44nm,0.8s						
TTSI	**Tana Toraja**	**23.24**	**277**	P	**P**	**23 28 32.0**	**+1.4**
	comp=Z,20nm,0.8s						
TOLI2	**Tolitoli**	**23.29**	**288**	P	**P**	**23 28 32.3**	**+1.2**
TOLI2	**Tolitoli**	**23.29**	**288**	P	**P**	**23 28 30.3**	**-0.8**
TOLI2				lAmb	lAmb	23 28 41.6	
	comp=Z,41nm,0.7s						
WRKA	**Warakurna**	**23.32**	**215**	P	**P**	**23 28 31.4**	**+0.1**
	baz=23,SNR=98						
WRKA	**Warakurna**	**23.32**	**215**	P	**P**	**23 28 31.7**	**+0.4**
MPSI	**Mapaga**	**23.90**	**285**	P	**P**	**23 28 37.0**	**-0.1**
	comp=Z,36nm,0.9s,comp=Z,914nm						
LCRK	**Leigh Creek**	**24.43**	**190**	P	**P**	**23 28 42.5**	**+0.6**
PLAI	**Plampang**	**25.05**	**263**	P	**P**	**23 28 47.3**	**-0.3**
PLAI	**Plampang**	**25.05**	**263**	P	**P**	**23 28 46.5**	**-1.1**
	comp=Z,43nm,0.7s						
KOUNC	**Koumac, New Ca**	**25.11**	**126**	P	**P**	**23 28 46.8**	**-1.3**
KOUNC				lAmb	lAmb	23 28 51.0	
	comp=Z,41nm,1.1s						
MULG	**Mulgathing**	**25.28**	**198**	P	**P**	**23 28 50.1**	**+0.6**
STKA	**Stephens Creek**	**25.49**	**183**	P	**P**	**23 28 51.6**	**+0.3**
	baz=26,SNR=14						
STKA	**Stephens Creek**	**25.49**	**183**	P	**P**	**23 28 52.3**	**+0.9**
STKA	**Stephens Creek**	**25.49**	**183**	P	**P**	**23 28 51.3**	**-0.1**
STKA	**Stephens Creek**	**25.49**	**183**	P	**P**	**23 28 51.3**	**-0.1**
	comp=Z,8.7nm,0.6s,baz=349,slow=9.3,SNR=18						
STKA				LR	LR	23 40 57.3	
	comp=Z,233nm,19.5s,baz=348,slow=41						
	comp=Z,8.7nm,0.6s						
TWSI	**Taliwang, Sumb**	**25.92**	**263**	P	**P**	**23 28 54.3**	**-1.2**
	comp=Z,30nm,0.7s						
BBOO	**Buckleboo**	**27.15**	**193**	P	**P**	**23 29 06.3**	**-0.1**
	baz=27,SNR=13						
BBOO	**Buckleboo**	**27.15**	**193**	P	**P**	**23 29 06.2**	**-0.2**
BBOO	**Buckleboo**	**27.15**	**193**	P	**P**	**23 29 05.5**	**-0.9**
HTT	**Hallett**	**27.26**	**187**	P	**P**	**23 29 07.5**	**+0.1**
	baz=27,SNR=4.8						
DZM	**Mont Dzumac**	**27.61**	**127**	LR	LR	23 40 08.6	
	comp=Z,311nm,19.3s,baz=332,slow=37						
JAGI	**Jajag, Banyuwa**	**28.61**	**264**	P	**P**	**23 29 18.6**	**-1.1**
	comp=Z,26nm,0.8s						
LEM	**Lembang**	**35.07**	**267**	LR	LR	23 47 53.8	
	comp=Z,106nm,20.4s,baz=154,slow=42						
NWAO	**Narrogin (SRO)**	**35.68**	**219**	LR	LR	23 45 59.7	
	comp=Z,403nm,18.4s,baz=176,slow=38						
JOW	**Kunigami**	**35.85**	**337**	LR	LR	23 42 54.5	
	comp=Z,119nm,19.3s,baz=321,slow=33						
YOJ	**Yonaguni jima**	**36.20**	**328**	P	**P**	**23 30 25.4**	**-0.6**
NACB	**Ninganchiao**	**36.73**	**326**	P	P	23 30 29.1	-1.4
NACB				lAmb	lAmb	23 30 37.1	
	comp=Z,41nm,1.4s						
YHNB	**Yeheng**	**37.25**	**326**	P	**P**	**23 30 34.1**	**-0.9**
YHNB				lAmb	lAmb	23 30 42.2	
	comp=Z,58nm,1.5s						
MJAR	**Matsushiro Arr**	**42.83**	**354**	P	P	23 31 19.8	-1.4
	comp=Z,1.2nm,0.4s,baz=178,slow=8.8,SNR=2.0						
	comp=Z,1.2nm,0.4s						
IPM	**Ipoh**	**43.17**	**283**	P	**P**	**23 31 23.3**	**-1.0**
URZ	**Urewera**	**44.41**	**141**	LR	LR	23 49 51.6	
	comp=Z,276nm,18.3s,baz=119,slow=36						
KSAR	**Wonju Array Be**	**45.71**	**343**	P	**P**	**23 31 42.9**	**-1.3**
KSRS	**Korea Array**	**45.71**	**343**	P	**P**	**23 31 43.5**	**-0.7**
	comp=Z,5.2nm,0.8s,baz=164,slow=9.6,SNR=22						
KSRS				PcP	**PcP**	**23 33 22.9**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=170,slow=3.6,SNR=4.5						
KSRS				LR	LR	23 49 28.3	
	comp=Z,30nm,20.6s,baz=180,slow=34						
	comp=Z,5.2nm,0.8s						
WHN	**Wuhan**	**45.72**	**325**	⇑P	P	23 31 52.8	+8.4
WHN				sP	sP	23 31 56.6	+7.6
ENH	**Enshi**	**48.46**	**320**	P	P	23 32 04.1	-1.8
ENH				lAmb	lAmb	23 32 15.9	
	comp=Z,9.8nm,1.0s						
CRAI	**Chiangrai**	**49.43**	**303**	P	**P**	**23 32 12.8**	**-0.6**
LYN	**LuoYang**	**49.77**	**327**	⇓P	**P**	**23 32 16.1**	**+0.4**
LYN				pmax	pmax		
	comp=Z,28nm,0.7s						
CMAR	**Chiang Mai Arr**	**49.85**	**300**	P	**P**	**23 32 15.8**	**-0.8**
CMAR	**Chiang Mai Arr**	**49.85**	**300**	P	**P**	**23 32 17.1**	**+0.4**
	comp=Z,2.6nm,0.3s,baz=118,slow=6.3,SNR=18						
	comp=Z,2.6nm,0.3s						
KMI	**Kunming**	**50.02**	**310**	⇑P	**P**	**23 32 19.4**	**+1.3**
KMI				sP	pP	23 32 24.6	+3.1
KMI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ASAJ	**Asahikawa**	**50.17**	**360**	LR	LR	23 56 34.9	
	comp=Z,19nm,18.9s,baz=94,slow=40						
HNS	**HongShan**	**50.82**	**331**	⇑P	**P**	**23 32 23.3**	**-0.3**
HNS				*eS*	**S**	**23 39 34.9**	**-4.8**
HNS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
USA0B	**Ussuriysk Arra**	**51.22**	**350**	P	**P**	**23 32 25.2**	**-1.3**
USA0B				lAmb	lAmb	23 32 34.3	
	comp=Z,10nm,0.8s						
USRK	**Ussuriysk Ar.**	**51.22**	**350**	P	**P**	**23 32 26.1**	**-0.4**
USRK	**Ussuriysk Ar.**	**51.22**	**350**	P	**P**	**23 32 25.8**	**-0.7**
	comp=Z,4.9nm,0.7s,baz=207,slow=6.1,SNR=8.3						
USRK				LR	LR	23 50 53.6	
	comp=Z,55nm,21.0s,baz=169,slow=32						
	comp=Z,4.9nm,0.7s						
XAN	**Xi'an**	**51.41**	**324**	P	**P**	**23 32 28.0**	**-0.2**
XAN				pP	pP	23 32 33.0	+1.4
XAN				pmax	pmax		
	comp=Z,16nm,0.9s						
PZH	**PanZhiHua**	**51.52**	**311**	P	**P**	**23 32 30.1**	**+0.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,220nm,6.0s						
BJT	**Baijiatuau**	**52.27**	**334**	P	**P**	**23 32 33.2**	**-1.3**
BJI	**Beijing**	**52.28**	**334**	P	**P**	**23 32 34.0**	**-0.5**
BJI				pP	**pP**	**23 32 36.9**	**-1.0**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CN2	**Changchun**	**52.30**	**344**	*eP*	P	23 32 40.3	+5.7
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2	**Chengdu**	**52.64**	**317**	P	**P**	**23 32 37.0**	**-0.5**
TNCH	**TengChong**	**53.23**	**308**	⇓P	**P**	**23 32 44.0**	**+1.9**
TNCH				PP	**PP**	**23 34 45.8**	**+3.4**
TNCH				pmax	pmax		
	comp=Z,92nm,5.3s						
BNX	**BinXian**	**53.62**	**347**	⇓P	**P**	**23 32 43.8**	**-0.5**
BNX				pmax	pmax		
	comp=Z,15nm,0.7s						
BNX				pmax	pmax		
	comp=Z,130nm,4.9s						
HHC	**Hu-ho-hao-te**	**55.03**	**331**	*eP*	**P**	**23 32 56.4**	**+1.5**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,5.6s						
LZH	**Lanzhou**	**55.85**	**322**	*eP*	**P**	**23 33 01.6**	**+0.6**
LZH				sP	pP	23 33 07.4	+3.0
LZH				pmax	pmax		
	comp=Z,20nm,1.0s						
KLR	**Kul'dur**	**56.14**	**351**	P	**P**	**23 33 01.9**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=165,slow=1.7,SNR=12						
KLR				LR	LR	23 53 20.3	
	comp=Z,54nm,22.0s,baz=171,slow=32						
	comp=Z,2.3nm,0.8s						
RAR	**Rarotonga**	**57.31**	**111**	LR	LR	23 55 32.9	
	comp=Z,20nm,21.1s,baz=164,slow=34						
HEH	**HeiHe**	**57.90**	**348**	*eP*	**P**	**23 33 14.4**	**-0.5**
HEH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GTA	**Gaotai**	**60.43**	**323**	P	**P**	**23 33 33.9**	**+1.0**
GTA				sP	sP	23 33 44.3	+6.6
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PETK	**Petropavlovsk-**	**60.48**	**10**	P	**P**	**23 33 32.0**	**-0.8**

comp=Z,3.1nm,0.7s,baz=166,slow=7.1,SNR=2.8
PETK LR LR 23 56 46.2
comp=Z,30nm,21.8s,baz=149,slow=33
comp=Z,3.1nm,0.7s
SONM Songino Array 62.76 333 P **P** **23 33 48.4 0.0**
comp=Z,1.5nm,0.6s,baz=157,slow=7.0,SNR=13
SONM LR LR 00 00 57.4
comp=Z,94nm,19.9s,baz=181,slow=36
comp=Z,1.5nm,0.6s
PALK Pallekele 63.51 281 LR LR 00 05 50.5
comp=Z,33nm,18.3s,baz=209,slow=40
CASY Casey 63.95 194 P **P** **23 33 55.6 -0.3**
CASY IAmb IAmb 23 33 58.9
comp=Z,12nm,0.8s
SHEM Shemya Is, Ala 64.48 20 LR LR 23 56 01.2
comp=Z,90nm,20.0s,baz=289,slow=30
PPT Papeete 66.71 106 LR LR 23 59 39.7
comp=Z,34nm,21.3s,baz=188,slow=33
WMQ Urumqi 70.41 321 *eP* **P** **23 34 38.4 +1.0**
WMQ pP pP 23 34 42.9 +2.0
WMQ sP sP 23 34 48.6 +6.4
WMQ pmax pmax
comp=Z,16nm,0.9s
VNDA Vanda 71.89 176 P **P** **23 34 46.7 +1.0**
VNDA Vanda 71.89 176 P **P** **23 34 46.5 +0.7**
comp=Z,1.8nm,0.6s,baz=330,slow=6.2,SNR=17
VNDA LR LR 00 05 18.8
comp=Z,115nm,18.4s,baz=344,slow=35
comp=Z,1.8nm,0.6s
AKUT Akutan 73.88 29 P **P** **23 34 58.4 +0.6**
MKAR Makanchi Array 75.17 322 P **P** **23 35 05.8 +0.2**
comp=Z,7.4nm,0.7s,baz=104,slow=7.4,SNR=81
comp=Z,7.4nm,0.7s
MAKZ Makanchi 75.37 322 P **P** **23 35 05.6 -1.1**
MAKZ IAmb IAmb 23 35 07.4
comp=Z,9.1nm,0.7s
PRZ Przheval'sk 75.93 316 P **P** **23 35 10.8 +0.6**
PRZ IAmb IAmb 23 35 12.1
comp=Z,8.2nm,0.8s
TARG Taragay, Kyrgy 76.06 316 P **P** **23 35 10.4 -0.9**
S12K Black Hills 76.53 28 P **P** **23 35 12.8 -0.3**
KSH Kashi 76.58 313 P **P** **23 35 15.8 +1.9**
KSH sP sP 23 35 22.1 +3.4
KSH pmax pmax
comp=Z,7.0nm,1.1s
NIL Nilore 76.81 307 P **P** **23 35 15.0 -0.2**
ZALV Zalesovo Beam 77.13 329 P **P** **23 35 15.5 -1.0**
comp=Z,4.6nm,0.6s,baz=112,slow=5.4,SNR=24
ZALV LR LR 00 09 32.0
comp=Z,33nm,19.4s,baz=70,slow=36
comp=Z,4.6nm,0.6s
NRN Naryn 77.22 315 P **P** **23 35 16.3 -1.4**
AAK Ala-Archa 78.68 316 P **P** **23 35 24.6 -1.0**
AAK Ala-Archa 78.68 316 LR LR 00 13 42.8
comp=Z,19nm,19.0s,baz=131,slow=38
O14K Tigyukauivet M 78.84 26 P **P** **23 35 26.2 +0.4**
KURK Kurchatov 79.04 324 P **P** **23 35 27.0 -0.2**
KURK IAmb IAmb 23 35 27.6
comp=Z,9.7nm,0.9s
KURBB Kurchatov Arra 79.06 324 P **P** **23 35 27.1 -0.2**
comp=Z,5.4nm,0.8s,baz=116,slow=4.5,SNR=55
comp=Z,5.4nm,0.8s
ARSB Arslanbob 79.32 314 P **P** **23 35 28.2 -1.0**
M14K Bethel 79.38 24 P **P** **23 35 28.3 -0.4**
M14K IAmb IAmb 23 35 31.3
comp=Z,16nm,0.9s
L14K Kuka Creek 79.42 24 P **P** **23 35 29.5 +0.5**
baz=235
DRK Karamyk 79.63 312 P P 23 35 29.3 -1.8
ANM Nome 80.34 20 P **P** **23 35 34.2 +0.3**
ANM IAmb IAmb 23 35 34.8
comp=Z,8.8nm,0.9s
ANM Nome 80.34 20 P **P** **23 35 34.7 +0.8**
baz=232
K15K Wolf Creek Mou 80.41 23 P **P** **23 35 35.4 +1.0**
baz=236
KBL Kabul 80.42 306 P **P** **23 35 34.2 -1.1**
Q17K Contact Creek 80.75 28 P **P** **23 35 35.6 -0.8**
baz=242
M16K Timber Creek 80.76 25 P **P** **23 35 37.2 +0.8**
baz=239
O17K Koliganek Bris 80.93 26 P **P** **23 35 37.8 +0.6**
baz=241
G15K Niukluk 81.05 20 P **P** **23 35 38.1 +0.3**
baz=234
N17K Nushagak Hills 81.26 26 P **P** **23 35 40.0 +1.1**
baz=240
J16K Anvik River 81.31 22 P **P** **23 35 40.4 +1.2**
baz=237
H16K Elim 81.47 21 P **P** **23 35 40.4 +0.4**
baz=235
SIMJ Simiganj 81.49 310 P **P** **23 35 40.1 -0.8**
SIMJ IAmb IAmb 23 35 48.6
comp=Z,8.8nm,0.8s
OHAK Old Harbor 81.52 30 P **P** **23 35 40.2 -0.2**
KK31 Karatay Array 81.61 315 P **P** **23 35 40.7 -0.5**
KKAR Karatay Array 81.61 315 P **P** **23 35 41.0 -0.2**
I17K Unalakleet 81.61 22 P **P** **23 35 41.9 +1.2**
baz=237
G16K Koyuk River 81.86 20 P **P** **23 35 42.0 -0.1**
G16K IAmb IAmb 23 35 42.9
comp=Z,15nm,1.0s
G16K Koyuk River 81.86 20 P **P** **23 35 42.7 +0.7**
baz=235
K17K Iditarod 81.90 23 P **P** **23 35 43.2 +0.8**
baz=239
J17K VABM Dome 81.95 23 P **P** **23 35 42.4 -0.2**
J17K IAmb IAmb 23 35 43.8
comp=Z,11nm,0.8s
J17K VABM Dome 81.95 23 P **P** **23 35 43.6 +1.0**
baz=238
KDAK Kodiak Island 82.10 29 LR LR 00 10 03.4
comp=Z,50nm,18.6s,baz=252,slow=34
SVW2 Sparrevohn 82.22 26 P **P** **23 35 44.4 +0.3**
SVW2 IAmb IAmb 23 35 45.0
comp=Z,7.0nm,0.8s
M18K Stony River 82.31 25 P **P** **23 35 45.7 +1.2**
baz=242
H17K Granite Mounta 82.47 21 P **P** **23 35 45.0 -0.3**
H17K IAmb IAmb 23 35 46.6
comp=Z,11nm,0.7s
H17K Granite Mounta 82.47 21 P **P** **23 35 46.0 +0.7**
baz=237
G17K Kiwalik Mounta 82.51 21 P **P** **23 35 46.1 +0.6**
baz=237
N19K Bonanza Creek 82.57 26 P **P** **23 35 46.3 +0.3**
baz=243
C16K Lisburne Hills 82.64 17 P **P** **23 35 45.9 -0.1**
baz=232
F17K Baldwin Pennin 82.83 20 P **P** **23 35 48.0 +0.9**
baz=236
J18K Innoko River 82.90 23 P **P** **23 35 47.0 -0.6**
J18K IAmb IAmb 23 36 00.1
comp=Z,9.9nm,1.4s
J18K Innoko River 82.90 23 P **P** **23 35 47.8 +0.2**
baz=241
D17K Noatak River 82.97 18 P **P** **23 35 48.5 +0.7**
baz=234
E17K Hotham Inlet 83.01 19 P **P** **23 35 48.4 +0.4**
baz=235
L19K White Mountain 83.04 25 P **P** **23 35 48.9 +0.6**
baz=242
RDOG Red Dog Mine 83.23 18 P **P** **23 35 49.5 +0.3**
RDOG IAmb IAmb 23 35 50.3
comp=Z,11nm,0.8s
RDOG Red Dog Mine 83.23 18 P **P** **23 35 49.4 +0.3**
baz=234
C17K DeLong Mountai 83.40 17 P **P** **23 35 50.4 +0.4**
baz=234
G18K Tagagawik 83.42 21 P **P** **23 35 49.6 -0.6**
G18K IAmb IAmb 23 35 52.9
comp=Z,6.1nm,0.8s
G18K Tagagawik 83.42 21 P **P** **23 35 50.2 0.0**
baz=238
F18K Selawik 83.46 20 P **P** **23 35 50.2 -0.1**
baz=238
J19K Poorman 83.59 23 P **P** **23 35 51.1 0.0**
J19K IAmb IAmb 23 35 51.8
comp=Z,11nm,0.9s
J19K Poorman 83.59 23 P **P** **23 35 51.2 +0.1**
baz=242
E18K Tukpahlearik C 83.59 19 P **P** **23 35 50.8 -0.2**
E18K IAmb IAmb 23 35 52.2
comp=Z,6.7nm,0.8s
E18K Tukpahlearik C 83.59 19 P **P** **23 35 51.3 +0.3**
baz=236
M20K Styx River 83.63 25 IAmb IAmb 23 35 54.4
comp=Z,10nm,0.9s
M20K Styx River 83.63 25 P **P** **23 35 51.4 0.0**
baz=244
QSPA South Pole Qui 83.68 180 P **P** **23 35 51.5 -0.3**
QSPA South Pole Qui 83.68 180 LR LR 00 13 40.5
comp=Z,169nm,18.4s,baz=18,slow=36
K20K Telida 83.90 24 IAmb IAmb 23 35 53.6
comp=Z,10.0nm,1.0s
K20K Telida 83.90 24 P **P** **23 35 53.3 +0.6**
baz=243
H19K Roundabout Mou 84.02 21 P **P** **23 35 53.7 +0.4**
H19K IAmb IAmb 23 35 54.5
comp=Z,12nm,0.9s
H19K Roundabout Mou 84.02 21 P **P** **23 35 53.6 +0.4**
baz=241
C18K Utukok River 84.09 18 P **P** **23 35 53.7 0.0**
baz=236
G19K Purcell Mounta 84.10 21 P **P** **23 35 54.0 +0.3**
G19K IAmb IAmb 23 36 10.0
comp=Z,13nm,1.2s
G19K Purcell Mounta 84.10 21 P **P** **23 35 54.1 +0.4**
baz=240
J20K Nowinta River 84.25 23 IAmb IAmb 23 35 55.4
comp=Z,9.1nm,0.9s
J20K Nowinta River 84.25 23 P **P** **23 35 54.8 +0.4**
baz=243
B18K Kokolik River 84.32 17 P **P** **23 35 55.5 +0.8**
baz=235
NRIK Noril'sk 84.33 343 P **P** **23 35 54.3 -0.4**
NRIK Noril'sk 84.33 343 P **P** **23 35 54.0 -0.8**
comp=Z,10nm,0.8s,baz=122,slow=4.4,SNR=25
comp=Z,10nm,0.8s
SUA Susitna One 84.48 26 P **P** **23 35 54.9 -1.0**
baz=246
O22K Cooper Landing 84.55 27 P **P** **23 35 56.0 0.0**
baz=247
H20K Aneneega Mo 84.58 22 P **P** **23 35 56.2 +0.1**
baz=242
BVAR Borovoye Array 84.63 325 P **P** **23 35 56.7 0.0**
comp=Z,38nm,0.7s,baz=112,slow=7.0,SNR=234
BRVK Borovoye 84.70 325 P **P** **23 35 57.0 0.0**
E19K Redstone River 84.72 20 P **P** **23 35 57.3 +0.6**
baz=240
CAST Castle Rocks 84.73 24 P **P** **23 35 56.4 -0.5**
CAST IAmb IAmb 23 35 56.6
comp=Z,6.6nm,1.0s
CAST Castle Rocks 84.73 24 P **P** **23 35 56.6 -0.4**
baz=245
RC01 Rabbit Creek A 84.78 27 P **P** **23 35 56.0 -1.2**
RC01 Rabbit Creek A 84.78 27 P **P** **23 35 56.6 -0.6**
baz=247
C19K Lookout Ridge 84.83 18 P **P** **23 35 57.4 0.0**
C19K Lookout Ridge 84.83 18 P **P** **23 35 58.0 +0.6**
baz=237
CHUM Lake Minchumin 84.84 24 P **P** **23 35 57.8 +0.4**
baz=245
M22K Willow 84.87 26 P **P** **23 35 56.6 -1.0**
D19K Kuna River 84.96 18 P **P** **23 35 57.9 -0.1**
D19K IAmb IAmb 23 36 01.0
comp=Z,12nm,1.1s
D19K Kuna River 84.96 18 P **P** **23 35 58.4 +0.3**
baz=239
A19K Wainwright 85.01 16 P **P** **23 35 58.7 +0.6**
baz=236
F20K Avaraart Lake 85.02 20 P **P** **23 35 57.6 -0.6**
F20K IAmb IAmb 23 35 59.2
comp=Z,5.9nm,0.7s
F20K Avaraart Lake 85.02 20 P **P** **23 35 59.0 +0.7**
baz=241
CUT Chulitna 85.07 25 P **P** **23 35 58.0 -0.6**
CUT Chulitna 85.07 25 P **P** **23 35 58.0 -0.6**
baz=246
IMAR Indian Mountai 85.22 22 P **P** **23 35 58.9 -0.4**
PMR Palmer 85.25 26 IAmb IAmb 23 35 59.4
comp=Z,11nm,1.0s
PMR Palmer 85.25 26 P **P** **23 35 58.8 -0.6**
baz=248
GHO Glory Hole Cre 85.41 26 P **P** **23 35 59.3 -1.2**
GHO IAmb IAmb 23 36 00.6
comp=Z,12nm,1.0s
H21K Melozitna Rive 85.42 22 P **P** **23 36 00.5 +0.2**
baz=244
E20K Nigu River 85.46 19 P **P** **23 36 00.9 +0.4**
baz=241
KNK Knik Glacier 85.48 27 P **P** **23 36 00.6 -0.1**
baz=248
I21K Tanana 85.53 23 IAmb IAmb 23 36 02.1
comp=Z,8.1nm,0.9s
I21K Tanana 85.53 23 P **P** **23 36 01.3 +0.5**
baz=245
D20K Etivluk River 85.55 19 P **P** **23 36 01.3 +0.3**
baz=240
SML Sawmill 85.68 26 P **P** **23 36 01.4 -0.4**
baz=248
Q23K Middleton Isla 85.75 29 P **P** **23 36 02.4 +0.4**
MID Middleton Isla 85.75 29 P **P** **23 36 02.6 +0.5**
HRA Herat 85.87 305 P **P** **23 36 03.4 -0.2**
HRA IAmb IAmb 23 36 10.3
comp=Z,5.4nm,0.8s
MLY Manley 85.94 23 IAmb IAmb 23 36 03.6
comp=Z,8.2nm,0.9s
MLY Manley 85.94 23 P **P** **23 36 02.7 -0.3**
baz=246
WAT1 Susitna Watana 85.97 25 P **P** **23 36 02.6 -0.6**
baz=248
B20K Meade River 86.03 17 IAmb IAmb 23 36 04.8
comp=Z,7.2nm,0.8s
B20K Meade River 86.03 17 P **P** **23 36 03.5 +0.3**
baz=240
H22K Ishtalitna Cre 86.06 22 P **P** **23 36 03.8 +0.3**
baz=245
RND Reindeer 86.06 25 P **P** **23 36 02.7 -1.0**
SCM Sheep Creek Mo 86.13 26 P **P** **23 36 04.0 -0.1**
baz=249
MCK McKinley 86.15 24 P **P** **23 36 02.9 -1.1**
baz=248
WAT6 Susitna Watana 86.22 26 P **P** **23 36 03.9 -0.7**
baz=249
C21K Knifeblade Rid 86.34 19 P **P** **23 36 05.6 +0.7**
baz=242
NEA2 Nenana 86.42 24 P **P** **23 36 04.2 -1.2**
NEA2 IAmb IAmb 23 36 04.6
comp=Z,8.8nm,1.2s
NEA2 Nenana 86.42 24 P **P** **23 36 04.9 -0.5**
baz=248
G22K Bettles 86.44 21 P **P** **23 36 05.4 0.0**
baz=245
I23K Minto, Yukon-K 86.52 23 P **P** **23 36 05.9 +0.1**
baz=247
DHY Denali Highway 86.56 25 IAmb IAmb 23 36 06.6
comp=Z,8.5nm,0.8s
DHY Denali Highway 86.56 25 P **P** **23 36 05.9 -0.3**
baz=249
B21K Ikpikpuk River 86.62 18 P **P** **23 36 06.6 +0.4**
baz=242
M24K Tolsona, Glenn 86.74 26 P **P** **23 36 07.1 +0.1**
M24K Tolsona, Glenn 86.74 26 P **P** **23 36 07.3 +0.3**
baz=250
WRH Wood River Hil 86.77 24 IAmb IAmb 23 36 06.6
comp=Z,9.3nm,0.9s
E22K Anaktuvuk Pass 86.85 20 IAmb IAmb 23 36 09.2
comp=Z,9.8nm,0.8s
E22K Anaktuvuk Pass 86.85 20 P **P** **23 36 07.8 +0.4**
baz=245
D22K Ayikyak River 86.89 19 P **P** **23 36 08.5 +0.9**
baz=244
G23K Bananza Creek 86.89 22 IAmb IAmb 23 36 08.3
comp=Z,6.0nm,0.7s
G23K Bananza Creek 86.89 22 P **P** **23 36 08.0 +0.4**
baz=246
CCB Clear Creek Bu 86.95 24 IAmb IAmb 23 36 07.3
comp=Z,11nm,0.8s
COLD Coldfoot 87.04 21 P **P** **23 36 08.8 +0.5**
baz=246
HDA Harding Lake 87.21 24 IAmb IAmb 23 36 10.4
comp=Z,4.3nm,0.7s
B22K Teshekpuk Lake 87.31 18 P **P** **23 36 09.8 +0.3**
baz=243
PAX Paxson 87.34 26 P **P** **23 36 09.6 -0.3**
baz=251
H24K Noodor Dome 87.36 23 IAmb IAmb 23 36 10.6
comp=Z,6.4nm,0.8s
H24K Noodor Dome 87.36 23 P **P** **23 36 09.8 -0.1**
baz=248
IL31 87.36 24 IAmb IAmb 23 36 08.9
comp=Z,7.4nm,0.7s
ILAR Eielson Array 87.36 24 P P 23 36 07.8 -2.1
ILAR Eielson Array 87.36 24 P P 23 36 08.0 -1.9
comp=Z,7.1nm,0.7s,baz=256,slow=4.9,SNR=65
ILAR LR LR 00 14 11.3
comp=Z,34nm,18.6s,baz=264,slow=35
comp=Z,7.1nm,0.7s
E23K Chandalar 87.57 20 P **P** **23 36 11.8 +0.8**
baz=247
D23K Nanushuk River 87.58 19 P **P** **23 36 12.1 +1.2**
baz=246
GLB Gilahina Butte 87.59 27 P **P** **23 36 10.8 -0.3**
GLB IAmb IAmb 23 36 11.3
comp=Z,9.2nm,1.0s
TOLK Toolik Lake Re 87.82 20 P **P** **23 36 11.9 -0.2**
TOLK Toolik Lake Re 87.82 20 P **P** **23 36 12.4 +0.3**
baz=247
G24K Hadweenzic Riv 87.83 22 IAmb IAmb 23 36 12.8
comp=Z,7.4nm,0.8s
G24K Hadweenzic Riv 87.83 22 P **P** **23 36 12.1 0.0**
baz=249
RIDG Independent Ri 87.85 25 IAmb IAmb 23 36 12.8
comp=Z,9.3nm,0.9s
RIDG Independent Ri 87.85 25 P **P** **23 36 12.0 -0.4**
baz=251
J25K Salcha River, 87.92 24 IAmb IAmb 23 36 12.8
comp=Z,10nm,0.9s
J25K Salcha River, 87.92 24 P **P** **23 36 12.0 -0.7**
baz=251
C23K Itkillik River 87.96 19 P **P** **23 36 12.7 +0.1**
C23K Itkillik River 87.96 19 P **P** **23 36 13.5 +0.8**
baz=246
F24K Squaw Lake 87.97 21 P **P** **23 36 13.5 +0.6**
baz=248
MENT Mentasta 88.09 26 P **P** **23 36 13.9 +0.5**
MENT IAmb IAmb 23 36 30.9
comp=Z,7.0nm,0.9s
D24K Happy Valley 88.27 19 P **P** **23 36 14.4 +0.3**
D24K Happy Valley 88.27 19 P **P** **23 36 15.2 +1.1**
baz=248
L26K Log Cabin Wild 88.27 26 P **P** **23 36 14.4 0.0**
L26K Log Cabin Wild 88.27 26 P **P** **23 36 14.3 0.0**
baz=253
SCRK Sand Creek 88.29 25 P **P** **23 36 13.6 -0.9**
SCRK Sand Creek 88.29 25 P **P** **23 36 14.2 -0.3**
baz=252
H25L Birch Creek 88.30 23 P **P** **23 36 14.8 +0.5**
baz=250
G25K Bearman Lake 88.36 22 P **P** **23 36 15.2 +0.6**
baz=250
BARN Barnard Glacie 88.47 28 P **P** **23 36 14.7 -0.9**
C24K Franklin Bluff 88.53 19 P **P** **23 36 16.1 +0.8**
baz=248
CTG Chitna Glacier 88.60 28 P **P** **23 36 16.5 +0.4**
baz=254
CTGM Chitina Glacie 88.60 28 P **P** **23 36 16.0 0.0**
FYU Fort Yukon 88.62 22 P **P** **23 36 16.3 +0.5**
J26L Joseph Creek 88.63 25 P **P** **23 36 15.7 -0.3**
J26L IAmb IAmb 23 36 16.4
comp=Z,5.7nm,0.8s
J26L Joseph Creek 88.63 25 P **P** **23 36 16.2 +0.2**
baz=252
LOGN Logan Glacier 88.72 28 P **P** **23 36 16.2 -0.4**
M27K Edge Creek, AK 88.73 27 IAmb IAmb 23 36 25.3
comp=Z,7.9nm,0.8s
M27K Edge Creek, AK 88.73 27 P **P** **23 36 16.7 +0.1**
baz=254
F25K Christian Rive 88.81 21 P **P** **23 36 17.6 +0.8**
baz=250
L27K Beaver Creek, 88.95 26 P **P** **23 36 17.5 0.0**
baz=254
BCAR Beaver Creek A 88.97 26 P **P** **23 36 17.9 +0.3**
E25K Arctic Village 89.01 21 P **P** **23 36 17.7 0.0**
E25K IAmb IAmb 23 36 19.3
comp=Z,6.6nm,0.9s
E25K Arctic Village 89.01 21 P **P** **23 36 18.5 +0.8**
baz=251
I26K Coal Creek Min 89.03 24 P **P** **23 36 17.8 0.0**
baz=253
K27K Chicken 89.11 25 P **P** **23 36 18.2 0.0**
K27K Chicken 89.11 25 P **P** **23 36 19.1 +0.9**
baz=254
D25K Kavik River 89.14 20 P **P** **23 36 18.7 +0.4**
baz=250
BVCY Beaver Creek 89.20 27 P **P** **23 36 19.3 +0.5**
baz=255
YUK3 Moose Creek 89.22 28 P **P** **23 36 19.1 +0.1**
baz=255
G26K Porcupine Rive 89.29 22 P **P** **23 36 20.1 +1.1**
baz=256
F26K Sheenjek River 89.38 21 P **P** **23 36 20.7 +1.2**
baz=252
EGAK Eagle 89.70 25 IAmb IAmb 23 36 21.8
comp=Z,7.2nm,0.9s
EGAK Eagle 89.70 25 P **P** **23 36 21.0 +0.1**
baz=255
I27K Kandik River 89.74 24 P **P** **23 36 21.6 +0.4**
baz=254
C26K Camden Bay 89.83 19 P **P** **23 36 23.1 +1.7**
baz=251
YUK4 Talbot Arm 89.96 28 P **P** **23 36 23.5 +1.0**
baz=257
G27K Doyon Strip 90.05 23 P **P** **23 36 23.4 +0.8**
baz=254
DAWY Dawson 90.26 25 P **P** **23 36 24.0 +0.3**
DAWY IAmb IAmb 23 36 31.5
comp=Z,5.7nm,0.8s
DAWY Dawson 90.26 25 P **P** **23 36 24.2 +0.5**
baz=256
M29M Somme Creek 90.29 27 P **P** **23 36 24.2 +0.3**
baz=257
I28M Miner Creek 90.37 24 IAmb IAmb 23 36 32.2
comp=Z,7.7nm,1.3s
E27K Coleen River 90.45 21 P **P** **23 36 26.3 +1.9**
L29M L29M 90.59 27 IAmb IAmb 23 36 26.4
comp=Z,7.8nm,0.8s
L29M L29M 90.59 27 P **P** **23 36 25.6 +0.4**
baz=257
K29M Barlow Dome 91.02 26 P **P** **23 36 27.1 -0.2**
K29M IAmb IAmb 23 36 35.1
comp=Z,5.8nm,0.8s
K29M Barlow Dome 91.02 26 P **P** **23 36 27.9 +0.6**
baz=258
M30M Minto, Yukon 91.08 27 P **P** **23 36 27.8 +0.3**
baz=259
E28M Babbage River 91.29 21 P **P** **23 36 27.9 -0.4**
J30M Hart River 91.67 25 P **P** **23 36 29.8 -0.6**
J30M IAmb IAmb 23 36 33.0
comp=Z,5.0nm,1.1s
J30M Hart River 91.67 25 P **P** **23 36 30.6 +0.3**
baz=259
I30M Mount Dempster 91.78 25 P **P** **23 36 30.7 -0.1**
baz=259
EPYK Eagle Plains 91.86 23 P **P** **23 36 31.0 -0.1**
baz=259
ARU Arti 92.07 326 P P 23 36 30.1 -2.0
ARU IAmb IAmb 23 36 31.0
comp=Z,5.3nm,0.8s
G30M tAoh Zrail Nji 92.18 23 P **P** **23 36 32.5 0.0**
baz=259
H31M Peel River 92.72 24 P **P** **23 36 34.7 -0.3**
baz=261
INK Inuvik 93.41 22 LR LR 00 14 57.4
comp=Z,52nm,19.8s,baz=188,slow=33
BBB Bella Bella 94.29 38 LR LR 00 11 35.0
comp=Z,52nm,20.8s,baz=210,slow=31
C36M Paulatuk 96.91 21 P **P** **23 36 52.9 -1.1**
baz=271
YKA Yellowknife Ar 101.31 28 P **Pdif** **23 37 12.3 -1.5**
comp=Z,0.3nm,0.8s,baz=284,slow=4.8,SNR=4.2
S39A Bolivar 120.30 50 **PKPdf** **23 42 13.8 -1.0**
TORD Torodi Ar. Bea 141.22 283 PKhKP PKPpre 23 42 47.5
comp=Z,0.7nm,0.7s,baz=60,slow=4.1,SNR=6.2
TORD PKP **PKPdf** 23 42 55.0 +0.2
comp=Z,1.5nm,0.7s,baz=56,slow=2.8,SNR=8.5
KIC Kosan Boka 147.86 272⇑ *e*PKP1 **PKPdf** **23 43 09.7 +3.3**
comp=Z,15nm,0.7s
LIC Lamto 148.14 272⇑ *i*PKP1 **PKPdf** **23 43 10.4 +3.5**
comp=Z,47nm,0.8s
TIC Toumodi 148.14 272⇑ *i*PKP1 **PKPdf** **23 43 10.4 +3.5**
comp=Z,21nm,0.7s

*IDC **22** 23:25:34.8s 1.6, 33°.08N× 139°.45E, h0km, mb3.3/3, mbtmp3.4/5, ML3.3/2, Error ellipse: s-maj=42.9km s-min=10.5km az=9.0*
*JMA **22** 23:25:37.9s 0.1, 33°.4N± 0°.4× 13°9E± , h36km± 2km, MV3.4/34, NEAR HACHIJOJIMA ISLAND*

ISC 22 23:25:38.2±0.9, **33°46N**±0°.03×**139°53E**±0°.07, **h22**km±5km, **n25**, σ0§98/27, **mb3.2**/3, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**0.41**	**148**	Pn	**Pb**	**23 25 47.0**	**+0.4**
	272nm,0.3s,baz=331,slow=20,SNR=79						
JHJ				Sn	**Sb**	**23 25 53.5**	**+1.1**
	294nm,0.3s,baz=114,slow=19,SNR=9.6						
JHJ2	**Mitsune**	**0.43**	**145**	P	**Pb**	**23 25 46.9**	**-0.2**
JHJ2				S	**Sb**	**23 25 53.1**	**+0.2**
JMKN	**Mikurajimanish**	**0.43**	**7**	*eP*	**Pn**	**23 25 48.3**	**-0.9**
JMKN				*eS*	**Sn**	**23 25 55.0**	**-1.3**
JHCJ	**Hachijojimakas**	**0.45**	**150**	*eP*	**Pb**	**23 25 47.0**	**-0.5**
JHCJ				*eS*	**Sb**	**23 25 53.5**	**-0.3**
JMYK	**Miyake Tsubota**	**0.60**	**2**	*eP*	**Pn**	**23 25 50.6**	**-0.8**
JMYK				S	**Sn**	**23 26 00.1**	**-0.3**
JKO	**Kozu shima**	**0.79**	**336**	P	**Pb**	**23 25 53.0**	**-0.2**
JNIO	**Niijimaoohara**	**0.92**	**347**	*eP*	**Pb**	**23 25 54.8**	**-0.6**
JAOM	**Aogashimamukai**	**1.02**	**169**	P	**Pn**	**23 25 55.6**	**-1.6**
JTHY	**Toshimahigashi**	**1.08**	**350**	*eP*	**Pb**	**23 25 57.8**	**-0.3**
JIM2	**Oshima 2**	**1.25**	**356**	*eP*	**Pb**	**23 26 00.9**	**-0.3**
JIZS	**Izushimoda**	**1.36**	**337**	*eP*	**Pn**	**23 26 02.0**	**+0.1**
JIZS				S	**Sb**	**23 26 20.7**	**+0.7**
KTJ3	**Kamata3**	**1.52**	**346**	P	**Pb**	**23 26 04.7**	**-0.9**
KTJ3				*eS*	**Sb**	**23 26 25.3**	**+0.9**
BSO3	**Boso 3**	**1.57**	**31**	P	**Pb**	**23 26 05.8**	**-0.6**
JSG	**Sagara**	**1.64**	**318**	S	**Sn**	**23 26 27.0**	**+0.8**
MJAR	**Matsushiro Arr**	**3.26**	**341**	P	**Pb**	**23 26 33.1**	**-2.2**
	0.4nm,0.3s,baz=155,slow=14,SNR=16						
MJAR				Sn	**Sb**	**23 27 15.1**	**+0.6**
	baz=225,slow=42						
	4.7nm,0.4s						
JNU	**Nakatsue**	**7.25**	**270**	Pn	**Pn**	**23 27 21.3**	**-1.6**
	1.1nm,0.3s,baz=80,slow=6.1,SNR=5.2						
	2.7nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**27.93**	**112**	T	T	00 00 31.7	
	baz=305,slow=75,SNR=77						
H11N1	**WAKE ISLAND Hy**	**27.94**	**112**	T	T	00 00 32.1	
	baz=305,slow=75,SNR=68						
H11N3	**WAKE ISLAND Hy**	**27.95**	**112**	T	T	00 00 33.0	
	baz=305,slow=75,SNR=62						
H11S3	**WAKE ISLAND Hy**	**28.50**	**115**	T	T	00 01 13.0	
	baz=307,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**28.50**	**115**	T	T	00 01 13.2	
	baz=307,slow=75,SNR=19						
H11S2	**WAKE ISLAND Hy**	**28.51**	**115**	T	T	00 01 14.1	
	baz=307,slow=75,SNR=12						
SONM	**Songino Array**	**28.69**	**310**	P	**P**	**23 31 35.2**	**+1.5**
	0.3nm,0.6s,baz=119,slow=8.4,SNR=2.4						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**44.80**	**305**	P	**P**	**23 33 50.8**	**+0.5**
	0.1nm,0.4s,baz=94,slow=11,SNR=2.2						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**47.06**	**310**	P	**P**	**23 34 08.9**	**+0.9**
	0.4nm,0.9s,baz=90,slow=7.6,SNR=2.8						
	0.4nm,0.9s						

*IDC **22** 23:38:00.2±0.6,0°.17N×125°.65E,h0km,mb4.2/13, mbtmp4.2/13,Error ellipse: s-maj=47.5km s-min=13.5km az=72.0*

*NEIC **22** 23:38:02.8±2.3,0°.41N±0°.08×126°.05E±0°.05,h10km±1km, mb4.5/22,Error ellipse: s-maj=13.6km s-min=7.9km az=4.0*

*DJA **22** 23:38:04.4±0.3,0°N±5°×12°6E±°,h10km,M4.2/9,mb4.3/2, MLv4.1/9*

ISC 22 23:38:02.6±0.5, **0°32N**±0°.06×**126°05E**±0°.06, **h10**km, **n53**, σ1§16/42, **mb4.4**/23, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.39**	**71**		**Pn**	**23 38 28.9**	**+0.8**
TNTI	**Ternate**	**1.39**	**71**	P	**Pn**	**23 38 30.1**	**+2.0**
LBMI	**Labuha**	**1.74**	**123**	P	**Pn**	**23 38 33.5**	**+0.6**
KMSI	**Cibinong**	**2.08**	**277**	P	**Pn**	**23 38 39.3**	**+1.8**
SANI	**Sanana**	**2.36**	**181**	P	**Pn**	**23 38 42.0**	**+0.6**
GTOI	**Gorontalo**	**3.05**	**276**	P	Pn	23 38 56.1	+5.2
LUWI	**Luwuk**	**3.54**	**247**		**Pn**	**23 38 59.9**	**+2.2**
LUWI	**Luwuk**	**3.54**	**247**	P	**Pn**	**23 39 00.4**	**+2.7**
NLAI	**Namlea**	**3.69**	**163**	P	**Pn**	**23 39 00.6**	**+0.9**
TOLI2	**Tolitoli**	**5.32**	**278**	Pn	**Pn**	**23 39 22.0**	**-0.2**
FAKI	**Fak Fak**	**6.99**	**117**	Pn	**Pn**	**23 39 46.8**	**+1.7**
FAKI	**Fak Fak**	**6.99**	**117**	P	**Pn**	**23 39 46.9**	**+1.8**
MTN	**Manton Dam**	**14.02**	**159**	Pn	**Pn**	**23 41 23.8**	**+2.3**
FITZ	**Fitzroy Crossi**	**18.31**	**181**	P	**Pn**	**23 42 16.6**	**-0.2**
WB0	**Warramunga Arr**	**21.58**	**158**	P	**P**	**23 42 51.5**	**-1.1**
WB0				IAmb	IAmb	23 42 57.1	
	comp=Z,20nm,0.8s						
WRA	**Warramunga Arr**	**21.72**	**158**	P	**P**	**23 42 52.0**	**-2.2**
WRA	**Warramunga Arr**	**21.72**	**158**	P	**P**	**23 42 52.9**	**-1.2**
	comp=Z,15nm,0.7s,baz=335,slow=11,SNR=27						
WRA				PcP	**PcP**	**23 46 53.8**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=322,slow=2.4,SNR=1.9						
	comp=Z,15nm,0.7s						
WB2	**Warramunga Arr**	**21.72**	**158**	P	**P**	**23 42 53.0**	**-1.1**
WB2				IAmb	IAmb	23 42 57.9	
	comp=Z,21nm,0.8s						
WR0	**Warramunga Arr**	**21.81**	**158**	P	**P**	**23 42 54.0**	**-1.1**
WR0				IAmb	IAmb	23 42 58.4	
	comp=Z,14nm,0.9s						
COEN	**Coen**	**22.12**	**131**	P	**P**	**23 42 58.1**	**-0.3**
PSA00	**Pilbara Seismi**	**22.59**	**195**	P	**P**	**23 43 03.6**	**+0.2**
AS31	**Alice Springs**	**25.04**	**163**	P	**P**	**23 43 27.2**	**+0.1**
ASAR	**Alice Springs**	**25.04**	**163**	P	**P**	**23 43 27.6**	**+0.4**
ASAR	**Alice Springs**	**25.04**	**163**	P	**P**	**23 43 26.8**	**-0.4**
	comp=Z,2.4nm,0.5s,baz=338,slow=7.9,SNR=21						
ASAR				PcP	**PcP**	**23 47 01.1**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=334,slow=2.3,SNR=5.3						
	comp=Z,2.4nm,0.5s						
MORW	**Morawa**	**30.75**	**197**	P	**P**	**23 44 18.1**	**-0.1**
FORT	**Forrest**	**30.99**	**177**	P	P	23 44 19.0	-1.3
BBOO	**Buckleboo**	**34.28**	**165**	P	**P**	**23 44 48.4**	**-0.8**
BBOO				IAmb	IAmb	23 45 14.1	
	comp=Z,8.6nm,1.1s						
STKA	**Stephens Creek**	**35.25**	**157**	P	**P**	**23 44 56.8**	**-0.7**
STKA	**Stephens Creek**	**35.25**	**157**	P	**P**	**23 44 57.0**	**-0.5**
	comp=Z,2.5nm,0.5s,baz=320,slow=9.9,SNR=7.8						
	comp=Z,2.5nm,0.5s						
KSRS	**Korea Array**	**36.99**	**2**	P	**P**	**23 45 13.3**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=180,slow=9.6,SNR=7.0						
	comp=Z,1.2nm,0.6s						
USRK	**Ussuriysk Ar.**	**44.01**	**6**	P	**P**	**23 46 11.5**	**+1.2**
	comp=Z,1.9nm,0.6s,baz=198,slow=8.7,SNR=2.5						
	comp=Z,1.9nm,0.6s						
SONM	**Songino Array**	**50.31**	**343**	P	**P**	**23 46 59.5**	**-0.1**
SONM	**Songino Array**	**50.31**	**343**	P	**P**	**23 46 59.0**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=158,slow=8.3,SNR=6.8						
	comp=Z,0.8nm,0.6s						
PETK	**Petropavlovsk-**	**58.82**	**22**	P	**P**	**23 48 01.4**	**+0.3**
	comp=Z,4.6nm,0.9s,baz=151,slow=3.4,SNR=2.1						
	comp=Z,4.6nm,0.9s						
MK31	**Makanchi Array**	**59.98**	**327**	P	P	23 48 08.6	-0.7
MK31				IAmb	IAmb	23 48 11.9	
	comp=Z,3.3nm,0.7s						
MKAR	**Makanchi Array**	**59.98**	**327**	P	P	23 48 08.6	-0.7
	comp=Z,3.7nm,0.6s,baz=122,slow=8.1,SNR=40						
	comp=Z,3.7nm,0.6s						
MAKZ	**Makanchi**	**60.16**	**327**	P	**P**	**23 48 10.0**	**-0.6**
MAKZ				IAmb	IAmb	23 48 13.0	
	comp=Z,3.4nm,0.6s						
ZAA0	**Zalesovo Array**	**63.31**	**334**	P	**P**	**23 48 31.2**	**-0.4**
ZAA0				IAmb	IAmb	23 48 33.6	
	comp=Z,2.8nm,0.9s						
ZALV	**Zalesovo Beam**	**63.31**	**334**	P	P	23 48 30.8	-0.9
ZALV	**Zalesovo Beam**	**63.31**	**334**	P	P	23 48 29.5	-2.1
	comp=Z,1.1nm,0.3s,baz=149,slow=6.9,SNR=7.5						
	comp=Z,1.1nm,0.3s						
KURBB	**Kurchatov Arra**	**64.25**	**329**	P	P	23 48 36.7	-1.1
	comp=Z,3.8nm,0.6s,baz=127,slow=6.3,SNR=40						
	comp=Z,3.8nm,0.6s						
KURK	**Kurchatov**	**64.25**	**329**	P	P	23 48 36.5	-1.4
KK31	**Karatay Array**	**65.27**	**318**	P	P	23 48 42.5	-2.3
KK31				IAmb	IAmb	23 48 49.5	
	comp=Z,2.1nm,1.1s						
KKAR	**Karatay Array**	**65.27**	**318**	P	P	23 48 41.6	-3.1
KKAR				IAmb	IAmb	23 48 49.5	
	comp=Z,2.1nm,1.1s						
BVAR	**Borovoye Array**	**69.80**	**328**	P	P	23 49 11.5	-1.7
	comp=Z,1.1nm,0.4s,baz=108,slow=4.7,SNR=5.8						
	comp=Z,1.1nm,0.4s						
KIWB	**Kanaga Island**	**69.88**	**34**	P	P	23 49 09.7	-3.9
NRIK	**Noril'sk**	**73.56**	**347**	P	**P**	**23 49 35.3**	**-0.1**
NRIK				IAmb	IAmb	23 49 41.1	
	comp=Z,5.2nm,1.2s						
NRIK	**Noril'sk**	**73.56**	**347**		**P**	**23 49 35.3**	**-0.1**
NRIK	**Noril'sk**	**73.56**	**347**	P	**P**	**23 49 35.1**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=120,slow=6.5,SNR=6.5						
	comp=Z,1.7nm,0.5s						
ABKAR	**Akbulak array**	**74.36**	**322**	P	**P**	**23 49 39.9**	**-0.6**
ABKAR				IAmb	IAmb	23 49 43.4	
	comp=Z,4.3nm,1.2s						
VNDA	**Vanda**	**80.16**	**173**	P	P	23 50 10.6	-1.9
	comp=Z,0.7nm,0.9s,baz=328,slow=8.6,SNR=3.6						
	comp=Z,0.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**123.26**	**286**	PKP	**PKPdf**	**23 56 59.9**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=65,slow=3.8,SNR=2.7						
TXAR	**Lajitas Array**	**124.19**	**54**	PKP	**PKPdf**	**23 57 02.2**	**-0.2**
	comp=Z,0.1nm,0.7s,baz=3.8,slow=2.7,SNR=1.9						

*NAO **22** 23:40:00.3,38°.72N×15°.40E,h33km,mb3.5*

*ROM **22** 23:40:24.7±0.2,39°.239N±0°.010×15°.47E±0°.02, h267km±2km,ML3.7/68,Error ellipse: s-maj=1.7km s-min=1.0km az=101.0*

*LDG **22** 23:40:24.5±0.2,39°.24N×15°.48E,h268km,Ml3.4/7,Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*

*IDC **22** 23:40:26.0±2.0,39°.41N×15°.18E,h264km±20km,mb3.4/17, mbtmp4.0/25,Error ellipse: s-maj=15.2km s-min=10.7km az=34.0*

*NEIC **22** 23:40:26.8±2.6,39°.32N±0°.09×15°.42E±0°.10,h256km±7km, mb4.2/12,Error ellipse: s-maj=13.0km s-min=11.0km az=186.0*

*PRU **22** 23:40:41.8,40°.46N×15°.62E,h97km,M4.2*

ISC 22 23:40:25.3±0.5, **39°31N**±0°.05×**15°44E**±0°.05, **h256**km±5km, **n260**, σ1§46/284, **mb3.5**/15, **7C-27D, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CET2	**Cetraro**	**0.46**	**61**	⇓*iP*	**Pn**	**23 40 59.9**	**+1.2**
CET2				S	**S**	**23 41 25.3**	**+0.3**
CET2				AML	AML		
	comp=E,1805μm,0.9s						
CET2				AML	AML		
	comp=N,4175μm,0.7s						
CET2				AML	AML		
	comp=N,4175μm,1.3s						
IST3	**Stromboli F**	**0.54**	**198**	⇓*iP*	**Pn**	**23 41 00.5**	**+1.5**
CAR1	**CAROLEI**	**0.60**	**95**	⇓*iP*	**Pn**	**23 41 00.1**	**+0.9**
CAR1				S	**S**	**23 41 25.4**	**-0.5**
CAR1				AML	AML		
	comp=N,1585μm,0.7s						
CAR1				AML	AML		
	comp=N,1050μm,0.7s						
CAR1				AML	AML		
	comp=E,1935μm,0.6s						
CAR1				AML	AML		
	comp=N,1590μm,0.7s						
CAR1				AML	AML		
	comp=E,1935μm,0.6s						
CAR1				AML	AML		
	comp=E,2350μm,0.6s						
CAR1				AML	AML		
	comp=N,1050μm,0.7s						
SPS2	**Spezzano della**	**0.70**	**91**	⇓*iP*	**Pn**	**23 41 00.6**	**+1.0**
SPS2				S	**S**	**23 41 27.2**	**+0.7**
MMN	**Mormanno**	**0.72**	**36**	⇓*iP*	**Pn**	**23 41 01.0**	**+1.5**
MMN				AML	AML		
	comp=E,220μm,1.2s						
MMN				AML	AML		
	comp=N,340μm,1.1s						
MMN				AML	AML		
	comp=E,220μm,0.8s						
CUC	**Castrocucco**	**0.74**	**23**		**Pn**	**23 41 01.2**	**+1.5**
TDS	**Terranova Siba**	**0.78**	**63**	⇓*eP*	**Pn**	**23 41 01.9**	**+2.1**
TDS				S	**S**	**23 41 28.7**	**+1.7**
TDS				AML	AML		
	comp=E,505μm,1.6s						
TDS				AML	AML		
	comp=N,194μm,0.8s						
TDS				AML	AML		
	comp=E,504μm,1.6s						
TDS				AML	AML		
	comp=N,286μm,1.6s						
TDS				AML	AML		
	comp=E,504μm,0.4s						
TDS				AML	AML		
	comp=N,286μm,0.4s						
JOPP	**Joppolo**	**0.78**	**153**	⇓*iP*	**Pn**	**23 41 00.6**	**+0.6**
JOPP				S	**S**	**23 41 27.0**	**-0.2**
JOPP				AML	AML		
	comp=N,976μm,0.5s						
JOPP				AML	AML		
	comp=E,720μm,1.1s						
JOPP				AML	AML		
	comp=N,976μm,1.5s						
MGR	**Morigerati**	**0.83**	**6**	P	**Pn**	**23 41 01.9**	**+1.9**
SALB	**San Lorenzo Be**	**0.90**	**51**	⇓*iP*	**Pn**	**23 41 02.4**	**+1.9**
SALB				S	**S**	**23 41 29.9**	**+1.6**
SALB				AML	AML		
	comp=E,640μm,0.7s						
SALB				AML	AML		
	comp=N,615μm,0.7s						
SALB				AML	AML		
	comp=E,640μm,1.3s						
SALB				AML	AML		
	comp=N,615μm,1.3s						
GRI	**Girifalco**	**0.91**	**122**	*eP*	**Pn**	**23 41 01.8**	**+1.3**
GRI				S	**S**	**23 41 28.6**	**+0.4**
GRI				AML	AML		
	comp=E,1455μm,0.5s						
GRI				AML	AML		
	comp=N,1105μm,0.4s						
GRI				AML	AML		
	comp=N,1104μm,0.4s						
LLI	**Lipari**	**0.94**	**204**	*eP*	**Pn**	**23 41 01.9**	**+1.2**
IVGP	**Vulcano Grotta**	**0.98**	**202**	*eP*	**Pn**	**23 41 02.1**	**+1.3**
VPL	**Vulcano Piano**	**0.99**	**201**	*eP*	**Pn**	**23 41 02.1**	**+1.1**
VPL				AML	AML		
	comp=N,1470μm,0.4s						
VPL				AML	AML		
	comp=E,1212μm,1.1s						
VPL				AML	AML		
	comp=E,1212μm,0.9s						
IFIL	**Filicudi I Eol**	**1.01**	**223**	⇓*iP*	**Pn**	**23 41 02.1**	**+1.1**
CMPR	**Campora**	**1.01**	**354**	⇑*iP*	**Pn**	**23 41 03.0**	**+2.0**
CMPR				AML	AML		
	comp=E,126μm,1.0s						
CMPR				AML	AML		
	comp=N,175μm,0.9s						
CMPR				AML	AML		
	comp=E,126μm,1.0s						
TIP	**Timpagrande**	**1.03**	**97**	Pn	**Pn**	**23 41 02.7**	**+1.5**
TIP	**Timpagrande**	**1.03**	**97**	⇓*iP*	**Pn**	**23 41 02.7**	**+1.5**
TIP				S	**S**	**23 41 29.8**	**+0.4**
TIP				AML	AML		
	comp=E,286μm,1.1s						
TIP				AML	AML		
	comp=N,237μm,1.2s						
TIP				AML	AML		
	comp=E,286μm,1.1s						
TIP				AML	AML		
	comp=N,290μm,1.0s						
TIP				AML	AML		
	comp=N,238μm,1.2s						
TIP				AML	AML		
	comp=E,362μm,1.1s						
MSRU	**Castanea**	**1.05**	**177**	⇓*iP*	**Pn**	**23 41 01.6**	**+0.4**
MSRU				S	**S**	**23 41 29.3**	**-0.2**
MSRU				AML	AML		
	comp=E,1215μm,1.2s						
MSRU				AML	AML		
	comp=N,1098μm,0.4s						
MSRU				AML	AML		
	comp=E,1215μm,0.8s						
MILZ	**Milazzo**	**1.05**	**189**	P	**Pn**	**23 41 01.9**	**+0.7**
MILZ				S	**S**	**23 41 30.7**	**+1.2**
MILZ				AML	AML		
	comp=E,987μm,0.8s						
MILZ				AML	AML		
	comp=N,1330μm,0.5s						
MILZ				AML	AML		
	comp=E,988μm,0.8s						
MILZ				AML	AML		
	comp=N,1325μm,0.5s						
MILZ				AML	AML		
	comp=E,988μm,1.2s						
PIPA	**Pietrapaola**	**1.08**	**80**	⇓*iP*	**Pn**	**23 41 03.2**	**+1.8**
PIPA				AML	AML		
	comp=E,726μm,0.2s						
PIPA				AML	AML		
	comp=N,872μm,1.6s						
PIPA				AML	AML		
	comp=E,726μm,0.2s						
ORI	**Oriolo Calabro**	**1.08**	**46**	⇓*iP*	**Pn**	**23 41 03.4**	**+2.1**
ORI				S	**S**	**23 41 32.5**	**+2.7**
CEL	**Celeste**	**1.11**	**161**	Pn	**Pn**	**23 41 01.9**	**+0.2**
CEL	**Celeste**	**1.11**	**161**	AML	AML		
	comp=E,576μm,0.4s						
CEL				AML	AML		
	comp=N,596μm,0.4s						
CEL				AML	AML		
	comp=N,596μm,0.4s						
CEL				AML	AML		
	comp=E,736μm,0.4s						
CEL				AML	AML		
	comp=N,710μm,0.3s						
CEL				AML	AML		
	comp=N,596μm,1.6s						
CEL				AML	AML		
	comp=E,736μm,1.6s						
CEL				AML	AML		
	comp=E,576μm,1.6s						
PLAC	**Placanica**	**1.16**	**137**	⇓*iP*	**Pn**	**23 41 02.9**	**+0.9**
LADO	**San Nicola del**	**1.20**	**91**	⇓*iP*	**Pn**	**23 41 03.4**	**+1.3**
LADO				S	**S**	**23 41 31.2**	**+0.2**
LADO				AML	AML		
	comp=N,31μm,1.6s						
LADO				AML	AML		
	comp=E,34μm,0.9s						
LADO				AML	AML		
	comp=N,31μm,0.4s						
CGG3	**Caggiano**	**1.23**	**3**	*eP*	**Pn**	**23 41 05.0**	**+2.7**
PST3	**Postiglione**	**1.26**	**353**	*eP*	**Pn**	**23 41 04.4**	**+2.0**
PTRP	**Pietrapertosa**	**1.30**	**21**	*eP*	**Pn**	**23 41 05.1**	**+2.3**
CRAC	**Craco**	**1.30**	**36**	*i P*	**Pn**	**23 41 04.6**	**+1.9**
CRAC				S	**S**	**23 41 35.1**	**+2.8**
MTTG	**Motta San Giov**	**1.32**	**171**	⇓*iP*	**Pn**	**23 41 03.8**	**+0.9**
MTTG				S	**S**	**23 41 32.8**	**+0.1**
MTTG				AML	AML		
	comp=E,1007μm,1.1s						
MTTG				AML	AML		
	comp=N,1014μm,0.4s						
SOI	**Samo**	**1.33**	**158**	⇓*iP*	**Pn**	**23 41 03.5**	**+0.5**
SOI				S	**S**	**23 41 33.9**	**+1.3**
SOI				AML	AML		
	comp=E,686μm,0.5s						
SOI				AML	AML		
	comp=E,686μm,0.5s						
SOI				AML	AML		
	comp=N,686μm,0.6s						
MUCR	**Ucria**	**1.34**	**199**	⇓*iP*	**Pn**	**23 41 03.8**	**+0.6**
MUCR				AML	AML		
	comp=E,298μm,1.5s						
MUCR				AML	AML		
	comp=N,445μm,0.8s						
AIO	**Antillo**	**1.35**	**187**	⇓*iP*	**Pn**	**23 41 04.3**	**+1.1**
AIO				S	**S**	**23 41 34.8**	**+1.8**
AIO				AML	AML		
	comp=E,602μm,1.1s						
AIO				AML	AML		
	comp=N,974μm,0.4s						
AIO				AML	AML		
	comp=E,602μm,0.9s						
PZUN	**Potenza**	**1.36**	**12**	*eP*	**Pn**	**23 41 05.0**	**+1.9**
MCRV	**Calabrutti - M**	**1.49**	**352**	⇑*iP*	**Pn**	**23 41 06.2**	**+2.1**
MCRV				AML	AML		
	comp=E,122μm,0.4s						
MCRV				AML	AML		
	comp=N,122μm,1.5s						
MCRV				AML	AML		
	comp=N,122μm,0.5s						
EMSG	**Monte Spagnolo**	**1.54**	**195**	*eP*	**Pn**	**23 41 06.6**	**+2.0**
EPZF	**Pizzo Felice**	**1.55**	**197**	*eP*	**Pn**	**23 41 06.3**	**+1.5**
MATE	**Matera**	**1.65**	**36**	*eP*	**Pn**	**23 41 06.1**	**+0.9**
MATE				S	**S**	**23 41 37.2**	**+0.5**
MATE				AML	AML		
	comp=E,225μm,1.6s						
MATE				AML	AML		
	comp=N,408μm,1.0s						
MATE				AML	AML		
	comp=E,225μm,0.4s						
PLLN	**Pollina**	**1.66**	**218**	*eP*	**Pn**	**23 41 06.4**	**+0.9**
CRTO	**Cratere Ovest,**	**1.70**	**333**	*eP*	**Pn**	**23 41 08.0**	**+2.3**
VBKN	**Vesuvio Bunker**	**1.70**	**333**	⇑*iP*	**Pn**	**23 41 08.1**	**+2.3**
VVDG	**Vesuvio Valle**	**1.71**	**333**	⇑*iP*	**Pn**	**23 41 08.0**	**+2.2**
OVO	**Vesuviano**	**1.71**	**333**	P	**Pn**	**23 41 08.2**	**+2.4**
GIB	**Gibilmanna**	**1.72**	**220**	P	**Pn**	**23 41 07.0**	**+1.0**
GALF	**Gagliano Caste**	**1.74**	**203**	*eP*	**Pn**	**23 41 08.3**	**+2.2**
GALF				AML	AML		
	comp=E,370μm,0.7s						
GALF				AML	AML		
	comp=N,560μm,0.7s						
GALF				AML	AML		
	comp=E,370μm,1.3s						
GALF				AML	AML		
	comp=N,560μm,1.3s						
CSLB	**Castelbuono**	**1.75**	**219**	⇓*iP*	**Pn**	**23 41 07.0**	**+0.8**
CSLB				AML	AML		
	comp=E,96μm,1.6s						
CSLB				AML	AML		
	comp=N,222μm,0.6s						
CSLB				AML	AML		
	comp=E,96μm,0.4s						
CSLB				AML	AML		
	comp=N,222μm,1.4s						
ESML	**S. M. di Licod**	**1.75**	**195**	*eP*	**Pn**	**23 41 07.3**	**+1.2**
PETRA	**Petralia Sopra**	**1.80**	**216**	⇓*iP*	**Pn**	**23 41 08.1**	**+1.3**
PETRA				AML	AML		
	comp=E,370μm,0.8s						
PETRA				AML	AML		
	comp=E,370μm,0.8s						
PETRA				AML	AML		
	comp=N,432μm,0.6s						
EPOZ	**Pozzillo**	**1.81**	**189**	⇓*iP*	**Pn**	**23 41 06.3**	**-0.4**
EPOZ				AML	AML		
	comp=E,832μm,1.3s						
EPOZ				AML	AML		
	comp=N,719μm,1.1s						
EPOZ				AML	AML		
	comp=E,832μm,0.7s						
EPOZ				AML	AML		
	comp=N,719μm,0.9s						
CAGR	**Agira**	**1.84**	**204**	*eP*	**Pn**	**23 41 09.1**	**+2.2**
CAGR				AML	AML		
	comp=N,2670μm,0.4s						
CAGR				AML	AML		
	comp=E,1135μm,0.9s						
IMTC	**Ischia Forio M**	**1.85**	**320**	*eP*	**Pn**	**23 41 08.2**	**+1.3**
IFOR	**Ischia Forio P**	**1.85**	**320**	⇑*iP*	**Pn**	**23 41 08.9**	**+2.0**
IFOR				AML	AML		
	comp=E,1480μm,0.8s						
IFOR				AML	AML		
	comp=N,2385μm,0.6s						
IOCA	**Ischia Osserva**	**1.86**	**321**	*eP*	**Pn**	**23 41 08.8**	**+1.9**
SOLUN	**Solunto**	**1.92**	**231**	P	**Pn**	**23 41 08.7**	**+1.1**
MPG	**Monte Pellegri**	**1.99**	**235**	P	**Pn**	**23 41 09.4**	**+1.2**
HLNI	**Lentini**	**2.01**	**193**	⇓*iP*	**Pn**	**23 41 08.8**	**+0.5**
HLNI				AML	AML		
	comp=E,226μm,1.6s						
HLNI				AML	AML		
	comp=N,210μm,0.8s						
HLNI				AML	AML		
	comp=E,226μm,0.4s						
ALJA	**Alia**	**2.04**	**221**	⇓*iP*	**Pn**	**23 41 10.5**	**+1.8**
ALJA				AML	AML		
	comp=E,350μm,1.2s						
ALJA				AML	AML		
	comp=N,453μm,1.3s						
ALJA				AML	AML		
	comp=E,350μm,0.8

comp=E,146µm,1.6s
SGG AML AML
comp=N,138µm,0.9s
SGG AML AML
comp=N,138µm,1.1s
RAFF Raffo Rosso 2.25 202 Pn **Pn 23 41 12.0 +1.4**
RAFF Raffo Rosso 2.25 202 ⇓*i*P **Pn 23 41 11.7 +1.1**
RAFF AML AML
comp=E,368µm,1.6s
RAFF AML AML
comp=N,368µm,1.6s
RAFF AML AML
comp=E,368µm,0.4s
HMDC Modica 2.40 193 ⇓*i*P **Pn 23 41 12.8 +0.7**
HMDC AML AML
comp=N,389µm,1.4s
HMDC AML AML
comp=E,352µm,0.5s
HMDC AML AML
comp=N,389µm,0.6s
CLTB Caltabellotta 2.46 226 Pn 23 41 13.4 +0.7
MMGO Monte Magaggia 2.54 230 ⇓*i*P **Pn 23 41 13.9 +0.6**
HPAC Pachino 2.62 186 *e*P **Pn 23 41 14.7 +0.5**
MORI Morici 4.56 2 *i*P **Pn 23 41 36.4 +0.7**
VSL Villasalto 4.70 274 Pn 23 41 38.7 +1.1
VSL Villasalto 4.70 274 ⇑P **Pn 23 41 38.9 +1.3**
NVLJ Novalja 5.27 356 *i*P **Pn 23 41 45.7 +1.4**
PGF Pioggiola 5.85 306 *e*P **Pn 23 41 52.8 +1.1**
PGF *e*Sn **S 23 43 01.1 +0.2**
comp=N,25nm,0.9s
SKDS Skadanscina 6.32 351 *i*Pn **Pn 23 41 58.0 +0.6**
CRES Cresnjev 6.51 0 *i*Pn **Pn 23 42 01.3 +1.5**
JAVS Javornik 6.66 352 *e*Pn **Pn 23 42 02.7 +1.1**
GBAS Gorenja Brezov 6.66 354 *i*Pn **Pn 23 42 02.7 +1.1**
KALN Kalnik 6.86 6 *i*P **Pn 23 42 04.3 +0.2**
OBKA Obir 7.22 355 *i*Pn **Pn 23 42 09.8 +1.0**
comp=N,17nm,0.6s,SNR=11
OBKA Obir 7.22 355 *e*Pn **Pn 23 42 10.0 +1.2**
SALO Salr 7.28 332 Pn 23 42 14.3 +4.9
CTI Castel Tesino 7.29 339 Pn 23 42 12.7 +3.1
SOKA Soboth 7.37 358 Pn **Pn 23 42 11.9 +1.3**
comp=N,11nm,0.7s,SNR=16
SBF Sospel 7.53 310 *e*Pn **Pn 23 42 16.1 +3.5**
ABTA Abfaltersbach 7.74 345 Pn **Pn 23 42 16.5 +1.3**
comp=N,8.5nm,0.7s,SNR=9.0
LMR La Mourre 7.83 304 *e*Pn **Pn 23 42 19.8 +3.5**
KBA Koelnbreinsper 7.91 350 Pn **Pn 23 42 19.5 +2.0**
comp=N,8.8nm,1.0s
FUORN Ofenpass-Fuorn 8.23 334 Pn 23 42 22.9 +1.3
MBDF Montbardon 8.42 313 *e*Pn **Pn 23 42 27.1 +3.2**
WTTA Wattenberg 8.42 342 Pn **Pn 23 42 26.7 +2.8**
comp=N,4.9nm,0.5s,SNR=6.6
WTTA Wattenberg 8.42 342 *e*Pn **Pn 23 42 26.6 +2.8**
TUE Stuetta 8.44 330 Pn 23 42 25.9 +1.8
TUE **S 23 44 06.4 +6.3**
FETA Feichten 8.44 337 Pn **Pn 23 42 27.2 +3.0**
comp=N,18nm,0.6s,SNR=10
BIOA Bad Ischl, Aus 8.48 352 *e*Pn **Pn 23 42 25.8 +1.3**
comp=N,10.0nm,0.9s
SQTA Sankt Quirin 8.49 340 Pn **Pn 23 42 27.5 +2.8**
comp=N,27nm,0.4s,SNR=24
WATA Walderalm 8.50 342 Pn **Pn 23 42 27.4 +2.5**
comp=N,18nm,0.5s,SNR=20
DAVOX Davos/Dischmat 8.50 333 P Pn 23 42 20.2 -4.8
comp=N,15nm,0.9s,baz=169,slow=10,SNR=16
IDI Anoyia 8.53 115 P **Pn 23 42 26.4 +1.0**
comp=N,0.1nm,0.6s,baz=316,slow=7.2,SNR=7.3
MOA Molln 8.58 355 Pn **Pn 23 42 27.2 +1.5**
comp=N,10nm,0.7s,SNR=4.7
MOA Molln 8.58 355 *e*Pn **Pn 23 42 26.9 +1.1**
MOTA Moosalm 8.63 340 *i*Pn **Pn 23 42 27.9 +1.4**
comp=N,18nm,1.1s,SNR=7.1
RETA Reutte 8.85 339 *e*Pn **Pn 23 42 30.8 +1.6**
comp=N,16nm,1.4s
LPG La Plagne 8.91 317 *e*Pn **Pn 23 42 32.7 +2.4**
OBER Oberstdorf 8.92 337 *e*Pn **Pn 23 42 31.6 +1.5**
LPL La Plagne 8.94 317 *e*Pn **Pn 23 42 32.5 +2.0**
DAVA Damuels 8.94 335 *e*Pn **Pn 23 42 32.1 +1.6**
comp=N,7.4nm,0.5s
DAVA Damuels 8.94 335 *e*Pn **Pn 23 42 31.9 +1.4**
ORIF Oris-en-Rattie 9.04 311 *e*Pn **Pn 23 42 34.8 +3.1**
UBR Ueberruh 9.22 337 *e*Pn **Pn 23 42 34.6 +0.8**
SENIN Lac Senin/Sane 9.24 322 Pn 23 42 35.3 +1.0
FUR Furstenfeldbru 9.35 343 *e*Pn **Pn 23 42 36.2 +0.8**
CKRC Cesky Krumlov 9.54 355 *e*P **Pn 23 42 38.4 +0.5**
GEC2 GERESS Array S 9.61 353 *e*Pn **Pn 23 42 39.3 +0.5**
GERES GERESS Array B 9.61 353 P **Pn 23 42 39.4 +0.5**
comp=N,2.6nm,0.6s,baz=163,slow=11,SNR=10
VIVF Saint-Julien-I 9.73 308 *e*Pn **P 23 42 43.9 -2.3**
KRUC Moravsky 9.77 4 *e*P **Pn 23 42 41.7 +0.9**
LASF Ste Croix 9.88 303 *e*Pn **P 23 42 46.7 -1.2**
LASF *e*Sn **S 23 44 32.0 -1.4**
comp=N,1.3nm,0.3s
KHC Kasperske Hory 9.91 353 Pn **Pn 23 42 43.3 +0.8**
KHC Kasperske Hory 9.91 353 *e*P **Pn 23 42 42.7 +0.2**
MLR Muntele Rosu 9.92 48 P **P 23 42 46.3 -2.2**
comp=N,1.4nm,0.5s,baz=207,slow=2.3,SNR=1.2
WET Wettzell 10.00 350 *e*Pn **Pn 23 42 44.0 +0.4**
CABF La Chapelle 10.01 320 *e*P **Pn 23 42 43.9 +0.1**
CABF *e*Sn **S 23 44 36.0 -0.3**
comp=N,0.3nm,0.2s
VRAC Vranov 10.03 4 *e*P **Pn 23 42 45.6 +1.6**
VRAC Vranov 10.03 4 P **Pn 23 42 45.4 +1.4**
comp=N,4.8nm,0.5s,baz=185,slow=12,SNR=9.9
BFO Black Forest 10.37 333 Pn **Pn 23 42 47.6 -0.7**
BFO Black Forest 10.37 333 *e*Pn **Pn 23 42 48.0 -0.3**
HINF Hinteralfeld 10.53 327 *e*P **Pn 23 42 50.2 -0.2**
HINF Hinteralfeld 10.53 327 *e*Pn **P 23 42 55.4 +0.3**
MORC Moravsky Berou 10.57 7 Pn **Pn 23 42 52.7 +1.9**
MORC Moravsky Berou 10.57 7 *e*P **Pn 23 42 52.1 +1.3**
ROTZ Rotzenmuhle 10.71 349 *e*Pn **P 23 42 57.6 +0.6**
ECH Echery 10.72 329 Pn 23 42 52.6 0.0
MTLF Montolieu 10.73 296 *e*Pn **P 23 42 58.2 +0.9**
GRFO Grafenberg 10.80 345 P **P 23 42 58.9 +0.8**
GRA1 Grafenberg Arr 10.81 345 Pn 23 42 55.8 +2.1
KRLC Kraliky 10.81 5 *e*P **Pn 23 42 55.0 +1.3**
CDF Champ du Feu 10.83 330 *e*P **Pn 23 42 54.4 +0.3**
CDF *e*Sn **S 23 44 55.8 +0.4**
comp=N,0.9nm,0.3s
HAU Haudompre 10.90 326 *e*P **Pn 23 42 53.9 -1.0**
HAU Haudompre 10.90 326 *e*Pn **P 23 42 59.4 +0.3**
HAU *e*Sn **S 23 44 55.2 -1.6**
comp=N,2.3nm,0.4s
BUR08 Bucovina Ar. S 10.93 37 P 23 43 02.1 +2.4
DPC Dobruska-Polom 11.06 3 *e*P **P 23 43 01.4 +0.5**
NKC Novy Kostel 11.13 350 *e*P **P 23 43 02.9 +1.2**
UPC Upice 11.21 2 *e*P **P 23 43 03.1 +0.6**
SMF Signal de Mont 11.21 315 *e*P **Pn 23 42 57.6 -1.2**
PVCC Panska Ves 11.23 357 *e*Pn **Pn 23 43 00.3 +1.3**
CHVC Chvalec 11.29 2 *e*P **P 23 43 04.7 +1.3**
CAF Calviac 11.40 304 *e*P **Pn 23 43 02.9 +1.7**
KWP Kalwaria Pacla 11.54 24 P **P 23 43 06.8 +0.5**
AVF Avril sur Loir 11.57 314 *e*P **Pn 23 43 03.7 +0.5**
PAGF Fort de Pagny 11.59 326 *e*P **Pn 23 43 04.0 +0.6**
LOR Lormes 11.59 317 *e*P **Pn 23 43 01.8 -1.7**
BRG Berggiesshubel 11.61 355 *e*P **Pn 23 43 04.8 +1.1**
BRG Amp 23 43 05.5
comp=Z,2.5nm,0.6s
BRG Berggiesshubel 11.61 355 P **P 23 43 08.6 +1.6**
BRG Amp 23 43 09.7
comp=Z,13nm,0.8s
SFTF Sexfontaines 11.63 323 *e*P **Pn 23 43 03.6 -0.4**
SFTF *e*Sn **S 23 45 12.7 -1.1**
comp=Z,0.6nm,0.1s
SSF Saint Saulge 11.65 316 *e*Pn **Pn 23 43 03.3 -0.9**
SSF Saint Saulge 11.65 316 *e*Pn **P 23 43 07.8 +0.3**
MOX Moxa 11.65 348 *e*Pn **P 23 43 08.4 +0.9**
ELL Elmali 11.70 98 Pn **P 23 43 06.9 -1.3**
BGF Bois d'Agland 11.72 312 *e*P **Pn 23 43 05.8 +0.6**
MEZF Maizieres J'vi 11.84 324 *e*P **P 23 43 09.3 -0.3**
SAVF Savonnieres en 11.89 325 *e*P **P 23 43 09.6 -0.6**
RJF Les Rejaudoux 11.91 305 *e*P **P 23 43 09.7 -0.8**
TCF Toulx Ste Croi 11.95 310 *e*P **P 23 43 10.2 -0.7**
EPF Esparros 11.97 293 *e*Pn **P 23 43 13.8 +2.6**
TNS Taunus Mts 11.98 338 *e*Pn **P 23 43 11.2 0.0**
CLL Collm 12.12 353 Pn **P 23 43 11.7 -0.9**
CLL Collm 12.12 353 *i*P **Pn 23 43 11.3 +1.3**
comp=Z,5.0nm,0.7s
CLL *i*x x 23 43 14.3
LFF La Frestale 12.27 302 *e*P **P 23 43 13.4 -1.0**
ETSF Etsaut 12.59 292 *e*P **P 23 43 17.5 -0.5**
SJPF Ste Jean 13.11 292 *e*P **P 23 43 24.2 +0.4**
BAIF Baives 13.37 327 *e*P **P 23 43 26.3 -0.3**

MFF Saint Martin d 13.53 308 *e*P **P 23 43 28.5 +0.2**
GKP Gorka Klasztor 14.02 4 *e*P **P 23 43 34.2 +0.6**
BRTR Keskin Array B 14.06 83 P **P 23 43 37.9 +3.4**
comp=Z,2.9nm,0.8s,baz=267,slow=9.8,SNR=5.0
LDF La Druitiere 14.53 315 *e*P **P 23 43 38.4 -1.0**
GRR Gorron 14.83 313 *e*P **P 23 43 41.7 -1.0**
CSS Mathiatis 14.91 101 P **Pn 23 43 45.2 +1.0**
KIEV Kiev 14.95 36 P **Pn 23 43 44.3 -0.1**
AKASG Malin Array Be 14.96 36 P **Pn 23 43 44.9 +0.3**
AKASG Malin Array Be 14.96 36 P **P 23 43 43.9 -0.2**
comp=Z,1.6nm,0.4s,baz=228,slow=10,SNR=15
AKBB Malin Array Si 14.96 36 P **Pn 23 43 44.6 0.0**
ESBB Sonseca Array 14.99 278 Pn 23 43 47.8 +2.7
ESDC Sonseca Array 14.99 278 Pn **Pn 23 43 47.7 +2.6**
ESDC Sonseca Array 14.99 278 P **P 23 43 43.6 -1.1**
comp=Z,0.9nm,0.8s,baz=78,slow=10,SNR=37
PAB San Pablo 15.30 277 P **P 23 43 48.1 +0.1**
RGN Rugen 15.31 355 P **Pn 23 43 49.0 +0.3**
SUW Suwalki 15.62 17 *e*P **P 23 43 51.7 +0.4**
SGMF Saint Gilles 15.74 310 *e*P **Pn 23 43 54.7 +0.8**
BSD Bornholm Skovb 15.82 359 *i*P **P 23 43 52.4 -1.0**
BSD IAmb IAmb 23 43 55.5
comp=Z,13nm,1.0s
BSD Bornholm Skovb 15.82 359 *e*P **P 23 43 54.0 +0.6**
BNN Bunyan 15.86 85 P **Pn 23 43 56.5 +0.9**
BNN IAmb IAmb 23 43 59.1
comp=Z,14nm,0.9s
QUIF Quistinic 15.96 309 *e*P **P 23 43 54.8 -0.3**
ROSF Rostrenen 16.21 310 *e*P **P 23 43 57.0 -0.8**
LUNU Lund 16.39 356 *i*P **P 23 43 59.7 0.0**
COP Copenhagen 16.51 354 *i*P **Pn 23 44 02.6 -0.2**
COP IAmb IAmb 23 44 04.2
comp=Z,26nm,0.5s
BLEU Blekinge 17.01 1 *i*P **P 23 44 04.8 -1.7**
PABE Paberze 17.18 17 P **P 23 44 08.6 +0.3**
PABE Paberze 17.18 17 *e*P **P 23 44 08.7 +0.4**
DEL Delary 17.20 357 *i*P **P 23 44 08.2 -0.4**
DEL Delary 17.20 357 *e*P **P 23 44 08.5 -0.1**
PBUR Paburge 17.27 12 *e*P **P 23 44 09.6 +0.3**
MMAI Mont Meron Ar 17.29 105 P **Pn 23 44 12.3 +0.1**
comp=Z,5.9nm,0.5s,baz=312,slow=8.8,SNR=33
NACGM Naroch 17.37 22 *e*P **P 23 44 09.8 -0.6**
comp=Z,21nm,0.9s,baz=211
MNK Minsk 17.37 25 *i*P **P 23 44 08.9 -1.5**
comp=E,6.0nm,0.9s
MNK *i*P **P 23 44 08.9 -1.5**
comp=N,16nm,0.9s
MNK *i*P **P 23 44 08.9 -1.5**
comp=Z,26nm,0.8s,baz=215
MNK *i*pP **pP 23 44 48.0 -1.5**
MNK *i*sP **sP 23 45 18.1 -4.3**
MNK *i*S **S 23 47 16.9 -0.7**
MNK *i*LRM MLR 23 51 41.7
comp=Z,48nm,14.8s
MNK *i*LRM MLR 23 51 59.7
comp=N,52nm,15.1s
MNK *i*LRM MLR 23 52 05.0
comp=E,41nm,15.6s
VSVD Vaisvydziai 17.61 16 *e*P **P 23 44 13.8 +0.8**
MUD Monsted U'grnd 17.65 348 *e*P **P 23 44 12.8 -0.6**
MUD IAmb IAmb 23 44 14.1
comp=Z,5.5nm,0.6s
ARPR Arapgir-MALATY 17.75 83 IAmb IAmb 23 44 23.8
comp=Z,7.3nm,0.8s
ISAL Salakas 17.77 20 *e*P **P 23 44 15.4 +0.7**
FABU Falkenberg 17.79 355 *e*P **P 23 44 14.9 -0.1**
GHAJ Ghor Haditha 18.24 110 IAmb IAmb 23 44 33.7
comp=Z,12nm,1.1s
BORU Boraas 18.42 355 *i*P **P 23 44 21.7 0.0**
EIL Elat 18.71 115 P **Pn 23 44 27.2 -1.6**
comp=Z,6.7nm,0.7s,baz=326,slow=9.1,SNR=14
SLIT Slitere, Latvi 18.87 11 *e*P **P 23 44 25.5 -1.0**
TJOU Tjoern 18.90 354 *i*P **P 23 44 25.7 -1.1**
VIKU Vikbolandet 19.23 2 *e*P **P 23 44 29.0 -1.4**
SNART Snartemo 19.77 347 *e*P **P 23 44 36.7 +0.5**
STRU Stroemstad 19.93 354 *i*P **P 23 44 36.0 -1.8**
EKA Eskdalemuir Ar 20.29 328 P **P 23 44 39.0 -2.7**
comp=Z,4.6nm,0.3s,baz=142,slow=10,SNR=39
comp=Z,4.6nm,0.3s
GURO Guroymak-BITLI 20.68 84 P **P 23 44 47.8 +1.6**
GURO IAmb IAmb 23 44 48.3
comp=Z,3.0nm,0.8s
KONO Kongsberg 20.69 352 *e*P **P 23 44 43.8 -2.1**
OSL Oslo 20.86 353 *e*P **P 23 44 45.5 -2.2**
HFS Hagfors 20.88 358 P **P 23 44 45.7 -2.1**
comp=Z,8.5nm,0.6s,baz=177,slow=11,SNR=46
comp=Z,8.5nm,0.6s
BLS5 Blasjo 20.93 347 *e*P **P 23 44 47.3 -1.1**
KBZ Khabaz 20.99 69 P **P 23 44 50.2 +1.1**
comp=Z,1.6nm,0.7s,baz=270,slow=12,SNR=2.2
comp=Z,1.6nm,0.7s
AAL Aland 21.09 6 *e*P **P 23 44 48.6 -1.2**
ODD1 Odda 21.36 348 *e*P **P 23 44 51.9 -0.8**
NC602 NORSAR Array S 21.59 355 P **P 23 44 52.9 -1.8**
NC602 NORSAR Array S 21.59 355 *e*P **P 23 44 53.0 -1.6**
MEF Metsahovi 21.68 12 *e*P **P 23 44 54.6 -0.8**
SKAR Skarslia 21.86 351 *e*P **P 23 44 57.0 -0.2**
NB2 NORSAR Subarra 21.91 354 P **P 23 44 56.2 -1.5**
comp=Z,1.2nm,0.5s,baz=171,slow=10
NB2 NORSAR Subarra 21.91 354 P **P 23 44 56.2 -1.5**
baz=171,slow=10
NOA NORSAR Array B 21.91 354 P **P 23 44 55.8 -1.9**
comp=Z,0.5nm,0.4s,baz=169,slow=10,SNR=21
comp=Z,0.5nm,0.4s
NC303 NORSAR Array S 22.09 355 P **P 23 44 58.7 -0.5**
NC303 IAmb IAmb 23 45 11.2
comp=Z,6.6nm,1.1s
RAF Rauma 22.09 8 *e*P **P 23 44 58.2 -1.0**
DOMB Dombas 23.09 352 *e*P **P 23 45 08.3 -0.1**
FINES FINESS Array B 23.11 13 P **P 23 45 08.2 -0.4**
comp=Z,12nm,0.5s,baz=187,slow=8.3,SNR=168
comp=Z,12nm,0.5s
FIA1 FINESS Array S 23.12 13 P **P 23 45 08.5 -0.1**
KEF Keuruu 23.60 11 *e*P **P 23 45 12.0 -1.0**
VAF Ylistaro 24.16 8 *e*P **P 23 45 17.8 -0.3**
NSS Namsos 25.34 356 *e*P **P 23 45 26.9 -1.7**
JOF Joensuu 25.51 17 *e*P **P 23 45 30.2 0.0**
FAUS Fauske 28.12 360 *e*P **P 23 45 53.2 -0.1**
STEI Steigen 28.68 360 *e*P **P 23 45 57.8 -0.4**
TORD Torodi Ar. Bea 28.75 209 P **P 23 45 59.3 -0.2**
comp=Z,0.3nm,0.5s,baz=19,slow=10,SNR=4.3
comp=Z,0.3nm,0.5s
KTK1 Kautokeino 30.06 6 *e*P **P 23 46 09.5 -0.9**
JETT Jettan, Norway 30.42 3 *e*P **P 23 46 12.4 -1.3**
TRO Tromso 30.44 2 *e*P **P 23 46 10.6 -3.1**
ARA0 ARCESS Array S 30.76 7 *e*P **P 23 46 14.6 -2.0**
ARCES ARCESS Array B 30.76 7 P **P 23 46 15.4 -1.2**
comp=Z,1.1nm,0.5s,baz=189,slow=9.0,SNR=32
comp=Z,2.1nm,0.5s
GEYT Alibeck 33.15 79 P **P 23 46 38.9 +1.1**
comp=Z,1.5nm,0.6s,baz=249,slow=2.5,SNR=2.8
comp=Z,1.5nm,0.6s
SPITS Spitsbergen Ar 38.98 0 P **P 23 47 26.3 -0.2**
comp=Z,15nm,1.0s,baz=209,slow=4.5,SNR=17
comp=Z,15nm,1.0s
KURBB Kurchatov Arra 44.76 54 P **P 23 48 14.9 +1.5**
comp=Z,0.1nm,0.4s,baz=282,slow=9.8,SNR=5.1
comp=Z,0.1nm,0.4s
NRIK Noril'sk 47.59 27 P **P 23 48 35.8 +0.7**
comp=Z,1.1nm,0.5s,baz=263,slow=2.5,SNR=4.0
comp=Z,1.1nm,0.5s
ZALV Zalesovo Beam 47.90 48 P **P 23 48 37.9 +0.2**
comp=Z,0.7nm,0.3s,baz=281,slow=6.8,SNR=3.6
comp=Z,0.7nm,0.3s
MKAR Makanchi Array 48.09 58 P **P 23 48 39.8 +0.5**
comp=Z,0.3nm,0.3s,baz=281,slow=7.2,SNR=5.6
comp=Z,0.3nm,0.3s
SCHQ Schefferville 54.90 316 P **P 23 49 27.3 -2.1**
comp=Z,1.8nm,0.7s,baz=72,slow=6.3,SNR=7.9
comp=Z,1.8nm,0.7s
YKA Yellowknife Ar 70.91 338 P **P 23 51 13.8 -0.5**
comp=Z,0.3nm,0.5s,baz=40,slow=5.7,SNR=10
comp=Z,0.3nm,0.5s
ULM Lac du Bonnet 72.38 321 P **P 23 51 22.9 -0.4**
comp=Z,1.4nm,0.4s,baz=8.8,slow=6.6,SNR=4.3
comp=Z,1.4nm,0.4s
PDAR Pinedale Array 84.31 323 P **P 23 52 28.4 -0.4**
comp=Z,0.2nm,0.4s,baz=57,slow=6.6,SNR=6.6
comp=Z,0.2nm,0.4s

IDC ***22*** *23:46:05.0±1.0, 7˚.27N×127˚.40E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=33.8km s-min=20.8km az=66.0*
ISC 22 23:46:10.5±1.1, **7˚.2N**±0˚.2×**127˚.2E**±0˚.1, **h35**km, **n6**, σ1§**44**/8,

mb3.6/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.65**	**267**	Pn	**Pn**	**23 46 37.2**	**+0.2**
	107nm,0.3s,baz=75,slow=19,SNR=17						
DAV				Sn	**Sn**	**23 46 57.1**	**0.0**
	116nm,0.3s,baz=90,slow=20,SNR=8.2						
DAV				LR	LR	23 47 13.0	
	comp=Z,460nm,20.9s,baz=161,slow=38						
WRA	**Warramunga Arr**	**27.82**	**166**	P	**P**	**23 51 57.2**	**+0.4**
	0.3nm,0.3s,baz=353,slow=9.6,SNR=11						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**31.32**	**168**	P	**P**	**23 52 27.0**	**-0.7**
	0.4nm,0.4s,baz=355,slow=7.1,SNR=5.8						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**55.08**	**324**	P	**P**	**23 55 37.9**	**-1.2**
	0.5nm,0.5s,baz=119,slow=6.7,SNR=9.1						
MKAR				PcP	**PcP**	**23 56 42.8**	**+2.6**
	0.2nm,0.6s,baz=123,slow=2.8,SNR=3.5						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**59.17**	**326**	P	**P**	**23 56 06.6**	**-1.3**
	0.5nm,0.7s,baz=126,slow=6.2,SNR=6.5						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**81.81**	**26**	P	**P**	**23 58 25.9**	**+0.2**
	0.4nm,0.6s,baz=250,slow=4.4,SNR=4.5						
	0.4nm,0.6s						

IDC ***23*** *00:03:53.1±0.7, 6˚.06S×142˚.65E, h0km, mb4.2/13, mbtmp4.3/15, ML2.2/1, MS3.4/10, Error ellipse: s-maj=31.0km s-min=16.2km az=74.0*
NEIC ***23*** *00:03:55.2±1.7, 6˚.07S±0˚.10×142˚.5E±0˚.1, h10km±1km, mb4.2/12, Error ellipse: s-maj=23.0km s-min=15.9km az=74.0*
ISC 23 00:03:57.6±0.5, **6˚.24S**±0˚.06×**142˚.45E**±0˚.08, **h28**km, **n49**, σ1§**41**/45, **mb4.3**/20, **MS3.4**/7, **1C**, **New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**4.27**	**328**	P	**Pn**	**00 05 01.1**	**+0.3**
PMG	**Port Moresby**	**5.63**	**124**	Pn	**Pn**	**00 05 19.3**	**-0.3**
	4.5nm,0.3s,baz=351,slow=8.7,SNR=5.2						
PMG				Sn	**Sn**	**00 06 23.3**	**0.0**
	6.0nm,0.3s,baz=283,slow=22,SNR=8.6						
PMG				LR	LR	00 08 27.4	
	comp=Z,206nm,19.4s,baz=214,slow=49						
	11nm,0.3s						
COEN	**Coen**	**7.71**	**175**	P	Pn	00 05 55.8	+7.7
COEN	**Coen**	**7.71**	**175**	Pn	**Pn**	**00 05 48.5**	**+0.4**
FAKI	**Fak Fak**	**10.68**	**288**	P	**Pn**	**00 06 28.1**	**-0.8**
FAKI	**Fak Fak**	**10.68**	**288**	Pn	**Pn**	**00 06 27.7**	**-1.2**
KDU	**Kakadu**	**11.74**	**236**	P	**Pn**	**00 06 43.9**	**+0.6**
MTN	**Manton Dam**	**12.94**	**239**	Pn	**Pn**	**00 07 00.0**	**+0.2**
CTA	**Charters Tower**	**14.26**	**165**	LR	LR	00 12 56.5	
	comp=Z,187nm,19.3s,baz=181,slow=38						
WB0	**Warramunga Arr**	**15.56**	**209**		**Pn**	**00 07 34.8**	**-0.5**
WB0				IAmb	IAmb	00 07 45.8	
	comp=Z,28nm,1.1s						
WR0	**Warramunga Arr**	**15.66**	**209**		**Pn**	**00 07 35.5**	**-0.9**
WR0				IAmb	IAmb	00 07 43.6	
	comp=Z,18nm,0.8s						
WB2	**Warramunga Arr**	**15.73**	**209**	Pn	**Pn**	**00 07 36.7**	**-0.7**
WB2				IAmb	IAmb	00 07 45.8	
	comp=Z,17nm,0.8s						
WRA	**Warramunga Arr**	**15.74**	**209**	Pn	**Pn**	**00 07 36.0**	**-1.5**
WRA	**Warramunga Arr**	**15.74**	**209**	Pn	**Pn**	**00 07 35.6**	**-1.9**
	comp=Z,1.3nm,0.3s,baz=18,slow=13,SNR=58						
WRA				Sn	Sn	00 10 19.1	-12
	comp=Z,0.2nm,0.3s,baz=32,slow=22,SNR=2.3						
WRA				Lg	Lg	00 12 12.7	
	baz=28,slow=24						
SOEI	**Soe**	**18.34**	**258**		**P**	**00 08 10.8**	**+0.7**
AS01	**Alice Springs**	**19.16**	**204**	P	**Pn**	**00 08 21.7**	**+1.7**
	comp=Z,17nm,0.8s						
AS31	**Alice Springs**	**19.18**	**204**	Pn	**Pn**	**00 08 21.9**	**+1.6**
AS31				IAmb	IAmb	00 08 25.2	
	comp=Z,7.3nm,1.1s						
ASAR	**Alice Springs**	**19.18**	**204**	P	**Pn**	**00 08 21.7**	**+1.4**
	comp=Z,30nm,1.1s,baz=32,slow=10,SNR=54						
ASAR				S	**Sn**	**00 11 49.6**	**-5.0**
	comp=Z,2.5nm,0.8s,baz=17,slow=26,SNR=3.3						
ASAR				Lg	Lg	00 14 01.4	
	baz=26,slow=27,SNR=4.1						
ASAR				LR	LR	00 16 37.8	
	comp=Z,265nm,19.4s,baz=34,slow=39						
FITZ	**Fitzroy Crossi**	**20.20**	**233**	P	**P**	**00 08 32.1**	**+1.8**
OOD	**Oodnadatta**	**22.38**	**196**	P	**P**	**00 08 56.8**	**+3.0**
WRKA	**Warakurna**	**23.09**	**214**	P	**P**	**00 09 02.9**	**+1.6**
STKA	**Stephens Creek**	**25.52**	**182**	P	**P**	**00 09 25.4**	**+1.5**
STKA	**Stephens Creek**	**25.52**	**182**	P	**P**	**00 09 24.6**	**+0.8**
	comp=Z,3.6nm,0.8s,baz=352,slow=9.5,SNR=6.0						
STKA				LR	LR	00 20 57.2	
	comp=Z,155nm,20.9s,baz=31,slow=40						
	comp=Z,3.6nm,0.8s						
NWAO	**Narrogin (SRO)**	**35.43**	**218**	LR	LR	00 25 43.5	
	comp=Z,102nm,18.2s,baz=250,slow=37						
JNU	**Nakatsue**	**40.65**	**345**	LR	LR	00 27 41.3	
	comp=Z,16nm,18.7s,baz=179,slow=35						
KSRS	**Korea Array**	**45.53**	**344**	P	**P**	**00 12 13.8**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=164,slow=9.6,SNR=10						
KSRS				LR	LR	00 29 45.5	
	comp=Z,17nm,20.7s,baz=155,slow=34						
	comp=Z,1.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**49.42**	**301**	P	**P**	**00 12 46.4**	**+0.9**
	comp=Z,1.5nm,0.3s,baz=108,slow=5.8,SNR=4.2						
	comp=Z,1.5nm,0.3s						
USRK	**Ussuriysk Ar.**	**51.08**	**350**	P	**P**	**00 12 56.4**	**-1.2**
	comp=Z,2.4nm,0.7s,baz=169,slow=8.7,SNR=4.3						
	comp=Z,2.4nm,0.7s						
PZH	**PanZhiHua**	**51.14**	**311**	P	**P**	**00 13 00.8**	**+2.3**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
BNX	**BinXian**	**53.46**	**347**	⇑P	**P**	**00 13 14.9**	**-0.3**
BNX				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BNX				pmax	pmax		
	comp=Z,120nm,6.2s						
HHC	**Hu-ho-hao-te**	**54.76**	**332**	*e*P	**P**	**00 13 25.5**	**+0.5**
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC				pmax	pmax		
	comp=Z,95nm,7.0s						
KLR	**Kul'dur**	**56.02**	**352**	LR	LR	00 33 07.4	
	comp=Z,26nm,21.8s,baz=170,slow=31						
PETK	**Petropavlovsk-**	**60.52**	**10**	P	**P**	**00 14 03.7**	**-1.3**
	comp=Z,3.2nm,0.8s,baz=168,slow=7.4,SNR=2.7						
	comp=Z,3.2nm,0.8s						
SONM	**Songino Array**	**62.50**	**333**	P	**P**	**00 14 18.4**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=150,slow=6.1,SNR=4.7						
	comp=Z,0.8nm,0.8s						
SHEM	**Shemya Is, Ala**	**64.59**	**21**	LR	LR	00 37 18.2	
	comp=Z,25nm,21.4s,baz=176,slow=31						
WMQ	**Urumqi**	**70.07**	**321**	*e*P	**P**	**00 15 07.3**	**0.0**
WMQ				sP	pP	00 15 14.4	-1.8
WMQ				pmax	pmax		
	comp=Z,12nm,0.9s						
MK31	**Makanchi Array**	**74.84**	**322**	P	**P**	**00 15 35.0**	**-0.6**
MK31				IAmb	IAmb	00 15 37.1	
	comp=Z,2.2nm,1.1s						
MKAR	**Makanchi Array**	**74.84**	**322**	P	**P**	**00 15 35.5**	**-0.2**
MKAR	**Makanchi Array**	**74.84**	**322**	P	**P**	**00 15 35.6**	**0.0**
	comp=Z,2.0nm,0.8s,baz=105,slow=7.0,SNR=18						
MKAR				LR	LR	00 51 09.5	
	comp=Z,16nm,18.0s,ba

BVAR	**Borovoye Array**	**84.32**	**325**	P		**P**	**00 16 27.1**	**+0.1**
	comp=Z,4.9nm,0.7s,baz=112,slow=6.5,SNR=30							
	comp=Z,4.9nm,0.7s							
ILAR	**Eielson Array**	**87.50**	**24**	P		**P**	**00 16 40.5**	**-2.0**
	comp=Z,1.7nm,0.7s,baz=259,slow=5.0,SNR=17							
	comp=Z,1.7nm,0.7s							

SJA ***23*** *00:39:36.1±0.7, 20°.28S×66°.75W, h273km±8km, ML3.9, MW3.8*
IDC ***23*** *00:39:37.1±0.9, 20°.39S×66°.68W, h244km±11km, mb3.0/3, mbtmp3.8/7, Error ellipse: s-maj=18.9km s-min=11.7km az=104.0*
NEIC ***23*** *00:39:38.6±2.0, 20°.37S±0°.07×66°.9W±0°.1, h259km±11km, mb4.6/5, Error ellipse: s-maj=15.2km s-min=10.7km az=89.0*
VAO ***23*** *00:39:39.1±0.4, 20°.26S×66°.83W, h264km, mb3.9*
SCB ***23*** *00:39:39.4±1.0, 20°.35S×66°.79W, h230km±12km, ML3.9/3, MW3.9, Error ellipse: s-maj=4.8km s-min=3.1km az=0.0*

ISC 23 00:39:38.1±0.6, **20°.36S**±0°.04×**66°.82W**±0°.05, **h254**km±7km, **n103**, σ0**99**/135, **mb3.8**/5, **2C, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.42**	**129**	Pg	**Pn**	**00 40 16.5**	**-0.2**
MOCB				IAML		00 40 46.1	
	535nm,0.6s						
SOEO	**Opoqueri**	**2.05**	**331**	Pg	**Pn**	**00 40 22.6**	**+0.6**
YJA	**Yavi**	**2.18**	**146**	*eP*	**Pn**	**00 40 23.2**	**+0.2**
YJA				*eS*	**S**	**00 40 56.4**	**-2.1**
PB08	**IPOC Station P**	**2.20**	**275**		**Pn**	**00 40 24.0**	**+0.9**
PB08				Sn	**S**	**00 40 59.5**	**+0.9**
PB08	**IPOC Station P**	**2.20**	**275**	*eP*	**Pn**	**00 40 23.9**	**+0.7**
PB08				*eS*	**S**	**00 40 59.8**	**+1.3**
PB08	**IPOC Station P**	**2.20**	**275**	*iP*	**Pn**	**00 40 24.0**	**+0.9**
PB08				*eS*	**S**	**00 40 59.1**	**+0.5**
PB08				IAML		00 41 03.8	
	comp=E,115nm,0.2s						
PB08	**IPOC Station P**	**2.20**	**275**	Pg	**Pn**	**00 40 23.4**	**+0.3**
GO01	**Chusmiza**	**2.33**	**287**		**Pn**	**00 40 25.2**	**+0.6**
GO01				Sn	**S**	**00 41 02.4**	**+1.3**
GO01	**Chusmiza**	**2.33**	**287**	*eP*	**Pn**	**00 40 24.9**	**+0.4**
GO01	**Chusmiza**	**2.33**	**287**	Pg	**Pn**	**00 40 24.8**	**+0.3**
SOET	**ToroToro**	**2.43**	**23**	Pg	**Pn**	**00 40 25.0**	**-0.4**
PB01	**IPOC Station P**	**2.58**	**254**		**Pn**	**00 40 26.9**	**+0.4**
PB01				Sn	**S**	**00 41 03.9**	**-1.0**
PB01	**IPOC Station P**	**2.58**	**254**	*eP*	**Pn**	**00 40 27.0**	**+0.4**
PB01				*eS*	**S**	**00 41 04.6**	**-0.3**
PB01				IAML		00 41 04.7	
	comp=Z,326nm,0.2s						
PB01	**IPOC Station P**	**2.58**	**254**	Pg	**Pn**	**00 40 27.0**	**+0.4**
PB01				Sg	**S**	**00 41 02.6**	**-2.3**
PB01				IAML		00 41 06.8	
	comp=Z,315nm,0.3s						
AOEA	**Aiquile**	**2.64**	**35**	Pg	**Pn**	**00 40 26.8**	**-0.6**
PB09	**IPOC Station P**	**2.67**	**237**		**Pn**	**00 40 28.5**	**+0.9**
PB09				Sn	**S**	**00 41 07.0**	**+0.3**
PB09	**IPOC Station P**	**2.67**	**237**	*eP*	**Pn**	**00 40 28.8**	**+1.3**
PB09				*eS*	**S**	**00 41 07.2**	**+0.6**
PB09				IAML		00 41 08.6	
	comp=Z,146nm,0.2s						
PB09	**IPOC Station P**	**2.67**	**237**	*eP*	**Pn**	**00 40 29.1**	**+1.6**
PB09				*eS*	**S**	**00 41 06.5**	**-0.2**
PB09				IAML		00 41 07.9	
	comp=N,223nm,0.4s						
PB09	**IPOC Station P**	**2.67**	**237**	Pg	**Pn**	**00 40 28.2**	**+0.7**
PB11	**IPOC Station P**	**2.73**	**282**		**Pn**	**00 40 28.2**	**+0.1**
PB11				Sn	**S**	**00 41 06.8**	**-0.9**
PB11	**IPOC Station P**	**2.73**	**282**	*eP*	**Pn**	**00 40 28.3**	**+0.1**
PB11				IAML		00 41 10.6	
	comp=Z,137nm,0.1s						
PB11	**IPOC Station P**	**2.73**	**282**	*iP*	**Pn**	**00 40 28.2**	**+0.1**
PB11				*eS*	**S**	**00 41 06.2**	**-1.4**
PB11				IAML		00 41 12.1	
	comp=N,244nm,0.2s						
PB11	**IPOC Station P**	**2.73**	**282**	Pg	**Pn**	**00 40 28.4**	**+0.3**
PB11				Sg	**S**	**00 41 05.6**	**-2.1**
PB11				IAML		00 41 12.1	
	comp=N,194nm,0.2s						
LVC	**Limon Verde**	**2.96**	**221**		**Pn**	**00 40 31.6**	**+0.8**
LVC				Sn	**S**	**00 41 12.2**	**-0.3**
LVC	**Limon Verde**	**2.96**	**221**	*eP*	**Pn**	**00 40 31.4**	**+0.6**
LVC				*eS*	**S**	**00 41 13.1**	**+0.6**
LVC	**Limon Verde**	**2.96**	**221**	P	**Pn**	**00 40 31.5**	**+0.8**
	comp=N,6.6nm,0.3s,baz=4.5,slow=4.3,SNR=79						
LVC				S	**S**	**00 41 11.5**	**-1.0**
	comp=N,25nm,0.3s,baz=190,slow=19,SNR=20						
LVC	**Limon Verde**	**2.96**	**221**	*eP*	**Pn**	**00 40 31.6**	**+0.8**
PB02	**IPOC Station P**	**3.03**	**251**		**Pn**	**00 40 31.3**	**0.0**
PB02				Sn	**S**	**00 41 11.6**	**-1.6**
PB02	**IPOC Station P**	**3.03**	**251**	*eP*	**Pn**	**00 40 31.9**	**+0.7**
PB02				*eS*	**S**	**00 41 11.7**	**-1.6**
PB02	**IPOC Station P**	**3.03**	**251**	Pg	**Pn**	**00 40 31.9**	**+0.7**
TA02	**Huaiquique**	**3.10**	**271**	Pn	**Pn**	**00 40 31.9**	**0.0**
TA02				Sn	**S**	**00 41 12.5**	**-2.0**
TA02	**Huaiquique**	**3.10**	**271**	*eP*	**Pn**	**00 40 32.1**	**+0.2**
TA02				*eS*	**S**	**00 41 13.1**	**-1.5**
TA02				IAML		00 41 14.2	
	comp=Z,377nm,0.1s						
TA01	**Diego Aracena**	**3.15**	**266**		**Pn**	**00 40 32.4**	**0.0**
TA01				Sn	**S**	**00 41 13.0**	**-2.6**
TA01	**Diego Aracena**	**3.15**	**266**	*eP*	**Pn**	**00 40 32.5**	**0.0**
TA01				*eS*	**S**	**00 41 13.8**	**-1.7**
TA01				IAML		00 41 15.0	
	comp=Z,125nm,0.2s						
PB07	**IPOC Station P**	**3.17**	**244**		**Pn**	**00 40 33.3**	**+0.5**
PB07				Sn	**S**	**00 41 14.4**	**-1.8**
PB07	**IPOC Station P**	**3.17**	**244**	*eP*	**Pn**	**00 40 33.2**	**+0.5**
PB07				*eS*	**S**	**00 41 14.2**	**-1.9**
PB07				IAML		00 41 15.8	
	comp=Z,216nm,0.5s						
PB16	**IPOC Station P**	**3.24**	**308**	Pn	**Pn**	**00 40 35.1**	**+1.0**
PB16	**IPOC Station P**	**3.24**	**308**	*eP*	**Pn**	**00 40 35.1**	**+1.0**
PB16	**IPOC Station P**	**3.24**	**308**	Pg	**Pn**	**00 40 34.8**	**+0.7**
PB06	**IPOC Station P**	**3.46**	**227**		**Pn**	**00 40 36.8**	**+0.8**
PB06				Sn	**S**	**00 41 20.9**	**-1.2**
PB06	**IPOC Station P**	**3.46**	**227**	*eP*	**Pn**	**00 40 36.7**	**+0.6**
PB06				*eS*	**S**	**00 41 21.5**	**-0.5**
PB06				IAML		00 41 24.4	
	comp=Z,87nm,0.3s						
SOEJ	**Jacaque**	**3.61**	**339**	Pg	**Pn**	**00 40 39.2**	**+1.0**
PB04	**IPOC Station P**	**3.67**	**237**		**Pn**	**00 40 39.0**	**+0.6**
PB04	**IPOC Station P**	**3.67**	**237**	*eP*	**Pn**	**00 40 39.1**	**+0.6**
PB04				*eS*	**S**	**00 41 25.1**	**-1.2**
PB04				IAML		00 41 27.9	
	comp=Z,206nm,0.2s						
BBOE	**La Paz, Chanca**	**3.70**	**343**	Pg	**Pn**	**00 40 40.2**	**+1.0**
PB12	**IPOC Station P**	**3.73**	**297**		**Pn**	**00 40 38.5**	**-0.6**
PB12	**IPOC Station P**	**3.73**	**297**	*eP*	**Pn**	**00 40 38.3**	**-0.8**
PB12				IAML		00 41 29.8	
	comp=Z,45nm,0.1s						
PB15	**IPOC Station P**	**3.75**	**220**		**Pn**	**00 40 40.4**	**+1.0**
PB15	**IPOC Station P**	**3.75**	**220**	*eP*	**Pn**	**00 40 40.3**	**+1.0**
PB15				*eS*	**S**	**00 41 27.0**	**-1.1**
PB15	**IPOC Station P**	**3.75**	**220**	Pg	**Pn**	**00 40 40.6**	**+1.2**
PB05	**IPOC Station P**	**4.00**	**231**		**Pn**	**00 40 42.6**	**+0.4**
PB05	**IPOC Station P**	**4.00**	**231**	*eP*	**Pn**	**00 40 42.5**	**+0.3**
PB05				IAML		00 41 36.7	
	comp=Z,73nm,0.2s						
BBOD	**La Paz, Gloria**	**4.07**	**335**	Pg	**Pn**	**00 40 44.4**	**+0.9**
LPAZ	**La Paz**	**4.24**	**343**		**Pn**	**00 40 45.7**	**+0.1**
LPAZ	**La Paz**	**4.24**	**343**	*eP*	**Pn**	**00 40 46.2**	**+0.6**
LPAZ	**La Paz**	**4.24**	**343**	P	**Pn**	**00 40 46.1**	**+0.5**
	comp=Z,12nm,0.4s,baz=108,slow=3.9,SNR=71						
LPAZ				S	**S**	**00 41 38.0**	**-1.1**
	comp=Z,13nm,0.8s,baz=36,slow=18,SNR=8.0						
LPAZ	**La Paz**	**4.24**	**343**	Pg	**Pn**	**00 40 46.1**	**+0.5**
LPAZ	**La Paz**	**4.24**	**343**	*eP*	**Pn**	**00 40 45.8**	**+0.2**
LPAZ				*eS*	**S**	**00 41 38.7**	**-0.4**
SLA	**San Lorenzo**	**4.51**	**165**	*eP*	**Pn**	**00 40 49.8**	**+1.6**
PB10	**IPOC Station P**	**4.67**	**227**	Pn	**Pn**	**00 40 49.9**	**-0.1**
PB10	**IPOC Station P**	**4.67**	**227**	*eP*	**Pn**	**00 40 50.3**	**+0.3**
PB10				*eS*	**S**	**00 41 45.6**	**-1.8**
PB14	**IPOC Station P**	**5.38**	**217**	Pn	**Pn**	**00 40 59.3**	**+0.3**
GO02	**Mina Guanaco**	**5.42**	**208**		**Pn**	**00 40 59.4**	**0.0**
GO02	**Mina Guanaco**	**5.42**	**208**	*eP*	**Pn**	**00 40 59.4**	**0.0**
BBSD	**Serra de San D**	**6.68**	**63**	*eP*	**Pn**	**00 41 14.6**	**-0.3**
AC01	**Pan de Azucar**	**6.72**	**210**	Pn	**Pn**	**00 41 14.3**	**-1.0**
AC02	**Maricunga**	**6.78**	**198**	Pn	**Pn**	**00 41 15.8**	**-0.7**
SIV	**San Ignacio**	**6.98**	**52**	P	**Pn**	**00 41 16.9**	**-1.8**
	comp=Z,11nm,0.7s,baz=240,slow=9.5,SNR=55						

GO03	**Copiap**	**7.84**	**203**	Pn	**Pn**	**00 41 29.0**	**-0.5**
PTLB	**Pontes e Lacer**	**8.80**	**57**		**Pn**	**00 41 41.7**	**+0.1**
PTLB	**Pontes e Lacer**	**8.80**	**57**	*eP*	**Pn**	**00 41 41.2**	**-0.4**
AC05	**El Transito**	**9.00**	**200**	Pn	**Pn**	**00 41 43.2**	**-0.9**
AMBA	**Amambai (Brazi**	**11.30**	**105**	*eP*	**Pn**	**00 42 13.6**	**+0.7**
PDRB	**Porto dos Gac**	**13.03**	**50**	*eP*	**Pn**	**00 42 34.0**	**-0.4**
TRCB	**Terra Rica**	**13.42**	**103**	*eP*	**Pn**	**00 42 39.4**	**+0.2**
PSAL	**Palomas, Salto**	**13.52**	**144**	*eP*	**P**	**00 42 42.5**	**+1.2**
CRSM	**Crissiumal (Br**	**13.67**	**124**	*eP*	**P**	**00 42 44.5**	**+1.5**
PTGB	**Pitanga**	**14.31**	**110**	*eP*	**P**	**00 42 52.0**	**+1.8**
LDASE	**Londrina, Braz**	**14.89**	**105**	*eP*	**Pn**	**00 42 58.3**	**+1.3**
ITAB	**Concordia**	**15.08**	**120**		**Pn**	**00 43 00.2**	**+1.1**
ITAB				IAmb	IAmb	00 43 01.3	
	comp=Z,19nm,0.7s						
ITAB	**Concordia**	**15.08**	**120**	*eP*	**Pn**	**00 43 00.9**	**+1.7**
ALGR	**Alto Alegre (B**	**15.09**	**126**	*eP*	**P**	**00 42 59.1**	**+0.3**
CPSB	**Cacapava Do Su**	**15.68**	**132**	*eP*	**Pn**	**00 43 07.2**	**+0.9**
FRTB	**Fartura**	**16.30**	**104**	*eP*	**P**	**00 43 12.8**	**+0.7**
PLTB	**Pedras Altas**	**16.41**	**136**	P	**P**	**00 43 12.4**	**-0.8**
PLTB	**Pedras Altas**	**16.41**	**136**	*eP*	**P**	**00 43 13.5**	**+0.2**
SNDB	**Serra Nova Dou**	**17.08**	**63**	*eP*	**P**	**00 43 20.1**	**-0.6**
BB19B	**Bebedouro**	**17.13**	**96**	*eP*	**P**	**00 43 21.7**	**+0.4**
BDFB	**Brasilia**	**18.49**	**78**	P	**P**	**00 43 35.4**	**-0.6**
	comp=Z,2.4nm,0.4s,baz=252,slow=5.2,SNR=4.8						
ITTB	**Itaituba**	**19.22**	**36**	*eP*	**P**	**00 43 44.3**	**+0.5**
BSCB	**Bom Sucesso**	**20.64**	**96**	*eP*	**P**	**00 43 58.5**	**-0.4**
SMTB	**Santa Maria do**	**21.82**	**61**	*eP*	**P**	**00 44 09.9**	**-0.5**
DIAM	**Diamantina, MG**	**21.94**	**89**	*eP*	**P**	**00 44 11.4**	**-0.2**
JANB	**Januaria**	**22.08**	**80**	*eP*	**P**	**00 44 11.9**	**-0.9**
SDBA	**SAO DESIDERIO**	**22.45**	**73**	*eP*	**P**	**00 44 15.5**	**-0.7**
ALF01	**Guarapari-ES**	**24.44**	**95**	*eP*	**P**	**00 44 34.5**	**+0.3**
EFI	**East Falkland**	**32.00**	**170**	P	**P**	**00 45 40.3**	**-0.3**
TXAR	**Lajitas Array**	**60.85**	**323**	P	**P**	**00 49 24.8**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=134,slow=7.7,SNR=2.8						
	comp=Z,0.2nm,0.5s						
SZCU	**Shurtz Canyon**	**72.24**	**323**	P	**P**	**00 50 33.3**	**-2.7**
SZCU				IAmb	IAmb	00 50 40.5	
	comp=Z,36nm,0.9s						
PDAR	**Pinedale Array**	**74.13**	**329**	P	**P**	**00 50 48.7**	**+1.7**
	comp=Z,0.1nm,0.4s,baz=130,slow=8.4,SNR=4.4						
	comp=Z,0.1nm,0.4s						
LCH	**Last Change Ra**	**74.65**	**320**	P	**P**	**00 50 51.2**	**+1.2**
LCH				IAmb	IAmb	00 50 52.5	
	comp=Z,3.1nm,0.8s						
ULM	**Lac du Bonnet**	**74.85**	**341**	P	**P**	**00 50 51.1**	**+0.4**
TORD	**Torodi Ar. Bea**	**75.14**	**70**	P	**P**	**00 50 51.7**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=256,slow=5.6,SNR=20						
	comp=Z,0.9nm,0.5s						

NEIC ***23*** *00:53:54.7±0.7, 36°.12N±0°.01×97°.83W±0°.01, h6km±5km, Error ellipse: s-maj=2.1km s-min=1.6km az=197.0*
ANF ***23*** *00:53:54.2±0.6, 36°.13N×97°.83W, h1km±5km, ML3.4/6, Error ellipse: s-maj=5.6km s-min=2.9km az=159.0*
TUL ***23*** *00:53:54.8±0.6, 36°.12N±0°.01×97°.82W±0°.01, h5km±5km, ML2.9, mb_Lg2.9/77(NEIC), ML3.0/76(NEIC), Error ellipse: s-maj=2.1km s-min=1.5km az=198.0*

ISC 23 00:53:55.0±1.2, **36°.11N**±0°.02×**97°.83W**±0°.02, **h3**km±11km, **n91**, σ0**79**/70, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CROK	**Carrier**	**0.41**	**343**	Pg	**Pg**	**00 54 03.0**	**+0.2**
CROK				Sg	**Sg**	**00 54 08.8**	**+0.6**
CROK				IAML		00 54 09.3	
	comp=E,2μm,0.2s						
CROK				IAML		00 54 11.3	
	comp=N,1μm,0.2s						
OK029	**Liberty Lake**	**0.44**	**136**	Pg	**Pg**	**00 54 03.4**	**0.0**
OK029				Sg	**Sg**	**00 54 09.9**	**+0.8**
OK029				IAML		00 54 10.1	
	comp=N,2μm,0.4s						
ADOK	**Arcadia Dam**	**0.59**	**141**	Pg	**Pg**	**00 54 06.0**	**-0.3**
ADOK				Sg	**Sg**	**00 54 14.8**	**+0.8**
OK033	**Mehan**	**0.73**	**95**	Pg	**Pg**	**00 54 08.5**	**-0.4**
OK033				IAML		00 54 22.8	
	comp=N,630nm,0.1s						
OK033				IAML		00 54 24.9	
	comp=N,561nm,0.1s						
GC02	**Grant County #**	**0.74**	**358**	Pg	**Pg**	**00 54 08.8**	**-0.3**
OK032	**Salt Plains WL**	**0.75**	**336**		**Pg**	**00 54 09.2**	**-0.3**
OK032				IAML		00 54 21.9	
	comp=N,868nm,0.3s						
OK032				IAML		00 54 22.3	
	comp=N,1μm,0.2s						
OKCSW	**OKLAHOMA CITY**	**0.78**	**155**	Pg	**Pg**	**00 54 09.8**	**-0.1**
OKCSW				IAML		00 54 23.5	
	comp=E,588nm,0.1s						
OK048	**Pawnee Station**	**0.78**	**67**	Pg	**Pg**	**00 54 09.4**	**-0.5**
BLOK	**Blackwell**	**0.82**	**37**	Pg	**Pg**	**00 54 10.2**	**-0.4**
OK038	**West end E0370**	**0.82**	**297**	Pg	**Pg**	**00 54 10.6**	**-0.1**
CSTR	**Hydro, Custer**	**0.84**	**236**	Pg	**Pg**	**00 54 11.2**	**+0.2**
OK052	**Battle Ridge R**	**0.84**	**98**	Pg	**Pg**	**00 54 10.6**	**-0.5**
KAN14	**Manchester OK**	**0.85**	**353**	Pg	**Pg**	**00 54 10.8**	**-0.4**
KAN14				IAML		00 54 29.0	
	comp=E,463nm,0.1s						
KAN14				IAML		00 54 31.9	
	comp=N,437nm,0.1s						
QUOK	**Quay**	**0.91**	**86**	Pg	**Pg**	**00 54 11.9**	**-0.6**
QUOK				IAML		00 54 28.7	
	comp=N,391nm,0.2s						
FNO	**Franklin**	**0.92**	**157**	Pg	**Pg**	**00 54 12.3**	**-0.4**
FNO				IAML		00 54 28.1	
	comp=E,482nm,0.6s						
FNO				IAML		00 54 32.6	
	comp=N,388nm,0.5s						
OK035	**E0210 Rd and N**	**0.92**	**310**		**Pg**	**00 54 12.3**	**-0.3**
KAN17	**Caldwell West**	**0.93**	**3**	Pg	**Pg**	**00 54 12.3**	**-0.5**
KAN17				IAML		00 54 27.3	
	comp=E,468nm,0.2s						
KAN17				IAML		00 54 28.6	
	comp=N,417nm,0.3s						
KAN13	**South Haven SW**	**0.94**	**18**	Pg	**Pg**	**00 54 12.5**	**-0.6**
KAN13				IAML		00 54 31.9	
	comp=N,714nm,0.3s						
U32A	**Winter Ranch,**	**0.98**	**286**	Pg	**Pg**	**00 54 13.6**	**-0.2**
U32A	**Winter Ranch,** baz=105	**0.98**	**286**	P	**Pg**	**00 54 13.4**	**-0.4**
KAN05	**Bluff City Nor**	**0.99**	**358**		**Pg**	**00 54 13.5**	**-0.5**
KAN05				IAML		00 54 28.8	
	comp=N,566nm,0.1s						
KAN05				IAML		00 54 36.1	
	comp=E,504nm,0.2s						
KAN10	**Anthony SW Sta**	**1.03**	**348**		**Pg**	**00 54 14.1**	**-0.6**
KAN10				IAML		00 54 29.8	
	comp=N,353nm,0.1s						
KAN10				IAML		00 54 32.4	
	comp=E,392nm,0.2s						
KAN09	**Caldwell North**	**1.04**	**10**	Pg	**Pg**	**00 54 14.2**	**-0.6**
KAN01	**Argonia South**	**1.04**	**3**	Pg	**Pg**	**00 54 14.2**	**-0.7**
KAN01				IAML		00 54 30.8	
	comp=N,417nm,0.1s						
KAN01				IAML		00 54 31.8	
	comp=E,435nm,0.1s						
DEOK	**Depew**	**1.11**	**104**	IAML		00 54 35.5	
	comp=N,303nm,0.2s						
KAN08	**Anthony NE Sta**	**1.12**	**354**	Pg	**Pg**	**00 54 15.7**	**-0.7**
KAN08				IAML		00 54 32.5	
	comp=N,287nm,0.1s						
KAN08				IAML		00 54 35.9	
	comp=E,330nm,0.1s						
KS21	**Milan North St**	**1.18**	**7**	IAML		00 54 37.0	
	comp=E,477nm,0.1s						
KS21	**Milan North St**	**1.18**	**7**	Pg	**Pg**	**00 54 16.8**	**-0.8**
KAN12	**Harper NE Stat**	**1.19**	**354**		**Pg**	**00 54 17.1**	**-0.7**
KAN12				IAML		00 54 39.0	
	comp=N,498nm,0.4s						
KAN12				IAML		00 54 46.8	
	comp=E,448nm,0.4s						
ELIS	**Ellis County**	**1.28**	**268**		**Pn**	**00 54 19.2**	**-0.6**
T35A	**Sooner Cattle**	**1.33**	**53**	IAML		00 54 37.8	
	comp=E,310nm,0.4s						
T35B	**Sooner Cattle** baz=233	**1.33**	**53**	P	**Pn**	**00 54 19.5**	**-1.0**
T35B				S	**Sb**	**00 54 36.8**	**-1.2**
	baz=233						
WMOK	**Wichita Mounta**	**1.57**	**210**		**Pn**	**00 54 23.1**	**-0.6**
WMOK	**Wichita Mounta** baz=29	**1.57**	**210**	P	**Pn**	**00 54 23.3**	**-0.5**
WMOK				S	**Sb**	**00 54 44.7**	**-0.3**
	baz=29						
TUL3	**Leonard**	**1.67**	**96**	IAmb_Lg		00 54 48.7	
	comp=Z,116nm,0.9s						
TUL3	**Leonard**	**1.67**	**96**	P	**Pn**	**00 54 24.5**	**-0.5**
	baz=278						
TUL3				S	**Sb**	**00 54 47.5**	**-0.1**
	baz=278						
LOOK	**Love County**	**2.18**	**166**		**Pn**	**00 54 32.0**	**-0.1**
LOOK				IAmb_Lg		00 55 08.9	
	comp=Z,49nm,0.9s						
SMWD	**Samnorwood**	**2.21**	**244**		**Pn**	**00 54 32.9**	**+0.4**
SMWD				IAmb_Lg		00 55 04.6	
	comp=Z,64nm,0.8s						
RLO	**Rose Lookout**	**2.27**	**88**		**Pn**	**00 54 34.2**	**+0.8**
RLO				IAmb_Lg		00 55 05.5	
	comp=Z,42nm,0.8s						
WTFS	**Witchita Falls**	**2.40**	**193**		**Pn**	**00 54 35.5**	**+0.4**
R32A	**Long Quarter,**	**2.41**	**343**		**Pn**	**00 54 34.8**	**-0.5**
R32A	**Long Quarter,** baz=162	**2.41**	**343**	S	**Sn**	**00 55 05.9**	**+0.6**
X37A	**Clayton**	**2.52**	**126**		**Pn**	**00 54 36.6**	**-0.1**
X37A				IAmb_Lg		00 55 18.7	
	comp=Z,55nm,1.0s						
X37A	**Clayton** baz=308	**2.52**	**126**	P	**Pn**	**00 54 37.3**	**+0.6**
X37A				S	**Sn**	**00 55 09.4**	**+1.4**
	baz=308						
U38A	**Gravette**	**2.80**	**82**		**Pn**	**00 54 40.9**	**+0.3**
Z35A	**Perchaven, San**	**2.82**	**170**	Pn	**Pn**	**00 54 40.9**	**+0.1**
CBKS	**Cedar Bluff**	**3.09**	**331**		**Pn**	**00 54 44.7**	**0.0**
KSU1	**Kansas State U**	**3.14**	**18**		**Pn**	**00 54 44.1**	**-1.1**
FW06	**Azle**	**3.14**	**176**		**Pn**	**00 54 44.5**	**-0.8**
HHAR	**Hobbs**	**3.15**	**86**		**Pn**	**00 54 44.5**	**-1.0**
PLPT	**Palo Pinto**	**3.32**	**187**		**Pn**	**00 54 47.1**	**-0.6**
APMT	**Aspermont**	**3.36**	**215**		**Pn**	**00 54 48.2**	**-0.2**
AMTX	**Amarillo**	**3.37**	**250**		**Pn**	**00 54 48.3**	**-0.2**
AMTX				IAmb_Lg		00 55 46.7	
	comp=Z,24nm,0.7s						
FW07	**Weatherford**	**3.40**	**179**		**Pb**	**00 54 57.2**	**+1.4**
DKNS	**Dickens**	**3.52**	**227**		**Pn**	**00 54 50.7**	**+0.1**
FW16	**Waxahatchie**	**3.70**	**168**	Pg	**Pg**	**00 55 03.5**	**-2.4**
FW14	**Alvarado**	**3.74**	**172**	Pg	**Pb**	**00 55 02.7**	**+1.1**
ABTX	**Abilene, Hawle**	**3.79**	**204**		**Pn**	**00 54 53.9**	**-0.3**
ABTX				IAmb_Lg		00 55 58.2	
	comp=Z,37nm,1.2s						
MIAR	**Mount Ida**	**3.81**	**113**		**Pn**	**00 54 53.9**	**-0.6**
MIAR				IAmb_Lg		00 56 04.5	
	comp=Z,21nm,0.8s						
SN07	**Snyder 07**	**3.93**	**221**		**Pn**	**00 54 55.5**	**-0.7**
S39A	**Bolivar**	**3.94**	**65**		**Pn**	**00 54 55.9**	**-0.4**
S39A				IAmb_Lg		00 56 04.4	
	comp=Z,38nm,0.7s						
RTBA	**Rita Blanca**	**3.98**	**276**		**Pn**	**00 54 56.6**	**-0.3**
RTBA				IAmb_Lg		00 56 09.2	
	comp=Z,22nm,0.8s						
SN05	**Snyder 5**	**4.09**	**219**	IAmb_Lg		00 56 08.2	
	comp=Z,31nm,0.8s						
WHTX	**Lake Whitney,**	**4.12**	**176**	Pn	**Pn**	**00 54 58.2**	**-0.6**
POST	**Post**	**4.29**	**226**		**Pg**	**00 55 14.1**	**-3.1**
POST				IAmb_Lg		00 56 14.8	
	comp=Z,26nm,0.8s						
X40A	**Basin Creek Fa**	**4.40**	**110**		**Pn**	**00 55 02.1**	**-0.5**
X40A				IAmb_Lg		00 56 17.4	
	comp=Z,20nm,0.8s						
WLAR	**White Oak Lake**	**4.57**	**121**	Pn	**Pn**	**00 55 03.9**	**-1.0**
WLAR				IAmb_Lg		00 56 25.3	
	comp=Z,23nm,1.0s						
WHAR	**Wooly Hollow**	**4.59**	**99**		**Pn**	**00 55 03.9**	**-1.2**
WHAR				IAmb_Lg		00 56 31.5	
	comp=Z,15nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.78**	**309**	IAmb_Lg		00 56 32.3	
	comp=Z,30nm,0.8s						
P38A	**Dawn**	**4.88**	**43**	IAmb_Lg		00 56 35.1	
	comp=Z,29nm,1.0s						
BRDY	**Brady**	**4.91**	**192**	IAmb_Lg		00 56 39.5	
	comp=Z,16nm,0.7s						
R40A	**Maddies Statio**	**4.95**	**62**	IAmb_Lg		00 56 29.9	
	comp=Z,36nm,0.8s						
BGNE	**Belgrade**	**5.29**	**357**	IAmb_Lg		00 56 45.7	
	comp=Z,19nm,0.9s						
435B	**Jarrell**	**5.32**	**178**	IAmb_Lg		00 56 55.4	
	comp=Z,20nm,0.8s						
T25A	**Trinidad**	**5.39**	**283**	IAmb_

ESDC				Sg	**Sg**	**00 56 03.2**	**+0.9**
ESDC				*i* Vmb_Lg		00 56 06.5	
PAB	**San Pablo**	**1.84**	**332**	Pg	**Pg**	**00 55 38.0**	**-0.4**
PAB				Sn	**Sb**	**00 55 58.9**	**-1.1**
PAB				Sg	**Sg**	**00 56 02.6**	**+0.3**
PAB				*i* Vmb_Lg		00 56 07.2	
PBAR	**Barrancos**	**3.02**	**276**	*e*Sn	**Sn**	**00 56 26.8**	**-0.1**
PBAR				*e*Sg	**Sb**	**00 56 37.1**	**+3.5**
PBAR				A	A	00 56 43.1	
	2.0nm,0.3s						
PESTR	**Estremoz**	**3.55**	**287**	*e*Sn	**Sn**	**00 56 39.9**	**-0.3**
PESTR				*e*Sg	**Sg**	**00 56 54.3**	**-2.9**
PMRV	**Marv??o**	**3.58**	**296**	*e*Sg	**Sg**	**00 56 59.3**	**+1.0**
PMRV				A	A	00 57 13.4	
	1.9nm,0.6s						
PVAQ	**Vaqueiros**	**3.60**	**263**	*e*Sn	**Sn**	**00 56 39.2**	**-2.0**
PVAQ				*e*Sg	**Sg**	**00 56 56.2**	**-2.4**
PVAQ				A	A	00 57 02.3	
	2.1nm,0.7s						
PMTG	**Montargil**	**4.08**	**288**	*e*Sn	**Sn**	**00 56 52.6**	**-0.6**
PMTG				*e*Sg	**Sg**	**00 57 13.2**	**-0.9**

*SFS **23** 01:02:16.0, 37°.95N×3°.23W, h0km, ML2.5/4, ML2.5/4, MLv2.5/4*
*MDD **23** 01:02:16.0±0.7, 37°.87N×3°.22W, h11km±2km, mb_Lg1.9/5, Error ellipse: s-maj=7.9km s-min=5.0km az=10.0*
ISC 23 01:02:14.7±1.0, **37°.95N**±0°.04×**3°.22W**±0°.04, **h12**km±8km, **n9, σ0§81/18, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EQES	**Quesada**	**0.19**	**141**	Pg	**Pg**	**01 02 19.4**	**+0.4**
EQES				Sg	**Sg**	**01 02 21.8**	**-0.1**
EQES				*i* Vmb_Lg		01 02 22.1	
PSIM	**Granatula de C**	**0.97**	**334**	Pg	**Pn**	**01 02 34.0**	**-0.2**
PSIM				Sg	**Sn**	**01 02 48.8**	**+0.9**
EBER	**Berja**	**1.08**	**166**	Sg	**Sn**	**01 02 51.1**	**+0.2**
EBER				Pg	**Pn**	**01 02 36.1**	**+0.2**
EADA	**Adamuz**	**1.09**	**282**	Pg	**Pg**	**01 02 34.8**	**-1.0**
EADA				Sg	**Sn**	**01 02 51.3**	**+0.2**
EADA	**Adamuz**	**1.09**	**282**	Pg	**Pg**	**01 02 35.1**	**-0.6**
EADA				Sg	**Sn**	**01 02 52.2**	**+1.2**
EADA				*i* Vmb_Lg		01 02 55.5	
EGOR	**Sierra Gorda,**	**1.10**	**220**	Sg	**Sb**	**01 02 50.1**	**+0.1**
ETOB	**Tobarra**	**1.49**	**62**	Pn	**Pg**	**01 02 42.7**	**-0.6**
ETOB				Sn	**Sg**	**01 03 02.3**	**-0.3**
ECAB	**El Cabril**	**1.74**	**275**	Sn	**Sb**	**01 03 08.6**	**+0.1**
ECAB				Pn	**Pb**	**01 02 46.1**	**-0.6**
PAB	**San Pablo**	**1.82**	**331**	Pg	**Pg**	**01 02 49.3**	**-0.3**
PAB				Sn	**Sb**	**01 03 10.5**	**-0.4**
PAB				Sg	**Sg**	**01 03 15.4**	**+2.1**
PAB				*i* Vmb_Lg		01 03 21.4	

*SKHL **23** 01:04:48.6±0.5, 45°.10N×149°.50E, h75km±4km, mb4.5/3*
*JMA **23** 01:04:49.2±0.6, 45°.N±4°×14°.9E±°, h127km, MV3.5/10, SE OFF ETOROFU*
ISC 23 01:04:48.3±4.3, **44°.9N**±0°.1×**149°.5E**±0°.2, **h60**km, **n13, σ1§93/24, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.20**	**287**	*i* P	**Pn**	**01 05 08.6**	**-0.4**
KUR				AMB	AMB	01 05 08.9	
	200nm,0.4s						
KUR				*e*S	**Sn**	**01 05 23.9**	**-0.5**
KUR				A	A	01 05 27.6	
	440nm,0.3s						
KUR				A	A	01 05 27.6	
	420nm,0.3s						
SHO	**Shikotan**	**2.16**	**243**	*e*P	**Pn**	**01 05 23.2**	**+1.3**
SHO				AMB	AMB	01 05 25.0	
	40nm,0.3s						
SHO				*e*S	**Sn**	**01 05 48.8**	**+1.2**
SHO				A	A	01 05 59.0	
	140nm,0.3s						
SHO				A	A	01 05 59.0	
	90nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.74**	**253**	*e*P	**Pn**	**01 05 31.2**	**+1.4**
YUK				AMB	AMB	01 05 32.9	
	110nm,0.3s						
YUK				*e*S	**Sn**	**01 06 03.3**	**+1.7**
YUK				A	A	01 06 09.1	
	230nm,0.3s						
YUK				A	A	01 06 09.1	
	110nm,0.3s						
NEM2	**Nemuro 2**	**3.10**	**242**	P	**Pn**	**01 05 36.0**	**+1.3**
NEM2				S	**Sn**	**01 06 11.3**	**+0.8**
NMR	**Nemuro--Hokkai**	**3.11**	**242**	*e*P	**Pn**	**01 05 36.0**	**+1.2**
NMR				*e*S	**Sn**	**01 06 11.0**	**+0.3**
AKK	**Akkeshi**	**3.84**	**243**	*i* P	**Pn**	**01 05 46.5**	**+1.6**
AKK				*e*S	**Sn**	**01 06 29.8**	**+1.0**
JAK	**Akkeshi**	**3.94**	**243**	P	**Pn**	**01 05 47.0**	**+0.7**
JAK				*e*S	**Sn**	**01 06 31.3**	**0.0**
JAR	**Ashorobuto**	**4.42**	**251**	*e*P	**Pn**	**01 05 54.1**	**+1.3**
JAR				*e*S	**Sn**	**01 06 44.6**	**+1.7**
JOB	**Onbets**	**4.54**	**246**	*e*P	**Pn**	**01 05 55.3**	**+0.8**
JOB				*e*S	**Sn**	**01 06 46.3**	**+0.3**
JKK2	**Kamakawa 2**	**4.94**	**261**	*e*P	**Pn**	**01 05 60.0**	**0.0**
JCH	**Churui**	**4.99**	**245**	*e*P	**Pn**	**01 06 00.6**	**0.0**
JCH				*e*S	**Sn**	**01 06 55.1**	**-1.7**
JNBK	**Urakawa-nobuka**	**5.54**	**244**	*e*P	**Pn**	**01 06 07.3**	**-0.9**
JNBK				*e*S	**Sn**	**01 07 07.3**	**-3.2**
JANG	**Nango**	**7.41**	**235**	*e*S	**Sn**	**01 07 49.8**	**-6.5**

*MDD **23** 01:17:26.9±0.3, 37°.92N×3°.24W, h2km±3km, mb_Lg2.2/14, Error ellipse: s-maj=2.5km s-min=2.1km az=55.0*
*SFS **23** 01:17:27.3, 37°.88N×3°.23W, h4km, ML2.6/6, ML2.6/6, MLv2.6/6*
ISC 23 01:17:25.5±1.0, **37°.91N**±0°.03×**3°.26W**±0°.02, **h9**km±8km, **n21, σ0§90/45, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EQES	**Quesada**	**0.18**	**126**	Pg	**Pg**	**01 17 30.0**	**+0.5**
EQES				Sg	**Sg**	**01 17 32.1**	**0.0**
EQES				*i* Vmb_Lg		01 17 32.5	
PSIM	**Granatula de C**	**0.99**	**337**	Pg	**Pn**	**01 17 45.4**	**-0.2**
PSIM				Sg	**Sb**	**01 17 58.4**	**+0.3**
EBER	**Berja**	**1.05**	**164**	Pg	**Pb**	**01 17 46.1**	**0.0**
EBER				Sg	**Sb**	**01 18 00.0**	**+0.1**
EBER	**Berja**	**1.05**	**164**	Pg	**Pb**	**01 17 45.8**	**-0.2**
EBER				Sg	**Sb**	**01 18 00.6**	**+0.6**
EBER				*i* Vmb_Lg		01 18 06.3	
EADA	**Adamuz**	**1.07**	**284**	Pg	**Pn**	**01 17 47.5**	**+0.7**
EADA				Sg	**Sn**	**01 18 02.1**	**+0.3**
EADA	**Adamuz**	**1.07**	**284**	Pg	**Pn**	**01 17 47.7**	**+0.9**
EADA				Sg	**Sn**	**01 18 02.5**	**+0.6**
EADA				*i* Vmb_Lg		01 18 05.3	
ELGU	**Los Guajares,**	**1.08**	**196**	Sg	**Sb**	**01 18 01.1**	**+0.4**
ELGU				Pg	**Pn**	**01 17 46.8**	**-0.2**
ENIJ	**Nijar**	**1.26**	**138**	Pn	**Pn**	**01 17 49.2**	**-0.1**
ENIJ				Sn	**Sn**	**01 18 06.1**	**-0.2**
E1002	**Yechar (Murcia**	**1.45**	**83**	Pg	**Pg**	**01 17 53.7**	**+0.5**
E1002				Sg	**Sg**	**01 18 12.7**	**+0.6**
ETOB	**Tobarra**	**1.53**	**61**	Pn	**Pg**	**01 17 54.2**	**-0.8**
ETOB				Sn	**Sg**	**01 18 14.2**	**-0.7**
ETOB	**Tobarra**	**1.53**	**61**	Pg	**Pg**	**01 17 54.2**	**-0.8**
ETOB				Sg	**Sg**	**01 18 14.4**	**-0.5**
ETOB				*i* Vmb_Lg		01 18 18.3	
EMUR	**La Murta**	**1.60**	**92**	Pn	**Pb**	**01 17 54.7**	**-0.5**
EMUR				Sn	**Sn**	**01 18 14.4**	**-0.3**
ECAB	**El Cabril**	**1.71**	**276**	Pn	**Pn**	**01 17 56.6**	**+1.0**
ECAB				Sn	**Sb**	**01 18 19.6**	**+0.6**
ECAB	**El Cabril**	**1.71**	**276**	Pn	**Pn**	**01 17 56.4**	**+0.8**
ECAB				Pg	**Pg**	**01 17 58.3**	**-0.2**
ECAB				Sn	**Sn**	**01 18 18.5**	**+0.9**
ECAB				Sg	**Sg**	**01 18 21.0**	**+0.3**
ECAB				*i* Vmb_Lg		01 18 25.8	
EMIJ	**Mijas**	**1.81**	**222**	Pn	**Pn**	**01 17 57.9**	**+1.0**
PAB	**San Pablo**	**1.84**	**333**	Pg	**Pg**	**01 18 00.9**	**0.0**
PAB				Sn	**Sn**	**01 18 21.7**	**+0.8**
PAB				Sg	**Sg**	**01 18 25.1**	**+0.3**
PAB				*i* Vmb_Lg		01 18 32.3	
ESDC	**Sonseca Array**	**1.84**	**343**	Pg	**Pg**	**01 18 00.3**	**-0.7**
ESDC				Sn	**Sn**	**01 18 21.6**	**+0.6**
ESDC				Sg	**Sg**	**01 18 24.9**	**0.0**
ESDC				*i* Vmb_Lg		01 18 29.1	
PBAR	**Barrancos**	**3.00**	**276**	*e*Sn	**Sn**	**01 18 49.1**	**-0.1**
PBAR				*e*Sg	**Sg**	**01 19 01.1**	**-0.7**
PBAR				A	A	01 19 06.5	
	1.2nm,0.5s						
PESTR	**Estremoz**	**3.54**	**287**	*e*Sn	**Sn**	**01 19 03.1**	**+0.5**
PESTR				*e*Sg	**Sg**	**01 19 18.0**	**-1.1**
PMRV	**Marv??o**	**3.57**	**296**	*e*Sn	**Sn**	**01 19 05.1**	**+1.6**
PMRV				*e*Sg	**Sg**	**01 19 19.0**	**-1.3**
PMRV				A	A	01 19 25.5	
	1.4nm,0.4s						
PVAQ	**Vaqueiros**	**3.58**	**263**	*e*Sn	**Sn**	**01 18 59.9**	**-3.6**
PVAQ				*e*Sg	**Sg**	**01 19 18.6**	**-1.8**

*TIF **23** 01:18:44.9, 42°.08N×45°.87E, h29km±1km*
*NORS **23** 01:18:45.0, 42°.02N×45°.85E, h10km, MPVA3.3*
*DRS **23** 01:18:48.5, 42°.00N×45°.89E, h16km*
ISC 23 01:18:45.7±1.1, **41°.99N**±0°.03×**45°.80E**±0°.02, **h15**km±9km, **n20, σ1§17/40, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGD	**Lagodekhi**	**0.36**	**116**	P	**Pb**	**01 18 53.5**	**-0.4**
LGD				S	**Sn**	**01 18 59.9**	**-3.5**
DGRG	**David-gareji**	**0.63**	**211**	P	**Pn**	**01 18 59.9**	**-0.3**
DGRG				S	**Sn**	**01 19 10.1**	**0.0**
CHRG	**Chargali**	**0.73**	**297**	P	**Pg**	**01 18 59.0**	**-1.0**
CHRG				S	**Sg**	**01 19 10.3**	**+0.6**
SHTL	**Shatili**	**0.82**	**324**	P	**Pg**	**01 19 00.9**	**-0.8**
SHTL				S	**Sg**	**01 19 11.4**	**-1.0**
XNZR	**Khunzakh**	**0.86**	**50**	*e*Pg	**Pn**	**01 19 03.5**	**0.0**
	7.0nm,0.3s						
XNZR				*e*Sg	**Sn**	**01 19 14.7**	**-1.3**
	57nm,0.2s						
VSHL	**Vashlovani**	**0.89**	**149**	P	**Pn**	**01 19 05.0**	**+1.3**
VSHL				S	**Sn**	**01 19 19.8**	**+3.5**
GNBR	**Gunib**	**0.95**	**65**	*e*Pg	**Pn**	**01 19 04.3**	**-0.3**
	14nm,0.1s						
GNBR				*e*Sg	**Sn**	**01 19 16.4**	**-1.6**
	30nm,0.4s						
UNCR	**Uncukul**	**1.03**	**45**	*e*Pg	**Pn**	**01 19 06.3**	**+0.6**
	6.0nm,0.3s						
UNCR				*e*Sg	**Sn**	**01 19 19.5**	**-0.4**
	24nm,0.3s						
ARKR	**Arakani**	**1.07**	**55**	*e*Pg	**Pn**	**01 19 06.8**	**+0.5**
	7.0nm,0.4s						
ARKR				*e*Sg	**Sn**	**01 19 20.4**	**-0.6**
	14nm,0.4s						
GUDG	**Gudauri**	**1.09**	**296**	P	**Pb**	**01 19 05.8**	**-0.7**
GUDG				S	**Sb**	**01 19 20.1**	**-0.5**
KRNR	**Karanay**	**1.17**	**44**	*e*Pg	**Pg**	**01 19 08.2**	**0.0**
	4.0nm,0.6s						
KRNR				*e*Sg	**Sn**	**01 19 23.4**	**0.0**
	79nm,0.6s						
DLMR	**Dylym**	**1.24**	**29**	*e*Pg	**Pg**	**01 19 10.8**	**+1.3**
	27nm,0.6s						
DLMR				*e*Sg	**Sg**	**01 19 27.6**	**+2.0**
	17nm,0.5s						
BUJR	**Buynaksk**	**1.27**	**49**	*e*Pg	**Pg**	**01 19 10.8**	**+0.6**
	12nm,0.4s						
BUJR				*e*Sg	**Sg**	**01 19 27.4**	**+0.6**
	75nm,0.6s						
DBC	**Dubki**	**1.28**	**36**	*e*Pg	**Pg**	**01 19 10.8**	**+0.6**
	3.0nm,0.7s						
DBC				*e*Sg	**Sg**	**01 19 28.0**	**+1.1**
	34nm,0.4s						
DMNI	**Dmanisi**	**1.38**	**242**	P	**Pn**	**01 19 10.6**	**0.0**
DMNI				S	**Sn**	**01 19 29.2**	**+0.6**
AKT	**Akhty**	**1.53**	**109**	*e*Pg	**Pg**	**01 19 14.3**	**-0.9**
	12nm,0.2s						
AKT				*e*Sg	**Sg**	**01 19 33.6**	**-1.5**
ALIG	**Mtskhetisjvari**	**1.61**	**275**	P	**Pn**	**01 19 14.2**	**+0.5**
ALIG				S	**Sb**	**01 19 35.3**	**0.0**
BGD	**Bogdanovka**	**1.81**	**247**	P	**Pn**	**01 19 17.0**	**+0.4**
BGD				S	**Sb**	**01 19 42.1**	**+0.9**
AKH	**Akhalkalaki**	**1.82**	**252**	P	**Pb**	**01 19 19.0**	**0.0**
AKH				S	**Sb**	**01 19 42.4**	**+0.7**
TKB	**Tkibuli**	**2.12**	**281**	P	**Pb**	**01 19 23.3**	**-0.5**
TKB				S	**Sb**	**01 19 50.6**	**+0.7**

*FCIAR **23** 01:24:41.0, 84°.75N×5°.43E, h10km, station OMEGA has station magnitude of 3.20*
BER 23 01:24:42.4±0.9, **84°.56N**×**1°.02E, h15**km±153km, **mb(Pn)3.7, Confirmed Earthquake, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**5.86**	**159**	*e*P	Pn	01 26 06.8	-1.7
KBS				*e*S	Sn	01 27 08.1	-7.2
KBS				IAML		01 27 11.9	
	comp=Z,3.5nm,0.7s						
BRBB	**Barentsburg B**	**6.77**	**156**	*e*P	Pn	01 26 18.8	-2.1
SPA0	**Spitsbergen Ar**	**6.77**	**152**	*e*P	Pn	01 26 18.0	-3.0
SPA0				*e*S	Sn	01 27 29.5	-8.3
SPA0				IAML		01 27 37.5	
	comp=Z,3.1nm,1.0s						
SPA0	**Spitsbergen Ar**	**6.77**	**152**	*e*P	Pn	01 26 18.1	-2.9
SPA0				*e*S	Sn	01 27 30.1	-7.6
OMEGA	**Omega**	**6.80**	**98**	*e*P	Pn	01 26 13.9	-7.4
OMEGA				*e*S	Sn	01 27 22.4	-16
	comp=Z,7.6nm,1.4s						
HOPEN	**Hopen**	**8.85**	**142**	*e*P	Pn	01 26 45.3	-4.2
HOPEN				*e*S	Sn	01 28 17.1	-12
HOPEN				IAML		01 28 28.3	
	comp=Z,4.1nm,0.7s						
HOPEN	**Hopen**	**8.85**	**142**	*e*P	Pn	01 26 44.5	-5.0
HOPEN				*e*S	Sn	01 28 16.5	-12

*IDC **23** 01:42:27.9±1.2, 35°.71N×135°.60E, h359km±16km, mb2.8/3, mbtmp3.5/6, Error ellipse: s-maj=33.2km s-min=19.4km az=64.0*
*JMA **23** 01:42:28.1±0.2, 35°.8N±1°.0×135°.6E±0°.8, h353km±1km, MV3.0/29, W PART OF WAKASA BAY*
ISC 23 01:42:27.9±0.9, **35°.75N**±0°.09×**135°.56E**±0°.08, **h350**km, **n21, σ0§79/25, mb2.9/3, Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKY	**Yasaka**	**0.39**	**252**	P	**Pn**	**01 43 12.8**	**+0.8**
JKY				S	**S**	**01 43 48.0**	**+0.7**
JFM	**Mihama**	**0.41**	**122**	P	**Pn**	**01 43 13.0**	**+1.0**
JFM				*e*S	**S**	**01 43 48.1**	**+0.8**
JWT	**Wachi**	**0.48**	**195**	P	**Pn**	**01 43 13.0**	**+0.7**
JWT				S	**S**	**01 43 47.7**	**0.0**
JYTA	**Yamagatataniai**	**0.97**	**99**	P	**Pn**	**01 43 14.3**	**+0.7**
JTNC	**Tanabenakahech**	**1.92**	**179**	P	**Pn**	**01 43 19.6**	**+0.7**
JTNC				S	**S**	**01 43 59.7**	**+0.1**
JHS	**Saijyo**	**2.13**	**250**	P	**Pn**	**01 43 20.8**	**+0.6**
JAI	**Aioi**	**2.15**	**205**	P	**Pn**	**01 43 21.4**	**+1.0**
MAT	**Matsushiro**	**2.29**	**69**	P	**Pn**	**01 43 21.9**	**+0.6**
MJAR	**Matsushiro Arr**	**2.29**	**69**	P	**Pn**	**01 43 22.1**	**+0.8**
	5.8nm,0.4s,baz=259,slow=8.6,SNR=18						
JHG	**Hegura jima**	**2.37**	**27**	P	**Pn**	**01 43 22.6**	**+0.8**
JMN	**Monobe**	**2.44**	**215**	P	**Pn**	**01 43 23.6**	**+0.9**
JYN	**Shimob**	**2.45**	**95**	P	**Pn**	**01 43 23.0**	**+0.3**
JRY	**Ryogami san**	**2.73**	**83**	*e*P	**Pn**	**01 43 25.3**	**+0.4**
JHT	**Toyohira**	**2.79**	**248**	P	**Pn**	**01 43 26.0**	**+0.5**
JOD2	**Odawara 2**	**2.92**	**98**	*e*P	**Pn**	**01 43 27.6**	**+1.0**
JTO	**Tosashimizu**	**3.67**	**219**	P	**Pn**	**01 43 34.8**	**+1.0**
JNU	**Nakatsue**	**4.67**	**237**	P	**Pn**	**01 43 44.7**	**+0.7**
	14nm,0.7s,baz=242,slow=0.2,SNR=7.4						
USRK	**Ussuriysk Ar.**	**8.87**	**343**	P	**Pn**	**01 44 32.4**	**+0.1**
	4.1nm,0.7s,baz=169,slow=14,SNR=8.9						
SONM	**Songino Array**	**24.71**	**308**	P	**P**	**01 47 19.2**	**+0.6**
	0.3nm,0.6s,baz=121,slow=10,SNR=2.1						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**40.81**	**303**	P	**P**	**01 49 35.5**	**-0.9**
	0.4nm,0.5s,baz=88,slow=10,SNR=7.5						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**55.40**	**181**	P	**P**	**01 51 25.8**	**-1.3**
	0.4nm,0.4s,baz=356,slow=7.6,SNR=7.2						
	0.4nm,0.4s						

*TUL **23** 01:43:09.6±0.8, 35°.87N±0°.02×96°.68W±0°.02, h6km±5km, ML3.0, mb_Lg2.8/57(NEIC), ML3.1/44(NEIC), Error ellipse: s-maj=3.7km s-min=2.1km az=142.0*
*NEIC **23** 01:43:09±1.1, 35°.84N±0°.02×96°.68W±0°.02, h5km±2km, Error ellipse: s-maj=4.6km s-min=3.0km az=144.0*
*ANF **23** 01:43:09.5±0.4, 35°.88N×96°.68W, h2km±3km, ML3.4/11, Error ellipse: s-maj=2.6km s-min=1.8km az=33.0*

ISC 23 01:43:09.5±0.9, **35°.85N**±0°.02×**96°.69W**±0°.02, **h8**km±8km, **n89, σ0§82/83, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEOK	**Depew**	**0.15**	**94**	Pg	**Pg**	**01 43 13.1**	**+0.3**
DEOK				Sg	**Sg**	**01 43 15.5**	**+0.5**
OK052	**Battle Ridge R**	**0.17**	**326**	Pg	**Pg**	**01 43 13.2**	**+0.1**
OK052				Sg	**Sg**	**01 43 15.9**	**+0.4**
OK033	**Mehan**	**0.28**	**313**	Pg	**Pg**	**01 43 15.4**	**+0.3**
OK033				IAML		01 43 19.6	
	3µm,0.4s						
OK033				IAML		01 43 19.7	
	3µm,0.1s						
QUOK	**Quay**	**0.32**	**357**	Pg	**Pg**	**01 43 15.9**	**0.0**
QUOK				IAML		01 43 22.3	
	comp=E,2µm,0.2s						
ADOK	**Arcadia Dam**	**0.59**	**250**	Pg	**Pb**	**01 43 21.2**	**-0.9**
OK048	**Pawnee Station**	**0.60**	**340**	Pg	**Pg**	**01 43 21.1**	**-0.1**
OK048				IAML		01 43 29.4	
	comp=E,1µm,0.2s						
OK029	**Liberty Lake**	**0.63**	**265**	Pg	**Pg**	**01 43 21.7**	**+0.1**
OK029				IAML		01 43 30.9	
	comp=E,805nm,0.4s						
W35A	**Tecumseh**	**0.71**	**192**		**Pb**	**01 43 23.3**	**-0.9**
TUL3	**Leonard**	**0.73**	**85**	Pg	**Pg**	**01 43 23.4**	**-0.1**
TUL3	**Leonard**	**0.73**	**85**	P	**Pg**	**01 43 23.2**	**-0.4**
	baz=267,SNR=682						
TUL3				S	**Sg**	**01 43 32.9**	**-0.1**
	baz=267						
OKCSW	**OKLAHOMA CITY**	**0.76**	**234**	Pg	**Pb**	**01 43 24.5**	**-0.5**
OKCSW				IAML		01 43 38.7	
	comp=E,1µm,0.1s						
FNO	**Franklin**	**0.83**	**225**		**Pg**	**01 43 25.3**	**-0.2**
FNO				IAML		01 43 37.4	
	comp=N,568nm,0.3s						
BLOK	**Blackwell**	**1.00**	**335**		**Pg**	**01 43 28.4**	**-0.3**
T35A	**Sooner Cattle**	**1.07**	**8**	Pg	**Pg**	**01 43 29.1**	**-1.0**
T35A				IAML		01 43 44.4	
	comp=E,424nm,0.2s						
T35B	**Sooner Cattle**	**1.07**	**8**	P	**Pg**	**01 43 29.3**	**-0.8**
	baz=187						
T35B				S	**Sg**	**01 43 43.7**	**-0.3**
	baz=187						
CROK	**Carrier**	**1.23**	**302**	Pg	**Pg**	**01 43 32.6**	**-0.6**
KAN13	**South Haven SW**	**1.32**	**331**		**Pn**	**01 43 33.9**	**-0.4**
GC02	**Grant County #**	**1.38**	**317**		**Pn**	**01 43 34.9**	**-0.2**
RLO	**Rose Lookout**	**1.39**	**77**	Pg	**Pn**	**01 43 35.0**	**-0.2**
KAN17	**Caldwell West**	**1.47**	**324**		**Pn**	**01 43 36.3**	**-0.1**
KAN09	**Caldwell North**	**1.48**	**330**		**Pn**	**01 43 36.4**	**-0.2**
OK032	**Salt Plains WL**	**1.55**	**308**		**Pn**	**01 43 37.8**	**+0.2**
KAN01	**Argonia South**	**1.56**	**327**		**Pn**	**01 43 38.0**	**+0.4**
KAN05	**Bluff City Nor**	**1.58**	**323**		**Pb**	**01 43 38.4**	**-0.5**
CSTR	**Hydro, Custer**	**1.64**	**263**	Pg	**Pb**	**01 43 39.3**	**-0.8**
X37A	**Clayton**	**1.66**	**139**		**Pb**	**01 43 39.5**	**-0.9**
X37A				IAmb_Lg		01 44 05.1	
	comp=Z,68nm,0.8s						
X37A	**Clayton**	**1.66**	**139**	P	**Pb**	**01 43 40.0**	**-0.3**
	baz=320,SNR=52						
X37A				S	**Sg**	**01 44 02.2**	**-0.6**
	baz=320						
KAN10	**Anthony SW Sta**	**1.70**	**319**		**Pn**	**01 43 39.8**	**+0.3**
KAN08	**Anthony NE Sta**	**1.72**	**323**		**Pn**	**01 43 40.0**	**+0.3**
OK038	**West end E0370**	**1.78**	**291**		**Pn**	**01 43 41.4**	**+0.8**
KAN12	**Harper NE Stat**	**1.79**	**324**		**Pb**	**01 43 41.9**	**-0.7**
LOOK	**Love County**	**1.90**	**192**	Pn	**Pb**	**01 43 43.1**	**-1.4**
LOOK				IAmb_Lg		01 44 11.8	
	comp=Z,35nm,0.9s						
U32A	**Winter Ranch,**	**1.95**	**286**		**Pn**	**01 43 43.5**	**+0.5**
U32A	**Winter Ranch,**	**1.95**	**286**	P	**Pn**	**01 43 43.8**	**+0.9**
	baz=105,SNR=16						
U32A				S	**Sb**	**01 44 09.6**	**-0.1**
	baz=105						
U38A	**Gravette**	**1.95**	**72**		**Pn**	**01 43 43.4**	**+0.4**
U38A	**Gravette**	**1.95**	**72**	P	**Pn**	**01 43 43.9**	**+0.9**
	baz=254,SNR=121						
WMOK	**Wichita Mounta**	**2.04**	**238**		**Pn**	**01 43 45.1**	**+0.8**
WMOK				IAmb_Lg		01 44 17.5	
	comp=Z,27nm,0.8s						
WMOK	**Wichita Mounta**	**2.04**	**238**	P	**Pb**	**01 43 45.5**	**-1.4**
	baz=56,SNR=53						
ELIS	**Ellis County**	**2.23**	**276**	Pn	**Pn**	**01 43 47.0**	**+0.2**
HHAR	**Hobbs**	**2.27**	**78**		**Pn**	**01 43 47.3**	**0.0**
HHAR	**Hobbs**	**2.27**	**78**	P	**Pb**	**01 43 48.7**	**-2.0**
	baz=260						
WTFS	**Witchita Falls**	**2.54**	**216**	Pn	**Pn**	**01 43 50.9**	**-0.3**
Z35A	**Perchaven, San**	**2.56**	**191**		**Pn**	**01 43 51.3**	**-0.1**
Z35A				IAmb_Lg		01 44 34.0	
	comp=Z,21nm,0.9s						
Z35A	**Perchaven, San**	**2.56**	**191**	P	**Pn**	**01 43 52.0**	**+0.7**
	baz=10,SNR=9.1						
MIAR	**Mount Ida**	**2.86**	**116**		**Pn**	**01 43 54.6**	**-0.9**
MIAR	**Mount Ida**	**2.86**	**116**	P	**Pn**	**01 43 56.3**	**+0.8**
	baz=298,SNR=24						
Z38A	**Mt. Pleasant**	**2.94**	**151**	IAmb_Lg		01 44 44.7	
	comp=Z,21nm,0.7s						
SMWD	**Samnorwood**	**3.00**	**257**		**Pn**	**01 43 57.8**	**+0.4**
FW03	**Perrin-Whitt E**	**3.03**	**202**		**Pn**	**01 43 58.0**	**+0.2**
R32A	**Long Quarter,**	**3.03**	**328**	Pn	**Pn**	**01 43 58.2**	**+0.3**
R32A	**Long Quarter,**	**3.03**	**328**	S	**Sn**	**01 44 35.0**	**+0.6**
	baz=147						
U40A	**Yellville**	**3.14**	**80**	P	**Pn**	**01 44 00.3**	**+0.9**
	baz=262,SNR=12						
U40A				P	**Pn**	**01 44 00.3

comp=Z,14nm,0.8s
FVM **French Village** 5.45 65 Pn **Pn** 01 44 32.6 +1.6
FVM IAmb_Lg 01 46 06.5
comp=Z,29nm,1.0s
KSCO **Kaye Shedlock'** 5.68 305 IAmb_Lg 01 46 21.5
comp=Z,16nm,0.7s
JCT **Junction City** 5.96 207 IAmb_Lg 01 46 24.6
comp=Z,13nm,0.8s
OZNA **Ozona** 6.16 218 IAmb_Lg 01 46 36.6
comp=Z,10nm,1.0s
S44A **Carbondale** 6.24 71 IAmb_Lg 01 46 27.5
comp=Z,24nm,0.8s
HNDO **Hondo** 6.67 200 IAmb_Lg 01 46 40.1
comp=Z,7.8nm,0.8s
K30B **Basset** 7.18 342 IAmb_Lg 01 47 00.3
comp=Z,18nm,0.9s
SAND **Sanderson** 7.45 219 IAmb_Lg 01 47 10.5
comp=Z,6.8nm,0.9s

*IDC **23** 01:55:37.0±3.5,3.46N×122.98E,h543km±46km,mb3.3/7, mbtmp4.3/8,Error ellipse: s-maj=89.0km s-min=14.6km az=63.0*
ISC 23 01:55:37.3±0.8,3.4N±0.2×122.7E±0.5,h550km,n11, σ0s80/12,mb4.0/9,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**13.51**	**176**	P		**P**	**01 58 31.0**	**-0.6**
	53nm,0.7s,baz=270,slow=3.0,SNR=8.9							
WRA	**Warramunga Arr**	**25.82**	**154**	P		**P**	**02 00 24.2**	**-1.3**
	2.4nm,0.4s,baz=336,slow=9.5,SNR=54							
	2.4nm,0.4s							
ASAR	**Alice Springs**	**28.99**	**158**	P		**P**	**02 00 53.5**	**+0.3**
	1.5nm,0.4s,baz=339,slow=7.0,SNR=21							
	1.5nm,0.4s							
STKA	**Stephens Creek**	**39.37**	**154**	P		**P**	**02 02 21.0**	**+1.1**
	1.4nm,0.4s,baz=323,slow=7.6,SNR=5.7							
	1.4nm,0.4s							
SONM	**Songino Array**	**46.49**	**345**	P		**P**	**02 03 15.1**	**-0.3**
	0.2nm,0.3s,baz=150,slow=8.2,SNR=2.0							
MKAR	**Makanchi Array**	**55.64**	**327**	P		**P**	**02 04 22.6**	**+1.0**
	1.5nm,0.4s,baz=123,slow=7.9,SNR=40							
MKAR				PcP		**PcP**	**02 05 13.3**	**+0.4**
	0.7nm,0.5s,baz=129,slow=4.5,SNR=7.1							
	1.5nm,0.4s							
KURBB	**Kurchatov Arra**	**59.94**	**329**	P		**P**	**02 04 51.1**	**+0.5**
	1.0nm,0.5s,baz=128,slow=6.5,SNR=13							
	1.0nm,0.5s							
BVAR	**Borovoye Array**	**65.49**	**328**	P		**P**	**02 05 26.7**	**+0.3**
	0.6nm,0.6s,baz=132,slow=8.0,SNR=4.4							
	0.6nm,0.6s							
SPITS	**Spitsbergen Ar**	**90.06**	**349**	P		**P**	**02 07 37.8**	**-0.5**
	10nm,0.9s,baz=84,slow=7.8,SNR=7.9							
FINES	**FINESS Array B**	**90.25**	**331**	P		**P**	**02 07 38.5**	**-0.8**
	1.7nm,0.9s,baz=60,slow=3.4,SNR=1.8							
	1.7nm,0.9s							
TORD	**Torodi Ar. Bea**	**119.21**	**287**	PKP		**PKiKP**	**02 13 25.4**	**+0.1**
	0.1nm,0.3s,baz=85,slow=2.6,SNR=4.8							

IDC 23 02:01:11.3±3.2,5.67S×131.38E,h0km,mb3.9/2, mbtmp3.9/4,ML4.0/2,Error ellipse: s-maj=240.6km s-min=28.7km az=73.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.47**	**169**	Pn		Pn	02 04 37.6	0.0
	0.6nm,0.3s,baz=349,slow=11,SNR=15							
WRA				Sn		Sn	02 07 05.5	-13
	2.1nm,0.3s,baz=338,slow=21,SNR=12							
	1.4nm,0.8s							
ASAR	**Alice Springs**	**18.05**	**173**	P		Pn	02 05 23.8	-0.1
	0.7nm,0.3s,baz=351,slow=12,SNR=20							
ASAR				S		Sn	02 08 33.1	-13
	0.8nm,0.4s,baz=356,slow=28,SNR=5.2							
	1.7nm,0.3s							
MKAR	**Makanchi Array**	**67.89**	**326**	P		P	02 12 12.0	+0.3
	1.2nm,0.5s,baz=111,slow=7.7,SNR=23							
	1.2nm,0.5s							
KURBB	**Kurchatov Arra**	**72.11**	**328**	P		P	02 12 37.2	-0.4
	0.4nm,0.6s,baz=128,slow=4.6,SNR=4.5							
	0.4nm,0.6s							

*IDC **23** 02:05:34.5±0.8,23.81S×175.57W,h0km,mb4.5/14, mbtmp4.5/15,ML4.1/1,MS3.8/22,Error ellipse: s-maj=27.9km s-min=19.4km az=152.0*
*NEIC **23** 02:05:40.7±1.9,23.7S±0.1×175.6W±0.1,h35km±2km, mb4.9/39,Error ellipse: s-maj=21.8km s-min=17.6km az=72.0*
ISC 23 02:05:40.7±0.5,23.75S±0.07×175.6W±0.1,h35km,n104, σ1s24/85,mb4.8/34,MS3.9/21,2D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.06**	**50**			Pn	02 07 09.8	-12
MSVF	**Nonsavu**	**8.41**	**314**			**Pn**	**02 07 39.6**	**-0.5**
AFI	**Afiamalu**	**10.44**	**21**	Pn		**Pn**	**02 08 08.7**	**+0.6**
RAR	**Rarotonga**	**14.88**	**83**	Pn		Pn	02 08 57.0	-12
RAR	**Rarotonga**	**14.88**	**83**	Pn		Pn	02 08 57.1	-11
	2.1nm,0.3s,baz=262,slow=7.3,SNR=8.9							
RAR				Sn		Sn	02 11 23.9	-28
	0.7nm,0.3s,baz=323,slow=19,SNR=1.7							
RAR				LR		LR	02 13 59.3	
	comp=Z,424nm,21.1s,baz=258,slow=34							
URZ	**Urewera**	**15.74**	**202**	Pn		**Pn**	**02 09 17.3**	**-2.4**
	0.8nm,0.3s,baz=190,slow=18,SNR=1.8							
URZ				Sn		Sn	02 11 59.9	-13
	0.7nm,0.3s,baz=131,slow=19,SNR=1.6							
	4.0nm,0.5s							
RTZ	**Ruatahuna**	**16.10**	**201**	Pn		**Pn**	**02 09 22.9**	**-1.6**
RTZ				IAmb		IAmb	02 09 32.5	
	comp=Z,119nm,2.0s							
DZM	**Mont Dzumac**	**16.60**	**272**	Pn		**P**	**02 09 34.9**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=122,slow=19,SNR=3.1							
DZM				LR		LR	02 14 23.9	
	comp=Z,258nm,19.9s,baz=66,slow=32							
THZ	**Tophouse**	**20.35**	**205**	P		**P**	**02 10 12.1**	**-2.0**
KHZ	**Kahutara**	**20.68**	**203**	P		**P**	**02 10 14.9**	**-2.6**
PPT	**Papeete**	**25.12**	**81**	LR		LR	02 18 42.3	
	comp=Z,328nm,20.3s,baz=264,slow=31							
HNR	**Honiara**	**27.32**	**297**	LR		LR	02 22 40.8	
	comp=Z,3µm,18.1s,baz=34,slow=38							
CTA	**Charters Tower**	**35.47**	**268**	P		**P**	**02 12 34.5**	**+0.3**
	comp=Z,2.9nm,0.3s,baz=91,slow=5.7,SNR=6.7							
CTA				LR		LR	02 26 31.6	
	comp=Z,147nm,18.4s,baz=1.0,slow=35							
	comp=Z,2.9nm,0.3s							
CTAO	**Charters Tower**	**35.47**	**268**	P		**P**	**02 12 34.4**	**+0.2**
CTAO				IAmb		IAmb	02 12 38.1	
	comp=Z,28nm,1.4s							
PMG	**Port Moresby**	**38.27**	**286**	P		**P**	**02 12 57.5**	**-0.4**
	comp=Z,16nm,0.8s,baz=101,slow=4.7,SNR=3.7							
	comp=Z,16nm,0.8s							
STKA	**Stephens Creek**	**38.49**	**248**	LR		LR	02 27 19.3	
	comp=Z,268nm,19.5s,baz=46,slow=34							
BBOO	**Buckleboo**	**43.18**	**247**	P		**P**	**02 13 37.4**	**-0.9**
BBOO				IAmb		IAmb	02 15 06.1	
	comp=Z,37nm,1.7s							
AS31	**Alice Springs**	**46.00**	**259**	P		**P**	**02 14 01.1**	**+0.2**
ASAR	**Alice Springs**	**46.00**	**259**	P		**P**	**02 13 59.5**	**-1.4**
	comp=Z,2.9nm,0.9s,baz=94,slow=8.2,SNR=16							
ASAR				LR		LR	02 32 33.3	
	comp=Z,140nm,19.0s,baz=118,slow=35							
	comp=Z,2.9nm,0.9s							
WR0	**Warramunga Arr**	**46.22**	**265**	P		**P**	**02 14 02.3**	**-0.4**
WB2	**Warramunga Arr**	**46.39**	**265**	P		**P**	**02 14 03.3**	**-0.8**
WB2				IAmb		IAmb	02 14 04.3	
	comp=Z,12nm,0.9s							
WB0	**Warramunga Arr**	**46.40**	**265**	P		**P**	**02 14 02.8**	**-1.3**
WB0				IAmb		IAmb	02 14 04.3	
	comp=Z,20nm,1.1s							
WRA	**Warramunga Arr**	**46.40**	**265**	P		**P**	**02 14 03.3**	**-0.9**
WRA	**Warramunga Arr**	**46.40**	**265**	P		**P**	**02 14 02.1**	**-2.0**
	comp=Z,9.0nm,0.8s,baz=97,slow=8.6,SNR=40							
	comp=Z,9.0nm,0.8s							
DRV	**Dumont d'Urvil**	**51.08**	**201**	P		**P**	**02 14 40.1**	**+0.8**
DRV				pP		**sP**	**02 14 51.4**	**-1.2**
DRV				sP		**pwP**	**02 14 55.6**	**+2.7**
FITZ	**Fitzroy Crossi**	**54.82**	**264**	P		**P**	**02 15 07.4**	**-0.3**
FITZ				IAmb		IAmb	02 15 15.7	
	comp=Z,23nm,1.9s							
NWAO	**Narrogin (SRO)**	**58.93**	**245**	LR		LR	02 38 50.3	
	comp=Z,99nm,19.5s,baz=112,slow=34							
BATI	**Baumata**	**59.21**	**272**	LR		LR	02 40 33.6	
	comp=Z,171nm,19.1s,baz=149,slow=35							
RPN	**Rapa Nui**	**59.35**	**108**	LR		LR	02 36 19.8	
	comp=Z,29nm,21.4s,baz=247,slow=31							
CCD	**Concordia, Ant**	**59.90**	**195**	P		**P**	**02 15 44.2**	**+1.1**
CCD				sP		**pwP**	**02 15 59.7**	**+2.8**
CASY	**Casey**	**62.00**	**206**	P		**P**	**02 15 58.8**	**+1.7**
CASY	**Casey**	**62.00**	**206**	P		**P**	**02 15 58.1**	**+1.1**
CASY				pP		**sP**	**02 16 10.3**	**-0.1**
JCJ	**Chichijima**	**64.92**	**319**	LR		LR	02 41 40.9	
	comp=Z,53nm,19.9s,baz=96,slow=33							
QSPA	**South Pole Qui**	**66.34**	**180**	P		**P**	**02 16 26.3**	**+0.6**
QSPA				IAmb		IAmb	02 16 32.1	
	comp=Z,20nm,1.4s							
QSPA	**South Pole Qui**	**66.34**	**180**	P		**P**	**02 16 25.1**	**-0.6**
	comp=Z,4.0nm,1.0s,baz=19,slow=4.3,SNR=5.4							
	comp=Z,4.0nm,1.0s							
QSPA	**South Pole Qui**	**66.34**	**180**	P		**P**	**02 16 26.1**	**+0.5**
QSPA				sP		**pwP**	**02 16 42.0**	**+1.6**
MJAR	**Matsushiro Arr**	**74.11**	**323**	LR		LR	02 44 45.1	
	comp=Z,56nm,20.6s,baz=164,slow=32							
LEM	**Lembang**	**75.17**	**269**	LR		LR	02 51 23.0	
	comp=Z,45nm,18.1s,baz=1.5,slow=36							
JNU	**Nakatsue**	**76.13**	**316**	LR		LR	02 45 20.3	
	comp=Z,42nm,19.9s,baz=118,slow=31							
ASAJ	**Asahikawa**	**77.62**	**331**	LR		LR	02 46 46.6	
	comp=Z,61nm,21.9s,baz=164,slow=32							
PETK	**Petropavlovsk-**	**79.97**	**344**	P		**P**	**02 17 46.1**	**+0.2**
PETK	**Petropavlovsk-**	**79.97**	**344**	P		**P**	**02 17 45.9**	**0.0**
	comp=Z,7.2nm,0.9s,baz=141,slow=9.6,SNR=5.5							
PETK				LR		LR	02 47 31.4	
	comp=Z,59nm,22.0s,baz=128,slow=31							
	comp=Z,7.2nm,0.9s							
KSRS	**Korea Array**	**80.76**	**318**	P		**P**	**02 17 50.0**	**-0.6**
	comp=Z,2.9nm,1.0s,baz=140,slow=6.6,SNR=12							
KSRS				LR		LR	02 50 51.0	
	comp=Z,23nm,19.4s,baz=115,slow=34							
	comp=Z,2.9nm,1.0s							
NVAR	**Mina Array Bea**	**81.92**	**42**	P		**P**	**02 17 56.4**	**-0.6**
	comp=Z,5.4nm,1.2s,baz=227,slow=8.1,SNR=9.3							
	comp=Z,5.4nm,1.2s							
NV11	**Mina Array Sit**	**82.01**	**42**	P		**P**	**02 17 57.4**	**0.0**
NV11				IAmb		IAmb	02 18 40.0	
	comp=Z,12nm,1.4s							
USA0B	**Ussuriysk Arra**	**82.87**	**325**	P		**P**	**02 18 00.5**	**-1.0**
USRK	**Ussuriysk Ar.**	**82.87**	**325**	P		**P**	**02 18 01.1**	**-0.4**
	comp=Z,11nm,0.9s,baz=116,slow=3.4,SNR=13							
	comp=Z,11nm,0.9s							
PRN	**Pahroc Range**	**83.33**	**44**	P		**P**	**02 18 02.6**	**-1.7**
PRN				IAmb		IAmb	02 18 05.5	
	comp=Z,7.5nm,1.2s							
J05D	**Fort Rock, OR**	**83.34**	**37**	P		**P**	**02 18 04.4**	**+0.2**
KDAK	**Kodiak Island**	**83.48**	**12**	P		**P**	**02 18 03.8**	**-0.5**
BMN	**Battle Mountai**	**83.82**	**41**	P		**P**	**02 18 05.9**	**-0.8**
WVOR	**Wild Horse Val**	**84.25**	**39**	P		**P**	**02 18 08.7**	**-0.1**
WVOR				IAmb		IAmb	02 18 09.8	
	comp=Z,7.6nm,1.1s							
LCMT	**Little Creek M**	**84.27**	**45**	P		**P**	**02 18 09.2**	**+0.1**
MDJ	**Mudanjiang**	**84.42**	**324**	P		**P**	**02 18 08.2**	**-1.3**
CCUT	**Cedar City**	**84.50**	**45**	P		**P**	**02 18 08.5**	**-1.9**
KNB	**Kanab**	**84.55**	**46**	P		**P**	**02 18 08.0**	**-2.5**
KNB				IAmb		IAmb	02 18 37.3	
	comp=Z,29nm,2.0s							
U15A	**North Rim**	**84.56**	**46**	P		**P**	**02 18 09.4**	**-1.4**
U15A				IAmb		IAmb	02 18 13.5	
	comp=Z,8.8nm,1.1s							
PSUT	**Pine Spring**	**84.76**	**44**	P		**P**	**02 18 10.8**	**-0.9**
PSUT				IAmb		IAmb	02 20 16.4	
	comp=Z,4.1nm,0.8s							
ELK	**Elko**	**85.21**	**42**	P		**P**	**02 18 12.4**	**-1.5**
PLCA	**Paso Flores**	**85.46**	**133**	LR		LR	02 47 03.5	
	comp=Z,28nm,21.2s,baz=190,slow=29							
G08A	**Pilot Rock**	**85.89**	**36**	P		**P**	**02 18 15.6**	**-1.3**
G08A				IAmb		IAmb	02 18 18.9	
	comp=Z,8.9nm,1.2s							
CN2	**Changchun**	**86.20**	**322**	*e*P		**P**	**02 18 19.5**	**+1.1**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
BNX	**BinXian**	**86.33**	**324**	⇓P		**P**	**02 18 19.9**	**+0.9**
BNX				pmax		pmax		
	comp=Z,13nm,0.9s							
BNX				pmax		pmax		
	comp=Z,300nm,4.6s							
KLR	**Kul'dur**	**86.43**	**329**	P		**P**	**02 18 19.9**	**+0.5**
	comp=Z,3.2nm,1.0s,baz=100,slow=2.3,SNR=9.1							
KLR				LR		LR	02 51 46.1	
	comp=Z,70nm,20.2s,baz=146,slow=32							
	comp=Z,3.2nm,1.0s							
VHRN	**Van Horn**	**86.71**	**54**	P		**P**	**02 18 21.2**	**-0.2**
VHRN				IAmb		IAmb	02 18 49.8	
	comp=Z,14nm,1.4s							
TX31	**Lajitas Ar. Si**	**86.99**	**56**	P		**P**	**02 18 21.0**	**-1.7**
TX31				IAmb		IAmb	02 18 51.0	
	comp=Z,14nm,1.5s							
TXAR	**Lajitas Array**	**86.99**	**56**	P		**P**	**02 18 21.8**	**-0.9**
	comp=Z,1.0nm,0.9s,baz=224,slow=6.5,SNR=8.0							
	comp=Z,1.0nm,0.9s							
ALPN	**Alpine**	**87.52**	**55**	P		**P**	**02 18 25.1**	**-0.2**
ANMO	**Albuquerque**	**87.75**	**50**	P		**P**	**02 18 24.5**	**-1.9**
BSUT	**Blindstream Ca**	**87.86**	**44**	P		**P**	**02 18 25.9**	**-1.1**
BSUT				IAmb		IAmb	02 18 28.6	
	comp=Z,8.9nm,1.1s							
HEH	**HeiHe**	**89.21**	**327**	*e*P		**P**	**02 18 33.5**	**+0.9**
HNS	**HongShan**	**89.34**	**312**	⇓P		**P**	**02 18 35.5**	**+1.9**
HNS				pmax		pmax		
	comp=Z,9.0nm,1.0s							
LYN	**LuoYang**	**89.49**	**308**	*e*P		**P**	**02 18 36.5**	**+2.2**
LYN				pmax		pmax		
	comp=Z,15nm,0.7s							
PDAR	**Pinedale Array**	**89.84**	**42**	P		**P**	**02 18 34.2**	**-1.9**
	comp=Z,0.9nm,0.9s,baz=176,slow=4.0,SNR=4.9							
	comp=Z,0.9nm,0.9s							
M27K	**Edge Creek, AK**	**89.94**	**15**	P		**P**	**02 18 35.7**	**-0.3**
YHL	**Hebgen Lake**	**90.02**	**40**	P		**P**	**02 18 36.7**	**-0.3**
YHL				IAmb		IAmb	02 18 53.5	
	comp=Z,14nm,1.7s							
ILAR	**Eielson Array**	**91.00**	**12**	P		**P**	**02 18 41.5**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=218,slow=5.6,SNR=3.7							
	comp=Z,0.8nm,0.8s							
L29M	**L29M**	**91.50**	**16**	P		**P**	**02 18 42.8**	**-0.3**
NNA	**Nana**	**93.12**	**104**	LR		LR	02 51 04.1	
	comp=Z,112nm,20.9s,baz=230,slow=29							
CMAR	**Chiang Mai Arr**	**93.24**	**289**	P		**P**	**02 18 50.5**	**-1.7**
CMAR	**Chiang Mai Arr**	**93.24**	**289**	P		**P**	**02 18 53.1**	**+0.9**
	comp=Z,2.2nm,0.3s,baz=127,slow=2.9,SNR=24							
	comp=Z,2.2nm,0.3s							
ATAH	**Atahualpa**	**93.74**	**99**	LR		LR	02 51 24.4	
	comp=Z,107nm,21.0s,baz=259,slow=29							
RSSD	**Black Hills**	**93.98**	**43**	P		**P**	**02 18 54.5**	**-0.8**
RSSD				IAmb		IAmb	02 18 56.6	
	comp=Z,9.7nm,1.2s							
LVC	**Limon Verde**	**95.20**	**117**	LR		LR	02 55 38.0	
	comp=Z,54nm,18.2s,baz=220,slow=32							
LPAZ	**La Paz**	**98.81**	**112**	LR		LR	02 57 45.0	
	comp=Z,42nm,18.3s,baz=218,slow=32							
MKAR	**Makanchi Array**	**115.00**	**312**	PKP		**PKPdf**	**02 24 15.8**	**-2.1**
	comp=Z,0.5nm,0.8s,baz=126,slow=2.0,SNR=4.0							
BVAR	**Borovoye Array**	**122.96**	**319**	PKP		**PKPdf**	**02 24 32.0**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=93,slow=2.9,SNR=3.3							
AKASG	**Malin Array Be**	**146.90**	**331**	PKPbc		**PKPdf**	**02 25 18.2**	**+0.9**
	comp=Z,2.6nm,0.7s,baz=39,slow=3.2,SNR=15							
KWP	**Kalwaria Pacla**	**150.43**	**336**	*e*PKP		**PKiKP**	**02 25 29.1**	**0.0**
BRTR	**Keskin Array B**	**150.62**	**310**	PKPbc		**PKPbc**	**02 25 28.8**	**-0.5**
	comp=Z,2.7nm,1.0s,baz=327,slow=10,SNR=2.6							
NIE	**Niedzica**	**151.48**	**338**	*e*PKP		**PKPbc**	**02 25 29.7**	**-1.1**
CRVS	**Cervenica-Dubn**	**151.50**	**336**	*e*PKP		**PKiKP**	**02 25 32.0**	**+0.6**
CLL	**Collm**	**151.69**	**349**	*i* x		x	02 25 58.1	
	comp=Z,16nm,1.2s							
CLL	**Collm**	**151.69**	**349**	*i* PKPdf		**PKPdf**	**02 25 25.0**	**+0.1**
CLL	**Collm**	**151.69**	**349**	*i* PKPbc		**PKPbc**	**02 25 31.2**	**0.0**
	comp=Z,13nm,1.3s							
CLL	**Collm**	**151.69**	**349**	*i* pPKPdf		pPKPdf	02 25 35.7	+0.6
CLL	**Collm**	**151.69**	**349**	*i* PKPab		**PKPab**	**02 25 38.9**	**-1.1**
	comp=Z,9.0nm,1.3s							
CLL	**Collm**	**151.69**	**349**	*i* sPKPbc		sPKPbc	02 25 46.3	+1.5
CLL	**Collm**	**151.69**	**349**	*ep*PKPab		pPKPab	02 25 49.0	-0.9
BRG	**Berggiesshubel**	**151.92**	**347**	Amp			02 25 33.0	
	comp=Z,3.8nm,0.9s							
BRG	**Berggiesshubel**	**151.92**	**347**	*e*PKP		**PKiKP**	**02 25 32.1**	**0.0**
LANS	**Liptovska Anna**	**151.99**	**339**	*e*PKP		**PKiKP**	**02 25 33.4**	**+1.0**
MORC	**Moravsky Berou**	**152.04**	**342**	*e*PKP		**PKiKP**	**02 25 32.7**	**+0.2**
MODS	**Modra-Piesok**	**153.38**	**341**	*e*PKP		**PKPab**	**02 25 48.7**	**+1.5**

*NIED **23** 02:13:50.0,41.86N×139.29E,h14km,MW3.4,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr1.17; Mθθ-0.04; Mϕϕ-1.13; Mrθ-0.28; Mθϕ0.05; Mϕr0.59;*

Fault plane solution: M0 1.32000×10¹⁴ NP1: ϕs347.00000°,δ60.00000°,λ80.00000°. NP2: ϕs187.00000°,δ32.00000°,λ107.00000°.
JMA 23 02:13:50.0±0.1,41.9N±0.2×139.3E±0.6,h14km±1km, MV3.7/39,6D,SW OFF HOKKAIDO,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**0.27**	**32**	⇓P		Pg	02 13 55.7	-0.1
JOSM				⇓S		Sg	02 13 59.5	-0.2
JOMM	**Oshimamatsumae**	**0.63**	**121**	P		Pg	02 14 02.2	-0.1
JOMM				*e*S		Sg	02 14 10.8	0.0
JHST	**Hiyamasetana**	**0.72**	**38**	P		Pg	02 14 03.9	-0.1
JHST				*e*S		Sg	02 14 13.6	+0.1
JYM2	**Yakumo 2**	**0.85**	**72**	⇓P		Pg	02 14 05.8	-0.7
JYM2				⇓*e*S		Sg	02 14 17.1	-0.6
JSR	**Shiriuchi**	**0.91**	**111**	⇓P		Pb	02 14 07.2	-0.3
JSR				⇓*e*S		Sb	02 14 18.8	-0.6
JSH	**Shimam**	**0.97**	**35**	P		Pb	02 14 07.8	-0.7
JSH				*e*S		Sb	02 14 20.3	-0.9
JSI2	**Shiura 2**	**1.16**	**133**	P		Pn	02 14 11.2	-0.5
JSI2				S		Sb	02 14 26.7	0.0
JKB	**Kayabe**	**1.30**	**88**	*e*P		Pn	02 14 12.4	-1.3
JIW	**Iwasaki**	**1.37**	**156**	P		Pn	02 14 13.5	-1.3
JOT	**Ohata**	**1.40**	**109**	P		Pn	02 14 14.7	-0.5
JOT				*e*S		Sn	02 14 32.8	-0.6
JNB	**Noboribetsu**	**1.44**	**64**	P		Pn	02 14 14.9	-0.8
JNB				*e*S		Sn	02 14 32.9	-1.4

*IDC **23** 02:29:52.2±5.2,8.86S×124.39E,h109km±61km,mb2.8/1, mbtmp3.3/3,Error ellipse: s-maj=77.3km s-min=34.5km az=39.0*
*DJA **23** 02:29:54.0±1.4,9.S±6.×12.4E±1.0,h80km±21km,M3.3/6, mb3.5/1,MLv3.2/6*
ISC 23 02:29:51.5±1.2,8.80S±0.09×124.3E±0.1,h100km,n9, σ1s19/10,Timor region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.95**	**184**	P		**Pn**	**02 30 13.1**	**+1.6**
BATI	**Baumata**	**1.55**	**206**	P		**Pn**	**02 30 19.4**	**+1.0**
	63nm,0.3s,baz=356,slow=1.2,SNR=9.7							
BATI				S		**Sn**	**02 30 39.7**	**+1.0**
	51nm,0.3s,baz=105,slow=22,SNR=19							
BATI	**Baumata**	**1.55**	**206**	P		**Pn**	**02 30 19.0**	**+0.6**
EDFI	**Ende, Flores**	**2.62**	**271**	P		**Pn**	**02 30 32.1**	**-0.2**
BASI	**Baing, Sumba**	**3.97**	**249**	P		**Pn**	**02 30 49.8**	**-0.5**
BKSI	**Bulukumba**	**5.43**	**309**	P		**Pn**	**02 31 11.3**	**+1.2**
WRA	**Warramunga Arr**	**14.70**	**140**	P		**Pn**	**02 33 12.8**	**-1.8**
	0.2nm,0.3s,baz=315,slow=12,SNR=10							
WRA				S		Sn	02 35 44.4	-12
	0.7nm,0.8s,baz=217,slow=15,SNR=2.4							
ASAR	**Alice Springs**	**17.39**	**149**	P		**P**	**02 33 47.6**	**-0.1**
	0.6nm,0.5s,baz=311,slow=9.6,SNR=4.6							
ASAR				S		Sn	02 36 48.3	-13
	0.2nm,0.5s,baz=310,slow=21,SNR=1.9							
MKAR	**Makanchi Array**	**66.81**	**330**	P		**P**	**02 40 32.7**	**+0.2**
	0.2nm,0.6s,baz=141,slow=5.2,SNR=1.9							
	0.2nm,0.6s							

*IDC **23** 02:32:32.5±1.0,14.50S×66.18E,h0km,mb3.7/8, mbtmp3.7/9,ML3.4/1,MS3.5/8,Error ellipse: s-maj=35.1km s-min=23.7km az=21.0*
ISC 23 02:32:34.7±1.0,14.5S±0.2×66.2E±0.2,h13km,n27, σ0s79/10,mb3.9/8,MS3.5/8,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**9.19**	**43**	T		T	02 44 17.1	
	baz=222,slow=75,SNR=361							
H08S2	**Diego Garcia H**	**9.20**	**43**	T		T	02 44 12.0	
	baz=222,slow=75,SNR=445							
H08S3	**Diego Garcia H**	**9.21**	**43**	T		T	02 44 11.4	
	baz=222,slow=75,SNR=481							
OPO	**Ambohidratompo**	**18.66**	**255**	P		**P**	**02 36 53.4**	**+0.6**
	baz=78,slow=18,SNR=1.8							
	1.9nm,0.9s							
PALK	**Pallekele**	**25.98**	**35**	LR		LR	02 45 59.3	
	comp=Z,114nm,20.9s,baz=317,slow=31							
H04N2	**CROZET ISLANDS**	**33.81**	**198**	T		T	03 15 20.6	
	baz=26,slow=75,SNR=19							
H04N1	**CROZET ISLANDS**	**33.81**	**198**	T		T	03 15 21.6	
	baz=26,slow=75,SNR=18							
H04N3	**CROZET ISLANDS**	**33.82**	**198**	T		T	03 15 18.9	
	baz=26,slow=75,SNR=18							
LSZ	**Lusaka**	**36.71**	**264**	LR		LR

Mwr4.6/62(NEIC),Mww4.6/22(NEIC),Error ellipse: s-maj=8.1km s-min=5.1km az=80.0

*NEIC **23** 03:09:39.2ˢ 1.9, 40°.42N 124°.47W 0°.07, h25km ±4km, Error ellipse: s-maj=8.1km s-min=5.2km az=80.0,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.25; $M_{\theta\theta}$-8.85; $M_{\phi\phi}$8.60; $M_{r\theta}$0.25; $M_{\theta\phi}$-3.73; $M_{\phi r}$2.12; Fault plane solution: $M_0$9.73000×10^{15} NP1: ϕ_s302.85000°, δ78.69000°, λ174.25000°. NP2: ϕ_s33.98000°, δ84.36000°, λ11.37000°. Principal axes: T 9.7953, Plg12.0000°, Azm259.0000°; N -0.1316, Plg77.0000°, Azm60.0000°; P -9.6637, Plg4.0000°, Azm168.0000°;*

*NEIC **23** 03:09:39.1,40°.43N 124°.64W,h22km,Moment Tensor Solution. Duration: 1ˢ0 Moment tensor: Scale 10^{15}Nm; M_{rr}0.80; $M_{\theta\theta}$-9.17; $M_{\phi\phi}$8.38; $M_{r\theta}$0.11; $M_{\theta\phi}$-4.52; $M_{\phi r}$0.17; Fault plane solution: $M_0$9.87000×10^{15} NP1:ϕ_s31.38000°, δ89.86000°, λ1.21000°. NP2:ϕ_s301.37000°, δ88.79000°, λ179.86000°. Principal axes: T 9.4733, Plg1.0000°, Azm256.0000°; N 0.7954, Plg89.0000°, Azm38.0000°; P -10.2687, Plg1.0000°, Azm166.0000°;*

*NEIC **23** 03:09:39.2,40°.45N 124°.49W,h27km,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.19; $M_{\theta\theta}$-1.16; $M_{\phi\phi}$0.97; $M_{r\theta}$0.14; $M_{\theta\phi}$-0.49; $M_{\phi r}$0.18; Fault plane solution: $M_0$1.21000×10^{16} NP1:ϕ_s302.51000°, δ78.56000°, λ178.27000°. NP2:ϕ_s32.85000°, δ88.30000°, λ11.44000°. Principal axes: T 1.1030, Plg9.0000°, Azm258.0000°; N 0.1874, Plg78.0000°, Azm41.0000°; P -1.2904, Plg7.0000°, Azm167.0000°;*

*NEIC **23** 03:09:39.2,40°.45N 124°.49W,h21km*

*NEIC **23** 03:09:39.1,40°.43N 124°.51W,h22km*

*NEIC **23** 03:09:39.2,40°.45N 124°.49W,h21km*

ISC 23 03:09:39.1±0.7,40°.43N±0°.04 124°.48W±0°.05,h27km±4km, n559,σ1ˢ11/445,mb4.5/66,MS3.6/41,Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.12**	**68**		**Pb**	**03 09 44.5**	**+0.3**
KCTM					**Sb**	**03 09 49.1**	**+1.5**
FER	**Ferndale**	**0.22**	**48**		**Pb**	**03 09 45.6**	**+0.4**
KMPM	**Mount Pierce**	**0.27**	**93**		**Pb**	**03 09 46.1**	**+0.1**
KMPM					**Sn**	**03 09 51.6**	**-1.2**
KMPM	**Mount Pierce**	**0.27**	**93**	IAML		03 09 52.6	
	comp=N,358μm,0.7s						
KMPM				IAML		03 09 53.0	
	comp=E,320μm,0.5s						
KSMM	**Slide Mountain**	**0.34**	**137**		**Pb**	**03 09 46.9**	**-0.1**
KCRM	**Chalk Rock**	**0.50**	**90**		**Pb**	**03 09 49.5**	**0.0**
JCC	**Jacoby Creek,**	**0.51**	**41**		**Pb**	**03 09 48.7**	**-0.9**
JCC	**Jacoby Creek,**	**0.51**	**41**	IAML		03 09 56.6	
	comp=N,82μm,0.7s						
JCC				IAML		03 09 56.9	
	comp=E,75μm,1.0s						
KMRM	**Mail Ridge**	**0.62**	**109**		**Pb**	**03 09 51.5**	**0.0**
KHMM	**Horse Mountain**	**0.72**	**52**		**Pb**	**03 09 52.3**	**-0.9**
KRPM	**Rodgers**	**0.80**	**25**		**Pb**	**03 09 53.0**	**-1.5**
KPPM	**Pickett Peak**	**0.85**	**95**		**Pn**	**03 09 54.7**	**-0.8**
KHBM	**Hayfork Bally**	**0.98**	**76**		**Pn**	**03 09 56.1**	**-1.3**
KIPM	**Iron Peak**	**0.98**	**129**		**Pn**	**03 09 56.4**	**-0.9**
KCPM	**Cahto Peak**	**1.01**	**137**		**Pn**	**03 09 56.5**	**-1.2**
KBNM	**Bluenose Ridge**	**1.12**	**118**		**Pn**	**03 09 58.9**	**-0.4**
KFPM	**Farley Peak**	**1.13**	**134**		**Pn**	**03 09 58.2**	**-1.1**
KOMM	**Orleans Mounta**	**1.15**	**42**		**Pn**	**03 09 58.2**	**-1.4**
KRMB	**Red Mountain**	**1.17**	**21**		**Pn**	**03 09 58.2**	**-1.8**
KRMB	**Red Mountain**	**1.17**	**21**	IAML		03 10 12.9	
	comp=N,13μm,0.8s						
KRMB				IAML		03 10 13.0	
	comp=E,10μm,0.5s						
LBPM	**Beegum Peak**	**1.22**	**95**		**Pn**	**03 09 59.5**	**-1.1**
GTC	**Three Chop Rid**	**1.25**	**145**		**Pn**	**03 09 59.5**	**-1.3**
DCMP	**DeCamp, Califo**	**1.30**	**137**		**Pn**	**03 10 00.2**	**-1.4**
O02D	**Mt. Diablo Mer**	**1.32**	**101**		**Pn**	**03 10 00.9**	**-0.9**
LGPM	**Granite Peak**	**1.34**	**69**		**Pn**	**03 10 01.1**	**-1.1**
N02D	**Trinity Center**	**1.45**	**68**		**Pn**	**03 10 02.6**	**-1.1**
KSXB	**Camp Six Broad**	**1.47**	**18**		**Pn**	**03 10 02.2**	**-1.8**
GHMM	**Hull Mountain**	**1.51**	**128**		**Pn**	**03 10 03.5**	**-1.1**
GWRM	**Wonder Ranch**	**1.52**	**143**		**Pn**	**03 10 03.3**	**-1.3**
LBKM	**Bonanza King**	**1.52**	**64**		**Pn**	**03 10 03.8**	**-1.0**
GVV	**Valley View**	**1.53**	**115**		**Pn**	**03 10 04.4**	**-0.4**
GHOM	**Hamilton Openi**	**1.56**	**152**		**Pb**	**03 10 07.2**	**-0.3**
GGUM	**Gualala**	**1.75**	**154**		**Pn**	**03 10 06.1**	**-1.6**
GHLM	**Highland Sprin**	**1.79**	**141**		**Pn**	**03 10 07.1**	**-1.3**
KBO	**Bosley Butte**	**1.79**	**6**		**Pn**	**03 10 06.1**	**-2.2**
KBO	**Bosley Butte**	**1.79**	**6**	IAML		03 10 29.1	
	comp=E,5μm,0.5s						
HOPS	**Hopland Field**	**1.80**	**143**		**Pn**	**03 10 07.2**	**-1.2**
GCK	**Clark Valley**	**1.80**	**119**		**Pn**	**03 10 08.6**	**+0.2**
LTCM	**Tuscan Springs**	**1.81**	**96**		**Pn**	**03 10 07.9**	**-0.7**
L02F	**Cave Junction**	**1.82**	**22**		**Pn**	**03 10 07.6**	**-1.2**
GTSM	**Trough Springs**	**1.82**	**127**		**Pn**	**03 10 08.1**	**-0.8**
LAMM	**Antelope Mount**	**1.83**	**49**		**Pn**	**03 10 08.1**	**-0.9**
LCSM	**College of the**	**1.86**	**57**		**Pn**	**03 10 08.9**	**-0.4**
YBH	**Yreka Blue Hor**	**1.86**	**45**		**Pn**	**03 10 08.4**	**-1.0**
YBH	**Yreka Blue Hor**	**1.86**	**45**	IAML		03 10 34.0	
	comp=N,5μm,0.6s						
YBH				IAML		03 10 35.1	
	comp=E,5μm,0.5s						
LSHM	**Sage Hen Hill**	**1.89**	**78**		**Pn**	**03 10 09.2**	**-0.5**
GDCM	**Dry Creek**	**1.92**	**150**		**Pn**	**03 10 08.8**	**-1.3**
LGBM	**Gray Butte**	**1.96**	**61**		**Pn**	**03 10 10.7**	**-0.1**
M03C	**McCloud**	**1.97**	**64**		**Pn**	**03 10 10.6**	**-0.3**
GPMM	**Pine Mountain**	**1.98**	**143**		**Pn**	**03 10 09.9**	**-1.0**
GBMM	**Baldy Mountain**	**2.00**	**130**		**Pn**	**03 10 10.5**	**-0.7**
GFC	**Funks Creek**	**2.01**	**123**		**Pn**	**03 10 11.4**	**+0.1**
GRTM	**Round Top Moun**	**2.04**	**136**		**Pn**	**03 10 10.5**	**-1.3**
LMPM	**Military Pass**	**2.04**	**58**		**Pn**	**03 10 12.4**	**+0.4**
O03E	**Paynes Creek**	**2.05**	**93**		**Pn**	**03 10 10.7**	**-1.2**
LDBM	**Digger Butte**	**2.05**	**89**		**Pn**	**03 10 10.8**	**-1.2**
GHCM	**House Creek**	**2.08**	**151**		**Pn**	**03 10 10.7**	**-1.6**
GDXM	**Geysers**	**2.08**	**141**		**Pn**	**03 10 11.3**	**-1.0**
LHEM	**Herd Peak**	**2.08**	**54**		**Pn**	**03 10 12.3**	**-0.2**
B040	**Montague**	**2.09**	**47**		**Pn**	**03 10 12.0**	**-0.4**
GGPM	**Geyser Peak**	**2.09**	**142**		**Pn**	**03 10 11.3**	**-1.2**
GBGM	**Boggs Mountain**	**2.13**	**139**		**Pn**	**03 10 13.2**	**+0.1**
GCRM	**Castle Rock Sp**	**2.14**	**140**		**Pn**	**03 10 12.4**	**-0.8**
LBFM	**Black Fox Moun**	**2.16**	**64**		**Pn**	**03 10 13.5**	**-0.1**
MNRC	**McLaughlin Min**	**2.21**	**134**		**Pn**	**03 10 13.6**	**-0.5**
LMEM	**Manzanita Entr**	**2.22**	**86**		**Pn**	**03 10 13.7**	**-0.7**
NMTM	**Middletown**	**2.26**	**135**		**Pn**	**03 10 13.6**	**-1.1**
NHSM	**Mount Saint He**	**2.28**	**140**		**Pn**	**03 10 14.2**	**-1.0**
LRDM	**Redding Peak**	**2.30**	**88**		**Pn**	**03 10 15.0**	**-0.4**
LGMM	**Garner Mountai**	**2.31**	**59**		**Pn**	**03 10 15.6**	**-0.1**
HATC	**Hat Creek Radi**	**2.33**	**80**		**Pn**	**03 10 15.8**	**0.0**
OSUM	**Sutter Buttes**	**2.33**	**119**		**Pn**	**03 10 14.4**	**-1.3**
OGOM	**Van Goodin Ran**	**2.33**	**109**		**Pn**	**03 10 14.6**	**-1.1**
K02D	**Willamette Mer**	**2.34**	**15**		**Pn**	**03 10 15.1**	**-0.8**
K02D				IAML		03 10 42.6	
	comp=E,3μm,0.5s						
K02D				IAML		03 10 42.9	
	comp=N,2μm,0.5s						
LTIM	**Timbered Crate**	**2.39**	**71**		**Pn**	**03 10 16.1**	**-0.5**
SUTB	**Sutter Butte**	**2.39**	**119**		**Pn**	**03 10 15.1**	**-1.6**
M04C	**Macdoel**	**2.41**	**55**		**Pn**	**03 10 16.7**	**-0.2**
L04D	**Klamath Falls**	**2.42**	**42**		**Pn**	**03 10 17.0**	**-0.1**
LMHM	**Little Mount H**	**2.42**	**61**		**Pn**	**03 10 16.8**	**-0.4**
KEBM	**Edson Butte**	**2.44**	**2**		**Pn**	**03 10 15.1**	**-2.2**
KEBM	**Edson Butte**	**2.44**	**2**	IAML		03 11 01.4	
	comp=N,1μm,1.0s						
KEBM				IAML		03 11 22.1	
	comp=E,1μm,1.4s						
OBHM	**Bloomer Hill**	**2.44**	**108**		**Pn**	**03 10 16.6**	**-0.7**
ORV	**Oroville**	**2.45**	**110**		**Pn**	**03 10 16.1**	**-1.2**
ORV	**Oroville**	**2.45**	**110**	IAML		03 10 47.0	
	comp=E,2μm,0.3s						
ORV				IAML		03 10 48.0	
	comp=N,2μm,0.3s						
HUMO	**Hull Mountain**	**2.45**	**27**		**Pn**	**03 10 16.2**	**-1.2**
HUMO	**Hull Mountain**	**2.45**	**27**	IAML		03 10 48.0	
	comp=N,2μm,0.4s						
HUMO				IAML		03 10 48.7	
	comp=E,2μm,0.4s						
OSTM	**Stimpson Lane**	**2.46**	**115**		**Pn**	**03 10 16.0**	**-1.4**
PAM	**Palermo**	**2.48**	**112**		**Pn**	**03 10 16.3**	**-1.4**
NTYM	**Taylor**	**2.48**	**145**		**Pn**	**03 10 16.6**	**-1.1**
LASM	**Arnica Sink**	**2.48**	**61**		**Pn**	**03 10 17.5**	**-0.6**
NBPM	**Berryessa Peak**	**2.49**	**134**		**Pn**	**03 10 17.7**	**-0.2**
OWYM	**Wyandotte**	**2.50**	**112**		**Pn**	**03 10 16.7**	**-1.3**
OHCM	**Honcut**	**2.55**	**114**		**Pn**	**03 10 17.4**	**-1.3**
NDHM	**Dunnigan Hills**	**2.59**	**129**		**Pn**	**03 10 18.4**	**-0.9**
MCCM	**Marconi Confer**	**2.60**	**151**		**Pn**	**03 10 17.9**	**-1.5**
MCCM	**Marconi Confer**	**2.60**	**151**	IAML		03 10 48.6	
	comp=N,1μm,0.8s						
CVS	**Carmenet Viney**	**2.60**	**142**		**Pn**	**03 10 18.1**	**-1.4**
NAPC	**Atlas Peak**	**2.63**	**138**		**Pn**	**03 10 19.0**	**-0.9**
NBRB	**Beebe Ranch Br**	**2.63**	**145**		**Pn**	**03 10 18.4**	**-1.5**
NPRM	**Point Reyes**	**2.68**	**155**		**Pn**	**03 10 19.0**	**-1.6**
J01E	**Myrtle Point**	**2.76**	**8**	IAML		03 10 57.0	
	comp=N,1μm,0.7s						
J01E				IAML		03 11 16.3	
	comp=E,1μm,0.7s						
DBO	**Dodson Butte**	**2.84**	**19**	IAML		03 11 02.0	
	comp=N,956nm,0.6s						
FARB	**Farallon Islan**	**2.96**	**157**		**Pn**	**03 10 22.9**	**-1.5**
K04D	**Chiloquin, OR**	**3.00**	**42**		**Pn**	**03 10 25.1**	**+0.1**
AFDM	**Forest Hills D**	**3.08**	**118**	Pn	**Pn**	**03 10 25.7**	**-0.4**
AFDM				IAML		03 11 08.7	
	comp=E,681nm,0.5s						
K05A	**Summer Lake**	**3.53**	**48**	Pn	**Pn**	**03 10 32.4**	**-0.1**
K05A				IAML		03 11 14.4	
	comp=N,585nm,0.8s						
EMB	**Emerald Bay**	**3.67**	**112**	IAML		03 11 21.2	
	comp=N,1μm,0.7s						
I04A	**Tendick Farm,**	**3.69**	**24**	IAML		03 11 18.2	
	comp=E,783nm,0.3s						
J05D	**Fort Rock, OR**	**3.74**	**39**	IAML		03 11 41.0	
	comp=E,465nm,1.0s						
J05D				IAML		03 11 48.1	
	comp=N,565nm,1.7s						
BUCK	**Buck Mountain**	**3.92**	**16**	IAML		03 11 26.7	
	comp=N,451nm,1.0s						
BUCK				IAML		03 12 06.2	
	comp=E,624nm,1.5s						
PAHR	**Pah Rah Range**	**3.97**	**99**	IAML		03 11 31.1	
	comp=N,371nm,0.6s						
PNTR	**Pine Nut**	**3.99**	**108**	IAML		03 11 39.1	
	comp=N,563nm,0.7s						
PNTR				IAML		03 11 40.1	
	comp=E,621nm,0.7s						
COR	**Corvallis**	**4.24**	**11**		**Pn**	**03 10 42.5**	**+0.6**
COR				IAML		03 11 58.5	
	comp=E,321nm,1.1s						
COR				IAML		03 12 09.5	
	comp=E,292nm,2.0s						
PINE	**Pine Mountain**	**4.26**	**37**	IAML		03 11 50.0	
	comp=N,297nm,1.1s						
H04D	**Lebanon**	**4.29**	**17**	IAML		03 11 52.8	
H04D				IAML		03 12 01.9	
	comp=E,600nm,1.4s						
YERR	**Yerington**	**4.29**	**108**	IAML		03 11 40.3	
	comp=E,499nm,0.6s						
YERR				IAML		03 11 46.8	
	comp=N,418nm,1.0s						
SAO	**San Andreas Ge**	**4.36**	**146**	Pn	**Pn**	**03 10 41.9**	**-1.8**
I05D	**Terrebonne, OR**	**4.54**	**30**	IAML		03 11 52.4	
	comp=N,231nm,1.1s						
I05D				IAML		03 12 03.9	
	comp=E,280nm,1.9s						
H04A	**Detroit Lake**	**4.57**	**21**	IAML		03 11 40.0	
	comp=N,311nm,0.3s						
H04A				IAML		03 11 44.3	
	comp=E,316nm,0.6s						
BBGB	**Big Mountain B**	**4.70**	**144**	IAML		03 11 25.0	
	comp=E,448nm,0.7s						
BBGB				IAML		03 11 32.7	
	comp=N,468nm,0.7s						
G03D	**McMinnville, O**	**4.86**	**10**	IAML		03 12 09.4	
	comp=E,201nm,1.7s						
G03D				IAML		03 12 20.2	
	comp=N,267nm,1.2s						
PMPB	**Monarch Peak**	**5.11**	**144**	IAML		03 11 34.7	
	comp=E,173nm,0.8s						
PMPB				IAML		03 12 31.2	
	comp=N,137nm,1.8s						
LHV	**Little Huntoon**	**5.12**	**113**	IAML		03 12 42.7	
	comp=N,187nm,1.8s						
LHV				IAML		03 12 44.1	
	comp=E,250nm,1.8s						
NVAR	**Mina Array Bea**	**5.18**	**111**		**Pn**	**03 10 54.7**	**-0.4**
NVAR	**Mina Array Bea**	**5.18**	**111**	Pn	**Pn**	**03 10 55.5**	**+0.4**
	comp=E,25nm,0.3s,baz=289,slow=14,SNR=246						
NVAR				Sn	**Sn**	**03 11 54.4**	**+0.3**
	comp=E,7.2nm,0.3s,baz=349,slow=14,SNR=1.7						
NVAR				Lg	Lg	03 12 11.5	
	comp=E,9.2nm,0.3s,baz=172,slow=31,SNR=4.1						
	comp=E,30nm,0.4s						
NV11	**Mina Array Sit**	**5.29**	**110**	IAML		03 12 42.6	
	comp=N,135nm,2.3s						
HOOD	**Mount Hood Mea**	**5.31**	**22**	IAML		03 12 31.7	
	comp=E,159nm,1.2s						
HOOD				IAML		03 12 36.9	
	comp=N,155nm,1.6s						
G05A	**Wamic**	**5.34**	**25**	IAML		03 12 54.7	
	comp=E,135nm,2.8s						
G05A				IAML		03 13 03.6	
	comp=N,188nm,4.0s						
VOG	**Valley Oaks Go**	**5.73**	**134**	P	**Pn**	**03 11 03.7**	**+1.2**
	baz=317,SNR=13						
TIN	**Tinemaha, Big**	**5.93**	**123**	P	**Pn**	**03 11 09.9**	**+4.5**
	baz=306						
SMMC	**Simmler**	**6.22**	**144**	P	**Pn**	**03 11 07.9**	**-1.3**
	baz=326,SNR=13						
VES	**Vestal, Richgr**	**6.25**	**135**	P	**Pn**	**03 11 10.3**	**+0.8**
	baz=319,SNR=100						
CWC	**Cottonwood Cre**	**6.41**	**126**	P	**Pn**	**03 11 12.6**	**+0.6**
	baz=310						
GRAC	**Grapevine Rang**	**6.53**	**119**	P	**Pn**	**03 11 15.6**	**+2.1**
	baz=304						
PKM	**Mcpherson Peak**	**6.66**	**145**	P	**Pn**	**03 11 15.3**	**0.0**
	baz=328,SNR=7.4						
ISA	**Isabella, Lake**	**6.71**	**133**	P	**Pn**	**03 11 18.1**	**+2.1**
	baz=317,SNR=219						
ARVC	**Arvin**	**6.93**	**138**	P	**Pn**	**03 11 20.3**	**+1.4**
	baz=321,SNR=166						
MPMC	**Manual Prospec**	**7.02**	**126**	P	**Pn**	**03 11 22.6**	**+2.2**
	baz=310						
ELK	**Elko**	**7.04**	**84**	Pn	**Pn**	**03 11 20.4**	**-0.3**
	comp=N,2.3nm,0.3s,baz=284,slow=16,SNR=33						
ELK				Lg	Lg	03 13 13.6	
	comp=N,1.4nm,0.3s,baz=48,slow=15,SNR=2.6						
	comp=N,7.6nm,0.3s						
R11B	**Troy Canyon,**	**7.19**	**104**	P	**Pn**	**03 11 23.2**	**+0.5**
	baz=290,SNR=28						
LRMC	**Laurel Mtn Rad**	**7.30**	**131**	P	**Pn**	**03 11 24.8**	**+0.8**
	baz=315						
OSI	**Osito Audit: C**	**7.39**	**140**	P	**Pn**	**03 11 26.1**	**+0.8**
	baz=323,SNR=6.5						
SCZ2	**Santa Cruz Isl**	**7.50**	**147**	P	**Pn**	**03 11 26.5**	**-0.2**
	baz=330						
EDW2	**Edwards Air Fo**	**7.56**	**135**	P	**Pn**	**03 11 29.2**	**+1.6**
	baz=319,SNR=111						
DECC	**Green Verdugo**	**7.87**	**140**	P	**Pn**	**03 11 33.5**	**+1.6**
	baz=323,SNR=13						
SHOC	**Shoshone, Teco**	**7.88**	**122**	P	**Pn**	**03 11 35.1**	**+3.0**
	baz=308						
GSC	**Goldstone, Bar**	**7.94**	**128**	P	**Pn**	**03 11 34.8**	**+2.0**
	baz=312,SNR=50						
RRX	**Edison Barstow**	**8.12**	**131**	P	**Pn**	**03 11 37.3**	**+2.0**
	baz=315,SNR=12						
HLID	**Hailey**	**8.12**	**64**	P	**Pn**	**03 11 36.9**	**+1.5**
	baz=251,SNR=32						
BFSC	**Mount Baldy Ra**	**8.22**	**137**	P	**Pn**	**03 11 38.2**	**+1.4**
	baz=321,SNR=64						
TUQ	**Turquoise Moun**	**8.40**	**124**	P	**Pn**	**03 11 42.2**	**+3.0**
	baz=309						
CIS	**Catalina Islan**	**8.53**	**143**	P	**Pn**	**03 11 39.9**	**-1.0**
	baz=327						
HEC	**Hector,Ludlow**	**8.54**	**128**	P	**Pn**	**03 11 42.7**	**+1.6**
	baz=313,SNR=23						
BBRC	**Big Bear Solar**	**8.61**	**133**	P	**Pn**	**03 11 43.3**	**+1.2**
	baz=318,SNR=5.2						
DUG	**Dugway, Tooele**	**8.91**	**88**	P	**Pn**	**03 11 47.8**	**+1.5**
	baz=275,SNR=27						
MURC	**Murrieta**	**8.96**	**137**	P	**Pn**	**03 11 47.5**	**+0.7**
	baz=322,SNR=29						
GMRC	**Granite Mounta**	**8.98**	**126**	P	**Pn**	**03 11 48.6**	**+1.4**
	baz=312,SNR=13						
BELC	**Belle Mtn. Jos**	**9.32**	**131**	P	**Pn**	**03 11 53.4**	**+1.5**
	baz=316,SNR=14						
PFO	**Pinyon Flats O**	**9.35**	**134**	Pn	**Pn**	**03 11 52.5**	**+0.3**
PFO	**Pinyon Flats O**	**9.35**	**134**	P	**Pn**	**03 11 53.4**	**+1.2**
	baz=319,SNR=11						
PFO	**Pinyon Flats O**	**9.35**	**134**	Pn	**Pn**	**03 11 53.2**	**+1.0**
	comp=N,23nm,0.3s,baz=316,slow=10,SNR=90						
PFO				Lg	Lg	03 14 24.9	
	comp=N,0.2nm,0.3s,baz=220,slow=16,SNR=1.7						
PFO				LR	LR	03 15 57.6	
	comp=N,420nm,19.0s,baz=62,slow=41						
TPFO	**Pinon Flats**	**9.35**	**134**	P	**Pn**	**03 11 53.3**	**+1.0**
	baz=319,SNR=20						
NEW	**Newport**	**9.43**	**31**	P	**Pn**	**03 11 54.9**	**+1.6**
	baz=217						
NEW	**Newport**	**9.43**	**31**	Pn	**Pn**	**03 11 54.1**	**+0.8**
	comp=N,0.5nm,0.3s,baz=234,slow=11,SNR=6.9						
NEW				LR	LR	03 15 30.8	
	comp=N,265nm,19.0s,baz=222,slow=38						
	comp=N,2.1nm,0.4s						
109C	**Camp Elliot, M**	**9.57**	**140**	P	**Pn**	**03 11 56.3**	**+1.1**
	baz=324						
IRM	**Iron Mountain**	**9.72**	**127**	P	**Pn**	**03 11 58.1**	**+0.9**
	baz=313,SNR=6.0						
BC3	**Big Chuckawall**	**9.88**	**130**	P	**Pn**	**03 12 00.5**	**+1.0**
	baz=316,SNR=14						
MONP2	**Monument Peak**	**9.92**	**137**	P	**Pn**	**03 12 01.7**	**+1.6**
	baz=322,SNR=33						
BAR	**Barrett**	**9.96**	**139**		**Pn**	**03 12 00.1**	**-0.4**
SWSC	**Sam W. Stewart**	**10.21**	**134**	P	**Pn**	**03 12 04.4**	**+0.5**
	baz=320						
PDMCI	**Parker Dam,Lak**	**10.25**	**123**	P	**Pn**	**03 12 07.2**	**+2.8**
	baz=310,SNR=8.7						
IKP	**In-Ko-Pah, Jac**	**10.27**	**136**	P	**Pn**	**03 12 06.1**	**+1.2**
	baz=322,SNR=7.5						
BLYC	**Blythe**	**10.37**	**127**	Pn	**Pn**	**03 12 07.4**	**+1.3**
YUH	**Yuha Desert**	**10.37**	**136**	Pn	**Pn**	**03 12 06.8**	**+0.6**
GLA	**Glamis**	**10.68**	**131**	P	**Pn**	**03 12 11.7**	**+1.3**
	baz=316,SNR=17						
BOZ	**Bozeman (W)**	**10.73**	**57**		**Pn**	**03 12 09.3**	**-1.7**
BOZ	**Bozeman (W)**	**10.73**	**57**	P	**Pn**	**03 12 12.8**	**+1.7**
	baz=246,SNR=12						
LYMT	**Lyon Mountain**	**10.97**	**49**	Pn	**Pn**	**03 12 13.0**	**-1.5**
H17A	**Grant Village**	**11.01**	**64**	P	**Pn**	**03 12 16.6**	**+1.5**
	baz=254						
BW06	**Boulder Array**	**11.41**	**73**	P	**Pn**	**03 12 21.9**	**+1.4**
	baz=263						
PDAR	**Pinedale Array**	**11.41**	**73**	Pn	**Pn**	**03 12 20.7**	**+0.1**
	baz=238,slow=8.4,SNR=5.5						
PDAR				LR	LR	03 17 30.5	
	comp=N,197nm,20.0s,baz=260,slow=42						
	comp=N,1.7nm,1.0s						
WUAZ	**Wupatki**	**11.44**	**111**	P	**Pn**	**03 12 23.3**	**+2.4**
	baz=299						
BBB	**Bella Bella**	**12.02**	**349**	Pn	**Pn**	**03 12 31.0**	**+2.5**
	comp=N,0.6nm,0.3s,baz=231,slow=22,SNR=7.2						
RLMT	**Red Lodge**	**12.12**	**62**	P	**Pn**	**03 12 31.7**	**+1.6**
	baz=253,SNR=8.2						
O20A	**White River Ci**	**12.40**	**86**	P	**Pn**	**03 12 35.3**	**+1.2**
	baz=277						
214A	**Organ Pipe Nat**	**12.65**	**128**	P	**Pn**	**03 12 38.5**	**+1.1**
	baz=315						
MVCO	**Mesa Verde**	**12.87**	**99**	Pn	**Pn**	**03 12 40.3**	**-0.2**
MVCO	**Mesa Verde**	**12.87**	**99**	P	**Pn**	**03 12 42.3**	**+1.8**
	baz=289,SNR=5.2						
K22A	**Casper**	**13.63**	**75**		**Pn**	**03 12 50.8**	**0.0**
K22A	**Casper**	**13.63**	**75**	P	**Pn**	**03 12 52.0**	**+1.2**
	baz=267,SNR=9.3						
TUC	**Tucson**	**13.68**	**122**	P	**Pn**	**03 12 52.3**	**+0.9**
	baz=310						
N23A	**Red Feather La**	**14.08**	**82**	P	**Pn**	**03 12 58.0**	**+1.0**
	baz=274						
RUBB	**Prince Rupert**	**14.43**	**346**	Pn	**Pn**	**03 13 00.3**	**-1.2**
ISCO	**Idaho Springs**	**14.45**	**86**	Pn	**Pn**	**03 13 03.2**	**+1.0**
ISCO	**Idaho Springs**	**14.45**	**86**	P	**Pn**	**03 13 03.4**	**+1.2**
	baz=279,SNR=12						
BRLDA	**Berland Lookou**	**14.47**	**17**	Pn	**Pn**	**03 13 03.5**	**+1.3**
Q24A	**Divide**	**14.95**	**89**	P	**Pn**	**03 13 09.9**	**+0.9**
	baz=282,SNR=14						
SDCO	**Great Sand Dun**	**14.98**	**94**	IAmb	IAmb	03 13 13.5	
	comp=Z,54nm,1.2s						
SDCO	**Great Sand Dun**	**14.98**	**94**	P	**Pn**	**03 13 11.3**	**+2.0**
	baz=286,SNR=39						
319A	**Douglas**	**15.26**	**122**	Pn	**Pn**	**03 13 11.9**	**-0.9**
319A				IAmb	IAmb	03 13 31.6	
	comp=Z,22nm,1.1s						
ANMO	**Albuquerque**	**15.27**	**105**	P	**Pn**	**03 13 15.4**	**+2.3**
	baz=296						
ANMO	**Albuquerque**	**15.27**	**105**	Pn	**Pn**	**03 13 14.2**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=18,slow=8.9,SNR=6.8						
ANMO				LR	LR	03 18 54.6	
	comp=Z,111nm,21.0s,baz=24,slow=37						
BRIGG	**Briggsdale**	**15.34**	**83**	IAmb	IAmb	03 13 19.1	
	comp=Z,26nm,0.8s						
121A	**Cooks Peak, D**	**15.55**	**115**	P	**Pn**	**03 13 17.7**	**+0.9**
	baz=305						
RSSD	**Black Hills**	**15.57**	**70**	Pn	**Pn**	**03 13 16.4**	**-0.5**
RSSD	**Black Hills**	**15.57**	**70**	P	**Pn**	**03 13 14.4**	**-2.5**
	baz=263						
V35K	**Ketchikan**	**15.64**	**345**	P	**Pn**	**03 13 18.8**	**+1.3**
	baz=160						
T25A	**Trinidad**	**15.99**	**95**	IAmb	IAmb	03 13 25.4	
	comp=Z,37nm,1.4s						
T25

PLBC	Pleasant Camp baz=153	20.46	342	P	P	03 14 14.9	+0.4
P33M	Teslin, Yukon	20.47	348	P	P	03 14 13.2	-1.4
P33M	Teslin, Yukon baz=162	20.47	348	P	P	03 14 15.2	+0.5
OK038	West end E0370 comp=Z,21nm,0.7s	20.51	93	IAmb	IAmb	03 14 19.2	
FFC	Flin Flon	20.72	39	P	P	03 14 16.1	-1.2
OK032	Salt Plains WL comp=Z,35nm,0.8s	20.81	92	IAmb	IAmb	03 14 21.7	
P29M	Windy Craggy baz=151	20.95	341	P	P	03 14 20.1	+0.4
KAN05	Bluff City Nor comp=Z,26nm,0.7s	20.98	91	IAmb	IAmb	03 14 23.5	
CROK	Carrier comp=Z,18nm,0.8s	21.08	92	IAmb	IAmb	03 14 25.1	
KAN17	Caldwell West comp=Z,32nm,0.8s	21.08	91	IAmb	IAmb	03 14 24.7	
WMOK	Wichita Mounta	21.11	97	P	P	03 14 20.6	-1.0
WMOK	Wichita Mounta baz=293,SNR=5.1	21.11	97	P	P	03 14 21.1	-0.6
KAN09	Caldwell North comp=Z,19nm,0.6s	21.16	90	IAmb	IAmb	03 14 20.7	
P30M	Million Dollar baz=153	21.20	343	P	P	03 14 23.1	+0.7
TGTN	Hyland Airport baz=172	21.25	355	P	P	03 14 24.1	+1.1
WHY	Whitehorse baz=158	21.25	346	P	P	03 14 23.8	+0.7
KAN13	South Haven SW comp=Z,25nm,0.6s	21.31	91	IAmb	IAmb	03 14 22.2	
ABTX	Abilene, Hawle comp=Z,17nm,1.2s	21.38	104	IAmb	IAmb	03 14 26.9	
ABTX	Abilene, Hawle baz=298	21.38	104	P	P	03 14 24.3	-0.3
N32M	Quiet Lake baz=162	21.41	349	P	P	03 14 25.6	+0.9
PNL	Peninsula baz=148	21.41	339	P	P	03 14 25.1	+0.4
KSU1	Kansas State U baz=282,SNR=16	21.43	84	P	P	03 14 27.5	+2.5
O30N	Mendenhall comp=Z,20nm,1.2s	21.59	344	IAmb	IAmb	03 14 39.8	
O30N	Mendenhall baz=155	21.59	344	P	P	03 14 26.5	-0.1
O29M	Mount Kennedy comp=Z,39nm,1.4s	21.74	341	IAmb	IAmb	03 14 40.7	
O29M	Mount Kennedy baz=150	21.74	341	P	P	03 14 28.9	+0.5
AGMN	Agassiz Nation	21.82	59	P	P	03 14 27.4	-1.7
AGMN comp=Z,27nm,0.7s				IAmb	IAmb	03 14 30.8	
AGMN	Agassiz Nation baz=260,SNR=22	21.82	59	P	P	03 14 27.5	-1.7
OK048	Pawnee Station comp=Z,19nm,0.7s	21.90	92	IAmb	IAmb	03 14 28.5	
HYT	Haines Junctio baz=153	21.95	343	P	P	03 14 31.1	+0.5
T35A	Sooner Cattle comp=Z,16nm,0.8s	22.07	90	IAmb	IAmb	03 14 44.4	
OK052	Battle Ridge R comp=Z,20nm,0.9s	22.15	93	IAmb	IAmb	03 14 36.3	
ULM	Lac du Bonnet	22.25	54	P	P	03 14 31.6	-2.1
ULM comp=Z,20nm,1.2s				IAmb	IAmb	03 14 36.1	
ULM	Lac du Bonnet comp=Z,9.6nm,0.6s,baz=259,slow=8.6,SNR=14	22.25	54	P	P	03 14 30.6	-3.1
ULM comp=Z,155nm,19.6s,baz=254,slow=38 comp=Z,9.6nm,0.6s				LR	LR	03 23 39.0	
YUK6	Outpost Mounta baz=151	22.25	342	P	P	03 14 34.3	+0.4
JCT	Junction City baz=303	22.35	109	P	P	03 14 35.2	+0.1
N30M	Aishikik Lake baz=154	22.42	344	P	P	03 14 36.0	+0.4
FARO	Faro, Yukon baz=162	22.48	349	P	P	03 14 36.0	-0.2
MMPY	Sheldon Lake, baz=166	22.59	352	P	P	03 14 38.0	+0.6
M31M	Drury Creek, Y comp=Z,19nm,1.4s	22.61	348	IAmb	IAmb	03 14 50.0	
M31M	Drury Creek, Y baz=160	22.61	348	P	P	03 14 37.1	-0.5
YUK4	Talbot Arm baz=151	22.67	342	P	P	03 14 38.4	+0.1
WRGLY	Wrigley comp=Z,22nm,1.2s	22.84	1	IAmb	IAmb	03 14 49.6	
WRGLY	Wrigley baz=182	22.84	1	P	P	03 14 40.1	+0.3
YKA	Yellowknife Ar	22.88	12	P	P	03 14 40.6	+0.4
YKA	Yellowknife Ar comp=Z,4.7nm,0.8s,baz=202,slow=11,SNR=44	22.88	12	P	P	03 14 40.2	-0.1
YKA comp=Z,221nm,18.2s,baz=116,slow=40 comp=Z,4.7nm,0.8s				LR	LR	03 24 46.6	
TUL3	Leonard baz=290	22.95	92	P	P	03 14 40.6	-0.7
B35A	Bob, Littlefor comp=Z,9.0nm,0.7s	23.24	60	IAmb	IAmb	03 14 45.0	
Q23K	Middleton Isla baz=135	23.46	331	P	P	03 14 46.0	-0.1
YUK3	Moose Creek baz=148	23.48	341	P	P	03 14 46.5	-0.2
SCIA	State Center baz=277	23.52	76	P	P	03 14 47.5	+0.6
M29M	Somme Creek baz=153	23.60	344	P	P	03 14 47.6	0.0
SPMN	Marine on St. baz=270,SNR=12	23.63	68	P	P	03 14 45.0	-3.0
435B	Jarrell baz=301	23.81	105	P	P	03 14 49.9	+0.1
U38A	Gravette comp=Z,11nm,0.8s	23.85	90	IAmb	IAmb	03 15 04.5	
833A	Chaparral WMA, baz=307	23.88	113	P	P	03 14 50.1	-0.4
BVCY	Beaver Creek baz=148	24.12	341	P	P	03 14 52.7	+0.2
L29M	L29M baz=154	24.12	345	P	P	03 14 52.7	+0.1
S39A	Bolivar comp=Z,12nm,0.9s	24.28	86	IAmb	IAmb	03 15 24.4	
N25K	Chitina, Valde baz=141	24.49	337	P	P	03 14 56.4	+0.5
E38A	The Farm, Brul comp=Z,25nm,1.5s	24.54	64	IAmb	IAmb	03 15 03.6	
M26K	Nabesna, AK baz=145	24.66	339	P	P	03 14 57.8	+0.4
EYMN	Ely	24.67	61	P	P	03 14 56.8	-0.9
EYMN	Ely baz=265	24.67	61	P	P	03 14 57.0	-0.6
K29M	Barlow Dome comp=Z,16nm,1.4s	24.68	346	IAmb	IAmb	03 15 11.9	
K29M	Barlow Dome baz=156	24.68	346	P	P	03 14 58.6	+1.0
P40A	Paris comp=Z,13nm,0.8s	24.79	81	IAmb	IAmb	03 15 00.3	
KLU	Klutina baz=138	24.82	335	P	P	03 14 59.3	+0.4
L27K	Beaver Creek, baz=147	24.91	341	P	P	03 15 00.6	+0.9
R40A	Maddies Statio comp=Z,14nm,1.1s	24.92	84	IAmb	IAmb	03 15 33.5	
L40A	Anamosa comp=Z,13nm,1.1s	24.97	75	IAmb	IAmb	03 15 01.7	
KDAK	Kodiak Island comp=Z,218nm,19.4s,baz=149,slow=31	25.02	323	LR	LR	03 22 27.5	
MIAR	Mount Ida baz=293	25.13	94	P	P	03 15 01.4	-0.5
J30M	Hart River comp=Z,8.2nm,0.8s	25.15	348	IAmb	IAmb	03 15 05.4	
J30M	Hart River baz=158,SNR=7.6	25.15	348	P	P	03 15 02.3	+0.4
I40A	Norwalk comp=Z,22nm,0.9s	25.23	71	IAmb	IAmb	03 15 04.2	
DAWY	Dawson	25.24	345	P	P	03 15 03.5	+0.9
DAWY	Dawson baz=153	25.24	345	P	P	03 15 03.7	+1.1
MGMO	Mountain Grove comp=Z,8.9nm,0.9s	25.24	87	IAmb	IAmb	03 15 30.8	
J29N	Klondike Camp baz=155	25.36	346	P	P	03 15 05.1	+1.4
G40A	Rib Lake comp=Z,24nm,1.2s	25.47	68	IAmb	IAmb	03 15 04.7	
SCM	Sheep Creek Mo baz=137	25.52	335	P	P	03 15 04.7	-0.5
JFWS	Jewell Farm comp=Z,20nm,1.1s	25.59	73	IAmb	IAmb	03 15 11.4	
JFWS	Jewell Farm baz=276	25.59	73	P	P	03 15 05.3	-0.6
KNK	Knik Glacier baz=134	25.60	333	P	P	03 15 06.7	+0.8
M23K	Glacier View baz=136	25.62	334	P	P	03 15 06.3	+0.2
FCAR	Ozark Folk Cen comp=Z,16nm,1.5s	25.75	90	IAmb	IAmb	03 15 23.7	
I30M	Mount Dempster baz=159	25.76	348	P	P	03 15 07.4	-0.1
CCM	Cathedral Cave	25.76	84	P	P	03 15 07.2	-0.4
CCM	Cathedral Cave baz=286	25.76	84	P	P	03 15 07.2	-0.4
SML	Sawmill baz=135	25.83	334	P	P	03 15 08.5	+0.4
WHAR	Wooly Hollow comp=Z,8.7nm,0.7s	25.84	91	IAmb	IAmb	03 15 08.6	
PMR	Palmer baz=133	25.96	333	P	P	03 15 09.3	+0.2
L42A	Oliver, Polo comp=Z,18nm,0.8s	26.13	75	IAmb	IAmb	03 15 12.1	
SCRK	Sand Creek baz=145	26.21	341	P	P	03 15 11.8	+0.2
O20K	Slope Mountain baz=126	26.31	328	P	P	03 15 13.0	+0.6
M22K	Willow baz=132	26.41	332	P	P	03 15 13.8	+0.6
SUA	Susitna One baz=131	26.45	331	P	P	03 15 13.2	-0.5
DHY	Denali Highway baz=138	26.45	337	P	P	03 15 13.1	-0.6
I42A	Draeger Farm, comp=Z,10nm,0.9s	26.46	71	IAmb	IAmb	03 15 26.4	
J26L	Joseph Creek	26.54	342	P	P	03 15 16.6	+2.1
J26L	Joseph Creek baz=146	26.54	342	P	P	03 15 14.0	-0.5
K24K	Donnelly Dome baz=142	26.55	339	P	P	03 15 14.6	+0.1
FCC	Fort Churchill	26.55	36	P	P	03 15 15.5	+1.0
FCC comp=Z,10.0nm,0.9s				IAmb	IAmb	03 15 28.6	
I28M	Miner Creek baz=153	26.58	346	P	P	03 15 15.2	+0.4
WAT1	Susitna Watana baz=136	26.64	335	P	P	03 15 14.9	-0.4
HDIL	Hopedale baz=281	26.65	78	P	P	03 15 15.0	-0.6
N20K	Mount Spurr baz=128	26.82	330	P	P	03 15 17.1	0.0
H29M	Whitestone comp=Z,13nm,0.8s	27.00	348	IAmb	IAmb	03 15 21.3	
H29M	Whitestone baz=156,SNR=9.0	27.00	348	P	P	03 15 20.0	+1.5
J25K	Salcha River, baz=143	27.09	340	P	P	03 15 19.4	0.0
G31M	Salah River baz=164	27.10	352	P	P	03 15 20.0	+0.7
I26K	Coal Creek Min baz=148	27.12	343	P	P	03 15 20.3	+0.7
H43A	Windswept, Lux comp=Z,19nm,0.8s	27.23	69	IAmb	IAmb	03 15 22.5	
G30M	tAoh Zraii Nji baz=160	27.39	350	P	P	03 15 22.1	+0.1
MCK	McKinley baz=137	27.41	336	P	P	03 15 22.2	0.0
F31M	Tsiigehtchic baz=165	27.54	352	P	P	03 15 24.1	+0.9
G29M	Pine Creek comp=Z,11nm,0.8s	27.59	348	IAmb	IAmb	03 15 26.2	
G29M	Pine Creek baz=157,SNR=6.4	27.59	348	P	P	03 15 25.2	+1.5
ILAR	Eielson Array comp=Z,1.8nm,0.9s,baz=150,slow=8.4,SNR=19 comp=Z,1.8nm,0.9s	27.61	339	P	P	03 15 25.8	+1.8
TRF	Thorofare Moun baz=134	27.64	335	P	P	03 15 24.9	+0.5
E43A	Lone Tree Farm comp=Z,16nm,0.8s	27.68	65	IAmb	IAmb	03 15 26.4	
PRP	Porcupine Dome baz=144	27.86	341	P	P	03 15 26.7	+0.4
PPLA	Purkeypile baz=131	27.90	333	P	P	03 15 27.4	+0.7
F30M	Barrier River baz=161	27.93	351	P	P	03 15 27.7	+0.9
N18K	Kilae Creek baz=122	28.00	327	P	P	03 15 28.2	+0.7
POKR	Poker Plat Res baz=141	28.03	339	P	P	03 15 28.1	+0.4
O17K	Koliganek Bris baz=119	28.05	325	P	P	03 15 28.0	+0.1
NEA2	Nenana baz=138	28.09	338	P	P	03 15 28.7	+0.5
G27K	Doyon Strip baz=152	28.11	346	P	P	03 15 28.3	-0.1
CAST	Castle Rocks baz=132	28.21	334	P	P	03 15 30.1	+0.8
L20K	Farewell, AK baz=128	28.24	331	P	P	03 15 29.4	-0.2
BPAW	Bear Paw Mtn. baz=134	28.31	336	P	P	03 15 30.7	+0.4
OXF	Oxford baz=292	28.32	91	P	P	03 15 30.4	-0.3
SFIN	Lafayette comp=Z,8.3nm,0.8s	28.33	78	IAmb	IAmb	03 15 32.1	
SFIN	Lafayette baz=282	28.33	78	P	P	03 15 31.0	+0.4
INK	Inuvik baz=165	28.36	353	P	P	03 15 31.4	+0.8
INK	Inuvik comp=Z,71nm,18.6s,baz=167,slow=37	28.36	353	LR	LR	03 27 10.6	
M18K	Stony River baz=124	28.41	328	P	P	03 15 31.6	+0.5
O16K	Kokwok River B baz=118	28.41	324	P	P	03 15 31.9	+0.7
L19K	White Mountain baz=126	28.42	330	P	P	03 15 31.5	+0.2
N17K	Nushagak Hills baz=120	28.46	326	P	P	03 15 31.5	-0.1
F28M	Old Crow baz=155	28.52	348	P	P	03 15 32.7	+0.7
H25L	Birch Creek baz=144	28.54	342	P	P	03 15 33.1	+0.9
I23K	Minto, Yukon-K baz=138	28.58	338	P	P	03 15 33.4	+0.8
CHUM	Lake Minchumin baz=132	28.59	334	P	P	03 15 33.0	+0.3
G26K	Porcupine Rive baz=148	28.66	344	P	P	03 15 33.0	-0.2
H24K	Nodor Dome baz=141	28.70	340	P	P	03 15 33.9	+0.2
K20K	Telida baz=129	28.85	333	P	P	03 15 35.9	+0.8
MLY	Manley baz=136	28.90	337	P	P	03 15 36.8	+1.4
E29M	Blow River baz=159	28.94	350	P	P	03 15 37.1	+1.3
WVT	Waverly baz=290	28.95	87	P	P	03 15 36.8	+0.6
C36M	Paulatuk baz=181	28.98	0	P	P	03 15 36.7	+0.7
G25K	Bearman Lake baz=145	29.01	342	P	P	03 15 37.3	+0.9
M17K	Holitna River baz=121	29.02	327	P	P	03 15 36.8	+0.3
PLAL	Pickwick Lake comp=Z,11nm,1.4s	29.17	89	IAmb	IAmb	03 15 46.0	
G24K	Hadweenzic Riv baz=142	29.28	341	P	P	03 15 39.8	+1.0
TTA	Tatalina baz=125	29.30	331	P	P	03 15 39.6	+0.5
E27K	Coleen River comp=Z,5.9nm,0.8s	29.32	347	IAmb	IAmb	03 15 42.5	
E27K	Coleen River baz=153	29.32	347	P	P	03 15 39.5	+0.3
F26K	Sheenjek River baz=148	29.37	345	P	P	03 15 40.5	+0.8
E28M	Babbage River baz=156	29.38	349	P	P	03 15 40.5	+0.9
I21K	Tanana baz=134	29.38	337	P	P	03 15 41.2	+1.5
J20K	Nowinta River baz=130	29.40	334	P	P	03 15 41.0	+1.1
GLMI	Grayling baz=276	29.44	68	P	P	03 15 40.7	+0.2
M16K	Timber Creek baz=119	29.47	326	P	P	03 15 40.9	+0.4
WCI	Wyandotte Cave baz=286	29.47	82	P	P	03 15 40.7	-0.1
F25K	Christian Rive baz=146	29.59	344	P	P	03 15 42.0	+0.3
H22K	Ishtalitna Cre baz=136	29.70	338	P	P	03 15 43.9	+1.3
L17K	Donlin baz=121	29.75	328	P	P	03 15 44.6	+1.6
J19K	Poorman	29.79	333	P	P	03 15 43.5	+0.2
J19K comp=Z,9.5nm,1.2s				IAmb	IAmb	03 15 55.9	
J19K	Poorman baz=128	29.79	333	P	P	03 15 45.2	+1.8
O48B	Farmland comp=Z,12nm,0.8s	29.80	77	IAmb	IAmb	03 15 44.1	
O48B	Farmland baz=283	29.80	77	P	P	03 15 43.7	0.0
J18K	Innoko River baz=125	29.87	331	P	P	03 15 45.3	+1.3
I20K	Naaghedeneel baz=130	29.91	335	P	P	03 15 46.0	+1.7
D28M	Stokes Point baz=158	29.93	350	P	P	03 15 45.8	+1.3
G23K	Bananza Creek baz=139	29.93	340	P	P	03 15 46.8	+2.1
H21K	Melozitna Rive baz=134	29.95	337	P	P	03 15 46.2	+1.4
L16K	Owhat River baz=119	30.02	327	P	P	03 15 47.2	+1.9
E25K	Arctic Village baz=147	30.02	344	P	P	03 15 46.9	+1.6
F24K	Squaw Lake baz=143	30.03	342	P	P	03 15 47.2	+1.7
K17K	Iditarod baz=122	30.05	329	P	P	03 15 47.3	+1.6
M15K	Kasigluk River baz=116	30.07	325	P	P	03 15 45.7	-0.1
D27M	Malcolm River baz=154	30.17	348	P	P	03 15 47.8	+1.0
N14K	Kuskokwak Cree baz=114	30.20	323	P	P	03 15 47.9	+1.0
P49A	Miami Univ. Ec baz=285	30.30	79	P	P	03 15 48.0	-0.1
G22K	Bettles baz=137	30.49	339	P	P	03 15 51.1	+1.6
H20K	Anotleneega Mo baz=130	30.49	335	P	P	03 15 50.3	+0.8
J17K	VABM Dome baz=122	30.71	330	P	P	03 15 53.0	+1.5
LRAL	Lakeview Retre baz=295	30.76	92	P	P	03 15 52.0	-0.1
G21K	Allakaket baz=134	30.76	338	P	P	03 15 53.5	+1.6
E23K	Chandalar baz=141	30.87	342	P	P	03 15 54.5	+1.5
H19K	Roundabout Mou comp=Z,7.9nm,0.8s	31.02	335	IAmb	IAmb	03 15 57.2	
H19K	Roundabout Mou baz=128,SNR=5.4	31.02	335	P	P	03 15 55.9	+1.8
D25K	Kavik River comp=Z,4.4nm,0.8s	31.19	345	IAmb	IAmb	03 15 59.3	
D25K	Kavik River baz=147,SNR=6.2	31.19	345	P	P	03 15 57.2	+1.5
F21K	Alatna River baz=135	31.24	339	P	P	03 15 57.7	+1.5
J16K	Anvik River baz=120	31.25	329	P	P	03 15 57.7	+1.5
TOLK	Toolik Lake Re comp=Z,8.6nm,1.0s	31.31	343	IAmb	IAmb	03 16 00.7	
TOLK	Toolik Lake Re baz=142	31.31	343	P	P	03 15 58.9	+2.1
ACSO	Alum Creek Sta baz=284	31.42	77	P	P	03 15 58.1	0.0
C26K	Camden Bay baz=149,SNR=7.7	31.43	347	P	P	03 15 59.9	+2.2
E22K	Anaktuvuk Pass comp=Z,5.0nm,1.1s	31.46	341	IAmb	IAmb	03 16 06.6	
E22K	Anaktuvuk Pass baz=138	31.46	341	P	P	03 15 59.9	+1.8
A36M	Sachs Harbour baz=179	31.63	360	P	P	03 16 00.5	+1.0
D23K	Nanushuk River baz=140	31.82	342	P	P	03 16 03.2	+2.0
C24K	Franklin Bluff baz=144	31.98	344	P	P	03 16 04.0	+1.4
TKL	Tuckaleechee C comp=Z,103nm,18.7s,baz=292,slow=40	32.20	85	LR	LR	03 30 41.8	
P52A	Corning baz=285	32.21	77	P	P	03 16 05.1	+0.1
F19K	Shaleruckik Mo baz=128	32.25	336	P	P	03 16 05.3	+0.4
E19K	Redstone River comp=Z,10nm,1.1s	32.48	337	IAmb	IAmb	03 16 10.3	
E19K	Redstone River baz=130	32.48	337	P	P	03 16 08.1	+1.2
C23K	Itkillik River baz=141	32.48	343	P	P	03 16 08.1	+1.1
H16K	Elim baz=120	32.55	331	P	P	03 16 08.2	+0.6
F18K	Selawik baz=126	32.71	335	P	P	03 16 09.2	+0.2
O53A	New Philadelph baz=285	32.73	76	P	P	03 16 08.1	-1.4
M53A	WI Miller and baz=283	32.84	74	P	P	03 16 09.7	-0.8
C21K	Knifeblade Rid baz=135	32.96	341	P	P	03 16 12.4	+1.3
G16K	Koyuk River baz=121	32.97	332	P	P	03 16 12.2	+0.9
D20K	Etivluk River baz=132	33.13	339	P	P	03 16 13.3	+0.6
F17K	Baldwin Pennin baz=123	33.15	334	P	P	03 16 13.4	+0.6
P08K	Saint George I baz=100	33.24	314	P	P	03 16 13.6	-0.1
B21K	Ikpikpuk River baz=136	33.24	341	P	P	03 16 14.7	+1.0
GOGA	Godfrey baz=294	33.30	89	P	P	03 16 14.9	+0.5
SADO	Sadowa comp=Z,123nm,21.5s,baz=299,slow=34	33.32	67	LR	LR	03 28 40.8	
D19K	Kuna River baz=130	33.40	338	P	P	03 16 15.4	+0.3
MCWV	Mont Chateau baz=286	33.90	76	P	P	03 16 19.1	-0.7
B20K	Meade River baz=133	34.15	341	P	P	03 16 21.6	+0.1
C19K	Lookout Ridge baz=129	34.20	338	P	P	03 16 21.9	-0.2
BLA	Blacksburg baz=289	34.21	81	P	P	03 16 22.1	-0.4
KMSC	Kings Mountain baz=292	34.25	85	P	P	03 16 22.6	-0.1
A22K	Sinclair Lake baz=137	34.33	343	P	P	03 16 23.7	+0.6
C18K	Utukok River baz=126	34.39	337	P	P	03 16 24.7	+1.0
CMIG	Matias Romero comp=Z,78nm,18.6s,baz=260,slow=40	34.56	124	LR	LR	03 32 28.1	
RDOG	Red Dog Mine baz=123	34.57	336	P	P	03 16 26.0	+0.8
C17K	DeLong Mountai baz=124	34.89	336	P	P	03 16 28.3	+0.4
A21K	Barrow baz=135	34.93	343	P	P	03 16 28.7	+0.5
L56A	Greenwood comp=Z,17nm,1.3s	34.95	71	IAmb	IAmb	03 16 51.5	
SSPA	Standing Stone baz=285	35.08	74	P	P	03 16 29.3	-0.6
TNA	Tin City baz=114	35.11	330	P	P	03 16 30.2	+0.3
A19K	Wainwright baz=128	35.30	339	P	P	03 16 32.2	+0.8
C16K	Lisburne Hills baz=121	35.46	335	P	P	03 16 33.2	+0.4
BINY	Binghamton baz=284	36.08	71	P	P	03 16 38.6	+0.2
TEIG	Tepich comp=Z,695nm,21.8s,slow=38	36.82	112	LR	LR	03 33 09.3	
RES	Resolute Bay comp=Z,108nm,18.2s,baz=352,slow=38	36.95	13	LR	LR	03 32 39.7	
LBNH	Lisbon baz=283	38.49	66	P	P	03 16 58.4	-0.5
APG	El Apazote comp=Z,8.1nm,19.2s,baz=202,slow=39	38.95	121	LR	LR	03 34 45.1	
I62A	Tamworth	38.98	67	P	P	03 17 03.0	0.0
HRV	Adam Dziewonsk baz=286	39.17	69	P	P	03 17 04.2	-0.4
E62A	Clayton Lake	39.63	62	P	P	03 17 08.9	+0.5
E62A				IAmb	IAmb	03 17 10.2	

comp=Z,12nm,0.8s
D62A Allapoint, All 39.86 61 P **P** **03 17 09.9 -0.3**
PKME Peaks-Kenny Pk 40.08 64 P **P** **03 17 12.3 +0.2**
PKME Peaks-Kenny Pk 40.08 64 P **P** **03 17 11.6 -0.5**
baz=283
SCHQ Schefferville 40.25 49 P **P** **03 17 13.9 +0.5**
SCHQ IAmb IAmb 03 17 16.5
comp=Z,8.8nm,0.9s
SCHQ Schefferville 40.25 49 P **P** **03 17 13.9 +0.5**
comp=Z,6.6nm,0.8s,baz=275,slow=8.5,SNR=11
SCHQ LR LR 03 34 35.6
comp=Z,136nm,18.4s,baz=288,slow=37
comp=Z,6.6nm,0.8s
PQI Presque Isle 40.63 62 P **P** **03 17 16.8 +0.1**
PQI IAmb IAmb 03 17 38.1
comp=Z,12nm,1.0s
G65A Princeton 41.28 64 P **P** **03 17 22.5 +0.5**
BATG Bathurst New B 41.81 60 P **P** **03 17 26.4 +0.1**
EUNU Eureka 42.21 9 P **P** **03 17 29.8 +0.5**
GBN Guysborough 45.34 62 P **P** **03 17 54.4 -0.3**
JTS Las Juntas de 46.04 120 LR LR 03 38 11.0
comp=Z,67nm,19.1s,baz=72,slow=37
SFJD Kangerlussuaq 47.35 31 LR LR 03 36 58.3
comp=Z,66nm,18.5s,baz=274,slow=35
XMAS Kiritimati 48.48 227 P **P** **03 18 19.3 -0.3**
SUMG Summit 50.80 23 P **P** **03 18 37.4 +0.3**
SUMG IAmb IAmb 03 19 11.9
comp=Z,9.0nm,1.2s
PETK Petropavlovsk- 52.23 312 P **P** **03 18 48.4 +0.8**
MA2 Magadan 53.73 321 LR LR 03 41 02.7
comp=Z,33nm,19.1s,baz=62,slow=35
AOPR Arecibo Observ 53.89 96 P **P** **03 19 00.0 -0.3**
CELP Cerrillos 54.19 96 P **P** **03 19 04.2 +1.8**
GCPR Guaynabo City 54.42 96 P **P** **03 19 04.6 +0.4**
HUMP Col San Antoni 54.70 96 P **P** **03 19 05.8 -0.4**
TIXI Tiksi 57.08 339 LR LR 03 45 19.4
comp=Z,37nm,18.5s,baz=20,slow=38
ROSC El Rosal 57.22 114 LR LR 03 48 09.8
comp=Z,22nm,19.9s,baz=26,slow=40
BAUV El Baul 58.89 106 P **P** **03 19 35.8 -0.1**
BORG Borgarnes 59.40 29 LR LR 03 45 56.6
comp=Z,84nm,19.6s,baz=290,slow=37
MCRA Macar, Loja 60.41 126 P **P** **03 19 46.5 +0.1**
PCRV Puerto La Cruz 60.60 102 LR LR 03 47 26.8
comp=Z,40nm,21.9s,slow=38
H11N3 WAKE ISLAND Hy 61.39 272 T T 04 26 59.6
baz=53,slow=75
H11N2 WAKE ISLAND Hy 61.39 272 T T 04 26 59.8
baz=53,slow=75
H11N1 WAKE ISLAND Hy 61.40 272 T T 04 27 00.9
baz=53,slow=75
YAK Yakutsk 61.87 329 LR LR 03 46 36.1
comp=Z,468nm,18.0s,baz=296,slow=36
PPT Papeete 62.25 207 LR LR 03 42 08.0
comp=Z,21nm,19.0s,baz=332,slow=31
H11S1 WAKE ISLAND Hy 62.26 271 T T 04 28 11.4
baz=54,slow=75
H11S2 WAKE ISLAND Hy 62.26 271 T T 04 28 11.9
baz=54,slow=75
H11S3 WAKE ISLAND Hy 62.28 271 T T 04 28 12.7
baz=54,slow=75
ARCES ARCESS Array B 68.14 11 LR LR 03 51 06.9
comp=Z,40nm,20.4s,baz=302,slow=37
BOAV Boa Vista 68.80 106 P **P** **03 20 40.9 -0.3**
NOA NORSAR Array B 72.63 21 P **P** **03 21 04.2 +0.3**
comp=Z,0.7nm,0.8s,baz=326,slow=5.8,SNR=3.2
NOA LR LR 03 53 28.7
comp=Z,44nm,20.1s,baz=325,slow=36
comp=Z,0.7nm,0.8s
MDP Montagnes des 72.90 98 LR LR 03 59 04.8
comp=Z,22nm,18.1s,baz=312,slow=41
HFS Hagfors 74.06 20 P **P** **03 21 08.4 -3.8**
comp=Z,1.7nm,0.8s,baz=335,slow=6.4,SNR=2.0
HFS LR LR 03 54 33.3
comp=Z,71nm,18.8s,baz=307,slow=36
FINES FINESS Array B 75.69 14 P **P** **03 21 22.1 +0.5**
FINES FINESS Array B 75.69 14 P **P** **03 21 21.8 +0.1**
comp=Z,1.7nm,0.9s,baz=4.0,slow=6.0,SNR=2.0
FINES LR LR 03 53 22.7
comp=Z,36nm,18.2s,baz=54,slow=35
comp=Z,1.7nm,0.9s
LPAZ La Paz 76.93 125 P **P** **03 21 30.1 +0.1**
LPAZ La Paz 76.93 125 P **P** **03 21 29.7 -0.3**
comp=Z,1.1nm,0.6s,baz=338,slow=1.6,SNR=5.1
LPAZ LR LR 03 56 16.7
comp=Z,24nm,20.4s,baz=292,slow=36
comp=Z,1.1nm,0.6s
PB16 IPOC Station P 77.63 127 P **P** **03 21 33.0 -0.8**
PB16 IAmb IAmb 03 22 16.2
comp=Z,6.6nm,1.3s
SONM Songino Array 81.21 328 P **P** **03 21 54.4 +1.8**
comp=Z,0.2nm,0.4s,baz=46,slow=4.2,SNR=1.9
comp=Z,0.2nm,0.4s
KIRV Kirov 81.21 3 LR LR 04 02 12.0
comp=Z,24nm,19.4s,baz=322,slow=39
CLL Collm 81.39 25 *eP* **P** **03 21 53.0 -0.2**
BRG Berggiesshubel 82.06 25 *eP* **P** **03 22 00.0 +3.2**
BRG Amp 03 22 01.0
comp=Z,4.9nm,1.1s
ZALV Zalesovo Beam 82.67 343 LR LR 04 01 15.6
comp=Z,21nm,18.2s,baz=90,slow=38
ARU Arti 83.47 358 LR LR 04 01 52.6
comp=Z,12nm,19.4s,baz=344,slow=38
ESDC Sonseca Array 83.59 42 P **P** **03 22 05.0 0.0**
comp=Z,0.6nm,0.8s,baz=328,slow=6.0,SNR=2.6
ESDC LR LR 03 55 05.7
comp=Z,44nm,21.1s,baz=316,slow=33
comp=Z,0.6nm,0.8s
DAVOX Davos/Dischmat 84.11 30 LR LR 04 02 21.7
comp=Z,56nm,18.7s,baz=274,slow=38
VRAC Vranov 84.27 24 LR LR 03 58 55.6
comp=Z,41nm,21.5s,baz=335,slow=35
FUORN Ofenpass-Fuorn 84.39 29 P **P** **03 22 09.1 -0.1**
HHC Hu-ho-hao-te 84.41 321 *eP* **P** **03 22 08.6 -0.7**
HHC pmax pmax
comp=Z,17nm,0.7s
HHC pmax pmax
comp=Z,100nm,4.7s
BVAR Borovoye Array 86.03 351 P **P** **03 22 18.0 +1.0**
comp=Z,0.5nm,0.7s,baz=345,slow=4.9,SNR=2.7
BVAR LR LR 04 03 53.0
comp=Z,10nm,20.4s,baz=347,slow=38
comp=Z,0.5nm,0.7s
AKASG Malin Array Be 86.36 16 P **P** **03 22 17.3 -1.4**
comp=Z,0.2nm,0.3s,baz=333,slow=4.2,SNR=1.8
AKASG LR LR 03 59 42.7
comp=Z,40nm,19.6s,baz=334,slow=35
comp=Z,0.2nm,0.3s
KURBB Kurchatov Arra 87.11 346 P **P** **03 22 22.3 +0.1**
comp=Z,0.7nm,0.7s,baz=13,slow=4.8,SNR=6.6
comp=Z,0.7nm,0.7s
NJ2 Nanjing 87.12 311 *eP* **P** **03 22 22.4 -0.3**
NJ2 pP **pP** **03 22 28.6 -2.7**
NJ2 pmax pmax
comp=Z,11nm,0.5s
DZM Mont Dzumac 89.34 240 LR LR 03 56 35.7
comp=Z,52nm,19.7s,baz=20,slow=32
AKTO Aktyubinsk 89.49 358 LR LR 04 08 08.6
comp=Z,27nm,18.1s,baz=217,slow=39
MKAR Makanchi Array 89.94 342 LR LR 04 06 16.3
comp=Z,33nm,18.8s,baz=55,slow=38
MLR Muntele Rosu 90.44 20 LR LR 04 04 58.4
comp=Z,104nm,18.1s,baz=284,slow=37
WMQ Urumqi 91.26 337 *eP* **P** **03 22 41.8 -0.3**
WMQ sP sP 03 22 53.8 0.0
WMQ pmax pmax
comp=Z,19nm,0.7s
AAK Ala-Archa 95.55 346 LR LR 04 09 12.0
comp=Z,14nm,21.9s,baz=358,slow=38
PZH PanZhiHua 100.75 319 P **Pdif** **03 23 25.6 0.0**
PZH pmax pmax
comp=Z,6.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.7s

*IDC **23** 03:18:42.9±5.7,36.°26N×70.°34E,h187km±53km, mb3.2/6, mbtmp3.7/11,MS2.7/1, Error ellipse: s-maj=44.8km s-min=26.1km az=36.0*
*NNC **23** 03:18:52.1±7.8,36.°91N×70.°48E,h169km±92km, mb2.9, mpv3.6, Error ellipse: s-maj=69.1km s-min=39.3km az=9.0*
ISC 23 03:18:45.8±1.2,**36.°5N**±0.1×**70.°4E**±0.1,**h204km,n16,**
σ2°09/19,mb3.4/6,2C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.63**	**1**	P	**Pn**	**03 20 21.3**	**+0.1**
	2.9nm,0.6s,baz=179,slow=12,SNR=30						
KK31				⇓S	**S**	**03 21 32.9**	**-3.8**
	3.1nm,0.5s,baz=169,slow=13,SNR=4.5						
AAK	**Ala-Archa**	**6.94**	**26**	P	**Pn**	**03 20 26.7**	**+1.4**
	2.0nm,0.3s,baz=178,slow=5.7,SNR=9.8						
AAK				S	**S**	**03 21 43.0**	**-1.3**
	9.0nm,0.6s,baz=344,slow=20,SNR=13						
TKM2	**Tokmak 2**	**7.61**	**30**	⇓P	**Pn**	**03 20 34.9**	**+0.9**
	4.6nm,1.1s						
TKM2				⇑S	**S**	**03 21 54.9**	**-5.2**
	6.5nm,0.8s						
MK31	**Makanchi Array**	**13.63**	**37**	⇑P	**P**	**03 21 55.4**	**+2.4**
	0.6nm,0.6s,baz=214,slow=12,SNR=4.6						
MKAR	**Makanchi Array**	**13.63**	**37**	P	**Pn**	**03 21 51.4**	**+0.6**
	0.4nm,0.5s,baz=221,slow=13,SNR=3.4						
MKAR				LR	LR	03 27 20.4	
	comp=Z,30nm,18.9s,baz=72,slow=38						
AB31	**Akbulak array**	**14.87**	**333**	P	**P**	**03 22 07.6**	**+0.9**
	0.6nm,0.3s,baz=155,slow=12,SNR=57						
KURBB	**Kurchatov Arra**	**15.32**	**20**	P	**Pn**	**03 22 11.4**	**-0.2**
	0.4nm,0.7s,baz=210,slow=10,SNR=4.5						
AKTO	**Aktyubinsk**	**16.55**	**331**	P	**P**	**03 22 26.5**	**+1.1**
	2.9nm,0.5s,baz=138,slow=9.0,SNR=13						
BVA0	**Borovoye Array**	**16.55**	**0**	⇓P	**Pn**	**03 22 29.0**	**+2.6**
	2.7nm,0.8s,baz=168,slow=9.7,SNR=7.7						
BVAR	**Borovoye Array**	**16.55**	**0**	P	**P**	**03 22 26.7**	**+1.4**
	0.9nm,0.5s,baz=178,slow=8.5,SNR=7.1						
FINES	**FINESS Array B**	**37.22**	**326**	P	**P**	**03 25 36.4**	**-0.8**
	1.6nm,0.8s,baz=104,slow=12,SNR=4.1						
	1.6nm,0.8s						
ARCES	**ARCESS Array B**	**40.98**	**338**	P	**P**	**03 26 09.1**	**+0.8**
	1.2nm,0.5s,baz=100,slow=6.8,SNR=6.3						
	1.2nm,0.5s						
HFS	**Hagfors**	**42.77**	**322**	P	**P**	**03 26 22.9**	**+0.1**
	1.0nm,0.7s,baz=111,slow=7.9,SNR=1.7						
	1.0nm,0.7s						
NOA	**NORSAR Array B**	**44.09**	**323**	P	**P**	**03 26 33.5**	**0.0**
	0.4nm,0.7s,baz=98,slow=8.0,SNR=2.4						
	0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**65.20**	**268**	P	**P**	**03 29 03.6**	**-1.9**
	0.4nm,0.7s,baz=41,slow=6.6,SNR=4.4						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**82.42**	**121**	P	**P**	**03 30 43.8**	**-1.5**
	0.4nm,0.8s,baz=329,slow=4.7,SNR=2.2						
	0.4nm,0.8s						

*NEIC **23** 03:18:48.0±1.5,40.°43N×03.°03×124.°6W±0.1,h29km±10km, Error ellipse: s-maj=12.5km s-min=4.1km az=85.0*
NCEDC 23 03:18:50.4±2.4,**40.°45N**±0.0×**124.°4W**±0.1,**h24km**±7km,
Md2.9/44,ML2.8/30(NEIC),**Error ellipse: s-maj=11.7km s-min=5.2km az=83.0,Near coast of northern California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCTM	**Capetown**	**0.07**	**70**		Pb	03 18 55.0	+0.3
KCTM					Sb	03 18 59.1	+1.6
FER	**Ferndale**	**0.18**	**45**		Pb	03 18 55.9	+0.3
FER					Sb	03 19 00.9	+1.8
KMPM	**Mount Pierce**	**0.24**	**98**		Pb	03 18 56.5	+0.1
KMPM	**Mount Pierce**	**0.24**	**98**	IAML		03 19 02.5	
	comp=N,5μm,0.4s						
KMPM				IAML		03 19 03.2	
	comp=E,3μm,0.5s						
KSMM	**Slide Mountain**	**0.33**	**144**		Pb	03 18 57.6	-0.1
KCRM	**Chalk Rock**	**0.46**	**93**		Pb	03 18 59.9	-0.1
JCC	**Jacoby Creek,**	**0.47**	**39**		Pb	03 18 59.1	-1.0
JCC	**Jacoby Creek,**	**0.47**	**39**	IAML		03 19 06.5	
	comp=N,702nm,0.7s						
JCC				IAML		03 19 07.1	
	comp=E,344nm,0.8s						
KMRM	**Mail Ridge**	**0.59**	**112**		Pb	03 19 02.0	-0.2
KMRM	**Mail Ridge**	**0.59**	**112**	IAML		03 19 14.1	
	comp=E,318nm,0.6s						
KHMM	**Horse Mountain**	**0.68**	**51**		Pb	03 19 02.7	-0.9
KRPM	**Rodgers**	**0.77**	**23**		Pb	03 19 03.6	-1.6
KRPM	**Rodgers**	**0.77**	**23**	IAML		03 19 14.0	
	comp=N,378nm,1.3s						
KRPM				IAML		03 19 14.6	
	comp=E,328nm,0.4s						
KPPM	**Pickett Peak**	**0.82**	**97**		Pb	03 19 05.1	-0.9
KHBM	**Hayfork Bally**	**0.94**	**77**		Pb	03 19 06.4	-1.8
KIPM	**Iron Peak**	**0.97**	**131**		Pb	03 19 07.4	-1.2
KCPM	**Cahto Peak**	**1.00**	**139**		Pn	03 19 06.7	-2.4
KCPM				IAML		03 19 21.0	
	comp=N,182nm,0.6s						
KCPM				IAML		03 19 21.1	
	comp=E,252nm,0.4s						
KBNM	**Bluenose Ridge**	**1.10**	**120**		Pn	03 19 09.5	-0.9
KOMM	**Orleans Mounta**	**1.11**	**41**		Pn	03 19 08.6	-2.0
KRMB	**Red Mountain**	**1.14**	**20**		Pn	03 19 08.7	-2.3
KRMB	**Red Mountain**	**1.14**	**20**	IAML		03 19 23.1	
	comp=N,141nm,0.5s						
KRMB				IAML		03 19 23.1	
	comp=E,150nm,0.3s						
LBPM	**Beegum Peak**	**1.19**	**96**		Pn	03 19 10.1	-1.5
GTC	**Three Chop Rid**	**1.25**	**147**		Pn	03 19 10.6	-1.8
O02D	**Mt. Diablo Mer**	**1.28**	**102**		Pn	03 19 10.9	-2.0
DCMP	**DeCamp, Califo**	**1.29**	**139**		Pn	03 19 11.2	-1.8
LGPM	**Granite Peak**	**1.30**	**69**		Pn	03 19 11.6	-1.6
N02D	**Trinity Center**	**1.41**	**68**		Pn	03 19 13.1	-1.5
KSXB	**Camp Six Broad**	**1.44**	**17**		Pn	03 19 12.8	-2.3
KSXB	**Camp Six Broad**	**1.44**	**17**	IAML		03 19 31.5	
	comp=N,80nm,0.3s						
LBKM	**Bonanza King**	**1.48**	**64**		Pn	03 19 14.2	-1.4
GVV	**Valley View**	**1.50**	**116**		Pn	03 19 15.0	-1.0
LAMM	**Antelope Mount**	**1.79**	**49**		Pn	03 19 18.7	-1.3
L02F	**Cave Junction**	**1.79**	**21**		Pn	03 19 17.9	-2.0
L02F				IAML		03 19 40.5	
	comp=E,100nm,0.4s						
L02F				IAML		03 19 40.8	
	comp=N,113nm,0.3s						
YBH	**Yreka Blue Hor**	**1.82**	**45**		Pn	03 19 18.9	-1.5
LSHM	**Sage Hen Hill**	**1.85**	**79**		Pn	03 19 19.8	-0.8
M03C	**McCloud**	**1.93**	**64**		Pn	03 19 21.9	+0.1
LMPM	**Military Pass**	**2.00**	**58**		Pn	03 19 22.8	-0.2
LHEM	**Herd Peak**	**2.04**	**54**		Pn	03 19 23.1	-0.4
B040	**Montague**	**2.05**	**47**		Pn	03 19 22.6	-0.8
LBFM	**Black Fox Moun**	**2.12**	**64**		Pn	03 19 24.3	-0.3
LRDM	**Redding Peak**	**2.26**	**89**		Pn	03 19 25.9	-0.4
LGMM	**Garner Mountai**	**2.27**	**59**		Pn	03 19 27.2	+0.6
HATC	**Hat Creek Radi**	**2.29**	**80**		Pn	03 19 25.7	-1.0
K02D	**Willamette Mer**	**2.31**	**14**	Pn	Pn	03 19 25.8	-1.3
K02D				IAML		03 19 52.7	
	comp=N,58nm,0.7s						
K02D				IAML		03 20 39.0	
	comp=E,51nm,3.7s						
LTIM	**Timbered Crate**	**2.34**	**71**		Pn	03 19 26.7	-0.8
L04D	**Klamath Falls**	**2.38**	**41**		Pn	03 19 27.4	-0.6
L04D				IAML		03 19 58.9	
	comp=N,64nm,0.5s						
ORV	**Oroville**	**2.42**	**111**	Pn	Pn	03 19 26.5	-2.0
HUMO	**Hull Mountain**	**2.42**	**27**		Pn	03 19 26.9	-1.6
HUMO	**Hull Mountain**	**2.42**	**27**		Pn	03 19 27.0	-1.5
HUMO				IAML		03 19 58.2	
	comp=N,18nm,0.5s						
HUMO				IAML		03 20 59.4	
	comp=E,26nm,3.6s						
WVOR	**Wild Horse Val**	**4.78**	**64**	Pn	Pn	03 20 00.3	-0.7
WVOR				IAML		03 21 56.9	
	comp=E,9.8nm,4.2s						

*IDC **23** 03:39:38.6±2.7,30.°34S×178.°39W,h224km±15km, mb3.4/4, mbtmp4.0/5, Error ellipse: s-maj=72.2km s-min=27.9km az=163.0*
ISC 23 03:39:40.0±0.7,**29.°75S**±0.0°×**179.°1W**±0.1,**h200km,n38,**
σ3°05/53,mb3.6/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.12**	**64**	P	**Pn**	**03 40 11.6**	**+1.0**
GLKZ				S	**Sn**	**03 40 35.8**	**+1.6**
RIZ	**Raoul Island**	**1.12**	**63**	P	**Pn**	**03 40 11.9**	**+1.3**
RAO	**Raoul Island**	**1.12**	**64**	P	**Pn**	**03 40 11.8**	**+1.1**
	418nm,0.3s,baz=259,slow=9.5,SNR=4.5						
RAO				S	**Sn**	**03 40 33.9**	**-0.4**
	454nm,0.3s,baz=263,slow=23,SNR=12						
MXZ	**Matakaoa Point**	**8.09**	**195**	S	**Sn**	**03 43 08.1**	**+2.7**
WMGZ	**Waiomatatini S**	**8.31**	**194**	P	**Pn**	**03 41 38.9**	**+1.7**
WMGZ				S	**Sn**	**03 43 15.6**	**+4.9**
HAZ	**Te Kaha**	**8.40**	**197**	P	**Pn**	**03 41 40.0**	**+1.6**
HAZ				S	**Sn**	**03 43 19.0**	**+6.2**
PKGZ	**Pakihiroa**	**8.45**	**196**	P	**Pn**	**03 41 40.0**	**+0.9**
RUGZ	**Raukumara Rang**	**8.62**	**197**	P	**Pn**	**03 41 43.8**	**+2.3**
RUGZ				S	**Sn**	**03 43 23.6**	**+5.3**
CNGZ	**Carnagh Statio**	**8.99**	**194**	P	**Pn**	**03 41 47.8**	**+1.7**
CNGZ				S	**Sn**	**03 43 28.6**	**+1.7**
TKGZ	**Te Karaka**	**9.03**	**196**	S	**Sn**	**03 43 31.4**	**+3.6**
RAGZ	**Rawiri**	**9.19**	**198**	P	**Pn**	**03 41 50.4**	**+1.6**
RAGZ				S	**Sn**	**03 43 34.8**	**+3.1**
RIGZ	**Rimuhau**	**9.30**	**196**	P	**Pn**	**03 41 52.3**	**+2.1**
RIGZ				S	**Sn**	**03 43 34.8**	**+0.4**
SNGZ	**Shannon Statio**	**9.48**	**197**	S	**Sn**	**03 43 41.8**	**+3.2**
PRGZ	**Paritu Road**	**9.48**	**195**	S	**Sn**	**03 43 37.3**	**-1.4**
MHGZ	**Mahia Peninsul**	**9.70**	**194**	S	**Sn**	**03 43 42.8**	**-1.0**
WHHZ	**Waihua**	**9.79**	**197**	P	**Sn**	**03 43 49.4**	**+3.7**
NMHZ	**Naumai**	**9.92**	**199**	P	**Pn**	**03 41 56.8**	**-1.5**
NMHZ				S	**Sn**	**03 43 52.5**	**+3.4**
ARHZ	**Aropaoanui**	**10.02**	**198**	P	**Pn**	**03 41 58.2**	**-1.3**
ARHZ				P	**Sn**	**03 43 53.9**	**+2.5**
KWHZ	**Kaweka Forest**	**10.33**	**200**	P	**Pn**	**03 42 00.8**	**-2.8**
KWHZ				S	**S**	**03 44 01.4**	**+2.0**
KRHZ	**Kereru**	**10.55**	**200**	P	**Pn**	**03 42 02.8**	**-3.5**
KRHZ				S	**S**	**03 44 03.4**	**-1.0**
KAHZ	**Kahuranaki**	**10.55**	**197**	P	**Pn**	**03 42 05.8**	**-0.6**
KAHZ				S	**Sn**	**03 43 58.8**	**-5.3**
PNHZ	**Pukenui**	**10.85**	**200**	P	**Pn**	**03 42 12.9**	**+2.7**
PNHZ				S	**Sn**	**03 44 07.6**	**-3.6**
WPHZ	**Waipukurau**	**10.92**	**198**	S	**Sn**	**03 44 11.4**	**-1.5**
PRHZ	**Porangahau**	**11.06**	**197**	S	**Sn**	**03 44 13.5**	**-2.7**
MRZ	**Mangatainoka R**	**11.72**	**200**	P	**Pn**	**03 42 18.8**	**-2.5**
MRZ				S	**Sn**	**03 44 24.8**	**-7.2**
DZM	**Mont Dzumac**	**15.10**	**297**	P	**P**	**03 43 10.2**	**+6.0**
	4.1nm,0.8s,baz=128,slow=19,SNR=3.1						
RPZ	**Rata Peaks**	**16.01**	**207**	S	**S**	**03 46 04.3**	**-7.2**
	3.3nm,0.4s,baz=108,slow=20,SNR=1.7						
ASAR	**Alice Springs**	**42.22**	**267**	P	**P**	**03 47 13.7**	**+0.1**
	0.3nm,0.6s,baz=102,slow=8.3,SNR=2.6						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**43.15**	**272**	P	**P**	**03 47 22.6**	**+1.4**
	0.4nm,0.2s,baz=110,slow=8.1,SNR=5.6						
	0.4nm,0.2s						
KSRS	**Korea Array**	**83.26**	**320**	P	**P**	**03 51 44.0**	**0.0**
	1.2nm,0.7s,baz=143,slow=6.4,SNR=6.6						
	1.2nm,0.7s						
PETK	**Petropavlovsk-**	**84.96**	**346**	P	**P**	**03 51 51.3**	**-0.9**
	1.7nm,0.6s,baz=123,slow=6.6,SNR=5.9						
	1.7nm,0.6s						
KURBB	**Kurchatov Arra**	**119.97**	**314**	PKP	**PKPdf**	**03 58 03.0**	**-3.3**
	0.2nm,0.5s,baz=93,slow=2.1,SNR=3.0						
BVAR	**Borovoye Array**	**125.30**	**316**	PKP	**PKPdf**	**03 58 13.5**	**-2.9**
	0.4nm,0.4s,baz=90,slow=4.3,SNR=2.2						
FINES	**FINESS Array B**	**144.22**	**340**	PKP	**PKPab**	**03 58 47.1**	**-2.5**
	1.4nm,0.5s,baz=58,slow=3.5,SNR=18						
NB2	**NORSAR Subarra**	**147.97**	**351**	PKP	**PKPdf**	**03 58 58.2**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=15,slow=2.9						
NOA	**NORSAR Array B**	**147.97**	**351**	PKPbc	**PKPdf**	**03 58 58.2**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=15,slow=4.4,SNR=3.6						
HFS	**Hagfors**	**148.42**	**348**	PKPbc	**PKPdf**	**03 58 59.4**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=54,slow=7.3,SNR=6.0						
AKASG	**Malin Array Be**	**150.22**	**323**	PKPbc	**PKPbc**	**03 59 04.5**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=56,slow=2.6,SNR=2.0						

*BEO **23** 03:42:14.5±0.6,43.°59N×16.°45E,h0km,ML3.6/13*
*IDC **23** 03:42:15.8±1.1,43.°71N×16.°69E,h0km,mb3.6/8, mbtmp3.5/15,ML3.1/5,MS3.7/2, Error ellipse: s-maj=19.0km s-min=10.9km az=53.0*
*PRU **23** 03:42:15.8,43.°52N×16.°78E,h1km*
*PDG **23** 03:42:15.8±0.4,43.°61N×16.°69E,h3km,MD3.9/2, ML3.8/10, Error ellipse: s-maj=0.7km s-min=0.7km az=0.0*
*RHSSO **23** 03:42:16.1±0.3,43.°61N×16.°66E,h3km±1km,ML3.5/22*
*LDG **23** 03:42:16.6±0.1,43.°63N×16.°68E,h2km, Ml3.4/17, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
ISC 23 03:42:16.1±0.9,**43.°60N**±0.°02×**16.°65E**±0.°02,**h12km**±6km,
n176,σ2°12/274,mb3.8/9,28C-17D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RICI	**Ricice**	**0.37**	**106**	*e*Pg	**Pg**	**03 42 22.8**	**-0.7**
RICI				Sg	**Sg**	**03 42 28.4**	**-0.1**
MAKA	**Makarska**	**0.41**	**138**	*e*Pg	**Pg**	**03 42 23.9**	**-0.4**
MAKA				Sg	**Sb**	**03 42 31.0**	**-0.5**
HVAR	**Hvar**	**0.44**	**199**	*e*Pg	**Pg**	**03 42 25.0**	**+0.2**
HVAR				Sg	**Sb**	**03 42 33.3**	**+1.0**
KIJV	**Kijevo**	**0.44**	**337**	*e*Pg	**Pg**	**03 42 23.6**	**-1.3**
KIJV				Sg	**Sg**	**03 42 30.8**	**0.0**
ZIRJ	**Zirje**	**0.73**	**275**	*e*Pg	**Pg**	**03 42 29.7**	**-0.5**
MORI	**Morici**	**0.73**	**292**	*e*Pg	**Pg**	**03 42 29.8**	**-0.5**
MORI				Sg	**Sb**	**03 42 41.3**	**+0.6**
LSTV	**Lastovo**	**0.85**	**168**	*e*Pg	**Pg**	**03 42 31.5**	**-1.0**
LSTV				Sg	**Sb**	**03 42 45.4**	**+1.4**
MGRS	**Mrkonjic Grad**	**0.88**	**21**	⇑*i*Pg	**Pg**	**03 42 31.7**	**-1.4**
MGRS				*e*Sg	**Sg**	**03 42 44.5**	**-0.1**
A050A	**Klekovaca**	**0.89**	**355**	*e*Pg	**Pg**	**03 42 31.4**	**-1.9**
A050A				*e*Sg	**Sg**	**03 42 44.2**	**-0.7**
STON	**Ston**	**1.06**	**133**	*e*Pg	**Pg**	**03 42 34.9**	**-1.5**
STON				*e*Sg	**Sn**	**03 42 51.9**	**+0.6**
STON	**Ston**	**1.06**	**133**	*e*Pg	**Pg**	**03 42 34.7**	**-1.8**
STON	**Ston**	**1.06**	**133**	⇑*i*Pg	**Pg**	**03 42 34.4**	**-2.0**
STON				*e*Sg	**Sg**	**03 42 49.2**	**-1.0**
NEVS	**Nevesinje**	**1.10**	**105**	*e*Pg	**Pg**	**03 42 36.0**	**-1.3**
NEVS				*e*Sg	**Sg**	**03 42 51.1**	**-0.6**
UDBI	**Udbina**	**1.13**	**326**	*e*Pg	**Pg**	**03 42 36.2**	**-1.4**
UDBI				Sg	**Sb**	**03 42 52.5**	**+0.3**
BLY	**Banja Luka**	**1.22**	**18**	*e*Pg	**Pn**	**03 42 37.6**	**-1.3**
BLY				*e*Sg	**Sn**	**03 42 55.6**	**+0.3**
BLY	**Banja Luka**	**1.22**	**18**	⇑*i*Pg	**Pn**	**03 42 37.6**	**-1.3**
BLY				*e*Sg	**Sb**	**03 42 54.1**	**-0.5**
DUGI	**Dugi Otok**	**1.22**	**290**	*e*Pg	**Pn**	**03 42 38.3**	**-0.6**
VIRC	**Vir**	**1.34**	**302**	*e*Pn	**Pn**	**03 42 40.1**	**-0.5**
PRIJ	**Prijedor**	**1.38**	**2**	*e*Pg	**Pn**	**03 42 40.3**	**-0.8**
PRIJ				*e*Sg	**Sb**	**03 42 59.5**	**+0.1**
A051A	**Mrakovica**	**1.43**	**7**	*e*Pg	**Pn**	**03 42 41.5**	**-0.4**
A051A				*e*Sg	**Sn**	**03 43 00.3**	**-0.3**
DBRK	**Dubrovnik**	**1.44**	**130**	*e*Pg	**Pn**	**03 42 41.4**	**-0.6**
KLINJ	**Klinje

BOJS					IAML			03 43 46.5	
	comp=Z,221nm,0.9s								
BOJS	**Bojanci**	**2.15**	**333**	*e*Pn		**Pn**		**03 42 52.8**	**+1.1**
BOJS				*e*Sn		**Sn**		**03 43 20.0**	**+1.7**
OZLJ	**Ozalj**	**2.19**	**338**	*e*Pn		**Pn**		**03 42 54.1**	**+1.9**
KOME	**Kolasin**	**2.23**	**109**	⇓*i*Pn		**Pb**		**03 42 56.2**	**-0.1**
KOME				*i* Sn		**Sb**		**03 43 25.0**	**+1.2**
BLJ	**Bijeljina**	**2.23**	**57**	*e*Pn		**Pn**		**03 42 53.0**	**+0.2**
BLJ				*e*Sn		**Sn**		**03 43 20.0**	**-0.2**
ZAG	**Zagreb**	**2.28**	**348**	*e*Pn		**Pn**		**03 42 55.4**	**+1.9**
TEKS	**Tekeris**	**2.29**	**64**	*e*Pn		**Pb**		**03 42 55.9**	**-1.4**
TEKS				*e*Sn		**Sb**		**03 43 25.3**	**-0.2**
TEKS	**Tekeris**	**2.29**	**64**	*e*Pn		**Pn**		**03 42 53.7**	**+0.1**
TEKS				*e*Sn		**Sn**		**03 43 22.3**	**+0.6**
SMRN	**Sveta Marina**	**2.29**	**310**	*e*Pn		**Pn**		**03 42 55.6**	**+1.9**
DRME	**Dracevica, Mon**	**2.34**	**126**	⇑*i*Pn		**Pn**		**03 42 55.8**	**+1.5**
DRME				*e*Sn		**Sn**		**03 43 24.2**	**+1.3**
DRME	**Dracevica, Mon**	**2.34**	**126**	⇓*i*Pn		**Pb**		**03 42 56.5**	**-1.6**
DRME				*i* Sn		**Sb**		**03 43 27.5**	**+0.6**
SJES	**Sjenica**	**2.45**	**97**	*e*Pn		**Pb**		**03 42 58.7**	**-1.4**
SJES				*e*Sn		**Sb**		**03 43 28.9**	**-1.3**
SJES	**Sjenica**	**2.45**	**97**	*e*Pn		**Pn**		**03 42 57.5**	**+1.6**
SJES				*e*Sn		**Sn**		**03 43 27.2**	**+1.4**
BRJN	**Brijuni**	**2.46**	**303**	*e*Pn		**Pn**		**03 42 58.0**	**+2.1**
DIVS	**Divibare**	**2.47**	**77**	*e*Pn		**Pn**		**03 42 57.6**	**+1.4**
DIVS				*e*Sn		**Sb**		**03 43 30.5**	**-0.4**
IVA	**Berane**	**2.48**	**106**	⇑*i*Pn		**Pb**		**03 42 59.2**	**-1.4**
IVA				*i* Sn		**Sb**		**03 43 30.5**	**-0.7**
ULC	**Ulcinj**	**2.52**	**130**	⇓*i*Pn		**Pn**		**03 42 58.4**	**+1.6**
ULC				*i* Sn		**Sb**		**03 43 31.7**	**-0.4**
KALN	**Kalnik**	**2.54**	**357**	*e*Pn		**Pn**		**03 42 57.2**	**+0.1**
IVAS	**Ivanjica**	**2.55**	**89**	*e*Pn		**Pn**		**03 42 58.5**	**+1.2**
IVAS				*e*Sn		**Sb**		**03 43 31.5**	**-1.6**
LOBO	**Lobor**	**2.59**	**351**	*e*Pn		**Pn**		**03 42 58.3**	**+0.5**
PVY	**Plav**	**2.62**	**111**	⇑*i*Pn		**Pb**		**03 43 02.5**	**-0.6**
CEY	**Cerknica**	**2.66**	**324**	⇓*i*Pn		**Pn**		**03 43 00.3**	**+1.5**
CEY				*e*Sn		**Sn**		**03 43 32.9**	**+1.9**
FRGS	**Fruska Gora**	**2.75**	**54**	⇓P		**Pn**		**03 43 01.8**	**+1.7**
FRGS	**Fruska Gora**	**2.75**	**54**	*e*Pn		**Pn**		**03 43 01.8**	**+1.7**
FRGS				*e*Sn		**Sb**		**03 43 37.5**	**-1.4**
FRGS	**Fruska Gora**	**2.75**	**54**	⇑*i*Pn		**Pn**		**03 43 01.3**	**+1.2**
FRGS				*e*Sn		**Sn**		**03 43 34.2**	**+1.0**
TRUS	**Trudelj**	**2.79**	**76**	*e*Pn		**Pn**		**03 43 01.5**	**+1.0**
TRUS				*e*Sn		**Sb**		**03 43 38.7**	**-1.2**
BEHE	**Becsehely**	**2.88**	**2**	⇑*i*Pn		**Pn**		**03 43 03.2**	**+1.5**
BEHE				*e*Sn		**Sn**		**03 43 37.2**	**+1.0**
MATE	**Matera**	**2.95**	**179**	⇓P		**Pn**		**03 43 03.4**	**+0.7**
GRUS	**Gruza**	**2.96**	**83**	*e*Pn		**Pn**		**03 43 05.6**	**+1.6**
GRUS				*e*Sn		**Sb**		**03 43 42.7**	**-2.2**
MORH	**Mrgy, Hungar**	**2.98**	**28**	⇑P		**Pn**		**03 43 03.2**	**+0.1**
MORH	**Mrgy, Hungar**	**2.98**	**28**	*e*Pn		**Pn**		**03 43 03.9**	**+0.8**
MORH				*e*Sn		**Sn**		**03 43 40.2**	**+1.5**
OBKA	**Obir**	**3.27**	**334**	*i* Pn		**Pn**		**03 43 09.5**	**+2.3**
	comp=Z,1.2nm,0.1s,SNR=7.4								
OBKA				*e*Sn		**Sb**		**03 43 54.1**	**+0.3**
	comp=Z,45nm,0.6s								
OBKA	**Obir**	**3.27**	**334**	*e*Pn		**Pn**		**03 43 07.8**	**+0.6**
OBKA				*e*Sn		**Sn**		**03 43 47.0**	**+0.9**
SELS	**Selova**	**3.28**	**95**	*e*Pn		**Pn**		**03 43 09.3**	**+2.0**
SELS				*e*Sn		**Sn**		**03 43 49.4**	**+3.1**
SOKA	**Soboth**	**3.29**	**340**	*i* Pn		**Pn**		**03 43 08.5**	**+1.1**
	comp=Z,5.7nm,0.4s,SNR=14								
SOKA				*e*Sn		**Sn**		**03 43 49.0**	**+2.5**
	comp=Z,17nm,0.7s								
BOVS	**Bovan**	**3.67**	**88**	⇓P		**Pn**		**03 43 14.4**	**+1.8**
MYKA	**Terra Mystica**	**3.70**	**326**	*i* Pn		**Pn**		**03 43 16.1**	**+3.0**
	comp=Z,1.6nm,0.2s								
MYKA				*e*Sn		**Sg**		**03 44 15.3**	**+0.3**
	comp=Z,12nm,0.5s								
ARSA	**Arzberg**	**3.74**	**348**	*i* Pn		**Pn**		**03 43 14.5**	**+0.9**
	comp=Z,12nm,0.4s,SNR=25								
ARSA				*e*Sn		**Sn**		**03 43 59.8**	**+2.2**
	comp=Z,4.5nm,0.4s								
ARSA	**Arzberg**	**3.74**	**348**	⇑*i*Pn		**Pn**		**03 43 14.0**	**+0.4**
ARSA				*e*Sn		**Sn**		**03 43 58.4**	**+0.9**
MDVR	**Moldovita**	**3.83**	**70**	⇓P		**Pn**		**03 43 15.2**	**+0.3**
BARS	**Barje**	**3.86**	**100**	*e*Pn		**Pn**		**03 43 17.4**	**+2.2**
BARS				*e*Sn		**Sn**		**03 44 03.9**	**+3.4**
SKO	**Skopje**	**3.88**	**113**	*i* Pn		**Pb**		**03 43 26.6**	**+2.1**
OHR	**Ohrid**	**3.96**	**127**	*i* Pn		**Pn**		**03 43 20.0**	**+3.4**
OHR				*i* Sn		**Sn**		**03 44 06.8**	**+3.9**
AMBH	**Ambrzfalva**	**4.00**	**45**	⇓P		**Pn**		**03 43 18.6**	**+1.6**
BZS	**Buzias**	**4.08**	**59**	⇑P		**Pn**		**03 43 20.5**	**+2.2**
RONA	**Rosalia, Austr**	**4.11**	**357**	*i* Pn		**Pn**		**03 43 19.7**	**+1.0**
	comp=Z,3.0nm,0.1s,SNR=14								
RONA				*e*Sn		**Sn**		**03 44 10.5**	**+3.8**
	comp=Z,7.7nm,0.4s								
KBA	**Koelnbreinsper**	**4.19**	**327**	*i* Pn		**Pn**		**03 43 22.3**	**+2.4**
	comp=Z,3.2nm,0.4s,SNR=4.6								
KBA				*e*Sn		**Sb**		**03 44 15.2**	**-5.2**
	comp=Z,11nm,0.6s								
ABTA	**Abfaltersbach**	**4.30**	**319**	*i* Pn		**Pn**		**03 43 22.7**	**+1.4**
	comp=Z,2.8nm,0.2s								
ABTA				*e*Sn		**Sn**		**03 44 15.6**	**+4.2**
	comp=Z,9.7nm,0.5s								
HERR	**Herculane**	**4.34**	**71**	⇑P		**Pn**		**03 43 23.6**	**+1.8**
CONA	**Conrad Observa**	**4.37**	**353**	*i* Pn		**Pn**		**03 43 23.4**	**+1.1**
	comp=Z,3.0nm,0.5s,SNR=8.9								
CONA				*e*Sn		**Sn**		**03 44 17.1**	**+4.0**
	comp=Z,12nm,0.7s								
ZAPS	**Zavoj**	**4.37**	**92**	*e*Pn		**Pn**		**03 43 24.8**	**+2.5**
ZAPS				*e*Sn		**Sn**		**03 44 15.1**	**+1.9**
SRO	**Srobarova**	**4.38**	**15**	*e*Pn		**Pn**		**03 43 23.7**	**+1.4**
SRO				*e*SN		**Sn**		**03 44 15.9**	**+2.7**
BLKB	**Belogradchik**	**4.38**	**88**	⇓S		**Sn**		**03 44 15.7**	**+2.4**
TIP	**Timpagrande**	**4.42**	**179**	⇑P		**Pn**		**03 43 25.1**	**+2.1**
SIRR	**Siria**	**4.45**	**51**	⇑P		**Pn**		**03 43 25.1**	**+1.7**
SURR	**Surduc**	**4.46**	**59**	⇑P		**Pn**		**03 43 26.2**	**+2.7**
BSZH	**Besenyszg**	**4.50**	**33**	⇑P		**Pn**		**03 43 26.4**	**+2.5**
MOA	**Molln**	**4.57**	**339**	*i* Pn		**Pn**		**03 43 27.1**	**+2.1**
	comp=Z,11nm,0.4s,SNR=20								
MOA				*e*Sn		**Sn**		**03 44 21.9**	**+3.9**
	comp=Z,6.2nm,0.5s								
BIOA	**Bad Ischl, Aus**	**4.61**	**334**	*i* Pn		**Pn**		**03 43 28.5**	**+3.0**
	comp=Z,11nm,0.4s,SNR=12								
ZST	**Bratislava**	**4.61**	**4**	*e*PN		**Pn**		**03 43 26.5**	**+1.0**
ZST				*e*SN		**Sn**		**03 44 16.9**	**-2.1**
LESA	**Schwarzleotal**	**4.74**	**325**	*i* Pn		**Pn**		**03 43 29.5**	**+2.2**
	comp=Z,18nm,0.4s								
LESA				*e*Sn		**Sn**		**03 44 25.9**	**+3.7**
	comp=Z,8.6nm,0.4s								
GZR	**Gura Zlata**	**4.74**	**66**	⇑P		**Pn**		**03 43 28.4**	**+1.0**
MODS	**Modra-Piesok**	**4.80**	**5**	*e*PN		**Pn**		**03 43 29.2**	**+1.1**
MODS				*e*SN		**Sn**		**03 44 24.0**	**+0.4**
SRE	**Strehaia**	**4.84**	**75**	⇑P		**Pn**		**03 43 30.6**	**+1.9**
PSZ	**Piszkesteto**	**4.88**	**27**	⇑P		**Pn**		**03 43 31.2**	**+1.9**
WTTA	**Wattenberg**	**5.09**	**318**	*i* Pn		**Pn**		**03 43 34.8**	**+2.6**
	comp=Z,2.8nm,0.3s,SNR=11								
WTTA				*e*Sn		**Sn**		**03 44 34.5**	**+3.6**
	comp=Z,16nm,0.5s								
VYHS	**Vyhne**	**5.13**	**17**	*e*PN		**Pn**		**03 43 33.4**	**+0.7**
VYHS				*e*SN		**Sn**		**03 44 31.5**	**-0.3**
WATA	**Walderalm**	**5.17**	**318**	*i* Pn		**Pn**		**03 43 36.0**	**+2.7**
	comp=Z,3.7nm,0.2s,SNR=11								
WATA				*e*Sn		**Sn**		**03 44 36.0**	**+3.1**
	comp=Z,17nm,0.6s								
SQTA	**Sankt Quirin**	**5.27**	**315**	*i* Pn		**Pn**		**03 43 37.5**	**+2.8**
	comp=Z,2.3nm,0.1s,SNR=9.9								
JAVC	**Velka Javorina**	**5.31**	**7**	*e*PN		**Pn**		**03 43 36.9**	**+1.7**
JAVC				*e*SN		**Sn**		**03 44 41.8**	**+5.5**
DRGR		**5.35**	**51**	⇓P		**Pn**		**03 43 37.9**	**+2.2**
FETA	**Feichten**	**5.40**	**311**	*i* Pn		**Pn**		**03 43 38.7**	**+2.2**
	comp=Z,2.3nm,0.4s								
FETA				*e*Sn		**Sb**		**03 45 00.8**	**+5.7**
	comp=Z,10nm,0.6s								
MOTA	**Moosalm**	**5.41**	**316**	*i* Pn		**Pn**		**03 43 39.0**	**+2.4**
	comp=Z,1.6nm,0.1s,SNR=14								
MOTA				*e*Sn		**Sn**		**03 44 44.0**	**+5.2**
	comp=Z,6.7nm,0.5s								
KRUC	**Moravsky**	**5.47**	**358**	*e*PN		**Pn**		**03 43 39.2**	**+1.9**
KRUC				*e*SN		**Sn**		**03 44 44.4**	**+4.3**
CKRC	**Cesky Krumlov**	**5.47**	**344**	*e*PN		**Pn**		**03 43 38.7**	**+1.3**
MARR	**Marisel-Cluj**	**5.52**	**54**	⇓P		**Pn**		**03 43 40.5**	**+2.5**
GERES	**GERESS Array B**	**5.63**	**340**	Pn		**Pn**		**03 43 40.4**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=147,slow=12,SNR=13								
GERES				Sn		**Sn**		**03 44 45.1**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=146,slow=24,SNR=5.7								
	comp=Z,2.1nm,0.4s								
PGF	**Pioggiola**	**5.70**	**262**	*e*Pn		**Pn**		**03 43 41.8**	**+1.2**
PGF				*e*Sn		**Sn**		**03 44 44.6**	**-1.3**
	comp=Z,1.0nm,0.2s								
VRAC	**Vranov**	**5.71**	**360**	⇑P		**Pn**		**03 43 42.2**	**+1.6**
VRAC	**Vranov**	**5.71**	**360**	*e*PN		**Pn**		**03 43 40.7**	**0.0**
VRAC	**Vranov**	**5.71**	**360**	Pn		**Pn**		**03 43 40.0**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=187,slow=9.9,SNR=3.7								
VRAC				Sn		**Sn**		**03 44 46.3**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=216,slow=1.4,SNR=3.5								
	comp=Z,1.4nm,0.4s								
DAVOX	**Davos/Dischmat**	**5.74**	**306**	Pn		**Pn**		**03 43 43.1**	**+1.8**
	comp=Z,3.9nm,0.4s,baz=137,slow=19								
DAVOX				Sn		**Sn**		**03 44 49.4**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=338,slow=19,SNR=1.5								
MAUC	**Maruska**	**5.83**	**8**	*e*PN		**Pn**		**03 43 44.5**	**+2.2**
LANS	**Liptovska Anna**	**5.89**	**18**	*e*PN		Pn		03 43 50.7	+7.6
KHC	**Kasperske Hory**	**5.93**	**340**	*e*PN		**Pn**		**03 43 45.7**	**+2.0**
KHC				*e*SN		**Sn**		**03 44 53.4**	**+1.9**
KHC				*e*SG		**Sg**		**03 45 30.0**	**+3.7**
ARR	**Arges**	**5.98**	**70**	⇑P		**Pn**		**03 43 46.2**	**+1.8**
DAVA	**Damuels**	**6.02**	**310**	*e*Pn		**Pn**		**03 43 48.3**	**+3.3**
	comp=Z,1.9nm,0.3s								
MORC	**Moravsky Berou**	**6.21**	**5**	⇑P		**Pn**		**03 43 48.7**	**+1.1**
MORC	**Moravsky Berou**	**6.21**	**5**	*e*Pn		**Pn**		**03 43 48.0**	**+0.4**
MORC				*e*SN		**Sn**		**03 44 59.1**	**+0.6**
CRVS	**Cervenica-Dubn**	**6.27**	**30**	*e*PN		**Pn**		**03 43 51.0**	**+2.7**
VOIR		**6.28**	**70**	⇑P		**Pn**		**03 43 50.4**	**+1.8**
SBF	**Sospel**	**6.68**	**275**	*e*Pn		**Pn**		**03 43 54.3**	**+0.3**
SBF				*e*Sn		**Sn**		**03 45 06.4**	**-3.6**
	comp=Z,9.9nm,0.4s								
MLR	**Muntele Rosu**	**6.91**	**71**	⇑P		**Pn**		**03 43 58.8**	**+1.6**
MLR	**Muntele Rosu**	**6.91**	**71**	Pn		**Pn**		**03 43 58.8**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=118,slow=23,SNR=1.1								
MLR				LR		LR		03 46 49.7	
	comp=Z,75nm,18.6s,baz=252,slow=40								
	comp=Z,1.1nm,0.7s								
MBDF	**Montbardon**	**7.19**	**282**	*e*Pn		**Pn**		**03 44 01.1**	**0.0**
MBDF	**Montbardon**	**7.19**	**282**	*e*P		Pn		03 44 06.2	+5.1
MBDF				*e*Sn		**Sn**		**03 45 18.1**	**-4.7**
	comp=Z,6.8nm,0.7s								
LPG	**La Plagne**	**7.32**	**288**	*e*Pn		**Pn**		**03 44 02.9**	**-0.1**
LPG	**La Plagne**	**7.32**	**288**	*e*P		Pn		03 44 08.0	+5.0
LPG				*e*Sn		**Sn**		**03 45 21.2**	**-4.9**
	comp=Z,12nm,0.5s								
LPL	**La Plagne**	**7.34**	**289**	*e*Pn		**Pn**		**03 44 03.6**	**+0.4**
LPL				*e*Sn		**Sn**		**03 45 21.6**	**-4.8**
	comp=Z,8.4nm,0.4s								
LMR	**La Mourre**	**7.38**	**271**	*e*Pn		**Pn**		**03 44 03.8**	**+0.2**
LMR				*e*Sn		**Sn**		**03 45 23.3**	**-3.9**
	comp=Z,39nm,1.0s								
ORIF	**Oris-en-Rattie**	**7.84**	**283**	*e*Pn		**Pn**		**03 44 09.9**	**-0.1**
ORIF				*e*Sn		**Sn**		**03 45 33.4**	**-5.3**
	comp=Z,3.5nm,0.4s								
HINF	**Hinteralfeld**	**8.05**	**305**	*e*Pn		**Pn**		**03 44 11.6**	**-1.1**
HINF				*e*Sn		**Sn**		**03 45 38.3**	**-5.3**
	comp=Z,2.8nm,0.4s								
CABF	**La Chapelle**	**8.05**	**296**	*e*Pn		**Pn**		**03 44 12.4**	**-0.5**
CLL	**Collm**	**8.10**	**344**	*ex*		x		03 46 02.0	
CLL				*e*Sb		Sb		03 46 15.0	+2.5
CLL				*e*Sg		**Sg**		**03 46 32.0**	**-3.8**
	comp=Z,26nm,1.5s								
CDF	**Champ du Feu**	**8.11**	**310**	*e*Pn		**Pn**		**03 44 12.8**	**-0.8**
CDF	**Champ du Feu**	**8.11**	**310**	*e*P		Pn		**03 44 18.2**	**+4.6**
HAU	**Haudompre**	**8.44**	**305**	*e*Pn		**Pn**		**03 44 17.0**	**-1.1**
VIVF	**Saint-Julien-l**	**8.69**	**282**	*e*Pn		**Pn**		**03 44 21.1**	**-0.5**
VIVF				*e*Sn		**Sn**		**03 45 54.9**	**-4.6**
	comp=Z,1.0nm,0.2s								
PAGF	**Fort de Pagny**	**9.06**	**307**	*e*Pn		**Pn**		**03 44 26.5**	**-0.1**
SFTF	**Sexfontaines**	**9.31**	**304**	*e*Pn		**Pn**		**03 44 28.6**	**-1.4**
SMF	**Signal de Mont**	**9.55**	**293**	*e*Pn		**Pn**		**03 44 32.7**	**-0.6**
SMF	**Signal de Mont**	**9.55**	**293**	*e*P		Pn		03 44 38.5	+5.2
SMF				*e*Sn		**Sn**		**03 46 14.6**	**-5.9**
	comp=Z,1.3nm,0.3s								
LOR	**Lormes**	**9.71**	**297**	*e*Pn		**Pn**		**03 44 34.7**	**-0.8**
LOR				*e*Sn		**Sn**		**03 46 18.8**	**-5.6**
	comp=Z,4.2nm,0.5s								
SSF	**Saint Saulge**	**9.88**	**295**	*e*P		Pn		03 44 44.5	+6.7
SSF				*e*Sn		**Sn**		**03 46 22.4**	**-6.2**
	comp=Z,2.5nm,0.6s								
AVF	**Avril sur Loir**	**9.91**	**293**	*e*Pn		**Pn**		**03 44 37.9**	**-0.4**
AVF				*e*Sn		**Sn**		**03 46 23.4**	**-6.0**
	comp=Z,0.4nm,0.3s								
BGF	**Bois d'Agland**	**10.20**	**292**	*e*Pn		**Pn**		**03 44 42.7**	**+0.5**
BGF				*e*Sn		**Sn**		**03 46 30.4**	**-6.0**
	comp=Z,1.3nm,0.3s								
IDI	**Anoyia**	**10.46**	**140**	Pn		**Pn**		**03 44 47.2**	**+1.4**
	comp=Z,0.3nm,1.1s,baz=294,slow=20,SNR=1.3								
IDI				Sn		**Sn**		**03 46 36.5**	**-6.4**
	baz=343,slow=20,SNR=1.0								
TCF	**Toulx Ste Croi**	**10.58**	**290**	*e*Sn		**Sn**		**03 46 39.4**	**-6.5**
	comp=Z,0.3nm,0.2s								
HFS	**Hagfors**	**16.66**	**355**	Pn		**Pn**		**03 46 09.2**	**+0.1**
	baz=171,slow=10,SNR=1.7								
	comp=Z,1.0nm,0.7s								
FINES	**FINESS Array B**	**18.74**	**14**	P		**Pn**		**03 46 35.0**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=190,slow=9.7,SNR=5.5								
	comp=Z,2.0nm,0.8s								
BELG	**Belogornoye**	**22.38**	**56**	P		**P**		**03 47 15.9**	**+2.1**
	comp=Z,12nm,1.0s,baz=223,slow=3.4,SNR=4.4								
	comp=Z,12nm,1.0s								
GEYT	**Allbeck**	**31.67**	**86**	P		**P**		**03 48 42.0**	**+2.8**
	comp=Z,1.7nm,0.6s,baz=250,slow=4.2,SNR=2.3								
	comp=Z,1.7nm,0.6s								
TORD	**Torodi Ar. Bea**	**32.96**	**208**	P		**P**		**03 48 54.0**	**+3.4**
	comp=Z,0.1nm,0.6s,baz=24,slow=11,SNR=1.2								
	comp=Z,0.1nm,0.6s								
BVAR	**Borovoye Array**	**36.18**	**56**	P		**P**		**03 49 18.8**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=260,slow=4.4,SNR=4.9								
	comp=Z,1.0nm,0.7s								
KURBB	**Kurchatov Arra**	**41.60**	**58**	P		**P**		**03 50 02.9**	**-0.6**
	comp=Z,0.1nm,0.5s,baz=297,slow=9.5,SNR=1.3								
	comp=Z,0.1nm,0.5s								
MKAR	**Makanchi Array**	**45.16**	**62**	P		**P**		**03 50 33.6**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=288,slow=6.2,SNR=2.7								
	comp=Z,0.4nm,0.8s								
SONM	**Songino Array**	**59.34**	**52**	P		**P**		**03 52 17.6**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=286,slow=9.5,SNR=4.1								
	comp=Z,0.5nm,0.7s								
YKA	**Yellowknife Ar**	**67.28**	**338**	P		**P**		**03 53 10.2**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=31,slow=6.0,SNR=4.1								
	comp=Z,0.2nm,0.5s								
CMAR	**Chiang Mai Arr**	**72.02**	**81**	P		**P**		**03 53 41.7**	**+1.7**
	comp=Z,1.2nm,0.3s,baz=310,slow=7.4,SNR=5.0								
TGY	**Tagaytay City**	**90.44**	**70**	LR		LR		04 39 19.1	
	comp=Z,242nm,19.3s,baz=131,slow=38								

IDC 23 03:43:33.5±2.0, 3.78S×151.59E, h0km, mb3.5/3, mbtmp3.5/3, MS3.6/1, Error ellipse: s-maj=145.9km s-min=27.0km az=125.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PMG	**Port Moresby**	**7.12**	**218**	Sn		Sn	03 46 46.7	+6.0
	2.3nm,0.3s,baz=164,slow=20,SNR=2.1							
HNR	**Honiara**	**10.02**	**125**	LR		LR	03 50 05.4	
	comp=Z,311nm,20.1s,baz=142,slow=39							
WRA	**Warramunga Arr**	**23.27**	**225**	P		P	03 48 43.4	+0.5
	0.8nm,0.5s,baz=51,slow=10,SNR=8.1							
	0.8nm,0.5s							
ASAR	**Alice Springs**	**26.13**	**219**	P		P	03 49 09.6	0.0
	0.2nm,0.6s,baz=55,slow=9.1,SNR=4.2							
	0.2nm,0.6s							
ILAR	**Eielson Array**	**81.67**	**22**	P		P	03 55 53.4	-0.1
	0.4nm,0.6s,baz=247,slow=5.2,SNR=8.9							
	0.4nm,0.6s							
TORD	**Torodi Ar. Bea**	**148.84**	**289**	PKPbc		PKPbc	04 03 23.6	-0.7
	0.3nm,0.4s,baz=58,slow=2.7,SNR=7.4							

UCR 23 03:47:44.8±0.7, 11.45N×85.80W, h176km±8km, MW3.8
CATAC 23 03:47:46.7±0.4, 11.38N×85.76W, h166km±4km, ML3.4

ISC 23 03:47:45.4±1.6, 11.40N±0.05×85.77W±0.06, h178km±10km, n42, σ0.69/58, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CONN	**Concepcion**	**0.21**	**40**	*i* P		**Pn**	**03 48 09.5**	**+0.3**
CONN				IAML			03 48 09.8	
	comp=Z,2μm,1.0s							
LCRUZ	**La Cruz**	**0.35**	**157**	*e*P		**Pn**	**03 48 10.6**	**+1.1**
HZTE	**Horizontes, Gu**	**0.70**	**166**	*e*P		**Pn**	**03 48 11.5**	**+0.4**
HZTE				*e*S		**Sn**	**03 48 31.4**	**+0.5**
HZTE	**Horizontes, Gu**	**0.70**	**166**	*i* P		**Pn**	**03 48 11.5**	**+0.4**
HZTE				*i* S		**Sn**	**03 48 31.1**	**+0.3**
HZTE				IAML			03 48 32.7	
	comp=Z,420nm,1.0s							
ACON	**Acoyapa**	**0.81**	**46**	*e*P		**Pn**	**03 48 11.7**	**+0.1**
ACON	**Acoyapa**	**0.81**	**46**	*i* P		**Pn**	**03 48 11.7**	**+0.1**
ACON				IAML			03 48 11.8	
	comp=Z,400nm,1.0s							
VMAR	**Armenia, Volca**	**0.87**	**132**	*e*P		**Pn**	**03 48 12.3**	**+0.2**
CUI	**Cuipilapa**	**0.95**	**141**	*e*P		**Pn**	**03 48 12.5**	**-0.2**
SAPS	**Ciudad Sandino**	**0.99**	**321**	*i* P		**Pn**	**03 48 13.1**	**+0.2**
SAPS				*i* S		**Sn**	**03 48 34.9**	**+0.8**
SAPS				IAML			03 48 38.0	
	comp=Z,570nm,1.0s							
BOAB	**BOACO BROADBAN**	**1.05**	**5**	*i* P		**Pn**	**03 48 13.3**	**0.0**
BOAB				IAML			03 48 13.7	
	comp=Z,190nm,1.0s							
BOAB				*i* S		**Sn**	**03 48 34.3**	**-0.7**
ORTG	**Ortega, Santa**	**1.08**	**164**	*e*P		**Pn**	**03 48 14.1**	**+0.4**
ORTG	**Ortega, Santa**	**1.08**	**164**	*i* P		**Pn**	**03 48 14.0**	**+0.4**
ORTG				IAML			03 48 15.0	
	comp=Z,310nm,1.0s							
ORTG				*i* S		**Sn**	**03 48 35.2**	**-0.3**
PLVR	**Palo Verde**	**1.12**	**159**	*e*P		**Pn**	**03 48 14.4**	**+0.2**
JUD3	**Juan Diaz 3**	**1.25**	**170**	*e*P		**Pn**	**03 48 15.3**	**+0.2**
SAJU	**San Juanillo,**	**1.33**	**178**	*i* P		**Pn**	**03 48 15.6**	**-0.1**
SAJU				*i* S		**Sn**	**03 48 38.6**	**-0.5**
SAJU				IAML			03 48 41.5	
	comp=Z,1μm,1.0s							
MACN	**El Madrono**	**1.38**	**320**	*i* P		**Pn**	**03 48 16.2**	**0.0**
MACN				IAML			03 48 16.7	
	comp=Z,240nm,1.0s							
MACN				*i* S		**Sn**	**03 48 40.0**	**0.0**
CNGN	**Cerro Negro**	**1.42**	**320**	*e*P		**Pn**	**03 48 15.1**	**-1.4**
SOCE	**Pocosol**	**1.52**	**132**	*i* P		**Pn**	**03

1.7nm,0.8s,baz=110,slow=6.8,SNR=15
1.7nm,0.8s

ZALV	**Zalesovo Beam**	**77.01**	**329**	P		**P**	**04 12 21.0**	**+1.0**
	0.3nm,0.3s,baz=137,slow=5.0,SNR=2.3								
	0.3nm,0.3s								
KURBB	**Kurchatov Arra**	**78.91**	**324**	P		**P**	**04 12 32.1**	**+1.5**
	1.2nm,1.0s,baz=116,slow=5.0,SNR=7.8								
	1.2nm,1.0s								
BVAR	**Borovoye Array**	**84.49**	**325**	P		**P**	**04 13 01.4**	**+1.4**
	4.0nm,0.8s,baz=106,slow=5.3,SNR=12								
	4.0nm,0.8s								
ILAR	**Eielson Array**	**87.58**	**24**	P		**P**	**04 13 14.9**	**-0.2**
	1.3nm,0.7s,baz=255,slow=5.3,SNR=11								
	1.3nm,0.7s								

*JMA **23** 04:31:19.4±0.2,41°.6N±0°.9×143°.2E±1°.0,h32km±2km, MV3.7/29,E OFF AOMORI PREF*
*IDC **23** 04:31:23.1±2.6,41°.69N×143°.16E,h69km±22km,mb3.3/6, mbtmp3.6/8,Error ellipse: s-maj=30.0km s-min=18.0km az=101.0*
ISC 23 04:31:18.3±1.6,**41°.55N**±0°.06×**143°.23E**±0°.09,**h32**km±10km, **n26,σ0°92/24,mb3.6/6,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**0.47**	**354**	P	**Pb**	**04 31 28.4**	**+0.1**
JEM				*eS*	**Sb**	**04 31 35.3**	**+0.1**
JTHR	**Tokachihiroo**	**0.74**	**4**	*i* P	**Pn**	**04 31 32.7**	**+0.1**
JTHR				*eS*	**Sn**	**04 31 42.4**	**-0.5**
JNBK	**Urakawa-nobuka**	**0.81**	**334**	P	**Pn**	**04 31 33.8**	**+0.3**
JNBK				*eS*	**Sb**	**04 31 45.2**	**+0.5**
JSHD	**Hidakashinhida**	**1.03**	**327**	P	**Pb**	**04 31 37.5**	**-0.1**
JSHD				*eS*	**Sb**	**04 31 51.9**	**+1.1**
JCH	**Churui**	**1.07**	**5**	P	**Pn**	**04 31 37.4**	**+0.3**
JCH				*eS*	**Sn**	**04 31 50.9**	**0.0**
JBT2	**Biratori 2**	**1.39**	**333**	P	**Pb**	**04 31 42.7**	**-0.9**
JBT2				*eS*	**Sb**	**04 32 01.2**	**+0.2**
JOB	**Onbets**	**1.43**	**18**	P	**Pn**	**04 31 42.9**	**+0.9**
JARK	**Aomorirokkasho**	**1.50**	**250**	*eP*	**Pb**	**04 31 44.9**	**-0.7**
JARK				*eS*	**Sb**	**04 32 04.0**	**-0.3**
JFR	**Furan**	**1.68**	**344**	P	**Pn**	**04 31 46.5**	**+0.9**
ASAJ	**Asahikawa**	**2.61**	**350**	P	**Pb**	**04 32 01.5**	**-2.9**
	14nm,0.3s,baz=226,slow=12,SNR=10						
ASAJ				S	**Sn**	**04 32 30.2**	**+1.4**
	9.6nm,0.3s,baz=310,slow=30,SNR=1.4						
MJAR	**Matsushiro Arr**	**6.34**	**220**	P	Pn	04 32 55.6	+6.0
	1.4nm,0.6s,baz=40,slow=11,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	**29.62**	**130**	T	T	05 08 42.2	
	baz=323,slow=75,SNR=92						
H11N1	**WAKE ISLAND Hy**	**29.63**	**130**	T	T	05 08 46.3	
	baz=323,slow=75,SNR=104						
H11N3	**WAKE ISLAND Hy**	**29.64**	**130**	T	T	05 08 48.1	
	baz=323,slow=75,SNR=86						
H11S1	**WAKE ISLAND Hy**	**30.48**	**132**	T	T	05 09 42.6	
	baz=324,slow=76,SNR=102						
H11S3	**WAKE ISLAND Hy**	**30.48**	**132**	T	T	05 09 42.2	
	baz=324,slow=76,SNR=108						
H11S2	**WAKE ISLAND Hy**	**30.50**	**132**	T	T	05 09 47.5	
	baz=324,slow=76,SNR=80						
KURBB	**Kurchatov Arra**	**44.46**	**305**	P	**P**	**04 39 25.5**	**-0.7**
	0.4nm,0.5s,baz=77,slow=9.0,SNR=3.8						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**44.96**	**35**	P	**P**	**04 39 29.9**	**-0.1**
	0.7nm,1.1s,baz=258,slow=5.6,SNR=5.3						
	0.7nm,1.1s						
BVAR	**Borovoye Array**	**48.67**	**310**	P	**P**	**04 39 59.4**	**+0.2**
	0.7nm,0.4s,baz=76,slow=8.5,SNR=8.9						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**61.73**	**190**	P	**P**	**04 41 34.3**	**+0.7**
	0.4nm,0.6s,baz=7.1,slow=6.7,SNR=1.7						
	0.4nm,0.6s						
FINES	**FINESS Array B**	**65.49**	**332**	P	**P**	**04 41 57.1**	**-0.8**
	0.6nm,0.4s,baz=63,slow=6.4,SNR=1.3						
	0.6nm,0.4s						
PDAR	**Pinedale Array**	**73.53**	**47**	P	**P**	**04 42 48.8**	**+0.6**
	0.2nm,0.5s,baz=312,slow=5.0,SNR=4.2						
	0.2nm,0.5s						
H03N2	**Juan Fernandez**	**145.86**	**90**	T	T	07 34 00.8	
	baz=300,slow=76,SNR=14						
H03N3	**Juan Fernandez**	**145.87**	**90**	T	T	07 34 01.8	
	baz=300,slow=76,SNR=18						
H03N1	**Juan Fernandez**	**145.87**	**90**	T	T	07 33 59.9	
	baz=300,slow=76,SNR=15						

*NEIC **23** 04:34:37.0±1.0,18°.5N±0°.2×68°.32W±0°.08,h160km±8km, ML2.6/26,Md3.6/10(RSPR),Error ellipse: s-maj=33.4km s-min=9.0km az=192.0*
*RSPR **23** 04:34:37.3,18°.57N×68°.33W,h152km±3km,MD3.6/10*
*OSPL **23** 04:34:38.8±1.4,18°.07N×68°.42W,h140km±11km,ML2.5*
*SDD **23** 04:34:38.0±2.0,18°.30N×68°.47W,h155km±17km,MD3.5, ML2.7,MW3.4*
ISC 23 04:34:36.0±1.5,**18°.3N**±0°.1×**68°.45W**±0°.03,**h154**km±10km, **n64,σ1s02/80,13C-8D,Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.25**	**15**	*eP*	**Pn**	**04 34 56.9**	**+0.1**
PCDR	**Punta Cana, DR**	**0.25**	**15**		**Pn**	**04 34 56.6**	**-0.2**
PCDR				IAML		04 35 14.0	
	comp=N,139nm,1.4s						
PCDR				IAML		04 35 38.7	
	comp=E,66nm,1.6s						
PCDR	**Punta Cana, DR**	**0.25**	**15**	*ePg*	**Pn**	**04 34 57.0**	**+0.1**
PCDR				IAML		04 35 13.8	
	comp=N,128nm,1.0s						
PCDR				IAML		04 35 13.9	
	comp=E,59nm,1.3s						
PCDR	**Punta Cana, DR**	**0.25**	**15**	*i* P	**Pn**	**04 34 57.3**	**+0.4**
PCDR				*eS*	**Sn**	**04 35 11.5**	**-1.3**
PCDR				IAML		04 35 16.6	
	comp=Z,80nm,1.4s						
SADR	**Isla Saona**	**0.32**	**255**	*ePg*	**Pn**	**04 34 56.9**	**-0.2**
SADR				IAML		04 35 15.2	
	comp=E,49nm,1.4s						
SADR				IAML		04 35 35.0	
	comp=N,88nm,2.5s						
MIDR	**Miches**	**0.91**	**321**	*ePg*	**Pn**	**04 35 00.1**	**-0.3**
MIDR				*eSg*	**Sn**	**04 35 17.7**	**-1.4**
MIDR				IAML		04 35 18.8	
	comp=N,119nm,0.5s						
MIDR				IAML		04 35 21.0	
	comp=E,63nm,0.2s						
IDE	**Isla Desecheo**	**0.93**	**83**	*eP*	**Pn**	**04 35 02.0**	**+1.4**
IDE	**Isla Desecheo**	**0.93**	**83**	*eS*	**Sn**	**04 35 20.3**	**+0.9**
IDE	**Isla Desecheo**	**0.93**	**83**		**Pn**	**04 35 02.0**	**+1.4**
IDE					**Sn**	**04 35 20.3**	**+0.9**
SMDR	**Samana, DR**	**1.23**	**325**	*ePg*	**Pn**	**04 35 05.2**	**+2.0**
SMDR				IAML		04 35 28.8	
	comp=N,68nm,0.4s						
SMDR				IAML		04 35 29.0	
	comp=E,47nm,0.4s						
AGPR	**Aguadilla, PR**	**1.29**	**81**	*eP*	**Pn**	**04 35 04.4**	**+0.7**
AGPR	**Aguadilla, PR**	**1.29**	**81**	*eS*	**Sn**	**04 35 25.2**	**+0.2**
AGPR	**Aguadilla, PR**	**1.29**	**81**		**Pn**	**04 35 03.9**	**+0.1**
AGPR					**Sn**	**04 35 24.0**	**-0.9**
AGPR				IAML		04 35 28.8	
	comp=N,68nm,0.6s						
AGPR				IAML		04 35 30.5	
	comp=E,59nm,0.3s						
AGPR	**Aguadilla, PR**	**1.29**	**81**	*ePg*	**Pn**	**04 35 04.3**	**+0.7**
AGPR				*eSg*	**Sn**	**04 35 25.2**	**+0.2**
AGPR				IAML		04 35 28.6	
	comp=E,51nm,0.5s						
AGPR				IAML		04 35 36.6	
	comp=N,67nm,2.0s						
AGPR	**Aguadilla, PR**	**1.29**	**81**	*i* P	**Pn**	**04 35 04.5**	**+0.7**
AGPR				*eS*	**Sn**	**04 35 23.4**	**-1.5**
AGPR				IAML		04 35 27.7	
	comp=Z,38nm,0.2s						
LSP	**Las Mesas**	**1.30**	**94**	*eP*	**Pn**	**04 35 04.7**	**+0.8**
LSP	**Las Mesas**	**1.30**	**94**	*eS*	**Sn**	**04 35 25.7**	**+0.4**
LSP	**Las Mesas**	**1.30**	**94**		**Pn**	**04 35 04.7**	**+0.8**
LSP					**Sn**	**04 35 25.7**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.30**	**102**	*eP*	**Pn**	**04 35 04.6**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.30**	**102**	*eS*	**Sn**	**04 35 25.9**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.30**	**102**		**Pn**	**04 35 04.6**	**+0.7**
CRPR					**Sn**	**04 35 25.9**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.30**	**102**	*ePg*	**Pn**	**04 35 04.6**	**+0.7**
CRPR				*eSg*	**Sn**	**04 35 25.3**	**+0.2**
CRPR				IAML		04 35 26.9	
	comp=N,22nm,0.2s						
CRPR				IAML		04 35 34.3	
	comp=E,22nm,0.8s						
CRPR	**Cabo Rojo, PR**	**1.30**	**102**	*i* P	**Pn**	**04 35 04.5**	**+0.7**
CRPR				*eS*	**Sn**	**04 35 21.7**	**-3.5**
CRPR				IAML		04 35 27.1	
	comp=Z,40nm,0.9s						
MLPR	**Magueyes Islan**	**1.37**	**103**	*eP*	**Pn**	**04 35 05.0**	**+0.5**
MLPR	**Magueyes Islan**	**1.37**	**103**	*eS*	**Sn**	**04 35 27.0**	**+0.6**
MLPR	**Magueyes Islan**	**1.37**	**103**		**Pn**	**04 35 05.0**	**+0.5**
MLPR					**Sn**	**04 35 27.0**	**+0.6**
MLPR	**Magueyes Islan**	**1.37**	**103**	IAML		04 35 27.8	
	comp=E,35nm,0.6s						
MLPR	**Magueyes Islan**	**1.37**	**103**	*ePg*	**Pn**	**04 35 05.4**	**+0.8**
MLPR				*eSg*	**Sn**	**04 35 26.9**	**+0.5**
MLPR				IAML		04 35 27.8	
	comp=E,34nm,0.5s						
MLPR				IAML		04 35 27.8	
	comp=N,25nm,0.7s						
AOPR	**Arecibo Observ**	**1.61**	**87**	*eP*	**Pn**	**04 35 07.2**	**+0.1**
AOPR	**Arecibo Observ**	**1.61**	**87**	*eS*	**Sn**	**04 35 30.3**	**-0.7**
AOPR	**Arecibo Observ**	**1.61**	**87**		**Pn**	**04 35 07.0**	**-0.1**
AOPR					**Sn**	**04 35 30.2**	**-0.7**
AOPR	**Arecibo Observ**	**1.61**	**87**	*ePg*	**Pn**	**04 35 07.1**	**-0.1**
AOPR				*eSg*	**Sn**	**04 35 30.4**	**-0.5**
AOPR				IAML		04 35 34.7	
	comp=N,107nm,0.3s						
AOPR				IAML		04 35 35.3	
	comp=E,252nm,0.2s						
NADR	**Nagua**	**1.71**	**309**	IAML		04 35 40.4	
	comp=E,282nm,0.2s						
NADR				IAML		04 35 40.6	
	comp=N,301nm,0.5s						
OBIP	**Obispado Ponce**	**1.77**	**97**	*eP*	**Pn**	**04 35 08.2**	**-0.6**
OBIP	**Obispado Ponce**	**1.77**	**97**	*eS*	**Sn**	**04 35 33.6**	**-0.2**
OBIP	**Obispado Ponce**	**1.77**	**97**		**Pn**	**04 35 08.2**	**-0.6**
OBIP					**Sn**	**04 35 33.6**	**-0.2**
OBIP	**Obispado Ponce**	**1.77**	**97**	IAML		04 35 35.9	
	comp=E,26nm,0.8s						
CELP	**Cerrillos**	**1.79**	**96**	*eP*	**Pn**	**04 35 09.6**	**+0.5**
CELP	**Cerrillos**	**1.79**	**96**	*eS*	**Sn**	**04 35 35.4**	**+1.1**
CELP	**Cerrillos**	**1.79**	**96**		**Sn**	**04 35 34.7**	**+0.3**
CELP				IAML		04 35 36.5	
	comp=N,34nm,0.4s						
CELP				IAML		04 35 40.0	
	comp=E,23nm,0.3s						
CELP	**Cerrillos**	**1.79**	**96**		**Pn**	**04 35 09.6**	**+0.5**
CELP	**Cerrillos**	**1.79**	**96**	*ePg*	**Pn**	**04 35 09.5**	**+0.5**
CELP				IAML		04 35 36.4	
	comp=N,33nm,0.3s						
EMPR	**Esperanza - Ma**	**1.84**	**83**	*eP*	**Pn**	**04 35 09.3**	**-0.1**
EMPR	**Esperanza - Ma**	**1.84**	**83**	*eS*	**Sn**	**04 35 34.5**	**-0.7**
EMPR	**Esperanza - Ma**	**1.84**	**83**		**Pn**	**04 35 09.1**	**-0.4**
EMPR	**Esperanza - Ma**	**1.84**	**83**		**Sn**	**04 35 34.5**	**-0.7**
GCPR	**Guaynabo City**	**2.25**	**89**	*eP*	**Pn**	**04 35 13.5**	**-0.8**
GCPR	**Guaynabo City**	**2.25**	**89**	*eS*	**Sn**	**04 35 41.6**	**-2.1**
GCPR	**Guaynabo City**	**2.25**	**89**		**Pn**	**04 35 13.5**	**-0.8**
GCPR					**Sn**	**04 35 41.6**	**-2.1**
IGPR	**InterUniversit**	**2.25**	**97**	*eP*	**Pn**	**04 35 15.8**	**+1.5**
IGPR	**InterUniversit**	**2.25**	**97**	*eS*	**Sn**	**04 35 43.8**	**+0.1**
IGPR	**InterUniversit**	**2.25**	**97**		**Pn**	**04 35 14.6**	**+0.3**
IGPR				IAML		04 35 51.3	
	comp=N,29nm,0.3s						
IGPR				IAML		04 35 54.2	
	comp=E,30nm,0.2s						
IGPR	**InterUniversit**	**2.25**	**97**		**Sn**	**04 35 43.8**	**+0.1**
SC01	**Santiago de lo**	**2.44**	**298**		**Pn**	**04 35 17.8**	**+1.2**
HUMP	**Col San Antoni**	**2.48**	**93**	*eP*	**Pn**	**04 35 16.9**	**-0.1**
HUMP	**Col San Antoni**	**2.48**	**93**	*eS*	**Sn**	**04 35 47.5**	**-1.1**
HUMP	**Col San Antoni**	**2.48**	**93**		**Pn**	**04 35 16.9**	**-0.1**
HUMP				IAML		04 35 49.0	
	comp=N,28nm,0.2s						
HUMP				IAML		04 35 52.9	
	comp=E,33nm,0.2s						
HUMP	**Col San Antoni**	**2.48**	**93**		**Sn**	**04 35 47.5**	**-1.1**
LOBA2	**Hotel Casa Bon**	**2.52**	**266**	*eP*	**Pn**	**04 35 17.7**	**+0.1**
LOBA2				*eSg*	**Sn**	**04 35 47.3**	**-2.3**
PODR	**Polo**	**2.69**	**268**	*eP*	**Pn**	**04 35 21.2**	**+1.4**
PODR				IAML		04 35 55.0	
	comp=E,29nm,0.1s						
PODR				IAML		04 35 56.6	
	comp=N,24nm,0.1s						
PODR	**Polo**	**2.69**	**268**	*i* P	**Pn**	**04 35 20.3**	**+0.4**
PODR				*eS*	**Sn**	**04 35 52.2**	**-1.5**
SDDR	**Presa de Saban**	**2.78**	**285**	Pn	**Pn**	**04 35 22.8**	**+1.9**
SDDR				IAML		04 36 26.5	
	comp=N,14nm,2.2s						
SDDR				IAML		04 36 31.1	
	comp=N,20nm,3.4s						
SDDR	**Presa de Saban**	**2.78**	**285**	*i* P	**Pn**	**04 35 22.7**	**+1.9**
SDDR				*eS*	**Sn**	**04 35 54.4**	**-1.1**
SDDR				IAML		04 36 01.7	
	comp=Z,11nm,2.1s						
LOPE2	**Hotel El Peder**	**3.14**	**266**	*i* P	**Pn**	**04 35 26.4**	**+1.1**

SJA 23 04:47:56.8±0.6,**29°.40S×72°.09W,h12**km±18km,**ML3.8, MW3.6,1D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**1.27**	**73**	*i* P	Pg	04 48 21.7	+0.3
LCO				*eS*	Sg	04 48 39.0	+1.1
LCO				IAML		04 48 40.2	
	comp=Z,12µm,0.8s						
GO04	**Tololo Observa**	**1.36**	**125**	*i* P	Pb	04 48 22.4	0.0
AC04	**Llanos de Chal**	**1.49**	**37**	*i* P	Pb	04 48 24.2	-0.3
AC04				IAML		04 48 57.4	
	comp=Z,556nm,0.6s						
AC05	**El Transito**	**1.69**	**71**	*i* P	Pg	04 48 28.9	-0.3
AC05				*eS*	Sg	04 48 51.3	+0.2
AC05				IAML		04 48 52.1	
	comp=Z,874nm,0.8s						
CO01	**Juntas del Tor**	**1.83**	**109**	*i* P	Pb	04 48 30.3	-0.1
CO01				*eS*	Sb	04 48 52.8	-0.6
CO01				IAML		04 48 55.1	
	comp=Z,495nm,0.2s						
CO03	**El Pedregal**	**1.88**	**140**	*i* P	Pb	04 48 30.3	-0.9
CO03				*eS*	Sn	04 48 52.5	-0.1
CO03				IAML		04 48 56.4	
	comp=Z,673nm,0.6s						
CO02	**Combarbal**	**2.03**	**153**	*i* P	Pn	04 48 32.0	+1.0
CO02				IAML		04 49 04.0	
	comp=Z,805nm,0.9s						
AROD	**Rodeo**	**2.40**	**109**	*i* P	Pb	04 48 41.4	+1.3
ACDV	**Cuesta del Vie**	**2.69**	**107**	*i* P	Pb	04 48 46.1	+1.0
ACDV				IAML		04 49 26.2	
	comp=Z,300nm,0.6s						
ACCO	**Cerro Coronel**	**2.88**	**115**	*i* P	Pb	04 48 48.8	+0.4
ACCO				IAML		04 49 30.1	
	comp=Z,384nm,0.7s						
DOCA	**Reserva Natura**	**3.03**	**121**	*i* P	Pb	04 48 51.1	+0.2
DOCA				IAML		04 49 44.8	
	comp=Z,612nm,0.9s						
AGUA	**GUANDACOL**	**3.14**	**92**	*i* P	Pb	04 48 51.8	-0.9
AGUA				IAML		04 49 40.5	
	comp=Z,125nm,0.6s						
AC01	**Pan de Azucar**	**3.50**	**23**	*i* P	Pn	04 48 51.0	-0.1
AC01				IAML		04 50 00.9	
	comp=Z,105nm,0.6s						
VA03	**San Esteban**	**3.60**	**159**	*i* P	Pn	04 48 56.0	+3.3
VA03				IAML		04 49 58.1	
	comp=Z,206nm,0.8s						
MT03	**Universidad Ad**	**4.30**	**162**	*i* P	Pn	04 49 05.3	+3.1
MT03				IAML		04 50 18.5	
	comp=Z,142nm,0.7s						
MT01	**Popeta**	**4.51**	**171**	*i* P	Pn	04 49 06.7	+1.7
MT01				IAML		04 50 26.5	
	comp=Z,56nm,0.7s						
GO02	**Mina Guanaco**	**4.77**	**28**	*i* P	Pn	04 49 09.7	+0.8
APLL	**PUNTA DE LOS L**	**4.93**	**103**	*i* P	Pn	04 49 15.8	+4.9

*IGQ **23** 04:58:46±1.0,5°.5×7°.8W±°,h10km*
*RSNC **23** 04:58:46.8±1.2,5°.5×10°.7W±°,h0km,mb4.5,mB5.4, ML3.5,Mw(mB)4.8*
*NEIC **23** 04:58:49.4±0.9,4°.83S±0°.08×77°.56W±0°.04,h62km±11km, mb4.2/10,Error ellipse: s-maj=10.9km s-min=5.6km az=184.0*
ISC 23 04:58:47.8±0.7,**4°.93S**±0°.06×**77°.45W**±0°.06,**h38**km,**n77, σ1s98/79,mb4.4/4,Northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZUMB	**Zumba**	**1.69**	**272**	P	**Pn**	**04 59 14.0**	**-0.9**
ZUMB				S	**Sn**	**04 59 35.0**	**-0.4**
MCRA	**Macar, Loja**	**2.56**	**283**	Pn	**Pn**	**04 59 26.7**	**-0.1**
MCRA				Sn	**Sn**	**04 59 55.1**	**-1.6**
MCRA	**Macar, Loja**	**2.56**	**283**	P	**Pn**	**04 59 27.0**	**+0.2**
MCRA				S	**Sn**	**05 00 00.0**	**+3.3**
ARNL	**Arenillas**	**2.95**	**298**		**Pn**	**04 59 31.8**	**-0.3**
ARNL	**Arenillas**	**2.95**	**298**	P	**Pn**	**04 59 32.0**	**-0.1**
COHC	**Cochancay**	**3.04**	**324**		**Pn**	**04 59 33.0**	**-0.4**
COHC	**Cochancay**	**3.04**	**324**	P	**Pn**	**04 59 35.2**	**+1.8**
COHC	**Cochancay**	**3.04**	**324**	P	**Pn**	**04 59 37.0**	**+3.6**
COHC				S	**Sn**	**05 00 11.0**	**+2.5**
ISPG	**Isla Puna-Puer**	**3.34**	**306**	P	**Pn**	**04 59 40.0**	**+2.4**
PUYO	**Puyo, Santa Ro**	**3.46**	**350**	P	**Pn**	**04 59 41.0**	**+1.7**
BMAS	**Trigal station**	**3.56**	**343**	P	**Pn**	**04 59 42.0**	**+1.2**
BULB	**Ulba Tungurahu**	**3.60**	**345**	P	**Pn**	**04 59 42.0**	**+0.6**
BBIL	**Ulba Tungurahu**	**3.61**	**343**	P	**Pn**	**04 59 43.0**	**+1.5**
TAMH	**Tambohuasha Ch**	**3.62**	**338**	P	**Pn**	**04 59 45.0**	**+3.2**
BRUN	**Tungurahua Vol**	**3.62**	**344**	P	**Pn**	**04 59 43.0**	**+1.3**
JUI6	**Juive**	**3.63**	**344**	P	**Pn**	**04 59 43.0**	**+1.3**
PORT	**Chimborazo Vol**	**3.69**	**339**	P	**Pn**	**04 59 45.0**	**+2.2**
CHSH	**Refugio Sur-Vo**	**3.70**	**337**		**Pn**	**04 59 42.4**	**-0.5**
CHSH	**Refugio Sur-Vo**	**3.70**	**337**	P	**Pn**	**04 59 45.0**	**+2.1**
PIS1	**Pisayambo**	**3.96**	**346**	P	**Pn**	**04 59 48.0**	**+1.5**
PIAT	**Ana Tenorio**	**3.99**	**348**	P	**Pn**	**04 59 46.7**	**-0.1**
VCES	**Cotopaxi**	**4.21**	**347**	P	**Pn**	**04 59 52.0**	**+2.1**
BRRN	**Barrancas-Volc**	**4.25**	**346**	P	**Pn**	**04 59 52.0**	**+1.6**
BMOR	**Cotopaxi Volca**	**4.29**	**346**	P	**Pn**	**04 59 53.0**	**+1.9**
SLOR	**San Lorenzo -**	**4.30**	**346**	Pn	**Pn**	**04 59 51.6**	**+0.5**
SLOR	**San Lorenzo -**	**4.30**	**346**	P	**Pn**	**04 59 53.0**	**+1.8**
BTAM	**Cotopaxi Volca**	**4.33**	**347**	P	**Pn**	**04 59 54.0**	**+2.4**
BVC2	**Cotopaxi Volca**	**4.35**	**347**	P	**Pn**	**04 59 55.0**	**+3.1**
BNAS	**Cotopaxi Volca**	**4.36**	**346**	P	**Pn**	**04 59 55.0**	**+3.1**
CAMI	**Rancho Maria**	**4.36**	**346**	P	**Pn**	**04 59 54.0**	**+2.1**
VC1	**Cotopaxi 1**	**4.37**	**347**	P	**Pn**	**04 59 54.0**	**+1.9**
PITA	**Cotopaxi Volc**	**4.45**	**347**	P	**Pn**	**04 59 56.0**	**+2.8**
ANTS	**Antisana-Sarah**	**4.46**	**351**	P	**Pn**	**04 59 55.0**	**+1.5**
ANTG	**Antisana-Guama**	**4.47**	**350**	P	**Pn**	**04 59 55.0**	**+1.5**
ANTI	**Antisana**	**4.51**	**351**	P	**Pn**	**04 59 54.0**	**-0.1**
LAV4	**Lava4-Reventad**	**4.81**	**358**	P	**Pn**	**04 59 57.0**	**-1.0**
GGPT	**Toaza - Volcan**	**4.82**	**346**	P	Pn	05 00 05.0	+6.8
TERV	**Terraza Guagua**	**4.87**	**346**	P	Pn	05 00 08.0	+9.1
CASC	**Dorado de Casc**	**5.04**	**1**	P	**Pn**	**05 00 01.0**	**+0.1**
FLF1	**Flavio Alfaro-**	**5.13**	**332**	P	**Pn**	**05 00 04.5**	**+2.3**
	23nm,0.7s						
PAC1	**Pacto, Paraso**	**5.33**	**345**	P	**Pn**	**05 00 08.1**	**+3.0**
BONI	**La Bonita**	**5.35**	**359**	P	**Pn**	**05 00 07.1**	**+1.8**
MAG1	**Magdalena**	**5.36**	**334**	P	**Pn**	**05 00 03.0**	**-2.2**
CZSB	**Cruzeiro do Su**	**5.47**	**121**		**Pn**	**05 00 10.2**	**+3.4**
PTLC	**Puerto Leguiza**	**5.72**	**28**	P	**Pn**	**05 00 07.3**	**-2.9**
	123nm,0.8s,2µm						
PTLC	**Puerto Leguiza**	**5.72**	**28**	P	**Pn**	**05 00 07.0**	**-3.2**
GCUF	**Volcan Galeras**	**6.12**	**1**	P	**Pn**	**05 00 18.2**	**+2.1**
CRUC	**La Cruz**	**6.47**	**4**	P	**Pn**	**05 00 22.3**	**+1.4**
	1µm,2.4s,5µm						
FLOC	**Florencia**	**6.71**	**16**	P	**Pn**	**05 00 24.3**	**+0.4**
BBAC	**Balboa, Cauca**	**6.91**	**2**	P	**Pn**	**05 00 30.2**	**+3.4**
	22nm,0.6s						
NNA	**Nana**	**7.04**	**175**		**Pn**	**05 00 31.7**	**+3.4**
GARC	**Garzon, Huila**	**7.34**	**15**	P	**Pn**	**05 00 32.8**	**+0.2**
POPC	**Popayan, Colom**	**7.46**	**6**	P	**Pn**	**05 00 36.4**	**+2.0**
	14nm,0.9s						
TBTG	**Tabatinga, AM**	**7.55**	**85**	Pn	**Pn**	**05 00 37.6**	**+2.2**
TBTG	**Tabatinga, AM**	**7.55**	**85**	P	**Pn**	**05 00 37.6**	**+2.2**
	95nm,0.4s,2µm						
BETC	**Betania**	**7.82**	**15**	P	**Pn**	**05 00 42.1**	**+2.9**
MACC	**Macarena, Meta**	**7.90**	**27**	P	**Pn**	**05 00 41.6**	**+1.5**
	48nm,0.7s,1µm						
MALC	**Bahia Malaga**	**8.89**	**1**	P	**Pn**	**05 00 56.0**	**+2.3**
YOTC	**Yotoco, Valle**	**8.92**	**7**	P	**Pn**	**05 00 56.4**	**+2.1**
	9.3nm,0.6s						
ORTC	**Ortega, Tolima**	**9.05**	**14**	P	**Pn**	**05 00 57.1**	**+1.1**
	16nm,1.1s						
VILC	**Villavicencio,**	**9.73**	**23**	P	**Pn**	**05 01 05.6**	**+0.1**
CVER	**Cruz Verde, Cu**	**9.98**	**20**	P	**Pn**	**05 01 11.7**	**+2.6**
	26nm,1.0s						
RUSC	**La Rusia**	**11.60**	**22**	P	**Pn**	**05 01 33.8**	**+2.5**
	12nm,0.8s						
PTBC	**PUERTO BERRIO,**	**11.78**	**15**	P	**Pn**	**05 01 34.8**	**+1.4**
ETMB	**Extrema**	**12.15**	**114**	Pn	**Pn**	**05 01 38.3**	**-0.1**
LPAZ	**La Paz**	**14.53**	**142**	Pn	**Pn**	**

MTN	**Manton Dam**	**19.51**	**248**	P	**P**	**05 05 44.8 +0.6**
MTN	**Manton Dam**	**19.51**	**248**	P	**P**	**05 05 44.0 -0.3**
MTN				IAmb	IAmb	05 05 46.0
	comp=Z,50nm,0.9s					
EIDS	**Eidsvold**	**19.53**	**176**	P	**Pn**	**05 05 46.5 -0.6**
EIDS	**Eidsvold**	**19.53**	**176**	P	**P**	**05 05 44.5 +0.2**
EIDS				IAmb	IAmb	05 05 51.6
	comp=Z,53nm,1.0s					
DRS	**Darwin Rock St**	**19.59**	**249**	P	**P**	**05 05 45.9 +0.8**
	comp=Z,74nm,0.7s					
WB2	**Warramunga Arr**	**20.44**	**225**	P	**P**	**05 05 54.1 0.0**
WB2				IAmb	IAmb	05 05 55.4
	comp=Z,34nm,0.7s					
WRA	**Warramunga Arr**	**20.44**	**225**	P	**P**	**05 05 53.3 -1.0**
WRA	**Warramunga Arr**	**20.44**	**225**	P	**P**	**05 05 54.7 +0.4**
	comp=Z,21nm,0.6s,baz=48,slow=10,SNR=179					
WRA				S	**S**	**05 09 33.1 -2.0**
	comp=Z,12nm,0.8s,baz=39,slow=20,SNR=11					
	comp=Z,21nm,0.6s					
QLP	**Quilpie**	**21.30**	**193**	P	**P**	**05 06 05.3 +2.0**
DZM	**Mont Dzumac**	**22.97**	**136**	P	**P**	**05 06 20.7 +0.6**
DZM				IAmb	IAmb	05 06 21.4
	comp=Z,12nm,0.9s					
AS01	**Alice Springs**	**23.30**	**219**	P	**P**	**05 06 23.9 +0.9**
	comp=Z,31nm,0.6s					
AS31	**Alice Springs**	**23.33**	**219**	P	**P**	**05 06 23.9 +0.6**
AS31				IAmb	IAmb	05 06 24.9
	comp=Z,12nm,0.5s					
ASAR	**Alice Springs**	**23.33**	**219**	P	**P**	**05 06 24.4 +1.1**
ASAR	**Alice Springs**	**23.33**	**219**	P	**P**	**05 06 24.0 +0.7**
	comp=Z,21nm,0.5s,baz=57,slow=8.6,SNR=323					
ASAR				S	**S**	**05 10 23.6 -1.2**
	comp=Z,1.7nm,0.9s,baz=42,slow=15,SNR=4.0					
	comp=Z,21nm,0.5s					
INKA	**Innaminka**	**23.40**	**200**	P	**P**	**05 06 25.1 +1.3**
AULRC	**Lightning Ridg**	**23.57**	**184**	P	**P**	**05 06 26.5 +1.2**
ARMA	**Armidale**	**24.58**	**176**	P	**P**	**05 06 36.3 +1.6**
ARMA	**Armidale**	**24.58**	**176**	P	**P**	**05 06 35.7 +1.1**
ARMA				IAmb	IAmb	05 06 37.0
	comp=Z,39nm,0.9s					
OOD	**Oodnadatta**	**25.57**	**210**	P	**P**	**05 06 43.9 +0.4**
CMSA	**Cobar Meteorol**	**25.88**	**188**	P	**P**	**05 06 47.0 +0.7**
FITZ	**Fitzroy Crossi**	**26.39**	**240**	P	**P**	**05 06 50.9 -0.1**
FITZ	**Fitzroy Crossi**	**26.39**	**240**	P	**P**	**05 06 50.4 -0.6**
FITZ				IAmb	IAmb	05 07 01.9
	comp=Z,5.8nm,0.6s					
LCRK	**Leigh Creek**	**26.77**	**202**	P	**P**	**05 06 54.3 0.0**
STKA	**Stephens Creek**	**27.02**	**195**	P	**P**	**05 06 56.9 +0.4**
STKA	**Stephens Creek**	**27.02**	**195**	P	**P**	**05 06 56.3 -0.2**
STKA	**Stephens Creek**	**27.02**	**195**	P	**P**	**05 06 56.3 -0.2**
	comp=Z,4.6nm,0.5s,baz=44,slow=15,SNR=11					
STKA				LR	LR	05 17 15.3
	comp=Z,44nm,18.0s,baz=21,slow=35					
	comp=Z,4.6nm,0.5s					
LUWI	**Luwuk**	**27.18**	**279**	P	**P**	**05 06 57.4 -0.7**
	comp=Z,20nm,0.7s,comp=Z,6μm					
MULG	**Mulgathing**	**28.42**	**209**	P	**P**	**05 07 09.1 +0.1**
HTT	**Hallett**	**29.24**	**198**	P	**P**	**05 07 16.8 +0.5**
WHYH	**Whyalla**	**29.33**	**201**	P	**P**	**05 07 18.3 +1.3**
	comp=Z,12nm,0.8s					
CAN	**Canberra**	**29.40**	**181**	P	**P**	**05 07 18.6 +1.0**
BBOO	**Buckleboo**	**29.70**	**203**	P	**P**	**05 07 19.7 -0.6**
ARPS	**Mount Arapiles**	**31.65**	**192**	P	**P**	**05 07 38.3 +0.9**
TOO	**Toolangi**	**31.86**	**186**	P	**P**	**05 07 40.9 +1.6**
TOO	**Toolangi**	**31.86**	**186**	P	**P**	**05 07 39.9 +0.7**
TOO				IAmb	IAmb	05 07 41.5
	comp=Z,19nm,0.8s					
FORT	**Forrest**	**32.05**	**217**	P	**P**	**05 07 41.5 +0.5**
FORT	**Forrest**	**32.05**	**217**	P	**P**	**05 07 40.7 -0.3**
MBWA	**Marble Bar**	**32.72**	**239**	P	**P**	**05 07 46.0 -0.9**
MBWA				IAmb	IAmb	05 08 12.8
	comp=Z,30nm,1.4s					
PSA00	**Pilbara Seismi**	**32.79**	**239**	P	**P**	**05 07 46.5 -1.0**
GIRL	**Giralia**	**38.00**	**240**	P	**P**	**05 08 31.7 -0.4**
NWAO	**Narrogin (SRO)**	**40.45**	**224**	P	**P**	**05 08 51.8 -0.5**
NWAO				IAmb	IAmb	05 09 06.1
	comp=Z,36nm,1.2s					
NWAO	**Narrogin (SRO)**	**40.45**	**224**	LR	LR	05 25 08.0
	comp=Z,28nm,19.2s,baz=161,slow=35					
TKNZ	**Takaka Hill**	**40.85**	**153**	P	**P**	**05 08 57.2 +1.8**
THZ	**Tophouse**	**41.41**	**153**	P	**P**	**05 09 00.6 +0.5**
THZ				IAmb	IAmb	05 09 11.9
	comp=Z,47nm,1.3s					
TCW	**Tory Channel**	**41.60**	**152**	P	**P**	**05 09 02.8 +1.3**
SNZO	**South Karori**	**41.88**	**151**	P	**P**	**05 09 04.5 +0.7**
GVZ	**Greta Valley S**	**42.43**	**154**	P	**P**	**05 09 08.7 +0.4**
GVZ				IAmb	IAmb	05 09 35.9
	comp=Z,64nm,1.5s					
JTM	**Tenmabayashi**	**47.00**	**351**	P	**P**	**05 09 43.8 -0.6**
KSRS	**Korea Array**	**47.53**	**337**	P	**P**	**05 09 47.8 -0.8**
	comp=Z,1.5nm,0.6s,baz=155,slow=8.2,SNR=4.6					
KSRS				LR	LR	05 26 59.3
	comp=Z,10nm,20.4s,baz=155,slow=32					
	comp=Z,1.5nm,0.6s					
NJ2	**Nanjing**	**47.68**	**324**	*e*P	**P**	**05 09 51.3 +1.5**
NJ2				pmax	pmax	
	comp=Z,7.0nm,0.5s					
USRK	**Ussuriysk Ar.**	**52.23**	**344**	P	**P**	**05 10 24.0 +0.1**
USRK	**Ussuriysk Ar.**	**52.23**	**344**	P	**P**	**05 10 24.3 +0.4**
	comp=Z,1.0nm,0.6s,baz=168,slow=7.8,SNR=2.9					
	comp=Z,2.1nm,0.6s					
PZH	**PanZhiHua**	**56.37**	**307**	P	**P**	**05 10 56.8 +2.4**
PZH				pmax	pmax	
	comp=Z,5.0nm,0.7s					
PZH				pmax	pmax	
	comp=Z,100nm,5.3s					
KLR	**Kul'dur**	**56.96**	**346**	P	**P**	**05 10 59.4 +1.5**
	comp=Z,1.3nm,0.7s,baz=202,slow=2.6,SNR=5.3					
KLR				LR	LR	05 33 55.6
	comp=Z,17nm,19.5s,baz=22,slow=34					
	comp=Z,1.3nm,0.7s					
HHC	**Hu-ho-hao-te**	**58.04**	**327**	*e*P	**P**	**05 11 08.8 +2.9**
HHC				pmax	pmax	
	comp=Z,11nm,0.8s					
HHC				pmax	pmax	
	comp=Z,130nm,6.6s					
HEH	**HeiHe**	**59.02**	**344**	*e*P	**P**	**05 11 15.3 +3.0**
PEA0B	**Petropavlovsk-**	**59.07**	**6**	P	**P**	**05 11 12.0 -0.6**
PETK	**Petropavlovsk-**	**59.07**	**6**	P	**P**	**05 11 11.7 -0.9**
PETK	**Petropavlovsk-**	**59.07**	**6**	P	**P**	**05 11 12.2 -0.3**
	comp=Z,12nm,0.5s,baz=162,slow=6.4,SNR=16					
	comp=Z,12nm,0.5s					
SONM	**Songino Array**	**65.50**	**330**	P	**P**	**05 11 55.1 -0.6**
	comp=Z,0.5nm,0.6s,baz=161,slow=6.1,SNR=4.5					
	comp=Z,0.5nm,0.6s					
CASY	**Casey**	**66.16**	**196**	P	**P**	**05 11 59.1 -0.3**
CASY				IAmb	IAmb	05 12 21.4
	comp=Z,7.9nm,1.3s					
VNDA	**Vanda**	**71.99**	**177**	P	**P**	**05 12 35.6 +0.4**
VNDA	**Vanda**	**71.99**	**177**	P	**P**	**05 12 35.6 +0.4**
	comp=Z,3.4nm,0.6s,baz=334,slow=7.0,SNR=39					
	comp=Z,3.4nm,0.6s					
SBA	**Scott Base**	**72.59**	**176**	P	**P**	**05 12 39.5 +0.8**
CHIR	**Chirikof Islan**	**76.05**	**28**	P	**P**	**05 12 58.1 -0.9**
MKAR	**Makanchi Array**	**78.99**	**320**	P	**P**	**05 13 14.5 -1.1**
	comp=Z,0.3nm,0.7s,baz=59,slow=4.7,SNR=2.8					
CNPM	**China Poot**	**80.00**	**26**	P	**P**	**05 13 20.1 -0.7**
CNPM				IAmb	IAmb	05 13 31.5
	comp=Z,43nm,1.4s					
ZALV	**Zalesovo Beam**	**80.22**	**327**	P	**P**	**05 13 20.1 -1.9**
	comp=Z,0.9nm,0.6s,baz=123,slow=5.3,SNR=2.3					
	comp=Z,0.9nm,0.6s					
CAST	**Castle Rocks**	**81.63**	**23**	P	**P**	**05 13 27.2 -2.2**
KTH	**Kantishna Hill**	**82.14**	**23**	P	**P**	**05 13 29.5 -2.7**
IMAR	**Indian Mountai**	**82.39**	**20**	P	**P**	**05 13 31.7 -1.6**
RND	**Reindeer**	**82.88**	**24**	P	**P**	**05 13 33.4 -2.6**
RND				IAmb	IAmb	05 13 51.7
	comp=Z,9.2nm,1.5s					
KLU	**Klutina**	**83.24**	**26**	P	**P**	**05 13 37.8 -0.1**
M24K	**Tolsona, Glenn**	**83.39**	**25**	P	**P**	**05 13 37.1 -1.6**
M24K				IAmb	IAmb	05 13 55.2
	comp=Z,9.8nm,1.1s					
QSPA	**South Pole Qui**	**84.18**	**180**	P	**P**	**05 13 42.5 -0.2**
QSPA				IAmb	IAmb	05 13 43.5
	comp=Z,8.3nm,0.7s					
QSPA	**South Pole Qui**	**84.18**	**180**	P	**P**	**05 13 41.6 -1.1**
	comp=Z,7.1nm,0.6s,baz=301,slow=0.5,SNR=44					
	comp=Z,7.1nm,0.6s					
ILAR	**Eielson Array**	**84.28**	**23**	P	**P**	**05 13 39.9 -3.1**
ILAR	**Eielson Array**	**84.28**	**23**	P	**P**	**05 13 40.5 -2.5**
	comp=Z,1.0nm,0.6s,baz=252,slow=5.0,SNR=16					
	comp=Z,1.0nm,0.6s					
IL03	**Eielson Array**	**84.29**	**23**	P	**P**	**05 13 40.1 -3.0**
TORD	**Torodi Ar. Bea**	**147.53**	**285**	PKPbc	**PKPbc**	**05 20 55.0 -0.9**
	comp=Z,0.5nm,0.6s,baz=62,slow=3.0,SNR=5.4					
TORD				SKPbc	**SKPbc**	**05 24 15.5 -4.7**

comp=Z,0.4nm,0.8s,baz=56,slow=4.7,SNR=2.6

IDC 23 05:12:51.2±7.3, 27.49S×23.12E, h0km, mbtmp1.8/1, ML1.6/1, Error ellipse: s-maj=46.3km s-min=43.4km az=29.0, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I47ZA	**BOSHOF INFRASO**	**2.19**	**122**	I	I	05 27 30.0	
	0.1nm,1.1s,baz=302,slow=321,SNR=2.4						
BOSA	**Boshof**	**2.20**	**121**	Pn	Pn	05 13 29.0	-0.1
	0.1nm,0.3s,baz=296,slow=17,SNR=1.4						
BOSA				Lg	Lg	05 14 01.3	
	0.4nm,0.3s,baz=207,slow=19,SNR=10						
	0.7nm,0.5s						
I35NA	**TSUMEB INFRASO**	**9.70**	**327**	I	I	06 15 55.0	
	baz=151,slow=315,SNR=3.1						

*SJA **23** 05:17:08.9±0.7, 27.80S×71.40W, h11km±6km, ML3.5, MW3.3*

*GUC **23** 05:17:13.9±0.6, 27.90S×71.10W, h29km±2km, ML3.1*

ISC 23 05:17:11.9±1.3, 27.83S±0.03×71.23W±0.07, h27km±10km, n37, σ1s95/48, 1C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.40**	**159**	*e*P	**Pb**	**05 17 20.8**	**+0.2**
AC04				*e*S	**Sb**	**05 17 26.3**	**-0.1**
AC04				IAML		05 17 26.8	
	comp=Z,3μm,0.4s						
AC04	**Llanos de Chal**	**0.40**	**159**	⇑*i*P	**Pb**	**05 17 21.0**	**+0.4**
AC04				*e*S	**Sb**	**05 17 26.0**	**-0.4**
AC06	**Mina Casimiro**	**0.91**	**59**	*e*P	**Pn**	**05 17 29.2**	**+0.3**
AC06				*e*S	**Sb**	**05 17 40.7**	**-0.2**
AC06				IAML		05 17 44.1	
	comp=E,804nm,0.3s						
GO03	**Copiap**	**0.92**	**75**	*e*P	**Pn**	**05 17 29.1**	**+0.1**
GO03				*e*S	**Sn**	**05 17 41.6**	**+0.3**
GO03	**Copiap**	**0.92**	**75**	*e*P	**Pn**	**05 17 29.9**	**-0.1**
GO03				*i* S	**Sb**	**05 17 40.3**	**-0.8**
GO03				IAML		05 17 40.9	
	comp=N,2μm,0.3s						
LCO	**Las Campanas**	**1.26**	**158**	*e*P	**Pn**	**05 17 34.8**	**+0.8**
LCO				*e*S	**Sb**	**05 17 50.5**	**-0.7**
LCO	**Las Campanas**	**1.26**	**158**	*e*P	**Pn**	**05 17 34.8**	**+0.8**
LCO				*e*S	**Sn**	**05 17 49.9**	**-0.3**
AC05	**El Transito**	**1.31**	**140**	*e*P	**Pb**	**05 17 35.3**	**-0.6**
AC05				IAML		05 17 57.6	
	comp=Z,387nm,0.7s						
AC05	**El Transito**	**1.31**	**140**	*e*P	**Pn**	**05 17 35.0**	**+0.5**
AC05				*e*S	**Sb**	**05 17 50.7**	**-1.7**
AC05				IAML		05 17 52.7	
	comp=N,757nm,0.2s						
AC01	**Pan de Azucar**	**1.77**	**19**	*e*P	**Pn**	**05 17 42.1**	**+1.3**
AC01	**Pan de Azucar**	**1.77**	**19**	*i* P	**Pn**	**05 17 42.3**	**+1.5**
CO05	**La Serena**	**2.08**	**180**	*e*P	**Pn**	**05 17 46.4**	**+1.5**
AC02	**Maricunga**	**2.12**	**62**	*e*P	**Pb**	**05 17 49.1**	**-0.9**
AC02				IAML		05 18 25.8	
	comp=Z,148nm,0.3s						
AC02	**Maricunga**	**2.12**	**62**	*e*P	**Pb**	**05 17 49.0**	**-0.9**
AC02				*i* S	**Sb**	**05 18 15.2**	**-0.8**
CO01	**Juntas del Tor**	**2.36**	**155**	*e*P	**Pn**	**05 17 51.5**	**+2.4**
CO01				IAML		05 18 29.3	
	comp=Z,296nm,0.8s						
CO01	**Juntas del Tor**	**2.36**	**155**	*e*P	**Pn**	**05 17 51.3**	**+2.3**
CO01				*i* S	**Sb**	**05 18 19.8**	**-2.8**
CO01				IAML		05 18 30.3	
	comp=E,259nm,0.3s						
GO04	**Tololo Observa**	**2.36**	**171**	*e*P	**Pn**	**05 17 51.2**	**+2.2**
GO04	**Tololo Observa**	**2.36**	**171**	*e*P	**Pn**	**05 17 51.2**	**+2.2**
VCA	**Vinchina**	**2.82**	**109**	*e*P	**Pb**	**05 18 00.6**	**-1.1**
VCA				IAML		05 18 49.3	
	comp=Z,129nm,0.4s						
AGUA	**GUANDACOL**	**2.92**	**125**	*e*P	**Pb**	**05 18 01.9**	**-1.4**
AGUA				IAML		05 18 44.1	
	comp=Z,73nm,0.4s						
ACDV	**Cuesta del Vie**	**2.98**	**142**	*e*P	**Pb**	**05 18 03.2**	**-1.1**
ACDV				IAML		05 18 50.5	
	comp=Z,73nm,0.7s						
CO03	**El Pedregal**	**3.03**	**171**	*e*P	**Pn**	**05 18 00.1**	**+2.0**
CO03				IAML		05 18 53.0	
	comp=Z,104nm,0.5s						
GO02	**Mina Guanaco**	**3.04**	**29**	*e*P	**Pn**	**05 18 00.7**	**+2.2**
PB14	**IPOC Station P**	**3.28**	**13**	*e*P	**Pn**	**05 18 02.6**	**+0.8**
PB14				IAML		05 19 05.8	
	comp=Z,54nm,0.5s						
ACCO	**Cerro Coronel**	**3.33**	**146**	*e*P	**Pb**	**05 18 07.0**	**-3.5**
ACCO				IAML		05 18 58.2	
	comp=Z,111nm,0.4s						
CO02	**Combarbal**	**3.36**	**177**	*e*P	**Pn**	**05 18 03.9**	**+1.1**
CO02				IAML		05 18 59.5	
	comp=Z,228nm,0.3s						
DOCA	**Reserva Natura**	**3.63**	**149**	*e*P	**Pb**	**05 18 11.3**	**-4.2**
DOCA				*e*S	**Sb**	**05 18 58.1**	**-1.2**
DOCA				IAML		05 19 10.8	
	comp=Z,228nm,0.5s						
ACLC	**CERRO LA CRUZ**	**4.08**	**114**	*e*P	**Pn**	**05 18 16.6**	**+3.9**
ACLC				IAML		05 19 10.9	
	comp=Z,68nm,1.0s						
RTLS	**Leoncito**	**4.29**	**157**	*e*P	**Pn**	**05 18 19.9**	**+4.2**
RTLS				IAML		05 19 28.0	
	comp=Z,213nm,0.8s						
AVFE	**Valle Fertil**	**4.34**	**131**	*e*P	**Pn**	**05 18 19.7**	**+3.6**
AVFE				*e*S	**Sb**	**05 19 18.7**	**-0.7**
AVFE				IAML		05 19 19.0	
	comp=Z,85nm,0.4s						
PB10	**IPOC Station P**	**4.35**	**8**	*e*P	**Pn**	**05 18 16.8**	**+0.6**
CYA	**Choya**	**4.83**	**98**	*e*P	**Pn**	**05 18 26.7**	**+3.8**
CYA				IAML		05 19 28.2	
	comp=Z,26nm,0.4s						
APLL	**PUNTA DE LOS L**	**4.84**	**123**	*e*P	Pn	05 18 27.8	+4.7
PB15	**IPOC Station P**	**4.87**	**19**	*e*P	**Pn**	**05 18 25.9**	**+2.3**
PB15				IAML		05 19 51.9	
	comp=Z,71nm,0.2s						
VA03	**San Esteban**	**4.95**	**173**	*e*P	**Pn**	**05 18 27.6**	**+3.1**
VA03				IAML		05 19 49.9	
	comp=Z,52nm,0.9s						
PB05	**IPOC Station P**	**5.05**	**11**	*e*P	**Pn**	**05 18 25.8**	**-0.1**
PB05				IAML		05 19 58.6	
	comp=Z,15nm,0.8s						
PB06	**IPOC Station P**	**5.32**	**17**	*e*P	**Pn**	**05 18 30.7**	**+1.0**
PB06				IAML		05 20 00.6	
	comp=Z,26nm,0.9s						

KRSC 23 05:43:46.0±1.4, 54.97N×165.42E, h40km±13km, MI3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.39**	**53**	*e*P	Pn	05 43 55.9	+0.6
BKI				*e*S	Sn	05 44 01.5	-0.4
KBG	**Krutoberegovo**	**2.01**	**311**	*e*S	Sn	05 44 43.0	+1.8
TUMR	**Tumrok**	**3.05**	**278**	*e*P	Pn	05 44 36.6	+4.8
KMNR	**Kamenistaya**	**3.06**	**287**	*e*P	Pn	05 44 37.1	+5.1
KPT	**Kopyto**	**3.12**	**291**	*e*P	Pn	05 44 37.8	+5.0
SRDR	**Sredinnyy**	**3.50**	**295**	*e*P	Pn	05 44 44.1	+6.1
SPN	**Mys Shipunski**	**3.70**	**242**	*e*P	Pn	05 44 44.3	+3.8
SPN				*e*S	Sn	05 45 25.5	+2.7
NLC	**Nalytchevo**	**4.01**	**246**	*e*S	Sn	05 45 33.9	+3.4
SMAR	**Somma**	**4.26**	**249**	*e*P	Pn	05 44 53.5	+5.0
KRER	**Koryakskii**	**4.27**	**250**	*e*P	Pn	05 44 54.3	+5.7
KRER				*e*S	Sn	05 45 41.4	+4.3
AVH	**Avacha**	**4.29**	**249**	*e*P	Pn	05 44 54.1	+5.4
AVH				*e*S	Sn	05 45 42.4	+4.9
KRX	**Arik**	**4.30**	**251**	*e*P	Pn	05 44 54.0	+5.1
KRX				*e*S	Sn	05 45 42.7	+4.9
KOK	**Koryaka**	**4.33**	**250**	*e*P	Pn	05 44 54.6	+5.3
OSSR	**Ossora**	**4.48**	**344**	*e*P	Pn	05 44 53.9	+2.7
GNL	**Ganaly**	**4.56**	**257**	*e*P	Pn	05 44 58.3	+5.8
KRMR	**Karymshinskiy**	**4.82**	**247**	*e*S	Sn	05 45 55.6	+5.2
RUS	**Russkaya**	**4.83**	**241**	*e*P	Pn	05 45 00.5	+4.5
MTVR	**Mutnovka**	**4.97**	**243**	*e*P	Pn	05 45 03.0	+4.8
MTVR				*e*S	Sn	05 45 57.3	+2.9
ASAK	**Asacha**	**5.17**	**243**	*e*P	Pn	05 45 06.4	+5.5
KDTR	**Khodutka, Kamc**	**5.42**	**237**	*e*P	Pn	05 45 08.2	+4.0
KDTR				*e*S	Sn	05 46 06.3	+1.2

*GCMT **23** 05:46:34.6±0.3, 56.50S±0.02×26.11W±0.03, h41km, MW5.0/80, Moment Tensor Solution. s54,c63; s80,c109;*

Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.38±.17; $M_{\theta\theta}$-0.74±.13; $M_{\phi\phi}$-2.64±.11; $M_{r\theta}$0.94±.12; $M_{r\phi}$1.88±.08; $M_{\theta\phi}$1.33±.10; Best double couple: $M_0$3.95400×10^{16} NP1:ϕ_s350.00000°, δ54.00000°, λ118.00000°. NP2: ϕ_s128.00000°, δ44.00000°, λ57.00000°. Principal axes: T 4.0490, Plg67.0000°, Azm317.0000°; N -0.1930, Plg22.0000°, Azm153.0000°; P -3.8580, Plg5.0000°, Azm60.00000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*IDC **23** 05:46:34.5±2.6, 56.34S×26.68W, h56km±22km, mb4.4/12, mbtmp4.6/14, ML4.2/2, MS4.0/35 Error ellipse: s-maj=19.7km s-min=13.7km az=59.0*

*NEIC **23** 05:46:37.6±1.7, 56.43S±0.10×26.9W±0.2, h78km±5km, mb5.1/76, Error ellipse: s-maj=15.1km s-min=12.3km az=211.0*

ISC 23 05:46:34.9±0.4, 56.48S±0.06×26.77W±0.07, h58km±3km, h56km:pP-P, n363, σ1s03/342, mb5.1/51, MS4.1/34, 9C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.96**	**288**		**Pn**	**05 48 01.8**	**+1.3**
VNA1	**Neumayer--Stat**	**16.31**	**158**	⇑P	**P**	**05 50 21.0**	**-0.8**
	comp=Z,40nm,0.6s						
VNA3	**Neumayer Olymp**	**16.51**	**160**	⇑P	**P**	**05 50 24.2**	**+0.1**
	comp=Z,24nm,0.6s						
ESPZ	**Base Esperanza**	**16.53**	**233**	P	**P**	**05 50 24.8**	**+0.5**
VNA2	**Neumayer--Watz**	**16.71**	**158**	⇑P	**P**	**05 50 25.9**	**-0.3**
	comp=Z,12nm,0.4s,baz=320,slow=13						
SNAA	**Sanae**	**18.26**	**156**	P	**P**	**05 50 43.1**	**-0.3**
SNAA	**Sanae**	**18.26**	**156**	⇑P	**Pn**	**05 50 43.7**	**-0.1**
	comp=Z,194nm,0.4s						
SNAA	**Sanae**	**18.26**	**156**	P	**Pn**	**05 50 43.8**	**0.0**
	comp=Z,1.4nm,0.3s,baz=323,slow=15,SNR=17						
SNAA				S	Sn	05 53 55.9	-11
	comp=Z,8.2nm,1.2s,baz=56,slow=18,SNR=1.7						
SNAA				LR	LR	05 56 30.9	
	comp=Z,566nm,19.4s,baz=312,slow=32						
	comp=Z,8.7nm,1.0s						
EFI	**East Falkland**	**18.88**	**271**	P	**P**	**05 50 50.7**	**+0.4**
TROLL	**Troll, Antarti**	**19.76**	**153**	⇑P	**P**	**05 50 60.0**	**+0.1**
	comp=Z,897nm,0.8s						
PMSA	**Palmer Station**	**19.80**	**230**	P	**P**	**05 51 01.6**	**+1.4**
PMSA	**Palmer Station**	**19.80**	**230**	P	**P**	**05 51 01.4**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=189,slow=11,SNR=1.6						
PMSA				LR	LR	05 57 30.7	
	comp=Z,961nm,21.5s,baz=118,slow=33						
	comp=Z,26nm,0.8s						
BELA	**Belgrano 2**	**21.67**	**184**	P	**P**	**05 51 20.4**	**+0.1**
TRIS	**Tristan da Cun**	**21.71**	**33**	P	**P**	**05 51 21.5**	**+0.6**
MG02	**Cerro Sombrero**	**24.56**	**261**	P	**P**	**05 51 49.3**	**+0.3**
MG05	**Puerto Natales**	**26.86**	**261**	P	**P**	**05 52 11.3**	**+1.5**
MG05				IAmb	IAmb	05 52 47.8	
	comp=Z,127nm,1.6s						
GO09	**Cerro Castillo**	**26.96**	**262**	P	**P**	**05 52 10.0**	**-0.7**
GO08	**Villa O'Higgin**	**28.55**	**267**	P	**P**	**05 52 25.8**	**+0.9**
GO08				IAmb	IAmb	05 53 09.8	
	comp=Z,96nm,1.9s						
TRQA	**Tornquist**	**29.71**	**293**	P	**P**	**05 52 35.2**	**-0.1**
PLTB	**Pedras Altas**	**30.96**	**312**	P	**P**	**05 52 46.1**	**-0.3**
PLTB	**Pedras Altas**	**30.96**	**312**	*e*P	**P**	**05 52 47.7**	**+1.3**
TBOT	**Tacuaremb**	**32.02**	**308**	*e*P	**P**	**05 52 56.5**	**+0.9**
PLCA	**Paso Flores**	**32.31**	**280**	P	**P**	**05 52 56.7**	**-1.5**
PLCA	**Paso Flores**	**32.31**	**280**	P	**P**	**05 52 57.0**	**-1.3**
	comp=Z,2.4nm,0.8s,baz=157,slow=11,SNR=5.4						
PLCA				LR	LR	06 05 59.5	
	comp=Z,339nm,20.1s,baz=135,slow=36						
	comp=Z,2.4nm,0.8s						
QSPA	**South Pole Qui**	**33.77**	**180**	P	**P**	**05 53 11.9**	**+1.1**
QSPA	**South Pole Qui**	**33.77**	**180**	P	**P**	**05 53 12.1**	**+1.2**
	comp=Z,16nm,0.6s,baz=198,slow=1.1,SNR=90						
QSPA				LR	LR	06 06 13.8	
	comp=Z,495nm,21.1s,baz=196,slow=35						
	comp=Z,16nm,0.6s						
QSPA	**South Pole Qui**	**33.77**	**180**	P	**P**	**05 53 12.1**	**+1.2**
QSPA				pP	**sP**	**05 53 28.9**	**-2.7**
QSPA				PcP	**PcP**	**05 55 48.9**	**+0.2**
QSPA				ScP	**ScP**	**05 59 27.9**	**-0.2**
ITQB	**Itaqui**	**34.05**	**309**	P	**P**	**05 53 14.0**	**+0.7**
ITQB				IAmb	IAmb	05 53 58.7	
	comp=Z,58nm,1.6s						
ITAB	**Concordia**	**34.40**	**318**	P	**P**	**05 53 17.6**	**+1.2**
CRSM	**Crissiumal (Br**	**34.90**	**315**	*e*P	**P**	**05 53 20.7**	**-0.1**
PARB	**Paraibuna**	**35.87**	**330**	*e*P	**P**	**05 53 30.6**	**+1.4**
SPB	**Sao Paulo**	**36.16**	**327**	P	**P**	**05 53 30.2**	**-1.4**
SPB				IAmb	IAmb	05 53 34.0	
	comp=Z,34nm,1.0s						
SPB	**Sao Paulo**	**36.16**	**327**	*e*P	**P**	**05 53 33.2**	**+1.6**

ARAG Araguaiana, MT 44.93 325 *e*P P **05 54 44.8 +0.8**
AF01 San Pedro de A 45.08 301 P P **05 54 45.5 0.0**
SBA Scott Base 45.67 184 P P **05 54 51.1 +1.9**
LVC Limon Verde 45.72 300 P P **05 54 49.8 -0.7**
LVC IAmb IAmb 05 54 55.2
comp=Z,25nm,0.7s
LVC Limon Verde 45.72 300 LR LR 06 12 41.4
comp=Z,46nm,21.0s,baz=166,slow=34
LVC Limon Verde 45.72 300 *e*P P **05 54 49.9 -0.7**
LVC Limon Verde 45.72 300 P P **05 54 51.5 +1.0**
LVC pP **sP 05 55 09.1 -2.5**
LVC PcP **PcP 05 56 28.1 +0.5**
BOSA Boshof 45.85 75 P P **05 54 51.3 0.0**
BOSA IAmb IAmb 05 55 29.4
comp=Z,41nm,1.8s
BOSA Boshof 45.85 75 P P **05 54 50.1 -1.1**
comp=Z,1.5nm,0.7s,baz=191,slow=3.8,SNR=3.9
BOSA LR LR 06 10 12.5
comp=Z,588nm,20.0s,baz=208,slow=31
comp=Z,1.5nm,0.7s
SALV Santo Antonio 46.07 320 *e*P P **05 54 52.9 -0.1**
PB05 IPOC Station P 46.14 298 P P **05 54 53.4 -0.2**
PB05 IAmb IAmb 05 54 56.6
comp=Z,22nm,1.0s
SDBA SAO DESIDERIO 46.15 335 *e*P P **05 54 53.8 +0.1**
VNDA Vanda 46.16 183 P P **05 54 54.1 +1.1**
VNDA Vanda 46.16 183 P P **05 54 54.5 +1.5**
comp=Z,7.4nm,0.7s,baz=184,slow=6.8,SNR=36
VNDA LR LR 06 13 09.3
comp=Z,134nm,20.7s,baz=166,slow=34
comp=Z,7.4nm,0.7s
VNDA Vanda 46.16 183 P P **05 54 54.4 +1.5**
VNDA pP **sP 05 55 11.8 -2.3**
NBLA Lagarto - SE 46.18 345 *e*P P **05 54 53.8 0.0**
PB09 IPOC Station P 46.57 300 P P **05 54 57.7 +0.6**
BBSD Serra de San D 46.77 313 *e*P P **05 54 57.7 -0.8**
PB07 IPOC Station P 46.94 300 P P **05 54 59.8 -0.2**
PB07 IAmb IAmb 05 55 19.3
comp=Z,18nm,0.7s
H04S2 CROZET ISLANDS 47.16 113 T T 06 46 28.7
baz=230
H04S3 CROZET ISLANDS 47.17 113 T T 06 46 40.5
baz=230
H04S1 CROZET ISLANDS 47.18 113 T T 06 46 16.7
baz=230
CCD Concordia, Ant 47.22 170 P P **05 55 02.2 +0.5**
NBAN Anadia - AL 47.28 347 *e*P P **05 55 02.3 -0.1**
PB02 IPOC Station P 47.29 300 P P **05 55 03.3 +0.7**
PB02 IAmb IAmb 05 55 22.3
comp=Z,29nm,1.1s
PB01 IPOC Station P 47.33 300 P P **05 55 02.0 -0.9**
PB01 IAmb IAmb 05 55 05.0
comp=Z,21nm,0.7s
PTLB Pontes e Lacer 47.77 316 P P **05 55 05.5 -0.6**
PTLB IAmb IAmb 05 55 07.0
comp=Z,21nm,0.9s
PTLB Pontes e Lacer 47.77 316 *e*P P **05 55 05.6 -0.6**
PB08 IPOC Station P 47.95 301 P P **05 55 07.3 -0.7**
PB08 IAmb IAmb 05 55 11.1
comp=Z,14nm,0.6s
SIV San Ignacio 48.04 313 LR LR 06 15 01.4
comp=Z,52nm,21.3s,baz=115,slow=36
SNDB Serra Nova Dou 48.28 327 *e*P P **05 55 10.9 +0.7**
TA02 Huaiquique 48.30 300 P P **05 55 10.6 +0.3**
TA02 IAmb IAmb 05 55 57.0
comp=Z,27nm,1.1s
GO01 Chusmiza 48.37 302 P P **05 55 11.1 -0.3**
PB11 IPOC Station P 48.51 301 P P **05 55 11.9 -0.2**
PB11 IAmb IAmb 05 55 17.2
comp=Z,24nm,1.0s
NBCA Caruaru-PE 48.67 348 *e*P P **05 55 16.3 +3.1**
LBTB Lobatse 48.91 72 LR LR 06 12 03.6
comp=Z,258nm,20.1s,baz=232,slow=31
H10N1 ASCENSION HYDR 49.46 16 T T 06 49 16.2
baz=188,slow=75,SNR=51
H10N3 ASCENSION HYDR 49.46 16 T T 06 49 11.7
baz=188,slow=75,SNR=133
H10N2 ASCENSION HYDR 49.48 16 T T 06 49 12.9
baz=188,slow=75,SNR=116
NBLV Livramento - P 49.64 347 *e*P P **05 55 21.6 +1.0**
PB16 IPOC Station P 49.67 302 P P **05 55 21.1 -0.4**
TSUM Tsumeb 49.69 60 LR LR 06 12 29.1
comp=Z,196nm,20.6s,baz=165,slow=31
SMTB Santa Maria do 50.22 333 *e*P P **05 55 25.7 +0.8**
PDRB Porto dos Gac 50.40 321 *e*P P **05 55 25.1 -1.3**
VILB Vilhena 50.45 316 P P **05 55 26.5 -0.3**
VILB IAmb IAmb 05 55 27.2
comp=Z,20nm,0.9s
VILB Vilhena 50.45 316 *e*P P **05 55 26.4 -0.3**
LPAZ La Paz 50.81 305 P P **05 55 29.4 -0.8**
LPAZ La Paz 50.81 305 P P **05 55 29.8 -0.4**
comp=Z,18nm,0.5s,baz=148,slow=5.4,SNR=77
LPAZ LR LR 06 16 35.6
comp=Z,76nm,22.0s,baz=166,slow=36
comp=Z,18nm,0.5s
LPAZ La Paz 50.81 305 *e*P P **05 55 29.0 -1.2**
LPAZ La Paz 50.81 305 P P **05 55 30.5 +0.3**
LPAZ pP **pwP 05 55 48.5 +3.5**
LPAZ PcP **PcP 05 56 47.1 +0.8**
RCBR Riachuelo 51.03 348 LR LR 06 14 30.3
comp=Z,55nm,19.6s,baz=240,slow=33
NBPB Pedra_Branca-C 51.80 344 *e*P P **05 55 37.8 +0.9**
CASY Casey 53.43 160 P P **05 55 48.4 +0.2**
NPGB Novo Progresso 54.20 324 *e*P P **05 55 54.0 -0.6**
SAML Samuel 55.27 314 P P **05 56 01.4 -0.8**
SAML IAmb IAmb 05 56 02.8
comp=Z,18nm,0.9s
SAML Samuel 55.27 314 *e*P P **05 56 01.8 -0.4**
SAML Samuel 55.27 314 P P **05 56 01.6 -0.6**
ETMB Extrema 55.72 311 P P **05 56 05.5 +0.1**
ETMB IAmb IAmb 05 56 06.1
comp=Z,16nm,1.0s
ETMB Extrema 55.72 311 *e*P P **05 56 05.1 -0.4**
TMAB Tom-Au,PA,Br 56.59 334 *e*P P **05 56 13.2 +1.6**
DRV Dumont d'Urvil 56.78 174 P P **05 56 12.6 +0.2**
DRV pP **sP 05 56 31.9 -1.5**
ITTB Itaituba 56.84 325 *e*P P **05 56 13.4 0.0**
LSZ Lusaka 58.31 68 LR LR 06 18 23.0
comp=Z,118nm,20.2s,baz=246,slow=33
NNA Nana 58.66 299 LR LR 06 23 12.9
comp=Z,49nm,20.1s,baz=148,slow=38
MALB Monte Alegre 58.76 327 *e*P P **05 56 27.2 +0.3**
MCPB Macapa, AP 59.54 330 *e*P P **05 56 33.5 +1.3**
MACA Manacapuru-AM 59.65 320 P P **05 56 31.8 -1.2**
MACA Manacapuru-AM 59.65 320 *e*P P **05 56 32.0 -1.0**
CZSB Cruzeiro do Su 60.42 305 P P **05 56 36.9 -1.5**
CZSB IAmb IAmb 05 56 40.0
comp=Z,15nm,0.9s
CZSB Cruzeiro do Su 60.42 305 *e*P P **05 56 37.9 -0.5**
TEFE Tefe 60.80 315 *e*P P **05 56 40.1 -0.8**
VOI Vohitsoka 62.97 89 P P **05 56 56.3 +0.7**
VOI IAmb IAmb 05 57 11.9
comp=Z,27nm,1.5s
ATAH Atahualpa 63.61 300 LR LR 06 27 33.5
comp=Z,51nm,19.1s,baz=141,slow=39
RPN Rapa Nui 63.81 260 LR LR 06 20 42.5
comp=Z,106nm,20.7s,baz=156,slow=32
BOAV Boa Vista 64.76 322 P P **05 57 05.9 -1.3**
MDP Montagnes des 64.92 331 LR LR 06 24 10.4
comp=Z,109nm,20.0s,baz=152,slow=35
LIC Lamto 64.99 24⇑*i*P P **05 57 08.5 -0.1**
comp=Z,52nm,1.1s
KIC Kosan Boka 65.18 24⇑*i*P P **05 57 09.8 -0.1**
comp=Z,45nm,1.1s
TIC Toumodi 65.40 24⇑*i*P P **05 57 11.1 -0.2**
comp=Z,42nm,1.0s
MCRA Macar, Loja 66.77 300 P P **05 57 18.6 -1.6**
ARNL Arenillas 67.54 300 P P **05 57 24.3 -0.7**
ARNL IAmb IAmb 05 57 53.3
comp=Z,25nm,0.8s
COHC Cochancay 68.09 301 P P **05 57 27.8 -0.7**
CHSH Refugio Sur-Vo 68.76 302 P P **05 57 33.8 +0.3**
CHSH IAmb IAmb 05 57 52.2
comp=Z,18nm,0.5s
SLOR San Lorenzo - 69.26 303 P P **05 57 37.0 +0.6**
PULU Pululahua 69.92 303 P P **05 57 40.7 +0.3**
TULM Tulcn-Chalpat 70.20 304 P P **05 57 42.5 +0.3**
ROSC El Rosal 72.34 309 P P **05 57 55.0 +0.1**
ROSC El Rosal 72.34 309 P P **05 57 54.3 -0.6**
comp=Z,7.8nm,0.7s,baz=211,slow=23,SNR=4.9
ROSC LR LR 06 28 51.7
comp=Z,60nm,21.9s,baz=176,slow=35
comp=Z,7.8nm,0.7s
TOA0 Torodi Ar. Sit 73.31 29 P P **05 57 59.3 -0.8**
TOA0 IAmb IAmb 05 58 01.7
comp=Z,23nm,0.7s
TORD Torodi Ar. Bea 73.31 29 P P **05 57 59.1 -1.1**
TORD IAmb IAmb 05 58 01.7
comp=Z,20nm,0.8s
TORD Torodi Ar. Bea 73.31 29 P P **05 57 58.7 -1.4**
comp=Z,12nm,0.5s,baz=201,slow=5.6,SNR=67
TORD LR LR 06 23 50.8
comp=Z,102nm,21.4s,baz=164,slow=31
comp=Z,12nm,0.5s
BAUV El Baul 73.53 317 P P **05 58 00.5 -1.0**
KIBK Kibwezi 74.35 70 P P **05 58 07.7 +1.2**
SDV Santo Domingo 74.48 315 P P **05 58 07.0 -0.3**
SDV IAmb IAmb 05 58 08.1
comp=Z,17nm,0.8s
SDV Santo Domingo 74.48 315 LR LR 06 30 30.9
comp=Z,130nm,21.7s,baz=120,slow=35
SDV Santo Domingo 74.48 315 *e*P P **05 58 07.6 +0.4**
SRBA San Rafael, Bu 80.27 303 P P **05 58 39.4 -0.1**
THZ Tophouse 80.73 195 P P **05 58 42.5 +0.8**
TAU Tasmania Unive 80.86 176 P P **05 58 42.6 +0.4**
TUWZ Tuamarina 80.90 196 P P **05 58 43.3 +0.8**
LCR2 La Lucha 2 81.02 303 P P **05 58 43.7 +0.1**
LCR2 IAmb IAmb 05 58 45.2
comp=Z,22nm,1.0s
MRZ Mangatainoka R 81.40 197 P P **05 58 46.2 +1.0**
MLPR Magueyes Islan 81.50 322 P P **05 58 46.4 +0.6**
MLPR IAmb IAmb 06 00 48.6
comp=Z,26nm,1.1s
JTS Las Juntas de 81.94 302 P P **05 58 46.6 -1.6**
JTS IAmb IAmb 05 58 50.0
comp=Z,34nm,1.2s
COVE Coope Vega, Sa 82.06 303 P P **05 58 47.8 -1.0**
URZ Urewera 83.48 199 LR LR 06 32 35.0
comp=Z,89nm,19.0s,baz=302,slow=33
TAM Tamanrasset 83.54 30 P P **05 58 57.1 +0.6**
NWAO Narrogin (SRO) 85.84 150 LR LR 06 33 17.0
comp=Z,79nm,20.4s,baz=126,slow=33
TBI Tubuai 87.00 231 *e*LR LR 06 27 37.5
comp=Z,1μm,24.2s
BBOO Buckleboo 89.87 166 P P **05 59 26.8 -0.6**
BBOO IAmb IAmb 05 59 28.2
comp=Z,11nm,1.1s
MDT Midelt 90.91 19 LR LR 06 35 18.0
comp=Z,145nm,19.9s,baz=186,slow=32
STKA Stephens Creek 91.44 170 P P **05 59 35.1 +0.5**
comp=Z,1.2nm,0.6s,baz=156,slow=5.5,SNR=3.4
STKA LR LR 06 39 07.0
comp=Z,113nm,20.3s,baz=203,slow=34
comp=Z,1.2nm,0.6s
PPT2 Papeete2 92.11 233 *e*LR LR 06 29 36.9
comp=Z,287nm,27.8s
PPT2 *e*LR LR 06 29 52.6
comp=Z,320nm,26.8s
PPT Papeete 92.13 233 LR LR 06 33 14.8
comp=Z,64nm,18.6s,baz=147,slow=30
TEIG Tepich 92.14 304 P P **05 59 37.1 -0.7**
TEIG Tepich 92.14 304 LR LR 06 45 04.7
comp=Z,190nm,19.5s,slow=38
CMIG Matias Romero 92.59 297 LR LR 06 35 24.4
comp=Z,32nm,20.9s,baz=174,slow=32
RAR Rarotonga 93.09 223 LR LR 06 34 24.5
comp=Z,64nm,18.7s,baz=157,slow=31
KEST Kesra 96.83 29 LR LR 06 39 08.9
comp=Z,125nm,19.4s,baz=315,slow=33
ESDC Sonseca Array 97.71 18 P P **06 00 02.1 -0.8**
comp=Z,1.0nm,0.9s,baz=193,slow=5.3,SNR=4.7
ESDC LR LR 06 39 41.8
comp=Z,78nm,19.7s,baz=269,slow=33
comp=Z,1.0nm,0.9s
ASAR Alice Springs 98.51 162 P P **06 00 06.2 -0.9**
comp=Z,2.2nm,1.0s,baz=193,slow=4.3,SNR=9.5
ASAR LR LR 06 43 45.9
comp=Z,51nm,19.3s,baz=186,slow=35
comp=Z,2.2nm,1.0s
WRA Warramunga Arr 102.23 162 P **Pdif 06 00 22.4 -1.3**
comp=Z,1.1nm,1.1s,baz=194,slow=3.8,SNR=2.9
ULM Lac du Bonnet 120.72 316 PKP **PKPdf 06 05 17.6 -1.5**
comp=Z,1.0nm,0.5s,baz=136,slow=3.0,SNR=3.5
PDAR Pinedale Array 120.77 302 PKP **PKPdf 06 05 18.9 -1.0**
comp=Z,0.3nm,0.4s,baz=115,slow=6.1,SNR=5.4
NOA NORSAR Array B 120.92 20 PKP **PKPdf 06 05 18.2 -1.0**
comp=Z,0.4nm,0.8s,baz=205,slow=2.5,SNR=2.7
NVAR Mina Array Bea 121.78 293 PKP **PKPdf 06 05 20.6 -1.3**
comp=Z,0.9nm,0.8s,baz=151,slow=3.0,SNR=5.1
FINES FINESS Array B 124.65 28 PKP **PKPdf 06 05 25.2 -1.1**
comp=Z,2.7nm,0.8s,baz=211,slow=1.5,SNR=9.8
CMAR Chiang Mai Arr 124.69 110 PKP **PKiKP 06 05 27.9 -0.3**
comp=Z,1.6nm,0.3s,baz=230,slow=3.7,SNR=16
KSH Kashi 128.45 74 PKP **PKPdf 06 05 34.3 -0.2**
QIZ Qiongzhong 130.62 121 PKP **PKPdf 06 05 38.3 -0.8**
QIZ PP **PP 06 07 55.5 +1.0**
QIZ SS SS 06 25 20.1 +1.5
QIZ LR LR
comp=Z,180nm,24.9s
QIZ LR LR
comp=Z,170nm,23.0s
QIZ LR LR
comp=Z,490nm,31.6s
ARCES ARCESS Array B 131.25 22 PKP **PKPdf 06 05 36.7 -2.0**
comp=Z,3.4nm,0.8s,baz=18,slow=0.4,SNR=7.5
PZH PanZhiHua 132.75 107 PKP **PKPdf 06 05 43.4 +0.3**
BVAR Borovoye Array 134.81 58 PKP **PKPdf 06 05 46.1 +0.2**
comp=Z,3.1nm,0.8s,baz=259,slow=1.5,SNR=12
YKA Yellowknife Ar 136.65 317 PKP **PKPdf 06 05 48.4 -0.6**
comp=Z,1.7nm,0.7s,baz=120,slow=2.1,SNR=12
YKA PP **PP 06 08 29.9 -2.9**
comp=Z,1.1nm,1.0s,baz=120,slow=7.0,SNR=7.5
YKA SKPbc **SKPbc 06 09 15.3 -1.0**
comp=Z,1.0nm,1.0s,baz=116,slow=1.9,SNR=4.6
MKAR Makanchi Array 136.80 72 PKP **PKPdf 06 05 48.3 -1.6**
comp=Z,0.3nm,0.6s,baz=216,slow=1.7,SNR=4.4
KURBB Kurchatov Arra 137.27 65 PKP **PKPdf 06 05 48.9 -1.7**
comp=Z,0.6nm,0.4s,baz=236,slow=2.9,SNR=5.6
WMQ Urumqi 137.76 79 *e*PKP **PKiKP 06 05 53.4 -0.3**
XAN Xi'an 142.49 108 PKP **PKPdf 06 05 57.4 -3.2**
P33M Teslin, Yukon 142.88 307 P **PKPdf 06 05 57.2 -3.3**
baz=118
N32M Quiet Lake 143.43 309 P PKPbc 06 05 58.5 -0.4
baz=117
WHY Whitehorse 144.00 307 P **PKPab 06 06 00.2 +0.1**
baz=116
FARO Faro, Yukon 144.02 310 PKPdf PKPbc 06 06 01.0 +0.4
FARO Faro, Yukon 144.02 310 P PKPbc 06 06 00.4 -0.1
baz=115
PLBC Pleasant Camp 144.13 305 P PKPbc 06 06 01.0 +0.1
baz=117
M31M Drury Creek, Y 144.45 310 PKPbc 06 06 01.7 -0.1
M31M Drury Creek, Y 144.45 310 P PKPbc 06 06 01.7 -0.1
baz=115
O30N Mendenhall 144.58 307 PKPbc 06 06 02.5 +0.2
O30N Mendenhall 144.58 307 P **PKPdf 06 06 03.1 -0.4**
baz=115
A36M Sachs Harbour 144.70 328 P PKPbc 06 06 02.3 0.0
baz=108
LYN LuoYang 144.74 111 ⇓PKP PKPbc 06 06 03.6 0.0
P29M Windy Craggy 144.83 305 P **PKPdf 06 06 03.6 -0.3**
baz=116
HYT Haines Junctio 145.24 307 **PKPbc 06 06 04.1 -0.5**
HYT Haines Junctio 145.24 307 P **PKPab 06 06 05.8 +1.1**
baz=114
N30M Aishikik Lake 145.31 308 P **PKPab 06 06 05.9 +1.0**
baz=114
M30M Minto, Yukon 145.63 310 **PKPdf 06 06 04.9 -0.3**
M30M Minto, Yukon 145.63 310 P **PKPbc 06 06 05.4 -0.2**
baz=113
NJ2 Nanjing 145.92 121 *e*PKPbc **PKPbc 06 06 07.3 0.0**
YUK4 Talbot Arm 145.95 307 P **PKPab 06 06 07.4 -0.1**
baz=113
F31M Tsiigehtchic 146.10 319 **PKPdf 06 06 05.8 +0.1**
F31M Tsiigehtchic 146.10 319 P **PKPbc 06 06 06.8 0.0**
baz=108
G31M Satah River 146.14 318 P **PKPbc 06 06 06.4 -0.5**
baz=108
J30M Hart River 146.16 313 P **PKPbc 06 06 07.5 +0.2**
baz=110
INK Inuvik 146.28 320 **PKPbc 06 06 07.1 -0.2**
INK Inuvik 146.28 320 P **PKPbc 06 06 07.5 +0.1**
baz=107
M29M Somme Creek 146.29 309 P **PKPbc 06 06 08.0 +0.3**
baz=112
L29M L29M 146.39 310 P **PKPbc 06 06 07.9 0.0**
baz=111
K29M Barlow Dome 146.40 312 P **PKPbc 06 06 07.6 -0.4**
baz=110
I30M Mount Dempster 146.40 314 P **PKPbc 06 06 07.6 -0.4**
baz=109
G30M tAoh Zraii Nji 146.89 317 P **PKPbc 06 06 09.6 +0.4**
baz=107
J29N Klondike Camp 146.89 312 P **PKPbc 06 06 09.5 +0.2**
baz=109
EPYK Eagle Plains 146.90 316 P **PKPbc 06 06 08.8 -0.4**
baz=107
F30M Barrier River 146.90 318 P **PKPbc 06 06 09.2 0.0**
baz=106
YUK3 Moose Creek 146.92 307 P **PKPbc 06 06 10.0 +0.3**
baz=112
DAWY Dawson 147.25 311 P **PKPbc 06 06 09.7 -0.6**
baz=109
BVCY Beaver Creek 147.32 308 P **PKPbc 06 06 10.3 -0.3**
baz=110
H29M Whitestone 147.49 315 P **PKPbc 06 06 10.5 -0.4**
baz=106
G29M Pine Creek 147.55 317 P **PKPbc 06 06 10.6 -0.4**
baz=106
E29M Blow River 147.87 319 P **PKPbc 06 06 11.5 -0.3**
baz=103
I28M Miner Creek 147.89 314 P **PKPbc 06 06 11.7 -0.4**
baz=106
BTO Baotou 147.91 101 *e*PKPbc **PKPdf 06 06 11.0 +1.2**
BTO PP **PP 06 09 47.6 +6.2**
BTO AMB AMB
comp=Z,490nm,5.4s
BCAR Beaver Creek A 147.94 309 **PKPbc 06 06 11.5 -0.7**
L27K Beaver Creek, 147.96 309 P **PKPbc 06 06 12.3 +0.1**
baz=109
HNS HongShan 148.09 110 ⇑PKPbc **PKPbc 06 06 13.0 -0.3**
HNS pPKP **pPKPdf 06 06 23.9 -2.2**
K27K Chicken 148.37 311 P **PKPbc 06 06 13.6 +0.4**
baz=107
TIA Tai'an 148.41 114 PKPbc **PKPbc 06 06 13.8 -0.4**
F28M Old Crow 148.42 318 P **PKPbc 06 06 13.1 -0.2**
baz=103
E28M Babbage River 148.51 320 P **PKPbc 06 06 13.0 -0.5**
baz=102
L26K Log Cabin Wild 148.61 308 **PKPbc 06 06 13.6 -0.3**
L26K Log Cabin Wild 148.61 308 P **PKPbc 06 06 14.1 +0.2**
baz=108
I27K Kandik River 148.61 314 P **PKPbc 06 06 14.0 +0.1**
baz=105
H27K Steamboat Moun 148.73 315 P **PKPbc 06 06 14.3 +0.1**
baz=104
G27K Doyon Strip 148.91 316 P **PKPbc 06 06 14.6 0.0**
baz=103
HHC Hu-ho-hao-te 148.92 102 *e*PKPbc **PKPdf 06 06 07.0 -4.5**
J26L Joseph Creek 149.12 311 P **PKPbc 06 06 15.5 +0.2**
baz=105
D27M Malcolm River 149.13 321 P **PKPbc 06 06 15.2 +0.1**
baz=100
I26K Coal Creek Min 149.16 313 P **PKPbc 06 06 15.0 -0.2**
baz=104
SCRK Sand Creek 149.16 310 P **PKPbc 06 06 15.6 +0.2**
baz=106
E27K Coleen River 149.17 319 P **PKPbc 06 06 15.4 +0.2**
baz=101
NRIK Noril'sk 149.19 39 PKPbc **PKPbc 06 06 15.0 -0.1**
comp=Z,7.9nm,0.9s,baz=200,slow=0.2,SNR=11
KLU Klutina 149.28 305 P **PKiKP 06 06 16.7 -0.1**
baz=108
RIDG Independent Ri 149.46 309 P **PKPbc 06 06 16.5 +0.4**
baz=106
PAX Paxson 149.52 308 P **PKiKP 06 06 16.8 -0.5**
baz=106
M24K ToIsona, Glenn 149.58 306 P **PKiKP 06 06 17.4 0.0**
baz=107
G26K Porcupine Rive 149.77 316 P **PKPbc 06 06 16.7 +0.1**
baz=101
J25K Salcha River, 149.90 311 P **PKPbc 06 06 16.7 -0.5**
baz=104
F26K Sheenjek River 150.04 317 P **PKiKP 06 06 17.8 -0.4**
baz=100
PRP Porcupine Dome 150.17 313 P **PKPbc 06 06 17.5 -0.3**
baz=102
M23K Glacier View 150.19 305 P **PKPbc 06 06 17.6 -0.2**
baz=107
KNK Knik Glacier 150.41 304 P **PKPbc 06 06 18.6 +0.3**
baz=107
WAT6 Susitna Watana 150.41 306 P **PKPbc 06 06 18.7 +0.2**
baz=106
H25L Birch Creek 150.44 314 P **PKiKP 06 06 18.9 0.0**
baz=101
SONM Songino Array 150.52 87 PKPbc **PKPbc 06 06 18.8 -0.4**
comp=Z,14nm,0.9s,baz=220,slow=3.4,SNR=62
HDA Harding Lake 150.52 310 P **PKPbc 06 06 18.4 -0.1**
baz=103
ILAR Eielson Array 150.57 311 PKPbc **PKPbc 06 06 18.2 -0.4**
comp=Z,16nm,1.0s,baz=125,slow=1.2,SNR=68
F25K Christian Rive 150.59 317 P **PKiKP 06 06 19.0 -0.3**
baz=98
C26K Camden Bay 150.59 322 P **PKiKP 06 06 18.9 -0.3**
baz=95
E25K Arctic Village 150.63 318 P **PKPbc 06 06 18.9 +0.2**
baz=98
G25K Bearman Lake 150.63 315 P **PKPbc 06 06 19.5 +0.2**
baz=100
WAT1 Susitna Watana 150.84 307 P **PKPbc 06 06 19.4 0.0**
baz=104
RC01 Rabbit Creek A 150.91 303 P **PKiKP 06 06 19.8 -0.3**
baz=107
D25K Kavik River 151.05 320 P **PKPbc 06 06 19.3 -0.5**
baz=95
G24K Hadweenzic Riv 151.16 315 P **PKiKP 06 06 20.4 -0.1**
baz=98
H24K Noodor Dome 151.19 313 P **PKPbc 06 06 20.1 0.0**
baz=100
MCK McKinley 151.22 309 P **PKiKP 06 06 20.5 -0.2**
baz=103
M22K Willow 151.27 304 P **PKiKP 06 06 21.1 +0.3**
baz=105
F24K Squaw Lake 151.43 316 P **PKiKP 06 06 21.2 +0.1**
baz=97
NEA2 Nenana 151.46 310 P **PKPbc 06 06 20.8 -0.3**
baz=101
CAPN Captain Cook N 151.48 302 P **PKiKP 06 06 21.6 +0.4**
baz=106
SUA Susitna One 151.48 303 P **PKiKP 06 06 22.1 +0.6**
baz=106
CUT Chulitna 151.50 306 P **PKiKP 06 06 21.0 -0.2**
baz=104
SII Sitkinak Islan 151.58 293 P **PKiKP 06 06 21.8 +0.1**
baz=112
I23K Minto, Yukon-K 151.68 311 P **PKPbc 06 06 21.1 -0.1**
baz=100
TRF Thorofare Moun 151.75 308 P **PKPbc 06 06 21.7 0.0**
baz=102
C24K Franklin Bluff 151.89 321 P **PKiKP 06 06 21.9 0.0**
baz=92
D24K Happy Valley 151.91 320 P **PKPbc 06 06 21.6 0.0**
baz=93
SKT Skwentna 151.97 304 P **PKiKP 06 06 22.2 -0.1**
baz=104
E23K Chandalar 152.14 318 P **PKPbc 06 06 22.2 -0.1**
baz=94
TOLK Toolik Lake Re 152.16 319 P **PKPbc 06 06 22.2 0.0**
baz=93
G23K Bananza Creek 152.17 315 P **PKiKP 06 06 22.8 +0.2**
baz=96
BPAW Bear Paw Mtn. 152.19 309 P **PKPbc 06 06 22.0 -0.4**
baz=100
MLY Manley 152.24 311 P **PKPbc 06 06 22.4 -0.1**
baz=99
COLD Coldfoot 152.29 316 P **PKiKP 06 06 23.3 +0.5**
baz=95
PPLA Purkeypile 152.48 306 P **PKiKP 06 06 23.7 +0.2**
baz=102
CAST Castle Rocks 152.54 307 P **PKPbc 06 06 23.2 0.0**
baz=101
C23K Itkillik River 152.56 321 P **PKiKP 06 06 23.1 -0.1**
baz=90
D23K Nanushuk River 152.57 319 P **PKiKP 06 06 23.7 +0.4**
baz=92
H22K Ishtalitna Cre 152.62 313 P **PKiKP 06 06 23.6 +0.1**
baz=97
M20K Styx River 152.69 304 P **PKiKP 06 06 23.8 -0.1**
baz=103
CHUM Lake Minchumin 152.72 308 P **PKiKP 06 06 23.8 0.0**
baz=100
G22K Bettles 152.78 315 P **PKiKP 06 06 24.2 +0.4**
baz=95
I21K Tanana 152.78 311 P **PKiKP 06 06 23.8 0.0**
baz=98
O19K Port Alsworth 152.83 300 P **PKPbc 06 06 23.7 -0.2**
baz=106
E22K Anaktuvuk Pass 152.96 318 P **PKiKP 06 06 24.8 +0.5**
baz=92

O18K	Koktuh Hills	153.17	299	P	PKiKP	06 06 24.8 0.0
	baz=106					
H21K	Melozitna Rive	153.18	312	P	PKiKP	06 06 24.8 +0.1
	baz=96					
D22K	Ayikyak River	153.30	319	P	PKiKP	06 06 25.0 +0.2
	baz=90					
B22K	Teshekpuk Lake	153.50	323	P	PKiKP	06 06 25.8 +0.6
	baz=86					
G21K	Allakaket	153.54	314	P	PKiKP	06 06 25.4 0.0
	baz=94					
F21K	Alatna River	153.57	315	P	PKiKP	06 06 25.6 +0.2
	baz=92					
A22K	Sinclair Lake	153.96	324	P	PKiKP	06 06 26.9 +0.9
	baz=83					
B21K	Ikpikpuk River	153.96	321	P	PKiKP	06 06 26.5 +0.4
	baz=86					
H20K	Anotleneega Mo	154.02	311	P	PKiKP	06 06 26.9 +0.5
	baz=95					
C21K	Knifeblade Rid	154.04	320	P	PKiKP	06 06 27.2 +0.9
	baz=87					
TTA	Tatalina	154.21	305	P	PKiKP	06 06 27.4 +0.4
	baz=99					
KSRS	Korea Array	154.55	128	PKPbc	PKiKP	06 06 28.8 +0.4
	comp=Z,0.4nm,0.3s,baz=210,slow=1.9,SNR=4.2					
KSRS				PKPab	PKPab	06 06 42.9 -0.2
	comp=Z,2.5nm,0.9s,baz=208,slow=4.6,SNR=5.4					
D20K	Etivluk River	154.73	319	P	PKiKP	06 06 28.5 +0.6
	baz=86					
G19K	Purcell Mounta	154.97	313	P	PKiKP	06 06 28.9 +0.6
	baz=91					
E19K	Redstone River	155.02	316	P	PKPab	06 06 45.1 +0.7
	baz=88					
L17K	Donlin	155.13	303	P	PKPab	06 06 46.0 +1.0
	baz=99					
K17K	Iditarod	155.22	305	P	PKPab	06 06 46.1 +0.8
	baz=98					
F19K	Shaleruckik Mo	155.24	315	P	PKPab	06 06 45.9 +0.6
	baz=89					
M16K	Timber Creek	155.25	301	P	PKPab	06 06 46.8 +1.3
	baz=101					
D19K	Kuna River	155.30	319	P	PKPab	06 06 46.9 +1.3
	baz=85					
H18K	Honhosa River	155.46	310	P	PKPab	06 06 47.8 +1.4
	baz=92					
G18K	Tagagawik	155.60	312	P	PKPab	06 06 48.2 +1.3
	baz=91					
L16K	Owhat River	155.61	302	P	PKPab	06 06 48.6 +1.5
	baz=99					
C19K	Lookout Ridge	155.76	320	P	PKPab	06 06 49.1 +1.5
	baz=82					
F18K	Selawik	156.00	314	P	PKPab	06 06 49.6 +1.0
	baz=88					
E18K	Tukpahlearik C	156.32	316	P	PKPab	06 06 50.9 +0.9
	baz=85					
C18K	Utukok River	156.40	319	P	PKPab	06 06 51.5 +1.1
	baz=82					
B18K	Kokolik River	156.50	321	P	PKPab	06 06 52.3 +1.6
	baz=80					
L15K	Ungalak Mounta	156.55	302	P	PKPab	06 06 52.4 +1.2
	baz=98					
E17K	Hotham Inlet	156.82	315	P	PKPab	06 06 53.3 +1.1
	baz=85					
H16K	Elim	157.10	309	P	PKPab	06 06 54.5 +1.1
	baz=90					
C17K	DeLong Mountai	157.15	319	P	PKPab	06 06 54.9 +1.4
	baz=80					
D17K	Noatak River	157.24	317	P	PKPab	06 06 54.6 +0.7
	baz=82					
MJAR	Matsushiro Arr	157.63	147	PKPab	PKPab	06 06 56.6 +0.1
	comp=Z,1.0nm,0.3s,baz=194,slow=3.7,SNR=2.0					
G15K	Niukluk	157.87	310	P	PKPab	06 06 57.8 +1.1
	baz=88					
C16K	Lisburne Hills	157.98	319	P	PKPab	06 06 58.2 +1.1
	baz=78					

*DSN **23** 05:51:08.4±1.9, 27.°72N×56.°42E, h15km, ML2.4/6, Error ellipse: s-maj=62.8km s-min=18.0km az=100.0*
*TEH **23** 05:51:09.1, 27.°64N×56.°78E, h10km±128km, ML2.5*
*OMAN **23** 05:51:10.1±0.1, 27.°68N×56.°89E, h37km±22km, ml2.4/9, Error ellipse: s-maj=9.8km s-min=2.7km az=294.0*

ISC 23 05:51:08.5±1.4, **27.°69N**±0.°06×**56.°73E**±0.°07, **h15**km±11km, **n24**, σ0.9**79**/34, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
IBND	**Bandar-abas**	**0.29**	**215**	Pg		**Pg**	**05 51 14.6**	**0.0**
IBND				Sg		**Sb**	**05 51 20.1**	**+0.2**
GENO	**Geno**	**0.57**	**240**	Pg		**Pb**	**05 51 20.5**	**+0.3**
KHNJ	**Kahnooj**	**0.91**	**73**	Pg		**Pb**	**05 51 25.6**	**-0.3**
SHME	**Shamm**	**1.71**	**198**	P		**Pn**	**05 51 36.9**	**-0.8**
SHME				S		**Sn**	**05 51 59.7**	**+0.4**
SHME	**Shamm**	**1.71**	**198**	P		**Pn**	**05 51 37.3**	**-0.4**
SHME				S		**Sb**	**05 52 00.5**	**-0.4**
BANOM	**Banah**	**1.79**	**192**	P		**Pn**	**05 51 38.9**	**-0.1**
BANOM				S		**Sn**	**05 52 01.4**	**-0.1**
NGRK	**Negar Kerman**	**1.95**	**0**	Pn		**Pb**	**05 51 44.4**	**+0.5**
KBAM	**BAM**	**2.10**	**46**	Pn		**Pb**	**05 51 46.9**	**+0.6**
CHMN	**Cheshme madani**	**2.28**	**18**	Pn		**Pb**	**05 51 50.5**	**+0.9**
MASF	**Masafi**	**2.36**	**193**	P		**Pn**	**05 51 47.1**	**+0.3**
MASF				S		**Sn**	**05 52 14.3**	**-1.0**
MSFE	**Esma-Masafi**	**2.37**	**192**	P		**Pn**	**05 51 47.2**	**+0.3**
MDH	**Madha**	**2.41**	**189**	P		**Pn**	**05 51 47.0**	**-0.3**
MDH	**Madha**	**2.41**	**189**	P		**Pn**	**05 51 47.3**	**0.0**
MDH				S		**Sn**	**05 52 14.7**	**-1.8**
KHGB	**Koh Gabri**	**2.69**	**355**	Pn		**Pb**	**05 51 55.2**	**-1.3**
UOSS	**Minazif**	**2.77**	**190**	P		**Pn**	**05 51 52.3**	**0.0**
UOSS	**Minazif**	**2.77**	**190**	P		**Pn**	**05 51 52.4**	**+0.1**
UOSS				S		**Sn**	**05 52 26.4**	**+1.0**
HATD	**Hatta, Dubai**	**2.90**	**191**	P		**Pn**	**05 51 56.2**	**+2.2**
HATD	**Hatta, Dubai**	**2.90**	**191**	P		**Pn**	**05 51 54.8**	**+0.7**
ASHO	**Ashiyiah**	**3.05**	**191**	P		**Pn**	**05 51 55.2**	**-1.0**
ASHO	**Ashiyiah**	**3.05**	**191**	P		**Pn**	**05 51 55.5**	**-0.7**
FAQ	**Al Faqa, Dubai**	**3.10**	**199**	P		**Pn**	**05 51 57.0**	**+0.2**
	SNR=9.8							
FAQ				S		**Sn**	**05 52 34.3**	**+0.7**
ASUD	**Al Ashush, Dub**	**3.29**	**203**	P		**Pn**	**05 51 59.0**	**-0.6**
ASUD	**Al Ashush, Dub**	**3.29**	**203**	P		**Pn**	**05 52 00.3**	**+0.8**
	SNR=8.0							
ASUD				S		**Sn**	**05 52 39.1**	**+0.7**
ALNE	**Al Ain**	**3.72**	**194**	P		**Pn**	**05 52 05.4**	**0.0**
ALNE				S		**Sn**	**05 52 48.8**	**-0.2**

*NOU **23** 06:08:03.3, 37.°22S×179.°12E, h10km, MLv3.7/6, Off E. Coast of N. Island, N.Z.*
*WEL **23** 06:08:04.2±0.7, 37.°5S×17.°9E±.°, h12km, M3.1/18, ML3.5/30, MLv3.1/18, Error ellipse: s-maj=0.0km s-min=0.0km az=112.7*

ISC 23 06:08:05.3±3.1, **37.°27S**±0.°08×**179.°0E**±0.°1, **h17**km±14km, **n46**, σ0.9**80**/59, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.63**	**242**	P		**Pb**	**06 08 17.7**	**-0.1**
MXZ	**Matakaoa Point**	**0.63**	**242**	P		**Pb**	**06 08 17.6**	**-0.2**
MXZ				S		**Sg**	**06 08 26.1**	**0.0**
WMGZ	**Waiomatatini S**	**0.72**	**221**	P		**Pn**	**06 08 20.8**	**+0.1**
WMGZ				S		**Sb**	**06 08 31.2**	**+2.2**
PKGZ	**Pakihiroa**	**0.96**	**230**	P		**Pn**	**06 08 23.9**	**-0.2**
PKGZ				S		**Sb**	**06 08 36.9**	**+1.0**
PUZ	**Puketiti**	**0.99**	**217**	P		**Pn**	**06 08 24.4**	**-0.1**
PUZ				S		**Sb**	**06 08 38.4**	**+1.4**
HAZ	**Te Kaha**	**1.09**	**243**	P		**Pb**	**06 08 24.6**	**-1.0**
HAZ				S		**Sb**	**06 08 40.4**	**+0.9**
TWGZ	**Tauwhareparae**	**1.22**	**222**	P		**Pn**	**06 08 27.7**	**+0.1**
TWGZ				S		**Sn**	**06 08 44.6**	**+1.0**
RUGZ	**Raukumara Rang**	**1.26**	**236**	P		**Pb**	**06 08 28.5**	**-0.2**
RUGZ				S		**Sb**	**06 08 44.9**	**+0.2**
CNGZ	**Carnagh Statio**	**1.36**	**207**	P		**Pb**	**06 08 30.1**	**-0.2**
TKGZ	**Te Karaka**	**1.48**	**218**	P		**Pn**	**06 08 30.8**	**-0.3**
MWZ	**Matawai**	**1.58**	**227**	P		**Pn**	**06 08 32.3**	**-0.2**
RIGZ	**Rimuhau**	**1.74**	**214**	P		**Pn**	**06 08 34.2**	**-0.5**
RIGZ				S		**Sn**	**06 08 56.3**	**-0.1**
RAGZ	**Rawiri**	**1.75**	**225**	P		**Pn**	**06 08 35.2**	**+0.2**
RAGZ				S		**Sn**	**06 08 56.3**	**-0.6**
URZ	**Urewera**	**1.80**	**236**	P		**Pn**	**06 08 35.7**	**+0.2**
URZ	**Urewera**	**1.80**	**236**	P		**Pn**	**06 08 35.5**	**0.0**
URZ				S		**Sn**	**06 08 57.5**	**-0.4**
PRGZ	**Paritu Road**	**1.87**	**208**	P		**Pn**	**06 08 35.9**	**-0.6**
SNGZ	**Shannon Statio**	**2.00**	**221**	P		**Pn**	**06 08 37.9**	**-0.5**
SNGZ				S		**Sn**	**06 09 01.8**	**-1.2**
OPRZ	**Ohinepanea**	**2.03**	**253**	P		**Pn**	**06 08 38.0**	**-0.7**
MHGZ	**Mahia Peninsul**	**2.07**	**204**	P		**Pn**	**06 08 38.6**	**-0.6**
RTZ	**Ruatahuna**	**2.09**	**229**	P		**Pn**	**06 08 39.7**	**+0.1**
RTZ				S		**Sn**	**06 09 04.6**	**-0.6**
MUGZ	**Murupara**	**2.14**	**235**	P		**Pn**	**06 08 39.9**	**-0.3**
MUGZ				S		**Sn**	**06 09 05.2**	**-1.2**
RAHZ	**Arahi**	**2.23**	**222**	P		**Pn**	**06 08 41.2**	**-0.4**
KARZ	**Kaharoa**	**2.32**	**250**	P		**Pn**	**06 08 43.2**	**+0.6**
MTHZ	**Maungataniwha**	**2.33**	**227**	P		**Pn**	**06 08 42.7**	**-0.1**
NMHZ	**Naumai**	**2.52**	**223**	P		**Pn**	**06 08 45.4**	**0.0**
ARHZ	**Aropaoanui**	**2.54**	**218**	P		**Pn**	**06 08 45.0**	**-0.7**
KUZ	**Kuaotunu**	**2.68**	**280**	P		**Pn**	**06 08 46.9**	**-0.8**
KUZ	**Kuaotunu**	**2.68**	**280**	P		**Pn**	**06 08 45.9**	**-1.8**
BKZ	**Black Stump Fm**	**2.74**	**226**	P		**Pn**	**06 08 48.4**	**-0.1**
BKZ	**Black Stump Fm**	**2.74**	**226**	P		**Pn**	**06 08 47.7**	**-0.8**
KWHZ	**Kaweka Forest**	**2.96**	**223**	P		**Pn**	**06 08 50.1**	**-1.4**
KAHZ	**Kahuranaki**	**3.02**	**213**	P		**Pn**	**06 08 50.6**	**-1.7**
MKAZ	**Moumakai**	**3.08**	**272**	P		**Pn**	**06 08 51.9**	**-1.1**
TMVZ	**Te Maari**	**3.19**	**234**	P		**Pn**	**06 08 54.0**	**-0.7**
NTVZ	**North Tongarir**	**3.20**	**234**	P		**Pn**	**06 08 54.3**	**-0.6**
BHHZ	**Black Hill Sta**	**3.20**	**225**	P		**Pn**	**06 08 53.8**	**-1.1**
OTVZ	**Oturere**	**3.24**	**233**	P		**Pn**	**06 08 54.9**	**-0.6**
NGZ	**Ngauruhoe**	**3.29**	**234**	P		**Pn**	**06 08 55.4**	**-0.7**
WNVZ	**Wahianoa**	**3.38**	**232**	P		**Pn**	**06 08 56.5**	**-0.9**
HIZ	**Hauiti**	**3.51**	**248**	P		**Pn**	**06 08 59.9**	**+0.9**
HIZ	**Hauiti**	**3.51**	**248**	P		**Pn**	**06 08 59.6**	**+0.6**
RVAZ	**Riverhead Bore**	**3.58**	**277**	P		**Pn**	**06 08 59.6**	**-0.4**
WCZ	**Waipu Caves**	**3.98**	**288**	P		**Pn**	**06 09 05.2**	**-0.3**
OUZ	**Omahuta**	**4.83**	**293**	P		**Pn**	**06 09 17.4**	**+0.3**
OUZ	**Omahuta**	**4.83**	**293**	P		**Pn**	**06 09 17.5**	**+0.3**
CTZ	**Chatham Island**	**7.26**	**154**	P		**Pn**	**06 09 52.0**	**+1.4**

DJA 23 06:22:00.2±0.5, **11.°5S**±5.°×**11.°3E**±.°, **h10**km, **M4.1/7, mb4.7/2, MLv3.8/7, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
GMJI	**Gumukmas**	**2.31**	**10**	P		Pn	06 22 38.5	+0.1
JAGI	**Jajag, Banyuwa**	**2.35**	**28**	P		Pn	06 22 38.4	-0.5
PWJI	**Pagerwojo**	**2.81**	**334**	P		Pn	06 22 44.8	-0.5
BLJI	**Banyuglugur**	**2.86**	**11**	P		Pn	06 22 45.0	-0.9
SRBI	**Singaraja**	**3.26**	**41**	P		Pn	06 22 52.4	+0.9
UGM	**Wanagama**	**3.63**	**316**	P		Pn	06 22 56.8	+0.2
TWSI	**Taliwang, Sumb**	**4.19**	**65**	P		Pn	06 23 04.9	+0.6
KASI	**Kota Agung**	**9.84**	**300**	P		Pn	06 24 22.8	+0.9
	20nm,1.0s							

IDC 23 06:30:52.7±3.8, **16.°10S**×**175.°15W, h0**km, **mb4.3**/3, **mbtmp4.3**/3, **Error ellipse: s-maj=165.5km s-min=79.3km az=153.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**42.23**	**240**	P		P	06 38 48.2	+0.4
	2.5nm,0.5s,baz=95,slow=11,SNR=7.2							
	2.5nm,0.5s							
WRA	**Warramunga Arr**	**48.04**	**257**	P		P	06 39 34.0	-0.2
	1.8nm,0.6s,baz=94,slow=7.2,SNR=10							
WRA				PcP		PcP	06 41 02.5	+0.2
	0.2nm,0.3s,baz=92,slow=3.9,SNR=1.6							
	1.8nm,0.6s							
ASAR	**Alice Springs**	**48.29**	**252**	P		P	06 39 35.7	-0.5
	4.9nm,0.6s,baz=87,slow=8.7,SNR=73							
ASAR				PcP		PcP	06 41 02.5	-0.7
	0.5nm,0.4s,baz=103,slow=3.8,SNR=5.3							
	4.9nm,0.6s							

*CATAC **23** 06:40:54.2±0.5, 13.°20N×89.°77W, h21km±3km, ML3.5*
*SNET **23** 06:40:54.3±1.2, 13.°17N×89.°80W, h29km, ML3.5*
*GCG **23** 06:40:57.4±0.6, 13.°45N×90.°00W, h105km±999km, MD3.6*

ISC 23 06:40:53.8±1.6, **13.°16N**±0.°06×**89.°81W**±0.°04, **h27**km±12km, **n62**, σ0.9**55**/97, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
LALI	**Alcalda de L**	**0.58**	**56**	*e*P		**Pn**	**06 41 06.0**	**-0.2**
LALI				*e*S		**Sn**	**06 41 14.2**	**-0.6**
LALI	**Alcalda de L**	**0.58**	**56**	*i* P		**Pn**	**06 41 06.0**	**-0.2**
LALI				*i* S		**Sn**	**06 41 14.0**	**-0.8**
LALI				IAML			06 41 14.1	
	comp=Z,2μm,1.0s							
CEVE	**Cerro Verde**	**0.69**	**15**	*e*P		**Pn**	**06 41 07.8**	**-0.1**
CEVE				*e*S		**Sn**	**06 41 18.9**	**+1.0**
CEVE	**Cerro Verde**	**0.69**	**15**	*i* P		**Pn**	**06 41 07.9**	**-0.1**
CEVE				*i* S		**Sn**	**06 41 17.4**	**-0.5**
CEVE				IAML			06 41 23.3	
	comp=Z,2μm,1.0s							
SBLS	**San Blas**	**0.70**	**15**	*e*P		**Pn**	**06 41 07.8**	**-0.3**
ITCA	**Escuela Especi**	**0.73**	**46**	*i* P		**Pn**	**06 41 08.2**	**-0.2**
ITCA				*i* S		**Sn**	**06 41 17.7**	**-1.0**
ITCA				IAML			06 41 21.3	
	comp=Z,3μm,1.0s							
SNJE	**San Jose**	**0.73**	**16**	*e*P		**Pb**	**06 41 08.1**	**+0.1**
SNJE				*e*P		**Pn**	**06 41 08.2**	**-0.3**
PMON	**Piamonte**	**0.73**	**42**	*i* P		**Pn**	**06 41 08.3**	**-0.1**
PMON				*i* S		**Sn**	**06 41 18.0**	**-0.8**
PMON				IAML			06 41 23.9	
	comp=Z,2μm,1.0s							
NUBE	**Las Nubes**	**0.73**	**2**	*e*P		**Pb**	**06 41 08.2**	**+0.1**
NUBE				*e*S		**Sb**	**06 41 18.0**	**+0.1**
NUBE	**Las Nubes**	**0.73**	**2**	*i* P		**Pb**	**06 41 08.4**	**-0.2**
NUBE				*i* S		**Sb**	**06 41 18.0**	**+0.1**
NUBE				IAML			06 41 22.2	
	comp=Z,1μm,1.0s							
RTR	**El Retiro**	**0.75**	**12**	*e*P		**Pn**	**06 41 08.7**	**-0.1**
CEDA	**San Andres**	**0.75**	**33**	*e*P		**Pb**	**06 41 08.3**	**0.0**
CEDA				*e*S		**Sn**	**06 41 20.0**	**+0.7**
CEDA	**San Andres**	**0.75**	**33**	*i* P		**Pn**	**06 41 08.8**	**+0.1**
CEDA				*i* S		**Sn**	**06 41 19.2**	**-0.1**
CEDA				IAML			06 41 26.2	
	comp=Z,3μm,1.0s							
PANCS	**Alcalda de**	**0.76**	**54**	*i* P		**Pb**	**06 41 08.1**	**-0.4**
PANCS				IAML			06 41 19.4	
	comp=Z,5μm,1.0s							
SNET	**Serv Nac Est T**	**0.77**	**47**	*e*P		**Pb**	**06 41 08.4**	**-0.2**
SNET	**Serv Nac Est T**	**0.77**	**47**	*i* P		**Pb**	**06 41 08.4**	**-0.2**
SNET				IAML			06 41 24.0	
	comp=Z,2μm,1.0s							
UEES	**Universidad Ev**	**0.78**	**45**	*e*P		**Pb**	**06 41 08.9**	**0.0**
UEES	**Universidad Ev**	**0.78**	**45**	*i* P		**Pb**	**06 41 08.7**	**-0.2**
UEES				IAML			06 41 22.7	
	comp=Z,780nm,1.0s							
SEMO	**Seminario San**	**0.79**	**47**	*i* P		**Pb**	**06 41 08.6**	**-0.3**
SEMO				IAML			06 41 26.2	
	comp=Z,3μm,1.0s							
LOMA	**Loma Larga**	**0.79**	**52**	*e*P		**Pb**	**06 41 08.9**	**-0.1**
LOMA				*e*S		**Sn**	**06 41 20.0**	**-0.2**
LOMA	**Loma Larga**	**0.79**	**52**	*i* P		**Pb**	**06 41 08.9**	**-0.1**
LOMA				IAML			06 41 21.6	
	comp=Z,2μm,1.0s							
PIC2	**El Picacho**	**0.79**	**43**	*e*P		**Pn**	**06 41 09.3**	**-0.1**
PIC2				*e*S		**Sn**	**06 41 22.2**	**+1.8**
UTEC	**Universidad Te**	**0.80**	**48**	*i* P		**Pb**	**06 41 08.8**	**-0.3**
UTEC				IAML			06 41 20.7	
	comp=Z,900nm,1.0s							
IGN	**Direccin Gen**	**0.83**	**49**	*i* P		**Pb**	**06 41 09.4**	**-0.3**
IGN				*i* S		**Sn**	**06 41 21.2**	**0.0**
IGN				IAML			06 41 27.2	
	comp=Z,4μm,1.0s							
LOAL	**Lomas de Alarc**	**0.83**	**2**	*i* P		**Pn**	**06 41 09.7**	**-0.1**
LOAL				IAML			06 41 18.8	
	comp=Z,2μm,1.0s							
LOAL				*i* S		**Sn**	**06 41 20.6**	**-0.6**
QUEZ	**Alcaldia de Qu**	**0.85**	**38**	*i* P		**Pn**	**06 41 09.9**	**-0.1**
QUEZ				*i* S		**Sn**	**06 41 22.1**	**+0.5**
QUEZ				IAML			06 41 25.2	
	comp=Z,4μm,1.0s							
UNIC	**Universidad Ca**	**0.85**	**17**	*i* P		**Pn**	**06 41 09.9**	**-0.2**
UNIC				IAML			06 41 24.8	
	comp=Z,330nm,1.0s							
SLOZ	**Alcaldia de Sa**	**0.86**	**2**	*e*P		**Pb**	**06 41 10.2**	**0.0**
SLOZ				*e*S		**Sn**	**06 41 23.0**	**+1.1**
LFRS	**El Faro**	**0.86**	**58**	*e*P		**Pn**	**06 41 10.0**	**-0.2**
SJTE	**Alcalda de S**	**0.90**	**60**	*e*P		**Pn**	**06 41 10.5**	**-0.3**
SJTE				*e*S		**Sn**	**06 41 23.7**	**+0.7**
SJTE	**Alcalda de S**	**0.90**	**60**	*i* P		**Pn**	**06 41 10.4**	**-0.3**
SJTE				*i* S		**Sb**	**06 41 21.9**	**-0.7**
SJTE				IAML			06 41 25.9	
	comp=Z,1μm,1.0s							
PAVA	**Las Pavas**	**1.01**	**57**	*e*P		**Pn**	**06 41 12.5**	**+0.2**
PAVA	**Las Pavas**	**1.01**	**57**	*i* P		**Pb**	**06 41 12.7**	**0.0**
PAVA				IAML			06 41 31.7	
	comp=Z,2μm,1.0s							
COEG	**Centro de Oper**	**1.01**	**63**	*e*P		**Pn**	**06 41 12.2**	**-0.1**
COEG				*e*S		**Sb**	**06 41 26.2**	**+0.5**
COEG	**Centro de Oper**	**1.01**	**63**	*i* P		**Pn**	**06 41 12.2**	**-0.1**
COEG				*i* S		**Sb**	**06 41 26.0**	**+0.3**
COEG				IAML			06 41 30.3	
	comp=Z,830nm,1.0s							
TECO	**Alcaldia de Te**	**1.07**	**70**	*i* P		**Pn**	**06 41 12.7**	**-0.3**
TECO				*i* S		**Sb**	**06 41 27.0**	**-0.3**
TECO				IAML			06 41 31.2	
	comp=Z,550nm,1.0s							
UESV	**Universidad de**	**1.10**	**65**	*i* P		**Pn**	**06 41 13.7**	**+0.2**
UESV				*i* S		**Sb**	**06 41 28.1**	**-0.1**
UESV				IAML			06 41 34.2	
	comp=Z,650nm,1.0s							
JUAM	**Asuncion Mita**	**1.17**	**5**	*i* P		**Pn**	**06 41 14.7**	**+0.3**
JUAM				IAML			06 41 15.2	
	comp=Z,690nm,1.0s							
JUAM				*i* S		**Sb**	**06 41 30.7**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.18**	**63**	*e*P		**Pb**	**06 41 15.2**	**-0.4**
SCLA				*e*S		**Sb**	**06 41 31.3**	**+0.8**
SCLA	**Alcaldia de Sa**	**1.18**	**63**	*i* P		**Pb**	**06 41 15.2**	**-0.4**
SCLA				IAML			06 41 35.1	
	comp=Z,220nm,1.0s							
PQSS	**Presa 15 de Se**	**1.30**	**69**	*e*P		**Pn**	**06 41 16.4**	**+0.2**
PQSS				*e*S		**Sn**	**06 41 33.0**	**+0.3**
PQSS	**Presa 15 de Se**	**1.30**	**69**	*i* P		**Pn**	**06 41 16.1**	**-0.1**
PQSS				*i* S		**Sn**	**06 41 33.1**	**+0.3**
PQSS				IAML			06 41 35.3	
	comp=Z,650nm,1.0s							
LLGN	**La Laguna**	**1.30**	**40**	*i* P		**Pn**	**06 41 16.4**	**+0.1**
LLGN				IAML			06 41 18.9	
	comp=Z,360nm,1.0s							
MTO3	**Montecristo**	**1.30**	**20**	*e*P		**Pn**	**06 41 16.7**	**+0.3**
TECA	**Tecapa**	**1.32**	**75**	*e*P		**Pn**	**06 41 15.9**	**-0.7**
ESQI	**Esquipulas**	**1.46**	**18**	*i* P		**Pn**	**06 41 19.2**	**+0.7**
ESQI				IAML			06 41 41.1	
	comp=Z,290nm,1.0s							
PACA	**Pacayal**	**1.48**	**78**	*e*P		**Pn**	**06 41 19.7**	**+0.9**
PACA	**Pacayal**	**1.48**	**78**	*i* P		**Pb**	**06 41 20.0**	**-0.7**
PACA				IAML			06 41 46.1	
	comp=Z,4μm,1.0s							
NBG	**Las Nubes**	**1.51**	**340**	*e*P		**Pb**	**06 41 21.1**	**-0.2**
NBG				*e*S		**Sb**	**06 41 40.0**	**-0.1**
GUNB	**GUNB**	**1.52**	**340**	*i* P		**Pn**	**06 41 18.8**	**-0.6**
GUNB				IAML			06 41 40.9	
	comp=Z,420nm,1.0s							
JUCU	**Jucuarįn**	**1.52**	**86**	*e*P		**Pn**	**06 41 19.0**	**-0.4**
JUCU				*e*S		**Sb**	**06 41 40.0**	**-0.4**
JUCU	**Jucuarįn**	**1.52**	**86**	*i* P		**Pn**	**06 41 18.9**	**-0.4**
JUCU				*i* S		**Sn**	**06 41 37.8**	**-0.6**
JUCU				IAML			06 41 44.0	
	comp=Z,450nm,1.0s							
BLLM	**Bellamira**	**1.56**	**80**	*e*P		**Pn**	**06 41 19.9**	**+0.1**
FUG	**Fuego 3**	**1.62**	**322**	*e*P		**Pb**	**06 41 23.5**	**+0.4**
FUG				*e*S		**Sn**	**06 41 39.0**	**-1.9**
LCND	**La Caada**	**1.88**	**85**	*e*P		**Pn**	**06 41 24.5**	**+0.4**
LCND				*e*S		**Sn**	**06 41 48.7**	**+1.7**
LCND	**La Caada**	**1.88**	**85**	*i* P		**Pn**	**06 41 24.4**	**+0.3**
LCND				IAML			06 41 56.8	
	comp=Z,290nm,1.0s							
CNCH	**Conchagua**	**1.93**	**86**	*e*P		**Pn**	**06 41 24.8**	**-0.2**
CNCH	**Conchagua**	**1.93**	**86**	*i* P		**Pn**	**06 41 25.3**	**+0.3**
CNCH				IAML			06 41 54.5	
	comp=Z,840nm,1.0s							
STG3	**Santiaguito 3,**	**2.30**	**312**	*e*P		**Pn**	**06 41 31.0**	**+0.9**
STG3				*e*S		**Sn**	**06 41 56.7**	**-0.9**
MACN	**El Madrono**	**3.14**	**102**	*i* P		**Pn**	**06 41 42.5**	**+1.0**
MACN				IAML			06 42 26.2	
	comp=Z,54nm,1.0s							

*IDC **23** 06:47:45.5±3.1, 53.°54N×90.°87E, h0km, mbtmp3.4/4, ML2.9/4, Error ellipse: s-maj=31.6km s-min=20.3km az=38.0.*
*NNC **23** 06:47:52.4±2.7, 53.°42N×90.°25E, h6km±14km, mb3.6, mpv3.3, Error ellipse: s-maj=16.8km s-min=15.0km az=69.0, Suspected Mining explosion.*

ISC 23 06:47:46.8±3.9, **53.°6N**±0.°1×**90.°5E**±0.°2, **h0**km, **n11**, σ1.9**98**/16, **11C-2D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res

CERB	**Semis' Cerberu**	**0.66**	**344**			**Pn**	07 12 40.7	**+0.7**
CERB						**Sn**	07 12 51.0	**+1.5**
CEPE	**Semis' Perret**	**0.69**	**346**			**Pn**	07 12 40.9	**+0.5**
CEAP	**Semis' Anvil P**	**0.73**	**344**			**Pn**	07 12 41.7	**+0.7**
GASW	**Gareloi Southw**	**0.91**	**58**			**Pn**	07 12 44.0	**+0.7**
GASW						**Sn**	07 12 56.8	**+1.5**
GANO	**Gareloi North**	**0.95**	**56**			**Pn**	07 12 44.6	**+0.7**
GAEA	**Gareloi East**	**0.97**	**59**			**Pn**	07 12 45.0	**+0.9**
GAEA						**Sn**	07 12 59.1	**+2.3**
LSSE	**Little Sitkin**	**1.05**	**308**			**Pn**	07 12 45.9	**+0.7**
LSPA	**Little Sitkin**	**1.06**	**309**			**Pn**	07 12 46.1	**+0.7**
LSNW	**Little Sitkin**	**1.10**	**308**			**Pn**	07 12 46.2	**+0.3**
TANO	**Tanaga North**	**1.37**	**63**			**Pn**	07 12 50.7	**+1.1**
TASE	**Tanaga Southea**	**1.39**	**66**			**Pn**	07 12 50.9	**+1.0**
TASE						**Sn**	07 13 09.5	**+2.5**
TAFP	**Tanaga Falls P**	**1.44**	**65**			**Pn**	07 12 51.5	**+1.0**
KIWB	**Kanaga Island**	**1.91**	**72**			**Pn**	07 12 58.4	**+1.4**
ADK	**Adak**	**2.20**	**73**			**Pn**	07 13 01.9	**+1.1**
ADK						**Sn**	07 13 28.4	**+1.5**
GSCK	**Great Sitkin C**	**2.55**	**72**			**Pn**	07 13 07.1	**+1.5**
GSMY	**Great Sitkin M**	**2.62**	**72**			**Pn**	07 13 07.9	**+1.3**
GSTR	**Great Sitkin T**	**2.63**	**71**	Pn		**Pn**	07 13 05.9	**-0.9**
ATKA	**Atka Island**	**3.77**	**74**			**Pn**	07 13 22.6	**+0.2**
KOFP	**Korovin Flat P**	**3.84**	**73**			**Pn**	07 13 25.3	**+1.8**
SHEM	**Shemya Is, Ala**	**3.87**	**294**	P		**Pn**	07 13 27.6	**+3.9**
	31nm,0.5s,baz=65,slow=6.1,SNR=5.3							
SHEM				S		**Sn**	07 14 13.6	**+5.8**
	85nm,0.8s,baz=119,slow=19,SNR=2.3							
AKUT	**Akutan**	**9.14**	**66**	Pn		**Pn**	07 14 36.9	**+1.0**
S12K	**Black Hills**	**11.59**	**61**	Pn		**Pn**	07 15 11.2	**+1.7**
CNBA	**Chernabura Isl**	**12.81**	**66**	Pn		**Pn**	07 15 24.3	**-1.8**
CHGN	**Chignik**	**13.73**	**60**	Pn		**Pn**	07 15 38.4	**-0.2**
N15K	**Kwethluk River**	**14.29**	**44**	Pn		**Pn**	07 15 44.9	**-1.2**
K15K	**Wolf Creek Mou**	**14.92**	**35**	Pn		**Pn**	07 15 51.9	**-2.5**
N19K	**Bonanza Creek**	**17.07**	**46**	P		**P**	07 16 23.2	**+0.2**
N19K				IAmb		IAmb	07 16 34.3	
	comp=Z,17nm,1.4s							
KDAK	**Kodiak Island**	**17.14**	**57**	P		**Pn**	07 16 20.0	**-2.7**
H18K	**Honhosa River**	**17.84**	**31**	P		**Pn**	07 16 30.1	**-1.2**
H18K				IAmb		IAmb	07 16 31.0	
	comp=Z,14nm,1.4s							
CNPM	**China Poot**	**18.20**	**52**	P		**P**	07 16 35.0	**-0.4**
BRLK	**Bradley Lake**	**18.44**	**51**	P		**Pn**	07 16 38.6	**+0.1**
BRLK				IAmb		IAmb	07 17 03.0	
	comp=Z,18nm,1.4s							
J20K	**Nowinta River**	**18.74**	**37**	P		**Pn**	07 16 41.7	**-0.4**
SKT	**Skwentna**	**18.82**	**44**	P		**Pn**	07 16 43.1	**0.0**
SKT				IAmb		IAmb	07 16 49.6	
	comp=Z,5.4nm,1.0s							
SUA	**Susitna One**	**18.99**	**46**	P		**P**	07 16 43.2	**-1.0**
SUA				IAmb		IAmb	07 17 02.1	
	comp=Z,7.3nm,1.4s							
IMAR	**Indian Mountai**	**19.87**	**32**	P		**P**	07 16 53.5	**-0.1**
DHY	**Denali Highway**	**21.01**	**43**	P		**P**	07 17 04.9	**-1.2**
KLU	**Klutina**	**21.23**	**48**	P		**P**	07 17 07.0	**-1.4**
KLU				IAmb		IAmb	07 17 09.8	
	comp=Z,12nm,1.4s							
M24K	**Tolsona, Glenn**	**21.26**	**46**	P		**P**	07 17 07.5	**-1.2**
B20K	**Meade River**	**21.60**	**21**	P		**P**	07 17 11.8	**-0.3**
ILAR	**Eielson Array**	**21.81**	**39**	P		**P**	07 17 14.6	**0.0**
	comp=Z,0.2nm,0.6s,baz=241,slow=9.2,SNR=4.7							
	comp=Z,0.2nm,0.6s							
H24K	**Noodor Dome**	**21.87**	**36**	P		**P**	07 17 14.4	**-0.8**
H24K				IAmb		IAmb	07 17 18.6	
	comp=Z,4.6nm,1.2s							
D22K	**Ayikyak River**	**21.96**	**26**	P		**P**	07 17 15.3	**-0.7**
D22K				IAmb		IAmb	07 17 17.1	
	comp=Z,8.3nm,1.5s							
GLB	**Gilahina Butte**	**22.21**	**49**	P		**P**	07 17 17.0	**-1.9**
TOLK	**Toolik Lake Re**	**22.72**	**29**	P		**P**	07 17 23.3	**-0.9**
A36M	**Sachs Harbour**	**31.55**	**29**	P		**P**	07 18 44.2	**+0.3**
A36M				IAmb		IAmb	07 18 59.3	
	comp=Z,3.5nm,1.1s							
YKA	**Yellowknife Ar**	**35.87**	**46**	P		**P**	07 19 20.6	**-1.0**
	comp=Z,0.3nm,0.5s,baz=298,slow=12,SNR=5.9							
	comp=Z,0.3nm,0.5s							
NVAR	**Mina Array Bea**	**44.36**	**82**	P		**P**	07 20 33.5	**+1.0**
	comp=Z,0.3nm,0.6s,baz=303,slow=8.3,SNR=2.6							
	comp=Z,0.3nm,0.6s							
SONM	**Songino Array**	**45.96**	**296**	P		**P**	07 20 44.9	**0.0**
	comp=Z,0.3nm,0.6s,baz=61,slow=7.8,SNR=2.3							
	comp=Z,0.3nm,0.6s							
PDAR	**Pinedale Array**	**47.10**	**71**	P		**P**	07 20 53.8	**-0.3**
	comp=Z,1.1nm,0.6s,baz=304,slow=3.3,SNR=14							
	comp=Z,1.1nm,0.6s							
KURBB	**Kurchatov Arra**	**58.59**	**313**	P		**P**	07 22 17.9	**-0.4**
	comp=Z,0.2nm,0.3s,baz=42,slow=7.2,SNR=4.8							
	comp=Z,0.2nm,0.3s							
MK31	**Makanchi Array**	**59.45**	**308**	P		**P**	07 22 22.9	**-1.5**
MK31				IAmb		IAmb	07 22 29.4	
	comp=Z,2.5nm,1.5s							
MKAR	**Makanchi Array**	**59.45**	**308**	P		**P**	07 22 23.0	**-1.3**
MKAR	**Makanchi Array**	**59.45**	**308**	P		**P**	07 22 23.3	**-1.1**
	comp=Z,0.4nm,0.5s,baz=47,slow=6.2,SNR=6.4							
	comp=Z,0.4nm,0.5s							
TXAR	**Lajitas Array**	**59.46**	**80**	P		**P**	07 22 24.2	**-0.6**
	comp=Z,0.1nm,0.6s,baz=283,slow=5.5,SNR=1.9							
	comp=Z,0.1nm,0.6s							

*IDC **23** 07:22:53.0±5.6, 18°.66S×177°.76W, h597km±64km, mb3.5/5, mbtmp4.5/6, Error ellipse: s-maj=38.7km s-min=32.1km az=173.0*

ISC 23 07:22:48.6±1.1, 18°.6S±0°.3×177°.6W±0°.2, h550km, n7, σ1$ 07/9, mb4.4/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**15.35**	**254**	P		**P**	**07 26 03.2**	**+1.3**
	8.8nm,0.8s,baz=68,slow=19,SNR=3.0							
STKA	**Stephens Creek**	**38.98**	**242**	P		**P**	**07 29 28.5**	**+0.4**
	3.9nm,0.3s,baz=82,slow=9.0,SNR=18							
	3.9nm,0.3s							
WRA	**Warramunga Arr**	**45.26**	**260**	P		**P**	**07 30 17.0**	**-0.7**
	6.8nm,0.6s,baz=98,slow=6.8,SNR=89							
WRA				PcP		**PcP**	**07 31 45.7**	**-0.3**
	0.4nm,0.4s,baz=92,slow=3.4,SNR=1.2							
	6.8nm,0.6s							
ASAR	**Alice Springs**	**45.34**	**255**	P		**P**	**07 30 18.0**	**-0.3**
	39nm,1.2s,baz=93,slow=7.1,SNR=23							
ASAR				PcP		**PcP**	**07 31 45.8**	**-0.5**
	0.7nm,0.5s,baz=105,slow=3.8,SNR=5.2							
	39nm,1.2s							
QSPA	**South Pole Qui**	**71.50**	**180**	P		**P**	**07 33 13.6**	**-0.3**
	0.9nm,0.5s,baz=59,slow=9.3,SNR=5.5							
	0.9nm,0.5s							
TXAR	**Lajitas Array**	**85.71**	**57**	P		**P**	**07 34 31.3**	**+1.1**
	0.6nm,0.7s,baz=212,slow=7.6,SNR=8.8							
	0.6nm,0.7s							
ARCES	**ARCESS Array B**	**127.09**	**350**	PKP		**PKPdf**	**07 40 48.2**	**-1.7**
	9.1nm,1.0s,baz=48,slow=1.3,SNR=2.7							

IDC 23 07:24:03.6±1.8, 52°.60N×85°.86E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=22.4km s-min=12.0km az=90.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.49**	**336**	I		I	07 31 40.0	
	baz=154,slow=332,SNR=6.6							
ZALV	**Zalesovo Beam**	**1.49**	**336**	Pg		Pn	07 24 29.7	**-2.0**
	1.1nm,0.3s,baz=158,slow=14,SNR=14							
ZALV				Lg		Lg	07 24 51.9	
	1.6nm,0.3s,baz=156,slow=28,SNR=9.6							
KURBB	**Kurchatov Arra**	**4.98**	**249**	Pn		Pn	07 25 20.1	**+0.6**
	0.1nm,0.3s,baz=63,slow=13,SNR=8.1							
	0.8nm,0.3s							
MKAR	**Makanchi Array**	**6.25**	**203**	Pn		Pn	07 25 38.6	**+1.5**
	0.3nm,0.3s,baz=24,slow=14,SNR=13							
	0.4nm,0.3s							

IDC 23 07:26:41.5±14.0, 13°.04S×167°.03E, h267km±87km, mb3.3/4, mbtmp4.0/5, Error ellipse: s-maj=165.9km s-min=32.9km az=25.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.00**	**183**	P		Pn	07 28 47.3	**-0.1**
	14nm,1.1s,baz=347,slow=14,SNR=2.4							
STKA	**Stephens Creek**	**29.94**	**227**	P		P	07 32 25.6	**+0.4**
	1.7nm,0.7s,baz=51,slow=6.5,SNR=4.1							
	1.7nm,0.7s							
WRA	**Warramunga Arr**	**32.05**	**253**	P		P	07 32 43.7	**0.0**
	0.7nm,0.7s,baz=86,slow=8.7,SNR=2.7							
	0.7nm,0.7s							
ASAR	**Alice Springs**	**33.09**	**247**	P		P	07 32 52.5	**-0.3**
	0.9nm,0.5s,baz=76,slow=9.3,SNR=9.1							
	0.9nm,0.5s							
QSPA	**South Pole Qui**	**76.97**	**180**	P		P	07 38 04.7	**+0.1**
	1.0nm,0.7s,baz=36,slow=11,SNR=6.1							
	1.0nm,0.7s							

*IDC **23** 07:37:08.5±0.5, 9°.85N×83°.85W, h0km, mb4.3/18, mbtmp4.3/21, ML3.3/3, MS4.0/5, Error ellipse: s-maj=18.5km s-min=9.3km az=33.0*

*UPA **23** 07:37:12.9±2.8, 9°.59N×84°.20W, h0km±7km, MW5.1*

*CATAC **23** 07:37:14.5±0.2, 9°.57N×84°.15W, h18km±2km, ML5.1*

*UCR **23** 07:37:14.6±0.9, 9°.58N×84°.18W, h36km±1km, MW5.2, MB4.8(NEIC), Fault plane solution: NP1:φ=312.50000°, δ=55.61000°, λ=77.85000°.*

*RSNC **23** 07:37:15.4±0.5, 10°.N±2°.×8°.4W±°, h6km±4km, mb4.9, mB5.3, ML4.4, Mw(mB)4.7, MwMwp4.8, Mwp5.1*

*NEIC **23** 07:37:15.9, 9°.65N×84°.11W, h36km*

*NEIC **23** 07:37:16.0±2.1, 9°.65N±0°.05×84°.11W±0°.05, h37km±5km, mb4.7/69, Mwr4.8/34, Error ellipse: s-maj=9.1km s-min=4.1km az=218.0, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr 1.68; Mθθ -0.45; Mφφ -1.23; Mrθ 0.42; Mrφ 0.57; Mθφ -0.40; Fault plane solution: M0 1.71000×10^16 NP1:φs 146.59000°, δ 54.76000°, λ 83.97000°. NP2:φs 336.97000°, δ 35.69000°, λ 98.46000°. Principal axes: T 1.7863, Plg 79.0000°, Azm 33.0000°; N -0.1664, Plg 5.0000°, Azm 150.0000°; P -1.6200, Plg 10.0000°, Azm 241.0000°;*

*GCMT **23** 07:37:18.0±0.4, 9°.54N±0°.02×84°.27W±0°.04, h42km±1km, MW5.0/46, Moment Tensor Solution. s42,c50; s46,c61; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 4.33±.22; Mθθ -2.04±.17; Mφφ -2.29±.18; Mrθ 0.03±.14; Mrφ 2.27±.10; Mθφ -0.50±.15; Best double couple: M0 4.41300×10^16 NP1:φs 141.00000°, δ 48.00000°, λ 96.00000°. NP2: φs 312.00000°, δ 43.00000°, λ 84.00000°. Principal axes: T 4.3710, Plg 85.0000°, Azm 106.0000°; N 0.0840, Plg 4.0000°, Azm 317.0000°; P -4.4550, Plg 3.0000°, Azm 227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*SNET **23** 07:37:20.7±1.0, 9°.63N×84°.48W, h29km, ML4.6*

ISC 23 07:37:14.1±0.5, 9°.57N±0°.02×84°.15W±0°.02, h34km±1km, n445, σ1$81/503, mb4.7/59, MS5.2/5, 19C-58D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LLNJ	**Naranjito**	**0.10**	**153**	P	*eP*	**Pb**	**07 37 20.8**	**+0.8**
LLNJ					*eS*	**Sb**	07 37 25.9	**+2.0**
SVQ2	**Quepos**	**0.14**	**188**	P	*eP*	**Pb**	07 37 20.5	**+0.4**
SVQ2					*eS*	**Sb**	07 37 25.3	**+1.0**
RAZU	**San Marcos de**	**0.15**	**53**	P	*eP*	**Pb**	07 37 21.1	**+0.6**
ABE2	**San Pablo**	**0.17**	**34**	P	*eP*	**Pb**	07 37 21.1	**+0.5**
RITA	**Parrita**	**0.19**	**256**	P	*eP*	**Pb**	07 37 21.6	**+1.1**
LCR2	**La Lucha 2**	**0.22**	**39**			**Pn**	07 37 21.5	**+0.9**
LCR2					Sn	**Sb**	07 37 27.1	**+1.0**
LCR2	**La Lucha 2**	**0.22**	**39**	P	*eP*	**Pb**	07 37 21.6	**+0.4**
LCR2					*eS*	**Sb**	07 37 27.0	**+1.0**
LCR2	**La Lucha 2**	**0.22**	**39**	*i* P		**Pb**	07 37 21.7	**+0.5**
LCR2				*i* S		**Sb**	07 37 26.9	**+0.8**
LCR2				IAML			07 37 28.1	
	comp=Z,360μm,1.0s							
ACOS	**Acosta**	**0.23**	**356**	P	*eP*	**Pb**	07 37 21.6	**+0.4**
ACOS					*eS*	**Sb**	07 37 27.0	**+1.0**
AMPA	**Desamparados**	**0.34**	**15**	*eP*		**Pb**	07 37 22.8	**+0.3**
AMPA					*eS*	**Sb**	07 37 29.0	**+0.7**
RIMA	**Rio Macho**	**0.34**	**55**			**Pb**	07 37 22.9	**+0.3**
RIMA					Sn	**Sn**	07 37 28.9	**+0.7**
RIMA	**Rio Macho**	**0.34**	**55**	*eP*		**Pb**	07 37 23.0	**+0.3**
RIMA	**Rio Macho**	**0.34**	**55**	*i* P		**Pb**	07 37 23.1	**+0.5**
RIMA				*i* S		**Sb**	07 37 29.6	**+1.1**
RIMA				IAML			07 37 30.4	
	comp=Z,160μm,1.0s							
LUJA	**Lujan**	**0.37**	**12**	*eP*		**Pn**	07 37 24.3	**+1.1**
SANTA	**Santa Ana**	**0.37**	**354**	P	*eP*	**Pb**	07 37 23.1	**+0.3**
SANTA					*eS*	**Sb**	07 37 29.7	**+0.9**
CENT	**San Jose**	**0.37**	**11**	*eP*		**Pb**	07 37 23.4	**+0.5**
CENT					*eS*	**Sb**	07 37 30.1	**+1.1**
TRIO	**Tres Rios**	**0.37**	**24**	*eP*		**Pn**	07 37 24.4	**+1.1**
TAGO	**Cartago**	**0.37**	**37**	*eP*		**Pb**	07 37 23.6	**+0.6**
OCM	**Ochomogo**	**0.38**	**29**	*eP*		**Pb**	07 37 23.4	**+0.4**
OCM	**Ochomogo**	**0.38**	**29**	*i* P		**Pb**	07 37 23.5	**+0.4**
OCM				*i* S		**Sb**	07 37 30.2	**+1.0**
OCM				IAML			07 37 32.3	
	comp=Z,120μm,1.0s							
MEXI	**Barrio Mexico**	**0.38**	**9**	*eP*		**Pb**	07 37 23.5	**+0.5**
MEXI					*eS*	**Sb**	07 37 30.2	**+1.1**
CDM	**Cerro de Muert**	**0.38**	**92**	*eP*		**Pb**	07 37 24.0	**+0.7**
CDM					*eS*	**Sb**	07 37 31.2	**+1.5**
CDM	**Cerro de Muert**	**0.38**	**92**	*i* P		**Pb**	07 37 24.0	**+0.7**
CDM				*i* S		**Sb**	07 37 31.4	**+1.8**
CDM				IAML			07 37 31.9	
	comp=Z,290μm,1.0s							
REPA	**Paraso**	**0.38**	**47**	*eP*		**Pn**	07 37 24.6	**+1.2**
SJS	**Escuela Geolog**	**0.38**	**14**	*eP*		**Pb**	07 37 23.7	**+0.6**
SJS3	**Mercedes San J**	**0.38**	**14**	*eP*		**Pn**	07 37 23.8	**+0.4**
LUPE	**Guadalupe**	**0.39**	**14**	*eP*		**Pn**	07 37 24.9	**+1.3**
BUS1	**Rivas**	**0.40**	**92**	*eP*		**Pb**	07 37 24.0	**+0.5**
TIBA	**Tibas**	**0.40**	**11**	*eP*		**Pb**	07 37 23.9	**+0.5**
BELE	**Belen**	**0.41**	**354**	P	*eP*	**Pb**	07 37 23.6	**+0.2**
BELE					*eS*	**Sn**	07 37 30.6	**+0.4**
DOMI	**Santo Domingo**	**0.42**	**8**	*eP*		**Pn**	07 37 24.3	**+0.3**
DOMI					*eS*	**Sn**	07 37 32.0	**+1.6**
CORON	**Coronado**	**0.43**	**19**	*eP*		**Pn**	07 37 24.6	**+0.5**
CORON					*eS*	**Sn**	07 37 32.5	**+1.8**
HDC	**Heredia**	**0.43**	**4**			**Pb**	07 37 24.2	**+0.4**
HDC					Sn	**Sn**	07 37 31.4	**+0.5**
HDC	**Heredia**	**0.43**	**4**	*eP*		**Pb**	07 37 24.3	**+0.4**
HDC					*eS*	**Sn**	07 37 31.7	**+0.9**
HDC3	**Heredia 3**	**0.43**	**5**	*eP*		**Pb**	07 37 24.4	**+0.6**
HDC3	**Heredia 3**	**0.43**	**5**	*i* P		**Pn**	07 37 24.6	**+0.4**
HDC3				*i* S		**Sn**	07 37 31.6	**+0.7**
HDC3				IAML			07 37 35.6	
	comp=Z,320μm,1.0s							
TRB2	**Turrubares**	**0.46**	**319**	P	*eP*	**Pb**	07 37 23.8	**-0.2**
BITO	**Garabito Jaco**	**0.47**	**276**	P	*eP*	**Pb**	07 37 24.3	**+0.1**
ZELE	**Perez Zeledon**	**0.48**	**114**	*eP*		**Pb**	07 37 25.3	**+0.9**
PCAYA	**Pacayas**	**0.48**	**44**	*eP*		**Pb**	07 37 25.2	**+0.6**
TCS1	**Tacares**	**0.50**	**342**	P	*eP*	**Pb**	07 37 24.9	**+0.2**
TCS1	**Tacares**	**0.50**	**342**	*i* P		**Pb**	07 37 24.9	**+0.2**
TCS1				IAML			07 37 35.4	
	comp=Z,1200μm,1.0s							
CVIMO	**Finca Echandi**	**0.50**	**24**	*eP*		**Pb**	07 37 25.5	**+0.6**
PEZE	**Perez Zeledon,**	**0.50**	**111**			**Pb**	07 37 25.1	**+0.4**
PEZE					Sn	**Sn**	07 37 33.6	**+1.2**
PEZE	**Perez Zeledon,**	**0.50**	**111**	*eP*		**Pb**	07 37 25.4	**+0.7**
PEZE					*eS*	**Sn**	07 37 33.6	**+1.2**
PEZE	**Perez Zeledon,**	**0.50**	**111**	*i* P		**Pb**	07 37 25.6	**+0.9**
PEZE				*i* S		**Sn**	07 37 33.9	**+1.5**
PEZE				IAML			07 37 34.3	
	comp=Z,910μm,1.0s							
RAFA	**San Farael, Vo**	**0.51**	**40**	*eP*		**Pb**	07 37 25.7	**+0.6**
VICA	**Volcano Irazu**	**0.51**	**36**	*eP*		**Pb**	07 37 25.8	**+0.6**
JACO	**JACO, Garabito**	**0.51**	**281**			**Pb**	07 37 24.3	**-0.5**
JACO					Sn	**Sn**	07 37 33.3	**+0.7**
JACO	**JACO, Garabito**	**0.51**	**281**	P	*eP*	**Pb**	07 37 24.6	**-0.3**
JACO	**JACO, Garabito**	**0.51**	**281**	*i* P		**Pb**	07 37 24.9	**0.0**
JACO				*i* S		**Sn**	07 37 33.1	**+0.5**
JACO				IAML			07 37 37.0	
	comp=Z,72μm,1.0s							
VINA	**Juan Vinas**	**0.51**	**50**	*eP*		**Pn**	07 37 26.5	**+1.4**
ICR3	**Volcano Irazu**	**0.52**	**37**	*eP*		**Pb**	07 37 25.9	**+0.6**
GREC	**Grecia**	**0.53**	**343**	*eP*		**Pb**	07 37 25.6	**+0.4**
SARCI	**Sarchi**	**0.56**	**339**	P	*eP*	**Pb**	07 37 25.9	**+0.2**
TURIB	**Turrialba**	**0.57**	**53**	*eP*		**Pn**	07 37 26.0	**+0.2**
VTLA	**Turrialba Volc**	**0.57**	**40**	*eP*		**Pn**	07 37 26.6	**+0.5**
CVTQ	**Turrialba Volc**	**0.57**	**41**	*eP*		**Pn**	07 37 26.8	**+0.6**
NARAN	**Naranjo de Ala**	**0.57**	**337**	*eP*		**Pn**	07 37 26.1	**+0.1**
VERB	**Verbena**	**0.58**	**50**	*eP*		**Pn**	07 37 26.6	**+0.5**
CVTV	**Tajo**	**0.59**	**42**	*eP*		**Pn**	07 37 27.0	**+0.7**
VTCV	**VTCV, Calle Va**	**0.59**	**45**	*eP*		**Pn**	07 37 26.8	**+0.6**
VTCV	**VTCV, Calle Va**	**0.59**	**45**	*i* P		**Pn**	07 37 26.8	**+0.6**
VTCV				*i* S		**Sn**	07 37 36.2	**+1.5**
VTCV				IAML			07 37 40.1	
	comp=Z,190μm,1.0s							
VTR0	**Volcan Turrial**	**0.59**	**40**	*eP*		**Pn**	07 37 27.1	**+0.7**
VTUN	**Crater Central**	**0.59**	**40**	*i* P		**Pn**	07 37 26.8	**+0.4**
VTUN				IAML			07 37 39.7	
	comp=Z,73μm,1.0s							
CVTR	**Volcan Turrial**	**0.59**	**40**	*eP*		**Pn**	07 37 27.0	**+0.6**
VPTE	**Poasito**	**0.60**	**355**	*eP*		**Pb**	07 37 27.0	**+0.5**
RAMO	**San Ramon**	**0.61**	**329**	*eP*		**Pb**	07 37 27.1	**+0.6**
RAMO					*eS*	**Sn**	07 37 36.4	**+1.3**
SRA1	**San Ramn**	**0.61**	**328**	*eP*		**Pn**	07 37 26.2	**-0.3**
VTLO	**VTLO**	**0.63**	**41**	*eP*		**Pn**	07 37 27.4	**+0.6**
RVSTA	**Santa Teresita**	**0.64**	**50**	*eP*		**Pn**	07 37 27.4	**+0.5**
ZARE	**Zarcero**	**0.66**	**339**	*eP*		**Pn**	07 37 27.6	**+0.4**
ARZA	**Esparza**	**0.66**	**310**	*eP*		**Pn**	07 37 26.6	**-0.5**
OCHAL	**Ojochal**	**0.68**	**133**	*i* P		**Pb**	07 37 28.5	**+0.2**
OCHAL				*i* S		**Sn**	07 37 36.0	**-0.8**
OCHAL				IAML			07 37 42.1	
	comp=Z,41μm,1.0s							
CPMI	**Catarata Coope**	**0.75**	**342**	*eP*		**Pn**	07 37 28.5	**+0.1**
CPMI	**Catarata Coope**	**0.75**	**342**	*i* P		**Pn**	07 37 28.4	**-0.1**
CPMI				IAML			07 37 43.0	
	comp=Z,53μm,1.0s							
RVLA	**Villa Bonita**	**0.77**	**46**	*eP*		**Pn**	07 37 29.6	**+1.0**
LCOCO	**El Coco**	**0.78**	**48**	*eP*		**Pn**	07 37 29.6	**+0.9**
RIFO	**Rio Frio, Sara**	**0.78**	**17**	*eP*		**Pn**	07 37 29.2	**+0.4**
RIFO	**Rio Frio, Sara**	**0.78**	**17**	*i* P		**Pn**	07 37 29.1	**+0.4**
RIFO				*i* S		**Sb**	07 37 40.5	**+0.9**
RIFO				IAML			07 37 42.4	
	comp=Z,88um,1.0s							
LAFE	**Finca La Fe, P**	**0.79**	**288**	*eP*		**Pn**	07 37 29.2	**+0.4**
LAFE	**Finca La Fe, P**	**0.79**	**288**	*i* P		**Pb**	07 37 29.8	**+0.4**
LAFE				*i* S		**Sb**	07 37 42.2	**+2.4**
LAFE				IAML			07 37 44.8	
	comp=Z,320nm,1.0s							
IRES	**Siquirres**	**0.82**	**50**	*eP*		**Pb**	07 37 30.5	**+0.5**
SRBA	**San Rafael, Bu**	**0.84**	**113**			**Pn**	07 37 30.1	**+0.4**
SRBA					Sn	**Sn**	07 37 42.0	**+1.0**
SRBA	**San Rafael, Bu**	**0.84**	**113**	*eP*		**Pn**	07 37 30.4	**+0.6**
SRBA	**San Rafael, Bu**	**0.84**	**113**	*i* P		**Pn**	07 37 30.3	**+0.6**
SRBA				*i* S		**Sn**	07 37 42.5	**+1.5**
SRBA				IAML			07 37 43.5	
	comp=Z,900μm,1.0s							
ITAL	**Pital**	**0.89**	**352**	*eP*		**Pb**	07 37 31.8	**+0.7**
BURE	**Buenos Aires**	**0.89**	**116**	*eP*		**Pn**	07 37 31.3	**+1.1**
CARI	**Cariari**	**0.89**	**27**	*eP*		**Pb**	07 37 32.3	**+1.2**
EDPN	**Palmar Norte**	**0.91**	**131**	*eP*		**Pn**	07 37 30.9	**+0.5**
BATAN	**Batan**	**0.93**	**55**			**Pn**	07 37 31.8	**+1.1**
BATAN	**Batan**	**0.93**	**55**	*i* P		**Pb**	07 37 32.1	**+0.4**
BATAN					*eS*	**Sb**	07 37 47.0	**+3.2**
BATAN	**Batan**	**0.93**	**55**	*eP*		**Pb**	07 37 32.0	**+0.4**
BATAN	**Batan**	**0.93**	**55**	*i* P		**Pb**	07 37 32.2	**+0.5**
BATAN				IAML			07 37 32.5	
	comp=Z,92μm,1.0s							
BATAN				*i* S		**Sb**	07 37 45.7	**+2.0**
CBL1	**Cabuya**	**0.93**	**271**	*eP*		**Pn**	07 37 30.1	**-0.7**
SOCE	**Pocosol**	**0.94**	**330**			**

comp=Z,4µm,1.0s
ESPN Las Esperanzas 2.62 357 Pn 07 37 55.0 +1.0
ESPN Las Esperanzas 2.62 357|| *eP* Pn 07 37 55.0 +1.0
ESPN Las Esperanzas 2.62 357 *i* P Pn 07 37 55.4 +1.4
ESPN IAML 07 38 49.2
comp=Z,5µm,1.0s
NANC3 Nancito, Chiri 2.73 119 *eP* Pn 07 37 58.2 +2.7
NANC3 *eS* Sb 07 38 34.4 -0.9
MAS3 Al N del Volca 3.15 321 *i* P Pb 07 38 14.8 +5.4
CRUN El Crucero 3.20 319 *i* P Pb 07 38 18.7 +8.4
SAFE3 Santa Fe, Vera 3.21 109 *eP* Pn 07 38 05.3 +3.2
BOAB BOACO BROADBAN 3.23 333 Pn Pn 07 38 03.3 +0.9
BOAB BOACO BROADBAN 3.23 333 *i* P Pn 07 38 04.1 +1.7
BOAB IAML 07 38 59.3
comp=Z,2µm,1.0s
MESA3 La Mesa, Verag 3.25 115 *eP* Pn 07 38 05.5 +2.8
MESA3 *eS* Sb 07 38 47.4 -2.8
WILN Americas 2 3.27 322 *i* P Pb 07 38 13.9 +2.6
R0529 La Mascota 3.27 321 *i* P Pn 07 38 04.6 +1.7
R0529 IAML 07 39 13.9
comp=Z,1µm,1.0s
R45A8 Distro VI 3.27 322 *i* P Pn 07 38 04.9 +1.9
R45A8 IAML 07 39 28.1
comp=Z,970nm,1.0s
UNAN Cigeo UNAN 3.28 321 *i* P Pn 07 38 04.8 +1.7
UNAN IAML 07 39 11.0
comp=Z,10µm,1.0s
RSUS3 Rio de Jesus, 3.35 118 *eP* Pn 07 38 07.7 +3.6
RSUS3 *eS* Sb 07 38 49.5 -3.6
GMAL Guarumal, Vera 3.39 122 *eP* Pn 07 38 06.3 +1.6
GMAL *eS* Sn 07 38 48.2 +4.4
GMAL Guarumal, Vera 3.39 122 P Pn 07 38 06.2 +1.5
GMAL S Sn 07 38 47.3 +3.5
STIA3 Santiago, Vera 3.46 115 *eP* Pn 07 38 09.5 +3.9
MARI3 Mariato, Verag 3.66 121 *eP* Pn 07 38 12.7 +4.4
MOMN Momotombo 3.67 320 *i* P Pn 07 38 11.0 +2.4
MOMN IAML 07 39 25.1
comp=Z,34nm,1.0s
LEVN Ruinas Leon Vi 3.72 320 *i* P Pn 07 38 11.2 +2.1
LEVN IAML 07 39 02.6
comp=Z,1µm,1.0s
CRIS3 El Cristo, Coc 3.73 110 *eP* Pn 07 38 12.3 +3.1
CRIS3 *eS* Sb 07 38 59.4 -4.5
MACN El Madrono 3.80 320 *i* P Pn 07 38 13.2 +2.9
MACN IAML 07 38 15.7
comp=Z,380nm,1.0s
CNGN Cerro Negro 3.84 320 Pn 07 38 13.0 +2.1
CNGN Cerro Negro 3.84 320 *i* P Pn 07 38 13.7 +2.8
CNGN IAML 07 39 48.2
comp=Z,1µm,1.0s
PESE3 Pese, Herrera 3.86 115 *eP* Pb 07 38 17.3 -4.2
PNME Penonome 3.92 106 P Pn 07 38 16.6 +4.6
PNME S Sb 07 39 08.8 -0.8
CACAO El Cacao, Vera 3.93 124 *eP* Pn 07 38 15.6 +3.6
CACAO El Cacao, Vera 3.93 124 P Pn 07 38 15.3 +3.2
CACAO S Sb 07 39 05.4 -4.4
CHIT3 Chitre 4.02 113 *eP* Pn 07 38 16.5 +3.2
LIMN Finca el Limon 4.10 328 *i* P Pn 07 38 16.4 +1.9
LIMN IAML 07 39 41.5
comp=Z,1µm,1.0s
PKGN Cerro Pekin 4.15 318 *i* P Pn 07 38 16.8 +1.7
PKGN IAML 07 39 15.8
comp=Z,1µm,1.0s
AZU Azuero 4.22 114 *eP* Pn 07 38 19.1 +3.1
AZU Azuero 4.22 114 P Pn 07 38 20.2 +4.2
AZU S Sb 07 39 12.4 -5.6
CRIN San Cristobal 4.22 318 Pn Pn 07 38 19.1 +3.0
CRIN San Cristobal 4.22 318 *eP* Pn 07 38 20.6 +4.4
CRIN San Cristobal 4.22 318 P Pn 07 38 19.9 +3.8
CRIN S Sn 07 39 08.7 +4.4
TOSI3 Tonosi 4.25 120 *eP* Pn 07 38 20.9 +4.5
MLIR Monte Lirio 4.25 94 *eP* Pn 07 38 20.0 +3.5
ZANG Zanguenga, Cho 4.27 98 *eP* Pn 07 38 20.0 +3.2
BCIP Isla Barro Col 4.27 95 Pn Pn 07 38 18.1 +1.3
BCIP Isla Barro Col 4.27 95 *eP* Pn 07 38 19.4 +2.6
BCIP Isla Barro Col 4.27 95 P Pn 07 38 19.8 +3.0
BCIP S Sn 07 39 08.4 +2.9
RCPN Sur Rio San Ju 4.37 334 *i* P Pn 07 38 19.7 +1.4
RCPN IAML 07 38 22.8
comp=Z,2.5nm,1.0s
FRIJ El Hiral 4.38 94 *eP* Pn 07 38 21.4 +3.2
PCRI3 Pocri, Los San 4.41 115 *eP* Pn 07 38 23.9 +5.2
ACHO3 Achotines, Los 4.47 118 *eP* Pn 07 38 24.2 +4.7
UPA Univ. de Panam 4.59 97 *eP* Pn 07 38 24.4 +3.3
UPA Univ. de Panam 4.59 97 P Pn 07 38 24.2 +3.0
UPA S Sn 07 39 14.0 +0.6
TABO3 Taboga, Panama 4.60 99 *eP* Pn 07 38 25.1 +3.8
PRVC Isla de Provid 4.67 36 P Pn 07 38 25.4 +3.2
CHPO Chepo, Panama 4.98 94 *eP* Pn 07 38 30.2 +3.7
AMPH Amapala 5.05 317 *eS* Sn 07 39 26.6 +1.9
CNCH Conchagua 5.16 316 *eP* Pn 07 38 33.7 +4.6
CNTA3 Canitas, Panam 5.20 93 *eP* Pn 07 38 34.0 +4.5
LCND La Caada 5.22 316 *eP* Pn 07 38 33.3 +3.4
LCND IAML 07 39 32.8
comp=Z,386nm,0.4s
TGUH Tegucigalpa,Un 5.41 326 Pn Pn 07 38 34.7 +2.1
TGUH Tegucigalpa,Un 5.41 326 *eP* Pn 07 38 35.9 +3.4
TGUH Tegucigalpa,Un 5.41 326 P Pn 07 38 36.0 +3.4
comp=Z,784nm,0.9s,comp=Z,5µm
JUCU Jucuarn 5.44 313 *eP* Pn 07 38 37.0 +4.1
PACA Pacayal 5.64 314 *eP* Pn 07 38 39.9 +4.2
PACA *eS* Sn 07 39 41.5 +2.1
PQSS Presa 15 de Se 5.91 313 *eP* Pn 07 38 43.2 +3.9
PQSS *eS* Sn 07 39 46.8 +0.8
SCLA Alcaldia de Sa 6.08 313 *eS* Sn 07 39 51.7 +1.4
COEG Centro de Oper 6.14 311 *eP* Pn 07 38 46.0 +3.4
UPD2 Meteti 6.14 99 P Pn 07 38 46.5 +4.0
comp=Z,230nm,1.1s
SJTE Alcalda de S 6.23 311 *eP* Pn 07 38 47.3 +3.5
LOMA Loma Larga 6.38 310 *eP* Pn 07 38 49.3 +3.5
SNET Serv Nac Est T 6.45 310 Pn 07 38 47.5 +0.8
PMON Piamonte 6.53 310 *eP* Pn 07 38 51.5 +3.7
PMON *eS* Sn 07 40 03.7 +2.5
PTAC Punta Ardita, 6.72 110 *eP* Pn 07 38 51.0 +0.6
PTAC Punta Ardita, 6.72 110 P Pn 07 38 52.2 +1.8
comp=Z,96nm,0.8s,comp=Z,1µm
ESQI Esquipulas 7.10 315 Pn Pn 07 38 58.6 +2.9
SOLC Bahia Solano 7.45 116 P Pn 07 39 01.8 +1.3
APAC Apartado, Choc 7.66 102 P Pn 07 39 09.4 +6.0
comp=Z,146nm,1.3s,comp=Z,3µm
APG El Apazote 8.20 312 Pn Pn 07 39 12.7 +1.7
comp=Z,0.2nm,0.3s,baz=148,slow=9.9,SNR=16
APG LR LR 07 42 42.0
comp=Z,108nm,21.7s,baz=66,slow=40
DBBC Dabeiba 8.25 107 P Pn 07 39 15.4 +3.8
MALC Bahia Malaga 8.73 129 P Pn 07 39 22.5 +4.5
SJCC San Jacinto, C 8.85 87 P Pn 07 39 22.3 +2.6
comp=Z,204nm,0.7s,comp=Z,2µmcomp=Z,3µm
RTAL Retalhuleu 8.87 304 Pn Pn 07 39 22.1 +2.1
PLMC San Jos del P 9.07 120 P Pn 07 39 24.6 +1.8
comp=Z,62nm,0.9s,comp=Z,654nm
HELC Santa Helena 9.17 111 P Pn 07 39 28.0 +3.6
comp=Z,74nm,1.2s,comp=Z,608nm
HUEH Huehuetenango 9.18 309 Pn Pn 07 39 28.0 +3.6
ZARC Zaragoza, Cauc 9.42 102 P Pn 07 39 30.3 +2.8
comp=Z,75nm,1.1s,comp=Z,812nm
YOTC Yotoco, Valle 9.53 125 P Pn 07 39 32.6 +3.5
comp=Z,24nm,1.1s
GUY2C Guyana, Caldas 9.72 116 P Pn 07 39 36.0 +4.0
comp=Z,107nm,1.1s,comp=Z,925nm
JAMC Jamundi, Valle 9.74 130 P Pn 07 39 37.0 +4.8
comp=Z,21nm,1.2s
ARGC Ariguani, Magd 9.77 87 P Pn 07 39 37.6 +5.3
comp=Z,71nm,0.7s
SMRC Santa Marta, M 9.89 80 P Pn 07 39 35.4 +1.4
NORC Norcasia 10.02 113 P Pn 07 39 40.3 +4.5
comp=Z,27nm,1.1s
PTBC PUERTO BERRIO, 10.06 107 P Pn 07 39 39.5 +3.2
comp=Z,18nm,1.1s
FSCY Frank Sound, G 10.11 16 Pn Pn 07 39 38.5 +1.6
BBAC Balboa, Cauca 10.16 137 P Pn 07 39 42.5 +4.6
comp=Z,40nm,0.9s,comp=Z,619nm
POPC Popayan, Colom 10.19 133 P Pn 07 39 42.4 +4.1
comp=Z,37nm,1.1s
CCIG Comitan 10.25 311 Pn 07 39 41.5 +2.4
ORTC Ortega, Tolima 10.47 122 P Pn 07 39 46.7 +4.7
comp=Z,50nm,0.9s,comp=Z,705nm
CRUC La Cruz 10.69 138 P Pn 07 39 51.9 +6.6
GCUF Volcan Galeras 10.70 140 P Pn 07 39 51.7 +6.2
comp=Z,41nm,0.8s,comp=Z,825nm
SPBC San Pablo de B 10.72 111 P Pn 07 39 49.7 +4.3
comp=Z,63nm,1.2s,comp=Z,766nm
FLF1 Flavio Alfaro- 10.75 156 P Pn 07 39 50.7 +4.9
comp=Z,116nm,1.1s
OCAC Ocana 10.78 96 P Pn 07 39 48.8 +2.5
comp=Z,59nm,0.6s,comp=Z,563nm
ROSC El Rosal 10.82 115 Pn Pn 07 39 50.9 +3.8
ROSC El Rosal 10.82 115 Pn Pn 07 39 45.4 -1.7
comp=Z,0.8nm,0.3s,baz=324,slow=16,SNR=1.3
ROSC LR LR 07 44 12.1
comp=Z,365nm,19.1s,baz=316,slow=40
comp=Z,2.7nm,0.4s
ROSC El Rosal 10.82 115 P Pn 07 39 51.7 +4.6
comp=Z,39nm,1.3s
TULM Tulcn-Chalpat 10.83 144 Pn 07 39 52.0 +4.6
IMBA Imbabura, San 10.96 147 Pn Pn 07 39 54.8 +5.7
PULU Pululahua 11.02 149 Pn Pn 07 39 55.8 +6.0
BETC Betania 11.03 128 P Pn 07 39 55.9 +6.3
CVER Cruz Verde, Cu 11.18 116 P Pn 07 39 58.0 +5.9
BARC Barichara 11.25 104 P Pn 07 39 55.5 +2.7
TEIG Tepich 11.32 340 LR LR 07 44 20.3
comp=Z,13µm,220.9s,slow=39
TEIG Tepich 11.32 340 P Pn 07 40 05.0 +11
comp=Z,91nm,0.9s
PAMC Pamplona, Colo 11.54 100 P Pn 07 40 01.4 +4.4
RUSC La Rusia 11.55 108 P Pn 07 40 01.0 +3.8
comp=Z,34nm,1.1s,comp=Z,2µm
FLOC Florencia 11.59 133 P Pn 07 40 02.0 +4.7
comp=Z,30nm,1.4s
SLOR San Lorenzo - 11.67 151 Pn 07 40 02.0 +3.2
VILC Villavicencio, 11.71 117 P Pn 07 40 03.9 +4.9
CHSH Refugio Sur-Vo 12.18 154 Pn 07 40 10.2 +4.3
MACC Macarena, Meta 12.62 125 P Pn 07 40 16.5 +5.2
comp=Z,21nm,0.7s,comp=Z,481nm
CMIG Matias Romero 12.84 307 Pn Pn 07 40 13.5 -0.9
comp=Z,1.4nm,0.3s,baz=114,slow=11,SNR=13
CMIG Sn Sn **07 42 36.3 0.0**
comp=Z,0.3nm,0.3s,baz=144,slow=6.2,SNR=1.8
comp=Z,7.6nm,0.7s
COHC Cochancay 12.91 158 Pn 07 40 17.6 +2.3
PTGC Puerto Gaitan, 13.06 113 P Pn 07 40 22.4 +5.0
comp=Z,15nm,0.8s
PTLC Puerto Leguiza 13.18 135 P P 07 40 25.1 -3.5
comp=Z,16nm,1.1s
SDV Santo Domingo 13.36 92 Pn Pn 07 40 23.7 +2.1
SDV Santo Domingo 13.36 92 Pn Pn 07 40 21.9 +0.3
comp=Z,2.2nm,0.3s,baz=274,slow=10,SNR=10
SDV Sn Sn **07 42 49.2 0.0**
comp=Z,0.9nm,0.3s,baz=355,slow=18,SNR=1.5
SDV LR LR 07 46 28.2
comp=Z,1µm,20.9s,baz=283,slow=43
SDV Santo Domingo 13.36 92 P Pn 07 40 24.2 +2.6
comp=Z,61nm,0.7s,comp=Z,971nm
SDV Santo Domingo 13.36 92 *eP* Pn 07 40 21.6 0.0
GTBY Guantanamo Bay 13.50 39 Pn Pn 07 40 23.2 -0.2
GTBY Guantanamo Bay 13.50 39 P Pn 07 40 25.7 +2.4
comp=Z,20nm,1.5s
ARNL Arenillas 13.65 162 Pn 07 40 29.0 +3.6
MCRA Macar, Loja 14.46 163 Pn 07 40 37.4 +0.8
MCRA Macar, Loja 14.46 163 P P 07 40 43.4 +0.5
comp=Z,3.3nm,1.2s
SDDR Presa de Saban 15.58 52 P P 07 40 54.4 -0.9
BAUV El Baul 15.91 91 Pn 07 40 55.7 +0.1
BAUV IAmb IAmb 07 40 57.5
comp=Z,41nm,0.9s
TLIG Tlapa 16.11 301 Pn 07 40 58.1 -0.1
ATAH Atahualpa 17.55 161 P P 07 41 22.3 +4.8
comp=Z,5.5nm,0.7s,baz=41,slow=8.9,SNR=5.0
ATAH LR LR 07 47 13.3
comp=Z,1µm,21.8s,baz=321,slow=34
AGPR Aguadilla, PR 18.73 60 P P 07 41 29.4 -0.7
AGPR IAmb IAmb 07 41 31.0
comp=Z,108nm,1.4s
OBIP Obispado Ponce 18.99 62 P P 07 41 32.8 -0.2
CELP Cerrillos 19.03 62 P Pn 07 41 35.2 +0.9
PCRV Puerto La Cruz 19.23 87 P P 07 41 31.4 -4.3
comp=Z,0.1nm,0.3s,baz=328,slow=8.7,SNR=1.9
comp=Z,8.1nm,0.8s
GCPR Guaynabo City 19.55 62 P P 07 41 39.7 +0.6
TBTG Tabatinga, AM 19.70 133 P P 07 41 42.0 +1.3
TBTG Tabatinga, AM 19.70 133 *eP* Pn 07 41 43.0 +0.7
656A Willston 19.76 4 P Pn 07 41 42.6 -0.3
656A IAmb IAmb 07 41 56.5
comp=Z,67nm,1.0s
553A Crawfordville 20.52 359 P P 07 41 50.1 +0.6
CZSB Cruzeiro do Su 20.62 146 P P 07 41 52.3 +1.5
CZSB IAmb IAmb 07 41 57.1
comp=Z,63nm,1.3s
CZSB Cruzeiro do Su 20.62 146 P P 07 41 51.5 +0.8
CZSB Cruzeiro do Su 20.62 146 *eP* P 07 41 51.8 +1.1
352A Blakely 21.82 358 P P 07 42 04.5 +1.0
352A IAmb IAmb 07 42 21.3
comp=Z,40nm,0.8s
ZAIG Zacatecas 21.99 309 P P 07 42 07.0 +1.2
346A Big Creek Wild 22.27 348 P P 07 42 09.3 +1.0
346A IAmb IAmb 07 42 12.0
comp=Z,34nm,0.7s
250A Grady 22.39 355 P P 07 42 10.4 +0.7
154A Montrose 22.96 2 P P 07 42 15.8 +0.3
152A Waverly Hall 23.00 359 P P 07 42 16.3 +0.3
152A IAmb IAmb 07 42 18.3
comp=Z,23nm,0.6s
HKT Hockley 23.04 333 P P 07 42 16.2 -0.2
VBMS Vicksburg 23.30 346 P P 07 42 20.3 +1.2
TEFE Tefe 23.38 123 *eP* P 07 42 20.4 +0.4
146A Union 23.40 350 P P 07 42 20.8 +0.7
MLDN Muldoon 23.46 331 P P 07 42 21.5 +0.8
MLDN IAmb IAmb 07 42 23.2
comp=Z,33nm,0.8s
LRAL Lakeview Retre 23.50 354 P P 07 42 22.3 +1.3
LRAL IAmb IAmb 07 42 23.6
comp=Z,40nm,0.8s
833A Chaparral WMA, 23.53 325 P P 07 42 21.4 0.0
833A IAmb IAmb 07 42 26.4
comp=Z,21nm,0.8s
GOGA Godfrey 23.74 1 P P 07 42 23.9 +0.6
GOGA IAmb IAmb 07 42 25.9
comp=Z,58nm,1.7s
Z47A Carrollton 23.80 352 P P 07 42 23.7 -0.1
143A Socs Landing, 23.98 345 P P 07 42 25.0 -0.5
143A IAmb IAmb 07 42 52.5
comp=Z,21nm,0.8s
Y52A Lilburn 24.18 0 P P 07 42 27.5 +0.1
Y52A IAmb IAmb 07 42 30.5
comp=Z,21nm,0.8s
Y49A Blount Mountai 24.27 355 P P 07 42 28.3 +0.1
Y49A IAmb IAmb 07 42 32.0
comp=Z,19nm,0.7s
HNDO Hondo 24.40 327 P P 07 42 30.9 +1.5
HNDO IAmb IAmb 07 42 34.0
comp=Z,19nm,0.7s
BOAV Boa Vista 24.54 105 P P 07 42 32.0 +1.1
BOAV IAmb IAmb 07 42 33.4
comp=Z,19nm,1.3s
435B Jarrell 24.54 331 P P 07 42 31.8 +1.1
HODGE Hodges 24.61 4 P P 07 42 31.4 +0.1
HODGE IAmb IAmb 07 42 43.6
comp=Z,22nm,0.9s
Y45A Yeager Farm, C 24.69 349 P P 07 42 32.0 0.0
X51A Calhoun 24.89 359 P P 07 42 33.8 0.0
X51A IAmb IAmb 07 42 48.7
comp=Z,21nm,0.8s
Z41A Richland Creek 24.89 343 P P 07 42 33.2 -0.7
FPAL Fort Paine 24.89 357 P P 07 42 35.0 +1.0
FPAL IAmb IAmb 07 42 36.9
comp=Z,17nm,0.6s
X48A Hartselle 24.91 354 P P 07 42 34.2 +0.1
X48A IAmb IAmb 07 42 37.3
comp=Z,13nm,0.8s
CCAR Cane Creek 25.23 345 P P 07 42 38.6 +1.7
WLAR White Oak Lake 25.38 342 P P 07 42 38.1 -0.2
W52A Murphy 25.41 0 P P 07 42 38.8 +0.2
W52A IAmb IAmb 07 42 41.2
comp=Z,16nm,0.9s
TREL Terrell 25.56 336 P P 07 42 41.2 +1.3
SWET Sewanee 25.58 357 P P 07 42 41.2 +1.1
X40A Basin Creek Fa 26.05 343 P P 07 42 44.8 +0.4
ETMB Extrema 26.26 137 P P 07 42 46.1 -0.3
ETMB IAmb IAmb 07 42 47.4
comp=Z,14nm,0.7s
ETMB Extrema 26.26 137 *eP* P 07 42 46.6 +0.2
MACA Manacapuru-AM 26.58 117 P P 07 42 50.1 +0.7
MACA Manacapuru-AM 26.58 117 *eP* P 07 42 50.6 +1.2
TXAR Lajitas Array 26.85 320 P P 07 42 51.4 -0.4
TXAR Lajitas Array 26.85 320 P P 07 42 50.6 -1.2
comp=Z,1.6nm,0.6s,baz=137,slow=8.7,SNR=15
TXAR PcP PcP **07 46 14.8 +0.9**
comp=Z,0.9nm,0.7s,baz=139,slow=5.9,SNR=5.8
TXAR LR LR 07 55 21.5
comp=Z,147nm,19.6s,baz=126,slow=41
comp=Z,1.6nm,0.6s
TX31 Lajitas Ar. Si 26.85 320 P P 07 42 51.4 -0.4
ALPN Alpine 27.55 321 P P 07 42 57.8 -0.3
PBMO Poplar Bluff 27.68 349 P P 07 42 57.8 -1.2
SAML Samuel 27.82 131 P P 07 42 59.6 -0.9
SAML Samuel 27.82 131 *eP* P 07 43 00.3 -0.2
CGM3 Cape Girardeau 28.05 351 P P 07 43 01.3 -1.1
CGM3 IAmb IAmb 07 43 03.7
comp=Z,10nm,0.8s
R50A Paris 28.59 360 P P 07 43 06.6 -0.6
R50A IAmb IAmb 07 43 21.4
comp=Z,10nm,0.9s
R49A Shelbyville 28.62 358 P P 07 43 06.8 -0.6
R49A IAmb IAmb 07 43 08.3
comp=Z,12nm,0.7s
LPIG La Paz 28.83 303 LR LR 07 55 36.8
comp=Z,241nm,18.9s,baz=113,slow=38
Q51A Peebles 29.34 1 P P 07 43 13.8 0.0
Q51A IAmb IAmb 07 43 27.6
comp=Z,20nm,1.1s
SMWD Samnorwood 29.37 332 P P 07 43 13.8 -0.3
SMWD IAmb IAmb 07 43 32.6
comp=Z,8.5nm,0.9s
P48A Milroy 29.79 358 P P 07 43 17.4 -0.4
P48A IAmb IAmb 07 43 18.3
comp=Z,11nm,0.9s
P52A Corning 30.00 3 P P 07 43 19.2 -0.4
P52A IAmb IAmb 07 43 35.5
comp=Z,16nm,1.1s
LPAZ La Paz 30.19 148 P P 07 43 22.6 +0.4
LPAZ La Paz 30.19 148 P P 07 43 22.2 +0.1
comp=Z,1.7nm,0.6s,baz=329,slow=7.7,SNR=12
comp=Z,1.7nm,0.6s
LPAZ La Paz 30.19 148 *eP* P 07 43 22.8 +0.7
LPAZ La Paz 30.19 148 P P 07 43 23.5 +1.4
LPAZ pP pP **07 43 33.5 +1.5**
O48B Farmland 30.58 358 P P 07 43 23.5 -1.2
O48B IAmb IAmb 07 43 25.3
comp=Z,13nm,0.9s
PB16 IPOC Station P 31.26 152 P P 07 43 32.8 +1.1
PB16 IAmb IAmb 07 43 34.4
comp=Z,7.8nm,0.8s
ITTB Itaituba 31.52 115 *eP* P 07 43 34.3 +1.0
RTBA Rita Blanca 31.63 331 P P 07 43 35.0 +0.8
ANMO Albuquerque 32.47 324 P P 07 43 41.4 -0.3
ANMO sP pP **07 43 53.7 +1.9**
ANMO PcP PcP **07 46 29.0 +0.7**
GO01 Chusmiza 32.57 153 P P 07 43 44.5 +1.5
GO01 IAmb IAmb 07 43 46.4
comp=Z,11nm,0.7s
VILB Vilhena 32.65 133 *eP* P 07 43 43.8 +0.6
NPGB Novo Progresso 33.09 119 *eP* P 07 43 47.4 +0.3
BBSD Serra de San D 35.33 139 *eP* P 07 44 06.5 0.0
K30B Basset 35.66 340 P P 07 44 08.3 -0.8
SRU San Rafael Swe 37.70 326 P P 07 44 27.1 +0.3
SALV Santo Antonio 37.87 132 *eP* P 07 44 28.3 +0.1
PMD Palm Desert 38.09 314 P P 07 44 31.3 +1.4
AC02 Maricunga 39.01 158 P P 07 44 40.4 +2.2
AC02 IAmb IAmb 07 44 44.7
comp=Z,25nm,1.6s
SNDB Serra Nova Dou 39.04 123 *eP* P 07 44 38.3 +0.2
PDAR Pinedale Array 39.85 330 P P 07 44 42.6 -2.2
comp=Z,0.7nm,0.7s,baz=132,slow=9.4,SNR=12
PDAR PcP **PcP 07 46 50.0 -0.3**
comp=Z,0.8nm,0.6s,baz=135,slow=5.5,SNR=5.4
comp=Z,0.7nm,0.7s
BDQN Bodoquena, MS 40.20 138 *eP* P 07 44 48.7 +1.1
MURT Porto Murtinho 40.52 140 *eP* P 07 44 50.1 -0.1
ARAG Araguaiana, MT 40.70 128 *eP* P 07 44 51.6 -0.1
AQDB Aquidauana 40.92 137 *eP* P 07 44 53.6 +0.1
ULM Lac du Bonnet 41.71 349 P P 07 44 56.2 -3.4
comp=Z,5.3nm,0.7s,baz=166,slow=7.0,SNR=13
ULM PcP **PcP 07 46 55.1 -0.6**
comp=Z,3.5nm,0.6s,baz=142,slow=5.7,SNR=5.4
comp=Z,5.3nm,0.7s
NVAR Mina Array Bea 41.99 319 P P 07 45 01.9 -0.6
comp=Z,1.9nm,0.6s,baz=130,slow=7.1,SNR=17
NVAR PcP **PcP 07 46 58.5 +1.1**
comp=Z,4.0nm,0.6s,baz=132,slow=4.2,SNR=16
comp=Z,1.9nm,0.6s
TICA Tres Isletas 42.55 148 *eP* P 07 45 08.6 +1.8
AMBA Amambai (Brazi 43.10 139 *eP* P 07 45 11.1 -0.3
BDFB Brasilia 43.68 125 P P 07 45 16.2 0.0
comp=Z,7.2nm,0.8s,baz=293,slow=7.8,SNR=10
comp=Z,7.2nm,0.8s
CPUP Villa Florida 44.19 144 P P 07 45 19.6 -0.4
comp=Z,1.2nm,0.5s,baz=322,slow=8.1,SNR=4.7
comp=Z,1.2nm,0.5s
SDBA SAO DESIDERIO 44.69 118 *eP* P 07 45 24.0 -0.3
PCMB Pacaembu 44.74 134 *eP* P 07 45 24.1 -0.4
IPMB Ipameri, GO 44.82 128 *eP* P 07 45 24.8 -0.5
CRSM Crissiumal (Br 46.99 142 *eP* P 07 45 41.3 -0.9
SCHQ Schefferville 47.20 14 P P 07 45 40.9 -2.6
comp=Z,4.7nm,0.7s,baz=225,slow=8.2,SNR=8.9
SCHQ PcP **PcP 07 47 13.1 -1.5**
comp=Z,5.2nm,0.6s,baz=184,slow=1.9,SNR=4.1
comp=Z,4.7nm,0.7s
FFC Flin Flon 47.22 346 P P 07 45 43.3 -0.3
UNIS Unistalda (Bra 47.56 145 *eP* P 07 45 47.4 +0.7
DIAM Diamantina, MG 48.60 125 *eP* P 07 45 54.8 -0.3
VAO Valinhos 48.71 132 *eP* P 07 45 55.4 -0.2
TBOT Tacuaremb 49.11 148 *eP* P 07 45 58.0 -0.4
CPSB Cacapava Do Su 49.50 145 *eP* P 07 46 00.2 -1.3
PLTB Pedras Altas 50.43 146 *eP* P 07 46 09.3 +0.7
PLCA Paso Flores 51.60 167 P P 07 46 18.2 +0.9
PLCA IAmb IAmb 07 46 30.1
comp=Z,16nm,1.1s
PLCA Paso Flores 51.60 167 P P 07 46 17.1 -0.2
comp=Z,7.2nm,0.6s,baz=336,slow=8.5,SNR=38
comp=Z,7.2nm,0.6s
PLCA Paso Flores 51.60 167 *eP* P 07 46 17.9 +0.6
PLCA Paso Flores 51.60 167 P P 07 46 17.8 +0.5
PLCA pP pP **07 46 27.7 +0.3**
RIB01 Linhares ES 51.79 124 *eP* P 07 46 19.0 0.0
YKA Yellowknife Ar 57.25 344 P P 07 46 54.8 -3.2
comp=Z,1.6nm,0.8s,baz=136,slow=6.8,SNR=26
comp=Z,1.6nm,0.8s
ILAR Eielson Array 69.95 336 P P 07 48 19.2 -2.6
comp=Z,1.6nm,0.7s,baz=116,slow=4.7,SNR=24
comp=Z,1.6nm,0.7s
RND Reindeer 70.30 334 P P 07 48 25.0 +1.0
RND IAmb IAmb 07 48 42.1
comp=Z,7.9nm,0.9s
EKA Eskdalemuir Ar 77.07 35 P P 07 49 01.9 -1.9
comp=Z,3.7nm,0.6s,baz=260,slow=5.5,SNR=9.9
comp=Z,3.7nm,0.6s
DOU Dourbes 81.94 41 *d*P P 07 49 29.6 -0.8
comp=Z,8.1nm,0.9s
BMRD Maredsous 82.03 40 *d*P P 07 49 30.3 -0.6
RCHB Rochefort 82.34 40 *d*P P 07 49 31.8 -0.7
comp=Z,12nm,0.8s
BCLA Clavier 82.36 40 *d*P P 07 49 32.3 -0.3
MEM Membach 82.79 40 *d*P P 07 49 34.0 -0.9
SPITS Spitsbergen Ar 82.85 12 P P 07 49 31.7 -3.0
comp=Z,6.5nm,0.9s,baz=247,slow=7.4,SNR=1.7
comp=Z,6.5nm,0.9s
WLF Walferdange 82.98 41 *d*P P 07 49 35.7 -0.2
NB2 NORSAR Subarra 84.30 29 P P 07 49 41.8 -0.7
comp=Z,0.5nm,0.6s,baz=280,slow=5.1
NOA NORSAR Array B 84.30 29 P P 07 49 40.9 -1.6
comp=Z,1.8nm,0.9s,baz=276,slow=5.0,SNR=4.3
comp=Z,1.8nm,0.9s
TUE Stuetta 85.54 44 P P 07 49 48.8 -0.5
HFS Hagfors 85.67 30 P P 07 49 46.7 -2.5
comp=Z,1.3nm,0.5s,baz=288,slow=4.7,SNR=5.4
comp=Z,1.3nm,0.5s
DAVA Damuels 85.77 43 *i* P P 07 49 49.9 -0.4
comp=Z,14nm,0.8s
RETA Reutte 86.33 43 *eP* P 07 49 51.1 -1.9
comp=Z,7.3nm,0.9s
FETA Feichten 86.39 43 *eP* P 07 49 53.0 -0.4
comp=Z,7.8nm,0.9s
WTTA Wattenberg 86.95 43 PcP P 07 49 57.9 +1.7
comp=Z,3.7nm,0.7s
CLL Collm 87.05 39 *eP* P 07 49 56.0 -0.3
comp=Z,9.0nm,0.8s
CLL epP **pP 07 50 07.0 -0.3**
ABTA Abfaltersbach 87.64 43 *i* P P 07 49 58.8 -0.6
comp=Z,5.0nm,0.7s
CIMO Cimolais 87.67 44 P P 07 49 59.0 -0.5
CIMO IAmb IAmb 07 50 24.0
comp=Z,79nm,1.7s
ARCES ARCESS Array B 87.83 19 P P 07 49 58.1 -1.5
comp=Z,5.7nm,0.9s,baz=285,slow=4.6,SNR=2.0

comp=Z,5.7nm,0.9s
GERES GERESS Array B 88.00 41 P **P** 07 50 00.1 -0.9
comp=Z,1.3nm,0.6s,baz=304,slow=2.4,SNR=7.8
comp=Z,1.3nm,0.6s
KBA Koelnbreinsper 88.13 43 *eP* **P** 07 50 02.6 +0.8
comp=Z,21nm,1.5s
MYKA Terra Mystica 88.42 43 *eP* **P** 07 50 03.7 +0.6
comp=Z,11nm,1.0s
SOKA Soboth 89.35 43 *eP* **P** 07 50 06.2 -1.3
comp=Z,14nm,1.8s
FINES FINESS Array B 91.09 27 P **P** 07 50 13.4 -1.7
comp=Z,2.2nm,0.8s,baz=301,slow=6.0,SNR=5.2
comp=Z,2.2nm,0.8s
KURBB Kurchatov Arra 118.19 12 PKP **PKPdf** 07 55 56.2 -1.6
comp=Z,0.8nm,0.7s,baz=342,slow=2.2,SNR=12
SONM Songino Array 122.09 352 PKP **PKPdf** 07 56 03.4 -2.2
comp=Z,0.6nm,0.6s,baz=352,slow=2.9,SNR=4.2
MKAR Makanchi Array 122.60 11 PKP **PKPdf** 07 56 04.0 -2.5
comp=Z,0.7nm,0.7s,baz=355,slow=1.9,SNR=6.1
KSRS Korea Array 124.41 329 PKP **PKPdf** 07 56 09.3 -0.8
comp=Z,1.9nm,0.6s,baz=10.0,slow=1.7,SNR=9.8
AAK Ala-Archa 124.50 19 PKP **PKPdf** 07 56 09.9 -0.5
comp=Z,2.0nm,0.3s,baz=291,slow=11,SNR=9.5
WMQ Urumqi 126.35 7 *eP* **PKiKP** 07 56 15.1 +0.8
WMQ LR LR
comp=N,600nm,13.3s
WMQ LR LR
comp=E,810nm,16.7s
WMQ LR LR
comp=Z,890nm,19.1s
HHC Hu-ho-hao-te 127.78 345 *eP* **PKPdf** 07 56 15.3 -1.4
HHC LR LR
comp=N,270nm,20.6s
HHC LR LR
comp=E,310nm,18.3s
HHC LR LR
comp=Z,510nm,19.1s
STKA Stephens Creek 132.25 235 PKP **PKPdf** 07 56 23.7 -1.6
comp=Z,0.8nm,0.5s,baz=78,slow=4.3,SNR=6.7
NJ2 Nanjing 133.14 333 *eP* **PKiKP** 07 56 28.1 0.0
NJ2 pmax pmax
comp=Z,11nm,0.6s
GOMU GeErMu 134.47 1 SS SS 08 16 57.6 +9.0
GOMU AMB AMB
comp=Z,160nm,5.1s
GOMU LR LR
comp=N,480nm,19.2s
GOMU LR LR
comp=E,320nm,17.2s
GOMU LR LR
comp=Z,790nm,18.2s
ASAR Alice Springs 141.08 244 PKhKP PKPpre 07 56 35.5
comp=Z,1.7nm,0.6s,baz=109,slow=1.8,SNR=13
ASAR PKP **PKPdf** 07 56 41.6 -0.2
comp=Z,1.7nm,0.6s,baz=100,slow=2.4,SNR=12
WRA Warramunga Arr 141.47 250 PKhKP PKPpre 07 56 36.8
comp=Z,1.7nm,0.6s,baz=102,slow=2.4,SNR=24
WRA PKP **PKPdf** 07 56 42.2 -0.4
comp=Z,1.6nm,0.6s,baz=95,slow=1.8,SNR=7.6
PZH PanZhiHua 143.69 351 PKP PKPbc 07 56 45.3 +1.3
CMAR Chiang Mai Arr 151.99 354 PKP **PKPdf** 07 56 59.4 -0.8
comp=Z,1.7nm,0.5s,baz=294,slow=2.4,SNR=6.7
CMAR PKPbc **PKPbc** 07 57 06.5 -0.3
comp=Z,0.8nm,0.3s,baz=333,slow=3.0,SNR=5.7

IDC 23 07:38:16.6±8.0, 16°19S×175°71W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=351.5km s-min=37.1km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.50**	**258**	P		P		07 46 52.8	-1.1
	0.4nm,0.5s,baz=95,slow=8.5,SNR=7.4								
	0.4nm,0.5s								
ASAR	**Alice Springs**	**47.76**	**253**	P		P		07 46 56.6	+0.7
	3.8nm,0.4s,baz=86,slow=8.2,SNR=147								
	3.8nm,0.4s								
ILAR	**Eielson Array**	**83.66**	**12**	P		P		07 50 46.7	0.0
	0.6nm,0.9s,baz=221,slow=6.1,SNR=5.2								
	0.6nm,0.9s								

*MOS **23** 07:40:26.6±0.9, 12°.70N×44°.62W, h13km, mb5.5/50, MS4.8/11, Error ellipse: s-maj=9.7km s-min=4.9km az=50.6*
*BGR **23** 07:40:26.2, 12°.17N×44°.43W, h12km, mb5.1, Ms5.2*
*IDC **23** 07:40:26.1±0.4, 12°.72N×44°.59W, h0km, mb4.9/38, mbtmp4.9/40, ML5.1/2, MS4.8/71, Error ellipse: s-maj=12.4km s-min=9.3km az=137.0*
*NEIC **23** 07:40:29, 12°.65N×44°.57W, h18km*
*NEIC **23** 07:40:29.0±1.4, 12°.65N±0°.05×44°.57W±0°.08, h10km±1km, mb5.3/156, Ms_20 5.1/214, Mwb5.5/32, Mww5.6/22, Error ellipse: s-maj=14.1km s-min=8.3km az=104.0, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr0.07; Mθθ-0.43; Mφφ0.36; Mrθ-0.17; Mθφ-2.34; Mφr-0.13; Fault plane solution: M0 2.38000×10^17^ NP1:φs94.91000°, δ86.68000°, λ-176.39000°. NP2:φs4.70000°, δ86.40000°, λ-3.33000°. Principal axes: T 2.3364, Plg0.0000°, Azm230.0000°; N 0.0898, Plg85.0000°, Azm137.0000°; P -2.4262, Plg5.0000°, Azm320.0000°;*
*NEIC **23** 07:40:29, 12°.65N×44°.77W, h18km, Moment Tensor Solution. Duration: 3±2 Moment tensor: Scale 10^17^Nm; Mrr-0.69; Mθθ0.02; Mφφ0.67; Mrθ1.29; Mθφ-2.22; Mφr0.67; Fault plane solution: M0 2.73000×10^17^ NP1: φs278.94000°, δ72.02000°, λ-150.17000°. NP2: φs178.90000°, δ61.76000°, λ-20.51000°. Principal axes: T 2.6255, Plg7.0000°, Azm47.0000°; N 0.2097, Plg56.0000°, Azm307.0000°; P -2.8352, Plg34.0000°, Azm142.0000°;*
*NEIC **23** 07:40:29, 12°.62N×44°.56W, h10km*
*GCMT **23** 07:40:32.0±0.1, 12°.70N±0°.01×44°.46W±0°.01, h16km, MW5.6/149, Moment Tensor Solution. s125,c211; s149,c307; Duration: 1±5 Moment tensor: Scale 10^17^ Nm; Mrr-0.43±.03; Mθθ-0.54±.03; Mφφ0.97±.03; Mrθ0.12±.10; Mθφ-2.80±.03; Mφr0.35±.10; Best double couple: M0 2.92800×10^17^ NP1:φs187.00000°, δ87.00000°, λ-8.00000°. NP2:φs278.00000°, δ82.00000°, λ-177.00000°. Principal axes: T 3.1300, Plg3.0000°, Azm233.0000°; N -0.4040, Plg82.0000°, Azm346.0000°; P -2.7260, Plg8.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 23 07:40:28.1±0.2, 12°.63N±0°.04×44°.63W±0°.04, h10km, h10km:pP-P,n1050,c1s20/929,mb5.3/228,MS5.0/194, 26C-29D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**10.89**	**227**	Pn		**Pn**		**07 43 04.8**	**+0.6**
	71nm,0.3s,baz=36,slow=12,SNR=572								
MDP				Sn		**Sn**		**07 44 57.8**	**-8.5**
	3.7nm,0.3s,baz=94,slow=16,SNR=1.8								
MDP				LR		LR		07 46 41.0	
	comp=Z,10μm,20.5s,baz=12,slow=34								
	141nm,0.3s								
BBGH	**Gun Hill**	**14.57**	**274**	Pn		**Pn**		**07 43 54.6**	**+0.1**
H05S1	**Guadeloupe/Mar**	**15.86**	**278**	Pn		**Pn**		**07 44 11.2**	**-0.5**
H05S1				T		T		08 00 44.0	
	SNR=302								
MPOM	**Morne Pois Mar**	**15.88**	**278**			**Pn**		**07 44 12.3**	**+0.3**
MPOM				IAmb		IAmb		07 44 18.7	
	comp=Z,235nm,1.2s								
MPOM	**Morne Pois Mar**	**15.88**	**278**	*eP*		**P**		**07 44 13.8**	**-1.9**
ILAM	**Ilet Lapin Mar**	**15.93**	**280**	Pn		**Pn**		**07 44 12.9**	**+0.4**
ILAM				IAmb		IAmb		07 44 15.4	
	comp=Z,268nm,1.0s								
ILAM	**Ilet Lapin Mar**	**15.93**	**280**	*eP*		**Pn**		**07 44 12.6**	**+0.1**
SLBI	**Saint Lucia, B**	**15.97**	**277**	*eP*		**Pn**		**07 44 13.3**	**+0.3**
BIM	**Bigot**	**16.09**	**279**			**Pn**		**07 44 15.9**	**+1.2**
BIM	**Bigot**	**16.09**	**279**	*eP*		**Pn**		**07 44 15.1**	**+0.4**
SVOC	**Richmond Hill,**	**16.19**	**274**	*eP*		**P**		**07 44 18.1**	**-1.0**
FDF	**Fort de France**	**16.19**	**279**			**Pn**		**07 44 16.5**	**+0.5**
FDF				IAmb		IAmb		07 44 23.9	
	comp=Z,175nm,0.6s								
FDF	**Fort de France**	**16.19**	**279**	P		**Pn**		**07 44 16.5**	**+0.5**
FDF				pmax		pmax			
	comp=Z,175nm,0.6s								
SVT	**Saint Vincent**	**16.21**	**274**	*eP*		**P**		**07 44 18.3**	**-1.0**
SVB	**Belmont**	**16.22**	**274**	*eP*		**P**		**07 44 18.7**	**-0.7**
SVB				*eT*		T		08 04 15.0	
SVN	**Savane Anatole**	**16.22**	**280**			**Pn**		**07 44 17.7**	**+1.3**
SVN	**Savane Anatole**	**16.22**	**280**	*eP*		**Pn**		**07 44 16.0**	**-0.3**
H05N1	**Guadeloupe/Mar**	**16.32**	**285**	Pn		**Pn**		**07 44 14.6**	**-3.0**
H05N1				T		T		08 01 17.7	
	SNR=51								
GDSD	**La Dsirade Is**	**16.33**	**285**	Pn		**Pn**		**07 44 18.3**	**+0.6**
GRGR	**Grenville**	**16.64**	**270**	Pn		**P**		**07 44 23.2**	**-0.9**
GRGR				IAmb		IAmb		07 44 27.5	
	comp=Z,523nm,1.6s								
GRGR	**Grenville**	**16.64**	**270**	*eP*		**Pn**		**07 44 19.1**	**-2.6**
ABD	**La Joyeuse, An**	**16.76**	**285**	*eP*		**P**		**07 44 26.8**	**+1.4**
CBE	**Ff, Capester**	**16.80**	**284**			**P**		**07 44 24.9**	**-1.0**
CBE				IAmb		IAmb		07 44 32.4	
	comp=Z,298nm,1.1s								
CBE	**Ff, Capester**	**16.80**	**284**	*eP*		**P**		**07 44 25.5**	**-0.4**
GDHS	**Morne Mazeau,**	**16.98**	**284**	Pn		**Pn**		**07 44 26.7**	**+0.6**
GDHS				IAmb		IAmb		07 44 31.2	
	comp=Z,294nm,1.4s								
ANBD	**Bethesda, Anti**	**17.14**	**287**	*eP*		**Pn**		**07 44 22.9**	**-5.0**
MBFL	**Flemmings, Mon**	**17.49**	**286**	*eP*		Pn		07 44 20.7	-12
MBFL				⇓*eT*		T		08 04 04.0	
NBCL	**Cascavel-CE**	**17.89**	**159**	*eP*		**P**		**07 44 37.7**	**-0.3**
SABA	**Saba**	**18.64**	**288**	P		**Pn**		**07 44 47.2**	**+0.7**
BOAV	**Boa Vista**	**18.74**	**238**	P		**Pn**		**07 44 48.5**	**+0.8**
NBPB	**Pedra_Branca-C**	**18.74**	**164**	*eP*		**Pn**		**07 44 48.3**	**+0.6**
PCRV	**Puerto La Cruz**	**19.77**	**265**	P		**P**		**07 44 57.7**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=76,slow=2.8,SNR=4.2								
	comp=Z,28nm,0.9s								
ITTB	**Itaituba**	**20.18**	**214**	*eP*		**P**		**07 45 03.8**	**+0.8**
RCBR	**Riachuelo**	**20.29**	**154**	P		**P**		**07 45 04.3**	**0.0**
RCBR	**Riachuelo**	**20.29**	**154**	P		**P**		**07 45 04.3**	**0.0**
RCBR				pmax		pmax			
	comp=Z,86nm,1.1s								
RCBR	**Riachuelo**	**20.29**	**154**	P		**P**		**07 45 04.8**	**+0.6**
	comp=Z,31nm,0.9s,baz=336,slow=15,SNR=13								
RCBR				LR		LR		07 50 58.4	
	comp=Z,2μm,20.6s,baz=338,slow=31								
	comp=Z,31nm,0.9s								
RCBR	**Riachuelo**	**20.29**	**154**	*eP*		Pn		07 45 05.8	-0.4
SACV	**Santiago Islan**	**20.54**	**81**	P		**P**		**07 45 07.0**	**-0.1**
HUMP	**Col San Antoni**	**21.17**	**288**	P		**P**		**07 45 14.7**	**+0.9**
HUMP				IAmb		IAmb		07 45 17.3	
	comp=Z,230nm,1.3s								
NBLV	**Livramento - P**	**21.29**	**159**	*eP*		**P**		**07 45 16.0**	**+0.9**
IGPR	**InterUniversit**	**21.38**	**287**	P		**P**		**07 45 16.8**	**+0.8**
IGPR				IAmb		IAmb		07 45 25.3	
	comp=Z,105nm,1.1s								
CELP	**Cerrillos**	**21.84**	**287**	P		**P**		**07 45 21.9**	**+0.9**
CELP				IAmb		IAmb		07 45 30.1	
	comp=Z,96nm,1.1s								
OBIP	**Obispado Ponce**	**21.86**	**287**	P		**P**		**07 45 21.4**	**+0.2**
OBIP				IAmb		IAmb		07 45 28.9	
	comp=Z,114nm,1.0s								
AOPR	**Arecibo Observ**	**22.06**	**288**	P		**P**		**07 45 23.8**	**+0.4**
AOPR				IAmb		IAmb		07 45 35.3	
	comp=Z,145nm,1.3s								
MLPR	**Magueyes Islan**	**22.25**	**287**	P		**P**		**07 45 25.6**	**+0.2**
NPGB	**Novo Progresso**	**22.27**	**209**	*eP*		**P**		**07 45 25.6**	**0.0**
MACA	**Manacapuru-AM**	**22.38**	**227**	P		**P**		**07 45 27.8**	**+1.0**
MACA	**Manacapuru-AM**	**22.38**	**227**	*eP*		**P**		**07 45 28.0**	**+1.2**
NBCA	**Caruaru-PE**	**22.42**	**157**	*eP*		**P**		**07 45 28.0**	**+0.7**
BAUV	**El Baul**	**23.29**	**263**	P		**P**		**07 45 37.3**	**+1.0**
NBAN	**Anadia - AL**	**23.66**	**159**	*eP*		**P**		**07 45 40.8**	**+0.8**
NBLA	**Lagarto - SE**	**24.43**	**164**	*eP*		**P**		**07 45 47.4**	**+0.1**
SDBA	**SAO DESIDERIO**	**24.88**	**181**	*eP*		**P**		**07 45 52.5**	**+1.2**
SNDB	**Serra Nova Dou**	**25.33**	**195**	*eP*		**P**		**07 45 55.9**	**+0.6**
TEFE	**Tefe**	**25.54**	**232**	*eP*		**P**		**07 45 59.5**	**+2.2**
SDV	**Santo Domingo**	**25.81**	**264**	P		**P**		**07 46 00.3**	**+0.3**
SDV				IAmb		IAmb		07 46 02.0	
	comp=Z,50nm,0.9s								
SDV	**Santo Domingo**	**25.81**	**264**	P		**P**		**07 45 59.3**	**-0.8**
	comp=Z,47nm,0.8s,baz=71,slow=6.9,SNR=8.8								
SDV				LR		LR		07 55 14.1	
	comp=Z,958nm,21.4s,baz=72,slow=34								
	comp=Z,47nm,0.8s								
SDV	**Santo Domingo**	**25.81**	**264**	*eP*		**P**		**07 46 01.1**	**+1.1**
CLDB	**Colider**	**25.85**	**206**	*eP*		**P**		**07 46 01.7**	**+1.6**
SDDR	**Presa de Saban**	**26.40**	**287**	P		**P**		**07 46 06.0**	**+0.8**
SDDR				IAmb		IAmb		07 46 11.9	
	comp=Z,81nm,1.2s								
PDRB	**Porto dos Gac**	**26.92**	**207**	*eP*		**P**		**07 46 11.2**	**+1.5**
MBO	**M'Bour**	**26.96**	**83**	P		**P**		**07 46 09.1**	**-1.0**
JANB	**Januaria**	**27.52**	**179**	*eP*		**P**		**07 46 15.9**	**+0.8**
SAML	**Samuel**	**28.28**	**222**	P		**P**		**07 46 22.6**	**+0.6**
SAML				IAmb		IAmb		07 46 27.2	
	comp=Z,62nm,1.1s								
SAML	**Samuel**	**28.28**	**222**	IAMs_20		IAMs_20		07 57 01.4	
	comp=Z,5μm,21.0s								
SAML	**Samuel**	**28.28**	**222**	P		**P**		**07 46 22.6**	**+0.6**
SAML				pmax		pmax			
	comp=Z,62nm,1.1s								
SAML				MLR		MLR			
	comp=Z,5μm,21.0s								
SAML	**Samuel**	**28.28**	**222**	*eP*		**P**		**07 46 23.6**	**+1.6**
BDFB	**Brasilia**	**28.29**	**187**	P		**P**		**07 46 22.7**	**+0.6**
BDFB				IAmb		IAmb		07 46 32.9	
	comp=Z,56nm,1.1s								
BDFB	**Brasilia**	**28.29**	**187**	P		**P**		**07 46 22.7**	**+0.6**
BDFB				pmax		pmax			
	comp=Z,56nm,1.1s								
BDFB	**Brasilia**	**28.29**	**187**	P		**P**		**07 46 23.0**	**+0.9**
	comp=Z,20nm,0.9s,baz=6.9,slow=7.3,SNR=12								
BDFB				LR		LR		07 56 55.7	
	comp=Z,2μm,18.7s,baz=4.3,slow=35								
	comp=Z,20nm,0.9s								
ARAG	**Araguaiana, MT**	**29.04**	**194**	*eP*		**P**		**07 46 30.4**	**+1.7**
VILB	**Vilhena**	**29.75**	**212**	P		**P**		**07 46 36.6**	**+1.6**
VILB				IAmb		IAmb		07 47 29.1	
	comp=Z,92nm,1.4s								
VILB	**Vilhena**	**29.75**	**212**	*eP*		**P**		**07 46 37.8**	**+2.8**
PSMA	**Santa Maria**	**29.90**	**32**	*eT*		T		08 17 15.6	
PSMN	**Pico do Norte,**	**29.94**	**32**	*eT*		T		08 17 14.9	
TBTG	**Tabatinga, AM**	**30.17**	**238**	P		**P**		**07 46 38.7**	**-0.1**
TBTG				IAmb		IAmb		07 47 21.7	
	comp=Z,65nm,1.2s								
TBTG	**Tabatinga, AM**	**30.17**	**238**	*eP*		**P**		**07 46 40.3**	**+1.5**
ROSC	**El Rosal**	**30.33**	**258**	P		**P**		**07 46 41.6**	**+0.9**
ROSC	**El Rosal**	**30.33**	**258**	P		**P**		**07 46 41.6**	**+0.9**
ROSC				pmax		pmax			
	comp=Z,52nm,0.6s								
ROSC	**El Rosal**	**30.33**	**258**	P		**P**		**07 46 41.5**	**+0.9**
	comp=Z,40nm,0.5s,baz=102,slow=4.4,SNR=18								
ROSC				LR		LR		07 59 53.7	
	comp=Z,1μm,19.3s,baz=106,slow=38								
	comp=Z,40nm,0.5s								
SALV	**Santo Antonio**	**30.39**	**201**	*eP*		**P**		**07 46 42.3**	**+1.6**
IPMB	**Ipameri, GO**	**30.63**	**187**	*eP*		**P**		**07 46 45.1**	**+2.3**
DIAM	**Diamantina, MG**	**30.75**	**178**	*eP*		**P**		**07 46 46.7**	**+2.7**
ETMB	**Extrema**	**30.94**	**225**	P		**P**		**07 46 45.9**	**+0.3**
ETMB				IAmb		IAmb		07 46 49.0	
	comp=Z,72nm,1.1s								
ETMB	**Extrema**	**30.94**	**225**	*eP*		**P**		**07 46 46.2**	**+0.6**
PMNB	**Patos De Minas**	**31.02**	**183**	*eP*		**P**		**07 46 47.9**	**+1.5**
SJMB	**Sao Joao De Ma**	**31.32**	**174**	*eP*		**P**		**07 46 50.1**	**+1.2**
PTLB	**Pontes e Lacer**	**31.38**	**208**	P		**P**		**07 46 50.0**	**+0.6**
PTLB	**Pontes e Lacer**	**31.38**	**208**	*eP*		**P**		**07 46 51.0**	**+1.7**
RIB01	**Linhares ES**	**32.02**	**172**	*eP*		**P**		**07 46 58.1**	**+3.1**
PMOZ	**Porto Moniz, M**	**32.14**	**47**	*eP*		**P**		**07 46 56.3**	**+0.2**
	comp=Z,169nm,1.1s								
PMOZ				*e*LQ		LQ		07 53 43.7	
PMOZ				*e*LR		LR		07 54 43.8	
	comp=Z,1μm,20.0s								
PMOZ	**Porto Moniz, M**	**32.14**	**47**	P		**P**		**07 46 55.9**	**-0.2**
PMAR	**Madeira**	**32.29**	**47**	*eP*		**P**		**07 46 57.6**	**+0.1**
ITRB	**Iturama**	**32.63**	**190**	*eP*		**P**		**07 47 01.0**	**+0.7**
SIV	**San Ignacio**	**32.77**	**210**	LR		LR		08 00 38.9	
	comp=Z,3μm,19.7s,baz=58,slow=37								
BSCB	**Bom Sucesso**	**33.42**	**180**	*eP*		**P**		**07 47 07.6**	**+0.2**
BBSD	**Serra de San D**	**33.58**	**208**	*eP*		**P**		**07 47 10.2**	**+1.6**
BB19B	**Bebedouro**	**33.71**	**187**	*eP*		**P**		**07 47 12.1**	**+2.3**
CZSB	**Cruzeiro do Su**	**34.47**	**236**	P		**P**		**07 47 16.2**	**-0.3**
CZSB	**Cruzeiro do Su**	**34.47**	**236**	*eP*		**P**		**07 47 16.8**	**+0.3**
PCMB	**Pacaembu**	**34.65**	**191**	*eP*		**P**		**07 47 20.1**	**+2.2**
AQDB	**Aquidauana**	**34.66**	**198**	P		**P**		**07 47 19.5**	**+1.5**
AQDB				IAmb		IAmb		07 47 24.6	
	comp=Z,52nm,1.0s								
AQDB	**Aquidauana**	**34.66**	**198**	*eP*		**P**		**07 47 19.6**	**+1.6**
VAS01	**Vassouras-RJ**	**34.72**	**178**	*eP*		**P**		**07 47 19.7**	**+1.2**
TULM	**Tulcn-Chalpat**	**34.94**	**253**	P		**P**		**07 47 22.0**	**+0.8**
TULM				IAmb		IAmb		07 47 43.2	
	comp=Z,60nm,1.1s								
RCLB	**Rio Claro- Sao**	**34.95**	**185**	*eP*		**P**		**07 47 22.6**	**+2.1**
BDQN	**Bodoquena, MS**	**34.97**	**200**	*eP*		**P**		**07 47 22.3**	**+1.6**
IMBA	**Imbabura, San**	**35.48**	**252**	P		**P**		**07 47 27.3**	**+1.5**
VAO	**Valinhos**	**35.49**	**184**	*eP*		**P**		**07 47 27.6**	**+2.4**
PARB	**Paraibuna**	**35.76**	**182**	*eP*		**P**		**07 47 27.5**	**-0.1**
PULU	**Pululahua**	**35.86**	**252**	P		**P**		**07 47 29.0**	**+0.1**
TRCB	**Terra Rica**	**36.07**	**193**	P		**P**		**07 47 31.2**	**+1.0**
TRCB				IAmb		IAmb		07 47 36.2	
	comp=Z,63nm,1.1s								
TRCB	**Terra Rica**	**36.07**	**193**	*eP*		**P**		**07 47 31.8**	**+1.6**
FRTB	**Fartura**	**36.08**	**188**	*eP*		**P**		**07 47 31.9**	**+1.7**
SPB	**Sao Paulo**	**36.11**	**184**	P		**P**		**07 47 31.1**	**+0.7**
SPB				IAmb		IAmb		07 47 46.6	
	comp=Z,49nm,1.1s								
SPB				IAMs_20		IAMs_20		08 01 10.7	
	comp=Z,3μm,19.0s								
SPB	**Sao Paulo**	**36.11**	**184**	*eP*		**P**		**07 47 31.6**	**+1.2**
SLOR	**San Lorenzo -**	**36.13**	**251**	P		**P**		**07 47 32.8**	**+1.4**
ANTJ	**Antonio Joao (**	**36.18**	**198**	*eP*		**P**		**07 47 32.2**	**+1.1**
H10N3	**ASCENSION HYDR**	**36.20**	**123**	T		T		08 25 27.4	
	baz=304,slow=75,SNR=1628								
H10N2	**ASCENSION HYDR**	**36.20**	**123**	T		T		08 25 37.5	
	baz=304,slow=75,SNR=1827								
H10N1	**ASCENSION HYDR**	**36.22**	**123**	T		T		08 25 38.7	
	baz=304,slow=75,SNR=2199								
ASCN	**Ascension**	**36.36**	**123**	P		**P**		**07 47 34.2**	**+1.4**
LDASE	**Londrina, Braz**	**36.37**	**190**	*eP*		**P**		**07 47 33.7**	**+1.0**
MURT	**Porto Murtinho**	**36.38**	**201**	*eP*		**P**		**07 47 34.6**	**+1.8**
H10S3	**ASCENSION HYDR**	**36.69**	**124**	T		T		08 26 13.2	
	baz=278,slow=74,SNR=753								
H10S2	**ASCENSION HYDR**	**36.71**	**124**	T		T		08 26 08.9	
	baz=302,slow=74,SNR=354								
AMBA	**Amambai (Brazi**	**36.77**	**196**	*eP*		**P**		**07 47 38.3**	**+2.2**
CHSH	**Refugio Sur-Vo**	**36.77**	**250**	P		**P**		**07 47 37.3**	**+0.3**
PET01	**Itanhaem-SP**	**36.79**	**184**	*eP*		**P**		**07 47 38.0**	**+1.8**
LPAZ	**La Paz**	**36.96**	**220**	P		**P**		**07 47 38.9**	**+0.4**
LPAZ				IAmb		IAmb		07 47 43.8	
	comp=Z,68nm,1.1s								
LPAZ	**La Paz**	**36.96**	**220**	P		**P**		**07 47 38.9**	**+0.4**
LPAZ				pmax		pmax			
	comp=Z,68nm,1.1s								
LPAZ	**La Paz**	**36.96**	**220**	P		**P**		**07 47 39.0**	**+0.5**
	comp=Z,41nm,0.9s,baz=27,slow=7.7,SNR=53								
LPAZ				PP		**PnPn**		**07 49 05.3**	**+2.5**
	comp=Z,25nm,1.0s,baz=41,slow=9.1,SNR=4.2								
LPAZ				LR		LR		08 03 00.2	
	comp=Z,4μm,19.6s,baz=53,slow=36								
	comp=Z,41nm,0.9s								
LPAZ	**La Paz**	**36.96**	**220**	*eP*		**P**		**07 47 39.3**	**+0.8**
GGN	**Saint George**	**37.51**	**334**	P		**P**		**07 47 43.6**	**+1.5**
GGN				IAmb		IAmb		07 47 44.4	
	comp=Z,78nm,1.1s								
COHC	**Cochancay**	**37.52**	**249**	P		**P**		**07 47 42.1**	**-0.6**
BRU2	**Volcan**	**37.57**	**268**	P		**P**		**07 47 44.5**	**+1.2**
DWPF	**Disney Wildern**	**37.60**	**300**	P		**P**		**07 47 44.0**	**+0.8**
DWPF	**Disney Wildern**	**37.60**	**300**	P		**P**		**07 47 44.4**	**+1.1**
	baz=107								
PTGB	**Pitanga**	**37.83**	**191**	*eP*		**P**		**07 47 46.6**	**+1.5**
HRV	**Adam Dziewonsk**	**37.83**	**327**	P		**P**		**07 47 46.6**	**+1.6**
	baz=134								
DRK0	**Durika**	**38.04**	**269**	P		**P**		**07 47 48.0**	**+0.7**
PAL	**Palisades**	**38.15**	**323**	P		**P**		**07 47 49.3**	**+1.6**
	baz=129								
SRBA	**San Rafael, Bu**	**38.16**	**269**	P		**P**		**07 47 48.8**	**+0.6**
L61B	**Northampton**	**38.40**	**326**	P		**P**		**07 47 51.0**	**+1.2**
	baz=132								
RIMA	**Rio Macho**	**38.57**	**270**	P		**P**		**07 47 53.5**	**+1.8**
RIMA				IAmb		IAmb		07 47 55.6	
	comp=Z,97nm,1.4s								
ARNL	**Arenillas**	**38.70**	**248**	P		**P**		**07 47 52.6**	**0.0**
ARNL				IAmb		IAmb		07 47 54.4	
	comp=Z,55nm,0.8s								
PKME	**Peaks-Kenny Pk**	**38.71**	**332**	P		**P**		**07 47 53.2**	**+0.9**
PKME				IAmb		IAmb		07 47 54.0	
	comp=Z,64nm,1.1s								
PKME	**Peaks-Kenny Pk**	**38.71**	**332**	P		**P**		**07 47 53.4**	**+1.1**
	baz=139								
LCR2	**La Lucha 2**	**38.71**	**270**	P		**P**		**07 47 54.0**	**+1.1**
ATAH	**Atahualpa**	**38.88**	**241**	P		**P**		**07 47 55.3**	**+0.6**
	comp=Z,48nm,0.9s,baz=70,slow=6.2,SNR=22								
ATAH				LR		LR		08 03 54.2	
	comp=Z,5μm,21.9s,baz=58,slow=36								
	comp=Z,48nm,0.9s								
BATG	**Bathurst New B**	**38.94**	**337**	P		**P**		**07 47 55.1**	**+0.9**
J61A	**Chester**	**38.94**	**327**	P		**P**		**07 47 55.2**	**+0.9**
MCRA	**Macar, Loja**	**38.96**	**247**	P		**P**		**07 47 55.3**	**+0.4**
COVE	**Cooper Vega, Sa**	**38.97**	**271**	P		**P**		**07 47 56.1**	**+1.2**
COVE

comp=Z,151nm,1.6s
PB08 IPOC Station P 40.54 217 P **P** **07 48 07.4 -0.9**
PB11 IPOC Station P 40.54 218 P **P** **07 48 07.0 -1.0**
CPUP Villa Florida 40.65 198 P **P** **07 48 08.9 +0.3**
CPUP Villa Florida 40.65 198 P **P** **07 48 08.9 +0.3**
CPUP pmax pmax
comp=Z,23nm,0.9s
CPUP Villa Florida 40.65 198 P **P** **07 48 08.3 -0.3**
CPUP LR LR 08 04 48.2
comp=Z,21nm,0.8s,baz=25,slow=7.5,SNR=40
comp=Z,1µm,18.3s,baz=27,slow=36
comp=Z,21nm,0.8s
CPUP Villa Florida 40.65 198 *e*P **P** **07 48 08.7 0.0**
LIS Lisbon 40.78 44 *e*P **P** **07 48 09.9 +0.2**
LIS *e*S **S** **07 54 21.6 +1.0**
LIS IAMs_20 IAMs_20 08 00 03.7
comp=Z,4µm,29.1s
LIS Lisbon 40.78 44 *e*P **P** **07 48 09.8 +0.2**
LIS *e*S **S** **07 54 21.5 +1.0**
PMAFR Mafra 40.81 44 *e*P **P** **07 48 08.5 -1.4**
LONY Lake Ozonia 40.88 327 P **P** **07 48 12.2 +1.8**
baz=132
PNCL Nicolau / Gran 40.91 45 *e*P **P** **07 48 11.1 +0.3**
comp=Z,52nm,1.3s
CRSM Crissiumal (Br 40.92 193 *e*P **P** **07 48 12.3 +1.4**
PBDV Barranco-do-Ve 40.93 47 *e*P **P** **07 48 11.3 +0.4**
comp=Z,71nm,2.0s
PBDV Barranco-do-Ve 40.93 47 *e*PP PP 07 49 45.4 +0.1
GOGA Godfrey 40.97 307 P **P** **07 48 12.7 +1.4**
baz=111
MESJ Messejana 41.00 46 *e*P **P** **07 48 12.0 +0.5**
comp=Z,110nm,1.6s
MESJ Messejana 41.00 46 *e*PP PP 07 49 50.3 +4.2
MESJ Messejana 41.00 46 P **P** **07 48 10.4 -1.1**
MESJ IAmb IAmb 07 48 13.1
comp=Z,100nm,1.2s
MESJ Messejana 41.00 46 *e*P **P** **07 48 11.8 +0.3**
MESJ *e*S **S** **07 54 24.7 +0.9**
MESJ IAMs_20 IAMs_20 07 59 23.0
comp=Z,3µm,24.3s
MESJ Messejana 41.00 46 P **P** **07 48 10.4 -1.1**
MESJ pmax pmax
comp=Z,100nm,1.2s
PCVE Castro Verde 41.03 46 *e*P **P** **07 48 12.3 +0.6**
comp=Z,107nm,1.5s
PCVE Castro Verde 41.03 46 *e*PP PP 07 49 43.4 -3.0
MCWV Mont Chateau 41.08 317 P **P** **07 48 13.8 +1.6**
baz=121
PVAQ Vaqueiros 41.15 47 *e*P **P** **07 48 13.1 +0.4**
comp=Z,47nm,1.3s
PVAQ *e*S **S** **07 54 27.0 +0.9**
PVAQ *e*LQ LQ 07 57 56.8
PVAQ *e*LR LR 07 58 55.9
comp=Z,2µm,22.0s
PVAQ Vaqueiros 41.15 47 P **P** **07 48 12.4 -0.3**
PBEJ Beja 41.33 46 *e*P **P** **07 48 14.6 +0.4**
comp=Z,83nm,2.0s
PBEJ Beja 41.33 46 *e*PP PP 07 49 51.8 +2.1
EVO Evora 41.47 45 *e*P **P** **07 48 15.4 +0.1**
comp=Z,144nm,1.3s
EVO Evora 41.47 45 *e*PP PP 07 49 57.2 +6.1
TGUH Tegucigalpa,Un 41.48 277 P **P** **07 48 17.2 +1.4**
TGUH IAmb IAmb 07 48 34.6
comp=Z,68nm,1.1s
PMTG Montargil 41.58 44 *e*P **P** **07 48 16.3 0.0**
comp=Z,58nm,1.3s
PMTG Montargil 41.58 44 *e*PP PP 07 49 59.1 +6.7
LDAQ Lac Daran 41.63 333 P **P** **07 48 16.6 0.0**
LDAQ IAmb IAmb 07 48 18.3
comp=Z,62nm,1.0s
MDT Midelt 41.70 54 LR LR 08 01 41.0
comp=Z,2µm,21.7s,baz=288,slow=31
TICA Tres Isletas 41.71 201 *e*P **P** **07 48 18.5 +1.2**
PCAS Casmilo, Conde 41.89 43 *e*P **P** **07 48 18.1 -0.7**
comp=Z,145nm,1.6s
PCAS Casmilo, Conde 41.89 43 *e*PP PP 07 50 01.7 +6.0
PESTR Estremoz 41.92 45 P **P** **07 48 19.8 +0.7**
comp=Z,48nm,1.4s
PESTR Estremoz 41.92 45 *e*PP PP 07 50 03.9 +7.9
PBAR Barrancos 41.98 46 *e*P **P** **07 48 19.8 +0.3**
comp=Z,90nm,1.2s
PBAR Barrancos 41.98 46 *e*PP PP 07 50 09.8 +13
ALGR Alto Alegre (B 41.98 191 *e*P **P** **07 48 21.0 +1.4**
COI Coimbra 42.02 43 *e*P **P** **07 48 19.9 +0.1**
COI Coimbra 42.02 43 IAMs_20 IAMs_20 08 01 13.1
comp=Z,2µm,22.0s
TKL Tuckaleechee C 42.05 310 LR LR 08 03 07.1
comp=Z,1µm,20.4s,baz=118,slow=32
CNLB Canela 42.13 188 *e*P **P** **07 48 22.1 +1.3**
PB07 IPOC Station P 42.20 216 P **P** **07 48 21.0 -0.6**
O53A New Philadelph 42.29 317 P **P** **07 48 23.4 +1.3**
baz=120
PMRV Marv??o 42.32 44 *e*P **P** **07 48 22.3 0.0**
comp=Z,55nm,1.3s
PMRV Marv??o 42.32 44 *e*PP PP 07 50 07.6 +7.2
PMRV *e*S **ScP** **07 53 57.2 -10**
PMRV *e*LQ LQ 07 58 40.9
PMRV *e*LR LR 07 59 28.2
comp=Z,2µm,22.0s
LVC Limon Verde 42.35 214 LR LR 08 07 04.1
comp=Z,2µm,20.5s,baz=22,slow=38
LVC Limon Verde 42.35 214 *e*P **P** **07 48 23.1 0.0**
TEIG Tepich 42.44 286 LR LR 08 03 01.3
comp=Z,8µm,21.5s,slow=32
PCBR Castelo Branco 42.46 44 *e*P **P** **07 48 23.3 -0.1**
comp=Z,113nm,1.4s
ERPA Erie 42.48 320 P **P** **07 48 24.9 +1.3**
baz=123
M53A WI Miller and 42.55 319 P **P** **07 48 24.5 +0.4**
baz=122
P52A Corning 42.60 316 P **P** **07 48 24.6 0.0**
baz=119
PVIS Viseu 42.62 42 *e*P **P** **07 48 24.6 -0.2**
PVIS Viseu 42.62 42 *e*PP PP 07 50 13.0 +9.4
UNIS Unistalda (Bra 42.67 194 *e*P **P** **07 48 26.3 +1.2**
MTE Manteigas 42.69 43 *e*P **P** **07 48 25.1 -0.3**
comp=Z,112nm,1.6s
MTE Manteigas 42.69 43 *e*PP PP 07 50 14.3 +10
MTE *e*S **S** **07 54 48.8 -0.2**
MTE *e*LQ LQ 07 58 09.6
MTE *e*LR LR 07 59 43.6
comp=Z,2µm,24.0s
MTE Manteigas 42.69 43 P **P** **07 48 25.1 -0.3**
MTE IAmb IAmb 07 48 26.4
comp=Z,76nm,1.0s
MTE IAMs_20 IAMs_20 08 01 30.8
comp=Z,2µm,22.0s
PB06 IPOC Station P 42.79 215 P **P** **07 48 26.6 +0.2**
PVRL Vila Real 43.02 42 *e*P **P** **07 48 28.1 +0.1**
PGAV Gavieira, Arco 43.03 40 *e*P **P** **07 48 27.9 -0.2**
comp=Z,95nm,1.8s
PGAV Gavieira, Arco 43.03 40 *e*PP PP 07 50 08.2 +0.2
PGAV *e*S S 07 54 39.5 -14
PGAV *e*LR LR 08 00 09.2
comp=Z,2µm,20.0s
PB05 IPOC Station P 43.26 216 P **P** **07 48 29.2 -1.0**
PB05 IAmb IAmb 07 48 37.6
comp=Z,76nm,1.4s
MVO Moncorvo 43.41 42 *e*P **P** **07 48 31.1 -0.1**
comp=Z,60nm,1.2s
MVO *e*S **S** **07 54 59.4 -0.1**
MVO *e*LQ LQ 07 58 27.2
MVO *e*LR LR 08 00 17.4
comp=Z,2µm,22.0s
ACSO Alum Creek Sta 43.46 316 P **P** **07 48 32.5 +1.0**
baz=118
SADO Sadowa 43.49 324 LR LR 08 02 40.2
comp=Z,748nm,21.9s,baz=141,slow=31
ITQB Itaqui 43.62 195 P **P** **07 48 33.5 +0.6**
ITQB IAmb IAmb 07 48 43.0
comp=Z,80nm,1.0s
ITQB Itaqui 43.62 195 *e*P **P** **07 48 34.1 +1.3**
CPSB Cacapava Do Su 43.62 191 *e*P **P** **07 48 34.1 +1.3**
LRAL Lakeview Retre 43.64 305 IAMs_20 IAMs_20 08 03 05.8
comp=Z,2µm,21.0s
LRAL Lakeview Retre 43.64 305 P **P** **07 48 33.5 +0.4**
baz=108
PBRG Braganca 43.92 41 *e*P **P** **07 48 34.8 -0.5**
comp=Z,65nm,1.8s
RODS Rosario do Sul 43.93 193 *e*P **P** **07 48 36.8 +1.5**
P49A Miami Univ. Ec 44.33 315 P **P** **07 48 38.8 +0.2**
baz=116
PAB San Pablo 44.47 46 P **P** **07 48 39.2 -0.6**
PAB IAmb IAmb 07 48 40.8
comp=Z,82nm,1.6s
PAB San Pablo 44.47 46 P **P** **07 48 39.2 -0.6**
PAB pmax pmax
comp=Z,82nm,1.7s
GO02 Mina Guanaco 44.77 213 P **P** **07 48 42.1 -0.4**
GO02 IAmb IAmb 07 48 47.0
comp=Z,60nm,1.1s
ESDC Sonseca Array 44.80 46 P **P** **07 48 41.8 -0.5**
ESDC Sonseca Array 44.80 46 P **P** **07 48 41.8 -0.5**
comp=Z,28nm,0.8s,baz=245,slow=8.3,SNR=112
comp=Z,28nm,0.8s
ESBB Sonseca Array 44.80 46 P **P** **07 48 42.1 -0.2**
ESBB IAmb IAmb 07 48 43.4
comp=Z,33nm,0.9s
AAM Ann Arbor 44.91 319 P **P** **07 48 43.1 0.0**
baz=120
WCI Wyandotte Cave 44.91 312 P **P** **07 48 44.6 +1.4**
baz=113
O48B Farmland 44.95 315 P **P** **07 48 43.6 0.0**
baz=116
PLTB Pedras Altas 44.98 191 P **P** **07 48 44.6 +0.9**
PLTB IAmb IAmb 07 48 46.2
comp=Z,34nm,0.9s
PLTB Pedras Altas 44.98 191 *e*P **P** **07 48 45.1 +1.4**
PLAL Pickwick Lake 45.09 307 P **P** **07 48 44.6 -0.1**
TORD Torodi Ar. Bea 45.11 84 P **P** **07 48 43.6 -1.5**
TORD Torodi Ar. Bea 45.11 84 P **P** **07 48 44.0 -1.1**
comp=Z,34nm,0.9s,baz=295,slow=7.6,SNR=48
TORD LR LR 08 05 33.1
comp=Z,956nm,18.2s,baz=268,slow=33
comp=Z,34nm,0.9s
PSAL Palomas, Salto 45.22 196 *e*P **P** **07 48 46.5 +0.9**
WVT Waverly 45.28 309 P **P** **07 48 46.8 +0.6**
WVT Waverly 45.28 309 IAMs_20 IAMs_20 08 04 14.1
comp=Z,2µm,21.0s
WVT Waverly 45.28 309 P **P** **07 48 46.8 +0.6**
baz=110
WVT Waverly 45.28 309 P **P** **07 48 46.8 +0.6**
WVT pmax pmax
comp=Z,23nm,1.1s
TBOT Tacuaremb 45.38 194 *e*P **P** **07 48 47.6 +0.7**
SCHQ Schefferville 45.56 342 P **P** **07 48 48.4 +0.2**
SCHQ IAmb IAmb 07 48 49.9
comp=Z,34nm,1.1s
SCHQ Schefferville 45.56 342 P **P** **07 48 47.6 -0.5**
comp=Z,19nm,0.9s,baz=130,slow=6.9,SNR=11
comp=Z,19nm,0.9s
AC02 Maricunga 45.89 211 P **P** **07 48 51.7 +0.1**
AC02 IAmb IAmb 07 49 01.1
comp=Z,27nm,0.9s
OXF Oxford 46.00 306 IAMs_20 IAMs_20 08 04 59.1
comp=Z,2µm,20.0s
OXF Oxford 46.00 306 P **P** **07 48 51.5 -0.4**
baz=107
CCIG Comitan 46.07 280 P **P** **07 48 52.7 -0.2**
VBMS Vicksburg 46.27 303 IAMs_20 IAMs_20 08 06 29.6
comp=Z,2µm,19.0s
SFIN Lafayette 46.35 315 P **P** **07 48 55.1 +0.6**
baz=114
OLIL Olney 46.41 312 P **P** **07 48 54.8 -0.2**
OLIL IAmb IAmb 07 49 15.8
comp=Z,55nm,1.2s
GLMI Grayling 46.77 321 P **P** **07 48 58.4 +0.6**
baz=121
SIUC Southern Illin 46.87 310 P **P** **07 48 59.2 +0.5**
SIUC IAmb IAmb 07 49 01.3
comp=Z,40nm,1.0s
CGM3 Cape Girardeau 47.06 310 P **P** **07 49 00.2 +0.1**
L44A Lake County Fo 47.66 316 P **P** **07 49 05.2 +0.4**
baz=115
HDIL Hopedale 47.96 314 P **P** **07 49 07.0 -0.1**
baz=112
CCM Cathedral Cave 48.50 310 IAMs_20 IAMs_20 08 06 03.1
comp=Z,2µm,21.0s
CCM Cathedral Cave 48.50 310 P **P** **07 49 11.5 +0.2**
baz=109
TAM Tamanrasset 48.63 71 P **P** **07 49 13.1 +0.4**
TAM Tamanrasset 48.63 71 P **P** **07 49 13.1 +0.4**
TAM pmax pmax
comp=Z,85nm,1.5s
CO01 Juntas del Tor 48.96 210 P **P** **07 49 15.4 +0.3**
CO01 IAmb IAmb 07 49 31.4
comp=Z,29nm,1.1s
MIAR Mount Ida 49.32 305 IAMs_20 IAMs_20 08 06 09.1
comp=Z,2µm,22.0s
MIAR Mount Ida 49.32 305 P **P** **07 49 17.2 -0.5**
baz=104
JFWS Jewell Farm 49.53 316 IAMs_20 IAMs_20 08 06 30.3
comp=Z,1µm,19.0s
JFWS Jewell Farm 49.53 316 P **P** **07 49 19.9 +0.7**
baz=114,SNR=5.0
NATX Nacogdoches 49.61 301 IAMs_20 IAMs_20 08 08 10.0
comp=Z,2µm,20.0s
CO06 Fray Jorge 50.29 211 P **P** **07 49 24.6 -0.4**
CO06 IAmb IAmb 07 49 29.4
comp=Z,56nm,1.1s
HKT Hockley 50.30 298 *i* P **P** **07 49 23.6 -1.6**
HKT pmax pmax
comp=Z,29nm,2.6s
SCIA State Center 51.20 314 P **P** **07 49 31.8 -0.1**
baz=110
TUL3 Leonard 51.41 306 P **P** **07 49 32.9 -0.6**
baz=103,SNR=13
435B Jarrell 51.92 299 IAMs_20 IAMs_20 08 08 14.2
comp=Z,2µm,22.0s
435B Jarrell 51.92 299 P **P** **07 49 37.1 -0.4**
baz=98
SPMN Marine on St. 52.14 318 P **P** **07 49 38.3 -0.5**
baz=113
EYMN Ely 52.44 322 P **P** **07 49 40.6 -0.5**
baz=116
CLF Chambon-Foret 52.49 38 P **P** **07 49 41.7 +0.3**
CLF IAMs_20 IAMs_20 08 06 43.1
comp=Z,2µm,22.0s
OK029 Liberty Lake 52.70 305 IAMs_20 IAMs_20 08 08 36.5
comp=Z,1µm,20.0s
SSB Saint Sauveur 52.81 42 P **P** **07 49 44.5 +0.7**
SSB IAmb IAmb 07 49 46.1
comp=Z,91nm,1.8s
SSB Saint Sauveur 52.81 42 P **P** **07 49 44.5 +0.7**
SSB pmax pmax
comp=Z,91nm,1.8s
KSU1 Kansas State U 52.82 310 IAMs_20 IAMs_20 08 08 16.6
comp=Z,1µm,21.0s
KSU1 Kansas State U 52.82 310 P **P** **07 49 43.0 -1.0**
baz=105,SNR=6.8
ISOG Isortoq, Green 52.99 3 *i* P **P** **07 49 45.3 +0.6**
ISOG IAmb IAmb 07 49 49.3
comp=Z,17nm,1.0s
ANGG Ammassalik, Gr 53.13 4 *i* P **P** **07 49 45.7 0.0**
ANGG IAmb IAmb 07 49 55.6
comp=Z,17nm,1.0s
833A Chaparral WMA, 53.20 296 P **P** **07 49 46.8 -0.2**
baz=95,SNR=7.2
EKA Eskdalemuir Ar 53.40 28 P **P** **07 49 46.3 -1.6**
comp=Z,7.9nm,1.0s,baz=228,slow=6.3,SNR=3.3
comp=Z,7.9nm,1.0s
OK032 Salt Plains WL 53.51 307 IAMs_20 IAMs_20 08 09 22.9
comp=Z,1µm,18.0s
WMOK Wichita Mounta 53.56 304 IAMs_20 IAMs_20 08 08 57.3
comp=Z,2µm,22.0s
WMOK Wichita Mounta 53.56 304 P **P** **07 49 49.2 -0.3**
baz=100,SNR=8.8
KEST Kesra 53.60 55 P **P** **07 49 48.1 -1.7**
comp=Z,26nm,0.9s,baz=240,slow=2.9,SNR=9.5
KEST LR LR 08 10 23.9
comp=Z,932nm,21.3s,baz=222,slow=34
comp=Z,26nm,0.9s
JCT Junction City 53.78 299 P **P** **07 49 51.3 +0.1**
baz=97,SNR=6.1
DY2G Dye2 53.79 359 *i* P **P** **07 49 49.9 -1.0**
DY2G IAML 07 50 15.8
comp=Z,12nm,1.3s
DY2G IAmb IAmb 07 50 15.8
comp=Z,12nm,1.3s
OK035 E0210 Rd and N 53.88 306 IAMs_20 IAMs_20 08 07 12.7
comp=Z,1µm,21.0s
ABTX Abilene, Hawle 53.92 301 P **P** **07 49 51.6 -0.7**
baz=98
TATN Tataouine 54.03 59 P **P** **07 49 52.5 -0.5**
TATN IAmb IAmb 07 49 54.0
comp=Z,28nm,0.9s
SFJD Kangerlussuaq 54.45 357 *i* P **P** **07 49 53.5 -1.9**
SFJD IAmb IAmb 07 50 00.0
comp=Z,12nm,0.9s
SFJD Kangerlussuaq 54.45 357 LR LR 08 09 01.1
comp=Z,1µm,19.3s,baz=184,slow=32
BORG Borgarnes 54.49 12 LR LR 08 06 54.4
comp=Z,2µm,20.3s,baz=225,slow=29
BGNE Belgrade 54.57 312 P **P** **07 49 56.4 -0.4**
baz=106
DOU Dourbes 54.77 37 *d*P **P** **07 49 57.7 -0.3**
comp=Z,18nm,1.2s
DOU *d*pP **sP** **07 50 01.0 -0.1**
BMRD Maredsous 54.96 36 *d*P **P** **07 49 57.7 -1.7**
comp=Z,11nm,1.3s
CBKS Cedar Bluff 55.12 309 P **P** **07 50 00.1 -0.7**
baz=103
RCHB Rochefort 55.17 37 *d*P **P** **07 50 00.6 -0.2**
comp=Z,12nm,1.0s
BGES Gesves 55.18 37 *d*P **P** **07 50 00.9 -0.1**
comp=Z,14nm,1.5s
AGMN Agassiz Nation 55.26 321 P **P** **07 50 00.8 -0.8**
baz=112,SNR=5.8
BCLA Clavier 55.32 37 *d*P **P** **07 50 01.8 -0.2**
WLF Walferdange 55.51 38 P **P** **07 50 02.8 -0.6**
WLF IAmb IAmb 07 50 07.6
comp=Z,47nm,1.0s
WLF IAMs_20 IAMs_20 08 08 38.0
comp=Z,2µm,20.0s
WLF Walferdange 55.51 38 *d*P **P** **07 50 03.2 -0.2**
comp=Z,29nm,1.1s
WLF *d*pP **sP** **07 50 06.4 -0.2**
WLF Walferdange 55.51 38 P **P** **07 50 02.8 -0.6**
WLF pmax pmax
comp=Z,47nm,1.0s
WLF Walferdange 55.51 38 *e*P **P** **07 50 03.6 +0.2**
comp=Z,29nm,0.9s,baz=251,slow=7.0
BSTI Sart Tilman 55.54 36 *d*P **P** **07 50 03.5 -0.1**
comp=Z,8.1nm,1.1s
ECH Echery 55.57 40 IAMs_20 IAMs_20 08 10 09.5
comp=Z,1µm,19.0s
BHOU Houvegnez 55.70 37 *d*P **P** **07 50 04.7 -0.1**
comp=Z,11nm,1.1s
MEM Membach 55.81 37 *d*P **P** **07 50 05.1 -0.4**
comp=Z,35nm,1.2s
ZAIG Zacatecas 55.82 289 P **P** **07 50 07.2 +0.8**
BTNL Ternell 55.87 37 *d*P **P** **07 50 05.9 -0.1**
comp=Z,29nm,1.2s
AMTX Amarillo 55.93 304 P **P** **07 50 05.9 -0.9**
baz=99
SUSD Miller 55.99 315 P **P** **07 50 06.4 -0.6**
baz=107
ULM Lac du Bonnet 56.02 323 *i* P **P** **07 50 04.9 -2.1**
ULM Lac du Bonnet 56.02 323 P **P** **07 50 05.2 -1.8**
comp=Z,25nm,0.9s,baz=109,slow=7.4,SNR=36
ULM LR LR 08 10 27.4
comp=Z,903nm,21.3s,baz=120,slow=32
comp=Z,25nm,0.9s
SOEG Soedalen 56.19 6 *i* P **P** **07 50 08.2 +0.3**
SOEG IAmb IAmb 07 50 52.5
comp=Z,9.2nm,0.9s
BFO Black Forest 56.34 40 P **P** **07 50 08.6 -0.8**
BFO Black Forest 56.34 40 P **P** **07 50 08.6 -0.8**
BFO pmax pmax
comp=Z,48nm,1.0s
BFO Black Forest 56.34 40 *e*P **P** **07 50 09.4 0.0**
comp=Z,24nm,0.9s,baz=251,slow=7.0
TUE Stuetta 56.37 42 P **P** **07 50 09.9 0.0**
TUE IAmb IAmb 07 50 14.4
comp=Z,93nm,2.0s
TUE IAMs_20 IAMs_20 08 13 14.7
comp=Z,1µm,19.0s
AHRW Bad Neuenahr-A 56.41 37 *e*P **P** **07 50 10.3 +0.5**
comp=Z,20nm,1.0s,baz=251,slow=7.0
ICESG Greenland Ices 56.50 2 *i* P **P** **07 50 08.7 -1.9**
MSTX Muleshoe 56.70 302 P **P** **07 50 12.4 +0.1**
MSTX IAmb IAmb 07 50 24.3
comp=Z,34nm,1.1s
MSTX Muleshoe 56.70 302 P **P** **07 50 12.2 -0.2**
baz=97,SNR=9.7
OSSC Osservatorio P 56.81 46 P **P** **07 50 12.8 0.0**
DAVOX Davos/Dischmat 56.81 42 LR LR 08 12 09.6
comp=Z,1µm,19.2s,baz=241,slow=34
BUG Bochum--Univer 56.87 36 *e*P **P** **07 50 12.3 -0.8**
comp=Z,18nm,0.8s,baz=251,slow=7.0
DAVA Damuels 56.98 41 *i* P **P** **07 50 15.3 +1.2**
comp=Z,52nm,2.1s
FUORN Ofenpass-Fuorn 57.02 42 P **P** **07 50 14.6 +0.1**
FUORN IAMs_20 IAMs_20 08 09 44.8
comp=Z,1µm,22.0s
TX31 Lajitas Ar. Si 57.02 297 P **P** **07 50 14.7 +0.1**
TXAR Lajitas Array 57.02 297 P **P** **07 50 14.1 -0.5**
comp=Z,4.8nm,0.9s,baz=113,slow=5.4,SNR=24
TXAR LR LR 08 13 06.2
comp=Z,298nm,21.7s,baz=71,slow=34
comp=Z,4.8nm,0.9s
STU Stuttgart 57.03 40 IAMs_20 IAMs_20 08 10 04.2
comp=Z,1µm,21.0s
STU Stuttgart 57.03 40 *e*P **P** **07 50 14.0 -0.3**
comp=Z,65nm,0.9s,baz=251,slow=7.0
TNS Taunus Mts 57.09 38 *e*P **P** **07 50 15.1 +0.3**
comp=Z,19nm,0.9s,baz=251,slow=7.0
UBR Ueberruh 57.25 41 *e*P **P** **07 50 16.3 +0.4**
comp=Z,31nm,1.0s,baz=251,slow=7.0
OGNE Ogallala 57.30 311 IAMs_20 IAMs_20 08 11 30.2
comp=Z,1µm,20.0s
OGNE Ogallala 57.30 311 P **P** **07 50 16.9 +0.4**
baz=102
PECS Pecos 57.34 299 P **P** **07 50 17.1 +0.2**
KSCO Kaye Shedlock' 57.37 308 P **P** **07 50 17.7 +0.7**
baz=101
FETA Feichten 57.44 42 *e*P **P** **07 50 17.3 -0.1**
comp=Z,20nm,1.2s
MDND Maddock 57.45 319 P **P** **07 50 16.5 -0.8**
baz=108
IBBN Ibbenburen 57.50 35 *e*P **P** **07 50 18.0 +0.5**
comp=Z,39nm,0.8s,baz=251,slow=7.0
RETA Reutte 57.61 41 *e*P **P** **07 50 18.6 +0.1**
comp=Z,20nm,1.1s
MOTA Moosalm 57.78 42 *i* P **P** **07 50 19.4 -0.4**
comp=Z,45nm,1.9s,SNR=6.8
SQTA Sankt Quirin 57.81 42 *i* P **P** **07 50 19.4 -0.6**
comp=Z,30nm,1.4s
H09W1 TRISTAN DA CUN 58.05 150 T T 08 52 54.1
SNR=77
WATA Walderalm 58.09 42 P **P** **07 50 22.2 +0.2**
comp=Z,54nm,1.6s
WTTA Wattenberg 58.11 42 *e*P **P** **07 50 21.7 -0.4**
comp=Z,46nm,1.4s
FUR Furstenfeldbru 58.15 41 *e*P **P** **07 50 22.5 +0.3**
comp=Z,52nm,1.0s,baz=251,slow=7.0
UBBA Unterbreizbach 58.23 37 *e*P **P** **07 50 22.6 +0.1**
comp=Z,6.4nm,0.8s,baz=251,slow=7.0
PLCA Paso Flores 58.27 203 P **P** **07 50 23.1 -0.1**
comp=Z,36nm,0.9s,baz=24,slow=7.8,SNR=45
PLCA LR LR 08 18 23.3
comp=Z,843nm,19.0s,baz=26,slow=39
comp=Z,36nm,0.9s
PLCA Paso Flores 58.27 203 *e*P **P** **07 50 23.6 +0.5**
T25A Trinidad 58.45 306 P **P** **07 50 24.9 +0.1**
baz=98,SNR=6.6
GTTG Gottingen 58.47 37 *e*P **P** **07 50 24.8 +0.5**
comp=Z,50nm,1.2s,baz=251,slow=7.0
ABTA Abfaltersbach 58.53 43 *i* P **P** **07 50 24.9 -0.1**
comp=Z,45nm,1.4s,SNR=7.1
GRFO Grafenberg 58.59 39 IAMs_20 IAMs_20 08 10 40.5
comp=Z,2µm,22.0s
GRA1 Grafenberg Arr 58.59 39 IAMs_20 IAMs_20 08 10 40.5
comp=Z,2µm,22.0s
MNTX Cornudas Mount 58.66 299 P **P** **07 50 25.4 -0.6**
baz=94,SNR=19
LESA Schwarzleotal 58.83 42 *e*P **P** **07 50 26.0 -1.0**
comp=Z,54nm,1.6s
NRDL Niedersach Rie 58.90 36 *e*P **P** **07 50 27.7 +0.5**
comp=Z,40nm,1.0s,baz=251,slow=7.0
FCC Fort Churchill 58.93 332 P **P** **07 50 27.2 -0.1**
FCC IAmb IAmb 07 50 28.2
comp=Z,26nm,1.1s
FCC Fort Churchill 58.93 332 P **P** **07 50 27.2 -0.1**
FCC pmax pmax
comp=Z,26nm,1.1s
BRIGG Briggsdale 58.94 310 IAMs_20 IAMs_20 08 11 55.4
comp=Z,1µm,20.0s
RJOB Jochberg 58.99 42 *e*P **P** **07 50 27.8 -0.4**
comp=Z,18nm,1.0s,baz=251,slow=7.0
ASSE Asse, Remlinge 59.09 36 *e*P **P** **07 50 27.8 -0.7**
comp=Z,8.4nm,1.0s,baz=251,slow=7.0
MOX Moxa 59.14 38 *e*P **P** **07 50 29.2 +0.2**
comp=Z,26nm,1.0s,baz=251,slow=7.0
MOX *e*pP **sP** **07 50 32.6 +0.4**
MOX *e*L L 08 10 47.3
comp=Z,2µm,22.0s
KBA Koelnbreinsper 59.17 42 *e*P **P** **07 50 28.7 -0.8**
comp=Z,23nm,0.9s

CEL	**Celeste**	**59.19**	**53**	IAMs_20	IAMs_20	08 13 49.5					
	comp=Z,1µm,21.0s										
ROTZ	**Rotzenmuhle**	**59.22**	**39**	*e*P	**P**	**07 50 29.4**	**-0.2**				
	comp=Z,6.3nm,1.2s,baz=251,slow=7.0										
ROTZ				*e*pP	**sP**	**07 50 32.9**	**+0.1**				
MANZ	**Manzenberg**	**59.23**	**39**	*e*P	**P**	**07 50 29.6**	**-0.1**				
	comp=Z,1.8nm,1.0s,baz=251,slow=7.0										
MYKA	**Terra Mystica**	**59.25**	**43**	*e*P	**P**	**07 50 29.4**	**-0.6**				
	comp=Z,76nm,1.8s										
Q24A	**Divide**	**59.30**	**308**	P	**P**	**07 50 31.2**	**+0.4**				
Q24A	**Divide**	**59.30**	**308**	P	**P**	**07 50 30.7**	**0.0**				
	baz=99										
SDCO	**Great Sand Dun**	**59.40**	**306**	P	**P**	**07 50 31.8**	**+0.4**				
	baz=98,SNR=15										
CUC	**Castrocucco**	**59.40**	**51**	P	**P**	**07 50 30.3**	**-0.8**				
CUC				IAmb	IAmb	07 50 32.3					
	comp=Z,39nm,1.1s										
CUC				IAMs_20	IAMs_20	08 16 58.9					
	comp=Z,1µm,20.0s										
NEUB	**Neuenburg**	**59.42**	**37**	*e*P	**P**	**07 50 30.9**	**0.0**				
	comp=Z,22nm,0.9s,baz=251,slow=7.0										
RSSD	**Black Hills**	**59.43**	**314**	IAMs_20	IAMs_20	08 13 44.4					
	comp=Z,1µm,20.0s										
RSSD	**Black Hills**	**59.43**	**314**	P	**P**	**07 50 31.7**	**+0.2**				
	baz=103										
WET	**Wettzell**	**59.45**	**40**	*e*P	**P**	**07 50 31.0**	**-0.2**				
	comp=Z,8.0nm,0.9s,baz=251,slow=7.0										
FLTG	**Flechtingen**	**59.49**	**36**	*e*P	**P**	**07 50 31.4**	**0.0**				
	comp=Z,26nm,1.1s,baz=251,slow=7.0										
NKC	**Novy Kostel**	**59.52**	**39**	*e*P	**P**	**07 50 32.1**	**+0.4**				
NKC				*e*S	**S**	**07 58 48.0**	**+6.7**				
NKC				AMS	AMS	08 10 40.0					
	comp=Z,1µm,20.9s										
NKC	**Novy Kostel**	**59.52**	**39**	*e*P	**P**	**07 50 32.1**	**+0.4**				
NKC				*e*S	**S**	**07 58 48.0**	**+6.7**				
NKC				MLR	MLR						
	comp=Z,1µm,20.9s										
BIOA	**Bad Ischl, Aus**	**59.53**	**42**	*i* P	**P**	**07 50 30.9**	**-0.9**				
	comp=Z,39nm,1.3s,SNR=8.1										
BSEG	**Bad Segeberg**	**59.55**	**34**	*e*P	**P**	**07 50 32.0**	**+0.3**				
	comp=Z,50nm,1.0s,baz=251,slow=7.0										
BSEG				*e*pP	**sP**	**07 50 35.2**	**+0.3**				
TANN	**Tannenbergstha**	**59.58**	**39**	*e*P	**P**	**07 50 32.4**	**+0.3**				
	comp=Z,27nm,1.1s,baz=251,slow=7.0										
TANN				*e*pP	**sP**	**07 50 35.9**	**+0.6**				
EPT	**El Paso**	**59.62**	**299**	IAMs_20	IAMs_20	08 16 34.0					
	comp=Z,1µm,19.0s										
ISCO	**Idaho Springs**	**59.78**	**309**	IAMs_20	IAMs_20	08 12 37.9					
	comp=Z,1µm,22.0s										
ISCO	**Idaho Springs**	**59.78**	**309**	P	**P**	**07 50 34.4**	**+0.4**				
	baz=99,SNR=35										
OBKA	**Obir**	**59.83**	**43**	*e*P	**P**	**07 50 34.0**	**0.0**				
	comp=Z,31nm,1.4s										
ANMO	**Albuquerque**	**59.84**	**303**	P	**P**	**07 50 34.6**	**+0.2**				
	baz=96										
ANMO	**Albuquerque**	**59.84**	**303**	*ce*P	**P**	**07 50 32.4**	**-2.0**				
ANMO				pmax	pmax						
	comp=Z,14nm,2.5s										
ANMO	**Albuquerque**	**59.84**	**303**	LR	LR	08 13 42.4					
	comp=Z,2µm,21.3s,baz=188,slow=33										
GEC2	**GERESS Array S**	**59.89**	**41**	*e*P	**P**	**07 50 33.9**	**-0.5**				
	comp=Z,8.8nm,0.9s,baz=251,slow=7.0										
GERES	**GERESS Array B**	**59.89**	**41**	P	**P**	**07 50 33.0**	**-1.3**				
	comp=Z,6.1nm,0.8s,baz=286,slow=4.9,SNR=11										
GERES				LR	LR	08 12 43.6					
	comp=Z,924nm,20.9s,baz=242,slow=32										
	comp=Z,6.1nm,0.8s										
KHC	**Kasperske Hory**	**59.89**	**40**	*e*P	**P**	**07 50 33.8**	**-0.5**				
KHC				*e*S	**S**	**07 58 45.1**	**-1.1**				
KHC				AMS	AMS	08 11 40.0					
	comp=Z,800nm,17.8s										
KHC	**Kasperske Hory**	**59.89**	**40**	*ce*P	**P**	**07 50 33.4**	**-0.9**				
KHC				pmax	pmax						
	comp=Z,141nm,1.7s										
PHWY	**Pilot Hill**	**59.91**	**311**	P	**P**	**07 50 35.1**	**+0.2**				
PHWY				IAMs_20	IAMs_20	08 13 14.2					
	comp=Z,2µm,21.0s										
MOA	**Molln**	**59.98**	**42**	*e*P	**P**	**07 50 34.1**	**-0.8**				
	comp=Z,36nm,1.6s										
TIP	**Timpagrande**	**59.99**	**52**	IAMs_20	IAMs_20	08 14 16.7					
	comp=Z,2µm,22.0s										
SUMG	**Summit**	**60.03**	**2**	P	**P**	**07 50 35.1**	**-0.1**				
SUMG				IAmb	IAmb	07 50 40.5					
	comp=Z,52nm,1.4s										
SUMG	**Summit**	**60.03**	**2**	P	**P**	**07 50 35.1**	**-0.1**				
SUMG				pmax	pmax						
	comp=Z,52nm,1.4s										
SUMG	**Summit**	**60.03**	**2**	*i* P	**P**	**07 50 35.1**	**-0.1**				
SUMG				IAmb	IAmb	07 50 44.7					
	comp=Z,9.5nm,0.9s										
Y22F	**Passcal Instru**	**60.14**	**302**	P	**P**	**07 50 37.5**	**+1.1**				
	baz=95										
Y22D	**IRIS PASSCAL I**	**60.14**	**302**	IAMs_20	IAMs_20	08 15 03.7					
	comp=Z,1µm,20.0s										
Y22D	**IRIS PASSCAL I**	**60.14**	**302**	P	**P**	**07 50 37.7**	**+1.3**				
	baz=95										
CLL	**Collm**	**60.18**	**38**	P	**P**	**07 50 35.9**	**-0.3**				
CLL				IAMs_20	IAMs_20	08 11 06.6					
	comp=Z,2µm,22.0s										
CLL	**Collm**	**60.18**	**38**	*i* P	**P**	**07 50 35.7**	**-0.5**				
CLL				*i*		07 50 39.3					
CLL				*e*S	**S**	**07 58 51.0**	**+1.2**				
CLL				pmax	pmax						
	comp=Z,24nm,1.1s										
CLL				MLR	MLR						
	comp=Z,2µm,22.0s										
CLL	**Collm**	**60.18**	**38**	*e*P	**P**	**07 50 36.3**	**+0.1**				
	comp=Z,26nm,1.0s,baz=251,slow=7.0										
SOKA	**Soboth**	**60.19**	**43**	*e*P	**P**	**07 50 35.6**	**-0.8**				
	comp=Z,11nm,1.1s										
N23A	**Red Feather La**	**60.20**	**310**	P	**P**	**07 50 37.1**	**+0.3**				
	baz=99										
CKRC	**Cesky Krumlov**	**60.27**	**41**	*e*S	**S**	**07 58 52.3**	**+1.2**				
CKRC				AMS	AMS	08 18 50.0					
	comp=Z,1µm,17.3s										
UPNV	**Upernavik**	**60.51**	**356**	*i* P	**P**	**07 50 36.8**	**-1.3**				
UPNV				IAmb	IAmb	07 50 44.5					
	comp=Z,7.3nm,0.9s										
DGMT	**Dagmar**	**60.58**	**319**	P	**P**	**07 50 39.2**	**+0.2**				
	baz=105										
BRG	**Berggiesshubel**	**60.62**	**38**	*e*P	**P**	**07 50 39.3**	**+0.1**				
BRG				S	**S**	**07 59 00.0**	**+4.6**				
BRG				SS	**SS**	**08 02 50.0**	**-3.7**				
BRG				pmax	pmax						
	comp=Z,17nm,1.1s										
BRG				pmax	pmax						
	comp=N,523nm,18.2s										
BRG	**Berggiesshubel**	**60.62**	**38**	*e*P	**P**	**07 50 39.3**	**+0.1**				
BRG				Amp		07 50 43.2					
	comp=Z,17nm,1.1s										
BRG	**Berggiesshubel**	**60.62**	**38**	SS	SS	08 02 50.0	-3.7				
BRG				Amp		08 11 32.0					
	comp=N,0.5nm,18.2s										
BRG				Amp		08 11 34.0					
	comp=E,0.7nm,19.3s										
BRG				Amp		08 11 50.0					
	comp=Z,1.5nm,18.9s										
BRG	**Berggiesshubel**	**60.62**	**38**	*e*P	**P**	**07 50 39.2**	**0.0**				
	comp=Z,7.0nm,0.9s,baz=251,slow=7.0										
ARSA	**Arzberg**	**60.66**	**43**	*e*P	**P**	**07 50 38.6**	**-0.9**				
	comp=Z,28nm,1.3s										
PRA	**Prague**	**60.69**	**39**	AMS	AMS	08 11 30.0					
	comp=Z,1µm,21.5s										
PRU	**Pruhonice**	**60.73**	**39**	*e*S	**S**	**07 59 00.4**	**+3.5**				
PRU				AMS	AMS	08 11 20.0					
	comp=Z,1µm,21.3s										
SMCO	**Snowmass**	**60.73**	**308**	IAMs_20	IAMs_20	08 13 00.1					
	comp=Z,1µm,19.0s										
121A	**Cookes Peak, D**	**60.75**	**300**	P	**P**	**07 50 41.4**	**+0.7**				
	baz=93,SNR=10										
GOPC	**GO Pecny, Ondr**	**60.86**	**40**	*e*S	**S**	**07 59 04.9**	**+6.2**				
GOPC				AMS	AMS	08 11 20.0					
	comp=Z,1µm,17.8s										
LL02	**Futaleuf**	**60.88**	**203**	P	**P**	**07 50 40.8**	**-0.2**				
LL02				IAmb	IAmb	07 50 51.0					
	comp=Z,40nm,1.2s										
PVCC	**Panska Ves**	**60.90**	**39**	AMS	AMS	08 13 00.0					
	comp=Z,1µm,19.5s										
K22A	**Casper**	**60.93**	**312**	P	**P**	**07 50 41.8**	**+0.1**				
	baz=100										
RUE	**Ruedersdorf**	**61.01**	**37**	*e*P	**P**	**07 50 41.6**	**-0.1**				
RUE	**Ruedersdorf**	**61.01**	**37**	*e*P	**P**	**07 50 42.2**	**+0.4**				
	comp=Z,48nm,1.0s,baz=251,slow=7.0										
CONA	**Conrad Observa**	**61.04**	**42**	*i* P	**P**	**07 50 41.8**	**-0.4**				
	comp=Z,20nm,0.8s,SNR=12										
RONA	**Rosalia, Austr**	**61.27**	**42**	*i* P	**P**	**07 50 43.5**	**-0.3**				
	comp=Z,60nm,1.3s,SNR=12										
RWWY	**Rawlins**	**61.27**	**311**	IAMs_20	IAMs_20	08 13 49.2					
	comp=Z,2µm,20.0s										
RGN	**Rugen**	**61.42**	**34**	IAMs_20	IAMs_20	08 15 55.2					
	comp=Z,1µm,18.0s										
RGN	**Rugen**	**61.42**	**34**	*e*P	**P**	**07 50 44.4**	**-0.1**				
LAO	**LASA Array**	**61.49**	**316**	IAMs_20	IAMs_20	08 14 13.7					
	comp=Z,1µm,20.0s										
LAO	**LASA Array**	**61.49**	**316**	P	**P**	**07 50 45.4**	**+0.1**				
	baz=102										
KONO	**Kongsberg**	**61.51**	**28**	IAMs_20	IAMs_20	08 10 29.6					
	comp=Z,2µm,21.0s										
KONO	**Kongsberg**	**61.51**	**28**	*i* P	**P**	**07 50 43.8**	**-1.2**				
KONO				pmax	pmax						
	comp=Z,31nm,1.3s										
KRUC	**Moravsky**	**61.66**	**41**	*e*P	**P**	**07 50 45.6**	**-0.7**				
MVCO	**Mesa Verde**	**61.70**	**306**	P	**P**	**07 50 48.1**	**+1.0**				
MVCO				IAmb	IAmb	07 51 07.4					
	comp=Z,21nm,1.1s										
MVCO				IAMs_20	IAMs_20	08 14 30.7					
	comp=Z,1µm,20.0s										
MVCO	**Mesa Verde**	**61.70**	**306**	P	**P**	**07 50 46.7**	**-0.4**				
	baz=96,SNR=7.6										
UPC	**Upice**	**61.78**	**39**	*e*P	**P**	**07 50 47.3**	**+0.2**				
UPC				AMS	AMS	08 13 40.0					
	comp=Z,900nm,18.8s										
UPC	**Upice**	**61.78**	**39**	*e*P	**P**	**07 50 47.3**	**+0.2**				
UPC				MLR	MLR						
	comp=Z,900nm,18.8s										
CHVC	**Chvalec**	**61.83**	**39**	AMS	AMS	08 13 40.0					
	comp=Z,900nm,19.3s										
O20A	**White River Ci**	**61.83**	**309**	P	**P**	**07 50 47.7**	**-0.1**				
	baz=97,SNR=7.7										
VRAC	**Vranov**	**61.84**	**41**	⇑P	**P**	**07 50 48.2**	**+0.6**				
VRAC	**Vranov**	**61.84**	**41**	*e*P	**P**	**07 50 47.3**	**-0.2**				
VRAC	**Vranov**	**61.84**	**41**	P	**P**	**07 50 48.1**	**+0.6**				
VRAC	**Vranov**	**61.84**	**41**	LR	LR	08 14 31.2					
	comp=Z,852nm,20.3s,baz=244,slow=33										
ZST	**Bratislava**	**61.91**	**42**	*e*P	**P**	**07 50 48.0**	**0.0**				
ZST				pmax	pmax						
	comp=Z,70nm,1.0s										
ZST	**Bratislava**	**61.91**	**42**	*e*P	**P**	**07 50 48.0**	**0.0**				
OSTC	**Ostas**	**61.92**	**39**	*e*P	**P**	**07 50 48.1**	**+0.1**				
OSTC				*e*S	**S**	**07 59 17.5**	**+5.4**				
OSTC				AMS	AMS	08 12 10.0					
	comp=Z,900nm,19.5s										
OSTC	**Ostas**	**61.92**	**39**	*e*P	**P**	**07 50 48.1**	**+0.1**				
OSTC				*e*S	**S**	**07 59 17.5**	**+5.4**				
OSTC				MLR	MLR						
	comp=Z,900nm,19.5s										
DPC	**Dobruska-Polom**	**61.93**	**39**	*e*P	**P**	**07 50 48.1**	**-0.1**				
DPC				AMS	AMS	08 12 50.0					
	comp=Z,800nm,17.4s										
DPC	**Dobruska-Polom**	**61.93**	**39**	*e*P	**P**	**07 50 48.1**	**-0.1**				
DPC				MLR	MLR						
	comp=Z,800nm,17.4s										
319A	**Douglas**	**61.97**	**299**	P	**P**	**07 50 50.6**	**+1.8**				
319A				IAmb	IAmb	07 51 34.3					
	comp=Z,19nm,1.1s										
MODS	**Modra-Piesok**	**62.06**	**42**	*e*P	**P**	**07 50 48.6**	**-0.5**				
MODS				pmax	pmax						
	comp=Z,56nm,0.9s										
MODS	**Modra-Piesok**	**62.06**	**42**	*e*P	**P**	**07 50 48.6**	**-0.5**				
KRLC	**Kraliky**	**62.15**	**40**	*e*P	**P**	**07 50 50.1**	**+0.5**				
KRLC				AMS	AMS	08 12 50.0					
	comp=Z,900nm,20.0s										
KRLC	**Kraliky**	**62.15**	**40**	*e*P	**P**	**07 50 50.1**	**+0.5**				
KRLC				MLR	MLR						
	comp=Z,900nm,20.0s										
SMOL	**Smolenice**	**62.20**	**42**	*e*P	**P**	**07 50 49.6**	**-0.3**				
KULLO	**Kullorsuaq**	**62.34**	**356**	*i* P	**P**	**07 50 50.2**	**-0.2**				
KULLO				IAmb	IAmb	07 50 59.7					
	comp=Z,15nm,0.8s										
DEL	**Delary**	**62.37**	**32**	*e*P	**P**	**07 50 51.8**	**+0.9**				
JMIC	**Jan Mayen**	**62.37**	**13**	LR	LR	08 11 19.2					
	comp=Z,638nm,18.8s,baz=113,slow=30										
JAVC	**Velka Javorina**	**62.43**	**41**	*e*P	**P**	**07 50 51.6**	**+0.1**				
BSD	**Bornholm Skovb**	**62.47**	**34**	*i* P	**P**	**07 50 51.2**	**-0.3**				
BSD				IAmb	IAmb	07 50 55.4					
	comp=Z,7.5nm,1.0s										
BSD	**Bornholm Skovb**	**62.47**	**34**	*e*P	**P**	**07 50 51.6**	**0.0**				
W18A	**Petrified Fore**	**62.53**	**303**	P	**P**	**07 50 51.6**	**-1.0**				
	baz=94										
MORH	**Mrgy, Hungar**	**62.53**	**44**	⇑P	**P**	**07 50 51.7**	**-0.5**				
MORC	**Moravsky Berou**	**62.55**	**40**	P	**P**	**07 50 52.4**	**0.0**				
MORC	**Moravsky Berou**	**62.55**	**40**	*e*P	**P**	**07 50 52.3**	**0.0**				
MORC	**Moravsky Berou**	**62.55**	**40**	P	**P**	**07 50 52.4**	**0.0**				
MORC				pmax	pmax						
	comp=Z,48nm,1.2s										
SRO	**Srobarova**	**62.62**	**43**	*e*P	**P**	**07 50 53.1**	**+0.4**				
SRO	**Srobarova**	**62.62**	**43**	*e*P	**P**	**07 50 53.1**	**+0.4**				
MAUC	**Maruska**	**62.64**	**41**	*e*P	**P**	**07 50 53.8**	**+0.9**				
NB2	**NORSAR Subarra**	**62.83**	**27**	P	**P**	**07 50 53.7**	**-0.3**				
	comp=Z,86nm,2.0s,baz=246,slow=6.9										
NB2	**NORSAR Subarra**	**62.83**	**27**	P	**P**	**07 50 53.7**	**-0.3**				
	baz=246,slow=6.9										
NB2	**NORSAR Subarra**	**62.83**	**27**	P	P	07 50 58.9	+4.9				
NOA	**NORSAR Array B**	**62.83**	**27**	P	**P**	**07 50 53.1**	**-0.9**				
	comp=Z,4.2nm,0.9s,baz=246,slow=6.7,SNR=9.0										
NOA				LR	LR	08 12 31.2					
	comp=Z,973nm,22.0s,baz=245,slow=31										
	comp=Z,4.2nm,0.9s										
RDMU	**Red Mountain**	**62.89**	**309**	P	**P**	**07 50 55.0**	**0.0**				
RDMU				IAmb	IAmb	07 50 56.6					
	comp=Z,24nm,1.0s										
LPIG	**La Paz**	**62.90**	**291**	LR	LR	08 17 49.3					
	comp=Z,292nm,22.0s,baz=86,slow=36										
VYHS	**Vyhne**	**63.10**	**42**	*e*P	**P**	**07 50 55.7**	**-0.3**				
VYHS				pmax	pmax						
	comp=Z,47nm,1.6s										
VYHS	**Vyhne**	**63.10**	**42**	*e*P	**P**	**07 50 55.7**	**-0.3**				
VYHS				*e*PP	**PP**	**07 53 18.5**	**+3.8**				
PDAR	**Pinedale Array**	**63.15**	**312**	P	**P**	**07 50 56.1**	**-0.6**				
	comp=Z,5.7nm,1.0s,baz=102,slow=6.5,SNR=26										
PDAR				LR	LR	08 15 11.1					
	comp=Z,1µm,21.4s,baz=120,slow=33										
	comp=Z,5.7nm,1.0s										
BW06	**Boulder Array**	**63.15**	**312**	P	**P**	**07 50 55.9**	**-0.8**				
	baz=98,SNR=14										
DBG	**Daneborg**	**63.19**	**7**	*i* P	**P**	**07 50 56.9**	**+0.8**				
DBG				IAmb	IAmb	07 51 05.6					
	comp=Z,6.6nm,0.9s										
TUC	**Tucson**	**63.27**	**300**	IAMs_20	IAMs_20	08 17 22.8					
	comp=Z,1µm,20.0s										
TUC	**Tucson**	**63.27**	**300**	P	**P**	**07 50 57.6**	**+0.1**				
	baz=92										
RLMT	**Red Lodge**	**63.29**	**314**	P	**P**	**07 50 58.0**	**+0.5**				
	baz=99,SNR=14										
HFS	**Hagfors**	**63.59**	**28**	P	**P**	**07 50 57.6**	**-1.3**				
	comp=Z,20nm,0.8s,baz=226,slow=6.0,SNR=16										
HFS				LR	LR	08 14 06.3					
	comp=Z,1µm,20.4s,baz=252,slow=32										
	comp=Z,20nm,0.8s										
PSZ	**Piszkesteto**	**63.69**	**43**	IAMs_20	IAMs_20	08 14 59.3					
	comp=Z,1µm,20.0s										
WUAZ	**Wupatki**	**63.89**	**303**	IAMs_20	IAMs_20	08 16 14.0					
	comp=Z,2µm,22.0s										
WUAZ	**Wupatki**	**63.89**	**303**	P	**P**	**07 51 01.8**	**+0.2**				
	baz=93										
LKWY	**Lake**	**64.00**	**314**	IAMs_20	IAMs_20	08 14 35.4					
	comp=Z,2µm,20.0s										
LOHW	**Long Hollow**	**64.02**	**312**	IAMs_20	IAMs_20	08 16 35.9					
	comp=Z,1µm,20.0s										
H17A	**Grant Village**	**64.11**	**313**	P	**P**	**07 51 03.2**	**+0.2**				
	baz=98										
EGMT	**Eagleton**	**64.11**	**317**	IAMs_20	IAMs_20	08 15 46.9					
	comp=Z,1µm,20.0s										
EGMT	**Eagleton**	**64.11**	**317**	P	**P**	**07 51 02.6**	**-0.1**				
	baz=100										
MOOW	**Moose Ponds**	**64.14**	**313**	IAMs_20	IAMs_20	08 15 52.1					
	comp=Z,1µm,20.0s										
NIE	**Niedzica**	**64.23**	**41**	*e*P	**P**	**07 51 03.8**	**+0.4**				
AHID	**Auburn Hatcher**	**64.28**	**311**	IAMs_20	IAMs_20	08 16 07.8					
	comp=Z,1µm,20.0s										
IMW	**Indian Meadow**	**64.30**	**313**	IAMs_20	IAMs_20	08 16 28.3					
	comp=Z,1µm,20.0s										
MDVR	**Moldovita**	**64.44**	**46**	⇓P	**P**	**07 51 04.5**	**-0.4**				
VIKU	**Vikbolandet**	**64.48**	**31**	*e*P	**P**	**07 51 05.2**	**+0.4**				
BZS	**Buzias**	**64.48**	**45**	⇓P	**P**	**07 51 04.9**	**-0.2**				
BZS	**Buzias**	**64.48**	**45**	P	**P**	**07 51 04.9**	**-0.2**				
HWUT	**Hardware Ranch**	**64.50**	**310**	IAMs_20	IAMs_20	08 15 44.7					
	comp=Z,1µm,21.0s										
SIRR	**Siria**	**64.61**	**45**	⇑P	**P**	**07 51 06.3**	**+0.3**				
STHS	**Stebnicka Huta**	**64.84**	**41**	*e*P	**P**	**07 51 06.4**	**-1.0**				
STHS	**Stebnicka Huta**	**64.84**	**41**	*e*P	**P**	**07 51 06.4**	**-1.0**				
SURR	**Surduc**	**64.85**	**45**	⇑P	**P**	**07 51 07.8**	**+0.2**				
CRVS	**Cervenica-Dubn**	**64.89**	**42**	*e*P	**P**	**07 51 08.6**	**+0.8**				
CRVS				pmax	pmax						
	comp=Z,64nm,1.5s										
CRVS	**Cervenica-Dubn**	**64.89**	**42**	*e*P	**P**	**07 51 08.5**	**+0.8**				
NEEM	**North Greenlan**	**64.90**	**358**	*i* P	**P**	**07 51 06.2**	**-1.4**				
NEEM				IAmb	IAmb	07 51 13.0					
	comp=Z,7.9nm,1.2s										
214A	**Organ Pipe Nat**	**64.99**	**299**	P	**P**	**07 51 09.8**	**+1.1**				
	baz=90,SNR=6.7										
BOZ	**Bozeman (W)**	**65.01**	**315**	IAMs_20	IAMs_20	08 17 18.8					
	comp=Z,899nm,19.0s										
BOZ	**Bozeman (W)**	**65.01**	**315**	P	**P**	**07 51 08.0**	**-0.7**				
	baz=98,SNR=14										
GZR	**Gura Zlata**	**65.26**	**46**	⇓P	**P**	**07 51 10.6**	**+0.3**				
GZR	**Gura Zlata**	**65.26**	**46**	P	**P**	**07 51 10.6**	**+0.3**				
KLNR	**Kaliningrad**	**65.28**	**35**	*i* P	**P**	**07 51 08.7**	**-1.4**				
KLNR				pmax	pmax						
	comp=Z,93nm,1.0s										
DUG	**Dugway, Tooele**	**65.32**	**308**	P	**P**	**07 51 10.8**	**-0.1**				
	baz=94,SNR=5.3										
DRGR		**65.40**	**44**	⇓P	**P**	**07 51 11.1**	**-0.1**				
DRGR		**65.40**	**44**	P	**P**	**07 51 11.4**	**+0.3**				
DAG	**Danmarks Havn**	**65.57**	**6**	*i* P	**P**	**07 51 10.3**	**-1.3**				
DAG				IAmb	IAmb	07 51 16.1					
	comp=Z,6.8nm,1.0s										
MARR	**Marisel-Cluj**	**65.66**	**44**	⇓P	**P**	**07 51 12.7**	**-0.2**				
KWP	**Kalwaria Pacla**	**65.81**	**41**	IAMs_20	IAMs_20	08 15 45.6					
	comp=Z,1µm,22.0s										
CJR	**Cluj-Napoca**	**65.99**	**44**	⇑P	**P**	**07 51 15.9**	**+0.9**				
CJR	**Cluj-Napoca**	**65.99**	**44**	P	**P**	**07 51 15.9**	**+0.9**				
PDMCI	**Parker Dam,Lak**	**66.13**	**302**	P	**P**	**07 51 16.9**	**+1.0**				
	baz=91,SNR=7.3										
IDI	**Anoyia**	**66.15**	**57**	P	**P**	**07 51 16.1**	**0.0**				
IDI	**Anoyia**	**66.15**	**57**	LR	LR	08 18 08.1					
	comp=Z,16nm,21.5s,baz=280,slow=34										
NEE2	**Needles Airpor**	**66.53**	**303**	P	**P**	**07 51 19.4**	**+0.8**				
	baz=91										
ARCR	**ARCALIA**	**66.55**	**44**	⇓P	**P**	**07 51 18.6**	**+0.1**				
PBUR	**Paburge**	**66.56**	**34**	*e*P	**P**	**07 51 18.1**	**-0.2**				
ARR	**Arges**	**66.56**	**46**	⇑P	**P**	**07 51 19.0**	**+0.4**				
AAL	**Aland**	**66.59**	**29**	*e*P	**P**	**07 51 19.1**	**+0.7**				
GLA	**Glamis**	**66.69**	**301**	P	**P**	**07 51 19.9**	**+0.2**				
	baz=90										
LVV	**L'vov**	**66.69**	**41**	*e*P	**P**	**07 51 17.4**	**-1.9**				
LVV				MLR	MLR						
	comp=Z,200nm,17.0s										
APE	**Apeiranthos**	**66.71**	**55**	⇓P	**P**	**07

MILM pmax pmax
comp=Z,70nm,0.8s
VSU Vasula 69.58 32 *i* P **P 07 51 36.9 -0.3**
VSU pmax pmax
comp=Z,24nm,0.9s
YKA Yellowknife Ar 69.66 332 *ce*P **P 07 51 36.5 -1.1**
YKA pmax pmax
comp=Z,8.0nm,1.0s
YKA Yellowknife Ar 69.66 332 P **P 07 51 35.8 -1.9**
comp=Z,8.2nm,1.0s,baz=100,slow=6.3,SNR=37
YKA LR LR 08 20 23.8
comp=Z,460nm,18.9s,baz=100,slow=34
comp=Z,8.2nm,1.0s
MNK Minsk 69.66 36 *i* P **P 07 51 40.3 +2.5**
MNK *i* 07 54 14.3
MNK *i* S **S 08 00 50.3 +4.0**
MNK *i* SS **SS 08 05 16.1 +2.0**
MNK pmax pmax
comp=N,17nm,0.8s
MNK pmax pmax
comp=E,9.0nm,1.3s
MNK pmax pmax
comp=Z,31nm,0.9s
MNK MLR MLR
comp=N,2µm,17.0s
MNK MLR MLR
comp=E,312nm,16.0s
ISA Isabella, Lake 69.68 303 P **P 07 51 39.9 +1.4**
baz=89,SNR=7.9
FINES FINESS Array B 69.78 29 P **P 07 51 37.9 -0.6**
FINES FINESS Array B 69.78 29 P **P 07 51 37.9 -0.6**
FINES FINESS Array B 69.78 29 P **P 07 51 37.0 -1.5**
comp=E,2.1nm,0.7s,baz=262,slow=2.9,SNR=9.6
FINES LR LR 08 17 12.9
comp=E,500nm,20.3s,baz=259,slow=32
comp=E,2.1nm,0.7s
FIA1 FINESS Array S 69.78 29 P **P 07 51 37.9 -0.6**
SCI2 San Clemente I 69.82 301 P **P 07 51 40.1 +0.9**
baz=88
OSI Osito Audit: C 69.91 302 P **P 07 51 38.8 -1.1**
baz=88
MLAC Mammoth, Mammo 69.94 306 P **P 07 51 40.7 +0.5**
baz=89
ARVC Arvin 69.98 303 P **P 07 51 41.0 +0.8**
baz=88
NOR Nord 70.02 4 *i* P **P 07 51 37.7 -1.9**
NOR IAmb IAmb 07 51 44.1
comp=Z,5.8nm,1.0s
EUNU Eureka 70.09 353 P **P 07 51 40.7 +0.6**
EUNU IAmb IAmb 07 51 45.9
comp=Z,20nm,1.1s
KIEV Kiev 70.09 41 ⇓P **P 07 51 39.8 -0.7**
KIEV Kiev 70.09 41 P **P 07 51 39.8 -0.7**
AKASG Malin Array Be 70.10 41 *ce*P **P 07 51 39.7 -0.9**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 70.10 41 P **P 07 51 39.1 -1.5**
comp=Z,3.3nm,0.7s,baz=269,slow=5.9,SNR=17
AKASG LR LR 08 19 57.8
comp=Z,300nm,20.1s,baz=252,slow=34
comp=Z,3.3nm,0.7s
AKBB Malin Array Si 70.10 41 *i* P **P 07 51 38.6 -2.0**
AKBB pmax pmax
comp=Z,24nm,1.6s
USHA Ushuaia 70.16 194 LR LR 08 24 49.1
comp=Z,1µm,18.1s,baz=27,slow=38
D08A Wollman Farm, 70.17 316 P **P 07 51 41.0 -0.2**
D08A IAmb IAmb 07 51 42.4
comp=Z,25nm,1.2s
VES Vestal, Richgr 70.17 304 P **P 07 51 41.1 -0.3**
baz=88
ELL Elmali 70.21 55 P **P 07 51 42.0 +0.2**
ELL Elmali 70.21 55 P **P 07 51 42.0 +0.2**
ELL pmax pmax
comp=Z,281nm,1.0s
E08A Dider Farm, El 70.24 315 P **P 07 51 41.1 -0.4**
E08A IAmb IAmb 07 51 42.8
comp=Z,24nm,1.1s
SCZ2 Santa Cruz Isl 70.69 302 P **P 07 51 44.5 -0.1**
baz=88
SBC Santa Barbara 70.73 302 P **P 07 51 45.4 +0.6**
baz=88
PKM Mcpherson Peak 70.80 303 P **P 07 51 45.9 +0.5**
baz=88
SMMC Simmler 70.93 303 P **P 07 51 47.1 +1.1**
baz=88
ARCES ARCESS Array B 71.33 20 P **P 07 51 47.5 -0.3**
comp=Z,6.2nm,0.8s,baz=258,slow=5.9,SNR=11
ARCES LR LR 08 16 10.2
comp=Z,472nm,20.1s,baz=264,slow=30
comp=Z,6.2nm,0.8s
SPITS Spitsbergen Ar 71.93 11 P **P 07 51 51.4 +0.2**
comp=Z,14nm,1.0s,baz=267,slow=2.9,SNR=2.1
SPITS LR LR 08 15 22.6
comp=Z,1µm,21.7s,baz=209,slow=29
comp=Z,14nm,1.0s
JOF Joensuu 72.44 28 *eP* **P 07 51 54.7 +0.2**
BR131 Keskin Array S 73.06 52 P **P 07 51 58.4 -0.5**
BR131 IAmb IAmb 07 51 59.6
comp=Z,21nm,0.8s
BR131 Keskin Array S 73.06 52 *i* P **P 07 51 56.0 -2.9**
BRTR Keskin Array B 73.06 52 P **P 07 51 58.0 -0.9**
BRTR Keskin Array B 73.06 52 *ce*P **P 07 51 58.5 -0.4**
BRTR pmax pmax
comp=Z,14nm,0.7s
BRTR Keskin Array B 73.06 52 P **P 07 51 58.1 -0.7**
comp=Z,14nm,0.7s,baz=257,slow=5.5,SNR=24
BRTR LR LR 08 22 06.3
comp=Z,339nm,20.3s,baz=252,slow=34
comp=Z,14nm,0.7s
FLDN Fort Liard 73.59 329 P **P 07 52 01.6 +0.2**
FLDN IAmb IAmb 07 52 19.2
comp=Z,40nm,1.3s
FLDN Fort Liard 73.59 329 P **P 07 52 02.0 +0.6**
baz=93
WRGLY Wrigley 73.78 332 P **P 07 52 02.0 -0.4**
baz=94,SNR=10.0
APA Apatity 73.84 23 ⇓*i* P **P 07 51 59.5 -3.2**
APA *i* 07 52 10.0
APA *i* 07 54 53.0
APA pmax pmax
comp=Z,16nm,1.0s
KOTAN Kotaneelee Air 73.87 329 P **P 07 52 02.6 -0.4**
baz=93,SNR=11
RPN Rapa Nui 74.15 237 LR LR 08 21 36.7
comp=Z,750nm,21.1s,baz=49,slow=33
TOAD Toad River Com 74.43 328 P **P 07 52 05.9 -0.5**
baz=91,SNR=12
CBB Campbell River 74.49 319 P **P 07 52 06.8 -0.1**
C36M Paulatuk 74.53 339 IAMs_20 IAMs_20 08 20 46.2
comp=Z,1µm,20.0s
C36M Paulatuk 74.53 339 P **P 07 52 06.9 +0.2**
baz=95
OBN Obninsk 74.71 36 ⇓*eP* **P 07 52 08.2 +0.2**
OBN 07 52 16.0
OBN *i* SSS SSS 08 09 46.0
OBN pmax pmax
comp=Z,45nm,1.3s
OBN MLR MLR
comp=Z,603nm,16.0s
OBN Obninsk 74.71 36 LR LR 08 21 01.4
comp=Z,383nm,21.3s,baz=246,slow=33
EIL Elat 74.89 62 LR LR 08 25 16.8
comp=Z,1µm,20.0s,baz=282,slow=36
MMAI Mount Meron Ar 74.94 59 P **P 07 52 09.3 -0.7**
comp=Z,6.9nm,0.6s,baz=297,slow=3.7,SNR=13
MMAI LR LR 08 27 00.6
comp=Z,381nm,20.8s,baz=236,slow=37
comp=Z,6.9nm,0.6s
A36M Sachs Harbour 75.17 341 P **P 07 52 10.2 -0.2**
A36M IAmb IAmb 07 52 15.9
comp=Z,20nm,0.8s
A36M Sachs Harbour 75.17 341 P **P 07 52 09.8 -0.5**
baz=95,SNR=10
GHAJ Ghor Haditha 75.25 61 IAMs_20 IAMs_20 08 24 55.7
comp=Z,935nm,21.0s
UPI Upington 75.59 124 *eP* **P 07 52 11.2 -2.5**
UPI IAmb IAmb 07 52 20.4
comp=Z,84nm,2.0s
CVNA Calvinia 75.67 127 *eP* **P 07 52 12.7 -1.4**
CVNA IAmb IAmb 07 52 42.4
comp=Z,65nm,1.6s
MBAR Mbarara 75.86 94 *i* P **P 07 52 16.5 +0.9**
MBAR pmax pmax
comp=Z,12nm,1.2s
TGTN Hyland Airport 75.96 331 P **P 07 52 15.5 +0.3**
baz=89,SNR=5.6

GAZ Gaziantep 76.03 55 P **P 07 52 16.4 +0.2**
CER Ceres 76.10 129 *eP* P 07 52 21.6 +5.1
CER IAmb IAmb 07 52 22.7
comp=Z,277nm,2.6s
BBB Bella Bella 76.15 321 LR LR 08 25 34.6
comp=Z,420nm,19.3s,baz=86,slow=36
LPSR Galich'ya Gora 76.17 39 *eP* **P 07 52 14.4 -2.1**
LPSR pmax pmax
comp=Z,20nm,0.8s
KLMR Klimovskoe 76.22 30 *eP* **P 07 52 12.7 -3.9**
KLMR S S 08 01 51.1 -10
KLMR pmax pmax
comp=Z,42nm,1.2s
WTLY Watson Lake, Y 76.24 329 P **P 07 52 16.7 -0.1**
baz=89
VORR Voronezh 76.39 40 *eP* **P 07 52 17.8 +0.1**
VORR pmax pmax
comp=Z,42nm,1.4s
VSR Storozhevoye 76.39 40 *eP* **P 07 52 16.2 -1.5**
VSR pmax pmax
comp=Z,30nm,1.1s
VORD Divnogorie 76.48 40 *eP* **P 07 52 16.6 -1.7**
VORD pmax pmax
comp=Z,30nm,1.4s
SUR Sutherland 76.85 128 LR LR 08 19 32.1
comp=Z,285nm,18.4s,baz=296,slow=30
DLBC Dease Lake 76.94 327 P **P 07 52 21.3 +0.4**
baz=87,SNR=7.8
DLBC Dease Lake 76.94 327 LR LR 08 23 26.4
comp=Z,914nm,21.3s,baz=92,slow=34
FRAZ Fraserburg 77.13 127 *eP* **P 07 52 21.8 -0.6**
FRAZ IAmb IAmb 07 52 30.1
comp=Z,57nm,1.5s
T35M Bob Quinn 77.14 326 P **P 07 52 22.4 +0.5**
baz=87
LSZ Lusaka 77.21 109 LR LR 08 21 16.3
comp=Z,357nm,20.1s,baz=292,slow=32
SOC Sochi 77.34 48 *eP* **P 07 52 21.6 -1.7**
SOC *e* 07 55 12.9
SOC *e*PPP PPP 07 57 00.1
SOC *e*S **S 08 02 12.5 -1.2**
SOC *e*SS **SS 08 07 05.1 -6.6**
SOC *e*SSS SSS 08 10 25.9
SOC pmax pmax
comp=Z,48nm,0.6s
SOC MLR MLR
comp=Z,278nm,21.0s
R33M Jennings River 77.37 328 P **P 07 52 23.6 +0.3**
baz=86
MERW Merweville 77.52 128 *eP* **P 07 52 24.5 0.0**
MERW IAmb IAmb 07 52 32.4
comp=Z,36nm,1.0s
S34M Telegraph Cree 77.55 327 P **P 07 52 24.7 +0.5**
baz=86,SNR=9.0
GRAN Grantham 77.87 127 *eP* **P 07 52 27.3 +0.8**
GRAN IAmb IAmb 07 52 35.6
comp=Z,12nm,0.9s
INK Inuvik 77.95 338 P **P 07 52 25.6 -0.5**
baz=86,SNR=9.7
INK Inuvik 77.95 338 LR LR 08 25 46.5
comp=Z,1µm,18.4s,baz=118,slow=35
LBTB Lobatse 77.98 119 *eP* **P 07 52 26.5 -0.8**
LBTB IAmb IAmb 07 52 34.0
comp=Z,83nm,1.9s
LBTB Lobatse 77.98 119 LR LR 08 21 08.3
comp=Z,512nm,18.4s,baz=286,slow=31
VRH Novokhopyorsk 77.99 40 *eP* **P 07 52 25.5 -1.2**
VRH pmax pmax
comp=Z,20nm,0.6s
Q32M Nakina River 78.07 328 P **P 07 52 27.2 -0.1**
baz=85
F31M Tsiigehtchic 78.09 337 P **P 07 52 26.7 -0.3**
baz=86,SNR=7.4
P33M Teslin, Yukon 78.25 329 IAMs_20 IAMs_20 08 25 06.0
comp=Z,776nm,18.0s
P33M Teslin, Yukon 78.25 329 P **P 07 52 27.6 -0.6**
baz=85
N32M Quiet Lake 78.30 330 P **P 07 52 28.7 +0.4**
baz=85
FARO Faro, Yukon 78.33 331 P **P 07 52 27.9 -0.6**
baz=85
G31M Satah River 78.34 336 P **P 07 52 28.0 -0.4**
baz=85,SNR=7.4
P32M Atlin 78.75 329 P **P 07 52 30.6 -0.3**
baz=84
M31M Drury Creek, Y 78.82 331 P **P 07 52 31.6 +0.4**
baz=84,SNR=5.6
CRAG Craig 78.86 325 P **P 07 52 31.8 +0.4**
baz=84
F30M Barrier River 78.86 337 P **P 07 52 30.7 -0.5**
baz=84
BOSA Boshof 78.95 123 *eP* **P 07 52 31.2 -1.4**
BOSA Boshof 78.95 123 P **P 07 52 31.8 -0.8**
comp=Z,3.3nm,0.6s,baz=306,slow=4.7,SNR=9.3
BOSA LR LR 08 20 13.0
comp=Z,1µm,21.9s,baz=291,slow=30
comp=Z,3.3nm,0.6s
G30M tAoh Zraii Nji 79.10 336 P **P 07 52 33.0 +0.4**
baz=84
WHY Whitehorse 79.22 330 P **P 07 52 34.4 +0.9**
baz=84
MAYO Mayo, Yukon 79.35 333 P **P 07 52 34.4 +0.3**
baz=83
EPYK Eagle Plains 79.37 336 P **P 07 52 33.6 -0.5**
baz=83
I30M Mount Dempster 79.37 335 P **P 07 52 33.6 -0.7**
baz=83
J30M Hart River 79.42 334 IAMs_20 IAMs_20 08 28 21.8
comp=Z,811nm,20.0s
J30M Hart River 79.42 334 P **P 07 52 34.5 -0.1**
baz=83
KIV Kislovodsk 79.43 47 *eP* **P 07 52 35.4 +0.4**
KIV *eS* **S 08 02 38.3 +1.9**
KIV *eSS* **SS 08 07 41.7 -1.8**
KIV pmax pmax
comp=Z,21nm,1.0s
KIV MLR MLR
comp=Z,160nm,19.0s
S32K Killisnoo 79.44 327 P **P 07 52 34.3 -0.3**
baz=83
KVAR Kislovodsk Arr 79.44 47 LR LR 08 26 13.4
comp=Z,328nm,20.7s,baz=306,slow=35
LEPH Lephalale, Lim 79.49 117 *eP* **P 07 52 35.1 -0.5**
LEPH IAmb IAmb 07 52 42.5
comp=Z,142nm,2.0s
GOF Gofitskoye 79.55 46 *ce*P **P 07 52 39.3 +3.8**
E29M Blow River 79.56 338 P **P 07 52 35.0 0.0**
baz=82
SKAG Skagway 79.59 329 P **P 07 52 35.7 +0.3**
baz=83
KBZ Khabaz 79.61 47 *ce*P **P 07 52 36.1 +0.3**
KBZ pmax pmax
comp=Z,27nm,1.0s
KBZ Khabaz 79.61 47 P **P 07 52 35.2 -0.6**
comp=Z,9.9nm,0.9s,baz=328,slow=3.8,SNR=14
KBZ LR LR 08 30 39.3
comp=Z,196nm,18.2s,baz=288,slow=38
comp=Z,9.9nm,0.9s
GRAF Camdeboo Natio 79.68 126 *eP* **P 07 52 37.6 +1.2**
GRAF IAmb IAmb 07 52 55.8
comp=Z,30nm,1.0s
D28M Stokes Point 79.73 339 P **P 07 52 36.3 +0.4**
baz=82
O30N Mendenhall 79.80 330 IAMs_20 IAMs_20 08 24 37.9
comp=Z,915nm,22.0s
O30N Mendenhall 79.80 330 P **P 07 52 36.6 +0.1**
baz=82,SNR=7.3
G29M Pine Creek 79.81 336 P **P 07 52 36.4 -0.1**
baz=82
HVD Gariep Dam 79.86 125 *eP* P 07 52 43.1 +5.5
HVD IAmb IAmb 07 52 53.4
comp=Z,34nm,1.1s
M30M Minto, Yukon 79.89 332 IAMs_20 IAMs_20 08 28 51.2
comp=Z,972nm,18.0s
M30M Minto, Yukon 79.89 332 P **P 07 52 36.7 -0.4**
baz=82
K29M Barlow Dome 80.04 333 P **P 07 52 37.7 -0.3**
baz=82
H29M Whitestone 80.05 336 P **P 07 52 37.9 +0.1**
baz=81
PLBC Pleasant Camp 80.11 329 P **P 07 52 38.7 +0.5**
baz=82
E28M Babbage River 80.12 338 P **P 07 52 38.1 0.0**
baz=81
J29N Klondike Camp 80.25 334 IAMs_20 IAMs_20 08 24 07.6
comp=Z,1µm,20.0s
J29N Klondike Camp 80.25 334 P **P 07 52 39.1 +0.2**
baz=81
S31K Pelican 80.25 327 P **P 07 52 39.8 +0.8**
baz=82
P30M Million Dollar 80.31 330 P **P 07 52 40.3 +0.9**
baz=82
F28M Old Crow 80.41 337 P **P 07 52 40.0 +0.2**
baz=80,SNR=12
L29M L29M 80.42 333 P **P 07 52 40.0 +0.1**
baz=81
HYT Haines Junctio 80.48 330 P **P 07 52 39.6 -0.8**
baz=81
D27M Malcolm River 80.52 339 IAMs_20 IAMs_20 08 27 55.5
comp=Z,949nm,19.0s
D27M Malcolm River 80.52 339 P **P 07 52 40.7 +0.3**
baz=80
M29M Somme Creek 80.67 332 IAMs_20 IAMs_20 08 29 14.0
comp=Z,763nm,20.0s
M29M Somme Creek 80.67 332 P **P 07 52 41.6 +0.2**
baz=81
P29M Windy Craggy 80.78 329 P **P 07 52 42.2 +0.4**
baz=81
MUSN Musina, Limpop 80.80 115 *eP* **P 07 52 43.1 +0.4**
MUSN IAmb IAmb 07 52 51.1
comp=Z,75nm,1.6s
I28M Miner Creek 80.81 335 IAMs_20 IAMs_20 08 26 15.3
comp=Z,870nm,20.0s
I28M Miner Creek 80.81 335 P **P 07 52 42.7 +0.7**
baz=80
DAWY Dawson 80.82 334 P **P 07 52 41.6 -0.4**
baz=80
YUK6 Outpost Mounta 80.87 330 P **P 07 52 42.6 0.0**
baz=80
SNKL Senekal, Frees 80.91 122 *eP* **P 07 52 43.5 +0.1**
SNKL IAmb IAmb 07 52 51.2
comp=Z,309nm,2.4s
YUK4 Talbot Arm 80.94 331 P **P 07 52 42.7 -0.2**
baz=80
E27K Coleen River 80.95 338 P **P 07 52 42.9 +0.3**
baz=79
O29M Mount Kennedy 81.08 330 P **P 07 52 43.7 +0.1**
baz=80
G27K Doyon Strip 81.24 337 P **P 07 52 44.3 +0.1**
G27K Doyon Strip 81.24 337 P **P 07 52 44.4 +0.2**
baz=78,SNR=8.6
H27K Steamboat Moun 81.31 336 P **P 07 52 45.1 +0.6**
baz=78
KIRV Kirov 81.43 32 *ce*P **P 07 52 44.9 -0.3**
KIRV Kirov 81.43 32 LR LR 08 25 17.4
comp=Z,1µm,20.3s,baz=279,slow=33
EGAK Eagle 81.44 335 P **P 07 52 44.6 -0.6**
baz=79
I27K Kandik River 81.47 335 P **P 07 52 44.8 -0.6**
baz=78
BELG Belogornoye 81.47 38 *i* P **P 07 52 44.9 -0.7**
BELG pmax pmax
comp=Z,6.0nm,1.1s
BELG Belogornoye 81.47 38 P **P 07 52 45.5 -0.1**
comp=Z,19nm,1.0s,baz=188,slow=8.0,SNR=6.3
BELG LR LR 08 26 39.5
comp=Z,909nm,19.9s,baz=305,slow=34
comp=Z,19nm,1.0s
GNI Garni 81.50 51 *ce*P **P 07 52 45.9 -0.4**
GNI pmax pmax
comp=Z,58nm,1.7s
GNI Garni 81.50 51 P **P 07 52 46.3 0.0**
comp=Z,7.9nm,0.5s,baz=283,slow=4.7,SNR=2.8
comp=Z,7.9nm,0.5s
FURI Furi 81.61 83 IAMs_20 IAMs_20 08 28 11.1
comp=Z,884nm,18.0s
YUK3 Moose Creek 81.72 331 P **P 07 52 47.5 +0.4**
baz=79
C26K Camden Bay 81.73 340 P **P 07 52 47.2 +0.6**
baz=76
BVCY Beaver Creek 81.78 332 P **P 07 52 47.1 0.0**
baz=79,SNR=6.7
K27K Chicken 81.99 334 IAMs_20 IAMs_20 08 25 10.5
comp=Z,824nm,21.0s
K27K Chicken 81.99 334 P **P 07 52 48.5 +0.4**
baz=78
F26K Sheenjek River 82.00 338 P **P 07 52 48.5 +0.3**
baz=76
G26K Porcupine Rive 82.03 337 P **P 07 52 48.0 -0.3**
baz=77
BCAR Beaver Creek A 82.06 333 P **P 07 52 48.2 -0.4**
CRLN Carolina, Mapu 82.08 119 *eP* **P 07 52 49.1 -0.4**
CRLN IAmb IAmb 07 52 57.9
comp=Z,28nm,1.2s
L27K Beaver Creek, 82.08 333 P **P 07 52 48.6 -0.1**
L27K IAMs_20 IAMs_20 08 26 51.1
comp=Z,840nm,19.0s
L27K Beaver Creek, 82.08 333 P **P 07 52 48.4 -0.3**
baz=78
I26K Coal Creek Min 82.16 335 P **P 07 52 48.8 -0.2**
baz=77
LOGN Logan Glacier 82.16 331 P **P 07 52 50.3 +0.9**
LOGN IAMs_20 IAMs_20 08 25 50.5
comp=Z,1000nm,20.0s
BMAR Burnt Mountain 82.22 337 P **P 07 52 49.3 -0.1**
M27K Edge Creek, AK 82.25 332 IAMs_20 IAMs_20 08 25 53.7
comp=Z,954nm,20.0s
M27K Edge Creek, AK 82.25 332 P **P 07 52 49.6 -0.2**
baz=78
CTG Chitna Glacier 82.30 331 P **P 07 52 50.1 +0.1**
baz=78
D25K Kavik River 82.38 339 P **P 07 52 50.7 +0.6**
baz=74
E25K Arctic Village 82.41 338 P **P 07 52 49.8 -0.5**
baz=75,SNR=6.0
BARN Barnard Glacie 82.43 331 IAMs_20 IAMs_20 08 25 30.4
comp=Z,1µm,21.0s
J26L Joseph Creek 82.51 334 IAMs_20 IAMs_20 08 27 30.4
comp=Z,818nm,19.0s
J26L Joseph Creek 82.51 334 P **P 07 52 50.2 -0.8**
baz=76
F25K Christian Rive 82.58 338 P **P 07 52 51.6 +0.4**
baz=75
M26K Nabesna, AK 82.75 332 IAMs_20 IAMs_20 08 26 08.8
comp=Z,949nm,19.0s
M26K Nabesna, AK 82.75 332 P **P 07 52 52.1 -0.1**
baz=77
MESA MESA 82.76 330 P **P 07 52 52.8 +0.3**
baz=77
L26K Log Cabin Wild 82.77 333 P **P 07 52 52.8 +0.5**
baz=76
SCRK Sand Creek 82.82 334 P **P 07 52 53.0 +0.4**
baz=76
KSTD Kokstad 82.95 123 *eP* P 07 52 59.5 +5.6
KSTD IAmb IAmb 07 53 04.3
comp=Z,44nm,1.3s
G25K Bearman Lake 82.97 337 P **P 07 52 53.4 +0.2**
baz=74
H25L Birch Creek 82.99 336 P **P 07 52 53.8 +0.5**
baz=75,SNR=12
MCARA McCarthy VSAT 83.00 331 P **P 07 52 53.9 +0.4**
baz=76
C24K Franklin Bluff 83.05 340 P **P 07 52 54.0 +0.4**
baz=72
MAK Makhachkala 83.06 48 *eP* **P 07 52 51.5 -2.6**
MAK *e* 07 56 00.8
MAK *e*PPP PPP 07 57 53.1
MAK *e*S **S 08 03 09.1 -4.7**
MAK *e*SS **SS 08 08 36.1 -1.1**
MAK *e*SSS SSS 08 12 06.3
MAK pmax pmax
comp=Z,209nm,1.3s
PRP Porcupine Dome 83.07 336 IAMs_20 IAMs_20 08 29 08.0
comp=Z,912nm,20.0s
PRP Porcupine Dome 83.07 336 P **P 07 52 53.9 0.0**
baz=75,SNR=15
CRQE Cirque 83.18 331 P **P 07 52 54.7 +0.2**
baz=76
VRDI Verde Repeater 83.24 331 IAMs_20 IAMs_20 08 26 19.8
comp=Z,799nm,20.0s
J25K Salcha River, 83.24 335 IAMs_20 IAMs_20 08 26 02.6
comp=Z,776nm,20.0s
J25K Salcha River, 83.24 335 P **P 07 52 54.4 -0.4**
baz=75
RIDG Independent Ri 83.25 334 P **P 07 52 54.5 -0.3**
baz=75
D24K Happy Valley 83.27 340 P **P 07 52 54.7 0.0**
baz=72
GLB Gilahina Butte 83.35 331 IAMs_20 IAMs_20 08 29 31.8
comp=Z,811nm,20.0s
KIBK Kibwezi 83.36 94 IAMs_20 IAMs_20 08 24 46.6
comp=Z,696nm,21.0s
F24K Squaw Lake 83.42 338 P **P 07 52 56.1 +0.5**
baz=73
G24K Hadweenzic Riv 83.51 337 P **P 07 52 56.8 +0.8**

baz=73
K24K **Donnelly Dome** 83.63 334 P P 07 52 57.0 +0.2
baz=74
C23K **Itkillik River** 83.65 340 P P 07 52 57.5 +0.8
baz=71
N25K **Chitina, Valde** 83.68 332 P P 07 52 57.1 0.0
baz=75
TOLK **Toolik Lake Re** 83.68 339 P P 07 52 57.1 +0.2
baz=72,SNR=10
PAX **Paxson** 83.72 333 P P 07 52 56.9 -0.3
baz=75
HARP **HAARP** 83.73 333 P P 07 52 58.2 +0.9
baz=75
ILAR **Eielson Array** 83.83 335 P P 07 52 57.5 -0.2
ILAR **Eielson Array** 83.83 335 P P 07 52 57.5 -0.2
ILAR **Eielson Array** 83.83 335 P P 07 52 57.1 -0.6
comp=Z,10nm,0.9s,baz=68,slow=4.4,SNR=72
ILAR LR LR 08 30 02.5
comp=Z,492nm,18.0s,baz=66,slow=36
comp=Z,10nm,0.9s
BMRM **Bremner River** 83.84 331 P P 07 52 59.0 +1.1
baz=75
E23K **Chandalar** 83.89 339 P P 07 52 58.3 +0.2
baz=71
H24K **Noodor Dome** 83.92 336 P P 07 52 58.6 +0.5
H24K **Noodor Dome** 83.92 336 P P 07 52 58.0 -0.2
baz=73
POKR **Poker Plat Res** 83.95 335 P P 07 52 58.7 +0.4
baz=73
HDA **Harding Lake** 83.95 335 P P 07 52 59.6 +1.2
baz=74
D23K **Nanushuk River** 83.96 340 P P 07 52 59.3 +1.0
baz=70
COLA **College** 84.19 335 P P 07 52 59.9 +0.4
baz=73
COLA **College** 84.19 335 *i* P P 07 52 58.9 -0.6
COLA pmax pmax
comp=Z,25nm,0.9s
CCB **Clear Creek Bu** 84.24 335 P P 07 52 59.7 0.0
CCB IAmb IAmb 07 53 10.1
comp=Z,18nm,1.0s
CCB IAMs_20 IAMs_20 08 28 20.0
comp=Z,730nm,20.0s
KLU **Klutina** 84.32 332 P P 07 53 00.8 +0.4
baz=74
COLD **Coldfoot** 84.37 338 P P 07 53 01.2 +0.9
baz=71
B22K **Teshekpuk Lake** 84.37 341 P P 07 53 00.6 +0.3
B22K **Teshekpuk Lake** 84.37 341 P P 07 53 01.3 +1.0
baz=68
G23K **Bananza Creek** 84.47 337 IAMs_20 IAMs_20 08 27 00.9
comp=Z,928nm,21.0s
G23K **Bananza Creek** 84.47 337 P P 07 53 01.9 +1.0
baz=71
EYAK **Cordova Ski Ar** 84.50 331 P P 07 53 02.0 +0.9
baz=74
DHY **Denali Highway** 84.52 334 IAMs_20 IAMs_20 08 26 16.6
comp=Z,871nm,21.0s
DHY **Denali Highway** 84.52 334 P P 07 53 02.0 +0.6
baz=73
A22K **Sinclair Lake** 84.59 342 P P 07 53 01.7 +0.3
baz=67
E22K **Anaktuvuk Pass** 84.64 339 P P 07 53 02.3 +0.5
baz=69
D22K **Ayikyak River** 84.67 340 P P 07 53 02.2 +0.3
baz=69
I23K **Minto, Yukon-K** 84.72 336 IAMs_20 IAMs_20 08 26 44.5
comp=Z,892nm,20.0s
I23K **Minto, Yukon-K** 84.72 336 P P 07 53 02.7 +0.6
baz=71,SNR=9.8
WAT6 **Susitna Watana** 84.83 333 P P 07 53 02.8 -0.2
baz=73
SCM **Sheep Creek Mo** 84.87 332 P P 07 53 02.8 -0.3
baz=73
A21K **Barrow** 84.95 343 P P 07 53 03.3 +0.1
baz=65
G22K **Bettles** 84.95 338 P P 07 53 03.7 +0.4
baz=70
MCK **McKinley** 84.99 334 P P 07 53 03.6 0.0
baz=72
B21K **Ikpikpuk River** 85.03 341 P P 07 53 03.7 +0.1
baz=67,SNR=20
M23K **Glacier View** 85.06 332 P P 07 53 03.9 -0.1
baz=72
ATD **Arta Tunnel** 85.11 79 IAMs_20 IAMs_20 08 25 54.4
comp=Z,718nm,20.0s
WAT1 **Susitna Watana** 85.11 333 P P 07 53 04.6 +0.4
baz=72
RAYN **Ar Rayn** 85.17 67 P P 07 53 05.3 -0.1
H22K **Ishtalitna Cre** 85.26 337 P P 07 53 06.1 +1.2
baz=70
C21K **Knifeblade Rid** 85.26 340 P P 07 53 05.8 +0.9
baz=67
E21K **Killik River** 85.27 340 IAMs_20 IAMs_20 08 30 03.9
comp=Z,837nm,20.0s
E21K **Killik River** 85.27 340 P P 07 53 05.6 +0.6
baz=68
MLY **Manley** 85.31 336 IAMs_20 IAMs_20 08 27 14.2
comp=Z,812nm,21.0s
MLY **Manley** 85.31 336 P P 07 53 05.7 +0.5
baz=70,SNR=6.4
SML **Sawmill** 85.33 332 IAMs_20 IAMs_20 08 27 22.0
comp=Z,823nm,20.0s
SML **Sawmill** 85.33 332 P P 07 53 05.4 0.0
baz=72
KNK **Knik Glacier** 85.51 332 P P 07 53 06.3 0.0
baz=72
F21K **Alatna River** 85.56 338 P P 07 53 06.6 +0.2
baz=68
GHO **Glory Hole Cre** 85.61 332 IAMs_20 IAMs_20 08 32 52.3
comp=Z,686nm,18.0s
TRF **Thorofare Moun** 85.66 334 P P 07 53 07.3 +0.1
TRF IAmb IAmb 07 53 13.2
comp=Z,28nm,1.0s
TRF **Thorofare Moun** 85.66 334 P P 07 53 07.3 +0.1
baz=70,SNR=9.8
B20K **Meade River** 85.67 341 P P 07 53 07.1 +0.3
baz=65,SNR=23
BPAW **Bear Paw Mtn.** 85.73 335 P P 07 53 06.9 -0.4
baz=70
I21K **Tanana** 85.75 336 P P 07 53 07.1 -0.2
baz=69
PMR **Palmer** 85.76 332 P P 07 53 07.7 +0.3
baz=71
G21K **Allakaket** 85.84 338 IAMs_20 IAMs_20 08 27 56.0
comp=Z,1μm,21.0s
G21K **Allakaket** 85.84 338 P P 07 53 08.0 +0.2
baz=68
KTH **Kantishna Hill** 85.89 334 IAMs_20 IAMs_20 08 30 42.6
comp=Z,743nm,19.0s
H21K **Melozitna Rive** 85.90 337 P P 07 53 08.3 +0.2
baz=68
CUT **Chulitna** 86.00 333 P P 07 53 08.7 +0.1
baz=70
D20K **Etivluk River** 86.05 340 P P 07 53 09.5 +0.7
baz=65,SNR=8.2
E20K **Nigu River** 86.10 340 P P 07 53 08.8 -0.3
baz=65
IMAR **Indian Mountai** 86.13 337 P P 07 53 09.5 +0.2
M22K **Willow** 86.15 333 P P 07 53 09.2 -0.2
baz=70
RC01 **Rabbit Creek A** 86.20 332 P P 07 53 09.6 0.0
baz=71
CHUM **Lake Minchumin** 86.35 335 P P 07 53 10.4 +0.1
baz=69,SNR=10
SEW **Seward** 86.39 331 P P 07 53 11.2 +0.7
baz=71
O22K **Cooper Landing** 86.39 331 P P 07 53 11.0 +0.4
baz=71
CAST **Castle Rocks** 86.42 335 P P 07 53 11.1 +0.4
baz=69
F20K **Avaraart Lake** 86.44 338 P P 07 53 11.1 +0.5
baz=66
SUA **Susitna One** 86.53 332 P P 07 53 11.5 0.0
baz=70
D19K **Kuna River** 86.64 340 P P 07 53 11.8 0.0
baz=64
PPLA **Purkeypile** 86.66 334 P P 07 53 11.6 -0.5
baz=69
SKT **Skwentna** 86.70 333 P P 07 53 12.0 -0.2
baz=69
ARU **Arti** 86.73 33 *c i* P P 07 53 12.8 +0.4
ARU 07 56 34.0
ARU S SKSac 08 03 39.5 +0.2
ARU SS SS 08 09 35.6 +5.0
ARU pmax pmax
comp=Z,16nm,1.1s
ARU **Arti** 86.73 33 P P 07 53 12.5 +0.2
comp=Z,2.1nm,0.4s,baz=250,slow=2.3,SNR=1.9
ARU LR LR 08 30 09.8
comp=Z,952nm,18.9s,baz=281,slow=34
comp=Z,2.1nm,0.4s
H20K **Anotleneega Mo** 86.76 337 P P 07 53 12.3 -0.1
baz=66
A19K **Wainwright** 86.78 342 P P 07 53 12.6 +0.3
baz=61
E19K **Redstone River** 86.80 339 P P 07 53 12.4 -0.1
baz=64
C19K **Lookout Ridge** 86.84 341 P P 07 53 11.9 -0.8
baz=62,SNR=21
I20K **Naaghedeneel** 86.88 336 P P 07 53 12.0 -0.9
baz=67
CAPN **Captain Cook N** 86.96 332 P P 07 53 13.2 -0.1
baz=70
J20K **Nowinta River** 86.99 336 P P 07 53 13.3 -0.1
baz=67
BRSE **Bradley Lake S** 87.12 331 P P 07 53 14.1 -0.1
baz=70
F19K **Shaleruckik Mo** 87.26 339 P P 07 53 15.4 +0.7
baz=64
K20K **Telida** 87.28 335 P P 07 53 15.1 +0.2
baz=67
N20K **Mount Spurr** 87.28 332 P P 07 53 14.7 -0.4
baz=69
G19K **Purcell Mounta** 87.31 338 IAMs_20 IAMs_20 08 28 28.0
comp=Z,871nm,21.0s
G19K **Purcell Mounta** 87.31 338 P P 07 53 15.7 +0.7
baz=64
H19K **Roundabout Mou** 87.34 337 P P 07 53 15.2 +0.1
baz=65
B18K **Kokolik River** 87.41 342 P P 07 53 16.4 +1.0
baz=60
L20K **Farewell, AK** 87.54 334 P P 07 53 15.9 -0.3
baz=67
C18K **Utukok River** 87.57 341 P P 07 53 16.6 +0.3
baz=61
J19K **Poorman** 87.66 336 IAMs_20 IAMs_20 08 28 37.2
comp=Z,806nm,19.0s
J19K **Poorman** 87.66 336 P P 07 53 17.0 +0.3
baz=66
SVE **Sverdlovsk** 87.69 32 *e* P P 07 53 17.7 +0.7
SVE pmax pmax
comp=Z,17nm,1.1s
GCSA **Galena City Sc** 87.84 337 P P 07 53 18.2 +0.7
baz=65
O20K **Slope Mountain** 87.89 332 P P 07 53 19.2 +1.2
baz=68
E18K **Tukpahlearik C** 87.97 340 P P 07 53 19.0 +0.9
baz=61
G18K **Tagagawik** 88.00 338 P P 07 53 19.0 +0.7
baz=63
F18K **Selawik** 88.03 339 P P 07 53 19.2 +0.8
baz=62
L19K **White Mountain** 88.07 334 P P 07 53 19.6 +0.8
baz=66
H18K **Honhosa River** 88.22 337 P P 07 53 19.6 +0.2
H18K **Honhosa River** 88.22 337 P P 07 53 20.5 +1.1
baz=63
AKTO **Aktyubinsk** 88.25 39 P P 07 53 19.8 0.0
comp=Z,6.1nm,0.8s,baz=290,slow=4.7,SNR=15
AKTO LR LR 08 31 24.0
comp=Z,839nm,18.7s,baz=290,slow=35
comp=Z,6.1nm,0.8s
TTA **Tatalina** 88.26 335 P P 07 53 20.2 +0.5
baz=65
C17K **DeLong Mountai** 88.29 341 P P 07 53 20.1 +0.4
baz=59
J18K **Innoko River** 88.32 335 P P 07 53 20.5 +0.6
baz=65
Q20K **Shuyak Island** 88.32 330 P P 07 53 20.0 +0.1
baz=68
RDOG **Red Dog Mine** 88.42 341 P P 07 53 21.1 +0.9
baz=59
N19K **Bonanza Creek** 88.46 333 P P 07 53 21.4 +0.7
baz=67
E17K **Hotham Inlet** 88.55 340 P P 07 53 21.0 +0.1
baz=60
SNAA **Sanae** 88.62 168 *e* P P 07 53 22.8 +1.7
SNAA **Sanae** 88.62 168 P P 07 53 20.8 -0.2
comp=Z,2.1nm,0.6s,baz=331,slow=11,SNR=1.6
SNAA LR LR 08 25 44.9
comp=Z,733nm,20.5s,baz=326,slow=31
comp=Z,2.1nm,0.6s
O19K **Port Alsworth** 88.63 332 P P 07 53 21.7 +0.3
baz=67
D17K **Noatak River** 88.66 340 P P 07 53 21.9 +0.6
baz=59
F17K **Baldwin Pennin** 88.67 339 P P 07 53 22.8 +1.4
baz=68
KDAK **Kodiak Island** 88.72 329 P P 07 53 22.7 +0.8
baz=68
KDAK **Kodiak Island** 88.72 329 LR LR 08 31 58.5
comp=Z,528nm,20.3s,baz=87,slow=35
M18K **Stony River** 88.78 333 P P 07 53 22.6 +0.6
baz=66
L18K **Granite Mounta** 88.84 334 P P 07 53 22.9 +0.6
baz=65
H17K **Granite Mounta** 88.91 337 P P 07 53 23.2 +0.6
baz=62
G17K **Kiwalik Mounta** 88.91 338 P P 07 53 23.5 +0.9
baz=61
C16K **Lisburne Hills** 89.08 341 P P 07 53 23.6 +0.3
baz=57
N18K **Kilae Creek** 89.14 333 P P 07 53 24.4 +0.6
baz=65
O18K **Koktuh Hills** 89.17 332 P P 07 53 23.4 -0.6
O18K **Koktuh Hills** 89.17 332 P P 07 53 24.5 +0.6
baz=66
OHAK **Old Harbor** 89.28 329 P P 07 53 25.0 +0.5
baz=68
K17K **Iditarod** 89.30 335 P P 07 53 25.0 +0.6
baz=63
P18K **Big Mountain,** 89.37 331 P P 07 53 25.9 +1.0
baz=66
M17K **Holitna River** 89.52 334 P P 07 53 26.4 +0.9
baz=64
L17K **Donlin** 89.56 335 P P 07 53 25.8 +0.1
baz=63
G16K **Koyuk River** 89.59 338 P P 07 53 25.6 -0.2
baz=60
I17K **Unalakleet** 89.71 337 P P 07 53 25.6 -0.8
baz=61
N17K **Nushagak Hills** 89.79 333 P P 07 53 27.1 +0.3
baz=64
ABKAR **Akbulak array** 89.81 39 P P 07 53 27.3 +0.1
H16K **Elim** 89.93 338 P P 07 53 27.7 +0.3
baz=60
J16K **Anvik River** 89.96 336 P P 07 53 27.8 +0.2
baz=61
SII **Sitkinak Islan** 90.00 329 P P 07 53 28.8 +0.9
baz=67
P17K **Kvichak River** 90.02 331 P P 07 53 28.2 +0.3
baz=65
O17K **Koliganek Bris** 90.07 332 P P 07 53 27.7 -0.4
baz=64
Q17K **Contact Creek** 90.15 330 P P 07 53 28.5 -0.2
baz=65
F15K **North Star Dit** 90.24 339 P P 07 53 29.2 +0.4
baz=58
L16K **Owhat River** 90.25 334 P P 07 53 28.7 -0.2
baz=62
Q16K **King Salmon** 90.34 331 P P 07 53 29.2 -0.1
baz=65
M16K **Timber Creek** 90.34 334 P P 07 53 29.6 +0.2
baz=63
G15K **Niukluk** 90.40 338 P P 07 53 30.9 +1.3
baz=58
N16K **Nishlik Lake** 90.51 333 P P 07 53 30.8 +0.6
baz=63
O16K **Kokwok River B** 90.61 332 P P 07 53 31.2 +0.6
baz=64
P16K **Nushagak River** 90.81 332 P P 07 53 32.6 +1.0
baz=64
K15K **Wolf Creek Mou** 90.82 335 P P 07 53 32.3 +0.7
baz=60
CHIR **Chirikof Islan** 91.03 328 P P 07 53 32.2 -0.5
baz=66
N15K **Kwethluk River** 91.24 333 P P 07 53 34.9 +1.3
baz=62
M15K **Kasigluk River** 91.25 334 P P 07 53 34.2 +0.7
baz=61
NRIK **Noril'sk** 91.69 15 *i* P P 07 53 36.1 +0.6
NRIK pmax pmax
comp=Z,13nm,2.0s
NRIK **Noril'sk** 91.69 15 P P 07 53 38.5 +3.0
comp=Z,3.1nm,0.9s,baz=308,slow=3.6,SNR=4.3
NRIK LR LR 08 31 22.8
comp=Z,508nm,19.8s,baz=324,slow=33
GEYT **Alibeck** 92.13 51 P P 07 53 37.5 -0.8
comp=Z,2.5nm,0.7s,baz=274,slow=7.3,SNR=3.8
comp=Z,2.5nm,0.7s
BRVK **Borovoye** 94.29 33 *i* P P 07 53 48.6 +0.8
BRVK pmax pmax
comp=Z,11nm,3.3s
BVAR **Borovoye Array** 94.37 33 P P 07 53 47.7 -0.4
comp=Z,1.0nm,0.7s,baz=336,slow=3.2,SNR=4.4
BVAR PP PP 07 57 32.7 -2.2
comp=Z,0.9nm,0.6s,baz=289,slow=4.5,SNR=4.1
BVAR LR LR 08 32 59.6
comp=Z,1μm,21.3s,baz=301,slow=34
comp=Z,1.0nm,0.7s
ELIB **Princess Elisa** 95.30 163 *dx* x 07 53 59.4
TIXI **Tiksi** 95.80 2 *i* P P 07 53 53.6 -0.7
TIXI pmax pmax
comp=Z,10.0nm,1.0s
TIXI **Tiksi** 95.80 2 LR LR 08 32 56.1
comp=Z,258nm,20.6s,baz=14,slow=33
BILL **Bilibino** 96.53 349 *e* P P 07 53 55.1 -2.6
WSAR **Wadi Sarin** 96.93 64 LR LR 08 39 23.0
comp=Z,923nm,19.6s,baz=301,slow=36
KURK **Kurchatov** 99.93 33 *i* P Pdif P 07 54 13.8 +0.5
KURK pmax pmax
comp=Z,5.0nm,2.2s
KURBB **Kurchatov Arra** 99.93 33 Pdiff Pdif 07 54 10.9 -2.4
comp=Z,0.2nm,0.2s,baz=243,slow=4.1,SNR=1.8
KURBB PP PP 07 58 17.4 -0.3
comp=Z,2.5nm,1.1s,baz=302,slow=9.0,SNR=5.7
KURBB LR LR 08 39 20.0
comp=Z,353nm,19.5s,baz=277,slow=35
ZALV **Zalesovo Beam** 101.03 28 PP PP 07 58 25.1 -0.7
comp=Z,2.1nm,0.9s,baz=304,slow=11,SNR=5.0
MKAR **Makanchi Array** 104.18 35 PP PKiKP 07 58 46.5 -2.8
comp=Z,0.9nm,0.9s,baz=302,slow=7.0,SNR=4.7
PPT2 **Papeete2** 107.78 255 *e* LR LR 08 30 21.9
comp=Z,1μm,38.2s
PPT2 *e* LR LR 08 30 31.4
comp=Z,552nm,38.5s
ULN **Ulaanbaatar** 114.70 21 IAMs_20 IAMs_20 08 52 51.8
comp=Z,405nm,19.0s
HIA **Hailar** 116.84 11 IAMs_20 IAMs_20 08 46 34.0
comp=Z,397nm,22.0s
KLR **Kul'dur** 118.33 3 *i* PKiKP PKiKP 07 59 16.1 +0.1
HHC **Hu-ho-hao-te** 122.40 21 *e* PKP PKPdf 07 59 20.1 -4.1
HHC SS SS 08 17 38.1 -0.9
HHC LR LR
comp=Z,330nm,17.6s
HHC LR LR
comp=Z,230nm,17.6s
HHC LR LR
comp=Z,510nm,19.1s
HNS **HongShan** 126.58 20 *e* PKP PKiKP 07 59 34.0 +1.4
HNS *e* PP PP 08 01 32.1 +5.2
HNS LR LR
comp=Z,580nm,20.7s
HNS LR LR
comp=Z,300nm,20.7s
HNS LR LR
comp=Z,850nm,23.5s
XAN **Xi'an** 127.20 28 PKP PKiKP 07 59 40.8 +6.8
XAN pPKP sPKPdf 07 59 51.3 +15
PZH **PanZhiHua** 129.19 40 PKP PKPdf 07 59 37.3 -0.3
INCN **Inchon** 129.48 9 IAMs_20 IAMs_20 09 04 11.6
comp=Z,315nm,20.0s
ENH **Enshi** 130.59 30 IAMs_20 IAMs_20 08 56 27.9
comp=Z,494nm,21.0s
MJAR **Matsushiro Arr** 131.02 357 PKP PKPdf 07 59 38.9 -1.8
comp=Z,1.2nm,0.7s,baz=338,slow=1.5,SNR=3.0
CMAR **Chiang Mai Arr** 132.61 50 PKP PKPdf 07 59 42.3 -1.8
comp=Z,1.2nm,0.4s,baz=294,slow=3.6,SNR=1.4
NJ2 **Nanjing** 132.83 19 *e* PKP PKPdf 07 59 43.8 -0.4
KULM **Kulim** 141.17 65 IAMs_20 IAMs_20 08 55 55.4
comp=Z,420nm,20.0s
IPM **Ipoh** 141.87 66 IAMs_20 IAMs_20 08 53 38.1
comp=Z,344nm,20.0s
ASAR **Alice Springs** 168.94 173 PKP PKPdf 08 00 34.9 -1.5
comp=Z,0.4nm,0.9s,baz=96,slow=2.8,SNR=2.2
ASAR PKPab PKPab 08 01 46.6 -0.4
comp=Z,0.2nm,0.6s,baz=139,slow=3.5,SNR=1.9
WRA **Warramunga Arr** 172.67 172 PKP PKPdf 08 00 36.5 -2.0
comp=Z,0.5nm,1.0s,baz=163,slow=3.1,SNR=1.9
WRA PKPab PKPab 08 02 03.3 -0.3
comp=Z,1.9nm,1.0s,baz=168,slow=4.3,SNR=2.1

NEIC ***23*** *07:41:20.5±1.8, 18°.52N±0°.09×69°.09W±0°.07, h112km±4km, mb4.1/11, Error ellipse: s-maj=12.9km s-min=8.6km az=198.0*
OSPL ***23*** *07:41:22.1±2.2, 18°.53N×69°.07W, h118km±11km, ML3.9*
SDD ***23*** *07:41:22.2±2.5, 18°.54N×69°.04W, h112km±9km, MD4.0, ML4.1, MW4.0*
IDC ***23*** *07:41:22.4±3.2, 18°.50N×69°.04W, h134km±35km, mb3.2/6, mbtmp3.9/9, Error ellipse: s-maj=37.1km s-min=22.6km az=88.0*

ISC 23 07:41:20.4±0.6, 18°.56N±0°.04×69°.12W±0°.03, h115km±5km, n102, σ1°50/107, mb3.9/9, 12C-12D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATOM	**Hato Mayor del**	0.34	313	↓*e*Pg	**Pn**	**07 41 36.6**	**-0.3**
HATOM				↓*e*Sg	**Sn**	**07 41 48.8**	**-0.5**
HATOM				IAML		07 41 48.9	
	comp=E,7μm,0.6s						
HATOM				IAML		07 41 49.6	
	comp=N,6μm,0.5s						
MIDR	**Miches**	**0.43**	**9**	↑*e*Pg	**Pn**	**07 41 37.6**	**+0.3**
MIDR				*e*Sg	**Sn**	**07 41 50.5**	**+0.5**
MIDR				IAML		07 41 51.6	
	comp=N,5μm,0.5s						
MIDR				IAML		07 41 52.0	
	comp=E,3μm,0.4s						
SADR	**Isla Saona**	**0.49**	**138**	↓*e*Pg	**Pn**	**07 41 37.6**	**0.0**
SADR				↓*e*Pg	**Pn**	**07 41 37.6**	**0.0**
SADR				↓*e*Sg	**Sn**	**07 41 50.9**	**+0.4**
SADR				IAML		07 41 51.6	
	comp=E,4μm,0.3s						
SADR				IAML		07 41 53.0	
	comp=N,4μm,0.3s						
PCDR	**Punta Cana, DR**	**0.70**	**93**	Pn	**Pn**	**07 41 38.8**	**-0.3**
PCDR				Sn	**Sn**	**07 41 53.0**	**-0.3**
PCDR	**Punta Cana, DR**	**0.70**	**93**	↓*e*Pg	**Pn**	**07 41 38.9**	**-0.3**
PCDR				IAML		07 41 54.9	
	comp=N,4μm,0.5s						
PCDR				IAML		07 41 58.1	
	comp=E,2μm,0.4s						
PCDR	**Punta Cana, DR**	**0.70**	**93**	*i* P	**Pn**	**07 41 38.9**	**-0.2**
PCDR				*e*S	**Sn**	**07 41 53.7**	**+0.4**
PCDR				IAML		07 41 56.3	
	comp=Z,2μm,0.5s						
SMDR	**Samana, DR**	**0.73**	**355**	↑*e*Pg	**Pn**	**07 41 39.4**	**0.0**
SMDR				IAML		07 41 58.9	
	comp=N,3μm,0.9s						
SMDR				IAML		07 41 59.7	
	comp=E,2μm,0.3s						
SDD	**Santo Domingo**	**0.76**	**263**	*e*Pg	**Pn**	**07 41 39.9**	**+0.3**
SDD				IAML		07 41 55.6	
	comp=N,412nm,0.7s						
SDD				IAML		07 41 56.0	
	comp=E,306nm,0.1s						
SDD	**Santo Domingo**	**0.76**	**263**	*i* P	**Pn**	**07 41 40.2**	**+0.6**
SDD				*e*S	**Sn**	**07 41 55.4**	**+1.2**
DR08	**Loma La Naviza**	**0.94**	**295**	IAML		07 41 57.2	
	comp=E,18μm,0.3s						
DR08				IAML		07 41 57.8	
	comp=N,21μm,0.2s						
LOSC1	**San Cristbal**	**0.95**	**261**	*i* P	**Pn**	**07 41 40.8**	**-0.6**
LOSC1				*e*S	**Sn**	**07 41 54.1**	**-3.2**
NADR	**Nagua**	**1.06**	**319**	↑*e*Pg	**Pn**	**07 41 43.0**	**+0.5**
NADR				IAML		07 42 06.3	
	comp=E,6μm,0.3s						
NADR				IAML		07 42 07.6	
	comp=N,10μm,0.3s						
LONA1	**Toro Cenizo, N**	**1.08**	**319**	*i* P	**Pn**	**07 41 43.6**	**+0.8**
LONA1				*e*S	**Sn**	**07 42 01.4**	**+1.8**
LONA1				IAML		07 42 09.7	
	comp=Z,3μm,0.5s						
BANI	**BANI**	**1.19**	**262**	*e*Pg	**Pn**	**07 41 45.4**	**+1.4**
BANI				IAML		07 42 09.1	
	comp=E,3μm,0.4s						
BANI				IAML		07 42 11.5	
	comp=N,4μm,0.2s						

BON1	**Bonao**	**1.27 288**	⇑	*e*Pg		**Pn**	**07 41 46.4**	**+1.7**
ABDR	**Alto Bandera**	**1.45 280**		*e*Pg		**Pn**	**07 41 48.4**	**+1.1**
ABDR				IAML			07 42 12.2	
	comp=E,2µm,0.4s							
ABDR				IAML			07 42 13.3	
	comp=N,2µm,0.7s							
SC01	**Santiago de lo**	**1.75 300**		*e*Pg		**Pn**	**07 41 51.8**	**+1.4**
SC01				IAML			07 42 23.8	
	comp=E,3µm,0.7s							
SC01				IAML			07 42 25.2	
	comp=N,3µm,0.6s							
SC01	**Santiago de lo**	**1.75 300**		*i* P		**Pn**	**07 41 52.0**	**+1.5**
SC01				*e*S		**Sn**	**07 42 13.7**	**+0.3**
SC01				IAML			07 42 26.5	
	comp=Z,1µm,0.4s							
BRH1	**Barahona**	**1.91 260**	⇑	*e*Sg		**Sn**	**07 42 16.4**	**-0.3**
AGPR	**Aguadilla, PR**	**1.91 92**		Pn		**Pn**	**07 41 52.5**	**+0.1**
AGPR				Sn		**Sn**	**07 42 16.9**	**+0.1**
AGPR	**Aguadilla, PR**	**1.91 92**		*e*Pg		**Pn**	**07 41 53.2**	**+0.8**
AGPR				IAML			07 42 21.6	
	comp=N,1µm,0.4s							
AGPR				IAML			07 42 23.3	
	comp=E,3µm,0.5s							
AGPR	**Aguadilla, PR**	**1.91 92**		*i* P		**Pn**	**07 41 53.2**	**+0.8**
AGPR				IAML			07 42 21.3	
	comp=Z,1µm,0.3s							
LOBA2	**Hotel Casa Bon**	**1.93 256**		*e*Pg		**Pn**	**07 41 53.0**	**+0.3**
LOBA2			⇑	*e*Sg		**Sn**	**07 42 16.5**	**-0.9**
CRPR	**Cabo Rojo, PR**	**1.99 106**		Pn		**Pn**	**07 41 52.4**	**-0.9**
CRPR	**Cabo Rojo, PR**	**1.99 106**	⇓	*e*Pg		**Pn**	**07 41 53.1**	**-0.3**
CRPR				IAML			07 42 31.4	
	comp=N,508nm,0.5s							
CRPR				IAML			07 42 31.5	
	comp=E,496nm,0.5s							
CRPR	**Cabo Rojo, PR**	**1.99 106**		*i* P		**Pn**	**07 41 53.2**	**-0.2**
CRPR				IAML			07 42 30.0	
	comp=Z,968nm,0.5s							
MLPR	**Magueyes Islan**	**2.06 106**		Pn		**Pn**	**07 41 53.5**	**-0.7**
MLPR	**Magueyes Islan**	**2.06 106**	⇓	*e*Pg		**Pn**	**07 41 53.6**	**-0.7**
MLPR				IAML			07 42 26.8	
	comp=N,361nm,0.2s							
MLPR				IAML			07 42 27.2	
	comp=E,401nm,0.3s							
PODR	**Polo**	**2.09 260**		*e*Pg		**Pn**	**07 41 55.9**	**+1.0**
PODR				IAML			07 42 30.9	
	comp=N,360nm,0.3s							
PODR				IAML			07 42 31.0	
	comp=E,759nm,0.3s							
PODR	**Polo**	**2.09 260**		*i* P		**Pn**	**07 41 55.8**	**+1.0**
SDDR	**Presa de Saban**	**2.10 282**				**Pn**	**07 41 57.1**	**+2.3**
SDDR	**Presa de Saban**	**2.10 282**		*e*Pg		**Pn**	**07 41 57.0**	**+2.2**
SDDR				IAML			07 42 28.6	
	comp=E,1µm,0.7s							
SDDR				IAML			07 42 28.9	
	comp=N,863nm,0.8s							
SDDR	**Presa de Saban**	**2.10 282**		*e*P		**Pn**	**07 41 56.9**	**+2.0**
SDDR	**Presa de Saban**	**2.10 282**		*i* P		**Pn**	**07 41 57.2**	**+2.3**
SDDR				*e*S		**Sn**	**07 42 20.5**	**-0.7**
SDDR				IAML			07 42 30.2	
	comp=Z,579nm,0.3s							
MADR	**Mao Valverde**	**2.13 299**	⇓	*e*Pg		**Pn**	**07 41 55.7**	**+0.6**
MADR			⇑	*e*Sg		**Sn**	**07 42 24.0**	**+2.2**
MADR				IAML			07 42 28.4	
	comp=N,3µm,0.5s							
MADR				IAML			07 42 33.7	
	comp=E,2µm,0.4s							
NEDR	**Neiba UASD**	**2.18 268**	⇑	*e*Pg		**Pn**	**07 41 58.0**	**+2.2**
NEDR				IAML			07 42 33.5	
	comp=E,377nm,0.4s							
NEDR				IAML			07 42 39.1	
	comp=N,234nm,0.5s							
REDR	**Restauracion**	**2.24 286**		IAML			07 42 32.9	
	comp=E,809nm,0.3s							
REDR				IAML			07 42 37.7	
	comp=N,549nm,0.2s							
AOPR	**Arecibo Observ**	**2.26 95**		Pn		**Pn**	**07 41 57.0**	**+0.1**
AOPR	**Arecibo Observ**	**2.26 95**		*e*Pg		**Pn**	**07 41 57.3**	**+0.5**
AOPR				IAML			07 42 33.4	
	comp=N,3µm,0.3s							
AOPR				IAML			07 42 37.0	
	comp=E,3µm,0.3s							
LOPP1	**Punta Rusia, P**	**2.35 304**	⇑	*e*Sg		**Sn**	**07 42 28.4**	**+1.5**
LOPP1				IAML			07 42 45.9	
	comp=N,2µm,1.8s							
OBIP	**Obispado Ponce**	**2.44 102**		Pn		**Pn**	**07 41 58.2**	**-0.9**
EMPR	**Esperanza - Ma**	**2.46 91**				**Pn**	**07 41 59.5**	**+0.1**
CELP	**Cerrillos**	**2.46 101**				**Pn**	**07 41 59.3**	**-0.1**
CELP	**Cerrillos**	**2.46 101**	⇑	*e*Pg		**Pn**	**07 41 59.2**	**-0.2**
CELP				IAML			07 42 34.5	
	comp=N,565nm,0.9s							
LOPE2	**Hotel El Peder**	**2.55 259**		*e*Pg		**Pn**	**07 42 02.1**	**+1.6**
LOPE2	**Hotel El Peder**	**2.55 259**		*i* P		**Pn**	**07 42 02.1**	**+1.6**
LOPE2				IAML			07 42 43.1	
	comp=Z,209nm,0.4s							
JIDR	**Jimani**	**2.59 269**		*e*Pg		**Pn**	**07 42 02.8**	**+1.7**
JIDR				*e*Sg		**Sn**	**07 42 33.5**	**+1.0**
JIDR				IAML			07 42 46.4	
	comp=N,296nm,0.4s							
LODA1	**ITESIL, Dajabo**	**2.63 292**		*i* P		**Pn**	**07 42 02.6**	**+0.9**
LODA1				*e*S		**Sn**	**07 42 33.7**	**+0.3**
LODA1				IAML			07 42 37.8	
	comp=Z,2µm,2.1s							
MCDR	**Montecristi**	**2.74 299**		*e*Pg		**Pn**	**07 42 02.6**	**-0.5**
MCDR			⇓	*e*Sg		**Sn**	**07 42 35.9**	**0.0**
MCDR				IAML			07 42 37.3	
	comp=E,933nm,0.2s							
MCDR				IAML			07 42 47.7	
	comp=N,888nm,0.3s							
GCPR	**Guaynabo City**	**2.89 94**		Pn		**Pn**	**07 42 04.5**	**-0.6**
IGPR	**InterUniversit**	**2.92 101**				**Pn**	**07 42 04.6**	**-0.9**
HUMP	**Col San Antoni**	**3.13 97**		Pn		**Pn**	**07 42 08.0**	**-0.3**
GRTK	**Grand Turk**	**3.50 328**		Pn		**Pn**	**07 42 11.5**	**-1.5**
GRTK	**Grand Turk**	**3.50 328**	⇑	*e*Pg		**Pn**	**07 42 12.3**	**-0.8**
GRTK			⇓	*e*Sg		**Sn**	**07 42 51.5**	**-2.3**
GRTK				IAML			07 42 51.6	
	comp=E,1µm,0.3s							
GRTK				IAML			07 42 52.0	
	comp=N,992nm,0.3s							
GRTK	**Grand Turk**	**3.50 328**		*e*P		**Pn**	**07 42 11.9**	**-1.1**
GRTK				*e*S		**Sn**	**07 42 49.8**	**-4.0**
GRTK				IAML			07 42 52.1	
	comp=N,982nm,0.4s							
GRTK				IAML			07 42 52.4	
	comp=N,1µm,0.3s							
GRTK	**Grand Turk**	**3.50 328**		*i* P		**Pn**	**07 42 12.3**	**-0.8**
GRTK				*e*S		**Sn**	**07 42 50.8**	**-3.0**
GRTK				IAML			07 42 53.4	
	comp=Z,491nm,0.2s							
SMRT	**St. Maarten**	**5.77 94**		Pn		**Pn**	**07 42 43.0**	**-0.6**
GTBY	**Guantanamo Bay**	**5.82 285**		Pn		Pn	07 42 42.3	-2.1
GTBY	**Guantanamo Bay**	**5.82 285**		*e*P		Pn	07 42 41.6	-2.7
GTBY				*e*S		Sn	07 43 44.1	-5.7
GTBY	**Guantanamo Bay**	**5.82 285**	⇓	*e*P		Pn	07 42 41.6	-2.7
GTBY				*e*S		Sn	07 43 44.5	-5.3
GTBY				IAML			07 43 48.9	
	comp=Z,36nm,0.5s							
GTBY				IAML			07 43 49.2	
	comp=Z,52nm,0.4s							
MOAC	**Moa**	**5.89 292**		*e*P		Pn	07 42 41.5	-3.7
SABCS	**La Quijada**	**6.11 288**		*e*P		Pn	07 42 45.5	-2.8
SABCS				*e*S		Sn	07 43 50.3	-6.7
SABCS	**La Quijada**	**6.11 288**		*e*P		Pn	07 42 45.4	-2.9
SABCS				*e*S		Sn	07 43 46.0	-11
SABCS				IAML			07 43 56.6	
	comp=N,94nm,0.5s							
SABCS				IAML			07 43 58.6	
	comp=E,76nm,0.4s							
RCC	**Rio Carpintero**	**6.37 284**		*e*P		Pn	07 42 48.8	-3.0
RCC				*e*S		Sn	07 43 57.5	-5.8
RCC				IVMs_BB		IVMs_BB	07 44 07.6	
	comp=E,86nm,2.5s							
RCC				IVMs_BB		IVMs_BB	07 44 08.3	
	comp=N,115nm,2.7s							
RCC	**Rio Carpintero**	**6.37 284**	⇑	*e*P		Pn	07 42 48.5	-3.3
RCC				*e*S		Sn	07 43 56.1	-7.1
RCC				*e*Sg		**Sn**	**07 43 59.2**	**-4.1**
RCC				IAML			07 44 01.8	
	comp=N,15nm,0.4s							
RCC				IAML			07 44 01.9	
	comp=E,20nm,0.3s							
MARVS	**Santiago de Cu**	**6.56 284**		*e*P		Pn	07 42 50.7	-3.6
MARVS				*e*S		Sn	07 44 02.0	-5.8
MARVS	**Santiago de Cu**	**6.56 284**		*e*P		Pn	07 42 52.1	-2.3
MARVS				*e*S		Sn	07 44 01.0	-6.8
MARVS				IAML			07 44 06.7	
	comp=E,31nm,0.6s							
MARVS				IAML			07 44 07.3	
	comp=N,26nm,0.5s							
PINC	**Pinares de May**	**6.58 288**		*e*P		Pn	07 42 50.5	-4.1
PINC	**Pinares de May**	**6.58 288**		*e*P		Pn	07 42 49.9	-4.7
CHIV	**Chivirico**	**7.03 283**		*e*P		**Pn**	**07 42 59.0**	**-1.8**
YAR	**Yar**	**7.06 286**		*e*P		Pn	07 42 56.8	-4.4
YAR				*e*S		Sn	07 44 10.2	-10
ABD	**La Joyeuse, An**	**7.57 105**		Pn		**Pn**	**07 43 08.3**	**+0.3**
CBE	**Ff, Capester**	**7.59 108**		Pn		**Pn**	**07 43 06.5**	**-1.9**
LMGC	**Las Mercedes**	**7.59 283**		*e*P		Pn	07 43 05.3	-3.0
LMGC				*e*S		Sn	07 44 26.2	-6.6
LMGC	**Las Mercedes**	**7.59 283**		*e*P		Pn	07 43 06.2	-2.2
LMGC				*e*S		Sn	07 44 26.4	-6.5
LMGC				IAML			07 44 30.8	
	comp=E,19nm,0.3s							
LMGC				IAML			07 44 31.2	
	comp=N,15nm,0.4s							
MAGL	**Barre de l'ile**	**7.92 108**		Pn		**Pn**	**07 43 13.0**	**+0.1**
FDF	**Fort de France**	**8.53 115**		Pn		**Pn**	**07 43 20.0**	**-1.1**
BIM	**Bigot**	**8.70 116**		Pn		**Pn**	**07 43 22.8**	**-0.6**
PCRV	**Puerto La Cruz**	**9.39 152**		P		**Pn**	**07 43 33.6**	**+0.7**
	comp=N,11nm,0.9s,baz=333,slow=2.4,SNR=10							
BAUV	**El Baul**	**9.61 174**		Pn		**Pn**	**07 43 35.8**	**+0.1**
SDV	**Santo Domingo**	**9.72 189**		P		**Pn**	**07 43 38.8**	**+1.4**
	comp=N,9.5nm,0.4s,baz=304,slow=8.5,SNR=4.2							
SDV				S		**Sn**	**07 45 17.7**	**-7.2**
	comp=N,6.2nm,0.5s,baz=16,slow=12,SNR=2.5							
ROSC	**El Rosal**	**14.55 201**		P		**Pn**	**07 44 42.8**	**+1.6**
	comp=N,14nm,0.7s,baz=98,slow=16,SNR=3.1							
SRBA	**San Rafael, Bu**	**16.63 238**		P		**Pn**	**07 45 08.3**	**+1.5**
ACON	**Acoyapa**	**16.81 249**		Pn		**Pn**	**07 45 06.6**	**-2.4**
ACON				IAmb		IAmb	07 45 45.6	
	comp=Z,22nm,1.1s							
456A	**Hilliard**	**16.84 318**		Pn		**Pn**	**07 45 07.7**	**-1.5**
SOCE	**Pocosol**	**17.05 244**		P		**P**	**07 45 10.7**	**-1.3**
SOCE				IAmb		IAmb	07 45 16.6	
	comp=Z,18nm,1.2s							
JSC	**Jenkinsville**	**19.04 328**		P		**P**	**07 45 34.5**	**+1.0**
JSC				IAmb		IAmb	07 45 39.0	
	comp=Z,12nm,1.2s							
W57A	**Gilead**	**19.14 332**		P		**P**	**07 45 34.3**	**-0.3**
W57A				IAmb		IAmb	07 45 50.2	
	comp=Z,19nm,1.4s							
TXAR	**Lajitas Array**	**33.23 295**		P		**P**	**07 47 47.5**	**+0.7**
TXAR	**Lajitas Array**	**33.23 295**		P		**P**	**07 47 46.8**	**0.0**
	comp=Z,0.3nm,0.7s,baz=127,slow=6.1,SNR=5.0							
	comp=Z,0.3nm,0.7s							
ALPN	**Alpine**	**33.42 297**		P		**P**	**07 47 48.8**	**+0.4**
ALPN				IAmb		IAmb	07 47 52.6	
	comp=Z,2.2nm,0.9s							
ECSD	**EROS Data Cent**	**34.12 323**		P		**P**	**07 47 54.2**	**+0.1**
ECSD				IAmb		IAmb	07 48 23.1	
	comp=Z,6.0nm,1.4s							
RTBA	**Rita Blanca**	**34.50 308**		P		**P**	**07 47 57.7**	**0.0**
VHRN	**Van Horn**	**34.64 298**		P		**P**	**07 48 00.5**	**+1.5**
VHRN				IAmb		IAmb	07 48 01.3	
	comp=Z,1.3nm,0.6s							
SCHQ	**Schefferville**	**36.25 2**		P		**P**	**07 48 12.6**	**+0.3**
SCHQ	**Schefferville**	**36.25 2**		P		**P**	**07 48 13.2**	**+0.9**
	comp=Z,1.9nm,0.5s,baz=183,slow=7.3,SNR=5.6							
	comp=Z,1.9nm,0.5s							
PDAR	**Pinedale Array**	**41.78 314**		P		**P**	**07 49 00.0**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=119,slow=12,SNR=2.0							
	comp=Z,0.1nm,0.3s							
NVAR	**Mina Array Bea**	**46.94 306**		P		**P**	**07 49 41.5**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=86,slow=6.6,SNR=4.5							
	comp=Z,0.5nm,0.5s							
YKA	**Yellowknife Ar**	**53.92 336**		P		**P**	**07 50 31.7**	**0.0**
	comp=Z,1.3nm,0.7s,baz=116,slow=7.4,SNR=11							
	comp=Z,1.3nm,0.7s							
ILAR	**Eielson Array**	**68.16 333**		P		**P**	**07 52 08.0**	**+0.1**
	comp=Z,0.4nm,0.9s,baz=119,slow=5.0,SNR=3.9							
	comp=Z,0.4nm,0.9s							
STKA	**Stephens Creek**	**149.33 238**		PKPbc		**PKPdf**	**08 00 55.6**	**+3.8**
	comp=Z,1.2nm,0.5s,baz=63,slow=2.3,SNR=7.5							
ASAR	**Alice Springs**	**157.94 253**		PKPab		**PKPab**	**08 01 37.5**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=110,slow=4.9,SNR=6.5							

*IDC **23** 07:54:55.4±1.1, 16°.63S×173°.17W, h0km, mb4.0/7, mbtmp4.1/8, ML2.8/1, MS3.4/2, Error ellipse: s-maj=50.6km s-min=21.9km az=156.0*
*NEIC **23** 07:54:57.7±2.1, 16°.30S±0°.07×173°.02W±0°.05, h10km±1km, mb4.7/27, Error ellipse: s-maj=12.4km s-min=7.8km az=7.0*

ISC 23 07:54:57.2±0.5, 16°.34S±0°.07×173°.07W±0°.08, h10km, n45, σ1§43/43, mb4.5/19, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.71**	**27**				**Pn**	**07 55 39.9**	**-1.1**
NIUE	**Niue**	**4.05**	**133**				**Pn**	**07 55 58.5**	**-0.8**
FUNA	**Funafuti**	**10.83**	**315**	Pn			**Pn**	**07 57 31.3**	**-1.1**
RAR	**Rarotonga**	**13.49**	**113**	Pn			**Pn**	**07 58 07.6**	**-1.2**
RAR	**Rarotonga**	**13.49**	**113**	Pn			**Pn**	**07 58 07.1**	**-1.6**
	0.5nm,0.3s,baz=264,slow=9.2,SNR=1.7								
RAR				LR			LR	08 02 03.2	
	comp=Z,101nm,20.2s,baz=322,slow=32								
	5.8nm,0.4s								
LIFNC	**LIFOU**	**19.18**	**254**	P			**P**	**07 59 20.6**	**-0.6**
PINNC	**Pines Island,**	**19.40**	**248**	P			**P**	**07 59 23.8**	**+0.3**
PINNC				IAmb			IAmb	07 59 51.3	
	comp=Z,134nm,1.5s								
OUENC	**Ouen Island, N**	**19.89**	**249**	P			**P**	**07 59 29.4**	**+0.6**
OUENC				IAmb			IAmb	07 59 31.5	
	comp=Z,25nm,0.9s								
DZM	**Mont Dzumac**	**20.16**	**250**	P			**P**	**07 59 31.8**	**-0.2**
DZM				IAmb			IAmb	07 59 55.4	
	comp=Z,22nm,1.1s								
DZM	**Mont Dzumac**	**20.16**	**250**	LR			LR	08 06 01.7	
	comp=Z,152nm,20.9s,baz=146,slow=33								
KOUNC	**Koumac, New Ca**	**21.88**	**256**	P			**P**	**07 59 52.9**	**+2.4**
KOUNC				IAmb			IAmb	07 59 56.2	
	comp=Z,32nm,1.1s								
RTZ	**Ruatahuna**	**23.86**	**200**	P			**P**	**08 00 11.1**	**+0.3**
RTZ				IAmb			IAmb	08 00 12.0	
	comp=Z,64nm,1.5s								
MRZ	**Mangatainoka R**	**26.16**	**200**	P			**P**	**08 00 31.8**	**0.0**
MRZ				IAmb			IAmb	08 00 33.7	
	comp=Z,50nm,1.4s								
HNR	**Honiara**	**27.17**	**281**	LR			LR	08 09 32.4	
	comp=Z,2µm,21.6s,baz=112,slow=32								
QRZ	**Quartz Range**	**27.41**	**204**	P			**P**	**08 00 43.2**	**+0.2**
COEN	**Coen**	**42.25**	**267**	P			**P**	**08 02 51.3**	**+0.2**
COEN				IAmb			IAmb	08 03 00.7	
	comp=Z,32nm,1.4s								
BBOO	**Buckleboo**	**48.63**	**241**	P			**P**	**08 03 40.5**	**-1.0**
BBOO				IAmb			IAmb	08 04 18.8	
	comp=Z,5.4nm,1.2s								
WB2	**Warramunga Arr**	**49.94**	**257**	P			**P**	**08 03 51.8**	**+0.1**
WB2				IAmb			IAmb	08 04 06.5	
	comp=Z,17nm,1.4s								
WRA	**Warramunga Arr**	**49.95**	**257**	P			**P**	**08 03 51.9**	**+0.1**
WRA	**Warramunga Arr**	**49.95**	**257**	P			**P**	**08 03 50.0**	**-1.8**
	comp=Z,0.6nm,0.6s,baz=96,slow=7.2,SNR=7.1								
	comp=Z,0.6nm,0.6s								
AS31	**Alice Springs**	**50.13**	**253**	P			**P**	**08 03 51.5**	**-1.7**
ASAR	**Alice Springs**	**50.13**	**253**	P			**P**	**08 03 50.8**	**-2.3**
ASAR	**Alice Springs**	**50.13**	**253**	P			**P**	**08 03 51.5**	**-1.7**
	comp=Z,4.4nm,0.7s,baz=88,slow=7.9,SNR=44								
	comp=Z,4.4nm,0.7s								
JCJ	**Chichijima**	**61.23**	**314**	P			**P**	**08 05 12.5**	**-0.2**
VNDA	**Vanda**	**62.48**	**186**	P			**P**	**08 05 21.2**	**+0.8**
VNDA				IAmb			IAmb	08 05 24.6	
	comp=Z,4.1nm,1.4s								
JMZ	**Minamidaito 2**	**68.50**	**307**	P			**P**	**08 06 00.5**	**+0.4**
JWT	**Wachi**	**70.86**	**317**	P			**P**	**08 06 17.2**	**+2.7**
JNU	**Nakatsue**	**72.67**	**313**	P			**P**	**08 06 22.1**	**-3.3**
ELS	**Elsinore Mount**	**72.67**	**46**	P			**P**	**08 06 21.6**	**-3.9**
ELS				IAmb			IAmb	08 06 56.9	
	comp=Z,6.1nm,1.3s								
PETK	**Petropavlovsk-**	**73.61**	**342**	P			**P**	**08 06 32.1**	**+1.6**
	comp=Z,5.1nm,0.9s,baz=106,slow=4.7,SNR=2.5								
	comp=Z,5.1nm,0.9s								
QSPA	**South Pole Qui**	**73.72**	**180**	P			**P**	**08 06 32.7**	**+1.4**
QSPA				IAmb			IAmb	08 06 33.5	
	comp=Z,4.2nm,1.1s								
YBH	**Yreka Blue Hor**	**74.15**	**37**	P			**P**	**08 06 34.2**	**+0.1**
YBH				IAmb			IAmb	08 06 50.3	
	comp=Z,6.5nm,1.1s								
NVAR	**Mina Array Bea**	**74.81**	**42**	P			**P**	**08 06 39.4**	**+1.3**
NVAR	**Mina Array Bea**	**74.81**	**42**	P			**P**	**08 06 39.8**	**+1.7**
	comp=Z,1.7nm,0.8s,baz=223,slow=11,SNR=12								
	comp=Z,1.7nm,0.8s								
GMN	**Gold Mountain**	**74.83**	**43**	P			**P**	**08 06 39.3**	**+0.9**
WCT	**Wildcat Mounta**	**74.97**	**44**	P			**P**	**08 06 38.4**	**-0.5**
MZP	**Montezuma Peak**	**74.98**	**43**	P			**P**	**08 06 40.3**	**+1.1**
KVN	**Kaiserville**	**75.30**	**41**	P			**P**	**08 06 41.0**	**+0.1**
KVN				IAmb			IAmb	08 06 43.6	
	comp=Z,4.8nm,1.2s								
TPH	**Tonopah**	**75.30**	**42**	P			**P**	**08 06 42.1**	**+1.1**
P18K	**Big Mountain,**	**76.85**	**9**	P			**P**	**08 06 49.2**	**+0.1**
P18K				IAmb			IAmb	08 07 06.7	
	comp=Z,16nm,1.5s								
TXAR	**Lajitas Array**	**80.87**	**56**	P			**P**	**08 07 13.8**	**+1.8**
	comp=Z,0.2nm,0.6s,baz=238,slow=5.1,SNR=2.9								
	comp=Z,0.2nm,0.6s								
PDAR	**Pinedale Array**	**82.75**	**42**	P			**P**	**08 07 23.1**	**+1.3**
	comp=Z,1.6nm,0.7s,baz=223,slow=3.1,SNR=15								
	comp=Z,1.6nm,0.7s								
ILAR	**Eielson Array**	**83.30**	**11**	P			**P**	**08 07 24.4**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=224,slow=5.0,SNR=7.6								
	comp=Z,0.8nm,0.8s								
BRTR	**Keskin Array B**	**147.08**	**320**	PKPbc			**PKPbc**	**08 14 41.0**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=84,slow=4.0,SNR=3.7								
GERES	**GERESS Array B**	**147.11**	**352**	PKPbc			**PKPbc**	**08 14 40.3**	**-0.3**
	comp=Z,0.3nm,0.2s,baz=29,slow=2.2,SNR=1.7								

*NNC **23** 08:05:54.3±2.5, 54°.49N×86°.84E, h0km, mb2.8, mpv2.6, Error ellipse: s-maj=52.9km s-min=13.5km az=161.0, Suspected Mining explosion.*

IDC 23 08:05:54.4±2.7, 54°.33N×87°.01E, h0km, mbtmp2.9/2, ML2.6/2, 7C, Error ellipse: s-maj=22.8km s-min=16.8km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.34**	**254**	I			I	08 15 10.0	
	baz=74,slow=331,SNR=4.7								
ZAA0	**Zalesovo Array**	**1.34**	**254**	⇑P			Pg	08 06 18.4	-1.7
	0.3nm,0.2s								
ZAA0				⇑S			Sg	08 06 36.7	-0.8
	0.6nm,0.3s								
ZALV	**Zalesovo Beam**	**1.34**	**254**	Pg			Pg	08 06 18.3	-1.8
	2.3nm,0.3s,baz=72,slow=17,SNR=43								
ZALV				Lg			Lg	08 06 38.1	
	2.1nm,0.3s,baz=73,slow=29,SNR=9.3								
KURK	**Kurchatov**	**6.27**	**238**	⇑Lg			Lg	08 09 10.6	
	7.2nm,1.8s								
KURBB	**Kurchatov Arra**	**6.37**	**238**	Pn			Pn	08 07 29.6	+0.1
	0.1nm,0.3s,baz=46,slow=2.7,SNR=7.3								
KURBB							Sn	08 08 42.1	-0.7
	baz=22,slow=17,SNR=1.5								
KURBB							Lg	08 09 15.7	
	baz=55,slow=32,SNR=5.1								
	0.5nm,0.4s								
KURBB	**Kurchatov Arra**	**6.37**	**238**	⇑Pn			Pn	08 07 30.5	+1.0
	0.4nm,0.2s								
KURBB				⇑Sn			Sn	08 08 43.5	+0.7
	2.3nm,0.6s								
KURBB				⇑Lg			Lg	08 09 12.3	
	6.7nm,1.0s								
MK31	**Makanchi Array**	**8.12**	**204**	⇑Pn			Pn	08 07 55.6	+2.1
	0.1nm,0.2s,baz=27,slow=13,SNR=24								
MKAR	**Makanchi Array**	**8.12**	**204**	Pn			Pn	08 07 55.3	+1.8
	0.1nm,0.3s,baz=26,slow=14,SNR=16								
MKAR				Lg			Lg	08 10 11.3	
	0.1nm,0.3s,baz=23,slow=34,SNR=2.0								
	0.2nm,0.3s								

*NNC **23** 08:13:30.6±1.2, 53°.76N×90°.56E, h6km±6km, mb3.6, mpv3.3, Error ellipse: s-maj=11.7km s-min=8.1km az=18.0, Suspected Mining explosion.*

IDC 23 08:13:31.2±3.5, 53°.50N×90°.58E, h0km, mbtmp3.1/3, ML2.4/3, 4C-7D, Error ellipse: s-maj=33.3km s-min=24.6km az=34.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.45**	**280**	I			I	08 35 30.0	
	0.1nm,0.8s,baz=90,slow=288,SNR=12								
ZAA0	**Zalesovo Array**	**3.45**	**280**	⇓Pg			Pb	08 14 33.1	-0.1
	0.7nm,0.6s								
ZAA0				⇓Lg			Lg	08 15 18.4	
	3.9nm,

IDC 23 08:25:04.0±6.5, 19°60S×175°41W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=271.2km s-min=40.5km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.01**	**263**	P	P	08 32 09.0	+1.8
	1.3nm,0.4s,baz=88,slow=7.9,SNR=1.4						
	1.3nm,0.4s						
ASAR	**Alice Springs**	**47.10**	**256**	P	P	08 33 38.0	-0.1
	0.9nm,0.7s,baz=94,slow=7.8,SNR=14						
	0.9nm,0.7s						
WRA	**Warramunga Arr**	**47.14**	**261**	P	P	08 33 37.1	-1.4
	0.7nm,0.7s,baz=97,slow=7.5,SNR=10						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**86.92**	**12**	P	P	08 37 50.4	+0.1
	0.4nm,1.0s,baz=223,slow=6.2,SNR=2.1						
	0.4nm,1.0s						

IDC 23 08:35:13.1±3.1, 53°58N×87°94E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=25.8km s-min=15.6km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**283**	I	I	08 48 26.5	
	0.1nm,0.9s,baz=97,slow=335,SNR=9.6						
ZALV	**Zalesovo Beam**	**1.89**	**282**	Pg	Pn	08 35 47.1	+0.5
	1.7nm,0.3s,baz=103,slow=17,SNR=10						
ZALV				Lg	Lg	08 36 12.3	
	2.2nm,0.3s,baz=96,slow=25,SNR=8.0						
KURBB	**Kurchatov Arra**	**6.51**	**247**	Pn	Pn	08 36 50.5	+0.5
	0.1nm,0.3s,baz=62,slow=14,SNR=10						
KURBB				Sn	Sn	08 38 05.7	+0.8
	baz=55,slow=22,SNR=1.7						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**7.70**	**210**	Pn	Pn	08 37 08.4	+2.0
	0.1nm,0.3s,baz=27,slow=13,SNR=4.4						
MKAR				Sn	Sn	08 38 31.4	-2.9
	baz=27,slow=26						
MKAR				Lg	Lg	08 39 16.8	
	0.1nm,0.3s,baz=30,slow=26,SNR=4.1						
	0.2nm,0.3s						

IDC 23 08:38:34.6±3.0, 13°47S×167°28E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=135.0km s-min=47.7km az=139.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.83**	**228**	P	P	08 44 43.7	+0.1
	1.0nm,0.7s,baz=37,slow=10,SNR=5.1						
	1.0nm,0.7s						
WRA	**Warramunga Arr**	**32.16**	**254**	P	P	08 45 03.8	-0.5
	0.6nm,0.9s,baz=89,slow=10,SNR=2.0						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**33.15**	**247**	P	P	08 45 13.2	+0.2
	0.3nm,0.6s,baz=77,slow=9.2,SNR=5.4						
	0.3nm,0.6s						
ARCES	**ARCESS Array B**	**119.04**	**346**	PKP	PKPdf	08 57 24.6	-0.2
	9.2nm,1.1s,baz=64,slow=2.1,SNR=5.4						

*IDC **23** 08:41:21.1±1.8, 10°85S×161°57E, h0km, mb3.6/5, mbtmp3.7/6, ML4.7/1, MS3.7/1, Error ellipse: s-maj=38.2km s-min=32.1km az=113.0*

ISC 23 08:41:25.2±1.4, 10°9S±0°2×161°5E±0°2, h28km, n6, σ1°9°2/7, mb3.5/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.15**	**313**	Pn	**Pn**	**08 41 58.9**	**-0.4**
	246nm,0.3s,baz=127,slow=5.1,SNR=1.7						
HNR				Sn	**Sn**	**08 42 25.4**	**+0.4**
	794nm,0.3s,baz=111,slow=8.6,SNR=3.8						
HNR				LR	LR	08 42 35.5	
	comp=Z,2μm,20.6s,baz=241,slow=35						
	2μm,0.6s						
WRA	**Warramunga Arr**	**27.68**	**248**	P	**P**	**08 47 12.3**	**+1.3**
	0.8nm,0.7s,baz=76,slow=9.6,SNR=5.9						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**29.21**	**241**	P	**P**	**08 47 24.5**	**-0.2**
	0.3nm,0.8s,baz=72,slow=9.7,SNR=1.3						
	0.3nm,0.8s						
SONM	**Songino Array**	**76.17**	**325**	P	**P**	**08 53 11.1**	**+0.3**
	0.7nm,0.7s,baz=126,slow=4.5,SNR=4.6						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**84.74**	**20**	P	**P**	**08 53 57.0**	**+0.7**
	0.2nm,0.8s,baz=243,slow=6.0,SNR=1.9						
	0.2nm,0.8s						
MKAR	**Makanchi Array**	**90.62**	**318**	P	**P**	**08 54 23.8**	**-1.3**
	0.4nm,0.7s,baz=98,slow=6.4,SNR=2.1						
	0.4nm,0.7s						

*NNC **23** 08:48:45.8±3.4, 53°53N×87°94E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=27.6km s-min=14.6km az=58.0, Suspected Mining explosion.*

IDC 23 08:48:45.9±3.0, 53°63N×87°96E, h0km, mbtmp2.9/2, ML2.5/2, 7C-2D, Error ellipse: s-maj=24.7km s-min=15.6km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**281**	I	I	09 02 18.6	
	baz=94,slow=342,SNR=4.3						
ZAA0	**Zalesovo Array**	**1.89**	**281**	⇑P	Pn	08 49 18.3	-1.0
	0.9nm,0.8s						
ZAA0				⇑S	Sb	08 49 45.3	0.0
	2.8nm,0.8s						
ZALV	**Zalesovo Beam**	**1.89**	**281**	Pg	Pn	08 49 19.6	+0.2
	1.1nm,0.3s,baz=99,slow=11,SNR=15						
ZALV				Lg	Lg	08 49 46.9	
	4.0nm,0.3s,baz=96,slow=27,SNR=15						
KURK	**Kurchatov**	**6.44**	**247**	⇑Lg	Lg	08 52 06.6	
	6.7nm,0.9s						
KURBB	**Kurchatov Arra**	**6.54**	**246**	Pn	Pn	08 50 23.9	+0.7
	baz=62,slow=14,SNR=7.3						
KURBB				Sn	Sn	08 51 37.9	-0.6
	baz=60,slow=2.2,SNR=1.3						
KURBB				Lg	Lg	08 52 10.1	
	baz=59,slow=33,SNR=2.6						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**6.54**	**246**	⇓Pn	Pn	08 50 23.2	0.0
	1.9nm,0.7s						
KURBB				⇑Sn	Sn	08 51 37.6	-0.9
	3.5nm,0.7s						
KURBB				⇑Lg	Lg	08 52 12.9	
	6.9nm,0.8s						
MK31	**Makanchi Array**	**7.75**	**210**	⇓Pn	Pn	08 50 41.2	+1.4
	0.4nm,0.6s,baz=33,slow=13,SNR=7.3						
MK31				⇑Sn	Sn	08 52 06.3	-2.0
	2.9nm,1.2s						
MK31				⇑Lg	Lg	08 52 45.6	
	3.7nm,1.1s,baz=36,slow=30,SNR=4.6						
MKAR	**Makanchi Array**	**7.75**	**210**	Pn	Pn	08 50 41.3	+1.4
	0.2nm,0.3s,baz=28,slow=12,SNR=7.3						
MKAR				Sn	Sn	08 52 07.5	-0.8
	0.1nm,0.3s,baz=22,slow=28,SNR=4.1						
MKAR				Lg	Lg	08 52 49.0	
	0.1nm,0.3s,baz=24,slow=22,SNR=4.0						
	0.2nm,0.3s						

*ANF **23** 08:49:24.7±0.1, 35°41N×117°82W, h14km, ML3.0/33, Error ellipse: s-maj=0.8km s-min=0.7km az=27.0*

*PAS **23** 08:49:25.8±1.4, 35°397N±0°008×117°83W±0°01, h8km±3km, ML3.1/163, ML2.6/46(NEIC), Error ellipse: s-maj=1.3km s-min=1.1km az=118.0*

*NEIC **23** 08:49:25.4±1.3, 35°400N±0°008×117°83W±0°01, h6km±3km, Error ellipse: s-maj=1.3km s-min=1.1km az=114.0*

ISC 23 08:49:25.6±0.8, 35°40N±0°01×117°83W±0°01, h11km±5km, n121, σ0°67/178, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DTP	**Desert Tortois**	**0.13**	**187**		**Pg**	**08 49 28.7**	**-0.2**
DTP					**Sg**	**08 49 30.9**	**-0.3**
LRMC	**Laurel Mtn Rad**	**0.14**	**55**		**Pg**	**08 49 28.9**	**-0.2**
LRMC					**Sg**	**08 49 31.0**	**-0.7**
LRMC	**Laurel Mtn Rad**	**0.14**	**55**	P	**Pg**	**08 49 29.0**	**-0.2**
	baz=235,SNR=194						
LRMC				S	**Sg**	**08 49 31.0**	**-0.7**
	baz=235						
CCAC	**Calif City Air**	**0.29**	**213**	Pg	**Pg**	**08 49 31.7**	**+0.1**
CCAC				IAML		08 49 36.4	
	comp=E,2μm,0.7s						
CCAC				IAML		08 49 36.5	
	comp=N,2μm,0.4s						
SRTC	**Snort**	**0.30**	**12**		**Pg**	**08 49 32.1**	**+0.3**
SRTC					**Sg**	**08 49 36.8**	**+0.8**
CCCA	**Chr Cany lake**	**0.40**	**71**		**Pg**	**08 49 33.6**	**+0.1**
CCCA					**Sg**	**08 49 39.6**	**+0.7**
TOW	**Tower One**	**0.41**	**7**		**Pg**	**08 49 34.2**	**+0.3**
TOW					**Sb**	**08 49 40.6**	**-0.7**
WNMM	**Nine Mile Cany**	**0.45**	**352**		**Pg**	**08 49 34.3**	**-0.2**
WNMM					**Sg**	**08 49 40.2**	**-0.3**
WORM	**Onyx Ranch**	**0.45**	**311**		**Pg**	**08 49 34.3**	**-0.3**
WORM					**Sg**	**08 49 40.3**	**-0.3**
CLC	**China Lake**	**0.46**	**24**		**Pg**	**08 49 34.4**	**-0.3**
CLC					**Sg**	**08 49 41.0**	**+0.2**
WHFM	**Hanning Flat**	**0.52**	**305**		**Pg**	**08 49 35.6**	**-0.3**
WHFM					**Sg**	**08 49 42.6**	**-0.2**
EDW2	**Edwards Air Fo**	**0.53**	**195**		**Pg**	**08 49 35.7**	**-0.4**
EDW2	**Edwards Air Fo**	**0.53**	**195**	P	**Pg**	**08 49 35.7**	**-0.4**
	baz=15,SNR=142						
WVPM	**Volcano Peak E**	**0.55**	**1**		**Pg**	**08 49 36.2**	**-0.3**
WVPM					**Sg**	**08 49 43.7**	**-0.1**
HYS	**Haystack Butte**	**0.57**	**158**		**Pg**	**08 49 36.5**	**-0.2**
HYS					**Sg**	**08 49 44.0**	**-0.3**
JRC2	**Joshua Ridge**	**0.58**	**1**		**Pg**	**08 49 36.8**	**-0.3**
JRC2					**Sg**	**08 49 44.7**	**-0.2**
ISA	**Isabella, Lake**	**0.59**	**297**	Pg	**Pg**	**08 49 36.8**	**-0.3**
ISA				IAML		08 49 45.0	
	comp=N,330nm,0.5s						
ISA				IAML		08 49 45.0	
	comp=E,292nm,0.4s						
ISA	**Isabella, Lake**	**0.59**	**297**		**Sg**	**08 49 44.7**	**-0.3**
ISA	**Isabella, Lake**	**0.59**	**297**	P	**Pg**	**08 49 36.9**	**-0.3**
	baz=117,SNR=281						
ISA				S	**Sg**	**08 49 44.7**	**-0.3**
	baz=117						
WRVM	**Rose V. Centra**	**0.61**	**355**		**Pg**	**08 49 37.2**	**-0.4**
WRVM					**Sg**	**08 49 45.4**	**-0.4**
TPO	**Tropico Hills**	**0.61**	**213**		**Pg**	**08 49 37.3**	**-0.2**
TPO					**Sg**	**08 49 46.1**	**+0.4**
WCSM	**Coso Springs S**	**0.63**	**4**		**Pg**	**08 49 37.5**	**-0.4**
WCSM					**Sg**	**08 49 45.9**	**-0.4**
WASM	**Alta Sierra Ca**	**0.69**	**300**		**Pg**	**08 49 38.7**	**-0.3**
WASM					**Sg**	**08 49 47.9**	**-0.2**
SBB	**Saddle Back Bu**	**0.71**	**180**		**Pg**	**08 49 38.8**	**-0.6**
MPMC	**Manual Prospec**	**0.71**	**22**		**Pg**	**08 49 39.1**	**-0.4**
MPMC					**Sg**	**08 49 48.8**	**-0.1**
MPMC	**Manual Prospec**	**0.71**	**22**	P	**Pg**	**08 49 39.1**	**-0.4**
	baz=202,SNR=364						
MPMC				S	**Sg**	**08 49 48.5**	**-0.5**
	baz=202						
TEJ	**El Tejon**	**0.72**	**257**		**Pg**	**08 49 38.9**	**-0.8**
TEJ					**Sg**	**08 49 48.5**	**-0.7**
ALPC	**Antelope**	**0.81**	**209**		**Pb**	**08 49 42.5**	**+0.8**
ALPC					**Sb**	**08 49 52.8**	**+0.2**
TJR	**Tejon Ranch**	**0.84**	**244**		**Pg**	**08 49 41.1**	**-0.7**
TJR					**Sg**	**08 49 52.6**	**-0.1**
GSC	**Goldstone, Bar**	**0.84**	**96**		**Pg**	**08 49 41.2**	**-0.6**
GSC	**Goldstone, Bar**	**0.84**	**96**		**Sg**	**08 49 52.9**	**0.0**
GSC	**Goldstone, Bar**	**0.84**	**96**	P	**Pg**	**08 49 41.4**	**-0.4**
	baz=277,SNR=137						
GSC				S	**Sg**	**08 49 52.7**	**-0.1**
	baz=277						
THC	**Tehachapi Micr**	**0.84**	**235**		**Pg**	**08 49 41.4**	**-0.5**
THC					**Sb**	**08 49 53.5**	**-0.2**
RRX	**Edison Barstow**	**0.86**	**127**		**Pg**	**08 49 41.6**	**-0.5**
RRX					Pn	08 49 53.0	+9.4
RRX	**Edison Barstow**	**0.86**	**127**	P	**Pg**	**08 49 41.7**	**-0.5**
	baz=308,SNR=22						
RRX				S	**Sg**	**08 49 53.1**	**-0.2**
	baz=308						
ARVC	**Arvin**	**0.86**	**252**		**Pg**	**08 49 41.7**	**-0.6**
ARVC					Pn	08 49 53.4	+10
ARVC	**Arvin**	**0.86**	**252**	P	**Pg**	**08 49 41.8**	**-0.6**
	baz=72,SNR=20						
ARVC				S	**Sg**	**08 49 53.5**	**-0.1**
	baz=72						
LRRC	**Littlerock Res**	**0.88**	**191**		**Pg**	**08 49 42.0**	**-0.7**
ADO	**Adelanto Recei**	**0.90**	**159**		**Pg**	**08 49 42.8**	**-0.3**
ADO					**Sg**	**08 49 55.0**	**+0.1**
CJV	**Casa Juvan**	**0.90**	**197**		**Pg**	**08 49 42.5**	**-0.6**
CJV					**Sb**	**08 49 56.3**	**+0.9**
VTV	**Victorville**	**0.93**	**154**		**Pb**	**08 49 44.3**	**+0.5**
BTPC	**Burnt Peak**	**0.94**	**221**		**Pg**	**08 49 43.5**	**-0.3**
JNH	**Juniper Hills**	**0.95**	**186**		**Pg**	**08 49 43.4**	**-0.6**
JNH					**Sb**	**08 49 58.0**	**+1.1**
QSM	**Queen of Sheba**	**0.96**	**54**		**Pg**	**08 49 43.3**	**-0.9**
CWC	**Cottonwood Cre**	**1.06**	**349**		**Pg**	**08 49 45.3**	**-0.9**
CWC					**Sg**	**08 49 58.9**	**-1.1**
CWC	**Cottonwood Cre**	**1.06**	**349**	P	**Pg**	**08 49 45.2**	**-0.9**
	baz=169						
CWC				S	**Sg**	**08 49 58.8**	**-1.2**
	baz=169						
CHFC	**Chilao Flat St**	**1.07**	**189**		**Pb**	**08 49 46.4**	**+0.1**
OSI	**Osito Audit: C**	**1.07**	**224**		**Sg**	**08 50 00.2**	**-0.2**
OSI	**Osito Audit: C**	**1.07**	**224**	P	**Pg**	**08 49 45.4**	**-0.9**
	baz=43						
OSI				S	**Sg**	**08 50 00.1**	**-0.2**
	baz=43						
XTL	**Crystal Lake,**	**1.10**	**182**		**Pg**	**08 49 45.9**	**-0.9**
SPG2	**Springville 2**	**1.11**	**317**		**Pg**	**08 49 46.0**	**-1.0**
SPG2					**Sg**	**08 50 00.8**	**-0.6**
VES	**Vestal, Richgr**	**1.12**	**294**		**Pg**	**08 49 46.4**	**-0.8**
VES					**Sb**	**08 50 01.7**	**+0.2**
VES	**Vestal, Richgr**	**1.12**	**294**	P	**Pg**	**08 49 46.3**	**-0.8**
	baz=113,SNR=61						
VES				S	**Sg**	**08 50 01.4**	**-0.3**
	baz=113						
CSP	**Cedar Springs**	**1.16**	**161**		**Pg**	**08 49 47.4**	**-0.6**
BFSC	**Mount Baldy Ra**	**1.16**	**173**		**Pg**	**08 49 47.7**	**-0.3**
BFSC	**Mount Baldy Ra**	**1.16**	**173**	P	**Pg**	**08 49 47.1**	**-0.9**
	baz=353,SNR=21						
BFSC				S	**Sg**	**08 50 02.3**	**-0.9**
	baz=353						
MWC	**Mount Wilson**	**1.19**	**189**		**Pb**	**08 49 48.6**	**+0.3**
SSK	**Sunset Peak**	**1.19**	**175**		**Pg**	**08 49 47.8**	**-0.7**
DECC	**Green Verdugo**	**1.22**	**200**		**Pg**	**08 49 48.8**	**-0.2**
DECC					**Sn**	**08 50 05.3**	**+0.3**
DECC	**Green Verdugo**	**1.22**	**200**	P	**Pg**	**08 49 47.8**	**-1.2**
	baz=20,SNR=43						
DECC				S	**Sb**	**08 50 05.0**	**+0.6**
	baz=20						
SS2	**San Sevaine**	**1.22**	**167**		**Pg**	**08 49 48.6**	**-0.4**
GWY	**Greenwater Val**	**1.23**	**50**		**Pg**	**08 49 47.9**	**-1.4**
GWY	**Greenwater Val**	**1.23**	**50**		**Sb**	**08 50 05.5**	**+0.5**
PEM	**Pine Mountain**	**1.23**	**182**		**Pg**	**08 49 48.8**	**-0.4**
PASC	**Pasadena Art C**	**1.26**	**194**		**Pn**	**08 49 48.6**	**-0.5**
FURC	**Furnace Creek,**	**1.32**	**36**	Pg	**Pn**	**08 49 50.4**	**+0.4**
	baz=216						
FURC				Sg	**Sn**	**08 50 08.2**	**+0.6**
	baz=216						
SIL	**Silver Peak**	**1.33**	**142**		**Pg**	**08 49 51.3**	**0.0**
BLCC	**Black Canyon**	**1.34**	**211**		**Pn**	**08 49 50.6**	**+0.2**
BLCC					**Sn**	**08 50 08.9**	**+0.7**
HEC	**Hector,Ludlow**	**1.35**	**114**	P	**Pn**	**08 49 49.3**	**-1.1**
	baz=295,SNR=21						
HEC				Sg	**Sn**	**08 50 09.3**	**+1.0**
	baz=295						
BBRC	**Big Bear Solar**	**1.35**	**146**		**Pg**	**08 49 51.5**	**-0.2**
BBRC					**Sg**	**08 50 08.5**	**-0.8**
BBRC	**Big Bear Solar**	**1.35**	**146**	Pg	**Pn**	**08 49 51.1**	**+0.5**
	baz=327						
BBRC				S	**Sg**	**08 50 08.4**	**-0.8**
	baz=327						
SHOC	**Shoshone, Teco**	**1.36**	**68**		**Sn**	**08 50 10.2**	**+1.6**
SHOC	**Shoshone, Teco**	**1.36**	**68**	P	**Pn**	**08 49 49.3**	**-1.3**
	baz=249						
SHOC				S	**Sb**	**08 50 07.6**	**-0.9**
	baz=249						
BCW	**Bitter Crk WRg**	**1.38**	**251**		**Pn**	**08 49 50.8**	**-0.1**
BCW				IAML		08 50 12.0	
	comp=N,125nm,0.7s						
BCW				IAML		08 50 16.1	
	comp=E,145nm,0.7s						
DJJ	**Donna J Jenkin**	**1.39**	**202**		**Pn**	**08 49 50.8**	**-0.1**
SVD	**Seven Oaks Dam**	**1.42**	**155**		**Pb**	**08 49 52.4**	**+0.3**
SVD					**Sb**	**08 50 10.6**	**+0.4**
DSCC	**Desert Studies**	**1.43**	**100**		**Pn**	**08 49 52.0**	**+0.5**
DSCC					**Sg**	**08 50 12.1**	**+0.4**
TUQ	**Turquoise Moun**	**1.55**	**88**	P	**Pn**	**08 49 52.1**	**-1.2**
	baz=269,SNR=10						
TUQ				Sg	**Sg**	**08 50 15.7**	**0.0**
	baz=269						
CRGC	**Crocker Grade**	**1.56**	**265**		**Pb**	**08 49 54.7**	**+0.1**
VOG	**Valley Oaks Go**	**1.56**	**307**	Pg	**Pb**	**08 49 54.5**	**-0.1**
	baz=126						
VOG				Sb	**Sb**	**08 50 14.5**	**+0.1**
	baz=126						
GRAC	**Grapevine Rang**	**1.64**	**13**		**Pn**	**08 49 54.2**	**-0.2**
GRAC				IAML		08 50 05.1	
	comp=N,62nm,0.3s						
GRAC				IAML		08 50 28.6	
	comp=E,55nm,0.5s						
GRAC	**Grapevine Rang**	**1.64**	**13**	Pb	**Pn**	**08 49 54.5**	**+0.1**
	baz=193,SNR=36						
GRAC				Sb	**Sb**	**08 50 16.5**	**0.0**
	baz=193						
TIN	**Tinemaha, Big**	**1.69**	**349**		**Pg**	**08 49 57.5**	**-0.5**
TIN	**Tinemaha, Big**	**1.69**	**349**	P	**Pn**	**08 49 53.2**	**-1.9**
	baz=169						
TIN				Sb	**Sb**	**08 50 18.5**	**+0.5**
	baz=169						
WCT	**Wildcat Mounta**	**1.70**	**35**	Pg	**Pn**	**08 49 54.9**	**-0.4**
WCT				IAML		08 50 21.1	
	comp=E,63nm,0.8s						
WCT				IAML		08 50 23.4	
	comp=N,42nm,0.6s						
PKM	**Mcpherson Peak**	**1.71**	**253**	Pg	**Pb**	**08 49 57.6**	**+0.5**
	baz=72						
PKM				Sb	**Sb**	**08 50 19.2**	**+0.6**
	baz=72						
SGV	**South Grapevin**	**1.71**	**22**		**Pn**	**08 49 55.2**	**-0.2**
ELS	**Elsinore Mount**	**1.77**	**169**		**Pn**	**08 49 56.2**	**-0.1**
ELS				IAML		08 50 23.2	
	comp=E,78nm,0.7s						
ELS				IAML		08 50 23.4	
	comp=N,49nm,0.3s						
SMMC	**Simmler**	**1.78**	**268**	Pb	**Pn**	**08 49 57.4**	**+1.1**
	baz=87						
LCH	**Last Change Ra**	**1.84**	**4**		**Pn**	**08 49 56.9**	**-0.4**
POB	**Polly Butte**	**1.86**	**156**		**Pb**	**08 50 00.3**	**+0.6**
MURC	**Murrieta**	**1.87**	**164**	S	**Sn**	**08 50 20.7**	**-0.4**
	baz=344						
DGR	**Domenigoni Val**	**1.87**	**159**		**Pn**	**08 49 58.1**	**+0.6**
GMRC	**Granite Mounta**	**1.88**	**108**		**Pn**	**08 49 56.6**	**-1.2**
GMRC	**Granite Mounta**	**1.88**	**108**	P	**Pn**	**08 49 56.5**	**-1.2**
	baz=290,SNR=47						
TPC	**Twentynine Pal**	**1.95**	**131**		**Pn**	**08 49 58.6**	**0.0**
GMN	**Gold Mountain**	**1.95**	**13**		**Pn**	**08 49 59.0**	**+0.1**
GMN				IAML		08 50 10.9	
	comp=N,29nm,0.5s						
DSP	**Deep Springs**	**1.97**	**357**		**Pn**	**08 49 59.4**	**+0.4**
MTUM	**Tungsten Hills**	**2.04**	**343**		**Pb**	**08 50 03.5**	**+0.7**
CIS	**Catalina Islan**	**2.05**	**194**	P	**Pn**	**08 49 59.3**	**-0.7**
	baz=14						
CIS				S	**Sn**	**08 50 24.7**	**-0.9**
	baz=14						
PFO	**Pinyon Flats O**	**2.11**	**147**	P	**Pn**	**08 49 59.8**	**-1.1**
	baz=328						
PFO				Sb	**Sb**	**08 50 30.9**	**+0.8**
	baz=328						
BZNA	**Buzz No.'s Pla**	**2.13**	**153**		**Pg**	**08 50 05.4**	**-1.1**
FRD	**Ford Ranch, An**	**2.15**	**152**		**Pb**	**08 50 05.5**	**+0.8**
MZP	**Montezuma Peak**	**2.33**	**9**		**Pn**	**08 50 04.1**	**0.0**
MLAC	**Mammoth, Mammo**	**2.37**	**340**	Pg	**Pb**	**08 50 09.4**	**+0.9**
	baz=160						
SHPR	**Sheep Range**	**2.43**	**62**		**Pn**	**08 50 05.8**	**+0.4**
SHPR				IAML		08 50 46.1	
	comp=N,16nm,0.3s						
V12A	**Nelson**	**2.45**	**81**		**Pn**	**08 50 04.9**	**-0.6**
V12A				IAML		08 50 44.9	
	comp=N,41nm,0.8s						
V12A				IAML		08 50 46.4	
	comp=E,27nm,0.4s						
IRM	**Iron Mountain**	**2.53**	**118**	P	**Pn**	**08 50 05.6**	**-1.0**
	baz=300						
IRM				S	**Sn**	**08 50 37.0**	**-0.5**
	baz=300						
PMPB	**Monarch Peak**	**2.55**	**290**	Pn	**Pn**	**08 50 08.1**	**+1.1**
SNCC	**San Nicolas Is**	**2.56**	**214**	S	**Sn**	**08 50 37.6**	**-0.6**
	baz=33						
109C	**Camp Elliot, M**	**2.57**	**166**	Pb	**Pb**	**08 50 11.3**	**-0.4**
	baz=347						
109C				Sb	**Sb**	**08 50 44.3**	**+1.0**
	baz=347						
BC3	**Big Chuckawall**	**2.62**	**131**	Pg	**Pg**	**08 50 15.0**	**-0.8**
	baz=312						
NEE2	**Needles Airpor**	**2.70**	**102**	P	**Pn**	**08 50 07.7**	**-1.3**
	baz=284						
MONP2	**Monument Peak**	**2.76**	**155**	P	**Pn**	**08 50 08.9**	**-1.0**
	baz=336						
MONP2				Sb	**Sb**	**08 50 50.0**	**+1.1**
	baz=336						
SWSC	**Sam W. Stewart**	**2.97**	**145**	Sb	**Sb**	**08 50 57.3**	**+2.6**
	baz=326						
PRN	**Pahroc Range**	**3.01**	**47**		**Pn**	**08 50 13.4**	**+0.1**
PRN				IAML		08 51 07.4	
	comp=N,34nm,0.5s						
NV11	**Mina Array Sit**	**3.04**	**355**		**Pn**	**08 50 14.7**	**+0.9**
NV11				IAML		08 50 35.2	
	comp=N,9.2nm,4.7s						
NV11				IAML		08 51 20.2	
	comp=E,10nm,4.7s						
BLYC	**Blythe**	**3.18**	**120**		**Pn**	**08 50 14.5**	**-1.1**
BLYC				IAML		08 51 08.5	
	comp=N,25nm,0.4s						
BLYC				IAML		08 51 09.6	
	comp=E,24nm,0.7s						
W13A	**Hualapai Mount**	**3.24**	**94**	Pn	**Pn**	**08 50 15.7**	**-0.9**
W13A				IAML		08 51 11.1	
	comp=N,28nm,0.4s						
W13A				IAML		08 51 15.1	
	comp=E,16nm,0.6s						
KVN	**Kaiserville**	**3.65**	**357**		**Pn**	**08 50 22.8**	**+0.5**
KNB	**Kanab**	**4.36**	**67**	Pn	**Pn**	**08 50 32.3**	**+0.4**

IDC 23 09:03:39.6±2.9, 53°74N×86°82E, h0km, mbtmp2.7/2, ML2.8/1, Error ellipse: s-maj=26.7km s-min=15.1km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.20**	**281**	I	I	09 11 31.6	
	baz=100,slow=339,SNR=3.0						
ZALV	**Zalesovo Beam**	**1.20**	**281**	Pg	Pg	09 04 01.9	-0.8
	0.

I46RU	**ZALESOVO INFRA**	**9.59**	**276**	I	I	10 12 30.0
	baz=83,slow=337,SNR=0.9					
I45RU	**USSURIYSK INFR**	**22.31**	**103**	I	I	11 29 40.0
	baz=309,slow=328,SNR=1.0					

ISC 23 09:19:05.1±1.1, 48.65N±0.09×18.60E±0.04, h10km, n5, σ0.59/9, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VYHS	**Vyhne**	**0.22**	**135**	*e*Pg	**Pg**	**09 19 09.3**	**-0.4**
VYHS				*e*SG	**Sg**	**09 19 13.3**	**+0.5**
JAVC	**Velka Javorina**	**0.65**	**289**	*e*Pg	**Pg**	**09 19 18.1**	**+0.5**
JAVC				*e*SG	**Sn**	**09 19 29.8**	**-0.9**
MODS	**Modra-Piesok**	**0.92**	**253**	*e*Pg	**Pg**	**09 19 23.1**	**+0.3**
MODS				*e*SG	**Sn**	**09 19 37.6**	**+0.2**
KECS	**Kecovo**	**1.27**	**97**	*e*Pg	**Pg**	**09 19 29.9**	**+0.5**
KECS				*e*SG	**Sn**	**09 19 46.0**	**+0.1**
MORC	**Moravsky Berou**	**1.32**	**329**	*e*Pg	**Pn**	**09 19 29.2**	**-0.4**

IDC 23 09:19:50.6±5.4, 53.75N×90.77E, h0km, mbtmp2.7/3, ML2.0/3, Error ellipse: s-maj=56.8km s-min=30.1km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.53**	**276**	I	I	09 44 20.0	
	baz=86,slow=335,SNR=1.4						
ZALV	**Zalesovo Beam**	**3.53**	**276**	Pn	Pn	09 20 48.3	+1.6
	0.2nm,0.3s,baz=93,slow=16,SNR=3.9						
ZALV				Lg	Lg	09 21 40.7	
	0.5nm,0.3s,baz=90,slow=25,SNR=5.4						
KURBB	**Kurchatov Arra**	**8.15**	**252**	Pn	Pn	09 21 50.8	+0.7
	1.0nm,0.5s						
	baz=66,slow=15,SNR=3.4						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**8.83**	**221**	Pn	Pn	09 21 59.2	-0.3
	0.1nm,0.3s,baz=53,slow=15,SNR=3.2						
	0.2nm,0.6s						
I34MN	**SONGINO INFRAS**	**11.54**	**115**	I	I	10 26 30.0	
	baz=310,slow=322,SNR=0.7						

KRSC 23 09:35:43.7±1.4, 50.52N×157.49E, h40km±21km, MI4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.89**	**281**	*e*P	Pn	09 36 00.6	+0.8
SKR				*e*S	Sn	09 36 11.3	-0.2
PAU	**Pauzhetka**	**1.05**	**336**	*e*P	Pn	09 36 04.7	+2.8
PAU				*e*S	Sn	09 36 17.2	+1.9
KDTR	**Khodutka, Kamc**	**1.35**	**16**	*e*P	Pn	09 36 08.1	+2.1
KDTR				*e*S	Sn	09 36 24.5	+1.8
ASAK	**Asacha**	**1.89**	**8**	*e*P	Pn	09 36 15.8	+2.3
ASAK				*e*S	Sn	09 36 37.8	+1.6
MTVR	**Mutnovka**	**2.02**	**12**	*e*P	Pn	09 36 17.7	+2.4
MTVR				*e*S	Sn	09 36 41.7	+2.3
RUS	**Russkaya**	**2.02**	**18**	*e*P	Pn	09 36 17.3	+2.0
RUS				*e*S	Sn	09 36 40.0	+0.7
KRMR	**Karymshinskiy**	**2.35**	**10**	*e*P	Pn	09 36 23.3	+3.5
KRMR				*e*S	Sn	09 36 51.8	+4.4
APC	**Apacha**	**2.42**	**355**	*e*P	Pn	09 36 23.6	+2.8
PET	**Petropavlovsk**	**2.62**	**16**	*e*P	Pn	09 36 26.5	+3.1
PET				*e*S	Sn	09 36 57.0	+3.2
DALK	**Dalny**	**2.64**	**17**	*e*P	Pn	09 36 26.9	+3.1
DALK				*e*S	Sn	09 36 57.7	+3.3
INSR	**Institute**	**2.65**	**15**	*e*S	Sn	09 36 58.8	+4.1
AVH	**Avacha**	**2.86**	**15**	*e*P	Pn	09 36 30.9	+4.1
AVH				*e*S	Sn	09 37 04.8	+4.7
SMAR	**Somma**	**2.87**	**16**	*e*P	Pn	09 36 30.6	+3.5
KOK	**Koryaka**	**2.87**	**14**	*e*P	Pn	09 36 31.3	+4.3
NLC	**Nalychevo**	**2.90**	**23**	*e*P	Pn	09 36 29.1	+1.8
KRER	**Koryakskii**	**2.90**	**15**	*e*P	Pn	09 36 31.3	+3.8
KRER				*e*S	Sn	09 37 04.7	+3.5
KRX	**Arik**	**2.94**	**14**	*e*P	Pn	09 36 31.9	+3.9
KRX				*e*S	Sn	09 37 06.8	+4.7
SPN	**Mys Shipunski**	**3.03**	**30**	*e*P	Pn	09 36 32.3	+3.3
GNL	**Ganaly**	**3.20**	**5**	*e*P	Pn	09 36 34.3	+2.8
TUMD	**Tumrok D**	**5.02**	**19**	*e*P	Pn	09 37 00.7	+4.3

IDC 23 09:39:51.8±3.5, 53.80N×88.17E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=30.7km s-min=19.6km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.99**	**276**	I	I	09 54 00.0	
	baz=89,slow=339,SNR=1.4						
ZALV	**Zalesovo Beam**	**1.99**	**276**	Pg	Pb	09 40 27.9	-1.0
	1.4nm,0.3s,baz=94,slow=14,SNR=7.5						
ZALV				Lg	Lg	09 40 55.4	
	2.3nm,0.3s,baz=93,slow=20,SNR=8.2						
KURBB	**Kurchatov Arra**	**6.72**	**246**	Pn	Pn	09 41 32.2	+0.5
	0.1nm,0.3s,baz=62,slow=14,SNR=4.6						
KURBB				Lg	Lg	09 43 23.2	
	baz=60,slow=31,SNR=5.5						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**7.96**	**211**	Pn	Pn	09 41 50.1	+1.4
	baz=28,slow=16,SNR=1.5						
MKAR				Lg	Lg	09 44 01.7	
	baz=30,slow=34,SNR=2.9						
	0.1nm,0.4s						

IDC 23 09:46:58.4±3.6, 53.71N×87.92E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=33.2km s-min=18.6km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.85**	**279**	I	I	10 00 24.0	
	baz=96,slow=332,SNR=2.5						
ZALV	**Zalesovo Beam**	**1.85**	**279**	Pg	Pn	09 47 31.3	-0.1
	0.7nm,0.3s,baz=95,slow=16,SNR=10.0						
ZALV				Lg	Lg	09 47 57.9	
	1.1nm,0.3s,baz=101,slow=25,SNR=13						
KURBB	**Kurchatov Arra**	**6.55**	**246**	Pn	Pn	09 48 35.6	-0.3
	0.1nm,0.3s,baz=58,slow=14,SNR=2.0						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.80**	**210**	Pn	Pn	09 48 55.2	+2.1
	baz=29,slow=3.3,SNR=2.2						
	0.1nm,0.3s						

*NNC **23** 09:54:24.5±1.9, 54.18N×87.53E, h0km, mb1.6, mpv1.6, Error ellipse: s-maj=16.1km s-min=12.0km az=21.0, Suspected Mining explosion.*

IDC 23 09:54:28.0±3.3, 54.22N×87.31E, h0km, mbtmp2.8/2, ML2.3/2, 3C-3D, Error ellipse: s-maj=27.9km s-min=19.7km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.49**	**261**	I	I	10 04 38.6	
	baz=78,slow=332,SNR=2.0						
ZAA0	**Zalesovo Array**	**1.49**	**261**	⇑P	Pn	09 54 53.7	-2.3
	0.2nm,0.4s						
ZAA0				⇑S	Sg	09 55 15.7	-0.2
	1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**1.49**	**261**	Pg	Pn	09 54 54.3	-1.7
	0.8nm,0.3s,baz=81,slow=16,SNR=7.0						
ZALV				Lg	Lg	09 55 16.5	
	2.9nm,0.3s,baz=78,slow=21,SNR=4.0						
KURK	**Kurchatov**	**6.36**	**240**	⇓Lg	Lg	09 57 50.0	
	6.0nm,1.2s						
KURBB	**Kurchatov Arra**	**6.47**	**240**	Pn	Pn	09 56 04.5	+0.2
	0.1nm,0.3s,baz=59,slow=14,SNR=3.9						
KURBB				Lg	Lg	09 57 51.6	
	0.1nm,0.3s,baz=59,slow=31,SNR=3.0						
	0.4nm,0.2s						
KURBB	**Kurchatov Arra**	**6.47**	**240**	⇓Lg	Lg	09 57 50.0	
	5.2nm,0.8s						
MK31	**Makanchi Array**	**8.09**	**205**	⇑Sn	Sn	09 57 56.6	-2.2
	0.1nm,0.3s,baz=26,slow=14,SNR=10						
MK31				⇓Lg	Lg	09 58 46.6	
	3.5nm,0.9s,baz=23,slow=28,SNR=5.3						
MKAR	**Makanchi Array**	**8.09**	**205**	Pn	Pn	09 56 28.7	+2.0
	0.1nm,0.3s,baz=26,slow=7.0,SNR=2.2						
MKAR				Lg	Lg	09 58 43.3	
	baz=20,slow=42,SNR=1.5						
	0.1nm,0.3s						

*BEO **23** 10:00:51.1±0.7, 42.84N×18.27E, h16km±4km, ML2.1/5*

RHSSO 23 10:00:51.9±0.2, 42.90N×18.30E, h4km±1km, ML2.1/11, 3C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.18**	**89**	⇑*i*Pg	Pg	10 00 55.2	-0.2
BRY				*e*Sg	Sg	10 00 58.4	+0.6
TREB	**Trebinje**	**0.19**	**168**	*e*Pg	Pg	10 00 55.3	-0.2
TREB				*e*Sg	Sg	10 00 58.9	+0.9
TREB	**Trebinje**	**0.19**	**168**	⇑*i*Pg	Pg	10 00 55.3	-0.2
TREB				*e*Sg	Sg	10 00 58.8	+0.8
DBRK	**Dubrovnik**	**0.26**	**206**	*e*Pg	Pg	10 00 56.7	-0.1
DBRK				Sg	Sg	10 01 01.2	+1.1
KLINJ	**Klinje**	**0.34**	**38**	⇑*i*Pg	Pg	10 00 57.6	-1.0
KLINJ				*e*Sg	Sg	10 01 03.4	+0.3
NEVS	**Nevesinje**	**0.42**	**341**	*e*Pg	Pg	10 00 59.3	-0.8
NEVS				*e*Sg	Sg	10 01 06.2	+0.6
STON	**Ston**	**0.44**	**267**	Sg	Sg	10 01 06.4	+0.3
STON	**Ston**	**0.44**	**267**	*e*Sg	Sg	10 01 06.7	+0.7
HCY	**Herceg Novi**	**0.47**	**162**	*e*Pg	Pg	10 01 00.2	-0.8
HCY				*e*Sg	Sg	10 01 08.0	+0.8
UPM	**Unac-Piva**	**0.54**	**56**	*e*Pg	Pg	10 01 01.5	-0.8
UPM				*e*Sg	Sg	10 01 09.6	+0.3
DRME	**Dracevica, Mon**	**0.97**	**137**	*e*Pg	Pg	10 01 09.2	-1.3
DRME				*e*Sg	Sg	10 01 22.9	-0.1
MAKA	**Makarska**	**1.01**	**293**	Sg	Sb	10 01 25.3	-0.4
LSTV	**Lastovo**	**1.04**	**263**	Sg	Sg	10 01 24.9	-0.4
RUDO	**Rudo**	**1.06**	**47**	*e*Sg	Pg	10 01 10.6	-1.7
RUDO	**Rudo**	**1.06**	**47**	*e*Pg	Sg	10 01 26.2	+0.1
RUDO	**Rudo**	**1.06**	**47**	*e*Sg	Sg	10 01 26.2	+0.1
BBLS	**Lazi&#263i**	**1.26**	**40**	*e*Pg	Pg	10 01 15.0	-1.1
BBLS				*e*Sg	Sn	10 01 33.6	-0.3
BBLS	**Lazi&#263i**	**1.26**	**40**	*e*Pg	Pg	10 01 14.7	-1.4
BBLS				*e*Sg	Sg	10 01 32.3	-0.1
HAPS	**Han Pijesak,Bl**	**1.28**	**22**	*e*Pg	Pg	10 01 15.8	-0.6
HAPS				*e*Sg	Sb	10 01 33.5	0.0
HAPS	**Han Pijesak,Bl**	**1.28**	**22**	*e*Pg	Pg	10 01 15.0	-1.4
HAPS				*e*Sg	Sg	10 01 32.4	-0.6
SJES	**Sjenica**	**1.28**	**73**	*e*Pg	Pg	10 01 15.5	-1.0
SJES				*e*Sg	Sb	10 01 33.5	-0.1
SJES	**Sjenica**	**1.28**	**73**	*e*Pg	Pg	10 01 15.2	-1.3
SJES				*e*Sg	Sg	10 01 33.0	-0.1
HVAR	**Hvar**	**1.38**	**282**	Sg	Sg	10 01 36.1	-0.3
IVAS	**Ivanjica**	**1.52**	**63**	*e*Pg	Pn	10 01 19.0	-0.9
IVAS				*e*Sg	Sg	10 01 41.0	+0.4
DIVS	**Divibare**	**1.72**	**45**	*e*Pg	Pn	10 01 22.7	-0.1
DIVS				*e*Sg	Sg	10 01 48.2	+1.0
MGRS	**Mrkonjic Grad**	**1.75**	**330**	*e*Pn	Pn	10 01 22.3	-0.9
TEKS	**Tekeris**	**1.88**	**28**	*e*Pg	Pb	10 01 25.9	-0.9
TEKS				*e*Sg	Sg	10 01 52.2	0.0
TEKS	**Tekeris**	**1.88**	**28**	*e*Pn	Pn	10 01 25.1	+0.3
A050A	**Klekovaca**	**2.04**	**322**	*e*Pn	Pn	10 01 27.5	+0.4
A050A				*e*Sn	Sn	10 01 52.7	-0.3
SELS	**Selova**	**2.09**	**80**	*e*Pn	Pn	10 01 26.6	-1.2
SELS				*e*Sn	Sn	10 01 51.0	-3.4
A051A	**Mrakovica**	**2.34**	**335**	*e*Pn	Pn	10 01 30.9	-0.3
A051A				*e*Sn	Sn	10 02 00.6	+0.1

*RHSSO **23** 10:01:15.4±0.2, 42.90N×18.31E, h3km±1km, ML2.5/16*

ISC 23 10:01:14.8±0.9, 42.90N±0.03×18.31E±0.02, h9km±8km, n25, σ0.80/45, 3C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.17**	**91**	*e*Pg	**Pg**	**10 01 18.4**	**-0.1**
BRY				*e*Sg	**Sg**	**10 01 21.6**	**+0.5**
TREB	**Trebinje**	**0.19**	**171**	*e*Pg	**Pg**	**10 01 18.6**	**-0.2**
TREB				*e*Sg	**Sg**	**10 01 22.1**	**+0.6**
DBRK	**Dubrovnik**	**0.26**	**207**	*e*Pg	**Pg**	**10 01 19.8**	**-0.3**
DBRK				Sg	**Sg**	**10 01 24.3**	**+0.6**
KLINJ	**Klinje**	**0.34**	**37**	*e*Pg	**Pg**	**10 01 20.8**	**-0.7**
KLINJ				*e*Sg	**Sg**	**10 01 26.5**	**+0.5**
NEVS	**Nevesinje**	**0.42**	**339**	*e*Pg	**Pg**	**10 01 22.9**	**-0.3**
NEVS				*e*Sg	**Sb**	**10 01 29.8**	**-1.3**
STON	**Ston**	**0.45**	**266**	*e*Pg	**Pg**	**10 01 22.5**	**-1.0**
STON				Sg	**Sg**	**10 01 29.6**	**+0.1**
STON	**Ston**	**0.45**	**266**	*e*Pg	**Pg**	**10 01 23.8**	**+0.2**
STON				*e*Sg	**Sg**	**10 01 30.1**	**+0.6**
HCY	**Herceg Novi**	**0.48**	**163**	*e*Pg	**Pg**	**10 01 23.7**	**-0.4**
HCY				*e*Sg	**Sg**	**10 01 31.1**	**+0.7**
UPM	**Unac-Piva**	**0.53**	**55**	*e*Pg	**Pg**	**10 01 25.2**	**0.0**
UPM				*e*Sg	**Sg**	**10 01 32.2**	**0.0**
DRME	**Dracevica, Mon**	**0.97**	**138**	⇓*i*Pg	**Pg**	**10 01 32.7**	**-0.7**
DRME				*e*Sg	**Sg**	**10 01 46.5**	**+0.6**
MAKA	**Makarska**	**1.02**	**293**	Sg	**Sn**	**10 01 48.8**	**-0.8**
RICI	**Ricice**	**1.04**	**305**	Sg	**Sn**	**10 01 50.0**	**-0.3**
RUDO	**Rudo**	**1.05**	**47**	*e*Pg	**Pg**	**10 01 34.7**	**-0.4**
RUDO				*e*Sg	**Sb**	**10 01 49.3**	**+0.1**
BBLS	**Lazi&#263i**	**1.25**	**39**	⇑*i*Pg	**Pn**	**10 01 37.4**	**-1.2**
BBLS				*e*Sg	**Sn**	**10 01 55.8**	**+0.3**
HAPS	**Han Pijesak,Bl**	**1.27**	**21**	⇑*i*Pg	**Pn**	**10 01 37.9**	**-1.0**
HAPS				*e*Sg	**Sb**	**10 01 55.4**	**-0.1**
SJES	**Sjenica**	**1.27**	**73**	*e*Pg	**Pn**	**10 01 38.5**	**-0.4**
SJES				*e*Sg	**Sb**	**10 01 55.5**	**0.0**
HVAR	**Hvar**	**1.39**	**282**	Sg	**Sn**	**10 01 59.1**	**+0.3**
MGRS	**Mrkonjic Grad**	**1.75**	**330**	*e*Pn	**Pb**	**10 01 46.3**	**-0.9**
MGRS				*e*Sn	**Sb**	**10 02 09.8**	**+0.5**
MGRS	**Mrkonjic Grad**	**1.75**	**330**	*e*Sn	**Pn**	**10 01 46.0**	**+0.6**
TEKS	**Tekeris**	**1.87**	**28**	*e*Pn	**Pb**	**10 01 48.3**	**-0.8**
TEKS				*e*Sn	**Sb**	**10 02 12.7**	**+0.1**
TEKS	**Tekeris**	**1.87**	**28**	*e*Sn	**Pn**	**10 01 48.7**	**+1.7**
BLY	**Banja Luka**	**2.02**	**337**	⇑*i*Pn	**Pn**	**10 01 50.2**	**+1.2**
BLY				*e*Sn	**Sb**	**10 02 16.5**	**-0.3**
A050A	**Klekovaca**	**2.04**	**321**	*e*Pn	**Pn**	**10 01 50.3**	**+0.9**
A050A				*e*Sn	**Sb**	**10 02 16.5**	**-1.0**
A051A	**Mrakovica**	**2.34**	**335**	*e*Pn	**Pn**	**10 01 54.7**	**+1.2**
A051A				*e*Sn	**Sn**	**10 02 23.9**	**+1.5**
FRGS	**Fruska Gora**	**2.50**	**25**	*e*Pn	**Pn**	**10 01 57.2**	**+1.5**
FRGS				*e*Sn	**Sn**	**10 02 27.6**	**+1.3**

MEX 23 10:03:55.2±0.8, 15.78N×93.33W, h89km±12km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.13**	**126**	*e*P	Pn	10 04 05.7	-2.1
PCIG				*e*S	Sn	10 04 15.9	-1.3
TGIG		**1.01**	**11**	*e*P	Pn	10 04 13.9	-1.1
TGIG				*e*S	Sn	10 04 28.0	-1.9
PATR	**El Naranjo**	**1.25**	**122**	*e*P	Pn	10 04 16.5	-1.5
PATR				*e*S	Sn	10 04 32.7	-2.5
PAVE	**Pavencul**	**1.26**	**118**	*e*P	Pn	10 04 20.6	+2.5
PAVE				*e*S	Sn	10 04 33.8	-1.6
CHUJ	**Union Juarez**	**1.36**	**120**	*e*P	Pn	10 04 17.8	-1.6
CHUJ				*e*S	Sn	10 04 35.8	-1.9
UXUV	**UXUV**	**1.72**	**333**	*e*P	Pn	10 04 22.9	-0.8
UXUV				*e*S	Sn	10 04 45.8	+0.4
CMIG	**Matias Romero**	**1.98**	**311**	*e*P	Pn	10 04 25.8	-1.3
CMIG				*e*S	Sn	10 04 47.1	-4.4
CMIG	**Matias Romero**	**1.98**	**311**	*e*P	Sn	10 04 47.1	-4.3
HUIG	**Huatulco**	**2.67**	**270**	*e*P	Pn	10 04 32.3	-4.1
HUIG				*e*S	Sn	10 05 00.1	-7.9

MEX 23 10:04:15.4±0.5, 15.12N×94.49W, h18km±15km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.36**	**64**	*e*P	Pn	10 04 36.3	-3.2
PCIG				*e*S	Sn	10 04 52.1	-5.0
HUIG	**Huatulco**	**1.69**	**293**	*e*S	Sn	10 05 00.6	-4.6
CMIG	**Matias Romero**	**2.00**	**349**	*e*S	Sn	10 05 10.2	-2.7
TGIG		**2.11**	**38**	*e*S	Sn	10 05 12.6	-3.2
UXUV	**UXUV**	**2.21**	**9**	*e*S	Sn	10 05 16.8	-1.5

*IDC **23** 10:19:06.1±1.8, 4.98N×127.04E, h76km±15km, mb4.3/21, mbtmp4.6/23, MS3.0/14, Error ellipse: s-maj=24.3km s-min=10.1km az=73.0*

*NEIC **23** 10:19:06.6±1.5, 4.91N±0.04×126.96E±0.09, h79km±7km, mb4.9/125, Error ellipse: s-maj=13.6km s-min=3.2km az=67.0*

*DJA **23** 10:19:07.1±0.5, 5°N±4°×127°E±°, h84km±4km, M4.8/30, mB5.2/8, mb4.9/30, MLv5.0/12, Mw(mB)4.6/8*

ISC 23 10:19:05.9±0.3, 4.91N±0.04×126.96E±0.06, h76km, n451, σ0.89/429, mb4.8/90, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.87**	**230**	P	**Pn**	**10 19 36.1**	**+0.1**
DAV	**Davao City (W)**	**2.55**	**327**	Pn	**Pn**	**10 19 45.5**	**+0.4**
DAV	**Davao City (W)**	**2.55**	**327**	P	**Pn**	**10 19 45.4**	**+0.3**
	305nm,0.6s,baz=233,slow=3.6,SNR=11						
DAV				S	**Sn**	**10 20 16.3**	**+1.0**
	334nm,0.4s,baz=39,slow=15,SNR=6.7						
DAV				LR	LR	10 20 53.5	
	comp=Z,518nm,18.7s,baz=110,slow=42						
TNTI	**Ternate**	**4.13**	**174**	Pn	**Pn**	**10 20 06.3**	**-0.2**
TNTI	**Ternate**	**4.13**	**174**	P	**Pn**	**10 20 06.4**	**-0.2**
KMSI	**Cibinong**	**5.23**	**215**	P	**Pn**	**10 20 21.9**	**+0.2**
	873nm,0.8s,8µm3.6nm						
LBMI	**Labuha**	**5.54**	**174**	P	**Pn**	**10 20 26.4**	**+0.6**
	262nm,0.8s,3µm1.5nm						
GTOI	**Gorontalo**	**5.79**	**223**	P	**Pn**	**10 20 28.7**	**-0.6**
	57nm,0.8s,718nm0.2nm						
MRSI	**Marisa**	**6.67**	**229**	P	**Pn**	**10 20 41.7**	**+0.4**
	240nm,0.7s,4µm1.1nm						
SANI	**Sanana**	**6.98**	**188**	P	**Pn**	**10 20 42.2**	**-3.3**
	104nm,0.8s,2µm0.5nm						
SWI	**Sorong**	**7.16**	**143**	P	**Pn**	**10 20 48.4**	**+0.3**
	48nm,0.8s,0.2nm						
TOLI2	**Tolitoli**	**7.23**	**239**	Pn	**Pn**	**10 20 47.7**	**-1.3**
LUWI	**Luwuk**	**7.24**	**215**	Pn	**Pn**	**10 20 51.5**	**+2.4**
LUWI	**Luwuk**	**7.24**	**215**	P	**Pn**	**10 20 50.9**	**+1.8**
	316nm,1.2s,3µm1.1nm						
NLAI	**Namlea**	**8.09**	**179**	P	**Pn**	**10 20 59.3**	**-1.5**
	53nm,0.6s,8µm0.5nm						
MPSI	**Mapaga**	**8.39**	**237**	P	**Pn**	**10 21 04.7**	**-0.1**
	22nm,0.9s						
FAKI	**Fak Fak**	**9.40**	**146**	Pn	**Pn**	**10 21 20.0**	**+1.3**
FAKI	**Fak Fak**	**9.40**	**146**	P	**Pn**	**10 21 19.4**	**+0.8**
	79nm,1.3s						
TTSI	**Tana Toraja**	**10.64**	**222**	P	**Pn**	**10 21 36.5**	**+0.9**
	59nm,1.0s						
KAPI	**Kappang**	**12.21**	**216**	Pn	**Pn**	**10 21 57.1**	**+0.2**
BKSI	**Bulukumba**	**12.24**	**214**	P	**Pn**	**10 21 57.4**	**0.0**
	29nm,1.4s						
MTKI	**Muara Teweh, K**	**13.38**	**245**	P	**Pn**	**10 22 13.1**	**+0.4**
	61nm,0.4s						
MMRI	**Maumere**	**14.25**	**199**	Pn	**Pn**	**10 22 23.6**	**-0.5**
EDFI	**Ende, Flores**	**14.55**	**201**	P	**Pn**	**10 22 27.7**	**-0.4**
	47nm,0.7s						
SOEI	**Soe**	**14.81**	**190**	Pn	**Pn**	**10 22 30.4**	**-1.1**
SOEI	**Soe**	**14.81**	**190**	P	**Pn**	**10 22 31.3**	**-0.2**
	63nm,1.0s						
BATI	**Baumata**	**15.37**	**192**	P	**Pn**	**10 22 38.3**	**-0.2**
	34nm,0.6s,baz=260,slow=5.4,SNR=3.7						
BATI				S	**Sn**	**10 25 29.5**	**+1.3**
	7.5nm,0.4s,baz=49,slow=22,SNR=1.2						
BATI	**Baumata**	**15.37**	**192**	P	**Pn**	**10 22 38.6**	**0.0**
	74nm,0.7s						
PLAI	**Plampang**	**16.43**	**214**	P	**Pn**	**10 22 51.4**	**-0.5**
	88nm,0.7s						
TWSI	**Taliwang, Sumb**	**16.87**	**217**	P	**Pn**	**10 22 57.7**	**+0.3**
	68nm,0.8s						
KSM	**Kuching**	**16.97**	**259**	P	**Pn**	**10 22 59.0**	**+0.3**
MTN	**Manton Dam**	**18.12**	**167**	P	**P**	**10 23 10.7**	**-1.2**
	baz=18,SNR=5.4						
MTN	**Manton Dam**	**18.12**	**167**	P	**P**	**10 23 10.8**	**-1.2**
KDU	**Kakadu**	**18.32**	**163**	P	**P**	**10 23 12.9**	**-1.2**
	baz=18,SNR=5.5						
JAGI	**Jajag, Banyuwa**	**18.43**	**224**	P	**P**	**10 23 14.2**	**-1.3**
JAGI	**Jajag, Banyuwa**	**18.43**	**224**	P	**P**	**10 23 15.9**	**+0.4**
	48nm,0.6s						
TWG	**Pinlang**	**18.70**	**343**	P	**P**	**10 23 16.5**	**-1.8**
TPUB	**Ta-pu**	**19.28**	**342**	P	**P**	**10 23 23.6**	**-1.1**
DLV	**T Lat**	**19.55**	**292**	P	**P**	**10 23 27.6**	**-0.4**
SSLB	**Suanglung**	**19.64**	**343**	P	**P**	**10 23 27.4**	**-1.2**
GUMO	**Guam**	**19.65**	**63**	LR	LR	10 29 42.8	
	comp=Z,85nm,21.9s,baz=202,slow=33						
SMRI	**Semarang**	**20.32**	**234**	P	**P**	**10 23 33.8**	**-2.3**
YHNB	**Yeheng**	**20.37**	**345**	P	**P**	**10 23 35.1**	**-1.5**
UGM	**Wanagama**	**20.76**	**232**	P	**P**	**10 23 40.0**	**-0.8**
UGM	**Wanagama**	**20.76**	**232**	P	**P**	**10 23 40.3**	**-0.6**
	164nm,1.7s						
KPJI	**Karang Pucung**	**21.71**	**236**	P	**P**	**10 23 51.2**	**+0.2**
	39nm,1.1s						
FITZ	**Fitzroy Crossi**	**22.90**	**183**	P	**P**	**10 24 03.1**	**-0.4**
	baz=23,SNR=17						
FITZ	**Fitzroy Crossi**	**22.90**	**183**	P	**P**	**10 24 03.1**	**-0.4**
TNG	**Tangerang**	**23.07**	**242**	P	**P**	**10 24 05.9**	**+0.5**
	23nm,0.6s						
MYKOM	**Kota Tinggi**	**23.27**	**263**	P	**P**	**10 24 06.3**	**-1.0**
MYKOM				IAmb	IAmb	10 24 07.8	
	comp=Z,31nm,0.8s						
PMG	**Port Moresby**	**24.65**	**125**	LR	LR	10 35 02.1	
	comp=Z,88nm,18.1s,baz=282,slow=39	

baz=35,SNR=3.7
MORW Morawa 35.37 197 P **P** **10 25 54.7 +0.3**
FORT Forrest 35.50 178 P **P** **10 25 56.0 +0.5**
HNR Honiara 35.83 113 LR LR 10 38 38.7
comp=Z,586nm,21.2s,baz=312,slow=33
BJT Baijiatuan 36.29 346 P **P** **10 26 02.0 0.0**
BJT IAmb IAmb 10 26 04.2
comp=Z,15nm,1.1s
BJI Beijing 36.30 346 P **P** **10 26 02.3 +0.1**
BJI sP **sP** **10 26 26.3 -1.6**
BJI pmax pmax
comp=Z,7.0nm,0.9s
BJI pmax pmax
comp=Z,87nm,5.1s
KMBL Kambalda 36.40 187 P **P** **10 26 03.1 0.0**
baz=36,SNR=7.8
BLDU Ballidu 36.66 195 P **P** **10 26 05.3 0.0**
baz=37,SNR=30
KLBR Kellerberrin 37.34 193 P **P** **10 26 11.1 0.0**
baz=37,SNR=10
LZH Lanzhou 37.62 329 eP **P** **10 26 17.3 +3.7**
LZH pP pP 10 26 30.5 -0.8
LZH pmax pmax
comp=Z,16nm,1.1s
JTM Tenmabayashi 37.90 18 P **P** **10 26 15.1 -0.7**
MUN Mundaring 38.08 195 P **P** **10 26 17.6 +0.2**
baz=38,SNR=14
EIDS Eidsvold 38.14 143 P **P** **10 26 18.1 +0.1**
baz=38,SNR=4.2
EIDS Eidsvold 38.14 143 P **P** **10 26 16.8 -1.1**
HHC Hu-ho-hao-te 38.36 341 eP **P** **10 26 21.4 +1.6**
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,71nm,5.5s
BBOO Buckleboo 38.49 168 P **P** **10 26 21.7 +0.9**
baz=38,SNR=45
BBOO Buckleboo 38.49 168 P **P** **10 26 21.0 +0.2**
NWAO Narrogin (SRO) 38.74 193 P **P** **10 26 23.4 +0.5**
baz=39,SNR=12
NWAO P **P** **10 26 23.4 +0.5**
baz=39,SNR=12
NWAO Narrogin (SRO) 38.74 193 P **P** **10 26 23.5 +0.5**
STKA Stephens Creek 39.15 160 P **P** **10 26 26.6 +0.3**
baz=39,SNR=49
STKA Stephens Creek 39.15 160 P **P** **10 26 26.6 +0.3**
STKA IAmb IAmb 10 26 29.7
comp=Z,10.0nm,0.8s
STKA Stephens Creek 39.15 160 P **P** **10 26 26.3 0.0**
comp=Z,48nm,0.8s,baz=335,slow=8.5,SNR=75
comp=Z,48nm,0.8s
USA0B Ussuriysk Arra 39.38 6 P **P** **10 26 27.3 -0.8**
USA0B IAmb IAmb 10 27 56.9
comp=Z,46nm,1.9s
USRK Ussuriysk Ar. 39.38 6 P **P** **10 26 27.5 -0.6**
USRK Ussuriysk Ar. 39.38 6 P **P** **10 26 27.8 -0.3**
comp=Z,1.8nm,0.8s,baz=187,slow=6.7,SNR=8.6
comp=Z,1.8nm,0.8s
HTT Hallett 39.78 164 P **P** **10 26 34.8 +3.2**
baz=40,SNR=6.4
CMSA Cobar Meteorol 40.41 155 P **P** **10 26 39.3 +2.6**
baz=40,SNR=11
JKA Kamikawa-asahi 41.41 17 P **P** **10 26 44.9 +0.1**
GTA Gaotai 42.22 328 eP **P** **10 26 55.3 +3.6**
GTA pP pP 10 27 03.4 -6.2
GTA pmax pmax
comp=Z,6.0nm,0.9s
ARMA Armidale 42.33 148 P **P** **10 26 54.4 +1.8**
baz=42,SNR=5.7
ARPS Mount Arapiles 43.73 163 P **P** **10 27 05.1 +1.4**
baz=44,SNR=28
YNG Young 43.93 154 P **P** **10 27 07.4 +2.0**
baz=44,SNR=7.9
KLR Kul'dur 44.35 4 LR LR 10 48 31.0
comp=Z,10nm,19.1s,baz=170,slow=40
CAN Canberra 45.06 154 P **P** **10 27 17.2 +2.8**
HEH HeiHe 45.19 0 eP **P** **10 27 15.3 +0.1**
PALK Pallekele 46.04 275 LR LR 10 46 50.4
comp=Z,22nm,19.5s,baz=197,slow=36
ULN Ulaanbaatar 46.08 341 P **P** **10 27 22.7 +0.2**
ULN IAmb IAmb 10 27 25.1
comp=Z,13nm,0.8s
ULN Ulaanbaatar 46.08 341 P **P** **10 27 23.0 +0.5**
SONM Songino Array 46.27 341 P **P** **10 27 24.8 +0.9**
SONM Songino Array 46.27 341 P **P** **10 27 24.3 +0.4**
comp=Z,5.2nm,0.7s,baz=157,slow=7.8,SNR=22
SONM PcP **PcP** **10 28 59.2 +1.0**
comp=Z,3.7nm,0.8s,baz=154,slow=3.6,SNR=7.9
SONM LR LR 10 47 06.7
comp=Z,37nm,19.9s,baz=64,slow=36
comp=Z,5.2nm,0.7s
DZM Mont Dzumac 47.03 126 P **P** **10 27 29.9 -0.4**
DZM Mont Dzumac 47.03 126 eLR LR 10 41 00.2
comp=Z,97nm,30.1s
WMQ Urumqi 51.90 324 eP **P** **10 28 09.8 +2.8**
FUNA Funafuti 53.77 104 P **P** **10 28 18.4 -2.7**
PEA0B Petropavlovsk- 54.26 22 P **P** **10 28 24.0 -0.1**
PETK Petropavlovsk- 54.26 22 P **P** **10 28 23.8 -0.2**
PETK Petropavlovsk- 54.26 22 P **P** **10 28 22.6 -1.4**
comp=Z,7.7nm,0.9s,baz=194,slow=4.3,SNR=9.9
comp=Z,7.7nm,0.9s
MK31 Makanchi Array 56.73 325 P **P** **10 28 41.3 -0.6**
MKAR Makanchi Array 56.73 325 P **P** **10 28 41.4 -0.5**
MKAR Makanchi Array 56.73 325 P **P** **10 28 41.1 -0.8**
comp=Z,2.6nm,0.6s,baz=126,slow=7.7,SNR=30
MKAR PcP **PcP** **10 29 37.4 +0.3**
comp=Z,2.3nm,0.7s,baz=114,slow=3.5,SNR=4.6
comp=Z,2.6nm,0.6s
MAKZ Makanchi 56.92 325 P **P** **10 28 42.4 -0.8**
MAKZ IAmb IAmb 10 28 48.8
comp=Z,6.5nm,0.8s
MAKZ Makanchi 56.92 325 P **P** **10 28 43.7 +0.5**
YAK Yakutsk 57.03 2 LR LR 10 54 43.8
comp=Z,11nm,21.6s,baz=118,slow=38
NIL Nilore 57.40 307 P **P** **10 28 45.7 -1.2**
NIL IAmb IAmb 10 28 46.5
comp=Z,9.0nm,1.0s
MA2 Magadan 57.51 14 P **P** **10 28 47.1 0.0**
MA2 IAmb IAmb 10 29 42.1
comp=Z,4.0nm,0.6s
ZAA0 Zalesovo Array 59.65 333 P **P** **10 29 01.8 -0.3**
ZALV Zalesovo Beam 59.65 333 P **P** **10 29 01.7 -0.4**
ZALV Zalesovo Beam 59.65 333 P **P** **10 29 01.5 -0.6**
comp=Z,1.7nm,0.4s,baz=131,slow=6.1,SNR=8.5
ZALV PcP **PcP** **10 29 48.2 -0.2**
comp=Z,3.1nm,0.8s,baz=157,slow=4.1,SNR=5.1
comp=Z,1.7nm,0.4s
KURK Kurchatov 60.88 327 P **P** **10 29 09.8 -0.7**
KURK IAmb IAmb 10 29 15.4
comp=Z,15nm,0.9s
KURK Kurchatov 60.88 327 P **P** **10 29 10.7 +0.1**
KURBB Kurchatov Arra 60.88 327 P **P** **10 29 10.7 +0.1**
comp=Z,11nm,0.9s,baz=124,slow=6.1,SNR=34
comp=Z,11nm,0.9s
SHEM Shemya Is, Ala 61.34 31 LR LR 10 59 16.6
comp=Z,12nm,18.9s,baz=300,slow=39
KK31 Karatay Array 62.54 317 P **P** **10 29 22.0 +0.1**
KKAR Karatay Array 62.54 317 P **P** **10 29 21.8 -0.1**
BVAR Borovoye Array 66.47 327 P **P** **10 29 48.6 +1.4**
comp=Z,17nm,0.9s,baz=124,slow=8.4,SNR=44
comp=Z,17nm,0.9s
BRVK Borovoye 66.54 327 P **P** **10 29 49.0 +1.3**
BRVK IAmb IAmb 10 29 52.6
comp=Z,16nm,0.8s
BRVK Borovoye 66.54 327 P **P** **10 29 49.1 +1.4**
BRVK pP **pwP** **10 30 09.6 -0.4**
TIXI Tiksi 66.67 1 P **P** **10 29 47.4 -0.8**
NRIK Noril'sk 69.35 346 P **P** **10 30 04.7 -0.4**
NRIK IAmb IAmb 10 30 06.0
comp=Z,11nm,1.1s
NRIK Noril'sk 69.35 346 P **P** **10 30 04.8 -0.3**
comp=Z,7.5nm,0.8s,baz=122,slow=5.8,SNR=11
comp=Z,7.5nm,0.8s
ABKAR Akbulak array 71.39 320 P **P** **10 30 16.7 -1.2**
UNV Unalaska Valle 72.33 35 P **P** **10 30 22.9 -0.5**
baz=254
ARU Arti 74.07 328 P **P** **10 30 33.0 -0.6**
ARU IAmb IAmb 10 30 35.9
comp=Z,11nm,0.8s
F14K Arctic Creek 76.02 23 P **P** **10 30 44.2 -0.4**
baz=251
ANM Nome 76.10 24 P **P** **10 30 45.2 0.0**
baz=252
J14K Nanvaranak Lak 76.34 26 P **P** **10 30 46.5 0.0**
baz=254
L14K Kuka Creek 76.35 28 P **P** **10 30 46.6 0.0**
baz=255
N14K Kuskokwak Cree 76.48 29 P **P** **10 30 47.3 0.0**
baz=256
M14K Bethel 76.55 29 P **P** **10 30 47.9 +0.2**
baz=256
F15K North Star Dit 76.75 23 P **P** **10 30 48.8 0.0**
baz=252
G15K Niukluk 76.78 24 P **P** **10 30 49.0 0.0**
baz=253
L15K Ungalak Mounta 76.99 28 P **P** **10 30 50.9 +0.6**
baz=256
K15K Wolf Creek Mou 77.12 27 P **P** **10 30 51.6 +0.6**
baz=256
M15K Kasigluk River 77.14 29 P **P** **10 30 51.4 +0.4**
baz=257
O15K Ungalikthiuk R 77.23 30 P **P** **10 30 51.4 -0.2**
baz=258
N15K Kwethluk River 77.31 29 P **P** **10 30 51.9 -0.2**
baz=258
C16K Lisburne Hills 77.31 21 P **P** **10 30 52.2 +0.3**
baz=251
H16K Elim 77.42 25 P **P** **10 30 52.7 +0.1**
baz=255
G16K Koyuk River 77.58 24 P **P** **10 30 53.6 +0.2**
baz=254
J16K Anvik River 77.78 26 P **P** **10 30 55.2 +0.6**
baz=256
I17K Unalakleet 77.88 26 P **P** **10 30 55.8 +0.7**
baz=256
L16K Owhat River 77.94 28 P **P** **10 30 56.1 +0.6**
baz=258
D17K Noatak River 77.94 22 P **P** **10 30 56.0 +0.6**
baz=253
N16K Nishlik Lake 78.02 29 P **P** **10 30 56.3 +0.3**
baz=259
M16K Timber Creek 78.04 29 P **P** **10 30 56.3 +0.2**
baz=258
RDOG Red Dog Mine 78.11 21 P **P** **10 30 56.8 +0.4**
baz=253
P16K Nushagak River 78.13 31 P **P** **10 30 56.6 0.0**
baz=260
C17K DeLong Mountai 78.14 21 P **P** **10 30 56.5 0.0**
baz=253
O16K Kokwok River B 78.18 30 P **P** **10 30 56.7 -0.2**
baz=259
E17K Hotham Inlet 78.24 22 P **P** **10 30 57.5 +0.4**
baz=254
F17K Baldwin Pennin 78.29 23 P **P** **10 30 57.8 +0.5**
baz=255
G17K Kiwalik Mounta 78.29 24 P **P** **10 30 57.8 +0.4**
baz=256
H17K Granite Mounta 78.46 25 P **P** **10 30 58.7 +0.4**
baz=257
L17K Donlin 78.57 28 P **P** **10 30 59.3 +0.3**
baz=259
K17K Iditarod 78.68 27 P **P** **10 31 01.4 +1.8**
K17K IAmb IAmb 10 31 01.9
comp=Z,16nm,1.0s
K17K Iditarod 78.68 27 P **P** **10 30 59.7 +0.1**
baz=259
O17K Koliganek Bris 78.71 30 P **P** **10 31 00.1 +0.3**
baz=260
Q16K King Salmon 78.76 31 P **P** **10 31 00.5 +0.4**
baz=261
E18K Tukpahlearik C 78.78 22 P **P** **10 31 00.5 +0.4**
baz=256
N17K Nushagak Hills 78.80 29 P **P** **10 31 00.6 +0.3**
baz=260
M17K Holitna River 78.83 28 P **P** **10 31 01.0 +0.5**
baz=260
B18K Kokolik River 78.87 20 P **P** **10 31 01.2 +0.7**
baz=254
C18K Utukok River 78.89 21 P **P** **10 31 00.6 -0.1**
baz=255
CHIR Chirikof Islan 78.89 34 P **P** **10 31 00.6 -0.3**
baz=262
P17K Kvichak River 78.95 31 P **P** **10 31 01.2 +0.1**
baz=261
F18K Selawik 78.95 23 P **P** **10 31 01.2 +0.2**
baz=257
Q17K Contact Creek 79.09 32 P **P** **10 31 01.4 -0.7**
baz=262
H18K Honhosa River 79.15 25 P **P** **10 31 02.5 +0.3**
baz=258
G18K Tagagawik 79.19 24 P **P** **10 31 02.5 +0.1**
baz=258
L18K Granite Mounta 79.33 28 P **P** **10 31 03.9 +0.8**
baz=260
A19K Wainwright 79.34 19 P **P** **10 31 03.6 +0.6**
baz=255
N18K Kilae Creek 79.45 29 P **P** **10 31 04.4 +0.5**
baz=261
J18K Innoko River 79.53 26 P **P** **10 31 04.8 +0.5**
baz=260
C19K Lookout Ridge 79.56 20 IAmb IAmb 10 31 06.3
comp=Z,10nm,0.9s
C19K Lookout Ridge 79.56 20 P **P** **10 31 05.4 +1.1**
baz=256
P18K Big Mountain, 79.59 31 P **P** **10 31 05.0 +0.3**
baz=262
M18K Stony River 79.61 28 P **P** **10 31 05.7 +1.0**
baz=261
O18K Koktuh Hills 79.67 30 P **P** **10 31 05.2 +0.1**
O18K IAmb IAmb 10 31 06.9
comp=Z,16nm,0.9s
O18K Koktuh Hills 79.67 30 P **P** **10 31 05.8 +0.7**
baz=262
GCSA Galena City Sc 79.69 25 P **P** **10 31 05.4 +0.4**
baz=260
F19K Shaktoolik Mo 79.73 23 P **P** **10 31 05.3 +0.1**
baz=258
TTA Tatalina 79.75 27 P **P** **10 31 06.0 +0.4**
baz=261
G19K Purcell Mounta 79.86 24 P **P** **10 31 06.1 +0.1**
G19K Purcell Mounta 79.86 24 P **P** **10 31 06.8 +0.8**
baz=259
D19K Kuna River 79.95 21 IAmb IAmb 10 31 08.2
comp=Z,30nm,1.6s
D19K Kuna River 79.95 21 P **P** **10 31 06.9 +0.5**
baz=258
H19K Roundabout Mou 80.01 24 P **P** **10 31 07.4 +0.6**
H19K IAmb IAmb 10 31 08.9
comp=Z,10nm,0.9s
H19K Roundabout Mou 80.01 24 P **P** **10 31 07.4 +0.6**
baz=260
E19K Redstone River 80.06 22 IAmb IAmb 10 31 09.2
comp=Z,16nm,1.1s
E19K Redstone River 80.06 22 P **P** **10 31 07.6 +0.6**
baz=259
J19K Poorman 80.10 26 P **P** **10 31 07.6 +0.3**
baz=261
N19K Bonanza Creek 80.16 29 P **P** **10 31 07.9 +0.1**
baz=262
L19K White Mountain 80.17 28 P **P** **10 31 08.0 +0.2**
L19K IAmb IAmb 10 31 08.7
comp=Z,33nm,1.6s
L19K White Mountain 80.17 28 P **P** **10 31 08.2 +0.5**
baz=262
RAYN Ar Rayn 80.24 293 P **P** **10 31 08.0 -1.0**
Q19K Cape Douglas, 80.34 31 P **P** **10 31 08.5 -0.3**
baz=263
OHAK Old Harbor 80.34 33 P **P** **10 31 08.7 0.0**
baz=264
D20K Etivluk River 80.53 21 P **P** **10 31 10.4 +0.8**
baz=259
F20K Avaraart Lake 80.56 23 P **P** **10 31 10.5 +0.8**
baz=260
B20K Meade River 80.60 20 IAmb IAmb 10 31 13.2
comp=Z,46nm,2.0s
B20K Meade River 80.60 20 P **P** **10 31 10.6 +0.8**
baz=258
E20K Nigu River 80.60 22 P **P** **10 31 10.9 +0.9**
baz=260
H20K Anotleneega Mo 80.65 24 P **P** **10 31 10.8 +0.5**
baz=261
L20K Farewell, AK 80.66 28 P **P** **10 31 10.8 +0.4**
baz=263
K20K Telida 80.69 27 P **P** **10 31 11.3 +0.8**
K20K IAmb IAmb 10 31 22.4
comp=Z,50nm,1.9s
K20K Telida 80.69 27 P **P** **10 31 11.1 +0.6**
baz=262
I20K Naaghedeneel 80.71 25 P **P** **10 31 11.8 +1.3**
baz=262
J20K Nowinta River 80.77 26 IAmb IAmb 10 31 13.3
comp=Z,21nm,1.5s
J20K Nowinta River 80.77 26 P **P** **10 31 12.1 +1.2**
baz=262
KDAK Kodiak Island 80.78 32 P **P** **10 31 11.6 +0.5**
baz=265
M20K Styx River 80.94 28 IAmb IAmb 10 31 13.5
comp=Z,25nm,1.2s
M20K Styx River 80.94 28 P **P** **10 31 12.6 +0.7**
baz=263
Q20K Shuyak Island 80.96 32 P **P** **10 31 12.0 0.0**
baz=265
A21K Barrow 81.04 18 P **P** **10 31 12.8 +0.7**
baz=259
IMAR Indian Mountai 81.18 24 P **P** **10 31 13.3 +0.3**
C21K Knifeblade Rid 81.26 21 P **P** **10 31 14.1 +0.7**
baz=261
N20K Mount Spurr 81.30 29 P **P** **10 31 14.2 +0.3**
baz=264
G21K Allakaket 81.35 23 IAmb IAmb 10 31 15.5
comp=Z,16nm,1.1s
G21K Allakaket 81.35 23 P **P** **10 31 15.0 +1.0**
baz=262
B21K Ikpikpuk River 81.40 20 IAmb IAmb 10 31 16.2
comp=Z,10nm,0.8s
E21K Killik River 81.44 22 P **P** **10 31 15.3 +0.9**
baz=262
F21K Alatna River 81.45 23 P **P** **10 31 14.9 +0.4**
baz=262
PPLA Purkeypile 81.48 27 P **P** **10 31 15.2 +0.3**
baz=264
A22K Sinclair Lake 81.50 19 P **P** **10 31 15.4 +0.8**
baz=260
H21K Melozitna Rive 81.53 24 IAmb IAmb 10 31 17.1
comp=Z,16nm,1.3s
H21K Melozitna Rive 81.53 24 P **P** **10 31 15.4 +0.5**
baz=263
CHUM Lake Minchumin 81.53 26 P **P** **10 31 14.9 0.0**
baz=264
CAST Castle Rocks 81.58 27 P **P** **10 31 15.6 +0.4**
CAST Castle Rocks 81.58 27 P **P** **10 31 15.7 +0.4**
baz=264,SNR=5.7
CNPM China Poot 81.63 31 P **P** **10 31 15.8 +0.2**
SKT Skwentna 81.70 28 P **P** **10 31 15.6 -0.2**
SKT IAmb IAmb 10 31 15.9
comp=Z,18nm,1.3s
SKT Skwentna 81.70 28 P **P** **10 31 15.1 -0.8**
baz=265
CAPN Captain Cook N 81.78 29 P **P** **10 31 16.0 -0.2**
baz=265
I21K Tanana 81.81 25 IAmb IAmb 10 31 18.7
comp=Z,17nm,1.1s
I21K Tanana 81.81 25 P **P** **10 31 16.7 +0.3**
baz=264
BRLK Bradley Lake 81.83 30 P **P** **10 31 16.3 -0.4**
BRSE Bradley Lake S 81.90 30 P **P** **10 31 16.3 -0.7**
baz=266
B22K Teshekpuk Lake 81.91 20 P **P** **10 31 16.8 +0.1**
baz=262
D22K Ayikyak River 81.97 21 IAmb IAmb 10 32 48.6
comp=Z,33nm,2.0s
D22K Ayikyak River 81.97 21 P **P** **10 31 17.7 +0.5**
baz=263
SUA Susitna One 82.03 29 P **P** **10 31 18.4 +0.7**
SUA IAmb IAmb 10 31 21.4
comp=Z,12nm,0.8s
SUA Susitna One 82.03 29 P **P** **10 31 17.5 -0.2**
baz=266
KTH Kantishna Hill 82.12 27 P **P** **10 31 18.5 +0.4**
KTH IAmb IAmb 10 31 21.4
comp=Z,38nm,1.8s
BPAW Bear Paw Mtn. 82.14 26 P **P** **10 31 18.7 +0.5**
baz=265
H22K Ishtalitna Cre 82.14 24 P **P** **10 31 18.9 +0.8**
baz=264
G22K Bettles 82.19 23 P **P** **10 31 19.0 +0.7**
baz=264
E22K Anaktuvuk Pass 82.20 22 P **P** **10 31 19.0 +0.6**
baz=264
MLY Manley 82.32 25 IAmb IAmb 10 31 20.9
comp=Z,25nm,1.4s
MLY Manley 82.32 25 P **P** **10 31 19.6 +0.5**
baz=265,SNR=7.6
CUT Chulitna 82.32 28 P **P** **10 31 18.4 -0.7**
baz=266
M22K Willow 82.35 28 P **P** **10 31 19.5 +0.3**
M22K Willow 82.35 28 P **P** **10 31 18.7 -0.5**
baz=266
TRF Thorofare Moun 82.39 27 P **P** **10 31 20.1 +0.4**
TRF IAmb IAmb 10 31 22.4
comp=Z,29nm,1.3s
TRF Thorofare Moun 82.39 27 P **P** **10 31 19.7 0.0**
baz=266
RC01 Rabbit Creek A 82.49 29 P **P** **10 31 20.0 -0.1**
RC01 IAmb IAmb 10 31 41.8
comp=Z,42nm,1.8s
RC01 Rabbit Creek A 82.49 29 P **P** **10 31 19.9 -0.1**
baz=266
SEW Seward 82.57 30 P **P** **10 31 21.1 +0.7**
baz=267
D23K Nanushuk River 82.70 21 P **P** **10 31 22.4 +1.4**
baz=265
COLD Coldfoot 82.72 23 P **P** **10 31 22.0 +0.8**
baz=265,SNR=11
G23K Bananza Creek 82.75 23 IAmb IAmb 10 31 24.0
comp=Z,32nm,1.5s
G23K Bananza Creek 82.75 23 P **P** **10 31 22.3 +1.0**
baz=266
C23K Itkillik River 82.81 20 IAmb IAmb 10 31 23.6
comp=Z,43nm,1.6s
C23K Itkillik River 82.81 20 P **P** **10 31 22.3 +0.8**
baz=265
PMR Palmer 82.81 29 P **P** **10 31 20.9 -0.7**
PMR IAmb IAmb 10 31 27.4
comp=Z,41nm,1.8s
PMR Palmer 82.81 29 P **P** **10 31 21.4 -0.2**
baz=267
H23K Yukon River 82.88 24 IAmb IAmb 10 31 24.3
comp=Z,11nm,0.9s
H23K Yukon River 82.88 24 P **P** **10 31 22.4 +0.4**
baz=266
I23K Minto, Yukon-K 82.91 25 P **P** **10 31 22.8 +0.7**
I23K IAmb IAmb 10 31 23.6
comp=Z,22nm,1.2s
I23K Minto, Yukon-K 82.91 25 P **P** **10 31 22.1 0.0**
baz=266,SNR=7.5
NEA2 Nenana 83.00 26 IAmb IAmb 10 31 24.4
comp=Z,12nm,1.0s
NEA2 Nenana 83.00 26 P **P** **10 31 23.7 +1.1**
baz=267
MCK McKinley 83.01 26 P **P** **10 31 22.4 -0.3**
baz=267,SNR=8.8
E23K Chandalar 83.01 22 P **P** **10 31 23.7 +1.0**
baz=266
RND Reindeer 83.03 27 P **P** **10 31 22.4 -0.5**
RND IAmb IAmb 10 31 23.8
comp=Z,30nm,1.4s
TOLK Toolik Lake Re 83.07 22 P **P** **10 31 24.1 +1.2**
TOLK Toolik Lake Re 83.07 22 P **P** **10 31 23.4 +0.4**
baz=266,SNR=8.1
KNK Knik Glacier 83.12 29 P **P** **10 31 23.4 +0.1**
KNK Knik Glacier 83.12 29 P **P** **10 31 23.1 -0.2**
baz=268
WAT1 Susitna Watana 83.14 27 P **P** **10 31 22.7 -0.7**
baz=267
SML Sawmill 83.20 28 P **P** **10 31 23.6 -0.1**
SML Sawmill 83.20 28 P **P** **10 31 24.0 +0.2**
baz=268,SNR=5.8
D24K Happy Valley 83.38 21 IAmb IAmb 10 31 26.9
comp=Z,7.9nm,0.7s
D24K Happy Valley 83.38 21 P **P** **10 31 25.0 +0.5**
baz=266
WRH Wood River Hil 83.42 26 P **P** **10 31 24.1 -0.6**
WRH IAmb IAmb 10 31 25.7
comp=Z,19nm,1.4s
C24K Franklin Bluff 83.46 20 P **P** **10 31 25.4 +0.6**
baz=266
M23K Glacier View 83.49 28 P **P** **10 31 24.8 -0.3**
baz=268
WAT6 Susitna Watana 83.50 28 P **P** **10 31 25.3 -0.1**
baz=268,SNR=7.8
H24K Noodor Dome 83.57 24 P **P** **10 31 26.2 +0.7**
H24K Noodor Dome 83.57 24 P **P** **10 31 26.5 +0.9**
baz=268,SNR=7.6
F24K Squaw Lake 83.64 23 IAmb IAmb 10 31 28.6
comp=Z,23nm,1.4s
F24K Squaw Lake 83.64 23 P **P** **10 31 26.8 +0.9**
baz=267
SCM Sheep Creek Mo 83.68 28 P **P** **10 31 27.0 +0.7**
baz=269
DHY Denali Highway 83.69 27 P **P** **10 31 27.2 +0.9**

baz=268
POKR Poker Plat Res 83.72 25 P P 10 31 27.2 +0.9
baz=268
G24K Hadweenzic Riv 83.76 24 P P 10 31 26.2 -0.3
G24K IAmb IAmb 10 31 28.4
comp=Z,25nm,1.4s
G24K Hadweenzic Riv 83.76 24 P P 10 31 27.3 +0.8
baz=268
HDA Harding Lake 83.91 26 P P 10 31 27.4 +0.1
baz=269
IL31 83.95 25 IAmb IAmb 10 31 27.3
comp=Z,17nm,1.5s
ILAR Eielson Array 83.95 25 P P 10 31 25.8 -1.6
ILAR Eielson Array 83.95 25 P P 10 31 26.6 -0.9
comp=Z,1.9nm,0.6s,baz=248,slow=5.4,SNR=40
ILAR LR LR 11 06 29.4
comp=Z,11nm,20.3s,baz=311,slow=34
comp=Z,1.9nm,0.6s
IL03 Eielson Array 83.96 25 P P 10 31 26.9 -0.7
M24K Tolsona, Glenn 84.22 28 P P 10 31 30.4 +1.4
baz=270
D25K Kavik River 84.26 21 IAmb IAmb 10 31 31.2
comp=Z,20nm,1.6s
D25K Kavik River 84.26 21 P P 10 31 30.0 +1.0
baz=269
G25K Bearman Lake 84.31 23 P P 10 31 30.4 +1.2
baz=269
KLU Klutina 84.34 29 P P 10 31 29.3 -0.3
KLU Klutina 84.34 29 P P 10 31 30.5 +0.9
baz=270
DIV Divide 84.41 29 P P 10 31 30.4 +0.4
DIV IAmb IAmb 10 31 32.6
comp=Z,18nm,0.8s
K24K Donnelly Dome 84.42 26 P P 10 31 31.4 +1.5
baz=270
H25L Birch Creek 84.42 24 P P 10 31 31.2 +1.4
baz=270
EYAK Cordova Ski Ar 84.42 30 P P 10 31 30.2 +0.3
baz=270
F25K Christian Rive 84.50 23 P P 10 31 31.6 +1.3
baz=270
E25K Arctic Village 84.53 22 P P 10 31 31.1 +0.7
E25K IAmb IAmb 10 31 33.1
comp=Z,21nm,1.4s
E25K Arctic Village 84.53 22 P P 10 31 31.5 +1.1
baz=270,SNR=9.9
PRP Porcupine Dome 84.53 25 P P 10 31 30.2 -0.3
baz=270
PAX Paxson 84.56 27 P P 10 31 30.7 0.0
baz=270
VNDA Vanda 84.56 173 P P 10 31 31.3 +1.1
VNDA Vanda 84.56 173 P P 10 31 30.8 +0.5
comp=Z,3.9nm,0.8s,baz=317,slow=7.2,SNR=27
comp=Z,3.9nm,0.8s
J25K Salcha River, 84.60 26 P P 10 31 30.2 -0.6
baz=270
FYU Fort Yukon 84.66 24 P P 10 31 32.1 +1.1
HARP HAARP 84.70 28 P P 10 31 31.1 -0.3
baz=270
C26K Camden Bay 84.78 20 P P 10 31 32.9 +1.4
baz=270
RIDG Independent Ri 84.83 27 P P 10 31 30.9 -1.2
RIDG IAmb IAmb 10 31 34.6
comp=Z,8.6nm,0.9s
RIDG Independent Ri 84.83 27 P P 10 31 31.5 -0.5
baz=271
BMAR Burnt Mountain 84.91 23 P P 10 31 32.8 +0.5
N25K Chitina, Valde 84.97 29 P P 10 31 34.4 +1.6
N25K IAmb IAmb 10 31 45.5
comp=Z,13nm,1.2s
N25K Chitina, Valde 84.97 29 P P 10 31 33.0 +0.2
baz=271
BMRM Bremner River 84.98 29 P P 10 31 33.2 +0.4
baz=271
F26K Sheenjek River 85.07 23 P P 10 31 34.1 +0.9
baz=271
KAIM Kayak Island 85.10 30 P P 10 31 33.4 +0.1
baz=271
SCRK Sand Creek 85.21 26 P P 10 31 34.5 +0.5
baz=271
G26K Porcupine Rive 85.23 23 P P 10 31 35.4 +1.6
baz=271
PPT2 Papeete2 85.26 108 eLR LR 10 58 37.8
comp=Z,49nm,28.0s
MENT Mentasta 85.36 27 P P 10 31 35.4 +0.8
MENT IAmb IAmb 10 33 17.2
comp=Z,32nm,1.9s
J26L Joseph Creek 85.38 26 IAmb IAmb 10 31 35.6
comp=Z,15nm,1.6s
J26L Joseph Creek 85.38 26 P P 10 31 35.3 +0.5
baz=272
L26K Log Cabin Wild 85.52 27 P P 10 31 36.5 +1.0
L26K IAmb IAmb 10 32 35.8
comp=Z,25nm,1.9s
L26K Log Cabin Wild 85.52 27 P P 10 31 36.4 +1.0
baz=272
I26K Coal Creek Min 85.53 25 P P 10 31 35.8 +0.4
baz=272
VRDI Verde Repeater 85.54 29 P P 10 31 36.6 +0.8
VRDI IAmb IAmb 10 31 41.2
comp=Z,22nm,1.4s
M26K Nabesna, AK 85.71 28 P P 10 31 36.9 +0.5
baz=272
MCARA McCarthy VSAT 85.74 29 P P 10 31 36.7 +0.2
baz=272
E27K Coleen River 86.02 22 P P 10 31 38.2 +0.4
E27K IAmb IAmb 10 31 40.2
comp=Z,23nm,1.8s
E27K Coleen River 86.02 22 P P 10 31 38.8 +1.0
baz=273
K27K Chicken 86.05 26 P P 10 31 38.9 +0.9
baz=273
TBI Tubuai 86.05 114 eLR LR 10 59 10.0
comp=Z,391nm,34.8s
G27K Doyon Strip 86.07 23 P P 10 31 39.0 +0.9
baz=273
H27K Steamboat Moun 86.16 24 P P 10 31 39.5 +1.0
baz=273
I27K Kandik River 86.16 25 P P 10 31 40.3 +1.7
baz=273
D27M Malcolm River 86.19 21 P P 10 31 39.8 +1.1
baz=274
L27K Beaver Creek, 86.21 27 P P 10 31 40.3 +1.4
baz=273
BCAR Beaver Creek A 86.23 27 P P 10 31 39.3 +0.3
EGAK Eagle 86.40 25 P P 10 31 39.7 0.0
EGAK IAmb IAmb 10 32 54.9
comp=Z,16nm,1.8s
EGAK Eagle 86.40 25 P P 10 31 40.3 +0.6
baz=274
CTG Chitna Glacier 86.57 29 P P 10 31 41.6 +0.8
baz=274
CTGM Chitina Glacie 86.58 29 P P 10 31 40.7 -0.1
BVCY Beaver Creek 86.70 28 P P 10 31 42.4 +1.1
baz=274
TABL Table Mountain 86.71 30 P P 10 31 41.9 +0.3
F28M Old Crow 86.71 23 P P 10 31 41.8 +0.6
F28M Old Crow 86.71 23 P P 10 31 41.8 +0.6
baz=275
E28M Babbage River 86.75 22 P P 10 31 42.1 +0.7
baz=275
I28M Miner Creek 86.87 25 IAmb IAmb 10 31 46.3
comp=Z,7.5nm,0.8s
I28M Miner Creek 86.87 25 P P 10 31 42.9 +0.8
baz=275
YUK3 Moose Creek 86.94 28 P P 10 31 43.3 +0.7
baz=275
D28M Stokes Point 86.97 21 P P 10 31 43.2 +0.9
baz=276
DAWY Dawson 87.22 26 P P 10 31 44.7 +0.9
baz=275
E29M Blow River 87.37 22 P P 10 31 45.0 +0.7
baz=277
H29M Whitestone 87.43 24 P P 10 31 45.3 +0.6
baz=276
G29M Pine Creek 87.49 23 P P 10 31 46.0 +1.0
baz=277
PNL Peninsula 87.64 30 P P 10 31 46.7 +0.9
baz=276
J29N Klondike Camp 87.69 26 P P 10 31 46.7 +0.7
baz=276
M29M Somme Creek 87.81 28 P P 10 31 47.0 +0.3
baz=276
L29M L29M 87.89 27 P P 10 31 47.5 +0.5
baz=277
K29M Barlow Dome 88.07 26 P P 10 31 48.5 +0.6
baz=277

EPYK Eagle Plains 88.08 24 P P 10 31 48.3 +0.5
baz=278
G30M tAoh Zraii Nji 88.19 23 P P 10 31 47.5 -0.8
baz=278
F30M Barrier River 88.26 22 P P 10 31 48.5 -0.2
baz=279
I30M Mount Dempster 88.38 25 P P 10 31 48.9 -0.5
baz=278
HYT Haines Junctio 88.45 29 P P 10 31 49.6 -0.2
baz=277
J30M Hart River 88.49 25 P P 10 31 49.7 -0.2
baz=278
M30M Minto, Yukon 88.56 27 P P 10 31 50.2 0.0
baz=278
G31M Satah River 88.96 23 P P 10 31 51.8 0.0
baz=280
INK Inuvik 88.99 22 P P 10 31 51.0 -0.9
baz=281
F31M Tsiigehtchic 89.07 22 P P 10 31 53.6 +1.3
F31M IAmb IAmb 10 34 31.2
comp=Z,19nm,1.8s
F31M Tsiigehtchic 89.07 22 P P 10 31 51.6 -0.7
baz=280
KIBK Kibwezi 89.12 268 P P 10 31 53.6 -0.2
ARCES ARCESS Array B 89.43 340 P P 10 31 52.7 -1.3
comp=Z,6.7nm,0.8s,baz=79,slow=6.1,SNR=8.4
comp=Z,6.7nm,0.8s
FARO Faro, Yukon 90.20 27 P P 10 31 59.5 +1.7
FARO Faro, Yukon 90.20 27 P P 10 31 57.6 -0.2
baz=281
FINES FINESS Array B 90.91 332 P P 10 31 59.9 -1.1
comp=Z,2.7nm,0.7s,baz=66,slow=6.5,SNR=6.5
comp=Z,2.7nm,0.7s
AKASG Malin Array Be 91.13 321 P P 10 32 01.2 -1.2
comp=Z,1.7nm,0.7s,baz=66,slow=5.1,SNR=5.7
comp=Z,1.7nm,0.7s
C36M Paulatuk 92.03 20 P P 10 32 05.1 -1.0
C36M IAmb IAmb 10 32 06.4
comp=Z,2.5nm,0.5s
C36M Paulatuk 92.03 20 P P 10 32 05.4 -0.7
baz=290
TGTN Hyland Airport 92.70 28 P P 10 32 09.6 +0.1
baz=285
WTLY Watson Lake, Y 92.82 29 P P 10 32 10.4 +0.3
baz=285
QSPA South Pole Qui 94.81 180 P P 10 32 20.3 +1.2
comp=Z,3.1nm,0.7s,baz=15,slow=0.6,SNR=21
comp=Z,3.1nm,0.7s
HFS Hagfors 97.09 332 P P 10 32 28.9 -0.6
comp=Z,3.2nm,0.7s,baz=72,slow=4.7,SNR=6.0
comp=Z,3.2nm,0.7s
NOA NORSAR Array B 97.84 334 P P 10 32 32.0 -0.9
comp=Z,0.6nm,0.7s,baz=65,slow=4.6,SNR=2.5
comp=Z,0.6nm,0.7s
YKA Yellowknife Ar 98.34 24 P P 10 32 33.9 -1.1
comp=Z,0.4nm,0.8s,baz=299,slow=4.7,SNR=7.0
comp=Z,0.4nm,0.8s
ISA Isabella, Lake 106.74 51 P PKiKP 10 37 22.7 -0.5
baz=289
SUSD Miller 115.93 35 P PKiKP 10 37 39.6 -0.7
baz=307
ANMO Albuquerque 116.06 47 P PKPdf 10 37 39.8 -1.2
baz=297
SCHQ Schefferville 119.38 9 PKP PKPdf 10 37 46.5 -0.1
comp=Z,2.5nm,0.6s,baz=259,slow=5.9,SNR=3.9
TXAR Lajitas Array 120.70 52 PKP PKPdf 10 37 50.4 +0.3
comp=Z,0.4nm,0.7s,baz=240,slow=1.9,SNR=4.9
JFWS Jewell Farm 121.69 31 P PKPdf 10 37 50.8 -0.6
baz=315
TORD Torodi Ar. Bea 122.76 289 PKP PKPdf 10 37 53.4 -0.8
comp=Z,2.4nm,0.7s,baz=40,slow=3.4,SNR=14
JCT Junction City 123.12 49 P PKPdf 10 37 53.7 -0.9
baz=300
CCM Cathedral Cave 124.47 36 P PKPdf 10 37 56.3 -0.6
baz=312
MIAR Mount Ida 125.25 41 P PKPdf 10 37 57.9 -0.6
baz=308
WVT Waverly 127.78 36 P PKPdf 10 38 02.4 -0.8
baz=314
LBNH Lisbon 128.21 17 P PKPdf 10 38 03.4 -0.5
baz=336
BINY Binghamton 128.68 22 P PKPdf 10 38 04.0 -0.8
baz=330
TZTN Tazewell 129.86 32 P PKPdf 10 38 06.6 -0.7
baz=319
HRV Adam Dziewonsk 129.90 18 P PKPdf 10 38 06.5 -0.6
baz=336
PAL Palisades 130.47 21 P PKPdf 10 38 08.7 +0.5
baz=332
DBIC Dimbokro 130.55 283 PKP PKiKP 10 38 09.9 -0.1
comp=Z,2.1nm,0.6s,baz=72,slow=3.2,SNR=3.6
PLCA Paso Flores 141.02 159 PKP PKPdf 10 38 28.2 +0.3
comp=Z,4.9nm,1.1s,baz=248,slow=4.7,SNR=4.3
CPUP Villa Florida 158.31 170 PKPab PKPab 10 39 30.9 +1.4
comp=Z,1.4nm,0.5s,baz=190,slow=2.9,SNR=4.0
LPAZ La Paz 161.37 129 PKPab PKPab 10 39 46.2 +2.3
comp=Z,2.8nm,0.9s,baz=205,slow=3.4,SNR=6.8

*NEIC **23** 10:28:44.6±2.8, 60.°60S±0.°10×49.°1W±0.°1, h10km±1km, mb4.6/17, Error ellipse: s-maj=16.3km s-min=11.2km az=169.0*
*IDC **23** 10:28:45.2±0.9, 60.°35S×49.°29W, h0km, mb4.0/5, mbtmp4.0/6, ML3.8/1, MS3.3/10, Error ellipse: s-maj=35.5km s-min=24.4km az=83.0*
ISC 23 10:28:45.7±0.6, 60.°50S±0.°08×49.°12W±0.°09, h10km, n41, σ1§52/29, mb4.4/12, MS3.3/9, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ORCD	Orcadas	2.17	98	Pn		Pn	10 29 18.7	-3.1
PMSA	Palmer Station	8.10	232	Pn		Pn	10 30 41.2	-1.9
PMSA	Palmer Station	8.10	232	Pn		Pn	10 30 45.6	+2.5
	1.4nm,0.3s,baz=49,slow=12,SNR=1.8							
PMSA				LR		LR	10 34 21.7	
	comp=Z,133nm,18.1s,baz=138,slow=41							
	28nm,0.9s							
HOPE	Hope Point	9.22	53	Pn		Pn	10 30 58.4	-0.2
MG02	Cerro Sombrero	13.45	296	Pn		Pn	10 31 54.9	-1.4
BELA	Belgrano 2	18.09	170			Pn	10 32 54.5	-2.1
AY03	Cochrane	19.02	304	P		P	10 33 05.4	-2.1
COYC	Coyhaique	20.18	307	P		P	10 33 19.7	-0.4
COYC				IAmb		IAmb	10 33 32.3	
	comp=Z,28nm,1.2s							
SNAA	Sanae	21.17	141	LR		LR	10 41 26.7	
	comp=Z,126nm,18.2s,baz=292,slow=36							
PLCA	Paso Flores	23.80	317	P		P	10 33 58.0	-0.5
PLCA	Paso Flores	23.80	317	P		P	10 33 57.5	-1.1
	comp=Z,3.0nm,1.0s,baz=168,slow=14,SNR=3.2							
PLCA				LR		LR	10 41 37.4	
	comp=Z,78nm,20.8s,baz=180,slow=33							
	comp=Z,3.0nm,1.0s							
TRQA	Tornquist	23.89	334	P		P	10 34 00.1	+0.9
TRQA				IAmb		IAmb	10 34 00.7	
	comp=Z,10nm,0.8s							
QSPA	South Pole Qui	29.74	180	P		P	10 34 53.4	+1.5
QSPA				IAmb		IAmb	10 35 01.6	
	comp=Z,10.0nm,1.1s							
QSPA	South Pole Qui	29.74	180	P		P	10 34 54.8	+2.9
	comp=Z,3.3nm,0.8s,baz=180,slow=6.2,SNR=11							
QSPA				LR		LR	10 46 23.2	
	comp=Z,75nm,21.3s,baz=179,slow=35							
	comp=Z,3.3nm,0.8s							
MT09	Talagante	30.30	322	P		P	10 34 56.8	-0.3
MT16	CCHEN	30.48	323	P		P	10 34 57.0	-1.5
CO03	El Pedregal	32.95	324	P		P	10 35 18.7	-1.7
CO03				IAmb		IAmb	10 35 50.1	
	comp=Z,12nm,1.4s							
CPUP	Villa Florida	34.62	347	LR		LR	10 48 57.5	
	comp=Z,35nm,21.7s,baz=202,slow=35							
AC02	Maricunga	36.32	329	P		P	10 35 51.0	+1.1
AC02				IAmb		IAmb	10 35 57.9	
	comp=Z,17nm,1.4s							
AC01	Pan de Azucar	37.36	327	P		P	10 35 57.5	-0.7
AC01				IAmb		IAmb	10 36 36.8	
	comp=Z,19nm,1.2s							
PB14	IPOC Station P	38.76	328	P		P	10 36 08.7	-1.7
PB14				IAmb		IAmb	10 36 27.7	
	comp=Z,20nm,1.4s							
PB10	IPOC Station P	39.86	328	P		P	10 36 18.0	-1.2
LVC	Limon Verde	40.32	331	LR		LR	10 54 46.0	
	comp=Z,18nm,20.5s,baz=182,slow=39							
VNDA	Vanda	40.91	190	LR		LR	10 56 52.1	
	comp=Z,99nm,18.1s,baz=198,slow=41							
SIV	San Ignacio	45.28	344	LR		LR	10 54 28.8	
	comp=Z,48nm,21.2s,baz=104,slow=34							
PTLB	Pontes e Lacer	45.57	346	P		P	10 37 06.3	+0.7
PTLB				IAmb		IAmb	10 37 07.1	
	comp=Z,4.1nm,0.8s							
LPAZ	La Paz	46.24	334	P		P	10 37 11.8	+0.2
	comp=Z,0.9nm,0.6s,baz=192,slow=7.3,SNR=4.4							
LPAZ				LR		LR	10 57 53.9	
	comp=Z,32nm,18.3s,baz=182,slow=38							
	comp=Z,0.9nm,0.6s							
SAML	Samuel	52.51	342	P		P	10 37 59.5	+0.7
SAML				IAmb		IAmb	10 38 00.7	
	comp=Z,3.6nm,0.8s							
CZSB	Cruzeiro do Su	55.55	331	P		P	10 38 20.7	-0.3
H10S2	ASCENSION HYDR	57.48	42	T		T	11 40 54.7	
	baz=200,slow=74,SNR=8.2							
H10S3	ASCENSION HYDR	57.48	42	T		T	11 40 55.2	
	baz=20,slow=74,SNR=10.0							
H10N3	ASCENSION HYDR	58.58	41	T		T	11 42 17.8	
	baz=199,slow=75,SNR=14							
H10N1	ASCENSION HYDR	58.58	41	T		T	11 42 18.5	
	baz=199,slow=75,SNR=15							
H10N2	ASCENSION HYDR	58.59	41	T		T	11 42 19.4	
	baz=199,slow=75,SNR=16							
MCRA	Macar, Loja	60.69	324	P		P	10 38 57.5	+0.4
ROSC	El Rosal	68.07	333	LR		LR	11 11 05.0	
	comp=Z,24nm,21.5s,baz=76,slow=37							
TORD	Torodi Ar. Bea	83.78	49	P		P	10 41 16.3	+1.4
	comp=Z,0.6nm,0.6s,baz=186,slow=6.0,SNR=4.4							
	comp=Z,0.6nm,0.6s							
ASAR	Alice Springs	96.11	183	P		P	10 42 14.0	+0.6
	comp=Z,0.5nm,0.8s,baz=160,slow=3.0,SNR=4.9							
	comp=Z,0.5nm,0.8s							
ILAR	Eielson Array	144.46	313	PKP		PKPbc	10 48 19.1	0.0
	comp=Z,1.0nm,0.6s,baz=143,slow=1.8,SNR=26							
BVAR	Borovoye Array	147.11	76	PKPbc		PKPbc	10 48 28.8	+1.2
	comp=Z,1.8nm,0.6s,baz=248,slow=3.0,SNR=10							
MKAR	Makanchi Array	148.90	94	PKPbc		PKPbc	10 48 33.1	+0.6
	comp=Z,1.0nm,0.7s,baz=229,slow=1.7,SNR=8.8							

TRN 23 10:33:05.3, 18.°77N×62.°37W, h8km, MD3.9, Far North-east of Anguilla., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ANBD	Bethesda, Anti	1.81	161	eP		Pn	10 33 33.7	-3.1
ANBD				eS		Sn	10 33 54.9	-5.0
MBFL	Flemmings, Mon	2.02	176	eP		Pn	10 33 37.1	-2.6
MBFL				eS		Sn	10 34 00.2	-4.9
ABD	La Joyeuse, An	2.43	160	eP		Pn	10 33 42.7	-2.7
ABD				eS		Sn	10 34 09.9	-5.4
CBE	Ff, Capester	2.78	165	eP		Pn	10 33 48.7	-1.5
CBE				eS		Sn	10 34 18.2	-5.8
AOPR	Arecibo Observ	4.18	265	eP		Pn	10 34 07.3	-2.2

*LVSN **23** 10:34:05.3±6.3, 57.°84N×23.°39E, h0km±333km, ML2.0*
HEL 23 10:34:01.4±0.3, 60.°95N×29.°05E, h0km, ML1.6, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RUF	Ruokolahti	0.48	354	PG		Pg	10 34 10.1	-0.5
RUF				SG		Sg	10 34 16.4	-0.3
RUF				MSG			10 34 17.0	
	comp=Z,8.8nm,0.2s							
VJF	Virojoki	0.84	241	PG		Pg	10 34 17.1	-0.5
	baz=56							
VJF				SG		Sg	10 34 26.2	-2.3
VJF				MSG			10 34 27.6	
	comp=Z,10nm,0.2s							
FIA0	FINESS Array S	1.52	290	PG		Pn	10 34 28.5	-1.4
FIA0				MSG			10 34 47.0	
	comp=Z,8.3nm,0.2s							
FIA0				SN		Sn	10 34 51.7	+1.4
PVF	Pernaja	1.62	257	PG		Pn	10 34 30.4	-0.7
PVF				MSG			10 34 49.9	
	comp=Z,9.3nm,0.2s							
PVF				SN		Sg	10 34 53.4	0.0
KAF	Kangasniemi	1.76	313	PG		Pn	10 34 33.7	+0.6
KAF				MSG			10 34 53.8	
	comp=Z,8.8nm,0.2s							
KAF				SN		Sn	10 34 56.6	+0.4
ARBE	Arbavere	2.16	227	eP		Pb	10 34 40.3	-1.0
ARBE				eS		Sb	10 35 08.3	-0.2
ARBE				AML		AML	10 35 13.6	
	comp=E,90nm,0.1s							
ARBE				AML		AML	10 35 14.7	
	comp=N,71nm,0.1s							
ARBE				AML		AML	10 35 56.6	
	comp=Z,66nm,0.7s							
ARBE	Arbavere	2.16	227	PG		Pb	10 34 40.5	-0.8
NUR	Nurmijrvi	2.21	260	PG		Pn	10 34 39.9	+0.6
NUR				MSG			10 35 06.7	
	comp=Z,3.6nm,0.2s							
JOF	Joensuu	2.25	27	PG		Pb	10 34 41.5	-1.3
JOF				SG		Sb	10 35 10.0	-1.0
SUF	Sumiainen	2.25	323	PG		Pb	10 34 41.9	-0.9
	baz=139							
SUF				MSG			10 35 08.0	
	comp=Z,2.9nm,0.2s							
SUF				SG		Sb	10 35 11.3	+0.2
KEF	Keuruu	2.34	303	PG		Pb	10 34 43.2	-1.3
	baz=116							
KEF				MSG			10 35 10.8	
	comp=Z,2.8nm,0.2s							
KEF				SG		Sb	10 35 13.5	-0.5
MEF	Metsahovi	2.41	254	eP		Pn	10 34 43.1	+1.1
MEF				eS		Sb	10 35 14.2	-1.7
MEF				AML		AML	10 35 30.1	
	comp=N,7.3nm,0.7s							
MEF				AML		AML	10 35 32.7	
	comp=Z,12nm,0.8s							
MEF				AML		AML	10 35 32.9	
	comp=E,8.1nm,0.8s							
MEF	Metsahovi	2.41	254	PB		Pn	10 34 43.0	+0.9
MEF				MSG			10 35 12.7	
	comp=Z,3.6nm,0.2s							
NIF	Nilsia	2.52	347	PG		Pb	10 34 45.7	-1.7
	baz=163							
RMF	Romuvaara	3.30	7	PB		Pn	10 34 57.5	+3.2
	baz=191							
RAF	Rauma	3.55	274	eP		Pn	10 34 59.7	+2.0
RAF				eS		Sn	10 35 35.0	-5.4
RAF				AML		AML	10 35 58.9	
	comp=N,3.9nm,0.5s							
RAF				AML		AML	10 35 59.9	
	comp=E,4.6nm,0.9s							
RAF				AML		AML	10 36 16.1	
	comp=Z,3.5nm,1.0s							
OUL	Oulu	4.39	342	SB		Sb	10 36 11.6	-1.2

*MOS **23** 10:34:50.6±0.9, 43.°39N×138.°75E, h234km, mb4.4/45, Error ellipse: s-maj=6.5km s-min=5.0km az=99.2*
*NIED **23** 10:34:51.4, 43.°30N×138.°90E, h240km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr-2.80; Mθθ2.86; Mφφ-0.07; Mrθ0.04; Mθφ-0.17; Mφr-0.16; Fault plane solution: M0.84000×10^15^ NP1: φs277.00000°, δ46.00000°, λ-85.00000°. NP2:φs90.00000°, δ45.00000°, λ-95.00000°.*
*NEIC **23** 10:34:51.7±1.7, 43.°38N±0.°07×138.°83E±0.°09, h224km±6km, mb4.2/228 Error ellipse: s-maj=10.5km s-min=9.4km az=133.0*
*JMA **23** 10:34:51.4±0.2, 43.°3N±0.°8×13.°9E±.°, h240km±1km, MV4.2/39, EASTERN SEA OF JAPAN*
*SKHL **23** 10:34:52.5±0.3, 43.°40N×139.°10E, h236km±13km, mb5.0/10, mbv5.3/2, msha5.5/7*
*IDC **23** 10:34:52.3±0.7, 43.°53N×138.°77E, h231km±6km, mb3.9/32, mbtmp4.5/39, Error ellipse: s-maj=8.5km s-min=7.2km az=169.0*
ISC 23 10:34:51.7±0.4, 43.°40N±0.°04×138.°87E±0.°04, h233km±4km, n499, σ1§41/556, mb4.3/176, 25C-13D, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JSH	Shimam	1.15	131	P		Pn	10 35 25.5	-0.4
JSH				eS		S	10 35 52.7	+0.2
JSK	Shakotan	1.17	92	P		Pn	10 35 26.2	+0.2
JSK				eS		S	10 35 53.5	+0.7
JOSM	Okushiri--Mats	1.39	161	P		Pn	10 35 27.4	-0.2
JOSM				eS		S	10 35 55.4	-0.3
JEW	Eniwo	1.97	106	P		Pn	10 35 32.9	+0.4

JEW eS **S** **10 36 05.0 +0.6**
JOMM Oshimamatsumae 2.06 155 P **Pn** **10 35 33.0 -0.4**
JOMM eS **S** **10 36 05.0 -0.9**
JHR Hokuryu 2.10 80 P **Pn** **10 35 34.5 +0.8**
TEY Ternei 2.31 316⇑ *eP* **Pn** **10 35 35.9 +0.2**
TEY pmax pmax
comp=E,140nm,0.5s
TEY pmax pmax
comp=N,90nm,0.8s
TEY pmax pmax
comp=Z,90nm,0.6s
JSS Shosan 2.38 64 P **Pn** **10 35 37.5 +1.1**
JRBN Rebuntou 2.56 37 P **Pn** **10 35 39.0 +0.7**
JRBN eS **S** **10 36 15.3 +0.3**
JOT Ohata 2.58 141 P **Pn** **10 35 37.6 -1.1**
ASAJ Asahikawa 2.79 74 P **Pn** **10 35 41.4 +0.6**
comp=Z,84nm,0.4s,baz=255,slow=9.2,SNR=237
ASAJ S **S** **10 36 21.4 +1.9**
comp=Z,53nm,0.6s,baz=105,slow=29,SNR=10
JKA Kamikawa-asahi 2.79 74 Pn **Pn** **10 35 41.2 +0.4**
JKA Kamikawa-asahi 2.79 74 *eP* **Pn** **10 35 41.4 +0.5**
JKK2 Kamakawa 2 2.85 79 P **Pn** **10 35 42.3 +0.7**
JKK2 eS **S** **10 36 22.5 +1.8**
JWK2 Keihoku 2.89 48 P **Pn** **10 35 43.8 +1.9**
JWK2 eS **S** **10 36 24.3 +2.9**
JNBK Urakawa-nobuka 3.07 110 P **Pn** **10 35 43.0 -0.9**
JNBK eS **S** **10 36 23.9 -1.0**
JTM Tenmabayashi 3.08 147 P **Pn** **10 35 43.2 -0.9**
JTM Tenmabayashi 3.08 147 Pn **Pn** **10 35 42.9 -1.2**
JSE Soyaes 3.09 58 P **Pn** **10 35 45.2 +1.1**
JSE S **S** **10 36 26.8 +1.5**
JCH Churui 3.39 102 P **Pn** **10 35 45.9 -1.7**
JCH S **S** **10 36 27.9 -3.6**
ERM Erimo 3.45 112 P **Pn** **10 35 48.3 0.0**
ERM Erimo 3.45 112 Pn **Pn** **10 35 48.0 -0.2**
ERM Erimo 3.45 112 *iP* **Pn** **10 35 47.7 -0.6**
JEM Erimo 3.45 112 P **Pn** **10 35 48.1 -0.2**
JAR Ashorobuto 3.58 90 P **Pn** **10 35 49.5 -0.2**
JAR S **S** **10 36 35.0 -0.4**
JANG Nango 3.61 146 P **Pn** **10 35 48.7 -1.5**
JANG S **S** **10 36 32.7 -3.6**
JTKR Abashiri--Toko 3.70 79 P **Pn** **10 35 51.6 +0.5**
JTKR eS **S** **10 36 38.7 +0.8**
NEVR Nevel`sk 3.90 32 *eP* **Pn** **10 35 55.4 +2.0**
JAK Akkeshi 4.28 93 P **Pn** **10 35 56.4 -1.7**
JAK eS **S** **10 36 45.9 -4.6**
JOM Ohasama 4.33 154 P **Pn** **10 35 56.9 -1.8**
AKK Akkeshi 4.38 93 *iP* **Pn** **10 35 57.6 -1.7**
AKK eS **S** **10 36 48.3 -4.5**
YSS Yuzh-Sakhalins 4.49 36 P **Pn** **10 36 02.3 +1.7**
YSS Yuzh-Sakhalins 4.49 36 Pn **Pn** **10 36 01.6 +1.0**
YSS Yuzh-Sakhalins 4.49 36α *iP* **Pn** **10 36 01.9 +1.3**
YSS *iS* **S** **10 36 55.6 +0.4**
YSS pmax pmax
comp=Z,300nm,3.0s
YSS pmax pmax
comp=Z,210nm,1.0s
YSS pmax pmax
comp=N,170nm,1.1s
YSS pmax pmax
comp=E,140nm,0.9s
YSS smax smax
comp=N,200nm,2.2s
YSS smax smax
comp=E,300nm,2.4s
YSS smax smax
comp=N,160nm,1.0s
YSS smax smax
comp=E,80nm,1.1s
YSS Yuzh-Sakhalins 4.49 36 *eP* **Pn** **10 36 02.2 +1.7**
YSS AMB AMB 10 36 02.4
comp=E,200nm,3.0s
YSS AMB AMB 10 36 02.6
comp=E,320nm,0.7s
YSS eS **S** **10 36 55.6 +0.4**
YSS A A 10 36 57.7
comp=E,200nm,2.3s
YSS A A 10 36 57.7
comp=E,300nm,2.3s
YSS A A 10 36 57.9
comp=E,160nm,0.9s
YSS A A 10 36 57.9
comp=E,80nm,0.9s
JYK Kaneyama 4.62 165 P **Pn** **10 36 01.0 -1.3**
RUSJ Misakicho 4.67 79⇑ *iP* **Pn** **10 36 04.2 +1.3**
RUSJ S **S** **10 37 00.0 +0.8**
NMR Nemuro--Hokkai 5.00 88⇑ *iP* **Pn** **10 36 05.0 -1.8**
NMR eS **S** **10 37 00.9 -5.6**
NMR Nemuro--Hokkai 5.00 88 *iP* **Pn** **10 36 05.1 -1.8**
NMR eS **S** **10 37 01.9 -4.6**
USA0B Ussuriysk Arra 5.04 281 Pn **Pn** **10 36 07.4 -0.1**
USA0B Ussuriysk Arra 5.04 281 *iP* **Pn** **10 36 05.5 -2.0**
USRK Ussuriysk Ar. 5.04 281 Pn **Pn** **10 36 07.3 -0.1**
USRK Ussuriysk Ar. 5.04 281 P **Pn** **10 36 07.2 -0.2**
comp=E,2.8nm,0.5s,baz=88,slow=13,SNR=12
YUK Yuzh-Kuril'sk 5.11 80 *eP* **Pn** **10 36 09.5 +1.3**
YUK eS **S** **10 37 07.7 -1.2**
YUK pmax pmax
comp=E,34nm,0.3s
YUK pmax pmax
comp=Z,167nm,0.3s
YUK pmax pmax
comp=N,35nm,0.2s
YUK smax smax
comp=N,159nm,0.2s
YUK smax smax
comp=E,270nm,0.2s
YUK Yuzh-Kuril'sk 5.11 80 *eP* **Pn** **10 36 09.2 +1.0**
YUK AMB AMB 10 36 10.0
comp=E,30nm,0.3s
YUK AMB AMB 10 36 10.0
comp=E,170nm,0.3s
YUK eS **S** **10 37 06.8 -2.1**
YUK A A 10 37 18.5
comp=E,160nm,0.4s
YUK A A 10 37 18.5
comp=E,270nm,0.4s
JSD Sado 5.38 185 P **Pn** **10 36 11.6 -0.1**
JSD Sado 5.38 185 Pn **Pn** **10 36 11.4 -0.3**
JMM Marumori 5.72 165 P **Pn** **10 36 13.6 -2.4**
JMM Marumori 5.72 165 **Pn** **10 36 13.7 -2.3**
KHBR Khabarovsk 5.73 334 *eP* **Pn** **10 36 19.2 +3.3**
KHBR AMB AMB 10 36 22.2
comp=E,30nm,0.5s
SHO Shikotan 5.79 83⇑ *iP* **Pn** **10 36 16.0 -0.8**
SHO eS **S** **10 37 18.2 -6.4**
SHO pmax pmax
comp=Z,58nm,0.1s
SHO smax smax
comp=N,121nm,0.2s
SHO smax smax
comp=E,266nm,0.2s
SHO Shikotan 5.79 83 *iP* **Pn** **10 36 16.1 -0.8**
SHO AMB AMB 10 36 16.7
comp=E,90nm,0.2s
SHO eS **S** **10 37 19.7 -4.9**
SHO A A 10 37 27.5
comp=E,120nm,0.3s
SHO A A 10 37 27.5
comp=E,270nm,0.3s
UGL Uglegorsk 6.09 20 *eP* **Pn** **10 36 21.7 +1.2**
UGL S **S** **10 37 33.5 +2.1**
UGL pmax pmax
comp=Z,300nm,1.0s
UGL pmax pmax
comp=Z,204nm,0.9s
UGL Uglegorsk 6.09 20 *eP* **Pn** **10 36 22.3 +1.8**
UGL AMB AMB 10 36 22.5
comp=Z,300nm,1.0s
UGL AMB AMB 10 36 23.0
comp=Z,200nm,0.7s
UGL eS **S** **10 37 32.4 +1.0**
UGL A A 10 37 39.4
comp=Z,40nm,0.3s
UGL A A 10 37 39.4
comp=Z,30nm,0.3s
KUR Kuril'sk 6.71 71 *eP* **Pn** **10 36 29.2 +0.8**
KUR eS **S** **10 37 48.8 +3.2**
KUR smax smax
comp=E,58nm,0.4s
KUR smax smax
comp=N,44nm,0.2s
KUR Kuril'sk 6.71 71 *eP* **Pn** **10 36 28.4 0.0**
KUR AMB AMB 10 36 32.5
comp=N,50nm,0.6s
KUR eS **S** **10 37 43.0 -2.6**
KUR A A 10 37 52.8
comp=N,40nm,0.3s
KUR A A 10 37 52.8
comp=N,60nm,0.3s
MJB9 Matsu-Tunnel 6.87 184 Pn **Pn** **10 36 30.5 0.0**
MAJO Matsushiro 6.87 184 P **Pn** **10 36 29.7 -0.9**
MAJO Matsushiro 6.87 184 Pn **Pn** **10 36 29.5 -1.1**
MAJO Matsushiro 6.87 184*c* *iP* **Pn** **10 36 29.3 -1.3**
MJAR Matsushiro Arr 6.87 184 P **Pn** **10 36 29.7 -0.9**
comp=N,22nm,0.4s,baz=4.7,slow=13,SNR=77
GRNR Gornyy 7.56 348⇑ *iP* **Pn** **10 36 39.3 +0.1**
GRNR pmax pmax
comp=N,30nm,0.9s
GRNR pmax pmax
comp=Z,40nm,0.8s
GRNR Gornyy 7.56 348 *eP* **Pn** **10 36 39.9 +0.7**
GRNR AMB AMB 10 36 40.4
comp=Z,40nm,0.8s
KLR Kul'dur 7.63 322 *iP* **Pn** **10 36 39.8 -0.3**
KLR pmax pmax
comp=Z,33nm,1.5s
KLR Kul'dur 7.63 322 P **Pn** **10 36 39.6 -0.5**
comp=Z,7.0nm,0.5s,baz=130,slow=14,SNR=20
KLR Kul'dur 7.63 322 *eP* **Pn** **10 36 39.8 -0.3**
JGF Kuroka 7.88 189 P **Pn** **10 36 42.6 -0.9**
JGF Kuroka 7.88 189 Pn **Pn** **10 36 42.4 -1.1**
TYV Tymovskoe 7.90 18 *eP* **Pn** **10 36 45.1 +1.6**
TYV *eS* **S** **10 38 15.9 +2.7**
TYV pmax pmax
comp=Z,100nm,3.3s
TYV pmax pmax
comp=Z,18nm,1.0s
TYV smax smax
comp=N,3.0nm,1.7s
TYV smax smax
comp=E,3.0nm,1.7s
TYV Tymovskoe 7.90 18 *eP* **Pn** **10 36 45.1 +1.6**
TYV AMB AMB 10 36 45.8
comp=E,400nm,3.3s
TYV AMB AMB 10 36 46.0
comp=E,20nm,0.7s
TYV eS **S** **10 38 14.0 +0.8**
TYV A A 10 38 21.0
comp=E,140nm,0.7s
TYV A A 10 38 21.0
comp=E,120nm,0.7s
INU Inuyama 8.17 191 P **Pn** **10 36 46.4 -0.8**
INU Inuyama 8.17 191 Pn **Pn** **10 36 46.3 -0.8**
BNX BinXian 8.51 290⇑ P **Pn** **10 36 51.8 +0.4**
BNX pmax pmax
comp=Z,11nm,0.8s
BNX pmax pmax
comp=Z,140nm,6.0s
JSG Sagara 8.73 184 P **Pn** **10 36 54.6 +0.3**
JSG Sagara 8.73 184 Pn **Pn** **10 36 53.8 -0.5**
KSRS Korea Array 10.24 238 P **Pn** **10 37 13.8 +0.3**
comp=Z,3.2nm,0.7s,baz=52,slow=12,SNR=13
JHJ Hachijo jima 2 10.29 176 P Pn 10 37 09.4 -4.8
comp=Z,234nm,0.3s,baz=354,slow=16,SNR=18
JHJ S S 10 38 58.5 -11
comp=Z,249nm,0.9s,baz=261,slow=23,SNR=2.4
HEH HeiHe 10.41 315 *eP* **Pn** **10 37 15.9 +0.4**
HEH pmax pmax
comp=Z,8.0nm,0.9s
JMN Monobe 10.42 204 P **Pn** **10 37 16.6 +0.8**
JMN Monobe 10.42 204 Pn **Pn** **10 37 16.1 +0.3**
EKMR Ekimchan 10.45 340 *eP* **P** **10 37 19.7 -2.1**
EKMR AMB AMB 10 37 27.4
comp=Z,10.0nm,0.8s
OKH Okha 10.51 13*de* **Pn** **10 37 13.3 -3.3**
OKH *eS* **S** **10 39 06.0 -8.3**
OKH MLR MLR
comp=E,100nm,9.0s
OKH MLR MLR
comp=Z,100nm,5.0s
OKH Okha 10.51 13 *eP* **P** **10 37 20.2 -2.2**
OKH AMB AMB 10 37 20.8
comp=Z,60nm,0.3s
JNU Nakatsue 12.03 214 P **Pn** **10 37 37.2 +1.1**
JNU Nakatsue 12.03 214 Pn **Pn** **10 37 35.2 -0.8**
JNU Nakatsue 12.03 214 P **Pn** **10 37 36.8 +0.7**
comp=Z,6.5nm,0.3s,baz=58,slow=2.6,SNR=22
ZEA Zeya 12.87 328 *eP* **P** **10 37 50.0 +1.3**
ZEA Zeya 12.87 328 *eP* **P** **10 37 50.0 +1.3**
SKR Severo-Kuril's 13.81 52 *iP* **P** **10 37 58.8 -0.3**
SKR Severo-Kuril's 13.81 52 *eP* **Pn** **10 37 58.0 +0.1**
SKR AMB AMB 10 38 01.8
comp=Z,20nm,0.7s
PAU Pauzhetka 14.55 50 *eP* **P** **10 38 08.8 +1.5**
PAU AMB AMB 10 38 11.2
comp=Z,50nm,0.5s
PEA0B Petropavlovsk- 15.81 46 P **P** **10 38 20.1 -1.2**
PEA0B IAmb IAmb 10 38 25.8
comp=Z,14nm,0.9s
PEA0B Petropavlovsk- 15.81 46 *iP* **Pn** **10 38 22.4 +0.3**
PETK Petropavlovsk- 15.81 46 P **P** **10 38 20.2 -1.0**
PETK Petropavlovsk- 15.81 46 P **P** **10 38 20.4 -0.9**
comp=Z,3.2nm,0.7s,baz=225,slow=7.0,SNR=11
JCJ Chichijima 16.49 170 P **P** **10 38 27.9 -1.0**
JCJ Chichijima 16.49 170 P **P** **10 38 28.2 -0.7**
XLT XiLinHaoTe 16.50 280 *eP* **P** **10 38 28.8 -0.2**
XLT pmax pmax
comp=Z,13nm,1.2s
XLT pmax pmax
comp=Z,60nm,3.9s
BJT Baijiatuau 17.27 266 **P** **10 38 35.6 -1.8**
BJT IAmb IAmb 10 38 40.8
comp=Z,12nm,0.6s
BJT Baijiatuau 17.27 266 P **P** **10 38 35.6 -1.8**
BJT pmax pmax
comp=Z,12nm,0.6s
MA2 Magadan 17.76 20 P **P** **10 38 42.8 +0.4**
MA2 Magadan 17.76 20 P **P** **10 38 42.6 +0.1**
MA2 Magadan 17.76 20*c* *iP* **P** **10 38 42.1 -0.3**
MA2 pmax pmax
comp=Z,34nm,0.7s
MA2 Magadan 17.76 20 P **P** **10 38 42.0 -0.4**
comp=Z,33nm,0.6s,baz=206,slow=9.0,SNR=67
MA2 S **S** **10 41 51.7 -2.4**
comp=Z,0.8nm,0.3s,baz=181,slow=23,SNR=1.3
MA2 Magadan 17.76 20 *iP* **P** **10 38 42.1 -0.3**
HNS HongShan 19.32 260 *eP* **P** **10 38 58.4 -1.1**
YAK Yakutsk 19.44 347 P **P** **10 38 58.6 -1.8**
YAK Yakutsk 19.44 347 *eP* **P** **10 38 58.5 -1.9**
YAK *eS* **S** **10 42 22.3 -4.8**
YAK pmax pmax
comp=Z,33nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK smax smax
comp=N,199nm,2.3s
YAK smax smax
comp=E,41nm,1.1s
YAK Yakutsk 19.44 347 P **P** **10 38 58.6 -1.8**
comp=E,39nm,0.6s,baz=351,slow=2.7,SNR=9.3
YAK S **S** **10 42 22.4 -4.7**
comp=E,13nm,0.5s,baz=270,slow=22,SNR=13
HHC Hu-ho-hao-te 20.38 272 *eP* **P** **10 39 08.3 -2.6**
HHC pmax pmax
comp=Z,6.0nm,0.8s
HHC pmax pmax
comp=Z,170nm,5.0s
SEY Seymchan 21.09 17 *iP* **P** **10 39 16.1 -1.8**
SEY Seymchan 21.09 17 P **P** **10 39 16.4 -1.5**
comp=Z,5.3nm,0.6s,baz=216,slow=8.0,SNR=31
comp=Z,5.3nm,0.6s
SEY Seymchan 21.09 17 *iP* **P** **10 39 16.1 -1.8**
ULN Ulaanbaatar 22.60 293 P **P** **10 39 31.8 -0.8**
ULN Ulaanbaatar 22.60 293 *iP* **P** **10 39 30.8 -1.8**
ULN pmax pmax
comp=Z,18nm,3.4s
SONM Songino Array 23.04 292 P **P** **10 39 35.3 -1.2**
SONM IAmb IAmb 10 39 36.5
comp=Z,6.3nm,1.3s
SONM Songino Array 23.04 292 P **P** **10 39 35.3 -1.2**
SONM pmax pmax
comp=Z,6.0nm,1.3s
SONM Songino Array 23.04 292 P **P** **10 39 35.1 -1.4**
comp=Z,1.8nm,0.5s,baz=86,slow=8.5,SNR=18
SONM PcP **PcP** **10 43 18.6 +0.4**
comp=Z,0.2nm,0.4s,baz=48,slow=2.1,SNR=3.7
comp=Z,1.8nm,0.5s
WHN Wuhan 23.32 245 P **P** **10 39 36.9 -2.1**
TIXI Tiksi 28.75 353 *iP* **P** **10 40 28.3 +1.2**
TIXI pmax pmax
comp=Z,1.0nm,1.0s
TIXI Tiksi 28.75 353 *iP* **P** **10 40 28.3 +1.2**
PZH PanZhiHua 34.45 253 P P 10 41 12.3 -5.2
PZH pmax pmax
comp=Z,8.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.0s
ZAA0 Zalesovo Array 36.37 306 P **P** **10 41 33.7 +0.3**
ZAA0 PcP **PcP** **10 43 52.6 +0.3**
ZALV Zalesovo Beam 36.37 306 P **P** **10 41 33.8 +0.4**
comp=Z,7.7nm,0.4s,baz=86,slow=8.3,SNR=50
ZALV PcP **PcP** **10 43 52.5 +0.2**
comp=Z,7.9nm,0.4s,baz=93,slow=2.8,SNR=27
ZALV ScP **ScP** **10 47 16.6 +0.5**
comp=Z,0.9nm,0.6s,baz=87,slow=6.1,SNR=3.5
comp=Z,7.7nm,0.4s
ANM Nome 37.38 36 P **P** **10 41 42.6 +0.9**
ANM Nome 37.38 36 P **P** **10 41 42.6 +0.9**
ANM pmax pmax
comp=Z,16nm,1.2s
G16K Koyuk River 38.74 35 P **P** **10 41 53.9 +0.8**
G16K IAmb IAmb 10 41 56.3
comp=Z,11nm,1.2s
S12K Black Hills 39.06 50 P **P** **10 41 56.4 +0.6**
O14K Tigyukauivet M 39.16 45 P **P** **10 41 57.2 +0.7**
F17K Baldwin Pennin 39.29 33 P **P** **10 41 58.6 +1.1**
F17K IAmb IAmb 10 42 21.7
comp=Z,13nm,1.4s
MK31 Makanchi Array 39.35 295 P **P** **10 41 58.5 +0.1**
MK31 Makanchi Array 39.35 295*d* *iP* **P** **10 41 58.1 -0.3**
MKAR Makanchi Array 39.35 295 P **P** **10 41 58.2 -0.2**
MKAR Makanchi Array 39.35 295 *iP* **P** **10 41 58.2 -0.2**
MKAR pmax pmax
comp=Z,9.0nm,0.5s
MKAR Makanchi Array 39.35 295 P **P** **10 41 58.3 -0.1**
comp=Z,8.6nm,0.5s,baz=83,slow=9.4,SNR=108
MKAR PcP **PcP** **10 44 01.8 +0.1**
comp=Z,0.6nm,0.5s,baz=73,slow=4.6,SNR=3.9
MKAR ScP **ScP** **10 47 28.0 +0.3**
comp=Z,0.2nm,0.5s,baz=70,slow=4.7,SNR=3.1
comp=Z,8.6nm,0.5s
MAKZ Makanchi 39.55 295 P **P** **10 41 60.0 -0.1**
MAKZ Makanchi 39.55 295 P **P** **10 42 00.0 -0.1**
MAKZ pmax pmax
comp=Z,15nm,0.7s
CRAI Chiangrai 39.55 247 P **P** **10 42 00.4 0.0**
CRAI IAmb IAmb 10 42 00.8
comp=Z,8.0nm,0.7s
N15K Kwethluk River 39.70 43 P **P** **10 42 02.8 +1.7**
N15K IAmb IAmb 10 42 07.2
comp=Z,13nm,1.2s
L16K Owhat River 39.93 41 P **P** **10 42 05.1 +2.2**
L16K IAmb IAmb 10 42 28.1
comp=Z,20nm,1.5s
C19K Lookout Ridge 40.21 29 P **P** **10 42 05.9 +0.7**
G18K Tagagawik 40.31 34 P **P** **10 42 06.6 +0.7**
G18K IAmb IAmb 10 42 09.3
comp=Z,5.9nm,1.0s
CNBA Chernabura Isl 40.59 51 P **P** **10 42 09.3 +0.9**
KURK Kurchatov 40.67 302 P **P** **10 42 09.2 0.0**
KURK Kurchatov 40.67 302*d* *iP* **P** **10 42 09.0 -0.1**
KURK pmax pmax
comp=Z,20nm,0.6s
D19K Kuna River 40.68 30 P **P** **10 42 09.9 +0.9**
F19K Shaleruckik Mo 40.70 33 P **P** **10 42 09.9 +0.8**
O16K Kokwok River B 40.75 44 P **P** **10 42 11.4 +1.8**
O16K IAmb IAmb 10 42 45.2
comp=Z,8.3nm,1.1s
KURBB Kurchatov Arra 40.75 302 P **P** **10 42 09.8 +0.1**
comp=Z,20nm,0.6s,baz=78,slow=8.9,SNR=51
KURBB PcP **PcP** **10 44 06.2 0.0**
comp=Z,2.6nm,0.4s,baz=82,slow=3.3,SNR=8.7
comp=Z,20nm,0.6s
PHRA Phrae 40.87 245 P **P** **10 42 11.6 +0.5**
E19K Redstone River 40.94 32 P **P** **10 42 11.9 +0.8**
E19K IAmb IAmb 10 42 12.2
comp=Z,3.8nm,0.7s
G19K Purcell Mounta 40.95 34 P **P** **10 42 11.4 +0.2**
G19K IAmb IAmb 10 42 37.8
comp=Z,11nm,1.4s
J18K Innoko River 41.14 38 P **P** **10 42 15.7 +3.0**
B20K Meade River 41.16 28 P **P** **10 42 13.2 +0.4**
B20K IAmb IAmb 10 42 16.5
comp=Z,8.8nm,0.7s
H19K Roundabout Mou 41.21 35 P **P** **10 42 13.7 +0.4**
H19K IAmb IAmb 10 42 15.1
comp=Z,6.2nm,0.8s
L18K Granite Mounta 41.22 40 P **P** **10 42 15.1 +1.7**
TTA Tatalina 41.49 39 P **P** **10 42 16.2 +0.6**
TTA Tatalina 41.49 39 P **P** **10 42 16.3 +0.6**
TTA pmax pmax
comp=Z,4.0nm,1.3s
J19K Poorman 41.60 37 P **P** **10 42 17.2 +0.7**
J19K IAmb IAmb 10 42 20.5
comp=Z,11nm,1.5s
CMAR Chiang Mai Arr 41.76 246 P **P** **10 42 15.4 -2.9**
CMAR Chiang Mai Arr 41.76 246 *iP* **P** **10 42 18.5 +0.2**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 41.76 246 P **P** **10 42 18.1 -0.2**
comp=Z,1.1nm,0.7s,baz=39,slow=7.3,SNR=6.0
comp=Z,1.1nm,0.7s
SVW2 Sparrevohn 41.84 42 P **P** **10 42 19.8 +1.3**
SVW2 IAmb IAmb 10 42 54.5
comp=Z,13nm,1.4s
B21K Ikpikpuk River 42.01 29 P **P** **10 42 20.4 +0.7**
B21K IAmb IAmb 10 42 27.6
comp=Z,14nm,1.5s
O18K Koktuh Hills 42.17 43 P **P** **10 42 23.1 +2.0**
O18K IAmb IAmb 10 42 23.8
comp=Z,7.8nm,1.1s
P18K Big Mountain, 42.22 44 P **P** **10 42 23.3 +1.7**
P18K IAmb IAmb 10 42 38.6
comp=Z,18nm,1.5s
IMAR Indian Mountai 42.32 34 P **P** **10 42 22.8 +0.6**
K20K Telida 42.34 38 P **P** **10 42 23.3 +0.8**
F21K Alatna River 42.39 32 P **P** **10 42 23.2 +0.3**
G21K Allakaket 42.40 33 P **P** **10 42 23.5 +0.7**
G21K IAmb IAmb 10 42 24.8
comp=Z,5.1nm,0.8s
B22K Teshekpuk Lake 42.45 28 P **P** **10 42 23.8 +0.6**
B22K IAmb IAmb 10 42 28.1
comp=Z,12nm,1.4s
CHIR Chirikof Islan 42.63 49 P **P** **10 42 26.5 +1.6**
D22K Ayikyak River 42.68 30 P **P** **10 42 26.1 +0.9**
E22K Anaktuvuk Pass 43.01 31 P **P** **10 42 28.4 +0.5**
Q19K Cape Douglas, 43.10 45 P **P** **10 42 29.8 +1.2**
P19K Oil Pt 43.19 43 P **P** **10 42 30.9 +1.6**
CAST Castle Rocks 43.22 38 P **P** **10 42 31.1 +1.5**
RSO Redoubt South 43.30 42 P **P** **10 42 32.5 +2.1**
C23K Itkillik River 43.41 28 P **P** **10 42 31.9 +1.0**
C23K IAmb IAmb 10 42 34.0
comp=Z,7.8nm,1.1s
OHAK Old Harbor 43.61 47 P **P** **10 42 33.6 +0.9**
OHAK IAmb IAmb 10 42 44.0
comp=Z,24nm,1.4s
SKT Skwentna 43.66 40 P **P** **10 42 33.7 +0.7**
SKT IAmb IAmb 10 42 38.9
comp=Z,11nm,1.4s
KTH Kantishna Hill 43.72 38 P **P** **10 42 34.6 +1.1**
G23K Bananza Creek 43.77 33 P **P** **10 42 34.5 +0.6**
TOLK Toolik Lake Re 43.82 30 P **P** **10 42 34.0 -0.2**
KDAK Kodiak Island 43.87 46 P **P** **10 42 35.9 +1.2**
KDAK Kodiak Island 43.87 46 P **P** **10 42 35.9 +1.2**
KDAK pmax pmax
comp=Z,55nm,1.4s
TRF Thorofare Moun 44.02 38 P **P** **10 42 36.4 +0.4**
TRF PcP **PcP** **10 44 17.8 +0.8**
CAPN Captain Cook N 44.03 42 P **P** **10 42 36.5 +0.6**
D24K Happy Valley 44.06 29 P **P** **10 42 37.2 +1.1**
D24K IAmb IAmb 10 42 39.0
comp=Z,7.0nm,0.5s
SUA Susitna One 44.10 41 P **P** **10 42 37.5 +0.8**
SUA IAmb IAmb 10 42 51.4
comp=Z,15nm,1.5s
TARG Taragay, Kyrgy 44.11 290 P **P** **10 42 37.1 -0.3**
TARG IAmb IAmb 10 42 39.4
comp=Z,9.0nm,0.9s
TARG Taragay, Kyrgy 44.11 290 P **P** **10 42 37.1 -0.3**
TARG pmax pmax
comp=Z,9.0nm,0.9s
I23K Minto, Yukon-K 44.20 35 P **P** **10 42 38.3 +1.1**

CNPM China Poot 44.21 43 P **P** **10 42 37.7 +0.3**
BWN Browne 44.28 37 P **P** **10 42 40.0 +2.1**
BWN IAmb IAmb 10 42 50.6
comp=Z,24nm,1.4s
BRLK Bradley Lake 44.34 43 P **P** **10 42 39.0 +0.5**
BRLK IAmb IAmb 10 42 44.7
comp=Z,13nm,1.1s
F24K Squaw Lake 44.53 32 P **P** **10 42 40.6 +0.7**
MCK McKinley 44.58 37 P **P** **10 42 41.4 +1.1**
MCK McKinley 44.58 37 P **P** **10 42 41.4 +1.1**
MCK pmax pmax
comp=Z,7.0nm,1.2s
RC01 Rabbit Creek A 44.65 41 P **P** **10 42 42.1 +1.2**
RND Reindeer 44.66 38 P **P** **10 42 42.1 +1.1**
RND Reindeer 44.66 38 P **P** **10 42 42.1 +1.1**
RND pmax pmax
comp=Z,7.0nm,1.4s
MDM Murphy Dome 44.70 35 P **P** **10 42 42.3 +1.0**
WRH Wood River Hil 44.83 36 P **P** **10 42 43.4 +1.1**
COLA College 44.87 35 *i* P **P** **10 42 43.1 +0.6**
COLA pmax pmax
comp=Z,9.0nm,1.4s
CCB Clear Creek Bu 44.93 36 P **P** **10 42 44.4 +1.4**
SEW Seward 44.98 42 P **P** **10 42 44.9 +1.5**
BVAR Borovoye Array 45.00 307 P **P** **10 42 44.1 +0.4**
comp=Z,7.4nm,0.3s,baz=78,slow=10.0,SNR=93
BVAR PcP **PcP** **10 44 21.0 +0.6**
comp=Z,2.7nm,0.4s,baz=73,slow=2.6,SNR=10
comp=Z,7.4nm,0.3s
BRVK Borovoye 45.05 307 P **P** **10 42 44.6 +0.5**
BRVK IAmb IAmb 10 42 45.5
comp=Z,5.0nm,0.6s
BRVK Borovoye 45.05 307 *d i* P **P** **10 42 44.3 +0.2**
BRVK pmax pmax
comp=Z,4.0nm,0.6s
SML Sawmill 45.18 40 P **P** **10 42 45.5 +0.4**
SML IAmb IAmb 10 43 05.8
comp=Z,16nm,1.4s
KNK Knik Glacier 45.20 40 P **P** **10 42 46.2 +1.0**
KNK IAmb IAmb 10 42 51.5
comp=Z,24nm,1.5s
IL31 45.30 35 P **P** **10 42 46.9 +1.1**
ILAR Eielson Array 45.30 35 P **P** **10 42 47.0 +1.1**
ILAR Eielson Array 45.30 35 P **P** **10 42 47.0 +1.1**
ILAR Eielson Array 45.30 35 P **P** **10 42 46.4 +0.5**
comp=Z,1.4nm,0.6s,baz=282,slow=7.9,SNR=21
comp=Z,1.4nm,0.6s
IL03 Eielson Array 45.31 35 P **P** **10 42 46.8 +0.8**
HDA Harding Lake 45.33 36 P **P** **10 42 46.7 +0.5**
E25K Arctic Village 45.34 31 P **P** **10 42 47.5 +1.3**
DHY Denali Highway 45.38 38 P **P** **10 42 47.7 +1.0**
DHY IAmb IAmb 10 42 52.7
comp=Z,9.6nm,1.1s
SCM Sheep Creek Mo 45.64 40 P **P** **10 42 50.6 +1.9**
SCM IAmb IAmb 10 43 02.2
comp=Z,26nm,1.4s
SCM Sheep Creek Mo 45.64 40 P **P** **10 42 50.6 +1.9**
SCM pmax pmax
comp=Z,26nm,1.4s
FYU Fort Yukon 45.69 33 P **P** **10 42 50.4 +1.5**
FYU IAmb IAmb 10 42 56.4
comp=Z,4.7nm,0.6s
PRP Porcupine Dome 45.74 34 P **P** **10 42 51.1 +1.6**
BMAR Burnt Mountain 45.81 32 P **P** **10 42 51.8 +1.8**
J25K Salcha River, 45.97 36 P **P** **10 42 51.1 -0.1**
AAK Ala-Archa 46.00 292 P **P** **10 42 52.4 +0.5**
AAK IAmb IAmb 10 42 52.4
comp=Z,5.0nm,0.5s
AAK Ala-Archa 46.00 292 *i* P **P** **10 42 50.4 -1.5**
AAK pmax pmax
comp=Z,9.0nm,1.6s
M24K Tolsona, Glenn 46.12 39 P **P** **10 42 54.6 +2.2**
M24K IAmb IAmb 10 43 17.1
comp=Z,25nm,1.4s
HIN Hinchinbrook I 46.35 41 P **P** **10 42 55.6 +1.4**
RIDG Independent Ri 46.36 37 P **P** **10 42 55.5 +1.2**
KLU Klutina 46.37 40 P **P** **10 42 56.0 +1.6**
KLU IAmb IAmb 10 42 56.5
comp=Z,17nm,1.4s
EYAK Cordova Ski Ar 46.67 41 P **P** **10 42 58.5 +1.9**
SCRK Sand Creek 46.69 36 P **P** **10 42 57.3 +0.5**
SCRK IAmb IAmb 10 42 58.4
comp=Z,6.1nm,0.4s
J26L Joseph Creek 46.75 35 P **P** **10 42 57.6 +0.3**
N25K Chitina, Valde 46.96 39 P **P** **10 43 01.0 +2.0**
N25K IAmb IAmb 10 43 27.7
comp=Z,12nm,1.4s
N25K PcP **PcP** **10 44 29.1 +1.8**
MENT Mentasta 47.04 38 P **P** **10 43 01.7 +2.2**
G27K Doyon Strip 47.05 32 P **P** **10 43 02.2 +2.7**
G27K PcP **PcP** **10 44 29.5 +2.1**
BMRM Bremner River 47.11 40 P **P** **10 43 02.0 +1.9**
BMRM IAmb IAmb 10 43 06.6
comp=Z,13nm,1.2s
L26K Log Cabin Wild 47.18 37 P **P** **10 43 02.2 +1.6**
RAGM Ragged Mountai 47.23 41 P **P** **10 43 03.3 +2.3**
GLB Gilahina Butte 47.37 40 P **P** **10 43 04.0 +1.9**
E28M Babbage River 47.47 30 P **P** **10 43 04.2 +1.5**
M26K Nabesna, AK 47.49 38 P **P** **10 43 05.5 +2.5**
M26K PcP **PcP** **10 44 31.0 +1.8**
K27K Chicken 47.49 36 P **P** **10 43 04.6 +1.7**
K27K IAmb IAmb 10 43 05.0
comp=Z,5.1nm,0.5s
F28M Old Crow 47.55 31 P **P** **10 43 05.2 +1.8**
F28M PcP **PcP** **10 44 30.4 +1.1**
ARSB Arslanbob 47.57 291 P **P** **10 43 04.8 +0.7**
ARSB IAmb IAmb 10 43 05.3
comp=Z,4.2nm,0.5s
ARSB Arslanbob 47.57 291 P **P** **10 43 04.8 +0.7**
ARSB pmax pmax
comp=Z,4.0nm,0.5s
VRDI Verde Repeater 47.59 40 P **P** **10 43 05.3 +1.4**
VRDI IAmb IAmb 10 43 37.2
comp=Z,14nm,1.4s
BERG Berg Lake 47.70 41 P **P** **10 43 06.7 +2.2**
EGAK Eagle 47.70 35 P **P** **10 43 05.3 +0.8**
MCARA McCarthy VSAT 47.75 40 P **P** **10 43 07.2 +2.3**
MCARA IAmb IAmb 10 43 37.8
comp=Z,18nm,1.4s
L27K Beaver Creek, 47.84 37 P **P** **10 43 07.6 +2.0**
BCAR Beaver Creek A 47.86 37 P **P** **10 43 07.8 +1.9**
BCAR PcP **PcP** **10 44 32.6 +2.1**
M27K Edge Creek, AK 48.01 38 P **P** **10 43 09.1 +2.1**
I28M Miner Creek 48.04 34 P **P** **10 43 09.1 +2.0**
E29M Blow River 48.10 30 P **P** **10 43 09.2 +1.6**
ISLE Juniper Island 48.28 40 P **P** **10 43 10.7 +1.5**
ISLE IAmb IAmb 10 43 54.5
comp=Z,19nm,1.2s
G29M Pine Creek 48.42 32 P **P** **10 43 12.6 +2.6**
G29M PcP **PcP** **10 44 33.6 +1.2**
H29M Whitestone 48.46 33 P **P** **10 43 11.7 +1.3**
KK31 Karatay Array 48.47 295 P **P** **10 43 10.1 -0.6**
KK31 IAmb IAmb 10 43 11.4
comp=Z,10nm,0.8s
KK31 Karatay Array 48.47 295 P **P** **10 43 10.1 -0.6**
KK31 pmax pmax
comp=Z,10.0nm,0.8s
KKAR Karatay Array 48.47 295 P **P** **10 43 10.0 -0.7**
KKAR IAmb IAmb 10 43 11.4
comp=Z,10nm,0.8s
KKAR Karatay Array 48.47 295 P **P** **10 43 10.0 -0.7**
KKAR pmax pmax
comp=Z,10.0nm,0.8s
BARN Barnard Glacie 48.47 40 P **P** **10 43 12.4 +1.7**
BARN IAmb IAmb 10 43 13.1
comp=Z,8.6nm,0.6s
DAWY Dawson 48.63 35 P **P** **10 43 12.6 +0.9**
CTGM Chitina Glacie 48.65 40 P **P** **10 43 13.9 +1.9**
CTGM IAmb IAmb 10 43 19.2
comp=Z,8.7nm,0.6s
LOGN Logan Glacier 48.85 40 P **P** **10 43 15.2 +1.7**
LOGN IAmb IAmb 10 43 36.1
comp=Z,13nm,1.2s
EPYK Eagle Plains 49.06 32 P **P** **10 43 16.7 +1.8**
EPYK IAmb IAmb 10 43 22.4
comp=Z,9.4nm,0.5s
G30M tAoh Zraii Nji 49.09 31 P **P** **10 43 16.0 +1.0**
G30M IAmb IAmb 10 43 17.2
comp=Z,10nm,1.2s
L29M L29M 49.45 36 P **P** **10 43 20.4 +2.5**
L29M IAmb IAmb 10 43 26.6
comp=Z,6.2nm,0.5s
K29M Barlow Dome 49.48 35 P **P** **10 43 20.3 +2.1**
K29M IAmb IAmb 10 43 20.6
comp=Z,4.7nm,0.7s
M29M Somme Creek 49.51 37 P **P** **10 43 21.1 +2.7**
M29M IAmb IAmb 10 43 27.6
comp=Z,3.8nm,0.6s
I30M Mount Dempster 49.53 33 P **P** **10 43 20.2 +1.6**
BTK Batken 49.61 291 P **P** **10 43 19.7 +0.2**
BTK Batken 49.61 291 P **P** **10 43 19.7 +0.2**
BTK pmax pmax
comp=Z,7.0nm,0.4s
INK Inuvik 49.69 29 P **P** **10 43 20.6 +1.1**
INK IAmb IAmb 10 43 26.2
comp=Z,7.0nm,0.7s
INK Inuvik 49.69 29 P **P** **10 43 20.6 +1.1**
INK pmax pmax
comp=Z,7.0nm,0.7s
J30M Hart River 49.75 34 P **P** **10 43 22.0 +1.8**
G31M Satah River 49.84 31 P **P** **10 43 21.7 +1.1**
G31M IAmb IAmb 10 43 25.0
comp=Z,5.0nm,0.7s
F31M Tsiigehtchic 49.87 30 P **P** **10 43 22.1 +1.2**
O29M Mount Kennedy 50.15 40 P **P** **10 43 26.1 +2.9**
O29M IAmb IAmb 10 43 37.4
comp=Z,11nm,1.1s
H31M Peel River 50.16 32 P **P** **10 43 24.5 +1.4**
H31M IAmb IAmb 10 43 25.2
comp=Z,7.0nm,0.6s
M30M Minto, Yukon 50.20 37 P **P** **10 43 26.0 +2.6**
M30M IAmb IAmb 10 43 29.9
comp=Z,11nm,1.4s
ARU Arti 50.40 315 *i* P **P** **10 43 24.4 -0.6**
ARU pmax pmax
comp=Z,5.0nm,0.7s
N30M Aishikik Lake 50.44 38 P **P** **10 43 27.4 +2.1**
N30M IAmb IAmb 10 43 43.8
comp=Z,13nm,1.4s
HYT Haines Junctio 50.47 39 P **P** **10 43 28.5 +2.8**
HYT IAmb IAmb 10 43 30.2
comp=Z,6.7nm,0.9s
P29M Windy Craggy 50.78 41 P **P** **10 43 30.6 +2.8**
P29M IAmb IAmb 10 43 31.9
comp=Z,15nm,1.2s
NIL Nilore 51.05 282 P **P** **10 43 30.2 -0.1**
NIL IAmb IAmb 10 43 31.7
comp=Z,11nm,0.7s
NIL Nilore 51.05 282 P **P** **10 43 30.2 -0.1**
NIL pmax pmax
comp=Z,11nm,0.7s
A36M Sachs Harbour 51.14 23 P **P** **10 43 31.9 +1.6**
A36M IAmb IAmb 10 43 33.0
comp=Z,8.4nm,0.9s
SIMJ Simiganj 51.51 290 P **P** **10 43 33.5 -0.2**
SIMJ IAmb IAmb 10 43 34.3
comp=Z,12nm,0.8s
ABKAR Akbulak array 52.49 306 P **P** **10 43 41.1 +0.5**
C36M Paulatuk 52.53 26 P **P** **10 43 41.7 +1.1**
C36M IAmb IAmb 10 43 47.2
comp=Z,5.1nm,0.5s
KBL Kabul 53.56 286 P **P** **10 43 48.4 -0.5**
KBL IAmb IAmb 10 43 48.8
comp=Z,5.5nm,0.6s
KBL Kabul 53.56 286 P **P** **10 43 48.4 -0.5**
KBL pmax pmax
comp=Z,6.0nm,0.6s
SPITS Spitsbergen Ar 53.90 348 P **P** **10 43 50.6 +0.2**
comp=Z,6.9nm,0.9s,baz=76,slow=12,SNR=15
SPITS PcP **PcP** **10 44 53.2 +0.6**
comp=Z,1.4nm,0.7s,baz=69,slow=4.8,SNR=5.6
comp=Z,6.9nm,0.9s
KIRV Kirov 54.06 320 *i* P **P** **10 43 51.6 -0.2**
EUNU Eureka 54.19 9 P **P** **10 43 53.3 +0.7**
EUNU IAmb IAmb 10 43 54.4
comp=Z,11nm,1.4s
RES Resolute Bay 56.94 15 P **P** **10 44 12.6 +0.6**
RES IAmb IAmb 10 44 13.4
comp=Z,5.1nm,1.0s
RES Resolute Bay 56.94 15 P **P** **10 44 12.6 +0.6**
RES pmax pmax
comp=Z,5.0nm,1.0s
ARCES ARCESS Array B 57.37 337 P **P** **10 44 15.5 +0.4**
ARCES ARCESS Array B 57.37 337 P **P** **10 44 15.5 +0.4**
ARCES pmax pmax
comp=Z,26nm,1.3s
ARCES ARCESS Array B 57.37 337 P **P** **10 44 14.7 -0.4**
comp=Z,2.4nm,0.6s,baz=46,slow=9.1,SNR=9.1
comp=Z,2.4nm,0.6s
BELG Belogornoye 57.91 314 *i* P **P** **10 44 18.1 -1.0**
BELG pmax pmax
comp=Z,3.0nm,0.8s
BELG Belogornoye 57.91 314 P **P** **10 44 18.7 -0.3**
comp=Z,16nm,0.7s,baz=7.2,slow=2.7,SNR=6.5
comp=Z,16nm,0.7s
HRA Herat 58.38 289 P **P** **10 44 23.5 +0.5**
HRA IAmb IAmb 10 44 23.6
comp=Z,4.5nm,0.7s
TULEG Thule 59.04 7 *e* P **P** **10 44 25.7 -0.9**
GEYT Alibeck 59.22 295 P **P** **10 44 28.5 0.0**
GEYT IAmb IAmb 10 44 29.3
comp=Z,9.5nm,1.1s
GEYT Alibeck 59.22 295 P **P** **10 44 28.5 0.0**
GEYT pmax pmax
comp=Z,9.0nm,1.1s
GEYT Alibeck 59.22 295 P **P** **10 44 27.9 -0.6**
comp=Z,4.2nm,0.4s,baz=358,slow=1.3,SNR=8.9
comp=Z,4.2nm,0.4s
GYA0B ALIBECK ARRAY 59.22 295 P **P** **10 44 28.5 0.0**
GYA0B IAmb IAmb 10 44 29.3
comp=Z,8.9nm,1.1s
DAG Danmarks Havn 59.26 354 *i* P **P** **10 44 27.0 -1.0**
DAG IAmb IAmb 10 44 28.9
comp=Z,3.4nm,0.6s
NEEM North Greenlan 59.27 3 *i* P **P** **10 44 26.9 -1.6**
NEEM IAmb IAmb 10 44 30.2
comp=Z,4.3nm,0.8s
YKA Yellowknife Ar 59.33 31 *i* P **P** **10 44 29.3 +0.6**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 59.33 31 P **P** **10 44 29.4 +0.7**
comp=Z,1.4nm,0.8s,baz=305,slow=6.6,SNR=17
YKA PcP **PcP** **10 45 15.0 +0.9**
comp=Z,1.2nm,0.7s,baz=311,slow=4.1,SNR=11
comp=Z,1.4nm,0.8s
YKAB2 New Yellowknif 59.37 31 P **P** **10 44 30.0 +1.1**
VRH Novokhopyorsk 61.63 315 *e* P **P** **10 44 43.1 -1.3**
VRH pmax pmax
comp=Z,20nm,0.9s
OBN Obninsk 61.89 320 *e* P **P** **10 44 46.1 0.0**
OBN *PP **pwP** **10 45 42.0 +0.6**
OBN *SP **sP** **10 46 03.0 -0.1**
OBN 10 47 05.0
OBN S S 10 53 06.0 +15
OBN SS **SS** **10 56 54.0 -2.3**
OBN pmax pmax
comp=Z,19nm,0.5s
OBN Obninsk 61.89 320 *e* P **P** **10 44 46.1 0.0**
LPSR Galich'ya Gora 62.24 317 *e* P **P** **10 44 47.0 -1.4**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
FIA1 FINESS Array S 62.30 330 P **P** **10 44 47.9 -0.8**
FINES FINESS Array B 62.30 330 P **P** **10 44 48.6 -0.1**
comp=Z,4.2nm,0.5s,baz=72,slow=7.0,SNR=52
FINES PcP **PcP** **10 45 25.5 -0.6**
comp=Z,1.1nm,0.4s,baz=57,slow=4.5,SNR=4.0
comp=Z,4.2nm,0.5s
VSR Storozhevoye 62.93 316 *e* P **P** **10 44 51.7 -1.4**
VSR pmax pmax
comp=Z,10.0nm,0.5s
SUMG Summit 64.31 359 P **P** **10 45 03.5 +1.3**
SUMG Summit 64.31 359 P **P** **10 45 03.5 +1.3**
SUMG pmax pmax
comp=Z,11nm,1.0s
SUMG Summit 64.31 359 *i* P **P** **10 45 02.0 -0.2**
SUMG IAmb IAmb 10 45 04.1
comp=Z,6.5nm,1.0s
KVAR Kislovodsk Arr 65.36 308 P **P** **10 45 10.7 +1.6**
comp=Z,4.7nm,0.6s,baz=76,slow=17,SNR=2.3
comp=Z,4.7nm,0.6s
KIV Kislovodsk 65.36 308 ⇑P **P** **10 45 10.7 +1.6**
KIV Kislovodsk 65.36 308 P **P** **10 45 09.5 +0.5**
KIV Kislovodsk 65.36 308 *e* P **P** **10 45 09.6 +0.5**
KIV pmax pmax
comp=Z,27nm,1.1s
KIV Kislovodsk 65.36 308 *e* P **P** **10 45 09.6 +0.5**
KBZ Khabaz 65.38 308 *i* P **P** **10 45 08.7 -0.3**
KBZ pmax pmax
comp=Z,7.0nm,0.7s
KBZ Khabaz 65.38 308 P **P** **10 45 09.8 +0.7**
comp=Z,5.3nm,0.5s,baz=45,slow=5.7,SNR=16
comp=Z,5.3nm,0.5s
MNK Minsk 66.18 323 *i* P **P** **10 45 12.5 -1.4**
MNK *i* *PP **pP** **10 46 05.3 -1.3**
MNK *i* *SP **sP** **10 46 30.4 -1.2**
MNK *i* 10 47 41.0
MNK *i* PPP PPP 10 49 19.4
MNK *i* S **S** **10 53 43.7 +0.4**
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=Z,8.0nm,0.6s
MNK pmax pmax
comp=N,15nm,0.9s
ASAR Alice Springs 66.89 185 P **P** **10 45 19.7 +0.9**
ASAR Alice Springs 66.89 185 P **P** **10 45 19.7 +0.9**
ASAR Alice Springs 66.89 185 P **P** **10 45 18.9 +0.1**
comp=N,0.6nm,0.5s,baz=360,slow=5.6,SNR=19
comp=N,0.6nm,0.5s
PSA00 Pilbara Seismi 66.98 199 P **P** **10 45 19.2 -0.1**
PSA00 IAmb IAmb 10 45 31.3
comp=Z,7.8nm,1.3s
HUMO Hull Mountain 67.34 52 P **P** **10 45 23.5 +2.0**
NC405 NORSAR Array S 67.37 335 P **P** **10 45 21.7 +0.3**
HFS Hagfors 67.51 334 P **P** **10 45 22.1 -0.1**
comp=Z,4.1nm,0.3s,baz=45,slow=5.3,SNR=57
comp=Z,4.1nm,0.3s
NC204 NORSAR Array S 67.53 336 P **P** **10 45 22.9 +0.4**
NB201 NORSAR Array S 67.55 335 P **P** **10 45 22.6 +0.1**
NB2 NORSAR Subarra 67.58 335 P **P** **10 45 22.8 +0.1**
comp=Z,1.4nm,0.4s,baz=36,slow=6.5
NB2 NORSAR Subarra 67.58 335 P **P** **10 45 22.3 -0.4**
NOA NORSAR Array B 67.58 335 P **P** **10 45 22.8 +0.1**
comp=Z,2.2nm,0.6s,baz=52,slow=7.1,SNR=18
comp=Z,2.2nm,0.6s
NBO00 NORSAR Array S 67.72 336 P **P** **10 45 24.0 +0.4**
ICESG Greenland Ices 67.82 359 *i* P **P** **10 45 24.2 -0.3**
ICESG IAmb IAmb 10 45 25.8
comp=Z,6.9nm,0.5s
AKASG Malin Array Be 68.13 320 P **P** **10 45 26.2 0.0**
comp=Z,7.2nm,0.5s,baz=44,slow=6.4,SNR=66
comp=Z,7.2nm,0.5s
AKBB Malin Array Si 68.13 320 P **P** **10 45 26.5 +0.2**
AKBB Malin Array Si 68.13 320 *i* P **P** **10 45 25.7 -0.5**
AKBB pmax pmax
comp=Z,11nm,0.6s
KIEV Kiev 68.14 320 ⇑P **P** **10 45 26.0 -0.3**
KIEV Kiev 68.14 320 P **P** **10 45 26.4 +0.1**
KIEV Kiev 68.14 320 P **P** **10 45 26.4 +0.1**
KIEV pmax pmax
comp=Z,11nm,0.7s
AK05 Malin Array Si 68.19 320 P **P** **10 45 26.9 +0.2**
K05A Summer Lake 68.44 51 P **P** **10 45 30.7 +2.1**
FCC Fort Churchill 69.17 26 P **P** **10 45 33.2 +0.7**
FCC IAmb IAmb 10 45 33.4
comp=Z,3.0nm,0.6s
FCC Fort Churchill 69.17 26 P **P** **10 45 33.2 +0.7**
FCC pmax pmax
comp=Z,3.0nm,0.6s
FFC Flin Flon 69.41 33 P **P** **10 45 35.1 +1.0**
FFC Flin Flon 69.41 33 P **P** **10 45 35.1 +1.0**
FFC pmax pmax
comp=Z,2.0nm,0.7s
PLID Pearl Lake 69.61 47 P **P** **10 45 37.5 +1.8**
SFJD Kangerlussuaq 69.69 4 P **P** **10 45 36.1 +0.5**
SFJD IAmb IAmb 10 45 36.3
comp=Z,5.0nm,0.6s
SFJD Kangerlussuaq 69.69 4 P **P** **10 45 36.1 +0.5**
SORM Soroca 70.29 318 ⇓P **P** **10 45 39.4 -0.1**
SORM Soroca 70.29 318 ⇓P **P** **10 45 39.4 -0.1**
DY2G Dye2 70.39 2 *i* P **P** **10 45 39.2 -0.9**
DY2G IAmb IAmb 10 45 41.2
comp=Z,9.4nm,0.6s
MPK Martis Peak 71.16 54 P **P** **10 45 46.3 +1.0**
PAHR Pah Rah Range 71.26 53 P **P** **10 45 47.1 +1.4**
PAHR IAmb IAmb 10 45 47.8
comp=Z,4.6nm,0.7s
BOZ Bozeman (W) 71.53 44 P **P** **10 45 47.9 +0.6**
BOZ Bozeman (W) 71.53 44 P **P** **10 45 47.9 +0.6**
BOZ pmax pmax
comp=Z,3.0nm,0.9s
PNTR Pine Nut 71.54 54 P **P** **10 45 49.1 +1.6**
PNTR IAmb IAmb 10 45 59.2
comp=Z,6.8nm,1.0s
YERR Yerington 71.82 53 P **P** **10 45 50.8 +1.6**
BMN Battle Mountai 72.03 51 P **P** **10 45 52.1 +1.8**
BMN IAmb IAmb 10 45 52.3
comp=Z,3.0nm,0.6s
BMN Battle Mountai 72.03 51 P **P** **10 45 52.1 +1.8**
BMN pmax pmax
comp=Z,3.0nm,0.6s
BURAR Bucovina Array 72.16 319 ⇑P **P** **10 45 51.7 +0.8**
BURAR Bucovina Array 72.16 319 P **P** **10 45 51.6 +0.8**
BURAR Bucovina Array 72.16 319 ⇑P **P** **10 45 51.7 +0.8**
TESR Tescani 72.25 318 ⇑P **P** **10 45 51.3 0.0**
YHL Hebgen Lake 72.28 45 P **P** **10 45 53.6 +1.7**
YHL IAmb IAmb 10 45 54.8
comp=Z,4.5nm,1.1s
VRI Vrincioaia 72.67 317 ⇑P **P** **10 45 52.9 -0.9**
VRI Vrincioaia 72.67 317 ⇑P **P** **10 45 52.9 -0.9**
NVAR Mina Arra Bea 72.74 53 P **P** **10 45 56.3 +1.7**
comp=Z,3.5nm,0.6s,baz=298,slow=5.6,SNR=34
comp=Z,3.5nm,0.6s
LHV Little Huntoon 72.74 54 P **P** **10 45 56.4 +2.1**
LHV IAmb IAmb 10 45 57.4
comp=Z,7.7nm,1.0s
TURR Turia 72.89 318 ⇑P **P** **10 45 56.6 +1.4**
BOSR Bodos 73.05 318 ⇑P **P** **10 45 57.7 +1.7**
IMW Indian Meadow 73.07 45 P **P** **10 45 58.9 +2.3**
IMW IAmb IAmb 10 45 59.5
comp=Z,2.6nm,0.8s
FXWY Fox Creek 73.20 45 P **P** **10 45 59.3 +2.0**
BR131 Keskin Array S 73.25 309 P **P** **10 45 57.3 -0.2**
BR131 Keskin Array S 73.25 309 *i* P **P** **10 45 56.1 -1.4**
BRTR Keskin Array B 73.25 309 P **P** **10 45 58.1 +0.6**
BRTR Keskin Array B 73.25 309 P **P** **10 45 57.8 +0.2**
comp=Z,3.0nm,0.6s,baz=103,slow=3.8,SNR=5.6
comp=Z,3.0nm,0.6s
MOOW Moose Ponds 73.27 45 P **P** **10 45 59.5 +1.8**
MOOW IAmb IAmb 10 46 00.5
comp=Z,6.3nm,1.2s
TPH Tonopah 73.61 53 P **P** **10 46 01.2 +1.5**
TPH Tonopah 73.61 53 P **P** **10 46 01.2 +1.5**
TPH pmax pmax
comp=Z,22nm,0.6s
VOIR 73.80 318 ⇑P **P** **10 46 01.6 +1.1**
VOIR 73.80 318 ⇑P **P** **10 46 01.6 +1.1**
MORC Moravsky Berou 74.00 325 ⇓P **P** **10 46 02.5 +0.9**
MORC Moravsky Berou 74.00 325 P **P** **10 46 02.7 +1.2**
MORC IAmb IAmb 10 46 03.3
comp=Z,6.1nm,0.7s
MORC Moravsky Berou 74.00 325 *e* P **P** **10 46 02.1 +0.6**
MORC Moravsky Berou 74.00 325 P **P** **10 46 02.7 +1.2**
MORC pmax pmax
comp=Z,6.0nm,0.7s
ARR Arges 74.06 318 ⇑P **P** **10 46 03.4 +1.4**
DPC Dobruska-Polom 74.07 326 *e* P **P** **10 46 03.1 +1.2**
DPC Dobruska-Polom 74.07 326 *e* P **P** **10 46 03.1 +1.2**
GRAC Grapevine Rang 74.25 54 P **P** **10 46 05.1 +1.8**
R11B Troy Canyon, C 74.37 52 P **P** **10 46 05.6 +1.5**
R11B IAmb IAmb 10 46 05.7
comp=Z,2.4nm,0.6s
VYHS Vyhne 74.42 323 *e* P **P** **10 46 05.1 +1.2**
VYHS Vyhne 74.42 323 *e* P **P** **10 46 05.1 +1.2**
PD31 Pinedale Array 74.58 45 P **P** **10 46 06.0 +0.7**
PD31 IAmb IAmb 10 46 07.0
comp=Z,5.3nm,0.7s
PDAR Pinedale Array 74.58 45 P **P** **10 46 06.2 +0.9**
comp=Z,4.8nm,0.6s,baz=298,slow=1.4,SNR=60
comp=Z,4.8nm,0.6s
CLL Collm 74.64 328 *i* P **P** **10 46 05.1 0.0**
CLL pmax pmax
comp=Z,9.0nm,0.6s
CLL Collm 74.64 328 *i* P **P** **10 46 05.1 0.0**
comp=Z,9.0nm,0.6s
JAVC Velka Javorina 74.65 324 *e* P **P** **10 46 06.9 +1.6**
DUG Dugway, Tooele 74.65 49 P **P** **10 46 07.3 +1.7**
DUG IAmb IAmb 10 46 07.9
comp=Z,4.8nm,0.9s
DUG Dugway, Tooele 74.65 49 P **P** **10 46 07.3 +1.7**
DUG pmax pmax
comp=Z,5.0nm,0.9s
S11A Rachel 74.76 52 P **P** **10 46 08.0 +1.7**

S11A IAmb IAmb 10 46 08.6
comp=Z,5.8nm,0.6s
VRAC Vranov 74.76 325 *e*P **P 10 46 06.6 +0.7**
TCUT Toone Canyon 74.77 47 P **P 10 46 08.2 +1.8**
WCT Wildcat Mounta 74.83 54 P **P 10 46 07.8 +1.2**
GZR Gura Zlata 74.93 319 ⇓P **P 10 46 07.5 +0.5**
GZR Gura Zlata 74.93 319 ⇓P **P 10 46 07.5 +0.5**
STKA Stephens Creek 74.95 178 P **P 10 46 08.2 +1.2**
STKA Stephens Creek 74.95 178 P **P 10 46 08.2 +1.2**
STKA pmax pmax
comp=Z,1.0nm,1.1s
STKA Stephens Creek 74.95 178 P **P 10 46 08.1 +1.1**
comp=Z,1.3nm,0.4s,baz=345,slow=3.7,SNR=5.8
comp=Z,1.3nm,0.4s
HSKC Hora Svate Kat 75.03 327 *e*P **P 10 46 08.1 +0.7**
GOPC GO Pecny, Ondr 75.03 326 *e*P **P 10 46 08.5 +1.1**
GOPC GO Pecny, Ondr 75.03 326 *e*P **P 10 46 08.5 +1.1**
KRUC Moravsky 75.03 325 *e*P **P 10 46 08.2 +0.8**
GWY Greenwater Val 75.21 54 P **P 10 46 10.2 +1.3**
GWY IAmb IAmb 10 46 10.4
comp=Z,3.1nm,0.6s
PSUT Pine Spring 75.22 51 P **P 10 46 10.3 +1.4**
PSUT IAmb IAmb 10 46 10.7
comp=Z,2.8nm,0.5s
ULM Lac du Bonnet 75.23 33 P **P 10 46 09.0 +0.5**
ULM Lac du Bonnet 75.23 33 *i*P **P 10 46 08.4 -0.1**
ULM Lac du Bonnet 75.23 33 P **P 10 46 08.8 +0.3**
comp=Z,7.7nm,0.5s,baz=324,slow=6.2,SNR=26
comp=Z,7.7nm,0.5s
BZS Buzias 75.32 320 ⇓P **P 10 46 09.6 +0.5**
BZS Buzias 75.32 320 ⇓P **P 10 46 09.6 +0.5**
BSUT Blindstream Ca 75.53 48 P **P 10 46 12.5 +1.6**
BSUT IAmb IAmb 10 46 16.1
comp=Z,3.6nm,0.9s
MDVR Moldovita 75.89 319 ⇑P **P 10 46 12.4 0.0**
CKRC Cesky Krumlov 76.08 326 *e*P **P 10 46 14.4 +1.0**
CKRC Cesky Krumlov 76.08 326 *e*P **P 10 46 14.4 +1.0**
RONA Rosalia, Austr 76.13 324 *e*P **P 10 46 15.1 +1.4**
comp=Z,9.6nm,1.2s
CONA Conrad Observa 76.13 324 *e*P **P 10 46 15.2 +1.5**
comp=Z,6.0nm,0.9s
KHC Kasperske Hory 76.13 326 P **P 10 46 14.5 +0.8**
KHC Kasperske Hory 76.13 326 *e*P **P 10 46 14.8 +1.1**
KHC Kasperske Hory 76.13 326 P **P 10 46 14.5 +0.8**
KHC pmax pmax
comp=Z,7.0nm,0.7s
RDMU Red Mountain 76.14 47 P **P 10 46 15.8 +1.7**
RDMU IAmb IAmb 10 46 16.3
comp=Z,7.0nm,0.8s
GERES GERESS Array B 76.31 326 P **P 10 46 15.4 +0.6**
comp=Z,2.0nm,0.5s,baz=30,slow=9.2,SNR=7.2
comp=Z,2.0nm,0.5s
ASF Jabal al Asfar 76.43 301 P **P 10 46 16.3 +0.6**
comp=Z,4.9nm,0.8s,baz=341,slow=0.5,SNR=7.1
comp=Z,4.9nm,0.8s
P18A Preston Nutter 76.45 48 P **P 10 46 17.8 +1.8**
P18A IAmb IAmb 10 46 18.3
comp=Z,5.2nm,0.8s
EKA Eskdalemuir Ar 76.49 339 P **P 10 46 15.8 +0.3**
comp=Z,0.4nm,0.3s,baz=24,slow=5.9,SNR=8.4
comp=Z,0.4nm,0.3s
RAYN Ar Rayn 76.56 290 P **P 10 46 16.0 -0.5**
RAYN IAmb IAmb 10 46 16.6
comp=Z,3.6nm,0.5s
RAYN Ar Rayn 76.56 290 P **P 10 46 16.0 -0.5**
RAYN pmax pmax
comp=Z,4.0nm,0.5s
MMAI Mount Meron Ar 76.78 303 P **P 10 46 18.3 +0.6**
comp=Z,1.4nm,0.3s,baz=46,slow=6.3,SNR=5.7
comp=Z,1.4nm,0.3s
AGMN Agassiz Nation 76.78 34 P **P 10 46 17.6 +0.3**
AGMN IAmb IAmb 10 46 18.4
comp=Z,2.0nm,0.6s
O20A White River Ci 77.16 46 P **P 10 46 21.1 +1.3**
O20A IAmb IAmb 10 46 21.2
comp=Z,12nm,1.5s
B35A Bob, Littlefor 77.59 33 P **P 10 46 22.2 +0.4**
B35A IAmb IAmb 10 46 32.7
comp=Z,5.9nm,1.2s
LESA Schwarzleotal 77.86 326 *e*P **P 10 46 24.5 +1.1**
comp=Z,3.5nm,0.8s
KBA Koelnbreinsper 77.86 325 *i*P **P 10 46 24.4 +0.9**
comp=Z,4.2nm,0.5s
PV23 Carpenter Ridg 77.96 48 P **P 10 46 26.0 +1.7**
PV23 IAmb IAmb 10 46 26.1
comp=Z,5.3nm,0.6s
PV14 Lion Creek, Pa 78.01 48 P **P 10 46 26.3 +1.7**
PV22 Blue Mesa, Par 78.02 48 P **P 10 46 26.0 +1.4**
PV22 IAmb IAmb 10 46 26.3
comp=Z,6.3nm,0.8s
PV17 East Wray Mesa 78.11 48 P **P 10 46 26.9 +1.8**
PV17 IAmb IAmb 10 46 26.9
comp=Z,5.9nm,0.7s
PV16 Nyswonger Mesa 78.12 48 P **P 10 46 26.0 +0.9**
PV16 IAmb IAmb 10 46 27.4
comp=Z,7.7nm,1.3s
PV11 David Mesa, Pa 78.15 48 P **P 10 46 26.1 +0.8**
PV11 IAmb IAmb 10 46 34.9
comp=Z,12nm,1.5s
PV05 Paradox Valley 78.19 48 P **P 10 46 27.2 +1.7**
PV02 Paradox Valley 78.29 48 P **P 10 46 27.6 +1.5**
PV02 IAmb IAmb 10 46 43.4
comp=Z,5.6nm,0.8s
WTTA Wattenberg 78.41 326 *e*P **P 10 46 27.6 +1.0**
comp=Z,7.6nm,0.8s
PV01 Paradox Valley 78.43 48 P **P 10 46 28.4 +1.5**
PV01 IAmb IAmb 10 46 29.6
comp=Z,6.5nm,1.4s
MOTA Moosalm 78.56 327 *e*P **P 10 46 27.7 +0.4**
comp=Z,8.5nm,0.8s
RETA Reutte 78.58 327 *e*P **P 10 46 28.5 +1.2**
comp=Z,7.8nm,0.8s
SQTA Sankt Quirin 78.61 327 *e*P **P 10 46 25.9 -1.7**
comp=Z,13nm,1.7s
EYMN Ely 78.80 32 P **P 10 46 28.7 +0.3**
EYMN IAmb IAmb 10 46 29.3
comp=Z,12nm,1.4s
FETA Feichten 78.97 327 *e*P **P 10 46 28.3 -1.3**
comp=Z,5.6nm,1.0s
DAVA Damuels 79.09 327 *e*P **P 10 46 30.7 +0.6**
comp=Z,3.4nm,0.5s
MVCO Mesa Verde 79.14 49 P **P 10 46 31.3 +0.6**
MVCO IAmb IAmb 10 46 32.8
comp=Z,4.4nm,0.8s
FUORN Ofenpass-Fuorn 79.48 327 P **P 10 46 33.3 +0.8**
K30B Basset 79.55 40 P **P 10 46 34.1 +1.5**
SCHQ Schefferville 79.72 15 P **P 10 46 34.0 +0.7**
SCHQ Schefferville 79.72 15 P **P 10 46 33.3 0.0**
comp=Z,1.0nm,0.5s,baz=320,slow=10,SNR=3.8
comp=Z,1.0nm,0.5s
E38A The Farm, Brul 79.88 33 P **P 10 46 34.5 +0.3**
TUE Stuetta 79.97 327 P **P 10 46 35.2 +0.2**
ECSD EROS Data Cent 80.08 37 P **P 10 46 36.3 +0.9**
SDCO Great Sand Dun 80.36 46 P **P 10 46 38.9 +1.6**
NRCA Norcia 81.34 323 P **P 10 46 42.7 +0.6**
T25A Trinidad 81.39 46 P **P 10 46 43.3 +0.6**
T25A IAmb IAmb 10 46 44.2
comp=Z,3.2nm,0.8s
DUN6 Lazy B Ranch 82.20 52 P **P 10 46 47.7 +0.8**
VLDQ Val d'Or 83.42 24 P **P 10 46 52.0 -0.6**
VLDQ IAmb IAmb 10 47 21.7
comp=Z,5.4nm,1.1s
TXAR Lajitas Array 87.70 51 P **P 10 47 15.2 +1.0**
comp=Z,0.9nm,0.5s,baz=277,slow=2.9,SNR=19
comp=Z,0.9nm,0.5s
ESDC Sonseca Array 90.74 332 P **P 10 47 27.6 -0.5**
comp=Z,0.6nm,0.8s,baz=24,slow=3.5,SNR=2.1
comp=Z,0.6nm,0.8s
TORD Torodi Ar. Bea 111.47 315 PP **PP 10 53 41.4 -0.8**
comp=Z,1.2nm,1.0s,baz=20,slow=10.0,SNR=5.1
VNDA Vanda 121.49 174 PKP **PKPdf 10 53 15.7 -0.1**
comp=Z,0.6nm,0.5s,baz=324,slow=4.6,SNR=9.4
QSPA South Pole Qui 133.14 180 PKP **PKPdf 10 53 38.4 +0.1**
comp=Z,1.9nm,0.5s,baz=279,slow=2.1,SNR=18
LPAZ La Paz 144.54 49 PKIKP **PKPab 10 54 00.0 -0.4**
LPAZ La Paz 144.54 49 PKP **PKPab 10 53 60.0 -0.4**
comp=Z,1.3nm,0.5s,baz=317,slow=3.2,SNR=7.5
TROLL Troll, Antarti 144.55 202 ⇓P PKPbc 10 53 58.8 +0.4
comp=Z,541nm,0.7s
SNAA Sanae 146.15 201 ⇑P **PKPbc 10 54 03.1 -0.1**
comp=Z,87nm,0.5s
VNA2 Neumayer--Watz 147.77 200 ⇑P **PKPbc 10 54 07.7 +0.1**
comp=Z,14nm,0.6s,baz=102,slow=2.2
BDFB Brasilia 151.71 14 PKPbc **PKPbc 10 54 18.8 0.0**
comp=Z,3.0nm,0.4s,baz=251,slow=2.5,SNR=4.3
PLCA Paso Flores 158.05 93 PKPab **PKPab 10 54 56.1 +1.0**
comp=Z,0.7nm,0.6s,baz=277,slow=7.0,SNR=4.5
CPUP Villa Florida 158.46 43 PKPab **PKPab 10 54 57.4 +0.3**
comp=Z,2.0nm,0.6s,baz=333,slow=3.7,SNR=4.4

JMA 23 10:35:26.8±0.1, 36°6N±0°2×137°7E±0°4, h0km, MV-0.1/9, HIDA MOUNTAINS REGION, Eastern Honshu

*SOME **23** 10:40:33.7, 41°03N×70°28E, h5km*
*KRNET **23** 10:40:33.8±0.1, 41°00N×70°28E, h16km, mb2.4*
*NNC **23** 10:40:34.2±4.6, 40°84N×70°22E, h10km±24km, mb3.6, mpv3.1, Error ellipse: s-maj=37.3km s-min=27.1km az=7.0*
ISC 23 10:40:32.9±1.4, 41°02N±0°03×70°26E±0°05, h1km±11km, n16, σ1s47/31, 6C-12D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
TRKS	**Terek-Say**	**0.84**	**52**	⇑*i*P		**Pg**	**10 40 49.1**	**+0.1**
	baz=56							
TRKS				⇑*i*S		**Sg**	**10 41 00.3**	**+0.4**
	baz=56							
BTK	**Batken**	**1.05**	**156**	⇓*i*P		**Pg**	**10 40 52.9**	**-0.1**
	baz=56							
BTK				⇓*i*S		**Sg**	**10 41 07.0**	**+0.4**
	baz=56							
IUG	**Iuzhnay**	**1.14**	**352**	*e*P		**Pn**	**10 40 56.4**	**+0.2**
	25nm,0.4s							
IUG				*e*S		**Sn**	**10 41 12.3**	**-0.2**
	104nm,0.5s							
IUG	**Iuzhnay**	**1.14**	**352**	P		**Pn**	**10 40 59.2**	**+3.0**
	33nm,0.4s							
IUG				S		**Sn**	**10 41 17.4**	**+4.8**
	126nm,0.5s							
ARK	**Arkit**	**1.50**	**58**	⇓*e*P		**Pb**	**10 41 01.5**	**-0.2**
	baz=57							
ARK				⇓*e*S		**Sb**	**10 41 21.3**	**0.0**
	baz=57							
DRK	**Karamyk**	**1.94**	**142**	⇓*e*P		**Pb**	**10 41 09.0**	**-0.2**
	baz=42							
DRK				⇓*e*S		**Sb**	**10 41 32.9**	**-1.1**
	baz=42							
BRLS	**Borolday**	**2.04**	**351**	*e*P		**Pn**	**10 41 07.8**	**-0.6**
	7.7nm,0.4s							
BRLS				*e*S		**Sn**	**10 41 32.1**	**-2.4**
	10.0nm,0.6s							
BRLS	**Borolday**	**2.04**	**351**	P		**Pn**	**10 41 07.8**	**-0.6**
	7.7nm,0.4s							
BRLS				S		**Sn**	**10 41 32.1**	**-2.4**
	10.0nm,0.6s							
ARSB	**Arslanbob**	**2.08**	**81**	⇑*i*P		**Pb**	**10 41 10.5**	**-1.1**
	baz=80							
ARSB				⇑*i*S		**Sb**	**10 41 37.3**	**-0.7**
	baz=80							
KK31	**Karatay Array**	**2.09**	**5**	Pn		**Pb**	**10 41 12.1**	**+0.4**
	1.9nm,0.4s,baz=188,slow=14,SNR=19							
KK31				Sn		**Sg**	**10 41 41.0**	**+0.8**
	9.7nm,0.7s,baz=189,slow=25,SNR=12							
KKAR	**Karatay Array**	**2.09**	**5**	⇓*i*P		**Pb**	**10 41 10.9**	**-0.8**
	baz=5.0							
KKAR				⇓*i*S		**Sb**	**10 41 37.6**	**-0.6**
	baz=5.0							
MNAS	**Manas**	**2.23**	**48**	⇓*i*P		**Pb**	**10 41 12.7**	**-1.5**
	baz=48							
MNAS				⇓*i*S		**Sb**	**10 41 41.3**	**-1.1**
	baz=48							
MRKS	**Merke**	**2.81**	**51**	*e*P		**Pg**	**10 41 26.4**	**-0.4**
	5.5nm,0.7s							
MRKS				*e*S		**Sg**	**10 42 03.9**	**+0.7**
	7.2nm,0.6s							
MRKS	**Merke**	**2.81**	**51**	Pg		**Pg**	**10 41 26.4**	**-0.4**
	5.5nm,0.7s							
MRKS				Lg		Lg	10 42 03.9	
	7.2nm,0.6s							
ARLS	**Aral**	**3.17**	**73**	⇑*e*P		**Pn**	**10 41 25.4**	**+1.3**
	baz=73							
ARLS				⇑*e*S		**Sn**	**10 42 03.2**	**+0.5**
	baz=73							
UCH	**Uchtor**	**3.41**	**68**	⇓*e*P		**Pn**	**10 41 29.1**	**+1.4**
	baz=68							
UCH				⇓*i*S		**Sn**	**10 42 09.4**	**+0.3**
	baz=68							

*IDC **23** 10:41:35.8±1.8, 5°41N×126°60E, h54km±14km, mb4.1/22, mbtmp4.4/23, ML4.6/1, MS3.5/33, Error ellipse: s-maj=23.3km s-min=11.1km az=72.0*
*NEIC **23** 10:41:35.6±1.7, 5°36N±0°06×126°4E±0°1, h45km±7km, mb4.6/46, Error ellipse: s-maj=14.6km s-min=8.5km az=78.0*
*DJA **23** 10:41:36.4±0.6, 5°N±6°×12°7E±°, h72km±34km, M4.6/12, mb4.7/10, mB4.9/7, MLv4.8/12, Mw(mB)4.2/7*
ISC 23 10:41:35.5±1.1, 5°37N±0°05×126°52E±0°08, h51km±10km, n127, σ1s10/110, mb4.6/52, MS3.6/31, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
DAV	**Davao City (W)**	**1.93**	**331**	Pn		**Pn**	**10 42 05.5**	**-0.4**
DAV	**Davao City (W)**	**1.93**	**331**	P		**Pn**	**10 42 06.8**	**+0.9**
	237nm,0.4s,baz=218,slow=0.9,SNR=22							
DAV				S		**Sn**	**10 42 30.4**	**+1.4**
	249nm,0.3s,baz=258,slow=20,SNR=6.1							
DAV				LR	LR	LR	10 43 04.1	
	comp=Z,1μm,20.3s,baz=162,slow=46							
SGSI	**Sangihe**	**1.94**	**211**	P		**Pn**	**10 42 05.2**	**-0.8**
TNTI	**Ternate**	**4.64**	**169**			**Pn**	**10 42 42.7**	**-0.4**
TNTI	**Ternate**	**4.64**	**169**	P		**Pn**	**10 42 43.0**	**-0.1**
KMSI	**Cibinong**	**5.39**	**208**	P		**Pn**	**10 42 53.3**	**-0.1**
	402nm,0.9s,4μm2.7nm							
GTOI	**Gorontalo**	**5.86**	**217**	P		**Pn**	**10 42 58.8**	**-1.0**
	35nm,1.0s,424nm0.1nm							
MRSI	**Marisa**	**6.67**	**223**	P		**Pn**	**10 43 11.5**	**+0.6**
	143nm,0.6s,1μm0.5nm							
TOLI2	**Tolitoli**	**7.12**	**234**			**Pn**	**10 43 15.9**	**-1.1**
LUWI	**Luwuk**	**7.38**	**211**			**Pn**	**10 43 19.1**	**-1.6**
LUWI	**Luwuk**	**7.38**	**211**	P		**Pn**	**10 43 21.9**	**+1.2**
	215nm,0.8s,3μm0.9nm							
SANI	**Sanana**	**7.39**	**184**	P		**Pn**	**10 43 18.3**	**-2.5**
	57nm,0.8s,814nm0.2nm							
SWI	**Sorong**	**7.79**	**142**	P		**Pn**	**10 43 27.6**	**+1.2**
	30nm,0.6s,0.2nm							
MPSI	**Mapaga**	**8.28**	**233**	P		**Pn**	**10 43 32.5**	**-0.6**
	16nm,0.9s							
NLAI	**Namlea**	**8.57**	**176**	P		**Pn**	**10 43 34.7**	**-2.3**
SOEI	**Soe**	**15.19**	**188**	Pn		**Pn**	**10 45 08.1**	**+1.1**
SOEI				IAmb	IAmb	IAmb	10 45 37.1	
	comp=Z,49nm,0.9s							
BATI	**Baumata**	**15.73**	**190**	P		**P**	**10 45 16.6**	**-0.4**
	comp=Z,2.5nm,0.3s,baz=56,slow=11,SNR=1.5							
BATI				S		**Sn**	**10 48 11.9**	**+4.6**
	comp=Z,8.0nm,0.3s,baz=128,slow=17,SNR=1.2							
BATI				LR	LR	LR	10 51 44.0	
	comp=Z,158nm,20.6s,baz=40,slow=38							
	comp=Z,8.4nm,0.4s							
TWG	**Pinlang**	**18.13**	**344**			**P**	**10 45 42.4**	**-1.2**
TWG				IAmb	IAmb	IAmb	10 46 01.4	
	comp=Z,39nm,1.2s							
JAGI	**Jajag, Banyuwa**	**18.46**	**222**	P		**P**	**10 45 47.1**	**-0.1**
MTN	**Manton Dam**	**18.66**	**166**	P		**P**	**10 45 48.0**	**-1.4**
MTN				IAmb	IAmb	IAmb	10 46 02.7	
	comp=Z,68nm,1.3s							
TPUB	**Ta-pu**	**18.71**	**343**	P		**P**	**10 45 47.5**	**-2.4**
TPUB				IAmb	IAmb	IAmb	10 45 54.8	
	comp=Z,82nm,1.5s							
GUMO	**Guam**	**19.85**	**64**	LR	LR	LR	10 52 27.7	
	comp=Z,81nm,21.1s,baz=200,slow=33							
JOW	**Kunigami**	**21.41**	**4**	LR	LR	LR	10 55 23.5	
	comp=Z,51nm,19.0s,baz=208,slow=39							
FITZ	**Fitzroy Crossi**	**23.33**	**182**	P		**P**	**10 46 39.0**	**-0.3**
PMG	**Port Moresby**	**25.27**	**125**	LR	LR	LR	10 56 20.5	
	comp=Z,62nm,21.8s,baz=270,slow=35							
COEN	**Coen**	**25.34**	**139**	P		**P**	**10 46 59.5**	**+1.7**
COEN				IAmb	IAmb	IAmb	10 47 28.0	
	comp=Z,42nm,1.5s							
JCJ	**Chichijima**	**26.27**	**33**	LR	LR	LR	10 55 38.6	
	comp=Z,44nm,21.4s,baz=270,slow=32							
WRAB	**Tennant Creek**	**26.30**	**163**	P		**P**	**10 47 06.4**	**-0.1**
WRAB				IAmb	IAmb	IAmb	10 47 34.1	
	comp=Z,19nm,0.9s							
MBWA	**Marble Bar**	**27.19**	**194**	P		**P**	**10 47 14.5**	**0.0**
MBWA				IAmb	IAmb	IAmb	10 47 21.7	
	comp=Z,36nm,1.4s							
NJ2	**Nanjing**	**27.50**	**346**	*e*P		**P**	**10 47 18.8**	**+1.6**
NJ2				pmax	pmax			
	comp=Z,15nm,0.5s							
PSA00	**Pilbara Seismi**	**27.56**	**194**	P		**P**	**10 47 16.8**	**-1.1**
PSA00				IAmb	IAmb	IAmb	10 47 41.2	
	comp=Z,16nm,1.1s							
JNU	**Nakatsue**	**27.91**	**8**	LR	LR	LR	10 58 26.4	
	comp=Z,60nm,21.4s,baz=172,slow=36							
AS31	**Alice Springs**	**29.74**	**166**	P		**P**	**10 47 38.1**	**+0.8**
ASAR	**Alice Springs**	**29.74**	**166**	P		**P**	**10 47 37.0**	**-0.3**
ASAR	**Alice Springs**	**29.74**	**166**	P		**P**	**10 47 37.4**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=342,slow=6.9,SNR=14							
ASAR				PcP		**PcP**	**10 50 40.8**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=342,slow=1.7,SNR=6.9							
ASAR				ScP		**ScP**	**10 54 20.0**	**+1.6**
	comp=Z,3.8nm,0.9s,baz=355,slow=2.6,SNR=20							
	comp=Z,1.1nm,0.7s							
CMAR	**Chiang Mai Arr**	**29.89**	**298**	P		**P**	**10 47 39.9**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=116,slow=7.2,SNR=6.9							
	comp=Z,0.8nm,0.3s							
JHJ	**Hachijo jima 2**	**30.25**	**22**	LR	LR	LR	11 00 24.7	
	comp=Z,42nm,19.7s,baz=246,slow=37							
PZH	**PanZhiHua**	**31.64**	**314**	P		**P**	**10 47 55.6**	**+1.5**
PZH				pmax	pmax			
	comp=Z,6.0nm,0.7s							
PZH				pmax	pmax			
	comp=Z,100nm,5.3s							
KSRS	**Korea Array**	**31.96**	**2**	P		**P**	**10 47 56.6**	**0.0**
	comp=Z,0.7nm,0.6s,baz=182,slow=9.3,SNR=3.2							
KSRS				PcP		**PcP**	**10 50 46.5**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=174,slow=3.5,SNR=4.5							
KSRS				LR	LR	LR	11 02 47.1	
	comp=Z,50nm,18.9s,baz=180,slow=40							
	comp=Z,0.7nm,0.6s							
MJAR	**Matsushiro Arr**	**32.83**	**18**	P		**P**	**10 48 02.7**	**-1.6**
	comp=Z,1.2nm,0.7s,baz=188,slow=9.0,SNR=3.0							
MJAR				LR	LR	LR	11 00 31.0	
	comp=Z,93nm,21.4s,baz=205,slow=35							
	comp=Z,1.2nm,0.7s							
XAN	**Xi'an**	**32.87**	**332**	P		**P**	**10 48 04.3**	**-0.4**
XAN				pP	pP	pP	10 48 16.6	-0.5
XAN				pmax	pmax			
	comp=Z,16nm,1.0s							
TNCH	**TengChong**	**33.21**	**309**	⇑P		**P**	**10 48 08.5**	**+0.5**
TNCH				pP	pP	pP	10 48 21.3	+0.9
TNCH				pmax	pmax			
	comp=Z,160nm,5.4s							
CD2	**Chengdu**	**33.21**	**323**	P		**P**	**10 48 08.3**	**+0.5**
CD2				pmax	pmax			
	comp=Z,20nm,0.8s							
HNS	**HongShan**	**33.66**	**343**	*e*P		**P**	**10 48 12.8**	**+1.3**
BJT	**Baijiatuau**	**35.74**	**346**	P		**P**	**10 48 30.3**	**+0.9**
BJI	**Beijing**	**35.76**	**346**	P		**P**	**10 48 30.5**	**+1.0**
BJI				pmax	pmax			
	comp=Z,10.0nm,0.9s							
BJI				pmax	pmax			
	comp=Z,61nm,4.8s							
FORT	**Forrest**	**35.97**	**178**	P		**P**	**10 48 32.2**	**+0.8**
SNY	**Shenyang**	**36.40**	**356**	⇓P		**P**	**10 48 37.3**	**+2.3**
SNY				pmax	pmax			
	comp=Z,15nm,0.9s							
HNR	**Honiara**	**36.42**	**114**	LR	LR	LR	11 02 07.4	
	comp=Z,729nm,20.5s,baz=282,slow=34							
LZH	**Lanzhou**	**37.00**	**329**	*e*P		**P**	**10 48 41.4**	**+1.0**
LZH				pP	pP	pP	10 48 50.3	-2.6
LZH				sP	pwP	pwP	10 48 57.3	+1.1
LZH				pmax	pmax			
	comp=Z,23nm,1.1s							
HHC	**Hu-ho-hao-te**	**37.79**	**341**	*e*P		**P**	**10 48 48.0**	**+1.0**
HHC				pmax	pmax			
	comp=Z,11nm,0.9s							
HHC				pmax	pmax			
	comp=Z,70nm,6.9s							
BBOO	**Buckleboo**	**39.03**	**167**	P		**P**	**10 48 57.4**	**0.0**
BBOO				IAmb	IAmb	IAmb	10 49 18.5	
	comp=Z,8.8nm,0.9s							
NWAO	**Narrogin (SRO)**	**39.09**	**192**	LR	LR	LR	11 06 48.8	
	comp=Z,45nm,18.9s,baz=26,slow=39							
XLT	**XiLinHaoTe**	**39.46**	**348**	*e*P		**P**	**10 49 01.3**	**+0.3**
XLT				pmax	pmax			
	comp=Z,17nm,1.2s							
XLT				pmax	pmax			
	comp=Z,81nm,4.0s							
STKA	**Stephens Creek**	**39.73**	**160**	P		**P**	**10 49 04.3**	**+1.1**
STKA	**Stephens Creek**	**39.73**	**160**	P		**P**	**10 49 03.4**	**+0.2**
	comp=Z,2.9nm,0.6s,baz=346,slow=6.7,SNR=5.0							
	comp=Z,2.9nm,0.6s							
ASAJ	**Asahikawa**	**41.10**	**18**	P		**P**	**10 49 14.6**	**+0.2**
	comp=Z,3.9nm,0.6s,baz=247,slow=7.7,SNR=2.9							
	comp=Z,3.9nm,0.6s							
GTA	**Gaotai**	**41.60**	**328**	*e*P		**P**	**10 49 18.9**	**+0.2**
GTA				pP	pP	pP	10 49 22.0	-9.4
GTA				pmax	pmax			
	comp=Z,9.0nm,0.8s							
H11N1	**WAKE ISLAND Hy**	**41.77**	**66**	T		T	11 33 48.6	
	baz=255,slow=75,SNR=11							
H11N2	**WAKE ISLAND Hy**	**41.78**	**66**	T		T	11 33 53.3	
	baz=255,slow=75,SNR=8.7							
H11N3	**WAKE ISLAND Hy**	**41.79**	**66**	T		T	11 33 54.0	
	baz=255,slow=75,SNR=9.8							
GOMU	**GeErMu**	**42.28**	**321**	P		**P**	**10 49 25.4**	**+0.7**
GOMU				pP	pP	pP	10 49 29.4	-7.7
GOMU				sP	pwP	pwP	10 49 30.8	-11
GOMU				pmax	pmax			
	comp=Z,4.0nm,1.0s							
KLR	**Kul'dur**	**43.93**	**5**	P		**P**	**10 49 37.6**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=197,slow=6.4,SNR=9.1							
KLR				LR	LR	LR	11 07 23.1	
	comp=Z,41nm,21.9s,baz=182,slow=35							
	comp=Z,1.8nm,0.7s							
KOUNC	**Koumac, New Ca**	**45.16**	**126**	P		**P**	**10 49 45.8**	**-1.7**
ULN	**Ulaanbaatar**	**45.51**	**342**	P		**P**	**10 49 50.0**	**-0.1**
ULN				IAmb	IAmb	IAmb	10 49 51.9	
	comp=Z,8.9nm,1.1s							
SONM	**Songino Array**	**45.69**	**341**	P		**P**	**10 49 51.7**	**+0.2**
SONM	**Songino Array**	**45.69**	**341**	P		**P**	**10 49 51.6**	**+0.1**
	comp=Z,3.1nm,0.8s,baz=155,slow=9.6,SNR=16							
SONM				PcP		**PcP**	**10 51 29.5**	**+0.7**
	comp=Z,2.7nm,0.8s,baz=169,slow=4.2,SNR=8.6							
SONM				LR	LR	LR	11 10 48.0	
	comp=Z,57nm,20.2s,baz=178,slow=38							
	comp=Z,3.1nm,0.8s							
DZM	**Mont Dzumac**	**47.66**	**126**	*e*LR	LR	LR	11 03 51.4	
	comp=Z,107nm,25.6s							
DZM	**Mont Dzumac**	**47.66**	**126**	LR	LR	LR	11 11 29.5	
	comp=Z,79nm,18.1s,baz=328,slow=38							
WMQ	**Urumqi**	**51.27**	**324**	⇓P		**P**	**10 50 33.3**	**-1.2**
WMQ				pmax	pmax			
	comp=Z,31nm,0.8s							
PETK	**Petropavlovsk-**	**54.01**	**23**	P		**P**	**10 50 55.0**	**+0.6**
PETK	**Petropavlovsk-**	**54.01**	**23**	P		**P**	**10 50 54.3**	**-0.1**
	comp=Z,4.5nm,0.8s,baz=197,slow=2.5,SNR=4.8							
PETK				LR	LR	LR	11 12 10.0	
	comp=Z,18nm,22.0s,baz=236,slow=34							
	comp=Z,4.5nm,0.8s							
MK31	**Makanchi Array**	**56.10**	**325**	P		**P**	**10 51 09.3**	**-0.4**
MK31				PcP		**PcP**	**10 52 07.4**	**+0.1**
MKAR	**Makanchi Array**	**56.10**	**325**	P		**P**	**10 51 09.3**	**-0.4**
	comp=Z,1.7nm,0.4s,baz=122,slow=7.2,SNR=34							
MKAR				PcP		**PcP**	**10 52 07.2**	**0.0**

comp=Z,6.6nm,0.8s
KURK Kurchatov 60.26 327 P **P** 10 51 37.9 -0.6
BTK Batken 60.64 313 P **P** 10 51 41.6 0.0
BTK IAmb IAmb 10 51 42.8
comp=Z,11nm,1.1s
KK31 Karatay Array 61.90 316 P **P** 10 51 49.4 -0.5
KK31 IAmb IAmb 10 51 50.8
comp=Z,6.0nm,0.9s
KKAR Karatay Array 61.90 316 P **P** 10 51 49.6 -0.4
KKAR IAmb IAmb 10 51 50.8
comp=Z,6.0nm,0.9s
BVAR Borovoye Array 65.84 327 P **P** 10 52 15.1 -0.6
comp=Z,5.8nm,0.9s,baz=120,slow=8.7,SNR=17
BVAR LR LR 11 23 39.7
comp=Z,30nm,18.2s,baz=94,slow=38
comp=Z,5.8nm,0.9s
BRVK Borovoye 65.91 327 P **P** 10 52 15.7 -0.4
TIXI Tiksi 66.22 1 P **P** 10 52 17.0 -0.7
TIXI IAmb IAmb 10 52 24.4
comp=Z,5.7nm,0.9s
TIXI Tiksi 66.22 1 LR LR 11 21 44.2
comp=Z,46nm,21.9s,baz=198,slow=36
NRIK Noril'sk 68.80 346 P **P** 10 52 35.0 +0.9
NRIK Noril'sk 68.80 346 P **P** 10 52 34.6 +0.6
comp=Z,12nm,0.8s,baz=127,slow=7.1,SNR=18
comp=Z,12nm,0.8s
ABKAR Akbulak array 70.76 320 P **P** 10 52 45.6 -0.8
AKTO Aktyubinsk 72.25 321 LR LR 11 27 51.9
comp=Z,66nm,19.4s,baz=272,slow=38
ARU Arti 73.45 328 LR LR 11 25 47.2
comp=Z,28nm,20.4s,baz=66,slow=36
RAYN Ar Rayn 79.65 293 P **P** 10 53 38.1 -0.1
E19K Redstone River 79.81 22 IAmb IAmb 10 53 39.9
comp=Z,7.9nm,1.2s
GNI Garni 80.28 310 LR LR 11 34 28.8
comp=Z,29nm,18.3s,baz=156,slow=40
KDAK Kodiak Island 80.63 32 LR LR 11 24 15.1
comp=Z,56nm,20.3s,baz=253,slow=32
B21K Ikpikpuk River 81.12 20 IAmb IAmb 10 53 47.9
comp=Z,5.3nm,0.9s
I21K Tanana 81.58 25 P **P** 10 53 48.7 +1.0
I21K IAmb IAmb 10 54 06.4
comp=Z,5.4nm,1.1s
KBZ Khabaz 81.71 313 LR LR 11 35 50.4
comp=Z,25nm,18.6s,baz=86,slow=40
E22K Anaktuvuk Pass 81.94 22 IAmb IAmb 10 53 51.9
comp=Z,7.0nm,1.1s
C23K Itkillik River 82.53 20 IAmb IAmb 10 54 02.5
comp=Z,7.7nm,0.9s
D24K Happy Valley 83.11 21 P **P** 10 53 56.8 +1.2
D24K IAmb IAmb 10 53 58.1
comp=Z,6.4nm,1.1s
F24K Squaw Lake 83.39 23 P **P** 10 53 58.0 +0.9
ILAR Eielson Array 83.73 25 P **P** 10 53 58.0 -0.9
comp=Z,1.2nm,1.0s,baz=236,slow=4.6,SNR=9.2
comp=Z,1.2nm,1.0s
D25K Kavik River 83.99 21 IAmb IAmb 10 54 02.2
comp=Z,8.6nm,1.2s
E25K Arctic Village 84.28 22 P **P** 10 54 03.1 +1.5
FYU Fort Yukon 84.42 24 P **P** 10 54 03.7 +1.5
BMAR Burnt Mountain 84.66 23 P **P** 10 54 04.3 +0.7
VNDA Vanda 85.07 173 P **P** 10 54 05.8 +0.5
VNDA Vanda 85.07 173 P **P** 10 54 05.5 +0.2
comp=Z,1.0nm,1.1s,baz=327,slow=6.5,SNR=2.5
comp=Z,1.0nm,1.1s
OBN Obninsk 85.61 325 LR LR 11 36 52.1
comp=Z,51nm,18.8s,baz=244,slow=39
WAX Waxell Ridge 85.68 30 P **P** 10 54 07.6 -1.2
PPT2 Papeete2 85.82 108 eLR LR 11 21 18.1
comp=Z,55nm,28.0s
ARCES ARCESS Array B 88.85 340 P **P** 10 54 23.8 -0.1
ARCES ARCESS Array B 88.85 340 P **P** 10 54 23.1 -0.7
comp=Z,14nm,0.9s,baz=82,slow=6.5,SNR=11
ARCES LR LR 11 38 56.0
comp=Z,21nm,21.6s,baz=70,slow=39
comp=Z,14nm,0.9s
FINES FINESS Array B 90.30 332 P **P** 10 54 30.0 -0.8
comp=Z,2.6nm,0.8s,baz=70,slow=4.6,SNR=7.6
FINES LR LR 11 36 55.0
comp=Z,25nm,20.7s,baz=52,slow=37
comp=Z,2.6nm,0.8s
AKASG Malin Array Be 90.50 321 P **P** 10 54 30.6 -1.3
comp=Z,1.2nm,0.7s,baz=70,slow=1.9,SNR=1.8
comp=Z,1.2nm,0.7s
MLR Muntele Rosu 93.58 316 LR LR 11 42 24.1
comp=Z,53nm,18.7s,baz=67,slow=39
HFS Hagfors 96.48 332 P **P** 10 54 58.3 -1.0
comp=Z,4.4nm,0.9s,baz=64,slow=3.4,SNR=5.1
HFS LR LR 11 40 38.3
comp=Z,35nm,21.1s,baz=72,slow=37
comp=Z,4.4nm,0.9s
NB2 NORSAR Subarra 97.23 334 P **P** 10 55 01.3 -1.4
comp=Z,2.7nm,0.8s,baz=66,slow=4.6
NOA NORSAR Array B 97.23 334 P **P** 10 55 01.2 -1.4
comp=Z,1.9nm,0.8s,baz=65,slow=4.5,SNR=7.1
NOA LR LR 11 42 10.2
comp=Z,30nm,20.7s,baz=60,slow=37
comp=Z,1.9nm,0.8s
VRAC Vranov 98.73 321 LR LR 11 42 19.5
comp=Z,22nm,21.0s,baz=125,slow=37
TXAR Lajitas Array 120.76 51 PKP **PKPdf** 11 00 21.7 -1.1
comp=Z,0.3nm,0.8s,baz=210,slow=1.0,SNR=3.5
TORD Torodi Ar. Bea 122.20 289 PKP **PKPdf** 11 00 24.5 -1.3
comp=Z,0.8nm,0.8s,baz=52,slow=2.1,SNR=5.0

*WEL **23** 10:59:45.6±0.3, 42.˚S±2.˚×17.˚4E±.˚, h12km±2km, M3.3/19, ML3.5/19, MLv3.3/19, Error ellipse: s-maj=0.0km s-min=0.0km az=136.0*
*NOU **23** 10:59:46.6, 42.˚19S×173.˚78E, h22km, MLv3.8/8, South Island, New Zealand*
ISC 23 10:59:45.7±0.9, 42.˚08S±0.˚02×173.˚74E±0.˚03, h16km±8km, n103, σ1§56/112, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KEKS	**Kekerengu Vall**	**0.22**	**56**	P		**Pg**	**10 59 51.5**	**+0.8**
KEKS				S		**Sb**	**10 59 55.7**	**+0.5**
KIKS	**Kaikoura**	**0.35**	**187**	P		**Pn**	**10 59 55.1**	**-1.0**
KIKS				S		**Sn**	**11 00 02.3**	**-0.5**
MOLW	**Molesworth Sta**	**0.36**	**268**	P		**Pg**	**10 59 52.9**	**-0.2**
MOLW				S		**Sg**	**10 59 57.9**	**-0.2**
KHZ	**Kahutara**	**0.37**	**204**	P		**Pb**	**10 59 54.8**	**+0.9**
KHZ	**Kahutara**	**0.37**	**204**	P		**Pb**	**10 59 54.8**	**+0.9**
KHZ				S		**Sb**	**11 00 00.6**	**+1.2**
BSWZ	**Blackbirch Sta**	**0.38**	**16**	P		**Pg**	**10 59 52.9**	**-0.5**
BSWZ				S		**Sg**	**10 59 58.1**	**-0.5**
WDFS	**Ward Fire Stat**	**0.39**	**50**	P		**Pb**	**10 59 54.6**	**+0.4**
SEDS	**Seddon Fire St**	**0.48**	**32**	P		**Pg**	**10 59 55.5**	**+0.3**
SEDS				S		**Sg**	**11 00 02.8**	**+1.1**
CMWZ	**Cape Campbell**	**0.48**	**47**	P		**Pb**	**10 59 56.4**	**+0.6**
SDNS	**Seddon**	**0.51**	**36**	P		**Pg**	**10 59 56.6**	**+0.7**
TUWZ	**Tuamarina**	**0.67**	**13**	P		**Pg**	**10 59 58.0**	**-0.7**
TUWZ				S		**Sg**	**11 00 07.0**	**-0.6**
THZ	**Tophouse**	**0.70**	**297**	P		**Pg**	**10 59 58.4**	**-0.9**
THZ				S		**Sg**	**11 00 07.1**	**-1.5**
NNZ	**Nelson**	**0.90**	**343**	P		**Pb**	**11 00 01.5**	**-1.5**
TCW	**Tory Channel**	**0.96**	**25**	P		**Pb**	**11 00 02.9**	**-1.0**
MRNZ	**Matariki Terra**	**1.00**	**312**	P		**Pb**	**11 00 03.8**	**-0.9**
MRNZ				S		**Sb**	**11 00 16.8**	**-0.8**
GVZ	**Greta Valley S**	**1.03**	**210**	P		**Pg**	**11 00 06.1**	**+0.5**
SNZO	**South Karori**	**1.05**	**44**	P		**Pb**	**11 00 05.9**	**+0.3**
BHW	**Baring Head**	**1.08**	**52**	P		**Pb**	**11 00 05.9**	**-0.1**
WEL	**Wellington**	**1.11**	**44**	P		**Pn**	**11 00 06.5**	**-0.1**
TKNZ	**Takaka Hill**	**1.20**	**331**	P		**Pn**	**11 00 06.7**	**-1.1**
PLWZ	**Palliser**	**1.24**	**66**	P		**Pn**	**11 00 07.8**	**-0.7**
DUWZ	**D'Urville Isla**	**1.28**	**6**	P		**Pn**	**11 00 07.9**	**-1.1**
LTZ	**Lake Taylor**	**1.29**	**237**	P		**Pb**	**11 00 09.7**	**0.0**
AMCZ	**Amberley**	**1.36**	**216**	P		**Pn**	**11 00 10.3**	**+0.3**
CAW	**Cannon Point**	**1.39**	**46**	P		**Pn**	**11 00 10.1**	**-0.4**
PAWZ	**Paruwai Farm**	**1.44**	**62**	P		**Pn**	**11 00 10.3**	**-0.9**
DSZ	**Denniston Nort**	**1.48**	**282**	P		**Pb**	**11 00 12.7**	**-0.2**
KIW	**Kapiti Island**	**1.50**	**36**	P		**Pn**	**11 00 12.0**	**0.0**
QRZ	**Quartz Range**	**1.55**	**324**	P		**Pn**	**11 00 12.8**	**+0.2**
QRZ	**Quartz Range**	**1.55**	**324**	P		**Pn**	**11 00 12.6**	**0.0**
TRWZ	**Traveller**	**1.61**	**66**	P		**Pn**	**11 00 12.4**	**-1.1**
MTW	**Mount Morrison**	**1.61**	**56**	P		**Pn**	**11 00 12.5**	**-1.0**
OGWZ	**Otaki Gorge**	**1.66**	**41**	P		**Pn**	**11 00 13.8**	**-0.3**
OXZ	**Oxford**	**1.77**	**225**	P		**Pn**	**11 00 15.1**	**-0.6**
HOWZ	**Holdsworth Sta**	**1.78**	**49**	P		**Pn**	**11 00 14.8**	**-1.1**
MQZ	**McQueen's Vall**	**1.81**	**206**	P		**Pn**	**11 00 15.1**	**-1.1**
INZ	**Inchbonnie**	**1.82**	**248**	P		**Pn**	**11 00 17.1**	**+0.8**
TMWZ	**Te Maipa**	**1.88**	**60**	P		**Pn**	**11 00 16.0**	**-1.3**
AKCZ	**Akaroa Harbour**	**1.89**	**198**	P		**Pn**	**11 00 17.0**	**-0.4**
MRZ	**Mangatainoka R**	**1.98**	**45**	P		**Pn**	**11 00 17.7**	**-0.9**
RACZ	**Rakaia**	**2.02**	**215**	P		**Pn**	**11 00 18.5**	**-0.7**
TIWZ	**Tintock**	**2.07**	**52**	P		**Pn**	**11 00 18.6**	**-1.3**
MHCZ	**Mount Hutt**	**2.16**	**227**	P		**Pn**	**11 00 20.3**	**-0.7**
OHWZ	**Ohakea**	**2.22**	**33**	P		**Pb**	**11 00 24.7**	**-0.7**
PRWZ	**Pori Road**	**2.27**	**49**	P		**Pn**	**11 00 21.3**	**-1.3**
POWZ	**Post Office Ro**	**2.28**	**43**	P		**Pn**	**11 00 22.0**	**-0.7**
WACZ	**Wakanui South**	**2.33**	**216**	P		**Pn**	**11 00 22.6**	**-0.7**
BFZ	**Birch Farm**	**2.35**	**54**	P		**Pn**	**11 00 23.9**	**+0.3**
BFZ	**Birch Farm**	**2.35**	**54**	P		**Pn**	**11 00 21.8**	**-1.9**
WVZ	**Waitaha Valley**	**2.43**	**245**	P		**Pn**	**11 00 25.8**	**+1.1**
WAZ	**Wanganui**	**2.51**	**23**	P		**Pb**	**11 00 28.8**	**-1.5**
DVHZ	**Dannevirke**	**2.55**	**47**	P		**Pn**	**11 00 25.5**	**-1.0**
RPZ	**Rata Peaks**	**2.56**	**229**	P		**Pn**	**11 00 26.3**	**-0.3**
RPZ	**Rata Peaks**	**2.56**	**229**	P		**Pn**	**11 00 26.3**	**-0.3**
TSZ	**Takapari Road**	**2.63**	**41**	P		**Pn**	**11 00 27.5**	**0.0**
ARCZ	**Arundel**	**2.65**	**224**	P		**Pn**	**11 00 27.1**	**-0.7**
LREZ	**Lake Rotokare**	**2.66**	**11**	P		**Pb**	**11 00 31.4**	**-1.6**
NMEZ	**Namu Road**	**2.67**	**2**	P		**Pn**	**11 00 30.7**	**+2.8**
PREZ	**Palmer Road**	**2.75**	**7**	P		**Pb**	**11 00 34.3**	**-0.3**
KHEZ	**Kahui Hut**	**2.79**	**4**	P		**Pn**	**11 00 32.5**	**+2.7**
KHEZ	**Kahui Hut**	**2.79**	**4**	P		**Pb**	**11 00 33.5**	**-1.7**
GCSZ	**Gaunt Creek Bo**	**2.80**	**243**	P		**Pn**	**11 00 31.9**	**+2.0**
NBEZ	**Newall Road No**	**2.81**	**2**	P		**Pn**	**11 00 32.9**	**+2.9**
NEZ	**North Egmont**	**2.82**	**6**	P		**Pn**	**11 00 32.9**	**+2.7**
PNHZ	**Pukenui**	**2.85**	**42**	P		**Pn**	**11 00 29.2**	**-1.4**
DREZ	**Durham Road**	**2.91**	**7**	P		**Pn**	**11 00 33.9**	**+2.5**
MTVZ	**Mangateitei**	**3.00**	**27**	P		**Pb**	**11 00 39.1**	**+0.4**
PKVZ	**Pokaka**	**3.04**	**24**	P		**Pb**	**11 00 39.6**	**+0.1**
TMZ	**Timaru**	**3.05**	**220**	P		**Pn**	**11 00 32.5**	**-0.8**
VRZ	**Vera Road**	**3.05**	**15**	P		**Pn**	**11 00 36.0**	**+2.7**
MOVZ	**Moawhango**	**3.08**	**30**	P		**Pn**	**11 00 37.2**	**+3.5**
WNVZ	**Wahianoa**	**3.09**	**28**	P		**Pn**	**11 00 36.4**	**+2.4**
TRVZ	**Turoa**	**3.10**	**27**	P		**Pb**	**11 00 38.4**	**-2.2**
WHVZ	**Whangaehu Hut**	**3.13**	**27**	P		**Pn**	**11 00 37.5**	**+2.9**
BHHZ	**Black Hill Sta**	**3.13**	**35**	P		**Pn**	**11 00 36.4**	**+2.0**
MAVZ	**Matarangi**	**3.13**	**27**	P		**Pb**	**11 00 40.4**	**-0.8**
FWVZ	**Far West T-bar**	**3.14**	**27**	P		**Pn**	**11 00 37.4**	**+2.7**
TUVZ	**Tukino**	**3.16**	**28**	P		**Pb**	**11 00 40.7**	**-1.0**
COVZ	**Chateau Observ**	**3.19**	**26**	P		**Pb**	**11 00 41.2**	**-0.8**
NGZ	**Ngauruhoe**	**3.23**	**27**	P		**Pn**	**11 00 38.7**	**+2.8**
SNVZ	**South Ngauruho**	**3.23**	**27**	P		**Pb**	**11 00 41.4**	**-1.4**
OTVZ	**Oturere**	**3.26**	**27**	P		**Pn**	**11 00 39.7**	**+3.4**
NNVZ	**North Ngauruho**	**3.27**	**27**	P		**Pb**	**11 00 41.4**	**-2.1**
WTVZ	**West Tongariro**	**3.28**	**26**	P		**Pn**	**11 00 39.8**	**+3.2**
ETVZ	**East Tongariro**	**3.30**	**28**	P		**Pb**	**11 00 41.4**	**-2.5**
TMVZ	**Te Maari**	**3.32**	**27**	P		**Pn**	**11 00 39.9**	**+2.8**
NTVZ	**North Tongarir**	**3.32**	**27**	P		**Pn**	**11 00 40.3**	**+3.1**
LBZ	**Lake Benmore**	**3.47**	**227**	P		**Pn**	**11 00 39.2**	**0.0**
RITZ	**Rihia Road**	**3.49**	**28**	P		**Pb**	**11 00 45.9**	**-1.3**
HIZ	**Hauiti**	**3.66**	**14**	P		**Pn**	**11 00 44.6**	**+2.9**
HIZ	**Hauiti**	**3.66**	**14**	P		**Pn**	**11 00 43.9**	**+2.2**
ODZ	**Otahua Downs**	**3.72**	**216**	P		**Pn**	**11 00 41.7**	**-0.8**
ODZ	**Otahua Downs**	**3.72**	**216**	P		**Pn**	**11 00 41.4**	**-1.1**
TLZ	**Tolley Road**	**3.99**	**21**	P		**Pn**	**11 00 49.2**	**+2.9**
JCZ	**Jackson Bay**	**4.14**	**240**	P		**Pn**	**11 00 51.4**	**+3.0**
EAZ	**Earnscleugh**	**4.50**	**224**	P		**Pn**	**11 00 52.4**	**-0.8**
TOZ	**Tahuroa Road**	**4.55**	**18**	P		**Pn**	**11 00 56.7**	**+2.8**
MWZ	**Matawai**	**4.73**	**39**	P		**Pn**	**11 00 56.5**	**0.0**
AWAZ	**Awhitu Peninsu**	**5.06**	**8**	P		**Pn**	**11 01 02.2**	**+1.4**
MKAZ	**Moumakai**	**5.09**	**13**	P		**Pn**	**11 01 03.1**	**+1.8**
ETAZ	**East Tamaki Re**	**5.20**	**11**	P		**Pn**	**11 01 05.0**	**+2.1**
RVAZ	**Riverhead Bore**	**5.34**	**7**	P		**Pn**	**11 01 07.0**	**+2.3**
OUZ	**Omahuta**	**6.85**	**359**	P		**Pn**	**11 01 26.6**	**+1.1**

*IDC **23** 11:17:23.7±7.3, 36.˚47N×71.˚22E, h183km±64km, mb3.3/1, mbtmp3.7/7, MS3.1/1, Error ellipse: s-maj=62.1km s-min=39.3km az=44.0*
*NNC **23** 11:17:29.5±3.1, 37.˚04N×70.˚95E, h201km±33km, mb2.5, mpv3.8, Error ellipse: s-maj=35.1km s-min=17.4km az=36.0*
ISC 23 11:17:23.9±1.6, 36.˚6N±0.˚1×70.˚9E±0.˚2, h188km, n14, σ1§42/15, 1C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.48**	**358**	⇓P		**Pn**	**11 18 57.8**	**+0.6**
	1.4nm,0.3s,baz=175,slow=12,SNR=53							
KK31				S		**Sn**	**11 20 07.8**	**-3.2**
	23nm,0.8s,baz=177,slow=13,SNR=25							
AAK	**Ala-Archa**	**6.62**	**24**	P		**Pn**	**11 19 00.0**	**+0.9**
	3.7nm,0.3s,baz=200,slow=5.9,SNR=24							
AAK				S		**Sn**	**11 20 13.4**	**-1.1**
	3.8nm,0.6s,baz=6.5,slow=23,SNR=12							
TKM2	**Tokmak 2**	**7.26**	**29**	⇑P		**Pn**	**11 19 08.2**	**+0.6**
	7.7nm,0.6s							
MK31	**Makanchi Array**	**13.25**	**36**	P		**Pn**	**11 20 24.1**	**-0.6**
	0.6nm,0.9s,baz=207,slow=6.1,SNR=3.6							
MKAR	**Makanchi Array**	**13.25**	**36**	P		**Pn**	**11 20 25.5**	**+0.7**
	0.4nm,0.7s,baz=226,slow=12,SNR=4.5							
AB31	**Akbulak array**	**14.93**	**331**	P		**Pn**	**11 20 45.5**	**0.0**
	1.1nm,0.6s,baz=153,slow=12,SNR=16							
KURBB	**Kurchatov Arra**	**15.04**	**19**	P		**P**	**11 20 48.8**	**+1.1**
	0.4nm,0.7s,baz=210,slow=9.9,SNR=4.8							
BVA0	**Borovoye Array**	**16.41**	**359**	P		**Pn**	**11 21 04.3**	**+0.9**
	0.1nm,0.9s,baz=165,slow=12,SNR=7.0							
BVAR	**Borovoye Array**	**16.41**	**359**	P		**Pn**	**11 21 05.0**	**+1.6**
	1.3nm,0.6s,baz=165,slow=10,SNR=7.5							
AKTO	**Aktyubinsk**	**16.63**	**330**	P		**Pn**	**11 21 07.7**	**+1.6**
	4.1nm,0.5s,baz=141,slow=9.8,SNR=7.9							
AKTO	**Aktyubinsk**	**16.63**	**330**	⇓P		**Pn**	**11 21 06.8**	**+0.8**
	2.2nm,0.6s							
ZALV	**Zalesovo Beam**	**19.84**	**25**	P		**P**	**11 21 40.9**	**+0.7**
	0.7nm,0.4s,baz=227,slow=9.9,SNR=3.5							
PALK	**Pallekele**	**30.56**	**161**	LR		LR	11 37 23.1	
	comp=Z,33nm,18.3s,baz=185,slow=40							
ASAR	**Alice Springs**	**84.40**	**125**	P		**P**	**11 29 33.8**	**-1.5**
	0.4nm,0.6s,baz=313,slow=5.2,SNR=12							
	0.4nm,0.6s							

*JMA **23** 11:30:07.4±0.1, 22.˚6N±0.˚8×120.˚7E±0.˚9, h31km±1km, MV3.9/18, TAIWAN REGION*
*NIED **23** 11:30:07.4, 22.˚59N×120.˚66E, h31km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}5.07; $M_{\theta\theta}$-0.77; $M_{\phi\phi}$-4.31; $M_{r\theta}$-1.70; $M_{\theta\phi}$0.72; $M_{\phi r}$-3.73; Fault plane solution: $M_0$6.22000×10^{14} NP1: ϕ_s189.00000°, δ65.00000°, λ105.00000°. NP2: ϕ_s337.00000°, δ29.00000°, λ61.00000°.*
*TAP **23** 11:30:08.0, 22.˚68N×120.˚67E, h27km, ML4.0, B*
*ASIES **23** 11:30:08, 22.˚68N×120.˚67E, h27km, ML4.0, Mw3.7, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}3.83; $M_{\theta\theta}$-0.80; $M_{\phi\phi}$-3.02; $M_{r\theta}$-0.35; $M_{\theta\phi}$-0.95; $M_{\phi r}$-2.68; Fault plane solution: $M_0$4.51996×10^{21} NP1: ϕ_s193.06000°, δ63.46000°, λ84.28000°. NP2:ϕ_s25.68000°, δ27.11000°, λ101.28000°. Principal axes: T Plg70.9830°, Azm90.5630°; N Plg5.1140°, Azm195.6120°; P Plg18.2650°, Azm287.3050°;*
ISC 23 11:30:08.8±0.8, 22.˚66N±0.˚02×120.˚66E±0.˚02, h29km±4km, n147, σ0§93/244, 5C-8D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TSMG	**Majia**	**0.04**	**345**	⇑*i*P		**Pb**	**11 30 12.8**	**-1.0**
	baz=314							
TSMG				S		**Sb**	**11 30 16.4**	**-0.8**
	baz=314							
MASBT	**Mashibuluo**	**0.06**	**204**	⇑*i*P		**Pb**	**11 30 12.9**	**-1.0**
	baz=210							
MASBT				S		**Sb**	**11 30 16.4**	**-0.9**
	baz=210							
TSPT	**Pingtung City**	**0.15**	**276**	*i* P		**Pb**	**11 30 14.5**	**0.0**
	baz=269							
SGLT	**Jiouru**	**0.17**	**292**	*i* P		**Pb**	**11 30 14.5**	**-0.1**
	baz=285							
SGLT				*i* S		**Sb**	**11 30 21.1**	**+2.6**
	baz=285							
SCST	**Cishan**	**0.27**	**326**	*i* P		**Pb**	**11 30 16.0**	**+0.2**
	baz=326							
SCST				*i* S		**Sn**	**11 30 22.6**	**+0.6**
	baz=326							
TWM1	**Shoushan**	**0.27**	**307**	*i* P		**Pb**	**11 30 16.2**	**+0.3**
	baz=307							
TWM1				*i* S		**Sn**	**11 30 23.4**	**+1.3**
	baz=307							
ECL	**Taimali**	**0.28**	**103**	⇓*i*P		**Pb**	**11 30 15.2**	**-0.8**
	baz=107							
ECL				*i* S		**Sb**	**11 30 20.5**	**-0.3**
	baz=107							
SCZT	**Fangliau**	**0.29**	**187**	⇑*i*P		**Pb**	**11 30 15.7**	**-0.4**
	baz=188							
SCZT				*i* S		**Sb**	**11 30 21.1**	**+0.1**
	baz=188							
SNJT	**Kaohsiung City**	**0.31**	**287**	*i* P		**Pn**	**11 30 16.9**	**-0.5**
	baz=284							
SNJT				S		**Sn**	**11 30 26.1**	**+3.1**
	baz=284							
EAST	**Anshuo**	**0.33**	**148**	⇓*i*P		**Pb**	**11 30 16.3**	**-0.4**
	baz=146							
EAST				*i* S		**Sb**	**11 30 22.0**	**0.0**
	baz=146							
SLGT	**Liugui**	**0.33**	**358**	⇑*i*P		**Pb**	**11 30 16.2**	**-0.5**
	baz=360							
SLGT				*i* S		**Sb**	**11 30 22.0**	**0.0**
	baz=360							
KAU	**Kaohsiung**	**0.34**	**254**	*i* P		**Pn**	**11 30 18.1**	**+0.3**
	baz=251							
WSSB	**Gushan**	**0.37**	**267**	*i* P		**Pn**	**11 30 18.3**	**+0.1**
	baz=265							
WSSB				*i* S		**Sn**	**11 30 27.1**	**+2.7**
	baz=265							
TAW	**Tawu**	**0.38**	**144**	⇓*i*P		**Pb**	**11 30 16.8**	**-0.5**
	baz=143							
TAW				*i* S		**Sb**	**11 30 22.9**	**-0.1**
	baz=143							
TAWH	**Dawu Township**	**0.39**	**146**	⇓*i*P		**Pb**	**11 30 16.9**	**-0.6**
	baz=146							
TAWH				*i* S		**Sb**	**11 30 23.1**	**-0.2**
	baz=146							
TWG	**Pinlang**	**0.41**	**68**	⇓*i*P		**Pb**	**11 30 17.4**	**-0.5**
	baz=69							
TWG				*i* S		**Sb**	**11 30 24.0**	**-0.1**
	baz=69							
TWGBT	**Beinan**	**0.42**	**68**	P		**Pb**	**11 30 17.3**	**-0.7**
TWGBT	**Beinan**	**0.42**	**68**	⇓*i*P		**Pb**	**11 30 17.4**	**-0.5**
	baz=69							
TWGBT				*i* S		**Sb**	**11 30 23.8**	**-0.4**
	baz=69							
SGST	**Jiashian**	**0.42**	**351**	*i* P		**Pb**	**11 30 16.7**	**-1.3**
	baz=349							
SGST				*i* S		**Sb**	**11 30 24.8**	**+0.4**
	baz=349							
SHHT	**Tainan City**	**0.46**	**321**	*i* P		**Pn**	**11 30 19.5**	**+0.1**
	baz=318							
SHHT				*i* S		**Sn**	**11 30 29.2**	**+2.5**
	baz=318							
TTN	**Taitung**	**0.46**	**79**	⇓*i*P		**Pn**	**11 30 19.0**	**-0.5**
	baz=74							
TTN				*i* S		**Sn**	**11 30 28.0**	**+1.3**
	baz=74							
SLIU	**Shizi**	**0.46**	**163**	*i* P		**Pb**	**11 30 18.2**	**-0.5**
	baz=163							
SLIU				*i* S		**Sb**	**11 30 25.5**	**+0.2**
	baz=163							
CHN3	**Shinhua**	**0.49**	**327**	*i* P		**Pn**	**11 30 20.0**	**+0.1**
	baz=324							
CHN3				*i* S		**Sn**	**11 30 29.8**	**+2.3**
	baz=324							
LONT	**Longtian**	**0.50**	**61**	*i* P		**Pb**	**11 30 18.9**	**-0.3**
	baz=61							
LONT				*i* S		**Sn**	**11 30 27.2**	**-0.5**
	baz=61							
STYH	**Taoyuan**	**0.52**	**12**	P		**Pb**	**11 30 19.3**	**-0.2**
	baz=16							
STYH				*i* S		**Sn**	**11 30 27.5**	**-0.6**
	baz=16							
CHN1	**Nanshi**	**0.53**	**347**	*i* P		**Pb**	**11 30 19.5**	**-0.3**
	baz=345							
CHN1				*i* S		**Sn**	**11 30 28.5**	**0.0**
	baz=345							
TAI1	**Yung-k'ang**	**0.55**	**314**	P		**Pb**	**11 30 20.3**	**+0.3**
	baz=311							
TAI1				S		**Sn**	**11 30 29.5**	**+0.7**
	baz=311							
SNST	**Tainan City**	**0.57**	**345**	P		**Pb**	**11 30 20.2**	**-0.3**
	baz=343							
SNST				S		**Sn**	**11 30 29.3**	**-0.2**
	baz=343							
SSHA	**Shanhua**	**0.58**	**324**	P		**Pn**	**11 30 21.3**	**+0.2**
	baz=322							
SSHA				S		**Sn**	**11 30 31.4**	**+1.7**
	baz=322							
WTP	**Ta-pu**	**0.58**	**356**	*i* P		**Pb**	**11 30 20.2**	**-0.4**
	baz=355							
WTP				*i* S		**Sn**	**11 30 29.6**	**-0.2**
	baz=355							
ELDTW	**Lidau**	**0.62**	**32**	*i* P		**Pb**	**11 30 21.1**	**-0.2**
	baz=25							
ELDTW				*i* S		**Sn**	**11 30 30.7**	**-0.1**
	baz=25							
TWK	**Hsinying**	**0.62**	**346**	P		**Pb**	**11 30 21.0**	**-0.3**
	baz=344							
TWK				S		**Sn**	**11 30 31.6**	**+0.8**
	baz=344							
TPUB	**Ta-pu**	**0.64**	**358**	P		**Pb**	**11 30 21.3**	**-0.2**
TPUB	**Ta-pu**	**0.64**	**358**	*i* P		**Pb**	**11 30 21.1**	**-0.4**
	baz=356							
TPUB				*i* S		**Sn**	**11 30 30.6**	**-0.5**
	baz=356							
HEN	**Hengchun**	**0.66**	**173**	*i* P		**Pb**	**11 30 22.2**	**+0.4**
	baz=175				

baz=66
CHKH S Sn 11 30 38.2 +1.6
baz=66
CHN2 Minshiung 0.88 349 P Pb 11 30 24.7 -0.9
baz=331
CHN2 S Sn 11 30 37.6 +0.5
baz=331
TWF1 Yuli 0.91 41 i P Pb 11 30 25.4 -0.6
baz=40
TWF1 i S Sb 11 30 37.4 -0.3
baz=40
EYUL Yuli 0.92 42 eP Pb 11 30 25.6 -0.5
baz=41
EYUL S Sn 11 30 38.4 +0.5
baz=41
CHN5 Tsauling 0.93 1 i P Pn 11 30 26.3 +0.3
baz=359
CHN5 S Sn 11 30 39.7 +1.2
baz=359
YULB Yu-li 0.94 39 P Pb 11 30 25.9 -0.6
YULB Yu-li 0.94 39 i P Pb 11 30 25.8 -0.8
baz=38
YULB i S Sb 11 30 38.1 -0.5
baz=38
WSL Shuilin Townsh 0.94 335 eP Pn 11 30 25.1 -1.0
baz=333
WSL S Sn 11 30 38.9 +0.3
baz=333
ECBN Changbin 0.98 48 eP Pn 11 30 26.3 -0.3
baz=62
WGK Gukeng 1.02 355 P Pn 11 30 26.8 -0.4
baz=353
WGK i S Sn 11 30 41.7 +1.1
baz=353
WDLH Douliu 1.03 354 P Pn 11 30 26.8 -0.5
baz=337
WDLH S Sn 11 30 41.6 +0.9
baz=337
LAY Lan-yu 1.03 127 P Pn 11 30 26.6 -0.8
baz=128
LAY S Sb 11 30 41.1 -0.3
baz=128
EHY Hungye 1.04 36 P Pn 11 30 27.5 +0.1
baz=34
EHY i S Sn 11 30 41.4 +0.4
baz=34
EHYH Wanrong 1.04 37 P Pb 11 30 27.9 -0.5
baz=36
EHYH S Sn 11 30 42.0 +1.0
baz=36
WHYT Xinyi Township 1.04 10 eP Pb 11 30 28.2 -0.2
baz=353
WHYT S Sn 11 30 42.4 +1.2
baz=353
WSF Szhu 1.05 338 P Pn 11 30 27.0 -0.6
baz=336
WSF S Sb 11 30 41.2 -0.6
baz=336
WTK Tuku 1.05 346 eP Pn 11 30 26.6 -1.0
baz=344
WTK eS Sn 11 30 41.8 +0.6
baz=344
LYUB Lan-yu 1.08 127 P Pn 11 30 25.6 -2.4
baz=129
LYUB S Sn 11 30 39.5 -2.5
baz=129
HGSD Ruisui 1.09 40 i P Pb 11 30 28.9 -0.2
baz=25
HGSD S Sn 11 30 44.6 +2.5
baz=25
WDGT Dungji 1.09 303 i P Pn 11 30 27.2 -1.0
baz=302
WDGT S Sn 11 30 41.0 -1.3
baz=302
SSLB Suanglung 1.15 14 P Pn 11 30 29.2 +0.2
SSLB Suanglung 1.15 14 P Pn 11 30 29.3 +0.2
baz=11
SSLB S Sb 11 30 44.5 -0.4
baz=11
WJS Zhushan 1.16 3 P Pn 11 30 29.4 +0.4
baz=346
WJS S Sn 11 30 44.1 +0.3
baz=346
VWDT VWDT 1.17 22 eP Pn 11 30 29.8 +0.5
baz=20
VWDT eS Sb 11 30 46.2 +0.8
baz=20
WNT Mingjian 1.21 1 P Pn 11 30 30.1 +0.3
baz=359
WNT S Sb 11 30 45.7 -0.7
baz=359
EGFH Guangfu 1.23 35 eP Pn 11 30 30.1 +0.1
baz=33
EGFH eS Sb 11 30 46.8 -0.2
baz=33
SMLT Sun Moon Lake 1.23 10 P Pn 11 30 30.3 +0.1
baz=352
SMLT S Sb 11 30 47.0 -0.2
baz=352
WTCT Ta-ch'eng 1.25 344 eS Sb 11 30 47.5 +0.1
baz=342
WARBT Fenglin Townsh 1.25 32 eP Pn 11 30 30.2 -0.1
baz=30
WARBT eS Sb 11 30 47.0 -0.5
baz=30
TYC Yuchr 1.25 8 P Pn 11 30 30.5 +0.2
baz=352
TYC S Sb 11 30 47.3 -0.2
baz=352
VCHM Qimei 1.25 296 P Pn 11 30 29.2 -1.2
baz=294
VCHM eS Sn 11 30 44.5 -1.8
baz=294
WRL Guolierlin Hig 1.26 348 eP Pn 11 30 29.4 -1.0
baz=334
WRL eS Sn 11 30 46.7 +0.2
baz=334
PHUB P'eng-hu 1.31 310 P Pn 11 30 29.9 -1.3
baz=309
PHUB S Sn 11 30 45.5 -2.1
baz=309
ESL Shilin 1.35 32 eP Pn 11 30 31.8 +0.1
baz=30
ESL eS Sb 11 30 49.8 -0.6
baz=30
PNG Penghu 1.36 312 P Pn 11 30 30.4 -1.4
baz=310
PNG S Sn 11 30 47.1 -1.7
baz=310
OWD Renai 1.37 20 eP Pn 11 30 32.8 +0.7
baz=18
OWD eS Sb 11 30 51.5 +0.3
baz=18
WUSB Renai 1.39 18 eP Pn 11 30 32.8 +0.4
baz=15
WUSB eS Sn 11 30 50.3 +0.5
baz=15
SHUL Shoufeng 1.40 36 eP Pn 11 30 32.9 +0.6
baz=34
SHUL eS Sb 11 30 52.5 +0.8
baz=34
WCS Beigang Elemen 1.41 10 eP Pn 11 30 32.7 +0.2
baz=7.0
WCS eS Sb 11 30 50.9 -1.1
baz=7.0
WCHH Zhanghua 1.41 356 eP Pn 11 30 33.3 +0.7
baz=353
WCHH eS Sb 11 30 52.4 +0.2
baz=353
CHGB Renai 1.47 19 eP Pn 11 30 33.5 -0.1
baz=1.0
TCU Taichung 1.48 1 eP Pn 11 30 34.0 +0.5
baz=358
TCU eS Sb 11 30 53.2 -0.9
baz=358
ETM Tongmen 1.51 30 P Pn 11 30 34.1 +0.2
baz=28
ETM eS Sb 11 30 55.1 +0.2
baz=28
LXIB Xiulin Townshi 1.52 27 P Pb 11 30 35.3 -1.2
baz=25
LXIB eS Sb 11 30 54.8 -0.7
baz=25
HWA Hwalien 1.57 33 eP Pb 11 30 36.1 -1.2
baz=32
WHF Hehuan Shan 1.58 21 eP Pn 11 30 35.0 -0.3
baz=5.0
WHP Taichung City 1.63 9 eP Pn 11 30 36.1 +0.4
baz=7.0
WHP eS Sb 11 30 57.2 -1.4
baz=7.0
TDCB Techi 1.65 16 eP Pn 11 30 36.2 +0.2
baz=14
TWD Chiawan 1.65 31 eP Pn 11 30 35.3 -0.5
baz=30
TWT Tachien 1.65 17 eP Pn 11 30 36.7 +0.6
baz=14
TWT eS Sb 11 30 58.1 -1.2
baz=14
FUSS Fushou 1.67 19 eP Pn 11 30 36.5 +0.2
baz=4.0
TWQ1 Liyutan 1.68 4 eP Pn 11 30 37.1 +0.9
baz=1.0
ETLH Xiulin Townshi 1.71 26 eP Pn 11 30 37.0 +0.2
baz=10.0
ETL Fush Village 1.73 31 eP Pn 11 30 36.7 -0.4
baz=29
NACB Ninganchiao 1.73 30 P Pn 11 30 37.0 0.0
NACB Ninganchiao 1.73 30 eP Pn 11 30 36.3 -0.7
baz=28
NSY Sanyi 1.75 3 eP Pn 11 30 37.8 +0.5
baz=344
NMLH Miaoli 1.87 4 eP Pb 11 30 40.8 -1.6
baz=346
NNSB Datong 1.88 21 eP Pn 11 30 39.9 +0.8
baz=3.0
NNS Nan Shan 1.89 20 eP Pn 11 30 40.0 +0.8
baz=3.0
NSTT Nanjuang 1.98 9 eP Pn 11 30 40.3 -0.2
baz=350
NFF Wufeng Townshi 2.01 12 eP Pn 11 30 41.1 +0.3
baz=355
ENA Nanau 2.02 29 eP Pn 11 30 40.5 -0.4
baz=28
LATG Datong 2.03 23 eP Pn 11 30 41.2 +0.1
baz=6.0
EWUT Wuta 2.05 30 eP Pn 11 30 41.2 -0.1
baz=28
NDT Datong Townshi 2.08 22 eP Pn 11 30 43.2 +1.3
baz=5.0
YHNB Yeheng 2.10 18 P Pn 11 30 43.5 +1.3
YHNB Yeheng 2.10 18 eP Pn 11 30 43.7 +1.5
baz=1.0
NSK Sanguang 2.10 18 eP Pn 11 30 43.2 +1.0
EOS4 EOS4 2.11 46 eP Pn 11 30 42.2 +0.4
baz=44
NDS Dongshan 2.19 26 eP Pn 11 30 44.4 +1.1
baz=38
EOS3 EOS3 2.22 43 eP Pn 11 30 44.6 +1.1
baz=39
NWLT Wulai 2.24 20 eP Pn 11 30 44.5 +0.5
baz=3.0
TWE Neicheng 2.25 24 eP Pn 11 30 45.2 +1.2
baz=37
FUSB Fushanzhiwuyua 2.25 22 eP Pn 11 30 45.4 +1.1
baz=4.0
EOS2 EOS2 2.27 39 eP Pn 11 30 45.5 +1.2
baz=48
TATO Taipei 2.42 18 P Pn 11 30 48.1 +1.6
TIPB Shuangxi 2.54 25 eP Pn 11 30 49.0 +0.9
baz=35
VWUC VWUC 2.57 335 eP Pn 11 30 47.0 -1.4
baz=331
KNM Kinmen 2.69 311 eP Pn 11 30 51.0 +0.9
baz=308
JYNG Yonaguni jima 2.75 49 eP Pn 11 30 51.9 +0.9
JYNG eS Sn 11 31 25.2 +1.9
YOJ Yonaguni jima 2.81 50 P Pn 11 30 53.1 +1.3
YOJ Yonaguni jima 2.81 50 eP Pn 11 30 53.1 +1.3
baz=47
YOJ Yonaguni jima 2.81 50 eP Pn 11 30 53.0 +1.3
YOJ S Sn 11 31 26.3 +1.7
ZPLA Ao Xicun 2.96 296 eP Pn 11 30 52.6 -1.2
baz=295
HATJ Hateruma jima 3.21 64 eP Pn 11 30 57.9 +0.6
HATJ eS Sn 11 31 35.4 +0.9
IRIF Iriomote-Funau 3.28 59 P Pn 11 30 59.5 +1.3
IRIF S Sn 11 31 38.0 +1.9
JKRS Kuro-shima 3.46 62 P Pn 11 31 01.2 +0.6
JKRS S Sn 11 31 42.1 +1.5
JIJ Ishigaki jima 3.62 61 P Pn 11 31 03.4 +0.5
JIJ S Sn 11 31 44.8 +0.1
MHZQ Yeshan 3.73 337 eP Pn 11 31 03.5 -0.9
baz=334
JISG Ishigakijimahi 3.86 60 eP Pn 11 31 06.3 +0.1
JISG eS Sn 11 31 51.2 +0.6
JTJ Tarama 4.20 61 eS Sn 11 32 00.1 +1.1
JIRB Irabujima 4.67 62 eP Pn 11 31 18.6 +1.3
JIRB eS Sn 11 32 11.4 +0.9
JMJ2 Miyako jima3 4.75 63 eP Pn 11 31 19.8 +1.3
JMJ2 eS Sn 11 32 14.1 +1.4
JMJ Miyako jima 2 4.76 62 P Pn 11 31 19.9 +1.3
JOGS Gusukube 4.83 63 eP Pn 11 31 20.8 +1.2

IDC 23 11:52:15.7ε655.0, **52.98N**×**34.10E**, **h0**km, **Error ellipse: s-maj=259.0km s-min=87.0km az=26.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON** 0.3nm,0.6s,baz=208,slow=322,SNR=2.5	**4.16**	**24**	I	I	12 15 20.0	
I31KZ	**AKTYUBINSK INF** baz=286,slow=319,SNR=0.7	**15.05**	**90**	I	I	13 24 10.0	
I37NO	**I37NO** baz=148,slow=332,SNR=1.5	**17.71**	**342**	I	I	13 44 40.0	

*IDC **23** 11:52:35.0ε0.4, 6.18S×143.26E, h0km, mb5.0/26, mbtmp5.0/30, ML3.0/2, MS4.4/35, Error ellipse: s-maj=18.5km s-min=10.0km az=77.0*
*MOS **23** 11:52:36.3ε0.8, 6.19S×143.21E, h20km, mb5.3/47, Error ellipse: s-maj=11.6km s-min=5.2km az=114.1*
*BJI **23** 11:52:37.8ε0.0, 6.32S×143.57E, h44km, mb5.0/75, mB5.3/47, Ms4.7/40, Ms7 4.5/43*
*NEIC **23** 11:52:38.3ε1.8, 6.20Sε0.07×143.07Eε0.07, h14kmε3km, mb5.3/192, Mww5.0/12, Error ellipse: s-maj=10.6km s-min=9.6km az=78.0*
*NEIC **23** 11:52:40.6, 6.20S×142.96E, h20km*
*NEIC **23** 11:52:40.6, 6.20S×142.66E, h20km, Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10^16^Nm; Mrr4.72; Mθθ-3.40; Mϕϕ-1.32; Mrθ-0.21; Mθϕ1.66; Mϕr1.03; Fault plane solution: M04.64000×10^16^ NP1: ϕs307.67000°, δ49.94000°, λ101.03000°. NP2: ϕs110.81000°, δ41.30000°, λ77.18000°. Principal axes: T 4.8933, Plg80.0000°, Azm273.0000°; N -0.5165, Plg8.0000°, Azm121.0000°; P -4.3768, Plg4.0000°, Azm30.0000°;*
*GCMT **23** 11:52:41.3ε0.2, 6.32Sε0.01×143.04Eε0.01, h23km, MW5.1/106, Moment Tensor Solution. s82,c115; s106,c175; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr5.26±.15; Mθθ-4.11±.10; Mϕϕ-1.15±.10; Mrθ0.49±.14; Mθϕ2.67±.07; Mϕr2.48±.17; Best double couple: M06.02100×10^16^ NP1:ϕs322.00000°, δ53.00000°, λ118.00000°. NP2:ϕs100.00000°, δ45.00000°, λ58.00000°. Principal axes: T 6.2900, Plg68.0000°, Azm291.0000°; N -0.5380, Plg22.0000°, Azm124.0000°; P -5.7510, Plg5.0000°, Azm32.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **23** 11:52:42.2ε0.4, 6.3Sε2.2×143.3Eε.7, h42kmε3km, MS.2/55, mb5.1/55, mB5.6/27, MLv5.9/6, Mw5.2/66, Mw(mB)5.1/27, MwMwp5.0/6, Mwp5.3/6*

ISC 23 11:52:39.8±0.2, **6.31S**±0.04×**143.05E**±0.04, **h35**km, **n716**, σ1**8**/**30**/695, **mb5.2**/183, **MS4.4**/50, **23C-5D, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**2.09**	**300**	P	Pn	11 53 13.7	+1.3
MMPI	**Merauke**	**3.40**	**231**	P	Pn	11 53 33.3	+2.9
JAY	**Jayapura**	**4.44**	**328**	P	Pn	11 53 45.4	+0.7
GENI	**Genyem**	**4.68**	**322**	P	Pn	11 53 47.8	-0.2
GENI	**Genyem**	**4.68**	**322**	P	Pn	11 53 49.6	+1.6
PMG	**Port Moresby**	**5.10**	**127**	Pn	Pn	11 53 54.0	+0.2
PMG	**Port Moresby** 13nm,0.3s,baz=321,slow=7.8,SNR=47	**5.10**	**127**	Pn	Pn	11 53 53.7	-0.1
PMG	74nm,0.3s,baz=244,slow=20,SNR=11			Sn	Sn	11 54 50.9	-0.7
PMG	comp=Z,2μm,21.4s,baz=296,slow=40 158nm,0.7s			LR	LR	11 55 56.2	
MANU	**Manus Island**	**6.04**	**46**	P	Pn	11 54 13.2	+6.4
MANU	**Manus Island**	**6.04**	**46**	Pn	Pn	11 54 05.8	-0.9
COEN	**Coen** baz=7.7,SNR=12	**7.60**	**179**	P	Pn	11 54 29.7	+1.5
COEN	**Coen**	**7.60**	**179**	P	Pn	11 54 36.5	+8.3
COEN	**Coen**	**7.60**	**179**	Pn	Pn	11 54 30.5	+2.4
KAVG	**Kavieng**	**8.58**	**65**	P	Pn	11 54 48.7	+7.1
FAKI	**Fak Fak**	**11.28**	**287**	Pn	Pn	11 55 17.0	-1.6
SAUI	**Saumlaki**	**11.78**	**261**	P	Pn	11 55 25.3	-0.1
SAUI	**Saumlaki**	**11.78**	**261**	Pn	Pn	11 55 27.1	+1.7
SAUI	**Saumlaki** 893nm,0.9s,13μm	**11.78**	**261**	P	Pn	11 55 26.2	+0.8
MTSU	**Mount Surprise** baz=12,SNR=21	**11.82**	**174**	P	Pn	11 55 28.6	+2.6
MTSU	**Mount Surprise**	**11.82**	**174**	P	Pn	11 55 33.6	+7.6
KDU	**Kakadu** baz=12,SNR=118	**12.20**	**238**	P	Pn	11 55 30.2	-1.0
KDU	**Kakadu**	**12.20**	**238**	P	Pn	11 55 31.1	-0.1
SWI	**Sorong** 90nm,1.3s,1μm	**12.95**	**294**	P	Pn	11 55 39.5	-1.9
MTN	**Manton Dam** baz=13,SNR=68	**13.42**	**240**	P	Pn	11 55 46.9	-0.9
MTN	**Manton Dam**	**13.42**	**240**	P	Pn	11 55 47.3	-0.6
MTN	**Manton Dam**	**13.42**	**240**	Pn	Pn	11 55 47.2	-0.6
DRS	**Darwin Rock St**	**13.44**	**242**	P	Pn	11 55 48.0	-0.1
CTA	**Charters Tower** 0.1nm,0.3s,baz=270,slow=4.0,SNR=2.7	**14.04**	**167**	Pn	Pn	11 55 57.4	+0.9
CTA	1.2nm,0.3s,baz=270,slow=1.0,SNR=8.5			Lg	Lg	12 00 09.2	
CTA	comp=Z,3μm,19.3s,baz=180,slow=38 6.6nm,0.9s			LR	LR	12 01 37.4	
CTAO	**Charters Tower**	**14.04**	**167**	P	P	11 56 02.9	-0.9
CTAO	**Charters Tower**	**14.04**	**167**	Pn	Pn	11 55 56.3	-0.1
CTAO	**Charters Tower**	**14.04**	**167**	P	Pn	11 55 56.3	-0.1
QIS	**Mount Isa** baz=15,SNR=11	**14.55**	**193**	P	Pn	11 56 04.6	+1.3
QIS	**Mount Isa**	**14.55**	**193**	P	P	11 56 07.1	-2.3
WRAB	**Tennant Creek**	**15.96**	**211**		Pn	11 56 21.4	-0.5
WRAB	**Tennant Creek**	**15.96**	**211**	i P	Pn	11 56 19.5	-2.4
LBMI	**Labuha** 92nm,1.1s,2μm	**16.50**	**289**	P	Pn	11 56 28.0	-0.8
TNTI	**Ternate**	**17.16**	**294**	Pn	P	11 56 36.9	-1.5
TNTI	**Ternate** 30nm,1.5s	**17.16**	**294**	P	P	11 56 37.1	-1.3
SANI	**Sanana**	**17.53**	**283**	P	Pn	11 56 37.9	-3.7
SANI	**Sanana** 88nm,0.9s,2μm2μm	**17.53**	**283**	P	P	11 56 40.9	-1.6
SOEI	**Soe**	**18.91**	**258**		Pn	11 57 00.0	+1.4
SOEI	comp=Z,176nm,0.9s			lAmb	lAmb	11 57 02.6	
SOEI	**Soe** comp=Z,287nm,0.9s,comp=Z,3μm	**18.91**	**258**	P	Pn	11 56 59.8	+1.2
AS31	**Alice Springs**	**19.37**	**206**	P	Pn	11 57 05.9	+1.9
ASAR	**Alice Springs**	**19.37**	**206**	P	Pn	11 57 06.1	+2.1
ASAR	**Alice Springs**	**19.37**	**206**	P	Pn	11 57 06.1	+2.1
ASAR	**Alice Springs** comp=Z,155nm,0.8s,baz=33,slow=10.0,SNR=880	**19.37**	**206**	P	Pn	11 57 06.4	+2.4
ASAR	comp=Z,28nm,0.9s,baz=14,slow=29,SNR=5.8			S	S	12 00 32.9	-7.2
ASAR	comp=Z,0.5nm,0.3s,baz=18,slow=27,SNR=4.2			Lg	Lg	12 02 58.0	
ASAR	comp=Z,5μm,19.6s,baz=30,slow=39			LR	LR	12 05 14.2	
BATI	**Baumata** comp=Z,22nm,0.6s,baz=56,slow=9.0,SNR=8.8	**19.57**	**257**	P	Pn	11 57 07.1	+0.7
BATI	comp=Z,38nm,0.6s,baz=60,slow=22,SNR=2.8			S	S	12 00 37.4	-6.7
BATI	comp=Z,4μm,18.2s,baz=81,slow=44			LR	LR	12 06 56.7	
BATI	**Baumata** comp=Z,81nm,0.8s,comp=Z,2μmcomp=Z,3μm	**19.57**	**257**	P	Pn	11 57 06.4	0.0
GUMO	**Guam** comp=Z,350nm,20.2s,baz=196,slow=36	**19.85**	**5**	LR	LR	12 04 26.4	
QLP	**Quilpie** baz=20,SNR=7.8	**20.19**	**177**	P	Pn	11 57 14.7	+1.0
KMSI	**Cibinong** comp=Z,262nm,1.0s,comp=Z,5μm	**20.22**	**289**	P	Pn	11 57 12.0	-2.1
EIDS	**Eidsvold** baz=21,SNR=8.4	**20.45**	**159**	P	Pn	11 57 16.8	+0.1
EIDS	**Eidsvold**	**20.45**	**159**	P	Pn	11 57 17.1	+0.4
FITZ	**Fitzroy Crossi** baz=21,SNR=70	**20.63**	**234**	P	Pn	11 57 17.8	-1.0
FITZ	**Fitzroy Crossi**	**20.63**	**234**	P	Pn	11 57 17.4	-1.5
MMRI	**Maumere**	**20.76**	**262**	P	Pn	11 57 18.4	-2.0
MMRI	**Maumere** comp=Z,96nm,1.8s	**20.76**	**262**	P	P	11 57 18.2	+0.3
LUWI	**Luwuk**	**20.89**	**284**		Pn	11 57 21.3	-0.7
LUWI	**Luwuk** comp=Z,197nm,1.2s,comp=Z,3μm	**20.89**	**284**	P	Pn	11 57 21.1	-0.9
EDFI	**Ende, Flores** comp=Z,53nm,1.1s,comp=Z,1μm	**21.31**	**262**	P	P	11 57 22.8	-1.1
DAV	**Davao City (W)** comp=Z,166nm,0.4s,baz=76,slow=12,SNR=0.8 comp=Z,166nm,0.4s	**21.92**	**307**	P	P	11 57 32.2	+1.8
MRSI	**Marisa** comp=Z,69nm,1.0s,comp=Z,1μm	**22.12**	**287**	P	P	11 57 34.2	+1.7
BASI	**Baing, Sumba** comp=Z,214nm,1.4s,comp=Z,3μm	**22.57**	**259**	P	P	11 57 37.9	+0.6
BKSI	**Bukiumba** comp=Z,189nm,1.1s,comp=Z,2μm	**22.83**	**271**	P	P	11 57 41.0	+0.9
KAPI	**Kappang**	**23.22**	**272**	P	P	11 57 45.2	+1.2
KAPI	**Kappang**	**23.22**	**272**c	i P	P	11 57 45.4	+1.4
KAPI	comp=Z,364nm,1.3s			pmax	pmax		
TTSI	**Tana Toraja** comp=Z,110nm,1.9s,comp=Z,3μm	**23.37**	**277**	P	P	11 57 47.8	+2.2
WRKA	**Warakurna** baz=24,SNR=205	**23.37**	**216**	P	P	11 57 46.0	+0.5
TOLI2	**Tolitoli**	**23.42**	**288**	P	P	11 57 45.4	-0.6
MPSI	**Mapaga** comp=Z,35nm,1.7s,comp=Z,2μm	**24.03**	**285**	P	P	11 57 52.0	+0.2
KOUNC	**Koumac, New Ca**	**24.99**	**127**	P	P	11 58 02.5	+2.0
KOUNC	comp=Z,53nm,1.0s			lAmb	lAmb	11 58 04.2	
PLAI	**Plampang** comp=Z,57nm,0.8s,comp=Z,998nm	**25.17**	**263**	P	P	11 58 01.4	-0.8
CMSA	**Cobar Meteorol** baz=25,SNR=9.2	**25.22**	**175**	P	P	11 58 04.7	+2.3
ARMA	**Armidale** baz=26,SNR=5.7	**25.30**	**162**	P	P	11 58 05.3	+2.0
ARMA	**Armidale**	**25.30**	**162**	P	P	11 58 05.5	+2.1
STKA	**Stephens Creek** baz=26,SNR=11	**25.47**	**183**	P	P	11 58 05.2	+0.5
STKA	**Stephens Creek**	**25.47**	**183**	P	P	11 58 05.0	+0.3
STKA	**Stephens Creek**	**25.47**	**183**	i P	P	11 58 04.2	-0.5
STKA	**Stephens Creek** comp=Z,13nm,0.8s,baz=352,slow=8.9,SNR=19	**25.47**	**183**	P	P	11 58 05.3	+0.6
STKA	comp=Z,0.1nm,0.3s,baz=271,slow=23,SNR=1.2			Lg	Lg	12 06 11.6	
STKA	comp=Z,2μm,18.5s,baz=357,slow=40 comp=Z,13nm,0.8s			LR	LR	12 09 33.4	
TWSI	**Taliwang, Sumb** comp=Z,22nm,1.1s	**26.05**	**263**	P	P	11 58 09.1	-1.1
PSA00	**Pilbara Seismi**	**27.09**	**234**	P	P	11 58 19.8	+0.3
PSA00	**Pilbara Seismi**	**27.09**	**234**	P	P	11 58 20.1	+0.6
PSA00	comp=Z,38nm,1.1s			lAmb	lAmb	11 58 40.6	
BBOO	**Buckleboo** baz=27,SNR=5.3	**27.16**	**193**	P	P	11 58 20.6	+0.6
BBOO	**Buckleboo**	**27.16**	**193**	P	P	11 58 20.1	+0.1
HTT	**Hallett** baz=27,SNR=12	**27.25**	**188**	P	P	11 58 21.7	+0.8
DZM	**Mont Dzumac**	**27.50**	**127**	P	P	11 58 23.2	0.0
DZM	**Mont Dzumac** comp=Z,92nm,1.3s	**27.50**	**127**	eP	P	11 58 25.0	+1.7
DZM	comp=Z,379nm,24.8s			eS	S	12 03 03.3	+1.2
DZM	comp=Z,819nm,22.6s			eLR	LR	12 05 18.9	
DZM	**Mont Dzumac** comp=Z,20nm,1.1s,baz=274,slow=16,SNR=2.8	**27.50**	**127**	P	P	11 58 22.2	-1.1
DZM	comp=Z,605nm,18.2s,baz=14,slow=38 comp=Z,20nm,1.1s			LR	LR	12 09 58.6	
FORT	**Forrest**	**28.11**	**208**	P	P	11 58 29.4	+0.8
FORT	comp=Z,58nm,0.7s			lAmb	lAmb	11 59 22.4	
JAGI	**Jajag, Banyuwa** comp=Z,79nm,1.5s	**28.73**	**264**	P	P	11 58 32.9	-1.3
JAGI				lAmb	lAmb	11 58 33.6	
UGM	**Wanagama**	**32.31**	**265**	P	P	11 59 05.9	0.0

SMRI	**Semarang**	**32.39 267**	P	**P**	**11 59 06.0**	**-0.6**		
SMRI	**Semarang**	**32.39 267**	P	**P**	**11 59 06.1**	**-0.6**		
	comp=Z,133nm,2.9s							
KPJI	**Karang Pucung**	**33.89 266**	P	**P**	**11 59 20.2**	**+0.6**		
	comp=Z,62nm,1.2s							
CMJI	**Cimerak**	**34.36 265**	P	**P**	**11 59 22.6**	**-1.2**		
	comp=Z,131nm,1.2s							
LEM	**Lembang**	**35.20 267**	P	**P**	**11 59 31.6**	**+0.4**		
	comp=Z,45nm,1.1s							
NWAO	**Narrogin (SRO)**	**35.74 219**	LR	LR	12 14 29.6			
	comp=Z,980nm,19.7s,baz=42,slow=36							
MSVF	**Nonsavu**	**35.99 112**	*i* P	**P**	**11 59 37.4**	**-0.5**		
TPUB	**Ta-pu**	**36.69 324**	P	**P**	**11 59 43.4**	**-0.2**		
NACB	**Ninganchiao**	**36.82 326**	P	**P**	**11 59 44.6**	**-0.2**		
NACB			IAmb	IAmb	11 59 46.3			
	comp=Z,102nm,1.4s							
YHNB	**Yeheng**	**37.34 326**	P	**P**	**11 59 49.5**	**+0.3**		
YHNB			IAmb	IAmb	12 00 00.1			
	comp=Z,48nm,1.2s							
JHJ	**Hachijo jima 2**	**39.34 356**	LR	LR	12 13 14.7			
	comp=Z,663nm,21.6s,baz=156,slow=32							
MYKOM	**Kota Tinggi**	**39.95 280**	P	**P**	**12 00 12.3**	**+1.1**		
JMN	**Monobe**	**40.76 348**	P	**P**	**12 00 17.5**	**-0.1**		
JMN			IAmb	IAmb	12 00 18.7			
	comp=Z,69nm,1.5s							
JNU	**Nakatsue**	**40.88 344**	P	**P**	**12 00 18.5**	**-0.2**		
JNU	**Nakatsue**	**40.88 344**	P	**P**	**12 00 18.0**	**-0.7**		
	comp=Z,7.2nm,0.7s,baz=161,slow=3.2,SNR=6.8							
	comp=Z,7.2nm,0.7s							
QIZ	**Qiongzhong**	**41.28 308**	P	**P**	**12 00 22.6**	**+0.4**		
QIZ			S	**S**	**12 06 33.9**	**-0.4**		
QIZ			sS	**sS**	**12 06 53.1**	**+1.3**		
QIZ			LR	LR				
	comp=Z,310nm,22.9s							
QIZ			LR	LR				
	comp=Z,190nm,17.9s							
QIZ			LR	LR				
	comp=Z,370nm,23.3s							
PDSI	**Padang**	**42.82 275**	P	**P**	**12 00 34.3**	**-0.5**		
	comp=Z,30nm,0.6s							
MJAR	**Matsushiro Arr**	**42.87 354**	P	**P**	**12 00 33.4**	**-1.4**		
	comp=Z,2.1nm,0.5s,baz=179,slow=8.2,SNR=8.4							
MJAR			PcP	**PcP**	**12 02 24.6**	**-0.9**		
	comp=Z,3.5nm,1.0s,baz=176,slow=3.8,SNR=4.6							
MJAR			LR	LR	12 16 57.9			
	comp=Z,309nm,21.1s,baz=139,slow=34							
	comp=Z,2.1nm,0.5s							
MAJO	**Matsushiro**	**42.87 354**	P	**P**	**12 00 33.5**	**-1.3**		
MAJO	**Matsushiro**	**42.87 354**	*i* P	**P**	**12 00 32.8**	**-2.0**		
MAJO			pmax	pmax				
	comp=Z,29nm,1.6s							
MJB9	**Matsu-Tunnel**	**42.87 354**	P	**P**	**12 00 34.5**	**-0.4**		
UBPT	**Khong Chiam**	**42.97 300**	P	**P**	**12 00 35.9**	**-0.1**		
IPM	**Ipoh**	**43.30 283**	P	**P**	**12 00 40.0**	**+1.2**		
KULM	**Kulim**	**43.86 284**	P	**P**	**12 00 42.9**	**-0.4**		
KULM			IAmb	IAmb	12 00 45.4			
	comp=Z,81nm,1.9s							
DCZ	**Deep Cove**	**44.27 156**	P	**P**	**12 00 48.0**	**+2.1**		
URZ	**Urewera**	**44.31 141**	LR	LR	12 19 46.9			
	comp=Z,1µm,18.1s,baz=84,slow=37							
JSD	**Sado**	**44.34 355**	P	**P**	**12 00 46.2**	**-0.4**		
JSD			IAmb	IAmb	12 01 29.0			
	comp=Z,60nm,1.4s							
RTZ	**Ruatahuna**	**44.44 141**	P	**P**	**12 00 49.8**	**+2.1**		
RTZ			IAmb	IAmb	12 00 49.8			
	comp=Z,35nm,0.9s							
BKZ	**Black Stump Fm**	**44.48 142**	P	**P**	**12 00 50.3**	**+2.4**		
TUWZ	**Tuamarina**	**44.49 147**	P	**P**	**12 00 49.6**	**+1.7**		
TCW	**Tory Channel**	**44.52 146**	P	**P**	**12 00 49.3**	**+1.2**		
LTZ	**Lake Taylor**	**44.56 149**	P	**P**	**12 00 50.6**	**+2.2**		
LTZ			IAmb	IAmb	12 00 51.3			
	comp=Z,63nm,1.3s							
NJ2	**Nanjing**	**44.58 330**	*e*P	P	12 00 51.4	+2.8		
NJ2			pmax	pmax				
	comp=Z,11nm,0.6s							
NJ2			LR	LR				
	comp=Z,450nm,15.7s							
NJ2			LR	LR				
	comp=Z,230nm,15.6s							
NJ2			LR	LR				
	comp=Z,490nm,16.6s							
MLZ	**Mavora Lakes**	**44.59 155**	P	**P**	**12 00 51.1**	**+2.5**		
RPZ	**Rata Peaks**	**44.64 151**	P	**P**	**12 00 51.0**	**+2.0**		
RPZ			IAmb	IAmb	12 00 52.2			
	comp=Z,36nm,0.9s							
RPZ	**Rata Peaks**	**44.64 151**	P	**P**	**12 00 50.3**	**+1.3**		
	comp=Z,31nm,0.8s,baz=359,slow=1.6,SNR=10.0							
RPZ			LR	LR	12 19 43.4			
	comp=Z,668nm,18.1s,baz=346,slow=36							
	comp=Z,31nm,0.8s							
BSWZ	**Blackbirch Sta**	**44.65 147**	P	**P**	**12 00 50.8**	**+1.7**		
GULI	**GuiLin**	**44.69 316**	⇓P	P	12 00 52.5	+2.9		
LBZ	**Lake Benmore**	**44.73 152**	P	**P**	**12 00 51.2**	**+1.4**		
TJN	**Taejon**	**44.94 342**	*i* P	**P**	**12 00 49.6**	**-1.8**		
CNSH	**ChangSha**	**44.95 321**	⇑P	**P**	**12 00 51.3**	**-0.4**		
CNSH			S	**S**	**12 07 19.3**	**-8.4**		
CNSH			LR	LR				
	comp=Z,210nm,16.1s							
KSAR	**Wonju Array Be**	**45.77 343**	P	**P**	**12 00 58.8**	**+0.8**		
KSAR	**Wonju Array Be**	**45.77 343**	P	**P**	**12 00 58.8**	**+0.8**		
KSRS	**Korea Array**	**45.77 343**	P	**P**	**12 00 58.3**	**+0.3**		
	comp=Z,17nm,1.1s,baz=164,slow=9.3,SNR=46							
KSRS			LR	LR	12 17 35.9			
	comp=Z,221nm,21.7s,baz=150,slow=33							
	comp=Z,17nm,1.1s							
WHN	**Wuhan**	**45.81 325**	⇓P	**P**	**12 01 00.6**	**+2.2**		
WHN			pP	**pP**	**12 01 07.5**	**-1.8**		
WHN			S	S	12 07 46.5	+6.4		
WHN			pmax	pmax				
	comp=Z,110nm,1.2s							
WHN			LR	LR				
	comp=Z,720nm,15.2s							
KS19	**Wonju Array Si**	**45.83 343**	P	**P**	**12 00 58.7**	**+0.2**		
GSI	**Gunungsitoli**	**46.02 278**	P	**P**	**12 01 00.2**	**-0.2**		
	comp=Z,33nm,1.9s							
INCN	**Inchon**	**46.18 342**	P	**P**	**12 01 01.7**	**+0.4**		
INCN			IAmb	IAmb	12 01 16.0			
	comp=Z,61nm,1.4s							
INCN	**Inchon**	**46.18 342**	P	**P**	**12 01 01.7**	**+0.4**		
INCN			pmax	pmax				
	comp=Z,61nm,1.4s							
KCSI	**Kotacane, Aceh**	**46.25 281**	P	**P**	**12 01 02.1**	**-0.1**		
	comp=Z,16nm,1.5s							
JTM	**Tenmabayashi**	**46.90 358**	P	**P**	**12 01 06.8**	**-0.1**		
SLVN	**Son La**	**47.22 307**	P	**P**	**12 01 11.2**	**+1.5**		
SLVN			IAmb	IAmb	12 01 12.5			
	comp=Z,41nm,1.9s							
GYA	**Guiyang**	**48.01 314**	⇓*i* P	**P**	**12 01 18.3**	**+2.4**		
GYA			pP	sP	12 01 33.1	+2.0		
GYA			pmax	pmax				
	comp=Z,32nm,1.2s							
GYA			pmax	pmax				
	comp=Z,310nm,5.2s							
ENH	**Enshi**	**48.56 320**	P	**P**	**12 01 20.8**	**+0.8**		
ENH			IAmb	IAmb	12 01 38.5			
	comp=Z,30nm,1.1s							
PHRA	**Phrae**	**48.89 301**	P	**P**	**12 01 24.0**	**+1.3**		
CRAI	**Chiangrai**	**49.55 303**	P	**P**	**12 01 28.8**	**+1.1**		
CRAI			IAmb	IAmb	12 01 30.5			
	comp=Z,76nm,1.9s							
LYN	**LuoYang**	**49.86 327**	⇑P	**P**	**12 01 30.6**	**+0.9**		
LYN			S	**S**	**12 08 40.4**	**+3.0**		
LYN			sS	sS	12 09 00.4	+5.2		
LYN			SS	**SS**	**12 12 08.0**	**-2.6**		
LYN			pmax	pmax				
	comp=Z,39nm,1.2s							
LYN			pmax	pmax				
	comp=Z,250nm,5.0s							
LYN			LR	LR				
	comp=Z,480nm,16.9s							
LYN			LR	LR				
	comp=Z,220nm,16.6s							
LYN			LR	LR				
	comp=Z,640nm,16.5s							
CM31	**Chiang Mai Arr**	**49.97 300**	P	**P**	**12 01 32.6**	**+1.7**		
CM31			IAmb	IAmb	12 01 33.8			
	comp=Z,48nm,1.4s							
CMAR	**Chiang Mai Arr**	**49.97 300**	P	**P**	**12 01 32.0**	**+1.1**		
CMAR	**Chiang Mai Arr**	**49.97 300**	P	**P**	**12 01 32.0**	**+1.1**		
CMAR	**Chiang Mai Arr**	**49.97 300**	P	**P**	**12 01 32.5**	**+1.5**		
	comp=Z,7.5nm,0.6s,baz=126,slow=6.0,SNR=47							
	comp=Z,7.5nm,0.6s							
KMI	**Kunming**	**50.13 310**	⇑P	**P**	**12 01 34.6**	**+2.3**		
KMI			pP	sP	12 01 49.8	+2.3		
KMI			S	**S**	**12 08 44.4**	**+2.4**		
KMI			pmax	pmax				
	comp=Z,42nm,1.2s							
KMI			LR	LR				
	comp=Z,190nm,19.9s							
KMI			LR	LR				
	comp=Z,200nm,20.6s							
KMI			LR	LR				
	comp=Z,320nm,29.4s							
ASAJ	**Asahikawa**	**50.20 360**	P	**P**	**12 01 31.5**	**-0.6**		
ASAJ			pmax	pmax				
	comp=Z,49nm,1.5s							
ASAJ	**Asahikawa**	**50.20 360**	P	**P**	**12 01 32.1**	**0.0**		
	comp=Z,4.9nm,0.6s,baz=190,slow=3.4,SNR=7.2							
ASAJ			LR	LR	12 26 30.8			
	comp=Z,156nm,19.2s,baz=184,slow=41							
	comp=Z,4.9nm,0.6s							
JKA	**Kamikawa-asahi**	**50.20 360**	P	**P**	**12 01 31.4**	**-0.7**		
JKA			IAmb	IAmb	12 01 33.5			
	comp=Z,49nm,1.5s							
HNS	**HongShan**	**50.90 331**	⇑P	**P**	**12 01 37.8**	**+0.3**		
HNS			pP	**sP**	**12 01 51.4**	**-1.4**		
HNS			*e*S	**S**	**12 08 44.9**	**-6.8**		
HNS			pmax	pmax				
	comp=Z,17nm,1.6s							
HNS			LR	LR				
	comp=Z,170nm,18.3s							
HNS			LR	LR				
	comp=Z,310nm,19.1s							
HNS			LR	LR				
	comp=Z,320nm,16.7s							
SNY	**Shenyang**	**51.11 341**	⇑P	P	12 01 43.3	+4.3		
SNY			S	**S**	**12 08 54.8**	**+0.3**		
SNY			pmax	pmax				
	comp=Z,7.0nm,0.5s							
SNY			pmax	pmax				
	comp=Z,89nm,5.8s							
SNY			LR	LR				
	comp=Z,240nm,14.5s							
SNY			LR	LR				
	comp=Z,240nm,11.0s							
SNY			LR	LR				
	comp=Z,280nm,16.2s							
USA0B	**Ussuriysk Arra**	**51.26 350**	P	**P**	**12 01 41.0**	**+0.9**		
USA0B	**Ussuriysk Arra**	**51.26 350**	P	**P**	**12 01 40.6**	**+0.5**		
USRK	**Ussuriysk Ar.**	**51.26 350**	P	**P**	**12 01 40.5**	**+0.3**		
USRK	**Ussuriysk Ar.**	**51.26 350**	P	**P**	**12 01 40.3**	**+0.2**		
	comp=Z,12nm,0.9s,baz=165,slow=7.9,SNR=10							
USRK			LR	LR	12 20 19.6			
	comp=Z,263nm,21.8s,baz=150,slow=32							
	comp=Z,12nm,0.9s							
XAN	**Xi'an**	**51.51 323**	⇑P	**P**	**12 01 42.9**	**+0.6**		
XAN			pP	sP	12 01 59.1	+1.6		
XAN			S	**S**	**12 09 04.8**	**+4.4**		
XAN			SS	**SS**	**12 12 40.4**	**+3.4**		
XAN			pmax	pmax				
	comp=Z,49nm,1.5s							
XAN			LR	LR				
	comp=Z,180nm,22.0s							
XAN			LR	LR				
	comp=Z,200nm,22.0s							
XAN			LR	LR				
	comp=Z,190nm,21.3s							
PZH	**PanZhiHua**	**51.64 311**	P	**P**	**12 01 45.3**	**+1.8**		
PZH			S	**S**	**12 09 01.8**	**-0.8**		
PZH			pmax	pmax				
	comp=Z,10.0nm,1.4s							
PZH			pmax	pmax				
	comp=Z,120nm,4.7s							
PZH			LR	LR				
	comp=Z,150nm,15.7s							
PZH			LR	LR				
	comp=Z,150nm,15.2s							
PZH			LR	LR				
	comp=Z,250nm,15.3s							
MDJ	**Mudanjiang**	**52.12 348**	P	P	12 01 51.6	+5.0		
MDJ			pmax	pmax				
	comp=Z,9.0nm,1.0s							
MDJ			pmax	pmax				
	comp=Z,160nm,5.6s							
MDJ	**Mudanjiang**	**52.12 348**	P	**P**	**12 01 46.5**	**-0.1**		
JOHN	**Johnston Islan**	**52.18 63**	P	**P**	**12 01 47.3**	**-0.2**		
BJT	**Baijiatuau**	**52.34 334**	P	**P**	**12 01 48.9**	**+0.6**		
BJT	**Baijiatuau**	**52.34 334**	P	**P**	**12 01 48.9**	**+0.6**		
BJT			pmax	pmax				
	comp=Z,25nm,1.4s							
BJI	**Beijing**	**52.36 334**	P	**P**	**12 01 48.8**	**+0.4**		
BJI			sP	sP	12 02 09.3	+5.7		
BJI			pmax	pmax				
	comp=Z,6.0nm,1.4s							
CN2	**Changchun**	**52.36 344**	*e*P	**P**	**12 01 48.6**	**+0.2**		
CN2			pmax	pmax				
	comp=Z,10.0nm,0.7s							
CD2	**Chengdu**	**52.74 317**	P	**P**	**12 01 53.0**	**+1.5**		
CD2			S	**S**	**12 09 21.6**	**+4.1**		
CD2			pmax	pmax				
	comp=Z,40nm,0.6s							
CD2			pmax	pmax				
	comp=Z,200nm,4.7s							
CD2			LR	LR				
	comp=Z,150nm,10.3s							
CD2			LR	LR				
	comp=Z,150nm,8.8s							
CD2			LR	LR				
	comp=Z,300nm,14.2s							
YSS	**Yuzh-Sakhalins**	**53.03 360**	P	**P**	**12 01 53.2**	**-0.1**		
YSS	**Yuzh-Sakhalins**	**53.03 360**	*e*P	**P**	**12 01 52.6**	**-0.6**		
YSS			*e*S	**S**	**12 09 14.1**	**-6.6**		
YSS			pmax	pmax				
	comp=Z,10.0nm,0.8s							
TNCH	**TengChong**	**53.35 308**	⇑P	**P**	**12 01 57.9**	**+1.6**		
TNCH			PP	**PP**	**12 03 57.4**	**+0.5**		
TNCH			S	**S**	**12 09 23.5**	**-2.7**		
TNCH			pmax	pmax				
	comp=Z,45nm,1.6s							
TNCH			pmax	pmax				
	comp=Z,140nm,4.9s							
TNCH			LR	LR				
	comp=Z,84nm,6.2s							
TNCH			LR	LR				
	comp=Z,120nm,4.8s							
TNCH			LR	LR				
	comp=Z,150nm,13.4s							
BNX	**BinXian**	**53.67 346**	⇑P	**P**	**12 01 57.8**	**-0.2**		
BNX			pmax	pmax				
	comp=Z,33nm,1.2s							
BNX			pmax	pmax				
	comp=Z,240nm,6.5s							
HHC	**Hu-ho-hao-te**	**55.12 331**	*e*P	**P**	**12 02 09.4**	**+0.6**		
HHC			S	**S**	**12 09 44.8**	**-4.6**		
HHC			sS	sS	12 10 13.4	+5.8		
HHC			SS	**SS**	**12 13 31.9**	**-2.0**		
HHC			pmax	pmax				
	comp=Z,19nm,0.8s							
HHC			pmax	pmax				
	comp=Z,140nm,5.0s							
HHC			LR	LR				
	comp=Z,290nm,15.3s							
HHC			LR	LR				
	comp=Z,290nm,16.8s							
HHC			LR	LR				
	comp=Z,480nm,16.8s							
XLT	**XiLinHaoTe**	**55.60 337**	*e*P	**P**	**12 02 13.5**	**+1.3**		
XLT			pmax	pmax				
	comp=Z,5.0nm,0.9s							
XLT			pmax	pmax				
	comp=Z,110nm,3.6s							
BTO	**Baotou**	**55.69 330**	*e*P	**P**	**12 02 15.3**	**+2.4**		
BTO			pP	**sP**	**12 02 28.3**	**+0.1**		
BTO			sP	pP	12 02 33.4	+10		
BTO			PP	**PP**	**12 04 21.8**	**+4.3**		
BTO			S	**S**	**12 09 59.0**	**+2.0**		
BTO			sS	**sS**	**12 10 20.1**	**+4.9**		
BTO			SS	**SS**	**12 13 44.0**	**+1.1**		
BTO			pmax	pmax				
	comp=Z,29nm,0.8s							
BTO			pmax	pmax				
	comp=Z,340nm,6.3s							
BTO			LR	LR				
	comp=Z,510nm,16.6s							
BTO			LR	LR				
	comp=Z,500nm,19.4s							
BTO			LR	LR				
	comp=Z,700nm,18.4s							
LZH	**Lanzhou**	**55.95 322**	⇑*i* P	**P**	**12 02 16.8**	**+1.9**		
LZH			pP	sP	12 02 31.1	+0.8		
LZH			sS	sS	12 10 28.0	+9.0		
LZH			pmax	pmax				
	comp=Z,43nm,1.2s							
LZH			LR	LR				
	comp=Z,200nm,13.7s							
LZH			LR	LR				
	comp=Z,320nm,12.7s							
LZH			LR	LR				
	comp=Z,400nm,14.9s							
KLR	**Kul'dur**	**56.18 351**	*ce*P	**P**	**12 02 16.6**	**+0.5**		
KLR			pmax	pmax				
	comp=Z,28nm,1.7s							
KLR	**Kul'dur**	**56.18 351**	P	**P**	**12 02 16.0**	**-0.1**		
	comp=Z,3.8nm,0.7s,baz=158,slow=6.4,SNR=14							
KLR			LR	LR	12 22 27.3			
	comp=Z,222nm,21.1s,baz=156,slow=32							
	comp=Z,3.8nm,0.7s							
TYV	**Tymovskoe**	**56.95 360**	*e*P	**P**	**12 02 21.9**	**+0.4**		
TYV			*e*S	**S**	**12 10 15.6**	**+2.6**		
TYV			pmax	pmax				
	comp=Z,9.0nm,0.7s							
TYV			pmax	pmax				
	comp=Z,100nm,3.1s							
TYV			smax	smax				
	comp=N,100nm,5.8s							
TYV			smax	smax				
	comp=E,200nm,5.8s							
RAR	**Rarotonga**	**57.18 111**	LR	LR	12 26 06.9			
	comp=E,70nm,18.5s,baz=280,slow=35							
HEH	**HeiHe**	**57.94 348**	*e*P	**P**	**12 02 28.4**	**-0.1**		
HEH			pmax	pmax				
	comp=E,19nm,1.7s							
HEH			pmax	pmax				
	comp=E,290nm,5.1s							
HEH			LR	LR				
	comp=E,490nm,18.9s							
HEH			LR	LR				
	comp=E,680nm,17.0s							
HEH			LR	LR				
	comp=E,330nm,11.5s							
HIA	**Hailar**	**58.97 342**	P	**P**	**12 02 36.1**	**+0.4**		
HIA	**Hailar**	**58.97 342**	*i* P	**P**	**12 02 33.8**	**-2.0**		
HIA			pmax	pmax				
	comp=Z,16nm,1.5s							
PEA0B	**Petropavlovsk-**	**60.48 10**	P	**P**	**12 02 46.8**	**+0.7**		
PEA0B	**Petropavlovsk-**	**60.48 10**	*i* P	**P**	**12 02 45.5**	**-0.6**		
PETK	**Petropavlovsk-**	**60.48 10**	P	**P**	**12 02 46.0**	**-0.1**		
PETK	**Petropavlovsk-**	**60.48 10**	P	**P**	**12 02 45.9**	**-0.2**		
	comp=Z,24nm,0.9s,baz=159,slow=6.3,SNR=29							
	comp=Z,24nm,0.9s							
GTA	**Gaotai**	**60.53 322**	P	**P**	**12 02 48.3**	**+1.5**		
GTA			pmax	pmax				
	comp=Z,15nm,1.3s							
GTA			LR	LR				
	comp=Z,170nm,14.7s							
GTA			LR	LR				
	comp=Z,220nm,17.5s							
GTA			LR	LR				
	comp=Z,210nm,16.7s							
PET	**Petropavlovsk**	**60.58 11**	*e*P	P	12 02 51.9	+5.3		
PET			*e*S	S	12 11 06.7	+6.6		
PET			pmax	pmax				
	comp=Z,100nm,14.6s							
PET			MLR	MLR				
	comp=Z,200nm,18.0s							
ZEA	**Zeya**	**61.29 349**	*e*P	**P**	**12 02 51.9**	**+0.4**		
ZEA			pmax	pmax				
	comp=N,10.0nm,1.3s							
ZEA			pmax	pmax				
	comp=Z,30nm,1.3s							
ZEA			MLR	MLR				
	comp=Z,200nm,15.0s							
LSA	**Lhasa**	**61.33 309**	P	**P**	**12 02 55.0**	**+2.1**		
LSA			IAmb	IAmb	12 02 55.7			
	comp=Z,20nm,1.1s							
LSA	**Lhasa**	**61.33 309**	P	**P**	**12 02 55.0**	**+2.1**		
LSA			pmax	pmax				
	comp=Z,19nm,1.1s							
GOMU	**GeErMu**	**61.88 317**	P	**P**	**12 02 58.3**	**+2.0**		
GOMU			pmax	pmax				
	comp=Z,11nm,1.2s							
ULN	**Ulaanbaatar**	**62.56 334**	P	**P**	**12 03 01.4**	**+1.0**		
ULN	**Ulaanbaatar**	**62.56 334**	*ce*P	**P**	**12 03 01.7**	**+1.3**		
ULN			pmax	pmax				
	comp=Z,32nm,2.5s							
SONM	**Songino Array**	**62.83 333**	P	**P**	**12 03 03.1**	**+0.9**		
SONM	**Songino Array**	**62.83 333**	P	**P**	**12 03 03.1**	**+0.9**		
SONM			pmax	pmax				
	comp=Z,15nm,1.3s							
SONM	**Songino Array**	**62.83 333**	P	**P**	**12 03 02.9**	**+0.7**		
	comp=Z,8.2nm,1.2s,baz=157,slow=7.5,SNR=25							
SONM			LR	LR	12 30 16.9			
	comp=Z,220nm,19.4s,baz=179,slow=36							
	comp=Z,8.2nm,1.2s							
PALK	**Pallekele**	**63.64 281**	LR	LR	12 33 15.8			
	comp=Z,130nm,20.6s,baz=222,slow=38							
CASY	**Casey**	**63.96 194**	P	**P**	**12 03 10.8**	**+1.6**		
CASY			IAmb	IAmb	12 03 12.4			
	comp=Z,32nm,1.0s							
SHEM	**Shemya Is, Ala**	**64.46 20**	LR	LR	12 25 47.0			
	comp=Z,743nm,21.6s,baz=147,slow=31							
MA2	**Magadan**	**65.96 4**	P	**P**	**12 03 22.0**	**-0.3**		
MA2	**Magadan**	**65.96 4**	*ce*P	**P**	**12 03 22.6**	**+0.3**		
MA2			pmax	pmax				
	comp=Z,44nm,1.0s							
MA2	**Magadan**	**65.96 4**	P	**P**	**12 03 21.9**	**-0.3**		
	comp=Z,16nm,0.6s,baz=169,slow=6.1,SNR=24							
MA2			LR	LR	12 29 26.0			
	comp=Z,81nm,21.1s,baz=189,slow=34							
	comp=Z,16nm,0.6s							
ZAK	**Zakamensk**	**66.09 333**	*e*P	**P**	**12 03 23.6**	**+0.2**		
ZAK			pmax	pmax				
	comp=Z,22nm,1.4s							
PPT	**Papeete**	**66.58 106**	LR	LR	12 28 01.3			
	comp=Z,162nm,21.7s,baz=278,slow=32							
PPT2	**Papeete2**	**66.58 106**	*e*P	P	12 03 19.4	-7.8		
	comp=Z,38nm,24.2s							
PPT2			*e*S	**S**	**12 12 09.8**	**-6.6**		
	comp=Z,88nm,22.8s							
PPT2			*e*SS	**SS**	**12 16 38.0**	**+3.9**		
	comp=Z,131nm,23.5s							
PPT2			*e*LQ	LQ	12 20 36.1			
	comp=Z,478nm,27.8s							
PPT2			*e*LR	LR	12 23 33.4			
	comp=Z,472nm,24.0s							
PPT2			*e*LR	LR	12 23 37.5			
	comp=Z,366nm,24.2s							
HYB	**Hyderabad**	**67.90 292**	*e*P	**P**	**12 03 35.8**	**+0.3**		
MOY	**Mondy**	**68.02 333**	*e*P	**P**	**12 03 36.9**	**+1.2**		
MOY			pmax	pmax				
	comp=Z,33nm,1.5s							
BOD	**Bodaibo**	**68.11 344**	*e*P	**P**	**12 03 35.7**	**-0.2**		
BOD			pmax	pmax				
	comp=Z,19nm,1.8s							
YAK	**Yakutsk**	**68.92 353**	*ce*P	**P**	**12 03 42.4**	**+1.5**		
YAK			pmax	pmax				
	comp=Z,11nm,0.4s							
YAK	**Yakutsk**	**68.92 353**	P	**P**	**12 03 40.9**	**0.0**		
	comp=Z,21nm,0.4s,baz=121,slow=0.4,SNR=5.9							
YAK			LR	LR	12 32 25.6			
	comp=Z,148nm,19.9s,baz=150,slow=35							
	comp=Z,21nm,0.4s							
SEY	**Seymchan**	**69.42 5**	*ce*P	**P**	**12 03 44.1**	**+0.2**		
SEY			pmax	pmax				
	comp=Z,28nm,1.0s							
SEY	**Seymchan**	**69.42 5**	P	**P**	**12 03 43.8**	**-0.2**		
	comp=Z,19nm,1.1s,baz=175,slow=5.3,SNR=44							
	comp=Z,19nm,1.1s							
WMQ	**Urumqi**	**70.51 321**	*e*P	**P**	**12 03 52.5**	**+1.3**		
WMQ			pP	PcP	12 04 09.1	-3.2		
WMQ			pmax	pmax				
	comp=Z,28nm,1.1s							
WMQ			pmax	pmax				
	comp=Z,140nm,4.1s							
WMQ			LR	LR				
	comp=Z,100nm,21.3s						

baz=323
ZSN Zaisan 74.01 323 *e*P **P** **12 04 12.3 +0.4**
MK31 Makanchi Array 75.27 322 P **P** **12 04 20.4 +1.1**
MK31 IAmb IAmb 12 04 21.7
comp=Z,41nm,1.2s
MK31 Makanchi Array 75.27 322 P **P** **12 04 20.4 +1.1**
MK31 pmax pmax
comp=Z,41nm,1.2s
MKAR Makanchi Array 75.27 322 P **P** **12 04 20.4 +1.1**
comp=Z,12nm,0.6s,baz=102,slow=7.9,SNR=103
comp=Z,12nm,0.6s
MAKZ Makanchi 75.47 322 P **P** **12 04 21.5 +1.0**
MAKZ Makanchi 75.47 322 P **P** **12 04 21.5 +1.0**
MAKZ pmax pmax
comp=Z,53nm,1.1s
SHLS Shalkode 75.57 317 *e*P **P** **12 04 20.0 -1.2**
comp=Z,30nm,1.2s,baz=318
SHLS Shalkode 75.57 317 *e*P **P** **12 04 20.0 -1.2**
SHLS pmax pmax
comp=Z,30nm,1.2s
PDGK Podgornoye 75.62 318 P **P** **12 04 21.8 +0.3**
UZB Uzynbulak 75.86 317 *e*P **P** **12 04 23.5 +0.5**
comp=Z,22nm,1.3s,baz=317
UZB Uzynbulak 75.86 317 *e*P **P** **12 04 23.4 +0.5**
UZB pmax pmax
comp=Z,22nm,1.3s
BILL Bilibino 75.97 9 P **P** **12 04 23.1 +0.3**
BILL IAmb IAmb 12 04 24.4
comp=Z,26nm,1.2s
BILL Bilibino 75.97 9 *e*P **P** **12 04 23.4 +0.6**
PRZ Przheval'sk 76.03 316 P **P** **12 04 26.4 +2.4**
PRZ Przheval'sk 76.03 316 P **P** **12 04 26.4 +2.4**
PRZ pmax pmax
comp=Z,121nm,1.5s
TARG Taragay, Kyrgy 76.16 316 P **P** **12 04 26.4 +1.4**
TARG IAmb IAmb 12 04 38.1
comp=Z,35nm,1.5s
TARG Taragay, Kyrgy 76.16 316 P **P** **12 04 26.4 +1.4**
TARG pmax pmax
comp=Z,35nm,1.5s
SATY Saty 76.25 317 *e*P **P** **12 04 25.6 +0.5**
comp=Z,32nm,1.5s,baz=317
SATY Saty 76.25 317 *e*P **P** **12 04 25.6 +0.5**
SATY pmax pmax
comp=Z,32nm,1.5s
ZHN Zhinishke 76.27 317 *e*P **P** **12 04 25.5 +0.3**
baz=317
ZHN Zhinishke 76.27 317 *e*P **P** **12 04 25.5 +0.3**
KSH Kashi 76.69 313 P **P** **12 04 30.0 +2.3**
KSH PcP **PcP** **12 04 36.6 -2.4**
KSH pmax pmax
comp=Z,25nm,1.2s
NIL Nilore 76.93 307 P **P** **12 04 30.6 +1.6**
NIL Nilore 76.93 307 P **P** **12 04 30.6 +1.6**
NIL pmax pmax
comp=Z,136nm,1.5s
TDK Taldyqorghan 76.99 319 *e*P **P** **12 04 29.7 +0.6**
comp=Z,22nm,0.8s,baz=319
TDK Taldyqorghan 76.99 319 *e*P **P** **12 04 29.7 +0.6**
TDK pmax pmax
comp=Z,22nm,0.8s
SDPT Sand Point 77.06 29 P **P** **12 04 29.6 +0.4**
baz=238
MDOK Medeo 77.21 317 *e*P **P** **12 04 30.5 -0.1**
baz=317
MDOK Medeo 77.21 317 *e*P **P** **12 04 30.4 -0.1**
ZAA0 Zalesovo Array 77.22 329 P **P** **12 04 30.1 -0.1**
ZALV Zalesovo Beam 77.22 329 P **P** **12 04 29.5 -0.6**
ZALV Zalesovo Beam 77.22 329 *i* P **P** **12 04 29.8 -0.3**
ZALV pmax pmax
comp=Z,5.0nm,0.6s
ZALV Zalesovo Beam 77.22 329 P **P** **12 04 29.9 -0.2**
comp=Z,5.0nm,0.6s,baz=115,slow=5.8,SNR=25
ZALV LR LR 12 37 45.8
comp=Z,123nm,20.7s,baz=81,slow=35
comp=Z,5.0nm,0.6s
TNSS Tian-Shan 77.23 317 *e*P **P** **12 04 30.8 -0.2**
baz=316
TNSS Tian-Shan 77.23 317 *e*P **P** **12 04 30.8 -0.2**
AAA Alma-Ata 77.32 317 *e*P **P** **12 04 31.5 +0.4**
comp=Z,26nm,0.9s,baz=317
AAA Alma-Ata 77.32 317 *e*P **P** **12 04 31.5 +0.4**
AAA pmax pmax
comp=Z,26nm,0.9s
NRN Naryn 77.32 315 P **P** **12 04 32.5 +1.1**
NRN Naryn 77.32 315 P **P** **12 04 32.5 +1.1**
NRN pmax pmax
comp=Z,14nm,1.2s
CHKK Chushkaly 77.50 317 *e*P **P** **12 04 32.4 +0.4**
baz=317
CHKK Chushkaly 77.50 317 *e*P **P** **12 04 32.4 +0.4**
BOOM Boomskoye usch 77.73 316 P **P** **12 04 35.1 +1.6**
BOOM IAmb IAmb 12 04 36.3
comp=Z,56nm,1.5s
BOOM Boomskoye usch 77.73 316 P **P** **12 04 35.1 +1.6**
BOOM pmax pmax
comp=Z,56nm,1.5s
SEM Semipalatinsk 78.06 324 *e*P **P** **12 04 35.6 +0.4**
baz=324
SEM Semipalatinsk 78.06 324 *e*P **P** **12 04 35.6 +0.4**
TKM2 Tokmak 2 78.12 316 P **P** **12 04 36.9 +1.2**
SNR=19
TKM2 Tokmak 2 78.12 316 P **P** **12 04 36.0 +0.3**
TIXI Tiksi 78.36 355 P **P** **12 04 35.6 -0.6**
TIXI Tiksi 78.36 355 *ce*P **P** **12 04 35.6 -0.6**
TIXI pmax pmax
comp=Z,14nm,1.7s
TIXI Tiksi 78.36 355 LR LR 12 38 14.5
comp=Z,87nm,22.0s,baz=194,slow=35
KBK Karagaybulak 78.48 316 P **P** **12 04 39.1 +1.4**
SNR=5.2
M13K Dall Lake 78.59 24 P **P** **12 04 39.1 +1.5**
baz=235
UCH Uchtor 78.64 315 P **P** **12 04 40.7 +1.8**
SNR=28
CHMS Chumnysh 78.73 316 P **P** **12 04 40.0 +1.1**
SNR=9.5
AAK Ala-Archa 78.78 316 P **P** **12 04 40.7 +1.4**
SNR=14
AAK Ala-Archa 78.78 316 P **P** **12 04 40.5 +1.2**
AAK IAmb IAmb 12 04 42.0
comp=Z,43nm,1.5s
AAK Ala-Archa 78.78 316 *ce*P **P** **12 04 40.6 +1.2**
AAK pmax pmax
comp=Z,28nm,1.3s
O14K Tigyukauivet M 78.80 26 P **P** **12 04 40.2 +1.4**
baz=237
SGDS Sogindy 78.96 316 *e*P **P** **12 04 40.3 0.0**
baz=316
SGDS Sogindy 78.96 316 *e*P **P** **12 04 40.2 0.0**
USP Ospenovka 78.99 316 P **P** **12 04 41.4 +1.0**
SNR=28
N14K Kuskokwak Cree 78.99 25 P **P** **12 04 41.0 +1.1**
baz=236
KURK Kurchatov 79.14 324 P **P** **12 04 41.5 +0.7**
KURK IAmb IAmb 12 04 42.8
comp=Z,65nm,1.3s
KURK Kurchatov 79.14 324 *ce*P **P** **12 04 41.5 +0.7**
KURK pmax pmax
comp=Z,55nm,1.3s
KURBB Kurchatov Arra 79.15 324 P **P** **12 04 40.9 0.0**
KURBB Kurchatov Arra 79.15 324 P **P** **12 04 41.5 +0.6**
comp=Z,16nm,0.9s,baz=116,slow=4.7,SNR=87
comp=Z,16nm,0.9s
EKS2 Erkin-Say 79.29 315 P **P** **12 04 43.6 +1.6**
SNR=18
M14K Bethel 79.34 24 P **P** **12 04 42.6 +0.9**
M14K Bethel 79.34 24 P **P** **12 04 42.4 +0.7**
baz=236
O15K Ungalikthiuk R 79.39 26 P **P** **12 04 42.8 +0.7**
baz=238
L14K Kuka Creek 79.39 23 P **P** **12 04 43.0 +1.0**
L14K IAmb IAmb 12 04 43.7
comp=Z,44nm,1.1s
L14K Kuka Creek 79.39 23 P **P** **12 04 42.6 +0.7**
baz=235
ARSB Arslanbob 79.43 314 P **P** **12 04 44.2 +1.3**
ARSB Arslanbob 79.43 314 P **P** **12 04 44.2 +1.3**
ARSB pmax pmax
comp=Z,15nm,1.3s
R16K Pilot Point 79.58 28 P **P** **12 04 43.8 +0.7**
baz=240
CHIR Chirikof Islan 79.69 30 P **P** **12 04 43.8 +0.1**
baz=242
DRK Karamyk 79.74 312 IAmb IAmb 12 04 47.5
comp=Z,81nm,1.8s

N15K Kwethluk River 79.80 25 P **P** **12 04 45.0 +0.7**
baz=238
M15K Kasigluk River 79.83 25 P **P** **12 04 45.2 +0.8**
baz=237
J14K Nanvaranak Lak 79.87 22 P **P** **12 04 46.5 +2.0**
J14K Nanvaranak Lak 79.87 22 P **P** **12 04 45.9 +1.4**
baz=234
L15K Ungalak Mounta 80.05 24 P **P** **12 04 46.6 +1.0**
baz=236
TNA Tin City 80.10 19 P **P** **12 04 46.7 +0.9**
baz=230
P16K Nushagak River 80.12 27 P **P** **12 04 46.7 +0.7**
baz=240
ANM Nome 80.31 20 P **P** **12 04 48.0 +1.0**
ANM IAmb IAmb 12 04 49.3
comp=Z,38nm,1.3s
ANM Nome 80.31 20 P **P** **12 04 47.6 +0.7**
baz=232,SNR=5.7
ANM Nome 80.31 20 P **P** **12 04 48.0 +1.0**
ANM pmax pmax
comp=Z,38nm,1.3s
O16K Kokwok River B 80.36 26 P **P** **12 04 48.0 +0.7**
O16K Kokwok River B 80.36 26 P **P** **12 04 48.2 +0.9**
baz=240
K15K Wolf Creek Mou 80.38 23 P **P** **12 04 48.5 +1.0**
K15K IAmb IAmb 12 04 49.8
comp=Z,37nm,1.1s
K15K Wolf Creek Mou 80.38 23 P **P** **12 04 48.4 +1.0**
baz=236
MAW Mawson 80.45 203 LR LR 12 39 55.5
comp=Z,217nm,18.0s,baz=106,slow=35
N16K Nishlik Lake 80.52 25 P **P** **12 04 48.9 +0.7**
baz=239
KBL Kabul 80.53 306 P **P** **12 04 49.7 +0.6**
KBL Kabul 80.53 306 P **P** **12 04 49.7 +0.6**
KBL pmax pmax
comp=Z,25nm,1.4s
Q16K King Salmon 80.55 27 P **P** **12 04 49.2 +0.9**
baz=241
F14K Arctic Creek 80.56 19 P **P** **12 04 49.0 +0.8**
baz=231
BTK Batken 80.63 312 P **P** **12 04 50.3 +1.0**
BTK Batken 80.63 312 P **P** **12 04 50.3 +1.0**
BTK pmax pmax
comp=Z,29nm,1.5s
Q17K Contact Creek 80.71 28 P **P** **12 04 49.4 +0.1**
baz=242
M16K Timber Creek 80.72 25 P **P** **12 04 50.6 +1.4**
M16K IAmb IAmb 12 04 51.6
comp=Z,42nm,1.1s
M16K Timber Creek 80.72 25 P **P** **12 04 49.9 +0.7**
baz=239
SII Sitkinak Islan 80.74 30 P **P** **12 04 50.0 +0.6**
baz=244
L16K Owhat River 80.88 24 P **P** **12 04 50.9 +0.9**
L16K IAmb IAmb 12 04 52.0
comp=Z,33nm,1.2s
L16K Owhat River 80.88 24 P **P** **12 04 50.9 +0.9**
baz=238,SNR=5.2
O17K Koliganek Bris 80.89 26 P **P** **12 04 51.2 +1.1**
baz=241,SNR=13
G15K Niukluk 81.03 20 P **P** **12 04 51.5 +0.8**
baz=234
DZA Taraz 81.08 315 *e*P **P** **12 04 51.9 +0.3**
comp=Z,32nm,1.3s,baz=315
DZA Taraz 81.08 315 *e*P **P** **12 04 51.8 +0.2**
DZA pmax pmax
comp=Z,32nm,1.3s
N17K Nushagak Hills 81.22 26 P **P** **12 04 52.7 +0.8**
N17K IAmb IAmb 12 04 54.5
comp=Z,37nm,1.3s
N17K Nushagak Hills 81.22 26 P **P** **12 04 52.8 +0.8**
baz=240
F15K North Star Dit 81.25 19 P **P** **12 04 53.1 +1.1**
F15K IAmb IAmb 12 04 54.3
comp=Z,59nm,1.3s
F15K North Star Dit 81.25 19 P **P** **12 04 52.8 +0.8**
baz=233
J16K Anvik River 81.28 22 P **P** **12 04 53.7 +1.5**
J16K IAmb IAmb 12 04 54.8
comp=Z,46nm,1.2s
J16K Anvik River 81.28 22 P **P** **12 04 53.3 +1.1**
baz=237,SNR=7.2
H16K Elim 81.44 21 P **P** **12 04 53.5 +0.5**
baz=235,SNR=11
OHAK Old Harbor 81.48 30 P **P** **12 04 53.7 +0.4**
baz=244
P18K Big Mountain, 81.54 27 P **P** **12 04 53.9 +0.3**
baz=242
M17K Holitna River 81.55 25 P **P** **12 04 55.4 +1.8**
M17K IAmb IAmb 12 04 56.4
comp=Z,51nm,1.2s
M17K Holitna River 81.55 25 P **P** **12 04 54.7 +1.1**
baz=240
L17K Donlin 81.57 24 P **P** **12 04 54.8 +1.1**
baz=239
I17K Unalakleet 81.58 22 P **P** **12 04 55.5 +1.8**
I17K IAmb IAmb 12 04 55.9
comp=Z,41nm,1.2s
I17K Unalakleet 81.58 22 P **P** **12 04 55.0 +1.4**
baz=237,SNR=6.5
SIMJ Simiganj 81.60 310 P **P** **12 04 55.5 +0.9**
SIMJ IAmb IAmb 12 04 56.7
comp=Z,38nm,1.1s
KK31 Karatay Array 81.71 315 P **P** **12 04 55.8 +0.8**
KK31 IAmb IAmb 12 04 57.1
comp=Z,42nm,1.4s
KK31 Karatay Array 81.71 315 *i* P **P** **12 04 55.0 +0.1**
KKAR Karatay Array 81.71 315 P **P** **12 04 55.8 +0.9**
KKAR IAmb IAmb 12 04 57.1
comp=Z,42nm,1.4s
KKAR Karatay Array 81.71 315 P **P** **12 04 55.8 +0.9**
KKAR pmax pmax
comp=Z,42nm,1.4s
O18K Koktuh Hills 81.77 27 P **P** **12 04 55.6 +0.8**
baz=242
IUG luzhnay 81.78 314 *e*P **P** **12 04 55.8 +0.3**
comp=Z,20nm,1.3s,baz=314
IUG luzhnay 81.78 314 *e*P **P** **12 04 55.7 +0.3**
IUG pmax pmax
comp=Z,20nm,1.3s
G16K Koyuk River 81.84 20 P **P** **12 04 55.7 +0.6**
baz=235
N18K Kilae Creek 81.86 26 P **P** **12 04 56.5 +1.2**
baz=242
K17K Iditarod 81.87 23 P **P** **12 04 56.5 +1.3**
K17K Iditarod 81.87 23 P **P** **12 04 57.0 +1.7**
baz=239
J17K VABM Dome 81.92 23 P **P** **12 04 56.5 +1.0**
J17K IAmb IAmb 12 04 58.2
comp=Z,41nm,1.2s
J17K VABM Dome 81.92 23 P **P** **12 04 56.9 +1.4**
baz=238
OTUK Ortayu 82.05 320 P **P** **12 04 57.4 +0.8**
KDAK Kodiak Island 82.06 29 P **P** **12 04 56.0 -0.4**
KDAK Kodiak Island 82.06 29 P **P** **12 04 56.0 -0.4**
comp=Z,11nm,1.0s,baz=188,slow=7.1,SNR=2.3
KDAK LR LR 12 38 17.8
comp=Z,239nm,19.5s,baz=266,slow=34
comp=Z,11nm,1.0s
CHM Chimkent 82.14 314 *e*P **P** **12 04 57.3 +0.1**
baz=314
CHM Chimkent 82.14 314 *e*P **P** **12 04 57.3 +0.1**
BRLS Boroldaу 82.17 315 *e*P **P** **12 04 57.6 +0.3**
baz=315
BRLS Boroldaу 82.17 315 *e*P **P** **12 04 57.6 +0.3**
SVW2 Sparrevohn 82.19 25 P **P** **12 04 58.0 +1.0**
SVW2 IAmb IAmb 12 04 59.4
comp=Z,33nm,1.3s
L18K Granite Mounta 82.27 24 P **P** **12 04 59.0 +1.6**
baz=241
M18K Stony River 82.27 25 P **P** **12 04 59.1 +1.7**
baz=242,SNR=5.8
O19K Port Alsworth 82.32 27 P **P** **12 04 58.7 +1.1**
baz=243
H17K Granite Mounta 82.44 21 P **P** **12 04 59.2 +1.0**
H17K IAmb IAmb 12 05 00.6
comp=Z,31nm,1.2s
H17K Granite Mounta 82.44 21 P **P** **12 04 59.1 +0.9**
baz=237
G17K Kiwalik Mounta 82.49 20 P **P** **12 04 59.4 +0.9**
baz=237
N19K Bonanza Creek 82.53 26 IAmb IAmb 12 05 00.8
comp=Z,44nm,1.3s
N19K Bonanza Creek 82.53 26 P **P** **12 04 59.5 +0.6**
baz=243
P19K Oil Pt 82.56 27 P **P** **12 04 59.1 +0.1**

baz=244
C16K Lisburne Hills 82.62 17 IAmb IAmb 12 05 02.7
comp=Z,22nm,1.1s
C16K Lisburne Hills 82.62 17 P **P** **12 04 59.0 0.0**
baz=232
F17K Baldwin Pennin 82.81 20 P **P** **12 05 00.1 0.0**
baz=236
J18K Innoko River 82.87 23 P **P** **12 05 01.6 +1.1**
J18K IAmb IAmb 12 05 02.4
comp=Z,36nm,1.4s
J18K Innoko River 82.87 23 P **P** **12 05 01.0 +0.5**
baz=240
TTA Tatalina 82.89 24 IAmb IAmb 12 06 04.9
comp=Z,52nm,1.8s
TTA Tatalina 82.89 24 P **P** **12 05 01.3 +0.6**
baz=241,SNR=5.6
D17K Noatak River 82.95 18 P **P** **12 05 02.0 +1.2**
baz=234,SNR=7.9
E17K Hotham Inlet 82.99 19 P **P** **12 05 01.9 +0.9**
baz=235,SNR=15
L19K White Mountain 83.00 25 P **P** **12 05 02.0 +0.8**
baz=242
O20K Slope Mountain 83.03 27 P **P** **12 05 01.6 +0.1**
baz=245
H18K Honhosa River 83.11 21 P **P** **12 05 02.9 +1.2**
H18K IAmb IAmb 12 05 03.4
comp=Z,43nm,1.5s
H18K Honhosa River 83.11 21 P **P** **12 05 02.4 +0.6**
baz=239
RDOG Red Dog Mine 83.21 18 P **P** **12 05 02.9 +0.7**
baz=234,SNR=6.6
C17K DeLong Mountai 83.38 17 P **P** **12 05 03.7 +0.7**
baz=234
G18K Tagagawik 83.40 21 P **P** **12 05 03.8 +0.6**
baz=238
F18K Selawik 83.43 20 P **P** **12 05 04.2 +0.9**
baz=237
GCSA Galena City Sc 83.45 22 P **P** **12 05 04.1 +0.7**
baz=240,SNR=6.9
L20K Farewell, AK 83.55 25 P **P** **12 05 04.5 +0.4**
baz=243
J19K Poorman 83.56 23 P **P** **12 05 05.3 +1.2**
J19K IAmb IAmb 12 05 06.3
comp=Z,26nm,1.1s
J19K Poorman 83.56 23 P **P** **12 05 03.7 -0.3**
baz=241,SNR=13
E18K Tukpahlearik C 83.57 19 P **P** **12 05 03.4 -0.6**
baz=236
M20K Styx River 83.59 25 P **P** **12 05 04.0 -0.4**
baz=244
QSPA South Pole Qui 83.66 180 P **P** **12 05 05.5 +0.8**
comp=Z,35nm,1.1s,baz=353,slow=3.4,SNR=27
QSPA LR LR 12 42 37.0
comp=Z,1μm,18.9s,baz=12,slow=36
comp=Z,35nm,1.1s
N20K Mount Spurr 83.69 26 P **P** **12 05 04.9 0.0**
baz=245
BRSE Bradley Lake S 83.75 28 P **P** **12 05 04.6 -0.6**
baz=246
K20K Telida 83.87 24 P **P** **12 05 06.5 +0.8**
K20K Telida 83.87 24 P **P** **12 05 05.7 0.0**
baz=243
CAPN Captain Cook N 83.98 27 P **P** **12 05 06.4 +0.2**
baz=246
H19K Roundabout Mou 84.00 21 P **P** **12 05 06.8 +0.6**
baz=240
C18K Utukok River 84.08 18 P **P** **12 05 07.2 +0.5**
C18K IAmb IAmb 12 05 08.5
comp=Z,36nm,1.4s
C18K Utukok River 84.08 18 P **P** **12 05 07.1 +0.5**
baz=236
G19K Purcell Mounta 84.08 21 P **P** **12 05 06.8 +0.2**
baz=240,SNR=17
F19K Shalerucikik Mo 84.19 20 P **P** **12 05 07.5 +0.3**
baz=239,SNR=5.9
J20K Nowinta River 84.22 23 P **P** **12 05 07.7 +0.3**
baz=243
B18K Kokolik River 84.30 17 P **P** **12 05 08.2 +0.5**
baz=235
SKT Skwentna 84.32 26 IAmb IAmb 12 05 15.2
comp=Z,36nm,1.8s
SKT Skwentna 84.32 26 P **P** **12 05 08.1 +0.1**
baz=245
I20K Naaghedeneel 84.38 22 P **P** **12 05 08.0 -0.1**
baz=242
NRIK Noril'sk 84.39 343 P **P** **12 05 08.5 +0.4**
NRIK Noril'sk 84.39 343 *ce*P **P** **12 05 08.5 +0.4**
NRIK pmax pmax
comp=Z,87nm,1.4s
NRIK Noril'sk 84.39 343 P **P** **12 05 08.6 +0.4**
comp=Z,36nm,1.0s,baz=121,slow=4.9,SNR=41
NRIK LR LR 12 40 18.9
comp=Z,120nm,22.0s,baz=118,slow=34
comp=Z,36nm,1.0s
PPLA Purkeypile 84.43 25 P **P** **12 05 07.9 -0.8**
baz=245
SUA Susitna One 84.45 26 IAmb IAmb 12 05 11.5
comp=Z,40nm,1.6s
SUA Susitna One 84.45 26 P **P** **12 05 08.3 -0.5**
baz=246
SEW Seward 84.49 28 P **P** **12 05 09.3 +0.5**
baz=247
O22K Cooper Landing 84.51 27 P **P** **12 05 09.0 +0.1**
baz=247
H20K Anotleneega Mo 84.55 22 P **P** **12 05 09.6 +0.5**
baz=242
E19K Redstone River 84.69 20 P **P** **12 05 10.5 +0.8**
baz=240
CAST Castle Rocks 84.70 24 P **P** **12 05 09.9 0.0**
CAST IAmb IAmb 12 05 11.0
comp=Z,29nm,1.2s
CAST Castle Rocks 84.70 24 P **P** **12 05 09.6 -0.3**
baz=245,SNR=10
BVA0 Borovoye Array 84.72 325 P **P** **12 05 10.2 0.0**
BVAR Borovoye Array 84.72 325 P **P** **12 05 11.0 +0.8**
comp=Z,61nm,0.9s,baz=104,slow=6.3,SNR=177
comp=Z,61nm,0.9s
RC01 Rabbit Creek A 84.74 27 P **P** **12 05 10.0 -0.1**
baz=247,SNR=12
BRVK Borovoye 84.80 325 P **P** **12 05 11.1 +0.5**
BRVK Borovoye 84.80 325 *i* P **P** **12 05 11.0 +0.5**
BRVK pmax pmax
comp=Z,86nm,1.2s
CHUM Lake Minchumin 84.81 24 P **P** **12 05 10.8 +0.4**
baz=244,SNR=21
C19K Lookout Ridge 84.81 18 P **P** **12 05 11.5 +1.1**
C19K Lookout Ridge 84.81 18 P **P** **12 05 11.1 +0.8**
baz=237
M22K Willow 84.84 26 P **P** **12 05 09.8 -0.8**
M22K Willow 84.84 26 P **P** **12 05 09.5 -1.0**
baz=247,SNR=8.0
D19K Kuna River 84.94 18 P **P** **12 05 10.9 -0.1**
baz=239,SNR=16
A19K Wainwright 84.99 16 P **P** **12 05 11.1 -0.1**
baz=236
F20K Avaraart Lake 85.00 20 P **P** **12 05 11.6 +0.4**
baz=241
CUT Chulitna 85.03 25 P **P** **12 05 11.3 -0.2**
baz=246
IMAR Indian Mountai 85.19 22 P **P** **12 05 12.8 +0.5**
PMR Palmer 85.21 26 P **P** **12 05 12.2 -0.2**
PMR IAmb IAmb 12 05 13.2
comp=Z,27nm,1.1s
PMR Palmer 85.21 26 P **P** **12 05 12.5 +0.1**
baz=248,SNR=6.4
PMR Palmer 85.21 26 P **P** **12 05 12.2 -0.2**
PMR pmax pmax
comp=Z,27nm,1.1s
KTH Kantishna Hill 85.23 24 IAmb IAmb 12 05 13.2
comp=Z,35nm,1.3s
GHO Glory Hole Cre 85.37 26 P **P** **12 05 13.1 -0.2**
H21K Melozitna Rive 85.39 22 IAmb IAmb 12 05 15.2
comp=Z,20nm,1.2s
H21K Melozitna Rive 85.39 22 P **P** **12 05 13.4 0.0**
baz=244,SNR=6.5
BPAW Bear Paw Mtn. 85.43 24 IAmb IAmb 12 05 13.9
comp=Z,25nm,1.4s
BPAW Bear Paw Mtn. 85.43 24 P **P** **12 05 13.4 -0.1**
baz=246
E20K Nigu River 85.44 19 P **P** **12 05 14.2 +0.7**
baz=241
KNK Knik Glacier 85.44 27 P **P** **12 05 13.7 0.0**
baz=248,SNR=7.8
TRF Thorofare Moun 85.45 24 IAmb IAmb 12 05 41.9
comp=Z,32nm,1.5s
TRF Thorofare Moun 85.45 24 P **P** **12 05 13.0 -0.8**
baz=246
I21K Tanana 85.50 23 P **P** **12 05 13.7 0.0**

baz=245
G21K **Allakaket** 85.53 21 P P 12 05 14.2 +0.3
baz=243
D20K **Etivluk River** 85.53 19 P P 12 05 14.3 +0.3
baz=240,SNR=15
SML **Sawmill** 85.64 26 P P 12 05 14.8 +0.1
SML **Sawmill** 85.64 26 P P 12 05 14.9 +0.1
baz=248,SNR=7.5
Q23K **Middleton Isla** 85.71 29 P P 12 05 15.0 +0.1
baz=250
F21K **Alatna River** 85.85 20 P P 12 05 15.5 -0.1
baz=243
M23K **Glacier View** 85.90 26 P P 12 05 15.1 -0.8
baz=249
MLY **Manley** 85.91 23 IAmb IAmb 12 05 17.5
comp=Z,25nm,1.1s
MLY **Manley** 85.91 23 P P 12 05 15.4 -0.5
baz=246,SNR=12
WAT1 **Susitna Watana** 85.93 25 P P 12 05 16.1 0.0
baz=248
HRA **Herat** 85.99 305 P P 12 05 18.0 +0.7
HRA IAmb IAmb 12 05 19.4
comp=Z,56nm,1.7s
B20K **Meade River** 86.02 17 P P 12 05 16.3 0.0
baz=240
RND **Reindeer** 86.02 25 IAmb IAmb 12 05 17.1
comp=Z,33nm,1.1s
H22K **Ishtalitna Cre** 86.03 22 P P 12 05 16.6 +0.2
baz=245,SNR=6.9
BWN **Browne** 86.07 24 P P 12 05 17.4 +0.7
SCM **Sheep Creek Mo** 86.09 26 P P 12 05 17.2 +0.2
SCM IAmb IAmb 12 05 18.4
comp=Z,40nm,1.2s
SCM **Sheep Creek Mo** 86.09 26 P P 12 05 16.7 -0.2
baz=249
SCM **Sheep Creek Mo** 86.09 26 P P 12 05 17.2 +0.2
SCM pmax pmax
comp=Z,40nm,1.2s
MCK **McKinley** 86.11 24 P P 12 05 16.5 -0.5
baz=248,SNR=12
WAT6 **Susitna Watana** 86.19 26 P P 12 05 17.1 -0.4
baz=249
E21K **Killik River** 86.25 19 P P 12 05 18.3 +0.7
E21K **Killik River** 86.25 19 P P 12 05 18.0 +0.5
baz=243
C21K **Knifeblade Rid** 86.32 18 P P 12 05 17.8 0.0
baz=242
EYAK **Cordova Ski Ar** 86.37 28 P P 12 05 18.2 0.0
baz=251
NEA2 **Nenana** 86.39 24 P P 12 05 18.1 -0.2
NEA2 IAmb IAmb 12 05 19.0
comp=Z,22nm,1.2s
NEA2 **Nenana** 86.39 24 P P 12 05 17.8 -0.5
baz=247
G22K **Bettles** 86.42 21 P P 12 05 18.6 +0.3
baz=245
I23K **Minto, Yukon-K** 86.49 23 IAmb IAmb 12 05 20.2
comp=Z,29nm,1.5s
I23K **Minto, Yukon-K** 86.49 23 P P 12 05 18.7 0.0
baz=247
DHY **Denali Highway** 86.52 25 IAmb IAmb 12 05 20.5
comp=Z,41nm,1.3s
DHY **Denali Highway** 86.52 25 P P 12 05 19.1 -0.1
baz=249,SNR=11
B21K **Ikpikpuk River** 86.60 18 P P 12 05 19.7 +0.6
baz=242
KLU **Klutina** 86.61 27 P P 12 05 20.1 +0.6
KLU IAmb IAmb 12 06 02.5
comp=Z,28nm,1.2s
KLU **Klutina** 86.61 27 P P 12 05 19.5 +0.1
baz=250,SNR=5.8
H23K **Yukon River** 86.69 22 P P 12 05 19.9 +0.1
baz=247
M24K **Tolsona, Glenn** 86.70 26 P P 12 05 19.7 -0.2
baz=250
WRH **Wood River Hil** 86.74 24 P P 12 05 19.1 -0.8
WRH IAmb IAmb 12 05 20.4
comp=Z,31nm,1.1s
KAIM **Kayak Island** 86.80 29 P P 12 05 20.2 -0.1
baz=252
E22K **Anaktuvuk Pass** 86.83 20 P P 12 05 21.2 +0.8
baz=245
A21K **Barrow** 86.84 16 P P 12 05 20.2 -0.1
baz=240,SNR=11
MDM **Murphy Dome** 86.86 23 IAmb IAmb 12 05 22.1
comp=Z,50nm,2.0s
G23K **Bananza Creek** 86.86 21 P P 12 05 21.3 +0.7
G23K **Bananza Creek** 86.86 21 P P 12 05 20.1 -0.5
baz=246,SNR=9.3
D22K **Ayikyak River** 86.87 19 P P 12 05 21.0 +0.5
baz=244
CCB **Clear Creek Bu** 86.92 24 IAmb IAmb 12 05 21.1
comp=Z,31nm,1.1s
COLA **College** 86.98 24 P P 12 05 19.9 -1.2
COLA IAmb IAmb 12 05 21.3
comp=Z,17nm,0.9s
COLA **College** 86.98 24 P P 12 05 20.3 -0.8
baz=248
COLA **College** 86.98 24 *i* P P 12 05 19.3 -1.8
COLA pmax pmax
comp=Z,25nm,1.2s
COLD **Coldfoot** 87.01 21 P P 12 05 21.9 +0.6
baz=246,SNR=7.3
BMRM **Bremner River** 87.04 28 P P 12 05 21.4 -0.1
baz=252,SNR=5.4
A22K **Sinclair Lake** 87.15 17 P P 12 05 22.7 +0.9
baz=242
HDA **Harding Lake** 87.18 24 P P 12 05 21.5 -0.6
HDA **Harding Lake** 87.18 24 P P 12 05 21.5 -0.6
baz=249
POKR **Poker Plat Res** 87.24 23 P P 12 05 22.3 -0.1
baz=249
N25K **Chitina, Valde** 87.24 27 P P 12 05 23.2 +0.6
N25K **Chitina, Valde** 87.24 27 P P 12 05 22.7 +0.1
baz=252
HARP **HAARP** 87.25 26 P P 12 05 22.9 +0.4
baz=251
B22K **Teshekpuk Lake** 87.30 18 P P 12 05 23.3 +0.8
baz=243
PAX **Paxson** 87.30 26 P P 12 05 23.2 +0.3
baz=251,SNR=6.4
H24K **Noodor Dome** 87.33 23 P P 12 05 23.2 +0.3
baz=248
IL31 87.33 24 IAmb IAmb 12 05 22.7
comp=Z,25nm,1.2s
ILAR **Eielson Array** 87.33 24 P P 12 05 21.4 -1.4
comp=Z,8.1nm,0.9s,baz=259,slow=4.8,SNR=62
ILAR PKKP **PKKPbc** 12 23 14.1 -2.1
comp=Z,0.7nm,0.8s,baz=3.0,slow=1.7,SNR=6.3
ILAR LR LR 12 42 35.1
comp=Z,254nm,19.4s,baz=256,slow=34
comp=Z,8.1nm,0.9s
K24K **Donnelly Dome** 87.45 25 P P 12 05 23.4 -0.1
baz=251
E23K **Chandalar** 87.55 20 P P 12 05 24.9 +1.0
baz=247
GLB **Gilahina Butte** 87.55 27 P P 12 05 24.2 +0.2
GLB IAmb IAmb 12 05 25.6
comp=Z,29nm,1.3s
D23K **Nanushuk River** 87.56 19 P P 12 05 25.6 +1.8
baz=246
VRDI **Verde Repeater** 87.65 28 P P 12 05 24.6 0.0
VRDI IAmb IAmb 12 06 06.9
comp=Z,31nm,1.4s
CRQE **Cirque** 87.67 28 P P 12 05 25.2 +0.5
baz=253
G24K **Hadweenzic Riv** 87.80 22 P P 12 05 26.1 +1.1
baz=249
TOLK **Toolik Lake Re** 87.80 20 P P 12 05 25.7 +0.6
TOLK **Toolik Lake Re** 87.80 20 P P 12 05 26.3 +1.2
baz=247
TGL **Tana Glacier** 87.80 28 P P 12 05 25.9 +0.6
RIDG **Independent Ri** 87.82 25 P P 12 05 25.7 +0.5
RIDG **Independent Ri** 87.82 25 P P 12 05 25.3 0.0
baz=251,SNR=12
J25K **Salcha River,** 87.89 24 P P 12 05 25.4 -0.2
baz=251
MCARA **McCarthy VSAT** 87.89 28 P P 12 05 25.7 +0.1
MCARA **McCarthy VSAT** 87.89 28 P P 12 05 25.9 +0.3
baz=253
C23K **Itkillik River** 87.94 19 P P 12 05 26.6 +1.0
baz=246
F24K **Squaw Lake** 87.95 21 P P 12 05 26.7 +0.9
baz=248
MENT **Mentasta** 88.05 26 P P 12 05 26.6 +0.3
MENT IAmb IAmb 12 05 28.0
comp=Z,16nm,1.3s

MESA **MESA** 88.05 29 P P 12 05 27.4 +0.7
baz=254
PRP **Porcupine Dome** 88.13 23 P P 12 05 27.6 +0.8
baz=251
M26K **Nabesna, AK** 88.21 27 P P 12 05 27.7 +0.6
baz=253
L26K **Log Cabin Wild** 88.24 26 P P 12 05 27.6 +0.4
L26K IAmb IAmb 12 05 28.9
comp=Z,17nm,1.2s
L26K **Log Cabin Wild** 88.24 26 P P 12 05 27.8 +0.6
baz=253,SNR=6.2
D24K **Happy Valley** 88.25 19 P P 12 05 28.4 +1.3
baz=247
SCRK **Sand Creek** 88.26 25 P P 12 05 27.8 +0.3
SCRK IAmb IAmb 12 05 28.2
comp=Z,14nm,1.2s
SCRK **Sand Creek** 88.26 25 P P 12 05 27.6 +0.2
baz=252,SNR=6.5
H25L **Birch Creek** 88.27 23 P P 12 05 27.4 +0.2
baz=250,SNR=10
G25K **Bearman Lake** 88.33 22 P P 12 05 28.4 +0.9
baz=250
CTG **Chitna Glacier** 88.56 28 P P 12 05 29.6 +0.7
baz=254,SNR=7.6
J26L **Joseph Creek** 88.59 25 P P 12 05 29.8 +0.8
J26L **Joseph Creek** 88.59 25 P P 12 05 28.9 -0.1
baz=252
M27K **Edge Creek, AK** 88.69 27 P P 12 05 30.7 +1.2
baz=254
F25K **Christian Rive** 88.78 21 P P 12 05 31.2 +1.4
baz=250,SNR=13
L27K **Beaver Creek,** 88.91 26 P P 12 05 31.3 +0.8
L27K IAmb IAmb 12 05 32.5
comp=Z,25nm,1.2s
L27K **Beaver Creek,** 88.91 26 P P 12 05 31.2 +0.8
baz=254,SNR=13
BCAR **Beaver Creek A** 88.93 26 P P 12 05 31.4 +0.8
E25K **Arctic Village** 88.99 21 P P 12 05 32.0 +1.3
baz=250,SNR=22
I26K **Coal Creek Min** 89.00 24 P P 12 05 31.5 +0.8
baz=253
K27K **Chicken** 89.08 25 P P 12 05 32.0 +0.9
baz=254
BMAR **Burnt Mountain** 89.11 22 P P 12 05 32.7 +1.4
D25K **Kavik River** 89.12 20 P P 12 05 31.7 +0.4
baz=250
PNL **Peninsula** 89.16 30 P P 12 05 32.5 +0.9
baz=256
BVCY **Beaver Creek** 89.17 27 P P 12 05 32.2 +0.6
baz=255,SNR=7.1
YUK3 **Moose Creek** 89.18 28 P P 12 05 32.6 +0.6
baz=255,SNR=8.5
G26K **Porcupine Rive** 89.26 22 P P 12 05 33.3 +1.4
baz=252
F26K **Sheenjek River** 89.36 21 P P 12 05 34.0 +1.6
baz=252,SNR=28
EGAK **Eagle** 89.67 25 P P 12 05 34.3 +0.5
EGAK IAmb IAmb 12 05 35.5
comp=Z,26nm,1.2s
EGAK **Eagle** 89.67 25 P P 12 05 34.7 +0.8
baz=255,SNR=13
I27K **Kandik River** 89.70 24 P P 12 05 35.0 +0.9
baz=254
O29M **Mount Kennedy** 89.71 29 P P 12 05 34.8 +0.4
baz=257
C26K **Camden Bay** 89.81 19 P P 12 05 35.5 +1.1
baz=251
GEYT **Alibeck** 89.85 308 P P 12 05 35.9 +0.5
GEYT IAmb IAmb 12 05 37.5
comp=Z,20nm,1.3s
GEYT **Alibeck** 89.85 308 P P 12 05 35.9 +0.5
GEYT pmax pmax
comp=Z,20nm,1.3s
GEYT **Alibeck** 89.85 308 P P 12 05 36.0 +0.5
comp=Z,9.8nm,1.2s,baz=104,slow=4.7,SNR=11
comp=Z,9.8nm,1.2s
GYA0B **ALIBECK ARRAY** 89.85 308 P P 12 05 35.8 +0.4
GYA0B IAmb IAmb 12 05 38.1
comp=Z,18nm,1.3s
H27K **Steamboat Moun** 89.91 23 P P 12 05 35.8 +0.7
baz=254
YUK4 **Talbot Arm** 89.92 28 P P 12 05 36.1 +0.7
baz=257,SNR=6.5
YUK6 **Outpost Mounta** 89.96 29 P P 12 05 35.6 0.0
baz=257
P29M **Windy Craggy** 89.97 30 P P 12 05 35.7 +0.2
baz=258
G27K **Doyon Strip** 90.02 23 IAmb IAmb 12 05 57.5
comp=Z,32nm,1.7s
G27K **Doyon Strip** 90.02 23 P P 12 05 36.5 +1.0
baz=254,SNR=7.9
DAWY **Dawson** 90.22 25 P P 12 05 37.1 +0.6
DAWY IAmb IAmb 12 05 38.6
comp=Z,24nm,1.3s
DAWY **Dawson** 90.22 25 P P 12 05 36.8 +0.2
baz=256
AB31 **Akbulak array** 90.25 319 *i* P P 12 05 35.7 -1.2
ABKAR **Akbulak array** 90.25 319 P P 12 05 36.3 -0.6
M29M **Somme Creek** 90.25 27 P P 12 05 36.9 +0.1
baz=257
I28M **Miner Creek** 90.34 24 IAmb IAmb 12 05 40.2
comp=Z,48nm,1.6s
I28M **Miner Creek** 90.34 24 P P 12 05 37.9 +0.8
baz=256
HYT **Haines Junctio** 90.34 29 IAmb IAmb 12 05 58.8
comp=Z,24nm,1.4s
HYT **Haines Junctio** 90.34 29 P P 12 05 37.8 +0.5
baz=258
S31K **Pelican** 90.40 32 P P 12 05 37.6 +0.2
baz=259
E27K **Coleen River** 90.42 21 P P 12 05 38.8 +1.4
baz=254
P30M **Million Dollar** 90.46 30 P P 12 05 38.5 +0.7
baz=258
L29M **L29M** 90.55 26 P P 12 05 39.3 +1.2
L29M IAmb IAmb 12 05 40.3
comp=Z,27nm,1.1s
L29M **L29M** 90.55 26 P P 12 05 39.0 +0.9
baz=257
PLBC **Pleasant Camp** 90.62 30 P P 12 05 39.0 +0.6
baz=259
N30M **Aishikik Lake** 90.67 28 P P 12 05 39.3 +0.6
baz=258
J29N **Klondike Camp** 90.81 25 P P 12 05 40.6 +1.2
J29N IAmb IAmb 12 05 41.8
comp=Z,25nm,1.3s
J29N **Klondike Camp** 90.81 25 P P 12 05 40.1 +0.8
baz=257
F28M **Old Crow** 90.90 22 P P 12 05 40.0 +0.4
F28M **Old Crow** 90.90 22 P P 12 05 40.5 +0.9
baz=256
D27M **Malcolm River** 90.93 20 P P 12 05 40.5 +0.7
baz=255
K29M **Barlow Dome** 90.98 26 P P 12 05 41.1 +0.9
K29M IAmb IAmb 12 05 42.3
comp=Z,18nm,1.1s
K29M **Barlow Dome** 90.98 26 P P 12 05 41.1 +0.9
baz=258
O30N **Mendenhall** 91.01 29 P P 12 05 40.8 +0.5
baz=259
M30M **Minto, Yukon** 91.04 27 P P 12 05 40.9 +0.6
baz=258
SVE **Sverdlovsk** 91.09 327 *e* P P 12 05 40.5 -0.2
H29M **Whitestone** 91.15 23 P P 12 05 41.7 +0.9
baz=257
E28M **Babbage River** 91.27 21 P P 12 05 41.7 +0.4
E28M **Babbage River** 91.27 21 P P 12 05 42.2 +0.9
baz=256
G29M **Pine Creek** 91.44 23 P P 12 05 42.8 +0.6
baz=258
WHY **Whitehorse** 91.58 29 P P 12 05 43.4 +0.4
baz=260
J30M **Hart River** 91.64 25 P P 12 05 44.0 +0.8
J30M IAmb IAmb 12 05 45.3
comp=Z,25nm,1.5s
J30M **Hart River** 91.64 25 P P 12 05 44.0 +0.8
baz=259,SNR=8.7
MAYO **Mayo, Yukon** 91.64 26 P P 12 05 44.2 +1.1
baz=259
I30M **Mount Dempster** 91.74 25 P P 12 05 44.0 +0.3
I30M IAmb IAmb 12 05 45.4
comp=Z,20nm,1.4s
I30M **Mount Dempster** 91.74 25 P P 12 05 44.2 +0.5
baz=259
EPYK **Eagle Plains** 91.83 23 P P 12 05 44.3 +0.3
EPYK IAmb IAmb 12 05 44.9
comp=Z,13nm,1.1s

EPYK **Eagle Plains** 91.83 23 P P 12 05 44.2 +0.3
baz=259,SNR=6.3
M31M **Drury Creek, Y** 92.07 28 P P 12 05 45.1 0.0
baz=261
G30M **tAoh Zraii Nji** 92.14 23 P P 12 05 45.5 +0.1
G30M IAmb IAmb 12 05 46.6
comp=Z,17nm,1.2s
G30M **tAoh Zraii Nji** 92.14 23 P P 12 05 45.0 -0.4
baz=259
ARU **Arti** 92.16 326 P P 12 05 44.8 -0.9
ARU IAmb IAmb 12 05 46.0
comp=Z,18nm,1.1s
ARU **Arti** 92.16 326 *c i* P P 12 05 44.7 -0.9
ARU 12 09 25.8
ARU S SKSac 12 16 15.2 -0.9
ARU SS SS 12 22 55.7 -0.1
ARU pmax pmax
comp=Z,20nm,1.1s
F30M **Barrier River** 92.43 22 P P 12 05 47.0 +0.3
baz=260
FARO **Faro, Yukon** 92.56 28 P P 12 05 48.3 +0.9
FARO **Faro, Yukon** 92.56 28 P P 12 05 47.8 +0.4
baz=262
H31M **Peel River** 92.68 24 P P 12 05 48.1 +0.2
baz=261
ELIB **Princess Elisa** 92.85 196 *d* P P 12 05 49.5 +0.7
G31M **Satah River** 92.89 23 P P 12 05 49.0 +0.3
baz=261
S34M **Telegraph Cree** 93.08 32 P P 12 05 49.7 -0.1
baz=263
F31M **Tsiigehtchic** 93.18 23 IAmb IAmb 12 05 58.3
comp=Z,14nm,1.4s
F31M **Tsiigehtchic** 93.18 23 P P 12 05 50.8 +0.7
baz=261
R33M **Jennings River** 93.34 31 P P 12 05 51.6 +0.4
baz=263
INK **Inuvik** 93.39 22 P P 12 05 50.8 -0.2
INK **Inuvik** 93.39 22 P P 12 05 50.9 -0.2
baz=262
INK **Inuvik** 93.39 22 P P 12 05 50.8 -0.2
INK pmax pmax
comp=Z,11nm,1.3s
INK **Inuvik** 93.39 22 LR LR 12 44 10.6
comp=Z,440nm,21.3s,baz=184,slow=33
DLBC **Dease Lake** 93.72 32 IAmb IAmb 12 05 54.8
comp=Z,30nm,1.6s
DLBC **Dease Lake** 93.72 32 P P 12 05 53.4 +0.5
baz=264
DLBC **Dease Lake** 93.72 32 LR LR 12 42 34.0
comp=Z,266nm,20.3s,baz=284,slow=32
BBB **Bella Bella** 94.22 38 LR LR 12 43 01.8
comp=Z,270nm,19.1s,baz=250,slow=32
WTLY **Watson Lake, Y** 94.50 30 P P 12 05 57.5 +1.1
WTLY **Watson Lake, Y** 94.50 30 P P 12 05 57.6 +1.1
baz=265
TGTN **Hyland Airport** 94.87 29 P P 12 05 59.6 +1.5
baz=266
A36M **Sachs Harbour** 96.49 18 P P 12 06 04.1 -1.0
A36M **Sachs Harbour** 96.49 18 P P 12 06 05.8 +0.6
baz=270
C36M **Paulatuk** 96.88 21 P P 12 06 06.2 -0.7
baz=271
KIRV **Kirov** 97.24 328 *e* P Pdif 12 06 07.7 -1.2
KIRV **Kirov** 97.24 328 LR LR 12 52 05.5
comp=Z,174nm,19.7s,baz=85,slow=37
BELG **Belogornoye** 98.27 322 *i* P P 12 06 10.2 -3.4
BELG pmax pmax
comp=Z,7.0nm,1.2s
SMMC **Simmler** 99.28 55 P **Pdif** 12 06 19.3 +0.7
baz=269
RAYN **Ar Rayn** 99.39 293 P **Pdif** 12 06 19.4 0.0
RAYN **Ar Rayn** 99.39 293 P **Pdif** 12 06 19.4 0.0
RAYN pmax pmax
comp=Z,4.0nm,1.2s
PKM **Mcpherson Peak** 99.42 56 P **Pdif** 12 06 20.2 +0.7
baz=269
VES **Vestal, Richgr** 100.03 55 P **Pdif** 12 06 21.6 -0.2
baz=270
J08A **Circle Bar Ran** 100.46 47 Pdif **Pdif** 12 06 24.8 +1.0
NVAR **Mina Array Bea** 100.66 52 Pdif **Pdif** 12 06 24.9 -0.1
NVAR **Mina Array Bea** 100.66 52 P **Pdif** 12 06 25.4 +0.4
comp=Z,2.0nm,0.9s,baz=256,slow=5.2,SNR=9.8
CWC **Cottonwood Cre** 100.85 54 P **Pdif** 12 06 25.3 -0.4
baz=270
BFSC **Mount Baldy Ra** 101.19 56 P **Pdif** 12 06 27.3 0.0
baz=270
YKA **Yellowknife Ar** 101.27 28 P **Pdif** 12 06 26.2 -0.6
comp=Z,0.6nm,0.9s,baz=280,slow=4.9,SNR=8.0
MPMC **Manual Prospec** 101.33 55 P **Pdif** 12 06 27.3 -0.7
baz=270
KIV **Kislovodsk** 101.81 313 *e* P **Pdif** 12 06 27.3 -2.4
KIV pmax pmax
comp=Z,6.0nm,1.1s
APA **Apatity** 103.24 338 ⇓ *i* P **Pdif** 12 06 38.5 +3.1
APA pmax pmax
comp=Z,14nm,0.8s
HLID **Hailey** 103.41 47 P **Pdif** 12 06 37.4 +0.4
baz=274
SPR3 **Spring Creek 3** 103.75 52 Pdif **Pdif** 12 06 39.7 +0.9
PDAR **Pinedale Array** 107.02 47 Pdiff **Pdif** 12 06 54.5 +1.3
comp=Z,6.6nm,0.8s,baz=284,slow=2.4,SNR=4.4
WHTX **Lake Whitney,** 118.26 57 P **PKiKP** 12 11 23.4 -0.7
baz=281
RONA **Rosalia, Austr** 118.83 322 *i* PKiKP **PKiKP** 12 11 26.0 +1.2
comp=Z,0.8nm,0.3s
CLL **Collm** 119.11 327 *e* PKIKP **PKiKP** 12 11 27.0 +1.9
GERES **GERESS Array B** 119.89 324 PKP **PKiKP** 12 11 27.6 +0.7
comp=Z,0.4nm,0.4s,baz=38,slow=5.0,SNR=4.8
S39A **Bolivar** 120.21 50 PKPdf **PKiKP** 12 11 27.4 -0.3
JFWS **Jewell Farm** 120.70 43 P **PKiKP** 12 11 27.6 -0.9
baz=292
ABTA **Abfaltersbach** 121.57 322 *e* PKiKP **PKiKP** 12 11 30.4 +0.1
comp=Z,2.4nm,0.7s
CCM **Cathedral Cave** 121.67 49 P **PKiKP** 12 11 29.6 -1.0
baz=289
WTTA **Wattenberg** 121.86 323 *e* PKiKP **PKiKP** 12 11 31.5 +0.6
comp=Z,1.8nm,0.4s
SQTA **Sankt Quirin** 122.13 323 *e* PKiKP **PKiKP** 12 11 31.8 +0.5
comp=Z,1.2nm,0.2s
MOTA **Moosalm** 122.13 323 *e* PKiKP **PKiKP** 12 11 31.7 +0.3
comp=Z,1.3nm,0.3s
HDIL **Hopedale** 122.24 45 P **PKiKP** 12 11 31.0 -0.6
baz=292
FETA **Feichten** 122.51 323 *e* PKiKP **PKiKP** 12 11 32.9 +0.7
comp=Z,1.9nm,0.6s
L44A **Lake County Fo** 122.58 43 P **PKiKP** 12 11 31.7 -0.5
baz=294
SFIN **Lafayette** 123.86 45 P **PKiKP** 12 11 33.9 -0.9
baz=294
EKA **Eskdalemuir Ar** 124.17 337 PKP **PKiKP** 12 11 35.2 +0.3
comp=Z,1.6nm,0.6s,baz=45,slow=4.1,SNR=3.5
WVT **Waverly** 124.88 50 P **PKiKP** 12 11 35.7 -1.2
baz=290
P49A **Miami Univ. Ec** 125.87 45 P **PKiKP** 12 11 37.8 -1.1
baz=295
LRAL **Lakeview Retre** 126.55 53 P **PKiKP** 12 11 39.3 -1.1
baz=289
ACSO **Alum Creek Sta** 126.77 43 P **PKiKP** 12 11 39.2 -1.4
baz=297
M53A **WI Miller and** 127.74 41 P **PKiKP** 12 11 41.3 -1.2
baz=300
BO02 **Sierra Bellavi** 128.14 144 PKPdf **PKiKP** 12 11 43.8 +0.2
GOGA **Godfrey** 129.20 52 P **PKiKP** 12 11 44.2 -1.5
baz=292
BLA **Blacksburg** 129.92 46 P **PKiKP** 12 11 46.0 -1.1
baz=297
SSPA **Standing Stone** 129.97 41 P **PKiKP** 12 11 45.4 -1.5
baz=302
KMSC **Kings Mountain** 130.15 49 P **PKiKP** 12 11 46.1 -1.5
baz=295
ESDC **Sonseca Array** 135.47 323 PKP **PKiKP** 12 11 58.9 +0.7
comp=Z,0.3nm,0.3s,baz=29,slow=2.9,SNR=2.0
MCRA **Macar, Loja** 135.78 103 PKPdf **PKiKP** 12 11 58.0 -1.6
TORD **Torodi Ar. Bea** 141.35 283 PKhKP PKPpre 12 12 04.0
comp=Z,1.1nm,0.6s,baz=58,slow=3.9,SNR=6.5
TORD PKP **PKiKP** 12 12 11.2 +0.4
comp=Z,5.3nm,1.0s,baz=63,slow=3.9,SNR=13
LPAZ **La Paz** 141.84 126 PKhKP PKPpre 12 12 05.4
comp=Z,8.4nm,1.0s,baz=223,slow=1.5,SNR=7.6
CPUP **Villa Florida** 142.00 149 PKP **PKiKP** 12 12 10.4 -1.5
comp=Z,3.6nm,0.8s,baz=152,slow=2.1,SNR=5.5
SDDR **Presa de Saban** 144.29 66 PKPdf **PKPdf** 12 12 11.6 -1.6
TBTG **Tabatinga, AM** 145.48 107 **PKPab** 12 12 15.5 -0.2
SDV **Santo Domingo** 146.53 83 **PKiKP** 12 12 19.4 -2.3
ETMB **Extrema** 146.74 119 **PKPab** 12 12 18.6 -1.8
AQDB **Aquidauana** 147.62 146 **PKiKP** 12 12 20.9 -2.7
KIC **Kosan Boka** 147.99 272 ⇑ *i* PKP1 **PKPab** 12 12 24.0 -1.4

comp=Z,97nm,1.2s
DBIC Dimbokro 148.11 272 PKPab **PKPab 12 12 24.6 -1.3**
DBIC Dimbokro 148.11 272 PKPbc **PKPab 12 12 23.8 -2.1**
comp=Z,28nm,0.7s,baz=91,slow=3.0,SNR=24
LIC Lamto 148.27 272 ⇑*i*PKP1 **PKPab 12 12 24.7 -1.8**
comp=Z,158nm,0.9s
TIC Toumodi 148.27 272 ⇑*i*PKP1 **PKPab 12 12 24.7 -1.9**
comp=Z,88nm,0.9s
CRPR Cabo Rojo, PR 148.37 66 PKPbc **PKiKP 12 12 23.4 -1.8**
OBIP Obispado Ponce 148.81 65 **PKPbc 12 12 23.1 -1.6**
CELP Cerrillos 148.83 65 **PKiKP 12 12 24.6 -1.5**
IGPR InterUniversit 149.29 65 **PKiKP 12 12 25.5 -1.5**
SAML Samuel 149.78 120 PKPbc **PKiKP 12 12 27.9 -0.3**
SAML Samuel 149.78 120 PKP2 **PKiKP 12 12 27.9 -0.3**
VILB Vilhena 150.00 130 PKPbc **PKiKP 12 12 28.6 -0.1**
BDFB Brasilia 155.59 153 PKPab **PKPab 12 12 56.4 -0.5**
comp=Z,7.1nm,1.0s,baz=104,slow=6.3,SNR=4.4

KRSC 23 11:52:50.4±1.2, 54.88N×165.89E, h33km±11km, Ml3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.33**	**8**	*e*P	Pn	11 52 59.5	+0.6
BKI				*e*S	Sn	11 53 04.0	-0.1
TUMD	**Tumrok D**	**3.18**	**278**	*e*P	Pn	11 53 41.4	+3.4
KLY	**Klyuchi**	**3.31**	**298**	*e*S	Sn	11 54 19.3	+1.5
TUMR	**Tumrok**	**3.33**	**279**	*e*P	Pn	11 53 44.4	+4.2
KMNR	**Kamenistaya**	**3.35**	**288**	*e*P	Pb	11 53 45.0	-4.1
SRDR	**Sredinnyy**	**3.79**	**295**	*e*P	Pb	11 53 53.4	-3.1
SRDR				*e*S	Sn	11 54 35.4	+5.5
ESO	**Esso**	**4.23**	**287**	*e*P	Pn	11 53 57.0	+4.5
SMAR	**Somma**	**4.48**	**252**	*e*P	Pn	11 54 00.7	+4.6
KRER	**Koryakskii**	**4.49**	**252**	*e*P	Pn	11 54 00.7	+4.5
AVH	**Avacha**	**4.51**	**252**	*e*P	Pn	11 54 01.2	+4.8
KRX	**Arik**	**4.53**	**253**	*e*P	Pn	11 54 01.1	+4.5
KOK	**Koryaka**	**4.56**	**253**	*e*P	Pn	11 54 01.5	+4.5
DALK	**Dalny**	**4.60**	**249**	*e*P	Pn	11 54 01.8	+4.3
OSSR	**Ossora**	**4.65**	**342**	*e*P	Pn	11 54 01.7	+3.5
GNL	**Ganaly**	**4.81**	**259**	*e*P	Pn	11 54 05.3	+4.8
KRMR	**Karymshinskiy**	**5.03**	**249**	*e*S	Sn	11 55 03.4	+3.0
MTVR	**Mutnovka**	**5.17**	**246**	*e*P	Pn	11 54 10.0	+4.6

*WEL **23** 11:55:14.3±0.6, 32°S±6′×17°8W±1′5, h233km±9km, M4.4/21, mB4.8/21, ML5.0/16, MLv5.2/20, Mw(mB)4.1/21, Error ellipse: s-maj=0.0km s-min=0.0km az=109.9*
*IDC **23** 11:55:15.6±1.5, 30.96S×179.97W, h184km±16km, mb4.1/3, mbtmp4.5/5, Error ellipse: s-maj=42.7km s-min=11.8km az=107.0*

ISC 23 11:55:14.7±0.8, 31.60S±0.07×178.1W±0.2, h200km, n78, σ1§69/101, mb4.2/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.33**	**4**	P	**Pn**	**11 55 58.2**	**+1.4**
GLKZ				S	**Sn**	**11 56 32.0**	**+2.5**
RAO	**Raoul Island**	**2.34**	**4**	P	**Pn**	**11 55 58.8**	**+1.9**
	165nm,0.3s,baz=281,slow=23,SNR=1.6						
RAO				S	**Sn**	**11 56 31.4**	**+1.7**
	596nm,0.3s,baz=60,slow=21,SNR=9.1						
WMGZ	**Waiomatatini S**	**6.84**	**204**	P	**Pn**	**11 56 54.8**	**+2.2**
WMGZ				S	**Sn**	**11 58 14.6**	**+4.1**
HAZ	**Te Kaha**	**7.01**	**208**	P	**Pn**	**11 56 56.6**	**+1.7**
HAZ				S	**Sn**	**11 58 19.6**	**+4.9**
PKGZ	**Pakihiroa**	**7.02**	**206**	P	**Pn**	**11 56 56.2**	**+1.1**
PKGZ				S	**Sn**	**11 58 17.0**	**+2.2**
PUZ	**Puketiti**	**7.12**	**204**	P	**Pn**	**11 56 57.5**	**+1.2**
PUZ				S	**Sn**	**11 58 19.9**	**+2.8**
RUGZ	**Raukumara Rang**	**7.24**	**207**	P	**Pn**	**11 56 58.9**	**+0.9**
RUGZ				S	**Sn**	**11 58 19.0**	**-1.1**
TWGZ	**Tauwhareparae**	**7.31**	**205**	P	**Pn**	**11 57 00.1**	**+1.3**
TWGZ				S	**Sn**	**11 58 23.5**	**+1.8**
CNGZ	**Carnagh Statio**	**7.51**	**203**	P	**Pn**	**11 57 02.9**	**+1.5**
TKGZ	**Te Karaka**	**7.59**	**205**	P	**Pn**	**11 57 03.0**	**+0.5**
TKGZ				S	**Sn**	**11 58 30.4**	**+2.2**
MWZ	**Matawai**	**7.62**	**207**	P	**Pn**	**11 57 03.2**	**+0.3**
MWZ				S	**Sn**	**11 58 29.8**	**+0.9**
OPRZ	**Ohinepanea**	**7.62**	**214**	P	**Pn**	**11 57 03.4**	**+0.5**
WCZ	**Waipu Caves**	**7.63**	**233**	P	**Pn**	**11 57 04.2**	**+1.2**
MARZ	**Manawahe**	**7.68**	**213**	P	**Pn**	**11 57 04.3**	**+0.6**
MARZ				S	**Sn**	**11 58 35.2**	**+4.7**
URZ	**Urewera**	**7.72**	**209**	P	**Pn**	**11 57 03.9**	**-0.2**
	9.1nm,0.4s,baz=45,slow=11,SNR=30						
URZ				S	**Sn**	**11 58 30.0**	**-1.3**
	88nm,0.4s,baz=356,slow=22,SNR=15						
URZ	**Urewera**	**7.72**	**209**	P	**Pn**	**11 57 03.7**	**-0.4**
URZ				S	**Sn**	**11 58 30.4**	**-0.9**
RAGZ	**Rawiri**	**7.80**	**207**	P	**Pn**	**11 57 05.4**	**+0.1**
RAGZ				S	**Sn**	**11 58 34.8**	**+1.4**
OUZ	**Omahuta**	**7.82**	**240**	P	**Pn**	**11 57 04.0**	**-1.5**
RIGZ	**Rimuhau**	**7.86**	**204**	P	**Pn**	**11 57 06.1**	**+0.1**
RIGZ				S	**Sn**	**11 58 34.7**	**0.0**
PRGZ	**Paritu Road**	**8.01**	**203**	P	**Pn**	**11 57 08.8**	**+0.8**
PRGZ				S	**Sn**	**11 58 39.6**	**+1.4**
MUGZ	**Murupara**	**8.05**	**210**	P	**Pn**	**11 57 08.0**	**-0.4**
MUGZ				S	**Sn**	**11 58 39.9**	**+0.8**
TOZ	**Tahuroa Road**	**8.07**	**219**	P	**Pn**	**11 57 10.4**	**+1.7**
RTZ	**Ruatahuna**	**8.07**	**209**	P	**Pn**	**11 57 07.6**	**-1.3**
SNGZ	**Shannon Statio**	**8.08**	**206**	P	**Pn**	**11 57 08.3**	**-0.5**
SNGZ				S	**Sn**	**11 58 39.4**	**-0.4**
MHGZ	**Mahia Peninsul**	**8.21**	**202**	P	**Pn**	**11 57 11.1**	**+0.6**
MHGZ				S	**Sn**	**11 58 43.6**	**+0.7**
PRRZ	**Plateau Road**	**8.23**	**212**	P	**Pn**	**11 57 11.4**	**+0.6**
RAHZ	**Arahi**	**8.29**	**207**	P	**Pn**	**11 57 11.1**	**-0.5**
RAHZ				S	**Sn**	**11 58 42.7**	**-2.3**
ALRZ	**Allen Road**	**8.30**	**212**	P	**Pn**	**11 57 11.5**	**-0.2**
MTHZ	**Maungataniwha**	**8.33**	**208**	P	**Pn**	**11 57 11.7**	**-0.5**
MTHZ				S	**Sn**	**11 58 46.1**	**+0.2**
WHHZ	**Waihua**	**8.38**	**206**	P	**Pn**	**11 57 13.6**	**+0.9**
WHHZ				S	**Sn**	**11 58 46.0**	**-0.9**
MRHZ	**Matea Rd**	**8.49**	**210**	P	**Pn**	**11 57 15.9**	**+1.6**
NMHZ	**Naumai**	**8.56**	**208**	P	**Pn**	**11 57 11.9**	**-1.2**
NMHZ				S	**Sn**	**11 58 52.4**	**+1.1**
ARHZ	**Aropaoanui**	**8.63**	**206**	P	**Pn**	**11 57 15.1**	**-0.9**
ARHZ				S	**Sn**	**11 58 53.2**	**+0.4**
BKZ	**Black Stump Fm**	**8.74**	**209**	P	**Pn**	**11 57 16.1**	**-1.4**
BKZ				S	**Sn**	**11 58 52.9**	**-2.8**
MCHZ	**McNeill Hill**	**8.90**	**207**	P	**Pn**	**11 57 17.9**	**-1.6**
MCHZ				S	**Sn**	**11 58 56.9**	**-2.4**
CKHZ	**Cape Kidnapper**	**8.95**	**205**	P	**Pn**	**11 57 16.5**	**-3.6**
CKHZ				S	**Sn**	**11 58 59.8**	**-0.6**
HIZ	**Hauiti**	**8.99**	**218**	P	**Pn**	**11 57 22.1**	**+1.4**
KWHZ	**Kaweka Forest**	**8.99**	**208**	P	**Pn**	**11 57 19.0**	**-1.8**
TMVZ	**Te Maari**	**9.04**	**212**	P	**Pn**	**11 57 21.3**	**-0.2**
ETVZ	**East Tongariro**	**9.06**	**212**	P	**Pn**	**11 57 22.6**	**+0.9**
OTVZ	**Oturere**	**9.10**	**212**	P	**Pn**	**11 57 21.7**	**-0.6**
SNVZ	**South Ngauruho**	**9.13**	**212**	P	**Pn**	**11 57 23.6**	**+0.9**
KAHZ	**Kahuranaki**	**9.14**	**205**	P	**Pn**	**11 57 21.7**	**-1.0**
BHHZ	**Black Hill Sta**	**9.19**	**209**	P	**Pn**	**11 57 21.3**	**-2.1**
KRHZ	**Kereru**	**9.20**	**208**	P	**Pn**	**11 57 21.0**	**-2.4**
WNVZ	**Wahianoa**	**9.26**	**212**	P	**Pn**	**11 57 23.3**	**-1.1**
PXZ	**Pawanui**	**9.35**	**204**	P	**Pn**	**11 57 24.2**	**-1.2**
VRZ	**Vera Road**	**9.50**	**216**	P	**Pn**	**11 57 28.9**	**+1.6**
WPHZ	**Waipukurau**	**9.54**	**206**	P	**Pn**	**11 57 29.1**	**+1.4**
PRHZ	**Porangahau**	**9.64**	**205**	P	**Pn**	**11 57 27.4**	**-1.7**
TSZ	**Takapari Road**	**9.72**	**208**	P	**Pn**	**11 57 30.6**	**+0.4**
DVHZ	**Dannevirke**	**9.84**	**207**	P	**Pn**	**11 57 31.7**	**-0.1**
ANWZ	**Angora Road**	**9.87**	**205**	P	**Pn**	**11 57 32.0**	**-0.1**
WAZ	**Wanganui**	**9.89**	**213**	P	**Pn**	**11 57 31.5**	**-0.9**
POWZ	**Post Office Ro**	**10.08**	**208**	P	**Pn**	**11 57 34.0**	**-0.8**
PRWZ	**Pori Road**	**10.14**	**207**	P	**Pn**	**11 57 35.2**	**-0.4**
BFZ	**Birch Farm**	**10.15**	**205**	P	**Pn**	**11 57 33.3**	**-2.4**
TIWZ	**Tintock**	**10.36**	**206**	P	**Pn**	**11 57 36.9**	**-1.6**
MRZ	**Mangatainoka R**	**10.38**	**208**	P	**Pn**	**11 57 34.8**	**-3.9**
HOWZ	**Holdsworth Sta**	**10.61**	**207**	P	**Pn**	**11 57 38.2**	**-3.4**
OGWZ	**Otaki Gorge**	**10.68**	**209**	P	**Pn**	**11 57 41.3**	**-1.2**
QSPA	**South Pole Qui**	**58.52**	**180**	P	P	12 04 57.7	+8.0
	6.1nm,0.7s,baz=78,slow=1.1,SNR=38 6.1nm,0.7s						
H03N3	**Juan Fernandez**	**80.08**	**123**	T	T	13 36 27.0	
	baz=240,slow=72,SNR=5.7						
H03N2	**Juan Fernandez**	**80.08**	**123**	T	T	13 36 21.1	
	baz=240,slow=72,SNR=4.1						
H03N1	**Juan Fernandez**	**80.10**	**123**	T	T	13 36 24.6	
	baz=240,slow=72,SNR=7.8						
ASAJ	**Asahikawa**	**83.46**	**333**	P	**P**	**12 07 17.4**	**-2.0**
	2.7nm,0.8s,baz=159,slow=8.6,SNR=5.4 2.7nm,0.8s						
PETK	**Petropavlovsk-**	**86.94**	**346**	P	**P**	**12 07 35.0**	**-1.6**
	2.4nm,0.6s,baz=112,slow=6.7,SNR=10.0 2.4nm,0.6s						
MKAR	**Makanchi Array**	**118.47**	**310**	PKP	**PKPdf**	**12 13 36.5**	**-1.7**
	0.3nm,0.6s,baz=75,slow=2.2,SNR=5.2						
KURBB	**Kurchatov Arra**	**121.84**	**313**	PKP	**PKPdf**	**12 13 43.0**	**-1.4**
	1.1nm,0.6s,baz=113,slow=1.8,SNR=18						
BVAR	**Beovoye Array**	**127.19**	**315**	PKP	**PKPdf**	**12 13 53.8**	**-0.9**
	1.6nm,0.5s,baz=90,slow=1.6,SNR=10						
ARCES	**ARCESS Array B**	**139.73**	**347**	PKP	**PKPdf**	**12 14 18.1**	**+0.4**
	7.5nm,1.0s,baz=31,slow=2.4,SNR=4.4						
FINES	**FINESS Array B**	**146.23**	**339**	PKPbc	**PKPdf**	**12 14 29.1**	**-0.1**
	15nm,0.7s,baz=46,slow=4.0,SNR=62						
NB2	**NORSAR Subarra**	**149.91**	**351**	PKP	**PKPbc**	**12 14 39.6**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=15,slow=4.0						
NOA	**NORSAR Array B**	**149.91**	**351**	PKPbc	**PKPbc**	**12 14 39.9**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=16,slow=4.1,SNR=6.1						
HFS	**Hagfors**	**150.39**	**348**	PKPbc	**PKPbc**	**12 14 40.6**	**-1.0**
	comp=Z,1.7nm,0.4s,baz=62,slow=0.4,SNR=16						
MMAI	**Mount Meron Ar**	**151.71**	**282**	PKPbc	**PKPbc**	**12 14 45.3**	**-0.3**
	comp=Z,1.6nm,0.3s,baz=75,slow=6.1,SNR=4.5						
AKASG	**Malin Array Be**	**152.18**	**321**	PKPbc	**PKPbc**	**12 14 44.8**	**-1.2**
	comp=Z,2.5nm,0.6s,baz=54,slow=2.4,SNR=12						
TORD	**Torodi Ar. Bea**	**161.64**	**179**	PKPab	**PKPab**	**12 15 42.0**	**+4.0**
	comp=Z,1.2nm,0.9s,baz=167,slow=4.1,SNR=4.4						

*BJI **23** 12:16:29.6±0.0, 30.03N×142.40E, h9km, mb4.6/56, mB5.0/31, Ms4.4/28, Ms7 4.1/30*
*MOS **23** 12:16:31.1±0.9, 29.96N×142.32E, h15km, mb5.0/46, MS4.1/4, Error ellipse: s-maj=10.3km s-min=4.8km az=122.2*
*NEIC **23** 12:16:32.3±1.9, 30.03N±0.06×142.49E±0.10, h10km±1km, mb4.9/117, Error ellipse: s-maj=14.4km s-min=9.3km az=80.0*
*IDC **23** 12:16:32.0±0.6, 30.04N×142.16E, h0km, mb4.5/25, mbtmp4.5/26, ML3.4/1, MS3.8/10, Error ellipse: s-maj=17.1km s-min=14.7km az=55.0*
*NIED **23** 12:16:34.7, 30.04N×142.07E, h46km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr0.78; Mθθ-0.01; Mφφ-0.76; Mrθ-0.44; Mθφ0.31; Mφr0.95; Fault plane solution: Mo1.33000×10^16 NP1: φs336.00000°, δ71.00000°, λ87.00000°. NP2: φs166.00000°, δ19.00000°, λ99.00000°.*
*JMA **23** 12:16:34.7±0.2, 30.0N±0.9×14.2E±°, h46km, MV4.4/34, NEAR TORISHIMA IS*

ISC 23 12:16:32.1±0.3, 30.03N±0.04×142.38E±0.05, h10km, n319, σ1§77/318, mb4.8/121, MS4.1/18, 15C-3D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.92**	**183**	P	**Pn**	**12 17 20.2**	**+1.5**
CBIJ				*e*S	**Sn**	**12 17 53.6**	**-0.4**
JCJ	**Chichijima**	**2.92**	**183**	Pn	**Pn**	**12 17 18.6**	**-0.1**
JCJ	**Chichijima**	**2.92**	**183**	Pn	**Pn**	**12 17 15.6**	**-3.1**
	15nm,0.3s,baz=292,slow=19,SNR=2.4						
JCJ				Sn	**Sn**	**12 17 48.7**	**-5.2**
	45nm,0.3s,baz=263,slow=23,SNR=5.7						
JCJ				LR	LR	12 18 29.9	
	comp=Z,2μm,19.1s,baz=80,slow=40						
JAOM	**Aogashimamukai**	**3.31**	**318**	*e*S	**Sn**	**12 17 57.4**	**-5.9**
JHCJ	**Hachijojimakas**	**3.75**	**325**	*e*S	**Sn**	**12 18 10.1**	**-4.3**
JHJ2	**Mitsune**	**3.77**	**325**	Pn	**Pn**	**12 17 31.4**	**+1.1**
JHJ2	**Mitsune**	**3.77**	**325**	*e*S	**Sn**	**12 18 12.1**	**-2.8**
JHJ	**Hachijo jima 2**	**3.80**	**325**	Sn	**Sn**	**12 18 09.8**	**-5.6**
	27nm,0.3s,baz=43,slow=21,SNR=1.9						
BSO1	**Boso 1**	**4.76**	**346**	P	**Pn**	**12 17 44.4**	**+0.9**
BSO1				S	**Sn**	**12 18 37.7**	**-0.8**
BSO3	**Boso 3**	**5.02**	**342**	P	**Pn**	**12 17 47.9**	**+0.7**
JOD2	**Odawara 2**	**5.91**	**333**	*e*P	**Pn**	**12 18 00.7**	**+0.9**
JHU	**Hanno**	**6.37**	**337**	*e*P	**Pn**	**12 18 06.5**	**+0.5**
JHU				*e*S	**Sn**	**12 19 15.7**	**-3.1**
JYT	**Yasato**	**6.45**	**344**	P	**Pn**	**12 18 09.0**	**+1.8**
JRY	**Ryogami san**	**6.65**	**335**	P	**Pn**	**12 18 10.6**	**+0.7**
JRY				*e*S	**Sn**	**12 19 23.9**	**-1.9**
JHO	**Hitachi**	**6.74**	**347**	P	**Pn**	**12 18 10.5**	**-0.6**
JHO				S	**Sn**	**12 19 21.9**	**-6.0**
JAG	**Ashikaga**	**6.84**	**340**	P	**Pn**	**12 18 12.1**	**-0.3**
JAG				*e*S	**Sn**	**12 19 25.6**	**-4.7**
INU	**Inuyama**	**6.97**	**321**	Pn	**Pn**	**12 18 15.0**	**+0.7**
JGF	**Kuroka**	**6.98**	**324**		**Pn**	**12 18 14.9**	**+0.4**
MJAR	**Matsushiro Arr**	**7.38**	**333**	Pn	**Pn**	**12 18 20.4**	**+0.5**
	0.7nm,0.3s,baz=158,slow=11,SNR=33						
MJAR				Sn	**Sn**	**12 19 44.2**	**+0.6**
	0.2nm,0.3s,baz=163,slow=20,SNR=4.9 14nm,0.7s						
MAJO	**Matsushiro**	**7.38**	**333**	Pn	**Pn**	**12 18 21.1**	**+1.2**
MAJO	**Matsushiro**	**7.38**	**333**	*i* P	**Pn**	**12 18 20.5**	**+0.6**
MJB9	**Matsu-Tunnel**	**7.38**	**333**	Pn	**Pn**	**12 18 21.5**	**+1.5**
JFK	**Kawauchi**	**7.43**	**351**	*e*P	**Pn**	**12 18 19.8**	**-0.8**
JFK				*e*S	Sn	12 19 36.4	-8.6
JMM	**Marumori**	**7.93**	**351**		**Pn**	**12 18 27.4**	**0.0**
JSD	**Sado**	**8.69**	**338**	Pn	**Pn**	**12 18 37.4**	**-0.5**
JMK	**Ichinoseki**	**8.96**	**354**	*e*P	**Pn**	**12 18 41.0**	**-0.5**
JMK				*e*S	Sn	12 20 13.5	-9.0
JNU	**Nakatsue**	**10.28**	**290**	Pn	Pn	12 19 04.7	+4.9
	0.1nm,0.3s,baz=111,slow=11,SNR=3.3						
JNU				Sn	**Sn**	**12 20 55.4**	**+0.1**
	0.1nm,0.3s,baz=38,slow=21,SNR=0.8						
JNU				LR	LR	12 22 40.0	
	comp=Z,576nm,18.9s,baz=110,slow=36						
JTM	**Tenmabayashi**	**10.79**	**355**	Pn	**Pn**	**12 19 06.3**	**-0.3**
ERM	**Erimo**	**11.98**	**3**	Pn	**Pn**	**12 19 21.4**	**-1.5**
ERM	**Erimo**	**11.98**	**3**	*i* P	**Pn**	**12 19 21.0**	**-1.9**
JOW	**Kunigami**	**12.81**	**259**	Pn	**Pn**	**12 19 37.2**	**+2.8**
JOW	**Kunigami**	**12.81**	**259**	LR	LR	12 24 18.5	
	comp=Z,413nm,18.1s,baz=110,slow=37						
ASAJ	**Asahikawa**	**14.07**	**1**	P	**Pn**	**12 19 49.7**	**-1.7**
ASAJ	**Asahikawa**	**14.07**	**1**	Pn	**Pn**	**12 19 49.4**	**-2.0**
	0.5nm,0.3s,baz=202,slow=15,SNR=12						
ASAJ				Sn	Sn	12 22 16.9	-11
	0.1nm,0.3s,baz=116,slow=31,SNR=4.2						
JKA	**Kamikawa-asahi**	**14.07**	**1**	Pn	**Pn**	**12 19 49.7**	**-1.7**
KSRS	**Korea Array**	**14.12**	**305**	Pn	**Pn**	**12 19 56.0**	**+3.8**
	0.3nm,0.3s,baz=113,slow=12,SNR=21						
KSAR	**Wonju Array Be**	**14.14**	**305**		**Pn**	**12 19 53.2**	**+0.7**
KSAR	**Wonju Array Be**	**14.14**	**305**	P	**Pn**	**12 19 53.2**	**+0.7**
KS19	**Wonju Array Si**	**14.18**	**306**		**Pn**	**12 19 54.7**	**+1.7**
USRK	**Ussuriysk Ar.**	**16.38**	**333**	Pn	**P**	**12 20 25.0**	**+0.1**
	0.3nm,0.3s,baz=147,slow=9.1,SNR=5.2						
GUMO	**Guam**	**16.52**	**171**	LR	LR	12 26 37.2	
	comp=Z,206nm,18.7s,baz=37,slow=37						
YSS	**Yuzh-Sakhalins**	**16.91**	**1**	Pn	**Pn**	**12 20 27.7**	**-1.0**
YSS	**Yuzh-Sakhalins**	**16.91**	**1**	*e*P	**Pn**	**12 20 28.0**	**-0.7**
YSS				pmax	pmax		
	comp=Z,40nm,1.1s						
YSS				MLR	MLR		
	comp=Z,500nm,13.0s						
MDJ	**Mudanjiang**	**17.73**	**329**	P	**Pn**	**12 20 37.6**	**-1.5**
MDJ				pP	P	12 20 40.5	+0.6
MDJ				sP	sP	12 20 41.8	+0.7
MDJ				S	**Sn**	**12 24 01.3**	**+4.7**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,97nm,3.6s						
MDJ				LR	LR		
	comp=Z,580nm,15.1s						
MDJ				LR	LR		
	comp=Z,710nm,14.4s						
MDJ				LR	LR		
	comp=Z,720nm,17.5s						
MDJ	**Mudanjiang**	**17.73**	**329**	Pn	**Pn**	**12 20 38.4**	**-0.7**
TATO	**Taipei**	**19.20**	**260**		**P**	**12 20 56.6**	**+0.5**
SNY	**Shenyang**	**19.20**	**313**	⇑P	P	12 20 44.8	-11
SNY				S	**Sn**	**12 24 24.8**	**-7.4**
SNY				pmax	pmax		
	comp=Z,8.0nm,0.4s						
SNY				pmax	pmax		
	comp=Z,170nm,9.0s						
SNY				LR	LR		
	comp=N,280nm,9.6s						
SNY				LR	LR		
	comp=E,270nm,13.7s						
SNY				LR	LR		
	comp=Z,370nm,11.8s						
DL2	**Dalian**	**19.24**	**303**	P	**Pn**	**12 20 58.5**	**+1.0**
DL2				pmax	pmax		
	comp=Z,40nm,0.6s						
DL2				pmax	pmax		
	comp=Z,190nm,5.5s						
DL2				LR	LR		
	comp=Z,400nm,14.5s						
DL2				LR	LR		
	comp=Z,510nm,12.8s						
DL2				LR	LR		
	comp=Z,670nm,12.0s						
CN2	**Changchun**	**19.25**	**320**	*e*P	**P**	**12 20 54.6**	**-2.0**
CN2				*e*S	Sn	12 24 23.8	-9.4
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,100nm,5.0s						
CN2				LR	LR		
	comp=Z,300nm,12.0s						
CN2				LR	LR		
	comp=Z,400nm,12.0s						
CN2				LR	LR		
	comp=Z,500nm,16.0s						
NACB	**Ninganchiao**	**19.39**	**257**	P	**P**	**12 20 58.0**	**-0.3**
YHNB	**Yeheng**	**19.40**	**259**	P	**P**	**12 20 58.4**	**-0.1**
YHNB				IAmb	IAmb	12 21 07.8	
	comp=Z,42nm,1.0s						
BNX	**BinXian**	**19.59**	**327**	⇑P	**P**	**12 21 01.3**	**+1.0**
BNX				pmax	pmax		
	comp=Z,35nm,1.0s						
BNX				pmax	pmax		
	comp=Z,150nm,5.7s						
YULB	**Yu-li**	**19.95**	**256**	P	**P**	**12 21 04.6**	**+0.2**
YULB				IAmb	IAmb	12 21 16.8	
	comp=Z,92nm,1.4s						
SSLB	**Suanglung**	**20.08**	**257**	P	**P**	**12 21 06.3**	**+0.5**
SSLB				IAmb	IAmb	12 21 07.8	
	comp=Z,108nm,1.4s						
NJ2	**Nanjing**	**20.25**	**282**	*e*P	**P**	**12 21 08.5**	**+0.8**
NJ2				sP	Pn	12 21 13.6	+4.0
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,240nm,11.4s						
NJ2				LR	LR		
	comp=Z,450nm,16.1s						
NJ2				LR	LR		
	comp=Z,420nm,13.7s						
TWG	**Pinlang**	**20.37**	**254**	P	**P**	**12 21 08.6**	**-0.4**
TWG				IAmb	IAmb	12 21 25.6	
	comp=Z,33nm,0.8s						
TPUB	**Ta-pu**	**20.54**	**256**	P	**P**	**12 21 11.0**	**+0.1**
TPUB				IAmb	IAmb	12 21 25.7	
	comp=Z,57nm,1.0s						
KLR	**Kul'dur**	**20.82**	**340**	*c*eP	**P**	**12 21 14.8**	**+1.2**
KLR				pmax	pmax		
	comp=Z,14nm,1.0s						
KLR	**Kul'dur**	**20.82**	**340**	P	**P**	**12 21 14.2**	**+0.6**
	comp=Z,13nm,0.9s,baz=151,slow=9.7,SNR=19 comp=Z,13nm,0.9s						
TYV	**Tymovskoe**	**20.82**	**0**	*e*P	Pn	12 21 16.9	+0.9
TYV				*e*S	Sn	12 25 16.1	+5.2
TYV				pmax	pmax		
	comp=Z,100nm,3.3s						
TYV				pmax	pmax		
	comp=Z,13nm,1.1s						
GRNR	**Gornyy**	**21.20**	**349**	⇓*i*P	**P**	**12 21 21.6**	**+3.9**
GRNR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HEH	**HeiHe**	**23.14**	**335**	*e*P	**P**	**12 21 38.0**	**-0.4**
HEH				pmax	pmax		
	comp=Z,13nm,0.9s						
HEH				pmax	pmax		
	comp=Z,220nm,4.5s						
BJT	**Baijiatuau**	**23.59**	**302**	P	**P**	**12 21 41.4**	**-1.7**
BJT	**Baijiatuau**	**23.59**	**302**	P	**P**	**12 21 41.4**	**-1.7**
BJT				pmax	pmax		
	comp=Z,16nm,1.1s						
BJI	**Beijing**	**23.59**	**302**	P	**P**	**12 21 41.3**	**-1.8**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HNS	**HongShan**	**24.11**	**295**	*e*P	**P**	**12 21 45.3**	**-2.7**
HNS				*e*S	S	12 25 56.0	-10
HNS				LR	LR		
	comp=Z,240nm,14.3s						
HNS				LR	LR		
	comp=Z,490nm,15.9s						
HNS				LR	LR		
	comp=Z,480nm,15.9s						
WHN	**Wuhan**	**24.19**	**278**	⇑P	**P**	**12 21 44.3**	**-4.5**
WHN				LR	LR		
	comp=Z,1μm,14.6s						
H11N2	**WAKE ISLAND Hy**	**24.44**	**109**	T	T	12 47 35.4	
	baz=299,slow=76						
H11N1	**WAKE ISLAND Hy**	**24.45**	**109**	T	T	12 47 32.1	
	baz=299,slow=76						
H11N3	**WAKE ISLAND Hy**	**24.46**	**109**

QIZ S **S** **12 28 04.9 +2.8**
QIZ LR LR
comp=Z,180nm,10.0s
QIZ LR LR
comp=Z,180nm,15.5s
QIZ LR LR
comp=Z,190nm,13.7s
GYA Guiyang 31.59 272⇑ *i*P **P** **12 22 58.4 +3.2**
GYA pmax pmax
comp=Z,28nm,0.8s
ULN Ulaanbaatar 32.38 313 P **P** **12 23 02.8 +0.8**
ULN IAmb IAmb 12 23 03.7
comp=Z,17nm,1.1s
ULN Ulaanbaatar 32.38 313 *ce*P **P** **12 23 02.8 +0.8**
ULN pmax pmax
comp=Z,28nm,1.7s
SONM Songino Array 32.78 313 P **P** **12 23 06.4 +0.9**
SONM IAmb IAmb 12 23 07.1
comp=Z,9.9nm,1.0s
SONM Songino Array 32.78 313 P **P** **12 23 06.4 +0.9**
SONM pmax pmax
comp=Z,10.0nm,1.0s
SONM Songino Array 32.78 313 P **P** **12 23 06.2 +0.6**
comp=Z,6.4nm,0.8s,baz=116,slow=8.4,SNR=34
comp=Z,6.4nm,0.8s
YAK Yakutsk 33.08 349 *ce*P **P** **12 23 10.5 +2.8**
YAK pmax pmax
comp=Z,23nm,1.0s
SEY Seymchan 33.55 8 *ce*P **P** **12 23 14.0 +2.2**
SEY pmax pmax
comp=Z,7.0nm,1.3s
ZAK Zakamensk 35.58 316 *e*P **P** **12 23 30.5 +0.8**
ZAK pmax pmax
comp=Z,11nm,1.4s
PZH PanZhiHua 35.84 275 P **P** **12 23 34.6 +2.4**
PZH pmax pmax
comp=Z,7.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.3s
GTA Gaotai 35.94 297 P **P** **12 23 32.3 -0.7**
GTA pP pwP 12 23 41.6 -1.9
GTA pmax pmax
comp=Z,5.0nm,1.1s
MOY Mondy 37.37 317 *e*P **P** **12 23 48.4 +3.4**
TNCH TengChong 39.04 274 P **P** **12 23 59.1 -0.3**
TNCH sP sP 12 24 03.9 +2.7
TNCH S **S** **12 29 57.8 -1.1**
TNCH sS sS 12 30 05.8 +4.5
TNCH pmax pmax
comp=Z,17nm,1.2s
TNCH pmax pmax
comp=Z,110nm,5.0s
TNCH LR LR
comp=Z,220nm,8.3s
TNCH LR LR
comp=Z,190nm,5.9s
TNCH LR LR
comp=Z,84nm,8.2s
CRAI Chiangrai 39.08 266 P **P** **12 23 59.0 -0.7**
PHRA Phrae 39.90 263 P **P** **12 24 05.4 -1.1**
GOMU GeErMu 40.00 292 P **P** **12 24 04.8 -2.8**
GOMU pP sP 12 24 11.3 +2.6
GOMU sP pP 12 24 13.4 +5.0
GOMU pmax pmax
comp=Z,5.0nm,1.0s
BILL Bilibino 40.57 14 P **P** **12 24 11.6 +0.1**
BILL Bilibino 40.57 14 *e*P **P** **12 24 12.9 +1.4**
CMAR Chiang Mai Arr 41.03 264 P **P** **12 24 14.8 -1.0**
CMAR Chiang Mai Arr 41.03 264 *i* P **P** **12 24 13.3 -2.5**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 41.03 264 P **P** **12 24 14.4 -1.4**
comp=Z,1.2nm,0.6s,baz=54,slow=7.2,SNR=11
CMAR PcP **PcP** **12 26 18.7 +2.9**
comp=Z,0.6nm,0.3s,baz=64,slow=2.1,SNR=1.6
CMAR LR LR 12 42 13.8
comp=Z,160nm,19.5s,baz=60,slow=38
comp=Z,1.2nm,0.6s
TIXI Tiksi 42.33 354 P **P** **12 24 26.2 +0.5**
TIXI Tiksi 42.33 354 *ce*P **P** **12 24 25.4 -0.4**
TIXI pmax pmax
comp=Z,4.0nm,1.0s
SOEI Soe 43.22 207 P **P** **12 24 32.0 -1.8**
SOEI IAmb IAmb 12 25 09.1
comp=Z,45nm,1.3s
EDFI Ende, Flores 43.38 211 P **P** **12 24 33.8 -1.3**
comp=Z,12nm,1.3s
COEN Coen 43.73 179 P **P** **12 24 35.7 -2.0**
MTN Manton Dam 43.98 196 P **P** **12 24 39.4 -0.3**
MTN IAmb IAmb 12 24 57.3
comp=Z,36nm,1.1s
WMQ Urumqi 45.06 303 *e*P **P** **12 24 48.8 +0.5**
WMQ pmax pmax
comp=Z,17nm,1.1s
TWSI Taliwang, Sumb 45.68 216 P **P** **12 24 52.2 -1.1**
comp=Z,21nm,1.2s
JOHN Johnston Islan 45.77 96 P **P** **12 24 52.8 -1.3**
MYKOM Kota Tinggi 46.09 240 P **P** **12 24 56.3 -0.3**
MYKOM IAmb IAmb 12 26 24.1
comp=Z,27nm,1.4s
KULM Kulim 46.36 246 P **P** **12 24 58.2 -0.6**
KULM IAmb IAmb 12 26 20.7
comp=Z,23nm,1.4s
IPM Ipoh 46.56 245 P **P** **12 24 59.5 -0.9**
ZSN Zaisan 47.02 309 *e*P **P** **12 25 03.9 +0.2**
comp=Z,11nm,0.9s,baz=308
ZSN Zaisan 47.02 309 *e*P **P** **12 25 03.8 +0.2**
ZSN pmax pmax
comp=Z,11nm,0.9s
ZAA0 Zalesovo Array 47.42 317 P **P** **12 25 06.8 +0.2**
ZALV Zalesovo Beam 47.42 317 *i* P **P** **12 25 06.6 0.0**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 47.42 317 P **P** **12 25 06.7 0.0**
comp=Z,1.5nm,0.6s,baz=94,slow=8.9,SNR=7.5
ZALV PcP **PcP** **12 26 37.1 +0.1**
comp=Z,2.2nm,0.7s,baz=90,slow=2.9,SNR=4.4
comp=Z,1.5nm,0.6s
SMRI Semarang 47.95 225 P **P** **12 25 10.5 -0.6**
CHGN Chignik 48.64 40 P **P** **12 25 12.7 -3.3**
MK31 Makanchi Array 48.79 308 P **P** **12 25 17.9 +0.5**
MK31 IAmb IAmb 12 25 18.5
comp=Z,12nm,0.9s
MK31 Makanchi Array 48.79 308 P **P** **12 25 17.9 +0.5**
MK31 pmax pmax
comp=Z,12nm,0.9s
MKAR Makanchi Array 48.79 308 P **P** **12 25 17.8 +0.4**
comp=Z,11nm,0.8s,baz=92,slow=9.4,SNR=87
comp=Z,11nm,0.8s
MAKZ Makanchi 49.00 308 P **P** **12 25 19.2 +0.3**
MAKZ Makanchi 49.00 308 P **P** **12 25 19.3 +0.3**
MAKZ pmax pmax
comp=Z,34nm,1.5s
NRIK Noril'sk 50.00 338 P **P** **12 25 27.0 +0.8**
NRIK Noril'sk 50.00 338 *ce*P **P** **12 25 26.9 +0.7**
NRIK pmax pmax
comp=Z,9.0nm,1.3s
NRIK Noril'sk 50.00 338 P **P** **12 25 28.1 +1.9**
comp=Z,1.2nm,0.3s,baz=110,slow=9.4,SNR=5.8
comp=Z,1.2nm,0.3s
SEM Semipalatinsk 50.06 312 *e*P **P** **12 25 27.3 0.0**
baz=312
SEM Semipalatinsk 50.06 312 *e*P **P** **12 25 27.2 0.0**
WRAB Tennant Creek 50.27 190 P **P** **12 25 29.1 +0.3**
WRAB IAmb IAmb 12 25 30.0
comp=Z,20nm,1.1s
WRAB Tennant Creek 50.27 190 *i* P **P** **12 25 27.9 -0.9**
WRAB pmax pmax
comp=Z,23nm,1.1s
G18K Tagagawik 50.39 27 IAmb IAmb 12 25 35.6
comp=Z,9.2nm,1.0s
FITZ Fitzroy Crossi 50.49 201 P **P** **12 25 30.8 +0.3**
LWLI Liwa 50.61 233 P **P** **12 25 30.0 -1.7**
SVW2 Sparrevohn 50.75 34 P **P** **12 25 29.6 -2.4**
C19K Lookout Ridge 50.99 23 IAmb IAmb 12 26 03.1
comp=Z,35nm,1.7s
SII Sitkinak Islan 51.00 40 P **P** **12 25 33.1 -0.9**
PDGK Podgornoye 51.04 303 P **P** **12 25 33.8 -0.8**
SHLS Shalkode 51.08 303 *e*P **P** **12 25 31.8 -3.2**
baz=303
SHLS Shalkode 51.08 303 *e*P **P** **12 25 31.7 -3.2**
KURK Kurchatov 51.09 313 P **P** **12 25 34.6 0.0**
KURK IAmb IAmb 12 25 39.0
comp=Z,18nm,1.2s
KURK Kurchatov 51.09 313 P **P** **12 25 34.7 0.0**
KURK pmax pmax
comp=Z,18nm,1.3s
KURBB Kurchatov Arra 51.15 313 P **P** **12 25 34.9 -0.3**
comp=Z,5.9nm,0.9s,baz=89,slow=7.2,SNR=40
comp=Z,5.9nm,0.9s
H19K Roundabout Mou 51.18 28 IAmb IAmb 12 25 55.1
comp=Z,15nm,1.3s
O19K Port Alsworth 51.25 35 IAmb IAmb 12 25 44.0
comp=Z,10nm,0.8s
UZB Uzynbulak 51.40 303 *e*P **P** **12 25 36.8 -0.6**
baz=303
UZB Uzynbulak 51.40 303 *e*P **P** **12 25 36.7 -0.6**
TDK Taldyqorghan 51.62 306 *e*P **P** **12 25 38.6 -0.3**
comp=Z,4.8nm,0.5s,baz=306
TDK Taldyqorghan 51.62 306 *e*P **P** **12 25 38.6 -0.3**
TDK pmax pmax
comp=Z,5.0nm,0.5s
K20K Telida 51.79 31 P **P** **12 25 41.4 +1.6**
K20K IAmb IAmb 12 25 47.1
comp=Z,10nm,1.1s
ILSW Iliamna Southw 51.81 35 P **P** **12 25 37.0 -3.1**
ZHN Zhinishke 51.82 303 *e*P **P** **12 25 40.0 -0.6**
baz=303
ZHN Zhinishke 51.82 303 *e*P **P** **12 25 39.9 -0.6**
SATY Saty 51.86 303 *e*P **P** **12 25 40.3 -0.5**
baz=303
SATY Saty 51.86 303 *e*P **P** **12 25 40.2 -0.5**
KDAK Kodiak Island 51.94 38 *i* P **P** **12 25 41.8 +0.8**
KDAK pmax pmax
comp=Z,86nm,1.5s
PRZ Przheval'sk 51.94 302 P **P** **12 25 42.4 +0.9**
PRZ Przheval'sk 51.94 302 P **P** **12 25 42.4 +0.9**
PRZ pmax pmax
comp=Z,27nm,1.0s
IMAR Indian Mountai 52.37 28 P **P** **12 25 45.8 +1.7**
TARG Taragay, Kyrgy 52.49 302 P **P** **12 25 46.1 +0.2**
TARG IAmb IAmb 12 25 48.2
comp=Z,15nm,1.1s
TARG Taragay, Kyrgy 52.49 302 P **P** **12 25 46.1 +0.2**
TARG pmax pmax
comp=Z,15nm,1.1s
H21K Melozitna Rive 52.70 28 IAmb IAmb 12 25 53.7
comp=Z,9.6nm,1.1s
F21K Alatna River 52.71 26 P **P** **12 25 48.0 +1.4**
CNPM China Poot 52.74 36 P **P** **12 25 45.4 -1.5**
CNPM IAmb IAmb 12 26 45.7
comp=Z,37nm,1.4s
CHKK Chushkaly 52.77 304 *e*P **P** **12 25 47.2 -0.2**
baz=304
CHKK Chushkaly 52.77 304 *e*P **P** **12 25 47.2 -0.2**
MDOK Medeo 52.83 303 *e*P **P** **12 25 47.8 -0.3**
baz=303
MDOK Medeo 52.83 303 *e*P **P** **12 25 47.7 -0.3**
AAA Alma-Ata 52.92 304 *e*P **P** **12 25 48.8 +0.1**
comp=Z,9.5nm,0.7s,baz=304
AAA Alma-Ata 52.92 304 *e*P **P** **12 25 48.7 +0.1**
AAA pmax pmax
comp=Z,10.0nm,0.7s
TNSS Tian-Shan 52.92 303 *e*P **P** **12 25 49.1 0.0**
baz=303
TNSS Tian-Shan 52.92 303 *e*P **P** **12 25 49.0 0.0**
BOOM Boomskoye usch 53.74 303 P **P** **12 25 55.1 +0.3**
BOOM Boomskoye usch 53.74 303 P **P** **12 25 55.1 +0.3**
BOOM pmax pmax
comp=Z,7.0nm,1.0s
NRN Naryn 53.88 301 P **P** **12 25 56.3 +0.3**
NRN IAmb IAmb 12 25 59.1
comp=Z,16nm,1.5s
NRN Naryn 53.88 301 P **P** **12 25 56.3 +0.3**
NRN pmax pmax
comp=Z,15nm,1.5s
TKM2 Tokmak 2 53.92 303 P **P** **12 25 57.1 +1.0**
SNR=12
TKM2 Tokmak 2 53.92 303 P **P** **12 25 56.1 0.0**
AS31 Alice Springs 54.00 190 P **P** **12 25 56.4 -0.1**
ASAR Alice Springs 54.00 190 P **P** **12 25 56.8 +0.3**
comp=Z,4.7nm,1.1s,baz=4.1,slow=7.3,SNR=18
ASAR LR LR 12 47 48.6
comp=Z,90nm,20.6s,baz=14,slow=35
comp=Z,4.7nm,1.1s
H23K Yukon River 54.05 28 IAmb IAmb 12 26 21.3
comp=Z,8.6nm,1.2s
NEA2 Nenana 54.13 30 IAmb IAmb 12 26 03.2
comp=Z,11nm,1.0s
RND Reindeer 54.13 31 IAmb IAmb 12 26 59.1
comp=Z,43nm,2.0s
C23K Itkillik River 54.24 23 P **P** **12 25 58.9 +1.2**
C23K IAmb IAmb 12 26 03.7
comp=Z,6.5nm,0.8s
KSH Kashi 54.27 299 P **P** **12 26 02.3 +3.7**
KSH pP pwP 12 26 05.8 -3.3
KSH pmax pmax
comp=Z,10.0nm,1.0s
KBK Karagaybulak 54.43 303 P **P** **12 26 00.4 +0.6**
SNR=8.0
SGDS Sogindy 54.53 304 *e*P **P** **12 26 00.2 -0.2**
baz=304
SGDS Sogindy 54.53 304 *e*P **P** **12 26 00.1 -0.2**
USP Ospenovka 54.65 304 P **P** **12 26 01.6 +0.4**
SNR=5.6
COLA College 54.67 29 *i* P **P** **12 26 01.0 +0.1**
COLA pmax pmax
comp=Z,21nm,2.7s
H24K Noodor Dome 54.74 28 P **P** **12 26 01.9 +0.4**
D24K Happy Valley 54.75 24 P **P** **12 26 03.7 +2.2**
D24K IAmb IAmb 12 26 07.5
comp=Z,8.4nm,0.8s
AAK Ala-Archa 54.77 303 P **P** **12 26 02.8 +0.6**
SNR=7.2
AAK Ala-Archa 54.77 303 P **P** **12 26 02.7 +0.5**
AAK IAmb IAmb 12 26 03.5
comp=Z,7.3nm,1.0s
AAK Ala-Archa 54.77 303 *ce*P **P** **12 26 02.7 +0.5**
AAK pmax pmax
comp=Z,11nm,1.3s
AAK Ala-Archa 54.77 303 P **P** **12 26 02.3 +0.1**
comp=Z,4.4nm,0.9s,baz=95,slow=5.2,SNR=12
comp=Z,4.4nm,0.9s
UCH Uchtor 54.83 303 P **P** **12 26 04.4 +1.4**
SNR=12
HDA Harding Lake 55.03 30 P **P** **12 26 01.7 -1.9**
ILAR Eielson Array 55.08 30 P **P** **12 26 04.2 +0.3**
ILAR Eielson Array 55.08 30 P **P** **12 26 05.0 +1.1**
ILAR Eielson Array 55.08 30 P **P** **12 26 05.0 +1.1**
comp=Z,3.7nm,0.8s,baz=262,slow=6.0,SNR=25
comp=Z,3.7nm,0.8s
OTUK Ortayu 55.38 310 P **P** **12 26 06.8 +0.4**
BVA0 Borovoye Array 56.03 316 P **P** **12 26 11.0 0.0**
BVAR Borovoye Array 56.03 316 P **P** **12 26 11.4 +0.5**
comp=Z,3.5nm,0.5s,baz=92,slow=7.6,SNR=23
comp=Z,3.5nm,0.5s
BRVK Borovoye 56.09 316 P **P** **12 26 10.8 -0.6**
BRVK IAmb IAmb 12 26 23.1
comp=Z,20nm,1.6s
BRVK Borovoye 56.09 316 P **P** **12 26 10.8 -0.6**
BRVK pmax pmax
comp=Z,20nm,1.6s
ARSB Arslanbob 56.13 302 P **P** **12 26 13.2 +1.2**
ARSB Arslanbob 56.13 302 P **P** **12 26 13.2 +1.2**
ARSB pmax pmax
comp=Z,8.0nm,1.2s
DZA Taraz 57.00 304 *e*P **P** **12 26 18.0 -0.1**
comp=Z,5.1nm,0.4s,baz=304
DZA Taraz 57.00 304 *e*P **P** **12 26 17.9 -0.1**
DZA pmax pmax
comp=Z,5.0nm,0.4s
BCAR Beaver Creek A 57.32 32 P **P** **12 26 19.3 -0.7**
DRK Karamyk 57.42 300 P **P** **12 26 21.1 -0.3**
DRK IAmb IAmb 12 26 26.6
comp=Z,16nm,1.0s
EGAK Eagle 57.53 30 IAmb IAmb 12 27 19.1
comp=Z,9.8nm,1.4s
KK31 Karatay Array 57.54 304 P **P** **12 26 22.2 +0.3**
KK31 Karatay Array 57.54 304 P **P** **12 26 22.2 +0.3**
KK31 pmax pmax
comp=Z,26nm,1.1s
KKAR Karatay Array 57.54 304 P **P** **12 26 22.6 +0.7**
KKAR Karatay Array 57.54 304 P **P** **12 26 22.6 +0.7**
KKAR pmax pmax
comp=Z,26nm,1.1s
BTK Batken 58.02 301 P **P** **12 26 25.2 -0.2**
BTK IAmb IAmb 12 26 30.1
comp=Z,16nm,1.1s
BTK Batken 58.02 301 P **P** **12 26 25.2 -0.2**
BTK pmax pmax
comp=Z,16nm,1.1s
I28M Miner Creek 58.02 29 IAmb IAmb 12 26 31.6
comp=Z,6.3nm,0.8s
BRLS Borolday 58.04 304 *e*P **P** **12 26 26.5 +1.1**
comp=Z,9.2nm,1.1s,baz=304
BRLS Borolday 58.04 304 *e*P **P** **12 26 26.5 +1.1**
BRLS pmax pmax
comp=Z,9.0nm,1.1s
IUG Iuzhnay 58.10 303 *e*P **P** **12 26 25.8 -0.1**
comp=Z,12nm,0.7s,baz=303
IUG Iuzhnay 58.10 303 *e*P **P** **12 26 25.8 -0.1**
IUG pmax pmax
comp=Z,12nm,0.7s
CHM Chimkent 58.37 304 *e*P **P** **12 26 28.1 +0.3**
comp=Z,8.1nm,0.6s,baz=304
CHM Chimkent 58.37 304 *e*P **P** **12 26 28.0 +0.3**
CHM pmax pmax
comp=Z,8.0nm,0.6s
J29N Klondike Camp 58.82 30 IAmb IAmb 12 26 36.7
comp=Z,6.4nm,0.8s
L29M L29M 58.98 31 P **P** **12 26 32.0 +0.4**
L29M IAmb IAmb 12 26 39.4
comp=Z,9.0nm,1.0s
EPYK Eagle Plains 59.27 28 IAmb IAmb 12 26 40.6
comp=Z,16nm,1.0s
SIMJ Simiganj 59.73 300 P **P** **12 26 37.6 +0.3**
G31M Satah River 60.19 27 IAmb IAmb 12 26 46.1
comp=Z,6.6nm,0.8s
INK Inuvik 60.31 25 P **P** **12 26 41.1 +0.5**
INK Inuvik 60.31 25 P **P** **12 26 41.1 +0.5**
INK pmax pmax
comp=Z,5.0nm,1.0s
F31M Tsiigehtchic 60.33 26 P **P** **12 26 42.1 +1.4**
F31M IAmb IAmb 12 26 49.9
comp=Z,30nm,1.9s
SVE Sverdlovsk 61.03 322 *e*P **P** **12 26 46.7 +1.0**
STKA Stephens Creek 61.57 181 P **P** **12 26 51.2 +1.7**
comp=Z,2.1nm,0.5s,baz=1.0,slow=8.2,SNR=8.1
STKA LR LR 12 53 03.1
comp=Z,90nm,19.6s,baz=23,slow=36
comp=Z,2.1nm,0.5s
FORT Forrest 61.98 194 P **P** **12 26 51.9 -0.5**
ARU Arti 62.23 321 P **P** **12 26 54.7 +0.8**
ARU IAmb IAmb 12 26 55.2
comp=Z,11nm,0.8s
ARU Arti 62.23 321 *c i*P **P** **12 26 54.2 +0.3**
ARU 12 29 09.7
ARU S **S** **12 35 23.2 +3.7**
ARU SS **SS** **12 39 25.0 +2.9**
ARU pmax pmax
comp=Z,12nm,0.8s
A36M Sachs Harbour 62.48 21 P **P** **12 26 55.2 -0.1**
A36M IAmb IAmb 12 27 03.3
comp=Z,7.8nm,1.0s
BBOO Buckleboo 62.78 186 P **P** **12 26 59.4 +1.8**
AB31 Akbulak array 63.20 313 P **P** **12 27 00.4 0.0**
ABKAR Akbulak array 63.20 313 P **P** **12 27 01.0 +0.6**
ABKAR Akbulak array 63.20 313 P **P** **12 27 01.0 +0.6**
C36M Paulatuk 63.48 23 P **P** **12 27 03.4 +1.5**
C36M IAmb IAmb 12 27 09.3
comp=Z,4.4nm,0.8s
WRGLY Wrigley 65.46 30 IAmb IAmb 12 27 21.1
comp=Z,13nm,0.9s
HRA Herat 66.25 297 P **P** **12 27 21.4 +0.6**
HRA IAmb IAmb 12 27 22.7
comp=Z,13nm,1.1s
KIRV Kirov 66.38 325 *ce*P **P** **12 27 21.3 +0.3**
EUNU Eureka 66.99 8 P **P** **12 27 26.2 +1.5**
EUNU IAmb IAmb 12 27 29.7
comp=Z,7.0nm,0.8s
GEYT Alibeck 68.08 302 P **P** **12 27 32.9 +0.7**
GEYT Alibeck 68.08 302 P **P** **12 27 32.9 +0.7**
GEYT pmax pmax
comp=Z,19nm,1.0s
GEYT Alibeck 68.08 302 P **P** **12 27 33.6 +1.4**
comp=Z,12nm,0.9s,baz=72,slow=4.7,SNR=19
comp=Z,12nm,0.9s
GYA0B ALIBECK ARRAY 68.08 302 P **P** **12 27 32.3 0.0**
RES Resolute Bay 69.18 14 P **P** **12 27 39.6 +1.2**
RES IAmb IAmb 12 27 43.4
comp=Z,4.9nm,0.9s
RES Resolute Bay 69.18 14 P **P** **12 27 39.6 +1.2**
RES pmax pmax
comp=Z,5.0nm,1.0s
YKA Yellowknife Ar 69.50 29 P **P** **12 27 42.2 +1.7**
comp=Z,4.2nm,0.8s,baz=296,slow=6.5,SNR=40
comp=Z,4.2nm,0.8s
ARCES ARCESS Array B 70.84 341 P **P** **12 27 49.4 +0.7**
comp=Z,8.1nm,1.1s,baz=54,slow=8.2,SNR=2.1
comp=Z,8.1nm,1.1s
MOS Moscow 73.40 325 *e*P **P** **12 28 06.5 +2.3**
MAK Makhachkala 73.50 310 *e*P P **12 28 00.6 -4.4**
MAK *e*PPP PPP 12 32 28.4
MAK *e*S **S** **12 37 28.7 -6.1**
MAK *e*SS **SS** **12 42 10.6 -6.2**
MAK *e*SSS SSS 12 45 32.0
MAK MLR MLR
comp=Z,116nm,14.0s
OBN Obninsk 74.23 325⇓ *e*P **P** **12 28 10.1 +1.0**
OBN *e**PP **sP** **12 28 13.3 +2.9**
OBN 12 28 24.0
OBN S **SKiKP** **12 37 31.0 -5.5**
OBN pmax pmax
comp=Z,33nm,1.5s
OBN MLR MLR
comp=Z,160nm,17.0s
UOSS Minazif 74.85 290 P **P** **12 28 12.5 -0.7**
UOSS IAmb IAmb 12 28 14.5
comp=Z,12nm,1.1s
FINES FINESS Array B 75.41 334 P **P** **12 28 16.0 +0.2**
FINES FINESS Array B 75.41 334 *i* P **P** **12 28 15.8 0.0**
FINES pmax pmax
comp=Z,4.0nm,0.9s
FINES FINESS Array B 75.41 334 P **P** **12 28 16.4 +0.7**
comp=Z,3.5nm,0.9s,baz=57,slow=5.1,SNR=8.0
comp=Z,3.5nm,0.9s
KBZ Khabaz 76.15 313 *ce*P **P** **12 28 21.2 +0.8**
KBZ pmax pmax
comp=Z,16nm,1.1s
KBZ Khabaz 76.15 313 P **P** **12 28 21.4 +1.0**
comp=Z,11nm,0.9s,baz=111,slow=5.1,SNR=9.5
comp=Z,11nm,0.9s
KIV Kislovodsk 76.18 313 *e*P **P** **12 28 22.6 +1.9**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,89nm,18.0s
ONI Oni 76.33 311 IAmb IAmb 12 28 27.8
comp=Z,11nm,1.1s
CMB Columbia Colle 77.33 53 P **P** **12 28 25.7 -1.6**
CMB IAmb IAmb 12 28 33.5
comp=Z,6.1nm,1.0s
CMB Columbia Colle 77.33 53 P **P** **12 28 25.7 -1.6**
CMB pmax pmax
comp=Z,6.0nm,1.0s
KVN Kaiserville 78.42 52 P **P** **12 28 31.8 -1.7**
KVN Kaiserville 78.42 52 P **P** **12 28 31.8 -1.7**
KVN pmax pmax
comp=Z,4.0nm,0.9s
NVAR Mina Array Bea 78.58 52 P **P** **12 28 32.9 -1.6**
NVAR Mina Array Bea 78.58 52 P **P** **12 28 37.0 +2.5**
comp=Z,2.2nm,0.7s,baz=302,slow=5.2,SNR=18
comp=Z,2.2nm,0.7s
MNK Minsk 78.77 327 *i* P **P** **12 28 32.8 -2.1**
comp=E,11nm,0.7s
MNK *i* P **P** **12 28 32.8 -2.1**
comp=N,18nm,0.7s
MNK *i* P **P** **12 28 32.8 -2.1**
comp=Z,16nm,0.8s,baz=54
MNK *i* PP PP 12 31 13.1 -19
MNK *i* PPP PPP 12 33 18.9
MNK *i* S **S** **12 38 28.8 -3.6**
MNK *i* SS SS 12 43 02.9 -33
MNK *i* LQ LQ 12 57 32.4
MNK *i* LR LR 12 59 17.2
MNK Minsk 78.77 327 *i* P **P** **12 28 32.7 -2.1**
MNK *i* PPP PPP 12 33 18.9
MNK *i* S **S** **12 38 28.8 -3.6**
MNK pmax pmax
comp=N,18nm,0.6s
MNK pmax pmax
comp=E,11nm,0.7s
MNK pmax pmax
comp=Z,16nm,0.8s
FFC Flin Flon 79.17 32 P **P** **12 28 36.1 -1.0**
FFC Flin Flon 79.17 32 P **P** **12 28 36.1 -1.0**

FFC					pmax	pmax		
	comp=Z,5.0nm,0.8s							
FCC	**Fort Churchill**	**79.91**	**26**		P	**P**	**12 28 39.0**	**-1.8**
FCC					IAmb	IAmb	12 28 45.4	
	comp=Z,9.3nm,1.2s							
FCC	**Fort Churchill**	**79.91**	**26**		P	**P**	**12 28 39.1**	**-1.8**
FCC					pmax	pmax		
	comp=Z,9.0nm,1.2s							
AKASG	**Malin Array Be**	**80.36**	**324**		P	**P**	**12 28 44.0**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=48,slow=5.3,SNR=6.7							
	comp=Z,1.3nm,0.6s							
AKBB	**Malin Array Si**	**80.36**	**324**	*i*	P	**P**	**12 28 42.4**	**-1.2**
AKBB					pmax	pmax		
	comp=Z,7.0nm,1.0s							
NC405	**NORSAR Array S**	**80.75**	**338**		P	**P**	**12 28 46.3**	**+0.8**
PPT	**Papeete**	**80.80**	**116**		LR	LR	12 57 11.0	
	comp=Z,28nm,20.5s,baz=312,slow=30							
HFS	**Hagfors**	**80.81**	**337**		P	**P**	**12 28 45.6**	**-0.2**
	comp=Z,3.7nm,0.8s,baz=45,slow=4.7,SNR=4.2							
	comp=Z,3.7nm,0.8s							
RLMT	**Red Lodge**	**80.89**	**43**		P	**P**	**12 28 46.3**	**-0.6**
NB2	**NORSAR Subarra**	**80.96**	**338**		P	**P**	**12 28 47.2**	**+0.6**
	comp=Z,8.7nm,1.0s,baz=41,slow=5.3							
NOA	**NORSAR Array B**	**80.96**	**338**		P	**P**	**12 28 47.2**	**+0.6**
	comp=Z,3.3nm,0.8s,baz=41,slow=5.2,SNR=9.9							
	comp=Z,3.3nm,0.8s							
PDAR	**Pinedale Array**	**82.02**	**45**		P	**P**	**12 28 54.9**	**+2.0**
	comp=Z,1.1nm,0.8s,baz=282,slow=1.8,SNR=7.8							
	comp=Z,1.1nm,0.8s							
RAYN	**Ar Rayn**	**84.13**	**294**		P	**P**	**12 29 04.7**	**+0.8**
RAYN	**Ar Rayn**	**84.13**	**294**		P	**P**	**12 29 04.7**	**+0.8**
RAYN					pmax	pmax		
	comp=Z,21nm,0.8s							
BR131	**Keskin Array S**	**84.14**	**313**	*i*	P	**P**	**12 29 03.8**	**0.0**
BRTR	**Keskin Array B**	**84.14**	**313**		P	**P**	**12 29 04.4**	**+0.6**
BRTR	**Keskin Array B**	**84.14**	**313**		P	**P**	**12 29 04.4**	**+0.6**
BRTR	**Keskin Array B**	**84.14**	**313**		P	**P**	**12 29 04.9**	**+1.1**
	comp=Z,5.6nm,0.8s,baz=113,slow=2.9,SNR=8.2							
	comp=Z,5.6nm,0.8s							
KWP	**Kalwaria Pacla**	**84.31**	**325**		P	**P**	**12 29 03.6**	**-0.7**
KWP	**Kalwaria Pacla**	**84.31**	**325**		P	**P**	**12 29 03.6**	**-0.7**
KWP					pmax	pmax		
	comp=Z,34nm,1.3s							
O20A	**White River Ci**	**84.31**	**47**		P	**P**	**12 29 03.8**	**-1.0**
O20A					IAmb	IAmb	12 29 29.4	
	comp=Z,17nm,1.5s							
BURAR	**Bucovina Array**	**84.33**	**323**		P	**P**	**12 29 04.4**	**-0.2**
BURAR					IAmb	IAmb	12 29 09.6	
	comp=Z,8.0nm,1.4s							
ANTO	**Ankara**	**84.60**	**313**		P	**P**	**12 29 05.0**	**-1.0**
ANTO	**Ankara**	**84.60**	**313**		P	**P**	**12 29 05.0**	**-1.0**
N23A	**Red Feather La**	**85.31**	**45**		P	**P**	**12 29 07.9**	**-1.9**
N23A					IAmb	IAmb	12 29 16.2	
	comp=Z,6.2nm,0.8s							
X16A	**Lo Mia Camp, P**	**85.39**	**53**		P	**P**	**12 29 09.1**	**-1.1**
MMAI	**Mount Meron Ar**	**86.72**	**306**		P	**P**	**12 29 17.4**	**+0.7**
	comp=Z,4.4nm,0.9s,baz=52,slow=9.3,SNR=3.9							
	comp=Z,4.4nm,0.9s							
VYHS	**Vyhne**	**86.96**	**326**	*e*	P	**P**	**12 29 19.1**	**+1.6**
VYHS	**Vyhne**	**86.96**	**326**	*e*	P	**P**	**12 29 19.1**	**+1.6**
CLL	**Collm**	**87.58**	**331**	*i*	P	**P**	**12 29 23.7**	**+3.3**
CLL	**Collm**	**87.58**	**331**	*i*	Px	Px	12 29 23.7	
KHC	**Kasperske Hory**	**88.94**	**329**	*i*	P	**P**	**12 29 25.3**	**-1.7**
KHC					pmax	pmax		
	comp=Z,23nm,1.9s							
E38A	**The Farm, Brul**	**89.51**	**34**		IAmb	IAmb	12 29 34.7	
	comp=Z,7.8nm,0.8s							
TX31	**Lajitas Ar. Si**	**93.71**	**53**		IAmb	IAmb	12 29 56.3	
	comp=Z,6.4nm,0.9s							
TXAR	**Lajitas Array**	**93.71**	**53**		P	**P**	**12 29 52.7**	**+3.1**
	comp=Z,4.0nm,0.8s,baz=297,slow=2.9,SNR=36							
	comp=Z,4.0nm,0.8s							
QSPA	**South Pole Qui**	**119.79**	**180**		PKP	**PKiKP**	**12 35 24.3**	**+2.5**
	comp=Z,2.1nm,0.9s,baz=36,slow=1.0,SNR=5.1							
TORD	**Torodi Ar. Bea**	**122.76**	**313**		PKP	**PKiKP**	**12 35 31.2**	**+1.9**
	comp=Z,0.5nm,0.8s,baz=46,slow=2.1,SNR=4.8							
LPAZ	**La Paz**	**148.91**	**71**		PKPbc	**PKiKP**	**12 36 23.7**	**+0.7**
	comp=Z,2.9nm,0.9s,baz=348,slow=3.4,SNR=7.4							

OMAN ***23*** *12:22:05.7±0.2,28˚40N×56˚98E,h14km,mb4.0/4, ml3.1/12,Error ellipse: s-maj=3.5km s-min=2.3km az=328.0*

TEH ***23*** *12:22:09.1,28˚00N×56˚83E,h11km±29km,ML3.2*

ISC 23 12:22:09.9±0.8,28˚00N±0˚03×56˚89E±0˚05,h10km,n30, σ1§32/38,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.62**	**210**	Pg	**Pb**	**12 22 21.7**	**-1.2**
KHNJ	**Kahnooj**	**0.72**	**94**	Pg	**Pb**	**12 22 24.6**	**0.0**
KHNJ				Sg	**Sn**	**12 22 36.9**	**-0.5**
GENO	**Geno**	**0.87**	**227**	Pg	**Pb**	**12 22 26.4**	**-0.8**
NGRK	**Negar Kerman**	**1.65**	**355**	Pg	**Pg**	**12 22 41.9**	**+0.3**
KBAM	**BAM**	**1.79**	**50**	Pn	**Pg**	**12 22 44.0**	**-0.1**
CHMN	**Cheshme madani**	**1.94**	**17**	Pn	**Pb**	**12 22 45.8**	**+0.2**
TVBK	**TV Kerman**	**1.99**	**357**	Pn	**Pb**	**12 22 45.8**	**-0.5**
SHME	**Shamm**	**2.05**	**199**	P	**Pb**	**12 22 46.4**	**-0.8**
SHME				S	**Sg**	**12 23 13.4**	**-2.3**
BANOM	**Banah**	**2.13**	**194**	P	**Pb**	**12 22 48.0**	**-0.6**
BANOM				S	**Sg**	**12 23 17.9**	**-0.4**
JASK	**Jask - Hormozg**	**2.29**	**157**	P	**Pb**	**12 22 49.6**	**-1.7**
JASK				S	**Sb**	**12 23 19.4**	**-0.4**
KHGB	**Koh Gabri**	**2.40**	**351**	Pn	**Pb**	**12 22 51.6**	**-1.7**
MASF	**Masafi**	**2.69**	**194**	P	**Pn**	**12 22 54.1**	**+0.8**
MASF				S	**Sg**	**12 23 34.5**	**-1.9**
MDH	**Madha**	**2.74**	**191**	P	**Pn**	**12 22 55.1**	**+1.2**
UOSS	**Minazif**	**3.10**	**192**	P	**Pn**	**12 23 00.3**	**+1.5**
HATD	**Hatta, Dubai**	**3.23**	**192**	P	**Pn**	**12 23 01.6**	**+1.0**
HATD				S	**Sb**	**12 23 46.5**	**-0.2**
ASHO	**Ashiyiah**	**3.38**	**193**	P	**Pn**	**12 23 03.2**	**+0.4**
FAQ	**Al Faqa, Dubai**	**3.44**	**200**	P	**Pn**	**12 23 04.1**	**+0.6**
	SNR=16						
ASUD	**Al Ashush, Dub**	**3.63**	**203**	P	**Pn**	**12 23 07.2**	**+1.0**
	SNR=16						
SOHO	**SOHO**	**3.86**	**185**	P	**Pn**	**12 23 09.7**	**+0.4**
SOHO				S	**Sn**	**12 23 58.4**	**+3.7**
HOQ	**Hoqain**	**4.41**	**175**	P	**Pn**	**12 23 17.9**	**+1.0**
BIDO	**Bidbid**	**4.59**	**166**	P	**Pn**	**12 23 19.2**	**-0.2**
ARQ	**Araqi**	**4.65**	**184**	P	**Pn**	**12 23 20.8**	**+0.6**
MZWR	**Madinat Zayed**	**5.01**	**213**	P	**Pn**	**12 23 24.1**	**-1.0**
SMDO	**Samad**	**5.03**	**168**	P	**Pn**	**12 23 25.8**	**+0.4**
BSY	**Bisya**	**5.24**	**177**	P	**Pn**	**12 23 30.3**	**+2.1**
BSY				S	**Sn**	**12 24 31.8**	**+3.1**
IRAM	**Ramesheh**	**5.45**	**315**	Pn	**Pn**	**12 23 32.5**	**+1.1**
WBK	**Wadi Bani Khal**	**5.68**	**160**	P	**Pn**	**12 23 34.1**	**-0.3**
JMDO	**Jabal Madar**	**5.71**	**169**	P	**Pn**	**12 23 36.3**	**+1.6**
JLN	**Jalan Bani Buh**	**6.25**	**158**	P	**Pn**	**12 23 41.2**	**-1.0**
MHTO	**MHTO**	**7.05**	**172**	P	**Pn**	**12 23 54.0**	**+0.9**

SJA ***23*** *12:27:09.3±0.8,31˚25S×71˚34W,h62km±4km,ML4.1, MW4.0*

IDC ***23*** *12:27:10.3±3.0,31˚23S×71˚11W,h54km±24km,mb4.1/4, mbtmp4.2/8,ML3.8/4,MS3.6/1,Error ellipse: s-maj=44.1km s-min=17.9km az=107.0*

GUC ***23*** *12:27:11.0±0.8,31˚30S×71˚19W,h67km±3km,ML4.2*

ISC 23 12:27:10.1±0.8,31˚30S±0˚03×71˚31W±0˚04,h61km±6km, n69,σ2§05/87,mb4.3/4,4C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.28**	**71**	*e*P	**Pn**	**12 27 20.8**	**+0.5**
CO02				*e*S	**Sn**	**12 27 28.5**	**+0.8**
CO02	**Combarbal**	**0.28**	**71**	*i*P	**Pn**	**12 27 21.1**	**+0.8**
CO02				*i*S	**Sn**	**12 27 28.4**	**+0.6**
CO06	**Fray Jorge**	**0.68**	**336**	*i*P	**Pn**	**12 27 26.3**	**+2.1**
CO06				*i*S	**Sn**	**12 27 37.3**	**+2.8**
CO06				IAML		12 27 40.3	
	comp=E,23μm,0.1s						
CO03	**El Pedregal**	**0.70**	**50**	*e*P	**Pn**	**12 27 24.6**	**+0.1**
CO03				*e*S	**Sn**	**12 27 35.2**	**+0.1**
CO03				IAML		12 27 35.5	
	comp=Z,7μm,0.4s						
CO03	**El Pedregal**	**0.70**	**50**	*i*P	**Pn**	**12 27 24.8**	**+0.2**
CO03				*i*S	**Sn**	**12 27 34.8**	**-0.3**
CO03				IAML		12 27 35.2	
	comp=N,30μm,0.2s						
GO04	**Tololo Observa**	**1.20**	**22**	*e*P	**Pn**	**12 27 31.2**	**+0.1**
GO04	**Tololo Observa**	**1.20**	**22**	*i*P	**Pn**	**12 27 31.7**	**+0.7**
GO04				*i*S	**Sn**	**12 27 45.0**	**-1.7**
VA06	**Catapilco**	**1.26**	**180**	*e*P	**Pn**	**12 27 32.9**	**+1.3**
VA06				*i*S	**Sn**	**12 27 49.2**	**+1.5**
VA06				IAML		12 27 52.8	
	comp=N,6μm,0.2s						
CO05	**La Serena**	**1.38**	**3**	*e*P	**Pn**	**12 27 33.5**	**+0.3**
CO05				IAML		12 28 01.7	
	comp=E,5μm,0.7s						
VA03	**San Esteban**	**1.60**	**156**	*e*P	**Pn**	**12 27 37.2**	**+1.0**
VA03				*e*S	**Sn**	**12 27 59.0**	**+3.1**
VA03				IAML		12 28 00.3	
	comp=Z,3μm,0.2s						
VA03	**San Esteban**	**1.60**	**156**	*e*P	**Pn**	**12 27 37.0**	**+0.7**
VA03				*i*S	**Sn**	**12 27 56.9**	**+0.9**
VA03				IAML		12 27 59.2	
	comp=E,10μm,0.3s						
CO01	**Juntas del Tor**	**1.68**	**39**	*e*P	**Pn**	**12 27 38.3**	**+0.8**
CO01				*e*S	**Sn**	**12 27 58.8**	**+0.7**
CO01				IAML		12 27 59.3	
	comp=Z,2μm,0.2s						
CO01	**Juntas del Tor**	**1.68**	**39**	*i*P	**Pn**	**12 27 38.5**	**+1.0**
CO01				*i*S	**Sn**	**12 27 58.6**	**+0.4**
CO01				IAML		12 27 59.1	
	comp=N,4μm,0.2s						
ROCH	**El Roble**	**1.69**	**171**	*e*P	**Pn**	**12 27 38.2**	**+0.6**
ROCH				IAML		12 28 09.8	
	comp=N,3μm,0.2s						
ROC1	**El Roble**	**1.69**	**172**	*e*P	**Pn**	**12 27 38.7**	**+1.1**
ROC1				*e*S	**Sn**	**12 27 53.5**	**-4.9**
VA01	**Torpederas**	**1.75**	**189**	*e*P	**Pn**	**12 27 39.5**	**+1.4**
VA01	**Torpederas**	**1.75**	**189**	*e*P	**Pn**	**12 27 39.4**	**+1.3**
VA01				IAML		12 28 06.8	
	comp=N,2μm,0.4s						
RTLS	**Leoncito**	**1.79**	**107**	*e*P	**Pn**	**12 27 40.5**	**+1.6**
RTLS				*e*S	**Sn**	**12 28 02.9**	**+2.0**
RTLS				IAML		12 28 03.5	
	comp=Z,5μm,0.3s						
PEL	**Peldehue**	**1.92**	**164**	*e*P	**Pn**	**12 27 41.8**	**+1.3**
PEL				*e*S	**Sn**	**12 27 56.9**	**-6.7**
PEL	**Peldehue**	**1.92**	**164**	*e*P	**Pn**	**12 27 41.6**	**+1.1**
PEL				IAML		12 28 11.3	
	comp=E,2μm,0.4s						
AROD	**Rodeo**	**1.94**	**55**	*e*P	**Pn**	**12 27 43.7**	**+2.7**
AROD				*e*S	**Sn**	**12 28 02.5**	**-2.0**
DOCA	**Reserva Natura**	**1.94**	**80**	*e*P	**Pn**	**12 27 37.1**	**-4.0**
DOCA				*e*S	**Sn**	**12 28 07.0**	**+2.3**
DOCA				IAML		12 28 20.8	
	comp=Z,2μm,0.5s						
MT02	**Curacav**	**1.96**	**176**	*e*P	**Pn**	**12 27 42.1**	**+1.1**
MT02				*e*S	Sn	12 27 52.3	-12
MT02				IAML		12 28 09.3	
	comp=Z,992nm,0.4s						
MT02	**Curacav**	**1.96**	**176**	*e*P	**Pn**	**12 27 42.1**	**+1.1**
ACCO	**Cerro Coronel**	**2.05**	**70**	*e*P	**Pn**	**12 27 44.8**	**+2.2**
ACCO				*e*S	**Sn**	**12 28 06.3**	**-1.0**
ACCO				IAML		12 28 12.1	
	comp=Z,683nm,0.4s						
MT05	**Renca**	**2.15**	**167**	*e*P	**Pn**	**12 27 46.0**	**+2.5**
MT05				*e*S	**Sn**	**12 28 14.2**	**+5.1**
MT05				IAML		12 28 17.3	
	comp=Z,2μm,0.2s						
MT05	**Renca**	**2.15**	**167**	*e*P	**Pn**	**12 27 45.5**	**+1.9**
ACDV	**Cuesta del Vie**	**2.19**	**60**	*e*P	**Pn**	**12 27 46.9**	**+2.5**
MT03	**Universidad Ad**	**2.29**	**163**	*e*P	**Pn**	**12 27 47.7**	**+2.1**
MT03				*e*S	Sn	12 28 04.3	-8.5
MT03				IAML		12 28 20.9	
	comp=Z,1μm,0.2s						
MT04	**Ro Olivares**	**2.33**	**155**	*e*P	**Pn**	**12 27 48.3**	**+2.1**
LCO	**Las Campanas**	**2.34**	**13**	*e*P	**Pn**	**12 27 47.0**	**+0.5**
LCO				*e*S	Sn	12 27 59.1	-15
LCO				IAML		12 28 19.9	
	comp=Z,966nm,0.3s						
VA05	**Santo Domingo**	**2.37**	**186**	*e*P	**Pn**	**12 27 47.6**	**+1.0**
VA05				IAML		12 28 24.9	
	comp=E,2μm,0.5s						
RTLL	**Cerro Villicun**	**2.43**	**92**	*e*P	**Pn**	**12 27 48.5**	**+1.1**
RTLL				*e*S	Sn	12 28 03.9	-12
RTLL				IAML		12 28 23.4	
	comp=Z,780nm,0.2s						
RTCV	**Cerro Valdivia**	**2.43**	**104**	*e*P	**Pn**	**12 27 49.5**	**+2.1**
RTCV				*e*S	**Sn**	**12 28 21.4**	**+5.3**
ASAL	**Salagasta**	**2.47**	**122**	*e*P	**Pn**	**12 27 50.6**	**+2.6**
ASAL				*e*S	**Sn**	**12 28 21.9**	**+4.8**
ARCO	**CERRO ARCO**	**2.54**	**128**	*e*P	**Pn**	**12 27 52.1**	**+3.1**
ARCO				*e*S	**Sn**	**12 28 17.4**	**-1.5**
ARCO				IAML		12 28 32.1	
	comp=Z,1μm,0.3s						
MT01	**Popeta**	**2.56**	**179**	*e*P	**Pn**	**12 27 50.7**	**+1.5**
MT01				*e*S	Sn	12 28 03.4	-16
MT01				IAML		12 28 29.8	
	comp=Z,658nm,0.3s						
AC05	**El Transito**	**2.61**	**20**	*e*P	**Pn**	**12 27 50.9**	**+0.9**
AC05				*e*S	**Sn**	**12 28 23.6**	**+3.0**
AC05				IAML		12 28 24.1	
	comp=Z,1μm,0.3s						
AC05	**El Transito**	**2.61**	**20**	*e*P	**Pn**	**12 27 51.5**	**+1.4**
AC05				*i*S	**Sn**	**12 28 21.2**	**+0.6**
LMEL	**Las Melosas**	**2.71**	**160**	*e*P	**Pn**	**12 27 53.5**	**+2.1**
LMEL				IAML		12 28 29.4	
	comp=N,2μm,0.2s						
BO04	**La Punta**	**2.75**	**168**	*e*P	**Pn**	**12 27 53.2**	**+1.4**
BO04				*i*S	**Sn**	**12 28 24.8**	**+0.9**
BO04				IAML		12 28 27.4	
	comp=N,733nm,0.3s						
AAGR	**Agrelo**	**2.76**	**131**	*e*P	Pn	12 27 40.0	-12
AAGR				IAML		12 28 35.5	
	comp=Z,293nm,0.2s						
AC04	**Llanos de Chal**	**3.09**	**4**	*e*P	**Pn**	**12 27 58.0**	**+1.5**
AC04				*e*S	**Sn**	**12 28 32.8**	**+0.7**
AC04				IAML		12 28 47.7	
	comp=Z,351nm,0.3s						
BO01	**Tunca**	**3.09**	**177**	*e*P	**Pn**	**12 27 57.7**	**+1.2**
BO01				*e*S	**Sn**	**12 28 34.5**	**+2.3**
BO01				IAML		12 28 42.7	
	comp=Z,281nm,0.2s						
AVFE	**Valle Fertil**	**3.37**	**80**	*e*P	**Pn**	**12 28 01.1**	**+0.7**
AVFE				*e*S	**Sn**	**12 28 39.4**	**+0.2**
AVFE				IAML		12 28 47.1	
	comp=Z,632nm,0.6s						
GO03	**Copiap**	**3.81**	**15**	*e*P	**Pn**	**12 28 07.5**	**+1.2**
GO03				*e*S	**Sn**	**12 28 51.0**	**+1.2**
AC01	**Pan de Azucar**	**5.17**	**7**	*e*S	Sn	12 29 33.6	+10
AC01				IAML		12 29 45.2	
	comp=Z,126nm,0.4s						
H03N1	**Juan Fernandez**	**6.78**	**250**	T	T	12 35 38.9	
	baz=80,slow=73,SNR=1880						
H03N3	**Juan Fernandez**	**6.79**	**250**	T	T	12 35 38.4	
	baz=80,slow=73,SNR=1777						
H03N2	**Juan Fernandez**	**6.79**	**250**	T	T	12 35 37.7	
	baz=80,slow=73,SNR=1774						
LVC	**Limon Verde**	**8.91**	**14**	P	**Pn**	**12 29 14.2**	**-2.3**
	comp=Z,0.6nm,0.3s,baz=176,slow=10,SNR=8.2						
LVC				S	**Sn**	**12 30 54.5**	**-1.1**
	comp=Z,7.4nm,0.5s,baz=204,slow=16,SNR=2.0						
	comp=Z,1.7nm,0.2s						
PLCA	**Paso Flores**	**9.44**	**176**	P	**Pn**	**12 29 24.3**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=358,slow=11,SNR=3.3						
	comp=Z,0.6nm,0.3s						
CPUP	**Villa Florida**	**13.21**	**72**	P	**Pn**	**12 30 12.4**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=241,slow=10,SNR=3.2						
	comp=Z,1.9nm,0.6s						
LPAZ	**La Paz**	**15.22**	**12**	P	**P**	**12 30 43.5**	**-2.2**
	comp=Z,2.2nm,0.6s,baz=188,slow=6.7,SNR=8.6						
SIV	**San Ignacio**	**17.87**	**34**	P	**P**	**12 31 14.7**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=208,slow=9.9,SNR=32						
	comp=Z,6.1nm,0.5s						
BDFB	**Brasilia**	**26.36**	**59**	P	**P**	**12 32 39.9**	**-0.9**
	comp=Z,4.2nm,0.4s,baz=229,slow=7.0,SNR=8.2						
BDFB				LR	LR	12 44 08.2	
	comp=Z,116nm,18.4s,baz=134,slow=39						
	comp=Z,4.2nm,0.4s						
QSPA	**South Pole Qui**	**58.93**	**180**	P	**P**	**12 37 04.7**	**+1.9**
	comp=Z,1.6nm,0.5s,baz=200,slow=2.0,SNR=12						
	comp=Z,1.6nm,0.5s						
DBIC	**Dimbokro**	**73.74**	**72**	P	**P**	**12 38 37.2**	**-0.7**
	comp=Z,2.4nm,0.7s,baz=201,slow=12,SNR=3.3						
	comp=Z,2.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**82.71**	**70**	P	**P**	**12 39 27.7**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=280,slow=5.8,SNR=26						
	comp=Z,1.9nm,0.6s						
ASAR	**Alice Springs**	**120.25**	**207**	PKP	**PKPdf**	**12 45 54.5**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=134,slow=1.7,SNR=1.0						
H11S2	**WAKE ISLAND Hyl**	**26.39**	**271**	T	T	15 05 06.6	
	baz=116,slow=75,SNR=118						
H11S1	**WAKE ISLAND Hyl**	**26.40**	**271**	T	T	15 05 07.5	
	baz=116,slow=75,SNR=194						
H11S3	**WAKE ISLAND Hyl**	**26.41**	**271**	T	T	15 05 04.0	
	baz=116,slow=75,SNR=175						
H11N3	**WAKE ISLAND Hyl**	**26.73**	**272**	T	T	15 05 28.5	
	baz=117,slow=75,SNR=99						
H11N1	**WAKE ISLAND Hyl**	**26.75**	**272**	T	T	15 05 35.1	
	baz=117,slow=75,SNR=44						
H11N2	**WAKE ISLAND Hyl**	**26.75**	**272**	T	T	15 05 30.6	
	baz=117,slow=75,SNR=99						
BVAR	**Borovoye Array**	**144.86**	**41**	PKP	**PKPdf**	**12 46 40.4**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=311,slow=3.4,SNR=9.4						
KURBB	**Kurchatov Arra**	**150.45**	**40**	PKPbc	**PKiKP**	**12 46 54.5**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=297,slow=3.0,SNR=5.4						
ZALV	**Zalesovo Beam**	**151.60**	**30**	PKPbc	**PKiKP**	**12 46 57.8**	**+0.5**
	comp=Z,2.7nm,0.4s,baz=304,slow=2.3,SNR=11						

IDC ***23*** *13:05:55.3±0.9,5˚96S×142˚37E,h0km,mb4.0/10, mbtmp4.0/12,ML1.8/1,MS3.5/4,Error ellipse: s-maj=37.0km s-min=20.2km az=81.0*

ISC 23 13:05:56.3±0.7,6˚15S±0˚09×142˚2E±0˚1,h10km,n15, σ1§97/14,mb4.0/10,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.86**	**124**	Pn	**Pn**	**13 07 25.3**	**+2.0**
	1.7nm,0.3s,baz=326,slow=3.6,SNR=6.3						
PMG				Sn	**Sn**	**13 08 28.2**	**-2.3**
	0.5nm,0.3s,baz=252,slow=20,SNR=1.5						
PMG				LR	LR	13 10 43.1	
	comp=Z,145nm,19.2s,baz=260,slow=49						
	5.0nm,0.4s						
CTA	**Charters Tower**	**14.39**	**165**	Lg	Lg	13 13 38.8	
	0.1nm,0.3s,baz=277,slow=0.2,SNR=1.5						
BATI	**Baumata**	**18.81**	**256**	LR	LR	13 17 52.8	
	comp=Z,90nm,18.8s,baz=82,slow=38						
ASAR	**Alice Springs**	**19.17**	**204**	P	**Pn**	**13 10 23.9**	**+2.9**
	5.4nm,0.7s,baz=28,slow=11,SNR=36						
ASAR				Sn	**Sn**	**13 13 51.7**	**-4.3**
	0.1nm,0.3s,baz=20,slow=28,SNR=3.1						
ASAR				Lg	Lg	13 16 02.2	
	baz=36,slow=32,SNR=2.1						
ASAR				LR	LR	13 18 28.1	
	comp=Z,298nm,20.6s,baz=32,slow=39						
STKA	**Stephens Creek**	**25.60**	**181**	P	**P**	**13 11 27.2**	**+1.4**
	1.9nm,0.7s,baz=352,slow=14,SNR=2.4						
	1.9nm,0.7s						
NWAO	**Narrogin (SRO)**	**35.36**	**218**	LR	LR	13 26 47.1	
	comp=Z,125nm,19.1s,baz=201,slow=35						
KSRS	**Korea Array**	**45.39**	**344**	P	**P**	**13 14 15.3**	**+0.3**
	1.0nm,0.6s,baz=155,slow=8.4,SNR=5.2						
	1.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**50.97**	**351**	P	**P**	**13 14 58.0**	**-0.1**
	2.3nm,0.8s,baz=157,slow=7.7,SNR=4.5						
	2.3nm,0.8s						
PETK	**Petropavlovsk-**	**60.48**	**11**	P	**P**	**13 16 05.3**	**-0.9**
	2.3nm,0.8s,baz=152,slow=9.5,SNR=5.4						
	2.3nm,0.8s						
SONM	**Songino Array**	**62.33**	**334**	P	**P**	**13 16 19.3**	**+0.3**
	0.4nm,0.6s,baz=172,slow=6.0,SNR=2.5						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**74.64**	**322**	P	**P**	**13 17 36.5**	**+0.5**
	1.6nm,0.8s,baz=113,slow=5.9,SNR=15						
	1.6nm,0.8s						
ZALV	**Zalesovo Beam**	**76.66**	**329**	P	**P**	**13 17 46.5**	**-0.8**
	0.5nm,0.3s,baz=92,slow=8.7,SNR=4.1						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**78.55**	**324**	P	**P**	**13 17 58.0**	**+0.1**
	0.5nm,0.5s,baz=116,slow=5.2,SNR=5.6						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**84.13**	**325**	P	**P**	**13 18 28.2**	**+0.6**
	4.2nm,0.8s,baz=110,slow=5.8,SNR=22						
	4.2nm,0.8s						
ILAR	**Eielson Array**	**87.52**	**24**	P	**P**	**13 18 42.6**	**-1.5**
	1.3nm,0.8s,baz=249,slow=5.0,SNR=15						
	1.3nm,0.8s						

ROM ***23*** *13:12:07.5±0.3,44˚744N±0˚010×11˚82E±0˚04, h29km,ML2.5/30,Error ellipse: s-maj=2.9km s-min=0.8km az=255.0*

ISC 23 13:12:09.6±1.0,44˚67N±0˚03×12˚00E±0˚03,h18km±5km, n33,σ1§05/46,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMPO	**Campotto Po**	**0.16**	**239**	P	**Pg**	**13 12 14.2**	**+0.3**
CMPO				S	**Sg**	**13 12 19

DOSS					AML	AML			
	comp=E,234μm,0.8s								
VARA	**Varagna**	**1.40**	**326**		P	**Pg**	**13 12 35.4**	**-1.2**	
VARA					S	**Sn**	**13 12 53.3**	**+0.8**	
VARA					AML	AML			
	comp=N,381μm,1.6s								
VARA					AML	AML			
	comp=E,217μm,0.2s								
VARA					AML	AML			
	comp=N,244μm,0.2s								
VARA					AML	AML			
	comp=N,381μm,0.4s								
VARA					AML	AML			
	comp=E,386μm,0.2s								
SMRN	**Sveta Marina**	**1.58**	**76**	*e*Pn		**Pg**	**13 12 40.2**	**+0.2**	
NVLJ	**Novalja**	**2.05**	**92**	Sn		**Sb**	**13 13 11.2**	**-0.3**	
ABTA	**Abfaltersbach**	**2.11**	**10**	*e*Pg		**Pg**	**13 12 49.3**	**-0.8**	
	comp=E,0.8nm,0.2s								
VIRC	**Vir**	**2.22**	**99**	Sn		**Sb**	**13 13 15.1**	**-1.1**	
OBKA	**Obir**	**2.57**	**43**	Pg		**Pg**	**13 12 58.4**	**-0.4**	
	comp=E,1.9nm,0.4s								
MORI	**Morici**	**2.78**	**105**	Sn		**Sn**	**13 13 28.9**	**+2.7**	
LESA	**Schwarzleotal**	**2.80**	**9**	*e*Pg		**Pg**	**13 13 02.3**	**-0.9**	
	comp=E,0.7nm,0.2s								
ZIRJ	**Zirje**	**2.81**	**110**	*e*Pn		**Pb**	**13 12 56.4**	**-2.9**	
ZIRJ				Sn		**Sn**	**13 13 27.8**	**+0.7**	

*IDC **23** 13:23:57.8±1.3, 12°.61N×86°.73W, h152^{km}±14^{km}, mb3.0/3, mbtmp3.6/5, Error ellipse: s-maj=57.3km s-min=9.4km az=45.0*
*SNET **23** 13:23:58.6±1.1, 12°.25N×87°.02W, h142^{km}±16^{km}, ML3.8*
*CATAC **23** 13:23:58.7±0.5, 12°.41N×86°.93W, h142^{km}±4^{km}, ML3.4*
ISC 23 13:23:58.1±0.8,**12°.46N**±0°.07×**86°.90W**±0°.06,**h149**^{km}±5^{km}, **n49,σ1°58/74,mb2.9/3,12C-5D,Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HERN	**Volcan Telica**	**0.16**	**24**	⇑*i*P	**Pn**	**13 24 18.6**	**+0.4**
HERN				IAML		13 24 20.4	
	comp=Z,2μm,1.0s						
HERN				*i* S	**Sn**	**13 24 31.8**	**-1.8**
CNGN	**Cerro Negro**	**0.20**	**79**	*e*P	**Pn**	**13 24 18.0**	**-0.2**
CNGN	**Cerro Negro**	**0.20**	**79**	⇑*i*P	**Pn**	**13 24 17.8**	**-0.4**
CNGN				IAML		13 24 18.5	
	comp=Z,2μm,1.0s						
CNGN				*i* S	**Sn**	**13 24 31.2**	**-2.3**
MACN	**El Madrono**	**0.22**	**89**	*i* P	**Pn**	**13 24 18.9**	**+0.6**
MACN				IAML		13 24 19.7	
	comp=Z,3μm,1.0s						
MACN				*i* S	**Sn**	**13 24 31.7**	**-1.9**
PKGN	**Cerro Pekin**	**0.22**	**340**	⇑*i*P	**Pn**	**13 24 19.2**	**+1.0**
PKGN				IAML		13 24 19.5	
	comp=Z,7μm,1.0s						
PKGN				*i* S	**Sn**	**13 24 31.2**	**-2.4**
CRIN	**San Cristobal**	**0.28**	**328**	*e*P	**Pn**	**13 24 19.6**	**+1.1**
CRIN	**San Cristobal**	**0.28**	**328**	⇑*i*P	**Pn**	**13 24 19.5**	**+1.1**
CRIN				IAML		13 24 19.8	
	comp=Z,6μm,1.0s						
CRIN				*i* S	**Sn**	**13 24 30.9**	**-3.2**
LEVN	**Ruinas Leon Vi**	**0.28**	**102**	⇑*i*P	**Pn**	**13 24 19.3**	**+0.9**
LEVN				IAML		13 24 19.6	
	comp=Z,2μm,1.0s						
LEVN				*i* S	**Sn**	**13 24 36.3**	**+2.5**
MOMN	**Momotombo**	**0.35**	**99**	⇑*i*P	**Pn**	**13 24 19.5**	**+0.8**
MOMN				IAML		13 24 20.2	
	comp=Z,140nm,1.0s						
BC84	**Volcan Momotom**	**0.36**	**101**	IAML		13 24 19.5	
	comp=Z,5μm,1.0s						
BC84				*i* P	**Pn**	**13 24 19.9**	**+1.3**
BC84				*i* S	**Sn**	**13 24 36.8**	**+2.6**
BC86	**Nagarote**	**0.38**	**121**	*i* P	**Pn**	**13 24 19.2**	**+0.5**
BC86				IAML		13 24 56.0	
	comp=Z,7μm,1.0s						
MOM2	**El Cardon**	**0.41**	**93**	⇑*i*P	**Pn**	**13 24 19.9**	**+1.1**
MOM2				IAML		13 24 22.1	
	comp=Z,1μm,1.0s						
MOM2				*i* S	**Sn**	**13 24 37.0**	**+2.4**
AMTN	**Mateare**	**0.51**	**116**	*i* P	**Pn**	**13 24 20.4**	**+1.1**
AMTN				IAML		13 24 43.9	
	comp=Z,7μm,1.0s						
SAPS	**Ciudad Sandino**	**0.56**	**121**	⇑*i*P	**Pn**	**13 24 20.5**	**+0.9**
SAPS				IAML		13 24 20.9	
	comp=Z,2μm,1.0s						
SAPS				*i* S	**Sn**	**13 24 37.3**	**+1.3**
BRAN	**Las Pilas**	**0.59**	**64**	*i* P	**Pn**	**13 24 19.5**	**-0.3**
BRAN				IAML		13 24 20.3	
	comp=Z,3μm,1.0s						
BRAN				*i* S	**Sn**	**13 24 37.4**	**+1.1**
APQ2	**Apoyeque**	**0.62**	**115**	*i* P	**Pn**	**13 24 20.4**	**+0.5**
APQ2				*i* S	**Sn**	**13 24 38.6**	**+2.1**
APQ2				IAML		13 24 46.1	
	comp=Z,1μm,1.0s						
TISN	**Laguna Tiscapa**	**0.69**	**117**	*i* P	**Pn**	**13 24 18.2**	**-2.2**
UNAN	**Cigeo UNAN**	**0.71**	**120**	⇑*i*P	**Pn**	**13 24 21.4**	**+0.9**
UNAN				*i* S	**Sn**	**13 24 38.7**	**+1.2**
UNAN				IAML		13 24 44.1	
	comp=Z,6μm,1.0s						
R45A8	**Distro VI**	**0.74**	**115**	*i* P	**Pn**	**13 24 21.4**	**+0.7**
R45A8				IAML		13 24 22.0	
	comp=Z,1μm,1.0s						
CRUN	**El Crucero**	**0.75**	**129**	*i* P	**Pn**	**13 24 20.2**	**-0.7**
CRUN				IAML		13 24 44.1	
	comp=Z,8.3nm,1.0s						
WILN	**Americas 2**	**0.76**	**113**	⇑*i*P	**Pn**	**13 24 21.8**	**+1.0**
WILN				IAML		13 24 49.0	
	comp=Z,710nm,1.0s						
LIMN	**Finca el Limon**	**0.79**	**41**	⇓*i*P	**Pn**	**13 24 22.2**	**+1.0**
LIMN				IAML		13 24 22.3	
	comp=Z,1μm,1.0s						
LIMN				*i* S	**Sn**	**13 24 39.8**	**+1.0**
MAS3	**Al N del Volca**	**0.83**	**122**	⇑*i*P	**Pn**	**13 24 22.1**	**+0.7**
MAS3				*i* S	**Sn**	**13 24 40.1**	**+1.0**
MAS3				IAML		13 24 48.6	
	comp=Z,2μm,1.0s						
AMPH	**Amapala**	**1.10**	**318**	*i* P	**Pn**	**13 24 24.8**	**+1.2**
AMPH				*e*S	**Sn**	**13 24 44.6**	**+1.4**
CNCH	**Conchagua**	**1.22**	**312**	*e*P	**Pn**	**13 24 25.8**	**+0.9**
CNCH	**Conchagua**	**1.22**	**312**	⇑*i*P	**Pn**	**13 24 25.7**	**+0.9**
CNCH				IAML		13 24 26.2	
	comp=Z,2μm,1.0s						
CNCH				*i* S	**Sn**	**13 24 45.0**	**-0.3**
LCND	**La Caada**	**1.28**	**311**	*e*P	**Pn**	**13 24 26.2**	**+0.9**
LCND				*e*S	**Sn**	**13 24 48.1**	**+1.9**
LCND				IAML		13 24 51.4	
	comp=Z,269nm,0.4s						
RCPN	**Sur Rio San Ju**	**1.32**	**36**	⇓*i*P	**Pn**	**13 24 25.8**	**0.0**
RCPN				IAML		13 24 26.1	
	comp=Z,3.9nm,1.0s						
CONN	**Concepcion**	**1.53**	**125**	⇓*i*P	**Pn**	**13 24 28.9**	**+1.0**
CONN				IAML		13 24 29.2	
	comp=Z,5μm,1.0s						
JUCU	**Jucuarɲn**	**1.53**	**301**	*e*P	**Pn**	**13 24 29.1**	**+1.1**
JUCU				*e*S	**Sn**	**13 24 52.7**	**+1.8**
LCY	**Lacayo**	**1.66**	**305**	*e*P	**Pn**	**13 24 30.7**	**+1.2**
PACA	**Pacayal**	**1.71**	**306**	*e*P	**Pn**	**13 24 31.3**	**+1.3**
PACA				*e*S	**Sn**	**13 24 57.3**	**+2.8**
ACON	**Acoyapa**	**1.76**	**106**	⇓*i*P	**Pn**	**13 24 31.2**	**+0.9**
ACON				IAML		13 24 31.6	
	comp=Z,830nm,1.0s						
ACON				*i* S	**Sn**	**13 24 56.6**	**+1.6**
COEG	**Centro de Oper**	**2.25**	**301**	*e*P	**Pn**	**13 24 37.5**	**+1.3**
COEG				*e*S	**Sn**	**13 25 07.8**	**+2.3**
COEG				IAML		13 25 15.1	
	comp=Z,360nm,0.3s						
ESPN	**Las Esperanzas**	**2.55**	**96**	*i* P	**Pn**	**13 24 40.7**	**+0.9**
ESPN				IAML		13 24 40.9	
	comp=Z,140nm,1.0s						
JAYA	**Jayaque - finc**	**2.75**	**296**	*e*P	**Pn**	**13 24 43.5**	**+1.0**
JAYA				*e*S	**Sn**	**13 25 17.5**	**+0.9**
JAYA				IAML		13 25 19.9	
	comp=Z,1μm,0.3s						
JTS	**Las Juntas de**	**2.88**	**138**	P	**Pn**	**13 24 43.6**	**-0.3**
	comp=Z,19nm,0.3s,baz=302,slow=19,SNR=44						
JTS				S	**Sn**	**13 25 20.1**	**+0.8**
	comp=Z,81nm,0.3s,baz=336,slow=20,SNR=10						
CEVE	**Cerro Verde**	**2.98**	**297**	*e*S	**Sn**	**13 25 24.2**	**+2.2**
BLUN	**Bluefields**	**3.09**	**98**	*e*P	**Pn**	**13 24 47.1**	**+0.6**
BLUN	**Bluefields**	**3.09**	**98**	⇓*i*P	**Pn**	**13 24 47.3**	**+0.8**
BLUN				IAML		13 27 01.7	
	comp=Z,210nm,1.0s						
NUBE	**Las Nubes**	**3.15**	**297**	*e*S	**Sn**	**13 25 26.4**	**+0.8**
NUBE	**Las Nubes**	**3.15**	**297**	*i* P	**Pn**	**13 24 48.8**	**+1.4**
NUBE				IAML		13 25 30.4	
	comp=Z,610nm,1.0s						
APG	**El Apazote**	**4.29**	**307**	P	**Pn**	**13 25 01.8**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=113,slow=13,SNR=1.8						
APG				S	**Sn**	**13 25 54.3**	**+2.1**
	comp=Z,0.5nm,0.4s,baz=96,slow=12,SNR=4.2						
CMIG	**Matias Romero**	**8.99**	**302**	P	**Pn**	**13 26 05.3**	**+0.6**
	comp=Z,4.2nm,0.3s,baz=140,slow=9.8,SNR=8.1						
CMIG				S	**Sn**	**13 27 38.1**	**-6.5**
	comp=Z,1.4nm,0.6s,baz=117,slow=16,SNR=1.4						
TXAR	**Lajitas Array**	**22.91**	**320**	P	**P**	**13 28 48.7**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=137,slow=11,SNR=4.5						
	comp=Z,0.3nm,0.6s						
YKA	**Yellowknife Ar**	**53.74**	**344**	P	**P**	**13 33 03.4**	**-1.2**
	comp=Z,0.1nm,0.5s,baz=129,slow=8.8,SNR=2.2						
	comp=Z,0.1nm,0.5s						
PLCA	**Paso Flores**	**55.05**	**165**	P	**P**	**13 33 14.5**	**0.0**
	comp=Z,1.3nm,0.5s,baz=323,slow=10,SNR=3.5						
	comp=Z,1.3nm,0.5s						
ASAR	**Alice Springs**	**139.77**	**248**	PKP	**PKPdf**	**13 43 08.8**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=101,slow=2.3,SNR=9.2						
WRA	**Warramunga Arr**	**139.79**	**254**	PKP	**PKPdf**	**13 43 09.1**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=90,slow=2.4,SNR=4.2						

*SNET **23** 13:43:58.4±1.2, 13°.32N×89°.82W, h45^{km}±14^{km}, ML3.3*
*CATAC **23** 13:43:59.5±0.6, 13°.49N×89°.66W, h37^{km}±4^{km}, ML3.2*
*GCG **23** 13:43:59.3±0.5, 13°.34N×90°.14W, h17^{km}±4^{km}, MD3.5*
ISC 23 13:43:53.9±1.7,**13°.22N**±0°.07×**89°.85W**±0°.04,**h10**^{km}±10^{km}, **n35,σ1°22/61,El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.58**	**62**	*e*P	**Pn**	**13 44 09.4**	**+1.2**
LALI				*e*S	**Sn**	**13 44 17.9**	**+0.1**
LALI	**Alcalda de L**	**0.58**	**62**	*i* P	**Pn**	**13 44 09.2**	**+0.9**
LALI				*i* S	**Sn**	**13 44 16.9**	**-1.0**
LALI				IAML		13 44 23.5	
	comp=Z,270nm,1.0s						
JAYA	**Jayaque - finc**	**0.58**	**42**	*e*P	**Pn**	**13 44 09.4**	**+0.9**
JAYA				*e*S	**Sb**	**13 44 18.0**	**+3.2**
JAYA				IAML		13 44 23.3	
	comp=Z,1μm,0.3s						
JAYA	**Jayaque - finc**	**0.58**	**42**	*i* P	**Pn**	**13 44 08.7**	**+0.2**
JAYA				*i* S	**Sb**	**13 44 16.1**	**+1.3**
JAYA				IAML		13 44 23.2	
	comp=Z,3μm,1.0s						
CEVE	**Cerro Verde**	**0.64**	**20**	*i* P	**Pn**	**13 44 09.3**	**-0.1**
CEVE				*i* S	**Sb**	**13 44 17.1**	**+0.5**
CEVE				IAML		13 44 25.2	
	comp=Z,1μm,1.0s						
SBLS	**San Blas**	**0.66**	**20**	*e*P	**Pn**	**13 44 10.2**	**+0.6**
SBLS				*e*S	**Sn**	**13 44 19.7**	**-0.3**
NUBE	**Las Nubes**	**0.68**	**6**	*e*P	**Pn**	**13 44 10.2**	**+0.4**
NUBE				*e*S	**Sn**	**13 44 20.0**	**-0.6**
NUBE				IAML		13 44 22.5	
	comp=Z,1μm,0.3s						
NUBE	**Las Nubes**	**0.68**	**6**	*i* P	**Pn**	**13 44 09.6**	**-0.2**
NUBE				*i* S	**Sn**	**13 44 18.7**	**-1.9**
NUBE				IAML		13 44 22.2	
	comp=Z,3μm,1.0s						
SNJE	**San Jose**	**0.69**	**20**	*e*P	**Pn**	**13 44 10.5**	**+0.6**
RTR	**El Retiro**	**0.70**	**16**	*e*P	**Pn**	**13 44 10.8**	**+0.7**
RTR				*e*S	**Sn**	**13 44 20.8**	**-0.4**
PMON	**Piamonte**	**0.72**	**47**	*e*P	**Pn**	**13 44 11.2**	**+1.0**
PMON				*e*S	**Sn**	**13 44 21.9**	**+0.5**
PMON	**Piamonte**	**0.72**	**47**	*i* P	**Pn**	**13 44 10.7**	**+0.5**
PMON				*i* S	**Sb**	**13 44 18.3**	**-0.2**
PMON				IAML		13 44 32.0	
	comp=Z,1μm,1.0s						
BOQS	**Boqueron**	**0.76**	**47**	*e*P	**Pn**	**13 44 11.6**	**+0.7**
BOQS				*e*S	**Sn**	**13 44 22.3**	**-0.2**
LOAL	**Lomas de Alarc**	**0.78**	**5**	*e*P	**Pn**	**13 44 11.9**	**+0.9**
LOAL	**Lomas de Alarc**	**0.78**	**5**	*i* P	**Pn**	**13 44 11.3**	**+0.2**
LOAL				*i* S	**Sb**	**13 44 20.5**	**+0.2**
LOAL				IAML		13 44 26.0	
	comp=Z,2μm,1.0s						
LOMA	**Loma Larga**	**0.79**	**57**	*e*P	**Pn**	**13 44 12.1**	**+0.9**
LOMA	**Loma Larga**	**0.79**	**57**	*i* P	**Pn**	**13 44 11.3**	**+0.1**
LOMA				*i* S	**Sb**	**13 44 19.8**	**-0.7**
LOMA				IAML		13 44 25.9	
	comp=Z,860nm,1.0s						
SLOZ	**Alcaldia de Sa**	**0.81**	**5**	*e*P	**Pn**	**13 44 11.9**	**+0.5**
SLOZ				*e*S	**Sn**	**13 44 23.2**	**-0.3**
LFRS	**El Faro**	**0.87**	**62**	*e*P	**Pn**	**13 44 13.5**	**+1.2**
LFRS				*e*S	**Sn**	**13 44 25.9**	**+0.8**
SJTE	**Alcalda de S**	**0.91**	**64**	*e*P	**Pn**	**13 44 14.2**	**+1.3**
SJTE				IAML		13 44 29.8	
	comp=Z,300nm,0.2s						
SJTE	**Alcalda de S**	**0.91**	**64**	*i* P	**Pn**	**13 44 13.5**	**+0.6**
SJTE				*i* S	**Sb**	**13 44 23.3**	**-0.8**
SJTE				IAML		13 44 29.5	
	comp=Z,830nm,1.0s						
PAVA	**Las Pavas**	**1.01**	**61**	*i* P	**Pb**	**13 44 13.9**	**+0.2**
PAVA				*i* S	**Sg**	**13 44 24.5**	**-2.2**
PAVA				IAML		13 44 35.6	
	comp=Z,880nm,1.0s						
COEG	**Centro de Oper**	**1.02**	**67**	*e*P	**Pn**	**13 44 16.6**	**+2.1**
COEG				IAML		13 44 34.6	
	comp=Z,1μm,0.5s						
COEG	**Centro de Oper**	**1.02**	**67**	*i* P	**Pn**	**13 44 14.8**	**+0.3**
COEG				*i* S	**Sg**	**13 44 25.1**	**-1.9**
COEG				IAML		13 44 34.4	
	comp=Z,910nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.19**	**66**	*e*P	**Pn**	**13 44 18.5**	**+1.7**
PQSS	**Presa 15 de Se**	**1.32**	**72**	*e*P	**Pg**	**13 44 19.6**	**+0.4**
PQSS	**Presa 15 de Se**	**1.32**	**72**	*i* P	**Pb**	**13 44 19.1**	**+0.3**
PQSS				*i* S	**Sb**	**13 44 33.6**	**-2.2**
PQSS				IAML		13 44 40.4	
	comp=Z,320nm,1.0s						
PACA	**Pacayal**	**1.51**	**80**	*e*P	**Pg**	**13 44 20.4**	**+0.5**
PACA				IAML		13 44 48.8	
	comp=Z,2μm,0.3s						
PACA	**Pacayal**	**1.51**	**80**	*i* P	**Pn**	**13 44 22.1**	**+1.0**
PACA				*i* S	**Sn**	**13 44 37.3**	**-3.6**
PACA				IAML		13 44 48.3	
	comp=Z,2μm,1.0s						
FUG	**Fuego 3**	**1.56**	**322**	*e*P	**Pn**	**13 44 22.6**	**+0.7**
FUG				*e*S	**Sn**	**13 44 40.7**	**-1.5**
LCND	**La Caada**	**1.91**	**87**	*e*P	**Pn**	**13 44 28.1**	**+1.5**
CNCH	**Conchagua**	**1.96**	**88**	*i* P	**Pn**	**13 44 28.6**	**+1.2**
CNCH				*i* S	**Sn**	**13 44 49.8**	**-2.4**
CNCH				IAML		13 44 59.7	
	comp=Z,560nm,1.0s						
STG3	**Santiaguito 3,**	**2.23**	**312**	*e*P	**Pn**	**13 44 32.2**	**+1.0**
STG3				*e*S	**Sn**	**13 44 57.3**	**-1.6**

*DSN **23** 14:09:27.6±3.3, 31°.12N×50°.29E, h8^{km}, ML3.7/8, Error ellipse: s-maj=39.6km s-min=8.2km az=167.0*
*IDC **23** 14:09:29.9±1.3, 30°.69N×50°.32E, h0^{km}, mb3.9/19, mbtmp3.9/22, ML3.4/3, MS3.0/1, Error ellipse: s-maj=28.5km s-min=15.3km az=177.0*
*NEIC **23** 14:09:33.3±1.1, 30°.70N±0°.09×50°.29E±0°.08, h10^{km}±2^{km}, mb4.0/7, Error ellipse: s-maj=15.2km s-min=11.0km az=167.0*
*TEH **23** 14:09:34.0, 30°.80N×50°.44E, h12^{km}±31^{km}, ML3.8*
*OMAN **23** 14:09:39.8±0.1, 30°.41N×50°.85E, h10^{km}, mb4.5/25, ms2.7/1, Error ellipse: s-maj=1.1km s-min=1.0km az=358.0*
ISC 23 14:09:32.2±0.4,**30°.79N**±0°.04×**50°.46E**±0°.04,**h10**^{km},**n127,** σ**2°56**/156,**mb3.9**/22,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABEH	**Behbahan**	**0.26**	**224**	Pg	**Pg**	**14 09 40.3**	**+2.8**
KLNJ	**Kolanjah**	**1.00**	**77**	Pg	**Pg**	**14 09 53.4**	**+2.0**
IBRJ	**Brojen**	**1.31**	**31**	Pg	**Pn**	**14 09 59.0**	**+2.2**
ZNGN	**Zangian**	**1.37**	**14**	Pg	**Pn**	**14 09 59.8**	**+2.2**
JHBN	**Jahan bin**	**1.45**	**7**	Pg	**Pn**	**14 10 01.0**	**+2.2**
KAZ2	**Kazeron-Fars-I**	**1.57**	**138**	Pg	**Pb**	**14 10 03.8**	**+2.5**
IPIR	**Pirpir**	**1.93**	**11**	Pn	**Pn**	**14 10 09.1**	**+3.7**
IRAM	**Rameshеh**	**1.93**	**58**	Pn	**Pb**	**14 10 09.9**	**+2.3**
SHI	**Shiraz**	**2.11**	**122**	Pn	**Pb**	**14 10 13.2**	**+2.5**
DSBU	**Dashti - Bushe**	**2.52**	**164**	Pn	**Pn**	**14 10 16.3**	**+3.1**
IZEF	**Zefreh**	**2.63**	**37**	Pn	**Pn**	**14 10 19.4**	**+4.3**
IKLH	**Kolahrood**	**2.70**	**20**	Pn	**Pn**	**14 10 19.6**	**+3.7**
ISAD	**Sadrabad**	**2.98**	**67**	Pn	**Pn**	**14 10 23.8**	**+4.1**
QAMS	**Qamsar**	**3.04**	**15**	Pn	**Pn**	**14 10 24.6**	**+3.9**
QIR1	**Qir**	**3.22**	**135**	Pn	**Pn**	**14 10 25.6**	**+2.7**
KRSH	**Karshahi**	**3.47**	**24**	Pn	**Pn**	**14 10 30.1**	**+3.6**
IKFM	**Kafar-mosalman**	**3.52**	**322**	Pn	**Pn**	**14 10 29.6**	**+2.8**
IMEH	**Mehriz**	**3.61**	**79**	Pn	**Pn**	**14 10 32.3**	**+3.8**
ANAR	**Anarak**	**3.67**	**48**	Pn	**Pn**	**14 10 33.1**	**+4.0**
ICHK	**Chekchek**	**3.67**	**66**	Pn	**Pn**	**14 10 33.3**	**+4.0**
ISFB	**Sefidab**	**3.86**	**22**	Pn	**Pn**	**14 10 35.5**	**+3.8**
IQOM	**Qom**	**4.08**	**7**	Pn	**Pn**	**14 10 38.3**	**+3.5**
IBZA	**Bozab**	**4.28**	**330**	Pn	**Pn**	**14 10 40.2**	**+2.5**
IVRN	**Varamin**	**4.33**	**14**	Pn	**Pn**	**14 10 42.1**	**+3.9**
IBAF	**Bafgh**	**4.45**	**78**	Pn	**Pn**	**14 10 43.5**	**+3.6**
KCHF	**Cheshme Sefid,**	**4.52**	**321**	Pn	**Pn**	**14 10 43.5**	**+2.6**
IRAZ	**Razeghan**	**4.63**	**355**	Pn	**Pn**	**14 10 45.9**	**+3.6**
IHSB	**Hasanabad**	**4.69**	**8**	Pn	**Pn**	**14 10 46.5**	**+3.4**
SAKB	**Bahrain**	**4.79**	**179**	P	**Pn**	**14 10 47.2**	**+2.8**
SAKB				S	**Sn**	**14 11 41.5**	**+1.5**
IGHG	**Ghaleghazi**	**4.82**	**318**	Pn	**Pn**	**14 10 47.3**	**+2.1**
IMHD	**Mahdasht**	**4.89**	**2**	Pn	**Pn**	**14 10 49.3**	**+3.5**
SHMA	**Al-Shehemyia**	**4.93**	**175**	P	**Pn**	**14 10 48.9**	**+2.5**
	SNR=14						
SHMA				S	**Sn**	**14 11 44.4**	**+0.9**
IDMV	**Damavand**	**4.95**	**15**	Pn	**Pn**	**14 10 50.3**	**+3.3**
ILAS	**Lasjerd**	**5.04**	**24**	Pn	**Pn**	**14 10 51.5**	**+3.4**
ILIN	**Lien**	**5.06**	**325**	Pn	**Pn**	**14 10 50.6**	**+2.2**
IDHR	**Dehrash**	**5.20**	**320**	Pn	**Pn**	**14 10 52.1**	**+1.9**
IFIR	**Firoozkooh**	**5.21**	**21**	Pn	**Pn**	**14 10 53.9**	**+3.5**
IANJ	**Anjilo**	**5.49**	**31**	Pn	**Pn**	**14 10 57.9**	**+3.6**
MZPU	**Pul - Mazandar**	**5.71**	**9**	Pn	**Pn**	**14 11 00.7**	**+3.4**
KLST	**Kelardasht - M**	**5.74**	**5**	Pn	**Pn**	**14 11 00.7**	**+3.0**
TPRV	**Parvadeh(Tabas**	**5.74**	**66**	Pn	**Pn**	**14 11 01.2**	**+3.5**
SMRA	**Abu-Samra**	**6.03**	**177**	P	**Pn**	**14 11 03.3**	**+1.8**
SMRA				S	**Sn**	**14 12 11.0**	**+0.5**
TRNA	**Turayna**	**6.07**	**174**	P	**Pn**	**14 11 04.0**	**+2.0**
	SNR=59						
TRNA				S	**Sn**	**14 12 11.9**	**+0.4**
TNSJ	**Nastanj**	**6.09**	**57**	Pn	**Pn**	**14 11 06.0**	**+3.7**
JRN	**Qarnain Island**	**6.20**	**159**	P	**Pn**	**14 11 05.6**	**+1.9**
	SNR=5.5						
JRN				S	**Sn**	**14 12 14.1**	**-0.6**
TKDS	**Koohdasht(Taba**	**6.31**	**62**	Pn	**Pn**	**14 11 09.3**	**+3.9**
IGLO	**Ghaloghah**	**6.35**	**25**	Pn	**Pn**	**14 11 10.5**	**+4.4**
SLWR	**Sila**	**6.78**	**170**	P	**Pn**	**14 11 13.3**	**+1.6**
SLWR				S	**Sn**	**14 12 27.6**	**-1.4**
SHME	**Shamm**	**6.88**	**132**	P	**Pn**	**14 11 14.0**	**+0.8**
SHME	**Shamm**	**6.88**	**132**	P	**Pn**	**14 11 14.1**	**+1.0**
SHME				S	**Sn**	**14 12 28.2**	**-3.2**
BANOM	**Banah**	**7.07**	**132**	P	**Pn**	**14 11 16.5**	**+0.8**
BANOM	**Banah**	**7.07**	**132**	P	**Pn**	**14 11 16.5**	**+0.8**
BANOM				S	**Sn**	**14 12 32.6**	**-3.6**
GHWR	**Ruwais**	**7.13**	**162**	P	**Pn**	**14 11 17.7**	**+1.2**
GHWR				S	**Sn**	**14 12 35.5**	**-2.2**
MASF	**Masafi**	**7.38**	**136**	P	**Pn**	**14 11 21.0**	**+0.9**
	SNR=8.3						
MASF				S	**Sn**	**14 12 40.5**	**-3.4**
AJN	**Ajban**	**7.38**	**146**	P	**Pn**	**14 11 21.6**	**+1.5**
AJN				S	**Sn**	**14 12 41.5**	**-2.5**
NAZ	**Nazwa, Dubai**	**7.38**	**140**	P	**Pn**	**14 11 21.5**	**+1.4**
NAZ				S	**Sn**	**14 12 41.6**	**-2.4**
MSFE	**Esma-Masafi**	**7.39**	**136**	*i* P	**Pn**	**14 11 20.6**	**+0.5**
	SNR=8.2						
ASUD	**Al Ashush, Dub**	**7.50**	**144**	P	**Pn**	**14 11 23.8**	**+2.1**
ASUD				S	**Sn**	**14 12 44.6**	**-2.2**
MDH	**Madha**	**7.51**	**135**	P	**Pn**	**14 11 22.4**	**+0.5**
MDH	**Madha**	**7.51**	**135**	P	**Pn**	**14 11 22.6**	**+0.8**
MDH				S	**Sn**	**14 12 42.7**	**-4.5**
FAQ	**Al Faqa, Dubai**	**7.54**	**142**	P	**Pn**	**14 11 23.9**	**+1.7**
	SNR=5.9						
FAQ				S	**Sn**	**14 12 44.4**	**-3.4**
MZWR	**Madinat Zayed**	**7.63**	**156**	P	**Pn**	**14 11 25.3**	**+1.8**
MZWR				S	**Sn**	**14 12 47.2**	**-2.8**
UOSS	**Minazif**	**7.72**	**137**	Pn	**Pn**	**14 11 26.1**	**+1.3**
UOSS	**Minazif**	**7.72**	**137**	P	**Pn**	**14 11 25.9**	**+1.2**
UOSS				S	**Sn**	**14 12 47.9**	**-4.5**
HATD	**Hatta, Dubai**	**7.78**	**138**	P	**Pn**	**14 11 26.7**	**+1.2**
HATD				S	**Sn**	**14 12 48.5**

MKAR Makanchi Array 29.26 48 P **P** **14 15 35.5 +1.1**
MKAR Makanchi Array 29.26 48 P **P** **14 15 35.7 +1.3**
comp=Z,0.3nm,0.4s,baz=239,slow=8.7,SNR=4.9
comp=Z,0.3nm,0.4s
ZALV Zalesovo Beam 33.82 37 P **P** **14 16 15.4 +1.0**
comp=Z,1.2nm,0.5s,baz=263,slow=13,SNR=5.2
comp=Z,1.2nm,0.5s
KEST Kesra 34.55 289 LR LR 14 34 01.1
comp=Z,24nm,18.3s,baz=318,slow=43
FINES FINESS Array B 34.58 340 P **P** **14 16 20.7 -0.2**
FINES FINESS Array B 34.58 340 P **P** **14 16 20.4 -0.5**
comp=Z,0.6nm,0.4s,baz=148,slow=8.8,SNR=8.0
comp=Z,0.6nm,0.4s
HFS Hagfors 38.19 331 P **P** **14 16 51.3 -0.4**
comp=Z,1.2nm,0.3s,baz=130,slow=9.1,SNR=16
comp=Z,1.2nm,0.3s
NC405 NORSAR Array S 39.54 331 P **P** **14 17 02.5 -0.5**
NB2 NORSAR Subarra 39.71 331 P **P** **14 17 03.4 -1.1**
comp=Z,0.4nm,0.3s,baz=122,slow=8.6
NOA NORSAR Array B 39.71 331 P **P** **14 17 03.1 -1.4**
comp=Z,0.2nm,0.3s,baz=127,slow=8.4,SNR=4.6
comp=Z,0.2nm,0.3s
ARCES ARCESS Array B 41.31 347 P **P** **14 17 16.9 -0.7**
comp=Z,9.1nm,1.2s,baz=148,slow=7.5,SNR=2.7
comp=Z,9.1nm,1.2s
EKA Eskdalemuir Ar 44.79 319 P **P** **14 17 44.2 -1.8**
comp=Z,0.7nm,0.5s,baz=102,slow=6.6,SNR=2.0
comp=Z,0.7nm,0.5s
CMAR Chiang Mai Arr 45.43 94 P **P** **14 17 50.6 -0.9**
comp=Z,0.2nm,0.3s,baz=271,slow=8.7,SNR=1.6
comp=Z,0.2nm,0.3s
SONM Songino Array 45.48 52 P **P** **14 17 50.2 -1.5**
comp=Z,0.3nm,0.4s,baz=225,slow=3.7,SNR=1.5
comp=Z,0.3nm,0.4s
TORD Torodi Ar. Bea 48.11 260 P **P** **14 18 10.9 -1.6**
TORD IAmb IAmb 14 18 35.6
comp=Z,2.9nm,1.4s
TORD Torodi Ar. Bea 48.11 260 P **P** **14 18 12.0 -0.6**
comp=Z,0.6nm,0.6s,baz=54,slow=9.8,SNR=3.6
comp=Z,0.6nm,0.6s
SPITS Spitsbergen Ar 49.81 351 P **P** **14 18 24.9 +0.1**
comp=Z,7.0nm,0.9s,baz=165,slow=12,SNR=1.5
comp=Z,7.0nm,0.9s
KSRS Korea Array 62.80 61 P **P** **14 19 58.5 +0.6**
comp=Z,1.0nm,0.4s,baz=278,slow=6.5,SNR=8.4
comp=Z,1.0nm,0.4s
SCHQ Schefferville 79.22 328 P **P** **14 21 37.2 -0.2**
comp=Z,1.3nm,0.4s,baz=18,slow=1.8,SNR=5.4
comp=Z,1.3nm,0.4s
ILAR Eielson Array 83.79 7 P **P** **14 22 00.7 -0.7**
comp=Z,0.3nm,0.8s,baz=325,slow=3.4,SNR=5.0
comp=Z,0.3nm,0.8s

MIRAS 23 14:15:23.0, 54.82N×61.12E, h0km, ML2.3/2, 2D, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAUR	**Kamensk Uralsk**	**1.63**	**8**	*e*P	Pn	14 15 52.9	0.0
	28nm,0.3s,baz=5.4						
KAUR				S	Sb	14 16 15.0	0.0
	50nm,0.5s,baz=5.4						
KAUR				*i* AML	AML	14 16 17.4	
	53nm,0.9s						
SVE	**Sverdlovsk**	**2.03**	**353**	P	Pn	14 15 59.5	+1.1
	baz=351						
SVE				S	Sb	14 16 26.6	+0.1
	baz=351						
ARU	**Arti**	**2.17**	**319**	*e*P	Pb	14 16 02.0	-1.1
	8.9nm,0.5s,baz=318						
ARU				S	Sb	14 16 30.5	+0.1
	4.3nm,0.5s,baz=318						
ARU				*i* AML	AML	14 16 31.4	
	22nm,0.6s						
PR3R	**Kungur**	**3.49**	**320**	P	Pn	14 16 18.9	+0.3
	baz=320						
PR3R				S	Sn	14 17 01.8	+1.3
	baz=320						
AB31	**Akbulak array**	**5.62**	**188**	⇓P	Pg	14 17 06.4	-4.3
	0.4nm,0.7s,baz=21,slow=28,SNR=4.7						
AB31				⇓Lg	Lg	14 18 18.8	
	2.8nm,0.8s,baz=10,slow=25,SNR=4.3						

IDC ***23*** *14:44:24.1±3.3, 17.31S×174.40W, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=77.6km s-min=36.9km az=37.0*
NEIC ***23*** *14:44:55.0±1.9, 17.9S±0.4×175.1W±0.3, h226km±22km, mb4.1/8, Error ellipse: s-maj=64.8km s-min=22.1km az=205.0*

ISC 23 14:44:55.7±1.6, 17.9S±0.3×174.9W±0.1, h250km, n15, σ1§11/16, mb3.8/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.86**	**104**	Pn	**Pn**	**14 46 08.9**	**-0.8**
URZ	**Urewera**	**21.44**	**197**	P	**P**	**14 49 22.9**	**-1.5**
	6.6nm,0.7s,baz=11,slow=3.7,SNR=3.0						
	6.6nm,0.7s						
QRZ	**Quartz Range**	**25.27**	**203**	P	**P**	**14 50 00.5**	**+1.3**
STKA	**Stephens Creek**	**41.56**	**242**	P	**P**	**14 52 18.1**	**-1.1**
	0.4nm,0.4s,baz=101,slow=16,SNR=1.2						
	0.4nm,0.4s						
BBOO	**Buckleboo**	**46.33**	**242**	P	**P**	**14 52 56.1**	**-1.0**
BBOO				IAmb	IAmb	14 53 02.1	
	comp=Z,13nm,1.3s						
WB0	**Warramunga Arr**	**47.88**	**259**	P	**P**	**14 53 09.3**	**+0.1**
WB0				IAmb	IAmb	14 53 12.1	
	comp=Z,22nm,1.5s						
WB2	**Warramunga Arr**	**47.90**	**259**	P	**P**	**14 53 08.8**	**-0.5**
WRA	**Warramunga Arr**	**47.91**	**259**	P	**P**	**14 53 09.1**	**-0.3**
WRA	**Warramunga Arr**	**47.91**	**259**	P	**P**	**14 53 09.0**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=98,slow=6.5,SNR=23						
	comp=Z,0.4nm,0.4s						
AS31	**Alice Springs**	**48.00**	**254**	P	**P**	**14 53 10.3**	**+0.2**
ASAR	**Alice Springs**	**48.00**	**254**	P	**P**	**14 53 09.7**	**-0.4**
ASAR	**Alice Springs**	**48.00**	**254**	P	**P**	**14 53 10.2**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=91,slow=7.9,SNR=40						
ASAR				PcP	**PcP**	**14 54 36.0**	**+2.0**
	comp=Z,0.4nm,0.8s,baz=98,slow=5.0,SNR=1.6						
	comp=Z,1.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**56.32**	**260**	P	**P**	**14 54 10.0**	**-1.2**
FITZ				IAmb	IAmb	14 54 12.9	
	comp=Z,2.4nm,1.4s						
QSPA	**South Pole Qui**	**72.14**	**180**	P	**P**	**14 55 54.4**	**+1.5**
QSPA				IAmb	IAmb	14 55 55.1	
	comp=Z,4.9nm,0.8s						
QSPA	**South Pole Qui**	**72.14**	**180**	P	**P**	**14 55 54.0**	**+1.1**
	comp=Z,4.2nm,0.8s,baz=70,slow=0.4,SNR=17						
	comp=Z,4.2nm,0.8s						

NEIC ***23*** *15:01:07.7±2.1, 19.30N±0.05×145.4E±0.1, h214km±7km, mb4.6/229, Error ellipse: s-maj=15.7km s-min=6.6km az=103.0*
DJA ***23*** *15:01:07.8±0.7, 19.N±4.×14.6E±., h215km±7km, M5.3/27, mB6.0/7, mb4.8/27, MLv5.3/1, Mw(mB)5.7/7*
IDC ***23*** *15:01:10.1±1.4, 19.29N×145.33E, h240km±12km, mb4.1/30, mbtmp4.7/35, Error ellipse: s-maj=12.4km s-min=8.2km az=82.0*
GCMT ***23*** *15:01:10.7±0.4, 19.33N±0.03×145.40E±0.03, h239km±3km, MW5.0/71, Moment Tensor Solution. s13,c13; s71,c88; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.56±.20; Mθθ3.26±.15; Mφφ-1.70±.17; Mrθ-1.49±.15; Mθφ1.02±.17; Mφr-1.55±.22; Best double couple: M◎3.62000×10^16 NP1:◎s46.00000°, δ74.00000°, λ-131.00000°. NP2:◎s298.00000°, δ44.00000°, λ-24.00000°. Principal axes: T 4.0420, Plg18.0000°, Azm165.0000°; N -0.8450, Plg39.0000°, Azm59.0000°; P -3.1970, Plg45.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 15:01:09.4±0.9, 19.29N±0.04×145.27E±0.06, h233km±8km, n571, σ1§24/498, mb4.6/168, 2C-1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.68**	**184**	P	**Pn**	**15 02 32.9**	**-0.4**
	272nm,0.7s,baz=338,slow=6.4,SNR=17						
GUMO				S	**S**	**15 03 37.7**	**-2.3**
	47nm,0.3s,baz=4.0,slow=22,SNR=1.2						
JCJ	**Chichijima**	**8.27**	**341**	Pn	**Pn**	**15 03 03.9**	**-2.1**
JCJ	**Chichijima**	**8.27**	**341**	P	Pn	15 02 59.7	-6.3
	102nm,0.4s,baz=222,slow=12,SNR=14						
JCJ				S	S	15 04 28.7	-11
	176nm,0.5s,baz=232,slow=19,SNR=7.6						
JMZ	**Minamidaito 2**	**14.51**	**299**	P	**P**	**15 04 28.5**	**+3.8**
JMZ	**Minamidaito 2**	**14.51**	**299**	P	**Pn**	**15 04 24.5**	**+0.2**
JHJ	**Hachijo jima 2**	**14.62**	**341**	P	**P**	**15 04 26.6**	**+0.6**
	234nm,0.9s,baz=107,slow=19,SNR=2.3						
JHJ				S	**S**	**15 07 06.0**	**-1.3**
	138nm,0.6s,baz=84,slow=18,SNR=1.7						
JOW	**Kunigami**	**17.34**	**299**	P	**Pn**	**15 04 58.4**	**+0.4**
JOW	**Kunigami**	**17.34**	**299**	P	**Pn**	**15 04 57.8**	**-0.2**
JOW	**Kunigami**	**17.34**	**299**	P	**Pn**	**15 04 57.8**	**-0.2**
	107nm,0.8s,baz=146,slow=10,SNR=16						
INU	**Inuyama**	**17.58**	**337**	P	**Pn**	**15 05 01.1**	**+0.4**
INU	**Inuyama**	**17.58**	**337**		**P**	**15 04 58.9**	**+0.5**
JMN	**Monobe**	**17.60**	**327**	P	**P**	**15 04 55.5**	**-3.3**
JGF	**Kuroka**	**17.69**	**338**	P	**Pn**	**15 05 01.7**	**-0.3**
JGF	**Kuroka**	**17.69**	**338**	P	**P**	**15 04 56.8**	**-2.8**
MJAR	**Matsushiro Arr**	**18.27**	**342**	P	**P**	**15 05 05.7**	**-0.2**
	17nm,0.8s,baz=172,slow=10,SNR=51						
MJAR				S	**S**	**15 08 13.7**	**-8.8**
	6.1nm,1.0s,baz=123,slow=9.7,SNR=5.5						
MAJO	**Matsushiro**	**18.27**	**342**	P	**P**	**15 05 06.7**	**+0.8**
MAJO	**Matsushiro**	**18.27**	**342**	P	**P**	**15 05 04.2**	**-1.8**
MJB9	**Matsu-Tunnel**	**18.28**	**342**	P	**P**	**15 05 05.8**	**-0.1**
JNU	**Nakatsue**	**18.85**	**320**	P	**Pn**	**15 05 14.1**	**-1.6**
JNU	**Nakatsue**	**18.85**	**320**	P	**P**	**15 05 11.2**	**-1.0**
JNU				IAmb	IAmb	15 05 18.8	
	comp=Z,21nm,1.0s						
JNU	**Nakatsue**	**18.85**	**320**	P	**P**	**15 05 13.2**	**+1.0**
	comp=Z,16nm,1.0s,baz=205,slow=4.6,SNR=11						
JMM	**Marumori**	**18.91**	**349**	P	**Pn**	**15 05 15.2**	**-1.2**
JMM	**Marumori**	**18.91**	**349**	P	**P**	**15 05 14.2**	**+1.4**
JSD	**Sado**	**19.65**	**343**	P	**P**	**15 05 21.6**	**+0.9**
JSD	**Sado**	**19.65**	**343**	P	**P**	**15 05 21.6**	**+0.9**
H11S3	**WAKE ISLAND Hy**	**20.28**	**89**	T	T	15 26 51.8	
	baz=276,slow=74,SNR=5.3						
H11S1	**WAKE ISLAND Hy**	**20.29**	**89**	T	T	15 27 03.2	
	baz=276,slow=74,SNR=4.1						
H11S2	**WAKE ISLAND Hy**	**20.30**	**89**	T	T	15 26 54.6	
	baz=276,slow=74,SNR=5.9						
H11N1	**WAKE ISLAND Hy**	**20.39**	**85**	T	T	15 26 58.1	
	baz=275,slow=75,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**20.39**	**85**	T	T	15 27 01.2	
	baz=275,slow=75,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**20.40**	**85**	T	T	15 27 22.2	
	baz=275,slow=75,SNR=3.8						
YOJ	**Yonaguni jima**	**21.28**	**288**	P	**P**	**15 05 39.5**	**+1.5**
YOJ	**Yonaguni jima**	**21.28**	**288**	P	**P**	**15 05 39.0**	**+1.0**
MANU	**Manus Island**	**21.30**	**174**	P	**P**	**15 05 36.9**	**-1.4**
JTM	**Tenmabayashi**	**21.73**	**351**	P	**P**	**15 05 39.5**	**-2.6**
JAY	**Jayapura**	**22.13**	**192**	P	**P**	**15 05 47.4**	**+1.2**
	comp=Z,80nm,1.9s						
NACB	**Ninganchiao**	**22.51**	**287**	P	**P**	**15 05 51.4**	**+1.8**
NACB	**Ninganchiao**	**22.51**	**287**	P	**P**	**15 05 49.1**	**-0.5**
YULB	**Yu-li**	**22.69**	**285**	P	**P**	**15 05 53.1**	**+1.9**
YULB	**Yu-li**	**22.69**	**285**	P	**P**	**15 05 52.4**	**+1.2**
YHNB	**Yeheng**	**22.78**	**288**	P	**P**	**15 05 54.1**	**+2.0**
YHNB	**Yeheng**	**22.78**	**288**	P	**P**	**15 05 53.7**	**+1.6**
TWGBT	**Beinan**	**22.84**	**283**	P	**P**	**15 05 54.6**	**+2.0**
TWG	**Pinlang**	**22.85**	**283**	P	**P**	**15 05 52.8**	**+0.2**
SSLB	**Suanglung**	**23.05**	**286**	P	**P**	**15 05 56.4**	**+1.9**
SSLB	**Suanglung**	**23.05**	**286**	P	**P**	**15 05 56.1**	**+1.7**
TJN	**Taejon**	**23.18**	**321**	P	**P**	**15 05 56.8**	**+1.3**
TPUB	**Ta-pu**	**23.29**	**284**	P	**P**	**15 05 58.3**	**+1.6**
TPUB	**Ta-pu**	**23.29**	**284**	P	**P**	**15 05 56.9**	**+0.2**
KSRS	**Korea Array**	**23.60**	**324**	P	**P**	**15 06 00.1**	**+0.8**
	comp=Z,33nm,0.8s,baz=145,slow=9.1,SNR=148						
	comp=Z,33nm,0.8s						
KSAR	**Wonju Array Be**	**23.62**	**324**	P	**P**	**15 05 59.0**	**-0.5**
KS19	**Wonju Array Si**	**23.67**	**324**	P	**P**	**15 05 58.7**	**-1.2**
INCN	**Inchon**	**24.36**	**322**	P	**P**	**15 06 08.0**	**+1.8**
JKA	**Kamikawa-asahi**	**24.85**	**355**	P	**P**	**15 06 11.2**	**+0.7**
KNMB	**Chin-men Tao**	**25.45**	**286**	P	**P**	**15 06 18.0**	**+1.8**
FAKI	**Fak Fak**	**25.52**	**211**	P	**P**	**15 06 17.9**	**+1.1**
	comp=Z,70nm,2.0s						
NJ2	**Nanjing**	**26.91**	**303**	*e*P	**P**	**15 06 30.3**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
USA0B	**Ussuriysk Arra**	**27.21**	**339**	P	**P**	**15 06 30.2**	**-1.4**
USA0B				IAmb	IAmb	15 06 34.2	
	comp=Z,18nm,0.8s						
USRK	**Ussuriysk Ar.**	**27.21**	**339**	P	**P**	**15 06 30.3**	**-1.3**
USRK	**Ussuriysk Ar.**	**27.21**	**339**	P	**P**	**15 06 32.4**	**+0.8**
	comp=Z,16nm,0.7s,baz=156,slow=8.2,SNR=22						
	comp=Z,16nm,0.7s						
YSS	**Yuzh-Sakhalins**	**27.67**	**356**	P	**P**	**15 06 36.2**	**+0.6**
YSS	**Yuzh-Sakhalins**	**27.67**	**356**	P	**P**	**15 06 35.4**	**-0.3**
YSS				IAmb	IAmb	15 06 37.8	
	comp=Z,14nm,0.7s						
MDJ	**Mudanjiang**	**28.44**	**336**	P	**P**	**15 06 43.4**	**+0.9**
MDJ				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,170nm,6.6s						
MDJ	**Mudanjiang**	**28.44**	**336**	P	**P**	**15 06 43.6**	**+1.1**
MDJ				IAmb	IAmb	15 06 44.0	
	comp=Z,8.8nm,0.9s						
PMG	**Port Moresby**	**28.58**	**176**	P	**P**	**15 06 41.7**	**-2.4**
PMG				IAmb	IAmb	15 06 45.8	
	comp=Z,11nm,0.7s						
TOLI2	**Tolitoli**	**30.03**	**236**	P	**P**	**15 06 58.4**	**+1.4**
BNX	**BinXian**	**30.23**	**335**	⇑P	**P**	**15 06 58.9**	**+0.6**
BNX				pmax	pmax		
	comp=Z,17nm,0.8s						
BNX				pmax	pmax		
	comp=Z,120nm,6.2s						
KKM	**Kota Kinabalu**	**31.19**	**249**	P	**P**	**15 07 07.7**	**+0.5**
HNS	**HongShan**	**32.19**	**311**	⇑P	**P**	**15 07 16.8**	**+1.3**
HNS				pmax	pmax		
	comp=Z,11nm,0.7s						
COEN	**Coen**	**33.10**	**184**	P	**P**	**15 07 22.6**	**-1.1**
TTSI	**Tana Toraja**	**33.45**	**231**	P	**P**	**15 07 29.1**	**+2.4**
	comp=Z,36nm,0.8s						
HEH	**HeiHe**	**34.01**	**339**	*e*P	**P**	**15 07 31.5**	**+0.4**
HEH				pmax	pmax		
	comp=Z,69nm,0.8s						
HEH				pmax	pmax		
	comp=Z,150nm,3.7s						
XLT	**XiLinHaoTe**	**34.62**	**322**	*e*P	**P**	**15 07 38.6**	**+2.1**
XLT				pmax	pmax		
	comp=Z,26nm,0.9s						
XLT				pmax	pmax		
	comp=Z,93nm,4.2s						
MTN	**Manton Dam**	**34.84**	**205**	P	**P**	**15 07 38.4**	**-0.2**
PEA0B	**Petropavlovsk-**	**35.10**	**13**	P	**P**	**15 07 40.6**	**+0.1**
PEA0B				IAmb	IAmb	15 07 50.8	
	comp=Z,17nm,1.0s						
PETK	**Petropavlovsk-**	**35.10**	**13**	P	**P**	**15 07 40.5**	**+0.1**
PETK	**Petropavlovsk-**	**35.10**	**13**	P	**P**	**15 07 41.9**	**+1.4**
	comp=Z,3.7nm,0.6s,baz=174,slow=6.3,SNR=25						
PETK				PcP	**PcP**	**15 10 05.1**	**-1.3**
	comp=Z,2.9nm,0.7s,baz=222,slow=3.6,SNR=4.0						
	comp=Z,3.7nm,0.6s						
XAN	**Xi'an**	**35.44**	**302**	*e*P	**P**	**15 07 46.0**	**+2.3**
HHC	**Hu-ho-hao-te**	**35.90**	**314**	*e*P	**P**	**15 07 48.3**	**+0.8**
HHC				pmax	pmax		
	comp=Z,30nm,0.8s						
HHC				pmax	pmax		
	comp=Z,78nm,4.7s						
GYA	**Guiyang**	**36.18**	**289**	P	**P**	**15 07 52.9**	**+2.8**
GYA				pmax	pmax		
	comp=Z,21nm,0.8s						
HIA	**Hailar**	**36.25**	**331**	P	**P**	**15 07 50.1**	**-0.1**
HIA				IAmb	IAmb	15 07 51.9	
	comp=Z,16nm,0.7s						
UBPT	**Khong Chiam**	**38.16**	**270**	P	**P**	**15 08 07.6**	**+0.9**
SLVN	**Son La**	**38.77**	**280**	P	**P**	**15 08 11.9**	**+0.1**
SLVN				IAmb	IAmb	15 08 15.6	
	comp=Z,18nm,0.8s						
CTAO	**Charters Tower**	**39.15**	**179**	P	**P**	**15 08 13.9**	**-0.8**
CTAO				IAmb	IAmb	15 08 23.9	
	comp=Z,25nm,1.4s						
LZH	**Lanzhou**	**39.98**	**303**	*e*P	**P**	**15 08 20.5**	**-1.2**
LZH				sP	sP	15 09 31.3	-3.9
LZH				pmax	pmax		
	comp=Z,14nm,1.1s						
WB0	**Warramunga Arr**	**40.26**	**196**	P	**P**	**15 08 24.2**	**+0.3**
WB0				IAmb	IAmb	15 08 25.3	
	comp=Z,20nm,1.1s						
WR0	**Warramunga Arr**	**40.40**	**196**	P	**P**	**15 08 25.6**	**+0.5**
WR0				IAmb	IAmb	15 08 26.1	
	comp=Z,25nm,1.1s						
WRAB	**Tennant Creek**	**40.43**	**196**	P	**P**	**15 08 24.2**	**-1.0**
WRAB				IAmb	IAmb	15 08 26.4	
	comp=Z,18nm,0.9s						
MA2	**Magadan**	**40.43**	**4**	P	**P**	**15 08 25.1**	**+0.3**
MA2				IAmb	IAmb	15 08 27.6	
	comp=Z,19nm,1.1s						
WB2	**Warramunga Arr**	**40.44**	**196**	P	**P**	**15 08 23.3**	**-2.0**
WB2				IAmb	IAmb	15 08 26.5	
	comp=Z,21nm,0.9s						
WRA	**Warramunga Arr**	**40.44**	**196**	P	**P**	**15 08 24.1**	**-1.3**
WRA	**Warramunga Arr**	**40.44**	**196**	P	**P**	**15 08 25.8**	**+0.4**
	comp=Z,11nm,0.8s,baz=16,slow=8.4,SNR=90						
WRA				PcP	**PcP**	**15 10 24.0**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=19,slow=3.9,SNR=4.8						
WRA				ScP	**ScP**	**15 13 50.2**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=18,slow=4.6,SNR=1.4						
	comp=Z,11nm,0.8s						
PZH	**PanZhiHua**	**40.59**	**288**	P	**P**	**15 08 27.8**	**+1.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,110nm,5.7s						
FITZ	**Fitzroy Crossi**	**41.86**	**209**	P	**P**	**15 08 38.0**	**+1.1**
ULN	**Ulaanbaatar**	**42.06**	**322**	P	**P**	**15 08 38.0**	**-0.5**
CRAI	**Chiangrai**	**42.17**	**279**	P	**P**	**15 08 41.2**	**+1.7**
CRAI				IAmb	IAmb	15 08 43.1	
	comp=Z,15nm,1.0s						
SONM	**Songino Array**	**42.43**	**321**	P	**P**	**15 08 42.3**	**+0.9**
SONM	**Songino Array**	**42.43**	**321**	P	**P**	**15 08 42.3**	**+0.9**
	comp=Z,4.4nm,0.4s,baz=131,slow=8.4,SNR=27						
	comp=Z,4.4nm,0.4s						
PHRA	**Phrae**	**42.53**	**277**	P	**P**	**15 08 41.7**	**-0.8**
TNCH	**TengChong**	**43.51**	**286**	⇓P	**P**	**15 08 51.4**	**+1.0**
TNCH				pP	pP	15 09 32.1	-6.4
TNCH				sP	sP	15 09 58.4	-5.9
TNCH				S	**S**	**15 15 00.3**	**-1.4**
TNCH				sS	sS	15 16 21.8	-5.2
TNCH				SS	**SS**	**15 18 19.3**	**-5.6**
TNCH				pmax	pmax		
	comp=Z,18nm,1.8s						
TNCH				pmax	pmax		
	comp=Z,100nm,5.4s						
CM31	**Chiang Mai Arr**	**43.74**	**277**	P	**P**	**15 08 53.9**	**+1.8**
CM31				IAmb	IAmb	15 08 55.7	
	comp=Z,33nm,1.1s						
CMAR	**Chiang Mai Arr**	**43.74**	**277**	P	**P**	**15 08 54.0**	**+1.8**
CMAR	**Chiang Mai Arr**	**43.74**	**277**	P	**P**	**15 08 54.5**	**+2.3**
	comp=Z,17nm,0.8s,baz=67,slow=6.7,SNR=120						
CMAR				PcP	**PcP**	**15 10 34.4**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=75,slow=2.6,SNR=5.3						
	comp=Z,17nm,0.8s						
GTA	**Gaotai**	**43.87**	**307**	*e*P	**P**	**15 08 54.3**	**+1.3**
GTA				pP	pwP	15 09 44.0	-3.1
GTA				PcP	**PcP**	**15 10 36.4**	**+1.5**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
ADK	**Adak**	**44.05**	**33**	P	**P**	**15 08 53.4**	**-0.6**
YAK	**Yakutsk**	**44.07**	**350**	P	**P**	**15 08 53.2**	**-0.8**
MYKOM	**Kota Tinggi**	**44.10**	**252**	P	**P**	**15 08 55.5**	**+0.5**
AS31	**Alice Springs**	**44.11**	**195**	P	**P**	**15 08 55.4**	**+0.4**
ASAR	**Alice Springs**	**44.11**	**195**	P	**P**	**15 08 55.0**	**+0.1**
ASAR	**Alice Springs**	**44.11**	**195**	P	**P**	**15 08 55.3**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=21,slow=6.9,SNR=94						
ASAR				PcP	**PcP**	**15 10 36.2**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=44,slow=4.0,SNR=4.7						
ASAR				ScP	**ScP**	**15 14 03.1**	**-2.2**
	comp=Z,0.3nm,0.9s,baz=7.8,slow=7.5,SNR=2.6						
	comp=Z,1.6nm,0.3s						
ATKA	**Atka Island**	**45.52**	**34**	P	**P**	**15 09 03.6**	**-2.0**
IPM	**Ipoh**	**45.57**	**257**	P	**P**	**15 09 07.9**	**+1.3**
IPM				IAmb	IAmb	15 09 10.1	
	comp=Z,40nm,0.9s						
KULM	**Kulim**	**45.61**	**258**	P	**P**	**15 09 07.9**	**+1.0**
KULM				IAmb	IAmb	15 09 10.7	
	comp=Z,38nm,0.8s						
GOMU	**GeErMu**	**47.20**	**302**	P	**P**	**15 09 22.1**	**+2.7**
GOMU				pmax	pmax		
	comp=Z,11nm,0.9s						
MBWA	**Marble Bar**	**47.34**	**213**	P	**P**	**15 09 19.1**	**-1.0**
MBWA				IAmb	IAmb	15 09 28.1	
	comp=Z,24nm,1.2s						
LHMI	**Lhok Sumawe**	**49.07**	**260**	P	**P**	**15 09 33.5**	**0.0**
LHMI	**Lhok Sumawe**	**49.07**	**260**	P	**P**	**15 09 36.8**	**+3.3**
	comp=Z,140nm,0.8s						
LSA	**Lhasa**	**49.95**	**293**	P	**P**	**15 09 41.1**	**+0.6**
GSI	**Gunungsitoli**	**49.98**	**255**	P	**P**	**15 09 40.4**	**-0.1**
GSI	**Gunungsitoli**	**49.98**	**255**	P	**P**	**15 09 42.3**	**+1.9**
	comp=Z,79nm,0.9s						
UNV	**Unalaska Valle**	**50.40**	**35**	P	**P**	**15 09 42.6**	**-0.3**
	baz=246						
BILL	**Bilibino**	**50.51**	**10**	P	**P**	**15 09 42.4**	**-1.1**
BILL				IAmb	IAmb	15 09 46.1	
	comp=Z,23nm,1.1s						
STKA	**Stephens Creek**	**51.00**	**184**	P	**P**	**15 09 46.6**	**-1.0**
	comp=Z,2.8nm,0.9s,baz=13,slow=7.5,SNR=8.8						
	comp=Z,2.8nm,0.9s						
FALS	**False Pass**	**52.46**	**35**	P	**P**	**15 09 57.7**	**-0.4**
	baz=248						
TIXI	**Tiksi**	**53.24**	**354**	P	**P**	**15 10 03.8**	**+0.2**
S12K	**Black Hills**	**53.49**	**34**	P	**P**	**15 10 05.0**	**-0.7**
S12K	**Black Hills**	**53.49**	**34**	P	**P**	**15 10 05.9**	**+0.2**
	baz=249						
WMQ	**Urumqi**	**53.62**	**311**	*e*P	**P**	**15 10 09.0**	**+2.1**
WMQ				PP	PP	15 12 20.5	+10
WMQ				pmax	pmax		
	comp=Z,18nm,1.1s						
SDPT	**Sand Point**	**54.22**	**35**	P	**P**	**15 10 11.2**	**+0.4**
	baz=251						
CAN	**Canberra**	**54.43**	**176**	P	**P**	**15 10 11.9**	**-0.8**
CHNA	**Chernabura Isl**	**54.53**	**36**	P	**P**

ZAA0					IAmb	IAmb	15 10 33.6		
	comp=Z,6.6nm,0.8s								
ZALV	**Zalesovo Beam**	**57.30**	**322**		P	**P**	**15 10 32.0**	**-0.8**	
ZALV	**Zalesovo Beam**	**57.30**	**322**		P	**P**	**15 10 32.3**	**-0.5**	
	comp=Z,5.5nm,0.6s,baz=104,slow=7.0,SNR=22								
ZALV					PcP	**PcP**	**15 11 24.5**	**+0.4**	
	comp=Z,1.1nm,0.4s,baz=125,slow=5.9,SNR=1.9 comp=Z,5.5nm,0.6s								
I17K	**Unalakleet**	**57.32**	**25**		P	**P**	**15 10 33.4**	**+0.7**	
	baz=245								
G16K	**Koyuk River**	**57.34**	**23**		P	**P**	**15 10 34.0**	**+1.1**	
	baz=242								
O17K	**Koliganek Bris**	**57.38**	**30**		P	**P**	**15 10 34.5**	**+1.3**	
	baz=251								
Q17K	**Contact Creek**	**57.51**	**32**		P	**P**	**15 10 35.2**	**+0.8**	
	baz=253								
N17K	**Nushagak Hills**	**57.58**	**30**		IAmb	IAmb	15 10 37.9		
	comp=Z,14nm,1.1s								
N17K	**Nushagak Hills**	**57.58**	**30**		P	**P**	**15 10 36.2**	**+1.5**	
	baz=251								
L17K	**Donlin**	**57.64**	**28**		P	**P**	**15 10 36.9**	**+2.0**	
	baz=249								
C16K	**Lisburne Hills**	**57.74**	**20**		P	**P**	**15 10 37.4**	**+1.8**	
	baz=238								
M17K	**Holitna River**	**57.76**	**29**		P	**P**	**15 10 37.9**	**+2.0**	
	baz=250								
MK31	**Makanchi Array**	**57.76**	**314**		P	**P**	**15 10 36.0**	**-0.2**	
MKAR	**Makanchi Array**	**57.76**	**314**		P	**P**	**15 10 35.8**	**-0.4**	
MKAR	**Makanchi Array**	**57.76**	**314**		P	**P**	**15 10 36.9**	**+0.7**	
	comp=Z,1.5nm,0.5s,baz=89,slow=9.2,SNR=23								
MKAR					PcP	**PcP**	**15 11 26.0**	**-0.2**	
	comp=Z,1.5nm,0.6s,baz=76,slow=4.9,SNR=5.9 comp=Z,1.5nm,0.5s								
J17K	**VABM Dome**	**57.78**	**26**		IAmb	IAmb	15 10 41.0		
	comp=Z,29nm,1.4s								
J17K	**VABM Dome**	**57.78**	**26**		P	**P**	**15 10 37.7**	**+1.8**	
	baz=247								
K17K	**Iditarod**	**57.85**	**27**		IAmb	IAmb	15 10 40.4		
	comp=Z,21nm,1.0s								
K17K	**Iditarod**	**57.85**	**27**		P	**P**	**15 10 38.3**	**+1.9**	
	baz=248								
SII	**Sitkinak Islan**	**57.95**	**35**		P	**P**	**15 10 38.9**	**+1.6**	
	baz=256								
MAKZ	**Makanchi**	**57.98**	**314**		P	**P**	**15 10 37.5**	**-0.2**	
G17K	**Kiwalik Mounta**	**58.02**	**23**		P	**P**	**15 10 38.9**	**+1.3**	
	baz=244								
H17K	**Granite Mounta**	**58.06**	**24**		P	**P**	**15 10 39.3**	**+1.4**	
	baz=245								
P18K	**Big Mountain,**	**58.17**	**31**		P	**P**	**15 10 39.9**	**+1.2**	
	baz=253								
D17K	**Noatak River**	**58.18**	**21**		P	**P**	**15 10 40.1**	**+1.4**	
	baz=240,SNR=7.5								
F17K	**Baldwin Pennin**	**58.22**	**22**		IAmb	IAmb	15 10 41.8		
	comp=Z,7.5nm,0.6s								
F17K	**Baldwin Pennin**	**58.22**	**22**		P	**P**	**15 10 40.7**	**+1.7**	
	baz=243								
N18K	**Kilae Creek**	**58.23**	**30**		P	**P**	**15 10 40.5**	**+1.3**	
	baz=252								
O18K	**Koktuh Hills**	**58.31**	**31**		P	**P**	**15 10 38.9**	**-0.8**	
O18K	**Koktuh Hills**	**58.31**	**31**		P	**P**	**15 10 41.2**	**+1.5**	
	baz=253,SNR=5.5								
E17K	**Hotham Inlet**	**58.31**	**22**		P	**P**	**15 10 41.2**	**+1.6**	
	baz=242,SNR=8.5								
L18K	**Granite Mounta**	**58.37**	**28**		P	**P**	**15 10 42.0**	**+2.0**	
	baz=250								
RDOG	**Red Dog Mine**	**58.41**	**20**		P	**P**	**15 10 41.9**	**+1.6**	
	baz=240								
M18K	**Stony River**	**58.52**	**29**		P	**P**	**15 10 42.5**	**+1.4**	
	baz=251								
C17K	**DeLong Mountai**	**58.53**	**20**		P	**P**	**15 10 43.5**	**+2.3**	
	baz=240								
OHAK	**Old Harbor**	**58.59**	**34**		P	**P**	**15 10 42.6**	**+1.0**	
	baz=256								
H18K	**Honhosa River**	**58.75**	**24**		IAmb	IAmb	15 10 45.0		
	comp=Z,12nm,1.2s								
H18K	**Honhosa River**	**58.75**	**24**		P	**P**	**15 10 43.7**	**+1.0**	
	baz=247								
Q19K	**Cape Douglas,**	**58.83**	**32**		P	**P**	**15 10 43.8**	**+0.5**	
	baz=255								
O19K	**Port Alsworth**	**58.84**	**31**		P	**P**	**15 10 44.2**	**+1.0**	
	baz=254								
F18K	**Selawik**	**58.87**	**22**		P	**P**	**15 10 44.2**	**+0.8**	
	baz=245								
E18K	**Tukpahlearik C**	**58.89**	**21**		IAmb	IAmb	15 10 46.5		
	comp=Z,8.4nm,0.9s								
E18K	**Tukpahlearik C**	**58.89**	**21**		P	**P**	**15 10 45.3**	**+1.7**	
	baz=243								
TTA	**Tatalina**	**58.91**	**27**		P	**P**	**15 10 42.6**	**-1.2**	
TTA	**Tatalina**	**58.91**	**27**		P	**P**	**15 10 44.3**	**+0.4**	
	baz=250								
N19K	**Bonanza Creek**	**58.93**	**30**		IAmb	IAmb	15 10 47.8		
	comp=Z,7.9nm,0.8s								
N19K	**Bonanza Creek**	**58.93**	**30**		P	**P**	**15 10 45.6**	**+1.5**	
	baz=253								
G18K	**Tagagawik**	**58.94**	**23**		P	**P**	**15 10 45.5**	**+1.5**	
	baz=246								
KDAK	**Kodiak Island**	**59.09**	**34**		P	**P**	**15 10 44.5**	**-0.5**	
KDAK	**Kodiak Island**	**59.09**	**34**		P	**P**	**15 10 45.3**	**+0.3**	
	baz=257								
L19K	**White Mountain**	**59.17**	**28**		P	**P**	**15 10 47.3**	**+1.7**	
	baz=252								
GCSA	**Galena City Sc**	**59.18**	**25**		P	**P**	**15 10 47.0**	**+1.4**	
	baz=248								
C18K	**Utukok River**	**59.26**	**20**		P	**P**	**15 10 47.1**	**+1.0**	
	baz=242								
Q20K	**Shuyak Island**	**59.38**	**33**		P	**P**	**15 10 46.7**	**-0.4**	
	baz=256								
B18K	**Kokolik River**	**59.41**	**19**		P	**P**	**15 10 48.0**	**+0.9**	
	baz=241								
J19K	**Poorman**	**59.43**	**26**		P	**P**	**15 10 47.9**	**+0.5**	
	baz=250,SNR=6.7								
SEM	**Semipalatinsk**	**59.50**	**318**		*e*P	**P**	**15 10 48.3**	**0.0**	
	baz=318								
SHLS	**Shalkode**	**59.53**	**309**		*e*P	**P**	**15 10 46.9**	**-1.7**	
	baz=309								
O20K	**Slope Mountain**	**59.62**	**31**		P	**P**	**15 10 49.0**	**+0.3**	
	baz=255								
G19K	**Purcell Mounta**	**59.63**	**23**		IAmb	IAmb	15 10 51.2		
	comp=Z,13nm,1.1s								
G19K	**Purcell Mounta**	**59.63**	**23**		P	**P**	**15 10 48.6**	**-0.1**	
	baz=248,SNR=7.9								
H19K	**Roundabout Mou**	**59.64**	**24**		IAmb	IAmb	15 10 51.6		
	comp=Z,11nm,0.8s								
H19K	**Roundabout Mou**	**59.64**	**24**		P	**P**	**15 10 49.2**	**+0.5**	
	baz=248								
F19K	**Shaleruckik Mo**	**59.64**	**23**		P	**P**	**15 10 49.9**	**+1.3**	
	baz=246								
L20K	**Farewell, AK**	**59.70**	**28**		P	**P**	**15 10 49.7**	**+0.5**	
	baz=253								
UZB	**Uzynbulak**	**59.85**	**309**		*e*P	**P**	**15 10 50.9**	**+0.1**	
	baz=309								
M20K	**Styx River**	**59.86**	**29**		P	**P**	**15 10 51.4**	**+1.0**	
	baz=254								
K20K	**Telida**	**59.88**	**27**		IAmb	IAmb	15 10 53.6		
	comp=Z,15nm,1.1s								
K20K	**Telida**	**59.88**	**27**		P	**P**	**15 10 51.5**	**+1.0**	
	baz=252								
C19K	**Lookout Ridge**	**59.98**	**20**		IAmb	IAmb	15 10 54.1		
	comp=Z,13nm,0.8s								
C19K	**Lookout Ridge**	**59.98**	**20**		P	**P**	**15 10 51.5**	**+0.5**	
	baz=243								
HOM	**Homer**	**60.00**	**32**		P	**P**	**15 10 51.3**	**+0.1**	
	baz=256								
A19K	**Wainwright**	**60.04**	**18**		P	**P**	**15 10 51.2**	**-0.1**	
	baz=241								
E19K	**Redstone River**	**60.09**	**22**		P	**P**	**15 10 53.0**	**+1.2**	
	baz=247								
J20K	**Nowinta River**	**60.10**	**26**		P	**P**	**15 10 52.4**	**+0.5**	
	baz=252								
I20K	**Naaghedeneel**	**60.17**	**25**		P	**P**	**15 10 52.0**	**-0.3**	
	baz=251								
CNPM	**China Poot**	**60.17**	**32**		P	**P**	**15 10 51.8**	**-0.7**	
D19K	**Kuna River**	**60.20**	**21**		IAmb	IAmb	15 10 55.1		
	comp=Z,9.6nm,0.7s								
D19K	**Kuna River**	**60.20**	**21**		P	**P**	**15 10 53.0**	**+0.4**	
	baz=245,SNR=6.9								
H20K	**Anotleneega Mo**	**60.24**	**25**		P	**P**	**15 10 52.8**	**0.0**	
	baz=250								
SATY	**Saty**	**60.30**	**309**		*e*P	**P**	**15 10 54.0**	**+0.2**	
	baz=309								
TDK	**Taldyqorghan**	**60.35**	**311**		*e*P	**P**	**15 10 54.6**	**+0.7**	
	comp=Z,49nm,1.5s,baz=311								
BRLK	**Bradley Lake**	**60.40**	**31**		P	**P**	**15 10 53.7**	**-0.3**	
BRLK					IAmb	IAmb	15 10 55.3		
	comp=Z,10nm,0.6s								
BRSE	**Bradley Lake S**	**60.46**	**32**		P	**P**	**15 10 53.6**	**-0.8**	
	baz=257								
F20K	**Avaraart Lake**	**60.47**	**23**		P	**P**	**15 10 54.4**	**+0.1**	
	baz=248								
CAPN	**Captain Cook N**	**60.50**	**30**		P	**P**	**15 10 54.6**	**+0.1**	
	baz=256								
KURK	**Kurchatov**	**60.56**	**318**		P	**P**	**15 10 55.2**	**0.0**	
PPLA	**Purkeypile**	**60.56**	**28**		P	**P**	**15 10 53.8**	**-1.4**	
	baz=254								
KURBB	**Kurchatov Arra**	**60.61**	**318**		P	**P**	**15 10 55.7**	**+0.2**	
	comp=Z,7.0nm,0.6s,baz=93,slow=7.6,SNR=141 comp=Z,7.0nm,0.6s								
SKT	**Skwentna**	**60.62**	**29**		P	**P**	**15 10 55.3**	**-0.1**	
SKT					IAmb	IAmb	15 10 57.1		
	comp=Z,12nm,1.2s								
SKT	**Skwentna**	**60.62**	**29**		P	**P**	**15 10 54.8**	**-0.6**	
	baz=255								
CAST	**Castle Rocks**	**60.75**	**27**		P	**P**	**15 10 56.9**	**+0.6**	
	baz=254,SNR=18								
E20K	**Nigu River**	**60.76**	**21**		P	**P**	**15 10 56.2**	**-0.2**	
	baz=247,SNR=17								
CHUM	**Lake Minchumin**	**60.78**	**27**		P	**P**	**15 10 56.4**	**0.0**	
	baz=253,SNR=8.3								
D20K	**Etivluk River**	**60.80**	**21**		P	**P**	**15 10 56.3**	**-0.2**	
	baz=247,SNR=20								
IMAR	**Indian Mountai**	**60.84**	**24**		P	**P**	**15 10 56.8**	**-0.1**	
SUA	**Susitna One**	**60.85**	**30**		P	**P**	**15 10 56.5**	**-0.6**	
SUA	**Susitna One**	**60.85**	**30**		P	**P**	**15 10 57.6**	**+0.5**	
	baz=256								
NRIK	**Noril'sk**	**60.92**	**340**		P	**P**	**15 10 57.8**	**+0.5**	
NRIK	**Noril'sk**	**60.92**	**340**		P	**P**	**15 10 57.7**	**+0.5**	
	comp=Z,34nm,0.7s,baz=110,slow=8.0,SNR=61 comp=Z,34nm,0.7s								
H21K	**Melozitna Rive**	**61.11**	**25**		IAmb	IAmb	15 11 01.6		
	comp=Z,8.7nm,0.9s								
H21K	**Melozitna Rive**	**61.11**	**25**		P	**P**	**15 10 59.7**	**+1.0**	
	baz=252								
G21K	**Allakaket**	**61.11**	**24**		IAmb	IAmb	15 11 01.4		
	comp=Z,12nm,1.1s								
G21K	**Allakaket**	**61.11**	**24**		P	**P**	**15 10 58.2**	**-0.4**	
	baz=251								
O22K	**Cooper Landing**	**61.12**	**31**		P	**P**	**15 10 57.6**	**-1.1**	
O22K	**Cooper Landing**	**61.12**	**31**		P	**P**	**15 10 58.9**	**+0.2**	
	baz=258								
B20K	**Meade River**	**61.15**	**19**		IAmb	IAmb	15 11 01.6		
	comp=Z,13nm,0.7s								
B20K	**Meade River**	**61.15**	**19**		P	**P**	**15 10 59.9**	**+1.1**	
	baz=245								
SEW	**Seward**	**61.17**	**31**		P	**P**	**15 10 58.5**	**-0.6**	
	baz=258								
M22K	**Willow**	**61.21**	**29**		P	**P**	**15 10 59.2**	**-0.1**	
	baz=257								
RC01	**Rabbit Creek A**	**61.24**	**30**		IAmb	IAmb	15 11 01.3		
	comp=Z,11nm,0.8s								
RC01	**Rabbit Creek A**	**61.24**	**30**		P	**P**	**15 11 00.1**	**+0.5**	
	baz=257								
KTH	**Kantishna Hill**	**61.29**	**27**		IAmb	IAmb	15 11 02.7		
	comp=Z,13nm,1.0s								
I21K	**Tana**	**61.30**	**25**		P	**P**	**15 11 01.1**	**+1.2**	
	baz=253								
CUT	**Chulitna**	**61.30**	**29**		P	**P**	**15 11 00.3**	**+0.4**	
	baz=256								
MDOK	**Medeo**	**61.30**	**309**		*e*P	**P**	**15 11 00.9**	**+0.4**	
	baz=309								
CHKK	**Chushkaly**	**61.34**	**310**		*e*P	**P**	**15 11 01.1**	**+0.5**	
	baz=310								
F21K	**Alatna River**	**61.35**	**23**		P	**P**	**15 11 01.6**	**+1.3**	
	baz=250								
TNSS	**Tian-Shan**	**61.37**	**309**		*e*P	**P**	**15 11 00.1**	**-1.2**	
	baz=309								
BPAW	**Bear Paw Mtn.**	**61.41**	**27**		IAmb	IAmb	15 11 03.2		
	comp=Z,14nm,0.6s								
BPAW	**Bear Paw Mtn.**	**61.41**	**27**		P	**P**	**15 11 01.4**	**+0.7**	
	baz=255,SNR=10.0								
TRF	**Thorofare Moun**	**61.54**	**27**		IAmb	IAmb	15 11 04.0		
	comp=Z,11nm,0.8s								
TRF	**Thorofare Moun**	**61.54**	**27**		P	**P**	**15 11 03.2**	**+1.4**	
	baz=256,SNR=5.4								
C21K	**Knifeblade Rid**	**61.58**	**21**		P	**P**	**15 11 03.3**	**+1.6**	
	baz=248								
PMR	**Palmer**	**61.64**	**30**		P	**P**	**15 11 02.8**	**+0.6**	
	baz=258								
H22K	**Ishtalitna Cre**	**61.74**	**25**		P	**P**	**15 11 04.5**	**+1.6**	
	baz=253								
MLY	**Manley**	**61.76**	**26**		IAmb	IAmb	15 11 05.6		
	comp=Z,8.7nm,0.8s								
MLY	**Manley**	**61.76**	**26**		P	**P**	**15 11 03.9**	**+0.8**	
	baz=254,SNR=7.0								
GHO	**Glory Hole Cre**	**61.77**	**29**		IAmb	IAmb	15 11 40.0		
	comp=Z,9.2nm,1.0s								
B21K	**Ikpikpuk River**	**61.81**	**20**		IAmb	IAmb	15 11 44.1		
	comp=Z,4.8nm,0.6s								
B21K	**Ikpikpuk River**	**61.81**	**20**		P	**P**	**15 11 04.8**	**+1.6**	
	baz=248								
A21K	**Barrow**	**61.86**	**18**		P	**P**	**15 11 04.2**	**+0.7**	
	baz=245								
KNK	**Knik Glacier**	**61.92**	**30**		IAmb	IAmb	15 11 06.6		
	comp=Z,14nm,0.9s								
KNK	**Knik Glacier**	**61.92**	**30**		P	**P**	**15 11 05.1**	**+0.9**	
	baz=258								
G22K	**Bettles**	**61.99**	**23**		P	**P**	**15 11 05.2**	**+0.7**	
	baz=253								
SML	**Sawmill**	**62.05**	**30**		P	**P**	**15 11 05.4**	**+0.3**	
	baz=258,SNR=6.0								
RND	**Reindeer**	**62.16**	**28**		IAmb	IAmb	15 11 44.7		
	comp=Z,5.6nm,0.6s								
WAT1	**Susitna Watana**	**62.17**	**28**		P	**P**	**15 11 06.2**	**+0.4**	
	baz=258								
D22K	**Ayikyak River**	**62.19**	**21**		P	**P**	**15 11 07.2**	**+1.3**	
	baz=250								
MCK	**McKinley**	**62.20**	**27**		P	**P**	**15 11 06.4**	**+0.4**	
	baz=257								
KSH	**Kashi**	**62.20**	**305**		P	**P**	**15 11 10.8**	**+4.2**	
KSH					pmax	pmax			
	comp=Z,9.0nm,1.2s								
A22K	**Sinclair Lake**	**62.22**	**19**		P	**P**	**15 11 07.2**	**+1.3**	
	baz=247								
E22K	**Anaktuvuk Pass**	**62.25**	**22**		IAmb	IAmb	15 11 09.2		
	comp=Z,8.7nm,0.7s								
E22K	**Anaktuvuk Pass**	**62.25**	**22**		P	**P**	**15 11 07.6**	**+1.3**	
	baz=252,SNR=9.4								
M23K	**Glacier View**	**62.34**	**30**		P	**P**	**15 11 07.8**	**+0.9**	
	baz=259								
NEA2	**Nenana**	**62.34**	**26**		P	**P**	**15 11 07.9**	**+1.1**	
	baz=256								
I23K	**Minto, Yukon-K**	**62.35**	**26**		P	**P**	**15 11 08.3**	**+1.4**	
	baz=256,SNR=13								
H23K	**Yukon River**	**62.45**	**25**		IAmb	IAmb	15 11 10.8		
	comp=Z,5.7nm,0.8s								
H23K	**Yukon River**	**62.45**	**25**		P	**P**	**15 11 09.0**	**+1.4**	
	baz=255								
B22K	**Teshekpuk Lake**	**62.45**	**20**		IAmb	IAmb	15 11 10.0		
	comp=Z,8.8nm,0.6s								
B22K	**Teshekpuk Lake**	**62.45**	**20**		P	**P**	**15 11 09.0**	**+1.6**	
	baz=249								
WAT6	**Susitna Watana**	**62.48**	**29**		P	**P**	**15 11 08.9**	**+0.9**	
	baz=258								
G23K	**Bananza Creek**	**62.50**	**24**		P	**P**	**15 11 09.0**	**+1.1**	
	baz=254								
SCM	**Sheep Creek Mo**	**62.53**	**30**		P	**P**	**15 11 09.3**	**+1.1**	
	baz=258,SNR=6.7								
COLD	**Coldfoot**	**62.57**	**23**		P	**P**	**15 11 09.3**	**+0.9**	
	baz=254								
WRH	**Wood River Hil**	**62.72**	**27**		IAmb	IAmb	15 11 46.9		
	comp=Z,5.6nm,0.8s								
DHY	**Denali Highway**	**62.74**	**28**		IAmb	IAmb	15 11 48.1		
	comp=Z,7.4nm,0.8s								
DHY	**Denali Highway**	**62.74**	**28**		P	**P**	**15 11 10.1**	**+0.4**	
	baz=259								
MDM	**Murphy Dome**	**62.77**	**26**		IAmb	IAmb	15 11 12.7		
	comp=Z,9.2nm,0.6s								
D23K	**Nanushuk River**	**62.90**	**21**		P	**P**	**15 11 12.4**	**+1.9**	
	baz=252								
E23K	**Chandalar**	**63.02**	**22**		P	**P**	**15 11 12.9**	**+1.5**	
	baz=254								
SGDS	**Sogindy**	**63.06**	**310**		*e*P	**P**	**15 11 12.8**	**+0.7**	
	baz=310								
EYAK	**Cordova Ski Ar**	**63.07**	**31**		P	**P**	**15 11 12.7**	**+1.1**	
	baz=261								
H24K	**Noodor Dome**	**63.12**	**25**		IAmb	IAmb	15 11 14.6		
	comp=Z,7.5nm,0.7s								
H24K	**Noodor Dome**	**63.12**	**25**		P	**P**	**15 11 13.1**	**+1.0**	
	baz=257								
KLU	**Klutina**	**63.13**	**30**		IAmb	IAmb	15 11 16.2		
	comp=Z,17nm,1.3s								
KLU	**Klutina**	**63.13**	**30**		P	**P**	**15 11 12.9**	**+0.7**	
	baz=261								
POKR	**Poker Plat Res**	**63.14**	**26**		P	**P**	**15 11 12.5**	**+0.4**	
	baz=258								
AAK	**Ala-Archa**	**63.18**	**309**		P	**P**	**15 11 12.6**	**-0.4**	
AAK	**Ala-Archa**	**63.18**	**309**		P	**P**	**15 11 13.4**	**+0.3**	
	comp=Z,2.4nm,0.8s,baz=138,slow=6.6,SNR=10 comp=Z,2.4nm,0.8s								
C23K	**Itkillik River**	**63.19**	**20**		P	**P**	**15 11 14.2**	**+1.9**	
	baz=252								
HDA	**Harding Lake**	**63.20**	**27**		IAmb	IAmb	15 11 15.1		
	comp=Z,8.7nm,1.0s								
HDA	**Harding Lake**	**63.20**	**27**		P	**P**	**15 11 13.1**	**+0.6**	
	baz=258,SNR=6.0								
TOLK	**Toolik Lake Re**	**63.20**	**22**		P	**P**	**15 11 12.7**	**+0.2**	
	baz=254,SNR=17								
IL31		**63.30**	**26**		IAmb	IAmb	15 11 14.5		
	comp=Z,8.2nm,0.8s								
ILAR	**Eielson Array**	**63.30**	**26**		P	**P**	**15 11 12.5**	**-0.7**	
ILAR	**Eielson Array**	**63.30**	**26**		P	**P**	**15 11 12.6**	**-0.5**	
	comp=Z,5.2nm,0.8s,baz=255,slow=4.7,SNR=89 comp=Z,5.2nm,0.8s								
G24K	**Hadweenzic Riv**	**63.48**	**24**		P	**P**	**15 11 15.5**	**+1.2**	
	baz=257								
F24K	**Squaw Lake**	**63.51**	**23**		IAmb	IAmb	15 11 52.4		
	comp=Z,7.7nm,0.8s								
F24K	**Squaw Lake**	**63.51**	**23**		P	**P**	**15 11 16.1**	**+1.6**	
	baz=256								
PAX	**Paxson**	**63.58**	**28**		P	**P**	**15 11 16.1**	**+1.0**	
	baz=260,SNR=7.7								
K24K	**Donnelly Dome**	**63.59**	**28**		P	**P**	**15 11 16.2**	**+1.1**	
	baz=260								
D24K	**Happy Valley**	**63.60**	**21**		P	**P**	**15 11 16.2**	**+1.1**	
	baz=254								
HARP	**HAARP**	**63.63**	**29**		P	**P**	**15 11 16.4**	**+1.0**	
	baz=261								
BMRM	**Bremner River**	**63.68**	**31**		P	**P**	**15 11 16.5**	**+0.7**	
	baz=262								
N25K	**Chitina, Valde**	**63.77**	**30**		P	**P**	**15 11 17.4**	**+0.9**	
	baz=262								
C24K	**Franklin Bluff**	**63.79**	**21**		P	**P**	**15 11 17.2**	**+1.0**	
	baz=254								
J25K	**Salcha River,**	**63.91**	**27**		P	**P**	**15 11 16.9**	**-0.3**	
	baz=260								
RIDG	**Independent Ri**	**63.98**	**28**		IAmb	IAmb	15 11 19.6		
	comp=Z,11nm,0.8s								
RIDG	**Independent Ri**	**63.98**	**28**		P	**P**	**15 11 18.6**	**+0.8**	
	baz=261,SNR=7.5								
PRP	**Porcupine Dome**	**64.00**	**26**		P	**P**	**15 11 18.9**	**+0.9**	
	baz=259								
G25K	**Bearman Lake**	**64.02**	**24**		P	**P**	**15 11 19.2**	**+1.4**	
	baz=258								
H25L	**Birch Creek**	**64.03**	**25**		P	**P**	**15 11 18.6**	**+0.7**	
	baz=258,SNR=5.5								
FYU	**Fort Yukon**	**64.32**	**25**		IAmb	IAmb	15 11 22.6		
	comp=Z,12nm,0.8s								
CRQM	**Cirque**	**64.37**	**31**		IAmb	IAmb	15 11 27.6		
	comp=Z,11nm,0.9s								
F25K	**Christian Rive**	**64.37**	**23**		P	**P**	**15 11 21.9**	**+1.8**	
	baz=258								
CRQE	**Cirque**	**64.39**	**31**		P	**P**	**15 11 21.5**	**+1.0**	
	baz=264								
SCRK	**Sand Creek**	**64.40**	**28**		IAmb	IAmb	15 11 22.9		
	comp=Z,8.7nm,0.8s								
SCRK	**Sand Creek**	**64.40**	**28**		P	**P**	**15 11 21.3**	**+0.9**	
	baz=261,SNR=10.0								
D25K	**Kavik River**	**64.48**	**21**		P	**P**	**15 11 22.6**	**+1.7**	
	baz=256								
MCARA	**McCarthy VSAT**	**64.50**	**30**		IAmb	IAmb	15 11 23.9		
	comp=Z,14nm,1.0s								
MCARA	**McCarthy VSAT**	**64.50**	**30**		P	**P**	**15 11 22.0**	**+1.0**	
	baz=263								
E25K	**Arctic Village**	**64.51**	**23**		IAmb	IAmb	15 11 24.2		
	comp=Z,12nm,1.2s								
E25K	**Arctic Village**	**64.51**	**23**		P	**P**	**15 11 21.7**	**+0.7**	
	baz=258,SNR=9.8								
L26K	**Log Cabin Wild**	**64.55**	**29**		P	**P**	**15 11 22.8**	**+1.5**	
	baz=262								
M26K	**Nabesna, AK**	**64.63**	**29**		P	**P**	**15 11 23.0**	**+1.1**	
	baz=263								
J26L	**Joseph Creek**	**64.66**	**27**		IAmb	IAmb	15 11 24.0		
	comp=Z,9.4nm,0.8s								
J26L	**Joseph Creek**	**64.66**	**27**		P	**P**	**15 11 23.2**	**+1.0**	
	baz=261								
BMAR	**Burnt Mountain**	**64.74**	**24**		P	**P**	**15 11 24.3**	**+1.8**	
NIL	**Nilore**	**64.89**	**299**		P	**P**	**15 11 25.0**	**+0.9**	
MESA	**MESA**	**64.90**	**32**		P	**P**	**15 11 24.6**	**+0.7**	
	baz=265								
I26K	**Coal Creek Min**	**64.95**	**26**		P	**P**	**15 11 24.1**	**+0.3**	
	baz=261								
F26K	**Sheenjek River**	**64.95**	**23**		P	**P**	**15 11 25.3**	**+1.5**	
	baz=259								
G26K	**Porcupine Rive**	**64.96**	**24**		P	**P**	**15 11 25.1**	**+1.3**	
	baz=260								
C26K	**Camden Bay**	**65.12**	**21**		P	**P**	**15 11 26.6**	**+1.7**	
	baz=258								
M27K	**Edge Creek, AK**	**65.14**	**29**		P	**P**	**15 11 25.9**	**+0.5**	
	baz=264								
K27K	**Chicken**	**65.24**

G29M	Pine Creek	67.20	25	P		P	15 11 39.0 +0.8
	baz=266						
K29M	Barlow Dome	67.23	28	IAmb		IAmb	15 11 41.4
	comp=Z,7.8nm,0.8s						
K29M	Barlow Dome	67.23	28	P		P	15 11 39.5 +0.9
	baz=267						
N30M	Aishikik Lake	67.35	31	P		P	15 11 40.1 +0.8
	baz=269						
E29M	Blow River	67.37	23	P		P	15 11 40.6 +1.4
	baz=265						
P30M	Million Dollar	67.39	32	P		P	15 11 40.8 +1.2
	baz=269						
M30M	Minto, Yukon	67.51	29	P		P	15 11 41.0 +0.8
	baz=268						
SIMJ	Simiganj	67.67	305	P		P	15 11 41.6 -0.2
EPYK	Eagle Plains	67.69	25	IAmb		IAmb	15 11 43.6
	comp=Z,7.6nm,0.7s						
EPYK	Eagle Plains	67.69	25	P		P	15 11 42.6 +1.4
	baz=267,SNR=5.6						
PLBC	Pleasant Camp	67.69	33	P		P	15 11 42.2 +0.8
	baz=270						
J30M	Hart River	67.78	27	P		P	15 11 43.0 +1.1
	baz=268						
I30M	Mount Dempster	67.78	26	P		P	15 11 42.9 +1.0
	baz=268						
O30N	Mendenhall	67.82	31	P		P	15 11 41.7 -0.5
O30N	Mendenhall	67.82	31	P		P	15 11 43.0 +0.8
	baz=270						
G30M	tAoh Zraii Nji	67.92	25	IAmb		IAmb	15 11 45.0
	comp=Z,32nm,1.5s						
G30M	tAoh Zraii Nji	67.92	25	P		P	15 11 43.6 +0.9
	baz=267						
F30M	Barrier River	68.11	24	P		P	15 11 44.9 +1.1
	baz=267						
SKAG	Skagway	68.22	33	P		P	15 11 45.2 +0.6
	baz=271						
KBL	Kabul	68.22	300	P		P	15 11 44.7 -0.7
KBL				IAmb		IAmb	15 11 47.4
	comp=Z,18nm,0.9s						
WHY	Whitehorse	68.42	31	P		P	15 11 46.5 +0.5
	baz=271						
M31M	Drury Creek, Y	68.63	30	P		P	15 11 48.6 +1.4
	baz=271						
H31M	Peel River	68.64	26	P		P	15 11 48.3 +1.1
	baz=269						
G31M	Satah River	68.68	25	IAmb		IAmb	15 11 49.5
	comp=Z,13nm,0.8s						
G31M	Satah River	68.68	25	P		P	15 11 48.1 +0.8
	baz=269						
F31M	Tsiigehtchic	68.89	24	P		P	15 11 49.1 +0.5
	baz=269						
INK	Inuvik	68.99	23	P		P	15 11 50.2 +1.0
	baz=269						
P32M	Atlin	69.03	33	P		P	15 11 50.3 +0.6
	baz=272						
FARO	Faro, Yukon	69.12	30	P		P	15 11 50.9 +0.7
	baz=272						
P33M	Teslin, Yukon	69.46	32	P		P	15 11 52.9 +0.6
	baz=273						
R33M	Jennings River	70.45	33	P		P	15 11 59.6 +1.2
	baz=275						
V35K	Ketchikan	70.47	37	P		P	15 11 59.8 +1.3
	baz=276						
S34M	Telegraph Cree	70.49	34	P		P	15 11 59.2 +0.7
	baz=275						
DLBC	Dease Lake	71.02	34	P		P	15 12 02.2 +0.4
	baz=276						
T35M	Bob Quinn	71.06	35	P		P	15 12 03.0 +0.9
	baz=276						
WTLY	Watson Lake, Y	71.47	32	P		P	15 12 05.3 +0.9
	baz=276						
TGTN	Hyland Airport	71.56	30	P		P	15 12 05.5 +0.5
	baz=276						
A36M	Sachs Harbour	71.65	19	IAmb		IAmb	15 12 08.0
	comp=Z,9.6nm,0.8s						
A36M	Sachs Harbour	71.65	19	P		P	15 12 06.3 +1.1
	baz=276						
C36M	Paulatuk	72.35	22	IAmb		IAmb	15 12 11.9
	comp=Z,11nm,0.9s						
C36M	Paulatuk	72.35	22	P		P	15 12 10.7 +1.3
	baz=278						
ARU	Arti	72.35	324	P		P	15 12 08.6 -1.0
ARU				IAmb		IAmb	15 12 10.7
	comp=Z,14nm,1.0s						
ABKAR	Akbulak array	72.63	317	P		P	15 12 11.2 -0.2
ABKAR	Akbulak array	72.63	317	IAmb		IAmb	15 12 12.9
	comp=Z,9.6nm,0.7s						
TOAD	Toad River Com	73.45	33	P		P	15 12 17.7 +1.5
	baz=280						
WRGLY	Wrigley	73.54	28	IAmb		IAmb	15 12 19.1
	comp=Z,9.4nm,0.7s						
WRGLY	Wrigley	73.54	28	P		P	15 12 18.2 +1.8
	baz=280						
AKTO	Aktyubinsk	73.66	318	P		P	15 12 16.9 -0.6
	comp=Z,5.5nm,0.6s,baz=79,slow=5.1,SNR=15						
	comp=Z,5.5nm,0.6s						
GEYT	Alibeck	76.22	306	P		P	15 12 32.8 +0.4
	comp=Z,8.5nm,0.9s,baz=83,slow=4.6,SNR=14						
	comp=Z,8.5nm,0.9s						
YKA	Yellowknife Ar	77.66	28	P		P	15 12 40.1 +0.3
YKA	Yellowknife Ar	77.66	28	P		P	15 12 40.3 +0.5
	comp=Z,4.1nm,0.6s,baz=290,slow=5.4,SNR=73						
	comp=Z,4.1nm,0.6s						
SPA0	Spitsbergen Ar	78.52	351	eP		P	15 12 46.2 +1.9
SPITS	Spitsbergen Ar	78.52	351	P		P	15 12 43.3 -1.0
	comp=Z,3.0nm,0.5s,baz=101,slow=7.7,SNR=14						
	comp=Z,3.0nm,0.5s						
KBS	Kingsbay	78.64	352	eP		P	15 12 45.5 +0.5
KBS	Kingsbay	78.64	352	i P		P	15 12 44.1 -0.9
NOR	Nord	78.89	357	i P		P	15 12 46.2 0.0
NOR				IAmb		IAmb	15 12 47.6
	comp=Z,2.0nm,0.5s						
RES	Resolute Bay	78.94	14	IAmb		IAmb	15 12 48.7
	comp=Z,6.7nm,0.8s						
VADS	Vadso	80.36	342	eP		P	15 12 54.9 +0.6
BJO1	Bjornoya	80.44	347	eP		P	15 12 54.3 -0.4
NEW	Newport	80.75	42	P		P	15 12 57.9 +1.0
	baz=288						
CMB	Columbia Colle	81.66	53	IAmb		IAmb	15 13 04.3
	comp=Z,9.0nm,0.6s						
BMO	Blue Mountains	81.72	45	IAmb		IAmb	15 13 04.5
	comp=Z,12nm,1.4s						
ARA0	ARCESS Array S	81.81	342	eP		P	15 13 02.5 +0.6
ARCES	ARCESS Array B	81.81	342	P		P	15 13 02.0 0.0
	comp=Z,7.6nm,0.6s,baz=72,slow=7.8,SNR=39						
	comp=Z,7.6nm,0.6s						
PNTR	Pine Nut	81.92	52	IAmb		IAmb	15 13 06.7
	comp=Z,10nm,0.6s						
TULEG	Thule	82.18	8	i P		P	15 13 04.6 +0.8
TULEG				IAmb		IAmb	15 13 06.4
	comp=Z,25nm,0.6s						
YERR	Yerington	82.22	52	IAmb		IAmb	15 13 07.5
	comp=Z,5.4nm,0.7s						
WAKR	Walker	82.22	52	IAmb		IAmb	15 13 07.9
	comp=Z,8.1nm,0.7s						
KTK1	Kautokeino	82.77	342	eP		P	15 13 07.2 +0.2
RYN	Ryan	82.86	52	IAmb		IAmb	15 13 11.4
	comp=Z,10nm,1.2s						
NEEM	North Greenlan	82.98	4	i P		P	15 13 09.6 +1.3
NEEM				IAmb		IAmb	15 13 11.3
	comp=Z,18nm,0.7s						
LHV	Little Huntoon	83.00	52	IAmb		IAmb	15 13 11.8
	comp=Z,4.9nm,0.6s						
NVAR	Mina Array Bea	83.09	52	P		P	15 13 10.7 +1.2
NVAR	Mina Array Bea	83.09	52	P		P	15 13 10.8 +1.3
	comp=Z,7.9nm,0.6s,baz=273,slow=5.7,SNR=82						
	comp=Z,7.9nm,0.6s						
NV11	Mina Array Sit	83.20	52	IAmb		IAmb	15 13 12.6
	comp=Z,5.4nm,0.7s						
JETT	Jettan, Norway	83.24	343	eP		P	15 13 09.7 +0.3
JOF	Joensuu	83.31	335	eP		P	15 13 09.2 -0.6
TRO	Tromso	83.59	344	eP		P	15 13 10.8 -0.2
DAG	Danmarks Havn	83.65	356	i P		P	15 13 11.0 -0.3
DAG				IAmb		IAmb	15 13 12.3
	comp=Z,3.4nm,0.6s						
DSP	Deep Springs	83.69	53	P		P	15 13 11.8 -0.5
DSP				IAmb		IAmb	15 13 15.1
	comp=Z,14nm,1.4s						
CWC	Cottonwood Cre	83.91	54	P		P	15 13 14.1 +0.4
	baz=289						
HLID	Hailey	84.11	46	P		P	15 13 15.1 +0.5
	baz=291						
GMN	Gold Mountain	84.25	53	IAmb		IAmb	15 13 17.8
	comp=Z,6.1nm,0.6s						
GRAC	Grapevine Rang	84.27	53	P		P	15 13 16.8 +1.5
	baz=290						
MPMC	Manual Prospec	84.49	54	P		P	15 13 17.5 +0.9
	baz=290						
LRMC	Laurel Mtn Rad	84.54	54	P		P	15 13 18.2 +1.4
	baz=290						
WCT	Wildcat Mounta	84.89	53	IAmb		IAmb	15 13 20.8
	comp=Z,7.3nm,0.6s						
R11B	Troy Canyon, C	85.13	51	IAmb		IAmb	15 13 22.2
	comp=Z,13nm,1.5s						
R11B	Troy Canyon, C	85.13	51	P		P	15 13 21.0 +1.2
	baz=291						
BOZ	Bozeman (W)	85.21	43	IAmb		IAmb	15 13 22.1
	comp=Z,5.8nm,0.7s						
BOZ	Bozeman (W)	85.21	43	P		P	15 13 21.2 +1.3
	baz=293						
KULLO	Kullorsuaq	85.24	6	i P		P	15 13 19.9 +0.6
KULLO				IAmb		IAmb	15 13 21.6
	comp=Z,14nm,0.7s						
GSC	Goldstone, Bar	85.27	54	P		P	15 13 21.8 +1.5
	baz=290						
EGMT	Eagleton	85.44	41	P		P	15 13 22.1 +1.2
	baz=294						
KBZ	Khabaz	85.44	315	P		P	15 13 20.6 -0.2
	comp=Z,1.8nm,0.7s,baz=38,slow=17,SNR=1.8						
	comp=Z,1.8nm,0.7s						
STEI	Steigen	85.73	343	eP		P	15 13 21.4 -0.4
YHL	Hebgen Lake	85.79	44	IAmb		IAmb	15 13 26.0
	comp=Z,11nm,0.7s						
SPR3	Spring Creek 3	85.81	50	IAmb		IAmb	15 13 25.9
	comp=Z,11nm,1.5s						
HVU	Hansel Valley	85.89	47	IAmb		IAmb	15 13 26.0
	comp=Z,18nm,1.4s						
FAUS	Fauske	86.09	343	eP		P	15 13 23.0 -0.6
PFO	Pinyon Flats O	86.12	56	P		P	15 13 25.1 +0.5
	baz=290						
TPFO	Pinon Flats	86.13	56	P		P	15 13 25.4 +0.7
	baz=290						
DBG	Daneborg	86.15	356	i P		P	15 13 23.6 -0.2
DBG				IAmb		IAmb	15 13 25.0
	comp=Z,8.4nm,0.6s						
FINES	FINESS Array B	86.18	335	P		P	15 13 23.0 -1.1
	comp=Z,5.4nm,0.4s,baz=68,slow=5.0,SNR=86						
	comp=Z,5.4nm,0.4s						
KEF	Keuruu	86.24	336	eP		P	15 13 22.9 -1.5
IMW	Indian Meadow	86.32	45	P		P	15 13 26.9 +1.3
GMRC	Granite Mounta	86.33	55	P		P	15 13 26.1 +0.5
	baz=291						
BELC	Belle Mtn. Jos	86.35	55	P		P	15 13 25.7 0.0
	baz=291						
H17A	Gram Village	86.36	44	P		P	15 13 28.3 +2.5
	baz=293						
MONP2	Monument Peak	86.41	57	P		P	15 13 27.2 +1.1
	baz=291						
FLWY	Flagg Ranch	86.41	44	IAmb		IAmb	15 13 29.8
	comp=Z,15nm,1.4s						
DUG	Dugway, Tooele	86.46	49	IAmb		IAmb	15 13 28.5
	comp=Z,7.3nm,0.6s						
DUG	Dugway, Tooele	86.46	49	P		P	15 13 27.4 +1.2
	baz=292						
VAF	Ylistaro	86.54	337	eP		P	15 13 25.2 -0.6
IKP	In-Ko-Pah, Jac	86.74	57	P		P	15 13 28.1 +0.5
	baz=291						
HWUT	Hardware Ranch	86.79	47	IAmb		IAmb	15 13 30.1
	comp=Z,5.3nm,0.8s						
FFC	Flin Flon	86.81	32	P		P	15 13 28.1 +0.8
FFC				IAmb		IAmb	15 13 29.9
	comp=Z,13nm,1.1s						
BC3	Big Chuckawall	86.89	56	P		P	15 13 28.8 +0.5
	baz=291						
RLMT	Red Lodge	86.92	43	P		P	15 13 29.4 +1.0
	baz=294						
IRM	Iron Mountain	86.95	55	P		P	15 13 28.9 +0.4
	baz=291						
UPNV	Upernavik	87.04	6	i P		P	15 13 28.6 +0.5
UPNV				IAmb		IAmb	15 13 30.0
	comp=Z,6.3nm,0.6s						
ESJX	Sierra Juarez	87.09	57	P		P	15 13 28.9 -0.5
MOR8	Moi Rana	87.18	342	eP		P	15 13 27.0 -1.9
MEF	Metsahovi	87.56	335	eP		P	15 13 29.8 -1.0
GLA	Glamis	87.60	56	P		P	15 13 32.6 +0.9
	baz=291						
PDMCI	Parker Dam,Lak	87.67	55	P		P	15 13 32.6 +0.7
	baz=292						
BW06	Boulder Array	87.70	45	P		P	15 13 33.3 +1.1
	baz=294						
PDAR	Pinedale Array	87.70	45	P		P	15 13 32.3 +0.2
	comp=Z,1.2nm,0.6s,baz=203,slow=1.5,SNR=16						
	comp=Z,1.2nm,0.6s						
SUMG	Summit	88.33	1	IAmb		IAmb	15 13 36.8
	comp=Z,7.3nm,0.7s						
SUMG	Summit	88.33	1	i P		P	15 13 35.0 +0.3
SUMG				IAmb		IAmb	15 13 37.0
	comp=Z,5.5nm,0.7s						
SRU	San Rafael Swe	88.51	49	IAmb		IAmb	15 13 38.0
	comp=Z,4.8nm,0.7s						
Y14A	Wickenburg	88.69	55	P		P	15 13 35.4 -1.3
Y14A				IAmb		IAmb	15 13 39.3
	comp=Z,7.0nm,0.5s						
WUAZ	Wupatki	89.31	53	P		P	15 13 40.9 +1.1
	baz=293						
214A	Organ Pipe Nat	89.59	56	P		P	15 13 42.0 +1.0
	baz=292						
O20A	White River Ci	89.69	47	P		P	15 13 42.2 +0.7
	baz=295						
UPP	Uppsala	90.44	336	eP		P	15 13 43.0 -1.2
PABE	Paberze	90.52	331	eP		P	15 13 44.2 -0.5
AKASG	Malin Array Be	90.59	325	P		P	15 13 43.4 -1.7
	comp=Z,0.6nm,0.5s,baz=47,slow=6.0,SNR=1.8						
	comp=Z,0.6nm,0.5s						
RSSD	Black Hills	90.72	42	P		P	15 13 47.1 +0.9
	baz=298						
MVCO	Mesa Verde	90.75	50	P		P	15 13 47.8 +1.3
	baz=295						
N23A	Red Feather La	90.94	46	P		P	15 13 48.9 +1.5
	baz=297						
TUC	Tucson	91.03	55	P		P	15 13 49.4 +1.7
	baz=294						
HFS	Hagfors	91.69	338	P		P	15 13 48.3 -1.7
	comp=Z,1.3nm,0.4s,baz=102,slow=3.5,SNR=13						
	comp=Z,1.3nm,0.4s						
NB2	NORSAR Subarra	91.88	340	P		P	15 13 49.6 -1.4
	comp=Z,0.6nm,0.6s,baz=55,slow=5.1						
NB2	NORSAR Subarra	91.88	340	P		P	15 13 49.6 -1.4
	baz=55,slow=5.1						
NOA	NORSAR Array B	91.88	340	P		P	15 13 49.0 -2.0
	comp=Z,0.6nm,0.6s,baz=46,slow=4.9,SNR=5.2						
	comp=Z,0.6nm,0.6s						
ULM	Lac du Bonnet	92.34	34	P		P	15 13 52.4 -0.8
	comp=Z,1.9nm,0.8s,baz=5.7,slow=3.8,SNR=3.5						
	comp=Z,1.9nm,0.8s						
SFJD	Kangerlussuaq	93.16	6	P		P	15 13 56.8 +0.2
SFJD	Kangerlussuaq	93.16	6	i P		P	15 13 56.6 -0.1
SFJD				IAmb		IAmb	15 13 57.7
	comp=Z,9.4nm,0.6s						
ANMO	Albuquerque	93.21	51	P		P	15 13 59.8 +2.0
	baz=296						
121A	Cookes Peak, D	93.25	54	P		P	15 13 59.7 +1.6
	baz=295						
BRTR	Keskin Array B	93.41	314	P		P	15 13 58.2 -0.5
	comp=Z,1.1nm,0.7s,baz=52,slow=16,SNR=2.4						
	comp=Z,1.1nm,0.7s						
KONO	Kongsberg	93.45	339	eP		P	15 13 55.4 -2.8
DY2G	Dye2	94.06	5	i P		P	15 14 00.9 -0.2
DY2G				IAmb		IAmb	15 14 02.5
	comp=Z,5.1nm,0.6s						
TXAR	Lajitas Array	97.83	55	P		Pdif	15 14 19.2 +0.3
	comp=Z,0.2nm,0.4s,baz=267,slow=3.6,SNR=2.4						
	comp=Z,0.2nm,0.4s						
LSZ	Lusaka	120.07	263	PKP		PKPdf	15 19 32.9 -0.4
	comp=Z,1.9nm,0.4s,baz=26,slow=17,SNR=1.7						
TORD	Torodi Ar. Bea	131.77	309	PKP		PKPdf	15 19 54.9 -0.7
	comp=Z,0.5nm,0.4s,baz=45,slow=1.5,SNR=5.2						
TORD				SKPbc		SKPbc	15 22 59.5 +0.1
	comp=Z,0.3nm,0.8s,baz=27,slow=6.8,SNR=4.1						
PLCA	Paso Flores	142.70	133	PKP		PKPdf	15 20 12.8 -2.3
	comp=Z,1.1nm,0.6s,baz=246,slow=5.0,SNR=3.8						
LPAZ	La Paz	148.08	90	PKPbc		PKPbc	15 20 29.4 +0.3
	comp=Z,3.2nm,0.6s,baz=286,slow=5.0,SNR=14						

KRSC 23 15:02:26.1±1.1, 49°.36N×156°.97E, h9km±18km, MI3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	1.44	338	eP	Pn	15 02 52.0	-0.3
SKR				eS	Sn	15 03 10.3	-1.0
PAU	Pauzhetka	2.12	357	eS	Sb	15 03 31.4	+0.5
KDTR	Khodutka, Kamc	2.56	16	eP	Pb	15 03 10.1	-2.0
KDTR				eS	Sb	15 03 41.5	-2.1
ASAK	Asacha	3.09	11	eP	Pb	15 03 18.2	-3.0
MTVR	Mutnovka	3.22	13	eP	Pn	15 03 20.0	+3.0
RUS	Russkaya	3.23	17	eP	Pn	15 03 19.4	+2.4
AVH	Avacha	4.07	15	eP	Pn	15 03 32.6	+4.1
KOK	Koryaka	4.08	14	eP	Pn	15 03 33.0	+4.3
SMAR	Somma	4.08	16	eP	Pn	15 03 32.4	+3.6
KRX	Arik	4.14	14	eP	Pn	15 03 33.5	+3.9

JMA 23 15:03:23.3±0.1, 32°.6N±0°.2×130°.7E±0°.2, h10km, MV-0.2/10, SOUTHERN KUMAMOTO PREF, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	Izumi3	0.13	126	S	Sg	15 03 28.8	+0.2
JTA	Tamana	0.36	339	P	Pg	15 03 30.7	+0.2

*IDC **23** 15:13:11.2±3.4, 36°.20N×71°.23E, h60km±29km, mb3.7/14, mbtmp4.0/19, ML3.9/5, Error ellipse: s-maj=25.4km s-min=16.6km az=13.0*
*NNC **23** 15:13:17.4±5.7, 36°.66N×71°.11E, h128km±76km, mb3.6, mpv4.3, Error ellipse: s-maj=50.9km s-min=31.1km az=35.0*

ISC 23 15:13:16.4±0.9, 36°.62N±0°.08×70°.97E±0°.07, h100km, n38, σ2s 12/44, mb3.8/13, 7C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UCH	Uchtor	6.24	25	P	Pn	15 14 47.0	+0.8
	SNR=22						
EKS2	Erkin-Say	6.41	19	P	Pn	15 14 49.4	+1.1
	SNR=45						
KK31	Karatay Array	6.48	357	P	Pn	15 14 50.5	+1.3
	12nm,0.5s,baz=190,slow=14,SNR=98						
KK31				⇑S	Sn	15 16 02.3	+0.6
	9.3nm,0.5s,baz=186,slow=23,SNR=4.1						
AAK	Ala-Archa	6.60	23	P	Pn	15 14 52.0	+1.2
	SNR=14						
AAK	Ala-Archa	6.60	23	P	Pn	15 14 51.7	+0.9
	6.5nm,0.3s,baz=197,slow=7.3,SNR=121						
AAK				S	Sn	15 16 04.0	-0.6
	6.5nm,0.4s,baz=154,slow=23,SNR=8.2						
	26nm,0.5s						
KBK	Karagaybulak	6.76	26	P	Pn	15 14 55.0	+1.8
	SNR=12						
CHMS	Chumysh	7.00	23	P	Pn	15 14 56.9	+0.7
	SNR=23						
CHMS	Chumysh	7.00	23	⇑P	Pn	15 14 56.5	+0.2
	35nm,0.7s						
CHMS				⇓S	Sn	15 16 14.9	+0.6
	17nm,0.7s						
USP	Ospenovka	7.17	21	P	Pn	15 14 60.0	+1.4
	SNR=14						
TKM2	Tokmak 2	7.23	28	P	Pn	15 15 00.3	+0.8
	SNR=5.5						
TKM2	Tokmak 2	7.23	28	⇑P	Pn	15 14 59.8	+0.2
	14nm,0.6s						
MDOK	Medeo	8.03	34	P	Pn	15 15 10.4	+0.1
	5.9nm,0.7s						
PDGK	Podgornoye	9.36	42	⇑P	Pn	15 15 26.7	-1.6
	1.9nm,0.7s						
GEYT	Alibeck	10.32	281	P	Pn	15 15 40.2	-1.2
	1.7nm,0.3s,baz=115,slow=10,SNR=13						
GEYT				S	Sn	15 17 31.3	-3.9
	8.0nm,0.5s,baz=124,slow=18,SNR=5.8						
	4.4nm,0.4s						
OTUK	Ortayu	11.66	5	⇑P	Pn	15 15 58.3	-1.1
	5.0nm,0.8s						
MK31	Makanchi Array	13.21	36	⇓⇑P	Pn	15 16 18.4	-1.5
	1.5nm,0.7s,baz=215,slow=49,SNR=6.5						
MKAR	Makanchi Array	13.21	36	P	Pn	15 16 18.4	-1.5
	0.1nm,0.3s,baz=223,slow=14,SNR=9.0						
	0.9nm,0.8s						
AB31	Akbulak array	14.97	331	P	Pn	15 16 42.1	-0.3
	2.2nm,0.6s,baz=141,slow=12,SNR=63						
AB31				⇑S	Sn	15 19 24.5	-3.0
	1.1nm,0.3s,baz=154,slow=23,SNR=12						
KURBB	Kurchatov Arra	15.02	19	P	P	15 16 45.8	-0.2
	0.2nm,0.3s,baz=208,slow=11,SNR=10						
	1.3nm,0.3s						
BVA0	Borovoye Array	16.41	359	P	Pn	15 17 00.0	-0.5
	1.9nm,0.6s,baz=146,slow=14,SNR=22						
BVAR	Borovoye Array	16.41	359	P	Pn	15 17 00.1	-0.4
	2.4nm,0.4s,baz=160,slow=12,SNR=13						
AKTO	Aktyubinsk	16.66	330	P	P	15 17 05.3	+1.0
	1.5nm,0.3s,baz=132,slow=10,SNR=20						
AKTO				S	Sn	15 20 00.7	-7.7
	1.0nm,0.5s,baz=197,slow=22,SNR=1.9						
	5.0nm,0.4s						
AKTO	Aktyubinsk	16.66	330	⇑P	P	15 17 05.3	+1.0
	7.0nm,0.8s						
ZALV	Zalesovo Beam	19.82	25	P	P	15 17 38.8	0.0
	6.7nm,0.4s,baz=223,slow=11,SNR=24						
	6.7nm,0.4s						
ARU	Arti	21.51	341	P	P	15 17 58.8	+1.9
	1.4nm,0.3s,baz=95,slow=8.5,SNR=2.4						
	1.4nm,0.3s						
KBZ	Khabaz	22.52	297	P	P	15 18 09.1	+1.4
	1.4nm,0.8s,baz=139,slow=7.9,SNR=2.0						
	1.4nm,0.8s						
BELG	Belogornoye	22.78	321	P	P	15 18 12.0	+1.8
	7.4nm,0.7s,baz=200,slow=12,SNR=2.2						
	7.4nm,0.7s						
SONM	Songino Array	28.29	55	P	P	15 18 58.7	-1.6
	0.3nm,0.7s,baz=264,slow=5.8,SNR=1.8						
	0.3nm,0.7s						
AKASG	Malin Array Be	32.85	309	P	P	15 19 42.5	+2.2
	0.6nm,0.5s,baz=83,slow=7.1,SNR=9.3						
	0.6nm,0.5s						
FINES	FINESS Array B	37.37	326	P	P	15 20 22.3	+3.3
	1.1nm,0.4s,baz=120,slow=9.6,SNR=17						
	1.1nm,0.4s						
ARCES	ARCESS Array B	41.02	338	P	P	15 20 52.5	+3.2
	2.6nm,0.6s,baz=107,slow=8.1,SNR=12						
	2.6nm,0.6s						
HFS	Hagfors	42.96	322	P	P	15 21 08.4	+3.3
	3.2nm,0.5s,baz=98,slow=11,SNR=15						
	3.2nm,0.5s						
NB2	NORSAR Subarra	44.27	323	P	P	15 21 18.4	+2.8
	comp=Z,0.8nm,0.5s,baz=96,slow=7.9						
NOA	NORSAR Array B	44.27	323	P	P	15 21 18.5	+2.8
	comp=Z,2.2nm,0.8s,baz=106,slow=7.2,SNR=7.2						
	comp=Z,2.2nm,0.8s						
TORD	Torodi Ar. Bea	65.69	269	P	P	15 23 51.0	+0.5
	comp=Z,0.4nm,0.4s,baz=50,slow=6.7,SNR=7.5						
	comp=Z,0.4nm,0.4s						
WRA	Warramunga Arr	82.08	122	P	P	15 25 23.5	-2.4
	comp=Z,0.2nm,0.6s,baz=323,slow=5.1,SNR=6.4						

PMG	**Port Moresby**	**49.38 359**	LR	LR	16 25 39.4	
	comp=Z,38nm,18.8s,baz=210,slow=33					
HNR	**Honiara**	**50.22 16**	LR	LR	16 24 49.4	
	comp=Z,386nm,19.2s,baz=136,slow=32					
H04S2	**CROZET ISLANDS**	**54.19 237**	T	T	17 07 44.3	
	baz=140					
H04S1	**CROZET ISLANDS**	**54.19 237**	T	T	17 07 49.8	
	baz=140					
H04S3	**CROZET ISLANDS**	**54.20 237**	T	T	17 07 44.5	
	baz=140					
LEM	**Lembang**	**60.33 313**	LR	LR	16 31 06.4	
	comp=Z,19nm,21.9s,baz=140,slow=33					
H08S2	**Diego Garcia H**	**75.89 279**	T	T	17 34 16.9	
	baz=148,slow=76,SNR=24					
H08S1	**Diego Garcia H**	**75.90 279**	T	T	17 34 17.7	
	baz=148,slow=76,SNR=25					
H08S3	**Diego Garcia H**	**75.91 279**	T	T	17 34 21.1	
	baz=148,slow=76,SNR=23					
BOSA	**Boshof**	**80.69 229**	LR	LR	16 42 38.7	
	comp=Z,44nm,19.6s,baz=196,slow=33					
LBTB	**Lobatse**	**83.77 231**	LR	LR	16 45 38.8	
	comp=Z,46nm,18.5s,baz=172,slow=34					
CMAR	**Chiang Mai Arr**	**86.82 314**	LR	LR	16 46 06.4	
	comp=Z,10nm,22.0s,baz=170,slow=33					

*IDC **23** 16:20:46.6±2.1,33°.66S×179°.83E,h0km,mb4.1/3, mbtmp4.1/4,ML4.0/1,MS3.5/2,Error ellipse: s-maj=52.1km s-min=30.0km az=57.0*

*NEIC **23** 16:20:48.4±2.8,33°.74S±0°.07×179°.7W±0°.1,h35km±2km, mb4.3/7,Error ellipse: s-maj=23.0km s-min=6.7km az=118.0*

*WEL **23** 16:21:46.5,38°S±28°×17°8E±1°8,h26km±22km,M2.2/7, ML2.2/7,MLv2.2/7,Error ellipse: s-maj=0.0km s-min=0.0km az=155.0*

ISC 23 16:20:48.8±1.1,33°.70S±0°.08×179°.8W±0°.1,h35km,n44, σ1$72/37,mb4.3/7,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.14**	**201**	Pn	**Pn**	**16 21 47.9**	**-1.6**
WMGZ	**Waiomatatini S**	**4.35**	**199**	P	**Pn**	**16 21 53.7**	**+1.4**
HAZ	**Te Kaha**	**4.49**	**205**	P	**Pn**	**16 21 53.7**	**-0.6**
PKGZ	**Pakihiroa**	**4.51**	**202**	P	**Pn**	**16 21 53.5**	**-1.2**
PUZ	**Puketiti**	**4.63**	**199**	P	**Pn**	**16 21 56.5**	**+0.2**
RUGZ	**Raukumara Rang**	**4.71**	**205**	P	**Pn**	**16 21 57.5**	**0.0**
RAO	**Raoul Island**	**4.73**	**21**	Pn	**Pn**	**16 21 56.6**	**-1.0**
MYRZ	**Mayor Island**	**4.80**	**221**	P	**Pn**	**16 22 01.7**	**+3.1**
TWGZ	**Tauwhareparae**	**4.81**	**201**	P	**Pn**	**16 21 59.2**	**+0.5**
CNGZ	**Carnagh Statio**	**5.03**	**198**	P	**Pn**	**16 22 01.9**	**+0.2**
OPRZ	**Ohinepanea**	**5.08**	**214**	P	**Pn**	**16 22 05.0**	**+2.7**
TKGZ	**Te Karaka**	**5.09**	**201**	P	**Pn**	**16 22 03.6**	**+1.0**
MWZ	**Matawai**	**5.10**	**204**	P	**Pn**	**16 22 02.8**	**+0.1**
URZ	**Urewera**	**5.18**	**208**	Pn	**Pn**	**16 22 02.7**	**-1.1**
	5.1nm,0.3s,baz=36,slow=2.1,SNR=31						
URZ				Sn	**Sn**	**16 23 00.5**	**-1.8**
	1.7nm,0.3s,baz=340,slow=23,SNR=1.0 16nm,0.4s						
URZ	**Urewera**	**5.18**	**208**	P	**Pn**	**16 22 03.4**	**-0.4**
RAGZ	**Rawiri**	**5.28**	**204**	P	**Pn**	**16 22 06.0**	**+0.8**
TOZ	**Tahuroa Road**	**5.54**	**222**		**Pn**	**16 22 07.9**	**-0.8**
RTZ	**Ruatahuna**	**5.54**	**207**		**Pn**	**16 22 08.6**	**-0.3**
SNGZ	**Shannon Statio**	**5.56**	**204**	P	**Pn**	**16 22 09.3**	**+0.2**
BKZ	**Black Stump Fm**	**6.21**	**208**	Pn	**Pn**	**16 22 16.7**	**-1.3**
BFZ	**Birch Farm**	**7.64**	**203**	Pn	**Pn**	**16 22 34.4**	**-3.2**
MRZ	**Mangatainoka R**	**7.86**	**207**	Pn	**Pn**	**16 22 36.4**	**-4.1**
KHZ	**Kahutara**	**10.15**	**209**	Pn	**Pn**	**16 23 08.3**	**-3.6**
MARNC	**Mare, Loyalty**	**16.24**	**315**	Pn	**Pn**	**16 24 34.0**	**-0.2**
OUENC	**Ouen Island, N**	**16.26**	**310**	P	**P**	**16 24 36.0**	**-1.3**
OUENC				IAmb	IAmb	16 24 39.3	
	comp=Z,31nm,1.1s						
DZM	**Mont Dzumac**	**16.77**	**310**	LR	LR	16 29 32.6	
	comp=Z,247nm,19.0s,baz=82,slow=32						
EIDS	**Eidsvold**	**26.58**	**280**	P	**P**	**16 26 23.7**	**0.0**
EIDS				IAmb	IAmb	16 26 47.1	
	comp=Z,9.7nm,1.1s						
AS31	**Alice Springs**	**41.52**	**271**	P	**P**	**16 28 32.8**	**-0.1**
AS31				IAmb	IAmb	16 28 42.6	
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**41.52**	**271**	P	**P**	**16 28 33.8**	**+0.8**
ASAR	**Alice Springs**	**41.52**	**271**	P	**P**	**16 28 32.7**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=111,slow=7.7,SNR=15 comp=Z,1.5nm,0.8s						
WR0	**Warramunga Arr**	**42.64**	**277**	P	**P**	**16 28 42.7**	**+0.6**
WR0				IAmb	IAmb	16 28 44.4	
	comp=Z,10nm,1.1s						
WB2	**Warramunga Arr**	**42.80**	**277**	P	**P**	**16 28 44.9**	**+1.5**
WB2				IAmb	IAmb	16 28 53.5	
	comp=Z,9.6nm,1.1s						
WRA	**Warramunga Arr**	**42.81**	**277**	P	**P**	**16 28 44.3**	**+0.8**
WRA	**Warramunga Arr**	**42.81**	**277**	P	**P**	**16 28 44.7**	**+1.3**
	comp=Z,1.9nm,0.7s,baz=116,slow=8.1,SNR=16 comp=Z,1.9nm,0.7s						
QSPA	**South Pole Qui**	**56.41**	**180**	P	**P**	**16 30 29.2**	**+2.7**
QSPA	**South Pole Qui**	**56.41**	**180**	P	**P**	**16 30 30.3**	**+3.7**
	comp=Z,2.4nm,0.6s,baz=63,slow=2.3,SNR=18 comp=Z,2.4nm,0.6s						
H03S2	**Juan Fernandez**	**79.92**	**124**	T	T	18 01 23.2	
	baz=234,slow=74,SNR=5.7						
H03S1	**Juan Fernandez**	**79.93**	**124**	T	T	18 01 18.4	
	baz=234,slow=74,SNR=3.8						
H03S3	**Juan Fernandez**	**79.94**	**124**	T	T	18 01 18.3	
	baz=234,slow=74,SNR=5.3						
H03N3	**Juan Fernandez**	**80.13**	**124**	T	T	18 01 30.3	
	baz=238,slow=72,SNR=54						
H03N2	**Juan Fernandez**	**80.14**	**124**	T	T	18 01 28.9	
	baz=238,slow=72,SNR=31						
H03N1	**Juan Fernandez**	**80.15**	**124**	T	T	18 01 28.9	
	baz=238,slow=72,SNR=54						
CMAR	**Chiang Mai Arr**	**93.06**	**290**	LR	LR	17 18 27.2	
	comp=Z,11nm,19.2s,baz=45,slow=37						
FINES	**FINESS Array B**	**147.64**	**337**	PKPbc	**PKiKP**	**16 40 30.8**	**+0.1**
	comp=Z,2.5nm,1.0s,baz=64,slow=6.3,SNR=2.3						

*NEIC **23** 16:24:32.8±2.1,2°.38N±0°.02×128°.7E±0°.1,h222km±9km, mb4.0/27,Error ellipse: s-maj=17.5km s-min=3.0km az=87.0*

*IDC **23** 16:24:33.5±2.6,2°.42N×128°.70E,h235km±25km,mb3.5/14, mbtmp4.1/15,Error ellipse: s-maj=30.1km s-min=10.2km az=71.0*

*DJA **23** 16:24:33.0±1.3,2°.N±9°×12°8E±°,h253km±20km,M3.9/7, MLv3.9/7*

ISC 23 16:24:29.9±0.5,2°.48N±0°.07×128°.8E±0°.1,h200km,n61, σ1$51/61,mb4.0/26,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.19**	**219**	P	**Pn**	**16 25 14.0**	**+3.5**
TNTI	**Ternate**	**2.19**	**219**		**Pn**	**16 25 13.4**	**+2.9**
TNTI	**Ternate**	**2.19**	**219**	P	**Pn**	**16 25 13.2**	**+2.7**
LBMI	**Labuha**	**3.34**	**202**	P	**Pn**	**16 25 26.2**	**+2.5**
SGSI	**Sangihe**	**3.44**	**290**	P	**Pn**	**16 25 27.3**	**+2.5**
SANI	**Sanana**	**5.29**	**212**	P	**Pn**	**16 25 47.8**	**-0.2**
SANI	**Sanana**	**5.29**	**212**	P	**Pn**	**16 25 46.6**	**-1.4**
FAKI	**Fak Fak**	**6.40**	**147**	P	Pn	16 26 07.9	+5.4
FAKI	**Fak Fak**	**6.40**	**147**	Pn	**Pn**	**16 26 04.1**	**+1.7**
LUWI	**Luwuk**	**6.93**	**240**	P	**Pn**	**16 26 13.2**	**+3.9**
SOEI	**Soe**	**12.95**	**200**	P	**Pn**	**16 27 28.1**	**+1.0**
SOEI	**Soe**	**12.95**	**200**	Pn	**Pn**	**16 27 27.8**	**+0.7**
BATI	**Baumata**	**13.59**	**202**	P	**Pn**	**16 27 36.5**	**+1.6**
	12nm,0.4s,baz=45,slow=10.0,SNR=5.4						
DRS	**Darwin Rock St**	**14.97**	**172**	P	**Pn**	**16 27 52.7**	**+0.8**
MTN	**Manton Dam**	**15.41**	**171**	P	**Pn**	**16 27 57.5**	**+0.3**
MTN	**Manton Dam**	**15.41**	**171**		**Pn**	**16 27 57.2**	**0.0**
MTN				IAmb	IAmb	16 28 14.5	
	comp=Z,7.5nm,0.8s						
KDU	**Kakadu**	**15.52**	**166**	P	**Pn**	**16 27 59.6**	**+1.1**
FITZ	**Fitzroy Crossi**	**20.68**	**188**	P	**P**	**16 28 51.9**	**-2.8**
FITZ				IAmb	IAmb	16 29 07.8	
	comp=Z,2.0nm,1.1s						
TPUB	**Ta-pu**	**22.14**	**340**	P	**P**	**16 29 08.2**	**-1.4**
TPUB				IAmb	IAmb	16 29 25.8	
	comp=Z,5.4nm,0.9s						
SSLB	**Suanglung**	**22.48**	**341**	P	**P**	**16 29 10.6**	**-2.2**
WB0	**Warramunga Arr**	**22.79**	**166**	P	**P**	**16 29 15.8**	**+0.2**
WB0				IAmb	IAmb	16 29 31.7	
	comp=Z,6.3nm,1.1s						
WRA	**Warramunga Arr**	**22.95**	**166**	P	**P**	**16 29 15.7**	**-1.3**
WRA	**Warramunga Arr**	**22.95**	**166**	P	**P**	**16 29 17.0**	**0.0**
	comp=Z,2.1nm,0.3s,baz=334,slow=11,SNR=63 comp=Z,2.1nm,0.3s						
WB2	**Warramunga Arr**	**22.95**	**166**	P	**P**	**16 29 18.1**	**+1.1**
WB2				IAmb	IAmb	16 29 37.1	
	comp=Z,10nm,1.1s						
WR0	**Warramunga Arr**	**23.02**	**166**	P	**P**	**16 29 17.9**	**+0.3**
WR0				IAmb	IAmb	16 29 34.4	
	comp=Z,4.9nm,1.0s						
AS31	**Alice Springs**	**26.47**	**169**	P	**P**	**16 29 49.0**	**+0.2**
ASAR	**Alice Springs**	**26.47**	**169**	P	**P**	**16 29 48.2**	**-0.6**
ASAR	**Alice Springs**	**26.47**	**169**	P	**P**	**16 29 48.6**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=352,slow=7.6,SNR=36						
ASAR				PcP	**PcP**	**16 33 08.4**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=356,slow=2.2,SNR=7.6						
ASAR				ScP	**ScP**	**16 36 25.9**	**-3.9**
	comp=Z,0.4nm,0.9s,baz=344,slow=3.3,SNR=4.9 comp=Z,1.3nm,0.6s						
GSI	**Gunungsitoli**	**31.18**	**268**	P	**P**	**16 30 29.2**	**-1.5**
PHRA	**Phrae**	**32.16**	**302**	P	**P**	**16 30 37.9**	**-1.2**
FORT	**Forrest**	**33.08**	**181**	P	**P**	**16 30 46.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**33.24**	**301**	P	**P**	**16 30 49.6**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=120,slow=7.5,SNR=10 comp=Z,1.2nm,0.8s						
KSRS	**Korea Array**	**34.81**	**359**	P	**P**	**16 31 03.0**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=176,slow=9.8,SNR=5.4 comp=Z,0.7nm,0.5s						
BBOO	**Buckleboo**	**35.78**	**169**	P	**P**	**16 31 09.9**	**-0.1**
BBOO				IAmb	IAmb	16 31 23.9	
	comp=Z,4.2nm,0.9s						
STKA	**Stephens Creek**	**36.28**	**161**	P	**P**	**16 31 13.2**	**-1.2**
STKA	**Stephens Creek**	**36.28**	**161**	P	**P**	**16 31 14.5**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=343,slow=10,SNR=5.6 comp=Z,0.9nm,0.3s						
ARMA	**Armidale**	**39.33**	**148**	P	P	16 31 38.1	-1.9
ARMA				IAmb	IAmb	16 31 41.8	
	comp=Z,11nm,1.1s						
USRK	**Ussuriysk Ar.**	**41.64**	**4**	P	**P**	**16 31 59.6**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=137,slow=11,SNR=2.6 comp=Z,0.8nm,0.7s						
SONM	**Songino Array**	**49.13**	**340**	P	**P**	**16 32 58.4**	**+0.9**
SONM	**Songino Array**	**49.13**	**340**	P	**P**	**16 32 58.3**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=145,slow=8.1,SNR=4.3						
SONM				PcP	**PcP**	**16 34 17.2**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=184,slow=2.9,SNR=2.5 comp=Z,0.6nm,0.7s						
MK31	**Makanchi Array**	**59.73**	**325**	P	**P**	**16 34 13.8**	**+0.1**
MK31				IAmb	IAmb	16 34 14.6	
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**59.73**	**325**	P	**P**	**16 34 13.7**	**0.0**
	comp=Z,1.5nm,0.4s,baz=115,slow=8.1,SNR=47 comp=Z,1.5nm,0.4s						
MAKZ	**Makanchi**	**59.92**	**325**	P	**P**	**16 34 14.8**	**-0.2**
MAKZ				IAmb	IAmb	16 34 15.8	
	comp=Z,1.8nm,0.6s						
ZALV	**Zalesovo Beam**	**62.62**	**332**	P	**P**	**16 34 31.9**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=132,slow=8.4,SNR=2.5 comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**63.88**	**327**	P	**P**	**16 34 41.0**	**-0.2**
	comp=Z,3.2nm,0.5s,baz=127,slow=6.1,SNR=29 comp=Z,3.2nm,0.5s						
KURK	**Kurchatov**	**63.88**	**327**	P	**P**	**16 34 41.1**	**-0.1**
BVAR	**Borovoye Array**	**69.46**	**327**	P	**P**	**16 35 16.1**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=134,slow=11,SNR=5.2 comp=Z,1.5nm,0.7s						
J16K	**Anvik River**	**79.16**	**26**	P	**P**	**16 36 12.1**	**-0.1**
L16K	**Owhat River**	**79.24**	**27**	P	**P**	**16 36 12.3**	**-0.4**
H17K	**Granite Mounta**	**79.91**	**24**	P	**P**	**16 36 17.6**	**+1.3**
H17K				IAmb	IAmb	16 36 36.5	
	comp=Z,2.0nm,1.1s						
C18K	**Utukok River**	**80.51**	**20**		**P**	**16 36 20.6**	**+1.2**
TTA	**Tatalina**	**81.10**	**27**	P	**P**	**16 36 24.4**	**+1.6**
G19K	**Purcell Mounta**	**81.36**	**23**	P	**P**	**16 36 25.3**	**+1.3**
D19K	**Kuna River**	**81.55**	**21**	P	**P**	**16 36 26.8**	**+1.8**
D19K				IAmb	IAmb	16 36 28.8	
	comp=Z,2.3nm,0.8s						
KDAK	**Kodiak Island**	**81.86**	**32**	P	**P**	**16 36 28.8**	**+2.1**
KDAK				IAmb	IAmb	16 36 43.3	
	comp=Z,4.4nm,1.0s						
E22K	**Anaktuvuk Pass**	**83.77**	**22**	P	**P**	**16 36 36.6**	**+0.2**
C23K	**Itkillik River**	**84.45**	**20**	P	**P**	**16 36 41.4**	**+1.7**
C23K				IAmb	IAmb	16 36 51.4	
	comp=Z,3.1nm,1.1s						
ILAR	**Eielson Array**	**85.36**	**25**	P	**P**	**16 36 44.8**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=234,slow=5.1,SNR=4.7 comp=Z,0.1nm,0.4s						
BERG	**Berg Lake**	**86.64**	**30**	P	**P**	**16 36 52.0**	**+1.3**
ARCES	**ARCESS Array B**	**92.31**	**340**	P	**P**	**16 37 15.8**	**-1.3**
	comp=Z,5.5nm,1.0s,baz=74,slow=6.7,SNR=1.6 comp=Z,5.5nm,1.0s						
FINES	**FINESS Array B**	**93.88**	**332**	P	P	16 37 22.6	-1.8
	comp=Z,1.2nm,0.8s,baz=56,slow=3.5,SNR=1.8 comp=Z,1.2nm,0.8s						

IDC 23 16:34:21.1±2.1,8°.42S×129°.49E,h0km,mb3.3/1, mbtmp3.1/3,ML2.7/2,Error ellipse: s-maj=103.7km s-min=33.1km az=66.0,Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**12.38**	**158**	Pn	Pn	16 37 19.7	+1.0
	0.1nm,0.3s,baz=337,slow=14,SNR=9.8						
WRA				Sn	Sn	16 39 30.7	-6.8
	0.1nm,0.3s,baz=326,slow=29,SNR=7.1 0.5nm,0.8s						
ASAR	**Alice Springs**	**15.74**	**165**	Pn	Pn	16 38 02.8	-1.4
	baz=344,slow=10.0,SNR=1.0						
ASAR				Sn	Sn	16 40 54.9	-4.6
	baz=357,slow=24,SNR=1.3 0.1nm,0.4s						
MKAR	**Makanchi Array**	**69.14**	**327**	P	P	16 45 29.3	0.0
	0.1nm,0.4s,baz=123,slow=5.3,SNR=4.1 0.1nm,0.4s						

IDC 23 16:39:43.5±54.0,19°.28S×175°.93W,h0km,mb3.9/3, mbtmp3.9/3,MS3.5/3,Error ellipse: s-maj=1014.0km s-min=174.9km az=82.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**25.30**	**289**	LR	LR	16 54 34.6	
	comp=Z,425nm,18.4s,baz=113,slow=35						
PMG	**Port Moresby**	**37.01**	**280**	LR	LR	16 58 44.6	
	comp=Z,47nm,19.7s,baz=168,slow=31						
STKA	**Stephens Creek**	**40.07**	**243**	P	P	16 47 20.4	-0.4
	0.8nm,0.5s,baz=82,slow=15,SNR=1.9 0.8nm,0.5s						
ASAR	**Alice Springs**	**46.70**	**255**	P	P	16 48 14.5	0.0
	0.7nm,0.5s,baz=89,slow=8.5,SNR=8.1						
ASAR				LR	LR	17 06 45.9	
	comp=Z,17nm,18.5s,baz=98,slow=35 0.7nm,0.5s						
WRA	**Warramunga Arr**	**46.71**	**260**	P	P	16 48 14.4	-0.1
	0.8nm,0.3s,baz=98,slow=7.3,SNR=11 0.8nm,0.3s						

IDC 23 16:40:40.4±1.6,5°.68S×142°.14E,h0km,mb3.8/2, mbtmp3.6/5,ML3.5/2,MS3.3/1,Error ellipse: s-maj=49.5km s-min=29.2km az=77.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.20**	**127**	Pn	Pn	16 42 13.5	+0.2
	2.0nm,0.4s,baz=343,slow=14,SNR=1.4						
WRA	**Warramunga Arr**	**16.07**	**207**	Pn	Pn	16 44 26.1	-1.9
	0.2nm,0.3s,baz=27,slow=13,SNR=17						
WRA				Sn	Sn	16 47 13.2	-14
	0.1nm,0.3s,baz=22,slow=36,SNR=2.0						
WRA				Lg	Lg	16 49 05.8	
	baz=29,slow=27,SNR=2.1 0.3nm,0.3s						
ASAR	**Alice Springs**	**19.56**	**203**	P	Pn	16 45 10.7	-0.5
	0.1nm,0.3s,baz=35,slow=10,SNR=15						
ASAR				Sn	Sn	16 48 41.1	-10
	baz=25,slow=32,SNR=1.7						
ASAR				Lg	Lg	16 50 51.0	
	baz=28,slow=32,SNR=2.1						
ASAR				LR	LR	16 52 25.3	
	comp=Z,94nm,20.2s,baz=124,slow=36 1.0nm,0.8s						
MKAR	**Makanchi Array**	**74.22**	**322**	P	P	16 52 20.2	+0.9
	0.3nm,0.4s,baz=106,slow=7.4,SNR=6.4 0.3nm,0.4s						
BVAR	**Borovoye Array**	**83.69**	**325**	P	P	16 53 09.6	-1.5
	0.8nm,0.6s,baz=122,slow=7.0,SNR=2.6 0.8nm,0.6s						

*IPEC **23** 17:01:25.4±0.2,51°.63N×16°.10E,h1km,ML2.4/5,Error ellipse: s-maj=2.0km s-min=1.2km az=35.0*

*DNK **23** 17:01:25.4±1.7,51°.45N×16°.18E,h44km±24km,ML1.9*

*IDC **23** 17:01:27.3±0.8,51°.56N×15°.90E,h0km,mbtmp3.0/5, ML2.6/5,Error ellipse: s-maj=11.6km s-min=7.1km az=106.0*

*PRU **23** 17:01:28.4,51°.50N×15°.99E,h0km*

ISC 23 17:01:24.4±0.8,51°.68N±0°.03×16°.10E±0°.03,h0km,n32, σ1$02/64,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHVC	**Chvalec**	**1.09**	**182**	*e*PG	**Pg**	**17 01 45.3**	**0.0**
CHVC				*e*SG	**Sg**	**17 01 58.5**	**-1.0**
OSTC	**Ostas**	**1.13**	**176**	*e*PG	**Pg**	**17 01 46.1**	**+0.1**
OSTC				*e*SG	**Sg**	**17 01 59.3**	**-1.3**
	comp=Z,82nm,0.3s						
UPC	**Upice**	**1.18**	**183**	*e*PG	**Pg**	**17 01 46.9**	**0.0**
UPC				*e*SG	**Sg**	**17 02 00.1**	**-2.0**
	comp=Z,141nm,0.3s						
DPC	**Dobruska-Polom**	**1.34**	**174**	*e*PG	**Pg**	**17 01 49.5**	**-0.5**
DPC				*e*SG	**Sg**	**17 02 06.4**	**-1.0**
	comp=Z,30nm,0.2s						
PVCC	**Panska Ves**	**1.50**	**221**	*e*PG	**Pn**	**17 01 52.3**	**-0.3**
PVCC				*e*SG	**Sg**	**17 02 11.5**	**-1.2**
BRG	**Berggiesshubel**	**1.58**	**240**	Pg	**Pn**	**17 01 54.3**	**+0.7**
BRG				Sg	**Sn**	**17 02 13.9**	**-0.8**
BRG				Amp		17 02 15.4	
	comp=Z,66nm,0.4s						
KRLC	**Kraliky**	**1.66**	**165**	*e*Pn	**Pn**	**17 01 54.8**	**0.0**
KRLC				*e*SG	**Sn**	**17 02 15.8**	**-1.1**
GOPC	**GO Pecny, Ondr**	**1.96**	**206**	*e*SG	**Sb**	**17 02 24.8**	**-1.0**
PRU	**Pruhonice**	**1.96**	**211**	*e*PG	**Pn**	**17 01 58.6**	**-0.3**
PRU				*e*SG	**Sn**	**17 02 24.1**	**-0.1**
	comp=Z,35nm,0.6s						
CLL	**Collm**	**1.97**	**260**	*i* Pn	**Pn**	**17 01 58.6**	**-0.4**
	comp=Z,11nm,0.4s						
CLL				*ex*	x	17 02 04.0	
CLL				*i* x	x	17 02 05.7	
CLL				*ex*	x	17 02 22.0	
CLL				*i* Sg	**Sb**	**17 02 26.3**	**+0.1**
	comp=Z,20nm,0.6s						
HSKC	**Hora Svate Kat**	**2.00**	**238**	*e*PG	**Pn**	**17 02 00.3**	**+0.9**
HSKC				*e*SG	**Sn**	**17 02 25.9**	**+0.8**
	comp=Z,36nm,0.5s						
MORC	**Moravsky Berou**	**2.12**	**154**	*e*Pn	**Pn**	**17 02 01.0**	**0.0**
	baz=334						
MORC				*e*Sg	**Sb**	**17 02 30.2**	**-0.2**
	comp=Z,19nm,0.4s,baz=334						
OKC	**Ostrava-Krasne**	**2.26**	**144**	*e*SG	**Sg**	**17 02 35.5**	**-1.3**
VRAC	**Vranov**	**2.40**	**172**	*e*Pn	**Pn**	**17 02 04.8**	**-0.1**
	baz=352						
VRAC				*e*Sg	**Sb**	**17 02 38.8**	**+0.4**
	comp=Z,18nm,0.4s,baz=352						
VRAC	**Vranov**	**2.40**	**172**	Pn	**Pn**	**17 02 05.9**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=342,slow=12,SNR=9.4						
VRAC				Pg	**Pg**	**17 02 10.2**	**0.0**
	comp=Z,1.9nm,0.3s,baz=347,slow=16,SNR=7.6						
VRAC				Sn	**Sn**	**17 02 34.5**	**-0.4**
	comp=Z,1.7nm,0.3s,baz=250,slow=22,SNR=4.1						
VRAC				Lg	Lg	17 02 40.0	
	comp=Z,4.2nm,0.3s,baz=254,slow=12,SNR=9.4 comp=Z,2.6nm,0.2s						
KRUC	**Moravsky**	**2.63**	**176**	*e*Pn	**Pn**	**17 02 08.2**	**+0.1**
	baz=356						
KRUC				*e*Sg	**Sb**	**17 02 45.8**	**+0.7**
	comp=Z,14nm,0.4s,baz=356						
NKC	**Novy Kostel**	**2.73**	**239**	*e*PN	**Pn**	**17 02 09.6**	**+0.2**
NKC				*e*PG	**Pb**	**17 02 15.4**	**+1.4**
NKC				*e*SG	**Sb**	**17 02 48.8**	**+0.8**
	comp=Z,47nm,0.8s						
JAVC	**Velka Javorina**	**3.00**	**160**	*e*Pn	**Pn**	**17 02 13.1**	**-0.1**
	baz=341						
KHC	**Kasperske Hory**	**3.02**	**213**	*e*PN	**Pn**	**17 02 13.7**	**+0.2**
KHC				*e*PG	**Pb**	**17 02 19.6**	**+0.6**
KHC				*e*SN	**Sn**	**17 02 48.9**	**-1.4**
KHC				*e*SG	**Sb**	**17 02 57.5**	**+1.1**
	comp=Z,14nm,0.3s						
CKRC	**Cesky Krumlov**	**3.09**	**203**	*e*PN	**Pn**	**17 02 14.3**	**-0.1**
CKRC				*e*PG	**Pb**	**17 02 20.6**	**+0.5**
CKRC				*e*SG	**Sb**	**17 02 59.4**	**+1.1**
	comp=Z,18nm,0.5s						
GERES	**GERESS Array B**	**3.23**	**209**	Pn	**Pn**	**17 02 17.1**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=33,slow=14,SNR=14						
GERES				Pg	**Pb**	**17 02 23.5**	**+0.9**
	comp=Z,1.6nm,0.3s,baz=31,slow=18,SNR=14						
GERES				Sn	**Sn**	**17 02 54.1**	**-1.5**
	comp=Z,1.6nm,0.3s,baz=31,slow=21,SNR=5.4						
GERES				Lg	Lg	17 03 03.9	
	comp=Z,4.8nm,0.3s,baz=27,slow=27,SNR=11 comp=Z,1.6nm,0.4s						
LANS	**Liptovska Anna**	**3.32**	**138**	*e*SG	**Sg**	**17 03 11.0**	**-0.1**
MODS	**Modra-Piesok**	**3.40**	**167**	*e*SG	**Sg**	**17 03 12.9**	**-0.5**
BSD	**Bornholm Skovb**	**3.51**	**349**	*i* P	**Pn**	**17 02 21.0**	**+0.8**
BSD				*i* S	**Sn**	**17 03 01.0**	**-1.4**
BSD				IAML		17 03 06.1	
	comp=Z,1.2nm,0.2s						
VYHS	**Vyhne**	**3.64**	**150**	*e*PN	**Pn**	**17 02 22.3**	**+0.3**
VYHS				*e*PG	**

GCG4 *i* S **Sn** **17 16 58.2 +0.8**
GCG4 IAML 17 17 08.8
comp=Z,21µm,1.0s
NBG Las Nubes 0.97 74 ⇓ *i*P **Pn** **17 16 45.9 +1.0**
NBG *e*S **Sn** **17 17 01.7 +1.1**
GUNB GUNB 0.97 74 ⇑ *i*P **Pn** **17 16 44.7 -0.3**
GUNB *i* S **Sn** **17 17 01.2 +0.5**
GUNB IAML 17 17 02.1
comp=Z,10µm,1.0s
QUIS Sacapulas 0.99 12 ⇑ *i*P **Pn** **17 16 45.4 +0.4**
QUIS IAML 17 16 45.7
comp=Z,40µm,1.0s
QUIS *i* S **Sn** **17 17 01.7 +1.0**
HUEH Huehuetenango 1.01 349 *e*P **Pn** **17 16 45.7 +0.3**
HUEH Huehuetenango 1.01 349 *e*P **Pn** **17 16 45.7 +0.3**
HUEH Huehuetenango 1.01 349 ⇓ *i*P **Pn** **17 16 45.6 +0.3**
HUEH IAML 17 16 45.9
comp=Z,42µm,1.0s
HUEH *i* S **Sn** **17 17 02.4 +1.1**
APG El Apazote 1.06 50 P **Pn** **17 16 45.8 0.0**
comp=Z,60nm,0.4s,baz=185,slow=11,SNR=541
APG S **Sn** **17 17 01.9 -0.4**
comp=Z,237nm,0.7s,baz=211,slow=15,SNR=25
SLOZ Alcaldia de Sa 1.51 101 *e*P **Pn** **17 16 49.9 -0.9**
SLOZ *e*S **Sn** **17 17 07.5 -3.6**
LOAL Lomas de Alarc 1.52 102 *e*P **Pn** **17 16 50.1 -0.8**
LOAL Lomas de Alarc 1.52 102 ⇑ *i*P **Pn** **17 16 50.4 -0.5**
LOAL *i* S **Sn** **17 17 11.7 +0.4**
LOAL IAML 17 17 17.7
comp=Z,17µm,1.0s
NUBE Las Nubes 1.54 105 *e*P **Pn** **17 16 50.5 -0.8**
NUBE *e*S **Sn** **17 17 08.3 -3.7**
NUBE Las Nubes 1.54 105 ⇓ *i*P **Pn** **17 16 50.5 -0.8**
NUBE *i* S **Sn** **17 17 11.3 -0.7**
NUBE IAML 17 17 16.1
comp=Z,10µm,1.0s
JUAM Asuncion Mita 1.56 89 *i*P **Sn** **17 16 51.1 -0.2**
JUAM *i* S **Sn** **17 17 12.0 -0.1**
JUAM IAML 17 17 23.9
comp=Z,4µm,1.0s
RTR El Retiro 1.67 104 *e*P **Pn** **17 16 52.3 -0.6**
SBLS San Blas 1.71 106 *e*P **Pn** **17 16 53.0 -0.4**
CEVE Cerro Verde 1.71 106 *e*P **Pn** **17 16 53.0 -0.4**
CEVE IAML 17 17 20.1
comp=Z,17µm,0.3s
CEVE Cerro Verde 1.71 106 ⇑ *i*P **Pn** **17 16 53.0 -0.4**
CEVE *i* S **Sn** **17 17 18.1 +2.3**
CEVE IAML 17 17 19.9
comp=Z,21µm,1.0s
SNJE San Jose 1.71 105 *e*P **Pn** **17 16 52.9 -0.5**
UNIC Universidad Ca 1.74 101 *i*P **Pn** **17 16 52.9 -0.8**
UNIC *i* S **Sn** **17 17 14.8 -1.4**
UNIC IAML 17 17 21.8
comp=Z,2µm,1.0s
MRL Marmol 1.75 64 ⇑ *i*P **Pn** **17 16 55.0 +1.1**
MRL *e*S **Sn** **17 17 16.4 -0.2**
ESQI Esquipulas 1.92 83 **Pn** **17 16 55.6 -0.4**
ESQI Esquipulas 1.92 83 *e*P **Pn** **17 16 54.7 -1.3**
ESQI *e*S **Sn** **17 17 16.7 -3.6**
ESQI Esquipulas 1.92 83 ⇑ *i*P **Pn** **17 16 56.0 0.0**
ESQI *i* S **Sn** **17 17 20.1 -0.2**
ESQI IAML 17 17 21.9
comp=Z,4µm,1.0s
JAYA Jayaque - finc 1.93 110 *e*P **Pn** **17 16 55.3 -0.8**
JAYA IAML 17 17 23.2
comp=Z,8µm,0.3s
JAYA Jayaque - finc 1.93 110 ⇓ *i*P **Pn** **17 16 55.3 -0.8**
JAYA *i* S **Sn** **17 17 19.4 -1.1**
JAYA IAML 17 17 22.5
comp=Z,20µm,1.0s
CEDA San Andres 1.93 105 *e*P **Pn** **17 16 55.3 -0.7**
CEDA IAML 17 17 35.2
comp=Z,6µm,0.7s
PMON Piamonte 2.03 107 *e*P **Pn** **17 16 56.9 -0.5**
PMON Piamonte 2.03 107 ⇓ *i*P **Pn** **17 16 57.1 -0.3**
PMON IAML 17 17 32.3
comp=Z,11µm,1.0s
QUEZ Alcaldia de Qu 2.04 103 *i*P **Pn** **17 16 57.1 -0.3**
QUEZ *i* S **Sn** **17 17 24.3 +1.5**
QUEZ IAML 17 17 36.6
comp=Z,8µm,1.0s
BOQS Boqueron 2.06 106 *e*P **Pn** **17 16 57.3 -0.5**
MAGS Ministerio de 2.06 108 *e*P **Pn** **17 16 57.5 -0.3**
PIC2 El Picacho 2.07 106 *e*P **Pn** **17 16 57.8 -0.3**
ITCA Escuela Especi 2.08 108 *i*P **Pn** **17 16 58.0 +0.1**
ITCA *i* S **Sn** **17 17 23.2 -0.6**
ITCA IAML 17 17 39.3
comp=Z,16µm,1.0s
UEES Universidad Ev 2.10 106 *i*P **Pn** **17 16 58.3 +0.1**
UEES *i* S **Sn** **17 17 23.9 -0.4**
UEES IAML 17 17 34.3
comp=Z,3µm,1.0s
LALI Alcalda de L 2.10 113 *e*P **Pn** **17 16 57.7 -0.5**
LALI Alcalda de L 2.10 113 ⇓ *i*P **Pn** **17 16 57.9 -0.3**
LALI *i* S **Sn** **17 17 23.7 -0.6**
LALI IAML 17 17 28.5
comp=Z,2µm,1.0s
CCIG Comitan 2.11 338 **Pn** **17 16 59.7 +1.2**
CCIG Comitan 2.11 338 ⇓ *i*P **Pn** **17 16 59.9 +1.5**
CCIG IAML 17 17 00.4
comp=Z,6µm,1.0s
SNET Serv Nac Est T 2.11 107 **Pn** **17 16 58.1 -0.3**
SNET Serv Nac Est T 2.11 107 *e*P **Pn** **17 16 58.4 0.0**
SNET Serv Nac Est T 2.11 107 *i*P **Pn** **17 16 58.9 +0.5**
SNET *i* S **Sn** **17 17 24.4 -0.3**
SNET IAML 17 17 28.9
comp=Z,10µm,1.0s
IGN Direccin Gen 2.16 106 *e*P **Pn** **17 16 58.8 -0.2**
IGN Direccin Gen 2.16 106 ⇑ *i*P **Pn** **17 16 58.7 -0.3**
IGN *i* S **Sn** **17 17 28.9 +3.1**
IGN IAML 17 17 33.6
comp=Z,13µm,1.0s
UDBS Universidad Do 2.18 106 *i*P **Pn** **17 16 59.0 -0.2**
UDBS *i* S **Sn** **17 17 28.1 +2.0**
UDBS IAML 17 17 30.6
comp=Z,4µm,1.0s
LOMA Loma Larga 2.18 108 *e*P **Pn** **17 16 59.0 -0.3**
LOMA IAML 17 17 31.5
comp=Z,7µm,0.4s
LOMA Loma Larga 2.18 108 ⇑ *i*P **Pn** **17 16 59.2 -0.2**
LOMA *i* S **Sn** **17 17 27.9 +1.5**
LOMA IAML 17 17 30.9
comp=Z,8µm,1.0s
PANCS Alcalda de 2.19 109 *e*P **Pn** **17 16 59.4 0.0**
PANCS Alcalda de 2.19 109 *i*P **Pn** **17 16 58.8 -0.5**
PANCS *i* S **Sn** **17 17 26.3 0.0**
PANCS IAML 17 17 29.9
comp=Z,17µm,1.0s
LFU La Fuente 2.21 105 *e*P **Pn** **17 16 59.3 -0.3**
LFRS El Faro 2.29 107 *e*P **Pn** **17 17 01.1 +0.4**
SJTE Alcalda de S 2.34 107 *e*P **Pn** **17 17 00.9 -0.5**
SJTE Alcalda de S 2.34 107 ⇑ *i*P **Pn** **17 17 00.9 -0.5**
SJTE *i* S **Sn** **17 17 30.4 +0.4**
SJTE IAML 17 17 36.8
comp=Z,2µm,1.0s
PAVA Las Pavas 2.38 104 *e*P **Pn** **17 17 01.5 -0.4**
PAVA Las Pavas 2.38 104 ⇓ *i*P **Pn** **17 17 01.6 -0.4**
PAVA IAML 17 17 02.3
comp=Z,4µm,1.0s
PAVA *i* S **Sn** **17 17 31.1 +0.2**
COEG Centro de Oper 2.46 106 *e*P **Pn** **17 17 02.4 -0.5**
COEG Centro de Oper 2.46 106 ⇑ *i*P **Pn** **17 17 02.7 -0.2**
COEG *i* S **Sn** **17 17 35.0 +2.3**
COEG IAML 17 17 41.4
comp=Z,2µm,1.0s
SNVI San Vicente 2.50 106 *e*P **Pn** **17 17 03.2 -0.3**
UESV Universidad de 2.54 105 ⇑ *i*P **Pn** **17 17 03.8 -0.1**
UESV *i* S **Sn** **17 17 38.1 +3.5**
UESV IAML 17 17 44.2
comp=Z,1µm,1.0s
TECO Alcaldia de Te 2.58 107 *e*P **Pn** **17 17 04.1 -0.3**
TECO Alcaldia de Te 2.58 107 ⇑ *i*P **Pn** **17 17 04.2 -0.2**
TECO *i* S **Sn** **17 17 34.7 -0.7**
TECO IAML 17 17 40.9
comp=Z,950nm,1.0s
SCLA Alcaldia de Sa 2.58 103 *e*P **Pn** **17 17 04.4 -0.1**
SCLA Alcaldia de Sa 2.58 103 ⇓ *i*P **Pn** **17 17 04.3 -0.1**
SCLA *i* S **Sn** **17 17 35.4 -0.1**
SCLA IAML 17 17 51.8
comp=Z,840nm,1.0s
TECA Tecapa 2.85 106 *e*P **Pn** **17 17 08.1 0.0**
PETF Flores 2.93 28 *e*P **Pn** **17 17 09.7 +0.6**
PETF Flores 2.93 28 *e*P **Pn** **17 17 09.8 +0.7**
PETF Flores 2.93 28 ⇑ *i*P **Pn** **17 17 09.8 +0.7**
PETF *i* S **Sn** **17 17 45.2 +1.5**
PETF IAML 17 17 45.7
comp=Z,3µm,1.0s
PACA Pacayal 3.02 106 *e*P **Pn** **17 17 11.2 +0.9**
PACA Pacayal 3.02 106 *i*P **Pn** **17 17 11.6 +1.2**
PACA *i* S **Sn** **17 17 46.7 +0.6**
PACA IAML 17 18 03.9
comp=Z,6µm,1.0s
LCY Lacayo 3.06 107 *e*P **Pn** **17 17 11.4 +0.5**
RANC El Ranchito 3.06 106 *e*P **Pn** **17 17 11.0 0.0**
RANC El Ranchito 3.06 106 *i*P **Pn** **17 17 11.3 +0.3**
RANC *i* S **Sn** **17 17 46.5 -0.6**
RANC IAML 17 18 02.5
comp=Z,750nm,1.0s
BLLM Bellamira 3.11 106 *e*P **Pn** **17 17 11.5 +0.1**
JUCU Jucuarn 3.16 109 *e*P **Pn** **17 17 12.7 +0.6**
JUCU Jucuarn 3.16 109 *i*P **Pn** **17 17 12.7 +0.6**
JUCU *i* S **Sn** **17 17 50.6 +1.4**
JUCU IAML 17 18 00.6
comp=Z,760nm,1.0s
LCND La Caada 3.47 106 *e*P **Pn** **17 17 16.5 +0.2**
CNCH Conchagua 3.53 107 *e*P **Pn** **17 17 17.1 -0.1**
CNCH IAML 17 18 13.0
comp=Z,2µm,0.4s
CNCH Conchagua 3.53 107 ⇓ *i*P **Pn** **17 17 17.1 -0.1**
CNCH *i* S **Sn** **17 18 00.9 +2.6**
CNCH IAML 17 18 12.7
comp=Z,2µm,1.0s
POTN Potosi Cosigui 3.92 109 ⇑ *i*P **Pn** **17 17 22.5 +0.2**
POTN *i* S **Sn** **17 18 07.8 +0.3**
POTN IAML 17 18 25.8
comp=Z,130nm,1.0s
TGUH Tegucigalpa,Un 3.92 93 **Pn** **17 17 22.5 0.0**
TGUH Tegucigalpa,Un 3.92 93 *e*P **Pn** **17 17 22.2 -0.3**
CMIG Matias Romero 4.41 309 P **Pn** **17 17 28.2 -0.6**
comp=Z,160nm,0.3s,baz=119,slow=7.9,SNR=627
CMIG S **Sn** **17 18 19.0 -0.2**
comp=Z,130nm,0.4s,baz=95,slow=12,SNR=1.9
CMIG LR LR 17 19 15.9
comp=Z,204nm,21.7s,baz=94,slow=37
CRIN San Cristobal 4.45 111 **Pn** **17 17 30.3 +0.8**
CRIN San Cristobal 4.45 111 *e*P **Pn** **17 17 30.6 +1.1**
CRIN San Cristobal 4.45 111 *i*P **Pn** **17 17 30.5 +1.1**
CRIN *i* S **Sn** **17 18 21.0 +0.8**
PKGN Cerro Pekin 4.52 111 ⇓ *i*P **Pn** **17 17 30.7 +0.3**
PKGN *i* S **Sn** **17 18 18.9 -3.1**
PKGN IAML 17 18 24.9
comp=Z,2µm,1.0s
HERN Volcan Telica 4.68 111 *i*P **Pn** **17 17 32.6 0.0**
HERN *i* S **Sn** **17 18 23.5 -2.3**
CNGN Cerro Negro 4.84 111 **Pn** **17 17 33.7 -1.0**
CNGN Cerro Negro 4.84 111 *i*P **Pn** **17 17 33.9 -0.8**
CNGN *i* S **Sn** **17 18 27.8 -1.9**
LIMN Finca el Limon 4.97 104 ⇓ *i*P **Pn** **17 17 36.5 0.0**
LIMN IVmB_BB 17 17 37.4
comp=Z,3µm,1.0s
LIMN IAML 17 17 37.7
comp=Z,370nm,1.0s
LIMN IAmb IAmb 17 17 37.8
comp=Z,340nm,0.8s
BOAB BOACO BROADBAN 5.80 108 **Pn** **17 17 46.9 -0.8**
ACON Acoyapa 6.42 111 **Pn** **17 17 55.2 -0.9**
TEIG Tepich 6.55 26 Pn **Pn** **17 17 57.5 -0.4**
HZTE Horizontes, Gu 6.63 122 **Pn** **17 17 59.9 +0.8**
ORTG Ortega, Santa 6.94 124 **Pn** **17 18 04.4 +1.1**
ESPN Las Esperanzas 7.14 106 **Pn** **17 18 06.5 +0.6**
JTS Las Juntas de 7.39 122 **Pn** **17 18 09.6 +0.2**
JTS Las Juntas de 7.39 122 P **Pn** **17 18 09.8 +0.4**
comp=Z,32nm,0.3s,baz=283,slow=7.0,SNR=19
JTS S **Sn** **17 19 29.7 -2.0**
comp=Z,11nm,0.4s,baz=255,slow=20,SNR=1.0
ARE1 Arenal 1 7.50 120 **Pn** **17 18 11.0 +0.2**
SOCE Pocosol 7.62 120 **Pn** **17 18 12.6 +0.2**
TLIG Tlapa 7.69 296 Pn **Pn** **17 18 14.6 +1.1**
TLIG Tlapa 7.69 296 *i*P **Pn** **17 18 14.6 +1.1**
TLIG IVmB_BB 17 18 16.6
comp=Z,2µm,1.0s
TLIG IAML 17 18 16.7
comp=Z,180nm,1.0s
TLIG IAmb IAmb 17 18 16.8
comp=Z,110nm,0.5s
JACO JACO, Garabito 7.99 125 **Pn** **17 18 17.9 +0.5**
LCR2 La Lucha 2 8.47 122 **Pn** **17 18 24.9 +0.7**
SRBA San Rafael, Bu 9.28 122 **Pn** **17 18 35.8 +0.7**
DRK0 Durika 9.36 122 **Pn** **17 18 37.1 +0.8**
BRU2 Volcan 10.07 122 **Pn** **17 18 46.4 +0.5**
MOIG Morelia 10.85 301 **Pn** **17 18 58.0 +1.5**
SOR Soroa 11.53 42 **Pn** **17 19 04.5 -0.9**
833A Chaparral WMA, 15.83 333 P **P** **17 20 03.6 +1.1**
833A IAmb IAmb 17 20 05.5
comp=Z,18nm,0.6s
833A Chaparral WMA, 15.83 333 P **P** **17 20 04.0 +1.4**
baz=150
DWPF Disney Wildern 16.51 32 P **P** **17 20 10.1 0.0**
baz=216
553A Crawfordville 17.02 21 P **P** **17 20 17.9 +2.1**
435B Jarrell 17.37 342 P **Pn** **17 20 21.3 +1.5**
baz=159
JCT Junction City 17.88 335 P **Pn** **17 20 27.0 +0.9**
baz=152
250A Grady 18.17 14 P **Pn** **17 20 29.2 -0.3**
250A IAmb IAmb 17 20 31.6
comp=Z,38nm,0.8s
BRDY Brady 18.30 339 P **P** **17 20 30.3 +0.4**
TIGA Tifton 18.45 21 P **P** **17 20 30.4 -1.0**
WHTX Lake Whitney, 18.47 343 P **Pn** **17 20 33.0 0.0**
baz=161
TXAR Lajitas Array 18.81 325 P **P** **17 20 36.4 +0.8**
TXAR Lajitas Array 18.81 325 P **Pn** **17 20 37.4 +0.2**
comp=Z,2.7nm,0.5s,baz=143,slow=11,SNR=46
TXAR S S 17 23 50.7 -13
comp=Z,0.3nm,0.5s,baz=50,slow=33,SNR=1.5
TXAR PcP **PcP** **17 24 59.4 +1.0**
comp=Z,1.8nm,0.8s,baz=184,slow=3.4,SNR=7.4
TX31 Lajitas Ar. Si 18.81 325 P **P** **17 20 35.7 +0.2**
OZNA Ozona 18.83 333 P **Pn** **17 20 37.5 +0.1**
OZNA IAmb IAmb 17 21 01.0
comp=Z,22nm,1.0s
TULM Tulcn-Chalpat 19.02 134 P **Pn** **17 20 39.4 -0.7**
TULM IAmb IAmb 17 20 49.4
comp=Z,30nm,0.9s
LRAL Lakeview Retre 19.04 11 **P** **17 20 38.5 +0.6**
LRAL IAmb IAmb 17 20 43.4
comp=Z,52nm,1.1s
LRAL Lakeview Retre 19.04 11 P **Pn** **17 20 39.4 -0.3**
baz=193,SNR=13
152A Waverly Hall 19.23 17 P **Pn** **17 20 40.9 -1.1**
152A IAmb IAmb 17 20 48.0
comp=Z,37nm,1.3s
ALPN Alpine 19.60 327 P **P** **17 20 44.7 +0.5**
SLOR San Lorenzo - 19.61 139 **P** **17 20 46.0 +1.3**
SLOR IAmb IAmb 17 20 52.8
comp=Z,16nm,0.8s
ABTX Abilene, Hawle 19.74 339 P **P** **17 20 46.3 +0.7**
ABTX IAmb IAmb 17 21 11.9
comp=Z,18nm,0.9s
ABTX Abilene, Hawle 19.74 339 P **P** **17 20 46.8 +1.2**
baz=155
MNHN Monahans 19.93 330 P **Pn** **17 20 49.1 -1.2**
MNHN IAmb IAmb 17 20 50.1
comp=Z,15nm,0.7s
Y49A Blount Mountai 19.95 12 **P** **17 20 48.5 +0.7**
Y49A IAmb IAmb 17 20 50.2
comp=Z,35nm,0.8s
OXF Oxford 20.18 5 P **P** **17 20 50.1 0.0**
baz=185
MIAR Mount Ida 20.24 355 P **P** **17 20 49.8 -1.1**
MIAR Mount Ida 20.24 355 P **P** **17 20 50.3 -0.6**
baz=173,SNR=8.4
LOOK Love County 20.30 346 P **P** **17 20 52.4 +0.9**
LOOK IAmb IAmb 17 21 14.5
comp=Z,52nm,1.2s
GOGA Godfrey 20.30 19 P **P** **17 20 51.2 -0.3**
GOGA Godfrey 20.30 19 P **P** **17 20 52.0 +0.4**
baz=202,SNR=12
UALR University of 20.39 358 P **P** **17 20 52.7 +0.3**
X48A Hartselle 20.41 10 P **P** **17 20 53.2 +0.5**
X37A Clayton 20.51 350 IAmb IAmb 17 21 31.3
comp=Z,50nm,1.4s
Y52A Lilburn 20.54 17 P **P** **17 20 54.2 +0.1**
Y52A IAmb IAmb 17 20 58.0
comp=Z,32nm,0.9s
APMT Aspermont 20.55 339 IAmb IAmb 17 20 55.7
comp=Z,20nm,0.6s
VHRN Van Horn 20.66 325 P **P** **17 20 55.8 +0.2**
FPAL Fort Paine 20.78 13 P **P** **17 20 56.8 0.0**
FPAL IAmb IAmb 17 20 58.6
comp=Z,32nm,0.9s
WHAR Wooly Hollow 20.90 358 IAmb IAmb 17 21 00.6
comp=Z,17nm,0.7s
SDV Santo Domingo 20.95 103 P **P** **17 20 57.1 -1.8**
SDV IAmb IAmb 17 21 00.6
comp=Z,12nm,0.7s
SDV Santo Domingo 20.95 103 P **P** **17 20 56.9 -2.1**
comp=Z,12nm,0.6s,baz=300,slow=6.9,SNR=18
SDV LR LR 17 29 22.7
comp=Z,32nm,18.9s,baz=298,slow=38
comp=Z,12nm,0.6s
X51A Calhoun 20.98 15 IAmb IAmb 17 21 02.2
comp=Z,20nm,0.8s
SWET Sewanee 21.36 12 P **P** **17 21 02.6 -0.4**
SWET IAmb IAmb 17 21 05.5
comp=Z,18nm,0.8s
WMOK Wichita Mounta 21.42 343 IAmb IAmb 17 21 25.5
comp=Z,16nm,0.4s
WMOK Wichita Mounta 21.42 343 P **P** **17 21 02.8 -0.7**
baz=160
HODGE Hodges 21.45 21 IAmb IAmb 17 21 05.7
comp=Z,18nm,0.5s
W50A Signal Mountai 21.48 14 IAmb IAmb 17 21 06.1
comp=Z,14nm,0.6s
MNTX Cornudas Mount 21.57 326 P **P** **17 21 06.1 +0.9**
baz=140,SNR=8.5
LCAR Lake Charles 21.66 0 IAmb IAmb 17 21 07.8
comp=Z,16nm,0.6s
MCRA Macar, Loja 21.72 148 P **P** **17 21 07.9 +1.0**
W52A Murphy 21.73 17 IAmb IAmb 17 21 09.2
comp=Z,20nm,0.6s
CPCT Cooper Cave 21.91 15 P **P** **17 21 09.0 +0.3**
CPCT IAmb IAmb 17 21 10.2
comp=Z,14nm,0.7s
BG3 Lake Jocassee 21.93 19 IAmb IAmb 17 21 11.2
comp=Z,15nm,0.7s
WVT Waverly 21.94 8 P **P** **17 21 08.4 -0.6**
WVT Waverly 21.94 8 P **P** **17 21 08.3 -0.7**
baz=189
CLTN Cedars of Leba 22.14 11 IAmb IAmb 17 21 12.3
comp=Z,16nm,0.8s
PAULI Pauline 22.14 21 IAmb IAmb 17 21 30.2
comp=Z,24nm,1.2s
MSTX Muleshoe 22.15 334 P **P** **17 21 12.6 +1.2**
baz=149
U38A Gravette 22.20 353 P **P** **17 21 11.9 +0.1**
TKL Tuckaleechee C 22.30 16 P **P** **17 21 13.7 +0.8**
TKL Tuckaleechee C 22.30 16 P **P** **17 21 14.0 +1.1**
comp=Z,24nm,0.5s,baz=181,slow=11,SNR=40
TKL LR LR 17 31 01.5
comp=Z,61nm,21.7s,baz=196,slow=40
PBMO Poplar Bluff 22.38 2 P **P** **17 21 13.0 -0.6**
BIRD Birdtown, Kers 22.48 24 P **P** **17 21 15.1 +0.4**
BIRD IAmb IAmb 17 21 15.6
comp=Z,19nm,0.7s
AMTX Amarillo 22.51 337 P **P** **17 21 15.9 +0.8**
baz=153
V52A Sevierville 22.52 17 P **P** **17 21 15.9 +0.8**
V52A IAmb IAmb 17 21 16.0
comp=Z,18nm,0.7s
V53A Saluda 22.59 18 P **P** **17 21 16.4 +0.5**
V53A IAmb IAmb 17 21 16.9
comp=Z,23nm,1.1s
KMSC Kings Mountain 22.60 22 P **P** **17 21 16.1 +0.3**
KMSC IAmb IAmb 17 21 17.1
comp=Z,20nm,0.7s
KMSC Kings Mountain 22.60 22 P **P** **17 21 15.9 0.0**
baz=206,SNR=5.9
U49A Red Boiling Sp 22.65 12 P **P** **17 21 16.3 0.0**
U49A IAmb IAmb 17 21 16.6
comp=Z,20nm,0.6s
MGMO Mountain Grove 22.76 358 P **P** **17 21 17.2 -0.3**
T47A Sharon Grove 22.89 9 P **P** **17 21 18.9 +0.2**
T47A IAmb IAmb 17 21 43.9
comp=Z,55nm,1.2s
CGM3 Cape Girardeau 22.93 3 P **P** **17 21 18.3 -0.9**
CGM3 IAmb IAmb 17 21 43.8
comp=Z,15nm,0.8s
W57A Gilead 23.11 24 IAmb IAmb 17 21 21.1
comp=Z,16nm,0.5s
TZTN Tazewell 23.20 16 P **P** **17 21 21.5 -0.2**
baz=199,SNR=11
V55A Taylorsville 23.28 21 IAmb IAmb 17 21 23.8
comp=Z,15nm,0.7s
T50A Nancy 23.33 13 IAmb IAmb 17 21 23.4
comp=Z,19nm,0.8s
S44A Carbondale 23.35 4 IAmb IAmb 17 21 49.5
comp=Z,28nm,0.8s
SIUC Southern Illin 23.38 4 P **P** **17 21 22.8 -0.5**
SIUC IAmb IAmb 17 21 49.3
comp=Z,39nm,1.0s
121A Cookes Peak, D 23.55 323 IAmb IAmb 17 21 28.9
comp=Z,22nm,1.4s
121A Cookes Peak, D 23.55 323 P **P** **17 21 27.6 +2.5**
baz=136,SNR=6.3
CCM Cathedral Cave 23.64 0 P **P** **17 21 24.6 -1.0**
CCM Cathedral Cave 23.64 0 P **P** **17 21 25.3 -0.4**
baz=180
U56A King 24.02 22 IAmb IAmb 17 21 31.3
comp=Z,26nm,1.0s
CNNC Cliffs of the 24.08 28 P **P** **17 21 29.1 -0.6**
baz=213
WCI Wyandotte Cave 24.23 10 P **P** **17 21 30.1 -0.8**
WCI Wyandotte Cave 24.23 10 P **P** **17 21 30.5 -0.5**
baz=192
DUN6 Lazy B Ranch 24.34 321 IAmb IAmb 17 21 35.8
comp=Z,20nm,0.6s
OLIL Olney 24.48 6 pP **pP** **17 21 58.1 +1.4**
OLIL IAmb IAmb 17 21 58.8
comp=Z,29nm,0.9s
R49A Shelbyville 24.49 12 pP 17 21 58.6 +1.8
R50A Paris 24.66 13 P **P** **17 21 33.9 -1.0**
R50A IAmb IAmb 17 21 36.8
comp=Z,16nm,0.6s
ANMO Albuquerque 24.66 329 P **P** **17 21 36.5 +1.2**
baz=142
BLA Blacksburg 24.78 21 P **P** **17 21 35.8 -0.2**
baz=206
KSU1 Kansas State U 25.12 350 P **P** **17 21 39.6 +0.5**
baz=168
TUC Tucson 25.23 319 P **P** **17 21 42.4 +2.1**
baz=131
P38A Dawn 25.28 356 IAmb IAmb 17 21 42.0
comp=Z,17nm,0.7s
P46A Rosedale 25.46 7 pP 17 22 08.0 +2.0
T25A Trinidad 25.55 335 pP 17 22 09.5 +2.1
T25A Trinidad 25.55 335 P **P** **17 21 44.0 +0.7**
baz=149
Q51A Peebles 25.59 14 P **P** **17 21 42.3 -1.1**
P49A Miami Univ. Ec 25.78 12 P **P** **17 21 44.1 -1.0**
baz=195
Q52A Bidwell 25.81 16 IAmb IAmb 17 21 45.6
comp=Z,19nm,0.7s
Q54A Coxs Mills 26.25 19 IAmb IAmb 17 21 50.0
comp=Z,17nm,0.7s
214A Organ Pipe Nat 26.35 315 P **P** **17 21 52.2 +1.8**
baz=127
O48B Farmland 26.40 11 IAmb IAmb 17 22 15.3
comp=Z,14nm,0.9s
O48B Farmland 26.40 11 P **P** **17 21 49.0 -1.6**
baz=193
N38A Joes South For 26.43 357 P **P** **17 21 52.4 +1.5**
W18A Petrified Fore 26.54 325 P **P** **17 21 53.1 +1.0**
baz=137
P53A Whipple 26.55 17 P **P** **17 21 51.4 -0.5**
ACSO Alum Creek Sta 26.83 14 P **P** **17 21 54.0 -0.5**
baz=198
O53A New Philadelph 27.30 17 P **P** **17 21 58.0 -0.7**
baz=202
MVCO Mesa Verde 27.46 329 P **P** **17 22 02.0 +1.5**
baz=142
113A Mohawk Valley, 27.48 316 PcP **PcP** **17 25 16.6 +0.3**
O54A Avella 27.49 18 IAmb IAmb 17 22 00.7
comp=Z,14nm,0.6s
P57A Homestead Farm 27.66 23 **P** **17 22 02.0 0.0**
WUAZ Wupatki 27.76 323 IAmb IAmb 17 22 06.4
comp=Z,9.2nm,0.8s
WUAZ Wupatki 27.76 323 P **P** **17 22 02.9 -0.2**
baz=134
N53A Lisbon 27.93 17 IAmb IAmb 17 22 04.7
comp=Z,14nm,0.8s
SDMD Soldier's Deli 28.05 24 **P** **17 22 04.7 -0.7**
SDMD IAmb IAmb 17 22 24.3

comp=Z,22nm,1.1s
JFWS Jewell Farm 28.51 2 P P 17 22 08.2 -1.2
baz=182
M53A WI Miller and 28.56 17 P P 17 22 08.6 -1.3
baz=202
PDMCI Parker Dam,Lak 28.66 318 P P 17 22 12.8 +1.9
baz=128
SSPA Standing Stone 28.72 22 P P 17 22 11.1 -0.3
SSPA IAmb IAmb 17 22 11.4
comp=Z,8.6nm,0.7s
SSPA Standing Stone 28.72 22 P P 17 22 10.8 -0.5
baz=208
SWSC Sam W. Stewart 28.98 314 P P 17 22 13.0 -0.8
baz=124
W13A Hualapai Mount 29.00 320 P P 17 22 16.0 +1.8
IKP In-Ko-Pah, Jac 29.04 313 P P 17 22 15.1 +0.7
baz=123
BC3 Big Chuckawall 29.15 316 P P 17 22 17.7 +2.4
baz=125,SNR=5.2
IRM Iron Mountain 29.23 317 P P 17 22 18.2 +2.1
baz=127
ERPA Erie 29.38 17 P P 17 22 16.8 -0.4
baz=203
MONP2 Monument Peak 29.39 313 P P 17 22 20.0 +2.3
baz=123
N23A Red Feather La 29.39 337 P 17 22 17.4 -0.3
BELC Belle Mtn. Jos 29.72 316 P P 17 22 22.6 +2.1
baz=125
PFO Pinyon Flats O 29.81 314 P P 17 22 23.7 +2.4
baz=124
GMRC Granite Mounta 29.95 317 P P 17 22 24.9 +2.4
baz=127,SNR=5.3
MTPU Mount Pierson 30.01 326 IAmb IAmb 17 22 27.8
comp=Z,5.7nm,0.7s
V12A Nelson 30.01 319 P P 17 22 25.1 +2.1
V12A IAmb IAmb 17 22 26.5
comp=Z,9.6nm,0.8s
SZCU Shurtz Canyon 30.20 324 P P 17 22 27.3 +2.6
SZCU PcP 17 25 24.4 +1.0
CCUT Cedar City 30.32 324 P P 17 22 27.9 +2.0
CCUT PcP 17 25 25.3 +1.5
MVU Marysvale 30.36 326 P P 17 22 27.7 +1.5
MVU IAmb IAmb 17 22 29.5
comp=Z,11nm,0.8s
MVU PcP 17 25 25.8 +2.0
HEC Hector,Ludlow 30.42 317 P P 17 22 29.0 +2.3
baz=126
BBRC Big Bear Solar 30.49 315 P P 17 22 29.8 +2.4
baz=124
TUQ Turquoise Moun 30.52 318 P P 17 22 29.3 +1.9
baz=127
PAL Palisades 30.61 26 P P 17 22 26.7 -1.3
baz=214
BINY Binghamton 30.78 23 P P 17 22 29.1 -0.5
baz=210
SPMN Marine on St. 30.83 358 P P 17 22 28.3 -1.7
baz=177
FMP Fort Macarthur 31.15 313 P P 17 22 35.9 +3.0
baz=122
KSCT Kent School, K 31.38 26 P P 17 22 34.4 -0.4
EDW2 Edwards Air Fo 31.57 315 P P 17 22 38.8 +2.1
baz=124
RSSD Black Hills 31.63 342 P P 17 22 38.2 +1.0
baz=156
MPMC Manual Prospec 31.91 317 P P 17 22 42.5 +2.7
baz=126,SNR=5.7
DUG Dugway, Tooele 31.92 328 P P 17 22 41.5 +1.8
baz=138
SADO Sadowa 32.06 16 LR LR 17 36 33.5
comp=Z,42nm,20.9s,baz=304,slow=38
R11B Troy Canyon, C 32.15 323 P P 17 22 44.1 +2.2
baz=131
L61B Northampton 32.32 26 P P 17 22 42.0 -1.1
baz=215
PDAR Pinedale Array 32.41 335 P P 17 22 44.0 -0.1
comp=Z,0.6nm,0.6s,baz=128,slow=10.0,SNR=6.9
PDAR PcP PcP 17 25 29.0 -0.3
comp=Z,0.8nm,0.5s,baz=127,slow=5.5,SNR=15
PDAR LR LR 17 39 17.1
comp=Z,27nm,19.4s,baz=134,slow=42
comp=Z,0.6nm,0.6s
CWC Cottonwood Cre 32.52 317 P P 17 22 47.0 +1.9
baz=126
SBC Santa Barbara 32.54 313 P P 17 22 44.6 -0.5
baz=121
HRV Adam Dziewonsk 32.85 27 P P 17 22 46.7 -1.1
baz=217
SMMC Simmler 33.19 314 P P 17 22 52.8 +2.0
baz=122
LONY Lake Ozonia 33.39 22 P P 17 22 51.4 -0.9
baz=210
EYMN Ely 33.53 360 P P 17 22 52.0 -1.5
baz=180
ELK Elko 33.59 326 P P 17 22 55.4 +0.9
ELK PcP PcP 17 25 33.5 +0.9
ELK Elko 33.59 326 PcP PcP 17 25 34.0 +1.4
comp=Z,2.8nm,0.8s,baz=199,slow=1.4,SNR=8.6
ELK LR LR 17 37 54.4
comp=Z,30nm,18.2s,baz=126,slow=38
NV11 Mina Array Sit 33.76 320 P P 17 22 57.9 +2.0
NV11 IAmb IAmb 17 22 59.3
comp=Z,5.8nm,0.7s
NV11 PcP 17 25 34.2 +1.2
NVAR Mina Array Bea 33.85 320 P P 17 22 59.6 +2.9
NVAR Mina Array Bea 33.85 320 P P 17 22 59.4 +2.7
comp=Z,6.8nm,0.6s,baz=134,slow=8.0,SNR=71
NVAR pP pP 17 23 24.6 +3.5
comp=Z,2.2nm,0.8s,baz=134,slow=9.1,SNR=3.7
NVAR PcP PcP 17 25 34.6 +1.3
comp=Z,4.1nm,0.7s,baz=132,slow=3.1,SNR=18
comp=Z,6.8nm,0.6s
LHV Little Huntoon 33.87 320 P P 17 22 59.3 +2.7
IMW Indian Meadow 33.92 334 P P 17 22 57.7 +0.4
IMW PcP PcP 17 25 34.4 +0.8
B35A Bob, Littlefor 34.00 357 PcP 17 25 40.3 +7.0
AGMN Agassiz Nation 34.09 355 P P 17 22 57.4 -1.0
baz=172
LBNH Lisbon 34.10 25 P P 17 22 57.8 -0.7
baz=215
KVN Kaiserville 34.11 321 IAmb IAmb 17 23 02.4
comp=Z,9.7nm,1.2s
H17A Grant Village 34.17 335 P P 17 22 58.8 -0.7
baz=145
RLMT Red Lodge 34.27 337 P P 17 22 59.0 -1.3
baz=148
BMN Battle Mountai 34.48 324 IAmb IAmb 17 23 05.3
comp=Z,5.4nm,1.0s
ETMB Extrema 34.56 133 P P 17 23 04.6 +1.7
YERR Yerington 34.77 320 IAmb IAmb 17 23 42.5
comp=Z,6.9nm,0.7s
BOZ Bozeman (W) 35.59 335 P P 17 23 11.3 -0.2
baz=145
ULM Lac du Bonnet 36.02 355 P P 17 23 13.3 -1.7
comp=Z,4.8nm,0.6s,baz=184,slow=8.5,SNR=8.2
ULM pP pP 17 23 38.3 -1.2
comp=Z,4.5nm,0.7s,baz=192,slow=8.0,SNR=5.1
ULM LR LR 17 38 44.8
comp=Z,55nm,21.1s,baz=108,slow=37
comp=Z,4.8nm,0.6s
PKME Peaks-Kenny Pk 36.04 27 P P 17 23 14.2 -0.9
baz=218
SAML Samuel 36.23 128 P P 17 23 16.5 -0.7
SAML IAmb IAmb 17 23 18.0
comp=Z,7.2nm,1.2s
EGMT Eagleton 36.92 339 P P 17 23 22.1 -0.7
baz=149
LPAZ La Paz 38.07 142 P P 17 23 34.0 +0.6
comp=Z,1.3nm,0.7s,baz=302,slow=7.5,SNR=4.0
LPAZ PcP PcP 17 25 47.0 +0.3
comp=Z,1.0nm,0.7s,baz=322,slow=5.1,SNR=2.6
LPAZ LR LR 17 39 32.0
comp=Z,42nm,18.8s,baz=260,slow=36
comp=Z,1.3nm,0.7s
F10A Beach Ranch, E 38.36 331 IAmb IAmb 17 23 36.6
comp=Z,7.2nm,0.9s
NEW Newport 40.01 333 PcP PcP 17 25 51.5 -0.1
comp=Z,3.1nm,0.6s,baz=91,slow=7.4,SNR=4.4
NEW LR LR 17 42 19.1
comp=Z,31nm,19.5s,baz=167,slow=39
PB01 IPOC Station P 41.16 148 IAmb IAmb 17 24 01.2
comp=Z,5.9nm,0.9s
LVC Limon Verde 42.76 149 LR LR 17 39 10.6
comp=Z,31nm,20.3s,baz=264,slow=32
FCC Fort Churchill 44.41 358 P P 17 24 23.1 -0.9
FCC IAmb IAmb 17 24 23.2
comp=Z,5.5nm,0.7s
SCHQ Schefferville 44.69 20 P P 17 24 25.0 -1.3
comp=Z,11nm,0.6s,baz=221,slow=6.7,SNR=19
SCHQ LR LR 17 43 44.8
comp=Z,39nm,18.0s,baz=185,slow=37
comp=Z,11nm,0.6s
CO02 Combarbal 49.29 157 P P 17 25 03.6 +1.2
VA03 San Esteban 50.85 157 P P 17 25 14.7 +0.5
YKA Yellowknife Ar 50.87 346 P P 17 25 13.0 -0.9
comp=Z,2.1nm,0.7s,baz=147,slow=7.0,SNR=30
YKA pP pP 17 25 40.2 +0.4
comp=Z,2.2nm,0.7s,baz=147,slow=7.0,SNR=9.5
YKA PcP PcP 17 26 28.1 -0.9
comp=Z,0.6nm,0.6s,baz=144,slow=3.5,SNR=4.7
YKA LR LR 17 49 22.5
comp=Z,30nm,19.4s,baz=275,slow=39
comp=Z,2.1nm,0.7s
TOAD Toad River Com 51.09 338 P P 17 25 15.9 +0.3
baz=136
KOTAN Kotaneelee Air 51.62 340 P P 17 25 20.0 +0.5
baz=138
FRB Frobisher Bay 51.86 13 LR LR 17 51 09.2
comp=Z,27nm,19.7s,baz=211,slow=40
LMEL Las Melosas 51.95 158 P P 17 25 24.0 +1.5
CPUP Villa Florida 52.20 141 P P 17 25 24.4 +0.2
comp=Z,2.2nm,0.7s,baz=323,slow=10,SNR=3.6
comp=Z,2.2nm,0.7s
DLBC Dease Lake 52.64 336 P P 17 25 28.4 +1.2
baz=130
S34M Telegraph Cree 52.76 335 P P 17 25 29.3 +1.4
baz=129
R33M Jennings River 53.63 336 P P 17 25 35.5 +1.0
baz=130
Q32M Nakina River 53.88 335 P P 17 25 37.6 +1.3
baz=128
P32M Atlin 54.85 335 P P 17 25 43.8 +0.5
baz=127
P33M Teslin, Yukon 54.87 336 P P 17 25 43.9 +0.5
baz=128
N32M Quiet Lake 55.56 337 P P 17 25 48.7 +0.4
baz=128
MMPY Sheldon Lake, 55.84 339 P P 17 25 51.0 +0.6
baz=131
FARO Faro, Yukon 56.33 338 P P 17 25 54.6 +0.8
baz=129
O30N Mendenhall 56.51 336 P P 17 25 55.6 +0.5
baz=125
P29M Windy Craggy 56.55 334 P P 17 25 56.2 +0.8
baz=123
M31M Drury Creek, Y 56.70 337 P P 17 25 56.6 +0.2
baz=128
YUK6 Outpost Mounta 57.53 335 P P 17 26 02.2 -0.3
baz=123
M30M Minto, Yukon 57.82 337 P P 17 26 04.4 +0.1
baz=125
PLCA Paso Flores 58.06 161 P P 17 26 07.5 +1.2
comp=Z,3.7nm,1.0s,baz=311,slow=11,SNR=3.3
comp=Z,3.7nm,1.0s
M29M Somme Creek 58.39 336 P P 17 26 09.1 +0.8
M29M Somme Creek 58.39 336 P P 17 26 08.8 +0.5
baz=123,SNR=6.8
SFJD Kangerlussuaq 59.01 17 LR LR 17 52 13.3
comp=Z,46nm,20.2s,baz=210,slow=37
I30M Mount Dempster 59.24 340 P P 17 26 14.2 0.0
baz=127
BVCY Beaver Creek 59.32 336 P P 17 26 14.7 0.0
baz=121
G31M Satah River 59.63 342 P P 17 26 15.8 -0.9
baz=130
DAWY Dawson 59.63 338 P P 17 26 16.3 -0.6
baz=123
M27K Edge Creek, AK 59.70 335 P P 17 26 18.7 +1.3
baz=120
MCARA McCarthy VSAT 59.70 334 P P 17 26 18.4 +1.2
baz=118
F31M Tsiigehtchic 59.81 342 P P 17 26 17.0 -0.9
baz=131
L27K Beaver Creek, 60.03 336 P P 17 26 19.5 -0.1
baz=120
M26K Nabesna, AK 60.17 335 P P 17 26 21.3 +0.8
baz=119
BMRM Bremner River 60.19 333 P P 17 26 21.1 +0.4
baz=116
INK Inuvik 60.33 343 IAmb IAmb 17 26 54.0
comp=Z,7.5nm,1.3s
INK Inuvik 60.33 343 P P 17 26 20.7 -0.6
baz=131,SNR=5.0
RES Resolute Bay 60.39 359 LR LR 17 55 01.1
comp=Z,42nm,18.4s,baz=20,slow=38
N25K Chitina, Valde 60.47 334 P P 17 26 23.4 +0.8
N25K Chitina, Valde 60.47 334 P P 17 26 23.7 +1.1
baz=117
H29M Whitestone 60.50 340 P P 17 26 22.7 +0.1
baz=125
EYAK Cordova Ski Ar 60.51 332 P P 17 26 23.3 +0.5
baz=115
F30M Barrier River 60.53 342 P P 17 26 22.6 -0.2
baz=129
L26K Log Cabin Wild 60.62 336 P P 17 26 23.3 -0.2
baz=119
K27K Chicken 60.62 337 P P 17 26 23.4 0.0
baz=120
EGAK Eagle 60.67 338 P P 17 26 22.8 -1.0
baz=122
G29M Pine Creek 60.79 341 P P 17 26 24.0 -0.6
baz=126
KLU Klutina 60.99 333 IAmb IAmb 17 26 28.9
comp=Z,4.3nm,0.6s
KLU Klutina 60.99 333 P P 17 26 26.6 +0.5
baz=115
HARP HAARP 61.06 335 P P 17 26 26.8 +0.3
baz=116
I27K Kandik River 61.27 339 P P 17 26 28.1 +0.2
baz=122
SCRK Sand Creek 61.33 336 P P 17 26 28.5 +0.1
baz=118
M24K Tolsona, Glenn 61.36 334 P P 17 26 28.9 +0.3
baz=115
J26L Joseph Creek 61.42 337 P P 17 26 28.9 -0.1
baz=119
PAX Paxson 61.45 335 P P 17 26 28.8 -0.4
baz=116
RIDG Independent Ri 61.55 336 P P 17 26 29.9 0.0
baz=118
H27K Steamboat Moun 61.57 339 P P 17 26 30.3 +0.4
baz=122
E29M Blow River 61.64 342 P P 17 26 30.2 -0.1
baz=127
I26K Coal Creek Min 61.67 338 P P 17 26 30.0 -0.5
baz=120
SCM Sheep Creek Mo 61.74 333 P P 17 26 31.0 -0.2
baz=114
F28M Old Crow 61.79 341 P P 17 26 31.2 -0.1
baz=124,SNR=10
M23K Glacier View 61.90 333 P P 17 26 32.3 +0.1
baz=114
G27K Doyon Strip 61.92 340 P P 17 26 32.0 -0.3
baz=122
K24K Donnelly Dome 61.95 336 P P 17 26 32.2 -0.3
baz=116
SEW Seward 62.03 331 P P 17 26 32.8 -0.2
baz=111
KNK Knik Glacier 62.07 333 P P 17 26 33.4 0.0
baz=113
J25K Salcha River, 62.16 337 P P 17 26 34.2 +0.3
baz=117
SML Sawmill 62.17 333 P P 17 26 34.1 +0.1
baz=113
WAT6 Susitna Watana 62.23 334 P P 17 26 34.9 +0.4
baz=114
E28M Babbage River 62.25 342 P P 17 26 33.8 -0.6
baz=125
GHO Glory Hole Cre 62.41 333 IAmb IAmb 17 26 37.8
comp=Z,7.1nm,0.7s
PMR Palmer 62.44 333 P P 17 26 35.3 -0.4
baz=112
D28M Stokes Point 62.44 343 P P 17 26 35.3 -0.3
baz=126
BRSE Bradley Lake S 62.51 331 P P 17 26 36.3 0.0
baz=110
RC01 Rabbit Creek A 62.52 332 P P 17 26 36.0 -0.3
baz=111
PRP Porcupine Dome 62.64 338 P P 17 26 36.1 -1.1
baz=118
E27K Coleen River 62.65 341 P P 17 26 36.7 -0.4
baz=123
KDAK Kodiak Island 62.80 328 P P 17 26 37.9 -0.2
baz=107
ILAR Eielson Array 62.81 337 P P 17 26 37.6 -0.5
comp=Z,1.1nm,0.8s,baz=168,slow=5.0,SNR=34
ILAR pP pP 17 27 09.1 +3.9
comp=Z,1.1nm,1.0s,baz=116,slow=2.1,SNR=3.2
comp=Z,1.1nm,0.8s
RND Reindeer 63.02 335 P P 17 26 40.4 +0.6
RND IAmb IAmb 17 26 41.4
comp=Z,5.0nm,0.6s
D27M Malcolm River 63.04 342 P P 17 26 39.5 -0.2
baz=124
H25L Birch Creek 63.09 338 P P 17 26 40.2 +0.2
baz=118
SUA Susitna One 63.11 332 IAmb IAmb 17 26 42.3
comp=Z,9.6nm,1.1s
SUA Susitna One 63.11 332 P P 17 26 40.8 +0.5
baz=110,SNR=5.0
POKR Poker Plat Res 63.17 337 P P 17 26 40.5 0.0
baz=116
MCK McKinley 63.19 335 P P 17 26 39.9 -0.8
baz=113
F26K Sheenjek River 63.21 340 P P 17 26 40.7 -0.1
baz=120
SII Sitkinak Islan 63.30 327 P P 17 26 41.7 +0.1
baz=105
G25K Bearman Lake 63.43 339 P P 17 26 42.5 +0.3
baz=118
O20K Slope Mountain 63.52 331 P P 17 26 43.5 +0.4
baz=108
NEA2 Nenana 63.59 336 P P 17 26 42.4 -0.9
baz=114
TRF Thorofare Moun 63.64 335 P P 17 26 44.4 +0.6
TRF IAmb IAmb 17 26 45.8
comp=Z,5.9nm,0.9s
TRF Thorofare Moun 63.64 335 P P 17 26 44.3 +0.4
baz=112
SKT Skwentna 63.64 333 P P 17 26 43.7 0.0
SKT Skwentna 63.64 333 P P 17 26 43.9 +0.2
baz=110,SNR=5.5
H24K Noodoo Dome 63.65 337 P P 17 26 44.0 +0.2
baz=115
F25K Christian Rive 63.66 340 P P 17 26 43.8 0.0
baz=118
Q19K Cape Douglas, 63.67 329 P P 17 26 44.2 +0.3
baz=107
P19K Oil Pt 63.68 330 P P 17 26 44.2 +0.1
baz=107
N20K Mount Spurr 63.68 332 P P 17 26 44.1 0.0
baz=109
E25K Arctic Village 63.89 340 P P 17 26 44.3 -1.0
baz=119
I23K Minto, Yukon-K 63.93 336 IAmb IAmb 17 27 18.7
comp=Z,8.9nm,1.4s
I23K Minto, Yukon-K 63.93 336 P P 17 26 45.3 -0.2
baz=114
BPAW Bear Paw Mtn. 64.17 335 P P 17 26 46.9 -0.2
baz=112
PPLA Purkeypile 64.24 334 P P 17 26 47.4 -0.4
baz=110
M20K Styx River 64.32 332 P P 17 26 48.0 -0.2
baz=108
O19K Port Alsworth 64.36 330 P P 17 26 48.3 -0.1
baz=107
CAST Castle Rocks 64.38 334 P P 17 26 47.8 -0.7
baz=110
MLY Manley 64.42 336 P P 17 26 48.4 -0.4
MLY IAmb IAmb 17 26 49.3
comp=Z,6.2nm,0.6s
MLY Manley 64.42 336 P P 17 26 48.4 -0.4
baz=112,SNR=7.2
C26K Camden Bay 64.58 342 P P 17 26 49.9 +0.2
baz=120
P18K Big Mountain, 64.58 329 P P 17 26 49.2 -0.7
baz=105
N19K Bonanza Creek 64.62 331 P P 17 26 49.5 -0.7
baz=107
Q17K Contact Creek 64.62 328 P P 17 26 49.2 -1.1
baz=104
CHUM Lake Minchumin 64.64 335 P P 17 26 48.9 -1.2
baz=110
O18K Koktuh Hills 64.69 330 P P 17 26 50.3 -0.3
baz=106
D25K Kavik River 64.73 341 P P 17 26 50.2 -0.5
baz=118
L20K Farewell, AK 64.84 333 P P 17 26 51.3 -0.3
baz=108
I21K Tanana 64.96 336 P P 17 26 51.6 -0.6
baz=111
H22K Ishtalitna Cre 64.99 337 P P 17 26 51.7 -0.8
baz=112
COLD Coldfoot 65.08 338 P P 17 26 52.9 -0.1
baz=114
Q16K King Salmon 65.11 328 P P 17 26 53.6 +0.3
baz=104
L19K White Mountain 65.19 332 P P 17 26 53.9 +0.1
baz=107
K20K Telida 65.20 334 P P 17 26 53.6 -0.3
baz=108
E23K Chandalar 65.22 339 P P 17 26 54.0 0.0
baz=115
N18K Kilae Creek 65.24 331 P P 17 26 53.2 -1.0
baz=105
M18K Stony River 65.43 332 P P 17 26 54.8 -0.6
baz=106
TOLK Toolik Lake Re 65.45 340 P P 17 26 54.6 -0.8
baz=115
H21K Melozitna Rive 65.45 336 P P 17 26 54.3 -1.2
baz=110
J20K Nowinta River 65.50 335 P P 17 26 54.8 -0.9
baz=108
CHGN Chignik 65.53 326 P P 17 26 53.0 -3.0
baz=101
O17K Koliganek Bris 65.60 330 P P 17 26 56.7 +0.3
baz=104
C24K Franklin Bluff 65.64 341 P P 17 26 56.7 +0.2
baz=116
SUMG Summit 65.75 15 *i* P P 17 26 55.0 -2.7
SUMG IAmb IAmb 17 26 57.2
comp=Z,3.8nm,0.5s
N17K Nushagak Hills 65.82 330 P P 17 26 57.8 -0.1
baz=104
I20K Naaghedeneel 65.83 335 P P 17 26 57.5 -0.3
baz=108
TTA Tatalina 65.92 333 IAmb IAmb 17 27 00.1
comp=Z,5.5nm,1.1s
TTA Tatalina 65.92 333 P P 17 26 57.4 -1.2
baz=106
E22K Anaktuvuk Pass 66.00 339 P P 17 26 59.2 +0.2
baz=112
G21K Allakaket 66.02 337 P P 17 26 59.0 -0.1
baz=110
L18K Granite Mounta 66.02 332 P P 17 26 58.4 -0.7
baz=105
O16K Kokwok River B 66.05 329 P P 17 26 58.9 -0.4
baz=103
J19K Poorman 66.06 334 P P 17 26 58.8 -0.5
baz=107
M17K Holitna River 66.16 331 P P 17 27 00.5 +0.5
baz=104
H20K Anotleneega Mo 66.21 336 P P 17 27 00.5 +0.2
baz=108
F21K Alatna River 66.26 338 P P 17 27 01.2 +0.5
baz=110
C23K Itkillik River 66.29 341 P P 17 27 00.8 +0.1
baz=114
NEEM North Greenlan 66.32 9 *i* P P 17 26 58.4 -2.7
NEEM IAmb IAmb 17 27 01.6
comp=Z,5.1nm,0.7s
J18K Innoko River 66.37 334 P P 17 27 00.6 -0.8
baz=106
N16K Nishlik Lake 66.57 330 P P 17 27 01.6 -1.1
baz=103
D22K Ayikyak River 66.58 340 P P 17 27 02.4 -0.2
baz=112
L17K Donlin 66.73 332 P P 17 27 03.3 -0.4
baz=104
H19K Roundabout Mou 66.85 336 P P 17 27 04.0 -0.3
baz=107
E21K Killik River 66.86 339 P P 17 27 04.5 +0.1
baz=110
K17K Iditarod 66.88 333 P P 17 27 04.7 +0.2
baz=104
F20K Avaraart Lake 67.03 337 P P 17 27 05.1 -0.3
baz=108
L16K Owhat River 67.18 331 P P 17 27 06.4 0.0
baz=102
G19K Purcell Mounta 67.28 336 P P 17 27 06.5 -0.6
baz=106
B22K Teshekpuk Lake 67.37 341 P P 17 27 07.5 0.0
baz=112
C21K Knifeblade Rid 67.39 340 P P 17 27 07.8 +0.1

	baz=110								
S12K	**Black Hills**	67.45	325	P		**P**	17 27 08.5	+0.2	
	baz=98								
B21K	**Ikpikpuk River**	67.50	340	P		**P**	17 27 07.6	-0.7	
	baz=110								
H18K	**Honhosa River**	67.52	335	P		**P**	17 27 09.0	+0.4	
	baz=105								
E20K	**Nigu River**	67.58	339	P		**P**	17 27 09.6	+0.6	
	baz=108								
E19K	**Redstone River**	67.71	338	P		**P**	17 27 10.2	+0.4	
	baz=107								
F19K	**Shaleruckik Mo**	67.74	337	P		**P**	17 27 10.4	+0.5	
	baz=106								
G18K	**Tagagawik**	67.82	336	P		**P**	17 27 10.8	+0.3	
	baz=105								
D20K	**Etivluk River**	67.87	339	P		**P**	17 27 10.7	0.0	
	baz=108								
J16K	**Anvik River**	68.03	333	P		**P**	17 27 12.3	+0.5	
	baz=102								
A22K	**Sinclair Lake**	68.10	342	P		**P**	17 27 11.8	-0.3	
	baz=110								
H17K	**Granite Mounta**	68.10	335	P		**P**	17 27 12.5	+0.3	
	baz=103								
L15K	**Ungalak Mounta**	68.11	331	P		**P**	17 27 12.8	+0.5	
	baz=101								
FALS	**False Pass**	68.12	324	P		**P**	17 27 13.1	+0.6	
	baz=96								
M14K	**Bethel**	68.17	330	P		**P**	17 27 13.0	+0.3	
	baz=100								
I17K	**Unalakleet**	68.19	334	P		**P**	17 27 13.1	+0.3	
	baz=102								
K15K	**Wolf Creek Mou**	68.25	332	P		**P**	17 27 13.9	+0.7	
	baz=101								
D19K	**Kuna River**	68.33	339	P		**P**	17 27 13.6	-0.1	
	baz=106								
B20K	**Meade River**	68.46	340	P		**P**	17 27 14.3	-0.1	
	baz=108								
G17K	**Kiwalik Mounta**	68.53	335	P		**P**	17 27 15.4	+0.5	
	baz=103								
L14K	**Kuka Creek**	68.62	331	P		**P**	17 27 15.7	+0.2	
	baz=99								
H16K	**Elim**	69.01	334	P		**P**	17 27 17.7	-0.2	
	baz=101								
G16K	**Koyuk River**	69.20	335	P		**P**	17 27 19.3	+0.2	
	baz=101								
J14K	**Nanvaranak Lak**	69.25	332	P		**P**	17 27 19.9	+0.5	
	baz=99								
E17K	**Hotham Inlet**	69.34	337	P		**P**	17 27 20.0	+0.1	
	baz=102								
C18K	**Utukok River**	69.46	338	P		**P**	17 27 20.6	-0.2	
	baz=104								
A19K	**Wainwright**	69.80	340	P		**P**	17 27 23.0	+0.4	
	baz=104								
UNV	**Unalaska Valle**	69.83	322	P		**P**	17 27 23.7	+0.6	
	baz=93								
B18K	**Kokolik River**	69.84	339	P		**P**	17 27 23.6	+0.7	
	baz=103								
D17K	**Noatak River**	69.95	337	P		**P**	17 27 23.7	+0.1	
	baz=101								
C17K	**DeLong Mountai**	70.14	338	P		**P**	17 27 24.4	-0.4	
	baz=102								
F15K	**North Star Dit**	70.20	335	P		**P**	17 27 25.1	-0.1	
	baz=99								
ANM	**Nome**	70.33	334	P		**P**	17 27 26.1	+0.1	
	baz=98								
DAG	**Danmarks Havn**	72.20	13	*i* P		**P**	17 27 34.0	-3.0	
DAG				IAmb		IAmb	17 27 35.5		
	comp=Z,6.9nm,0.5s								
EKA	**Eskdalemuir Ar**	77.32	36	P		**P**	17 28 04.2	-2.7	
	comp=Z,3.3nm,0.4s,baz=274,slow=6.0,SNR=28								
EKA				pP		**pP**	17 28 35.6	+1.0	
	comp=Z,2.5nm,0.8s,baz=278,slow=5.6,SNR=2.2								
	comp=Z,3.3nm,0.4s								
ESDC	**Sonseca Array**	79.00	52	P		**P**	17 28 13.8	-2.8	
	comp=Z,1.0nm,0.5s,baz=289,slow=4.5,SNR=9.1								
	comp=Z,1.0nm,0.5s								
SPITS	**Spitsbergen Ar**	79.64	12	P		**P**	17 28 17.9	-1.5	
	comp=Z,17nm,1.1s,baz=346,slow=3.0,SNR=6.3								
	comp=Z,17nm,1.1s								
BILL	**Bilibino**	81.41	338	P		**P**	17 28 28.9	0.0	
BILL				IAmb		IAmb	17 28 30.0		
	comp=Z,4.2nm,0.5s								
NOA	**NORSAR Array B**	83.55	29	P		**P**	17 28 38.5	-1.8	
	comp=Z,0.4nm,0.6s,baz=291,slow=5.0,SNR=3.4								
NOA				LR		LR	18 04 53.2		
	comp=Z,8.5nm,20.2s,baz=240,slow=35								
	comp=Z,0.4nm,0.6s								
HFS	**Hagfors**	85.00	29	P		**P**	17 28 45.8	-1.7	
	comp=Z,3.2nm,0.7s,baz=225,slow=1.9,SNR=9.8								
	comp=Z,3.2nm,0.7s								
ARCES	**ARCESS Array B**	85.62	18	P		**P**	17 28 49.5	-1.0	
	comp=Z,8.7nm,1.1s,baz=284,slow=4.9,SNR=7.7								
	comp=Z,8.7nm,1.1s								
FINES	**FINESS Array B**	89.93	25	P		**P**	17 29 08.9	-2.2	
	comp=Z,1.6nm,0.9s,baz=304,slow=3.2,SNR=2.1								
	comp=Z,1.6nm,0.9s								
KURBB	**Kurchatov Array**	114.73	7	PKP		**PKiKP**	17 34 51.1	-1.0	
	comp=Z,1.4nm,0.2s,baz=12,slow=39,SNR=4.3								
SONM	**Songino Array**	116.14	347	PKP		**PKiKP**	17 34 54.8	-0.3	
	comp=Z,0.3nm,0.4s,baz=335,slow=3.6,SNR=3.1								
KSRS	**Korea Array**	116.66	326	PKP		**PKiKP**	17 34 56.6	+0.4	
	comp=Z,2.1nm,0.7s,baz=358,slow=1.9,SNR=9.2								
MKAR	**Makanchi Array**	118.90	5	PKP		**PKPdf**	17 34 59.6	-0.8	
	comp=Z,0.3nm,0.5s,baz=349,slow=2.5,SNR=6.0								
BOSA	**Boshof**	119.89	115	PKP		**PKPdf**	17 35 02.3	-0.5	
	comp=Z,3.9nm,0.8s,baz=273,slow=3.2,SNR=6.8								
HHC	**Hu-ho-hao-te**	121.16	340	*e*P		**PKiKP**	17 35 05.8	+0.7	
HHC				LR		LR			
	comp=N,120nm,18.3s								
HHC				LR		LR			
	comp=E,240nm,17.6s								
HHC				LR		LR			
	comp=Z,230nm,17.6s								
WMQ	**Urumqi**	122.14	1	*e*P		**PKiKP**	17 35 07.8	+0.9	
WMQ				LR		LR			
	comp=Z,190nm,20.9s								
NJ2	**Nanjing**	125.58	328	*e*P		**PKiKP**	17 35 15.4	+1.5	
NJ2				pmax		pmax			
	comp=Z,8.0nm,0.5s								
WRA	**Warramunga Arr**	136.12	256	PKP		**PKPdf**	17 35 34.4	+0.6	
	comp=Z,1.0nm,0.5s,baz=88,slow=2.7,SNR=17								
ASAR	**Alice Springs**	136.40	251	PKhKP		PKPpre	17 35 28.3		
	comp=Z,0.4nm,0.6s,baz=95,slow=3.6,SNR=7.8								
ASAR				PKP		**PKiKP**	17 35 35.4	-0.6	
	comp=Z,1.0nm,0.6s,baz=96,slow=2.4,SNR=14								
CMAR	**Chiang Mai Arr**	145.90	342	PKPbc		**PKPdf**	17 35 51.1	-0.3	
	comp=Z,7.3nm,0.7s,baz=335,slow=3.5,SNR=65								

*DJA **23** 17:20:13.3±0.4, 7°S×4°×12°9E±°, h202km±13km, M4.5/12, mB5.0/5, mb4.2/10, MLv4.7/12, Mw(mB)4.3/5*
*NEIC **23** 17:20:14.3±2.1, 7°.15S±0°.09×129°.22E±0°.08, h178km±9km, mb4.2/8, Error ellipse: s-maj=12.9km s-min=11.2km az=213.0*
*IDC **23** 17:20:18.6±3.2, 7°.49S×128°.83E, h209km±34km, mb3.4/3, mbtmp4.2/6, Error ellipse: s-maj=31.7km s-min=15.7km az=42.0*

ISC 23 17:20:12.6±0.6, **7°.21S**±0°.05×**129°.16E**±0°.05, **h156**km, **n50,** σ1§**90**/57, **mb3.9**/6, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	2.26	110	P	**Pn**	17 20 54.4	+3.2
SAUI	**Saumlaki**	2.26	110		**Pn**	17 20 54.2	+3.1
SAUI				Sn	**Sn**	17 21 22.5	+1.6
SAUI	**Saumlaki**	2.26	110	P	**Pn**	17 20 54.1	+2.9
BNDI	**Bandanaira**	2.77	16	P	**Pn**	17 21 00.2	+2.8
FAKI	**Fak Fak**	5.25	36	P	**Pn**	17 21 29.6	-0.1
FAKI	**Fak Fak**	5.25	36	Pn	**Pn**	17 21 29.4	-0.1
FAKI				Sn	**Sn**	17 22 26.2	-3.5
FAKI	**Fak Fak**	5.25	36	P	**Pn**	17 21 29.5	-0.1
	44nm,1.3s,6µm1.1nm						
SOEI	**Soe**	5.46	242	P	**Pn**	17 21 35.2	+2.8
SOEI	**Soe**	5.46	242		**Pn**	17 21 34.7	+2.3
SOEI				Sn	**Sn**	17 22 34.8	+0.1
SOEI	**Soe**	5.46	242	P	**Pn**	17 21 34.6	+2.2
	136nm,0.8s,1.2nm						
DRS	**Darwin Rock St**	5.47	162	P	**Pn**	17 21 34.2	+1.8
MTN	**Manton Dam**	5.93	161	P	**Pn**	17 21 39.7	+1.2
MTN	**Manton Dam**	5.93	161		**Pn**	17 21 39.5	+0.9
MTN				Sn	**Sn**	17 22 41.6	-4.2
BATI	**Baumata**	6.20	241	P	**Pn**	17 21 44.4	+2.3
	64nm,0.4s,baz=79,slow=3.9,SNR=35						
BATI				S	**Sn**	17 22 49.4	-2.8
	191nm,0.8s,baz=107,slow=22,SNR=14						
BATI	**Baumata**	6.20	241	P	**Pn**	17 21 44.4	+2.3
	116nm,0.7s,2µm0.7nm						
KDU	**Kakadu**	6.35	149	P	**Pn**	17 21 45.0	+0.9
SWI	**Sorong**	6.64	18	P	**Pn**	17 21 49.1	+1.1
	12nm,0.8s,723nm0.4nm						
MMRI	**Maumere**	7.00	258	Pn	**Pn**	17 21 54.1	+1.3
EDFI	**Ende, Flores**	7.55	258	P	**Pn**	17 22 03.0	+2.8
	23nm,1.4s,0.1nm						
BASI	**Baing, Sumba**	8.99	250	P	**Pn**	17 22 21.2	+1.9
	85nm,1.0s						
FITZ	**Fitzroy Crossi**	11.36	197	Pn	**Pn**	17 22 48.9	-1.6
PLAI	**Plampang**	11.38	261	P	**Pn**	17 22 50.8	-0.1
PLAI	**Plampang**	11.38	261	P	**Pn**	17 22 50.9	0.0
	25nm,0.9s						
TWSI	**Taliwang, Sumb**	12.25	262	P	**Pn**	17 23 02.4	+0.3
WB0	**Warramunga Arr**	13.48	158	Pn	**Pn**	17 23 16.1	-1.8
WRA	**Warramunga Arr**	13.62	159	Pn	**Pn**	17 23 18.4	-1.3
WRA	**Warramunga Arr**	13.62	159	P	**Pn**	17 23 17.4	-2.2
	1.8nm,0.7s,baz=333,slow=13,SNR=20						
WRA				S	Sn	17 25 40.2	-11
	7.0nm,0.9s,baz=326,slow=23,SNR=6.4						
WB2	**Warramunga Arr**	13.63	159	Pn	**Pn**	17 23 18.1	-1.6
WR0	**Warramunga Arr**	13.71	158	Pn	**Pn**	17 23 19.4	-1.4
JAGI	**Jajag, Banyuwa**	14.92	264	P	**Pn**	17 23 38.1	+2.2
COEN	**Coen**	15.32	117	P	**P**	17 23 44.2	+2.1
COEN	**Coen**	15.32	117		**P**	17 23 41.9	-0.3
QIS	**Mount Isa**	16.69	144	P	**Pn**	17 23 58.8	+1.2
AS31	**Alice Springs**	16.99	165	P	**P**	17 24 01.2	+0.7
AS31				IAmb	IAmb	17 24 03.2	
	comp=Z,6.1nm,0.6s						
ASAR	**Alice Springs**	16.99	165	P	**P**	17 24 01.2	+0.7
ASAR	**Alice Springs**	16.99	165	P	**Pn**	17 24 01.9	+0.8
	comp=Z,12nm,0.7s,baz=342,slow=10.0,SNR=201						
ASAR				S	**S**	17 27 07.7	-2.1
	comp=Z,1.4nm,0.8s,baz=352,slow=23,SNR=5.5						
WRKA	**Warakurna**	17.75	183	P	**Pn**	17 24 10.9	+0.6
PMG	**Port Moresby**	17.95	98	P	**Pn**	17 24 16.3	+3.7
	comp=Z,6.7nm,0.6s,baz=240,slow=16,SNR=2.5						
PMG				S	**S**	17 27 26.2	-3.0
	comp=Z,5.8nm,0.6s,baz=169,slow=18,SNR=2.3						
MTSU	**Mount Surprise**	18.33	128	P	**Pn**	17 24 18.7	+1.5
CTAO	**Charters Tower**	20.95	129	P	**P**	17 24 43.1	-0.4
CTAO				IAmb	IAmb	17 24 46.3	
	comp=Z,7.5nm,1.1s						
GIRL	**Giralia**	21.03	222	P	**P**	17 24 45.4	+1.2
FORT	**Forrest**	23.48	182	P	**P**	17 25 09.0	+0.8
BBOO	**Buckleboo**	26.27	167	P	**P**	17 25 32.7	-0.9
BBOO				IAmb	IAmb	17 25 38.7	
	comp=Z,9.3nm,1.1s						
STKA	**Stephens Creek**	27.15	156	P	**P**	17 25 41.1	-0.3
	comp=Z,3.1nm,0.9s,baz=327,slow=7.5,SNR=4.4						
	comp=Z,3.1nm,0.9s						
CMAR	**Chiang Mai Arr**	39.23	311	P	**P**	17 27 27.1	+1.1
	comp=Z,0.4nm,0.3s,baz=142,slow=7.6,SNR=10						
	comp=Z,0.4nm,0.3s						
KHZ	**Kahutara**	52.49	139	P	**P**	17 29 07.9	-1.8
KHZ				IAmb	IAmb	17 29 08.7	
	comp=Z,11nm,1.0s						
MKAR	**Makanchi Array**	67.94	327	P	**P**	17 30 53.7	-0.9
MKAR	**Makanchi Array**	67.94	327	P	**P**	17 30 54.7	+0.1
	comp=Z,0.6nm,0.6s,baz=130,slow=7.5,SNR=7.8						
	comp=Z,0.6nm,0.6s						
MAKZ	**Makanchi**	68.12	327	P	**P**	17 30 54.5	-1.2
QSPA	**South Pole Qui**	82.77	180	P	**P**	17 32 18.2	-0.9
QSPA				IAmb	IAmb	17 32 33.7	
	comp=Z,2.4nm,1.1s						

*TEH **23** 17:23:30.6, 28°.12N×52°.90E, h13km±25km, ML3.3*
*DSN **23** 17:23:33.5±1.2, 27°.56N×52°.79E, h8km, ML2.7/10, Error ellipse: s-maj=18.3km s-min=8.1km az=13.0*
*OMAN **23** 17:23:34.0±0.9, 27°.78N×53°.03E, h10km, mb4.3/13, ml3.0/16, Error ellipse: s-maj=8.5km s-min=4.2km az=177.0*
*IDC **23** 17:23:44.1±23.0, 30°.42N×53°.11E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=472.6km s-min=41.2km az=5.0*

ISC 23 17:23:29.7±0.7, **28°.04N**±0°.04×**52°.94E**±0°.03, **h14**km, **n74,** σ1§**71**/97, **mb3.7**/4, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QIR1	**Qir**	0.45	12	Pg	**Pg**	17 23 38.3	-0.4
LMD1	**Lamerd**	0.72	164	Pg	**Pn**	17 23 46.1	+0.6
JHRM	**Jahrom**	0.73	50	Pg	**Pg**	17 23 44.2	+0.2
LAR1	**LAR**	1.32	106	Pg	**Pg**	17 23 56.7	+1.5
DSBU	**Dashti - Bushe**	1.52	283	Pg	**Pb**	17 23 58.0	+0.2
SHI	**Shiraz**	1.65	347	Pg	**Pb**	17 23 59.9	-0.1
AHBU	**AHRAM**	1.67	300	Pg	**Pn**	17 23 59.7	+1.1
KAZ2	**Kazeron-Fars-I**	1.93	325	Pn	**Pb**	17 24 04.8	0.0
SHMA	**Al Shehemyia**	2.80	220	P	**Pn**	17 24 16.4	+2.3
	SNR=6.0						
SHMA				S	**Sn**	17 24 51.1	+3.5
GENO	**Geno**	2.93	102	Pn	**Pb**	17 24 20.2	-1.8
SAKB	**Bahrain**	2.97	227	P	**Pn**	17 24 18.4	+2.0
SAKB				S	**Sb**	17 24 55.9	-2.6
JRN	**Qarnain Island**	3.08	182	P	**Pn**	17 24 19.4	+1.5
KLNJ	**Kolanjah**	3.19	339	Pn	**Pn**	17 24 19.7	-0.1
SHME	**Shamm**	3.47	124	P	**Pn**	17 24 25.3	+1.9
SHME	**Shamm**	3.47	124	P	**Pn**	17 24 26.5	+3.1
TRNA	**Turayna**	3.63	206	P	**Pn**	17 24 28.0	+2.4
	SNR=21						
BANOM	**Banah**	3.66	124	P	**Pn**	17 24 28.8	+2.8
SMRA	**Abu-Samra**	3.79	211	P	**Pn**	17 24 29.9	+2.2
SMRA				S	**Sn**	17 25 15.0	+3.0
IRAM	**Ramesheh**	3.79	353	Pn	**Pn**	17 24 29.2	+1.2
KHGB	**Koh Gabri**	3.87	52	Pn	**Pn**	17 24 31.1	+2.0
NAZ	**Nazwa, Dubai**	3.89	141	P	**Pn**	17 24 31.1	+2.0
NAZ	**Nazwa, Dubai**	3.89	141	P	**Pn**	17 24 31.7	+2.6
MASF	**Masafi**	3.91	132	P	**Pn**	17 24 31.7	+2.2
	SNR=9.8						
MASF				S	**Sn**	17 25 15.9	+0.6
AJN	**Ajban**	3.92	152	P	**Pn**	17 24 32.4	+2.9
ISAD	**Sadrabad**	3.92	9	Pn	**Pn**	17 24 32.1	+2.3
MSFE	**Esma-Masafi**	3.92	132	*i* P	**Pn**	17 24 30.7	+1.1
	SNR=9.8						
ASUD	**Al Ashush, Dub**	4.01	147	*i* P	**Pn**	17 24 31.9	+1.1
	SNR=11						
ASUD	**Al Ashush, Dub**	4.01	147	P	**Pn**	17 24 33.6	+2.8
	SNR=11						
ASUD				S	**Sn**	17 25 20.6	+2.9
FAQ	**Al Faqa, Dubai**	4.05	143	P	**Pn**	17 24 32.9	+1.6
FAQ	**Al Faqa, Dubai**	4.05	143	P	**Pn**	17 24 33.5	+2.2
MDH	**Madha**	4.05	131	P	**Pn**	17 24 33.4	+2.0
MDH				S	**Sn**	17 25 19.9	+1.2
SLWR	**Sila**	4.11	196	P	**Pn**	17 24 33.8	+1.7
SLWR				S	**Sn**	17 25 21.6	+1.7
IBAF	**Bafgh**	4.21	32	Pn	**Pn**	17 24 35.8	+2.1
UOSS	**Minazif**	4.24	136	*i* P	**Pn**	17 24 36.1	+2.1
	SNR=6.8						
UOSS	**Minazif**	4.24	136	P	**Pn**	17 24 35.3	+1.3
UOSS				S	**Sn**	17 25 23.3	-0.1
HATD	**Hatta, Dubai**	4.29	137	P	**Pn**	17 24 35.7	+1.1
HATD	**Hatta, Dubai**	4.29	137	P	**Pn**	17 24 36.2	+1.6
HATD				S	**Sn**	17 25 26.6	+2.1
MZWR	**Madinat Zayed**	4.34	169	P	**Pn**	17 24 37.4	+2.1
ASHO	**Ashiyiah**	4.35	139	*i* P	**Pn**	17 24 36.9	+1.3
	SNR=17						
ASHO				S	**Sn**	17 25 25.4	-0.8
ASHO	**Ashiyiah**	4.35	139	P	**Pn**	17 24 37.4	+1.8
	SNR=17						
ASHO				S	**Sn**	17 25 28.1	+2.0
ICHK	**Chekchek**	4.38	16	Pn	**Pn**	17 24 38.2	+2.0
IGAR	**Gharneh**	4.42	350	Pn	**Pn**	17 24 37.5	+0.9
JHBN	**Jahan bin**	4.62	335	Pn	**Pn**	17 24 40.2	+0.7
ALNE	**Al Ain**	4.70	147	*i* P	**Pn**	17 24 41.5	+1.2
	SNR=8.0						
ALNE	**Al Ain**	4.70	147	P	**Pn**	17 24 42.4	+2.1
	SNR=8.0						
ALNE				S	**Sn**	17 25 35.5	+0.8
JASK	**Jask - Hormozg**	4.90	115	P	**Pn**	17 24 44.1	+1.1
JASK				S	**Sn**	17 25 42.5	+3.0
KBAM	**BAM**	4.97	76	Pn	**Pn**	17 24 46.9	+2.9
MZR	**Muzera**	5.04	174	P	**Pn**	17 24 46.7	+1.8
SOHO	**SOHO**	5.05	139	*i* P	**Pn**	17 24 45.8	+0.7
	SNR=16						
SOHO	**SOHO**	5.05	139	P	**Pn**	17 24 46.5	+1.4
SOHO				S	**Sn**	17 25 45.1	+1.9
IKLH	**Kolahrood**	5.40	348	Pn	**Pn**	17 24 50.4	+0.4
UMZA	**Um Al Zommool**	5.67	159	P	**Pn**	17 24 55.0	+1.4
UMZA				S	**Sn**	17 25 57.1	-1.3
ARQ	**Araqi**	5.68	145	P	**Pn**	17 24 55.2	+1.4
	SNR=40						
ARQ				S	**Sn**	17 26 02.1	+3.2
HOQ	**Hoqain**	5.93	137	P	**Pn**	17 24 58.4	+1.2
	SNR=12						
HOQ				S	**Sn**	17 26 04.5	-0.5
KRSH	**Karshahi**	5.96	354	Pn	**Pn**	17 24 58.0	+0.3
BIDO	**Bidbid**	6.48	133	P	**Pn**	17 25 04.7	0.0
BIDO				S	**Sn**	17 26 16.9	-1.7
BSY	**Bisya**	6.52	143	P	**Pn**	17 25 06.9	+1.5
	SNR=14						
SMDO	**Samad**	6.77	136	P	**Pn**	17 25 09.7	+0.9
	SNR=43						
SMDO				S	**Sn**	17 26 26.4	+0.6
JMDO	**Jabal Madar**	7.32	139	P	**Pn**	17 25 17.3	+1.0
WBK	**Wadi Bani Khal**	7.67	133	P	**Pn**	17 25 21.7	+0.5
	SNR=9.5						
RAYN	**Ar Rayn**	8.07	238	*i* P	**Pn**	17 25 25.6	-1.0
	SNR=9.1						
JLN	**Jalan Bani Buh**	8.29	134	P	**Pn**	17 25 29.5	0.0
JLN				S	**Sn**	17 27 01.7	-1.3
MHTO	**MHTO**	8.38	146	P	**Pn**	17 25 31.3	+0.5
	SNR=6.9						
MHTO				S	**Sn**	17 27 03.2	-2.0
DQM	**DQM**	9.10	152	P	**Pn**	17 25 40.6	-0.1
DOK	**Doka**	9.44	173	P	**Pn**	17 25 44.8	-0.5
	SNR=5.8						
DOK				S	**Sn**	17 27 30.9	-0.4
WHFO	**Wadi Hawf**	10.10	175	P	**Pn**	17 25 54.0	-0.5
	SNR=30						
WHFO				S	**Sn**	17 27 44.7	-2.9
SHAO	**Shalim**	10.27	166	*i* P	**Pn**	17 25 54.3	-2.4
	SNR=7.4						
DMTO	**DMTO**	10.44	169	P	**Pn**	17 25 58.9	-0.1
RBK	**Rabkut**	10.55	173	P	**Pn**	17 26 00.5	-0.1
ABTO	**Aybut**	10.64	178	P	**Pn**	17 26 01.4	-0.4
MKAR	**Makanchi Array**	29.64	43	P	**P**	17 29 35.4	+0.6
	0.2nm,0.4s,baz=245,slow=8.5,SNR=2.4						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	34.83	33	P	**P**	17 30 18.5	-1.6
	0.7nm,0.5s,baz=243,slow=9.5,SNR=5.4						
	0.7nm,0.5s						
FINES	**FINESS Array B**	37.91	339	P	**P**	17 30 44.7	-1.6
	1.0nm,0.9s,baz=138,slow=9.0,SNR=3.9						
	1.0nm,0.9s						
HFS	**Hagfors**	41.63	332	P	**P**	17 31 16.7	-0.5
	0.7nm,0.4s,baz=105,slow=11,SNR=4.4						
	0.7nm,0.4s						

*IDC **23** 17:32:27.9±0.6, 15°.93S×177°.62W, h0km, mb4.3/18, mbtmp4.3/18, MS4.3/48, Error ellipse: s-maj=23.3km s-min=16.0km az=132.0*
*MOS **23** 17:32:27.1±0.9, 15°.97S×177°.51W, h12km, mb5.1/25, Error ellipse: s-maj=12.2km s-min=8.5km az=138.1*
*NEIC **23** 17:32:28.6±1.3, 15°.97S±0°.10×177°.59W±0°.08, h10km±1km, mb5.2/225, Error ellipse: s-maj=16.8km s-min=11.8km az=160.0*
*BJI **23** 17:32:29.5±0.0, 15°.61S×177°.39W, h12km, mb4.8/43, mBS.4/21, Ms4.9/11, Ms7 4.7/13*
*GCMT **23** 17:32:34.6±0.2, 15°.98S±0°.01×177°.50W±0°.01, h12km, MW5.1/133, Moment Tensor Solution. s63,c93; s133,c216; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.85±.09; Mθθ3.58±.09; Mϕϕ-2.73±.08; Mrθ0.66±.23; Mθϕ3.19±.07; Mϕr-1.92±.21; Best double couple: Ms4.97800×10^16 NP1:ϕs25.00000°, δ73.00000°, λ-160.00000°. NP2:ϕs289.00000°, δ71.00000°, λ-18.00000°. Principal axes: T 4.9150, Plg1.0000°, Azm157.0000°; N 0.1250, Plg64.0000°, Azm64.0000°; P -5.0400, Plg26.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 17:32:29.1±0.3, **15°.99S**±0°.07×**177°.62W**±0°.06, **h10**km, **n607,** σ1§**12**/500, **mb5.1**/155, **MS4.4**/55, **11C-3D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	4.50	247	Pn	**Pn**	17 33 36.1	-1.3
MSVF	**Nonsavu**	4.50	247	*i* P	**Pn**	17 33 38.9	+1.5
AFI	**Afiamalu**	6.01	71		Pn	17 33 54.9	-3.4
AFI	**Afiamalu**	6.01	71	P	Pn	17 33 54.9	-3.4
NIUE	**Niue**	7.96	114	Pn	**Pn**	17 34 23.5	-1.4
RAO	**Raoul Island**	13.21	181	LR	LR	17 39 49.3	
	comp=Z,3µm,19.9s,baz=16,slow=33						
PINNC	**Pines Island,**	15.56	243	Pn	**Pn**	17 36 06.9	-1.8
OUENC	**Ouen Island, N**	16.00	244	Pn	**Pn**	17 36 12.6	-1.9
DZM	**Mont Dzumac**	16.23	246	Pn	**Pn**	17 36 15.6	-2.0
DZM	**Mont Dzumac**	16.23	246	*e*P	**Pn**	17 36 21.1	+3.6
	108nm,1.6s						

WRA Warramunga Arr 45.75 258 P P 17 40 49.3 -1.9
WRA Warramunga Arr 45.75 258 P P 17 40 49.3 -1.9
WRA Warramunga Arr 45.75 258 P **P** **17 40 50.7 -0.5**
comp=Z,7.5nm,1.2s,baz=93,slow=7.0,SNR=8.3
WRA PcP **PcP** **17 42 29.3 +0.3**
comp=Z,1.1nm,1.0s,baz=98,slow=3.4,SNR=2.6
WRA LR LR 17 58 50.7
comp=Z,376nm,20.9s,baz=346,slow=35
comp=Z,7.5nm,1.2s
AS31 Alice Springs 46.06 252 P **P** **17 40 52.7 -0.9**
ASAR Alice Springs 46.06 252 P P 17 40 51.6 -1.9
ASAR Alice Springs 46.06 252 P P 17 40 51.7 -1.9
ASAR Alice Springs 46.06 252 P **P** **17 40 53.0 -0.6**
comp=Z,8.2nm,0.6s,baz=85,slow=8.1,SNR=126
ASAR PcP **PcP** **17 42 30.2 +0.2**
comp=Z,0.9nm,0.7s,baz=98,slow=3.9,SNR=1.9
ASAR LR LR 17 58 16.2
comp=Z,615nm,21.7s,baz=100,slow=34
comp=Z,8.2nm,0.6s
GUMO Guam 47.32 306 LR LR 17 58 19.5
comp=Z,170nm,20.7s,baz=128,slow=33
FORT Forrest 51.53 243 P **P** **17 41 34.4 -1.0**
FORT IAmb IAmb 17 42 31.7
comp=Z,30nm,0.9s
FITZ Fitzroy Crossi 54.11 259 P **P** **17 41 53.7 -1.0**
SOEI Soe 56.85 269 P **P** **17 42 13.5 -1.1**
JCJ Chichijima 57.93 317 LR LR 18 03 53.3
comp=Z,364nm,19.7s,baz=108,slow=33
PSA00 Pilbara Seismi 59.14 254 P **P** **17 42 29.4 -1.1**
PSA00 IAmb IAmb 17 42 46.9
comp=Z,33nm,2.0s
PSA00 Pilbara Seismi 59.14 254 P **P** **17 42 28.9 -1.6**
PSA00 IAmb IAmb 17 42 43.3
comp=Z,29nm,1.2s
DAV Davao City (W) 60.71 288 LR LR 18 06 36.4
comp=Z,141nm,20.9s,baz=310,slow=34
NWAO Narrogin (SRO) 60.79 241 LR LR 18 09 05.1
comp=Z,402nm,18.3s,baz=266,slow=36
MORW Morawa 61.95 245 P **P** **17 42 47.8 -1.9**
KAPI Kappang 62.34 273 *i*P **P** **17 42 53.2 +0.8**
KAPI pmax pmax
comp=Z,8.0nm,1.0s
VNDA Vanda 62.41 185 P **P** **17 42 51.8 0.0**
VNDA Vanda 62.41 185 P **P** **17 42 51.8 0.0**
VNDA pmax pmax
comp=Z,19nm,2.0s
VNDA Vanda 62.41 185 P **P** **17 42 53.3 +1.5**
comp=Z,0.7nm,0.7s,baz=338,slow=6.5,SNR=2.8
VNDA LR LR 18 05 06.7
comp=Z,108nm,20.0s,baz=22,slow=31
comp=Z,0.7nm,0.7s
JHJ Hachijo jima 2 63.55 321 LR LR 18 10 53.0
comp=Z,213nm,18.0s,baz=130,slow=36
RPN Rapa Nui 63.81 113 LR LR 18 03 47.7
comp=Z,78nm,21.9s,baz=30,slow=29
MJAR Matsushiro Arr 66.84 322 P **P** **17 43 20.9 -0.4**
comp=Z,5.4nm,1.1s,baz=155,slow=6.9,SNR=7.0
comp=Z,5.4nm,1.1s
SHEM Shemya Is, Ala 68.80 355 LR LR 18 08 11.8
comp=Z,241nm,20.1s,baz=156,slow=31
JNU Nakatsue 69.29 315 LR LR 18 09 11.1
comp=Z,129nm,20.9s,baz=127,slow=32
JKA Kamikawa-asahi 69.97 331 P **P** **17 43 40.2 -0.5**
JKA IAmb IAmb 17 44 02.8
comp=Z,45nm,1.6s
ASAJ Asahikawa 69.97 331 P **P** **17 43 40.2 -0.6**
ASAJ pmax pmax
comp=Z,45nm,1.6s
ASAJ Asahikawa 69.97 331 LR LR 18 08 13.5
comp=Z,831nm,21.9s,baz=140,slow=31
UNV Unalaska Valle 70.20 7 P **P** **17 43 41.7 -0.2**
baz=191
PEA0B Petropavlovsk- 72.03 345 P **P** **17 43 52.6 -0.5**
PEA0B Petropavlovsk- 72.03 345 *ce*P **P** **17 43 52.0 -1.1**
PETK Petropavlovsk- 72.03 345 P **P** **17 43 52.5 -0.6**
PETK Petropavlovsk- 72.03 345 P **P** **17 43 52.5 -0.6**
PETK Petropavlovsk- 72.03 345 P **P** **17 43 53.0 -0.1**
comp=Z,8.2nm,0.8s,baz=109,slow=9.4,SNR=14
comp=Z,8.2nm,0.8s
YSS Yuzh-Sakhalins 72.06 333 P **P** **17 43 53.6 +0.2**
YSS IAmb IAmb 17 43 55.9
comp=Z,29nm,1.2s
YSS Yuzh-Sakhalins 72.06 333 *e*P **P** **17 43 52.9 -0.4**
YSS *e*S **S** **17 53 11.5 -3.6**
YSS pmax pmax
comp=Z,20nm,1.1s
LEM Lembang 73.54 267 LR LR 18 15 47.0
comp=Z,48nm,20.7s,baz=158,slow=35
KSRS Korea Array 73.79 318 LR LR 18 10 54.3
comp=Z,218nm,21.8s,baz=130,slow=31
KSAR Wonju Array Be 73.81 318 P **P** **17 44 02.9 -1.1**
KSAR Wonju Array Be 73.81 318 P **P** **17 44 02.9 -1.1**
QSPA South Pole Qui 74.06 180 P **P** **17 44 04.3 -0.9**
QSPA IAmb IAmb 17 44 35.0
comp=Z,41nm,2.0s
QSPA South Pole Qui 74.06 180 P **P** **17 44 05.3 +0.1**
comp=Z,2.5nm,0.8s,baz=226,slow=0.1,SNR=9.8
QSPA LR LR 18 11 10.8
comp=Z,231nm,21.3s,baz=38,slow=31
comp=Z,2.5nm,0.8s
SMMC Simmler 74.71 46 P **P** **17 44 10.6 +1.2**
baz=237
TYV Tymovskoe 75.10 335 *e*P **P** **17 44 12.0 +0.8**
TYV pmax pmax
comp=Z,5.0nm,1.1s
TYV pmax pmax
comp=Z,100nm,3.5s
ARVC Arvin 75.42 46 P **P** **17 44 13.8 +0.4**
baz=238
USRK Ussuriysk Ar. 75.47 325 P **P** **17 44 14.4 +0.9**
comp=Z,1.5nm,0.7s,baz=59,slow=16,SNR=5.3
USRK LR LR 18 13 40.7
comp=Z,160nm,19.4s,baz=139,slow=33
comp=Z,1.5nm,0.7s
VES Vestal, Richgr 75.62 46 P **P** **17 44 14.9 +0.4**
baz=238
OHAK Old Harbor 75.70 13 P **P** **17 44 15.8 +1.3**
baz=204
BFSC Mount Baldy Ra 75.78 48 P **P** **17 44 16.0 +0.3**
baz=239
MURC Murrieta 75.79 48 P **P** **17 44 16.0 +0.4**
baz=240
EDW2 Edwards Air Fo 75.88 47 P **P** **17 44 16.9 +0.8**
baz=239
CMB Columbia Colle 75.93 43 P **P** **17 44 14.9 -1.4**
CMB Columbia Colle 75.93 43 P **P** **17 44 14.9 -1.4**
CMB pmax pmax
comp=Z,5.0nm,1.0s
ISA Isabella, Lake 75.95 46 P **P** **17 44 14.7 -1.8**
ISA IAmb IAmb 17 44 18.1
comp=Z,23nm,1.6s
ISA Isabella, Lake 75.95 46 P **P** **17 44 16.8 +0.2**
baz=238
ISA Isabella, Lake 75.95 46 P **P** **17 44 14.7 -1.8**
ISA pmax pmax
comp=Z,23nm,1.6s
MONP2 Monument Peak 76.00 49 P **P** **17 44 16.4 -0.6**
baz=240
AFDM Forest Hills D 76.06 42 P **P** **17 44 15.3 -1.7**
ORV Oroville 76.06 41 P **P** **17 44 15.3 -1.7**
ORV Oroville 76.06 41 P **P** **17 44 15.3 -1.7**
ORV pmax pmax
comp=Z,9.0nm,1.3s
IKP In-Ko-Pah, Jac 76.11 50 P **P** **17 44 18.4 +0.9**
baz=240
Q17K Contact Creek 76.12 12 P **P** **17 44 17.0 0.0**
baz=202
PFO Pinyon Flats O 76.33 49 P **P** **17 44 19.1 +0.3**
baz=240
PFO Pinyon Flats O 76.33 49 LR LR 18 11 01.6
comp=Z,201nm,19.2s,baz=228,slow=30
TPFO Pinon Flats 76.33 49 P **P** **17 44 19.0 +0.2**
baz=240
KDAK Kodiak Island 76.37 13 P **P** **17 44 18.0 -0.2**
KDAK Kodiak Island 76.37 13 P **P** **17 44 18.0 -0.2**
KDAK pmax pmax
comp=Z,160nm,1.9s
KDAK Kodiak Island 76.37 13 LR LR 18 10 50.8
comp=Z,213nm,20.5s,baz=228,slow=30
P16K Nushagak River 76.46 10 P **P** **17 44 19.7 +1.0**
baz=199
SWSC Sam W. Stewart 76.48 50 P **P** **17 44 20.3 +0.8**
baz=241
YBH Yreka Blue Hor 76.56 39 P **P** **17 44 19.6 -0.3**
YBH IAmb IAmb 17 44 26.3
comp=Z,39nm,1.5s
YBH Yreka Blue Hor 76.56 39 P **P** **17 44 19.6 -0.3**
YBH pmax pmax
comp=Z,39nm,1.5s
CWC Cottonwood Cre 76.63 46 P **P** **17 44 20.4 -0.1**
baz=238
M11K Mekoryuk 76.66 6 P **P** **17 44 21.1 +1.2**
baz=191
WAKR Walker 76.81 43 P **P** **17 44 20.5 -1.0**
LPIG La Paz 76.83 60 LR LR 18 09 43.8
comp=Z,144nm,19.8s,baz=222,slow=29
MPMC Manual Prospec 76.84 46 P **P** **17 44 21.5 -0.2**
baz=239
BELC Belle Mtn. Jos 76.85 49 P **P** **17 44 21.9 +0.2**
baz=240
HKPS Hong Kong Po S 76.87 298 P **P** **17 44 20.9 -1.1**
P17K Kvichak River 76.89 11 P **P** **17 44 21.5 +0.3**
baz=201
GSC Goldstone, Bar 76.93 47 P **P** **17 44 21.3 -0.8**
GSC IAmb IAmb 17 47 11.3
comp=Z,23nm,1.7s
GSC Goldstone, Bar 76.93 47 P **P** **17 44 22.4 +0.3**
baz=239
GSC Goldstone, Bar 76.93 47 P **P** **17 44 21.3 -0.8**
GSC pmax pmax
comp=Z,23nm,1.7s
HUMO Hull Mountain 76.93 38 P **P** **17 44 20.0 -1.9**
O16K Kokwok River B 76.97 10 P **P** **17 44 21.0 -0.6**
baz=199
HEC Hector,Ludlow 77.02 48 P **P** **17 44 23.1 +0.4**
baz=240
MDJ Mudanjiang 77.07 324 P **P** **17 44 24.8 +2.3**
MDJ pP pP 17 44 27.8 +2.8
MDJ sP sP 17 44 29.8 +3.8
MDJ PP **PP** **17 47 17.0 +0.7**
MDJ S **S** **17 54 11.0 -0.4**
MDJ sS pS 17 54 17.3 +2.8
MDJ pmax pmax
comp=Z,10.0nm,1.7s
MDJ pmax pmax
comp=Z,160nm,6.2s
MDJ LR LR
comp=Z,370nm,22.0s
MDJ Mudanjiang 77.07 324 P **P** **17 44 21.1 -1.4**
MDJ IAmb IAmb 17 44 26.3
comp=Z,33nm,1.7s
BC3 Big Chuckawall 77.08 49 P **P** **17 44 23.3 +0.2**
baz=241
DSP Deep Springs 77.19 45 P **P** **17 44 21.9 -1.4**
DSP IAmb IAmb 17 44 25.2
comp=Z,21nm,1.5s
QSM Queen of Sheba 77.22 47 P **P** **17 44 21.6 -2.0**
QSM IAmb IAmb 17 44 30.7
comp=Z,29nm,1.7s
GLA Glamis 77.25 50 P **P** **17 44 22.4 -1.5**
GLA IAmb IAmb 17 45 22.6
comp=Z,14nm,0.8s
GLA Glamis 77.25 50 P **P** **17 44 22.4 -1.5**
GLA pmax pmax
comp=Z,15nm,0.8s
LHV Little Huntoon 77.29 44 P **P** **17 44 22.4 -1.5**
P18K Big Mountain, 77.30 12 P **P** **17 44 23.4 -0.1**
P18K IAmb IAmb 17 44 23.7
comp=Z,17nm,1.0s
P18K Big Mountain, 77.30 12 P **P** **17 44 23.1 -0.5**
baz=202
O17K Koliganek Bris 77.31 10 P **P** **17 44 23.5 0.0**
baz=200
NJ2 Nanjing 77.32 309 *e*P **P** **17 44 26.3 +2.1**
NJ2 pP **PcP** **17 44 36.6 +1.8**
NJ2 sP pwP 17 44 40.8 +11
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,200nm,4.0s
GRAC Grapevine Rang 77.40 45 P **P** **17 44 23.0 -1.7**
GRAC Grapevine Rang 77.40 45 P **P** **17 44 25.0 +0.3**
baz=239
GWY Greenwater Val 77.47 46 P **P** **17 44 23.7 -1.5**
RYN Ryan 77.48 44 P **P** **17 44 23.2 -2.0**
RYN IAmb IAmb 17 44 27.8
comp=Z,52nm,2.0s
GMRC Granite Mounta 77.48 48 P **P** **17 44 25.1 -0.2**
baz=240
PAHR Pah Rah Range 77.50 42 P P 17 44 23.1 -2.2
PAHR IAmb IAmb 17 44 27.1
comp=Z,30nm,1.7s
M14K Bethel 77.50 8 P **P** **17 44 23.9 -0.7**
M14K Bethel 77.50 8 P **P** **17 44 25.3 +0.7**
baz=195
NVAR Mina Array Bea 77.52 44 P **P** **17 44 24.7 -0.8**
NVAR Mina Array Bea 77.52 44 P **P** **17 44 25.4 -0.1**
comp=Z,2.7nm,0.8s,baz=228,slow=9.0,SNR=16
NVAR LR LR 18 10 28.5
comp=Z,109nm,20.4s,baz=216,slow=29
comp=Z,2.7nm,0.8s
IRM Iron Mountain 77.55 49 P **P** **17 44 25.8 +0.3**
baz=241
PIX Pinacate 77.57 52 P **P** **17 44 23.8 -1.8**
PIX IAmb IAmb 17 44 26.9
comp=Z,38nm,2.0s
TUQ Turquoise Moun 77.62 47 P **P** **17 44 26.2 +0.2**
baz=240
M15K Kasigluk River 77.62 8 P **P** **17 44 25.9 +0.7**
baz=197
NV11 Mina Array Sit 77.62 44 P **P** **17 44 24.6 -1.4**
NV11 IAmb IAmb 17 44 27.6
comp=Z,28nm,1.6s
GMN Gold Mountain 77.63 45 P **P** **17 44 25.5 -0.7**
N16K Nishlik Lake 77.70 9 P **P** **17 44 26.3 +0.6**
baz=198
O18K Koktuh Hills 77.73 11 P **P** **17 44 24.6 -1.3**
O18K Koktuh Hills 77.73 11 P **P** **17 44 26.3 +0.3**
baz=202
MZP Montezuma Peak 77.76 45 P **P** **17 44 25.8 -1.1**
MZP IAmb IAmb 17 44 53.0
comp=Z,14nm,0.7s
BLYC Blythe 77.80 49 P **P** **17 44 25.8 -1.1**
WCT Wildcat Mounta 77.81 46 P **P** **17 44 26.1 -0.9**
113A Mohawk Valley, 77.90 51 P **P** **17 44 26.7 -0.7**
113A IAmb IAmb 17 44 30.1
comp=Z,37nm,2.0s
P19K Oil Pt 77.94 12 P **P** **17 44 27.7 +0.6**
baz=204
L14K Kuka Creek 77.98 7 P **P** **17 44 27.8 +0.6**
baz=195
KVN Kaiserville 77.99 43 P **P** **17 44 27.1 -1.0**
KVN Kaiserville 77.99 43 P **P** **17 44 27.1 -1.0**
KVN pmax pmax
comp=Z,5.0nm,1.1s
N17K Nushagak Hills 78.01 10 P **P** **17 44 28.4 +0.9**
baz=200
TPH Tonopah 78.06 45 P **P** **17 44 26.9 -1.6**
TPH Tonopah 78.06 45 P **P** **17 44 26.9 -1.6**
TPH pmax pmax
comp=Z,70nm,1.3s
M16K Timber Creek 78.19 9 P **P** **17 44 28.7 +0.2**
M16K Timber Creek 78.19 9 P **P** **17 44 29.4 +0.9**
baz=198
O19K Port Alsworth 78.22 12 P **P** **17 44 27.8 -0.8**
O19K Port Alsworth 78.22 12 P **P** **17 44 29.5 +1.0**
baz=203
214A Organ Pipe Nat 78.24 52 P P 17 44 27.0 -2.4
214A IAmb IAmb 17 44 31.2
comp=Z,46nm,2.0s
214A Organ Pipe Nat 78.24 52 P **P** **17 44 30.1 +0.7**
baz=243
ILSW Iliamna Southw 78.26 12 P **P** **17 44 28.1 -0.9**
ILSW IAmb IAmb 17 44 29.7
comp=Z,32nm,1.2s
PDMCI Parker Dam,Lak 78.35 49 P **P** **17 44 29.9 0.0**
baz=241
N18K Kilae Creek 78.38 11 P **P** **17 44 29.7 +0.2**
baz=201
L15K Ungalak Mounta 78.46 8 P **P** **17 44 30.3 +0.4**
baz=196
V12A Nelson 78.52 48 P **P** **17 44 29.7 -1.3**
BRLK Bradley Lake 78.54 13 P **P** **17 44 29.1 -1.4**
BRSE Bradley Lake S 78.55 14 P **P** **17 44 30.9 +0.4**
WTNK Soaring Height 78.64 47 P **P** **17 44 29.7 -1.8**
SHPR Sheep Range 78.69 47 P P 17 44 29.4 -2.5
N19K Bonanza Creek 78.76 11 P **P** **17 44 31.0 -0.7**
baz=203
L16K Owhat River 78.77 9 P **P** **17 44 32.0 +0.4**
baz=198
M17K Holitna River 78.79 10 P **P** **17 44 30.8 -1.0**
M17K Holitna River 78.79 10 P **P** **17 44 32.4 +0.7**
baz=200
PINE Pine Mountain 78.82 38 P **P** **17 44 30.5 -2.1**
PINE IAmb IAmb 17 44 38.8
comp=Z,21nm,1.1s
KLR Kul'dur 78.86 329 *ce*P **P** **17 44 32.3 -0.1**
KLR pmax pmax
comp=Z,5.0nm,2.5s
KLR Kul'dur 78.86 329 LR LR 18 13 55.0
comp=Z,574nm,21.7s,baz=134,slow=32
W13A Hualapai Mount 78.91 49 P P 17 44 31.1 -2.2
BNX BinXian 78.98 324 ||P **P** **17 44 33.9 +0.8**
BNX pmax pmax
comp=Z,6.0nm,1.0s
BNX pmax pmax
comp=Z,100nm,4.3s
CN2 Changchun 78.98 322 *e*P **P** **17 44 34.8 +1.6**
CN2 *e*S **S** **17 54 31.4 -0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,100nm,10.0s
CN2 LR LR
comp=Z,300nm,10.0s
CN2 LR LR
comp=Z,200nm,10.0s
Y14A Wickenburg 79.01 50 P **P** **17 44 32.6 -1.1**
SNY Shenyang 79.02 319 ||P **P** **17 44 35.3 +1.9**
SNY pmax pmax
comp=Z,11nm,1.8s
K15K Wolf Creek Mou 79.05 8 P **P** **17 44 34.2 +1.1**
baz=196
M18K Stony River 79.14 10 P **P** **17 44 34.4 +0.7**
baz=201
PRN Pahroc Range 79.21 46 P **P** **17 44 33.3 -1.5**
BMN Battle Mountai 79.29 42 P **P** **17 44 33.6 -1.6**
BMN Battle Mountai 79.29 42 P **P** **17 44 33.6 -1.6**
BMN pmax pmax
comp=Z,24nm,1.6s
R11B Troy Canyon, C 79.31 45 P **P** **17 44 34.0 -1.4**
R11B Troy Canyon, C 79.31 45 P **P** **17 44 35.0 -0.4**
baz=240
L17K Donlin 79.35 9 P **P** **17 44 36.4 +1.6**
baz=199
QIZ Qiongzhong 79.38 293 P **P** **17 44 38.0 +2.1**
QIZ S **S** **17 54 36.3 -0.9**
QIZ LR LR
comp=Z,140nm,18.3s
QIZ LR LR
comp=Z,220nm,18.8s
QIZ LR LR
comp=Z,230nm,19.4s
CAPN Captain Cook N 79.39 13 P **P** **17 44 36.3 +1.4**
baz=206
O22K Cooper Landing 79.45 14 P **P** **17 44 34.1 -1.2**
WVOR Wild Horse Val 79.46 40 P **P** **17 44 34.4 -1.7**
WVOR Wild Horse Val 79.46 40 P **P** **17 44 34.4 -1.7**
WVOR pmax pmax
comp=Z,27nm,1.8s
MA2 Magadan 79.56 344 P **P** **17 44 35.3 -0.7**
MA2 IAmb IAmb 17 44 38.3
comp=Z,44nm,1.9s
MA2 Magadan 79.56 344 *ce*P **P** **17 44 35.1 -0.9**
MA2 pmax pmax
comp=Z,29nm,2.5s
MA2 Magadan 79.56 344 P **P** **17 44 35.3 -0.7**
comp=Z,1.8nm,0.8s,baz=163,slow=6.3,SNR=6.6
MA2 LR LR 18 16 39.0
comp=Z,140nm,19.8s,baz=157,slow=33
comp=Z,1.8nm,0.8s
N20K Mount Spurr 79.56 12 P **P** **17 44 35.8 -0.3**
baz=205
L18K Granite Mounta 79.68 10 P **P** **17 44 35.7 -0.9**
L18K IAmb IAmb 17 44 38.9
comp=Z,32nm,1.4s
L18K Granite Mounta 79.68 10 P **P** **17 44 38.0 +1.4**
baz=200
G06A Carlson Farm, 79.83 37 P **P** **17 44 36.6 -1.3**
G06A IAmb IAmb 17 47 16.7
comp=Z,39nm,1.8s
I07A Izee 79.84 38 P **P** **17 44 36.5 -1.5**
I07A IAmb IAmb 17 46 07.2
comp=Z,37nm,1.8s
K17K Iditarod 79.90 9 P **P** **17 44 36.6 -1.1**
K17K IAmb IAmb 17 44 40.3
comp=Z,61nm,1.7s
K17K Iditarod 79.90 9 P **P** **17 44 39.3 +1.5**
baz=199
TUC Tucson 79.93 52 P **P** **17 44 37.2 -1.6**
TUC Tucson 79.93 52 P **P** **17 44 39.0 +0.3**
baz=244
TUC Tucson 79.93 52 P **P** **17 44 37.2 -1.6**
TUC pmax pmax
comp=Z,22nm,1.6s
L19K White Mountain 79.96 11 P **P** **17 44 39.8 +1.6**
baz=202
RC01 Rabbit Creek A 79.98 13 P **P** **17 44 37.4 -0.9**
RC01 Rabbit Creek A 79.98 13 P **P** **17 44 38.1 -0.2**
baz=207
M20K Styx River 80.00 12 P **P** **17 44 38.5 +0.1**
baz=204
LON Longmire 80.04 35 P **P** **17 44 37.5 -1.5**
LON IAmb IAmb 17 47 15.9
comp=Z,35nm,1.9s
LON Longmire 80.04 35 P **P** **17 44 37.5 -1.5**
LON pmax pmax
comp=Z,35nm,1.9s
J08A Circle Bar Ran 80.06 39 P **P** **17 44 37.3 -2.0**
SUA Susitna One 80.10 13 P **P** **17 44 37.9 -1.2**
SUA IAmb IAmb 17 44 42.3
comp=Z,62nm,1.9s
SUA Susitna One 80.10 13 P **P** **17 44 38.8 -0.2**
baz=206
J16K Anvik River 80.12 8 P **P** **17 44 39.3 +0.4**
J16K IAmb IAmb 17 44 41.4
comp=Z,30nm,1.4s
J16K Anvik River 80.12 8 P **P** **17 44 39.9 +0.9**
baz=197
Q12A Willow Creek R 80.17 45 P **P** **17 44 38.3 -1.7**
Q12A IAmb IAmb 17 44 42.3
comp=Z,46nm,2.0s
CBB Campbell River 80.18 31 P **P** **17 44 39.3 -0.3**
CBB IAmb IAmb 17 46 50.2
comp=Z,33nm,1.3s
D05A Enumclaw 80.20 35 P **P** **17 44 38.3 -1.5**
BBB Bella Bella 80.28 28 LR LR 18 13 52.0
comp=Z,85nm,18.5s,baz=231,slow=31
X16A Lo Mia Camp, P 80.38 50 P **P** **17 44 39.1 -2.2**
SKT Skwentna 80.41 12 P **P** **17 44 39.8 -0.8**
SKT IAmb IAmb 17 44 41.6
comp=Z,45nm,2.0s
SKT Skwentna 80.41 12 P **P** **17 44 40.7 +0.1**
baz=205
L20K Farewell, AK 80.41 11 P **P** **17 44 40.6 0.0**
baz=203
J17K VABM Dome 80.44 8 P **P** **17 44 40.0 -0.6**
J17K IAmb IAmb 17 44 50.8
comp=Z,38nm,1.6s
J17K VABM Dome 80.44 8 P **P** **17 44 41.6 +0.9**
baz=198
CCUT Cedar City 80.45 47 P P 17 44 39.2 -2.4
TTA Tatalina 80.46 10 P **P** **17 44 41.5 +0.5**
baz=201
SPR3 Spring Creek 3 80.48 45 P P 17 44 39.5 -2.4
M22K Willow 80.50 13 P **P** **17 44 39.8 -1.2**
M22K IAmb IAmb 17 44 46.7
comp=Z,29nm,1.1s
M22K Willow 80.50 13 P **P** **17 44 41.1 +0.2**
baz=207
KNK Knik Glacier 80.56 14 P **P** **17 44 41.4 0.0**
KNK IAmb IAmb 17 47 13.9
comp=Z,75nm,2.0s
KNK Knik Glacier 80.56 14 P **P** **17 44 41.6 +0.2**
baz=208
PMR Palmer 80.57 13 P P 17 44 39.1 -2.3
PMR IAmb IAmb 17 44 43.3
comp=Z,40nm,1.7s
PMR Palmer 80.57 13 P **P** **17 44 41.3 -0.1**
baz=208
PMR Palmer 80.57 13 P P 17 44 39.1 -2.3
PMR pmax pmax
comp=Z,40nm,1.7s
PSUT Pine Spring 80.58 45 P P 17 44 39.7 -2.6
U15A North Rim 80.68 48 P **P** **17 44 42.8 -0.2**
319A Douglas 80.69 54 P **P** **17 44 41.6 -1.3**

I17K	**Unalakleet**	80.69	8	P		**P**	17 44 40.7	-1.3
I17K	**Unalakleet**	80.69	8	P		**P**	17 44 42.1	+0.1
	baz=196							
ELK	**Elko**	80.75	43	P		**P**	17 44 41.8	-1.4
ELK	**Elko**	80.75	43	P		**P**	17 44 41.8	-1.4
ELK				pmax		pmax		
	comp=Z,14nm,1.6s							
ELK	**Elko**	80.75	43	LR		LR	18 15 21.1	
	comp=Z,100nm,18.2s,baz=242,slow=32							
J18K	**Innoko River**	80.85	9	P		**P**	17 44 42.6	-0.3
J18K				IAmb		IAmb	17 44 44.8	
	comp=Z,29nm,1.3s							
J18K	**Innoko River**	80.85	9	P		**P**	17 44 43.4	+0.5
	baz=200							
SML	**Sawmill**	80.94	14	P		**P**	17 44 42.1	-1.3
SML	**Sawmill**	80.94	14	P		**P**	17 44 44.3	+0.8
	baz=208							
CUT	**Chulitna**	81.05	13	P		**P**	17 44 43.1	-0.9
CUT				IAmb		IAmb	17 45 13.6	
	comp=Z,46nm,1.4s							
CUT	**Chulitna**	81.05	13	P		**P**	17 44 43.8	-0.2
	baz=206							
PPLA	**Purkeypile**	81.11	11	P		**P**	17 44 45.2	+0.7
	baz=205							
BMRM	**Bremner River**	81.11	16	P		**P**	17 44 45.1	+0.7
	baz=212							
HAWA	**Hanford**	81.12	36	P		P	17 44 42.5	-2.2
HAWA				IAmb		IAmb	17 44 46.3	
	comp=Z,38nm,1.8s							
K20K	**Telida**	81.19	11	P		**P**	17 44 44.1	-0.6
K20K	**Telida**	81.19	11	P		**P**	17 44 45.1	+0.4
	baz=203							
SCM	**Sheep Creek Mo**	81.19	14	P		**P**	17 44 45.0	+0.2
	baz=209							
S31K	**Pelican**	81.19	21	P		**P**	17 44 44.8	0.0
	baz=220							
KLU	**Klutina**	81.23	15	P		**P**	17 44 44.9	-0.2
	baz=211							
H16K	**Elim**	81.23	7	P		**P**	17 44 45.4	+0.5
	baz=195							
CRQE	**Cirque**	81.33	16	P		**P**	17 44 45.8	+0.1
	baz=213							
G15K	**Niukluk**	81.39	6	P		**P**	17 44 46.5	+0.8
	baz=193							
E08A	**Dider Farm, El**	81.45	37	IAmb		IAmb	17 44 48.0	
	comp=Z,21nm,1.3s							
MTPU	**Mount Pierson**	81.50	47	IAmb		IAmb	17 44 50.1	
	comp=Z,38nm,2.0s							
PNL	**Peninsula**	81.51	19	P		**P**	17 44 46.6	+0.1
	baz=217							
J19K	**Poorman**	81.52	10	P		**P**	17 44 45.8	-0.6
J19K				IAmb		IAmb	17 44 49.8	
	comp=Z,65nm,1.9s							
J19K	**Poorman**	81.52	10	P		**P**	17 44 47.2	+0.7
	baz=201							
BMO	**Blue Mountains**	81.58	39	P		**P**	17 44 46.9	-0.4
BMO	**Blue Mountains**	81.58	39	P		**P**	17 44 46.9	-0.4
BMO				pmax		pmax		
	comp=Z,7.0nm,1.2s							
TCRU	**Three Creeks R**	81.59	46	P		**P**	17 44 47.0	-0.8
CAST	**Castle Rocks**	81.61	11	P		**P**	17 44 46.0	-0.9
	baz=205							
TNA	**Tin City**	81.63	4	P		**P**	17 44 47.0	0.0
	baz=189							
VRDI	**Verde Repeater**	81.64	16	IAmb		IAmb	17 44 48.4	
	comp=Z,41nm,1.7s							
N25K	**Chitina, Valde**	81.66	15	P		**P**	17 44 45.4	-2.0
N25K				IAmb		IAmb	17 44 49.4	
	comp=Z,51nm,2.0s							
N25K	**Chitina, Valde**	81.66	15	P		**P**	17 44 46.9	-0.4
	baz=212							
F14K	**Arctic Creek**	81.66	5	P		**P**	17 44 48.3	+1.1
	baz=191							
HEH	**HeiHe**	81.69	328	*e*P		**P**	17 44 47.9	+0.3
HEH				pmax		pmax		
	comp=Z,10.0nm,1.7s							
HEH				pmax		pmax		
	comp=Z,200nm,4.6s							
M24K	**Tolsona, Glenn**	81.70	14	P		**P**	17 44 48.3	+0.8
	baz=210							
GLB	**Gilahina Butte**	81.72	16	P		**P**	17 44 47.0	-0.6
GLB				IAmb		IAmb	17 44 54.5	
	comp=Z,50nm,2.0s							
WAT6	**Susitna Watana**	81.75	13	P		**P**	17 44 47.4	-0.5
	baz=209							
WAT1	**Susitna Watana**	81.79	13	P		**P**	17 44 47.6	-0.3
	baz=208							
H17K	**Granite Mounta**	81.80	8	IAmb		IAmb	17 45 27.9	
	comp=Z,42nm,1.9s							
H17K	**Granite Mounta**	81.80	8	P		**P**	17 44 48.3	+0.4
	baz=197							
D08A	**Wollman Farm,**	81.84	36	IAmb		IAmb	17 44 50.1	
	comp=Z,28nm,1.5s							
MCARA	**McCarthy VSAT**	81.88	16	P		**P**	17 44 48.5	+0.1
	baz=213							
J20K	**Nowinta River**	81.93	10	P		**P**	17 44 49.2	+0.6
	baz=203							
KTH	**Kantishna Hill**	81.95	12	IAmb		IAmb	17 44 50.0	
	comp=Z,47nm,1.6s							
G16K	**Koyuk River**	81.96	6	P		**P**	17 44 49.1	+0.5
	baz=195							
TRF	**Thorofare Moun**	81.98	12	IAmb		IAmb	17 44 52.0	
	comp=Z,50nm,1.7s							
TRF	**Thorofare Moun**	81.98	12	P		**P**	17 44 48.4	-0.7
	baz=206							
CHUM	**Lake Minchumin**	81.99	11	P		**P**	17 44 48.4	-0.4
	baz=204							
CTG	**Chitna Glacier**	81.99	17	P		**P**	17 44 49.1	-0.1
	baz=215							
P29M	**Windy Craggy**	81.99	19	P		**P**	17 44 49.4	+0.3
	baz=218							
F15K	**North Star Dit**	82.04	5	P		**P**	17 44 49.8	+0.7
	baz=193							
SEY	**Seymchan**	82.09	347	*ce*P		**P**	17 44 48.4	-1.0
SEY				pmax		pmax		
	comp=Z,19nm,1.7s							
SEY	**Seymchan**	82.09	347	P		**P**	17 44 49.6	+0.2
	comp=Z,0.8nm,0.3s,baz=138,slow=5.2,SNR=9.1							
	comp=Z,0.8nm,0.3s							
DUG	**Dugway, Tooele**	82.09	44	P		**P**	17 44 48.7	-1.5
	baz=241							
H18K	**Honhosa River**	82.21	8	P		**P**	17 44 50.3	+0.3
	baz=199							
RND	**Reindeer**	82.24	13	P		**P**	17 44 49.4	-1.0
RND	**Reindeer**	82.24	13	P		**P**	17 44 49.4	-1.0
RND				pmax		pmax		
	comp=Z,88nm,2.0s							
G17K	**Kiwalik Mounta**	82.25	7	P		**P**	17 44 50.5	+0.3
	baz=196							
DHY	**Denali Highway**	82.27	13	P		**P**	17 44 50.8	+0.2
	baz=209							
PLBC	**Pleasant Camp**	82.30	20	P		**P**	17 44 50.4	-0.2
	baz=220							
121A	**Cookes Peak, D**	82.32	53	P		**P**	17 44 51.8	+0.1
	baz=246							
BPAW	**Bear Paw Mtn.**	82.43	11	P		**P**	17 44 50.8	-0.5
	baz=206							
MCK	**McKinley**	82.51	12	P		**P**	17 44 52.2	+0.5
	baz=208							
PAX	**Paxson**	82.61	14	P		**P**	17 44 52.7	+0.4
	baz=211							
Q16A	**Castle Valley**	82.61	46	IAmb		IAmb	17 44 56.2	
	comp=Z,29nm,1.7s							
P30M	**Million Dollar**	82.62	19	P		**P**	17 44 53.0	+0.6
	baz=215							
T35M	**Bob Quinn**	82.67	24	P		**P**	17 44 52.7	+0.1
	baz=225							
YUK8	**Steele Glacier**	82.70	17	P		**P**	17 44 53.1	+0.1
	baz=216							
M26K	**Nabesna, AK**	82.74	15	IAmb		IAmb	17 44 54.1	
	comp=Z,28nm,1.5s							
M26K	**Nabesna, AK**	82.74	15	P		**P**	17 44 52.5	-0.4
	baz=213							
HNS	**HongShan**	82.79	312	⇑P		**P**	17 44 54.9	+1.2
HNS				*e*S		S	17 55 05.8	-6.3
HNS				pmax		pmax		
	comp=Z,7.0nm,1.7s							
HNS				LR		LR		
	comp=Z,140nm,15.9s							
HNS				LR		LR		
	comp=Z,200nm,19.9s							
HNS				LR		LR		
	comp=Z,250nm,24.5s							
H19K	**Roundabout Mou**	82.83	9	P		**P**	17 44 52.8	-0.4
H19K	**Roundabout Mou**	82.83	9	P		**P**	17 44 53.6	+0.4
	baz=200							
YUK6	**Outpost Mounta**	82.84	18	P		**P**	17 44 53.1	-0.6
	baz=218							
HVU	**Hansel Valley**	82.87	43	IAmb		IAmb	17 44 55.7	
	comp=Z,28nm,1.7s							
G18K	**Tagagawik**	82.88	8	IAmb		IAmb	17 44 54.9	
	comp=Z,43nm,1.8s							
G18K	**Tagagawik**	82.88	8	P		**P**	17 44 53.4	-0.1
	baz=198,SNR=5.8							
YUK3	**Moose Creek**	82.90	17	P		**P**	17 44 54.1	+0.1
	baz=216							
IPM	**Ipoh**	82.94	277	P		**P**	17 44 53.5	-1.5
IPM				IAmb		IAmb	17 45 07.3	
	comp=Z,30nm,1.3s							
BJI	**Beijing**	82.96	315	P		**P**	17 44 55.8	+1.3
BJI				pmax		pmax		
	comp=Z,5.0nm,1.4s							
S34M	**Telegraph Cree**	82.99	23	P		**P**	17 44 54.5	+0.3
	baz=225							
M27K	**Edge Creek, AK**	82.99	16	P		**P**	17 44 55.2	+0.8
	baz=214							
HYT	**Haines Junctio**	83.00	19	P		**P**	17 44 55.0	+0.5
	baz=219							
H20K	**Anotleneega Mo**	83.04	9	P		**P**	17 44 55.1	+0.8
	baz=202							
F17K	**Baldwin Pennin**	83.09	7	P		**P**	17 44 55.3	+0.8
	baz=196							
SRU	**San Rafael Swe**	83.15	46	IAmb		IAmb	17 44 57.2	
	comp=Z,11nm,1.0s							
P17A	**Butcher Ranch,**	83.16	46	IAmb		IAmb	17 44 58.6	
	comp=Z,43nm,1.8s							
L26K	**Log Cabin Wild**	83.17	15	IAmb		IAmb	17 44 57.6	
	comp=Z,38nm,1.9s							
L26K	**Log Cabin Wild**	83.17	15	P		**P**	17 44 55.3	+0.2
	baz=213							
I21K	**Tanana**	83.23	11	IAmb		IAmb	17 44 56.6	
	comp=Z,28nm,1.3s							
I21K	**Tanana**	83.23	11	P		**P**	17 44 56.1	+0.8
	baz=205							
NEA2	**Nenana**	83.25	12	P		**P**	17 44 54.7	-0.8
	baz=208							
K24K	**Donnelly Dome**	83.26	14	P		**P**	17 44 55.3	-0.3
	baz=211							
P32M	**Atlin**	83.29	21	P		**P**	17 44 55.8	0.0
	baz=222							
BVCY	**Beaver Creek**	83.31	16	P		**P**	17 44 56.0	+0.1
	baz=215							
MLY	**Manley**	83.32	11	IAmb		IAmb	17 45 04.8	
	comp=Z,18nm,1.4s							
MLY	**Manley**	83.32	11	P		**P**	17 44 55.9	0.0
	baz=206							
G19K	**Purcell Mounta**	83.32	8	IAmb		IAmb	17 44 57.7	
	comp=Z,37nm,1.6s							
G19K	**Purcell Mounta**	83.32	8	P		**P**	17 44 56.0	+0.2
	baz=200							
Q32M	**Nakina River**	83.33	22	P		**P**	17 44 56.0	-0.2
	baz=224							
O30N	**Mendenhall**	83.40	19	P		**P**	17 44 56.2	-0.2
	baz=220							
RIDG	**Independent Ri**	83.42	14	P		**P**	17 44 56.5	0.0
	baz=212							
F18K	**Selawik**	83.43	7	P		**P**	17 44 55.8	-0.5
	baz=197							
NEW	**Newport**	83.52	36	P		**P**	17 44 57.0	-0.3
	baz=237							
NEW	**Newport**	83.52	36	LR		LR	18 17 42.9	
	comp=Z,72nm,18.2s,baz=196,slow=32							
H21K	**Melozitna River**	83.53	10	P		**P**	17 44 57.5	+0.6
	baz=204							
HDA	**Harding Lake**	83.53	13	P		**P**	17 44 57.0	+0.1
	baz=210,SNR=7.8							
L27K	**Beaver Creek,**	83.59	16	IAmb		IAmb	17 44 58.7	
	comp=Z,23nm,1.7s							
L27K	**Beaver Creek,**	83.59	16	P		**P**	17 44 57.2	-0.1
	baz=214							
BCAR	**Beaver Creek A**	83.60	16	P		**P**	17 44 57.0	-0.4
E17K	**Hotham Inlet**	83.65	6	P		**P**	17 44 57.6	+0.2
	baz=195,SNR=7.4							
IMAR	**Indian Mountai**	83.67	10	P		**P**	17 44 57.1	-0.5
I23K	**Minto, Yukon-K**	83.69	12	P		**P**	17 44 57.6	0.0
	baz=207,SNR=6.7							
WHY	**Whitehorse**	83.70	20	P		**P**	17 44 58.3	+0.3
	baz=221							
COLA	**College**	83.75	12	*ci*P		**P**	17 44 57.1	-0.9
COLA				pmax		pmax		
	comp=Z,42nm,1.7s							
DLBC	**Dease Lake**	83.78	23	P		**P**	17 44 59.0	+0.6
	baz=226							
DLBC	**Dease Lake**	83.78	23	LR		LR	18 16 04.4	
	comp=Z,140nm,18.6s,baz=276,slow=31							
VHRN	**Van Horn**	83.82	56	IAmb		IAmb	17 45 01.4	
	comp=Z,21nm,1.5s							
SCRK	**Sand Creek**	83.82	14	IAmb		IAmb	17 45 01.0	
	comp=Z,32nm,1.8s							
SCRK	**Sand Creek**	83.82	14	P		**P**	17 44 58.6	0.0
	baz=212,SNR=5.9							
ENH	**Enshi**	83.83	304	P		**P**	17 44 58.9	-0.5
ILAR	**Eielson Array**	83.86	13	P		**P**	17 44 57.3	-1.3
ILAR	**Eielson Array**	83.86	13	P		**P**	17 44 57.3	-1.3
ILAR	**Eielson Array**	83.86	13	P		**P**	17 44 57.9	-0.7
	comp=Z,3.8nm,0.9s,baz=225,slow=5.4,SNR=25							
ILAR				LR		LR	18 14 14.8	
	comp=Z,144nm,21.0s,baz=229,slow=30							
	comp=Z,3.8nm,0.9s							
MNTX	**Cornudas Mount**	83.86	55	P		**P**	17 44 59.2	-0.2
	baz=247							
F19K	**Shaleruckik Mo**	83.88	8	P		**P**	17 44 58.9	+0.3
	baz=199							
ZEA	**Zeya**	83.89	331	*e*P		**P**	17 45 00.0	+1.0
H22K	**Ishtalitna Cre**	83.99	11	P		**P**	17 44 60.0	+0.7
	baz=205,SNR=7.1							
M29M	**Somme Creek**	84.00	17	P		**P**	17 44 58.5	-1.1
M29M				IAmb		IAmb	17 45 01.9	
	comp=Z,36nm,1.8s							
M29M	**Somme Creek**	84.00	17	P		**P**	17 44 59.0	-0.5
	baz=218							
POKR	**Poker Plat Res**	84.05	12	P		**P**	17 44 59.6	0.0
	baz=209							
J25K	**Salcha River,**	84.05	13	IAmb		IAmb	17 45 00.7	
	comp=Z,28nm,1.6s							
J25K	**Salcha River,**	84.05	13	P		**P**	17 44 59.7	0.0
	baz=211							
P33M	**Teslin, Yukon**	84.05	21	P		**P**	17 44 59.2	-0.6
	baz=223							
E18K	**Tukpahlearik C**	84.11	7	IAmb		IAmb	17 45 09.2	
	comp=Z,15nm,1.2s							
E18K	**Tukpahlearik C**	84.11	7	P		**P**	17 45 00.5	+0.7
	baz=196							
R33M	**Jennings River**	84.11	22	P		**P**	17 45 00.3	+0.2
	baz=225							
D17K	**Noatak River**	84.13	6	P		**P**	17 45 00.6	+0.7
	baz=194,SNR=6.7							
G21K	**Allakaket**	84.20	9	P		**P**	17 45 00.5	+0.2
	baz=203							
H23K	**Yukon River**	84.26	11	P		**P**	17 45 00.4	-0.2
	baz=207							
ANMO	**Albuquerque**	84.32	51	P		P	17 44 59.1	-2.7
ANMO				IAmb		IAmb	17 45 03.4	
	comp=Z,14nm,1.3s							
ANMO	**Albuquerque**	84.32	51	P		**P**	17 45 01.4	-0.5
	baz=246							
ANMO	**Albuquerque**	84.32	51	*ce*P		**P**	17 45 01.0	-0.9
ANMO				pmax		pmax		
	comp=Z,17nm,1.7s							
ANMO	**Albuquerque**	84.32	51	P		**P**	17 45 02.6	+0.7
	comp=Z,3.0nm,0.9s,baz=313,slow=3.2,SNR=10							
ANMO				LR		LR	18 15 52.6	
	comp=Z,156nm,18.5s,baz=344,slow=31							
	comp=Z,3.0nm,0.9s							
K27K	**Chicken**	84.33	15	IAmb		IAmb	17 45 02.9	
	comp=Z,21nm,1.4s							
K27K	**Chicken**	84.33	15	P		**P**	17 45 01.3	+0.3
	baz=214							
TX31	**Lajitas Ar. Si**	84.33	57	IAmb		IAmb	17 45 04.3	
	comp=Z,29nm,1.6s							
TXAR	**Lajitas Array**	84.33	57	P		**P**	17 45 01.6	-0.3
TXAR	**Lajitas Array**	84.33	57	P		**P**	17 45 01.7	-0.3
TXAR	**Lajitas Array**	84.33	57	P		**P**	17 45 03.1	+1.2
	comp=Z,2.3nm,1.0s,baz=240,slow=4.2,SNR=15							
TXAR				LR		LR	18 15 42.1	
	comp=Z,125nm,19.0s,baz=248,slow=31							
	comp=Z,2.3nm,1.0s							
F20K	**Avaraart Lake**	84.36	8	IAmb		IAmb	17 45 06.0	
	comp=Z,28nm,1.7s							
F20K	**Avaraart Lake**	84.36	8	P		**P**	17 45 01.2	+0.1
	baz=201							
J26L	**Joseph Creek**	84.37	14	P		**P**	17 45 01.6	+0.3
	baz=213							
AHID	**Auburn Hatcher**	84.43	43	IAmb		IAmb	17 45 03.8	
	comp=Z,29nm,1.7s							
RDOG	**Red Dog Mine**	84.49	6	P		**P**	17 45 02.3	+0.6
	baz=194							
C16K	**Lisburne Hills**	84.50	5	P		**P**	17 45 02.0	+0.3
	baz=192							
E19K	**Redstone River**	84.54	8	IAmb		IAmb	17 45 12.0	
	comp=Z,30nm,1.6s							
E19K	**Redstone River**	84.54	8	P		**P**	17 45 02.3	+0.3
	baz=200							
M30M	**Minto, Yukon**	84.58	18	IAmb		IAmb	17 45 03.7	
	comp=Z,26nm,1.6s							
M30M	**Minto, Yukon**	84.58	18	P		**P**	17 45 02.4	0.0
	baz=219							
H24K	**Noodor Dome**	84.59	12	P		**P**	17 45 03.0	+0.6
	baz=209							
BILL	**Bilibino**	84.61	354	P		**P**	17 45 01.9	-0.5
BILL	**Bilibino**	84.61	354	*e*P		**P**	17 45 01.4	-0.9
L29M	**L29M**	84.62	17	P		**P**	17 45 02.7	+0.2
	baz=218							
N32M	**Quiet Lake**	84.66	20	P		**P**	17 45 02.9	+0.1
	baz=223							
ALPN	**Alpine**	84.74	57	IAmb		IAmb	17 45 06.0	
	comp=Z,12nm,1.2s							
GYA	**Guiyang**	84.75	299	P		**P**	17 45 06.3	+2.1
GYA				pmax		pmax		
	comp=Z,10.0nm,1.8s							
PRP	**Porcupine Dome**	84.79	13	IAmb		IAmb	17 45 04.5	
	comp=Z,23nm,1.3s							
PRP	**Porcupine Dome**	84.79	13	P		**P**	17 45 03.8	+0.2
	baz=211,SNR=6.6							
F21K	**Alatna River**	84.86	9	IAmb		IAmb	17 45 05.2	
	comp=Z,31nm,1.9s							
F21K	**Alatna River**	84.86	9	P		**P**	17 45 03.6	0.0
	baz=203,SNR=5.9							
TPAW	**Teton Pass**	84.86	42	IAmb		IAmb	17 45 05.3	
	comp=Z,21nm,1.5s							
C17K	**DeLong Mountai**	84.87	5	P		**P**	17 45 04.5	+0.8
	baz=194							
FXWY	**Fox Creek**	84.88	42	IAmb		IAmb	17 45 06.5	
	comp=Z,17nm,1.4s							
G22K	**Bettles**	84.90	10	P		**P**	17 45 04.5	+0.7
	baz=205							
G23K	**Bananza Creek**	84.96	11	P		**P**	17 45 03.7	-0.5
G23K	**Bananza Creek**	84.96	11	P		**P**	17 45 04.7	+0.5
	baz=206							
M31M	**Drury Creek, Y**	85.02	19	P		**P**	17 45 04.5	-0.1
	baz=221							
DAWY	**Dawson**	85.04	16	IAmb		IAmb	17 45 05.9	
	comp=Z,28nm,1.6s							
DAWY	**Dawson**	85.04	16	P		**P**	17 45 05.3	+0.6
	baz=217,SNR=5.4							
IMW	**Indian Meadow**	85.06	42	IAmb		IAmb	17 45 07.3	
	comp=Z,23nm,1.6s							
I26K	**Coal Creek Min**	85.14	14	P		**P**	17 45 05.5	+0.4
	baz=213							
LOHW	**Long Hollow**	85.14	42	IAmb		IAmb	17 45 12.7	
	comp=Z,35nm,1.9s							
EGAK	**Eagle**	85.17	15	IAmb		IAmb	17 45 06.4	
	comp=Z,23nm,1.4s							
EGAK	**Eagle**	85.17	15	P		**P**	17 45 05.5	+0.3
	baz=215,SNR=8.1							
O20A	**White River Ci**	85.18	46	P		**P**	17 45 05.8	-0.3
	baz=244							
C18K	**Utukok River**	85.23	6	P		**P**	17 45 05.9	+0.3
	baz=196							
PMSA	**Palmer Station**	85.27	157	LR		LR	18 16 41.5	
	comp=Z,142nm,19.9s,baz=350,slow=31							
FLWY	**Flagg Ranch**	85.30	42	P		**P**	17 45 06.3	-0.4
FLWY				IAmb		IAmb	17 45 09.7	
	comp=Z,38nm,1.6s							
YHL	**Hebgen Lake**	85.35	41	IAmb		IAmb	17 45 13.6	
	comp=Z,23nm,1.2s							
FARO	**Faro, Yukon**	85.37	19	P		**P**	17 45 05.9	-0.5
	baz=222							
K29M	**Barlow Dome**	85.37	17	IAmb		IAmb	17 45 09.1	
	comp=Z,24nm,1.5s							
K29M	**Barlow Dome**	85.37	17	P		**P**	17 45 06.7	+0.3
	baz=218							
H25L	**Birch Creek**	85.38	12	P		**P**	17 45 05.1	-1.1
	baz=210							
COLD	**Coldfoot**	85.40	10	P		**P**	17 45 06.9	+0.6
	baz=206,SNR=6.7							
BOZ	**Bozeman (W)**	85.42	40	P		**P**	17 45 06.9	-0.3
	baz=242							
D19K	**Kuna River**	85.42	7	P		**P**	17 45 06.7	+0.2
	baz=199							
E20K	**Nigu River**	85.44	8	P		**P**	17 45 07.0	+0.4
	baz=201							
BW06	**Boulder Array**	85.44	43	P		**P**	17 45 07.5	+0.1
	baz=243							
PDAR	**Pinedale Array**	85.44	43	P		**P**	17 45 07.5	+0.1
	comp=Z,2.1nm,0.9s,baz=202,slow=1.6,SNR=6.1							
PDAR				LR		LR	18 19 00.1	
	comp=Z,53nm,18.7s,baz=258,slow=33							
	comp=Z,2.1nm,0.9s							
H17A	**Grant Village**	85.52	41	P		**P**	17 45 08.1	+0.3
	baz=243							
YHH	**Holmes Hill**	85.53	41	P		**P**	17 45 07.2	-0.7
XAN	**Xi'an**	85.71	307	P		**P**	17 45 10.3	+1.6
XAN				pP		pwP	17 45 19.6	+5.2
XAN				pmax		pmax		
	comp=Z,13nm,1.6s							
XAN				LR		LR		
	comp=Z,220nm,20.6s							
XAN				LR		LR		
	comp=Z,170nm,20.4s							
XAN				LR		LR		
	comp=Z,240nm,19.2s							
I27K	**Kandik River**	85.75	14	P		**P**	17 45 08.8	+0.6
	baz=214							
D20K	**Etivluk River**	85.81	8	P		**P**	17 45 08.3	-0.1
	baz=200							
C19K	**Lookout Ridge**	85.84	6	P		**P**	17 45 08.7	+0.2
	baz=197							
B18K	**Kokolik River**	85.86	6	P		**P**	17 45 09.3	+0.8
	baz=195							
TOAD	**Toad River Com**	85.91	24	P		**P**	17 45 08.9	-0.2
	baz=230							
MAW	**Mawson**	85.91	200	LR		LR	18 21 10.6	
	comp=Z,186nm,18.3s,baz=122,slow=34							
E22K	**Anaktuvuk Pass**	85.95	9	IAmb		IAmb	17 45 10.6	
	comp=Z,29nm,1.4s							
E22K	**Anaktuvuk Pass**	85.95	9	P		**P**	17 45 09.9	+0.7
	baz=205							
I28M	**Miner Creek**	86.02	15	IAmb		IAmb	17 45 11.6	
	comp=Z,16nm,1.4s							
I28M	**Miner Creek**	86.02	15	P		**P**	17 45 09.7	+0.1
	baz=216							
F24K	**Squaw Lake**	86.07	11	IAmb		IAmb	17 45 19.0	
	comp=Z,22nm,1.6s							
F24K	**Squaw Lake**	86.07	11	P		**P**	17 45 10.3	+

RLMT	**Red Lodge**	**86.68**	**41**	P	**P**	**17 45 13.0**	**-0.4**
	baz=244						
G27K	**Doyon Strip**	**86.73**	**13**	P	**P**	**17 45 13.4**	**+0.4**
	baz=214						
I30M	**Mount Dempster**	**86.76**	**16**	IAmb	IAmb	17 45 14.3	
	comp=Z,37nm,1.9s						
I30M	**Mount Dempster**	**86.76**	**16**	P	**P**	**17 45 13.5**	**+0.2**
	baz=219						
TOLK	**Toolik Lake Re**	**86.77**	**10**	IAmb	IAmb	17 45 16.3	
	comp=Z,28nm,1.9s						
TOLK	**Toolik Lake Re**	**86.77**	**10**	P	**P**	**17 45 14.2**	**+1.0**
	baz=207						
DRIO	**Del Rio**	**86.85**	**58**	IAmb	IAmb	17 45 20.1	
	comp=Z,11nm,1.0s						
Q24A	**Divide**	**86.88**	**48**	IAmb	IAmb	17 45 18.0	
	comp=Z,10nm,0.9s						
D23K	**Nanushuk River**	**86.89**	**9**	P	**P**	**17 45 14.1**	**+0.4**
	baz=206						
B21K	**Ikpikpuk River**	**86.92**	**8**	P	**P**	**17 45 14.3**	**+0.6**
	baz=202						
F26K	**Sheenjek River**	**86.95**	**12**	P	**P**	**17 45 14.8**	**+0.8**
	baz=212						
B20K	**Meade River**	**86.97**	**7**	P	**P**	**17 45 14.1**	**+0.2**
	baz=200						
H29M	**Whitestone**	**87.03**	**15**	P	**P**	**17 45 14.5**	**+0.1**
	baz=218						
D24K	**Happy Valley**	**87.36**	**10**	P	**P**	**17 45 16.8**	**+0.8**
	baz=208						
BTO	**Baotou**	**87.45**	**313**	*e*P	**P**	**17 45 19.8**	**+2.6**
BTO				pP	**sP**	**17 45 24.6**	**+4.0**
BTO				sP	**pwP**	**17 45 26.8**	**+3.9**
BTO				pmax	pmax		
	comp=Z,23nm,1.5s						
BTO				pmax	pmax		
	comp=Z,310nm,5.1s						
BTO				LR	LR		
	comp=Z,360nm,19.7s						
BTO				LR	LR		
	comp=Z,380nm,13.8s						
BTO				LR	LR		
	comp=Z,730nm,21.7s						
C23K	**Itkillik River**	**87.68**	**9**	P	**P**	**17 45 17.9**	**+0.4**
	baz=206						
H31M	**Peel River**	**87.75**	**16**	P	**P**	**17 45 18.2**	**+0.3**
	baz=221						
F28M	**Old Crow**	**87.80**	**14**	P	**P**	**17 45 18.5**	**+0.4**
	baz=216						
E27K	**Coleen River**	**87.89**	**13**	P	**P**	**17 45 18.9**	**+0.4**
	baz=214						
CMIG	**Matias Romero**	**87.92**	**72**	LR	LR	18 15 59.2	
	comp=Z,111nm,20.3s,baz=192,slow=30						
YAK	**Yakutsk**	**88.09**	**338**	*i* P	**P**	**17 45 18.9**	**-0.6**
YAK				pmax	pmax		
	comp=Z,15nm,1.6s						
YAK	**Yakutsk**	**88.09**	**338**	LR	LR	18 18 25.2	
	comp=Z,113nm,21.4s,baz=117,slow=31						
G30M	**tAoh Zraii Nji**	**88.16**	**15**	P	**P**	**17 45 19.2**	**-0.6**
G30M	**tAoh Zraii Nji**	**88.16**	**15**	P	**P**	**17 45 19.8**	**0.0**
	baz=220						
CRAI	**Chiangrai**	**88.19**	**292**	P	**P**	**17 45 20.9**	**-0.2**
CRAI				IAmb	IAmb	17 45 24.8	
	comp=Z,16nm,1.6s						
H03S2	**Juan Fernandez**	**88.24**	**125**	T	T	19 22 52.6	
	baz=250						
H03S1	**Juan Fernandez**	**88.25**	**125**	T	T	19 22 50.7	
	baz=250						
H03S3	**Juan Fernandez**	**88.26**	**125**	T	T	19 22 53.3	
	baz=250						
H03N2	**Juan Fernandez**	**88.36**	**124**	T	T	19 22 52.1	
	baz=249,slow=72,SNR=5.2						
H03N3	**Juan Fernandez**	**88.36**	**124**	T	T	19 22 54.6	
	baz=249,slow=72,SNR=7.5						
H03N1	**Juan Fernandez**	**88.37**	**124**	T	T	19 22 50.6	
	baz=249,slow=72,SNR=8.4						
G31M	**Satah River**	**88.61**	**16**	P	**P**	**17 45 21.6**	**-0.3**
	baz=221						
CD2	**Chengdu**	**88.67**	**303**	P	**P**	**17 45 26.1**	**+3.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
E28M	**Babbage River**	**88.67**	**13**	P	**P**	**17 45 22.2**	**0.0**
	baz=216						
C26K	**Camden Bay**	**88.70**	**11**	P	**P**	**17 45 22.8**	**+0.6**
	baz=211						
E29M	**Blow River**	**88.86**	**14**	P	**P**	**17 45 24.2**	**+1.1**
	baz=218						
D27M	**Malcolm River**	**88.89**	**12**	IAmb	IAmb	17 45 27.1	
	comp=Z,19nm,1.9s						
D27M	**Malcolm River**	**88.89**	**12**	P	**P**	**17 45 25.0**	**+1.7**
	baz=215						
PZH	**PanZhiHua**	**88.93**	**298**	P	**P**	**17 45 26.6**	**+2.1**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,5.5s						
CMAR	**Chiang Mai Arr**	**88.96**	**289**	P	**P**	**17 45 23.9**	**-0.8**
CMAR	**Chiang Mai Arr**	**88.96**	**289**	P	**P**	**17 45 23.9**	**-0.8**
CMAR	**Chiang Mai Arr**	**88.96**	**289**	P	**P**	**17 45 26.6**	**+2.0**
	comp=Z,0.7nm,0.9s,baz=87,slow=3.3,SNR=6.6						
	comp=Z,0.7nm,0.9s						
F31M	**Tsiigehtchic**	**89.14**	**16**	IAmb	IAmb	17 45 27.4	
	comp=Z,26nm,1.7s						
F31M	**Tsiigehtchic**	**89.14**	**16**	P	**P**	**17 45 25.2**	**+0.8**
	baz=222						
D28M	**Stokes Point**	**89.43**	**13**	P	**P**	**17 45 26.1**	**+0.4**
	baz=217						
INK	**Inuvik**	**89.84**	**15**	LR	LR	18 19 37.7	
	comp=Z,113nm,20.1s,baz=185,slow=32						
LZH	**Lanzhou**	**90.33**	**307**	⇑*i* P	**P**	**17 45 34.0**	**+3.1**
LZH				pP	pwP	17 45 41.5	+4.8
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
ELIB	**Princess Elisa**	**91.14**	**186**	*d*P	**P**	**17 45 32.8**	**-1.3**
	comp=Z,5.6nm,0.9s						
TNCH	**TengChong**	**91.25**	**296**	⇑P	**P**	**17 45 36.9**	**+1.4**
TNCH				sP	sP	17 45 42.9	+4.0
TNCH				S	**S**	**17 56 29.8**	**-4.9**
TNCH				sS	pS	17 56 41.3	+3.3
TNCH				pmax	pmax		
	comp=Z,15nm,1.5s						
TNCH				pmax	pmax		
	comp=Z,150nm,5.5s						
TNCH				LR	LR		
	comp=Z,110nm,4.2s						
TNCH				LR	LR		
	comp=Z,96nm,4.9s						
TNCH				LR	LR		
	comp=Z,79nm,7.1s						
PLCA	**Paso Flores**	**92.10**	**133**	LR	LR	18 18 34.7	
	comp=Z,71nm,20.1s,baz=203,slow=30						
ULN	**Ulaanbaatar**	**92.20**	**319**	*ce*P	**P**	**17 45 39.3**	**0.0**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.7s						
YKA	**Yellowknife Ar**	**92.28**	**24**	P	**P**	**17 45 38.8**	**-0.3**
	comp=Z,0.7nm,1.0s,baz=260,slow=4.2,SNR=8.0						
YKA				LR	LR	18 20 13.1	
	comp=Z,98nm,18.8s,baz=252,slow=31						
	comp=Z,0.7nm,1.0s						
SNAA	**Sanae**	**92.49**	**178**	LR	LR	18 26 25.1	
	comp=Z,115nm,18.3s,baz=174,slow=35						
SONM	**Songino Array**	**92.60**	**319**	P	**P**	**17 45 41.9**	**+0.8**
	comp=Z,1.0nm,1.1s,baz=127,slow=4.7,SNR=3.0						
SONM				LR	LR	18 27 50.1	
	comp=Z,104nm,18.3s,baz=180,slow=36						
	comp=Z,1.0nm,1.1s						
GTA	**Gaotai**	**94.40**	**310**	*e*P	**P**	**17 45 50.8**	**+1.2**
GTA				pP	pwP	17 45 57.3	+1.9
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
A36M	**Sachs Harbour**	**94.44**	**14**	P	**P**	**17 45 48.4**	**-0.5**
	baz=230						
TIXI	**Tiksi**	**94.50**	**345**	LR	LR	18 22 38.5	
	comp=Z,329nm,22.0s,baz=178,slow=32						
TEIG	**Tepich**	**94.80**	**70**	LR	LR	18 19 44.1	
	comp=Z,676nm,21.7s,slow=30						
ATAH	**Atahualpa**	**96.85**	**99**	LR	LR	18 22 01.6	
	comp=Z,65nm,18.1s,baz=256,slow=31						
ARU	**Arti**	**121.67**	**327**	*i* PKIKP	**PKiKP**	**17 51 26.2**	**+3.1**
ARU						17 58 35.1	
ARU				SS	SS	18 09 52.6	+21
KIV	**Kislovodsk**	**135.98**	**318**	*i* PKIKP	**PKPdf**	**17 51 50.5**	**-0.2**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
CLL	**Collm**	**143.75**	**349**	*e*PKIKP	PKPab	17 52 03.0	+1.7
CLL				*e*		17 52 12.0	
CLL	**Collm**	**143.75**	**349**	*e*PKPdf	PKPab	17 52 03.0	+1.7
CLL				*ep*PKiKP	sPKPdf	17 52 12.0	+4.0
CLL				*e*PP	**PP**	**17 55 15.0**	**-1.4**
CLL				AMS	AMS	18 50 00.0	
	comp=Z,200nm,21.7s						
BR131	**Keskin Array S**	**143.93**	**317**	PKPdf	PKPab	17 52 03.0	+0.5
BR131	**Keskin Array S**	**143.93**	**317**	PKiKP	PKPab	17 52 03.0	+0.4
BRTR	**Keskin Array B**	**143.93**	**317**	PKPdf	PKPab	17 52 02.8	+0.2
BRTR	**Keskin Array B**	**143.93**	**317**	PKiKP	PKPab	17 52 02.8	+0.2
BRTR	**Keskin Array B**	**143.93**	**317**	PKP	PKPab	17 52 03.6	+1.1
	comp=Z,7.5nm,0.9s,baz=207,slow=1.4,SNR=14						
MORC	**Moravsky Berou**	**144.12**	**343**	*e*PKP	**PKPab**	**17 52 03.1**	**+0.3**
VRAC	**Vranov**	**144.80**	**344**	*e*PKP	**PKPab**	**17 52 05.3**	**0.0**
VYHS	**Vyhne**	**144.88**	**341**	*e*PKiKP	**PKPab**	**17 52 06.8**	**+1.2**
VYHS	**Vyhne**	**144.88**	**341**	*e*PKP	**PKPab**	**17 52 06.8**	**+1.2**
NKC	**Novy Kostel**	**144.88**	**349**	*e*PKP	**PKPab**	**17 52 07.1**	**+1.5**
NKC	**Novy Kostel**	**144.88**	**349**	*e*PKiKP	**PKPab**	**17 52 07.1**	**+1.5**
JAVC	**Velka Javorina**	**144.91**	**342**	*e*PKP	**PKPab**	**17 52 06.6**	**+0.8**
PSZ	**Piszkesteto**	**145.04**	**339**		**PKPbc**	**17 52 04.6**	**-1.6**
PSZ	**Piszkesteto**	**145.04**	**339**	PKiKP	**PKPbc**	**17 52 04.6**	**-1.6**
KRUC	**Moravsky**	**145.08**	**344**	*e*PKP	**PKPbc**	**17 52 05.9**	**-0.4**
ZVC	**Zvikov**	**145.28**	**346**	*e*PKP	**PKPbc**	**17 52 07.0**	**+0.1**
MODS	**Modra-Piesok**	**145.46**	**342**	*e*PKiKP	**PKPdf**	**17 52 08.2**	**+0.6**
MODS	**Modra-Piesok**	**145.46**	**342**	*e*PKP	**PKPdf**	**17 52 08.2**	**+0.6**
ZST	**Bratislava**	**145.67**	**342**	*e*PKP2	**PKPdf**	**17 52 09.2**	**+1.3**
ZST	**Bratislava**	**145.67**	**342**	*e*PKP	**PKPdf**	**17 52 09.2**	**+1.3**
MMAI	**Mount Meron Ar**	**145.69**	**306**	PKPbc	**PKPdf**	**17 52 09.4**	**+0.9**
	comp=Z,9.1nm,0.9s,baz=50,slow=4.4,SNR=22						
KHC	**Kasperske Hory**	**145.70**	**347**	PKPdf	**PKPdf**	**17 52 06.7**	**-1.3**
KHC	**Kasperske Hory**	**145.70**	**347**	*e*PKP	**PKPdf**	**17 52 08.0**	**0.0**
KHC	**Kasperske Hory**	**145.70**	**347**	PKP2	**PKPdf**	**17 52 06.7**	**-1.3**
CKRC	**Cesky Krumlov**	**145.83**	**346**	*e*PKP	**PKPdf**	**17 52 08.6**	**+0.4**
CKRC	**Cesky Krumlov**	**145.83**	**346**	*e*PKP2	**PKPdf**	**17 52 08.6**	**+0.4**
GEC2	**GERESS Array S**	**145.94**	**347**		**PKPdf**	**17 52 06.5**	**-1.9**
GERES	**GERESS Array B**	**145.94**	**347**	PKPdf	**PKPdf**	**17 52 07.0**	**-1.5**
GERES	**GERESS Array B**	**145.94**	**347**	PKP2	**PKPdf**	**17 52 07.0**	**-1.5**
GERES	**GERESS Array B**	**145.94**	**347**	PKPbc	**PKPdf**	**17 52 09.0**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=23,slow=7.2,SNR=6.6						
CONA	**Conrad Observa**	**146.26**	**344**	*e*PKP	**PKPdf**	**17 52 09.1**	**0.0**
	comp=Z,20nm,1.5s						
WLF	**Walferdange**	**146.27**	**356**	PKPdf	**PKPdf**	**17 52 08.2**	**-0.7**
WLF	**Walferdange**	**146.27**	**356**	PKP2	**PKPdf**	**17 52 08.2**	**-0.7**
RONA	**Rosalia, Austr**	**146.35**	**343**	*e*PKP	**PKPdf**	**17 52 08.7**	**-0.5**
	comp=Z,9.1nm,1.1s						
MOA	**Mollm**	**146.75**	**345**	*e*PKP	**PKPdf**	**17 52 09.6**	**-0.2**
	comp=Z,7.9nm,1.0s						
ARSA	**Arzberg**	**146.98**	**343**	*e*PKP	**PKPdf**	**17 52 10.6**	**+0.4**
	comp=Z,4.8nm,0.8s						
BIOA	**Bad Ischl, Aus**	**147.04**	**346**	*e*PKP	**PKPdf**	**17 52 10.0**	**-0.3**
	comp=Z,4.1nm,0.8s						
BFO	**Black Forest**	**147.38**	**353**	PKPdf	**PKPdf**	**17 52 09.0**	**-1.9**
BFO	**Black Forest**	**147.38**	**353**	PKiKP	**PKPdf**	**17 52 09.0**	**-1.9**
MBAR	**Mbarara**	**147.51**	**242**	*c* iPKP2	**PKPdf**	**17 52 15.9**	**+3.6**
MBAR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
LESA	**Schwarzleotal**	**147.51**	**347**	*e*PKP	**PKPdf**	**17 52 13.2**	**+2.1**
	comp=Z,6.4nm,1.1s						
SOKA	**Soboth**	**147.63**	**344**	*e*PKP	**PKPdf**	**17 52 12.7**	**+1.3**
	comp=Z,5.8nm,1.2s						
KBA	**Koelnbreinsper**	**147.69**	**346**	*e*PKP	**PKPdf**	**17 52 13.3**	**+1.7**
	comp=Z,2.8nm,0.6s						
WATA	**Walderalm**	**147.82**	**348**	PKP	**PKPdf**	**17 52 14.6**	**+2.8**
	comp=Z,4.7nm,0.7s						
RETA	**Reute**	**147.83**	**349**	*e*PKP	**PKPdf**	**17 52 14.5**	**+2.8**
	comp=Z,14nm,1.9s						
WTTA	**Wattenberg**	**147.88**	**348**	*e*PKP	**PKPdf**	**17 52 14.7**	**+2.8**
	comp=Z,6.2nm,0.7s						
MOTA	**Moosalm**	**147.91**	**349**	PKP	**PKPdf**	**17 52 14.6**	**+2.6**
	comp=Z,14nm,1.2s						
SQTA	**Sankt Quirin**	**148.01**	**349**	*i* PKP	**PKPdf**	**17 52 14.8**	**+2.7**
	comp=Z,0.5nm,0.2s						
ABTA	**Abfaltersbach**	**148.19**	**347**	*e*PKP	**PKPdf**	**17 52 14.7**	**+2.3**
	comp=Z,16nm,1.4s						
CIMO	**Cimolais**	**148.62**	**347**		**PKPdf**	**17 52 11.6**	**-1.4**
FUORN	**Ofenpass-Fuorn**	**148.76**	**349**		**PKPdf**	**17 52 11.9**	**-1.5**
TORD	**Torodi Ar. Bea**	**177.10**	**167**	PKP	**PKPdf**	**17 52 39.8**	**-1.0**
	comp=Z,0.9nm,0.9s,baz=48,slow=2.1,SNR=4.3						

*NIED **23** 17:32:43.5, 40.06N×142.04E, h62km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.33; $M_{\theta\theta}$-1.97; $M_{\phi\phi}$-0.36; $M_{r\theta}$0.53; $M_{\theta\phi}$-2.02; $M_{\phi r}$-2.52; Fault plane solution: $M_0$3.88000×10^{14} NP1: ϕ=203.00000°, δ65.00000°, λ51.00000°. NP2:ϕ_b85.00000°, δ45.00000°, λ143.00000°*

*JMA **23** 17:32:43.5±0.1, 40.1N±0.2×142.0E±0.5, h62km, MD3.5/40, MV4.0/40, NE OFF IWATE PREF .*

JMA Felt II J1 at NE OFF IWATE PREF .

*IDC **23** 17:33:04.6±2.0, 42.04N×141.28E, h156km±16km, mb3.4/10, mbtmp3.7/13, Error ellipse: s-maj=26.5km s-min=19.2km az=160.0*

ISC 23 17:32:42.5±0.9, 40.07N±0.04×142.09E±0.08, h50km, n27, σ1s72/34, mb3.7/10, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.22**	**232**	P	**Pn**	**17 32 53.3**	**+2.3**
JTH				S	**Sn**	**17 33 00.1**	**+3.1**
JTH	**Tanohata**	**0.22**	**232**	A	A	17 32 53.3	
	comp=E,17nm,0.2s,comp=N,5.0nm,0.9s						
JKEN	**Kujiedanarisaw**	**0.32**	**295**	P	**Pn**	**17 32 53.7**	**+1.9**
JKEN				S	**Sn**	**17 33 01.1**	**+2.7**
JKEN	**Kujiedanarisaw**	**0.32**	**295**	A	A	17 32 53.7	
	comp=E,7.0nm,0.3s,comp=N,16nm,0.6s						
JANG	**Nango**	**0.53**	**305**	*i* P	**Pn**	**17 32 55.7**	**+1.5**
JANG				S	**Sn**	**17 33 04.8**	**+2.2**
MIYJ	**Miyakonagasawa**	**0.54**	**203**	⇓*i* P	**Pn**	**17 32 55.6**	**+1.4**
MIYJ				⇓S	**Sn**	**17 33 04.2**	**+1.6**
JKZ	**Kuzumaki**	**0.59**	**262**	*i* P	**Pn**	**17 32 56.3**	**+1.4**
JKZ				S	**Sn**	**17 33 05.6**	**+1.8**
JOM	**Ohasama**	**0.86**	**226**	*i* P	**Pn**	**17 32 59.2**	**+0.9**
JOM				S	**Sn**	**17 33 10.8**	**+0.9**
JTM	**Tenmabayashi**	**1.06**	**313**	⇓*i* P	**Pn**	**17 33 02.2**	**+1.2**
JTM				⇓S	**Sn**	**17 33 16.1**	**+1.4**
JAH	**Hinai**	**1.12**	**276**	*i* P	**Pn**	**17 33 02.8**	**+0.9**
JAH				S	**Sn**	**17 33 17.5**	**+1.4**
JMK	**Ichinoseki**	**1.30**	**211**	*i* P	**Pn**	**17 33 05.2**	**+0.8**
JMK				S	**Sn**	**17 33 20.8**	**+0.2**
JRG	**Rokugo**	**1.31**	**239**	*i* P	**Pn**	**17 33 05.2**	**+0.8**
JRG				S	**Sn**	**17 33 22.4**	**+1.7**
JRG	**Rokugo**	**1.31**	**239**	A	A	17 33 05.2	
	comp=N,3.0nm,5.3s						
JOT	**Ohata**	**1.53**	**329**	*i* P	**Pn**	**17 33 08.4**	**+1.0**
JOT				S	**Sn**	**17 33 27.4**	**+1.2**
ASAJ	**Asahikawa**	**4.06**	**5**	P	**Pn**	**17 33 43.8**	**+1.7**
	comp=N,9.4nm,0.3s,baz=218,slow=9.7,SNR=71						
ASAJ				S	Sn	17 34 07.5	-21
	comp=N,10.0nm,0.6s,baz=215,slow=20,SNR=5.1						
USRK	**Ussuriysk Ar.**	**8.56**	**302**	P	**Pn**	**17 34 45.4**	**+1.6**
	comp=N,3.4nm,0.7s,baz=106,slow=13,SNR=7.1						
KSRS	**Korea Array**	**11.36**	**261**	P	sPn	17 35 42.9	+5.5
	comp=N,1.0nm,0.7s,baz=71,slow=14,SNR=2.3						
SONM	**Songino Array**	**26.66**	**299**	P	**P**	**17 38 15.8**	**-0.9**
	comp=N,0.5nm,0.4s,baz=87,slow=8.0,SNR=6.8						
	comp=N,0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**40.32**	**310**	P	**P**	**17 40 12.1**	**-2.7**
	comp=N,1.1nm,0.4s,baz=88,slow=7.6,SNR=7.2						
	comp=N,1.1nm,0.4s						
MKAR	**Makanchi Array**	**43.02**	**299**	P	**P**	**17 40 35.8**	**-1.2**
	comp=N,0.8nm,0.6s,baz=85,slow=11,SNR=18						
	comp=N,0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**44.60**	**306**	P	**P**	**17 40 48.2**	**-1.4**
	comp=N,2.4nm,0.5s,baz=80,slow=8.6,SNR=23						
	comp=N,2.4nm,0.5s						
ILAR	**Eielson Array**	**46.66**	**34**	P	**P**	**17 41 06.5**	**+0.8**
	comp=N,0.4nm,0.7s,baz=257,slow=5.5,SNR=5.1						
	comp=N,0.4nm,0.7s						
BVAR	**Borovoye Array**	**48.96**	**311**	P	**P**	**17 41 22.2**	**-1.5**
	comp=N,1.1nm,0.5s,baz=81,slow=8.9,SNR=2.6						
	comp=N,1.1nm,0.5s						
ASAR	**Alice Springs**	**63.87**	**188**	P	**sP**	**17 43 32.3**	**+2.8**
	comp=N,0.4nm,0.8s,baz=2.6,slow=6.7,SNR=1.5						
	comp=N,0.4nm,0.8s						
FINES	**FINESS Array B**	**66.38**	**332**	P	**P**	**17 43 24.1**	**-1.7**
	comp=N,1.5nm,0.8s,baz=21,slow=12,SNR=2.0						
	comp=N,1.5nm,0.8s						
HFS	**Hagfors**	**71.54**	**336**	P	**P**	**17 43 56.2**	**-1.7**
	comp=N,1.0nm,0.7s,baz=39,slow=9.3,SNR=1.5						
	comp=N,1.0nm,0.7s						
AKASG	**Malin Array Be**	**72.23**	**322**	P	**P**	**17 44 00.7**	**-1.4**
	comp=N,0.2nm,0.3s,baz=46,slow=5.2,SNR=4.4						
	comp=N,0.2nm,0.3s						

PRU 23 17:51:36.4, 49.97N×18.57E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.30**	**244**	*e*PG	Pg	17 51 41.6	-0.6
OKC				*e*SG	Sg	17 51 46.2	+0.1
	comp=Z,10nm,0.6s						
MORC	**Moravsky Berou**	**0.69**	**254**	*e*PG	Pg	17 51 49.1	-0.6
MORC				*e*SG	Sg	17 51 58.0	-0.6
KRLC	**Kraliky**	**1.16**	**276**	*e*PG	Pg	17 51 57.1	-1.5
KRLC				*e*SG	Sg	17 52 13.2	-0.4
KRLC	**Kraliky**	**1.16**	**276**	*e*PKHKP	Pg	17 51 57.1	-1.5
CHVC	**Chvalec**	**1.73**	**292**	*e*SG	Sb	17 52 31.1	-0.2

IDC 23 17:52:46.6±4.6, 5.71S×142.25E, h0km, mb3.4/1, mbtmp3.5/3, ML3.1/2, Error ellipse: s-maj=151.5km s-min=31.5km az=99.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.11**	**208**	P	Pn	17 56 33.4	-1.3
	0.1nm,0.3s,baz=29,slow=13,SNR=2.3						
WRA				Lg	Lg	18 01 21.5	
	baz=48,slow=28						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**19.58**	**203**	P	P	17 57 16.0	-0.5
	0.1nm,0.3s,baz=31,slow=8.7,SNR=11						
	2.9nm,1.0s						
MKAR	**Makanchi Array**	**74.31**	**322**	P	P	18 04 26.4	+0.4
	0.2nm,0.5s,baz=106,slow=6.6,SNR=2.9						
	0.2nm,0.5s						

*IDC **23** 17:54:52.7±1.5, 27.95N×52.66E, h0km, mb3.8/7, mbtmp3.8/7, MS3.1/1, Error ellipse: s-maj=41.6km s-min=25.1km az=125.0*

*TEH **23** 17:54:56.9, 28.11N×52.90E, h17km±20km, ML3.3*

*OMAN **23** 17:54:57.3±0.8, 28.07N×52.98E, h13km, mb4.7/8, ml3.3/15, Error ellipse: s-maj=6.6km s-min=3.2km az=176.0*

*DSN **23** 17:54:59.9±2.0, 27.75N×52.93E, h8km, ML3.0/11, Error ellipse: s-maj=28.2km s-min=7.8km az=6.0*

ISC 23 17:54:56.3±0.6, 28.09N±0.04×52.92E±0.04, h14km, n71, σ1s59/95, mb3.8/7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QIR1	**Qir**	**0.40**	**16**	Pg	**Pg**	**17 55 04.5**	**+0.2**
JHRM	**Jahrom**	**0.71**	**54**	Pg	**Pg**	**17 55 11.2**	**+1.0**
LMD1	**Lamerd**	**0.78**	**164**	Pg	**Pb**	**17 55 12.5**	**+0.9**
LAR1	**LAR**	**1.35**	**108**	Pg	**Pg**	**17 55 22.9**	**+0.6**
DSBU	**Dashti - Bushe**	**1.49**	**281**	Pg	**Pn**	**17 55 24.1**	**+1.4**
SHI	**Shiraz**	**1.58**	**347**	Pg	**Pn**	**17 55 26.1**	**+2.0**
KAZZ	**Kazeron-Fars-I**	**1.88**	**324**	Pn	**Pb**	**17 55 31.9**	**+1.6**
SHMA	**Al-Shehemyia**	**2.83**	**219**	P	**Pn**	**17 55 42.8**	**+1.8**
	SNR=7.2						
SHMA				S	**Sn**	**17 56 17.5**	**+2.5**
SAKB	**Bahrain**	**2.99**	**226**	P	**Pn**	**17 55 44.1**	**+0.8**
SAKB				S	**Sn**	**17 56 22.3**	**+3.4**
KLNJ	**Kolanjah**	**3.13**	**339**	Pn	**Pn**	**17 55 46.3**	**+0.8**
JRN	**Qarnain Island**	**3.14**	**181**	P	**Pn**	**17 55 48.3**	**+3.0**
JRN				S	**Sn**	**17 56 25.9**	**+3.4**
IMEH	**Mehriz**	**3.60**	**24**	Pn	**Pn**	**17 55 54.0**	**+2.2**
TRNA	**Turayna**	**3.68**	**205**	P	**Pn**	**17 55 54.2**	**+1.5**
	SNR=23						
TRNA				S	**Sn**	**17 56 37.7**	**+1.8**
NGRK	**Negar Kerman**	**3.68**	**64**	Pn	**Pn**	**17 55 55.1**	**+2.0**
BANOM	**Banah**	**3.71**	**125**	P	**Pn**	**17 55 54.8**	**+1.6**
BANOM				S	**Sn**	**17 56 37.6**	**+0.9**
IRAM	**Ramesheh**	**3.73**	**353**	Pn	**Pn**	**17 55 55.6**	**+2.0**
SMRA	**Abu-Samra**	**3.83**	**210**	P	**Pn**	**17 55 55.7**	**+1.0**
SMRA				S	**Sn**	**17 56 41.4**	**+1.8**
KHGB	**Koh Gabri**	**3.85**	**53**	Pn	**Pn**	**17 55 57.4**	**+2.1**
ISAD	**Sadrabad**	**3.87**	**10**	Pn	**Pn**	**17 55 58.0**	**+2.5**
NAZ	**Nazwa, Dubai**	**3.95**	**141**	P	**Pn**	**17 55 58.1**	**+1.6**
NAZ	**Nazwa, Dubai**	**3.95**	**141**	P	**Pn**	**17 55 58.3**	**+1.9**
NAZ				S	**Sn**	**17 56 43.8**	**+1.2**
MASF	**Masafi**	**3.97**	**132**	P	**Pn**	**17 55 58.1**	**+1.4**
	SNR=10						
MASF				S	**Sn**	**17 56 42.6**	**-0.5**
AJN	**Ajban**	**3.97**	**152**	*i* P	**Pn**	**17 55 57.9**	**+1.1**
	SNR=5.5						
AJN	**Ajban**	**3.97**	**152**	P	**Pn**	**17 55 59.1**	**+2.3**
	SNR=5.6			

0.6nm,0.4s,baz=245,slow=10,SNR=2.9
0.6nm,0.4s
FINES FINESS Array B 37.85 339 P **P** **18 02 11.3 -1.0**
1.0nm,0.8s,baz=142,slow=9.6,SNR=4.1
1.0nm,0.8s
HFS Hagfors 41.58 332 P **P** **18 02 41.2 -2.1**
1.0nm,0.7s,baz=112,slow=11,SNR=1.4
1.0nm,0.7s
ARCES ARCESS Array B 44.41 347 P **P** **18 03 06.5 +0.4**
5.4nm,1.1s,baz=152,slow=8.2,SNR=2.0
5.4nm,1.1s
TORD Torodi Ar. Bea 49.85 264 P **P** **18 03 45.7 -3.6**
0.7nm,0.6s,baz=64,slow=11,SNR=5.2
0.7nm,0.6s
BOSA Boshof 62.30 207 P **P** **18 05 15.6 -2.7**
1.7nm,0.9s,baz=0.0,slow=9.1,SNR=1.9
1.7nm,0.9s

NOU 23 18:10:01.8, 15.77S×167.39E, h13km, MLv3.8/4, Vanuatu Islands, Vanuatu Islands

*IDC **23** 18:33:18.0±1.6, 9.39S×118.74E, h0km, mb3.7/5, mbtmp3.8/7, ML3.6/2, MS3.7/4, Error ellipse: s-maj=76.1km s-min=19.9km az=51.0*
*DJA **23** 18:33:28.3±1.2, 9.5±4.4×11.9E±.7, h17km±10km, M4.2/12, mb4.3/7, mB4.8/1, MLv4.1/12, Mw(mB)4.1/1*
ISC 23 18:33:29.6±0.7, 9.24S±0.07×119.41E±0.04, h100km, n35, σ2s40/35, mb3.5/4, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BASI	**Baing, Sumba**	**1.51**	**130**	P		**Pn**	**18 33 55.9**	**-0.1**
PLAI	**Plampang**	**1.66**	**284**	P		**Pn**	**18 33 57.3**	**-0.6**
PLAI	**Plampang**	**1.66**	**284**	P		**Pn**	**18 33 57.0**	**-0.9**
PLAI				S		**Sn**	**18 34 17.5**	**-1.9**
EDFI	**Ende, Flores**	**2.31**	**78**	P		**Pn**	**18 34 05.7**	**-0.6**
TWSI	**Taliwang, Sumb**	**2.54**	**281**	P		**Pn**	**18 34 09.6**	**+0.3**
TWSI				S		**Sn**	**18 34 39.4**	**-0.4**
MMRI	**Maumere**	**2.86**	**78**	P		**Pn**	**18 34 14.0**	**+0.4**
MMRI	**Maumere**	**2.86**	**78**	S		**Sn**	**18 34 48.4**	**+1.0**
BKSI	**Bulukumba**	**3.96**	**10**	P		**Pn**	**18 34 26.8**	**-1.5**
KAPI	**Kappang**	**4.22**	**5**	P		Pn	18 34 16.9	-15
SRBI	**Singaraja**	**4.30**	**285**	P		**Pn**	**18 34 31.9**	**-1.0**
BATI	**Baumata**	**4.31**	**103**	Pn		**Pn**	**18 34 33.8**	**+0.8**
	6.1nm,0.3s,baz=314,slow=4.3,SNR=14							
BATI				Sn		**Sn**	**18 35 19.1**	**-3.1**
	16nm,0.3s,baz=140,slow=21,SNR=12							
	24nm,0.4s							
BATI	**Baumata**	**4.31**	**103**	P		**Pn**	**18 34 33.3**	**+0.3**
SOEI	**Soe**	**4.82**	**96**	P		**Pn**	**18 34 41.7**	**+1.6**
SOEI	**Soe**	**4.82**	**96**	P		**Pn**	**18 34 40.9**	**+0.8**
JAGI	**Jajag, Banyuwa**	**5.25**	**278**	P		**Pn**	**18 34 44.1**	**-1.6**
JAGI	**Jajag, Banyuwa**	**5.25**	**278**	P		**Pn**	**18 34 44.5**	**-1.2**
	53nm,0.8s,0.3nm							
GMJI	**Gumukmas**	**5.97**	**279**	P		**Pn**	**18 34 54.4**	**-1.1**
	36nm,0.9s							
TTSI	**Tana Toraja**	**6.17**	**4**	P		**Pn**	**18 34 58.5**	**+0.2**
	14nm,0.5s,772nm0.1nm							
MTN	**Manton Dam**	**12.05**	**108**	P		**Pn**	**18 36 18.2**	**+0.1**
KDU	**Kakadu**	**13.28**	**106**	P		**Pn**	**18 36 35.0**	**+0.8**
WRKA	**Warakurna**	**17.84**	**153**	P		**Pn**	**18 37 34.5**	**+2.9**
WRA	**Warramunga Arr**	**17.93**	**128**	P		**Pn**	**18 37 32.6**	**0.0**
	0.1nm,0.3s,baz=300,slow=12,SNR=11							
WRA				S		**S**	**18 40 42.0**	**-11**
	0.8nm,0.9s,baz=296,slow=24,SNR=1.8							
	1.3nm,0.8s							
ASAR	**Alice Springs**	**19.95**	**138**	P		**Pn**	**18 37 56.1**	**-0.3**
	2.3nm,0.5s,baz=311,slow=9.7,SNR=36							
ASAR				S		**S**	**18 41 31.3**	**-1.7**
	0.9nm,0.8s,baz=307,slow=22,SNR=4.4							
	2.3nm,0.5s							
AS01	**Alice Springs**	**19.98**	**138**	P		**Pn**	**18 37 56.9**	**+0.1**
OOD	**Oodnadatta**	**24.01**	**142**	P		**P**	**18 38 37.4**	**+2.2**
MULG	**Mulgathing**	**25.01**	**149**	P		**P**	**18 38 47.4**	**+3.1**
BBOO	**Buckleboo**	**28.05**	**149**	P		**P**	**18 39 14.4**	**+2.8**
STKA	**Stephens Creek**	**30.51**	**141**	P		**P**	**18 39 36.0**	**+2.5**
	2.9nm,0.8s,baz=316,slow=14,SNR=5.8							
	2.9nm,0.8s							
ASAJ	**Asahikawa**	**57.12**	**20**	LR		LR	19 05 30.9	
	comp=Z,95nm,20.9s,baz=84,slow=34							
SONM	**Songino Array**	**57.99**	**350**	P		**P**	**18 43 12.7**	**+0.8**
	0.2nm,0.5s,baz=165,slow=8.6,SNR=1.8							
	0.2nm,0.5s							
KLR	**Kul'dur**	**59.23**	**9**	LR		LR	19 06 44.4	
	comp=Z,59nm,21.0s,baz=214,slow=34							
MKAR	**Makanchi Array**	**64.86**	**333**	P		**P**	**18 43 57.4**	**-0.7**
	0.2nm,0.6s,baz=145,slow=7.9,SNR=2.7							
	0.2nm,0.6s							
ZALV	**Zalesovo Beam**	**69.41**	**339**	P		**P**	**18 44 27.6**	**+1.0**
	0.3nm,0.3s,baz=134,slow=6.2,SNR=2.6							
	0.3nm,0.3s							
PETK	**Petropavlovsk-**	**70.14**	**23**	LR		LR	19 13 43.7	
	comp=Z,43nm,21.7s,baz=211,slow=34							
KDAK	**Kodiak Island**	**96.69**	**33**	LR		LR	19 32 08.8	
	comp=Z,35nm,19.0s,baz=262,slow=36							

*IDC **23** 18:40:57.6±6.0, 7.92S×124.19E, h136km±67km, mb3.0/1, mbtmp3.9/4, Error ellipse: s-maj=91.7km s-min=31.2km az=46.0*
*DJA **23** 18:40:57.9±0.9, 8.5±11.×12.4E±.7, h178km±8km, M3.7/8, mb4.0/3, MLv3.6/8*
ISC 23 18:40:57.1±1.4, 8.0S±0.1×124.1E±0.1, h150km, n11, σ3s04/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SOEI	**Soe**	**1.75**	**176**	P		**Pn**	**18 41 32.5**	**+2.9**
MMRI	**Maumere**	**1.98**	**251**	P		**Pn**	**18 41 33.2**	**+1.2**
BATI	**Baumata**	**2.25**	**192**	P		**Pn**	**18 41 37.0**	**+1.8**
	103nm,0.3s,baz=80,slow=0.6,SNR=67							
BATI				S		**Sn**	**18 42 06.0**	**+1.4**
	115nm,0.4s,baz=103,slow=23,SNR=9.1							
BATI	**Baumata**	**2.25**	**192**	P		**Pn**	**18 41 37.0**	**+1.8**
EDFI	**Ende, Flores**	**2.53**	**253**	P		**Pn**	**18 41 39.8**	**+1.1**
BASI	**Baing, Sumba**	**4.15**	**238**	P		**Pn**	**18 42 00.1**	**+0.8**
PLAI	**Plampang**	**6.34**	**262**	P		**Pn**	**18 42 27.8**	**-0.6**
	29nm,0.9s,0.2nm							
TWSI	**Taliwang, Sumb**	**7.21**	**264**	P		**Pn**	**18 42 38.0**	**-2.0**
	13nm,1.0s,0.1nm							
WRA	**Warramunga Arr**	**15.45**	**141**	P		**Pn**	**18 44 27.6**	**+0.4**
	2.3nm,0.5s,baz=320,slow=14,SNR=26							
WRA				S		**Sn**	**18 47 10.9**	**-8.4**
	0.4nm,0.5s,baz=304,slow=21,SNR=2.0							
ASAR	**Alice Springs**	**18.18**	**150**	P		**Pn**	**18 45 00.9**	**+0.8**
	2.2nm,0.6s,baz=328,slow=12,SNR=28							
ASAR				S		**S**	**18 48 17.3**	**-1.7**
	0.4nm,0.6s,baz=317,slow=21,SNR=5.4							
MKAR	**Makanchi Array**	**66.01**	**330**	P		**P**	**18 51 29.2**	**+1.6**
	0.2nm,0.5s,baz=137,slow=8.0,SNR=6.7							
	0.2nm,0.5s							

*NEIC **23** 18:54:41.1±0.6, 19.28N±0.01×155.38W±0.01, h13km±3km, Error ellipse: s-maj=2.1km s-min=1.1km az=132.0*
HVO 23 18:54:41.4±0.9, 19.28N±0.01×155.385W±0.009, h3km±7km, ML2.6/19, ML2.3/44(NEIC), Error ellipse: s-maj=1.8km s-min=0.7km az=139.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HTC	**Hot Caves**	**0.05**	**194**			Pg	18 54 43.3	+0.8
HLP	**Hilina Pali**	**0.07**	**80**	Pg		Pg	18 54 43.8	+0.8
HLP						Sg	18 54 45.5	+1.5
SDHHI	**Sand Hill**	**0.14**	**39**			Pg	18 54 44.7	+0.5
SDHHI					IAML		18 54 48.4	
	comp=E,2μm,0.6s							
WRMHI	**West Rim**	**0.15**	**33**			Pg	18 54 44.8	+0.5
WRMHI	**West Rim**	**0.15**	**33**	Sg		Sg	18 54 47.3	+1.0
WRMHI					IAML		18 54 48.6	
	comp=E,2μm,0.4s							
WRMHI					IAML		18 54 48.6	
	comp=N,1μm,0.5s							
RIM	**Rim**	**0.15**	**43**			Pg	18 54 45.0	+0.5
RIM				Sg		Sg	18 54 47.3	+0.8
KKO	**Keanakako`i**	**0.16**	**45**			Pg	18 54 45.0	+0.4
KKO				Sg		Sg	18 54 47.5	+0.8
KKO					IAML		18 54 48.7	
	comp=E,1μm,0.7s							
NPH	**North Pit**	**0.16**	**38**			Pg	18 54 44.8	+0.1
NPH					IAML		18 54 50.1	
	comp=N,573nm,0.6s							
UWE	**Uwekahuna**	**0.16**	**32**			Pg	18 54 45.1	+0.5
UWE	**Uwekahuna**	**0.16**	**32**		IAML		18 54 49.8	
	comp=N,1μm,0.4s							
UWE					IAML		18 54 50.2	
	comp=E,1μm,0.6s							
UWB	**Uwekahuna B**	**0.17**	**36**			Pg	18 54 44.6	-0.2
BYL	**Byron's Ledge**	**0.17**	**43**	Pg		Pg	18 54 44.5	-0.4
BYL					IAML		18 54 49.2	
	comp=E,1μm,1.0s							
BYL					IAML		18 54 50.7	
	comp=N,850nm,0.8s							
SBLHI	**Steaming Bluff**	**0.18**	**38**	Pg		Pg	18 54 44.8	-0.2
SBLHI					IAML		18 54 50.1	
	comp=E,697nm,0.5s							
SBLHI					IAML		18 54 50.7	
	comp=N,474nm,0.4s							
HATHI	**Halema'uma'u T**	**0.18**	**40**	Pg		Pg	18 54 45.1	+0.1
HATHI					IAML		18 54 50.3	
	comp=N,816nm,0.7s							
HATHI					IAML		18 54 50.9	
	comp=E,907nm,0.8s							
PUH	**Pauahi**	**0.18**	**61**			Pg	18 54 45.4	+0.4
PUH						Sg	18 54 47.4	-0.1
PUH					IAML		18 54 51.1	
	comp=E,617nm,0.5s							
RSD	**Rainshed**	**0.20**	**30**			Pg	18 54 45.8	+0.4
RSD	**Rainshed**	**0.20**	**30**		IAML		18 54 51.7	
	comp=E,326nm,1.0s							
RSD					IAML		18 54 51.9	
	comp=N,260nm,1.8s							
MLH	**Mauna Loa**	**0.21**	**360**			Pg	18 54 46.3	+0.8
MLH						Sg	18 54 50.0	+1.7
MLH	**Mauna Loa**	**0.21**	**360**		IAML		18 54 50.2	
	comp=E,407nm,1.2s							
MLH					IAML		18 54 50.3	
	comp=N,925nm,0.5s							
KHU	**Kahuku**	**0.22**	**260**			Pg	18 54 46.3	+0.5
KHU						Sg	18 54 49.8	+1.2
KHU	**Kahuku**	**0.22**	**260**		IAML		18 54 50.2	
	comp=N,604nm,0.5s							
KHU					IAML		18 54 53.3	
	comp=E,623nm,1.0s							
KNHH	**Kane Nui o Ham**	**0.23**	**65**			Pg	18 54 45.9	+0.1
STCH	**Steam Cracks**	**0.27**	**68**	Pg		Pg	18 54 47.0	+0.4
MWH	**Moku'aweowe**	**0.28**	**315**			Pg	18 54 47.1	+0.1
MWH					IAML		18 54 56.2	
	comp=N,745nm,0.9s							
MLOA	**Mauna Loa Obse**	**0.31**	**324**			Pg	18 54 47.8	+0.3
MLOA						Sg	18 54 51.3	-0.3
MLOA					IAML		18 54 52.5	
	comp=E,481nm,0.6s							
HMH	**Humu'ula Sheep**	**0.33**	**344**			Pg	18 54 48.1	+0.3
HMH					IAML		18 54 57.8	
	comp=E,290nm,0.7s							
ALEP	**Alea Permanent**	**0.35**	**316**			Pg	18 54 48.4	+0.1
POHA	**Pohakuloa**	**0.49**	**344**	Pg		Pg	18 54 50.8	-0.1
CPH	**Captain Cook**	**0.54**	**292**			Pg	18 54 51.5	-0.3
KHLU	**Kahalu`u**	**0.57**	**303**			Pg	18 54 52.2	-0.2
KHLU						Sg	18 55 00.4	+0.7
KHLU	**Kahalu`u**	**0.57**	**303**		IAML		18 55 04.3	
	comp=E,216nm,0.7s							
KHLU					IAML		18 55 06.3	
	comp=N,196nm,0.6s							
HUH	**Hualalai**	**0.58**	**313**			Pg	18 54 52.6	0.0

*NEIC **23** 18:59:03.3±1.6, 28.87N±0.07×130.01E±0.08, h25km±5km, mb4.1/20, Error ellipse: s-maj=11.6km s-min=8.9km az=129.0*
*JMA **23** 18:59:04.6±0.2, 28.8N±0.6×13.0E±.7, h47km±4km, MV3.5/27, NEAR AMAMI-OSHIMA ISLAND*
*NIED **23** 18:59:04.6, 28.83N×130.14E, h47km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.62; $M_{\theta\theta}$0.25; $M_{\phi\phi}$-2.87; $M_{r\theta}$3.67; $M_{\theta\phi}$-1.16; $M_{\phi r}$6.33; Fault plane solution: $M_0$7.90000×10^{14} NP1:ϕ_s80.00000°, δ79.00000°, λ.95.00000°. NP2:ϕ_s182.00000°, δ12.00000°, λ63.00000°.*
*IDC **23** 18:59:07.8±2.6, 28.74N×129.96E, h68km±25km, mb3.6/10, mbtmp3.8/12, MS3.7/4 Error ellipse: s-maj=35.3km s-min=20.1km az=119.0*
ISC 23 18:59:03.8±0.8, 28.83N±0.04×130.21E±0.05, h37km±1km, n70, σ1s69/76, mb4.0/20, MS3.8/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JZK	**Kikaishima**	**0.55**	**202**	P		**Pn**	**18 59 16.2**	**+0.9**
JAM	**Amami Oshima**	**0.67**	**232**	P		**Pn**	**18 59 16.9**	**0.0**
JTAJ	**Takarajima**	**0.94**	**291**	P		**Pn**	**18 59 20.8**	**+0.4**
JTAJ					eS	**Sn**	**18 59 33.5**	**+1.0**
JNN	**Nakanoshima**	**1.05**	**344**	P		**Pn**	**18 59 23.1**	**+1.1**
JAMN	**Amaminishikomi**	**1.08**	**238**	P		**Pn**	**18 59 23.0**	**+0.7**
JAMN					eS	**Sn**	**18 59 38.2**	**+2.2**
JYAK	**Yakushimahirau**	**1.43**	**11**	P		**Pn**	**18 59 28.8**	**+1.6**
JYAK					eS	**Sn**	**18 59 46.8**	**+2.1**
JTK	**Tokunoshima**	**1.52**	**227**	P		**Pn**	**18 59 29.5**	**+1.1**
JTK					eS	**Sn**	**18 59 49.4**	**+2.6**
JKC	**Kuchinoerabu**	**1.63**	**360**	P		**Pn**	**18 59 31.5**	**+1.6**
JKC					eS	**Sn**	**18 59 51.8**	**+2.1**
JMTN	**Minamitane**	**1.68**	**21**	P		**Pn**	**18 59 32.3**	**+1.7**
JTN	**Tanegashima 3**	**1.94**	**20**	P		**Pn**	**18 59 35.9**	**+1.7**
JOKE	**Okinoerabujima**	**2.05**	**225**	P		**Pn**	**18 59 36.8**	**+1.0**
JYRO	**Yoronjima**	**2.37**	**221**	P		**Pn**	**18 59 40.7**	**+0.6**
JYRO					eS	**Sn**	**19 00 07.9**	**-0.1**
JOW	**Kunigami**	**2.62**	**221**	P		**Pn**	**18 59 44.4**	**+0.8**
JOW	**Kunigami**	**2.62**	**221**	P		**Pn**	**18 59 44.4**	**+0.8**
	20nm,0.3s,baz=98,slow=20,SNR=64							
JOW				S		**Sn**	**19 00 14.3**	**+0.2**
	36nm,0.2s,baz=89,slow=25,SNR=2.3							
JOW				LR		LR	19 00 17.8	
	comp=Z,52nm,21.0s,baz=356,slow=29							
JIH	**Iheya**	**2.67**	**229**	P		**Pn**	**18 59 44.6**	**+0.5**
JIH					eS	**Sn**	**19 00 15.4**	**+0.2**
JNTH	**Nagotoyohara**	**3.01**	**221**	eP		**Pn**	**18 59 49.6**	**+0.8**
JKDJ	**Kitadaitoujima**	**3.02**	**161**	eP		**Pn**	**18 59 48.3**	**-0.8**
JKDJ					eS	**Sn**	**19 00 20.9**	**-3.2**
JMZ	**Minamidaito 2**	**3.13**	**163**	Pn		**Pn**	**18 59 52.6**	**+2.1**
JMZ	**Minamidaito 2**	**3.13**	**163**	eP		**Pn**	**18 59 49.6**	**-1.0**
JJT3	**Tamagusuku3**	**3.43**	**219**	eP		**Pn**	**18 59 55.8**	**+1.1**
JAGN	**Aguni-jima**	**3.44**	**230**	P		**Pn**	**18 59 56.2**	**+1.3**
JKE	**Kume jima 2**	**3.93**	**231**	P		**Pn**	**19 00 02.1**	**+0.6**
JNU	**Nakatsue**	**4.32**	**8**			**Pn**	**19 00 07.6**	**+0.7**
JNU	**Nakatsue**	**4.32**	**8**	P		**Pn**	**19 00 09.7**	**+2.7**
	8.4nm,0.5s,baz=195,slow=11,SNR=30							
JNU				S		**Sn**	**19 00 57.6**	**+1.5**
	6.4nm,0.6s,baz=204,slow=18,SNR=1.2							
JMN	**Monobe**	**5.81**	**32**	Pn		**Pn**	**19 00 28.4**	**+0.9**
KSRS	**Korea Array**	**8.81**	**348**	P		Pn	19 01 14.3	+5.7
	1.2nm,0.7s,baz=166,slow=15,SNR=5.8							
KSRS				S		**Sn**	**19 02 38.2**	**-8.4**
	0.4nm,0.4s,baz=122,slow=38,SNR=1.6							
JHJ2	**Mitsune**	**9.29**	**60**	Pn		**Pn**	**19 01 15.5**	**+0.3**
YULB	**Yu-li**	**9.66**	**238**	Pn		**Pn**	**19 01 16.7**	**-3.6**
SSLB	**Suanglung**	**9.70**	**241**	Pn		**Pn**	**19 01 18.4**	**-2.4**
JCJ	**Chichijima**	**10.73**	**96**	Pn		**Pn**	**19 01 35.1**	**+0.2**
TGY	**Tagaytay City**	**16.99**	**212**	LR		LR	19 09 02.5	
	comp=Z,122nm,20.2s,baz=124,slow=35							
KLR	**Kul'dur**	**20.41**	**3**	P		**P**	**19 03 36.8**	**-0.8**
	1.2nm,0.6s,baz=208,slow=5.9,SNR=6.4							
SONM	**Songino Array**	**26.45**	**322**	P		**P**	**19 04 37.1**	**-0.2**
SONM	**Songino Array**	**26.45**	**322**	P		**P**	**19 04 37.7**	**+0.3**
	0.4nm,0.5s,baz=129,slow=13,SNR=1.9							
	0.4nm,0.5s							
SEY	**Seymchan**	**37.04**	**17**	P		**P**	**19 06 10.6**	**+0.8**
	0.7nm,0.7s,baz=256,slow=21,SNR=3.9							
	0.7nm,0.7s							
MK31	**Makanchi Array**	**41.19**	**309**	P		**P**	**19 06 43.0**	**-1.7**
MKAR	**Makanchi Array**	**41.19**	**309**	P		**P**	**19 06 42.3**	**-2.4**
MKAR	**Makanchi Array**	**41.19**	**309**	P		**P**	**19 06 44.5**	**-0.2**
	0.5nm,0.7s,baz=92,slow=9.6,SNR=7.1							
	0.5nm,0.7s							
ZAA0	**Zalesovo Array**	**41.31**	**320**	P		**P**	**19 06 45.4**	**-0.2**
ZALV	**Zalesovo Beam**	**41.31**	**320**	P		**P**	**19 06 45.5**	**-0.1**
ZALV	**Zalesovo Beam**	**41.31**	**320**	P		**P**	**19 06 45.3**	**-0.3**
	1.3nm,0.3s,baz=96,slow=9.6,SNR=7.4							
	1.3nm,0.3s							
KK31	**Karatay Array**	**49.39**	**304**	P		**P**	**19 07 48.5**	**-1.4**
KK31					IAmb	IAmb	19 07 50.4	
	comp=Z,1.2nm,0.8s							
KKAR	**Karatay Array**	**49.39**	**304**	P		**P**	**19 07 48.8**	**-1.0**
KKAR					IAmb	IAmb	19 07 50.4	
	comp=Z,1.2nm,0.8s							
BVAR	**Borovoye Array**	**49.55**	**317**	P		**P**	**19 07 51.4**	**+0.5**
	comp=Z,2.7nm,0.5s,baz=93,slow=9.4,SNR=13							
	comp=Z,2.7nm,0.5s							
BRVK	**Borovoye**	**49.62**	**317**	P		**P**	**19 07 51.3**	**-0.1**
F17K	**Baldwin Pennin**	**55.37**	**27**	P		**P**	**19 08 35.2**	**+1.4**
C18K	**Utukok River**	**55.70**	**24**	P		**P**	**19 08 37.0**	**+0.8**
J17K	**VABM Dome**	**56.03**	**31**	P		**P**	**19 08 40.1**	**+1.5**
ABKAR	**Akbulak array**	**56.18**	**312**			**P**	**19 08 39.1**	**-0.8**
ABKAR	**Akbulak array**	**56.18**	**312**	P		**P**	**19 08 39.8**	**-0.1**
ARU	**Arti**	**56.47**	**321**	P		**P**	**19 08 41.0**	**-0.8**
ARU						IAmb	IAmb	19 08 42.2
	comp=Z,4.2nm,0.9s							
ARU	**Arti**	**56.47**	**321**	LR		LR	19 34 33.9	
	comp=Z,54nm,19.2s,baz=72,slow=38							
D19K	**Kuna River**	**56.80**	**25**	P		**P**	**19 08 45.4**	**+1.3**
D19K						IAmb	IAmb	19 09 12.8
	comp=Z,3.2nm,1.2s							
E19K	**Redstone River**	**57.05**	**26**	P		**P**	**19 08 46.5**	**+0.8**
E19K						IAmb	IAmb	19 08 57.2
	comp=Z,2.6nm,1.2s							
HRA	**Herat**	**57.18**	**294**	P		**P**	**19 08 47.0**	**-0.6**
HRA						IAmb	IAmb	19 08 57.6
	comp=Z,1.3nm,0.8s							
AKTO	**Aktyubinsk**	**57.29**	**314**	LR		LR	19 35 39.2	
	comp=Z,67nm,18.3s,baz=100,slow=38							
D22K	**Ayikyak River**	**58.80**	**24**	P		**P**	**19 08 59.6**	**+1.6**
D22K						IAmb	IAmb	19 09 04.4
	comp=Z,3.2nm,1.2s							
E22K	**Anaktuvuk Pass**	**59.12**	**25**	P		**P**	**19 09 02.2**	**+1.9**
GEYT	**Alibeck**	**59.53**	**299**	LR		LR	19 40 58.6	
	comp=Z,86nm,18.4s,baz=136,slow=42							
F24K	**Squaw Lake**	**60.64**	**26**	P		**P**	**19 09 12.4**	**+1.7**
F24K						IAmb	IAmb	19 09 13.6
	comp=Z,4.2nm,1.2s							
BMAR	**Burnt Mountain**	**61.92**	**26**	P		**P**	**19 09 21.0**	**+1.6**
MID	**Middleton Isla**	**62.39**	**35**	P		**P**	**19 09 25.1**	**+2.5**
FIA1	**FINESS Array S**	**71.47**	**331**	P		**P**	**19 10 19.4**	**-0.9**
FINES	**FINESS Array B**	**71.47**	**331**	P		**P**	**19 10 19.6**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=61,slow=6.0,SNR=9.3							
	comp=Z,0.7nm,0.5s							
AKASG	**Malin Array Be**	**74.70**	**320**	P		**P**	**19 10 39.7**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=60,slow=6.4,SNR=4.9							
	comp=Z,0.4nm,0.4s							
YKA	**Yellowknife Ar**	**75.44**	**26**	P		**P**	**19 10 45.8**	**+2.2**
	comp=Z,0.7nm,0.8s,baz=303,slow=5.9,SNR=9.8							
	comp=Z,0.7nm,0.8s							
BRTR	**Keskin Array B**	**76.82**	**308**	P		**P**	**19 10 52.2**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=100,slow=2.9,SNR=4.3							
	comp=Z,2.1nm,0.9s							
BURAR	**Bucovina Array**	**78.48**	**318**	P		**P**	**19 11 00.6**	**-0.6**
BURAR						IAmb	IAmb	19 11 10.2
	comp=Z,1.6nm,1.1s							
SUMG	**Summit**	**78.57**	**357**	P		**P**	**19 11 01.7**	**+0.1**
SUMG						IAmb	IAmb	19 11 23.9
	comp=Z,0.6nm,0.5s							
GERES	**GERESS Array B**	**84.18**	**324**	P		**P**	**19 11 31.8**	**+0.4**
	comp=Z,1.0nm,0.9s,baz=23,slow=7.5,SNR=3.5							
	comp=Z,1.0nm,0.9s							

*BJI **23** 19:02:44.0±0.0, 43.20N×139.40E, h208km, mb5.0/60, mB5.0/30*
*MOS **23** 19:02:45.2±1.0, 43.15N×139.44E, h218km, mb4.9/61, Error ellipse: s-maj=5.3km s-min=4.0km az=113.9*
*NEIC **23** 19:02:46.1±1.3, 43.08N±0.06×139.42E±0.09, h211km±6km, mb4.9/419, Error ellipse: s-maj=10.1km s-min=8.0km az=111.0*
*JMA **23** 19:02:46.8±0.2, 43.0N±0.7×14.0E±.7, h216km±1km, MD4.9/40, MW5.0/40, NW OFF SHAKOTAN PEN*
*SKHL **23** 19:02:46.0±0.2, 43.10N×139.60E, h210km±11km, mb5.8/17, mbv5.6/4, msh5.5/6, mshа6.0/13*
*IDC **23** 19:02:46.0±0.6, 43.13N×139.43E, h212km±5km, mb4.3/29, mbtmp4.9/38, Error ellipse: s-maj=7.4km s-min=5.7km az=134.0*
*NIED **23** 19:02:46.8, 43.04N×139.53E, h216km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}0.02; $M_{\theta\theta}$1.62; $M_{\phi\phi}$-1.64; $M_{r\theta}$0.23; $M_{\theta\phi}$-3.25; $M_{\phi r}$-0.71; Fault plane solution: $M_0$3.71000×10^{16} NP1: ϕ_s167.00000°, δ89.00000°, λ12.00000°. NP2:ϕ_s77.00000°, δ78.00000°, λ179.00000°.*
*GCMT **23** 19:02:47.1±0.3, 43.17N±0.02×139.29E±0.02, h217km±2km, MW5.0/78, Moment Tensor Solution. s33,c41; s78,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.63±.15; $M_{\theta\theta}$1.32±.15; $M_{\phi\phi}$-1.94±.14; $M_{r\theta}$0.22±.15; $M_{\theta\phi}$-4.30±.11; $M_{\phi r}$-0.66±.13; Best double couple: $M_0$4.65600×10^{16} NP1:ϕ_s170.00000°, δ87.00000°, λ9.00000°. NP2:ϕ_s79.00000°, δ81.00000°, λ177.00000°. Principal axes: T 4.3710, Plg8.0000°, Azm35.0000°; N 0.5780, Plg80.0000°, Azm187.0000°; P -4.9410, Plg4.0000°, Azm304.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **23** 19:02:48.7, 43.51N×139.89E, h202km±6km, mb4.7*
**ISC 23 19:02:46.2±0

ASAJ	**Asahikawa**	**2.49**	**65**	P	**Pn**	**19 03 31.6**	**+0.5**
	comp=N,855nm,0.4s,baz=256,slow=11,SNR=2597						
ASAJ				S	**S**	**19 04 06.2**	**+0.1**
	comp=N,2µm,0.9s,baz=150,slow=20,SNR=46						
JKA	**Kamikawa-asahi**	**2.49**	**65**		**Pn**	**19 03 31.7**	**+0.6**
JKA				Sn	**S**	**19 04 05.4**	**-0.7**
JKK2	**Kamakawa 2**	**2.51**	**71**	*i* P	**Pn**	**19 03 32.1**	**+0.8**
JKK2				S	**S**	**19 04 06.5**	**+0.1**
JKK2	**Kamakawa 2**	**2.51**	**71**	A	A	19 03 32.1	
	comp=E,19nm,2.9s,comp=N,28nm,1.8s						
JARK	**Aomorirokkasho**	**2.52**	**145**	A	A	19 03 31.4	
	comp=E,15nm,3.1s,comp=N,9.0nm,1.7s						
JHHS	**Hirosakihyakuz**	**2.53**	**164**	A	A	19 03 31.6	
	comp=E,27nm,7.5s,comp=N,22nm,5.0s						
JIW	**Iwasaki**	**2.54**	**171**	A	A	19 03 31.6	
	comp=E,16nm,4.6s,comp=N,17nm,1.8s						
JNBK	**Urakawa-nobuka**	**2.56**	**108**	ǁ *i* P	**Pn**	**19 03 31.2**	**-0.7**
JNBK				ǁ *e*S	**S**	**19 04 07.4**	**+0.1**
JNBK	**Urakawa-nobuka**	**2.56**	**108**	A	A	19 03 31.2	
	comp=E,13nm,0.5s,comp=N,18nm,0.5s						
JRBN	**Rebuntou**	**2.59**	**26**	*i* P	**Pn**	**19 03 32.6**	**+0.5**
JRBN				S	**S**	**19 04 07.7**	**-0.4**
JRBN	**Rebuntou**	**2.59**	**26**	A	A	19 03 32.6	
	comp=E,7.0nm,2.3s,comp=N,12nm,2.1s						
JTM	**Tenmabayashi**	**2.60**	**152**	P	**Pn**	**19 03 31.8**	**-0.6**
JTM	**Tenmabayashi**	**2.60**	**152**		**Pn**	**19 03 31.9**	**-0.5**
JTM				Sn	**S**	**19 04 06.0**	**-2.3**
JTM	**Tenmabayashi**	**2.60**	**152**	A	A	19 03 32.2	
	comp=E,28nm,2.2s,comp=N,16nm,1.6s						
JWK2	**Keihoku**	**2.82**	**37**	*i* P	**Pn**	**19 03 36.1**	**+1.4**
JWK2	**Keihoku**	**2.82**	**37**	A	A	19 03 36.1	
	comp=E,10.0nm,2.4s,comp=N,12nm,2.9s						
TEY	**Ternei**	**2.83**	**314**	ǁ *e*PN	**Pn**	**19 03 35.1**	**+0.3**
TEY				*e*		19 04 08.1	
TEY				pmax	pmax		
	comp=N,2µm,1.0s						
TEY				pmax	pmax		
	comp=E,3µm,1.0s						
TEY				pmax	pmax		
	comp=E,2µm,1.0s						
TEY				pmax	pmax		
	comp=E,3µm,0.9s						
TEY				pmax	pmax		
	comp=N,3µm,0.6s						
TEY				pmax	pmax		
	comp=E,5µm,0.7s						
TEY	**Ternei**	**2.83**	**314**	*e*P	**Pn**	**19 03 35.3**	**+0.5**
TEY				AMB	AMB	19 03 35.7	
	comp=Z,4µm,0.7s						
TEY				*e*S	**S**	**19 04 13.8**	**+1.1**
TEY				A	A	19 04 14.4	
	comp=Z,3µm,2.0s						
TEY				A	A	19 04 14.4	
	comp=Z,3µm,2.0s						
TEY				A	A	19 04 14.4	
	comp=Z,1µm,0.7s						
TEY				A	A	19 04 14.4	
	comp=Z,810nm,0.7s						
JNTW	**Noshirotokiwa**	**2.87**	**169**	A	A	19 03 35.4	
	comp=E,37nm,6.4s,comp=N,46nm,3.4s						
JCH	**Churui**	**2.91**	**98**	ǁ *i* P	**Pn**	**19 03 34.4**	**-1.3**
JCH				ǁ S	**S**	**19 04 10.9**	**-3.3**
JCH	**Churui**	**2.91**	**98**	A	A	19 03 34.4	
	comp=E,8.0nm,6.8s,comp=N,9.0nm,5.4s						
JSE	**Soyaes**	**2.92**	**49**	*i* P	**Pn**	**19 03 36.5**	**+0.7**
JSE				S	**S**	**19 04 15.6**	**+1.1**
JSE	**Soyaes**	**2.92**	**49**	A	A	19 03 36.5	
	comp=E,18nm,4.3s,comp=N,28nm,1.8s						
ERM	**Erimo**	**2.93**	**110**	P	**Pn**	**19 03 36.3**	**+0.3**
ERM	**Erimo**	**2.93**	**110**		**Pn**	**19 03 35.8**	**-0.2**
ERM				Sn	**S**	**19 04 13.9**	**-1.0**
ERM	**Erimo**	**2.93**	**110**	*ce*PN	**Pn**	**19 03 35.9**	**-0.2**
ERM				pmax	pmax		
	comp=Z,3µm,1.0s						
JEM	**Erimo**	**2.93**	**110**	P	**Pn**	**19 03 36.3**	**+0.3**
JEM	**Erimo**	**2.93**	**110**	A	A	19 03 36.0	
	comp=E,14nm,5.5s,comp=N,9.0nm,2.8s						
JTHR	**Tokachihiroo**	**2.94**	**105**	A	A	19 03 36.2	
	comp=E,9.0nm,2.9s,comp=N,19nm,2.5s						
JMP	**Maruseppu**	**2.97**	**71**	A	A	19 03 36.9	
	comp=E,7.0nm,3.5s,comp=N,11nm,3.6s						
JAH	**Hinai**	**3.04**	**163**	A	A	19 03 37.2	
	comp=E,14nm,4.5s,comp=N,16nm,2.3s						
JANG	**Nango**	**3.12**	**150**	ǁ *i* P	**Pn**	**19 03 36.7**	**-1.6**
JANG	**Nango**	**3.12**	**150**	A	A	19 03 36.7	
	comp=E,9.0nm,4.2s,comp=N,5.0nm,1.4s						
JAR	**Ashorobuto**	**3.15**	**85**	ǁ *i* P	**Pn**	**19 03 38.2**	**-0.3**
JAR				ǁ S	**S**	**19 04 18.1**	**-1.3**
JAR	**Ashorobuto**	**3.15**	**85**	A	A	19 03 38.2	
	comp=E,14nm,1.4s,comp=N,19nm,2.1s						
JOG3	**Oga3**	**3.19**	**185**	A	A	19 03 39.1	
	comp=E,21nm,2.2s,comp=N,12nm,3.9s						
JOB	**Onbets**	**3.21**	**92**	A	A	19 03 39.4	
	comp=E,9.0nm,1.1s,comp=N,10.0nm,0.7s						
JKEN	**Kujiedanarisaw**	**3.34**	**149**	A	A	19 03 40.7	
	comp=E,17nm,1.8s,comp=N,9.0nm,1.7s						
JTKR	**Abashiri--Toko**	**3.35**	**73**	*i* P	**Pn**	**19 03 41.0**	**+0.3**
JTKR				*e*S	**S**	**19 04 22.6**	**-0.8**
JTKR	**Abashiri--Toko**	**3.35**	**73**	A	A	19 03 41.0	
	comp=E,9.0nm,1.5s,comp=N,11nm,4.5s						
JSZI	**Iwateshizukuis**	**3.54**	**161**	A	A	19 03 43.1	
	comp=E,15nm,2.9s,comp=N,14nm,3.4s						
JYW	**Yuwa**	**3.60**	**171**	A	A	19 03 43.9	
	comp=E,14nm,5.4s,comp=N,22nm,2.2s						
JTH	**Tanohata**	**3.63**	**105**	A	A	19 03 44.2	
	comp=E,13nm,2.0s,comp=N,9.0nm,1.7s						
JRG	**Rokugo**	**3.80**	**166**	A	A	19 03 46.3	
	comp=E,9.0nm,5.0s,comp=N,11nm,5.1s						
JAK	**Akkeshi**	**3.83**	**90**	A	A	19 03 46.9	
	comp=E,6.0nm,1.4s,comp=N,18nm,2.6s						
JOM	**Ohasama**	**3.88**	**159**	A	A	19 03 47.1	
	comp=E,6.0nm,1.5s,comp=N,7.0nm,3.7s						
AKK	**Akkeshi**	**3.94**	**89**	*i* P	**Pn**	**19 03 46.3**	**-1.6**
AKK				*e*S	**S**	**19 04 33.5**	**-2.7**
JNSB	**Nemuroshibetsu**	**4.09**	**79**	A	A	19 03 50.2	
	comp=E,28nm,2.9s,comp=N,36nm,5.9s						
JRA	**Rausu**	**4.20**	**77**	A	A	19 03 51.5	
	comp=E,11nm,4.2s,comp=N,15nm,2.9s						
RUSJ	**Misakicho**	**4.32**	**75**	ǁ *i* PN	**Pn**	**19 03 53.1**	**+0.6**
RUSJ				*e*S	**S**	**19 04 43.9**	**-0.7**
JYA	**Atsumi**	**4.50**	**178**	A	A	19 03 55.1	
	comp=E,7.0nm,4.0s,comp=N,8.0nm,1.7s						
YSS	**Yuzh-Sakhalins**	**4.50**	**30**	P	**Pn**	**19 03 55.4**	**+0.7**
YSS	**Yuzh-Sakhalins**	**4.50**	**30**	Pn	**Pn**	**19 03 55.4**	**+0.7**
YSS				Sn	**S**	**19 04 48.5**	**-0.3**
YSS	**Yuzh-Sakhalins**	**4.50**	**30**	α *i* PN	**Pn**	**19 03 55.7**	**+1.0**
YSS				*e*S	**S**	**19 04 50.1**	**+1.3**
YSS				pmax	pmax		
	comp=Z,2µm,1.2s						
YSS				pmax	pmax		
	comp=N,1µm,0.8s						
YSS				pmax	pmax		
	comp=E,1µm,0.9s						
YSS				pmax	pmax		
	comp=Z,1µm,2.9s						
YSS				pmax	pmax		
	comp=N,2µm,3.6s						
YSS				smax	smax		
	comp=N,500nm,0.7s						
YSS				smax	smax		
	comp=E,190nm,0.7s						
YSS				smax	smax		
	comp=N,2µm,4.3s						
YSS				smax	smax		
	comp=E,1µm,3.6s						
YSS	**Yuzh-Sakhalins**	**4.50**	**30**	*i* P	**Pn**	**19 03 55.7**	**+1.0**
YSS				AMB	AMB	19 03 57.1	
	comp=E,2µm,0.8s						
YSS				AMB	AMB	19 03 59.1	
	comp=E,1µm,3.0s						
YSS				*e*S	**S**	**19 04 48.6**	**-0.2**
YSS				A	A	19 04 50.4	
	comp=E,500nm,0.6s						
YSS				A	A	19 04 50.4	
	comp=E,190nm,0.6s						
YSS				A	A	19 04 50.7	
	comp=E,2µm,4.0s						
YSS				A	A	19 04 50.7	
	comp=E,1µm,4.0s						
NMR	**Nemuro--Hokkai**	**4.58**	**84**	*e*PN	**Pn**	**19 03 53.9**	**-1.9**
NMR				*e*S	**S**	**19 04 45.0**	**-5.5**
NMR	**Nemuro--Hokkai**	**4.58**	**84**	*e*P	**Pn**	**19 03 54.2**	**-1.6**
NMR				AMB	AMB	19 03 55.1	
	comp=E,480nm,0.2s						
NMR				*i* S	**S**	**19 04 45.6**	**-4.9**
NMR				A	A	19 04 50.7	
	comp=E,1µm,0.3s						
NMR				A	A	19 04 50.7	
	comp=E,780nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.74**	**76**	*e*PN	**Pn**	**19 03 58.0**	**+0.3**
YUK				*e*S	**S**	**19 04 51.8**	**-2.3**
YUK				pmax	pmax		
	comp=Z,1µm,0.3s						
YUK				pmax	pmax		
	comp=N,140nm,0.2s						
YUK				pmax	pmax		
	comp=E,112nm,0.2s						
YUK				smax	smax		
	comp=N,750nm,0.5s						
YUK				smax	smax		
	comp=E,2µm,0.7s						
YUK	**Yuzh-Kuril'sk**	**4.74**	**76**	*e*P	**Pn**	**19 03 58.0**	**+0.3**
YUK				AMB	AMB	19 03 59.4	
	comp=E,1µm,0.3s						
YUK				*e*S	**S**	**19 04 53.7**	**-0.4**
YUK				A	A	19 05 01.7	
	comp=E,750nm,0.6s						
YUK				A	A	19 05 01.7	
	comp=E,2µm,0.6s						
JYS	**Shirataka**	**4.89**	**174**	A	A	19 03 59.9	
	comp=E,8.0nm,3.0s,comp=N,10.0nm,3.4s						
JSD	**Sado**	**5.14**	**191**	P	**Pn**	**19 04 03.3**	**+0.5**
JSD	**Sado**	**5.14**	**191**	Pn	**Pn**	**19 04 03.0**	**+0.1**
JMM	**Marumori**	**5.32**	**169**	P	**Pn**	**19 04 03.9**	**-1.3**
JMM	**Marumori**	**5.32**	**169**		**Pn**	**19 04 03.8**	**-1.4**
SHO	**Shikotan**	**5.41**	**79**	*e*PN	**Pn**	**19 04 04.5**	**-1.6**
SHO				*e*S	**S**	**19 05 03.2**	**-6.2**
SHO				pmax	pmax		
	comp=N,66nm,0.2s						
SHO				pmax	pmax		
	comp=E,51nm,0.2s						
SHO				pmax	pmax		
	comp=Z,204nm,0.2s						
SHO				smax	smax		
	comp=N,478nm,0.2s						
SHO				smax	smax		
	comp=E,2µm,0.5s						
SHO	**Shikotan**	**5.41**	**79**	*e*P	**Pn**	**19 04 04.6**	**-1.6**
SHO				AMB	AMB	19 04 05.6	
	comp=E,210nm,0.2s						
SHO				*e*S	**S**	**19 05 04.3**	**-5.1**
SHO				A	A	19 05 05.6	
	comp=E,580nm,0.3s						
SHO				A	A	19 05 05.6	
	comp=E,2µm,0.3s						
USA0B	**Ussuriysk Arra**	**5.54**	**284**		**Pn**	**19 04 06.9**	**-0.8**
USA0B	**Ussuriysk Arra**	**5.54**	**284**	*d* iPN	**Pn**	**19 04 07.2**	**-0.5**
USRK	**Ussuriysk Ar.**	**5.54**	**284**	Pn	**Pn**	**19 04 07.3**	**-0.4**
USRK	**Ussuriysk Ar.**	**5.54**	**284**	P	**Pn**	**19 04 07.4**	**-0.3**
	comp=E,103nm,0.8s,baz=91,slow=14,SNR=115						
USRK				S	**S**	**19 05 11.3**	**-0.9**
	comp=E,54nm,0.9s,baz=94,slow=20,SNR=4.8						
MSHR	**Mys Shultsa**	**6.13**	**268**	*ce*PN	**Pn**	**19 04 16.1**	**+0.8**
MSHR				pmax	pmax		
	comp=Z,1µm,1.3s						
KHBR	**Khabarovsk**	**6.20**	**332**	*e*P	**Pn**	**19 04 16.6**	**+0.5**
UGL	**Uglegorsk**	**6.25**	**16**	ǁ *i* PN	**Pn**	**19 04 17.8**	**+1.0**
UGL				*e*S	**S**	**19 05 26.1**	**-2.6**
UGL				pmax	pmax		
	comp=Z,3µm,1.2s						
UGL				pmax	pmax		
	comp=Z,2µm,0.9s						
UGL				pmax	pmax		
	comp=E,1µm,0.8s						
UGL				pmax	pmax		
	comp=N,558nm,0.7s						
UGL				smax	smax		
	comp=N,2µm,5.5s						
UGL				smax	smax		
	comp=E,3µm,4.5s						
UGL				smax	smax		
	comp=N,129nm,1.3s						
UGL				smax	smax		
	comp=E,258nm,1.1s						
UGL	**Uglegorsk**	**6.25**	**16**	*i* P	**Pn**	**19 04 17.7**	**+1.0**
UGL				AMB	AMB	19 04 18.5	
	comp=E,3µm,1.2s						
UGL				AMB	AMB	19 04 18.6	
	comp=E,2µm,0.9s						
UGL				*e*S	**S**	**19 05 28.6**	**-0.1**
UGL				A	A	19 05 31.0	
	comp=E,2µm,5.0s						
UGL				A	A	19 05 31.0	
	comp=E,3µm,5.0s						
UGL				A	A	19 05 31.7	
	comp=E,130nm,0.8s						
UGL				A	A	19 05 31.7	
	comp=E,260nm,0.8s						
PSTR	**Posyet**	**6.38**	**269**	*d* iPN	**Pn**	**19 04 19.5**	**+1.0**
KUR	**Kuril'sk**	**6.41**	**68**	*e*PN	**Pn**	**19 04 18.8**	**-0.1**
KUR				*i* S	**S**	**19 05 29.6**	**-2.8**
KUR				pmax	pmax		
	comp=Z,229nm,0.8s						
KUR				pmax	pmax		
	comp=N,40nm,0.5s						
KUR				pmax	pmax		
	comp=E,88nm,0.5s						
KUR				smax	smax		
	comp=N,452nm,1.0s						
KUR				smax	smax		
	comp=E,257nm,0.7s						
KUR	**Kuril'sk**	**6.41**	**68**	*e*P	**Pn**	**19 04 18.7**	**-0.1**
KUR				AMB	AMB	19 04 22.0	
	comp=E,370nm,0.9s						
KUR				*i* S	**S**	**19 05 30.3**	**-2.1**
KUR				A	A	19 05 34.9	
	comp=E,4µm,1.5s						
KUR				A	A	19 05 34.9	
	comp=E,2µm,1.5s						
KUR				A	A	19 05 35.8	
	comp=E,450nm,0.8s						
KUR				A	A	19 05 35.8	
	comp=E,260nm,0.8s						
MJB9	**Matsu-Tunnel**	**6.62**	**189**	Pn	**Pn**	**19 04 21.5**	**-0.2**
MAJO	**Matsushiro**	**6.62**	**189**	P	**Pn**	**19 04 21.5**	**-0.3**
MAJO	**Matsushiro**	**6.62**	**189**	Pn	**Pn**	**19 04 21.3**	**-0.4**
MAJO	**Matsushiro**	**6.62**	**189**	*c* iPN	**Pn**	**19 04 21.4**	**-0.3**
MJAR	**Matsushiro Arr**	**6.62**	**189**	P	**Pn**	**19 04 21.7**	**0.0**
	comp=E,115nm,0.9s,baz=3.9,slow=13,SNR=146						
MJAR				S	**S**	**19 05 35.5**	**-2.1**
	comp=E,20nm,1.0s,baz=7.9,slow=22,SNR=2.3						
MDJ	**Mudanjiang**	**7.30**	**285**	P	**Pn**	**19 04 30.5**	**+0.2**
MDJ				PP		19 04 38.0	
MDJ				S	**S**	**19 05 54.1**	**+0.8**
MDJ				SS		19 06 08.3	
MDJ				pmax	pmax		
	comp=E,350nm,0.8s						
MDJ				pmax	pmax		
	comp=E,1µm,4.2s						
MDJ				LR	LR		
	comp=E,4µm,7.9s						
MDJ				LR	LR		
	comp=E,2µm,7.6s						
MDJ				LR	LR		
	comp=E,1µm,4.1s						
MDJ	**Mudanjiang**	**7.30**	**285**	P	**Pn**	**19 04 30.8**	**+0.5**
MDJ	**Mudanjiang**	**7.30**	**285**	Pn	**Pn**	**19 04 30.5**	**+0.2**
JGF	**Kuroka**	**7.66**	**193**	P	**Pn**	**19 04 34.9**	**-0.3**
JGF	**Kuroka**	**7.66**	**193**	Pn	**Pn**	**19 04 34.6**	**-0.6**
GRNR	**Gornyy**	**7.95**	**346**	ǁ *i* PN	**Pn**	**19 04 38.3**	**-0.3**
GRNR				*e*S	**S**	**19 06 05.2**	**-3.4**
GRNR				pmax	pmax		
	comp=E,40nm,0.7s						
GRNR				pmax	pmax		
	comp=N,80nm,0.9s						
GRNR				pmax	pmax		
	comp=Z,100nm,0.7s						
GRNR				smax	smax		
	comp=N,30nm,0.8s						
GRNR				MLR	MLR		
	comp=E,680nm,11.0s						
GRNR				MLR	MLR		
	comp=Z,520nm,14.0s						
GRNR	**Gornyy**	**7.95**	**346**	*i* P	**Pn**	**19 04 39.1**	**+0.5**
GRNR				AMB	AMB	19 04 39.8	
	comp=Z,80nm,0.7s						
GRNR				AMB	AMB	19 04 39.8	
	comp=Z,40nm,0.7s						
GRNR				AMB	AMB	19 04 39.8	
	comp=Z,100nm,0.7s						
GRNR				AMS	AMS	19 07 25.0	
	comp=Z,500nm,14.0s						
INU	**Inuyama**	**7.97**	**195**	P	**Pn**	**19 04 38.6**	**-0.4**
INU	**Inuyama**	**7.97**	**195**	Pn	**Pn**	**19 04 38.4**	**-0.6**
TYV	**Tymovskoe**	**8.07**	**15**	*e*PN	**Pn**	**19 04 41.7**	**+1.6**
TYV				*e*S	**S**	**19 06 13.5**	**+2.2**
TYV				pmax	pmax		
	comp=Z,1µm,3.1s						
TYV				pmax	pmax		
	comp=Z,194nm,0.8s						
TYV				smax	smax		
	comp=N,55nm,1.5s						
TYV				smax	smax		
	comp=E,39nm,1.5s						
TYV				smax	smax		
	comp=N,800nm,4.6s						
TYV				smax	smax		
	comp=E,800nm,4.6s						
TYV	**Tymovskoe**	**8.07**	**15**	*e*P	**Pn**	**19 04 40.4**	**+0.3**
TYV				AMB	AMB	19 04 42.3	
	comp=E,1µm,2.3s						
TYV				AMB	AMB	19 04 43.1	
	comp=E,310nm,0.8s						
TYV				*e*S	**S**	**19 06 09.2**	**-2.1**
TYV				A	A	19 06 14.5	
TYV				A	A	19 06 14.5	
	comp=E,90nm,0.7s						
TYV				A	A	19 06 14.5	
	comp=E,70nm,0.7s						
TYV				A	A	19 06 17.5	
	comp=E,800nm,4.6s						
TYV				A	A	19 06 17.5	
	comp=E,800nm,4.6s						
KLR	**Kul'dur**	**8.14**	**322**	*ce*PN	**Pn**	**19 04 40.7**	**-0.4**
KLR				pmax	pmax		
	comp=Z,559nm,1.3s						
KLR	**Kul'dur**	**8.14**	**322**	P	**Pn**	**19 04 40.5**	**-0.6**
	comp=Z,222nm,0.9s,baz=133,slow=13,SNR=352						
KLR				S	**S**	**19 06 14.5**	**+1.4**
	comp=Z,23nm,0.9s,baz=104,slow=16,SNR=0.8						
KLR	**Kul'dur**	**8.14**	**322**	*e*P	**Pn**	**19 04 40.7**	**-0.4**
JSG	**Sagara**	**8.47**	**187**	Pn	**Pn**	**19 04 44.4**	**-1.1**
BNX	**BinXian**	**9.03**	**291**	ǁ P	**Pn**	**19 04 52.0**	**-0.5**
BNX				S	**S**	**19 06 35.3**	**+1.2**
BNX				pmax	pmax		
	comp=Z,740nm,1.0s						
BNX				pmax	pmax		
	comp=Z,310nm,4.1s						
JHJ	**Hachijo jima 2**	**9.97**	**178**	P	**Pn**	**19 05 01.3**	**-3.5**
	comp=Z,108nm,0.3s,baz=99,slow=13,SNR=9.8						
JHJ				S	S	19 06 46.2	-10
	comp=Z,148nm,0.4s,baz=123,slow=23,SNR=6.2						
JHJ2	**Mitsune**	**9.97**	**178**	Pn	**Pn**	**19 05 01.2**	**-3.7**
CN2	**Changchun**	**10.22**	**279**	*e*P	**Pn**	**19 05 07.3**	**-0.6**
CN2				*e*S	**S**	**19 07 00.8**	**-1.7**
CN2				pmax	pmax		
	comp=Z,30nm,1.0s						
CN2				pmax	pmax		
	comp=Z,400nm,3.0s						
CN2				LR	LR		
	comp=Z,3µm,11.0s						
CN2				LR	LR		
	comp=Z,2µm,11.0s						
CN2				LR	LR		
	comp=Z,1µm,12.0s						
JMN	**Monobe**	**10.33**	**207**	P	**Pn**	**19 05 10.2**	**+0.8**
JMN	**Monobe**	**10.33**	**207**	Pn	**Pn**	**19 05 09.4**	**0.0**
KSRS	**Korea Array**	**10.46**	**241**	P	**Pn**	**19 05 12.0**	**+1.0**
	comp=Z,63nm,0.9s,baz=57,slow=12,SNR=171						
KSRS				S	**S**	**19 07 10.2**	**+1.9**
	comp=Z,1.4nm,0.8s,baz=57,slow=20,SNR=1.8						
KS19	**Wonju Array Si**	**10.47**	**242**		**Pn**	**19 05 11.9**	**+0.8**
KSAR	**Wonju Array Be**	**10.49**	**241**	Pn	**Pn**	**19 05 11.9**	**+0.5**
KSAR	**Wonju Array Be**	**10.49**	**241**	PN	**Pn**	**19 05 12.0**	**+0.5**
OKH	**Okha**	**10.71**	**11**	*de*PN	**Pn**	**19 05 09.3**	**-4.7**
OKH				pmax	pmax		
	comp=Z,100nm,7.9s						
OKH				MLR	MLR		
	comp=Z,200nm,15.0s						
OKH				MLR	MLR		
	comp=N,300nm,12.0s						
OKH	**Okha**	**10.71**	**11**	*e*P	**Pn**	**19 05 15.9**	**+1.9**
OKH				AMB	AMB	19 05 18.0	
	comp=N,200nm,6.0s						
OKH				AMB	AMB	19 05 18.6	
	comp=N,30nm,0.8s						
OKH				*e*S	**S**	**19 07 14.6**	**+0.9**
OKH				A	A	19 07 18.5	
	comp=N,400nm,8.3s						
OKH				A	A	19 07 18.5	
	comp=N,600nm,8.3s						
EKMR	**Ekimchan**	**10.88**	**339**	*e*P	**Pn**	**19 05 15.2**	**-1.0**
EKMR				AMB	AMB	19 05 27.6	
	comp=N,30nm,0.6s						
HEH	**HeiHe**	**10.94**	**315**	*e*P	**Pn**	**19 05 14.9**	**-2.0**
HEH				S	**S**	**19 07 14.8**	**-4.3**
HEH				pmax	pmax		
	comp=N,150nm,1.1s						
HEH				pmax	pmax		
	comp=N,560nm,6.3s						
INCN	**Inchon**	**11.29**	**245**	Pn	**Pn**	**19 05 21.3**	**-0.2**
INCN	**Inchon**	**11.29**	**245**	PN	**Pn**	**19 05 21.3**	**-0.2**
INCN	**Inchon**	**11.29**	**245**	P	**Pn**	**19 05 22.3**	**+0.8**
INCN				S	**S**	**19 07 28.1**	**+1.9**
TJN	**Taejon**	**11.48**	**238**	P	**Pn**	**19 05 24.9**	**+1.0**
TJN	**Taejon**	**11.48**	**238**	Pn	**Pn**	**19 05 24.2**	**+0.3**
TJN	**Taejon**	**11.48**	**238**	*ce*PN	**Pn**	**19 05 23.6**	**-0.3**
SNY	**Shenyang**	**11.81**	**269**	ǁ P	**Pn**	**19 05 28.8**	**+0.8**
SNY				S	**S**	**19 07 37.3**	**-1.1**
SNY				pmax	pmax		
	comp=N,37nm,1.1s						
SNY				pmax	pmax		
	comp=N,220nm,3.5s						
SNY				LR	LR		
	comp=N,150nm,5.4s						
SNY				LR	LR		
	comp=N,260nm,7.3s						
SNY				LR	LR		
	comp=N,210nm,10.2s						
JNU	**Nakatsue**	**12.03**	**217**	P	**Pn**	**19 05 32.8**	**+1.8**
JNU	**Nakatsue**	**12.03**	**217**		**Pn**	**19 05 30.9**	**-0.1**
JNU	**Nakatsue**	**12.03**	**217**	P	**Pn**	**19 05 31.4**	**+0.3**
	comp=N,26nm,0.7s,baz=53,slow=7.8,SNR=25						
ZEA	**Zeya**	**13.36**	**327**	*e*PN	**Pn**	**19 05 46.1**	**-1.2**
ZEA				pmax	pmax		
	comp=E,200nm,2.6s						
ZEA				pmax	pmax		
	comp=N,100nm,2.3s						
ZEA				pmax	pmax		
	comp=Z,200nm,1.7s						
ZEA				pmax	pmax		
	comp=E,50nm,0.9s						
ZEA				pmax	pmax		
	comp=N,80nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,160nm,0.8s						
ZEA				MLR	MLR		
	comp=Z,300nm,8.0s						
ZEA	**Zeya**	**13.36**	**327**	*e*P	**Pn**	**19 05 46.1**	**-1.2**
ZEA				AMB	AMB	19 05 47.1	
	comp=Z,100nm,2.0s						
ZEA				AMB	AMB	19 05 47.1	
	comp=Z,200nm,2.0s						
SKR	**Severo-Kuril's**	**13.66**	**51**	*e*P	**Pn**	**19 05 49.3**	**-1.7**
SKR				pmax	pmax		
	comp=Z,249nm,2.1s						
SKR	**Severo-Kuril's**	**13.66**	**51**	*e*P	**Pn**	**19 05 50.5**	**-0.5**
SKR				AMB	AMB	19 05 55.2	
	comp=Z,120nm,0.4s						
SKR				*e*S	**S**	**19 08 15.9**	**-6.1**
SKR				A	A	19 08 21.2	
	comp=Z,80nm,0.3s						
SKR				A	A	19 08 21.2	
	comp=Z,30nm,0.3s						
DL2	**Dalian**	**14.10**	**259**	P	**P**	**19 05 57.5**	**-0.4**
DL2				S	**S**	**19 08 32.8**	**+0.2**
DL2				pmax	pmax		

HIA **Hailar** 14.97 301 P **Pn** **19 06 05.2 -1.9**
HIA **Hailar** 14.97 301 P **Pn** **19 06 05.2 -1.9**
PEA0B **Petropavlovsk-** 15.72 44 P **P** **19 06 14.0 -1.7**
PEA0B **Petropavlovsk-** 15.72 44 *ce*P **P** **19 06 14.6 -1.0**
PETK **Petropavlovsk-** 15.72 44 P **P** **19 06 12.9 -2.8**
PETK **Petropavlovsk-** 15.72 44 P **P** **19 06 14.0 -1.6**
PETK **Petropavlovsk-** 15.72 44 P **P** **19 06 14.0 -1.6**
comp=Z,22nm,0.7s,baz=218,slow=8.7,SNR=38
JCJ **Chichijima** 16.12 171 P **P** **19 06 18.6 -1.6**
JCJ **Chichijima** 16.12 171 P **P** **19 06 15.9 -4.4**
comp=Z,41nm,0.4s,baz=141,slow=23,SNR=2.2
JCJ S **S** **19 09 10.9 -7.4**
comp=Z,96nm,0.7s,baz=122,slow=23,SNR=4.8
PET **Petropavlovsk** 16.17 45 P **Pn** **19 06 23.4 +2.0**
PET **Petropavlovsk** 16.17 45 P **P** **19 06 20.2 -0.3**
PET **Petropavlovsk** 16.17 45 *eP* P 19 06 13.2 -7.3
PET *eS* **S** **19 09 12.2 -6.6**
PET pmax pmax
comp=Z,200nm,5.3s
PET pmax pmax
comp=Z,115nm,0.9s
PET MLR MLR
comp=Z,400nm,16.0s
PET **Petropavlovsk** 16.17 45 *eP* **P** **19 06 20.6 +0.1**
PET AMB AMB 19 06 24.2
comp=Z,50nm,0.6s
PET *eS* **S** **19 09 11.7 -7.1**
PET AMS AMS 19 13 24.5
comp=Z,400nm,16.0s
XLT **XiLinHaoTe** 16.98 281 *eP* **P** **19 06 28.8 -0.8**
XLT S **S** **19 09 27.3 -8.0**
XLT pmax pmax
comp=Z,74nm,0.9s
XLT LR LR
comp=Z,130nm,8.3s
XLT LR LR
comp=Z,190nm,6.5s
BJT **Baijiatuau** 17.69 268 P **P** **19 06 37.6 +0.3**
BJT **Baijiatuau** 17.69 268 P **P** **19 06 36.4 -0.9**
BJT **Baijiatuau** 17.69 268 P **P** **19 06 36.4 -0.9**
MA2 **Magadan** 17.90 19 P **P** **19 06 38.5 -0.9**
MA2 **Magadan** 17.90 19 *ce*P **P** **19 06 38.5 -0.9**
MA2 pmax pmax
comp=Z,292nm,0.8s
MA2 **Magadan** 17.90 19 P **P** **19 06 38.7 -0.6**
comp=Z,232nm,0.8s,baz=204,slow=9.9,SNR=219
MA2 S **S** **19 09 50.8 -2.4**
comp=Z,6.0nm,1.0s,baz=143,slow=20,SNR=1.1
MA2 **Magadan** 17.90 19 *eP* **P** **19 06 38.5 -0.9**
TIA **Tai'an** 18.50 256 ⇓P **P** **19 06 45.5 -0.6**
TIA S **S** **19 10 00.1 -5.4**
TIA pmax pmax
comp=Z,11nm,1.0s
TIA LR LR
comp=Z,150nm,14.3s
JOW **Kunigami** 18.61 213 P **P** **19 06 44.8 -2.6**
JOW **Kunigami** 18.61 213 P **P** **19 06 46.1 -1.3**
comp=Z,4.4nm,0.3s,baz=115,slow=16,SNR=9.3
JOW S **S** **19 10 04.7 -3.1**
comp=Z,12nm,0.7s,baz=112,slow=24,SNR=2.5
SSE **Sheshan** 18.82 236 P **P** **19 06 49.1 -0.5**
SSE S **S** **19 10 06.8 -5.1**
SSE pmax pmax
comp=Z,14nm,0.9s
SSE pmax pmax
comp=Z,51nm,5.7s
SSE LR LR
comp=Z,170nm,6.5s
SSE LR LR
comp=Z,190nm,6.6s
CIT **Chita** 19.55 306 *eP* **P** **19 06 55.2 -2.0**
CIT *eS* **S** **19 10 19.6 -6.3**
CIT pmax pmax
comp=Z,188nm,1.6s
HNS **HongShan** 19.70 262 ⇓P **P** **19 06 57.4 -1.6**
HNS S **S** **19 10 22.1 -7.0**
HNS pmax pmax
comp=Z,36nm,1.2s
HNS LR LR
comp=Z,850nm,19.5s
HNS LR LR
comp=Z,360nm,15.9s
HNS LR LR
comp=Z,270nm,11.2s
YAK **Yakutsk** 19.83 346 **P** **19 06 57.5 -2.6**
YAK **Yakutsk** 19.83 346 *d iP* **P** **19 06 57.7 -2.4**
YAK *i* S **S** **19 10 23.6 -7.5**
YAK pmax pmax
comp=Z,30nm,0.8s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=N,16nm,1.0s
YAK smax smax
comp=E,347nm,1.5s
YAK smax smax
comp=N,236nm,1.5s
YAK **Yakutsk** 19.83 346 P **P** **19 06 57.9 -2.1**
comp=N,77nm,0.7s,baz=319,slow=1.0,SNR=36
YAK S **S** **19 10 24.5 -6.6**
comp=N,49nm,0.7s,baz=276,slow=24,SNR=15
SEY **Seymchan** 21.25 16 *ce*P **P** **19 07 13.3 -1.8**
SEY pmax pmax
comp=Z,108nm,1.0s
SEY **Seymchan** 21.25 16 P **P** **19 07 13.5 -1.6**
comp=Z,75nm,0.8s,baz=210,slow=10.0,SNR=140
SEY S **S** **19 10 55.2 -1.7**
comp=Z,4.1nm,0.8s,baz=75,slow=19,SNR=6.9
comp=Z,75nm,0.8s
SEY **Seymchan** 21.25 16 *eP* **P** **19 07 13.3 -1.8**
BOD **Bodaibo** 21.72 322 *eP* **P** **19 07 16.3 -3.5**
BOD pmax pmax
comp=Z,63nm,1.5s
BTO **Baotou** 22.02 274 *eP* **P** **19 07 22.4 -0.7**
BTO pP **pP** **19 07 59.4 +0.2**
BTO sP **sP** **19 08 25.8 -0.6**
BTO S **S** **19 11 08.4 -1.6**
BTO pmax pmax
comp=Z,87nm,0.9s
BTO pmax pmax
comp=Z,310nm,6.5s
BTO LR LR
comp=Z,1μm,12.6s
BTO LR LR
comp=Z,560nm,10.2s
BTO LR LR
comp=Z,580nm,10.4s
LYN **LuoYang** 22.62 257 *eP* **P** **19 07 27.9 -0.6**
LYN S **S** **19 11 15.3 -4.2**
LYN SS **sS** **19 12 24.1 -3.2**
LYN pmax pmax
comp=Z,34nm,0.6s
ULN **Ulaanbaatar** 23.12 293 **P** **19 07 32.1 -0.8**
ULN **Ulaanbaatar** 23.12 293 *ce*P **P** **19 07 32.0 -1.0**
ULN pmax pmax
comp=Z,37nm,0.8s
ULN **Ulaanbaatar** 23.12 293 P **P** **19 07 32.0 -1.0**
ULN S **S** **19 11 24.4 -3.2**
ULN **Ulaanbaatar** 23.12 293 *eP* **P** **19 07 32.0 -1.0**
TATO **Taipei** 23.34 225 P **P** **19 07 37.6 +2.6**
TATO **Taipei** 23.34 225 P **P** **19 07 34.3 -0.7**
SONM **Songino Array** 23.56 293 **P** **19 07 36.4 -0.6**
SONM **Songino Array** 23.56 293 P **P** **19 07 36.5 -0.5**
comp=Z,44nm,0.9s,baz=96,slow=6.8,SNR=131
SONM ScP **ScP** **19 14 33.3 +0.7**
comp=Z,2.3nm,0.8s,baz=152,slow=2.1,SNR=6.6
comp=Z,44nm,0.9s
WHN **Wuhan** 23.59 246 *eP* **P** **19 07 38.8 +1.6**
WHN S **S** **19 11 33.9 -1.2**
YHNB **Yeheng** 23.65 225 P **P** **19 07 37.4 -0.5**
NACB **Ninganchiao** 23.94 224 P **P** **19 07 39.0 -1.5**
SSLB **Suanglung** 24.59 224 P **P** **19 07 47.6 +1.2**
SSLB **Suanglung** 24.59 224 P **P** **19 07 45.2 -1.2**
SSLB IAmb IAmb 19 07 48.9
comp=Z,29nm,1.1s
YULB **Yu-li** 24.74 223 P **P** **19 07 46.5 -1.3**
YULB IAmb IAmb 19 08 25.0
comp=Z,38nm,1.3s
TPUB **Ta-pu** 25.16 224 P **P** **19 07 51.0 -0.5**
IRK **Irkutsk** 25.18 304 *eP* **P** **19 07 50.5 -1.0**
IRK pmax pmax
comp=Z,162nm,1.4s
IRK **Irkutsk** 25.18 304 *eP* **P** **19 07 50.5 -1.0**
TWGBT **Beinan** 25.33 223 P **P** **19 07 54.6 +1.5**
TWG **Pinlang** 25.33 223 P **P** **19 07 53.6 +0.6**

TWG IAmb IAmb 19 07 56.7
comp=Z,31nm,0.7s
XAN **Xi'an** 25.42 259 P **P** **19 07 52.9 -0.9**
XAN S **S** **19 12 02.8 -1.3**
XAN SS SS 19 13 28.6 -31
XAN pmax pmax
comp=Z,43nm,0.7s
XAN LR LR
comp=Z,580nm,20.6s
XAN LR LR
comp=Z,360nm,21.3s
XAN LR LR
comp=Z,370nm,17.2s
ZAK **Zakamensk** 25.65 299 *eP* **P** **19 07 54.9 -0.9**
ZAK pmax pmax
comp=Z,42nm,1.1s
ENH **Enshi** 27.08 252 P **P** **19 08 11.1 +2.4**
ENH **Enshi** 27.08 252 P **P** **19 08 06.8 -1.8**
MOY **Mondy** 27.15 302 *eP* **P** **19 08 09.0 -0.2**
MOY pmax pmax
comp=Z,113nm,1.7s
LZH **Lanzhou** 28.17 268 ⇑*iP* **P** **19 08 18.8 +0.3**
LZH pmax pmax
comp=Z,38nm,1.1s
BILL **Bilibino** 28.75 21 P **P** **19 08 22.9 -0.1**
BILL IAmb IAmb 19 08 24.2
comp=Z,22nm,0.7s
BILL **Bilibino** 28.75 21 *eP* **P** **19 08 22.1 -0.9**
BILL **Bilibino** 28.75 21 *eP* **P** **19 08 22.1 -0.9**
TIXI **Tiksi** 29.10 353 P **P** **19 08 24.8 -1.2**
TIXI **Tiksi** 29.10 353 *ce*P **P** **19 08 24.6 -1.4**
TIXI pmax pmax
comp=Z,4.0nm,0.7s
TIXI **Tiksi** 29.10 353 *eP* **P** **19 08 24.6 -1.4**
GTA **Gaotai** 29.84 277 *eP* **P** **19 08 33.3 +0.1**
GTA pmax pmax
comp=Z,10.0nm,1.3s
KRAR **Krasnoyarsk** 32.22 310 *i* P **P** **19 08 53.5 -0.1**
SPIA **Saint Paul Isl** 34.32 48 P **P** **19 09 12.3 +0.7**
baz=268
GAMB **Gambell** 34.50 36 P **P** **19 09 14.4 +1.3**
baz=257
GOMU **GeErMu** 34.74 274 P **P** **19 09 15.8 -0.2**
GOMU pmax pmax
comp=Z,8.0nm,0.7s
GOMU LR LR
comp=Z,260nm,11.2s
GOMU LR LR
comp=Z,190nm,12.3s
GOMU LR LR
comp=Z,190nm,11.8s
KMI **Kunming** 34.95 251 ⇓P **P** **19 09 17.1 -0.7**
KMI pmax pmax
comp=Z,20nm,1.0s
NIKH **Nikolski High** 35.23 55 P **P** **19 09 20.1 +0.6**
baz=275
TNA **Tin City** 36.47 34 P **P** **19 09 30.6 +0.8**
baz=258,SNR=38
UNV **Unalaska Valle** 36.55 54 P **P** **19 09 31.6 +1.0**
baz=276
M11K **Mekoryuk** 36.58 43 P **P** **19 09 31.9 +1.1**
baz=267
SLVN **Son La** 36.70 245 P **P** **19 09 31.9 -0.6**
ZAA0 **Zalesovo Array** 36.90 307 P **P** **19 09 34.0 +0.4**
ZALV **Zalesovo Beam** 36.90 307 P **P** **19 09 34.1 +0.4**
ZALV **Zalesovo Beam** 36.90 307 P **P** **19 09 33.9 +0.3**
comp=Z,64nm,0.5s,baz=83,slow=8.2,SNR=273
ZALV PcP **PcP** **19 11 50.9 +0.9**
comp=Z,7.1nm,0.7s,baz=108,slow=3.6,SNR=4.0
ZALV ScP **ScP** **19 15 17.0 +1.2**
comp=Z,7.4nm,0.7s,baz=85,slow=3.4,SNR=13
comp=Z,64nm,0.5s
WMQ **Urnqi** 37.08 289 P **P** **19 09 36.2 +0.8**
F14K **Arctic Creek** 37.11 34 P **P** **19 09 35.5 +0.2**
baz=260
NRIK **Noril'sk** 37.17 332 P **P** **19 09 34.8 -0.9**
NRIK IAmb IAmb 19 09 37.2
comp=Z,14nm,0.6s
NRIK **Noril'sk** 37.17 332 *ce*P **P** **19 09 35.0 -0.7**
NRIK pmax pmax
comp=Z,12nm,0.6s
NRIK **Noril'sk** 37.17 332 P **P** **19 09 34.7 -1.0**
comp=Z,11nm,0.5s,baz=110,slow=9.2,SNR=22
NRIK PP **PP** **19 11 05.4 +0.3**
comp=Z,16nm,0.8s,baz=128,slow=8.6,SNR=5.0
comp=Z,11nm,0.5s
ANM **Nome** 37.37 36 P **P** **19 09 37.9 +0.4**
ANM **Nome** 37.37 36 P **P** **19 09 37.7 +0.2**
baz=262,SNR=34
ANM **Nome** 37.37 36 P **P** **19 09 37.9 +0.4**
ANM pmax pmax
comp=Z,94nm,1.0s
F15K **North Star Dit** 37.84 34 P **P** **19 09 42.1 +0.8**
F15K **North Star Dit** 37.84 34 P **P** **19 09 41.8 +0.4**
baz=261,SNR=44
TNCH **TengChong** 37.97 255 ⇑P **P** **19 09 43.3 +0.1**
TNCH pP pP 19 10 26.4 -1.0
TNCH sP sP 19 10 48.0 -3.8
TNCH S **S** **19 15 17.3 -1.5**
TNCH pmax pmax
comp=Z,9.0nm,0.9s
TNCH pmax pmax
comp=Z,95nm,5.7s
J14K **Nanvaranak Lak** 37.99 39 P **P** **19 09 43.2 +0.6**
J14K IAmb IAmb 19 09 45.6
comp=Z,39nm,0.8s
J14K **Nanvaranak Lak** 37.99 39 P **P** **19 09 43.3 +0.6**
baz=266,SNR=9.6
G15K **Niukluk** 37.99 35 P **P** **19 09 43.2 +0.5**
baz=263,SNR=32
M13K **Dall Lake** 38.00 43 P **P** **19 09 44.3 +1.6**
M13K **Dall Lake** 38.00 43 P **P** **19 09 43.2 +0.5**
baz=269
ZSN **Zaisan** 38.00 296 ⇓*iP* **P** **19 09 43.7 +0.7**
comp=Z,34nm,0.8s,baz=296
ZSN **Zaisan** 38.00 296 *diP* **P** **19 09 43.7 +0.7**
ZSN pmax pmax
comp=Z,34nm,0.8s
C16K **Lisburne Hills** 38.04 30 P **P** **19 09 42.9 -0.1**
C16K **Lisburne Hills** 38.04 30 P **P** **19 09 42.7 -0.3**
baz=257,SNR=80
L14K **Kuka Creek** 38.34 41 P **P** **19 09 47.1 +1.6**
L14K **Kuka Creek** 38.34 41 P **P** **19 09 46.7 +1.2**
baz=269
M14K **Bethel** 38.68 42 P **P** **19 09 49.9 +1.5**
M14K **Bethel** 38.68 42 P **P** **19 09 49.5 +1.1**
baz=270,SNR=14
H16K **Elim** 38.72 36 P **P** **19 09 49.3 +0.6**
baz=265,SNR=146
G16K **Koyuk River** 38.74 35 P **P** **19 09 49.3 +0.4**
G16K **Koyuk River** 38.74 35 P **P** **19 09 49.2 +0.4**
baz=264,SNR=63
D17K **Noatak River** 38.77 31 P **P** **19 09 49.3 +0.3**
baz=260,SNR=92
N14K **Kuskokwak Cree** 38.83 43 P **P** **19 09 50.2 +0.5**
baz=271
C17K **DeLong Mountai** 38.87 30 P **P** **19 09 50.1 +0.2**
baz=259,SNR=88
RDOG **Red Dog Mine** 38.90 30 P **P** **19 09 50.5 +0.4**
RDOG **Red Dog Mine** 38.90 30 P **P** **19 09 50.6 +0.4**
baz=260,SNR=28
K15K **Wolf Creek Mou** 38.91 40 P **P** **19 09 51.0 +0.8**
K15K **Wolf Creek Mou** 38.91 40 P **P** **19 09 51.5 +1.2**
baz=269
L15K **Ungalak Mounta** 38.92 41 P **P** **19 09 51.1 +0.7**
baz=269,SNR=5.9
S12K **Black Hills** 38.92 50 P **P** **19 09 50.6 +0.1**
S12K **Black Hills** 38.92 50 P **P** **19 09 50.3 -0.2**
baz=276
O14K **Tigyukauivet M** 39.07 44 P **P** **19 09 53.3 +1.6**
O14K **Tigyukauivet M** 39.07 44 P **P** **19 09 52.1 +0.4**
baz=273
E17K **Hotham Inlet** 39.16 32 P **P** **19 09 52.4 +0.1**
baz=262,SNR=111
F17K **Baldwin Pennin** 39.31 33 P **P** **19 09 54.7 +1.2**
F17K **Baldwin Pennin** 39.31 33 P **P** **19 09 53.7 +0.2**
baz=264
M15K **Kasigluk River** 39.31 42 P **P** **19 09 54.8 +1.1**
baz=271
I17K **Unalakleet** 39.34 37 P **P** **19 09 55.0 +1.2**
I17K **Unalakleet** 39.34 37 P **P** **19 09 54.7 +0.9**
baz=267,SNR=19
J16K **Anvik River** 39.36 38 P **P** **19 09 54.5 +0.5**
J16K IAmb IAmb 19 09 57.2
comp=Z,30nm,1.0s
J16K **Anvik River** 39.36 38 P **P** **19 09 54.8 +0.8**
baz=268
G17K **Kiwalik Mounta** 39.46 35 P **P** **19 09 55.3 +0.4**
baz=266
B18K **Kokolik River** 39.52 28 P **P** **19 09 55.6 +0.3**
baz=260,SNR=78
NONG **Nongkai** 39.53 242 P **P** **19 09 57.5 +1.5**
C18K **Utukok River** 39.62 30 P **P** **19 09 56.3 +0.1**
C18K **Utukok River** 39.62 30 P **P** **19 09 56.5 +0.3**
baz=261
N15K **Kwethluk River** 39.62 43 P **P** **19 09 57.2 +0.9**
N15K **Kwethluk River** 39.62 43 P **P** **19 09 57.0 +0.7**
baz=272,SNR=18
E18K **Tukpahlearik C** 39.67 32 P **P** **19 09 57.1 +0.5**
E18K **Tukpahlearik C** 39.67 32 P **P** **19 09 57.0 +0.5**
baz=263,SNR=55
H17K **Granite Mounta** 39.73 35 P **P** **19 09 58.1 +1.0**
H17K IAmb IAmb 19 10 00.0
comp=Z,46nm,0.8s
H17K **Granite Mounta** 39.73 35 P **P** **19 09 57.9 +0.8**
baz=267,SNR=62
O15K **Ungalikthiuk R** 39.81 45 P **P** **19 09 58.8 +1.0**
baz=274
CRAI **Chiangrai** 39.84 248 P **P** **19 09 58.9 +0.4**
SDPT **Sand Point** 39.86 51 P **P** **19 09 58.7 +0.5**
baz=278
MK31 **Makanchi Array** 39.87 296 P **P** **19 09 58.8 +0.3**
MK31 IAmb IAmb 19 09 60.0
comp=Z,58nm,1.1s
MK31 **Makanchi Array** 39.87 296 *ce*P **P** **19 09 58.6 +0.1**
MKAR **Makanchi Array** 39.87 296 P **P** **19 09 58.9 +0.4**
MKAR **Makanchi Array** 39.87 296 P **P** **19 09 58.8 +0.3**
comp=Z,35nm,0.9s,baz=80,slow=8.9,SNR=222
MKAR ScP **ScP** **19 15 28.2 +0.8**
comp=Z,1.7nm,0.7s,baz=68,slow=3.4,SNR=4.9
comp=Z,35nm,0.9s
L16K **Owhat River** 39.88 41 P **P** **19 09 59.1 +0.9**
L16K IAmb IAmb 19 10 01.8
comp=Z,102nm,1.5s
L16K **Owhat River** 39.88 41 P **P** **19 09 58.6 +0.3**
baz=271,SNR=13
A19K **Wainwright** 39.93 27 P **P** **19 09 59.4 +0.8**
baz=259,SNR=58
F18K **Selawik** 39.96 33 P **P** **19 09 59.2 +0.3**
baz=265,SNR=82
J17K **VABM Dome** 40.05 38 P **P** **19 10 00.8 +1.1**
J17K **VABM Dome** 40.05 38 P **P** **19 10 00.2 +0.5**
baz=270
MAKZ **Makanchi** 40.08 296 P **P** **19 10 00.5 +0.3**
MAKZ **Makanchi** 40.08 296 P **P** **19 10 00.5 +0.3**
MAKZ **Makanchi** 40.08 296 ⇓P **P** **19 10 00.5 +0.3**
M16K **Timber Creek** 40.15 42 P **P** **19 10 01.5 +1.0**
M16K IAmb IAmb 19 10 04.6
comp=Z,47nm,1.0s
M16K **Timber Creek** 40.15 42 P **P** **19 10 01.8 +1.3**
baz=272,SNR=13
UBPT **Khong Chiam** 40.15 237 P **P** **19 10 02.6 +1.6**
UBPT **Khong Chiam** 40.15 237 P **P** **19 10 01.6 +0.6**
S14K **Fog Glacier** 40.25 49 P **P** **19 10 03.1 +1.6**
baz=278
C19K **Lookout Ridge** 40.26 29 P **P** **19 10 01.8 +0.3**
C19K **Lookout Ridge** 40.26 29 P **P** **19 10 02.0 +0.6**
baz=262
N16K **Nishlik Lake** 40.27 42 P **P** **19 10 02.4 +0.9**
baz=273
SEM **Semipalatinsk** 40.27 302 *eP* **P** **19 10 02.8 +0.9**
comp=Z,39nm,1.0s,baz=302
SEM **Semipalatinsk** 40.27 302 *eP* **P** **19 10 02.8 +0.9**
SEM pmax pmax
comp=Z,39nm,1.0s
G18K **Tagagawik** 40.31 34 P **P** **19 10 02.3 +0.4**
G18K **Tagagawik** 40.31 34 P **P** **19 10 02.2 +0.3**
baz=267
H18K **Honhosa River** 40.40 35 P **P** **19 10 03.1 +0.5**
H18K **Honhosa River** 40.40 35 P **P** **19 10 03.0 +0.5**
baz=268
K17K **Iditarod** 40.41 39 P **P** **19 10 04.0 +1.3**
K17K **Iditarod** 40.41 39 P **P** **19 10 03.9 +1.2**
baz=271
L17K **Donlin** 40.42 40 P **P** **19 10 04.1 +1.4**
baz=272,SNR=23
CHNA **Chernabura Isl** 40.44 51 P **P** **19 10 03.1 +0.1**
baz=279
CNBA **Chernabura Isl** 40.44 51 P **P** **19 10 03.5 +0.5**
LSA **Lhasa** 40.59 267 P **P** **19 10 04.6 -0.5**
LSA **Lhasa** 40.59 267 P **P** **19 10 06.0 +0.9**
LSA **Lhasa** 40.59 267 P **P** **19 10 04.6 -0.5**
LSA pmax pmax
comp=Z,20nm,1.3s
LSA **Lhasa** 40.59 267 P **P** **19 10 06.9 +1.8**
LSA **Lhasa** 40.59 267 P **P** **19 10 05.9 +0.8**
O16K **Kokwok River B** 40.66 44 P **P** **19 10 05.7 +0.9**
O16K IAmb IAmb 19 10 09.3
comp=Z,50nm,0.9s
O16K **Kokwok River B** 40.66 44 P **P** **19 10 05.7 +0.9**
baz=275,SNR=20
F19K **Shaleruckik Mo** 40.72 33 P **P** **19 10 05.4 +0.3**
F19K **Shaleruckik Mo** 40.72 33 P **P** **19 10 05.4 +0.3**
baz=267
D19K **Kuna River** 40.72 30 P **P** **19 10 05.3 +0.2**
D19K **Kuna River** 40.72 30 P **P** **19 10 05.4 +0.2**
baz=264
P16K **Nushagak River** 40.77 45 P **P** **19 10 06.8 +1.2**
baz=276,SNR=11
M17K **Holitna River** 40.86 41 P **P** **19 10 07.2 +0.9**
M17K IAmb IAmb 19 10 10.8
comp=Z,57nm,1.0s
M17K **Holitna River** 40.86 41 P **P** **19 10 08.1 +1.7**
baz=273,SNR=14
G19K **Purcell Mounta** 40.96 34 P **P** **19 10 07.0 -0.1**
G19K IAmb IAmb 19 10 09.0
comp=Z,49nm,0.8s
G19K **Purcell Mounta** 40.96 34 P **P** **19 10 06.8 -0.3**
baz=268,SNR=71
E19K **Redstone River** 40.97 32 P **P** **19 10 07.8 +0.6**
E19K **Redstone River** 40.97 32 P **P** **19 10 07.3 +0.1**
baz=266
GCSA **Galena City Sc** 41.02 36 P **P** **19 10 07.0 -0.6**
baz=270,SNR=6.1
N17K **Nushagak Hills** 41.04 42 P **P** **19 10 09.1 +1.3**
N17K **Nushagak Hills** 41.04 42 P **P** **19 10 09.2 +1.3**
baz=274,SNR=8.8
J18K **Innoko River** 41.11 38 P **P** **19 10 08.8 +0.5**
J18K IAmb IAmb 19 10 11.4
comp=Z,37nm,0.8s
J18K **Innoko River** 41.11 38 P **P** **19 10 09.1 +0.7**
baz=272
PHRA **Phrae** 41.14 246 P **P** **19 10 08.8 -0.4**
O17K **Koliganek Bris** 41.15 43 P **P** **19 10 10.1 +1.4**
baz=275
L18K **Granite Mounta** 41.17 40 P **P** **19 10 09.2 +0.3**
L18K IAmb IAmb 19 10 12.9
comp=Z,38nm,0.8s
L18K **Granite Mounta** 41.17 40 P **P** **19 10 10.0 +1.1**
baz=273
KURK **Kurchatov** 41.20 303 P **P** **19 10 09.4 +0.2**
KURK **Kurchatov** 41.20 303 *ce*P **P** **19 10 09.3 0.0**
KURK pmax pmax
comp=Z,173nm,0.8s
KURK **Kurchatov** 41.20 303 P **P** **19 10 10.0 +0.8**
KURK S **S** **19 16 04.1 -1.8**
KURK **Kurchatov** 41.20 303 *eP* **P** **19 10 09.3 0.0**
KURK **Kurchatov** 41.20 303 ⇓P **P** **19 10 09.5 +0.2**
H19K **Roundabout Mou** 41.21 35 P **P** **19 10 10.0 +0.9**
H19K **Roundabout Mou** 41.21 35 P **P** **19 10 09.6 +0.5**
baz=269,SNR=122
B20K **Meade River** 41.22 28 P **P** **19 10 09.7 +0.6**
B20K **Meade River** 41.22 28 P **P** **19 10 09.6 +0.5**
baz=264,SNR=276
KURBB **Kurchatov Arra** 41.28 302 P **P** **19 10 10.2 +0.3**
comp=Z,146nm,0.6s,baz=78,slow=8.8,SNR=260
KURBB PcP **PcP** **19 12 04.8 +0.8**
comp=Z,3.1nm,0.6s,baz=64,slow=3.5,SNR=1.9
KURBB ScP **ScP** **19 15 33.7 +0.9**
comp=Z,1.8nm,0.7s,baz=82,slow=3.5,SNR=5.7
D20K **Etivluk River** 41.29 30 P **P** **19 10 10.0 +0.2**
baz=266
E20K **Nigu River** 41.41 31 P **P** **19 10 10.8 -0.1**
baz=266
TTA **Tatalina** 41.45 39 P **P** **19 10 12.9 +1.7**
TTA **Tatalina** 41.45 39 P **P** **19 10 11.4 +0.2**
TTA IAmb IAmb 19 10 14.4
comp=Z,26nm,1.0s
TTA **Tatalina** 41.45 39 P **P** **19 10 11.7 +0.5**
baz=273,SNR=16
TTA **Tatalina** 41.45 39 P **P** **19 10 11.4 +0.2**
TTA pmax pmax

comp=Z,26nm,1.0s
Q16K King Salmon 41.50 45 P P 19 10 12.7 +1.1
baz=277
F20K Avaraart Lake 41.54 32 P P 19 10 12.3 +0.5
F20K IAmb IAmb 19 10 15.1
comp=Z,26nm,0.7s
F20K Avaraart Lake 41.54 32 P P 19 10 12.4 +0.7
baz=268,SNR=39
P17K Kvichak River 41.55 44 P P 19 10 12.7 +0.8
baz=277
A21K Barrow 41.56 26 P P 19 10 12.2 +0.4
baz=263,SNR=22
J19K Poorman 41.58 37 P P 19 10 12.7 +0.5
J19K IAmb IAmb 19 10 15.1
comp=Z,48nm,0.9s
J19K Poorman 41.58 37 P P 19 10 12.5 +0.3
baz=272,SNR=49
MND Mandalay 41.58 254 P P 19 10 13.3 +0.6
M18K Stony River 41.63 41 P P 19 10 13.6 +1.0
baz=274
N18K Kilae Creek 41.67 42 P P 19 10 14.4 +1.5
N18K IAmb IAmb 19 10 17.7
comp=Z,37nm,0.8s
N18K Kilae Creek 41.67 42 P P 19 10 14.2 +1.3
baz=275
SVW2 Sparrevohn 41.78 41 P P 19 10 16.4 +2.6
SVW2 Sparrevohn 41.78 41 P P 19 10 14.4 +0.6
SVW2 IAmb IAmb 19 10 17.9
comp=Z,128nm,1.9s
H20K Anotleneega Mo 41.87 35 P P 19 10 15.1 +0.6
baz=271,SNR=111
Q17K Contact Creek 41.95 46 P P 19 10 15.9 +0.6
baz=278,SNR=20
C21K Knifeblade Rid 41.98 29 P P 19 10 15.9 +0.6
baz=267,SNR=134
L19K White Mountain 42.03 40 P P 19 10 17.1 +1.2
L19K White Mountain 42.03 40 P P 19 10 17.0 +1.2
baz=275
CMAR Chiang Mai Arr 42.03 247 P P 19 10 17.4 +1.0
comp=Z,2.1nm,0.7s,baz=35,slow=7.4,SNR=17
CMAR ScP ScP 19 15 38.3 +2.0
comp=Z,1.0nm,0.9s,baz=15,slow=3.7,SNR=5.0
comp=Z,2.1nm,0.7s
I20K Naaghedeneel 42.05 36 P P 19 10 17.0 +1.0
I20K Naaghedeneel 42.05 36 P P 19 10 16.9 +1.0
baz=272,SNR=13
A22K Sinclair Lake 42.05 26 P P 19 10 16.3 +0.4
baz=265
B21K Ikpikpuk River 42.07 29 P P 19 10 16.8 +0.7
B21K Ikpikpuk River 42.07 29 P P 19 10 16.6 +0.7
baz=266,SNR=149
O18K Koktuh Hills 42.09 43 P P 19 10 17.7 +1.4
O18K Koktuh Hills 42.09 43 P P 19 10 17.8 +1.4
baz=277,SNR=14
P18K Big Mountain, 42.14 44 P P 19 10 18.0 +1.2
P18K IAmb IAmb 19 10 19.4
comp=Z,56nm,0.8s
P18K Big Mountain, 42.14 44 P P 19 10 18.1 +1.2
baz=277,SNR=21
J20K Nowinta River 42.22 37 P P 19 10 17.7 +0.4
J20K Nowinta River 42.22 37 P P 19 10 18.4 +1.1
baz=273,SNR=54
E21K Killik River 42.24 30 P P 19 10 18.0 +0.5
E21K IAmb IAmb 19 10 19.4
comp=Z,38nm,0.8s
E21K Killik River 42.24 30 P P 19 10 17.2 -0.3
baz=268
K20K Telida 42.31 38 P P 19 10 18.3 +0.3
K20K IAmb IAmb 19 10 21.6
comp=Z,43nm,0.8s
K20K Telida 42.31 38 P P 19 10 18.8 +0.7
baz=274
IMAR Indian Mountai 42.33 34 P P 19 10 18.8 +0.6
N19K Bonanza Creek 42.34 42 P P 19 10 19.0 +0.6
N19K IAmb IAmb 19 10 23.1
comp=Z,32nm,0.9s
N19K Bonanza Creek 42.34 42 P P 19 10 19.7 +1.2
baz=276
G21K Allakaket 42.41 33 P P 19 10 20.2 +1.4
G21K Allakaket 42.41 33 P P 19 10 18.8 0.0
baz=271
F21K Alatna River 42.41 32 P P 19 10 19.8 +0.9
F21K IAmb IAmb 19 10 21.4
comp=Z,47nm,0.7s
F21K Alatna River 42.41 32 P P 19 10 19.6 +0.7
baz=270
L20K Farewell, AK 42.46 39 P P 19 10 20.6 +1.2
baz=275,SNR=12
O19K Port Alsworth 42.49 43 P P 19 10 20.9 +1.3
O19K IAmb IAmb 19 10 22.3
comp=Z,31nm,0.9s
O19K Port Alsworth 42.49 43 P P 19 10 20.8 +1.3
baz=277,SNR=9.4
CHIR Chirikof Islan 42.50 49 P P 19 10 20.6 +1.0
baz=281
B22K Teshekpuk Lake 42.52 27 P P 19 10 20.2 +0.6
B22K Teshekpuk Lake 42.52 27 P P 19 10 20.2 +0.6
baz=267
H21K Melozitna Rive 42.72 34 P P 19 10 21.8 +0.5
H21K IAmb IAmb 19 10 24.0
comp=Z,35nm,0.7s
H21K Melozitna Rive 42.72 34 P P 19 10 22.1 +0.7
baz=272,SNR=37
D22K Ayikyak River 42.73 30 P P 19 10 22.1 +0.7
D22K Ayikyak River 42.73 30 P P 19 10 22.0 +0.7
baz=269
M20K Styx River 42.87 40 P P 19 10 23.0 +0.3
M20K IAmb IAmb 19 10 27.3
comp=Z,35nm,0.8s
M20K Styx River 42.87 40 P P 19 10 23.9 +1.2
baz=276,SNR=22
SHLS Shalkode 42.95 292 *eP* P 19 10 21.5 -2.1
comp=Z,21nm,0.6s,baz=291
SHLS Shalkode 42.95 292 *eP* P 19 10 21.5 -2.1
SHLS pmax pmax
comp=Z,21nm,0.6s
TDK Taldyqorghan 43.01 294 ⇓*i* P P 19 10 24.8 +0.8
comp=Z,35nm,0.6s,baz=294
TDK Taldyqorghan 43.01 294 *d i* P P 19 10 24.7 +0.8
TDK pmax pmax
comp=Z,35nm,0.6s
Q19K Cape Douglas, 43.01 44 P P 19 10 24.5 +0.7
baz=279
E22K Anaktuvuk Pass 43.05 31 P P 19 10 24.6 +0.6
E22K Anaktuvuk Pass 43.05 31 P P 19 10 24.6 +0.6
baz=271
CHUM Lake Minchumin 43.05 37 P P 19 10 24.6 +0.7
baz=275,SNR=34
I21K Tanana 43.09 35 IAmb IAmb 19 10 27.5
comp=Z,41nm,1.0s
I21K Tanana 43.09 35 P P 19 10 25.1 +0.8
baz=274
ILSW Iliamna Southw 43.11 43 IAmb IAmb 19 10 28.8
comp=Z,26nm,0.8s
P19K Oil Pt 43.11 43 IAmb IAmb 19 10 30.9
comp=Z,64nm,1.1s
P19K Oil Pt 43.11 43 P P 19 10 25.4 +0.8
baz=279
SII Sitkinak Islan 43.15 48 P P 19 10 25.1 +0.2
baz=281
CAST Castle Rocks 43.19 38 P P 19 10 26.5 +1.4
CAST Castle Rocks 43.19 38 P P 19 10 26.3 +1.1
baz=276,SNR=71
G22K Bettles 43.20 33 P P 19 10 25.1 0.0
baz=272
PPLA Purkeypile 43.20 38 P P 19 10 25.4 0.0
baz=276,SNR=13
UZB Uzynbulak 43.25 292 *eP* P 19 10 26.3 +0.2
baz=292
UZB Uzynbulak 43.25 292 *eP* P 19 10 26.2 +0.2
H22K Ishtalitna Cre 43.30 34 P P 19 10 26.6 +0.6
baz=274
O20K Slope Mountain 43.35 43 P P 19 10 27.3 +0.8
baz=279,SNR=13
N20K Mount Spurr 43.39 41 P P 19 10 27.6 +0.8
baz=278,SNR=42
D23K Nanushuk River 43.45 30 P P 19 10 27.6 +0.5
baz=271,SNR=48
C23K Itkillik River 43.47 28 P P 19 10 27.5 +0.2
baz=270,SNR=82
OHAK Old Harbor 43.50 47 P P 19 10 29.1 +1.5
OHAK Old Harbor 43.50 47 P P 19 10 28.0 +0.4
OHAK IAmb IAmb 19 10 32.1
comp=Z,47nm,0.8s
OHAK Old Harbor 43.50 47 P P 19 10 28.2 +0.6
baz=281,SNR=10
SKT Skwentna 43.61 40 P P 19 10 29.1 +0.6
baz=278
BPAW Bear Paw Mtn. 43.61 37 P P 19 10 29.9 +1.5
BPAW IAmb IAmb 19 10 31.9
comp=Z,37nm,0.9s
BPAW Bear Paw Mtn. 43.61 37 P P 19 10 29.2 +0.7
baz=276,SNR=25
MLY Manley 43.63 35 IAmb IAmb 19 10 32.5
comp=Z,27nm,0.9s
MLY Manley 43.63 35 P P 19 10 29.3 +0.6
baz=275,SNR=19
ZHN Zhinishke 43.64 292 *eP* P 19 10 29.5 +0.3
baz=292
ZHN Zhinishke 43.64 292 *eP* P 19 10 29.5 +0.3
COLD Coldfoot 43.69 32 P P 19 10 29.4 +0.3
baz=273,SNR=62
SATY Saty 43.70 292 ⇓*i* P P 19 10 30.1 +0.5
baz=292
SATY Saty 43.70 292 *d i* P P 19 10 30.1 +0.5
Q20K Shuyak Island 43.71 45 P P 19 10 29.7 +0.4
baz=280
SYI Shuyak Island 43.71 45 IAmb IAmb 19 10 33.4
comp=Z,65nm,0.9s
KDAK Kodiak Island 43.77 46 P P 19 10 30.2 +0.5
KDAK IAmb IAmb 19 10 31.2
comp=Z,47nm,0.8s
KDAK Kodiak Island 43.77 46 P P 19 10 30.3 +0.5
baz=281
KDAK Kodiak Island 43.77 46 *i* P P 19 10 30.1 +0.3
KDAK pmax pmax
comp=Z,76nm,0.8s
KDAK Kodiak Island 43.77 46 P P 19 10 30.1 +0.3
G23K Bananza Creek 43.79 33 IAmb IAmb 19 10 32.7
comp=Z,58nm,0.8s
G23K Bananza Creek 43.79 33 P P 19 10 30.2 +0.2
baz=274,SNR=56
TOLK Toolik Lake Re 43.86 30 P P 19 10 31.0 +0.6
baz=272,SNR=30
WUS Wushi 43.86 289 P P 19 10 31.8 +0.8
E23K Chandalar 43.87 31 P P 19 10 30.8 +0.2
baz=273
HOM Homer 43.91 43 P P 19 10 31.4 +0.5
baz=280
PRZ Przheval'sk 43.92 291 IAmb IAmb 19 10 35.0
comp=Z,83nm,1.3s
CAPN Captain Cook N 43.97 41 P P 19 10 32.3 +1.1
baz=279,SNR=6.5
TRF Thorofare Moun 43.99 38 IAmb IAmb 19 10 35.8
comp=Z,28nm,0.9s
TRF Thorofare Moun 43.99 38 P P 19 10 32.2 +0.5
baz=277,SNR=15
SUA Susitna One 44.05 40 P P 19 10 32.7 +0.6
SUA IAmb IAmb 19 10 36.1
comp=Z,37nm,0.6s
SUA Susitna One 44.05 40 P P 19 10 32.7 +0.6
baz=279,SNR=16
H23K Yukon River 44.06 34 P P 19 10 32.7 +0.7
baz=275
D24K Happy Valley 44.11 29 P P 19 10 32.9 +0.5
baz=272
C24K Franklin Bluff 44.13 28 P P 19 10 32.7 +0.2
baz=272,SNR=111
CNPM China Poot 44.13 43 P P 19 10 32.8 +0.1
CUT Chulitna 44.14 39 P P 19 10 33.3 +0.7
baz=278,SNR=12
I23K Minto, Yukon-K 44.20 35 P P 19 10 34.5 +1.4
I23K IAmb IAmb 19 10 36.4
comp=Z,55nm,0.8s
I23K Minto, Yukon-K 44.20 35 P P 19 10 34.1 +1.0
baz=276,SNR=46
M22K Willow 44.30 40 P P 19 10 35.4 +1.5
baz=279
BRSE Bradley Lake S 44.34 43 P P 19 10 35.6 +1.2
baz=280,SNR=14
CHKK Chushkaly 44.37 293 *eP* P 19 10 35.0 +0.2
baz=293
CHKK Chushkaly 44.37 293 *eP* P 19 10 34.9 +0.2
SWI Sorong 44.38 192 P P 19 10 36.2 +1.1
comp=Z,19nm,1.0s
NEA2 Nenana 44.39 36 P P 19 10 35.4 +0.8
baz=277,SNR=59
MCK McKinley 44.55 37 P P 19 10 36.6 +0.6
baz=278,SNR=32
F24K Squaw Lake 44.56 32 P P 19 10 36.4 +0.4
F24K IAmb IAmb 19 10 38.8
comp=Z,30nm,0.6s
F24K Squaw Lake 44.56 32 P P 19 10 36.6 +0.6
baz=275,SNR=54
MDOK Medeo 44.59 292 *i* P P 19 10 37.4 +0.7
baz=292
MDOK Medeo 44.59 292 *i* P P 19 10 37.4 +0.7
RC01 Rabbit Creek A 44.59 41 IAmb IAmb 19 10 38.0
comp=Z,48nm,0.8s
RC01 Rabbit Creek A 44.59 41 P P 19 10 37.2 +0.9
baz=280,SNR=18
TARG Taragay, Kyrgy 44.63 290 IAmb IAmb 19 10 40.0
comp=Z,32nm,0.7s
RND Redoubt 44.64 37 IAmb IAmb 19 10 40.1
comp=Z,58nm,1.1s
AAA Alma-Ata 44.66 293 *eP* P 19 10 37.6 +0.5
comp=Z,39nm,0.9s,baz=292
AAA Alma-Ata 44.66 293 *eP* P 19 10 37.6 +0.5
AAA pmax pmax
comp=Z,39nm,0.9s
AAA Alma-Ata 44.66 293 *eP* P 19 10 37.6 +0.5
MDM Murphy Dome 44.70 35 IAmb IAmb 19 10 40.8
comp=Z,54nm,1.0s
TNSS Tian-Shan 44.70 292 *eP* P 19 10 38.5 +0.5
baz=292
TNSS Tian-Shan 44.70 292 *eP* P 19 10 38.4 +0.5
O22K Cooper Landing 44.71 42 P P 19 10 37.8 +0.6
baz=280,SNR=10
H24K Noodor Dome 44.74 34 IAmb IAmb 19 10 40.9
comp=Z,30nm,0.8s
H24K Noodor Dome 44.74 34 P P 19 10 38.5 +1.1
baz=277,SNR=32
PMR Palmer 44.80 40 P P 19 10 39.4 +1.6
PMR Palmer 44.80 40 IAmb IAmb 19 10 41.9
comp=Z,28nm,0.8s
PMR Palmer 44.80 40 P P 19 10 38.3 +0.5
baz=280,SNR=15
G24K Hadweenzic Riv 44.80 33 IAmb IAmb 19 10 41.6
comp=Z,45nm,0.8s
G24K Hadweenzic Riv 44.80 33 P P 19 10 38.4 +0.5
baz=276
WRH Wood River Hil 44.82 36 IAmb IAmb 19 10 41.8
comp=Z,60nm,0.8s
WAT1 Susitna Watana 44.86 38 P P 19 10 38.7 +0.3
baz=279
GHO Glory Hole Cre 44.86 40 P P 19 10 39.3 +0.8
COLA College 44.87 35 P P 19 10 39.9 +1.6
COLA College 44.87 35 P P 19 10 38.8 +0.5
baz=278
COLA College 44.87 35 *c i* P P 19 10 39.1 +0.7
COLA pmax pmax
comp=Z,105nm,0.8s
COLA College 44.87 35 P P 19 10 39.6 +1.3
SEW Seward 44.91 42 P P 19 10 39.4 +0.7
baz=281,SNR=19
D25K Kavik River 44.97 29 P P 19 10 39.7 +0.4
baz=274
POKR Poker Plat Res 45.01 35 IAmb IAmb 19 10 44.0
comp=Z,56nm,1.1s
POKR Poker Plat Res 45.01 35 P P 19 10 40.6 +1.1
baz=278,SNR=16
SML Sawmill 45.13 40 P P 19 10 41.2 +0.6
SML Sawmill 45.13 40 P P 19 10 41.6 +1.0
baz=280,SNR=26
KNK Knik Glacier 45.15 40 P P 19 10 41.6 +0.9
baz=281,SNR=35
WAT6 Susitna Watana 45.27 38 P P 19 10 42.3 +0.5
baz=280,SNR=18
IL31 45.29 35 IAmb IAmb 19 10 45.0
comp=Z,48nm,0.8s
ILAR Eielson Array 45.29 35 P P 19 10 41.5 -0.2
ILAR Eielson Array 45.29 35 P P 19 10 42.4 +0.6
comp=Z,38nm,0.7s,baz=280,slow=7.1,SNR=127
ILAR ScP ScP 19 15 49.4 +0.5
comp=Z,0.3nm,0.7s,baz=257,slow=3.6,SNR=1.5
comp=Z,38nm,0.7s
HDA Harding Lake 45.32 36 IAmb IAmb 19 10 45.3
comp=Z,32nm,0.7s
HDA Harding Lake 45.32 36 P P 19 10 42.3 +0.3
baz=279,SNR=26
G25K Bearman Lake 45.34 33 P P 19 10 43.1 +1.1
baz=277,SNR=9.3
DHY Denali Highway 45.35 38 IAmb IAmb 19 10 45.5
comp=Z,46nm,0.7s
DHY Denali Highway 45.35 38 P P 19 10 42.9 +0.5
baz=280,SNR=34
E25K Arctic Village 45.38 31 P P 19 10 43.3 +0.9
E25K IAmb IAmb 19 10 45.4
comp=Z,62nm,1.7s
E25K Arctic Village 45.38 31 P P 19 10 43.5 +1.0
baz=276,SNR=27
F25K Christian Rive 45.41 31 P P 19 10 43.8 +1.1
baz=277,SNR=28
M23K Glacier View 45.42 40 P P 19 10 43.7 +0.9
baz=281,SNR=12
C26K Camden Bay 45.43 28 P P 19 10 43.7 +1.0
baz=275,SNR=41
ULHL Ulahol 45.49 292 P P 19 10 45.0 +1.1
SNR=11
H25L Birch Creek 45.52 33 P P 19 10 44.7 +1.2
baz=278,SNR=38
BVAR Borovoye Array 45.53 308 P P 19 10 44.5 +0.7
comp=Z,36nm,0.4s,baz=74,slow=9.4,SNR=96
BVAR ScP ScP 19 15 51.3 +1.2
comp=Z,6.8nm,0.9s,baz=71,slow=6.2,SNR=7.2
comp=Z,36nm,0.4s
BRVK Borovoye 45.58 308 P P 19 10 44.8 +0.7
BRVK IAmb IAmb 19 10 48.1
comp=Z,36nm,0.8s
BRVK Borovoye 45.58 308 *ce* P P 19 10 44.8 +0.7
BRVK pmax pmax
comp=Z,33nm,0.6s
BRVK Borovoye 45.58 308 P P 19 10 45.6 +1.5
BRVK S S 19 17 10.9 +1.6
BRVK Borovoye 45.58 308 ⇓P P 19 10 44.9 +0.7
SCM Sheep Creek Mo 45.60 39 IAmb IAmb 19 10 53.7
comp=Z,43nm,0.8s
SCM Sheep Creek Mo 45.60 39 P P 19 10 45.4 +1.1
baz=281,SNR=15
TKM2 Tokmak 2 45.66 293 P P 19 10 46.3 +1.1
SNR=115
PRP Porcupine Dome 45.75 34 P P 19 10 46.4 +0.9
baz=279,SNR=58
BMAR Burnt Mountain 45.84 31 P P 19 10 45.0 -1.1
K24K Donnelly Dome 45.93 37 P P 19 10 47.2 +0.4
baz=280,SNR=20
P23K Montague Islan 45.94 42 P P 19 10 48.0 +1.1
baz=283,SNR=12
J25K Salcha River, 45.96 35 P P 19 10 46.4 -0.7
J25K Salcha River, 45.96 35 P P 19 10 47.7 +0.7
baz=280,SNR=12
F26K Sheenjek River 45.97 31 P P 19 10 48.3 +1.3
baz=278
M24K Tolsona, Glenn 46.08 39 P P 19 10 49.1 +1.2
baz=282,SNR=10
SGDS Sogindy 46.10 294 *eP* P 19 10 48.9 +0.5
baz=294
SGDS Sogindy 46.10 294 *eP* P 19 10 48.9 +0.5
CHMS Chumysh 46.20 293 P P 19 10 49.7 +0.6
SNR=13
KBK Karagaybulak 46.20 293 P P 19 10 50.4 +1.0
SNR=101
G26K Porcupine Rive 46.22 32 P P 19 10 50.2 +1.3
baz=279,SNR=41
PAX Paxson 46.22 38 P P 19 10 49.8 +0.6
baz=282,SNR=13
USP Ospenovka 46.26 294 P P 19 10 50.4 +0.8
SNR=16
FAKI Fak Fak 46.27 190 P P 19 10 51.6 +1.7
comp=Z,61nm,1.1s
HIN Hinchinbrook I 46.29 41 IAmb IAmb 19 10 54.7
comp=Z,77nm,1.0s
KLU Klutina 46.32 40 P P 19 10 51.3 +1.4
baz=282,SNR=35
RIDG Independent Ri 46.35 37 P P 19 10 50.3 +0.2
RIDG IAmb IAmb 19 10 53.4
comp=Z,58nm,1.1s
RIDG Independent Ri 46.35 37 P P 19 10 50.3 +0.2
baz=281,SNR=22
FRU1 Bishkek 46.36 293 IAmb IAmb 19 10 53.8
comp=Z,58nm,1.1s
HARP HAARP 46.48 38 P P 19 10 52.6 +1.5
baz=282,SNR=28
AAK Ala-Archa 46.52 293 P P 19 10 52.5 +0.7
SNR=21
AAK Ala-Archa 46.52 293 P P 19 10 52.1 +0.3
AAK Ala-Archa 46.52 293 *i* P P 19 10 52.5 +0.7
SNR=25
AAK Ala-Archa 46.52 293 *ce* P P 19 10 52.5 +0.7
AAK pmax pmax
comp=Z,30nm,1.3s
AAK Ala-Archa 46.52 293 P P 19 10 53.2 +1.4
AAK S S 19 17 25.2 +1.9
AAK Ala-Archa 46.52 293 *eP* P 19 10 52.5 +0.7
AAK Ala-Archa 46.52 293 ⇓P P 19 10 52.4 +0.5
Q23K Middleton Isla 46.59 43 P P 19 10 53.2 +1.3
baz=284
EYAK Cordova Ski Ar 46.62 41 P P 19 10 54.6 +2.5
EYAK Cordova Ski Ar 46.62 41 P P 19 10 53.5 +1.4
baz=284,SNR=19
UCH Uchtor 46.67 292 P P 19 10 54.1 +0.7
SNR=16
SCRK Sand Creek 46.67 36 IAmb IAmb 19 10 55.4
comp=Z,54nm,0.7s
SCRK Sand Creek 46.67 36 P P 19 10 52.9 +0.2
baz=282,SNR=76
J26L Joseph Creek 46.75 35 P P 19 10 54.1 +0.9
baz=282,SNR=14
I26K Coal Creek Min 46.76 34 P P 19 10 53.3 +0.1
baz=281,SNR=19
KSH Kashi 46.82 288 P P 19 10 58.3 +4.2
KSH S S 19 17 34.8 +7.3
KSH pmax pmax
comp=Z,17nm,0.9s
E27K Coleen River 46.84 30 P P 19 10 54.8 +0.9
baz=280
D27M Malcolm River 46.89 29 P P 19 10 55.0 +0.7
baz=279
N25K Chitina, Valde 46.92 39 IAmb IAmb 19 10 58.2
comp=Z,36nm,0.8s
N25K Chitina, Valde 46.92 39 P P 19 10 56.0 +1.5
baz=283,SNR=23
EKS2 Erkin-Say 46.99 293 P P 19 10 55.9 +0.5
SNR=40
MENT Mentasta 47.01 38 P P 19 10 56.8 +1.6
MENT Mentasta 47.01 38 IAmb IAmb 19 11 00.7
comp=Z,34nm,0.8s
BMRM Bremner River 47.06 40 P P 19 10 57.2 +1.5
baz=284,SNR=19
G27K Doyon Strip 47.07 32 P P 19 10 56.9 +1.3
G27K Doyon Strip 47.07 32 P P 19 10 57.2 +1.6
baz=281,SNR=26
L26K Log Cabin Wild 47.16 37 P P 19 10 57.7 +1.4
baz=283,SNR=19
H27K Steamboat Moun 47.24 33 P P 19 10 58.7 +1.8
baz=282
GLB Gilahina Butte 47.32 40 IAmb IAmb 19 11 00.3
comp=Z,29nm,0.8s
I27K Kandik River 47.33 34 P P 19 10 59.3 +1.7
baz=282,SNR=45
HMT Hamilton 47.39 41 IAmb IAmb 19 11 01.0
comp=Z,54nm,0.8s
KAIM Kayak Island 47.41 42 P P 19 11 00.3 +2.0
baz=285
M26K Nabesna, AK 47.46 38 IAmb IAmb 19 11 01.7
comp=Z,58nm,0.8s
M26K Nabesna, AK 47.46 38 P P 19 11 00.6 +1.9
baz=284,SNR=46
K27K Chicken 47.48 36 P P 19 10 59.9 +1.1
K27K IAmb IAmb 19 11 03.4
comp=Z,52nm,0.7s
K27K Chicken 47.48 36 P P 19 10 59.6 +0.9
baz=283
E28M Babbage River 47.52 29 IAmb IAmb 19 11 01.9
comp=Z,30nm,0.8s
E28M Babbage River 47.52 29 P P 19 11 00.1 +1.1
baz=281
VRDI Verde Repeater 47.54 40 IAmb IAmb 19 11 02.1
comp=Z,64nm,0.8s
F28M Old Crow 47.59 31 P P 19 11 00.9 +1.3
F28M IAmb IAmb 19 11 04.5
comp=Z,34nm,0.9s
F28M Old Crow 47.59 31 P P 19 11 00.7 +1.1
baz=282,SNR=55
D28M Stokes Point 47.66 28 P P 19 11 00.9 +0.9
baz=281,SNR=20
EGAK Eagle 47.70 35 P P 19 11 01.2 +0.8
EGAK IAmb IAmb 19 11 04.7
comp=Z,63nm,0.8s
EGAK Eagle 47.70 35 P P 19 11 01.2 +0.8
baz=283,SNR=66

MCARA **McCarthy VSAT** 47.70 39 P P 19 11 02.6 +2.1
baz=285,SNR=26
L27K **Beaver Creek,** 47.82 37 IAmb IAmb 19 11 04.3
comp=Z,54nm,0.8s
L27K **Beaver Creek,** 47.82 37 P P 19 11 03.4 +2.0
baz=284,SNR=72
CRQE **Cirque** 47.84 40 P P 19 11 03.3 +1.6
baz=285
BCAR **Beaver Creek A** 47.84 37 P P 19 11 03.4 +1.8
BGLC **Bering Glacier** 47.91 41 P P 19 11 03.7 +1.6
baz=286
M27K **Edge Creek, AK** 47.98 38 IAmb IAmb 19 11 05.7
comp=Z,74nm,0.8s
M27K **Edge Creek, AK** 47.98 38 P P 19 11 04.7 +1.9
baz=285
WAX **Waxell Ridge** 48.03 41 IAmb IAmb 19 11 09.2
comp=Z,71nm,1.0s
I28M **Miner Creek** 48.05 34 P P 19 11 04.7 +1.5
I28M IAmb IAmb 19 11 06.0
comp=Z,67nm,0.8s
I28M **Miner Creek** 48.05 34 P P 19 11 05.0 +1.9
baz=284,SNR=125
E29M **Blow River** 48.15 30 P P 19 11 05.3 +1.5
baz=283,SNR=41
ISLE **Juniper Island** 48.23 40 IAmb IAmb 19 11 07.1
comp=Z,66nm,0.8s
BVCY **Beaver Creek** 48.42 38 P P 19 11 07.9 +1.9
baz=286
BARN **Barnard Glacie** 48.42 40 P P 19 11 07.8 +1.6
G29M **Pine Creek** 48.45 31 P P 19 11 07.7 +1.6
baz=284,SNR=31
H29M **Whitestone** 48.49 32 IAmb IAmb 19 11 09.0
comp=Z,32nm,0.8s
H29M **Whitestone** 48.49 32 P P 19 11 08.2 +1.8
baz=284,SNR=35
DZA **Taraz** 48.53 294 *e*P P 19 11 07.8 +0.6
comp=Z,37nm,0.7s,baz=294
DZA **Taraz** 48.53 294 *e*P P 19 11 07.7 +0.6
DZA pmax pmax
comp=Z,37nm,0.7s
MESA **MESA** 48.54 41 P P 19 11 08.9 +1.8
baz=287,SNR=9.0
CTG **Chitna Glacier** 48.60 40 P P 19 11 09.2 +1.7
baz=286,SNR=40
CTGM **Chitina Glacie** 48.60 40 P P 19 11 09.3 +1.7
DAWY **Dawson** 48.62 35 P P 19 11 08.4 +0.9
baz=285
YUK3 **Moose Creek** 48.78 39 P P 19 11 10.3 +1.4
baz=286
LOGN **Logan Glacier** 48.80 40 IAmb IAmb 19 11 11.5
comp=Z,32nm,0.8s
TABL **Table Mountain** 48.85 40 IAmb IAmb 19 12 13.2
comp=Z,57nm,0.8s
KK31 **Karatay Array** 48.99 295 P P 19 11 10.9 +0.3
KK31 IAmb IAmb 19 11 11.8
comp=Z,38nm,0.8s
KK31 **Karatay Array** 48.99 295 P P 19 11 10.9 +0.3
KK31 pmax pmax
comp=Z,38nm,0.8s
KKAR **Karatay Array** 48.99 295 IAmb IAmb 19 11 11.8
comp=Z,38nm,0.8s
J29N **Klondike Camp** 49.01 35 P P 19 11 12.0 +1.5
baz=286,SNR=7.8
EPYK **Eagle Plains** 49.09 32 P P 19 11 12.4 +1.4
EPYK **Eagle Plains** 49.09 32 P P 19 11 12.3 +1.4
baz=286,SNR=54
F30M **Barrier River** 49.11 30 P P 19 11 12.9 +1.7
baz=285
G30M **tAoh Zraii Nji** 49.12 31 IAmb IAmb 19 11 15.2
comp=Z,78nm,1.0s
G30M **tAoh Zraii Nji** 49.12 31 P P 19 11 12.4 +1.1
baz=286
YUK8 **Steele Glacier** 49.24 39 P P 19 11 13.8 +1.4
baz=287
L29M **L29M** 49.43 36 P P 19 11 15.9 +2.3
baz=287,SNR=46
BRLS **Borolday** 49.47 295 ⇓*i*P P 19 11 16.0 +1.7
baz=295
BRLS **Borolday** 49.47 295 *d i*P P 19 11 15.9 +1.7
K29M **Barlow Dome** 49.48 35 P P 19 11 15.8 +1.7
K29M **Barlow Dome** 49.48 35 P P 19 11 15.8 +1.7
baz=287,SNR=66
M29M **Somme Creek** 49.48 37 IAmb IAmb 19 11 18.0
comp=Z,41nm,0.7s
M29M **Somme Creek** 49.48 37 P P 19 11 16.2 +2.1
baz=287,SNR=43
I30M **Mount Dempster** 49.55 33 IAmb IAmb 19 11 17.1
comp=Z,77nm,1.1s
I30M **Mount Dempster** 49.55 33 P P 19 11 16.1 +1.6
baz=287,SNR=103
SVE **Sverdlovsk** 49.71 315 *c i*P P 19 11 16.9 +1.2
SVE *e*S S 19 18 08.4 +1.2
SVE pmax pmax
comp=Z,149nm,0.8s
SVE **Sverdlovsk** 49.71 315 *i*P P 19 11 16.9 +1.2
IUG **luzhnay** 49.72 294 *e*P P 19 11 16.9 +0.6
comp=Z,35nm,0.8s,baz=294
IUG **luzhnay** 49.72 294 *e*P P 19 11 16.8 +0.6
IUG pmax pmax
comp=Z,35nm,0.8s
YUK4 **Talbot Arm** 49.74 39 P P 19 11 18.1 +1.9
baz=288
INK **Inuvik** 49.74 29 P P 19 11 16.8 +1.0
INK IAmb IAmb 19 11 18.9
comp=Z,43nm,0.9s
INK **Inuvik** 49.74 29 P P 19 11 16.9 +1.0
baz=287,SNR=94
INK **Inuvik** 49.74 29 P P 19 11 16.8 +1.0
INK pmax pmax
comp=Z,43nm,0.9s
J30M **Hart River** 49.76 34 P P 19 11 17.7 +1.5
baz=287,SNR=22
G31M **Satah River** 49.87 31 IAmb IAmb 19 11 18.6
comp=Z,52nm,0.9s
G31M **Satah River** 49.87 31 P P 19 11 17.7 +0.9
baz=287,SNR=34
F31M **Tsiigehtchic** 49.92 30 IAmb IAmb 19 11 19.1
comp=Z,44nm,0.9s
F31M **Tsiigehtchic** 49.92 30 P P 19 11 18.0 +0.9
baz=287,SNR=43
PNL **Peninsula** 49.92 41 P P 19 11 19.0 +1.7
baz=289
YUK6 **Outpost Mounta** 49.99 39 P P 19 11 20.2 +2.1
baz=289
O29M **Mount Kennedy** 50.10 40 IAmb IAmb 19 11 22.4
comp=Z,50nm,0.9s
O29M **Mount Kennedy** 50.10 40 P P 19 11 20.9 +2.0
baz=289
BTK **Batken** 50.13 291 P P 19 11 19.3 0.0
BTK IAmb IAmb 19 11 20.5
comp=Z,33nm,1.1s
BTK **Batken** 50.13 291 P P 19 11 19.3 0.0
BTK pmax pmax
comp=Z,33nm,1.1s
M30M **Minto, Yukon** 50.18 37 IAmb IAmb 19 11 22.7
comp=Z,37nm,0.8s
M30M **Minto, Yukon** 50.18 37 P P 19 11 21.6 +2.3
baz=289,SNR=25
H31M **Peel River** 50.18 32 P P 19 11 20.4 +1.1
H31M **Peel River** 50.18 32 P P 19 11 20.5 +1.3
baz=288
MAYO **Mayo, Yukon** 50.24 35 P P 19 11 21.9 +2.2
baz=288
N30M **Aishikik Lake** 50.41 38 P P 19 11 23.1 +2.1
baz=289,SNR=12
HYT **Haines Junctio** 50.43 39 P P 19 11 23.9 +2.6
baz=290,SNR=54
P29M **Windy Craggy** 50.73 41 P P 19 11 25.8 +2.5
baz=290,SNR=39
KULM **Kulim** 50.90 234 P P 19 11 25.9 +0.7
ARU **Arti** 50.92 315 P P 19 11 24.6 -0.3
ARU IAmb IAmb 19 11 29.9
comp=Z,66nm,1.0s
ARU **Arti** 50.92 315 *d i*P P 19 11 25.3 +0.5
ARU *PP pP 19 12 14.2 +2.0
ARU S S 19 18 26.5 +2.6
ARU SS SS 19 21 58.1 -3.0
ARU pmax pmax
comp=Z,85nm,1.1s
ARU **Arti** 50.92 315 ⇓P P 19 11 25.4 +0.6
ARU pwP pP 19 12 18.0 +5.8
P30M **Million Dollar** 50.92 40 P P 19 11 27.2 +2.3
baz=290
O30N **Mendenhall** 51.10 39 P P 19 11 28.1 +1.9
O30N IAmb IAmb 19 11 29.3
comp=Z,28nm,0.8s
O30N **Mendenhall** 51.10 39 P P 19 11 28.0 +1.8
baz=290,SNR=20
KAPI **Kappang** 51.11 206 P P 19 11 28.6 +1.9
KAPI **Kappang** 51.11 206 P P 19 11 27.2 +0.6
KAPI IAmb IAmb 19 11 28.6
comp=Z,31nm,1.1s
KAPI **Kappang** 51.11 206 *i*P P 19 11 26.7 0.0
KAPI pmax pmax
comp=Z,36nm,1.3s
KAPI **Kappang** 51.11 206 P P 19 11 28.2 +1.5
A36M **Sachs Harbour** 51.24 23 P P 19 11 28.3 +1.3
baz=291,SNR=20
M31M **Drury Creek, Y** 51.36 37 P P 19 11 30.0 +1.9
baz=291,SNR=17
PLBC **Pleasant Camp** 51.44 41 P P 19 11 30.7 +2.0
baz=291
NIL **Nilore** 51.54 283 P P 19 11 30.8 +1.0
NIL IAmb IAmb 19 11 32.0
comp=Z,53nm,0.8s
NIL **Nilore** 51.54 283 P P 19 11 30.8 +1.0
NIL pmax pmax
comp=Z,53nm,0.9s
NIL **Nilore** 51.54 283 P P 19 11 31.7 +1.9
NIL **Nilore** 51.54 283 P P 19 11 30.8 +1.0
WHY **Whitehorse** 51.70 39 IAmb IAmb 19 11 33.8
comp=Z,28nm,0.9s
WHY **Whitehorse** 51.70 39 P P 19 11 32.8 +2.1
baz=292
FARO **Faro, Yukon** 51.80 37 IAmb IAmb 19 11 34.3
comp=Z,32nm,0.9s
FARO **Faro, Yukon** 51.80 37 P P 19 11 33.2 +1.9
baz=292,SNR=31
SKAG **Skagway** 51.93 40 P P 19 11 34.6 +2.4
SKAG **Skagway** 51.93 40 IAmb IAmb 19 11 39.8
comp=Z,25nm,1.1s
SKAG **Skagway** 51.93 40 P P 19 11 34.3 +2.1
baz=292
SIMJ **Simiganj** 52.02 291 P P 19 11 33.6 +0.2
SIMJ **Simiganj** 52.02 291 ⇓P P 19 11 33.3 -0.1
S31K **Pelican** 52.06 42 P P 19 11 35.3 +2.1
baz=292
N32M **Quiet Lake** 52.33 38 IAmb IAmb 19 11 37.9
comp=Z,24nm,0.8s
N32M **Quiet Lake** 52.33 38 P P 19 11 36.7 +1.5
baz=292
MMPY **Sheldon Lake,** 52.56 36 IAmb IAmb 19 11 40.2
comp=Z,30nm,1.0s
MMPY **Sheldon Lake,** 52.56 36 P P 19 11 38.9 +2.0
baz=293,SNR=23
C36M **Paulatuk** 52.61 26 IAmb IAmb 19 11 40.1
comp=Z,31nm,0.8s
C36M **Paulatuk** 52.61 26 P P 19 11 38.0 +1.0
baz=294,SNR=17
P32M **Atlin** 52.64 40 P P 19 11 38.6 +1.1
P32M IAmb IAmb 19 11 43.9
comp=Z,53nm,1.9s
P32M **Atlin** 52.64 40 P P 19 11 39.4 +1.9
baz=293
P33M **Teslin, Yukon** 52.81 39 IAmb IAmb 19 11 42.0
comp=Z,44nm,0.9s
P33M **Teslin, Yukon** 52.81 39 P P 19 11 40.8 +2.0
baz=293,SNR=34
SIT **Sitka** 52.87 43 P P 19 11 41.5 +2.4
baz=294
ABKAR **Akbulak array** 53.02 306 P P 19 11 40.8 +0.4
ABKAR **Akbulak array** 53.02 306 IAmb IAmb 19 11 47.1
comp=Z,61nm,0.8s
S32K **Killisnoo** 53.08 42 P P 19 11 42.7 +2.1
baz=294
Q32M **Nakina River** 53.58 40 P P 19 11 45.9 +1.3
Q32M **Nakina River** 53.58 40 P P 19 11 46.6 +2.1
baz=295
HOPEN **Hopen** 53.80 345 *e*P P 19 11 46.4 +0.7
R33M **Jennings River** 54.00 39 P P 19 11 49.6 +2.1
baz=295,SNR=10.0
KBL **Kabul** 54.07 286 P P 19 11 47.9 -0.6
KBL IAmb IAmb 19 11 48.9
comp=Z,32nm,0.9s
KBL **Kabul** 54.07 286 P P 19 11 47.9 -0.6
KBL pmax pmax
comp=Z,32nm,0.9s
KBL **Kabul** 54.07 286 P P 19 11 48.7 +0.2
KBL S S 19 19 06.1 -1.5
ALE **Alert** 54.16 3 P P 19 11 49.4 +1.2
SPA0 **Spitsbergen Ar** 54.29 348 *e*P P 19 11 49.9 +0.7
SPITS **Spitsbergen Ar** 54.29 348 P P 19 11 49.3 +0.1
comp=Z,9.5nm,0.8s,baz=74,slow=5.1,SNR=14
comp=Z,9.5nm,0.8s
TGTN **Hyland Airport** 54.29 36 P P 19 11 51.4 +1.9
baz=296,SNR=36
EUNU **Eureka** 54.42 9 P P 19 11 50.7 +0.5
EUNU IAmb IAmb 19 11 52.1
comp=Z,27nm,0.8s
S34M **Telegraph Cree** 54.56 41 P P 19 11 53.6 +2.2
baz=296
KIRV **Kirov** 54.58 320 *ce*P P 19 11 52.0 +0.6
WRAK **Wrangell Islan** 54.63 43 P P 19 11 54.0 +2.1
baz=296
CRAG **Craig** 54.66 44 P P 19 11 54.0 +1.9
baz=296
WTLY **Watson Lake, Y** 54.68 38 P P 19 11 53.8 +1.5
baz=296
DLBC **Dease Lake** 54.86 40 P P 19 11 55.8 +2.2
baz=296,SNR=8.5
NOR **Nord** 54.91 356 *i*P P 19 11 53.1 -0.5
NOR IAmb IAmb 19 11 55.8
comp=Z,5.3nm,0.8s
T35M **Bob Quinn** 55.41 42 IAmb IAmb 19 12 09.7
comp=Z,37nm,1.3s
T35M **Bob Quinn** 55.41 42 P P 19 12 00.3 +2.8
baz=297,SNR=9.7
V35K **Ketchikan** 55.49 44 P P 19 11 59.5 +1.5
baz=297
WRGLY **Wrigley** 55.52 33 IAmb IAmb 19 12 01.4
comp=Z,26nm,0.8s
WRGLY **Wrigley** 55.52 33 P P 19 11 59.5 +1.3
baz=298,SNR=7.5
GSI **Gunungsitoli** 55.91 234 IAmb IAmb 19 12 03.7
comp=Z,43nm,1.4s
GSI **Gunungsitoli** 55.91 234 P P 19 12 03.2 +1.6
comp=Z,25nm,2.6s
U35K **Hyder** 56.01 43 P P 19 12 03.5 +1.8
baz=298
DIB **Dawson Inlet,** 56.03 46 P P 19 12 02.8 +0.9
DIB IAmb IAmb 19 12 10.5
comp=Z,38nm,1.1s
VADS **Vadso** 56.38 337 *e*P P 19 12 04.8 +0.6
APA **Apatity** 56.57 334 ⇓*i*P P 19 12 01.4 -4.1
APA *i* 19 12 48.1
APA pmax pmax
comp=Z,24nm,0.8s
KOTAN **Kotaneelee Air** 56.77 36 P P 19 12 08.2 +1.2
baz=300
TOAD **Toad River Com** 56.88 38 P P 19 12 09.8 +1.9
baz=300
GRNB **Grenville Isla** 57.04 45 IAmb IAmb 19 12 21.2
comp=Z,20nm,0.7s
RES **Resolute Bay** 57.12 15 IAmb IAmb 19 12 11.3
comp=Z,23nm,0.8s
ARA0 **ARCESS Array S** 57.81 338 *e*P P 19 12 15.0 +0.8
ARCES **ARCESS Array B** 57.81 338 P P 19 12 14.7 +0.5
comp=Z,5.3nm,0.7s,baz=54,slow=8.1,SNR=14
comp=Z,5.3nm,0.7s
KLMR **Klimovskoe** 57.88 325 *e*P P 19 12 12.8 -1.9
KLMR pmax pmax
comp=Z,60nm,1.3s
BELG **Belogornoye** 58.43 314 *d i*P P 19 12 18.8 +0.2
BELG pmax pmax
comp=Z,18nm,0.9s
KTK1 **Kautokeino** 58.77 338 *e*P P 19 12 21.6 +0.8
HRA **Heral** 58.89 290 IAmb IAmb 19 12 24.1
comp=Z,16nm,0.9s
JETT **Jettan, Norway** 59.18 339 *e*P P 19 12 24.5 +0.9
YKA **Yellowknife Ar** 59.36 31 P P 19 12 25.6 +0.7
comp=Z,11nm,0.7s,baz=307,slow=6.5,SNR=144
comp=Z,11nm,0.7s
TRO **Tromso** 59.51 340 *e*P P 19 12 24.9 -0.9
NEEM **North Greenlan** 59.55 3 *i*P P 19 12 25.4 -0.9
NEEM IAmb IAmb 19 12 29.5
comp=Z,20nm,0.9s
DAG **Danmarks Havn** 59.60 354 *i*P P 19 12 26.0 -0.4
DAG IAmb IAmb 19 12 31.4
comp=Z,5.8nm,0.7s
GEYT **Alibeck** 59.74 295 P P 19 12 27.8 -0.2
GEYT **Alibeck** 59.74 295 P P 19 12 27.8 -0.2
GEYT pmax pmax
comp=Z,13nm,0.9s
GEYT **Alibeck** 59.74 295 P P 19 12 28.3 +0.3
comp=Z,9.9nm,0.7s,baz=60,slow=5.8,SNR=19
comp=Z,9.9nm,0.7s
JOF **Joensuu** 59.94 330 *e*P P 19 12 29.3 +0.5
HILA **High Level** 60.66 36 P P 19 12 34.9 +1.1
VALR **Valaam** 61.05 329 *c i*P P 19 12 36.6 +0.3
VALR pmax pmax
comp=Z,44nm,0.6s
MOS **Moscow** 61.55 321 *e*P P 19 12 40.1 +0.3
MOS pmax pmax
comp=Z,65nm,1.2s
STEI **Steigen** 61.66 339 *e*P P 19 12 41.9 +1.5
LOF **Lofoten** 61.95 340 *e*P P 19 12 44.0 +1.7
FAUS **Fauske** 62.05 339 *e*P P 19 12 43.5 +0.6
VRH **Novokhopyorsk** 62.15 315 *e*P P 19 12 42.3 -1.6
VRH pmax pmax
comp=Z,30nm,0.9s
OBN **Obninsk** 62.40 321 *de*P P 19 12 45.9 +0.5
OBN 19 13 20.0
OBN *SP sP 19 14 02.0 +4.3
OBN *e* 19 15 04.0
OBN *e*S S 19 20 54.4 +0.2
OBN pmax pmax
comp=Z,67nm,1.3s
OBN **Obninsk** 62.40 321 *e*P P 19 12 45.9 +0.5
KEF **Keuruu** 62.74 331 *e*P P 19 12 47.5 -0.1
LPSR **Galich'ya Gora** 62.75 318 *e*P P 19 12 45.9 -1.9
LPSR pmax pmax
comp=Z,30nm,1.0s
FIA1 **FINESS Array S** 62.78 330 P P 19 12 48.2 +0.4
FINES **FINESS Array B** 62.78 330 P P 19 12 48.5 +0.6
FINES **FINESS Array B** 62.78 330 P P 19 12 48.5 +0.6
FINES **FINESS Array B** 62.78 330 P P 19 12 48.0 +0.2
comp=Z,28nm,0.7s,baz=57,slow=7.2,SNR=159
comp=Z,28nm,0.7s
VAF **Ylistaro** 62.90 333 *e*P P 19 12 49.7 +1.1
WRA **Warramunga Arr** 62.90 185 P P 19 12 48.3 -0.9
WRA **Warramunga Arr** 62.90 185 P P 19 12 48.3 -0.9
WRA pmax pmax
comp=Z,4.0nm,2.0s
WRA **Warramunga Arr** 62.90 185 P P 19 12 48.8 -0.4
comp=Z,6.5nm,0.8s,baz=4.2,slow=6.8,SNR=37
comp=Z,6.5nm,0.8s
BRLDA **Berland Lookou** 63.12 40 P P 19 12 51.5 +1.1
BRLDA IAmb IAmb 19 12 52.4
comp=Z,29nm,0.8s
VORR **Voronezh** 63.16 317 *e*P P 19 12 51.3 +0.8
VORR pmax pmax
comp=Z,41nm,1.1s
MOR8 **Moi Rana** 63.17 338 *e*P P 19 12 49.9 -0.5
VSR **Storozhevoye** 63.45 316 *e*P P 19 12 50.9 -1.6
VSR pmax pmax
comp=Z,20nm,0.8s
MEF **Metsahovi** 64.22 330 *e*P P 19 12 57.9 +0.6
VSU **Vasula** 64.51 328 *ce*P P 19 13 00.0 +0.8
VSU pmax pmax
comp=Z,33nm,0.7s
RAF **Rauma** 64.61 331 *e*P P 19 13 00.9 +1.1
SUMG **Summit** 64.62 359 P P 19 13 00.5 +0.3
SUMG IAmb IAmb 19 13 06.7
comp=Z,16nm,1.0s
SUMG **Summit** 64.62 359 P P 19 13 00.5 +0.3
SUMG pmax pmax
comp=Z,16nm,1.0s
SUMG **Summit** 64.62 359 *i*P P 19 12 59.9 -0.3
SUMG IAmb IAmb 19 13 07.0
comp=Z,9.6nm,0.8s
SEKA **Sheki** 64.85 304 P P 19 13 00.5 -1.3
ZKTA **Zakatala** 64.95 304 P P 19 13 01.4 -1.0
GOF **Gofitskoye** 65.03 309 *ce*P P 19 13 03.7 +0.9
LON **Longmire** 65.30 48 IAmb IAmb 19 14 13.5
comp=Z,40nm,1.8s
LKRN **Lenkeran, Azer** 65.34 301 P P 19 13 04.0 -0.9
EDM **Edmonton** 65.55 39 IAmb IAmb 19 13 08.0
comp=Z,21nm,1.0s
LTY **Liberty** 65.61 47 P P 19 13 07.2 +0.6
LTY IAmb IAmb 19 13 08.6
comp=Z,27nm,1.6s
GANJ **Ganja** 65.72 304 P P 19 13 06.4 -1.0
AAL **Aland** 65.82 332 *e*P P 19 13 07.7 +0.1
KIV **Kislovodsk** 65.89 308 ⇑P P 19 13 08.9 +0.4
KIV **Kislovodsk** 65.89 308 P P 19 13 09.3 +0.8
KIV **Kislovodsk** 65.89 308 *i*P P 19 13 10.2 +1.7
SNR=14
KIV **Kislovodsk** 65.89 308 *e*P P 19 13 09.8 +1.3
KIV pmax pmax
comp=Z,86nm,1.1s
KIV MLR MLR
comp=Z,35nm,17.0s
KIV **Kislovodsk** 65.89 308 P P 19 13 10.4 +1.9
KIV **Kislovodsk** 65.89 308 *e*P P 19 13 09.8 +1.3
KIV **Kislovodsk** 65.89 308 P P 19 13 09.6 +1.1
KIV pP pP 19 13 59.4 +1.6
KBZ **Khabaz** 65.91 308 *ce*P P 19 13 09.3 +0.9
KBZ pmax pmax
comp=Z,23nm,0.8s
KBZ **Khabaz** 65.91 308 P P 19 13 09.6 +1.2
comp=Z,20nm,0.7s,baz=35,slow=2.8,SNR=41
comp=Z,20nm,0.7s
KBZ **Khabaz** 65.91 308 *e*P P 19 13 09.3 +0.9
HOOD **Mount Hood Mea** 66.25 50 IAmb IAmb 19 13 13.5
comp=Z,30nm,0.9s
ONI **Oni** 66.27 307 P P 19 13 11.3 +0.4
ONI IAmb IAmb 19 13 21.2
comp=Z,20nm,1.0s
ONI **Oni** 66.27 307 P P 19 13 11.3 +0.4
ONI pmax pmax
comp=Z,20nm,1.0s
E07A **Sunnyside** 66.48 48 P P 19 13 13.2 +1.1
E07A IAmb IAmb 19 13 14.6
comp=Z,21nm,1.1s
ASAR **Alice Springs** 66.63 186 P P 19 13 14.2 +1.0
comp=Z,3.0nm,0.7s,baz=359,slow=4.5,SNR=38
ASAR PcP PcP 19 13 41.8 +1.2
comp=Z,0.9nm,0.8s,baz=6.3,slow=5.9,SNR=4.4
comp=Z,3.0nm,0.7s
MNK **Minsk** 66.68 324 *i*P P 19 13 12.0 -1.1
MNK *i* *PP pP 19 13 58.6 -4.0
MNK *i* 19 15 41.1
MNK *i* PPP PPP 19 17 19.5
MNK *i* S S 19 21 44.1 -2.5
MNK *i* SS SS 19 26 09.4 +1.8
MNK *i* SSS SSS 19 29 04.8
MNK pmax pmax
comp=Z,47nm,0.9s
MNK pmax pmax
comp=N,27nm,0.9s
MNK pmax pmax
comp=E,17nm,1.4s
ISAL **Salakas** 66.70 325 *e*P P 19 13 15.8 +2.6
HAWA **Hanford** 66.76 48 P P 19 13 14.9 +1.1
HAWA IAmb IAmb 19 13 16.1
comp=Z,14nm,0.8s
SLIT **Slitere, Latvi** 66.80 329 *e*P P 19 13 14.6 +0.8
NEW **Newport** 66.86 45 P P 19 13 15.0 +0.5
NEW **Newport** 66.86 45 P P 19 13 15.4 +0.9
baz=309
NEW **Newport** 66.86 45 P P 19 13 15.0 +0.5
NEW pmax pmax
comp=Z,11nm,0.8s
UPP **Uppsala** 66.88 332 *e*P P 19 13 13.8 -0.4
JASK **Jask - Hormozg** 66.93 284 P P 19 13 17.0 +1.8
E08A **Dider Farm, El** 66.95 47 IAmb IAmb 19 13 17.3
comp=Z,16nm,0.7s
GNI **Garni** 66.98 304 P P 19 13 17.3 +1.7
GNI IAmb IAmb 19 13 30.5
comp=Z,17nm,0.8s
GNI **Garni** 66.98 304 P P 19 13 17.0 +1.5
GNI **Garni** 66.98 304 *ce*P P 19 13 17.9 +2.4
GNI pmax pmax
comp=Z,20nm,1.3s
GNI **Garni** 66.98 304 P P 19 13 17.1 +1.5
I05D **Terrebonne, OR** 67.03 50 IAmb IAmb 19 13 18.2
comp=Z,14nm,0.8s
E09A **Wood Farm, Sta** 67.43 47 P P 19 13 19.5 +1.5
E09A IAmb IAmb 19 13 20.4
comp=Z,21nm,0.8s
PABE **Paberze** 67.64 326 *e*P P 19 13 19.0 -0.1
SOC **Sochi** 67.82 309 *e*P P 19 13 19.0 -1.5
SOC *e* *PP pP 19 14 10.1 +0.1
SOC *e* *SP sP 19 14 34.8 +1.6
SOC *e*PPP PPP 19 17 32.3
SOC *e*S S 19 21 59.2 -1.3
NC405 **NORSAR Array S** 67.83 336 IAmb IAmb 19 13 27.1

comp=Z,33nm,1.4s
DOMB Dombas 67.87 337 *e*P **P** **19 13 21.4 +0.9**
HFS Hagfors 67.97 334 P **P** **19 13 21.5 +0.4**
comp=Z,4.5nm,0.3s,baz=38,slow=5.1,SNR=45
comp=Z,4.5nm,0.3s
NC204 NORSAR Array S 67.98 336 P **P** **19 13 21.1 -0.2**
NC204 IAmb IAmb 19 13 23.3
comp=Z,21nm,0.9s
NB2 NORSAR Subarra 68.04 336 P **P** **19 13 22.1 +0.5**
comp=Z,4.4nm,0.7s,baz=38,slow=6.5
NB2 NORSAR Subarra 68.04 336 P **P** **19 13 22.1 +0.5**
baz=38,slow=6.5
NOA NORSAR Array B 68.04 336 P **P** **19 13 21.8 +0.2**
comp=Z,7.2nm,0.7s,baz=38,slow=6.2,SNR=29
comp=Z,7.2nm,0.7s
SHME Shamm 68.04 286 P **P** **19 13 22.6 +0.5**
SHME Shamm 68.04 286 P **P** **19 13 22.9 +0.7**
PBUR Paburge 68.08 328 *e*P **P** **19 13 21.8 -0.1**
ICESG Greenland Ices 68.13 360 *i* P **P** **19 13 22.2 -0.2**
ICESG IAmb IAmb 19 13 24.4
comp=Z,9.4nm,0.5s
JLN Jalan Bani Buh 68.13 280 P **P** **19 13 23.9 +1.1**
WBK Wadi Bani Khal 68.16 281 P **P** **19 13 24.5 +1.5**
NC602 NORSAR Array S 68.18 335 *e*P **P** **19 13 23.3 +0.9**
BIDO Bidbid 68.20 282 P **P** **19 13 24.9 +1.7**
VIKU Vikbolandet 68.20 332 *e*P **P** **19 13 23.6 +1.0**
K05A Summer Lake 68.29 51 IAmb IAmb 19 13 26.8
comp=Z,38nm,0.9s
ANN Anapa 68.32 311 *e*P **P** **19 13 23.5 -0.1**
ANN pmax pmax
comp=Z,47nm,1.0s
MDH Madha 68.39 285 P **P** **19 13 25.5 +1.2**
MASF Masafi 68.45 285 P **P** **19 13 25.8 +1.1**
MSFE Esma-Masafi 68.45 285 P **P** **19 13 25.6 +0.9**
SMDO Samad 68.54 282 P **P** **19 13 26.5 +1.1**
AKASG Malin Array Be 68.64 320 P **P** **19 13 24.5 -0.9**
AKASG Malin Array Be 68.64 320 P **P** **19 13 24.5 -0.9**
AKASG pmax pmax
comp=Z,88nm,1.2s
AKASG Malin Array Be 68.64 320 P **P** **19 13 25.6 +0.2**
comp=Z,26nm,0.7s,baz=44,slow=6.0,SNR=117
AKASG PP **PP** **19 15 59.3 -0.1**
comp=Z,5.9nm,1.0s,baz=41,slow=9.5,SNR=7.2
comp=Z,26nm,0.7s
KIEV Kiev 68.65 320 ⇓P **P** **19 13 25.5 -0.1**
KIEV Kiev 68.65 320 *i* P **P** **19 13 25.7 +0.2**
SNR=13
KIEV Kiev 68.65 320 P **P** **19 13 25.4 -0.1**
KIEV Kiev 68.65 320 P **P** **19 13 25.6 +0.2**
UOSS Minazif 68.68 285 P **P** **19 13 26.7 +0.5**
UOSS IAmb IAmb 19 13 27.3
comp=Z,17nm,0.7s
UOSS Minazif 68.68 285 *i* P **P** **19 13 26.6 +0.5**
SNR=7.0
UOSS Minazif 68.68 285 P **P** **19 13 26.7 +0.5**
UOSS Minazif 68.68 285 P **P** **19 13 26.1 -0.1**
UMQ Umm Al-Quwin 68.70 285 P **P** **19 13 27.1 +0.9**
HOQ Hoqain 68.74 283 P **P** **19 13 27.7 +1.1**
HATD Hatta, Dubai 68.81 285 *i* P **P** **19 13 27.8 +0.9**
SNR=12
HATD Hatta, Dubai 68.81 285 P **P** **19 13 27.9 +0.9**
JMDO Jabal Madar 68.93 281 P **P** **19 13 28.6 +0.8**
ASHO Ashiyiah 68.95 284 *i* P **P** **19 13 28.6 +0.7**
SNR=9.8
ASHO Ashiyiah 68.95 284 P **P** **19 13 29.0 +1.1**
SNR=9.8
SOHO SOHO 68.95 284 *i* P **P** **19 13 28.5 +0.7**
SNR=7.0
SOHO SOHO 68.95 284 P **P** **19 13 28.1 +0.3**
SUW Suwalki 69.01 325 *e*P **P** **19 13 24.5 -3.2**
NAZ Nazwa, Dubai 69.04 285 P **P** **19 13 29.2 +0.8**
OSL Oslo 69.06 335 *e*P **P** **19 13 29.1 +1.3**
SKAR Skarslia 69.18 337 *e*P **P** **19 13 30.1 +1.4**
FAQ Al Faqa, Dubai 69.24 285 P **P** **19 13 30.0 +0.5**
FCC Fort Churchill 69.25 27 IAmb IAmb 19 13 30.6
comp=Z,31nm,0.9s
BSY Bisya 69.35 282 P **P** **19 13 31.3 +1.0**
SNR=7.9
HYA Hoyanger 69.39 338 *e*P **P** **19 13 31.3 +1.5**
FFC Flin Flon 69.42 33 P **P** **19 13 31.1 +0.9**
FFC IAmb IAmb 19 13 32.0
comp=Z,23nm,0.8s
FFC Flin Flon 69.42 33 P **P** **19 13 31.1 +0.9**
FFC pmax pmax
comp=Z,23nm,0.9s
FFC Flin Flon 69.42 33 P **P** **19 13 31.0 +0.8**
FFC pP **pP** **19 14 23.6 +2.7**
ARQ Araqi 69.46 283 P **P** **19 13 31.7 +0.7**
ASUD Al Ashush, Dub 69.50 285 *i* P **P** **19 13 32.0 +0.8**
SNR=20
ASUD Al Ashush, Dub 69.50 285 P **P** **19 13 31.8 +0.7**
SNR=20
ALNE Al Ain 69.56 284 *i* P **P** **19 13 32.1 +0.6**
SNR=11
ALNE Al Ain 69.56 284 P **P** **19 13 32.1 +0.6**
GURO Guroymak-BITLI 69.62 304 IAmb IAmb 19 13 34.3
comp=Z,20nm,0.7s
STRU Stroemstad 69.63 334 *e*P **P** **19 13 30.8 -0.5**
KONO Kongsberg 69.63 335 *e*P **P** **19 13 31.9 +0.5**
WVOR Wild Horse Val 69.76 51 P **P** **19 13 33.9 +1.2**
WVOR Wild Horse Val 69.76 51 P **P** **19 13 33.9 +1.2**
WVOR pmax pmax
comp=Z,12nm,1.0s
AJN Ajban 69.78 285 P **P** **19 13 32.9 0.0**
KLNR Kaliningrad 69.79 327 *i* P **P** **19 13 32.5 +0.1**
KLNR pmax pmax
comp=Z,35nm,0.9s
MHTO MHTO 69.90 280 P **P** **19 13 34.9 +1.2**
ODD1 Odda 70.30 337 *e*P **P** **19 13 36.7 +1.2**
DY2G Dye2 70.67 2 *i* P **P** **19 13 37.8 -0.1**
DY2G IAmb IAmb 19 13 39.5
comp=Z,9.8nm,0.6s
MFID Camas Ranch 70.69 48 P **P** **19 13 39.1 +0.9**
MFID IAmb IAmb 19 13 40.8
comp=Z,23nm,1.3s
EGMT Eagleton 70.72 42 P **P** **19 13 39.5 +1.1**
EGMT IAmb IAmb 19 13 40.5
comp=Z,34nm,0.8s
EGMT Eagleton 70.72 42 P **P** **19 13 39.3 +1.0**
baz=314,SNR=11
DEL Delary 70.75 331 *e*P **P** **19 13 38.4 +0.2**
SORM Soroca 70.81 319 ⇓P **P** **19 13 38.8 +0.1**
SORM Soroca 70.81 319 P **P** **19 13 39.9 +1.2**
UMZA Um Al Zommool 70.82 283 P **P** **19 13 39.2 0.0**
MZWR Madinat Zayed 71.07 285 P **P** **19 13 40.7 0.0**
PAHR Pah Rah Range 71.10 53 P **P** **19 13 41.9 +1.1**
PAHR IAmb IAmb 19 13 43.1
comp=Z,22nm,0.8s
MILM Milestii Mici 71.42 317 ⇑P **P** **19 13 42.3 -0.1**
MILM Milestii Mici 71.42 317 P **P** **19 13 42.3 -0.1**
BSD Bornholm Skovb 71.42 330 *i* P **P** **19 13 41.8 -0.4**
BSD IAmb IAmb 19 13 43.7
comp=Z,15nm,0.8s
BSD Bornholm Skovb 71.42 330 *e*P **P** **19 13 42.8 +0.5**
BOZ Bozeman (W) 71.45 44 IAmb IAmb 19 13 45.1
comp=Z,15nm,0.8s
BOZ Bozeman (W) 71.45 44 P **P** **19 13 44.2 +1.4**
baz=313,SNR=25
DRBR Darabani 71.59 319 ⇑P **P** **19 13 43.6 +0.2**
LVV L'vov 71.64 322 *e*P **P** **19 13 45.0 +1.3**
YERR Yerington 71.65 54 IAmb IAmb 19 13 46.7
comp=Z,23nm,0.7s
BMN Battle Mountai 71.88 51 P **P** **19 13 46.6 +1.2**
BMN IAmb IAmb 19 13 48.1
comp=Z,15nm,0.8s
BMN Battle Mountai 71.88 51 P **P** **19 13 46.6 +1.2**
BMN pmax pmax
comp=Z,15nm,0.8s
YHL Hebgen Lake 72.19 45 IAmb IAmb 19 13 50.4
comp=Z,18nm,1.0s
KVN Kaiserville 72.28 53 P **P** **19 13 48.9 +1.0**
KVN IAmb IAmb 19 13 50.4
comp=Z,27nm,0.7s
KVN Kaiserville 72.28 53 P **P** **19 13 48.9 +1.0**
KVN pmax pmax
comp=Z,27nm,0.7s
KWP Kalwaria Pacla 72.37 322 IAmb IAmb 19 13 50.6
comp=Z,27nm,0.8s
YHH Holmes Hill 72.40 45 P **P** **19 13 50.0 +1.3**
LHV Little Huntoon 72.57 54 IAmb IAmb 19 13 52.6
comp=Z,24nm,0.9s
NVAR Mina Array Bea 72.57 54 P **P** **19 13 51.1 +1.5**
NVAR Mina Array Bea 72.57 54 P **P** **19 13 51.5 +1.9**
comp=Z,11nm,0.7s,baz=293,slow=5.5,SNR=77
comp=Z,11nm,0.7s

YFT Old Faithful 72.64 45 IAmb IAmb 19 13 54.3
comp=Z,13nm,0.7s
NV11 Mina Array Sit 72.66 53 P **P** **19 13 51.3 +1.2**
BUR08 Bucovina Ar. S 72.66 320 P **P** **19 13 50.5 +0.6**
BUR08 IAmb IAmb 19 13 51.8
comp=Z,17nm,0.8s
BURAR Bucovina Array 72.67 320 ⇑P **P** **19 13 50.4 +0.4**
BURAR Bucovina Array 72.67 320 P **P** **19 13 50.6 +0.7**
BURAR IAmb IAmb 19 13 52.1
comp=Z,19nm,0.8s
BURAR Bucovina Array 72.67 320 P **P** **19 13 50.4 +0.4**
TESR Tescani 72.77 318 ⇑P **P** **19 13 50.6 +0.1**
LKWY Lake 72.79 45 IAmb IAmb 19 13 55.3
comp=Z,17nm,1.1s
H17A Grant Village 72.82 45 IAmb IAmb 19 13 55.2
comp=Z,24nm,0.9s
H17A Grant Village 72.82 45 P **P** **19 13 53.7 +2.6**
baz=314,SNR=15
IMW Indian Meadow 72.97 45 P **P** **19 13 53.4 +1.4**
IMW IAmb IAmb 19 13 55.1
comp=Z,14nm,0.8s
RLMT Red Lodge 72.98 44 P **P** **19 13 53.2 +1.2**
baz=315,SNR=5.5
DGMT Dagmar 73.03 39 P **P** **19 13 52.4 +0.5**
baz=317
BNN Bunyan 73.10 308 IAmb IAmb 19 13 55.2
comp=Z,38nm,0.9s
FXWY Fox Creek 73.11 46 P **P** **19 13 53.6 +0.9**
LAO LASA Array 73.37 41 P **P** **19 13 55.0 +1.0**
LAO IAmb IAmb 19 13 56.4
comp=Z,29nm,1.1s
LAO LASA Array 73.37 41 P **P** **19 13 55.0 +1.0**
baz=316
REDW Red Top Meadow 73.39 46 P **P** **19 13 55.2 +0.8**
TURR Turia 73.40 318 ⇑P **P** **19 13 54.7 +0.5**
GAZ Gaziantep 73.42 305 IAmb IAmb 19 13 57.0
comp=Z,15nm,0.9s
COVR Voineasa-Covas 73.46 318 ⇓P **P** **19 13 55.1 +0.6**
ARCR ARCALIA 73.46 320 ⇓P **P** **19 13 55.7 +1.2**
CRVS Cervenica-Dubn 73.46 323 *e*P **P** **19 13 55.7 +1.2**
CRVS pmax pmax
comp=Z,12nm,0.9s
CRVS Cervenica-Dubn 73.46 323 *e*P **P** **19 13 55.7 +1.2**
DSP Deep Springs 73.47 54 P **P** **19 13 55.6 +1.0**
OZUR 73.49 318 ⇓P **P** **19 13 55.8 +1.2**
SHAO Shalim 73.49 279 P **P** **19 13 56.0 +1.0**
TIN Tinemaha, Big 73.53 55 P **P** **19 13 56.6 +1.4**
baz=312
NIE Niedzica 73.59 324 *e*P **P** **19 13 56.8 +1.6**
LCH Last Change Ra 73.75 54 P **P** **19 13 58.0 +1.5**
BRTR Keskin Array B 73.78 309 P **P** **19 13 56.2 -0.4**
BRTR Keskin Array B 73.78 309 P **P** **19 13 57.2 +0.6**
comp=Z,3.5nm,0.7s,baz=46,slow=4.2,SNR=8.5
BRTR PP **PP** **19 16 45.8 +2.0**
comp=Z,5.8nm,0.9s,baz=66,slow=6.4,SNR=8.1
comp=Z,3.5nm,0.7s
VES Vestal, Richgr 73.81 56 P **P** **19 13 57.9 +1.2**
baz=312
MLR Muntele Rosu 73.84 318 ⇑P **P** **19 13 58.0 +1.1**
MLR Muntele Rosu 73.84 318 P **P** **19 13 58.0 +1.1**
SPUT South Promonto 73.95 48 P **P** **19 13 58.6 +0.9**
PKM Mcpherson Peak 74.00 57 P **P** **19 13 59.5 +1.4**
baz=312
BSEG Bad Segeberg 74.00 332 *e*P **P** **19 13 58.7 +1.3**
comp=Z,11nm,0.8s,baz=36,slow=5.6
CWC Cottonwood Cre 74.02 55 P **P** **19 13 59.4 +1.2**
baz=312
MESR Meseseni 74.08 321 ⇓P **P** **19 13 59.3 +1.3**
GRAC Grapevine Rang 74.08 54 IAmb IAmb 19 14 15.8
comp=Z,17nm,0.7s
GRAC Grapevine Rang 74.08 54 P **P** **19 13 59.9 +1.6**
baz=312
LANS Liptovska Anna 74.15 324 *e*P **P** **19 14 00.3 +1.8**
LANS pmax pmax
comp=Z,6.0nm,0.9s
LANS Liptovska Anna 74.15 324 *e*P **P** **19 14 00.3 +1.8**
Q12A Willow Creek R 74.18 51 IAmb IAmb 19 14 01.5
comp=Z,16nm,0.7s
DMTO DMTO 74.18 280 P **P** **19 13 58.9 -0.2**
DOK Doka 74.19 281 P **P** **19 13 59.1 0.0**
SNR=9.8
R11B Troy Canyon, C 74.21 52 P **P** **19 13 59.6 +0.4**
R11B Troy Canyon, C 74.21 52 P **P** **19 14 00.3 +1.1**
baz=313,SNR=13
HWUT Hardware Ranch 74.23 47 IAmb IAmb 19 14 01.9
comp=Z,19nm,0.9s
SGV South Grapevin 74.29 54 P **P** **19 14 01.7 +2.1**
VOIR 74.32 318 ⇑P **P** **19 14 00.4 +0.8**
VOIR 74.32 318 P **P** **19 14 00.4 +0.8**
MARR Marisel-Cluj 74.34 320 ⇓P **P** **19 14 00.6 +0.9**
BW06 Boulder Array 74.48 46 P **P** **19 14 01.7 +0.9**
baz=315,SNR=9.6
PDAR Pinedale Array 74.48 46 P **P** **19 14 00.5 -0.2**
PDAR Pinedale Array 74.48 46 P **P** **19 14 01.2 +0.5**
comp=Z,23nm,0.8s,baz=298,slow=1.9,SNR=130
comp=Z,23nm,0.8s
CHVC Chvalec 74.49 326 *e*P **P** **19 14 01.6 +1.2**
CHVC Chvalec 74.49 326 *e*P **P** **19 14 01.6 +1.2**
MORC Moravsky Berou 74.50 325 ⇑P **P** **19 14 01.4 +1.0**
MORC Moravsky Berou 74.50 325 IAmb IAmb 19 14 02.6
comp=Z,17nm,0.9s
MORC Moravsky Berou 74.50 325 *e*P **P** **19 14 01.6 +1.1**
MORC Moravsky Berou 74.50 325 P **P** **19 14 01.8 +1.3**
DUG Dugway, Tooele 74.52 49 P **P** **19 14 02.4 +1.5**
baz=314,SNR=15
DPC Dobruska-Polom 74.56 326 *e*P **P** **19 14 02.3 +1.5**
DPC *ex* x 19 14 07.7
DPC Dobruska-Polom 74.56 326 *e*P **P** **19 14 02.3 +1.5**
DPC *e* 19 14 07.7
KRLC Kraliky 74.58 326 *e*P **P** **19 14 01.8 +0.8**
KRLC Kraliky 74.58 326 *e*P **P** **19 14 01.8 +0.8**
MPMC Manual Prospec 74.63 55 P **P** **19 14 03.0 +1.4**
baz=312,SNR=7.4
STKA Stephens Creek 74.64 178 P **P** **19 14 02.9 +1.6**
comp=Z,1.9nm,0.5s,baz=343,slow=6.4,SNR=6.2
comp=Z,1.9nm,0.5s
TCUT Toone Canyon 74.65 48 P **P** **19 14 02.6 +0.8**
TCUT IAmb IAmb 19 14 04.3
comp=Z,22nm,0.8s
FURC Furnace Creek, **74.73 54** P **P** **19 14 03.7 +1.8**
baz=313,SNR=7.1
PSZ Piszkesteto 74.89 323 ⇓P **P** **19 14 04.1 +1.3**
PSZ Piszkesteto 74.89 323 P **P** **19 14 03.4 +0.6**
PSZ IAmb IAmb 19 14 05.1
comp=Z,18nm,1.1s
PSZ Piszkesteto 74.89 323 P **P** **19 14 03.4 +0.6**
PSZ pmax pmax
comp=Z,18nm,1.1s
WHFO Wadi Hawf 74.90 280 P **P** **19 14 03.0 -0.3**
SNR=6.7
LRMC Laurel Mtn Rad 74.91 56 P **P** **19 14 04.2 +1.0**
baz=312
VYHS Vyhne 74.92 324 *e*P **P** **19 14 04.2 +1.3**
VYHS pmax pmax
comp=Z,9.0nm,1.0s
VYHS Vyhne 74.92 324 *e*P **P** **19 14 04.2 +1.3**
FLTG Flechtingen 74.97 330 *e*P **P** **19 14 03.7 +0.7**
comp=Z,12nm,0.8s,baz=36,slow=5.6
QSM Queen of Sheba 75.07 55 P **P** **19 14 04.4 +0.5**
QSM IAmb IAmb 19 14 06.3
comp=Z,21nm,1.1s
BRG Berggiesshubel 75.10 328 *e*P **P** **19 14 04.9 +1.1**
BRG 19 14 10.1
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG Berggiesshubel 75.10 328 *e*P **P** **19 14 04.9 +1.1**
BRG Amp 19 14 05.8
comp=Z,5.3nm,0.9s
BRG Berggiesshubel 75.10 328 P P 19 14 10.2 +6.3
BRG Amp 19 14 13.0
comp=Z,4.1nm,0.7s
BRG Berggiesshubel 75.10 328 *e*P **P** **19 14 04.9 +1.1**
comp=Z,4.1nm,0.8s,baz=36,slow=5.6
EDW2 Edwards Air Fo 75.12 56 P **P** **19 14 05.6 +1.3**
baz=312,SNR=6.3
CLL Collm 75.12 329 P **P** **19 14 03.9 0.0**
CLL IAmb IAmb 19 14 12.7
comp=Z,14nm,0.7s
CLL Collm 75.12 329 P **P** **19 14 03.9 0.0**
CLL pmax pmax
comp=Z,14nm,0.7s
CLL Collm 75.12 329 *i* P **P** **19 14 04.0 +0.1**
comp=Z,19nm,1.0s
CLL *i* x x 19 14 08.9
CLL *i* x x 19 14 11.9
comp=Z,16nm,0.8s
CLL *ex* x 19 15 24.0
CLL *e*PP **PP** **19 16 56.0 +1.5**
CLL Collm 75.12 329 *e*P **P** **19 14 04.8 +0.9**
comp=Z,11nm,0.8s,baz=36,slow=5.6
CLL *e*pP **pP** **19 14 51.6 -2.9**
JAVC Velka Javorina 75.15 324 *e*P **P** **19 14 06.2 +2.0**
NRDL Niedersach Rie 75.24 331 *e*P **P** **19 14 05.8 +1.3**
comp=Z,4.7nm,0.8s,baz=36,slow=5.6
NRDL *e*PP **PP** **19 16 55.8 +0.4**
ULM Lac du Bonnet 75.25 33 P **P** **19 14 04.4 -0.4**
ULM IAmb IAmb 19 14 05.9
comp=Z,25nm,0.8s
ULM Lac du Bonnet 75.25 33 *i* P **P** **19 14 04.3 -0.4**
ULM Lac du Bonnet 75.25 33 P **P** **19 14 05.1 +0.4**
comp=Z,16nm,0.4s,baz=321,slow=6.7,SNR=37
comp=Z,16nm,0.4s
VRAC Vranov 75.25 325 ⇑P **P** **19 14 06.0 +1.3**
VRAC Vranov 75.25 325 *e*P **P** **19 14 06.0 +1.3**
VRAC Vranov 75.25 325 P **P** **19 14 06.0 +1.3**
MPU Maple Canyon 75.30 49 IAmb IAmb 19 14 07.8
comp=Z,15nm,0.8s
SIRR Siria 75.33 321 ⇓P **P** **19 14 06.1 +0.9**
ASSE Asse, Remlinge 75.33 330 *e*P **P** **19 14 06.1 +1.1**
comp=Z,3.1nm,0.8s,baz=36,slow=5.6
BSUT Blindstream Ca 75.41 48 P **P** **19 14 07.2 +0.9**
GZR Gura Zlata 75.45 319 ⇓P **P** **19 14 06.5 +0.5**
GZR Gura Zlata 75.45 319 P **P** **19 14 06.4 +0.5**
SURR Surduc 75.49 320 ⇑P **P** **19 14 06.9 +0.8**
HSKC Hora Svate Kat 75.51 328 *e*P **P** **19 14 07.1 +0.9**
SMOL Smolenice 75.51 324 *e*P **P** **19 14 08.2 +2.0**
GOPC GO Pecny, Ondr 75.52 327 *e*P **P** **19 14 08.1 +1.8**
GOPC GO Pecny, Ondr 75.52 327 *e*P **P** **19 14 08.1 +1.8**
KRUC Moravsky 75.53 325 *e*P **P** **19 14 07.4 +1.1**
MDND Maddock 75.55 37 P **P** **19 14 07.2 +0.7**
baz=320
GSC Goldstone, Bar 75.55 55 P **P** **19 14 08.1 +1.3**
baz=313
PRU Pruhonice 75.56 327 *e*P **P** **19 14 07.8 +1.3**
PRU *ex* x 19 14 12.1
PRU Pruhonice 75.56 327 *e*P **P** **19 14 07.8 +1.3**
PRU *e* 19 14 12.1
ABTO Aybut 75.61 280 P **P** **19 14 07.4 +0.1**
NEUB Neuenburg 75.67 329 *e*P **P** **19 14 08.1 +1.1**
comp=Z,13nm,0.8s,baz=36,slow=5.6
SRO Srobarova 75.67 323 *e*P **P** **19 14 08.8 +1.7**
SRO Srobarova 75.67 323 *e*P **P** **19 14 08.8 +1.7**
CLZ Clausthal 75.68 330 *e*P **P** **19 14 08.4 +1.3**
comp=Z,8.9nm,0.7s,baz=36,slow=5.6
BFSC Mount Baldy Ra 75.75 56 P **P** **19 14 09.2 +1.1**
baz=313
BZS Buzias 75.83 320 ⇓P **P** **19 14 08.6 +0.5**
BZS Buzias 75.83 320 P **P** **19 14 08.5 +0.5**
CIS Catalina Islan 75.85 58 P **P** **19 14 09.4 +0.9**
baz=312
TIM Timisoara 75.92 321 P P 19 14 02.9 -5.7
TUQ Turquoise Moun 75.99 55 P **P** **19 14 10.5 +1.1**
baz=313,SNR=7.8
MVU Marysvale 76.03 50 P **P** **19 14 10.5 +0.9**
MVU IAmb IAmb 19 14 12.6
comp=Z,33nm,0.9s
RDMU Red Mountain 76.03 47 IAmb IAmb 19 14 12.0
comp=Z,30nm,0.8s
MSU Marysvale 76.04 50 P **P** **19 14 11.0 +1.3**
MSU Marysvale 76.04 50 P **P** **19 14 11.0 +1.3**
SCI2 San Clemente I 76.06 58 P **P** **19 14 10.7 +1.2**
baz=313
GTTG Gottingen 76.07 330 *e*P **P** **19 14 10.6 +1.3**
comp=Z,7.7nm,0.9s,baz=36,slow=5.6
K22A Casper 76.13 44 P **P** **19 14 11.0 +1.0**
baz=317
HEC Hector,Ludlow 76.16 55 P **P** **19 14 11.3 +1.1**
baz=313,SNR=5.9
P17A Butcher Ranch, 76.17 49 IAmb IAmb 19 14 12.9
comp=Z,20nm,0.9s
MOX Moxa 76.18 329 *e*P **P** **19 14 10.9 +0.9**
comp=Z,4.5nm,1.0s,baz=36,slow=5.6
IBBN Ibbenburen 76.22 332 *e*P **P** **19 14 11.1 +1.0**
comp=Z,12nm,0.9s,baz=36,slow=5.6
RSSD Black Hills 76.29 42 P **P** **19 14 11.2 +0.2**
baz=318
Q16A Castle Valley 76.32 49 IAmb IAmb 19 14 13.9
comp=Z,28nm,1.5s
P18A Preston Nutter 76.33 48 P **P** **19 14 12.0 +0.6**
P18A IAmb IAmb 19 14 14.0
comp=Z,19nm,1.0s
MDVR Moldovita 76.41 320 ⇑P **P** **19 14 12.0 +0.6**
MURC Murrieta 76.47 57 P **P** **19 14 13.4 +1.5**
baz=313
RWWY Rawlins 76.47 45 P **P** **19 14 12.1 0.0**
RWWY IAmb IAmb 19 14 14.0
comp=Z,21nm,0.8s
MANZ Manzenberg 76.52 328 *e*P **P** **19 14 13.2 +1.2**
comp=Z,1.0nm,0.9s,baz=36,slow=5.6
SRU San Rafael Swe 76.54 49 IAmb IAmb 19 14 15.1
comp=Z,18nm,0.8s
CKRC Cesky Krumlov 76.58 326 *e*P **P** **19 14 13.3 +1.1**
CKRC Cesky Krumlov 76.58 326 *e*P **P** **19 14 13.3 +1.1**
GMRC Granite Mounta 76.59 55 P **P** **19 14 13.9 +1.2**
baz=313,SNR=7.8
KHC Kasperske Hory 76.62 327 P **P** **19 14 13.0 +0.5**
KHC Kasperske Hory 76.62 327 *ce*P **P** **19 14 13.8 +1.3**
KHC *ex* x 19 14 18.1
KHC Kasperske Hory 76.62 327 *ce*P **P** **19 14 14.0 +1.5**
KHC pmax pmax
comp=Z,23nm,1.0s
RONA Rosalia, Austr 76.63 324 *e*P **P** **19 14 14.0 +1.5**
comp=Z,4.1nm,0.7s
CONA Conrad Observa 76.63 325 *e*P **P** **19 14 14.3 +1.7**
comp=Z,2.0nm,0.5s
UBBA Unterbreizbach 76.64 330 *e*PP **PP** **19 17 07.7 +0.6**
ROTZ Rotzenmuhle 76.66 328 *e*P **P** **19 14 14.2 +1.6**
comp=Z,1.4nm,0.9s,baz=36,slow=5.6
PKCU Pink Cliffs 76.71 51 IAmb IAmb 19 15 17.0
comp=Z,27nm,1.3s
MORH Mrgy, Hungar 76.74 322 ⇓P **P** **19 14 13.3 +0.1**
AGMN Agassiz Nation 76.79 34 P **P** **19 14 13.6 +0.2**
baz=322
GEC2 GERESS Array S 76.80 327 *e*P **P** **19 14 14.5 +0.9**
comp=Z,2.3nm,0.7s,baz=36,slow=5.6
GEC2 *e*pP **pP** **19 15 04.3 -0.2**
GERES GERESS Array B 76.80 327 P **P** **19 14 14.2 +0.6**
comp=Z,1.5nm,0.6s,baz=34,slow=7.1,SNR=8.4
comp=Z,1.5nm,0.6s
WET Wettzell 76.89 327 *e*P **P** **19 14 15.6 +1.5**
comp=Z,6.1nm,0.9s,baz=36,slow=5.6
KASTN Kahler Asten 76.90 331 *e*P **P** **19 14 15.1 +1.1**
comp=Z,4.7nm,0.8s,baz=36,slow=5.6
PFO Pinyon Flats O 76.91 56 P **P** **19 14 15.2 +0.7**
baz=313
TPFO Pinon Flats 76.92 56 P **P** **19 14 14.9 +0.3**
baz=313
BELC Belle Mtn. Jos 76.92 56 P **P** **19 14 15.5 +0.9**
baz=313
EKA Eskdalemuir Ar 76.93 339 P **P** **19 14 14.6 +0.6**
comp=Z,0.4nm,0.3s,baz=30,slow=5.8,SNR=4.3
comp=Z,0.4nm,0.3s
O20A White River Ci 77.05 47 P **P** **19 14 16.2 +0.9**
baz=316
RAYN Ar Rayn 77.07 290 P **P** **19 14 15.7 +0.2**
RAYN IAmb IAmb 19 14 16.5
comp=Z,35nm,1.4s
RAYN Ar Rayn 77.07 290 *i* P **P** **19 14 15.6 +0.2**
SNR=20
RAYN Ar Rayn 77.07 290 P **P** **19 14 15.7 +0.2**
RAYN pmax pmax
comp=Z,35nm,1.5s
GRA1 Grafenberg Arr 77.10 328 IAmb IAmb 19 14 24.7
comp=Z,22nm,1.0s
GRF Grafenberg Arr 77.10 328 *e*P **P** **19 14 16.9 +1.7**
comp=Z,1.1nm,0.8s,baz=36,slow=5.6
GRF *e*PP **PP** **19 17 11.8 +0.7**
GRFO Grafenberg 77.10 328 P **P** **19 14 16.6 +1.5**
GRFO IAmb IAmb 19 14 24.6
comp=Z,26nm,1.1s
GRFO Grafenberg 77.10 328 P **P** **19 14 16.6 +1.5**
GRFO pmax pmax
comp=Z,26nm,1.1s
RDO Rodhopi 77.18 315 IAmb IAmb 19 14 17.8
comp=Z,17nm,1.0s
HMU Henry Mountain 77.25 50 P **P** **19 14 17.5 +1.0**
HMU IAmb IAmb 19 14 18.8
comp=Z,23nm,0.7s
ARSA Arzberg 77.31 325 *e*P **P** **19 14 16.6 +0.2**
comp=Z,0.5nm,0.3s
MMAI Mount Meron Ar 77.31 303 P **P** **19 14 17.8 +1.1**

comp=Z,14nm,0.8s,baz=46,slow=7.1,SNR=43
MMAI PP **PP** **19 17 14.1 +0.6**
comp=Z,3.7nm,0.9s,baz=52,slow=9.3,SNR=4.6
comp=Z,14nm,0.8s
IRM Iron Mountain 77.33 55 P **P** **19 14 18.1 +1.3**
baz=314
MONP2 Monument Peak 77.42 57 P **P** **19 14 19.0 +1.5**
baz=313
BC3 Big Chuckawall 77.49 56 P **P** **19 14 19.2 +1.4**
baz=314
B35A Bob, Littlefor 77.61 33 IAmb IAmb 19 14 19.2
comp=Z,37nm,1.2s
N23A Red Feather La 77.71 45 P **P** **19 14 19.8 +0.8**
baz=317
IKP In-Ko-Pah, Jac 77.78 57 P **P** **19 14 20.5 +1.2**
baz=314
PDMCI Parker Dam,Lak 77.83 54 P **P** **19 14 21.3 +1.9**
baz=314
SOKA Soboth 77.96 325 *eP* **P** **19 14 21.0 +1.0**
comp=Z,8.7nm,1.0s,SNR=5.4
GLA Glamis 78.29 56 P **P** **19 14 23.6 +1.5**
baz=314
LESA Schwarzleotal 78.35 326 *eP* **P** **19 14 23.3 +1.1**
comp=Z,13nm,1.2s
KBA Koelnbreinsper 78.35 326 *eP* **P** **19 14 23.5 +1.2**
comp=Z,7.8nm,1.0s
GHAJ Ghor Haditha 78.38 302 IAmb IAmb 19 14 24.6
comp=Z,24nm,1.1s
SUSD Miller 78.44 39 P **P** **19 14 23.2 +0.5**
baz=321
F33A 5 Mile Ranch, 78.54 36 IAmb IAmb 19 14 24.4
comp=Z,17nm,0.9s
WUAZ Wupatki 78.60 52 P **P** **19 14 25.4 +1.5**
baz=315
STU Stuttgart 78.62 329 *eP* **P** **19 14 24.1 +0.6**
comp=Z,24nm,0.9s,baz=36,slow=5.6
ISCO Idaho Springs 78.68 45 P **P** **19 14 24.6 +0.3**
ISCO Idaho Springs 78.68 45 P **P** **19 14 25.2 +0.8**
baz=318,SNR=5.5
ISCO Idaho Springs 78.68 45 P **P** **19 14 24.7 +0.3**
ISCO pmax pmax
comp=Z,8.0nm,0.9s
EYMN Ely 78.82 32 IAmb IAmb 19 14 25.9
comp=Z,25nm,1.1s
EYMN Ely 78.82 32 P **P** **19 14 25.0 +0.3**
baz=325
WATA Walderalm 78.86 327 *eP* **P** **19 14 26.3 +1.2**
comp=Z,10nm,1.3s
WTTA Wattenberg 78.90 327 *eP* **P** **19 14 26.0 +0.8**
comp=Z,5.5nm,0.9s
MVCO Mesa Verde 79.02 49 P **P** **19 14 27.0 +0.9**
baz=316,SNR=8.8
MOTA Moosalm 79.05 327 *eP* **P** **19 14 26.9 +0.9**
comp=Z,15nm,1.0s
RETA Reutte 79.07 327 *eP* **P** **19 14 27.3 +1.2**
comp=Z,13nm,1.0s
SQTA Sankt Quirin 79.11 327 *eP* **P** **19 14 27.4 +1.1**
comp=Z,7.7nm,0.9s
BFO Black Forest 79.31 329 *eP* **P** **19 14 28.5 +1.2**
comp=Z,4.0nm,0.8s,baz=36,slow=5.6
FETA Feichten 79.46 327 *eP* **P** **19 14 29.4 +1.1**
comp=Z,8.7nm,1.2s
K30B Basset 79.50 40 P **P** **19 14 29.8 +1.3**
Q24A Divide 79.54 46 P **P** **19 14 29.8 +0.8**
baz=318,SNR=5.8
DAVA Damuels 79.58 328 *eP* **P** **19 14 29.5 +0.6**
comp=Z,4.7nm,0.7s
OGNE Ogallala 79.65 43 IAmb IAmb 19 14 31.1
comp=Z,23nm,0.8s
OGNE Ogallala 79.65 43 P **P** **19 14 30.0 +0.7**
baz=319
SCHQ Schefferville 79.90 15 P **P** **19 14 31.0 +0.7**
comp=Z,3.6nm,0.7s,baz=17,slow=6.7,SNR=6.5
comp=Z,3.6nm,0.7s
FUORN Ofenpass-Fuorn 79.97 327 P **P** **19 14 31.9 +0.8**
ECSD EROS Data Cent 80.06 38 IAmb IAmb 19 14 32.8
comp=Z,18nm,0.8s
X18A Snowflake 80.12 52 IAmb IAmb 19 14 38.8
comp=Z,32nm,1.6s
SDCO Great Sand Dun 80.25 47 P **P** **19 14 33.9 +1.0**
baz=318
214A Organ Pipe Nat 80.27 55 P **P** **19 14 32.7 0.0**
baz=315
SPMN Marine on St. 80.51 35 P **P** **19 14 34.4 +0.7**
baz=324
D41A Chassel 80.68 31 P **P** **19 14 35.1 +0.6**
D41A IAmb IAmb 19 14 36.0
comp=Z,18nm,0.9s
BGNE Belgrade 81.17 40 P **P** **19 14 38.4 +1.1**
baz=321
TUC Tucson 81.22 54 P **P** **19 14 38.6 +0.7**
baz=316
I37A Lemond, Waseca 81.23 36 IAmb IAmb 19 14 39.2
comp=Z,20nm,0.8s
T25A Trinidad 81.28 47 P **P** **19 14 39.2 +0.9**
baz=318
G40A Rib Lake 81.53 33 P **P** **19 14 39.6 +0.5**
CBKS Cedar Bluff 82.42 43 P **P** **19 14 44.3 +0.4**
baz=321
I40A Norwalk 82.50 34 IAmb IAmb 19 14 45.3
comp=Z,18nm,0.9s
RTBA Rita Blanca 82.69 46 P **P** **19 14 45.8 +0.3**
121A Cookes Peak, D 82.81 52 P **P** **19 14 47.1 +0.8**
baz=317
E46A Sault Ste Mari 82.82 29 IAmb IAmb 19 14 48.6
comp=Z,22nm,1.2s
SCIA State Center 83.02 37 P **P** **19 14 47.2 +0.3**
baz=324
JFWS Jewell Farm 83.46 34 P **P** **19 14 49.4 +0.3**
baz=326
VLDQ Val d'Or 83.52 24 P **P** **19 14 48.7 -0.6**
VLDQ IAmb IAmb 19 14 49.9
comp=Z,36nm,1.3s
KSU1 Kansas State U 83.71 41 P **P** **19 14 51.1 +0.6**
baz=322
L40A Anamosa 83.75 35 IAmb IAmb 19 14 51.6
comp=Z,15nm,0.9s
GLMI Grayling 84.04 30 P **P** **19 14 52.5 +0.5**
baz=329
AMTX Amarillo 84.43 46 P **P** **19 14 55.2 +0.9**
baz=320
MSTX Muleshoe 84.54 48 P **P** **19 14 55.7 +0.9**
baz=320
P38A Dawn 84.72 38 IAmb IAmb 19 14 57.2
comp=Z,20nm,0.9s
MNTX Cornudas Mount 84.80 51 P **P** **19 14 57.0 +1.0**
baz=318
L44A Lake County Fo 85.02 33 P **P** **19 14 57.3 +0.4**
baz=327
P40A Paris 85.47 37 P **P** **19 14 59.2 0.0**
P40A IAmb IAmb 19 15 01.0
comp=Z,23nm,0.9s
HDIL Hopedale 85.81 35 P **P** **19 15 01.2 +0.3**
baz=327
WMOK Wichita Mounta 86.06 45 P **P** **19 15 02.9 +0.6**
baz=322
TRQ Mont Tremblant 86.07 23 P **P** **19 15 02.4 +0.2**
TRQ IAmb IAmb 19 15 03.4
comp=Z,23nm,1.1s
R40A Maddies Statio 86.38 38 IAmb IAmb 19 15 05.1
comp=Z,9.4nm,0.7s
TUL3 Leonard 86.64 42 P **P** **19 15 05.7 +0.7**
baz=323
SFIN Lafayette 86.87 34 P **P** **19 15 06.0 -0.1**
baz=328
CCM Cathedral Cave 87.03 38 P **P** **19 15 07.9 +1.0**
CCM IAmb IAmb 19 15 08.4
comp=Z,13nm,0.8s
CCM Cathedral Cave 87.03 38 P **P** **19 15 07.1 +0.2**
baz=326
CCM Cathedral Cave 87.03 38 P **P** **19 15 07.9 +1.0**
CCM pmax pmax
comp=Z,13nm,0.8s
ABTX Abilene, Hawle 87.25 46 P **P** **19 15 08.3 +0.2**
baz=321
LONY Lake Ozonia 87.53 24 P **P** **19 15 08.9 -0.2**
baz=336
TXAR Lajitas Array 87.55 51 P **P** **19 15 10.8 +1.2**
comp=Z,0.8nm,0.6s,baz=290,slow=2.9,SNR=10
comp=Z,0.8nm,0.6s
N49A Columbus Grove 87.56 32 IAmb IAmb 19 15 11.2
comp=Z,20nm,0.8s
O48B Farmland 87.75 33 P **P** **19 15 10.6 +0.3**
baz=329
ERPA Erie 88.05 28 P **P** **19 15 12.1 +0.5**
baz=332
P48A Milroy 88.33 33 P **P** **19 15 13.4 +0.4**
P48A IAmb IAmb 19 15 15.1
comp=Z,9.8nm,0.8s
PKME Peaks-Kenny Pk 88.36 20 P **P** **19 15 13.5 +0.5**
baz=339
M53A WI Miller and 88.40 29 P **P** **19 15 13.6 +0.3**
baz=332
FCAR Ozark Folk Cen 88.41 40 IAmb IAmb 19 15 14.7
comp=Z,16nm,1.1s
PBMO Poplar Bluff 88.45 38 IAmb IAmb 19 15 15.4
comp=Z,14nm,0.8s
P49A Miami Univ. Ec 88.54 33 IAmb IAmb 19 15 15.8
comp=Z,21nm,0.9s
P49A Miami Univ. Ec 88.54 33 P **P** **19 15 14.4 +0.4**
baz=329,SNR=5.1
ACSO Alum Creek Sta 88.61 31 P **P** **19 15 14.7 +0.4**
ACSO Alum Creek Sta 88.61 31 P **P** **19 15 15.1 +0.8**
baz=330
PPT2 Papeete2 88.66 116 *eLR* LR 19 43 47.5
comp=Z,111nm,25.5s
PPT2 *eLR* LR 19 43 48.7
comp=Z,73nm,22.2s
MIAR Mount Ida 88.81 41 P **P** **19 15 16.5 +1.2**
baz=324
WHAR Wooly Hollow 88.82 40 IAmb IAmb 19 15 16.9
comp=Z,8.6nm,0.7s
JCT Junction City 88.83 48 P **P** **19 15 16.8 +1.2**
baz=321
WCI Wyandotte Cave 89.02 34 P **P** **19 15 17.4 +1.1**
baz=328
O52A Adamsville 89.14 30 P **P** **19 15 16.1 -0.6**
O52A IAmb IAmb 19 15 18.6
comp=Z,22nm,0.8s
O53A New Philadelph 89.25 30 P **P** **19 15 18.4 +1.1**
baz=332,SNR=6.1
BINY Binghamton 89.30 26 P **P** **19 15 18.6 +1.1**
baz=335
P52A Corning 89.45 31 P **P** **19 15 18.9 +0.6**
baz=331
Q51A Peebles 89.52 32 IAmb IAmb 19 15 20.6
comp=Z,20nm,0.8s
O54A Avella 89.62 29 P **P** **19 15 19.5 +0.5**
O54A IAmb IAmb 19 15 21.2
comp=Z,18nm,0.8s
M57A Sunshine Farm, 89.71 27 IAmb IAmb 19 15 21.1
comp=Z,16nm,0.8s
T47A Sharon Grove 89.73 36 P **P** **19 15 20.0 +0.4**
T47A IAmb IAmb 19 15 21.6
comp=Z,15nm,0.8s
R50A Paris 89.78 33 IAmb IAmb 19 15 21.8
comp=Z,10.0nm,0.8s
P53A Whipple 89.86 30 IAmb IAmb 19 15 22.7
comp=Z,29nm,1.2s
L61B Northampton 90.07 23 P **P** **19 15 21.4 +0.3**
baz=337
SSPA Standing Stone 90.08 27 P **P** **19 15 22.3 +1.1**
SSPA IAmb IAmb 19 15 23.2
comp=Z,28nm,1.2s
SSPA Standing Stone 90.08 27 P **P** **19 15 21.5 +0.4**
baz=334
WVT Waverly 90.14 37 P **P** **19 15 22.8 +1.3**
WVT Waverly 90.14 37 P **P** **19 15 22.3 +0.8**
baz=328
WVT Waverly 90.14 37 P **P** **19 15 22.8 +1.3**
WVT pmax pmax
comp=Z,7.0nm,0.8s
MCWV Mont Chateau 90.27 29 P **P** **19 15 22.9 +0.8**
baz=332
HRV Adam Dziewonsk 90.33 22 P **P** **19 15 22.7 +0.5**
baz=338
U49A Red Boiling Sp 90.70 35 P **P** **19 15 23.7 -0.3**
OXF Oxford 90.79 38 P **P** **19 15 25.3 +0.8**
baz=327
ESDC Sonseca Array 91.21 333 P **P** **19 15 29.3 +2.8**
comp=Z,0.3nm,0.3s,baz=6.0,slow=4.0,SNR=2.8
ESDC PP **PP** **19 19 06.8 +1.1**
comp=Z,1.9nm,0.9s,baz=17,slow=8.3,SNR=6.5
BLA Blacksburg 92.22 31 P **P** **19 15 31.6 +0.5**
baz=332
TBI Tubuai 92.86 119 *eLR* LR 19 45 50.9
comp=Z,580nm,34.2s
TORD Torodi Ar. Bea 111.99 315 PP **PP** **19 21 40.0 -1.9**
comp=Z,11nm,1.0s,baz=32,slow=10,SNR=28
PET01 Itanhaem-SP 160.43 19 *eP* **PKPdf** **19 22 20.8 +1.2**

*BJI **23** 19:08:01.0±0.0, 17°.39S×178°.17W, h546km, mb4.8/46, mB4.9/21*
*NEIC **23** 19:08:02.0±2.1, 17°.67S±0°.09×178°.6W±0°.1, h539km±6km, mb4.7/321, Error ellipse: s-maj=14.5km s-min=13.0km az=132.0*
*IDC **23** 19:08:01.6±1.0, 17°.66S×178°.73W, h531km±10km, mb4.1/23, mbtmp4.9/26, Error ellipse: s-maj=9.8km s-min=8.2km az=112.0*
*NOU **23** 19:08:02.1, 17°.62S×178°.50W, h547km, ML5.0/93, Fiji Islands Region*
*BGR **23** 19:08:04.3, 17°.08S×178°.42W, h540km*
ISC 23 19:08:01.8±0.5, **17°.63S**±0°.05×**178°.59W**±0°.05,
h539km±6km, **n886**, σ0°.**91**/823, **mb4.7**/234, **19C-18D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
TAVE	**Taveuni**	**1.56**	**306**	P	**P**		**19 09 11.1**	**+2.3**
DGTI	**Dogotuki**	**2.08**	**309**	P	**P**		**19 09 12.6**	**+1.7**
MSVF	**Nonsavu**	**3.21**	**268**	P	**P**		**19 09 20.3**	**+2.9**
NIUE	**Niue**	**8.35**	**101**	P	**P**		**19 10 03.9**	**+1.1**
baz=8.3,SNR=27								
NIUE	**Niue**	**8.35**	**101**	P	**P**		**19 10 03.9**	**+1.1**
FUNA	**Funafuti**	**9.30**	**346**	P	**P**		**19 10 12.4**	**-0.1**
RAO	**Raoul Island**	**11.59**	**177**	P	**P**		**19 10 35.4**	**-0.5**
219nm,0.3s,baz=61,slow=23,SNR=2.5								
RAO				S	**S**		**19 12 42.8**	**0.0**
153nm,0.4s,baz=90,slow=23,SNR=1.4								
MARNC	**Mare, Loyalty**	**13.18**	**251**	P	**P**		**19 10 54.2**	**+1.6**
MARNC	**Mare, Loyalty**	**13.18**	**251**	P	**P**		**19 10 52.2**	**-0.4**
LIFNC	**LIFOU**	**13.75**	**255**	P	**P**		**19 10 57.2**	**-1.3**
PINNC	**Pines Island,**	**14.02**	**247**	P	**P**		**19 11 01.7**	**+0.4**
OUENC	**Ouen Island, N**	**14.50**	**248**	P	**P**		**19 11 07.4**	**+1.1**
OUENC	**Ouen Island, N**	**14.50**	**248**	P	**P**		**19 11 05.2**	**-1.0**
DZM	**Mont Dzumac**	**14.76**	**250**	P	**P**		**19 11 08.8**	**-0.3**
DZM	**Mont Dzumac**	**14.76**	**250**	P	**P**		**19 11 07.9**	**-1.2**
29nm,0.7s,baz=78,slow=18,SNR=17								
DZM				S	**S**		**19 13 44.6**	**+1.1**
46nm,1.3s,baz=7.1,slow=23,SNR=2.6								
NOUC	**Port Laguerre**	**14.89**	**250**	P	**P**		**19 11 11.9**	**+1.5**
KOUNC	**Koumac, New Ca**	**16.45**	**257**	P	**P**		**19 11 26.2**	**+0.2**
KOUNC	**Koumac, New Ca**	**16.45**	**257**	P	**P**		**19 11 25.8**	**-0.2**
RAR	**Rarotonga**	**18.10**	**104**	P	**P**		**19 11 41.2**	**+0.1**
RAR	**Rarotonga**	**18.10**	**104**	P	**P**		**19 11 43.0**	**+1.9**
32nm,0.9s,baz=277,slow=8.1,SNR=5.2								
GRZ	**Great Barrier**	**19.29**	**195**	P	**P**		**19 11 53.7**	**+1.9**
WIAZ	**Waiheke Island**	**19.88**	**195**	P	**P**		**19 11 59.5**	**+2.3**
MBAZ	**Motutapu North**	**19.92**	**196**	P	**P**		**19 12 00.4**	**+2.9**
RVAZ	**Riverhead Bore**	**20.00**	**196**	P	**P**		**19 12 01.8**	**+3.5**
MXZ	**Matakaoa Point**	**20.05**	**187**	P	**P**		**19 11 59.2**	**+0.5**
MXZ	**Matakaoa Point**	**20.05**	**187**	P	**P**		**19 11 59.1**	**+0.5**
MKAZ	**Moumakai**	**20.17**	**195**	P	**P**		**19 12 01.7**	**+2.0**
AWAZ	**Awhitu Peninsu**	**20.26**	**196**	P	**P**		**19 12 02.7**	**+2.1**
WMGZ	**Waiomatatini S**	**20.29**	**187**	P	**P**		**19 12 01.2**	**+0.3**
HAZ	**Te Kaha**	**20.30**	**188**	P	**P**		**19 12 00.4**	**-0.6**
TOZ	**Tahuroa Road**	**20.69**	**193**	P	**P**		**19 12 05.6**	**+1.2**
URZ	**Urewera**	**20.90**	**190**	P	**P**		**19 12 04.5**	**-1.8**
65nm,0.6s,baz=37,slow=2.1,SNR=45								
URZ				S	**S**		**19 15 22.2**	**-2.0**
13nm,0.8s,baz=91,slow=20,SNR=3.0								
65nm,0.6s								
RTZ	**Ruatahuna**	**21.27**	**190**	P	**P**		**19 12 06.9**	**-2.9**
BKZ	**Black Stump Fm**	**21.88**	**190**	P	**P**		**19 12 15.3**	**0.0**
BKZ	**Black Stump Fm**	**21.88**	**190**	P	**P**		**19 12 13.4**	**-1.9**
BKZ				IAmb	IAmb		19 12 26.4	
comp=Z,17nm,0.6s								
HNR	**Honiara**	**22.39**	**289**	P	**P**		**19 12 21.1**	**+1.0**
BFZ	**Birch Farm**	**23.40**	**190**	P	**P**		**19 12 28.3**	**-0.5**
BFZ	**Birch Farm**	**23.40**	**190**	P	**P**		**19 12 26.4**	**-2.4**
MRZ	**Mangatainoka R**	**23.50**	**191**	P	**P**		**19 12 27.7**	**-1.9**
MRZ				IAmb	IAmb		19 12 31.4	
comp=Z,21nm,0.8s								
TCW	**Tory Channel**	**24.29**	**193**	P	**P**		**19 12 35.5**	**-1.1**
SNZO	**South Karori**	**24.30**	**192**	P	**P**		**19 12 36.7**	**0.0**
SNZO	**South Karori**	**24.30**	**192**	P	**P**		**19 12 35.9**	**-0.8**
QRZ	**Quartz Range**	**24.35**	**197**	P	**P**		**19 12 37.7**	**+0.5**
QRZ	**Quartz Range**	**24.35**	**197**	P	**P**		**19 12 37.5**	**+0.3**
BHW	**Baring Head**	**24.36**	**192**	P	**P**		**19 12 36.0**	**-1.3**
TKNZ	**Takaka Hill**	**24.43**	**196**	P	**P**		**19 12 37.2**	**-0.8**
TUWZ	**Tuamarina**	**24.57**	**194**	P	**P**		**19 12 37.5**	**-1.6**

MRNZ Matariki Terra 24.83 196 P **P** **19 12 40.9 -0.5**
BSWZ Blackbirch Sta 24.86 194 P **P** **19 12 41.5 -0.2**
THZ Tophouse 25.14 195 P **P** **19 12 43.2 -1.0**
DSZ Denniston Nort 25.41 197 P **P** **19 12 46.6 0.0**
KHZ Kahutara 25.61 194 P **P** **19 12 46.9 -1.3**
CTZ Chatham Island 26.08 177 P **P** **19 12 52.7 +0.3**
CTZ Chatham Island 26.08 177 P **P** **19 12 54.2 +1.8**
GVZ Greta Valley S 26.24 194 P **P** **19 12 52.3 -1.6**
LTZ Lake Taylor 26.25 195 P **P** **19 12 52.6 -1.5**
INZ Inchbonnie 26.42 197 P **P** **19 12 54.7 -0.7**
AMCZ Amberley 26.53 194 P **P** **19 12 55.4 -1.0**
OXZ Oxford 26.82 195 P **P** **19 12 58.4 -0.6**
RPZ Rata Peaks 27.44 196 P **P** **19 13 03.3 -1.1**
RPZ Rata Peaks 27.44 196 P **P** **19 13 03.2 -1.3**
FOZ Fox Glacier 27.63 198 P **P** **19 13 05.4 -0.6**
LBZ Lake Benmore 28.30 197 P **P** **19 13 10.0 -2.0**
JCZ Jackson Bay 28.43 199 P **P** **19 13 13.2 0.0**
XMAS Kiritimati 28.57 49 P **P** **19 13 14.1 -0.6**
ODZ Otahua Downs 28.79 196 P **P** **19 13 15.2 -0.9**
ODZ Otahua Downs 28.79 196 P **P** **19 13 15.2 -0.9**
ODZ IAmb IAmb 19 13 16.2
comp=Z,32nm,1.0s
WKZ Wanaka 29.04 198 P **P** **19 13 17.8 -0.7**
EIDS Eidsvold 29.20 249 P **P** **19 13 19.8 -0.3**
baz=29,SNR=21
EIDS Eidsvold 29.20 249 P **P** **19 13 19.9 -0.2**
MLZ Mavora Lakes 29.80 199 P **P** **19 13 25.8 +0.8**
ARMA Armidale 29.93 239 P **P** **19 13 26.9 +0.4**
baz=30,SNR=31
ARMA Armidale 29.93 239 P **P** **19 13 27.6 +1.1**
ARMA Armidale 29.93 239 P **P** **19 13 27.6 +1.1**
DCZ Deep Cove 30.20 200 P **P** **19 13 28.1 -0.2**
DCZ IAmb IAmb 19 13 35.2
comp=Z,30nm,0.8s
WHZ Wether Hill Ro 30.33 199 P **P** **19 13 29.9 +0.4**
SYZ Scrubby Hill 30.57 197 P **P** **19 13 31.5 0.0**
PYZ Puysegur Point 30.98 200 P **P** **19 13 34.9 -0.1**
MGCD Mangrove Creek 31.32 234 P **P** **19 13 39.6 +1.4**
baz=31,SNR=8.0
MGCD Mangrove Creek 31.32 234 P **P** **19 13 39.3 +1.1**
RMQ Roma 31.45 248 P **P** **19 13 39.8 +0.4**
baz=32,SNR=4.9
TV1H Townsville Har 32.85 262 P **P** **19 13 50.9 -0.5**
CTA Charters Tower 33.33 260 P **P** **19 13 55.0 -0.4**
comp=Z,44nm,0.7s,baz=90,slow=5.3,SNR=20
CTA PcP **PcP** **19 16 22.1 +0.5**
comp=Z,5.3nm,0.6s,baz=91,slow=3.7,SNR=2.1
CTA ScP **ScP** **19 19 17.3 +2.2**
comp=Z,11nm,1.0s,baz=89,slow=2.6,SNR=3.3
comp=Z,44nm,0.7s
CTAO Charters Tower 33.33 260 P **P** **19 13 55.1 -0.4**
CTAO Charters Tower 33.33 260 P **P** **19 13 55.3 -0.1**
PATS Pohnpei 33.34 315 P **P** **19 13 55.5 -0.1**
CNB Canberra Magne 33.46 232 P **P** **19 13 57.7 +1.2**
baz=34,SNR=14
CNB Canberra Magne 33.46 232 P **P** **19 13 57.8 +1.3**
CAN Canberra 33.74 232 P **P** **19 13 59.7 +0.9**
CAN Canberra 33.74 232 P **P** **19 13 59.2 +0.4**
CAN IAmb IAmb 19 14 00.6
comp=Z,42nm,1.5s
PMG Port Moresby 34.25 279 P **P** **19 14 03.6 +0.4**
CMSA Cobar Meteorol 35.14 240 P **P** **19 14 11.0 +0.5**
baz=35,SNR=37
CMSA Cobar Meteorol 35.14 240 P **P** **19 14 11.0 +0.5**
MTSU Mount Surprise 35.27 263 P **P** **19 14 11.3 -0.4**
baz=35,SNR=30
JOHN Johnston Islan 35.29 15 P **P** **19 14 10.3 -1.5**
QLP Quilpie 35.48 249 P **P** **19 14 13.3 0.0**
baz=36,SNR=13
QLP Quilpie 35.48 249 P **P** **19 14 13.4 0.0**
MANU Manus Island 36.84 291 P **P** **19 14 25.8 +1.0**
MANU Manus Island 36.84 291 P **P** **19 14 25.7 +0.9**
GLAD Gladstone 36.93 224 P **P** **19 14 26.0 +0.9**
COEN Coen 36.93 270 P **P** **19 14 26.0 +0.4**
baz=37,SNR=64
COEN Coen 36.93 270 P **P** **19 14 25.9 +0.4**
COEN Coen 36.93 270 P **P** **19 14 25.9 +0.4**
TOO Toolangi 37.22 230 P **P** **19 14 28.7 +1.2**
baz=37,SNR=15
TOO Toolangi 37.22 230 P **P** **19 14 28.8 +1.2**
TOO Toolangi 37.22 230 P **P** **19 14 28.7 +1.2**
TOO IAmb IAmb 19 14 30.3
comp=Z,48nm,1.3s
MOO Moorlands 38.18 222 P **P** **19 14 36.3 +1.0**
baz=38,SNR=3.6
MOO Moorlands 38.18 222 P **P** **19 14 36.3 +1.0**
TAU Tasmania Unive 38.34 222 P **P** **19 14 37.3 +0.8**
TAU Tasmania Unive 38.34 222 P **P** **19 14 36.0 -0.5**
STKA Stephens Creek 38.62 241 P **P** **19 14 40.0 +1.0**
baz=39,SNR=42
STKA Stephens Creek 38.62 241 P **P** **19 14 40.0 +1.0**
STKA Stephens Creek 38.62 241 P **P** **19 14 40.0 +1.0**
STKA IAmb IAmb 19 14 40.8
comp=Z,14nm,1.1s
STKA Stephens Creek 38.62 241 P **P** **19 14 39.9 +1.0**
comp=Z,25nm,0.5s,baz=77,slow=9.8,SNR=64
STKA ScP **ScP** **19 19 37.6 +3.0**
comp=Z,3.7nm,0.9s,baz=90,slow=6.1,SNR=2.9
comp=Z,25nm,0.5s
INKA Innaminka 38.70 248 P **P** **19 14 40.6 +0.9**
QIS Mount Isa 39.54 259 P **P** **19 14 45.9 -0.7**
baz=40,SNR=7.5
QIS Mount Isa 39.54 259 P **P** **19 14 45.8 -0.9**
ARPS Mount Arapiles 39.68 233 P **P** **19 14 48.3 +0.8**
baz=40,SNR=5.8
ARPS Mount Arapiles 39.68 233 P **P** **19 14 48.1 +0.6**
MCQ Macquarie Isla 40.66 200 P **P** **19 14 55.0 0.0**
HTT Hallett 41.14 239 P **P** **19 15 00.0 +0.7**
baz=41,SNR=26
HTT Hallett 41.14 239 P **P** **19 14 59.8 +0.5**
TABU Tabubil 41.16 282 P **P** **19 15 00.5 +0.8**
LCRK Leigh Creek 41.23 244 P **P** **19 15 00.1 +0.2**
GHSS Government Hou 41.72 237 P **P** **19 15 04.6 +0.8**
JAY Jayapura 42.67 286 P **P** **19 15 12.2 +0.6**
comp=Z,169nm,1.1s,comp=Z,2μm
KHU Kahuku 43.04 33 P **P** **19 15 14.6 +0.1**
GENI Genyem 43.13 286 P **P** **19 15 16.4 +1.3**
GENI Genyem 43.13 286 P **P** **19 15 16.2 +1.1**
comp=Z,529nm,0.7s,comp=Z,5μm
OOD Oodnadatta 43.16 248 P **P** **19 15 16.1 +0.9**
KHLU Kahalu`u 43.18 32 P **P** **19 15 16.0 +0.5**
HUH Hualalai 43.29 32 P **P** **19 15 17.1 +0.5**
MLOA Mauna Loa Obse 43.30 33 P **P** **19 15 16.9 +0.1**
MLH Mauna Loa 43.36 33 P **P** **19 15 17.7 +0.6**
BBOO Buckleboo 43.39 241 P **P** **19 15 17.2 +0.2**
baz=44,SNR=43
BBOO Buckleboo 43.39 241 P **P** **19 15 17.1 +0.2**
BBOO Buckleboo 43.39 241 P **P** **19 15 17.2 +0.2**
HMH Humu'ula Sheep 43.40 33 P **P** **19 15 18.3 +0.8**
HPAH Hawaii Prepara 43.65 32 P **P** **19 15 19.3 +0.2**
MHA Mahukona 43.68 32 P **P** **19 15 20.1 +0.9**
WR0 Warramunga Arr 44.33 259 P **P** **19 15 23.7 -0.7**
WR0 IAmb IAmb 19 15 24.5
comp=Z,54nm,1.3s
WB0 Warramunga Arr 44.48 260 P **P** **19 15 24.8 -0.8**
WB0 IAmb IAmb 19 15 25.6
comp=Z,48nm,0.9s
WC3 Warramunga Arr 44.48 259 P **P** **19 15 24.7 -0.9**
baz=44
WB2 Warramunga Arr 44.51 259 P **P** **19 15 24.8 -1.0**
WRAB Tennant Creek 44.51 259 P **P** **19 15 25.1 -0.6**
WRAB IAmb IAmb 19 15 25.8
comp=Z,36nm,0.7s
WRAB PcP **PcP** **19 16 56.4 -1.1**
WRA Warramunga Arr 44.52 259 P **P** **19 15 24.7 -1.2**
WRA PcP **PcP** **19 16 55.9 -1.6**
WRA Warramunga Arr 44.52 259 P **P** **19 15 24.7 -1.2**
comp=Z,34nm,0.7s,baz=95,slow=7.1,SNR=240
WRA PcP **PcP** **19 16 56.5 -1.0**
comp=Z,2.7nm,0.7s,baz=100,slow=3.2,SNR=4.8
WRA ScP **ScP** **19 20 00.3 +1.9**
comp=Z,4.8nm,0.8s,baz=90,slow=3.5,SNR=7.0
WRA S **S** **19 21 17.6 -4.8**
comp=Z,2.1nm,0.7s,baz=97,slow=12,SNR=4.9
comp=Z,34nm,0.7s
AS01 Alice Springs 44.66 254 P **P** **19 15 26.8 -0.1**
AS31 Alice Springs 44.70 254 P **P** **19 15 27.1 -0.1**
ASAR Alice Springs 44.70 254 P **P** **19 15 27.3 0.0**
ASAR Alice Springs 44.70 254 P **P** **19 15 26.9 -0.3**
comp=Z,252nm,0.6s,baz=87,slow=8.2,SNR=2033
ASAR PcP **PcP** **19 16 58.5 +0.3**
comp=Z,9.6nm,0.6s,baz=102,slow=4.2,SNR=5.7
ASAR ScP **ScP** **19 20 01.6 +2.4**
comp=Z,3.6nm,0.8s,baz=101,slow=4.5,SNR=5.2

ASAR S S 19 21 21.6 -3.3
comp=Z,11nm,0.9s,baz=88,slow=16,SNR=29
ASPA Alice Springs 44.71 254 P P 19 15 26.6 -0.7
baz=45
MULG Mulgathing 44.78 245 P P 19 15 27.6 -0.1
KDU Kakadu 47.39 269 P P 19 15 47.3 -0.4
baz=47,SNR=29
KDU Kakadu 47.39 269 P P 19 15 47.4 -0.4
GUMO Guam 47.57 308 P P 19 15 49.3 +0.3
GUMO Guam 47.57 308 P P 19 15 49.3 +0.3
comp=Z,166nm,0.6s,baz=139,slow=9.3,SNR=6.3
MTN Manton Dam 48.64 268 P P 19 15 56.3 -0.7
baz=49,SNR=41
MTN Manton Dam 48.64 268 P P 19 15 56.4 -0.7
MTN Manton Dam 48.64 268 P P 19 15 56.0 -1.1
MTN PcP PcP 19 17 11.3 -1.0
DRS Darwin Rock St 48.95 269 P P 19 15 58.7 -0.6
SAUI Saumlaki 49.67 274 P P 19 16 04.8 +0.1
SAUI Saumlaki 49.67 274 P P 19 16 05.0 +0.3
comp=Z,223nm,0.8s
WRKA Warakurna 49.77 252 P P 19 16 05.2 -0.2
baz=50,SNR=124
WRKA Warakurna 49.77 252 P P 19 16 05.3 0.0
FORT Forrest 49.97 244 P P 19 16 06.3 -0.4
baz=50,SNR=39
FORT Forrest 49.97 244 P P 19 16 06.4 -0.2
FORT Forrest 49.97 244 P P 19 16 06.5 -0.2
FORT PcP PcP 19 17 17.4 +0.3
FAKI Fak Fak 50.36 281 P P 19 16 09.5 -0.2
FAKI Fak Fak 50.36 281 P P 19 16 09.0 -0.7
FAKI Fak Fak 50.36 281 P P 19 16 09.7 0.0
comp=Z,52nm,1.2s
SWI Sorong 52.02 283 P P 19 16 22.0 +0.3
comp=Z,535nm,0.8s,comp=Z,4μm
FITZ Fitzroy Crossi 52.91 260 P P 19 16 28.2 +0.1
baz=53,SNR=20
FITZ Fitzroy Crossi 52.91 260 P P 19 16 28.0 -0.1
FITZ Fitzroy Crossi 52.91 260 P P 19 16 27.9 -0.2
NLAI Namlea 55.09 279 P P 19 16 43.3 -0.2
comp=Z,98nm,0.9s,comp=Z,6μm
KMBL Kambalda 55.28 244 P P 19 16 43.9 -0.8
baz=55,SNR=10
KMBL Kambalda 55.28 244 P P 19 16 44.1 -0.6
LBMI Labuha 55.60 282 P P 19 16 47.6 +0.5
comp=Z,208nm,0.8s,comp=Z,2μm
SOEI Soe 55.90 270 P P 19 16 50.6 +1.3
SOEI Soe 55.90 270 P P 19 16 50.3 +1.0
SOEI Soe 55.90 270 P P 19 16 50.4 +1.1
comp=Z,343nm,0.8s,comp=Z,3μm
TNTI Ternate 56.23 283 P P 19 16 52.0 +0.5
TNTI Ternate 56.23 283 P P 19 16 51.2 -0.3
TNTI Ternate 56.23 283 P P 19 16 51.9 +0.5
comp=Z,139nm,0.9s,comp=Z,1μm
BATI Baumata 56.36 269 P P 19 16 53.6 +1.2
comp=Z,101nm,0.8s
SANI Sanana 56.53 279 P P 19 16 53.1 -0.4
SANI Sanana 56.53 279 P P 19 16 53.3 -0.2
comp=Z,148nm,0.8s,comp=Z,1μm
PSA00 Pilbara Seismi 57.81 255 P P 19 17 01.8 -0.4
PSA00 Pilbara Seismi 57.81 255 P P 19 17 01.9 -0.4
PSA00 Pilbara Seismi 57.81 255 P P 19 17 01.7 -0.4
PSA00 IAmb IAmb 19 17 02.7
comp=Z,33nm,0.9s
MBWA Marble Bar 57.98 256 P P 19 17 02.9 -0.4
MBWA Marble Bar 57.98 256 P P 19 17 02.4 -0.9
MBWA IAmb IAmb 19 17 03.3
comp=Z,43nm,0.8s
MMRI Maumere 58.12 271 P P 19 17 03.5 -1.0
MMRI Maumere 58.12 271 P P 19 17 03.4 -1.0
comp=Z,127nm,0.8s,comp=Z,1μm
MEEK Meekatharra 58.37 249 P P 19 17 05.2 -0.7
baz=58,SNR=12
MEEK Meekatharra 58.37 249 P P 19 17 05.3 -0.7
EDFI Ende, Flores 58.62 270 P P 19 17 07.4 -0.4
comp=Z,99nm,0.9s
KLBR Kellerberrin 58.80 243 P P 19 17 08.2 -0.5
baz=59,SNR=24
KLBR Kellerberrin 58.80 243 P P 19 17 08.5 -0.2
NWAO Narrogin (SRO) 59.19 242 P P 19 17 11.2 -0.1
baz=59,SNR=6.2
NWAO P P 19 17 11.2 -0.1
baz=59,SNR=6.2
NWAO Narrogin (SRO) 59.19 242 P P 19 17 11.3 -0.1
NWAO Narrogin (SRO) 59.19 242 P P 19 17 11.1 -0.3
NWAO Narrogin (SRO) 59.19 242 P P 19 17 11.0 -0.3
NWAO IAmb IAmb 19 17 46.4
comp=Z,49nm,1.4s
KMSI Cibinong 59.32 282 P P 19 17 12.0 -0.4
comp=Z,286nm,0.8s,comp=Z,2μm
BLDU Ballidu 59.75 244 P P 19 17 14.6 -0.5
baz=60,SNR=19
BLDU Ballidu 59.75 244 P P 19 17 14.6 -0.5
LUWI Luwuk 59.89 279 P P 19 17 16.9 +0.6
LUWI Luwuk 59.89 279 P P 19 17 16.2 -0.1
LUWI Luwuk 59.89 279 P P 19 17 15.4 -0.9
comp=Z,161nm,1.0s,comp=Z,2μm
MUN Mundaring 60.10 243 P P 19 17 17.5 +0.2
baz=60,SNR=5.7
MUN Mundaring 60.10 243 P P 19 17 17.5 +0.2
GTOI Gorontalo 60.24 281 P P 19 17 19.2 +0.6
comp=Z,37nm,0.9s,comp=Z,439nm
MORW Morawa 60.44 246 P P 19 17 19.2 -0.4
baz=60,SNR=18
MORW Morawa 60.44 246 P P 19 17 19.2 -0.4
MORW Morawa 60.44 246 P P 19 17 19.0 -0.7
MORW IAmb IAmb 19 17 19.7
comp=Z,16nm,0.6s
SBA Scott Base 60.69 184 P P 19 17 21.6 +1.2
SBA IAmb IAmb 19 17 24.1
comp=Z,22nm,1.1s
VNDA Vanda 60.71 185 P P 19 17 21.4 +0.8
VNDA Vanda 60.71 185 P P 19 17 21.9 +1.4
comp=Z,5.9nm,0.8s,baz=12,slow=7.5,SNR=34
comp=Z,5.9nm,0.8s
BKSI Bulukumba 61.06 274 P P 19 17 23.2 -0.8
comp=Z,30nm,0.8s
KAPI Kappang 61.50 274 P P 19 17 26.3 -0.6
TTSI Tana Toraja 62.04 276 P P 19 17 30.6 +0.3
comp=Z,35nm,0.8s,comp=Z,686nm
PLAI Plampang 62.33 269 P P 19 17 31.9 -0.3
PLAI Plampang 62.33 269 P P 19 17 31.7 -0.5
comp=Z,146nm,0.7s
TOLI2 Tolitoli 62.50 281 P P 19 17 33.3 0.0
TOLI2 Tolitoli 62.50 281 P P 19 17 32.2 -1.1
TOLI2 IAmb IAmb 19 17 37.1
comp=Z,34nm,0.7s
GIRL Giralia 62.81 253 P P 19 17 35.3 +0.1
baz=63,SNR=9.2
GIRL Giralia 62.81 253 P P 19 17 36.1 +0.9
GIRL Giralia 62.81 253 P P 19 17 35.9 +0.7
MPSI Mapaga 63.06 280 P P 19 17 36.9 -0.1
comp=Z,91nm,1.0s,comp=Z,777nm
TWSI Taliwang, Sumb 63.20 269 P P 19 17 37.2 -0.7
comp=Z,220nm,0.8s,comp=Z,2μm
SRBI Singaraja 64.97 269 P P 19 17 48.5 -0.6
comp=Z,97nm,0.9s
JAGI Jajag, Banyuwa 65.88 268 P P 19 17 53.5 -1.3
JAGI Jajag, Banyuwa 65.88 268 P P 19 17 53.2 -1.6
JAGI Jajag, Banyuwa 65.88 268 P P 19 17 53.7 -1.1
comp=Z,164nm,0.8s
ABJI Asem Bagus 65.98 269 P P 19 17 55.0 -0.4
comp=Z,116nm,1.0s
CASY Casey 66.32 205 P P 19 17 56.4 -0.2
CASY IAmb IAmb 19 18 00.2
comp=Z,23nm,1.1s
BLJI Banyuglugur 66.60 269 P P 19 17 58.9 -0.4
comp=Z,183nm,0.7s
GMJI Gumukmas 66.61 268 P P 19 17 58.2 -1.1
comp=Z,96nm,0.7s
JGF Kuroka 67.41 322 P P 19 18 04.0 +0.2
MJAR Matsushiro Arr 67.58 323 P P 19 18 04.2 -0.7
comp=Z,9.6nm,0.7s,baz=155,slow=6.3,SNR=25
comp=Z,9.6nm,0.7s
MAJO Matsushiro 67.58 323 P P 19 18 04.7 -0.2
MAJO Matsushiro 67.58 323 P P 19 18 04.8 0.0
MAJO IAmb IAmb 19 18 05.4
comp=Z,16nm,0.9s
MJB9 Matsu-Tunnel 67.59 323 P P 19 18 05.7 +0.8
MJB9 IAmb IAmb 19 18 06.4
comp=Z,16nm,0.9s
JOW Kunigami 67.91 310 P P 19 18 07.0 0.0
comp=Z,16nm,0.8s,baz=131,slow=11,SNR=2.7
comp=Z,16nm,0.8s
PWJI Pagerwojo 68.24 268 P P 19 18 08.8 -0.5
comp=Z,80nm,0.6s

KKM Kota Kinabalu 68.51 284 P P 19 18 11.2 +0.1
KKM Kota Kinabalu 68.51 284 P P 19 18 11.1 0.0
JSD Sado 68.61 325 P P 19 18 11.7 +0.6
JSD IAmb IAmb 19 18 11.9
comp=Z,24nm,0.7s
UGM Wanagama 69.49 268 P P 19 18 16.8 -0.1
UGM Wanagama 69.49 268 P P 19 18 16.6 -0.3
UGM Wanagama 69.49 268 P P 19 18 16.5 -0.4
comp=Z,259nm,0.8s
JNU Nakatsue 69.82 316 P P 19 18 17.9 -0.5
JNU IAmb IAmb 19 18 18.9
comp=Z,13nm,0.9s
JNU Nakatsue 69.82 316 P P 19 18 18.0 -0.5
comp=Z,7.2nm,0.7s,baz=54,slow=3.1,SNR=6.4
comp=Z,7.2nm,0.7s
YOJ Yonaguni jima 70.65 305 P P 19 18 23.7 +0.2
YOJ Yonaguni jima 70.65 305 P P 19 18 23.3 -0.2
STKI Sintang 70.92 276 P P 19 18 26.4 +1.0
comp=Z,74nm,1.1s
JKA Kamikawa-asahi 70.95 331 P P 19 18 26.0 +1.2
JKA IAmb IAmb 19 18 29.2
comp=Z,21nm,1.3s
ASAJ Asahikawa 70.95 331 P P 19 18 26.0 +1.2
comp=Z,9.5nm,0.7s,baz=219,slow=6.5,SNR=18
comp=Z,9.5nm,0.7s
KPJI Karang Pucung 71.16 268 P P 19 18 26.6 -0.2
comp=Z,86nm,0.7s
YULB Yu-li 71.47 303 P P 19 18 27.6 -0.8
YULB Yu-li 71.47 303 P P 19 18 27.6 -0.8
YULB IAmb IAmb 19 18 32.5
comp=Z,14nm,0.7s
CMJI Cimerak 71.50 268 P P 19 18 27.6 -1.1
comp=Z,98nm,1.0s
NACB Ninganchiao 71.62 304 P P 19 18 29.0 -0.2
SSLB Suanglung 71.94 303 P P 19 18 30.2 -0.9
SSLB Suanglung 71.94 303 P P 19 18 30.3 -0.9
SSLB IAmb IAmb 19 18 30.9
comp=Z,20nm,0.6s
TPUB Ta-pu 71.97 302 P P 19 18 30.2 -1.1
YHNB Yeheng 72.04 304 P P 19 18 31.9 +0.2
YHNB Yeheng 72.04 304 IAmb IAmb 19 18 32.9
comp=Z,56nm,1.1s
BBJI Bungbulang 72.35 268 P P 19 18 33.0 -0.8
QSPA South Pole Qui 72.42 180 P P 19 18 34.1 +0.8
QSPA IAmb IAmb 19 18 35.4
comp=Z,41nm,1.1s
QSPA South Pole Qui 72.42 180 P P 19 18 34.4 +1.0
comp=Z,29nm,0.8s,baz=29,slow=2.7,SNR=112
comp=Z,29nm,0.8s
LEM Lembang 72.55 268 P P 19 18 35.6 +0.5
comp=Z,187nm,0.9s
PETK Petropavlovsk- 73.37 345 P P 19 18 38.7 +0.1
comp=Z,5.2nm,0.9s,baz=128,slow=9.3,SNR=4.4
comp=Z,5.2nm,0.9s
CBJI Citeko 73.40 268 P P 19 18 38.4 -1.3
comp=Z,149nm,0.8s
DBJI Dramaga 73.46 268 P P 19 18 39.6 -0.5
comp=Z,171nm,0.8s
SKJI Sukabumi 73.52 268 P P 19 18 40.0 -0.4
comp=Z,475nm,0.7s,comp=Z,4μm
KSRS Kota Array 74.38 318 P P 19 18 45.6 +0.9
comp=Z,4.4nm,0.7s,baz=128,slow=6.3,SNR=21
comp=Z,4.4nm,0.7s
KSAR Wonju Array Be 74.40 318 P P 19 18 45.4 +0.5
PPBI Pangkal Pinang 75.32 272 P P 19 18 51.0 +0.5
comp=Z,57nm,1.1s,comp=Z,4μm
SCZ2 Santa Cruz Isl 76.05 47 P P 19 18 55.3 +1.1
baz=237
USRK Ussuriysk Ar. 76.29 326 P P 19 18 56.2 +1.0
USRK Ussuriysk Ar. 76.29 326 P P 19 18 57.1 +1.9
comp=Z,4.8nm,0.7s,baz=118,slow=3.9,SNR=8.3
comp=Z,4.8nm,0.7s
SAO San Andreas Ge 76.34 44 P P 19 18 56.2 +0.6
SAO IAmb IAmb 19 18 57.9
comp=Z,17nm,0.8s
PKM Mcpherson Peak 76.41 46 P P 19 18 57.6 +1.3
baz=237
LWLI Liwa 76.46 269 P P 19 18 55.9 -1.1
comp=Z,207nm,0.7s
PMPB Monarch Peak 76.46 45 P P 19 18 57.3 +0.8
PMPB IAmb IAmb 19 18 58.8
comp=Z,29nm,1.0s
CIS Catalina Islan 76.59 48 P P 19 18 57.9 +0.7
baz=238
SII Sitkinak Islan 76.69 14 P P 19 18 56.8 -0.4
SII IAmb IAmb 19 18 57.9
comp=Z,40nm,0.8s
SII Sitkinak Islan 76.69 14 P P 19 18 57.1 0.0
baz=204
KMRM Mail Ridge 76.91 40 P P 19 19 00.2 +1.4
KMRM IAmb IAmb 19 19 01.2
comp=Z,46nm,0.9s
ARVC Arvin 77.21 47 P P 19 19 01.2 +0.7
baz=238
DSRI Dabo 77.31 274 P P 19 19 01.1 -0.4
comp=Z,28nm,1.1s
VES Vestal, Richgr 77.42 46 P P 19 19 02.1 +0.5
baz=237,SNR=7.7
OHAK Old Harbor 77.50 14 P P 19 19 01.6 +0.1
OHAK Old Harbor 77.50 14 P P 19 19 01.3 -0.2
OHAK IAmb IAmb 19 19 02.3
comp=Z,18nm,0.8s
OHAK Old Harbor 77.50 14 P P 19 19 01.5 0.0
baz=205
BFSC Mount Baldy Ra 77.57 48 P P 19 19 03.3 +0.7
baz=238,SNR=5.5
MURC Murrieta 77.57 49 P P 19 19 03.3 +0.8
baz=239
NJ2 Nanjing 77.63 310 ⇓P P 19 19 03.8 +1.0
NJ2 PcP PcP 19 19 12.5 +2.0
NJ2 pmax pmax
comp=Z,20nm,0.8s
EDW2 Edwards Air Fo 77.67 47 P P 19 19 04.0 +0.9
baz=238,SNR=12
ESJX Sierra Juarez 77.67 51 P P 19 19 03.8 +0.5
MNAI Manna 77.70 269 P P 19 19 04.0 +0.4
MNAI Manna 77.70 269 P P 19 19 03.5 -0.2
ISA Isabella, Lake 77.75 46 P P 19 19 04.1 +0.6
ISA IAmb IAmb 19 19 05.5
comp=Z,20nm,0.9s
ISA Isabella, Lake 77.75 46 P P 19 19 04.5 +1.1
baz=238,SNR=12
CMB Columbia Colle 77.75 43 P P 19 19 03.2 -0.2
DLV T Lat 77.75 287 P P 19 19 04.3 +0.3
DLV IAmb IAmb 19 19 06.0
comp=Z,28nm,0.9s
MONP2 Monument Peak 77.76 50 P P 19 19 04.7 +0.9
baz=240,SNR=12
TPRI Tanjung Pinang 77.79 275 P P 19 19 04.4 +0.3
comp=Z,36nm,0.9s
MDJ Mudanjiang 77.86 325 P P 19 19 04.9 +1.1
MDJ pmax pmax
comp=Z,31nm,0.9s
MDJ pmax pmax
comp=Z,190nm,4.8s
MDJ Mudanjiang 77.86 325 P P 19 19 04.4 +0.7
MDJ IAmb IAmb 19 19 05.8
comp=Z,23nm,0.9s
IKP In-Ko-Pah, Jac 77.87 50 P P 19 19 05.5 +1.2
baz=240,SNR=6.0
AFDM Forest Hills D 77.89 42 P P 19 19 04.7 +0.6
ORV Oroville 77.89 42 P P 19 19 04.7 +0.6
O14K Tigyukauivet M 77.91 9 P P 19 19 05.2 +1.5
baz=197
Q17K Contact Creek 77.91 12 P P 19 19 03.2 -0.6
baz=202
PFO Pinyon Flats O 78.10 49 P P 19 19 06.6 +1.1
PFO Pinyon Flats O 78.10 49 P P 19 19 05.8 +0.3
baz=239
TPFO Pinon Flats 78.10 49 P P 19 19 06.0 +0.5
baz=239
KDAK Kodiak Island 78.17 14 P P 19 19 05.4 +0.3
baz=205
LRMC Laurel Mtn Rad 78.20 47 P P 19 19 06.8 +0.8
baz=238
P16K Nushagak River 78.23 11 P P 19 19 05.6 +0.3
baz=200
SWSC Sam W. Stewart 78.24 50 P P 19 19 07.1 +1.0
baz=240
MDPB Devils Postpil 78.39 44 P P 19 19 08.0 +0.8
MDPB IAmb IAmb 19 19 09.0
comp=Z,20nm,0.9s
CWC Cottonwood Cre 78.43 46 P P 19 19 08.5 +1.3
baz=238
N14K Kuskokwak Cree 78.49 9 P P 19 19 07.4 +0.6
baz=196

BELC Belle Mtn. Jos 78.63 49 P P 19 19 09.2 +0.9
baz=240,SNR=7.0
MPMC Manual Prospec 78.63 46 P P 19 19 09.7 +1.3
baz=238,SNR=10.0
WAKR Walker 78.64 43 IAmb IAmb 19 19 10.5
comp=Z,18nm,0.9s
TIN Tinemaha, Big 78.65 45 P P 19 19 09.3 +0.9
baz=238
P17K Kvichak River 78.67 11 P P 19 19 07.1 -0.6
baz=201,SNR=6.2
MYKOM Kota Tinggi 78.70 276 IAmb IAmb 19 19 10.0
comp=Z,21nm,0.7s
GSC Goldstone, Bar 78.72 47 P P 19 19 09.0 +0.3
GSC Goldstone, Bar 78.72 47 P P 19 19 09.5 +0.8
baz=239
O16K Kokwok River B 78.74 10 P P 19 19 07.1 -1.0
baz=200
HEC Hector, Ludlow 78.81 48 P P 19 19 09.9 +0.7
baz=239
BC3 Big Chuckawall 78.85 49 P P 19 19 10.1 +0.6
baz=240,SNR=5.6
PNTR Pine Nut 78.85 43 IAmb IAmb 19 19 11.5
comp=Z,33nm,0.8s
N15K Kwethluk River 78.96 9 P P 19 19 09.8 +0.5
baz=198
Q19K Cape Douglas, 78.98 13 P P 19 19 08.0 -1.5
baz=204
DSP Deep Springs 79.00 45 P P 19 19 11.0 +1.1
DSP IAmb IAmb 19 19 12.3
comp=Z,19nm,1.0s
GLA Glamis 79.00 50 IAmb IAmb 19 19 18.2
comp=Z,16nm,0.8s
QSM Queen of Sheba 79.02 47 P P 19 19 10.3 +0.1
YERR Yerington 79.03 43 IAmb IAmb 19 19 12.2
comp=Z,21nm,0.7s
P18K Big Mountain, 79.08 12 P P 19 19 09.2 -0.8
P18K IAmb IAmb 19 19 10.2
comp=Z,31nm,0.8s
P18K Big Mountain, 79.08 12 P P 19 19 09.8 -0.2
baz=203,SNR=13
O17K Koliganek Bris 79.09 11 P P 19 19 09.5 -0.5
baz=201
LHV Little Huntoon 79.11 44 IAmb IAmb 19 19 13.0
comp=Z,25nm,0.9s
GRAC Grapevine Rang 79.21 46 P P 19 19 12.3 +1.1
baz=238
M14K Bethel 79.25 8 P P 19 19 11.2 +0.5
baz=196
GMRC Granite Mounta 79.26 48 P P 19 19 12.3 +0.6
baz=240
FURC Furnace Creek, 79.28 46 P P 19 19 12.3 +0.8
baz=239
IRM Iron Mountain 79.32 49 P P 19 19 12.5 +0.6
baz=240
NVAR Mina Array Bea 79.34 44 P P 19 19 12.7 +0.6
NVAR Mina Array Bea 79.34 44 P P 19 19 13.1 +1.0
comp=Z,11nm,0.8s,baz=224,slow=9.4,SNR=56
comp=Z,11nm,0.8s
M15K Kasigluk River 79.37 9 P P 19 19 11.7 +0.2
baz=197
TUQ Turquoise Moun 79.40 48 P P 19 19 13.4 +1.0
baz=239,SNR=5.4
NV11 Mina Array Sit 79.44 44 IAmb IAmb 19 19 14.5
comp=Z,19nm,1.0s
GMN Gold Mountain 79.44 45 P P 19 19 13.0 +0.3
N16K Nishlik Lake 79.46 10 P P 19 19 12.3 +0.4
baz=199
O18K Koktuh Hills 79.52 12 IAmb IAmb 19 19 12.8
comp=Z,41nm,0.8s
O18K Koktuh Hills 79.52 12 P P 19 19 12.3 0.0
baz=203,SNR=15
WCT Wildcat Mounta 79.61 46 P P 19 19 13.2 -0.2
CN2 Changchun 79.70 322 eP P 19 19 14.3 +0.7
CN2 pmax pmax
comp=Z,20nm,1.1s
L14K Kuka Creek 79.72 8 P P 19 19 14.1 +0.8
baz=195
P19K Oil Pt 79.73 13 P P 19 19 13.6 +0.2
baz=204
BNX BinXian 79.77 325 ⇓P P 19 19 14.0 +0.1
BNX pmax pmax
comp=Z,25nm,0.8s
BNX pmax pmax
comp=Z,130nm,4.3s
N17K Nushagak Hills 79.78 11 P P 19 19 13.4 -0.2
baz=201
KLR Kul'dur 79.78 329 P P 19 19 14.4 +0.6
comp=Z,2.8nm,1.1s,baz=121,slow=5.3,SNR=4.1
comp=Z,2.8nm,1.1s
TPH Tonopah 79.87 45 P P 19 19 15.2 +0.3
TPH IAmb IAmb 19 19 16.8
comp=Z,46nm,0.9s
M16K Timber Creek 79.95 10 IAmb IAmb 19 19 16.4
comp=Z,28nm,1.1s
M16K Timber Creek 79.95 10 P P 19 19 15.8 +1.3
baz=199,SNR=5.3
214A Organ Pipe Nat 79.97 52 P P 19 19 16.9 +1.5
baz=242
O19K Port Alsworth 80.00 12 P P 19 19 13.9 -0.8
O19K IAmb IAmb 19 19 15.1
comp=Z,44nm,0.8s
O19K Port Alsworth 80.00 12 P P 19 19 14.4 -0.4
baz=203,SNR=15
ILSW Iliamna Southw 80.05 13 IAmb IAmb 19 19 15.3
comp=Z,29nm,0.8s
PDMCI Parker Dam,Lak 80.11 49 P P 19 19 17.3 +1.4
baz=241
N18K Kilae Creek 80.15 11 P P 19 19 15.1 -0.5
baz=202
L15K Ungalak Mounta 80.20 8 P P 19 19 15.6 -0.1
baz=196
O20K Slope Mountain 80.25 13 P P 19 19 14.9 -1.2
baz=205
WHN Wuhan 80.30 306 ⇑P P 19 19 18.1 +1.1
BRSE Bradley Lake S 80.36 14 P P 19 19 16.6 0.0
baz=207,SNR=7.5
SHPR Sheep Range 80.48 47 P P 19 19 18.1 +0.1
L16K Owhat River 80.53 9 P P 19 19 18.0 +0.5
baz=198
N19K Bonanza Creek 80.54 12 P P 19 19 17.1 -0.6
baz=203
M17K Holitna River 80.56 10 IAmb IAmb 19 19 19.5
comp=Z,26nm,0.8s
M17K Holitna River 80.56 10 P P 19 19 18.9 +1.3
baz=200,SNR=7.5
RSO Redoubt South 80.57 13 P P 19 19 17.2 -0.8
S11A Rachel 80.65 46 IAmb IAmb 19 19 20.8
comp=Z,19nm,1.0s
K15K Wolf Creek Mou 80.79 8 P P 19 19 19.4 +0.6
K15K IAmb IAmb 19 19 20.7
comp=Z,39nm,1.1s
K15K Wolf Creek Mou 80.79 8 P P 19 19 20.0 +1.2
baz=196
M18K Stony River 80.92 11 P P 19 19 19.4 -0.1
baz=202
SEW Seward 80.98 14 P P 19 19 19.7 -0.1
baz=208
PRN Pahroc Range 81.00 46 IAmb IAmb 19 19 23.1
comp=Z,20nm,0.9s
L17K Donlin 81.11 9 P P 19 19 22.0 +1.5
baz=200,SNR=7.6
R11B Troy Canyon, C 81.12 45 P P 19 19 21.9 +0.6
baz=239,SNR=8.3
BMN Battle Mountai 81.12 43 P P 19 19 21.1 -0.2
BMN IAmb IAmb 19 19 23.1
comp=Z,16nm,0.9s
CAPN Captain Cook N 81.19 13 P P 19 19 21.4 +0.6
baz=206
GULI GuiLin 81.23 300 P P 19 19 23.5 +1.5
O22K Cooper Landing 81.25 14 IAmb IAmb 19 19 21.5
comp=Z,22nm,0.6s
O22K Cooper Landing 81.25 14 P P 19 19 21.2 0.0
baz=208
WVOR Wild Horse Val 81.31 40 IAmb IAmb 19 19 24.1
comp=Z,26nm,1.0s
N20K Mount Spurr 81.35 13 P P 19 19 21.0 -0.8
baz=205,SNR=5.3
P23K Montague Islan 81.39 15 P P 19 19 21.8 -0.2
baz=210
L18K Granite Mounta 81.45 10 IAmb IAmb 19 19 23.9
comp=Z,22nm,1.1s
L18K Granite Mounta 81.45 10 P P 19 19 22.9 +0.7
baz=201
K17K Iditarod 81.66 9 P P 19 19 23.4 +0.1
K17K IAmb IAmb 19 19 24.9
comp=Z,23nm,1.3s
K17K Iditarod 81.66 9 P P 19 19 23.6 +0.3
baz=200

TUC	**Tucson**	81.66	52	P	**P**	19 19 24.5	+0.4	
TUC	comp=Z,16nm,0.9s			IAmb	IAmb	19 19 27.1		
TUC	**Tucson** baz=243	81.66	52	P	**P**	19 19 25.9	+1.7	
UBPT	**Khong Chiam**	81.68	289	P	**P**	19 19 25.3	+0.9	
UBPT	**Khong Chiam** comp=Z,15nm,0.9s	81.68	289	IAmb	IAmb	19 19 25.9		
I07A	**Izee** comp=Z,19nm,0.9s	81.69	39	IAmb	IAmb	19 19 26.0		
L19K	**White Mountain**	81.74	11	P	**P**	19 19 23.4	-0.3	
L19K	**White Mountain** baz=203	81.74	11	P	**P**	19 19 23.9	+0.2	
RC01	**Rabbit Creek A** comp=Z,22nm,1.2s	81.79	14	IAmb	IAmb	19 19 24.5		
RC01	**Rabbit Creek A** baz=208	81.79	14	P	**P**	19 19 23.8	-0.2	
J16K	**Anvik River** comp=Z,15nm,0.7s	81.87	8	IAmb	IAmb	19 19 25.9		
J16K	**Anvik River** baz=197	81.87	8	P	**P**	19 19 25.0	+0.7	
SUA	**Susitna One**	81.90	13	P	**P**	19 19 23.7	-1.0	
SUA	comp=Z,21nm,0.8s			IAmb	IAmb	19 19 25.7		
SUA	**Susitna One** baz=207,SNR=17	81.90	13	P	**P**	19 19 24.1	-0.6	
J08A	**Circle Bar Ran** comp=Z,20nm,1.0s	81.91	40	IAmb	IAmb	19 19 27.0		
Q12A	**Willow Creek R** comp=Z,16nm,0.9s	81.98	45	IAmb	IAmb	19 19 27.6		
LCMT	**Little Creek M**	82.07	47	P	**P**	19 19 26.3	+0.1	
LCMT	comp=Z,12nm,0.8s			IAmb	IAmb	19 19 28.3		
X16A	**Lo Mia Camp, P** comp=Z,18nm,0.9s	82.14	50	IAmb	IAmb	19 19 29.3		
J17K	**VABM Dome** baz=199	82.19	9	P	**P**	19 19 26.4	+0.4	
L20K	**Farewell, AK** baz=204	82.19	11	P	**P**	19 19 26.0	-0.1	
SKT	**Skwentna** baz=206	82.20	13	P	**P**	19 19 25.2	-0.9	
IPM	**Ipoh**	82.22	277	P	**P**	19 19 28.0	+0.7	
IPM	**Ipoh**	82.22	277	P	**P**	19 19 26.7	-0.6	
TTA	**Tatalina**	82.23	10	P	**P**	19 19 26.6	+0.3	
TTA	**Tatalina** baz=202,SNR=6.3	82.23	10	P	**P**	19 19 26.0	-0.2	
EYAK	**Cordova Ski Ar** baz=211	82.28	16	P	**P**	19 19 25.7	-0.8	
SPR3	**Spring Creek 3**	82.29	45	P	**P**	19 19 26.9	-0.5	
KNB	**Kanab** comp=Z,14nm,0.9s	82.36	47	IAmb	IAmb	19 19 30.1		
KNK	**Knik Glacier** comp=Z,14nm,0.8s	82.37	14	IAmb	IAmb	19 19 27.4		
KNK	**Knik Glacier** baz=209,SNR=5.5	82.37	14	P	**P**	19 19 26.5	-0.5	
PMR	**Palmer** comp=Z,30nm,1.4s	82.37	14	IAmb	IAmb	19 19 27.1		
PMR	**Palmer** baz=208,SNR=5.4	82.37	14	P	**P**	19 19 26.6	-0.3	
PSUT	**Pine Spring** comp=Z,12nm,0.7s	82.39	46	IAmb	IAmb	19 19 29.6		
319A	**Douglas** comp=Z,22nm,0.9s	82.40	54	IAmb	IAmb	19 19 30.9		
I17K	**Unalakleet** baz=197	82.43	8	P	**P**	19 19 28.4	+1.3	
U15A	**North Rim** comp=Z,25nm,0.8s	82.46	48	IAmb	IAmb	19 19 30.9		
BELA	**Belgrano 2**	82.46	173	P	**P**	19 19 27.9	+0.6	
BELA	comp=Z,36nm,1.0s			IAmb	IAmb	19 19 28.5		
ANM	**Nome** baz=193	82.56	6	P	**P**	19 19 28.5	+0.7	
ELK	**Elko**	82.57	43	P	**P**	19 19 28.7	0.0	
GHO	**Glory Hole Cre** comp=Z,26nm,0.7s	82.58	14	IAmb	IAmb	19 19 28.5		
HEH	**HeiHe**	82.59	328	*e*P	**P**	19 19 28.1	-0.2	
HEH	comp=Z,7.0nm,1.1s			pmax	pmax			
HEH	comp=Z,190nm,7.0s			pmax	pmax			
J18K	**Innoko River** comp=Z,14nm,0.8s	82.61	10	IAmb	IAmb	19 19 29.1		
J18K	**Innoko River** baz=201	82.61	10	P	**P**	19 19 28.5	+0.4	
WUAZ	**Wupatki**	82.69	49	P	**P**	19 19 29.5	+0.1	
WUAZ	comp=Z,19nm,1.0s			IAmb	IAmb	19 19 31.9		
WUAZ	**Wupatki** baz=242,SNR=9.2	82.69	49	P	**P**	19 19 31.0	+1.6	
G08A	**Pilot Rock** comp=Z,16nm,1.0s	82.69	38	IAmb	IAmb	19 19 30.8		
SML	**Sawmill** baz=209	82.74	14	P	**P**	19 19 27.8	-1.1	
SNH	**Sunshine Point** comp=Z,44nm,0.9s	82.75	17	IAmb	IAmb	19 19 30.3		
KULM	**Kulim** comp=Z,23nm,0.9s	82.83	278	IAmb	IAmb	19 19 32.0		
V35K	**Ketchikan** baz=224	82.83	25	P	**P**	19 19 28.7	-0.6	
CUT	**Chulitna**	82.84	13	P	**P**	19 19 28.7	-0.6	
CUT	comp=Z,28nm,0.8s			IAmb	IAmb	19 19 29.4		
CUT	**Chulitna** baz=207	82.84	13	P	**P**	19 19 28.5	-0.7	
M23K	**Glacier View** baz=210	82.87	14	P	**P**	19 19 28.5	-0.9	
E07A	**Sunnyside** comp=Z,15nm,0.8s	82.89	36	IAmb	IAmb	19 19 31.7		
PPLA	**Purkeypile** baz=205	82.89	12	P	**P**	19 19 28.4	-1.3	
PKCU	**Pink Cliffs** comp=Z,31nm,1.0s	82.93	47	IAmb	IAmb	19 19 33.9		
BMRM	**Bremner River** baz=212	82.94	16	P	**P**	19 19 29.8	-0.1	
K20K	**Telida**	82.96	11	P	**P**	19 19 29.3	-0.6	
K20K	comp=Z,18nm,0.8s			IAmb	IAmb	19 19 30.7		
K20K	**Telida** baz=203	82.96	11	P	**P**	19 19 29.7	-0.2	
H16K	**Elim** baz=196	82.97	7	P	**P**	19 19 30.3	+0.5	
WAX	**Waxell Ridge** comp=Z,26nm,0.8s	82.97	17	IAmb	IAmb	19 19 31.1		
HAWA	**Hanford** comp=Z,16nm,0.9s	82.98	37	IAmb	IAmb	19 19 32.1		
SCM	**Sheep Creek Mo**	83.00	14	P	**P**	19 19 29.8	-0.4	
SCM	comp=Z,29nm,0.8s			IAmb	IAmb	19 19 30.7		
SCM	**Sheep Creek Mo** baz=210,SNR=10	83.00	14	P	**P**	19 19 30.1	-0.1	
MESA	**MESA** comp=Z,31nm,0.7s	83.00	17	IAmb	IAmb	19 19 31.5		
MESA	**MESA** baz=215	83.00	17	P	**P**	19 19 30.9	+0.5	
KLU	**Klutina** baz=211	83.05	15	P	**P**	19 19 30.4	0.0	
S31K	**Pelican** baz=220	83.05	21	P	**P**	19 19 31.2	+0.8	
DUN6	**Lazy B Ranch** comp=Z,48nm,1.2s	83.06	53	IAmb	IAmb	19 19 34.1		
G15K	**Niukluk** baz=194	83.11	6	P	**P**	19 19 30.8	+0.2	
CRQM	**Cirque**	83.15	17	P	**P**	19 19 30.7	-0.4	
CRQM	comp=Z,25nm,1.0s			IAmb	IAmb	19 19 31.9		
CRQE	**Cirque** baz=214	83.16	17	P	**P**	19 19 30.7	-0.3	
HNS	**HongShan**	83.21	313	⇑P	**P**	19 19 32.9	+1.2	
HNS	comp=Z,12nm,1.3s			pmax	pmax			
ISLE	**Juniper Island** comp=Z,20nm,0.9s	83.25	17	IAmb	IAmb	19 19 32.7		
J19K	**Poorman** baz=202	83.29	10	P	**P**	19 19 31.9	+0.4	
MTPU	**Mount Pierson**	83.30	47	P	**P**	19 19 33.4	+0.8	
MTPU	comp=Z,15nm,1.0s			IAmb	IAmb	19 19 35.4		
WRAK	**Wrangell Islan** baz=224	83.32	24	P	**P**	19 19 31.6	-0.2	
TNA	**Tin City** baz=190	83.33	4	P	**P**	19 19 32.1	+0.5	
PNL	**Peninsula** baz=217	83.35	19	P	**P**	19 19 32.0	+0.1	
F14K	**Arctic Creek** baz=192	83.37	5	P	**P**	19 19 32.1	+0.2	
TCRU	**Three Creeks R** comp=Z,15nm,1.1s	83.39	46	IAmb	IAmb	19 19 35.4		
CAST	**Castle Rocks** comp=Z,20nm,0.8s	83.39	12	IAmb	IAmb	19 19 31.8		
CAST	**Castle Rocks** baz=205,SNR=20	83.39	12	P	**P**	19 19 30.8	-1.3	
VRDI	**Verde Repeater**	83.46	16	P	**P**	19 19 32.5	-0.2	
VRDI	comp=Z,14nm,1.0s			IAmb	IAmb	19 19 33.3		
SEY	**Seymchan**	83.47	347	P	**P**	19 19 32.2	-0.1	
	comp=Z,4.4nm,0.5s,baz=143,slow=6.3,SNR=39							
	comp=Z,4.4nm,0.5s							
BJI	**Beijing**	83.47	315	P	**P**	19 19 33.5	+0.6	
BJI	comp=Z,7.0nm,1.0s			pmax	pmax			
N25K	**Chitina, Valde** comp=Z,23nm,0.7s	83.48	16	IAmb	IAmb	19 19 33.3		
N25K	**Chitina, Valde** baz=212,SNR=14	83.48	16	P	**P**	19 19 32.6	0.0	
M24K	**Tolsona, Glenn**	83.51	15	P	**P**	19 19 32.5	-0.3	
M24K	comp=Z,27nm,0.7s			IAmb	IAmb	19 19 33.8		
M24K	**Tolsona, Glenn** baz=211	83.51	15	P	**P**	19 19 33.3	+0.6	
LYN	**LuoYang**	83.52	309	*e*P	**P**	19 19 34.6	+1.3	
LYN	comp=Z,38nm,0.8s			pmax	pmax			
H17K	**Granite Mounta** baz=198	83.54	8	P	**P**	19 19 32.7	-0.1	
GLB	**Gilahina Butte** comp=Z,17nm,0.7s	83.54	16	IAmb	IAmb	19 19 33.4		
WAT6	**Susitna Watana** baz=209,SNR=10	83.56	14	P	**P**	19 19 32.7	-0.3	
MFID	**Camas Ranch** comp=Z,14nm,1.0s	83.57	41	IAmb	IAmb	19 19 35.3		
WAT1	**Susitna Watana** baz=209	83.59	13	P	**P**	19 19 32.8	-0.3	
G16K	**Koyuk River** baz=196	83.68	7	P	**P**	19 19 33.9	+0.6	
W18A	**Petrified Fore** baz=243	83.70	50	P	**P**	19 19 35.8	+1.3	
J20K	**Nowinta River**	83.70	11	P	**P**	19 19 33.3	-0.2	
J20K	**Nowinta River** baz=203,SNR=8.1	83.70	11	P	**P**	19 19 33.4	-0.2	
MCARA	**McCarthy VSAT** baz=214	83.70	16	P	**P**	19 19 33.7	0.0	
KTH	**Kantishna Hill** comp=Z,12nm,0.8s	83.74	12	IAmb	IAmb	19 19 33.7		
CHUM	**Lake Minchumin** baz=205,SNR=6.5	83.77	11	P	**P**	19 19 32.7	-1.1	
TRF	**Thorofare Moun** comp=Z,25nm,0.7s	83.77	12	IAmb	IAmb	19 19 34.4		
TRF	**Thorofare Moun** baz=207,SNR=17	83.77	12	P	**P**	19 19 33.3	-0.8	
LOGN	**Logan Glacier** comp=Z,16nm,0.8s	83.81	17	IAmb	IAmb	19 19 35.1		
BARN	**Barnard Glacie**	83.81	17	P	**P**	19 19 34.4	0.0	
BARN	comp=Z,21nm,0.9s			IAmb	IAmb	19 19 35.3		
CTG	**Chitna Glacier** baz=215,SNR=5.2	83.82	17	P	**P**	19 19 34.5	+0.1	
P29M	**Windy Craggy** baz=219	83.84	20	P	**P**	19 19 34.9	+0.5	
G17K	**Kiwalik Mounta** baz=197	83.99	7	P	**P**	19 19 34.4	-0.5	
HARP	**HAARP** baz=212,SNR=5.4	84.01	15	P	**P**	19 19 35.2	0.0	
RND	**Reindeer** comp=Z,27nm,0.8s	84.04	13	IAmb	IAmb	19 19 35.7		
121A	**Cookes Peak, D** baz=245	84.04	53	P	**P**	19 19 36.7	+0.5	
DHY	**Denali Highway** baz=210,SNR=5.4	84.07	14	P	**P**	19 19 35.1	-0.5	
F10A	**Beach Ranch, E**	84.08	38	P	**P**	19 19 35.8	-0.2	
F10A	comp=Z,18nm,0.9s			IAmb	IAmb	19 19 37.2		
PLBC	**Pleasant Camp** baz=220	84.15	20	P	**P**	19 19 36.0	+0.2	
BPAW	**Bear Paw Mtn.** baz=206	84.22	12	P	**P**	19 19 34.6	-1.5	
MCK	**McKinley** baz=208,SNR=9.0	84.31	13	P	**P**	19 19 35.8	-0.8	
PAX	**Paxson** baz=212,SNR=5.2	84.42	15	P	**P**	19 19 36.6	-0.6	
P30M	**Million Dollar** baz=219	84.47	20	P	**P**	19 19 37.7	+0.2	
SKAG	**Skagway** baz=221	84.50	21	P	**P**	19 19 38.9	+1.3	
GSI	**Gunungsitoli**	84.52	273	P	**P**	19 19 39.8	+1.0	
GSI	**Gunungsitoli**	84.52	273	P	**P**	19 19 38.8	0.0	
GSI	**Gunungsitoli** comp=Z,102nm,0.7s	84.52	273	P	**P**	19 19 39.8	+1.0	
YUK8	**Steele Glacier** baz=217	84.53	18	P	**P**	19 19 38.4	+0.3	
T35M	**Bob Quinn** baz=226	84.54	24	P	**P**	19 19 38.7	+0.8	
M26K	**Nabesna, AK** comp=Z,19nm,0.9s	84.56	16	IAmb	IAmb	19 19 39.3		
M26K	**Nabesna, AK** baz=214,SNR=10	84.56	16	P	**P**	19 19 38.3	+0.4	
H19K	**Roundabout Mou** baz=201	84.59	9	P	**P**	19 19 37.5	-0.3	
G18K	**Tagagawik** baz=199	84.62	8	P	**P**	19 19 37.7	-0.3	
YUK6	**Outpost Mounta** baz=218	84.68	18	P	**P**	19 19 37.9	-0.8	
YUK3	**Moose Creek** baz=216	84.73	17	P	**P**	19 19 39.1	+0.2	
NONG	**Nongkai**	84.74	291	P	**P**	19 19 40.7	+1.0	
GYA	**Guiyang**	84.75	300	⇓*i*P	**P**	19 19 40.0	+0.3	
GYA	comp=Z,18nm,0.9s			pmax	pmax			
H20K	**Anotleneega Mo** baz=203	84.80	10	P	**P**	19 19 38.6	-0.4	
M27K	**Edge Creek, AK**	84.82	16	P	**P**	19 19 39.1	-0.1	
M27K	comp=Z,19nm,0.9s			IAmb	IAmb	19 19 40.5		
M27K	**Edge Creek, AK** baz=215	84.82	16	P	**P**	19 19 39.8	+0.5	
F17K	**Baldwin Pennin** baz=196	84.82	7	P	**P**	19 19 39.5	+0.5	
HYT	**Haines Junctio** baz=219	84.85	19	P	**P**	19 19 39.3	-0.1	
S34M	**Telegraph Cree** comp=Z,21nm,0.8s	84.86	23	IAmb	IAmb	19 19 41.2		
S34M	**Telegraph Cree** baz=225,SNR=12	84.86	23	P	**P**	19 19 40.1	+0.8	
YUK4	**Talbot Arm** baz=218	84.91	18	P	**P**	19 19 40.3	+0.5	
L26K	**Log Cabin Wild**	84.99	15	P	**P**	19 19 39.6	-0.3	
L26K	**Log Cabin Wild** baz=214	84.99	15	P	**P**	19 19 39.9	0.0	
KCSI	**Kotacane, Aceh** comp=Z,36nm,1.1s	85.01	275	P	**P**	19 19 40.3	-0.8	
I21K	**Tanana** baz=205	85.01	11	P	**P**	19 19 40.2	+0.3	
NEA2	**Nenana** baz=208	85.04	12	P	**P**	19 19 40.0	-0.1	
K24K	**Donnelly Dome** baz=211,SNR=8.0	85.06	14	P	**P**	19 19 40.3	0.0	
G19K	**Purcell Mounta** baz=200	85.07	9	P	**P**	19 19 40.1	-0.2	
MLY	**Manley** baz=206	85.10	11	P	**P**	19 19 39.5	-0.9	
WRH	**Wood River Hil**	85.14	13	P	**P**	19 19 40.4	-0.1	
WRH	comp=Z,24nm,1.3s			IAmb	IAmb	19 19 40.7		
BVCY	**Beaver Creek** baz=216	85.14	17	P	**P**	19 19 41.1	+0.4	
P32M	**Atlin**	85.14	21	P	**P**	19 19 40.3	-0.4	
P32M	**Atlin** baz=222	85.14	21	P	**P**	19 19 40.9	+0.2	
F18K	**Selawik** baz=198	85.16	7	P	**P**	19 19 40.3	-0.3	
Q32M	**Nabna River** baz=224	85.19	22	P	**P**	19 19 42.2	+1.0	
SLVN	**Son La** comp=Z,11nm,0.9s	85.21	294	IAmb	IAmb	19 19 44.2		
RIDG	**Independent Ri**	85.23	14	P	**P**	19 19 40.2	-0.9	
RIDG	comp=Z,12nm,0.9s			IAmb	IAmb	19 19 41.6		
RIDG	**Independent Ri** baz=212,SNR=5.5	85.23	14	P	**P**	19 19 40.7	-0.4	
O30N	**Mendenhall** comp=Z,11nm,0.9s	85.25	19	IAmb	IAmb	19 19 42.5		
O30N	**Mendenhall** baz=220,SNR=5.1	85.25	19	P	**P**	19 19 41.0	-0.3	
H21K	**Melozitna Rive** baz=204	85.30	10	P	**P**	19 19 41.3	-0.1	
HDA	**Harding Lake**	85.33	13	IAmb	IAmb	19 19 41.7		
	comp=Z,12nm,0.8s							
HDA	**Harding Lake** baz=210	85.33	13	P	**P**	19 19 41.3	-0.2	
E17K	**Hotham Inlet** baz=196	85.37	7	P	**P**	19 19 41.9	+0.2	
NEW	**Newport** baz=237	85.39	36	P	**P**	19 19 42.3	0.0	
L27K	**Beaver Creek,**	85.41	16	P	**P**	19 19 41.4	-0.6	
L27K	**Beaver Creek,** baz=215	85.41	16	P	**P**	19 19 41.8	-0.2	
XLT	**XiLinHaoTe**	85.43	319	*e*P	**P**	19 19 42.8	+0.2	
XLT	comp=Z,11nm,1.2s			pmax	pmax			
N30M	**Aishikik Lake** baz=219	85.47	19	P	**P**	19 19 42.2	-0.2	
I23K	**Minto, Yukon-K**	85.47	12	P	**P**	19 19 41.5	-0.7	
I23K	**Minto, Yukon-K** baz=208	85.47	12	P	**P**	19 19 42.2	+0.1	
MVCO	**Mesa Verde** baz=244	85.52	49	P	**P**	19 19 44.6	+1.2	
WHY	**Whitehorse** comp=Z,11nm,1.1s	85.55	20	IAmb	IAmb	19 19 44.2		
WHY	**Whitehorse** baz=221	85.55	20	P	**P**	19 19 42.9	+0.1	
MNTX	**Cornudas Mount** baz=246	85.56	55	P	**P**	19 19 44.1	+0.7	
F19K	**Shaleruckik Mo** baz=200	85.63	8	P	**P**	19 19 42.4	-0.5	
SCRK	**Sand Creek**	85.63	15	P	**P**	19 19 42.7	-0.4	
SCRK	**Sand Creek** baz=213,SNR=9.2	85.63	15	P	**P**	19 19 43.3	+0.2	
DLBC	**Dease Lake** comp=Z,9.8nm,1.0s	85.64	23	IAmb	IAmb	19 19 44.8		
DLBC	**Dease Lake** baz=226	85.64	23	P	**P**	19 19 43.8	+0.6	
ILAR	**Eielson Array**	85.65	13	P	**P**	19 19 41.3	-1.8	
ILAR	**Eielson Array**	85.65	13	P	**P**	19 19 42.2	-0.9	
	comp=Z,3.7nm,0.7s,baz=224,slow=5.0,SNR=34							
ILAR				PP	PP	19 23 13.9	+1.7	
	comp=Z,0.7nm,0.8s,baz=231,slow=7.5,SNR=4.4							
	comp=Z,3.7nm,0.7s							
H22K	**Ishtalitna Cre** baz=206	85.76	11	P	**P**	19 19 43.8	+0.2	
M29M	**Somme Creek** baz=218,SNR=6.0	85.83	17	P	**P**	19 19 44.2	+0.1	
E18K	**Tukpahlearik C** baz=197	85.84	7	P	**P**	19 19 43.6	-0.3	
POKR	**Poker Plat Res** comp=Z,6.2nm,0.7s	85.84	13	IAmb	IAmb	19 19 44.7		
POKR	**Poker Plat Res** baz=210	85.84	13	P	**P**	19 19 43.3	-0.7	
D17K	**Noatak River** baz=195	85.84	6	P	**P**	19 19 44.2	+0.3	
J25K	**Salcha River,**	85.85	14	P	**P**	19 19 42.8	-1.3	
J25K	**Salcha River,** baz=212,SNR=6.5	85.85	14	P	**P**	19 19 43.9	-0.2	
P33M	**Teslin, Yukon** baz=223	85.91	21	P	**P**	19 19 45.0	+0.5	
XAN	**Xi'an**	85.96	307	⇓P	**P**	19 19 46.5	+1.2	
XAN	comp=Z,55nm,1.1s			pmax	pmax			
G21K	**Allakaket**	85.97	10	P	**P**	19 19 44.0	-0.6	
G21K	**Allakaket** baz=204	85.97	10	P	**P**	19 19 44.1	-0.4	
R33M	**Jennings River** comp=Z,13nm,1.2s	85.97	22	IAmb	IAmb	19 19 46.5		
R33M	**Jennings River** baz=225	85.97	22	P	**P**	19 19 45.7	+0.9	
TX31	**Lajitas Ar. Si** comp=Z,14nm,0.9s	85.99	58	IAmb	IAmb	19 19 48.7		
TXAR	**Lajitas Array**	85.99	58	P	**P**	19 19 47.4	+1.8	
TXAR	**Lajitas Array**	85.99	58	P	**P**	19 19 47.5	+1.9	
	comp=Z,8.1nm,0.7s,baz=219,slow=6.3,SNR=59							
	comp=Z,8.1nm,0.7s							
H23K	**Yukon River** baz=208	86.04	12	P	**P**	19 19 44.5	-0.4	
ANMO	**Albuquerque**	86.06	52	P	**P**	19 19 46.6	+0.6	
ANMO	**Albuquerque** baz=245	86.06	52	P	**P**	19 19 46.5	+0.6	
F20K	**Avaraart Lake** baz=202	86.12	9	P	**P**	19 19 45.5	+0.3	
K27K	**Chicken** baz=215	86.14	15	P	**P**	19 19 46.2	+0.8	
J26L	**Joseph Creek** comp=Z,8.1nm,0.7s	86.17	14	IAmb	IAmb	19 19 46.7		
J26L	**Joseph Creek** baz=213	86.17	14	P	**P**	19 19 45.8	+0.2	
C16K	**Lisburne Hills** baz=193	86.20	5	P	**P**	19 19 45.7	+0.1	
AHID	**Auburn Hatcher**	86.26	43	P	**P**	19 19 45.7	-1.0	
E19K	**Redstone River** baz=200	86.29	8	P	**P**	19 19 45.7	-0.3	
H24K	**Noodor Dome** baz=209	86.38	12	P	**P**	19 19 45.0	-1.6	
M30M	**Minto, Yukon** comp=Z,9.4nm,0.8s	86.42	18	IAmb	IAmb	19 19 47.7		
M30M	**Minto, Yukon** baz=220,SNR=12	86.42	18	P	**P**	19 19 47.0	+0.2	
L29M	**L29M**	86.45	17	P	**P**	19 19 47.2	+0.2	
L29M	comp=Z,8.1nm,0.8s			IAmb	IAmb	19 19 48.3		
L29M	**L29M** baz=218,SNR=5.8	86.45	17	P	**P**	19 19 47.6	+0.6	
N32M	**Quiet Lake** comp=Z,24nm,1.4s	86.51	20	IAmb	IAmb	19 19 48.8		
N32M	**Quiet Lake** baz=223	86.51	20	P	**P**	19 19 47.3	0.0	
MLSI	**Meulaboh, Aceh** comp=Z,77nm,0.8s	86.53	276	P	**P**	19 19 48.7	+0.3	
PRP	**Porcupine Dome**	86.59	13	P	**P**	19 19 47.5	-0.2	
PRP	**Porcupine Dome** baz=211	86.59	13	P	**P**	19 19 47.5	-0.2	
F21K	**Alatna River** baz=204	86.62	10	P	**P**	19 19 47.3	-0.4	
G22K	**Bettles** baz=206	86.67	10	P	**P**	19 19 47.7	-0.1	
TPAW	**Teton Pass** comp=Z,11nm,0.9s	86.69	42	IAmb	IAmb	19 19 49.9		
G23K	**Bananza Creek** baz=207	86.74	11	P	**P**	19 19 48.1	-0.2	
DAWY	**Dawson** baz=217	86.87	16	P	**P**	19 19 49.0	+0.1	
M31M	**Drury Creek, Y** baz=222	86.87	19	P	**P**	19 19 48.8	-0.1	
IMW	**Indian Meadow**	86.89	42	P	**P**	19 19 49.1	-0.7	
IMW	comp=Z,16nm,0.8s			IAmb	IAmb	19 19 51.9		
I26K	**Coal Creek Min** baz=214,SNR=5.4	86.95	14	P	**P**	19 19 49.0	-0.2	
C18K	**Utukok River** baz=196	86.95	6	P	**P**	19 19 48.6	-0.6	
HHC	**Hu-ho-hao-te**	86.96	315	*e*P	**P**	19 19 50.8	+0.9	
HHC	comp=Z,28nm,0.8s			pmax	pmax			
HHC	comp=Z,130nm,5.7s			pmax	pmax			
EGAK	**Eagle**	86.99	15	P	**P**	19 19 48.5	-0.8	
EGAK	**Eagle** baz=215	86.99	15	P	**P**	19 19 49.1	-0.3	
FLWY	**Flagg Ranch** comp=Z,14nm,0.9s	87.13	42	IAmb	IAmb	19 19 53.1		
SRDT	**SRDT**	87.14	286	P	**P**	19 19 53.1	+1.9	
D19K	**Kuna River** baz=200	87.16	7	P	**P**	19 19 49.6	-0.5	
COLD	**Coldfoot** baz=207	87.17	11	P	**P**	19 19 50.3	+0.1	
H25L	**Birch Creek** baz=211	87.17	13	P	**P**	19 19 49.3	-0.9	
E20K	**Nigu River** baz=201	87.18	8	P	**P**	19 19 50.0	-0.3	
YHL	**Hebgen Lake**	87.19	41	P	**P**	19 19 52.2	+1.0	
YHL	comp=Z,13nm,0.8s			IAmb	IAmb	19 19 53.7		
K29M	**Barlow Dome** baz=219	87.20	17	P	**P**	19 19 50.8	+0.3	
FARO	**Faro, Yukon** baz=223	87.22	19	P	**P**	19 19 50.2	-0.3	
YFT	**Old Faithful** comp=Z,10nm,0.8s	87.22	42	IAmb	IAmb	19 19 54.5		
BOZ	**Bozeman (W)** baz=241,SNR=5.6	87.26	40	P	**P**	19 19 52.1	+0.8	
BW06	**Boulder Array** baz=243	87.27	44	P	**P**	19 19 51.4	-0.1	
PD31	**Pinedale Array** comp=Z,15nm,1.4s	87.27	44	IAmb	IAmb	19 19 52.7		
PDAR	**Pinedale Array**	87.27	44	P	**P**	19 19 51.0	-0.5	
PDAR	**Pinedale Array**	87.27	44	P	**P**	19 19 51.8	+0.2	
	comp=Z,3.8nm,0.5s,baz=212,slow=3.2,SNR=28							

PDAR PP **PP** **19 23 24.1 -1.8**
comp=Z,1.4nm,1.0s,baz=238,slow=8.5,SNR=5.1
comp=Z,3.8nm,0.5s
H17A Grant Village 87.36 42 IAmb IAmb 19 19 55.4
comp=Z,12nm,0.9s
H17A Grant Village 87.36 42 P **P** **19 19 54.2 +2.2**
baz=242,SNR=8.4
SMCO Snowmass 87.45 48 P **P** **19 19 52.6 -0.1**
SAND Sanderson 87.47 58 IAmb IAmb 19 19 54.6
comp=Z,8.1nm,1.0s
J29N Klondike Camp 87.49 16 P **P** **19 19 51.9 +0.1**
J29N IAmb IAmb 19 19 53.6
comp=Z,5.8nm,0.6s
J29N Klondike Camp 87.49 16 P **P** **19 19 52.3 +0.5**
baz=218
G25K Bearman Lake 87.54 12 P **P** **19 19 52.0 +0.1**
baz=211
LKWY Lake 87.55 42 IAmb IAmb 19 19 56.0
comp=Z,9.7nm,0.8s
D20K Etivluk River 87.55 8 P **P** **19 19 51.6 -0.4**
baz=201
KMI Kunming 87.55 297 ⇓P **P** **19 19 54.9 +1.7**
KMI pmax pmax
comp=Z,24nm,0.9s
I27K Kandik River 87.56 14 P **P** **19 19 51.8 -0.3**
baz=215
C19K Lookout Ridge 87.56 7 P **P** **19 19 51.9 -0.2**
baz=198
B18K Kokolik River 87.58 6 P **P** **19 19 51.7 -0.3**
baz=196
E22K Anaktuvuk Pass 87.72 10 P **P** **19 19 52.0 -0.8**
E22K IAmb IAmb 19 19 53.4
comp=Z,8.3nm,1.0s
E22K Anaktuvuk Pass 87.72 10 P **P** **19 19 52.6 -0.2**
baz=205
TOAD Toad River Com 87.78 25 P **P** **19 19 53.6 +0.3**
baz=230
I28M Miner Creek 87.84 15 P **P** **19 19 53.1 -0.3**
baz=216,SNR=6.0
F24K Squaw Lake 87.85 11 IAmb IAmb 19 19 54.4
comp=Z,6.8nm,0.8s
F24K Squaw Lake 87.85 11 P **P** **19 19 53.7 +0.3**
baz=209
SDCO Great Sand Dun 87.91 49 P **P** **19 19 53.2 -1.5**
baz=246
CRAI Chiangrai 87.94 292 P **P** **19 19 54.7 -0.2**
CRAI IAmb IAmb 19 19 57.7
comp=Z,9.4nm,1.2s
E23K Chandalar 88.02 10 P **P** **19 19 54.1 -0.1**
baz=208
H27K Steamboat Moun 88.09 14 P **P** **19 19 55.0 +0.4**
baz=215
J30M Hart River 88.10 17 P **P** **19 19 54.4 -0.3**
baz=220
MMPY Sheldon Lake, 88.17 20 IAmb IAmb 19 19 56.5
comp=Z,11nm,0.8s
MMPY Sheldon Lake, 88.17 20 P **P** **19 19 55.8 +0.8**
baz=224,SNR=6.9
G26K Porcupine Rive 88.19 13 P **P** **19 19 55.7 +0.8**
baz=213
C21K Knifeblade Rid 88.21 8 P **P** **19 19 55.2 +0.2**
baz=203
D22K Ayikyak River 88.26 9 IAmb IAmb 19 19 56.2
comp=Z,8.2nm,0.7s
D22K Ayikyak River 88.26 9 P **P** **19 19 55.6 +0.3**
baz=205
F25K Christian Rive 88.35 12 P **P** **19 19 56.3 +0.6**
baz=211
TGTN Hyland Airport 88.42 22 P **P** **19 19 56.9 +0.7**
baz=227
BMAR Burnt Mountain 88.42 12 P **P** **19 19 56.1 0.0**
A19K Wainwright 88.46 6 P **P** **19 19 55.9 -0.2**
baz=197
MSTX Muleshoe 88.46 54 P **P** **19 19 57.7 +0.6**
baz=248
RLMT Red Lodge 88.52 41 IAmb IAmb 19 19 59.4
comp=Z,8.8nm,1.0s
RLMT Red Lodge 88.52 41 P **P** **19 19 58.4 +1.1**
baz=243
G27K Doyon Strip 88.54 14 P **P** **19 19 56.5 -0.1**
baz=215
TOLK Toolik Lake Re 88.54 10 P **P** **19 19 56.3 -0.3**
baz=208
I30M Mount Dempster 88.58 16 P **P** **19 19 56.7 -0.3**
baz=220,SNR=5.1
OZNA Ozona 88.62 57 IAmb IAmb 19 19 59.7
comp=Z,12nm,0.8s
COYC Coyhaique 88.63 138 P **P** **19 19 56.4 -1.2**
CM31 Chiang Mai Arr 88.63 290 IAmb IAmb 19 20 00.4
comp=Z,19nm,1.1s
CMAR Chiang Mai Arr 88.63 290 P **P** **19 19 58.5 +0.3**
CMAR Chiang Mai Arr 88.63 290 P **P** **19 19 59.1 +1.0**
comp=Z,9.8nm,0.9s,baz=106,slow=2.9,SNR=68
CMAR PP **PP** **19 23 36.9 +0.1**
comp=Z,1.1nm,0.9s,baz=103,slow=5.2,SNR=5.5
comp=Z,9.8nm,0.9s
D23K Nanushuk River 88.65 10 P **P** **19 19 57.3 +0.2**
baz=206
Q24A Divide 88.66 48 P **P** **19 19 58.0 -0.2**
baz=246
B21K Ikpikpuk River 88.67 8 P **P** **19 19 56.6 -0.4**
baz=203
B20K Meade River 88.70 7 P **P** **19 19 56.7 -0.5**
baz=200
F26K Sheenjek River 88.74 12 P **P** **19 19 58.0 +0.5**
baz=213
CD2 Chengdu 88.78 303 P **P** **19 19 59.8 +1.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
E25K Arctic Village 88.82 12 P **P** **19 19 58.0 +0.1**
baz=211
H29M Whitestone 88.84 15 IAmb IAmb 19 19 58.7
comp=Z,6.8nm,0.8s
H29M Whitestone 88.84 15 P **P** **19 19 58.2 +0.2**
baz=218
PZH PanZhiHua 88.88 298 P **P** **19 20 01.0 +1.7**
PZH pmax pmax
comp=Z,6.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,5.4s
N23A Red Feather La 88.89 46 IAmb IAmb 19 20 01.2
comp=Z,11nm,1.1s
N23A Red Feather La 88.89 46 P **P** **19 19 59.6 +0.4**
baz=245
KOTAN Kotaneelee Air 89.06 24 P **P** **19 19 59.8 +0.6**
baz=231
833A Chaparral WMA, 89.11 60 P **P** **19 20 00.6 +0.5**
baz=249
D24K Happy Valley 89.12 10 P **P** **19 19 59.2 0.0**
baz=208
EPYK Eagle Plains 89.38 16 IAmb IAmb 19 20 01.3
comp=Z,6.7nm,1.1s
EPYK Eagle Plains 89.38 16 P **P** **19 20 00.3 -0.3**
baz=220
C23K Itkillik River 89.44 9 IAmb IAmb 19 20 01.6
comp=Z,7.3nm,0.7s
C23K Itkillik River 89.44 9 P **P** **19 20 00.9 +0.2**
baz=206
G29M Pine Creek 89.48 15 P **P** **19 20 00.5 -0.5**
baz=218
B22K Teshekpuk Lake 89.49 8 P **P** **19 20 00.7 -0.2**
baz=204
JCT Junction City 89.53 58 P **P** **19 20 02.6 +0.5**
baz=249
EGMT Eagleton 89.54 39 P **P** **19 20 01.0 -0.8**
baz=243
H31M Peel River 89.58 17 P **P** **19 20 01.1 -0.4**
baz=222
F28M Old Crow 89.60 14 P **P** **19 20 01.5 0.0**
F28M Old Crow 89.60 14 P **P** **19 20 01.7 +0.2**
baz=217
HNDO Hondo 89.62 59 P **P** **19 20 03.1 +0.6**
AMTX Amarillo 89.64 53 P **P** **19 20 02.6 0.0**
baz=248
C24K Franklin Bluff 89.65 10 P **P** **19 20 01.3 -0.4**
baz=208
E27K Coleen River 89.69 13 P **P** **19 20 01.6 -0.4**
baz=215
D25K Kavik River 89.70 11 P **P** **19 20 01.2 -0.8**
baz=210
A22K Sinclair Lake 89.90 8 P **P** **19 20 02.0 -0.8**
baz=202
G30M tAoh Zraii Nji 89.98 15 IAmb IAmb 19 20 04.4
comp=Z,18nm,1.1s
G30M tAoh Zraii Nji 89.98 15 P **P** **19 20 03.0 -0.3**
baz=220
A21K Barrow 90.00 7 P **P** **19 20 04.0 +0.8**
baz=201

APMT Aspermont 90.28 55 IAmb IAmb 19 20 06.8
comp=Z,10nm,0.9s
ABTX Abilene, Hawle 90.41 56 P **P** **19 20 05.7 -0.4**
ABTX IAmb IAmb 19 20 07.8
comp=Z,14nm,0.8s
ABTX Abilene, Hawle 90.41 56 P **P** **19 20 06.0 -0.1**
baz=249
G31M Satah River 90.44 16 IAmb IAmb 19 20 06.4
comp=Z,8.9nm,0.8s
G31M Satah River 90.44 16 P **P** **19 20 05.3 0.0**
baz=222,SNR=6.7
BRDY Brady 90.46 57 IAmb IAmb 19 20 08.0
comp=Z,5.8nm,0.9s
E28M Babbage River 90.47 13 P **P** **19 20 05.0 -0.6**
E28M Babbage River 90.47 13 P **P** **19 20 05.6 +0.1**
baz=217
C26K Camden Bay 90.48 11 P **P** **19 20 05.5 +0.1**
baz=212
F30M Barrier River 90.57 15 P **P** **19 20 06.3 +0.3**
baz=220
TROLL Troll, Antarti 90.58 180 ⇑P **P** **19 20 06.7 +0.4**
comp=Z,492nm,0.5s
TROLL ⇑pP pP 19 21 53.0 -12
comp=Z,392nm,1.0s
LZH Lanzhou 90.59 308 *e*P **P** **19 20 08.5 +1.5**
LZH pmax pmax
comp=Z,31nm,1.0s
E29M Blow River 90.67 14 P **P** **19 20 06.4 0.0**
baz=218
D27M Malcolm River 90.69 13 P **P** **19 20 06.2 -0.3**
baz=216
SNAA Sanae 90.88 179 ⇑P **P** **19 20 07.6 -0.1**
comp=Z,80nm,0.4s
SNAA ⇑pP **pP** **19 21 58.9 -7.2**
comp=Z,89nm,0.8s
SNAA Sanae 90.88 179 P **P** **19 20 07.3 -0.3**
comp=Z,3.0nm,0.4s,baz=202,slow=9.5,SNR=25
comp=Z,3.0nm,0.4s
F31M Tsiigehtchic 90.96 16 IAmb IAmb 19 20 09.8
comp=Z,22nm,1.3s
F31M Tsiigehtchic 90.96 16 P **P** **19 20 07.2 -0.6**
baz=222,SNR=5.7
VNA3 Neumayer Olymp 91.03 176 ⇑P **P** **19 20 08.8 +0.5**
comp=Z,20nm,0.6s
LAO LASA Array 91.11 41 P **P** **19 20 09.0 -0.1**
baz=245
TNCH TengChong 91.12 296 *e*P **P** **19 20 07.3 -2.5**
TNCH pmax pmax
comp=Z,150nm,4.8s
VNA2 Neumayer--Watz 91.47 177 ⇑P **P** **19 20 10.4 +0.1**
comp=Z,7.8nm,0.6s,baz=186,slow=3.3
VNA2 ⇑pP **pP** **19 22 09.7 +1.0**
comp=Z,10nm,0.8s,baz=66,slow=5.7
RSSD Black Hills 91.48 44 P **P** **19 20 10.6 -0.5**
RSSD IAmb IAmb 19 20 12.2
comp=Z,6.3nm,0.9s
RSSD Black Hills 91.48 44 P **P** **19 20 11.3 +0.3**
baz=247
OGNE Ogallala 91.63 47 P **P** **19 20 13.0 +1.3**
baz=248
INK Inuvik 91.66 15 IAmb IAmb 19 20 11.1
comp=Z,5.8nm,0.8s
INK Inuvik 91.66 15 P **P** **19 20 11.4 +0.4**
baz=222
VNA1 Neumayer--Stat 91.69 177 ⇑P **P** **19 20 12.6 +1.3**
comp=Z,24nm,0.9s
WMOK Wichita Mounta 91.82 54 P **P** **19 20 12.9 +0.4**
baz=250
CBKS Cedar Bluff 92.51 50 P **P** **19 20 16.8 +1.2**
baz=249
ULN Ulaanbaatar 92.83 320 P **P** **19 20 15.9 -1.2**
ULN IAmb IAmb 19 20 17.9
comp=Z,5.9nm,0.8s
DGMT Dagmar 93.09 40 P **P** **19 20 19.3 +1.2**
baz=247
SONM Songino Array 93.23 319 P **P** **19 20 18.7 -0.2**
comp=Z,1.5nm,0.7s,baz=123,slow=5.7,SNR=11
comp=Z,1.5nm,0.7s
YKA Yellowknife Ar 94.15 25 P **P** **19 20 22.2 -0.3**
comp=Z,2.4nm,0.8s,baz=249,slow=4.5,SNR=27
YKA PP **PP** **19 24 11.9 -6.7**
comp=Z,0.2nm,0.4s,baz=237,slow=7.2,SNR=4.9
comp=Z,2.4nm,0.8s
KSU1 Kansas State U 94.91 51 P **P** **19 20 27.5 +1.0**
baz=251
A36M Sachs Harbour 96.25 15 P **P** **19 20 31.1 -0.7**
A36M Sachs Harbour 96.25 15 P **P** **19 20 31.7 0.0**
baz=230
ZALV Zalesovo Beam 107.91 322 PKiKP **PKiKP** **19 25 26.8 -1.1**
comp=Z,0.9nm,0.6s,baz=86,slow=0.7,SNR=5.4
MKAR Makanchi Array 108.82 314 Pdiff **Pdif** **19 21 30.5 +2.1**
comp=Z,0.6nm,0.8s,baz=97,slow=4.9,SNR=3.9
MKAR PKiKP **PKiKP** **19 25 28.9 -1.0**
comp=Z,1.1nm,0.5s,baz=165,slow=0.6,SNR=22
KURBB Kurchatov Arra 111.56 318 PKiKP **PKiKP** **19 25 33.8 -1.1**
comp=Z,1.4nm,0.7s,baz=96,slow=1.7,SNR=15
KURBB PP **PP** **19 26 23.3 -3.7**
comp=Z,0.6nm,0.7s,baz=97,slow=7.4,SNR=4.2
BVAR Borovoye Array 116.52 321 PKP **PKPdf** **19 25 43.8 -0.6**
comp=Z,2.4nm,0.4s,baz=97,slow=1.8,SNR=12
BVAR PP **PP** **19 27 04.5 +3.1**
comp=Z,1.7nm,0.8s,baz=98,slow=10,SNR=3.9
ARU Arti 122.52 326 PKPdf **PKPdf** **19 25 55.6 -0.2**
HRA Herat 123.61 300 PKPdf **PKPdf** **19 25 58.0 -0.8**
ARCES ARCESS Array B 126.01 350 PKP **PKPdf** **19 26 02.2 +0.1**
comp=Z,4.6nm,0.8s,baz=42,slow=1.5,SNR=7.0
GEYT Alibeck 126.74 304 **PKiKP** **19 26 05.1 0.0**
GEYT Alibeck 126.74 304 PKP **PKPdf** **19 26 04.5 0.0**
comp=Z,4.5nm,0.8s,baz=235,slow=5.1,SNR=6.8
FINES FINESS Array B 132.87 344 PKP **PKPdf** **19 26 13.2 -2.0**
comp=Z,1.1nm,0.7s,baz=46,slow=4.0,SNR=2.5
FINES SKPbc **SKPab** **19 28 54.0 -1.0**
comp=Z,2.0nm,0.6s,baz=34,slow=3.5,SNR=7.4
NOA NORSAR Array B 136.08 353 PKP **PKPdf** **19 26 21.5 +0.1**
comp=Z,0.4nm,0.6s,baz=20,slow=3.8,SNR=1.4
HFS Hagfors 136.63 351 PKhKP PKPpre 19 26 12.8
comp=Z,0.8nm,0.3s,baz=83,slow=4.5,SNR=9.0
AKASG Malin Array Be 140.23 332 PKhKP PKPpre 19 26 21.9
comp=Z,1.1nm,0.5s,baz=42,slow=4.2,SNR=8.4
AKASG PKP **PKiKP** **19 26 30.9 -1.0**
comp=Z,1.2nm,0.5s,baz=44,slow=4.0,SNR=5.0
AKASG SKP 19 29 14.8
comp=Z,0.8nm,0.7s,baz=63,slow=0.6,SNR=4.2
EKA Eskdalemuir Ar 142.20 4 PKhKP PKPpre 19 26 28.3
comp=Z,1.2nm,0.6s,baz=350,slow=3.1,SNR=5.3
EKA PKP **PKPdf** **19 26 32.6 0.0**
comp=Z,0.8nm,0.5s,baz=343,slow=2.7,SNR=2.8
GAZ Gaziantep 143.03 309 PKPdf PKPbc 19 26 33.0 +0.2
BNN Bunyan 143.34 312 PKPdf PKPab 19 26 33.8 +0.3
LEOM Leova 143.67 328 ⇓P **PKPdf** **19 26 35.1 -0.4**
KWP Kalwaria Pacla 143.75 336 *e*PKP PKPab 19 26 34.9 +0.4
LODK Lodwar 143.85 251 PKPdf **PKPdf** **19 26 36.9 0.0**
VLDR Vladesti 144.19 328 ⇑P **PKPdf** **19 26 36.9 +0.6**
BUR08 Bucovina Ar. S 144.27 332 **PKPab** **19 26 37.0 +0.3**
BURAR Bucovina Array 144.29 332 ⇑P **PKPdf** **19 26 36.8 +0.2**
BURAR Bucovina Array 144.29 332 **PKPab** **19 26 37.0 +0.3**
GHRR 144.38 328 ⇓P **PKPab** **19 26 37.8 +0.8**
TESR Tescani 144.43 330 ⇓P **PKPdf** **19 26 36.1 -0.7**
BR131 Keskin Array S 144.47 315 PKPdf **PKPdf** **19 26 37.1 -0.2**
BRTR Keskin Array B 144.47 315 PKP **PKPdf** **19 26 37.4 +0.1**
comp=Z,12nm,0.8s,baz=114,slow=2.9,SNR=21
FLTG Flechtingen 144.52 350 *e*PKPbc **PKPdf** **19 26 36.8 +0.1**
baz=15,slow=2.9
NRDL Niedersach Rie 144.54 351 *e*PKPbc PKPbc 19 26 37.1 +0.4
baz=15,slow=2.9
TPGR Topolog 144.67 326 ⇓P PKPbc 19 26 37.8 +0.2
NIE Niedzica 144.80 338 *e*PKP **PKPab** **19 26 39.2 +0.7**
ASSE Asse, Remlinge 144.81 350 *e*PKPbc **PKPdf** **19 26 36.8 -0.3**
baz=15,slow=2.9
CRVS Cervenica-Dubn 144.81 337 *e*PKP **PKPab** **19 26 40.0 +1.4**
ANTO Ankara 144.96 316 **PKPdf** **19 26 38.3 +0.2**
IBBN Ibbenburen 145.04 353 *e*PKPbc **PKPbc** **19 26 38.8 +0.4**
baz=15,slow=2.9
TURR Turia 145.07 330 ⇑P **PKPab** **19 26 39.8 +0.1**
ARCR ARCALIA 145.07 332 ⇓P **PKPbc** **19 26 38.8 +0.2**
OSTC Ostas 145.07 343 *e*PKP **PKPab** **19 26 39.6 +0.1**
CHVC Chvalec 145.09 344 *e*PKP **PKPbc** **19 26 39.1 +0.4**
CLZ Cilausthal 145.13 350 *e*PKPbc **PKPbc** **19 26 39.3 +0.6**
baz=15,slow=2.9
CLL Collm 145.15 347 PKPdf **PKPdf** **19 26 37.0 -0.9**
CLL Collm 145.15 347 *i* PKPbc **PKPbc** **19 26 38.8 0.0**
comp=Z,11nm,0.7s
CLL Collm 145.15 347 *e*PKPbc **PKPbc** **19 26 39.1 +0.3**
baz=15,slow=2.9
UPC Upice 145.17 344 *e*PKP **PKPbc** **19 26 39.4 +0.5**
DPC Dobruska-Polom 145.23 343 *e*PKP **PKPbc** **19 26 39.7 +0.6**
LANS Liptovska Anna 145.32 339 *e*PKP **PKPab** **19 26 40.6 0.0**

KRLC Kraliky 145.35 343 *e*PKP **PKPbc** **19 26 39.8 +0.3**
BRG Berggiesshubel 145.35 346 *i* PKP **PKPbc** **19 26 39.8 +0.4**
BRG Amp 19 26 40.5
comp=Z,6.7nm,0.9s
BRG Berggiesshubel 145.35 346 *e*PKPbc **PKPbc** **19 26 39.8 +0.4**
baz=15,slow=2.9
MORC Moravsky Berou 145.39 342 ⇓P **PKPab** **19 26 40.5 -0.4**
MORC Moravsky Berou 145.39 342 *e*PKP **PKPbc** **19 26 39.9 +0.3**
NEUB Neuenburg 145.49 348 *e*PKPbc **PKPbc** **19 26 40.4 +0.6**
baz=15,slow=2.9
MLR Muntele Rosu 145.50 329 ⇓P **PKPab** **19 26 41.1 -0.4**
PVCC Panska Ves 145.53 345 *e*PKP **PKPbc** **19 26 40.7 +0.8**
MAUC Maruska 145.67 341 *e*PKP **PKPbc** **19 26 41.0 +0.6**
CBBR Cluj-Babes-Bol 145.67 333 ⇑P **PKPdf** **19 26 37.3 -1.6**
CJR Cluj-Napoca 145.69 333 ⇓P **PKPbc** **19 26 40.6 +0.1**
MMAI Mount Meron Ar 145.85 303 PKPbc **PKPbc** **19 26 41.9 +0.4**
comp=Z,25nm,0.6s,baz=67,slow=4.8,SNR=115
MARR Marisel-Cluj 145.93 333 ⇓P **PKPbc** **19 26 41.0 -0.3**
VOIR 145.98 330 ⇑P **PKPab** **19 26 43.0 -0.3**
DRGR 146.01 333 ⇓P **PKPbc** **19 26 41.5 0.0**
PRU Pruhonice 146.03 345 *e*PKP **PKPbc** **19 26 41.7 +0.4**
VRAC Vranov 146.09 342 *e*PKP **PKPbc** **19 26 42.2 +0.6**
VYHS Vyhne 146.10 339 *e*PKP **PKPbc** **19 26 41.6 0.0**
TANN Tannenbergstha 146.11 347 *e*PKPbc **PKPbc** **19 26 42.2 +0.5**
baz=15,slow=2.9
JAVC Velka Javorina 146.16 341 *e*PKP **PKPab** **19 26 43.4 -0.5**
PSZ Piszkesteto 146.21 337 ⇓P **PKPbc** **19 26 41.8 -0.3**
PSZ Piszkesteto 146.21 337 PKPdf **PKPdf** **19 26 39.8 -0.1**
ARR Arges 146.23 330 ⇑P **PKPbc** **19 26 42.8 +0.7**
KRUC Moravsky 146.37 342 *e*PKP **PKPbc** **19 26 42.7 +0.4**
ZVC Zvikov 146.63 345 *e*PKP **PKPbc** **19 26 43.2 +0.2**
MODS Modra-Piesok 146.71 341 *e*PKP **PKPbc** **19 26 44.3 +1.0**
CSS Mathiatis 146.78 308 **PKPbc** **19 26 43.8 -0.1**
ROTZ Rotzenmuhle 146.78 347 *e*PKPbc **PKPbc** **19 26 44.0 +0.6**
baz=15,slow=2.9
SIRR Siria 146.87 334 ⇓P **PKPbc** **19 26 44.2 +0.4**
GRF Grafenberg Arr 147.05 348 *e*PKPbc **PKPbc** **19 26 44.9 +0.7**
baz=15,slow=2.9
KHC Kasperske Hory 147.06 345 **PKPbc** **19 26 44.0 -0.2**
KHC Kasperske Hory 147.06 345 *e*PKP **PKPbc** **19 26 44.6 +0.4**
GZR Gura Zlata 147.07 332 ⇑P **PKPbc** **19 26 45.0 +0.6**
SURR Surduc 147.08 333 ⇓P **PKPbc** **19 26 44.9 +0.5**
CKRC Cesky Krumlov 147.17 344 *e*PKP **PKPbc** **19 26 44.9 +0.4**
WET Wettzell 147.22 346 *e*PKPbc **PKPbc** **19 26 45.1 +0.5**
baz=15,slow=2.9
GEC2 GERESS Array S 147.30 345 *e*PKPbc **PKPbc** **19 26 45.4 +0.5**
baz=15,slow=2.9
GERES GERESS Array B 147.30 345 **PKPbc** **19 26 45.0 0.0**
GERES GERESS Array B 147.30 345 PKPbc **PKPbc** **19 26 45.2 +0.3**
comp=Z,4.8nm,0.6s,baz=24,slow=5.4,SNR=24
CONA Conrad Observa 147.54 342 *e*PKP **PKPbc** **19 26 45.9 +0.3**
comp=Z,5.9nm,0.5s,SNR=10
RONA Rosalia, Austr 147.62 341 *e*PKP **PKPbc** **19 26 46.0 +0.3**
comp=Z,5.1nm,0.6s,SNR=5.3
HERR Herculane 147.63 332 ⇑P **PKPbc** **19 26 46.2 +0.4**
WLF Walferdange 147.81 354 *e*PKPbc **PKiKP** **19 26 47.1 -0.4**
baz=15,slow=2.9
MOA Molln 148.07 344 *e*PKP **PKPbc** **19 26 46.6 -0.2**
comp=Z,1.3nm,0.4s
ARSA Arzberg 148.25 342 *i* PKP **PKPbc** **19 26 47.6 +0.3**
comp=Z,2.3nm,0.7s
FRGS Fruska Gora 148.53 335 ⇑P **PKPbc** **19 26 48.0 -0.1**
BFO Black Forest 148.86 351 *e*PKPbc **PKPbc** **19 26 49.1 +0.3**
baz=15,slow=2.9
LESA Schwarzleotal 148.87 345 *i* PKP **PKPbc** **19 26 48.7 -0.2**
comp=Z,3.7nm,0.3s
SOKA Soboth 148.92 342 *e*PKP **PKPbc** **19 26 48.5 -0.5**
comp=Z,2.2nm,0.5s,SNR=4.4
PERS Pernice 148.93 342 *i* PKPbc **PKPbc** **19 26 48.6 -0.4**
KBA Koelnbreinsper 149.03 344 *i* PKP **PKPbc** **19 26 48.7 -0.7**
comp=Z,3.3nm,0.3s
UBR Ueberruh 149.19 348 *e*PKPbc **PKPbc** **19 26 50.1 +0.4**
baz=15,slow=2.9
WATA Walderalm 149.21 346 *i* PKP **PKPbc** **19 26 49.7 -0.2**
comp=Z,4.1nm,0.4s,SNR=5.0
WTTA Wattenberg 149.27 346 *i* PKP **PKPbc** **19 26 50.0 -0.1**
comp=Z,6.5nm,0.4s,SNR=14
MOTA Moosalm 149.31 347 *i* PKP **PKPbc** **19 26 49.9 -0.2**
comp=Z,2.0nm,0.3s,SNR=5.2
MYKA Terra Mystica 149.36 343 *e*PKP **PKPbc** **19 26 49.3 -0.8**
comp=Z,5.9nm,0.4s,SNR=6.6
SQTA Sankt Quirin 149.40 347 *i* PKP **PKPbc** **19 26 50.2 -0.1**
comp=Z,6.2nm,0.5s
PDKS Podkum 149.48 341 *i* PKPbc **PKPbc** **19 26 50.1 -0.2**
ABTA Abfaltersbach 149.54 345 *e*PKP **PKPbc** **19 26 49.9 -0.7**
comp=Z,5.9nm,0.5s,SNR=14
CRNS Crni Vrh 149.69 342 *i* PKPbc **PKPbc** **19 26 50.4 -0.5**
FETA Feichten 149.70 347 *i* PKP **PKPbc** **19 26 51.2 +0.2**
comp=Z,2.8nm,0.6s,SNR=4.1
STAL STALIGIAL 149.95 344 **PKPbc** **19 26 50.2 -1.3**
FUORN Ofenpass-Fuorn 150.18 348 **PKPdf** **19 26 44.5 -2.1**
FUORN **PKPbc** **19 26 51.8 -0.5**
TUE Stuetta 150.50 349 **PKPbc** **19 26 53.3 +0.3**
FNA Florina 151.22 327 **PKPbc** **19 26 53.4 -1.2**
ESDC Sonseca Array 157.54 11 PKPab **PKPab** **19 27 30.1 -2.0**
comp=Z,1.9nm,1.1s,baz=334,slow=3.5,SNR=4.0
DBIC Dimbokro 167.51 150 PKP **PKPdf** **19 27 09.8 -1.3**
comp=Z,7.5nm,1.1s,baz=207,slow=2.3,SNR=3.9
TORD Torodi Ar. Bea 175.54 184 PKP **PKPdf** **19 27 09.8 -1.1**
comp=Z,1.2nm,0.7s,baz=20,slow=1.7,SNR=6.9
TORD PKPab **PKPab** **19 28 52.4 +0.6**
comp=Z,0.7nm,0.6s,baz=181,slow=3.3,SNR=4.4

TAP 23 19:24:20.3,24°49N×121°83E,h12km,ML1.0,1D,B,
Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.07**	**228**	*i* P		Pg	19 24 23.5	+0.8
	baz=228							
EWUT				*i* S		Sg	19 24 25.3	+0.8
ESAO	**Su ao**	**0.09**	**7**	P		Pg	19 24 23.5	+0.6
	baz=6.0							
ESAO				S		Sg	19 24 25.1	+0.2
	baz=6.0							
ENA	**Nanau**	**0.10**	**234**	⇓*i* P		Pb	19 24 24.0	-0.3
	baz=230							
ENA				*i* S		Sg	19 24 26.1	+0.8
	baz=230							
TWC	**Suao**	**0.12**	**7**	*i* P		Pb	19 24 24.1	-0.4
	baz=11							
TWC				*i* S		Sg	19 24 26.2	+0.6
	baz=11							
LATG	**Datong**	**0.28**	**279**	P		Pb	19 24 27.1	-0.3
	baz=279							
LATG				S		Sb	19 24 31.6	-0.5
	baz=279							
NDT	**Datong Townshi**	**0.31**	**291**	*e*P		Pg	19 24 26.7	+0.1
	baz=291							
NDT				S		Sb	19 24 32.8	-0.1
	baz=291							
FUSB	**Fushanzhiwuyua**	**0.35**	**321**	*e*P		Pb	19 24 28.8	+0.3
	baz=320							
FUSB				*e*S		Sb	19 24 35.6	+1.5
	baz=320							
EOS2	**EOS2**	**0.37**	**101**	*e*P		Pb	19 24 28.7	-0.1
	baz=100							
ETL	**Fush Village**	**0.38**	**210**	*e*P		Pb	19 24 28.6	-0.5
	baz=210							
ETL				*e*S		Sb	19 24 34.4	-0.4
	baz=210							
NACB	**Ninganchiao**	**0.38**	**215**	*e*P		Pb	19 24 28.5	-0.5
	baz=214							
NACB				*e*S		Sb	19 24 34.0	-0.9
	baz=214							
NNSB	**Datong**	**0.41**	**262**	*e*S		Sb	19 24 35.6	-0.4
	baz=261							
NWLT	**Wulai**	**0.41**	**314**	*e*S		Sb	19 24 36.7	+0.8
	baz=313							
NNS	**Nan Shan**	**0.42**	**263**	*e*S		Sb	19 24 35.8	-0.3
	baz=262							
ETLH	**Xiulin Townshi**	**0.42**	**229**	*e*P		Pg	19 24 29.3	+0.5
	baz=228							
ETLH				*e*S		Sb	19 24 36.0	-0.3
	baz=228							
YHNB	**Yeheng**	**0.45**	**294**	P		Pb	19 24 30.9	+0.6
	baz=293							
YHNB				*e*S		Sb	19 24 36.9	-0.2
	baz=293							

JMA 23 19:24:31.0±0.1,24°2N±0.5×123°9E±0.5,h16km±1km,
MV0.4/8,NEAR ISHIGAKIJIMA ISLAND,Southwestern

Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.14**	**314**	*e*S	Sg	19 24 37.5	0.0
JKRS	**Kuro-shima**	**0.15**	**89**	*i* P	Pg	19 24 35.0	0.0
JKRS				*e*S	Sb	19 24 38.3	-0.1
HATJ	**Hateruma jima**	**0.18**	**192**	*i* P	Pg	19 24 35.2	-0.2
HATJ				*e*S	Sg	19 24 38.6	+0.2
JIJ	**Ishigaki jima**	**0.30**	**65**	P	Pg	19 24 37.1	-0.3
JIJ				*e*S	Sg	19 24 41.5	-0.2
JISG	**Ishigakijimahi**	**0.55**	**50**	*e*P	Pg	19 24 41.9	0.0
JISG				*e*S	Sb	19 24 49.8	-0.1
JTJ	**Tarama**	**0.88**	**62**	*e*S	Sg	19 25 00.2	+0.5

NEIC ***23*** *19:35:34.2±0.8, 19°.18N±0°.06×155°.46W±0°.03, h20km±2km, Error ellipse: s-maj=8.3km s-min=4.0km az=174.0*

HVO 23 19:35:35.1±1.3, 19°.19N±0°.02×155°.471W±0°.009, h5km±5km, ML2.7/30, ML2.7/50(NEIC), Error ellipse: s-maj=2.3km s-min=1.2km az=168.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.09**	**53**		Pg	19 35 37.4	+0.4
KHU	**Kahuku**	**0.15**	**294**		Pg	19 35 38.8	+0.6
KHU					Sg	19 35 42.0	+1.8
KHU	**Kahuku**	**0.15**	**294**	IAML		19 35 42.1	
	comp=E,998nm,0.8s						
KHU				IAML		19 35 43.5	
	comp=N,688nm,0.1s						
HLP	**Hilina Pali**	**0.19**	**54**		Pg	19 35 39.3	+0.5
HLP				IAML		19 35 44.7	
	comp=E,2μm,0.4s						
HLP				IAML		19 35 44.8	
	comp=N,2μm,0.2s						
SDHHI	**Sand Hill**	**0.26**	**39**		Pg	19 35 40.4	+0.1
SDHHI				IAML		19 35 46.8	
	comp=E,2μm,0.2s						
WRMHI	**West Rim**	**0.27**	**36**		Pg	19 35 40.3	-0.1
WRMHI	**West Rim**	**0.27**	**36**		Sg	19 35 45.1	+1.0
WRMHI	**West Rim**	**0.27**	**36**	IAML		19 35 49.3	
	comp=E,2μm,0.4s						
WRMHI				IAML		19 35 49.5	
	comp=N,2μm,0.6s						
RIM	**Rim**	**0.28**	**42**		Pg	19 35 40.7	+0.1
RIM	**Rim**	**0.28**	**42**	Sg	Sg	19 35 44.9	+0.6
RIM				IAML		19 35 46.6	
	comp=E,763nm,0.5s						
RIM				IAML		19 35 49.5	
	comp=N,1μm,0.7s						
KKO	**Keanakako`i**	**0.29**	**42**		Pg	19 35 40.8	+0.1
KKO					Sg	19 35 45.2	+0.6
KKO				IAML		19 35 45.9	
	comp=E,1μm,0.5s						
KKO				IAML		19 35 47.8	
	comp=N,2μm,0.6s						
NPH	**North Pit**	**0.29**	**38**		Pg	19 35 40.7	0.0
NPH					Sg	19 35 45.8	+1.2
UWE	**Uwekahuna**	**0.29**	**36**		Pg	19 35 40.9	+0.1
UWE					Sg	19 35 45.6	+1.0
OBL	**Observatory Le**	**0.29**	**37**		Pg	19 35 40.9	+0.1
OBL				Sg	Sg	19 35 45.6	+0.9
UWB	**Uwekahuna B**	**0.30**	**37**		Pg	19 35 40.9	0.0
UWB	**Uwekahuna B**	**0.30**	**37**	IAML		19 35 46.3	
	comp=E,393nm,0.5s						
UWB				IAML		19 35 46.5	
	comp=N,436nm,0.5s						
BYL	**Byron's Ledge**	**0.30**	**41**		Pg	19 35 41.1	+0.1
BYL				IAML		19 35 46.3	
	comp=E,847nm,0.4s						
BYL				IAML		19 35 46.5	
	comp=N,837nm,0.3s						
PUH	**Pauahi**	**0.30**	**52**		Pg	19 35 40.9	-0.1
PUH					Sg	19 35 45.6	+0.5
PUH				IAML		19 35 46.3	
	comp=N,1μm,0.3s						
PUH				IAML		19 35 47.8	
	comp=E,829nm,0.2s						
SBLHI	**Steaming Bluff**	**0.31**	**39**		Pg	19 35 41.0	-0.1
SBLHI					Sg	19 35 45.9	+0.7
SBLHI				IAML		19 35 46.6	
	comp=E,907nm,0.2s						
SBLHI				IAML		19 35 46.6	
	comp=N,1μm,0.6s						
HATHI	**Halema'uma'u T**	**0.31**	**40**		Pg	19 35 41.0	-0.1
HATHI	**Halema'uma'u T**	**0.31**	**40**		Sg	19 35 46.2	+1.0
HATHI	**Halema'uma'u T**	**0.31**	**40**	IAML		19 35 46.6	
	comp=N,2μm,0.5s						
HATHI				IAML		19 35 46.8	
	comp=E,1μm,0.2s						
MLH	**Mauna Loa**	**0.32**	**15**		Pg	19 35 41.6	+0.2
MLH				IAML		19 35 48.9	
	comp=E,948nm,0.1s						
MLH				IAML		19 35 51.8	
	comp=N,1μm,0.4s						
MLH	**Mauna Loa**	**0.32**	**15**		Sg	19 35 47.1	+1.5
MWH	**Moku'aweowe**	**0.32**	**338**		Pg	19 35 41.1	-0.4
RSD	**Rainshed**	**0.33**	**33**		Pg	19 35 41.5	-0.1
RSD				IAML		19 35 48.4	
	comp=N,636nm,0.2s						
RSD				IAML		19 35 48.5	
	comp=E,944nm,0.1s						
RSD	**Rainshed**	**0.33**	**33**		Sg	19 35 46.7	+0.8
KNHH	**Kane Nui o Ham**	**0.34**	**56**		Pg	19 35 41.6	-0.2
MLOA	**Mauna Loa Obse**	**0.36**	**344**		Pg	19 35 41.9	-0.3
MLOA					Sg	19 35 48.4	+1.2
STCH	**Steam Cracks**	**0.38**	**59**		Pg	19 35 42.2	-0.3
STCH				IAML		19 35 48.1	
	comp=N,910nm,0.6s						
STCH				IAML		19 35 48.2	
	comp=E,692nm,0.6s						
ALEP	**Alea Permanent**	**0.39**	**335**		Pg	19 35 42.7	-0.1
ALEP					Sg	19 35 49.2	+1.2
NPOC	**North of Pu'u**	**0.40**	**59**		Pg	19 35 42.5	-0.3
NPOC					Sg	19 35 48.1	+0.1
NPOC	**North of Pu'u**	**0.40**	**59**	IAML		19 35 49.0	
	comp=N,630nm,0.6s						
JCUZ	**Jacuzzi**	**0.40**	**60**	Pg	Pg	19 35 42.4	-0.5
JCUZ				Sg	Sg	19 35 48.2	+0.1
JCUZ				IAML		19 35 49.1	
	comp=N,898nm,0.7s						
HMH	**Humu'ula Sheep**	**0.41**	**358**		Pg	19 35 42.9	-0.3
HMH						19 35 50.3	
	comp=E,767nm,0.4s						
HMH				IAML		19 35 50.4	
	comp=N,916nm,0.2s						
HMH	**Humu'ula Sheep**	**0.41**	**358**		Sg	19 35 49.7	+1.0
JOKA	**Jonika Flow**	**0.51**	**61**		Pg	19 35 44.3	-0.5
JOKA					Sg	19 35 50.7	-0.7
CPH	**Captain Cook**	**0.52**	**306**		Pg	19 35 44.6	-0.4
KHLU	**Kahalu`u**	**0.57**	**315**		Pg	19 35 45.2	-0.8
KHLU					Sg	19 35 54.4	+0.9
POHA	**Pohakuloa**	**0.57**	**354**		Pg	19 35 45.3	-0.8
POHA				IAML		19 35 59.0	
	comp=N,586nm,0.2s						
POHA				IAML		19 35 59.1	
	comp=N,499nm,0.4s						
POHA	**Pohakuloa**	**0.57**	**354**		Sg	19 35 54.2	+0.6
HUH	**Hualalai**	**0.60**	**325**		Pg	19 35 46.3	-0.4
HPAH	**Hawaii Prepara**	**0.87**	**346**	Pg	Pg	19 35 47.0	-4.8
HPAH				Sg	Sg	19 36 00.7	-2.4
MHA	**Mahukona**	**1.08**	**338**	Pg	Pg	19 35 52.1	-3.6

IDC ***23*** *19:39:03.9±1.0, 10°.18S×124°.07E, h0km, mb3.7/6, mbtmp3.7/8, ML3.8/2, MS3.7/2, Error ellipse: s-maj=22.8km s-min=8.1km az=172.0*

NEIC ***23*** *19:39:05.1±1.7, 10°.53S±0°.03×123°.67E±0°.03, h14km±4km, mb4.4/15, Error ellipse: s-maj=4.7km s-min=3.7km az=173.0*

DJA ***23*** *19:39:06.8±0.4, 10°.S±4°.×12°.4E±°, h10km, M4.1/12, mb4.4/5, MLv4.0/12*

ISC 23 19:39:04.7±0.5, 10°.58S±0°.04×123°.72E±0°.05, h10km, n57, σ2°.27/59, mb3.9/8, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.38**	**352**	Pg	**Pg**	**19 39 11.7**	**-0.5**
	6μm,0.3s,baz=132,slow=14,SNR=5114						
BATI				Lg	Lg	19 39 17.1	
	4μm,0.3s,baz=354,slow=22,SNR=12						
BATI	**Baumata**	**0.38**	**352**	P	**Pg**	**19 39 11.5**	**-0.6**
SOEI	**Soe**	**0.98**	**34**	P	**Pg**	**19 39 24.8**	**+1.2**
SOEI	**Soe**	**0.98**	**34**		**Pg**	**19 39 24.3**	**+0.7**
SOEI					**Sb**	**19 39 38.3**	**+1.4**
SOEI	**Soe**	**0.98**	**34**	P	**Pg**	**19 39 24.6**	**+1.0**
MMRI	**Maumere**	**2.42**	**323**	P	**Pn**	**19 39 46.3**	**+1.9**
MMRI	**Maumere**	**2.42**	**323**		**Pn**	**19 39 43.2**	**-1.1**
MMRI				Sn	**Sn**	**19 40 09.4**	**-4.7**
MMRI	**Maumere**	**2.42**	**323**	P	**Pn**	**19 39 46.0**	**+1.6**
EDFI	**Ende, Flores**	**2.70**	**312**	P	**Pn**	**19 39 49.9**	**+1.6**
BASI	**Baing, Sumba**	**3.11**	**276**	P	**Pn**	**19 39 56.7**	**+2.9**
PLAI	**Plampang**	**6.11**	**286**	P	**Pn**	**19 40 37.8**	**+2.7**
PLAI	**Plampang**	**6.11**	**286**	P	**Pn**	**19 40 37.6**	**+2.5**
	64nm,0.6s,0.2nm						
BKSI	**Bukukumba**	**6.32**	**325**	P	**Pn**	**19 40 39.7**	**+1.7**
	15nm,0.8s,0.1nm						
KAPI	**Kappang**	**6.78**	**324**	Pn	**Pn**	**19 40 44.7**	**+0.4**
TWSI	**Taliwang, Sumb**	**6.98**	**285**	P	**Pn**	**19 40 49.9**	**+2.8**
	30nm,0.6s,0.2nm						
MTN	**Manton Dam**	**7.60**	**108**		**Pn**	**19 40 55.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**7.70**	**166**	P	**Pn**	**19 40 59.7**	**+2.7**
FITZ	**Fitzroy Crossi**	**7.70**	**166**		**Pn**	**19 40 57.7**	**+0.7**
FITZ					**Sn**	**19 42 22.3**	**-2.1**
KDU	**Kakadu**	**8.83**	**105**	P	**Pn**	**19 41 14.9**	**+2.4**
JAGI	**Jajag, Banyuwa**	**9.66**	**282**	P	**Pn**	**19 41 27.3**	**+3.4**
JAGI	**Jajag, Banyuwa**	**9.66**	**282**	Pn	**Pn**	**19 41 23.6**	**-0.3**
MBWA	**Marble Bar**	**11.20**	**200**	P	**Pn**	**19 41 48.5**	**+3.6**
MBWA	**Marble Bar**	**11.20**	**200**	Pn	**Pn**	**19 41 44.8**	**-0.1**
FAKI	**Fak Fak**	**11.38**	**49**	P	**Pn**	**19 41 51.4**	**+3.9**
FAKI	**Fak Fak**	**11.38**	**49**	Pn	**Pn**	**19 41 47.1**	**-0.4**
PSA00	**Pilbara Seismi**	**11.54**	**198**	Pn	**Pn**	**19 41 49.4**	**-0.3**
WB0	**Warramunga Arr**	**13.76**	**133**	Pn	**Pn**	**19 42 18.4**	**-1.6**
WRA	**Warramunga Arr**	**13.84**	**134**	Pn	**Pn**	**19 42 19.9**	**-1.2**
	0.4nm,0.3s,baz=301,slow=14,SNR=22						
WRA				Sn	**Sn**	**19 44 48.5**	**-6.4**
	0.9nm,0.3s,baz=308,slow=24,SNR=10.0						
	0.4nm,0.4s						
WB2	**Warramunga Arr**	**13.85**	**133**	Pn	**Pn**	**19 42 19.5**	**-1.7**
WR0	**Warramunga Arr**	**13.99**	**133**	Pn	**Pn**	**19 42 22.0**	**-1.2**
GIRL	**Giralia**	**15.04**	**216**		**Pn**	**19 42 40.1**	**+2.7**
AS31	**Alice Springs**	**16.24**	**145**		**Pn**	**19 42 53.4**	**+0.3**
ASAR	**Alice Springs**	**16.24**	**145**	Pn	**Pn**	**19 42 52.5**	**-0.6**
ASAR	**Alice Springs**	**16.24**	**145**	Pn	**Pn**	**19 42 53.5**	**+0.4**
	0.5nm,0.3s,baz=317,slow=12,SNR=18						
ASAR				Sn	**Sn**	**19 45 46.6**	**-6.8**
	0.2nm,0.3s,baz=320,slow=21,SNR=9.4						
	0.9nm,0.3s						
KKM	**Kota Kinabalu**	**18.13**	**335**	P	**Pn**	**19 43 14.1**	**-2.8**
KKM				IAmb	IAmb	19 43 31.3	
	comp=Z,57nm,1.4s						
COEN	**Coen**	**19.31**	**102**	P	**P**	**19 43 30.3**	**+0.2**
COEN				IAmb	IAmb	19 44 04.4	
	comp=Z,42nm,1.5s						
MORW	**Morawa**	**19.75**	**200**	P	**P**	**19 43 33.9**	**-0.9**
FORT	**Forrest**	**20.50**	**169**	P	**P**	**19 43 45.1**	**+2.2**
MNAI	**Manna**	**21.48**	**285**	P	**P**	**19 43 53.1**	**-0.7**
BBOO	**Buckleboo**	**24.87**	**155**	P	**P**	**19 44 28.7**	**+1.1**
BBOO				IAmb	IAmb	19 44 31.8	
	comp=Z,8.9nm,1.1s						
STKA	**Stephens Creek**	**26.88**	**145**	P	**P**	**19 44 48.5**	**+2.7**
	comp=Z,0.7nm,0.5s,baz=309,slow=12,SNR=3.3						
STKA				LR	LR	19 55 27.0	
	comp=Z,103nm,18.8s,baz=31,slow=36						
	comp=Z,0.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**37.82**	**320**	P	**P**	**19 46 21.5**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=147,slow=6.3,SNR=4.3						
CMAR				PcP	**PcP**	**19 48 41.6**	**+3.2**
	comp=Z,0.3nm,0.5s,baz=169,slow=0.9,SNR=2.6						
	comp=Z,0.9nm,0.9s						
DZM	**Mont Dzumac**	**42.43**	**111**	LR	LR	20 04 06.5	
	comp=Z,103nm,18.3s,baz=12,slow=36						
SONM	**Songino Array**	**60.16**	**347**	P	**P**	**19 49 11.1**	**-1.6**
SONM	**Songino Array**	**60.16**	**347**	P	**P**	**19 49 11.8**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=165,slow=6.8,SNR=4.5						
	comp=Z,0.4nm,0.5s						
CTZ	**Chatham Island**	**60.95**	**134**	P	**P**	**19 49 17.8**	**-0.3**
MK31	**Makanchi Array**	**68.04**	**331**	P	**P**	**19 50 02.2**	**-2.2**
MKAR	**Makanchi Array**	**68.04**	**331**	P	**P**	**19 50 02.1**	**-2.3**
MKAR	**Makanchi Array**	**68.04**	**331**	P	**P**	**19 50 04.0**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=137,slow=6.8,SNR=9.6						
	comp=Z,0.9nm,0.7s						
MAW	**Mawson**	**69.39**	**201**	P	**P**	**19 50 12.7**	**+0.3**
H04N2	**CROZET ISLANDS**	**69.92**	**225**	T	T	21 06 49.0	
	baz=83						
H04N3	**CROZET ISLANDS**	**69.94**	**225**	T	T	21 06 47.8	
	baz=83						
H04N1	**CROZET ISLANDS**	**69.94**	**225**	T	T	21 06 51.4	
	baz=83						
ZAA0	**Zalesovo Array**	**72.23**	**337**	P	**P**	**19 50 27.6**	**-2.2**
ZAA0				IAmb	IAmb	19 50 30.1	
	comp=Z,3.8nm,1.4s						
ZALV	**Zalesovo Beam**	**72.23**	**337**	P	**P**	**19 50 27.9**	**-2.0**
ZALV	**Zalesovo Beam**	**72.23**	**337**	P	**P**	**19 50 28.3**	**-1.5**
	comp=Z,0.8nm,0.4s,baz=150,slow=5.0,SNR=4.3						
	comp=Z,0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**72.50**	**332**	P	**P**	**19 50 30.8**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=142,slow=5.8,SNR=3.0						
	comp=Z,0.2nm,0.4s						

RSPR 23 19:40:54.8, 18°.29N×66°.07W, h118km±2km, MD2.8/3, 3C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CELP	**Cerrillos**	**0.53**	**246**	*i* *e*P	Pn	19 41 12.5	-0.2
CELP	**Cerrillos**	**0.53**	**246**	*e*S	Sn	19 41 26.4	+0.3
OBIP	**Obispado Ponce**	**0.57**	**245**	*i* *e*P	Pn	19 41 12.0	-0.9
OBIP	**Obispado Ponce**	**0.57**	**245**	*e*S	Sn	19 41 26.5	-0.1
AOPR	**Arecibo Observ**	**0.66**	**275**	*i* *e*P	Pn	19 41 12.9	-0.6
AOPR	**Arecibo Observ**	**0.66**	**275**	*e*S	Sn	19 41 27.1	-0.6
LSP	**Las Mesas**	**0.97**	**264**	*i* *e*P	Pn	19 41 16.8	+0.4
LSP	**Las Mesas**	**0.97**	**264**	*e*S	Sn	19 41 32.9	+0.2
MLPR	**Magueyes Islan**	**0.98**	**251**	*i* *e*P	Pn	19 41 15.6	-0.8
MLPR	**Magueyes Islan**	**0.98**	**251**	*e*S	Sn	19 41 32.2	-0.6
CRPR	**Cabo Rojo, PR**	**1.03**	**254**	*i* *e*P	Pn	19 41 16.8	-0.1
CRPR	**Cabo Rojo, PR**	**1.03**	**254**	*e*S	Sn	19 41 33.5	-0.1

NEIC ***23*** *19:41:33.6±0.7, 19°.17N±0°.03×64°.78W±0°.06, h35km±2km, ML3.1/24, Md3.6/10(RSPR), Error ellipse: s-maj=9.4km s-min=3.7km az=285.0*

RSPR ***23*** *19:41:34.6, 19°.22N×64°.85W, h58km±8km, MD3.6/10*

ISC 23 19:41:33.4±2.0, 19°.2N±0°.1×64°.79W±0°.05, h50km, n51, σ0°.68/49, 8C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.44**	**224**	*i* *e*P	**Pn**	**19 41 57.0**	**-0.1**
HUMP	**Col San Antoni**	**1.44**	**224**	*e*S	**Sn**	**19 42 15.2**	**+0.3**
HUMP	**Col San Antoni**	**1.44**	**224**		**Pn**	**19 41 56.9**	**-0.2**
HUMP	**Col San Antoni**	**1.44**	**224**		**Sn**	**19 42 15.2**	**+0.3**
HUMP	**Col San Antoni**	**1.44**	**224**	IAML		19 42 19.6	
	comp=E,302nm,0.2s						
HUMP				IAML		19 42 21.7	
	comp=N,234nm,0.2s						
GCPR	**Guaynabo City**	**1.50**	**235**	*i* *e*P	**Pn**	**19 41 58.3**	**+0.4**
GCPR	**Guaynabo City**	**1.50**	**235**	*e*S	**Sn**	**19 42 16.4**	**+0.1**
GCPR	**Guaynabo City**	**1.50**	**235**		**Pn**	**19 41 58.3**	**+0.4**
GCPR	**Guaynabo City**	**1.50**	**235**		**Sn**	**19 42 15.3**	**-1.1**
GCPR				IAML		19 42 20.0	
	comp=E,163nm,0.6s						
IGPR	**InterUniversit**	**1.74**	**226**	*i* *e*P	**Pn**	**19 42 01.3**	**+0.1**
IGPR	**InterUniversit**	**1.74**	**226**	*e*S	**Sn**	**19 42 22.5**	**+0.4**
IGPR	**InterUniversit**	**1.74**	**226**		**Pn**	**19 42 01.1**	**0.0**
IGPR	**InterUniversit**	**1.74**	**226**		**Sn**	**19 42 22.5**	**+0.4**
IGPR	**InterUniversit**	**1.74**	**226**	IAML		19 42 27.2	
	comp=E,587nm,0.3s						
IGPR				IAML		19 42 33.2	
	comp=N,282nm,0.3s						
EMPR	**Esperanza - Ma**	**1.79**	**247**	*i* *i*P	**Pn**	**19 42 01.9**	**+0.1**
EMPR	**Esperanza - Ma**	**1.79**	**247**	*e*S	**Sn**	**19 42 24.1**	**+0.7**
EMPR	**Esperanza - Ma**	**1.79**	**247**		**Pn**	**19 42 01.9**	**+0.1**
EMPR					**Sn**	**19 42 24.1**	**+0.7**
EMPR	**Esperanza - Ma**	**1.79**	**247**	IAML		19 42 30.2	
	comp=E,288nm,0.5s						
EMPR				IAML		19 42 36.4	
	comp=N,226nm,0.5s						
CELP	**Cerrillos**	**2.02**	**237**	*i* *i*P	**Pn**	**19 42 05.2**	**+0.2**
CELP	**Cerrillos**	**2.02**	**237**	*e*S	**Sn**	**19 42 29.0**	**-0.1**
CELP	**Cerrillos**	**2.02**	**237**		**Pn**	**19 42 05.0**	**0.0**
CELP				IAML		19 42 34.1	
	comp=N,105nm,0.5s						
CELP				IAML		19 42 35.6	
	comp=E,89nm,0.6s						
CELP	**Cerrillos**	**2.02**	**237**		**Sn**	**19 42 29.0**	**-0.1**
AOPR	**Arecibo Observ**	**2.04**	**246**	*i* *e*P	**Pn**	**19 42 05.1**	**-0.1**
AOPR	**Arecibo Observ**	**2.04**	**246**	*e*S	**Sn**	**19 42 29.4**	**-0.2**
AOPR	**Arecibo Observ**	**2.04**	**246**		**Pn**	**19 42 05.0**	**-0.2**
AOPR	**Arecibo Observ**	**2.04**	**246**		**Sn**	**19 42 29.4**	**-0.2**
AOPR	**Arecibo Observ**	**2.04**	**246**	*e*P	**Pn**	**19 42 05.1**	**-0.2**
AOPR				*e*S	**Sn**	**19 42 27.9**	**-1.6**
OBIP	**Obispado Ponce**	**2.06**	**237**	*i* *e*P	**Pn**	**19 42 04.8**	**-0.8**
OBIP	**Obispado Ponce**	**2.06**	**237**	*e*S	**Sn**	**19 42 28.2**	**-1.8**
OBIP	**Obispado Ponce**	**2.06**	**237**		**Pn**	**19 42 04.8**	**-0.8**
OBIP				IAML		19 42 35.8	
	comp=E,92nm,0.6s						
OBIP	**Obispado Ponce**	**2.06**	**237**		**Sn**	**19 42 28.2**	**-1.8**
SABA	**Saba**	**2.14**	**136**	Pn	**Pn**	**19 42 06.3**	**-0.3**
SABA				IAML		19 42 58.3	
	comp=N,198nm,0.9s						
AGPR	**Aguadilla, PR**	**2.31**	**252**	*i* *e*P	**Pn**	**19 42 09.1**	**+0.1**
AGPR	**Aguadilla, PR**	**2.31**	**252**	*e*S	**Sn**	**19 42 35.1**	**-1.0**
AGPR	**Aguadilla, PR**	**2.31**	**252**		**Pn**	**19 42 08.9**	**-0.1**
AGPR	**Aguadilla, PR**	**2.31**	**252**		**Sn**	**19 42 35.1**	**-1.0**
AGPR	**Aguadilla, PR**	**2.31**	**252**	IAML		19 42 50.0	
	comp=N,88nm,1.1s						
AGPR				IAML		19 42 50.7	
	comp=E,99nm,1.3s						
LSP	**Las Mesas**	**2.39**	**246**	*i* *e*P	**Pn**	**19 42 10.5**	**+0.3**
LSP	**Las Mesas**	**2.39**	**246**		**Pn**	**19 42 10.5**	**+0.3**
SEUS	**St. Eustatius**	**2.41**	**134**	Pn	**Pn**	**19 42 10.2**	**-0.1**
MLPR	**Magueyes Islan**	**2.45**	**241**	*i* *e*P	**Pn**	**19 42 11.5**	**+0.5**
MLPR	**Magueyes Islan**	**2.45**	**241**	*e*S	**Sn**	**19 42 39.7**	**0.0**
MLPR	**Magueyes Islan**	**2.45**	**241**		**Pn**	**19 42 11.4**	**+0.5**
MLPR	**Magueyes Islan**	**2.45**	**241**		**Sn**	**19 42 39.7**	**0.0**
CRPR	**Cabo Rojo, PR**	**2.49**	**242**	*i* *e*P	**Pn**	**19 42 11.9**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.49**	**242**	*e*S	**Sn**	**19 42 42.0**	**+1.3**
CRPR	**Cabo Rojo, PR**	**2.49**	**242**		**Pn**	**19 42 11.7**	**+0.3**
CRPR	**Cabo Rojo, PR**	**2.49**	**242**		**Sn**	**19 42 42.0**	**+1.3**
CRPR	**Cabo Rojo, PR**	**2.49**	**242**	IAML		19 42 50.0	
	comp=E,38nm,0.5s						
CRPR				IAML		19 42 57.6	
	comp=N,36nm,0.5s						
ANBD	**Bethesda, Anti**	**3.58**	**126**	*e*P	**Pn**	**19 42 26.5**	**+0.1**
ANBD				*e*S	**Sn**	**19 43 07.8**	**+0.4**
SDDR	**Presa de Saban**	**6.15**	**269**	*e*P	**Pn**	**19 43 02.6**	**+0.9**

IDC ***23*** *20:02:08.5±1.8, 13°.95N×91°.42W, h0km, mb4.0/10, mbtmp4.0/11, ML4.1/1, MS3.7/11, Error ellipse: s-maj=53.8km s-min=27.5km az=27.0*

NEIC ***23*** *20:02:10.6±2.1, 13°.76N±0°.04×92°.16W±0°.04, h10km±1km, mb4.4/71, Md4.1/36(MEX), Error ellipse: s-maj=8.9km s-min=3.3km az=131.0*

MEX ***23*** *20:02:10.6±0.8, 13°.54N×92°.32W, h15km, MD4.1*

CATAC ***23*** *20:02:12.1±0.6, 13°.69N×92°.01W, h11km±4km, mb5.0, MB5.8, ML4.5*

GCG ***23*** *20:02:12.8±0.5, 14°.11N×92°.34W, h79km±9km, MD4.4*

SNET ***23*** *20:02:15.9±1.3, 14°.08N×91°.78W, h81km±13km, ML4.2*

ISC 23 20:02:12.1±1.5, 13°.79N±0°.05×92°.13W±0°.04, h27km±10km, n190, σ1°$45/227, mb4.3/39, MS3.6/9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.75**	**47**	*i* P	**Pn**	**20 02 29.1**	**+2.1**
RTAL	**Retalhuleu**	**0.84**	**30**		**Pn**	**20 02 28.9**	**+0.5**
RTAL				Sn	**Sn**	**20 02 40.0**	**+0.2**
RTAL	**Retalhuleu**	**0.84**	**30**	*e*P	**Pn**	**20 02 28.9**	**+0.5**
RTAL				*i* S	**Sn**	**20 02 43.6**	**+3.7**
RTAL	**Retalhuleu**	**0.84**	**30**	*e*P	**Pn**	**20 02 28.5**	**+0.2**
RTAL				*e*S	**Sn**	**20 02 40.3**	**+0.4**
RTAL	**Retalhuleu**	**0.84**	**30**	*i* P	**Pn**	**20 02 28.8**	**+0.5**
RTAL				IAML		20 02 41.8	
	comp=Z,6μm,1.0s						
RTAL				*i* S	**Sn**	**20 02 41.9**	**+2.0**
STG3	**Santiaguito 3,**	**1.07**	**31**	*i* P	**Pb**	**20 02 32.1**	**0.0**
THIG		**1.12**	**353**		**Pb**	**20 02 32.3**	**-0.5**
THIG					**Sn**	**20 02 49.2**	**+2.5**
THIG		**1.12**	**353**	*i* P	**Pb**	**20 02 32.3**	**-0.5**
THIG				*i* S	**Sn**	**20 02 49.2**	**+2.5**
SMSP	**San Marcos**	**1.23**	**16**	*e*P	**Pn**	**20 02 34.3**	**+0.4**
SMSP				*e*S	**Sb**	**20 02 47.8**	**-2.6**
CHUJ	**Union Juarez**	**1.30**	**1**	*e*P	**Pn**	**20 02 34.0**	**-0.8**
CHUJ				*i* S	**Sb**	**20 02 53.0**	**+0.6**
PATR	**El Naranjo**	**1.32**	**356**	*e*P	**Pn**	**20 02 34.4**	**-0.7**
PATR				*i* S	**Sn**	**20 02 52.9**	**+0.9**
PAVE	**Pavencul**	**1.40**	**358**	*e*P	**Pn**	**20 02 35.6**	**-0.6**
PAVE				*i* S	**Sb**	**20 02 54.9**	**-0.4**
FUG	**Fuego

SJTE	Alcalda de S	3.04	93	*i* P		Pn	20 02 58.8	+0.2		
SJTE				*i* S		Sn	20 03 34.6	+0.4		
SJTE				IAML			20 03 44.8			
	comp=Z,440nm,1.0s									
PAVA	Las Pavas	3.10	91	*e*P		Pn	20 02 59.4	-0.1		
PAVA	Las Pavas	3.10	91	*i* P		Pn	20 02 59.5	0.0		
PAVA				IAML			20 03 54.9			
	comp=Z,810nm,1.0s									
TGIG		3.12	342			Pn	20 03 00.4	+0.7		
TGIG						Sn	20 03 38.2	+2.0		
TGIG		3.12	342	*e*P		Pn	20 03 00.4	+0.7		
TGIG				*e*S		Sn	20 03 38.2	+2.0		
COEG	Centro de Oper	3.16	93	*e*P		Pn	20 03 00.1	-0.2		
COEG	Centro de Oper	3.16	93	*i* P		Pn	20 02 59.8	-0.5		
COEG				*i* S		Sn	20 03 38.4	+1.2		
COEG				IAML			20 04 02.7			
	comp=Z,380nm,1.0s									
SCLA	Alcaldia de Sa	3.31	91	*e*P		Pn	20 03 02.1	-0.2		
NILT	Santiago Nilte	3.66	319	*e*P		Pn	20 03 09.5	+2.4		
NILT				*e*S		Sn	20 03 51.6	+2.3		
PACA	Pacayal	3.71	94	*e*P		Pn	20 03 07.7	-0.2		
PACA	Pacayal	3.71	94	*i* P		Pn	20 03 09.7	+1.8		
PACA				*i* S		Sn	20 03 52.3	+1.4		
PACA				IAML			20 04 09.5			
	comp=Z,2µm,1.0s									
BLLM	Bellamira	3.80	95	*e*P		Pn	20 03 08.9	-0.2		
PETF	Flores	3.80	35			Pn	20 03 10.7	+1.7		
JUCU	Jucuar¡n	3.81	98	*i* P		Pb	20 03 16.5	-2.3		
UXUV	UXUV	4.01	331	*e*P		Pn	20 03 13.8	+2.0		
UXUV				*e*S		Sn	20 03 60.0	+1.9		
LCND	La Caada	4.15	96	*e*P		Pn	20 03 13.9	+0.1		
LCND	La Caada	4.15	96	*i* P		Pn	20 03 13.4	-0.4		
LCND				*i* S		Sn	20 04 01.6	+0.1		
LCND				IAML			20 04 24.0			
	comp=Z,210nm,1.0s									
CNCH	Conchagua	4.21	96	*e*P		Pn	20 03 14.4	-0.3		
CNCH	Conchagua	4.21	96	*i* P		Pn	20 03 14.6	-0.1		
CNCH				*i* S		Sn	20 04 01.5	-1.6		
CNCH				IAML			20 04 25.9			
	comp=Z,650nm,1.0s									
CMIG	Matias Romero	4.22	321			Pn	20 03 15.0	+0.2		
CMIG						Sn	20 04 01.8	-1.5		
CMIG	Matias Romero	4.22	321	Pn		Pn	20 03 15.5	+0.7		
	comp=Z,1.4nm,0.3s,baz=138,slow=13,SNR=15									
CMIG				Sn		Sn	20 04 08.8	+5.5		
	comp=Z,11nm,0.3s,baz=142,slow=12,SNR=6.8									
CMIG	Matias Romero	4.22	321	*e*P		Pn	20 03 15.0	+0.2		
CMIG				*i* S		Sn	20 04 01.8	-1.5		
HUIG	Huatulco	4.32	298			Pn	20 03 15.5	-0.6		
HUIG	Huatulco	4.32	298	*e*P		Pn	20 03 15.5	-0.6		
TGUH	Tegucigalpa,Un	4.72	86			Pn	20 03 23.4	+1.6		
CRIN	San Cristobal	5.06	102			Pn	20 03 26.3	-0.1		
PKGN	Cerro Pekin	5.14	102	*i* P		Pn	20 03 27.0	-0.4		
PKGN				IVmB_BB			20 03 40.2			
	comp=Z,13µm,1.0s									
PKGN				IAML			20 03 40.7			
	comp=Z,430nm,1.0s									
PKGN				IAmb		IAmb	20 03 42.0			
	comp=Z,230nm,0.6s									
PKGN				*i* S		Sn	20 04 21.5	-4.4		
NEUV	Arroyo Zacate	5.26	318	*e*P		Pn	20 03 29.1	0.0		
NEUV				*e*S		Sn	20 04 19.4	-10		
PEIG	Puerto Escondi	5.32	295			Pn	20 03 29.6	-0.4		
PEIG	Puerto Escondi	5.32	295	*e*P		Pn	20 03 29.6	-0.4		
CNGN	Cerro Negro	5.44	103			Pn	20 03 29.8	-1.9		
MACN	El Madrono	5.47	103	*i* P		Pn	20 03 36.3	+4.2		
LIMN	Finca el Limon	5.66	97	*i* P		Pn	20 03 34.0	-0.6		
LIMN				IAML			20 03 38.8			
	comp=Z,130nm,1.0s									
LIMN				IAmb		IAmb	20 03 38.8			
	comp=Z,110nm,0.7s									
YOIG	Yosondua	6.05	301			Pn	20 03 42.8	+2.6		
YOIG						Sn	20 04 48.7	0.0		
YOIG	Yosondua	6.05	301	*e*P		Pn	20 03 42.8	+2.6		
YOIG				*e*S		Sn	20 04 48.7	0.0		
BOAB	BOACO BROADBAN	6.44	101	Pn		Pn	20 03 43.9	-1.3		
ACON	Acoyapa	7.02	104	Pn		Pn	20 03 53.8	+0.5		
HZTE	Horizontes, Gu	7.08	115	Pn		Pn	20 03 54.8	+0.7		
HZTE	Horizontes, Gu	7.08	115	*i* P		Pn	20 03 54.2	+0.1		
HZTE				IAmb		IAmb	20 04 16.1			
	comp=Z,87nm,0.8s									
HZTE				IAML			20 06 01.0			
	comp=Z,160nm,1.0s									
JAUV	Jalcomulco	7.13	322	*e*P		Pn	20 03 54.5	-0.2		
JAUV				*e*S		Sn	20 05 08.1	-6.9		
TLIG	Tlapa	7.25	302			Pn	20 03 58.9	+2.4		
SAJU	San Juanillo,	7.29	120	*i* P		Pn	20 03 57.2	+0.2		
SAJU				IAmb		IAmb	20 04 20.6			
	comp=Z,42nm,0.8s									
SAJU				IAML			20 06 06.0			
	comp=Z,70nm,1.0s									
ORTG	Ortega, Santa	7.36	117	Pn		Pn	20 03 58.7	+0.7		
ORTG	Ortega, Santa	7.36	117	*i* P		Pn	20 03 58.3	+0.3		
ORTG				IVmB_BB			20 04 10.9			
	comp=Z,5µm,1.0s									
ORTG				IAML			20 04 13.4			
	comp=Z,110nm,1.0s									
ORTG				IAmb		IAmb	20 04 13.8			
	comp=Z,100nm,0.9s									
TEIG	Tepich	7.39	29	Pn		Pn	20 03 59.6	+1.4		
TEIG	Tepich	7.39	29	LR		LR	20 07 15.9			
	comp=Z,4µm,21.6s,slow=44									
JTS	Las Juntas de	7.83	116	Pn		Pn	20 04 04.5	0.0		
JTS	Las Juntas de	7.83	116	Pn		Pn	20 04 02.3	-2.2		
	comp=Z,1.6nm,0.3s,baz=274,slow=22,SNR=2.2									
JTS				Sn		Sn	20 05 33.2	+0.9		
	comp=Z,2.0nm,0.3s,baz=335,slow=20,SNR=1.5									
JACO	JACO, Garabito	8.39	118	Pn		Pn	20 04 11.3	-0.8		
LCR2	La Lucha 2	8.91	116			Pn	20 04 19.5	0.0		
SRBA	San Rafael, Bu	9.71	117			Pn	20 04 31.6	+1.3		
JRQG	Juriquilla Cam	10.51	312	Pn		Pn	20 04 41.9	+0.6		
SOR	Soroa	12.45	43	Pn		Pn	20 05 08.8	+1.1		
DRIO	Del Rio	17.43	335			P	20 06 26.1	-1.5		
BRDY	Brady	18.52	341			P	20 06 26.8	+0.1		
TXAR	Lajitas Array	18.80	327	P		P	20 06 29.5	-0.3		
TXAR	Lajitas Array	18.80	327	P		Pn	20 06 33.4	+3.0		
	comp=Z,0.1nm,0.3s,baz=126,slow=9.1,SNR=32									
	comp=Z,5.4nm,0.9s									
TX31	Lajitas Ar. Si	18.80	327	P		P	20 06 30.0	+0.2		
ALPN	Alpine	19.63	329			P	20 06 38.0	-0.9		
ABTX	Abilene, Hawle	19.97	341	P		P	20 06 41.8	-0.6		
152A	Waverly Hall	19.98	19	P		P	20 06 42.5	0.0		
LPIG	La Paz	20.00	304	LR		LR	20 14 42.4			
	comp=Z,76nm,19.2s,baz=346,slow=37									
MNHN	Monahans	20.02	333	P		Pn	20 06 44.8	-0.1		
MNHN				IAmb		IAmb	20 06 48.8			
	comp=Z,24nm,0.9s									
PECS	Pecos	20.55	330	P		P	20 06 49.8	+0.9		
PECS				IAmb		IAmb	20 06 53.7			
	comp=Z,18nm,1.4s									
COHC	Cochancay	20.59	141	P		P	20 06 49.4	+0.1		
ODSA	Odessa	20.59	334	P		P	20 06 50.1	+0.8		
ODSA				IAmb		IAmb	20 06 51.8			
	comp=Z,14nm,0.7s									
Y49A	Blount Mountai	20.64	14	P		P	20 06 50.6	+0.8		
VHRN	Van Horn	20.65	327	P		Pn	20 06 51.7	-0.6		
MIAR	Mount Ida	20.71	357	P		P	20 06 51.2	+0.7		
APMT	Aspermont	20.77	341	P		P	20 06 51.3	+0.2		
APMT				IAmb		IAmb	20 06 53.5			
	comp=Z,11nm,0.7s									
SN07	Snyder 07	20.81	339	P		P	20 06 50.0	-1.6		
SN07				IAmb		IAmb	20 06 52.3			
	comp=Z,18nm,0.9s									
POST	Post	21.01	338	P		P	20 06 54.5	+0.7		
POST				IAmb		IAmb	20 06 56.1			
	comp=Z,14nm,0.8s									
GOGA	Godfrey	21.07	21	P		P	20 06 54.3	0.0		
GOGA				IAmb		IAmb	20 07 25.8			
	comp=Z,20nm,1.5s									
X48A	Hartselle	21.08	12	P		P	20 06 53.8	-0.7		
X48A				IAmb		IAmb	20 06 58.5			
	comp=Z,10nm,1.0s									
DKNS	Dickens	21.34	339	P		P	20 06 57.1	-0.3		
FPAL	Fort Paine	21.49	15	P		P	20 06 58.3	-0.6		
FPAL				IAmb		IAmb	20 07 18.6			
	comp=Z,8.5nm,0.9s									
W35A	Tecumseh	21.70	349	P		P	20 07 00.7	-0.4		
W35A				IAmb		IAmb	20 07 02.2			
	comp=Z,13nm,0.6s									
WMOK	Wichita Mounta	21.71	345	P		P	20 07 00.8	-0.4		
MCRA	Macar, Loja	21.71	145	P		P	20 07 00.3	-1.1		
SWET	Sewanee	22.06	14	P		P	20 07 04.3	-0.6		
SWET				IAmb		IAmb	20 07 06.9			
	comp=Z,11nm,0.8s									
MSTX	Muleshoe	22.29	336	P		P	20 07 06.4	-1.2		
MSTX				IAmb		IAmb	20 07 11.4			
	comp=Z,12nm,0.8s									
V48A	Smith Brothers	22.37	11	P		P	20 07 06.9	-1.5		
V48A				IAmb		IAmb	20 07 10.1			
	comp=Z,6.5nm,0.8s									
SMWD	Samnorwood	22.45	342	P		P	20 07 09.3	0.0		
WVT	Waverly	22.58	9	P		P	20 07 09.0	-1.6		
CPCT	Cooper Cave	22.63	16	P		P	20 07 09.9	-1.2		
CPCT				IAmb		IAmb	20 07 23.2			
	comp=Z,19nm,1.4s									
TKL	Tuckaleechee C	23.04	18	LR		LR	20 17 33.0			
	comp=Z,143nm,18.8s,baz=212,slow=41									
U49A	Red Boiling Sp	23.33	13	P		P	20 07 19.1	+0.8		
U49A				IAmb		IAmb	20 07 19.6			
	comp=Z,9.7nm,1.0s									
121A	Cookes Peak, D	23.51	325	P		P	20 07 21.1	+0.8		
121A				IAmb		IAmb	20 07 26.5			
	comp=Z,10nm,1.1s									
T47A	Sharon Grove	23.54	10	P		P	20 07 19.2	-1.0		
T47A				IAmb		IAmb	20 07 21.4			
	comp=Z,15nm,0.9s									
S44A	Carbondale	23.95	6	P		P	20 07 22.5	-1.6		
S44A				IAmb		IAmb	20 07 24.2			
	comp=Z,18nm,0.8s									
SIUC	Southern Illin	23.97	6	P		P	20 07 22.9	-1.5		
RTBA	Rita Blanca	24.48	339	P		P	20 07 29.3	+0.1		
RTBA				IAmb		IAmb	20 07 31.4			
	comp=Z,6.8nm,0.8s									
ANMO	Albuquerque	24.72	331	P		P	20 07 30.4	-1.1		
ANMO				IAmb		IAmb	20 07 37.4			
	comp=Z,3.7nm,0.7s									
ANMO	Albuquerque	24.72	331	P		P	20 07 34.1	+2.5		
	comp=Z,3.7nm,0.7s,baz=207,slow=2.3,SNR=9.8									
	comp=Z,3.7nm,0.7s									
OLIL	Olney	25.10	7	P		P	20 07 33.3	-1.3		
S54A	Dingess, Beckl	25.78	20	P		P	20 07 41.6	+0.7		
MVCO	Mesa Verde	27.52	331	P		P	20 07 57.7	+0.8		
MVCO				IAmb		IAmb	20 08 02.1			
	comp=Z,7.5nm,0.8s									
SRU	San Rafael Swe	30.00	331	P		P	20 08 18.7	-0.2		
SRU				IAmb		IAmb	20 08 23.6			
	comp=Z,3.8nm,0.7s									
MTPU	Mount Pierson	30.01	327	P		P	20 08 19.3	+0.1		
MTPU				IAmb		IAmb	20 08 26.4			
	comp=Z,2.7nm,0.7s									
CCUT	Cedar City	30.29	325	P		P	20 08 23.1	+1.6		
CCUT				IAmb		IAmb	20 08 59.6			
	comp=Z,5.9nm,1.4s									
PSUT	Pine Spring	31.27	326	P		P	20 08 31.8	+1.7		
HWUT	Hardware Ranch	32.46	332	P		P	20 08 42.3	+1.8		
HWUT				IAmb		IAmb	20 08 44.0			
	comp=Z,5.2nm,0.9s									
PDAR	Pinedale Array	32.56	336	P		P	20 08 42.9	+1.5		
	comp=Z,0.3nm,0.5s,baz=134,slow=10,SNR=2.3									
PDAR				PcP		PcP	20 11 30.0	+2.3		
	comp=Z,0.3nm,0.7s,baz=134,slow=3.9,SNR=2.2									
	comp=Z,0.3nm,0.5s									
BGU	Big Grassy Mou	32.62	330	P		P	20 08 42.8	+1.0		
BGU				IAmb		IAmb	20 08 44.8			
	comp=Z,2.9nm,0.9s									
SADO	Sadowa	32.80	17	LR		LR	20 23 33.1			
	comp=Z,108nm,18.5s,baz=116,slow=40									
REDW	Red Top Meadow	33.58	335	P		P	20 08 51.2	+0.9		
ELK	Elko	33.60	327	P		P	20 08 52.0	+1.4		
ELK	Elko	33.60	327	LR		LR	20 23 27.7			
	comp=Z,45nm,19.1s,baz=188,slow=38									
TPAW	Teton Pass	33.73	335	P		P	20 08 52.5	+0.8		
TPAW				IAmb		IAmb	20 08 59.7			
	comp=Z,7.5nm,1.1s									
NVAR	Mina Array Bea	33.76	321	P		P	20 08 54.5	+2.6		
	comp=Z,1.5nm,0.6s,baz=135,slow=9.0,SNR=9.8									
	comp=Z,1.5nm,0.6s									
ULM	Lac du Bonnet	36.49	356	LR		LR	20 27 01.9			
	comp=Z,33nm,20.0s,baz=120,slow=41									
J08A	Circle Bar Ran	37.15	328	P		P	20 09 22.4	+1.5		
J08A				IAmb		IAmb	20 09 26.5			
	comp=Z,11nm,0.9s									
PLID	Pearl Lake	37.20	332	P		P	20 09 23.1	+1.7		
PLID				IAmb		IAmb	20 09 29.0			
	comp=Z,3.8nm,0.9s									
F10A	Beach Ranch, E	38.43	332	P		P	20 09 32.7	+1.0		
F10A				IAmb		IAmb	20 09 38.5			
	comp=Z,6.0nm,0.8s									
RPN	Rapa Nui	43.97	202	LR		LR	20 24 05.6			
	comp=Z,62nm,19.6s,baz=31,slow=30									
SCHQ	Schefferville	45.46	20	P		P	20 10 26.5	-2.4		
	comp=Z,5.8nm,0.8s,baz=221,slow=6.7,SNR=5.5									
SCHQ				LR		LR	20 30 31.3			
	comp=Z,148nm,20.0s,baz=256,slow=38									
	comp=Z,5.8nm,0.8s									
CO02	Combarbal	49.12	156	P		P	20 10 58.5	+0.8		
YKA	Yellowknife Ar	51.20	347	P		P	20 11 12.8	-0.2		
	comp=Z,1.0nm,0.7s,baz=147,slow=7.0,SNR=7.6									
YKA				PcP		PcP	20 12 28.4	+0.4		
	comp=Z,0.8nm,0.7s,baz=152,slow=3.1,SNR=7.2									
	comp=Z,1.0nm,0.7s									
FRB	Frobisher Bay	52.55	13	LR		LR	20 35 25.1			
	comp=Z,96nm,18.2s,baz=260,slow=38									
MMPY	Sheldon Lake,	56.05	339	P		P	20 11 49.9	+1.3		
MMPY				IAmb		IAmb	20 11 51.3			
	comp=Z,5.2nm,0.8s									
M29M	Somme Creek	58.56	337	P		P	20 12 08.1	+1.7		
SFJD	Kangerlussuaq	59.75	18	LR		LR	20 38 50.3			
	comp=Z,96nm,19.6s,baz=227,slow=37									
INK	Inuvik	60.60	344	P		P	20 12 20.6	+0.4		
INK				IAmb		IAmb	20 12 21.6			
	comp=Z,4.0nm,0.8s									
RES	Resolute Bay	60.91	359	LR		LR	20 42 07.3			
	comp=Z,47nm,19.2s,baz=353,slow=40									
E29M	Blow River	61.90	342	P		P	20 12 29.9	+0.9		
F28M	Old Crow	62.03	341	P		P	20 12 31.0	+1.1		
E28M	Babbage River	62.51	342	P		P	20 12 34.0	+0.9		
E27K	Coleen River	62.89	341	P		P	20 12 36.8	+1.1		
ILAR	Eielson Array	62.98	337	P		P	20 12 37.2	+1.0		
	comp=Z,0.8nm,0.6s,baz=115,slow=4.8,SNR=9.9									
	comp=Z,0.8nm,0.6s									
D27M	Malcolm River	63.30	343	P		P	20 12 39.2	+0.7		
D27M				IAmb		IAmb	20 12 40.0			
	comp=Z,3.2nm,0.7s									
MLY	Manley	64.58	336	P		P	20 12 47.6	+0.7		
D25K	Kavik River	64.97	341	P		P	20 12 50.1	+0.7		
F21K	Alatna River	66.45	338	P		P	20 12 59.4	+0.5		
C23K	Itkillik River	66.53	341	P		P	20 13 00.7	+1.4		
D22K	Ayikyak River	66.81	340	P		P	20 13 01.7	+0.5		
D22K				IAmb		IAmb	20 13 07.5			
	comp=Z,4.1nm,0.8s									
F20K	Avaraart Lake	67.21	338	P		P	20 13 04.6	+0.9		
F20K				IAmb		IAmb	20 13 06.3			
	comp=Z,3.3nm,0.7s									
B22K	Teshekpuk Lake	67.62	341	P		P	20 13 06.9	+0.7		
E19K	Redstone River	67.90	338	P		P	20 13 09.4	+1.3		
B20K	Meade River	68.69	340			P	20 13 14.1	+1.2		
EKA	Eskdalemuir Ar	78.21	36	P		P	20 14 06.7	-2.6		
	comp=Z,2.4nm,0.6s,baz=269,slow=6.1,SNR=10									
	comp=Z,2.4nm,0.6s									
ESDC	Sonseca Array	79.95	52	P		P	20 14 16.1	-3.1		
	comp=Z,0.6nm,0.8s,baz=296,slow=5.4,SNR=1.9									
	comp=Z,0.6nm,0.8s									
SPITS	Spitsbergen Ar	80.32	11	P		P	20 14 19.7	-0.8		
	comp=Z,8.6nm,1.0s,baz=293,slow=4.6,SNR=1.2									
	comp=Z,8.6nm,1.0s									
NOA	NORSAR Array B	84.39	28	P		P	20 14 41.6	-0.4		
	comp=Z,0.4nm,0.7s,baz=287,slow=4.5,SNR=2.3									
	comp=Z,0.4nm,0.7s									
KURBB	Kurchatov Arra	115.35	7	PKP		PKiKP	20 20 51.2	-0.2		
	comp=Z,0.2nm,0.5s,baz=343,slow=1.5,SNR=4.4									
MKAR	Makanchi Array	119.49	4	PKP		PKPdf	20 20 59.4	-0.2		
	comp=Z,0.2nm,0.7s,baz=8.7,slow=1.6,SNR=2.5									
CMAR	Chiang Mai Arr	146.15	341	PKPbc		PKPbc	20 21 51.1	+0.3		
	comp=Z,4.9nm,0.8s,baz=334,slow=2.9,SNR=36									

NEIC ***23*** *20:05:27.6±2.0,59.1°S±0.1°×25.0°W±0.1°,1,h10km±1km, mb4.9/49, Error ellipse: s-maj=19.3km s-min=11.2km az=198.0*

IDC ***23*** *20:05:32.7±5.7,59.18°S×25.15°W,h39km±48km,mb4.1/8, mbtmp4.4/9,ML4.9/1,MS3.5/15, Error ellipse: s-maj=23.2km s-min=18.6km az=77.0*

ISC 23 20:05:29.2±0.4, 59.15°S±0.08°×25.19°W±0.10, h18km, n198, σ0.879/181, mb4.9/28, MS3.5/14, 6C-4D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.89	303	Pn	Pn	Pn	20 07 23.8	+0.9
VNA1	Neumayer--Stat	13.52	155	⇑P	Pn	Pn	20 08 39.1	-0.6
	comp=Z,57nm,0.3s							
VNA1				⇓S		Sn	20 10 54.9	-14
	comp=Z,24nm,0.8s							
VNA3	Neumayer Olymp	13.70	159	⇑P	Pn	Pn	20 08 41.2	-1.0
	comp=Z,53nm,0.3s							
VNA3				⇓S		Sn	20 10 55.6	-18
	comp=Z,12nm,0.3s							
VNA2	Neumayer--Watz	13.91	155	⇑P	Pn	Pn	20 08 43.7	-1.4
	comp=Z,24nm,0.2s,baz=323,slow=13							
VNA2				⇓S		Sn	20 11 00.3	-19
	comp=Z,0.2nm,0.1s,baz=324,slow=20							
SNAA	Sanae	15.47	153	Pn	Pn	Pn	20 09 05.1	-1.1
SNAA				IAmb	IAmb	IAmb	20 09 07.1	
	comp=Z,27nm,0.6s							
SNAA	Sanae	15.47	153	⇑P	Pn	Pn	20 09 05.1	-1.1
	comp=Z,818nm,0.6s							
SNAA				⇑S		Sn	20 11 37.6	-19
	comp=Z,439nm,0.7s							
SNAA	Sanae	15.47	153	Pn	Pn	Pn	20 09 05.0	-1.1
	comp=Z,5.4nm,0.3s,baz=317,slow=16,SNR=101							
SNAA				Sn		Sn	20 11 39.2	-18
	comp=Z,0.7nm,0.3s,baz=330,slow=18,SNR=2.6							
SNAA				LR		LR	20 13 49.2	
	comp=Z,222nm,19.6s,baz=316,slow=32							
	comp=Z,19nm,0.4s							
TROLL	Troll, Antarti	17.00	150	⇑P	Pn	Pn	20 09 24.8	-0.9
	comp=Z,424nm,0.2s							
TROLL				⇓S		Sn	20 12 15.1	-19
	comp=Z,0.2nm,0.1s							
BELA	Belgrano 2	19.08	186	P	P	P	20 09 50.7	+0.5
EFI	East Falkland	19.93	278	P	P	P	20 09 60.0	+0.2
MG02	Cerro Sombrero	25.07	265	P	P	P	20 10 50.4	-1.7
GO09	Cerro Castillo	27.51	266	P	P	P	20 11 12.8	-1.5
QSPA	South Pole Qui	31.09	180	P	P	P	20 11 46.7	+0.6
QSPA				IAmb	IAmb	IAmb	20 12 38.2	
	comp=Z,11nm,0.8s							
QSPA	South Pole Qui	31.09	180	P	P	P	20 11 46.9	+0.8
	comp=Z,3.3nm,0.7s,baz=190,slow=5.4,SNR=16							
QSPA				LR		LR	20 24 03.8	
	comp=Z,112nm,18.8s,baz=218,slow=36							
	comp=Z,3.3nm,0.7s							
TRQA	Tornquist	31.58	295	P	P	P	20 11 51.5	+1.0
TRQA				IAmb	IAmb	IAmb	20 11 52.6	
	comp=Z,9.7nm,0.8s							
PLCA	Paso Flores	33.67	283	P	P	P	20 12 08.8	0.0
PLCA				IAmb	IAmb	IAmb	20 12 11.3	
	comp=Z,24nm,1.6s							
PLCA	Paso Flores	33.67	283	P	P	P	20 12 09.3	+0.5
	comp=Z,3.5nm,0.8s,baz=165,slow=9.6,SNR=3.1							
PLCA				LR		LR	20 24 51.0	
	comp=Z,73nm,18.1s,baz=172,slow=34							
	comp=Z,3.5nm,0.8s							
GO06	Curarrehue	35.00	283	P	P	P	20 12 19.7	-0.7
BO02	Sierra Bellavi	38.41	289	P	P	P	20 12 49.1	-0.3
BO02				IAmb	IAmb	IAmb	20 12 52.7	
	comp=Z,12nm,0.6s							
GO05	Huala	38.80	287	P	P	P	20 12 52.6	0.0
GO05				IAmb	IAmb	IAmb	20 13 51.4	
	comp=Z,67nm,1.6s							
BO01	Tunca	38.88	289	P	P	P	20 12 53.1	-0.1
BO01				IAmb	IAmb	IAmb	20 12 55.7	
	comp=Z,16nm,0.7s							
LMEL	Las Melosas	38.89	290	P	P	P	20 12 52.8	-0.8
BO04	La Punta	38.98	290	P	P	P	20 12 54.1	0.0
BO04				IAmb	IAmb	IAmb	20 12 56.9	
	comp=Z,23nm,0.6s							
MT03	Universidad Ad	39.33	290	P	P	P	20 12 56.9	-0.3
MT09	Talagante	39.33	290	P	P	P	20 12 56.8	-0.4
MT01	Popeta	39.39	289	P	P	P	20 12 57.3	-0.2
MT01				IAmb	IAmb	IAmb	20 12 59.7	
	comp=Z,25nm,0.7s							
MT16	CCHEN	39.39	290	P	P	P	20 12 57.6	0.0
MT16				IAmb	IAmb	IAmb	20 13 02.1	

comp=Z,34nm,19.1s,baz=150,slow=35
MCRA Macar, Loja 68.82 299 P P 20 16 31.1 -1.2
COHC Cochancay 70.20 301 P P 20 16 41.4 +0.7
ROSC El Rosal 74.68 309 LR LR 20 50 59.7
comp=Z,29nm,20.4s,baz=220,slow=36
TOA0 Torodi Ar. Sit 75.28 27 P P 20 17 11.4 +0.6
TOA0 IAmb IAmb 20 17 13.1
comp=Z,13nm,0.8s
TORD Torodi Ar. Bea 75.28 27 P P 20 17 11.2 +0.4
TORD IAmb IAmb 20 17 13.1
comp=Z,12nm,0.8s
TORD Torodi Ar. Bea 75.28 27 P P 20 17 12.2 +1.4
comp=Z,9.1nm,0.6s,baz=194,slow=5.4,SNR=50
comp=Z,9.1nm,0.6s
PCRV Puerto La Cruz 76.03 320 LR LR 20 51 22.6
comp=Z,47nm,20.6s,slow=36
SDV Santo Domingo 76.95 314 LR LR 20 52 19.4
comp=Z,61nm,19.7s,baz=115,slow=36
MDT Midelt 93.21 17 LR LR 20 56 19.9
comp=Z,41nm,18.8s,baz=354,slow=33
ASAR Alice Springs 95.70 161 PKKPbc PKKPbc 20 35 42.9 +2.0
comp=Z,0.4nm,0.7s,baz=10,slow=2.4,SNR=5.4
HFS Hagfors 122.76 22 PKP PKPdf 20 24 21.3 -1.0
comp=Z,3.2nm,1.0s,baz=164,slow=5.8,SNR=1.1
PDAR Pinedale Array 122.86 299 PKP PKPdf 20 24 22.9 -0.5
comp=Z,0.4nm,0.7s,baz=146,slow=6.6,SNR=2.7
CMAR Chiang Mai Arr 122.97 111 PKP PKPdf 20 24 23.5 -0.5
comp=Z,0.6nm,0.6s,baz=224,slow=4.4,SNR=5.4
NVAR Mina Array Bea 123.53 290 PKP PKiKP 20 24 25.9 +0.9
comp=Z,0.7nm,0.6s,baz=134,slow=2.6,SNR=5.2
FINES FINESS Array B 126.63 28 PKP PKPdf 20 24 29.5 -0.2
comp=Z,1.9nm,1.0s,baz=215,slow=1.7,SNR=7.3
AKTO Aktyubinsk 128.31 54 PKP PKPdf 20 24 33.0 -0.2
comp=Z,1.7nm,0.9s,baz=231,slow=4.6,SNR=3.7
PZH PanZhiHua 131.14 108 PKP Pdif 20 21 36.5 +5.1
ARCES ARCESS Array B 133.43 22 PKP PKPdf 20 24 42.2 -0.2
comp=Z,1.6nm,0.6s,baz=225,slow=2.2,SNR=6.3
BVAR Borovoye Array 135.50 59 PKP PKiKP 20 24 48.2 -0.1
comp=Z,0.7nm,0.5s,baz=258,slow=4.1,SNR=4.7
MKAR Makanchi Array 136.81 73 PKP PKPdf 20 24 49.0 -0.4
comp=Z,0.6nm,0.9s,baz=249,slow=2.1,SNR=3.8
KURBB Kurchatov Arra 137.60 67 PKP PKPdf 20 24 51.5 +0.8
comp=Z,0.3nm,0.6s,baz=226,slow=3.1,SNR=4.5
YKA Yellowknife Ar 139.16 315 PKP PKPdf 20 24 53.4 +0.2
comp=Z,1.4nm,0.8s,baz=125,slow=2.4,SNR=20
ZALV Zalesovo Beam 142.70 66 PKhKP PKPpre 20 24 55.6
comp=Z,0.4nm,0.4s,baz=228,slow=5.6,SNR=2.3
P33M Teslin, Yukon 145.13 304 PKPbc 20 25 03.6 0.0
P33M Teslin, Yukon 145.13 304 P **PKPdf 20 25 04.6 +0.6**
baz=121
P32M Atlin 145.19 302 PKPbc 20 25 04.0 +0.1
P32M Atlin 145.19 302 P **PKPdf 20 25 04.9 +0.8**
baz=121
MMPY Sheldon Lake, 145.67 308 P **PKPab 20 25 06.1 +0.4**
baz=118
C36M Paulatuk 146.04 321 PKPdf 20 25 05.1 -0.1
WHY Whitehorse 146.24 303 P **PKPbc 20 25 07.2 0.0**
baz=119
FARO Faro, Yukon 146.34 307 P **PKPab 20 25 08.5 +0.3**
baz=118
M31M Drury Creek, Y 146.76 306 P **PKPbc 20 25 08.6 +0.1**
baz=117
O30N Mendenhall 146.81 303 P **PKPbc 20 25 09.5 +0.7**
baz=118
P30M Million Dollar 146.88 302 P **PKPab 20 25 10.9 +0.5**
baz=119
P29M Windy Craggy 146.98 301 P **PKPbc 20 25 10.2 +1.0**
baz=119
A36M Sachs Harbour 147.40 325 PKPbc 20 25 09.6 -0.3
A36M Sachs Harbour 147.40 325 P **PKPbc 20 25 10.8 +0.8**
baz=110
HYT Haines Junctio 147.45 303 P **PKiKP 20 25 12.6 -0.1**
baz=118
N30M Aishikik Lake 147.56 304 P **PKPbc 20 25 11.8 +1.0**
baz=117
M30M Minto, Yukon 147.93 306 P **PKPbc 20 25 12.2 +0.4**
baz=115
YUK4 Talbot Arm 148.18 303 P **PKPbc 20 25 13.2 +0.6**
baz=116,SNR=6.6
H31M Peel River 148.26 312 PKPbc 20 25 12.2 -0.3
J30M Hart River 148.57 309 PKPbc 20 25 13.9 +0.4
J30M Hart River 148.57 309 P **PKPbc 20 25 14.1 +0.7**
baz=113
M29M Somme Creek 148.58 305 P **PKPbc 20 25 14.3 +0.7**
baz=115
F31M Tsiigehtchic 148.64 315 PKPbc 20 25 13.8 +0.4
F31M Tsiigehtchic 148.64 315 P **PKPbc 20 25 13.7 +0.4**
baz=110
YUK8 Steele Glacier 148.64 302 P **PKPbc 20 25 14.7 +0.8**
baz=116
G31M Satah River 148.65 314 P **PKPbc 20 25 13.9 +0.6**
baz=110
L29M L29M 148.71 306 P **PKPbc 20 25 14.5 +0.7**
baz=114
K29M Barlow Dome 148.76 308 P **PKPbc 20 25 14.4 +0.5**
baz=113
I30M Mount Dempster 148.83 311 P **PKPbc 20 25 14.1 0.0**
baz=112,SNR=8.9
INK Inuvik 148.85 317 P **PKPbc 20 25 14.3 +0.4**
baz=109
YUK3 Moose Creek 149.15 303 P **PKPbc 20 25 15.2 +0.1**
baz=114
CTG Chitna Glacier 149.19 301 P **PKPbc 20 25 15.9 +0.8**
baz=115,SNR=5.9
J29N Klondike Camp 149.28 309 P **PKPbc 20 25 15.0 -0.1**
baz=112
EPYK Eagle Plains 149.37 313 P **PKPbc 20 25 15.5 +0.2**
baz=110
G30M tAoh Zraii Nji 149.39 314 P **PKPbc 20 25 15.9 +0.5**
baz=109
F30M Barrier River 149.44 315 P **PKPbc 20 25 15.7 +0.3**
baz=108
BVCY Beaver Creek 149.59 304 P **PKPbc 20 25 16.4 +0.4**
baz=113
DAWY Dawson 149.61 308 P **PKPbc 20 25 15.8 -0.1**
baz=112
SONM Songino Array 149.74 90 PKPbc **PKPbc 20 25 16.4 -0.5**
comp=Z,3.7nm,0.8s,baz=218,slow=2.6,SNR=12
H29M Whitestone 149.95 312 P **PKPbc 20 25 16.8 +0.2**
baz=109,SNR=12
M27K Edge Creek, AK 150.00 304 P **PKPbc 20 25 17.4 +0.4**
baz=113
G29M Pine Creek 150.04 313 P **PKPbc 20 25 17.2 +0.3**
baz=108
MCARA McCarthy VSAT 150.11 301 P **PKPbc 20 25 17.8 +0.6**
baz=114
KAIM Kayak Island 150.12 298 P **PKiKP 20 25 19.2 +1.2**
baz=115
L27K Beaver Creek, 150.25 305 P **PKPbc 20 25 18.2 +0.7**
baz=112
I28M Miner Creek 150.31 310 P **PKPbc 20 25 18.2 +0.5**
baz=109
E29M Blow River 150.42 316 P **PKPbc 20 25 18.0 +0.3**
baz=105
M26K Nabesna, AK 150.50 303 P **PKPbc 20 25 18.6 +0.4**
baz=112
EGAK Eagle 150.58 308 P **PKPbc 20 25 18.3 +0.1**
baz=109
BMRM Bremner River 150.64 300 P **PKPbc 20 25 19.2 +0.7**
baz=114
L26K Log Cabin Wild 150.88 304 P **PKiKP 20 25 20.0 +0.4**
baz=111
N25K Chitina, Valde 150.89 301 P **PKiKP 20 25 20.1 +0.4**
baz=112
F28M Old Crow 150.93 314 P **PKPbc 20 25 19.4 +0.4**
baz=105
D28M Stokes Point 150.96 318 P **PKiKP 20 25 20.2 +0.7**
baz=103
EYAK Cordova Ski Ar 150.99 299 P **PKiKP 20 25 20.0 +0.2**
baz=114
I27K Kandik River 151.02 310 P **PKPbc 20 25 19.7 +0.4**
baz=108
E28M Babbage River 151.06 316 P **PKPbc 20 25 19.1 -0.2**
baz=104
H27K Steamboat Moun 151.18 311 P **PKPbc 20 25 20.2 +0.6**
baz=106
G27K Doyon Strip 151.38 312 PKiKP 20 25 20.7 +0.2
G27K Doyon Strip 151.38 312 P **PKPbc 20 25 20.4 +0.3**
baz=105
HARP HAARP 151.43 302 P **PKiKP 20 25 21.2 +0.5**
baz=111
KLU Klutina 151.43 300 P **PKiKP 20 25 21.7 +0.9**
baz=112
J26L Joseph Creek 151.47 307 P **PKiKP 20 25 21.6 +0.7**
baz=108
SCRK Sand Creek 151.47 306 P **PKiKP 20 25 21.2 +0.2**
baz=109
P23K Montague Islan 151.52 297 P **PKPbc 20 25 21.1 +0.6**
baz=114
E27K Coleen River 151.71 315 P **PKPbc 20 25 21.2 +0.4**
baz=103
D27M Malcolm River 151.71 317 P **PKPbc 20 25 21.4 +0.6**
baz=102
RIDG Independent Ri 151.76 305 P **PKiKP 20 25 22.2 +0.7**
baz=109
PAX Paxson 151.77 303 P **PKPbc 20 25 21.1 0.0**
baz=110
M24K Tolsona, Glenn 151.77 302 P **PKiKP 20 25 22.7 +1.2**
baz=111
K24K Donnelly Dome 152.17 305 P **PKiKP 20 25 22.7 +0.5**
baz=108
SCM Sheep Creek Mo 152.18 301 P **PKPbc 20 25 22.6 +0.5**
baz=111
G26K Porcupine Rive 152.24 312 P **PKPbc 20 25 22.4 +0.5**
baz=104
J25K Salcha River, 152.25 307 P **PKiKP 20 25 22.9 +0.5**
baz=107
M23K Glacier View 152.34 300 P **PKiKP 20 25 23.1 +0.5**
baz=110
KNK Knik Glacier 152.54 299 P **PKiKP 20 25 23.8 +0.7**
baz=111
F26K Sheenjek River 152.54 314 P **PKiKP 20 25 23.3 +0.4**
baz=102
PRP Porcupine Dome 152.56 309 P **PKPbc 20 25 23.2 +0.3**
baz=105
SML Sawmill 152.62 300 P **PKiKP 20 25 23.6 +0.3**
baz=110
WAT6 Susitna Watana 152.62 302 P **PKPbc 20 25 23.5 +0.3**
baz=109
DHY Denali Highway 152.62 303 P **PKPbc 20 25 23.1 -0.1**
baz=108
BMAR Burnt Mountain 152.65 313 PKiKP 20 25 23.9 +0.7
HDA Harding Lake 152.84 306 P **PKiKP 20 25 24.0 +0.5**
baz=105
H25L Birch Creek 152.86 310 P **PKPbc 20 25 23.7 +0.4**
baz=103
ILAR Eielson Array 152.91 307 PKPbc **PKPbc 20 25 23.9 +0.4**
comp=Z,9.8nm,1.1s,baz=128,slow=1.7,SNR=34
ILAR PKPab **PKPab 20 25 35.3 +0.4**
comp=Z,1.5nm,0.9s,baz=135,slow=1.1,SNR=4.6
BRSE Bradley Lake S 152.96 295 P **PKiKP 20 25 24.6 +0.6**
baz=113
RC01 Rabbit Creek A 153.00 298 P **PKiKP 20 25 25.0 +1.1**
baz=111
WAT1 Susitna Watana 153.06 302 P **PKPbc 20 25 24.3 +0.3**
baz=108
F25K Christian Rive 153.08 313 P **PKiKP 20 25 25.1 +1.0**
baz=101
G25K Bearman Lake 153.09 311 P **PKiKP 20 25 24.5 +0.5**
baz=102
E25K Arctic Village 153.15 314 P **PKiKP 20 25 24.9 +0.7**
baz=100
C26K Camden Bay 153.19 318 P **PKPbc 20 25 24.2 +0.2**
baz=97
M22K Willow 153.40 299 P **PKPbc 20 25 24.8 +0.1**
baz=109
MCK McKinley 153.49 304 P **PKiKP 20 25 25.6 +0.6**
baz=106
H24K Noodor Dome 153.58 309 P **PKPbc 20 25 25.3 +0.3**
baz=103
SUA Susitna One 153.59 299 P **PKiKP 20 25 26.3 +0.9**
baz=109
NEA2 Nenana 153.78 306 P **PKPbc 20 25 25.5 +0.1**
baz=104
TRF Thorofare Moun 153.99 303 P **PKPbc 20 25 26.4 +0.3**
baz=106
SKT Skwentna 154.11 299 P **PKiKP 20 25 26.7 +0.4**
baz=108
BPAW Bear Paw Mtn. 154.46 304 P **PKPbc 20 25 27.2 +0.2**
baz=104
G23K Bananza Creek 154.60 310 P **PKPbc 20 25 26.8 -0.4**
baz=99
TOLK Toolik Lake Re 154.69 315 P **PKiKP 20 25 28.1 +0.7**
baz=96
COLD Coldfoot 154.75 312 P **PKiKP 20 25 28.5 +1.1**
baz=98
CHUM Lake Minchumin 154.98 303 P PKPdf 20 25 28.0 +8.8
baz=104
H22K Ishtalitna Cre 155.00 308 P PKPdf 20 25 28.9 +10
baz=100
H21K Melozitna Rive 155.54 308 P PKPdf 20 25 29.6 +10
baz=99
E19K Redstone River 157.49 312 PKPab 20 25 55.0 +0.5
PETK Petropavlovsk- 173.73 196 PKPab **PKPab 20 27 05.6 -0.6**
comp=Z,3.9nm,0.9s,baz=174,slow=4.1,SNR=4.5

*IDC **23** 20:16:52.7±0.9,6.°10S×142.°61E,h0km,mb3.9/9, mbtmp4.0/11,ML2.0/1,MS3.1/3,Error ellipse: s-maj=41.2km s-min=18.3km az=77.0*
*NEIC **23** 20:16:53.4±1.3,6.°35S±0.°07×142.°55E±0.°05,h10km±1km, mb4.5/32,Error ellipse: s-maj=13.2km s-min=5.8km az=154.0*

ISC 23 20:16:53.6±0.5,6.°38S±0.°06×142.°45E±0.°07,h10km,n60, σ1s61/58,mb4.4/20,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**1.64**	**312**	P	**Pn**		**20 17 22.2**	**-0.4**
GENI	**Genyem**	**4.39**	**329**	P	**Pn**		**20 18 02.9**	**+2.5**
PMG	**Port Moresby**	**5.55**	**123**		Pn		20 18 13.5	-2.9
PMG				Sn	**Sn**		**20 19 19.6**	**-0.8**
PMG	**Port Moresby**	**5.55**	**123**	Pn	**Pn**		**20 18 19.1**	**+2.7**
	2.6nm,0.3s,baz=297,slow=4.5,SNR=7.3							
PMG				Sn	**Sn**		**20 19 21.0**	**+0.7**
	2.0nm,0.3s,baz=270,slow=20,SNR=3.7							
	12nm,0.5s							
COEN	**Coen**	**7.57**	**175**	Pn	**Pn**		**20 18 42.4**	**-1.7**
FAKI	**Fak Fak**	**10.73**	**288**	Pn	**Pn**		**20 19 26.9**	**-0.6**
SAUI	**Saumlaki**	**11.17**	**261**	Pn	**Pn**		**20 19 32.2**	**-1.4**
MTN	**Manton Dam**	**12.87**	**239**		**Pn**		**20 19 54.6**	**-2.1**
CTA	**Charters Tower**	**14.12**	**165**	LR	LR		20 25 32.7	
	comp=Z,44nm,20.2s,baz=0.0,slow=36							
WB0	**Warramunga Arr**	**15.44**	**210**		**Pn**		**20 20 31.9**	**+0.2**
WB0				IAmb	IAmb		20 20 43.2	
	comp=Z,22nm,1.1s							
WR0	**Warramunga Arr**	**15.53**	**209**		**Pn**		**20 20 33.2**	**+0.3**
WR0				IAmb	IAmb		20 20 41.3	
	comp=Z,20nm,1.0s							
WRAB	**Tennant Creek**	**15.60**	**210**		**Pn**		**20 20 34.4**	**+0.5**
WB2	**Warramunga Arr**	**15.61**	**209**		**Pn**		**20 20 33.7**	**-0.2**
WB2				IAmb	IAmb		20 20 36.5	
	comp=Z,36nm,1.4s							
WRA	**Warramunga Arr**	**15.62**	**210**	Pn	**Pn**		**20 20 34.5**	**+0.5**
WRA	**Warramunga Arr**	**15.62**	**210**	Pn	**Pn**		**20 20 34.0**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=29,slow=13,SNR=40							
WRA				Sn	**Sn**		**20 23 24.9**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=40,slow=24,SNR=4.6							
WRA				Lg	Lg		20 25 18.3	
	comp=Z,0.2nm,0.3s,baz=33,slow=28,SNR=4.2							
SOEI	**Soe**	**18.31**	**258**	P	**P**		**20 21 11.6**	**+3.4**
SOEI	**Soe**	**18.31**	**258**		**Pn**		**20 21 08.8**	**+0.7**
SOEI				IAmb	IAmb		20 21 26.7	
	comp=Z,36nm,1.0s							
AS01	**Alice Springs**	**19.03**	**205**	P	**Pn**		**20 21 19.7**	**+3.0**
AS31	**Alice Springs**	**19.05**	**205**	P	**P**		**20 21 16.9**	**+0.7**
ASAR	**Alice Springs**	**19.05**	**205**	P	**P**		**20 21 17.1**	**+0.8**
ASAR	**Alice Springs**	**19.05**	**205**	P	**Pn**		**20 21 19.9**	**+2.9**
	comp=Z,12nm,0.7s,baz=31,slow=9.9,SNR=131							
ASAR				S	**Sn**		**20 24 48.1**	**-2.5**
	comp=Z,1.3nm,0.8s,baz=14,slow=29,SNR=3.5							
ASAR				Lg	Lg		20 27 08.0	
	comp=Z,0.2nm,0.3s,baz=18,slow=28,SNR=1.8							
ASAR				LR	LR		20 29 27.8	
	comp=Z,150nm,21.9s,baz=19,slow=39							
GUMO	**Guam**	**19.98**	**7**	LR	LR		20 29 17.9	
	comp=Z,31nm,21.0s,baz=58,slow=38							
FITZ	**Fitzroy Crossi**	**20.11**	**233**	P	**P**		**20 21 28.4**	**+0.6**
QLP	**Quilpie**	**20.16**	**175**	P	Pn		20 21 34.0	+3.8
	comp=Z,36nm,1.0s							
PATS	**Pohnpei**	**20.57**	**51**	P	**P**		**20 21 31.2**	**-1.6**
OOD	**Oodnadatta**	**22.25**	**196**	P	**P**		**20 21 56.7**	**+6.0**
STKA	**Stephens Creek**	**25.38**	**182**	P	**P**		**20 22 20.4**	**-0.7**
STKA	**Stephens Creek**	**25.38**	**182**	P	**P**		**20 22 24.9**	**+3.7**
	comp=Z,1.7nm,0.6s,baz=352,slow=9.9,SNR=6.2							
	comp=Z,1.7nm,0.6s							
PSA00	**Pilbara Seismi**	**26.57**	**233**	P	**P**		**20 22 31.2**	**-0.9**
PSA00				IAmb	IAmb		20 22 57.6	
	comp=Z,12nm,1.5s							
OUENC	**Ouen Island, N**	**28.43**	**127**	P	P		20 22 46.0	-2.8
KSRS	**Korea Array**	**45.66**	**344**	P	**P**		**20 25 13.5**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=170,slow=7.4,SNR=4.2							
	comp=Z,1.5nm,0.8s							
PETK	**Petropavlovsk-**	**60.66**	**10**	P	**P**		**20 27 03.1**	**-1.7**
SONM	**Songino Array**	**62.62**	**333**	P	**P**		**20 27 17.1**	**-1.2**
SONM	**Songino Array**	**62.62**	**333**	P	**P**		**20 27 18.9**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=152,slow=5.4,SNR=2.9							
	comp=Z,0.8nm,0.9s							
VNDA	**Vanda**	**71.84**	**176**	P	**P**		**20 28 16.6**	**+0.4**
VNDA	**Vanda**	**71.84**	**176**	P	**P**		**20 28 17.6**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=315,slow=1.4,SNR=2.2							
	comp=Z,0.5nm,0.7s							
MKAR	**Makanchi Array**	**74.95**	**322**	P	**P**		**20 28 34.0**	**-1.1**
MKAR	**Makanchi Array**	**74.95**	**322**	P	**P**		**20 28 35.1**	**0.0**
	comp=Z,1.2nm,0.9s,baz=101,slow=7.7,SNR=8.7							
	comp=Z,1.2nm,0.9s							
ZALV	**Zalesovo Beam**	**76.97**	**329**	P	**P**		**20 28 47.3**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=133,slow=6.1,SNR=2.5							
	comp=Z,0.5nm,0.6s							
KURBB	**Kurchatov Arra**	**78.86**	**324**	P	**P**		**20 28 56.9**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=116,slow=4.4,SNR=6.9							
	comp=Z,0.9nm,0.9s							
M14K	**Bethel**	**79.65**	**24**	P	**P**		**20 28 59.7**	**-1.4**
L14K	**Kuka Creek**	**79.69**	**24**	P	**P**		**20 29 00.8**	**-0.4**
L14K				IAmb	IAmb		20 29 04.4	
	comp=Z,13nm,1.4s							
K15K	**Wolf Creek Mou**	**80.67**	**23**	P	**P**		**20 29 05.8**	**-0.8**
O16K	**Kokwok River B**	**80.68**	**26**	P	**P**		**20 29 06.3**	**-0.4**
O16K				IAmb	IAmb		20 29 24.9	
	comp=Z,4.8nm,1.1s							
M16K	**Timber Creek**	**81.04**	**25**	P	**P**		**20 29 07.7**	**-0.8**
L16K	**Owhat River**	**81.18**	**24**	P	**P**		**20 29 08.4**	**-0.8**
J16K	**Anvik River**	**81.57**	**23**	P	**P**		**20 29 10.8**	**-0.5**
J16K				IAmb	IAmb		20 29 20.6	
	comp=Z,4.4nm,1.2s							
J17K	**VABM Dome**	**82.22**	**23**	P	**P**		**20 29 13.6**	**-1.1**
QSPA	**South Pole Qui**	**83.59**	**180**	P	**P**		**20 29 22.5**	**+0.4**
QSPA				IAmb	IAmb		20 29 51.0	
	comp=Z,6.2nm,1.4s							
K20K	**Telida**	**84.17**	**24**	P	**P**		**20 29 24.4**	**-0.5**
BVAR	**Borovoye Array**	**84.43**	**325**	P	**P**		**20 29 26.5**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=111,slow=6.3,SNR=10.0							
	comp=Z,3.2nm,0.8s							
D19K	**Kuna River**	**85.19**	**19**	P	**P**		**20 29 29.5**	**-0.5**
D19K				IAmb	IAmb		20 29 48.6	
	comp=Z,7.5nm,1.4s							
RND	**Reindeer**	**86.33**	**25**	P	P		20 29 33.2	-2.6
RND				IAmb	IAmb		20 29 58.9	
	comp=Z,6.0nm,1.3s							
DHY	**Denali Highway**	**86.84**	**25**	P	**P**		**20 29 37.7**	**-0.6**
DHY				IAmb	IAmb		20 29 45.1	
	comp=Z,3.8nm,1.0s							
B21K	**Ikpikpuk River**	**86.85**	**18**	P	**P**		**20 29 37.2**	**-0.8**
B21K				IAmb	IAmb		20 29 44.8	
	comp=Z,2.2nm,1.1s							
E22K	**Anaktuvuk Pass**	**87.10**	**20**	P	**P**		**20 29 38.8**	**-0.6**
E22K				IAmb	IAmb		20 29 45.9	
	comp=Z,3.3nm,1.1s							
ILAR	**Eielson Array**	**87.63**	**24**	P	**P**		**20 29 39.9**	**-2.1**
	comp=Z,1.2nm,0.8s,baz=255,slow=5.0,SNR=9.5							
	comp=Z,1.2nm,0.8s							
C23K	**Itkillik River**	**88.20**	**19**	P	**P**		**20 29 43.9**	**-0.7**
C23K				IAmb	IAmb		20 29 49.7	
	comp=Z,3.9nm,0.8s							
BARN	**Barnard Glacie**	**88.77**	**28**	P	**P**		**20 29 47.0**	**-0.7**
BMAR	**Burnt Mountain**	**89.40**	**22**	P	**P**		**20 29 50.5**	**+0.1**

*IDC **23** 20:19:33.3±3.3,23.°72S×179.°73W,h492km±33km, mb3.5/5, mbtmp4.4/6,Error ellipse: s-maj=40.5km s-min=26.1km az=154.0*
*NEIC **23** 20:19:35.6±2.4,23.°8S±0.°2×179.°9W±0.°1,h514km±10km, mb4.4/31,Error ellipse: s-maj=22.6km s-min=17.3km az=155.0*

ISC 23 20:19:34.6±0.6,23.°73S±0.°09×179.°95W±0.°09,h500km, n61,σ1s57/59,mb4.3/20,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.25**	**342**	P	**P**		**20 21 15.7**	**+2.1**
NIUE	**Niue**	**10.42**	**66**	P	**P**		**20 21 56.2**	**-0.3**
WIZ	**White Island**	**13.97**	**189**	P	**P**		20 22 47.9	+1.4
HAZ	**Te Kaha**	**14.11**	**187**	P	**P**		**20 22 37.9**	**+2.6**
PKGZ	**Pakihiroa**	**14.21**	**186**	P	**P**		**20 22 39.9**	**+3.5**
RUGZ	**Raukumara Rang**	**14.33**	**188**	P	**P**		**20 22 39.9**	**+2.2**
PUZ	**Puketiti**	**14.38**	**186**	P	**P**		**20 22 41.8**	**+3.7**
MARZ	**Manawahe**	**14.50**	**191**	P	**P**		**20 22 42.5**	**+3.1**
TWGZ	**Tauwhareparae**	**14.51**	**187**	P	**P**		**20 22 42.3**	**+2.8**
URZ	**Urewera**	**14.70**	**189**	P	**P**		**20 22 42.3**	**+0.9**
	5.4nm,0.3s,baz=359,slow=2.8,SNR=15							
URZ				S	**S**		**20 25 12.2**	**-3.3**
	14nm,0.9s,baz=23,slow=18,SNR=2.3							
URZ	**Urewera**	**14.70**	**189**	P	**P**		**20 22 41.9**	**+0.5**
MWZ	**Matawai**	**14.71**	**188**	P	**P**		**20 22 42.8**	**+1.1**
MUGZ	**Murupara**	**14.96**	**190**	P	**P**		**20 22 46.7**	**+2.5**
RTZ	**Ruatahuna**	**15.07**	**189**	P	**P**		**20 22 46.2**	**+0.8**
MRZ	**Mangatainoka R**	**17.29**	**192**	P	**P**		**20 23 05.8**	**-2.4**
MRZ				IAmb	IAmb		20 23 11.7	
	comp=Z,14nm,1.0s							
TCW	**Tory Channel**	**18.09**	**194**	P	**P**		**20 23 13.7**	**-1.9**
QRZ	**Quartz Range**	**18.18**	**199**	P	**P**		**20 23 17.4**	**+1.0**
TUWZ	**Tuamarina**	**18.37**	**195**	P	**P**		**20 23 16.8**	**-1.3**
THZ	**Tophouse**	**18.94**	**197**	P	**P**		**20 23 23.9**	**+0.4**
LTZ	**Lake Taylor**	**20.06**	**197**	P	**P**		**20 23 32.2**	**-1.4**
LTZ				IAmb	IAmb		20 23 46.8	
	comp=Z,7.3nm,1.0s							
ARMA	**Armidale**	**26.12**	**249**	P	**P**		**20 24 29.2**	**+1.0**
ARMA				IAmb	IAmb		20 24 41.0	
	comp=Z,11nm,1.1s							
EIDS	**Eidsvold**	**26.38**	**260**	P	**P**		**20 24 31.8**	**+1.4**
EIDS				IAmb	IAmb		20 24 32.4	
	comp=Z,8.1nm,0.8s							
CAN	**Canberra**	**29.27**	**240**	P	**P**		**20 24 57.4**	**+1.8**
CAN				IAmb	IAmb		20 24 58.5	
	comp=Z,5.2nm,0.6s							
CTAO	**Charters Tower**	**31.52**	**270**	P	**P**		**20 25 16.4**	**+1.1**
TOO	**Toolangi**	**32.58**	**237**	P	**P**		**20 25 25.2**	**+1.2**
TAU	**Tasmania Unive**	**33.08**	**227**	P	**P**		**20 25 29.2**	**+1.0**
TAU				IAmb	IAmb		20 25 38.1	
	comp=Z,14nm,0.9s							
STKA	**Stephens Creek**	**34.83**	**248**	P	**P**		**20 25 44.4**	**+1.3**
STKA	**Stephens Creek**	**34.83**	**248**	P	**P**		**20 25 44.2**	**+1.1**
	comp=Z,2.1nm,0.5s,baz=93,slow=13,SNR=8.5							
	comp=Z,2.1nm,0.5s							
COEN	**Coen**	**36.13**	**279**	P	**P**		**20 25 56.0**	**+1.8**
COEN				IAmb	IAmb		20 26 01.3	
	comp=Z,13nm,1.1s							
BBOO	**Buckleboo**	**39.55**	**247**	P	**P**		**20 26 22.2**	**+0.3**
BBOO				IAmb	IAmb		20 26 23.0	
	comp=Z,7.3nm,0.9s							
TAOE	**Nuku Hiva Isla**	**40.80**	**75**	P	**P**		**20 26 33.1**	**+0.8**
AS31	**Alice Springs**	**42.11**	**260**	P	**P**		**20 26 42.1**	**-0.4**
ASAR	**Alice Springs**	**42.11**	**260**	P	**P**		**20 26 43.1**	**+0.6**
	comp=Z,7.1nm,0.8s,baz=94,slow=7.2,SNR=21							
ASAR				ScP	**ScP**		**20 31 29.1**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=88,slow=4.7,SNR=4.9							
	comp=Z,7.1nm,0.8s							
WR0	**Warramunga Arr**	**42.27**	**266**	P	**P**		**20 26 42.5**	**-1.3**
WB2	**Warramunga Arr**	**42.45**	**266**	P	**P**		**20 26 45.4**	**+0.1**
WB2				IAmb	IAmb		20 26 58.8	
	comp=Z,30nm,1.1s							
WB0	**Warramunga Arr**	**42.46**	**266**	P	**P**		**20 26 45.0**	**-0.2**
WRAB	**Tennant Creek**	**42.46**	**266**	P	**P**		**20 26 44.2**	**-1.1**
WRAB				IAmb	IAmb		20 26 46.1	
	comp=Z,25nm,1.0s							
WRA	**Warramunga Arr**	**42.46**	**266**	P	**P**		**20 26 45.1**	**-0.2**
WRA	**Warramunga Arr**	**42.46**	**266**	P	**P**		**20 26 45.3**	**0.0**
	comp=Z,7.7nm,0.4s,baz=94,slow=8.3,SNR=87							
	comp=Z,7.7nm,0.4s							
FORT	**Forrest**	**46.41**	**249**	P	**P**		**20 27 15.5**	**-0.2**
MTN	**Manton Dam**	**47.49**	**274**	P	**P**		**20 27 23.7**	**-0.3**
MTN				IAmb	IAmb		20 27 42.2	
	comp=Z,18nm,1.1s							
FAKI	**Fak Fak**	**50.58**	**287**	P	**P**		**20 27 44.3**	**-2.7**
FAKI				IAmb	IAmb		20 27 53.1	
	comp=Z,24nm,1.0s							
FITZ	**Fitzroy Crossi**	**50.89**	**265**	P	**P**		**20

TOLI2 IAmb IAmb 20 29 20.6
comp=Z,11nm,0.9s
UGM Wanagama 68.14 271 P P 20 29 44.1 -0.7
KKM Kota Kinabalu 68.90 287 P P 20 29 48.6 -0.9
KKM IAmb IAmb 20 29 58.7
comp=Z,23nm,1.1s
CMAR Chiang Mai Arr 89.51 290 P P 20 31 39.9 +1.4
comp=Z,0.4nm,0.2s,baz=145,slow=3.3,SNR=4.9
comp=Z,0.4nm,0.2s
ILAR Eielson Array 91.86 14 P P 20 31 48.2 -0.1
comp=Z,0.1nm,0.5s,baz=245,slow=1.9,SNR=1.9
comp=Z,0.1nm,0.5s
BVAR Borovoye Array 120.34 319 PKP PKPdf 20 37 26.8 -1.5
comp=Z,0.9nm,0.3s,baz=95,slow=0.8,SNR=5.2
ARCES ARCESS Array B 131.73 348 PKP PKPdf 20 37 48.2 -1.4
comp=Z,2.0nm,0.9s,baz=38,slow=4.6,SNR=6.3
FINES FINESS Array B 138.30 342 PKP PKPdf 20 38 01.3 -0.7
comp=Z,0.7nm,0.7s,baz=43,slow=1.7,SNR=6.2
NB2 NORSAR Subarra141.92 351 PKP PKPpre 20 38 03.1
comp=Z,0.3nm,0.5s,baz=17,slow=2.6
NOA NORSAR Array B141.92 351 PKhKP PKPpre 20 38 02.7
comp=Z,0.5nm,0.9s,baz=32,slow=4.5,SNR=3.9
HFS Hagfors 142.39 349 PKhKP PKPpre 20 38 04.4
comp=Z,3.4nm,0.3s,baz=54,slow=2.5,SNR=64
AKASG Malin Array Be 144.85 327 PKP PKPdf 20 38 12.7 -1.3
comp=Z,1.0nm,0.3s,baz=45,slow=4.1,SNR=12
MMAI Mount Meron Ar 147.67 295 PKPbc PKPbc 20 38 23.3 +0.3
comp=Z,3.5nm,0.4s,baz=76,slow=6.8,SNR=31
EKA Eskdalemuir Ar 148.35 3 PKPbc PKPbc 20 38 22.0 -1.9
comp=Z,0.5nm,0.3s,baz=338,slow=2.6,SNR=14

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*IDC **23** 20:28:35.6±0.6,23˙88N×125˙34E,h0^{km},mb4.3/27, mbtmp4.3/30,ML4.0/2,MS3.8/41,Error ellipse: s-maj=17.3km s-min=14.0km az=77.0*

*NIED **23** 20:28:38.9,23˙90N×125˙30E,h63^{km},MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.84; $M_{\theta\theta}$4.81; $M_{\phi\phi}$-5.65; $M_{r\theta}$-2.01; $M_{\theta\phi}$4.29; $M_{\phi r}$-1.61; Fault plane solution: $M_0$7.28000×10^{15} NP1: ϕ_s204.00000°,δ80.00000°,λ160.00000°. NP2: ϕ_s297.00000°,δ71.00000°,λ11.00000°.*

*JMA **23** 20:28:38.9±0.2,23˙9N±0˙8×125˙3E±0˙6,h63^{km},MD4.7/14, MW4.7/14,NEAR MIYAKOJIMA ISLAND*

*NEIC **23** 20:28:38.3±1.6,23˙84N±0˙07×125˙30E±0˙06,h23^{km}±5^{km}, mb4.9/176,Error ellipse: s-maj=10.9km s-min=8.2km az=163.0*

*GCMT **23** 20:28:39.3±0.4,23˙87N±0˙02×125˙36E±0˙03,h22^{km}±2^{km}, MW4.7/65,Moment Tensor Solution. s10,c13; s65,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.33±.13; $M_{\theta\theta}$1.29±.10; $M_{\phi\phi}$-0.96±.07; $M_{r\theta}$0.63±.14; $M_{\theta\phi}$0.52±.05; $M_{\phi r}$-0.30±.14; Best double couple: $M_0$1.42800×10^{16} NP1:ϕ_s299.00000°,δ83.00000°,λ-31.00000°. NP2: ϕ_s33.00000°,δ59.00000°,λ-172.00000°. Principal axes: T 1.5680, Plg17.0000°, Azm350.0000°; N -0.2790, Plg58.0000°, Azm109.0000°; P -1.2890, Plg27.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 20:28:38.2±0.7,23˙79N±0˙04×125˙38E±0˙03,h25^{km}±4^{km}, n318,σ1^{s}72/297,mb4.8/119,MS3.9/44,3C-4D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JMJ2	**Miyako jima3**	**0.95**	**357**	*i* P		**Pb**	**20 28 55.1**	**-0.8**
JMJ2				*e*S		**Sn**	**20 29 07.6**	**-1.0**
JMJ2	**Miyako jima3**	**0.95**	**357**	A		A	20 28 55.1	
	comp=E,48nm,3.8s,comp=N,45nm,4.2s							
JOGS	**Gusukube**	**0.96**	**1**	P		**Pb**	**20 28 55.4**	**-0.9**
JOGS	**Gusukube**	**0.96**	**1**	A		A	20 28 55.4	
	comp=E,65nm,2.9s,comp=N,73nm,1.6s							
JMJ	**Miyako jima 2**	**1.02**	**355**	P		**Pb**	**20 28 55.4**	**-1.8**
JIRB	**Irabujima**	**1.05**	**350**	*i* P		**Pb**	**20 28 56.1**	**-1.6**
JIRB	**Irabujima**	**1.05**	**350**	A		A	20 28 56.1	
	comp=E,20nm,3.0s,comp=N,34nm,1.7s							
JTJ	**Tarama**	**1.05**	**324**	P		**Pb**	**20 28 56.1**	**-1.6**
JTJ				*e*S		**Sb**	**20 29 08.9**	**-2.1**
JTJ	**Tarama**	**1.05**	**324**	A		A	20 28 56.1	
	comp=E,61nm,3.0s,comp=N,40nm,1.5s							
JIKM	**Ikemajima**	**1.13**	**354**	*i* P		**Pn**	**20 28 57.6**	**-0.8**
JIKM	**Ikemajima**	**1.13**	**354**	A		A	20 28 57.6	
	comp=E,30nm,2.8s,comp=N,53nm,3.5s							
JISG	**Ishigakijimahi**	**1.26**	**309**	*i* P		**Pn**	**20 28 59.1**	**-1.0**
JISG				*e*S		**Sn**	**20 29 14.1**	**-2.2**
JISG	**Ishigakijimahi**	**1.26**	**309**	A		A	20 28 59.1	
	comp=E,27nm,0.8s,comp=N,29nm,3.3s							
JIJ	**Ishigaki jima**	**1.27**	**297**	P		**Pn**	**20 28 59.3**	**-0.9**
JIJ				*e*S		**Sn**	**20 29 13.9**	**-2.6**
JIJ	**Ishigaki jima**	**1.27**	**297**	A		A	20 28 59.3	
	comp=E,14nm,1.1s,comp=N,20nm,1.2s							
JKRS	**Kuro-shima**	**1.33**	**290**	P		**Pn**	**20 29 00.7**	**-0.4**
JKRS				*e*S		**Sn**	**20 29 16.4**	**-1.7**
JKRS	**Kuro-shima**	**1.33**	**290**	A		A	20 29 00.7	
	comp=E,58nm,2.2s,comp=N,68nm,2.5s							
HATJ	**Hateruma jima**	**1.47**	**281**	P		**Pn**	**20 29 02.3**	**-0.7**
HATJ				*e*S		**Sn**	**20 29 19.5**	**-1.9**
HATJ	**Hateruma jima**	**1.47**	**281**	A		A	20 29 02.3	
	comp=E,28nm,3.9s,comp=N,27nm,2.8s							
IRIF	**Iriomote-Funau**	**1.60**	**290**	*i* P		**Pn**	**20 29 04.3**	**-0.6**
IRIF				*e*S		**Sn**	**20 29 23.0**	**-1.8**
IRIF	**Iriomote-Funau**	**1.60**	**290**	A		A	20 29 04.3	
	comp=E,16nm,1.1s,comp=N,36nm,2.6s							
YOJ	**Yonaguni jima**	**2.27**	**288**	P		**Pn**	**20 29 13.6**	**-0.4**
YOJ	**Yonaguni jima**	**2.27**	**288**	Pn		**Pn**	**20 29 13.6**	**-0.4**
YOJ	**Yonaguni jima**	**2.27**	**288**	*i* P		**Pn**	**20 29 13.4**	**-0.6**
YOJ				*e*S		**Sn**	**20 29 39.4**	**-1.8**
YOJ	**Yonaguni jima**	**2.27**	**288**	A		A	20 29 13.4	
	comp=E,11nm,1.6s,comp=N,16nm,5.7s							
JYNG	**Yonagunijimaku**	**2.32**	**287**	*i* P		**Pn**	**20 29 14.2**	**-0.6**
JYNG				*e*S		**Sn**	**20 29 38.3**	**-4.2**
JYNG	**Yonagunijimaku**	**2.32**	**287**	A		A	20 29 14.2	
	comp=E,9.0nm,4.2s,comp=N,18nm,2.7s							
JKE	**Kume jima 2**	**2.83**	**26**	A		A	20 29 21.9	
	comp=E,8.0nm,2.6s,comp=N,6.0nm,3.2s							
JJT3	**Tamagusuku3**	**3.20**	**42**	A		A	20 29 27.5	
	comp=E,18nm,4.6s,comp=N,31nm,2.9s							
JAGN	**Aguni-jima**	**3.25**	**31**	A		A	20 29 28.0	
	comp=E,7.0nm,5.0s,comp=N,6.0nm,2.5s							
NACB	**Ninganchiao**	**3.48**	**277**	P		**Pn**	**20 29 29.5**	**-1.3**
NACB	**Ninganchiao**	**3.48**	**277**			**Pn**	**20 29 29.2**	**-1.6**
TATO	**Taipei**	**3.74**	**289**	P		**Pn**	**20 29 34.7**	**+0.4**
TATO	**Taipei**	**3.74**	**289**	Pn		**Pn**	**20 29 34.3**	**0.0**
YHNB	**Yeheng**	**3.76**	**284**	P		**Pn**	**20 29 34.8**	**+0.2**
YHNB	**Yeheng**	**3.76**	**284**			**Pn**	**20 29 34.8**	**+0.2**
YULB	**Yu-li**	**3.77**	**265**	P		**Pn**	**20 29 32.9**	**-1.8**
YULB	**Yu-li**	**3.77**	**265**	Pn		**Pn**	**20 29 32.4**	**-2.3**
JIH	**Iheya**	**3.99**	**35**	A		A	20 29 38.4	
	comp=E,4.0nm,2.9s,comp=N,3.0nm,2.3s							
JOW	**Kunigami**	**4.00**	**40**	P		**Pn**	**20 29 38.1**	**+0.2**
JOW	**Kunigami**	**4.00**	**40**	Pn		**Pn**	**20 29 38.0**	**+0.2**
	comp=N,31nm,0.3s,baz=207,slow=12,SNR=123							
JOW					Sn	**Sn**	**20 30 21.9**	**-2.2**
	comp=N,28nm,0.3s,baz=127,slow=20,SNR=5.7 comp=N,63nm,0.3s							
SSLB	**Suanglung**	**4.06**	**271**	P		**Pn**	**20 29 37.6**	**-1.1**
SSLB	**Suanglung**	**4.06**	**271**			**Pn**	**20 29 37.2**	**-1.5**
TWGBT	**Beinan**	**4.07**	**257**	P		**Pn**	**20 29 36.7**	**-2.2**
TWG	**Pinlang**	**4.08**	**257**			**Pn**	**20 29 36.6**	**-2.3**
TPUB	**Ta-pu**	**4.39**	**265**	P		**Pn**	**20 29 43.5**	**+0.3**
TPUB	**Ta-pu**	**4.39**	**265**			**Pn**	**20 29 43.5**	**+0.3**
JMZ	**Minamidaito 2**	**5.68**	**68**			**Pn**	**20 29 59.0**	**-2.0**
QZH	**Quanzhou**	**6.30**	**282**	P		**Pn**	**20 30 08.0**	**-1.4**
QZH				S		**Sn**	**20 31 16.0**	**-4.6**
QZH				LR	LR			
	comp=N,1μm,9.6s							
QZH				LR	LR			
	comp=E,920nm,11.0s							
QZH				LR	LR			
	comp=Z,1μm,9.9s							
KNMB	**Chin-men Tao**	**6.42**	**277**	Pn		**Pn**	**20 30 09.7**	**-1.5**
SSE	**Sheshan**	**8.17**	**334**	P		**Pn**	**20 30 36.3**	**+1.1**
SSE				S		**Sn**	**20 32 11.0**	**+4.3**
SSE				pmax	pmax			
	comp=Z,5.0nm,0.5s							
SSE				pmax	pmax			
	comp=Z,44nm,5.3s							
SSE				LR	LR			
	comp=N,460nm,13.4s							
SSE				LR	LR			
	comp=E,300nm,13.7s							
JNU	**Nakatsue**	**10.48**	**26**	Pn		**Pn**	**20 31 05.4**	**-1.4**
JNU	**Nakatsue**	**10.48**	**26**	Pn		**Pn**	**20 31 06.6**	**-0.2**
	comp=E,0.7nm,0.3s,baz=143,slow=10,SNR=7.9							
JNU					LR	LR	20 35 35.1	
	comp=E,469nm,19.7s,baz=208,slow=40 comp=E,1.7nm,0.3s							
WHN	**Wuhan**	**11.90**	**307**	*e*P		**Pn**	**20 31 30.3**	**+4.1**
WHN				S		**Sn**	**20 33 39.9**	**+1.7**
WHN				LR	LR			
	comp=N,2μm,11.0s							
WHN				LR	LR			
	comp=E,1μm,8.2s							
WHN				LR	LR			
	comp=Z,2μm,11.7s							
JMN	**Monobe**	**12.38**	**35**			**Pn**	**20 31 29.1**	**-3.8**
TJN	**Taejon**	**12.66**	**7**	Pn		**Pn**	**20 31 37.4**	**+0.8**
KSRS	**Korea Array**	**13.79**	**9**	Pn		**Pn**	**20 31 52.1**	**+0.1**
	comp=Z,6.8nm,0.8s,baz=185,slow=13,SNR=19							
KSRS					LR	LR	20 37 30.5	
	comp=Z,253nm,19.7s,baz=170,slow=39							
TIA	**Tai'an**	**14.29**	**332**	P		**Pn**	**20 32 02.0**	**+3.1**
TIA				S		**Sn**	**20 34 38.3**	**+1.8**
TIA				pmax	pmax			
	comp=Z,6.0nm,1.2s							
TIA				LR	LR			
	comp=N,470nm,14.2s							
TIA				LR	LR			
	comp=E,190nm,15.2s							
TIA				LR	LR			
	comp=Z,580nm,12.3s							
DL2	**Dalian**	**15.40**	**349**	P		**P**	**20 32 17.3**	**-0.9**
DL2				S		**S**	**20 35 10.5**	**-8.7**
DL2				pmax	pmax			
	comp=Z,89nm,1.2s							
DL2				pmax	pmax			
	comp=Z,190nm,5.7s							
DL2				LR	LR			
	comp=N,370nm,12.5s							
DL2				LR	LR			
	comp=E,1μm,16.9s							
DL2				LR	LR			
	comp=Z,920nm,13.1s							
JCJ	**Chichijima**	**15.53**	**74**	LR		LR	20 37 27.3	
	comp=Z,151nm,18.2s,baz=318,slow=34							
LYN	**LuoYang**	**15.55**	**317**	⇓P		**P**	**20 32 20.8**	**+1.0**
LYN				pP		pP	20 32 24.5	-1.6
LYN				sP		pwP	20 32 28.8	+0.2
LYN				PP		**sP**	**20 32 32.5**	**+3.7**
LYN				pmax	pmax			
	comp=Z,50nm,1.2s							
LYN				pmax	pmax			
	comp=Z,170nm,6.3s							
LYN				LR	LR			
	comp=N,2μm,15.4s							
LYN				LR	LR			
	comp=E,1μm,17.2s							
LYN				LR	LR			
	comp=Z,1μm,16.3s							
JGF	**Kuroka**	**15.69**	**39**			**P**	**20 32 23.1**	**+1.7**
HNS	**HongShan**	**16.37**	**328**	⇓P		**P**	**20 32 29.6**	**+0.8**
HNS				*e*S		**S**	**20 35 33.5**	**-5.4**
HNS				pmax	pmax			
	comp=Z,23nm,1.2s							
HNS				LR	LR			
	comp=N,780nm,14.3s							
HNS				LR	LR			
	comp=E,1μm,15.5s							
HNS				LR	LR			
	comp=Z,820nm,13.9s							
DAV	**Davao City (W)**	**16.63**	**179**	LR		LR	20 40 35.1	
	comp=Z,244nm,18.1s,baz=336,slow=43							
MAJO	**Matsushiro**	**16.84**	**38**			**P**	**20 32 34.2**	**-0.1**
MJAR	**Matsushiro Arr**	**16.84**	**38**	Pn		**P**	**20 32 36.7**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=228,slow=11,SNR=41							
MJB9	**Matsu-Tunnel**	**16.84**	**38**			**P**	**20 32 35.4**	**+1.2**
GYA	**Guiyang**	**17.16**	**283**	⇑*i*P		**P**	**20 32 40.1**	**+2.2**
GYA				pmax	pmax			
	comp=Z,16nm,1.2s							
XAN	**Xi'an**	**17.64**	**309**	P		**P**	**20 32 43.5**	**+0.4**
XAN				S		**S**	**20 36 08.6**	**+3.4**
XAN				pmax	pmax			
	comp=Z,18nm,1.2s							
XAN				LR	LR			
	comp=N,500nm,13.1s							
XAN				LR	LR			
	comp=E,990nm,14.1s							
XAN				LR	LR			
	comp=Z,1μm,12.0s							
BJT	**Baijiatuan**	**17.95**	**336**	P		**Pn**	**20 32 44.7**	**-1.3**
SNY	**Shenyang**	**18.05**	**356**	⇑P		**Pn**	**20 32 46.9**	**-0.3**
SNY				S		**S**	**20 36 15.4**	**+2.2**
SNY				pmax	pmax			
	comp=Z,13nm,1.0s							
SNY				pmax	pmax			
	comp=Z,98nm,3.6s							
SNY				LR	LR			
	comp=N,680nm,14.1s							
SNY				LR	LR			
	comp=E,320nm,12.2s							
SNY				LR	LR			
	comp=Z,1μm,13.5s							
JMM	**Marumori**	**19.25**	**40**	P		**P**	**20 32 58.9**	**-1.7**
CN2	**Changchun**	**19.96**	**0**	*e*P		**P**	**20 33 08.6**	**+0.2**
CN2				*e*S		**S**	**20 36 47.9**	**-3.7**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.4s							
CN2				pmax	pmax			
	comp=Z,100nm,3.0s							
CN2				LR	LR			
	comp=N,500nm,12.0s							
CN2				LR	LR			
	comp=E,500nm,12.0s							
CN2				LR	LR			
	comp=Z,500nm,14.0s							
SLVN	**Son La**	**19.98**	**267**			**P**	**20 33 08.1**	**-0.8**
CD2	**Chengdu**	**20.46**	**295**	P		**P**	**20 33 14.1**	**+0.1**
CD2				S		**S**	**20 37 01.4**	**-0.5**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.4s							
CD2				LR	LR			
	comp=N,430nm,7.6s							
CD2				LR	LR			
	comp=E,400nm,8.1s							
CD2				LR	LR			
	comp=Z,740nm,13.3s							
UBPT	**Khong Chiam**	**20.57**	**249**	P		**P**	**20 33 13.3**	**-1.9**
UBPT					IAmb	IAmb	20 33 19.2	
	comp=Z,76nm,1.2s							
KMI	**Kunming**	**20.65**	**278**	⇑P		Pn	20 33 18.9	+0.2
KMI				S		**S**	**20 37 06.6**	**+0.4**
KMI				pmax	pmax			
	comp=Z,16nm,0.6s							
KMI				LR	LR			
	comp=N,500nm,17.0s							
KMI				LR	LR			
	comp=E,420nm,16.5s							
KMI				LR	LR			
	comp=Z,370nm,18.1s							
GUMO	**Guam**	**21.04**	**115**	LR		LR	20 39 37.1	
	comp=Z,74nm,21.0s,baz=64,slow=31							
USA0B	**Ussuriysk Arra**	**21.07**	**13**	P		**P**	**20 33 16.0**	**-4.4**
USRK	**Ussuriysk Ar.**	**21.07**	**13**	P		**P**	**20 33 15.4**	**-5.0**
USRK	**Ussuriysk Ar.**	**21.07**	**13**	P		**P**	**20 33 17.5**	**-2.9**
	comp=Z,1.3nm,0.6s,baz=188,slow=8.0,SNR=3.9							
USRK					LR	LR	20 41 26.9	
	comp=Z,217nm,20.0s,baz=194,slow=37							
BTO	**Baotou**	**21.16**	**326**	*e*P		**P**	**20 33 22.8**	**+1.3**
BTO				pP		**pP**	**20 33 27.0**	**-1.0**
BTO				sP		**pwP**	**20 33 29.6**	**-0.9**
BTO				PP		**PnPn**	**20 33 46.3**	**+5.1**
BTO				S		Sn	20 37 19.8	-3.2
BTO				sS		**sS**	**20 37 24.9**	**-0.7**
BTO				SS		**SnSn**	**20 37 46.9**	**+8.7**
BTO				pmax	pmax			
	comp=Z,22nm,1.4s							
BTO				pmax	pmax			
	comp=Z,180nm,5.1s							
BTO				LR	LR			
	comp=N,1μm,19.5s							
BTO				LR	LR			
	comp=E,1μm,16.0s							
BTO				LR	LR			
	comp=Z,1μm,13.2s							
XLT	**XiLinHaoTe**	**21.47**	**341**	*e*P		**P**	**20 33 28.4**	**+3.6**
XLT				sP		sP	20 33 35.1	+0.9
XLT				SS		Sn	20 37 50.9	+21
XLT				pmax	pmax			
	comp=Z,37nm,1.0s							
XLT				pmax	pmax			
	comp=Z,110nm,4.4s							
XLT				LR	LR			
	comp=N,63nm,15.0s							
XLT				LR	LR			
	comp=E,650nm,11.6s							
XLT				LR	LR			
	comp=Z,980nm,14.2s							
BNX	**BinXian**	**21.96**	**4**	⇓P		**P**	**20 33 32.5**	**+2.6**
BNX				pmax	pmax			
	comp=Z,9.0nm,1.3s							
BNX				pmax	pmax			
	comp=Z,170nm,4.6s							
LZH	**Lanzhou**	**22.27**	**308**	*e*P		P	20 33 26.3	-7.3
LZH				pP		pwP	20 33 43.5	+0.1
LZH				S		**S**	**20 37 40.5**	**+3.0**
LZH				pmax	pmax			
	comp=Z,9.0nm,1.0s							
LZH				LR	LR			
	comp=N,710nm,15.6s							
LZH				LR	LR			
	comp=E,410nm,16.0s							
LZH				LR	LR			
	comp=Z,540nm,16.8s							
TOLI2	**Tolitoli**	**22.98**	**192**	P		**P**	**20 33 39.8**	**-1.3**
ERM	**Erimo**	**23.43**	**35**	P		**P**	**20 33 44.3**	**-1.0**
ERM				IAmb		IAmb	20 34 03.6	
	comp=Z,48nm,0.9s							
CRAI	**Chiangrai**	**23.45**	**266**	P		**P**	**20 33 43.8**	**-2.0**
PHRA	**Phrae**	**24.03**	**262**	P		**P**	**20 33 50.0**	**-1.3**
PHRA				IAmb		IAmb	20 33 54.4	
	comp=Z,53nm,0.9s							
TNCH	**TengChong**	**24.48**	**278**	⇓P		**P**	**20 33 56.4**	**+0.8**
TNCH				pP		pP	20 33 57.8	-4.3
TNCH				sP		sP	20 34 00.8	-4.1
TNCH				PP		**PnPn**	**20 34 35.8**	**+9.0**
TNCH				S		**S**	**20 38 11.8**	**-2.9**
TNCH				sS		pS	20 38 15.3	-6.7
TNCH				SS		**SnSn**	**20 39 03.4**	**+3.6**
TNCH				pmax	pmax			
	comp=Z,26nm,1.1s							
TNCH				pmax	pmax			
	comp=Z,100nm,3.8s							
TNCH				LR	LR			
	comp=N,370nm,11.0s							
TNCH				LR	LR			
	comp=E,150nm,9.5s							
TNCH				LR	LR			
	comp=Z,360nm,13.6s							
JKA	**Kamikawa-asahi**	**24.70**	**31**	P		**P**	**20 33 56.8**	**-0.4**
JKA				IAmb		IAmb	20 34 20.8	
	comp=Z,40nm,1.4s							
CM31	**Chiang Mai Arr**	**25.21**	**263**	P		**P**	**20 34 02.0**	**0.0**
CMAR	**Chiang Mai Arr**	**25.21**	**263**	P		**P**	**20 34 01.0**	**-1.0**
CMAR	**Chiang Mai Arr**	**25.21**	**263**	P		**P**	**20 34 03.2**	**+1.2**
	comp=Z,3.1nm,0.8s,baz=60,slow=9.0,SNR=23							
CMAR					LR	LR	20 44 50.2	
	comp=Z,102nm,18.8s,baz=80,slow=39 comp=Z,3.1nm,0.8s							
HIA	**Hailar**	**25.81**	**351**	P		**P**	**20 34 06.2**	**-1.0**
KLR	**Kul'dur**	**25.88**	**10**	LR		LR	20 44 49.9	
	comp=Z,201nm,18.5s,baz=190,slow=38							
GTA	**Gaotai**	**26.65**	**312**	*e*P		**P**	**20 34 14.9**	**-0.1**
GTA				pP		pwP	20 34 26.9	+1.8
GTA				pmax	pmax			
	comp=Z,5.0nm,1.1s							
YSS	**Yuzh-Sakhalins**	**26.99**	**27**	P		**P**	**20 34 17.2**	**-0.6**
YSS				IAmb		IAmb	20 34 19.9	
	comp=Z,21nm,0.9s							
ULN	**Ulaanbaatar**	**28.11**	**333**	P		**P**	**20 34 26.5**	**-1.6**
SONM	**Songino Array**	**28.36**	**333**	P		**P**	**20 34 29.1**	**-1.1**
SONM	**Songino Array**	**28.36**	**333**	P		**P**	**20 34 30.8**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=136,slow=10,SNR=12							
SONM					LR	LR	20 47 05.6	
	comp=Z,216nm,20.4s,baz=178,slow=39 comp=Z,1.1nm,0.5s							
SRIT	**Nakonsritamara**	**28.92**	**243**	P		**P**	**20 34 35.0**	**-0.4**
SRIT				IAmb		IAmb	20 34 37.5	
	comp=Z,22nm,1.1s							
GOMU	**GeErMu**	**29.09**	**302**	P		**P**	**20 34 38.8**	**+1.6**
GOMU				pP		pP	20 34 43.4	-0.6
GOMU				sP		sP	20 34 45.0	-1.9
GOMU				S		**S**	**20 39 32.3**	**+4.4**
GOMU				sS		sS	20 39 40.3	+1.3
GOMU				ScS		ScP	20 40 31.3	-54
GOMU				pmax	pmax			
	comp=Z,3.0nm,0.8s							
GOMU				AMB		AMB		
	comp=Z,190nm,4.7s							
GOMU				LR	LR			
	comp=N,340nm,16.3s							
GOMU				LR	LR			
	comp=E,240nm,18.4s							
GOMU				LR	LR			
	comp=Z,250nm,17.8s							
MMRI	**Maumere**	**32.37**	**186**	P		**P**	**20 35 05.9**	**0.0**
MMRI				IAmb		IAmb	20 35 45.1	
	comp=Z,28nm,1.1s							
GSI	**Gunungsitoli**	**35.01**	**234**	P		**P**	**20 35 28.4**	**-0.4**
GSI				IAmb		IAmb	20 35 30.1	
	comp=Z,22nm,1.2s							
LEM	**Lembang**	**35.03**	**212**	LR		LR	20 51 40.0	
	comp=Z,69nm,18.4s,baz=50,slow=40							
PATS	**Pohnpei**	**35.82**	**113**	P		**P**	**20 35 36.9**	**+1.1**
PETK	**Petropavlovsk-**	**38.12**	**31**	P		**P**	**20 35 54.0**	**-1.0**
PETK	**Petropavlovsk-**	**38.12**	**31**	P		**P**	**20 35 55.8**	**+0.8**
	comp=Z,6.7nm,1.0s,baz=190,slow=5.9,SNR=6.6 comp=Z,6.7nm,1.0s							
YAK	**Yakutsk**	**38.33**	**3**	LR		LR	20 51 21.0	
	comp=Z,62nm,18.4s,baz=168,slow=36							
H11N1	**WAKE ISLAND Hy**	**38.67**	**88**	T		T	21 17 21.3	
	baz=285							
H11N2	**WAKE ISLAND Hy**	**38.67**	**88**	T		T	21 17 13.6	
	baz=285							
H11N3	**WAKE ISLAND Hy**	**38.69**	**88**	T		T	21 17 15.4	
	baz=285							
H11S3	**WAKE ISLAND Hy**	**38.78**	**90**	T		T	21 17 33.1	
	baz=284							
H11S1	**WAKE ISLAND Hy**	**38.79**	**90**	T		T	21 17 42.2	
	baz=284							
H11S2	**WAKE ISLAND Hy**	**38.80**	**90**	T		T	21 17 29.0	
	baz=284							
PMG	**Port Moresby**	**39.27**	**145**	LR		LR	20 49 18.3	
	comp=Z,60nm,20.5s,baz=246,slow=32							
MA2	**Magadan**	**39.96**	**20**	P		**P**	**20 36 10.0**	**-0.2**
MK31	**Makanchi Array**	**41.32**	**315**	P		**P**	**20 36 21.1**	**-0.6**
MKAR	**Makanchi Array**	**41.32**	**315**	P		**P**	**20 36 21.3**	**-0.4**
MKAR	**Makanchi Array**	**41.32**	**315**	P		**P**	**20 36 21.4**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=101,slow=8.6,SNR=32 comp=Z,2.0nm,0.5s							
COEN	**Coen**	**41.35**	**153**	P		**P**	**20 36 22.7**	**+0.4**
MAKZ	**Makanchi**	**41.53**	**315**	P		**P**	**20 36 23.7**	**+0.3**
FITZ	**Fitzroy Crossi**	**41.63**	**180**	P		**P**	**20 36 24.9**	**+0.4**
ZAA0	**Zalesovo Array**	**42.70**

KURBB **Kurchatov Arra** 44.91 319 P P 20 36 50.2 -0.4
comp=Z,4.4nm,0.6s,baz=108,slow=8.2,SNR=41
comp=Z,4.4nm,0.6s
PSA00 **Pilbara Seismi** 45.41 187 P P 20 36 55.4 +0.5
AAK **Ala-Archa** 45.80 307 P P 20 36 56.6 -1.5
AAK **Ala-Archa** 45.80 307 LR LR 20 57 26.4
comp=Z,167nm,18.0s,baz=103,slow=38
NIL **Nilore** 46.35 294 P P 20 37 01.4 -1.0
NIL IAmb IAmb 20 37 18.4
comp=Z,12nm,0.8s
ARSB **Arslanbob** 46.78 305 P P 20 37 03.9 -1.9
HNR **Honiara** 47.24 130 P P 20 37 09.0 -0.4
DRK **Karamyk** 47.55 302 P P 20 37 11.2 -0.9
DRK IAmb IAmb 20 37 23.0
comp=Z,11nm,1.2s
AS31 **Alice Springs** 47.89 169 P P 20 37 15.1 +0.7
ASAR **Alice Springs** 47.90 169 P P 20 37 15.3 +1.0
ASAR **Alice Springs** 47.90 169 P P 20 37 16.1 +1.8
comp=Z,1.4nm,0.4s,baz=353,slow=11,SNR=40
comp=Z,1.4nm,0.4s
TIXI **Tiksi** 47.93 1 P P 20 37 13.1 -0.9
TIXI IAmb IAmb 20 37 14.4
comp=Z,7.5nm,1.1s
TIXI **Tiksi** 47.93 1 LR LR 20 59 04.7
comp=Z,129nm,18.2s,baz=200,slow=38
CTA **Charters Tower** 48.12 153 LR LR 20 57 17.9
comp=Z,80nm,20.4s,baz=0.0,slow=36
BTK **Batken** 48.34 303 P P 20 37 17.0 -0.8
KK31 **Karatay Array** 48.76 307 P P 20 37 20.7 -0.3
KKAR **Karatay Array** 48.76 307 P P 20 37 20.3 -0.7
AMKA **Amchitka** 49.41 42 P P 20 37 26.5 +0.8
SIMJ **Simiganj** 49.71 301 P P 20 37 26.7 -1.7
KBL **Kabul** 49.80 296 P P 20 37 27.2 -2.0
KBL IAmb IAmb 20 37 49.0
comp=Z,8.4nm,0.9s
BVAR **Borovoye Array** 50.42 320 P P 20 37 33.8 +0.4
comp=Z,1.5nm,0.5s,baz=93,slow=7.8,SNR=8.4
comp=Z,1.5nm,0.5s
BRVK **Borovoye** 50.49 320 P P 20 37 33.0 -1.0
BRVK IAmb IAmb 20 37 35.7
comp=Z,8.9nm,1.1s
BILL **Bilibino** 50.79 19 P P 20 37 35.8 -0.2
BILL IAmb IAmb 20 37 38.7
comp=Z,14nm,1.4s
NRIK **Noril'sk** 50.82 344 P P 20 37 35.2 -1.0
NRIK **Noril'sk** 50.82 344 P P 20 37 36.0 -0.2
comp=Z,4.1nm,0.8s,baz=135,slow=8.4,SNR=5.4
comp=Z,4.1nm,0.8s
FORT **Forrest** 54.32 177 P P 20 38 02.8 +0.3
HRA **Herat** 55.40 296 P P 20 38 09.3 -1.5
ABKAR **Akbulak array** 56.46 314 P P 20 38 17.5 -0.3
ABKAR IAmb IAmb 20 38 26.4
comp=Z,8.2nm,0.8s
ABKAR **Akbulak array** 56.46 314 P P 20 38 18.0 +0.1
NWAO **Narrogin (SRO)** 56.93 188 P P 20 38 21.3 0.0
NWAO **Narrogin (SRO)** 56.93 188 LR LR 21 05 10.9
comp=Z,32nm,19.5s,baz=159,slow=38
BBOO **Buckleboo** 57.20 169 P P 20 38 23.9 +0.7
STKA **Stephens Creek** 57.48 164 P P 20 38 26.8 +1.6
comp=Z,1.5nm,0.8s,baz=331,slow=9.8,SNR=3.6
STKA LR LR 21 05 43.8
comp=Z,32nm,18.3s,baz=183,slow=39
comp=Z,1.5nm,0.8s
AKTO **Aktyubinsk** 57.73 316 P P 20 38 29.2 +2.4
comp=Z,4.5nm,0.9s,baz=98,slow=4.9,SNR=9.1
comp=Z,4.5nm,0.9s
ARU **Arti** 57.73 323 P P 20 38 25.9 -0.8
ARU IAmb IAmb 20 38 27.5
comp=Z,7.6nm,0.8s
ARU **Arti** 57.73 323 LR LR 21 03 20.5
comp=Z,106nm,20.6s,baz=90,slow=36
GEYT **Alibeck** 58.30 301 P P 20 38 30.1 -1.0
GEYT IAmb IAmb 20 38 46.1
comp=Z,14nm,1.1s
GEYT **Alibeck** 58.30 301 P P 20 38 32.4 +1.3
comp=Z,3.5nm,0.7s,baz=116,slow=6.6,SNR=5.6
GEYT LR LR 21 05 48.1
comp=Z,95nm,19.1s,baz=146,slow=38
comp=Z,3.5nm,0.7s
ANM **Nome** 59.87 28 P P 20 38 41.6 +0.2
ANM IAmb IAmb 20 39 00.9
comp=Z,16nm,1.2s
F15K **North Star Dit** 60.33 27 P P 20 38 44.4 -0.2
F15K IAmb IAmb 20 38 50.5
comp=Z,18nm,1.2s
C16K **Lisburne Hills** 60.46 24 P P 20 38 45.2 -0.2
C16K IAmb IAmb 20 39 12.9
comp=Z,26nm,1.7s
DZM **Mont Dzumac** 60.61 136 P P 20 38 46.1 -1.1
L14K **Kuka Creek** 60.77 32 P P 20 38 47.4 -0.1
M14K **Bethel** 61.08 32 P P 20 38 48.6 -1.1
G16K **Koyuk River** 61.24 27 P P 20 38 49.7 -1.1
F17K **Baldwin Pennin** 61.79 26 P P 20 38 55.8 +1.4
J16K **Anvik River** 61.85 30 P P 20 38 59.2 +1.5
N15K **Kwethluk River** 61.99 33 P P 20 38 56.9 +1.0
C18K **Utukok River** 62.03 23 P P 20 38 56.7 +0.6
C18K IAmb IAmb 20 39 19.1
comp=Z,27nm,1.7s
E18K **Tukpahlearik C** 62.13 25 P P 20 38 57.0 +0.2
E18K IAmb IAmb 20 39 01.9
comp=Z,5.0nm,0.8s
H17K **Granite Mounta** 62.23 28 P P 20 38 57.3 -0.2
H17K IAmb IAmb 20 39 05.5
comp=Z,13nm,1.2s
L16K **Owhat River** 62.32 31 P P 20 38 58.1 +0.1
J17K **VABM Dome** 62.54 29 P P 20 38 59.7 +0.2
M16K **Timber Creek** 62.56 32 P P 20 38 59.8 +0.2
C19K **Lookout Ridge** 62.66 23 P P 20 38 59.7 -0.5
KIRV **Kirov** 62.74 325 LR LR 21 08 37.4
comp=Z,95nm,18.8s,baz=91,slow=38
G18K **Tagagawik** 62.81 27 P P 20 39 00.5 -0.8
K17K **Iditarod** 62.88 30 P P 20 39 01.4 -0.4
H18K **Honhosa River** 62.90 27 P P 20 39 01.4 -0.5
D19K **Kuna River** 63.15 24 P P 20 39 05.1 +1.6
D19K IAmb IAmb 20 39 20.5
comp=Z,14nm,1.1s
F19K **Shaleruckik Mo** 63.20 26 P P 20 39 02.8 -1.0
F19K IAmb IAmb 20 39 33.3
comp=Z,9.1nm,1.2s
E19K **Redstone River** 63.43 25 P P 20 39 06.7 +1.3
E19K IAmb IAmb 20 39 11.1
comp=Z,7.6nm,0.9s
G19K **Purcell Mounta** 63.45 26 P P 20 39 06.3 +0.8
G19K IAmb IAmb 20 39 28.6
comp=Z,5.6nm,0.9s
B20K **Meade River** 63.57 22 P P 20 39 07.3 +1.1
B20K IAmb IAmb 20 39 09.3
comp=Z,5.4nm,0.9s
J18K **Innoko River** 63.60 29 P P 20 39 07.5 +0.9
J18K IAmb IAmb 20 39 08.8
comp=Z,24nm,1.8s
L18K **Granite Mounta** 63.63 31 P P 20 39 08.1 +1.4
H19K **Roundabout Mou** 63.71 27 P P 20 39 08.7 +1.5
H19K IAmb IAmb 20 39 16.7
comp=Z,9.8nm,0.8s
TTA **Tatalina** 63.93 30 P P 20 39 09.2 +0.3
TTA IAmb IAmb 20 39 27.7
comp=Z,13nm,1.6s
F20K **Avaraart Lake** 64.01 25 P P 20 39 10.5 +1.3
F20K IAmb IAmb 20 39 22.4
comp=Z,9.1nm,1.2s
J19K **Poorman** 64.08 29 P P 20 39 10.1 +0.4
J19K IAmb IAmb 20 39 16.6
comp=Z,7.5nm,1.0s
BELG **Belogornoye** 64.15 318 P P 20 39 10.7 +0.4
comp=Z,2.8nm,0.5s,baz=100,slow=19,SNR=2.3
comp=Z,2.8nm,0.5s
B21K **Ikpikpuk River** 64.44 22 P P 20 39 11.8 -0.2
B21K IAmb IAmb 20 39 38.0
comp=Z,11nm,1.1s
O18K **Koktuh Hills** 64.45 33 P P 20 39 13.0 +0.7
J20K **Nowinta River** 64.72 29 P P 20 39 15.0 +1.1
K20K **Telida** 64.79 29 P P 20 39 15.8 +1.3
K20K IAmb IAmb 20 39 23.5
comp=Z,10.0nm,1.1s
IMAR **Indian Mountai** 64.82 27 P P 20 39 15.5 +1.0
F21K **Alatna River** 64.88 25 P P 20 39 16.4 +1.5
F21K IAmb IAmb 20 39 33.4
comp=Z,5.7nm,1.1s
G21K **Allakaket** 64.90 26 P P 20 39 16.1 +1.0
G21K IAmb IAmb 20 39 35.4
comp=Z,20nm,1.4s
D22K **Ayikyak River** 65.14 23 P P 20 39 17.8 +1.3
D22K IAmb IAmb 20 39 36.1
comp=Z,8.4nm,0.8s

H21K **Melozitna Rive** 65.22 27 P P 20 39 18.0 +0.9
E22K **Anaktuvuk Pass** 65.49 24 P P 20 39 19.6 +0.8
E22K IAmb IAmb 20 39 36.5
comp=Z,13nm,1.1s
PPLA **Purkeypile** 65.68 30 P P 20 39 20.6 +0.2
CAST **Castle Rocks** 65.68 29 P P 20 39 20.8 +0.6
CAST IAmb IAmb 20 39 29.8
comp=Z,11nm,1.1s
C23K **Itkillik River** 65.83 22 P P 20 39 21.2 +0.3
C23K IAmb IAmb 20 39 35.8
comp=Z,9.6nm,1.1s
BPAW **Bear Paw Mtn.** 66.11 29 P P 20 39 23.2 +0.3
BPAW IAmb IAmb 20 39 31.9
comp=Z,12nm,1.2s
MLY **Manley** 66.13 27 P P 20 39 23.6 +0.5
MLY IAmb IAmb 20 39 32.8
comp=Z,13nm,1.4s
COLD **Coldfoot** 66.16 25 P P 20 39 22.7 -0.5
COLD IAmb IAmb 20 40 16.9
comp=Z,12nm,1.5s
KTH **Kantishna Hill** 66.19 29 P P 20 39 23.2 -0.3
HOM **Homer** 66.27 33 P P 20 39 23.5 -0.4
G23K **Bananza Creek** 66.27 26 P P 20 39 23.5 -0.4
G23K IAmb IAmb 20 39 36.6
comp=Z,26nm,1.6s
TOLK **Toolik Lake Re** 66.28 23 P P 20 39 23.8 -0.2
TOLK IAmb IAmb 20 39 27.2
comp=Z,16nm,1.4s
SUA **Susitna One** 66.50 31 P P 20 39 25.0 -0.6
SUA IAmb IAmb 20 39 46.6
comp=Z,7.7nm,0.8s
D24K **Happy Valley** 66.51 23 P P 20 39 24.7 -0.7
D24K IAmb IAmb 20 39 43.9
comp=Z,14nm,0.9s
H23K **Yukon River** 66.55 27 P P 20 39 25.4 -0.3
H23K IAmb IAmb 20 39 34.7
comp=Z,7.1nm,0.8s
NEA2 **Nenana** 66.89 28 P P 20 39 27.4 -0.5
NEA2 IAmb IAmb 20 39 36.6
comp=Z,12nm,1.1s
F24K **Squaw Lake** 67.02 25 P P 20 39 29.5 +0.8
F24K IAmb IAmb 20 39 35.6
comp=Z,6.3nm,0.7s
MCK **McKinley** 67.05 29 P P 20 39 29.1 +0.1
MCK IAmb IAmb 20 39 38.0
comp=Z,9.5nm,0.9s
RND **Reindeer** 67.13 29 P P 20 39 29.8 +0.3
MDM **Murphy Dome** 67.20 27 P P 20 39 30.2 +0.4
H24K **Noodor Dome** 67.23 26 P P 20 39 30.5 +0.4
H24K IAmb IAmb 20 39 43.8
comp=Z,8.8nm,1.2s
IL31 **67.79 28** P P **20 39 34.1 +0.6**
IL31 IAmb IAmb 20 40 03.4
comp=Z,27nm,1.9s
ILAR **Eielson Array** 67.79 28 P P 20 39 33.9 +0.3
ILAR **Eielson Array** 67.79 28 P P 20 39 34.6 +1.0
comp=Z,1.0nm,0.8s,baz=281,slow=6.3,SNR=13
comp=Z,1.0nm,0.8s
IL03 **Eielson Array** 67.81 28 P P 20 39 33.1 -0.6
E25K **Arctic Village** 67.81 24 P P 20 39 33.7 -0.1
E25K IAmb IAmb 20 40 15.9
comp=Z,13nm,1.4s
HDA **Harding Lake** 67.82 28 P P 20 39 33.3 -0.5
HDA IAmb IAmb 20 39 41.5
comp=Z,7.7nm,0.9s
GNI **Garni** 68.17 305 LR LR 21 13 43.4
comp=Z,54nm,18.2s,baz=68,slow=40
KEKH **Kekaha** 68.24 75 P P 20 39 36.4 -0.7
BMAR **Burnt Mountain** 68.30 25 P P 20 39 36.8 0.0
LVZ **Lovozero** 68.48 336 P P 20 39 36.1 -1.7
KBZ **Khabaz** 68.71 310 P P 20 39 42.7 +3.1
comp=Z,4.2nm,0.9s,baz=110,slow=7.7,SNR=4.3
KBZ LR LR 21 12 27.1
comp=Z,50nm,20.0s,baz=86,slow=38
comp=Z,4.2nm,0.9s
PAX **Paxson** 68.71 29 P P 20 39 39.6 +0.1
SCRK **Sand Creek** 69.17 28 P P 20 39 42.3 -0.1
J26L **Joseph Creek** 69.25 28 P P 20 39 42.9 +0.1
J26L IAmb IAmb 20 39 51.4
comp=Z,5.3nm,0.8s
I26K **Coal Creek Min** 69.26 27 P P 20 39 43.4 +0.7
E27K **Coleen River** 69.27 24 P P 20 39 42.9 +0.1
E27K IAmb IAmb 20 39 55.7
comp=Z,11nm,1.4s
D27M **Malcolm River** 69.27 22 P P 20 39 42.4 -0.4
D27M IAmb IAmb 20 40 00.1
comp=Z,6.2nm,1.0s
G27K **Doyon Strip** 69.54 25 IAmb IAmb 20 39 54.1
comp=Z,24nm,2.0s
E28M **Babbage River** 69.92 23 P P 20 39 47.0 +0.2
E28M IAmb IAmb 20 40 18.1
comp=Z,8.9nm,1.1s
M26K **Nabesna, AK** 69.95 30 P P 20 39 46.9 -0.3
M26K IAmb IAmb 20 40 08.8
comp=Z,10nm,1.2s
HON **Honolulu** 69.96 75 P P 20 39 46.0 -1.7
K27K **Chicken** 69.98 28 P P 20 39 48.0 +0.8
K27K IAmb IAmb 20 39 57.1
comp=Z,5.3nm,0.9s
F28M **Old Crow** 70.03 24 P P 20 39 46.9 -0.6
F28M IAmb IAmb 20 40 03.0
comp=Z,6.7nm,1.1s
OBN **Obninsk** 70.17 322 LR LR 21 14 23.8
comp=Z,103nm,18.5s,baz=348,slow=39
EGAK **Eagle** 70.20 27 P P 20 39 48.7 +0.2
CRQM **Cirque** 70.25 31 P P 20 39 49.4 +0.2
L27K **Beaver Creek,** 70.32 29 P P 20 39 49.4 0.0
L27K IAmb IAmb 20 40 09.0
comp=Z,13nm,1.6s
BCAR **Beaver Creek A** 70.33 29 P P 20 39 49.1 -0.4
I28M **Miner Creek** 70.54 26 P P 20 39 51.6 +0.9
E29M **Blow River** 70.56 23 P P 20 39 50.1 -0.6
E29M IAmb IAmb 20 40 00.0
comp=Z,17nm,1.7s
SPITS **Spitsbergen Ar** 70.67 348 P P 20 39 51.3 0.0
comp=Z,2.5nm,0.6s,baz=39,slow=7.4,SNR=5.1
SPITS LR LR 21 16 30.0
comp=Z,72nm,18.2s,baz=1.0,slow=41
comp=Z,2.5nm,0.6s
G29M **Pine Creek** 70.91 24 P P 20 39 53.6 +0.8
G29M IAmb IAmb 20 39 56.2
comp=Z,21nm,1.4s
H29M **Whitestone** 70.96 25 P P 20 39 53.8 +0.7
MESA **MESA** 70.97 32 P P 20 39 53.1 -0.4
DAWY **Dawson** 71.12 28 P P 20 39 54.6 +0.4
DAWY IAmb IAmb 20 40 04.3
comp=Z,6.0nm,1.1s
ARCES **ARCESS Array B** 71.32 339 P P 20 39 56.0 +0.7
comp=Z,4.4nm,0.8s,baz=76,slow=7.5,SNR=2.1
ARCES LR LR 21 16 10.1
comp=Z,98nm,18.4s,baz=91,slow=40
comp=Z,4.4nm,0.8s
J29N **Klondike Camp** 71.51 27 P P 20 39 57.3 +0.7
J29N IAmb IAmb 20 40 06.4
comp=Z,11nm,0.8s
G30M **tAoh Zraii Nji** 71.57 24 P P 20 39 57.0 +0.2
G30M IAmb IAmb 20 40 00.1
comp=Z,16nm,1.3s
L29M **L29M** 71.93 28 P P 20 40 00.8 +1.6
L29M IAmb IAmb 20 40 05.1
comp=Z,6.4nm,0.9s
K29M **Barlow Dome** 71.98 28 IAmb IAmb 20 40 43.8
comp=Z,27nm,2.0s
I30M **Mount Dempster** 72.03 26 IAmb IAmb 20 40 02.8
comp=Z,31nm,1.9s
RAYN **Ar Rayn** 72.12 288 P P 20 40 00.1 -0.9
INK **Inuvik** 72.13 23 P P 20 40 00.5 +0.4
INK **Inuvik** 72.13 23 P P 20 40 02.0 +1.9
comp=Z,6.0nm,1.1s,baz=295,slow=1.5,SNR=8.4
comp=Z,6.0nm,1.1s
J30M **Hart River** 72.25 27 P P 20 40 00.9 -0.2
J30M IAmb IAmb 20 40 18.3
comp=Z,9.9nm,1.4s
F31M **Tsiigehtchic** 72.34 23 P P 20 40 01.2 -0.2
F31M IAmb IAmb 20 40 05.1
comp=Z,8.6nm,1.1s
H31M **Peel River** 72.65 25 P P 20 40 04.2 +0.8
H31M IAmb IAmb 20 40 25.6
comp=Z,8.1nm,1.1s
A36M **Sachs Harbour** 73.34 18 P P 20 40 07.7 +0.4
A36M IAmb IAmb 20 40 09.6
comp=Z,5.7nm,0.8s
FIA1 **FINESS Array S** 73.70 330 P P 20 40 09.8 +0.3
FINES **FINESS Array B** 73.70 330 P P 20 40 10.2 +0.6
FINES **FINESS Array B** 73.70 330 P P 20 40 10.4 +0.9
comp=Z,1.6nm,0.5s,baz=68,slow=5.6,SNR=18
FINES LR LR 21 16 08.8
comp=Z,250nm,18.0s,baz=80,slow=39
comp=Z,1.6nm,0.5s
M31M **Drury Creek, Y** 73.85 29 P P 20 40 10.9 +0.4
M31M IAmb IAmb 20 40 19.9
comp=Z,4.7nm,0.6s
FARO **Faro, Yukon** 74.30 28 P P 20 40 14.3 +1.2
FARO IAmb IAmb 20 40 18.3
comp=Z,6.8nm,0.8s
C36M **Paulatuk** 74.87 20 P P 20 40 16.8 +0.5
AKASG **Malin Array Be** 75.69 319 P P 20 40 21.1 -0.2
comp=Z,0.8nm,0.4s,baz=56,slow=6.3,SNR=5.3
AKASG LR LR 21 16 10.5
comp=Z,58nm,18.9s,baz=64,slow=38
comp=Z,0.8nm,0.4s
BRTR **Keskin Array B** 76.48 308 P P 20 40 25.8 -0.4
BRTR **Keskin Array B** 76.48 308 P P 20 40 29.2 +2.9
comp=Z,1.1nm,0.6s,baz=90,slow=1.4,SNR=2.5
comp=Z,1.1nm,0.6s
ASF **Jabal al Asfar** 76.52 299 P P 20 40 28.1 +1.6
comp=Z,2.7nm,0.8s,baz=289,slow=0.8,SNR=3.8
comp=Z,2.7nm,0.8s
PABE **Paberze** 76.89 325 P P 20 40 27.4 -0.6
DLBC **Dease Lake** 77.30 31 LR LR 21 17 27.2
comp=Z,33nm,18.5s,baz=162,slow=38
MMAI **Mount Meron Ar** 77.42 301 P P 20 40 32.8 +1.3
comp=Z,0.4nm,0.5s,baz=78,slow=10,SNR=2.0
comp=Z,0.4nm,0.5s
SUW **Suwalki** 77.90 324 P P 20 40 33.0 -0.7
EIL **Elat** 78.96 298 LR LR 21 20 13.2
comp=Z,42nm,19.6s,baz=69,slow=39
BURAR **Bucovina Array** 79.28 317 P P 20 40 41.3 -0.3
MLR **Muntele Rosu** 79.66 315 LR LR 21 20 23.9
comp=Z,67nm,19.0s,baz=42,slow=39
HFS **Hagfors** 79.75 332 P P 20 40 44.6 +0.8
comp=Z,2.9nm,0.8s,baz=54,slow=7.3,SNR=6.2
HFS LR LR 21 19 32.9
comp=Z,89nm,19.1s,baz=61,slow=38
comp=Z,2.9nm,0.8s
NC405 **NORSAR Array S** 80.09 333 P P 20 40 45.9 +0.3
NB201 **NORSAR Array S** 80.30 333 P P 20 40 46.8 0.0
NB2 **NORSAR Subarra** 80.33 333 P P 20 40 47.8 +0.8
comp=Z,10nm,1.4s,baz=54,slow=6.2
NOA **NORSAR Array B** 80.33 333 P P 20 40 47.6 +0.6
comp=Z,2.7nm,0.9s,baz=55,slow=5.5,SNR=6.6
NOA LR LR 21 20 43.7
comp=Z,98nm,19.1s,baz=65,slow=39
comp=Z,2.7nm,0.9s
YKA **Yellowknife Ar** 81.81 24 P P 20 40 56.6 +1.9
comp=Z,2.5nm,0.9s,baz=307,slow=5.4,SNR=24
YKA LR LR 21 20 08.2
comp=Z,21nm,20.3s,baz=284,slow=38
comp=Z,2.5nm,0.9s
VRAC **Vranov** 83.67 321 LR LR 21 20 07.7
comp=Z,64nm,18.7s,baz=32,slow=37
GERES **GERESS Array B** 85.55 322 LR LR 21 23 09.6
comp=Z,80nm,18.2s,baz=66,slow=38
BORG **Borgarnes** 88.06 346 LR LR 21 25 10.4
comp=Z,60nm,18.3s,baz=41,slow=39
DAVOX **Davos/Dischmat** 88.83 322 LR LR 21 25 28.7
comp=Z,95nm,18.2s,baz=64,slow=38
SFJD **Kangerlussuaq** 89.44 358 LR LR 21 24 12.8
comp=Z,45nm,18.0s,baz=337,slow=37
WVOR **Wild Horse Val** 91.57 42 P P 20 41 43.5 +0.3
FFC **Flin Flon** 91.90 25 P P 20 41 44.9 +0.7
FFC IAmb IAmb 20 41 48.2
comp=Z,3.7nm,0.9s
FRB **Frobisher Bay** 92.07 6 LR LR 21 24 10.0
comp=Z,74nm,21.8s,baz=14,slow=36
PPT2 **Papeete2** 92.58 108 eLR LR 21 11 23.9
comp=Z,62nm,24.0s
PPT2 eLR LR 21 11 31.2
comp=Z,115nm,26.8s
NVAR **Mina Array Bea** 94.05 45 LR LR 21 21 30.7
comp=Z,27nm,19.7s,baz=342,slow=34

NEIC ***23*** *20:30:08.8±1.9,55.97N±0.08×149.6W±0.1,h10km±2km, ML3.4/42,ML3.1(AEIC),Error ellipse: s-maj=13.9km s-min=9.9km az=173.0*
IDC ***23*** *20:30:10.8±3.1,56.00N×149.78W,h0km,mb3.4/1, mbtmp3.1/4,ML2.7/3,MS2.7/1,Error ellipse: s-maj=40.2km s-min=31.4km az=174.0*
AEIC ***23*** *20:30:14.3±1.8,56.01N±0.08×149.59W±0.08,h10km±7km, Error ellipse: s-maj=13.0km s-min=3.8km az=154.0*

ISC 23 20:30:10.9±1.4,56.15N±0.09×149.63W±0.06,h10km, n172,σ1‰05/171,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.29**	**300**	Pn	**Pn**	**20 30 48.1**	**-0.5**
OHAK	**Old Harbor**	**2.29**	**300**		**Sn**	**20 31 14.6**	**-2.1**
OHAK	**Old Harbor**	**2.29**	**300**	P	**Pn**	**20 30 48.3**	**-0.3**
	baz=120						
OHAK				S	**Sn**	**20 31 14.6**	**-2.1**
	baz=120						
KDAK	**Kodiak Island**	**2.30**	**317**	Pn	**Pn**	**20 30 48.9**	**+0.1**
KDAK	**Kodiak Island**	**2.30**	**317**		**Sn**	**20 31 15.6**	**-1.5**
KDAK	**Kodiak Island**	**2.30**	**317**	P	**Pn**	**20 30 48.9**	**+0.1**
	baz=136						
KDAK				S	**Sn**	**20 31 16.2**	**-0.9**
	baz=136						
KDAK	**Kodiak Island**	**2.30**	**317**	Pn	**Pn**	**20 30 48.8**	**+0.1**
	3.0nm,0.3s,baz=140,slow=2.9,SNR=80						
KDAK				Sn	**Sn**	**20 31 15.9**	**-1.3**
	5.2nm,0.3s,baz=141,slow=22,SNR=14						
KDAK				LR	LR	20 32 01.3	
	comp=Z,176nm,20.2s,baz=215,slow=47						
	5.8nm,0.3s						
SII	**Sitkinak Islan**	**2.57**	**281**		**Pn**	**20 30 51.4**	**-1.1**
SII	**Sitkinak Islan**	**2.57**	**281**	IAML		20 31 22.7	
	comp=E,193nm,0.8s						
SII				IAML		20 31 28.7	
	comp=N,127nm,0.8s						
SII	**Sitkinak Islan**	**2.57**	**281**	S	**Sn**	**20 31 21.9**	**-1.8**
	baz=101						
SYI	**Shuyak Island**	**2.88**	**330**	Pn	**Pn**	**20 30 57.1**	**+0.3**
SYI				IAML		20 31 56.3	
	comp=N,43nm,1.8s						
SYI	**Shuyak Island**	**2.88**	**330**		**Sn**	**20 31 31.4**	**-0.1**
Q20K	**Shuyak Island**	**2.88**	**330**	P	**Pn**	**20 30 57.4**	**+0.6**
	baz=149						
Q20K				S	**Sn**	**20 31 32.3**	**+0.7**
	baz=149						
CHIR	**Chirikof Islan**	**3.38**	**267**	Pn	**Pn**	**20 31 01.1**	**-2.6**
CHIR				IAML		20 31 40.1	
	comp=E,156nm,1.8s						
CHIR				IAML		20 31 49.3	
	comp=N,125nm,1.5s						
CNPM	**China Poot**	**3.49**	**346**	Pn	**Pn**	**20 31 05.3**	**+0.1**
CNPM				IAML		20 31 57.7	
	comp=E,29nm,1.0s						
CNPM	**China Poot**	**3.49**	**346**		**Sn**	**20 31 45.2**	**-1.3**
Q19K	**Cape Douglas,**	**3.53**	**324**	Pn	**Pn**	**20 31 06.8**	**+1.1**
Q19K				IAML		20 32 02.0	
	comp=N,121nm,1.6s						
Q19K	**Cape Douglas,**	**3.53**	**324**	P	**Pn**	**20 31 06.8**	**+1.1**
	baz=142						
BRSE	**Bradley Lake S**	**3.65**	**351**		**Pn**	**20 31 07.1**	**-0.3**
BRSE					**Sn**	**20 31 49.9**	**-0.5**
BRSE	**Bradley Lake S**	**3.65**	**351**	P	**Pn**	**20 31 07.2**	**-0.2**
	baz=170						
BRSE				S	**Sn**	**20 31 49.9**	**-0.5**
	baz=170						
KAKN	**Katmai Knife C**	**3.65**	**308**		**Pn**	**20 31 08.3**	**+0.8**
BRLK	**Bradley Lake**	**3.69**	**350**		**Pn**	**20 31 07.8**	**-0.1**
BRLK	**Bradley Lake**	**3.69**	**350**		**Sn**	**20 31 51.1**	**-0.3**
ACHA	**Angle Creek He**	**3.72**	**306**		**Pn**	**20 31 09.3**	**+0.8**
Q23K	**Middleton Isla**	**3.73**	**27**	Pn	**Pn**	**20 31 08.1**	**-0.3**
MID	**Middleton Isla**	**3.73**	**27**	Pn	**Pn**	**20 31 06.7**	**-1.7**
ANCK	**Angle Creek**	**3.79**	**305**		**Pn**	**20 31 10.5**	**+1.1**
AUL	**Augustine Lava**	**3.83**	**329**		**Pn**	**20 31 11.6**	**+1.8**
KAHC	**Katmai Hardscr**	**3.84**	**313**		**Pn**	**20 31 11.0**	**+1.0**
KAHC	**Katmai Hardscr**	**3.84**	**313**	P	**Pn**	**20 31 11.4**	**+1.4**
	baz=130						
P19K	**Oil Pt**	**4.00**	**333**	Pn	**Pn**	**20 31 13.0**	**+0.7**
P19K				IAML		20 32 12.2	
	comp=N,44nm,1.5s						
P19K				IAML		20 32 24.4	
	comp=E,45nm,1.7s						
P19K	**Oil Pt**	**4.00**	**333**	P	**Pn**	**20 31 13.2**	**+1.0**
	baz=150						
CNTC	**Contact Creek**	**4.01**	**305**		**Pn**	**20 31 13.1**	**+0.7**
Q17K	**Contact Creek**	**4.01**	**305**	P	**Pn**	**20 31 13.2**	**+0.9**
	baz=121						

P23K	Montague Islan	4.04	16			Pn	20 31 12.7	+0.1
P23K	Montague Islan	4.04	16	P		Pn	20 31 12.7	+0.1
	baz=197							
O20K	Slope Mountain	4.25	339			Pn	20 31 16.2	+0.6
O20K	Slope Mountain	4.25	339	P		Pn	20 31 16.2	+0.6
	baz=157							
ILSW	Iliamna Southw	4.27	336	Pn		Pn	20 31 12.9	-3.1
ILSW				IAML			20 32 34.4	
	comp=E,18nm,1.9s							
ILSW				IAML			20 33 51.9	
	comp=N,21nm,0.6s							
IVE	Iliamna Volcan	4.27	337			Pn	20 31 16.5	+0.5
O22K	Cooper Landing	4.34	359	Pn		Pn	20 31 17.8	+0.9
O22K				IAML			20 32 01.6	
	comp=E,71nm,1.0s							
O22K				IAML			20 32 29.6	
	comp=N,60nm,0.9s							
P18K	Big Mountain,	4.42	320	Pn		Pn	20 31 17.9	-0.1
P18K	Big Mountain,	4.42	320	P		Pn	20 31 18.3	+0.3
	baz=136							
HIN	Hinchinbrook I	4.57	20	Pn		Pn	20 31 19.9	0.0
HIN				IAML			20 32 15.7	
	comp=E,38nm,1.9s							
HIN				IAML			20 32 26.3	
	comp=N,33nm,1.7s							
RED	Redoubt Volcan	4.59	340			Pn	20 31 19.9	-0.5
RDSO	Redoubt South	4.62	340			Pn	20 31 20.7	-0.1
RSO	Redoubt South	4.63	340	Pn		Pn	20 31 19.6	-1.4
RDWB	Redoubt West	4.67	340			Pn	20 31 21.4	-0.1
KAIM	Kayak Island	4.69	34			Pn	20 31 16.4	-5.3
DFR	Drift River	4.74	341			Pn	20 31 22.3	0.0
O18K	Koktuh Hills	4.75	324	Pn		Pn	20 31 22.1	-0.4
O18K				IAML			20 32 26.9	
	comp=N,18nm,1.7s							
O18K				IAML			20 32 32.4	
	comp=E,12nm,1.4s							
O18K	Koktuh Hills	4.75	324	P		Pn	20 31 22.8	+0.3
	baz=140							
P17K	Kvichak River	4.76	313	P		Pn	20 31 23.7	+1.1
	baz=128							
EYAK	Cordova Ski Ar	4.86	23			Pn	20 31 24.2	+0.2
EYAK	Cordova Ski Ar	4.86	23	P		Pn	20 31 24.2	+0.2
	baz=205							
CHGN	Chignik	4.90	275	Pn		Pn	20 31 22.1	-2.5
RC01	Rabbit Creek A	4.96	359	Pn		Pn	20 31 24.9	-0.3
RC01				IAML			20 32 31.2	
	comp=E,16nm,1.2s							
RC01				IAML			20 32 33.3	
	comp=N,14nm,1.4s							
RC01	Rabbit Creek A	4.96	359	P		Pn	20 31 25.7	+0.5
	baz=179							
RAGM	Ragged Mountai	4.99	30	Pn		Pn	20 31 26.2	+0.4
RAGM				IAML			20 32 47.9	
	comp=E,43nm,1.4s							
SUCK	Suckling Hills	5.01	36	Pn		Pn	20 31 26.2	+0.2
SUCK				IAML			20 32 25.7	
	comp=E,34nm,1.9s							
SUCK				IAML			20 32 41.1	
	comp=N,30nm,1.8s							
NICHA	Nichawak Mount	5.08	34			Pn	20 31 27.6	+0.6
GOAT	Goat Mountain	5.14	28			Pn	20 31 28.9	+1.0
BERG	Berg Lake	5.28	34	Pn		Pn	20 31 28.8	-0.9
SPCP	Crater Peak Br	5.30	347			Pn	20 31 30.7	+0.6
GRIN	Grindle Hills	5.32	36			Pn	20 31 31.6	+1.3
N19K	Bonanza Creek	5.32	333	Pn		Pn	20 31 29.7	-0.8
N19K	Bonanza Creek	5.32	333	P		Pn	20 31 30.3	-0.1
	baz=150							
P16K	Nushagak River	5.34	306			Pn	20 31 31.5	+1.0
P16K	Nushagak River	5.34	306	P		Pn	20 31 31.5	+1.0
	baz=120							
SUA	Susitna One	5.36	354	Pn		Pn	20 31 29.9	-1.0
O17K	Koliganek Bris	5.38	316			Pn	20 31 32.0	+0.9
O17K	Koliganek Bris	5.38	316	P		Pn	20 31 32.0	+0.9
	baz=130							
SNH	Sunshine Point	5.41	39	Pn		Pn	20 31 30.0	-1.6
KHIT	Khitrov Hills	5.46	35			Pn	20 31 32.6	+0.2
SPNN	North Nagishla	5.47	344			Pn	20 31 32.9	+0.4
WAX	Waxell Ridge	5.60	37			Pn	20 31 34.3	+0.1
N18K	Kilae Creek	5.61	327	Pn		Pn	20 31 34.3	+0.1
N18K	Kilae Creek	5.61	327	P		Pn	20 31 34.5	+0.3
	baz=142							
O16K	Kokwok River B	5.68	311			Pn	20 31 35.1	-0.1
O16K	Kokwok River B	5.68	311	P		Pn	20 31 36.1	+0.8
	baz=125							
BARK	Barkley Ridge	5.69	39			Pn	20 31 36.1	+0.7
CRQM	Cirque	5.74	34			Pn	20 31 36.3	+0.1
CRQE	Cirque	5.75	34	P		Pn	20 31 36.9	+0.6
	baz=218							
CNBA	Chernabura Isl	5.82	261	Pn		Pn	20 31 34.8	-2.3
SCM	Sheep Creek Mo	5.82	11	Pn		Pn	20 31 36.0	-1.3
TGL	Tana Glacier	5.84	35			Pn	20 31 37.6	+0.1
SVW2	Sparrevohn	5.85	330	Pn		Pn	20 31 37.4	-0.3
ISLE	Juniper Island	5.88	38			Pn	20 31 37.5	-0.7
BAGL	Bagley Icefiel	5.89	39			Pn	20 31 38.8	+0.7
N17K	Nushagak Hills	5.92	321	Pn		Pn	20 31 38.6	0.0
SKT	Skwentna	5.93	351	Pn		Pn	20 31 38.9	+0.2
VRDI	Verde Repeater	6.02	30	Pn		Pn	20 31 40.1	0.0
M20K	Styx River	6.03	344	Pn		Pn	20 31 39.8	-0.2
N25K	Chitina, Valde	6.06	23	Pn		Pn	20 31 42.4	+1.9
GLB	Gilahina Butte	6.11	27	Pn		Pn	20 31 42.3	+1.2
KIAG	Kiagna River	6.12	35			Pn	20 31 41.8	+0.5
SAMH	Samovar Hills	6.15	46			Pn	20 31 42.8	+1.0
SDPT	Sand Point	6.18	267	Pn		Pn	20 31 38.3	-3.7
TABL	Table Mountain	6.21	43	Pn		Pn	20 31 42.9	+0.3
M18K	Stony River	6.25	332			Pn	20 31 43.0	+0.1
M18K	Stony River	6.25	332	P		Pn	20 31 43.0	+0.1
	baz=147							
MCARA	McCarthy VSAT	6.27	30			Pn	20 31 44.6	+1.2
MCARA	McCarthy VSAT	6.27	30	P		Pn	20 31 44.5	+1.1
	baz=215							
PTPK	Patty Peak	6.28	34			Pn	20 31 44.2	+0.6
BARN	Barnard Glacie	6.45	37			Pn	20 31 46.4	+0.5
N16K	Nishlik Lake	6.47	316			Pn	20 31 47.2	+1.0
N16K	Nishlik Lake	6.47	316	P		Pn	20 31 47.2	+1.0
	baz=129							
CTGM	Chitina Glacie	6.49	39	Pn		Pn	20 31 46.0	-0.5
PNL	Peninsula	6.49	53			Pn	20 31 46.7	+0.3
PNL	Peninsula	6.49	53	P		Pn	20 31 46.7	+0.3
	baz=240							
LOGN	Logan Glacier	6.51	40	Pn		Pn	20 31 47.1	+0.3
BCPM	Bancas Point	6.53	50	Pn		Pn	20 31 45.6	-1.3
L19K	White Mountain	6.62	338	Pn		Pn	20 31 48.0	-0.1
M17K	Holitna River	6.64	326	Pn		Pn	20 31 49.2	+0.8
M17K	Holitna River	6.64	326	P		Pn	20 31 49.0	+0.5
	baz=140							
N15K	Kwethluk River	6.84	310			Pn	20 31 52.1	+1.0
M16K	Timber Creek	6.90	319	Pn		Pn	20 31 52.4	+0.5
M16K	Timber Creek	6.90	319	P		Pn	20 31 52.8	+0.8
	baz=132							
O14K	Tigyukauivet M	6.96	301	Pn		Pn	20 31 52.7	-0.1
DHY	Denali Highway	7.04	8			Pn	20 31 55.2	+1.2
L18K	Granite Mounta	7.08	332			Pn	20 31 53.8	-0.6
M26K	Nabesna, AK	7.13	26	Pn		Pn	20 31 54.9	-0.2
O29M	Mount Kennedy	7.17	50			Pn	20 31 55.0	-0.8
O29M	Mount Kennedy	7.17	50	P		Pn	20 31 56.3	+0.6
	baz=238							
P29M	Windy Craggy	7.23	56	Pn		Pn	20 31 55.5	-1.1
P29M	Windy Craggy	7.23	56	P		Pn	20 31 56.5	-0.1
	baz=245							
RND	Reindeer	7.29	3	Pn		Pn	20 31 57.6	+0.2
TRF	Thorofare Moun	7.33	358	Pn		Pn	20 31 57.7	-0.3
M27K	Edge Creek, AK	7.38	29	Pn		Pn	20 31 59.3	+0.6
CAST	Castle Rocks	7.40	351	Pn		Pn	20 32 00.1	+1.3
KTH	Kantishna Hill	7.46	356	Pn		Pn	20 32 00.5	+0.8
S31K	Pelican	7.53	71	Pn		Pn	20 31 58.9	-1.7
TTA	Tatalina	7.53	337	Pn		Pn	20 32 01.0	+0.3
L16K	Owhat River	7.54	322	Pn		Pn	20 32 00.9	+0.1
K20K	Telida	7.57	345	Pn		Pn	20 32 00.5	-0.6
HYT	Haines Junctio	7.89	49	Pn		Pn	20 32 03.5	-2.1
K17K	Iditarod	7.92	330	Pn		Pn	20 32 05.5	-0.4
M14K	Bethel	7.94	311			Pn	20 32 06.9	+0.8
L27K	Beaver Creek,	7.98	26	Pn		Pn	20 32 05.1	-1.6
BCAR	Beaver Creek A	7.99	27	Pn		Pn	20 32 05.8	-1.1
BPAW	Bear Paw Mtn.	8.00	356	Pn		Pn	20 32 07.3	+0.2
SCRK	Sand Creek	8.34	17	Pn		Pn	20 32 11.9	+0.1
J20K	Nowinta River	8.36	346	Pn		Pn	20 32 11.4	-0.5
M13K	Dall Lake	8.39	306			Pn	20 32 14.3	+1.9
N30M	Aishikik Lake	8.40	46	Pn		Pn	20 32 13.3	+0.7
J19K	Poorman	8.41	342	Pn		Pn	20 32 12.8	+0.1
O30N	Mendenhall	8.47	51	Pn		Pn	20 32 12.1	-1.4
M29M	Somme Creek	8.50	38	Pn		Pn	20 32 15.6	+1.6
L14K	Kuka Creek	8.54	313	Pn		Pn	20 32 15.4	+1.0
JIS	Juneau Island	8.55	69	Pn		Pn	20 32 12.7	-1.8
CCB	Clear Creek Bu	8.57	5	Pn		Pn	20 32 16.5	+1.6
K15K	Wolf Creek Mou	8.66	320	Pn		Pn	20 32 17.2	+1.2
J17K	VABM Dome	8.68	331	Pn		Pn	20 32 16.9	+0.5
ILAR	Eielson Array	8.76	8	Pn		Pn	20 32 19.2	+1.8
	comp=N,0.1nm,0.3s,baz=186,slow=13,SNR=4.2							
ILAR				Sn		Sn	20 33 52.3	-3.7
	comp=N,0.1nm,0.3s,baz=204,slow=24,SNR=2.4							
	comp=N,0.3nm,0.6s							
J26L	Joseph Creek	8.90	17	Pn		Pn	20 32 21.1	+1.7
J16K	Innoko River	9.04	327	Pn		Pn	20 32 20.9	-0.4
L29M	L29M	9.08	35	Pn		Pn	20 32 21.8	0.0
H21K	Melozitna Rive	9.66	352			Pn	20 32 29.1	-0.7
J14K	Nanvaranak Lak	9.68	319	Pn		Pn	20 32 28.6	-1.3
P33M	Teslin, Yukon	9.76	58	Pn		Pn	20 32 30.6	-0.6
K29M	Barlow Dome	9.80	33	Pn		Pn	20 32 32.2	+0.5
IMAR	Indian Mountai	10.06	350	Pn		Pn	20 32 36.0	+0.7
F20K	Avaraart Lake	11.31	348	Pn		Pn	20 32 52.1	-0.1
E19K	Redstone River	11.89	346	Pn		Pn	20 33 00.2	0.0
YKA	Yellowknife Ar	18.78	56	P		Pn	20 34 31.9	+1.6
	baz=270,slow=12,SNR=5.2							
	comp=N,0.5nm,0.8s							
H11N2	WAKE ISLAND Hy	48.65	240	T		T	21 31 24.2	
	baz=31							
H11N3	WAKE ISLAND Hy	48.65	240	T		T	21 31 16.9	
	baz=31							
H11N1	WAKE ISLAND Hy	48.66	240	T		T	21 31 24.5	
	baz=31							
H11S1	WAKE ISLAND Hy	49.79	239	T		T	21 33 15.4	
	baz=25							
H11S2	WAKE ISLAND Hy	49.80	239	T		T	21 33 29.7	
	baz=25							
H11S3	WAKE ISLAND Hy	49.81	239	T		T	21 33 35.0	
	baz=25							
SONM	Songino Array	58.57	310	P		P	20 40 09.0	+1.5
	comp=N,0.3nm,0.7s,baz=38,slow=7.3,SNR=2.5							
	comp=N,0.3nm,0.7s							

IDC ***23*** *20:44:27.6±1.3,24°.33S×179°.88E,h505km±13km, mb3.7/20,mbtmp4.5/22,Error ellipse: s-maj=11.5km s-min=10.3km az=106.0*

NOU ***23*** *20:44:27.6,24°.24S×179°.69W,h539km,mb4.4/45,South of Fiji Islands*

NEIC ***23*** *20:44:28.1±2.2,24°.3S±0°.1×180°.0W±0°.1,h514km±7km, mb4.6/69,Error ellipse: s-maj=18.2km s-min=14.5km az=117.0*

ISC 23 20:44:27.3±0.3,**24°.26S**±0°.05×**179°.99W**±0°.07,**h505**km, **n273,**σ1°**16**/295,**mb4.5**/53,**25C-25D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	Green Lake	5.31	160	P	P	20 45 57.0	-0.2
GLKZ				S	S	20 47 12.7	+2.0
LKBA	Tubou, Lakemba	6.10	11	P	P	20 46 06.7	+1.8
MSVF	Nonsavu	6.75	344	P	P	20 46 12.8	+1.4
MSVF	Nonsavu	6.75	344		P	20 46 12.4	+1.0
YSA	Yasawairara	7.87	343	P	P	20 46 24.7	+2.2
DGTI	Dogotuki	7.93	358	P	P	20 46 25.3	+2.1
NIUE	Niue	10.68	63	P	P	20 46 49.6	-2.3
NIUE	Niue	10.68	63	P	P	20 46 52.0	+0.1
MARNC	Mare, Loyalty	11.39	282	P	P	20 46 58.2	-1.2
PINNC	Pines Island,	11.65	276	P	P	20 47 04.2	+2.0
OUENC	Ouen Island, N	12.24	276	P	P	20 47 11.0	+2.6
OUENC	Ouen Island, N	12.24	276	P	P	20 47 09.2	+0.8
OUZ	Omahuta	12.26	206	P	P	20 47 10.9	+2.6
DZM	Mont Dzumac	12.67	277	P	P	20 47 15.3	+2.2
DZM	Mont Dzumac	12.67	277	P	P	20 47 14.2	+1.1
DZM	Mont Dzumac	12.67	277	P	P	20 47 14.1	+1.0
	57nm,0.9s,baz=80,slow=19,SNR=25						
NOUC	Port Laguerre	12.79	277	P	P	20 47 16.7	+2.5
WIAZ	Waiheke Island	13.17	197	P	P	20 47 19.6	+1.5
MKAZ	Moumakai	13.46	197	P	P	20 47 22.1	+1.1
AWAZ	Awhitu Peninsu	13.57	199	P	P	20 47 23.6	+1.4
WMGZ	Waiomatatini S	13.58	185	P	P	20 47 23.9	+1.6
WMGZ				S	S	20 49 49.8	+3.1
HAZ	Te Kaha	13.59	188	P	P	20 47 21.9	-0.4
HAZ				S	S	20 49 47.1	+0.4
PKGZ	Pakihiroa	13.68	186	P	P	20 47 23.0	-0.4
PKGZ				S	S	20 49 47.8	-1.0
RUGZ	Raukumara Rang	13.80	188	P	P	20 47 23.5	-1.3
RUGZ				S	S	20 49 53.3	+2.2
PUZ	Puketiti	13.85	186	P	P	20 47 27.2	+2.0
PUZ				S	S	20 49 52.6	+0.8
TWGZ	Tauwhareparae	13.98	187	P	P	20 47 27.3	+0.7
TWGZ				S	S	20 49 54.3	-0.1
URZ	Urewera	14.17	189	P	P	20 47 28.5	0.0
URZ	Urewera	14.17	189	P	P	20 47 27.6	-0.9
	18nm,0.5s,baz=7.1,slow=3.1,SNR=23						
URZ				S	S	20 49 55.6	-2.3
	27nm,0.6s,baz=306,slow=24,SNR=14						
URZ	Urewera	14.17	189	P	P	20 47 27.9	-0.5
URZ				S	S	20 49 56.0	-1.9
MWZ	Matawai	14.19	188	P	P	20 47 29.3	+0.6
MWZ				S	S	20 49 57.4	-1.0
CNGZ	Carnagh Statio	14.26	186	P	P	20 47 31.5	+2.1
CNGZ				S	S	20 50 01.5	+1.8
MUGZ	Murupara	14.44	190	P	P	20 47 31.3	0.0
MUGZ				S	S	20 50 00.7	-2.4
RTZ	Ruatahuna	14.54	190	P	P	20 47 32.5	0.0
BKZ	Black Stump Fm	15.15	191	P	P	20 47 38.8	-0.1
BKZ	Black Stump Fm	15.15	191	P	P	20 47 38.1	-0.8
BKZ				IAmb	IAmb	20 47 42.1	
	comp=Z,8.7nm,0.6s						
BKZ	Black Stump Fm	15.15	191	P	P	20 47 37.1	-1.7
BFZ	Birch Farm	16.67	190	P	P	20 47 53.4	-1.2
BFZ	Birch Farm	16.67	190	P	P	20 47 52.4	-2.2
SNZO	South Karori	17.57	193	P	P	20 48 02.7	-0.5
QRZ	Quartz Range	17.67	199	P	P	20 48 04.1	0.0
TUWZ	Tuamarina	17.85	195	P	P	20 48 04.4	-1.4
THZ	Tophouse	18.43	197	P	P	20 48 09.8	-1.4
KHZ	Kahutara	18.88	195	P	P	20 48 14.3	-0.9
LTZ	Lake Taylor	19.55	197	P	P	20 48 18.8	-2.6
OXZ	Oxford	20.12	197	P	P	20 48 24.9	-1.5
RPZ	Rata Peaks	20.75	199	P	P	20 48 31.7	-0.6
RPZ	Rata Peaks	20.75	199	P	P	20 48 30.1	-2.1
	comp=Z,10nm,0.5s,baz=34,slow=5.1,SNR=11						
	comp=Z,10nm,0.5s						
JCZ	Jackson Bay	21.80	202	P	P	20 48 42.6	+0.8
ODZ	Otahua Downs	22.09	198	P	P	20 48 43.3	-1.0
EIDS	Eidsvold	26.26	262	P	P	20 49 22.6	+0.9
MGCD	Mangrove Creek	26.80	244	P	P	20 49 28.1	+1.8
CNB	Canberra Magne	28.68	240	P	P	20 49 44.4	+1.5
CAN	Canberra	28.97	240	P	P	20 49 46.7	+1.3
YNG	Young	29.23	243	P	P	20 49 48.4	+0.7
CMSA	Cobar Meteorol	31.09	249	P	P	20 50 04.0	+0.2
CTA	Charters Tower	31.49	271	P	P	20 50 07.7	+0.4
CTAO	Charters Tower	31.49	271	P	P	20 50 07.9	+0.6
CTAO	Charters Tower	31.49	271	P	P	20 50 07.1	-0.2
TOO	Toolangi	32.26	238	P	P	20 50 14.4	+0.7
TAU	Tasmania Unive	32.70	227	P	P	20 50 17.2	-0.1
MTSU	Mount Surprise	33.77	273	P	P	20 50 26.7	-0.1
STKA	Stephens Creek	34.60	249	P	P	20 50 33.4	-0.1
STKA	Stephens Creek	34.60	249	P	P	20 50 33.1	-0.4
STKA	Stephens Creek	34.60	249	P	P	20 50 33.5	-0.1
	comp=Z,5.2nm,0.5s,baz=94,slow=11,SNR=30						
STKA				PcP	PcP	20 52 54.0	0.0
	comp=Z,1.9nm,0.6s,baz=90,slow=7.1,SNR=3.1						
	comp=Z,5.2nm,0.5s						
INKA	Innaminka	35.36	256	P	P	20 50 40.1	+0.2
COEN	Coen	36.19	280	P	P	20 50 47.5	+0.6
HTT	Hallett	36.94	246	P	P	20 50 52.6	-0.4
QIS	Mount Isa	37.45	267	P	P	20 50 58.0	+0.7
LCRK	Leigh Creek	37.47	251	P	P	20 50 57.2	-0.2
BBOO	Buckleboo	39.31	247	P	P	20 51 11.5	-0.8
OOD	Oodnadatta	39.83	255	P	P	20 51 16.8	+0.3
MULG	Mulgathing	41.07	251	P	P	20 51 25.8	-0.7
AS01	Alice Springs	41.95	261	P	P	20 51 33.4	-0.2
AS31	Alice Springs	41.99	261	P	P	20 51 33.0	-0.9
ASAR	Alice Springs	41.99	261	P	P	20 51 33.4	-0.5
	comp=Z,4.5nm,0.6s,baz=95,slow=6.9,SNR=98						
ASAR				PcP	PcP	20 53 17.1	-0.4
	comp=Z,1.1nm,0.5s,baz=105,slow=4.5,SNR=4.8						
ASAR				ScP	ScP	20 56 20.9	+1.2
	comp=Z,3.4nm,1.0s,baz=100,slow=4.4,SNR=8.4						
ASAR				S	S	20 57 13.4	-2.6
	comp=Z,0.9nm,0.7s,baz=97,slow=16,SNR=5.6						
	comp=Z,4.5nm,0.6s						
WR0	Warramunga Arr	42.21	267	P	P	20 51 34.7	-0.9
WB2	Warramunga Arr	42.38	267	P	P	20 51 36.1	-1.0
WB2				IAmb	IAmb	20 51 37.0	
	comp=Z,12nm,0.6s						
WRAB	Tennant Creek	42.39	267	P	P	20 51 36.1	-1.0
WRAB				IAmb	IAmb	20 51 37.5	
	comp=Z,26nm,1.2s						
WB0	Warramunga Arr	42.39	267	P	P	20 51 35.9	-1.1
WB0				IAmb	IAmb	20 51 37.0	
	comp=Z,28nm,1.3s						
WRA	Warramunga Arr	42.40	267	P	P	20 51 35.1	-2.0
WRA	Warramunga Arr	42.40	267	P	P	20 51 35.9	-1.2
	comp=Z,8.4nm,0.5s,baz=97,slow=8.1,SNR=176						
WRA				ScP	ScP	20 56 23.6	+2.2
	comp=Z,8.1nm,1.1s,baz=101,slow=4.2,SNR=10						
WRA				S	S	20 57 18.6	-3.2
	comp=Z,5.2nm,1.1s,baz=108,slow=18,SNR=4.5						
	comp=Z,8.4nm,0.5s						
FORT	Forrest	46.20	250	P	P	20 52 05.4	-1.0
WRKA	Warakurna	46.77	258	P	P	20 52 10.2	-0.7
FITZ	Fitzroy Crossi	50.81	266	P	P	20 52 41.3	+0.4
SBA	Scott Base	54.02	183	P	P	20 53 05.1	+2.1
VNDA	Vanda	54.02	185	P	P	20 53 03.8	+0.8
	comp=Z,0.9nm,0.6s,baz=2.2,slow=7.6,SNR=6.9						
VNDA				PcP	PcP	20 54 00.5	+0.3
	comp=Z,1.4nm,0.6s,baz=345,slow=5.8,SNR=7.4						
	comp=Z,0.9nm,0.6s						
SOEI	Soe	54.89	275	P	P	20 53 09.9	-0.3
SOEI				IAmb	IAmb	20 53 14.1	
	comp=Z,48nm,1.2s						
BLDU	Ballidu	55.91	248	P	P	20 53 15.8	-1.2
MORW	Morawa	56.76	250	P	P	20 53 22.3	-0.7
QSPA	South Pole Qui	65.82	180	P	P	20 54 22.2	+0.3
QSPA	South Pole Qui	65.82	180	P	P	20 54 22.4	+0.5
	comp=Z,15nm,0.6s,baz=35,slow=3.7,SNR=74						
	comp=Z,15nm,0.6s						
KKM	Kota Kinabalu	69.02	287	P	P	20 54 41.0	-1.4
MJAR	Matsushiro Arr	72.20	326	P	P	20 55 00.6	0.0
	comp=Z,2.3nm,0.8s,baz=159,slow=6.1,SNR=6.4						
	comp=Z,2.3nm,0.8s						
BELA	Belgrano 2	76.07	173	P	P	20 55 21.1	-0.9
BELA				IAmb	IAmb	20 55 22.6	
	comp=Z,8.5nm,0.7s						
ASAJ	Asahikawa	76.19	333	P	P	20 55 24.8	+1.8
	comp=Z,3.2nm,0.6s,baz=134,slow=5.4,SNR=5.2						
	comp=Z,3.2nm,0.6s						
KSRS	Korea Array	78.53	320	P	P	20 55 36.8	+0.9
	comp=Z,1.4nm,0.7s,baz=135,slow=6.1,SNR=7.5						
	comp=Z,1.4nm,0.7s						
PETK	Petropavlovsk-	79.45	347	P	P	20 55 40.1	-0.4
	comp=Z,8.1nm,0.9s,baz=115,slow=6.4,SNR=13						
	comp=Z,8.1nm,0.9s						
USRK	Ussuriysk Ar.	81.08	327	P	P	20 55 50.2	+1.1
	comp=Z,2.8nm,0.6s,baz=154,slow=4.1,SNR=9.0						
	comp=Z,2.8nm,0.6s						
ELIB	Princess Elisa	82.70	187	*d*P	P	20 55 56.7	-0.6
ISA	Isabella, Lake	83.26	46	P	P	20 56 00.0	-0.6
CMB	Columbia Colle	83.46	43		P	20 56 01.7	+0.3
AFDM	Forest Hills D	83.65	42	P	P	20 56 03.3	+0.9
AFDM				IAmb	IAmb	20 56 04.3	
	comp=Z,9.5nm,1.1s						
ORV	Oroville	83.70	42	P	P	20 56 02.7	+0.1
TROLL	Troll, Antarti	83.97	181	⇑P	P	20 56 03.1	-0.5
	comp=Z,101nm,0.5s						
GSC	Goldstone, Bar	84.16	47	P	P	20 56 05.9	+0.8
SNAA	Sanae	84.31	179	⇑P	P	20 56 04.4	-0.8
	comp=Z,74nm,0.5s						
SNAA	Sanae	84.31	179	P	P	20 56 03.9	-1.2
	comp=Z,3.1nm,0.5s,baz=218,slow=12,SNR=11						
	comp=Z,3.1nm,0.5s						
WAKR	Walker	84.33	43	P	P	20 56 06.7	+0.7
WAKR				IAmb	IAmb	20 56 09.0	
	comp=Z,22nm,1.4s						
VNA3	Neumayer Olymp	84.51	177	⇑P	P	20 56 05.6	-0.6
	comp=Z,16nm,1.1s						
LHV	Little Huntoon	84.77	44	P	P	20 56 07.9	+0.1
KLR	Kul'dur	84.85	331	P	P	20 56 09.1	+1.1
	comp=Z,0.6nm,0.4s,baz=145,slow=8.3,SNR=3.6						
	comp=Z,0.6nm,0.4s						
VNA2	Neumayer--Watz	84.93	178	⇑P	P	20 56 07.8	-0.4
	comp=Z,14nm,0.6s,baz=184,slow=3.7						
RYN	Ryan	84.98	44	P	P	20 56 09.4	+0.2
RYN				IAmb	IAmb	20 56 23.3

TXAR **Lajitas Array** 90.61 58 P P 20 56 36.0 +0.3
TXAR **Lajitas Array** 90.61 58 P P 20 56 37.1 +1.4
comp=Z,4.1nm,0.8s,baz=212,slow=6.1,SNR=33
comp=Z,4.1nm,0.8s
TCUT **Toone Canyon** 90.91 45 P P 20 56 36.8 -0.2
BSUT **Blindstream Ca** 91.02 45 P P 20 56 36.2 -1.4
BSUT IAmb IAmb 20 56 39.6
comp=Z,8.6nm,0.8s
ALPN **Alpine** 91.11 57 P P 20 56 37.7 -0.4
ALPN IAmb IAmb 20 56 40.0
comp=Z,4.4nm,0.7s
ANMO **Albuquerque** 91.17 52 P P 20 56 36.2 -2.1
H19K **Roundabout Mou** 91.31 10 P P 20 56 38.5 +0.6
H19K IAmb IAmb 20 56 40.7
comp=Z,10.0nm,1.5s
ILAR **Eielson Array** 92.38 14 P P 20 56 42.2 -0.6
comp=Z,0.5nm,0.6s,baz=223,slow=5.6,SNR=6.3
comp=Z,0.5nm,0.6s
FXWY **Fox Creek** 92.47 43 P P 20 56 43.1 -1.1
J26L **Joseph Creek** 92.89 15 P P 20 56 45.5 +0.1
J26L IAmb IAmb 20 56 46.6
comp=Z,4.7nm,0.9s
PDAR **Pinedale Array** 92.94 44 P P 20 56 47.2 +0.9
comp=Z,1.1nm,0.8s,baz=222,slow=3.4,SNR=8.6
comp=Z,1.1nm,0.8s
I30M **Mount Dempster** 95.28 17 P P 20 56 56.0 -0.3
I30M IAmb IAmb 20 56 57.5
comp=Z,6.3nm,1.2s
ZALV **Zalesovo Beam** 112.24 321 PKiKP PKiKP 21 02 03.2 -1.6
comp=Z,0.7nm,0.4s,baz=107,slow=1.3,SNR=4.6
MKAR **Makanchi Array** 112.41 313 PKiKP PKiKP 21 02 04.1 -1.3
comp=Z,0.7nm,0.5s,baz=124,slow=1.1,SNR=16
MKAR PKKPbc PKKPbc 21 12 56.8 -0.8
comp=Z,0.5nm,0.6s,baz=280,slow=2.4,SNR=4.7
KURBB **Kurchatov Arra** 115.52 316 PKP PKPdf 21 02 09.9 -1.3
comp=Z,0.9nm,0.4s,baz=108,slow=2.0,SNR=17
AAK **Ala-Archa** 117.13 307 PKKPbc PKKPbc 21 12 41.8 +0.2
comp=Z,0.7nm,0.5s,baz=135,slow=1.4,SNR=4.9
KK31 **Karatay Array** 120.09 307 PKPdf 21 02 19.4 -0.9
KKAR **Karatay Array** 120.09 307 PKPdf 21 02 18.8 -1.5
BVAR **Borovoye Array** 120.72 319 PKP PKPdf 21 02 20.4 -0.8
comp=Z,3.4nm,0.6s,baz=98,slow=1.4,SNR=15
SPITS **Spitsbergen Ar** 125.48 356 PKP PKPdf 21 02 29.4 -0.2
comp=Z,4.6nm,0.7s,baz=22,slow=4.7,SNR=9.4
ARU **Arti** 127.18 323 PKPdf 21 02 32.6 -0.8
ARCES **ARCESS Array B** 132.24 348 PKP PKPdf 21 02 42.2 -0.5
comp=Z,2.0nm,0.5s,baz=23,slow=1.2,SNR=14
VAF **Ylistaro** 138.38 345 *e*P PKiKP 21 02 55.9 -0.6
FINES **FINESS Array B** 138.79 341 PKhKP PKPpre 21 02 45.0
comp=Z,1.0nm,0.4s,baz=32,slow=3.7,SNR=19
FINES PKP PKPdf 21 02 55.6 +0.5
comp=Z,0.8nm,0.4s,baz=29,slow=1.5,SNR=2.6
FINES SKP 21 05 41.6
comp=Z,3.5nm,0.9s,baz=46,slow=4.0,SNR=9.0
NB2 **NORSAR Subarra** 142.44 351 PKP PKPdf 21 02 58.2 -3.5
comp=Z,0.6nm,0.5s,baz=17,slow=3.0
NOA **NORSAR Array B** 142.44 351 PKhKP PKPpre 21 02 57.6
comp=Z,3.1nm,0.9s,baz=16,slow=4.7,SNR=5.8
HFS **Hagfors** 142.90 349 PKhKP PKPpre 21 02 59.0
comp=Z,14nm,0.4s,baz=47,slow=2.0,SNR=208
ISAL **Salakas** 143.30 335 *e*P PKPdf 21 03 03.6 +0.3
VIKU **Vikbolandet** 143.78 345 *e*P PKPab 21 03 02.1 -0.9
VSVD **Vaisvydziai** 143.80 337 *e*P PKPbc 21 03 03.2 +0.1
KONO **Kongsberg** 144.00 352 PKPbc 21 03 02.9 -0.7
PABE **Paberze** 144.15 337 PKPbc 21 03 03.3 -0.9
PABE **Paberze** 144.15 337 *e*P PKPab 21 03 04.5 +0.1
PBUR **Paburge** 144.44 339 *e*P PKPbc 21 03 05.1 0.0
AKASG **Malin Array Be** 145.28 327 PKPdf 21 03 06.5 -0.4
AKASG **Malin Array Be** 145.28 327 PKPbc PKPdf 21 03 06.7 -0.2
comp=Z,4.4nm,0.5s,baz=46,slow=4.0,SNR=22
AKBB **Malin Array Si** 145.28 327 PKPdf 21 03 06.1 -0.8
KIEV **Kiev** 145.29 327 ⇓P PKPdf 21 03 05.2 -1.7
KIEV **Kiev** 145.29 327 PKPdf 21 03 05.8 -1.0
SUW **Suwalki** 145.60 336 *e*PKP PKPbc 21 03 08.7 0.0
SUW **Suwalki** 145.60 336 PKPdf 21 03 06.4 -0.9
SUW **Suwalki** 145.60 336 *e*P PKPbc 21 03 08.8 +0.2
GAZ **Gaziantep** 145.75 301 PKPab 21 03 10.7 -0.6
BNN **Bunyan** 146.41 304 PKPbc PKPbc 21 03 11.1 -0.6
BSD **Bornholm Skovb** 147.27 344 *e*P PKPbc 21 03 13.0 -0.2
SORM **Soroca** 147.30 324 ⇓P PKPbc 21 03 14.1 +0.6
MILM **Milestii Mici** 147.76 322 ⇓P PKPdf 21 03 12.9 +1.8
BRTR **Keskin Array B** 147.81 307 PKPbc PKPbc 21 03 14.9 -0.5
comp=Z,2.7nm,0.6s,baz=117,slow=4.9,SNR=6.2
MMAI **Mount Meron Ar** 147.86 294 PKPbc PKPbc 21 03 16.1 +0.5
comp=Z,10nm,0.5s,baz=72,slow=5.8,SNR=60
ANTO **Ankara** 148.37 307 ⇑P PKPbc 21 03 16.1 -0.6
ANTO **Ankara** 148.37 307 PKPbc 21 03 16.0 -0.6
TLCR 148.71 319 ⇓P PKPbc 21 03 16.6 -0.6
EKA **Eskdalemuir Ar** 148.88 4 PKPbc PKPbc 21 03 16.4 -0.9
comp=Z,1.9nm,0.4s,baz=351,slow=2.8,SNR=46
GHRR 149.04 321 ⇓P PKiKP 21 03 18.6 -0.3
KWP **Kalwaria Pacla** 149.09 331 *e*PKP PKiKP 21 03 18.6 -0.3
KWP **Kalwaria Pacla** 149.09 331 PKPbc 21 03 17.9 -0.1
CFR **Carcaliu** 149.12 319 ⇑P PKPbc 21 03 18.5 +0.3
IZVR **Izvoarele** 149.13 320 ⇓P PKiKP 21 03 18.7 -0.5
BUR08 **Bucovina Ar. S** 149.26 326 PKiKP 21 03 19.2 -0.3
BURAR **Bucovina Array** 149.28 326 ⇑P PKiKP 21 03 19.5 0.0
BURAR **Bucovina Array** 149.28 326 PKiKP 21 03 20.0 +0.5
HARR **Harsova** 149.50 319 ⇓P PKPab 21 03 26.7 +0.5
COVR **Voineasa-Covas** 149.85 322 ⇓P PKPbc 21 03 20.2 +0.2
ICOR **Ion Corvin** 149.89 318 ⇓P PKPbc 21 03 19.5 -0.5
STHS **Stebnicka Huta** 149.89 332 *e*PKP PKPbc 21 03 20.0 0.0
OZUR 149.93 323 ⇓P PKiKP 21 03 20.6 -0.3
BOSR **Bodos** 150.01 323 ⇓P PKiKP 21 03 21.1 +0.1
NEHR **Nehoiu** 150.04 321 ⇑P PKPbc 21 03 20.6 +0.1
ISR **Istrita** 150.08 321 ⇓P PKPbc 21 03 20.7 +0.1
CRVS **Cervenica-Dubn** 150.18 331 *e*PKP PKiKP 21 03 21.5 +0.3
MLR **Muntele Rosu** 150.21 322 ⇑P PKPbc 21 03 20.6 -0.4
DOPR **Dopca** 150.23 323 ⇓P PKPbc 21 03 21.0 +0.1
NIE **Niedzica** 150.29 333 *e*PKP PKiKP 21 03 22.6 +1.1
CBBR **Cluj-Babes-Bol** 150.69 326 ⇓P PKPdf 21 03 18.4 +2.6
CJR **Cluj-Napoca** 150.70 326 ⇑P PKPbc 21 03 21.8 -0.2
VOIR 150.74 322 ⇓P PKPbc 21 03 20.5 -1.6
LANS **Liptovska Anna** 150.84 333 *e*PKP PKiKP 21 03 24.0 +1.4
OSTC **Ostas** 150.90 339⇑ *e*PKP PKPbc 21 03 22.4 +0.1
CHVC **Chvalec** 150.93 339⇑ *e*PKP PKPbc 21 03 22.2 -0.1
SGRR **Singureni** 150.93 320 ⇑P PKiKP 21 03 27.1 +4.2
MARR **Marisel-Cluj** 150.97 326 ⇓P PKPbc 21 03 22.8 +0.1
UPC **Upice** 151.01 339⇑ *e*PKP PKPbc 21 03 22.6 +0.1
ARR **Arges** 151.01 323 ⇓P PKiKP 21 03 23.3 +0.2
DPC **Dobruska-Polom** 151.04 338⇑ *e*PKP PKPbc 21 03 22.8 +0.2
DPC *e*PKPAB PKPab 21 03 33.4 +0.9
MORC **Moravsky Berou** 151.09 336 ⇑P PKiKP 21 03 23.1 -0.1
MORC **Moravsky Berou** 151.09 336 PKPbc 21 03 22.5 -0.3
MORC **Moravsky Berou** 151.09 336 *e*PKP PKPbc 21 03 22.0 -0.8
DRGR 151.10 327 ⇓P PKPbc 21 03 22.4 -0.6
KRLC **Kraliky** 151.11 337⇑ *e*PKP PKPbc 21 03 22.7 -0.1
CLL **Collm** 151.21 343 PKPbc 21 03 21.7 -1.2
CLL **Collm** 151.21 343 *i* PKPbc PKPbc 21 03 22.4 -0.5
comp=Z,21nm,0.8s
CLL *i* x x 21 03 25.6
CLL *i* PKPab **PKPab** 21 03 33.0 -0.1
comp=Z,4.0nm,0.6s
CLL *e*pPKPbc **pPKPab** 21 05 24.0 -2.2
CLL *e*pPKPab **pPKPbc** 21 05 27.0 +6.2
comp=Z,23nm,1.5s
CLL AMS AMS 21 24 00.0
comp=Z,100nm,20.0s
MAUC **Maruska** 151.32 335⇑ *e*PKP PKiKP 21 03 24.0 +0.4
HUMR **Humele** 151.33 321 ⇓P PKPbc 21 03 22.7 -0.7
BRG **Berggiesshubel** 151.33 341 *i* PKP PKPbc 21 03 23.2 0.0
BRG Amp 21 03 24.2
comp=Z,12nm,0.8s
BRG **Berggiesshubel** 151.33 341 P PKPab 21 03 34.2 +0.6
BRG Amp 21 03 35.2
comp=Z,3.1nm,0.7s
BRG pPKP **pPKPab** 21 05 27.4 +0.6
BRG Amp 21 05 29.1
comp=Z,15nm,1.4s
DEV **Deva** 151.61 325 ⇓P PKiKP 21 03 26.8 +2.6
VYHS **Vyhne** 151.62 333 *e*PKP PKiKP 21 03 24.5 +0.3
ELND **Elena** 151.71 317 ⇑P PKPbc 21 03 23.8 -0.5
JAVC **Velka Javorina** 151.79 335 *e*PKP PKiKP 21 03 25.0 +0.4
VRAC **Vranov** 151.82 337 *e*PKP PKiKP 21 03 24.7 +0.1
PRU **Pruhonice** 151.93 340⇑ *e*PKP PKPbc 21 03 24.3 -0.3
SIRR **Siria** 151.99 327 ⇑P PKPbc 21 03 24.6 -0.2
GZR **Gura Zlata** 152.00 324 ⇓P PKPbc 21 03 24.9 -0.1
KRUC **Moravsky** 152.10 337 *e*PKP PKPbc 21 03 24.4 -0.6
SURR **Surduc** 152.10 326 ⇓P PKPbc 21 03 24.5 -0.6
MODS **Modra-Piesok** 152.34 335 *e*PKP PKiKP 21 03 26.4 +0.7
AMBH **Ambrzfalva** 152.38 328 ⇑P PKPab 21 03 39.0 +0.8
BZS **Buzias** 152.46 326 ⇓P PKiKP 21 03 26.6 +0.6
HERR **Herculane** 152.53 324 ⇓P PKPbc 21 03 26.0 0.0

KHC **Kasperske Hory** 152.99 340⇑ *e*PKP PKPbc 21 03 26.6 -0.4
KHC *e*PKPAB PKPab 21 03 40.3 -0.5
CKRC **Cesky Krumlov** 153.03 339⇑ *e*PKP PKPbc 21 03 26.9 -0.1
CKRC *e*PKPAB PKPab 21 03 41.2 +0.3
GERES **GERESS Array B** 153.20 340 PKPbc PKPbc 21 03 27.1 -0.4
comp=Z,1.5nm,0.8s,baz=116,slow=2.6,SNR=5.5
GERES PKPab PKPab 21 03 42.0 +0.3
comp=Z,1.2nm,0.7s,baz=354,slow=4.9,SNR=3.7
CONA **Conrad Observa** 153.24 336 *e*PKP PKPab 21 03 42.9 +1.0
comp=Z,2.7nm,0.6s
RONA **Rosalia, Austr** 153.27 335 *i* PKP PKPab 21 03 43.2 +1.2
comp=Z,1.0nm,0.4s
MORH **Mrgy, Hungar** 153.46 330 ⇑P PKPbc 21 03 26.1 -1.8
WTTA **Wattenberg** 155.24 341 *e*PKP PKPab 21 03 51.0 +0.4
comp=Z,3.2nm,0.6s
MOTA **Moosalm** 155.32 342 *e*PKP PKPab 21 03 51.3 +0.3
comp=Z,1.8nm,0.6s
DAVA **Damuels** 155.71 344 *i* PKP PKPab 21 03 52.8 +0.2
comp=Z,1.2nm,0.3s
DBIC **Dimbokro** 161.89 164 PKP PKPdf 21 03 31.7 +0.6
comp=Z,3.0nm,0.8s,baz=171,slow=2.0,SNR=3.7
DBIC PKPab PKPab 21 04 19.8 -0.3
comp=Z,2.6nm,0.7s,baz=162,slow=3.1,SNR=2.0
ESDC **Sonseca Array** 164.27 11 PKPab PKPab 21 04 29.9 -0.1
comp=Z,2.4nm,1.1s,baz=337,slow=5.6,SNR=5.1
TORD **Torodi Ar. Bea** 168.83 188 PKP PKPdf 21 03 34.8 -1.9
comp=Z,2.8nm,1.1s,baz=20,slow=2.7,SNR=8.0
TORD PKPab PKPab 21 04 50.6 -0.1
comp=Z,2.0nm,0.7s,baz=163,slow=2.1,SNR=9.5

AEIC ***23*** *20:44:36.0±2.8, 53.12°N±0.06°, 164.02°W±0.07, h14km±6km, Error ellipse: s-maj=9.9km s-min=5.6km az=160.0*
IDC ***23*** *20:44:36.1±1.2, 53.41°N×164.33°W, h0km, mb3.8/18, mbtmp3.7/20, ML3.2/2, Error ellipse: s-maj=30.1km s-min=14.7km az=175.0*
NEIC ***23*** *20:44:36.2±2.5, 53.07°N±0.04°×164.00°W±0.06, h23km±4km, mb3.6/40, ML3.5/12, ML3.3(AEIC), Error ellipse: s-maj=5.8km s-min=4.9km az=210.0*

ISC 23 20:44:36.6±2.3, 53.15°N±0.07°×164.01°W±0.04, h15km±13km, n179, σ1°27/183, mb3.9/18, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	1.36	346			Pn	20 45 00.3	-0.8
AKSA	**Akutan Strait**	1.41	315			Pn	20 45 00.8	-0.8
AKSA						Sn	20 45 20.2	+0.4
AKSA	**Akutan Strait**	1.41	315			Pn	20 45 00.6	-1.0
AKSA						Sb	20 45 20.6	+0.4
AKUT	**Akutan**	1.44	314	P		Pn	20 45 01.4	-0.6
AKUT	**Akutan**	1.44	314			Pn	20 45 01.2	-0.8
AKUT				IAML			20 45 29.4	
	comp=E,447nm,0.7s							
AHB	**Akutan Harbor**	1.44	313			Pn	20 45 01.4	-0.7
WECS	**Westdahl Cape**	1.45	342			Pn	20 45 01.7	-0.6
WECS						Sg	20 45 23.6	+0.2
AKBBA	**Akutan Broad B**	1.48	310			Pn	20 45 02.0	-0.7
AKBBA						Sg	20 45 23.9	-0.6
ZRO	**Akutan Zero**	1.50	309			Pn	20 45 02.4	-0.5
WEBT	**Westdahl Beart**	1.50	343			Pn	20 45 03.0	0.0
SSLS	**Shishaldin Sou**	1.56	0			Pn	20 45 03.6	-0.2
SSLS						Sb	20 45 26.0	+1.3
AKRB	**Akutan Reef Bi**	1.57	309			Pn	20 45 03.3	-0.5
AKRB						Sg	20 45 27.4	+0.4
LVA	**Lava Point**	1.57	311			Pn	20 45 03.1	-0.8
ISLZ	**Isanotski Laza**	1.58	6			Pn	20 45 03.6	-0.5
UNV	**Unalaska Valle**	1.64	296	P		Pn	20 45 03.7	-1.1
UNV	**Unalaska Valle**	1.64	296			Pn	20 45 03.6	-1.1
UNV	**Unalaska Valle**	1.64	296			Sn	20 45 24.3	-1.3
UNV	**Unalaska Valle**	1.64	296	P		Pn	20 45 03.8	-1.1
	baz=117							
ISNN	**Isanotski Nort**	1.69	5			Pn	20 45 05.8	+0.3
ISNN						Sn	20 45 26.7	-0.1
FALS	**False Pass**	1.74	11	P		Pn	20 45 06.0	-0.2
FALS	**False Pass**	1.74	11			Pn	20 45 05.9	-0.2
FALS	**False Pass**	1.74	11	P		Pn	20 45 06.5	+0.3
	baz=191							
MNAT	**Makushin Natee**	1.75	296			Pn	20 45 05.7	-0.7
MNAT						Sn	20 45 28.1	-0.4
MTBL	**Makushin Table**	1.79	298			Pn	20 45 06.6	-0.3
MSW	**Makushin Switc**	1.82	296			Pn	20 45 06.7	-0.7
MSW						Sn	20 45 30.6	+0.5
MGOD	**Makushin Gods**	1.83	292			Pn	20 45 06.6	-0.8
MAPS	**Pakushin South**	1.87	292			Pn	20 45 07.2	-0.7
OKFG	**Magazine Ridge**	2.36	278			Pn	20 45 14.7	0.0
OKNC	**Okmok New Cone**	2.49	279			Pn	20 45 16.4	-0.1
HAG	**Hague Volcano**	2.50	29			Pn	20 45 17.7	+1.1
HAG						Sn	20 45 47.4	+0.7
OKCE	**Okmok Cone E**	2.51	278			Pn	20 45 17.0	+0.2
PS4A	**Pavlof South-4**	2.53	29			Pn	20 45 18.2	+1.1
PS1A	**Pavlof South-1**	2.63	29			Pn	20 45 19.7	+1.3
S12K	**Black Hills**	2.80	23	Pn		Pn	20 45 20.9	+0.2
S12K				IAML			20 46 13.2	
	comp=E,152nm,0.8s							
NIKH	**Nikolski High**	2.93	268	P		Pn	20 45 20.6	-1.9
NIKH	**Nikolski High**	2.93	268			Pn	20 45 21.9	-0.6
SDPT	**Sand Point**	3.02	42	P		Pn	20 45 25.0	+1.2
SDPT	**Sand Point**	3.02	42			Pn	20 45 24.7	+0.9
SDPT				IAML			20 46 18.3	
	comp=E,156nm,1.3s							
SDPT				IAML			20 46 20.9	
	comp=N,141nm,1.4s							
SDPT	**Sand Point**	3.02	42	P		Pn	20 45 24.9	+1.1
	baz=223							
CNBA	**Chernabura Isl**	3.10	56	Pn		Pn	20 45 25.8	+1.0
CNBA				IAML			20 46 03.6	
	comp=E,92nm,0.5s							
CHNA	**Chernabura Isl**	3.10	55	P		Pn	20 45 26.4	+1.5
	baz=237							
CLCO	**Concord Point,**	3.47	266			Pn	20 45 29.8	-0.2
S14K	**Fog Glacier**	4.06	38	P		Pn	20 45 39.4	+1.2
	baz=220							
VNFG	**Fog Glacier, M**	4.06	38			Pn	20 45 39.4	+1.2
CHGN	**Chignik**	4.52	44	Pn		Pn	20 45 46.0	+1.6
CHGN				IAML			20 47 30.9	
	comp=E,93nm,0.1s							
ATKA	**Atka Island**	6.27	265	Pn		Pn	20 46 08.9	+0.5
O14K	**Tigyukauivet M**	6.30	13	Pn		Pn	20 46 10.1	+1.2
SII	**Sitkinak Islan**	6.62	55	Pn		Pn	20 46 11.6	-1.6
O16K	**Kokhanok River B**	7.24	25	Pn		Pn	20 46 21.9	+0.2
M13K	**Dall Lake**	7.29	3	Pn		Pn	20 46 23.0	+0.7
N15K	**Kwethluk River**	7.36	15	Pn		Pn	20 46 24.1	+0.8
OHAK	**Old Harbor**	7.37	52	Pn		Pn	20 46 23.2	-0.2
M14K	**Bethel**	7.70	8	Pn		Pn	20 46 29.5	+1.6
ADK	**Adak**	7.84	266	Pn		Pn	20 46 30.6	+0.8
P18K	**Big Mountain,**	7.93	34	Pn		Pn	20 46 33.1	+1.9
KDAK	**Kodiak Island**	7.97	50	Pn		Pn	20 46 31.3	-0.4
KDAK	**Kodiak Island**	7.97	50	Pn		Pn	20 46 31.6	-0.1
	comp=E,0.7nm,0.3s,baz=140,slow=7.4,SNR=1.7							
KDAK						Sn	20 47 54.8	-6.8
	baz=86,slow=3.7 comp=E,1.9nm,0.3s							
Q19K	**Cape Douglas,**	8.19	41	Pn		Pn	20 46 35.6	+0.9
L14K	**Kuka Creek**	8.24	4	Pn		Pn	20 46 37.0	+1.7
N17K	**Nushagak Hills**	8.28	24	Pn		Pn	20 46 35.0	-0.9
O18K	**Koktuh Hills**	8.29	32	Pn		Pn	20 46 37.2	+1.2
M16K	**Timber Creek**	8.35	17	Pn		Pn	20 46 37.6	+0.6
N18K	**Kilae Creek**	8.75	27	Pn		Pn	20 46 43.7	+1.4
P19K	**Oil Pt**	8.83	38	Pn		Pn	20 46 45.4	+1.8
L16K	**Owhat River**	8.92	14	Pn		Pn	20 46 45.4	+0.7
M17K	**Holitna River**	9.00	21	Pn		Pn	20 46 46.6	+0.8
ILSW	**Iliamna Southw**	9.09	37	Pn		Pn	20 46 48.1	+1.0
K15K	**Wolf Creek Mou**	9.26	7	Pn		Pn	20 46 50.1	+0.7
N19K	**Bonanza Creek**	9.26	30	Pn		Pn	20 46 50.3	+0.8
CNPM	**China Poot**	9.53	43	Pn		Pn	20 46 53.1	0.0
RSO	**Redoubt South**	9.57	36	Pn		Pn	20 46 54.0	+0.3
J14K	**Nanvaranak Lak**	9.63	1	Pn		Pn	20 46 54.2	-0.1
BRLK	**Bradley Lake**	9.82	42	Pn		Pn	20 46 56.9	-0.1
L19K	**Granite Mounta**	9.89	20	Pn		Pn	20 46 59.1	+1.1
K17K	**Iditarod**	10.05	15	Pn		Pn	20 47 00.8	+0.6
L19K	**White Mountain**	10.28	25	Pn		Pn	20 47 02.8	-0.6
J16K	**Anvik River**	10.31	9	Pn		Pn	20 47 04.9	+1.1
M20K	**Styx River**	10.51	29	Pn		Pn	20 47 06.0	-0.6
J17K	**VABM Dome**	10.59	12	Pn		Pn	20 47 07.5	-0.1
TTA	**Tatalina**	10.67	20	Pn		Pn	20 47 07.1	-1.6
SUA	**Susitna One**	10.97	35	Pn		Pn	20 47 12.0	-0.9
SKT	**Skwentna**	11.08	32	Pn		Pn	20 47 13.6	-0.7
RC01	**Rabbit Creek A**	11.09	39	Pn		Pn	20 47 12.0	-2.4
K20K	**Telida**	11.47	23	Pn		Pn	20 47 19.7	0.0
HIN	**Hinchinbrook I**	12.01	46	Pn		Pn	20 47 26.5	-0.5
J20K	**Nowinta River**	12.17	21	Pn		Pn	20 47 28.2	-0.8

G16K **Koyuk River** 12.31 3 Pn Pn 20 47 30.4 -0.6
KTH **Kantishna Hill** 12.45 28 Pn Pn 20 47 31.4 -1.7
SCM **Sheep Creek Mo** 12.46 39 Pn Pn 20 47 31.8 -1.3
TRF **Thorofare Moun** 12.56 29 Pn Pn 20 47 32.9 -1.7
KLU **Klutina** 12.81 42 Pn Pn 20 47 35.9 -2.1
DHY **Denali Highway** 13.22 35 Pn Pn 20 47 42.4 -1.3
BWN **Browne** 13.34 28 Pn Pn 20 47 43.9 -1.3
N25K **Chitina, Valde** 13.41 43 Pn Pn 20 47 44.1 -2.1
SNH **Sunshine Point** 13.56 50 Pn Pn 20 47 48.1 0.0
CRQM **Cirque** 13.65 48 Pn Pn 20 47 48.5 -1.0
WAX **Waxell Ridge** 13.65 49 Pn Pn 20 47 47.8 -1.7
GLB **Gilahina Butte** 13.66 45 Pn Pn 20 47 50.0 +0.4
VRDI **Verde Repeater** 13.72 46 Pn Pn 20 47 48.4 -2.0
H21K **Melozitna Rive** 13.74 20 Pn Pn 20 47 51.0 +0.4
TGL **Tana Glacier** 13.79 48 Pn Pn 20 47 50.1 -1.2
ISLE **Juniper Island** 13.95 49 Pn Pn 20 47 52.3 -1.3
MESA **MESA** 13.97 51 P P 20 48 04.3 +2.4
G21K **Allakaket** 14.37 17 Pn Pn 20 48 00.0 +0.9
BARN **Barnard Glacie** 14.43 48 Pn Pn 20 47 59.2 -1.0
TABL **Table Mountain** 14.44 51 Pn Pn 20 47 58.8 -1.5
M26K **Nabesna, AK** 14.47 42 Pn Pn 20 47 59.1 -1.5
CTGM **Chitina Glacie** 14.54 49 Pn Pn 20 48 00.1 -1.6
ILAR **Eielson Array** 14.55 30 Pn Pn 20 48 01.9 +0.3
comp=E,0.1nm,0.3s,baz=212,slow=11,SNR=2.4
comp=E,0.2nm,0.4s
H23K **Yukon River** 14.62 24 Pn Pn 20 48 00.7 -1.9
M27K **Edge Creek, AK** 14.90 43 P Pn 20 48 04.7 -1.9
J25K **Salcha River,** 14.91 32 Pn Pn 20 48 04.4 -2.2
SCRK **Sand Creek** 14.97 36 P Pn 20 48 06.0 -1.5
SCRK IAmb IAmb 20 48 18.4
comp=Z,3.1nm,0.8s
BCPM **Bancas Point** 15.00 53 Pn Pn 20 48 05.9 -1.8
F21K **Alatna River** 15.01 16 Pn Pn 20 48 06.6 -1.3
H24K **Noodor Dome** 15.05 26 Pn Pn 20 48 05.7 -2.7
H24K IAmb IAmb 20 48 38.7
comp=Z,6.1nm,1.4s
C16K **Lisburne Hills** 15.19 358 Pn Pn 20 48 09.1 -1.1
L27K **Beaver Creek,** 15.27 41 Pn Pn 20 48 10.1 -1.2
L27K IAmb IAmb 20 48 51.1
comp=Z,5.8nm,1.4s
BCAR **Beaver Creek A** 15.29 41 Pn Pn 20 48 09.2 -2.4
J26L **Joseph Creek** 15.44 35 Pn Pn 20 48 12.0 -1.6
O29M **Mount Kennedy** 15.61 53 Pn Pn 20 48 14.1 -1.8
K27K **Chicken** 15.69 37 Pn Pn 20 48 16.7 -0.1
K27K IAmb IAmb 20 48 59.1
comp=Z,4.8nm,1.2s
I26K **Coal Creek Min** 16.08 33 Pn Pn 20 48 20.2 -1.6
I26K IAmb IAmb 20 48 29.9
comp=Z,4.7nm,1.1s
HYT **Haines Junctio** 16.26 51 Pn Pn 20 48 23.9 -0.3
HYT IAmb IAmb 20 48 54.1
comp=Z,6.5nm,1.2s
M29M **Somme Creek** 16.38 45 P Pn 20 48 26.6 +0.9
M29M IAmb IAmb 20 48 44.2
comp=Z,7.2nm,1.1s
F24K **Squaw Lake** 16.38 22 Pn Pn 20 48 25.6 -0.1
F24K IAmb IAmb 20 48 34.8
comp=Z,7.4nm,1.5s
EGAK **Eagle** 16.44 36 Pn Pn 20 48 26.2 -0.1
N30M **Aishikik Lake** 16.64 49 Pn Pn 20 48 27.6 -1.4
N30M IAmb IAmb 20 48 35.3
comp=Z,11nm,1.4s
D22K **Ayikyak River** 16.65 14 P Pn 20 48 28.7 -0.4
D22K IAmb IAmb 20 48 49.3
comp=Z,6.5nm,1.5s
L29M **L29M** 16.79 43 P Pn 20 48 30.1 -0.7
O30N **Mendenhall** 16.92 52 Pn Pn 20 48 31.9 -0.6
O30N IAmb IAmb 20 48 50.6
comp=Z,5.3nm,1.1s
TOLK **Toolik Lake Re** 16.97 18 P Pn 20 48 33.2 +0.1
B21K **Ikpikpuk River** 17.09 11 P P 20 48 36.2 +0.1
BMAR **Burnt Mountain** 17.12 26 P Pn 20 48 35.5 +0.5
B20K **Meade River** 17.20 8 Pn 20 48 34.6 -1.4
B20K IAmb IAmb 20 49 03.7
comp=Z,8.2nm,1.4s
S32K **Killisnoo** 17.23 64 P Pn 20 48 35.6 -0.7
I28M **Miner Creek** 17.25 35 Pn Pn 20 48 35.1 -1.6
K29M **Barlow Dome** 17.35 42 P Pn 20 48 37.5 -0.4
K29M IAmb IAmb 20 48 43.5
comp=Z,9.5nm,1.3s
G27K **Doyon Strip** 17.52 30 P Pn 20 48 37.5 -2.5
C23K **Itkillik River** 17.84 15 Pn 20 48 44.3 +0.5
P32M **Atlin** 17.86 57 P Pn 20 48 41.1 -3.0
J30M **Hart River** 18.14 40 P Pn 20 48 47.8 +0.2
J30M IAmb IAmb 20 49 23.5
comp=Z,5.1nm,1.3s
H29M **Whitestone** 18.21 34 P Pn 20 48 47.2 -1.2
H29M IAmb IAmb 20 49 18.8
comp=Z,7.3nm,1.4s
P33M **Teslin, Yukon** 18.39 55 P Pn 20 48 52.1 +1.3
P33M IAmb IAmb 20 48 56.0
comp=Z,4.9nm,0.9s
I30M **Mount Dempster** 18.41 38 P P 20 48 50.8 -0.2
I30M IAmb IAmb 20 48 55.3
comp=Z,2.4nm,0.6s
FARO **Faro, Yukon** 18.56 49 P Pn 20 48 53.0 +0.2
F28M **Old Crow** 18.57 29 P P 20 48 51.7 -0.9
G29M **Pine Creek** 18.72 33 P P 20 48 53.4 -0.8
G29M IAmb IAmb 20 48 59.7
comp=Z,5.5nm,1.2s
H31M **Peel River** 19.43 38 P P 20 49 02.2 +0.2
MMPY **Sheldon Lake,** 19.60 48 P P 20 49 04.1 +0.2
MMPY IAmb IAmb 20 49 08.6
comp=Z,4.3nm,0.8s
E29M **Blow River** 19.64 29 P P 20 49 02.4 -1.8
G31M **Satah River** 19.98 35 P P 20 49 06.6 -1.4
G31M IAmb IAmb 20 49 35.9
comp=Z,5.1nm,1.2s
INK **Inuvik** 20.93 32 P P 20 49 15.5 -2.7
INK **Inuvik** 20.93 32 P P 20 49 16.8 -1.4
comp=Z,0.7nm,0.5s,baz=250,slow=19,SNR=6.4
comp=Z,0.7nm,0.5s
PETK **Petropavl

comp=Z,1.8nm,0.8s
MKAR Makanchi Array 65.56 316 P **P** **20 55 18.5 -0.7**
comp=Z,0.6nm,0.6s,baz=48,slow=6.9,SNR=8.5
comp=Z,0.6nm,0.6s
HFS Hagfors 67.05 1 P **P** **20 55 29.1 +0.6**
comp=Z,0.4nm,0.3s,baz=349,slow=4.5,SNR=4.5
comp=Z,0.4nm,0.3s
EKA Eskdalemuir Ar 70.73 11 P **P** **20 55 51.9 +0.5**
comp=Z,2.5nm,0.9s,baz=352,slow=4.4,SNR=4.3
comp=Z,2.5nm,0.9s
AKASG Malin Array Be 75.92 351 P **P** **20 56 22.0 0.0**
comp=Z,0.4nm,0.4s,baz=16,slow=6.0,SNR=3.4
comp=Z,0.4nm,0.4s

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*MEX **23** 21:18:12.5±0.7, 14.°11N×92.°50W, h8km±27km, MD3.9*
*GCG **23** 21:18:22.3±1.4, 14.°47N×91.°34W, h0km±177km, MD3.7*
ISC 23 21:18:08.6±2.7, 14.°10N±0.°09×92.°61W±0.°09, h3km±15km, n15, σ1°s45/24, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG		**0.87**	**22**	*i* P		**Pg**		**21 18 26.8**	**+1.5**
THIG				*e*S		**Sg**		**21 18 38.1**	**+1.5**
RTAL	**Retalhuleu**	**0.98**	**64**	*e*P		**Pg**		**21 18 27.1**	**-0.3**
RTAL				*e*S		**Sg**		**21 18 38.9**	**-1.2**
SULM	**Suchitepequez,**	**1.03**	**79**	*i* P		**Pg**		**21 18 28.7**	**+0.3**
PATR	**El Naranjo**	**1.07**	**20**	*e*P		**Pg**		**21 18 29.2**	**-0.1**
PATR				*e*S		**Sg**		**21 18 41.2**	**-2.0**
CHUJ	**Union Juarez**	**1.10**	**26**	*e*P		**Pg**		**21 18 29.5**	**-0.2**
CHUJ				*e*S		**Sg**		**21 18 43.5**	**-0.5**
PAVE	**Pavencul**	**1.16**	**21**	*i* P		**Pg**		**21 18 30.9**	**-0.1**
PAVE				*e*S		**Sg**		**21 18 44.6**	**-1.5**
STG3	**Santiaguito 3,**	**1.17**	**59**	*i* P		**Pg**		**21 18 30.5**	**-0.6**
PCIG		**1.70**	**340**	*e*P		**Pn**		**21 18 39.1**	**-0.2**
PCIG				*e*S		**Sn**		**21 19 02.2**	**+0.6**
FUG	**Fuego 3**	**1.75**	**78**	*i* P		Pn		21 18 32.6	-7.5
CCIG	**Comitan**	**2.22**	**12**	*e*P		**Pn**		**21 18 48.9**	**+2.4**
CCIG				*e*S		**Sn**		**21 19 13.0**	**-1.5**
NBG	**Las Nubes**	**2.24**	**77**	*i* P		Pn		21 18 42.9	-4.0
CARR	**Arriaga**	**2.48**	**330**	*e*P		**Pn**		**21 18 50.3**	**+0.3**
CARR				*e*S		**Sn**		**21 19 20.8**	**0.0**
TGIG		**2.71**	**349**	*e*P		**Pn**		**21 18 55.2**	**+2.0**
TGIG				*e*S		**Sn**		**21 19 26.2**	**-0.4**
UXUV	**UXUV**	**3.53**	**335**	*e*P		**Pn**		**21 19 06.8**	**+2.5**
UXUV				*e*S		**Sn**		**21 19 44.6**	**-2.0**
CMIG	**Matias Romero**	**3.69**	**324**	*e*P		**Pn**		**21 19 07.2**	**+0.5**
CMIG				*e*S		**Sn**		**21 19 48.4**	**-2.5**

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*TEH **23** 21:22:56.5, 34.°61N×45.°47E, h15km±14km, ML3.4*
*ISN **23** 21:22:56.0±0.5, 34.°61N×45.°50E, h11km±12km, ML3.3*
ISC 23 21:22:57.0±1.0, 34.°61N±0.°03×45.°48E±0.°04, h10km±9km, n25, σ0°97/31, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.13**	**138**		Pg	**Pg**		**21 22 30.6**	**+0.5**
IDHR	**Dehrash**	**0.75**	**83**		Pg	**Pg**		**21 23 10.7**	**-0.9**
IDHR					Sg	**Sb**		**21 23 22.7**	**0.0**
IGHG	**Ghaleghazi**	**0.94**	**107**		Pg	**Pb**		**21 23 14.8**	**-0.7**
ILBA	**Ilam Banvizeh**	**1.15**	**148**		Pg	**Pb**		**21 23 18.5**	**-0.5**
IKRK	**Kirkuk**	**1.23**	**311**		*e*Pg	**Pg**		**21 23 20.0**	**-0.7**
IKRK					*e*Sg	**Sg**		**21 23 37.0**	**+0.4**
IKRK					AML	AML		21 23 40.1	
	comp=N,758nm,0.4s								
IKRK					AML	AML		21 23 44.4	
	comp=E,623nm,0.5s								
ILIN	**Lien**	**1.26**	**75**		Pg	**Pb**		**21 23 20.5**	**-0.5**
KCHF	**Cheshme Sefid,**	**1.33**	**104**		Pg	**Pg**		**21 23 21.9**	**-0.7**
IBDR	**Badra**	**1.54**	**166**		*e*Pn	**Pb**		**21 23 25.0**	**-0.6**
IBDR					*e*Sn	**Sg**		**21 23 46.5**	**0.0**
IBDR					AML	AML		21 23 52.2	
	comp=E,350nm,0.3s								
IBDR					AML	AML		21 24 03.8	
	comp=N,247nm,0.4s								
SDS1	**Sardasht. Az.**	**1.54**	**0**		Pg	**Pb**		**21 23 25.1**	**-0.7**
SDS1					Sg	**Sg**		**21 23 47.4**	**+0.7**
BHD	**Baghdad**	**1.62**	**215**		*e*Pn	**Pb**		**21 23 26.0**	**-0.9**
BHD					*e*Sn	**Sg**		**21 23 48.5**	**-0.5**
BHD					AML	AML		21 23 51.9	
	comp=E,639nm,0.4s								
IBZA	**Bozab**	**1.97**	**93**		Pn	**Pb**		**21 23 31.9**	**-1.3**
MAHB	**Mahabad**	**2.17**	**5**		Pn	**Pn**		**21 23 33.6**	**+0.3**
IKFM	**Kafar-mosalman**	**2.24**	**118**		Pn	**Pb**		**21 23 35.4**	**-2.1**
IDOB	**Doab**	**2.38**	**109**		Pn	**Pn**		**21 23 37.2**	**+0.9**
RAFI	**Al-Rafai**	**2.92**	**169**		*e*Pn	**Pn**		**21 23 44.5**	**+1.0**
RAFI					*e*Sn	**Sn**		**21 24 19.5**	**+0.8**
ISRB	**Sarab**	**3.67**	**28**		Pn	**Pn**		**21 23 54.7**	**+0.7**
IRAZ	**Razeghan**	**3.74**	**76**		Pn	**Pn**		**21 23 56.3**	**+1.3**
GRMI	**Germi**	**4.62**	**24**		Pn	**Pn**		**21 24 08.1**	**+1.0**
JHBN	**Jahan bin**	**4.94**	**117**		Pn	**Pn**		**21 24 12.6**	**+1.0**
QAMS	**Qamsar**	**4.98**	**98**		Pn	**Pn**		**21 24 13.7**	**+1.7**
IKLH	**Kolahrood**	**5.23**	**102**		Pn	**Pn**		**21 24 16.4**	**+0.9**
IBRJ	**Brojen**	**5.54**	**117**		Pn	**Pn**		**21 24 21.0**	**+1.2**
IFIR	**Firoozkooh**	**6.05**	**78**		Pn	**Pn**		**21 24 27.9**	**+1.1**
KLNJ	**Kolanjah**	**6.27**	**123**		Pn	**Pn**		**21 24 30.3**	**+0.4**
IRAM	**Ramesheh**	**6.42**	**114**		Pn	**Pn**		**21 24 32.3**	**+0.5**

IDC 23 21:26:15.5±3.4, 55.°23S×147.°08E, h0km, mb3.5/4, mbtmp3.5/4, MS3.3/2, Error ellipse: s-maj=331.1km s-min=23.0km az=78.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**23.00**	**172**		P		P	21 31 20.7	-0.6
	1.4nm,1.0s,baz=329,slow=12,SNR=2.3								
	1.4nm,1.0s								
H01W1	**Cape Leeuwin H**	**30.45**	**298**		T		T	22 04 22.2	
	baz=142,slow=76,SNR=32								
H01W2	**Cape Leeuwin H**	**30.46**	**298**		T		T	22 04 23.4	
	baz=142,slow=76,SNR=38								
H01W3	**Cape Leeuwin H**	**30.47**	**298**		T		T	22 04 24.3	
	baz=142,slow=76,SNR=28								
NWAO	**Narrogin (SRO)**	**30.53**	**305**		LR		LR	21 42 34.4	
	comp=Z,58nm,18.0s,baz=86,slow=32								
ASAR	**Alice Springs**	**33.01**	**337**		P		P	21 32 52.2	0.0
	0.3nm,0.7s,baz=173,slow=10,SNR=2.4								
	0.3nm,0.7s								
QSPA	**South Pole Qui**	**34.87**	**180**		P		P	21 33 08.7	+0.5
	1.1nm,0.7s,baz=15,slow=10,SNR=2.0								
	1.1nm,0.7s								
CTA	**Charters Tower**	**35.09**	**359**		LR		LR	21 47 05.3	
	comp=Z,38nm,19.1s,baz=179,slow=36								
WRA	**Warramunga Arr**	**36.53**	**340**		P		P	21 33 22.5	-0.2
	0.7nm,0.8s,baz=168,slow=7.8,SNR=6.2								
	0.7nm,0.8s								

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*LDG **23** 21:30:53.4±0.1, 43.°02N×0.°25E, h15km, Md2.4/2, Ml2.2/7, Error ellipse: s-maj=2.8km s-min=2.2km az=3.0*
*MDD **23** 21:30:54.6±0.4, 42.°98N×0.°26E, h12km, mb_Lg2.8/3, Error ellipse: s-maj=2.9km s-min=2.0km az=1.0*
*MRB **23** 21:30:54.2±0.4, 42.°99N×0.°27E, h10km±3km, ML1.2/10, Error ellipse: s-maj=2.4km s-min=1.7km az=239.0*
*STR **23** 21:30:54.0±0.4, 43.°N±4.°×±.°, h7km, MLv1.7/11, Error ellipse: s-maj=0.0km s-min=0.0km az=172.9, preliminary*
ISC 23 21:30:53.8±0.8, 42.°97N±0.°02×0.°25E±0.°02, h15km±5km, n45, σ0°75/82, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EPF	**Esparros**	**0.09**	**48**	*e*P		**Pg**		**21 30 56.6**	**-0.6**
EPF				*e*Sg		**Sg**		**21 30 59.4**	**0.0**
	65nm,0.2s								
EPF	**Esparros**	**0.09**	**48**	Pg		**Pg**		**21 30 56.6**	**-0.6**
VIEF	**Viey**	**0.18**	**243**		Pg	**Pb**		**21 30 58.5**	**-0.5**
VIEF					Sg	**Sg**		**21 31 02.5**	**+1.2**
PYLO	**Lourdes**	**0.25**	**301**		S	**Sg**		**21 31 03.4**	**+0.2**
PYLO	**Lourdes**	**0.25**	**301**		Sg	**Sg**		**21 31 03.1**	**0.0**
ECHI	**Chisagues Biel**	**0.30**	**187**		P	**Pg**		**21 31 00.8**	**+0.4**
ECHI					S	**Sg**		**21 31 05.8**	**+1.0**
	75nm,0.1s								
ECHI	**Chisagues Biel**	**0.30**	**187**		Pg	**Pg**		**21 31 00.8**	**+0.4**
ECHI					Sg	**Sg**		**21 31 04.2**	**-0.6**
ECHI				*i* Vmb_Lg				21 31 05.9	
ECHI	**Chisagues Biel**	**0.30**	**187**		Pg	**Pg**		**21 31 00.7**	**+0.4**
ECHI					Sg	**Sg**		**21 31 05.6**	**+0.9**
CARA	**Val d'Aran**	**0.49**	**121**		P	**Pg**		**21 31 03.5**	**-0.3**
CARA					S	**Sg**		**21 31 10.4**	**0.0**
ETSF	**Etsaut**	**0.59**	**264**	*e*Pg		**Pg**		**21 31 05.3**	**-0.3**
ETSF				*e*Sg		**Sg**		**21 31 12.7**	**-0.8**
	21nm,0.3s								
ETSF	**Etsaut**	**0.59**	**264**	Pg		**Pg**		**21 31 05.3**	**-0.3**
CANF	**Canfranc**	**0.60**	**250**	Pg		**Pg**		**21 31 05.5**	**-0.2**
CANF				Sg		**Sg**		**21 31 13.9**	**+0.3**
MLS	**Moulis**	**0.62**	**91**	Pg		**Pb**		**21 31 05.2**	**-1.2**
MLS				Sg		**Sg**		**21 31 13.9**	**-0.5**
ATE	**Arette**	**0.70**	**280**	P		**Pb**		**21 31 07.7**	**-0.1**
ATE				S		**Sg**		**21 31 18.2**	**+1.3**
ATE	**Arette**	**0.70**	**280**	Pg		**Pb**		**21 31 07.1**	**-0.7**
ATE				Sg		**Sg**		**21 31 17.2**	**+0.3**
SALF	**Salau**	**0.72**	**106**	Pg		**Pb**		**21 31 07.2**	**-1.0**
SALF				Sg		**Sb**		**21 31 16.5**	**-1.4**
CTRE	**Tremp**	**0.75**	**149**	P		**Pb**		**21 31 08.5**	**-0.2**
CTRE				S		**Sg**		**21 31 19.4**	**+1.0**
	3.8nm,0.3s								
CEST	**Esterri de Car**	**0.83**	**116**	P		**Pb**		**21 31 09.0**	**-1.0**
CEST				S		**Sb**		**21 31 20.9**	**-0.1**
	10nm,0.2s								
CSOR	**Sort**	**0.88**	**132**	P		**Pb**		**21 31 10.5**	**-0.4**
CSOR				S		**Sb**		**21 31 22.5**	**0.0**
	4.2nm,0.4s								
PAND	**Andorre**	**1.06**	**114**	P		**Pb**		**21 31 13.4**	**-0.5**
PAND				S		**Sb**		**21 31 27.8**	**+0.1**
	3.4nm,0.2s								
PAND	**Andorre**	**1.06**	**114**	Pg		**Pb**		**21 31 13.7**	**-0.2**
PAND				Sg		**Sb**		**21 31 27.2**	**-0.4**
CORG	**Organya**	**1.08**	**133**	P		**Pb**		**21 31 14.0**	**-0.3**
CORG				S		**Sn**		**21 31 29.0**	**-0.2**
	3.1nm,0.4s								
SJPF	**Ste Jean**	**1.09**	**278**	*e*Pg		**Pb**		**21 31 13.7**	**-0.7**
SJPF				*e*Sg		**Sb**		**21 31 28.1**	**-0.3**
	4.9nm,0.3s								
ARBS	**La Rabassa**	**1.09**	**118**	P		**Pb**		**21 31 13.9**	**-0.6**
ARBS				S		**Sb**		**21 31 28.5**	**-0.2**
	5.7nm,0.3s								
OSSF	**Osses**	**1.14**	**285**	Pg		**Pn**		**21 31 14.0**	**-1.2**
EORO	**Oroz-Betelu**	**1.15**	**267**	Sg		**Sg**		**21 31 31.1**	**+0.2**
CAVN	**Les Avellanes**	**1.15**	**161**	P		**Pb**		**21 31 15.5**	**+0.2**
CAVN				S		**Sg**		**21 31 31.6**	**+0.6**
DUNF	**Dun**	**1.15**	**87**	Pg		**Pn**		**21 31 13.7**	**-1.7**
DUNF				Sg		**Sg**		**21 31 31.7**	**+0.6**
ESAC	**San Caprasio**	**1.35**	**203**	Pn		**Pn**		**21 31 17.8**	**-0.4**
ESAC				Sg		**Sb**		**21 31 36.5**	**+0.5**
ESAC				*i* Vmb_Lg				21 31 37.1	
CLLI	**Llivia**	**1.36**	**110**	P		**Pn**		**21 31 18.5**	**0.0**
CLLI				S		**Sb**		**21 31 36.6**	**+0.2**
	1.2nm,0.2s								
FNEB	**Nbias**	**1.37**	**92**	Pn		**Pb**		**21 31 19.0**	**-0.1**
FNEB				Sg		**Sb**		**21 31 37.1**	**+0.6**
CARF	**Carcanieres**	**1.39**	**100**	Pn		**Pb**		**21 31 20.1**	**+0.5**
CARF				Sn		**Sb**		**21 31 38.0**	**+0.8**
MTLF	**Montolieu**	**1.49**	**75**	*e*Pg		**Pn**		**21 31 20.5**	**+0.4**
MTLF				*e*Sg		**Sn**		**21 31 39.4**	**+0.1**
	3.9nm,0.2s								
MTLF	**Montolieu**	**1.49**	**75**	Pg		**Pn**		**21 31 20.5**	**+0.4**
MTLF	**Montolieu**	**1.49**	**75**	Pn		**Pb**		**21 31 20.9**	**-0.3**
MTLF				Sn		**Sb**		**21 31 39.7**	**-0.2**
MONQ	**Montcuq**	**1.56**	**26**	Pn		**Pn**		**21 31 21.6**	**+0.5**
MONQ				Sn		**Sb**		**21 31 41.1**	**-0.9**
CORI	**Orista**	**1.66**	**126**	P		**Pb**		**21 31 23.5**	**-0.7**
CORI				S		**Sb**		**21 31 45.5**	**+0.6**
	4.2nm,0.3s								
EPOB	**Poblet**	**1.73**	**159**	P		**Pb**		**21 31 24.9**	**-0.5**
EPOB				S		**Sb**		**21 31 46.8**	**0.0**
	3.9nm,0.4s								
EPOB	**Poblet**	**1.73**	**159**	Pg		**Pb**		**21 31 25.8**	**+0.5**
EPOB				Sg		**Sg**		**21 31 48.7**	**-0.8**
CBEU	**Beuda**	**1.93**	**111**	P		**Pn**		**21 31 27.2**	**+1.0**
CBEU				S		**Sb**		**21 31 51.6**	**-1.0**
LFF	**La Frestale**	**2.00**	**10**	*e*Pg		**Pb**		**21 31 30.0**	**0.0**
LFF				*e*Sg		**Sb**		**21 31 54.6**	**-0.1**
	4.6nm,0.2s								
ERTA	**Horta de San J**	**2.01**	**178**	Pg		**Pb**		**21 31 31.2**	**+1.1**
ERTA				Sg		**Sg**		**21 31 57.6**	**-0.9**
CAF	**Calviac**	**2.36**	**33**	*e*Pg		**Pb**		**21 31 36.1**	**+0.1**
CAF				*e*Sg		**Sb**		**21 32 06.4**	**+1.5**
	2.4nm,0.2s								
RJF	**Les Rejaudoux**	**2.51**	**21**	*e*Pg		**Pb**		**21 31 39.1**	**+0.5**
RJF				*e*Sg		**Sb**		**21 32 11.0**	**+1.7**
	2.1nm,0.2s								
LASF	**Ste Croix**	**2.85**	**66**	*e*Sg		**Sb**		**21 32 21.8**	**+2.7**
	2.8nm,0.3s								

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*SOME **23** 21:46:21.9, 45.°73N×82.°95E, h0km*
*NNC **23** 21:46:23.0±0.4, 45.°71N×83.°01E, h8km±6km, mb3.6, mpv3.5, Error ellipse: s-maj=4.1km s-min=1.9km az=111.0*
*IDC **23** 21:46:24.2±2.9, 45.°91N×83.°25E, h0km, mbtmp3.1/4, ML2.5/4, Error ellipse: s-maj=22.4km s-min=17.7km az=177.0*
ISC 23 21:46:21.2±0.9, 45.°67N±0.°04×83.°08E±0.°06, h10km, n30, σ1°s62/37, 5C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**1.25**	**334**	⇓P		**Pg**		**21 46 44.9**	**-0.4**
	1.4nm,0.2s,baz=150,slow=9.8,SNR=375								
MK31				⇓S		**Sn**		**21 47 01.9**	**+0.2**
	6.2nm,0.2s,baz=185,slow=14,SNR=7.1								
MKAR	**Makanchi Array**	**1.25**	**334**	Pg		**Pg**		**21 46 44.9**	**-0.3**
	6.4nm,0.3s,baz=144,slow=17,SNR=238								
MKAR					Lg		Lg	21 47 02.1	
	18nm,0.3s,baz=143,slow=30,SNR=9.6								
MAKZ	**Makanchi**	**1.37**	**326**	⇓P		**Pg**		**21 46 46.8**	**-0.7**
	8.1nm,0.6s								
MAKZ				⇑S		**Sg**		**21 47 04.8**	**-0.5**
	19nm,0.4s								
ZSN	**Zaisan**	**2.16**	**34**	*e*P		**Pb**		**21 46 59.5**	**-1.0**
	20nm,0.2s								
ZSN				*e*S		**Sb**		**21 47 26.8**	**-0.6**
	74nm,0.2s								
ZSN	**Zaisan**	**2.16**	**34**	Pg		**Pb**		**21 46 59.5**	**-1.0**
	20nm,0.2s								
ZSN					Lg		Lg	21 47 26.7	
	74nm,0.2s								
DJR	**Jarkent**	**2.69**	**241**	*e*P		**Pg**		**21 47 11.7**	**-1.0**
	13nm,0.4s								
DJR				*e*S		**Sg**		**21 47 47.9**	**+0.2**
	25nm,0.5s								
DJR	**Jarkent**	**2.69**	**241**	Pg		**Pg**		**21 47 11.7**	**-1.0**
	13nm,0.4s								
DJR					Lg		Lg	21 47 47.9	
	25nm,0.5s								
KNOS	**Konyrlen**	**3.06**	**246**	Pg		**Pg**		**21 47 18.7**	**-1.2**
	4.7nm,0.1s								
KNOS					Lg		Lg	21 47 59.8	
	22nm,0.4s								
TDK	**Taldyqorghan**	**3.37**	**260**	*e*P		**Pg**		**21 47 23.1**	**-2.6**
	5.7nm,0.2s								
TDK				*e*S		**Sg**		**21 48 06.8**	**-2.4**
	18nm,0.5s								
TDK	**Taldyqorghan**	**3.37**	**260**	Pg		**Pg**		**21 47 22.4**	**-3.3**
	5.7nm,0.2s								
TDK					Lg		Lg	21 48 06.2	
	30nm,0.2s								
PDGK	**Podgornoye**	**3.48**	**229**	Pg		**Pg**		**21 47 26.7**	**-1.1**
	1.3nm,0.1s								
PDGK					Lg		Lg	21 48 13.4	
	9.1nm,0.4s								
PDGK	**Podgornoye**	**3.48**	**229**	⇑Pn		**Pn**		**21 47 17.6**	**+2.2**
	0.8nm,0.2s								
PDGK				⇑Pg		**Pg**		**21 47 26.2**	**-1.6**
	3.3nm,0.6s								
PDGK				⇑Lg		Lg		21 48 14.0	
	18nm,0.6s								
SHLS	**Shalkode**	**3.61**	**227**	*e*P		**Pb**		**21 47 25.2**	**0.0**
	4.0nm,0.3s								
SHLS				*e*S		**Sb**		**21 48 10.7**	**+1.6**
	36nm,0.3s								
SHLS	**Shalkode**	**3.61**	**227**	Pg		**Pb**		**21 47 25.2**	**0.0**
	4.0nm,0.3s								
SHLS					Lg		Lg	21 48 10.7	
	36nm,0.3s								
BLB	**Baldybastay**	**3.63**	**246**	Pg		**Pg**		**21 47 30.0**	**-0.7**
	3.0nm,0.1s								
BLB					Lg		Lg	21 48 19.1	
	12nm,0.2s								
UZB	**Uzynbulak**	**3.85**	**230**	*e*P		**Pg**		**21 47 33.1**	**-1.8**
	3.0nm,0.1s								
UZB				*e*S		**Sg**		**21 48 24.4**	**-0.4**
	7.2nm,0.2s								
UZB	**Uzynbulak**	**3.85**	**230**	Pg		**Pg**		**21 47 33.1**	**-1.8**
	3.0nm,0.1s								
UZB					Lg		Lg	21 48 24.4	
	7.2nm,0.2s								
ARXS	**Arharly**	**4.01**	**251**	*e*P		**Pg**		**21 47 35.9**	**-2.0**
	1.5nm,0.2s								
ARXS				*e*S		**Sg**		**21 48 28.8**	**-1.0**
	10nm,0.4s								
ARXS	**Arharly**	**4.01**	**251**	Pg		**Pg**		**21 47 36.5**	**-1.4**
	1.9nm,0.2s								
ARXS					Lg		Lg	21 48 30.4	
	13nm,0.3s								
SATY	**Saty**	**4.25**	**234**	*e*P		**Pg**		**21 47 40.5**	**-2.0**
	2.5nm,0.2s								
SATY				*e*S		**Sg**		**21 48 37.0**	**-0.6**
	34nm,0.2s								
SATY	**Saty**	**4.25**	**234**	Pg		**Pg**		**21 47 40.5**	**-2.0**
	2.5nm,0.2s								
SATY					Lg		Lg	21 48 37.0	
	34nm,0.2s								
MDOK	**Medeo**	**5.00**	**242**	⇓Lg		Lg		21 49 00.5	
	6.3nm,0.6s								
KURBB	**Kurchatov Arra**	**5.81**	**330**	Pn		**Pn**		**21 47 50.1**	**+2.7**
	0.1nm,0.3s,baz=146,slow=12,SNR=1.3								
KURBB					Lg		Lg	21 49 24.4	
	0.5nm,0.3s,baz=143,slow=34,SNR=20								
	0.9nm,0.2s								
KURK	**Kurchatov**	**5.86**	**331**	⇓Lg		Lg		21 49 27.8	
	12nm,0.6s								
TKM2	**Tokmak 2**	**6.03**	**246**	⇑Lg		Lg		21 49 36.0	
	1.7nm,0.5s								
AAK	**Ala-Archa**	**6.88**	**247**	Lg		Lg		21 49 59.6	
	0.1nm,0.3s,baz=342,slow=19,SNR=1.5								
OTUK	**Ortayu**	**7.79**	**293**	⇓Lg		Lg		21 50 29.3	
	5.5nm,1.0s								
ZALV	**Zalesovo Beam**	**8.36**	**7**	Pn		**Pn**		**21 48 23.8**	**+1.5**
	0.2nm,0.3s,baz=190,slow=9.3,SNR=3.9								
ZALV					Sn		**Sn**	**21 49 55.3**	**-1.5**
	0.2nm,0.3s,baz=186,slow=27,SNR=2.5								
ZALV					Lg		Lg	21 50 42.0	
	0.2nm,0.3s,baz=191,slow=26,SNR=3.2								
	0.7nm,0.4s								
BVAR	**Borovoye Array**	**11.07**	**316**	Pn		**Pn**		**21 49 02.6**	**+3.1**
	baz=124,slow=12,SNR=2.1								
BVAR					Sn		**Sn**	**21 51 01.5**	**-1.6**
	baz=119,slow=26,SNR=2.0								
BVAR					Lg		Lg	21 52 13.4	
	baz=121,slow=27,SNR=2.3								
	0.2nm,0.3s								
SONM	**Songino Array**	**16.11**	**74**	Pn		**P**		**21 50 10.7**	**-0.4**
	0.1nm,0.3s,baz=276,slow=14,SNR=2.2								
	0.1nm,0.4s								

IDC 23 22:19:19.4±10.0, 0.°63N×99.°76W, h0km, mb3.9/4, mbtmp3.9/4, MS3.3/14, Error ellipse: s-maj=339.1km s-min=138.1km az=109.0, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**22.67**	**110**		LR	LR		22 30 05.9	
	comp=Z,26nm,20.8s,baz=274,slow=28								
LPIG	**La Paz**	**25.48**	**337**		LR	LR		22 32 05.4	
	comp=Z,73nm,20.0s,baz=170,slow=30								
NNA	**Nana**	**25.98**	**120**		LR	LR		22 31 43.1	
	comp=Z,20nm,18.2s,baz=266,slow=29								
TXAR	**Lajitas Array**	**28.79**	**353**		P	P		22 25 19.0	-0.3
	0.6nm,0.8s,baz=175,slow=12,SNR=5.5								
TXAR					LR	LR		22 35 30.0	
	comp=Z,44nm,18.1s,baz=148,slow=34								
	0.6nm,0.8s								
ANMO	**Albuquerque**	**34.71**	**350**		LR	LR		22 38 38.7	
	comp=Z,72nm,21.8s,baz=264,slow=33								
PFO	**Pinyon Flats O**	**36.36**	**336**		LR	LR		22 38 16.2	
	comp=Z,50nm,18.8s,baz=130,slow=31								
LVC	**Limon Verde**	**37.90**	**130**		LR	LR		22 38 40.8	
	comp=Z,101nm,19.5s,baz=250,slow=31								
NVAR	**Mina Array Bea**	**41.30**	**338**		LR	LR		22 40 15.1	
	comp=Z,72nm,19.7s,baz=6.0,slow=30								
ELK	**Elko**	**42.33**	**342**		LR	LR		22 43 22.1	
	comp=Z,27nm,19.3s,baz=80,slow=34								
MDP	**Montagnes des**	**47.26**	**84**		LR	LR		22 46 08.9	
	comp=Z,40nm,20.3s,baz=342,slow=34								
NEW	**Newport**	**49.78**	**345**		LR	LR		22 46 45.3	
	comp=Z,28nm,18.1s,baz=74,slow=33								
BDFB	**Brasilia**	**53.59**	**110**		LR	LR		22 51 03.6	
	comp=Z,74nm,19.7s,baz=13,slow=36								
DLBC	**Dease Lake**	**62.39**	**343**		P	P		22 29 44.4	+0.5
	1.7nm,0.7s,baz=187,slow=9.9,SNR=4.0								
	1.7nm,0.7s								
YKA	**Yellowknife Ar**	**62.72**	**352**		P	P		22

TAP 23 23:10:24.8, 24.50N×121.83E, h10km, ML1.2, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
EWUT	**Wuta** baz=225	**0.07**	**225**	*i* P		Pg	23 10 27.8	+0.8
EWUT	baz=225			*i* S		Sg	23 10 29.5	+0.8
ESAO	**Su ao** baz=7.0	**0.08**	**7**	*i* P		Pg	23 10 27.9	+0.8
ESAO	baz=7.0			*i* S		Sg	23 10 29.6	+0.7
ENA	**Nanau** baz=228	**0.11**	**232**	*i* P		Pb	23 10 28.2	-0.7
ENA	baz=228			S		Sg	23 10 30.3	+0.8
TWC	**Suao** baz=12	**0.12**	**7**	*i* P		Pb	23 10 28.4	-0.6
TWC	baz=12			*i* S		Sg	23 10 30.4	+0.8
LATG	**Datong** baz=278	**0.28**	**278**	P		Pb	23 10 31.6	-0.3
LATG	baz=278			*i* S		Sb	23 10 36.0	-0.8
NDT	**Datong Townshi** baz=290	**0.31**	**290**	P		Pb	23 10 32.6	+0.3
NDT	baz=290			S		Sb	23 10 37.0	-0.6
FUSB	**Fushanzhiwuyua** baz=319	**0.35**	**320**	P		Pb	23 10 33.2	+0.2
EOS2	**EOS2** baz=101	**0.37**	**102**	S		Sb	23 10 39.2	+0.1
NACB	**Ninganchiao** baz=214	**0.39**	**214**	P		Pg	23 10 33.0	+0.6
NACB	baz=214			*e*S		Sg	23 10 38.4	+0.9
NWLT	**Wulai** baz=313	**0.41**	**313**	*e*P		Pb	23 10 34.1	0.0
NNSB	**Datong** baz=260	**0.42**	**261**	*e*S		Sb	23 10 40.1	-0.5
ETLH	**Xiulin Townshi** baz=228	**0.43**	**228**	P		Pg	23 10 33.9	+0.6
ETLH	baz=228			S		Sb	23 10 41.0	-0.1
YHNB	**Yeheng** baz=292	**0.45**	**293**	*i* P		Pb	23 10 35.2	+0.4
NSK	**Sanguang** baz=292	**0.47**	**293**	P		Pb	23 10 35.4	+0.3
NSK	baz=292			S		Sb	23 10 41.5	-0.7
TIPB	**Shuangxi** baz=359	**0.47**	**359**	*e*P		Pb	23 10 35.9	+0.7
TIPB	baz=359			S		Sb	23 10 41.5	-0.7
EOS3	**EOS3** baz=115	**0.49**	**115**	S		Sb	23 10 42.6	+0.1

*LDG **23** 23:19:17.1±0.1, 44.35N×7.29E, h13km, Md1.3/1, Error ellipse: s-maj=3.3km s-min=1.8km az=51.0*

STR 23 23:19:18.0±0.6, 44.N±3.×7.±., h9km, MLv1.3/9, Error ellipse: s-maj=0.0km s-min=0.0km az=57.9, preliminary, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
ENR	**Entracque**	**0.15**	**133**	Sg		Sg	23 19 23.8	+0.1
ENR	**Entracque**	**0.15**	**133**	Pg		Pg	23 19 21.2	-0.1
PZZ	**Stroppo**	**0.21**	**329**	Pg		Pg	23 19 21.9	-0.5
PZZ	**Stroppo**	**0.21**	**329**	Sg		Sg	23 19 25.5	+0.2
ISO	**Isola**	**0.21**	**227**	Pg		Pg	23 19 22.4	0.0
ISO				Sg		Sg	23 19 25.7	+0.3
SPIF	**crte de Spivo**	**0.28**	**185**	Pg		Pg	23 19 23.5	-0.1
SPIF				Sg		Sg	23 19 27.5	+0.2
SURF	**Saint Ours**	**0.36**	**295**	Pg		Pg	23 19 24.8	-0.3
SURF				Sg		Sg	23 19 30.2	+0.3
JAUF	**Jausiers**	**0.38**	**285**	Pg		Pg	23 19 25.2	-0.4
JAUF				Sg		Sg	23 19 30.5	-0.2
SAOF	**Saorge**	**0.40**	**149**	Sg		Sg	23 19 30.7	-0.5
ENAUX	**Enaux**	**0.42**	**238**	Pg		Pg	23 19 26.1	-0.1
ENAUX				Sg		Sg	23 19 32.0	+0.4
GBOS	**Grotte di Boss**	**0.42**	**102**	Sg		Sg	23 19 31.0	-0.8
CREF	**Crivoux**	**0.51**	**296**	Sg		Sg	23 19 34.8	+0.1
MBDF	**Montbardon**	**0.53**	**318**	*e*Pg		Pg	23 19 25.5	-2.9
MBDF				*e*Sg		Sg	23 19 33.4	-2.0
	0.1nm,0.1s							

ZUR 23 23:19:39.3, 46.13N×7.94E, h7km±2km, MLh0.2/4, 2C, Error ellipse: s-maj=3913.7km s-min=1102.3km az=111.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
MMK	**Mattmark**	**0.09**	**166**	⇑Pg		Pg	23 19 41.7	+0.3
MMK				Sg		Sg	23 19 43.3	+0.2
SGRA	**Graechen Ausbl**	**0.09**	**311**	Pg		Pg	23 19 41.9	+0.3
SGRA				Sg		Sg	23 19 43.6	+0.4
EMBD	**Embd, Matterta**	**0.11**	**319**	Pg		Pg	23 19 42.0	+0.2
EMBD				Sg		Sg	23 19 43.6	+0.1
SIMPL	**Simplonpass**	**0.12**	**29**	Pg		Pg	23 19 42.2	+0.1
LKBD2	**Leukerbad 2**	**0.32**	**320**	Pg		Pg	23 19 45.7	+0.2
DIX	**Grande Dixence**	**0.37**	**262**	⇑Pg		Pg	23 19 46.4	-0.2

JMA 23 23:28:29.2±0.4, 25.N±2.×12.3E±., h141km, MV2.5/9, NW OFF ISHIGAKIJIMA IS, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
JISG	**Ishigakijimahi**	**1.36**	**119**	P		Pn	23 28 56.7	+0.1
JKRS	**Kuro-shima**	**1.36**	**137**	*e*P		Pn	23 28 56.8	+0.3
JKRS				*e*S		Sn	23 29 18.0	+0.6
JIJ	**Ishigaki jima**	**1.36**	**130**	P		Pn	23 28 56.5	-0.1
JIJ				S		Sn	23 29 17.2	-0.3
HATJ	**Hateruma jima**	**1.39**	**148**	*e*P		Pn	23 28 57.0	+0.2
HATJ				*e*S		Sn	23 29 18.9	+0.9
JTJ	**Tarama**	**1.66**	**111**	P		Pn	23 29 00.7	+1.0

TAP 23 23:29:12.2, 24.61N×121.49E, h35km, ML1.3, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
NDT	**Datong Townshi** baz=114	**0.02**	**119**	*e*P		Pn	23 29 19.4	+1.4
NDT	baz=114			*i* S		Sn	23 29 22.1	+0.1
LATG	**Datong** baz=157	**0.08**	**158**	*i* P		Pn	23 29 18.5	+0.2
LATG	baz=157			*e*S		Sn	23 29 21.9	-0.6
YHNB	**Yeheng** baz=299	**0.12**	**298**	S		Sn	23 29 22.7	-3.8
NSK	**Sanguang** baz=299	**0.14**	**297**	*i* S		Sn	23 29 22.8	-3.4
FUSB	**Fushanzhiwuyua** baz=23	**0.17**	**31**	*e*P		Pn	23 29 18.0	-1.8
FUSB	baz=23			*e*S		Sn	23 29 20.8	-5.1
NNSB	**Datong** baz=210	**0.21**	**208**	P		Pn	23 29 18.5	-1.3
NNSB	baz=210			*i* S		Sn	23 29 24.0	-1.7
NFF	**Wufeng Townshi** baz=279	**0.34**	**273**	*e*P		Pn	23 29 19.8	-0.9
NFF	baz=279			S		Sn	23 29 26.8	0.0
ETLH	**Xiulin Townshi** baz=185	**0.41**	**181**	*e*P		Pn	23 29 19.5	-2.0
FUSS	**Fushou** baz=217	**0.43**	**212**	*e*P		Pn	23 29 20.2	-1.8
FUSS	baz=217			*e*S		Sn	23 29 27.4	-1.5
TWD	**Chiawan** baz=169	**0.54**	**170**	P		Pn	23 29 24.2	+0.8
TWD	baz=169			*e*S		Sn	23 29 32.5	+1.3
WHP	**Taichung City** baz=238	**0.60**	**236**	*i* S		Sn	23 29 34.1	+1.2

*IDC **23** 23:31:52.6±0.7, 40.78N×17.63E, h0km, mb3.8/15, mbtmp3.8/23, ML3.6/8, MS2.9/9, Error ellipse: s-maj=14.8km s-min=11.5km az=96.0*
*TIR **23** 23:31:54.8, 40.82N×17.68E, h39km±1km, Ml4.0*
*NEIC **23** 23:31:55.4±1.4, 40.83N±0.04×17.63E±0.05, h12km±5km, mb4.1/17, Error ellipse: s-maj=6.7km s-min=5.8km az=209.0*
*BGR **23** 23:31:56.0±0.6, 40.57N×17.93E, h33km, ML4.1, Error ellipse: s-maj=25.6km s-min=13.3km az=53.0*
*PDG **23** 23:31:56.6±0.7, 40.81N×17.74E, h28km±1km, MD4.1/5, ML4.0/8, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
*ROM **23** 23:31:56.8±0.1, 40.800N±0.007×17.694E±0.006, h30km, ML3.9/292, Mw3.7, Error ellipse: s-maj=0.8km s-min=0.2km az=198.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.47; $M_{\theta\theta}$0.39; $M_{\phi\phi}$-0.86; $M_{r\theta}$3.91; $M_{\theta\phi}$-2.55; $M_{\phi r}$0.33; Fault plane solution: M_o4.74213×10^{14} NP1:ϕ_s176.00000°, δ34.00000°, λ6.00000°. NP2:ϕ_s81.00000°, δ87.00000°, λ124.00000°.*
*LDG **23** 23:31:57.0±0.4, 40.84N×17.70E, h28km, Ml3.8/15 Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*NAO **23** 23:31:57.7, 40.84N×17.70E, h33km, mb3.5*
*BEO **23** 23:31:58.1±0.6, 41.08N×17.88E, h4km, ML3.7/14*
*PRU **23** 23:31:58.8, 40.88N×17.48E, h20km, M4.1*

ISC 23 23:31:56.8±0.8, 40.85N±0.03×17.69E±0.02, h30km±6km, n352, σ1^{s}93/421, mb4.1/17, MS3.0/4, 21C-16D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
MESG	**Mesagne**	**0.29**	**156**	⇑P		Pb	23 32 03.9	-0.2
MESG				S		Sb	23 32 08.6	-0.5
MESG				AML		AML		
MESG				AML		AML		
MESG				AML		AML		
TAR1	**Taranto**	**0.45**	**224**	⇑P		Pb	23 32 06.3	-0.2
TAR1				S		Sn	23 32 13.0	-1.2
TAR1				AML		AML		
	comp=E,59250μm,0.1s							
TAR1				AML		AML		
	comp=N,86300μm,0.5s							
NOCI	**Noci** baz=267	**0.48**	**263**	P		Pn	23 32 07.2	-0.5
NOCI				S		Sb	23 32 13.8	-0.2
	baz=267							
NOCI				AMP				
	comp=E,171nm,0.1s,baz=267							
NOCI	**Noci**	**0.48**	**263**	⇑P		Pn	23 32 07.2	-0.5
NOCI				S		Sn	23 32 14.4	-0.7
NOCI				AML		AML		
NOCI				AML		AML		
	comp=E,66650μm,0.6s							
MATE	**Matera**	**0.78**	**255**	P		Pb	23 32 11.4	-0.4
MATE				S		Sn	23 32 22.2	-0.1
MATE				AML		AML		
	comp=E,14050μm,0.6s							
MATE				AML		AML		
	comp=E,14050μm,1.4s							
MATE				AML		AML		
	comp=N,18200μm,1.0s							
AMUR	**Altamura**	**0.83**	**274**	⇑P		Pn	23 32 12.4	0.0
AMUR				S		Sb	23 32 23.2	-0.3
AMUR				AML		AML		
	comp=N,15250μm,1.0s							
AMUR				AML		AML		
	comp=E,14250μm,0.2s							
SCTE	**Santa Cesarea** baz=140	**0.98**	**143**	P		Pn	23 32 14.2	-0.2
SCTE				S		Sn	23 32 27.5	+0.3
	baz=140							
SCTE				AMP				
	comp=E,11nm,0.1s,baz=140							
SCTE	**Santa Cesarea**	**0.98**	**143**	Pg		Pn	23 32 14.1	-0.2
SCTE				Sn		Sn	23 32 28.8	+1.6
SCTE	**Santa Cesarea**	**0.98**	**143**	⇓P		Pn	23 32 14.2	-0.2
SCTE				S		Sn	23 32 28.5	+1.3
SCTE				AML		AML		
	comp=E,16200μm,0.8s							
SCTE				AML		AML		
	comp=N,20550μm,0.6s							
SCTE				AML		AML		
	comp=E,16200μm,1.2s							
SCTE				AML		AML		
	comp=N,20550μm,1.4s							
MIGL	**Miglionico**	**0.98**	**256**	P		Pb	23 32 15.9	+0.6
MIGL				S		Sb	23 32 28.8	+0.8
MIGL				AML		AML		
	comp=E,30150μm,0.3s							
MIGL				AML		AML		
	comp=N,29800μm,0.8s							
CRAC	**Craco**	**1.07**	**243**	⇓P		Pn	23 32 15.8	+0.1
CRAC				S		Sb	23 32 30.9	+0.4
CRAC				AML		AML		
	comp=N,17950μm,1.0s							
CRAC				AML		AML		
	comp=E,25800μm,0.8s							
CRAC				AML		AML		
	comp=E,25800μm,1.2s							
MRVN	**Minervino Murg**	**1.15**	**281**	P		Pn	23 32 17.2	+0.3
MRVN				S		Sb	23 32 33.8	+1.0
MRVN				AML		AML		
	comp=E,10510μm,0.4s							
MRVN				AML		AML		
	comp=N,8990μm,0.6s							
ORI	**Oriolo Calabro**	**1.23**	**231**	P		Pn	23 32 17.9	-0.1
ORI				AML		AML		
	comp=E,12250μm,0.3s							
ORI				AML		AML		
	comp=E,12250μm,1.7s							
ORI				AML		AML		
	comp=N,10735μm,0.4s							
PTRP	**Pietrapertosa**	**1.28**	**256**	P		Pn	23 32 19.3	+0.6
PTRP				AML		AML		
	comp=N,13700μm,1.2s							
PTRP				AML		AML		
	comp=E,10495μm,0.5s							
PTRP				AML		AML		
	comp=E,10495μm,1.5s							
SALB	**San Lorenzo Be**	**1.42**	**227**	P		Pn	23 32 20.1	-0.5
SALB				AML		AML		
	comp=E,4870μm,1.3s							
SALB				AML		AML		
	comp=E,4870μm,0.7s							
SALB				AML		AML		
	comp=N,3740μm,0.5s							
VLO	**Vlora** baz=103	**1.42**	**105**	P		Pb	23 32 21.8	-0.9
VLO				S		Sb	23 32 41.8	+1.4
	baz=103							
VLO				AMP				
	comp=E,20nm,0.4s,baz=103							
VLO	**Vlora**	**1.42**	**105**			Pb	23 32 21.5	-1.1
VLO	**Vlora**	**1.42**	**105**	P		Pb	23 32 23.9	+1.2
PZUN	**Potenza**	**1.45**	**262**	P		Pb	23 32 24.4	+1.3
PIPA	**Pietrapaola**	**1.52**	**207**	⇓P		Pn	23 32 21.9	0.0
PIPA				AML		AML		
	comp=E,5140μm,1.5s							
PIPA				AML		AML		
	comp=N,3480μm,0.2s							
PIPA				AML		AML		
	comp=E,5110μm,1.5s							
PIPA				AML		AML		
	comp=E,5140μm,0.5s							
PIPA				AML		AML		
	comp=N,3635μm,1.1s							
PIPA				AML		AML		
	comp=E,5110μm,0.5s							
MCEL	**Monticello**	**1.53**	**251**	P		Pb	23 32 23.9	-0.7
MCEL				AML		AML		
	comp=N,4520μm,0.5s							
MCEL				AML		AML		
	comp=N,4580μm,0.4s							
MCEL				AML		AML		
	comp=E,4830μm,0.7s							
MCEL				AML		AML		
	comp=E,4830μm,1.3s							
MCEL				AML		AML		
	comp=E,4895μm,0.7s							
MCEL				AML		AML		
	comp=N,4520μm,1.5s							
SIRI	**Monte Sirino -**	**1.54**	**245**	P		Pn	23 32 21.9	-0.5
SIRI				AML		AML		
	comp=E,4565μm,0.5s							
SIRI				AML		AML		
	comp=E,4630μm,0.5s							
SIRI				AML		AML		
	comp=N,4160μm,0.3s							
SIRI				AML		AML		
	comp=N,4130μm,0.3s							
VULT	**Monte Vulture**	**1.58**	**274**	P		Pb	23 32 24.3	-1.1
VULT				AML		AML		
	comp=E,5570μm,0.5s							
VULT				AML		AML		
	comp=N,8070μm,1.6s							
VULT				AML		AML		
	comp=E,5800μm,0.5s							
VULT				AML		AML		
	comp=N,8340μm,1.6s							
VULT				AML		AML		
	comp=E,5570μm,0.5s							
VULT				AML		AML		
	comp=N,8070μm,1.6s							
VULT				AML		AML		
	comp=N,8340μm,0.4s							
VULT				AML		AML		
	comp=N,8070μm,0.4s							
TDS	**Terranova Siba**	**1.58**	**221**	P		Pn	23 32 22.5	-0.2
TDS				AML		AML		
	comp=N,762μm,1.4s							
TDS				AML		AML		
	comp=E,772μm,0.7s							
TDS				AML		AML		
	comp=N,762μm,0.6s							
MTSN	**Montesano sull**	**1.59**	**249**	P		Pn	23 32 23.1	+0.1
MTSN				AML		AML		
	comp=N,2640μm,1.4s							
MTSN				AML		AML		
	comp=N,2640μm,0.6s							
MTSN				AML		AML		
	comp=E,2660μm,0.6s							
ULC	**Ulcinj**	**1.61**	**46**	⇓*i*Pn		Pn	23 32 22.6	-0.6
ULC				*i* Sn		Sn	23 32 43.0	+0.1
MMN	**Mormanno**	**1.62**	**234**	P		Pn	23 32 23.4	+0.2
MMN				AML		AML		
	comp=N,3710μm,0.4s							
MMN				AML		AML		
	comp=E,1865μm,0.3s							
SLCN	**Sala Consilina**	**1.64**	**254**	P		Pn	23 32 23.8	+0.3
SLCN				AML		AML		
	comp=E,7325μm,0.5s							
SLCN				AML		AML		
	comp=N,6160μm,0.4s							
SLCN				AML		AML		
	comp=E,8065μm,0.5s							
SLCN				AML		AML		
	comp=N,6160μm,0.3s							
SLCN				AML		AML		
	comp=N,6800μm,0.3s							
SLCN				AML		AML		
	comp=N,6800μm,1.7s							
SLCN				AML		AML		
	comp=N,6160μm,1.7s							
SLCN				AML		AML		
	comp=E,7325μm,0.5s							
LADO	**San Nicola del**	**1.66**	**200**	P		Pn	23 32 23.7	-0.2
LADO				AML		AML		
	comp=E,385μm,1.4s							
LADO				AML		AML		
	comp=E,385μm,0.6s							
LADO				AML		AML		
	comp=N,352μm,0.7s							
SCL3	**Muro Lucano (S**	**1.67**	**265**	P		Pn	23 32 24.8	+0.9
CUC	**Castrocucco**	**1.67**	**240**	Pn		Pn	23 32 23.6	-0.5
CUC	**Castrocucco**	**1.67**	**240**	AML		AML		
	comp=N,1775μm,0.6s							
CUC				AML		AML		
	comp=E,3335μm,0.5s							
CUC				AML		AML		
	comp=N,2225μm,0.5s							
CUC				AML		AML		
	comp=E,2780μm,0.5s							
MRLC	**Muro Lucano**	**1.68**	**267**	P		Pb	23 32 25.8	-1.2
MRLC				AML		AML		
	comp=E,1280μm,1.0s							
MRLC				AML		AML		
	comp=N,1285μm,0.5s							
MRLC				AML		AML		
	comp=N,2645μm,0.5s							
MRLC				AML		AML		
	comp=E,2690μm,0.9s							
MRLC				AML		AML		
	comp=E,1280μm,1.0s							
MRLC				AML		AML		
	comp=E,2690μm,1.1s							
HCY	**Herceg Novi**	**1.70**	**20**	*e*Pn		Pn	23 32 24.2	-0.2
HCY	**Herceg Novi**	**1.70**	**20**	⇑*i*Pn		Pn	23 32 24.1	-0.3
HCY				*e*Sn		Sn	23 32 45.9	+0.7
BUM	**Brajici-Budva**	**1.70**	**31**	*e*Pn		Pn	23 32 24.3	-0.2
TIR	**Tirane** baz=71	**1.71**	**73**	P		Pn	23 32 25.6	+1.0
TIR				S		Sb	23 32 48.3	-0.5
	baz=71							
TIR				AMP				
	comp=E,1.5nm,0.3s,baz=71							
TIR	**Tirane**	**1.71**	**73**	Pn		Pn	23 32 25.8	+1.3
TIR	**Tirane**	**1.71**	**73**	*e*Pn		Pn	23 32 25.4	+0.8
TIR				*e*Sn		Sn	23 32 46.8	+1.4
TIR	**Tirane**	**1.71**	**73**	P		Pn	23 32 25.6	+1.0
TIR				AML		AML		
	comp=E,1575μm,0.9s							
TIR				AML		AML		
	comp=N,1725μm,0.4s							
SGRT	**San Giovanni R** baz=304	**1.72**	**302**	P		Pn	23 32 25.3	+0.5
SGRT				S		Sb	23 32 48.5	-0.7
	baz=304							
SGRT				AMP				
	comp=E,15nm,0.2s,baz=304							
SGRT	**San Giovanni R**	**1.72**	**302**	Pn		Pn	23 32 24.9	+0.1
SGRT	**San Giovanni R**	**1.72**	**302**	P		Pn	23 32 25.3	+0.5
SGRT				AML		AML		
	comp=E,5575μm,0.2s							
SGRT				AML		AML		
	comp=N,5665μm,0.6s							
SGRT				AML		AML		
	comp=E,5575μm,1.8s							
DRME	**Dracevica, Mon**	**1.74**	**40**	*e*Pn		Pn	23 32 25.5	+0.6
DRME				*e*Sn		Sn	23 32 45.7	-0.4
DRME	**Dracevica, Mon**	**1.74**	**40**	*e*Pn		Pn	23 32 24.8	-0.1
DRME	**Dracevica, Mon**	**1.74**	**40**	⇓*i*Pn		Pn	23 32 25.3	+0.3
DRME				*i* Sn		Sn	23 32 46.8	+0.7
MGR	**Morigerati**	**1.78**	**247**	⇑P		Pn	23 32 26.3	+0.8
MGR				AML		AML		
	comp=E,1980μm,0.8s							
MGR				AML		AML		
	comp=N,2260μm,0.4s							
MGR				AML		AML		
	comp=E,1920μm,1.6s							
MGR				AML		AML		
	comp=N,2480μm,0.4s							
MGR				AML		AML		
	comp=E,1920μm,0.4s							
MGR				AML		AML		
	comp=N,2260μm,1.6s							
MGR				AML		AML		
	comp=N,2480μm,1.6s							
SGTA	**Sant Agata di**	**1.79**	**280**	P		Pn	23 32 26.3	+0.6
COL3	**Colliano**	**1.80**	**266**	P		Pn	23 32 26.0	+0.2
TIP	**Timpagrande**	**1.82**	**204**	⇑P		Pn	23 32 26.0	-0.1
TIP	**Timpagrande**	**1.82**	**204**	Pn		Pn	23 32 25.9	-0.1
TIP	**Timpagrande**	**1.82**	**204**	⇓P		Pn	23 32 26.3	+0.2
TIP				AML		AML		
	comp=N,948μm,0.8s							
TIP				AML		AML		
	comp=E,1270μm,0.8s							
TIP				AML		AML		
	comp=N,1155μm,0.8s							
TIP				AML		AML		
	comp=E,1028μm,0.9s							
TIP				AML		AML		
	comp=N,1155μm,1.2s							
TIP				AML		AML		
	comp=N,948μm,1.2s							
DBRK	**Dubrovnik**	**1.85**	**10**	*e*Pn		Pn	23 32 26.3	-0.1
APRC	**Apricena**	**1.86**	**300**	⇑P		Pn	23 32 26.9	+0.3
APRC				AML		AML		
	comp=N,6770μm,0.5s							
APRC				AML		AML		
	comp=E,6255μm,0.3s							
CAFE	**Carife**	**1.87**	**276**	P		Pn	23 32 27.8	+1.0
CAFE				AML		AML		
	comp=N,2055μm,1.1s							
CAFE				AML		AML		
	comp=N,2095μm,1.1s							
CAFE				AML		AML		

CAFE AML AML
comp=E,3440µm,0.7s
CAFE AML AML
comp=N,2055µm,0.9s
CAFE AML AML
comp=N,2095µm,0.9s
CAFE AML AML
comp=E,3415µm,0.7s
SPS2 Spezzano della 1.87 214 ⇓P **Pn 23 32 26.9 +0.1**
SPS2 AML AML
comp=E,736µm,0.4s
SPS2 AML AML
comp=N,850µm,1.5s
SPS2 AML AML
comp=E,736µm,1.6s
SPS2 AML AML
comp=N,850µm,0.5s
CET2 Cetraro 1.88 226 ⇓P **Pn 23 32 27.4 +0.5**
CET2 AML AML
comp=E,3005µm,1.0s
CET2 AML AML
comp=N,3650µm,0.7s
CET2 AML AML
comp=N,3650µm,1.3s
CET2 AML AML
comp=E,3005µm,1.0s
MCRV Calabrutti - M 1.92 269 P **Pn 23 32 28.8 +1.3**
MCRV AML AML
comp=N,3095µm,0.9s
MCRV AML AML
comp=E,2445µm,0.4s
CEME Cevo 1.93 28 *e*Pn **Pn 23 32 27.4 -0.1**
CEME *i* Sn **Sn 23 32 51.3 +0.5**
TREB Trebinje 1.93 15 *e*Pn **Pn 23 32 27.4 -0.1**
TREB *e*Sn **Sn 23 32 50.7 0.0**
TREB Trebinje 1.93 15 *e*Pn **Pn 23 32 27.2 -0.3**
CAR1 CAROLEI 1.96 216 P **Pn 23 32 28.3 +0.3**
CAR1 AML AML
comp=E,2640µm,0.6s
CAR1 AML AML
comp=N,3350µm,0.7s
CAR1 AML AML
comp=E,3075µm,0.5s
CAR1 AML AML
comp=N,3160µm,0.7s
CAR1 AML AML
comp=E,3075µm,1.5s
CAR1 AML AML
comp=E,2640µm,1.4s
SERS Sersale 1.97 203 ⇓P **Pn 23 32 28.1 -0.1**
SERS AML AML
comp=E,1435µm,0.7s
SERS AML AML
comp=N,1300µm,0.6s
SERS AML AML
comp=E,1330µm,0.6s
SERS AML AML
comp=N,1390µm,0.6s
SERS AML AML
comp=E,1435µm,1.3s
SERS AML AML
comp=N,1390µm,1.4s
MOCO Biccari - m.te 1.98 286 P **Pn 23 32 29.6 +1.2**
MOCO AML AML
comp=E,2260µm,1.1s
MOCO AML AML
comp=N,1440µm,0.7s
MOCO AML AML
comp=E,2295µm,1.1s
MOCO AML AML
comp=N,1490µm,0.6s
MOCO AML AML
comp=E,2295µm,0.9s
MOCO AML AML
comp=E,2260µm,0.9s
LSTV Lastovo 2.01 343 *e*Pn **Pn 23 32 28.5 -0.1**
SRN Sarande 2.01 118 P **Pn 23 32 29.2 +0.5**
baz=117
SRN S **Sb 23 32 55.0 -2.3**
baz=117
SRN AMP
comp=E,3.1nm,0.4s,baz=117
SRN Sarande 2.01 118 P **Pn 23 32 29.1 +0.5**
SRN AML AML
comp=E,1188µm,0.5s
SRN AML AML
comp=N,1310µm,1.4s
SRN AML AML
comp=N,1310µm,0.6s
SRN AML AML
comp=E,1188µm,1.5s
STON Ston 2.02 0 *e*Pn **Pn 23 32 28.8 0.0**
STON *e*Sn **Sn 23 32 53.4 +0.5**
STON Ston 2.02 0 *e*Pn **Pn 23 32 28.8 0.0**
STON Sn **Sn 23 32 53.1 +0.2**
STON Ston 2.02 0 AML AML
comp=E,1275µm,1.3s
STON AML AML
comp=N,1210µm,1.6s
STON AML AML
comp=N,1210µm,0.4s
STON Ston 2.02 0 *e*Pn **Pn 23 32 28.7 0.0**
PUK Puka 2.04 54 P **Pn 23 32 30.4 +1.4**
baz=52
PUK Puka 2.04 54 Pn **Pn 23 32 30.6 +1.5**
PUK Puka 2.04 54 P **Pn 23 32 30.0 +1.0**
PUK AML AML
comp=N,1004µm,0.9s
PUK AML AML
comp=E,1004µm,0.4s
MRB1 Monte Rocchett 2.08 278 P **Pn 23 32 30.7 +1.1**
MELA Melanico ??? S 2.11 295 P **Pn 23 32 31.0 +0.9**
MELA AML AML
comp=E,6790µm,0.4s
MELA AML AML
comp=E,7030µm,0.4s
MELA AML AML
comp=N,7595µm,0.5s
MELA AML AML
comp=N,7465µm,0.5s
BRY Bratogost 2.14 17 *e*Pn **Pn 23 32 30.9 +0.3**
BRY Bratogost 2.14 17⇑*i*Pn **Pn 23 32 30.8 +0.2**
BRY *e*Sn **Sn 23 32 56.7 +0.5**
GATE Gambatesa 2.20 288 P **Pn 23 32 33.5 +2.1**
GATE AML AML
comp=N,2590µm,0.7s
GATE AML AML
comp=E,2035µm,1.0s
GATE AML AML
comp=N,2555µm,0.7s
GATE AML AML
comp=E,1975µm,1.0s
CIGN Sant'Elia a Pi 2.25 292 P **Pn 23 32 33.1 +1.1**
CIGN AML AML
comp=N,1875µm,0.6s
CIGN AML AML
comp=E,1335µm,0.9s
GRI Girifalco 2.25 206 P **Pn 23 32 32.2 +0.2**
GRI AML AML
comp=N,1108µm,1.0s
GRI AML AML
comp=N,1108µm,1.0s
GRI AML AML
comp=E,1190µm,0.6s
SACR S. Croce Del S 2.32 285 P **Pn 23 32 34.7 +1.7**
SACR AML AML
comp=N,1170µm,0.6s
SACR AML AML
comp=N,1170µm,0.5s
SACR AML AML
comp=E,952µm,0.7s
SACR AML AML
comp=E,912µm,0.7s
SACR AML AML
comp=N,1170µm,1.5s
SACR AML AML
comp=N,1170µm,1.4s
LSK Leskovik 2.32 107 P **Pn 23 32 34.1 +1.0**
baz=105
BCI Bajram Curri 2.34 49 P **Pn 23 32 34.5 +1.3**
baz=48
VITU Vitulano (BN) 2.34 279 P **Pn 23 32 34.7 +1.4**
VITU AML AML
comp=E,538µm,0.4s
VITU AML AML
comp=N,1875µm,0.5s
VITU AML AML
comp=E,1900µm,0.4s
VITU AML AML
comp=N,1935µm,0.5s
VITU AML AML
comp=N,1935µm,1.5s
VITU AML AML
comp=N,1875µm,1.5s
KBN Korca 2.36 95 P **Pn 23 32 34.8 +1.3**
baz=93
KBN Korca 2.36 95 **Pn 23 32 34.5 +1.0**
KBN Korca 2.36 95 P **Pn 23 32 35.5 +2.0**
OHR Ohrid 2.37 83 *i* Pn **Pn 23 32 35.7 +2.2**
OHR *e*Sn **Sn 23 33 03.1 +1.6**
IGT Igoumenitsa 2.41 122 P **Pn 23 32 35.0 +0.8**
baz=121
KOME Kolasin 2.42 34⇑*i*Pn **Pn 23 32 35.8 +1.5**
PVY Plav 2.43 43⇑*i*Pn **Pn 23 32 36.3 +1.8**
BSSO Busso 2.44 288 P **Pn 23 32 35.9 +1.3**
BSSO AML AML
comp=N,984µm,0.8s
BSSO AML AML
comp=N,388µm,0.8s
BSSO AML AML
comp=E,1195µm,0.8s
BSSO AML AML
comp=E,462µm,0.8s
NEVS Nevesinje 2.46 7 *e*Pn **Pn 23 32 35.4 +0.4**
VBKN Vesuvio Bunker 2.48 271 P **Pn 23 32 36.7 +1.5**
VBKN AML AML
comp=N,2930µm,0.5s
VBKN AML AML
comp=E,2660µm,0.8s
VTIR Vesuvio Tirone 2.48 270 P **Pn 23 32 36.5 +1.3**
VTIR AML AML
comp=N,532µm,0.3s
VTIR AML AML
comp=E,742µm,0.4s
CRTO Cratere Ovest, 2.48 270 P **Pn 23 32 37.0 +1.8**
CRTO AML AML
comp=E,6505µm,0.5s
CRTO AML AML
comp=N,2770µm,0.5s
CRTO AML AML
comp=E,6505µm,1.5s
CRTO AML AML
comp=N,2770µm,1.5s
MAKA Makarska 2.48 349 *e*Pn **Pn 23 32 35.3 +0.1**
HVAR Hvar 2.50 339 *e*Pn **Pn 23 32 35.3 -0.1**
HVAR Hvar 2.50 339 P **Pn 23 32 35.3 -0.1**
UPM Unac-Piva 2.52 21 *e*Pn **Pn 23 32 36.8 +1.0**
UPM Unac-Piva 2.52 21⇓*i*Pn **Pn 23 32 36.8 +1.0**
TRIV Trivento 2.54 292 P **Pn 23 32 37.3 +1.4**
TRIV AML AML
comp=N,1620µm,0.8s
TRIV AML AML
comp=N,1685µm,0.8s
TRIV AML AML
comp=E,1355µm,0.5s
TRIV AML AML
comp=E,1330µm,0.5s
SGG Gregorio Mates 2.56 283 P **Pn 23 32 38.2 +1.9**
SGG AML AML
comp=E,3.5nm,0.6s
SGG AML AML
comp=N,4.0nm,0.6s
SGG AML AML
comp=E,946µm,0.6s
SGG AML AML
comp=N,1280µm,0.6s
PLAC Placanica 2.59 202 ⇓P **Pn 23 32 36.3 -0.3**
PLAC AML AML
comp=E,506µm,0.9s
PLAC AML AML
comp=N,784µm,1.4s
IVA Berane 2.60 38⇑*i*Pn **Pn 23 32 38.6 +1.7**
JOPP Joppolo 2.64 212 ⇓P **Pn 23 32 36.8 -0.6**
JOPP AML AML
comp=E,426µm,1.6s
JOPP AML AML
comp=N,400µm,0.2s
JOPP AML AML
comp=E,426µm,0.4s
RICI Ricice 2.67 351 *e*Pn **Pn 23 32 38.0 +0.2**
PLE Pljevlja 2.78 26⇑*i*Pn **Pn 23 32 41.5 +2.2**
PLE *i* Sn **Sn 23 33 11.7 -0.2**
FNA Florina 2.79 90 P **Pn 23 32 41.1 +1.6**
baz=89
FNA Florina 2.79 90 Pn **Pn 23 32 41.1 +1.6**
ISTR Stromboli Gino 2.82 224 AML AML
comp=E,1170µm,0.3s
ISTR AML AML
comp=N,1154µm,0.4s
CEL Celeste 2.94 209 Pn **Pn 23 32 40.6 -0.9**
CEL Celeste 2.94 209 AML AML
comp=N,330µm,0.7s
CEL AML AML
comp=E,250µm,1.5s
CEL AML AML
comp=N,274µm,1.4s
CEL AML AML
comp=E,281µm,1.3s
CEL AML AML
comp=E,250µm,0.5s
SJES Sjenica 2.94 34 *e*Pn **Pn 23 32 42.4 +0.8**
SJES *e*Sn **Sn 23 33 14.3 -1.7**
SJES Sjenica 2.94 34 *e*Pn **Pn 23 32 43.6 +2.0**
RUDO Rudo 3.03 24 *e*Pn **Pn 23 32 43.4 +0.7**
SKO Skopje 3.03 67 *e*Pn **Pn 23 32 44.8 +2.1**
SKO *e*Sn **Sn 23 33 14.7 -3.2**
LKD2 Lefkada island 3.08 131 P **Pn 23 32 43.8 +0.5**
baz=130
ZIRJ Zirje 3.19 332 *e*Pn **Pn 23 32 44.7 -0.1**
ZIRJ Sn **Sn 23 33 19.1 -2.6**
T0110 Collepietro 3.24 296 AML AML
comp=E,906µm,1.5s
T0110 AML AML
comp=N,1013µm,0.4s
T0110 AML AML
comp=E,906µm,0.5s
BBLS Lazi&#263i 3.27 22 *e*Pn **Pn 23 32 47.2 +1.2**
BBLS *e*Sn **Sn 23 33 22.7 -1.2**
BBLS Lazi&#263i 3.27 22 *e*Pn **Pn 23 32 47.3 +1.2**
IVAS Ivanjica 3.28 33 *e*Pn **Pn 23 32 46.7 +0.6**
IVAS *e*Sn **Sn 23 33 22.6 -1.5**
KIJV Kijevo 3.29 344 *e*Pn **Pn 23 32 47.1 +0.8**
KIJV Sn **Sn 23 33 24.5 +0.1**
MORI Morici 3.35 335 *e*Pn **Pn 23 32 47.5 +0.4**
HAPS Han Pijesak,Bl 3.36 16 *e*Pn **Pn 23 32 48.6 +1.2**
HAPS *e*Sn **Sn 23 33 24.9 -1.4**
HAPS Han Pijesak,Bl 3.36 16 *e*Pn **Pn 23 32 48.3 +0.9**
FAGN Fagnano 3.39 296 AML AML
comp=E,1580µm,0.6s
FAGN AML AML
comp=N,1040µm,1.3s
FAGN AML AML
comp=N,1040µm,0.7s
FAGN AML AML
comp=E,1580µm,1.4s
SELS Selova 3.48 46 *e*Pn **Pn 23 32 49.4 +0.5**
SELS *e*Sn **Sn 23 33 28.6 -0.4**
MGRS Mrkonjic Grad 3.59 353 *e*Pn **Pn 23 32 53.9 +3.5**
CAMP Campotosto 3.62 299 **Pn 23 32 51.7 +0.8**
BARS Barje 3.65 56 *e*Pn **Pn 23 32 52.4 +1.2**
DIVS Divibare 3.66 27 *e*Pn **Pn 23 32 52.0 +0.6**
DIVS *e*Sn **Sn 23 33 30.9 -2.7**
PRVS Prvonek 3.67 62 *e*Pn **Pn 23 32 52.4 +0.8**
PRVS *e*Sn **Sn 23 33 32.7 -1.2**
DUGI Dugi Otok 3.69 329 *e*Pn **Pn 23 32 52.0 +0.2**
DUGI Sn **Sn 23 33 32.9 -1.4**
VAY Valandovo 3.71 81 *e*Pn **Pb 23 32 58.4 -3.3**
A050A Klekovaca 3.73 347 *e*Pn **Pn 23 32 53.9 +1.6**
LIT Litokhoron 3.73 100 **Pn 23 32 53.3 +0.9**
MTRA Matera 3.73 302 AML AML
comp=E,458µm,0.7s
MTRA AML AML
comp=E,453µm,0.6s
MTRA AML AML
comp=N,494µm,0.8s
MTRA AML AML
comp=N,380µm,1.3s
MTRA AML AML
comp=N,380µm,0.7s
MTRA AML AML
comp=E,453µm,1.4s
GRUS Gruza 3.77 35 *e*Pn **Pn 23 32 53.8 +1.0**
GRUS *e*Sn **Sn 23 33 34.4 -1.8**
ESLN Serra La Nave 3.79 215 AML AML
comp=E,2300µm,0.3s
ESLN AML AML
comp=N,1950µm,0.4s
BLY Banja Luka 3.91 355 *e*Pn **Pn 23 32 56.2 +1.4**
BLY *e*Sn **Sn 23 33 40.4 +0.7**
BLY Banja Luka 3.91 355 *e*Pn **Pn 23 32 56.0 +1.2**
TRUS Trudelj 3.92 30 *e*Pn **Pn 23 32 55.3 +0.4**
TRUS *e*Sn **Sn 23 33 38.6 -1.3**
GUMA Gualdo di Mace 3.93 306 **Pn 23 32 56.3 +1.2**
TEKS Tekeris 3.93 19 *e*Pn **Pn 23 32 55.0 -0.1**
TEKS *e*Sn **Sn 23 33 38.6 -1.6**
TEKS Tekeris 3.93 19 *e*Pn **Pn 23 32 54.8 -0.3**
UDBI Udbina 3.94 339 *e*Pn **Pn 23 32 56.8 +1.6**
VIRC Vir 3.95 331 *e*Pn **Pn 23 32 56.1 +0.8**
NRCA Norcia 3.95 302 **Pn 23 32 57.0 +1.6**
AGG Agios Georgios 4.00 116 Pn **Pn 23 32 58.0 +1.9**
GAVE Gavelli 4.03 299 AML AML
comp=E,321µm,0.3s
GAVE AML AML
comp=N,303µm,0.8s
PF6 Pievefavera 4.06 306 AML AML
comp=N,131µm,1.5s
PF6 AML AML
comp=E,292µm,1.1s
PF6 AML AML
comp=N,131µm,0.5s
PF6 AML AML
comp=E,292µm,0.9s
CAGR Agira 4.07 219 AML AML
comp=N,247µm,0.7s
CAGR AML AML
comp=E,313µm,1.6s
PRIJ Prijedor 4.18 350 *e*Pn **Pn 23 32 57.9 -0.6**
A051A Mrakovica 4.20 352 *e*Pn **Pn 23 33 00.0 +1.2**
CESX Cesi 4.21 296 Pn **Pn 23 33 00.4 +1.5**
A052A Srbac 4.25 358 *e*Pn **Pn 23 32 59.8 +0.4**
NVLJ Novalja 4.25 332 *e*Pn **Pn 23 33 00.2 +0.8**
NVLJ Sn **Sn 23 33 46.2 -1.8**
SVIS Svilajnac 4.29 36 *e*Sn **Sn 23 33 47.7 -1.2**
PLIT Plitvice 4.30 340 *e*Pn **Pn 23 33 02.1 +1.9**
A251A Rujevac 4.40 347 *e*Pn **Pn 23 33 02.9 +1.4**
ZAPS Zavoj 4.40 55 *e*Pn **Pn 23 33 03.0 +1.4**
ZAPS *e*Sn **Sn 23 33 50.3 -1.5**
RABC Rab 4.45 332 *e*Pn **Pn 23 33 03.0 +0.9**
RABC Sn **Sn 23 33 50.7 -2.1**
RAFF Raffo Rosso 4.46 217 Pn **Pn 23 33 02.1 -0.2**
ZAGS Zajecar 4.48 47 *e*Pn **Pn 23 33 02.8 +0.2**
ZAGS *e*Sn **Sn 23 33 51.2 -2.4**
FRGS Fruska Gora 4.57 19⇑P **Pn** 23 33 10.3 +6.4
FRGS Fruska Gora 4.57 19 *e*Pn **Pn 23 33 03.2 -0.7**
FRGS *e*Sn **Sn 23 33 53.8 -2.2**
FRGS Fruska Gora 4.57 19 *e*Pn **Pn 23 33 03.4 -0.5**
CLTB Caltabellotta 4.77 228 **Pn 23 33 08.7 +1.9**
MOSL Moslavina 4.81 352 *e*Pn **Pn 23 33 07.5 +0.3**
MDVR Moldovita 4.92 36 ⇓P **Pn 23 33 08.5 -0.1**
SMRN Sveta Marina 4.92 329 *e*Pn **Pn 23 33 09.0 +0.4**
BOJS Bojanci 4.98 340 *i* Pn **Pn 23 33 10.8 +1.3**
BOJS *e*Sn **Sn 23 34 05.4 -0.5**
BOJS IAML 23 34 57.1
comp=Z,120nm,0.9s
BOJS Bojanci 4.98 340 *e*Pn **Pn 23 33 10.3 +0.8**
BRJN Brijuni 4.98 326 *e*Pn **Pn 23 33 09.9 +0.5**
OZLJ Ozalj 5.03 342 *e*Pn **Pn 23 33 11.2 +1.0**
RIY Rijeka 5.05 333 *e*Pn **Pn 23 33 11.5 +1.1**
ZAG Zagreb 5.13 347 *e*Pn **Pn 23 33 12.5 +1.1**
GBRS Gornja Briga 5.13 337 *i* Pn **Pn 23 33 12.8 +1.3**
GBRS IAML 23 34 13.1
comp=Z,13nm,0.1s
PTJ Puntijarka 5.21 347 *e*Pn **Pn 23 33 12.8 +0.2**
KNDS Knezji Dol 5.26 334 *i* Pn **Pn 23 33 14.2 +0.7**
KNDS *e*Sn **Sn 23 34 11.2 -1.9**
KNDS IAML 23 34 15.1
comp=Z,20nm,0.1s
HERR Herculane 5.32 39⇑P **Pn 23 33 14.3 +0.2**
KALN Kalnik 5.35 351 *e*Pn **Pn 23 33 14.7 +0.1**
VISS Visnje 5.37 338 *i* Pn **Pn 23 33 16.0 +1.2**
VISS *e*Sn **Sn 23 34 13.7 -1.9**
VISS IAML 23 35 19.0
comp=Z,76nm,0.7s
MORH Mrgy, Hungar 5.41 7 ⇓P **Pn 23 33 15.2 -0.1**
LOBO Lobor 5.43 348 *e*Pn **Pn 23 33 16.1 +0.5**
CEY Cerknica 5.43 335 *e*Pn **Pn 23 33 16.0 +0.3**
CASP Castiglione de 5.46 293 Pn **Pn 23 33 17.1 +1.1**
OSSC Osservatorio P 5.48 301 Pn **Pn 23 33 17.2 +0.8**
BZS Buzias 5.56 30⇑P **Pn 23 33 21.0 +3.6**
VOJS Vojsko 5.87 333 *i* Pn **Pn 23 33 22.1 +0.3**
VOJS *e*Sn **Sn 23 34 25.4 -2.7**
VOJS IAML 23 34 30.5
comp=Z,22nm,0.1s
SABO M.te Sabotino 5.93 331 Pn **Pn 23 33 22.6 +0.1**
RDO Rodhopi 5.94 85 Pn **Pn 23 33 23.4 +1.3**
ZCCA Zocca 6.07 307 **Pn 23 33 25.7 +1.3**
OBKA Obir 6.10 339 *i* Pn **Pn 23 33 25.1 +0.2**
comp=Z,12nm,0.2s,SNR=31
OBKA *e*Sn **Sn 23 34 31.7 -1.9**
comp=Z,21nm,0.4s
OBKA Obir 6.10 339 *e*Pn **Pn 23 33 25.0 +0.1**
OBKA *e*Sn **Sn 23 34 31.8 -1.8**
OBKA Obir 6.10 339 *e*Pn **Pn 23 33 24.4 -0.5**
SIRR Siria 6.13 27⇑P **Pn 23 33 23.9 -1.4**
SOKA Soboth 6.13 343 *i* Pn **Pn 23 33 25.9 +0.5**
comp=Z,13nm,0.2s,SNR=64
DEV Deva 6.30 35⇑P Pn 23 33 33.5 +5.9
MYKA Terra Mystica 6.48 334 *i* Pn **Pn 23 33 31.3 +1.2**
comp=Z,1.8nm,0.1s
STAL STALIGIAL 6.50 328 **Pn 23 33 30.4 0.0**
VSL Villasalto 6.51 261 Pn **Pn 23 33 29.6 -0.9**
ARSA Arzberg 6.58 347 *i* Pn **Pn 23 33 32.4 +0.9**
comp=Z,13nm,0.2s,SNR=8.7
ARSA Arzberg 6.58 347 *e*Pn **Pn 23 33 31.8 +0.3**
CIMO Cimolais 6.66 327 **Pn 23 33 32.1 -0.4**
PGF Pioggiola 6.72 287 *e*P **Pn 23 33 35.7 +2.2**
CTI Castel Tesino 6.80 322 **Pn 23 33 34.5 -0.1**
RONA Rosalia, Austr 6.92 352 *e*Pn **Pn 23 33 36.9 +0.8**
comp=Z,4.6nm,0.2s,SNR=17
MSSA Maissana 6.96 303 Pn **Pn 23 33 36.9 +0.2**
KBA Koelnbreinsper 6.97 335 *e*Pn **Pn 23 33 37.3 +0.4**
comp=Z,5.3nm,0.3s,SNR=13
KBA *e*Sn **Sn 23 34 54.1 -1.0**
comp=Z,8.1nm,0.4s
KBA Koelnbreinsper 6.97 335 *e*Pn **Pn 23 33 37.7 +0.8**
KBA *e*Sn **Sn 23 34 51.9 -3.3**
ABTA Abfaltersbach 6.98 329 *i* Pn **Pn 23 33 37.3 +0.3**
comp=Z,3.3nm,0.1s,SNR=6.1
ABTA *e*Sn **Sn 23 34 52.6 -2.8**
comp=Z,4.3nm,0.2s
VOIR 7.07 47⇑P **Pn 23 33 41.0 +2.9**
SALO Salr 7.08 315 Pn **Pn 23 33 38.1 -0.2**
CONA Conrad Observa 7.20 350 *i* Pn **Pn 23 33 41.1 +1.1**
comp=Z,2.6nm,0.2s,SNR=20
PSZ Piszkesteto 7.24 12⇑P **Pn 23 33 44.1 +3.5**
PSZ Piszkesteto 7.24 12 Pn **Pn 23 33 40.8 +0.3**
MOA Molln 7.41 342 *i* Pn **Pn 23 33 43.8 +0.9**
comp=Z,3.3nm,0.1s,SNR=42
MOA *e*Sn **Sn 23 35 03.5 -2.4**
comp=Z,2.8nm,0.4s
MOA Molln 7.41 342 *e*Pn **Pn 23 33 43.9 +1.1**
MOA *e*Sn **Sn 23 35 02.6 -3.3**
BIOA Bad Ischl, Aus 7.43 338 *i* Pn **Pn 23 33 44.2 +1.1**
comp=Z,5.1nm,0.2s,SNR=12
BIOA *e*Sn **Sn 23 35 05.9 -0.4**
comp=Z,7.5nm,0.4s
LESA Schwarzleotal 7.49 333 *i* Pn **Pn 23 33 44.7 +0.7**
comp=Z,13nm,0.3s
LESA *e*Sn **Sn 23 35 06.1 -1.9**
comp=Z,6.6nm,0.4s
MODS Modra-Piesok 7.53 358 *e*PN **Pn 23 33 46.1 +1.7**
MLR Muntele Rosu 7.61 50⇑P Pn 23 33 38.5 -7.1
MLR Muntele Rosu 7.61 50 Pn **Pn 23 33 47.8 +2.2**
comp=Z,0.4nm,0.3s,baz=202,slow=5.4,SNR=3.1
MLR Sn **Sn 23 35 05.3 -5.5**
comp=Z,0.3nm,0.3s,baz=252,slow=20,SNR=3.0
comp=Z,1.9nm,0.5s
VYHS Vyhne 7.68 6 *e*PN **Pn 23 33 49.0 +2.4**
VYHS *e*SN Sb 23 35 31.8 -8.4
WTTA Wattenberg 7.75 328 *i* Pn **Pn 23 33 48.1 +0.4**
comp=Z,5.1nm,0.2s,SNR=19
WTTA Wattenberg 7.75 328 *e*Pn **Pn 23 33 48.1 +0.4**
WTTA *e*Sn **Sn 23 35 12.5 -1.9**
WATA Walderalm 7.83 328 *i* Pn **Pn 23 33 49.6 +0.8**
comp=Z,5.3nm,0.2s,SNR=17
FUORN Ofenpass-Fuorn 7.88 319 **Pn 23 33 50.5 +0.9**

SQTA	**Sankt Quirin**	**7.89**	**326**	*e*Pn		**Pn**	**23 33 50.2**	**+0.6**
	comp=Z,1.1nm,0.1s,SNR=9.2							
IDI	**Anoyia**	**7.94**	**132**	Pn		**Pn**	**23 33 49.7**	**-0.5**
IDI	**Anoyia**	**7.94**	**132**	Pn		**Pn**	**23 33 48.6**	**-1.5**
	baz=264,slow=5.8,SNR=40							
IDI				Sn		**Sn**	**23 35 12.6**	**-6.4**
	comp=Z,0.1nm,0.3s,baz=323,slow=20,SNR=6.2							
FETA	**Feichten**	**7.95**	**323**	*i* Pn		**Pn**	**23 33 51.3**	**+0.9**
	comp=Z,0.5nm,0.1s							
FETA				*e*Sn		**Sn**	**23 35 16.6**	**-2.7**
	comp=Z,3.7nm,0.4s							
JAVC	**Velka Javorina**	**8.01**	**360**	*e*PN		**Pn**	**23 33 54.1**	**+3.1**
MOTA	**Moosalm**	**8.04**	**326**	*i* Pn		**Pn**	**23 33 52.5**	**+0.9**
	comp=Z,2.8nm,0.3s,SNR=7.0							
PART	**Garmisch-Parte**	**8.15**	**327**	*e*Pn		**Pn**	**23 33 54.8**	**+1.7**
PART				*e*Sn		**Sn**	**23 35 23.4**	**-0.7**
DAVOX	**Davos/Dischmat**	**8.19**	**319**	Pn		**Pn**	**23 33 54.6**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=141,slow=17,SNR=17							
DAVOX				Sn		**Sn**	**23 35 22.6**	**-2.5**
	comp=Z,1.5nm,0.3s,baz=128,slow=19,SNR=2.3							
DAVOX				LR		LR	23 38 23.8	
	comp=Z,32nm,19.2s,baz=113,slow=48							
	comp=Z,2.7nm,0.3s							
TUE	**Stuetta**	**8.25**	**316**	Pn		**Pn**	**23 33 55.0**	**+0.4**
KRUC	**Moravsky**	**8.26**	**354**	*e*PN		**Pn**	**23 33 54.8**	**+0.3**
RETA	**Reutte**	**8.29**	**325**	*e*Pn		**Pn**	**23 33 56.0**	**+1.0**
	comp=Z,1.0nm,0.2s,SNR=6.0							
KEST	**Kesra**	**8.32**	**235**	Pn		**Pn**	**23 33 54.3**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=29,slow=24,SNR=1.2							
	comp=Z,4.9nm,1.0s							
CKRC	**Cesky Krumlov**	**8.32**	**344**	*e*PN		**Pn**	**23 33 55.8**	**+0.5**
OBER	**Oberstdorf**	**8.44**	**323**	*e*Sn		**Sn**	**23 35 29.8**	**-1.4**
GEC2	**GERESS Array S**	**8.48**	**342**	Pn		**Pn**	**23 33 57.5**	**-0.1**
GEC2	**GERESS Array S**	**8.48**	**342**	*e*Pn		**Pn**	**23 33 57.9**	**+0.3**
GEC2				*e*Sn		**Sn**	**23 35 27.3**	**-4.9**
GERES	**GERESS Array B**	**8.48**	**342**	Pn		**Pn**	**23 33 56.5**	**-1.1**
GERES	**GERESS Array B**	**8.48**	**342**	Pn		**Pn**	**23 33 58.2**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=152,slow=11,SNR=16							
GERES				Sn		**Sn**	**23 35 26.8**	**-5.4**
	comp=Z,1.1nm,0.3s,baz=150,slow=23,SNR=5.2							
GERES				LR		LR	23 37 52.5	
	comp=Z,128nm,19.3s,baz=146,slow=42							
	comp=Z,1.0nm,0.3s							
VRAC	**Vranov**	**8.49**	**355**	*e*PN		**Pn**	**23 33 58.5**	**+0.9**
VRAC	**Vranov**	**8.49**	**355**	Pn		**Pn**	**23 33 58.3**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=187,slow=16,SNR=2.2							
VRAC				Sn		**Sn**	**23 35 29.8**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=173,slow=16,SNR=1.4							
VRAC				LR		LR	23 37 25.9	
	comp=Z,68nm,18.5s,baz=173,slow=39							
	comp=Z,1.0nm,0.4s							
MAUC	**Maruska**	**8.51**	**1**	*e*PN		**Pn**	**23 34 00.2**	**+2.2**
DAVA	**Damuels**	**8.54**	**321**	*i* Pn		**Pn**	**23 33 59.6**	**+1.1**
	comp=Z,4.6nm,0.2s,SNR=11							
DAVA				*e*Sn		**Sn**	**23 35 31.2**	**-2.6**
	comp=Z,3.4nm,0.3s							
DAVA	**Damuels**	**8.54**	**321**	*e*Pn		**Pn**	**23 34 00.4**	**+1.9**
DAVA				*e*Sn		**Sn**	**23 35 31.0**	**-2.8**
PLONS	**Plons/SG**	**8.62**	**319**	*e*Pn		**Pn**	**23 34 01.2**	**+1.7**
PLONS				*e*Sn		**Sn**	**23 35 30.9**	**-4.7**
FUR	**Furstenfeldbru**	**8.63**	**330**	*e*Pn		**Pn**	**23 34 00.1**	**+0.6**
BURAR	**Bucovina Array**	**8.65**	**36**	⇓P		**Pn**	**23 34 02.0**	**+2.1**
BURAR	**Bucovina Array**	**8.65**	**36**	Pn		**Pn**	**23 34 00.6**	**+0.7**
BUR08	**Bucovina Ar. S**	**8.66**	**36**	Pn		**Pn**	**23 34 01.9**	**+1.8**
LMR	**La Mourre**	**8.68**	**290**	*e*P		**Pn**	**23 34 03.6**	**+3.4**
UBR	**Ueberruh**	**8.73**	**324**	*e*Pn		**Pn**	**23 34 00.7**	**-0.3**
UBR				*e*Sn		**Sn**	**23 35 35.6**	**-2.6**
KHC	**Kasperske Hory**	**8.78**	**342**	Pn		**Pn**	**23 34 01.8**	**+0.2**
KHC	**Kasperske Hory**	**8.78**	**342**	*e*PN		**Pn**	**23 34 01.6**	**0.0**
KHC				*e*SN		**Sn**	**23 35 36.6**	**-2.8**
MBDF	**Montbardon**	**8.91**	**299**	*e*Pn		**Pn**	**23 34 01.8**	**-1.8**
MBDF				*e*Sn		**Sn**	**23 35 35.7**	**-7.3**
	comp=Z,1.5nm,0.3s							
MORC	**Moravsky Berou**	**8.93**	**359**	⇓P		Pn	23 33 58.9	-4.7
MORC	**Moravsky Berou**	**8.93**	**359**	Pn		**Pn**	**23 34 05.0**	**+1.3**
MORC	**Moravsky Berou**	**8.93**	**359**	*e*PN		**Pn**	**23 34 05.8**	**+2.2**
ZVC	**Zvikov**	**8.94**	**345**	*e*PN		**Pn**	**23 34 03.9**	**+0.2**
WET	**Wettzell**	**8.96**	**339**	*e*Pn		**Pn**	**23 34 04.1**	**-0.1**
WET				*e*Sn		**Sn**	**23 35 39.8**	**-4.1**
LPG	**La Plagne**	**9.24**	**304**	*e*Pn		**Pn**	**23 34 06.4**	**-1.8**
LPG				*e*Sn		**Sn**	**23 35 44.6**	**-6.6**
	comp=Z,4.3nm,0.3s							
LPL	**La Plagne**	**9.26**	**304**	*e*Pn		**Pn**	**23 34 06.7**	**-1.7**
LPL				*e*Sn		**Sn**	**23 35 44.1**	**-7.5**
	comp=Z,11nm,0.5s							
NORI	**Noerdlinger Ri**	**9.33**	**330**	*e*Pn		**Pn**	**23 34 08.5**	**-0.6**
NORI				*e*Sn		Sn	23 35 43.4	-10
SENIN	**Lac Senin/Sane**	**9.33**	**310**	Pn		**Pn**	**23 34 09.1**	**-0.3**
ARG	**Arkhangelos**	**9.39**	**116**	Pn		**Pn**	**23 34 12.1**	**+2.1**
PRU	**Pruhonice**	**9.40**	**347**	*e*PN		**Pn**	**23 34 10.6**	**+0.5**
ORIF	**Oris-en-Rattie**	**9.57**	**299**	*e*Pn		**Pn**	**23 34 11.1**	**-1.5**
SULZ	**Cheisacher**	**9.58**	**317**	*e*Sn		Sn	23 35 50.0	-9.2
BALST	**Balsthal**	**9.68**	**315**	*e*Pn		**Pn**	**23 34 13.4**	**-0.6**
BALST				*e*Sn		**Sn**	**23 35 53.8**	**-7.8**
ROTZ	**Rotzenmuhle**	**9.71**	**338**	*e*Pn		**Pn**	**23 34 14.5**	**+0.1**
ROTZ				*e*Sn		**Sn**	**23 35 54.4**	**-7.9**
MANZ	**Manzenberg**	**9.94**	**339**	*e*Pn		**Pn**	**23 34 16.8**	**-0.7**
GRFO	**Grafenberg**	**9.94**	**335**	Pn		**Pn**	**23 34 17.3**	**-0.2**
GRA1	**Grafenberg Arr**	**9.94**	**335**	Pn		**Pn**	**23 34 17.0**	**-0.5**
GRF	**Grafenberg Arr**	**9.94**	**335**	*e*Pn		**Pn**	**23 34 16.7**	**-0.8**
BFO	**Black Forest**	**10.02**	**321**	*e*Pn		**Pn**	**23 34 18.3**	**-0.2**
BFO				*e*Sn		Sn	23 36 01.6	-8.2
NKC	**Novy Kostel**	**10.07**	**340**	*e*PN		**Pn**	**23 34 20.6**	**+1.3**
CABF	**La Chapelle**	**10.18**	**308**	*e*Pn		**Pn**	**23 34 19.3**	**-1.5**
TANN	**Tannenbergstha**	**10.24**	**341**	*e*Pn		**Pn**	**23 34 21.9**	**+0.3**
ELL	**Elmali**	**10.38**	**109**	Pn		**Pn**	**23 34 26.9**	**+3.3**
HINF	**Hinteralfeld**	**10.42**	**316**	*e*Pn		**Pn**	**23 34 22.2**	**-1.9**
HINF				*e*Sn		Sn	23 36 10.6	-9.2
	comp=Z,4.6nm,0.2s							
ECH	**Echery**	**10.52**	**318**	Pn		**Pn**	**23 34 25.2**	**-0.2**
CDF	**Champ du Feu**	**10.59**	**319**	*e*Pn		**Pn**	**23 34 26.3**	**-0.1**
CDF				*e*Sn		Sn	23 36 15.2	-8.7
MOX	**Moxa**	**10.67**	**339**	*e*Pn		**Pn**	**23 34 26.8**	**-0.7**
MOX				*e*Sn		**Sn**	**23 36 18.3**	**-7.5**
MILB	**Miltenberg**	**10.74**	**329**	*e*Pn		**Pn**	**23 34 29.3**	**+0.9**
HAU	**Haudompre**	**10.81**	**315**	*e*Pn		**Pn**	**23 34 27.8**	**-1.6**
HAU				*e*Sn		Sn	23 36 20.6	-8.6
	comp=Z,20nm,0.4s							
HROE	**Hohe Rhon--Fla**	**11.02**	**334**	*e*Pn		**Pn**	**23 34 31.5**	**-0.8**
SPAHL	**Spahl**	**11.20**	**334**	*e*Pn		**Pn**	**23 34 34.4**	**-0.4**
TNS	**Taunus Mts**	**11.38**	**328**	*e*Pn		**Pn**	**23 34 38.2**	**+1.3**
PAGF	**Fort de Pagny**	**11.47**	**316**	*e*Pn		**Pn**	**23 34 39.2**	**+0.8**
PAGF				*e*Sn		**Sn**	**23 36 38.7**	**-6.8**
	comp=Z,2.2nm,0.3s							
SMF	**Signal de Mont**	**11.57**	**305**	*e*Pn		**Pn**	**23 34 37.7**	**-2.0**
SMF				*e*Sn		Sn	23 36 38.2	-10
	comp=Z,1.9nm,0.2s							
SFTF	**Sexfontaines**	**11.64**	**313**	*e*Pn		**Pn**	**23 34 39.5**	**-1.2**
SFTF				*e*Sn		**Sn**	**23 36 42.4**	**-7.1**
	comp=Z,1.7nm,0.2s							
MEZF	**Maizieres J'vi**	**11.80**	**315**	*e*Sn		**Sn**	**23 36 45.6**	**-7.8**
	comp=Z,3.0nm,0.3s							
LOR	**Lormes**	**11.83**	**307**	*e*Pn		**Pn**	**23 34 41.3**	**-2.1**
LOR				*e*Sn		Sn	23 36 44.6	-10
	comp=Z,4.5nm,0.3s							
AVF	**Avril sur Loir**	**11.93**	**305**	*e*Pn		**Pn**	**23 34 42.8**	**-1.9**
AVF				*e*Sn		**Sn**	**23 36 49.3**	**-7.4**
	comp=Z,0.6nm,0.3s							
SSF	**Saint Saulge**	**11.95**	**306**	*e*Pn		**Pn**	**23 34 42.9**	**-2.1**
SSF				*e*Sn		Sn	23 36 47.5	-10
	comp=Z,0.9nm,0.2s							
CLZ	**Clausthal**	**12.09**	**338**	*e*Pn		P	23 34 53.6	-5.7
BGF	**Bois d'Agland**	**12.16**	**303**	*e*Pn		**Pn**	**23 34 45.8**	**-2.0**
BGF				*e*Sn		**Sn**	**23 36 54.7**	**-7.5**
	comp=Z,2.8nm,0.3s							
BRTR	**Keskin Array B**	**12.23**	**90**	Sn		**Sn**	**23 36 56.3**	**-8.0**
	comp=Z,0.2nm,0.3s,baz=277,slow=35,SNR=2.1							
TCF	**Toulx Ste Croi**	**12.47**	**301**	*e*Pn		**Pn**	**23 34 52.9**	**+0.8**
TCF				*e*Sn		**Sn**	**23 37 02.1**	**-7.8**
	comp=Z,0.4nm,0.2s							
AKASG	**Malin Array Be**	**12.70**	**35**	Pn		**Pn**	**23 34 54.8**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=234,slow=13,SNR=2.1							
AKASG				LR		LR	23 40 01.7	
	comp=Z,34nm,20.8s,baz=222,slow=38							
	comp=Z,0.3nm,0.5s							
CSS	**Mathiatis**	**13.67**	**110**	Pn		**Pn**	**23 35 08.3**	**-0.2**
PABE	**Paberze**	**15.24**	**14**	Pn		**Pn**	**23 35 29.2**	**-0.3**
PABE				P		**P**	**23 35 35.0**	**+0.8**
PABE				IAmb		IAmb	23 35 35.7	
	comp=Z,9.6nm,0.9s							
NACGM	**Naroch**	**15.30**	**20**	*e*P		**P**	**23 35 35.4**	**+0.5**
	comp=Z,17nm,0.9s,baz=208							
ARPR	**Arapgir-MALATY**	**15.92**	**90**	Pn		**Pn**	**23 35 39.7**	**+1.0**
MMAI	**Mount Meron Ar**	**16.16**	**113**	Pn		**Pn**	**23 35 38.6**	**-3.1**
	comp=Z,2.8nm,0.3s,baz=302,slow=13,SNR=26							
MMAI				LR		LR	23 43 13.4	
	comp=Z,31nm,19.3s,baz=199,slow=42							
GHAJ	**Ghor Haditha**	**17.28**	**118**	Pn		**Pn**	**23 35 54.2**	**-1.6**
EIL	**Elat**	**17.94**	**123**	P		**Pn**	**23 36 01.7**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=343,slow=3.3,SNR=11							
	comp=Z,4.3nm,0.6s							
HFS	**Hagfors**	**19.46**	**354**	P		**Pn**	**23 36 22.6**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=163,slow=11,SNR=12							
	comp=Z,3.2nm,0.8s							
EKA	**Eskdalemuir Ar**	**19.98**	**323**	P		Pn	23 36 27.8	-0.5
	comp=Z,1.5nm,0.6s,baz=113,slow=7.8,SNR=11							
	comp=Z,1.5nm,0.6s							
NC602	**NORSAR Array S**	**20.27**	**351**	P		**P**	**23 36 30.6**	**+1.1**
NC602				IAmb		IAmb	23 36 41.0	
	comp=Z,9.1nm,1.0s							
DSB	**Dublin**	**20.44**	**315**	P		**P**	**23 36 31.8**	**+0.4**
NAO01	**NORSAR Array S**	**20.45**	**350**	P		**P**	**23 36 32.8**	**+1.2**
NAO01				IAmb		IAmb	23 36 44.4	
	comp=Z,10nm,1.0s							
NB2	**NORSAR Subarra**	**20.60**	**351**	P		**P**	**23 36 33.4**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=166,slow=11							
NB201	**NORSAR Array S**	**20.60**	**351**	P		**P**	**23 36 34.5**	**+1.3**
NB201				IAmb		IAmb	23 36 42.6	
	comp=Z,9.1nm,1.0s							
NOA	**NORSAR Array B**	**20.60**	**351**	P		**P**	**23 36 33.6**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=164,slow=9.7,SNR=5.1							
NOA				LR		LR	23 45 13.3	
	comp=Z,26nm,19.9s,baz=180,slow=39							
	comp=Z,0.4nm,0.5s							
NC405	**NORSAR Array S**	**20.62**	**352**	P		**P**	**23 36 34.1**	**+0.8**
NC405				IAmb		IAmb	23 36 38.2	
	comp=Z,7.1nm,0.9s							
NBO00	**NORSAR Array S**	**20.65**	**350**	P		**P**	**23 36 35.0**	**+1.4**
NBO00				IAmb		IAmb	23 36 48.3	
	comp=Z,10nm,1.1s							
TAM	**Tamanrasset**	**20.73**	**213**	P		**P**	**23 36 35.4**	**+0.4**
NC303	**NORSAR Array S**	**20.77**	**351**	P		**P**	**23 36 35.9**	**+1.0**
NC303				IAmb		IAmb	23 36 54.5	
	comp=Z,6.5nm,1.0s							
NC204	**NORSAR Array S**	**20.89**	**351**	P		**P**	**23 36 37.5**	**+1.2**
FINES	**FINESS Array B**	**21.24**	**11**	P		**P**	**23 36 40.2**	**+0.1**
FINES	**FINESS Array B**	**21.24**	**11**	P		**P**	**23 36 39.8**	**-0.3**
	comp=Z,3.9nm,0.5s,baz=178,slow=9.7,SNR=37							
FINES				LR		LR	23 46 22.4	
	comp=Z,53nm,18.6s,baz=204,slow=41							
	comp=Z,3.9nm,0.5s							
FIA1	**FINESS Array S**	**21.25**	**11**	P		**P**	**23 36 39.9**	**-0.2**
ARU	**Arti**	**30.63**	**46**	P		**P**	**23 38 08.3**	**+0.3**
ARU	**Arti**	**30.63**	**46**	LR		LR	23 51 08.2	
	comp=Z,40nm,18.9s,baz=249,slow=38							
ABKAR	**Akbulak array**	**30.67**	**60**	P		**P**	**23 38 08.3**	**-0.1**
TORD	**Torodi Ar. Bea**	**30.95**	**211**	P		**P**	**23 38 10.5**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=22,slow=9.5,SNR=13							
	comp=Z,0.7nm,0.8s							
BRVK	**Borovoye**	**37.09**	**53**	P		**P**	**23 39 05.7**	**+1.6**
BRVK				IAmb		IAmb	23 39 15.6	
	comp=Z,2.7nm,0.8s							
BVAR	**Borovoye Array**	**37.16**	**53**	P		**P**	**23 39 05.4**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=269,slow=5.8,SNR=5.8							
BVAR				LR		LR	23 56 32.6	
	comp=Z,27nm,18.7s,baz=186,slow=40							
	comp=Z,0.8nm,0.7s							
SPITS	**Spitsbergen Ar**	**37.44**	**360**	P		**P**	**23 39 07.8**	**+1.0**
	comp=Z,11nm,1.0s,baz=126,slow=7.3,SNR=1.5							
	comp=Z,11nm,1.0s							
DBIC	**Dimbokro**	**39.55**	**217**	P		**P**	**23 39 24.2**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=33,slow=8.1,SNR=6.2							
	comp=Z,1.1nm,0.3s							
NRIK	**Noril'sk**	**45.42**	**28**	P		**P**	**23 40 13.0**	**+0.7**
	comp=Z,1.6nm,0.5s,baz=267,slow=4.6,SNR=6.2							
	comp=Z,1.6nm,0.5s							
ZALV	**Zalesovo Beam**	**45.58**	**50**	P		**P**	**23 40 14.6**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=302,slow=8.5,SNR=2.2							
	comp=Z,0.6nm,0.4s							
MKAR	**Makanchi Array**	**45.81**	**60**	P		**P**	**23 40 16.6**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=278,slow=7.6,SNR=17							
	comp=Z,0.5nm,0.5s							
WMQ	**Urumqi**	**50.40**	**62**	*e*P		**P**	**23 40 55.6**	**+4.3**
WMQ				pmax		pmax		
	comp=Z,13nm,0.9s							
SONM	**Songino Array**	**60.46**	**51**	P		**P**	**23 42 04.6**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=287,slow=7.1,SNR=5.2							
	comp=Z,0.7nm,0.8s							
HHC	**Hu-ho-hao-te**	**67.31**	**55**	*e*P		**P**	**23 42 50.8**	**+2.0**
HHC				pmax		pmax		
	comp=Z,11nm,0.7s							
HHC				pmax		pmax		
	comp=Z,120nm,5.5s							
PZH	**PanZhiHua**	**68.92**	**73**	P		**P**	**23 43 01.4**	**+2.3**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.7s							
PZH				pmax		pmax		
	comp=Z,100nm,5.4s							
BOSA	**Boshof**	**69.47**	**173**	P		**P**	**23 43 03.0**	**+0.8**
	comp=Z,3.3nm,1.0s,baz=355,slow=8.1,SNR=4.4							
	comp=Z,3.3nm,1.0s							
YKA	**Yellowknife Ar**	**70.12**	**339**	P		**P**	**23 43 06.6**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=31,slow=5.3,SNR=5.6							
	comp=Z,0.4nm,0.8s							
ILAR	**Eielson Array**	**74.02**	**353**	P		**P**	**23 43 30.0**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=21,slow=5.8,SNR=2.1							
	comp=Z,0.2nm,0.6s							
TXAR	**Lajitas Array**	**91.56**	**312**	P		**P**	**23 45 01.2**	**+0.3**
	comp=Z,0.4nm,0.9s,baz=74,slow=3.9,SNR=3.6							
	comp=Z,0.4nm,0.9s							

TAP 23 23:34:40.7,24°02N×121°76E,h26km,ML1.6,1D,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.15**	**252**	P	Pb	23 34 45.6	-0.3
	baz=259						
HWA				S	Sb	23 34 50.7	+1.2
	baz=259						
TWD	**Chiawan**	**0.16**	**291**	*i* P	Pb	23 34 45.9	-0.2
	baz=293						
TWD				*i* S	Sb	23 34 50.0	+0.3
	baz=293						
ETL	**Fush Village**	**0.18**	**317**	*i* P	Pb	23 34 46.4	0.0
	baz=316						
ETL				*e*S	Sb	23 34 51.1	+0.9
	baz=316						
NACB	**Ninganchiao**	**0.21**	**315**	⇓*i* P	Pb	23 34 46.6	-0.1
	baz=315						
NACB				S	Sb	23 34 50.9	+0.2
	baz=315						
ETM	**Tongmen**	**0.25**	**257**	P	Pb	23 34 47.1	0.0
	baz=257						
ETM				*e*S	Sb	23 34 51.6	0.0
	baz=257						
SHUL	**Shoufeng**	**0.29**	**218**	*e*P	Pn	23 34 49.3	-0.1
	baz=220						
SHUL				*e*S	Sn	23 34 54.0	-0.9
	baz=220						
ETLH	**Xiulin Townshi**	**0.31**	**306**	*i* P	Pb	23 34 48.3	+0.2
	baz=306						
ETLH				S	Sb	23 34 53.2	+0.1
	baz=306						
LXIB	**Xiulin Townshi**	**0.32**	**270**	*i* P	Pb	23 34 48.2	0.0
	baz=270						
LXIB				S	Sb	23 34 53.7	+0.4
	baz=270						
ENA	**Nanau**	**0.40**	**358**	*e*P	Pb	23 34 49.9	+0.4
	baz=351						
ENA				*e*S	Sb	23 34 56.4	+1.1
	baz=351						
EWUT	**Wuta**	**0.42**	**2**	S	Sb	23 34 56.5	+0.7
	baz=355						
WARBT	**Fenglin Townsh**	**0.46**	**228**	*e*P	Pb	23 34 48.8	-1.5
	baz=239						
WARBT				*i* S	Sn	23 34 58.1	-0.8
	baz=239						
WHF	**Hehuan Shan**	**0.47**	**285**	P	Pb	23 34 51.1	+0.4
	baz=277						
WHF				*i* S	Sb	23 34 58.1	+0.5
	baz=277						
EOS4	**EOS4**	**0.52**	**79**	P	Pb	23 34 51.5	+0.4
	baz=90						
EOS4				S	Sn	23 34 59.5	-0.4
	baz=90						
FUSS	**Fushou**	**0.52**	**296**	*i* P	Pb	23 34 51.7	+0.2
	baz=295						
FUSS				*i* S	Sb	23 34 59.7	+0.8
	baz=295						
NNSB	**Datong**	**0.53**	**320**	P	Pb	23 34 52.0	+0.4
	baz=319						
NNSB				S	Sn	23 35 00.2	-0.7
	baz=319						
CHGB	**Renai**	**0.54**	**274**	*i* P	Pb	23 34 52.0	+0.2
	baz=266						
CHGB				*i* S	Sn	23 35 00.3	-0.8
	baz=266						
OWD	**Renai**	**0.54**	**263**	*i* P	Pb	23 34 52.0	+0.3
	baz=263						
OWD				*e*S	Sb	23 34 59.7	+0.5
	baz=263						
NNS	**Nan Shan**	**0.55**	**320**	*e*P	Pn	23 34 53.9	+1.0
	baz=320						
NNS				S	Sn	23 35 00.5	-0.7
	baz=320						
LATG	**Datong**	**0.55**	**337**	*e*P	Pn	23 34 52.7	-0.3
	baz=329						
LATG				S	Sb	23 35 00.4	+0.9
	baz=329						
WUSB	**Renai**	**0.59**	**267**	P	Pb	23 34 52.5	-0.1
	baz=267						
WUSB				S	Sb	23 35 01.3	+0.8
	baz=267						
YHNB	**Yeheng**	**0.73**	**332**	*e*P	Pn	23 34 55.9	+0.4
	baz=319						
YHNB				*i* S	Sn	23 35 05.7	-0.1
	baz=319						
NSK	**Sanguang**	**0.75**	**331**	*e*P	Pb	23 34 52.6	-2.6
	baz=319						
NSK				*e*S	Sb	23 35 04.0	-1.1
	baz=319						

JMA 23 23:35:23.8±0.2,24°2N±0'.4×123°8E±0'.5,h16km±1km, MV0.8/6,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.13**	**317**	*e*S	Sg	23 35 30.1	+0.1
JKRS	**Kuro-shima**	**0.17**	**91**	P	Pg	23 35 27.9	0.0
JKRS				*e*S	Sg	23 35 31.1	+0.3
HATJ	**Hateruma jima**	**0.18**	**187**	*e*P	Pg	23 35 28.1	-0.2
HATJ				S	Sg	23 35 31.5	+0.3
JIJ	**Ishigaki jima**	**0.31**	**67**	P	Pg	23 35 30.2	-0.1
JIJ				S	Sg	23 35 34.5	-0.3
JISG	**Ishigakijimahi**	**0.56**	**52**	P	Pg	23 35 34.9	0.0
JISG				S	Sg	23 35 42.7	+0.3

NEIC ***23*** *23:36:45.8±0.5,36°64N±0'.02×99°00W±0'.03,h5km±1km, Error ellipse: s-maj=4.3km s-min=3.0km az=273.0*
TUL ***23*** *23:36:45.6±0.6,36°66N±0'.02×99°02W±0'.04,h6km±5km, ML2.9,mb_Lg2.6/38(NEIC),ML2.9/10(NEIC), Error ellipse: s-maj=4.5km s-min=2.4km az=103.0*
ANF ***23*** *23:36:46.4±0.6,36°64N×99°07W,h4km±4km,ML3.4/5, Error ellipse: s-maj=5.5km s-min=2.9km az=78.0*

ISC 23 23:36:46.8±1.0,36°65N±0'.02×98°96W±0'.03,h10km±9km, n67,σ0°86/62,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK035	**E0210 Rd and N**	**0.21**	**73**	Pg	**Pg**	**23 36 51.1**	**-0.1**
OK035				Sg	**Sg**	**23 36 54.7**	**+0.4**
OK035				IAML		23 36 55.4	
	3μm,0.2s						
OK035				IAML		23 36 57.0	
	2μm,0.2s						
OK038	**West end E0370**	**0.24**	**133**	Pg	**Pg**	**23 36 51.7**	**-0.1**
OK038				Sg	**Sg**	**23 36 56.0**	**+0.9**
U32A	**Winter Ranch,**	**0.27**	**186**	Pg	**Pg**	**23 36 51.4**	**-0.8**
U32A				Sg	**Sg**	**23 36 55.6**	**-0.2**
U32A				IAML		23 36 56.2	
	comp=N,1μm,0.1s						
U32A	**Winter Ranch,**	**0.27**	**186**	P	**Pg**	**23 36 51.4**	**-0.8**
	baz=356						
U32A				S	**Sg**	**23 36 55.7**	**-0.2**
	baz=356						
**OK032

comp=Z,6.8nm,1.0s
Q24A Divide 5.42 297 IAmb_Lg 23 39 40.9
comp=Z,8.4nm,0.8s
X40A Basin Creek Fa 5.44 112 IAmb_Lg 23 39 50.7
comp=Z,15nm,1.1s
FCAR Ozark Folk Cen 5.58 96 IAmb_Lg 23 39 43.8
comp=Z,8.0nm,0.8s
UALR University of 5.70 107 IAmb_Lg 23 39 53.9
comp=Z,16nm,1.0s
K30B Basset 6.04 355 IAmb_Lg 23 40 10.5
comp=Z,12nm,0.7s
P40A Paris 6.17 60 IAmb_Lg 23 40 03.5
comp=Z,12nm,0.7s
CCM Cathedral Cave 6.31 75 IAmb_Lg 23 40 16.2
comp=Z,11nm,1.1s
N23A Red Feather La 6.91 310 IAmb_Lg 23 40 30.1
comp=Z,10nm,0.8s

*IDC **24** 00:04:48.8±1.8,31°.20S×177°.80W,h0km,mb3.7/3, mbtmp3.7/4, ML3.0/1, Error ellipse: s-maj=46.1km s-min=37.7km az=68.0*
ISC 24 00:04:54.8±1.6,31°.4S±0°.2×178°.0W±0°.3,h35km,n6, σ0s86/7,mb3.6/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.96**	**209**	Pn	**Pn**	**00 06 47.0**	**-1.0**
	2.0nm,0.3s,baz=86,slow=22,SNR=1.2						
URZ				Sn	**Sn**	**00 08 17.2**	**+0.4**
	0.6nm,0.3s,baz=271,slow=19,SNR=1.8						
	2.7nm,0.5s						
ASAR	**Alice Springs**	**43.10**	**268**	P	**P**	**00 12 52.6**	**+0.8**
	0.7nm,0.7s,baz=103,slow=7.6,SNR=6.6						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**44.18**	**273**	P	**P**	**00 13 00.6**	**0.0**
	0.4nm,0.4s,baz=111,slow=7.9,SNR=15						
	0.4nm,0.4s						
QSPA	**South Pole Qui**	**58.73**	**180**	P	**P**	**00 14 49.7**	**+0.8**
	1.2nm,0.9s,baz=57,slow=1.4,SNR=2.2						
	1.2nm,0.9s						
FINES	**FINESS Array B**	**146.08**	**339**	PKPbc	**PKPdf**	**00 24 28.9**	**-0.5**
	1.2nm,0.7s,baz=48,slow=2.8,SNR=6.4						
MMAI	**Mount Meron Ar**	**151.79**	**282**	PKPbc	**PKPbc**	**00 24 45.6**	**-0.5**
	0.5nm,0.5s,baz=106,slow=5.1,SNR=1.6						

*SOF **24** 00:20:40.7,41°.14N±0°.01×24°.36E,h12km±1km,MD3.0/9*
*ATH **24** 00:20:42.2,41°.17N×24°.33E,h14km, ML2.6/10, Error ellipse: s-maj=1.6km s-min=0.8km az=204.0*
*BEO **24** 00:20:42.7±0.7,41°.10N×24°.28E,h15km±3km, ML2.6/10*
*THE **24** 00:20:42.2,41°.16N×24°.32E,h12km, ML2.4/13, Error ellipse: s-maj=1.0km s-min=0.5km az=193.0*
ISC 24 00:20:42.2±0.8,41°.16N±0°.02×24°.34E±0°.01,h17km±6km, n74,σ0s84/117,11C-5D,Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAVA	**Kavala**	**0.21**	**140**	P	**Pg**	**00 20 47.0**	**-0.2**
KAVA				S	**Sg**	**00 20 50.5**	**-0.1**
KAVA	**Kavala**	**0.21**	**140**	P	**Pg**	**00 20 46.9**	**-0.2**
KAVA				S	**Sg**	**00 20 50.5**	**-0.1**
KVLA	**Kavala**	**0.22**	**170**	P	**Pb**	**00 20 47.6**	**-0.3**
KVLA				S	**Sg**	**00 20 51.0**	**+0.1**
KVLA				AML	AML	00 20 51.3	
	comp=N,5161μm,0.1s						
KVLA				AML	AML	00 20 51.9	
	comp=E,4539μm,0.2s						
NVR	**Nevrokopi**	**0.41**	**298**	P	**Pg**	**00 20 50.5**	**0.0**
NVR				S	**Sg**	**00 20 56.1**	**-0.1**
	comp=E,538nm,0.2s						
NVR	**Nevrokopi**	**0.41**	**298**	P	**Pg**	**00 20 50.6**	**0.0**
NVR				S	**Sg**	**00 20 55.9**	**-0.3**
NVR				AML	AML	00 20 56.5	
	comp=E,1260μm,0.1s						
NVR				AML	AML	00 20 59.8	
	comp=N,821μm,0.1s						
KOKK	**Kokkinochori,**	**0.42**	**217**	P	**Pg**	**00 20 50.6**	**-0.2**
KOKK				S	**Sg**	**00 20 56.8**	**+0.1**
	comp=N,278nm,0.2s						
KOKK	**Kokkinochori,**	**0.42**	**217**	P	**Pg**	**00 20 50.6**	**-0.2**
KOKK				S	**Sg**	**00 20 56.5**	**-0.1**
SRS	**Serrai**	**0.56**	**266**	P	**Pg**	**00 20 52.9**	**-0.5**
SRS				S	**Sg**	**00 21 00.4**	**-0.6**
	comp=N,530nm,0.2s						
SRS	**Serrai**	**0.56**	**266**	*e*Pg	**Pg**	**00 20 52.5**	**-0.9**
SRS				*e*Sg	**Sg**	**00 21 00.2**	**-0.7**
SRS	**Serrai**	**0.56**	**266**	P	**Pg**	**00 20 52.7**	**-0.7**
SRS				S	**Sg**	**00 21 00.4**	**-0.6**
SRS				AML	AML	00 21 01.7	
	comp=N,1007μm,0.1s						
SRS				AML	AML	00 21 03.5	
	comp=E,1016μm,0.1s						
MMB	**Musomishta**	**0.59**	**312**	P	**Pg**	**00 20 53.2**	**-0.7**
MMB				S	**Sg**	**00 21 01.0**	**-0.8**
RZN	**Rozhen**	**0.62**	**29**	*i* P	**Pg**	**00 20 53.3**	**-1.2**
RZN				S	**Sg**	**00 21 01.5**	**-1.2**
THAS	**Thassos island**	**0.62**	**152**	P	**Pg**	**00 20 54.4**	**-0.1**
THAS				S	**Sg**	**00 21 02.6**	**-0.2**
	comp=E,1μm,0.3s						
THAS	**Thassos island**	**0.62**	**152**	P	**Pg**	**00 20 54.4**	**-0.1**
THAS				S	**Sg**	**00 21 02.6**	**-0.2**
THAS				AML	AML	00 21 05.9	
	comp=N,2270μm,0.3s						
THAS				AML	AML	00 21 06.0	
	comp=E,1970μm,0.3s						
SOH	**Sokhos**	**0.81**	**246**	P	**Pg**	**00 20 57.5**	**-0.7**
SOH				S	**Sg**	**00 21 08.2**	**-0.7**
	comp=E,428nm,0.4s						
SOH	**Sokhos**	**0.81**	**246**	P	**Pg**	**00 20 57.4**	**-0.7**
SOH				S	**Sg**	**00 21 08.5**	**-0.4**
SOH				AML	AML	00 21 10.4	
	comp=E,1408μm,0.4s						
SOH				AML	AML	00 21 13.5	
	comp=N,742μm,0.4s						
OUR	**Ouranopolis**	**0.86**	**198**	P	**Pb**	**00 20 58.9**	**+0.1**
OUR				S	**Sn**	**00 21 11.4**	**-0.4**
	comp=N,710nm,0.3s						
OUR	**Ouranopolis**	**0.86**	**198**	P	**Pb**	**00 20 58.9**	**+0.1**
OUR				S	**Sb**	**00 21 10.8**	**+0.7**
OUR				AML	AML	00 21 12.9	
	comp=E,1732μm,0.5s						
OUR				AML	AML	00 21 13.6	
	comp=N,1106μm,0.2s						
KDZ	**Kurdzhali**	**0.89**	**58**	*i* P	**Pg**	**00 20 58.1**	**-1.5**
KDZ				S	**Sg**	**00 21 10.0**	**-1.3**
RDO	**Rodhopi**	**0.91**	**90**	P	**Pb**	**00 20 58.8**	**-0.7**
RDO				S	**Sg**	**00 21 11.5**	**-0.3**
	comp=N,328nm,0.2s						
RDO	**Rodhopi**	**0.91**	**90**	P	**Pb**	**00 20 58.9**	**-0.7**
RDO				S	**Sg**	**00 21 11.1**	**-0.8**
RDO				AML	AML	00 21 14.4	
	comp=N,726μm,0.2s						
RDO				AML	AML	00 21 14.4	
	comp=E,576μm,0.2s						
PLD	**Plovdiv**	**1.04**	**17**	P	**Pb**	**00 21 00.9**	**-0.8**
PLD				S	**Sb**	**00 21 14.5**	**-0.5**
PLD	**Plovdiv**	**1.04**	**17**	*e*Pg	**Pb**	**00 21 00.7**	**-1.0**
PLD				*e*Sg	**Sn**	**00 21 17.0**	**+0.9**
KNT	**Kendrikon**	**1.08**	**271**	P	**Pb**	**00 21 02.0**	**-0.6**
KNT				S	**Sb**	**00 21 16.7**	**+0.2**
	comp=E,285nm,0.5s						
KNT	**Kendrikon**	**1.08**	**271**	P	**Pb**	**00 21 02.0**	**-0.6**
KNT				S	**Sb**	**00 21 16.3**	**-0.1**
KNT				AML	AML	00 21 18.6	
	comp=N,400μm,0.2s						
KNT				AML	AML	00 21 18.9	
	comp=E,440μm,0.3s						
HORT	**Hortiatis**	**1.09**	**240**	P	**Pb**	**00 21 02.4**	**-0.3**
HORT				S	**Sg**	**00 21 17.4**	**-0.2**
	comp=E,218nm,0.3s						
HORT	**Hortiatis**	**1.09**	**240**	P	**Pb**	**00 21 02.8**	**+0.1**
HORT				AML	AML	00 21 19.0	
	comp=N,458μm,0.2s						
HORT				AML	AML	00 21 19.2	
	comp=E,578μm,0.6s						
KKB	**Krupnik**	**1.14**	**307**	P	**Pb**	**00 21 03.2**	**-0.2**
KKB				S	**Sb**	**00 21 17.9**	**0.0**
SMTH	**Samothraki Isl**	**1.14**	**127**	P	**Pb**	**00 21 03.2**	**-0.3**
SMTH				S	**Sn**	**00 21 19.2**	**+0.6**
	comp=E,68nm,0.5s						
SMTH	**Samothraki Isl**	**1.14**	**127**	P	**Pb**	**00 21 03.2**	**-0.3**
SMTH				S	**Sb**	**00 21 18.3**	**+0.4**
THE	**Thessaloniki**	**1.16**	**244**	P	**Pn**	**00 21 03.6**	**-0.1**
THE				S	**Sb**	**00 21 18.9**	**+0.2**
	comp=E,202nm,0.6s						
DIM	**Dimitrovgrad**	**1.29**	**46**	P	**Pn**	**00 21 05.4**	**0.0**
DIM				S	**Sg**	**00 21 23.9**	**+0.1**
PAIG	**Paliouri**	**1.33**	**202**	P	**Pn**	**00 21 05.4**	**-0.6**
VAY	**Valandovo**	**1.34**	**278**	*e*Pg	**Pb**	**00 21 06.8**	**-0.1**
VAY				*e*Sg	**Sg**	**00 21 25.0**	**-0.6**
VAY	**Valandovo**	**1.34**	**278**	⇑ *i* Pg	**Pb**	**00 21 07.0**	**+0.1**
VAY				*i* Sg	**Sg**	**00 21 25.3**	**-0.2**
PGB	**Panagyurishte**	**1.36**	**355**	P	**Pn**	**00 21 07.1**	**+0.6**
PGB				S	**Sb**	**00 21 25.4**	**+1.0**
LIA	**Limnos Island**	**1.42**	**153**	P	**Pn**	**00 21 06.9**	**-0.3**
LIA				S	**Sb**	**00 21 26.7**	**+0.8**
	comp=E,468nm,0.4s						
LIA	**Limnos Island**	**1.42**	**153**	P	**Pn**	**00 21 06.9**	**-0.3**
LIA				AML	AML	00 21 29.2	
	comp=N,896μm,0.5s						
LIA				AML	AML	00 21 29.3	
	comp=E,965μm,0.4s						
ENEZ	**Enez**	**1.44**	**106**	P	**Pb**	**00 21 08.4**	**-0.2**
ENEZ				S	**Sg**	**00 21 28.0**	**-0.7**
VTS	**Vitosha**	**1.67**	**331**	P	**Pn**	**00 21 11.3**	**+0.4**
VTS				S	**Sg**	**00 21 35.4**	**-0.8**
VTS	**Vitosha**	**1.67**	**331**	*e*Pn	**Pn**	**00 21 11.1**	**+0.2**
VTS				*e*Sn	**Sn**	**00 21 32.7**	**+0.6**
LIT	**Litokhoron**	**1.76**	**234**	P	**Pn**	**00 21 12.0**	**+0.1**
EDRB	**Edirne**	**1.94**	**68**	P	**Pn**	**00 21 14.7**	**+0.3**
EDRB				S	**Sn**	**00 21 40.0**	**+1.7**
	comp=E,40nm,0.5s						
XOR	**Xorichti**	**1.99**	**206**	P	**Pn**	**00 21 15.0**	**-0.2**
NEO	**Neokhori**	**2.04**	**205**	P	**Pn**	**00 21 15.1**	**-0.7**
ELND	**Elena**	**2.11**	**32**	⇓P	**Pb**	**00 21 20.8**	**+0.8**
TYRN	**Tyrnavos**	**2.16**	**229**	P	**Pn**	**00 21 17.6**	**+0.2**
PRVS	**Prvonek**	**2.16**	**309**	*e*Pn	**Pn**	**00 21 17.2**	**-0.3**
PRVS				*e*Sn	**Sn**	**00 21 44.8**	**+0.9**
MPEP	**Malo Peshtene**	**2.24**	**349**	P	**Pn**	**00 21 20.0**	**+1.4**
MPEP				S	**Sg**	**00 21 54.6**	**+0.3**
FNA	**Florina**	**2.27**	**262**	*e*Pn	**Pn**	**00 21 19.5**	**+0.5**
ZAPS	**Zavoj**	**2.46**	**330**	*e*Pn	**Pn**	**00 21 23.0**	**+1.3**
ZAPS				*e*Sn	**Sb**	**00 21 54.4**	**-1.8**
BARS	**Barje**	**2.50**	**312**	*e*Pn	**Pn**	**00 21 23.0**	**+0.8**
BARS				*e*Sn	**Sn**	**00 21 52.4**	**0.0**
KYMI	**Kymi, Euboea I**	**2.53**	**184**	P	**Pn**	**00 21 22.1**	**-0.4**
VALD	**Valchedram**	**2.62**	**346**	P	**Pb**	**00 21 29.5**	**+0.8**
AGG	**Agios Georgios**	**2.63**	**216**	P	**Pn**	**00 21 24.2**	**+0.3**
ZAGS	**Zajecar**	**3.08**	**330**	*e*Pn	**Pn**	**00 21 31.8**	**+1.8**
ZAGS				*e*Sn	**Sn**	**00 22 07.2**	**+0.8**
SELS	**Selova**	**3.15**	**312**	*e*Pn	**Pn**	**00 21 31.1**	**-0.1**
SELS				*e*Sn	**Sn**	**00 22 08.4**	**0.0**
PUNG	**Punghina**	**3.29**	**342**	⇓P	Pg	00 21 52.9	+7.7
HUMR	**Humele**	**3.40**	**8**	⇑P	Pn	00 21 28.9	-5.6
GRUS	**Gruza**	**3.82**	**317**	*e*Pn	**Pn**	**00 21 42.1**	**+1.8**
GRUS				*e*Sn	**Sn**	**00 22 25.6**	**+0.8**
IVAS	**Ivanjica**	**3.93**	**309**	*e*Pn	**Pn**	**00 21 41.7**	**-0.1**
MDVR	**Moldovita**	**4.10**	**333**	⇑P	Pn	00 21 39.2	-5.0
VOIR		**4.31**	**7**	⇑P	**Pg**	**00 22 03.8**	**-1.0**
DIVS	**Divibare**	**4.35**	**314**	*e*Pn	**Pn**	**00 21 48.9**	**+1.3**
MLR	**Muntele Rosu**	**4.49**	**15**	⇑P	**Pn**	**00 21 51.0**	**+1.5**
SURB	**Surduc**	**4.87**	**341**	⇑P	**Pb**	**00 22 09.1**	**+2.1**
BZS	**Buzias**	**4.88**	**337**	⇑P	**Pg**	**00 22 14.0**	**-1.6**
COVR	**Voineasa-Covas**	**4.88**	**16**	⇑P	**Pn**	**00 21 56.3**	**+1.4**
PLOR	**Plostina**	**4.98**	**19**	⇓P	**Pn**	**00 21 56.5**	**+0.1**
VRI	**Vrincioaia**	**5.02**	**19**	⇓P	**Pn**	**00 21 58.8**	**+2.1**
VRI	**Vrincioaia**	**5.02**	**19**	⇑P	**Pn**	**00 21 59.0**	**+2.2**
TURR	**Turia**	**5.04**	**13**	⇑P	**Pn**	**00 21 59.0**	**+1.9**
SIRR	**Siria**	**5.46**	**340**	⇓P	**Pg**	**00 22 24.3**	**-2.5**
DRGR		**5.75**	**349**	⇑P	**Pg**	**00 22 31.0**	**-1.3**

*IDC **24** 00:32:07.8±4.5, 13°.63S×167°.07E,h245km±42km, mb3.3/8, mbtmp3.9/9, Error ellipse: s-maj=30.3km s-min=27.7km az=31.0*
ISC 24 00:32:08.2±1.1,13°.64S±0°.09×167°.1E±0°.2,h250km,n10, σ0s74/11,mb3.5/8,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.41**	**184**	P	**Pn**	**00 34 07.1**	**+0.3**
	7.2nm,0.9s,baz=102,slow=14,SNR=7.5						
DZM				S	**S**	**00 35 42.2**	**-0.3**
	8.4nm,1.1s,baz=344,slow=23,SNR=1.4						
STKA	**Stephens Creek**	**29.59**	**228**	P	**P**	**00 37 50.2**	**-0.1**
	0.9nm,0.4s,baz=50,slow=10,SNR=3.8						
	0.9nm,0.4s						
WRA	**Warramunga Arr**	**31.96**	**254**	P	**P**	**00 38 10.5**	**-0.8**
	0.2nm,0.4s,baz=83,slow=8.5,SNR=4.6						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**32.93**	**247**	P	**P**	**00 38 18.9**	**-0.7**
	0.5nm,0.4s,baz=74,slow=9.3,SNR=11						
	0.5nm,0.4s						
CMAR	**Chiang Mai Arr**	**74.37**	**294**	P	**P**	**00 43 20.5**	**+1.3**
	0.8nm,0.2s,baz=101,slow=4.7,SNR=1.3						
	0.8nm,0.2s						
QSPA	**South Pole Qui**	**76.38**	**180**	P	**P**	**00 43 30.4**	**+0.5**
	0.5nm,0.5s,baz=202,slow=1.2,SNR=6.3						
	0.5nm,0.5s						
SONM	**Songino Array**	**81.53**	**324**	P	**P**	**00 43 57.9**	**-0.2**
	0.2nm,0.4s,baz=104,slow=6.1,SNR=2.6						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**85.54**	**18**	P	**P**	**00 44 17.0**	**-0.9**
	0.2nm,0.5s,baz=232,slow=5.6,SNR=2.3						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**96.31**	**316**	P	**P**	**00 45 08.9**	**+0.4**
	0.5nm,0.5s,baz=83,slow=6.0,SNR=8.2						
	0.5nm,0.5s						
ARCES	**ARCESS Array B**	**119.16**	**346**	PKP	**PKiKP**	**00 50 26.6**	**-0.3**
	7.2nm,1.0s,baz=47,slow=2.0,SNR=7.8						

*CNRM **24** 00:41:11.2,37°.82N×2°.65W,h168km, ML3.6*
*INMG **24** 00:41:12.5±1.5,37°.86N×3°.24W,h11km±2km, ML3.7, Error ellipse: s-maj=1.6km s-min=1.3km az=172.0*
*IGIL **24** 00:41:12.8,37°.86N×3°.25W,h11km, ML2.8*
*MDD **24** 00:41:12.2±0.1,37°.86N×3°.25W,h12km, mb_Lg4.0/52, Error ellipse: s-maj=1.1km s-min=0.8km az=150.0*
*SFS **24** 00:41:13.6,37°.82N×3°.26W,h22km, ML3.9/28, ML4.1/23, MLv3.7/28*
*LDG **24** 00:41:13.0±0.1,37°.86N×3°.25W,h10km, Ml3.4/19, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*STR **24** 00:41:17.5±1.6,38°N±11°×±1°,h5km, MLv4.0/6, Error ellipse: s-maj=0.0km s-min=0.0km az=114.4, preliminary*
ISC 24 00:41:10.5±0.9,37°.92N±0°.02×3°.24W±0°.01,h13km±7km, n167,σ1s83/351,2C-3D,Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EQES	**Quesada**	**0.18**	**132**	⇓Pg	**Pg**	**00 41 14.6**	**-0.2**
EQES				Sg	**Sg**	**00 41 16.9**	**-0.8**
EQES				*i* Vmb_Lg		00 41 17.7	
EQTA	**Presa de Quent**	**0.73**	**193**	Pg	**Pg**	**00 41 24.1**	**-0.7**
EQTA				Sg	**Sg**	**00 41 33.3**	**-1.1**
EQUE	**Quentar**	**0.73**	**193**	Pg	**Pg**	**00 41 24.6**	**-0.2**
EQUE				Sg	**Sg**	**00 41 33.1**	**-1.3**
EQUE				*i* Vmb_Lg		00 41 37.4	
PSIM	**Granatula de C**	**0.98**	**336**	⇓Pg	**Pn**	**00 41 31.4**	**+1.3**
PSIM				Sg	**Sn**	**00 41 45.1**	**+1.2**
EGOR	**Sierra Gorda,**	**1.06**	**221**	Pg	**Pg**	**00 41 31.1**	**0.0**
EGOR	**Sierra Gorda,**	**1.06**	**221**	Pg	**Pg**	**00 41 31.1**	**0.0**
EGOR				Sg	**Sg**	**00 41 44.9**	**-0.1**
EGOR				*i* Vmb_Lg		00 41 49.6	
EADA	**Adamuz**	**1.08**	**283**	Pg	**Pn**	**00 41 32.0**	**+0.6**
EADA				Sg	**Sn**	**00 41 47.1**	**+0.8**
EADA	**Adamuz**	**1.08**	**283**	Pg	**Pn**	**00 41 32.1**	**+0.6**
EADA				Sg	**Sn**	**00 41 47.1**	**+0.8**
EADA				*i* Vmb_Lg		00 41 51.1	
ELGU	**Los Guajares,**	**1.10**	**196**	Pg	**Pg**	**00 41 31.4**	**-0.3**
ELGU	**Los Guajares,**	**1.10**	**196**	Pg	**Pg**	**00 41 31.2**	**-0.4**
ELGU				Sg	**Sg**	**00 41 44.8**	**-1.2**
ELGU				*i* Vmb_Lg		00 41 56.3	
EZAR	**Zarzadilla de**	**1.22**	**92**	Pg	**Pn**	**00 41 34.4**	**+1.0**
EZAR				Sg	**Sn**	**00 41 50.7**	**+0.9**
EZAR				*i* Vmb_Lg		00 41 53.4	
ENIJ	**Nijar**	**1.25**	**139**	Pg	**Pn**	**00 41 34.0**	**+0.2**
ENIJ				Sg	**Sb**	**00 41 50.3**	**+0.2**
ENIJ	**Nijar**	**1.25**	**139**	Pg	**Pn**	**00 41 33.9**	**+0.2**
ENIJ				Sg	**Sb**	**00 41 50.1**	**0.0**
ENIJ				*i* Vmb_Lg		00 41 55.0	
TLOR	**Lorca, Murcia**	**1.26**	**102**	Pn	**Pg**	**00 41 36.1**	**+1.3**
TLOR				Sn	**Sn**	**00 41 51.4**	**+0.9**
TLOR	**Lorca, Murcia**	**1.26**	**102**	Pg	**Pg**	**00 41 34.9**	**+0.2**
TLOR				Sg	**Sn**	**00 41 51.6**	**+1.1**
E1002	**Yechar (Murcia**	**1.43**	**83**	Pg	**Pg**	**00 41 38.0**	**0.0**
E1002				Sg	**Sg**	**00 41 57.2**	**+0.6**
E001A	**Albudeite (Mur**	**1.46**	**86**	Pg	**Pg**	**00 41 38.9**	**+0.3**
E001A				Sg	**Sg**	**00 41 58.3**	**+0.6**
ETOB	**Tobarra**	**1.51**	**61**	Pn	**Pb**	**00 41 38.8**	**+0.3**
ETOB				Sn	**Sb**	**00 41 57.9**	**+0.3**
ETOB	**Tobarra**	**1.51**	**61**	⇑Pn	**Pb**	**00 41 38.9**	**+0.3**
ETOB				Pg	**Pg**	**00 41 40.0**	**+0.4**
ETOB				Sn	**Sb**	**00 41 58.0**	**+0.4**
ETOB				Sg	**Sg**	**00 41 60.0**	**+0.6**
ETOB				*i* Vmb_Lg		00 42 02.1	
EMUR	**La Murta**	**1.58**	**92**	Pn	**Pb**	**00 41 40.0**	**+0.3**
EMUR				Sn	**Sg**	**00 42 01.0**	**-0.5**
EMUR	**La Murta**	**1.58**	**92**	Pg	**Pb**	**00 41 39.9**	**+0.3**
EMUR				Sg	**Sg**	**00 42 00.8**	**-0.7**
EMUR				*i* Vmb_Lg		00 42 03.6	
ECAB	**El Cabril**	**1.73**	**276**	Pn	**Pn**	**00 41 41.1**	**+0.8**
ECAB				Sn	**Sn**	**00 42 01.4**	**-0.8**
ECAB	**El Cabril**	**1.73**	**276**	⇓Pn	**Pn**	**00 41 41.1**	**+0.8**
ECAB				Sn	**Sn**	**00 42 02.5**	**+0.3**
ECAB				Sg	**Sg**	**00 42 05.5**	**-0.7**
ECAB				*i* Vmb_Lg		00 42 09.1	
CART	**Cartagena**	**1.81**	**100**	Pn	**Pn**	**00 41 41.6**	**+0.3**
CART				Pg	**Pg**	**00 41 45.5**	**+0.3**
CART				Sn	**Sn**	**00 42 04.8**	**+0.8**
CART	**Cartagena**	**1.81**	**100**	P	**Pn**	**00 41 41.1**	**-0.2**
CART	**Cartagena**	**1.81**	**100**	S	**Sn**	**00 42 02.5**	**-1.5**
EMIJ	**Mijas**	**1.82**	**223**	Pg	**Pn**	**00 41 43.3**	**+1.8**
EMIJ	**Mijas**	**1.82**	**223**	Pg	**Pn**	**00 41 43.4**	**+1.8**
EMIJ				Sn	**Sn**	**00 42 03.6**	**-0.9**
EMIJ				Sg	**Sb**	**00 42 07.7**	**+1.1**
EMIJ				*i* Vmb_Lg		00 42 16.6	
ESDC	**Sonseca Array**	**1.84**	**342**	Pn	**Pn**	**00 41 42.9**	**+1.0**
ESDC				Pg	**Pg**	**00 41 45.5**	**-0.4**
ESDC				Sn	**Sn**	**00 42 06.1**	**+1.1**
ESDC				Sg	**Sg**	**00 42 10.1**	**+0.4**
ESDC				*i* Vmb_Lg		00 42 13.1	
PAB	**San Pablo**	**1.84**	**332**	Pn	**Pn**	**00 41 42.9**	**+1.0**
PAB				Pg	**Pg**	**00 41 46.0**	**+0.1**
PAB				Sn	**Sn**	**00 42 06.0**	**+1.0**
PAB				Sg	**Sg**	**00 42 10.1**	**+0.4**
PAB				*i* Vmb_Lg		00 42 13.6	
ETRV	**Los Montesinos**	**1.96**	**86**	Pn	**Pn**	**00 41 44.6**	**+1.2**
ETRV				Pg	**Pb**	**00 41 46.8**	**+0.8**
ETRV				Sn	**Sn**	**00 42 07.2**	**-0.6**
ETRV				Sg	**Sg**	**00 42 12.5**	**-1.0**
ETRV				*i* Vmb_Lg		00 42 18.8	
EALB	**Alboran**	**1.98**	**175**	Sg	**Sn**	**00 42 09.3**	**+0.8**
EALB	**Alboran**	**1.98**	**175**	Pn	**Pn**	**00 41 43.2**	**-0.6**
EALB				Pg	**Pb**	**00 41 45.9**	**-0.5**
EALB				Sn	**Sn**	**00 42 07.2**	**-0.7**
EVIV	**Cofrentes, Val**	**2.14**	**50**	⇑Pn	**Pn**	**00 41 47.1**	**+1.2**
EVIV				Pg	**Pg**	**00 41 50.5**	**-1.0**
EVIV				Sn	**Sn**	**00 42 13.6**	**+1.3**
EVIV				Sg	**Sg**	**00 42 19.7**	**+0.5**
EVIV				*i* Vmb_Lg		00 42 25.8	
AFON	**Font Roja**	**2.25**	**70**	Pn	**Pn**	**00 41 49.0**	**+1.5**
AFON				Pg	**Pb**	**00 41 52.2**	**+1.2**
AFON				Sn	**Sn**	**00 42 16.0**	**+0.8**
AFON				Sg	**Sg**	**00 42 22.7**	**-0.2**
AFON				*i* Vmb_Lg		00 42 28.9	
EJIF	**Jimena Fronter**	**2.31**	**231**	Pn	**Pn**	**00 41 48.0**	**-0.2**
EJIF				Pg	**Pb**	**00 41 52.0**	**0.0**
EJIF				Sn	**Sn**	**00 42 14.6**	**-1.8**
ESPR	**Espera**	**2.33**	**244**	Pn	**Pn**	**00 41 49.0**	**+0.5**
ESPR				Pg	**Pb**	**00 41 53.0**	**+0.5**
ESPR				Sn	**Sn**	**00 42 16.4**	**-0.7**
ESPR				Sg	**Sb**	**00 42 21.7**	**+0.6**
ESPR				*i* Vmb_Lg		00 42 31.1	
UCM	**Universidad Co**	**2.38**	**360**	Pg	**Pg**	**00 41 56.3**	**+0.1**
UCM				Sg	**Sg**	**00 42 27.7**	**+0.6**
ECHE	**Chera**	**2.44**	**46**	Pn	**Pn**	**00 41 51.5**	**+1.5**
ECHE				Pg	**Pg**	**00 41 57.8**	**+0.6**
ECHE	**Chera**	**2.44**	**46**	Pn	**Pn**	**00 41 51.0**	**+1.0**
ECHE				Pg	**Pb**	**00 41 55.0**	**+0.8**
ECHE				Sn	**Sn**	**00 42 20.1**	**+0.4**
ECHE				Sg	**Sg**	**00 42 28.5**	**-0.3**
ECHE				*i* Vmb_Lg		00 42 38.5	
GOG	**Mont Gurugu**	**2.70**	**176**	P	**Pn**	**00 41 54.6**	**+0.9**
GOG	**Mont Gurugu**	**2.70**	**176**	S	**Sn**	**00 42 27.5**	**+1.2**
GUD	**Guadarrama**	**2.81**	**346**	Pn	**Pn**	**00 41 54.9**	**-0.4**
GUD				Pg	**Pg**	**00 42 02.8**	**-1.6**
GUD				Sn	**Sn**	**00 42 30.9**	**+1.9**
GUD				Sg	**Sg**	**00 42 39.2**	**-1.6**
GUD				*i* Vmb_Lg		00 42 43.5	
SMIR	**Smir Dam**	**2.82**	**218**	P	**Pb**	**00 42 01.0**	**+0.3**
SMIR	**Smir Dam**	**2.82**	**218**	S	**Sg**	**00 42 39.3**	**-1.9**
PBAR	**Barrancos**	**3.01**	**276**	*e*Pn	**Pn**	**00 41 58.5**	**+0.6**

PBEJ	**Beja**	**3.66**	**273**	*e*Pn	**Pn**	**00 42 07.2**	**+0.4**
PBEJ				*e*Sn	**Sn**	**00 42 49.4**	**-0.4**
PBEJ				*e*Sg	**Sg**	**00 43 07.1**	**-0.9**
PBEJ				A	A	00 43 12.3	
	72nm,0.6s						
EIBI	**Ibiza**	**3.76**	**72**	Pn	**Pn**	**00 42 08.9**	**+0.6**
EIBI	**Ibiza**	**3.76**	**72**	Pn	**Pn**	**00 42 09.1**	**+0.9**
EIBI				Pg	**Pb**	**00 42 18.3**	**+1.5**
EIBI				Sn	**Sn**	**00 42 50.2**	**-2.1**
EIBI				*i* Vmb_Lg		00 42 52.7	
EJUZ	**Juzbado, Salam**	**3.77**	**328**	Sn	**Sn**	**00 42 52.4**	**-0.2**
EJUZ				Sg	**Sg**	**00 43 08.5**	**-3.0**
PBDV	**Barranco-do-Ve**	**3.79**	**261**	*e*Pn	**Pn**	**00 42 09.6**	**+1.0**
PBDV	**Barranco-do-Ve**	**3.79**	**261**	*e*Pg	**Pg**	**00 42 21.4**	**-1.7**
PBDV				*e*Sn	**Sn**	**00 42 52.9**	**-0.1**
PBDV				*e*Sg	**Sg**	**00 43 10.4**	**-1.8**
PBDV				A	A	00 43 14.3	
	104nm,0.4s						
PBDV	**Barranco-do-Ve**	**3.79**	**261**	Pn	**Pn**	**00 42 09.0**	**+0.4**
PBDV				Sn	**Sn**	**00 42 51.9**	**-1.1**
PBDV				Sg	**Sb**	**00 43 06.3**	**+3.3**
EVO	**Evora**	**3.81**	**281**	*e*Pn	**Pn**	**00 42 10.7**	**+1.8**
EVO	**Evora**	**3.81**	**281**	*e*Pg	**Pg**	**00 42 22.0**	**-1.5**
EVO				*e*Sn	**Sn**	**00 42 54.0**	**+0.5**
EVO				*e*Sg	**Sg**	**00 43 13.2**	**+0.4**
EVO				A	A	00 43 20.8	
	141nm,0.3s						
EVO	**Evora**	**3.81**	**281**	Pn	**Pn**	**00 42 10.6**	**+1.8**
EVO				Sn	**Sn**	**00 42 52.1**	**-1.4**
PCVE	**Castro Verde**	**3.81**	**267**	*e*Pn	**Pn**	**00 42 09.9**	**+1.0**
PCVE	**Castro Verde**	**3.81**	**267**	*e*Pg	**Pg**	**00 42 21.3**	**-2.3**
PCVE				*e*Sg	**Sg**	**00 43 09.5**	**-3.5**
PCVE				A	A	00 43 14.9	
	98nm,0.4s						
PCVE	**Castro Verde**	**3.81**	**267**	Pn	**Pn**	**00 42 09.9**	**+1.0**
PCVE				Sg	**Sb**	**00 43 08.0**	**+4.2**
PCBR	**Castelo Branco**	**3.82**	**301**	*e*Pn	**Pn**	**00 42 10.6**	**+1.6**
PCBR	**Castelo Branco**	**3.82**	**301**	*e*Pg	**Pg**	**00 42 23.3**	**-0.4**
PCBR				*e*Sn	**Sn**	**00 42 55.0**	**+1.2**
PCBR				*e*Sg	**Sg**	**00 43 14.4**	**+1.1**
PCBR				A	A	00 43 17.6	
	143nm,0.5s						
MESJ	**Messejana**	**3.94**	**270**	*e*Pn	**Pn**	**00 42 11.5**	**+0.8**
MESJ	**Messejana**	**3.94**	**270**	*e*Pg	**Pg**	**00 42 24.1**	**-1.9**
MESJ				*e*Sn	**Sn**	**00 42 56.4**	**-0.4**
MESJ				*e*Sg	**Sg**	**00 43 16.0**	**-1.1**
MESJ				A	A	00 43 18.0	
	91nm,0.5s						
MESJ	**Messejana**	**3.94**	**270**	*e*P	**Pn**	**00 42 11.3**	**+0.7**
MESJ				*e*S	**Sn**	**00 42 54.1**	**-2.6**
MESJ				IAML		00 42 57.6	
	comp=N,23nm,0.4s						
PMTG	**Montargil**	**4.08**	**288**	*e*Pn	**Pn**	**00 42 12.7**	**+0.2**
PMTG	**Montargil**	**4.08**	**288**	*e*Pg	**Pg**	**00 42 30.1**	**+1.0**
PMTG				*e*Sn	**Sn**	**00 42 59.6**	**-0.5**
PMTG				*e*Sg	**Sg**	**00 43 20.3**	**-1.1**
PMTG				A	A	00 43 29.4	
	comp=N,185nm,0.5s						
ERTA	**Horta de San J**	**4.10**	**41**	Pn	**Pn**	**00 42 14.8**	**+1.9**
ERTA				Pg	**Pb**	**00 42 24.7**	**+2.1**
ERTA				Sn	**Sn**	**00 43 02.2**	**+1.4**
ERTA				Sg	**Sg**	**00 43 20.2**	**-2.1**
ERTA				*i* Vmb_Lg		00 43 29.8	
MTE	**Manteigas**	**4.16**	**308**	*e*Pn	**Pn**	**00 42 16.1**	**+2.3**
MTE	**Manteigas**	**4.16**	**308**	*e*Pg	**Pg**	**00 42 28.4**	**-1.8**
MTE				*e*Sg	**Sg**	**00 43 23.4**	**-0.7**
MTE				A	A	00 43 36.4	
	comp=N,146nm,0.6s						
PNCL	**Nicolau / Gran**	**4.18**	**274**	*e*Pn	**Pn**	**00 42 15.2**	**+1.2**
PNCL	**Nicolau / Gran**	**4.18**	**274**	*e*Pg	**Pg**	**00 42 28.0**	**-2.6**
PNCL				*e*Sn	**Sn**	**00 43 02.9**	**+0.2**
PNCL				*e*Sg	**Sg**	**00 43 22.5**	**-2.3**
PNCL				A	A	00 43 30.7	
	comp=N,84nm,0.5s						
PNCL	**Nicolau / Gran**	**4.18**	**274**	Pn	**Pn**	**00 42 15.1**	**+1.1**
PNCL				Sn	**Sn**	**00 43 01.0**	**-1.6**
MORF	**Marmelete**	**4.34**	**263**	*e*Sn	**Sn**	**00 43 05.9**	**-0.8**
MORF				*e*Sg	**Sg**	**00 43 27.7**	**-2.2**
MORF				A	A	00 43 37.0	
	comp=N,50nm,0.6s						
ESAC	**San Caprasio**	**4.35**	**28**	Pn	**Pn**	**00 42 16.4**	**0.0**
ESAC				Pg	**Pb**	**00 42 28.6**	**+1.7**
ESAC				Sn	**Sn**	**00 43 09.3**	**+2.3**
ESAC				Sg	**Sg**	**00 43 27.0**	**-3.3**
ESAC				*i* Vmb_Lg		00 43 33.6	
PTEO	**Sao Teotonio**	**4.36**	**267**	*e*Pn	**Pn**	**00 42 17.6**	**+1.1**
PTEO				*e*Sn	**Sn**	**00 43 07.7**	**+0.5**
PTEO				*e*Sg	**Sg**	**00 43 27.9**	**-2.7**
PTEO				A	A	00 43 35.5	
	comp=N,145nm,0.6s						
MVO	**Moncorvo**	**4.37**	**319**	*e*Pn	**Pn**	**00 42 18.8**	**+2.2**
MVO	**Moncorvo**	**4.37**	**319**	*e*Pg	**Pg**	**00 42 33.8**	**-0.4**
MVO				*e*Sg	**Sg**	**00 43 32.0**	**+1.3**
MVO				A	A	00 43 39.6	
	comp=N,87nm,0.4s						
PACT	**Alcochete**	**4.48**	**283**	*e*Sn	**Sn**	**00 43 11.0**	**+1.1**
PACT				*e*Sg	**Sg**	**00 43 34.2**	**-0.1**
PACT				A	A	00 43 42.8	
	comp=N,156nm,0.6s						
PFVI	**Vila Bisbo**	**4.51**	**262**	*e*Sn	**Sn**	**00 43 10.6**	**-0.2**
PFVI				*e*Sg	**Sg**	**00 43 36.9**	**+1.6**
PFVI				A	A	00 43 44.8	
	comp=N,59nm,0.8s						
PFVI	**Vila Bisbo**	**4.51**	**262**	P	**Pn**	**00 42 23.1**	**+4.6**
PFVI	**Vila Bisbo**	**4.51**	**262**	S	**Sb**	**00 43 22.1**	**-1.7**
PVIS	**Viseu**	**4.56**	**309**	*e*Pn	**Pn**	**00 42 21.5**	**+2.2**
PVIS				*e*Sn	**Sn**	**00 43 13.1**	**+1.0**
PVIS				*e*Sg	**Sg**	**00 43 39.9**	**+2.9**
PVIS				A	A	00 43 45.4	
	comp=N,55nm,0.7s						
PCAS	**Casmilo, Conde**	**4.62**	**299**	*e*Pn	**Pn**	**00 42 21.6**	**+1.6**
PCAS				*e*Sn	**Sn**	**00 43 13.8**	**+0.4**
PCAS				*e*Sg	**Sg**	**00 43 37.8**	**-0.9**
PCAS				A	A	00 43 45.0	
	comp=N,156nm,0.6s						
COI	**Coimbra**	**4.63**	**301**	*e*Pn	**Pn**	**00 42 21.9**	**+1.8**
COI				*e*Sn	**Sn**	**00 43 13.8**	**+0.1**
COI				*e*Sg	**Sg**	**00 43 37.9**	**-1.2**
COI				A	A	00 43 44.8	
	comp=N,192nm,0.7s						
IFR	**Ifrane**	**4.66**	**200**	Pn	**Pn**	**00 42 22.4**	**+1.7**
PBRG	**Braganca**	**4.72**	**326**	*e*Pn	**Pn**	**00 42 23.8**	**+2.4**
PBRG				*e*Sg	**Sg**	**00 43 42.6**	**+0.5**
PBRG				A	A	00 43 47.5	
	comp=N,46nm,1.4s						
EPOB	**Poblet**	**4.78**	**43**	Pn	**Pn**	**00 42 23.9**	**+1.6**
EPOB				Sn	**Sn**	**00 43 16.8**	**-0.8**
EPOB				Sg	**Sg**	**00 43 39.7**	**-4.2**
EPOB				*i* Vmb_Lg		00 43 53.6	
PVRL	**Vila Real**	**4.81**	**315**	*e*Pn	**Pn**	**00 42 24.5**	**+1.8**
PVRL				*e*Sn	**Sn**	**00 43 18.8**	**+0.5**
PVRL				*e*Sg	**Sg**	**00 43 46.1**	**+1.1**
PVRL				A	A	00 43 56.2	
	comp=N,49nm,0.4s						
ECAL	**Calabor**	**4.83**	**327**	Pn	**Pn**	**00 42 25.4**	**+2.4**
ECAL	**Calabor**	**4.83**	**327**	Pn	**Pn**	**00 42 24.1**	**+1.1**
ECAL				Sg	**Sg**	**00 43 44.1**	**-1.5**
PMAFR	**Mafra**	**4.86**	**284**	*e*Sn	**Sn**	**00 43 18.9**	**-0.4**
PMAFR				*e*Sg	**Sg**	**00 43 45.9**	**-0.5**
PMAFR				A	A	00 43 52.2	
	comp=N,174nm,0.6s						
EARA	**Aranguren**	**5.01**	**14**	Sg	**Sg**	**00 43 50.1**	**-1.2**
EARA				*i* Vmb_Lg		00 43 56.1	
ETOS	**Mallorca**	**5.07**	**67**	Pn	**Pn**	**00 42 27.5**	**+1.2**
ETOS				Sn	**Sn**	**00 43 21.2**	**-3.5**
ETOS	**Mallorca**	**5.07**	**67**	Pn	**Pn**	**00 42 27.4**	**+1.2**
ETOS				Sn	**Sn**	**00 43 22.2**	**-2.5**
EORO	**Oroz-Betelu**	**5.18**	**16**	Pn	**Pn**	**00 42 29.5**	**+1.7**
EORO				Sn	**Sn**	**00 43 28.4**	**+1.0**
EORO				Sg	**Sg**	**00 43 52.1**	**-4.7**
EORO				*i* Vmb_Lg		00 44 09.3	
MD31	**MD31**	**5.19**	**194**	P	**Pn**	**00 42 29.5**	**+1.5**
MD31	**MD31**	**5.19**	**194**	S	**Sn**	**00 43 29.2**	**+1.4**
MDT	**Midelt**	**5.22**	**193**	P	**Pn**	**00 42 26.9**	**-1.4**
MDT	**Midelt**	**5.22**	**193**	S	**Sn**	**00 43 29.6**	**+1.2**
PTO	**Porto**	**5.24**	**309**	*e*Sg	**Sg**	**00 43 59.4**	**+0.5**
PTO				A	A	00 44 06.4	
	comp=N,52nm,0.5s						
CANF	**Canfranc**	**5.26**	**22**	P	**Pn**	**00 42 31.8**	**+2.9**
CANF				S	**Sn**	**00 43 28.2**	**-1.3**
PCAB	**Cabril**	**5.28**	**317**	*e*Pn	**Pn**	**00 42 30.5**	**+1.4**
PCAB				*e*Sg	**Sg**	**00 44 00.4**	**+0.4**
PCAB				A	A	00 44 14.4	
	comp=N,50nm,0.4s						
ELAN	**Lanestosa**	**5.31**	**358**	Pn	**Pn**	**00 42 31.6**	**+2.1**
ELAN				Pg	**Pb**	**00 42 46.0**	**+2.9**
ELAN				Sg	**Sg**	**00 43 58.2**	**-2.6**
ELAN				*i* Vmb_Lg		00 44 06.6	
ETSF	**Etsaut**	**5.38**	**22**	*e*Pn	**Pn**	**00 42 33.5**	**+3.1**
ETSF				*e*Sn	**Sn**	**00 43 33.3**	**+1.1**
	comp=N,4.8nm,0.2s						
ETSF				*e*Sg	**Sg**	**00 44 02.3**	**-0.8**
	comp=N,42nm,0.5s						
SJPF	**Ste Jean**	**5.41**	**16**	*e*Pn	**Pn**	**00 42 33.3**	**+2.5**
SJPF	**Ste Jean**	**5.41**	**16**	*e*Pg	**Pg**	**00 42 54.0**	**-0.1**
SJPF				*e*Sn	**Sn**	**00 43 30.8**	**-2.1**
	comp=N,5.5nm,0.2s						
SJPF				*e*Sg	**Sg**	**00 44 04.3**	**+0.2**
	comp=N,30nm,0.3s						
ELOB	**Lobios**	**5.41**	**318**	Pn	**Pn**	**00 42 32.3**	**+1.3**
ELOB				Sn	**Sn**	**00 43 32.5**	**-0.5**
ELOB				Sg	**Sg**	**00 44 01.6**	**-2.5**
ELOB				*i* Vmb_Lg		00 44 14.0	
ECHI	**Chisagues Biel**	**5.42**	**28**	Pn	**Pn**	**00 42 32.9**	**+1.8**
ECHI				Sn	**Sn**	**00 43 31.1**	**-2.2**
ECHI				Sg	**Sg**	**00 44 00.9**	**-3.4**
ECHI				*i* Vmb_Lg		00 44 16.7	
ATE	**Arette**	**5.51**	**20**	P	**Pn**	**00 42 35.7**	**+3.4**
ATE				S	**Sn**	**00 43 35.0**	**-0.4**
OSSF	**Osses**	**5.54**	**15**	P	**Pn**	**00 42 34.4**	**+1.9**
OSSF				S	**Sn**	**00 43 34.5**	**-1.5**
VIEF	**Viey**	**5.55**	**26**	P	**Pn**	**00 42 35.4**	**+2.6**
EARI	**Arriondas**	**5.58**	**345**	Pn	**Pn**	**00 42 35.4**	**+2.2**
EARI				Sn	**Sn**	**00 43 35.0**	**-2.2**
EARI				Sg	**Sg**	**00 44 04.1**	**-5.4**
EARI				*i* Vmb_Lg		00 44 19.5	
PGAV	**Gavieira, Arco**	**5.59**	**318**	*e*Pn	**Pn**	**00 42 35.0**	**+1.6**
PGAV				*e*Sn	**Sn**	**00 43 37.6**	**+0.1**
PGAV				*e*Sg	**Sg**	**00 44 08.5**	**-1.4**
PGAV				A	A	00 44 23.9	
	comp=N,42nm,0.8s						
AVE	**Averroes**	**5.73**	**218**	Pn	**Pn**	**00 42 34.6**	**-0.7**
EPF	**Esparros**	**5.79**	**27**	*e*Pn	**Pn**	**00 42 38.9**	**+2.8**
EPF	**Esparros**	**5.79**	**27**	*e*Pg	**Pg**	**00 43 00.5**	**-0.8**
EPF				*e*Sn	**Sn**	**00 43 40.6**	**-1.7**
	comp=N,8.0nm,0.2s						
EPF				*e*Sg	**Sg**	**00 44 14.3**	**-1.9**
	comp=N,41nm,0.4s						
SALF	**Salau**	**5.90**	**34**	P	**Pn**	**00 42 41.1**	**+3.5**
SALF				S	**Sn**	**00 43 43.6**	**-1.5**
EZAM	**Zamans**	**5.95**	**317**	Sg	**Sg**	**00 44 14.0**	**-7.3**
MLS	**Moulis**	**6.02**	**32**	P	**Pn**	**00 42 42.4**	**+3.2**
MLS				S	**Sn**	**00 43 48.2**	**+0.2**
CARF	**Carcanieres**	**6.29**	**39**	P	**Pn**	**00 42 45.8**	**+2.7**
DUNF	**Dun**	**6.39**	**35**	P	**Pn**	**00 42 47.2**	**+2.9**
DUNF				S	**Sn**	**00 43 58.6**	**+1.6**
FNEB	**Nbias**	**6.43**	**38**	P	**Pn**	**00 42 48.1**	**+3.1**
FNEB				S	**Sn**	**00 44 00.3**	**+2.1**
EJON	**La Jonquera**	**6.51**	**44**	Sg	**Sg**	**00 44 33.1**	**-6.4**
MTLF	**Montolieu**	**6.82**	**36**	*e*Pn	**Pn**	**00 42 51.8**	**+1.6**
MTLF	**Montolieu**	**6.82**	**36**	*e*Pg	**Pg**	**00 43 19.4**	**-1.7**
MTLF				*e*Sg	**Sg**	**00 44 45.6**	**-3.7**
	comp=N,10nm,0.5s						
MTLF	**Montolieu**	**6.82**	**36**	P	**Pn**	**00 42 54.7**	**+4.5**
MONQ	**Montcuq**	**7.26**	**26**	P	**Pn**	**00 42 57.7**	**+1.5**
MONQ				S	**Sn**	**00 44 15.9**	**-2.5**
LFF	**La Frestale**	**7.62**	**22**	*e*Pn	**Pn**	**00 43 02.7**	**+1.5**
LFF				*e*Sn	**Sn**	**00 44 24.6**	**-2.7**
	comp=N,4.1nm,0.4s						
TIO	**Tiouine**	**7.73**	**207**	Pn	**Pn**	**00 43 03.0**	**+0.2**
TIO	**Tiouine**	**7.73**	**207**	P	**Pn**	**00 43 01.4**	**-1.4**
CAF	**Calviac**	**8.05**	**28**	*e*Pn	**Pn**	**00 43 08.0**	**+0.9**
CAF				*e*Sn	**Sn**	**00 44 36.6**	**-1.4**
	comp=N,2.0nm,0.3s						
LASF	**Ste Croix**	**8.16**	**39**	*e*Pn	**Pn**	**00 43 08.0**	**-0.6**
LASF				*e*Sn	**Sn**	**00 44 37.4**	**-3.2**
	comp=N,2.8nm,0.5s						
RJF	**Les Rejaudoux**	**8.19**	**24**	*e*Pn	**Pn**	**00 43 11.8**	**+2.8**
RJF				*e*Sn	**Sn**	**00 44 38.2**	**-3.2**
	comp=N,3.6nm,0.4s						
MFF	**Saint Martin d**	**8.97**	**14**	*e*Pn	**Pn**	**00 43 21.8**	**+2.1**
MFF				*e*Sn	**Sn**	**00 44 56.3**	**-4.2**
	comp=N,1.4nm,0.4s						
LMR	**La Mourre**	**9.17**	**51**	*e*Pn	**Pn**	**00 43 22.5**	**+0.1**
LMR				*e*Sn	**Sn**	**00 45 01.0**	**-4.4**
	comp=N,0.9nm,0.3s						
TCF	**Toulx Ste Croi**	**9.29**	**24**	*e*Pn	**Pn**	**00 43 25.0**	**+0.9**
TCF				*e*Sn	**Sn**	**00 45 04.7**	**-3.6**
	comp=N,1.2nm,0.4s						
BGF	**Bois d'Agland**	**9.73**	**26**	*e*Pn	**Pn**	**00 43 30.1**	**-0.1**
QUIF	**Quistinic**	**9.99**	**0**	*e*Pn	**Pn**	**00 43 35.0**	**+1.4**
QUIF				*e*Sn	**Sn**	**00 45 21.1**	**-4.4**
AVF	**Avril sur Loir**	**10.11**	**27**	*e*Pn	**Pn**	**00 43 36.1**	**+0.8**
SMF	**Signal de Mont**	**10.17**	**29**	*e*Pn	**Pn**	**00 43 37.5**	**+1.4**
SGMF	**Saint Gilles**	**10.34**	**3**	*e*Pn	**Pn**	**00 43 38.7**	**+0.3**
SGMF				*e*Sn	**Sn**	**00 45 28.9**	**-5.2**
	comp=N,0.3nm,0.2s						
ROSF	**Rostrenen**	**10.41**	**360**	*e*Pn	**Pn**	**00 43 40.9**	**+1.5**
ROSF				*e*Sn	**Sn**	**00 45 30.2**	**-5.6**
	comp=N,1.7nm,0.3s						
PGF	**Pioggiola**	**10.43**	**60**	*e*Pn	**Pn**	**00 43 40.3**	**+0.4**
SFTF	**Sexfontaines**	**11.92**	**28**	*e*Sn	**Sn**	**00 46 07.1**	**-5.7**
	comp=N,4.5nm,0.5s						

IDC ***24*** *00:52:18.7±0.7,20°.49N×120°.86E, h0km, mb4.0/14, mbtmp4.0/15, ML3.7/1, MS3.7/26, Error ellipse: s-maj=25.5km s-min=14.6km az=69.0*
NEIC ***24*** *00:52:22.1±0.7,20°.51N±0°.05×120°.8E±0°.2, h18km±4km, mb4.4/13, Error ellipse: s-maj=21.4km s-min=6.4km az=79.0*
ISC 24 00:52:22.8±0.5**,20°.47N**±0°.04×**120°.87E**±0°.06**, h29**km**, n72,** σ0**9**4**/48, mb4.4/19, MS3.7/24, 7C-2D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
				Op				
BBP	**Basco**	**1.03**	**92**	*i*	*P*	**Pb**	**00 52 41.8**	**-0.2**
BBP				*i*	*S*	**Sn**	**00 52 52.0**	**-2.8**
BBPB	**Basco Batanes**	**1.03**	**92**	*i*	*P*	**Pb**	**00 52 41.9**	**-0.2**
CICP	**Calayan Island**	**1.33**	**154**	*i*	*P*	**Pn**	**00 52 45.0**	**-0.5**
PACPP	**Pamplona Cagay**	**2.06**	**167**	*i*	*P*	**Pn**	**00 52 54.6**	**-0.8**
PIP	**Pasuquin**	**2.15**	**186**	*i*	*P*	**Pn**	**00 52 54.8**	**-1.9**
PIP				*i*	*S*	**Sn**	**00 53 20.3**	**-2.1**
TWG	**Pinlang**	**2.34**	**5**			**Pn**	**00 52 59.5**	**0.0**
SGCP	**Gonzaga**	**2.48**	**153**	*e*	*P*	**Pn**	**00 53 01.6**	**+0.3**
SGCP				*i*	*S*	**Sn**	**00 53 33.8**	**+3.2**
SIPP	**Brgy, Tapao**	**2.56**	**189**	*e*	*P*	**Pn**	**00 53 02.6**	**+0.2**
SIPP				*e*	*S*	**Sn**	**00 53 32.3**	**-0.4**
TPUB	**Ta-pu**	**2.82**	**356**			**Pn**	**00 53 05.4**	**-0.6**
YULB	**Yu-li**	**2.93**	**8**			**Pn**	**00 53 07.4**	**-0.1**
SSLB	**Suanglung**	**3.30**	**1**			**Pn**	**00 53 12.2**	**-0.4**
NACB	**Ninganchiao**	**3.75**	**10**			**Pn**	**00 53 18.5**	**-0.1**
YHNB	**Yeheng**	**4.21**	**6**			**Pn**	**00 53 25.4**	**+0.4**
PCPS	**Palayan City**	**5.79**	**178**	*e*	*P*	Pn	00 53 36.1	-11
LQP	**Lukban**	**6.36**	**174**	*e*	*P*	Pn	00 53 59.9	+5.1
DAV	**Davao City (W)**	**14.08**	**160**	LR		LR	01 01 49.5	
	comp=Z,359nm,19.5s,baz=352,slow=40							
JNU	**Nakatsue**	**15.44**	**33**	Pn		**P**	**00 56 01.8**	**-1.1**
	0.4nm,0.3s,baz=348,slow=12,SNR=2.5							
KSRS	**Korea Array**	**18.00**	**18**	P		**P**	**00 56 30.8**	**-0.4**
	0.3nm,0.3s,baz=203,slow=12,SNR=9.6							
KSRS				LR		LR	01 04 15.8	
	comp=Z,136nm,19.7s,baz=170,slow=40 2.9nm,0.8s							
KS19	**Wonju Array Si**	**18.03**	**18**			**Pn**	**00 56 30.3**	**-0.9**
PHRA	**Phrae**	**19.55**	**268**	P		**P**	**00 56 48.3**	**-0.1**
JCJ	**Chichijima**	**20.58**	**67**	LR		LR	01 03 17.7	
	comp=Z,55nm,19.4s,baz=5.5,slow=32							
CMAR	**Chiang Mai Arr**	**20.77**	**268**	P		**P**	**00 57 01.3**	**-0.3**
	2.9nm,0.8s,baz=73,slow=9.3,SNR=17							
CMAR				LR		LR	01 04 52.4	
	comp=Z,107nm,19.4s,baz=75,slow=36 2.9nm,0.8s							
MJAR	**Matsushiro Arr**	**22.05**	**40**	P		**P**	**00 57 14.2**	**-1.1**
	0.7nm,0.5s,baz=239,slow=12,SNR=1.8 0.7nm,0.5s							
USRK	**Ussuriysk Ar.**	**25.41**	**19**	LR		LR	01 08 41.1	
	comp=Z,76nm,19.4s,baz=147,slow=39							
SONM	**Songino Array**	**29.70**	**340**	P		**P**	**00 58 26.7**	**+0.3**
	0.9nm,0.8s,baz=163,slow=12,SNR=6.0							
SONM				LR		LR	01 11 26.0	
	comp=Z,179nm,19.2s,baz=180,slow=39 0.9nm,0.8s							
ASAJ	**Asahikawa**	**29.71**	**33**	LR		LR	01 11 41.9	
	comp=Z,62nm,18.6s,baz=153,slow=39							
KLR	**Kul'dur**	**29.99**	**14**	LR		LR	01 11 52.7	
	comp=Z,177nm,19.4s,baz=216,slow=39							
MKAR	**Makanchi Array**	**40.86**	**319**	LR		LR	01 17 03.6	
	comp=Z,68nm,18.8s,baz=96,slow=36							
WRA	**Warramunga Arr**	**42.28**	**161**	P		**P**	**01 00 14.3**	**+0.4**
WRA	**Warramunga Arr**	**42.28**	**161**	P		**P**	**01 00 13.5**	**-0.4**
	5.3nm,0.6s,baz=343,slow=9.1,SNR=62 5.3nm,0.6s							
WB2	**Warramunga Arr**	**42.28**	**161**	P		**P**	**01 00 14.1**	**+0.1**
WR0	**Warramunga Arr**	**42.35**	**161**	P		**P**	**01 00 14.3**	**-0.2**
H11N1	**WAKE ISLAND Hy**	**43.12**	**83**	T		T	01 46 41.9	
	baz=279,slow=75,SNR=9.7							
H11N2	**WAKE ISLAND Hy**	**43.12**	**83**	T		T	01 46 42.0	
	baz=279,slow=75,SNR=8.3							
PETK	**Petropavlovsk-**	**43.13**	**32**	LR		LR	01 20 35.6	
	comp=Z,56nm,18.8s,baz=207,slow=39							
H11N3	**WAKE ISLAND Hy**	**43.14**	**83**	T		T	01 46 41.8	
	baz=279,slow=75,SNR=8.3							
H11S3	**WAKE ISLAND Hy**	**43.14**	**84**	T		T	01 46 37.1	
	baz=281,slow=75,SNR=29							
H11S1	**WAKE ISLAND Hy**	**43.15**	**84**	T		T	01 46 38.4	
	baz=281,slow=75,SNR=34							
H11S2	**WAKE ISLAND Hy**	**43.16**	**84**	T		T	01 46 38.4	
	baz=281,slow=75,SNR=41							
ZAA0	**Zalesovo Array**	**43.23**	**329**	P		**P**	**01 00 21.4**	**+0.1**
ZAA0				IAmb		IAmb	01 00 22.6	
	comp=Z,6.0nm,0.8s							
ZALV	**Zalesovo Beam**	**43.23**	**329**	P		**P**	**01 00 21.3**	**0.0**
ZALV	**Zalesovo Beam**	**43.23**	**329**	P		**P**	**01 00 21.5**	**+0.2**
	comp=Z,5.5nm,0.8s,baz=115,slow=7.0,SNR=25							
ZALV				LR		LR	01 17 12.8	
	comp=Z,37nm,21.1s,baz=72,slow=35 comp=Z,5.5nm,0.8s							
MA2	**Magadan**	**44.52**	**21**	LR		LR	01 19 59.5	
	comp=Z,73nm,20.8s,baz=255,slow=37							
AAK	**Ala-Archa**	**44.60**	**310**	LR		LR	01 21 53.5	
	comp=Z,104nm,18.2s,baz=99,slow=40							
KURK	**Kurchatov**	**44.80**	**323**	P		**P**	**01 00 33.5**	**-0.4**
KURK				IAmb		IAmb	01 00 35.7	
	comp=Z,6.2nm,1.1s							
KURBB	**Kurchatov Arra**	**44.80**	**323**	P		**P**	**01 00 34.4**	**+0.4**
	comp=Z,4.9nm,0.9s,baz=124,slow=7.7,SNR=41 comp=Z,4.9nm,0.9s							
AS31	**Alice Springs**	**45.67**	**163**	P		**P**	**01 00 41.4**	**+0.2**
AS31				IAmb		IAmb	01 00 53.4	
	comp=Z,2.3nm,0.6s							
ASAR	**Alice Springs**	**45.67**	**163**	P		**P**	**01 00 41.7**	**+0.5**
ASAR	**Alice Springs**	**45.67**	**163**	P		**P**	**01 00 41.5**	**+0.3**
	comp=Z,3.5nm,0.7s,baz=345,slow=7.0,SNR=40 comp=Z,3.5nm,0.7s							
CTA	**Charters Tower**	**47.36**	**147**	LR		LR	01 21 35.6	
	comp=Z,39nm,20.2s,baz=174,slow=37							
HNR	**Honiara**	**48.59**	**124**	LR		LR	01 21 04.7	
	comp=Z,470nm,18.9s,baz=344,slow=36							
BVAR	**Borovoye Array**	**50.39**	**323**	P		**P**	**01 01 17.0**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=113,slow=11,SNR=4.8 comp=Z,1.1nm,0.7s							
NRIK	**Noril'sk**	**52.90**	**346**	LR		LR	01 26 02.7	
	comp=Z,98nm,21.3s,baz=140,slow=38							
STKA	**Stephens Creek**	**55.71**	**159**	P		**P**	**01 01 57.9**	**+1.2**
	comp=Z,3.2nm,0.7s,baz=328,slow=7.9,SNR=8.2 comp=Z,3.2nm,0.7s							
ABKAR	**Akbulak array**	**55.86**	**316**			**P**	**01 01 57.2**	**-0.5**
GEYT	**Alibeck**	**56.47**	**303**	P		**P**	**01 02 01.7**	**-0.6**
GEYT				IAmb		IAmb	01 02 09.3	
	comp=Z,3.2nm,0.9s							
GEYT	**Alibeck**	**56.47**	**303**	P		**

	12nm,0.4s								
MDOK	**Medeo**	**4.92**	**294**		Pg		**Pg**	**00 59 37.1**	**-3.1**
	1.5nm,0.4s								
MDOK					Lg		Lg	01 00 42.0	
	12nm,0.5s								
TNSS	**Tian-Shan**	**4.95**	**293**		*e*P		**Pg**	**00 59 38.7**	**-2.0**
	2.2nm,0.3s								
TNSS					*e*S		**Sg**	**01 00 45.0**	**+0.2**
	9.6nm,0.4s								
TNSS	**Tian-Shan**	**4.95**	**293**		Pg		**Pg**	**00 59 38.7**	**-2.0**
	2.2nm,0.3s								
TNSS					Lg		Lg	01 00 45.0	
	9.6nm,0.6s								
MTBS	**Maitube**	**5.33**	**292**		*e*P		**Pg**	**00 59 45.5**	**-2.6**
	4.4nm,0.3s								
MTBS					*e*S		**Sg**	**01 00 56.5**	**-0.8**
	13nm,0.6s								
MTBS	**Maitube**	**5.33**	**292**		Pg		**Pg**	**00 59 45.5**	**-2.6**
	4.4nm,0.3s								
MTBS					Lg		Lg	01 00 56.9	
	13nm,0.6s								
KTBS	**Karatobe**	**5.37**	**299**		*e*P		**Pg**	**00 59 46.2**	**-2.6**
	1.5nm,0.2s								
KTBS					*e*S		**Sg**	**01 00 57.2**	**-1.2**
	28nm,0.6s								
MK31	**Makanchi Array**	**5.52**	**354**		⇓Pn		**Pn**	**00 59 30.1**	**+1.8**
	0.5nm,0.6s,baz=197,slow=12,SNR=3.5								
MK31					Pg		**Pb**	**00 59 47.2**	**+4.7**
	3.4nm,0.6s,baz=165,slow=14,SNR=8.8								
MK31					⇑Lg		Lg	01 01 01.3	
	7.6nm,0.6s,baz=163,slow=23,SNR=3.9								
KST	**Kastek**	**5.64**	**290**		*e*P		**Pg**	**00 59 50.9**	**-3.1**
KST					*e*S		**Sg**	**01 01 04.8**	**-2.1**
	22nm,0.5s								
DGS	**Degeres**	**5.83**	**292**		*e*P		**Pg**	**00 59 57.0**	**-0.6**
DGS					*e*S		**Sg**	**01 01 15.0**	**+2.0**
ZSN	**Zaisan**	**6.26**	**11**		*e*P		**Pg**	**01 00 02.2**	**-3.6**
	1.4nm,0.2s								
ZSN					*e*S		**Sg**	**01 01 24.4**	**-2.5**
	14nm,0.7s								
ZSN	**Zaisan**	**6.26**	**11**		Pg		**Pg**	**01 00 02.4**	**-3.4**
ZSN					Lg		Lg	01 01 22.0	

IDC 24 01:16:30.1±2.1, 8°29S×129°21E, h0km, mb3.5/1, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=99.0km s-min=33.0km az=66.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.60**	**157**	Pn	Pn	01 19 30.5	-0.2
	0.3nm,0.3s,baz=336,slow=14,SNR=30						
WRA				Sn	Sn	01 21 43.6	-8.4
	0.7nm,0.3s,baz=331,slow=23,SNR=8.9						
	0.4nm,0.2s						
ASAR	**Alice Springs**	**15.94**	**164**	Pn	Pn	01 20 16.1	+0.3
	0.1nm,0.3s,baz=338,slow=10.0,SNR=1.9						
ASAR				Sn	Sn	01 23 03.3	-10
	0.1nm,0.3s,baz=355,slow=30,SNR=1.7						
	0.5nm,0.9s						
MKAR	**Makanchi Array**	**68.88**	**327**	P	P	01 27 36.7	0.0
	0.3nm,0.6s,baz=111,slow=7.9,SNR=4.3						
	0.3nm,0.6s						

*JMA **24** 01:23:26.7±0.5, 44°N±3°×14°8E±°, h0km, MV3.7/17, SE OFF ETOROFU*
*SKHL **24** 01:23:28.6±0.2, 44°40N×148°20E, h30km±4km, mb4.2/3*
ISC 24 01:23:25.7±3.5, 44°37N±0°10×148°2E±0°2, h7km±17km, n13, σ1°28/23, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.91**	**343**	*e*P	**Pb**	**01 23 43.5**	**-0.2**
KUR				AMB	AMB	01 23 44.2	
	110nm,0.3s						
KUR				*i* S	**Sb**	**01 23 55.0**	**-0.9**
KUR				A	A	01 23 56.1	
	180nm,0.2s						
KUR				A	A	01 23 56.1	
	370nm,0.2s						
SHO	**Shikotan**	**1.12**	**244**	*e*P	**Pn**	**01 23 47.6**	**-0.2**
SHO				AMB	AMB	01 23 47.9	
	50nm,0.4s						
SHO				*e*S	**Sg**	**01 24 01.3**	**-0.5**
SHO				A	A	01 24 02.4	
	120nm,0.3s						
SHO				A	A	01 24 02.4	
	250nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.74**	**260**	*e*P	**Pn**	**01 23 56.6**	**+0.4**
YUK				AMB	AMB	01 23 59.5	
	210nm,0.4s						
YUK				*e*S	**Sn**	**01 24 17.7**	**-0.9**
YUK				A	A	01 24 22.0	
	170nm,0.3s						
YUK				A	A	01 24 22.0	
	320nm,0.3s						
NEM2	**Nemuro 2**	**2.06**	**242**	P	**Pn**	**01 24 00.5**	**-0.1**
NEM2				*e*S	**Sn**	**01 24 25.0**	**-1.5**
NMR	**Nemuro--Hokkai**	**2.07**	**242**	*e*P	**Pn**	**01 24 00.6**	**-0.1**
NMR				*e*S	**Sn**	**01 24 24.9**	**-1.8**
JNSB	**Nemuroshibetsu**	**2.40**	**257**	*e*P	**Pn**	**01 24 07.2**	**+1.8**
JKHN	**Kushirohamanak**	**2.57**	**241**	*e*P	**Pn**	**01 24 07.8**	**+0.2**
JNK	**Nakash**	**2.65**	**254**	P	**Pn**	**01 24 10.0**	**+1.2**
JNK				*e*S	**Sn**	**01 24 42.1**	**+0.9**
AKK	**Akkeshi**	**2.80**	**242**	*e*P	**Pn**	**01 24 11.2**	**+0.3**
AKK				*e*S	**Sn**	**01 24 43.0**	**-1.9**
JAK	**Akkeshi**	**2.91**	**243**	P	**Pn**	**01 24 12.8**	**+0.5**
JAK				*e*S	**Sn**	**01 24 47.5**	**+0.1**
JOB	**Onbets**	**3.51**	**247**	*e*P	**Pn**	**01 24 22.1**	**+1.5**
JOB				*e*S	**Sn**	**01 25 02.1**	**-0.2**
JCH	**Churui**	**3.95**	**245**	*e*P	**Pn**	**01 24 28.4**	**+1.8**
JCH				*e*S	**Sn**	**01 25 14.8**	**+1.6**
JNBK	**Urakawa-nobuka**	**4.51**	**244**	*e*P	**Pn**	**01 24 36.6**	**+2.3**

OMAN 24 01:29:45.8±1.3, 14°75N×51°78E, h15km, mb3.3/3, ml3.5/5, Error ellipse: s-maj=14.3km s-min=9.4km az=131.0, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**2.97**	**29**	P	Pn	01 30 33.1	+0.6
	SNR=14						
ABTO				S	Sn	01 31 11.2	+3.3
RBK	**Rabkut**	**3.59**	**40**	P	Pn	01 30 41.9	+0.8
	SNR=66						
RBK				S	Sn	01 31 26.2	+2.9
	SNR=6.4						
WHFO	**Wadi Hawf**	**3.68**	**31**	P	Pn	01 30 43.1	+0.8
	SNR=41						
WHFO				S	Sn	01 31 28.8	+3.3
DMTO	**DMTO**	**4.24**	**45**	P	Pn	01 30 49.8	-0.1
	SNR=57						
DMTO				S	Sn	01 31 42.1	+3.1
DOK	**Doka**	**4.45**	**30**	P	Pn	01 30 53.8	+1.0
	SNR=20						
DOK				S	Sn	01 31 47.6	+3.1
SHAO	**Shalim**	**4.92**	**48**	P	Pn	01 30 59.3	0.0
	SNR=15						
DQM	**DQM**	**7.53**	**46**	P	Pn	01 31 34.4	-0.8
DQM				S	Sn	01 33 02.2	+1.9
UMZA	**Um Al Zommool**	**8.54**	**22**	P	Pn	01 31 49.8	+0.8
UMZA				S	Sn	01 33 25.0	-0.1
MHTO	**MHTO**	**8.55**	**43**	P	Pn	01 31 48.9	-0.3
MHTO				S	Sn	01 33 24.2	-1.2
MZWR	**Madinat Zayed**	**9.18**	**12**	P	Pn	01 31 59.0	+1.2
MZWR				S	Sn	01 33 42.0	+1.2
BSY	**Bisya**	**9.46**	**32**	P	Pn	01 32 02.1	+0.5
BSY				S	Sn	01 33 48.4	+0.5
ARQ	**Araqi**	**9.64**	**27**	P	Pn	01 32 04.3	+0.1
ARQ				S	Sn	01 33 52.0	-0.3
JMDO	**Jabal Madar**	**9.66**	**37**	P	Pn	01 32 04.3	-0.1
	SNR=5.8						
JMDO				S	Sn	01 33 52.7	-0.1
	SNR=6.3						
SMDO	**Samad**	**10.17**	**35**	P	Pn	01 32 10.7	-0.7
AJN	**Ajban**	**10.21**	**17**	P	Pn	01 32 13.4	+1.4
HOQ	**Hoqain**	**10.22**	**30**	P	Pn	01 32 12.6	+0.6
JLN	**Jalan Bani Buh**	**10.32**	**43**	P	Pn	01 32 13.5	+0.1
WBK	**Wadi Bani Khal**	**10.37**	**40**	P	Pn	01 32 13.8	-0.2
	SNR=12						
ASUD	**Al Ashush, Dub**	**10.37**	**18**	P	Pn	01 32 16.1	+2.0
	SNR=14						
BIDO	**Bidbid**	**10.58**	**34**	P	Pn	01 32 17.1	+0.1
SHMA	**Al-Shehemyia**	**11.07**	**356**	P	Pn	01 32 25.2	+1.5

*SOME **24** 01:35:31.3, 41°52N×83°22E, h5km*
*NNC **24** 01:35:31.2±3.3, 41°22N±83°06E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=23.5km s-min=18.1km az=158.0*
ISC 24 01:35:29.7±2.3, 41°5N±0°1×83°28E±0°07, h10km, n28, σ2°35/42, 11C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.30**	**302**	*e*P	**Pb**	**01 36 28.3**	**-0.1**
	17nm,0.2s						
SHLS				*e*S	**Sb**	**01 37 09.4**	**+0.7**
	301nm,0.4s						
SHLS	**Shalkode**	**3.30**	**302**	Pg	**Pb**	**01 36 28.3**	**-0.1**
	17nm,0.2s						
SHLS				Lg	Lg	01 37 09.4	
	301nm,0.4s						
PDGK	**Podgornoye**	**3.37**	**305**	Pg	**Pb**	**01 36 31.7**	**+2.1**
	4.6nm,0.5s						
PDGK				Lg	Lg	01 37 15.7	
	43nm,0.6s						
PDGK	**Podgornoye**	**3.37**	**305**	⇑Pn	**Pn**	**01 36 23.7**	**+1.2**
	5.7nm,0.5s						
PDGK				⇑Pg	**Pg**	**01 36 35.8**	**+1.5**
	14nm,0.5s						
PDGK				⇓Lg	Lg	01 37 15.0	
	69nm,0.6s						
UZB	**Uzynbulak**	**3.58**	**299**	*e*P	**Pg**	**01 36 36.5**	**-1.8**
	6.2nm,0.2s						
UZB				*e*S	**Sg**	**01 37 23.5**	**-1.1**
	114nm,0.2s						
UZB	**Uzynbulak**	**3.58**	**299**	Pg	**Pg**	**01 36 36.5**	**-1.8**
	6.3nm,0.4s						
UZB				Lg	Lg	01 37 23.5	
	113nm,0.5s						
DJR	**Jarkent**	**3.85**	**319**	*e*P	**Pg**	**01 36 42.1**	**-1.2**
	2.2nm,0.1s						
DJR				*e*S	**Sg**	**01 37 33.2**	**0.0**
	19nm,0.4s						
DJR	**Jarkent**	**3.85**	**319**	Pg	**Pg**	**01 36 42.2**	**-1.2**
DJR				Lg	Lg	01 37 33.5	
SATY	**Saty**	**3.96**	**295**	*e*P	**Pg**	**01 36 43.7**	**-1.8**
	7.5nm,0.4s						
SATY				*e*S	**Sg**	**01 37 35.5**	**-1.2**
	57nm,0.3s						
SATY	**Saty**	**3.96**	**295**	Pg	**Pg**	**01 36 43.7**	**-1.8**
	7.5nm,0.4s						
SATY				Lg	Lg	01 37 35.5	
	57nm,0.6s						
KURS	**Kuram**	**4.29**	**300**	*e*P	**Pg**	**01 36 49.8**	**-2.0**
	8.4nm,0.4s						
KURS				*e*S	**Sg**	**01 37 46.2**	**-1.2**
	33nm,0.8s						
ARXS	**Arharly**	**4.86**	**306**	*e*P	**Pg**	**01 37 00.8**	**-2.0**
	4.7nm,0.3s						
ARXS				*e*S	**Sg**	**01 38 05.0**	**-0.8**
	34nm,0.5s						
KOTS	**Kotyrbulak**	**4.90**	**293**	*e*P	**Pg**	**01 37 02.1**	**-1.4**
	6.7nm,0.1s						
KOTS				*e*S	**Sg**	**01 38 07.8**	**+0.7**
	70nm,0.5s						
MDOK	**Medeo**	**4.93**	**292**	*e*P	**Pg**	**01 37 01.1**	**-2.9**
	3.7nm,0.3s						
MDOK				*e*S	**Sg**	**01 38 05.3**	**-2.5**
	25nm,0.5s						
TNSS	**Tian-Shan**	**4.96**	**291**	*e*P	**Pg**	**01 37 01.7**	**-2.9**
	4.0nm,0.7s						
TNSS				*e*S	**Sg**	**01 38 06.8**	**-2.2**
	24nm,0.5s						
TNSS	**Tian-Shan**	**4.96**	**291**	Pg	**Pg**	**01 37 01.7**	**-2.9**
	4.0nm,0.7s						
TNSS				Lg	Lg	01 38 06.8	
	24nm,0.8s						
IZV	**Izvestkoviy**	**5.19**	**290**	*e*P	**Pb**	**01 37 04.5**	**+3.8**
	1.4nm,0.2s						
IZV				*e*S	**Sg**	**01 38 11.7**	**-4.7**
	24nm,0.3s						
IZV	**Izvestkoviy**	**5.19**	**290**	Pg	**Pb**	**01 37 04.5**	**+3.8**
	1.3nm,0.4s						
IZV				Lg	Lg	01 38 12.0	
	25nm,0.5s						
CHKK	**Chushkaly**	**5.22**	**299**	*e*P	**Pg**	**01 37 06.5**	**-3.1**
	0.8nm,0.1s						
CHKK				*e*S	**Sg**	**01 38 14.7**	**-2.6**
	14nm,0.3s						
MTBS	**Maitube**	**5.35**	**290**	*e*P	**Pg**	**01 37 08.4**	**-3.7**
	3.7nm,0.2s						
MTBS				*e*S	**Sg**	**01 38 18.5**	**-2.9**
	13nm,0.3s						
KTBS	**Karatobe**	**5.37**	**297**	*e*P	**Pg**	**01 37 09.5**	**-2.9**
	4.9nm,0.4s						
KTBS				*e*S	**Sg**	**01 38 19.7**	**-2.2**
	44nm,0.6s						
MK31	**Makanchi Array**	**5.38**	**353**	⇑Pg	**Pg**	**01 37 14.0**	**+1.4**
	2.0nm,0.4s,baz=168,slow=15						
MK31				⇑Lg	Lg	01 38 25.4	
	13nm,0.6s,baz=170,slow=29						
MAKZ	**Makanchi**	**5.42**	**350**	⇑Pg	**Pg**	**01 37 12.5**	**-1.0**
	3.2nm,0.5s						
MAKZ				⇑Lg	Lg	01 38 26.2	
	10nm,0.9s						
TKM2	**Tokmak 2**	**5.89**	**287**	⇑Pn	**Pn**	**01 36 58.8**	**+1.5**
	1.7nm,0.4s						
TKM2				⇑Sn	**Sn**	**01 38 06.7**	**+1.8**
	7.2nm,0.5s						
TKM2				⇓Lg	Lg	01 38 34.8	
	31nm,0.8s						
ZSN	**Zaisan**	**6.09**	**10**	*e*P	**Pg**	**01 37 22.9**	**-3.4**
	1.7nm,0.2s						
ZSN				*e*S	**Sg**	**01 38 42.8**	**-2.3**
	12nm,0.8s						
ZSN	**Zaisan**	**6.09**	**10**	Pg	**Pg**	**01 37 22.9**	**-3.4**
	1.2nm,0.4s						
ZSN				Lg	Lg	01 38 42.8	
	12nm,0.8s						
KURBB	**Kurchatov Arra**	**9.73**	**342**	⇓Sn	Sn	01 39 54.5	+15
	6.3nm,0.7s						
KURBB				⇑Lg	Lg	01 40 47.3	
	10nm,0.7s						
KURK	**Kurchatov**	**9.80**	**342**	⇑Sn	Sn	01 39 55.1	+14
	3.7nm,0.7s						
KURK				⇑Lg	Lg	01 40 48.6	
	12nm,1.2s						

IDC 24 01:37:02.0±7.8, 19°34S×176°36W, h0km, mb4.2/4, mbtmp4.2/4, Error ellipse: s-maj=203.2km s-min=40.1km az=29.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.68**	**243**	P	P	01 44 36.4	+0.3
	0.9nm,0.4s,baz=83,slow=8.5,SNR=3.6						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**46.29**	**255**	P	P	01 45 29.6	-0.3
	4.2nm,0.7s,baz=98,slow=7.5,SNR=61						
	4.2nm,0.7s						
WRA	**Warramunga Arr**	**46.30**	**261**	P	P	01 45 29.6	-0.2
	1.0nm,0.3s,baz=97,slow=7.5,SNR=59						
	1.0nm,0.3s						
QSPA	**South Pole Qui**	**70.73**	**180**	P	P	01 48 19.9	+0.1
	1.4nm,0.7s,baz=354,slow=1.9,SNR=8.3						
	1.4nm,0.7s						

*MDD **24** 02:18:10.6±0.2, 37°.89N×3°.27W, h0km, mb_Lg3.0/29, Error ellipse: s-maj=1.6km s-min=1.4km az=134.0*
*LDG **24** 02:18:11.7±0.2, 37°.86N×3°.27W, h10km, Ml2.7/3, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*IGIL **24** 02:18:11.2, 37°.86N×3°.27W, h2km, ML2.3*
*INMG **24** 02:18:12.0±1.9, 37°.86N×3°.23W, h11km±6km, ML2.6, Error ellipse: s-maj=3.3km s-min=2.6km az=17.0*
*SFS **24** 02:18:12.9, 37°.81N×3°.31W, h22km, ML2.8/14, ML3.1/12, MLv2.7/14*
*CNRM **24** 02:18:16.3, 37°.57N×2°.88W, h125km, ML3.6*
ISC 24 02:18:10.2±1.0, 37°87N±0°02×3°28W±0°01, h7km±8km, n65, σ1°18/129, 1D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EQES	**Quesada**	**0.18**	**111**	⇓Pg	**Pg**	**02 18 13.8**	**0.0**
EQES				Sg	**Sg**	**02 18 16.0**	**-0.3**
EQES				*i* Vmb_Lg		02 18 16.6	
EQTA	**Presa de Quent**	**0.67**	**191**	Pg	**Pg**	**02 18 23.6**	**+0.5**
EQTA				Sg	**Sg**	**02 18 32.3**	**+0.4**
EQUE	**Quentar**	**0.67**	**191**	Pg	**Pg**	**02 18 23.8**	**+0.7**
EQUE				Sg	**Sg**	**02 18 32.5**	**+0.5**
EQUE				*i* Vmb_Lg		02 18 35.3	
EGOR	**Sierra Gorda,**	**1.00**	**221**	Pg	**Pg**	**02 18 28.8**	**-0.7**
EGOR	**Sierra Gorda,**	**1.00**	**221**	Pg	**Pg**	**02 18 28.6**	**-0.9**
EGOR				Sg	**Sb**	**02 18 43.3**	**-0.1**
EGOR				*i* Vmb_Lg		02 18 48.7	
PSIM	**Granatula de C**	**1.02**	**339**	Pg	**Pg**	**02 18 30.4**	**+0.6**
PSIM				Sg	**Sg**	**02 18 43.8**	**+0.7**
ELGU	**Los Guajares,**	**1.04**	**196**	Pg	**Pb**	**02 18 30.9**	**+0.5**
ELGU	**Los Guajares,**	**1.04**	**196**	Pg	**Pg**	**02 18 30.5**	**+0.5**
ELGU				Sg	**Sb**	**02 18 44.1**	**-0.1**
ELGU				*i* Vmb_Lg		02 18 55.0	
EADA	**Adamuz**	**1.07**	**287**	Pg	**Pn**	**02 18 31.3**	**-0.2**
EADA				Sg	**Sn**	**02 18 46.3**	**-0.4**
EADA	**Adamuz**	**1.07**	**287**	Pg	**Pb**	**02 18 31.2**	**+0.2**
EADA				Sg	**Sn**	**02 18 46.1**	**-0.6**
EADA				*i* Vmb_Lg		02 18 50.1	
ENIJ	**Nijar**	**1.24**	**136**	Pg	**Pn**	**02 18 32.7**	**-1.2**
ENIJ				Sg	**Sb**	**02 18 50.4**	**+0.4**
ENIJ	**Nijar**	**1.24**	**136**	Pg	**Pn**	**02 18 33.7**	**-0.2**
ENIJ				Sg	**Sb**	**02 18 49.8**	**-0.1**
ENIJ				*i* Vmb_Lg		02 18 53.3	
TLOR	**Lorca, Murcia**	**1.28**	**99**	Pn	**Pn**	**02 18 35.4**	**+1.0**
TLOR				Sn	**Sb**	**02 18 51.3**	**+0.1**
E1002	**Yechar (Murcia**	**1.47**	**81**	Pg	**Pn**	**02 18 37.5**	**+0.4**
E1002				Sg	**Sn**	**02 18 56.9**	**+0.4**
E001A	**Albudeite (Mur**	**1.50**	**84**	Pg	**Pn**	**02 18 38.1**	**+0.6**
E001A				Sg	**Sn**	**02 18 58.1**	**+0.8**
ETOB	**Tobarra**	**1.57**	**60**	Pn	**Pn**	**02 18 38.1**	**-0.4**
ETOB				Sn	**Sn**	**02 18 59.7**	**+0.6**
ETOB	**Tobarra**	**1.57**	**60**	Pg	**Pn**	**02 18 38.1**	**-0.4**
ETOB				Sg	**Sn**	**02 19 00.2**	**+1.1**
ETOB				*i* Vmb_Lg		02 19 01.3	
EMUR	**La Murta**	**1.61**	**90**	Pn	**Pn**	**02 18 39.2**	**+0.2**
EMUR				Sn	**Sn**	**02 19 00.4**	**+0.2**
EMUR	**La Murta**	**1.61**	**90**	Pg	**Pn**	**02 18 39.3**	**+0.2**
EMUR				Sg	**Sn**	**02 19 00.8**	**+0.6**
EMUR				*i* Vmb_Lg		02 19 02.7	
ECAB	**El Cabril**	**1.70**	**278**	Pn	**Pn**	**02 18 40.3**	**-0.1**
ECAB				Sn	**Sn**	**02 19 01.2**	**-1.1**
ECAB	**El Cabril**	**1.70**	**278**	Pn	**Pn**	**02 18 40.2**	**-0.1**
ECAB				Sn	**Sb**	**02 19 03.1**	**-0.4**
ECAB				Sg	**Sg**	**02 19 04.7**	**-0.2**
ECAB				*i* Vmb_Lg		02 19 09.5	
EMIJ	**Mijas**	**1.77**	**223**	Pg	**Pg**	**02 18 43.8**	**-0.2**
EMIJ	**Mijas**	**1.77**	**223**	Pg	**Pb**	**02 18 43.4**	**+0.5**
EMIJ				Sn	**Sn**	**02 19 03.9**	**0.0**
EMIJ				Sg	**Sg**	**02 19 06.0**	**-0.8**
EMIJ				*i* Vmb_Lg		02 19 14.1	
CART	**Cartagena**	**1.83**	**98**	Pg	**Pb**	**02 18 44.5**	**+0.6**
CART				Sn	**Sn**	**02 19 04.7**	**-0.7**
CART	**Cartagena**	**1.83**	**98**	P	**Pb**	**02 18 44.5**	**+0.6**
CART	**Cartagena**	**1.83**	**98**	S	**Sn**	**02 19 05.0**	**-0.3**
PAB	**San Pablo**	**1.87**	**334**	Pn	**Pn**	**02 18 42.5**	**-0.2**
PAB				Pg	**Pb**	**02 18 44.6**	**-0.2**
PAB				Sn	**Sn**	**02 19 05.6**	**-1.0**
PAB				Sg	**Sb**	**02 19 09.3**	**+0.9**
PAB				*i* Vmb_Lg		02 19 13.3	
EVIV	**Cofrentes, Val**	**2.19**	**50**	Pn	**Pn**	**02 18 46.3**	**-0.8**
EVIV				Pg	**Pb**	**02 18 49.8**	**-0.4**
EVIV				Sn	**Sn**	**02 19 14.6**	**+0.1**
EVIV				Sg	**Sb**	**02 19 18.2**	**+0.5**
EVIV				*i* Vmb_Lg		02 19 25.4	
UCM	**Universidad Co**	**2.44**	**1**	Pg	**Pb**	**02 18 55.7**	**+1.4**
UCM				Sg	**Sb**	**02 19 26.4**	**+1.7**
GOG	**Mont Gurugu**	**2.65**	**175**	P	**Pn**	**02 18 54.3**	**+1.0**
GOG	**Mont Gurugu**	**2.65**	**175**	S	**Sn**	**02 19 23.5**	**-2.3**
PBAR	**Barrancos**	**2.98**	**277**	*e*Pn	**Pn**	**02 18 58.1**	**+0.2**
PBAR				*e*Sn	**Sn**	**02 19 33.8**	**-0.1**
PBAR				*e*Sg	**Sg**	**02 19 44.5**	**-1.6**
PBAR				A	A	02 19 50.1	
	17nm,0.4s						
PBAR	**Barrancos**	**2.98**	**277**	Pn	**Pn**	**02 18 57.7**	**-0.2**
EBAD	**Badajoz**	**3.07**	**288**	Pn	**Pn**	**02 18 58.7**	**-0.3**
EBAD				Sg	**Sg**	**02 19 45.6**	**-3.1**
EBAD	**Badajoz**	**3.07**	**288**	Pn	**Pn**	**02 18 58.7**	**-0.3**
EBAD				Pg	**Pb**	**02 19 06.0**	**+0.9**
EBAD				Sn	**Sn**	**02 19 35.7**	**-0.3**
EBAD				Sg	**Sg**	**02 19 45.9**	**-2.9**
EBAD				*i* Vmb_Lg		02 19 51.0	
EPLA	**Plasencia**	**3.10**	**316**	Pn	**Pn**	**02 18 58.9**	**-0.6**
EPLA				Pg	**Pb**	**02 19 05.8**	**+0.3**
EPLA				Sn	**Sn**	**02 19 37.0**	**+0.3**
EPLA				Sg	**Sg**	**02 19 47.1**	**-2.5**
EPLA				*i* Vmb_Lg		02 19 50.5	
ETOR	**Torete**	**3.10**	**17**	Pn	**Pn**	**02 18 59.1**	**-0.4**
ETOR				Pg	**Pb**	**02 19 05.3**	**-0.3**
ETOR				Sn	**Sn**	**02 19 36.3**	**-0.5**
ETOR				Sg	**Sb**	**02 19 47.0**	**+3.4**
ETOR				*i* Vmb_Lg		02 19 51.5	
TAF	**Taforalt**	**3.13**	**167**	P	**Pn**	**02 19 00.7**	**+0.7**
TAF	**Taforalt**	**3.13**	**167**	S	**Sn**	**02 19 35.0**	**-2.5**
EMOS	**Mosqueruela**	**3.31**	**40**	Pn	**Pn**	**02 19 01.5**	**-1.1**
EMOS				Pg	**Pb**	**02 19 08.8**	**-0.6**
EMOS				Sn	**Sn**	**02 19 41.6**	**-0.7**
EMOS				Sg	**Sb**	**02 19 51.2**	**+1.3**
EMOS				*i* Vmb_Lg		02 20 03.3	
EGRO	**El Granado**	**3.35**	**266**	Pn	**Pn**	**02 19 02.5**	**-0.5**
EGRO				Sn	**Sn**	**02 19 43.5**	**+0.6**
EGRO				Sg	**Sg**	**02 19 53.9**	**-3.9**
EGRO				*i* Vmb_Lg		02 20 06.7	
PESTR	**Estremoz**	**3.53**	**288**	*e*Pg	**Pg**	**02 19 16.6**	**-1.3**
PESTR				*e*Sn	**Sn**	**02 19 47.0**	**-0.5**
PESTR				*e*Sg	**Sg**	**02 20 03.9**	**+0.3**
PESTR				A	A	02 20 06.3	
	13nm,0.7s						
PESTR	**Estremoz**	**3.53**	**288**	P	**Pb**	**02 19 14.4**	**+1.4**
PESTR	**Estremoz**	**3.53**	**288**	S	**Sg**	**02 20 01.5**	**-2.1**
PVAQ	**Vaqueiros**	**3.55**	**264**	*e*Pn	**Pn**	**02 19 06.6**	**+0.9**
PVAQ				*e*Sn	**Sn**	**02 19 47.7**	**-0.3**
PVAQ				*e*Sg	**Sg**	**02 20 04.5**	**+0.2**
PVAQ				A	A	02 20 07.8	
	12nm,0.5s						
PVAQ	**Vaqueiros**	**3.55**	**264**	P	**Pb**	**02 19 12.9**	**-0.4**
PVAQ	**Vaqueiros**	**3.55**	**264**	S	**Sb**	**02 19 59.5**	**+2.8**
PMRV

PTEO	**Sao Teotonio**	**4.33**	**267**	*e*Sn	**Sn**	**02 20 07.1**	**0.0**
PTEO				*e*Sg	**Sg**	**02 20 30.9**	**+1.7**
MVO	**Moncorvo**	**4.39**	**320**	*e*Sg	**Sg**	**02 20 33.1**	**+2.1**
MVO				A	A	02 20 41.4	
	comp=N,7.7nm,0.3s						
PCAS	**Casmilo, Conde**	**4.62**	**300**	*e*Sn	**Sn**	**02 20 13.2**	**-1.0**
PCAS				*e*Sg	**Sg**	**02 20 38.2**	**-0.2**
PCAS				A	A	02 20 48.9	
	comp=N,11nm,0.6s						
ETSF	**Etsaut**	**5.44**	**22**	*e*Pn	**Pn**	**02 19 33.0**	**+1.3**
ETSF				*e*Sg	**Sg**	**02 21 01.7**	**-3.0**
	comp=N,2.2nm,0.4s						
SJPF	**Ste Jean**	**5.47**	**16**	*e*Sg	**Sg**	**02 21 03.8**	**-1.9**
	comp=N,1.5nm,0.3s						
EPF	**Esparros**	**5.85**	**27**	*e*Sg	**Sg**	**02 21 14.3**	**-3.6**
	comp=N,1.1nm,0.3s						

GII **24** *02:18:13.2±0.4, 34°.28N±0°.01×36°.916E±0°.004, h1km, Mws2.4, confirmed*
GRAL **24** *02:18:17.3±0.5, 34°.32N×36°.46E, h0km±26km, MD2.9*

ISC 24 02:18:12.0±2.2, 34°.51N±0°.06×36°.59E±0°.08, h6km±13km, n36, σ0s80/43, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FKH	**Fakeheh**	**0.30**	**210**	*e*P	**Pg**	**02 18 18.5**	**+0.6**
BEIL	**Beino**	**0.34**	**276**	*e*P	**Pn**	**02 18 23.1**	**-0.4**
BEIL				*e*S	**Sb**	**02 18 27.1**	**+1.0**
HWQ	**Hawqa**	**0.58**	**247**	*e*P	**Pb**	**02 18 24.8**	**+0.2**
HWQ				*e*S	**Sg**	**02 18 30.5**	**-0.2**
ZAHL	**Zahle**	**0.87**	**222**	*e*P	**Pb**	**02 18 29.3**	**-0.3**
ZAHL				*e*S	**Sg**	**02 18 37.9**	**-2.1**
BHL	**Bhannes**	**0.98**	**232**	*e*P	**Pb**	**02 18 31.2**	**-0.2**
DQRL	**Deir Qamar**	**1.17**	**227**	*e*P	**Pg**	**02 18 34.5**	**+0.2**
RCY	**Rachaya**	**1.19**	**212**	*e*P	**Pb**	**02 18 34.9**	**-0.1**
NATI	**Neve Ativ**	**1.43**	**210**	P	**Pg**	**02 18 39.9**	**+0.5**
NATI	**Neve Ativ**	**1.43**	**210**	S	**Sg**	**02 18 59.4**	**+1.4**
NATI	**Neve Ativ**	**1.43**	**210**	P	**Pb**	**02 18 39.3**	**+0.3**
GEM	**Giv'at Ha'Em**	**1.51**	**211**	P	**Pb**	**02 18 40.5**	**+0.2**
GEM	**Giv'at Ha'Em**	**1.51**	**211**	S	**Sg**	**02 19 01.6**	**+1.2**
GEM	**Giv'at Ha'Em**	**1.51**	**211**	P	**Pb**	**02 18 40.6**	**+0.3**
KSHT	**Keshet**	**1.65**	**203**	S	**Sb**	**02 19 04.5**	**+0.5**
KSHT	**Keshet**	**1.65**	**203**	P	**Pb**	**02 18 43.2**	**+0.3**
MMC1	**Mount Meron ar**	**1.77**	**214**	P	**Pg**	**02 18 46.0**	**0.0**
MMB1	**Mount Meron ar**	**1.78**	**214**	P	**Pg**	**02 18 45.9**	**-0.3**
MMB1				S	**Sg**	**02 19 09.7**	**+0.4**
MMC7	**Mount Meron ar**	**1.79**	**214**	P	**Pg**	**02 18 45.9**	**-0.3**
MMA0B	**Mount Meron ar**	**1.79**	**214**	P	**Pb**	**02 18 45.5**	**+0.3**
MMA0B	**Mount Meron ar**	**1.79**	**214**	S	**Sb**	**02 19 09.0**	**+1.1**
HNTI	**Hanita**	**1.85**	**220**	P	**Pb**	**02 18 46.8**	**+0.6**
HNTI				S	**Sb**	**02 19 10.4**	**+0.9**
HNTI	**Hanita**	**1.85**	**220**	S	**Sg**	**02 19 11.2**	**-0.1**
HNTI	**Hanita**	**1.85**	**220**	P	**Pb**	**02 18 46.3**	**+0.2**
MMLI	**Mount Malkishu**	**2.28**	**206**	P	**Pb**	**02 18 53.3**	**-0.3**
MMLI	**Mount Malkishu**	**2.28**	**206**	P	**Pb**	**02 18 51.7**	**-1.9**
MMLI	**Mount Malkishu**	**2.28**	**206**	S	**Sb**	**02 19 21.4**	**-0.7**
OFRI	**`Ofer**	**2.31**	**216**	P	**Pg**	**02 18 55.5**	**-0.7**
OFRI	**`Ofer**	**2.31**	**216**	S	**Sb**	**02 19 22.1**	**-0.8**
OFRI	**`Ofer**	**2.31**	**216**	P	**Pb**	**02 18 52.7**	**-1.3**
QRNJ	**Al-Qirein**	**2.33**	**202**	P	**Pb**	**02 18 54.3**	**0.0**
ASF	**Jabal al Asfar**	**2.34**	**174**	P	**Pb**	**02 18 55.2**	**+0.5**
ASF				S	**Sg**	**02 19 26.2**	**-1.1**
HMDT	**Nahal Hemdat**	**2.42**	**202**	P	**Pb**	**02 18 55.5**	**-0.4**
HMDT	**Nahal Hemdat**	**2.42**	**202**	P	**Pn**	**02 18 52.2**	**+0.1**
SLTI	**Sal'it**	**2.61**	**210**	P	**Pb**	**02 19 00.4**	**+1.3**
SLTI				S	**Sg**	**02 19 34.9**	**-0.8**
CSS	**Mathiatis**	**2.72**	**281**	P	**Pg**	**02 19 03.7**	**-0.4**
CSS	**Mathiatis**	**2.72**	**281**	S	**Sg**	**02 19 40.0**	**+0.5**

IDC 24 02:28:39.4±1.4, 30°.64S×60°.09E, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=44.8km s-min=31.8km az=92.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H04N2	**CROZET ISLANDS**	**16.80**	**200**	T	T	02 49 58.5	
	baz=25,slow=74,SNR=227						
H04N1	**CROZET ISLANDS**	**16.80**	**200**	T	T	02 49 59.6	
	baz=25,slow=74,SNR=269						
H04N3	**CROZET ISLANDS**	**16.81**	**200**	T	T	02 49 58.2	
	baz=25,slow=74,SNR=198						
H08S1	**Diego Carcia H**	**25.64**	**29**	T	T	03 00 22.7	
	baz=204						
H08S2	**Diego Garcia H**	**25.65**	**29**	T	T	03 00 24.6	
	baz=204						
H08S3	**Diego Garcia H**	**25.66**	**29**	T	T	03 00 23.8	
	baz=204						
H01W2	**Cape Leeuwin H**	**45.19**	**110**	T	T	03 25 21.1	
	baz=260						
H01W3	**Cape Leeuwin H**	**45.19**	**110**	T	T	03 25 22.3	
	baz=260						
H01W1	**Cape Leeuwin H**	**45.20**	**110**	T	T	03 25 21.0	
	baz=260						
QSPA	**South Pole Qui**	**59.53**	**180**	P	P	02 38 44.6	+0.3
	1.7nm,0.8s,baz=242,slow=1.6,SNR=7.0 1.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**61.47**	**43**	P	P	02 38 58.3	+0.3
	1.2nm,0.4s,baz=234,slow=6.2,SNR=4.3 1.2nm,0.4s						
ASAR	**Alice Springs**	**64.99**	**104**	P	P	02 39 21.4	-0.2
	0.6nm,0.6s,baz=241,slow=6.0,SNR=8.8 0.6nm,0.6s						
WRA	**Warramunga Arr**	**66.92**	**100**	P	P	02 39 34.0	0.0
	1.1nm,0.6s,baz=243,slow=6.0,SNR=12 1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**82.53**	**12**	P	P	02 41 03.8	+0.2
	0.3nm,0.3s,baz=208,slow=5.0,SNR=2.3 0.3nm,0.3s						
YKA	**Yellowknife Ar**	**147.95**	**355**	PKPbc	PKPbc	02 48 24.8	-1.1
	0.6nm,0.8s,baz=353,slow=3.3,SNR=8.5						

IDC 24 02:46:13.3±3.2, 12°.12N×124°.45E, h0km, mb3.6/3, mbtmp3.6/3, 1C, Error ellipse: s-maj=254.1km s-min=29.2km az=64.0, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LQP	**Lukban**	**3.46**	**305**	*e*P	Pb	02 47 13.0	-2.5
WRA	**Warramunga Arr**	**33.32**	**163**	P	P	02 52 53.5	+0.5
	0.8nm,0.8s,baz=344,slow=8.8,SNR=3.6 0.8nm,0.8s						
ASAR	**Alice Springs**	**36.75**	**165**	P	P	02 53 22.2	-0.5
	0.7nm,0.5s,baz=337,slow=7.0,SNR=17 0.7nm,0.5s						
MKAR	**Makanchi Array**	**49.48**	**323**	P	P	02 55 05.5	0.0
	0.3nm,0.7s,baz=102,slow=6.5,SNR=3.2 0.3nm,0.7s						

VAO **24** *02:50:56.1±0.5, 25°.71S×69°.31W, h10km, mb4.8*
SJA **24** *02:51:07.3±1.0, 25°.61S×68°.90W, h85km, ML4.9, MW4.5*
GUC **24** *02:51:08.3±0.7, 25°.69S×69°.06W, h115km±4km, ML4.7*
NEIC **24** *02:51:09±2.8, 25°.71S±0°.04×68°.87W±0°.07, h119km±4km, mb4.8/119, Mwr4.7/54, Error ellipse: s-maj=9.5km s-min=5.8km az=86.0, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr 1.05; Mθθ 0.04; Mϕϕ -1.09; Mrθ 0.09; Mθϕ -0.58; Mϕr 0.05; Fault plane solution: M0 1.23000×10^16 NP1 ϕs 198.06000°, δ43.36000°, λ83.06000°. NP2 ϕs 27.57000°, δ47.03000°, λ96.51000°. Principal axes: T 1.0615, Plg85.0000°, Azm2.0000°; N 0.2828, Plg5.0000°, Azm203.0000°; P -1.3442, Plg2.0000°, Azm113.0000°;*
NEIC **24** *02:51:09, 25°.70S×68°.87W, h119km*
IDC **24** *02:51:10.2±0.4, 25°.65S×68°.79W, h125km±3km, mb4.3/16, mbtmp4.6/21, MS3.3/7, Error ellipse: s-maj=13.4km s-min=10.1km az=76.0*

ISC 24 02:51:08.9±0.3, 25°.67S±0°.02×68°.97W±0°.04, h120km±2km, h120km: pP-P, n465, σ1951/514, mb4.8/71, 10C-8D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO02	**Mina Guanaco**	**0.76**	**312**	Pn	**Pn**	**02 51 29.3**	**+0.3**
GO02				Sn	**Sn**	**02 51 44.7**	**+0.5**
GO02	**Mina Guanaco**	**0.76**	**312**	*e*P	**Pn**	**02 51 28.6**	**-0.5**
GO02	**Mina Guanaco**	**0.76**	**312**	*e*P	**Pn**	**02 51 29.2**	**+0.1**
GO02				*e*S	**Sn**	**02 51 44.5**	**+0.3**
AC02	**Maricunga**	**1.17**	**187**	Pn	**Pn**	**02 51 33.4**	**+0.2**
AC02				Sn	**Sn**	**02 51 51.5**	**-0.1**
AC02	**Maricunga**	**1.17**	**187**	*e*P	**Pn**	**02 51 33.3**	**+0.1**
AC02				*e*S	**Sn**	**02 51 53.1**	**+1.5**
AC02	**Maricunga**	**1.17**	**187**	*i*P	**Pn**	**02 51 33.5**	**+0.3**
AC02				*e*S	**Sn**	**02 51 52.7**	**+1.1**
AC02				IAML		02 51 53.1	
	comp=E,11μm,0.3s						
AC01	**Pan de Azucar**	**1.54**	**252**	Pn	**Pn**	**02 51 36.2**	**-0.6**
AC01				Sn	**Sn**	**02 51 56.8**	**-1.3**
AC01	**Pan de Azucar**	**1.54**	**252**	*e*P	**Pn**	**02 51 36.0**	**-0.8**
AC01				*e*S	**Sn**	**02 51 57.4**	**-0.7**
AC01				IAML		02 51 58.3	
	comp=Z,7μm,0.3s						
AC01	**Pan de Azucar**	**1.54**	**252**	*i*P	**Pn**	**02 51 36.2**	**-0.6**
AC01				*e*S	**Sn**	**02 51 56.8**	**-1.3**
AC01				IAML		02 51 58.8	
	comp=E,20μm,0.3s						
PB14	**IPOC Station P**	**1.67**	**308**	Pn	**Pn**	**02 51 38.5**	**-0.1**
PB14				Sn	**Sn**	**02 52 00.5**	**-0.7**
PB14	**IPOC Station P**	**1.67**	**308**	*e*P	Pn	02 51 33.2	-5.4
PB14				IAML		02 52 03.7	
	comp=Z,14μm,1.0s						
PB14	**IPOC Station P**	**1.67**	**308**	*i*P	**Pn**	**02 51 38.5**	**-0.1**
PB14				*e*S	**Sn**	**02 52 01.5**	**+0.3**
PB14				IAML		02 52 04.3	
	comp=N,6μm,0.4s						
AC06	**Mina Casimiro**	**2.09**	**216**		**Pn**	**02 51 42.5**	**-0.9**
AC06				Sn	**Sn**	**02 52 07.8**	**-2.1**
AC06	**Mina Casimiro**	**2.09**	**216**	*i*P	**Pn**	**02 51 42.6**	**-0.9**
AC06				*e*S	**Sn**	**02 52 09.5**	**-0.5**
AC06				IAML		02 52 10.7	
	comp=N,5μm,0.6s						
GO03	**Copiap**	**2.23**	**210**		**Pn**	**02 51 44.3**	**-0.9**
GO03				Sn	**Sn**	**02 52 11.6**	**-1.5**
GO03	**Copiap**	**2.23**	**210**	*e*P	**Pn**	**02 51 44.4**	**-0.9**
GO03				*e*S	**Sn**	**02 52 12.6**	**-0.6**
GO03	**Copiap**	**2.23**	**210**	*i*P	**Pn**	**02 51 44.4**	**-0.9**
GO03				*i* S	**Sn**	**02 52 12.2**	**-0.9**
GO03				IAML		02 52 13.8	
	comp=N,6μm,0.4s						
PB15	**IPOC Station P**	**2.49**	**349**		**Pn**	**02 51 49.0**	**+0.2**
PB15				Sn	**Sn**	**02 52 18.9**	**-0.5**
PB15	**IPOC Station P**	**2.49**	**349**	*e*P	**Pn**	**02 51 49.2**	**+0.3**
PB15				*e*S	**Sn**	**02 52 19.8**	**+0.3**
PB15				IAML		02 52 23.1	
	comp=Z,14μm,0.2s						
PB15	**IPOC Station P**	**2.49**	**349**	*e*P	**Pn**	**02 51 49.3**	**+0.5**
PB10	**IPOC Station P**	**2.59**	**326**		**Pn**	**02 51 49.4**	**-0.4**
PB10	**IPOC Station P**	**2.59**	**326**	*i*P	**Pn**	**02 51 49.5**	**-0.4**
PB10				IAML		02 52 22.9	
	comp=E,5μm,0.5s						
FSA	**Cafayete**	**2.73**	**100**	*e*P	**Pn**	**02 51 52.1**	**+0.3**
AF01	**San Pedro de A**	**2.80**	**15**		**Pn**	**02 51 53.7**	**+0.8**
AF01	**San Pedro de A**	**2.80**	**15**	*e*P	**Pn**	**02 51 53.9**	**+1.0**
AF01				*e*S	**Sn**	**02 52 29.6**	**+2.9**
PB06	**IPOC Station P**	**3.00**	**349**		**Pn**	**02 51 55.3**	**-0.1**
PB06	**IPOC Station P**	**3.00**	**349**	*e*P	Pn	02 51 49.6	-5.8
PB06				*e*S	**Sn**	**02 52 31.0**	**-0.2**
PB06				IAML		02 52 33.7	
	comp=Z,3μm,0.3s						
PB06	**IPOC Station P**	**3.00**	**349**	*e*P	**Pn**	**02 51 55.4**	**0.0**
PB06				*e*S	**Sn**	**02 52 30.1**	**-1.2**
PB05	**IPOC Station P**	**3.02**	**338**	Pn	**Pn**	**02 51 54.8**	**-0.9**
PB05	**IPOC Station P**	**3.02**	**338**	*e*P	Pn	02 51 49.4	-6.3
PB05				*e*S	**Sn**	**02 52 28.9**	**-2.7**
PB05				IAML		02 52 34.5	
	comp=Z,2μm,0.6s						
PB05	**IPOC Station P**	**3.02**	**338**	*i*P	**Pn**	**02 51 55.0**	**-0.6**
PB05				*e*S	**Sn**	**02 52 29.0**	**-2.7**
LVC	**Limon Verde**	**3.05**	**1**	*e*P	**Pn**	**02 51 56.0**	**-0.2**
LVC				*e*S	Sn	02 52 22.8	-10
LVC				IAML		02 52 29.9	
	comp=Z,3μm,0.6s						
LVC	**Limon Verde**	**3.05**	**1**	P	**Pn**	**02 51 56.3**	**+0.1**
	comp=Z,414nm,0.4s,baz=178,slow=8.4,SNR=965						
LVC				S	**Sn**	**02 52 27.1**	**-5.5**
	comp=Z,3μm,0.6s,baz=202,slow=8.5,SNR=18						
VCA	**Vinchina**	**3.13**	**168**	*e*P	**Pn**	**02 51 58.1**	**+1.0**
VCA				*e*S	**Sn**	**02 52 35.1**	**+0.9**
VCA	**Vinchina**	**3.13**	**168**	*i*P	**Pn**	**02 51 58.1**	**+1.0**
VCA				*e*S	**Sn**	**02 52 35.1**	**+0.9**
AC04	**Llanos de Chal**	**3.15**	**216**	Pn	**Pn**	**02 51 55.3**	**-1.8**
AC04	**Llanos de Chal**	**3.15**	**216**	*e*P	**Pn**	**02 51 55.4**	**-1.8**
AC04				*e*S	Sn	02 52 21.1	-13
AC04				IAML		02 52 40.1	
	comp=Z,1μm,0.6s						
AC04	**Llanos de Chal**	**3.15**	**216**	*e*P	**Pn**	**02 51 55.2**	**-2.0**
AC04				IAML		02 52 41.4	
	comp=E,2μm,0.5s						
SLA	**San Lorenzo**	**3.28**	**74**	*e*P	Pn	02 51 46.8	-12
SLA	**San Lorenzo**	**3.28**	**74**	*e*P	**Pn**	**02 52 00.2**	**+1.2**
AC05	**El Transito**	**3.36**	**200**		**Pn**	**02 51 59.1**	**-1.0**
AC05	**El Transito**	**3.36**	**200**	*e*P	**Pn**	**02 51 59.1**	**-0.5**
AC05				*e*S	**Sn**	**02 52 39.1**	**-0.5**
AC05				IAML		02 52 41.7	
	comp=Z,1μm,0.6s						
AC05	**El Transito**	**3.36**	**200**	*e*P	**Pn**	**02 51 59.1**	**-1.0**
PB04	**IPOC Station P**	**3.49**	**342**		**Pn**	**02 52 00.7**	**-1.2**
PB04	**IPOC Station P**	**3.49**	**342**	*e*P	**Pn**	**02 52 00.7**	**-1.2**
PB04				*e*S	**Sn**	**02 52 40.2**	**-2.6**
PB04				IAML		02 52 41.7	
	comp=Z,3μm,0.2s						
LCO	**Las Campanas**	**3.67**	**204**		**Pn**	**02 52 02.6**	**-1.7**
LCO	**Las Campanas**	**3.67**	**204**	*e*P	**Pn**	**02 52 03.0**	**-1.2**
LCO				*e*S	Sn	02 52 30.6	-17
LCO				IAML		02 53 11.8	
	comp=Z,7μm,0.6s						
AGUA	**GUANDACOL**	**3.83**	**174**	*e*P	**Pn**	**02 52 06.6**	**+0.4**
AGUA				*e*S	**Sn**	**02 52 49.1**	**-1.5**
AGUA				IAML		02 52 52.6	
	comp=Z,2μm,0.8s						
PB09	**IPOC Station P**	**3.86**	**356**		**Pn**	**02 52 06.9**	**+0.1**
PB09	**IPOC Station P**	**3.86**	**356**	*e*P	Pn	02 52 01.6	-5.3
PB09				*e*S	Sn	02 52 37.6	-14
PB09				IAML		02 53 22.8	
	comp=Z,3μm,0.6s						
CYA	**Choya**	**3.95**	**135**	*e*P	**Pn**	**02 52 07.6**	**-0.2**
CYA				*e*S	**Sn**	**02 52 52.1**	**-1.3**
CYA	**Choya**	**3.95**	**135**	*e*P	**Pn**	**02 52 07.6**	**-0.2**
PB07	**IPOC Station P**	**4.01**	**348**		**Pn**	**02 52 07.5**	**-1.3**
PB07	**IPOC Station P**	**4.01**	**348**	*e*P	**Pn**	**02 52 06.9**	**-1.9**
PB07				*e*S	Sn	02 52 39.2	-16
PB07				IAML		02 53 20.2	
	comp=Z,2μm,0.8s						
ACLC	**CERRO LA CRUZ**	**4.15**	**155**	*e*P	**Pn**	**02 52 10.2**	**-0.4**
ACLC				*e*S	**Sn**	**02 52 56.0**	**-2.4**
ACLC				IAML		02 52 57.0	
	comp=Z,2μm,0.5s						
CO01	**Juntas del Tor**	**4.41**	**193**		**Pn**	**02 52 13.6**	**-0.5**
CO01	**Juntas del Tor**	**4.41**	**193**	*e*P	**Pn**	**02 52 13.9**	**-0.2**
CO01				*e*S	Sn	02 52 43.8	-21
PB02	**IPOC Station P**	**4.41**	**349**		**Pn**	**02 52 12.6**	**-1.5**
PB02	**IPOC Station P**	**4.41**	**349**	*e*P	**Pn**	**02 52 12.1**	**-2.0**
PB02				*e*S	**Sn**	**02 52 02.4**	**-2.4**
PB02				IAML		02 53 14.9	
	comp=Z,2μm,0.6s						
ACDV	**Cuesta del Vie**	**4.49**	**182**	*e*P	**Pn**	**02 52 15.5**	**+0.4**
PB01	**IPOC Station P**	**4.63**	**354**		**Pn**	**02 52 15.6**	**-1.4**
CO05	**La Serena**	**4.69**	**205**	Pn	**Pn**	**02 52 14.5**	**-3.1**
YJA	**Yavi**	**4.70**	**43**	*e*P	**Pn**	**02 52 20.0**	**+1.7**
GO04	**Tololo Observa**	**4.77**	**199**		**Pn**	**02 52 16.3**	**-2.7**
GO04	**Tololo Observa**	**4.77**	**199**	*e*P	**Pn**	**02 52 16.6**	**-2.4**
ACCO	**Cerro Coronel**	**4.90**	**181**	*e*S	**Sn**	**02 53 15.0**	**-1.6**
AVFE	**Valle Fertil**	**5.15**	**165**	*e*P	**Pn**	**02 52 22.9**	**-1.0**
AVFE				*e*S	**Sn**	**02 53 18.7**	**-3.6**
AVFE				IAML		02 53 19.8	
	comp=Z,640nm,0.4s						
TA01	**Diego Aracena**	**5.20**	**347**	Pn	**Pn**	**02 52 21.6**	**-3.0**
TA01	**Diego Aracena**	**5.20**	**347**	*e*P	**Pn**	**02 52 21.0**	**-3.6**
TA01				IAML		02 54 18.3	
	comp=Z,571nm,0.8s						
DOCA	**Reserva Natura**	**5.26**	**181**	*e*S	Sn	02 53 11.8	-14
CO03	**El Pedregal**	**5.37**	**196**		**Pn**	**02 52 24.3**	**-2.6**
TA02	**Huaiquique**	**5.48**	**348**		**Pn**	**02 52 25.5**	**-2.9**
PB08	**IPOC Station P**	**5.51**	**358**		**Pn**	**02 52 27.3**	**-1.8**
CO06	**Fray Jorge**	**5.51**	**205**	Pn	**Pn**	**02 52 24.8**	**-3.9**
CO02	**Combarbal**	**5.80**	**198**		**Pn**	**02 52 29.0**	**-3.6**
PB11	**IPOC Station P**	**5.92**	**354**	Pn	**Pn**	**02 52 31.7**	**-2.7**
GO01	**Chusmiza**	**5.98**	**358**		**Pn**	**02 52 33.3**	**-2.2**
PB12	**IPOC Station P**	**7.13**	**350**	Pn	**Pn**	**02 52 46.7**	**-4.1**
VA06	**Catapilco**	**7.16**	**196**	Pn	**Pn**	**02 52 46.6**	**-4.4**
VA03	**San Esteban**	**7.20**	**191**		**Pn**	**02 52 48.6**	**-3.1**
PB16	**IPOC Station P**	**7.32**	**356**		**Pn**	**02 52 51.7**	**-2.0**
PEL	**Peldehue**	**7.60**	**191**	Pn	**Pn**	**02 52 52.7**	**-4.2**
MT02	**Curacav**	**7.79**	**194**		Pn	02 52 54.8	-4.8
MT03	**Universidad Ad**	**7.91**	**189**		**Pn**	**02 52 57.8**	**-3.4**
LPAZ	**La Paz**	**9.37**	**5**		**Pn**	**02 53 20.2**	**-1.3**
LPAZ	**La Paz**	**9.37**	**5**	P	**Pn**	**02 53 21.1**	**-0.3**
	comp=Z,5.1nm,0.4s,baz=216,slow=2.9,SNR=32						
CPUP	**Villa Florida**	**10.49**	**96**		**Pn**	**02 53 32.3**	**-3.7**
CPUP	**Villa Florida**	**10.49**	**96**	P	**Pn**	**02 53 33.1**	**-2.9**
	comp=Z,11nm,0.6s,baz=280,slow=12,SNR=22						
CPUP				LR	LR	02 58 33.3	
	comp=Z,63nm,19.9s,baz=245,slow=43						
CPUP	**Villa Florida**	**10.49**	**96**	*e*P	**Pn**	**02 53 31.4**	**-4.7**
BBSD	**Serra de San D**	**11.48**	**44**	*e*P	**Pn**	**02 53 44.6**	**-4.7**
ITQB	**Itaqui**	**11.64**	**113**		**Pn**	**02 53 47.9**	**-3.5**
ITQB	**Itaqui**	**11.64**	**113**	*e*P	Pn	02 53 45.2	-6.2
SIV	**San Ignacio**	**12.13**	**39**	P	**Pn**	**02 53 54.1**	**-3.8**
	comp=Z,14nm,0.7s,baz=243,slow=8.8,SNR=50						
BDQN	**Bodoquena, MS**	**12.39**	**68**	*e*P	Pn	02 53 56.3	-4.9
ANTJ	**Antonio Joao (**	**12.41**	**76**	*e*P	**Pn**	**02 53 58.0**	**-3.7**
UNIS	**Unistalda (Bra**	**12.80**	**108**	*e*P	**Pn**	**02 54 02.4**	**-4.3**
RODS	**Rosario do Sul**	**13.03**	**114**	*e*P	**Pn**	**02 54 05.7**	**-3.8**
AMBA	**Amambai (Brazi**	**13.04**	**81**	*e*P	**Pn**	**02 54 06.8**	**-2.9**
AQDB	**Aquidauana**	**13.26**	**70**	Pn	**Pn**	**02 54 08.3**	**-4.2**
AQDB	**Aquidauana**	**13.26**	**70**	*e*P	**Pn**	**02 54 09.4**	**-3.2**
CRSM	**Crissiumal (Br**	**13.48**	**101**	*e*P	**Pn**	**02 54 12.8**	**-2.6**
TRQA	**Tornquist**	**13.70**	**156**	Pn	**Pn**	**02 54 14.8**	**-3.4**
PTLB	**Pontes e Lacer**	**13.71**	**44**		**Pn**	**02 54 14.5**	**-3.9**
PTLB	**Pontes e Lacer**	**13.71**	**44**	*e*P	**Pn**	**02 54 15.1**	**-3.4**
GO06	**Curarrehue**	**14.03**	**188**		**Pn**	**02 54 19.8**	**-2.8**
CPSB	**Cacapava Do Su**	**14.50**	**113**	*e*P	**Pn**	**02 54 24.8**	**-3.7**
ALGR	**Alto Alegre (B**	**14.52**	**106**	*e*P	**Pn**	**02 54 25.7**	**-3.0**
LR05	**Currie**	**14.74**	**189**		**Pn**	**02 54 29.5**	**-1.9**
PLTB	**Pedras Altas**	**14.78**	**118**		**Pn**	**02 54 28.8**	**-3.2**
PLTB	**Pedras Altas**	**14.78**	**118**	*e*P	**Pn**	**02 54 28.8**	**-3.2**
PLCA	**Paso Flores**	**15.08**	**185**		**Pn**	**02 54 33.6**	**-2.1**
PLCA	**Paso Flores**	**15.08**	**185**	P	**P**	**02 54 38.0**	**-0.1**
	comp=Z,7.1nm,0.8s,baz=1.5,slow=13,SNR=15						
PLCA				PcP	**PcP**	**02 59 36.1**	**+0.8**
	comp=Z,3.5nm,0.9s,baz=320,slow=4.5,SNR=5.5						
PLCA				LR	LR	03 00 24.3	
	comp=Z,143nm,21.9s,baz=320,slow=37						
VILB	**Vilhena**	**15.11**	**35**		**Pn**	**02 54 33.2**	**-3.0**
VILB	**Vilhena**	**15.11**	**35**	*e*P	**Pn**	**02 54 34.0**	**-2.2**
ITAB	**Concordia**	**15.16**	**100**		**Pn**	**02 54 34.0**	**-2.8**
ITAB				IAmb	IAmb	02 54 35.9	
	comp=Z,118nm,1.4s						
ITAB	**Concordia**	**15.16**	**100**	*e*P	**Pn**	**02 54 35.0**	**-1.8**
TRCB	**Terra Rica**	**15.17**	**83**	Pn	**Pn**	**02 54 34.6**	**-2.5**
TRCB	**Terra Rica**	**15.17**	**83**	*e*P	**Pn**	**02 54 35.1**	**-1.9**
PTGB	**Pitanga**	**15.33**	**90**	*e*P	**Pn**	**02 54 38.5**	**-0.6**
NNA	**Nana**	**15.51**	**330**	P	**P**	**02 54 43.1**	**0.0**
	comp=Z,6.4nm,0.6s,baz=136,slow=11,SNR=4.5						
ETMB	**Extrema**	**15.98**	**10**		**Pn**	**02 54 45.9**	**-1.2**
ETMB				IAmb	IAmb	02 54 51.5	
	comp=Z,47nm,1.3s						
LDASE	**Londrina, Braz**	**16.40**	**86**	*e*P	**Pn**	**02 54 49.1**	**-3.1**
CNLB	**Canela**	**16.48**	**107**	*e*P	**Pn**	**02 54 50.0**	**-3.2**
PCMB	**Pacaembu**	**16.72**	**80**	*e*P	**Pn**	**02 54 54.0**	**-2.1**
SAML	**Samuel**	**17.52**	**19**	P	**P**	**02 55 02.5**	**-2.6**
FRTB	**Fartura**	**17.81**	**87**	*e*P	**P**	**02 55 07.0**	**-1.4**
PDRB	**Porto dos Gac**	**18.14**	**42**	*e*P	**P**	**02 55 10.9**	**-1.2**
ITRB	**Iturama**	**18.16**	**75**	*e*P	**P**	**02 55 11.8**	**-0.4**
CZSB	**Cruzeiro do Su**	**18.19**	**348**	P

553A	Crawfordville	57.48	344	P		P	03 00 46.2	+0.7
ZAIG	Zacatecas	58.13	323	P		P	03 00 51.6	+1.1
ZAIG				IAmb		IAmb	03 00 54.1	
	comp=Z,12nm,1.0s							
SNAA	Sanae	58.38	160	P		P	03 00 51.0	-0.4
SNAA				IAmb		IAmb	03 00 52.4	
	comp=Z,22nm,1.3s							
SNAA	Sanae	58.38	160	⇑P		P	03 00 51.2	-0.2
	comp=Z,167nm,0.5s							
SNAA				⇓pP		pP	03 01 22.4	+0.8
	comp=Z,105nm,0.6s							
SNAA	Sanae	58.38	160	P		P	03 00 51.3	-0.2
	comp=Z,7.5nm,0.6s,baz=287,slow=8.1,SNR=20							
SNAA				pP		pP	03 01 21.1	-0.5
	comp=Z,3.9nm,0.6s,baz=264,slow=9.8,SNR=2.8							
	comp=Z,7.5nm,0.6s							
TIGA	Tifton	58.48	345	P		P	03 00 51.9	-0.5
	baz=164							
TROLL	Troll, Antarti	60.10	160	⇑P		P	03 01 03.6	+0.3
	comp=Z,425nm,0.5s							
TROLL				⇓x		x	03 01 25.7	
GOGA	Godfrey	60.35	346	P		P	03 01 04.9	-0.3
GOGA				IAmb		IAmb	03 01 35.9	
	comp=Z,7.7nm,1.0s							
GOGA	Godfrey	60.35	346	P		P	03 01 04.8	-0.5
	baz=165							
LRAL	Lakeview Retre	60.85	343	P		P	03 01 08.3	-0.4
	baz=161							
VBMS	Vicksburg	61.13	339	P		P	03 01 12.0	+1.5
	baz=158							
833A	Chaparral WMA,	61.14	329	P		P	03 01 11.6	+0.9
833A	Chaparral WMA,	61.14	329	P		P	03 01 12.1	+1.4
	baz=149							
CNNC	Cliffs of the	61.16	352	P		P	03 01 12.0	+1.3
	baz=171							
KMSC	Kings Mountain	61.60	348	P		P	03 01 14.2	+0.5
	baz=167							
BG3	Lake Jocassee	61.77	347	P		P	03 01 14.2	-0.6
BG3				IAmb		IAmb	03 01 15.9	
	comp=Z,7.9nm,0.9s							
HNDO	Hondo	62.11	330	P		P	03 01 17.6	+0.3
NATX	Nacogdoches	62.16	335	P		P	03 01 17.5	0.0
	baz=154							
435B	Jarrell	62.46	332	P		P	03 01 19.9	+0.4
	baz=151							
CPCT	Cooper Cave	62.55	346	P		P	03 01 19.7	-0.3
CPCT				IAmb		IAmb	03 01 20.8	
	comp=Z,9.2nm,0.8s							
TKL	Tuckaleechee C	62.58	346	P		P	03 01 19.7	-0.5
TKL				IAmb		IAmb	03 01 51.1	
	comp=Z,15nm,1.1s							
TKL	Tuckaleechee C	62.58	346	LR		LR	03 29 45.3	
	comp=Z,7.3nm,19.6s,baz=146,slow=37							
DRIO	Del Rio	62.64	329	P		P	03 01 20.6	-0.1
DRIO				IAmb		IAmb	03 01 23.2	
	comp=Z,9.0nm,0.9s							
OXF	Oxford	62.91	341	P		P	03 01 21.8	-0.6
OXF	Oxford	62.91	341	P		P	03 01 21.9	-0.5
	baz=159							
SLBS	Sierra La Lagu	63.09	318	P		P	03 01 25.4	+1.5
SLBS				IAmb		IAmb	03 01 27.5	
	comp=Z,27nm,1.4s							
HPIG		63.14	323	P		P	03 01 25.3	+0.9
HPIG				IAmb		IAmb	03 01 26.7	
	comp=Z,11nm,0.6s							
JCT	Junction City	63.16	330	P		P	03 01 25.2	+1.0
	baz=149							
WLAR	White Oak Lake	63.34	338	P		P	03 01 25.6	+0.3
WHTX	Lake Whitney,	63.46	333	P		P	03 01 26.6	+0.5
	baz=151							
WVT	Waverly	64.00	343	P		P	03 01 28.8	-0.7
WVT				IAmb		IAmb	03 01 29.5	
	comp=Z,12nm,0.7s							
WVT	Waverly	64.00	343	P		P	03 01 29.4	-0.1
	baz=161							
CBN	Corbin Frederi	64.03	353	P		P	03 01 30.2	+0.5
	baz=172							
TXAR	Lajitas Array	64.03	326	P		P	03 01 30.7	+0.6
TXAR	Lajitas Array	64.03	326	P		P	03 01 31.3	+1.3
	comp=Z,2.3nm,0.5s,baz=154,slow=7.1,SNR=57							
TXAR				pP		pP	03 02 01.9	+1.4
	comp=Z,1.5nm,0.7s,baz=153,slow=8.9,SNR=4.1							
	comp=Z,2.3nm,0.5s							
TX31	Lajitas Ar. Si	64.03	326	P		P	03 01 30.4	+0.3
MIAR	Mount Ida	64.27	338	P		P	03 01 31.0	-0.4
MIAR				IAmb		IAmb	03 01 33.3	
	comp=Z,26nm,1.5s							
MIAR	Mount Ida	64.27	338	P		P	03 01 31.3	-0.1
	baz=155,SNR=6.0							
WHAR	Wooly Hollow	64.52	339	P		P	03 01 33.2	+0.3
WHAR				IAmb		IAmb	03 01 34.1	
	comp=Z,9.8nm,1.0s							
QSPA	South Pole Qui	64.54	180	P		P	03 01 33.5	+0.6
QSPA				IAmb		IAmb	03 01 34.4	
	comp=Z,25nm,1.2s							
QSPA	South Pole Qui	64.54	180	P		P	03 01 33.5	+0.6
	comp=Z,6.2nm,0.5s,baz=324,slow=0.8,SNR=56							
QSPA				pP		pP	03 02 04.4	+0.9
	comp=Z,13nm,1.0s,baz=175,slow=1.8,SNR=6.7							
	comp=Z,6.2nm,0.5s							
ABTX	Abilene, Hawle	64.92	332	P		P	03 01 36.4	+0.7
	baz=150							
X37A	Clayton	64.95	336	P		P	03 01 35.4	-0.4
X37A				IAmb		IAmb	03 01 37.6	
	comp=Z,10nm,0.8s							
WCI	Wyandotte Cave	65.61	345	P		P	03 01 39.0	-0.9
WCI				IAmb		IAmb	03 01 39.6	
	comp=Z,8.1nm,0.7s							
WCI	Wyandotte Cave	65.61	345	P		P	03 01 39.4	-0.5
	baz=163							
MCWV	Mont Chateau	65.78	351	P		P	03 01 41.6	+0.6
	baz=169							
P52A	Corning	66.12	349	P		P	03 01 43.0	-0.2
	baz=167							
TUL3	Leonard	66.28	336	P		P	03 01 44.3	0.0
TUL3				IAmb		IAmb	03 01 45.6	
	comp=Z,12nm,0.7s							
TUL3	Leonard	66.28	336	P		P	03 01 44.7	+0.4
	baz=154,SNR=5.3							
WMOK	Wichita Mounta	66.39	333	P		P	03 01 45.0	-0.1
WMOK	Wichita Mounta	66.39	333	P		P	03 01 45.2	+0.1
	baz=151							
FVM	French Village	66.45	342	P		P	03 01 44.6	-0.7
SSPA	Standing Stone	66.49	353	P		P	03 01 45.3	-0.1
SSPA				IAmb		IAmb	03 02 10.2	
	comp=Z,15nm,1.4s							
SSPA	Standing Stone	66.49	353	P		P	03 01 46.0	+0.5
	baz=171							
PAL	Palisades	66.49	356	P		P	03 01 46.8	+1.3
	baz=175							
P49A	Miami Univ. Ec	66.51	347	P		P	03 01 45.1	-0.6
	baz=164							
O53A	New Philadelph	66.56	350	P		P	03 01 45.9	-0.1
	baz=168							
CCM	Cathedral Cave	66.75	341	P		P	03 01 46.8	-0.4
CCM				IAmb		IAmb	03 01 47.8	
	comp=Z,14nm,0.7s							
CCM	Cathedral Cave	66.75	341	P		P	03 01 47.5	+0.3
	baz=158							
MNTX	Cornudas Mount	66.81	327	P		P	03 01 48.1	+0.3
	baz=144,SNR=18							
ACSO	Alum Creek Sta	66.85	348	P		P	03 01 47.8	0.0
	baz=166							
SRIG	Santa Rosalia	67.17	319	P		P	03 01 49.4	-0.8
SRIG				IAmb		IAmb	03 02 20.1	
	comp=Z,12nm,0.7s							
KSCT	Kent School, K	67.19	356	P		P	03 01 50.2	+0.4
KSCT				IAmb		IAmb	03 02 31.4	
	comp=Z,20nm,1.4s							
O48B	Farmland	67.30	347	P		P	03 01 50.1	-0.5
	baz=164							
MSTX	Muleshoe	67.44	330	P		P	03 01 52.1	+0.2
	baz=147,SNR=14							
M53A	WI Miller and	67.65	351	P		P	03 01 53.1	+0.3
	baz=168							
HSIG		67.69	321	P		P	03 01 53.7	+0.3
HSIG				IAmb		IAmb	03 01 56.4	
	comp=Z,14nm,1.0s							
AMTX	Amarillo	67.73	331	P		P	03 01 54.3	+0.7
	baz=148							
BINY	Binghamton	67.84	354	P		P	03 01 54.9	+0.9
	baz=173							
L61B	Northampton	67.86	357	P		P	03 01 55.0	+0.9
	baz=176							
HRV	Adam Dziewonsk	67.88	358	P		P	03 01 55.1	+0.9
	baz=177							
HDIL	Hopedale	68.55	343	P		P	03 01 57.9	-0.5
	baz=160							
319A	Douglas	68.57	324	P		P	03 02 00.9	+1.9
319A				IAmb		IAmb	03 02 02.0	
	comp=Z,14nm,0.7s							
121A	Cookes Peak, D	68.69	325	P		P	03 02 00.9	+1.2
121A				IAmb		IAmb	03 02 02.5	
	comp=Z,8.4nm,0.8s							
121A	Cookes Peak, D	68.69	325	P		P	03 02 01.2	+1.4
	baz=143							
KSU1	Kansas State U	69.42	337	P		P	03 02 04.1	+0.2
	baz=154							
LBNH	Lisbon	69.62	358	P		P	03 02 05.7	+0.7
LBNH	Lisbon	69.62	358	P		P	03 02 06.3	+1.3
	baz=177							
LIC	Lamto	69.65	72	⇑*e*P		P	03 02 05.8	-0.1
	comp=Z,39nm,0.8s							
TIC	Toumodi	69.87	72	⇓*i*P		P	03 02 07.6	+0.3
	comp=Z,14nm,0.8s							
ANMO	Albuquerque	69.97	328	P		P	03 02 08.9	+1.3
ANMO	Albuquerque	69.97	328	P		P	03 02 09.4	+1.8
	baz=144							
KIC	Kosan Boka	69.97	72	⇑*e*P		P	03 02 07.9	+0.1
	comp=Z,39nm,0.6s							
DBIC	Dimbokro	70.02	72	P		P	03 02 08.0	-0.1
DBIC	Dimbokro	70.02	72	P		P	03 02 08.3	+0.2
	comp=Z,24nm,0.7s,baz=228,slow=6.5,SNR=32							
	comp=Z,24nm,0.7s							
TUC	Tucson	70.10	323	P		P	03 02 09.4	+1.0
TUC				IAmb		IAmb	03 02 11.4	
	comp=Z,12nm,1.2s							
TUC	Tucson	70.10	323	P		P	03 02 10.4	+2.1
	baz=140							
LONY	Lake Ozonia	70.14	356	P		P	03 02 09.2	+1.0
	baz=174							
CBKS	Cedar Bluff	70.32	335	P		P	03 02 10.4	+0.9
	baz=151							
GGN	Saint George	70.47	2	P		P	03 02 11.1	+1.0
GGN				IAmb		IAmb	03 02 25.5	
	comp=Z,34nm,1.5s							
PKME	Peaks-Kenny Pk	70.59	360	P		P	03 02 12.2	+1.3
	baz=180							
T25A	Trinidad	70.82	331	P		P	03 02 13.9	+1.2
T25A	Trinidad	70.82	331	P		P	03 02 14.4	+1.6
	baz=146							
214A	Organ Pipe Nat	70.95	321	P		P	03 02 14.8	+1.3
214A				IAmb		IAmb	03 02 16.9	
	comp=Z,15nm,1.1s							
214A	Organ Pipe Nat	70.95	321	P		P	03 02 15.6	+2.1
	baz=139							
JFWS	Jewell Farm	71.01	344	P		P	03 02 13.7	+0.2
	baz=160							
PIX	Pinacate	71.03	321	P		P	03 02 15.2	+1.3
LMN	Caledonia Moun	71.28	3	P		P	03 02 15.7	+0.6
LMN				IAmb		IAmb	03 02 17.7	
	comp=Z,25nm,1.1s							
KSCO	Kaye Shedlock'	71.63	333	P		P	03 02 18.4	+0.9
KSCO				IAmb		IAmb	03 02 50.9	
	comp=Z,22nm,1.1s							
KSCO	Kaye Shedlock'	71.63	333	P		P	03 02 18.9	+1.4
	baz=148							
W18A	Petrified Fore	71.72	326	P		P	03 02 19.8	+1.6
	baz=142							
TRQ	Mont Tremblant	71.73	356	P		P	03 02 18.0	+0.1
TRQ				IAmb		IAmb	03 02 19.2	
	comp=Z,9.8nm,0.8s							
SDCO	Great Sand Dun	71.81	330	P		P	03 02 20.1	+1.3
SDCO	Great Sand Dun	71.81	330	P		P	03 02 20.3	+1.5
	baz=146,SNR=10							
BGNE	Belgrade	72.01	337	P		P	03 02 20.1	+0.5
BGNE				pP		pP	03 02 51.2	+0.4
BGNE				sP		sP	03 03 04.9	+0.7
BGNE	Belgrade	72.01	337	P		P	03 02 20.3	+0.7
	baz=152							
Q24A	Divide	72.66	331	P		P	03 02 24.8	+0.9
Q24A				IAmb		IAmb	03 02 26.5	
	comp=Z,17nm,0.8s							
Q24A				pP		pP	03 02 56.1	+1.0
Q24A				sP		sP	03 03 09.2	+0.7
Q24A	Divide	72.66	331	P		P	03 02 25.1	+1.2
	baz=146,SNR=17							
VNDA	Vanda	72.75	190	P		P	03 02 24.6	+1.0
VNDA	Vanda	72.75	190	P		P	03 02 25.3	+1.7
	comp=Z,3.1nm,0.9s,baz=134,slow=5.6,SNR=10							
	comp=Z,3.1nm,0.9s							
MVCO	Mesa Verde	72.77	328	P		P	03 02 25.5	+1.0
MVCO				IAmb		IAmb	03 02 27.3	
	comp=Z,12nm,1.0s							
MVCO	Mesa Verde	72.77	328	P		P	03 02 26.2	+1.7
	baz=143,SNR=9.3							
WUAZ	Wupatki	72.88	325	P		P	03 02 27.1	+2.0
	baz=140							
IKP	In-Ko-Pah, Jac	73.35	320	P		P	03 02 29.6	+1.8
	baz=136							
SWSC	Sam W. Stewart	73.38	320	P		P	03 02 29.9	+2.1
	baz=137							
PDMCI	Parker Dam,Lak	73.44	322	P		P	03 02 30.1	+1.9
	baz=138							
ISCO	Idaho Springs	73.55	331	P		P	03 02 30.0	+0.9
ISCO				pP		pP	03 03 02.1	+1.7
ISCO				sP		sP	03 03 14.4	+0.7
ISCO	Idaho Springs	73.55	331	P		P	03 02 30.8	+1.6
	baz=146,SNR=10							
ECSD	EROS Data Cent	73.58	339	P		P	03 02 29.1	+0.3
ECSD				IAmb		IAmb	03 02 30.2	
	comp=Z,17nm,1.1s							
BC3	Big Chuckawall	73.70	321	P		P	03 02 31.9	+2.0
	baz=137,SNR=7.1							
MONP2	Monument Peak	73.71	320	P		P	03 02 31.9	+1.9
	baz=136							
SPMN	Marine on St.	73.83	343	P		P	03 02 30.3	+0.1
	baz=158							
IRM	Iron Mountain	73.89	321	P		P	03 02 32.4	+1.5
	baz=137							
109C	Camp Elliot, M	74.11	319	P		P	03 02 34.1	+2.0
	baz=136							
TPFO	Pinon Flats	74.24	320	P		P	03 02 34.7	+1.6
	baz=136							
PFO	Pinyon Flats O	74.25	320	P		P	03 02 34.9	+1.8
	baz=136							
BELC	Belle Mtn. Jos	74.26	321	P		P	03 02 35.0	+1.9
	baz=137							
HMU	Henry Mountain	74.43	327	P		P	03 02 35.9	+1.7
HMU				IAmb		IAmb	03 02 37.6	
	comp=Z,12nm,1.1s							
N23A	Red Feather La	74.60	332	P		P	03 02 36.8	+1.7
	baz=146,SNR=5.6							
GMRC	Granite Mounta	74.64	322	P		P	03 02 37.2	+1.9
	baz=137,SNR=11							
MURC	Murrieta	74.67	320	P		P	03 02 37.6	+2.2
	baz=136							
PHWY	Pilot Hill	74.73	332	P		P	03 02 36.8	+0.9
V12A	Nelson	74.89	323	P		P	03 02 37.5	+0.8
V12A				IAmb		IAmb	03 02 39.6	
	comp=Z,11nm,1.0s							
O20A	White River Ci	74.99	330	P		P	03 02 39.3	+2.0
	baz=144,SNR=15							
HEC	Hector,Ludlow	75.06	321	P		P	03 02 39.7	+2.1
	baz=137							
SRU	San Rafael Swe	75.24	328	P		P	03 02 40.1	+1.4
SRU				IAmb		IAmb	03 02 41.3	
	comp=Z,10nm,0.7s							
SRU				pP		pP	03 03 12.1	+2.0
SRU				sP		sP	03 03 24.4	+1.0
TUQ	Turquoise Moun	75.27	322	P		P	03 02 41.1	+2.2
	baz=137,SNR=6.0							
DRLN	Deer Lake	75.29	8	P		P	03 02 39.1	+0.6
FMP	Fort Macarthur	75.39	319	P		P	03 02 41.4	+1.9
	baz=135							
BFSC	Mount Baldy Ra	75.39	320	P		P	03 02 41.3	+1.7
	baz=136							
MVU	Marysvale	75.60	326	P		P	03 02 42.3	+1.4
GSC	Goldstone, Bar	75.66	321	P		P	03 02 43.1	+2.0
	baz=136,SNR=5.3							
DECC	Green Verdugo	75.79	320	P		P	03 02 43.7	+1.9
	baz=135							
SHOC	Shoshone, Teco	75.80	322	P		P	03 02 44.1	+2.3
	baz=137							
EYMN	Ely	76.03	345	P		P	03 02 43.0	+0.3
	baz=159							
EDW2	Edwards Air Fo	76.04	320	P		P	03 02 44.1	+0.9
	baz=136							
PRN	Pahroc Range	76.24	324	P		P	03 02 46.1	+1.7
PRN				IAmb		IAmb	03 02 48.0	
	comp=Z,17nm,1.2s							
K22A	Casper	76.29	332	P		P	03 02 46.1	+1.5
	baz=146							
SCZ2	Santa Cruz Isl	76.38	319	P		P	03 02 46.0	+0.8
	baz=134							
MPU	Maple Canyon	76.48	328	P		P	03 02 47.0	+1.2
RSSD	Black Hills	76.52	335	P		P	03 02 46.7	+0.7
RSSD	Black Hills	76.52	335	P		P	03 02 47.1	+1.1
	baz=148							
FURC	Furnace Creek,	76.54	322	P		P	03 02 47.4	+1.6
	baz=137							
SUR	Sutherland	76.55	120	P		P	03 02 47.1	+0.5
SUR				IAmb		IAmb	03 03 26.2	
	comp=Z,14nm,1.1s							
MPMC	Manual Prospec	76.59	321	P		P	03 02 48.0	+1.5
	baz=136,SNR=5.4							
ISA	Isabella, Lake	76.87	321	P		P	03 02 49.9	+2.0
	baz=135,SNR=5.8							
PKM	Mcpherson Peak	77.11	319	P		P	03 02 51.1	+1.7
	baz=134							
DUG	Dugway, Tooele	77.20	327	P		P	03 02 51.3	+1.6
	baz=140,SNR=8.6							
GRAC	Grapevine Rang	77.20	322	P		P	03 02 51.4	+1.7
	baz=136							
CWC	Cottonwood Cre	77.20	321	P		P	03 02 51.6	+1.8
	baz=136							
R11B	Troy Canyon, C	77.22	324	P		P	03 02 51.8	+1.8
	baz=138,SNR=10							
VES	Vestal, Richgr	77.35	320	P		P	03 02 52.5	+2.0
	baz=135,SNR=5.9							
AGMN	Agassiz Nation	77.48	342	P		P	03 02 51.3	+0.4
	baz=155							
SMMC	Simmler	77.51	319	P		P	03 02 53.4	+1.9
	baz=134							
BW06	Boulder Array	77.69	331	P		P	03 02 53.6	+1.1
	baz=143							
PD31	Pinedale Array	77.69	331	P		P	03 02 53.2	+0.7
PDAR	Pinedale Array	77.69	331	P		P	03 02 52.9	+0.4
PDAR	Pinedale Array	77.69	331	P		P	03 02 53.6	+1.1
	comp=Z,1.4nm,0.5s,baz=130,slow=8.8,SNR=15							
PDAR				pP		pP	03 03 25.4	+1.4
	comp=Z,0.9nm,0.8s,baz=136,slow=9.0,SNR=2.2							
	comp=Z,1.4nm,0.5s							
TPH	Tonopah	77.90	323	P		P	03 02 54.7	+1.0
MDND	Maddock	78.19	339	P		P	03 02 55.9	+1.0
MDND	Maddock	78.19	339	P		P	03 02 56.2	+1.3
	baz=152							
AHID	Auburn Hatcher	78.38	330	P		P	03 02 57.5	+1.1
AHID				IAmb		IAmb	03 02 58.7	
	comp=Z,20nm,1.1s							
AHID				pP		pP	03 03 29.1	+1.3
AHID				sP		sP	03 03 41.6	+0.5
NVAR	Mina Array Bea	78.75	323	P		P	03 02 59.6	+1.1
NVAR	Mina Array Bea	78.75	323	P		P	03 02 59.9	+1.4
	comp=Z,3.7nm,0.8s,baz=152,slow=6.3,SNR=18							
NVAR				pP		pP	03 03 31.2	+1.4
	comp=Z,1.3nm,0.8s,baz=126,slow=6.4,SNR=3.2							
NVAR				PKKPbc		PKKPbc	03 21 52.9	-1.0
	comp=Z,0.6nm,0.7s,baz=275,slow=3.6,SNR=4.0							
	comp=Z,3.7nm,0.8s							
ELK	Elko	78.82	326	P		P	03 02 59.7	+0.9
TOA0	Torodi Ar. Sit	78.83	70	P		P	03 02 59.0	-0.2
TORD	Torodi Ar. Bea	78.83	70	P		P	03 02 58.9	-0.2
TORD	Torodi Ar. Bea	78.83	70	P		P	03 02 59.3	+0.1
	comp=Z,20nm,0.6s,baz=266,slow=4.5,SNR=103							
TORD				pP		pP	03 03 30.9	0.0
	comp=Z,4.5nm,0.6s,baz=267,slow=5.4,SNR=2.9							
	comp=Z,20nm,0.6s							
TSUM	Tsumeb	78.92	106	P		P	03 02 59.9	+0.1
TSUM	Tsumeb	78.92	106	LR		LR	03 34 44.4	
	comp=Z,40nm,18.6s,baz=165,slow=33							
ULM	Lac du Bonnet	79.26	343	P		P	03 03 01.1	+0.4
ULM				IAmb		IAmb	03 03 01.8	
	comp=Z,11nm,0.8s							
ULM	Lac du Bonnet	79.26	343	P		P	03 03 00.9	+0.2
	comp=Z,9.6nm,0.7s,baz=158,slow=5.6,SNR=25							
ULM				pP		pP	03 03 32.2	-0.1
	comp=Z,7.3nm,0.9s,baz=156,slow=8.3,SNR=4.3							
	comp=Z,9.6nm,0.7s							
H17A	Grant Village	79.44	331	P		P	03 03 03.5	+1.4
	baz=142							
RLMT	Red Lodge	79.45	332	P		P	03 03 03.0	+0.9
RLMT				IAmb		IAmb	03 03 04.6	
	comp=Z,11nm,0.8s							
RLMT	Red Lodge	79.45	332	P		P	03 03 03.5	+1.4
	baz=144							
LAO	LASA Array	79.52	335	P		P	03 03 03.2	+1.0
	baz=146							
YHH	Holmes Hill	79.87	331	P		P	03 03 06.0	+1.5
YHH				pP		pP	03 03 38.5	+2.4
YHH				sP		sP	03 03 51.3	+2.0
SOE	Somerset East	80.12	121	P		P	03 03 04.8	-1.2
SOE				IAmb		IAmb	03 03 41.8	
	comp=Z,44nm,1.4s							
SCHQ	Schefferville	80.19	1	P		P	03 03 05.8	+0.2
	comp=Z,3.9nm,0.7s,baz=207,slow=5.8,SNR=8.6							
	comp=Z,3.9nm,0.7s							
DGMT	Dagmar	80.27	337	P		P	03 03 07.3	+1.1
DGMT	Dagmar	80.27	337	P		P	03 03 07.3	+1.1
	baz=148							
HLID	Hailey	80.54	328	P		P	03 03 09.6	+1.6
HLID				IAmb		IAmb	03 03 11.0	
	comp=Z,18nm,1.0s							
HLID	Hailey	80.54	328	P		P	03 03 09.9	+1.9
	baz=139							
BOZ	Bozeman (W)	80.84	331	P		P	03 03 09.7	+0.2
BOZ	Bozeman (W)	80.84	331	P		P	03 03 10.4	+1.0
	baz=142							
ORV	Oroville	81.31	322	P		P	03 03 12.7	+0.8
ORV				IAmb		IAmb	03 03 14.7	
	comp=Z,15nm,1.1s							
BOSA	Boshof	81.56	118	P		P	03 03 13.5	-0.3
BOSA	Boshof	81.56	118	P		P	03 03 13.7	-0.2
	comp=Z,3.1nm,0.7s,baz=259,slow=4.2,SNR=7.3							
BOSA				LR		LR	03 36 33.0	
	comp=Z,30nm,20.1s,baz=200,slow=33							
	comp=Z,3.1nm,0.7s							
EGMT	Eagleton	81.99	334	P		P	03 03 15.9	+0.5
EGMT				IAmb		IAmb	03 03 17.0	
	comp=Z,13nm,0.9s							
EGMT	Eagleton	81.99	334	P		P	03 03 15.9	+0.5
	baz=144							
LYMT	Lyon Mountain	82.20	332	P		P	03 03 18.1	+1.4
BMO	Blue Mountains	82.89	328	P		P	03 03 20.4	+0.3
LBTB	Lobatse	83.34	114	P		P	03 03 23.2	+0.1
LBTB				IAmb		IAmb	03 03 24.0	
	comp=Z,6.2nm,0.7s							
NEW	Newport	85.31	330	P		P	03 03 32.8	+0.5
	baz=138							
EDM	Edmonton	87.50	335	P		P	03 03 42.2	-0.6
EDM				pP		pP	03 04 14.2	-0.8
EDM				sP		sP	03 04 28.6	+0.5
ESDC	Sonseca Array	88.83	44	P		P

baz=122
F31M Tsiigehtchic 104.42 339 P **Pdif** **03 05 00.8 +1.4**
baz=122
A36M Sachs Harbour 104.69 344 P **Pdif** **03 05 01.7 +1.2**
baz=129
G30M tAoh Zraii Nji 105.00 338 P **PKiKP** **03 09 17.5 +1.3**
baz=120
I28M Miner Creek 105.57 336 P **PKiKP** **03 09 18.7 +1.4**
baz=118
SCRK Sand Creek 106.48 334 P **PKiKP** **03 09 20.7 +1.6**
baz=115
H27K Steamboat Moun 106.51 336 P **PKiKP** **03 09 20.0 +1.0**
baz=116
RIDG Independent Ri 106.73 333 P **PKiKP** **03 09 19.8 +0.3**
baz=114
J25K Salcha River, 107.29 334 P **PKiKP** **03 09 20.7 +0.2**
baz=113
ILAR Eielson Array 107.96 334 PP **PP** **03 09 46.7 +0.7**
comp=Z,0.6nm,1.0s,baz=105,slow=6.0,SNR=4.9
POKR Poker Plat Res 108.30 334 P **PKiKP** **03 09 23.8 +1.5**
baz=111
H24K Noodor Dome 108.73 335 P **PKiKP** **03 09 24.5 +1.4**
baz=111
H22K Ishtalitna Cre 110.11 334 P **PKiKP** **03 09 26.9 +1.1**
baz=108
L20K Farewell, AK 110.14 330 P **PKiKP** **03 09 26.8 +0.9**
baz=107
D24K Happy Valley 110.20 338 P **PKiKP** **03 09 26.9 +1.1**
baz=109
TOLK Toolik Lake Re 110.30 337 P **PKiKP** **03 09 27.3 +1.3**
baz=108
K17K Iditarod 112.18 330 P **PKiKP** **03 09 30.6 +0.9**
baz=103
B21K Ikpikpuk River 112.30 338 P **PKiKP** **03 09 30.5 +0.8**
baz=103
G19K Purcell Mounta 112.43 334 P **PKiKP** **03 09 30.7 +0.6**
baz=103
E20K Nigu River 112.55 336 P **PKiKP** **03 09 31.5 +1.1**
baz=102
M14K Bethel 113.48 328 P **PKiKP** **03 09 33.0 +0.9**
baz=101
C19K Lookout Ridge 113.93 337 P **PKiKP** **03 09 34.1 +1.2**
baz=99
E18K Tukpahlearik C 114.04 335 P **PKiKP** **03 09 34.3 +1.2**
baz=99
H16K Elim 114.27 332 P **PKiKP** **03 09 34.9 +1.3**
baz=99
B18K Kokolik River 114.75 337 P **PKiKP** **03 09 35.8 +1.3**
baz=97
RDOG Red Dog Mine 115.00 336 P PKPdf 03 09 35.4 +0.5
baz=96
F15K North Star Dit 115.42 333 P **PKPdf** **03 09 37.3 +1.5**
baz=96
F14K Arctic Creek 116.09 333 P **PKiKP** **03 09 39.1 +2.0**
baz=95
ASAR Alice Springs 126.19 206 PKP **PKPdf** **03 09 57.7 -0.3**
comp=Z,4.7nm,0.5s,baz=133,slow=1.8,SNR=61
WRA Warramunga Arr 129.32 209 PKP **PKPdf** **03 10 04.1 +0.1**
comp=Z,5.3nm,0.7s,baz=160,slow=1.7,SNR=33
PETK Petropavlovsk- 135.81 321 PKP **PKPdf** **03 10 15.7 +0.6**
comp=Z,1.1nm,0.8s,baz=77,slow=3.2,SNR=4.1
BVAR Borovoye Array 139.20 37 PKiKP PKPpre 03 10 18.0
comp=Z,0.7nm,0.5s,baz=204,slow=3.2,SNR=3.8
BVAR PKP **PKPdf** **03 10 22.1 +0.7**
comp=Z,1.1nm,0.5s,baz=270,slow=1.5,SNR=5.9
BVAR pPKP pPKPdf 03 10 55.7 +0.6
comp=Z,2.4nm,0.8s,baz=285,slow=2.3,SNR=5.5
KURBB Kurchatov Arra 144.78 36 PKP **PKPdf** **03 10 31.6 +0.3**
comp=Z,16nm,0.7s,baz=302,slow=3.6,SNR=147
KURBB pPKP **pPKPdf** **03 11 04.2 -0.8**
comp=Z,11nm,0.9s,baz=302,slow=3.6,SNR=8.3
EKS2 Erkin-Say 145.16 51 P **PKPab** **03 10 33.5 +1.0**
SNR=19
USP Ospenovka 145.48 50 P **PKPab** **03 10 34.1 +0.5**
SNR=8.8
AAK Ala-Archa 145.67 51 P **PKPab** **03 10 35.8 +1.4**
SNR=23
ZALV Zalesovo Beam 145.70 28 PKPbc **PKPab** **03 10 33.8 -0.1**
comp=Z,30nm,0.6s,baz=303,slow=3.8,SNR=105
ZALV pPKPbc pPKPab 03 11 07.0 +0.1
comp=Z,17nm,0.8s,baz=305,slow=3.6,SNR=7.2
UCH Uchtor 145.81 52 P **PKPab** **03 10 35.9 +0.5**
SNR=25
KBK Karagaybulak 145.98 51 P **PKPab** **03 10 36.3 +0.7**
SNR=8.7
TKM2 Tokmak 2 146.35 50 P **PKPbc** **03 10 35.9 -0.1**
SNR=12
KSH Kashi 147.61 56 PKPbc **PKPbc** **03 10 40.3 +0.7**
KSH sPKP 03 11 13.0
ASAJ Asahikawa 148.50 314 PKPbc **PKPbc** **03 10 42.0 +0.4**
comp=Z,8.9nm,0.9s,baz=27,slow=16,SNR=3.8
MKAR Makanchi Array 148.95 40 PKPbc **PKPbc** **03 10 43.2 +0.5**
comp=Z,14nm,0.7s,baz=303,slow=2.8,SNR=78
MKAR pPKPbc **pPKPbc** **03 11 15.6 -0.6**
comp=Z,12nm,0.8s,baz=317,slow=2.5,SNR=12
KLR Kul'dur 151.48 331 PKPbc **PKiKP** **03 10 48.9 -0.1**
comp=Z,7.1nm,0.7s,baz=56,slow=3.6,SNR=22
KLR pPKPbc **pPKPbc** **03 11 22.1 -0.1**
comp=Z,5.9nm,0.7s,baz=63,slow=3.8,SNR=7.2
HEH HeiHe 152.39 337 *eP* **PKPbc** **03 10 50.5 -0.1**
HEH pmax pmax
comp=Z,11nm,0.8s
HEH pmax pmax
comp=Z,140nm,4.7s
MJAR Matsushiro Arr 154.41 302 PKPbc **PKiKP** **03 10 55.7 +0.2**
comp=Z,0.6nm,0.5s,baz=100,slow=1.4,SNR=4.9
USRK Ussuriysk Ar. 154.88 323 PKPbc **PKiKP** **03 10 56.8 +0.6**
comp=Z,1.2nm,0.8s,baz=270,slow=3.4,SNR=4.1
SONM Songino Array 157.58 8 PKP **PKPdf** **03 10 52.4 +1.3**
comp=Z,1.5nm,0.8s,baz=251,slow=0.3,SNR=9.9
SONM pPKP **pPKPdf** **03 11 24.7 -0.2**
comp=Z,4.4nm,0.8s,baz=334,slow=4.8,SNR=17
KSRS Korea Array 161.45 313 PKP **PKPdf** **03 10 55.9 +0.3**
comp=Z,0.8nm,0.4s,baz=166,slow=0.5,SNR=5.6
KSRS pPKP **pPKPdf** **03 11 30.1 +0.6**
comp=Z,1.0nm,0.6s,baz=207,slow=24,SNR=1.9
KSRS PKPab **sPKPdf** **03 11 42.4 0.0**
comp=Z,1.4nm,0.6s,baz=51,slow=5.6,SNR=5.3
HHC Hu-ho-hao-te 164.85 358 *eP* **PKPdf** **03 11 00.6 +1.7**
NJ2 Nanjing 170.65 315 *eP* **PKPdf** **03 11 01.9 -1.2**
NJ2 pmax pmax
comp=Z,14nm,0.5s
PZH PanZhiHua 171.61 82 PKP **PKPdf** **03 11 02.6 -1.3**

AFAD ***24*** *02:57:13.9±0.0,36.95N×42.33E,h6km±2km,MW3.4*
TEH ***24*** *02:57:13.5,36.87N×42.28E,h9km±41km,ML3.5*
ISN ***24*** *02:57:13.3±0.8,37.00N×42.44E,h7km±4km,ML3.5*
ISK ***24*** *02:57:13.4,36.88N×42.36E,h6km,ML3.7/12*
ISC 24 02:57:13.8±1.2,36.93N±0.03×42.33E±0.02,h3km±10km,
n47,σ0.84/69,Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRN	**Sirnak**	**0.57**	**7**	P	**Pg**	**02 57 24.1**	**-0.6**
SIRN				S	**Sb**	**02 57 33.5**	**-1.6**
SIRN				*i* AML	AML	02 57 35.0	
	comp=Z,1μm,0.7s						
SIRN				*i* AML	AML	02 57 37.0	
	comp=E,1μm,0.4s						
SIRN				*i* AML	AML	02 57 38.0	
	comp=N,1μm,0.4s						
MSL	**Mosul**	**0.82**	**130**	*e*Pg	**Pg**	**02 57 29.0**	**-0.6**
MSL				*e*Sg	**Sg**	**02 57 40.0**	**-0.2**
MIDY	**Mardin/Midyat-**	**0.88**	**303**	P	**Pb**	**02 57 31.2**	**-0.6**
MIDY				S	**Sb**	**02 57 43.5**	**-0.6**
MIDY				*i* AML	AML	02 57 45.0	
	comp=E,2μm,0.4s						
MIDY				*i* AML	AML	02 57 46.0	
	comp=N,2μm,0.4s						
MIDY				*i* AML	AML	02 57 54.0	
	comp=Z,1μm,0.2s						
CUKT	**Cukurca**	**1.07**	**72**	Pg	**Pg**	**02 57 34.2**	**-0.2**
CUKT				Sg	**Sb**	**02 57 49.3**	**-0.2**
CUKT	**Cukurca**	**1.07**	**72**	P	**Pg**	**02 57 34.3**	**0.0**
CUKT				S	**Sb**	**02 57 49.4**	**-0.1**
CUKT				*i* AML	AML	02 57 54.0	
	comp=Z,359nm,0.5s						
CUKT				*i* AML	AML	02 57 56.0	
	comp=E,1μm,1.0s						
CUKT				*i* AML	AML	02 57 57.0	
	comp=N,743nm,0.6s						
CUKT	**Cukurca**	**1.07**	**72**	Pg	**Pb**	**02 57 34.6**	**-0.5**
HAKT	**HAKKARI**	**1.27**	**60**	P	**Pg**	**02 57 38.0**	**-0.1**
HAKT				S	**Sn**	**02 57 55.2**	**-1.1**
HAKT				*i* AML	AML	02 57 57.0	
	comp=N,509nm,0.5s						
HAKT				*i* AML	AML	02 58 01.0	
	comp=Z,586nm,0.8s						
HAKT				*i* AML	AML	02 58 02.0	
	comp=E,740nm,0.5s						
BTMN	**Batman**	**1.28**	**319**	P	**Pb**	**02 57 39.0**	**+0.4**
BTMN				S	**Sn**	**02 57 56.4**	**0.0**
BTMN				*i* AML	AML	02 57 58.0	
	comp=E,1μm,0.5s						
BTMN				*i* AML	AML	02 57 59.0	
	comp=Z,2μm,0.6s						
BTMN				*i* AML	AML	02 57 59.0	
	comp=N,1μm,0.9s						
MARD	**Mardin**	**1.30**	**288**	P	**Pg**	**02 57 38.8**	**+0.1**
MARD				S	**Sn**	**02 57 57.1**	**+0.2**
MARD				*i* AML	AML	02 57 58.0	
	comp=E,2μm,0.4s						
MARD				*i* AML	AML	02 58 02.0	
	comp=Z,2μm,0.4s						
MARD				*i* AML	AML	02 58 03.0	
	comp=N,3μm,0.4s						
AKDM	**Akdamar-Van**	**1.49**	**20**	Pn	**Pg**	**02 57 42.1**	**-0.3**
AKDM	**Akdamar-Van**	**1.49**	**20**	Pg	**Pg**	**02 57 42.7**	**+0.3**
BLIS	**Bitlis-Merkez**	**1.49**	**354**	P	**Pb**	**02 57 41.8**	**-0.5**
BLIS				S	**Sg**	**02 58 02.2**	**+0.4**
BLIS				*i* AML	AML	02 58 06.0	
	comp=Z,179nm,0.4s						
BLIS				*i* AML	AML	02 58 06.0	
	comp=N,234nm,0.4s						
BLIS				*i* AML	AML	02 58 06.0	
	comp=E,258nm,0.5s						
GEVA	**Gevas**	**1.50**	**23**	P	**Pg**	**02 57 42.6**	**+0.1**
GEVA				S	**Sg**	**02 58 02.4**	**+0.5**
GEVA				*i* AML	AML	02 58 04.0	
	comp=E,221nm,0.6s						
GEVA				*i* AML	AML	02 58 05.0	
	comp=N,173nm,0.6s						
GEVA				*i* AML	AML	02 58 10.0	
	comp=Z,125nm,0.6s						
SVAN	**Silvan-Diyarba**	**1.51**	**324**	Pn	**Pg**	**02 57 42.6**	**-0.3**
SVAN				Sn	**Sg**	**02 58 03.8**	**+1.3**
SVAN	**Silvan-Diyarba**	**1.51**	**324**	P	**Pb**	**02 57 42.4**	**-0.2**
SVAN				S	**Sg**	**02 58 02.3**	**-0.2**
SVAN				*i* AML	AML	02 58 06.0	
	comp=N,787nm,0.8s						
SVAN				*i* AML	AML	02 58 06.0	
	comp=E,789nm,0.7s						
SVAN				*i* AML	AML	02 58 09.0	
	comp=Z,348nm,0.5s						
SVAN	**Silvan-Diyarba**	**1.51**	**324**	Pg	**Pg**	**02 57 42.6**	**-0.3**
MAZI	**Mazidag**	**1.59**	**290**	Pn	**Pb**	**02 57 43.3**	**-0.7**
MAZI				Sn	**Sg**	**02 58 05.4**	**+0.4**
MAZI	**Mazidag**	**1.59**	**290**	Pg	**Pn**	**02 57 42.6**	**-0.5**
GURO	**Guroymak-BITLI**	**1.63**	**352**	Pn	**Pb**	**02 57 44.1**	**-0.6**
GURO				Sn	**Sg**	**02 58 06.5**	**+0.1**
GURO	**Guroymak-BITLI**	**1.63**	**352**	Pg	**Pb**	**02 57 44.3**	**-0.4**
YOVA	**Hakkari_Yksek**	**1.69**	**67**	P	**Pb**	**02 57 44.8**	**-1.0**
YOVA				S	**Sg**	**02 58 08.2**	**-0.1**
YOVA				*i* AML	AML	02 58 11.0	
	comp=E,339nm,0.6s						
YOVA				*i* AML	AML	02 58 14.0	
	comp=Z,141nm,0.4s						
YOVA				*i* AML	AML	02 58 14.0	
	comp=N,138nm,0.4s						
TVAN	**Van**	**1.81**	**28**	P	**Pg**	**02 57 48.0**	**-0.5**
TVAN				S	**Sg**	**02 58 12.2**	**+0.2**
TVAN				*i* AML	AML	02 58 20.0	
	comp=N,199nm,0.6s						
TVAN				*i* AML	AML	02 58 27.0	
	comp=E,178nm,0.7s						
TVAN				*i* AML	AML	02 58 29.0	
	comp=Z,117nm,1.0s						
VANB	**Van**	**1.86**	**26**	Pn	**Pn**	**02 57 46.5**	**-0.2**
ADCV	**BITLIS_Adilcev**	**1.90**	**9**	P	**Pb**	**02 57 49.2**	**-0.1**
ADCV				S	**Sg**	**02 58 16.0**	**+1.1**
ADCV				*i* AML	AML	02 58 17.0	
	comp=E,148nm,0.7s						
ADCV				*i* AML	AML	02 58 18.0	
	comp=N,252nm,0.5s						
ADCV				*i* AML	AML	02 58 21.0	
	comp=Z,55nm,0.7s						
MUSM	**Mu-Merkez**	**1.90**	**340**	P	**Pn**	**02 57 47.4**	**0.0**
MUSM				S	**Sn**	**02 58 11.3**	**-0.6**
DYBB	**Diyarbakir**	**2.02**	**301**	Pn	**Pn**	**02 57 49.6**	**+0.7**
MLAZ	**Malazgirt-MUS**	**2.21**	**4**	Pn	**Pn**	**02 57 52.6**	**+1.0**
MLAZ	**Malazgirt-MUS**	**2.21**	**4**	Pn	**Pb**	**02 57 53.6**	**-1.0**
IKRK	**Kirkuk**	**2.23**	**133**	*e*Pn	**Pn**	**02 57 52.0**	**+0.3**
IKRK				*e*Sn	**Sn**	**02 58 21.0**	**+1.2**
IKRK				AML	AML	02 58 39.7	
	comp=E,448nm,0.3s						
IKRK				AML	AML	02 58 41.1	
	comp=N,344nm,0.7s						
VRTB	**Varto-Mus**	**2.33**	**343**	Pn	**Pn**	**02 57 54.1**	**+0.9**
VRTB	**Varto-Mus**	**2.33**	**343**	Pn	**Pn**	**02 57 54.4**	**+1.2**
BINT	**Bingol**	**2.43**	**324**	Pn	**Pn**	**02 57 55.2**	**+0.7**
BNGB	**Bingl**	**2.44**	**328**	Pn	**Pn**	**02 57 55.8**	**+1.2**
KARO	**Karliova-Bingo**	**2.58**	**337**	Pn	**Pn**	**02 57 57.8**	**+1.1**
SDS1	**Sardasht. Az.**	**2.66**	**106**	Pn	**Pn**	**02 57 58.6**	**+0.9**
AGRB	**Hanur-Agry**	**2.69**	**11**	Pn	**Pn**	**02 57 59.1**	**+0.9**
AGRB	**Hanur-Agry**	**2.69**	**11**	Pn	**Pn**	**02 57 59.7**	**+1.5**
MAHB	**Mahabad**	**2.71**	**92**	Pn	**Pn**	**02 57 59.8**	**+1.4**
MAKU	**Maku**	**3.05**	**37**	Pn	**Pn**	**02 58 05.5**	**+2.3**
IDHR	**Dehrash**	**3.98**	**123**	Pn	**Pn**	**02 58 17.1**	**+1.2**
BHD	**Baghdad**	**4.02**	**155**	*e*Pn	**Pn**	**02 58 17.7**	**+1.4**
BHD				*e*Sn	**Sn**	**02 59 04.5**	**+0.6**
IGHG	**Ghaleghazi**	**4.32**	**126**	Pn	**Pn**	**02 58 21.9**	**+1.2**
ILBA	**Ilam Banvizeh**	**4.58**	**135**	Pn	**Pn**	**02 58 24.9**	**+0.8**
KCHF	**Cheshme Sefid,**	**4.66**	**123**	Pn	**Pn**	**02 58 26.0**	**+0.7**
IBDR	**Badra**	**4.82**	**141**	*e*Pn	**Pn**	**02 58 28.0**	**+0.7**
IBDR				*e*Sn	**Sn**	**02 59 23.5**	**-0.2**
IKFM	**Kafar-mosalman**	**5.65**	**125**	Pn	**Pn**	**02 58 39.1**	**+0.4**
RAFI	**Al-Rafai**	**6.07**	**148**	*e*Pn	**Pn**	**02 58 46.0**	**+1.6**
RAFI				*e*Sn	**Sn**	**02 59 52.5**	**-1.8**

IDC 24 03:01:24.1±3.6,4.16S×152.92E,h0km,mb3.6/2,
mbtmp3.6/2, Error ellipse: s-maj=168.1km
s-min=46.4km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.95**	**228**	P	P	03 06 40.4	+0.1
	1.4nm,0.5s,baz=52,slow=9.9,SNR=21						
	1.4nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**26.29**	**31**	T	T	03 34 34.4	
	baz=210,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**26.29**	**31**	T	T	03 34 33.2	
	baz=210,slow=76,SNR=10						
H11S1	**WAKE ISLAND Hy**	**26.31**	**31**	T	T	03 34 33.7	
	baz=210,slow=76,SNR=5.9						
ASAR	**Alice Springs**	**26.70**	**222**	P	P	03 07 05.3	+0.1
	0.5nm,0.7s,baz=56,slow=8.9,SNR=6.9						
	0.5nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**27.42**	**30**	T	T	03 36 11.2	
	baz=197						
H11N3	**WAKE ISLAND Hy**	**27.43**	**30**	T	T	03 36 08.4	
	baz=197						
H11N2	**WAKE ISLAND Hy**	**27.44**	**30**	T	T	03 36 11.8	
	baz=197						
TORD	**Torodi Ar. Bea**	**150.21**	**289**	PKPbc	PKPbc	03 21 17.6	-0.6
	0.7nm,0.9s,baz=59,slow=2.6,SNR=7.6						

IDC ***24*** *03:03:39.9±1.0,23.99S×178.81E,h589km±10km,*
mb3.8/20,mbtmp4.8/23, Error ellipse: s-maj=14.1km
s-min=10.5km az=63.0
NEIC ***24*** *03:03:40.0±2.0,24.1S±0.1×178.9E±0.1,h594km±7km,*
mb4.6/44, Error ellipse: s-maj=19.3km s-min=17.2km
az=91.0
ISC 24 03:03:40.3±0.4,24.10S±0.06×178.75E±0.07,h600km,
n200,σ1.35/203,mb4.5/49,27C-18D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.93**	**151**	P	**P**	**03 05 22.0**	**+1.3**
	266nm,0.4s,baz=267,slow=23,SNR=2.4						
RAO				S	**S**	**03 06 43.6**	**+0.7**
	132nm,0.3s,baz=287,slow=23,SNR=1.8						
MSVF	**Nonsavu**	**6.37**	**354**		**P**	**03 05 23.8**	**-1.1**
PINNC	**Pines Island,**	**10.49**	**276**	P	**P**	**03 06 05.8**	**+2.0**
OUENC	**Ouen Island, N**	**11.07**	**276**	P	**P**	**03 06 11.9**	**+2.2**
DZM	**Mont Dzumac**	**11.50**	**278**	P	**P**	**03 06 16.1**	**+2.0**
DZM	**Mont Dzumac**	**11.50**	**278**	P	**P**	**03 06 16.0**	**+1.8**
	41nm,0.8s,baz=91,slow=16,SNR=23						
KOUNC	**Koumac, New Ca**	**13.84**	**282**	P	**P**	**03 06 38.6**	**+0.9**

URZ Urewera 14.18 185 P **P** **03 06 39.9 -0.8**
9.7nm,0.6s,baz=35,slow=6.6,SNR=9.9
URZ S **S** **03 09 03.7 -4.4**
25nm,0.8s,baz=263,slow=23,SNR=8.6
RTZ Ruatahuna 14.54 186 P **P** **03 06 43.5 -0.6**
BKZ Black Stump Fm 15.14 187 P **P** **03 06 48.9 -0.6**
QRZ Quartz Range 17.47 196 P **P** **03 07 12.4 +1.5**
RPZ Rata Peaks 20.56 196 P **P** **03 07 39.3 +0.5**
5.3nm,0.7s,baz=11,slow=14,SNR=1.8
5.3nm,0.7s
HNR Honiara 23.12 306 P **P** **03 08 01.7 -0.4**
1μm,0.3s,baz=188,slow=16,SNR=6.2
ARMA Armidale 24.88 249 P **P** **03 08 19.0 +1.5**
ARMA IAmb IAmb 03 08 20.8
comp=Z,9.1nm,0.7s
EIDS Eidsvold 25.14 261 P **P** **03 08 20.7 +0.9**
CAN Canberra 28.05 240 P **P** **03 08 46.4 +1.3**
CAN IAmb IAmb 03 08 48.6
comp=Z,21nm,1.2s
CTA Charters Tower 30.33 271 P **P** **03 09 06.2 +1.2**
comp=Z,49nm,0.7s,baz=90,slow=4.4,SNR=56
CTA ScP **ScP** **03 14 35.7 +3.6**
comp=Z,12nm,1.0s,baz=97,slow=0.8,SNR=4.3
comp=Z,49nm,0.7s
CTAO Charters Tower 30.33 271 P **P** **03 09 05.8 +0.8**
TOO Toolangi 31.38 237 P **P** **03 09 13.7 0.0**
TOO IAmb IAmb 03 09 18.3
comp=Z,17nm,1.4s
PMG Port Moresby 33.48 290 P **P** **03 09 32.0 +0.3**
PMG Port Moresby 33.48 290 P **P** **03 09 32.1 +0.4**
comp=Z,49nm,0.8s,baz=90,slow=5.0,SNR=14
comp=Z,49nm,0.8s
STKA Stephens Creek 33.58 248 P **P** **03 09 33.1 +0.8**
STKA Stephens Creek 33.58 248 P **P** **03 09 33.6 +1.2**
comp=Z,6.6nm,0.7s,baz=101,slow=10,SNR=12
comp=Z,6.6nm,0.7s
BBOO Buckleboo 38.31 247 P **P** **03 10 11.2 0.0**
BBOO IAmb IAmb 03 10 12.0
comp=Z,12nm,0.7s
AS31 Alice Springs 40.87 261 P **P** **03 10 31.5 -0.3**
ASAR Alice Springs 40.87 261 P **P** **03 10 31.2 -0.6**
ASAR Alice Springs 40.87 261 P **P** **03 10 32.2 +0.4**
comp=Z,19nm,0.8s,baz=101,slow=7.5,SNR=91
ASAR PcP **PcP** **03 12 17.0 -0.7**
comp=Z,1.4nm,0.6s,baz=103,slow=4.0,SNR=4.3
ASAR ScP **ScP** **03 15 13.9 +2.9**
comp=Z,1.5nm,0.8s,baz=117,slow=4.6,SNR=7.1
ASAR S **S** **03 15 59.7 -1.7**
comp=Z,0.7nm,0.8s,baz=102,slow=16,SNR=4.2
comp=Z,19nm,0.8s
WR0 Warramunga Arr 41.06 267 P **P** **03 10 32.8 -0.6**
WR0 IAmb IAmb 03 10 33.7
comp=Z,14nm,0.7s
WRA Warramunga Arr 41.25 267 P **P** **03 10 34.7 -0.1**
WRA Warramunga Arr 41.25 267 P **P** **03 10 34.7 -0.1**
comp=Z,26nm,0.6s,baz=103,slow=8.1,SNR=121
WRA ScP **ScP** **03 15 15.9 +3.4**
comp=Z,4.6nm,0.9s,baz=101,slow=4.1,SNR=10
WRA S **S** **03 16 00.1 -6.8**
comp=Z,0.9nm,0.8s,baz=100,slow=13,SNR=1.8
comp=Z,26nm,0.6s
FORT Forrest 45.16 250 P **P** **03 11 04.9 -0.1**
MTN Manton Dam 46.33 275 P **P** **03 11 13.4 -0.6**
MTN IAmb IAmb 03 11 35.9
comp=Z,23nm,1.1s
FITZ Fitzroy Crossi 49.67 266 P **P** **03 11 39.2 +0.5**
SOEI Soe 53.72 276 P **P** **03 12 08.1 +0.1**
PSA00 Pilbara Seismi 54.00 260 P **P** **03 12 09.1 -0.6**
PSA00 IAmb IAmb 03 12 10.6
comp=Z,41nm,1.4s
VNDA Vanda 54.09 184 P **P** **03 12 10.9 +1.5**
comp=Z,0.5nm,0.7s,baz=5.8,slow=9.4,SNR=1.5
VNDA ScP **ScP** **03 16 06.6 +0.9**
comp=Z,0.8nm,0.7s,baz=355,slow=2.6,SNR=4.4
MBWA Marble Bar 54.21 261 P **P** **03 12 11.0 -0.2**
MBWA IAmb IAmb 03 12 11.6
comp=Z,20nm,0.8s
MORW Morawa 55.73 250 P **P** **03 12 21.3 -0.3**
MORW IAmb IAmb 03 12 48.7
comp=Z,32nm,1.4s
GIRL Giralia 58.75 257 P **P** **03 12 42.8 +0.5**
TOLI2 Tolitoli 61.52 285 P **P** **03 12 59.4 -1.3**
TOLI2 IAmb IAmb 03 13 02.3
comp=Z,18nm,0.7s
JAGI Jajag, Banyuwa 63.43 272 P **P** **03 13 12.0 -1.0**
QSPA South Pole Qui 65.98 180 P **P** **03 13 29.7 +1.5**
QSPA IAmb IAmb 03 13 30.9
comp=Z,18nm,0.8s
QSPA South Pole Qui 65.98 180 P **P** **03 13 30.0 +1.8**
comp=Z,15nm,0.7s,baz=352,slow=0.6,SNR=68
comp=Z,15nm,0.7s
KKM Kota Kinabalu 67.87 288 P **P** **03 13 40.2 -0.4**
JOW Kunigami 70.28 313 P **P** **03 13 54.7 0.0**
comp=Z,14nm,0.4s,baz=120,slow=28,SNR=8.1
comp=Z,14nm,0.4s
JGF Kuroka 71.13 325 P **P** **03 13 58.7 -0.8**
MJAR Matsushiro Arr 71.42 326 P **P** **03 14 00.7 -0.4**
comp=Z,14nm,0.8s,baz=157,slow=5.2,SNR=44
comp=Z,14nm,0.8s
JMN Monobe 71.62 322 P **P** **03 14 02.6 +0.2**
JMN IAmb IAmb 03 14 22.8
comp=Z,22nm,1.3s
JSD Sado 72.56 327 P **P** **03 14 07.1 -0.5**
JSD IAmb IAmb 03 14 08.9
comp=Z,18nm,0.7s
JNU Nakatsue 72.93 319 P **P** **03 14 09.4 -0.5**
JNU IAmb IAmb 03 14 12.7
comp=Z,13nm,0.8s
JNU Nakatsue 72.93 319 P **P** **03 14 09.4 -0.5**
comp=Z,9.9nm,0.8s,baz=177,slow=6.1,SNR=5.2
comp=Z,8.9nm,0.8s
ASAJ Asahikawa 75.54 334 P **P** **03 14 26.4 +2.1**
comp=Z,6.2nm,0.8s,baz=201,slow=1.7,SNR=5.5
comp=Z,6.2nm,0.8s
ADK Adak 75.76 3 P **P** **03 14 24.8 -0.5**
BELA Belgrano 2 76.37 173 P **P** **03 14 28.8 +0.3**
KSRS Korea Array 77.67 321 P **P** **03 14 36.6 +0.6**
comp=Z,4.5nm,0.8s,baz=134,slow=5.6,SNR=18
comp=Z,4.5nm,0.8s
KSAR Wonju Array Be 77.69 321 P **P** **03 14 36.2 +0.1**
PET Petropavlovsk 78.77 348 P **P** **03 14 41.3 -0.1**
PEA0B Petropavlovsk- 79.04 347 P **P** **03 14 43.1 +0.2**
PETK Petropavlovsk- 79.04 347 P **P** **03 14 43.3 +0.4**
PETK Petropavlovsk- 79.04 347 P **P** **03 14 43.5 +0.5**
comp=Z,12nm,0.9s,baz=123,slow=7.3,SNR=11
comp=Z,12nm,0.9s
NJ2 Nanjing 79.93 312 *eP* **P** **03 14 49.8 +1.7**
NJ2 pmax pmax
comp=Z,12nm,0.6s
USA0B Ussuriysk Arra 80.32 328 P **P** **03 14 50.1 +0.3**
USRK Ussuriysk Ar. 80.32 328 P **P** **03 14 50.2 +0.4**
USRK Ussuriysk Ar. 80.32 328 P **P** **03 14 50.8 +0.9**
comp=Z,9.8nm,0.9s,baz=128,slow=4.3,SNR=20
comp=Z,9.8nm,0.9s
IPM Ipoh 80.66 279 P **P** **03 14 52.4 0.0**
IPM IAmb IAmb 03 14 53.2
comp=Z,11nm,0.6s
MDJ Mudanjiang 81.80 327 P **P** **03 14 58.8 +1.3**
MDJ pmax pmax
comp=Z,20nm,1.2s
MDJ pmax pmax
comp=Z,120nm,4.7s
WHN Wuhan 82.22 308 ⇑P **P** **03 15 00.8 +0.9**
CN2 Changchun 83.38 324 *eP* **P** **03 15 05.6 +0.2**
CN2 *es*P sP 03 18 13.5 +2.4
CN2 *eS* **S** **03 24 39.0 +1.5**
CN2 Changchun 83.38 324 *es*S sS 03 28 25.6 +3.5
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,310nm,4.0s
TIA Tai'an 83.55 314 ⇓P **P** **03 15 07.3 +0.9**
TIA pmax pmax
comp=Z,14nm,0.8s
TROLL Troll, Antarti 84.11 181 ⇑P **P** **03 15 09.6 +0.8**
comp=Z,493nm,0.7s
KLR Kul'dur 84.15 331 P **P** **03 15 09.4 +0.3**
comp=Z,1.2nm,0.5s,baz=170,slow=6.1,SNR=6.4
comp=Z,1.2nm,0.5s
SNAA Sanae 84.48 179 P **P** **03 15 10.2 -0.4**
SNAA IAmb IAmb 03 15 30.0
comp=Z,17nm,1.4s
SNAA Sanae 84.48 179 P **P** **03 15 10.3 -0.2**
comp=Z,4.8nm,1.1s,baz=238,slow=6.3,SNR=6.5
comp=Z,4.8nm,1.1s
O16K Kokwok River B 85.54 12 P **P** **03 15 14.7 -0.8**

N15K	**Kwethluk River**	**85.73**	**10**	P	**P**	**03 15 17.3**	**+0.8**
N15K				IAmb	IAmb	03 15 18.2	
	comp=Z,13nm,0.9s						
LYN	**LuoYang**	**85.75**	**311**	⇑P	**P**	**03 15 18.8**	**+1.7**
LYN				pmax	pmax		
	comp=Z,18nm,0.7s						
HNS	**HongShan**	**85.81**	**314**	PKPab		03 12 09.5	
HNS	**HongShan**	**85.81**	**314**	⇑P	**P**	**03 15 18.9**	**+1.6**
HNS				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HNS	**HongShan**	**85.81**	**314**	*e*PKP		03 11 01.6	
MA2	**Magadan**	**86.49**	**346**	P	**P**	**03 15 19.6**	**-0.4**
MA2				IAmb	IAmb	03 15 20.9	
	comp=Z,9.0nm,0.8s						
J05D	**Fort Rock, OR**	**86.79**	**39**		**P**	**03 15 22.1**	**0.0**
J05D				IAmb	IAmb	03 15 33.9	
	comp=Z,15nm,1.3s						
XAN	**Xi'an**	**87.97**	**309**	P	**P**	**03 15 28.6**	**+1.0**
XAN				pmax	pmax		
	comp=Z,18nm,0.9s						
CRAI	**Chiangrai**	**88.09**	**293**		**P**	**03 15 29.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**88.52**	**291**	P	**P**	**03 15 31.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**88.52**	**291**	P	**P**	**03 15 31.8**	**+1.2**
	comp=Z,1.4nm,0.3s,baz=134,slow=3.5,SNR=13						
	comp=Z,1.4nm,0.3s						
L19K	**White Mountain**	**88.55**	**12**	P	**P**	**03 15 29.8**	**+0.2**
L19K				IAmb	IAmb	03 15 30.9	
	comp=Z,6.5nm,0.9s						
J18K	**Innoko River**	**89.40**	**11**	P	**P**	**03 15 33.5**	**0.0**
J18K				IAmb	IAmb	03 15 34.6	
	comp=Z,5.3nm,0.8s						
HHC	**Hu-ho-hao-te**	**89.76**	**316**	*e*P	**P**	**03 15 37.4**	**+1.5**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,100nm,4.8s						
PZH	**PanZhiHua**	**89.78**	**299**	P	**P**	**03 15 37.3**	**+1.0**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.5s						
TXAR	**Lajitas Array**	**91.51**	**59**	P	**P**	**03 15 45.4**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=210,slow=7.2,SNR=5.3						
	comp=Z,0.4nm,0.7s						
ILAR	**Eielson Array**	**92.50**	**14**	P	**P**	**03 15 46.6**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=235,slow=4.9,SNR=14						
	comp=Z,0.5nm,0.6s						
LZH	**Lanzhou**	**92.60**	**308**	*e*P	**P**	**03 15 51.0**	**+1.9**
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
SONM	**Songino Array**	**96.51**	**320**	P	**P**	**03 16 05.7**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=124,slow=7.2,SNR=2.6						
	comp=Z,0.6nm,0.6s						
MKAR	**Makanchi Array**	**111.45**	**313**	PKiKP	**PKiKP**	**03 21 06.4**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=53,slow=0.8,SNR=4.6						
KURBB	**Kurchatov Arra**	**114.60**	**316**	PKP	PKPdf	03 21 12.3	-0.7
	comp=Z,0.4nm,0.3s,baz=105,slow=2.1,SNR=11						
BOOM	**Boomskoye usch**	**115.03**	**307**		**PKPdf**	**03 21 13.6**	**-0.8**
BVAR	**Borovoye Array**	**119.83**	**319**	PKP	**PKPdf**	**03 21 22.7**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=50,slow=0.9,SNR=13						
ARCES	**ARCESS Array B**	**131.85**	**348**	PKP	**PKPdf**	**03 21 44.5**	**-1.0**
	comp=Z,5.5nm,1.0s,baz=48,slow=1.3,SNR=4.8						
FINES	**FINESS Array B**	**138.26**	**341**	PKhKP	PKPpre	03 21 47.6	
	comp=Z,4.7nm,1.2s,baz=57,slow=5.1,SNR=6.2						
FINES				PKP	**PKPdf**	**03 21 57.0**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=90,slow=2.0,SNR=3.5						
FINES				SKPbc	**SKPbc**	**03 24 36.8**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=318,slow=2.6,SNR=6.1						
DOMB	**Dombas**	**141.43**	**352**	*e*PKPdf	**PKPdf**	**03 21 58.1**	**-5.3**
AKN	**Aaknes**	**141.53**	**354**	*e*PKPdf	**PKPdf**	**03 21 57.2**	**-6.3**
NB2	**NORSAR Subarra**	**142.09**	**350**	PKP	**PKPdf**	**03 22 00.6**	**-4.0**
	comp=Z,2.6nm,0.6s,baz=16,slow=3.0						
NOA	**NORSAR Array B**	**142.09**	**350**	PKhKP	PKPpre	03 22 00.9	
	comp=Z,4.5nm,0.7s,baz=16,slow=5.0,SNR=20						
NC602	**NORSAR Array S**	**142.33**	**350**	*e*PKPdf	**PKPdf**	**03 22 01.6**	**-3.3**
HFS	**Hagfors**	**142.51**	**348**	PKhKP	PKPpre	03 22 02.0	
	comp=Z,16nm,0.5s,baz=80,slow=3.3,SNR=105						
HYA	**Hoyanger**	**142.60**	**354**	*e*PKPdf	**PKPdf**	**03 22 02.6**	**-2.7**
MNK	**Minsk**	**142.69**	**332**	*i* PKP	**PKPdf**	**03 22 03.7**	**-2.0**
	comp=E,6.0nm,0.9s						
MNK				*i* PKP	**PKPdf**	**03 22 03.7**	**-2.0**
	comp=N,10.0nm,0.8s						
MNK				*i* PKP	**PKPdf**	**03 22 03.7**	**-2.0**
	comp=Z,23nm,0.8s,baz=47						
MNK				*i* pPKP	**pPKPdf**	**03 24 22.5**	**-0.7**
MNK				*i* PP	**sPKPdf**	**03 25 20.3**	**+0.1**
MNK				*i* SKS	**SKSdf**	**03 28 16.9**	**-2.1**
MNK				*i* PPP	PPP	03 28 36.1	
MNK				*i* SKKS	**SKKSdf**	**03 37 34.7**	**-3.9**
MNK				*i* SS	**SS**	**03 43 11.0**	**-0.9**
MNK				*i* SSS	SSS	03 48 43.3	
SKAR	**Skarslia**	**142.85**	**352**	*e*PKPdf	**PKPdf**	**03 22 03.7**	**-2.2**
NACGM	**Naroch**	**142.88**	**333**	*e*PKP	**PKPdf**	**03 22 03.4**	**-2.7**
	comp=Z,24nm,0.8s,baz=44						
VSVD	**Vaisvydziai**	**143.19**	**336**	*e*P	PKPbc	03 22 05.3	+0.2
OSL	**Oslo**	**143.22**	**350**	*e*PKPab	PKPab	03 22 04.6	-0.1
VIKU	**Vikbolandet**	**143.33**	**344**	*e*P	PKPab	03 22 04.8	-0.3
ARPR	**Arapgir-MALATY**	**143.42**	**304**		**PKPdf**	**03 22 07.7**	**-0.1**
BER	**Bergen**	**143.45**	**355**	*e*PKPab	PKPab	03 22 05.0	-0.6
PABE	**Paberze**	**143.54**	**336**		PKPab	03 22 06.0	-0.1
PABE	**Paberze**	**143.54**	**336**	*e*P	**PKPdf**	**03 22 06.8**	**-0.4**
KONO	**Kongsberg**	**143.67**	**351**	*e*PKPbc	PKPbc	03 22 05.6	-0.8
ODD1	**Odda**	**143.79**	**353**	*e*PKPdf	PKPbc	03 22 06.8	0.0
PBUR	**Paburge**	**143.87**	**338**	*e*P	PKPbc	03 22 07.2	+0.1
BLS5	**Blasjo**	**144.29**	**353**	*e*PKPab	PKPbc	03 22 08.2	-0.2
AKASG	**Malin Array Be**	**144.51**	**326**	PKP	**PKPdf**	**03 22 08.8**	**-0.2**
	comp=Z,10nm,0.6s,baz=44,slow=4.0,SNR=54						
AKBB	**Malin Array Si**	**144.51**	**326**		**PKPdf**	**03 22 09.0**	**0.0**
KIEV	**Kiev**	**144.52**	**326**	⇓P	PKPbc	03 22 09.4	0.0
KIEV	**Kiev**	**144.52**	**326**		**PKPdf**	**03 22 08.9**	**-0.1**
SUW	**Suwalki**	**144.97**	**335**		**PKPdf**	**03 22 10.1**	**+0.4**
SUW	**Suwalki**	**144.97**	**335**	*e*P	**PKPab**	**03 22 11.5**	**-0.1**
HOMB	**Homborsund**	**145.16**	**351**	*e*PKPbc	**PKPbc**	**03 22 10.9**	**-0.1**
SNART	**Snartemo**	**145.26**	**352**	*e*PKPbc	**PKPbc**	**03 22 11.2**	**-0.1**
BNN	**Bunyan**	**145.37**	**304**		**PKPbc**	**03 22 12.6**	**+0.1**
DEL	**Delary**	**145.83**	**345**	*e*P	**PKPbc**	**03 22 12.4**	**-0.6**
SORM	**Soroca**	**146.49**	**323**	⇓P	**PKPbc**	**03 22 14.9**	**-0.2**
MMAI	**Mount Meron Ar**	**146.74**	**294**	PKPbc	**PKiKP**	**03 22 17.4**	**-0.9**
	comp=Z,7.9nm,0.5s,baz=67,slow=6.4,SNR=25						
BR131	**Keskin Array S**	**146.78**	**306**		**PKPbc**	**03 22 15.3**	**-1.0**
BRTR	**Keskin Array B**	**146.78**	**306**		**PKPbc**	**03 22 15.6**	**-0.8**
BRTR	**Keskin Array B**	**146.78**	**306**	PKPbc	**PKPbc**	**03 22 16.1**	**-0.2**
	comp=Z,5.7nm,0.7s,baz=137,slow=4.6,SNR=19						
BSD	**Bornholm Skovb**	**146.79**	**343**	*e*P	**PKPbc**	**03 22 15.0**	**-0.6**
MILM	**Milestii Mici**	**146.91**	**321**	⇑P	**PKPbc**	**03 22 15.7**	**-0.5**
ANTO	**Ankara**	**147.35**	**307**	⇓P	**PKPbc**	**03 22 18.0**	**+0.2**
ANTO	**Ankara**	**147.35**	**307**		**PKPbc**	**03 22 17.9**	**+0.2**
TESR	**Tescani**	**148.37**	**322**	⇓P	**PKiKP**	**03 22 21.2**	**+0.1**
KWP	**Kalwaria Pacla**	**148.38**	**330**	*e*PKP	**PKiKP**	**03 22 20.6**	**-0.4**
KWP	**Kalwaria Pacla**	**148.38**	**330**		**PKPbc**	**03 22 20.2**	**+0.3**
BUR08	**Bucovina Ar. S**	**148.47**	**325**		**PKPbc**	**03 22 20.6**	**+0.3**
BURAR	**Bucovina Array**	**148.48**	**325**	⇑P	**PKiKP**	**03 22 21.9**	**+0.4**
PLOR	**Plostina**	**148.75**	**321**	⇓P	PKPab	03 22 40.6	+13
EKA	**Eskdalemuir Ar**	**148.78**	**2**	PKPbc	**PKPbc**	**03 22 20.4**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=350,slow=2.8,SNR=24						
TURR	**Turia**	**148.99**	**322**	⇑P	**PKPab**	**03 22 29.3**	**+1.0**
OZUR		**149.10**	**322**	⇓P	PKPab	03 22 56.8	+28
MLR	**Muntele Rosu**	**149.36**	**321**	⇓P	**PKiKP**	**03 22 23.2**	**-0.1**
DOPR	**Dopca**	**149.40**	**322**	⇑P	**PKiKP**	**03 22 23.2**	**0.0**
CRVS	**Cervenica-Dubn**	**149.47**	**330**	*e*PKP	**PKPbc**	**03 22 22.7**	**+0.1**
NIE	**Niedzica**	**149.61**	**332**	*e*PKP	**PKiKP**	**03 22 24.6**	**+1.0**
CBBR	**Cluj-Babes-Bol**	**149.90**	**325**	⇓P	**PKPbc**	**03 22 21.0**	**-2.7**
CJR	**Cluj-Napoca**	**149.91**	**325**	⇓P	**PKiKP**	**03 22 24.4**	**0.0**
MESR	**Meseseni**	**149.96**	**326**	⇓P	**PKiKP**	**03 22 24.4**	**0.0**
LANS	**Liptovska Anna**	**150.17**	**332**	*e*PKP	**PKiKP**	**03 22 25.8**	**+1.0**
ARR	**Arges**	**150.18**	**322**	⇑P	**PKiKP**	**03 22 26.2**	**+1.2**
MARR	**Marisel-Cluj**	**150.19**	**325**	⇓P	**PKPbc**	**03 22 24.7**	**+0.2**
OSTC	**Ostas**	**150.32**	**337**	⇑*e*PKP	**PKiKP**	**03 22 25.5**	**+0.5**
DRGR		**150.32**	**326**	⇑P	**PKPbc**	**03 22 24.4**	**-0.3**
CHVC	**Chvalec**	**150.35**	**337**	⇑*e*PKP	**PKiKP**	**03 22 25.1**	**0.0**
UPC	**Upice**	**150.43**	**337**	⇑*e*PKP	**PKiKP**	**03 22 25.3**	**+0.1**
DPC	**Dobruska-Polom**	**150.45**	**337**	⇑*e*PKP	**PKiKP**	**03 22 25.7**	**+0.4**
MORC	**Moravsky Berou**	**150.46**	**335**	⇓P	**PKiKP**	**03 22 26.1**	**+0.8**
MORC	**Moravsky Berou**	**150.46**	**335**	*e*PKIKP	**PKiKP**	**03 22 25.6**	**+0.2**
HUMR	**Humele**	**150.47**	**320**	⇑P	**PKPbc**	**03 22 24.7**	**-0.3**
KRLC	**Kraliky**	**150.51**	**336**	⇑*e*PKP	**PKiKP**	**03 22 25.5**	**0.0**
MAUC	**Maruska**	**150.68**	**334**	⇑*e*PKP	**PKiKP**	**03 22 26.4**	**+0.6**
CLL	**Collm**	**150.70**	**342**		**PKPbc**	**03 22 25.1**	**-0.2**
CLL	**Collm**	**150.70**	**342**	⇓*i* PKPbc	**PKiKP**	**03 22 25.7**	**0.0**
	comp=Z,18nm,0.8s						
CLL				*i* PKPab	**PKPab**	**03 22 35.1**	**0.0**
	comp=Z,11nm,0.6s						
BRG	**Berggiesshubel**	**150.80**	**340**	*i* PKP	**PKiKP**	**03 22 26.1**	**+0.2**
BRG				Amp		03 22 26.6	
	comp=Z,8.9nm,0.6s						
BRG	**Berggiesshubel**	**150.80**	**340**	P	**PKPab**	**03 22 36.1**	**+0.5**
BRG				Amp		03 22 36.8	
	comp=Z,5.0nm,0.7s						
ELND	**Elena**	**150.80**	**317**	⇓P	**PKiKP**	**03 22 26.1**	**-0.1**
PVCC	**Panska Ves**	**150.90**	**339**	⇑*e*PKP	**PKiKP**	**03 22 26.5**	**+0.3**
VYHS	**Vyhne**	**150.94**	**332**	*e*PKP	**PKiKP**	**03 22 26.5**	**+0.1**
JAVC	**Velka Javorina**	**151.14**	**334**	*e*PKIKP	**PKiKP**	**03 22 28.2**	**+1.4**
HSKC	**Hora Svate Kat**	**151.19**	**340**	⇑*e*PKP	**PKPbc**	**03 22 26.3**	**-0.2**
GZR	**Gura Zlata**	**151.19**	**323**	⇑P	**PKPbc**	**03 22 25.8**	**-0.9**
SIRR	**Siria**	**151.21**	**326**	⇑P	**PKiKP**	**03 22 27.0**	**0.0**
SURR	**Surduc**	**151.31**	**325**	⇓P	**PKPbc**	**03 22 27.0**	**+0.1**
PRA	**Prague**	**151.34**	**339**	⇑*e*PKP	**PKiKP**	**03 22 27.3**	**+0.2**
PRU	**Pruhonice**	**151.37**	**338**	⇑*e*PKP	**PKiKP**	**03 22 27.6**	**+0.4**
KRUC	**Moravsky**	**151.48**	**335**	*e*PKIKP	**PKiKP**	**03 22 27.5**	**+0.1**
BZS	**Buzias**	**151.67**	**325**	⇓P	**PKPbc**	**03 22 26.7**	**-1.0**
SRO	**Srobarova**	**151.69**	**332**	*e*PKP	**PKiKP**	**03 22 28.4**	**+0.5**
MODS	**Modra-Piesok**	**151.69**	**333**	*e*PKP	**PKiKP**	**03 22 28.7**	**+0.8**
HERR	**Herculane**	**151.72**	**323**	⇓P	**PKPbc**	**03 22 27.6**	**-0.3**
MDVR	**Moldovita**	**152.16**	**323**	⇑P	**PKPbc**	**03 22 28.7**	**-0.2**
KHC	**Kasperske Hory**	**152.43**	**339**	⇑*e*PKP	**PKiKP**	**03 22 29.6**	**+0.1**
KHC				*e*PKPAB	**PKPab**	**03 22 43.4**	**+0.8**
CKRC	**Cesky Krumlov**	**152.45**	**337**	⇑*e*PKP	**PKiKP**	**03 22 29.9**	**+0.4**
CONA	**Conrad Observa**	**152.61**	**335**	*i* PKiKP	**PKiKP**	**03 22 30.1**	**+0.1**
	comp=Z,0.5nm,0.3s						
CONA				*e*PKP	**PKPab**	**03 22 44.2**	**+0.8**
	comp=Z,2.0nm,0.7s						
RONA	**Rosalia, Austr**	**152.62**	**334**	*e*PKiKP	**PKPbc**	**03 22 29.8**	**0.0**
	comp=Z,2.2nm,0.5s						
GERES	**GERESS Array B**	**152.64**	**338**	PKPbc	**PKPbc**	**03 22 29.9**	**0.0**
	comp=Z,2.0nm,0.9s,baz=16,slow=4.5,SNR=5.9						
MORH	**Mrgy, Hungar**	**152.74**	**329**	⇑P	**PKPbc**	**03 22 29.3**	**-0.7**
WTTA	**Wattenberg**	**154.70**	**339**	*e*PKP	**PKPab**	**03 22 53.0**	**+0.5**
	comp=Z,3.6nm,0.6s						
RETA	**Reutte**	**154.77**	**341**	*e*PKP	**PKPab**	**03 22 53.0**	**+0.3**
	comp=Z,2.0nm,0.4s						
MOTA	**Moosalm**	**154.79**	**340**	*i* PKP	**PKPab**	**03 22 53.3**	**+0.4**
	comp=Z,1.9nm,0.7s						
DAVA	**Damuels**	**155.21**	**342**	*e*PKP	**PKPab**	**03 22 55.2**	**+0.5**
	comp=Z,3.0nm,0.5s						
FUORN	**Ofenpass-Fuorn**	**155.70**	**340**	PKPab	**PKPab**	**03 22 57.6**	**+0.6**

NIED ***24*** *03:34:28.6,37.2̊1N×141.̊50E,h34km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=1.19; Mθθ=0.39; Mφφ=0.80; Mrθ=1.28; Mθφ=1.98; Mφr=0.58; Fault plane solution: M₀2.52000×10¹⁴ NP1: φs=253.00000°, δ72.00000°, λ-50.00000°. NP2:φs=3.00000°, δ43.00000°, λ-153.00000°.*

JMA ***24*** *03:34:28.6±0.2,37.2̊N±0.̊4×141.̊5E±0.̊9, h34km±1km, MV3.8/37, E OFF FUKUSHIMA PREF*

JMA Felt I J1 at E OFF FUKUSHIMA PREF .

IDC ***24*** *03:34:32.2±3.1,37.̊10N×141.̊59E, h50km±29km, mb3.4/10, mbtmp3.7/13, ML3.1/3, Error ellipse: s-maj=27.8km s-min=15.6km az=68.0*

ISC 24 03:34:31.1±1.3, 37.̊25N±0.̊04×141.̊36E±0.̊06, h34km±3km, n31,σ1ᵗˢ36/30, mb3.6/10, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.40**	**287**	*i* P	**Pn**	**03 34 39.2**	**-1.4**
JFK				*e*S	**Sb**	**03 34 46.6**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.47**	**252**	⇓*i*P	**Pn**	**03 34 39.9**	**-1.5**
ONAJ				⇓*e*S	**Sn**	**03 34 47.9**	**-0.7**
JMST	**Minamisoumatoc**	**0.60**	**322**	*i* P	**Pn**	**03 34 41.9**	**-1.2**
JMST				*e*S	**Sn**	**03 34 51.3**	**-0.4**
JFFD	**Fukushimafurud**	**0.66**	**256**	P	**Pn**	**03 34 42.8**	**-1.1**
JFFD				*e*S	**Sn**	**03 34 52.8**	**-0.2**
JMM	**Marumori**	**0.76**	**324**	*i* P	**Pn**	**03 34 44.2**	**-1.1**
JMM				*e*S	**Sn**	**03 34 55.4**	**-0.2**
JOTO	**OTAMA OYAMA**	**0.87**	**291**	*i* P	**Pb**	**03 34 47.1**	**-0.8**
JOTO				*e*S	**Sb**	**03 34 59.9**	**+0.7**
JHO	**Hitachi**	**0.90**	**225**	P	**Pn**	**03 34 45.4**	**-1.9**
JHO				*e*S	**Sn**	**03 34 58.0**	**-1.1**
JIO	**Ouri**	**1.20**	**360**	P	**Pn**	**03 34 49.5**	**-1.9**
JOU	**Okura**	**1.24**	**334**	P	**Pb**	**03 34 52.0**	**-2.0**
MJAR	**Matsushiro Arr**	**2.62**	**255**	P	**Pn**	**03 35 12.7**	**+1.7**
	0.9nm,0.3s,baz=84,slow=15,SNR=32						
MJAR				S	**Sb**	**03 35 47.2**	**-2.0**
	13nm,0.5s,baz=94,slow=20,SNR=3.1						
	5.0nm,0.3s						
JHJ	**Hachijo jima 2**	**4.32**	**198**	P	**Pn**	**03 35 34.5**	**+0.2**
	10nm,0.3s,baz=76,slow=20,SNR=2.4						
JHJ				S	**Sn**	**03 36 22.1**	**-1.4**
	97nm,0.5s,baz=75,slow=22,SNR=1.9						
	166nm,0.8s						
USRK	**Ussuriysk Ar.**	**9.93**	**317**	P	Pn	03 36 55.3	+4.0
	0.2nm,0.3s,baz=122,slow=15,SNR=2.5						
	0.5nm,0.5s						
SONM	**Songino Array**	**27.63**	**304**	P	**P**	**03 40 18.5**	**+3.1**
	0.5nm,0.7s,baz=98,slow=8.9,SNR=2.5						
	0.5nm,0.7s						
H11N2	**WAKE ISLAND Hy 28.30**	**121**		T	T	04 09 46.9	
	baz=314,slow=75,SNR=106						
H11N1	**WAKE ISLAND Hy 28.30**	**121**		T	T	04 09 50.1	
	baz=314,slow=75,SNR=97						
H11N3	**WAKE ISLAND Hy 28.32**	**121**		T	T	04 09 50.3	
	baz=314,slow=75,SNR=92						
H11S1	**WAKE ISLAND Hy 29.01**	**123**		T	T	04 10 37.0	
	baz=316,slow=76,SNR=37						
H11S3	**WAKE ISLAND Hy 29.02**	**123**		T	T	04 10 40.4	
	baz=316,slow=76,SNR=31						
H11S2	**WAKE ISLAND Hy 29.03**	**123**		T	T	04 10 39.6	
	baz=316,slow=76,SNR=27						
ZALV	**Zalesovo Beam**	**41.74**	**312**	P	**P**	**03 42 17.3**	**+0.8**
	0.3nm,0.3s,baz=90,slow=7.2,SNR=1.5						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**43.97**	**302**	P	**P**	**03 42 35.0**	**+0.2**
	0.1nm,0.4s,baz=99,slow=6.9,SNR=2.2						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**45.83**	**308**	P	**P**	**03 42 50.1**	**+0.6**
	0.4nm,0.4s,baz=82,slow=8.0,SNR=5.4						
	0.4nm,0.4s						
ILAR	**Eielson Array**	**49.33**	**32**	P	**P**	**03 43 17.0**	**+0.5**
	0.3nm,0.9s,baz=260,slow=5.4,SNR=1.8						
	0.3nm,0.9s						
BVAR	**Borovoye Array**	**50.39**	**312**	P	**P**	**03 43 25.6**	**+0.9**
	0.4nm,0.5s,baz=28,slow=6.5,SNR=2.0						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**57.27**	**188**	P	**P**	**03 44 14.3**	**-0.9**
	0.3nm,0.5s,baz=5.2,slow=7.1,SNR=7.7						
	0.3nm,0.5s						
FINES	**FINESS Array B**	**68.60**	**332**	P	**P**	**03 45 32.0**	**+1.9**
	0.9nm,0.8s,baz=40,slow=7.2,SNR=1.5						
	0.9nm,0.8s						
HFS	**Hagfors**	**73.87**	**336**	P	**P**	**03 46 02.9**	**+0.9**
	2.3nm,0.9s,baz=32,slow=5.6,SNR=1.7						
	2.3nm,0.9s						
NOA	**NORSAR Array B**	**73.97**	**337**	P	**P**	**03 46 02.6**	**0.0**
	4.5nm,1.3s,baz=53,slow=5.2,SNR=1.4						
	4.5nm,1.3s						
H03N2	**Juan Fernandez**	**147.09**	**96**	T	T	06 38 21.5	
	baz=291,slow=76,SNR=4.6						
H03N3	**Juan Fernandez**	**147.10**	**96**	T	T	06 38 22.6	
	baz=291,slow=76,SNR=6.8						
H03N1	**Juan Fernandez**	**147.10**	**96**	T	T	06 38 22.6	
	baz=291,slow=76,SNR=8.2						

IDC 24 03:19:39.5±1.8, 1.̊55N×126.̊42E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=159.7km s-min=22.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.73**	**160**	P	P	03 24 43.0	-0.2
	1.4nm,0.5s,baz=339,slow=11,SNR=16						
	1.4nm,0.5s						
ASAR	**Alice Springs**	**26.10**	**164**	P	P	03 25 15.3	+0.1
	0.4nm,0.4s,baz=351,slow=14,SNR=11						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**59.17**	**326**	P	P	03 29 41.3	-0.9
	0.1nm,0.3s,baz=110,slow=8.7,SNR=2.1						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**63.40**	**328**	P	P	03 30 11.6	+0.8
	0.4nm,0.6s,baz=121,slow=6.0,SNR=2.9						
	0.4nm,0.6s						

NEIC ***24*** *03:28:10.8±2.3,25.̊32N±0.̊06×141.̊1E±0.̊2, h107km±8km, mb4.2/10, Error ellipse: s-maj=28.0km s-min=7.4km az=101.0*

IDC ***24*** *03:28:12.7±2.9,25.̊36N×141.̊25E, h128km±26km, mb3.5/9, mbtmp4.0/12, MS3.9/1, Error ellipse: s-maj=33.0km s-min=14.5km az=88.0*

JMA ***24*** *03:28:14.2±0.1,25.̊4N±1.̊0×14.̊1E±.̊, h105km, MV4.4/19, IOTO ISLANDS REGION*

ISC 24 03:28:10.1±0.7, 25.̊33N±0.̊07×141.̊1E±0.̊1, h100km, n40, σ1ᵗˢ72/46, mb4.1/16, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**1.60**	**35**	P	**Pn**	**03 28 39.7**	**+2.1**
JHH2				*e*S	**Sn**	**03 29 00.0**	**+1.5**
JCJ	**Chichijima**	**2.00**	**28**		**Pn**	**03 28 45.4**	**+2.7**
JCJ				Sn	**Sn**	**03 29 08.7**	**+1.2**
JCJ	**Chichijima**	**2.00**	**28**	P	**Pn**	**03 28 40.8**	**-1.9**
	176nm,0.4s,baz=38,slow=5.0,SNR=64						
JCJ				S	**Sn**	**03 29 04.6**	**-2.9**
	178nm,0.3s,baz=280,slow=22,SNR=4.3						
CBIJ	**Chichi jima**	**2.00**	**28**	P	**Pn**	**03 28 45.0**	**+2.4**
CBIJ				*e*S	**Sn**	**03 29 09.1**	**+1.6**
JHJ	**Hachijo jima 2**	**7.86**	**352**	P	**Pn**	**03 30 04.0**	**+2.4**
	149nm,0.9s,baz=64,slow=23,SNR=2.2						
JHJ				S	**Sn**	**03 31 29.7**	**+0.8**
	138nm,0.9s,baz=74,slow=21,SNR=2.1						
BSO3	**Boso 3**	**9.46**	**357**	*e*P	**Pn**	**03 30 24.1**	**+1.0**
BSO4	**Boso 4**	**9.66**	**356**	*e*P	**Pn**	**03 30 27.9**	**+1.8**
JAO	**Obara**	**10.46**	**342**	*e*P	**Pn**	**03 30 41.8**	**+4.7**
JGF	**Kuroka**	**10.75**	**343**	Pn	**Pn**	**03 30 41.3**	**+0.3**
JAG	**Ashikaga**	**11.16**	**353**	*e*P	**Pn**	**03 30 45.7**	**-0.8**
JAG				*e*S	**Sn**	**03 32 43.9**	**-5.3**
JHO	**Hitachi**	**11.26**	**358**	*e*P	**Pn**	**03 30 47.2**	**-0.6**
JHO				*e*S	Sn	03 32 43.4	-8.3
MJAR	**Matsushiro Arr**	**11.46**	**348**	P	**Pn**	**03 30 52.0**	**+1.4**
	0.9nm,0.4s,baz=160,slow=11,SNR=5.9						
JMM	**Marumori**	**12.51**	**359**	Pn	**Pn**	**03 31 03.3**	**-1.1**
JSD	**Sado**	**12.91**	**350**	Pn	**Pn**	**03 31 09.1**	**-0.6**
AGASJ	**Asahikawa**	**18.79**	**3**	P	**P**	**03 32 22.8**	**+1.3**
	2.8nm,0.5s,baz=200,slow=12,SNR=1.4						
YAK	**Yakutsk**	**37.50**	**351**	LR	LR	03 51 56.6	
	comp=Z,150nm,19.1s,baz=292,slow=38						
WB2	**Warramunga Arr**	**45.48**	**189**	P	**P**	**03 36 19.8**	**+0.3**
WRA	**Warramunga Arr**	**45.48**	**189**	P	**P**	**03 36 19.3**	**-0.2**
WRA	**Warramunga Arr**	**45.48**	**189**	P	**P**	**03 36 19.6

WHF				*i* S		**Sn**	**03 37 27.6**	**-0.3**
	baz=243								
JTJ	**Tarama**	**1.63**	**93**	*eP*		**Pn**	**03 37 04.3**	**+0.6**
JTJ				*eS*		**Sn**	**03 37 26.9**	**-0.5**
NFF	**Wufeng Townshi**	**1.64**	**267**	P		**Pn**	**03 37 04.1**	**+0.1**
	baz=269								
NFF				S		**Sn**	**03 37 25.9**	**-1.9**
	baz=269								
CHGB	**Renai**	**1.72**	**248**	*eP*		**Pn**	**03 37 06.3**	**+1.2**
	baz=239								
CHGB				S		**Sn**	**03 37 29.4**	**-0.3**
	baz=239								
WARBT	**Fenglin Townsh**	**1.72**	**234**	*i* P		**Pn**	**03 37 05.0**	**+0.1**
	baz=228								
WARBT				S		**Sn**	**03 37 28.1**	**-1.2**
	baz=228								
WUSB	**Renai**	**1.79**	**246**	*eP*		**Pn**	**03 37 06.9**	**+1.1**
	baz=240								
WUSB				S		**Sn**	**03 37 30.4**	**-0.6**
	baz=240								
HGSD	**Ruisui**	**1.84**	**228**	*eP*		**Pn**	**03 37 06.9**	**+0.7**
	baz=218								
HGSD				S		**Sn**	**03 37 31.2**	**-0.4**
	baz=218								
WHP	**Taichung City**	**1.85**	**256**	*i* P		**Pn**	**03 37 08.4**	**+2.1**
	baz=251								
WHP				S		**Sn**	**03 37 31.8**	**-0.1**
	baz=251								
VWDT	**VWDT**	**1.89**	**239**	*eP*		**Pn**	**03 37 07.7**	**+1.0**
	baz=231								
VWDT				S		**Sn**	**03 37 31.6**	**-1.0**
	baz=231								
YULB	**Yu-li**	**1.99**	**228**	*eP*		**Pn**	**03 37 07.9**	**0.0**
	baz=230								
YULB				*eS*		**Sn**	**03 37 32.6**	**-2.2**
	baz=230								
SSLB	**Suanglung**	**2.02**	**243**	*eP*		**Pn**	**03 37 08.9**	**+0.6**
	baz=237								
SSLB				*eS*		**Sn**	**03 37 35.7**	**+0.3**
	baz=237								

HEL ***24*** *03:39:03.2±0.2, 67.82N×20.14E, h0km, ML1.8, Explosion*
UPP ***24*** *03:39:03.7±0.0, 67.85N×20.22E, h0km, ML2.2, Confirmed Induced event*
IDC ***24*** *03:39:04.6±1.2, 67.84N×20.30E, h0km, mbtmp2.9/4, ML2.1/4, Error ellipse: s-maj=29.4km s-min=7.8km az=125.0*

ISC 24 03:39:03.5±0.8, 67.85N±0.02×20.16E±0.03, h0km, n35, σ1=41/59, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**32**	P	**Pg**	**03 39 06.1**	**+0.2**
KUA				S	**Sg**	**03 39 07.7**	**+0.2**
RATU	**Laukkuluspa**	**0.22**	**264**	P	**Pg**	**03 39 08.4**	**+0.8**
KOVU	**Salmi**	**0.38**	**0**	P	**Pg**	**03 39 11.0**	**+0.3**
LANU	**Lannavaara**	**0.72**	**73**	P	**Pg**	**03 39 16.9**	**-0.4**
LANU				S	**Sg**	**03 39 26.8**	**+0.1**
DUNU	**Dundret**	**0.74**	**168**	P	**Pg**	**03 39 17.6**	**-0.1**
SALU	**Saltoluokta**	**0.79**	**234**	P	**Pg**	**03 39 18.7**	**+0.2**
MASU	**Masugnsbyn**	**0.81**	**118**	P	**Pg**	**03 39 18.6**	**-0.3**
KIF	**Kilpisjarvi**	**1.19**	**11**	*eP*	**Pb**	**03 39 26.8**	**0.0**
KIF	**Kilpisjarvi**	**1.19**	**11**	PG	**Pg**	**03 39 25.8**	**-0.4**
KIF				MSG		03 39 41.0	
	comp=Z,14nm,0.2s						
KIF				SG	**Sg**	**03 39 41.7**	**+0.1**
PAJU	**Pajala**	**1.41**	**125**	P	**Pn**	**03 39 29.1**	**-1.3**
HEF	**Hetta**	**1.43**	**65**	*eP*	**Pn**	**03 39 29.6**	**-1.0**
HEF	**Hetta**	**1.43**	**65**	PG	**Pn**	**03 39 29.5**	**-1.1**
	baz=249						
HEF				MSG		03 39 46.8	
	comp=Z,6.8nm,0.2s						
HEF				SG	**Sg**	**03 39 47.8**	**-1.5**
KLF	**Kolari**	**1.59**	**111**	PG	**Pn**	**03 39 31.6**	**-1.1**
	baz=298						
KLF				MSG		03 39 50.6	
	comp=Z,6.6nm,0.2s						
KLF				SN	**Sn**	**03 39 53.2**	**-0.8**
KTK1	**Kautokeino**	**1.63**	**43**	PG	**Pn**	**03 39 33.0**	**-0.4**
KTK1				SN	**Sg**	**03 39 57.2**	**+1.3**
HARU	**Harads**	**1.72**	**169**	P	**Pn**	**03 39 34.8**	**+0.2**
TRO	**Tromso**	**1.85**	**347**	PG	**Pn**	**03 39 36.9**	**+0.5**
TRO				SG	**Sn**	**03 40 01.2**	**+0.8**
TOF	**Tornio**	**2.42**	**135**	PN	**Pn**	**03 39 43.3**	**-0.8**
TOF				MSG		03 40 14.2	
	comp=Z,6.4nm,0.2s						
TOF				SG	**Sb**	**03 40 17.5**	**-0.5**
SGF	**Sodankyl**	**2.47**	**96**	PB	**Pn**	**03 39 45.9**	**+1.0**
SGF				SB	**Sn**	**03 40 17.2**	**+1.6**
ARA0	**ARCESS Array S**	**2.59**	**47**	PN	**Pn**	**03 39 45.3**	**-1.2**
ARA0				SB	**Sb**	**03 40 21.1**	**-1.9**
ARCES	**ARCESS Array B**	**2.59**	**47**	Pn	**Pn**	**03 39 47.4**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=228,slow=14,SNR=46						
ARCES				Sn	**Sn**	**03 40 19.8**	**+1.1**
	comp=Z,2.1nm,0.3s,baz=230,slow=22,SNR=18						
	comp=Z,1.6nm,0.3s						
RNF	**Rovaniemi**	**2.59**	**116**	PN	**Pn**	**03 39 45.4**	**-1.2**
RNF				SG	**Sb**	**03 40 21.8**	**-1.4**
KMNF	**Kaamanen**	**2.84**	**59**	PN	**Pn**	**03 39 50.0**	**+0.1**
KMNF				SB	**Sn**	**03 40 25.9**	**+1.1**
RAJF	**Raja-Jooseppi**	**3.11**	**75**	PN	**Pn**	**03 39 53.9**	**+0.2**
RAJF				SB	**Sb**	**03 40 36.2**	**-1.9**
KEV	**Kevo**	**3.14**	**49**	PN	**Pn**	**03 39 55.1**	**+1.0**
KEV				SN	**Sn**	**03 40 33.5**	**+1.2**
RANF	**Ranua**	**3.19**	**122**	PN	**Pn**	**03 39 56.0**	**+1.1**
RANF				SG	**Sb**	**03 40 40.8**	**+0.4**
VRF	**Varrio**	**3.59**	**87**	PN	**Pn**	**03 40 01.8**	**+1.5**
VRF				SG	**Sb**	**03 40 53.6**	**+1.8**
OUL	**Oulu**	**3.60**	**138**	PG	**Pb**	**03 40 08.6**	**+0.7**
OUL				SG	**Sb**	**03 40 52.1**	**0.0**
OBF4	**Vikkela, Lumij**	**3.64**	**144**	PG	**Pb**	**03 40 10.2**	**+1.7**
OLKF	**Oulanka, Finla**	**3.93**	**109**	PN	**Pn**	**03 40 05.7**	**+0.8**
OLKF				SG	**Sb**	**03 41 03.6**	**+2.2**
OUF	**Merijarvi**	**3.96**	**150**	PG	**Pb**	**03 40 14.7**	**+0.8**
OUF				SG	**Sg**	**03 41 07.1**	**-3.3**
MSF	**Maaselka**	**4.00**	**115**	PN	**Pn**	**03 40 07.0**	**+1.0**
MSF				SG	**Sb**	**03 41 07.0**	**+3.3**
KU6	**Riekki**	**4.24**	**111**	PN	**Pn**	**03 40 09.8**	**+0.6**
	baz=298						
FINES	**FINESS Array B**	**6.91**	**156**	Pn	**Pn**	**03 40 47.4**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=345,slow=12,SNR=4.0						
FINES				Pg	**Pb**	**03 41 06.5**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=350,slow=15,SNR=5.6						
	comp=Z,1.7nm,0.9s						
NOA	**NORSAR Array B**	**7.84**	**214**	Pn	**Pn**	**03 40 59.0**	**+0.4**
	baz=24,slow=11,SNR=1.8						
NOA				Sn	**Sn**	**03 42 25.1**	**-3.0**
	baz=356,slow=14,SNR=1.5						
NOA				Lg	Lg	03 43 10.4	
	baz=60,slow=15,SNR=5.3						
	comp=Z,0.5nm,1.0s						
HFS	**Hagfors**	**8.24**	**203**	Pn	**Pn**	**03 41 03.7**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=42,slow=18,SNR=1.6						
HFS				Sn	**Sn**	**03 42 33.2**	**-4.6**
	comp=Z,0.2nm,0.3s,baz=35,slow=21,SNR=2.5						
HFS				Lg	Lg	03 43 22.3	
	comp=Z,0.2nm,0.3s,baz=24,slow=29,SNR=2.4						
	comp=Z,0.6nm,0.4s						

RSNC 24 03:49:14.1±0.0, 9.7N±3.7×7.9W±., h22km±6km, mb4.2, ML2.7, Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UPA	**Univ. de Panam**	**0.71**	**247**	P	Pb	03 49 27.0	-0.8
UPA				S	Sb	03 49 37.3	+0.1
BCIP	**Isla Barro Col**	**0.96**	**265**	P	Pb	03 49 30.1	-1.9
BCIP				S	Sb	03 49 43.1	-1.2
UPD2	**Meteti**	**1.10**	**130**	P	Pn	03 49 32.7	-1.5
UPD2				S	Sb	03 49 48.3	-0.1
CAPC	**Capurgana**	**1.62**	**112**	P	Pn	03 49 38.7	-2.7
CAPC				S	Sb	03 50 03.9	+0.5
PNME	**Penonome**	**1.63**	**242**	P	Pn	03 49 39.1	-2.4
PNME				S	Sn	03 49 59.4	-2.5
AZU	**Azuero**	**2.01**	**224**	P	Pn	03 49 43.9	-2.9
AZU				S	Sn	03 50 07.4	-3.9
PTAC	**Punta Ardita,**	**2.35**	**153**	P	Pn	03 49 47.6	-3.8
PTAC				S	Sn	03 50 15.2	-4.4
APAC	**Apartado, Choc**	**2.64**	**121**	P	Pn	03 49 55.8	+0.4
APAC				S	Sn	03 50 28.4	+1.7
CACAO	**El Cacao, Vera**	**2.74**	**226**	P	Pn	03 49 54.7	-2.1
CACAO				S	Sn	03 50 24.7	-4.5
SJCC	**San Jacinto, C**	**3.69**	**80**	P	Pn	03 50 07.6	-2.4
SJCC				S	Sn	03 50 48.4	-4.5
OCAC	**Ocana**	**5.58**	**100**	P	Pn	03 50 32.4	-3.6
	18nm,0.6s						
CRJC	**Cerrejon, Guaj**	**6.15**	**73**	P	Pn	03 50 39.7	-4.1

IDC 24 03:56:52.4±3.9, 4.22S×152.62E, h0km, mb3.4/2, mbtmp3.4/2, MS3.0/1, Error ellipse: s-maj=174.6km s-min=50.6km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.70**	**227**	P	P	04 02 06.5	+0.3
	0.8nm,0.5s,baz=52,slow=9.9,SNR=10						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**26.46**	**221**	P	P	04 02 31.2	-0.3
	0.3nm,0.7s,baz=52,slow=9.5,SNR=1.9						
	0.3nm,0.7s						
DAV	**Davao City (W)**	**29.23**	**292**	LR	LR	04 13 05.9	
	comp=Z,32nm,20.3s,baz=344,slow=33						
TORD	**Torodi Ar. Bea**	**149.96**	**289**	PKPbc	PKPbc	04 16 45.5	-0.5
	0.2nm,0.4s,baz=82,slow=3.1,SNR=4.2						

MEX ***24*** *04:14:57.3±1.1, 14.11N×91.96W, h103km±23km, MD4.3*
GCG ***24*** *04:15:06.1±0.6, 14.37N×91.53W, h27km±4km, MD3.7*

ISC 24 04:14:56.7±2.0, 14.0N±0.1×91.82W±0.06, h100km, n19, σ3=15/29, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SULM	**Suchitepequez,**	**0.36**	**43**	*i* P	**Pn**	**04 15 11.0**	**-0.7**
RTAL	**Retalhuleu**	**0.50**	**14**	*eP*	**Pn**	**04 15 11.0**	**-1.5**
RTAL				*eS*	**Sn**	**04 15 22.5**	**-1.8**
STG3	**Santiaguito 3,**	**0.71**	**20**	*i* P	**Pn**	**04 15 14.2**	**-0.3**
STG3				*i* S	**Sn**	**04 15 21.2**	**-6.6**
SMSP	**San Marcos**	**0.93**	**2**	*eP*	**Pn**	**04 15 16.9**	**+0.2**
SMSP				*eS*	**Sn**	**04 15 30.5**	**-1.3**
THIG		**0.97**	**334**	*eP*	**Pn**	**04 15 15.4**	**-1.3**
THIG				*eS*	**Sn**	**04 15 28.7**	**-3.1**
FUG	**Fuego 3**	**1.03**	**67**	*i* P	**Pn**	**04 15 19.1**	**+1.4**
FUG				*i* S	**Sn**	**04 15 29.9**	**-3.5**
CHUJ	**Union Juarez**	**1.09**	**345**	*eP*	**Pn**	**04 15 16.8**	**-1.6**
CHUJ				*eS*	**Sn**	**04 15 32.3**	**-2.4**
PATR	**El Naranjo**	**1.14**	**340**	*eP*	**Pn**	**04 15 17.0**	**-2.1**
PATR				*eS*	**Sn**	**04 15 34.2**	**-1.6**
PAVE	**Pavencul**	**1.20**	**343**	*eP*	**Pn**	**04 15 18.3**	**-1.4**
PAVE				*eS*	**Sn**	**04 15 33.3**	**-3.6**
HUEH	**Huehuetenango**	**1.31**	**14**	*eP*	**Pn**	**04 15 23.0**	**+2.0**
HUEH				*eS*	**Sn**	**04 15 41.9**	**+2.7**
NBG	**Las Nubes**	**1.53**	**69**	*i* P	**Pn**	**04 15 27.6**	**+4.0**
PCIG		**2.14**	**321**	*e*	**Pn**	**04 15 29.8**	**-1.3**
PCIG				*eS*	Sn	04 15 47.7	-10
TGIG		**3.00**	**335**	*eP*	Pn	04 15 49.0	+6.5
TGIG				*eS*	**Sn**	**04 16 21.6**	**+3.7**
NILT	**Santiago Nilte**	**3.69**	**313**	*i* P	Pn	04 16 04.3	+13
NILT				*eS*	**Sn**	**04 16 31.7**	**-2.6**
UXUV	**UXUV**	**3.96**	**326**	*eP*	**Pn**	**04 15 57.0**	**+1.6**
UXUV				*eS*	**Sn**	**04 16 46.5**	**+5.8**
NEUV	**Arroyo Zacate**	**5.29**	**314**	*eP*	Pn	04 16 21.6	+8.2
NEUV				*eS*	**Sn**	**04 17 18.5**	**+5.3**
TOIG	**Toxpalan**	**6.46**	**309**	*eP*	Pn	04 16 21.8	-7.5
TOIG				*eS*	**Sn**	**04 17 40.4**	**-1.3**
TXIG	**Tlaxiaco**	**6.56**	**300**	*eP*	**Pn**	**04 16 34.5**	**+3.6**
TXIG				*eS*	Sn	04 17 33.0	-11
JAUV	**Jalcomulco**	**7.13**	**319**	*eP*	Pn	04 16 44.1	+5.6
JAUV				*eS*	**Sn**	**04 17 53.2**	**-4.9**

IDC ***24*** *05:03:44.6±5.7, 4.04S×132.77E, h0km, mb3.2/1, mbtmp3.6/3, ML3.8/2, Error ellipse: s-maj=356.7km s-min=32.2km az=75.0*

ISC 24 05:03:44.4±1.6, 4.05S±0.1×132.66E±0.5, h10km, n9, σ2=24/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.17**	**343**	P	**Pn**	**05 04 04.3**	**-2.5**
DRS	**Darwin Rock St**	**8.50**	**191**	P	**Pn**	**05 05 48.3**	**+0.7**
MTN	**Manton Dam**	**8.86**	**189**	P	**Pn**	**05 05 52.7**	**+0.1**
WRA	**Warramunga Arr**	**15.89**	**174**	Pn	**Pn**	**05 07 28.2**	**-0.1**
	0.2nm,0.3s,baz=355,slow=13,SNR=7.7						
WRA				Sn	**Sn**	**05 10 20.9**	**-3.8**
	0.1nm,0.3s,baz=350,slow=24,SNR=1.9						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**19.55**	**176**	P	**Pn**	**05 08 14.6**	**+0.8**
	1.0nm,0.3s,baz=354,slow=11,SNR=58						
	2.9nm,0.3s						
AS01	**Alice Springs**	**19.55**	**176**	P	**Pn**	**05 08 14.7**	**+1.0**
	6.9nm,0.8s						
WRKA	**Warakurna**	**21.28**	**191**	P	**P**	**05 08 29.7**	**-1.5**
OOD	**Oodnadatta**	**23.80**	**173**	P	**P**	**05 08 59.5**	**+2.0**
MKAR	**Makanchi Array**	**67.24**	**325**	P	**P**	**05 14 41.5**	**+2.4**
	0.2nm,0.6s,baz=106,slow=7.9,SNR=1.9						
	0.2nm,0.6s						

IDC 24 05:48:04.2±3.8, 6.01S×142.17E, h0km, mb3.3/1, mbtmp3.7/3, ML3.8/2, MS3.5/2, Error ellipse: s-maj=117.1km s-min=28.1km az=101.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.98**	**125**	LR	LR	05 51 50.5	
	comp=Z,101nm,20.9s,baz=283,slow=38						
WRA	**Warramunga Arr**	**15.80**	**208**	Pn	Pn	05 51 46.6	-1.7
	0.4nm,0.3s,baz=27,slow=13,SNR=13						
WRA				Sn	Sn	05 54 34.0	-10
	0.3nm,0.3s,baz=28,slow=22,SNR=3.0						
WRA				Lg	Lg	05 56 24.7	
	0.2nm,0.3s,baz=31,slow=28,SNR=2.4						
	1.1nm,0.4s						
HNR	**Honiara**	**17.93**	**102**	LR	LR	05 59 13.0	
	comp=Z,673nm,18.9s,baz=296,slow=37						
ASAR	**Alice Springs**	**19.27**	**204**	P	Pn	05 52 31.2	-0.4
	0.4nm,0.3s,baz=32,slow=10,SNR=20						
ASAR				S	Sn	05 56 02.4	-6.0
	0.9nm,0.6s,baz=24,slow=28,SNR=5.7						
ASAR				Lg	Lg	05 58 18.1	
	baz=24,slow=29,SNR=4.2						
	3.9nm,0.8s						
MKAR	**Makanchi Array**	**74.50**	**322**	P	P	05 59 44.8	+0.1
	0.1nm,0.5s,baz=99,slow=8.9,SNR=1.9						
	0.1nm,0.5s						

NEIC ***24*** *05:52:41.4±1.5, 56.16N±0.04×153.39W±0.07, h10km±4km, Error ellipse: s-maj=6.9km s-min=4.9km az=132.0*
IDC ***24*** *05:52:42.2±0.6, 56.39N×153.60W, h0km, mb4.7/29, mbtmp4.7/32, ML3.8/3, MS4.4/58, Error ellipse: s-maj=16.4km s-min=11.2km az=8.0*
AEIC ***24*** *05:52:43.4±1.7, 56.11N±0.05×153.35W±0.08, h25km±3km, ML4.6, mb4.9/51(NEIC), ML4.7/63(NEIC), Error ellipse: s-maj=7.6km s-min=5.1km az=140.0*
GCMT ***24*** *05:52:45.4±0.2, 55.98N±0.02×153.17W±0.03, h21km±1km, MW5.0/100, Moment Tensor Solution. s63,c79; s100,c142; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.26±.13; $M_{\theta\theta}$-1.23±.09; $M_{\phi\phi}$-1.04±.09; $M_{r\theta}$2.41±.19; $M_{\theta\phi}$-1.54±.06; $M_{r\phi}$1.21±.15; Best double couple: M_o3.66600×10^{16} NP1:ϕ_s60.00000°, δ69.00000°, λ101.00000°. NP2:ϕ_s211.00000°, δ23.00000°, λ64.00000°. Principal axes: T 3.5260, Plg64.0000°, Azm347.0000°; N 0.2690, Plg10.0000°, Azm236.0000°; P -3.8050, Plg24.0000°, Azm141.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***24*** *05:52:50.1, 56.43N×153.96W, h33km, mb4.8*

ISC 24 05:52:42.9±0.7, 56.26N±0.05×153.44W±0.03, h14km±3km, n816, σ1=20/786, mb4.9/127, MS4.5/64, 21C-21D, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SII	**Sitkinak Islan**	**0.51**	**307**	P	**Pb**	**05 52 54.8**	**+1.1**
SII	**Sitkinak Islan**	**0.51**	**307**		**Pb**	**05 52 55.0**	**+1.3**
SII	**Sitkinak Islan**	**0.51**	**307**		**Sn**	**05 53 04.3**	**-0.2**
SII	**Sitkinak Islan**	**0.51**	**307**	P	**Pb**	**05 52 55.1**	**+1.3**
	baz=134,SNR=1000						
OHAK	**Old Harbor**	**0.97**	**5**	Pn	**Pb**	**05 53 01.5**	**0.0**
OHAK				IAML		05 53 33.0	
	comp=N,15μm,1.1s						
OHAK				IAML		05 53 33.1	
	comp=E,21μm,1.2s						
OHAK	**Old Harbor**	**0.97**	**5**		**Sg**	**05 53 15.2**	**+0.8**
OHAK	**Old Harbor**	**0.97**	**5**	P	**Pb**	**05 53 01.7**	**+0.2**
	baz=182,SNR=284						
CHIR	**Chirikof Islan**	**1.30**	**251**		**Pn**	**05 53 05.0**	**-1.6**
CHIR				IAML		05 53 40.9	
	comp=E,15μm,1.2s						
CHIR	**Chirikof Islan**	**1.30**	**251**		**Sb**	**05 53 20.9**	**-2.7**
CHIR	**Chirikof Islan**	**1.30**	**251**	P	**Pn**	**05 53 05.2**	**-1.5**
	baz=76,SNR=36						
KDAK	**Kodiak Island**	**1.60**	**17**	Pn	**Pn**	**05 53 10.3**	**-0.5**
KDAK	**Kodiak Island**	**1.60**	**17**	P	**Pn**	**05 53 10.6**	**-0.2**
	baz=194						
KDAK	**Kodiak Island**	**1.60**	**17**	Pn	**Pn**	**05 53 10.5**	**-0.2**
	comp=E,495nm,0.3s,baz=223,slow=7.9,SNR=4568						
KDAK				Sn	**Sn**	**05 53 30.2**	**-1.0**
	comp=E,249nm,0.3s,baz=104,slow=22,SNR=6.4						
PLK3	**Peulik 3**	**2.11**	**314**		**Pn**	**05 53 18.2**	**+0.4**
KCE	**Katmai Mt Cerb**	**2.21**	**335**		**Pn**	**05 53 20.0**	**+0.9**
ACHA	**Angle Creek He**	**2.21**	**333**		**Pn**	**05 53 19.3**	**0.0**
KAKN	**Katmai Knife C**	**2.23**	**337**		**Pn**	**05 53 19.6**	**+0.1**
ANCK	**Angle Creek**	**2.25**	**331**		**Pn**	**05 53 19.8**	**+0.1**
PLK1	**Peulik 1**	**2.32**	**313**		**Pn**	**05 53 21.1**	**+0.4**
KVTA	**Katmai Vly 10**	**2.36**	**335**		**Pn**	**05 53 21.6**	**+0.4**
CNTC	**Contact Creek**	**2.41**	**328**		**Pn**	**05 53 22.2**	**+0.2**
Q17K	**Contact Creek**	**2.41**	**328**	P	**Pn**	**05 53 22.6**	**+0.6**
	baz=146,SNR=57						
Q20K	**Shuyak Island**	**2.43**	**13**	P	**Pn**	**05 53 22.2**	**+0.1**
	baz=192,SNR=10						
SYI	**Shuyak Island**	**2.43**	**13**	Pn	**Pn**	**05 53 22.1**	**0.0**
SYI				IAML		05 54 26.5	
	comp=N,3μm,1.5s						
KELA	**Mount Kelaz**	**2.52**	**331**		**Pn**	**05 53 23.6**	**+0.1**
KAHC	**Katmai Hardscr**	**2.54**	**341**		**Pn**	**05 53 24.2**	**+0.3**
R16K	**Pilot Point**	**2.62**	**302**		**Pn**	**05 53 25.0**	**+0.2**
R16K	**Pilot Point**	**2.62**	**302**	IAML		05 54 57.8	
	comp=E,5μm,1.4s						
R16K				IAML		05 55 11.4	
	comp=N,5μm,1.5s						
R16K	**Pilot Point**	**2.62**	**302**	P	**Pn**	**05 53 25.4**	**+0.6**
	baz=120,SNR=15						
ANNE	**Aniakchak Nort**	**2.64**	**286**		**Pn**	**05 53 24.6**	**-0.5**
Q19K	**Cape Douglas,**	**2.68**	**358**		**Pn**	**05 53 26.5**	**+0.8**
Q19K	**Cape Douglas,**	**2.68**	**358**	P	**Pn**	**05 53 26.6**	**+0.9**
	baz=177,SNR=31						
ANNW	**Aniakchak Nort**	**2.73**	**287**		**Pn**	**05 53 26.4**	**0.0**
CHGN	**Chignik**	**2.77**	**273**	Pn	**Pn**	**05 53 26.0**	**-0.9**
CHGN				IAML		05 54 25.4	
	comp=N,2μm,1.2s						
CHGN				IAML		05 54 30.9	
	comp=E,2μm,1.2s						
CHGN	**Chignik**	**2.77**	**273**	P	**Pn**	**05 53 26.1**	**-0.8**
	baz=92,SNR=27						
Q16K	**King Salmon**	**2.98**	**326**		**Pn**	**05 53 29.5**	**-0.3**
Q16K	**King Salmon**	**2.98**	**326**	P	**Pn**	**05 53 29.7**	**-0.1**
	baz=144,SNR=30						
VNHG	**Veniaminof 1**	**3.19**	**272**		**Pn**	**05 53 32.8**	**0.0**
P18K	**Big Mountain,**	**3.29**	**344**	Pn	**Pn**	**05 53 34.0**	**0.0**
P18K	**Big Mountain,**	**3.29**	**344**	P	**Pn**	**05 53 34.0**	**0.0**
	baz=162,SNR=25						
P17K	**Kvichak River**	**3.36**	**333**		**Pn**	**05 53 34.8**	**-0.1**
P17K	**Kvichak River**	**3.36**	**333**	P	**Pn**	**05 53 34.9**	**0.0**
	baz=150,SNR=15						
P19K	**Oil Pt**	**3.41**	**2**		**Pn**	**05 53 36.5**	**+0.9**
P19K				IAML		05 54 51.9	
	comp=E,2μm,1.1s						
P19K				IAML		05 54 58.3	
	comp=N,2μm,1.1s						
P19K	**Oil Pt**	**3.41**	**2**	P	**Pn**	**05 53 36.2**	**+0.6**
	baz=181,SNR=12						
S14K	**Fog Glacier**	**3.41**	**273**	P	**Pn**	**05 53 36.2**	**+0.4**
	baz=90,SNR=17						
VNFG	**Fog Glacier, M**	**3.41**	**273**		**Pn**	**05 53 35.5**	**-0.3**
VNSW	**Veniaminof 7**	**3.43**	**269**		**Pn**	**05 53 35.6**	**-0.3**
CNPM	**China Poot**	**3.48**	**19**	Pn	**Pn**	**05 53 36.4**	**-0.3**
CNPM				IAML		05 54 55.8	
	comp=E,1μm,1.3s						
CNPM				IAML		05 55 05.8	
	comp=N,1μm,1.2s						
HOM	**Homer**	**3.54**	**15**		**Pn**	**05 53 37.9**	**+0.4**
HOM	**Homer**	**3.54**	**15**	P	**Pn**	**05 53 38.1**	**+0.7**
	baz=195,SNR=12						
P16K	**Nushagak River**	**3.70**	**321**		**Pn**	**05 53 39.5**	**-0.2**
P16K	**Nushagak River**	**3.70**	**321**	P	**Pn**	**05 53 39.4**	**-0.2**
	baz=138,SNR=13						
O18K	**Koktuh Hills**	**3.73**	**346**		**Pn**	**05 53 40.2**	**+0.1**
O18K				IAML		05 54 52.8	
	comp=E,1μm,1.2s						
O18K				IAML		05 54 58.1	
	comp=N,995nm,1.2s						
O18K	**Koktuh Hills**	**3.73**	**346**	P	**Pn**	**05 53 40.1**	**0.0**
	baz=164,SNR=13						
ILSW	**Iliamna Southw**	**3.74**	**2**		**Pn**	**05 53 40.4**	**+0.1**
ILSW	**Iliamna Southw**	**3.74**	**2**	IAML		05 55 03.5	
	comp=N,916nm,1.1s						
ILSW				IAML		05 55 09.8	
	comp=E,1μm,1.3s						
BRLK	**Bradley Lake**	**3.77**	**20**		**Pn**	**05 53 40.0**	**-0.7**
BRLK				IAML		05 55 00.3	
	comp=N,822nm,1.0s						
BRLK				IAML		05 55 02.2	
	comp=E,1μm,1.2s						
CHNA	**Chernabura Isl**	**3.77**	**250**	P	**Pn**	**05 53 39.3**	**-1.3**
	baz=68,SNR=12						
BRSE

N17K				IAML		05 55 30.7			
	comp=E,431nm,1.2s								
N17K				IAML		05 55 39.4			
	comp=N,488nm,1.2s								
N17K	**Nushagak Hills**	**4.71**	**337**	P	**Pn**	**05 53 54.1**	**+0.6**		
	baz=154,SNR=14								
PS1A	**Pavlof South-1**	**4.75**	**263**		**Pn**	**05 53 53.4**	**-0.8**		
PVV	**Pavlof Volcano**	**4.79**	**263**		**Pn**	**05 53 53.6**	**-1.0**		
PS4A	**Pavlof South-4**	**4.84**	**263**		**Pn**	**05 53 54.3**	**-0.9**		
S12K	**Black Hills**	**4.87**	**267**	Pn	**Pn**	**05 53 54.7**	**-1.1**		
S12K				IAML		05 55 19.0			
	comp=E,394nm,1.1s								
S12K				IAML		05 55 33.0			
	comp=N,627nm,1.5s								
S12K	**Black Hills**	**4.87**	**267**	P	**Pn**	**05 53 54.9**	**-0.9**		
	baz=82,SNR=11								
PN7A	**Pavlof North-7**	**4.89**	**264**		**Pn**	**05 53 55.5**	**-0.6**		
P23K	**Montague Islan**	**4.93**	**38**		**Pn**	**05 53 54.6**	**-1.9**		
P23K	**Montague Islan**	**4.93**	**38**	P	**Pn**	**05 53 54.9**	**-1.6**		
	baz=222								
Q23K	**Middleton Isla**	**4.95**	**47**	Pn	**Pn**	**05 53 53.9**	**-2.8**		
Q23K	**Middleton Isla**	**4.95**	**47**	P	**Pn**	**05 53 55.3**	**-1.4**		
	baz=231								
MID	**Middleton Isla**	**4.95**	**47**		**Pn**	**05 53 54.7**	**-2.0**		
SVW2	**Sparrevohn**	**4.98**	**348**	P	**Pn**	**05 53 57.4**	**+0.1**		
SVW2	**Sparrevohn**	**4.98**	**348**	Pn	**Pn**	**05 53 57.3**	**+0.1**		
SVW2				IAML		05 55 41.8			
	comp=E,415nm,1.4s								
SVW2				IAML		05 55 42.6			
	comp=N,373nm,1.4s								
N20K	**Mount Spurr**	**5.00**	**7**	P	**Pn**	**05 53 58.1**	**+0.5**		
	baz=187,SNR=34								
SPCR	**Spurr Chakacha**	**5.00**	**7**		**Pn**	**05 53 58.1**	**+0.6**		
SPCN	**Chakachatna No**	**5.03**	**7**		**Pn**	**05 53 58.9**	**+1.0**		
SPBG	**Spurr Blockage**	**5.05**	**6**		**Pn**	**05 53 58.9**	**+0.7**		
SPCP	**Crater Peak Br**	**5.07**	**7**		**Pn**	**05 53 59.5**	**+0.9**		
N16K	**Nishlik Lake**	**5.07**	**329**		**Pn**	**05 53 58.7**	**+0.2**		
N16K	**Nishlik Lake**	**5.07**	**329**	P	**Pn**	**05 53 58.9**	**+0.4**		
	baz=144,SNR=36								
SPCG	**Spurr Capps Gl**	**5.10**	**8**		**Pn**	**05 53 59.5**	**+0.5**		
SPNN	**North Nagishla**	**5.14**	**4**		**Pn**	**05 54 00.1**	**+0.5**		
O14K	**Tigyukauivet M**	**5.16**	**309**	Pn	**Pn**	**05 53 59.8**	**+0.3**		
O14K				IAML		05 55 47.0			
	comp=N,527nm,1.8s								
O14K				IAML		05 55 47.3			
	comp=E,295nm,1.9s								
O14K	**Tigyukauivet M**	**5.16**	**309**	P	**Pn**	**05 53 59.9**	**+0.3**		
	baz=123								
FIS	**Fire Island**	**5.18**	**18**		**Pn**	**05 53 59.9**	**0.0**		
RC01	**Rabbit Creek A**	**5.22**	**20**		**Pn**	**05 53 59.4**	**-1.1**		
RC01				IAML		05 55 53.0			
	comp=N,308nm,1.5s								
RC01	**Rabbit Creek A**	**5.22**	**20**	P	**Pn**	**05 53 59.8**	**-0.7**		
	baz=202,SNR=40								
N15K	**Kwethluk River**	**5.27**	**321**	P	**Pn**	**05 54 01.4**	**+0.2**		
	baz=136,SNR=10								
STLK	**Strandline Lak**	**5.32**	**8**		**Pn**	**05 54 02.2**	**+0.2**		
M18K	**Stony River**	**5.39**	**348**		**Pn**	**05 54 03.3**	**+0.4**		
M18K	**Stony River**	**5.39**	**348**	P	**Pn**	**05 54 03.2**	**+0.4**		
	baz=166,SNR=61								
SUA	**Susitna One**	**5.41**	**14**		**Pn**	**05 54 02.5**	**-0.6**		
SUA	**Susitna One**	**5.41**	**14**	P	**Pn**	**05 54 02.6**	**-0.6**		
	baz=195,SNR=37								
HIN	**Hinchinbrook I**	**5.53**	**38**		**Pn**	**05 54 03.1**	**-1.7**		
M17K	**Holitna River**	**5.56**	**340**	P	**Pn**	**05 54 05.8**	**+0.6**		
	baz=156,SNR=44								
M16K	**Timber Creek**	**5.58**	**331**	P	**Pn**	**05 54 05.7**	**+0.3**		
	baz=147,SNR=16								
M20K	**Styx River**	**5.64**	**1**	P	**Pn**	**05 54 07.5**	**+1.0**		
	baz=181,SNR=64								
N14K	**Kuskokwak Cree**	**5.71**	**313**		**Pn**	**05 54 07.1**	**-0.1**		
N14K	**Kuskokwak Cree**	**5.71**	**313**	P	**Pn**	**05 54 07.5**	**+0.3**		
	baz=127								
M22K	**Willow**	**5.77**	**16**	Pn	**Pn**	**05 54 08.1**	**0.0**		
M22K	**Willow**	**5.77**	**16**	P	**Pn**	**05 54 07.7**	**-0.3**		
	baz=198,SNR=41								
KNK	**Knik Glacier**	**5.78**	**24**		**Pn**	**05 54 06.9**	**-1.3**		
KNK	**Knik Glacier**	**5.78**	**24**	P	**Pn**	**05 54 07.0**	**-1.3**		
	baz=208								
PMR	**Palmer**	**5.80**	**21**	P	**Pn**	**05 54 07.4**	**-1.0**		
PMR	**Palmer**	**5.80**	**21**		**Pn**	**05 54 06.8**	**-1.6**		
PMR	**Palmer**	**5.80**	**21**	P	**Pn**	**05 54 07.1**	**-1.3**		
	baz=204,SNR=16								
SKT	**Skwentna**	**5.82**	**9**		**Pn**	**05 54 08.6**	**-0.2**		
SKT	**Skwentna**	**5.82**	**9**	P	**Pn**	**05 54 08.8**	**0.0**		
	baz=190,SNR=13								
FALS	**False Pass**	**5.83**	**260**	P	**Pn**	**05 54 08.6**	**-0.3**		
FALS	**False Pass**	**5.83**	**260**		**Pn**	**05 54 08.2**	**-0.7**		
FALS	**False Pass**	**5.83**	**260**	P	**Pn**	**05 54 08.1**	**-0.9**		
	baz=74,SNR=9.4								
M15K	**Kasigluk River**	**5.85**	**322**		**Pn**	**05 54 09.1**	**-0.1**		
M15K	**Kasigluk River**	**5.85**	**322**	P	**Pn**	**05 54 09.0**	**-0.1**		
	baz=137,SNR=7.5								
EYAK	**Cordova Ski Ar**	**5.90**	**40**	P	**Pn**	**05 54 08.7**	**-1.1**		
EYAK	**Cordova Ski Ar**	**5.90**	**40**		**Pn**	**05 54 08.4**	**-1.4**		
EYAK	**Cordova Ski Ar**	**5.90**	**40**	P	**Pn**	**05 54 08.8**	**-1.1**		
	baz=225,SNR=20								
L19K	**White Mountain**	**5.99**	**354**	P	**Pn**	**05 54 11.2**	**+0.2**		
	baz=172,SNR=55								
GHO	**Glory Hole Cre**	**6.00**	**21**		**Pn**	**05 54 10.4**	**-0.9**		
KAIM	**Kayak Island**	**6.03**	**49**		**Pn**	**05 54 10.6**	**-1.1**		
KAIM	**Kayak Island**	**6.03**	**49**	P	**Pn**	**05 54 10.8**	**-0.8**		
	baz=235,SNR=11								
ISLZ	**Isanotski Laza**	**6.04**	**260**		**Pn**	**05 54 10.7**	**-1.0**		
ISNN	**Isanotski Nort**	**6.04**	**261**		**Pn**	**05 54 11.0**	**-0.8**		
SML	**Sawmill**	**6.16**	**23**		**Pn**	**05 54 12.2**	**-1.2**		
SML	**Sawmill**	**6.16**	**23**	P	**Pn**	**05 54 12.7**	**-0.7**		
	baz=207,SNR=24								
RAGM	**Ragged Mountai**	**6.20**	**44**		**Pn**	**05 54 12.4**	**-1.6**		
L18K	**Granite Mounta**	**6.21**	**346**	P	**Pn**	**05 54 14.8**	**+0.8**		
	baz=163,SNR=26								
L20K	**Farewell, AK**	**6.25**	**358**		**Pn**	**05 54 14.6**	**0.0**		
L20K	**Farewell, AK**	**6.25**	**358**	P	**Pn**	**05 54 15.1**	**+0.5**		
	baz=177,SNR=22								
M23K	**Glacier View**	**6.29**	**26**		**Pn**	**05 54 14.5**	**-0.7**		
M23K	**Glacier View**	**6.29**	**26**	P	**Pn**	**05 54 14.5**	**-0.7**		
	baz=210,SNR=52								
L16K	**Owhat River**	**6.29**	**333**		**Pn**	**05 54 15.0**	**-0.2**		
L16K	**Owhat River**	**6.29**	**333**	P	**Pn**	**05 54 15.1**	**-0.2**		
	baz=148,SNR=14								
GOAT	**Goat Mountain**	**6.30**	**43**		**Pn**	**05 54 14.0**	**-1.4**		
DIV	**Divide**	**6.31**	**36**		**Pn**	**05 54 14.7**	**-0.9**		
M14K	**Bethel**	**6.34**	**319**		**Pn**	**05 54 16.1**	**+0.3**		
M14K	**Bethel**	**6.34**	**319**	P	**Pn**	**05 54 15.9**	**+0.1**		
	baz=132								
SUCK	**Suckling Hills**	**6.38**	**49**		**Pn**	**05 54 15.6**	**-0.9**		
NICHA	**Nichawak Mount**	**6.39**	**47**		**Pn**	**05 54 15.6**	**-1.1**		
L17K	**Donlin**	**6.40**	**339**		**Pn**	**05 54 16.8**	**+0.2**		
L17K	**Donlin**	**6.40**	**339**	P	**Pn**	**05 54 16.6**	**-0.1**		
	baz=155,SNR=14								
SCM	**Sheep Creek Mo**	**6.42**	**27**		**Pn**	**05 54 15.9**	**-1.1**		
SCM	**Sheep Creek Mo**	**6.42**	**27**	P	**Pn**	**05 54 16.5**	**-0.5**		
	baz=211,SNR=70								
KLU	**Klutina**	**6.54**	**33**		**Pn**	**05 54 17.1**	**-1.5**		
KLU	**Klutina**	**6.54**	**33**	P	**Pn**	**05 54 17.7**	**-1.0**		
	baz=219,SNR=27								
BMRM	**Bremner River**	**6.60**	**41**		**Pn**	**05 54 18.1**	**-1.3**		
BMRM	**Bremner River**	**6.60**	**41**	P	**Pn**	**05 54 18.2**	**-1.3**		
	baz=227,SNR=33								
BGLC	**Bering Glacier**	**6.62**	**50**	P	**Pn**	**05 54 20.0**	**+0.4**		
	baz=237								
M13K	**Dall Lake**	**6.67**	**313**	P	**Pn**	**05 54 20.6**	**+0.2**		
	baz=125								
WECS	**Westdahl Cape**	**6.69**	**260**		**Pn**	**05 54 19.9**	**-0.8**		
GRIN	**Grindle Hills**	**6.69**	**49**		**Pn**	**05 54 19.5**	**-1.1**		
PPLA	**Purkeypile**	**6.69**	**5**		**Pn**	**05 54 21.5**	**+0.7**		
PPLA	**Purkeypile**	**6.69**	**5**	P	**Pn**	**05 54 21.5**	**+0.7**		
	baz=185,SNR=10								
KHIT	**Khitrov Hills**	**6.81**	**48**		**Pn**	**05 54 20.8**	**-1.5**		
TTA	**Tatalina**	**6.82**	**350**	P	**Pn**	**05 54 23.2**	**+0.7**		
TTA	**Tatalina**	**6.82**	**350**		**Pn**	**05 54 22.5**	**0.0**		
TTA	**Tatalina**	**6.82**	**350**	P	**Pn**	**05 54 22.6**	**+0.1**		
	baz=168,SNR=32								
SNH	**Sunshine Point**	**6.84**	**51**		**Pn**	**05 54 21.9**	**-0.9**		
L15K	**Ungalak Mounta**	**6.84**	**326**		**Pn**	**05 54 22.2**	**-0.5**		
L15K	**Ungalak Mounta**	**6.84**	**326**	P	**Pn**	**05 54 22.4**	**-0.3**		
	baz=139,SNR=17								
K17K	**Iditarod**	**6.93**	**341**	P	**Pn**	**05 54 24.5**	**+0.5**		
	baz=157,SNR=19								
M24K	**Tolsona, Glenn**	**6.95**	**29**		**Pn**	**05 54 23.9**	**-0.4**		
M24K	**Tolsona, Glenn**	**6.95**	**29**	P	**Pn**	**05 54 24.0**	**-0.2**		
	baz=215,SNR=20								
WAT6	**Susitna Watana**	**6.97**	**22**		**Pn**	**05 54 23.5**	**-1.2**		
WAT6	**Susitna Watana**	**6.97**	**22**	P	**Pn**	**05 54 23.9**	**-0.8**		
	baz=206,SNR=26								
WAX	**Waxell Ridge**	**6.98**	**49**		**Pn**	**05 54 22.9**	**-1.7**		
WAT7	**Susitna Watana**	**7.00**	**18**		**Pn**	**05 54 24.1**	**-0.8**		
L14K	**Kuka Creek**	**7.00**	**321**		**Pn**	**05 54 24.8**	**0.0**		
L14K	**Kuka Creek**	**7.00**	**321**	P	**Pn**	**05 54 24.6**	**-0.2**		
	baz=133								
WAT1	**Susitna Watana**	**7.04**	**19**		**Pn**	**05 54 25.0**	**-0.5**		
WAT1	**Susitna Watana**	**7.04**	**19**	P	**Pn**	**05 54 25.2**	**-0.4**		
	baz=202								
N25K	**Chitina, Valde**	**7.05**	**37**		**Pn**	**05 54 24.8**	**-0.8**		
N25K	**Chitina, Valde**	**7.05**	**37**	P	**Pn**	**05 54 25.1**	**-0.5**		
	baz=223,SNR=12								
BARK	**Barkley Ridge**	**7.10**	**50**		**Pn**	**05 54 25.2**	**-1.2**		
K20K	**Telida**	**7.13**	**358**		**Pn**	**05 54 27.0**	**+0.3**		
K20K	**Telida**	**7.13**	**358**	P	**Pn**	**05 54 27.2**	**+0.5**		
	baz=177,SNR=39								
VRDI	**Verde Repeater**	**7.20**	**42**		**Pn**	**05 54 26.9**	**-0.9**		
GLB	**Gilahina Butte**	**7.21**	**40**		**Pn**	**05 54 26.3**	**-1.5**		
CAST	**Castle Rocks**	**7.22**	**5**		**Pn**	**05 54 28.2**	**+0.3**		
CAST	**Castle Rocks**	**7.22**	**5**	P	**Pn**	**05 54 28.7**	**+0.8**		
	baz=186,SNR=20								
MESA	**MESA**	**7.23**	**52**		**Pn**	**05 54 27.2**	**-1.0**		
MESA	**MESA**	**7.23**	**52**	P	**Pn**	**05 54 27.5**	**-0.7**		
	baz=241,SNR=7.0								
ISLE	**Juniper Island**	**7.27**	**49**		**Pn**	**05 54 27.7**	**-1.1**		
BAGL	**Bagley Icefiel**	**7.32**	**50**		**Pn**	**05 54 28.0**	**-1.2**		
K15K	**Wolf Creek Mou**	**7.33**	**329**		**Pn**	**05 54 29.0**	**-0.5**		
K15K	**Wolf Creek Mou**	**7.33**	**329**	P	**Pn**	**05 54 30.0**	**+0.5**		
	baz=142,SNR=11								
AKUT	**Akutan**	**7.37**	**258**	Pn	**Pn**	**05 54 29.1**	**-0.9**		
TRF	**Thorofare Moun**	**7.39**	**11**		**Pn**	**05 54 30.2**	**-0.2**		
TRF	**Thorofare Moun**	**7.39**	**11**	P	**Pn**	**05 54 29.8**	**-0.6**		
	baz=193,SNR=15								
WACK	**Wrangell Chich**	**7.41**	**35**		**Pn**	**05 54 30.1**	**-0.6**		
J18K	**Innoko River**	**7.42**	**349**	P	**Pn**	**05 54 30.9**	**+0.2**		
	baz=166								
KTH	**Kantishna Hill**	**7.43**	**9**		**Pn**	**05 54 31.5**	**+0.7**		
KIAG	**Kiagna River**	**7.44**	**46**		**Pn**	**05 54 29.9**	**-1.2**		
MCARA	**McCarthy VSAT**	**7.46**	**42**		**Pn**	**05 54 30.6**	**-0.6**		
MCARA	**McCarthy VSAT**	**7.46**	**42**	P	**Pn**	**05 54 30.7**	**-0.4**		
	baz=230,SNR=17								
HARP	**HAARP**	**7.47**	**31**		**Pn**	**05 54 31.2**	**-0.2**		
HARP	**HAARP**	**7.47**	**31**	P	**Pn**	**05 54 31.3**	**-0.1**		
	baz=217,SNR=19								
DHY	**Denali Highway**	**7.49**	**22**		**Pn**	**05 54 30.8**	**-1.0**		
DHY	**Denali Highway**	**7.49**	**22**	P	**Pn**	**05 54 32.1**	**+0.3**		
	baz=206,SNR=29								
RND	**Reindeer**	**7.53**	**16**	Pn	**Pn**	**05 54 31.6**	**-0.7**		
PTPK	**Patty Peak**	**7.55**	**45**		**Pn**	**05 54 31.6**	**-1.0**		
GRNC	**Granite Creek**	**7.59**	**49**		**Pn**	**05 54 31.9**	**-1.3**		
CHUM	**Lake Minchumin**	**7.67**	**4**	P	**Pn**	**05 54 33.9**	**-0.2**		
	baz=184,SNR=17								
J17K	**VABM Dome**	**7.70**	**341**		**Pn**	**05 54 34.5**	**0.0**		
J17K	**VABM Dome**	**7.70**	**341**	P	**Pn**	**05 54 34.7**	**+0.2**		
	baz=156,SNR=15								
TABL	**Table Mountain**	**7.71**	**52**		**Pn**	**05 54 34.0**	**-0.8**		
SAMH	**Samovar Hills**	**7.73**	**55**		**Pn**	**05 54 34.8**	**-0.2**		
BARN	**Barnard Glacie**	**7.80**	**47**		**Pn**	**05 54 34.5**	**-1.6**		
MCK	**McKinley**	**7.83**	**15**		**Pn**	**05 54 35.8**	**-0.5**		
MCK	**McKinley**	**7.83**	**15**	P	**Pn**	**05 54 36.8**	**+0.5**		
	baz=198,SNR=32								
J19K	**Poorman**	**7.84**	**353**	P	**Pn**	**05 54 36.8**	**+0.4**		
	baz=171,SNR=15								
PAX	**Paxson**	**7.85**	**28**		**Pn**	**05 54 35.6**	**-1.0**		
PAX	**Paxson**	**7.85**	**28**	P	**Pn**	**05 54 37.0**	**+0.4**		
	baz=214,SNR=9.9								
CTG	**Chitina Glacier**	**7.88**	**48**	P	**Pn**	**05 54 36.1**	**-1.0**		
	baz=238,SNR=10								
CTGM	**Chitina Glacie**	**7.88**	**48**		**Pn**	**05 54 35.9**	**-1.3**		
UNV	**Unalaska Valle**	**7.88**	**258**	P	**Pn**	**05 54 35.3**	**-1.7**		
UNV	**Unalaska Valle**	**7.88**	**258**		**Pn**	**05 54 34.9**	**-2.1**		
J16K	**Anvik River**	**7.92**	**336**	Pn	**Pn**	**05 54 37.5**	**0.0**		
J16K	**Anvik River**	**7.92**	**336**	P	**Pn**	**05 54 37.7**	**+0.3**		
	baz=150,SNR=14								
LOGN	**Logan Glacier**	**7.95**	**50**		**Pn**	**05 54 36.6**	**-1.5**		
J20K	**Nowinta River**	**7.95**	**358**	P	**Pn**	**05 54 38.3**	**+0.3**		
	baz=177,SNR=36								
BPAW	**Bear Paw Mtn.**	**7.96**	**8**		**Pn**	**05 54 37.0**	**-1.2**		
BPAW	**Bear Paw Mtn.**	**7.96**	**8**	P	**Pn**	**05 54 37.7**	**-0.4**		
	baz=189,SNR=11								
MGOD	**Makushin Gods**	**8.10**	**258**		**Pn**	**05 54 38.9**	**-1.2**		
M26K	**Nabesna, AK**	**8.14**	**37**	P	**Pn**	**05 54 40.6**	**-0.1**		
	baz=225								
BWN	**Browne**	**8.18**	**12**		**Pn**	**05 54 40.7**	**-0.4**		
BCPM	**Bancas Point**	**8.19**	**57**		**Pn**	**05 54 40.2**	**-1.1**		
PNL	**Peninsula**	**8.21**	**60**	P	**Pn**	**05 54 41.4**	**-0.1**		
PNL	**Peninsula**	**8.21**	**60**		**Pn**	**05 54 41.0**	**-0.5**		
PNL	**Peninsula**	**8.21**	**60**	P	**Pn**	**05 54 41.1**	**-0.5**		
	baz=250,SNR=17								
J14K	**Nanvaranak Lak**	**8.29**	**326**	P	**Pn**	**05 54 42.6**	**+0.1**		
	baz=138								
MENT	**Mentasta**	**8.31**	**32**	P	**Pn**	**05 54 43.8**	**+0.9**		
MENT	**Mentasta**	**8.31**	**32**		**Pn**	**05 54 43.3**	**+0.4**		
I17K	**Unalakleet**	**8.46**	**338**		**Pn**	**05 54 45.1**	**+0.2**		
I17K	**Unalakleet**	**8.46**	**338**	P	**Pn**	**05 54 45.8**	**+0.9**		
	baz=152,SNR=28								
K24K	**Donnelly Dome**	**8.48**	**24**		**Pn**	**05 54 45.9**	**+0.7**		
K24K	**Donnelly Dome**	**8.48**	**24**	P	**Pn**	**05 54 45.7**	**+0.5**		
	baz=210,SNR=11								
L26K	**Log Cabin Wild**	**8.49**	**33**		**Pn**	**05 54 45.4**	**+0.1**		
L26K	**Log Cabin Wild**	**8.49**	**33**	P	**Pn**	**05 54 45.8**	**+0.5**		
	baz=221								
M27K	**Edge Creek, AK**	**8.50**	**39**		**Pn**	**05 54 44.9**	**-0.7**		
M27K	**Edge Creek, AK**	**8.50**	**39**	P	**Pn**	**05 54 45.6**	**0.0**		
	baz=228								
YUK2	**White River**	**8.53**	**44**		**Pn**	**05 54 46.0**	**-0.1**		
I20K	**Naaghedeneel**	**8.58**	**357**	P	**Pn**	**05 54 46.9**	**+0.4**		
	baz=176,SNR=6.3								
NEA2	**Nenana**	**8.64**	**13**	P	**Pn**	**05 54 46.3**	**-1.0**		
	baz=196,SNR=11								
RIDG	**Independent Ri**	**8.64**	**26**		**Pn**	**05 54 47.4**	**-0.1**		
RIDG	**Independent Ri**	**8.64**	**26**	P	**Pn**	**05 54 47.3**	**-0.2**		
	baz=213,SNR=9.2								
WRH	**Wood River Hil**	**8.65**	**16**		**Pn**	**05 54 46.8**	**-0.7**		
YUK3	**Moose Creek**	**8.68**	**45**		**Pn**	**05 54 48.0**	**-0.1**		
YUK3	**Moose Creek**	**8.68**	**45**	P	**Pn**	**05 54 47.8**	**-0.3**		
	baz=235,SNR=12								
HDA	**Harding Lake**	**8.78**	**19**		**Pn**	**05 54 49.0**	**-0.3**		
HDA	**Harding Lake**	**8.78**	**19**	P	**Pn**	**05 54 49.7**	**+0.4**		
	baz=204,SNR=31								
O29M	**Mount Kennedy**	**8.81**	**56**		**Pn**	**05 54 49.2**	**-0.7**		
O29M	**Mount Kennedy**	**8.81**	**56**	P	**Pn**	**05 54 49.5**	**-0.4**		
	baz=248								
CCB	**Clear Creek Bu**	**8.86**	**16**		**Pn**	**05 54 48.9**	**-1.5**		
BVCY	**Beaver Creek**	**8.90**	**41**		**Pn**	**05 54 51.2**	**+0.2**		
BVCY	**Beaver Creek**	**8.90**	**41**	P	**Pn**	**05 54 50.8**	**-0.1**		
	baz=231								
MLY	**Manley**	**8.90**	**7**	P	**Pn**	**05 54 50.8**	**-0.3**		
	baz=189,SNR=21								
I21K	**Tanana**	**8.98**	**4**	P	**Pn**	**05 54 51.8**	**-0.3**		
	baz=185								
L27K	**Beaver Creek,**	**8.99**	**36**	P	**Pn**	**05 54 52.3**	**+0.1**		
	baz=225								
P29M	**Windy Craggy**	**9.00**	**61**	P	**Pn**	**05 54 52.1**	**-0.3**		
	baz=254,SNR=24								
BCAR	**Beaver Creek A**	**9.01**	**36**		**Pn**	**05 54 51.9**	**-0.6**		
SCRK	**Sand Creek**	**9.06**	**27**		**Pn**	**05 54 53.9**	**+0.7**		
SCRK	**Sand Creek**	**9.06**	**27**	P	**Pn**	**05 54 52.5**	**-0.7**		
	baz=215								
COLA	**College**	**9.07**	**15**	P	**Pn**	**05 54 54.2**	**+1.0**		
COLA	**College**	**9.07**	**15**	P	**Pn**	**05 54 53.0**	**-0.2**		
	baz=200								
MDM	**Murphy Dome**	**9.10**	**14**		**Pn**	**05 54 52.9**	**-0.7**		
IL31		**9.13**	**18**		**Pn**	**05 54 53.8**	**-0.2**		
ILAR	**Eielson Array**	**9.13**	**18**		**Pn**	**05 54 53.4**	**-0.7**		
ILAR	**Eielson Array**	**9.13**	**18**	Pn	**Pn**	**05 54 53.6**	**-0.4**		
	comp=N,1.6nm,0.3s,baz=199,slow=14,SNR=101								
ILAR					Sn	**Sn**	**05 56 28.9**	**-7.5**	
	baz=202,slow=26								
ILAR					LR	LR	05 58 58.9		
	comp=N,6µm,19.4s,baz=194,slow=42								
I23K	**Minto, Yukon-K**	**9.14**	**11**		**Pn**	**05 54 52.9**	**-1.2**		
I23K	**Minto, Yukon-K**	**9.14**	**11**	P	**Pn**	**05 54 53.9**	**-0.3**		
	baz=194,SNR=47								
YUK6	**Outpost Mounta**	**9.16**	**53**		**Pn**	**05 54 54.4**	**-0.3**		
YUK6	**Outpost Mounta**	**9.16**	**53**	P	**Pn**	**05 54 53.8**	**-0.9**		
	baz=245								
YUK4	**Talbot Arm**	**9.21**	**50**	P	**Pn**	**05 54 55.9**	**+0.6**		
	baz=242,SNR=13								
H18K	**Honhosa River**	**9.24**	**347**	P	**Pn**	**05 54 55.9**	**+0.3**		
	baz=163,SNR=23								
H17K	**Granite Mounta**	**9.27**	**343**	P	**Pn**	**05 54 56.7**	**+0.7**		
	baz=157,SNR=21								
J25K	**Salcha River,**	**9.27**	**22**	P	**Pn**	**05 54 56.1**	**0.0**		
	baz=208,SNR=27								
H20K	**Anotleneega Mo**	**9.29**	**356**		**Pn**	**05 54 56.9**	**+0.5**		
H20K	**Anotleneega Mo**	**9.29**	**356**	P	**Pn**	**05 54 56.2**	**-0.2**		
	baz=175,SNR=5.8								
POKR	**Poker Plat Res**	**9.36**	**16**		**Pn**	**05 54 57.6**	**+0.4**		
POKR	**Poker Plat Res**	**9.36**	**16**	P	**Pn**	**05 54 56.2**	**-1.0**		
	baz=200,SNR=8.2								
H19K	**Roundabout Mou**	**9.42**	**352**	P	**Pn**	**05 54 58.1**	**+0.1**		
	baz=170,SNR=6.0								
H21K	**Melozitna Rive**	**9.44**	**2**	P	**Pn**	**05 54 58.0**	**-0.3**		
	baz=182,SNR=10								
H16K	**Elim**	**9.45**	**336**		**Pn**	**05 54 59.6**	**+1.1**		
H16K	**Elim**	**9.45**	**336**	P	**Pn**	**05 54 59.7**	**+1.1**		
	baz=149,SNR=19								
HYT	**Haines Junctio**	**9.50**	**55**		**Pn**	**05 54 59.4**	**+0.2**		
HYT	**Haines Junctio**	**9.50**	**55**	P	**Pn**	**05 54 58.2**	**-1.0**		
	baz=247								
S31K	**Pelican**	**9.52**	**73**		**Pn**	**05 54 58.1**	**-1.2**		
S31K	**Pelican**	**9.52**	**73**	P	**Pn**	**05 54 58.2**	**-1.2**		
	baz=266,SNR=7.1								
P30M	**Million Dollar**	**9.52**	**59**	P	**Pn**	**05 54 59.3**	**-0.1**		
	baz=252								
J26L	**Joseph Creek**	**9.59**	**26**	P	**Pn**	**05 54 59.8**	**-0.7**		
	baz=214,SNR=16								
K27K	**Chicken**	**9.62**	**31**	P	**Pn**	**05 55 00.8**	**0.0**		
	baz=220								
PLBC	**Pleasant Camp**	**9.64**	**64**	P	**Pn**	**05 55 01.1**	**0.0**		
	baz=257,SNR=11								
H22K	**Ishtalitna Cre**	**9.72**	**5**	P	**Pn**	**05 55 02.0**	**-0.2**		
	baz=186,SNR=8.5								
IMAR	**Indian Mountai**	**9.76**	**359**		**Pn**	**05 55 03.3**	**+0.5**		
H23K	**Yukon River**	**9.78**	**9**	P	**Pn**	**05 55 02.5**	**-0.5**		
	baz=192								
M29M	**Somme Creek**	**9.83**	**45**	P	**Pn**	**05 55 03.6**	**-0.2**		
	baz=237,SNR=21								
G17K	**Kiwalik Mounta**	**9.91**	**342**	P	**Pn**	**05 55 04.9**	**+0.2**		
	baz=156								
N30M	**Aishikik Lake**	**9.93**	**52**	P	**Pn**	**05 55 04.0**	**-1.1**		
	baz=245								
H24K	**

F25K **Christian Rive** 11.94 15 P Pn 05 55 32.5 0.0
baz=201,SNR=15
E22K **Anaktuvuk Pass** 11.95 3 P Pn 05 55 31.9 -0.7
baz=184
BMAR **Burnt Mountain** 11.95 17 Pn 05 55 31.9 -0.8
G27K **Doyon Strip** 11.96 23 P Pn 05 55 31.9 -0.8
baz=213
E23K **Chandalar** 11.97 7 P Pn 05 55 32.4 -0.7
baz=190
E20K **Nigu River** 12.11 355 P Pn 05 55 35.3 +0.4
baz=172,SNR=14
I30M **Mount Dempster** 12.22 36 P Pn 05 55 36.9 +0.5
baz=230,SNR=11
S34M **Telegraph Cree** 12.23 73 P Pn 05 55 36.3 -0.3
baz=271
F26K **Sheenjek River** 12.26 17 P Pn 05 55 36.5 -0.4
baz=205
H29M **Whitestone** 12.30 30 P Pn 05 55 37.7 +0.2
baz=222
V35K **Ketchikan** 12.31 85 P Pn 05 55 36.9 -0.6
baz=283
D17K **Noatak River** 12.32 343 P Pn 05 55 38.2 +0.6
baz=154
R33M **Jennings River** 12.36 66 P Pn 05 55 38.1 -0.4
baz=264
E25K **Arctic Village** 12.44 14 Pn 05 55 39.5 +0.1
E25K **Arctic Village** 12.44 14 P Pn 05 55 39.0 -0.4
baz=200
D19K **Kuna River** 12.47 352 P Pn 05 55 40.2 +0.4
baz=168
TOLK **Toolik Lake Re** 12.55 7 P Pn 05 55 40.9 -0.1
baz=190,SNR=7.3
D20K **Etivluk River** 12.59 355 P Pn 05 55 41.6 +0.3
baz=172
D22K **Ayikyak River** 12.68 1 Pn Pn 05 55 42.7 +0.2
D22K **Ayikyak River** 12.68 1 P Pn 05 55 43.1 +0.6
baz=182
T35M **Bob Quinn** 12.78 77 P Pn 05 55 44.1 0.0
baz=276
DLBC **Dease Lake** 12.81 70 P Pn 05 55 43.9 -0.6
baz=270
DLBC **Dease Lake** 12.81 70 Pn Pn 05 55 46.3 +1.8
comp=N,0.4nm,0.3s,baz=283,slow=9.0,SNR=10
DLBC Sn Sn 05 58 04.6 -2.2
comp=N,0.5nm,0.3s,baz=235,slow=24,SNR=1.7
DLBC LR LR 06 00 22.6
comp=N,2µm,18.6s,baz=280,slow=36
comp=N,1.4nm,0.4s
D23K **Nanushuk River** 12.82 4 P Pn 05 55 44.0 -0.5
baz=187
EPYK **Eagle Plains** 12.88 31 P Pn 05 55 44.1 -1.2
baz=226,SNR=7.9
G29M **Pine Creek** 12.91 28 P Pn 05 55 46.0 +0.2
baz=221
C18K **Utukok River** 12.93 347 Pn Pn 05 55 46.6 +0.6
C18K **Utukok River** 12.93 347 P Pn 05 55 46.2 +0.2
baz=160,SNR=5.3
C21K **Knifeblade Rid** 12.96 358 P Pn 05 55 46.6 +0.2
baz=176,SNR=5.4
F28M **Old Crow** 13.02 24 Pn 05 55 47.1 -0.1
F28M **Old Crow** 13.02 24 P Pn 05 55 47.5 +0.3
baz=215,SNR=17
C17K **DeLong Mountai** 13.04 344 P Pn 05 55 48.0 +0.5
baz=155
D24K **Happy Valley** 13.11 7 P Pn 05 55 47.5 -1.0
baz=191
E27K **Coleen River** 13.14 20 P Pn 05 55 47.8 -1.2
baz=210
C19K **Lookout Ridge** 13.19 350 P Pn 05 55 49.1 -0.5
baz=165
C16K **Lisburne Hills** 13.23 340 P Pn 05 55 49.4 -0.7
baz=150
H31M **Peel River** 13.25 36 P Pn 05 55 49.5 -0.9
baz=232
B21K **Ikpikpuk River** 13.43 358 P Pn 05 55 52.2 -0.5
baz=177
G30M **tAoh Zraii Nji** 13.45 30 P Pn 05 55 52.8 -0.3
baz=225
D25K **Kavik River** 13.49 11 P Pn 05 55 54.0 +0.3
baz=197
B18K **Kokolik River** 13.68 347 P Pn 05 55 56.6 +0.5
baz=160
C24K **Franklin Bluff** 13.68 7 P Pn 05 55 56.0 -0.1
baz=191
C23K **Itkillik River** 13.69 4 P Pn 05 55 55.7 -0.6
baz=186,SNR=6.0
B20K **Meade River** 13.90 355 P Pn 05 55 58.4 -0.8
baz=171,SNR=12
E28M **Babbage River** 13.91 22 P Pn 05 55 59.5 +0.2
baz=214,SNR=9.0
G31M **Satah River** 13.97 32 P Pn 05 56 00.1 -0.1
baz=229,SNR=10
TGTN **Hyland Airport** 13.98 57 P Pn 05 55 59.6 -0.8
baz=256
F30M **Barrier River** 14.02 29 P Pn 05 56 00.3 -0.5
baz=224,SNR=20
E29M **Blow River** 14.09 24 Pn Pn 05 56 02.0 +0.2
E29M **Blow River** 14.09 24 P Pn 05 56 01.9 +0.1
baz=217,SNR=65
B22K **Teshekpuk Lake** 14.14 0 P Pn 05 56 00.7 -1.7
baz=180
D27M **Malcolm River** 14.18 18 P Pn 05 56 03.6 +0.5
baz=209,SNR=38
C26K **Camden Bay** 14.22 12 P Pn 05 56 03.9 +0.3
baz=199
A19K **Wainwright** 14.40 350 P Pn 05 56 05.6 -0.4
baz=163,SNR=28
F31M **Tsiigehtchic** 14.47 31 Pn 05 56 06.8 -0.2
F31M **Tsiigehtchic** 14.47 31 P Pn 05 56 05.7 -1.3
baz=228,SNR=25
D28M **Stokes Point** 14.67 21 P Pn 05 56 09.7 0.0
baz=214,SNR=23
A22K **Sinclair Lake** 14.82 358 P Pn 05 56 10.3 -1.4
baz=176
INK **Inuvik** 15.12 29 Pn 05 56 16.2 +0.5
INK **Inuvik** 15.12 29 P Pn 05 56 14.5 -1.2
baz=226,SNR=30
INK **Inuvik** 15.12 29 Pn Pn 05 56 16.6 +0.8
comp=N,0.2nm,0.3s,baz=214,slow=14,SNR=14
INK LR LR 06 02 22.5
comp=N,793nm,18.4s,baz=230,slow=39
comp=N,3.7nm,0.8s
A21K **Barrow** 15.19 356 P Pn 05 56 15.6 -1.0
baz=173
TOAD **Toad River Com** 15.31 69 P Pn 05 56 17.8 -0.5
baz=272
BBB **Bella Bella** 15.32 95 Pn P 05 56 22.6 -0.6
comp=N,0.1nm,0.3s,baz=247,slow=17,SNR=2.0
BBB LR LR 06 01 02.2
comp=N,1µm,19.2s,baz=302,slow=32
comp=N,6.4nm,0.8s
KOTAN **Kotaneelee Air** 15.90 64 P Pn 05 56 25.5 -0.4
baz=268
WRGLY **Wrigley** 16.52 53 P Pn 05 56 35.0 +1.2
baz=258,SNR=11
C36M **Paulatuk** 18.49 33 P P 05 56 57.4 -0.7
C36M IAmb IAmb 05 57 00.8
comp=Z,127nm,1.4s
C36M **Paulatuk** 18.49 33 P P 05 56 58.1 -0.1
baz=239,SNR=82
HILA **High Level** 19.60 68 P P 05 57 08.2 -2.2
A36M **Sachs Harbour** 19.67 26 P P 05 57 11.5 +0.5
A36M **Sachs Harbour** 19.67 26 P Pn 05 57 12.3 -0.2
baz=231,SNR=267
YKA **Yellowknife Ar** 20.48 56 P P 05 57 20.6 +0.6
YKA **Yellowknife Ar** 20.48 56 P Pn 05 57 21.5 -0.7
comp=Z,29nm,0.9s,baz=270,slow=11,SNR=117
comp=Z,29nm,0.9s
BILL **Bilibino** 21.72 319 P P 05 57 32.6 -0.7
BILL IAmb IAmb 05 57 35.6
comp=Z,27nm,1.0s
G03D **McMinnville, O** 21.88 108 P P 05 57 33.3 -1.8
G03D IAmb IAmb 05 57 39.0
comp=Z,86nm,1.2s
E07A **Sunnyside** 22.87 101 P P 05 57 45.8 +0.1
EDM **Edmonton** 23.11 81 P P 05 57 48.0 -0.2
EDM IAmb IAmb 05 58 06.5
comp=Z,68nm,1.1s
HAWA **Hanford** 23.15 101 P P 05 57 48.1 -0.5
F07A **Phinny Hill Vi** 23.24 102 P P 05 57 49.6 +0.1
F07A IAmb IAmb 05 58 00.7
comp=Z,21nm,1.0s
DBO **Dodson Butte** 23.32 112 P P 05 57 49.8 -0.6
DBO IAmb IAmb 05 58 02.8
comp=Z,36nm,1.1s
NEW **Newport** 23.39 95 P P 05 57 51.2 +0.1
NEW IAmb IAmb 05 58 08.5
comp=Z,35nm,1.8s

NEW **Newport** 23.39 95 P P 05 57 51.1 +0.1
baz=303,SNR=6.1
NEW **Newport** 23.39 95 LR LR 06 05 45.8
comp=Z,751nm,21.9s,baz=295,slow=33
PINE **Pine Mountain** 24.06 107 P P 05 57 57.3 -0.5
PINE IAmb IAmb 05 58 02.7
comp=Z,26nm,1.1s
J05D **Fort Rock, OR** 24.25 109 P P 05 57 56.1 -3.4
J05D IAmb IAmb 05 58 13.3
comp=Z,21nm,0.9s
F10A **Beach Ranch, E** 24.67 99 P P 05 58 03.3 +0.1
BMO **Blue Mountains** 25.33 101 P P 05 58 09.8 +0.6
LYMT **Lyon Mountain** 26.82 93 P P 05 58 23.4 +0.6
MFID **Camas Ranch** 27.07 102 P P 05 58 25.9 +1.0
SEY **Seymchan** 27.46 306 LR LR 06 10 51.3
comp=Z,1µm,19.9s,baz=101,slow=40
AFDM **Forest Hills D** 27.55 115 P P 05 58 28.7 -0.4
EGMT **Eagleton** 27.63 89 P P 05 58 29.5 -0.3
baz=304
HLID **Hailey** 27.75 101 P P 05 58 30.8 -0.3
baz=311
PETK **Petropavlovsk-** 27.95 284 P P 05 58 33.9 +1.3
comp=Z,2.5nm,0.5s,baz=63,slow=12,SNR=8.3
PETK LR LR 06 10 45.5
comp=Z,599nm,19.2s,baz=82,slow=39
comp=Z,2.5nm,0.5s
BOZ **Bozeman (W)** 28.00 95 P P 05 58 33.7 +0.4
baz=307
MA2 **Magadan** 29.08 300 LR LR 06 11 46.9
comp=Z,1µm,18.8s,baz=98,slow=40
ELK **Elko** 29.22 106 LR LR 06 08 49.2
comp=Z,458nm,18.2s,baz=318,slow=33
NVAR **Mina Array Bea** 29.30 113 P P 05 58 47.9 +3.0
comp=Z,4.6nm,0.8s,baz=300,slow=8.8,SNR=27
NVAR LR LR 06 08 37.8
comp=Z,860nm,18.6s,baz=322,slow=32
comp=Z,4.6nm,0.8s
H17A **Grant Village** 29.34 95 P P 05 58 47.0 +1.8
baz=309
RLMT **Red Lodge** 29.61 93 P P 05 58 48.0 +0.3
baz=308
LAO **LASA Array** 30.36 88 P P 05 58 54.0 -0.1
baz=306
HWUT **Hardware Ranch** 30.62 101 P P 05 58 54.2 -2.4
R11B **Troy Canyon, C** 30.78 109 P P 05 58 57.3 -0.7
R11B **Troy Canyon, C** 30.78 109 P P 05 58 57.9 -0.1
baz=318,SNR=6.2
BW06 **Boulder Array** 30.95 97 P P 05 59 00.3 +0.7
baz=311
PD31 **Pinedale Array** 30.95 97 P P 05 58 59.3 -0.2
PDAR **Pinedale Array** 30.95 97 P P 05 59 01.9 +2.4
comp=Z,1.4nm,0.7s,baz=313,slow=4.8,SNR=14
PDAR LR LR 06 09 50.8
comp=Z,125nm,21.1s,baz=314,slow=33
comp=Z,1.4nm,0.7s
ISA **Isabella, Lake** 31.35 116 P P 05 59 03.7 +0.8
baz=322
MPMC **Manual Prospec** 31.53 115 P P 05 59 07.8 +3.1
baz=321,SNR=5.6
FURC **Furnace Creek,** 31.54 113 P P 05 59 05.9 +1.5
baz=320
EDW2 **Edwards Air Fo** 32.20 117 P P 05 59 10.9 +0.5
baz=322
SHOC **Shoshone, Teco** 32.27 113 P P 05 59 12.6 +1.6
baz=321
GSC **Goldstone, Bar** 32.47 115 P P 05 59 14.6 +1.8
baz=322
K22A **Casper** 32.71 94 P P 05 59 16.1 +1.1
baz=311
BFSC **Mount Baldy Ra** 32.88 117 P P 05 59 18.2 +1.8
baz=323
HEC **Hector,Ludlow** 33.08 115 P P 05 59 20.2 +2.1
baz=322
RSSD **Black Hills** 33.15 90 P P 05 59 20.2 +1.3
baz=309
GMRC **Granite Mounta** 33.46 114 P P 05 59 23.8 +2.3
baz=322
O20A **White River Ci** 33.46 99 P P 05 59 22.7 +1.2
O20A IAmb IAmb 05 59 31.8
comp=Z,12nm,1.0s
O20A **White River Ci** 33.46 99 P P 05 59 24.1 +2.6
baz=314,SNR=8.4
BELC **Belle Mtn. Jos** 33.90 115 P P 05 59 26.2 +0.9
baz=322
PFO **Pinyon Flats O** 33.98 116 P P 05 59 27.5 +1.5
baz=323
PFO **Pinyon Flats O** 33.98 116 LR LR 06 10 19.4
comp=Z,463nm,20.7s,baz=337,slow=31
ULM **Lac du Bonnet** 34.07 75 P P 05 59 28.4 +2.0
comp=Z,3.5nm,0.9s,baz=312,slow=8.0,SNR=5.5
ULM LR LR 06 13 10.2
comp=Z,1µm,18.5s,baz=316,slow=36
comp=Z,3.5nm,0.9s
N23A **Red Feather La** 34.21 96 P P 05 59 29.1 +1.0
baz=313
IRM **Iron Mountain** 34.21 114 P P 05 59 31.1 +3.2
baz=322,SNR=8.8
TIXI **Tiksi** 34.44 327 P P 05 59 30.0 +0.6
TIXI IAmb IAmb 05 59 31.1
comp=Z,23nm,1.1s
BC3 **Big Chuckawall** 34.45 115 P P 05 59 30.7 +0.6
baz=323
MONP2 **Monument Peak** 34.58 117 P P 05 59 33.0 +1.7
baz=324
PDMCI **Parker Dam,Lak** 34.61 113 P P 05 59 32.9 +1.6
baz=321
WUAZ **Wupatki** 35.13 108 P P 05 59 36.4 +0.4
baz=319
ISCO **Idaho Springs** 35.15 97 P P 05 59 38.6 +2.4
baz=314
AGMN **Agassiz Nation** 35.17 78 P P 05 59 35.4 -0.6
AGMN IAmb IAmb 05 59 48.3
comp=Z,9.9nm,0.9s
AGMN **Agassiz Nation** 35.17 78 P P 05 59 37.4 +1.5
baz=305
GLA **Glamis** 35.25 115 P P 05 59 38.4 +1.6
baz=323
MVCO **Mesa Verde** 35.41 103 P P 05 59 35.4 -3.1
baz=317
SUSD **Miller** 35.78 86 P P 05 59 39.5 -1.8
SUSD IAmb IAmb 06 00 01.5
comp=Z,18nm,0.9s
SUSD **Miller** 35.78 86 P P 05 59 43.7 +2.3
baz=309
SDCO **Great Sand Dun** 36.66 100 P P 05 59 50.8 +1.6
baz=316
214A **Organ Pipe Nat** 37.15 114 P P 05 59 56.1 +3.0
baz=323,SNR=5.2
KSCO **Kaye Shedlock'** 37.35 96 P P 05 59 55.7 +0.8
baz=314
T25A **Trinidad** 37.70 99 P P 05 59 59.6 +1.6
baz=316
EYMN **Ely** 37.74 76 P P 05 59 58.8 +0.8
baz=306
TUC **Tucson** 37.91 111 P P 06 00 01.1 +1.4
baz=322
ANMO **Albuquerque** 38.19 104 P P 06 00 03.3 +1.2
baz=319
ANMO **Albuquerque** 38.19 104 LR LR 06 15 07.4
comp=Z,184nm,19.9s,baz=42,slow=35
BGNE **Belgrade** 38.20 89 P P 06 00 01.4 -0.5
baz=312
NEEM **North Greenlan** 38.41 20 *i* P P 06 00 04.6 +1.0
NEEM IAmb IAmb 06 00 06.7
comp=Z,18nm,0.9s
KULLO **Kullorsuaq** 38.43 25 *i* P P 06 00 04.6 +1.2
KULLO IAmb IAmb 06 00 06.4
comp=Z,17nm,0.8s
SPMN **Marine on St.** 38.70 80 P P 06 00 06.9 +0.8
baz=309
CBKS **Cedar Bluff** 39.10 93 P P 06 00 11.3 +1.8
baz=314
UPNV **Upernavik** 39.55 28 *i* P P 06 00 14.2 +1.4
UPNV IAmb IAmb 06 00 16.6
comp=Z,17nm,0.8s
FRB **Frobisher Bay** 40.06 43 LR LR 06 18 07.9
comp=Z,2µm,18.0s,baz=297,slow=38
NOR **Nord** 40.45 9 *i* P P 06 00 21.3 +1.1
NOR IAmb IAmb 06 00 23.5
comp=Z,4.2nm,0.9s
AMTX **Amarillo** 40.85 99 P P 06 00 25.1 +0.9
baz=318
MSTX **Muleshoe** 40.93 101 P P 06 00 22.6 -2.3
MSTX **Muleshoe** 40.93 101 P P 06 00 25.5 +0.7
baz=319
JKA **Kamikawa-asahi** 41.23 281 P P 06 00 26.4 -0.6
ASAJ **Asahikawa** 41.23 281 LR LR 06 17 20.0
comp=Z,599nm,21.6s,baz=90,slow=36

MNTX **Cornudas Mount** 41.25 106 P P 06 00 30.3 +2.9
baz=321
JFWS **Jewell Farm** 41.59 81 P P 06 00 30.9 +0.8
baz=311
UMMG **Uummannaq** 41.75 29 *i* P P 06 00 32.2 +1.2
UMMG IAmb IAmb 06 00 34.6
comp=Z,15nm,0.8s
ERM **Erimo** 42.31 278 P P 06 00 36.6 +0.7
WMOK **Wichita Mounta** 42.56 97 P P 06 00 39.4 +1.3
baz=318,SNR=5.1
HDIL **Hopedale** 43.71 83 P P 06 00 46.7 -0.6
baz=313
SUMG **Summit** 43.93 23 P P 06 00 50.0 +0.9
SUMG **Summit** 43.93 23 *i* P P 06 00 50.4 +1.3
SUMG IAmb IAmb 06 00 53.0
comp=Z,26nm,0.9s
TXAR **Lajitas Array** 44.02 106 P P 06 00 52.4 +2.4
comp=Z,2.5nm,0.8s,baz=314,slow=6.4,SNR=20
TXAR LR LR 06 18 19.5
comp=Z,320nm,18.4s,baz=320,slow=35
comp=Z,2.5nm,0.8s
DAG **Danmarks Havn** 44.20 14 *i* P P 06 00 50.6 -0.1
DAG IAmb IAmb 06 00 53.8
comp=Z,25nm,0.8s
CCM **Cathedral Cave** 44.37 87 P P 06 00 50.6 -2.0
baz=315
SFJD **Kangerlussuaq** 44.41 33 P P 06 00 53.8 +1.3
SFJD IAmb IAmb 06 00 55.3
comp=Z,26nm,1.1s
SFJD **Kangerlussuaq** 44.41 33 *i* P P 06 00 53.9 +1.3
SFJD IAmb IAmb 06 00 56.2
comp=Z,8.0nm,0.7s
SFJD **Kangerlussuaq** 44.41 33 LR LR 06 21 06.8
comp=Z,417nm,18.2s,baz=310,slow=38
LPIG **La Paz** 44.84 118 LR LR 06 16 53.1
comp=Z,204nm,19.1s,baz=332,slow=32
SFIN **Lafayette** 45.05 81 P P 06 00 55.4 -2.6
baz=314
JCT **Junction City** 45.22 102 P P 06 01 00.8 +1.4
baz=321
HEH **HeiHe** 45.27 297 *e*P P 06 00 59.0 -0.6
HEH pmax pmax
comp=Z,7.0nm,0.9s
HEH pmax pmax
comp=Z,160nm,6.1s
MIAR **Mount Ida** 45.60 92 P P 06 01 02.6 +0.2
MIAR IAmb IAmb 06 01 15.0
comp=Z,11nm,1.0s
MIAR **Mount Ida** 45.60 92 P P 06 01 03.1 +0.7
baz=317
SPITS **Spitsbergen Ar** 45.68 3 P P 06 01 02.9 +0.4
comp=Z,25nm,0.8s,baz=54,slow=4.2,SNR=17
SPITS LR LR 06 21 06.3
comp=Z,318nm,18.2s,baz=319,slow=37
comp=Z,25nm,0.8s
SPB2 **Spitsbergen Ar** 45.68 3 P P 06 01 03.8 +1.3
SCHQ **Schefferville** 45.90 54 P P 06 01 05.5 +0.9
comp=Z,7.7nm,0.5s,baz=306,slow=8.2,SNR=22
SCHQ LR LR 06 22 58.7
comp=Z,891nm,18.6s,baz=314,slow=40
comp=Z,7.7nm,0.5s
DBG **Daneborg** 46.02 16 *i* P P 06 01 05.3 +0.2
DBG IAmb IAmb 06 01 08.4
comp=Z,13nm,0.8s
DY2G **Dye2** 46.06 32 *i* P P 06 01 06.9 +1.0
DY2G IAmb IAmb 06 01 09.4
comp=Z,7.3nm,0.7s
ICESG **Greenland Ices** 46.08 27 *i* P P 06 01 06.7 +0.5
ICESG IAmb IAmb 06 01 09.5
comp=Z,23nm,0.9s
O48B **Farmland** 46.20 80 P P 06 01 06.2 -0.9
baz=314
USRK **Ussuriysk Ar.** 46.90 288 LR LR 06 21 07.8
comp=Z,558nm,20.6s,baz=58,slow=36
H11N2 **WAKE ISLAND Hy** 46.91 235 T T 06 51 34.3
baz=29,slow=76,SNR=72
H11N3 **WAKE ISLAND Hy** 46.91 235 T T 06 51 30.2
baz=29,slow=76,SNR=77
H11N1 **WAKE ISLAND Hy** 46.93 235 T T 06 51 37.6
baz=29,slow=76,SNR=52
NRIK **Noril'sk** 47.18 335 P P 06 01 14.4 +0.1
comp=Z,33nm,0.7s,baz=48,slow=6.8,SNR=40
NRIK LR LR 06 22 48.6
comp=Z,426nm,21.6s,baz=54,slow=38
comp=Z,33nm,0.7s
WVT **Waverly** 47.65 86 P P 06 01 19.9 +1.5
baz=316
MDJ **Mudanjiang** 47.88 290 P P 06 01 20.1 0.0
MDJ ScP PcP 06 02 48.6 +0.1
MDJ PcS PcS 06 06 44.8 +0.8
MDJ S S 06 08 15.5 -1.1
MDJ ScS ScS 06 11 11.5 -1.2
MDJ pmax pmax
comp=Z,12nm,0.9s
MDJ pmax pmax
comp=Z,43nm,3.8s
MDJ LR LR
comp=N,610nm,21.3s
MDJ LR LR
comp=E,510nm,18.8s
MDJ LR LR
comp=Z,970nm,19.4s
OXF **Oxford** 47.95 89 P P 06 01 20.9 +0.1
baz=317
H11S1 **WAKE ISLAND Hy** 48.06 235 T T 06 53 00.7
baz=28,slow=76,SNR=349
H11S2 **WAKE ISLAND Hy** 48.08 235 T T 06 53 04.1
baz=28,slow=76,SNR=171
H11S3 **WAKE ISLAND Hy** 48.08 235 T T 06 53 01.9
baz=28,slow=76,SNR=159
BNX **BinXian** 48.25 293 ⇓P P 06 01 23.5 +0.5
BNX pmax pmax
comp=Z,12nm,0.7s
BNX pmax pmax
comp=Z,140nm,6.5s
SOEG **Soedalen** 48.77 25 *i* P P 06 01 27.1 +0.5
SOEG IAmb IAmb 06 01 29.6
comp=Z,16nm,0.9s
ISOG **Isortoq, Green** 48.83 30 *i* P P 06 01 27.0 -0.1
ISOG IAmb IAmb 06 01 28.5
comp=Z,8.6nm,0.5s
M55A **Ridgway** 48.83 74 P P 06 01 28.1 +0.5
M55A IAmb IAmb 06 01 29.4
comp=Z,10nm,0.7s
MJAR **Matsushiro Ar** 48.87 276 P P 06 01 28.6 +0.7
comp=Z,2.4nm,0.6s,baz=14,slow=5.8,SNR=11
MJAR LR LR 06 22 44.0
comp=Z,275nm,21.5s,baz=60,slow=37
comp=Z,2.4nm,0.6s
MAJO **Matsushiro** 48.87 276 P P 06 01 28.8 +0.9
MAJO IAmb IAmb 06 01 30.6
comp=Z,23nm,1.2s
MCWV **Mont Chateau** 49.52 77 P P 06 01 33.6 +0.8
baz=315
BINY **Binghamton** 49.80 72 P P 06 01 34.8 -0.2
baz=314
SSPA **Standing Stone** 49.89 74 P P 06 01 34.9 -0.7
baz=315
TKL **Tuckaleechee C** 50.24 83 LR LR 06 22 48.9
comp=Z,1µm,18.1s,baz=333,slow=36
CN2 **Changchun** 50.60 292 *e*P P 06 01 40.6 -0.3
CN2 *es*P sP 06 01 47.6 +0.6
CN2 *e*S S 06 08 51.6 -3.1
CN2 **Changchun** 50.60 292 *e*SS SS 06 12 22.5 -5.8
CN2 pmax pmax
comp=Z,30nm,0.9s
CN2 LR LR
comp=N,440nm,18.0s
CN2 LR LR
comp=E,560nm,18.0s
CN2 LR LR
comp=Z,490nm,18.0s
JCJ **Chichijima** 53.77 265 LR LR 06 27 40.5
comp=Z,92nm,19.0s,baz=58,slow=39
KS19 **Wonju Array Si** 53.84 285 P P 06 02 04.8 -0.3
KS19 IAmb IAmb 06 02 13.4
comp=Z,21nm,1.2s
KSRS **Korea Array** 53.84 285 P P 06 02 06.0 +0.9
comp=Z,8.4nm,0.9s,baz=48,slow=6.6,SNR=24
KSRS LR LR 06 24 26.9
comp=Z,187nm,22.0s,baz=40,slow=35
comp=Z,8.4nm,0.9s
KSAR **Wonju Array Be** 53.87 285 P P 06 02 05.3 0.0
BORG **Borgarnes** 53.91 23 LR LR 06 26 54.7
comp=Z,444nm,20.1s,baz=330,slow=38
ARCES **ARCESS Array B** 54.51 0 P P 06 02 09.7 +0.1
comp=Z,5.1nm,0.5s,baz=5.3,slow=7.0,SNR=24

comp=Z,5.1nm,0.5s
JNU Nakatsue 55.45 279 LR LR 06 25 53.9
comp=Z,226nm,21.8s,baz=46,slow=36
ULN Ulaanbaatar 56.53 307 P **P** **06 02 25.2 +0.6**
ULN IAmb IAmb 06 02 27.4
comp=Z,13nm,0.8s
SONM Songino Array 56.85 308 P **P** **06 02 26.6 -0.2**
SONM Songino Array 56.85 308 P **P** **06 02 27.6 +0.7**
comp=Z,29nm,0.8s,baz=45,slow=6.2,SNR=112
SONM LR LR 06 28 43.4
comp=Z,1μm,18.9s,baz=12,slow=38
comp=Z,29nm,0.8s
CMIG Matias Romero 58.61 107 LR LR 06 26 34.3
comp=Z,138nm,19.4s,baz=332,slow=35
TEIG Tepich 59.65 99 LR LR 06 29 42.8
comp=Z,1μm,21.0s,slow=37
HHC Hu-ho-hao-te 59.75 299 *e*P **P** **06 02 48.6 +1.5**
HHC pP sP 06 02 55.9 +2.6
HHC sP pP 06 02 58.8 +7.2
HHC S **S** **06 11 00.0 +2.4**
HHC ScS **ScS** **06 12 27.8 -9.1**
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,96nm,3.9s
HHC LR LR
comp=N,580nm,13.7s
HHC LR LR
comp=E,580nm,14.7s
HHC LR LR
comp=Z,1μm,14.3s
ZAA0 Zalesovo Array 60.28 325 P **P** **06 02 50.7 +0.3**
ZALV Zalesovo Beam 60.28 325 P **P** **06 02 50.6 +0.2**
ZALV Zalesovo Beam 60.28 325 P **P** **06 02 50.9 +0.5**
comp=Z,18nm,0.7s,baz=33,slow=6.9,SNR=57
comp=Z,18nm,0.7s
BTO Baotou 60.69 300 *e*P **P** **06 02 52.1 -1.5**
BTO pP **pP** **06 02 56.8 -1.2**
BTO sP **sP** **06 02 59.3 -0.4**
BTO PP **PP** **06 05 07.6 +0.7**
BTO S **S** **06 11 07.4 -2.2**
BTO sS **pS** **06 11 13.0 -2.0**
BTO Baotou 60.69 300 SS SS 06 15 01.5 -5.9
BTO pmax pmax
comp=Z,24nm,0.6s
BTO pmax pmax
comp=Z,380nm,7.0s
BTO LR LR
comp=N,2μm,14.1s
BTO LR LR
comp=E,3μm,14.6s
BTO LR LR
comp=Z,2μm,13.8s
HNS HongShan 60.83 294 ⇓P **P** **06 02 55.8 +1.4**
HNS *e*S **S** **06 11 13.1 +1.9**
HNS pmax pmax
comp=Z,16nm,1.2s
HNS LR LR
comp=N,460nm,19.9s
HNS LR LR
comp=E,510nm,20.7s
HNS LR LR
comp=Z,810nm,15.7s
JOF Joensuu 61.10 358 *e*P **P** **06 02 57.2 +1.3**
JOW Kunigami 61.72 277 LR LR 06 30 02.4
comp=Z,135nm,21.0s,baz=80,slow=36
KEF Keuruu 61.91 1 *e*P **P** **06 03 02.6 +1.3**
NB2 NORSAR Subarra 62.42 8 P **P** **06 03 05.4 +0.5**
comp=Z,26nm,1.1s,baz=352,slow=6.9
NB2 NORSAR Subarra 62.42 8 P **P** **06 03 05.4 +0.5**
baz=352,slow=6.9
NOA NORSAR Array B 62.42 8 P **P** **06 03 05.5 +0.5**
comp=Z,10.0nm,0.9s,baz=350,slow=6.7,SNR=26
NOA LR LR 06 33 35.4
comp=Z,73nm,18.2s,baz=340,slow=39
comp=Z,10.0nm,0.9s
FINES FINESS Array B 62.64 0 P **P** **06 03 06.4 +0.1**
comp=Z,9.0nm,0.9s,baz=29,slow=9.0,SNR=17
comp=Z,9.0nm,0.9s
NJ2 Nanjing 62.79 287 *e*P **P** **06 03 06.3 -1.4**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
GUMO Guam 63.19 254 LR LR 06 27 10.4
comp=Z,199nm,21.7s,baz=72,slow=33
HFS Hagfors 63.51 7 P **P** **06 03 12.3 +0.3**
comp=Z,12nm,0.9s,baz=57,slow=5.5,SNR=23
comp=Z,12nm,0.9s
LYN LuoYang 64.18 294 ⇓P **P** **06 03 18.3 +1.5**
LYN sP sP 06 03 25.3 +2.3
LYN S **S** **06 11 57.3 +3.9**
LYN pmax pmax
comp=Z,24nm,0.9s
LYN pmax pmax
comp=Z,220nm,3.6s
LYN LR LR
comp=N,1μm,24.4s
LYN LR LR
comp=E,850nm,22.3s
LYN LR LR
comp=Z,1μm,20.8s
ARU Arti 64.72 341 P **P** **06 03 19.4 -0.6**
SEM Semipalatinsk 64.77 325 *e*P **P** **06 03 21.1 +0.4**
baz=325
KURK Kurchatov 65.01 326 P **P** **06 03 21.7 -0.3**
KURK IAmb IAmb 06 03 23.9
comp=Z,16nm,1.0s
KURBB Kurchatov Arra 65.12 326 P **P** **06 03 23.0 +0.3**
comp=Z,11nm,0.9s,baz=28,slow=6.0,SNR=55
KURBB LR LR 06 32 42.8
comp=Z,298nm,21.3s,baz=164,slow=37
comp=Z,11nm,0.9s
BRVK Borovoye 65.28 333 P **P** **06 03 23.7 0.0**
BVAR Borovoye Array 65.28 333 P **P** **06 03 24.0 +0.2**
comp=Z,31nm,0.8s,baz=35,slow=6.6,SNR=84
BVAR LR LR 06 39 02.9
comp=Z,178nm,18.6s,baz=43,slow=43
comp=Z,31nm,0.8s
VIKU Vikbolandet 65.32 6 *e*P **P** **06 03 25.8 +1.9**
ZSN Zaisan 65.77 321 *e*P **P** **06 03 28.4 +1.4**
comp=Z,14nm,0.9s,baz=321
EKA Eskdalemuir Ar 66.17 18 P **P** **06 03 30.2 +0.8**
comp=Z,6.2nm,0.7s,baz=328,slow=5.1,SNR=23
comp=Z,6.2nm,0.7s
WHN Wuhan 66.36 290 P **P** **06 03 28.0 -3.0**
XAN Xi'an 66.38 296 P **P** **06 03 32.1 +0.9**
XAN S **S** **06 12 24.3 +3.8**
XAN pmax pmax
comp=Z,14nm,0.8s
XAN LR LR
comp=N,1μm,14.5s
XAN LR LR
comp=E,770nm,13.7s
XAN LR LR
comp=Z,1μm,13.7s
GTA Gaotai 66.41 306 P **P** **06 03 32.3 +0.9**
GTA pP sP 06 03 38.8 +1.2
GTA S **S** **06 12 23.4 +2.4**
GTA sS sS 06 12 32.5 +4.1
DEL Delary 67.16 8 *e*P **P** **06 03 36.5 +0.8**
LZH Lanzhou 67.22 301 *e*P **P** **06 03 32.3 -4.4**
LZH pP pP 06 03 38.3 -2.9
LZH sS sS 06 12 44.6 +6.2
LZH Lanzhou 67.22 301 SS SS 06 16 50.3 +0.7
LZH pmax pmax
comp=Z,17nm,1.0s
LZH LR LR
comp=N,890nm,14.4s
LZH LR LR
comp=E,970nm,14.8s
LZH LR LR
comp=Z,1μm,15.1s
MK31 Makanchi Array 67.23 322 P **P** **06 03 35.8 -0.6**
MK31 IAmb IAmb 06 03 38.9
comp=Z,7.9nm,0.9s
MKAR Makanchi Array 67.23 322 P **P** **06 03 35.9 -0.5**
MKAR Makanchi Array 67.23 322 P **P** **06 03 36.5 +0.1**
comp=Z,11nm,0.9s,baz=46,slow=5.5,SNR=56
MKAR LR LR 06 35 39.6
comp=Z,596nm,18.4s,baz=36,slow=38
comp=Z,11nm,0.9s
MAKZ Makanchi 67.33 322 P **P** **06 03 36.5 -0.5**
MAKZ IAmb IAmb 06 03 39.2
comp=Z,10nm,0.9s
PABE Paberze 68.58 2 P **P** **06 03 44.9 +0.3**
PABE Paberze 68.58 2 *e*P **P** **06 03 46.1 +1.5**
RGN Rugen 69.03 8 *e*P **P** **06 03 50.4 +2.9**
comp=Z,28nm,0.8s,baz=352,slow=5.9
BSEG Bad Segeberg 69.36 10 *e*P **P** **06 03 51.8 +2.3**
comp=Z,9.1nm,0.9s,baz=352,slow=5.9
SUW Suwalki 70.06 2 *e*P **P** **06 03 55.9 +2.1**
TDK Taldyqorghan 70.11 324 *e*P **P** **06 03 56.0 +1.7**
comp=Z,7.3nm,0.6s,baz=324
IBBN Ibbenburen 70.69 12 *e*P **P** **06 04 00.0 +2.3**
comp=Z,22nm,1.2s,baz=352,slow=5.9
NRDL Niedersach Rie 70.77 11 *e*P **P** **06 04 00.2 +2.1**
comp=Z,15nm,0.9s,baz=352,slow=5.9
FLTG Flechtingen 71.04 10 *e*P **P** **06 04 01.1 +1.2**
comp=Z,7.2nm,0.9s,baz=352,slow=5.9
RUE Ruedersdorf 71.12 8 *e*P **P** **06 04 02.7 +2.4**
comp=Z,15nm,0.8s,baz=352,slow=5.9
ASSE Asse, Remlinge 71.18 10 *e*P **P** **06 04 02.9 +2.3**
comp=Z,7.3nm,1.0s,baz=352,slow=5.9
ABKAR Akbulak array 71.24 338 P **P** **06 04 01.2 0.0**
GOMU GeErMu 71.30 308 P **P** **06 04 03.8 +1.6**
GOMU pP sP 06 04 08.1 -0.3
GOMU sP pP 06 04 09.9 +3.2
GOMU PcP PcP 06 04 43.0 +21
GOMU S **S** **06 13 16.8 -2.6**
GOMU sS sS 06 13 31.3 +4.4
SHLS Shalkode 71.38 322 *e*P **P** **06 04 03.0 +0.7**
comp=Z,9.7nm,0.9s,baz=322
CLZ Clausthal 71.44 11 *e*P **P** **06 04 05.1 +2.7**
comp=Z,12nm,0.9s,baz=352,slow=5.9
BUG Bochum--Univer 71.49 13 *e*P **P** **06 04 04.7 +2.1**
comp=Z,16nm,0.9s,baz=352,slow=5.9
UZB Uzynbulak 71.54 322 *e*P **P** **06 04 04.7 +1.4**
baz=322
CHKK Chushkaly 71.60 324 *e*P **P** **06 04 04.0 +0.5**
baz=324
GTTG Gottingen 71.69 11 *e*P **P** **06 04 06.5 +2.7**
comp=Z,14nm,0.8s,baz=352,slow=5.9
ZHN Zhinishke 71.72 323 *e*P **P** **06 04 05.8 +1.5**
baz=323
SATY Saty 71.83 323 *e*P **P** **06 04 06.4 +1.4**
baz=323
KASTN Kahler Asten 71.86 12 *e*P **P** **06 04 07.2 +2.3**
comp=Z,5.8nm,0.9s,baz=352,slow=5.9
BSTI Sart Tilman 72.11 14 *d*P **P** **06 04 08.6 +2.2**
comp=Z,3.7nm,1.0s
MEM Membach 72.14 14 *d*P **P** **06 04 06.3 -0.3**
comp=Z,7.8nm,1.1s
BTNL Ternell 72.18 14 *d*P **P** **06 04 06.0 -0.8**
comp=Z,8.5nm,1.3s
MDOK Medeo 72.19 324 *e*P **P** **06 04 08.2 +1.0**
baz=324
NEUB Neuenburg 72.20 10 *e*P **P** **06 04 08.8 +1.9**
comp=Z,10.0nm,0.8s,baz=352,slow=5.9
CLL Collm 72.22 9 *e*P **P** **06 04 08.8 +1.8**
comp=Z,5.3nm,0.8s,baz=352,slow=5.9
BGES Gesves 72.24 14 *d*P **P** **06 04 07.9 +0.7**
BGES *d*PcP **PcP** **06 04 22.9 -2.4**
BMRD Maredsous 72.28 14 *d*P **P** **06 04 09.0 +1.6**
comp=Z,12nm,1.1s
TNSS Tian-Shan 72.34 324 *e*P **P** **06 04 09.2 +0.8**
baz=324
AHRW Bad Neuenahr-A 72.35 13 *e*P **P** **06 04 10.2 +2.4**
comp=Z,4.7nm,0.8s,baz=352,slow=5.9
DOU Dourbes 72.45 15 *d*P **P** **06 04 09.2 +0.8**
comp=Z,8.5nm,1.1s
DOU *d*PcP **PcP** **06 04 23.7 -2.5**
RCHB Rochefort 72.48 14 *d*P **P** **06 04 09.6 +1.0**
comp=Z,9.9nm,1.1s
SGDS Sogindy 72.72 325 *e*P **P** **06 04 11.3 +1.1**
baz=325
BRG Berggiesshubel 72.72 8 *e*P **P** **06 04 11.7 +1.7**
BRG Amp 06 04 12.5
comp=Z,7.9nm,0.9s
BRG Berggiesshubel 72.72 8 P P 06 04 18.1 +8.0
BRG Amp 06 04 20.8
comp=Z,5.4nm,0.9s
BRG Berggiesshubel 72.72 8 *e*P **P** **06 04 12.0 +2.0**
comp=Z,6.3nm,0.9s,baz=352,slow=5.9
MOX Moxa 72.75 10 *e*P **P** **06 04 11.6 +1.4**
comp=Z,14nm,1.0s,baz=352,slow=5.9
TNS Taunus Mts 72.83 12 *e*P **P** **06 04 12.3 +1.5**
comp=Z,7.3nm,0.8s,baz=352,slow=5.9
TANN Tannenbergstha 73.05 9 *e*P **P** **06 04 14.2 +2.1**
comp=Z,4.0nm,0.9s,baz=352,slow=5.9
BOOM Boomskoye usch 73.16 324 P **P** **06 04 13.2 +0.3**
BOOM IAmb IAmb 06 04 15.4
comp=Z,10nm,1.0s
CHVC Chvalec 73.17 7 *e*P **P** **06 04 14.2 +1.5**
NKC Novy Kostel 73.23 9 *e*P **P** **06 04 14.2 +1.1**
AKASG Malin Array Be 73.39 358 P **P** **06 04 13.6 -0.3**
comp=Z,5.4nm,0.6s,baz=0.9,slow=5.7,SNR=26
comp=Z,5.4nm,0.6s
KIEV Kiev 73.39 358 ⇓P **P** **06 04 14.3 +0.4**
DPC Dobruska-Polom 73.42 7 *e*P **P** **06 04 15.8 +1.6**
MANZ Manzenberg 73.44 10 *e*P **P** **06 04 16.0 +1.7**
comp=Z,0.8nm,0.9s,baz=352,slow=5.9
AAK Ala-Archa 73.49 325 P **P** **06 04 15.8 +0.9**
comp=Z,4.9nm,0.6s,baz=75,slow=2.4,SNR=8.9
AAK LR LR 06 39 00.4
comp=Z,311nm,18.3s,baz=26,slow=38
comp=Z,4.9nm,0.6s
PPT Papeete 73.61 176 LR LR 06 29 24.5
comp=Z,202nm,19.2s,baz=318,slow=30
GRF Grafenberg Arr 73.65 10 *e*P **P** **06 04 17.9 +2.4**
comp=Z,9.1nm,0.9s,baz=352,slow=5.9
ROTZ Rotzenmuhle 73.67 10 *e*P **P** **06 04 17.6 +1.9**
comp=Z,2.1nm,1.0s,baz=352,slow=5.9
KRLC Kraliky 73.72 7 *e*P **P** **06 04 17.3 +1.3**
MORC Moravsky Berou 74.07 6 ⇑P **P** **06 04 18.0 0.0**
MORC Moravsky Berou 74.07 6 *e*P **P** **06 04 19.0 +1.0**
ZVC Zvikov 74.17 8 *e*P **P** **06 04 20.0 +1.4**
DZA Taraz 74.24 327 *e*P **P** **06 04 19.7 +0.6**
comp=Z,6.7nm,0.6s,baz=327
KK31 Karatay Array 74.29 328 P **P** **06 04 19.5 +0.1**
KK31 IAmb IAmb 06 04 21.2
comp=Z,11nm,0.8s
KKAR Karatay Array 74.29 328 P **P** **06 04 19.4 -0.1**
KKAR IAmb IAmb 06 04 21.2
comp=Z,11nm,0.8s
STU Stuttgart 74.34 12 *e*P **P** **06 04 21.4 +1.9**
baz=352,slow=5.9
WET Wettzell 74.35 9 *e*P **P** **06 04 22.0 +2.4**
comp=Z,3.3nm,0.9s,baz=352,slow=5.9
KHC Kasperske Hory 74.42 9 *e*P **P** **06 04 21.6 +1.5**
VRAC Vranov 74.48 7 ⇑P **P** **06 04 20.1 -0.3**
VRAC Vranov 74.48 7 *e*P **P** **06 04 21.6 +1.2**
BRLS Borolday 74.56 329 *e*P **P** **06 04 23.1 +2.1**
baz=328
STHS Stebnicka Huta 74.60 4 *e*P **P** **06 04 22.6 +1.5**
BFO Black Forest 74.67 13 *e*P **P** **06 04 23.6 +2.0**
comp=Z,3.5nm,0.8s,baz=352,slow=5.9
KRUC Moravsky 74.71 7 *e*P **P** **06 04 22.8 +1.1**
GEC2 GERESS Array S 74.72 9 *e*P **P** **06 04 23.6 +1.7**
comp=Z,4.0nm,0.8s,baz=352,slow=5.9
GERES GERESS Array B 74.72 9 P **P** **06 04 23.2 +1.3**
comp=Z,4.8nm,0.7s,baz=12,slow=6.8,SNR=21
comp=Z,4.8nm,0.7s
CKRC Cesky Krumlov 74.79 8 *e*P **P** **06 04 23.5 +1.3**
LANS Liptovska Anna 74.80 5 *e*P **P** **06 04 24.8 +2.5**
JAVC Velka Javorina 74.99 6 *e*P **P** **06 04 25.4 +2.0**
CRVS Cervenica-Dubn 75.12 3 *e*P **P** **06 04 26.3 +2.2**
IUG Iuzhnay 75.31 328 *e*P **P** **06 04 26.5 +1.1**
comp=Z,10nm,0.8s,baz=328
VYHS Vyhne 75.42 5 *e*P **P** **06 04 27.4 +1.6**
MODS Modra-Piesok 75.45 6 *e*P **P** **06 04 28.1 +2.1**
UBR Ueberruh 75.52 11 *e*P **P** **06 04 28.3 +1.8**
comp=Z,5.8nm,0.9s,baz=352,slow=5.9
CONA Conrad Observa 75.80 7 *e*P **P** **06 04 29.7 +1.6**
comp=Z,11nm,1.2s
KSH Kashi 75.81 323 P **P** **06 04 32.9 +4.5**
KSH pP PcP 06 04 39.5 -1.5
KSH pmax pmax
comp=Z,13nm,0.9s
KSH LR LR
comp=N,740nm,13.3s
KSH LR LR
comp=E,990nm,13.3s
KSH LR LR
comp=Z,1μm,14.7s
BIOA Bad Ischl, Aus 75.86 9 *e*P **P** **06 04 29.6 +1.2**
comp=Z,5.7nm,0.9s
HNR Honiara 75.93 228 LR LR 06 33 02.6
comp=Z,4μm,18.6s,baz=351,slow=32
MOTA Mooosalm 75.96 11 *e*P **P** **06 04 30.4 +1.3**
comp=Z,11nm,0.9s,SNR=5.4
SORM Soroca 75.97 359 ⇑P **P** **06 04 28.3 -0.6**
WATA Walderalm 76.02 10 *e*P **P** **06 04 31.0 +1.5**
comp=Z,17nm,1.0s,SNR=5.8
LESA Schwarzleotal 76.04 10 *e*P **P** **06 04 31.0 +1.5**
comp=Z,13nm,1.4s
RONA Rosalia, Austr 76.06 7 *e*P **P** **06 04 31.3 +1.8**
comp=Z,4.9nm,0.8s
PZH PanZhiHua 76.09 297 P **P** **06 04 29.6 -0.5**
PZH pmax pmax
comp=Z,6.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,4.7s
SQTA Sankt Quirin 76.09 11 *e*P **P** **06 04 31.3 +1.5**
comp=Z,10.0nm,0.8s,SNR=9.3
WTTA Wattenberg 76.09 10 *e*P **P** **06 04 31.5 +1.6**
comp=Z,12nm,0.8s,SNR=6.9
FETA Feichten 76.24 11 *e*P **P** **06 04 32.2 +1.4**
comp=Z,16nm,1.0s,SNR=15
DAVOX Davos/Dischmat 76.38 12 LR LR 06 40 29.7
comp=Z,147nm,19.9s,baz=358,slow=38
KBA Koelnbreinsper 76.44 9 *i* pP **P** **06 04 33.7 +1.8**
comp=Z,9.1nm,0.7s,SNR=9.2
ARSA Arzberg 76.45 8 *e*P **P** **06 04 33.4 +1.6**
comp=Z,3.0nm,0.8s
BURAR Bucovina Array 76.49 1 ⇑P **P** **06 04 32.5 +0.4**
ABTA Abfaltersbach 76.69 10 *i* P **P** **06 04 34.8 +1.6**
comp=Z,6.7nm,1.2s
SOKA Soboth 76.98 8 *i* P **P** **06 04 36.5 +1.7**
comp=Z,15nm,1.2s,SNR=7.4
OBKA Obir 77.11 8 *i* P **P** **06 04 36.9 +1.3**
comp=Z,17nm,0.7s
BIZ Bicaz 77.17 0 ⇑P **P** **06 04 36.2 +0.4**
MILM Milestii Mici 77.18 358 ⇓P **P** **06 04 34.5 -1.3**
RAR Rarotonga 77.35 186 LR LR 06 33 26.7
comp=Z,98nm,19.5s,baz=338,slow=32
MARR Marisel-Cluj 77.40 2 ⇑P **P** **06 04 36.4 -0.8**
MORH Mrgy, Hungar 77.68 6 ⇑P **P** **06 04 39.6 +1.0**
SIRR Siria 77.76 3 ⇓P **P** **06 04 39.3 +0.2**
OZUR 78.02 1 ⇑P **P** **06 04 40.5 -0.1**
BOSR Bodos 78.04 1 ⇑P **P** **06 04 40.2 -0.5**
TURR Turia 78.06 0 ⇓P **P** **06 04 40.5 -0.3**
DOPR Dopca 78.14 1 ⇑P **P** **06 04 41.2 0.0**
VRI Vrincioaia 78.25 360 ⇑P **P** **06 04 41.7 -0.1**
PLOR Plostina 78.26 360 ⇑P **P** **06 04 41.5 -0.5**
SURR Surduc 78.29 3 ⇓P **P** **06 04 42.2 +0.1**
SPBR Spulber 78.36 360 ⇑P **P** **06 04 42.1 -0.4**
BZS Buzias 78.41 4 ⇑P **P** **06 04 43.1 +0.4**
MLR Muntele Rosu 78.62 0 ⇓P **P** **06 04 44.0 -0.1**
VOIR 78.67 1 ⇑P **P** **06 04 44.5 +0.3**
GZR Gura Zlata 78.67 3 ⇑P **P** **06 04 44.4 +0.1**
SDV Santo Domingo 78.67 91 LR LR 06 41 35.2
comp=Z,194nm,20.3s,baz=328,slow=37
ARR Arges 78.73 1 ⇑P **P** **06 04 44.5 -0.1**
CFR Carcaliu 78.93 359 ⇑P **P** **06 04 45.2 -0.3**
DAV Davao City (W) 79.15 266 LR LR 06 36 36.4
comp=Z,233nm,21.9s,baz=55,slow=33
HERR Herculane 79.17 3 ⇑P **P** **06 04 47.1 +0.2**
KIV Kislovodsk 79.23 348 ⇑P **P** **06 04 47.1 -0.3**
TPGR Topolog 79.25 359 ⇑P **P** **06 04 48.3 +1.0**
MDVR Moldovita 79.25 4 ⇓P **P** **06 04 47.6 +0.2**
SLVN Son La 79.27 292 P **P** **06 04 48.4 +0.5**
SLVN IAmb IAmb 06 04 50.4
comp=Z,15nm,1.0s
KBZ Khabaz 79.43 348 P **P** **06 04 49.8 +1.5**
comp=Z,12nm,0.9s,baz=335,slow=5.2,SNR=13
comp=Z,12nm,0.9s
TIRR Tirgusor 79.64 359 ⇓P **P** **06 04 48.9 -0.5**
ESDC Sonseca Array 80.99 23 P **P** **06 04 58.2 +1.3**
comp=Z,7.9nm,0.8s,baz=342,slow=4.9,SNR=32
ESDC LR LR 06 41 14.1
comp=Z,234nm,20.8s,baz=341,slow=36
comp=Z,7.9nm,0.8s
PMG Port Moresby 81.63 239 LR LR 06 36 11.0
comp=Z,144nm,20.6s,baz=54,slow=32
GEYT Alibeck 82.42 335 P **P** **06 05 05.4 +1.0**
comp=Z,7.8nm,0.9s,baz=357,slow=3.1,SNR=10
GEYT LR LR 06 46 31.9
comp=Z,181nm,18.9s,baz=44,slow=39
comp=Z,7.8nm,0.9s
BRTR Keskin Array B 84.20 355 P **P** **06 05 14.3 +0.6**
comp=Z,4.1nm,0.8s,baz=19,slow=2.5,SNR=17
comp=Z,4.1nm,0.8s
CMAR Chiang Mai Arr 84.21 295 P **P** **06 05 14.7 +0.7**
comp=Z,4.0nm,0.7s,baz=14,slow=5.4,SNR=24
CMAR LR LR 06 46 05.6
comp=Z,124nm,18.6s,baz=45,slow=38
comp=Z,4.0nm,0.7s
DZM Mont Dzumac 85.08 217 LR LR 06 38 13.1
comp=Z,217nm,18.4s,baz=22,slow=32
KEST Kesra 87.20 14 LR LR 06 47 58.2
comp=Z,173nm,20.1s,baz=317,slow=38
MDT Midelt 87.39 26 LR LR 06 46 18.2
comp=Z,199nm,19.4s,baz=346,slow=37
RAO Raoul Island 87.68 201 LR LR 06 41 22.5
comp=Z,147nm,18.6s,baz=108,slow=33
RPN Rapa Nui 91.10 142 LR LR 06 38 44.9
comp=Z,168nm,18.2s,baz=340,slow=30
CTA Charters Tower 91.35 235 LR LR 06 43 19.6
comp=Z,127nm,19.8s,baz=0.0,slow=33
MDP Montagnes des 91.77 78 LR LR 06 45 53.1
comp=Z,227nm,21.7s,baz=309,slow=35
NNA Nana 92.56 108 LR LR 06 47 11.9
comp=Z,46nm,18.9s,baz=348,slow=35
BATI Baumata 94.49 258 LR LR 06 45 04.4
comp=Z,164nm,22.0s,baz=20,slow=33
URZ Urewera 97.42 203 LR LR 06 44 20.9
comp=Z,136nm,19.5s,baz=121,slow=32
H03N2 Juan Fernandez 109.30 121 T T 08 09 33.7
baz=325,slow=78,SNR=29
H03N1 Juan Fernandez 109.32 121 T T 08 09 34.9
baz=325,slow=78,SNR=39
H03N3 Juan Fernandez 109.32 121 T T 08 09 34.2
baz=325,slow=78,SNR=37
QSPA South Pole Qui 146.04 180 PKPbc **PKPab** **06 12 21.7 +0.2**
comp=Z,7.6nm,0.8s,baz=73,slow=1.1,SNR=18
BOSA Boshof 152.36 2 PKPbc **PKiKP** **06 12 38.5 0.0**
comp=Z,4.9nm,0.8s,baz=272,slow=1.0,SNR=7.8
ELIB Princess Elisa 164.19 176 *d*PKPdf **PKPdf** **06 12 41.2 -3.1**

NEIC ***24*** *05:58:14.5±1.7, 19°.21N±0°.05×68°.73W±0°.05, h7km±5km, ML3.2/30, Md3.6/11(RSPR), Error ellipse: s-maj=8.9km s-min=4.9km az=213.0*
SDD ***24*** *05:58:15.2±2.1, 19°.28N×68°.69W, h22km±21km, MD3.6, ML3.0, MW3.4*
RSPR ***24*** *05:58:16.7, 19°.22N×68°.78W, h11km±2km, MD3.5/11*
OSPL ***24*** *05:58:17.1±2.2, 19°.20N×68°.67W, h0km±21km, ML2.9*
ISC 24 05:58:14.8±1.3, 19°.23N±0°.05×68°.70W±0°.02, h10km±10km, n70, σ18°10/87, 22C-10D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIDR	**Miches**	**0.41**	**234**	⇓*e*Pg	**Pg**	**05 58 23.2**	**+0.4**
MIDR				⇓*e*Sg	**Sg**	**05 58 29.0**	**+0.8**
MIDR				IAML		05 58 30.5	
	comp=E,353nm,0.7s						
MIDR				IAML		05 58 30.7	
	comp=N,331nm,0.7s						
SMDR	**Samana, DR**	**0.47**	**278**	⇑*e*Pg	**Pg**	**05 58 23.8**	**0.0**
SMDR				⇓*e*Sg	**Sb**	**05 58 32.3**	**+0.2**
SMDR				IAML		05 58 33.3	
	comp=N,1μm,0.2s						
SMDR				IAML		05 58 33.5	
	comp=E,512nm,0.5s						
PCDR	**Punta Cana, DR**	**0.77**	**157**	⇑*e*P	**Pg**	**05 58 29.3**	**-0.3**
PCDR	**Punta Cana, DR**	**0.77**	**157**		**Pg**	**05 58 29.3**	**-0.3**
PCDR					**Sb**	**05 58 40.6**	**-0.2**
PCDR	**Punta Cana, DR**	**0.77**	**157**	⇓*e*Pg	**Pg**	**05 58 29.4**	**-0.2**
PCDR				⇓*e*Sg	**Sb**	**05 58 40.8**	**0.0**
PCDR				IAML		05 58 44.3	
	comp=N,489nm,0.5s						
PCDR				IAML		05 58 44.6	
	comp=E,310nm,0.2s						
PCDR	**Punta Cana, DR**	**0.77**	**157**	*i* P	**Pg**	**05 58 29.3**	**-0.3**
PCDR				*e*S	**Sb**	**05 58 40.6**	**-0.2**
PCDR				IAML		05 58 44.3	
	comp=Z,331nm,0.1s						
HATOM	**Hato Mayor del**	**0.78**	**236**	⇓*e*Pg	**Pg**	**05 58 29.1**	**-0.6**
HATOM				⇑*e*Sg	**Sg**	**05 58 40.6**	**+0.6**
HATOM				IAML		05 58 41.7	
	comp=E,148nm,0.3s						
HATOM				IAML		05 58 46.3	
	comp=N,170nm,0.5s						
SADR	**Isla Saona**	**1.03**	**184**	⇑*e*Pg	**Pg**	**05 58 34.9**	**+0.3**
SADR				⇓*e*Sg	**Sb**	**05 58 48.9**	**+0.5**
SADR				IAML		05 58 55.5	
	comp=N,300nm,0.3s						
SADR				IAML		05 58 56.9	

comp=E,170nm,0.3s
DR08 Loma La Naviza 1.28 258⇑ePg Pn 05 58 36.0 -2.8
DR08 ⇓eSg Sb 05 58 54.7 -0.8
DR08 IAML 05 58 57.0
comp=N,910nm,0.2s
DR08 IAML 05 58 58.0
comp=E,938nm,0.2s
SDD Santo Domingo 1.38 237⇑eP Pn 05 58 38.6 -1.5
SDD Santo Domingo 1.38 237 Pn 05 58 38.6 -1.5
SDD Santo Domingo 1.38 237 IAML 05 59 01.9
comp=E,275nm,0.3s
SDD IAML 05 59 02.1
comp=N,285nm,0.4s
SDD Santo Domingo 1.38 237 *i* P Pn 05 58 40.6 +0.5
IDE Isla Desecheo 1.43 126⇑eP Pn 05 58 39.6 -1.2
IDE Isla Desecheo 1.43 126 eS Sb 05 59 00.3 +0.4
IDE Isla Desecheo 1.43 126 Pn 05 58 39.6 -1.2
IDE Sb 05 59 00.3 +0.4
AGPR Aguadilla, PR 1.68 116⇓eP Pn 05 58 44.4 +0.1
AGPR Aguadilla, PR 1.68 116 IAML 05 59 15.3
comp=N,288nm,0.3s
AGPR IAML 05 59 15.9
comp=E,354nm,0.4s
AGPR Aguadilla, PR 1.68 116 Pn 05 58 44.4 +0.1
AGPR Sb 05 59 07.5 +0.3
AGPR Aguadilla, PR 1.68 116 *i* P Pn 05 58 44.5 +0.1
AGPR eS Sb 05 59 07.5 +0.3
AGPR IAML 05 59 14.6
comp=Z,148nm,0.2s
PRSN Puerto Rico Se 1.78 124⇑eP Pn 05 58 44.6 -1.1
PRSN Puerto Rico Se 1.78 124 eS Sb 05 59 10.7 +0.6
PRSN Puerto Rico Se 1.78 124 Pn 05 58 44.6 -1.1
PRSN Sb 05 59 10.7 +0.6
PRSN Puerto Rico Se 1.78 124 IAML 05 59 18.5
comp=E,286nm,0.4s
LSP Las Mesas 1.85 124⇑eP Pn 05 58 46.2 -0.5
LSP Las Mesas 1.85 124 eS Sb 05 59 12.4 +0.3
LSP Las Mesas 1.85 124 Pn 05 58 46.2 -0.5
LSP Sb 05 59 12.4 +0.3
ABDR Alto Bandera 1.87 258⇑ePg Pn 05 58 48.0 +0.9
ABDR ⇓eSg Sb 05 59 12.7 -0.2
ABDR IAML 05 59 17.6
comp=E,191nm,0.3s
ABDR IAML 05 59 21.3
comp=N,174nm,0.2s
SC01 Santiago de lo 1.93 276⇑ePg Pn 05 58 49.1 +1.4
SC01 ⇑eSg Sn 05 59 13.3 +1.3
SC01 IAML 05 59 24.5
comp=E,247nm,0.7s
SC01 IAML 05 59 29.9
comp=N,246nm,0.8s
SC01 Santiago de lo 1.93 276 *i* P Pb 05 58 49.5 -0.5
SC01 IAML 05 59 25.9
comp=Z,108nm,0.3s
CRPR Cabo Rojo, PR 1.94 129⇑eP Pn 05 58 47.5 -0.3
CRPR Cabo Rojo, PR 1.94 129 eS Sn 05 59 12.0 -0.2
CRPR Cabo Rojo, PR 1.94 129 Pn 05 58 47.5 -0.3
CRPR Sn 05 59 12.0 -0.2
CRPR Cabo Rojo, PR 1.94 129 *i* P Pn 05 58 48.1 +0.4
CRPR IAML 05 59 22.6
comp=Z,155nm,0.5s
MLPR Magueyes Islan 2.01 128⇑eP Pn 05 58 48.4 -0.3
MLPR Magueyes Islan 2.01 128 eS Sb 05 59 15.7 -0.7
MLPR Magueyes Islan 2.01 128 Pn 05 58 48.4 -0.3
MLPR Sb 05 59 15.7 -0.7
MLPR Magueyes Islan 2.01 128 IAML 05 59 22.6
comp=N,104nm,0.4s
AOPR Arecibo Observ 2.04 115⇑eP Pn 05 58 50.2 +0.9
AOPR Arecibo Observ 2.04 115 eS Sb 05 59 16.8 -0.7
AOPR Arecibo Observ 2.04 115 Pn 05 58 50.2 +0.9
AOPR Sb 05 59 16.8 -0.7
AOPR Arecibo Observ 2.04 115 eP Pn 05 58 50.0 +0.7
AOPR eS Sg 05 59 21.4 +1.0
EMPR Esperanza - Ma 2.19 110 Pn Pn 05 58 52.4 +1.2
EMPR IAML 05 59 28.8
comp=N,214nm,0.4s
OBIP Obispado Ponce 2.31 120⇑eP Pn 05 58 53.0 +0.1
OBIP Obispado Ponce 2.31 120 eS Sn 05 59 22.3 +0.9
OBIP Obispado Ponce 2.31 120 Pn 05 58 53.0 +0.1
OBIP Sn 05 59 22.3 +0.9
OBIP Obispado Ponce 2.31 120 IAML 05 59 29.9
comp=E,96nm,0.5s
OBIP IAML 05 59 30.7
comp=N,154nm,0.6s
CELP Cerrillos 2.31 119⇑eP Pn 05 58 53.7 +0.7
CELP Cerrillos 2.31 119 eS Sn 05 59 23.3 +1.7
CELP Cerrillos 2.31 119 Pn 05 58 53.7 +0.7
CELP Sn 05 59 23.3 +1.7
CELP Cerrillos 2.31 119 IAML 05 59 30.2
comp=E,126nm,0.7s
CELP IAML 05 59 32.3
comp=N,158nm,0.4s
SDDR Presa de Saban 2.46 265 Pn 05 58 57.0 +2.0
SDDR IAML 05 59 41.5
comp=N,101nm,0.6s
SDDR IAML 05 59 42.9
comp=N,110nm,0.6s
SDDR Presa de Saban 2.46 265⇑ePg Pb 05 58 58.0 -1.2
SDDR ⇑eSg Sb 05 59 29.7 +0.1
SDDR IAML 05 59 41.3
comp=N,88nm,0.6s
SDDR IAML 05 59 42.7
comp=E,97nm,0.6s
SDDR Presa de Saban 2.46 265 *i* P Pb 05 58 58.1 -1.2
SDDR IAML 05 59 38.6
comp=Z,56nm,0.5s
SDDR Presa de Saban 2.46 265 eP Pb 05 58 57.9 -1.2
SDDR eS Sb 05 59 31.6 +2.1
GCPR Guaynabo City 2.64 110⇑eP Pn 05 58 57.7 +0.2
GCPR Guaynabo City 2.64 110 eS Sn 05 59 32.0 +2.3
GCPR Guaynabo City 2.64 110 Pn 05 58 57.7 +0.2
GCPR Sn 05 59 32.0 +2.3
PODR Polo 2.66 247 *i* P Pb 05 59 02.0 -0.8
IGPR InterUniversit 2.76 117⇑eP Pn 05 59 00.3 +1.2
IGPR InterUniversit 2.76 117 eS Sn 05 59 33.1 +0.5
IGPR InterUniversit 2.76 117 Pn 05 59 00.3 +1.2
IGPR Sn 05 59 33.1 +0.5
IGPR InterUniversit 2.76 117 IAML 05 59 45.5
comp=E,132nm,0.3s
HUMP Col San Antoni 2.91 111⇑eP Pn 05 59 01.6 +0.4
HUMP Col San Antoni 2.91 111 Pn 05 59 01.6 +0.4
HUMP Col San Antoni 2.91 111 IAML 05 59 49.5
comp=N,73nm,0.3s
HUMP IAML 05 59 50.0
comp=E,90nm,0.2s
LOPE2 Hotel El Peder 3.12 248 *i* P Pn 05 59 05.6 +1.5
GRTK Grand Turk 3.22 315 Pn Pn 05 59 04.1 -1.3
ANBD Bethesda, Anti 6.94 107 *e*P Pn 05 59 52.8 -3.8
ANBD Bethesda, Anti 6.94 107 eS Sn 06 01 12.6 -3.1

NEIC ***24*** *06:00:04.0±1.4,56.˙15N±0.˙03×153.˙37W±0.˙06,h10km±1km, Error ellipse: s-maj=5.9km s-min=5.8km az=106.0*
IDC ***24*** *06:00:04.6±0.7,56.˙35N×153.˙55W,h0km,mb4.4/26, mbtmp4.4/28,ML3.5/2,Error ellipse: s-maj=17.9km s-min=12.9km az=12.0*
AEIC ***24*** *06:00:06.6±1.4,56.˙14N±0.˙05×153.˙34W±0.˙08,h26km±4km, ML4.1,mb4.6/23(NEIC),ML4.1/64(NEIC),Error ellipse: s-maj=7.8km s-min=4.9km az=139.0*

ISC 24 06:00:07.0±0.5,56˙24N±0˙05×153˙38W±0˙04,h23km, n387,σ1♯12/379,mb4.6/57,**1C,Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**0.55**	**306**	P		Pb		**06 00 17.9**	**-0.1**
SII	**Sitkinak Islan**	**0.55**	**306**			Pb		**06 00 18.0**	**-0.1**
SII	**Sitkinak Islan**	**0.55**	**306**			Sb		**06 00 27.2**	**+1.7**
SII	**Sitkinak Islan** baz=131	**0.55**	**306**	P		Pb		**06 00 18.0**	**-0.1**
SII	baz=131			S		Sb		**06 00 27.2**	**+1.7**
OHAK	**Old Harbor**	**0.99**	**3**	P		Pn		**06 00 24.5**	**-0.9**
OHAK	**Old Harbor**	**0.99**	**3**			Pn		**06 00 24.2**	**-1.2**
OHAK	comp=N,4μm,0.8s			IAML				06 00 54.4	
OHAK	**Old Harbor**	**0.99**	**3**			Sb		**06 00 38.3**	**+0.3**
OHAK	**Old Harbor** baz=181	**0.99**	**3**	P		Pn		**06 00 24.6**	**-0.9**
OHAK	baz=181			S		Sb		**06 00 38.3**	**+0.3**
CHIR	**Chirikof Islan**	**1.33**	**253**	Pn		Pn		**06 00 27.9**	**-2.2**
CHIR	comp=N,4μm,0.6s			IAML				06 00 44.2	
CHIR	comp=E,4μm,1.0s			IAML				06 00 58.1	
CHIR	**Chirikof Islan**	**1.33**	**253**			Sn		**06 00 43.2**	**-3.8**
CHIR	**Chirikof Islan** baz=75	**1.33**	**253**	P		Pn		**06 00 27.9**	**-2.2**
CHIR	baz=75			S		Sn		**06 00 43.2**	**-3.8**
KDAK	**Kodiak Island**	**1.61**	**15**			Pn		**06 00 33.1**	**-0.9**
KDAK	**Kodiak Island**	**1.61**	**15**	Pn		Pn		**06 00 33.4**	**-0.6**
KDAK	comp=E,322nm,0.3s,baz=226,slow=8.4,SNR=681					Sn		**06 00 52.7**	**-1.3**
PLK3	**Peulik 3**	**2.15**	**314**			Pn		**06 00 41.1**	**-0.3**
KCE	**Katmai Mt Cerb**	**2.24**	**335**			Pn		**06 00 43.0**	**+0.3**
ACHA	**Angle Creek He**	**2.24**	**333**			Pn		**06 00 42.2**	**-0.6**
KAKN	**Katmai Knife C**	**2.26**	**337**			Pn		**06 00 42.4**	**-0.6**
ANCK	**Angle Creek**	**2.28**	**331**			Pn		**06 00 42.6**	**-0.7**
PLK1	**Peulik 1**	**2.36**	**313**			Pn		**06 00 44.1**	**-0.2**
KVTA	**Katmai Vly 10**	**2.39**	**335**			Pn		**06 00 44.4**	**-0.3**
Q20K	**Shuyak Island** baz=192	**2.44**	**12**	P		Pn		**06 00 45.1**	**-0.2**
SYI	**Shuyak Island**	**2.44**	**12**	Pn		Pn		**06 00 44.6**	**-0.7**
SYI	comp=E,773nm,1.4s			IAML				06 01 43.2	
SYI	comp=N,764nm,1.6s			IAML				06 01 47.2	
CNTC	**Contact Creek**	**2.44**	**327**			Pn		**06 00 45.1**	**-0.5**
Q17K	**Contact Creek** baz=146	**2.44**	**327**	P		Pn		**06 00 45.1**	**-0.5**
KELA	**Mount Kelaz**	**2.55**	**331**			Pn		**06 00 46.5**	**-0.6**
KAHC	**Katmai Hardscr**	**2.57**	**341**			Pn		**06 00 47.0**	**-0.3**
KAHC	**Katmai Hardscr** baz=160	**2.57**	**341**	P		Pn		**06 00 47.0**	**-0.3**
R16K	**Pilot Point**	**2.66**	**302**			Pn		**06 00 47.6**	**-0.7**
R16K	**Pilot Point** comp=E,1μm,1.4s	**2.66**	**302**	IAML				06 01 52.0	
R16K	**Pilot Point** baz=120	**2.66**	**302**	P		Pn		**06 00 47.6**	**-0.7**
ANNE	**Aniakchak Nort**	**2.67**	**287**			Pn		**06 00 47.5**	**-1.2**
Q19K	**Cape Douglas,**	**2.70**	**357**			Pn		**06 00 49.1**	**0.0**
Q19K	**Cape Douglas,** baz=176	**2.70**	**357**	P		Pn		**06 00 49.3**	**+0.3**
ANNW	**Aniakchak Nort**	**2.77**	**287**			Pn		**06 00 49.2**	**-0.8**
CHGN	**Chignik**	**2.81**	**273**	Pn		Pn		**06 00 48.1**	**-2.3**
CHGN	comp=E,770nm,1.2s			IAML				06 01 52.7	
CHGN	comp=N,735nm,1.0s			IAML				06 01 58.2	
CHGN	**Chignik** baz=91	**2.81**	**273**	P		Pn		**06 00 48.8**	**-1.6**
Q16K	**King Salmon**	**3.02**	**325**			Pn		**06 00 52.5**	**-0.9**
Q16K	**King Salmon** baz=143	**3.02**	**325**	P		Pn		**06 00 52.5**	**-0.9**
VNSG	**Veniaminof 6**	**3.19**	**270**			Pn		**06 00 54.5**	**-1.3**
VNHG	**Veniaminof 1**	**3.23**	**272**			Pn		**06 00 55.6**	**-0.7**
P18K	**Big Mountain,**	**3.31**	**343**	Pn		Pn		**06 00 56.2**	**-1.2**
P18K	**Big Mountain,** baz=162	**3.31**	**343**	P		Pn		**06 00 56.9**	**-0.6**
P17K	**Kvichak River**	**3.39**	**332**			Pn		**06 00 57.6**	**-0.8**
P17K	**Kvichak River** baz=150	**3.39**	**332**	P		Pn		**06 00 57.6**	**-0.8**
P19K	**Oil Pt**	**3.42**	**1**			Pn		**06 00 59.0**	**0.0**
P19K	comp=E,551nm,1.5s			IAML				06 02 10.1	
P19K	comp=N,488nm,1.8s			IAML				06 02 26.1	
P19K	**Oil Pt** baz=181	**3.42**	**1**	P		Pn		**06 00 59.3**	**+0.4**
S14K	**Fog Glacier** baz=90	**3.44**	**273**	P		Pn		**06 00 58.3**	**-1.0**
VNFG	**Fog Glacier, M**	**3.44**	**273**			Pn		**06 00 58.3**	**-1.0**
CNPM	**China Poot**	**3.49**	**18**	Pn		Pn		**06 00 59.1**	**-0.7**
CNPM	comp=E,318nm,1.5s			IAML				06 02 21.4	
CNPM	comp=N,297nm,1.2s			IAML				06 02 27.1	
HOM	**Homer**	**3.55**	**14**			Pn		**06 00 58.9**	**-1.7**
HOM	**Homer** baz=195	**3.55**	**14**	P		Pn		**06 01 01.0**	**+0.3**
P16K	**Nushagak River**	**3.74**	**320**			Pn		**06 01 02.4**	**-0.8**
P16K	**Nushagak River** baz=137	**3.74**	**320**	P		Pn		**06 01 02.4**	**-0.8**
O18K	**Koktuh Hills**	**3.75**	**346**			Pn		**06 01 02.8**	**-0.6**
O18K	comp=N,272nm,1.1s			IAML				06 02 25.4	
O18K	**Koktuh Hills** baz=164	**3.75**	**346**	P		Pn		**06 01 03.1**	**-0.3**
ILSW	**Iliamna Southw**	**3.76**	**2**			Pn		**06 01 03.2**	**-0.4**
ILSW	comp=E,237nm,1.5s			IAML				06 02 31.3	
BRLK	**Bradley Lake**	**3.78**	**20**			Pn		**06 01 02.7**	**-1.1**
BRLK	comp=E,290nm,1.6s			IAML				06 02 24.2	
BRSE	**Bradley Lake S**	**3.78**	**21**			Pn		**06 01 02.9**	**-1.0**
BRSE	**Bradley Lake S** baz=202	**3.78**	**21**	P		Pn		**06 01 02.9**	**-1.0**
IVE	**Iliamna Volcan**	**3.79**	**3**			Pn		**06 01 04.0**	**-0.2**
CHNA	**Chernabura Isl** baz=67	**3.80**	**251**	P		Pn		**06 01 01.9**	**-2.1**
CNBA	**Chernabura Isl**	**3.80**	**251**			Pn		**06 01 01.8**	**-2.4**
CNBA	comp=N,272nm,1.0s			IAML				06 01 47.0	
O20K	**Slope Mountain**	**3.87**	**6**			Pn		**06 01 05.5**	**+0.3**
O20K	**Slope Mountain** baz=186	**3.87**	**6**	P		Pn		**06 01 05.5**	**+0.3**
O19K	**Port Alsworth**	**4.00**	**353**	Pn		Pn		**06 01 06.3**	**-0.5**
O19K	comp=N,319nm,0.5s			IAML				06 02 25.4	
O19K	comp=E,390nm,0.5s			IAML				06 02 30.3	
O19K	**Port Alsworth** baz=172	**4.00**	**353**	P		Pn		**06 01 06.6**	**-0.2**
O17K	**Koliganek Bris**	**4.06**	**332**			Pn		**06 01 07.0**	**-0.6**
O17K	**Koliganek Bris** baz=150	**4.06**	**332**	P		Pn		**06 01 07.0**	**-0.6**
SDPT	**Sand Point**	**4.10**	**260**	P		Pn		**06 01 07.1**	**-1.1**
SDPT	**Sand Point**	**4.10**	**260**			Pn		**06 01 06.8**	**-1.4**
SDPT	comp=N,390nm,1.8s			IAML				06 02 38.7	
SDPT	comp=E,461nm,1.2s			IAML				06 02 42.4	
SDPT	**Sand Point** baz=76	**4.10**	**260**	P		Pn		**06 01 06.9**	**-1.4**
O16K	**Kokwok River B**	**4.20**	**325**			Pn		**06 01 08.7**	**-0.9**
O16K	**Kokwok River B** baz=142	**4.20**	**325**	P		Pn		**06 01 08.6**	**-1.0**
RED	**Redoubt Volcan**	**4.20**	**4**			Pn		**06 01 09.5**	**-0.2**
RSO	**Redoubt South**	**4.25**	**4**			Pn		**06 01 10.2**	**-0.2**
RDWB	**Redoubt West**	**4.27**	**4**			Pn		**06 01 10.4**	**-0.3**
NCT	**North Crescent**	**4.34**	**3**			Pn		**06 01 11.4**	**-0.2**
RDJH	**Redoubt Jeurge**	**4.38**	**4**			Pn		**06 01 12.1**	**0.0**
RDT	**Redoubt**	**4.38**	**6**			Pn		**06 01 11.6**	**-0.5**
DFR	**Drift River**	**4.38**	**4**			Pn		**06 01 11.9**	**-0.3**
SEW	**Seward**	**4.40**	**27**			Pn		**06 01 10.3**	**-2.0**
SEW	**Seward** baz=209	**4.40**	**27**	P		Pn		**06 01 10.3**	**-2.0**
O15K	**Ungalikthiuk R**	**4.54**	**313**			Pn		**06 01 13.2**	**-1.1**
O15K	**Ungalikthiuk R** baz=128	**4.54**	**313**	P		Pn		**06 01 13.2**	**-1.1**
SLKM	**Skilak Lake**	**4.59**	**20**			Pn		**06 01 13.7**	**-1.4**
N19K	**Bonanza Creek**	**4.62**	**353**			Pn		**06 01 15.0**	**-0.5**
N19K	comp=E,115nm,1.2s			IAML				06 03 00.3	
N19K	**Bonanza Creek** baz=172	**4.62**	**353**	P		Pn		**06 01 15.5**	**0.0**
N18K	**Kilae Creek**	**4.64**	**345**			Pn		**06 01 15.1**	**-0.6**
N18K	comp=E,132nm,1.6s			IAML				06 02 50.7	
N18K	**Kilae Creek** baz=162	**4.64**	**345**	P		Pn		**06 01 15.4**	**-0.3**
O22K	**Cooper Landing**	**4.67**	**23**			Pn		**06 01 14.4**	**-1.6**
O22K	**Cooper Landing** baz=205	**4.67**	**23**	P		Pn		**06 01 14.4**	**-1.6**
CAPN	**Captain Cook N**	**4.69**	**13**			Pn		**06 01 16.8**	**+0.6**
CAPN	**Captain Cook N** baz=195	**4.69**	**13**	P		Pn		**06 01 16.9**	**+0.6**
N17K	**Nushagak Hills**	**4.74**	**337**			Pn		**06 01 16.7**	**-0.4**
N17K	**Nushagak Hills** comp=N,107nm,2.0s	**4.74**	**337**	IAML				06 02 49.3	
N17K	**Nushagak Hills** baz=154	**4.74**	**337**	P		Pn		**06 01 16.7**	**-0.4**
PS1A	**Pavlof South-1**	**4.79**	**264**			Pn		**06 01 16.4**	**-1.2**
PS4A	**Pavlof South-4**	**4.87**	**263**			Pn		**06 01 17.1**	**-1.6**
S12K	**Black Hills**	**4.91**	**267**	Pn		Pn		**06 01 17.5**	**-1.8**
S12K	comp=E,162nm,0.9s			IAML				06 02 55.4	
S12K	**Black Hills** baz=81	**4.91**	**267**	P		Pn		**06 01 17.9**	**-1.4**
P23K	**Montague Islan**	**4.92**	**38**			Pn		**06 01 17.6**	**-1.9**
P23K	**Montague Islan** baz=222	**4.92**	**38**	P		Pn		**06 01 17.6**	**-1.9**
PN7A	**Pavlof North-7**	**4.92**	**264**			Pn		**06 01 18.5**	**-1.1**
Q23K	**Middleton Isla**	**4.93**	**47**			Pn		**06 01 17.4**	**-2.2**
Q23K	**Middleton Isla** comp=N,170nm,2.5s	**4.93**	**47**	IAML				06 02 49.0	
Q23K	comp=E,185nm,2.6s			IAML				06 02 59.7	
Q23K	**Middleton Isla** baz=232	**4.93**	**47**	P		Pn		**06 01 17.4**	**-2.2**
MID	**Middleton Isla**	**4.94**	**47**			Pn		**06 01 17.4**	**-2.3**
MID	**Middleton Isla** comp=N,156nm,2.5s	**4.94**	**47**	IAML				06 02 49.0	
MID	comp=E,202nm,1.8s			IAML				06 02 55.0	
SVW2	**Sparrevohn**	**5.01**	**348**	P		Pn		**06 01 20.3**	**-0.4**
SVW2	**Sparrevohn**	**5.01**	**348**	Pn		Pn		**06 01 19.8**	**-0.8**
SVW2	comp=N,90nm,1.7s			IAML				06 03 04.0	
N20K	**Mount Spurr** baz=187	**5.01**	**7**	P		Pn		**06 01 21.1**	**+0.2**
SPCR	**Spurr Chakacha**	**5.01**	**7**			Pn		**06 01 21.1**	**+0.2**
SPCN	**Chakachatna No**	**5.04**	**7**			Pn		**06 01 21.5**	**+0.4**
SPBG	**Spurr Blockage**	**5.06**	**6**			Pn		**06 01 21.8**	**+0.2**
SPCP	**Crater Peak Br**	**5.08**	**7**			Pn		**06 01 22.0**	**+0.2**
N16K	**Nishlik Lake**	**5.11**	**328**			Pn		**06 01 21.5**	**-0.5**
N16K	**Nishlik Lake** baz=144	**5.11**	**328**	P		Pn		**06 01 21.5**	**-0.5**
SPNN	**North Nagishla**	**5.16**	**4**			Pn		**06 01 22.9**	**+0.1**
FIS	**Fire Island**	**5.19**	**17**			Pn		**06 01 22.8**	**-0.4**
O14K	**Tigyukauivet M**	**5.19**	**309**			Pn		**06 01 22.2**	**-0.9**
O14K	**Tigyukauivet M** comp=N,150nm,1.6s	**5.19**	**309**	IAML				06 03 09.4	
O14K	**Tigyukauivet M** baz=123	**5.19**	**309**	P		Pn		**06 01 22.2**	**-0.9**
RC01	**Rabbit Creek A**	**5.22**	**20**	Pn		Pn		**06 01 22.1**	**-1.6**
RC01	comp=N,78nm,1.8s			IAML				06 03 10.4	
RC01	comp=E,102nm,1.6s			IAML				06 03 16.9	
RC01	**Rabbit Creek A** baz=202	**5.22**	**20**	P		Pn		**06 01 22.3**	**-1.3**
N15K	**Kwethluk River** baz=136	**5.30**	**321**	P		Pn		**06 01 24.3**	**-0.4**
STLK	**Strandline Lak**	**5.34**	**8**			Pn		**06 01 25.0**	**-0.2**
SUA	**Susitna One**	**5.42**	**14**			Pn		**06 01 25.4**	**-1.0**
SUA	**Susitna One** baz=195	**5.42**	**14**	P		Pn		**06 01 25.4**	**-1.0**
M18K	**Stony River**	**5.42**	**347**			Pn		**06 01 26.1**	**-0.1**
M18K	**Stony River** baz=165	**5.42**	**347**	P		Pn		**06 01 26.1**	**-0.1**
HIN	**Hinchinbrook I**	**5.52**	**38**			Pn		**06 01 25.7**	**-2.1**
M17K	**Holitna River**	**5.59**	**340**			Pn		**06 01 28.6**	**0.0**
M17K	**Holitna River** baz=156	**5.59**	**340**	P		Pn		**06 01 28.5**	**-0.1**
M16K	**Timber Creek**	**5.61**	**331**	Pn		Pn		**06 01 28.1**	**-0.9**
M16K	**Timber Creek** baz=147	**5.61**	**331**	P		Pn		**06 01 28.7**	**-0.3**
M20K	**Styx River**	**5.66**	**1**			Pn		**06 01 29.9**	**+0.1**
M20K	**Styx River** baz=181	**5.66**	**1**	P		Pn		**06 01 29.6**	**-0.2**
N14K	**Kuskokwak Cree**	**5.75**	**313**			Pn		**06 01 30.2**	**-0.6**
N14K	**Kuskokwak Cree** baz=127	**5.75**	**313**	P		Pn		**06 01 30.2**	**-0.6**
M22K	**Willow**	**5.78**	**16**			Pn		**06 01 29.7**	**-1.5**
KNK	**Knik Glacier**	**5.78**	**24**			Pn		**06 01 29.4**	**-1.9**
KNK	**Knik Glacier** baz=208	**5.78**	**24**	P		Pn		**06 01 29.5**	**-1.9**
PMR	**Palmer**	**5.80**	**21**	P		Pn		**06 01 30.2**	**-1.3**
PMR	**Palmer**	**5.80**	**21**			Pn		**06 01 30.6**	**-1.0**
PMR	**Palmer** baz=204	**5.80**	**21**	P		Pn		**06 01 29.7**	**-1.9**
SKT	**Skwentna**	**5.84**	**9**	Pn		Pn		**06 01 31.9**	**-0.2**
SKT	**Skwentna** baz=190	**5.84**	**9**	P		Pn		**06 01 31.6**	**-0.5**
FALS	**False Pass**	**5.86**	**261**	P		Pn		**06 01 31.2**	**-1.2**
FALS	**False Pass**	**5.86**	**261**			Pn		**06 01 31.1**	**-1.3**
FALS	**False Pass** baz=73	**5.86**	**261**	P		Pn		**06 01 31.1**	**-1.3**
M15K	**Kasigluk River**	**5.89**	**322**			Pn		**06 01 32.2**	**-0.5**
M15K	**Kasigluk River** baz=137	**5.89**	**322**	P		Pn		**06 01 32.2**	**-0.5**
EYAK	**Cordova Ski Ar**	**5.89**	**40**	P		Pn		**06 01 31.4**	**-1.4**
EYAK	**Cordova Ski Ar**	**5.89**	**40**			Pn		**06 01 30.9**	**-1.9**
EYAK	**Cordova Ski Ar** baz=225	**5.89**	**40**	P		Pn		**06 01 30.9**	**-1.9**
GHO	**Glory Hole Cre**	**6.01**	**21**	Pn		Pn		**06 01 33.1**	**-1.4**
L19K	**White Mountain** baz=172	**6.01**	**353**	P		Pn		**06 01 34.4**	**0.0**
KAIM	**Kayak Island**	**6.02**	**48**	Pn		Pn		**06 01 33.5**	**-1.1**
KAIM	**Kayak Island** baz=235	**6.02**	**48**	P		Pn		**06 01 33.3**	**-1.3**
ISLZ	**Isanotski Laza**	**6.07**	**260**			Pn		**06 01 33.5**	**-1.8**
ISNN	**Isanotski Nort**	**6.07**	**261**			Pn		**06 01 34.1**	**-1.2**
SML	**Sawmill**	**6.16**	**23**			Pn		**06 01 35.5**	**-1.1**
SML	**Sawmill** baz=207	**6.16**	**23**	P		Pn		**06 01 35.4**	**-1.1**
RAGM	**Ragged Mountai**	**6.19**	**44**			Pn		**06 01 34.9**	**-2.0**
L18K	**Granite Mounta** baz=163	**6.23**	**346**	P		Pn		**06 01 37.7**	**+0.2**
L20K	**Farewell, AK**	**6.26**	**358**			Pn		**06 01 37.4**	**-0.6**
L20K	**Farewell, AK** baz=177	**6.26**	**358**	P		Pn		**06 01 37.4**	**-0.6**
M23K	**Glacier View**	**6.29**	**25**			Pn		**06 01 37.2**	**-1.0**
M23K	**Glacier View** baz=210	**6.29**	**25**	P		Pn		**06 01 37.2**	**-1.0**
GOAT	**Goat Mountain**	**6.29**	**43**			Pn		**06 01 37.1**	**-1.3**
L16K	**Owhat River**	**6.33**	**333**	Pn		Pn		**06 01 37.8**	**-0.9**
L16K	**Owhat River** baz=148	**6.33**	**333**	P		Pn		**06 01 38.0**	**-0.7**
M14K	**Bethel**	**6.38**	**319**	Pn		Pn		**06 01 38.9**	**-0.6**
M14K	**Bethel** baz=132	**6.38**	**319**	P		Pn		**06 01 38.7**	**-0.7**
SCM	**Sheep Creek Mo**	**6.42**	**27**			Pn		**06 01 38.9**	**-1.2**
SCM	**Sheep Creek Mo** baz=211	**6.42**	**27**	P		Pn		**06 01 39.1**	**-1.0**
L17K	**Donlin**	**6.43**	**339**			Pn		**06 01 39.6**	**-0.5**
L17K	**Donlin** baz=155	**6.43**	**339**	P		Pn		**06 01 39.6**	**-0.5**
KLU	**Klutina**	**6.53**	**33**			Pn		**06 01 40.3**	**-1.4**
KLU	**Klutina** baz=219	**6.53**	**33**	P		Pn		**06 01 40.5**	**-1.2**
BMRM	**Bremner River**	**6.59**	**40**			Pn		**06 01 40.9**	**-1.6**
BMRM	**Bremner River** baz=227	**6.59**	**40**	P		Pn		**06 01 40.9**	**-1.6**
GRIN	**Grindle Hills**	**6.68**	**48**			Pn		**06 01 42.4**	**-1.2**
M13K	**Dall Lake**	**6.71**	**313**			Pn		**06 01 43.9**	**-0.1**
M13K	**Dall Lake** baz=125	**6.71**	**313**	P		Pn		**06 01 43.9**	**-0.1**
SNH	**Sunshine Point**	**6.83**	**50**			Pn		**06 01 44.3**	**-1.3**
TTA	**Tatalina**	**6.84**	**350**	P		Pn		**06 01 46.1**	**+0.2**
TTA	**Tatalina**	**6.84**	**350**	Pn		Pn		**06 01 45.7**	**-0.3**
TTA	**Tatalina** baz=168	**6.84**	**350**	P		Pn		**06 01 45.9**	**-0.1**
L15K	**Ungalak Mounta**	**6.88**	**326**			Pn		**06 01 45.4**	**-0.9**
L15K	**Ungalak Mounta** baz=139	**6.88**	**326**	P		Pn		**06 01 45.3**	**-0.9**
M24K	**Tolsona, Glenn**	**6.95**	**29**	Pn		Pn		**06 01 46.8**	**-0.6**
M24K	**Tolsona, Glenn** baz=215	**6.95**	**29**	P		Pn		**06 01 46.8**	**-0.6**
K17K	**Iditarod**	**6.96**	**341**	Pn		Pn		**06 01 46.5**	**-0.9**
K17K	**Iditarod** baz=157	**6.96**	**341**	P		Pn		**06 01 47.7**	**+0.2**
WAT6	**Susitna Watana**	**6.98**	**22**			Pn		**06 01

MESA	MESA	7.21	52			Pn		06 01 50.5	-0.5
MESA	MESA	7.21	52	P		Pn		06 01 50.5	-0.5
	baz=241								
CAST	Castle Rocks	7.23	5	Pn		Pn		06 01 51.1	-0.1
BAGL	Bagley Icefiel	7.30	50			Pn		06 01 51.0	-1.2
K15K	Wolf Creek Mou	7.37	329			Pn		06 01 52.7	-0.3
K15K	Wolf Creek Mou	7.37	329	P		Pn		06 01 52.7	-0.3
	baz=142								
TRF	Thorofare Moun	7.40	11			Pn		06 01 53.2	-0.5
TRF	Thorofare Moun	7.40	11	P		Pn		06 01 53.2	-0.5
	baz=193								
KIAG	Kiagna River	7.43	46			Pn		06 01 52.8	-1.3
J18K	Innoko River	7.44	348	P		Pn		06 01 53.9	-0.1
	baz=166								
KTH	Kantishna Hill	7.44	9			Pn		06 01 53.9	-0.2
MCARA	McCarthy VSAT	7.45	42			Pn		06 01 52.3	-1.8
MCARA	McCarthy VSAT	7.45	42	P		Pn		06 01 53.1	-1.0
	baz=230								
HARP	HAARP	7.47	31			Pn		06 01 54.0	-0.5
HARP	HAARP	7.47	31	P		Pn		06 01 54.0	-0.5
	baz=217								
DHY	Denali Highway	7.50	21			Pn		06 01 53.8	-1.1
DHY	Denali Highway	7.50	21	P		Pn		06 01 53.8	-1.1
	baz=206								
PTPK	Patty Peak	7.54	44			Pn		06 01 54.5	-1.1
RND	Reindeer	7.54	16	Pn		Pn		06 01 55.1	-0.4
GRNC	Granite Creek	7.57	49			Pn		06 01 54.7	-1.3
CHUM	Lake Minchumin	7.69	4			Pn		06 01 57.8	+0.4
CHUM	Lake Minchumin	7.69	4	P		Pn		06 01 57.8	+0.4
	baz=184								
TABL	Table Mountain	7.69	52			Pn		06 01 56.5	-1.1
SAMH	Samovar Hills	7.71	54			Pn		06 01 57.4	-0.5
J17K	VABM Dome	7.73	341			Pn		06 01 58.3	+0.3
J17K	VABM Dome	7.73	341	P		Pn		06 01 57.3	-0.7
	baz=156								
BARN	Barnard Glacie	7.79	47			Pn		06 01 57.3	-1.6
J19K	Poorman	7.86	353			Pn		06 01 59.5	-0.3
J19K	Poorman	7.86	353	P		Pn		06 01 59.5	-0.3
	baz=171								
CTG	Chitna Glacier	7.87	48	P		Pn		06 01 59.0	-1.0
	baz=238								
CTGM	Chitina Glacie	7.87	48			Pn		06 01 57.6	-2.5
UNV	Unalaska Valle	7.91	258	P		Pn		06 01 57.9	-2.6
UNV	Unalaska Valle	7.91	258			Pn		06 01 57.7	-2.8
UNV	Unalaska Valle	7.91	258	P		Pn		06 01 57.7	-2.8
	baz=68								
LOGN	Logan Glacier	7.94	50			Pn		06 02 00.0	-1.0
J16K	Anvik River	7.95	336	Pn		Pn		06 01 59.9	-1.0
J16K	Anvik River	7.95	336	P		Pn		06 01 59.7	-1.2
	baz=150								
J20K	Nowinta River	7.97	358	Pn		Pn		06 02 01.1	-0.2
J20K	Nowinta River	7.97	358	P		Pn		06 02 01.2	-0.2
	baz=177								
BPAW	Bear Paw Mtn.	7.98	8			Pn		06 01 59.8	-1.6
BPAW	Bear Paw Mtn.	7.98	8	P		Pn		06 01 59.8	-1.6
	baz=189								
MAPS	Pakushin South	8.16	258			Pn		06 02 03.5	-0.5
BCPM	Bancas Point	8.17	57			Pn		06 02 02.7	-1.4
PNL	Peninsula	8.19	59	P		Pn		06 02 04.1	-0.2
PNL	Peninsula	8.19	59			Pn		06 02 03.9	-0.5
PNL	Peninsula	8.19	59	P		Pn		06 02 03.8	-0.5
	baz=251								
J14K	Nanvaranak Lak	8.32	326			Pn		06 02 05.5	-0.6
J14K	Nanvaranak Lak	8.32	326	P		Pn		06 02 05.5	-0.6
	baz=137								
K24K	Donnelly Dome	8.48	23			Pn		06 02 08.7	+0.4
K24K	Donnelly Dome	8.48	23	P		Pn		06 02 08.7	+0.4
	baz=210								
YUK2	White River	8.52	44			Pn		06 02 08.8	-0.2
NEA2	Nenana	8.65	12			Pn		06 02 09.8	-0.8
WRH	Wood River Hil	8.66	15	Pn		Pn		06 02 09.6	-1.1
YUK3	Moose Creek	8.66	45			Pn		06 02 10.8	-0.2
YUK3	Moose Creek	8.66	45	P		Pn		06 02 10.8	-0.2
	baz=235								
HDA	Harding Lake	8.79	19			Pn		06 02 12.2	-0.4
HDA	Harding Lake	8.79	19	P		Pn		06 02 11.4	-1.1
	baz=204								
CCB	Clear Creek Bu	8.87	16			Pn		06 02 11.9	-1.7
BVCY	Beaver Creek	8.89	41			Pn		06 02 13.6	-0.3
BVCY	Beaver Creek	8.89	41	P		Pn		06 02 13.6	-0.3
	baz=231								
MLY	Manley	8.91	7			Pn		06 02 13.1	-1.1
P29M	Windy Craggy	8.98	61			Pn		06 02 15.4	+0.2
P29M	Windy Craggy	8.98	61	P		Pn		06 02 14.4	-0.8
	baz=254								
COLA	College	9.08	15	P		Pn		06 02 16.5	+0.1
YUK7	Dusty Glacier	9.08	55			Pn		06 02 16.8	+0.1
MDM	Murphy Dome	9.10	14			Pn		06 02 16.7	-0.1
ILAR	Eielson Array	9.13	18	Pn		Pn		06 02 16.9	-0.3
	comp=E,1.2nm,0.3s,baz=204,slow=14,SNR=41								
ILAR					Sn	Sn		06 03 54.0	-5.2
	comp=E,1.2nm,0.3s,baz=109,slow=18,SNR=5.1								
YUK6	Outpost Mounta	9.14	53			Pn		06 02 16.6	-1.0
YUK6	Outpost Mounta	9.14	53	P		Pn		06 02 16.6	-1.0
	baz=245								
YUK4	Talbot Arm	9.19	50	P		Pn		06 02 19.2	+1.0
	baz=242								
H18K	Honhosa River	9.27	347			Pn		06 02 18.6	-0.5
J25K	Salcha River,	9.28	22			Pn		06 02 18.6	-0.7
H17K	Granite Mounta	9.29	343	Pn		Pn		06 02 19.2	-0.2
S31K	Pelican	9.49	72	P		Pn		06 02 20.4	-1.6
	baz=266								
J26L	Joseph Creek	9.59	26	Pn		Pn		06 02 22.4	-1.2
J26L	Joseph Creek	9.59	26	P		Pn		06 02 22.3	-1.3
	baz=214								
SIT	Sitka	9.98	78	P		Pn		06 02 26.7	-2.1
G18K	Tagagawik	10.02	347	Pn		Pn		06 02 28.5	-0.8
PRP	Porcupine Dome	10.05	19	Pn		Pn		06 02 28.6	-1.3
SKAG	Skagway	10.14	64	P		Pn		06 02 32.4	+1.4
JIS	Juneau Island	10.49	71	P		Pn		06 02 36.6	+0.9
JIS	Juneau Island	10.49	71			Pn		06 02 35.6	-0.1
G23K	Bananza Creek	10.63	7	Pn		Pn		06 02 36.4	-1.3
WHY	Whitehorse	10.64	58	Pn		Pn		06 02 36.4	-1.6
E19K	Redstone River	11.40	352	Pn		Pn		06 02 48.3	+0.1
CRAG	Craig	11.41	85	P		Pn		06 02 47.5	-0.8
	comp=E,9.1nm,1.7s								
E18K	Tukpahlearik C	11.72	346	Pn		Pn		06 02 53.2	+0.7
FARO	Faro, Yukon	11.85	51	Pn		Pn		06 02 53.8	-0.6
DLBC	Dease Lake	12.79	70	Pn		Pn		06 03 09.7	+2.5
	comp=E,0.2nm,0.3s,baz=233,slow=14,SNR=6.4								
DLBC					Sn	Sn		06 05 25.5	-3.2
	comp=E,0.2nm,0.3s,baz=293,slow=25,SNR=2.0								
	comp=E,0.5nm,0.4s								
E29M	Blow River	14.09	24	Pn		Pn		06 03 23.9	-1.0
INK	Inuvik	15.12	29			Pn		06 03 37.5	-1.3
INK	Inuvik	15.12	29	Pn		Pn		06 03 38.2	-0.6
	comp=E,0.1nm,0.3s,baz=222,slow=11,SNR=3.3								
	comp=E,3.1nm,1.2s								
C36M	Paulatuk	18.49	33	P		P		06 04 20.4	-0.6
A36M	Sachs Harbour	19.67	26	P		P		06 04 34.1	+0.2
YKA	Yellowknife Ar	20.47	56	P		P		06 04 43.1	+0.5
YKA	Yellowknife Ar	20.47	56	P		Pn		06 04 43.6	-1.3
	comp=E,7.2nm,0.8s,baz=270,slow=11,SNR=30								
	comp=E,7.2nm,0.8s								
BILL	Bilibino	21.76	319	P		P		06 04 54.8	-1.8
HOOD	Mount Hood Mea	22.63	105	P		P		06 05 04.5	-1.7
HOOD					IAmb	IAmb		06 05 10.9	
	comp=E,11nm,0.8s								
D08A	Wollman Farm,	23.05	99	P		P		06 05 09.5	-0.9
PETK	Petropavlovsk-	27.98	284	P		P		06 05 57.1	+1.4
	comp=E,2.4nm,0.7s,baz=71,slow=13,SNR=3.6								
	comp=E,2.4nm,0.7s								
NVAR	Mina Array Bea	29.26	113	P		P		06 06 10.0	+2.6
	comp=E,2.0nm,0.8s,baz=295,slow=8.9,SNR=11								
	comp=E,2.0nm,0.8s								
PDAR	Pinedale Array	30.92	97	P		P		06 06 23.8	+1.7
	comp=E,0.8nm,0.8s,baz=312,slow=5.0,SNR=7.6								
	comp=E,0.8nm,0.8s								
SRU	San Rafael Swe	32.90	103	P		P		06 06 39.8	+0.4
RWWY	Rawlins	32.93	96	P		P		06 06 39.6	-0.1
RWWY					IAmb	IAmb		06 06 49.4	
	comp=E,5.3nm,0.9s								
V12A	Nelson	33.10	112	P		P		06 06 40.8	-0.3
V12A					IAmb	IAmb		06 06 45.0	
	comp=E,5.2nm,1.0s								
TIXI	Tiksi	34.47	327	P		P		06 06 51.7	-0.7
TIXI					IAmb	IAmb		06 06 52.8	
	comp=E,6.5nm,0.8s								
NEEM	North Greenlan	38.42	20	*i* P		P		06 07 25.7	-0.8
NEEM					IAmb	IAmb		06 07 28.3	
	comp=E,6.0nm,0.8s								
KULLO	Kullorsuaq	38.43	25	*i* P		P		06 07 26.5	+0.3
KULLO					IAmb	IAmb		06 07 28.1	
	comp=E,6.3nm,0.7s								
SUMG	Summit	43.93	23	P		P		06 08 12.2	+0.4
SUMG					IAmb	IAmb		06 08 13.8	
	comp=E,16nm,1.0s								
SUMG	Summit	43.93	23	*i* P		P		06 08 12.4	+0.5
SUMG					IAmb	IAmb		06 08 15.1	
	comp=E,7.1nm,0.8s								
TXAR	Lajitas Array	43.98	106	P		P		06 08 14.8	+2.4
	comp=E,1.5nm,0.9s,baz=324,slow=6.2,SNR=11								
	comp=E,1.5nm,0.9s								
DAG	Danmarks Havn	44.20	14	*i* P		P		06 08 13.0	-0.5
DAG					IAmb	IAmb		06 08 15.5	
	comp=E,8.9nm,0.8s								
SFJD	Kangerlussuaq	44.41	33	*i* P		P		06 08 16.2	+1.0
SFJD					IAmb	IAmb		06 08 17.4	
	comp=E,3.7nm,0.7s								
SPITS	Spitsbergen Ar	45.69	3	P		P		06 08 25.7	+0.4
	comp=E,16nm,1.0s,baz=52,slow=5.4,SNR=18								
	comp=E,16nm,1.0s								
SCHQ	Schefferville	45.88	54	P		P		06 08 28.0	+0.9
	comp=E,4.5nm,0.8s,baz=303,slow=7.0,SNR=12								
	comp=E,4.5nm,0.8s								
DBG	Daneborg	46.02	16	*i* P		P		06 08 27.6	-0.4
DBG					IAmb	IAmb		06 08 30.0	
	comp=E,7.6nm,0.9s								
ICESG	Greenland Ices	46.08	27	*i* P		P		06 08 28.7	-0.2
ICESG					IAmb	IAmb		06 08 30.7	
	comp=E,10nm,1.1s								
H11N2	WAKE ISLAND Hy	46.93	236	T		T		06 58 56.0	
	baz=29,slow=76,SNR=17								
H11N3	WAKE ISLAND Hy	46.93	235	T		T		06 58 56.5	
	baz=29,slow=76,SNR=23								
H11N1	WAKE ISLAND Hy	46.94	235	T		T		06 58 57.3	
	baz=29,slow=76,SNR=17								
NRIK	Noril'sk	47.21	335	P		P		06 08 37.0	-0.3
NRIK	Noril'sk	47.21	335	P		P		06 08 37.4	0.0
	comp=E,6.5nm,0.4s,baz=48,slow=7.6,SNR=18								
	comp=E,6.5nm,0.4s								
H11S1	WAKE ISLAND Hy	48.08	235	T		T		07 00 21.7	
	baz=28,slow=76,SNR=76								
H11S2	WAKE ISLAND Hy	48.09	235	T		T		07 00 24.9	
	baz=28,slow=76,SNR=49								
H11S3	WAKE ISLAND Hy	48.10	235	T		T		07 00 24.8	
	baz=28,slow=76,SNR=36								
KSRS	Korea Array	53.88	285	P		P		06 09 28.8	+0.7
	comp=E,6.0nm,1.1s,baz=49,slow=7.9,SNR=15								
	comp=E,6.0nm,1.1s								
KSAR	Wonju Array Be	53.91	285	P		P		06 09 27.9	-0.4
ARCES	ARCESS Array B	54.53	0	P		P		06 09 32.4	0.0
	comp=E,3.0nm,0.6s,baz=10.0,slow=6.1,SNR=16								
	comp=E,3.0nm,0.6s								
ULN	Ulaanbaatar	56.57	307	P		P		06 09 46.4	-1.2
ULN					IAmb	IAmb		06 09 49.1	
	comp=E,5.2nm,0.7s								
SONM	Songino Array	56.89	308	P		P		06 09 50.0	+0.2
SONM	Songino Array	56.89	308	P		P		06 09 50.4	+0.6
	comp=E,13nm,0.8s,baz=47,slow=6.9,SNR=55								
	comp=E,13nm,0.8s								
HHC	Hu-ho-hao-te	59.79	299	*e*P		P		06 10 11.8	+1.7
HHC					pmax	pmax			
	comp=E,11nm,0.8s								
HHC					pmax	pmax			
	comp=E,130nm,4.2s								
HHC					LR	LR			
	comp=N,540nm,13.3s								
HHC					LR	LR			
	comp=E,290nm,13.2s								
HHC					LR	LR			
	comp=E,660nm,13.3s								
ZAA0	Zalesovo Array	60.31	325	P		P		06 10 13.6	+0.2
ZAA0					IAmb	IAmb		06 10 14.6	
	comp=E,7.9nm,0.8s								
ZALV	Zalesovo Beam	60.31	325	P		P		06 10 13.6	+0.2
ZALV	Zalesovo Beam	60.31	325	P		P		06 10 13.8	+0.4
	comp=E,7.8nm,0.7s,baz=33,slow=6.6,SNR=27								
	comp=E,7.8nm,0.7s								
SOR	Soroa	60.49	93	P		P		06 10 14.8	-0.1
HNS	HongShan	60.86	294	*e*P		P		06 10 17.8	+0.5
NB2	NORSAR Subarra	62.43	8	P		P		06 10 27.7	+0.1
	comp=E,1.1nm,0.6s,baz=351,slow=6.9								
NOA	NORSAR Array B	62.43	8	P		P		06 10 28.1	+0.5
	comp=E,3.6nm,0.8s,baz=350,slow=6.7,SNR=11								
	comp=E,3.6nm,0.8s								
FINES	FINESS Array B	62.66	0	P		P		06 10 29.4	+0.4
	comp=E,5.0nm,0.9s,baz=3.4,slow=9.5,SNR=8.2								
	comp=E,5.0nm,0.9s								
HFS	Hagfors	63.52	7	P		P		06 10 35.3	+0.5
	comp=E,5.8nm,0.9s,baz=323,slow=3.7,SNR=13								
	comp=E,5.8nm,0.9s								
LYN	LuoYang	64.21	294	⇑P		P		06 10 40.3	+0.5
LYN					pmax	pmax			
	comp=E,13nm,0.9s								
ARU	Arti	64.75	341	P		P		06 10 41.7	-1.2
KURK	Kurchatov	65.05	326	P		P		06 10 44.5	-0.5
KURK					IAmb	IAmb		06 10 46.1	
	comp=E,6.0nm,1.0s								
KURBB	Kurchatov Arra	65.15	326	P		P		06 10 45.8	+0.1
	comp=E,4.6nm,0.9s,baz=28,slow=6.0,SNR=28								
	comp=E,4.6nm,0.9s								
BRVK	Borovoye	65.31	333	P		P		06 10 46.2	-0.4
BRVK					IAmb	IAmb		06 10 47.6	
	comp=E,10nm,0.9s								
BVAR	Borovoye Array	65.31	333	P		P		06 10 46.8	+0.2
	comp=E,14nm,0.8s,baz=45,slow=6.5,SNR=34								
	comp=E,14nm,0.8s								
EKA	Eskdalemuir Ar	66.17	18	P		P		06 10 52.9	+0.7
	comp=E,1.9nm,0.6s,baz=330,slow=5.2,SNR=12								
	comp=E,1.9nm,0.6s								
MK31	Makanchi Array	67.26	322	P		P		06 10 59.0	-0.4
MK31					IAmb	IAmb		06 11 01.0	
	comp=E,4.0nm,1.0s								
MKAR	Makanchi Array	67.26	322	P		P		06 10 59.5	+0.2
MKAR	Makanchi Array	67.26	322	P		P		06 10 59.1	-0.2
	comp=E,4.9nm,0.9s,baz=43,slow=6.0,SNR=28								
	comp=E,4.9nm,0.9s								
ABKAR	Akbulak array	71.27	338	P		P		06 11 23.6	-0.4
GOMU	GeErMu	71.33	308	P		P		06 11 26.4	+1.3
GOMU				pP		pP		06 11 30.6	-1.8
GOMU				sP		sP		06 11 33.1	-2.1
GOMU				PP		PP		06 14 22.8	+20
GOMU				S		S		06 20 39.1	-2.5
CLL	Collm	72.23	9	*i* P		P		06 11 30.1	+0.4
	comp=E,4.0nm,0.9s								
AKASG	Malin Array Be	73.40	358	P		P		06 11 36.4	-0.3
	comp=E,3.0nm,0.7s,baz=2.2,slow=5.9,SNR=10.0								
	comp=E,3.0nm,0.7s								
KK31	Karatay Array	74.32	328	P		P		06 11 42.5	+0.3
KK31					IAmb	IAmb		06 11 43.4	
	comp=E,5.2nm,0.9s								
KKAR	Karatay Array	74.32	328	P		P		06 11 42.4	+0.1
KKAR					IAmb	IAmb		06 11 43.4	
	comp=E,5.2nm,0.9s								
GERES	GERESS Array B	74.73	9	P		P		06 11 45.1	+0.5
	comp=E,2.1nm,0.8s,baz=358,slow=7.1,SNR=8.3								
	comp=E,2.1nm,0.8s								
VYHS	Vyhne	75.43	5	*e*P		P		06 11 50.0	+1.4
CONA	Conrad Observa	75.81	7	*e*P		P		06 11 51.8	+1.0
	comp=E,3.4nm,1.1s								
KSH	Kashi	75.85	323	P		P		06 11 55.3	+4.0
KSH				sP		PcP		06 12 03.8	+0.1
KSH				pmax		pmax			
	comp=E,9.0nm,0.7s								
WATA	Walderalm	76.03	10	*e*P		P		06 11 52.8	+0.6
	comp=E,7.6nm,1.3s								
RONA	Rosalia, Austr	76.07	7	*e*P		P		06 11 53.6	+1.3
	comp=E,3.8nm,1.0s								
SQTA	Sankt Quirin	76.10	11	*e*P		P		06 11 53.8	+1.2
	comp=E,4.8nm,0.8s								
WTTA	Wattenberg	76.11	10	*e*P		P		06 11 53.7	+1.0
	comp=E,5.7nm,0.8s								
FETA	Feichten	76.25	11	*e*P		P		06 11 54.7	+1.2
	comp=E,8.5nm,1.0s								
KBA	Koelnbreinsper	76.45	9	*e*P		P		06 11 55.8	+1.1
	comp=E,9.8nm,1.2s								
SOKA	Soboth	76.99	8	*e*P		P		06 11 58.5	+1.0
	comp=E,6.8nm,1.1s								
OBKA	Obir	77.12	9	*e*P		P		06 11 59.1	+0.8
	comp=E,9.7nm,0.7s								
SLVN	Son La	79.31	292	P		P		06 12 10.3	-0.4
SLVN					IAmb	IAmb		06 12 12.2	
	comp=E,8.3nm,1.1s								
KBZ	Khabaz	79.46	348	P		P		06 12 12.5	+1.4
	comp=E,7.0nm,0.9s,baz=331,slow=4.8,SNR=6.6								
	comp=E,7.0nm,0.9s								
ESDC	Sonseca Array	80.99	23	P		P		06 12 21.0	+1.5
	comp=E,3.0nm,0.8s,baz=345,slow=4.8,SNR=12								
	comp=E,3.0nm,0.8s								
GEYT	Alibeck	82.45	335	P		P		06 12 28.1	+0.8
	comp=E,3.3nm,0.7s,baz=58,slow=8.9,SNR=4.8								
	comp=Z,3.3nm,0.7s								
BRTR	Keskin Array B	84.22	355	P		P		06 12 37.2	+0.8
	comp=Z,1.6nm,0.8s,baz=1.0,slow=3.6,SNR=7.6								
	comp=Z,1.6nm,0.8s								
CMAR	Chiang Mai Arr	84.25	295	P		P		06 12 36.9	+0.1
	comp=Z,1.6nm,0.6s,baz=7.0,slow=5.5,SNR=11								
	comp=Z,1.6nm,0.6s								
H03N2	Juan Fernandez	109.26	121	T		T		08 16 59.5	
	baz=325,slow=78,SNR=14								
H03N1	Juan Fernandez	109.27	121	T		T		08 16 59.1	
	baz=325,slow=78,SNR=16								
H03N3	Juan Fernandez	109.28	121	T		T		08 17 00.8	
	baz=325,slow=78,SNR=12								
QSPA	South Pole Qui	146.03	180	PKPbc		PKPab		06 19 43.6	-0.4
	comp=Z,2.9nm,1.0s,baz=166,slow=0.7,SNR=5.7								

*IDC **24** 06:02:58.6±1.9, 6.°08S×143.°03E, h0km, mb3.9/4, mbtmp4.0/5, ML4.2/1, Error ellipse: s-maj=70.9km s-min=35.1km az=104.0*

ISC 24 06:03:02.9±1.8, 6.°4S±0.°2×143.°1E±0.°5, h35km, n6, σ1s24/6, mb3.8/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	Warramunga Arr	15.94	211	Pn		Pn	06 06 43.3	-1.5
	0.3nm,0.3s,baz=31,slow=12,SNR=9.7							
ASAR	Alice Springs	19.33	206	P		Pn	06 07 28.1	+1.5
	0.7nm,0.3s,baz=33,slow=9.9,SNR=56							
	7.3nm,0.7s							
MKAR	Makanchi Array	75.30	322	P		P	06 14 42.7	+0.1
	0.4nm,0.5s,baz=98,slow=7.4,SNR=5.1							
	0.4nm,0.5s							
KURBB	Kurchatov Arra	79.19	324	P		P	06 15 04.2	0.0
	0.4nm,0.8s,baz=111,slow=4.5,SNR=2.7							
	0.4nm,0.8s							
BVAR	Borovoye Array	84.76	325	P		P	06 15 33.8	+0.3
	2.5nm,0.6s,baz=110,slow=6.5,SNR=6.7							
	2.5nm,0.6s							
ILAR	Eielson Array	87.36	24	P		P	06 15 45.6	-0.4
	0.7nm,0.7s,baz=259,slow=4.9,SNR=7.6							
	0.7nm,0.7s							

IDC 24 06:04:28.9±2.5, 0.°88S×128.°14E, h0km, mb3.5/2, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=200.8km s-min=27.5km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	Warramunga Arr	19.89	163	P		P	06 09 02.6	+0.5
	0.1nm,0.3s,baz=345,slow=13,SNR=2.0							
	0.6nm,0.6s							
ASAR	Alice Springs	23.33	167	P		P	06 09 38.6	-0.3
	0.9nm,0.7s,baz=347,slow=12,SNR=4.7							
	0.9nm,0.7s							
MKAR	Makanchi Array	62.13	326	P		P	06 14 51.9	0.0
	0.4nm,0.5s,baz=112,slow=8.6,SNR=5.6							
	0.4nm,0.5s							

*IDC **24** 06:04:32.9±1.0, 56.°27N×153.°54W, h0km, mb4.0/16, mbtmp4.0/17, ML3.5/1, Error ellipse: s-maj=24.6km s-min=16.9km az=178.0*

*NEIC **24** 06:04:32.9±0.9, 56.°11N±0.°03×153.°27W±0.°06, h19km±7km, Error ellipse: s-maj=5.3km s-min=4.7km az=107.0*

*AEIC **24** 06:04:35.2±1.3, 56.°13N±0.°06×153.°4W±0.°1, h34km±6km, ML3.5, mb3.8/3(NEIC), ML3.6/48(NEIC), Error ellipse: s-maj=11.3km s-min=5.2km az=136.0*

ISC 24 06:04:35.3±0.6, 56.°21N±0.°06×153.°40W±0.°05, h23km, n175, σ1s18/172, mb4.0/15, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SII	Sitkinak Islan	0.56	309	P		Pn	06 04 46.3	-1.5
SII	Sitkinak Islan	0.56	309			Pn	06 04 46.5	-1.4
SII	Sitkinak Islan	0.56	309			Sn	06 04 55.9	-0.5
SII	Sitkinak Islan	0.56	309	P		Pn	06 04 46.5	-1.4
	baz=132							
SII				S		Sn	06 04 55.9	-0.5
	baz=132							
OHAK	Old Harbor	1.01	3	P		Pn	06 04 52.9	-1.2
OHAK	Old Harbor	1.01	3			Pn	06 04 53.2	-0.9
OHAK				IAML			06 05 22.7	
	comp=N,1μm,0.6s							
OHAK				IAML			06 05 23.1	
	comp=E,2μm,1.4s							
OHAK	Old Harbor	1.01	3			Sb	06 05 06.6	-0.5
OHAK	Old Harbor	1.01	3	P		Pn	06 04 53.1	-1.0
	baz=182							
OHAK				S

O18K	**Koktuh Hills**	**3.78**	**346**	P		**Pn**	**06 05 31.8**	**-0.2**
	baz=164							
CHNA	**Chernabura Isl**	**3.78**	**251**	P		**Pn**	**06 05 29.8**	**-2.2**
	baz=67							
CNBA	**Chernabura Isl**	**3.78**	**251**	Pn		**Pn**	**06 05 29.9**	**-2.2**
CNBA				IAML			06 06 12.0	
	comp=N,83nm,0.6s							
ILSW	**Iliamna Southw**	**3.78**	**2**	Pn		**Pn**	**06 05 32.7**	**+0.5**
BRLK	**Bradley Lake**	**3.81**	**20**			**Pn**	**06 05 31.3**	**-1.2**
BRLK				IAML			06 06 19.9	
	comp=N,103nm,3.0s							
BRLK				IAML			06 06 51.1	
	comp=E,100nm,2.4s							
BRSE	**Bradley Lake S**	**3.81**	**21**			**Pn**	**06 05 31.3**	**-1.2**
BRSE	**Bradley Lake S**	**3.81**	**21**	P		**Pn**	**06 05 31.3**	**-1.2**
	baz=202							
O20K	**Slope Mountain**	**3.90**	**6**			**Pn**	**06 05 33.9**	**0.0**
O20K	**Slope Mountain**	**3.90**	**6**	P		**Pn**	**06 05 33.9**	**0.0**
	baz=186							
O19K	**Port Alsworth**	**4.02**	**353**			**Pn**	**06 05 34.8**	**-0.5**
O19K				IAML			06 06 38.0	
	comp=N,106nm,0.5s							
O19K	**Port Alsworth**	**4.02**	**353**	P		**Pn**	**06 05 34.9**	**-0.5**
	baz=172							
O17K	**Koliganek Bris**	**4.08**	**333**			**Pn**	**06 05 35.6**	**-0.5**
O17K	**Koliganek Bris**	**4.08**	**333**	P		**Pn**	**06 05 35.6**	**-0.5**
	baz=150							
SDPT	**Sand Point**	**4.09**	**261**	P		**Pn**	**06 05 36.0**	**-0.3**
SDPT	**Sand Point**	**4.09**	**261**	Pn		**Pn**	**06 05 35.1**	**-1.2**
SDPT	**Sand Point**	**4.09**	**261**	P		**Pn**	**06 05 35.3**	**-1.0**
	baz=76							
O16K	**Kokwok River B**	**4.21**	**326**	Pn		**Pn**	**06 05 36.9**	**-1.2**
O16K	**Kokwok River B**	**4.21**	**326**	P		**Pn**	**06 05 37.1**	**-1.0**
	baz=142							
RED	**Redoubt Volcan**	**4.23**	**4**			**Pn**	**06 05 38.4**	**0.0**
RSO	**Redoubt South**	**4.28**	**4**			**Pn**	**06 05 39.3**	**+0.2**
RDWB	**Redoubt West**	**4.30**	**4**			**Pn**	**06 05 39.0**	**-0.3**
NCT	**North Crescent**	**4.37**	**3**			**Pn**	**06 05 40.1**	**-0.2**
RDT	**Redoubt**	**4.41**	**6**			**Pn**	**06 05 39.8**	**-1.0**
DFR	**Drift River**	**4.41**	**5**			**Pn**	**06 05 40.4**	**-0.4**
SEW	**Seward**	**4.43**	**27**			**Pn**	**06 05 39.4**	**-1.6**
SEW	**Seward**	**4.43**	**27**	P		**Pn**	**06 05 39.4**	**-1.6**
	baz=209							
O15K	**Ungalikthiuk R**	**4.55**	**313**			**Pn**	**06 05 41.8**	**-0.8**
O15K	**Ungalikthiuk R**	**4.55**	**313**	P		**Pn**	**06 05 41.8**	**-0.8**
	baz=128							
SLKM	**Skilak Lake**	**4.62**	**20**			**Pn**	**06 05 42.1**	**-1.5**
N19K	**Bonanza Creek**	**4.65**	**353**			**Pn**	**06 05 44.1**	**0.0**
N19K				IAML			06 07 15.0	
	comp=N,42nm,2.1s							
N19K				IAML			06 07 20.7	
	comp=E,43nm,1.4s							
N19K	**Bonanza Creek**	**4.65**	**353**	P		**Pn**	**06 05 43.9**	**-0.2**
	baz=172							
N18K	**Kilae Creek**	**4.67**	**345**			**Pn**	**06 05 44.2**	**-0.1**
N18K	**Kilae Creek**	**4.67**	**345**	IAML			06 07 21.8	
	comp=E,45nm,1.4s							
N18K	**Kilae Creek**	**4.67**	**345**	P		**Pn**	**06 05 44.2**	**-0.1**
	baz=163							
PS1A	**Pavlof South-1**	**4.77**	**264**			**Pn**	**06 05 44.7**	**-1.0**
PS4A	**Pavlof South-4**	**4.85**	**263**			**Pn**	**06 05 45.6**	**-1.2**
S12K	**Black Hills**	**4.89**	**268**	Pn		**Pn**	**06 05 46.1**	**-1.3**
S12K				IAML			06 06 43.3	
	comp=N,64nm,0.8s							
S12K				IAML			06 06 46.3	
	comp=E,69nm,0.8s							
S12K	**Black Hills**	**4.89**	**268**	P		**Pn**	**06 05 46.0**	**-1.3**
	baz=81							
PN7A	**Pavlof North-7**	**4.91**	**264**			**Pn**	**06 05 46.6**	**-1.1**
P23K	**Montague Islan**	**4.95**	**37**			**Pn**	**06 05 46.1**	**-2.1**
P23K	**Montague Islan**	**4.95**	**37**	P		**Pn**	**06 05 46.1**	**-2.1**
	baz=222							
SVW2	**Sparrevohn**	**5.03**	**348**	Pn		**Pn**	**06 05 48.4**	**-0.9**
SVW2				IAML			06 07 28.7	
	comp=E,35nm,1.6s							
SVW2				IAML			06 07 32.8	
	comp=N,32nm,1.9s							
N16K	**Nishlik Lake**	**5.12**	**329**			**Pn**	**06 05 50.2**	**-0.3**
N16K	**Nishlik Lake**	**5.12**	**329**	P		**Pn**	**06 05 50.2**	**-0.3**
	baz=144							
RC01	**Rabbit Creek A**	**5.25**	**20**	Pn		**Pn**	**06 05 51.0**	**-1.2**
RC01				IAML			06 07 41.6	
	comp=N,42nm,1.7s							
RC01	**Rabbit Creek A**	**5.25**	**20**	P		**Pn**	**06 05 50.8**	**-1.5**
	baz=202							
N15K	**Kwethluk River**	**5.32**	**321**	Pn		**Pn**	**06 05 53.2**	**0.0**
N15K				IAML			06 07 47.2	
	comp=E,42nm,1.8s							
N15K	**Kwethluk River**	**5.32**	**321**	P		**Pn**	**06 05 53.0**	**-0.1**
	baz=136							
STLK	**Strandline Lak**	**5.36**	**8**			**Pn**	**06 05 53.5**	**-0.4**
M18K	**Stony River**	**5.44**	**348**			**Pn**	**06 05 54.6**	**-0.2**
M18K	**Stony River**	**5.44**	**348**	P		**Pn**	**06 05 54.6**	**-0.2**
	baz=166							
SUA	**Susitna One**	**5.44**	**14**			**Pn**	**06 05 53.4**	**-1.6**
SUA	**Susitna One**	**5.44**	**14**	P		**Pn**	**06 05 53.9**	**-1.2**
	baz=195							
HIN	**Hinchinbrook I**	**5.55**	**38**	Pn		**Pn**	**06 05 54.2**	**-2.3**
M17K	**Holitna River**	**5.61**	**340**			**Pn**	**06 05 57.2**	**0.0**
M17K	**Holitna River**	**5.61**	**340**	P		**Pn**	**06 05 57.2**	**0.0**
	baz=156							
M16K	**Timber Creek**	**5.63**	**331**			**Pn**	**06 05 57.2**	**-0.3**
M16K	**Timber Creek**	**5.63**	**331**	P		**Pn**	**06 05 57.2**	**-0.3**
	baz=147							
M20K	**Styx River**	**5.69**	**1**			**Pn**	**06 05 58.8**	**+0.4**
N14K	**Kuskokwak Cree**	**5.76**	**314**			**Pn**	**06 05 58.8**	**-0.4**
N14K	**Kuskokwak Cree**	**5.76**	**314**	P		**Pn**	**06 05 58.8**	**-0.4**
	baz=127							
EYAK	**Cordova Ski Ar**	**5.92**	**40**	P		**Pn**	**06 06 00.0**	**-1.5**
EYAK	**Cordova Ski Ar**	**5.92**	**40**			**Pn**	**06 05 59.6**	**-1.9**
EYAK	**Cordova Ski Ar**	**5.92**	**40**	P		**Pn**	**06 05 59.6**	**-1.9**
	baz=225							
L19K	**White Mountain**	**6.03**	**354**			**Pn**	**06 06 02.9**	**-0.2**
L19K	**White Mountain**	**6.03**	**354**	P		**Pn**	**06 06 02.9**	**-0.2**
	baz=172							
GHO	**Glory Hole Cre**	**6.04**	**21**	Pn		**Pn**	**06 06 02.0**	**-1.1**
ISLZ	**Isanotski Laza**	**6.05**	**260**			**Pn**	**06 06 01.8**	**-1.5**
RAGM	**Ragged Mountai**	**6.22**	**44**	Pn		**Pn**	**06 06 03.8**	**-1.8**
L18K	**Granite Mounta**	**6.26**	**346**			**Pn**	**06 06 06.3**	**+0.2**
L18K	**Granite Mounta**	**6.26**	**346**	P		**Pn**	**06 06 06.3**	**+0.2**
	baz=163							
L20K	**Farewell, AK**	**6.29**	**358**			**Pn**	**06 06 06.4**	**-0.2**
L20K	**Farewell, AK**	**6.29**	**358**	P		**Pn**	**06 06 06.4**	**-0.2**
	baz=177							
GOAT	**Goat Mountain**	**6.32**	**43**			**Pn**	**06 06 05.5**	**-1.5**
L16K	**Owhat River**	**6.34**	**333**	Pn		**Pn**	**06 06 06.9**	**-0.3**
M14K	**Bethel**	**6.39**	**319**	Pn		**Pn**	**06 06 08.8**	**+0.9**
SCM	**Sheep Creek Mo**	**6.45**	**27**	Pn		**Pn**	**06 06 06.9**	**-1.9**
KLU	**Klutina**	**6.56**	**33**	Pn		**Pn**	**06 06 08.9**	**-1.4**
BMRM	**Bremner River**	**6.62**	**40**			**Pn**	**06 06 09.6**	**-1.6**
BMRM	**Bremner River**	**6.62**	**40**	P		**Pn**	**06 06 09.5**	**-1.6**
	baz=227							
TTA	**Tatalina**	**6.87**	**350**	P		**Pn**	**06 06 14.7**	**+0.2**
TTA	**Tatalina**	**6.87**	**350**	Pn		**Pn**	**06 06 14.1**	**-0.4**
L15K	**Ungalek Mounta**	**6.89**	**326**			**Pn**	**06 06 14.4**	**-0.4**
L15K	**Ungalek Mounta**	**6.89**	**326**	P		**Pn**	**06 06 14.4**	**-0.4**
	baz=139							
WAX	**Waxell Ridge**	**6.99**	**48**	Pn		**Pn**	**06 06 14.2**	**-2.0**
N25K	**Chitina, Valde**	**7.07**	**36**	Pn		**Pn**	**06 06 15.9**	**-1.4**
VRDI	**Verde Repeater**	**7.21**	**42**	Pn		**Pn**	**06 06 17.7**	**-1.7**
GLB	**Gilahina Butte**	**7.22**	**40**	Pn		**Pn**	**06 06 17.6**	**-1.8**
CAST	**Castle Rocks**	**7.26**	**5**	Pn		**Pn**	**06 06 20.1**	**+0.3**
UNV	**Unalaska Valle**	**7.89**	**258**	P		**Pn**	**06 06 26.6**	**-1.9**
WRH	**Wood River Hil**	**8.69**	**15**	Pn		**Pn**	**06 06 38.3**	**-1.1**
HDA	**Harding Lake**	**8.82**	**19**	Pn		**Pn**	**06 06 40.4**	**-0.8**
MDM	**Murphy Dome**	**9.13**	**14**	Pn		**Pn**	**06 06 44.5**	**-1.1**
IL31		**9.16**	**18**			**Pn**	**06 06 45.7**	**-0.1**
ILAR	**Eielson Array**	**9.16**	**18**	Pn		**Pn**	**06 06 45.2**	**-0.7**
	comp=E,0.4nm,0.3s,baz=204,slow=14,SNR=6.6							
ILAR				Sn		**Sn**	**06 08 22.3**	**-5.9**
	comp=E,0.4nm,0.3s,baz=218,slow=15,SNR=6.1							
J26L	**Joseph Creek**	**9.62**	**26**	Pn		**Pn**	**06 06 51.9**	**-0.4**
ANM	**Nome**	**10.24**	**330**	Pn		**Pn**	**06 07 00.0**	**-0.6**
E19K	**Redstone River**	**11.43**	**353**	Pn		**Pn**	**06 07 17.9**	**+1.0**
BMAR	**Burnt Mountain**	**11.98**	**17**	Pn		**Pn**	**06 07 22.5**	**-1.9**
G31M	**Satah River**	**14.00**	**32**	Pn		**Pn**	**06 07 51.3**	**-0.7**
D27M	**Malcolm River**	**14.21**	**18**	Pn		**Pn**	**06 07 55.4**	**+0.5**
INK	**Inuvik**	**15.15**	**29**	Pn		**Pn**	**06 08 06.4**	**-1.0**
INK				IAmb		IAmb	06 08 25.6	
	comp=Z,3.9nm,0.9s							
INK	**Inuvik**	**15.15**	**29**	Pn		**P**	**06 08 10.1**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=222,slow=12,SNR=5.9							
	comp=Z,2.1nm,0.9s							
C36M	**Paulatuk**	**18.52**	**33**	P		**Pn**	**06 08 48.5**	**-1.4**
C36M				IAmb		IAmb	06 08 50.2	
	comp=Z,6.2nm,1.0s							
A36M	**Sachs Harbour**	**19.70**	**26**	P		**Pn**	**06 09 02.4**	**-1.6**
A36M				IAmb		IAmb	06 09 15.8	
	comp=Z,21nm,0.8s							
YKA	**Yellowknife Ar**	**20.49**	**56**	P		Pn	06 09 12.3	-1.1
	comp=Z,2.0nm,0.9s,baz=270,slow=11,SNR=12							
	comp=Z,2.0nm,0.9s							
PETK	**Petropavlovsk-**	**27.98**	**284**	P		**P**	**06 10 23.7**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=80,slow=13,SNR=5.8							
	comp=Z,0.7nm,0.6s							
PDAR	**Pinedale Array**	**30.92**	**97**	P		**P**	**06 10 51.8**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=286,slow=7.6,SNR=3.7							
	comp=Z,0.3nm,0.7s							
TXAR	**Lajitas Array**	**43.98**	**106**	P		**P**	**06 12 43.0**	**+2.3**
	comp=Z,0.5nm,0.8s,baz=305,slow=4.4,SNR=4.6							
	comp=Z,0.5nm,0.8s							
DAG	**Danmarks Havn**	**44.23**	**14**	*i* P		**P**	**06 12 41.7**	**-0.4**
H11N2	**WAKE ISLAND Hy**	**46.90**	**235**	T		T	07 03 25.8	
	baz=29							
H11N3	**WAKE ISLAND Hy**	**46.91**	**235**	T		T	07 03 26.3	
	baz=29							
H11N1	**WAKE ISLAND Hy**	**46.92**	**235**	T		T	07 03 25.3	
	baz=29							
NRIK	**Noril'sk**	**47.23**	**335**	P		**P**	**06 13 06.7**	**+0.9**
	comp=Z,8.3nm,1.0s,baz=57,slow=7.9,SNR=6.7							
	comp=Z,8.3nm,1.0s							
H11S1	**WAKE ISLAND Hy**	**48.05**	**235**	T		T	07 04 49.3	
	baz=28,slow=76,SNR=16							
H11S2	**WAKE ISLAND Hy**	**48.07**	**235**	T		T	07 04 51.2	
	baz=28,slow=76,SNR=13							
H11S3	**WAKE ISLAND Hy**	**48.07**	**235**	T		T	07 04 51.6	
	baz=28,slow=76,SNR=12							
KSRS	**Korea Array**	**53.88**	**285**	P		**P**	**06 13 57.3**	**+1.0**
	comp=Z,2.6nm,1.0s,baz=52,slow=7.9,SNR=6.6							
	comp=Z,2.6nm,1.0s							
ARCES	**ARCESS Array B**	**54.55**	**0**	P		**P**	**06 14 01.5**	**+0.6**
	comp=Z,4.3nm,1.0s,baz=4.3,slow=6.5,SNR=6.7							
	comp=Z,4.3nm,1.0s							
SONM	**Songino Array**	**56.89**	**308**	P		**P**	**06 14 18.8**	**+0.7**
	comp=Z,4.0nm,0.8s,baz=51,slow=7.4,SNR=18							
	comp=Z,4.0nm,0.8s							
ZALV	**Zalesovo Beam**	**60.33**	**325**	P		**P**	**06 14 42.5**	**+0.8**
	comp=Z,2.2nm,0.7s,baz=27,slow=6.8,SNR=7.4							
	comp=Z,2.2nm,0.7s							
NOA	**NORSAR Array B**	**62.46**	**8**	P		**P**	**06 14 57.1**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=350,slow=6.7,SNR=3.4							
	comp=Z,1.0nm,0.8s							
KURBB	**Kurchatov Arra**	**65.17**	**326**	P		**P**	**06 15 14.5**	**+0.5**
	comp=Z,1.5nm,0.9s,baz=30,slow=6.1,SNR=9.3							
	comp=Z,1.5nm,0.9s							
BVAR	**Borovoye Array**	**65.33**	**333**	P		**P**	**06 15 15.6**	**+0.6**
	comp=Z,5.2nm,0.8s,baz=45,slow=6.5,SNR=13							
	comp=Z,5.2nm,0.8s							
EKA	**Eskdalemuir Ar**	**66.20**	**18**	P		**P**	**06 15 21.4**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=330,slow=4.5,SNR=3.6							
	comp=Z,0.7nm,0.7s							
MKAR	**Makanchi Array**	**67.28**	**322**	P		**P**	**06 15 28.1**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=51,slow=6.4,SNR=5.5							
	comp=Z,1.2nm,0.9s							
ABKAR	**Akbulak array**	**71.29**	**338**	P		**P**	**06 15 51.8**	**-0.6**
GERES	**GERESS Array B**	**74.76**	**9**	P		**P**	**06 16 13.9**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=352,slow=8.5,SNR=4.3							
	comp=Z,0.7nm,0.7s							
ESDC	**Sonseca Array**	**81.02**	**23**	P		**P**	**06 16 48.3**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=338,slow=7.9,SNR=2.2							
	comp=Z,0.9nm,0.8s							

*IDC **24** 06:08:34.2±3.8, 55°.73N×153°.50W, h0km, mb3.3/2, mbtmp3.3/4, ML3.0/2, Error ellipse: s-maj=72.4km s-min=35.1km az=157.0*

*NEIC **24** 06:08:35.0±1.6, 56°.10N±0°.04×153°.22W±0°.07, h10km±2km, Error ellipse: s-maj=7.2km s-min=6.2km az=148.0*

*AEIC **24** 06:08:38.9±1.2, 56°.19N±0°.06×153°.4W±0°.1, h33km±8km, ML2.9, ML3.2/40(NEIC), Error ellipse: s-maj=12.0km s-min=2.5km az=136.0*

ISC 24 06:08:37.2±1.4, 56°.16N±0°.08×153°.35W±0°.06, h23km, n59, σ0°.93/60, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**0.61**	**311**		**Pb**	**06 08 49.4**	**+0.2**
SII	**Sitkinak Islan**	**0.61**	**311**		**Sn**	**06 08 58.8**	**-0.8**
OHAK	**Old Harbor**	**1.06**	**2**		**Pn**	**06 08 56.5**	**0.0**
OHAK				IAML		06 09 25.3	
	comp=E,450nm,0.8s						
OHAK	**Old Harbor**	**1.06**	**2**		**Sb**	**06 09 10.1**	**-0.2**
CHIR	**Chirikof Islan**	**1.32**	**256**	Pn	**Pn**	**06 08 59.1**	**-1.0**
CHIR				IAML		06 09 28.0	
	comp=E,404nm,0.9s						
CHIR				IAML		06 09 37.1	
	comp=N,335nm,0.9s						
CHIR	**Chirikof Islan**	**1.32**	**256**		**Sb**	**06 09 15.8**	**-1.9**
KDAK	**Kodiak Island**	**1.68**	**14**		**Pn**	**06 09 05.2**	**+0.2**
KDAK	**Kodiak Island**	**1.68**	**14**		**Sn**	**06 09 23.9**	**-1.9**
KDAK	**Kodiak Island**	**1.68**	**14**	Pn	**Pn**	**06 09 05.3**	**+0.2**
	comp=N,17nm,0.3s,baz=223,slow=8.1,SNR=20						
KDAK				Sn	**Sn**	**06 09 24.7**	**-1.1**
	comp=N,10nm,0.3s,baz=301,slow=22,SNR=8.3						
ACHA	**Angle Creek He**	**2.32**	**333**		**Pn**	**06 09 13.7**	**-0.3**
KAKN	**Katmai Knife C**	**2.33**	**337**		**Pn**	**06 09 14.3**	**+0.2**
ANCK	**Angle Creek**	**2.35**	**331**		**Pn**	**06 09 14.5**	**+0.1**
SYI	**Shuyak Island**	**2.51**	**12**	Pn	**Pn**	**06 09 16.4**	**-0.1**
SYI				IAML		06 09 53.4	
	comp=E,89nm,2.4s						
CNTC	**Contact Creek**	**2.52**	**328**		**Pn**	**06 09 16.9**	**+0.2**
Q19K	**Cape Douglas,**	**2.78**	**357**	Pn	**Pn**	**06 09 21.3**	**+1.0**
CHGN	**Chignik**	**2.83**	**275**	Pn	**Pn**	**06 09 20.1**	**-0.7**
VNHG	**Veniaminof 1**	**3.25**	**273**		**Pn**	**06 09 27.5**	**+0.8**
P18K	**Big Mountain,**	**3.39**	**343**	Pn	**Pn**	**06 09 28.6**	**0.0**
P19K	**Oil Pt**	**3.50**	**1**	Pn	**Pn**	**06 09 31.0**	**+0.9**
P19K				IAML		06 10 33.7	
	comp=E,61nm,3.2s						
CNPM	**China Poot**	**3.56**	**18**	Pn	**Pn**	**06 09 31.8**	**+0.9**
CNPM				IAML		06 11 04.1	
	comp=N,52nm,3.6s						
CNPM				IAML		06 11 21.0	
	comp=E,57nm,3.3s						
P16K	**Nushagak River**	**3.81**	**321**		**Pn**	**06 09 34.1**	**-0.2**
O18K	**Koktuh Hills**	**3.83**	**346**	Pn	**Pn**	**06 09 34.7**	**0.0**
O18K				IAML		06 10 52.3	
	comp=E,31nm,1.9s						
O18K				IAML		06 12 11.9	
	comp=N,31nm,3.6s						
ILSW	**Iliamna Southw**	**3.83**	**2**	Pn	**Pn**	**06 09 34.5**	**-0.3**
ILSW				IAML		06 10 23.3	
	comp=N,32nm,3.1s						
ILSW				IAML		06 10 45.3	
	comp=E,28nm,2.5s						
BRLK	**Bradley Lake**	**3.84**	**19**	Pn	**Pn**	**06 09 34.3**	**-0.5**
BRLK				IAML		06 10 24.2	
	comp=E,43nm,3.5s						
BRSE	**Bradley Lake S**	**3.85**	**20**		**Pn**	**06 09 34.9**	**0.0**
O20K	**Slope Mountain**	**3.95**	**5**		**Pn**	**06 09 37.4**	**+1.1**
O19K	**Port Alsworth**	**4.08**	**353**	Pn	**Pn**	**06 09 38.1**	**+0.1**
O19K				IAML		06 10 37.8	
	comp=N,37nm,3.3s						
O19K				IAML		06 11 00.8	
	comp=E,37nm,0.5s						
O16K	**Kokwok River B**	**4.27**	**326**	Pn	**Pn**	**06 09 40.5**	**-0.2**
RED	**Redoubt Volcan**	**4.28**	**4**		**Pn**	**06 09 41.5**	**+0.6**
RDSO	**Redoubt South**	**4.32**	**4**		**Pn**	**06 09 41.9**	**+0.4**
RSO	**Redoubt South**	**4.32**	**4**	Pn	**Pn**	**06 09 42.6**	**+1.0**
SLKM	**Skilak Lake**	**4.66**	**19**		**Pn**	**06 09 45.5**	**-0.5**
N19K	**Bonanza Creek**	**4.70**	**353**	Pn	**Pn**	**06 09 46.7**	**0.0**
N19K				IAML		06 10 34.7	
	comp=E,17nm,3.9s						
N19K				IAML		06 11 44.5	
	comp=N,17nm,3.6s						
N18K	**Kilae Creek**	**4.72**	**345**	Pn	**Pn**	**06 09 47.5**	**+0.6**
N18K				IAML		06 11 35.9	
	comp=E,20nm,4.5s						
N18K				IAML		06 11 39.6	
	comp=N,17nm,3.4s						
SVW2	**Sparrevohn**	**5.08**	**348**	Pn	**Pn**	**06 09 51.2**	**-0.7**
SVW2				IAML		06 11 10.1	
	comp=N,16nm,3.0s						
SVW2				IAML		06 11 34.4	
	comp=E,18nm,3.8s						
N16K	**Nishlik Lake**	**5.18**	**329**		**Pn**	**06 09 53.6**	**+0.4**
RC01	**Rabbit Creek A**	**5.29**	**19**	Pn	**Pn**	**06 09 55.2**	**+0.6**
N15K	**Kwethluk River**	**5.37**	**321**	Pn	**Pn**	**06 09 56.0**	**+0.2**
SUA	**Susitna One**	**5.49**	**13**	Pn	**Pn**	**06 09 56.6**	**-0.9**
HIN	**Hinchinbrook I**	**5.57**	**38**	Pn	**Pn**	**06 09 58.6**	**0.0**
M17K	**Holitna River**	**5.67**	**340**	Pn	**Pn**	**06 09 59.7**	**-0.1**
M16K	**Timber Creek**	**5.69**	**331**	Pn	**Pn**	**06 10 00.5**	**+0.4**
M20K	**Styx River**	**5.74**	**1**	Pn	**Pn**	**06 10 01.9**	**+1.0**
KAIM	**Kayak Island**	**6.06**	**48**	Pn	**Pn**	**06 10 04.9**	**-0.3**
L19K	**White Mountain**	**6.09**	**353**	Pn	**Pn**	**06 10 06.3**	**+0.7**
L18K	**Granite Mounta**	**6.31**	**346**	Pn	**Pn**	**06 10 09.1**	**+0.4**
SCM	**Sheep Creek Mo**	**6.48**	**26**		**Pn**	**06 10 11.1**	**0.0**
N25K	**Chitina, Valde**	**7.09**	**36**	Pn	**Pn**	**06 10 19.0**	**-0.4**
K20K	**Telida**	**7.23**	**357**	Pn	**Pn**	**06 10 21.9**	**+0.7**
GLB	**Gilahina Butte**	**7.24**	**39**	Pn	**Pn**	**06 10 20.9**	**-0.6**
CAST	**Castle Rocks**	**7.31**	**4**	Pn	**Pn**	**06 10 22.6**	**+0.3**
K15K	**Wolf Creek Mou**	**7.44**	**329**	Pn	**Pn**	**06 10 23.8**	**-0.3**
TRF	**Thorofare Moun**	**7.47**	**11**	Pn	**Pn**	**06 10 26.2**	**+1.5**
J18K	**Innoko River**	**7.52**	**348**	Pn	**Pn**	**06 10 26.5**	**+1.2**
RND	**Reindeer**	**7.61**	**15**	Pn	**Pn**	**06 10 27.2**	**+0.7**
ILAR	**Eielson Array**	**9.20**	**18**	Pn	**Pn**	**06 10 48.4**	**+0.1**
	comp=E,0.1nm,0.3s,baz=205,slow=14,SNR=2.9						
ILAR				Sn	**Sn**	**06 12 26.9**	**-4.1**
	comp=E,0.1nm,0.3s,baz=200,slow=23,SNR=1.7						
	comp=E,0.4nm,0.5s						
INK	**Inuvik**	**15.17**	**29**	Pn	**P**	**06 12 15.6**	**+1.1**
	comp=E,0.1nm,0.3s,baz=226,slow=14,SNR=3.0						
	comp=E,0.8nm,0.8s						
YKA	**Yellowknife Ar**	**20.49**	**56**	P	Pn	06 13 16.7	+1.4
	comp=E,0.7nm,0.8s,baz=271,slow=11,SNR=7.0						
	comp=E,0.7nm,0.8s						
SONM	**Songino Array**	**56.95**	**308**	P	**P**	**06 18 22.4**	**+2.1**
	comp=E,0.5nm,0.7s,baz=36,slow=7.5,SNR=3.8						
	comp=E,0.5nm,0.7s						

*TUL **24** 07:06:02.9±0.2, 36°.49N±0°.01×97°.76W±0°.01, h7km±5km, ML3.1, mb_Lg2.8/64(NEIC), ML3.0/70(NEIC), Error ellipse: s-maj=1.8km s-min=1.2km az=208.0*

*NEIC **24** 07:06:02.8±0.3, 36°.477N±0°.008×97°.76W±0°.02, h8km±8km, Error ellipse: s-maj=2.3km s-min=0.3km az=60.0*

*ANF **24** 07:06:03.1±0.4, 36°.48N×97°.75W, h7km, ML3.2/6, Error ellipse: s-maj=6.1km s-min=3.5km az=167.0*

ISC 24 07:06:02.6±1.3, 36°.47N±0°.03×97°.76W±0°.02, h6km±13km, n69, σ0°.57/45, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.18**	**280**	Pg	**Pg**	**07 06 06.8**	**+0.5**
GC02	**Grant County #**	**0.39**	**348**	Pg	**Pg**	**07 06 10.3**	**+0.2**
OK032	**Salt Plains WL**	**0.49**	**313**		**Pg**	**07 06 12.4**	**+0.3**
OK032				IAML		07 06 19.4	
	2μm,0.2s						
OK032				IAML		07 06 24.1	
	1μm,0.2s						
KAN14	**Manchester OK**	**0.51**	**341**		**Pg**	**07 06 12.7**	**+0.2**
BLOK	**Blackwell**	**0.53**	**57**	Pg	**Pg**	**07 06 13.0**	**+0.2**
BLOK				IAML		07 06 30.2	
	comp=E,1μm,0.2s						
KAN17	**Caldwell West**	**0.57**	**360**	Pg	**Pg**	**07 06 13.7**	**+0.1**
KAN17				IAML		07 06 23.6	
	comp=E,1μm,0.2s						
KAN17				IAML		07 06 26.8	
	comp=N,719nm,0.2s						
KAN13	**South Haven SW**	**0.58**	**23**		**Pg**	**07 06 14.1**	**+0.2**
KAN13				IAML		07 06 22.4	
	comp=N,1μm,0.3s						
KAN05	**Bluff City Nor**	**0.64**	**352**		**Pg**	**07 06 15.1**	**+0.2**
KAN05				IAML		07 06 25.3	
	comp=N,940nm,0.1s						
KAN05

	comp=Z,21nm,0.9s					
SN05	**Snyder 5**	**4.41**	**217**	IAmb_Lg		07 08 29.5
	comp=Z,17nm,0.8s					
MGMO	**Mountain Grove**	**4.46**	**80**	IAmb_Lg		07 08 30.8
	comp=Z,22nm,0.8s					
X40A	**Basin Creek Fa**	**4.48**	**115**	IAmb_Lg		07 08 27.4
	comp=Z,16nm,0.7s					
FCAR	**Ozark Folk Cen**	**4.60**	**96**	IAmb_Lg		07 08 38.4
	comp=Z,14nm,0.8s					
WHAR	**Wooly Hollow**	**4.60**	**103**	IAmb_Lg		07 08 36.1
	comp=Z,24nm,0.8s					
KSCO	**Kaye Shedlock'**	**4.62**	**305**	IAmb_Lg		07 08 37.5
	comp=Z,16nm,0.8s					
UALR	**University of**	**4.73**	**109**	IAmb_Lg		07 08 39.4
	comp=Z,17nm,0.8s					
BRDY	**Brady**	**5.28**	**192**	IAmb_Lg		07 08 56.9
	comp=Z,11nm,0.9s					
SGCY	**Sterling City**	**5.33**	**212**	IAmb_Lg		07 09 02.9
	comp=Z,13nm,0.8s					
LCAR	**Lake Charles**	**5.35**	**92**	IAmb_Lg		07 08 53.9
	comp=Z,19nm,0.9s					
T25A	**Trinidad**	**5.38**	**279**	IAmb_Lg		07 08 55.6
	comp=Z,22nm,0.9s					
CCM	**Cathedral Cave**	**5.43**	**71**	IAmb_Lg		07 08 56.1
	comp=Z,14nm,0.7s					
FVM	**French Village**	**6.04**	**73**	IAmb_Lg		07 09 14.3
	comp=Z,16nm,0.8s					
K30B	**Basset**	**6.36**	**348**	IAmb_Lg		07 09 28.3
	comp=Z,16nm,0.7s					
Q24A	**Divide**	**6.36**	**295**	IAmb_Lg		07 09 27.6
	comp=Z,10.0nm,0.8s					
CGM3	**Cape Girardeau**	**6.55**	**80**	IAmb_Lg		07 09 33.0
	comp=Z,12nm,0.8s					
BRIGG	**Briggsdale**	**6.58**	**311**	IAmb_Lg		07 09 38.4
	comp=Z,16nm,0.9s					
DRIO	**Del Rio**	**7.43**	**200**	IAmb_Lg		07 10 05.5
	comp=Z,7.3nm,0.7s					
PHWY	**Pilot Hill**	**7.70**	**311**	IAmb_Lg		07 10 17.1
	comp=Z,8.0nm,0.9s					
N23A	**Red Feather La**	**7.77**	**307**	IAmb_Lg		07 10 21.1
	comp=Z,10nm,0.9s					
SUSD	**Miller**	**8.01**	**354**	IAmb_Lg		07 10 19.6
	comp=Z,12nm,0.9s					
PLAL	**Pickwick Lake**	**8.02**	**98**	IAmb_Lg		07 10 18.4
	comp=Z,9.3nm,0.9s					
K22A	**Casper**	**9.15**	**315**	IAmb_Lg		07 11 05.5
	comp=Z,9.9nm,1.1s					

IDC 24 07:10:34.4±8.8, **2°58S**×**127°31E**, **h0km**, **mb4.5**/2, **mbtmp4.4/3, ML4.2/1, Error ellipse: s-maj=149.2km s-min=122.6km az=85.0, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.57**	**159**	P	P	07 14 52.4	-0.7
	0.8nm,0.3s,baz=337,slow=12,SNR=40 2.7nm,0.5s						
ASAR	**Alice Springs**	**21.91**	**164**	P	P	07 15 29.2	-0.2
	12nm,0.5s,baz=345,slow=12,SNR=210 12nm,0.5s						
STKA	**Stephens Creek**	**32.09**	**157**	P	P	07 17 03.8	+0.4
	6.3nm,1.3s,baz=346,slow=10.0,SNR=3.9 6.3nm,1.3s						

*IDC **24** 07:16:20.0±1.1, 6°11S×142°47E, h0km, mb3.8/6, mbtmp3.9/8, ML2.0/1, Error ellipse: s-maj=50.9km s-min=21.5km az=74.0*

ISC 24 07:16:21.4±0.9, **6°40S**±0°09×**142°42E**±0°10, **h10km**, **n9, σ2s76/12, mb3.8/6, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.57**	**123**	Pn	**Pn**	**07 17 45.8**	**+1.4**
	2.7nm,0.3s,baz=291,slow=8.6,SNR=3.3						
PMG				Sn	**Sn**	**07 18 45.2**	**-3.3**
	0.6nm,0.3s,baz=108,slow=16,SNR=2.0 5.8nm,0.3s						
WRA	**Warramunga Arr**	**15.59**	**209**	Pn	**Pn**	**07 20 01.8**	**+0.4**
	0.5nm,0.3s,baz=30,slow=12,SNR=6.0						
WRA				Sn	**Sn**	**07 22 52.2**	**-2.1**
	0.2nm,0.3s,baz=23,slow=22,SNR=5.3						
WRA				Lg	Lg	07 24 44.1	
	0.2nm,0.3s,baz=27,slow=28,SNR=2.2						
ASAR	**Alice Springs**	**19.02**	**205**	P	**P**	**07 20 47.4**	**+3.6**
	4.5nm,0.6s,baz=32,slow=9.9,SNR=50						
ASAR				S	**Sn**	**07 24 12.8**	**-4.9**
	0.7nm,0.6s,baz=19,slow=28,SNR=4.9						
ASAR				Lg	Lg	07 26 23.9	
	0.1nm,0.3s,baz=21,slow=29,SNR=3.1						
STKA	**Stephens Creek**	**25.36**	**182**	P	**P**	**07 21 52.0**	**+3.2**
	1.3nm,0.6s,baz=0.4,slow=10.0,SNR=3.2 1.3nm,0.6s						
SONM	**Songino Array**	**62.63**	**334**	P	**P**	**07 26 45.5**	**-0.7**
	0.3nm,0.4s,baz=136,slow=8.9,SNR=2.2 0.3nm,0.4s						
MKAR	**Makanchi Array**	**74.95**	**322**	P	**P**	**07 28 02.1**	**-0.7**
	0.5nm,0.6s,baz=109,slow=8.2,SNR=5.6 0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**78.85**	**324**	P	**P**	**07 28 23.7**	**-1.1**
	0.2nm,0.5s,baz=105,slow=4.0,SNR=2.3 0.2nm,0.5s						
QSPA	**South Pole Qui**	**83.57**	**180**	P	**P**	**07 28 50.4**	**+0.6**
	1.3nm,0.9s,baz=264,slow=2.4,SNR=2.5 1.3nm,0.9s						
BVAR	**Borovoye Array**	**84.43**	**325**	P	**P**	**07 28 53.2**	**-1.0**
	1.9nm,0.7s,baz=101,slow=7.5,SNR=8.1 1.9nm,0.7s						

*OSPL **24** 07:45:18.4±2.2, 18°99N×73°59W, h0km±15km, ML2.8*
*SSNC **24** 07:45:18.1±1.4, 18°78N×73°53W, h5km, MD3.0, ML2.4, MW2.6*
*SDD **24** 07:45:20.0±2.5, 18°63N×73°71W, h82km±64km, MD3.5, ML3.0, MW3.4*

ISC 24 07:45:15.3±1.5, **18°89N**±0°07×**73°59W**±0°03, **h12km**±12km, **n23, σ1s27/42, 7C-4D, Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAPH	**Port-au-Prince**	**1.28**	**107**	*e*P	**Pn**	**07 45 39.0**	**+0.1**
PAPH				*e*S	**Sb**	**07 45 53.5**	**-2.2**
MASC	**Masc**	**1.41**	**335**	*e*P	**Pg**	**07 45 42.7**	**+0.3**
MASC				*e*S	**Sn**	**07 45 58.2**	**-1.2**
MASC				IAML		07 46 05.8	
	comp=E,37nm,0.1s						
MASC				IAML		07 46 06.3	
	comp=N,21nm,0.1s						
MASC	**Masc**	**1.41**	**335**	*i* P	**Pg**	**07 45 42.9**	**+0.4**
MASC				*e*S	**Sn**	**07 45 58.6**	**-0.7**
MASC				IAML		07 46 02.3	
	comp=Z,46nm,1.6s						
JIDR	**Jimani**	**1.69**	**103**	↑*e*Pg	**Pb**	**07 45 45.8**	**-0.6**
JIDR				↓*e*Sg	**Sb**	**07 46 08.6**	**+1.0**
JIDR				IAML		07 46 10.9	
	comp=E,280nm,0.5s						
JIDR				IAML		07 46 21.1	
	comp=N,154nm,0.9s						
GTBY	**Guantanamo Bay**	**1.77**	**306**	*e*Pg	**Pg**	**07 45 49.9**	**+0.7**
GTBY				↑*e*Sg	**Sb**	**07 46 09.9**	**+0.1**
GTBY				IAML		07 46 19.3	
	comp=E,30nm,0.8s						
GTBY				IAML		07 46 20.0	
	comp=N,44nm,1.4s						
GTBY	**Guantanamo Bay**	**1.77**	**306**	*e*P	**Pb**	**07 45 47.6**	**0.0**
GTBY				*e*S	**Sb**	**07 46 10.2**	**+0.4**
GTBY	**Guantanamo Bay**	**1.77**	**306**	*i* P	**Pb**	**07 45 47.8**	**+0.2**
GTBY				*e*S	**Sb**	**07 46 09.7**	**-0.1**
GTBY				IAML		07 46 13.9	
	comp=Z,37nm,3.0s						
LOPE2	**Hotel El Peder**	**1.95**	**116**	↑*e*Pg	**Pb**	**07 45 50.1**	**-0.7**
LOPE2	**Hotel El Peder**	**1.95**	**116**	*i* P	**Pb**	**07 45 50.0**	**-0.7**
LOPE2				*e*S	**Sb**	**07 46 15.9**	**+0.9**
LOPE2				IAML		07 46 16.4	
	comp=Z,92nm,0.4s						
MCDR	**Montecristi**	**2.08**	**61**	↑*e*Sg	**Sg**	**07 46 21.1**	**-0.9**
MCDR				IAML		07 46 25.5	
	comp=N,117nm,0.5s						
NEDR	**Neiba UASD**	**2.10**	**101**	↑*e*Pg	**Pb**	**07 45 52.9**	**-0.4**
NEDR				↓*e*Sg	**Sb**	**07 46 18.6**	**-0.7**
NEDR				IAML		07 46 29.5	
	comp=N,124nm,0.8s						
NEDR				IAML		07 46 29.6	
	comp=E,107nm,0.3s						
NMDO	**Nuevo Mundo**	**2.12**	**322**	*e*P	**Pb**	**07 45 53.2**	**-0.4**
NMDO				*e*S	**Sb**	**07 46 19.8**	**0.0**
SDDR	**Presa de Saban**	**2.18**	**87**	↓*e*Pg	**Pb**	**07 45 55.1**	**+0.4**
SDDR				↓*e*Sg	**Sn**	**07 46 19.8**	**+1.4**
SDDR				IAML		07 46 32.0	
	comp=N,65nm,0.3s						
SDDR				IAML		07 46 35.1	
	comp=E,78nm,0.6s						
SDDR	**Presa de Saban**	**2.18**	**87**	*i* P	**Pb**	**07 45 54.9**	**+0.2**
SDDR				*e*S	**Sb**	**07 46 20.4**	**-1.3**
SDDR				IAML		07 46 27.0	
	comp=Z,49nm,0.4s						
MOAC	**Moa**	**2.18**	**324**	*e*P	**Pb**	**07 45 53.7**	**-1.0**
SABCS	**La Quijada**	**2.19**	**312**	*e*P	**Pn**	**07 45 53.3**	**+1.8**
SABCS				*e*S	**Sb**	**07 46 21.3**	**-0.6**
RCC	**Rio Carpintero**	**2.27**	**299**	*e*P	**Pn**	**07 45 54.5**	**+1.8**
RCC				*e*S	**Sb**	**07 46 23.9**	**-0.5**
RCC				IAML		07 46 28.6	
	comp=E,31nm,0.4s						
RCC				IAML		07 46 28.7	
	comp=N,34nm,0.3s						
PODR	**Polo**	**2.31**	**108**	*i* P	**Pb**	**07 45 56.2**	**-0.7**
MARVS	**Santiago de Cu**	**2.44**	**297**	*e*P	**Pb**	**07 45 57.5**	**-1.6**
MARVS				*e*S	**Sb**	**07 46 29.6**	**+0.3**
SC01	**Santiago de lo**	**2.75**	**78**	↑*e*Pg	**Pb**	**07 46 02.5**	**-2.0**
SC01				↑*e*Sg	**Sn**	**07 46 34.7**	**+2.1**
SC01				IAML		07 46 56.2	
	comp=N,74nm,0.7s						
SC01				IAML		07 47 10.1	
	comp=E,63nm,1.6s						
ABDR	**Alto Bandera**	**2.81**	**91**	*e*Pg	**Pb**	**07 46 04.1**	**-1.5**
ABDR				*e*Sg	**Sn**	**07 46 34.7**	**+0.4**
ABDR				IAML		07 46 48.1	
	comp=E,65nm,0.6s						
ABDR				IAML		07 47 04.0	
	comp=N,44nm,0.7s						
CHIV	**Chivirico**	**2.88**	**292**	*e*P	**Pn**	**07 46 03.9**	**+2.9**
CHIV				*e*S	**Sb**	**07 46 41.5**	**-0.3**
LMGC	**Las Mercedes**	**3.43**	**290**	*e*P	**Pn**	**07 46 08.7**	**+0.1**
LMGC				*e*S	**Sn**	**07 46 45.3**	**-3.8**

*NNC **24** 08:06:31.2±0.6, 50°05N×78°92E, h0km, mb2.6, mpv2.2, Error ellipse: s-maj=19.6km s-min=2.8km az=64.0, Suspected Mining explosion.*
*IDC **24** 08:06:32.1±1.0, 50°04N×78°74E, h0km, mbtmp2.6/2, ML2.0/2, Error ellipse: s-maj=11.5km s-min=6.4km az=65.0*

ISC 24 08:06:32.0±1.1, **50°01N**±0°06×**78°7E**±0°1, **h0km**, **n16, σ0s72/27, 12C-10D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.58**	**351**	↑P	**Pg**	**08 06 42.6**	**-0.4**
KUR07				↑S	**Sg**	**08 06 51.3**	**+0.7**
KUR06	**Kurchatov Arra**	**0.60**	**351**	↑P	**Pg**	**08 06 42.9**	**-0.5**
KUR06				↑S	**Sg**	**08 06 51.9**	**+0.8**
KUR14	**Kurchatov Arra**	**0.60**	**356**	↓P	**Pg**	**08 06 42.9**	**-0.7**
KUR14				↑S	**Sg**	**08 06 51.8**	**+0.4**
KUR15	**Kurchatov Arra**	**0.61**	**354**	↓P	**Pg**	**08 06 43.0**	**-0.6**
KUR15				↑S	**Sg**	**08 06 52.4**	**+0.9**
KURBB	**Kurchatov Arra**	**0.61**	**352**	Pg	**Pg**	**08 06 43.4**	**-0.4**
	0.7nm,0.3s,baz=167,slow=19,SNR=40						
KURBB				Lg	Lg	08 06 53.1	
	1.5nm,0.3s,baz=166,slow=31,SNR=38						
KURBB	**Kurchatov Arra**	**0.61**	**352**	↑P	**Pg**	**08 06 43.0**	**-0.8**
	1.3nm,0.2s						
KURBB				↓S	**Sg**	**08 06 52.3**	**+0.6**
	64nm,0.7s						
KUR16	**Kurchatov Arra**	**0.62**	**350**	↑P	**Pg**	**08 06 43.5**	**-0.4**
KUR16				↓S	**Sg**	**08 06 52.9**	**+0.9**
KUR17	**Kurchatov Arra**	**0.63**	**349**	↑P	**Pg**	**08 06 43.9**	**-0.2**
KUR17				↑S	**Sg**	**08 06 53.7**	**+1.4**
KUR05	**Kurchatov Arra**	**0.63**	**353**	↑P	**Pg**	**08 06 43.6**	**-0.6**
KUR05				↑S	**Sg**	**08 06 52.7**	**+0.3**
KUR04	**Kurchatov Arra**	**0.65**	**353**	↓P	**Pg**	**08 06 43.9**	**-0.6**
KUR04				↓S	**Sg**	**08 06 53.1**	**+0.1**
KURK	**Kurchatov**	**0.70**	**358**	↓P	**Pg**	**08 06 44.3**	**-1.2**
	7.4nm,0.7s						
KURK				↓S	**Sg**	**08 06 54.4**	**-0.1**
	48nm,0.8s						
MK31	**Makanchi Array**	**4.03**	**142**	Pn	**Pn**	**08 07 35.5**	**+0.6**
	baz=321,slow=9.7,SNR=10						
MK31				↓Pg	**Pb**	**08 07 44.5**	**+0.8**
	0.2nm,0.3s,baz=325,slow=15,SNR=16						
MK31				↓Lg	Lg	08 08 35.5	
	7.3nm,0.6s,baz=334,slow=24,SNR=23						
MKAR	**Makanchi Array**	**4.03**	**142**	Pn	**Pn**	**08 07 35.3**	**+0.4**
	0.1nm,0.3s,baz=321,slow=10,SNR=15						
MKAR				Pg	**Pb**	**08 07 42.6**	**-1.1**
	0.4nm,0.3s,baz=321,slow=13,SNR=14						
MKAR				Lg	Lg	08 08 37.2	
	1.7nm,0.3s,baz=323,slow=26,SNR=16 0.4nm,0.5s						
I46RU	**ZALESOVO INFRA**	**5.47**	**42**	I	I	08 36 00.0	
	baz=223,slow=315,SNR=5.2						
ZALV	**Zalesovo Beam**	**5.47**	**42**	Pn	**Pn**	**08 07 55.0**	**+0.3**
	0.2nm,0.3s,baz=221,slow=13,SNR=6.9						
ZALV				Lg	Lg	08 09 25.0	
	0.3nm,0.3s,baz=223,slow=28,SNR=3.8 1.1nm,0.5s						
BVAR	**Borovoye Array**	**5.98**	**303**	Sn	**Sn**	**08 09 10.3**	**-0.6**
	baz=111,slow=23,SNR=8.6						
BVAR				Lg	Lg	08 09 42.7	
	baz=116,slow=32,SNR=5.9						

*NEIC **24** 08:19:47.1±0.3, 36°691N±0°009×97°70W±0°01, h3km±6km, Error ellipse: s-maj=1.8km s-min=0.9km az=49.0*
*TUL **24** 08:19:47.5±0.4, 36°70N±0°01×97°69W±0°02, h8km±8km, ML3.3, mb_Lg3.0/95(NEIC), ML3.2/68(NEIC), Error ellipse: s-maj=2.2km s-min=0.4km az=48.0*
*ANF **24** 08:19:48.1±0.3, 36°69N×97°70W, h10km, ML3.8/14, Error ellipse: s-maj=3.4km s-min=2.9km az=0.0*

ISC 24 08:19:47.4±1.2, **36°69N**±0°02×**97°69W**±0°02, **h6km**±12km, **n94, σ0s71/60, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.21**	**321**	Pg	**Pg**	**08 19 52.0**	**+0.4**
CROK	**Carrier**	**0.29**	**232**	Pg	**Pg**	**08 19 53.6**	**+0.5**
KAN14	**Manchester OK**	**0.35**	**322**		**Pg**	**08 19 54.3**	**+0.2**
KAN14				IAML		08 19 59.6	
	comp=N,3μm,0.3s						
KAN14				IAML		08 20 01.2	
	comp=E,3μm,0.1s						
KAN17	**Caldwell West**	**0.36**	**351**	Pg	**Pg**	**08 19 54.7**	**+0.3**
KAN17				IAML		08 20 01.7	
	comp=E,2μm,0.3s						
KAN13	**South Haven SW**	**0.37**	**28**		**Pg**	**08 19 54.9**	**+0.3**
KAN13				IAML		08 20 00.1	
	comp=E,2μm,0.4s						
KAN13				IAML		08 20 05.0	
	comp=N,3μm,0.3s						
BLOK	**Blackwell**	**0.39**	**79**	Pg	**Pg**	**08 19 55.1**	**+0.2**
BLOK				IAML		08 20 03.5	
	comp=E,2μm,0.2s						
OK032	**Salt Plains WL**	**0.43**	**286**		**Pg**	**08 19 56.0**	**+0.3**
OK032				IAML		08 20 02.5	
	comp=E,2μm,0.2s						
OK032				IAML		08 20 08.0	
	comp=E,2μm,0.2s						
KAN05	**Bluff City Nor**	**0.45**	**341**		**Pg**	**08 19 56.2**	**+0.2**
KAN05				IAML		08 20 03.2	
	comp=E,2μm,0.2s						
KAN05				IAML		08 20 04.6	
	comp=N,1μm,0.2s						
KAN09	**Caldwell North**	**0.45**	**8**		**Pg**	**08 19 56.4**	**+0.2**
KAN09				IAML		08 20 07.8	
	comp=E,2μm,0.2s						
KAN01	**Argonia South**	**0.47**	**354**		**Pg**	**08 19 56.6**	**+0.1**
KAN10	**Anthony SW Sta**	**0.54**	**324**		**Pg**	**08 19 58.0**	**+0.2**
KAN10				IAML		08 20 06.0	
	comp=E,2μm,0.2s						
KAN10				IAML		08 20 07.5	
	comp=N,1μm,0.2s						
KAN06	**Argonia West S**	**0.58**	**347**		**Pg**	**08 19 58.7**	**+0.2**
KAN06				IAML		08 20 08.4	
	comp=E,1μm,0.4s						
KAN08	**Anthony NE Sta**	**0.58**	**338**		**Pg**	**08 19 58.7**	**+0.1**
KAN08				IAML		08 20 07.5	
	comp=N,962nm,0.1s						
KS21	**Milan North St**	**0.60**	**2**		**Pg**	**08 19 59.0**	**0.0**
KAN12	**Harper NE Stat**	**0.66**	**338**		**Pg**	**08 20 00.0**	**0.0**
OK048	**Pawnee Station**	**0.66**	**114**	Pg	**Pg**	**08 20 00.1**	**0.0**
OK035	**E0210 Rd and N**	**0.82**	**272**	Pg	**Pg**	**08 20 03.0**	**-0.1**
OK035				IAML		08 20 21.9	
	comp=N,864nm,0.2s						
OK035				IAML		08 20 24.6	
	comp=N,852nm,0.3s						
OK038	**West end E0370**	**0.87**	**257**	Pg	**Pg**	**08 20 03.9**	**-0.2**
OK033	**Mehan**	**0.88**	**136**		**Pg**	**08 20 04.3**	**0.0**
OK033				IAML		08 20 20.5	
	comp=N,619nm,0.3s						
OK029	**Liberty Lake**	**0.91**	**168**		**Pg**	**08 20 04.7**	**-0.1**
OK029				IAML		08 20 21.6	
	comp=N,605nm,0.5s						
QUOK	**Quay**	**0.95**	**123**		**Pg**	**08 20 05.3**	**-0.2**
QUOK				IAML		08 20 24.1	
	comp=E,798nm,0.2s						
T35A	**Sooner Cattle**	**0.98**	**76**		**Pg**	**08 20 05.8**	**-0.3**
T35B	**Sooner Cattle**	**0.98**	**76**	P	**Pg**	**08 20 05.7**	**-0.4**
	baz=257						
T35B				S	**Sg**	**08 20 18.5**	**-0.3**
	baz=257						
OK052	**Battle Ridge R**	**1.00**	**134**		**Pg**	**08 20 06.4**	**-0.1**
OK052				IAML		08 20 21.4	
	comp=E,736nm,0.3s						
OK052				IAML		08 20 21.6	
	comp=E,634nm,0.3s						
U32A	**Winter Ranch,**	**1.10**	**254**		**Pg**	**08 20 08.0**	**-0.4**
U32A				IAML		08 20 27.2	
	comp=N,650nm,0.3s						
U32A				IAML		08 20 28.1	
	comp=E,651nm,0.1s						
U32A	**Winter Ranch,**	**1.10**	**254**	P	**Pg**	**08 20 08.0**	**-0.4**
	baz=73,SNR=53						
U32A				S	**Sg**	**08 20 23.0**	**+0.3**
	baz=73						
DEOK	**Depew**	**1.28**	**131**		**Pn**	**08 20 11.2**	**-0.6**
OKCSW	**OKLAHOMA CITY**	**1.29**	**171**		**Pn**	**08 20 11.6**	**-0.3**
CSTR	**Hydro, Custer**	**1.31**	**218**		**Pn**	**08 20 12.2**	**-0.1**
FNO	**Franklin**	**1.44**	**170**		**Pn**	**08 20 14.1**	**+0.1**
ELIS	**Ellis County**	**1.52**	**247**	Pn	**Pb**	**08 20 15.6**	**-0.4**
W35A	**Tecumseh**	**1.67**	**156**		**Pn**	**08 20 17.5**	**+0.4**
TUL3	**Leonard**	**1.72**	**116**		**Pn**	**08 20 18.6**	**+0.7**
TUL3				IAmb_Lg		08 20 44.6	
	comp=Z,56nm,0.7s						
TUL3	**Leonard**	**1.72**	**116**	P	**Pn**	**08 20 18.5**	**+0.7**
	baz=298,SNR=153						
TUL3				S	**Sb**	**08 20 41.4**	**+0.2**
	baz=298						
R32A	**Long Quarter,**	**1.91**	**335**		**Pb**	**08 20 21.4**	**-1.3**
R32A	**Long Quarter,**	**1.91**	**335**	P	**Pb**	**08 20 21.5**	**-1.3**
	baz=154						
R32A				S	**Sb**	**08 20 46.9**	**0.0**
	baz=154						
WMOK	**Wichita Mounta**	**2.13**	**205**	Pn	**Pn**	**08 20 24.3**	**+0.8**
WMOK				IAmb_Lg		08 20 56.9	
	comp=Z,48nm,0.8s						
WMOK	**Wichita Mounta**	**2.13**	**205**	P	**Pn**	**08 20 24.2**	**+0.6**
	baz=24,SNR=154						
WMOK				S	**Sb**	**08 20 52.3**	**-0.9**
	baz=24						
RLO	**Rose Lookout**	**2.21**	**103**		**Pb**	**08 20 26.3**	**-1.5**
KSU1	**Kansas State U**	**2.56**	**19**	Pn	**Pn**	**08 20 29.7**	**+0.3**
KSU1	**Kansas State U**	**2.56**	**19**	P	**Pn**	**08 20 30.0**	**+0.6**
	baz=200,SNR=14						
SMWD	**Samnorwood**	**2.60**	**233**	Pn	**Pn**	**08 20 30.2**	**+0.2**
CBKS	**Cedar Bluff**	**2.67**	**323**	Pn	**Pn**	**08 20 30.3**	**-0.7**
CBKS	**Cedar Bluff**	**2.67**	**323**	Sb	**Sb**	**08 21 10.5**	**+1.7**
	baz=142						
U38A	**Gravette**	**2.67**	**94**	Pn	**Pn**	**08 20 30.4**	**-0.6**
X37A	**Clayton**	**2.82**	**137**	IAmb_Lg		08 21 23.2	
	comp=Z,54nm,0.7s						
X37A	**Clayton**	**2.82**	**137**	P	**Pn**	**08 20 34.1**	**+1.1**
	baz=319,SNR=11						
X37A				Sb	**Sb**	**08 21 15.4**	**+2.5**
	baz=319						
S39A	**Bolivar**	**3.63**	**73**	IAmb_Lg		08 21 49.4	
	comp=Z,22nm,0.8s						
S39A	**Bolivar**	**3.63**	**73**	P	**Pn**	**08 20 44.9**	**+0.7**
	baz=255,SNR=13						
AMTX	**Amarillo**	**3.71**	**242**	IAmb_Lg		08 21 52.9	
	comp=Z,48nm,0.8s						
U40A	**Yellville**	**3.91**	**93**	P	**Pn**	**08 20 49.3**	**+1.3**
	baz=276,SNR=17						
U40A				P	**Pn**	**08 20 49.3**	**+1.3**
	baz=276,SNR=17						
MIAR	**Mount Ida**	**3.98**	**121**	IAmb_Lg		08 22 03.8	
	comp=Z,34nm,0.8s						
DKNS	**Dickens**	**4.01**	**222**	IAmb_Lg		08 21 59.4	
	comp=Z,32nm,0.7s						
RTBA	**Rita Blanca**	**4.07**	**268**	IAmb_Lg		08 22 01.9	
	comp=Z,18nm,0.7s						
FW16	**Waxahatchie**	**4.24**	**171**	IAmb_Lg		08 22 13.0	
	comp=Z,20nm,0.7s						
ABTX	**Abilene, Hawle**	**4.36**	**202**	P	**Pn**	**08 20 55.1**	**+1.0**
	baz=21						
MGMO	**Mountain Grove**	**4.37**	**82**	IAmb_Lg		08 22 13.8	
	comp=Z,21nm,0.7s						
P38A	**Dawn**	**4.40**	**47**	IAmb_Lg		08 22 07.9	
	comp=Z,46nm,0.9s						
N35A	**Tabor**	**4.47**	**20**	P	**Pn**	**08 20 56.3**	**+0.7**
	baz=202,SNR=5.1						
X40A	**Basin Creek Fa**	**4.53**	**118**	IAmb_Lg		08 22 14.6	
	comp=Z,24nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.57**	**98**	IAmb_Lg		08 22 18.1	
	comp=Z,22nm,1.0s						
WHAR	**Wooly Hollow**	**4.60**	**106**	IAmb_Lg		08 22 17.9	
	comp=Z,20nm,0.7s						
R40A	**Maddies Statio**	**4.60**	**68**	IAmb_Lg		08 22 23.2	
	comp=Z,31nm,0.9s						
R40A	**Maddies Statio**	**4.60**	**68**	P	**Pn**	**08 20 57.9**	**+0.5**
	baz=251,SNR=16						
SN05	**Snyder 5**	**4.62**	**216**	IAmb_Lg		08 22 21.1	
	comp=Z,20nm,0.9s						
WHTX	**Lake Whitney,**	**4.69**	**178**	P	**Pn**	**08 20 59.2**	**+0.6**
	baz=358,SNR=22						
BGNE	**Belgrade**	**4.73**	**356**	IAmb_Lg		08 22 28.5	
	comp=Z,42nm,0.8s						
BGNE	**Belgrade**	**4.73**	**356**	P	**Pn**	**08 20 59.2**	**0.0**
	baz=176,SNR=15						
UALR	**University of**	**4.75**	**112**	IAmb_Lg		08 22 17.6	
	comp=Z,20nm,0.7s						
POST	**Post**	**4.78**	**222**	IAmb_Lg		08 22 32.3	
	comp=Z,20nm,0.9s						
WLAR	**White Oak Lake**	**4.80**	**127**	IAmb_Lg		08 22 32.0	
	comp=Z,17nm,0.8s						
Z41A	**Richland Creek**	**5.27**	**129**	IAmb_Lg		08 22 40.2

F33A	**5 Mile Ranch,** comp=Z,11nm,1.2s	**9.21**	**6**	IAmb_Lg		08 24 53.9

*IDC **24** 08:37:23.1±0.9, 45.08S×120.40E, h0km, mb4.0/6, mbtmp4.1/7, ML2.3/1, MS3.1/2, Error ellipse: s-maj=37.5km s-min=20.2km az=95.0*

ISC 24 08:37:24.6±0.9, 45.1S±0.1×120.3E±0.2, h10km, n19, σ0§66/12, mb3.9/6, South of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H** baz=158,slow=74,SNR=99	**11.21**	**333**	T	T	08 51 27.2	
H01W2	**Cape Leeuwin H** baz=158,slow=74,SNR=82	**11.21**	**333**	T	T	08 51 24.3	
H01W3	**Cape Leeuwin H** baz=158,slow=74,SNR=89	**11.22**	**333**	T	T	08 51 27.9	
NWAO	**Narrogin (SRO)** 0.8nm,0.3s,baz=163,slow=6.4,SNR=7.1	**12.36**	**348**	Pn	**Pn**	**08 40 20.4**	**-0.3**
NWAO	comp=Z,72nm,18.4s,baz=180,slow=34 12nm,0.9s			LR	LR	08 44 20.5	
STKA	**Stephens Creek** 3.4nm,0.8s,baz=212,slow=11,SNR=4.9 3.4nm,0.8s	**21.16**	**59**	P	**P**	**08 42 10.2**	**+0.3**
ASAR	**Alice Springs** 2.9nm,0.8s,baz=205,slow=8.9,SNR=21	**24.06**	**32**	P	**P**	**08 42 39.5**	**-0.6**
ASAR	0.8nm,1.0s,baz=207,slow=2.9,SNR=4.9 2.9nm,0.8s			PcP	**PcP**	**08 46 21.5**	**0.0**
WRA	**Warramunga Arr** 2.1nm,0.8s,baz=202,slow=8.8,SNR=5.0 2.1nm,0.8s	**27.63**	**29**	P	**P**	**08 43 11.6**	**-0.8**
CTA	**Charters Tower** comp=Z,27nm,18.1s,baz=359,slow=37	**32.88**	**49**	LR	LR	08 57 39.9	
VNDA	**Vanda** 1.7nm,1.0s,baz=305,slow=9.7,SNR=4.1 1.7nm,1.0s	**36.47**	**166**	P	**P**	**08 44 29.1**	**-0.2**
QSPA	**South Pole Qui** 2.2nm,0.9s,baz=28,slow=3.9,SNR=3.7 2.2nm,0.9s	**45.05**	**180**	P	**P**	**08 45 40.2**	**-0.1**
H08S2	**Diego Garcia H** baz=142,slow=75	**55.61**	**297**	T	T	09 46 50.7	
H08S1	**Diego Garcia H** baz=142	**55.62**	**297**	T	T	09 46 50.9	
H08S3	**Diego Garcia H** baz=142,slow=75	**55.63**	**297**	T	T	09 46 47.7	
CMAR	**Chiang Mai Arr** 3.0nm,0.8s,baz=184,slow=5.8,SNR=19 3.0nm,0.8s	**66.16**	**338**	P	**P**	**08 48 12.7**	**+0.5**
FINES	**FINESS Array B** 1.1nm,0.8s,baz=73,slow=4.8,SNR=3.6	**130.09**	**321**	PKP	**PKPdf**	**08 56 33.6**	**+0.1**
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=250,slow=2.6,SNR=3.6	**142.10**	**99**	PKP	**PKPdf**	**08 56 56.1**	**-0.9**
EKA	**Eskdalemuir Ar** 0.4nm,0.5s,baz=113,slow=1.8,SNR=1.8	**143.36**	**307**	PKhKP	PKPpre	08 56 53.9	
PDAR	**Pinedale Array** 1.0nm,0.7s,baz=202,slow=1.1,SNR=10	**144.46**	**76**	PKP	**PKPab**	**08 57 00.2**	**+1.0**
YKA	**Yellowknife Ar** 2.5nm,0.8s,baz=285,slow=3.6,SNR=41	**144.50**	**41**	PKP	**PKPab**	**08 56 59.4**	**+0.9**

JMA 24 08:45:26.1±0.2, 24.3N±0.4×123.8E±0.5, h17km±1km, MV0.7/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.09**	**335**	*e*S	Sg	08 45 32.0	0.0
HATJ	**Hateruma jima**	**0.19**	**171**	P	Pg	08 45 30.8	-0.1
HATJ				*e*S	Sg	08 45 33.6	-0.5
JKRS	**Kuro-shima**	**0.22**	**93**	P	Pg	08 45 31.2	0.0
JKRS				*e*S	Sb	08 45 35.0	-0.3
JIJ	**Ishigaki jima**	**0.36**	**71**	*e*P	Pg	08 45 33.5	-0.1
YOJ	**Yonaguni jima**	**0.73**	**287**	*e*S	Sg	08 45 50.1	+0.1

TAP 24 08:45:47.7, 24.54N×121.83E, h8km±1km, ML1.1, 1C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESAO	**Su ao** baz=25	**0.04**	**25**	P	Pg	08 45 49.9	+0.6
ESAO	baz=25			S	Sg	08 45 51.0	+0.6
TWC	**Suao** baz=24	**0.07**	**17**	↑*i*P	Pg	08 45 50.5	+0.9
TWC	baz=24			*i* S	Sg	08 45 51.7	+0.7
EWUT	**Wuta** baz=204	**0.10**	**205**	P	Pg	08 45 51.3	+1.1
EWUT	baz=204			S	Sg	08 45 53.2	+1.3
ENA	**Nanau** baz=211	**0.14**	**215**	P	Pg	08 45 51.3	+0.6
ENA	baz=211			S	Sg	08 45 54.1	+1.4
LATG	**Datong** baz=268	**0.27**	**269**	*e*P	Pb	08 45 54.3	-0.7
LATG	baz=268			*e*S	Sb	08 46 00.2	+0.3
FUSB	**Fushanzhiwuyua** baz=315	**0.31**	**315**	*e*P	Pb	08 45 55.2	-0.4
FUSB	baz=315			*e*S	Sb	08 45 59.7	-1.1
EGS	baz=19	**0.32**	**18**	*e*P	Pb	08 45 55.4	-0.3
NWLT	**Wulai** baz=308	**0.38**	**309**	*e*P	Pg	08 45 55.8	+0.6
NWLT	baz=308			*e*S	Sb	08 46 02.4	-0.4
NNSB	**Datong** baz=254	**0.42**	**255**	*e*P	Pb	08 45 56.9	-0.6
NACB	**Ninganchiao** baz=209	**0.42**	**210**	*e*P	Pb	08 45 57.4	-0.1
NACB	baz=209			*e*S	Sg	08 46 02.3	+0.8
ETLH	**Xiulin Townshi** baz=223	**0.46**	**223**	*e*P	Pb	08 45 58.2	+0.1
ETLH	baz=223			*e*S	Sb	08 46 04.6	-0.5
TWD	**Chiawan** baz=203	**0.51**	**205**	*e*P	Pg	08 45 58.1	+0.6
TWD	baz=203			*e*S	Sg	08 46 05.2	+1.1

*SDD **24** 08:56:34.6±1.9, 19.53N×72.24W, h35km±56km, MD2.9, ML2.4, MW2.8*

*OSPL **24** 08:56:36.4±1.0, 19.50N×72.12W, h43km±18km, ML2.3*

ISC 24 08:56:31.5±1.6, 19.48N±0.04×72.12W±0.04, h4km±12km, n14, σ1§44/26, 12C-7D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LODA1	**ITESIL, Dajabo**	**0.40**	**81**	*i* P	**Pn**	**08 56 45.1**	**+1.2**
LODA1				*e*S	**Sb**	**08 56 51.9**	**+4.4**
LODA1	comp=Z,1μm,1.3s			IAML		08 56 53.5	
MCDR	**Montecristi**	**0.60**	**47**	↑*e*P	**Pn**	**08 56 46.5**	**-0.2**
MCDR				↑*e*Sg	**Sn**	**08 56 56.0**	**-0.8**
MCDR	comp=N,291nm,0.1s			IAML		08 56 58.9	
MCDR	comp=E,128nm,0.6s			IAML		08 57 02.2	
REDR	**Restauracion**	**0.75**	**114**	↑*e*P	**Pg**	**08 56 45.4**	**-0.6**
REDR				↑*e*Sg	**Sg**	**08 56 52.5**	**-3.2**
REDR	comp=E,1μm,0.2s			IAML		08 56 52.7	
REDR	comp=N,1μm,0.1s			IAML		08 56 52.7	
SDDR	**Presa de Saban**	**0.93**	**122**	*e*P	**Pn**	**08 56 51.2**	**-0.2**
SDDR				↑*e*Sg	**Sn**	**08 57 03.9**	**-1.3**
SDDR	comp=E,68nm,0.8s			IAML		08 57 04.3	
SDDR	comp=N,90nm,0.2s			IAML		08 57 04.7	
SDDR	**Presa de Saban**	**0.93**	**122**	*i* P	**Pn**	**08 56 52.0**	**+0.6**
SDDR				*e*S	**Sn**	**08 57 03.8**	**-1.3**
SDDR	comp=Z,56nm,0.3s			IAML		08 57 05.0	
MADR	**Mao Valverde**	**0.96**	**85**	↓*e*P	**Pb**	**08 56 51.0**	**+0.2**
MADR				↓*e*Sg	**Sn**	**08 57 05.3**	**-0.6**
MADR	comp=N,131nm,3.0s			IAML		08 57 06.8	
MADR	comp=E,60nm,0.3s			IAML		08 57 19.3	
PAPH	**Port-au-Prince**	**0.97**	**190**	*i* P	**Pn**	**08 56 52.4**	**+0.5**
JIDR	**Jimani**	**1.02**	**165**	↑*e*Pg	**Pn**	**08 56 53.1**	**+0.6**
JIDR				↑*e*Sg	**Sg**	**08 57 05.1**	**+0.9**
JIDR	comp=E,54nm,0.2s			IAML		08 57 07.1	
JIDR	comp=N,46nm,0.8s			IAML		08 57 09.9	
NEDR	**Neiba UASD**	**1.19**	**146**	↓*e*Pg	**Pg**	**08 56 55.5**	**+1.1**
NEDR				↑*e*Sg	**Sb**	**08 57 09.6**	**-0.8**
NEDR	comp=E,44nm,0.9s			IAML		08 57 13.2	
NEDR	comp=N,32nm,0.6s			IAML		08 57 13.3	
PODR	**Polo**	**1.53**	**149**	↑*e*Pg	**Pb**	**08 57 00.7**	**+0.2**
PODR				↓*e*Sg	**Sn**	**08 57 19.4**	**-0.8**
PODR	comp=E,42nm,1.4s			IAML		08 57 27.5	
PODR	comp=N,31nm,2.5s			IAML		08 57 39.9	
PODR	**Polo**	**1.53**	**149**	*i* P	**Pb**	**08 57 00.7**	**+0.2**
ABDR	**Alto Bandera**	**1.56**	**115**	↓*e*Pg	**Pn**	**08 57 00.1**	**-0.2**
ABDR				↑*e*Sg	**Sn**	**08 57 20.8**	**-0.4**
ABDR	comp=E,50nm,0.3s			IAML		08 57 22.4	
ABDR	comp=N,30nm,1.4s			IAML		08 57 24.9	
MASC	**Masc**	**2.10**	**290**	↓*i* P	**Pn**	**08 57 07.7**	**+0.3**
MASC				*e*S	**Sn**	**08 57 32.1**	**-2.0**
MASC	comp=Z,24nm,3.5s			IAML		08 57 41.4	
HATOM	**Hato Mayor del**	**2.68**	**104**	↑*e*Pg	**Pn**	**08 57 14.7**	**-0.8**
HATOM				↓*e*Sg	**Sn**	**08 57 47.7**	**-0.7**
HATOM	comp=E,17nm,3.2s			IAML		08 57 56.4	
HATOM	comp=N,21nm,3.5s			IAML		08 58 30.1	

IDC 24 09:06:02.2±6.7, 16.74S×179.58W, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=317.3km s-min=103.5km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.2s,baz=92,slow=7.6,SNR=8.7 0.1nm,0.2s	**43.75**	**258**	P	P	09 14 09.8	-0.1
ASAR	**Alice Springs** 1.6nm,0.6s,baz=87,slow=8.5,SNR=23 1.6nm,0.6s	**44.04**	**253**	P	P	09 14 11.9	-0.2
BRTR	**Keskin Array B** 0.2nm,0.3s,baz=42,slow=1.6,SNR=5.8	**143.16**	**315**	PKP	PKPdf	09 25 38.2	-0.5

*CNRM **24** 09:06:32.8, 36.05N×2.82W, h34km, ML4.0*

*LDG **24** 09:06:37.5±0.2, 37.87N×3.23W, h10km, Ml3.5/3, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*

*INMG **24** 09:06:38.1±1.4, 37.87N×3.23W, h11km±3km, ML3.1, Error ellipse: s-maj=2.0km s-min=1.7km az=4.0*

*MDD **24** 09:06:38.4±0.2, 37.87N×3.24W, h12km, mb_Lg3.4/45, Error ellipse: s-maj=1.4km s-min=1.0km az=155.0*

*SFS **24** 09:06:39.1, 37.83N×3.29W, h22km, ML3.2/15, ML3.4/13, MLv3.1/15*

ISC 24 09:06:36.5±0.9, 37.92N±0.02×3.23W±0.01, h8km±8km, n84, σ1§40/164, 1C, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EQES	**Quesada**	**0.17**	**132**	Pg	**Pg**	**09 06 39.9**	**-0.2**
EQES				Sg	**Sg**	**09 06 42.0**	**-0.6**
EQES				*i* Vmb_Lg		09 06 42.8	
EQTA	**Presa de Quent**	**0.73**	**194**	Pg	**Pg**	**09 06 50.1**	**-0.4**
EQTA				Sg	**Sg**	**09 06 58.6**	**-1.4**
EQUE	**Quentar**	**0.73**	**193**	Pg	**Pg**	**09 06 50.1**	**-0.4**
EQUE				Sg	**Sg**	**09 06 59.1**	**-1.0**
EQUE				*i* Vmb_Lg		09 07 02.7	
PSIM	**Granatula de C**	**0.99**	**336**	Pg	**Pn**	**09 06 56.7**	**0.0**
PSIM				Sg	**Sn**	**09 07 10.6**	**-0.4**
EBER	**Berja**	**1.05**	**165**	Pg	**Pg**	**09 06 55.7**	**-1.1**
EBER	**Berja**	**1.05**	**165**	Pg	**Pg**	**09 06 55.9**	**-0.8**
EBER				Sg	**Sg**	**09 07 10.8**	**+0.4**
EBER				*i* Vmb_Lg		09 07 15.6	
EGOR	**Sierra Gorda,**	**1.07**	**221**	Pg	**Pg**	**09 06 56.4**	**-0.6**
EGOR	**Sierra Gorda,**	**1.07**	**221**	Pg	**Pg**	**09 06 56.9**	**-0.1**
EGOR				Sg	**Sb**	**09 07 12.4**	**+1.0**
EGOR				*i* Vmb_Lg		09 07 15.0	
EADA	**Adamuz**	**1.09**	**284**	Pg	**Pg**	**09 06 57.0**	**+0.1**
EADA				Sg	**Sb**	**09 07 14.4**	**+0.4**
EADA	**Adamuz**	**1.09**	**284**	Pg	**Pg**	**09 06 57.6**	**+0.1**
EADA				Sg	**Sg**	**09 07 12.0**	**+0.3**
ELGU	**Los Guajares,**	**1.09**	**197**	Pg	**Pg**	**09 06 57.0**	**-0.5**
ELGU				Sg	**Sg**	**09 07 10.6**	**-1.1**
ELGU	**Los Guajares,**	**1.09**	**197**	Pg	**Pg**	**09 06 57.1**	**-0.4**
ELGU				Sg	**Sg**	**09 07 11.3**	**-0.4**
ELGU				*i* Vmb_Lg		09 07 21.3	
ELOR	**Lorca, Murcia**	**1.21**	**103**	Sg	**Sb**	**09 07 15.7**	**+0.3**
EZAR	**Zarzadilla de**	**1.22**	**91**	Pg	**Pg**	**09 06 59.9**	**0.0**
EZAR				Sg	**Sn**	**09 07 16.4**	**-0.1**
EZAR				*i* Vmb_Lg		09 07 19.1	
ENIJ	**Nijar**	**1.25**	**139**	Pn	**Pn**	**09 06 60.0**	**-0.2**
ENIJ	**Nijar**	**1.25**	**139**	Pg	**Pn**	**09 06 59.9**	**-0.2**
ENIJ				Sg	**Sn**	**09 07 17.4**	**+0.2**
ENIJ				*i* Vmb_Lg		09 07 19.3	
TLOR	**Lorca, Murcia**	**1.25**	**102**	Sg	**Sn**	**09 07 18.8**	**+1.6**
E1002	**Yechar (Murcia**	**1.42**	**83**	Pg	**Pg**	**09 07 04.0**	**+0.2**
E1002				Sg	**Sg**	**09 07 22.8**	**+0.6**
E001A	**Albudeite (Mur**	**1.46**	**85**	Pg	**Pg**	**09 07 04.5**	**+0.1**
E001A				Sg	**Sg**	**09 07 23.7**	**+0.4**
ETOB	**Tobarra**	**1.51**	**61**	Pn	**Pn**	**09 07 04.2**	**+0.3**
ETOB	**Tobarra**	**1.51**	**61**	↑Pn	**Pn**	**09 07 04.2**	**+0.3**
ETOB				Sg	**Sg**	**09 07 25.9**	**+0.8**
ETOB				*i* Vmb_Lg		09 07 27.0	
EMUR	**La Murta**	**1.58**	**92**	Pn	**Pn**	**09 07 05.5**	**+0.7**
EMUR				Sn	**Sb**	**09 07 26.5**	**+0.5**
EMUR	**La Murta**	**1.58**	**92**	Pn	**Pn**	**09 07 05.4**	**+0.7**
EMUR				Sn	**Sn**	**09 07 24.2**	**-1.1**
EMUR				Sg	**Sg**	**09 07 27.4**	**+0.2**
EMUR				*i* Vmb_Lg		09 07 28.5	
ECAB	**El Cabril**	**1.74**	**276**	Pn	**Pn**	**09 07 06.6**	**-0.4**
ECAB				Sn	**Sn**	**09 07 27.5**	**-1.8**
ECAB	**El Cabril**	**1.74**	**276**	Pn	**Pn**	**09 07 06.5**	**-0.4**
ECAB				Pg	**Pg**	**09 07 25.0**	**+0.1**
ECAB				Sg	**Sb**	**09 07 31.4**	**+0.8**
ECAB				*i* Vmb_Lg		09 07 34.0	
CART	**Cartagena**	**1.80**	**100**	Pg	**Pg**	**09 07 10.7**	**-0.3**
CART				Sn	**Sn**	**09 07 31.0**	**+0.4**
CART	**Cartagena**	**1.80**	**100**	P	**Pn**	**09 07 07.4**	**-0.3**
CART	**Cartagena**	**1.80**	**100**	S	**Sn**	**09 07 30.6**	**-0.1**
EMIJ	**Mijas**	**1.83**	**223**	Pg	**Pn**	**09 07 09.1**	**+1.0**
EMIJ				Sg	**Sb**	**09 07 33.8**	**+0.7**
EMIJ				*i* Vmb_Lg		09 07 41.4	
ESDC	**Sonseca Array**	**1.85**	**342**	Pn	**Pn**	**09 07 08.9**	**+0.3**
ESDC				Pg	**Pg**	**09 07 11.6**	**-0.4**
ESDC				Sn	**Sn**	**09 07 31.9**	**-0.1**
ESDC				Sg	**Sg**	**09 07 36.2**	**+0.3**
ESDC				*i* Vmb_Lg		09 07 38.4	
PAB	**San Pablo**	**1.85**	**332**	Pn	**Pn**	**09 07 09.2**	**+0.6**
PAB				Pg	**Pg**	**09 07 11.8**	**-0.1**
PAB				Sg	**Sg**	**09 07 36.3**	**+0.3**
PAB				*i* Vmb_Lg		09 07 38.8	
ETRV	**Los Montesinos**	**1.95**	**86**	Pg	**Pg**	**09 07 14.6**	**+0.6**
ETRV				Sg	**Sg**	**09 07 38.8**	**-0.4**
ETRV				*i* Vmb_Lg		09 07 44.2	
EVIV	**Cofrentes, Val**	**2.13**	**50**	Pn	**Pn**	**09 07 12.6**	**+0.2**
EVIV				Pg	**Pg**	**09 07 17.5**	**0.0**
EVIV				Sg	**Sg**	**09 07 46.4**	**+1.2**
EVIV				*i* Vmb_Lg		09 07 50.0	
EJIF	**Jimena Fronter**	**2.31**	**231**	Pg	**Pb**	**09 07 19.6**	**+1.2**
EJIF				Sg	**Sg**	**09 07 50.3**	**-0.4**
ESPR	**Espera**	**2.34**	**244**	Pg	**Pb**	**09 07 19.2**	**+0.3**
ESPR	**Espera**	**2.34**	**244**	Pg	**Pb**	**09 07 18.4**	**-0.5**
ESPR				Sg	**Sg**	**09 07 51.7**	**0.0**
ESPR				*i* Vmb_Lg		09 07 58.5	
UCM	**Universidad Co**	**2.39**	**360**	Pg	**Pg**	**09 07 22.3**	**0.0**
UCM				Sg	**Sg**	**09 07 52.5**	**-0.8**
ECHE	**Chera**	**2.43**	**46**	Pg	**Pg**	**09 07 23.6**	**+0.4**
ECHE	**Chera**	**2.43**	**46**	Pg	**Pg**	**09 07 23.4**	**+0.2**
ECHE				*i* Vmb_Lg		09 07 30.3	
EBEN2	**Beniarda presa**	**2.51**	**71**	Pg	**Pg**	**09 07 24.6**	**0.0**
EBEN2				Sn	**Sn**	**09 07 49.2**	**+0.9**
EBEN2				Sg	**Sg**	**09 07 55.5**	**-1.6**
EBEN2				*i* Vmb_Lg		09 08 59.5	
GUD	**Guadarrama**	**2.82**	**346**	Pn	**Pn**	**09 07 23.7**	**+1.8**
GUD				Pg	**Pg**	**09 07 30.3**	**-0.2**
GUD				Sg	**Sg**	**09 08 06.0**	**-1.0**
GUD				*i* Vmb_Lg		09 08 09.4	
PBAR	**Barrancos**	**3.02**	**276**	*e*Pn	**Pn**	**09 07 25.2**	**+0.7**
PBAR	**Barrancos**	**3.02**	**276**	*e*Pg	**Pb**	**09 07 32.1**	**+1.6**
PBAR				*e*Sn	**Sn**	**09 07 59.9**	**-1.0**
PBAR				*e*Sg	**Sb**	**09 08 10.7**	**+3.3**
PBAR	48nm,0.4s			A	A	09 08 16.1	
PBAR	**Barrancos**	**3.02**	**276**	Pn	**Pn**	**09 07 24.0**	**-0.5**
PBAR				Sn	**Sn**	**09 07 59.4**	**-1.5**
PBAR				Sg	**Sb**	**09 08 09.7**	**+2.3**
E0901	**Celadas (Terue**	**3.04**	**32**	Pg	**Pg**	**09 07 34.9**	**+0.2**
E0901				Sg	**Sg**	**09 08 14.1**	**0.0**
E0901				*i* Vmb_Lg		09 08 17.9	
ETOR	**Torete**	**3.04**	**17**	Pn	**Pn**	**09 07 25.2**	**+0.3**
ETOR				Pg	**Pg**	**09 07 34.2**	**-0.6**
ETOR				Sg	**Sg**	**09 08 12.1**	**-2.0**
ETOR				*i* Vmb_Lg		09 08 16.1	
EPLA	**Plasencia**	**3.09**	**315**	Pn	**Pn**	**09 07 25.4**	**-0.1**
EPLA				Pg	**Pb**	**09 07 33.4**	**+1.8**
EPLA				Sg	**Sg**	**09 08 14.0**	**-1.7**
EPLA				*i* Vmb_Lg		09 08 20.3	
EBAD	**Badajoz**	**3.09**	**287**	Pn	**Pn**	**09 07 24.7**	**-0.8**
EBAD				Pg	**Pb**	**09 07 32.1**	**+0.4**
EBAD				Sg	**Sb**	**09 08 12.2**	**+2.7**
EBAD				*i* Vmb_Lg		09 08 17.2	
EMOS	**Mosqueruela**	**3.25**	**40**	Pn	**Pn**	**09 07 29.3**	**+1.4**
EMOS				Pg	**Pb**	**09 07 35.8**	**+1.2**
EMOS				Sg	**Sg**	**09 08 19.6**	**-1.3**
EMOS				*i* Vmb_Lg		09 08 25.6	
EGRO	**El Granado**	**3.39**	**265**	Sn	**Sn**	**09 08 10.0**	**-0.1**
EGRO				Sg	**Sb**	**09 08 21.6**	**+3.4**
EGRO				*i* Vmb_Lg		09 08 27.0	
PESTR	**Estremoz**	**3.56**	**287**	*e*Pn	**Pn**	**09 07 33.4**	**+1.4**
PESTR	**Estremoz**	**3.56**	**287**	*e*Pg	**Pg**	**09 07 43.0**	**-1.6**
PESTR				*e*Sn	**Sn**	**09 08 12.8**	**-1.3**
PESTR				*e*Sg	**Sg**	**09 08 30.1**	**-0.6**
PESTR	33nm,0.4s			A	A	09 08 32.4	
PESTR	**Estremoz**	**3.56**	**287**	P	**Pb**	**09 07 41.9**	**+2.3**
PESTR	**Estremoz**	**3.56**	**287**	S	**Sg**	**09 08 35.7**	**+5.0**
PMRV	**Marv??o**	**3.59**	**296**	*e*Pg	**Pg**	**09 07 43.5**	**-1.8**
PMRV				*e*Sg	**Sg**	**09 08 31.0**	**-0.8**
PMRV	55nm,0.4s			A	A	09 08 34.1	
PVAQ	**Vaqueiros**	**3.60**	**263**	*e*Pn	**Pn**	**09 07 31.5**	**-1.0**
PVAQ				*e*Sn	**Sn**	**09 08 13.9**	**-1.2**
PVAQ				*e*Sg	**Sg**	**09 08 29.9**	**-2.2**
PVAQ	36nm,0.4s			A	A	09 08 34.0	
PVAQ	**Vaqueiros**	**3.60**	**263**	Pn	**Pn**	**09 07 31.4**	**-1.0**
PVAQ				Sn	**Sn**	**09 08 11.5**	**-3.7**
PVAQ	**Vaqueiros**	**3.60**	**263**	P	**Pn**	**09 07 31.8**	**-0.8**
PVAQ	**Vaqueiros**	**3.60**	**263**	S	**Sb**	**09 08 22.9**	**-1.2**
PBEJ	**Beja**	**3.67**	**273**	*e*Sg	**Sg**	**09 08 34.8**	**+0.6**
PBEJ	17nm,0.6s			A	A	09 08 40.9	
PBDV	**Barranco-do-Ve**	**3.79**	**261**	*e*Pn	**Pn**	**09 07 35.1**	**-0.2**
PBDV				*e*Sn	**Sn**	**09 08 18.6**	**-1.5**
PBDV				*e*Sg	**Sg**	**09 08 37.1**	**-1.3**
PBDV	22nm,0.8s			A	A	09 08 39.8	
EVO	**Evora**	**3.82**	**281**	*e*Sn	**Sn**	**09 08 20.2**	**-0.4**
EVO				*e*Sg	**Sg**	**09 08 39.3**	**+0.2**
EVO	37nm,1.0s			A	A	09 08 45.6	
PCVE	**Castro Verde**	**3.82**	**267**	*e*Pn	**Pn**	**09 07 35.1**	**-0.5**
PCVE				*e*Sg	**Sg**	**09 08 36.3**	**-2.9**
PCVE	21nm,0.5s			A	A	09 08 42.3	
PCBR	**Castelo Branco**	**3.83**	**301**	*e*Pn	**Pn**	**09 07 37.0**	**+1.3**
PCBR				*e*Sn	**Sn**	**09 08 20.4**	**-0.5**
PCBR	31nm,0.5s			A	A	09 08 43.0	
MESJ	**Messejana**	**3.95**	**270**	*e*Pn	**Pn**	**09 07 37.5**	**+0.2**
MESJ				*e*Sn	**Sn**	**09 08 22.1**	**-1.7**
MESJ				*e*Sg	**Sg**	**09 08 42.7**	**-0.6**
MESJ	22nm,0.5s			A	A	09 08 43.3	
PMTG	**Montargil**	**4.08**	**288**	*e*Pn	**Pn**	**09 07 39.6**	**+0.4**
PMTG				*e*Sn	**Sn**	**09 08 25.2**	**-2.0**
PMTG				*e*Sg	**Sg**	**09 08 48.1**	**+0.4**
PMTG	43nm,0.7s			A	A	09 08 54.8	
ERTA	**Horta de San J**	**4.10**	**41**	Pg	**Pb**	**09 07 49.3**	**+0.4**
ERTA				Sg	**Sg**	**09 08 46.1**	**-2.1**
ERTA				*i* Vmb_Lg		09 08 58.1	
MTE	**Manteigas**	**4.17**	**308**	*e*Sg	**Sg**	**09 08 52.2**	**+1.8**
MTE	37nm,0.5s			A	A	09 09 01.8	
PNCL	**Nicolau / Gran**	**4.19**	**274**	*e*Sn	**Sn**	**09 08 28.6**	**-1.1**
PNCL				*e*Sg	**Sg**	**09 08 49.7**	**-1.3**
PNCL	21nm,0.5s			A	A	09 08 56.1	
ESAC	**San Caprasio**	**4.36**	**28**	Pg	**Pg**	**09 07 57.9**	**-2.0**
ESAC				Sg	**Sg**	**09 08 54.9**	**-1.5**
ESAC				*i* Vmb_Lg		09 08 56.9	
PTEO	**Sao Teotonio**	**4.37**	**267**	*e*Sn	**Sn**	**09 08 33.2**	**-1.0**
PTEO				*e*Sg	**Sg**	**09 08 56.0**	**-0.9**
PTEO	29nm,0.6s			A	A	09 09 00.6	
MVO	**Moncorvo**	**4.38**	**319**	*e*Pn	**Pn**	**09 07 44.6**	**+1.3**
PVIS	**Viseu**	**4.57**	**309**	*e*Sg	**Sg**	**09 09 04.8**	**+1.5**
PVIS	15nm,0.3s			A	A	09 09 13.3	
EPOB	**Poblet**	**4.78**	**43**	Pn	**Pn**	**09 07 49.9**	**+1.1**
EPOB				Sg	**Sg**	**09 09 05.7**	**-4.3**
EARA	**Aranguren**	**5.01**	**14**	Sg	**Sg**	**09 09 15.5**	**-1.9**
EARA				*i* Vmb_Lg		09 09 22.3	
EORO	**Oroz-Betelu**	**5.18**	**16**	Sg	**Sg**	**09 09 20.2**	**-2.7**
EORO				*i* Vmb_Lg		09 09 30.4	
ELAN	**Lanestosa**	**5.31**	**358**	Pn	**Pn**	**09 07 58.9**	**+2.8**
ELAN				Sn	**Sn**	**09 08 59.6**	**+2.1**
ELAN				*i* Vmb_Lg		09 09 20.0	
ELAN				Sg	**Sg**	**09 09 24.6**	**-2.4**
ETSF	**Etsaut**	**5.38**	**21**	*e*Pn	**Pn**	**09 07 56.9**	**-0.1**
ETSF				*e*Sn	**Sn**	**09 08 56.4**	**-2.8**
ETSF	7.5nm,0.4s			*e*Sg	**Sg**	**09 09 26.6**	**-2.6**
SJPF	**Ste Jean**	**5.41**	**16**	*e*Pn	**Pn**	**09 07 57.5**	**0.0**
SJPF	**Ste Jean**	**5.41**	**16**	*e*Pg	**Pg**	**09 08 19.0**	**-1.1**
SJPF				*e*Sn	**Sn**	**09 08 56.4**	**-3.5**
SJPF	92nm,1.1s			*e*Sg	**Sg**	**09 09 28.6**	**-1.6**
ECHI	**Chisagues Biel**	**5.42**	**28**	Sg	**Sg**	**09 09 28.0**	**-2.4**
ECHI				*i* Vmb_Lg		09 09 39.8	
ELOB	**Lobios**	**5.42**	**318**	Sg	**Sg**	**09 09 29.3**	**-1.2**
ELOB				*i* Vmb_Lg		09 09 38.1	
EPF	**Esparros

AC05				*i*	S		**Sn**	**09 09 20.5**	**-3.4**
AC05					IAML			09 09 22.1	
	comp=N,530nm,0.2s								
GO03	**Copiap**	**2.22**	**66**	*i*	P		**Pn**	**09 09 02.3**	**+0.4**
GO03					S		**Sn**	**09 09 26.5**	**-2.9**
GO03					IAML			09 09 28.7	
	comp=N,461nm,0.4s								
GO04	**Tololo Observa**	**2.22**	**138**	*i*	P		**Pn**	**09 09 02.5**	**+0.4**
GO04					S		**Sn**	**09 09 27.2**	**-2.6**
AC06	**Mina Casimiro**	**2.24**	**59**	*i*	P		**Pb**	**09 09 02.8**	**-2.7**
AC06					S		**Sn**	**09 09 25.9**	**-4.0**
AC06					IAML			09 09 29.0	
	comp=E,227nm,0.3s								
CO06	**Fray Jorge**	**2.27**	**161** ⇓	*i*	P		**Pn**	**09 09 02.5**	**-0.2**
CO06					S		**Sn**	**09 09 25.7**	**-5.0**
CO06					IAML			09 09 28.1	
	comp=N,198nm,0.2s								
CO01	**Juntas del Tor**	**2.56**	**125**	*i*	P		**Pn**	**09 09 07.8**	**+1.0**
CO01					S		**Sn**	**09 09 35.9**	**-2.3**
CO01					IAML			09 09 38.2	
	comp=E,248nm,0.3s								
CO03	**El Pedregal**	**2.80**	**146** ⇓	*i*	P		**Pn**	**09 09 10.4**	**+0.4**
CO03					S		**Sn**	**09 09 40.0**	**-3.9**
CO03					IAML			09 09 44.9	
	comp=N,183nm,0.2s								
AC01	**Pan de Azucar**	**2.92**	**36**	*i*	P		**Pn**	**09 09 11.4**	**0.0**
AC01					S		**Sn**	**09 09 43.1**	**-3.5**
AC01					IAML			09 09 44.5	
	comp=E,181nm,0.2s								
CO02	**Combarbal**	**2.98**	**154** ⇓	*i*	P		**Pn**	**09 09 13.3**	**+0.9**
CO02					S		**Sn**	**09 09 44.6**	**-3.7**
AROD	**Rodeo**	**3.12**	**122**	*eP*			**Pb**	**09 09 17.3**	**-3.5**
AROD				*eS*			**Sn**	**09 09 54.1**	**+2.0**
ACDV	**Cuesta del Vie**	**3.39**	**120**	*eP*			Pn	09 09 06.5	-12
ACDV				*eS*			**Sn**	**09 10 01.3**	**+2.8**
ACDV					IAML			09 10 02.8	
	comp=Z,108nm,0.5s								
AC02	**Maricunga**	**3.44**	**62**	*i*	P		**Pn**	**09 09 20.9**	**+1.8**
ACCO	**Cerro Coronel**	**3.64**	**125**	*eP*			**Pb**	**09 09 25.3**	**-4.4**
ACCO				*eS*			**Sn**	**09 10 07.1**	**+2.1**
ACCO					IAML			09 10 18.3	
	comp=Z,80nm,0.6s								
AGUA	**GUANDACOL**	**3.65**	**106**	*eP*			**Pb**	**09 09 26.2**	**-3.6**
AGUA				*eS*			**Sn**	**09 10 04.0**	**-0.9**
AGUA					IAML			09 10 15.6	
	comp=Z,90nm,0.5s								
VCA	**Vinchina**	**3.79**	**94**	*eP*			**Pn**	**09 09 23.5**	**-0.2**
VCA				*eS*			Sn	09 09 47.3	-21
VCA					IAML			09 10 17.6	
	comp=Z,64nm,0.4s								
RTLS	**Leoncito**	**4.29**	**140**	*eP*			Pb	09 09 34.7	-6.0
RTLS				*eS*			**Sb**	**09 10 26.6**	**-6.1**
RTLS					IAML			09 10 36.9	
	comp=Z,127nm,0.8s								
AUSP	**Uspallata**	**4.57**	**145**	*eP*			Pn	09 09 38.6	+4.2
AVFE	**Valle Fertil**	**4.89**	**117**	*eP*			**Pn**	**09 09 41.3**	**+2.6**
AVFE				*eS*			**Sn**	**09 10 36.2**	**+0.7**
AVFE					IAML			09 10 36.4	
	comp=Z,46nm,0.5s								
ACLC	**CERRO LA CRUZ**	**4.96**	**102**	*eP*			**Pn**	**09 09 42.0**	**+2.3**
ACLC				*eS*			**Sn**	**09 10 37.6**	**+0.4**
ACLC					IAML			09 10 38.8	
	comp=Z,35nm,0.4s								
ASAL	**Salagasta**	**5.15**	**143**	*eP*			Pn	09 09 46.2	+4.0
ASAL				*eS*			**Sb**	**09 11 01.5**	**+4.4**
ASAL					IAML			09 11 07.1	
	comp=Z,17nm,0.9s								
CYA	**Choya**	**5.91**	**91**	*eP*			**Pn**	**09 09 54.9**	**+2.3**
CYA					IAML			09 11 40.9	
	comp=Z,9.2nm,2.3s								
LVC	**Limon Verde**	**6.73**	**30**	Pn			**Pn**	**09 10 05.8**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=198,slow=11,SNR=21								
LVC					Sn		**Sn**	**09 11 18.4**	**-2.7**
	comp=Z,2.4nm,0.3s,baz=55,slow=22,SNR=9.5								
	comp=Z,1.4nm,0.3s								
H03N1	**Juan Fernandez**	**7.36**	**227**	Pn			**Pn**	**09 10 13.6**	**+1.3**
	baz=112,slow=17								
H03N1					Sn		**Sn**	**09 11 31.9**	**-3.8**
H03N1					T		T	09 19 14.1	
	baz=60,slow=71,SNR=39								
H03N2	**Juan Fernandez**	**7.37**	**227**	Pn			**Pn**	**09 10 13.3**	**+0.9**
	baz=112,slow=17								
H03N2					Sn		**Sn**	**09 11 33.0**	**-3.0**
H03N2					T		T	09 19 10.6	
	baz=60,slow=71,SNR=38								
H03N3	**Juan Fernandez**	**7.38**	**227**	Pn			**Pn**	**09 10 13.4**	**+0.9**
	baz=112,slow=17								
H03N3					Sn		**Sn**	**09 11 32.0**	**-4.2**
H03N3					T		T	09 19 12.0	
	baz=60.slow=71,SNR=38								
H03S3	**Juan Fernandez**	**7.61**	**224**	Pn			**Pn**	**09 10 14.8**	**-1.0**
	baz=219,slow=72								
H03S3					Sn		**Sn**	**09 11 36.2**	**-5.8**
H03S1	**Juan Fernandez**	**7.62**	**224**	Pn			**Pn**	**09 10 13.5**	**-2.4**
	baz=219,slow=72								
H03S1					Sn		**Sn**	**09 11 35.8**	**-6.3**
H03S2	**Juan Fernandez**	**7.63**	**224**	Pn			**Pn**	**09 10 15.4**	**-0.6**
	baz=219,slow=72								
H03S2					Sn		**Sn**	**09 11 36.2**	**-6.1**
PLCA	**Paso Flores**	**12.29**	**173**	Pn			**Pn**	**09 11 20.6**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=337,slow=12,SNR=10								
	comp=Z,0.6nm,0.3s								
LPAZ	**La Paz**	**12.83**	**19**	Pn			**Pn**	**09 11 29.7**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=236,slow=7.2,SNR=1.6								
	comp=Z,0.3nm,0.5s								
SIV	**San Ignacio**	**16.35**	**43**	Pn			**P**	**09 12 20.8**	**+3.2**
	baz=218,slow=7.8,SNR=5.6								
CMIG	**Matias Romero**	**50.25**	**332**	LR			LR	09 34 36.1	
	comp=Z,182nm,19.8s,baz=132,slow=31								
TXAR	**Lajitas Array**	**64.78**	**330**	P			P	09 19 09.3	+5.3
	comp=Z,0.4nm,0.8s,baz=155,slow=6.9,SNR=3.7								
TXAR					LR		LR	09 43 51.4	
	comp=Z,19nm,18.9s,baz=201,slow=33								
	comp=Z,0.4nm,0.8s								
TORD	**Torodi Ar. Bea**	**82.77**	**71**	P			**P**	**09 20 52.2**	**+2.5**
	comp=Z,0.8nm,0.7s,baz=296,slow=4.5,SNR=4.9								
	comp=Z,0.8nm,0.7s								
MDT	**Midelt**	**88.71**	**51**	P			**P**	**09 21 21.7**	**+2.8**
	comp=Z,18nm,0.7s,baz=248,slow=7.7,SNR=7.4								
ASAR	**Alice Springs**	**122.20**	**209**	PKP			**PKiKP**	**09 27 22.5**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=159,slow=2.8,SNR=1.7								
WRA	**Warramunga Arr**	**125.27**	**211**	PKP			**PKiKP**	**09 27 29.4**	**+2.3**
	comp=Z,0.7nm,0.8s,baz=165,slow=1.9,SNR=5.3								
KURBB	**Kurchatov Arra**	**148.94**	**37**	PKPbc			**PKPab**	**09 28 16.7**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=307,slow=3.1,SNR=6.4								
ZALV	**Zalesovo Beam**	**149.67**	**27**	PKPbc			**PKPab**	**09 28 18.1**	**-1.6**
	comp=Z,1.7nm,0.5s,baz=303,slow=3.0,SNR=5.2								
MKAR	**Makanchi Array**	**153.16**	**40**	PKPbc			**PKiKP**	**09 28 26.3**	**+3.3**
	comp=Z,0.5nm,0.5s,baz=318,slow=2.1,SNR=4.2								

*IDC **24** 09:13:01.8±1.0, 4.°19N×127.°07E, h0km, mb3.9/6, mbtmp3.9/6, MS3.6/1, Error ellipse: s-maj=58.9km s-min=18.5km az=73.0*

ISC 24 09:13:07.2±1.1, 4.°2N±0.°2×127.°1E±0.°4, h36km, n7, σ0s 43/6, mb3.8/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**22.33**	**241**	LR	LR	09 27 58.2	
	comp=Z,145nm,20.1s,baz=128,slow=40						
WRA	**Warramunga Arr**	**25.01**	**164**	P	**P**	**09 18 27.4**	**-0.4**
	1.3nm,0.4s,baz=344,slow=11,SNR=37						
	1.3nm,0.4s						
ASAR	**Alice Springs**	**28.46**	**167**	P	**P**	**09 18 58.9**	**-0.1**
	0.7nm,0.6s,baz=343,slow=6.8,SNR=14						
	0.7nm,0.6s						
STKA	**Stephens Creek**	**38.42**	**160**	P	**P**	**09 20 25.6**	**+0.3**
	5.1nm,0.8s,baz=337,slow=10,SNR=9.9						
	5.1nm,0.8s						
PETK	**Petropavlovsk-**	**54.86**	**22**	P	**P**	**09 22 33.9**	**0.0**
	0.7nm,0.6s,baz=186,slow=1.5,SNR=4.8						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**57.41**	**325**	P	**P**	**09 22 52.5**	**+0.4**
	0.3nm,0.4s,baz=129,slow=6.6,SNR=2.9						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**61.57**	**327**	P	**P**	**09 23 20.3**	**-0.4**
	0.4nm,0.5s,baz=124,slow=6.5,SNR=6.1						
	0.4nm,0.5s						

*IDC **24** 09:15:20.6±1.0, 0.°92S×124.°82E, h0km, mb4.0/9, mbtmp4.1/9, MS3.2/9, Error ellipse: s-maj=48.9km s-min=19.1km az=73.0*
*DJA **24** 09:15:25.3±0.2, 1.°S±3.°×12.°5E±.°, h10km, M4.6/12, mb4.7/6, mB4.9/1, MLv4.5/12, Mw(mB)4.2/1*
*NEIC **24** 09:15:27.3±2.1, 0.°91S±0.°07×125.°12E±0.°07, h39km±11km, mb4.3/14, Error ellipse: s-maj=10.9km s-min=9.4km az=161.0*

ISC 24 09:15:26.6±0.5, 0.°85S±0.°06×125.°14E±0.°06, h35km, n54, σ1s 13/45, mb4.1/16, MS3.2/9, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**1.46**	**145**	P	**Pn**	**09 15 49.6**	**-0.9**
KMSI	**Cibinong**	**1.83**	**321**	P	**Pn**	**09 15 56.7**	**+1.1**
LBMI	**Labuha**	**2.37**	**85**	P	**Pn**	**09 16 04.0**	**+1.0**
LUWI	**Luwuk**	**2.38**	**265**		**Pn**	**09 16 03.1**	**0.0**
LUWI	**Luwuk**	**2.38**	**265**	P	**Pn**	**09 16 03.4**	**+0.3**
GTOI	**Gorontalo**	**2.59**	**305**	P	Pn	09 16 10.7	+4.6
TNTI	**Ternate**	**2.75**	**54**	Pn	**Pn**	**09 16 10.2**	**+2.0**
TNTI	**Ternate**	**2.75**	**54**	P	**Pn**	**09 16 09.1**	**+0.9**
NLAI	**Namlea**	**3.08**	**141**	P	**Pn**	**09 16 13.2**	**+0.4**
TOLI2	**Tolitoli**	**4.78**	**294**		**Pn**	**09 16 38.2**	**+2.1**
TTSI	**Tana Toraja**	**5.75**	**248**	P	**Pn**	**09 16 51.1**	**+1.6**
	75nm,0.7s,1μm0.4nm						
BKSI	**Bulukumba**	**6.70**	**228**	P	**Pn**	**09 17 05.1**	**+2.5**
	51nm,0.8s,0.2nm						
KAPI	**Kappang**	**6.79**	**232**	Pn	**Pn**	**09 17 03.6**	**-0.2**
FAKI	**Fak Fak**	**7.39**	**106**		**Pn**	**09 17 11.9**	**-0.2**
FAKI	**Fak Fak**	**7.39**	**106**	P	**Pn**	**09 17 12.0**	**-0.2**
	63nm,0.9s,0.2nm						
DAV	**Davao City (W)**	**7.88**	**3**	Pn	**Pn**	**09 17 19.5**	**+0.7**
EDFI	**Ende, Flores**	**8.57**	**204**	P	**Pn**	**09 17 29.6**	**+1.2**
KKM	**Kota Kinabalu**	**11.24**	**308**	Pn	**Pn**	**09 18 04.8**	**-0.2**
JAGI	**Jajag, Banyuwa**	**13.31**	**235**	Pn	**Pn**	**09 18 32.6**	**-0.6**
MTN	**Manton Dam**	**13.31**	**154**	Pn	**Pn**	**09 18 34.0**	**+0.8**
WB0	**Warramunga Arr**	**20.87**	**155**	P	**P**	**09 20 04.9**	**-0.9**
WB0				IAmb	IAmb	09 20 20.7	
	comp=Z,24nm,0.8s						
WRAB	**Tennant Creek**	**21.00**	**155**	P	**P**	**09 20 07.2**	**0.0**
WRA	**Warramunga Arr**	**21.00**	**155**	P	**P**	**09 20 05.7**	**-1.5**
WRA	**Warramunga Arr**	**21.00**	**155**	P	**P**	**09 20 06.2**	**-1.1**
	comp=Z,5.9nm,0.8s,baz=335,slow=12,SNR=7.9						
	comp=Z,5.9nm,0.8s						
WB2	**Warramunga Arr**	**21.01**	**155**	P	**P**	**09 20 06.5**	**-0.8**
WR0	**Warramunga Arr**	**21.10**	**155**	P	**P**	**09 20 07.4**	**-1.0**
WR0				IAmb	IAmb	09 20 21.2	
	comp=Z,21nm,0.8s						
PSA00	**Pilbara Seismi**	**21.23**	**194**	P	**P**	**09 20 08.5**	**-1.2**
PSA00				IAmb	IAmb	09 20 37.8	
	comp=Z,5.1nm,0.9s						
COEN	**Coen**	**22.09**	**127**	P	**P**	**09 20 20.3**	**+1.3**
COEN				IAmb	IAmb	09 20 47.3	
	comp=Z,15nm,1.0s						
AS31	**Alice Springs**	**24.22**	**160**	P	**P**	**09 20 42.0**	**+1.6**
ASAR	**Alice Springs**	**24.22**	**160**	P	**P**	**09 20 42.2**	**+1.9**
ASAR	**Alice Springs**	**24.22**	**160**	P	**P**	**09 20 40.1**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=341,slow=11,SNR=8.5						
	comp=Z,1.5nm,0.7s						
YULB	**Yu-li**	**24.38**	**351**	P	**P**	**09 20 42.6**	**+0.8**
YULB				IAmb	IAmb	09 20 46.0	
	comp=Z,9.4nm,1.0s						
TPUB	**Ta-pu**	**24.40**	**350**	P	**P**	**09 20 42.5**	**+0.5**
JOW	**Kunigami**	**27.69**	**6**	LR	LR	09 33 16.5	
	comp=Z,21nm,19.9s,baz=105,slow=39						
CMAR	**Chiang Mai Arr**	**32.12**	**308**	LR	LR	09 35 11.2	
	comp=Z,31nm,20.8s,baz=120,slow=37						
STKA	**Stephens Creek**	**34.56**	**155**	P	**P**	**09 22 12.4**	**+0.4**
JHJ	**Hachijo jima 2**	**36.50**	**21**	LR	LR	09 35 28.3	
	comp=Z,30nm,21.9s,baz=124,slow=33						
JGF	**Kuroka**	**38.01**	**16**	P	**P**	**09 22 41.6**	**+0.1**
JGF				IAmb	IAmb	09 22 46.2	
	comp=Z,2.4nm,0.6s						
KSRS	**Korea Array**	**38.20**	**4**	P	**P**	**09 22 43.4**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=174,slow=10,SNR=6.7						
KSRS				LR	LR	09 39 12.5	
	comp=Z,27nm,21.8s,baz=165,slow=37						
	comp=Z,1.7nm,0.8s						
MJAR	**Matsushiro Arr**	**39.13**	**17**	P	**P**	**09 22 50.5**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=190,slow=8.3,SNR=6.5						
	comp=Z,2.4nm,0.8s						
PALK	**Pallekele**	**45.06**	**281**	LR	LR	09 43 21.2	
	comp=Z,50nm,19.2s,baz=195,slow=38						
SONM	**Songino Array**	**51.17**	**344**	P	**P**	**09 24 25.9**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=164,slow=10,SNR=5.6						
	comp=Z,0.6nm,0.5s						
PETK	**Petropavlovsk-**	**60.24**	**22**	P	**P**	**09 25 31.9**	**+0.6**
	comp=Z,2.5nm,0.7s,baz=188,slow=7.0,SNR=4.4						
	comp=Z,2.5nm,0.7s						
MK31	**Makanchi Array**	**60.47**	**328**	P	**P**	**09 25 31.5**	**-1.5**
MK31				IAmb	IAmb	09 25 40.2	
	comp=Z,1.3nm,0.9s						
MKAR	**Makanchi Array**	**60.47**	**328**	P	**P**	**09 25 31.4**	**-1.5**
MKAR	**Makanchi Array**	**60.47**	**328**	P	**P**	**09 25 31.2**	**-1.8**
	comp=Z,0.7nm,0.4s,baz=129,slow=8.4,SNR=12						
	comp=Z,0.7nm,0.4s						
AAK	**Ala-Archa**	**62.75**	**320**	LR	LR	09 57 45.7	
	comp=Z,16nm,18.0s,baz=104,slow=41						
MA2	**Magadan**	**63.50**	**14**	P	**P**	**09 25 52.7**	**-0.3**
MA2				IAmb	IAmb	09 26 17.2	
	comp=Z,4.0nm,0.9s						
ZALV	**Zalesovo Beam**	**63.98**	**335**	P	**P**	**09 25 55.5**	**-0.8**
KURBB	**Kurchatov Arra**	**64.78**	**329**	P	**P**	**09 26 00.0**	**-1.6**
	comp=Z,0.8nm,0.6s,baz=140,slow=6.4,SNR=7.2						
	comp=Z,0.8nm,0.6s						
TIXI	**Tiksi**	**72.42**	**1**	LR	LR	10 03 10.1	
	comp=Z,18nm,18.7s,baz=206,slow=40						
NRIK	**Noril'sk**	**74.49**	**347**	P	**P**	**09 27 00.9**	**-0.2**
	comp=Z,3.1nm,0.5s,baz=116,slow=7.1,SNR=5.4						
	comp=Z,3.1nm,0.5s						
AKTO	**Aktyubinsk**	**76.28**	**323**	LR	LR	10 02 24.1	
	comp=Z,39nm,20.8s,baz=109,slow=37						
OPO	**Ambohidratompo**	**78.31**	**251**	LR	LR	09 56 34.1	
	comp=Z,36nm,21.9s,baz=123,slow=32						

*IDC **24** 09:26:20.9±0.9, 11.°90N×86.°97W, h0km, mb3.9/9, mbtmp3.9/11, ML2.9/2, MS3.3/7, Error ellipse: s-maj=40.3km s-min=14.7km az=43.0*
*CATAC **24** 09:26:20.6±0.3, 11.°42N×87.°44W, h10km, ML4.1*
*NEIC **24** 09:26:26.9±1.7, 11.°62N±0.°07×87.°16W±0.°07, h42km±9km, mb4.4/47, Error ellipse: s-maj=12.6km s-min=6.1km az=222.0*

ISC 24 09:26:21.6±1.6, 11.°46N±0.°04×87.°37W±0.°03, h14km±10km, n201, σ1s 70/218, mb4.4/31, MS3.4/5, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BC86	**Nagarote**	**1.13**	**45**	*i* P	**Pb**	**09 26 43.2**	**+0.3**
BC86				IAML		09 27 45.3	
	comp=Z,6μm,1.0s						
CRUN	**El Crucero**	**1.17**	**63**	*i* P	**Pn**	**09 26 42.7**	**-1.0**
CRUN				IAML		09 27 17.2	
	comp=Z,7.7nm,1.0s						
ADRN	**Diriamba**	**1.18**	**70**	*i* P	**Pb**	**09 26 44.3**	**+0.5**
ADRN				IAML		09 27 15.9	
	comp=Z,7μm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.20**	**38**	*i* P	**Pn**	**09 26 44.0**	**+0.1**
LEVN				IAML		09 27 21.9	
	comp=Z,3μm,1.0s						
MACN	**El Madrono**	**1.21**	**34**	*i* P	**Pn**	**09 26 44.5**	**+0.3**
MACN				IAML		09 26 53.7	
	comp=Z,2μm,1.0s						
CNGN	**Cerro Negro**	**1.23**	**32**		**Pn**	**09 26 43.3**	**-1.2**
CNGN	**Cerro Negro**	**1.23**	**32**	*i* P	**Pn**	**09 26 43.5**	**-0.9**
CNGN				IAML		09 26 52.7	
	comp=Z,4μm,1.0s						
ABCN	**Banco Central**	**1.23**	**58**	*i* P	**Pn**	**09 26 44.1**	**-0.4**
ABCN				IAML		09 27 13.3	
	comp=Z,7μm,1.0s						
RE6B4	**Centro civico**	**1.25**	**58**	*i* P	**Pn**	**09 26 44.5**	**-0.2**
RE6B4				IAML		09 27 04.7	
	comp=Z,3μm,1.0s						
MOMN	**Momotombo**	**1.25**	**41**	*i* P	**Pn**	**09 26 44.8**	**+0.1**
MOMN				IAML		09 27 02.8	
	comp=Z,130nm,1.0s						
UNAN	**Cigeo UNAN**	**1.26**	**59**	*i* P	**Pn**	**09 26 44.9**	**+0.1**
UNAN				IAML		09 27 23.5	
	comp=Z,15μm,1.0s						
USIM	**UNAN**	**1.26**	**59**	*i* P	**Pn**	**09 26 45.1**	**+0.3**
USIM				IAML		09 27 11.6	
	comp=Z,7μm,1.0s						
HERN	**Volcan Telica**	**1.26**	**25**	*i* P	**Pn**	**09 26 44.9**	**0.0**
HERN				IAML		09 26 59.5	
	comp=Z,3μm,1.0s						
APQ2	**Apoyeque**	**1.26**	**54**	*i* P	**Pn**	**09 26 45.3**	**+0.5**
APQ2				IAML		09 27 21.0	
	comp=Z,3μm,1.0s						
APYN	**Apoyeque**	**1.26**	**52**	*i* P	**Pn**	**09 26 44.6**	**-0.3**
APYN				IAML		09 26 59.2	
	comp=Z,2μm,1.0s						
APYN				*i* S	**Sb**	**09 27 02.8**	**+1.4**
PKGN	**Cerro Pekin**	**1.27**	**18**	*i* P	**Pn**	**09 26 45.2**	**+0.3**
PKGN				IAML		09 26 54.6	
	comp=Z,12μm,1.0s						
PLRN	**Geotermica Pol**	**1.27**	**28**	*i* P	**Pn**	**09 26 44.0**	**-0.9**
PLRN				IAML		09 26 53.2	
	comp=Z,3μm,1.0s						
ENAN	**Enatrel Managu**	**1.27**	**59**	*i* P	**Pn**	**09 26 45.0**	**0.0**
ENAN				IAML		09 27 19.6	
	comp=Z,8μm,1.0s						
CRIN	**San Cristobal**	**1.27**	**14**		**Pn**	**09 26 45.5**	**+0.4**
TISN	**Laguna Tiscapa**	**1.28**	**58**	*i* P	**Pn**	**09 26 41.0**	**-4.1**
R8CCA	**La Lomita**	**1.28**	**59**	*i* P	**Pn**	**09 26 45.4**	**+0.3**
R8CCA				IAML		09 27 29.9	
	comp=Z,3μm,1.0s						
RB213	**Mirador 2 Volc**	**1.29**	**66**	*i* P	**Pn**	**09 26 44.9**	**-0.4**
RB213				IAML		09 27 20.0	
	comp=Z,3μm,1.0s						
R0529	**La Mascota**	**1.29**	**59**	*i* P	**Pn**	**09 26 45.5**	**+0.2**
R0529				IAML		09 26 50.8	
	comp=Z,2μm,1.0s						
R4DEC	**Barrio San Lui**	**1.30**	**58**	*i* P	**Pn**	**09 26 45.3**	**0.0**
R4DEC				IAML		09 26 47.7	
	comp=Z,2μm,1.0s						
MOM2	**El Cardon**	**1.30**	**42**	*i* P	**Pn**	**09 26 45.9**	**+0.5**
MOM2				IAML		09 26 54.9	
	comp=Z,2μm,1.0s						
MASN	**Masaya**	**1.31**	**66**	*i* P	**Pn**	**09 26 45.6**	**+0.1**
MASN				*i* S	**Sb**	**09 27 04.2**	**+1.5**
MASN				IAML		09 27 15.9	
	comp=Z,460nm,1.0s						
R45A8	**Distro VI**	**1.32**	**59**	*i* P	**Pn**	**09 26 45.8**	**+0.1**
R45A8				IAML		09 27 21.4	
	comp=Z,2μm,1.0s						
NADN	**Granada**	**1.35**	**77**	*i* P	**Pn**	**09 26 46.2**	**+0.2**
NADN				*i* S	**Sn**	**09 27 05.0**	**+1.3**
WILN	**Americas 2**	**1.35**	**59**	*i* P	**Pn**	**09 26 46.3**	**+0.2**
WILN				*i* S	**Sb**	**09 27 05.8**	**+1.8**
WILN				IAML		09 27 40.2	
	comp=Z,2μm,1.0s						
BRAN	**Las Pilas**	**1.60**	**38**	*i* P	Pn	09 26 43.7	-5.9
BRAN				IAML		09 26 48.3	
	comp=Z,2μm,1.0s						
MORN	**Al O del Volca**	**1.69**	**87**	*i* P	**Pn**	**09 26 49.3**	**-1.5**
MORN				IAML		09 27 16.9	
	comp=Z,2μm,1.0s						
LCRUZ	**La Cruz**	**1.75**	**102**	*eP*	**Pb**	**09 26 52.9**	**-0.7**
CNCH	**Conchagua**	**1.86**	**346**	*i* P	**Pn**	**09 26 53.4**	**+0.2**
CNCH				IAML		09 27 29.3	
	comp=Z,2μm,1.0s						
LIMN	**Finca el Limon**	**1.87**	**32**	*i* P	**Pn**	**09 26 53.4**	**0.0**
LIMN				IAML		09 27 04.2	
	comp=Z,2μm,1.0s						
HZTE	**Horizontes, Gu**	**1.90**	**113**	Pn	**Pn**	**09 26 54.3**	**+0.7**
HZTE	**Horizontes, Gu**	**1.90**	**113**	*i* P	**Pn**	**09 26 54.1**	**+0.5**
HZTE				*i* S	**Sn**	**09 27 18.3**	**+1.0**
HZTE				IAML		09 27 57.4	
	comp=Z,2μm,1.0s						
LCND	**La Caada**	**1.91**	**345**	*i* P	**Pn**	**09 26 53.9**	**+0.1**
LCND				IAML		09 27 24.9	
	comp=Z,970nm,1.0s						
BOAB	**BOACO BROADBAN**	**1.94**	**59**		**Pn**	**09 26 53.6**	**-0.5**
BOAB	**BOACO BROADBAN**	**1.94**	**59**	*i* P	**Pn**	**09 26 53.7**	**-0.5**
BOAB				IAML		09 27 41.6	
	comp=Z,790nm,1.0s						
ALIBA	**Liberia Airpor**	**1.99**	**115**	*eP*	**Pb**	**09 26 56.9**	**-0.7**
DELF	**Filadelfia**	**2.05**	**119**	*eP*	**Pg**	**09 27 01.7**	**+0.7**
SACU	**Santa Cruz**	**2.12**	**124**	*eP*	**Pg**	**09 27 02.2**	**-0.2**
SAJU	**San Juanillo,**	**2.14**	**130**	*i* P	**Pn**	**09 26 56.0**	**-0.9**
SAJU				*i* S	**Sn**	**09 27 20.6**	**-2.7**
SAJU				IAML		09 27 21.2	
	comp=Z,490nm,1.0s						
RANC	**El Ranchito**	**2.16**	**336**	*i* P	**Pn**	**09 26 57.3**	**0.0**
RANC				*i* S	**Sn**	**09 27 23.2**	**-0.8**
RANC				IAML		09 27 28.3	
	comp=Z,440nm,1.0s						
ORTG	**Ortega, Santa**	**2.17**	**120**		**Pn**	**09 26 58.1**	**+0.7**
ORTG	**Ortega, Santa**	**2.17**	**120**	*eP*	**Pn**	**09 26 58.3**	**+0.8**
ORTG	**Ortega, Santa**	**2.17**	**120**	*i* P	**Pn**	**09 26 58.3**	**+0.8**
ORTG				IAML		09 27 12.5	
	comp

JACO	JACO, Garabito	3.21	124			Pn		09 27 13.8	+2.2
JACO	JACO, Garabito	3.21	124	*e*P		Pn		09 27 13.9	+2.2
JACO	JACO, Garabito	3.21	124	*i* P		Pn		09 27 13.3	+1.6
JACO				*i* S		Sn		09 27 48.6	-1.2
TRB2	Turrubares	3.26	118	*e*P		Pn		09 27 14.5	+2.1
TCS1	Tacares	3.33	115	*e*P		Pn		09 27 16.1	+2.6
TCS1	Tacares	3.33	115	*i* P		Pn		09 27 15.9	+2.5
NUBE	Las Nubes	3.38	316	*i* P		Pn		09 27 14.9	+0.8
NUBE				*i* S		Sn		09 27 51.6	-2.5
NUBE				IAML				09 27 52.7	
	comp=Z,350nm,1.0s								
HDC	Heredia	3.52	114			Pn		09 27 18.1	+2.1
DOMI	Santo Domingo	3.54	114	*e*P		Pn		09 27 20.3	+3.9
RITA	Parrita	3.56	122	*e*P		Pn		09 27 18.5	+2.1
ACOS	Acosta	3.56	117	*e*P		Pn		09 27 19.7	+3.1
LUJA	Lujan	3.58	115	*e*P		Pb		09 27 21.8	-3.2
AMPA	Desamparados	3.61	115	*e*P		Pn		09 27 20.7	+3.4
CVIMO	Finca Echandi	3.66	113	*e*P		Pb		09 27 22.8	-3.5
OCM	Ochomogo	3.70	115	*e*P		Pn		09 27 22.2	+3.7
ABE2	San Pablo	3.70	118	*e*P		Pn		09 27 21.4	+2.8
LCR2	La Lucha 2	3.73	117			Pn		09 27 21.4	+2.4
LCR2	La Lucha 2	3.73	117	*e*P		Pn		09 27 21.9	+3.0
VICA	Volcano Irazu	3.76	113	*e*P		Pn		09 27 23.6	+3.9
LLNJ	Naranjito	3.77	121	*e*P		Pn		09 27 21.7	+2.3
ICR3	Volcano Irazu	3.78	113	*e*P		Pn		09 27 23.5	+3.6
REPA	Paraso	3.81	115	*e*P		Pn		09 27 24.2	+4.2
VTLA	Turrialba Volc	3.82	112	*e*P		Pb		09 27 25.4	-3.7
PCAYA	Pacayas	3.82	113	*e*P		Pn		09 27 24.4	+4.1
RIMA	Rio Macho	3.84	116			Pn		09 27 22.3	+1.7
RIMA	Rio Macho	3.84	116	*e*P		Pn		09 27 22.2	+1.7
CVTV	Tajo	3.84	112	*e*P		Pb		09 27 25.6	-3.9
VTCV	VTCV, Calle Va	3.87	112	*e*P		Pb		09 27 25.5	-4.4
VINA	Juan Vinas	3.89	113	*e*P		Pb		09 27 26.8	-3.3
VERB	Verbena	3.92	112	*e*P		Pn		09 27 25.7	+4.2
LCOCO	El Coco	3.99	110	*e*P		Pb		09 27 27.9	-3.9
CDM	Cerro de Muert	4.02	118	*e*P		Pn		09 27 25.6	+2.4
BATAN	Batan	4.15	109	Pn		Pn		09 27 28.7	+4.1
BATAN	Batan	4.15	109	*e*P		Pn		09 27 29.4	+4.8
PEZE	Perez Zeledon,	4.18	119			Pn		09 27 27.3	+2.2
PEZE	Perez Zeledon,	4.18	119	*e*P		Pn		09 27 27.1	+2.0
SRBA	San Rafael, Bu	4.53	119	Pn		Pn		09 27 31.5	+1.6
SRBA	San Rafael, Bu	4.53	119	*e*P		Pn		09 27 31.7	+1.8
BURE	Buenos Aires	4.57	119	*e*P		Pn		09 27 33.0	+2.5
DRK0	Durika	4.61	118			Pn		09 27 32.9	+1.8
DRK0	Durika	4.61	118	*e*P		Pn		09 27 33.1	+2.0
APG	El Apazote	4.63	320	Pn		Pn		09 27 35.4	+3.9
	comp=Z,0.1nm,0.3s,baz=36,slow=23,SNR=2.3								
APG				Sn		Sn		09 28 24.2	-1.1
	comp=Z,0.1nm,0.3s,baz=168,slow=9.2,SNR=4.3								
EDP2	Potrero Grande	4.79	120	*e*P		Pn		09 27 37.1	+3.6
POTG	Potrero Grande	4.82	119	*e*P		Pn		09 27 36.8	+2.8
PIRO	Carate, Puerto	5.00	127	*e*P		Pn		09 27 38.7	+2.4
CDITO	Canoas	5.28	122			Pn		09 27 42.9	+2.8
BRU2	Volcan	5.32	119	Pn		Pn		09 27 43.0	+2.2
BRU2	Volcan	5.32	119	*e*P		Pn		09 27 43.0	+2.2
TEIG	Tepich	8.76	354	LR		LR		09 32 22.0	
	comp=Z,897nm,19.8s,slow=43								
TLIG	Tlapa	12.42	301			Pn		09 29 22.2	+4.0
COHC	Cochancay	16.02	149			P		09 30 11.7	+1.6
SDV	Santo Domingo	16.67	97	P		Pn		09 30 16.3	+1.0
SDV	Santo Domingo	16.67	97	Pn		Pn		09 30 12.9	-2.4
	comp=Z,0.2nm,0.3s,baz=270,slow=6.1,SNR=2.7								
	comp=Z,3.0nm,0.8s								
HBVL	Hebbronville	18.81	327	P		Pn		09 30 43.3	+1.9
HBVL				IAmb		IAmb		09 30 44.5	
	comp=Z,28nm,0.9s								
BAUV	El Baul	19.19	96	P		P		09 30 44.8	-0.4
352A	Blakely	20.05	6	P		P		09 30 54.6	+0.2
352A				IAmb		IAmb		09 31 01.8	
	comp=Z,16nm,0.8s								
TIGA	Tifton	20.19	9	P		P		09 30 56.7	+0.7
TIGA				IAmb		IAmb		09 31 04.9	
	comp=Z,30nm,1.1s								
833A	Chaparral WMA,	20.20	328	P		P		09 30 56.4	+0.2
833A				IAmb		IAmb		09 30 58.3	
	comp=Z,26nm,0.9s								
ATAH	Atahualpa	20.52	154	LR		LR		09 37 58.0	
	comp=Z,83nm,18.1s,baz=353,slow=34								
VBMS	Vicksburg	20.86	352	P		P		09 31 03.9	+0.6
HNDO	Hondo	21.13	330	P		P		09 31 06.5	+0.4
146A	Union	21.14	356	P		P		09 31 06.5	+0.3
146A				IAmb		IAmb		09 31 10.8	
	comp=Z,15nm,0.8s								
152A	Waverly Hall	21.25	6	P		P		09 31 05.5	-1.9
152A				IAmb		IAmb		09 31 11.4	
	comp=Z,15nm,0.8s								
LRAL	Lakeview Retre	21.48	1	P		P		09 31 09.5	-0.3
LRAL				IAmb		IAmb		09 31 13.9	
	comp=Z,12nm,0.8s								
Z47A	Carrollton	21.65	358	P		P		09 31 10.8	-0.9
Z47A				IAmb		IAmb		09 31 14.6	
	comp=Z,12nm,0.8s								
DRIO	Del Rio	21.72	327	P		P		09 31 12.8	+0.2
GOGA	Godfrey	22.14	9	P		P		09 31 17.1	+0.1
GOGA				IAmb		IAmb		09 31 19.5	
	comp=Z,9.3nm,0.8s								
Z41A	Richland Creek	22.26	348	P		P		09 31 18.7	+0.4
Z41A				IAmb		IAmb		09 31 20.8	
	comp=Z,13nm,0.7s								
Y49A	Blount Mountai	22.31	2	P		P		09 31 18.0	-0.8
Y49A				IAmb		IAmb		09 31 20.3	
	comp=Z,13nm,0.9s								
PCRV	Puerto La Cruz	22.37	91	P		P		09 31 18.0	-1.7
	comp=Z,8.0nm,0.7s,baz=228,slow=6.8,SNR=6.0								
	comp=Z,8.0nm,0.7s								
WHTX	Lake Whitney,	22.45	337	P		P		09 31 21.9	+1.6
WHTX				IAmb		IAmb		09 31 26.2	
	comp=Z,20nm,1.4s								
Y52A	Lilburn	22.51	7	P		P		09 31 21.0	+0.1
Z38A	Mt. Pleasant	22.80	343	P		P		09 31 24.7	+0.8
OZNA	Ozona	23.18	329	P		P		09 31 28.4	+0.3
TXAR	Lajitas Array	23.39	322	P		P		09 31 31.0	+0.8
	comp=Z,2.2nm,0.6s,baz=134,slow=10,SNR=35								
TXAR				PcP		PcP		09 35 19.3	+2.4
	comp=Z,0.8nm,0.8s,baz=178,slow=3.5,SNR=5.6								
	comp=Z,2.2nm,0.6s								
TX31	Lajitas Ar. Si	23.39	322	P		P		09 31 31.3	+1.1
PLPT	Palo Pinto	23.51	336	P		P		09 31 33.0	+1.6
PLPT				IAmb		IAmb		09 31 42.1	
	comp=Z,8.3nm,0.8s								
MIAR	Mount Ida	23.67	347	P		P		09 31 32.5	-0.3
MIAR				IAmb		IAmb		09 31 34.2	
	comp=Z,9.8nm,0.8s								
W50A	Signal Mountai	23.71	4	P		P		09 31 32.1	-1.1
W50A				IAmb		IAmb		09 31 34.5	
	comp=Z,14nm,0.9s								
W52A	Murphy	23.74	7	P		P		09 31 33.6	+0.1
W52A				IAmb		IAmb		09 31 35.2	
	comp=Z,12nm,0.8s								
BG3	Lake Jocassee	23.77	9	P		P		09 31 34.0	+0.2
BG3				IAmb		IAmb		09 31 34.8	
	comp=Z,13nm,0.8s								
CPCT	Cooper Cave	24.02	6	P		P		09 31 36.2	0.0
CPCT				IAmb		IAmb		09 31 37.1	
	comp=Z,10nm,0.9s								
LOOK	Love County	24.16	340	P		P		09 31 37.4	0.0
TKL	Tuckaleechee C	24.31	7	P		P		09 31 38.2	-0.7
TKL				IAmb		IAmb		09 31 39.4	
	comp=Z,10nm,0.8s								
V53A	Saluda	24.46	9	P		P		09 31 40.0	-0.2
V53A				IAmb		IAmb		09 31 41.8	
	comp=Z,7.9nm,0.7s								
V52A	Sevierville	24.52	7	P		P		09 31 40.3	-0.4
V52A				IAmb		IAmb		09 31 41.1	
	comp=Z,6.4nm,0.8s								
WVT	Waverly	24.57	359	P		P		09 31 40.4	-0.8
FCAR	Ozark Folk Cen	24.70	351	P		P		09 31 41.1	-1.3
FCAR				IAmb		IAmb		09 31 42.4	
	comp=Z,8.5nm,0.7s								
V55A	Taylorsville	24.92	12	P		P		09 31 44.8	+0.5
U49A	Red Boiling Sp	24.99	3	P		P		09 31 44.1	-0.9
U49A				IAmb		IAmb		09 31 46.6	
	comp=Z,8.3nm,0.8s								
TZTN	Tazewell	25.21	7	P		P		09 31 46.5	-0.5
PBMO	Poplar Bluff	25.36	354	P		P		09 31 47.4	-0.9
PBMO				IAmb		IAmb		09 31 49.1	
	comp=Z,7.0nm,0.7s								
CCM	Cathedral Cave	26.71	353	P		P		09 32 00.3	-0.2
Q51A	Peebles	27.69	7	P		P		09 32 08.5	-0.9
P52A	Corning	28.44	9	P		P		09 32 15.0	-1.0
ETMB	Extrema	29.82	134	P		P		09 32 30.0	+1.5
SAML	Samuel	31.46	129	P		P		09 32 43.2	+0.1
SAML				IAmb		IAmb		09 32 44.4	

	comp=Z,3.8nm,0.7s								
G62A	West of Eustis	36.60	20	P		P		09 33 26.4	-0.9
PDAR	Pinedale Array	36.68	332	P		P		09 33 27.9	-0.4
	comp=Z,0.5nm,0.6s,baz=123,slow=10,SNR=7.3								
PDAR				PcP		PcP		09 35 51.3	+0.2
	comp=Z,0.6nm,0.8s,baz=130,slow=3.9,SNR=5.1								
PDAR				LR		LR		09 50 07.6	
	comp=Z,16nm,18.1s,baz=109,slow=39								
	comp=Z,0.5nm,0.6s								
REDW	Red Top Meadow	37.74	332	P		P		09 33 37.3	0.0
SNOW	Snow King Moun	37.77	332	P		P		09 33 38.5	+0.9
ELK	Elko	38.11	325	P		P		09 33 43.5	+3.0
	comp=Z,1.3nm,0.8s,baz=127,slow=3.3,SNR=5.6								
NVAR	Mina Array Bea	38.50	320	P		P		09 33 45.7	+1.9
	comp=Z,0.5nm,0.7s,baz=110,slow=7.8,SNR=3.3								
NVAR				PcP		PcP		09 35 57.9	+1.2
	comp=Z,0.8nm,0.7s,baz=134,slow=4.0,SNR=6.6								
	comp=Z,0.5nm,0.7s								
ULM	Lac du Bonnet	39.31	351	P		P		09 33 48.0	-2.1
	comp=Z,4.7nm,0.8s,baz=166,slow=9.8,SNR=10								
	comp=Z,4.7nm,0.8s								
RPN	Rapa Nui	43.88	209	LR		LR		09 47 55.3	
	comp=Z,41nm,18.4s,baz=76,slow=29								
SCHQ	Schefferville	46.20	16	P		P		09 34 43.2	-2.8
	comp=Z,2.4nm,0.7s,baz=218,slow=6.4,SNR=5.3								
SCHQ				LR		LR		09 54 14.0	
	comp=Z,52nm,18.2s,baz=247,slow=37								
	comp=Z,2.4nm,0.7s								
BDFB	Brasilia	47.36	124	P		P		09 34 56.4	+0.7
	comp=Z,4.3nm,0.6s,baz=295,slow=10,SNR=8.9								
	comp=Z,4.3nm,0.6s								
YKA	Yellowknife Ar	54.58	345	P		P		09 35 48.6	-0.6
	comp=Z,0.5nm,0.7s,baz=138,slow=7.7,SNR=11								
YKA				PcP		PcP		09 36 52.4	+0.1
	comp=Z,0.2nm,0.6s,baz=148,slow=4.7,SNR=4.6								
	comp=Z,0.5nm,0.7s								
SFJD	Kangerlussuaq	60.65	16	LR		LR		10 02 58.9	
	comp=Z,38nm,18.6s,baz=190,slow=37								
ILAR	Eielson Array	66.95	336	P		P		09 37 13.2	-0.3
	comp=Z,0.2nm,0.6s,baz=152,slow=4.0,SNR=2.5								
	comp=Z,0.2nm,0.6s								
ELIB	Princess Elisa	107.20	162	*d*PKiKP		PKiKP		09 44 49.9	+2.9
	comp=Z,4.2nm,1.3s								
KURBB	Kurchatov Arra	116.97	10	PKP		PKPdf		09 45 05.8	-0.3
	comp=Z,0.2nm,0.5s,baz=347,slow=2.9,SNR=2.2								
KSRS	Korea Array	121.15	328	PKP		PKiKP		09 45 15.5	+0.8
	comp=Z,1.0nm,0.6s,baz=3.1,slow=2.4,SNR=5.0								
MKAR	Makanchi Array	121.28	8	PKP		PKPdf		09 45 13.6	-1.0
	comp=Z,0.1nm,0.4s,baz=333,slow=3.7,SNR=2.5								
ASAR	Alice Springs	138.96	247	PKP		PKiKP		09 45 50.0	-0.8
	comp=Z,0.7nm,0.8s,baz=104,slow=2.3,SNR=5.0								
WRA	Warramunga Arr	139.06	253	PKP		PKiKP		09 45 51.5	+0.4
	comp=Z,1.3nm,0.8s,baz=88,slow=2.0,SNR=13								
CMAR	Chiang Mai Arr	149.63	348	PKPbc		PKiKP		09 46 12.3	-0.6
	comp=Z,2.0nm,0.4s,baz=350,slow=4.0,SNR=15								

CATAC ***24*** *09:31:43.3±0.2, 11.51N×87.40W, h10km, ML3.9*
IDC ***24*** *09:31:43.0±1.0, 12.12N×86.72W, h0km, mb3.7/6,*
mbtmp3.7/8, ML3.5/2, Error ellipse: s-maj=59.2km
s-min=15.8km az=47.0
ISC 24 09:31:44.7±1.8, 11.47N±0.05×87.40W±0.04, h23km±13km,
n71,σ1967/96, mb3.6/6, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	1.19	64	*i* P		Pn		09 32 06.6	+0.6
CRUN				IAML				09 32 37.9	
	comp=Z,7.4nm,1.0s								
MACN	El Madrono	1.22	35	*i* P		Pn		09 32 06.0	-0.4
MACN				IAML				09 32 15.2	
	comp=Z,2μm,1.0s								
CNGN	Cerro Negro	1.23	33	*i* P		Pn		09 32 04.9	-1.7
CNGN				IAML				09 32 14.1	
	comp=Z,3μm,1.0s								
ABCN	Banco Central	1.25	58	*i* P		Pn		09 32 06.0	-0.7
ABCN				IAML				09 32 22.7	
	comp=Z,5μm,1.0s								
MOMN	Momotombo	1.26	42	*i* P		Pn		09 32 06.4	-0.5
MOMN				IAML				09 32 24.3	
	comp=Z,94nm,1.0s								
RE6B4	Centro civico	1.26	58	*i* P		Pn		09 32 06.1	-0.8
RE6B4				IAML				09 32 45.7	
	comp=Z,2μm,1.0s								
HERN	Volcan Telica	1.26	26	*i* P		Pn		09 32 06.5	-0.5
HERN				IAML				09 32 17.9	
	comp=Z,2μm,1.0s								
PKGN	Cerro Pekin	1.27	19	*i* P		Pn		09 32 06.5	-0.5
PKGN				IAML				09 32 16.1	
	comp=Z,7μm,1.0s								
PLRN	Geotermica Pol	1.27	29	*i* P		Pn		09 32 05.4	-1.7
PLRN				IAML				09 32 14.9	
	comp=Z,2μm,1.0s								
CRIN	San Cristobal	1.27	15	*i* P		Pn		09 32 07.0	-0.2
CRIN				IAML				09 32 16.5	
	comp=Z,5μm,1.0s								
UNAN	Cigeo UNAN	1.27	60	*i* P		Pn		09 32 06.5	-0.6
UNAN				IAML				09 32 44.9	
	comp=Z,11μm,1.0s								
APQ2	Apoyeque	1.28	55	*i* P		Pn		09 32 07.4	+0.3
APQ2				IAML				09 32 55.9	
	comp=Z,2μm,1.0s								
APYN	Apoyeque	1.28	53	*i* P		Pn		09 32 06.2	-1.0
APYN				IAML				09 32 33.5	
	comp=Z,1μm,1.0s								
TISN	Laguna Tiscapa	1.29	58	*i* P		Pn		09 32 02.7	-4.7
R8CCA	La Lomita	1.29	60	*i* P		Pn		09 32 06.8	-0.6
R8CCA				IAML				09 32 11.9	
	comp=Z,2μm,1.0s								
RB213	Mirador 2 Volc	1.31	67	*i* P		Pn		09 32 06.5	-1.1
RB213				IAML				09 32 44.7	
	comp=Z,2μm,1.0s								
R0529	La Mascota	1.31	60	*i* P		Pn		09 32 07.0	-0.6
R0529				IAML				09 32 09.4	
	comp=Z,1μm,1.0s								
R4DEC	Barrio San Lui	1.31	59	*i* P		Pn		09 32 06.6	-1.0
R4DEC				IAML				09 32 16.3	
	comp=Z,1μm,1.0s								
MOM2	El Cardon	1.31	43	*i* P		Pn		09 32 07.3	-0.4
MOM2				IAML				09 32 16.4	
	comp=Z,1μm,1.0s								
MAS3	Al N del Volca	1.32	65	*i* P		Pn		09 32 06.8	-0.9
MAS3				IAML				09 32 30.9	
	comp=Z,1μm,1.0s								
R45A8	Distro VI	1.33	60	*i* P		Pn		09 32 07.0	-0.9
R45A8				IAML				09 32 15.4	
	comp=Z,2μm,1.0s								
NADN	Granada	1.37	78	*i* P		Pn		09 32 07.8	-0.6
NADN				*i* S		Sn		09 32 25.3	-0.5
NADN				IAML				09 32 26.9	
	comp=Z,2μm,1.0s								
WILN	Americas 2	1.37	60	*i* P		Pn		09 32 07.9	-0.5
WILN				*i* S		Sb		09 32 28.8	+2.1
WILN				IAML				09 32 46.3	
	comp=Z,1μm,1.0s								
BRAN	Las Pilas	1.61	39	*i* P		Pn		09 32 04.9	-6.9
BRAN				IAML				09 32 14.9	
	comp=Z,2μm,1.0s								
OMEN	Al SSO del Vol	1.73	88	*i* P		Pn		09 32 06.5	-6.9
CNCH	Conchagua	1.85	347	*i* P		Pn		09 32 14.7	-0.5
CNCH				IAML				09 32 50.6	
	comp=Z,2μm,1.0s								
LIMN	Finca el Limon	1.88	32	*i* P		Pn		09 32 14.7	-0.8
LIMN				IAML				09 32 25.6	
	comp=Z,2μm,1.0s								
LCND	La Caada	1.90	345	*i* P		Pn		09 32 15.3	-0.4
LCND				IAML				09 32 45.2	
	comp=Z,720nm,1.0s								
HZTE	Horizontes, Gu	1.92	113	*i* P		Pn		09 32 15.6	-0.4
HZTE				*i* S		Sn		09 32 39.7	+0.3
HZTE				IAML				09 33 00.1	
	comp=Z,910nm,1.0s								
BOAB	BOACO BROADBAN	.96	60	*i* P		Pn		09 32 15.4	-1.1
BOAB				IAML				09 33 03.1	
	comp=Z,480nm,1.0s								
SAJU	San Juanillo,	2.16	130	*i* P		Pn		09 32 17.9	-1.4
SAJU				*i* S		Sn		09 32 42.2	-3.2
SAJU				IAML				09 32 44.0	
	comp=Z,260nm,1.0s								
PACA	Pacayal	2.19	336	*i* P		Pn		09 32 20.1	+0.3
PACA				IAML				09 33 10.9	
	comp=Z,3μm,1.0s								
ORTG	Ortega, Santa	2.19	120	*i* P		Pn		09 32 19.5	-0.4
ORTG				IAML				09 32 33.6	
	comp=Z,330nm,1.0s								
ORTG				*i* S		Sn		09 32 44.6	-1.8

ACON	Acoyapa	2.23	77	*i* P		Pn		09 32 19.4	-0.9
ACON				IAML				09 32 58.9	
	comp=Z,320nm,1.0s								
RCPN	Sur Rio San Ju	2.41	32	*i* P		Pn		09 32 22.6	-0.3
RCPN				IAML				09 32 39.4	
	comp=Z,0.6nm,1.0s								
PQSS	Presa 15 de Se	2.43	332	*i* P		Pn		09 32 23.3	+0.3
PQSS				*i* S		Sn		09 32 51.4	-0.6
PQSS				IAML				09 32 54.8	
	comp=Z,110nm,1.0s								
INDI	Punta indio, G	2.45	130	*i* P		Pn		09 32 22.5	-0.7
INDI				*i* S		Sn		09 32 48.7	-3.8
INDI				IAML				09 33 29.8	
	comp=Z,260nm,1.0s								
SCLA	Alcaldia de Sa	2.58	330	*i* P		Pn		09 32 25.0	-0.1
SCLA				IAML				09 32 35.3	
	comp=Z,150nm,1.0s								
SCLA				*i* S		Sn		09 32 55.2	-0.5
TGUH	Tegucigalpa,Un	2.58	3	*i* P		Pn		09 32 25.5	+0.3
TGUH				IAML				09 33 09.5	
	comp=Z,400nm,1.0s								
COEG	Centro de Oper	2.59	326	*i* P		Pn		09 32 25.2	0.0
COEG				*i* S		Sn		09 32 55.1	-0.9
COEG				IAML				09 33 18.0	
	comp=Z,200nm,1.0s								
SJTE	Alcalda de S	2.65	324	*i* P		Pn		09 32 26.6	+0.4
SJTE				*i* S		Sn		09 32 56.3	-1.4
SJTE				IAML				09 32 59.1	
	comp=Z,200nm,1.0s								
JTS	Las Juntas de	2.67	116	Pn		Pn		09 32 26.5	+0.2
	comp=Z,5.8nm,0.3s,baz=312,slow=18,SNR=8.6								
JTS				Sn		Sn		09 32 57.1	-0.9
	comp=Z,14nm,0.3s,baz=279,slow=15,SNR=6.6								
	comp=Z,6.7nm,0.3s								
PAVA	Las Pavas	2.69	326	*i* P		Pn		09 32 27.3	+0.5
PAVA				*i* S		Sn		09 32 58.3	-0.4
PAVA				IAML				09 33 15.3	
	comp=Z,350nm,1.0s								
SOCE	Pocosol	2.93	111	*i* P		Pn		09 32 31.0	+1.0
SOCE				IAML				09 33 10.6	
	comp=Z,140nm,1.0s								
LAFE	Finca La Fe, P	2.95	124	*i* P		Pn		09 32 29.9	-0.2
LAFE				*i* S		Sn		09 33 01.0	-3.8
LAFE				IAML				09 33 03.6	
	comp=Z,2.0nm,1.0s								
JACO	JACO, Garabito	3.23	123	*i* P		Pn		09 32 35.1	+1.1
JACO				*i* S		Sn		09 33 10.3	-1.6
JACO				IAML				09 33 47.1	
	comp=Z,120nm,1.0s								
TCS1	Tacares	3.35	115	*i* P		Pn		09 32 37.1	+1.3
TCS1				IAML				09 33 18.5	
	comp=Z,2μm,1.0s								
NUBE	Las Nubes	3.36	316	*i* P		Pn		09 32 36.1	+0.2
NUBE				*i* S		Sn		09 33 12.8	-2.4
NUBE				IAML				09 33 19.5	
	comp=Z,220nm,1.0s								
SIUN	Universidad Ur	3.40	49	*i* P		Pn		09 32 39.8	+3.4
JUAM	Asuncion Mita	3.63	322	*i* P		Pb		09 32 47.0	-1.3
OCM	Ochomogo	3.72	114	*i* P		Pn		09 32 43.4	+2.5
OCM				*i* S		Sn		09 33 25.0	+0.8
LCR2	La Lucha 2	3.75	117	*i* P		Pn		09 32 42.9	+1.6
LCR2				*i* S		Sn		09 33 24.2	-0.7
LCR2				IAML				09 33 28.5	
	comp=Z,98nm,1.0s								
RIMA	Rio Macho	3.86	116	*i* P		Pn		09 32 43.7	+0.8
RIMA				IAML				09 32 47.2	
	comp=Z,85nm,1.0s								
RIMA				*i* S		Sn		09 33 26.3	-1.4
VTCV	VTCV, Calle Va	3.90	112	*i* P		Pn		09 32 46.4	+3.0
VTCV				*i* S		Sn		09 33 32.0	+3.5
CDM	Cerro de Muert	4.04	118	*i* P		Pn		09 32 46.7	+1.1
CDM				*i* S		Sn		09 33 30.5	-2.1
CDM				IAML				09 33 38.3	
	comp=Z,65nm,1.0s								
BATAN	Batan	4.18	109	*i* P		Pn		09 32 50.4	+3.4
BATAN				*i* S		Sn		09 33 39.8	+4.6
PEZE	Perez Zeledon,	4.20	119	*i* P		Pn		09 32 48.7	+1.2
PEZE

GTBY			IAML		09 48 51.4	
	comp=E,44nm,2.2s					
GTBY	**Guantanamo Bay**	**1.85 305**	*eP*	**Pn**	**09 48 13.9**	**+0.9**
GTBY			*eS*	**Sn**	**09 48 35.2**	**-0.1**
GTBY	**Guantanamo Bay**	**1.85 305**	*i P*	**Pn**	**09 48 13.3**	**+0.4**
GTBY			IAML		09 48 45.8	
	comp=Z,21nm,1.6s					
LOPE2	**Hotel El Peder**	**1.86 116**	*i P*	**Pb**	**09 48 15.6**	**-1.1**
LOPE2			*eS*	**Sb**	**09 48 39.5**	**0.0**
LOPE2			IAML		09 48 43.0	
	comp=Z,38nm,1.4s					
REDR	**Restauracion**	**2.02 81**	⇓*eP*g	**Pn**	**09 48 15.6**	**+0.3**
REDR			⇑*eS*g	**Sn**	**09 48 39.2**	**-0.3**
REDR			IAML		09 48 40.6	
	comp=N,78nm,0.1s					
REDR			IAML		09 48 41.8	
	comp=E,159nm,0.2s					
SDDR	**Presa de Saban**	**2.10 87**	⇑*eP*g	**Pb**	**09 48 20.4**	**-0.4**
SDDR			⇓*eS*g	**Sb**	**09 48 45.8**	**-0.6**
SDDR			IAML		09 48 57.0	
	comp=N,40nm,0.5s					
SDDR			IAML		09 49 02.6	
	comp=E,27nm,1.4s					
SDDR	**Presa de Saban**	**2.10 87**	*i P*	**Pb**	**09 48 20.4**	**-0.4**
SDDR			*eS*	**Sb**	**09 48 47.6**	**+1.2**
SDDR			IAML		09 48 54.9	
	comp=Z,24nm,1.6s					
PODR	**Polo**	**2.22 108**	⇑*eP*g	**Pb**	**09 48 21.8**	**-1.1**
PODR			⇑*eS*g	**Sn**	**09 48 45.5**	**+0.7**
PODR			IAML		09 48 59.7	
	comp=E,38nm,0.8s					
PODR			IAML		09 49 02.6	
	comp=N,34nm,1.2s					
PODR	**Polo**	**2.22 108**	*i P*	**Pb**	**09 48 21.8**	**-1.1**
SABCS	**La Quijada**	**2.26 311**	*eP*	**Pn**	**09 48 19.2**	**+0.4**
RCC	**Rio Carpintero**	**2.35 299**	*eP*	**Pn**	**09 48 19.9**	**0.0**
RCC			*eS*	**Sn**	**09 48 49.1**	**+1.3**
MARVS	**Santiago de Cu**	**2.53 297**	*eP*	**Pn**	**09 48 23.5**	**+1.1**
MARVS			*eS*	**Sn**	**09 48 54.9**	**+2.7**
PINC	**Pinares de May**	**2.69 307**	*eP*	**Pn**	**09 48 24.9**	**+0.3**
LMGC	**Las Mercedes**	**3.51 290**	*eP*	**Pn**	**09 48 34.8**	**-1.0**
LMGC			*eS*	**Sn**	**09 49 12.1**	**-4.3**

IDC 24 09:56:05.9±8.0, 5°72'S×142°09'E, h0km, mb3.4/1, mbtmp3.3/3, ML3.1/2, Error ellipse: s-maj=286.6km s-min=37.2km az=94.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.02**	**207**	Pn	Pn	09 59 52.4	-0.4
	0.1nm,0.3s,baz=28,slow=12,SNR=6.5						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**19.50**	**203**	P	P	10 00 35.1	+0.2
	baz=34,slow=9.8,SNR=7.1						
	1.2nm,1.0s						
MKAR	**Makanchi Array**	**74.22**	**322**	P	P	10 07 44.8	0.0
	0.3nm,0.7s,baz=103,slow=5.2,SNR=2.6						
	0.3nm,0.7s						

*NEIC **24** 09:59:00.7±0.9, 19°.43N±0°.01×155°.283W±0°.007, h1km±4km, Error ellipse: s-maj=1.5km s-min=0.9km az=189.0*

HVO 24 09:58:59.9±1.0, 19°.422N±0°.010×155°.275W±0°.007, h0km±3km, ML2.7/17, ML1.7/33(NEIC), Error ellipse: s-maj=1.5km s-min=0.9km az=188.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWB	**Uwekahuna B**	**0.00**	**308**		Pg	09 59 00.3	+0.1
SBLHI	**Steaming Bluff**	**0.01**	**54**		Pg	09 59 00.6	+0.3
SBLHI					Sg	09 59 00.7	+0.3
OBL	**Observatory Le**	**0.01**	**241**		Pg	09 59 00.6	+0.4
NPH	**North Pit**	**0.01**	**210**		Pg	09 59 00.5	+0.3
HATHI	**Halema'uma'u T**	**0.01**	**87**		Pg	09 59 00.6	+0.3
BYL	**Byron's Ledge**	**0.02**	**126**		Pg	09 59 00.8	+0.4
UWE	**Uwekahuna**	**0.02**	**266**		Pg	09 59 00.8	+0.4
KKO	**Keanakako`i**	**0.03**	**161**		Pg	09 59 01.1	+0.6
RIM	**Rim**	**0.03**	**178**		Pg	09 59 01.0	+0.5
RIM				IAML		09 59 01.5	
	comp=N,554nm,0.4s						
WRMHI	**West Rim**	**0.03**	**237**		Pg	09 59 01.0	+0.5
WRMHI				IAML		09 59 01.5	
	comp=N,763nm,0.4s						
SDHHI	**Sand Hill**	**0.04**	**209**		Pg	09 59 01.3	+0.6
SDHHI				IAML		09 59 01.8	
	comp=E,553nm,0.3s						
RSD	**Rainshed**	**0.04**	**356**		Pg	09 59 01.3	+0.5
RSD				IAML		09 59 01.7	
	comp=N,696nm,0.3s						
RSD				IAML		09 59 01.9	
	comp=E,800nm,0.2s						
PUH	**Pauahi**	**0.07**	**131**		Pg	09 59 02.3	+0.9
PUH				IAML		09 59 03.9	
	comp=E,678nm,0.3s						
PUH				IAML		09 59 04.0	
	comp=N,845nm,0.3s						
KNHH	**Kane Nui o Ham**	**0.11**	**113**		Pg	09 59 03.1	+1.1
MLH	**Mauna Loa**	**0.13**	**304**		Pg	09 59 03.4	+1.0
MLH				IAML		09 59 04.7	
	comp=E,354nm,0.2s						
MLH				IAML		09 59 06.3	
	comp=N,424nm,0.4s						
HLP	**Hilina Pali**	**0.13**	**194**		Pg	09 59 03.5	+1.1
HLP				IAML		09 59 04.6	
	comp=E,491nm,2.9s						
STCH	**Steam Cracks**	**0.15**	**105**	Pg	Pg	09 59 03.5	+0.8
STCH				IAML		09 59 07.0	
	comp=N,367nm,0.6s						
STCH				IAML		09 59 08.2	
	comp=E,374nm,0.1s						
NPOC	**North of Pu'u**	**0.16**	**101**	Pg	Pg	09 59 03.5	+0.5
NPOC				IAML		09 59 06.9	
	comp=E,335nm,0.8s						
NPOC				IAML		09 59 08.2	
	comp=N,299nm,0.6s						
JCUZ	**Jacuzzi**	**0.17**	**103**		Pg	09 59 03.9	+0.7
JCUZ				IAML		09 59 08.4	
	comp=E,260nm,0.3s						
JCUZ				IAML		09 59 09.1	
	comp=N,345nm,1.0s						
HTC	**Hot Caves**	**0.22**	**212**		Pg	09 59 05.0	+0.9
JOKA	**Jonika Flow**	**0.26**	**87**		Pg	09 59 05.3	+0.5
JOKA					Sg	09 59 09.6	+1.5
HMH	**Humu'ula Sheep**	**0.27**	**312**		Pg	09 59 05.8	+0.8
HMH				IAML		09 59 10.7	
	comp=E,196nm,1.8s						
MLOA	**Mauna Loa Obse**	**0.31**	**292**		Pg	09 59 06.5	+0.7
MWH	**Moku'aweowe**	**0.31**	**282**		Pg	09 59 06.5	+0.6
KHU	**Kahuku**	**0.37**	**241**	Pg	Pg	09 59 07.4	+0.5
ALEP	**Alea Permanent**	**0.37**	**289**		Pg	09 59 07.7	+0.7
POHA	**Pohakuloa**	**0.41**	**324**	Pg	Pg	09 59 08.2	+0.4
HUH	**Hualalai**	**0.59**	**296**		Pg	09 59 12.2	+1.0
KHLU	**Kahalu`u**	**0.61**	**286**		Pg	09 59 11.8	+0.2
HPAH	**Hawaii Prepara**	**0.72**	**327**	Pg	Pg	09 59 12.7	-1.2

*IDC **24** 10:02:48.2±2.8, 27°.52N×56°.71E, h0km, mb3.6/12, mbtmp3.6/12, MS3.1/2, Error ellipse: s-maj=57.3km s-min=25.5km az=163.0*

*TEH **24** 10:02:51.7, 27°.55N×56°.77E, h17km±27km, ML3.7*

*OMAN **24** 10:02:52.3±0.1, 27°.58N×56°.73E, h10km, mb3.7/6, ml3.6/22, Error ellipse: s-maj=1.0km s-min=0.6km az=34.0*

*DSN **24** 10:02:52.5±0.9, 27°.55N×56°.88E, h10km, ML3.6/7, Error ellipse: s-maj=28.4km s-min=8.8km az=106.0*

ISC 24 10:02:51.4±1.3, 27°.67N±0°.04×56°.78E±0°.04, h15km±9km, n76, σ1§52/103, mb3.5/12, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.31**	**223**	Pg	**Pg**	**10 02 57.5**	**-0.4**
GENO	**Geno**	**0.60**	**243**	Pg	**Pg**	**10 03 02.7**	**-0.6**
KHNJ	**Kahnooj**	**0.87**	**71**	Pg	**Pn**	**10 03 08.9**	**-0.2**
SHME	**Shamm**	**1.71**	**199**	P	**Pn**	**10 03 20.7**	**0.0**
SHME	**Shamm**	**1.71**	**199**	P	**Pn**	**10 03 21.9**	**+1.1**
	SNR=31						
SHME				S	**Sb**	**10 03 44.7**	**+0.7**
	SNR=7.6						
BANOM	**Banah**	**1.79**	**194**	P	**Pn**	**10 03 22.3**	**+0.4**
BANOM				S	**Sn**	**10 03 45.1**	**+0.6**
BANOM	**Banah**	**1.79**	**194**	P	**Pn**	**10 03 22.7**	**+0.8**
BANOM				S	**Sn**	**10 03 45.2**	**+0.7**

NGRK	**Negar Kerman**	**1.96**	**359**	Pn	**Pb**	**10 03 27.5**	**+0.4**
JASK	**Jask - Hormozg**	**2.05**	**151**	Pn	**Pn**	**10 03 25.7**	**+0.3**
JASK	**Jask - Hormozg**	**2.05**	**151**	P	**Pn**	**10 03 25.8**	**+0.5**
	SNR=12						
JASK				S	**Sb**	**10 03 53.0**	**-0.5**
KBAM	**BAM**	**2.07**	**45**	Pn	**Pb**	**10 03 29.2**	**+0.3**
LAR1	**LAR**	**2.13**	**270**	Pn	**Pn**	**10 03 28.5**	**+2.0**
CHMN	**Cheshme madani**	**2.28**	**17**	Pn	**Pb**	**10 03 33.1**	**+0.6**
TVBK	**TV Kerman**	**2.30**	**360**	Pn	**Pb**	**10 03 33.0**	**+0.1**
MASF	**Masafi**	**2.36**	**194**	P	**Pn**	**10 03 31.1**	**+1.4**
	SNR=18						
MASF				S	**Sn**	**10 04 00.2**	**+1.8**
UMQ	**Umm Al-Quwin**	**2.36**	**205**	P	**Pn**	**10 03 30.9**	**+1.3**
UMQ				S	**Sn**	**10 03 59.5**	**+1.1**
MSFE	**Esma-Masafi**	**2.37**	**194**	P	**Pn**	**10 03 30.9**	**+1.0**
MDH	**Madha**	**2.40**	**190**	P	**Pn**	**10 03 30.0**	**-0.2**
MDH	**Madha**	**2.40**	**190**	P	**Pn**	**10 03 30.9**	**+0.7**
MDH				S	**Sn**	**10 03 58.9**	**-0.5**
KHGB	**Koh Gabri**	**2.71**	**354**	Pn	**Pb**	**10 03 38.7**	**-1.0**
UOSS	**Minazif**	**2.77**	**191**	P	**Pn**	**10 03 35.7**	**+0.4**
UOSS	**Minazif**	**2.77**	**191**	P	**Pn**	**10 03 37.5**	**+2.3**
UOSS				S	**Sn**	**10 04 07.5**	**-0.9**
NAZ	**Nazwa, Dubai**	**2.86**	**201**	P	**Pn**	**10 03 38.2**	**+1.7**
NAZ				S	**Sn**	**10 04 13.0**	**+2.4**
HATD	**Hatta, Dubai**	**2.90**	**192**	P	**Pn**	**10 03 37.6**	**+0.5**
HATD	**Hatta, Dubai**	**2.90**	**192**	P	**Pn**	**10 03 38.7**	**+1.7**
HATD				S	**Sn**	**10 04 14.3**	**+2.7**
ASHO	**Ashiyiah**	**3.05**	**192**	P	**Pn**	**10 03 39.9**	**+0.8**
	SNR=12						
ASHO				S	**Sn**	**10 04 17.6**	**+2.2**
FAQ	**Al Faqa, Dubai**	**3.10**	**200**	P	**Pn**	**10 03 40.7**	**+0.8**
FAQ	**Al Faqa, Dubai**	**3.10**	**200**	P	**Pn**	**10 03 40.9**	**+1.0**
	SNR=20						
FAQ				S	**Sn**	**10 04 19.1**	**+2.4**
LMD1	**Lamerd**	**3.23**	**265**	Pn	**Pn**	**10 03 44.1**	**+2.5**
ASUD	**Al Ashush, Dub**	**3.30**	**204**	P	**Pn**	**10 03 43.7**	**+1.1**
ASUD	**Al Ashush, Dub**	**3.30**	**204**	P	**Pn**	**10 03 44.0**	**+1.4**
	SNR=22						
ASUD				S	**Sn**	**10 04 22.4**	**+0.8**
AJN	**Ajban**	**3.49**	**208**	P	**Pn**	**10 03 46.4**	**+1.2**
AJN				S	**Sn**	**10 04 27.5**	**+1.2**
SOHO	**SOHO**	**3.53**	**184**	P	**Pn**	**10 03 47.9**	**+2.1**
ALNE	**Al Ain**	**3.72**	**195**	P	**Pn**	**10 03 49.5**	**+1.2**
ALNE				S	**Sn**	**10 04 32.8**	**+0.9**
CHBR	**Chabahar**	**3.91**	**121**	Pn	**Pn**	**10 03 52.2**	**+1.2**
HOQ	**Hoqain**	**4.10**	**173**	P	**Pn**	**10 03 53.9**	**+0.2**
HOQ				S	**Sn**	**10 04 40.2**	**-1.2**
IMEH	**Mehriz**	**4.16**	**334**	Pn	**Pn**	**10 03 57.8**	**+3.3**
BIDO	**Bidbid**	**4.31**	**163**	P	**Pn**	**10 03 55.9**	**-0.6**
BIDO				S	**Sn**	**10 04 45.2**	**-1.4**
ARQ	**Araqi**	**4.33**	**183**	P	**Pn**	**10 03 57.7**	**+1.0**
JRN	**Qarnain Island**	**4.45**	**233**	P	**Pn**	**10 04 00.7**	**+2.2**
JRN				S	**Sn**	**10 04 49.2**	**-0.8**
NHDN	**Nehbandan**	**4.68**	**37**	Pn	**Pn**	**10 04 04.8**	**+3.1**
MZWR	**Madinat Zayed**	**4.69**	**214**	P	**Pn**	**10 04 03.3**	**+1.6**
MZWR				S	**Sn**	**10 04 53.8**	**-2.1**
SMDO	**Samad**	**4.74**	**166**	P	**Pn**	**10 04 02.8**	**+0.4**
SMDO				S	**Sn**	**10 04 56.3**	**-0.9**
BSY	**Bisya**	**4.92**	**175**	P	**Pn**	**10 04 05.9**	**+1.0**
BSY				S	**Sn**	**10 05 04.4**	**+2.8**
IKOO	**Kooshah**	**5.11**	**22**	Pn	**Pn**	**10 04 11.5**	**+3.8**
TPRV	**Parvadeh(Tabas**	**5.34**	**359**	Pn	**Pn**	**10 04 14.0**	**+3.4**
JMDO	**Jabal Madar**	**5.42**	**167**	P	**Pn**	**10 04 12.9**	**+1.2**
JMDO				S	**Sn**	**10 05 13.1**	**-0.7**
WBK	**Wadi Bani Khal**	**5.42**	**158**	Pn	**Pn**	**10 04 11.7**	**-0.1**
WBK	**Wadi Bani Khal**	**5.42**	**158**	P	**Pn**	**10 04 12.0**	**+0.3**
	SNR=8.4						
WBK				S	**Sn**	**10 05 11.9**	**-2.0**
SHMA	**Al-Shehemyia**	**5.50**	**252**	P	**Pn**	**10 04 13.7**	**+0.8**
	SNR=14						
SHMA				S	**Sn**	**10 05 14.7**	**-1.2**
MZR	**Muzera**	**5.53**	**213**	P	**Pn**	**10 04 13.7**	**+0.5**
MZR				S	**Sn**	**10 05 14.2**	**-2.3**
	SNR=5.9						
KLNJ	**Kolanjah**	**5.61**	**308**	Pn	**Pn**	**10 04 16.7**	**+2.0**
TRNA	**Turayna**	**5.79**	**241**	P	**Pn**	**10 04 16.3**	**-0.5**
TRNA				S	**Sn**	**10 05 18.9**	**-4.1**
SLWR	**Sila**	**5.82**	**233**	P	**Pn**	**10 04 17.2**	**0.0**
SLWR				S	**Sn**	**10 05 19.8**	**-3.9**
JLN	**Jalan Bani Buh**	**6.00**	**156**	P	**Pn**	**10 04 19.7**	**0.0**
JLN				S	**Sn**	**10 05 26.0**	**-2.1**
	SNR=7.2						
IGAR	**Gharneh**	**6.25**	**320**	Pn	**Pn**	**10 04 26.0**	**+2.7**
MHTO	**MHTO**	**6.75**	**170**	P	**Pn**	**10 04 30.6**	**+0.6**
	SNR=10.0						
KBD	**Kabd**	**8.14**	**283**	P	**Pn**	**10 04 49.2**	**+0.2**
DOK	**Doka**	**9.34**	**196**	P	**Pn**	**10 05 03.9**	**-1.6**
SHAO	**Shalim**	**9.66**	**187**	P	**Pn**	**10 05 09.0**	**-1.1**
DMTO	**DMTO**	**10.05**	**190**	P	**Pn**	**10 05 13.8**	**-1.5**
WHFO	**Wadi Hawf**	**10.10**	**197**	P	**Pn**	**10 05 15.0**	**-1.0**
ABTO	**Aybut**	**10.76**	**198**	P	**Pn**	**10 05 24.0**	**-1.1**
AAK	**Ala-Archa**	**20.74**	**39**	LR	LR	10 16 58.9	
	comp=Z,44nm,18.7s,baz=256,slow=41						
BRTR	**Keskin Array B**	**22.62**	**308**	P	**P**	**10 07 53.0**	**+1.1**
	0.4nm,0.5s,baz=135,slow=8.5,SNR=2.0						
BRTR				LR	LR	10 19 35.2	
	comp=Z,41nm,18.1s,baz=270,slow=44						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**27.27**	**18**	P	**P**	**10 08 36.3**	**+1.2**
	0.4nm,0.5s,baz=204,slow=2.8,SNR=1.9						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**27.67**	**40**	P	**P**	**10 08 39.5**	**+0.7**
	0.1nm,0.4s,baz=230,slow=8.3,SNR=1.7						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**28.26**	**30**	P	**P**	**10 08 44.0**	**+0.2**
	0.1nm,0.3s,baz=230,slow=7.2,SNR=2.7						
	0.1nm,0.3s						
AKASG	**Malin Array Be**	**31.07**	**325**	P	**P**	**10 09 08.4**	**-0.4**
	0.3nm,0.4s,baz=126,slow=8.5,SNR=2.2						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**33.35**	**30**	P	**P**	**10 09 29.2**	**+0.5**
	0.7nm,0.4s,baz=246,slow=9.0,SNR=3.6						
	0.7nm,0.4s						
FINES	**FINESS Array B**	**39.50**	**337**	P	**P**	**10 10 21.1**	**0.0**
	0.8nm,0.5s,baz=128,slow=9.1,SNR=10.0						
	0.8nm,0.5s						
HFS	**Hagfors**	**43.60**	**330**	P	**P**	**10 10 54.0**	**-0.8**
	0.7nm,0.4s,baz=116,slow=13,SNR=5.8						
	0.7nm,0.4s						
NOA	**NORSAR Array B**	**45.11**	**331**	P	**P**	**10 11 06.2**	**-0.7**
	0.9nm,0.8s,baz=124,slow=3.6,SNR=1.6						
	0.9nm,0.8s						
ARCES	**ARCESS Array B**	**45.65**	**345**	P	**P**	**10 11 11.0**	**0.0**
	1.8nm,0.8s,baz=143,slow=9.1,SNR=1.3						
	1.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**53.21**	**266**	P	**P**	**10 12 07.9**	**-1.6**
	0.3nm,0.5s,baz=49,slow=8.6,SNR=2.6						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	**89.88**	**356**	P	**P**	**10 15 49.7**	**+0.2**
	0.2nm,0.8s,baz=9.3,slow=4.6,SNR=2.7						
	0.2nm,0.8s						

JMA 24 10:03:54.8±0.5, 25°N±3°×14°1E±°, h90km, MV4.4/22, IOTO ISLANDS REGION, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.75**	**47**	P	Pn	10 04 24.0	+0.2
JHH2				S	Sn	10 04 46.2	+0.4
CBIJ	**Chichi jima**	**2.10**	**38**	P	Pn	10 04 29.0	+0.8
CBIJ				S	Sn	10 04 54.3	+0.5
BSO3	**Boso 3**	**9.33**	**359**	P	Pn	10 06 03.1	-3.1
BSO4	**Boso 4**	**9.53**	**358**	*eP*	Pn	10 06 07.4	-1.5
JHU	**Hanno**	**10.45**	**353**	*eP*	Pn	10 06 18.6	-3.1
JAG	**Ashikaga**	**11.01**	**355**	P	Pn	10 06 24.0	-5.2
JAG				*eS*	Sn	10 08 21.1	-9.2
JHO	**Hitachi**	**11.14**	**359**	*eP*	Pn	10 06 26.5	-4.5
JHO				*eS*	Sn	10 08 21.5	-12

*PNSN **24** 10:05:11.7, 45°.15N×122°.63W, h20km, MD2.3, Fault plane solution: NP1:ϕ≈235.00000°, δ≈65.00000°, λ≈40.00000°.*

*NEIC **24** 10:05:11.3±2.0, 45°.13N±0°.02×122°.63W±0°.03, h20km±5km, Error ellipse: s-maj=3.5km s-min=2.7km az=85.0*

SEA 24 10:05:11.7±1.7, 45°.15N±0°.02×122°.63W±0°.03, h20km±6km, ML2.3/16, ML2.4/40(NEIC), Error ellipse: s-maj=3.3km s-min=1.2km az=127.0, Washington-Oregon border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G04A	**Mulino**	**0.12**	**60**		Pg	10 05 15.9	+0.1
G04A					Sg	10 05 18.8	+0.3

COLT	**Colton High Sc**	**0.14**	**79**		Pg	10 05 16.1	+0.2
PGO	**Gresham**	**0.34**	**21**		Pg	10 05 19.0	-0.1
EYES	**Ewing Young ES**	**0.36**	**301**		Pb	10 05 19.4	0.0
BEAV	**Portland**	**0.41**	**338**		Pg	10 05 20.2	0.0
G03D	**McMinnville, O**	**0.46**	**278**		Pg	10 05 20.9	-0.1
G03D				IAML		10 05 28.2	
	comp=E,197nm,0.4s						
G03D				IAML		10 05 28.3	
	comp=N,214nm,0.4s						
HUBA	**Hudson Bay Hig**	**0.48**	**358**		Pg	10 05 21.3	-0.3
ROSS	**Ross**	**0.52**	**358**		Pb	10 05 21.7	-0.4
H04A	**Detroit Lake**	**0.56**	**146**		Pb	10 05 22.4	-0.3
H04A					Sb	10 05 30.2	-0.1
H04A				IAML		10 05 30.4	
	comp=E,325nm,0.3s						
TDH	**Tom, Dick, Har**	**0.61**	**76**		Pb	10 05 23.4	-0.2
H04D	**Lebanon**	**0.63**	**187**		Pb	10 05 23.6	-0.4
H04D					Sg	10 05 32.8	+0.2
H04D				IAML		10 05 33.1	
	comp=E,258nm,0.3s						
COR	**Corvallis**	**0.74**	**221**		Pb	10 05 25.5	-0.3
VLL	**Laurance Lake**	**0.74**	**64**		Pb	10 05 25.9	0.0
F04A	**Amboy**	**0.80**	**10**		Pb	10 05 26.1	-0.8
F04A					Sb	10 05 36.7	-0.7
F04A				IAML		10 05 36.8	
	comp=N,236nm,0.4s						
HEBO	**Mount Hebo**	**0.80**	**275**		Pb	10 05 26.2	-0.8
HEBO				IAML		10 05 35.1	
	comp=N,146nm,2.3s						
HEBO				IAML		10 05 55.4	
	comp=E,168nm,2.2s						
VFP	**Flag Point**	**0.84**	**78**		Pb	10 05 27.5	-0.1
MPOR	**Mary's Peak**	**0.92**	**226**		Pb	10 05 28.7	-0.3
MTMW	**Mount Mitchell**	**0.93**	**18**		Pb	10 05 28.2	-0.9
G05A	**Wamic**	**0.93**	**84**		Pn	10 05 29.5	-0.2
F04D	**Rainier, OR**	**0.98**	**344**		Pb	10 05 29.2	-0.7
F04D				IAML		10 05 48.3	
	comp=N,158nm,0.5s						
F04D				IAML		10 05 49.3	
	comp=E,150nm,0.5s						
BUCK	**Buck Mountain**	**0.98**	**195**	Pn	Pb	10 05 29.8	-0.2
BUCK				IAML		10 05 43.3	
	comp=E,65nm,3.1s						
RVW	**Rose Valley**	**1.01**	**355**		Pb	10 05 29.4	-1.1
B023	**Clatskanie**	**1.02**	**342**		Pb	10 05 29.6	-1.0
F03A	**Seaside**	**1.02**	**320**		Pb	10 05 29.9	-0.9
PRLK	**Prince Lake**	**1.05**	**153**		Pb	10 05 31.3	0.0
CDFW	**Cedar Flats**	**1.05**	**22**		Pb	10 05 30.6	-0.7
JLK	**June Lake**	**1.05**	**18**		Pb	10 05 30.4	-0.9
FL2	**Flat Top 2**	**1.07**	**10**		Pb	10 05 30.7	-0.9
SWF2	**Southwest Flan**	**1.07**	**15**		Pb	10 05 30.7	-1.0
HSR	**South Ridge**	**1.07**	**17**		Pb	10 05 30.9	-0.8
SHW	**Mount Saint He**	**1.08**	**14**		Pb	10 05 31.0	-0.8
ESD	**East Dome**	**1.10**	**17**		Pb	10 05 31.7	-0.5
VALT	**Mount Saint He**	**1.11**	**16**		Pn	10 05 31.4	-0.9
STD	**Studebaker Rid**	**1.13**	**14**		Pn	10 05 31.7	-0.8
SOSW	**Source of Smit**	**1.15**	**17**		Pn	10 05 31.8	-1.0
JRO	**Jston Ridge Ob**	**1.17**	**14**		Pn	10 05 32.3	-0.8
ERK	**Elk Rock**	**1.18**	**10**		Pn	10 05 32.2	-1.0
B201	**Coldwater, Mou**	**1.19**	**12**		Pn	10 05 32.3	-1.0
I05D	**Terrebonne, OR**	**1.22**	**131**		Pb	10 05 34.4	+0.3
I05D				IAML		10 05 53.2	
	comp=E,69nm,1.3s						
I05D				IAML		10 06 04.0	
	comp=N,72nm,4.8s						
ASR	**Mount Adams--S**	**1.24**	**35**		Pn	10 05 34.1	+0.1
TDL	**Tradedollar La**	**1.24**	**13**		Pn	10 05 33.3	-0.7
HBO	**Huckleberry Mo**	**1.32**	**170**		Pn	10 05 35.5	+0.3
KOSW	**Kosmos**	**1.35**	**13**		Pn	10 05 35.2	-0.3
I04A	**Tendick Farm,**	**1.36**	**173**		Pn	10 05 35.7	0.0
BMW	**Boistfort Moun**	**1.40**	**343**		Pn	10 05 35.6	-0.5
G06A	**Carlson Farm,**	**1.41**	**86**		Pb	10 05 37.0	-0.4
RADR	**Rader Ridge**	**1.52**	**328**	Pn	Pn	10 05 37.6	-0.1
RADR				IAML		10 06 04.0	
	comp=E,77nm,3.5s						
RADR				IAML		10 06 27.0	
	comp=N,64nm,3.9s						
I03D	**Drain, OR**	**1.54**	**200**	Pn	Pn	10 05 38.4	+0.4
I03D				IAML		10 05 59.7	
	comp=E,35nm,0.4s						
E03A	**Lebam**	**1.55**	**335**	Pn	Pn	10 05 38.1	0.0
E03A				IAML		10 05 58.9	
	comp=N,51nm,0.8s						
E03A				IAML		10 06 15.0	
	comp=E,43nm,4.1s						
LON	**Longmire**	**1.70**	**19**		Pn	10 05 40.9	+0.6
REMR	**Mount Rainier-**	**1.76**	**18**		Pn	10 05 42.1	+0.8
PINE	**Pine Mountain**	**1.81**	**138**	Pn	Pn	10 05 41.8	-0.2
PINE				IAML		10 06 05.3	
	comp=N,27nm,5.0s						
PINE				IAML		10 06 11.7	
	comp=E,25nm,0.5s						
OBSR	**Observation Ro**	**1.84**	**18**		Pb	10 05 43.8	-1.1
RVC	**Mount Rainier-**	**1.85**	**14**		Pn	10 05 43.6	+1.2
TRW	**Toppenish Ridg**	**1.85**	**51**		Pb	10 05 44.8	-0.2
B941	**Kapowsin**	**1.86**	**9**		Pn

*IDC **24** 10:10:03.6±0.8,25˙.29N×144˙.83E,h0km,mb3.9/14, mbtmp3.9/17,ML3.4/3,MS2.8/3, Error ellipse: s-maj=24.8km s-min=19.1km az=53.0*

ISC 24 10:10:08.8±0.7,25˙.3N±0˙.1×144˙.7E±0˙.1,h35km,n26, σ1§04/25,mb3.8/14,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.89**	**309**	Pn		**Pn**		**10 10 50.3**	**-2.0**
	6.3nm,0.3s,baz=198,slow=20,SNR=1.7								
JCJ				Sn		**Sn**		**10 11 24.7**	**-1.1**
	19nm,0.3s,baz=107,slow=19,SNR=7.0 78nm,1.0s								
MJAR	**Matsushiro Arr**	**12.53**	**335**	Pn		**Pn**		**10 13 03.7**	**-0.8**
	0.2nm,0.3s,baz=155,slow=11,SNR=22								
MJAR				Sn		**Sn**		**10 15 24.7**	**+1.9**
	baz=153,slow=25,SNR=1.8 4.6nm,0.8s								
JNU	**Nakatsue**	**14.36**	**306**	LR		LR		10 18 17.7	
	comp=Z,46nm,19.6s,baz=58,slow=34								
KSRS	**Korea Array**	**18.73**	**314**	P		**Pn**		**10 14 26.1**	**+1.0**
	0.2nm,0.3s,baz=123,slow=13,SNR=5.0 0.9nm,0.8s								
ASAJ	**Asahikawa**	**18.88**	**355**	LR		LR		10 20 44.2	
	comp=Z,28nm,21.3s,baz=170,slow=34								
H11N2	**WAKE ISLAND Hy**	**21.24**	**101**	T		T		10 36 09.5	
	baz=292								
H11N1	**WAKE ISLAND Hy**	**21.24**	**101**	T		T		10 36 08.8	
	baz=292								
H11N3	**WAKE ISLAND Hy**	**21.25**	**101**	T		T		10 36 12.3	
	baz=292								
PETK	**Petropavlovsk-**	**29.47**	**16**	LR		LR		10 26 10.9	
	comp=Z,16nm,20.4s,baz=198,slow=33								
SONM	**Songino Array**	**37.58**	**317**	P		**P**		**10 17 21.8**	**+1.9**
	0.8nm,0.7s,baz=130,slow=7.8,SNR=5.6 0.8nm,0.7s								
WRA	**Warramunga Arr**	**46.06**	**194**	P		**P**		**10 18 29.0**	**-0.3**
	2.4nm,1.1s,baz=9.7,slow=8.0,SNR=2.3 2.4nm,1.1s								
ASAR	**Alice Springs**	**49.76**	**193**	P		**P**		**10 18 58.2**	**+0.2**
	0.4nm,0.8s,baz=12,slow=14,SNR=1.2 0.4nm,0.8s								
ZALV	**Zalesovo Beam**	**52.33**	**320**	P		**P**		**10 19 17.8**	**+0.8**
	0.7nm,0.5s,baz=96,slow=10,SNR=1.9								
ZALV				PcP		**PcP**		**10 20 27.7**	**-0.1**
	0.4nm,0.3s,baz=114,slow=3.6,SNR=3.7 0.7nm,0.5s								
MKAR	**Makanchi Array**	**53.36**	**311**	P		**P**		**10 19 25.9**	**+1.1**
	0.3nm,0.6s,baz=96,slow=8.9,SNR=2.0								
MKAR				PcP		**PcP**		**10 20 32.1**	**+0.3**
	0.5nm,0.8s,baz=101,slow=7.5,SNR=2.6 0.3nm,0.6s								
KURBB	**Kurchatov Arra**	**55.91**	**315**	P		**P**		**10 19 43.9**	**+0.7**
	2.1nm,0.6s,baz=92,slow=8.1,SNR=12 2.1nm,0.6s								
ILAR	**Eielson Array**	**58.24**	**28**	P		**P**		**10 19 58.4**	**-1.1**
	0.4nm,0.8s,baz=259,slow=5.8,SNR=4.6 0.4nm,0.8s								
BVAR	**Borovoye Array**	**60.90**	**318**	P		**P**		**10 20 18.8**	**+0.9**
	2.2nm,0.8s,baz=72,slow=4.7,SNR=4.9								
BVAR				PcP		**PcP**		**10 21 01.4**	**+0.2**
	1.1nm,0.8s,baz=100,slow=6.3,SNR=2.3 2.2nm,0.8s								
YKA	**Yellowknife Ar**	**72.67**	**29**	P		**P**		**10 21 32.1**	**-0.6**
	0.5nm,0.6s,baz=295,slow=6.0,SNR=6.8 0.5nm,0.6s								
NVAR	**Mina Array Bea**	**79.86**	**52**	P		**P**		**10 22 14.1**	**-0.2**
	0.8nm,0.8s,baz=273,slow=6.0,SNR=5.7 0.8nm,0.8s								
FINES	**FINESS Array B**	**80.56**	**335**	P		**P**		**10 22 17.5**	**+0.2**
	1.6nm,0.5s,baz=56,slow=5.5,SNR=15								
FINES				LR		LR		11 02 15.5	
	comp=Z,342nm,20.4s,baz=188,slow=39 1.6nm,0.5s								
HFS	**Hagfors**	**85.97**	**338**	P		**P**		**10 22 44.7**	**-0.5**
	1.5nm,0.6s,baz=52,slow=7.5,SNR=1.7 1.5nm,0.6s								
NB2	**NORSAR Subarra**	**86.11**	**339**	P		**P**		**10 22 45.3**	**-0.7**
	comp=Z,3.4nm,1.0s,baz=42,slow=5.1								
NOA	**NORSAR Array B**	**86.11**	**339**	P		**P**		**10 22 45.5**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=46,slow=4.5,SNR=5.3 comp=Z,1.6nm,0.7s								
TXAR	**Lajitas Array**	**94.86**	**55**	P		**P**		**10 23 29.2**	**+1.5**
	comp=Z,0.1nm,0.6s,baz=305,slow=3.2,SNR=1.9 comp=Z,0.1nm,0.6s								
TORD	**Torodi Ar. Bea**	**127.47**	**312**	PKP		**PKiKP**		**10 29 11.4**	**0.0**
	comp=Z,0.3nm,0.8s,baz=26,slow=3.7,SNR=2.2								
LPAZ	**La Paz**	**148.11**	**80**	PKPbc		**PKiKP**		**10 29 52.7**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=270,slow=6.1,SNR=5.1								

*IDC **24** 10:18:39.0±1.4,23˙.58S×67˙.70W,h0km,mb3.6/3, mbtmp3.6/4,ML3.5/1, Error ellipse: s-maj=42.2km s-min=25.6km az=55.0*

*GUC **24** 10:18:48.5±0.7,23˙.02S×68˙.38W,h120km±3km,ML3.0*

ISC 24 10:18:49.5±1.0,23˙.03S±0˙.04×68˙.42W±0˙.07,h109km±7km, n18,σ0§59/31,mb3.5/3,1C-5D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.23**	**70**	⇓*i* P		**Pn**		**10 19 04.5**	**-0.7**
AF01				*i* S		**Sn**		**10 19 16.9**	**-0.2**
AF01				IAML				10 19 17.3	
	comp=E,924nm,0.4s								
LVC	**Limon Verde**	**0.62**	**313**	Pn		**Pn**		**10 19 07.3**	**-0.3**
	comp=E,70nm,0.3s,baz=138,slow=6.1,SNR=511								
LVC				Sn		**Sn**		**10 19 21.2**	**+0.2**
	comp=E,23nm,0.3s,baz=346,slow=23,SNR=37								
LVC	**Limon Verde**	**0.62**	**313**	⇓*i* P		**Pn**		**10 19 07.3**	**-0.3**
LVC				*i* S		**Sn**		**10 19 21.3**	**+0.2**
LVC				IAML				10 19 22.3	
	comp=E,810nm,0.3s								
PB15	**IPOC Station P**	**0.99**	**260**	⇑*i* P		**Pn**		**10 19 10.9**	**+0.2**
PB15				*i* S		**Sn**		**10 19 27.7**	**+1.0**
PB06	**IPOC Station P**	**1.11**	**287**	⇓*i* P		**Pn**		**10 19 12.0**	**0.0**
PB06				*i* S		**Sn**		**10 19 29.8**	**+0.8**
PB06				*i* S				10 19 29.9	
PB06				IAML				10 19 30.7	
	comp=E,308nm,0.3s								
PB09	**IPOC Station P**	**1.45**	**328**	⇓*i* P		**Pn**		**10 19 16.0**	**+0.2**
PB09				*i* S		**Sn**		**10 19 36.7**	**+0.9**
PB05	**IPOC Station P**	**1.66**	**276**	*eP*		**Pn**		**10 19 17.7**	**-0.6**
PB05				*i* S		**Sn**		**10 19 40.1**	**-0.1**
PB04	**IPOC Station P**	**1.75**	**293**	*eP*		**Pn**		**10 19 19.2**	**-0.3**
PB04				*i* S		**Sn**		**10 19 42.5**	**+0.2**
PB04				IAML				10 19 48.4	
	comp=N,107nm,0.4s								
PB07	**IPOC Station P**	**1.88**	**313**	⇓*i* P		**Pn**		**10 19 20.8**	**-0.3**
PB07				*i* S		**Sn**		**10 19 44.7**	**-0.6**
PB07				IAML				10 19 48.8	
	comp=E,134nm,0.4s								
PB02	**IPOC Station P**	**2.19**	**321**	*eP*		**Pn**		**10 19 24.5**	**-0.5**
PB02				*i* S		**Sn**		**10 19 50.9**	**-1.3**
PB02				IAML				10 19 57.8	
	comp=N,110nm,0.2s								
PB01	**IPOC Station P**	**2.21**	**333**	*eP*		**Pn**		**10 19 24.8**	**-0.6**
PB01				*i* S		**Sn**		**10 19 52.3**	**-0.4**
PB01				IAML				10 19 54.6	
	comp=E,180nm,0.2s								
GO02	**Mina Guanaco**	**2.38**	**207**	*eP*		**Pn**		**10 19 26.9**	**-0.7**
GO02				*i* S		**Sn**		**10 19 56.8**	**0.0**
TA01	**Diego Aracena**	**2.95**	**326**	*eP*		**Pn**		**10 19 34.5**	**-0.3**
TA01				*i* S		**Sn**		**10 20 08.9**	**-1.0**
TA01				IAML				10 20 17.2	
	comp=E,30nm,0.4s								
PB08	**IPOC Station P**	**2.96**	**346**	*eP*		**Pn**		**10 19 35.3**	**0.0**
PB08				*i* S		**Sn**		**10 20 10.6**	**0.0**
PB08				IAML				10 20 15.1	
	comp=E,25nm,0.2s								
LPAZ	**La Paz**	**6.71**	**2**	Pn		**Pn**		**10 20 26.4**	**+0.2**
	comp=E,0.4nm,0.3s,baz=206,slow=1.3,SNR=16 comp=E,1.0nm,0.3s								
TXAR	**Lajitas Array**	**62.14**	**325**	P		P		10 29 07.8	+8.3
	comp=E,0.2nm,0.9s,baz=156,slow=6.9,SNR=2.1 comp=E,0.2nm,0.9s								
QSPA	**South Pole Qui**	**67.17**	**180**	P		**P**		**10 29 31.1**	**-0.6**
	comp=E,0.7nm,0.7s,baz=196,slow=9.7,SNR=2.0 comp=E,0.7nm,0.7s								
TORD	**Torodi Ar. Bea**	**77.44**	**70**	P		**P**		**10 30 34.5**	**+1.1**
	comp=E,0.8nm,0.9s,baz=256,slow=5.8,SNR=3.5 comp=E,0.8nm,0.9s								

*BJI **24** 10:27:28.3±0.0, 13˙.23N×39˙.52E, h19km, mb4.7/53, mB5.3/26, Ms5.0/31, Ms7 4.8/30*

*MOS **24** 10:27:29.8±0.9, 13˙.41N×39˙.91E, h9km, mb5.3/84, MS4.3/6, Error ellipse: s-maj=6.2km s-min=3.0km az=93.0*

*IDC **24** 10:27:30.0±0.6, 13˙.36N×39˙.92E, h0km, mb4.8/27, mbtmp4.8/30, ML3.8/4, MS4.4/28, Error ellipse: s-maj=14.6km s-min=13.9km az=2.0*

*DSN **24** 10:27:31.9±1.1, 13˙.40N×39˙.90E, h10km, mb5.3/18, Error ellipse: s-maj=17.4km s-min=11.5km az=26.0*

*GCMT **24** 10:27:31.2±0.1, 13˙.51N±0˙.01×39˙.90E±0˙.01, h12km, MW5.2/133, Moment Tensor Solution. s87,c115; s133,c237; Duration: 1§0 Moment tensor: Scale 10¹⁷ Nm; Mrr=0.63±.01; Mθθ=0.16±.01; Mϕϕ=0.79±.01; Mrθ=0.15±.04; Mθϕ=0.12±.01; Mϕr=-0.25±.03; Best double couple: M₀=0.78100×10¹⁷ NP1:ϕs=19.00000°, δ56.00000°, λ=75.00000°. NP2:ϕs=173.00000°, δ37.00000°, λ=111.00000°. Principal axes: T 0.8560, Plg10.0000°, Azm98.0000°; N -0.1490, Plg12.0000°, Azm190.0000°; P -0.7060, Plg74.0000°, Azm330.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **24** 10:27:32.2±1.2, 13˙.41N±0˙.07×40˙.01E±0˙.08, h10km±1km, mb5.2/123, Ms_20 5.7/242, Mww5.2/18 Error ellipse: s-maj=13.0km s-min=11.0km az=104.0*

*EAF **24** 10:27:32.7±6.2, 13˙.47N×40˙.14E, h0km±108km, MW5.0*

*NEIC **24** 10:27:32.8, 13˙.34N×39˙.83E, h16km, Moment Tensor Solution. Duration: 1§8 Moment tensor: Scale 10¹⁶Nm; Mrr=5.96; Mθθ=0.14; Mϕϕ6.10; Mrθ-0.51; Mθϕ1.34; Mϕr4.01; Fault plane solution: M₀7.39000×10¹⁶ NP1: ϕs181.15000°, δ61.74000°, λ-100.57000°. NP2: ϕs22.66000°, δ30.02000°, λ-71.16000°. Principal axes: T 7.4844, Plg16.0000°, Azm279.0000°; N -0.1987, Plg9.0000°, Azm186.0000°; P -7.2858, Plg71.0000°, Azm67.0000°;*

*BGR **24** 10:27:32.1, 13˙.49N×40˙.58E, h33km, mb4.8, Ms4.4*

*NEIC **24** 10:27:32.8, 13˙.44N×39˙.93E, h16km*

ISC 24 10:27:32.0±0.6,13˙.40N±0˙.04×39˙.89E±0˙.04,h13km±3km, n789,σ1§69/743,mb5.1/238,MS5.6/170,62C-49D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**3.43**	**122**	Pn		**Pn**		**10 28 22.8**	**-2.5**
	2.9nm,0.3s,baz=299,slow=14,SNR=52								
ATD				Lg		Lg		10 29 13.5	
	baz=270,slow=20								
ATD	**Arta Tunnel**	**3.43**	**122**	P		**Pn**		**10 28 22.9**	**-2.4**
	SNR=833								
ATD				S		**Sb**		**10 29 12.5**	**-2.0**
ATD	**Arta Tunnel**	**3.43**	**122**	*eP*		**Pn**		**10 28 22.5**	**-2.8**
ATD				*eS*		**Sn**		**10 29 04.6**	**-1.4**
I19DJ	**I19DJ**	**3.73**	**120**	I		I		10 49 30.0	
	baz=300,slow=317,SNR=1.0								
FURI	**Furi**	**4.63**	**195**			**Pn**		**10 28 42.6**	**+0.6**
FURI	**Furi**	**4.63**	**195**	*eP*		**Pn**		**10 28 42.8**	**+0.8**
FURI				*eS*		**Sn**		**10 29 38.5**	**+2.7**
LODK	**Lodwar**	**10.88**	**205**	Pn		**Pn**		**10 30 08.1**	**+0.5**
LODK	**Lodwar**	**10.88**	**205**	*eP*		**Pn**		**10 30 09.3**	**+1.7**
LODK				*eS*		**Sn**		**10 32 10.5**	**+1.1**
LODK	**Lodwar**	**10.88**	**205**	*eP*		**Pn**		**10 30 10.9**	**+3.3**
RAYN	**Ar Rayn**	**11.39**	**27**			**Pn**		**10 30 14.0**	**-0.5**
RAYN	**Ar Rayn**	**11.39**	**27**	*i* P		**Pn**		**10 30 16.1**	**+1.6**
	SNR=6.4								
RAYN	**Ar Rayn**	**11.39**	**27**	P		**Pn**		**10 30 14.0**	**-0.5**
RAYN	**Ar Rayn**	**11.39**	**27**	P		**Pn**		**10 30 15.7**	**+1.2**
ABTO	**Aybut**	**13.51**	**71**	P		**Pn**		**10 30 46.8**	**+3.2**
	SNR=46								
ABTO				P		**Pn**		**10 30 46.8**	**+3.2**
	SNR=46								
ABTO				P		**Pn**		**10 30 46.8**	**+3.2**
	SNR=46								
ABTO				S		Sn		10 33 25.4	+12
ABTO				S		Sn		10 33 25.4	+12
ABTO				S		Sn		10 33 25.4	+12
WHFO	**Wadi Hawf**	**14.10**	**70**	P		**Pn**		**10 30 54.5**	**+2.9**
	SNR=39								
WHFO				P		**Pn**		**10 30 54.5**	**+2.9**
	SNR=39								
WHFO				S		**S**		**10 33 40.6**	**-8.7**
WHFO				S		**S**		**10 33 40.6**	**-8.7**
RBK	**Rabkut**	**14.39**	**72**	P		**Pn**		**10 30 58.1**	**+2.5**
	SNR=80								
RBK				P		**Pn**		**10 30 58.1**	**+2.5**
	SNR=80								
RBK				S		**S**		**10 33 47.5**	**-7.7**
RBK				S		**S**		**10 33 47.5**	**-7.7**
DOK	**Doka**	**14.63**	**67**	P		**Pn**		**10 31 01.9**	**+3.0**
	SNR=31								
DOK				P		**Pn**		**10 31 01.9**	**+3.0**
	SNR=31								
DOK				S		**S**		**10 33 53.4**	**-6.8**
DOK				S		**S**		**10 33 53.4**	**-6.8**
KMBO	**Kilima Mbogo**	**14.67**	**190**	Pn		Pn		10 30 50.1	-10
	baz=5.5,slow=24,SNR=17								
KMBO				Lg		Lg		10 35 01.1	
	baz=47,slow=24,SNR=6.0								
KMBO				LR		LR		10 37 06.8	
	comp=Z,7.0nm,18.2s,baz=360,slow=39								
DMTO	**DMTO**	**15.13**	**72**	P		**P**		**10 31 08.3**	**-2.4**
	SNR=28								
DMTO				P		**P**		**10 31 08.3**	**-2.4**
	SNR=28								
DMTO				S		**S**		**10 34 05.3**	**-5.0**
DMTO				S		**S**		**10 34 05.3**	**-5.0**
SMRA	**Abu-Samra**	**15.29**	**41**	P		**Pn**		**10 31 08.2**	**+0.5**
	SNR=15								
SMRA				S		**S**		**10 34 08.3**	**-5.2**
SLWR	**Sila**	**15.40**	**45**	P		**Pn**		**10 31 09.8**	**+0.7**
SLWR				P		**Pn**		**10 31 09.8**	**+0.7**
SLWR				S		**S**		**10 34 12.3**	**-3.4**
SLWR				S		**S**		**10 34 12.3**	**-3.4**
TRNA	**Turayna**	**15.53**	**42**	P		**Pn**		**10 31 11.5**	**+0.7**
	SNR=11								
TRNA				S		**S**		**10 34 15.0**	**-3.5**
KIBK	**Kibwezi**	**15.74**	**187**			**Pn**		**10 31 14.1**	**+0.4**
KIBK	**Kibwezi**	**15.74**	**187**	*eP*		**Pn**		**10 31 15.4**	**+1.6**
SHAO	**Shalim**	**15.83**	**71**	*i* P		**P**		**10 31 18.2**	**-0.4**
	SNR=5.6								
SHAO	**Shalim**	**15.83**	**71**	P		**P**		**10 31 17.2**	**-1.3**
	SNR=7.3								
SHAO				P		**P**		**10 31 17.2**	**-1.3**
	SNR=7.3								
SHAO				S		**S**		**10 34 23.1**	**-1.6**
SHAO				S		**S**		**10 34 23.1**	**-1.6**
SAKB	**Bahrain**	**16.02**	**37**	P		**Pn**		**10 31 18.0**	**+0.9**
SAKB				S		**S**		**10 34 26.1**	**-2.4**
GHWR	**Ruwais**	**16.16**	**48**	P		**Pn**		**10 31 19.1**	**+0.1**
GHWR				S		**S**		**10 34 29.1**	**-2.3**
SHMA	**Al-Shehemyia**	**16.18**	**38**	P		**Pn**		**10 31 20.3**	**+1.0**
	SNR=14								
SHMA				S		**S**		**10 34 29.2**	**-2.5**
MBAR	**Mbarara**	**16.61**	**214**			**Pn**		**10 31 22.7**	**-2.2**
MBAR	**Mbarara**	**16.61**	**214**	P		**Pn**		**10 31 22.7**	**-2.2**
MBAR				pmax		pmax			
	comp=Z,53nm,2.0s								
MBAR	**Mbarara**	**16.61**	**214**	*eP*		**Pn**		**10 31 19.1**	**-5.8**
MBAR				*eS*		Sn		10 34 10.0	-19
JRN	**Qarnain Island**	**16.77**	**45**	P		**Pn**		**10 31 26.7**	**+0.1**
JRN				S		**S**		**10 34 42.9**	**-0.9**
MZWR	**Madinat Zayed**	**16.78**	**50**	P		**Pn**		**10 31 27.0**	**+0.1**
MZWR				S		**S**		**10 34 45.8**	**+1.8**
EIL	**Elat**	**16.82**	**345**	Pn		**Pn**		**10 31 28.4**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=165,slow=14,SNR=5.7								
EIL				Lg		Lg		10 36 25.3	
	comp=Z,0.1nm,0.3s,baz=174,slow=18,SNR=1.8								
EIL				LR		LR		10 37 30.6	
	comp=Z,583nm,20.8s,baz=173,slow=36 comp=Z,31nm,1.2s								
UMZA	**Um Al Zommool**	**17.21**	**55**	P		**Pn**		**10 31 32.6**	**+0.3**
UMZA				S		**S**		**10 34 54.1**	**+1.3**
KBD	**Kabd**	**17.29**	**24**	P		**P**		**10 31 34.2**	**-0.4**
KBD				S		**S**		**10 34 54.1**	**-0.2**
AJN	**Ajban**	**18.07**	**50**	*i* P		**Pn**		**10 31 42.3**	**-0.5**
	SNR=6.4								
AJN	**Ajban**	**18.07**	**50**	P		**P**		**10 31 43.1**	**-0.1**
AJN				S		**S**		**10 35 12.7**	**+2.5**
DQM	**DQM**	**18.10**	**67**	P		**P**		**10 31 43.8**	**+0.1**
DQM				P		**P**		**10 31 43.8**	**+0.1**
ASUD	**Al Ashush, Dub**	**18.36**	**50**	P		**Pn**		**10 31 45.9**	**-0.5**
ASUD				P		**Pn**		**10 31 45.9**	**-0.5**
ASUD				S		**S**		**10 35 22.0**	**+5.9**
ASUD				S		**S**		**10 35 22.0**	**+5.9**
ALNE	**Al Ain**	**18.36**	**52**	*i* P		**Pn**		**10 31 45.8**	**-0.8**
	SNR=22								
ALNE	**Al Ain**	**18.36**	**52**	P		**Pn**		**10 31 46.6**	**0.0**
	SNR=26								
ALNE				P		**Pn**		**10 31 46.6**	**0.0**
	SNR=26								
ALNE				S		**S**		**10 35 21.3**	**+5.0**
ALNE				S		**S**		**10 35 21.3**	**+5.0**
ARQ	**Araqi**	**18.61**	**56**	P		**P**		**10 31 49.3**	**0.0**
	SNR=35								
ARQ				S		**S**		**10 35 26.6**	**+5.3**
FAQ	**Al Faqa, Dubai**	**18.62**	**50**	*i* P		**P**		**10 31 49.3**	**-0.1**
	SNR=24								
FAQ	**Al Faqa, Dubai**	**18.62**	**50**	P		**P**		**10 31 49.5**	**+0.1**
	SNR=13								
NAZ	**Nazwa, Dubai**	**18.81**	**50**	*i* P		**Pn**		**10 31 51.8**	**-0.2**
	SNR=21								
NAZ	**Nazwa, Dubai**	**18.81**	**50**	P		**Pn**		**10 31 51.8**	**-0.2**
	SNR=15								
NAZ				S		**S**		**10 35 30.3**	**+4.9**
MHTO	**MHTO**	**18.83**	**64**	P		**Pn**		**10 31 52.1**	**-0.2**
	SNR=25								
MHTO				P		**Pn**		**10 31 52.1**	**-0.2**
	SNR=25								
MHTO				P		**Pn**		**10 31 52.1**	**-0.2**
	SNR=25								
MHTO				S		**S**		**10 35 28.8**	**+3.0**
MHTO				S		**S**		**10 35 28.8**	**+3.0**
MHTO				S		**S**		**10 35 28.8**	**+3.0**
BSY	**Bisya**	**18.88**	**58**	P		**Pn**		**10 31 53.0**	**+0.1**
	SNR=44								
BSY				P		**Pn**		**10 31 53.0**	**+0.1**
	SNR=44								
BSY				S		**S**		**10 35 31.0**	**+4.1**
BSY				S		**S**		**10 35 31.0**	**+4.1**
ASF	**Jabal al Asfar**	**18.89**	**352**	P		**Pn**		**10 31 54.3**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=242,slow=0.0,SNR=14 comp=Z,80nm,1.1s								
ASHO	**Ashiyiah**	**18.94**	**51**	*i* P		**P**		**10 31 52.7**	**-0.3**
	SNR=45								
ASHO	**Ashiyiah**	**18.94**	**51**	P		**P**		**10 31 53.0**	**0.0**
	SNR=37								
ASHO				S		**S**		**10 35 35.1**	**+7.1**
SOHO	**SOHO**	**19.01**	**53**	*i* P		**P**		**10 31 53.3**	**-0.3**
	SNR=26								
SOHO	**SOHO**	**19.01**	**53**	P		**P**		**10 31 53.6**	**-0.1**
SOHO				P		**P**		**10 31 53.6**	**-0.1**
SOHO				P		**P**		**10 31 53.6**	**-0.1**
SOHO				S		**S**		**10 35 35.6**	**+6.2**
SOHO				S		**S**		**10 35 35.6**	**+6.2**
SOHO				S		**S**		**10 35 35.6**	**+6.2**
HATD	**Hatta, Dubai**	**19.07**	**51**	*i* P		**P**		**10 31 53.8**	**-0.6**
	SNR=32								
HATD	**Hatta, Dubai**	**19.07**	**51**	P		**P**		**10 31 54.5**	**+0.1**
	SNR=27								
HATD				S		**S**		**10 35 35.2**	**+4.5**
UMQ	**Umm Al-Quwin**	**19.12**	**49**	P		**Pn**		**10 31 55.9**	**+0.1**
UMQ				S		**S**		**10 35 38.1**	**+6.5**
UOSS	**Minazif**	**19.19**	**51**	P		**P**		**10 31 54.8**	**-0.9**
UOSS				IAmb		IAmb		10 32 07.3	
	comp=Z,239nm,1.4s								
UOSS	**Minazif**	**19.19**	**51**	*i* P		**P**		**10 31 55.5**	**-0.2**
	SNR=17								
UOSS	**Minazif**	**19.19**	**51**	P		**P**		**10 31 55.1**	**-0.5**
UOSS				P		**P**		**10 31 55.1**	**-0.5**
UOSS				S		**S**		**10 35 37.4**	**+4.3**
UOSS				S		**S**		**10 35 37.4**	**+4.3**
HOQ	**Hoqain**	**19.36**	**56**	P		**P**		**10 31 57.5**	**0.0**
	SNR=22								
MSFE	**Esma-Masafi**	**19.39**	**50**	*i* P		**P**		**10 31 57.5**	**-0.4**
	SNR=11								
MASF	**Masafi**	**19.40**	**50**	P		**P**		**10 31 57.9**	**-0.1**
	SNR=15								
MDH	**Madha**	**19.46**	**50**	*i* P		**P**		**10 31 58.3**	**-0.3**
	SNR=16								
MDH	**Madha**	**19.46**	**50**	P		**P**		**10 31 58.5**	**-0.1**
	SNR=22								
MDH				P		**P**		**10 31 58.5**	**-0.1**
	SNR=22								
MDH				S		**S**		**10 35 42.4**	**+4.0**
MDH				S		**S**		**10 35 42.4**	**+4.0**
JMDO	**Jabal Madar**	**19.48**	**60**	P		**P**		**10 31 58.7**	**-0.1**
	SNR=27								
JMDO				P		**P**		**10 31 58.7**	**-0.1**
	SNR=27								
JMDO				S		**S**		**10 35 42.3**	**+3.4**
JMDO				S		**S**		**10 35 42.3**	**+3.4**
SMDO	**Samad**	**19.72**	**58**	P		**P**		**10 32 01.2**	**-0.4**
	SNR=36								
SMDO				P		**P**		**10 32 01.2**	**-0.4**
	SNR=36								
SMDO				S		**Sn**		**10 35 47.9**	**+3.3**
SMDO				S		**Sn**		**10 35 47.9**	**+3.3**
SHME	**Shamm**	**19.78**	**48**	P		**P**		**10 32 01.1**	**0.0**
MMAI	**Mount Meron Ar**	**19.95**	**349**	P		**Pn**		**10 32 06.1**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=165,slow=12,SNR=11								
MMAI				LR		LR		10 38 58.0	
	comp=Z,516nm,19.2s,baz=113,slow=34 comp=Z,20nm,0.8s								
BIDO	**Bidbid**	**19.99**	**57**	P		**P**		**10 32 04.8**	**+0.4**
	SNR=21								
BIDO				S		**Sn**		**10 35 53.7**	**+2.7**
WBK	**Wadi Bani Khal**	**20.31**	**61**	P		**P**		**10 32 08.2**	**+0.3**
	SNR=13								
WBK				P		**P**		**10 32 08.2**	**+0.3**
	SNR=13								
WBK				S		Sn		10 35 58.9	+0.3
WBK				S		Sn		10 35 58

KARS **Kars** 27.27 5 P P 10 33 14.1 -2.1
KARS **Kars** 27.27 5 P P 10 33 14.1 -2.1
KARS pmax pmax
comp=Z,182nm,0.6s
MDUB Mudurnu 28.03 346 P P 10 33 23.2 +0.2
HRA Herat 29.10 40 P P 10 33 32.5 -0.3
ONI Oni 29.25 5 P P 10 33 34.0 +0.2
ONI IAmb IAmb 10 33 36.8
comp=Z,64nm,1.4s
ONI Oni 29.25 5 P P 10 33 34.0 +0.2
ONI pmax pmax
comp=Z,64nm,1.4s
GEYT Alibeck 29.32 30 P P 10 33 35.0 +0.5
GEYT Alibeck 29.32 30 P P 10 33 35.0 +0.5
comp=Z,2.2nm,0.9s,baz=193,slow=7.3,SNR=1.8
GEYT LR LR 10 45 04.1
comp=Z,626nm,20.7s,baz=232,slow=36
comp=Z,2.2nm,0.9s
AGG Agios Georgios 29.88 332 P P 10 33 39.7 +0.3
AGG IAmb IAmb 10 33 41.1
comp=Z,45nm,1.0s
AGG Agios Georgios 29.88 332 P P 10 33 39.7 +0.3
AGG pmax pmax
comp=Z,45nm,1.0s
SOC Sochi 30.08 360 *e*P P 10 33 38.4 -2.6
SOC *e* 10 34 34.7
SOC *e*PPP PPP 10 34 47.1
SOC *e*S **S** **10 38 36.3 -2.9**
SOC *e*SSS SSS 10 40 22.3
SOC MLR MLR
comp=Z,267nm,11.0s
MAK Makhachkala 30.18 11 *e*P P 10 33 37.0 -5.0
MAK *e*S **S** **10 38 33.3 -7.5**
MAK MLR MLR
comp=Z,871nm,13.0s
KBZ Khabaz 30.33 4*d* *i*P P 10 33 44.6 +1.3
KBZ pmax pmax
comp=Z,23nm,1.1s
KBZ Khabaz 30.33 4 P P 10 33 44.8 +1.5
comp=Z,12nm,1.0s,baz=182,slow=8.4,SNR=9.9
KBZ LR LR 10 46 27.9
comp=Z,579nm,18.4s,baz=208,slow=38
comp=Z,12nm,1.0s
KIV Kislovodsk 30.54 4 P P 10 33 45.9 +0.6
KIV Kislovodsk 30.54 4 *e*P P 10 33 46.6 +1.3
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,386nm,15.0s
KVAR Kislovodsk Arr 30.55 4 LR LR 10 46 31.3
comp=Z,502nm,19.4s,baz=80,slow=37
LIT Litokhoron 30.68 333 P P 10 33 46.8 +0.3
LIT IAmb IAmb 10 33 48.0
comp=Z,34nm,0.9s
LIT Litokhoron 30.68 333 P P 10 33 46.8 +0.3
LIT pmax pmax
comp=Z,34nm,0.9s
LSZ Lusaka 30.76 203 P P 10 33 48.3 +0.9
LSZ IAmb IAmb 10 33 51.1
comp=Z,46nm,1.6s
LSZ Lusaka 30.76 203 P P 10 33 48.3 +0.9
LSZ pmax pmax
comp=Z,47nm,1.6s
LSZ Lusaka 30.76 203 LR LR 10 47 30.2
comp=Z,266nm,18.3s,baz=28,slow=39
ANN Anapa 31.36 357 *e*P P 10 33 49.2 -3.2
ANN *e**PP pP 10 33 53.0 -3.9
ANN *e* 10 34 51.6
ANN *e*S **S** **10 38 54.9 -4.4**
ANN pmax pmax
comp=Z,51nm,1.2s
ANN MLR MLR
comp=Z,356nm,11.0s
PLD Plovdiv 31.52 338 P P 10 33 55.4 +1.6
GOF Gofitskoye 31.67 4*c**e*P P 10 33 57.5 +2.4
ELND Elena 31.82 340 ⇓P P 10 33 58.1 +1.7
SIM Simferopol' 31.83 352 *e*P P 10 33 56.6 +0.1
SIM pmax pmax
comp=Z,100nm,1.1s
KBN Korca 31.87 332 P P 10 33 57.7 +0.7
KBN IAmb IAmb 10 33 59.6
comp=Z,49nm,1.3s
KBN Korca 31.87 332 P P 10 33 57.7 +0.7
KBN pmax pmax
comp=Z,49nm,1.3s
ICOR Ion Corvin 32.32 344 ⇓P P 10 34 02.2 +1.5
TIRR Tirgusor 32.47 345 P P 10 34 02.9 +0.8
TIRR Tirgusor 32.47 345 P P 10 34 02.9 +0.8
TIRR pmax pmax
comp=Z,132nm,1.3s
TIP Timpagrande 32.81 326 P P 10 34 05.6 +0.3
TIP IAmb IAmb 10 34 15.3
comp=Z,50nm,1.5s
TPGR Topolog 32.84 345 ⇑P P 10 34 05.3 -0.1
ABPO Ambohimpanom 33.01 167 P P 10 34 06.6 -0.7
ABPO IAmb IAmb 10 34 11.6
comp=Z,38nm,1.1s
ABPO Ambohimpanom 33.01 167 P P 10 34 06.6 -0.7
ABPO pmax pmax
comp=Z,38nm,1.2s
TLCR 33.05 346 ⇑P P 10 34 08.1 +0.9
TLCR 33.05 346 ⇑P P 10 34 08.1 +0.9
COPA Copaceanca 33.11 340 ⇑P P 10 34 09.5 +1.8
CFR Carcaliu 33.21 345 ⇑P P 10 34 09.9 +1.3
CFR Carcaliu 33.21 345 ⇑P P 10 34 09.9 +1.3
HUMR Humele 33.54 341 ⇑P P 10 34 13.0 +1.6
ISR Istrita 33.59 343 ⇑P P 10 34 13.6 +1.6
ISR Istrita 33.59 343 ⇑P P 10 34 13.6 +1.6
NEGRR **Negrea** 33.62 345 ⇑P P 10 34 13.2 +1.1
KBL Kabul 33.74 46 P P 10 34 12.5 -1.2
KBL Kabul 33.74 46 P P 10 34 12.5 -1.2
KBL pmax pmax
comp=Z,7.0nm,0.8s
KBL Kabul 33.74 46 P P 10 34 14.6 +0.9
SNR=5.6
CLTB Caltabellotta 33.83 320 P P 10 34 15.0 +0.7
TAM Tamanrasset 33.90 291 P P 10 34 15.9 +0.8
TAM IAmb IAmb 10 34 17.5
comp=Z,24nm,1.2s
TAM Tamanrasset 33.90 291 P P 10 34 15.9 +0.8
TAM pmax pmax
comp=Z,24nm,1.2s
NEHR Nehoiu 33.95 343 ⇓P P 10 34 17.4 +2.4
PURM Purcari 34.09 348 ⇓P P 10 34 16.8 +0.6
MLR Muntele Rosu 34.10 342 ⇑P P 10 34 17.9 +1.4
MLR Muntele Rosu 34.10 342 P P 10 34 17.0 +0.4
MLR IAmb IAmb 10 34 19.2
comp=Z,34nm,0.9s
MLR Muntele Rosu 34.10 342 P P 10 34 17.0 +0.4
MLR pmax pmax
comp=Z,34nm,0.9s
MTUR Matau 34.13 341 ⇑P P 10 34 18.3 +1.5
MTUR Matau 34.13 341 ⇑P P 10 34 18.3 +1.5
GHRR 34.22 344 ⇓P P 10 34 19.7 +2.3
VRI Vrincioaia 34.22 344 ⇑P P 10 34 18.3 +0.8
VRI Vrincioaia 34.22 344 P P 10 34 19.3 +1.9
PLOR Plostina 34.23 343 ⇑P P 10 34 19.7 +2.2
PLOR Plostina 34.23 343 P P 10 34 19.3 +1.8
VOIR 34.33 341 ⇑P P 10 34 20.3 +1.9
VOIR 34.33 341 P P 10 34 19.8 +1.4
ARR Arges 34.40 341 ⇓P P 10 34 20.0 +1.0
TURR Turia 34.60 343 ⇑P P 10 34 22.1 +1.4
VASR Vaslui 34.67 345 ⇑P P 10 34 25.5 +4.3
MILM Milestii Mici 34.69 347 ⇑P P 10 34 19.1 -2.3
MILM Milestii Mici 34.69 347 *e*P P 10 34 21.5 +0.1
comp=Z,80nm,1.2s
MILM *e*L L 10 48 03.0
MILM LQM 10 49 10.0
comp=Z,800nm,24.0s
MILM LRM MLR 10 53 39.0
comp=Z,600nm,14.0s
MILM Milestii Mici 34.69 347 *e*P P 10 34 21.5 +0.1
MILM pmax pmax
comp=Z,80nm,1.2s
DOPR Dopca 34.70 342 ⇓P P 10 34 22.3 +0.7
OZUR 34.70 343 ⇑P P 10 34 22.4 +0.8
HERR Herculane 34.73 338 ⇑P P 10 34 21.9 +0.1
LOT Lotru 34.75 340 ⇑P P 10 34 21.8 -0.3
KIS Kishinev 34.76 347 *e*P P 10 34 22.8 +0.8
comp=Z,60nm,0.7s
KIS *e*L L 10 52 27.0
KIS LRM MLR 10 52 38.0
comp=Z,200nm,16.0s
KIS Kishinev 34.76 347 *e*P P 10 34 22.8 +0.8

KIS pmax pmax
comp=Z,60nm,0.7s
TESR Tescani 34.84 344 ⇑P P 10 34 21.9 -0.9
MDVR Moldovita 34.91 337 ⇓P P 10 34 23.8 +0.4
GZR Gura Zlata 35.04 339 ⇑P P 10 34 25.5 +0.9
KEST Kesra 35.34 314 P P 10 34 27.8 +0.5
KEST IAmb IAmb 10 34 30.5
comp=Z,31nm,1.0s
KEST Kesra 35.34 314 P P 10 34 29.1 +1.8
comp=Z,22nm,0.9s,baz=94,slow=4.0,SNR=13
KEST LR LR 10 49 34.1
comp=Z,2µm,20.9s,baz=58,slow=37
comp=Z,22nm,0.9s
SURR Surduc 35.59 338 ⇑P P 10 34 28.7 -0.5
BZS Buzias 35.65 338 ⇑P P 10 34 30.3 +0.6
BZS Buzias 35.65 338 ⇑P P 10 34 30.3 +0.6
CJR Cluj-Napoca 35.92 341 ⇑P P 10 34 33.6 +1.5
CJR Cluj-Napoca 35.92 341 ⇑P P 10 34 33.6 +1.5
SORM Soroca 35.94 347 ⇑P P 10 34 32.2 +0.1
SORM Soroca 35.94 347 ⇑P P 10 34 32.2 +0.1
FRGS Fruska Gora 35.96 336 ⇑P P 10 34 33.3 +0.8
SIMJ Simiganj 36.02 40 P P 10 34 32.3 -0.9
MARR Marisel-Cluj 36.05 340 ⇓P P 10 34 33.6 +0.3
SIRR Siria 36.19 338 ⇓P P 10 34 35.7 +1.3
BURAR Bucovina Array 36.24 343 ⇑P P 10 34 35.9 +1.0
BURAR Bucovina Array 36.24 343 P P 10 34 35.4 +0.5
BURAR IAmb IAmb 10 34 37.3
comp=Z,25nm,0.8s
BURAR Bucovina Array 36.24 343 ⇑P P 10 34 35.9 +1.0
BUR08 Bucovina Ar. S 36.28 343 P P 10 34 35.7 +0.5
BUR08 IAmb IAmb 10 34 37.8
comp=Z,38nm,1.2s
DRGR 36.28 340 ⇑P P 10 34 35.9 +0.6
DRGR 36.28 340 ⇑P P 10 34 35.9 +0.6
NIL Nilore 36.39 51 P P 10 34 36.6 +0.3
NIL IAmb IAmb 10 34 41.0
comp=Z,32nm,1.0s
NIL Nilore 36.39 51 P P 10 34 36.6 +0.3
NIL pmax pmax
comp=Z,33nm,1.0s
DRBR Darabani 36.42 345 ⇓P P 10 34 36.1 -0.1
CAMP Campotosto 36.98 327 P P 10 34 41.9 +0.6
CAMP IAmb IAmb 10 34 43.6
comp=Z,31nm,1.0s
TOA0 Torodi Ar. Sit 37.15 274 P P 10 34 42.4 -0.6
TORD Torodi Ar. Bea 37.15 274 P P 10 34 42.5 -0.4
TORD Torodi Ar. Bea 37.15 274 P P 10 34 42.6 -0.4
comp=Z,3.7nm,1.0s,baz=79,slow=8.4,SNR=16
TORD PcP **PcP** **10 37 03.9 +0.6**
comp=Z,3.1nm,1.1s,baz=80,slow=3.2,SNR=2.7
TORD LR LR 10 50 43.7
comp=Z,3µm,18.4s,baz=84,slow=38
comp=Z,3.7nm,1.0s
MORH Mrgy, Hungar 37.30 335 ⇑P P 10 34 39.3 -4.5
NRCA Norcia 37.34 327 P P 10 34 44.0 -0.3
NRCA IAmb IAmb 10 34 46.2
comp=Z,38nm,1.2s
VORD Divnogorie 37.47 359 *e*P P 10 34 44.6 -0.5
VORD pmax pmax
comp=Z,30nm,1.7s
CESX Cesi 37.47 326 P P 10 34 45.8 +0.5
CESX IAmb IAmb 10 34 47.3
comp=Z,100nm,2.0s
VSR Storozhevoye 37.72 359 *e*P P 10 34 45.2 -2.1
VSR pmax pmax
comp=Z,10.0nm,0.8s
VRH Novokhopyorsk 37.73 2 *e*P P 10 34 45.9 -1.4
VRH pmax pmax
comp=Z,20nm,0.7s
BTK Batken 37.97 40 P P 10 34 48.7 -1.0
BTK IAmb IAmb 10 34 55.4
comp=Z,79nm,1.9s
BTK Batken 37.97 40 P P 10 34 48.7 -1.0
BTK pmax pmax
comp=Z,79nm,1.9s
VORR Voronezh 38.17 359 *e*P P 10 34 51.8 +0.7
VORR pmax pmax
comp=Z,54nm,1.3s
KIEV Kiev 38.20 349 P P 10 34 51.3 0.0
KIEV IAmb IAmb 10 34 51.9
comp=Z,38nm,0.8s
KIEV Kiev 38.20 349 *i*P P 10 34 51.2 -0.1
SNR=22
KIEV Kiev 38.20 349 P P 10 34 51.3 0.0
KIEV pmax pmax
comp=Z,38nm,0.9s
AKASG **Malin Array Be** 38.20 349 P P 10 34 51.4 +0.1
AKASG IAmb IAmb 10 34 52.4
comp=Z,56nm,0.9s
AKASG **Malin Array Be** 38.20 349 P P 10 34 51.4 +0.1
AKASG pmax pmax
comp=Z,56nm,1.0s
AKASG **Malin Array Be** 38.20 349 P P 10 34 51.3 -0.1
comp=Z,9.6nm,0.6s,baz=169,slow=6.9,SNR=41
AKASG PcP **PcP** **10 37 05.6 -0.2**
comp=Z,2.1nm,0.6s,baz=171,slow=3.1,SNR=5.1
comp=Z,9.6nm,0.6s
AKBB Malin Array Si 38.20 349 P P 10 34 51.4 0.0
AKBB IAmb IAmb 10 34 51.9
comp=Z,42nm,0.8s
AKBB Malin Array Si 38.20 349*d* *i*P P 10 34 51.3 0.0
AKBB pmax pmax
comp=Z,51nm,0.9s
BOJS Bojanci 38.21 332 *i*P P 10 34 52.2 +0.7
PSZ Piszkesteto 38.23 338 ⇑P P 10 34 52.3 +0.5
PSZ Piszkesteto 38.23 338 P P 10 34 52.1 +0.4
PSZ IAmb IAmb 10 34 53.8
comp=Z,65nm,1.0s
PSZ Piszkesteto 38.23 338 P P 10 34 52.1 +0.4
PSZ pmax pmax
comp=Z,65nm,1.0s
KECS Kecovo 38.50 339 *e*P P 10 34 55.4 +1.5
KECS pmax pmax
comp=Z,24nm,0.8s
KECS Kecovo 38.50 339 *e*P P 10 34 55.4 +1.5
CASP Castiglione de 38.53 325 P P 10 34 54.6 +0.3
CASP IAmb IAmb 10 34 56.1
comp=Z,72nm,1.1s
CRVS Cervenica-Dubn 38.54 340 *e*P P 10 34 55.3 +1.1
CRVS pmax pmax
comp=Z,83nm,1.3s
CRVS Cervenica-Dubn 38.54 340 *e*P P 10 34 55.3 +1.1
LVV L'vov 38.58 344 *e*P P 10 34 54.1 -0.4
LVV *e*S **S** **10 40 48.0 -2.2**
LVV MLR MLR
comp=Z,400nm,16.0s
KNDS Knezji Dol 38.63 331 *i*P P 10 34 56.0 +0.8
SRO Srobarova 38.73 337 *e*P P 10 34 57.1 +1.2
SRO Srobarova 38.73 337 *e*P P 10 34 57.1 +1.2
IUG luznay 38.76 37 *e*P P 10 34 56.7 +0.4
comp=Z,36nm,1.5s,baz=37
IUG luznay 38.76 37 *e*P P 10 34 56.7 +0.4
IUG pmax pmax
comp=Z,36nm,1.5s
KWP Kalwaria Pacla 38.79 342 P P 10 34 57.6 +1.3
KWP IAmb IAmb 10 34 59.2
comp=Z,81nm,1.1s
KWP Kalwaria Pacla 38.79 342 P P 10 34 57.6 +1.3
KWP pmax pmax
comp=Z,81nm,1.1s
SKDS Skadanscina 38.82 331 *i*P P 10 34 57.6 +0.9
GROS Grobnik 38.83 333 *i*P P 10 34 57.9 +1.1
STHS Stebnicka Huta 39.05 341 *e*P P 10 34 58.8 +0.2
STHS Stebnicka Huta 39.05 341 *e*P P 10 34 58.8 +0.2
VYHS Vyhne 39.10 338 *e*P P 10 34 59.8 +0.8
VYHS pmax pmax
comp=Z,54nm,1.0s
VYHS Vyhne 39.10 338 *e*P P 10 34 59.8 +0.8
LPSR Galich'ya Gora 39.11 359 *e*P P 10 34 58.3 -0.6
LPSR pmax pmax
comp=Z,40nm,1.1s
TSUM Tsumeb 39.15 215 LR LR 10 50 36.2
comp=Z,1µm,18.1s,baz=41,slow=35
SOKA Soboth 39.20 333 *e*P P 10 35 01.1 +1.2
comp=Z,32nm,1.1s,SNR=12
BRLS Borolday 39.20 35 *e*P P 10 34 58.3 -1.7
baz=36
BRLS Borolday 39.20 35 *e*P P 10 34 58.3 -1.7
OBKA Obir 39.29 332 *e*P P 10 35 02.0 +1.3
comp=Z,58nm,1.3s,SNR=11
SOP Sopron 39.33 335 P P 10 35 02.0 +1.1
SABO M.te Sabotino 39.34 331 P P 10 35 01.4 +0.4
SABO IAmb IAmb 10 35 03.2
comp=Z,120nm,1.3s
AB31 Akbulak array 39.38 21 *i*P P 10 35 01.8 +0.5

ABKAR Akbulak array 39.38 21 P P 10 35 01.8 +0.5
ABKAR Akbulak array 39.38 21 P P 10 35 02.0 +0.7
ABKAR IAmb IAmb 10 35 03.4
comp=Z,67nm,1.6s
BELG Belogornoye 39.39 7*d* *i*P P 10 35 01.1 -0.1
BELG pmax pmax
comp=Z,11nm,0.9s
BELG Belogornoye 39.39 7 LR LR 10 51 35.2
comp=Z,211nm,20.8s,baz=182,slow=37
ARSA Arzberg 39.42 334 *e*P P 10 35 02.9 +1.2
comp=Z,46nm,1.1s,SNR=18
LANS Liptovska Anna 39.42 339 *e*P P 10 35 03.1 +1.4
LANS pmax pmax
comp=Z,13nm,1.1s
LANS Liptovska Anna 39.42 339 *e*P P 10 35 03.1 +1.4
PGF Pioggiola 39.44 323 *e*P P 10 35 03.3 +1.2
RONA Rosalia, Austr 39.45 335 *e*P P 10 35 02.8 +0.8
comp=Z,16nm,0.7s,SNR=13
ZST Bratislava 39.52 336 *e*P P 10 35 03.4 +0.9
ZST Bratislava 39.52 336 *e*P P 10 35 03.4 +0.9
MODS Modra-Piesok 39.59 336 *e*P P 10 35 03.9 +0.8
MODS pmax pmax
comp=Z,120nm,1.2s
MODS Modra-Piesok 39.59 336 *e*P P 10 35 03.9 +0.8
KK31 Karatay Array 39.63 36 P P 10 35 04.0 +0.5
KK31 Karatay Array 39.63 36 P P 10 35 04.0 +0.5
KK31 pmax pmax
comp=Z,45nm,1.7s
KKAR Karatay Array 39.63 36 P P 10 35 04.4 +0.9
KKAR Karatay Array 39.63 36 P P 10 35 04.4 +0.9
KKAR pmax pmax
comp=Z,45nm,1.7s
SMOL Smolenice 39.65 337 *e*P P 10 35 04.4 +0.9
PRED Cave del Predi 39.69 331 P P 10 35 04.2 +0.2
AKTO Aktyubinsk 39.78 18 P P 10 35 04.7 +0.1
MYKA Terra Mystica 39.80 332 *e*P P 10 35 06.0 +1.1
comp=Z,26nm,1.5s,SNR=5.1
CONA Conrad Observa 39.81 335 *e*P P 10 35 05.8 +0.8
comp=Z,50nm,1.3s,SNR=16
JAVC Velka Javorina 39.84 337 *e*P P 10 35 06.6 +1.4
TEOL Teolo 39.84 329 P P 10 35 04.8 -0.3
TEOL IAmb IAmb 10 35 07.2
comp=Z,52nm,1.1s
STAL STALIGIAL 39.96 330 P P 10 35 06.5 +0.3
DZA Taraz 39.97 37 *e*P P 10 35 07.2 +0.7
baz=37
DZA Taraz 39.97 37 *e*P P 10 35 07.1 +0.7
ARSB Arslanbob 40.05 40 P P 10 35 08.2 +1.1
ARSB Arslanbob 40.05 40 P P 10 35 08.2 +1.1
ARSB pmax pmax
comp=Z,3.0nm,0.8s
CIMO Cimolais 40.13 330 P P 10 35 08.6 +1.0
CIMO IAmb IAmb 10 35 09.9
comp=Z,71nm,1.4s
MAUC Maruska 40.20 338 *e*P P 10 35 09.2 +1.1
KBA Koelnbreinsper 40.26 332 *i*P P 10 35 09.6 +0.7
comp=Z,20nm,1.3s
CTI Castel Tesino 40.33 329 P P 10 35 09.6 +0.2
CTI Castel Tesino 40.33 329 P P 10 35 09.6 +0.2
CTI pmax pmax
comp=Z,37nm,1.5s
ABTA Abfaltersbach 40.41 331 *e*P P 10 35 11.2 +1.1
comp=Z,38nm,1.1s,SNR=11
MOA Molln 40.43 333 *e*P P 10 35 10.8 +0.7
comp=Z,33nm,1.0s,SNR=12
KRUC Moravsky 40.49 336 *e*P P 10 35 10.7 +0.1
PALK Palukele 40.57 94 LR LR 10 49 24.4
comp=Z,868nm,18.9s,baz=90,slow=32
BIOA Bad Ischl, Aus 40.59 333 *e*P P 10 35 11.6 +0.2
comp=Z,10.0nm,0.6s,SNR=5.7
SALO Salr 40.60 328 P P 10 35 12.3 +0.8
VRAC Vranov 40.62 337 *e*P P 10 35 12.0 +0.4
MORC Moravsky Berou 40.64 338 ⇑P P 10 35 12.8 +1.0
MORC Moravsky Berou 40.64 338 P P 10 35 12.2 +0.4
MORC Moravsky Berou 40.64 338 *e*P P 10 35 12.1 +0.4
MORC Moravsky Berou 40.64 338 P P 10 35 12.2 +0.4
MORC pmax pmax
comp=Z,17nm,0.9s
LBTB Lobatse 40.65 200 P P 10 35 14.0 +1.8
LBTB IAmb IAmb 10 35 16.1
comp=Z,79nm,1.7s
LBTB Lobatse 40.65 200 P P 10 35 14.0 +1.8
LBTB pmax pmax
comp=Z,79nm,1.7s
LBTB Lobatse 40.65 200 LR LR 10 51 05.4
comp=Z,726nm,18.4s,baz=18,slow=35
LESA Schwarzleotal 40.83 332 *e*P P 10 35 13.5 +0.1
comp=Z,19nm,1.1s
RJOB Jochberg 41.00 332 *e*P P 10 35 14.7 -0.1
comp=Z,6.8nm,0.8s,baz=136,slow=8.1
KSH Kashi 41.04 44 P P 10 35 12.3 -3.0
KSH pmax pmax
comp=Z,6.0nm,0.6s
KSH LR LR
comp=Z,620nm,16.2s
KSH LR LR
comp=Z,930nm,16.7s
KSH LR LR
comp=Z,1µm,18.1s
TREC Trest 41.04 336 *e*P P 10 35 15.4 +0.3
TREC Trest 41.04 336 *e*P P 10 35 15.4 +0.3
CKRC Cesky Krumlov 41.16 334 *e*P P 10 35 16.7 +0.7
CKRC Cesky Krumlov 41.16 334 *e*P P 10 35 16.7 +0.7
KRLC Kraliky 41.17 337 *e*P P 10 35 16.5 +0.4
KRLC Kraliky 41.17 337 *e*P P 10 35 16.5 +0.4
WTTA Wattenberg 41.20 331 *e*P P 10 35 17.1 +0.5
comp=Z,32nm,1.1s,SNR=11
WATA Walderalm 41.28 331 *e*P P 10 35 17.3 0.0
comp=Z,42nm,1.1s,SNR=11
SQTA Sankt Quirin 41.37 330 *e*P P 10 35 18.4 +0.4
comp=Z,42nm,1.2s,SNR=8.7
FUORN **Ofenpass-Fuorn** 41.42 329 P P 10 35 18.1 -0.4
GEC2 GERESS Array S 41.43 334 P P 10 35 18.2 -0.2
GEC2 IAmb IAmb 10 35 19.9
comp=Z,64nm,1.3s
GEC2 GERESS Array S 41.43 334 *e*P P 10 35 18.9 +0.5
comp=Z,20nm,0.8s,baz=136,slow=8.1
GERES **GERESS Array B** 41.43 334 P P 10 35 18.5 +0.1
GERES **GERESS Array B** 41.43 334 P P 10 35 18.5 +0.1
GERES **GERESS Array B** 41.43 334 P P 10 35 18.3 -0.1
comp=Z,26nm,0.9s,baz=120,slow=5.8,SNR=61
GERES LR LR 10 53 19.3
comp=Z,370nm,21.7s,baz=155,slow=37
comp=Z,26nm,0.9s
FETA Feichten 41.47 330 *e*P P 10 35 19.5 +0.7
comp=Z,24nm,0.9s,SNR=9.0
MOTA Moosalm 41.51 330 *e*P P 10 35 19.1 -0.1
comp=Z,15nm,0.7s,SNR=7.0
DPC Dobruska-Polom 41.56 337 *e*P P 10 35 19.5 +0.1
DPC Dobruska-Polom 41.56 337 *e*P P 10 35 19.5 +0.1
OBN Obninsk 41.70 357*c**e*P P 10 35 20.1 -0.2
OBN *e* 10 36 55.7
OBN *e* 10 37 15.7
OBN *e*PPP PPP 10 37 24.7
OBN pmax pmax
comp=Z,42nm,0.9s
OBN MLR MLR
comp=Z,108nm,14.0s
OBN Obninsk 41.70 357 LR LR 10 52 24.7
comp=Z,181nm,21.9s,baz=186,slow=36
KHC Kasperske Hory 41.70 334 IAmb IAmb 10 35 21.7
comp=Z,60nm,1.5s
KHC Kasperske Hory 41.70 334 *e*P P 10 35 20.5 -0.1
KHC Kasperske Hory 41.70 334⇑*i*P P 10 35 19.8 -0.8
KHC pmax pmax
comp=Z,72nm,1.3s
AAK Ala-Archa 41.71 39 P P 10 35 22.0 +1.1
AAK Ala-Archa 41.71 39*d* *i*P P 10 35 22.2 +1.3
AAK pmax pmax
comp=Z,19nm,1.8s
DAVOX **Davos/Dischmat** 41.72 329 LR LR 10 55 53.4
comp=Z,254nm,18.2s,baz=242,slow=41
OSTC Ostas 41.77 337 *e*P P 10 35 21.6 +0.5
OSTC Ostas 41.77 337 *e*P P 10 35 21.6 +0.5
RETA Reutte 41.78 330 *e*P P 10 35 20.9 -0.3
comp=Z,30nm,1.2s,SNR=5.5
UPC Upice 41.81 337 *e*P P 10 35 21.8 +0.5
UPC Upice 41.81 337 *e*P P 10 35 21.8 +0.5
GOPC GO Pecny, Ondr 41.81 336 *e*P P 10 35 21.5 +0.1
GOPC GO Pecny, Ondr 41.81 336 *e*P P 10 35 21.5 +0.1
CHVC Chvalec 41.86 337 *e*P P 10 35 22.0 +0.2
CHVC Chvalec 41.86 337 *e*P P 10 35 22.0 +0.2
WET Wettzell 42.01 334 *e*P P 10 35 22.6 -0.5
comp=Z,9.0nm,0.9s,baz=136,slow=8.1
FUR Furstenfeldbru 42.02 331 *e*P P 10 35 22.7 -0.4

comp=Z,20nm,0.8s,baz=136,slow=8.1
NRN Naryn 42.02 41 P **P** **10 35 23.6 0.0**
NRN Naryn 42.02 41 P **P** **10 35 23.6 0.0**
NRN pmax pmax
comp=Z,30nm,1.8s
DAVA Damuels 42.07 329 *e*P **P** **10 35 23.7 0.0**
comp=Z,45nm,0.9s,SNR=10
MNK Minsk 42.08 350 *i* P **P** **10 35 21.8 -1.6**
comp=E,3.0nm,0.6s
MNK *i* P **P** **10 35 21.8 -1.6**
comp=N,44nm,1.0s
MNK *i* P **P** **10 35 21.8 -1.6**
comp=Z,48nm,0.8s,baz=162
MNK *i* PP **PP** **10 36 58.8 -2.1**
MNK *i* PPP PPP 10 37 27.6
MNK *i* S **S** **10 41 40.7 -1.7**
MNK *i* SS **SS** **10 44 48.5 -1.4**
MNK *i* SSS SSS 10 45 17.8
MNK *i* LQ LQ 10 49 55.9
MNK *i* LR LR 10 52 53.6
MNK *i* LRM MLR 10 53 53.3
comp=E,254nm,25.1s
MNK *i* LRM MLR 10 54 40.5
comp=Z,104nm,15.9s
MNK *i* LRM MLR 10 54 44.5
comp=N,118nm,14.6s
MNK Minsk 42.08 350 *i* P **P** **10 35 21.8 -1.6**
MNK *i* 10 36 58.8
MNK *i* S **S** **10 41 40.7 -1.7**
MNK *i* SS **SS** **10 44 48.5 -1.4**
MNK *i* 10 45 24.8
MNK pmax pmax
comp=Z,48nm,0.9s
MNK pmax pmax
comp=N,44nm,1.0s
MNK pmax pmax
comp=E,3.0nm,0.6s
MNK MLR MLR
comp=E,254nm,25.0s
MNK MLR MLR
comp=Z,104nm,16.0s
MNK MLR MLR
comp=N,118nm,15.0s
WIN Windhoek 42.15 212 P **P** **10 35 26.9 +2.2**
WIN Windhoek 42.15 212 P **P** **10 35 26.9 +2.2**
WIN pmax pmax
comp=Z,43nm,1.7s
WIN MLR MLR
comp=Z,2µm,19.0s
UBR Ueberruh 42.23 330 *e*P **P** **10 35 24.8 -0.1**
comp=Z,28nm,0.9s,baz=136,slow=8.1
SGDS Sogindy 42.25 38 *e*P **P** **10 35 25.9 +0.7**
baz=38
SGDS Sogindy 42.25 38 *e*P **P** **10 35 25.9 +0.7**
MOS Moscow 42.28 358 *e*P **P** **10 35 22.8 -2.3**
MOS pmax pmax
comp=Z,99nm,1.4s
BNI Bardonecchia 42.31 325 IAmb IAmb 10 35 29.8
comp=Z,37nm,1.1s
LPG La Plagne 42.54 325 P **P** **10 35 26.6 -1.2**
LPL La Plagne 42.56 325 P **P** **10 35 26.7 -1.2**
SUW Suwalki 42.61 345 P **P** **10 35 28.1 +0.3**
SUW Suwalki 42.61 345 *e*P **P** **10 35 28.1 +0.3**
NACGM Naroch 42.66 349 *e*P **P** **10 35 28.9 +0.7**
comp=Z,43nm,0.8s,baz=161
ORIF Oris-en-Rattie 42.68 324 P **P** **10 35 28.4 -0.3**
ROTZ Rotzenmuhle 42.77 334 *e*P **P** **10 35 28.7 -0.5**
comp=Z,13nm,1.5s,baz=136,slow=8.1
BRG Berggiesshubel 42.90 336 *i* P **P** **10 35 29.8 -0.4**
BRG 10 35 36.8
BRG 10 37 21.0
BRG pmax pmax
comp=Z,19nm,1.0s
BRG Berggiesshubel 42.90 336 *i* P **P** **10 35 29.9 -0.4**
BRG Amp 10 35 30.8
comp=Z,19nm,1.0s
BRG Berggiesshubel 42.90 336 P P 10 35 36.8 +6.6
BRG Amp 10 35 38.0
comp=Z,28nm,1.5s
BRG Berggiesshubel 42.90 336 *e*P **P** **10 35 29.9 -0.3**
comp=Z,11nm,0.9s,baz=136,slow=8.1
MANZ Manzenberg 42.98 334 *e*P **P** **10 35 30.5 -0.4**
comp=Z,2.8nm,0.8s,baz=136,slow=8.1
NKC Novy Kostel 43.02 334 *e*P **P** **10 35 31.0 -0.2**
NKC Novy Kostel 43.02 334 *e*P **P** **10 35 31.0 -0.2**
SLE Schleitheim 43.08 329 P **P** **10 35 31.6 -0.2**
GRFO Grafenberg 43.15 333 P **P** **10 35 31.1 -1.1**
GRFO Grafenberg 43.15 333 P **P** **10 35 31.1 -1.1**
GRFO pmax pmax
comp=Z,31nm,1.2s
GRA1 Grafenberg Arr 43.15 333 P **P** **10 35 32.1 -0.2**
GRF Grafenberg Arr 43.15 333 P **P** **10 35 32.1 -0.2**
GRF pmax pmax
comp=Z,23nm,1.0s
GRF Grafenberg Arr 43.15 333 *e*P **P** **10 35 32.1 -0.2**
comp=Z,13nm,0.9s,baz=136,slow=8.1
GRF *e*L L 10 55 43.2
comp=Z,565nm,19.9s
TANN Tannenbergstha 43.15 334 *e*P **P** **10 35 32.3 0.0**
comp=Z,17nm,1.1s,baz=136,slow=8.1
TARG Taragay, Kyrgy 43.33 42 P **P** **10 35 34.8 +0.4**
TARG Taragay, Kyrgy 43.33 42 P **P** **10 35 34.8 +0.4**
TARG pmax pmax
comp=Z,11nm,0.9s
VIVF Saint-Julien-l 43.34 323 P **P** **10 35 33.7 -0.2**
ISAL Salakas 43.42 349 *e*P **P** **10 35 35.9 +1.6**
TNSS Tian-Shan 43.45 40 *e*P **P** **10 35 35.9 +0.6**
baz=40
TNSS Tian-Shan 43.45 40 *e*P **P** **10 35 35.9 +0.6**
BFO Black Forest 43.54 330 P **P** **10 35 35.3 -0.2**
BFO Black Forest 43.54 330 P **P** **10 35 35.3 -0.2**
BFO pmax pmax
comp=Z,27nm,1.2s
BFO Black Forest 43.54 330 *e*P **P** **10 35 35.7 +0.2**
comp=Z,9.2nm,0.9s,baz=136,slow=8.1
MDOK Medeo 43.58 40 *e*P **P** **10 35 36.6 +0.6**
baz=40
MDOK Medeo 43.58 40 *e*P **P** **10 35 36.6 +0.6**
CLL Collm 43.61 336 ǁ *i*P **P** **10 35 35.6 -0.4**
CLL *e*S **S** **10 42 08.0 +3.0**
CLL pmax pmax
comp=Z,34nm,1.2s
CLL Collm 43.61 336 ǁ *i*P **P** **10 35 35.6 -0.4**
comp=Z,34nm,1.2s
CLL *e*x x 10 35 49.0
CLL *e*PP **PP** **10 37 18.0 +0.6**
CLL *e*x x 10 37 35.0
CLL *e*S **S** **10 42 08.0 +3.0**
CLL *e*SS **SS** **10 45 18.0 -2.0**
CLL AMS AMS 10 54 00.0
comp=N,400nm,21.7s
CLL AMS AMS 10 54 00.0
comp=E,700nm,20.4s
CLL Collm 43.61 336 *e*P **P** **10 35 35.5 -0.4**
comp=E,19nm,1.1s,baz=136,slow=8.1
SSB Saint Sauveur 43.66 324 IAmb IAmb 10 35 38.6
comp=Z,28nm,1.0s
MOX Moxa 43.68 334 *e*P **P** **10 35 36.2 -0.3**
comp=Z,12nm,1.0s,baz=136,slow=8.1
MOX *e*L L 10 54 39.2
comp=Z,381nm,19.3s
PABE Paberze 43.80 347 *e*P **P** **10 35 38.2 +0.8**
CHKK Chushkaly 43.91 39 *e*P **P** **10 35 39.2 +0.7**
baz=39
CHKK Chushkaly 43.91 39 *e*P **P** **10 35 39.2 +0.7**
KLNR Kaliningrad 43.91 344 ǁ *e*P **P** **10 35 38.4 +0.1**
KLNR pmax pmax
comp=Z,47nm,0.7s
NEUB Neuenburg 44.03 335 *e*P **P** **10 35 38.9 -0.5**
comp=Z,20nm,1.0s,baz=136,slow=8.1
BOSA Boshof 44.10 199 P **P** **10 35 41.9 +1.6**
BOSA IAmb IAmb 10 35 43.6
comp=Z,32nm,1.1s
BOSA Boshof 44.10 199 P **P** **10 35 41.9 +1.6**
BOSA pmax pmax
comp=Z,32nm,1.2s
BOSA Boshof 44.10 199 P **P** **10 35 41.3 +1.0**
comp=Z,12nm,0.9s,baz=25,slow=14,SNR=12
BOSA LR LR 10 54 58.2
comp=Z,771nm,21.3s,baz=41,slow=37
comp=Z,12nm,0.9s
RUE Ruedersdorf 44.22 337 *e*P **P** **10 35 40.5 -0.3**
RUE Ruedersdorf 44.22 337 *e*P **P** **10 35 40.6 -0.2**
comp=Z,26nm,1.0s,baz=136,slow=8.1
CEST Esterri de Car 44.23 319 P **P** **10 35 42.1 +0.8**
CEST IAmb IAmb 10 35 43.2
comp=Z,63nm,1.3s
VSVD Vaisvydziai 44.25 347 *e*P **P** **10 35 41.6 +0.7**
SATY Saty 44.38 41 *e*P **P** **10 35 42.4 0.0**
comp=Z,34nm,1.7s,baz=41
SATY Saty 44.38 41 *e*P **P** **10 35 42.4 0.0**
SATY pmax pmax
comp=Z,34nm,1.7s
ZHN Zhinishke 44.45 41 *e*P **P** **10 35 43.1 +0.1**
comp=Z,39nm,1.4s,baz=41
ZHN Zhinishke 44.45 41 *e*P **P** **10 35 43.1 +0.1**
ZHN pmax pmax
comp=Z,39nm,1.4s
KIC Kosan Boka 44.47 265 ǁ *i*P **P** **10 35 42.7 -0.7**
comp=Z,21nm,0.9s
DBIC Dimbokro 44.51 266 P **P** **10 35 43.6 -0.1**
DBIC IAmb IAmb 10 35 46.1
comp=Z,56nm,1.6s
DBIC Dimbokro 44.51 266 P **P** **10 35 43.0 -0.7**
DBIC Dimbokro 44.51 266 P **P** **10 35 43.0 -0.7**
comp=Z,10nm,0.9s,baz=75,slow=9.0,SNR=6.1
DBIC LR LR 10 53 52.8
comp=Z,695nm,18.2s,baz=66,slow=36
comp=Z,10nm,0.9s
TIC Toumodi 44.68 266 ǁ *i*P **P** **10 35 45.6 +0.5**
comp=Z,17nm,1.0s
PBUR Paburge 44.74 346 *e*P **P** **10 35 45.8 +0.9**
LIC Lamto 44.77 265 ⇑ *e*P **P** **10 35 43.6 -2.2**
comp=Z,31nm,1.1s
TNS Tanus Mts 44.78 332 *e*P **P** **10 35 45.3 -0.1**
comp=Z,18nm,0.8s,baz=136,slow=8.1
UZB Uzynbulak 44.81 41 *e*P **P** **10 35 45.9 -0.1**
comp=Z,38nm,1.7s,baz=41
UZB Uzynbulak 44.81 41 *e*P **P** **10 35 45.9 -0.1**
UZB pmax pmax
comp=Z,38nm,1.7s
MDT Midelt 44.87 303 LR LR 10 55 25.6
comp=Z,1µm,18.5s,baz=146,slow=37
GTTG Gottingen 45.05 334 *e*P **P** **10 35 47.3 -0.2**
comp=Z,8.6nm,0.8s,baz=136,slow=8.1
CLZ Clausthal 45.09 334 *e*P **P** **10 35 47.2 -0.6**
comp=Z,4.9nm,0.9s,baz=136,slow=8.1
FLTG Flechtingen 45.10 335 *e*P **P** **10 35 47.3 -0.6**
comp=Z,11nm,0.9s,baz=136,slow=8.1
SHLS Shalkode 45.10 41 *e*P **P** **10 35 51.0 +2.8**
baz=42
SHLS Shalkode 45.10 41 *e*P **P** **10 35 51.0 +2.8**
ASSE Asse, Remlinge 45.18 335 *e*P **P** **10 35 48.1 -0.3**
comp=Z,8.8nm,0.9s,baz=136,slow=8.1
PDGK Podgornoye 45.20 41 P **P** **10 35 48.7 -0.3**
LOR Lormes 45.21 326 P **P** **10 35 48.1 -0.7**
AVF Avril sur Loir 45.21 325 P **P** **10 35 47.9 -0.9**
SSF Saint Saulge 45.28 325 P **P** **10 35 48.5 -0.9**
ARU Arti 45.28 14 P **P** **10 35 49.5 +0.2**
ARU Arti 45.28 14 *d* iP **P** **10 35 50.1 +0.9**
ARU 10 37 31.6
ARU S **S** **10 42 32.4 +3.2**
ARU pmax pmax
comp=Z,56nm,0.8s
ARU MLR MLR
comp=Z,578nm,16.0s
TDK Taldyqorghan 45.37 38 *e*P **P** **10 35 50.5 +0.2**
baz=38
TDK Taldyqorghan 45.37 38 *e*P **P** **10 35 50.4 +0.2**
KASTN Kahler Asten 45.48 333 *e*P **P** **10 35 50.6 -0.4**
comp=Z,4.4nm,0.9s,baz=136,slow=8.1
WLF Walferdange 45.50 330 *d*P **P** **10 35 51.1 0.0**
WLF Walferdange 45.50 330 P **P** **10 35 50.6 -0.5**
WLF Walferdange 45.50 330 *e*P **P** **10 35 51.2 +0.1**
comp=Z,137nm,1.6s,baz=136,slow=8.1
AHRW Bad Neuenahr-A 45.64 331 *e*P **P** **10 35 53.2 +1.0**
comp=Z,20nm,0.8s,baz=136,slow=8.1
KIRV Kiev 45.66 7 *d* iP **P** **10 35 52.2 0.0**
NRDL Niedersach Rie 45.68 335 *e*P **P** **10 35 52.3 -0.1**
comp=Z,9.2nm,0.9s,baz=136,slow=8.1
LFF La Frestale 45.73 321 P **P** **10 35 53.4 +0.4**
BSD Bornholm Skovb 45.95 340 *e*P **P** **10 35 53.8 -0.7**
VSU Vasula 46.05 350 ⇑ *e*P **P** **10 35 55.4 +0.1**
VSU pmax pmax
comp=Z,26nm,1.0s
BTNL Ternell 46.12 331 *d*P **P** **10 35 55.7 -0.4**
comp=Z,23nm,1.0s
SLIT Silute-r. Latvi 46.12 347 *e*P **P** **10 35 55.5 -0.4**
SVE Sverdlovsk 46.16 16 *e*P **P** **10 35 56.9 +0.7**
SVE pmax pmax
comp=Z,63nm,1.5s
BUG Bochum--Univer 46.16 332 *e*P **P** **10 35 56.5 +0.2**
comp=Z,19nm,1.0s,baz=136,slow=8.1
MEM Membach 46.19 331 *d*P **P** **10 35 57.1 +0.5**
comp=Z,25nm,1.0s
MEM *d*x x 10 36 01.9
RCHB Rochefort 46.28 330 *d*P **P** **10 35 56.9 -0.3**
comp=Z,13nm,0.9s
BRVK Borovoye 46.35 25 P **P** **10 35 57.5 -0.2**
BRVK Borovoye 46.35 25 *d* iP **P** **10 35 58.2 +0.5**
BRVK pmax pmax
comp=Z,30nm,2.5s
BVA0 Borovoye Array 46.37 25 *i* P **P** **10 35 57.4 -0.5**
BVAR Borovoye Array 46.37 25 P **P** **10 35 58.3 +0.4**
comp=Z,8.8nm,0.7s,baz=218,slow=6.8,SNR=48
BVAR PcP **PcP** **10 37 32.5 -0.3**
comp=Z,3.7nm,0.8s,baz=222,slow=2.0,SNR=3.9
BVAR LR LR 10 56 56.8
comp=Z,300nm,19.6s,baz=207,slow=38
comp=Z,8.8nm,0.7s
BSTI Sart Tilman 46.39 330 *d*P **P** **10 35 59.0 +0.9**
comp=Z,3.9nm,1.2s
BCLA Clavier 46.41 330 *d*P **P** **10 35 58.6 +0.4**
comp=Z,24nm,1.2s
BGES Gesves 46.49 330 *d*P **P** **10 35 59.2 +0.3**
comp=Z,28nm,0.9s
CLF Chambon-Foret 46.53 326 P **P** **10 35 58.9 -0.3**
ESBB Sonseca Array 46.53 313 P **P** **10 35 60.0 +0.5**
ESDC Sonseca Array 46.53 313 P **P** **10 35 59.5 +0.1**
ESDC IAmb IAmb 10 36 03.0
comp=Z,34nm,1.6s
ESDC Sonseca Array 46.53 313 P **P** **10 35 59.8 +0.4**
comp=Z,13nm,1.0s,baz=112,slow=7.1,SNR=24
ESDC LR LR 10 56 56.1
comp=Z,692nm,18.6s,baz=110,slow=38
comp=Z,13nm,1.0s
IBBN Ibbenburen 46.55 333 *e*P **P** **10 35 59.4 +0.1**
comp=Z,7.1nm,0.7s,baz=136,slow=8.1
DOU Dourbes 46.55 329 *d*P **P** **10 35 58.6 -0.7**
comp=Z,16nm,1.0s
BMRD Maredsous 46.60 329 *d*P **P** **10 35 60.0 +0.3**
comp=Z,14nm,1.0s
BSEG Bad Segeberg 46.67 336 *e*P **P** **10 36 00.2 0.0**
comp=Z,21nm,0.8s,baz=136,slow=8.1
PAB San Pablo 46.76 312 P **P** **10 36 01.1 -0.2**
PAB San Pablo 46.76 312 P **P** **10 36 01.1 -0.2**
PAB pmax pmax
comp=Z,62nm,1.4s
KLMR Klimovskoe 47.38 360 *e*P **P** **10 36 01.5 -4.1**
KLMR pmax pmax
comp=Z,83nm,1.3s
DEL Delary 47.40 341 *e*P **P** **10 36 05.8 -0.1**
MEF Metsahovi 48.11 350 *e*P **P** **10 36 11.6 +0.3**
VIKU Vikbolandet 48.27 344 *e*P **P** **10 36 12.2 -0.3**
VALR Valaam 48.33 354 *d* iP **P** **10 36 12.7 -0.3**
VALR pmax pmax
comp=Z,43nm,0.9s
MAKZ Makanchi 48.44 38 P **P** **10 36 13.8 -0.4**
MAKZ IAmb IAmb 10 36 15.4
comp=Z,19nm,0.8s
MAKZ Makanchi 48.44 38 P **P** **10 36 13.8 -0.4**
MAKZ pmax pmax
comp=Z,19nm,0.8s
PVAQ Vaqueiros 48.57 308 *e*LR LR 10 54 56.1
comp=Z,928nm,18.0s
KURBB Kurchatov Arra 48.57 32 P **P** **10 36 15.9 +0.9**
comp=Z,21nm,0.9s,baz=234,slow=8.1,SNR=79
KURBB PcP **PcP** **10 37 41.2 +0.5**
comp=Z,2.0nm,0.8s,baz=241,slow=3.4,SNR=3.2
comp=Z,21nm,0.9s
MK31 Makanchi Array 48.62 38 P **P** **10 36 15.4 -0.1**
MK31 IAmb IAmb 10 36 17.5
comp=Z,59nm,1.6s
MK31 Makanchi Array 48.62 38 *d* iP **P** **10 36 16.0 +0.4**
MKAR Makanchi Array 48.62 38 P **P** **10 36 15.6 +0.1**
MKAR Makanchi Array 48.62 38 *i* P **P** **10 36 16.1 +0.5**
MKAR pmax pmax
comp=Z,9.0nm,0.7s
MKAR Makanchi Array 48.62 38 P **P** **10 36 16.0 +0.4**
comp=Z,8.7nm,0.7s,baz=234,slow=7.7,SNR=72
MKAR PcP **PcP** **10 37 41.0 0.0**
comp=Z,3.6nm,0.9s,baz=242,slow=6.2,SNR=1.7
MKAR LR LR 11 00 16.9
comp=Z,851nm,20.7s,baz=218,slow=40
comp=Z,8.7nm,0.7s
KURK Kurchatov 48.67 32 P **P** **10 36 16.5 +0.7**
KURK IAmb IAmb 10 36 18.1
comp=Z,36nm,1.0s
KURK Kurchatov 48.67 32 *d* iP **P** **10 36 16.5 +0.7**
KURK pmax pmax
comp=Z,51nm,1.3s
PESTR Estremoz 48.90 310 *e*P **P** **10 36 18.8 +0.9**
comp=Z,56nm,1.6s
PMRV Marv??o 48.93 311 *e*P **P** **10 36 18.4 +0.3**
comp=Z,60nm,2.1s
PMRV Marv??o 48.93 311 *e*LR LR 10 55 27.5
comp=Z,1µm,18.0s
FIA1 FINESS Array S 49.00 351 P **P** **10 36 18.1 -0.1**
FINES FINESS Array B 49.00 351 P **P** **10 36 18.0 -0.1**
comp=Z,10nm,0.7s,baz=157,slow=7.5,SNR=32
comp=Z,10nm,0.7s
MUD Monsted U'grnd 49.01 338 *i* P **P** **10 36 17.0 -1.3**
MUD IAmb IAmb 10 36 19.6
comp=Z,32nm,0.8s
SUR Sutherland 49.05 201 LR LR 10 56 41.4
comp=Z,924nm,19.8s,baz=24,slow=36
EVO Evora 49.12 310 *e*P **P** **10 36 20.1 +0.6**
comp=Z,71nm,1.6s
PCBR Castelo Branco 49.13 311 *e*P **P** **10 36 18.9 -0.6**
UPP Uppsala 49.21 345 *e*P **P** **10 36 19.6 -0.1**
RAF Rauma 49.35 348 *e*P **P** **10 36 20.8 0.0**
SEM Semipalatinsk 49.35 33 *e*P **P** **10 36 21.9 +0.6**
comp=Z,37nm,1.4s,baz=33
SEM Semipalatinsk 49.35 33 *e*P **P** **10 36 21.9 +0.6**
SEM pmax pmax
comp=Z,37nm,1.4s
JOF Joensuu 49.82 355 *e*P **P** **10 36 23.8 -0.7**
KEF Keuruu 49.87 351 *e*P **P** **10 36 24.9 +0.1**
STRU Stroemstad 50.33 341 *e*P **P** **10 36 27.9 -0.4**
HFS Hagfors 50.48 343 P **P** **10 36 29.0 -0.4**
comp=Z,13nm,0.7s,baz=147,slow=8.3,SNR=29
HFS LR LR 10 58 44.6
comp=Z,260nm,20.7s,baz=166,slow=37
comp=Z,13nm,0.7s
ZSN Zaisan 50.48 38 *e*P **P** **10 36 29.9 +0.2**
comp=Z,30nm,1.7s,baz=38
ZSN Zaisan 50.48 38 *e*P **P** **10 36 29.9 +0.2**
ZSN pmax pmax
comp=Z,29nm,1.7s
WMQ Urumqi 50.80 44 *e*P **P** **10 36 35.4 +3.1**
WMQ LR LR
comp=Z,1µm,21.7s
WMQ LR LR
comp=Z,480nm,19.9s
WMQ LR LR
comp=Z,770nm,21.5s
STRD Stroud 51.00 328 *e*P **P** **10 36 33.6 +0.1**
VAF Ylistaro 51.05 350 *e*P **P** **10 36 33.7 0.0**
OSL Oslo 51.19 342 IAmb IAmb 10 36 34.3
comp=Z,45nm,0.8s
OSL *e*P **P** **10 36 34.3 -0.4**
KONO Kongsberg 51.31 341 ⇑ *e*P **P** **10 36 35.2 -0.5**
KONO Kongsberg 51.31 341 ⇑ *e*P **P** **10 36 35.4 -0.3**
KONO pmax pmax
comp=Z,46nm,1.5s
MONM Monmouth 51.37 327 ⇑ *e*P **P** **10 36 36.0 -0.2**
MCH1 Michaelchurch 51.55 328 *e*P **P** **10 36 37.4 -0.3**
MCH1 IAmb IAmb 10 36 38.2
comp=Z,47nm,0.9s
NC602 NORSAR Array S 51.58 343 IAmb IAmb 10 36 37.7
comp=Z,26nm,0.8s
NC602 NORSAR Array S 51.58 343 *e*P **P** **10 36 36.9 -0.9**
NC602 IAmb IAmb 10 36 37.5
comp=Z,26nm,0.8s
LBWR Ladybower, Pea 51.68 330 *e*P **P** **10 36 37.6 -1.0**
HLM1 Long Mynd 51.77 328 ⇑ *e*P **P** **10 36 39.1 -0.2**
GDLE Glaisdale, N Y 51.83 331 ⇑ *e*P **P** **10 36 39.6 -0.1**
GDLE IAmb IAmb 10 36 40.5
comp=Z,44nm,0.7s
NB2 NORSAR Subarra 51.92 343 P **P** **10 36 39.6 -0.8**
comp=Z,89nm,1.4s,baz=144,slow=7.9
NB2 NORSAR Subarra 51.92 343 P **P** **10 36 39.6 -0.8**
baz=144,slow=7.9
NOA NORSAR Array B 51.92 343 P **P** **10 36 39.7 -0.6**
comp=Z,25nm,1.1s,baz=144,slow=7.7,SNR=26
comp=Z,25nm,1.1s
FOEL Foel Wylfa 52.14 328 ⇑ *e*P **P** **10 36 42.4 +0.3**
FOEL IAmb IAmb 10 36 43.0
comp=Z,119nm,1.3s
BLS5 Blasjo 52.19 339 *e*P **P** **10 36 41.8 -0.6**
BLS5 IAmb IAmb 10 36 43.2
comp=Z,28nm,0.8s
NC204 NORSAR Array S 52.25 343 IAmb IAmb 10 36 43.1
comp=Z,27nm,0.8s
LLW Llanuwchllyn 52.35 328 ⇑ *e*P **P** **10 36 43.8 +0.2**
RSBS Rosebush, Pemb 52.45 327 *e*P **P** **10 36 44.3 -0.1**
ODD1 Odda 52.49 340 *e*P **P** **10 36 45.0 +0.4**
OUL Oulu 52.51 353 P **P** **10 36 44.6 0.0**
SKAR Skarslia 52.52 341 *e*P **P** **10 36 45.0 +0.1**
EDMD Edmundbyers 52.61 331 ⇑ *e*P **P** **10 36 45.5 -0.1**
WLF1 Llynfaes 52.96 328 ⇑ *e*P **P** **10 36 48.1 0.0**
KESW Keswick, Cumbr 53.02 330 *e*P **P** **10 36 48.4 -0.2**
WPS Cemaes, Angles 53.07 328 ⇑ *e*P **P** **10 36 49.1 +0.3**
WPS IAmb IAmb 10 36 49.9
comp=Z,65nm,1.1s
BER Bergen 53.28 339 *e*P **P** **10 36 50.8 +0.5**
DOMB Dombas 53.35 342 *e*P **P** **10 36 51.5 +0.6**
EKA Eskdalemuir Ar 53.47 331 P **P** **10 36 51.2 -0.6**
comp=Z,7.6nm,0.6s,baz=118,slow=7.0,SNR=62
comp=Z,7.6nm,0.6s
ESK Eskdalemuir 53.48 331 ⇑ *e*P **P** **10 36 51.6 -0.3**
IOMK Kirk Michael 53.56 329 *e*P **P** **10 36 52.8 +0.3**
HYA Hoyanger 53.57 340 *e*P **P** **10 36 52.5 +0.1**
ZAA0 Zalesovo Array 53.63 31 P **P** **10 36 52.6 -0.4**
ZAA0 IAmb IAmb 10 36 54.0
comp=Z,32nm,1.1s
ZALV Zalesovo Beam 53.63 31 P **P** **10 36 52.7 -0.3**
ZALV Zalesovo Beam 53.63 31 *i* P **P** **10 36 52.7 -0.3**
ZALV pmax pmax
comp=Z,19nm,0.9s
ZALV Zalesovo Beam 53.63 31 P **P** **10 36 52.6 -0.5**
comp=Z,19nm,0.9s,baz=240,slow=6.9,SNR=47
comp=Z,19nm,0.9s
NEWG New Galloway 53.86 330 ⇑ *e*P **P** **10 36 54.8 +0.1**
GAL1 Galloway 53.95 330 ⇑ *e*P **P** **10 36 55.5 +0.2**
GAL1 IAmb IAmb 10 36 55.7
comp=Z,33nm,0.8s
TBLU Trondheim 53.98 344 *e*P **P** **10 36 56.2 +0.8**
GOMU GeErMu 54.00 55 P **P** **10 36 58.0 +1.4**
GOMU pP sP 10 37 04.8 +1.8
GOMU sP pP 10 37 06.6 +5.5
GOMU pmax pmax
comp=Z,17nm,1.2s
APA Apatity 54.29 357 ǁ *i*P **P** **10 36 56.5 -1.1**
APA pmax pmax
comp=Z,21nm,0.8s
LVZ Lovozero 54.56 358 ǁ *e*P **P** **10 36 59.3 -0.3**
LVZ pmax pmax
comp=Z,48nm,1.2s
NSS Namsos 54.59 346 *e*P **P** **10 36 59.3 -0.5**
NSS IAmb IAmb 10 36 59.9
comp=Z,28nm,0.9s
CLGH Cloghs, Cushen 54.76 330 ⇑ *e*P **P** **10 37 01.3 +0.1**
PMOZ Porto Moniz, M 55.29 301 *e*P **P** **10 37 06.6 +1.0**
comp=Z,189nm,1.5s
PMOZ Porto Moniz, M 55.29 301 *e*LR LR 10 58 21.8
comp=Z,680nm,18.0s
MOR8 Moi Rana 55.43 348 *e*P **P** **10 37 05.4 -0.6**
STOK Stokkvaagen 55.87 347 *e*P **P** **10 37 08.7 -0.3**
KONS Konsvik 55.99 347 *e*P **P** **10 37 09.4 -0.5**
KONS IAmb IAmb 10 37 11.8
comp=Z,108nm,1.8s
TNCH TengChong 56.19 69 *e*P **P** **10 37 13.5 +1.2**
TNCH pmax pmax
comp=Z,210nm,3.0s
FAUS Fauske 56.32 349 *e*P **P** **10 37 12.0 -0.2**
KTK1 Kautokeino 56.58 353 *e*P **P** **10 37 13.7 -0.5**
CMAR Chiang Mai Arr 56.81 77 P **P** **10 37 15.8 -0.8**
CMAR Chiang Mai Arr 56.81 77 P **P** **10 37 16.2 -0.3**
comp=Z,15nm,1.0s,baz=278,slow=7.9,SNR=38
comp=Z,15nm,1.0s
STEI Steigen 56.81 349 *e*P **P** **10 37 15.3 -0.4**
ARA0 ARCESS Array S 56.83 354 *e*P **P** **10 37 15.6 -0.3**
ARCES ARCESS Array B 56.83 354 P **P** **10 37 15.3 -0.6**
comp=Z,7.3nm,0.8s,baz=163,slow=3.8,SNR=14
comp=Z,7.3nm,0.8s

LOF	Lofoten	57.30	349	*e*P		P		10 37 18.6	-0.6	
JETT	Jettan, Norway	57.46	352	*e*P		P		10 37 19.5	-0.9	
TRO	Tromso	57.73	351	*e*P		P		10 37 21.6	-0.6	
PHRA	Phrae	58.02	76	P		P		10 37 24.8	-0.4	
CRAI	Chiangrai	58.04	74	P		P		10 37 25.0	-0.2	
CRAI				IAmb		IAmb		10 37 30.2		
	comp=Z,20nm,1.0s									
GTA	Gaotai	58.44	52	P		P		10 37 28.3	+0.4	
GTA				sP		sP		10 37 39.5	+5.2	
GTA				pmax		pmax				
	comp=Z,11nm,2.2s									
GTA				LR		LR				
	comp=Z,300nm,19.5s									
GTA				LR		LR				
	comp=Z,510nm,17.9s									
GTA				LR		LR				
	comp=Z,590nm,17.1s									
PZH	PanZhiHua	59.10	67	P		P		10 37 34.4	+1.7	
PZH				pmax		pmax				
	comp=Z,5.0nm,0.7s									
PZH				pmax		pmax				
	comp=Z,100nm,4.4s									
KMI	Kunming	60.02	69	⇓P		P		10 37 38.8	-0.4	
KMI				pmax		pmax				
	comp=Z,16nm,0.8s									
KMI				LR		LR				
	comp=Z,200nm,14.3s									
KMI				LR		LR				
	comp=Z,230nm,17.9s									
KMI				LR		LR				
	comp=Z,470nm,39.4s									
LZH	Lanzhou	61.24	56	*e*P		P		10 37 48.8	+1.5	
LZH				sP		sP		10 37 55.5	+1.8	
LZH				pmax		pmax				
	comp=Z,18nm,1.1s									
LZH				LR		LR				
	comp=Z,540nm,16.1s									
LZH				LR		LR				
	comp=Z,750nm,16.5s									
LZH				LR		LR				
	comp=Z,930nm,18.9s									
MOY	Mondy	61.77	38	*e*P		P		10 37 51.4	+0.9	
MOY				pmax		pmax				
	comp=Z,26nm,2.4s									
ZAK	Zakamensk	62.87	40	*e*P		P		10 37 56.9	-1.0	
ZAK				pmax		pmax				
	comp=Z,6.0nm,1.7s									
NRIK	Noril'sk	63.39	17	P		P		10 38 00.9	0.0	
NRIK	Noril'sk	63.39	17	P		P		10 38 00.9	0.0	
NRIK				pmax		pmax				
	comp=Z,36nm,1.2s									
NRIK	Noril'sk	63.39	17	P		P		10 38 01.2	+0.3	
	comp=Z,16nm,0.9s,baz=234,slow=7.4,SNR=24									
	comp=Z,16nm,0.9s									
GYA	Guiyang	63.51	67	⇑*i*P		P		10 38 02.5	-0.1	
GYA				pmax		pmax				
	comp=Z,24nm,1.3s									
GYA				pmax		pmax				
	comp=Z,280nm,4.6s									
HOPEN	Hopen	63.60	356	*e*P		P		10 38 03.0	+0.9	
IRK	Irkutsk	63.88	38	*e*P		P		10 38 04.3	-0.1	
IRK				pmax		pmax				
	comp=Z,57nm,2.7s									
SONM	Songino Array	64.43	43	P		P		10 38 08.1	-0.2	
SONM				IAmb		IAmb		10 38 09.6		
	comp=Z,11nm,1.0s									
SONM	Songino Array	64.43	43	P		P		10 38 08.1	-0.2	
SONM				pmax		pmax				
	comp=Z,11nm,1.0s									
SONM	Songino Array	64.43	43	P		P		10 38 08.8	+0.5	
	comp=Z,7.5nm,0.8s,baz=268,slow=6.2,SNR=44									
SONM				LR		LR		11 09 28.5		
	comp=Z,564nm,21.9s,baz=178,slow=39									
	comp=Z,7.5nm,0.8s									
JMIC	Jan Mayen	64.58	344	LR		LR		11 06 21.0		
	comp=Z,117nm,21.2s,baz=53,slow=36									
ULN	Ulaanbaatar	64.88	43	P		P		10 38 10.7	-0.5	
ULN	Ulaanbaatar	64.88	43	*d*⇑*i*P		P		10 38 11.3	+0.1	
ULN				pmax		pmax				
	comp=Z,5.0nm,1.1s									
XAN	Xi'an	65.32	59	P		P		10 38 14.3	0.0	
XAN				pP		pP		10 38 18.8	-0.1	
XAN				S		S		10 47 05.6	+7.4	
XAN				pmax		pmax				
	comp=Z,14nm,1.6s									
XAN				LR		LR				
	comp=Z,540nm,18.6s									
XAN				LR		LR				
	comp=Z,340nm,19.2s									
XAN				LR		LR				
	comp=Z,830nm,19.9s									
SPB2	Spitsbergen Ar	65.83	355	P		P		10 38 16.4	-0.3	
SPA0	Spitsbergen Ar	65.84	355	*e*P		P		10 38 17.5	+0.7	
SPITS	Spitsbergen Ar	65.84	355	P		P		10 38 16.7	-0.1	
SPITS				pmax		pmax				
	comp=Z,87nm,1.2s									
SPITS	Spitsbergen Ar	65.84	355	P		P		10 38 17.4	+0.7	
	comp=Z,31nm,0.6s,baz=156,slow=7.3,SNR=63									
	comp=Z,31nm,0.6s									
BORG	Borgarnes	65.86	336	LR		LR		11 08 10.1		
	comp=Z,101nm,20.8s,baz=121,slow=37									
KBS	Kingsbay	66.91	354	*e*P		P		10 38 24.7	+1.1	
HHC	Hu-ho-hao-te	67.53	51	*e*P		P		10 38 29.6	+1.2	
HHC				pP		pP		10 38 33.8	+0.8	
HHC				sP		sP		10 38 37.3	+2.5	
HHC				PcP		PcP		10 38 52.6	-3.0	
HHC				S		S		10 47 23.5	-1.4	
HHC				pmax		pmax				
	comp=Z,17nm,0.6s									
HHC				pmax		pmax				
	comp=Z,110nm,3.7s									
HHC				LR		LR				
	comp=Z,260nm,18.8s									
HHC				LR		LR				
	comp=Z,410nm,17.3s									
HHC				LR		LR				
	comp=Z,680nm,19.2s									
LYN	LuoYang	68.25	58	⇑P		P		10 38 33.8	+0.9	
LYN				pmax		pmax				
	comp=Z,12nm,0.6s									
HNS	HongShan	69.99	55	⇓P		P		10 38 44.1	+0.6	
HNS				*e*S		S		10 47 54.4	+0.6	
HNS				pmax		pmax				
	comp=Z,9.0nm,0.9s									
HNS				LR		LR				
	comp=Z,400nm,15.9s									
HNS				LR		LR				
	comp=Z,420nm,19.1s									
HNS				LR		LR				
	comp=Z,540nm,20.6s									
WHN	Wuhan	70.04	62	⇑P		P		10 38 44.6	+0.6	
DAG	Danmarks Havn	70.06	348	*i* P		P		10 38 42.0	-1.3	
DAG				IAmb		IAmb		10 38 43.7		
	comp=Z,3.3nm,0.8s									
BOD	Bodaibo	70.30	33	*e*P		P		10 38 44.3	-0.8	
BOD				pmax		pmax				
	comp=Z,31nm,1.7s									
SOEG	Soedalen	70.71	338	*i* P		P		10 38 47.6	+0.2	
SOEG				IAmb		IAmb		10 38 53.3		
	comp=Z,6.5nm,0.8s									
BJI	Beijing	71.05	52	P		P		10 38 50.1	+0.1	
BJI				pmax		pmax				
	comp=Z,3.0nm,0.8s									
NOR	Nord	72.14	353	*i* P		P		10 38 54.9	-1.0	
NOR				IAmb		IAmb		10 38 56.6		
	comp=Z,4.4nm,0.9s									
ANGG	Ammassalik, Gr	72.74	335	⇓*i* P		P		10 38 59.0	-0.6	
ANGG				IAmb		IAmb		10 39 00.7		
	comp=Z,11nm,0.8s									
ISOG	Isortoq, Green	73.29	335	*i* P		P		10 39 02.1	-0.7	
ISOG				IAmb		IAmb		10 39 03.5		
	comp=Z,13nm,0.7s									
NJ2	Nanjing	73.75	60	*e*P		P		10 39 05.8	-0.5	
NJ2				pmax		pmax				
	comp=Z,11nm,0.6s									
NJ2				pmax		pmax				
	comp=Z,180nm,3.8s									
SUMG	Summit	73.81	342	P		P		10 39 05.6	-0.8	
SUMG				IAmb		IAmb		10 39 07.2		
	comp=Z,25nm,0.9s									
SUMG	Summit	73.81	342	P		P		10 39 05.6	-0.8	
SUMG				pmax		pmax				
	comp=Z,25nm,0.9s									
SUMG	Summit	73.81	342	*i* P		P		10 39 06.0	-0.4	
SUMG				IAmb		IAmb		10 39 07.5		
	comp=Z,12nm,0.7s									
ICESG	Greenland Ices	73.84	338	*i* P		P		10 39 04.8	-1.8	
ICESG				IAmb		IAmb		10 39 07.9		
	comp=Z,6.8nm,0.7s									
NRS	Narsarsuaq	76.11	330	*i* P		P		10 39 17.9	-1.4	
NRS				IAmb		IAmb		10 39 20.4		
	comp=Z,18nm,0.7s									
DY2G	Dye2	76.28	336	*i* P		P		10 39 19.8	-0.7	
DY2G				IAmb		IAmb		10 39 22.2		
	comp=Z,12nm,0.9s									
SNY	Shenyang	76.53	50	⇑P		P		10 39 22.3	+0.2	
SNY				pmax		pmax				
	comp=Z,13nm,0.7s									
TIXI	Tiksi	77.06	19	P		P		10 39 23.4	-1.2	
TIXI				IAmb		IAmb		10 39 24.9		
	comp=Z,16nm,1.0s									
TIXI	Tiksi	77.06	19	⇓*i*P		P		10 39 24.2	-0.3	
TIXI				pmax		pmax				
	comp=Z,16nm,0.9s									
NEEM	North Greenlan	77.22	347	*i* P		P		10 39 25.2	-0.6	
NEEM				IAmb		IAmb		10 39 26.7		
	comp=Z,10nm,0.7s									
RCBR	Riachuelo	77.62	261	LR		LR		11 13 15.6		
	comp=Z,143nm,18.1s,baz=63,slow=35									
CN2	Changchun	77.68	48	*e*P		P		10 39 28.5	0.0	
CN2				*e*pP		pP		10 39 33.1	-0.3	
CN2				*e*S		S		10 49 19.8	-0.6	
CN2				*e*SS		SS		10 54 21.8	+1.9	
CN2				pmax		pmax				
	comp=Z,10.0nm,1.0s									
CN2				LR		LR				
	comp=Z,210nm,20.0s									
CN2				LR		LR				
	comp=Z,120nm,20.0s									
ZEA	Zeya	77.77	37	*e*P		P		10 39 29.7	+0.9	
ZEA				pmax		pmax				
	comp=Z,10.0nm,1.6s									
SFJD	Kangerlussuaq	77.97	336	P		P		10 39 28.9	-0.8	
SFJD	Kangerlussuaq	77.97	336	P		P		10 39 28.9	-0.8	
SFJD				pmax		pmax				
	comp=Z,50nm,1.4s									
SFJD	Kangerlussuaq	77.97	336	*i* P		P		10 39 28.7	-1.0	
SFJD				IAmb		IAmb		10 39 30.2		
	comp=Z,14nm,0.6s									
SFJD	Kangerlussuaq	77.97	336	P		P		10 39 29.5	-0.2	
	comp=Z,14nm,0.6s,baz=83,slow=5.5,SNR=15									
SFJD				LR		LR		11 14 12.4		
	comp=Z,139nm,21.7s,baz=90,slow=36									
	comp=Z,14nm,0.6s									
YAK	Yakutsk	78.18	29	P		P		10 39 30.7	-0.2	
YAK	Yakutsk	78.18	29	*d*⇓*i*P		P		10 39 30.3	-0.7	
YAK				pmax		pmax				
	comp=Z,43nm,2.0s									
HEH	HeiHe	78.25	41	*e*P		P		10 39 31.5	-0.1	
HEH				pmax		pmax				
	comp=Z,20nm,1.2s									
HEH				pmax		pmax				
	comp=Z,140nm,5.2s									
HEH				LR		LR				
	comp=Z,630nm,15.9s									
HEH				LR		LR				
	comp=Z,160nm,15.1s									
HEH				LR		LR				
	comp=Z,640nm,16.6s									
BNX	BinXian	78.82	45	⇑P		P		10 39 34.5	-0.3	
BNX				pP		pP		10 39 39.1	-0.6	
BNX				sP		sP		10 39 41.0	-0.3	
BNX				S		S		10 49 40.5	+7.9	
BNX				sS		sS		10 49 44.6	+4.3	
BNX				pmax		pmax				
	comp=Z,6.0nm,1.2s									
BNX				pmax		pmax				
	comp=Z,200nm,4.9s									
BNX				LR		LR				
	comp=Z,1μm,22.7s									
BNX				LR		LR				
	comp=Z,1μm,20.6s									
BNX				LR		LR				
	comp=Z,200nm,21.8s									
KULLO	Kullorsuaq	79.07	344	*i* P		P		10 39 34.7	-0.9	
KULLO				IAmb		IAmb		10 39 37.0		
	comp=Z,11nm,0.8s									
UPNV	Upernavik	79.08	342	*i* P		P		10 39 35.1	-0.7	
UPNV				IAmb		IAmb		10 39 36.5		
	comp=Z,12nm,0.7s									
KSAR	Wonju Array Be	80.41	54	P		P		10 39 43.2	-0.5	
KSAR	Wonju Array Be	80.41	54	P		P		10 39 43.2	-0.5	
KSRS	Korea Array	80.44	54	P		P		10 39 43.3	-0.5	
	comp=Z,2.7nm,0.9s,baz=276,slow=5.4,SNR=9.6									
	comp=Z,2.7nm,0.9s									
MDJ	Mudanjiang	80.51	46	P		P		10 39 42.6	-1.5	
MDJ				sP		PcP		10 39 54.3	+3.3	
MDJ				S		S		10 49 51.0	+0.4	
MDJ				pmax		pmax				
	comp=Z,8.0nm,1.7s									
MDJ				pmax		pmax				
	comp=Z,170nm,5.1s									
MDJ				LR		LR				
	comp=Z,350nm,16.6s									
MDJ				LR		LR				
	comp=Z,130nm,10.2s									
MDJ				LR		LR				
	comp=Z,510nm,16.6s									
MDJ	Mudanjiang	80.51	46	P		P		10 39 43.0	-1.1	
USRK	Ussuriysk Ar.	82.28	46	P		P		10 39 52.6	-0.8	
	comp=Z,1.8nm,0.9s,baz=264,slow=2.9,SNR=4.3									
	comp=Z,1.8nm,0.9s									
EUNU	Eureka	82.73	352	P		P		10 39 55.4	+0.2	
EUNU				IAmb		IAmb		10 39 59.4		
	comp=Z,52nm,1.8s									
ELIB	Princess Elisa	85.87	185	*d*P		P		10 40 12.2	+1.0	
	comp=Z,5.4nm,1.5s									
RES	Resolute Bay	87.72	349	P		P		10 40 20.8	+0.7	
	comp=Z,3.4nm,1.1s,baz=45,slow=4.3,SNR=7.0									
	comp=Z,3.4nm,1.1s									
SEY	Seymchan	88.02	25	⇓*i*P		P		10 40 22.3	+0.5	
JGF	Kuroka	88.26	54	IAmb		IAmb		10 40 49.0		
	comp=Z,9.1nm,1.1s									
MA2	Magadan	88.75	28	P		P		10 40 25.3	-0.1	
MA2	Magadan	88.75	28	*d*⇓*i*P		P		10 40 25.1	-0.3	
MA2				pmax		pmax				
	comp=Z,26nm,2.2s									
YSS	Yuzh-Sakhalins	88.89	42	*e*P		P		10 40 25.8	-0.4	
BILL	Bilibino	90.21	18	P		P		10 40 32.6	+0.6	
BILL				IAmb		IAmb		10 40 36.0		
	comp=Z,22nm,1.5s									
BILL	Bilibino	90.21	18	*i* P		P		10 40 32.6	+0.6	
A36M	Sachs Harbour	94.23	355	IAmb		IAmb		10 40 51.8		
	comp=Z,9.8nm,1.0s									
A36M	Sachs Harbour	94.23	355	P		P		10 40 51.5	+1.0	
	baz=14									
A19K	Wainwright	95.34	7	P		P		10 40 56.6	+1.0	
	baz=339									
B18K	Kokolik River	96.04	8	P		P		10 40 59.8	+0.9	
	baz=339									
C23K	Itkillik River	96.65	4	IAmb		IAmb		10 41 05.4		
	comp=Z,13nm,1.4s									
C23K	Itkillik River	96.65	4	P		P		10 41 02.9	+1.4	
	baz=350									
C17K	DeLong Mountai	96.68	8	P		P		10 41 02.6	+0.8	
	baz=337									
C18K	Utukok River	96.79	8	IAmb		IAmb		10 41 03.8		
	comp=Z,5.6nm,1.1s									
C18K	Utukok River	96.79	8	P		P		10 41 03.0	+0.7	
	baz=339									
E18K	Tukpahlearik C	98.02	8	P		Pdif		10 41 08.3	+0.4	
	baz=340									
ASAR	Alice Springs	98.88	112			P		10 41 11.5	-1.1	
ASAR	Alice Springs	98.88	112	P		P		10 41 11.5	-1.1	
F24K	Squaw Lake	99.10	3	P		Pdif		10 41 14.0	+1.2	
	baz=352									
ANM	Nome	99.92	11	IAMs_20		IAMs_20		11 35 26.2		
	comp=Z,3μm,19.0s									
H19K	Roundabout Mou	100.35	7	IAMs_20		IAMs_20		11 35 44.6		
	comp=Z,3μm,18.0s									
H17K	Granite Mounta	100.47	8	IAMs_20		IAMs_20		11 35 36.6		
	comp=Z,3μm,18.0s									
H18K	Honhosa River	100.47	8	IAMs_20		IAMs_20		11 36 03.8		
	comp=Z,2μm,19.0s									
H21K	Melozitna Rive	100.60	5	IAMs_20		IAMs_20		11 36 15.2		
	comp=Z,2μm,20.0s									
H23K	Yukon River	100.69	4	IAMs_20		IAMs_20		11 36 20.7		
	comp=Z,2μm,19.0s									
H31M	Peel River	100.91	358	IAMs_20		IAMs_20		11 36 25.7		
	comp=Z,3μm,20.0s									
I21K	Tanana	101.14	5	IAMs_20		IAMs_20		11 35 51.5		
	comp=Z,3μm,20.0s									
PRP	Porcupine Dome	101.21	2	IAMs_20		IAMs_20		11 36 05.5		
	comp=Z,2μm,18.0s									
I20K	Naaghedeneel	101.28	6	IAMs_20		IAMs_20		11 35 57.1		
	comp=Z,3μm,22.0s									
I17K	Unalakleet	101.34	9	IAMs_20		IAMs_20		11 35 55.7		
	comp=Z,2μm,19.0s									
I23K	Minto, Yukon-K	101.37	4	IAMs_20		IAMs_20		11 36 19.7		
	comp=Z,2μm,18.0s									
I28M	Miner Creek	101.38	360	IAMs_20		IAMs_20		11 36 39.2		
	comp=Z,2μm,19.0s									
MLY	Manley	101.39	5	IAMs_20		IAMs_20		11 36 17.1		
	comp=Z,2μm,19.0s									
I30M	Mount Dempster	101.56	358	IAMs_20		IAMs_20		11 36 45.9		
	comp=Z,2μm,19.0s									
MDM	Murphy Dome	101.63	4	IAMs_20		IAMs_20		11 35 58.6		
	comp=Z,2μm,18.0s									
COLA	College	101.74	3	IAMs_20		IAMs_20		11 35 58.4		
	comp=Z,3μm,19.0s									
YKA	Yellowknife Ar	101.76	348	*i* P		Pdif		10 41 28.2	+3.6	
YKA	Yellowknife Ar	101.76	348	P		Pdif		10 41 24.6	0.0	
	comp=Z,0.4nm,0.9s,baz=18,slow=5.7,SNR=4.5									
YKA				PP		PP		10 45 31.5	-2.9	
	comp=Z,4.3nm,1.1s,baz=21,slow=7.3,SNR=13									
ILAR	Eielson Array	101.89	3	PP		PP		10 45 35.7	+0.4	
	comp=Z,1.4nm,1.0s,baz=351,slow=6.8,SNR=8.1									
J20K	Nowinta River	101.91	6	IAMs_20		IAMs_20		11 36 09.0		
	comp=Z,2μm,20.0s									
J14K	Nanvaranak Lak	101.92	11	IAMs_20		IAMs_20		11 35 46.0		
	comp=Z,2μm,19.0s									
J16K	Anvik River	101.92	9	IAMs_20		IAMs_20		11 35 54.1		
	comp=Z,2μm,20.0s									
J19K	Poorman	101.93	7	IAMs_20		IAMs_20		11 36 05.3		
	comp=Z,2μm,19.0s									
EGAK	Eagle	102.05	0	IAMs_20		IAMs_20		11 36 34.9		
	comp=Z,2μm,20.0s									
WRH	Wood River Hil	102.12	4	IAMs_20		IAMs_20		11 35 55.6		
	comp=Z,3μm,20.0s									
HDA	Harding Lake	102.25	3	IAMs_20		IAMs_20		11 35 58.0		
	comp=Z,3μm,18.0s									
BPAW	Bear Paw Mtn.	102.29	5	IAMs_20		IAMs_20		11 36 12.9		
	comp=Z,2μm,18.0s									
J26L	Joseph Creek	102.29	2	IAMs_20		IAMs_20		11 36 30.1		
	comp=Z,2μm,19.0s									
J18K	Innoko River	102.30	8	IAMs_20		IAMs_20		11 36 02.2		
	comp=Z,2μm,19.0s									
BWN	Browne	102.33	4	IAMs_20		IAMs_20		11 35 53.4		
	comp=Z,3μm,18.0s									
J29N	Klondike Camp	102.37	359	IAMs_20		IAMs_20		11 36 41.3		
	comp=Z,2μm,19.0s									
K15K	Wolf Creek Mou	102.70	10	IAMs_20		IAMs_20		11 35 48.6		
	comp=Z,2μm,19.0s									
K20K	Telida	102.72	6	IAMs_20		IAMs_20		11 36 06.3		
	comp=Z,2μm,19.0s									
K27K	Chicken	102.79	1	IAMs_20		IAMs_20		11 36 32.4		
	comp=Z,2μm,18.0s									
SCRK	Sand Creek	102.80	2	IAMs_20		IAMs_20		11 36 27.7		
	comp=Z,2μm,20.0s									
K17K	Iditarod	102.81	8	IAMs_20		IAMs_20		11 35 56.5		
	comp=Z,2μm,19.0s									
KTH	Kantishna Hill	102.83	5	IAMs_20		IAMs_20		11 36 12.3		
	comp=Z,2μm,19.0s									
CAST	Castle Rocks	102.86	5	IAMs_20		IAMs_20		11 36 10.0		
	comp=Z,2μm,19.0s									
K29M	Barlow Dome	102.97	359	IAMs_20		IAMs_20		11 36 18.2		
	comp=Z,3μm,18.0s									
TRF	Thorofare Moun	102.98	5	IAMs_20		IAMs_20		11 36 13.3		
	comp=Z,2μm,18.0s									
RND	Reindeer	103.14	4	IAMs_20		IAMs_20		11 36 16.3		
	comp=Z,2μm,19.0s									
L14K	Kuka Creek	103.38	11	IAMs_20		IAMs_20		11 35 41.6		
	comp=Z,2μm,19.0s									
L18K	Granite Mounta	103.51	8	IAMs_20		IAMs_20		11 36 32.0		
	comp=Z,3μm,18.0s									
L16K	Owhat River	103.58	9	IAMs_20		IAMs_20		11 35 26.0		
	comp=Z,3μm,18.0s									
L29M	L29M	103.72	359	IAMs_20		IAMs_20		11 36 25.9		
	comp=Z,3μm,22.0s									
L27K	Beaver Creek,	103.77	1	IAMs_20		IAMs_20		11 36 31.2		
	comp=Z,2μm,20.0s									
L19K	White Mountain	103.78	7	IAMs_20		IAMs_20		11 36 01.1		
	comp=Z,3μm,20.0s									
L26K	Log Cabin Wild	103.78	2	IAMs_20		IAMs_20		11 36 04.3		
	comp=Z,2μm,19.0s									
CUT	Chulitna	104.02	5	IAMs_20		IAMs_20		11 35 46.6		
	comp=Z,3μm,21.0s									
M14K	Bethel	104.06	11	IAMs_20		IAMs_20		11 35 39.6		
	comp=Z,2μm,19.0s									
M30M	Minto, Yukon	104.22	358	IAMs_20		IAMs_20		11 36 17.3		
	comp=Z,3μm,19.0s									
M20K	Styx River	104.26	6	IAMs_20		IAMs_20		11 36 03.0		
	comp=Z,2μm,19.0s									
M16K	Timber Creek	104.32	9	IAMs_20		IAMs_20		11 35 49.4		
	comp=Z,2μm,18.0s									
SKT	Skwentna	104.33	6	IAMs_20		IAMs_20		11 36 06.8		
	comp=Z,2μm,19.0s									
M29M	Somme Creek	104.39	359	IAMs_20		IAMs_20		11 36 36.7		
	comp=Z,2μm,20.0s									
M27K	Edge Creek, AK	104.47	1	IAMs_20		IAMs_20		11 36 29.8		
	comp=Z,2μm,18.0s									
M22K	Willow	104.68	5	IAMs_20		IAMs_20		11 36 41.0		
	comp=Z,1μm,18.0s									
SML	Sawmill	104.76	4	IAMs_20		IAMs_20		11 36 14.2		
	comp=Z,2μm,18.0s									
SCM	Sheep Creek Mo	104.80	4	IAMs_20		IAMs_20		11 36 15.3		
	comp=Z,2μm,19.0s									
SUA	Susitna One	104.91	5	IAMs_20		IAMs_20		11 35 43.1		
	comp=Z,3μm,18.0s									
N18K	Kilae Creek	105.10	8	IAMs_20		IAMs_20		11 35 54.0		
	comp=Z,2μm,19.0s									
KNK	Knik Glacier	105.14	4	IAMs_20		IAMs_20		11 36 13.3		
	comp=Z,2μm,19.0s									
N19K	Bonanza Creek	105.15	7	IAMs_20		IAMs_20		11 35 34.4		
	comp=Z,3μm,18.0s									
N25K	Chitina, Valde	105.16	2	IAMs_20		IAMs_20		11 35 58.8		

	comp=Z,2μm,19.0s						
P32M	**Atlin**	**107.08 357**	IAMs_20	IAMs_20	11 36 43.0		
	comp=Z,2μm,19.0s						
R33M	**Jennings River**	**107.08 355**	IAMs_20	IAMs_20	11 36 27.1		
	comp=Z,3μm,20.0s						
Q19K	**Cape Douglas,**	**107.09 7**	IAMs_20	IAMs_20	11 35 51.6		
	comp=Z,2μm,18.0s						
P29M	**Windy Craggy**	**107.20 359**	IAMs_20	IAMs_20	11 36 21.0		
	comp=Z,3μm,22.0s						
SYI	**Shuyak Island**	**107.55 7**	IAMs_20	IAMs_20	11 35 54.8		
	comp=Z,2μm,18.0s						
Q32M	**Nakina River**	**107.61 356**	IAMs_20	IAMs_20	11 36 23.1		
	comp=Z,3μm,19.0s						
JIS	**Juneau Island**	**108.43 357**	IAMs_20	IAMs_20	11 36 16.6		
	comp=Z,3μm,22.0s						
R32K	**Eaglecrest**	**108.44 357**	IAMs_20	IAMs_20	11 36 38.8		
	comp=Z,2μm,20.0s						
S34M	**Telegraph Cree**	**108.56 355**	IAMs_20	IAMs_20	11 36 48.3		
	comp=Z,2μm,19.0s						
S12K	**Black Hills**	**108.73 13**	IAMs_20	IAMs_20	11 35 07.0		
	comp=Z,4μm,22.0s						
S31K	**Pelican**	**108.83 358**	IAMs_20	IAMs_20	11 36 35.1		
	comp=Z,2μm,19.0s						
S32K	**Killisnoo**	**109.24 357**	IAMs_20	IAMs_20	11 36 38.2		
	comp=Z,2μm,19.0s						
T35M	**Bob Quinn**	**109.40 354**	IAMs_20	IAMs_20	11 36 48.6		
	comp=Z,2μm,19.0s						
CHIR	**Chirikof Islan**	**109.82 9**	IAMs_20	IAMs_20	11 35 36.9		
	comp=Z,2μm,18.0s						
WRAK	**Wrangell Islan**	**110.14 355**	IAMs_20	IAMs_20	11 36 42.0		
	comp=Z,2μm,19.0s						
U35K	**Hyder**	**110.43 354**	IAMs_20	IAMs_20	11 36 47.8		
	comp=Z,1μm,18.0s						
U33K	**Whale Pass**	**110.50 356**	IAMs_20	IAMs_20	11 36 27.5		
	comp=Z,3μm,22.0s						
V35K	**Ketchikan**	**111.16 355**	IAMs_20	IAMs_20	11 36 20.1		
	comp=Z,3μm,19.0s						
LKWY	**Lake**	**116.30 337**	IAMs_20	IAMs_20	11 42 03.9		
	comp=Z,1μm,19.0s						
FXWY	**Fox Creek**	**117.33 337**	IAMs_20	IAMs_20	11 37 29.0		
	comp=Z,1μm,22.0s						
PDAR	**Pinedale Array**	**117.47 335**	PKP	**PKPdf**	**10 46 17.7**	**-0.5**	
	comp=Z,0.6nm,0.9s,baz=60,slow=3.6,SNR=4.3						
NLWA	**Neilton Lookou**	**117.76 348**	IAMs_20	IAMs_20	11 36 59.3		
	comp=Z,1μm,20.0s						
SDCO	**Great Sand Dun**	**119.64 329**	P	**PKiKP**	**10 46 22.9**	**+0.2**	
	baz=39						
HDC	**Heredia**	**119.76 290**	IAMs_20	IAMs_20	11 27 44.0		
	comp=Z,2μm,19.0s						
ARNL	**Arenillas**	**119.94 274**		**PKPdf**	**10 46 20.3**	**-3.1**	
TGUH	**Tegucigalpa,Un**	**120.99 296**	IAMs_20	IAMs_20	11 44 19.1		
	comp=Z,1μm,22.0s						
WVOR	**Wild Horse Val**	**121.04 342**	IAMs_20	IAMs_20	11 49 10.6		
	comp=Z,2μm,21.0s						
ELK	**Elko**	**121.40 338**	IAMs_20	IAMs_20	11 37 13.7		
	comp=Z,2μm,22.0s						
MVCO	**Mesa Verde**	**121.53 331**	IAMs_20	IAMs_20	11 50 35.3		
	comp=Z,2μm,22.0s						
HUMO	**Hull Mountain**	**122.08 345**	IAMs_20	IAMs_20	11 36 47.8		
	comp=Z,2μm,22.0s						
833A	**Chaparral WMA,**	**122.79 317**	P	**PKiKP**	**10 46 29.2**	**+0.5**	
	baz=49						
R11B	**Troy Canyon, C**	**123.63 337**	IAMs_20	IAMs_20	11 50 09.8		
	comp=Z,2μm,20.0s						
MNTX	**Cornudas Mount**	**124.15 324**	P	**PKiKP**	**10 46 31.5**	**+0.2**	
	baz=42						
WUAZ	**Wupatki**	**124.26 332**	IAMs_20	IAMs_20	11 50 10.1		
	comp=Z,1μm,21.0s						
ORV	**Oroville**	**124.54 343**	IAMs_20	IAMs_20	11 49 48.1		
	comp=Z,2μm,20.0s						
NVAR	**Mina Array Bea**	**124.55 339**		**PKPdf**	**10 46 31.7**	**-0.3**	
NVAR	**Mina Array Bea**	**124.55 339**	PKP	**PKiKP**	**10 46 32.9**	**+0.6**	
	comp=Z,1.8nm,0.8s,baz=29,slow=2.1,SNR=12						
VHRN	**Van Horn**	**124.59 323**	PKPdf	**PKPdf**	**10 46 31.2**	**-0.9**	
EPT	**El Paso**	**124.73 325**	IAMs_20	IAMs_20	11 51 04.6		
	comp=Z,3μm,21.0s						
TXAR	**Lajitas Array**	**124.84 321**	PKP	**PKiKP**	**10 46 32.7**	**-0.1**	
	comp=Z,1.5nm,0.8s,baz=100,slow=2.3,SNR=18						
121A	**Cookes Peak, D**	**124.85 327**		**PKiKP**	**10 46 33.4**	**+0.4**	
121A	**Cookes Peak, D**	**124.85 327**	P	**PKiKP**	**10 46 33.7**	**+0.8**	
	baz=39						
CMB	**Columbia Colle**	**125.59 341**	IAMs_20	IAMs_20	11 36 55.3		
	comp=Z,2μm,22.0s						
PDMC	**Parker Dam,Lak**	**126.52 333**	P	**PKiKP**	**10 46 36.5**	**+0.6**	
	baz=32						
TUC	**Tucson**	**126.58 329**	P	**PKiKP**	**10 46 37.0**	**+0.7**	
	baz=36						
UNM	**Universidad Na**	**128.21 308**	IAMs_20	IAMs_20	11 52 44.5		
	comp=Z,1μm,20.0s						
TLIG	**Tlapa**	**128.74 306**		PKPpre	10 46 28.0		

*MAN **24** 10:34:31.4, 10˚.20N×126˚.23E, h20km, mb5.7, ML4.7, MS5.1*

MAN INTENSITY IV- BURGOS AND SANTA MONICA SURIGAO DEL NORTE; INTENSITY III - DEL CARMEN AND PILAR SURIGAO DEL NORTE; INTENSITY II - SURIGAO CITY; DAPA AND GENERAL LUNA SURIGAO DEL NORTE; INTENSITY I - SOCORRO SURIGAO DEL NORTE.

*BJI **24** 10:34:32.9±0.0, 9.˚91N×126˚.13E, h78km, mb4.9/70, mB5.0/38, Ms4.5/61, Ms7 4.4/56*

*NEIC **24** 10:34:32.7±1.8, 10˚.18N±0˚.07×125˚.97E±0˚.09, h31km±4km, mb5.2/285, Error ellipse: s-maj=12.7km s-min=9.4km az=82.0*

*IDC **24** 10:34:34.6±1.8, 10˚.06N×125˚.94E, h60km±15km, mb4.7/34, mbtmp5.0/35, MS4.1/27, Error ellipse: s-maj=16.1km s-min=7.7km az=77.0*

*MOS **24** 10:34:34.1±0.9, 10˚.21N×125˚.76E, h62km, mb5.4/63, Error ellipse: s-maj=9.0km s-min=4.0km az=114.3*

*GCMT **24** 10:34:35.7±0.2, 10˚.22N±0˚.02×126˚.24E±0˚.02, h39km±1km, MW5.1/87, Moment Tensor Solution. s78,c95; s87,c126; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr4.35±.20; Mθθ0.90±.14; Mϕϕ-5.25±.13; Mrθ0.92±.15; Mθϕ0.70±.10; Mϕr3.00±.20; Best double couple: M0:5.80100×10^16^ NP1:ϕs8.00000°, δ62.00000°, λ106.00000°. NP2: ϕs157.00000°, δ32.00000°, λ63.00000°. Principal axes: T 5.4670, Plg69.0000°, Azm310.0000°; N 0.6640, Plg14.0000°, Azm180.0000°; P -6.1350, Plg16.0000°, Azm86.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **24** 10:34:39.2±0.4, 10˚.N×3˚×12˚.6E±˚, h85km±5km, M5.1/26, mb5.0/26, mB5.4/12, MLv5.7/2, Mw(mB)4.8/12, MwMwp4.7/2, Mwp5.1/2*

ISC 24 10:34:33.2±0.3, **10˚.11N**±0˚.02×**126˚.06E**±0˚.04, **h46**km±2km, **h46**km:**pP-P, n947,**σ1§**60**/895, **mb5.2**/264, **MS4.0**/47, **56C-46D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLSP	**General Luna,**	**0.33 168**		↑*i*P	**Pn**	**10 34 41.4**	**-0.8**
GLSP				*e*S	**Sn**	**10 34 47.0**	**-1.6**
SCPH	**Surigao**	**0.65 240**		↓*e*P	**Pn**	**10 34 46.7**	**+0.6**
SCPH				*e*S	**Sn**	**10 34 56.8**	**+1.5**
MSLP	**Maasin**	**1.18 271**		↓*i*P	**Pn**	**10 34 55.3**	**+2.0**
MSLP				*i* S	Sn	10 35 16.5	+8.2
BESP	**Borongan**	**1.61 338**		↓*e*P	**Pn**	**10 35 00.6**	**+1.5**
BESP				*e*S	**Sn**	**10 35 25.4**	**+6.8**
TASP	**Talacogon, Agu**	**1.66 189**		↓*i*P	**Pn**	**10 35 03.2**	**+3.3**
TASP				*i* S	**Sn**	**10 35 26.0**	**+6.0**
TABP	**Talibon, Bohol**	**1.70 270**		↓*i*P	**Pn**	**10 35 02.6**	**+2.2**
TABP				*i* S	**Sn**	**10 35 24.5**	**+3.5**
GHBP	**Garcia Hernand**	**1.78 255**		↓*i*P	**Pn**	**10 35 04.1**	**+2.7**
GHBP				*i* S	**Sn**	**10 35 28.3**	**+5.4**
BIPH	**Bislig**	**1.93 171**		↓*e*P	**Pn**	**10 35 03.9**	**+0.3**
BIPH				*e*S	**Sn**	**10 35 30.5**	**+3.9**
LLP	**Lapu-Lapu**	**2.07 276**		↓*i*P	**Pn**	**10 35 08.4**	**+2.9**
LLP				*i* S	**Sn**	**10 35 32.3**	**+2.2**
CGP	**Cagayan de Oro**	**2.12 220**		↓*e*P	**Pn**	**10 35 08.5**	**+2.3**
CGP				*i* S	**Sn**	**10 35 35.2**	**+3.8**
TBP	**Tagbilaran**	**2.21 259**		↓*i*P	**Pn**	**10 35 10.1**	**+2.8**
TBP				*i* S	**Sn**	**10 35 39.0**	**+5.6**
CDOP	**Cateel, Davao**	**2.34 171**		↓*e*P	**Pn**	**10 35 11.2**	**+2.1**
CDOP				*i* S	**Sn**	**10 35 42.4**	**+5.7**
LSIP	**Lazi, Siquijor**	**2.58 248**		↓*i*P	**Pn**	**10 35 14.8**	**+2.3**
LSIP				*i* S	**Sn**	**10 35 46.9**	**+4.2**
SNPH	**Sibulan**	**2.89 255**		↓*e*P	**Pn**	**10 35 19.7**	**+3.0**
SNPH				*e*S	Sn	10 36 00.2	+10
DAV	**Davao City (W)**	**3.05 189**			**Pn**	**10 35 20.2**	**+1.2**
DAV	**Davao City (W)**	**3.05 189**	P		Pn	10 35 24.3	+5.3
	373nm,0.4s,baz=30,slow=20,SNR=9.0						
DAV				S	**Sn**	**10 36 00.7**	**+6.3**
	2μm,1.0s,baz=79,slow=21,SNR=7.2						
DAV				LR	LR	10 36 57.0	
	comp=Z,8μm,18.2s,baz=4.0,slow=48						
MATI	**Mati**	**3.15 176**		↓*e*P			
MATI				*e*S	Sn	10 36 06.1	+10
MMPH	**Masbate**	**3.27 313**		↑*i*P	**Pn**	**10 35 25.4**	**+3.5**
MMPH				*i* S	Sn	10 36 09.6	+10
CNOP	**Candoni, Negro**	**3.38 266**		↓*i*P	**Pn**	**10 35 26.6**	**+3.1**
CNOP				*e*S	**Sn**	**10 36 02.6**	**+0.3**
CNOP	**Candoni, Negro**	**3.38 266**		↓*i*P	**Pn**	**10 35 26.6**	**+3.1**
CNOP				*i* S	**Sn**	**10 36 02.8**	**+0.4**
GUIM	**Jordan**	**3.46 279**		*e*P	**Pn**	**10 35 27.2**	**+2.8**
GUIM				*e*S	**Sn**	**10 36 08.0**	**+3.8**
PAGZ	**Pagadian**	**3.47 230**		↓*i*P	**Pn**	**10 35 27.4**	**+2.8**
RCP	**Roxas**	**3.56 294**		↓*e*P	**Pn**	**10 35 29.1**	**+3.1**
RCP				*i* S	**Sn**	**10 36 12.3**	**+5.4**
PVCP	**Virac**	**3.94 332**		↓*e*P	**Pn**	**10 35 31.9**	**+0.7**
PVCP				*e*S	**Sn**	**10 36 21.6**	**+5.5**
DDMP	**Don Marcelino,**	**3.99 185**		↓*e*P	**Pn**	**10 35 33.9**	**+2.1**
DDMP				*e*S	**Sn**	**10 36 19.6**	**+2.2**
GSPH	**General Santos**	**4.14 195**		*e*P	Pn	10 35 50.2	+16
IPIL	**Ipil**	**4.15 237**		↓*e*P	Pn	10 35 38.3	+4.3
IPIL				*e*S	Sn	10 36 30.0	+8.8
IBAJ	**Ibajay, Aklan**	**4.18 294**		↓*e*P	**Pn**	**10 35 37.9**	**+3.5**
ZCP	**Zamboanga City**	**5.05 232**		↓*e*P	Pn	10 35 54.5	+8.2
JCNP	**Jose Panganiba**	**5.30 322**		↓*e*P	**Pn**	**10 35 51.8**	**+1.9**
JCNP				*e*S	**Sn**	**10 36 52.1**	**+2.5**
JCNP	**Jose Panganiba**	**5.30 322**		↓*i*P	**Pn**	**10 35 52.0**	**+2.2**
LQP	**Lukban**	**5.95 312**		↓*e*P	**Pn**	**10 36 02.3**	**+3.3**
PGP	**Puerto Galera**	**6.03 305**		↓*e*P	Pn	10 36 05.2	+5.3
BUSP	**Coron**	**6.05 289**		↓*e*P	**Pn**	**10 36 03.0**	**+2.7**
TGY	**Tagaytay City**	**6.39 309**		P	Pn	10 36 09.9	+5.0
	397nm,0.6s,baz=198,slow=20,SNR=9.1						
TGY				LR	LR	10 39 04.9	
	comp=Z,4μm,18.1s,baz=106,slow=43						
SGSI	**Sangihe**	**6.40 185**		P	Pn	10 36 09.9	+4.9
	771nm,0.8s,7μm6.1nm						
ENPP	**El Nido**	**6.61 280**		↓*e*P	**Pn**	**10 36 10.9**	**+3.1**
ENPP				*e*S	**Sn**	**10 37 25.1**	**+3.1**
MACP	**Maragondon, Ca**	**6.66 309**		↑*e*P	**Pn**	**10 36 12.2**	**+3.7**
QVP	**Quezon City--P**	**6.67 313**		↑*i*P	Pn	10 36 12.7	+4.0
LUBP	**Lubang**	**6.74 303**		↓*e*P	Pn	10 36 14.7	+5.1
SAMP	**Sagada Mountai**	**8.55 325**		↓*e*P	**Pn**	**10 36 36.5**	**+2.0**
SAMP				*e*S	**Sn**	**10 38 09.9**	**+0.1**
I39PW	**PALAU INFRASON**	**8.77 106**		I	I	11 33 10.0	
	baz=288,slow=309,SNR=2.1						
ABRA	**Dolores**	**9.12 326**		↑*e*P	**Pn**	**10 36 43.1**	**+0.9**
ABRA				*e*S	Sn	10 38 10.0	-14
TNTI	**Ternate**	**9.36 172**		Pn	**Pn**	**10 36 45.7**	**+0.1**
TNTI	**Ternate**	**9.36 172**		P	Pn	10 36 51.6	+6.0
	83nm,0.8s						
GTOI	**Gorontalo**	**9.88 198**		P	**Pn**	**10 36 54.5**	**+1.8**
	72nm,1.0s,598nm						
TOLI2	**Tolitoli**	**10.36 211**		Pn	**Pn**	**10 36 58.8**	**-0.6**
KKM	**Kota Kinabalu**	**10.55 248**		Pn	**Pn**	**10 37 01.0**	**-1.0**
LBMI	**Labuha**	**10.77 172**		P	Pn	10 37 10.5	+5.6
	117nm,0.9s,2μm						
LUWI	**Luwuk**	**11.55 197**		Pn	**Pn**	**10 37 15.6**	**+0.1**
LUWI	**Luwuk**	**11.55 197**		P	Pn	10 37 20.0	+4.5
	166nm,1.1s,3μm						
SWI	**Sorong**	**12.06 154**		P	**Pn**	**10 37 26.7**	**+4.2**
	58nm,1.0s						
SANI	**Sanana**	**12.08 180**		P	**Pn**	**10 37 23.2**	**+0.5**
	83nm,0.7s,957nm						
NLAI	**Namlea**	**13.30 175**		P	**P**	**10 37 44.6**	**-3.4**
	40nm,0.8s,8μm						
TPUB	**Ta-pu**	**14.11 339**			**P**	**10 37 56.5**	**-0.5**
FAKI	**Fak Fak**	**14.33 154**		Pn	**Pn**	**10 37 54.4**	**+0.9**
FAKI	**Fak Fak**	**14.33 154**		P	**Pn**	**10 37 56.0**	**+2.5**
	76nm,1.0s						
SSLB	**Suanglung**	**14.45 341**		Pn	**Pn**	**10 37 52.6**	**-2.4**
TTSI	**Tana Toraja**	**14.47 206**		P	**P**	**10 37 58.9**	**-2.1**
	106nm,1.0s,1μm2μm						
YOJ	**Yonaguni jima**	**14.57 349**			**Pn**	**10 37 54.6**	**-1.9**
YOJ	**Yonaguni jima**	**14.57 349**		P	**Pn**	**10 37 54.7**	**-1.9**
NACB	**Ninganchiao**	**14.62 344**			**Pn**	**10 37 55.0**	**-2.3**
YHNB	**Yeheng**	**15.15 343**			**Pn**	**10 38 02.7**	**-1.7**
KAPI	**Kappang**	**16.28 203**		Pn	**P**	**10 38 20.1**	**-1.1**
KAPI	**Kappang**	**16.28 203**		*de*P	**P**	**10 38 21.2**	**0.0**
KAPI				pmax	pmax		
	comp=Z,30nm,0.9s						
QZH	**Quanzhou**	**16.38 335**		↓*i*P	**P**	**10 38 24.3**	**+2.1**
QZH				S	**S**	**10 41 30.3**	**-1.0**
QZH				LR	LR		
	comp=Z,1μm,16.7s						
QZH				LR	LR		
	comp=Z,770nm,15.8s						
QZH				LR	LR		
	comp=Z,1μm,14.8s						
JOW	**Kunigami**	**16.77 7**		P	**P**	**10 38 26.3**	**-0.2**
JOW	**Kunigami**	**16.77 7**		P	**P**	**10 38 27.3**	**+0.8**
	comp=Z,27nm,0.4s,baz=189,slow=10.0,SNR=17						
JOW				LR	LR	10 43 58.7	
	comp=Z,740nm,21.3s,baz=150,slow=34						
KSM	**Kuching**	**17.85 242**		P	**P**	**10 38 38.9**	**+0.3**
QIZ	**Qiongzhong**	**18.02 301**		P	**P**	**10 38 41.3**	**+0.9**
QIZ				pP	**sP**	**10 38 55.9**	**-1.1**
QIZ				S	**S**	**10 42 02.4**	**-2.4**
QIZ				pmax	pmax		
	comp=Z,26nm,1.5s						
QIZ				pmax	pmax		
	comp=Z,520nm,6.0s						
QIZ				LR	LR		
	comp=Z,800nm,19.7s						
QIZ				LR	LR		
	comp=Z,650nm,17.4s						
QIZ				LR	LR		
	comp=Z,1μm,20.9s						
QIZ	**Qiongzhong**	**18.02 301**		P	**Pn**	**10 38 39.4**	**-1.0**
GUMO	**Guam**	**18.73 78**		LR	LR	10 46 11.5	
	comp=Z,403nm,18.6s,baz=257,slow=37						
MMRI	**Maumere**	**19.00 192**		P	**P**	**10 38 50.2**	**-1.0**
EDFI	**Ende, Flores**	**19.23 193**		P	**Pn**	**10 38 56.5**	**+1.4**
	comp=Z,46nm,0.7s						
JAY	**Jayapura**	**19.23 130**		P	**Pn**	**10 38 56.6**	**+1.5**
	comp=Z,80nm,1.2s						
SOEI	**Soe**	**19.81 185**		P	**P**	**10 39 01.2**	**+1.1**
BATI	**Baumata**	**20.32 187**		P	**P**	**10 39 06.3**	**+0.7**
	comp=Z,62nm,0.9s,baz=53,slow=3.3,SNR=8.1						
BATI				S	**S**	**10 42 51.9**	**+0.9**
	comp=Z,9.2nm,0.5s,baz=24,slow=20,SNR=1.1						
BATI				LR	LR	10 47 42.5	
	comp=Z,335nm,21.6s,baz=336,slow=39						
	comp=Z,62nm,0.9s						
BATI	**Baumata**	**20.32 187**		P	Pn	10 39 08.6	+0.7
	comp=Z,237nm,0.9s,comp=Z,μm						
UBPT	**Khong Chiam**	**20.73 286**		P	**P**	**10 39 09.8**	**-0.2**
TWSI	**Taliwang, Sumb**	**20.83 206**		P	Pn	10 39 14.0	0.0
	comp=Z,89nm,1.0s						
SSE	**Sheshan**	**21.37 348**		P	**P**	**10 39 17.8**	**+1.0**
SSE				S	**S**	**10 43 12.6**	**+1.0**
SSE				pmax	pmax		
	comp=Z,84nm,1.0s						
SSE				pmax	pmax		
	comp=Z,190nm,4.1s						
SSE				LR	LR		
	comp=Z,120nm,20.5s						
SSE				LR	LR		
	comp=Z,140nm,20.2s						
CNSH	**ChangSha**	**21.81 327**		↓P	**P**	**10 39 22.8**	**+1.3**
CNSH				S	**S**	**10 43 22.3**	**+2.0**
CNSH				pmax	pmax		
	comp=Z,27nm,1.1s						
CNSH				LR	LR		
	comp=Z,490nm,20.4s						
CNSH				LR	LR		
	comp=Z,540nm,20.4s						
JAGI	**Jajag, Banyuwa**	**21.93 213**		P	**P**	**10 39 22.9**	**-0.1**
JAGI				IAmb	IAmb	10 39 38.4	
	comp=Z,231nm,1.8s						
JAGI	**Jajag, Banyuwa**	**21.93 213**		P	**P**	**10 39 23.5**	**+0.5**
	comp=Z,48nm,1.1s						
NJ2	**Nanjing**	**22.84 344**		↑P	**P**	**10 39 33.0**	**+0.6**
NJ2				pP	**sP**	**10 39 50.8**	**+1.8**
NJ2				S	**S**	**10 43 40.9**	**+2.3**
NJ2				sS	Sn	10 44 07.3	+11
NJ2				pmax	pmax		
	comp=Z,56nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,420nm,4.3s						
NJ2				LR	LR		
	comp=Z,400nm,18.0s						
NJ2				LR	LR		
	comp=Z,310nm,20.8s						
NJ2				LR	LR		
	comp=Z,530nm,21.8s						
DRS	**Darwin Rock St**	**22.90 168**		P	**P**	**10 39 34.7**	**+1.5**
SMRI	**Semarang**	**23.07 223**		P	**P**	**10 39 34.6**	**-0.4**
WHN	**Wuhan**	**23.07 333**		↓P	**P**	**10 39 35.6**	**+0.7**
WHN				S	**S**	**10 43 46.4**	**+3.8**
WHN				sS	Sn	10 44 07.1	+5.2
WHN				pmax	pmax		
	comp=Z,800nm,4.2s						
WHN				LR	LR		
	comp=Z,1μm,15.3s						
WHN				LR	LR		
	comp=Z,740nm,8.7s						
WHN				LR	LR		
	comp=Z,2μm,21.1s						
JNU	**Nakatsue**	**23.33 10**		P	**P**	**10 39 37.3**	**-0.2**
JNU	**Nakatsue**	**23.33 10**		P	**P**	**10 39 37.6**	**+0.1**
	comp=Z,16nm,0.8s,baz=176,slow=6.6,SNR=9.9						
JNU				LR	LR	10 48 28.6	
	comp=Z,207nm,21.0s,baz=174,slow=36						
	comp=Z,16nm,0.8s						
MTN	**Manton Dam**	**23.35 167**		P	**P**	**10 39 37.5**	**-0.2**
MTN	**Manton Dam**	**23.35 167**		P	**P**	**10 39 37.3**	**-0.4**
MTN				IAmb	IAmb	10 39 49.2	
	comp=Z,88nm,0.9s						
KDU	**Kakadu**	**23.52 164**		P	**P**	**10 39 38.8**	**-0.5**
MYKOM	**Kota Tinggi**	**23.57 251**		P	**P**	**10 39 39.4**	**-0.4**
SLVN	**Son La**	**24.04 300**		P	**P**	**10 39 44.2**	**-0.1**
KPJI	**Karang Pucung**	**24.31 225**		P	**P**	**10 39 50.1**	**+3.4**
	comp=Z,61nm,1.3s						
GYA	**Guiyang**	**24.51 314**		P	**P**	**10 39 49.5**	**+0.9**
GYA				pP	sP	10 40 10.8	+4.7
GYA				S	**S**	**10 44 06.3**	**+0.1**
GYA				sS	sS	10 44 37.4	+11
GYA				pmax	pmax		
	comp=Z,18nm,0.8s						
GYA				LR	LR		
	comp=Z,560nm,16.9s						
GYA				LR	LR		
	comp=Z,630nm,16.9s						
GYA				LR	LR		
	comp=Z,1μm,21.7s						
JMN	**Monobe**	**24.58 16**		P	**P**	**10 39 49.0**	**-0.1**
JMN				IAmb	IAmb	10 39 53.0	
	comp=Z,87nm,1.1s						
LEM	**Lembang**	**24.91 228**		LR	LR	10 51 03.1	
	comp=Z,476nm,19.0s,baz=44,slow=40						
LEM	**Lembang**	**24.91 228**		P	**P**	**10 39 54.3**	**+2.0**
	comp=Z,70nm,1.2s						
ENH	**Enshi**	**25.32 325**		P	**P**	**10 39 55.0**	**-0.8**
IPM	**Ipoh**	**25.44 259**		P	**P**	**10 39 57.2**	**+0.2**
IPM				IAmb	IAmb	10 40 16.5	
	comp=Z,54nm,1.0s						
KULM	**Kulim**	**25.62 261**		P	**P**	**10 39 59.0**	**+0.3**
TJN	**Taejon**	**26.18 2**		↑*e*P	**P**	**10 40 03.6**	**+0.2**
PHRA	**Phrae**	**26.36 291**		P	**P**	**10 40 05.5**	**+0.2**
CRAI	**Chiangrai**	**26.72 295**		P	**P**	**10 40 08.5**	**0.0**
CRAI				IAmb	IAmb	10 40 25.5	
	comp=Z,58nm,1.2s						
INU	**Inuyama**	**27.04 20**		P	**P**	**10 40 11.0**	**-0.2**
TIA	**Tai'an**	**27.23 344**		↑P	**P**	**10 40 12.8**	**-0.1**
TIA				pmax	pmax		
	comp=Z,13nm,1.1s						
TIA				LR	LR		
	comp=Z,140nm,21.1s						
TIA				LR	LR		
	comp=Z,77nm,11.8s						
TIA				LR	LR		
	comp=Z,220nm,25.5s						
KSAR	**Wonju Array Be**	**27.27 3**		P	**P**	**10 40 13.7**	**+0.5**
KSAR	**Wonju Array Be**	**27.27 3**		P	**P**	**10 40 13.7**	**+0.5**
KSRS	**Korea Array**	**27.28 3**		P	**P**	**10 40 14.0**	**+0.7**
	comp=Z,6.8nm,0.8s,baz=184,slow=10,SNR=23						
KSRS				PcP	**PcP**	**10 43 32.8**	**+0.6**
	comp=Z,2.3nm,0.9s,baz=197,slow=1.3,SNR=6.1						
KSRS				LR	LR	10 52 53.4	
	comp=Z,268nm,19.1s,baz=200,slow=40						
	comp=Z,6.8nm,0.8s						
KS19	**Wonju Array Si**	**27.32 3**		P	**P**	**10 40 13.9**	**+0.2**
LYN	**LuoYang**	**27.33 335**		↓P	**P**	**10 40 14.8**	**+1.0**
LYN				pP	sP	10 40 31.5	+0.3
LYN				PP	**PnPn**	**10 41 05.5**	**+6.0**
LYN				pmax	pmax		
	comp=Z,31nm,1.0s						
LYN				LR	LR		
	comp=Z,400nm,16.8s						
LYN				LR	LR		
	comp=Z,470nm,14.6s						
LYN				LR	LR		
	comp=Z,690nm,28.0s						
CM31	**Chiang Mai Arr**	**27.53 291**		P	**P**	**10 40 16.3**	**+0.5**
CM31				IAmb	IAmb	10 40 17.7	
	comp=Z,74nm,1.2s						
CMAR	**Chiang Mai Arr**	**27.53 291**		P	**P**	**10 40 15.8**	**0.0**
CMAR	**Chiang Mai Arr**	**27.53 291**		*i* P	**P**	**10 40 16.5**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,21nm,0.9s						
CMAR	**Chiang Mai Arr**	**27.53 291**		P	**P**	**10 40 16.3**	**+0.5**
	comp=Z,20nm,0.9s,baz=103,slow=7.4,SNR=18						
CMAR				PcP	**PcP**	**10 43 33.7**	**+0.5**
	comp=Z,4.4nm,0.9s,baz=104,slow=0.6,SNR=8.1						
CM

JMM IAmb IAmb 10 40 49.1
comp=Z,59nm,1.3s
WB0 Warramunga Arr 30.80 165 P **P** **10 40 43.6 -1.1**
WB0 IAmb IAmb 10 41 17.0
comp=Z,80nm,1.8s
WRAB Tennant Creek 30.95 165 P **P** **10 40 44.1 -2.0**
WRAB IAmb IAmb 10 41 04.2
comp=Z,74nm,1.8s
WRAB Tennant Creek 30.95 165⇓ *e*P **P** **10 40 45.0 -1.1**
WRAB pmax pmax
comp=Z,85nm,3.3s
WRA Warramunga Arr 30.95 165 P **P** **10 40 45.9 -0.2**
WRA Warramunga Arr 30.95 165 *i* P **P** **10 40 45.2 -0.9**
WRA pmax pmax
comp=Z,7.0nm,0.8s
WRA Warramunga Arr 30.95 165 P **P** **10 40 45.0 -1.1**
comp=Z,6.3nm,0.8s,baz=343,slow=9.4,SNR=34
WRA PcP **PcP** **10 43 41.5 -0.3**
comp=Z,3.4nm,0.8s,baz=336,slow=3.1,SNR=4.4
comp=Z,6.3nm,0.8s
WB2 Warramunga Arr 30.95 165 P **P** **10 40 45.4 -0.7**
WB2 IAmb IAmb 10 41 02.3
comp=Z,139nm,2.0s
WR0 Warramunga Arr 31.02 164 P **P** **10 40 46.1 -0.6**
WR0 IAmb IAmb 10 40 56.9
comp=Z,50nm,1.4s
BJT Baijiatuao 31.06 345 P **P** **10 40 47.5 +0.6**
BJT IAmb IAmb 10 40 56.0
comp=Z,67nm,1.8s
BJT Baijiatuao 31.06 345 P **P** **10 40 47.5 +0.6**
BJT pmax pmax
comp=Z,67nm,1.8s
BJI Beijing 31.08 345 P **P** **10 40 47.4 +0.4**
BJI pP **sP** **10 41 07.0 +2.4**
BJI sP pP 10 41 17.8 +19
BJI PcP **PcP** **10 43 43.0 +1.2**
BJI pmax pmax
comp=Z,7.0nm,1.2s
BJI pmax pmax
comp=Z,55nm,4.7s
SNY Shenyang 31.67 356 ⇑P **P** **10 40 53.3 +1.1**
SNY pmax pmax
comp=Z,53nm,1.1s
SNY LR LR
comp=Z,160nm,18.5s
SNY LR LR
comp=Z,240nm,17.5s
SNY LR LR
comp=Z,230nm,16.1s
MBWA Marble Bar 31.69 191 P **P** **10 40 54.4 +1.8**
MBWA sP **sP** **10 41 07.2 -2.9**
MBWA PcP **PcP** **10 43 43.5 -0.2**
PSA00 Pilbara Seismi 32.07 191 P **P** **10 40 56.8 +0.9**
MSHR Mys Shultsa 32.66 7⇑ *e*P **P** **10 41 03.3 +2.5**
MSHR pmax pmax
comp=Z,32nm,1.2s
LZH Lanzhou 32.79 326 P **P** **10 41 03.0 +0.6**
LZH pP sP 10 41 20.8 +0.8
LZH PcP **PcP** **10 43 47.8 +1.0**
LZH pmax pmax
comp=Z,56nm,1.0s
LZH pmax pmax
comp=Z,270nm,5.0s
LZH LR LR
comp=Z,550nm,16.5s
LZH LR LR
comp=Z,750nm,16.1s
LZH LR LR
comp=Z,930nm,20.6s
HHC Hu-ho-hao-te 33.20 340 *e*P **P** **10 41 06.9 +1.1**
HHC pP sP 10 41 26.3 +3.0
HHC S **S** **10 46 26.5 +4.0**
HHC pmax pmax
comp=Z,35nm,0.8s
HHC pmax pmax
comp=Z,140nm,4.8s
HHC LR LR
comp=Z,410nm,15.9s
HHC LR LR
comp=Z,130nm,14.3s
HHC LR LR
comp=Z,530nm,15.3s
QIS Mount Isa 33.26 156 P **P** **10 41 06.1 -0.3**
BTO Baotou 33.54 338 *e*P **P** **10 41 10.3 +1.6**
BTO pP **sP** **10 41 28.3 +2.0**
BTO sP pP 10 41 37.3 +16
BTO PP **PP** **10 42 26.0 +0.8**
BTO sS sS 10 46 59.1 +11
BTO SS **SnSn** **10 48 36.1 +2.6**
BTO pmax pmax
comp=Z,29nm,0.8s
BTO pmax pmax
comp=Z,190nm,6.8s
BTO LR LR
comp=Z,810nm,18.6s
BTO LR LR
comp=Z,470nm,13.7s
BTO LR LR
comp=Z,940nm,19.8s
CN2 Changchun 33.57 359 *e*P **P** **10 41 09.1 +0.3**
CN2 *e*S **S** **10 46 23.4 -4.6**
CN2 *es*S sS 10 47 02.0 +14
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 LR LR
comp=Z,140nm,14.0s
CN2 LR LR
comp=Z,120nm,14.0s
USA0B Ussuriysk Arra 34.35 8 P **P** **10 41 16.0 +0.4**
USA0B Ussuriysk Arra 34.35 8 *c i*P **P** **10 41 16.4 +0.8**
USRK Ussuriysk Ar. 34.35 8 P **P** **10 41 15.8 +0.2**
USRK Ussuriysk Ar. 34.35 8 P **P** **10 41 16.4 +0.9**
comp=Z,6.0nm,0.6s,baz=196,slow=8.7,SNR=23
USRK PcP **PcP** **10 43 51.1 +0.4**
comp=Z,1.8nm,0.6s,baz=205,slow=2.7,SNR=4.4
USRK LR LR 10 54 09.8
comp=Z,266nm,21.2s,baz=185,slow=34
comp=Z,6.0nm,0.6s
AS31 Alice Springs 34.43 167 P **P** **10 41 16.4 -0.1**
ASAR Alice Springs 34.43 167 P **P** **10 41 15.2 -1.3**
comp=Z,6.2nm,0.7s,baz=350,slow=6.7,SNR=55
ASAR PcP **PcP** **10 43 51.2 -0.2**
comp=Z,4.2nm,0.8s,baz=349,slow=2.9,SNR=5.7
ASAR S **S** **10 46 36.6 -5.1**
comp=Z,5.1nm,1.0s,baz=355,slow=19,SNR=9.2
ASAR LR LR 10 55 44.9
comp=Z,177nm,21.2s,baz=350,slow=37
comp=Z,6.2nm,0.7s
AS01 Alice Springs 34.44 167 P **P** **10 41 16.3 -0.3**
MDJ Mudanjiang 34.52 4 P **P** **10 41 18.3 +1.3**
MDJ S **S** **10 46 41.0 -1.6**
MDJ PcS **PcS** **10 47 38.8 +1.2**
MDJ SS **SnSn** **10 48 59.3 +2.2**
MDJ pmax pmax
comp=Z,31nm,1.5s
MDJ pmax pmax
comp=Z,240nm,3.5s
MDJ LR LR
comp=Z,170nm,16.3s
MDJ LR LR
comp=Z,150nm,15.3s
MDJ LR LR
comp=Z,440nm,22.3s
MDJ Mudanjiang 34.52 4 P **P** **10 41 17.2 +0.2**
XLT XiLinHaoTe 34.77 347 *e*P **P** **10 41 18.8 -0.5**
XLT ScS ScS 10 51 26.1 -11
XLT pmax pmax
comp=Z,41nm,0.9s
XLT pmax pmax
comp=Z,120nm,4.8s
XLT LR LR
comp=Z,20nm,21.6s
XLT LR LR
comp=Z,200nm,22.6s
XLT LR LR
comp=Z,200nm,20.0s
WRKA Warakurna 35.00 176 P **P** **10 41 22.1 +0.7**
BNX BinXian 35.53 2⇓ P **P** **10 41 26.8 +1.1**
BNX pmax pmax
comp=Z,17nm,0.8s
BNX pmax pmax
comp=Z,80nm,3.5s
CTA Charters Tower 35.99 146 LR LR 10 59 20.5
comp=Z,191nm,18.0s,baz=181,slow=41
ASAJ Asahikawa 36.79 20 LR LR 10 58 21.4
comp=Z,192nm,18.1s,baz=209,slow=39
comp=Z,34nm,1.1s
LIFNC LIFOU 50.80 127 P **P** **10 43 30.6 +1.3**
TOO Toolangi 50.80 160 P **P** **10 43 30.0 +0.9**
TOO IAmb IAmb 10 43 40.7
comp=Z,18nm,0.9s
TOO Toolangi 50.80 160 P **P** **10 43 30.0 +0.9**
TOO pmax pmax
comp=Z,18nm,0.9s
ZSN Zaisan 50.88 325 *e*P **P** **10 43 28.8 -0.8**
baz=325
ZSN Zaisan 50.88 325 *e*P **P** **10 43 28.8 -0.8**
DZM Mont Dzumac 50.90 129 P **P** **10 43 31.5 +1.3**
DZM IAmb IAmb 10 43 42.0
comp=Z,39nm,1.0s
DZM Mont Dzumac 50.90 129 LR LR 11 05 58.7
comp=Z,58nm,19.9s,baz=356,slow=37
DZM Mont Dzumac 50.90 129 P **P** **10 43 31.9 +1.7**
DZM pP **pP** **10 43 41.4 -1.1**
YAK Yakutsk 51.90 2 P **P** **10 43 37.0 +0.1**
YAK Yakutsk 51.90 2 *c i*P **P** **10 43 37.4 +0.5**
YAK *e**PP **sP** **10 43 59.3 +4.5**
YAK *e* 10 44 49.2
YAK *e* 10 45 42.4
YAK *e*S **S** **10 50 53.7 -2.5**
YAK *e* 10 53 19.6
YAK *e*SS **SS** **10 54 30.2 -3.2**
YAK pmax pmax
comp=Z,132nm,0.9s
YAK pmax pmax
comp=E,15nm,1.1s
YAK pmax pmax
comp=N,53nm,1.3s
YAK pmax pmax
comp=Z,228nm,5.7s
YAK pmax pmax
comp=E,108nm,4.4s
YAK pmax pmax
comp=N,90nm,3.5s
YAK smax smax
comp=N,77nm,4.0s
YAK Yakutsk 51.90 2 P **P** **10 43 37.4 +0.5**
YAK pP **pP** **10 43 46.9 -2.6**
MK31 Makanchi Array 52.03 323 P **P** **10 43 38.4 +0.2**
MK31 IAmb IAmb 10 43 39.4
comp=Z,28nm,0.8s
MK31 Makanchi Array 52.03 323 *c i*P **P** **10 43 37.9 -0.3**
MKAR Makanchi Array 52.03 323 P **P** **10 43 38.4 +0.2**
MKAR Makanchi Array 52.03 323 *i* P **P** **10 43 38.0 -0.3**
MKAR pmax pmax
comp=Z,35nm,0.8s
MKAR Makanchi Array 52.03 323 P **P** **10 43 37.8 -0.5**
comp=Z,34nm,0.8s,baz=123,slow=8.2,SNR=219
MKAR PcP **PcP** **10 44 49.8 -0.2**
comp=Z,8.1nm,0.7s,baz=111,slow=4.3,SNR=2.0
MKAR ScP **ScP** **10 48 42.0 -1.4**
comp=Z,1.0nm,0.9s,baz=126,slow=6.1,SNR=3.7
comp=Z,34nm,0.8s
SHLS Shalkode 52.13 318 *e*P **P** **10 43 36.1 -3.1**
baz=318
SHLS Shalkode 52.13 318 *e*P **P** **10 43 36.0 -3.1**
PDGK Podgornoye 52.18 318 P **P** **10 43 38.2 -1.3**
MAKZ Makanchi 52.23 323 P **P** **10 43 39.3 -0.4**
MAKZ pP **pP** **10 43 48.9 -3.5**
MAKZ PcP **PcP** **10 44 50.4 -0.3**
UZB Uzynbulak 52.41 317 *e*P **P** **10 43 40.4 -0.9**
comp=Z,7.5nm,0.7s,baz=318
UZB Uzynbulak 52.41 317 *e*P **P** **10 43 40.4 -0.9**
UZB pmax pmax
comp=Z,7.0nm,0.7s
PRZ Przheval'sk 52.56 316 IAmb IAmb 10 43 44.1
comp=Z,21nm,1.0s
TARG Taragay, Kyrgy 52.67 315 P **P** **10 43 43.3 -0.3**
TARG Taragay, Kyrgy 52.67 315 P **P** **10 43 43.3 -0.3**
TARG pmax pmax
comp=Z,8.0nm,0.8s
MA2 Magadan 52.75 16 P **P** **10 43 44.4 +1.2**
MA2 IAmb IAmb 10 43 45.5
comp=Z,16nm,0.7s
MA2 Magadan 52.75 16 *c i*P **P** **10 43 44.1 +0.8**
MA2 pmax pmax
comp=Z,15nm,0.7s
MA2 Magadan 52.75 16 LR LR 11 05 05.6
comp=Z,86nm,21.6s,baz=230,slow=35
MA2 Magadan 52.75 16 P **P** **10 43 44.5 +1.2**
MA2 PcP **PcP** **10 44 53.5 +1.1**
SATY Saty 52.79 317 *e*P **P** **10 43 43.1 -1.0**
comp=Z,8.7nm,1.0s,baz=317
SATY Saty 52.79 317 *e*P **P** **10 43 43.1 -1.0**
SATY pmax pmax
comp=Z,9.0nm,1.0s
ZHN Zhinishke 52.81 317 *e*P **P** **10 43 43.1 -1.1**
baz=317
ZHN Zhinishke 52.81 317 *e*P **P** **10 43 43.1 -1.1**
KSH Kashi 53.19 312 P **P** **10 43 48.4 +1.3**
KSH pmax pmax
comp=Z,8.0nm,1.0s
TDK Taldyqorghan 53.60 319 *e*P **P** **10 43 49.1 -0.7**
comp=Z,12nm,0.8s,baz=319
TDK Taldyqorghan 53.60 319 *e*P **P** **10 43 49.1 -0.7**
TDK pmax pmax
comp=Z,12nm,0.8s
NIL Nilore 53.66 304 P **P** **10 43 49.8 -0.6**
NIL IAmb IAmb 10 44 04.7
comp=Z,20nm,0.7s
NIL Nilore 53.66 304 P **P** **10 43 49.8 -0.6**
NIL pmax pmax
comp=Z,20nm,0.7s
MDOK Medeo 53.74 317 *e*P **P** **10 43 50.1 -1.0**
baz=317
MDOK Medeo 53.74 317 *e*P **P** **10 43 50.1 -1.0**
TNSS Tian-Shan 53.76 317 *e*P **P** **10 43 50.5 -1.0**
baz=317
TNSS Tian-Shan 53.76 317 *e*P **P** **10 43 50.5 -1.0**
NRN Naryn 53.83 314 P **P** **10 43 51.5 -0.5**
NRN Naryn 53.83 314 P **P** **10 43 51.5 -0.5**
NRN pmax pmax
comp=Z,7.0nm,0.8s
CHKK Chushkaly 54.05 318 *e*P **P** **10 43 52.0 -1.3**
baz=318
CHKK Chushkaly 54.05 318 *e*P **P** **10 43 51.9 -1.3**
TKM2 Tokmak 2 54.64 316 P **P** **10 43 57.2 -0.4**
SNR=5.5
TKM2 Tokmak 2 54.64 316 P **P** **10 43 56.6 -1.1**
ZAA0 Zalesovo Array 54.67 331 P **P** **10 43 56.4 -1.0**
ZAA0 IAmb IAmb 10 43 57.3
comp=Z,17nm,0.7s
ZALV Zalesovo Beam 54.67 331 P **P** **10 43 56.6 -0.9**
ZALV Zalesovo Beam 54.67 331 *i* P **P** **10 43 56.5 -0.9**
ZALV pmax pmax
comp=Z,20nm,0.7s
ZALV Zalesovo Beam 54.67 331 P **P** **10 43 56.4 -1.0**
comp=Z,20nm,0.7s,baz=120,slow=7.0,SNR=49
ZALV PcP **PcP** **10 44 58.4 -1.4**
comp=Z,7.8nm,0.8s,baz=131,slow=3.9,SNR=3.5
ZALV LR LR 11 09 47.0
comp=Z,274nm,18.9s,baz=224,slow=39
comp=Z,20nm,0.7s
KBK Karagaybulak 54.99 315 P **P** **10 44 00.3 +0.1**
SNR=6.6
SEM Semipalatinsk 55.03 326 *e*P **P** **10 43 59.0 -1.4**
baz=326
SEM Semipalatinsk 55.03 326 *e*P **P** **10 43 59.0 -1.4**
UCH Uchtor 55.14 315 P **P** **10 44 01.8 +0.2**
SNR=23
AAK Ala-Archa 55.30 315 P **P** **10 44 02.4 0.0**
AAK Ala-Archa 55.30 315 P **P** **10 44 02.0 -0.4**
AAK Ala-Archa 55.30 315⇑ *e*P **P** **10 44 02.2 -0.2**
AAK pmax pmax
comp=Z,6.0nm,1.1s
AAK Ala-Archa 55.30 315 LR LR 11 10 37.8
comp=Z,412nm,19.4s,baz=128,slow=39
AAK Ala-Archa 55.30 315 P **P** **10 44 02.2 -0.2**
AAK PcP **PcP** **10 45 02.9 +0.2**
SGDS Sogindy 55.49 316 *e*P **P** **10 44 02.7 -0.9**
baz=316
SGDS Sogindy 55.49 316 *e*P **P** **10 44 02.7 -0.9**
USP Ospenovka 55.51 316 P **P** **10 44 03.4 -0.4**
SNR=8.2
EKS2 Erkin-Say 55.80 315 P **P** **10 44 06.0 0.0**
SNR=9.2
ARSB Arslanbob 55.93 313 P **P** **10 44 06.8 -0.1**
ARSB Arslanbob 55.93 313 P **P** **10 44 06.8 -0.1**
ARSB pmax pmax
comp=Z,2.0nm,0.8s
SEY Seymchan 56.03 14⇑ *i*P **P** **10 44 09.3 +2.3**
comp=Z,28nm,1.1s
GTA LR LR
comp=Z,340nm,17.9s
GTA LR LR
comp=Z,470nm,17.9s
GTA LR LR
comp=Z,660nm,19.9s
GOMU GeErMu 38.42 318 P **P** **10 41 50.8 -0.1**
GOMU pmax pmax
comp=Z,10.0nm,1.0s
GOMU LR LR
comp=Z,720nm,19.4s
GOMU LR LR
comp=Z,600nm,20.4s
GOMU LR LR
comp=Z,2μm,20.9s
OOD Oodnadatta 38.81 166 P **P** **10 41 54.0 +0.3**
HNR Honiara 38.91 119 LR LR 10 59 26.6
comp=Z,996nm,18.4s,baz=285,slow=38
KLR Kul'dur 39.29 6*c i*P **P** **10 41 58.2 +0.7**
KLR pmax pmax
comp=Z,35nm,1.7s
KLR Kul'dur 39.29 6 LR LR 10 57 27.3
comp=Z,157nm,21.6s,baz=154,slow=35
YSS Yuzh-Sakhalins 39.37 18 P **P** **10 41 57.8 -0.4**
YSS Yuzh-Sakhalins 39.37 18*d i*P **P** **10 41 59.4 +1.2**
YSS pmax pmax
comp=Z,25nm,1.0s
HIA Hailar 39.39 353 P **P** **10 41 59.0 +0.6**
HIA Hailar 39.39 353*c i*P **P** **10 41 58.9 +0.5**
HIA pmax pmax
comp=Z,28nm,1.0s
HEH HeiHe 40.04 1 *e*P **P** **10 42 04.4 +0.7**
HEH PcP **PcP** **10 44 07.9 0.0**
HEH pmax pmax
comp=Z,46nm,1.0s
HEH pmax pmax
comp=Z,140nm,5.4s
H11S3 WAKE ISLAND Hy 40.16 73 T T 11 25 01.2
baz=262
H11S1 WAKE ISLAND Hy 40.18 73 T T 11 25 02.6
baz=262
H11S2 WAKE ISLAND Hy 40.18 73 T T 11 25 02.6
baz=262
INKA Innaminka 40.22 160 P **P** **10 42 06.0 +0.5**
H11N1 WAKE ISLAND Hy 40.50 72 T T 11 25 26.6
baz=265,slow=74,SNR=645
H11N2 WAKE ISLAND Hy 40.51 71 T T 11 25 27.2
baz=265,slow=74,SNR=268
H11N3 WAKE ISLAND Hy 40.52 72 T T 11 25 28.0
baz=265,slow=74,SNR=544
FORT Forrest 40.70 177 P **P** **10 42 10.1 +0.8**
FORT Forrest 40.70 177 P **P** **10 42 10.2 +0.8**
MULG Mulgathing 40.88 169 P **P** **10 42 11.6 +0.7**
ULN Ulaanbaatar 40.91 340 P **P** **10 42 11.6 +0.4**
ULN IAmb IAmb 10 42 12.5
comp=Z,40nm,0.6s
ULN Ulaanbaatar 40.91 340*c i*P **P** **10 42 12.0 +0.8**
ULN pmax pmax
comp=Z,57nm,1.0s
ULN Ulaanbaatar 40.91 340 P **P** **10 42 11.9 +0.8**
ULN PcP **PcP** **10 44 11.4 +0.4**
SONM Songino Array 41.10 340 P **P** **10 42 13.1 +0.4**
SONM IAmb IAmb 10 42 14.6
comp=Z,91nm,1.7s
SONM Songino Array 41.10 340 P **P** **10 42 13.2 +0.5**
comp=Z,12nm,0.6s,baz=152,slow=8.6,SNR=48
SONM PcP **PcP** **10 44 11.8 +0.1**
comp=Z,5.7nm,0.8s,baz=160,slow=3.9,SNR=5.3
SONM ScP **ScP** **10 47 57.4 -0.5**
comp=Z,0.3nm,0.3s,baz=171,slow=2.8,SNR=3.3
comp=Z,12nm,0.6s
GRNR Gornyy 41.43 10⇑ *i*P **P** **10 42 16.6 +1.4**
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR MLR MLR
comp=Z,150nm,14.0s
BLDU Ballidu 41.47 192 P P 10 42 25.5 +10
LCRK Leigh Creek 41.98 164 P **P** **10 42 20.7 +0.8**
TYV Tymovskoe 42.87 15 *e*P **P** **10 42 28.5 +1.6**
TYV *e*S **S** **10 48 51.4 +3.1**
TYV pmax pmax
comp=Z,100nm,3.8s
TYV pmax pmax
comp=Z,6.0nm,0.9s
TYV smax smax
comp=N,100nm,5.5s
TYV smax smax
comp=E,100nm,5.5s
MUN Mundaring 42.90 192 P P 10 42 37.6 +10
CIT Chita 43.02 349 *e*P **P** **10 42 29.3 +1.1**
CIT *e* 10 42 45.2
CIT *e* 10 42 50.2
CIT pmax pmax
comp=Z,154nm,1.2s
ZEA Zeya 43.52 1 *e*P **P** **10 42 32.8 +0.6**
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=Z,20nm,0.7s
NWAO Narrogin (SRO) 43.61 191 P **P** **10 42 33.9 +0.8**
NWAO IAmb IAmb 10 42 44.9
comp=Z,42nm,0.8s
NWAO Narrogin (SRO) 43.61 191 P **P** **10 42 33.9 +0.8**
NWAO pmax pmax
comp=Z,42nm,0.8s
BBOO Buckleboo 43.73 168 P **P** **10 42 34.2 +0.1**
BBOO Buckleboo 43.73 168 P **P** **10 42 33.9 -0.2**
STKA Stephens Creek 44.31 161 P **P** **10 42 38.1 -0.7**
STKA Stephens Creek 44.31 161⇓ *e*P **P** **10 42 39.4 +0.6**
STKA Stephens Creek 44.31 161 P **P** **10 42 39.1 +0.3**
comp=Z,10nm,0.7s,baz=341,slow=8.6,SNR=13
STKA LR LR 11 02 44.6
comp=Z,104nm,21.8s,baz=353,slow=38
comp=Z,10nm,0.7s
ZAK Zakamensk 44.34 339 *e*P **P** **10 42 38.3 -0.6**
ZAK *e* 10 44 20.8
ZAK pmax pmax
comp=Z,11nm,1.2s
ZAK pmax pmax
comp=Z,10.0nm,1.2s
PALK Pallekele 44.90 270 LR LR 11 01 03.2
comp=Z,313nm,20.8s,baz=168,slow=36
HTT Hallett 44.99 165 P **P** **10 42 45.1 +0.9**
IRK Irkutsk 45.60 341 *e*P **P** **10 42 47.2 -1.6**
IRK *e* 10 44 41.2
IRK pmax pmax
comp=Z,54nm,1.4s
MOY Mondy 46.22 339 *e*P **P** **10 42 54.6 +0.8**
MOY pmax pmax
comp=Z,36nm,2.3s
HYB Hyderabad 46.62 284 *e*P **P** **10 42 57.8 +0.5**
WMQ Urumqi 47.23 322 *e*P **P** **10 43 02.5 +0.8**
WMQ pmax pmax
comp=Z,42nm,0.7s
WMQ LR LR
comp=Z,1μm,22.5s
WMQ LR LR
comp=Z,700nm,20.9s
WMQ LR LR
comp=Z,740nm,18.3s
BOD Bodaibo 48.50 351 *e*P **P** **10 43 12.3 +1.0**
BOD pmax pmax
comp=Z,45nm,1.1s
ARPS Mount Arapiles 48.93 163 P **P** **10 43 15.4 +0.6**
YNG Young 48.99 155 P **P** **10 43 16.6 +1.3**
PEA0B Petropavlovsk- 49.87 24 P **P** **10 43 22.9 +1.0**
PEA0B IAmb IAmb 10 43 26.7
comp=Z,47nm,1.4s
PEA0B Petropavlovsk- 49.87 24*de*P **P** **10 43 22.9 +1.0**
PETK Petropavlovsk- 49.87 24 P **P** **10 43 22.8 +1.0**
PETK Petropavlovsk- 49.87 24 P **P** **10 43 22.8 +1.0**
PETK Petropavlovsk- 49.87 24 P **P** **10 43 23.1 +1.3**
comp=Z,12nm,0.6s,baz=207,slow=6.0,SNR=19
PETK PcP **PcP** **10 44 42.3 +0.5**
comp=Z,6.6nm,0.9s,baz=243,slow=0.3,SNR=2.2
PETK LR LR 11 03 27.3
comp=Z,164nm,22.0s,baz=232,slow=35
comp=Z,12nm,0.6s
CAN Canberra 50.12 155 P **P** **10 43 25.9 +1.9**
CAN IAmb IAmb 10 43 35.6
comp=Z,34nm,1.1s
CAN Canberra 50.12 155 P **P** **10 43 25.9 +1.9**
CAN pmax pmax

SEY pmax pmax
comp=Z,51nm,1.9s
SEY Seymchan 56.03 14 LR LR 11 06 11.8
comp=Z,127nm,21.1s,baz=292,slow=34
KURK Kurchatov 56.09 326 P **P** **10 44 07.3 -0.4**
KURK Kurchatov 56.09 326 P **P** **10 44 07.3 -0.4**
KURK pmax pmax
comp=Z,63nm,0.8s
KURK Kurchatov 56.09 326 P **P** **10 44 07.2 -0.4**
KURK pP **pP** **10 44 17.2 -3.3**
KURK sP **sP** **10 44 20.9 -4.9**
KURBB Kurchatov Arra 56.09 326 P **P** **10 44 07.2 -0.5**
comp=Z,31nm,0.7s,baz=127,slow=6.8,SNR=255
comp=Z,31nm,0.7s
DRK Karamyk 56.25 311 P **P** **10 44 09.1 -0.4**
BTK Batken 57.14 311 P **P** **10 44 14.6 -0.9**
BTK Batken 57.14 311 P **P** **10 44 14.6 -0.9**
BTK pmax pmax
comp=Z,9.0nm,1.0s
KBL Kabul 57.26 305 P **P** **10 44 14.6 -2.0**
KBL Kabul 57.26 305 P **P** **10 44 14.6 -2.0**
KBL pmax pmax
comp=Z,9.0nm,0.8s
SHEM Shemya Is, Ala 57.40 32 LR LR 11 03 36.0
comp=Z,124nm,21.8s,baz=319,slow=30
DZA Taraz 57.58 315 *e*P **P** **10 44 17.4 -1.2**
baz=315
DZA Taraz 57.58 315 *e*P **P** **10 44 17.3 -1.2**
SIMJ Simiganj 58.15 309 P **P** **10 44 21.5 -1.1**
KK31 Karatay Array 58.22 315 P **P** **10 44 22.0 -0.9**
KK31 Karatay Array 58.22 315 P **P** **10 44 22.0 -0.9**
KK31 pmax pmax
comp=Z,9.0nm,0.8s
KKAR Karatay Array 58.22 315 P **P** **10 44 22.2 -0.8**
KKAR Karatay Array 58.22 315 P **P** **10 44 22.2 -0.8**
KKAR pmax pmax
comp=Z,9.0nm,0.8s
IUG luzhnay 58.28 314 *e*P **P** **10 44 22.5 -1.0**
comp=Z,7.0nm,0.6s,baz=314
IUG luzhnay 58.28 314 *e*P **P** **10 44 22.5 -1.0**
IUG pmax pmax
comp=Z,7.0nm,0.6s
BRLS Boroldaу 58.67 314 *e*P **P** **10 44 25.3 -0.9**
baz=314
BRLS Boroldaу 58.67 314 *e*P **P** **10 44 25.2 -0.9**
TIXI Tiksi 61.52 1 P **P** **10 44 45.2 +0.2**
TIXI Tiksi 61.52 1*ce*P **P** **10 44 45.2 +0.2**
TIXI pmax pmax
comp=Z,100nm,1.0s
TIXI Tiksi 61.52 1 LR LR 11 11 34.6
comp=Z,238nm,21.9s,baz=250,slow=36
TIXI Tiksi 61.52 1 P **P** **10 44 45.2 +0.2**
BVA0 Borovoye Array 61.68 325 *i* P **P** **10 44 45.7 -0.8**
BVAR Borovoye Array 61.68 325 P **P** **10 44 45.6 -0.9**
comp=Z,20nm,0.8s,baz=117,slow=8.4,SNR=88
BVAR PcP **PcP** **10 45 27.0 -0.6**
comp=Z,13nm,0.7s,baz=116,slow=3.6,SNR=9.7
comp=Z,20nm,0.8s
BRVK Borovoye 61.75 325 P **P** **10 44 46.4 -0.6**
BRVK Borovoye 61.75 325*c i*P **P** **10 44 46.2 -0.7**
BRVK pmax pmax
comp=Z,40nm,1.0s
BRVK Borovoye 61.75 325 P **P** **10 44 46.3 -0.7**
BRVK pP **pP** **10 44 56.6 -3.4**
HRA Herat 62.78 303 P **P** **10 44 53.8 -0.7**
BILL Bilibino 63.62 16 P **P** **10 45 00.1 +1.0**
BILL Bilibino 63.62 16 *i* P **P** **10 45 00.0 +1.0**
BILL Bilibino 63.62 16 P **P** **10 45 00.1 +1.0**
NRIK Noril'sk 64.12 346 P **P** **10 45 02.0 -0.4**
NRIK IAmb IAmb 10 45 02.9
comp=Z,15nm,0.8s
NRIK Noril'sk 64.12 346*c i*P **P** **10 45 02.0 -0.4**
NRIK pmax pmax
comp=Z,14nm,0.9s
NRIK Noril'sk 64.12 346 P **P** **10 45 02.2 -0.2**
comp=Z,15nm,0.7s,baz=132,slow=7.2,SNR=25
NRIK LR LR 11 16 27.3
comp=Z,399nm,18.9s,baz=198,slow=39
comp=Z,15nm,0.7s
GEYT Alibeck 66.48 307 P **P** **10 45 18.2 -0.2**
GEYT IAmb IAmb 10 45 18.9
comp=Z,16nm,0.9s
GEYT Alibeck 66.48 307 P **P** **10 45 18.2 -0.2**
GEYT pmax pmax
comp=Z,16nm,1.0s
GEYT Alibeck 66.48 307 P **P** **10 45 18.1 -0.2**
comp=Z,11nm,0.8s,baz=95,slow=4.6,SNR=13
comp=Z,11nm,0.8s
GYA0B ALIBECK ARRAY 66.48 307 P **P** **10 45 17.8 -0.6**
GYA0B IAmb IAmb 10 45 22.7
comp=Z,13nm,0.9s
AB31 Akbulak array 66.86 319 *i* P **P** **10 45 19.1 -1.4**
ABKAR Akbulak array 66.86 319 P **P** **10 45 19.4 -1.1**
NIKH Nikolski High 67.06 37 P **P** **10 45 22.0 +0.3**
baz=256
SOHO SOHO 67.32 292 *i* P **P** **10 45 23.0 -0.9**
SNR=8.1
SPIA Saint Paul Isl 67.42 32 P **P** **10 45 24.4 +0.5**
baz=253
UOSS Minazif 67.61 293 P **P** **10 45 24.8 -0.9**
UOSS IAmb IAmb 10 45 33.1
comp=Z,14nm,0.8s
UOSS Minazif 67.61 293 *i* P **P** **10 45 24.4 -1.2**
SNR=6.9
UOSS Minazif 67.61 293 P **P** **10 45 24.7 -1.0**
MSFE Esma-Masafi 67.64 293 P **P** **10 45 24.6 -1.3**
SHME Shamm 67.65 294 P **P** **10 45 23.4 -2.5**
HATD Hatta, Dubai 67.67 293 *i* P **P** **10 45 25.4 -0.7**
SNR=10
ASHO Ashiyiah 67.75 293 *i* P **P** **10 45 25.3 -1.3**
SNR=12
BKZ Black Stump Fm 67.79 140 P **P** **10 45 27.5 +1.0**
RTZ Ruatahuna 67.79 139 P **P** **10 45 27.9 +1.4**
ALNE Al Ain 68.04 292 *i* P **P** **10 45 27.5 -0.9**
SNR=9.5
NAZ Nazwa, Dubai 68.10 293 P **P** **10 45 25.7 -3.1**
FAQ Al Faqa, Dubai 68.17 293 P **P** **10 45 27.8 -1.4**
SVE Sverdlovsk 68.24 327 *e*P **P** **10 45 27.2 -1.8**
SVE pmax pmax
comp=Z,42nm,0.8s
AKTO Aktyubinsk 68.32 320 P **P** **10 45 28.3 -1.4**
ASUD Al Ashush, Dub 68.41 292 P **P** **10 45 29.4 -1.3**
SHAO Shalim 68.45 285 *i* P **P** **10 45 31.2 +0.1**
SNR=7.7
GAMB Gambell 68.90 25 P **P** **10 45 34.5 +1.5**
baz=249
ARU Arti 69.25 327 P **P** **10 45 34.3 -1.0**
ARU Arti 69.25 327*c i*P **P** **10 45 33.7 -1.6**
ARU pmax pmax
comp=Z,34nm,0.6s
ARU Arti 69.25 327 P **P** **10 45 34.0 -1.3**
ARU pP **pP** **10 45 44.6 -3.9**
FALS False Pass 70.61 35 P **P** **10 45 44.5 +0.8**
baz=260
TNA Tin City 71.03 24 P **P** **10 45 47.8 +1.8**
TNA IAmb IAmb 10 46 40.0
comp=Z,29nm,1.4s
TNA Tin City 71.03 24 P **P** **10 45 47.4 +1.4**
baz=252
F14K Arctic Creek 71.64 24 P **P** **10 45 51.4 +1.6**
baz=254
M13K Dall Lake 71.72 30 P **P** **10 45 53.1 +2.9**
M13K Dall Lake 71.72 30 P **P** **10 45 51.9 +1.7**
baz=258
ANM Nome 71.78 25 P **P** **10 45 52.1 +1.5**
baz=255
MSEY Mahe Island 71.81 262 P **P** **10 45 51.4 -0.4**
MSEY Mahe Island 71.81 262 P **P** **10 45 51.2 -0.5**
MSEY Mahe Island 71.81 262 P **P** **10 45 51.4 -0.4**
MSEY pmax pmax
comp=Z,13nm,0.8s
J14K Nanvaranak Lak 72.13 27 P **P** **10 45 54.7 +2.1**
J14K Nanvaranak Lak 72.13 27 P **P** **10 45 54.0 +1.4**
baz=257
L14K Kuka Creek 72.23 29 P **P** **10 45 55.6 +2.3**
L14K Kuka Creek 72.23 29 P **P** **10 45 55.2 +1.9**
baz=258
SDPT Sand Point 72.35 35 P **P** **10 45 55.3 +1.2**
SDPT Sand Point 72.35 35 P **P** **10 45 55.0 +0.9**
baz=262
F15K North Star Dit 72.38 24 P **P** **10 45 55.9 +1.8**
F15K IAmb IAmb 10 45 56.6
comp=Z,22nm,0.9s
F15K North Star Dit 72.38 24 P **P** **10 45 55.6 +1.5**
baz=255
N14K Kuskokwak Cree 72.44 30 P **P** **10 45 56.1 +1.6**
baz=260,SNR=6.4
G15K Niukluk 72.44 25 P **P** **10 45 55.9 +1.4**
baz=256
M14K Bethel 72.45 29 P **P** **10 45 56.6 +1.9**
baz=259,SNR=8.5
O14K Tigyukauivet M 72.53 31 P **P** **10 45 56.8 +1.6**
baz=260
CHNA Chernabura Isl 72.79 36 P **P** **10 45 57.9 +1.1**
baz=263
C16K Lisburne Hills 72.81 21 IAmb IAmb 10 45 59.5
comp=Z,40nm,1.1s
C16K Lisburne Hills 72.81 21 P **P** **10 45 58.3 +1.7**
baz=254,SNR=19
L15K Ungalak Mounta 72.85 28 P **P** **10 45 58.8 +1.8**
baz=259
K15K Wolf Creek Mou 72.95 28 IAmb IAmb 10 46 02.3
comp=Z,65nm,1.7s
K15K Wolf Creek Mou 72.95 28 P **P** **10 45 58.6 +1.0**
baz=259
S14K Fog Glacier 72.99 34 P **P** **10 45 58.8 +0.7**
baz=263
M15K Kasigluk River 73.06 30 P **P** **10 45 59.7 +1.4**
baz=260
H16K Elim 73.11 25 P **P** **10 45 59.5 +1.0**
baz=258,SNR=9.1
G16K Koyuk River 73.23 25 P **P** **10 46 00.7 +1.5**
baz=258,SNR=5.1
O15K Ungalikthiuk R 73.25 31 P **P** **10 46 00.9 +1.5**
baz=262
N15K Kwethluk River 73.27 30 IAmb IAmb 10 46 02.1
comp=Z,24nm,0.8s
N15K Kwethluk River 73.27 30 P **P** **10 46 01.2 +1.7**
baz=261
D17K Noatak River 73.48 22 P **P** **10 46 02.8 +2.2**
baz=256,SNR=23
J16K Anvik River 73.55 27 IAmb IAmb 10 46 06.7
comp=Z,21nm,1.1s
J16K Anvik River 73.55 27 P **P** **10 46 02.8 +1.6**
baz=260
I17K Unalakleet 73.62 26 IAmb IAmb 10 46 07.0
comp=Z,26nm,1.1s
I17K Unalakleet 73.62 26 P **P** **10 46 03.7 +2.2**
baz=259,SNR=8.7
CHGN Chignik 73.62 34 P **P** **10 46 02.6 +1.0**
baz=264
RDOG Red Dog Mine 73.63 22 IAmb IAmb 10 46 07.3
comp=Z,39nm,1.2s
RDOG Red Dog Mine 73.63 22 P **P** **10 46 03.5 +2.0**
baz=256,SNR=9.4
C17K DeLong Mountai 73.64 21 P **P** **10 46 03.3 +1.7**
baz=256
L16K Owhat River 73.80 29 IAmb IAmb 10 46 05.1
comp=Z,20nm,0.9s
L16K Owhat River 73.80 29 P **P** **10 46 04.5 +1.9**
baz=261,SNR=9.0
E17K Hotham Inlet 73.81 23 P **P** **10 46 04.7 +2.1**
baz=258,SNR=24
LKRN Lenkeran, Azer 73.85 307 P **P** **10 46 02.6 -0.8**
F17K Baldwin Pennin 73.89 24 IAmb IAmb 10 46 05.6
comp=Z,22nm,0.9s
F17K Baldwin Pennin 73.89 24 P **P** **10 46 04.9 +1.8**
baz=258
G17K Kivlik Mounta 73.95 25 P **P** **10 46 05.1 +1.7**
baz=259
M16K Timber Creek 73.95 29 IAmb IAmb 10 46 06.5
comp=Z,31nm,0.9s
M16K Timber Creek 73.95 29 P **P** **10 46 05.7 +2.1**
baz=262
N16K Nishlik Lake 73.96 30 P **P** **10 46 05.7 +2.1**
baz=262
H17K Granite Mounta 74.15 25 IAmb IAmb 10 46 07.6
comp=Z,26nm,0.8s
H17K Granite Mounta 74.15 25 P **P** **10 46 06.7 +2.1**
baz=260
P16K Nushagak River 74.17 31 P **P** **10 46 06.5 +1.7**
baz=263
O16K Kokwok River B 74.18 31 IAmb IAmb 10 46 07.7
comp=Z,36nm,0.9s
O16K Kokwok River B 74.18 31 P **P** **10 46 06.8 +1.9**
baz=263
B18K Kokolik River 74.33 21 P **P** **10 46 07.6 +2.1**
baz=257
E18K Tukpahlearik C 74.34 23 IAmb IAmb 10 46 08.8
comp=Z,33nm,0.8s
E18K Tukpahlearik C 74.34 23 P **P** **10 46 08.0 +2.3**
baz=258
C18K Utukok River 74.38 21 IAmb IAmb 10 46 08.6
comp=Z,28nm,0.8s
C18K Utukok River 74.38 21 P **P** **10 46 07.6 +1.6**
baz=258
L17K Donlin 74.42 28 P **P** **10 46 08.3 +2.0**
baz=262,SNR=11
KIRV Kirov 74.48 328*c i*P **P** **10 46 05.6 -1.0**
K17K Iditarod 74.50 28 P **P** **10 46 09.0 +2.3**
baz=262
F18K Selawik 74.55 24 P **P** **10 46 08.4 +1.5**
baz=260,SNR=25
O17K Koliganek Bris 74.71 31 P **P** **10 46 09.7 +1.8**
baz=264,SNR=7.4
M17K Holitna River 74.73 29 IAmb IAmb 10 46 11.5
comp=Z,30nm,0.9s
M17K Holitna River 74.73 29 P **P** **10 46 09.9 +1.9**
baz=263
N17K Nushagak Hills 74.75 30 IAmb IAmb 10 46 11.6
comp=Z,39nm,1.0s
N17K Nushagak Hills 74.75 30 P **P** **10 46 10.0 +1.9**
baz=264
A19K Wainwright 74.77 20 P **P** **10 46 10.1 +2.0**
baz=257,SNR=17
Q16K King Salmon 74.82 32 P **P** **10 46 10.0 +1.4**
baz=264
G18K Tagagawik 74.83 24 IAmb IAmb 10 46 11.1
comp=Z,17nm,0.9s
G18K Tagagawik 74.83 24 P **P** **10 46 09.7 +1.2**
baz=261
H18K Honhosa River 74.83 25 P **P** **10 46 10.1 +1.5**
baz=261
P17K Kvichak River 74.98 31 P **P** **10 46 11.5 +2.0**
baz=265,SNR=8.8
BELG Belogornoye 75.01 322*c i*P **P** **10 46 08.3 -1.5**
BELG pmax pmax
comp=Z,11nm,0.8s
C19K Lookout Ridge 75.05 21 P **P** **10 46 12.0 +2.2**
baz=259
SEKA Sheki 75.05 310 P **P** **10 46 09.3 -1.1**
MNGR Mingechevir, A 75.14 310 P **P** **10 46 09.9 -0.9**
L18K Granite Mounta 75.18 28 IAmb IAmb 10 46 14.0
comp=Z,21nm,1.1s
L18K Granite Mounta 75.18 28 P **P** **10 46 12.7 +2.1**
baz=264
Q17K Contact Creek 75.18 32 P **P** **10 46 11.8 +0.9**
baz=265,SNR=5.4
J18K Innoko River 75.31 27 P **P** **10 46 12.8 +1.4**
baz=263,SNR=7.8
F19K Shaleruckik Mo 75.33 23 P **P** **10 46 12.7 +1.3**
baz=261
N18K Kilae Creek 75.40 30 P **P** **10 46 13.9 +2.0**
N18K IAmb IAmb 10 46 15.2
comp=Z,22nm,1.1s
N18K Kilae Creek 75.40 30 P **P** **10 46 13.8 +1.8**
baz=265
GCSA Galena City Sc 75.40 26 P **P** **10 46 13.4 +1.6**
baz=263,SNR=5.1
D19K Kuna River 75.47 22 IAmb IAmb 10 46 14.6
comp=Z,30nm,0.8s
D19K Kuna River 75.47 22 P **P** **10 46 14.2 +1.9**
baz=261
ZKTA Zakatala 75.48 310 P **P** **10 46 11.8 -1.0**
G19K Purcell Mounta 75.50 24 IAmb IAmb 10 46 14.6
comp=Z,18nm,0.8s
G19K Purcell Mounta 75.50 24 P **P** **10 46 14.1 +1.7**
baz=262
M18K Stony River 75.51 29 P **P** **10 46 14.6 +2.1**
baz=264
TTA Tatalina 75.57 28 P **P** **10 46 14.5 +1.5**
baz=264,SNR=7.4
SVW2 Sparrevohn 75.59 29 IAmb IAmb 10 46 16.2
comp=Z,27nm,1.2s
P18K Big Mountain, 75.62 31 P **P** **10 46 14.5 +1.2**
baz=266
E19K Redstone River 75.63 23 P **P** **10 46 15.2 +2.1**
baz=262
O18K Koktuh Hills 75.66 31 P **P** **10 46 15.3 +1.8**
baz=266,SNR=9.5
H19K Roundabout Mou 75.68 25 P **P** **10 46 15.4 +2.0**
baz=263
GANJ Ganja 75.72 309 P **P** **10 46 13.0 -1.3**
J19K Poorman 75.86 26 P **P** **10 46 16.3 +1.8**
baz=264
SII Sitkinak Islan 75.99 34 P **P** **10 46 16.8 +1.4**
baz=267
L19K White Mountain 76.03 28 IAmb IAmb 10 46 18.0
comp=Z,19nm,0.9s
L19K White Mountain 76.03 28 P **P** **10 46 17.5 +1.9**
baz=265
D20K Etivluk River 76.04 22 P **P** **10 46 17.4 +1.9**
baz=262
B20K Meade River 76.05 20 P **P** **10 46 17.2 +1.8**
baz=261
N19K Bonanza Creek 76.10 30 IAmb IAmb 10 46 21.4
comp=Z,34nm,1.1s
N19K Bonanza Creek 76.10 30 P **P** **10 46 18.0 +1.9**
baz=266,SNR=8.0
O19K Port Alsworth 76.13 30 IAmb IAmb 10 46 18.7
comp=Z,26nm,0.9s
O19K Port Alsworth 76.13 30 P **P** **10 46 17.4 +1.3**
baz=266,SNR=5.8
E20K Nigu River 76.14 22 P **P** **10 46 17.8 +1.7**
baz=262
F20K Avaraart Lake 76.16 23 IAmb IAmb 10 46 19.1
comp=Z,24nm,0.9s
F20K Avaraart Lake 76.16 23 P **P** **10 46 18.0 +1.9**
baz=263
H20K Anotleneega Mo 76.33 25 P **P** **10 46 18.6 +1.5**
baz=264
NAX Nakhchivan 76.40 308 P **P** **10 46 17.1 -1.1**
Q19K Cape Douglas, 76.40 32 P **P** **10 46 17.7 0.0**
baz=267
A21K Barrow 76.43 19 P **P** **10 46 19.5 +1.9**
baz=261,SNR=11
I20K Naaghedeneel 76.43 26 P **P** **10 46 19.7 +2.0**
baz=265
K20K Telida 76.48 27 P **P** **10 46 20.0 +2.0**
baz=266
L20K Farewell, AK 76.51 28 P **P** **10 46 20.0 +1.8**
baz=266
OHAK Old Harbor 76.51 34 P **P** **10 46 19.7 +1.4**
baz=268
J20K Nowinta River 76.52 26 IAmb IAmb 10 46 21.4
comp=Z,46nm,1.5s
J20K Nowinta River 76.52 26 P **P** **10 46 20.1 +1.9**
baz=265
P19K Oil Pt 76.65 31 P **P** **10 46 20.5 +1.4**
baz=267
C21K Knifeblade Rid 76.76 21 P **P** **10 46 21.2 +1.7**
baz=264
M20K Styx River 76.82 29 IAmb IAmb 10 46 22.6
comp=Z,17nm,0.9s
M20K Styx River 76.82 29 P **P** **10 46 22.0 +1.9**
baz=267
IMAR Indian Mountai 76.84 24 P **P** **10 46 22.0 +2.0**
B21K Ikpikpuk River 76.87 21 P **P** **10 46 22.0 +1.9**
baz=264
KDAK Kodiak Island 76.91 33 P **P** **10 46 22.0 +1.5**
baz=268
A22K Sinclair Lake 76.91 19 P **P** **10 46 22.2 +1.9**
baz=263
E21K Killik River 76.97 22 IAmb IAmb 10 46 23.5
comp=Z,20nm,1.1s
E21K Killik River 76.97 22 P **P** **10 46 22.5 +1.7**
baz=264
O20K Slope Mountain 76.97 31 P **P** **10 46 22.8 +1.8**
baz=268
G21K Allakaket 76.98 24 IAmb IAmb 10 46 23.8
comp=Z,40nm,0.9s
G21K Allakaket 76.98 24 P **P** **10 46 22.2 +1.4**
baz=265
CASY Casey 77.03 186 P **P** **10 46 21.9 +1.0**
CASY IAmb IAmb 10 46 22.3
comp=Z,32nm,0.8s
Q20K Shuyak Island 77.04 32 P **P** **10 46 22.8 +1.6**
baz=268
F21K Alatna River 77.05 23 P **P** **10 46 22.8 +1.6**
F21K Alatna River 77.05 23 P **P** **10 46 22.6 +1.3**
baz=265
H21K Melozitna Rive 77.20 25 IAmb IAmb 10 46 24.6
comp=Z,20nm,0.8s
H21K Melozitna Rive 77.20 25 P **P** **10 46 23.8 +1.8**
baz=266
N20K Mount Spurr 77.23 29 P **P** **10 46 23.2 +0.8**
baz=268
CHUM Lake Minchumin 77.30 27 P **P** **10 46 24.5 +1.9**
baz=267,SNR=7.1
PPLA Purkeypile 77.31 28 P **P** **10 46 24.0 +1.1**
baz=267
B22K Teshekpuk Lake 77.35 20 P **P** **10 46 24.3 +1.5**
baz=265
CAST Castle Rocks 77.38 27 IAmb IAmb 10 46 25.7
comp=Z,23nm,0.8s
CAST Castle Rocks 77.38 27 P **P** **10 46 24.4 +1.3**
baz=267,SNR=15
RAYN Ar Rayn 77.44 292 P **P** **10 46 24.0 -0.3**
RAYN IAmb IAmb 10 46 24.8
comp=Z,41nm,1.1s
RAYN Ar Rayn 77.44 292 *i* P **P** **10 46 23.9 -0.4**
SNR=24
RAYN Ar Rayn 77.44 292 P **P** **10 46 24.0 -0.3**
RAYN pmax pmax
comp=Z,41nm,1.2s
HOM Homer 77.45 31 P **P** **10 46 24.7 +1.1**
baz=269
D22K Ayikyak River 77.48 22 P **P** **10 46 25.8 +2.2**
D22K Ayikyak River 77.48 22 P **P** **10 46 25.5 +1.9**
baz=266,SNR=16
I21K Tanana 77.51 25 IAmb IAmb 10 46 26.8
comp=Z,29nm,0.8s
I21K Tanana 77.51 25 P **P** **10 46 25.5 +1.7**
baz=267
SKT Skwentna 77.58 29 P **P** **10 46 25.5 +1.2**
baz=268,SNR=5.5
CAPN Captain Cook N 77.73 30 P **P** **10 46 26.6 +1.6**
baz=269
E22K Anaktuvuk Pass 77.75 22 IAmb IAmb 10 46 28.2
comp=Z,23nm,1.1s
E22K Anaktuvuk Pass 77.75 22 P **P** **10 46 26.9 +1.7**
baz=267
G22K Bettles 77.80 24 P **P** **10 46 27.0 +1.6**
baz=267
H22K Ishtalitna Cre 77.80 25 P **P** **10 46 27.6 +2.2**
baz=268
BPAW Bear Paw Mtn. 77.90 26 P **P** **10 46 27.5 +1.5**
baz=268,SNR=35
KTH Kantishna Hill 77.91 27 IAmb IAmb 10 46 40.1
comp=Z,19nm,1.1s
BRSE Bradley Lake S 77.91 31 P **P** **10 46 27.6 +1.4**
baz=269
SUA Susitna One 77.94 29 IAmb IAmb 10 46 30.1
comp=Z,20nm,0.8s
SUA Susitna One 77.94 29 P **P** **10 46 26.9 +0.5**
baz=269,SNR=8.4
MLY Manley 78.03 26 IAmb IAmb 10 46 29.3
comp=Z,23nm,0.8s
MLY Manley 78.03 26 P **P** **10 46 28.5 +1.7**
baz=268,SNR=31
KBZ Khabaz 78.17 313 P **P** **10 46 27.0 -0.8**
comp=Z,14nm,0.9s,baz=90,slow=4.0,SNR=16
comp=Z,14nm,0.9s
CUT Chulitna 78.18 28 P **P** **10 46 28.1 +0.6**
baz=269
TRF Thorofare Moun 78.19 27 IAmb IAmb 10 46 29.7
comp=Z,18nm,0.8s
TRF Thorofare Moun 78.19 27 P **P** **10 46 28.5 +0.7**
baz=269,SNR=12
D23K Nanushuk River 78.21 21 P **P** **10 46 29.8 +2.2**
baz=268
M22K Willow 78.24 29 P **P** **10 46 29.0 +1.1**
baz=270
C23K Itkillik River 78.28 21 P **P** **10 46 29.8 +1.8**
baz=267
KIV Kislovodsk 78.31 313 *e*P **P** **10 46 28.6 -0.2**
KIV pmax pmax
comp=Z,42nm,1.0s
KIV MLR MLR
comp=Z,105nm,19.0s
COLD Coldfoot 78.32 23 P **P** **10 46 30.4 +2.1**
baz=268,SNR=18
G23K Bananza Creek 78.38 24 IAmb IAmb 10 46 41.2
comp=Z,32nm,1.2s
G23K Bananza Creek 78.38 24 P **P** **10 46 30.5 +1.9**
baz=269
RC01 Rabbit Creek A 78.42 30 P **P** **10 46 30.3 +1.4**
baz=270
O22K Cooper Landing 78.43 30 P **P** **10 46 30.3 +1.3**
baz=270
H23K Yukon River 78.55 25 IAmb IAmb 10 46 32.2

		comp=Z,21nm,0.9s								
H23K	Yukon River	baz=269	78.55	25	P	P	10 46 31.6	+2.0		
SEW	Seward	baz=270	78.56	31	P	P	10 46 30.5	+0.8		
BWN	Browne	comp=Z,33nm,1.2s	78.56	26	IAmb	IAmb	10 47 10.1			
E23K	Chandalar	baz=269	78.57	22	P	P	10 46 32.1	+2.3		
TOLK	Toolik Lake Re	comp=Z,22nm,0.8s	78.60	22	IAmb	IAmb	10 46 32.3			
TOLK	Toolik Lake Re	baz=269,SNR=24	78.60	22	P	P	10 46 31.6	+1.8		
I23K	Minto, Yukon-K	comp=Z,18nm,0.7s	78.62	25	IAmb	IAmb	10 46 33.0			
I23K	Minto, Yukon-K	baz=270,SNR=30	78.62	25	P	P	10 46 31.5	+1.6		
VRH	Novokhopyorsk		78.66	320	eP	P	10 46 29.0	-1.4		
VRH		comp=Z,42nm,0.8s			pmax	pmax				
PMR	Palmer	comp=Z,16nm,0.8s	78.71	29	IAmb	IAmb	10 46 32.1			
PMR	Palmer	baz=270,SNR=9.0	78.71	29	P	P	10 46 31.1	+0.6		
NEA2	Nenana	comp=Z,24nm,0.8s	78.74	26	IAmb	IAmb	10 46 33.0			
NEA2	Nenana	baz=270,SNR=21	78.74	26	P	P	10 46 31.9	+1.3		
MCK	McKinley		78.80	27	P	P	10 46 31.9	+0.9		
MCK	McKinley	baz=270,SNR=28	78.80	27	P	P	10 46 31.7	+0.7		
MCK	McKinley		78.80	27	P	P	10 46 31.9	+0.9		
MCK		comp=Z,48nm,0.8s			pmax	pmax				
RND	Reindeer	comp=Z,25nm,1.1s	78.83	27	IAmb	IAmb	10 46 52.1			
D24K	Happy Valley	baz=269	78.88	21	P	P	10 46 33.3	+2.0		
C24K	Franklin Bluff	baz=269	78.94	21	P	P	10 46 33.1	+1.6		
WAT1	Susitna Watana	baz=271	78.98	28	P	P	10 46 32.4	+0.4		
KNK	Knik Glacier	comp=Z,24nm,0.9s	79.04	29	IAmb	IAmb	10 46 34.4			
KNK	Knik Glacier	baz=271,SNR=10	79.04	29	P	P	10 46 33.4	+1.0		
SML	Sawmill	comp=Z,31nm,1.0s	79.09	29	IAmb	IAmb	10 46 34.7			
SML	Sawmill	baz=271,SNR=9.6	79.09	29	P	P	10 46 33.6	+0.9		
WRH	Wood River Hil	comp=Z,22nm,1.2s	79.16	26	IAmb	IAmb	10 46 44.0			
F24K	Squaw Lake	comp=Z,26nm,0.8s	79.22	23	IAmb	IAmb	10 46 36.4			
F24K	Squaw Lake	baz=270	79.22	23	P	P	10 46 35.3	+2.1		
H24K	Noodor Dome	comp=Z,16nm,0.8s	79.24	25	IAmb	IAmb	10 46 37.0			
H24K	Noodor Dome	baz=271	79.24	25	P	P	10 46 35.2	+1.8		
BCA	Borcka		79.24	310	⇑P	P	10 46 33.5	-0.3		
COLA	College		79.26	26	P	P	10 46 34.1	+0.7		
COLA		comp=Z,17nm,0.9s			IAmb	IAmb	10 46 36.2			
COLA	College	baz=271	79.26	26	P	P	10 46 34.6	+1.2		
COLA	College		79.26	26	ceP	P	10 46 33.5	+0.1		
COLA		comp=Z,14nm,0.9s			pmax	pmax				
CCB	Clear Creek Bu	comp=Z,44nm,1.6s	79.28	26	IAmb	IAmb	10 46 35.2			
WAT6	Susitna Watana	baz=271,SNR=20	79.35	28	P	P	10 46 35.3	+1.1		
M23K	Glacier View	baz=272,SNR=7.4	79.38	29	P	P	10 46 35.1	+0.9		
G24K	Hadweenzic Riv	comp=Z,20nm,0.8s	79.39	24	IAmb	IAmb	10 46 37.2			
G24K	Hadweenzic Riv	baz=271,SNR=5.6	79.39	24	P	P	10 46 35.9	+1.8		
POKR	Poker Plat Res	baz=271	79.44	25	P	P	10 46 36.1	+1.6		
DHY	Denali Highway	baz=272,SNR=6.8	79.51	28	P	P	10 46 36.2	+1.1		
KLMR	Klimovskoe		79.57	330	eP	P	10 46 31.5	-3.7		
KLMR		comp=Z,60nm,1.4s			pmax	pmax				
SCM	Sheep Creek Mo	comp=Z,31nm,0.9s	79.57	29	IAmb	IAmb	10 46 37.6			
SCM	Sheep Creek Mo	baz=272,SNR=9.2	79.57	29	P	P	10 46 36.3	+1.0		
P23K	Montague Islan	baz=272	79.59	31	P	P	10 46 36.7	+1.4		
HDA	Harding Lake	comp=Z,16nm,0.7s	79.66	26	IAmb	IAmb	10 46 36.5			
HDA	Harding Lake	baz=272,SNR=24	79.66	26	P	P	10 46 35.5	-0.2		
ILAR	Eielson Array		79.68	26	P	P	10 46 35.6	-0.2		
ILAR	Eielson Array		79.68	26	P	P	10 46 35.6	-0.2		
ILAR	Eielson Array	comp=Z,7.0nm,0.8s,baz=243,slow=6.0,SNR=74	79.68	26	P	P	10 46 34.9	-0.8		
D25K	Kavik River	comp=Z,7.0nm,0.8s	79.76	21	IAmb	IAmb	10 46 38.8			
D25K	Kavik River	comp=Z,25nm,0.9s	79.76	21	P	P	10 46 37.6	+1.5		
G25K	Bearman Lake	baz=271	79.94	24	P	P	10 46 39.2	+2.2		
H25L	Birch Creek	baz=272	80.07	24	P	P	10 46 40.1	+2.3		
F25K	Christian Rive	baz=272	80.08	23	P	P	10 46 40.1	+2.2		
E25K	Arctic Village	comp=Z,21nm,1.0s	80.09	22	IAmb	IAmb	10 46 41.2			
E25K	Arctic Village	baz=272,SNR=24	80.09	22	P	P	10 46 39.9	+1.9		
M24K	Tolsona, Glenn	comp=Z,41nm,1.1s	80.10	28	IAmb	IAmb	10 46 43.0			
M24K	Tolsona, Glenn	baz=273,SNR=5.6	80.10	28	P	P	10 46 39.9	+1.7		
Q23K	Middleton Isla	baz=273	80.15	31	P	P	10 46 38.6	+0.2		
K24K	Donnelly Dome	baz=273,SNR=14	80.20	27	P	P	10 46 39.3	+0.7		
VORD	Divnogorie		80.20	320	eP	P	10 46 36.1	-2.7		
VORD		comp=Z,10.0nm,0.9s			pmax	pmax				
VORR	Voronezh		80.21	321	eP	P	10 46 35.7	-3.1		
VORR		comp=Z,30nm,0.8s			pmax	pmax				
PRP	Porcupine Dome	baz=273,SNR=5.1	80.22	25	P	P	10 46 39.5	+0.7		
C26K	Camden Bay	baz=273	80.25	21	P	P	10 46 41.0	+2.3		
KLU	Klutina	comp=Z,21nm,1.2s	80.25	29	IAmb	IAmb	10 46 42.9			
KLU	Klutina	baz=273	80.25	29	P	P	10 46 40.1	+1.1		
VSR	Storozhevoye		80.27	320	eP	P	10 46 35.7	-3.5		
VSR		comp=Z,10.0nm,0.8s			pmax	pmax				
FYU	Fort Yukon	comp=Z,25nm,1.0s	80.29	24	IAmb	IAmb	10 46 41.6			
LPSR	Galich'ya Gora		80.32	322	eP	P	10 46 36.8	-2.6		
LPSR		comp=Z,40nm,0.8s			pmax	pmax				
J25K	Salcha River,	baz=273	80.33	26	P	P	10 46 39.3	-0.1		
PAX	Paxson	baz=273,SNR=6.4	80.38	28	P	P	10 46 41.0	+1.4		
EYAK	Cordova Ski Ar	baz=274	80.39	30	P	P	10 46 41.0	+1.4		
BMAR	Burnt Mountain		80.50	23	P	P	10 46 42.4	+2.2		
HARP	HAARP	baz=274	80.56	28	P	P	10 46 41.9	+1.3		
RIDG	Independent Ri	comp=Z,34nm,0.9s	80.61	27	IAmb	IAmb	10 46 42.8			
RIDG	Independent Ri	baz=274,SNR=17	80.61	27	P	P	10 46 41.5	+0.7		
F26K	Sheenjek River	baz=274	80.65	23	P	P	10 46 43.1	+2.2		
G26K	Porcupine Rive	baz=274	80.84	24	P	P	10 46 43.5	+1.6		
N25K	Chitina, Valde	comp=Z,30nm,1.6s	80.88	29	IAmb	IAmb	10 46 45.3			
N25K	Chitina, Valde	baz=274,SNR=5.5	80.88	29	P	P	10 46 44.0	+1.6		
BMRM	Bremner River	baz=274	80.92	30	P	P	10 46 43.7	+1.1		
SCRK	Sand Creek	baz=274,SNR=11	80.98	27	P	P	10 46 43.8	+0.9		
KAIM	Kayak Island	baz=275	81.10	31	P	P	10 46 44.2	+0.7		
J26L	Joseph Creek	baz=275	81.12	26	P	P	10 46 44.4	+0.8		
MENT	Mentasta		81.18	28	P	P	10 46 44.1	+0.2		
MENT		comp=Z,28nm,1.2s			IAmb	IAmb	10 46 46.0			
I26K	Coal Creek Min	baz=275	81.23	25	P	P	10 46 45.0	+0.9		
GLB	Gilahina Butte	comp=Z,56nm,1.6s	81.27	29	IAmb	IAmb	10 46 47.8			
L26K	Log Cabin Wild	baz=275,SNR=11	81.34	27	P	P	10 46 46.4	+1.7		
ATD	Arta Tunnel	comp=Z,23nm,0.8s	81.45	280	IAmb	IAmb	10 46 47.8			
OBN	Obninsk		81.51	324	eP	P	10 46 44.8	-0.9		
OBN					e*PP	sP	10 47 05.0	+0.7		
OBN					e		10 49 55.4			
OBN					ePPP	PPP	10 51 44.8			
OBN		comp=Z,14nm,0.5s			pmax	pmax				
OBN		comp=Z,118nm,15.0s			MLR	MLR				
M26K	Nabesna, AK	comp=Z,27nm,1.2s	81.56	28	IAmb	IAmb	10 46 48.6			
M26K	Nabesna, AK	baz=276	81.56	28	P	P	10 46 47.8	+1.8		
E27K	Coleen River	comp=Z,16nm,0.9s	81.57	22	IAmb	IAmb	10 46 48.9			
E27K	Coleen River	baz=276	81.57	22	P	P	10 46 47.7	+1.9		
MCARA	McCarthy VSAT	comp=Z,38nm,1.2s	81.65	29	IAmb	IAmb	10 47 07.6			
MCARA	McCarthy VSAT	baz=276	81.65	29	P	P	10 46 48.2	+1.8		
D27M	Malcolm River	comp=Z,27nm,1.0s	81.68	21	IAmb	IAmb	10 46 49.5			
D27M	Malcolm River	baz=276	81.68	21	P	P	10 46 48.6	+2.1		
G27K	Doyon Strip	baz=276	81.69	24	P	P	10 46 48.5	+2.0		
H27K	Steamboat Moun	baz=276	81.80	24	P	P	10 46 49.3	+2.2		
TGL	Tana Glacier	comp=Z,16nm,0.9s	81.81	30	IAmb	IAmb	10 46 52.6			
K27K	Chicken	comp=Z,34nm,1.1s	81.81	26	IAmb	IAmb	10 46 50.6			
K27K	Chicken	baz=276	81.81	26	P	P	10 46 49.5	+2.3		
WAX	Waxell Ridge	comp=Z,28nm,0.7s	81.83	30	IAmb	IAmb	10 46 51.4			
I27K	Kandik River	baz=276	81.84	25	P	P	10 46 49.4	+2.1		
ARPR	Arapgir-MALATY	comp=Z,16nm,0.8s	81.96	308	IAmb	IAmb	10 46 49.6			
ANN	Anapa		82.00	314	eP	P	10 46 46.0	-2.5		
ANN					e*PP	sP	10 47 07.2	+0.1		
ANN					eS	S	10 56 54.6	-4.8		
ANN		comp=Z,50nm,1.0s			pmax	pmax				
L27K	Beaver Creek,	baz=277	82.03	27	P	P	10 46 50.2	+1.8		
BCAR	Beaver Creek A		82.05	27	P	P	10 46 50.3	+1.8		
ISLE	Juniper Island	comp=Z,26nm,0.9s	82.06	30	IAmb	IAmb	10 47 03.7			
M27K	Edge Creek, AK	comp=Z,22nm,1.1s	82.09	28	IAmb	IAmb	10 46 51.6			
M27K	Edge Creek, AK	baz=277,SNR=14	82.09	28	P	P	10 46 50.4	+1.6		
EGAK	Eagle	baz=277,SNR=9.3	82.12	26	P	P	10 46 50.1	+1.3		
E28M	Babbage River	comp=Z,26nm,1.1s	82.28	22	IAmb	IAmb	10 46 52.5			
E28M	Babbage River	baz=278	82.28	22	P	P	10 46 51.2	+1.7		
F28M	Old Crow	comp=Z,21nm,0.8s	82.28	23	IAmb	IAmb	10 46 52.4			
F28M	Old Crow	baz=278,SNR=27	82.28	23	P	P	10 46 51.4	+1.8		
MESA	MESA	baz=277,SNR=6.9	82.30	30	P	P	10 46 51.8	+1.7		
D28M	Stokes Point	baz=279	82.46	21	P	P	10 46 52.2	+1.8		
CTG	Chitna Glacier	baz=277,SNR=38	82.51	29	P	P	10 46 53.5	+2.4		
BVCY	Beaver Creek	baz=278,SNR=12	82.55	28	P	P	10 46 53.1	+2.0		
I28M	Miner Creek	baz=278	82.55	25	P	P	10 46 53.2	+2.1		
LOGN	Logan Glacier	comp=Z,23nm,0.8s	82.69	30	IAmb	IAmb	10 46 55.1			
YUK3	Moose Creek	baz=278,SNR=10.0	82.82	29	P	P	10 46 54.5	+1.7		
E29M	Blow River	comp=Z,41nm,1.9s	82.90	22	IAmb	IAmb	10 46 55.8			
E29M	Blow River	baz=279	82.90	22	P	P	10 46 54.2	+1.4		
DAWY	Dawson		82.98	26	P	P	10 46 54.7	+1.4		
DAWY		comp=Z,58nm,1.6s			IAmb	IAmb	10 46 56.3			
DAWY	Dawson	baz=279,SNR=16	82.98	26	P	P	10 46 54.8	+1.5		
GAZ	Gaziantep		83.07	306	P	P	10 46 54.6	+0.2		
H29M	Whitestone	comp=Z,16nm,0.8s	83.07	24	IAmb	IAmb	10 46 56.0			
H29M	Whitestone	baz=279	83.07	24	P	P	10 46 55.3	+1.5		
G29M	Pine Creek	comp=Z,26nm,0.8s	83.10	23	IAmb	IAmb	10 46 56.1			
G29M	Pine Creek	baz=280	83.10	23	P	P	10 46 55.6	+1.7		
JOF	Joensuu		83.24	333	eP	P	10 46 54.3	-0.3		
J29N	Klondike Camp	baz=280	83.42	26	P	P	10 46 57.6	+1.9		
PNL	Peninsula	baz=279,SNR=6.8	83.65	31	P	P	10 46 58.9	+2.1		
M29M	Somme Creek	comp=Z,34nm,1.4s	83.65	28	IAmb	IAmb	10 47 00.5			
M29M	Somme Creek	baz=280	83.65	28	P	P	10 46 59.2	+2.3		
L29M	L29M	baz=280	83.69	27	P	P	10 46 59.3	+2.3		
EPYK	Eagle Plains	comp=Z,22nm,0.9s	83.70	24	IAmb	IAmb	10 46 58.8			
EPYK	Eagle Plains	baz=281,SNR=11	83.70	24	P	P	10 46 58.2	+1.2		
YUK4	Talbot Arm	baz=280,SNR=10	83.75	29	P	P	10 46 59.7	+2.2		
G30M	tAoh Zraii Nji	comp=Z,21nm,1.1s	83.78	23	IAmb	IAmb	10 47 01.6			
G30M	tAoh Zraii Nji	baz=281	83.78	23	P	P	10 46 58.2	+0.8		
F30M	Barrier River	baz=282	83.83	22	P	P	10 46 58.9	+1.3		
K29M	Barlow Dome	comp=Z,28nm,1.0s	83.83	26	IAmb	IAmb	10 47 01.0			
K29M	Barlow Dome	baz=280	83.83	26	P	P	10 46 59.7	+1.9		
YUK6	Outpost Mounta	baz=280,SNR=9.0	83.95	29	P	P	10 47 00.5	+1.9		
O29M	Mount Kennedy	comp=Z,18nm,1.0s	83.95	30	IAmb	IAmb	10 47 03.5			
O29M	Mount Kennedy	baz=280	83.95	30	P	P	10 47 00.6	+2.1		
I30M	Mount Dempster	comp=Z,24nm,0.9s	84.06	25	IAmb	IAmb	10 47 01.5			
I30M	Mount Dempster	baz=281	84.06	25	P	P	10 47 00.1	+1.1		
SPITS	Spitsbergen Ar		84.14	349	P	P	10 46 59.2	+0.2		
SPITS		comp=Z,61nm,1.0s			pmax	pmax				
SPITS	Spitsbergen Ar	comp=Z,30nm,0.8s,baz=86,slow=9.1,SNR=13	84.14	349	P	P	10 46 58.9	-0.1		
J30M	Hart River	comp=Z,30nm,0.8s baz=281	84.20	25	P	P	10 47 01.7	+2.0		
ARCES	ARCESS Array B		84.28	340	P	P	10 46 59.6	-0.2		
ARCES	ARCESS Array B		84.28	340	P	P	10 46 59.6	-0.2		
ARCES		comp=Z,89nm,1.7s			pmax	pmax				
ARCES	ARCESS Array B	comp=Z,7.5nm,0.7s,baz=76,slow=5.7,SNR=27	84.28	340	P	P	10 46 58.2	-1.6		
SIM	Simferopol'	comp=Z,7.5nm,0.7s	84.32	315	eP	P	10 46 59.9	-0.6		
SIM		comp=Z,47nm,1.0s			pmax	pmax				
HYT	Haines Junctio	baz=281,SNR=27	84.38	29	P	P	10 47 02.7	+2.0		
M30M	Minto, Yukon	baz=281,SNR=25	84.39	27	P	P	10 47 02.8	+2.3		
N30M	Aishikik Lake	baz=281	84.46	29	P	P	10 47 03.3	+2.3		
P29M	Windy Craggy	baz=281	84.48	30	P	P	10 47 03.4	+2.3		
INK	Inuvik		84.51	22	P	P	10 47 01.8	+0.8		
INK		comp=Z,24nm,1.1s			IAmb	IAmb	10 47 03.2			
INK	Inuvik	baz=284,SNR=22	84.51	22	P	P	10 47 02.1	+1.1		
INK	Inuvik		84.51	22	P	P	10 47 01.8	+0.8		
INK		comp=Z,24nm,1.1s			pmax	pmax				
G31M	Satah River		84.55	23	P	P	10 47 01.9	+0.7		
G31M	Satah River	baz=283,SNR=6.3	84.55	23	P	P	10 47 02.2	+1.0		
MAYO	Mayo, Yukon	baz=282,SNR=6.1	84.59	26	P	P	10 47 03.5	+2.0		
F31M	Tsiigehtchic	comp=Z,30nm,1.2s	84.63	22	IAmb	IAmb	10 47 03.6			
F31M	Tsiigehtchic	baz=283,SNR=15	84.63	22	P	P	10 47 02.5	+0.9		
KBS	Kingsbay		84.65	350	i P	P	10 47 00.8	-0.7		
H31M	Peel River	baz=283	84.77	24	P	P	10 47 03.6	+1.2		
P30M	Million Dollar	baz=281	84.78	30	P	P	10 47 04.8	+2.2		
O30N	Mendenhall	comp=Z,20nm,1.1s	85.07	29	IAmb	IAmb	10 47 07.2			
O30N	Mendenhall	baz=282,SNR=14	85.07	29	P	P	10 47 05.9	+1.8		
MMAI	Mount Meron Ar	comp=Z,9.1nm,0.6s,baz=76,slow=4.6,SNR=8.5	85.12	303	P	P	10 47 04.5	-0.4		
PLBC	Pleasant Camp	comp=Z,9.1nm,0.6s baz=282,SNR=8.6	85.20	31	P	P	10 47 06.6	+1.9		
GHAJ	Ghor Haditha		85.25	301	P	P	10 47 05.1	-0.3		
BR131	Keskin Array S	comp=Z,18nm,0.8s	85.48	309	IAmb	IAmb	10 47 06.5			
BR131	Keskin Array S		85.48	309	ceP	P	10 47 05.3	-1.4		
BRTR	Keskin Array B		85.48	309	P	P	10 47 05.0	-1.6		
BRTR	Keskin Array B		85.48	309	i P	P	10 47 05.4	-1.2		
BRTR		comp=Z,13nm,0.7s			pmax	pmax				
BRTR	Keskin Array B	comp=Z,13nm,0.7s,baz=92,slow=3.9,SNR=61 comp=Z,13nm,0.7s	85.48	309	P	P	10 47 05.2	-1.4		
M31M	Drury Creek, Y	comp=Z,12nm,0.8s	85.56	28	IAmb	IAmb	10 47 08.6			
M31M	Drury Creek, Y	baz=283,SNR=12	85.56	28	P	P	10 47 07.8	+1.4		
S31K	Pelican	baz=282	85.58	32	P	P	10 47 08.4	+1.9		
WHY	Whitehorse	baz=283,SNR=27	85.68	29	P	P	10 47 09.0	+1.9		
SKAG	Skagway	comp=Z,22nm,0.9s	85.72	30	IAmb	IAmb	10 47 10.4			
SKAG	Skagway	baz=283,SNR=8.5	85.72	30	P	P	10 47 09.2	+2.0		
FIA1	FINESS Array S		85.94	332	P	P	10 47 07.4	-0.9		
FINES	FINESS Array B	comp=Z,11nm,0.6s,baz=74,slow=5.1,SNR=91 comp=Z,11nm,0.6s	85.94	332	P	P	10 47 07.4	-0.8		
FARO	Faro, Yukon	baz=284,SNR=47	86.03	27	P	P	10 47 10.5	+1.7		
ANTO	Ankara		86.09	310	P	P	10 47 08.5	-1.1		
ANTO	Ankara		86.09	310	P	P	10 47 08.5	-1.1		
ANTO		comp=Z,27nm,0.9s			pmax	pmax				
A36M	Sachs Harbour	baz=291,SNR=76	86.13	17	P	P	10 47 10.1	+1.1		
SIT	Sitka	baz=283	86.25	33	P	P	10 47 10.5	+0.7		
VSU	Vasula		86.31	329	⇑eP	P	10 47 08.5	-1.6		
R32K	Eaglecrest	baz=283	86.40	31	P	P	10 47 11.5	+0.9		
N32M	Quiet Lake	baz=284	86.42	29	P	P	10 47 12.6	+1.9		
JIS	Juneau Island	comp=Z,17nm,1.4s	86.47	31	IAmb	IAmb	10 47 23.7			
P32M	Atlin	baz=284	86.49	30	P	P	10 47 12.6	+1.5		
S32K	Killisnoo	baz=283	86.55	32	P	P	10 47 12.0	+0.7		
AKASG	Malin Array Be		86.56	321	P	P	10 47 10.4	-1.1		
AKASG		comp=Z,27nm,1.1s			IAmb	IAmb	10 47 11.6			
AKASG	Malin Array Be		86.56	321	i P	P	10 47 10.1	-1.4		
AKASG		comp=Z,15nm,0.7s			pmax	pmax				
AKASG	Malin Array Be	comp=Z,19nm,0.9s,baz=65,slow=4.4,SNR=42 comp=Z,19nm,0.9s	86.56	321	P	P	10 47 10.0	-1.6		
AKBB	Malin Array Si		86.56	321	c iP	P	10 47 09.7	-1.8		
AKBB		comp=Z,43nm,1.1s			pmax	pmax				
MNK	Minsk		86.56	325	i P	P	10 47 08.0	-3.5		
MNK					i *PP	sP	10 47 29.5	-0.7		
MNK					i		10 50 30.2			
MNK					i PPP	PPP	10 52 24.6			
MNK					i S	S	10 57 26.3	-18		
MNK					i SS	SS	11 03 20.9	-4.7		
MNK					i SSS	SSS	11 06 53.6			
MNK		comp=N,21nm,0.8s			pmax	pmax				
MNK		comp=E,6.0nm,0.8s			pmax	pmax				
MNK		comp=Z,17nm,0.9s			pmax	pmax				
MNK		comp=N,129nm,18.0s			MLR	MLR				
MNK		comp=Z,199nm,21.0s			MLR	MLR				
MNK		comp=E,107nm,20.0s			MLR	MLR				
KIEV	Kiev		86.57	321	⇑P	P	10 47 10.1	-1.5		
KIEV	Kiev		86.57	321	P	P	10 47 10.4	-1.2		
KIEV	Kiev	SNR=19	86.57	321	i P	P	10 47 10.3	-1.2		
KIEV	Kiev		86.57	321	P	P	10 47 10.4	-1.2		
KIEV		comp=Z,40nm,1.2s			pmax	pmax				
AK05	Malin Array Si		86.59	321	P	P	10 47 10.5	-1.1		
NOR	Nord		86.72	355	i P	P	10 47 11.0	-0.8		
NOR		comp=Z,5.3nm,0.7s			IAmb	IAmb	10 47 13.4			
P33M	Teslin, Yukon	baz=285	86.78	29	P	P	10 47 13.2	+0.7		
PURM	Purcari		86.97	317	⇑P	P	10 47 13.0	-0.6		
MEF	Metsahovi		87.04	331	eP	P	10 47 13.0	-0.7		
VAF	Ylistaro		87.06	334	eP	P	10 47 13.0	-0.7		
Q32M	Nakina River	baz=285	87.37	31	P	P	10 47 16.0	+0.4		
C36M	Paulatuk		87.46	20	P	P	10 47 16.1	+0.6		
C36M	Paulatuk	baz=292,SNR=29	87.46	20	P	P	10 47 15.8	+0.3		
SORM	Soroca		87.65	318	⇑P	P	10 47 15.4	-1.5		
SORM	Soroca		87.65	318	P	P	10 47 15.3	-1.5		
U33K	Whale Pass	baz=285	87.66	33	P	P	10 47 17.2	+0.5		
CRAG	Craig	baz=285	87.82	34	P	P	10 47 18.5	+1.0		
R33M	Jennings River	baz=286	87.90	30	P	P	10 47 19.7	+1.7		
TLCR			87.97	315	⇑P	P	10 47 17.8	-0.7		
TLCR			87.97	315	P	P	10 47 17.7	-0.7		
WRAK	Wrangell Islan	baz=285	88.00	33	P	P	10 47 19.9	+1.6		
S34M	Telegraph Cree	baz=286	88.23	31	P	P	10 47 21.2	+1.8		
TPGR	Topolog		88.31	315	⇑P	P	10 47 18.7	-1.4		
VLDR	Vladesti		88.33	316	⇑P	P	10 47 19.6	-0.5		
TIRR	Tirgusor		88.41	315	⇑P	P	10 47 19.3	-1.2		
TIRR	Tirgusor		88.41	315	P	P	10 47 19.3	-1.2		
EUNU	Eureka	comp=Z,17nm,0.8s	88.44	5	IAmb	IAmb	10 47 21.4			
CFR	Carcaliu		88.44	316	⇑P	P	10 47 19.5	-1.2		
CFR	Carcaliu		88.44	316	P	P	10 47 19.4	-1.2		
KIBK	Kibwezi		88.45	267	P	P	10 47 21.3	-0.2		
KIBK		comp=Z,27nm,1.5s			IAmb	IAmb	10 47 22.9			
PABE	Paberze	comp=Z,17nm,1.0s	88.51	326	IAmb	IAmb	10 47 22.1			

PABE	**Paberze**		**88.51**	**326**	*e*P		**P**	**10 47 20.3**	**-0.4**
TGTN	**Hyland Airport**		**88.53**	**27**	P		**P**	**10 47 22.2**	**+1.3**
	baz=289,SNR=6.2								
DLBC	**Dease Lake**		**88.64**	**31**	P		**P**	**10 47 22.9**	**+1.4**
	baz=287								
DLBC	**Dease Lake**		**88.64**	**31**	P		**P**	**10 47 22.6**	**+1.1**
	comp=Z,3.9nm,1.0s,baz=292,slow=5.4,SNR=7.5								
	comp=Z,3.9nm,1.0s								
V35K	**Ketchikan**		**88.69**	**34**	P		**P**	**10 47 22.9**	**+1.4**
	baz=286								
WTLY	**Watson Lake, Y**		**88.73**	**29**	IAmb		IAmb	10 47 24.5	
	comp=Z,12nm,0.8s								
WTLY	**Watson Lake, Y**		**88.73**	**29**	P		**P**	**10 47 23.3**	**+1.4**
	baz=288,SNR=5.5								
T35M	**Bob Quinn**		**88.95**	**32**	P		**P**	**10 47 24.4**	**+1.5**
	baz=287								
TESR	**Tescani**		**89.15**	**317**	⇓P		**P**	**10 47 23.2**	**-0.8**
VRI	**Vrincioaia**		**89.25**	**316**	⇑P		**P**	**10 47 24.3**	**-0.3**
VRI	**Vrincioaia**		**89.25**	**316**	P		**P**	**10 47 24.2**	**-0.3**
PLOR	**Plostina**		**89.30**	**316**	⇑P		**P**	**10 47 24.3**	**-0.6**
PLOR	**Plostina**		**89.30**	**316**	P		**P**	**10 47 24.2**	**-0.6**
SUW	**Suwalki**		**89.36**	**325**	*e*P		**P**	**10 47 23.8**	**-1.0**
TURR	**Turia**		**89.68**	**317**	⇑P		**P**	**10 47 25.2**	**-1.4**
VNDA	**Vanda**		**89.79**	**173**	P		**P**	**10 47 27.0**	**+0.7**
VNDA	**Vanda**		**89.79**	**173**	P		**P**	**10 47 27.0**	**+0.7**
VNDA					pmax		pmax		
	comp=Z,8.0nm,1.0s								
VNDA	**Vanda**		**89.79**	**173**	P		**P**	**10 47 26.4**	**+0.2**
	comp=Z,4.6nm,0.8s,baz=321,slow=6.8,SNR=12								
	comp=Z,4.6nm,0.8s								
BURAR	**Bucovina Array**		**89.83**	**318**	⇓P		**P**	**10 47 27.2**	**-0.1**
BURAR	**Bucovina Array**		**89.83**	**318**	P		**P**	**10 47 27.2**	**-0.1**
BURAR					IAmb		IAmb	10 47 28.6	
	comp=Z,14nm,0.8s								
BUR08	**Bucovina Ar. S**		**89.83**	**318**	IAmb		IAmb	10 47 28.3	
	comp=Z,12nm,0.8s								
MLR	**Muntele Rosu**		**89.87**	**316**	⇑P		**P**	**10 47 27.4**	**-0.2**
MLR	**Muntele Rosu**		**89.87**	**316**	IAmb		IAmb	10 48 17.0	
	comp=Z,20nm,1.5s								
LVV	**L'vov**		**90.01**	**321**	*e*P		**P**	**10 47 27.5**	**-0.5**
WRGLY	**Wrigley**		**90.03**	**25**	IAmb		IAmb	10 47 30.0	
	comp=Z,15nm,1.1s								
WRGLY	**Wrigley**		**90.03**	**25**	P		**P**	**10 47 29.0**	**+1.2**
	baz=293								
TOAD	**Toad River Com**		**90.87**	**30**	P		**P**	**10 47 32.0**	**+0.2**
	baz=291,SNR=8.3								
DAG	**Danmarks Havn**		**90.89**	**352**	*i* P		**P**	**10 47 30.0**	**-1.5**
DAG					IAmb		IAmb	10 47 32.2	
	comp=Z,11nm,0.8s								
KOTAN	**Kotaneelee Air**		**90.96**	**28**	P		**P**	**10 47 33.1**	**+0.9**
	baz=292								
CJR	**Cluj-Napoca**		**91.13**	**318**	⇑P		**P**	**10 47 32.9**	**-0.5**
CJR	**Cluj-Napoca**		**91.13**	**318**	P		**P**	**10 47 32.8**	**-0.5**
FLDN	**Fort Liard**		**91.18**	**28**	P		**P**	**10 47 34.0**	**+0.8**
	baz=293								
VIKU	**Vikbolandet**		**91.32**	**330**	*e*P		**P**	**10 47 32.6**	**-1.3**
MARR	**Marisel-Cluj**		**91.46**	**318**	⇑P		**P**	**10 47 34.1**	**-0.8**
DRGR			**91.69**	**318**	⇓P		**P**	**10 47 35.1**	**-0.9**
DRGR			**91.69**	**318**	P		**P**	**10 47 35.1**	**-0.9**
RES	**Resolute Bay**		**91.69**	**10**	P		**P**	**10 47 36.0**	**+0.7**
	comp=Z,13nm,0.8s,baz=311,slow=5.5,SNR=64								
	comp=Z,13nm,0.8s								
STHS	**Stebnicka Huta**		**91.86**	**321**	*e*P		**P**	**10 47 36.5**	**-0.1**
STHS					pmax		pmax		
	comp=Z,8.0nm,0.7s								
STHS	**Stebnicka Huta**		**91.86**	**321**	*e*P		**P**	**10 47 36.5**	**-0.1**
CRVS	**Cervenica-Dubn**		**91.88**	**320**	*e*P		**P**	**10 47 36.8**	**+0.1**
CRVS					pmax		pmax		
	comp=Z,48nm,1.1s								
CRVS	**Cervenica-Dubn**		**91.88**	**320**	*e*P		**P**	**10 47 36.8**	**+0.1**
GZR	**Gura Zlata**		**92.05**	**317**	⇑P		**P**	**10 47 37.3**	**-0.3**
GZR	**Gura Zlata**		**92.05**	**317**	P		**P**	**10 47 37.3**	**-0.3**
HFS	**Hagfors**		**92.10**	**332**	P		**P**	**10 47 35.8**	**-1.6**
	comp=Z,5.2nm,0.7s,baz=91,slow=5.8,SNR=25								
	comp=Z,5.2nm,0.7s								
SURR	**Surduc**		**92.38**	**317**	⇓P		**P**	**10 47 38.5**	**-0.6**
SIRR	**Siria**		**92.54**	**318**	⇑P		**P**	**10 47 39.1**	**-0.7**
NEEM	**North Greenlan**		**92.58**	**359**	*i* P		**P**	**10 47 39.5**	**-0.2**
NEEM					IAmb		IAmb	10 47 42.3	
	comp=Z,21nm,0.8s								
NB2	**NORSAR Subarra**		**92.81**	**334**	P		**P**	**10 47 38.8**	**-2.0**
	comp=Z,5.3nm,0.8s,baz=66,slow=4.6								
NB2	**NORSAR Subarra**		**92.81**	**334**	P		**P**	**10 47 38.8**	**-2.0**
	baz=66,slow=4.6								
NB2	**NORSAR Subarra**		**92.81**	**334**	P		**P**	**10 47 39.0**	**-1.8**
NOA	**NORSAR Array B**		**92.81**	**334**	P		**P**	**10 47 38.9**	**-2.0**
	comp=Z,1.8nm,0.6s,baz=64,slow=4.6,SNR=7.8								
	comp=Z,1.8nm,0.6s								
MDVR	**Moldovita**		**92.95**	**316**	⇑P		**P**	**10 47 41.0**	**-0.7**
DBG	**Daneborg**		**93.16**	**351**	*i* P		**P**	**10 47 41.4**	**-0.7**
DBG					IAmb		IAmb	10 47 43.3	
	comp=Z,10nm,0.9s								
PSZ	**Piszkesteto**		**93.18**	**320**	⇑P		**P**	**10 47 42.4**	**-0.5**
PSZ	**Piszkesteto**		**93.18**	**320**	P		**P**	**10 47 42.3**	**-0.5**
BSD	**Bornholm Skovb**		**93.52**	**328**	*i* P		**P**	**10 47 42.1**	**-1.9**
BSD					IAmb		IAmb	10 47 43.6	
	comp=Z,6.1nm,0.7s								
VYHS	**Vyhne**		**93.66**	**320**	*e*P		**P**	**10 47 43.9**	**-1.0**
VYHS	**Vyhne**		**93.66**	**320**	*e*P		**P**	**10 47 43.9**	**-1.0**
YKA	**Yellowknife Ar**		**93.99**	**24**	*i* P		**P**	**10 47 46.9**	**+0.8**
YKA					pmax		pmax		
	comp=Z,6.0nm,0.7s								
YKA	**Yellowknife Ar**		**93.99**	**24**	P		**P**	**10 47 46.8**	**+0.8**
	comp=Z,6.8nm,0.8s,baz=300,slow=4.9,SNR=96								
YKA					PKKPbc		**PKKPdf**	**11 04 47.5**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=117,slow=2.1,SNR=12								
	comp=Z,6.8nm,0.8s								
MORC	**Moravsky Berou**		**94.02**	**322**	*e*P		**P**	**10 47 45.9**	**-0.7**
FRGS	**Fruska Gora**		**94.11**	**317**	⇑P		**P**	**10 47 46.8**	**-0.3**
SRO	**Srobarova**		**94.22**	**320**	*e*P		**P**	**10 47 47.4**	**-0.1**
SRO	**Srobarova**		**94.22**	**320**	*e*P		**P**	**10 47 47.4**	**-0.1**
JAVC	**Velka Javorina**		**94.26**	**321**	*e*P		**P**	**10 47 48.2**	**+0.5**
VRAC	**Vranov**		**94.76**	**322**	⇓P		**P**	**10 47 49.6**	**-0.4**
VRAC	**Vranov**		**94.76**	**322**	*e*P		**P**	**10 47 49.8**	**-0.2**
VRAC	**Vranov**		**94.76**	**322**	P		**P**	**10 47 49.6**	**-0.4**
KULLO	**Kullorsuaq**		**95.45**	**1**	*i* P		**P**	**10 47 52.1**	**-0.5**
KULLO					IAmb		IAmb	10 47 54.5	
	comp=Z,16nm,0.9s								
CONA	**Conrad Observa**		**95.72**	**321**	*e*PcP		**P**	**10 47 53.8**	**-0.7**
	comp=Z,6.3nm,1.1s								
BRG	**Berggiesshubel**		**95.74**	**324**	*e*P		**P**	**10 47 54.7**	**+0.4**
BRG					pmax		pmax		
	comp=Z,5.0nm,1.0s								
BRG	**Berggiesshubel**		**95.74**	**324**	*e*P		**P**	**10 47 54.8**	**+0.4**
BRG					Amp			10 47 55.2	
	comp=Z,4.9nm,1.0s								
BRG					Amp			10 56 15.0	
	comp=Z,0.5nm,20.7s								
CLL	**Collm**		**96.11**	**324**	*i* P		**P**	**10 47 55.0**	**-1.0**
CLL					pmax		pmax		
	comp=Z,12nm,1.5s								
CLL	**Collm**		**96.11**	**324**	*e*P		**P**	**10 47 56.0**	**0.0**
	comp=Z,12nm,1.5s								
ZVC	**Zvikov**		**96.16**	**322**	*e*P		**P**	**10 47 56.2**	**-0.1**
CKRC	**Cesky Krumlov**		**96.33**	**322**	*e*P		**P**	**10 47 57.2**	**0.0**
CKRC	**Cesky Krumlov**		**96.33**	**322**	*e*P		**P**	**10 47 57.2**	**0.0**
KHC	**Kasperske Hory**		**96.65**	**322**	IAmb		IAmb	10 47 58.8	
	comp=Z,6.3nm,1.0s								
KHC	**Kasperske Hory**		**96.65**	**322**	*e*P		**P**	**10 47 58.3**	**-0.3**
GERES	**GERESS Array B**		**96.69**	**322**	P		**P**	**10 47 58.2**	**-0.6**
GERES	**GERESS Array B**		**96.69**	**322**	P		**P**	**10 47 58.1**	**-0.8**
	comp=Z,5.4nm,0.8s,baz=70,slow=6.4,SNR=15								
	comp=Z,5.4nm,0.8s								
SOKA	**Soboth**		**96.71**	**320**	*e*P		**P**	**10 47 58.0**	**-1.0**
	comp=Z,7.0nm,1.3s								
MOA	**Molln**		**96.74**	**321**	*e*PcP		**P**	**10 47 58.5**	**-0.6**
	comp=Z,14nm,0.7s								
BRLDA	**Berland Lookou**		**96.79**	**32**	IAmb		IAmb	10 48 03.2	
	comp=Z,8.5nm,0.8s								
BIOA	**Bad Ischl, Aus**		**97.19**	**321**	*e*PcP		**P**	**10 48 00.4**	**-0.7**
	comp=Z,11nm,1.1s								
UPNV	**Upernavik**		**97.27**	**1**	*i* P		**P**	**10 48 00.2**	**-0.7**
UPNV					IAmb		IAmb	10 48 04.5	
	comp=Z,6.3nm,0.7s								
KBA	**Koelnbreinsper**		**97.62**	**321**	*e*P		**P**	**10 48 01.8**	**-1.4**
	comp=Z,6.8nm,0.9s								
LESA	**Schwarzleotal**		**97.90**	**321**	*e*P		**P**	**10 48 03.3**	**-1.1**
	comp=Z,6.8nm,0.7s								
ABTA	**Abfaltersbach**		**98.28**	**320**	*e*PcP		**P**	**10 48 04.2**	**-1.9**
	comp=Z,4.0nm,0.8s								
STAL	**STALIGIAL**		**98.35**	**320**	IAmb		IAmb	10 50 41.8	
	comp=Z,12nm,1.0s								
WTTA	**Wattenberg**		**98.61**	**321**	*e*Pdiff		**P**	**10 48 06.6**	**-1.1**
	comp=Z,11nm,0.7s								
WATA	**Walderalm**		**98.61**	**321**	*e*Pdiff		**P**	**10 48 06.5**	**-1.1**
	comp=Z,8.5nm,0.9s								
SQTA	**Sankt Quirin**		**98.89**	**321**	*e*Pdiff		**P**	**10 48 07.9**	**-0.9**
	comp=Z,10nm,0.8s								
MOTA	**Moosalm**		**98.90**	**321**	*e*Pdiff		**P**	**10 48 07.9**	**-1.0**
	comp=Z,4.8nm,0.7s								
FETA	**Feichten**		**99.27**	**321**	*e*Pdiff		**Pdif**	**10 48 09.8**	**-0.8**
	comp=Z,7.6nm,0.9s								
NEW	**Newport**		**99.62**	**37**	P		**Pdif**	**10 48 11.8**	**-0.1**
	baz=297								
FUORN	**Ofenpass-Fuorn**		**99.73**	**321**	IAmb		IAmb	10 48 13.5	
	comp=Z,6.9nm,0.8s								
QSPA	**South Pole Qui**		**99.97**	**180**	P		**Pdif**	**10 48 13.5**	**+0.4**
	comp=Z,2.4nm,1.0s,baz=330,slow=0.8,SNR=3.9								
	comp=Z,2.4nm,1.0s								
EKA	**Eskdalemuir Ar**		**102.28**	**333**	P		**Pdif**	**10 48 22.6**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=66,slow=1.7,SNR=3.6								
NVAR	**Mina Array Bea**		**103.10**	**47**	Pdiff		**Pdif**	**10 48 29.3**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=270,slow=3.6,SNR=3.7								
NVAR					PKKPbc		**PKKPbc**	**11 04 21.9**	**-3.0**
	comp=Z,0.8nm,0.7s,baz=113,slow=2.1,SNR=5.8								
PKM	**Mcpherson Peak**		**103.39**	**50**	P		**Pdif**	**10 48 28.8**	**-0.4**
	baz=293								
HLID	**Hailey**		**103.48**	**41**	P		**Pdif**	**10 48 28.8**	**-0.6**
	baz=298								
PDAR	**Pinedale Array**		**106.95**	**39**	PKKPbc		PKKPbc	11 04 11.2	-2.2
	comp=Z,0.5nm,0.8s,baz=120,slow=5.3,SNR=5.0								
PDAR					PKKPab		PKKPab	11 04 28.4	-0.6
	comp=Z,0.4nm,0.8s,baz=101,slow=4.8,SNR=3.8								
ANMO	**Albuquerque**		**113.13**	**45**	P		**PKiKP**	**10 53 04.7**	**-1.7**
	baz=302								
EYMN	**Ely**		**113.31**	**27**	P		**PKiKP**	**10 53 04.7**	**-1.4**
	baz=319								
BGNE	**Belgrade**		**114.58**	**35**	P		**PKiKP**	**10 53 07.1**	**-1.7**
	baz=311								
CBKS	**Cedar Bluff**		**115.31**	**38**	P		**PKiKP**	**10 53 08.3**	**-1.9**
	baz=309								
MNTX	**Cornudas Mount**		**115.59**	**48**	P		**PKiKP**	**10 53 08.9**	**-2.1**
	baz=302								
MSTX	**Muleshoe**		**116.21**	**44**	P		**PKPdf**	**10 53 09.9**	**-2.4**
	baz=304								
AMTX	**Amarillo**		**116.43**	**43**	P		**PKPdf**	**10 53 11.4**	**-1.2**
	baz=306								
KSU1	**Kansas State U**		**116.99**	**36**	P		**PKPdf**	**10 53 11.5**	**-1.9**
	baz=312								
JFWS	**Jewell Farm**		**117.69**	**29**	P		**PKPdf**	**10 53 12.7**	**-1.9**
	baz=312								
TXAR	**Lajitas Array**		**118.09**	**49**	PKP		**PKPdf**	**10 53 16.0**	**0.0**
	comp=Z,1.1nm,0.8s,baz=236,slow=1.0,SNR=12								
WMOK	**Wichita Mounta**		**118.43**	**41**	P		**PKPdf**	**10 53 14.8**	**-1.6**
	baz=308								
ABTX	**Abilene, Hawle**		**119.13**	**44**	P		**PKPdf**	**10 53 17.1**	**-0.7**
	baz=306								
TUL3	**Leonard**		**119.58**	**39**	P		**PKPdf**	**10 53 16.6**	**-1.9**
	baz=311								
S39A	**Bolivar**		**119.84**	**35**	PKPdf		**PKPdf**	**10 53 19.2**	**+0.3**
HDIL	**Hopedale**		**119.93**	**31**	P		**PKPdf**	**10 53 18.2**	**-0.8**
	baz=319								
U38A	**Gravette**		**120.08**	**37**			**PKPdf**	**10 53 19.3**	**-0.2**
TORD	**Torodi Ar. Bea**		**120.14**	**292**	PKP		**PKPdf**	**10 53 18.9**	**-1.2**
	comp=Z,4.9nm,0.8s,baz=61,slow=3.3,SNR=20								
JCT	**Junction City**		**120.26**	**46**			**PKPdf**	**10 53 20.4**	**+0.4**
JCT	**Junction City**		**120.26**	**46**	P		**PKPdf**	**10 53 19.3**	**-0.7**
	baz=305								
JCT	**Junction City**		**120.26**	**46**	PKIKP		**PKPdf**	**10 53 20.4**	**+0.4**
CCM	**Cathedral Cave**		**120.75**	**34**	P		**PKPdf**	**10 53 20.5**	**-0.2**
	baz=316								
WHTX	**Lake Whitney,**		**120.99**	**43**	P		**PKPdf**	**10 53 21.2**	**-0.1**
	baz=308								
833A	**Chaparral WMA,**		**121.78**	**48**	P		**PKPdf**	**10 53 22.4**	**-0.6**
	baz=305								
MIAR	**Mount Ida**		**121.84**	**38**	P		**PKPdf**	**10 53 22.4**	**-0.5**
	baz=313								
M53A	**WI Miller and**		**123.11**	**24**	P		**PKPdf**	**10 53 24.6**	**-0.6**
	baz=328								
ACSO	**Alum Creek Sta**		**123.16**	**26**	P		**PKPdf**	**10 53 24.1**	**-1.1**
	baz=325								
PKME	**Peaks-Kenny Pk**		**123.17**	**13**	P		**PKPdf**	**10 53 24.6**	**-0.5**
	baz=342								
WCI	**Wyandotte Cave**		**123.21**	**30**	P		**PKPdf**	**10 53 24.7**	**-0.7**
	baz=321								
LBNH	**Lisbon**		**123.50**	**15**	P		**PKPdf**	**10 53 25.1**	**-0.7**
	baz=339								
O53A	**New Philadelph**		**123.89**	**25**	P		**PKPdf**	**10 53 26.4**	**-0.3**
	baz=327								
WVT	**Waverly**		**124.01**	**33**	PKPdf		**PKPdf**	**10 53 27.6**	**+0.6**
WVT	**Waverly**		**124.01**	**33**	P		**PKPdf**	**10 53 25.9**	**-1.1**
	baz=319								
WVT	**Waverly**		**124.01**	**33**	PKIKP		**PKPdf**	**10 53 27.6**	**+0.6**
P52A	**Corning**		**124.02**	**26**	P		**PKPdf**	**10 53 25.9**	**-1.0**
	baz=326								
BINY	**Binghamton**		**124.16**	**20**	P		**PKPdf**	**10 53 26.1**	**-1.1**
	baz=334								
OXF	**Oxford**		**124.33**	**35**	P		**PKPdf**	**10 53 26.2**	**-1.5**
	baz=316								
PLAL	**Pickwick Lake**		**124.73**	**34**	PKPdf		**PKPdf**	**10 53 28.8**	**+0.4**
T50A	**Nancy**		**124.87**	**30**	PKPdf		**PKPdf**	**10 53 29.2**	**+0.5**
SSPA	**Standing Stone**		**124.87**	**22**	P		**PKPdf**	**10 53 27.4**	**-1.2**
	baz=331								
L61B	**Northampton**		**124.95**	**17**	P		**PKPdf**	**10 53 27.6**	**-1.0**
	baz=338								
HRV	**Adam Dziewonsk**		**125.21**	**16**	P		**PKPdf**	**10 53 28.4**	**-0.7**
	baz=339								
TZTN	**Tazewell**		**125.88**	**29**	P		**PKPdf**	**10 53 29.6**	**-1.0**
	baz=323								
PAL	**Palisades**		**125.91**	**19**	P		**PKPdf**	**10 53 29.2**	**-1.3**
	baz=336								
BLA	**Blacksburg**		**126.78**	**26**	P		**PKPdf**	**10 53 31.9**	**-0.4**
	baz=327								
KMSC	**Kings Mountain**		**128.07**	**29**	P		**PKPdf**	**10 53 34.7**	**-0.1**
	baz=325								
KIC	**Kosan Boka**		**128.34**	**286**	⇑*e*PKP1		**PKPdf**	**10 53 36.0**	**+0.1**
	comp=Z,28nm,0.9s								
DBIC	**Dimbokro**		**128.35**	**287**	PKP		**PKPdf**	**10 53 35.9**	**0.0**
	comp=Z,11nm,1.0s,baz=30,slow=5.0,SNR=5.9								
GOGA	**Godfrey**		**128.40**	**32**	P		**PKPdf**	**10 53 35.3**	**-0.2**
	baz=322								
TIC	**Toumodi**		**128.52**	**287**	⇑*e*PKP1		**PKPdf**	**10 53 35.7**	**-0.5**
	comp=Z,9.5nm,0.8s								
LIC	**Lamto**		**128.65**	**286**	⇑*e*PKP1		**PKPdf**	**10 53 36.5**	**0.0**
	comp=Z,34nm,0.9s								
TIGA	**Tifton**		**129.86**	**33**	P		**PKPdf**	**10 53 38.5**	**+0.2**
	baz=321								
PLCA	**Paso Flores**		**146.14**	**157**	PKPbc		**PKPbc**	**10 54 09.4**	**+0.6**
	comp=Z,9.4nm,0.7s,baz=205,slow=7.2,SNR=22								
GO06	**Curarrehue**		**146.75**	**155**			**PKPbc**	**10 54 11.7**	**+1.0**
GCPR	**Guaynabo City**		**149.33**	**23**			**PKPab**	**10 54 23.4**	**+0.9**
CELP	**Cerrillos**		**149.34**	**24**			**PKPbc**	**10 54 18.6**	**+0.5**
OBIP	**Obispado Ponce**		**149.36**	**24**			**PKPbc**	**10 54 17.8**	**-0.3**
LMEL	**Las Melosas**		**152.05**	**150**			**PKPab**	**10 54 33.6**	**0.0**
MCRA	**Macar, Loja**		**153.58**	**79**			**PKPbc**	**10 54 28.7**	**+0.6**
CPUP	**Villa Florida**		**163.55**	**169**	PKPab		**PKPab**	**10 55 23.6**	**+0.5**
	comp=Z,3.3nm,0.9s,baz=166,slow=7.9,SNR=5.1								
LPAZ	**La Paz**		**164.88**	**115**	PKP		**PKPdf**	**10 54 34.6**	**+0.6**
	comp=Z,3.4nm,1.0s,baz=225,slow=2.9,SNR=9.1								
LPAZ					PKPab		**PKPab**	**10 55 30.4**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=252,slow=4.2,SNR=1.7								
ETMB	**Extrema**		**167.91**	**90**			**PKPdf**	**10 54 35.2**	**-0.5**
SAML	**Samuel**		**170.81**	**84**	*e*P		**PKPdf**	**10 54 39.6**	**+2.2**

*SJA **24** 10:37:20.6±0.8,32°.34S×72°.15W,h45km±17km,ML3.8, MW3.9*
*GUC **24** 10:37:22.4±0.8,32°.36S×71°.84W,h31km±3km,ML3.8*

ISC 24 10:37:17.9±1.4,**32°.37S**±0°.02×**72°.04W**±0°.05,**h2**km±10km,
n41,σ1ᵗ78/81,2C-2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.65**	**107**	⇓*i*P	**Pb**	**10 37 32.4**	**+0.4**
VA06				*e*S	**Sg**	**10 37 39.7**	**+0.8**
VA06				IAML		10 37 40.4	
	comp=E,11μm,0.3s						
ROCH	**El Roble**	**1.05**	**125**	*i* P	**Pn**	**10 37 39.3**	**-0.6**
ROCH				*e*S	**Sg**	**10 37 51.8**	**+0.1**
VA03	**San Esteban**	**1.31**	**108**	*e*P	**Sn**	**10 37 58.4**	**-3.2**
VA03	**San Esteban**	**1.31**	**108**	*e*P	**Pn**	**10 37 42.7**	**-0.7**
VA03				*i* S	**Sb**	**10 37 58.0**	**-2.8**
VA03				IAML		10 38 00.8	
	comp=N,9μm,0.3s						
VA05	**Santo Domingo**	**1.33**	**165**	*e*P	**Pg**	**10 37 44.9**	**+1.4**
VA05				*i* S	**Sg**	**10 38 02.0**	**+1.3**
VA05				IAML		10 38 12.3	
	comp=E,2μm,0.3s						
PEL	**Peldehue**	**1.37**	**124**	*e*P	**Sn**	**10 38 02.6**	**-0.4**
PEL	**Peldehue**	**1.37**	**124**	*e*P	**Pb**	**10 37 44.5**	**+0.1**
PEL				*e*S	**Sn**	**10 38 01.1**	**-1.9**
CO02	**Combarbal**	**1.46**	**37**	*e*P	**Pg**	**10 37 48.2**	**+2.3**
CO02				*e*S	**Sn**	**10 38 04.5**	**-0.7**
CO02				IAML		10 38 05.0	
	comp=Z,2μm,0.3s						
CO02	**Combarbal**	**1.46**	**37**	⇓*i*P	**Pb**	**10 37 45.6**	**-0.3**
CO02				*e*S	**Sn**	**10 38 03.4**	**-1.8**
MT05	**Renca**	**1.49**	**133**	*e*P	**Pg**	**10 37 48.1**	**+1.6**
MT05				*e*S	**Sb**	**10 38 06.4**	**+0.5**
MT05				IAML		10 38 08.8	
	comp=Z,1μm,0.3s						
MT05	**Renca**	**1.49**	**133**	*e*P	**Pg**	**10 37 46.8**	**+0.3**
MT05				*i* S	**Sn**	**10 38 04.7**	**-1.2**
MT05				IAML		10 38 09.1	
	comp=E,3μm,0.3s						
MT10	**Hacienda Santa**	**1.55**	**126**	*e*P	**Pb**	**10 37 47.2**	**-0.2**
MT10				*i* S	**Sn**	**10 38 05.9**	**-1.6**
MT10				IAML		10 38 09.9	
	comp=N,3μm,0.5s						
MT14	**Cerro Cal¡n**	**1.62**	**129**	*e*P	**Pb**	**10 37 48.6**	**-0.1**
MT14				*i* S	**Sn**	**10 38 08.2**	**-1.0**
MT14				IAML		10 38 13.3	
	comp=N,2μm,0.3s						
MT01	**Popeta**	**1.63**	**156**	*e*P	**Pg**	**10 37 49.0**	**-0.1**
MT01				*i* S	**Sb**	**10 38 08.9**	**-0.8**
MT09	**Talagante**	**1.65**	**148**	*e*P	**Pg**	**10 37 49.9**	**+0.3**
MT09				*e*S	**Sb**	**10 38 10.4**	**-0.2**
MT09				IAML		10 38 15.2	
	comp=N,2μm,0.1s						
MT03	**Universidad Ad**	**1.70**	**132**	*e*P	**Pb**	**10 37 49.8**	**-0.2**
MT03				*e*S	**Sb**	**10 38 12.9**	**+1.0**
MT03				IAML		10 38 14.8	
	comp=Z,1μm,0.2s						
MT03	**Universidad Ad**	**1.70**	**132**	*e*P	**Pb**	**10 37 49.6**	**-0.4**
MT03				*i* S	**Sn**	**10 38 10.6**	**-0.6**
MT03				IAML		10 38 14.2	
	comp=E,2μm,0.2s						
CO06	**Fray Jorge**	**1.73**	**12**	⇑*i*P	**Pb**	**10 37 49.2**	**-1.2**
CO06				*e*S	**Sg**	**10 38 13.8**	**+0.3**
MT15	**Las Vizcachas**	**1.77**	**134**	*e*P	**Pb**	**10 37 51.1**	**-0.1**
MT15				*e*S	**Sb**	**10 38 13.9**	**0.0**
MT15				IAML		10 38 19.2	
	comp=E,2μm,0.1s						
MT04	**Ro Olivares**	**1.90**	**123**	*e*P	**Pn**	**10 37 51.9**	**+0.3**
MT04				*i* S	**Sn**	**10 38 15.7**	**-0.6**
CO03	**El Pedregal**	**1.91**	**37**	*e*P	**Pb**	**10 37 52.7**	**-0.9**
CO03				*e*S	**Sn**	**10 38 11.5**	**-4.8**
CO03				*e*S	**Sb**	**10 38 16.9**	**-1.1**
CO03				IAML		10 38 20.3	
	comp=Z,615nm,0.8s						
CO03	**El Pedregal**	**1.91**	**37**	*e*P	**Pb**	**10 37 52.7**	**-0.9**

QSPA	**South Pole Qui**	**39.82**	**180**	P	**P**	**11 14 36.3**	**+0.9**
QSPA				IAmb	IAmb	11 15 02.2	
	comp=Z,8.0nm,1.3s						
QSPA	**South Pole Qui**	**39.82**	**180**	P	**P**	**11 14 36.0**	**+0.5**
	comp=Z,3.2nm,0.9s,baz=333,slow=3.5,SNR=10						
	comp=Z,3.2nm,0.9s						
RTZ	**Ruatahuna**	**45.03**	**100**	P	**P**	**11 15 19.1**	**+1.0**
SNAA	**Sanae**	**50.52**	**201**	P	**P**	**11 16 00.2**	**0.0**
SNAA	**Sanae**	**50.52**	**201**	P	**P**	**11 16 00.9**	**+0.7**
	comp=Z,3.1nm,0.9s,baz=152,slow=17,SNR=2.1						
	comp=Z,3.1nm,0.9s						
BELA	**Belgrano 2**	**50.65**	**188**	P	**P**	**11 16 01.7**	**+0.7**
BELA				IAmb	IAmb	11 16 03.1	
	comp=Z,6.4nm,0.8s						
H08S2	**Diego Garcia H**	**54.84**	**306**	T	T	12 15 29.5	
	baz=148,slow=76,SNR=14						
H08S1	**Diego Garcia H**	**54.84**	**306**	T	T	12 15 32.4	
	baz=148,slow=76,SNR=12						
H08S3	**Diego Garcia H**	**54.85**	**306**	T	T	12 15 31.4	
	baz=148,slow=76,SNR=14						
CMAR	**Chiang Mai Arr**	**69.78**	**345**	P	**P**	**11 18 12.7**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=196,slow=6.4,SNR=5.0						
	comp=Z,0.5nm,0.5s						
TXAR	**Lajitas Array**	**144.69**	**112**	PKP	**PKPdf**	**11 26 38.3**	**-0.8**
	comp=Z,1.1nm,0.9s,baz=224,slow=2.5,SNR=10						
PDAR	**Pinedale Array**	**149.34**	**87**	PKPbc	**PKiKP**	**11 26 51.5**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=247,slow=1.9,SNR=4.9						
YKA	**Yellowknife Ar**	**151.13**	**46**	PKPbc	**PKPbc**	**11 26 54.2**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=286,slow=1.9,SNR=19						
YKA				PKPab	**PKPab**	**11 27 01.4**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=287,slow=2.1,SNR=9.4						

*IDC **24** 11:11:43.7±1.1,50.˚38S×114.˚28E,h0km,mb4.2/7, mbtmp4.2/7,Error ellipse: s-maj=54.2km s-min=20.4km az=114.0*
*NEIC **24** 11:11:45.1±0.3,50.˚2S±0.˚1×113.˚9E±0.˚3,h10km±1km, mb4.4/12,Error ellipse: s-maj=34.4km s-min=15.8km az=120.0*

ISC 24 11:11:45.0±0.8,50.˚3S±0.˚1×114.˚1E±0.˚2,h10km,n29, σ0s71/24,mb4.5/10,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.34**	**0**	T	T	11 31 08.8	
	baz=180,slow=74,SNR=113						
H01W1	**Cape Leeuwin H**	**15.35**	**0**	T	T	11 31 09.0	
	baz=180,slow=74,SNR=148						
H01W3	**Cape Leeuwin H**	**15.36**	**0**	T	T	11 31 10.2	
	baz=180,slow=74,SNR=125						
NWAO	**Narrogin (SRO)**	**17.46**	**9**	Pn	**Pn**	**11 15 47.7**	**-0.9**
NWAO				IAmb	IAmb	11 16 25.5	
	comp=Z,32nm,1.4s						
STKA	**Stephens Creek**	**27.43**	**58**	P	**P**	**11 17 31.4**	**+0.5**
STKA	**Stephens Creek**	**27.43**	**58**	P	**P**	**11 17 31.4**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=185,slow=12,SNR=1.8						
	comp=Z,1.4nm,0.7s						
ASAR	**Alice Springs**	**30.69**	**37**	P	**P**	**11 17 60.0**	**+0.1**
ASAR	**Alice Springs**	**30.69**	**37**	P	**P**	**11 18 00.9**	**+1.0**
	comp=Z,4.1nm,0.6s,baz=207,slow=8.0,SNR=59						
	comp=Z,4.1nm,0.6s						
AS31	**Alice Springs**	**30.69**	**37**	P	**P**	**11 17 60.0**	**0.0**
AS31				IAmb	IAmb	11 18 01.3	
	comp=Z,2.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**33.38**	**20**	P	**P**	**11 18 24.8**	**+1.4**
WRA	**Warramunga Arr**	**34.24**	**35**	P	**P**	**11 18 31.5**	**+0.6**
WRA	**Warramunga Arr**	**34.24**	**35**	P	**P**	**11 18 31.6**	**+0.6**
	comp=Z,5.5nm,0.7s,baz=203,slow=9.1,SNR=22						
	comp=Z,5.5nm,0.7s						
WB2	**Warramunga Arr**	**34.24**	**35**	P	**P**	**11 18 30.9**	**-0.1**
WR0	**Warramunga Arr**	**34.30**	**36**	P	**P**	**11 18 31.6**	**+0.1**
WB0	**Warramunga Arr**	**34.42**	**35**	P	**P**	**11 18 32.4**	**-0.1**
WB0				IAmb	IAmb	11 18 58.9	
	comp=Z,7.7nm,0.9s						
CTAO	**Charters Tower**	**39.40**	**52**	P	**P**	**11 19 15.1**	**+0.2**
QSPA	**South Pole Qui**	**39.88**	**180**	P	**P**	**11 19 17.8**	**-0.9**
QSPA				IAmb	IAmb	11 19 21.6	
	comp=Z,6.6nm,1.1s						
QSPA	**South Pole Qui**	**39.88**	**180**	P	**P**	**11 19 17.3**	**-1.3**
	comp=Z,2.6nm,0.8s,baz=324,slow=1.7,SNR=5.0						
	comp=Z,2.6nm,0.8s						
PMG	**Port Moresby**	**49.04**	**45**	P	**P**	**11 20 31.6**	**-0.6**
	comp=Z,1.6nm,0.3s,baz=198,slow=20,SNR=1.6						
	comp=Z,1.6nm,0.3s						
SNAA	**Sanae**	**50.56**	**201**	P	**P**	**11 20 43.5**	**+0.3**
SNAA				IAmb	IAmb	11 20 46.1	
	comp=Z,9.8nm,1.2s						
SNAA	**Sanae**	**50.56**	**201**	P	**P**	**11 20 43.2**	**0.0**
	comp=Z,3.8nm,0.9s,baz=131,slow=20,SNR=3.0						
	comp=Z,3.8nm,0.9s						
BELA	**Belgrano 2**	**50.70**	**188**	P	**P**	**11 20 45.2**	**+1.1**
BELA				IAmb	IAmb	11 20 51.5	
	comp=Z,5.4nm,0.8s						
H08S2	**Diego Garcia H**	**54.76**	**306**	T	T	12 20 11.5	
	baz=148,slow=76,SNR=13						
H08S1	**Diego Garcia H**	**54.77**	**306**	T	T	12 20 11.9	
	baz=148,slow=76,SNR=8.0						
H08S3	**Diego Garcia H**	**54.78**	**306**	T	T	12 20 13.1	
	baz=148,slow=76,SNR=13						
CMAR	**Chiang Mai Arr**	**69.71**	**345**	P	**P**	**11 22 54.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**69.71**	**345**	P	**P**	**11 22 56.0**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=176,slow=3.6,SNR=1.7						
	comp=Z,0.5nm,0.5s						
TXAR	**Lajitas Array**	**144.75**	**112**	PKP	**PKPdf**	**11 31 21.7**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=203,slow=3.7,SNR=9.3						
YKA	**Yellowknife Ar**	**151.12**	**46**	PKPbc	**PKiKP**	**11 31 37.3**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=285,slow=2.2,SNR=16						
YKA				PKPab	**PKPab**	**11 31 44.6**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=284,slow=2.5,SNR=8.9						

*TEH **24** 11:14:26.1,27.˚53N×56.˚78E,h16km±21km,ML3.3*
*OMAN **24** 11:14:27.6±1.0,27.˚56N×56.˚75E,h10km,ml3.0/9,Error ellipse: s-maj=8.9km s-min=7.3km az=158.0*

ISC 24 11:14:27.1±1.1,27.˚56N±0.˚04×56.˚80E±0.˚05,h10km,n23, σ0s73/27,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBND	**Bandar-abas**	**0.25**	**244**	Pg	**Pg**	**11 14 31.5**	**-0.7**
GENO	**Geno**	**0.58**	**254**	Pg	**Pg**	**11 14 37.1**	**-1.2**
KHNJ	**Kahnooj**	**0.89**	**64**	Pg	**Pg**	**11 14 43.4**	**-1.0**
SHME	**Shamm**	**1.61**	**201**	P	**Pn**	**11 14 56.3**	**+0.7**
SHME				S	**Sg**	**11 15 18.8**	**-0.2**
BANOM	**Banah**	**1.69**	**195**	P	**Pn**	**11 14 56.7**	**0.0**
BANOM				S	**Sn**	**11 15 18.9**	**+0.5**
JASK	**Jask - Hormozg**	**1.94**	**150**	Pn	**Pn**	**11 15 00.1**	**0.0**
JASK	**Jask - Hormozg**	**1.94**	**150**	P	**Pn**	**11 15 00.4**	**+0.3**
JASK				S	**Sb**	**11 15 27.3**	**+0.5**
NGRK	**Negar Kerman**	**2.08**	**358**	Pn	**Pn**	**11 15 02.5**	**+0.1**
KBAM	**BAM**	**2.14**	**43**	Pn	**Pn**	**11 15 03.7**	**+0.6**
MASF	**Masafi**	**2.25**	**195**	P	**Pn**	**11 15 04.8**	**+0.3**
MDH	**Madha**	**2.29**	**191**	P	**Pn**	**11 15 05.1**	**+0.1**
MDH				S	**Sn**	**11 15 33.7**	**+0.4**
CHMN	**Cheshme madani**	**2.38**	**16**	Pn	**Pn**	**11 15 07.8**	**+1.2**
TVBK	**TV Kerman**	**2.42**	**359**	Pn	**Pn**	**11 15 07.6**	**+0.6**
UOSS	**Minazif**	**2.66**	**192**	P	**Pn**	**11 15 11.6**	**+1.6**
HATD	**Hatta, Dubai**	**2.79**	**193**	P	**Pn**	**11 15 12.7**	**+0.9**
KHGB	**Koh Gabri**	**2.82**	**354**	Pn	**Pn**	**11 15 13.0**	**+0.5**
ASHO	**Ashiyiah**	**2.94**	**193**	P	**Pn**	**11 15 14.6**	**+0.7**
ASUD	**Al Ashush, Dub**	**3.21**	**205**	P	**Pn**	**11 15 18.7**	**+1.2**
	SNR=6.0						
CHBR	**Chabahar**	**3.84**	**120**	Pn	**Pn**	**11 15 26.4**	**+0.2**
ARQ	**Araqi**	**4.21**	**183**	P	**Pn**	**11 15 31.7**	**+0.3**
WBK	**Wadi Bani Khal**	**5.31**	**158**	Pn	**Pn**	**11 15 46.0**	**-0.5**
WBK	**Wadi Bani Khal**	**5.31**	**158**	P	**Pn**	**11 15 46.1**	**-0.3**
	SNR=6.6						
KLNJ	**Kolanjah**	**5.70**	**308**	Pn	**Pn**	**11 15 52.1**	**0.0**

*MOS **24** 11:23:31.3±1.3,5.˚37S×151.˚39E,h41km,mb6.1/58, MS6.2/54,Error ellipse: s-maj=7.2km s-min=4.6km az=109.4*
*NEIC **24** 11:23:32.0±1.9,5.˚50S±0.˚07×151.˚50E±0.˚06,h33km±1km, mb5.8/204,Ms_20 6.4/1183,Mwb6.2/35,Mww6.3/42,Error ellipse: s-maj=11.7km s-min=10.1km az=213.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr3.00; Mθθ-2.00; Mφφ-0.99; Mrθ0.25; Mθφ-0.46; Mrφ0.06; Fault plane solution: M₀2.69000×10¹⁸ NP1: φs248.59000°,δ42.19000°,λ89.36000°. NP2:φs69.46000°, δ47.81000°,λ90.58000°. Principal axes: T 3.0088, Plg87.0000°, Azm348.0000°; N -0.8176, Plg0.0000°, Azm249.0000°; P -2.1911, Plg3.0000°, Azm159.0000°;*
*BJI **24** 11:23:32.0±0.9,5.˚30S×151.˚45E,h40km,mb5.9/96, mB6.2/82,Ms6.3/99,Ms7 6.3/95*
*NEIC **24** 11:23:32.3,5.˚49S×151.˚48E,h35km*
*IDC **24** 11:23:33.6±0.9,5.˚53S×151.˚53E,h53km±7km,mb5.5/27, mbtmp5.7/28,MS6.1/56,Error ellipse: s-maj=10.7km s-min=6.6km az=81.0*
*IPGP **24** 11:23:35.0,5.˚61S×151.˚42E,h39km,Mw6.4,Fault plane solution: NP1:φs70.00000°,δ50.00000°,λ97.00000°. NP2:φs238.00000°,δ41.00000°,λ81.00000°.*
*DJA **24** 11:23:35.0±0.4,6.˚S±2.˚×15.˚1E±.˚,h65km±4km,M6.2/114, mb6.0/114,mB6.5/105,MLv6.9/1,Mw6.3/138, Mw(mB)6.3/105,MwMwp6.1/97,Mwp6.1/97*
*NEIC **24** 11:23:36,5.˚51S×151.˚42E,h40km,Moment Tensor Solution. Duration: 5s9 Moment tensor: Scale 10¹⁸Nm; Mrr4.08; Mθθ-3.28; Mφφ-0.81; Mrθ0.02; Mθφ-1.88; Mφr0.15; Fault plane solution: M₀4.19000×10¹⁸ NP1:φs59.90000°, δ45.66000°,λ87.53000°. NP2:φs243.43000°,δ44.39000°, λ92.52000°. Principal axes: T 4.0883, Plg88.0000°, Azm261.0000°; N 0.2035, Plg2.0000°, Azm62.0000°; P -4.2918, Plg1.0000°, Azm152.0000°;*
*NEIC **24** 11:23:36,5.˚61S×151.˚42E,h40km*
*GCMT **24** 11:23:37.0±0.1,5.˚74S×151.˚48E,h41km,MW6.3/182, Moment Tensor Solution. s177,c417; s182,c691; Duration: 3s7 Moment tensor: Scale 10¹⁸Nm; Mrr4.02±.02; Mθθ-3.31±.02; Mφφ-0.71±.02; Mrθ0.21±.02; Mθφ-2.02±.01; Mφr0.00±.02; Best double couple: M₀4.22200×10¹⁸ NP1:φs63.00000°,δ46.00000°, λ92.00000°. NP2:φs240.00000°,δ44.00000°,λ88.00000°. Principal axes: T 4.0260, Plg88.0000°, Azm22.0000°; N 0.3880, Plg2.0000°, Azm241.0000°; P -4.4170, Plg1.0000°, Azm151.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 24 11:23:32.8±0.3,5.˚50S±0.˚03×151.˚40E±0.˚03,h47km±2km, h48km:pP-P,n2573,σ1s49/2654,mb5.8/272,MS6.4/697, 210C-43D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I40PG	**Keravat**	**1.34**	**27**	P	**Pn**	**11 23 56.2**	**+1.0**
	baz=206,slow=27,SNR=2.1						
I40PG				I	I	11 26 50.0	
	0.1nm,0.6s,baz=218,slow=302,SNR=1.2						
MANU	**Manus Island**	**5.29**	**310**	P	Pn	11 24 56.5	+7.2
MANU	**Manus Island**	**5.29**	**310**		**Pn**	**11 24 53.4**	**+4.0**
MANU	**Manus Island**	**5.29**	**310**	⇓P	**Pn**	**11 24 53.8**	**+4.5**
PMG	**Port Moresby**	**5.72**	**227**		**Pn**	**11 24 58.5**	**+3.3**
PMG	**Port Moresby**	**5.72**	**227**	P	**Pn**	**11 24 57.6**	**+2.4**
	10μm,1.0s,baz=42,slow=15,SNR=358						
PMG				S	**Sn**	**11 26 02.3**	**+2.7**
	9μm,0.3s,baz=45,slow=20,SNR=55						
PMG				LR	LR	11 27 03.4	
	comp=Z,109μm,21.9s,baz=32,slow=36						
HNR	**Honiara**	**9.33**	**115**	P	**Pn**	**11 25 48.0**	**+3.2**
HNR	**Honiara**	**9.33**	**115**	Pn	**Pn**	**11 25 43.0**	**-1.8**
HNR	**Honiara**	**9.33**	**115**	⇓P	**Pn**	**11 25 44.3**	**-0.5**
HNR	**Honiara**	**9.33**	**115**	P	**Pn**	**11 25 44.3**	**-0.5**
	7μm,0.4s,baz=301,slow=16,SNR=11						
HNR				S	**Sn**	**11 27 30.3**	**+1.8**
	6μm,0.9s,baz=233,slow=20,SNR=0.8						
JAY	**Jayapura**	**11.07**	**285**	P	**Pn**	**11 26 12.2**	**+3.6**
GENI	**Genyem**	**11.57**	**284**	⇑P	**Pn**	**11 26 18.1**	**+2.7**
GENI	**Genyem**	**11.57**	**284**	P	**Pn**	**11 26 19.1**	**+3.7**
	2μm,1.6s,142μm126μm						
COEN	**Coen**	**11.67**	**223**	P	**Pn**	**11 26 16.8**	**0.0**
	baz=12,SNR=22						
COEN	**Coen**	**11.67**	**223**	P	**Pn**	**11 26 19.7**	**+3.0**
COEN	**Coen**	**11.67**	**223**	Pn	**Pn**	**11 26 17.1**	**+0.3**
COEN	**Coen**	**11.67**	**223**	⇑P	**Pn**	**11 26 18.8**	**+2.1**
PATS	**Pohnpei**	**14.07**	**29**	P	**Pn**	**11 26 49.0**	**-0.6**
	baz=14,SNR=4.8						
PATS	**Pohnpei**	**14.07**	**29**		**Pn**	**11 26 47.7**	**-1.9**
MTSU	**Mount Surprise**	**14.33**	**208**	P	**Pn**	**11 26 53.2**	**+0.2**
	baz=14,SNR=41						
MTSU	**Mount Surprise**	**14.33**	**208**	P	**P**	**11 26 56.3**	**-2.8**
TV1H	**Townsville Har**	**14.39**	**198**	P	**Pn**	**11 26 55.8**	**+2.0**
	353nm,1.0s						
CTA	**Charters Tower**	**15.34**	**199**	P	**P**	**11 27 09.0**	**-1.2**
	374nm,2.0s						
CTA	**Charters Tower**	**15.34**	**199**	P	**Pn**	**11 27 06.6**	**+0.4**
	14nm,0.8s,baz=90,slow=2.1,SNR=26						
CTA				S	**Sn**	**11 30 00.3**	**+5.2**
	12nm,0.6s,baz=270,slow=0.4,SNR=0.8						
CTA				LR	LR	11 32 47.0	
	comp=Z,115μm,19.4s,baz=90,slow=36						
CTAO	**Charters Tower**	**15.34**	**199**	P	**Pn**	**11 27 07.9**	**+1.7**
CTAO	**Charters Tower**	**15.34**	**199**	Pn	**Pn**	**11 27 06.3**	**+0.1**
CTAO	**Charters Tower**	**15.34**	**199**	⇑P	**Pn**	**11 27 06.3**	**+0.1**
CTAO	**Charters Tower**	**15.34**	**199**	P	**Pn**	**11 27 06.3**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,72nm,0.7s						
RK1H	**Rockhampton Ha**	**17.80**	**183**	P	**P**	**11 27 37.8**	**+0.4**
	comp=Z,210nm,0.9s						
QIS	**Mount Isa**	**18.84**	**216**	P	**Pn**	**11 27 50.1**	**+0.2**
	baz=19,SNR=206						
QIS	**Mount Isa**	**18.84**	**216**	P	**Pn**	**11 27 50.5**	**+0.6**
FAKI	**Fak Fak**	**19.27**	**277**	P	**Pn**	**11 27 57.3**	**+2.3**
FAKI	**Fak Fak**	**19.27**	**277**	P	**P**	**11 27 53.6**	**0.0**
FAKI	**Fak Fak**	**19.27**	**277**	⇑P	**P**	**11 27 52.3**	**-1.3**
FAKI	**Fak Fak**	**19.27**	**277**	P	**Pn**	**11 27 55.6**	**+0.6**
	comp=Z,309nm,1.4s,comp=Z,27μmcomp=Z,83μm						
KOUNC	**Koumac, New Ca**	**19.50**	**141**	P	**Pn**	**11 27 58.6**	**+0.8**
KOUNC	**Koumac, New Ca**	**19.50**	**141**	P	**P**	**11 27 54.9**	**-1.2**
KOUNC	**Koumac, New Ca**	**19.50**	**141**	⇓P	**Pn**	**11 28 00.9**	**+3.2**
EIDS	**Eidsvold**	**19.75**	**181**	P	**P**	**11 27 59.6**	**+0.7**
	baz=20,SNR=57						
EIDS	**Eidsvold**	**19.75**	**181**	P	**P**	**11 27 59.7**	**+0.8**
EIDS	**Eidsvold**	**19.75**	**181**	P	**P**	**11 27 59.3**	**+0.5**
EIDS	**Eidsvold**	**19.75**	**181**	⇓P	**P**	**11 27 59.5**	**+0.7**
KDU	**Kakadu**	**19.99**	**248**	P	**P**	**11 28 01.9**	**+0.4**
	baz=20,SNR=237						
KDU	**Kakadu**	**19.99**	**248**	P	**P**	**11 28 02.3**	**+0.8**
KDU	**Kakadu**	**19.99**	**248**	⇑P	**P**	**11 28 02.0**	**+0.4**
GUMO	**Guam**	**20.05**	**341**	P	Pn	11 28 06.8	+2.6
GUMO	**Guam**	**20.05**	**341**	P	Pn	11 28 05.3	+1.1
GUMO	**Guam**	**20.05**	**341**	⇑P	Pn	11 28 05.5	+1.3
GUMO	**Guam**	**20.05**	**341**	P	Pn	11 28 05.3	+1.1
GUMO				pmax	pmax		
	comp=Z,4μm,1.2s						
GUMO	**Guam**	**20.05**	**341**	P	Pn	11 28 03.6	-0.6
	comp=Z,2μm,1.0s,baz=163,slow=9.2,SNR=28						
GUMO				S	Sn	11 31 49.9	+0.8
	comp=Z,89nm,0.8s,baz=162,slow=20,SNR=1.9						
GUMO				LR	LR	11 36 55.7	
	comp=Z,38μm,18.3s,baz=184,slow=40						
	comp=Z,2μm,1.0s						
SAUI	**Saumlaki**	**20.11**	**262**	P	Pn	11 28 06.2	+1.2
SAUI	**Saumlaki**	**20.11**	**262**	P	Pn	11 28 04.2	-0.8
SAUI	**Saumlaki**	**20.11**	**262**	⇑P	**P**	**11 28 03.0**	**+0.1**
SAUI	**Saumlaki**	**20.11**	**262**	P	Pn	11 28 04.3	-0.7
	comp=Z,3μm,0.8s,comp=Z,64μmcomp=Z,124μm						
SWI	**Sorong**	**20.62**	**282**	P	Pn	11 28 10.7	-0.4
	comp=Z,904nm,1.8s,comp=Z,22μmcomp=Z,77μm						
RMQ	**Roma**	**21.02**	**187**	P	**P**	**11 28 12.4**	**-0.1**
	baz=21,SNR=10						
RMQ	**Roma**	**21.02**	**187**	P	**P**	**11 28 15.1**	**+2.5**
MTN	**Manton Dam**	**21.28**	**249**	P	**P**	**11 28 15.0**	**-0.5**
	baz=21,SNR=291						
MTN	**Manton Dam**	**21.28**	**249**	P	**P**	**11 28 16.8**	**+1.3**
MTN	**Manton Dam**	**21.28**	**249**	P	**P**	**11 28 15.8**	**+0.3**
DRS	**Darwin Rock St**	**21.37**	**250**	P	**P**	**11 28 17.4**	**+0.9**
	comp=Z,1μm,0.9s						
BNDI	**Bandanaira**	**21.43**	**272**	P	**P**	**11 28 19.6**	**+2.5**
BNDI	**Bandanaira**	**21.43**	**272**	P	**P**	**11 28 18.7**	**+1.6**
	comp=Z,1μm,1.8s,comp=Z,35μmcomp=Z,83μm						
LIFNC	**LIFOU**	**21.61**	**136**	P	**P**	**11 28 20.5**	**+1.6**
LIFNC	**LIFOU**	**21.61**	**136**	P	**P**	**11 28 17.3**	**-1.6**
WB0	**Warramunga Arr**	**21.79**	**228**	P	**P**	**11 28 21.1**	**+0.1**
WR0	**Warramunga Arr**	**21.80**	**227**	P	**P**	**11 28 21.0**	**0.0**
NOUC	**Port Laguerre**	**21.91**	**140**	P	**P**	**11 28 23.2**	**+1.0**
WC3	**Warramunga Arr**	**21.92**	**228**	P	**P**	**11 28 22.3**	**0.0**
	baz=22						
WRAB	**Tennant Creek**	**21.92**	**228**	P	**P**	**11 28 22.3**	**0.0**
WRAB	**Tennant Creek**	**21.92**	**228**	P	**P**	**11 28 22.3**	**0.0**
WRAB				pmax	pmax		
	comp=Z,1μm,0.7s						
WB2	**Warramunga Arr**	**21.93**	**228**	P	**P**	**11 28 22.4**	**0.0**
WRA	**Warramunga Arr**	**21.94**	**228**	P	**P**	**11 28 22.3**	**-0.2**
WRA	**Warramunga Arr**	**21.94**	**228**	P	**P**	**11 28 23.7**	**+1.2**
	comp=Z,1μm,0.7s,baz=53,slow=9.8,SNR=237						

WRA				PcP	**PcP**	**11 32 20.7**	**+0.3**
	comp=Z,67nm,0.9s,baz=49,slow=2.0,SNR=7.7						
WRA				ScP	**ScP**	**11 35 55.4**	**+1.5**
	comp=Z,20nm,0.9s,baz=53,slow=2.9,SNR=4.4						
WRA				LR	LR	11 37 04.9	
	comp=Z,49μm,21.3s,baz=65,slow=37						
WRA				PKiKP	**PKiKP**	**11 40 06.5**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=16,slow=0.7,SNR=5.3						
DZM	**Mont Dzumac**	**21.98**	**140**	P	**P**	**11 28 22.6**	**-0.4**
DZM	**Mont Dzumac**	**21.98**	**140**	P	**P**	**11 28 21.1**	**-1.9**
DZM				IAMs_20	IAMs_20	11 35 44.8	
	comp=Z,153μm,20.0s						
DZM	**Mont Dzumac**	**21.98**	**140**	⇑P	**P**	**11 28 22.4**	**-0.6**
DZM	**Mont Dzumac**	**21.98**	**140**	eP	**P**	**11 28 28.6**	**+5.6**
	comp=Z,22μm,25.6s						
DZM				eS	**S**	**11 32 22.8**	**-0.4**
	comp=Z,105μm,25.1s						
DZM				eLR	LR	11 33 41.3	
	comp=Z,245μm,23.1s						
DZM	**Mont Dzumac**	**21.98**	**140**	P	**P**	**11 28 22.1**	**-0.9**
	comp=Z,94nm,0.8s,baz=321,slow=11,SNR=36						
DZM				S	**S**	**11 32 21.7**	**-1.5**
	comp=Z,49nm,1.2s,baz=299,slow=19,SNR=2.2						
DZM				LR	LR	11 35 56.4	
	comp=Z,162μm,20.6s,baz=304,slow=34						
	comp=Z,94nm,0.8s						
QLP	**Quilpie**	**22.05**	**197**	P	**P**	**11 28 24.1**	**+0.6**
	baz=22,SNR=251						
QLP	**Quilpie**	**22.05**	**197**	P	**P**	**11 28 24.4**	**+0.8**
QLP	**Quilpie**	**22.05**	**197**	⇑P	**P**	**11 28 23.9**	**+0.4**
ONTNC	**Ouen Toro**	**22.16**	**140**	⇑P	**P**	**11 28 25.7**	**+0.9**
OUENC	**Ouen Island, N**	**22.48**	**140**	P	**P**	**11 28 29.9**	**+1.6**
OUENC	**Ouen Island, N**	**22.48**	**140**	P	**P**	**11 28 27.3**	**-1.0**
TARA	**Tarawa**	**22.55**	**73**	P	**P**	**11 28 27.3**	**-1.9**
TARA	**Tarawa**	**22.55**	**73**	IAMs_20	IAMs_20	11 36 36.7	
	comp=Z,71μm,20.0s						
TARA	**Tarawa**	**22.55**	**73**	⇑P	**P**	**11 28 28.7**	**-0.5**
MARNC	**Mare, Loyalty**	**22.63**	**136**	P	**P**	**11 28 29.4**	**-0.5**
MARNC	**Mare, Loyalty**	**22.63**	**136**	⇓P	**P**	**11 28 29.7**	**-0.2**
PINNC	**Pines Island,**	**23.02**	**139**	P	**P**	**11 28 34.2**	**+0.4**
PINNC				IAmb	IAmb	11 28 58.4	
	comp=Z,743nm,1.7s						
PINNC				IAMs_20	IAMs_20	11 36 37.2	
	comp=Z,109μm,20.0s						
INKA	**Innaminka**	**24.32**	**203**	P	**P**	**11 28 47.0**	**+0.9**
NLAI	**Namlea**	**24.33**	**274**	P	**P**	**11 28 48.0**	**+1.6**
	comp=Z,72nm,1.2s,comp=Z,9μm						
LBMI	**Labuha**	**24.34**	**281**	P	**P**	**11 28 48.2**	**+1.7**
	comp=Z,918nm,1.2s,comp=Z,21μm						
AS01	**Alice Springs**	**24.66**	**221**	P	**P**	**11 28 49.3**	**-0.1**
	comp=Z,840nm,0.9s						
AS31	**Alice Springs**	**24.69**	**221**	P	**P**	**11 28 50.0**	**+0.4**
ASAR	**Alice Springs**	**24.70**	**221**	P	**P**	**11 28 49.1**	**-0.5**
ASAR	**Alice Springs**	**24.70**	**221**	P	**P**	**11 28 50.6**	**+0.9**
	comp=Z,526nm,0.8s,baz=56,slow=8.9,SNR=384						
ASAR				PcP	**PcP**	**11 32 26.9**	**+0.8**
	comp=Z,48nm,0.9s,baz=49,slow=3.0,SNR=3.6						
ASAR				S	**S**	**11 33 10.3**	**+1.9**
	comp=Z,14nm,0.9s,baz=46,slow=15,SNR=1.7						
ASAR				ScP	**ScP**	**11 36 00.8**	**-0.4**
	comp=Z,4.2nm,0.7s,baz=29,slow=4.4,SNR=4.0						
ASAR				LR	LR	11 39 43.2	
	comp=Z,52μm,18.8s,baz=65,slow=39						
ASAR				P3KPbc		12 01 52.0	
	comp=Z,0.4nm,0.7s,baz=212,slow=2.7,SNR=4.5						
	comp=Z,526nm,0.8s						
ARMA	**Armidale**	**24.78**	**180**	P	**P**	**11 28 50.5**	**0.0**
	baz=25,SNR=75						
ARMA	**Armidale**	**24.78**	**180**	P	**P**	**11 28 51.4**	**+1.0**
ARMA	**Armidale**	**24.78**	**180**	P	**P**	**11 28 49.6**	**-0.8**
ARMA				IAmb	IAmb	11 29 20.9	
	comp=Z,274nm,1.2s						
ARMA	**Armidale**	**24.78**	**180**	⇓P	**P**	**11 28 50.7**	**+0.3**
**TNTI

WRKA Warakurna 29.46 226 P **P** **11 29 32.3 -0.2**
baz=30,SNR=1000
WRKA Warakurna 29.46 226 P **P** **11 29 32.5 0.0**
WRKA Warakurna 29.46 226 ⇑P **P** **11 29 32.1 -0.3**
MULG Mulgathing 29.57 211 P **P** **11 29 32.7 -0.6**
EDFI Ende, Flores 29.65 262 P **P** **11 29 33.6 -0.7**
comp=Z,276nm,1.5s,comp=Z,6μmcomp=Z,24μm
CNB Canberra Magne 29.73 183 P **P** **11 29 35.1 +0.4**
CAN Canberra 29.75 184 P **P** **11 29 35.2 +0.3**
CAN Canberra 29.75 184 P **P** **11 29 35.0 +0.1**
CAN IAmb IAmb 11 30 41.4
comp=Z,185nm,1.4s
CAN Canberra 29.75 184 ⇑P **P** **11 29 36.0 +1.0**
CAN Canberra 29.75 184 P **P** **11 29 35.0 +0.1**
CAN pmax pmax
comp=Z,185nm,1.4s
CAN MLR MLR
comp=Z,40μm,21.0s
DGTI Dogotuki 29.78 113 P **P** **11 29 36.2 +0.9**
MRSI Marisa 30.01 281 P **P** **11 29 36.4 -1.0**
comp=Z,113nm,1.2s,comp=Z,2μmcomp=Z,23μm
HTT Hallett 30.11 201 P **P** **11 29 38.1 -0.1**
baz=30,SNR=94
HTT Hallett 30.11 201 P **P** **11 29 38.7 +0.6**
HTT Hallett 30.11 201 ⇑P **P** **11 29 37.7 -0.4**
BBOO Buckleboo 30.70 206 P **P** **11 29 42.7 -0.6**
baz=31,SNR=84
BBOO Buckleboo 30.70 206 P **P** **11 29 43.0 -0.3**
BBOO Buckleboo 30.70 206 P **P** **11 29 42.7 -0.6**
BBOO IAmb IAmb 11 29 51.5
comp=Z,166nm,1.0s
BBOO IAMs_20 IAMs_20 11 42 12.6
comp=Z,77μm,20.0s
BASI Baing, Sumba 30.87 259 P **P** **11 29 46.0 +1.0**
comp=Z,2μm,1.7s,comp=Z,28μmcomp=Z,29μm
BKSI Bulukumba 31.13 269 P **P** **11 29 48.8 +1.5**
comp=Z,46nm,0.8s,comp=Z,2μmcomp=Z,20μm
TOLI2 Tolitoli 31.27 281 P **P** **11 29 50.5 +2.0**
TOLI2 Tolitoli 31.27 281 P **P** **11 29 47.0 -1.5**
TOLI2 IAmb IAmb 11 30 59.2
comp=Z,420nm,1.9s
MILA Mila 31.47 183 P **P** **11 29 50.1 +0.1**
baz=32,SNR=4.3
MILA Mila 31.47 183 P **P** **11 29 50.5 +0.5**
KAPI Kappang 31.51 269 P **P** **11 29 50.0 -0.6**
KAPI IAmb IAmb 11 30 52.3
comp=Z,158nm,1.1s
KAPI Kappang 31.51 269 P **P** **11 29 50.1 -0.6**
KAPI pmax pmax
comp=Z,158nm,1.1s
KAPI Kappang 31.51 269 P **P** **11 29 50.0 -0.6**
KAPI Kappang 31.51 269 P **P** **11 29 50.2 -0.4**
KAPI PcP **PcP** **11 32 43.9 +0.9**
TTSI Tana Toraja 31.58 273 P **P** **11 29 52.4 +1.1**
comp=Z,47nm,0.9s,comp=Z,2μmcomp=Z,19μm
ARPS Mount Arapiles 32.33 194 P **P** **11 29 57.2 -0.4**
baz=32,SNR=12
ARPS Mount Arapiles 32.33 194 P **P** **11 29 58.7 +1.2**
TOO Toolangi 32.37 189 P **P** **11 29 58.6 +0.7**
baz=32,SNR=16
TOO Toolangi 32.37 189 P **P** **11 29 58.6 +0.7**
TOO Toolangi 32.37 189 P **P** **11 29 57.8 -0.1**
TOO Toolangi 32.37 189 ⇑P **P** **11 29 58.6 +0.7**
TOO Toolangi 32.37 189 P **P** **11 29 57.8 -0.1**
TOO pmax pmax
comp=Z,102nm,1.2s
TOO MLR MLR
comp=Z,52μm,20.0s
BRAT Ballarat 32.62 191 P **P** **11 30 02.0 +2.0**
comp=Z,50nm,0.9s
FORT Forrest 33.37 218 P **P** **11 30 06.4 -0.3**
baz=34,SNR=63
FORT Forrest 33.37 218 P **P** **11 30 05.9 -0.8**
comp=Z,518nm,0.8s
FORT Forrest 33.37 218 P **P** **11 30 06.4 -0.3**
FORT Forrest 33.37 218 ⇑P **P** **11 30 06.2 -0.4**
PLAI Plampang 33.51 262 P **P** **11 30 08.2 0.0**
PLAI Plampang 33.51 262 P **P** **11 30 07.0 -1.2**
comp=Z,533nm,0.7s,comp=Z,6μmcomp=Z,19μm
JCJ Chichijima 33.61 345 P **P** **11 30 13.2 +4.4**
comp=Z,402nm,0.9s
JCJ Chichijima 33.61 345 P **P** **11 30 10.0 +1.2**
comp=Z,248nm,0.8s,baz=180,slow=10,SNR=6.5
JCJ LR LR 11 43 36.9
comp=Z,19μm,19.8s,baz=164,slow=36
comp=Z,248nm,0.8s
PSAD2 Pilbara Seismi 34.39 239 IAMs_20 IAMs_20 11 45 13.3
comp=Z,62μm,20.0s
TWSI Taliwang, Sumb 34.39 263 P **P** **11 30 14.9 -0.9**
comp=Z,215nm,0.8s,comp=Z,3μmcomp=Z,16μm
MBWA Marble Bar 34.41 240 P **P** **11 30 16.8 +0.9**
MBWA Marble Bar 34.41 240 P **P** **11 30 16.2 +0.3**
MBWA Marble Bar 34.41 240 IAMs_20 IAMs_20 11 45 03.9
comp=Z,49μm,20.0s
MBWA Marble Bar 34.41 240 ⇓P **P** **11 30 16.0 +0.1**
MBWA Marble Bar 34.41 240 P **P** **11 30 15.6 -0.3**
MBWA S **S** **11 35 38.3 -2.5**
MBWA Marble Bar 34.41 240 P **P** **11 30 15.9 +0.1**
PSAC2 Pilbara Seismi 34.42 239 IAMs_20 IAMs_20 11 45 45.2
comp=Z,58μm,20.0s
PSAD1 Pilbara Seismi 34.44 240 IAMs_20 IAMs_20 11 45 14.7
comp=Z,64μm,20.0s
PSAB2 Pilbara Seismi 34.45 239 IAMs_20 IAMs_20 11 45 35.0
comp=Z,60μm,20.0s
PSAA3 Pilbara Seismi 34.46 239 IAMs_20 IAMs_20 11 45 36.4
comp=Z,61μm,20.0s
PSAA2 Pilbara Seismi 34.47 239 IAMs_20 IAMs_20 11 45 36.4
comp=Z,60μm,20.0s
PSA00 Pilbara Seismi 34.47 239 P **P** **11 30 17.1 +0.7**
PSA00 Pilbara Seismi 34.47 239 P **P** **11 30 15.8 -0.6**
PSA00 Pilbara Seismi 34.47 239 IAMs_20 IAMs_20 11 45 16.5
comp=Z,59μm,20.0s
PSAB3 Pilbara Seismi 34.47 239 IAMs_20 IAMs_20 11 45 36.5
comp=Z,61μm,20.0s
PSAA1 Pilbara Seismi 34.48 239 IAMs_20 IAMs_20 11 45 36.8
comp=Z,60μm,20.0s
PSAC1 Pilbara Seismi 34.49 239 IAMs_20 IAMs_20 11 45 15.9
comp=Z,62μm,19.0s
SMKI Samarinda 34.50 277 P **P** **11 30 18.6 +1.9**
PSAD3 Pilbara Seismi 34.55 239 IAMs_20 IAMs_20 11 45 18.7
comp=Z,62μm,20.0s
GLAD Gladstone 35.46 184 P **P** **11 30 25.9 +1.3**
comp=Z,55nm,0.8s
TGY Tagaytay City 35.96 303 P **P** **11 30 31.9 +2.6**
comp=Z,2μm,0.9s,baz=172,slow=7.1,SNR=18
TGY LR LR 11 43 01.3
comp=Z,42μm,22.0s,baz=122,slow=32
OUZ Omahuta 35.97 148 P **P** **11 30 29.9 +0.8**
OUZ Omahuta 35.97 148 IAMs_20 IAMs_20 11 43 50.4
comp=Z,39μm,18.0s
OUZ Omahuta 35.97 148 ⇑P **P** **11 30 29.8 +0.7**
SRBI Singaraja 36.01 264 P **P** **11 30 29.6 -0.2**
comp=Z,161nm,0.9s,comp=Z,7μmcomp=Z,17μm
DNP Denpasar 36.04 263 P **P** **11 30 30.3 +0.3**
comp=Z,719nm,0.8s,comp=Z,40μmcomp=Z,19μm
MTKI Muara Teweh, K 36.71 276 P **P** **11 30 36.6 +0.8**
comp=Z,97nm,0.6s,comp=Z,10μmcomp=Z,16μm
JMZ Minamidaito 2 36.78 329 P **P** **11 30 37.1 +1.0**
JMZ Minamidaito 2 36.78 329 ⇑P **P** **11 30 39.4 +3.2**
KKM Kota Kinabalu 36.95 288 P **P** **11 30 39.7 +1.8**
KKM Kota Kinabalu 36.95 288 P **P** **11 30 37.1 -0.8**
KKM IAmb IAmb 11 31 45.4
comp=Z,164nm,1.4s
KKM Kota Kinabalu 36.95 288 ⇑P **P** **11 30 37.1 -0.8**
MOO Moorlands 36.97 185 P **P** **11 30 38.2 +0.7**
baz=37,SNR=25
MOO Moorlands 36.97 185 P **P** **11 30 39.2 +1.6**
ABJI Asem Bagus 36.97 264 P **P** **11 30 38.5 +0.5**
comp=Z,195nm,1.0s,comp=Z,7μmcomp=Z,15μm
JAGI Jajag, Banyuwa 37.07 263 P **P** **11 30 39.6 +0.8**
JAGI Jajag, Banyuwa 37.07 263 P **P** **11 30 36.1 -2.7**
JAGI Jajag, Banyuwa 37.07 263 P **P** **11 30 37.5 -1.3**
comp=Z,256nm,0.8s,comp=Z,7μmcomp=Z,16μm
AFI Afiamalu 37.20 106 IAMs_20 IAMs_20 11 44 07.0
comp=Z,22μm,20.0s
RAO Raoul Island 37.40 133 IAMs_20 IAMs_20 11 43 48.8
comp=Z,50μm,20.0s
TAU Tasmania Unive 37.42 185 P **P** **11 30 42.7 +1.3**
TAU Tasmania Unive 37.42 185 IAMs_20 IAMs_20 11 45 09.8
comp=Z,58μm,21.0s
TAU Tasmania Unive 37.42 185 ⇑P **P** **11 30 42.4 +1.0**
TAU Tasmania Unive 37.42 185 P **P** **11 30 42.4 +1.0**
BLJI Banyuglugur 37.61 264 P **P** **11 30 43.0 -0.3**
comp=Z,106nm,0.8s,comp=Z,4μmcomp=Z,14μm
MEEK Meekatharra 37.67 232 P **P** **11 30 43.8 +0.1**
baz=38,SNR=516
MEEK Meekatharra 37.67 232 P **P** **11 30 44.5 +0.8**
GMJI Gumukmas 37.77 264 P **P** **11 30 43.8 -0.9**
comp=Z,100nm,1.0s,comp=Z,4μm
KMBL Kambalda 37.78 223 P **P** **11 30 44.5 -0.1**
baz=38,SNR=54
KMBL Kambalda 37.78 223 P **P** **11 30 45.1 +0.5**
BWJI Bawean 38.55 268 P **P** **11 30 52.9 +1.6**
comp=Z,248nm,1.0s,comp=Z,10μmcomp=Z,16μm
GRJI Gresik 38.71 266 P **P** **11 30 52.9 +0.3**
comp=Z,231nm,1.0s,comp=Z,15μm
TOZ Tahuroa Road 38.88 149 P **P** **11 30 54.2 +0.5**
TOZ IAmb IAmb 11 30 58.0
comp=Z,199nm,1.3s
TOZ Tahuroa Road 38.88 149 P **P** **11 30 54.7 +1.0**
HIZ Hauiti 39.15 150 P **P** **11 30 58.4 +2.4**
HIZ Hauiti 39.15 150 P **P** **11 30 56.7 +0.7**
HIZ IAmb IAmb 11 30 59.9
comp=Z,159nm,1.0s
HIZ Hauiti 39.15 150 P **P** **11 30 57.1 +1.1**
JOW Kunigami 39.17 326 P **P** **11 30 59.3 +3.0**
JOW Kunigami 39.17 326 P **P** **11 30 58.2 +1.9**
JOW IAMs_20 IAMs_20 11 43 55.5
comp=Z,51μm,21.0s
JOW Kunigami 39.17 326 ⇓P **P** **11 30 58.2 +1.9**
JOW Kunigami 39.17 326 P **P** **11 30 58.5 +2.3**
JOW Kunigami 39.17 326 P **P** **11 30 57.8 +1.5**
comp=Z,394nm,0.9s,baz=139,slow=8.5,SNR=60
JOW LR LR 11 44 07.0
comp=Z,54μm,21.8s,baz=130,slow=31
comp=Z,394nm,0.9s
PWJI Pagerwojo 39.38 264 P **P** **11 30 59.5 +1.2**
comp=Z,258nm,0.8s,comp=Z,5μm
OPRZ Ohinepanea 39.51 148 P **P** **11 30 59.4 +0.4**
GIRL Giralia 39.70 241 P **P** **11 31 02.0 +1.2**
baz=40,SNR=62
GIRL Giralia 39.70 241 P **P** **11 31 02.9 +2.1**
GIRL Giralia 39.70 241 P **P** **11 31 01.9 +1.0**
GIRL IAMs_20 IAMs_20 11 50 03.2
comp=Z,54μm,19.0s
GIRL Giralia 39.70 241 ⇑P **P** **11 31 01.0 +0.2**
NGJI Ngawi 39.72 265 P **P** **11 31 01.8 +0.8**
comp=Z,159nm,1.0s,comp=Z,21μm
JAM Amami Oshima 39.73 329 P **P** **11 31 02.7 +1.8**
TWVZ Taurewa 39.87 150 P **P** **11 31 03.0 +0.9**
QRZ Quartz Range 39.94 155 P **P** **11 31 04.6 +2.0**
QRZ Quartz Range 39.94 155 P **P** **11 31 03.4 +0.8**
QRZ IAMs_20 IAMs_20 11 45 32.7
comp=Z,50μm,21.0s
NNVZ North Ngauruho 40.01 150 P **P** **11 31 05.6 +2.3**
NIUE Niue 40.01 113 P **P** **11 31 02.4 -1.0**
baz=40,SNR=6.8
NIUE Niue 40.01 113 P **P** **11 31 05.4 +2.0**
NIUE Niue 40.01 113 P **P** **11 31 05.1 +1.7**
NIUE IAmb IAmb 11 31 09.8
comp=Z,301nm,0.9s
NIUE Niue 40.01 113 ⇓P **P** **11 31 06.0 +2.6**
NTVZ North Tongarir 40.01 150 P **P** **11 31 04.5 +1.2**
COVZ Chateau Observ 40.02 150 P **P** **11 31 04.5 +1.2**
ETVZ East Tongariro 40.06 150 P **P** **11 31 02.7 -1.0**
SNVZ South Ngauruho 40.06 150 P **P** **11 31 04.9 +1.1**
FWVZ Far West T-bar 40.07 150 P **P** **11 31 05.1 +1.2**
HAZ Te Kaha 40.10 147 P **P** **11 31 04.5 +0.6**
URZ Urewera 40.11 148 P **P** **11 31 04.8 +0.8**
URZ Urewera 40.11 148 ⇑P **P** **11 31 03.6 -0.3**
URZ Urewera 40.11 148 LR LR 11 46 21.2
comp=Z,41μm,18.6s,baz=56,slow=34
URZ Urewera 40.11 148 P **P** **11 31 03.6 -0.3**
URZ PcP **PcP** **11 33 07.1 -0.8**
WNVZ Wahianoa 40.15 150 P **P** **11 31 05.3 +0.8**
RUGZ Raukumara Rang 40.20 147 P **P** **11 31 04.7 -0.2**
STKI Sintang 40.24 277 P **P** **11 31 06.6 +1.2**
comp=Z,143nm,0.9s
MXZ Matakaoa Point 40.25 146 IAMs_20 IAMs_20 11 45 10.7
comp=Z,38μm,20.0s
TKNZ Takaka Hill 40.30 155 P **P** **11 31 06.3 +0.8**
RTZ Ruatahuna 40.31 148 P **P** **11 31 05.4 -0.3**
RTZ IAmb IAmb 11 31 08.8
comp=Z,293nm,1.0s
RTZ IAMs_20 IAMs_20 11 45 13.2
comp=Z,38μm,20.0s
RTZ Ruatahuna 40.31 148 P **P** **11 31 05.7 0.0**
PKGZ Pakihiroa 40.36 147 P **P** **11 31 06.3 +0.2**
MWZ Matawai 40.39 148 P **P** **11 31 06.9 +0.6**
MWZ PcP **PcP** **11 33 11.5 +2.6**
DSZ Denniston Nort 40.41 156 IAMs_20 IAMs_20 11 47 14.2
comp=Z,62μm,18.0s
RAGZ Rawiri 40.45 148 P **P** **11 31 07.5 +0.6**
BKZ Black Stump Fm 40.47 149 P **P** **11 31 07.9 +0.9**
BKZ Black Stump Fm 40.47 149 P **P** **11 31 06.7 -0.3**
WMGZ Waiomatatini S 40.49 146 P **P** **11 31 07.5 +0.4**
BHHZ Black Hill Sta 40.50 150 P **P** **11 31 07.4 +0.2**
TWGZ Tauwhareparae 40.51 147 P **P** **11 31 07.9 +0.6**
MRNZ Matariki Terra 40.52 155 P **P** **11 31 07.9 +0.6**
NMHZ Naumai 40.58 149 P **P** **11 31 10.0 +2.0**
SNGZ Shannon Statio 40.62 148 P **P** **11 31 08.6 +0.4**
NNZ Nelson 40.63 154 P **P** **11 31 07.8 -0.4**
NNZ IAMs_20 IAMs_20 11 46 13.9
comp=Z,50μm,20.0s
TKGZ Te Karaka 40.63 148 P **P** **11 31 08.6 +0.3**
YOJ Yonaguni jima 40.64 318 P **P** **11 31 13.1 +4.6**
YOJ Yonaguni jima 40.64 318 P **P** **11 31 10.9 +2.4**
YOJ Yonaguni jima 40.64 318 ⇑P **P** **11 31 10.8 +2.4**
YOJ Yonaguni jima 40.64 318 P **P** **11 31 10.9 +2.4**
YOJ pmax pmax
comp=Z,481nm,0.9s
YOJ Yonaguni jima 40.64 318 P **P** **11 31 11.6 +3.1**
UGM Wanagama 40.65 264 P **P** **11 31 10.6 +1.8**
UGM Wanagama 40.65 264 P **P** **11 31 09.1 +0.2**
UGM Wanagama 40.65 264 P **P** **11 31 09.6 +0.8**
comp=Z,477nm,1.2s,comp=Z,13μmcomp=Z,17μm
SMRI Semarang 40.73 266 P **P** **11 31 10.7 +1.2**
SMRI Semarang 40.73 266 ⇑P **P** **11 31 10.3 +0.9**
SMRI Semarang 40.73 266 P **P** **11 31 10.6 +1.2**
comp=Z,388nm,0.9s,comp=Z,9μmcomp=Z,18μm
KRHZ Kereru 40.77 150 P **P** **11 31 09.3 -0.2**
RIGZ Rimuhau 40.78 148 P **P** **11 31 09.3 -0.3**
KLBR Kellerberrin 40.81 226 P **P** **11 31 09.1 -0.8**
baz=41,SNR=141
KLBR Kellerberrin 40.81 226 P **P** **11 31 10.2 +0.3**
MORW Morawa 40.82 231 P **P** **11 31 10.0 0.0**
baz=41,SNR=29
MORW Morawa 40.82 231 P **P** **11 31 11.3 +1.3**
MORW Morawa 40.82 231 P **P** **11 31 09.7 -0.3**
MORW IAMs_20 IAMs_20 11 49 09.4
comp=Z,39μm,20.0s
MORW Morawa 40.82 231 ⇓P **P** **11 31 09.9 0.0**
CNGZ Carnagh Statio 40.86 147 P **P** **11 31 10.1 0.0**
TWGBT Beinan 40.88 315 P **P** **11 31 12.9 +2.4**
YOGI Yogyakarta 40.88 264 P **P** **11 31 09.5 -1.2**
comp=Z,377nm,1.4s,comp=Z,10μmcomp=Z,10μm
THZ Tophouse 40.88 155 P **P** **11 31 09.8 -0.5**
THZ IAMs_20 IAMs_20 11 47 34.5
comp=Z,42μm,18.0s
TCW Tory Channel 41.02 153 P **P** **11 31 11.0 -0.4**
BLDU Ballidu 41.07 228 P **P** **11 31 11.4 -0.6**
baz=41,SNR=40
BLDU Ballidu 41.07 228 P **P** **11 31 12.1 +0.1**
YULB Yu-li 41.09 315 P **P** **11 31 14.6 +2.3**
YULB Yu-li 41.09 315 IAMs_20 IAMs_20 11 44 58.5
comp=Z,46μm,20.0s
INZ Inchbonnie 41.10 157 IAMs_20 IAMs_20 11 46 25.5
comp=Z,61μm,20.0s
MRZ Mangatainoka R 41.18 152 IAMs_20 IAMs_20 11 46 14.3
comp=Z,64μm,21.0s
FOZ Fox Glacier 41.21 160 IAMs_20 IAMs_20 11 47 49.3
comp=Z,42μm,19.0s
SNZO South Karori 41.29 153 P **P** **11 31 14.6 +1.0**
JCZ Jackson Bay 41.34 161 P **P** **11 31 16.6 +2.4**
NACB Ninganchiao 41.40 317 P **P** **11 31 17.3 +2.6**
BHW Baring Head 41.44 153 IAMs_20 IAMs_20 11 45 46.4
comp=Z,39μm,21.0s
LTZ Lake Taylor 41.48 157 IAMs_20 IAMs_20 11 47 39.3
comp=Z,68μm,19.0s
TPUB Ta-pu 41.50 315 P **P** **11 31 17.8 +2.1**
TPUB Ta-pu 41.50 315 IAMs_20 IAMs_20 11 45 22.4
comp=Z,36μm,20.0s
BFZ Birch Farm 41.51 151 P **P** **11 31 16.1 +0.6**
SSLB Suanglung 41.59 316 P **P** **11 31 19.0 +2.6**
SSLB Suanglung 41.59 316 P **P** **11 31 18.1 +1.7**
SSLB IAmb IAmb 11 31 33.5
comp=Z,149nm,0.8s
SSLB IAMs_20 IAMs_20 11 45 14.6
comp=Z,54μm,20.0s
KHZ Kahutara 41.68 155 P **P** **11 31 16.8 0.0**
KHZ Kahutara 41.68 155 IAMs_20 IAMs_20 11 48 29.8
comp=Z,44μm,18.0s
KHZ Kahutara 41.68 155 ⇓P **P** **11 31 16.4 -0.4**
RPZ Rata Peaks 41.81 159 P **P** **11 31 19.1 +1.2**
RPZ Rata Peaks 41.81 159 P **P** **11 31 18.2 +0.3**
comp=Z,94nm,0.9s,baz=0.0,slow=11,SNR=20
RPZ LR LR 11 46 46.4
comp=Z,70μm,20.4s,baz=316,slow=33
comp=Z,94nm,0.9s
OXZ Oxford 41.84 157 IAMs_20 IAMs_20 11 46 49.1
comp=Z,57μm,20.0s
JSG Sagara 41.86 344 P **P** **11 31 18.9 +0.6**
JSG IAmb IAmb 11 31 43.7
comp=Z,495nm,1.5s
YHNB Yeheng 41.88 317 P **P** **11 31 22.2 +3.5**
YHNB Yeheng 41.88 317 P **P** **11 31 20.8 +2.1**
JSU Suzuyama 41.88 333 P **P** **11 31 19.5 +0.9**
NWAO Narrogin (SRO) 41.90 225 P **P** **11 31 16.9 -1.9**
baz=42,SNR=39
NWAO P **P** **11 31 16.9 -1.9**
baz=42,SNR=39
NWAO Narrogin (SRO) 41.90 225 P **P** **11 31 19.1 +0.3**
NWAO Narrogin (SRO) 41.90 225 P **P** **11 31 18.6 -0.2**
NWAO Narrogin (SRO) 41.90 225 P **P** **11 31 18.0 -0.8**
NWAO Narrogin (SRO) 41.90 225 P **P** **11 31 18.0 -0.8**
NWAO pmax pmax
comp=Z,609nm,1.6s
NWAO Narrogin (SRO) 41.90 225 LR LR 11 48 55.1
comp=Z,48μm,21.4s,baz=46,slow=36
NWAO Narrogin (SRO) 41.90 225 P **P** **11 31 17.6 -1.2**
NWAO S **S** **11 37 32.7 -1.2**
NWAO Narrogin (SRO) 41.90 225 P **P** **11 31 18.9 +0.1**
NWAO pP **pP** **11 31 30.1 -1.7**
GVZ Greta Valley S 41.94 156 IAMs_20 IAMs_20 11 48 21.4
comp=Z,63μm,18.0s
TATO Taipei 42.00 317 P **P** **11 31 23.5 +3.8**
TATO Taipei 42.00 317 P **P** **11 31 21.1 +1.5**
TATO IAmb IAmb 11 31 23.3
comp=Z,290nm,0.9s
TATO Taipei 42.00 317 IAMs_20 IAMs_20 11 45 30.4
comp=Z,40μm,21.0s
TATO Taipei 42.00 317 P **P** **11 31 21.6 +1.9**
TATO S **S** **11 37 37.3 +1.9**
TATO Taipei 42.00 317 P **P** **11 31 21.8 +2.2**
JIE Ise 42.04 342 P **P** **11 31 19.3 -0.5**
LBZ Lake Benmore 42.09 160 IAMs_20 IAMs_20 11 48 36.5
comp=Z,59μm,19.0s
WKZ Wanaka 42.09 161 IAMs_20 IAMs_20 11 46 20.7
comp=Z,57μm,21.0s
MUN Mundaring 42.13 227 P **P** **11 31 20.5 -0.2**
baz=42,SNR=50
MUN Mundaring 42.13 227 P **P** **11 31 20.9 +0.2**
JOD2 Odawara 2 42.17 345 P **P** **11 31 20.3 -0.6**
KPJI Karang Pucung 42.23 265 P **P** **11 31 22.7 +1.0**
comp=Z,363nm,1.1s,comp=Z,7μm
JMN Monobe 42.40 338 P **P** **11 31 24.2 +1.4**
JMN Monobe 42.40 338 P **P** **11 31 23.7 +0.9**
JMN IAmb IAmb 11 31 26.5
comp=Z,320nm,1.0s
JMN Monobe 42.40 338 ⇑P **P** **11 31 23.8 +0.9**
JMN Monobe 42.40 338 P **P** **11 31 23.5 +0.7**
MQZ McQueen's Vall 42.41 157 IAMs_20 IAMs_20 11 47 17.9
comp=Z,39μm,20.0s
CMJI Cimerak 42.71 265 P **P** **11 31 25.6 0.0**
comp=Z,1μm,0.9s,comp=Z,12μmcomp=Z,14μm
ODZ Otahua Downs 42.82 160 P **P** **11 31 28.6 +2.5**
ODZ Otahua Downs 42.82 160 IAMs_20 IAMs_20 11 48 59.0
comp=Z,50μm,19.0s
ODZ Otahua Downs 42.82 160 ⇓P **P** **11 31 29.1 +3.1**
INU Inuyama 42.83 343 P **P** **11 31 27.2 +1.0**
INU Inuyama 42.83 343 P **P** **11 31 26.1 -0.2**
INU Inuyama 42.83 343 ⇑P **P** **11 31 25.7 -0.5**
INU Inuyama 42.83 343 P **P** **11 31 25.7 -0.5**
INU PcP **PcP** **11 33 17.0 +0.2**
JCJI Jatiwangi 42.89 266 P **P** **11 31 28.2 +1.1**
comp=Z,575nm,0.8s,comp=Z,16μm
JRY Ryogami san 42.94 345 P **P** **11 31 25.9 -1.2**
JGF Kuroka 42.97 343 P **P** **11 31 28.6 +1.2**
JGF Kuroka 42.97 343 P **P** **11 31 27.4 0.0**
JGF Kuroka 42.97 343 ⇑P **P** **11 31 26.2 -1.2**
RKGY Rocky Gully 43.01 223 P **P** **11 31 28.4 +0.6**
baz=43,SNR=29
RKGY Rocky Gully 43.01 223 P **P** **11 31 29.6 +1.8**
JNU Nakatsue 43.07 334 P **P** **11 31 30.7 +2.4**
JNU Nakatsue 43.07 334 P **P** **11 31 29.2 +0.9**
JNU IAmb IAmb 11 31 31.9
comp=Z,234nm,1.0s
JNU Nakatsue 43.07 334 ⇑P **P** **11 31 29.0 +0.7**
JNU Nakatsue 43.07 334 P **P** **11 31 29.0 +0.7**
JNU Nakatsue 43.07 334 P **P** **11 31 29.0 +0.7**
comp=Z,211nm,1.0s,baz=140,slow=7.1,SNR=62
JNU PcP **PcP** **11 33 17.7 0.0**
comp=Z,35nm,0.8s,baz=138,slow=9.4,SNR=5.3
JNU LR LR 11 47 48.8
comp=Z,18μm,21.2s,baz=192,slow=34
comp=Z,211nm,1.0s
JWT Wachi 43.27 341 P **P** **11 31 29.6 -0.2**
JAD Aida 43.38 339 P **P** **11 31 29.0 -1.7**
BBJI Bungbulang 43.50 265 P **P** **11 31 32.4 +0.3**
LEM Lembang 43.53 266 LR LR 11 53 15.6
comp=Z,9μm,21.2s,baz=92,slow=41
LEM Lembang 43.53 266 P **P** **11 31 33.6 +1.1**
comp=Z,429nm,0.9s,comp=Z,9μmcomp=Z,15μm
JGN Niukaw 43.56 343 P **P** **11 31 31.4 -0.8**
MJAR Matsushiro Arr 43.61 345 P **P** **11 31 31.8 -0.7**
comp=Z,37nm,1.0s,baz=163,slow=8.4,SNR=44
MJAR PcP **PcP** **11 33 19.6 +0.1**
comp=Z,45nm,1.0s,baz=162,slow=4.0,SNR=9.0
MJAR ScP **ScP** **11 37 08.0 +0.8**
comp=Z,3.4nm,0.8s,baz=163,slow=4.3,SNR=3.8
MJAR LR LR 11 48 33.1
comp=Z,23μm,20.0s,baz=170,slow=34
comp=Z,37nm,1.0s
MAJO Matsushiro 43.61 345 P **P** **11 31 32.1 -0.5**
MAJO Matsushiro 43.61 345 ⇑P **P** **11 31 30.8 -1.8**
MAJO Matsushiro 43.61 345*c iP* **P** **11 31 29.9 -2.7**
MAJO pmax pmax
comp=Z,74nm,1.0s
MAJO Matsushiro 43.61 345 P **P** **11 31 31.4 -1.1**
MAJO pP **pP** **11 31 43.3 -2.4**
MAJO PcP **PcP** **11 33 20.1 +0.7**
MAT Matsushiro 43.61 345 P **P** **11 31 31.9 -0.7**
MJB9 Matsu-Tunnel 43.62 345 P **P** **11 31 33.1 +0.5**
JFU Fukue jima 2 43.63 332 P **P** **11 31 33.5 +0.8**
SYZ Scrubby Hill 43.66 162 P **P** **11 31 34.5 +1.7**
JHS Saijyo 43.81 338 P **P** **11 31 34.3 +0.1**
KNMB Chin-men Tao 43.82 314 P **P** **11 31 36.3 +1.9**
QZH Quanzhou 43.98 315⇓*iP* **P** **11 31 35.4 -0.3**
QZH sP **pP** **11 31 50.4 +1.5**
QZH S **S** **11 38 05.6 +1.2**
QZH pmax pmax
comp=Z,330nm,1.3s
QZH pmax pmax
comp=Z,5μm,6.4s
QZH LR LR
comp=Z,23μm,18.9s
QZH LR LR
comp=Z,24μm,18.3s
QZH LR LR
comp=Z,37μm,21.6s
JMM Marumori 44.26 348 P **P** **11 31 40.5 +2.8**
JMM Marumori 44.26 348 P **P** **11 31 37.6 -0.1**
JMM IAmb IAmb 11 32 14.0
comp=Z,327nm,1.9s
JMM Marumori 44.26 348 ⇑P **P** **11 31 37.3 -0.4**
CBJI Citeko 44.30 266 P **P** **11 31 38.5 0.0**
comp=Z,459nm,0.8s,comp=Z,12μmcomp=Z,17μm
DBJI Dramaga 44.40 266 P **P** **11 31 40.1 +0.8**
comp=Z,184nm,0.8s,comp=Z,11μmcomp=Z,17μm
JOHN Johnston Islan 44.50 60 IAMs_20 IAMs_20 11 47 20.4
comp=Z,41μm,22.0s
SKJI Sukabumi 44.59 266 P **P** **11 31 41.1 +0.3**
comp=Z,853nm,0.7s,comp=Z,11μmcomp=Z,15μm
JTU Tsushima 44.90 334 P **P** **11 31 43.7 +0.8**
JTU IAmb IAmb 11 32 08.0
comp=Z,158nm,1.5s
JSD Sado 45.01 345 P **P** **11 31 44.0 +0.3**
JSD Sado 45.01 345 P **P** **11 31 44.0 +0.3**
JSD IAmb IAmb 11 31 46.6
comp=Z,173nm,1.2s
JSD Sado 45.01 345 ⇑P **P** **11 31 42.9 -0.8**
JSD Sado 45.01 345 P **P** **11 31 42.5 -1.2**
MIDW Midway 45.06 40 IAMs_20 IAMs_20 11 47 58.5
comp=Z,12μm,20.0s
JYA Atsumi 45.19 347 P **P** **11 31 44.2 -0.9**

PPBI Pangkal Pinang 45.27 272 P **P** **11 31 47.2 +1.0**
XMI Christmas Isla 45.50 261 P **P** **11 31 50.4 +2.4**
XMI Christmas Isla 45.50 261 ⇑P **P** **11 31 49.2 +1.2**
XMIS Christmas Isla 45.53 261 P **P** **11 31 50.2 +1.9**
XMIS Christmas Isla 45.53 261 P **P** **11 31 49.1 +0.8**
JOM Ohasama 45.72 349 P **P** **11 31 48.4 -0.8**
HKC Hong Kong Obse 45.72 309 ⇑P **P** **11 31 53.0 +3.4**
HKPS Hong Kong Po S 45.73 308 P **P** **11 31 53.5 +3.8**
HKPS Hong Kong Po S 45.73 308 P **P** **11 31 52.8 +3.0**
HKPS IAMs_20 IAMs_20 11 48 19.7
comp=Z,34μm,19.0s
DLV T Lat 46.06 292 P **P** **11 31 52.2 -0.4**
DLV IAmb IAmb 11 32 13.3
comp=Z,190nm,1.0s
SSE Sheshan 46.45 323 P **P** **11 31 56.4 +1.2**
SSE sP **sP** **11 32 14.8 +0.8**
SSE S **S** **11 38 41.8 +1.8**
SSE pmax pmax
comp=Z,48nm,1.3s
SSE pmax pmax
comp=Z,2μm,7.5s
SSE LR LR
comp=Z,8μm,19.4s
KASI Kota Agung 46.67 268 P **P** **11 31 56.4 -0.8**
comp=Z,228nm,0.9s,comp=Z,3μm
GZH Guangzhou 46.79 309 P **P** **11 32 01.0 +3.0**
GZH PcP **PcP** **11 33 31.0 +0.3**
GZH S **S** **11 38 48.6 +3.5**
GZH SS **SS** **11 42 10.0 -2.2**
GZH pmax pmax
comp=Z,140nm,1.1s
GZH LR LR
comp=Z,2μm,20.2s
GZH LR LR
comp=Z,6μm,21.4s
DSRI Dabo 47.00 274 P **P** **11 32 00.8 +1.0**
comp=Z,123nm,1.0s,comp=Z,3μmcomp=Z,18μm
JTM Tenmabayashi 47.03 349 P **P** **11 32 00.2 +0.7**
JTM Tenmabayashi 47.03 349 P **P** **11 31 59.7 +0.2**
JTM Tenmabayashi 47.03 349 ⇑P **P** **11 31 58.6 -0.9**
JTM Tenmabayashi 47.03 349 P **P** **11 31 59.8 +0.2**
LWLI Liwa 47.13 268 P **P** **11 32 01.5 +0.5**
comp=Z,388nm,0.9s,comp=Z,15μm
TPRI Tanjung Pinang 47.24 276 P **P** **11 32 03.0 +1.3**
comp=Z,110nm,1.0s,comp=Z,17μm
CTZ Chatham Island 47.34 149 P **P** **11 32 03.6 +1.6**
CTZ Chatham Island 47.34 149 P **P** **11 32 02.5 +0.6**
CTZ IAmb IAmb 11 32 05.1
comp=Z,132nm,0.8s
TJN Taejon 47.36 333 P **P** **11 32 03.4 +1.3**
TJN Taejon 47.36 333 *c i*P **P** **11 32 02.4 +0.2**
JOT Ohata 47.61 349 P **P** **11 32 03.5 -0.6**
QIZ Qiongzhong 47.64 302 P **P** **11 32 06.4 +1.7**
QIZ PP **PP** **11 33 58.8 +2.1**
QIZ S **S** **11 39 01.9 +4.6**
QIZ pmax pmax
comp=Z,170nm,1.4s
QIZ pmax pmax
comp=Z,4μm,11.7s
QIZ LR LR
comp=Z,13μm,22.6s
QIZ LR LR
comp=Z,23μm,23.5s
QIZ LR LR
comp=Z,46μm,28.8s
QIZ Qiongzhong 47.64 302 P **P** **11 32 06.6 +1.9**
QIZ IAmb IAmb 11 32 08.5
comp=Z,161nm,0.9s
QIZ Qiongzhong 47.64 302 IAMs_20 IAMs_20 11 48 43.4
comp=Z,46μm,22.0s
QIZ Qiongzhong 47.64 302 P **P** **11 32 06.7 +2.1**
ERM Erimo 47.89 352 P **P** **11 32 07.5 +1.4**
ERM Erimo 47.89 352 *c i*P **P** **11 32 05.4 -0.7**
ERM pmax pmax
comp=Z,187nm,3.4s
ERM MLR MLR
comp=Z,21μm,18.0s
KSRS Korea Array 48.02 335 P **P** **11 32 08.2 +1.0**
comp=Z,78nm,1.0s,baz=150,slow=8.3,SNR=131
KSRS PcP **PcP** **11 33 35.7 +1.0**
comp=Z,18nm,0.8s,baz=149,slow=4.5,SNR=8.5
KSRS ScP **ScP** **11 37 26.5 +1.0**
comp=Z,2.7nm,0.9s,baz=142,slow=4.8,SNR=3.0
KSRS S **S** **11 39 05.4 +3.3**
comp=Z,0.4nm,0.3s,baz=168,slow=12,SNR=4.6
KSRS LR LR 11 50 54.4
comp=Z,14μm,21.7s,baz=145,slow=34
comp=Z,78nm,1.0s
KSAR Wonju Array Be 48.02 335 P **P** **11 32 08.5 +1.2**
KSAR Wonju Array Be 48.02 335 P **P** **11 32 08.5 +1.2**
MYKOM Kota Tinggi 48.04 277 P **P** **11 32 08.1 +0.2**
MYKOM IAmb IAmb 11 33 37.2
comp=Z,120nm,1.3s
MYKOM Kota Tinggi 48.04 277 ⇑P **P** **11 32 07.7 -0.2**
KS19 Wonju Array Si 48.08 335 P **P** **11 32 08.9 +1.1**
KS19 IAmb IAmb 11 33 00.4
comp=Z,120nm,1.1s
MNAI Manna 48.27 269 P **P** **11 32 09.1 -0.5**
NJ2 Nanjing 48.53 322 ⇑P **P** **11 32 13.4 +2.1**
NJ2 pP **pP** **11 32 22.1 -2.5**
NJ2 sP **sP** **11 32 27.3 -2.9**
NJ2 PcS **PcS** **11 37 32.8 0.0**
NJ2 S **S** **11 39 13.1 +3.6**
NJ2 sS **sS** **11 39 29.5 -2.1**
NJ2 SS **SS** **11 42 36.3 -3.9**
NJ2 pmax pmax
comp=Z,130nm,0.9s
NJ2 pmax pmax
comp=Z,4μm,5.9s
NJ2 LR LR
comp=Z,30μm,21.8s
NJ2 LR LR
comp=Z,18μm,18.0s
NJ2 LR LR
comp=Z,38μm,18.9s
INCN Inchon 48.60 334 P **P** **11 32 13.7 +1.9**
INCN Inchon 48.60 334 ⇑P **P** **11 32 12.3 +0.5**
INCN Inchon 48.60 334 P **P** **11 32 13.7 +1.9**
INCN pmax pmax
comp=Z,434nm,1.0s
INCN Inchon 48.60 334 P **P** **11 32 12.0 +0.2**
INCN P **P** **11 32 12.0 +0.2**
INCN S **S** **11 39 12.1 +1.6**
INCN S **S** **11 39 12.1 +1.6**
INCN Inchon 48.60 334 P **P** **11 32 13.3 +1.5**
MCQ Macquarie Isla 49.23 174 P **P** **11 32 16.9 +0.5**
baz=49,SNR=5.1
MCQ Macquarie Isla 49.23 174 P **P** **11 32 16.8 +0.5**
MCQ Macquarie Isla 49.23 174 P **P** **11 32 16.8 +0.5**
MCQ pmax pmax
comp=Z,204nm,1.0s
HJU Haeju 49.47 333 P **P** **11 32 18.5 +0.1**
HJU S **S** **11 39 26.4 +4.0**
HJU AmB
comp=Z,5μm,4.3s
HJU AMS AMS
comp=Z,26μm,24.6s
YUK Yuzh-Kuril'sk 49.56 355 *e*P **P** **11 32 16.1 -2.9**
YUK *e* 11 34 15.4
YUK *e*S **S** **11 39 19.7 -3.9**
YUK *e*SSS SSS 11 44 17.8
YUK pmax pmax
comp=Z,516nm,1.2s
YUK pmax pmax
comp=E,166nm,0.9s
RAR Rarotonga 49.78 113 P **P** **11 32 21.4 +0.3**
RAR IAmb IAmb 11 32 47.3
comp=Z,250nm,1.6s
RAR Rarotonga 49.78 113 P **P** **11 32 21.4 +0.3**
RAR pmax pmax
comp=Z,250nm,1.7s
RAR Rarotonga 49.78 113 LR LR 11 51 09.2
comp=Z,5μm,21.4s,baz=282,slow=33
KRJI Kerinci 49.93 272 P **P** **11 32 22.7 +0.2**
comp=Z,401nm,0.9s,comp=Z,7μmcomp=Z,15μm
UBPT Khong Chiam 49.96 295 P **P** **11 32 23.9 +1.4**
UBPT IAmb IAmb 11 33 24.9
comp=Z,180nm,1.6s
CNSH ChangSha 49.96 314 ⇑P **P** **11 32 24.8 +2.4**
CNSH S **S** **11 39 33.1 +3.3**
CNSH pmax pmax
comp=Z,160nm,1.1s
CNSH LR LR
comp=Z,8μm,21.7s
CNSH LR LR
comp=Z,17μm,21.9s
CNSH LR LR
comp=Z,24μm,26.0s
ASAJ Asahikawa 50.03 352 P **P** **11 32 23.3 +0.8**
ASAJ Asahikawa 50.03 352 P **P** **11 32 22.6 +0.1**
comp=Z,25nm,0.6s,baz=192,slow=9.7,SNR=19
ASAJ LR LR 11 51 22.4
comp=Z,16μm,22.0s,baz=199,slow=33
comp=Z,25nm,0.6s
GULI GuiLin 50.26 309 ⇑P **P** **11 32 27.0 +2.3**
GULI S **S** **11 39 35.3 +1.3**
GULI LR LR
comp=Z,6μm,21.7s
GULI LR LR
comp=Z,7μm,19.5s
GULI LR LR
comp=Z,37μm,20.6s
HHU Hamhung 50.27 336 P **P** **11 32 24.4 0.0**
HHU S **S** **11 39 38.6 +4.9**
HHU AmB
comp=Z,2μm,4.2s
HHU AMS AMS
comp=Z,13μm,25.6s
PYAG Pyongyang 50.28 334 P **P** **11 32 24.5 -0.1**
PYAG S **S** **11 39 37.7 +3.9**
PYAG AmB
comp=Z,585nm,1.4s
PYAG AMS AMS
comp=Z,17μm,23.8s
WHN Wuhan 50.41 318 ⇑P **P** **11 32 27.6 +1.9**
WHN pP **pP** **11 32 39.9 +0.8**
WHN sP **sP** **11 32 45.3 +0.6**
WHN PP **PP** **11 34 22.9 +1.1**
WHN S **S** **11 39 38.8 +2.9**
WHN pmax pmax
comp=Z,390nm,0.9s
WHN pmax pmax
comp=Z,9μm,4.3s
WHN LR LR
comp=Z,40μm,19.9s
WHN LR LR
comp=Z,50μm,17.9s
WHN LR LR
comp=Z,92μm,22.6s
KUR Kuril'sk 50.61 357 *c i*P **P** **11 32 26.8 -0.1**
KUR *e*S **S** **11 39 39.4 +1.3**
KUR SS **SS** **11 43 14.1 +1.0**
KUR *e*SSS SSS 11 44 35.8
KUR pmax pmax
comp=Z,347nm,1.0s
KUR MLR MLR
comp=N,4μm,18.0s
KUR MLR MLR
comp=E,10μm,18.0s
KUR MLR MLR
comp=Z,16μm,18.0s
BKNI Bangkinang 50.61 275 P **P** **11 32 27.9 +0.3**
BKNI IAmb IAmb 11 32 31.4
comp=Z,116nm,0.8s
BKNI Bangkinang 50.61 275 P **P** **11 32 25.7 -1.9**
BKNI Bangkinang 50.61 275 P **P** **11 32 27.9 +0.3**
comp=Z,146nm,0.7s,comp=Z,16μmcomp=Z,20μm
PDSI Padang 51.04 273 P **P** **11 32 29.7 -1.1**
comp=Z,90nm,0.7s,comp=Z,3μmcomp=Z,16μm
IPM Ipoh 51.27 280 P **P** **11 32 33.6 +1.1**
IPM Ipoh 51.27 280 P **P** **11 32 32.9 +0.3**
IPM IAmb IAmb 11 33 51.0
comp=Z,113nm,0.9s
IPM Ipoh 51.27 280 ⇑P **P** **11 32 31.8 -0.8**
MSHR Mys Shultsa 51.27 341 *c i*P **P** **11 32 31.4 -0.6**
MSHR pmax pmax
comp=Z,52nm,1.8s
MSHR MLR MLR
comp=Z,5μm,17.0s
XMAS Kiritimati 51.64 83 P **P** **11 32 37.0 +1.7**
XMAS Kiritimati 51.64 83 IAMs_20 IAMs_20 11 50 10.3
comp=Z,31μm,22.0s
XMAS Kiritimati 51.64 83 ⇑P **P** **11 32 37.9 +2.6**
XMAS Kiritimati 51.64 83 P **P** **11 32 37.7 +2.4**
XMAS pP **pP** **11 32 49.1 +0.6**
SUJ Sinuiju 51.70 334 P **P** **11 32 35.2 0.0**
SUJ S **S** **11 39 57.5 +4.0**
SUJ AmB
comp=Z,2μm,3.4s
SUJ AMS AMS
comp=Z,21μm,23.4s
KULM Kulim 51.79 281 P **P** **11 32 36.8 +0.4**
KULM IAmb IAmb 11 32 38.3
comp=Z,65nm,0.8s
KULM Kulim 51.79 281 ⇑P **P** **11 32 35.7 -0.7**
DL2 Dalian 52.08 331 P **P** **11 32 39.3 +1.3**
DL2 PcS **PcS** **11 37 45.5 -2.3**
DL2 S **S** **11 40 00.5 +1.9**
DL2 SS **SS** **11 43 37.6 +1.0**
DL2 pmax pmax
comp=Z,140nm,1.0s
DL2 pmax pmax
comp=Z,4μm,8.3s
DL2 LR LR
comp=Z,18μm,22.2s
DL2 LR LR
comp=Z,14μm,22.6s
DL2 LR LR
comp=Z,36μm,22.6s
TIA Tai'an 52.47 325 ⇑P **P** **11 32 41.6 +0.6**
TIA S **S** **11 40 03.3 -0.8**
TIA pmax pmax
comp=Z,66nm,1.1s
TIA pmax pmax
comp=Z,2μm,14.2s
TIA LR LR
comp=Z,5μm,23.0s
TIA LR LR
comp=Z,11μm,18.1s
TIA LR LR
comp=Z,14μm,21.6s
USA0B Ussuriysk Arra 52.48 342 P **P** **11 32 41.7 +0.8**
USA0B IAmb IAmb 11 33 19.2
comp=Z,176nm,1.6s
USA0B Ussuriysk Arra 52.48 342 *c i*P **P** **11 32 40.3 -0.6**
USA0B *i* *PP **pP** **11 32 54.9 +0.6**
USRK Ussuriysk Ar. 52.48 342 P **P** **11 32 41.9 +1.0**
USRK Ussuriysk Ar. 52.48 342 P **P** **11 32 40.9 0.0**
comp=Z,32nm,0.9s,baz=155,slow=7.9,SNR=44
USRK PcP **PcP** **11 33 53.1 +2.1**
comp=Z,28nm,0.9s,baz=156,slow=4.5,SNR=2.2
USRK LR LR 11 53 34.1
comp=Z,16μm,20.3s,baz=159,slow=34
comp=Z,32nm,0.9s
YSS Yuzh-Sakhalins 52.79 353 *c i*P **P** **11 32 42.9 -0.2**
YSS *e* 11 33 51.8
YSS *e* 11 34 39.0
YSS *e*S **S** **11 40 04.2 -3.9**
YSS pmax pmax
comp=Z,30nm,1.1s
YSS pmax pmax
comp=Z,2μm,8.0s
YSS Yuzh-Sakhalins 52.79 353 P **P** **11 32 43.1 -0.1**
YSS PcP **PcP** **11 33 52.6 +0.6**
NAYO Nakonayok 53.43 292 P **P** **11 32 50.8 +2.4**
SRIT Nakonsritamara 53.51 285 P **P** **11 32 49.3 +0.2**
SNY Shenyang 53.51 334 ⇑P **P** **11 32 48.9 +0.4**
SNY PP **PP** **11 34 48.4 -1.2**
SNY S **S** **11 40 15.4 -2.7**
SNY SS **SS** **11 43 52.8 -6.3**
SNY pmax pmax
comp=Z,32nm,1.0s
SNY LR LR
comp=Z,5μm,21.3s
SNY LR LR
comp=Z,14μm,19.9s
SNY LR LR
comp=Z,22μm,20.6s
MDJ Mudanjiang 53.60 341 P **P** **11 32 49.3 +0.1**
MDJ PcS **PcS** **11 37 50.5 -3.7**
MDJ S **S** **11 40 21.5 +2.2**
MDJ pmax pmax
comp=Z,49nm,1.3s
MDJ pmax pmax
comp=Z,3μm,8.0s
MDJ LR LR
comp=Z,10μm,24.4s
MDJ LR LR
comp=Z,6μm,21.0s
MDJ LR LR
comp=Z,27μm,24.7s
MDJ Mudanjiang 53.60 341 P **P** **11 32 48.3 -0.9**
MDJ IAmb IAmb 11 33 36.1
comp=Z,87nm,1.2s
MDJ Mudanjiang 53.60 341 ⇑P **P** **11 32 49.4 +0.1**
MDJ PcP **PcP** **11 33 55.8 +0.5**
ENH Enshi 53.62 314 P **P** **11 32 50.4 +0.7**
SLVN Son La 53.66 301 P **P** **11 32 51.7 +1.6**
SLVN IAmb IAmb 11 32 55.6
comp=Z,135nm,1.2s
SLVN IAMs_20 IAMs_20 11 52 42.5
comp=Z,34μm,21.0s
GYA Guiyang 53.72 308 ⇓*i*P **P** **11 32 53.3 +2.7**
GYA PcP **PcP** **11 33 57.4 +1.1**
GYA S **S** **11 40 22.9 +1.1**
GYA pmax pmax
comp=Z,120nm,1.0s
GYA pmax pmax
comp=Z,4μm,6.3s
GYA LR LR
comp=Z,13μm,18.8s
GYA LR LR
comp=Z,16μm,18.7s
GYA LR LR
comp=Z,34μm,19.3s
LYN LuoYang 54.17 320 ⇑P **P** **11 32 54.5 +1.0**
LYN S **S** **11 40 21.5 -5.8**
LYN SS **SS** **11 44 09.3 -0.5**
LYN pmax pmax
comp=Z,150nm,1.0s
LYN pmax pmax
comp=Z,5μm,5.1s
LYN LR LR
comp=Z,26μm,20.1s
LYN LR LR
comp=Z,34μm,19.7s
LYN LR LR
comp=Z,58μm,21.0s
GSI Gunungsitoli 54.17 276 P **P** **11 32 53.1 -0.9**
GSI IAmb IAmb 11 32 56.9
comp=Z,161nm,0.9s
GSI Gunungsitoli 54.17 276 ⇑P **P** **11 32 51.9 -2.1**
GSI Gunungsitoli 54.17 276 P **P** **11 32 52.6 -1.4**
comp=Z,201nm,0.8s,comp=Z,5μmcomp=Z,15μm
COCO West Island 54.24 259 P **P** **11 32 55.8 +1.4**
COCO West Island 54.24 259 P **P** **11 32 55.8 +1.4**
COCO pmax pmax
comp=Z,436nm,0.9s
COCO MLR MLR
comp=Z,16μm,20.0s
KCSI Kotacane, Aceh 54.31 278 P **P** **11 32 53.3 -1.6**
comp=Z,66nm,0.7s,comp=Z,3μm
CN2 Changchun 54.38 337 *e*P **P** **11 32 53.6 -1.3**
CN2 *e*PP **PP** **11 34 58.1 +0.6**
CN2 *e*S **S** **11 40 26.8 -3.0**
CN2 *e*sS sS 11 40 54.1 +3.2
CN2 *e*SS **SS** **11 44 08.9 -3.9**
CN2 pmax pmax
comp=Z,60nm,1.1s
CN2 pmax pmax
comp=Z,2μm,7.5s
CN2 LR LR
comp=Z,3μm,19.0s
CN2 LR LR
comp=Z,2μm,19.0s
CN2 LR LR
comp=Z,6μm,20.0s
HNS HongShan 54.68 324 ⇑P **P** **11 32 57.9 +0.7**
HNS pP **pP** **11 33 10.3 -0.6**
HNS sP **sP** **11 33 15.8 -0.8**
HNS S **S** **11 40 31.3 -2.8**
HNS pmax pmax
comp=Z,230nm,1.1s
HNS pmax pmax
comp=Z,4μm,7.3s
HNS LR LR
comp=Z,22μm,18.3s
HNS LR LR
comp=Z,8μm,15.9s
HNS LR LR
comp=Z,30μm,20.4s
UGL Uglegorsk 54.96 353 *e*P **P** **11 32 57.7 -1.3**
UGL *e* 11 35 00.0
UGL *e*S **S** **11 40 35.9 -1.5**
UGL pmax pmax
comp=Z,2μm,5.7s
UGL smax smax
comp=E,2μm,12.0s
UGL MLR MLR
comp=E,7μm,15.0s
KEKH Kekaha 55.11 58 IAMs_20 IAMs_20 11 52 51.5
comp=Z,31μm,21.0s
BNX BinXian 55.33 340 ⇑P **P** **11 33 01.5 -0.2**
BNX PP **PP** **11 35 08.8 +2.9**
BNX S **S** **11 40 42.3 -0.1**
BNX pmax pmax
comp=Z,130nm,1.0s
BNX pmax pmax
comp=Z,3μm,8.3s
BNX LR LR
comp=Z,7μm,18.7s
BNX LR LR
comp=Z,5μm,18.0s
BNX LR LR
comp=Z,13μm,18.6s
LHMI Lhok Sumawe 55.40 280 P **P** **11 33 03.2 +0.3**
comp=Z,245nm,0.8s,comp=Z,5μmcomp=Z,19μm
SNSI Sinabang, Aceh 55.56 277 P **P** **11 33 03.8 -0.2**
comp=Z,110nm,0.8s,comp=Z,5μmcomp=Z,16μm
BJT Baijiatuau 55.71 328 P **P** **11 33 05.0 +0.5**
BJT IAmb IAmb 11 33 24.6
comp=Z,92nm,1.1s
BJT Baijiatuau 55.71 328 IAMs_20 IAMs_20 11 54 31.0
comp=Z,24μm,21.0s
BJT Baijiatuau 55.71 328 P **P** **11 33 05.0 +0.5**
BJT pmax pmax
comp=Z,92nm,1.1s
BJT Baijiatuau 55.71 328 P **P** **11 33 05.5 +0.9**
BJT pP **pP** **11 33 18.0 0.0**
BJI Beijing 55.72 328 P **P** **11 33 05.4 +0.8**
BJI pP **pP** **11 33 18.0 -0.1**
BJI sP **sP** **11 33 23.8 +0.1**
BJI S **S** **11 40 46.0 -1.8**
BJI pmax pmax
comp=Z,35nm,1.2s
BJI pmax pmax
comp=Z,2μm,4.8s
BJI LR LR
comp=Z,9μm,17.6s
BJI LR LR
comp=Z,4μm,17.5s
BJI LR LR
comp=Z,13μm,17.9s
MLSI Meulaboh, Aceh 55.77 279 P **P** **11 33 04.8 -0.7**
comp=Z,154nm,0.8s
PHRA Phrae 55.78 297 P **P** **11 33 06.7 +1.2**
SKR Severo-Kuril's 56.11 4 *e*P P 11 33 02.0 -5.2
SKR *e*PPP PPP 11 36 36.8
SKR *e*S **S** **11 40 46.0 -6.6**
SKR *e*PS **PnS** **11 40 57.5 -11**
SKR pmax pmax
comp=Z,2μm,6.2s
XAN Xi'an 56.18 318 ⇑P **P** **11 33 08.9 +0.8**
XAN pP pP 11 33 19.8 -2.0
XAN PP **PP** **11 35 14.0 +0.2**
XAN ScP **ScP** **11 38 01.0 -0.1**
XAN S **S** **11 40 53.5 -0.8**
XAN ScS **ScS** **11 42 53.4 -0.3**
XAN SS **SS** **11 44 41.9 +0.3**
XAN pmax pmax
comp=Z,230nm,1.0s
XAN pmax pmax
comp=Z,5μm,4.5s
XAN LR LR
comp=Z,20μm,21.2s
XAN LR LR
comp=Z,18μm,21.0s
XAN LR LR
comp=Z,39μm,19.6s
XAN Xi'an 56.18 318 P **P** **11 33 08.4 +0.3**
XAN pP **pP** **11 33 20.4 -1.4**
KMI Kunming 56.23 305 ⇑P **P** **11 33 10.9 +2.0**
KMI sP pP 11 33 24.3 +1.9
KMI PP **PP** **11 35 12.3 -2.3**
KMI S **S** **11 40 51.6 -4.1**

KMI SS **SS** **11 44 43.9 +0.8**
KMI pmax pmax
comp=Z,170nm,1.2s
KMI pmax pmax
comp=Z,3μm,5.4s
KMI LR LR
comp=Z,7μm,19.2s
KMI LR LR
comp=Z,13μm,19.3s
KMI LR LR
comp=Z,19μm,20.3s
KMI Kunming 56.23 305 P **P** **11 33 11.1 +2.2**
KMI pP **pP** **11 33 22.9 +0.5**
TIY Taiyuan 56.23 323 *e*P **P** **11 33 09.8 +1.3**
TIY PP **PP** **11 35 18.8 +4.5**
TIY PcS **PcS** **11 38 03.8 -2.5**
TIY S **S** **11 40 49.9 -5.1**
TIY pmax pmax
comp=Z,47nm,0.7s
TIY pmax pmax
comp=Z,3μm,5.3s
TIY LR LR
comp=Z,18μm,21.8s
TIY LR LR
comp=Z,16μm,23.7s
TIY LR LR
comp=Z,31μm,23.1s
CRAI Chiangrai 56.27 299 P **P** **11 33 10.3 +1.4**
CRAI IAmb IAmb 11 33 30.9
comp=Z,170nm,1.1s
CRAI IAMs_20 IAMs_20 11 54 27.0
comp=Z,25μm,22.0s
KIP Kipapa 56.34 60 P **P** **11 33 10.1 +0.7**
KIP Kipapa 56.34 60 P **P** **11 33 10.1 +0.7**
KIP pmax pmax
comp=Z,747nm,1.9s
OPA Opana 56.45 60 P **P** **11 33 11.5 +1.3**
OPA Opana 56.45 60 P **P** **11 33 11.5 +1.3**
OPA pmax pmax
comp=Z,416nm,1.3s
TYV Tymovskoe 56.65 353 *e*P **P** **11 33 10.9 -0.1**
TYV *e*S **S** **11 41 02.3 +2.5**
TYV pmax pmax
comp=Z,700nm,4.5s
TYV pmax pmax
comp=Z,31nm,1.0s
TYV smax smax
comp=N,2μm,12.0s
TYV smax smax
comp=E,800nm,12.0s
CM31 Chiang Mai Arr 56.92 296 P **P** **11 33 15.7 +2.1**
CM31 IAmb IAmb 11 33 17.8
comp=Z,94nm,1.0s
CMAR Chiang Mai Arr 56.92 296 P **P** **11 33 14.8 +1.2**
CMAR Chiang Mai Arr 56.92 296 *i* P **P** **11 33 14.8 +1.2**
CMAR pmax pmax
comp=Z,54nm,0.9s
CMAR Chiang Mai Arr 56.92 296 P **P** **11 33 14.6 +1.0**
comp=Z,55nm,1.0s,baz=118,slow=5.2,SNR=144
CMAR LR LR 11 57 53.7
comp=Z,6μm,19.0s,baz=105,slow=36
comp=Z,55nm,1.0s
KLR Kul'dur 57.14 345*c i*P **P** **11 33 13.3 -1.3**
KLR pmax pmax
comp=Z,64nm,0.9s
KLR MLR MLR
comp=Z,9μm,18.0s
KLR Kul'dur 57.14 345 LR LR 11 54 56.0
comp=Z,22μm,21.1s,baz=168,slow=33
GRNR Gornyy 57.52 349⇑*i*P **P** **11 33 17.4 +0.2**
GRNR pmax pmax
comp=Z,20nm,0.8s
KHLH Kahului Airpor 57.52 61 IAMs_20 IAMs_20 11 54 11.4
comp=Z,24μm,20.0s
HUH Hualalai 57.61 63 IAMs_20 IAMs_20 11 58 22.8
comp=Z,19μm,18.0s
HLK Haleakala 57.63 61 IAMs_20 IAMs_20 11 54 04.2
comp=Z,28μm,21.0s
PZH PanZhiHua 57.64 306⇑P **P** **11 33 19.8 +1.1**
PZH S **S** **11 41 15.4 +1.4**
PZH pmax pmax
comp=Z,60nm,1.4s
PZH pmax pmax
comp=Z,3μm,6.8s
PZH LR LR
comp=Z,12μm,20.6s
PZH LR LR
comp=Z,9μm,20.7s
PZH LR LR
comp=Z,16μm,20.9s
HPAH Hawaii Prepara 57.86 62 IAMs_20 IAMs_20 11 54 50.2
comp=Z,22μm,20.0s
POHA Pohakuloa 57.91 63 P **P** **11 33 22.5 +1.7**
POHA Pohakuloa 57.91 63 IAMs_20 IAMs_20 11 54 52.6
comp=Z,19μm,20.0s
POHA Pohakuloa 57.91 63⇑P **P** **11 33 22.7 +1.9**
CD2 Chengdu 58.14 312⇑P **P** **11 33 23.1 +1.0**
CD2 pP pP 11 33 35.5 -0.1
CD2 PP **PP** **11 35 35.6 +4.2**
CD2 S **S** **11 41 22.8 +2.5**
CD2 sS sS 11 41 38.9 -3.3
CD2 SS **SS** **11 45 16.5 +3.8**
CD2 pmax pmax
comp=Z,100nm,0.7s
CD2 pmax pmax
comp=Z,3μm,5.3s
CD2 LR LR
comp=Z,5μm,18.6s
CD2 LR LR
comp=Z,5μm,19.6s
CD2 LR LR
comp=Z,38μm,22.6s
XLT XiLinHaoTe 58.58 331 *e*P **P** **11 33 25.8 +0.9**
XLT pP sP 11 33 43.3 -0.7
XLT S **S** **11 41 20.5 -5.1**
XLT SS **SS** **11 45 16.9 -2.2**
XLT pmax pmax
comp=Z,200nm,1.1s
XLT pmax pmax
comp=Z,3μm,8.5s
XLT LR LR
comp=Z,1μm,21.0s
XLT LR LR
comp=Z,13μm,24.3s
XLT LR LR
comp=Z,29μm,22.9s
PET Petropavlovsk 58.63 5 *e*P **P** **11 33 24.0 -0.9**
PET *e* 11 34 15.6
PET *e*S **S** **11 41 26.5 +0.8**
PET pmax pmax
comp=Z,30nm,0.8s
PET pmax pmax
comp=Z,3μm,20.1s
PET MLR MLR
comp=Z,9μm,19.0s
PEA0B Petropavlovsk- 58.63 4 P **P** **11 33 25.6 +0.6**
PEA0B IAmb IAmb 11 33 57.1
comp=Z,158nm,1.4s
PEA0B Petropavlovsk- 58.63 4*c i*P **P** **11 33 23.4 -1.6**
PETK Petropavlovsk- 58.63 4 P **P** **11 33 25.2 +0.2**
PETK Petropavlovsk- 58.63 4 P **P** **11 33 25.2 +0.2**
PETK Petropavlovsk- 58.63 4 P **P** **11 33 25.0 0.0**
comp=Z,44nm,1.0s,baz=167,slow=6.7,SNR=47
PETK LR LR 11 55 03.4
comp=Z,20μm,21.4s,baz=192,slow=32
comp=Z,44nm,1.0s
HHC Hu-ho-hao-te 58.81 325⇑*i*P **P** **11 33 27.9 +1.3**
HHC pP pP 11 33 39.0 -1.4
HHC S **S** **11 41 29.3 +0.5**
HHC sS sS 11 41 50.9 0.0
HHC ScS **ScS** **11 43 12.3 -0.5**
HHC SS **SS** **11 45 27.4 +4.4**
HHC pmax pmax
comp=Z,180nm,1.0s
HHC pmax pmax
comp=Z,1μm,6.9s
HHC LR LR
comp=Z,18μm,18.8s
HHC LR LR
comp=Z,18μm,18.4s
HHC LR LR
comp=Z,40μm,18.6s
PPT Papeete 58.85 107 P **P** **11 33 29.8 +2.6**
comp=Z,28nm,0.8s,baz=260,slow=6.1,SNR=3.4
PPT LR LR 11 53 35.1
comp=Z,4μm,21.6s,baz=280,slow=31

PPT2 Papeete2 58.85 107 *e*PKIKP **P** **11 33 22.8 -4.5**
comp=Z,6μm,26.0s
PPT2 Papeete2 58.85 107 *e*PP **PP** **11 35 39.4 +1.6**
PPT2 comp=Z,2μm,26.2s *e*S **S** **11 41 24.3 -5.7**
PPT2 comp=Z,9μm,25.8s *e*SS **SS** **11 45 23.4 -0.8**
PPT2 comp=Z,9μm,29.2s *e*LQ LQ 11 48 13.1
PPT2 comp=Z,25μm,31.2s *e*LR LR 11 50 46.8
PPT2 comp=Z,9μm,30.5s *e*LR LR 11 50 52.5
comp=Z,12μm,24.2s
NKL Nikolayevsk 59.13 353 *e*P **P** **11 33 25.1 -3.3**
NKL *e*S **S** **11 41 28.0 -4.2**
NKL pmax pmax
comp=E,82nm,1.2s
NKL pmax pmax
comp=N,50nm,1.1s
NKL pmax pmax
comp=Z,241nm,1.1s
NKL smax smax
comp=E,308nm,4.9s
NKL smax smax
comp=N,190nm,7.7s
NKL MLR MLR
comp=N,32μm,19.0s
NKL MLR MLR
comp=E,9μm,20.0s
NKL MLR MLR
comp=Z,25μm,20.0s
TVO Taravao 59.17 107 *e*PKIKP **P** **11 33 32.0 +2.5**
comp=Z,87nm,1.3s
HEH HeiHe 59.28 342 *e*P **P** **11 33 28.3 -1.2**
HEH pP **pP** **11 33 42.4 -0.7**
HEH PcP **PcP** **11 34 15.1 -2.2**
HEH S **S** **11 41 30.0 -4.3**
HEH SS **SS** **11 45 29.5 -0.3**
HEH pmax pmax
comp=Z,120nm,1.0s
HEH pmax pmax
comp=Z,4μm,11.4s
HEH LR LR
comp=Z,14μm,22.7s
HEH LR LR
comp=Z,7μm,21.3s
HEH LR LR
comp=Z,24μm,24.0s
BTO Baotou 59.54 324 *e*P **P** **11 33 33.8 +2.2**
BTO PP **PP** **11 35 50.0 +6.4**
BTO S **S** **11 41 40.4 +2.2**
BTO SS **SS** **11 45 37.8 +3.4**
BTO pmax pmax
comp=Z,150nm,0.9s
BTO pmax pmax
comp=Z,7μm,8.6s
BTO LR LR
comp=Z,45μm,23.0s
BTO LR LR
comp=Z,41μm,20.9s
BTO LR LR
comp=Z,69μm,22.8s
TBI Tubuai 59.55 114 *e*P **P** **11 33 31.5 -0.4**
comp=Z,23μm,27.8s
TBI Tubuai 59.55 114 *e*P **P** **11 33 33.4 +1.5**
comp=Z,133nm,1.0s
TBI Tubuai 59.55 114 *e*PP **PP** **11 35 48.7 +4.9**
comp=Z,7μm,31.0s
TBI *e*S **S** **11 41 39.6 +0.9**
comp=Z,24μm,29.5s
TBI *e*SS **SS** **11 45 40.9 +6.1**
comp=Z,38μm,28.0s
TBI *e*LQ LQ 11 48 42.8
comp=Z,220μm,34.8s
TBI *e*LR LR 11 51 15.0
comp=Z,124μm,31.0s
TBI *e*LR LR 11 51 18.3
comp=Z,25μm,30.2s
TNCH TengChong 59.67 303⇑P **P** **11 33 33.9 +0.9**
TNCH PP **PP** **11 35 45.9 +0.7**
TNCH S **S** **11 41 40.8 +0.2**
TNCH pmax pmax
comp=Z,160nm,1.4s
TNCH pmax pmax
comp=Z,2μm,5.6s
TNCH LR LR
comp=Z,3μm,21.2s
TNCH LR LR
comp=Z,5μm,25.4s
TNCH LR LR
comp=Z,17μm,32.1s
PMOR Pomariorio Ree 60.32 104 *e*P **P** **11 33 40.9 +3.6**
comp=Z,296nm,1.0s
LZH Lanzhou 60.77 317⇑*i*P **P** **11 33 41.8 +1.6**
LZH pP pP 11 33 53.1 -1.0
LZH PP **PP** **11 35 54.3 -0.4**
LZH S **S** **11 41 54.3 0.0**
LZH sS pS 11 42 12.6 +2.7
LZH pmax pmax
comp=Z,270nm,1.1s
LZH pmax pmax
comp=Z,4μm,7.8s
LZH LR LR
comp=Z,12μm,19.2s
LZH LR LR
comp=Z,13μm,18.0s
LZH LR LR
comp=Z,21μm,19.9s
PBA Port Blair 60.78 287 *e*P **P** **11 33 37.8 -2.6**
DGPR DIGLIPUR 60.95 288⇑*i*P **P** **11 33 40.6 -1.0**
HIA Hailar 61.11 337 P **P** **11 33 44.0 +1.9**
HIA Hailar 61.11 337 P **P** **11 33 42.8 +0.7**
HIA IAmb IAmb 11 33 44.7
comp=Z,130nm,0.9s
HIA Hailar 61.11 337*c i*P **P** **11 33 42.1 0.0**
HIA pmax pmax
comp=Z,161nm,1.0s
HIA MLR MLR
comp=Z,9μm,19.0s
HIA Hailar 61.11 337 P **P** **11 33 42.6 +0.5**
HIA pP **pP** **11 33 55.3 -0.5**
SHEM Shemya Is, Ala 61.13 16 LR LR 11 55 56.3
comp=Z,26μm,21.7s,baz=203,slow=32
DRV Dumont d'Urvil 61.57 185 P **P** **11 33 45.0 +0.1**
ZEA Zeya 62.42 344 *e*P **P** **11 33 51.1 +0.3**
ZEA *e* 11 36 07.7
ZEA *e*S **S** **11 42 18.2 +4.0**
ZEA *e*SS **SS** **11 46 21.3 +2.5**
ZEA pmax pmax
comp=N,50nm,1.1s
ZEA pmax pmax
comp=Z,70nm,1.1s
ZEA pmax pmax
comp=E,200nm,8.2s
ZEA pmax pmax
comp=N,300nm,10.2s
ZEA pmax pmax
comp=Z,900nm,8.0s
ZEA smax smax
comp=E,600nm,8.9s
ZEA smax smax
comp=N,2μm,10.8s
ADK Adak 63.33 22 P **P** **11 33 59.3 +2.5**
ADK Adak 63.33 22 IAMs_20 IAMs_20 11 55 43.8
comp=Z,23μm,22.0s
IMP Imphal 63.46 301⇑*i*P **P** **11 33 57.9 -0.4**
IMP *i* x x 11 43 12.7
MOKO MOKOCHONG 63.50 303 *e*P **P** **11 33 58.5 -0.3**
DIBR DIBRUGARH 63.60 304 *e*P **P** **11 33 59.7 +0.6**
KOHI KOHIMA 63.63 302 *e*P **P** **11 33 59.4 -0.2**
JORH JORHAT 63.88 303 *e*P **P** **11 34 01.7 +0.7**
ITAN ITANAGAR 64.46 303⇑*i*P **P** **11 34 06.1 +1.3**
ZIRO ZIRO 64.50 304 *e*P **P** **11 34 05.9 +0.7**
ATKA Atka Island 64.51 23 IAMs_20 IAMs_20 11 58 24.1
comp=Z,19μm,21.0s
MA2 Magadan 64.88 360 P **P** **11 34 06.8 -0.1**
MA2 IAmb IAmb 11 34 29.9
comp=Z,105nm,1.1s
MA2 IAMs_20 IAMs_20 11 57 30.5
comp=Z,23μm,22.0s
MA2 Magadan 64.88 360⇑P **P** **11 34 05.5 -1.3**
MA2 Magadan 64.88 360*c i*P **P** **11 34 05.0 -1.9**
MA2 pmax pmax
comp=Z,37nm,0.7s
MA2 MLR MLR
comp=Z,10μm,18.0s
MA2 Magadan 64.88 360 LR LR 12 02 41.5
comp=Z,14μm,19.2s,baz=184,slow=36
MA2 Magadan 64.88 360 P **P** **11 34 05.7 -1.2**
GTA Gaotai 65.23 318 P **P** **11 34 10.9 +1.1**
GTA PP **PP** **11 36 38.6 +4.8**
GTA S **S** **11 42 52.8 +2.9**
GTA SS **SS** **11 46 59.8 -3.8**
GTA pmax pmax
comp=Z,53nm,0.9s
GTA pmax pmax
comp=Z,3μm,10.8s
GTA LR LR
comp=Z,4μm,22.7s
GTA LR LR
comp=Z,9μm,21.9s
GTA LR LR
comp=Z,10μm,24.5s
SHL Shillong 65.47 301⇑*i*P **P** **11 34 12.1 +0.5**
CIT Chita 65.74 335 *e*P **P** **11 34 12.9 +0.2**
CIT *e* 11 34 25.1
CIT *e* 11 34 29.8
CIT *e* 11 34 46.6
CIT *e* 11 43 17.1
CIT *e* 11 47 04.5
CIT pmax pmax
comp=Z,390nm,1.8s
ULN Ulaanbaatar 65.86 329 P **P** **11 34 14.5 +0.7**
ULN Ulaanbaatar 65.86 329 IAMs_20 IAMs_20 12 01 00.2
comp=Z,24μm,21.0s
ULN Ulaanbaatar 65.86 329⇑P **P** **11 34 14.4 +0.7**
ULN Ulaanbaatar 65.86 329*c i*P **P** **11 34 13.9 +0.2**
ULN pmax pmax
comp=Z,182nm,1.0s
ULN MLR MLR
comp=Z,17μm,21.0s
ULN Ulaanbaatar 65.86 329 P **P** **11 34 14.1 +0.4**
ULN P **P** **11 34 14.1 +0.4**
ULN S **S** **11 42 58.1 +0.7**
ULN S **S** **11 42 58.1 +0.7**
ULN Ulaanbaatar 65.86 329 P **P** **11 34 14.7 +1.0**
ULN pP **pP** **11 34 26.7 -1.0**
ULN PcP **PcP** **11 34 44.7 +0.3**
SONM Songino Array 66.18 329 P **P** **11 34 16.7 +1.0**
SONM Songino Array 66.18 329 P **P** **11 34 16.7 +1.0**
SONM pmax pmax
comp=Z,192nm,0.9s
SONM Songino Array 66.18 329 P **P** **11 34 16.2 +0.5**
comp=Z,234nm,1.0s,baz=142,slow=6.6,SNR=285
SONM PKP2bc 12 02 53.0
comp=Z,3.1nm,0.8s,baz=297,slow=2.2,SNR=15
SONM LR LR 12 03 09.4
comp=Z,20μm,19.7s,baz=260,slow=36
comp=Z,234nm,1.0s
CASY Casey 66.94 197 P **P** **11 34 20.1 0.0**
CASY IAmb IAmb 11 34 34.1
comp=Z,165nm,1.3s
CASY Casey 66.94 197⇑P **P** **11 34 20.3 +0.3**
CASY Casey 66.94 197 P **P** **11 34 20.0 0.0**
CASY pP **pP** **11 34 32.4 -1.2**
CASY PcP **PcP** **11 34 47.7 -0.6**
GOMU GeErMu 67.21 313 P **P** **11 34 24.3 +1.5**
GOMU S **S** **11 43 11.3 -3.2**
GOMU sS pS 11 43 32.0 +1.1
GOMU pmax pmax
comp=Z,64nm,1.2s
GOMU LR LR
comp=Z,12μm,20.6s
GOMU LR LR
comp=Z,21μm,21.1s
GOMU LR LR
comp=Z,39μm,21.8s
NIKH Nikolski High 67.23 25 P **P** **11 34 20.9 -1.2**
baz=224
NIKH S **S** **11 43 11.7 -1.7**
baz=224
LSA Lhasa 67.49 305 P **P** **11 34 25.0 +0.2**
LSA Lhasa 67.49 305 P **P** **11 34 25.5 +0.7**
LSA Lhasa 67.49 305 P **P** **11 34 25.0 +0.2**
LSA pmax pmax
comp=Z,129nm,0.8s
LSA Lhasa 67.49 305 P **P** **11 34 26.2 +1.4**
SEY Seymchan 68.25 0⇑*e*P **P** **11 34 27.6 -0.7**
SEY MLR MLR
comp=Z,8μm,18.0s
SEY Seymchan 68.25 0 LR LR 12 04 42.5
comp=Z,10μm,19.5s,baz=184,slow=36
GTK Tadong 68.81 302⇑*i*P **P** **11 34 33.2 +0.5**
UNV Unalaska Valle 68.84 25 P **P** **11 34 31.7 -0.5**
baz=226
UNV S **S** **11 43 29.2 -3.4**
baz=226
ZAK Zakamensk 69.37 329 *e*P **P** **11 34 36.2 +0.5**
ZAK pmax pmax
comp=Z,271nm,1.0s
YAK Yakutsk 69.39 349 P **P** **11 34 35.7 +0.3**
YAK Yakutsk 69.39 349⇑P **P** **11 34 34.8 -0.6**
YAK Yakutsk 69.39 349*c i*P **P** **11 34 34.5 -0.9**
YAK *e**PP **pP** **11 34 48.4 -1.0**
YAK *e* 11 34 55.9
YAK *e* 11 37 05.9
YAK *e*S **S** **11 43 37.7 -1.0**
YAK *e**SS **sS** **11 44 03.9 +2.3**
YAK *e* 11 44 30.4
YAK *e*SS **SS** **11 48 05.1 -1.7**
YAK pmax pmax
comp=Z,251nm,1.1s
YAK pmax pmax
comp=E,19nm,1.3s
YAK pmax pmax
comp=N,87nm,1.3s
YAK pmax pmax
comp=Z,239nm,3.3s
YAK pmax pmax
comp=E,161nm,4.1s
YAK pmax pmax
comp=N,208nm,4.1s
YAK smax smax
comp=N,1μm,8.1s
YAK MLR MLR
comp=Z,10μm,20.0s
YAK MLR MLR
comp=N,6μm,18.0s
YAK MLR MLR
comp=E,3μm,16.0s
YAK Yakutsk 69.39 349 LR LR 12 03 03.5
comp=E,12μm,21.9s,baz=148,slow=34
YAK Yakutsk 69.39 349 P **P** **11 34 34.8 -0.6**
YAK pP **pP** **11 34 48.1 -1.3**
P08K Saint George I 69.63 22 P **P** **11 34 36.5 -0.5**
baz=222
SPIA Saint Paul Isl 69.81 21 P **P** **11 34 36.9 -1.2**
baz=221
BOD Bodaibo 69.95 340 *e*P **P** **11 34 38.1 -0.9**
BOD pmax pmax
comp=Z,114nm,1.1s
IRK Irkutsk 70.04 331 *e*P **P** **11 34 40.1 +0.4**
IRK *e* 11 34 53.7
IRK *e*S SKiKP 11 44 08.6 -13
IRK pmax pmax
comp=Z,219nm,1.0s
BOK Bokaro 70.14 298⇑*i*P **P** **11 34 41.7 +0.8**
BOK IAmb IAmb 11 34 46.1
comp=Z,115nm,1.1s
EVN Everest 70.52 302⇑P **P** **11 34 43.9 0.0**
FALS False Pass 70.86 26 P **P** **11 34 43.7 -0.9**
baz=228
FALS S **S** **11 43 55.3 -0.8**
baz=228
VIS Vishakhapatnam 71.00 291 *e*P **P** **11 34 46.1 -0.1**
MOY Mondy 71.30 330 *e*P **P** **11 34 48.2 +0.7**
MOY pmax pmax
comp=Z,233nm,1.2s
CCD Concordia, Ant 71.39 187 P **P** **11 34 48.3 +0.3**
JHSG JHARSUGUDA 71.51 295 *e*P **P** **11 34 49.3 +0.1**
PALK Pallekele 71.67 279 P **P** **11 34 50.7 +0.3**
PALK Pallekele 71.67 279⇑P **P** **11 34 50.3 -0.1**
PALK Pallekele 71.67 279 *i* P **P** **11 34 50.2 -0.2**
PALK Pallekele 71.67 279 LR LR 12 11 11.9
comp=Z,4μm,19.7s,baz=214,slow=40
PALK Pallekele 71.67 279 P **P** **11 34 50.6 +0.2**
PALK S **S** **11 44 05.2 -2.1**
PALK Pallekele 71.67 279 P **P** **11 34 50.5 +0.1**
PALK pP **pP** **11 35 02.6 -1.9**
MALK Mahakanadarawa 71.99 281 P **P** **11 34 50.6 -1.6**

MALK Mahakanadarawa 71.99 281 ⇑P **P** **11 34 52.2 0.0**
S12K Black Hills 72.00 26 P **P** **11 34 50.7 -0.8**
baz=229
S12K S **S** **11 44 08.2 -1.2**
baz=229
VNDA Vanda 72.18 178 P **P** **11 34 52.5 +0.2**
VNDA IAmb IAmb 11 34 54.7
comp=Z,74nm,0.9s
VNDA Vanda 72.18 178 P **P** **11 34 52.5 +0.2**
VNDA pmax pmax
comp=Z,75nm,1.0s
VNDA Vanda 72.18 178 P **P** **11 34 52.4 +0.2**
comp=Z,50nm,0.8s,baz=350,slow=5.6,SNR=96
comp=Z,50nm,0.8s
SDPT Sand Point 72.47 26 P **P** **11 34 54.3 +0.1**
SDPT IAmb IAmb 11 35 44.7
comp=Z,82nm,1.0s
SDPT Sand Point 72.47 26 P **P** **11 34 53.1 -1.0**
baz=231
SDPT S **S** **11 44 15.2 +0.5**
baz=231
CNBA Chernabura Isl 72.53 27 P **P** **11 34 56.0 +1.4**
CNBA IAmb IAmb 11 35 25.3
comp=Z,122nm,1.4s
CHNA Chernabura Isl 72.54 27 P **P** **11 34 53.2 -1.5**
baz=232
CHNA S **S** **11 44 16.7 +1.2**
baz=232
SBA Scott Base 72.75 177 P **P** **11 34 56.9 +1.3**
SBA IAmb IAmb 11 35 01.6
comp=Z,112nm,1.1s
SBA Scott Base 72.75 177 P **P** **11 34 56.9 +1.3**
SBA pmax pmax
comp=Z,112nm,1.1s
MDRS Chennai 73.02 285 ⇑*i*P **P** **11 34 58.1 -0.3**
VJD Vijayawada 73.26 289 ⇑*i*P **P** **11 35 00.3 +0.5**
S14K Fog Glacier 73.46 26 P **P** **11 34 59.0 -1.2**
baz=232
S14K S **S** **11 44 25.6 -0.5**
baz=232
M11K Mekoryuk 73.60 20 P **P** **11 35 00.1 -0.7**
baz=224
M11K S **S** **11 44 29.7 +2.5**
baz=224
AIS Amsterdam Isla 73.87 232 IAMs_20 IAMs_20 12 05 38.0
comp=Z,17µm,20.0s
CHGN Chignik 73.97 26 P **P** **11 35 03.8 +0.7**
CHGN Chignik 73.97 26 P **P** **11 35 02.0 -1.1**
baz=233
CHGN S **SKiKP** **11 44 29.7 +2.0**
baz=233
ALBI Allahabad 74.11 298 ⇑*i*P **P** **11 35 03.9 -0.7**
BILL Bilibino 74.12 6 P **P** **11 35 03.9 +0.2**
BILL Bilibino 74.12 6 *i*P **P** **11 35 02.5 -1.2**
GAMB Gambell 74.44 16 P **P** **11 35 05.7 +0.1**
baz=218
GAMB S **S** **11 44 37.9 +1.3**
baz=218
M13K Dall Lake 74.63 21 P **P** **11 35 07.8 +1.0**
M13K IAmb IAmb 11 36 01.1
comp=Z,92nm,1.1s
M13K IAMs_20 IAMs_20 12 04 15.3
comp=Z,15µm,20.0s
M13K Dall Lake 74.63 21 P **P** **11 35 07.8 +1.0**
baz=227
M13K S **S** **11 44 40.3 +1.4**
baz=227
O14K Tigyukauivet M 74.64 23 P **P** **11 35 07.3 +0.4**
O14K IAMs_20 IAMs_20 12 02 51.6
comp=Z,18µm,22.0s
O14K Tigyukauivet M 74.64 23 P **P** **11 35 06.8 -0.1**
baz=229
O14K S **S** **11 44 38.6 -0.5**
baz=229
N14K Kuskokwak Cree 74.92 22 P **P** **11 35 08.6 +0.1**
baz=229
N14K S **S** **11 44 42.0 -0.2**
baz=229
CHIR Chirikof Islan 74.95 28 P **P** **11 35 08.6 -0.2**
baz=235
R16K Pilot Point 75.10 26 P **P** **11 35 09.6 0.0**
baz=233
R16K S **S** **11 44 44.0 -0.2**
baz=233
O15K Ungalikthiuk R 75.16 24 P **P** **11 35 09.9 0.0**
baz=231
O15K S **S** **11 44 44.7 -0.2**
baz=231
KOD Kodaikanal 75.26 282 ⇑*i*P **P** **11 35 12.0 +0.2**
WMQ Urumqi 75.32 318 *e*P **P** **11 35 12.5 +1.2**
WMQ S **S** **11 44 49.6 +2.2**
WMQ SS **SS** **11 49 36.4 -2.0**
WMQ pmax pmax
comp=Z,100nm,1.3s
WMQ pmax pmax
comp=Z,2µm,5.9s
WMQ LR LR
comp=Z,9µm,19.3s
WMQ LR LR
comp=Z,7µm,17.9s
WMQ LR LR
comp=Z,8µm,21.3s
M14K Bethel 75.37 22 P **P** **11 35 11.9 +0.8**
M14K IAmb IAmb 11 36 08.3
comp=Z,157nm,1.4s
M14K Bethel 75.37 22 P **P** **11 35 11.6 +0.6**
baz=228,SNR=15
M14K S **S** **11 44 47.4 +0.3**
baz=228
HYB Hyderabad 75.40 289 ⇑*e*P **P** **11 35 11.6 -0.7**
HYB IVmB_BB 11 35 12.5
comp=Z,1µm,1.2s
HYB *e*S **S** **11 44 50.4 +1.1**
HYB Hyderabad 75.40 289 ⇑*i*P **P** **11 35 11.5 -0.7**
L14K Kuka Creek 75.50 21 P **P** **11 35 10.7 -1.1**
L14K IAmb IAmb 11 36 09.2
comp=Z,100nm,1.1s
L14K IAMs_20 IAMs_20 12 04 53.1
comp=Z,17µm,20.0s
L14K Kuka Creek 75.50 21 P **P** **11 35 11.8 0.0**
baz=228
L14K S **S** **11 44 49.2 +0.7**
baz=228
TRD Trivandrum 75.51 280 *e*P **P** **11 35 13.6 +0.7**
N15K Kwethluk River 75.69 23 P **P** **11 35 12.2 -0.8**
N15K IAmb IAmb 11 36 06.2
comp=Z,196nm,1.6s
N15K IAMs_20 IAMs_20 12 03 56.1
comp=Z,24µm,22.0s
N15K Kwethluk River 75.69 23 P **P** **11 35 13.1 +0.2**
baz=230
N15K S **S** **11 44 50.6 -0.2**
baz=230
M15K Kasigluk River 75.80 22 P **P** **11 35 13.0 -0.5**
baz=230
M15K S **S** **11 44 51.3 -0.7**
baz=230
P16K Nushagak River 75.81 24 P **P** **11 35 12.8 -0.8**
baz=232
P16K S **S** **11 44 52.0 -0.1**
baz=232
SII Sitkinak Islan 76.03 28 P **P** **11 35 14.0 -1.1**
baz=236
SII S **S** **11 44 53.2 -1.5**
baz=236
O16K Kokwok River B 76.12 24 IAMs_20 IAMs_20 12 04 47.3
comp=Z,24µm,21.0s
O16K Kokwok River B 76.12 24 P **P** **11 35 14.4 -1.0**
baz=232
O16K S **S** **11 44 55.1 -0.3**
baz=232
L15K Ungalak Mounta 76.16 21 P **P** **11 35 15.3 -0.2**
baz=229
L15K S **S** **11 44 55.4 -0.4**
baz=229
Q16K King Salmon 76.16 25 P **P** **11 35 14.0 -1.6**
baz=234
Q16K S **S** **11 44 55.0 -0.9**
baz=234
J14K Nanvaranak Lak 76.16 20 IAMs_20 IAMs_20 12 04 13.8
comp=Z,18µm,22.0s
J14K Nanvaranak Lak 76.16 20 P **P** **11 35 15.4 -0.2**
baz=226,SNR=16
J14K S **S** **11 44 57.9 +2.2**
baz=226
Q17K Contact Creek 76.24 26 P **P** **11 35 15.1 -1.2**
baz=234
Q17K S **S** **11 44 54.4 -2.7**
baz=234
N16K Nishlik Lake 76.39 23 P **P** **11 35 17.1 +0.1**
baz=231,SNR=16
N16K S **S** **11 44 59.5 +1.0**
baz=231
LGTI Lohaghat 76.47 302 ⇑*i*P **P** **11 35 18.3 +0.2**
PTH Pithoragarh 76.52 302 ⇑*i*P **P** **11 35 18.3 -0.3**
K15K Wolf Creek Mou 76.55 21 P **P** **11 35 17.2 -0.6**
K15K IAmb IAmb 11 36 15.1
comp=Z,79nm,1.0s
K15K IAMs_20 IAMs_20 12 04 03.9
comp=Z,18µm,22.0s
K15K Wolf Creek Mou 76.55 21 P **P** **11 35 17.7 -0.1**
baz=228,SNR=30
K15K S **S** **11 45 02.2 +2.1**
baz=228
P17K Kvichak River 76.55 25 P **P** **11 35 16.5 -1.3**
baz=234
P17K S **S** **11 44 59.3 -0.9**
baz=234
O17K Koliganek Bris 76.63 24 P **P** **11 35 18.2 0.0**
baz=233
O17K S **S** **11 45 01.2 +0.2**
baz=233
M16K Timber Creek 76.66 22 P **P** **11 35 17.6 -0.9**
M16K IAmb IAmb 11 36 15.8
comp=Z,102nm,1.1s
M16K IAMs_20 IAMs_20 12 04 48.0
comp=Z,16µm,21.0s
M16K Timber Creek 76.66 22 P **P** **11 35 18.8 +0.3**
baz=231
M16K S **S** **11 45 02.8 +1.4**
baz=231
OHAK Old Harbor 76.81 27 P **P** **11 35 20.4 +1.1**
comp=Z,34nm,0.8s
OHAK Old Harbor 76.81 27 P **P** **11 35 19.7 +0.3**
baz=237
TNA Tin City 76.86 16 P **P** **11 35 19.6 +0.2**
baz=222
TNA S **S** **11 45 02.9 -0.3**
baz=222
TNA Tin City 76.86 16 ⇑P **P** **11 35 19.3 -0.1**
ANM Nome 76.86 18 P **P** **11 35 18.7 -0.8**
ANM IAmb IAmb 11 36 44.7
comp=Z,76nm,1.2s
ANM IAMs_20 IAMs_20 12 04 26.1
comp=Z,27µm,22.0s
ANM Nome 76.86 18 P **P** **11 35 19.7 +0.2**
baz=224
ANM S **S** **11 45 04.7 +1.3**
baz=224
ANM Nome 76.86 18 P **P** **11 35 18.7 -0.8**
ANM pmax pmax
comp=Z,76nm,1.2s
L16K Owhat River 76.91 22 P **P** **11 35 19.1 -0.7**
L16K IAmb IAmb 11 35 22.6
comp=Z,39nm,0.9s
L16K IAMs_20 IAMs_20 12 04 22.3
comp=Z,12µm,21.0s
L16K Owhat River 76.91 22 P **P** **11 35 19.8 0.0**
baz=230,SNR=13
L16K S **S** **11 45 04.6 +0.6**
baz=230
JHNI Jhansi 77.03 298 *e*P **P** **11 35 19.8 -1.5**
N17K Nushagak Hills 77.05 23 P **P** **11 35 20.5 -0.1**
N17K IAmb IAmb 11 36 21.2
comp=Z,34nm,1.1s
N17K IAMs_20 IAMs_20 12 07 55.1
comp=Z,19µm,20.0s
N17K Nushagak Hills 77.05 23 P **P** **11 35 20.8 +0.2**
baz=233,SNR=8.4
N17K S **S** **11 45 07.1 +1.5**
baz=233
P18K Big Mountain, 77.17 25 P **P** **11 35 20.8 -0.6**
P18K Big Mountain, 77.17 25 P **P** **11 35 20.1 -1.3**
baz=235
P18K S **S** **11 45 03.5 -3.6**
baz=235
F14K Arctic Creek 77.24 17 P **P** **11 35 21.5 -0.1**
baz=223
F14K S **S** **11 45 06.8 -0.7**
baz=223
KDAK Kodiak Island 77.43 27 P **P** **11 35 23.1 +0.3**
baz=238
KDAK S **S** **11 45 07.4 -2.4**
baz=238
KDAK Kodiak Island 77.43 27 LR LR 12 09 27.6
comp=Z,4µm,18.1s,baz=260,slow=36
AKL Akola 77.44 293 ⇑*i*P **P** **11 35 23.4 -0.3**
O18K Koktuh Hills 77.45 25 P **P** **11 35 22.4 -0.5**
baz=235
O18K S **S** **11 45 07.9 -2.2**
baz=235
M17K Holitna River 77.48 23 IAMs_20 IAMs_20 12 06 55.2
comp=Z,15µm,20.0s
M17K Holitna River 77.48 23 P **P** **11 35 23.6 +0.5**
baz=232
M17K S **S** **11 45 13.4 +3.1**
baz=232
J16K Anvik River 77.52 20 IAMs_20 IAMs_20 12 04 55.7
comp=Z,17µm,21.0s
J16K Anvik River 77.52 20 P **P** **11 35 23.9 +0.7**
baz=229
J16K S **S** **11 45 14.4 +3.7**
baz=229
G15K Niukluk 77.57 18 P **P** **11 35 23.9 +0.5**
baz=226
G15K S **S** **11 45 11.9 +0.7**
baz=226
Q19K Cape Douglas, 77.59 26 P **P** **11 35 23.7 0.0**
Q19K IAmb IAmb 11 35 29.5
comp=Z,97nm,0.6s
Q19K IAMs_20 IAMs_20 12 11 12.2
comp=Z,14µm,19.0s
Q19K Cape Douglas, 77.59 26 P **P** **11 35 22.7 -1.1**
baz=236
Q19K S **S** **11 45 09.3 -2.3**
baz=236
L17K Donlin 77.61 22 P **P** **11 35 24.1 +0.3**
baz=232
L17K S **S** **11 45 13.8 +2.2**
baz=232
N18K Kilae Creek 77.65 24 P **P** **11 35 24.2 +0.2**
N18K IAmb IAmb 11 36 33.0
comp=Z,21µm,20.0s
N18K Kilae Creek 77.65 24 P **P** **11 35 24.4 +0.3**
baz=234
N18K S **S** **11 45 14.4 +2.1**
baz=234
H16K Elim 77.89 19 P **P** **11 35 25.1 -0.1**
baz=227,SNR=12
H16K S **S** **11 45 16.1 +1.6**
baz=227
I17K Unalakleet 77.89 20 P **P** **11 35 23.8 -1.5**
I17K IAmb IAmb 11 36 42.2
comp=Z,149nm,1.6s
I17K IAMs_20 IAMs_20 12 05 29.2
comp=Z,18µm,21.0s
I17K Unalakleet 77.89 20 P **P** **11 35 25.8 +0.6**
baz=229,SNR=20
I17K S **S** **11 45 17.8 +3.3**
baz=229
F15K North Star Dit 77.89 17 P **P** **11 35 25.0 -0.3**
baz=225
F15K S **S** **11 45 14.7 +0.1**
baz=225
Q20K Shuyak Island 77.96 26 P **P** **11 35 25.9 +0.1**
baz=238
Q20K S **S** **11 45 15.3 -0.2**
baz=238
SYI Shuyak Island 77.96 26 IAMs_20 IAMs_20 12 04 36.1
comp=Z,15µm,22.0s
K17K Iditarod 77.97 21 P **P** **11 35 26.2 +0.4**
baz=231
K17K S **S** **11 45 17.9 +2.4**
baz=231
O19K Port Alsworth 78.01 24 P **P** **11 35 25.5 -0.5**
baz=236
O19K S **S** **11 45 15.2 -0.7**
baz=236
SVW2 Sparrevohn 78.02 23 P **P** **11 35 28.9 +2.8**
SVW2 Sparrevohn 78.02 23 P **P** **11 35 26.3 +0.3**
SVW2 IAMs_20 IAMs_20 12 08 34.4
comp=Z,19µm,20.0s
M18K Stony River 78.15 23 P **P** **11 35 27.6 +0.8**
baz=234
M18K S **S** **11 45 20.3 +2.8**
baz=234
P19K Oil Pt 78.16 25 P **P** **11 35 26.3 -0.6**
P19K IAmb IAmb 11 35 38.3
comp=Z,75nm,0.7s
P19K Oil Pt 78.16 25 P **P** **11 35 25.9 -1.0**
baz=237,SNR=8.1
P19K S **S** **11 45 16.8 -1.0**
baz=237
L18K Granite Mounta 78.26 22 IAMs_20 IAMs_20 12 05 38.1
comp=Z,16µm,22.0s
L18K Granite Mounta 78.26 22 P **P** **11 35 27.7 +0.3**
baz=233
L18K S **S** **11 45 20.9 +2.3**
baz=233
N19K Bonanza Creek 78.29 24 IAMs_20 IAMs_20 12 06 23.1
comp=Z,20µm,20.0s
N19K Bonanza Creek 78.29 24 P **P** **11 35 27.5 -0.2**
baz=235,SNR=6.3
N19K S **S** **11 45 18.9 -0.3**
baz=235
G16K Koyuk River 78.36 18 IAMs_20 IAMs_20 12 06 04.9
comp=Z,21µm,20.0s
G16K Koyuk River 78.36 18 P **P** **11 35 27.8 0.0**
baz=227
G16K S **S** **11 45 21.2 +1.6**
baz=227
TIXI Tiksi 78.41 353 P **P** **11 35 27.2 -0.8**
TIXI Tiksi 78.41 353 ⇑P **P** **11 35 26.6 -1.4**
TIXI Tiksi 78.41 353*c* *i*P **P** **11 35 26.0 -2.0**
TIXI pmax pmax
comp=Z,55nm,1.1s
TIXI Tiksi 78.41 353 LR LR 12 08 40.1
comp=Z,7µm,20.9s,baz=166,slow=34
KAAM Kaadhehdhoo 78.50 272 P **P** **11 35 30.9 +1.2**
ZSN Zaisan 78.52 321 *e*P **P** **11 35 28.6 -0.5**
comp=Z,59nm,1.0s,baz=320
ZSN *e*S **S** **11 45 21.6 -0.5**
baz=320
ZSN Zaisan 78.52 321 *e*P **P** **11 35 28.6 -0.5**
ZSN *e*S **S** **11 45 21.5 -0.5**
ZSN pmax pmax
comp=Z,59nm,1.0s
DDI Dehra Dun 78.53 302 ⇑*i*P **P** **11 35 29.9 +0.2**
DDI IAmb IAmb 11 35 33.0
comp=Z,126nm,0.8s
O20K Slope Mountain 78.65 25 P **P** **11 35 28.3 -1.4**
baz=237,SNR=5.8
O20K S **S** **11 45 20.9 -2.2**
baz=237
H17K Granite Mounta 78.83 19 IAMs_20 IAMs_20 12 05 04.3
comp=Z,19µm,22.0s
H17K Granite Mounta 78.83 19 P **P** **11 35 31.2 +0.7**
baz=230
H17K S **S** **11 45 25.9 +1.2**
baz=230
HOM Homer 78.85 26 P **P** **11 35 29.9 -0.7**
baz=238
HOM S **S** **11 45 25.1 +0.1**
baz=238
NDI New Delhi 78.88 301 ⇑*i*P **P** **11 35 29.9 -1.6**
L19K White Mountain 78.93 23 P **P** **11 35 30.8 -0.4**
L19K IAMs_20 IAMs_20 12 05 46.9
comp=Z,21µm,22.0s
L19K White Mountain 78.93 23 P **P** **11 35 31.6 +0.5**
baz=235,SNR=50
L19K S **S** **11 45 28.1 +2.2**
baz=235
TTA Tatalina 78.93 22 P **P** **11 35 34.7 +3.5**
TTA Tatalina 78.93 22 P **P** **11 35 31.3 +0.2**
TTA Tatalina 78.93 22 P **P** **11 35 31.4 +0.2**
baz=234,SNR=34
TTA S **S** **11 45 27.8 +1.8**
baz=234
TTA Tatalina 78.93 22 ⇑P **P** **11 35 30.9 -0.3**
TTA Tatalina 78.93 22 P **P** **11 35 31.3 +0.2**
TTA pmax pmax
comp=Z,33nm,1.0s
CNPM China Poot 78.95 26 P **P** **11 35 31.0 -0.3**
CNPM IAmb IAmb 11 35 46.8
comp=Z,112nm,0.7s
CNPM IAMs_20 IAMs_20 12 10 40.3
comp=Z,16µm,20.0s
G17K Kiwalik Mounta 78.97 18 P **P** **11 35 31.8 +0.6**
baz=229,SNR=34
G17K S **S** **11 45 27.6 +1.6**
baz=229
J18K Innoko River 79.00 21 IAMs_20 IAMs_20 12 08 36.8
comp=Z,13µm,20.0s
J18K Innoko River 79.00 21 P **P** **11 35 31.5 +0.1**
baz=233,SNR=30
J18K S **S** **11 45 28.5 +1.9**
baz=233
HMDM Hanimaadhoo 79.00 278 P **P** **11 35 33.5 +1.0**
BRSE Bradley Lake S 79.28 26 P **P** **11 35 32.5 -0.6**
baz=239
BRSE S **S** **11 45 29.3 -0.4**
baz=239
MNCY Minicoy 79.33 279 ⇑*i*P **P** **11 35 34.2 -0.1**
KUDL Kundal 79.39 300 *e*P **P** **11 35 32.5 -1.8**
F17K Baldwin Pennin 79.41 18 P **P** **11 35 33.7 +0.2**
F17K Baldwin Pennin 79.41 18 P **P** **11 35 33.7 +0.2**
baz=228
F17K S **S** **11 45 31.1 +0.4**
baz=228
N20K Mount Spurr 79.43 24 P **P** **11 35 32.8 -1.1**
baz=237
N20K S **S** **11 45 28.7 -2.7**
baz=237
M20K Styx River 79.43 23 IAMs_20 IAMs_20 12 09 38.2
comp=Z,19µm,20.0s
M20K Styx River 79.43 23 P **P** **11 35 34.3 +0.4**
baz=236
M20K S **S** **11 45 31.5 +0.1**
baz=236
SMLA Simla 79.46 303 ⇑*i*P **P** **11 35 34.2 -0.4**
L20K Farewell, AK 79.47 23 P **P** **11 35 34.4 +0.3**
baz=236,SNR=17
L20K S **S** **11 45 32.8 +1.1**
baz=236
H18K Honhosa River 79.48 19 IAMs_20 IAMs_20 12 05 35.3
comp=Z,16µm,22.0s
H18K Honhosa River 79.48 19 P **P** **11 35 34.0 0.0**
baz=231
H18K S **S** **11 45 31.8 +0.3**
baz=231
KAD Karad 79.50 289 *e*P **P** **11 35 34.0 -1.1**
C16K Lisburne Hills 79.55 15 P **P** **11 35 33.6 -0.6**
C16K Lisburne Hills 79.55 15 P **P** **11 35 34.0 -0.2**
baz=224
C16K S **S** **11 45 31.2 -0.9**
baz=224
GOA Goa 79.56 287 ⇑*i*P **P** **11 35 35.5 0.0**
GOA IAmb IAmb 11 35 39.0
comp=Z,92nm,1.1s
CAPN Captain Cook N 79.64 25 P **P** **11 35 34.8 -0.1**
baz=238
CAPN S **S** **11 45 33.0 -0.3**
baz=238
E17K Hotham Inlet 79.67 17 P **P** **11 35 34.9 -0.1**
baz=227,SNR=52
E17K S **S** **11 45 35.0 +1.5**
baz=227
J19K Poorman 79.71 21 P **P** **11 35 35.4 +0.2**
baz=234
J19K S **S** **11 45 35.5 +1.5**
baz=234
GCSA Galena City Sc 79.72 20 P **P** **11 35 35.0 -0.2**
baz=232,SNR=9.1
GCSA S **S** **11 45 34.9 +0.9**
baz=232
D17K Noatak River 79.74 16 P **P** **11 35 35.3 -0.1**
baz=226,SNR=19
D17K S **S** **11 45 33.6 -0.6**
baz=226
G18K Tagagawik 79.85 19 IAMs_20 IAMs_20 12 05 23.3
comp=Z,18µm,22.0s
G18K Tagagawik 79.85 19 P **P** **11 35 35.8 -0.3**
baz=231
G18K S **S** **11 45 36.7 +1.2**
baz=231
K20K Telida 79.90 22 IAMs_20 IAMs_20 12 07 50.5
comp=Z,15µm,20.0s
K20K Telida 79.90 22 P **P** **11 35 36.4 0.0**
baz=235
K20K S **S** **11 45 38.3 +2.2**
baz=235

MK31 Makanchi Array 79.94 319 P **P** 11 35 36.6 -0.4
MK31 IAmb IAmb 11 35 39.7
comp=Z,71nm,0.9s
MK31 Makanchi Array 79.94 319*c i* P **P** 11 35 36.4 -0.5
MKAR Makanchi Array 79.94 319 P **P** 11 35 36.4 -0.5
MKAR Makanchi Array 79.94 319 P **P** 11 35 36.8 -0.2
comp=Z,89nm,0.9s,baz=106,slow=5.4,SNR=231
MKAR PP **PP** 11 38 39.5 +0.3
comp=Z,14nm,1.0s,baz=98,slow=10,SNR=3.5
MKAR S **S** 11 45 37.5 +0.3
comp=Z,0.3nm,0.7s,baz=99,slow=4.5,SNR=1.2
MKAR PKKPbc **PKKPbc** 11 54 23.4 -0.9
comp=Z,3.4nm,0.7s,baz=302,slow=2.3,SNR=20
MKAR PKPPKP **P'P'df** 12 02 27.2 +1.4
comp=Z,1.7nm,0.9s,baz=327,slow=2.4,SNR=6.5
MKAR LR LR 12 09 42.1
comp=Z,16µm,21.8s,baz=112,slow=35
comp=Z,89nm,0.9s
F18K Selawik 80.00 18 P **P** 11 35 36.3 -0.4
F18K S **S** 11 45 36.0 -0.8
baz=230,SNR=17
baz=230
POO Poona 80.00 290⇑ *i* P **P** 11 35 36.6 -1.2
SEW Seward 80.02 26 P **P** 11 35 35.9 -1.1
baz=240,SNR=7.7
SEW S **S** 11 45 36.8 -0.6
baz=240
RDOG Red Dog Mine 80.03 16 P **P** 11 35 37.5 +0.6
RDOG IAmb IAmb 11 35 39.7
comp=Z,135nm,1.5s
RDOG Red Dog Mine 80.03 16 P **P** 11 35 36.5 -0.5
baz=226,SNR=19
RDOG S **S** 11 45 36.3 -1.1
baz=226
O22K Cooper Landing 80.10 25 P **P** 11 35 37.6 +0.3
O22K IAmb IAmb 11 35 55.2
comp=Z,103nm,0.8s
O22K IAMs_20 IAMs_20 12 08 59.6
comp=Z,12µm,20.0s
O22K Cooper Landing 80.10 25 P **P** 11 35 36.6 -0.8
baz=240
O22K S **S** 11 45 36.8 -1.3
baz=240
SKT Skwentna 80.12 24 P **P** 11 35 36.7 -0.9
SKT IAMs_20 IAMs_20 12 07 53.3
comp=Z,16µm,20.0s
SKT Skwentna 80.12 24 P **P** 11 35 36.0 -1.6
baz=238,SNR=7.0
SKT S **S** 11 45 34.9 -3.6
baz=238
MAKZ Makanchi 80.15 319 P **P** 11 35 37.9 -0.2
MAKZ IAmb IAmb 11 35 40.8
comp=Z,118nm,0.9s
MAKZ Makanchi 80.15 319 P **P** 11 35 37.9 -0.2
MAKZ pmax pmax
comp=Z,118nm,1.0s
SUA Susitna One 80.17 24 P **P** 11 35 36.5 -1.4
SUA IAmb IAmb 11 36 18.6
comp=Z,187nm,1.9s
SUA IAMs_20 IAMs_20 12 12 48.5
comp=Z,8µm,20.0s
SUA Susitna One 80.17 24 P **P** 11 35 36.8 -1.2
baz=239,SNR=11
SUA S **S** 11 45 35.8 -3.4
baz=239
E18K Tukpahlearik C 80.25 17 IAMs_20 IAMs_20 12 05 26.7
comp=Z,20µm,22.0s
E18K Tukpahlearik C 80.25 17 P **P** 11 35 38.3 +0.2
baz=228
E18K S **S** 11 45 39.2 -0.4
baz=228
C17K DeLong Mountai 80.25 15 P **P** 11 35 38.3 +0.2
baz=226
C17K S **S** 11 45 38.9 -0.8
baz=226
H19K Roundabout Mou 80.34 19 IAMs_20 IAMs_20 12 07 16.2
comp=Z,18µm,21.0s
H19K Roundabout Mou 80.34 19 P **P** 11 35 38.6 0.0
baz=233,SNR=35
H19K S **S** 11 45 40.7 +0.1
baz=233
J20K Nowinta River 80.34 21 IAMs_20 IAMs_20 12 10 08.2
comp=Z,12µm,20.0s
J20K Nowinta River 80.34 21 P **P** 11 35 39.1 +0.4
baz=235
J20K S **S** 11 45 41.0 +0.4
baz=235
PPLA Purkeypile 80.36 23 P **P** 11 35 38.4 -0.6
baz=237
PPLA S **S** 11 45 39.0 -2.2
baz=237
RC01 Rabbit Creek A 80.40 25 IAMs_20 IAMs_20 12 07 36.5
comp=Z,17µm,21.0s
RC01 Rabbit Creek A 80.40 25 P **P** 11 35 38.3 -0.8
baz=240,SNR=15
RC01 S **S** 11 45 39.9 -1.5
baz=240
DHRM DHARAMSHALA 80.42 304⇑ *i* P **P** 11 35 39.3 -0.8
DHRM IAmb IAmb 11 35 42.9
comp=Z,154nm,0.9s
G19K Purcell Mounta 80.51 19 IAMs_20 IAMs_20 12 05 55.6
comp=Z,21µm,22.0s
G19K Purcell Mounta 80.51 19 P **P** 11 35 39.3 -0.2
baz=232
G19K S **S** 11 45 42.0 -0.4
baz=232
M22K Willow 80.58 24 P **P** 11 35 38.9 -1.1
baz=239,SNR=12
M22K S **S** 11 45 40.8 -2.3
baz=239
I20K Naaghedeneel 80.58 21 IAMs_20 IAMs_20 12 06 40.5
comp=Z,14µm,22.0s
I20K Naaghedeneel 80.58 21 P **P** 11 35 40.2 +0.3
baz=235
I20K S **S** 11 45 43.4 +0.3
baz=235
AJM Ajmer 80.67 298⇑ *i* P **P** 11 35 40.5 -0.8
AJM *i* x x 11 39 08.5
CAST Castle Rocks 80.68 22 P **P** 11 35 39.9 -0.6
CAST IAMs_20 IAMs_20 12 07 55.0
comp=Z,17µm,20.0s
CAST Castle Rocks 80.68 22 P **P** 11 35 39.7 -0.8
baz=237,SNR=36
CAST S **S** 11 45 42.5 -1.9
baz=237
F19K Shaleruckik Mo 80.72 18 P **P** 11 35 40.1 -0.5
baz=231,SNR=32
F19K S **S** 11 45 44.2 -0.4
baz=231
SHLS Shalkode 80.74 315 *e* P **P** 11 35 39.3 -2.2
comp=Z,63nm,1.1s,baz=315
SHLS Shalkode 80.74 315 *e* P **P** 11 35 39.2 -2.2
SHLS pmax pmax
comp=Z,63nm,1.1s
PDGK Podgornoye 80.77 315 P **P** 11 35 41.0 -0.6
CHUM Lake Minchumin 80.85 22 P **P** 11 35 40.7 -0.7
baz=237,SNR=48
CHUM S **S** 11 45 43.0 -2.9
baz=237
H20K Anotleneega Mo 80.85 20 P **P** 11 35 41.6 +0.2
baz=234
H20K S **S** 11 45 44.8 -1.2
baz=234
CUT Chulitna 80.85 24 P **P** 11 35 40.0 -1.5
baz=239,SNR=11
CUT S **S** 11 45 42.3 -3.7
baz=239
P23K Montague Islan 80.87 26 P **P** 11 35 40.7 -0.9
baz=242
P23K S **S** 11 45 44.5 -1.9
baz=242
PMR Palmer 80.90 25 P **P** 11 35 40.9 -0.8
PMR Palmer 80.90 25 P **P** 11 35 41.1 -0.6
baz=240,SNR=10
PMR S **S** 11 45 42.5 -4.0
baz=240
PMR Palmer 80.90 25 P **P** 11 35 40.9 -0.8
PMR pmax pmax
comp=Z,31nm,1.0s
C18K Utukok River 80.91 16 P **P** 11 35 41.2 -0.5
baz=228
C18K S **S** 11 45 44.4 -2.1
baz=228
THN Thein Dam 80.95 304⇑ *i* P **P** 11 35 42.3 -0.3
ZAA0 Zalesovo Array 80.97 327 P **P** 11 35 41.0 -1.2
ZAA0 IAmb IAmb 11 35 43.8
comp=Z,164nm,1.0s
ZAA0 IAMs_20 IAMs_20 12 11 04.2
comp=Z,13µm,21.0s
ZALV Zalesovo Beam 80.97 327 P **P** 11 35 40.4 -1.8
ZALV Zalesovo Beam 80.97 327 P **P** 11 35 40.9 -1.3
comp=Z,152nm,0.9s,baz=111,slow=4.8,SNR=225
ZALV PKKPbc **PKKPbc** 11 54 21.7 -0.5
comp=Z,2.2nm,0.6s,baz=252,slow=0.9,SNR=6.6
ZALV PKPPKP **P'P'df** 12 02 22.9 -0.4
comp=Z,3.0nm,0.9s,baz=259,slow=2.9,SNR=4.7
ZALV LR LR 12 11 14.6
comp=Z,13µm,20.3s,baz=108,slow=35
UZB Uzynbulak 81.04 315 *e* P **P** 11 35 42.6 -0.6
comp=Z,85nm,1.3s,baz=315
UZB *e* S **S** 11 45 48.1 -1.1
baz=315
UZB Uzynbulak 81.04 315 *e* P **P** 11 35 42.5 -0.6
UZB *e* S **S** 11 45 48.1 -1.1
UZB pmax pmax
comp=Z,85nm,1.3s
GHO Glory Hole Cre 81.08 25 IAMs_20 IAMs_20 12 11 35.5
comp=Z,11µm,19.0s
Q23K Middleton Isla 81.08 27 P **P** 11 35 42.6 -0.1
baz=243
Q23K S **S** 11 45 46.0 -2.5
baz=243
KNK Knik Glacier 81.09 25 IAMs_20 IAMs_20 12 08 18.0
comp=Z,16µm,20.0s
KNK Knik Glacier 81.09 25 P **P** 11 35 42.4 -0.4
baz=241,SNR=12
KNK S **S** 11 45 47.1 -1.6
baz=241
KTH Kantishna Hill 81.19 23 IAMs_20 IAMs_20 12 07 39.6
comp=Z,20µm,21.0s
B18K Kokolik River 81.23 15 P **P** 11 35 43.5 +0.2
baz=227
B18K S **S** 11 45 48.6 -1.1
baz=227
E19K Redstone River 81.28 18 P **P** 11 35 42.3 -1.4
E19K IAmb IAmb 11 35 47.8
comp=Z,69nm,0.8s
E19K Redstone River 81.28 18 P **P** 11 35 43.6 0.0
baz=232
E19K S **S** 11 45 50.3 -0.1
baz=232
SML Sawmill 81.34 25 P **P** 11 35 43.9 -0.3
SML IAmb IAmb 11 35 58.8
comp=Z,78nm,1.0s
SML IAMs_20 IAMs_20 12 10 06.5
comp=Z,12µm,21.0s
SML Sawmill 81.34 25 P **P** 11 35 43.5 -0.7
baz=241,SNR=36
SML S **S** 11 45 49.8 -1.5
baz=241
TRF Thorofare Moun 81.38 23 IAMs_20 IAMs_20 12 07 45.6
comp=Z,20µm,21.0s
TRF Thorofare Moun 81.38 23 P **P** 11 35 43.0 -1.4
baz=239,SNR=20
TRF S **S** 11 45 49.4 -2.6
baz=239
SATY Saty 81.45 315 *e* P **P** 11 35 45.0 -0.3
comp=Z,73nm,1.2s,baz=315
SATY Saty 81.45 315 *e* P **P** 11 35 44.9 -0.3
SATY pmax pmax
comp=Z,73nm,1.2s
BPAW Bear Paw Mtn. 81.46 22 IAMs_20 IAMs_20 12 06 21.6
comp=Z,16µm,22.0s
BPAW Bear Paw Mtn. 81.46 22 P **P** 11 35 43.3 -1.3
baz=238,SNR=14
BPAW S **S** 11 45 51.5 -0.9
baz=238
ZHN Zhinishke 81.46 315 *e* P **P** 11 35 45.0 -0.4
comp=Z,86nm,1.7s,baz=315
ZHN Zhinishke 81.46 315 *e* P **P** 11 35 44.9 -0.4
ZHN pmax pmax
comp=Z,86nm,1.7s
F20K Avaraart Lake 81.49 18 IAMs_20 IAMs_20 12 06 59.7
comp=Z,19µm,21.0s
F20K Avaraart Lake 81.49 18 P **P** 11 35 44.8 +0.1
baz=233
F20K S **S** 11 45 52.1 -0.4
baz=233
IMAR Indian Mountai 81.51 20 P **P** 11 35 44.6 -0.3
M23K Glacier View 81.58 25 P **P** 11 35 45.0 -0.4
baz=241,SNR=13
M23K S **S** 11 45 53.2 -0.5
baz=241
C19K Lookout Ridge 81.65 16 P **P** 11 35 45.5 -0.2
baz=229
C19K S **S** 11 45 53.3 -0.9
baz=229
H21K Melozitna Rive 81.65 20 IAMs_20 IAMs_20 12 08 24.8
comp=Z,13µm,20.0s
H21K Melozitna Rive 81.65 20 P **P** 11 35 45.4 -0.2
baz=236
H21K S **S** 11 45 55.4 +1.1
baz=236
D19K Kuna River 81.67 17 P **P** 11 35 45.4 -0.4
baz=231
D19K S **S** 11 45 54.1 -0.3
baz=231
I21K Tanana 81.67 21 P **P** 11 35 45.8 0.0
baz=237
I21K S **S** 11 45 56.6 +2.1
baz=237
JMU Jammu 81.68 304 *e* P **P** 11 35 47.0 +0.6
WAT1 Susitna Watana 81.75 24 P **P** 11 35 45.4 -0.8
baz=240
WAT1 S **S** 11 45 53.4 -2.1
baz=240
SCM Sheep Creek Mo 81.77 25 IAMs_20 IAMs_20 12 05 49.8
comp=Z,14µm,22.0s
SCM Sheep Creek Mo 81.77 25 P **P** 11 35 46.3 -0.2
baz=242,SNR=15
SCM S **S** 11 45 55.6 -0.2
baz=242
EYAK Cordova Ski Ar 81.86 26 P **P** 11 35 46.5 -0.2
baz=243
EYAK S **S** 11 45 56.8 +0.2
baz=243
G21K Allakaket 81.90 19 IAMs_20 IAMs_20 12 07 52.3
comp=Z,19µm,21.0s
G21K Allakaket 81.90 19 P **P** 11 35 46.9 0.0
baz=235,SNR=20
G21K S **S** 11 45 56.3 -0.5
baz=235
RND Reindeer 81.92 23 IAMs_20 IAMs_20 12 07 51.6
comp=Z,19µm,21.0s
WAT6 Susitna Watana 81.96 24 P **P** 11 35 46.8 -0.7
baz=241,SNR=16
WAT6 S **S** 11 45 56.2 -1.6
baz=241
TDK Taldyqorghan 81.98 317 *e* P **P** 11 35 47.5 -0.4
comp=Z,65nm,0.9s,baz=317
TDK LR LR 12 07 44.8
comp=Z,4µm,22.2s,baz=317
TDK Taldyqorghan 81.98 317 *e* P **P** 11 35 47.5 -0.4
TDK pmax pmax
comp=Z,65nm,0.9s
A19K Wainwright 81.99 15 P **P** 11 35 47.3 +0.1
baz=228
A19K S **S** 11 45 55.8 -1.7
baz=228
MLY Manley 82.04 21 P **P** 11 35 46.9 -0.8
MLY Manley 82.04 21 P **P** 11 35 47.2 -0.5
baz=238,SNR=69
MLY S **S** 11 45 57.1 -1.4
baz=238
MCK McKinley 82.05 23 P **P** 11 35 47.1 -0.7
baz=240,SNR=66
MCK S **S** 11 45 54.6 -3.9
baz=240
BWN Browne 82.07 22 P **P** 11 35 46.8 -1.1
BWN IAmb IAmb 11 36 42.0
comp=Z,348nm,1.8s
BWN IAMs_20 IAMs_20 12 08 08.3
comp=Z,16µm,21.0s
E20K Nigu River 82.08 17 P **P** 11 35 47.6 -0.3
baz=233,SNR=34
E20K S **S** 11 45 59.1 +0.4
baz=233
ARXS Arharly 82.17 316 *e* P **P** 11 35 48.4 -0.5
KAIM Kayak Island 82.18 27 P **P** 11 35 48.8 +0.3
baz=245
KAIM S **S** 11 46 01.6 +1.7
baz=245
KLU Klutina 82.21 25 P **P** 11 35 48.5 -0.3
baz=243,SNR=33
KLU S **S** 11 46 00.4 0.0
baz=243
D20K Etivluk River 82.23 17 P **P** 11 35 48.6 -0.1
baz=232
D20K S **S** 11 46 01.0 +0.7
baz=232
RAGM Ragged Mountai 82.27 27 IAMs_20 IAMs_20 12 07 11.9
comp=Z,13µm,21.0s
H22K Ishtalitna Cre 82.27 20 P **P** 11 35 49.0 0.0
baz=238
H22K S **S** 11 46 00.8 +0.1
baz=238
F21K Alatna River 82.31 19 P **P** 11 35 48.9 -0.2
baz=235
F21K S **S** 11 46 00.6 -0.4
baz=235
KSH Kashi 82.33 311 P **P** 11 35 51.8 +1.8
KSH pP pP 11 36 04.5 +0.3
KSH S **S** 11 46 04.3 +1.7
KSH pmax pmax
comp=Z,55nm,1.1s
KSH pmax pmax
comp=Z,3µm,8.5s
KSH LR LR
comp=Z,7µm,22.0s
KSH LR LR
comp=Z,10µm,21.2s
KSH LR LR
comp=Z,13µm,23.4s
DHY Denali Highway 82.34 24 IAMs_20 IAMs_20 12 09 30.9
comp=Z,13µm,20.0s
DHY Denali Highway 82.34 24 P **P** 11 35 48.6 -0.9
baz=242,SNR=17
DHY S **S** 11 46 00.4 -1.4
baz=242
SEM Semipalatinsk 82.38 322 *e* P **P** 11 35 49.4 -0.7
comp=Z,70nm,1.2s,baz=322
SEM LR LR 12 09 08.1
comp=Z,5µm,17.6s,baz=322
SEM Semipalatinsk 82.38 322 *e* P **P** 11 35 49.3 -0.7
SEM pmax pmax
comp=Z,70nm,1.2s
SEM MLR MLR
comp=Z,5µm,18.0s
M24K Tolsona, Glenn 82.38 25 P **P** 11 35 49.2 -0.4
baz=243,SNR=16
M24K S **S** 11 46 00.6 -1.5
baz=243
NEA2 Nenana 82.43 22 IAMs_20 IAMs_20 12 08 15.2
comp=Z,13µm,21.0s
NEA2 Nenana 82.43 22 P **P** 11 35 48.4 -1.4
baz=240,SNR=54
NEA2 S **S** 11 45 58.7 -3.6
baz=240
HMT Hamilton 82.43 27 IAMs_20 IAMs_20 12 10 40.3
comp=Z,12µm,20.0s
MDOK Medeo 82.44 315 *e* P **P** 11 35 50.1 -0.4
baz=315
MDOK *e* S **S** 11 46 03.1 -0.6
baz=315
MDOK LR LR 12 10 20.9
comp=Z,4µm,18.8s,baz=315
MDOK Medeo 82.44 315 *e* P **P** 11 35 50.1 -0.4
MDOK *e* S **S** 11 46 03.0 -0.6
MDOK MLR MLR
comp=Z,4µm,19.0s
TNSS Tian-Shan 82.48 315 *e* P **P** 11 35 50.4 -0.6
baz=314
TNSS Tian-Shan 82.48 315 *e* P **P** 11 35 50.4 -0.6
SUCK Suckling Hills 82.54 27 IAMs_20 IAMs_20 12 05 27.1
comp=Z,15µm,22.0s
AAA Alma-Ata 82.55 315 *e* P **P** 11 35 50.6 -0.3
comp=Z,68nm,1.0s,baz=315
AAA LR LR 12 10 04.2
comp=Z,7µm,23.6s,baz=315
AAA Alma-Ata 82.55 315 *e* P **P** 11 35 50.6 -0.3
AAA pmax pmax
comp=Z,68nm,1.0s
AAA MLR MLR
comp=Z,7µm,24.0s
BMRM Bremner River 82.55 26 P **P** 11 35 50.3 -0.2
baz=244,SNR=16
BMRM S **S** 11 46 03.2 -0.6
baz=244
I23K Minto, Yukon-K 82.60 21 P **P** 11 35 50.0 -0.6
baz=240,SNR=22
I23K S **S** 11 46 01.4 -2.6
baz=240
CHKK Chushkaly 82.66 315 *e* P **P** 11 35 51.2 -0.2
baz=315
CHKK Chushkaly 82.66 315 *e* P **P** 11 35 51.2 -0.2
WRH Wood River Hil 82.74 22 IAMs_20 IAMs_20 12 09 38.3
comp=Z,16µm,20.0s
BGLC Bering Glacier 82.78 27 P **P** 11 35 51.8 +0.2
baz=246
BGLC S **S** 11 46 07.2 +1.2
baz=246
G22K Bettles 82.78 19 P **P** 11 35 51.8 +0.3
baz=237
G22K S **S** 11 46 04.5 -1.3
baz=237
ULHL Ulahol 82.79 314 P **P** 11 35 54.0 +1.7
SNR=10
N25K Chitina, Valde 82.83 26 P **P** 11 35 51.8 -0.2
baz=244,SNR=11
N25K S **S** 11 46 04.3 -2.4
baz=244
E21K Killik River 82.85 18 IAMs_20 IAMs_20 12 08 05.6
comp=Z,19µm,22.0s
E21K Killik River 82.85 18 P **P** 11 35 52.1 +0.2
baz=235
E21K S **S** 11 46 03.8 -2.8
baz=235
H23K Yukon River 82.88 21 P **P** 11 35 52.0 -0.1
baz=239
H23K S **S** 11 46 04.6 -2.3
baz=239
B20K Meade River 82.88 16 IAMs_20 IAMs_20 12 09 35.4
comp=Z,20µm,21.0s
B20K Meade River 82.88 16 P **P** 11 35 52.0 +0.1
baz=232
B20K S **S** 11 46 04.7 -2.0
baz=232
CCB Clear Creek Bu 82.93 22 IAMs_20 IAMs_20 12 11 52.4
comp=Z,17µm,20.0s
HARP HAARP 82.94 25 P **P** 11 35 52.3 -0.1
baz=244,SNR=12
HARP S **S** 11 46 06.6 -1.0
baz=244
SNH Sunshine Point 83.01 27 P **P** 11 35 53.5 +0.5
SNH IAmb IAmb 11 36 32.6
comp=Z,91nm,1.2s
COLA College 83.02 22 P **P** 11 35 54.2 +1.4
COLA College 83.02 22 P **P** 11 35 51.9 -0.8
COLA IAmb IAmb 11 35 56.7
comp=Z,51nm,0.7s
COLA College 83.02 22 IAMs_20 IAMs_20 12 11 54.8
comp=Z,13µm,20.0s
COLA College 83.02 22 P **P** 11 35 51.5 -1.2
baz=241
COLA S **S** 11 46 07.4 -0.8
baz=241
COLA College 83.02 22⇑ P **P** 11 35 51.1 -1.7
COLA College 83.02 22*c i* P **P** 11 35 51.1 -1.7
COLA pmax pmax
comp=Z,49nm,0.9s
COLA MLR MLR
comp=Z,10µm,18.0s
C21K Knifeblade Rid 83.03 17 P **P** 11 35 53.1 +0.3
baz=234
C21K S **S** 11 46 07.5 -0.8
baz=234
PAX Paxson 83.06 24 P **P** 11 35 52.6 -0.6
baz=243,SNR=9.2
PAX S **S** 11 46 06.2 -2.8
baz=243
GLB Gilahina Butte 83.10 26 P **P** 11 35 52.8 -0.5
GLB IAmb IAmb 11 36 38.0
comp=Z,78nm,1.2s
CRQE Cirque 83.13 27 S **S** 11 46 09.3 -0.5
baz=246
HDA Harding Lake 83.14 23 P **P** 11 35 52.5 -0.9
baz=242,SNR=35
HDA S **S** 11 46 07.0 -2.6
baz=242
HDA S **S** 11 46 07.0 -2.6
baz=242
G23K Bananza Creek 83.17 20 IAMs_20 IAMs_20 12 07 16.0
comp=Z,17µm,22.0s

G23K Bananza Creek 83.17 20 P **P** **11 35 53.7 +0.1**
baz=239
G23K S **S** **11 46 08.6 -1.3**
baz=239
NIL Nilore 83.22 305 P **P** **11 35 53.4 -1.2**
NIL Nilore 83.22 305 IAms_20 IAms_20 12 12 26.5
comp=Z,17µm,22.0s
NIL Nilore 83.22 305 P **P** **11 35 53.4 -1.2**
NIL pmax pmax
comp=Z,199nm,0.8s
NIL MLR MLR
comp=Z,17µm,22.0s
POKR Poker Plat Res 83.30 22 IAms_20 IAms_20 12 16 38.1
comp=Z,13µm,19.0s
POKR Poker Plat Res 83.30 22 P **P** **11 35 52.2 -2.1**
baz=241,SNR=11
POKR S **S** **11 46 07.1 -4.1**
baz=241
K24K Donnelly Dome 83.32 23 P **P** **11 35 54.0 -0.4**
baz=243,SNR=21
K24K S **S** **11 46 09.3 -2.2**
baz=243
IL31 83.34 22 P **P** **11 35 53.2 -1.1**
ILAR Eielson Array 83.34 22 P **P** **11 35 52.8 -1.6**
ILAR Eielson Array 83.34 22 P **P** **11 35 53.6 -0.8**
comp=Z,26nm,0.7s,baz=248,slow=5.4,SNR=134
ILAR S **S** **11 46 08.8 -2.7**
comp=Z,0.5nm,1.0s,baz=252,slow=7.5,SNR=4.1
ILAR PKKPbc **PKKPbc** **11 54 15.1 -2.1**
comp=Z,0.7nm,0.6s,baz=96,slow=2.7,SNR=4.1
ILAR PKPPKP **P'P'df** **12 02 20.4 +2.0**
comp=Z,1.3nm,0.9s,baz=129,slow=1.3,SNR=7.5
ILAR LR LR 12 10 47.7
comp=Z,16µm,19.7s,baz=245,slow=34
comp=Z,26nm,0.7s
E22K Anaktuvuk Pass 83.35 18 P **P** **11 35 52.4 -2.1**
E22K Anaktuvuk Pass 83.35 18 P **P** **11 35 54.7 +0.2**
baz=237
E22K S **S** **11 46 10.9 -0.7**
baz=237
B21K Ikpikpuk River 83.35 17 P **P** **11 35 54.3 0.0**
baz=234
B21K S **S** **11 46 10.6 -0.9**
baz=234
COLD Coldfoot 83.38 20 P **P** **11 35 54.4 -0.2**
baz=238,SNR=22
COLD S **S** **11 46 10.7 -1.2**
baz=238
TKM2 Tokmak 2 83.41 314 P **P** **11 35 55.4 -0.2**
SNR=94
TKM2 Tokmak 2 83.41 314 P **P** **11 35 55.2 -0.4**
MESA MESA 83.42 28 P **P** **11 35 55.3 +0.1**
baz=247,SNR=5.1
MESA S **S** **11 46 11.9 -1.1**
baz=247
MCARA McCarthy VSAT 83.42 26 P **P** **11 35 54.6 -0.4**
baz=246,SNR=16
MCARA S **S** **11 46 09.8 -2.7**
baz=246
KURK Kurchatov 83.46 322 P **P** **11 35 55.2 -0.2**
KURK Kurchatov 83.46 322 IAms_20 IAms_20 12 13 45.6
comp=Z,16µm,20.0s
KURK Kurchatov 83.46 322 *c i*P **P** **11 35 54.1 -1.3**
KURK pmax pmax
comp=Z,285nm,1.3s
KURK MLR MLR
comp=Z,11µm,17.0s
KURK Kurchatov 83.46 322 P **P** **11 35 54.1 -1.3**
KURK S **S** **11 46 07.6 -5.7**
H24K Noodor Dome 83.48 21 IAms_20 IAms_20 12 08 18.2
comp=Z,16µm,22.0s
H24K Noodor Dome 83.48 21 P **P** **11 35 54.1 -1.2**
baz=241
H24K S **S** **11 46 10.1 -2.9**
baz=241
D22K Ayikyak River 83.49 18 P **P** **11 35 55.1 -0.1**
D22K IAmb IAmb 11 35 58.2
comp=Z,70nm,1.2s
D22K IAms_20 IAms_20 12 09 08.4
comp=Z,19µm,21.0s
D22K Ayikyak River 83.49 18 P **P** **11 35 55.8 +0.6**
baz=236,SNR=56
D22K S **S** **11 46 12.7 -0.3**
baz=236
KURBB Kurchatov Arra 83.49 322 P **P** **11 35 55.5 0.0**
comp=Z,92nm,1.0s,baz=110,slow=4.5,SNR=251
KURBB PP **PP** **11 39 08.5 +0.2**
comp=Z,11nm,1.0s,baz=118,slow=6.5,SNR=3.3
KURBB S **S** **11 46 11.1 -2.5**
comp=Z,0.5nm,0.7s,baz=128,slow=6.0,SNR=4.1
KURBB PKKPbc **PKKPbc** **11 54 15.8 -0.4**
comp=Z,2.9nm,0.7s,baz=292,slow=3.0,SNR=20
KURBB PKPPKP **P'P'df** **12 02 20.6 +1.6**
comp=Z,1.7nm,0.8s,baz=298,slow=2.8,SNR=7.5
KURBB LR LR 12 13 50.0
comp=Z,14µm,19.7s,baz=98,slow=36
comp=Z,92nm,1.0s
RIDG Independent Ri 83.66 24 P **P** **11 35 56.1 -0.1**
RIDG IAmb IAmb 11 36 14.0
comp=Z,74nm,1.2s
RIDG Independent Ri 83.66 24 P **P** **11 35 55.3 -0.9**
baz=244,SNR=22
RIDG S **S** **11 46 11.7 -3.2**
baz=244
MENT Mentasta 83.77 25 P **P** **11 35 57.3 +0.6**
MENT IAms_20 IAms_20 12 07 14.7
comp=Z,14µm,22.0s
KBK Karagaybulak 83.81 314 P **P** **11 35 59.1 +1.5**
SNR=25
A21K Barrow 83.84 15 P **P** **11 35 56.6 -0.2**
baz=232
A21K S **SKSac** **11 46 14.5 -1.0**
baz=232
J25K Salcha River, 83.84 23 P **P** **11 35 56.5 -0.7**
baz=243
J25K S **SKSac** **11 46 10.5 -5.5**
baz=243
M26K Nabesna, AK 83.85 25 P **P** **11 35 57.0 -0.2**
baz=246
M26K S **SKSac** **11 46 15.2 -1.0**
baz=246
L26K Log Cabin Wild 83.96 25 IAms_20 IAms_20 12 08 24.8
comp=Z,16µm,22.0s
L26K Log Cabin Wild 83.96 25 P **P** **11 35 57.6 -0.1**
baz=245,SNR=19
L26K S **SKSac** **11 46 16.8 0.0**
baz=245
CTG Chitna Glacier 84.00 27 P **P** **11 35 58.0 -0.1**
baz=247,SNR=20
CTG S **SKSac** **11 46 19.1 +1.7**
baz=247
E23K Chandalar 84.00 19 P **P** **11 35 58.2 +0.3**
baz=239
E23K S **SKSac** **11 46 17.1 +0.1**
baz=239
UCH Uchtor 84.03 313 P **P** **11 35 59.5 +0.4**
SNR=178
JASL Jaisalmer 84.04 298 *e*P **P** **11 35 58.5 -0.4**
G24K Hadweenzic Riv 84.04 21 P **P** **11 35 57.5 -0.5**
G24K IAms_20 IAms_20 12 07 55.0
comp=Z,12µm,22.0s
G24K Hadweenzic Riv 84.04 21 P **P** **11 35 58.2 +0.1**
baz=241
G24K S **SKSac** **11 46 18.0 +0.8**
baz=241
A22K Sinclair Lake 84.07 15 P **P** **11 35 58.0 0.0**
baz=234
A22K S **SKSac** **11 46 17.1 0.0**
baz=234
SCRK Sand Creek 84.11 24 P **P** **11 35 58.2 -0.4**
baz=245,SNR=19
SCRK S **SKSac** **11 46 16.8 -1.1**
baz=245
B22K Teshekpuk Lake 84.11 16 P **P** **11 35 58.0 -0.2**
baz=235
B22K S **SKSac** **11 46 18.3 +1.0**
baz=235
AAK Ala-Archa 84.14 314 P **P** **11 36 00.8 +1.6**
SNR=56
AAK Ala-Archa 84.14 314 P **P** **11 35 59.9 +0.7**
AAK IAmb IAmb 11 36 02.4
comp=Z,95nm,0.9s
AAK Ala-Archa 84.14 314 IAms_20 IAms_20 12 14 49.2
comp=Z,14µm,21.0s
AAK Ala-Archa 84.14 314 *i* P **P** **11 35 59.3 0.0**
SNR=21
AAK Ala-Archa 84.14 314 *c i*P **P** **11 35 58.9 -0.3**
AAK pmax pmax
comp=Z,96nm,0.9s
AAK MLR MLR
comp=Z,14µm,21.0s
AAK Ala-Archa 84.14 314 LR LR 12 14 51.9
comp=Z,10µm,20.5s,baz=101,slow=36
AAK Ala-Archa 84.14 314 P **P** **11 35 59.8 +0.6**
AAK S **SKSac** **11 46 15.9 -3.2**
D23K Nanushuk River 84.15 18 P **P** **11 35 58.9 +0.4**
baz=238,SNR=71
D23K S **SKSac** **11 46 20.3 +2.6**
baz=238
PRP Porcupine Dome 84.19 22 P **P** **11 35 57.4 -1.6**
PRP IAmb IAmb 11 37 08.3
comp=Z,7.5nm,0.8s
PRP IAMs_20 IAMs_20 12 12 18.8
comp=Z,12µm,20.0s
PRP Porcupine Dome 84.19 22 P **P** **11 35 57.3 -1.7**
baz=243,SNR=7.9
PRP S **SKSac** **11 46 18.3 -0.1**
baz=243
SGDS Sogindy 84.22 315 *e*P **P** **11 35 59.0 -0.5**
comp=Z,87nm,1.4s,baz=314
SGDS *e*S **SKSac** **11 46 18.0 -1.5**
baz=314
SGDS Sogindy 84.22 315 *e*P **P** **11 35 59.0 -0.5**
SGDS *e*S **SKSac** **11 46 17.9 -1.5**
SGDS pmax pmax
comp=Z,87nm,1.4s
USP Ospenovka 84.27 314 P **P** **11 36 00.1 +0.3**
SNR=112
F24K Squaw Lake 84.30 20 IAms_20 IAms_20 12 08 13.8
comp=Z,16µm,22.0s
F24K Squaw Lake 84.30 20 P **P** **11 35 59.7 +0.3**
baz=241
F24K S **SKSac** **11 46 21.4 +2.5**
baz=241
M27K Edge Creek, AK 84.31 26 IAms_20 IAms_20 12 09 41.0
comp=Z,12µm,21.0s
M27K Edge Creek, AK 84.31 26 P **P** **11 35 59.7 +0.1**
baz=247
M27K S **SKSac** **11 46 20.3 +1.0**
baz=247
TOLK Toolik Lake Re 84.32 18 P **P** **11 35 59.6 +0.1**
TOLK Toolik Lake Re 84.32 18 P **P** **11 35 59.2 -0.3**
baz=239,SNR=32
TOLK S **SKSac** **11 46 21.5 +2.6**
baz=239
MAW Mawson 84.39 203 P **P** **11 36 00.1 +0.4**
MAW Mawson 84.39 203 P **P** **11 36 00.1 +0.4**
MAW pmax pmax
comp=Z,41nm,1.0s
MAW Mawson 84.39 203 P **P** **11 36 00.2 +0.4**
comp=Z,27nm,0.5s,baz=83,slow=4.3,SNR=24
MAW LR LR 12 11 02.3
comp=Z,18µm,20.9s,baz=87,slow=34
comp=Z,27nm,0.5s
BCPM Bancas Point 84.41 28 P **P** **11 36 00.2 +0.2**
PNL Peninsula 84.42 28 P **P** **11 36 03.5 +3.4**
PNL Peninsula 84.42 28 P **P** **11 36 00.3 +0.2**
baz=249,SNR=7.2
PNL S **SKSac** **11 46 21.9 +2.0**
baz=249
H25L Birch Creek 84.43 21 P **P** **11 35 60.0 +0.1**
baz=243,SNR=13
H25L S **S** **11 46 23.4 +1.1**
baz=243
QSPA South Pole Qui 84.46 180 P **P** **11 35 60.0 -0.4**
QSPA South Pole Qui 84.46 180 ⇑P **P** **11 35 59.9 -0.4**
QSPA South Pole Qui 84.46 180 P **P** **11 36 00.6 +0.2**
comp=Z,71nm,0.8s,baz=348,slow=2.4,SNR=148
QSPA S **SKSac** **11 46 16.4 -3.8**
comp=Z,2.9nm,1.1s,baz=90,slow=1.0,SNR=5.9
QSPA PKKP **PKKPdf** **11 54 04.1 -1.9**
comp=Z,1.6nm,1.0s,baz=115,slow=2.6,SNR=2.4
QSPA PKKPbc **PKKPbc** **11 54 12.1 -2.9**
comp=Z,5.2nm,0.9s,baz=225,slow=1.4,SNR=9.1
QSPA LR LR 12 13 34.7
comp=Z,7µm,18.1s,baz=8.5,slow=36
comp=Z,71nm,0.8s
J26L Joseph Creek 84.50 23 P **P** **11 36 00.4 -0.1**
baz=245
J26L S **SKSac** **11 46 23.7 +3.4**
baz=245
G25K Bearman Lake 84.56 21 P **P** **11 36 00.8 +0.3**
baz=242
G25K S **S** **11 46 25.1 +1.5**
baz=242
BHUJ Bhuj 84.60 294 ⇑*i*P **P** **11 36 02.1 +0.3**
L27K Beaver Creek, 84.61 25 P **P** **11 36 01.5 +0.4**
baz=247,SNR=35
L27K S **SKSac** **11 46 24.7 +3.7**
baz=247
BCAR Beaver Creek A 84.63 25 P **P** **11 36 01.7 +0.5**
C23K Itkillik River 84.63 17 P **P** **11 36 00.8 -0.1**
baz=238,SNR=51
C23K S **SKSac** **11 46 24.1 +3.4**
baz=238
EKS2 Erkin-Say 84.66 314 P **P** **11 36 02.5 +0.6**
SNR=212
YUK3 Moose Creek 84.70 26 P **P** **11 36 02.0 +0.3**
baz=248,SNR=30
YUK3 S **S** **11 46 26.5 +0.7**
baz=248
BVCY Beaver Creek 84.77 26 P **P** **11 36 02.2 +0.4**
baz=248,SNR=15
BVCY S **SKSac** **11 46 25.4 +3.4**
baz=248
FYU Fort Yukon 84.77 21 P **P** **11 36 01.1 -0.5**
FYU IAmb IAmb 11 36 49.7
comp=Z,55nm,1.1s
D24K Happy Valley 84.81 18 P **P** **11 36 02.1 +0.2**
baz=240
D24K S **SKSac** **11 46 25.7 +3.8**
baz=240
K27K Chicken 84.89 24 IAms_20 IAms_20 12 09 39.6
comp=Z,12µm,21.0s
K27K Chicken 84.89 24 P **P** **11 36 03.2 +0.8**
baz=246
K27K S **S** **11 46 28.2 +1.1**
baz=246
I26K Coal Creek Min 84.99 23 P **P** **11 36 02.2 -0.6**
baz=245
I26K S **SKSac** **11 46 26.6 +3.3**
baz=245
O29M Mount Kennedy 85.03 28 P **P** **11 36 03.7 +0.4**
baz=250,SNR=30
O29M S **S** **11 46 29.2 +0.3**
baz=250
F25K Christian Rive 85.10 20 P **P** **11 36 03.6 +0.2**
baz=243
F25K S **S** **11 46 29.2 +0.1**
baz=243
C24K Franklin Bluff 85.14 18 P **P** **11 36 03.4 -0.1**
baz=240
C24K S **SKSac** **11 46 27.7 +3.8**
baz=240
P29M Windy Craggy 85.20 29 P **P** **11 36 04.6 +0.6**
baz=251,SNR=16
P29M S **SKSac** **11 46 29.3 +4.5**
baz=251
YUK6 Outpost Mounta 85.35 27 P **P** **11 36 05.4 +0.4**
baz=250,SNR=14
YUK6 S **S** **11 46 32.2 -0.1**
baz=250
YUK4 Talbot Arm 85.36 27 P **P** **11 36 06.2 +1.2**
baz=250,SNR=33
E25K Arctic Village 85.36 20 IAms_20 IAms_20 12 09 49.8
comp=Z,14µm,22.0s
E25K Arctic Village 85.36 20 P **P** **11 36 05.0 +0.3**
baz=243,SNR=23
E25K S **SKSac** **11 46 30.6 +5.0**
baz=243
BMAR Burnt Mountain 85.39 20 P **P** **11 36 05.1 +0.3**
S31K Pelican 85.41 31 IAms_20 IAms_20 12 08 34.1
comp=Z,19µm,20.0s
S31K Pelican 85.41 31 P **P** **11 36 05.7 +0.7**
baz=252,SNR=8.0
S31K S **S** **11 46 32.1 -0.3**
baz=252
G26K Porcupine Rive 85.46 21 P **P** **11 36 05.4 +0.3**
baz=244
G26K S **S** **11 46 31.7 -0.8**
baz=244
DRK Karamyk 85.48 310 P **P** **11 36 06.1 -0.1**
DRK IAmb IAmb 11 36 20.1
comp=Z,111nm,1.2s
EGAK Eagle 85.56 23 P **P** **11 36 06.0 +0.3**
EGAK IAmb IAmb 11 36 15.4
comp=Z,44nm,0.9s
EGAK IAMs_20 IAMs_20 12 10 04.0
comp=Z,13µm,21.0s
EGAK Eagle 85.56 23 P **P** **11 36 05.6 -0.1**
baz=247,SNR=42
EGAK S **SKSac** **11 46 31.5 +4.7**
baz=247
EGAK Eagle 85.56 23 ⇑P **P** **11 36 05.5 -0.1**
SIT Sitka 85.60 32 P **P** **11 36 08.6 +2.6**
comp=Z,40nm,1.7s
SIT Sitka 85.60 32 P **P** **11 36 07.3 +1.4**
SIT Sitka 85.60 32 P **P** **11 36 06.7 +0.7**
baz=253
SIT S **S** **11 46 33.8 -0.6**
baz=253
SIT Sitka 85.60 32 P **P** **11 36 07.4 +1.4**
SIT pmax pmax
comp=Z,38nm,1.1s
F26K Sheenjek River 85.66 20 P **P** **11 36 06.8 +0.6**
baz=244
F26K S **S** **11 46 33.1 -1.5**
baz=244
D25K Kavik River 85.66 18 P **P** **11 36 06.2 +0.1**
baz=242
I27K Kandik River 85.70 23 P **P** **11 36 06.5 0.0**
baz=247
HYT Haines Junctio 85.70 28 P **P** **11 36 07.1 +0.4**
HYT IAmb IAmb 11 36 37.5
comp=Z,97nm,1.1s
HYT Haines Junctio 85.70 28 P **P** **11 36 07.0 +0.4**
baz=251,SNR=72
P30M Million Dollar 85.73 28 P **P** **11 36 07.5 +0.8**
baz=251
R31K City Hall, Gus 85.79 30 P **P** **11 36 07.3 +0.4**
baz=252
PLBC Pleasant Camp 85.80 29 P **P** **11 36 07.2 +0.2**
baz=252,SNR=20
M29M Somme Creek 85.82 26 P **P** **11 36 07.3 +0.2**
baz=250
H27K Steamboat Moun 85.98 22 P **P** **11 36 08.2 +0.3**
baz=247,SNR=63
DAWY Dawson 86.00 24 P **P** **11 36 08.7 +0.7**
DAWY IAmb IAmb 11 36 38.6
comp=Z,94nm,1.4s
DAWY IAMs_20 IAMs_20 12 08 44.6
comp=Z,15µm,22.0s
DAWY Dawson 86.00 24 P **P** **11 36 08.2 +0.3**
baz=249,SNR=19
N30M Aishikik Lake 86.10 27 P **P** **11 36 09.3 +0.8**
baz=251
S32K Killisnoo 86.11 31 P **P** **11 36 09.3 +0.8**
S32K IAmb IAmb 11 36 47.6
comp=Z,168nm,1.9s
S32K Killisnoo 86.11 31 P **P** **11 36 08.9 +0.4**
baz=254,SNR=11
DIB Dawson Inlet, 86.13 36 P **P** **11 36 09.5 +0.8**
DIB IAmb IAmb 11 36 13.2
comp=Z,103nm,1.4s
DIB IAMs_20 IAMs_20 12 07 37.3
comp=Z,15µm,21.0s
G27K Doyon Strip 86.17 21 P **P** **11 36 09.5 +0.8**
baz=246
NRIK Noril'sk 86.18 341 P **P** **11 36 08.2 -0.5**
NRIK IAmb IAmb 11 36 11.8
comp=Z,56nm,0.8s
NRIK IAMs_20 IAMs_20 12 14 20.8
comp=Z,11µm,20.0s
NRIK Noril'sk 86.18 341 *c i*P **P** **11 36 07.6 -1.0**
NRIK pmax pmax
comp=Z,73nm,1.1s
NRIK MLR MLR
comp=Z,7µm,18.0s
NRIK Noril'sk 86.18 341 P **P** **11 36 08.3 -0.4**
comp=Z,49nm,0.8s,baz=114,slow=5.9,SNR=30
NRIK LR LR 12 14 31.6
comp=Z,10µm,20.8s,baz=116,slow=36
comp=Z,49nm,0.8s
L29M L29M 86.19 25 P **P** **11 36 09.4 +0.5**
baz=250
I28M Miner Creek 86.29 23 P **P** **11 36 09.5 0.0**
baz=248
SKAG Skagway 86.31 29 P **P** **11 36 11.2 +1.7**
SKAG Skagway 86.31 29 P **P** **11 36 10.8 +1.4**
SKAG IAmb IAmb 11 36 14.1
comp=Z,116nm,1.5s
SKAG IAMs_20 IAMs_20 12 12 37.9
comp=Z,13µm,19.0s
SKAG Skagway 86.31 29 P **P** **11 36 09.8 +0.3**
baz=253,SNR=20
ROCAM Rodrigues Isla 86.31 251 IAMs_20 IAMs_20 12 12 09.6
comp=Z,11µm,20.0s
BTK Batken 86.33 311 P **P** **11 36 09.7 -0.5**
BTK IAmb IAmb 11 36 24.3
comp=Z,80nm,1.1s
BTK Batken 86.33 311 P **P** **11 36 09.7 -0.5**
BTK pmax pmax
comp=Z,80nm,1.2s
CRAG Craig 86.34 34 P **P** **11 36 10.4 +0.7**
baz=255
O30N Mendenhall 86.34 28 P **P** **11 36 09.8 +0.1**
O30N IAmb IAmb 11 36 14.1
comp=Z,130nm,1.4s
O30N Mendenhall 86.34 28 P **P** **11 36 10.2 +0.5**
baz=252,SNR=56
R32K Eaglecrest 86.37 31 P **P** **11 36 10.3 +0.5**
baz=254
C26K Camden Bay 86.39 18 P **P** **11 36 10.7 +1.0**
baz=243
JIS Juneau Island 86.44 31 P **P** **11 36 13.2 +3.1**
DZA Taraz 86.47 314 *e*P **P** **11 36 10.2 -0.5**
comp=Z,71nm,1.2s,baz=314
DZA Taraz 86.47 314 *e*P **P** **11 36 10.2 -0.5**
DZA pmax pmax
comp=Z,71nm,1.2s
U33K Whale Pass 86.51 33 P **P** **11 36 11.0 +0.5**
baz=255,SNR=8.7
M30M Minto, Yukon 86.59 26 P **P** **11 36 11.2 +0.3**
baz=251,SNR=35
J29N Klondike Camp 86.62 24 IAMs_20 IAMs_20 12 10 19.8
comp=Z,18µm,22.0s
J29N Klondike Camp 86.62 24 P **P** **11 36 11.6 +0.6**
baz=250
K29M Barlow Dome 86.70 25 P **P** **11 36 10.6 -0.9**
K29M IAmb IAmb 11 36 42.2
comp=Z,141nm,1.4s
K29M IAMs_20 IAMs_20 12 13 50.2
comp=Z,9µm,20.0s
K29M Barlow Dome 86.70 25 P **P** **11 36 11.7 +0.2**
baz=250
E27K Coleen River 86.74 20 P **P** **11 36 12.2 +0.8**
E27K IAmb IAmb 11 36 16.6
comp=Z,30nm,0.7s
E27K IAMs_20 IAMs_20 12 10 11.2
comp=Z,15µm,22.0s
E27K Coleen River 86.74 20 P **P** **11 36 11.8 +0.4**
baz=246,SNR=54
E27K S **S** **11 46 45.8 +0.7**
baz=246
KBU Kabul Universi 86.74 305 P **P** **11 36 09.4 -3.0**
T33K Petersburg 86.78 32 P **P** **11 36 12.8 +1.0**
baz=255
KBL Kabul 86.81 305 P **P** **11 36 11.6 -1.2**
KBL Kabul 86.81 305 P **P** **11 36 11.6 -1.2**
KBL pmax pmax
comp=Z,47nm,1.1s
KBL Kabul 86.81 305 P **P** **11 36 11.2 -1.6**
SNR=20
KBL S **SKSac** **11 46 31.6 -4.8**
OTUK Ortayu 86.82 319 P **P** **11 36 11.5 -0.8**
WHY Whitehorse 86.88 28 P **P** **11 36 13.2 +0.8**
WHY Whitehorse 86.88 28 P **P** **11 36 13.0 +0.6**
baz=253,SNR=33
WHY S **S** **11 46 47.8 +0.9**
baz=253
WRAK Wrangell Islan 87.01 33 P **P** **11 36 14.0 +1.1**
WRAK IAmb IAmb 11 36 15.8
comp=Z,78nm,1.3s
WRAK Wrangell Islan 87.01 33 P **P** **11 36 13.2 +0.3**
baz=255,SNR=15
WRAK S **S** **11 46 50.9 +2.8**
baz=255
KK31 Karatay Array 87.10 314 P **P** **11 36 13.4 -0.4**
KK31 IAmb IAmb 11 36 28.1
comp=Z,143nm,1.4s
KK31 Karatay Array 87.10 314 P **P** **11 36 13.4 -0.4**
KK31 pmax pmax
comp=Z,143nm,1.4s

KKAR	**Karatay Array**	**87.10**	**314**	P	**P**	**11 36 13.4**	**-0.4**
KKAR				IAmb	IAmb	11 36 28.1	
	comp=Z,142nm,1.4s						
KKAR	**Karatay Array**	**87.10**	**314**	P	**P**	**11 36 13.4**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,143nm,1.4s						
F28M	**Old Crow**	**87.12**	**21**	P	**P**	**11 36 13.9**	**+0.5**
	baz=248,SNR=39						
F28M				S	**S**	**11 46 50.1**	**+1.3**
	baz=248						
P32M	**Atlin**	**87.14**	**29**	IAMs_20	IAMs_20	12 12 52.6	
	comp=Z,15µm,19.0s						
P32M	**Atlin**	**87.14**	**29**	P	**P**	**11 36 13.8**	**+0.2**
	baz=254,SNR=27						
P32M				S	**S**	**11 46 50.8**	**+1.5**
	baz=254						
V35K	**Ketchikan**	**87.14**	**34**	P	**P**	**11 36 14.2**	**+0.6**
	baz=256,SNR=7.5						
V35K				S	**S**	**11 46 50.8**	**+1.4**
	baz=256						
H29M	**Whitestone**	**87.17**	**22**	P	**P**	**11 36 13.7**	**+0.1**
	baz=250						
H29M				S	**S**	**11 46 48.9**	**-0.4**
	baz=250						
IUG	**luzhnay**	**87.28**	**313**	*e*P	**P**	**11 36 14.3**	**-0.5**
	comp=Z,60nm,1.3s,baz=313						
IUG				*e*S	**SKSac**	**11 46 37.4**	**-1.3**
	baz=313						
IUG	**luzhnay**	**87.28**	**313**	*e*P	**P**	**11 36 14.3**	**-0.5**
IUG				*e*S	**SKSac**	**11 46 37.4**	**-1.3**
IUG				pmax	pmax		
	comp=Z,60nm,1.3s						
MAYO	**Mayo, Yukon**	**87.30**	**25**	P	**P**	**11 36 15.1**	**+0.8**
	baz=252,SNR=13						
MAYO				S	**S**	**11 46 50.9**	**+0.2**
	baz=252						
D27M	**Malcolm River**	**87.36**	**19**	P	**P**	**11 36 15.1**	**+0.6**
	baz=247						
D27M				S	**S**	**11 46 51.3**	**+0.1**
	baz=247						
J30M	**Hart River**	**87.43**	**24**	IAMs_20	IAMs_20	12 11 20.5	
	comp=Z,12µm,22.0s						
J30M	**Hart River**	**87.43**	**24**	P	**P**	**11 36 15.3**	**+0.3**
	baz=252						
J30M				S	**S**	**11 46 52.6**	**+0.5**
	baz=252						
SIMJ	**Simiganj**	**87.48**	**309**	P	**P**	**11 36 15.4**	**-0.4**
SIMJ				IAmb	IAmb	11 36 21.6	
	comp=Z,52nm,1.0s						
G29M	**Pine Creek**	**87.54**	**22**	IAMs_20	IAMs_20	12 14 57.4	
	comp=Z,15µm,20.0s						
G29M	**Pine Creek**	**87.54**	**22**	P	**P**	**11 36 15.5**	**+0.1**
	baz=250						
G29M				S	**S**	**11 46 53.5**	**+0.6**
	baz=250						
M31M	**Drury Creek, Y**	**87.55**	**27**	P	**P**	**11 36 15.7**	**+0.2**
M31M				IAmb	IAmb	11 36 46.4	
	comp=Z,106nm,1.4s						
M31M	**Drury Creek, Y**	**87.55**	**27**	P	**P**	**11 36 15.4**	**-0.1**
	baz=253,SNR=22						
M31M				S	**S**	**11 46 52.8**	**-0.4**
	baz=253						
BRLS	**Borolday**	**87.57**	**313**⇑	*i*P	**P**	**11 36 15.8**	**-0.3**
	baz=313						
BRLS				*e*S	**SKSac**	**11 46 38.7**	**-1.6**
	baz=313						
BRLS	**Borolday**	**87.57**	**313**	*c i*P	**P**	**11 36 15.7**	**-0.3**
BRLS				*e*S	**SKSac**	**11 46 38.7**	**-1.6**
E28M	**Babbage River**	**87.60**	**20**	IAMs_20	IAMs_20	12 10 47.1	
	comp=Z,15µm,22.0s						
E28M	**Babbage River**	**87.60**	**20**	P	**P**	**11 36 16.1**	**+0.4**
	baz=248						
E28M				S	**S**	**11 46 53.1**	**-0.3**
	baz=248						
I30M	**Mount Dempster**	**87.61**	**24**	IAMs_20	IAMs_20	12 11 40.4	
	comp=Z,16µm,20.0s						
I30M	**Mount Dempster**	**87.61**	**24**	P	**P**	**11 36 16.1**	**+0.2**
	baz=252						
I30M				S	**S**	**11 46 53.5**	**-0.4**
	baz=252						
CHM	**Chimkent**	**87.62**	**313**	LR	LR	12 12 15.3	
	baz=313						
RUBB	**Prince Rupert**	**87.68**	**35**	P	**P**	**11 36 17.4**	**+1.1**
Q32M	**Nakina River**	**87.69**	**30**	IAMs_20	IAMs_20	12 08 02.4	
	comp=Z,20µm,22.0s						
Q32M	**Nakina River**	**87.69**	**30**	P	**P**	**11 36 17.2**	**+0.8**
	baz=255						
Q32M				S	**S**	**11 46 56.3**	**+1.3**
	baz=255						
P33M	**Teslin, Yukon**	**87.74**	**29**	IAMs_20	IAMs_20	12 14 19.5	
	comp=Z,13µm,20.0s						
P33M	**Teslin, Yukon**	**87.74**	**29**	P	**P**	**11 36 16.7**	**+0.2**
	baz=255,SNR=27						
P33M				S	**S**	**11 46 55.8**	**+0.6**
	baz=255						
GRNB	**Grenville Isla**	**87.74**	**36**	P	**P**	**11 36 16.8**	**+0.2**
GRNB				IAmb	IAmb	11 36 19.5	
	comp=Z,100nm,1.2s						
GRNB				IAMs_20	IAMs_20	12 09 15.9	
	comp=Z,14µm,20.0s						
EPYK	**Eagle Plains**	**87.85**	**23**	IAMs_20	IAMs_20	12 12 25.6	
	comp=Z,17µm,20.0s						
EPYK	**Eagle Plains**	**87.85**	**23**	P	**P**	**11 36 16.7**	**-0.2**
	baz=251,SNR=21						
EPYK				S	**S**	**11 46 56.4**	**+0.5**
	baz=251						
N32M	**Quiet Lake**	**87.86**	**28**	P	**P**	**11 36 17.5**	**+0.4**
	baz=255						
N32M				S	**S**	**11 46 57.8**	**+1.6**
	baz=255						
S34M	**Telegraph Cree**	**88.01**	**31**	P	**P**	**11 36 18.3**	**+0.6**
S34M				IAmb	IAmb	11 36 21.7	
	comp=Z,91nm,1.2s						
S34M	**Telegraph Cree**	**88.01**	**31**	P	**P**	**11 36 18.8**	**+1.0**
	baz=256,SNR=31						
S34M				S	**S**	**11 46 59.2**	**+1.5**
	baz=256						
FARO	**Faro, Yukon**	**88.02**	**27**	P	**P**	**11 36 17.8**	**0.0**
FARO				IAmb	IAmb	11 37 12.5	
	comp=Z,59nm,1.3s						
FARO	**Faro, Yukon**	**88.02**	**27**	P	**P**	**11 36 17.9**	**+0.1**
	baz=254,SNR=29						
FARO				S	**S**	**11 46 58.9**	**+1.2**
	baz=254						
E29M	**Blow River**	**88.09**	**20**	IAMs_20	IAMs_20	12 11 04.0	
	comp=Z,14µm,22.0s						
E29M	**Blow River**	**88.09**	**20**	P	**P**	**11 36 17.8**	**-0.1**
	baz=250						
E29M				S	**S**	**11 46 57.5**	**-0.5**
	baz=250						
D28M	**Stokes Point**	**88.13**	**19**	P	**P**	**11 36 18.3**	**+0.2**
	baz=249						
D28M				S	**S**	**11 46 58.1**	**-0.2**
	baz=249						
U35K	**Hyder**	**88.15**	**34**	P	**P**	**11 36 19.0**	**+0.6**
	baz=257						
U35K				S	**S**	**11 47 00.5**	**+1.5**
	baz=257						
G30M	**tAoh Zraii Nji**	**88.23**	**22**	P	**P**	**11 36 18.8**	**+0.1**
	baz=252						
G30M				S	**S**	**11 46 59.2**	**-0.3**
	baz=252						
T35M	**Bob Quinn**	**88.27**	**32**	P	**P**	**11 36 19.5**	**+0.5**
T35M				IAmb	IAmb	11 36 22.9	
	comp=Z,68nm,1.2s						
T35M	**Bob Quinn**	**88.27**	**32**	P	**P**	**11 36 19.9**	**+0.9**
	baz=257,SNR=21						
T35M				S	**S**	**11 47 03.9**	**+3.7**
	baz=257						
R33M	**Jennings River**	**88.44**	**30**	IAMs_20	IAMs_20	12 08 59.4	
	comp=Z,17µm,21.0s						
R33M	**Jennings River**	**88.44**	**30**	P	**P**	**11 36 20.8**	**+0.8**
	baz=256						
R33M				S	**S**	**11 47 03.4**	**+1.4**
	baz=256						
BBB	**Bella Bella**	**88.50**	**37**	P	**P**	**11 36 20.2**	**0.0**
BBB				IAmb	IAmb	11 36 21.8	
	comp=Z,104nm,1.6s						
BBB				IAMs_20	IAMs_20	12 08 06.9	
	comp=Z,14µm,21.0s						
BBB	**Bella Bella**	**88.50**	**37**	LR	LR	12 08 40.1	
	comp=Z,15µm,21.7s,baz=262,slow=31						
F30M	**Barrier River**	**88.59**	**21**	P	**P**	**11 36 20.5**	**+0.2**
	baz=252						
F30M				S	**S**	**11 47 02.7**	**-0.1**
	baz=252						
H31M	**Peel River**	**88.60**	**23**	IAMs_20	IAMs_20	12 14 49.5	
	comp=Z,10µm,20.0s						
H31M	**Peel River**	**88.60**	**23**	P	**P**	**11 36 20.6**	**+0.2**
	baz=253						
H31M				S	**S**	**11 47 02.0**	**-1.0**
	baz=253						
DLBC	**Dease Lake**	**88.70**	**31**	P	**P**	**11 36 21.1**	**0.0**
DLBC				IAmb	IAmb	11 36 24.9	
	comp=Z,98nm,1.4s						
DLBC	**Dease Lake**	**88.70**	**31**	P	**P**	**11 36 21.9**	**+0.8**
	baz=257,SNR=35						
DLBC				S	**S**	**11 47 06.7**	**+2.3**
	baz=257						
DLBC	**Dease Lake**	**88.70**	**31**	LR	LR	12 09 36.0	
	comp=Z,27µm,21.0s,baz=268,slow=31						
G31M	**Satah River**	**88.95**	**22**	P	**P**	**11 36 21.5**	**-0.4**
G31M				IAmb	IAmb	11 36 57.7	
	comp=Z,156nm,1.8s						
G31M				IAMs_20	IAMs_20	12 13 40.6	
	comp=Z,15µm,20.0s						
G31M	**Satah River**	**88.95**	**22**	P	**P**	**11 36 21.9**	**0.0**
	baz=253,SNR=22						
G31M				S	**S**	**11 47 04.7**	**-1.4**
	baz=253						
BVA0	**Borovoye Array**	**88.97**	**323**	*i* P	**P**	**11 36 20.2**	**-2.2**
BVAR	**Borovoye Array**	**88.97**	**323**	P	**P**	**11 36 22.1**	**-0.3**
	comp=Z,93nm,0.8s,baz=104,slow=4.9,SNR=174						
BVAR				S	**SKSac**	**11 46 45.5**	**-2.6**
	comp=Z,1.7nm,0.9s,baz=144,slow=5.4,SNR=2.9						
BVAR				PKKPbc	**PKKPbc**	**11 54 02.8**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=282,slow=2.8,SNR=6.2						
BVAR				LR	LR	12 18 25.3	
	comp=Z,10µm,19.2s,baz=82,slow=37						
	comp=Z,93nm,0.8s						
BRVK	**Borovoye**	**89.03**	**323**	P	**P**	**11 36 21.5**	**-1.2**
BRVK	**Borovoye**	**89.03**	**323**	IAMs_20	IAMs_20	12 18 15.0	
	comp=Z,12µm,19.0s						
BRVK	**Borovoye**	**89.03**	**323**	*c i*P	**P**	**11 36 21.4**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,90nm,0.9s						
BRVK				MLR	MLR		
	comp=Z,12µm,18.0s						
BRVK	**Borovoye**	**89.03**	**323**	P	**P**	**11 36 21.6**	**-1.2**
BRVK				S	**SKSac**	**11 46 43.7**	**-4.8**
F31M	**Tsiigehtchic**	**89.29**	**22**	P	**P**	**11 36 22.7**	**-0.9**
F31M				IAmb	IAmb	11 37 23.7	
	comp=Z,62nm,1.2s						
F31M				IAMs_20	IAMs_20	12 13 23.7	
	comp=Z,18µm,20.0s						
F31M	**Tsiigehtchic**	**89.29**	**22**	P	**P**	**11 36 23.0**	**-0.6**
	baz=254,SNR=14						
F31M				S	**S**	**11 47 07.7**	**-1.6**
	baz=254						
KMPM	**Mount Pierce**	**89.34**	**49**	IAMs_20	IAMs_20	12 08 35.9	
	comp=Z,11µm,21.0s						
KBO	**Bosley Butte**	**89.50**	**48**	IAMs_20	IAMs_20	12 12 09.1	
	comp=Z,15µm,19.0s						
KRPM	**Rodgers**	**89.51**	**49**	IAMs_20	IAMs_20	12 16 32.4	
	comp=Z,11µm,18.0s						
INK	**Inuvik**	**89.61**	**21**	P	**P**	**11 36 24.2**	**-0.8**
INK	**Inuvik**	**89.61**	**21**	P	**P**	**11 36 24.4**	**-0.7**
	baz=254,SNR=24						
INK				S	**S**	**11 47 10.3**	**-1.9**
	baz=254						
INK	**Inuvik**	**89.61**	**21**	P	**P**	**11 36 24.2**	**-0.8**
INK				pmax	pmax		
	comp=Z,47nm,1.3s						
INK				MLR	MLR		
	comp=Z,9µm,19.0s						
INK	**Inuvik**	**89.61**	**21**	LR	LR	12 17 59.7	
	comp=Z,7µm,18.3s,baz=250,slow=36						
KMRM	**Mail Ridge**	**89.63**	**50**	IAMs_20	IAMs_20	12 08 42.4	
	comp=Z,14µm,21.0s						
WTLY	**Watson Lake, Y**	**89.67**	**30**	P	**P**	**11 36 25.9**	**+0.4**
	baz=258,SNR=15						
WTLY				S	**S**	**11 47 15.5**	**+2.2**
	baz=258						
J01E	**Myrtle Point**	**89.85**	**47**	IAMs_20	IAMs_20	12 14 12.2	
	comp=Z,11µm,19.0s						
HOPS	**Hopland Field**	**89.96**	**51**	IAMs_20	IAMs_20	12 08 30.3	
	comp=Z,17µm,22.0s						
L02F	**Cave Junction**	**89.97**	**48**	IAMs_20	IAMs_20	12 11 08.6	
	comp=Z,17µm,20.0s						
K02D	**Willamette Mer**	**89.98**	**47**	IAMs_20	IAMs_20	12 11 18.7	
	comp=Z,14µm,20.0s						
C03A	**Quillayute Air**	**90.06**	**42**	IAMs_20	IAMs_20	12 08 50.6	
	comp=Z,13µm,22.0s						
TGTN	**Hyland Airport**	**90.20**	**28**	P	**P**	**11 36 28.8**	**+0.7**
	baz=259,SNR=5.8						
TGTN				S	**S**	**11 47 17.2**	**-1.0**
	baz=259						
HEBO	**Mount Hebo**	**90.24**	**45**	IAMs_20	IAMs_20	12 09 17.5	
	comp=Z,14µm,21.0s						
I03D	**Drain, OR**	**90.34**	**46**	IAMs_20	IAMs_20	12 09 42.1	
	comp=Z,11µm,21.0s						
DBO	**Dodson Butte**	**90.34**	**47**	IAMs_20	IAMs_20	12 09 30.2	
	comp=Z,14µm,21.0s						
NLWA	**Nelton Lookou**	**90.45**	**43**	IAMs_20	IAMs_20	12 10 04.9	
	comp=Z,12µm,21.0s						
CLRS	**Cowichan Lake**	**90.47**	**41**	IAMs_20	IAMs_20	12 13 18.3	
	comp=Z,11µm,20.0s						
COR	**Corvallis**	**90.48**	**45**	IAMs_20	IAMs_20	12 10 15.8	
	comp=Z,14µm,20.0s						
HUMO	**Hull Mountain**	**90.49**	**47**	IAMs_20	IAMs_20	12 11 35.1	
	comp=Z,16µm,20.0s						
YBH	**Yreka Blue Hor**	**90.56**	**48**	IAMs_20	IAMs_20	12 19 00.2	
	comp=Z,13µm,18.0s						
G03D	**McMinnville, O**	**90.59**	**45**	IAMs_20	IAMs_20	12 09 28.6	
	comp=Z,17µm,22.0s						
BUCK	**Buck Mountain**	**90.66**	**46**	IAMs_20	IAMs_20	12 10 33.6	
	comp=Z,11µm,21.0s						
B04A	**Port Angeles**	**90.78**	**42**	IAMs_20	IAMs_20	12 09 25.6	
	comp=Z,15µm,21.0s						
F04D	**Rainier, OR**	**90.87**	**44**	IAMs_20	IAMs_20	12 13 38.1	
	comp=Z,16µm,19.0s						
H04D	**Lebanon**	**90.87**	**46**	IAMs_20	IAMs_20	12 09 37.3	
	comp=Z,13µm,22.0s						
I04A	**Tendick Farm,**	**91.02**	**46**	IAMs_20	IAMs_20	12 10 35.2	
	comp=Z,10µm,21.0s						
GNW	**Green Mountain**	**91.17**	**42**	IAMs_20	IAMs_20	12 10 39.1	
	comp=Z,18µm,21.0s						
ORV	**Oroville**	**91.23**	**51**	IAMs_20	IAMs_20	12 10 05.0	
	comp=Z,12µm,22.0s						
TOAD	**Toad River Com**	**91.24**	**31**	P	**P**	**11 36 32.8**	**-0.1**
	baz=261,SNR=16						
TOAD				S	**S**	**11 47 27.0**	**-0.8**
	baz=261						
F04A	**Amboy**	**91.26**	**44**	IAMs_20	IAMs_20	12 14 44.4	
	comp=Z,11µm,19.0s						
H04A	**Detroit Lake**	**91.28**	**45**	IAMs_20	IAMs_20	12 09 51.1	
	comp=Z,13µm,21.0s						
K04D	**Chiloquin, OR**	**91.37**	**47**	IAMs_20	IAMs_20	12 16 11.5	
	comp=Z,12µm,19.0s						
AFDM	**Forest Hills D**	**91.58**	**51**	IAMs_20	IAMs_20	12 09 30.2	
	comp=Z,16µm,22.0s						
D05A	**Enumclaw**	**91.70**	**43**	IAMs_20	IAMs_20	12 12 34.9	
	comp=Z,13µm,20.0s						
HOOD	**Mount Hood Mea**	**91.73**	**45**	IAMs_20	IAMs_20	12 10 26.9	
	comp=Z,12µm,21.0s						
LON	**Longmire**	**91.77**	**43**	IAMs_20	IAMs_20	12 14 45.9	
	comp=Z,14µm,19.0s						
J05D	**Fort Rock, OR**	**91.82**	**47**	IAMs_20	IAMs_20	12 15 24.3	
	comp=Z,13µm,19.0s						
G05A	**Wamic**	**91.96**	**45**	IAMs_20	IAMs_20	12 10 22.9	
	comp=Z,14µm,21.0s						
SMMC	**Simmler**	**92.01**	**55**	P	**P**	**11 36 37.8**	**+0.8**
	baz=265,SNR=9.0						
K05A	**Summer Lake**	**92.01**	**47**	IAMs_20	IAMs_20	12 16 50.4	
	comp=Z,14µm,18.0s						
KOTAN	**Kotaneelee Air**	**92.02**	**30**	P	**P**	**11 36 37.0**	**+0.6**
	baz=262,SNR=14						
KOTAN				S	**S**	**11 47 36.2**	**+1.6**
	baz=262						
PINE	**Pine Mountain**	**92.08**	**46**	IAMs_20	IAMs_20	12 12 22.2	
	comp=Z,13µm,20.0s						
PKM	**Mcpherson Peak**	**92.12**	**55**	P	**P**	**11 36 39.5**	**+1.7**
	baz=265,SNR=15						
SBC	**Santa Barbara**	**92.16**	**56**	P	**P**	**11 36 38.7**	**+1.0**
	baz=265						
SBC				S	**S**	**11 47 34.8**	**-2.1**
	baz=265						
SCZ2	**Santa Cruz Isl**	**92.19**	**56**	P	**P**	**11 36 38.9**	**+1.0**
	baz=265						
SNCC	**San Nicolas Is**	**92.21**	**57**	IAMs_20	IAMs_20	12 09 53.2	
	comp=Z,17µm,22.0s						
SNCC	**San Nicolas Is**	**92.21**	**57**	P	**P**	**11 36 39.5**	**+1.5**
	baz=265						
FLDN	**Fort Liard**	**92.32**	**30**	P	**P**	**11 36 38.6**	**+0.8**
	baz=263,SNR=10						
FLDN				S	**S**	**11 47 39.0**	**+1.8**
	baz=263						
G06A	**Carlson Farm,**	**92.44**	**45**	IAMs_20	IAMs_20	12 10 47.5	
	comp=Z,14µm,21.0s						
CRZF	**Crozet Islands**	**92.59**	**223**	IAMs_20	IAMs_20	12 14 09.6	
	comp=Z,10µm,21.0s						
VOG	**Valley Oaks Go**	**92.59**	**54**	P	**P**	**11 36 40.4**	**+0.8**
	baz=265						
LTY	**Liberty**	**92.60**	**43**	IAMs_20	IAMs_20	12 15 31.8	
	comp=Z,13µm,19.0s						
PNTR	**Pine Nut**	**92.66**	**51**	IAMs_20	IAMs_20	12 09 52.7	
	comp=Z,18µm,22.0s						
WRGLY	**Wrigley**	**92.68**	**27**	IAMs_20	IAMs_20	12 15 49.4	
	comp=Z,13µm,20.0s						
WRGLY	**Wrigley**	**92.68**	**27**	P	**P**	**11 36 39.9**	**+0.5**
	baz=263						
WRGLY				S	**S**	**11 47 39.3**	**-1.1**
	baz=263						
MXC	**Moxie City**	**92.79**	**44**	IAMs_20	IAMs_20	12 13 54.9	
	comp=Z,12µm,20.0s						
VES	**Vestal, Richgr**	**92.80**	**54**	P	**P**	**11 36 41.0**	**+0.5**
	baz=265,SNR=21						
PAHR	**Pah Rah Range**	**92.88**	**51**	IAMs_20	IAMs_20	12 10 56.4	
	comp=Z,16µm,22.0s						
YERR	**Yerington**	**92.93**	**51**	IAMs_20	IAMs_20	12 10 22.9	
	comp=Z,15µm,22.0s						
ARVC	**Arvin**	**92.94**	**55**	P	**P**	**11 36 42.5**	**+1.2**
	baz=265,SNR=16						
MDPB	**Devils Postpil**	**92.94**	**53**	IAMs_20	IAMs_20	12 10 21.4	
	comp=Z,18µm,22.0s						
F07A	**Phinny Hill Vi**	**92.99**	**44**	IAMs_20	IAMs_20	12 16 00.1	
	comp=Z,11µm,19.0s						
OSI	**Osito Audit: C**	**92.99**	**56**	P	**P**	**11 36 43.1**	**+1.5**
	baz=265						
SCI2	**San Clemente I**	**93.01**	**57**	P	**P**	**11 36 42.1**	**+0.4**
	baz=265						
E07A	**Sunnyside**	**93.09**	**44**	IAMs_20	IAMs_20	12 14 04.9	
	comp=Z,14µm,20.0s						
A36M	**Sachs Harbour**	**93.14**	**18**	P	**P**	**11 36 40.5**	**-0.8**
	baz=262,SNR=34						
MLAC	**Mammoth, Mammc**	**93.14**	**53**	P	**P**	**11 36 43.2**	**+0.8**
	baz=265						
I07A	**Izee**	**93.14**	**46**	IAMs_20	IAMs_20	12 12 15.3	
	comp=Z,16µm,20.0s						
CIS	**Catalina Islan**	**93.15**	**57**	P	**P**	**11 36 40.4**	**-1.9**
	baz=266,SNR=6.8						
C36M	**Paulatuk**	**93.18**	**21**	IAMs_20	IAMs_20	12 14 21.4	
	comp=Z,14µm,22.0s						
C36M	**Paulatuk**	**93.18**	**21**	P	**P**	**11 36 40.5**	**-1.1**
	baz=263,SNR=21						
FMP	**Fort Macarthur**	**93.28**	**57**	P	**P**	**11 36 43.8**	**+1.0**
	baz=266						
ISA	**Isabella, Lake**	**93.28**	**55**	P	**P**	**11 36 43.4**	**+0.5**
	baz=266,SNR=25						
DECC	**Green Verdugo**	**93.28**	**56**	P	**P**	**11 36 43.7**	**+0.8**
	baz=266,SNR=7.1						
HAWA	**Hanford**	**93.30**	**44**	IAMs_20	IAMs_20	12 14 10.4	
	comp=Z,11µm,20.0s						
PASC	**Pasadena Art C**	**93.40**	**56**	IAMs_20	IAMs_20	12 10 50.6	
	comp=Z,14µm,21.0s						
RYN	**Ryan**	**93.46**	**52**	IAMs_20	IAMs_20	12 10 29.0	
	comp=Z,17µm,22.0s						
TIN	**Tinemaha, Big**	**93.58**	**53**	P	**P**	**11 36 45.7**	**+1.4**
	baz=266,SNR=13						
EDW2	**Edwards Air Fo**	**93.61**	**55**	P	**P**	**11 36 45.7**	**+1.3**
	baz=266,SNR=30						
NVAR	**Mina Array Bea**	**93.62**	**52**	P	**P**	**11 36 44.5**	**-0.2**
	comp=Z,87nm,1.0s,baz=260,slow=5.4,SNR=157						
NVAR				PP	**PP**	**11 40 30.5**	**+0.5**
	comp=Z,2.5nm,1.0s,baz=263,slow=7.2,SNR=2.5						
NVAR				PKKPbc	**PKKPbc**	**11 53 53.9**	**+2.9**
	comp=Z,1.1nm,0.7s,baz=70,slow=5.3,SNR=4.6						
NVAR				PKPPKP	**P'P'df**	**12 02 01.2**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=100,slow=4.5,SNR=4.5						
NVAR				LR	LR	12 14 20.5	
	comp=Z,16µm,19.0s,baz=266,slow=32						
	comp=Z,87nm,1.0s						
G08A	**Pilot Rock**	**93.62**	**45**	IAMs_20	IAMs_20	12 11 34.9	
	comp=Z,14µm,21.0s						
E08A	**Dider Farm, El**	**93.64**	**44**	IAMs_20	IAMs_20	12 14 29.3	
	comp=Z,14µm,20.0s						
WVOR	**Wild Horse Val**	**93.65**	**48**	IAMs_20	IAMs_20	12 17 44.8	
	comp=Z,14µm,18.0s						
CWC	**Cottonwood Cre**	**93.65**	**54**	P	**P**	**11 36 45.9**	**+1.2**
	baz=266						
D08A	**Wollman Farm,**	**93.77**	**43**	IAMs_20	IAMs_20	12 13 46.8	
	comp=Z,13µm,20.0s						
KVN	**Kaiserville**	**93.82**	**51**	IAMs_20	IAMs_20	12 10 30.4	
	comp=Z,15µm,22.0s						
J08A	**Circle Bar Ran**	**93.83**	**47**	IAMs_20	IAMs_20	12 17 08.6	
	comp=Z,11µm,19.0s						
BFSC	**Mount Baldy Ra**	**93.84**	**56**	P	**P**	**11 36 46.5**	**+0.8**
	baz=266,SNR=17						
JLN	**Jalan Bani Buh**	**93.88**	**292**	P	**P**	**11 36 44.6**	**-1.2**
JLN				S	**SKSac**	**11 47 16.4**	**-1.0**
LRMC	**Laurel Mtn Rad**	**93.91**	**55**	P	**P**	**11 36 46.7**	**+0.8**
	baz=266,SNR=7.6						
ELS	**Elsinore Mount**	**93.99**	**57**	IAMs_20	IAMs_20	12 11 29.3	
	comp=Z,15µm,21.0s						
MPMC	**Manual Prospec**	**94.10**	**54**	P	**P**	**11 36 48.0**	**+1.1**
	baz=266,SNR=72						
MURC	**Murrieta**	**94.18**	**57**	P	**P**	**11 36 47.8**	**+0.7**
	baz=266,SNR=12						
109C	**Camp Elliot, M**	**94.21**	**57**	IAMs_20	IAMs_20	12 10 08.1	
	comp=Z,15µm,22.0s						
109C	**Camp Elliot, M**	**94.21**	**57**	P	**P**	**11 36 48.1**	**+1.0**
	baz=266,SNR=8.3						
TJX	**Tijuana**	**94.23**	**58**	IAMs_20	IAMs_20	12 14 09.6	
	comp=Z,9µm,19.0s						
GRAC	**Grapevine Rang**	**94.26**	**53**	IAMs_20	IAMs_20	12 11 13.3	
	comp=Z,18µm,22.0s						
GRAC	**Grapevine Rang**	**94.26**	**53**	P	**P**	**11 36 48.0**	**+0.6**
	baz=266,SNR=21						
E09A	**Wood Farm, Sta**	**94.27**	**44**	IAMs_20	IAMs_20	12 14 49.0	
	comp=Z,11µm,20.0s						
WBK	**Wadi Bani Khal**	**94.32**	**292**	P	**P**	**11 36 46.5**	**-1.5**
	SNR=11						
WBK				S	**SKSac**	**11 47 16.0**	**-3.8**
GMN	**Gold Mountain**	**94.36**	**53**	IAMs_20	IAMs_20	12 11 16.0	
	comp=Z,10µm,22.0s						
RRX	**Edison Barstow**	**94.43**	**56**	P	**P**	**11 36 49.

SVE					MLR	MLR					
	comp=Z,22µm,21.0s										
IKP	**In-Ko-Pah, Jac**	**95.03**	**58**		P	**P**	**11 36 52.0**	**+0.9**
	baz=267										
NEW	**Newport**	**95.05**	**42**		IAMs_20	IAMs_20	12 14 20.7				
	comp=Z,15µm,20.0s										
NEW	**Newport**	**95.05**	**42**		P	**P**	**11 36 50.9**	**+0.1**			
	baz=267,SNR=30										
NEW	**Newport**	**95.05**	**42**		LR	LR	12 16 34.8				
	comp=Z,13µm,18.4s,baz=276,slow=34										
RMX	**La Rumorosa**	**95.06**	**58**		IAMs_20	IAMs_20	12 14 47.5				
	comp=Z,11µm,20.0s										
SHOC	**Shoshone, Teco**	**95.08**	**55**		P	**P**	**11 36 51.9**	**+0.8**			
	baz=267,SNR=37										
AB31	**Akbulak array**	**95.08**	**319**	*i*	P	**P**	**11 36 48.6**	**-2.2**			
JMDO	**Jabal Madar**	**95.11**	**292**		P	**P**	**11 36 50.4**	**-1.1**			
JMDO					S	**SKSac**	**11 47 21.2**	**-2.8**			
BRLDA	**Berland Lookou**	**95.12**	**36**		IAMs_20	IAMs_20	12 12 38.2				
	comp=Z,13µm,22.0s										
ESJX	**Sierra Juarez**	**95.13**	**58**		IAMs_20	IAMs_20	12 14 39.5				
	comp=Z,13µm,19.0s										
MHTO	**MHTO**	**95.14**	**291**		P	**P**	**11 36 49.7**	**-2.0**			
	SNR=12										
MHTO					S	**SKSac**	**11 47 21.0**	**-3.1**			
BIDO	**Bidbid**	**95.16**	**293**		P	**P**	**11 36 51.1**	**-0.7**			
	SNR=15										
BIDO					S	**SKSac**	**11 47 23.7**	**-0.5**			
YUH	**Yuha Desert**	**95.19**	**58**		IAMs_20	IAMs_20	12 11 00.0				
	comp=Z,13µm,22.0s										
BELC	**Belle Mtn. Jos**	**95.20**	**56**		P	**P**	**11 36 52.9**	**+1.0**			
	baz=267,SNR=36										
SMDO	**Samad**	**95.20**	**293**		P	**P**	**11 36 50.5**	**-1.6**			
	SNR=6.0										
SMDO					S	**SKSac**	**11 47 23.2**	**-1.4**			
VTX	**Valle De La Tr**	**95.24**	**59**		IAMs_20	IAMs_20	12 15 36.3				
	comp=Z,9µm,19.0s										
SWSC	**Sam W. Stewart**	**95.31**	**58**		P	**P**	**11 36 53.4**	**+1.2**			
	baz=267,SNR=8.2										
TUQ	**Turquoise Moun**	**95.34**	**55**		P	**P**	**11 36 53.3**	**+0.8**			
	baz=267,SNR=24										
MSEY	**Mahe Island**	**95.43**	**265**		P	**P**	**11 36 53.0**	**-0.2**			
MSEY	**Mahe Island**	**95.43**	**265**		P	**P**	**11 36 53.2**	**-0.1**			
MSEY					S	**SKSac**	**11 47 22.5**	**-3.6**			
DQM	**DQM**	**95.47**	**289**		P	**P**	**11 36 52.0**	**-1.2**			
DQM					S	**SKSac**	**11 47 24.8**	**-1.2**			
GMRC	**Granite Mounta**	**95.52**	**56**		P	**P**	**11 36 54.5**	**+1.2**			
	baz=267,SNR=33										
JASK	**Jask - Hormozg**	**95.54**	**295**		P	**P**	**11 36 54.0**	**+0.6**			
	SNR=6.0										
JASK					S	**SKSac**	**11 47 24.8**	**-1.4**			
S11A	**Rachel**	**95.59**	**53**		IAMs_20	IAMs_20	12 12 08.3				
	comp=Z,16µm,21.0s										
BC3	**Big Chuckawall**	**95.64**	**57**		P	**P**	**11 36 54.6**	**+0.8**			
	baz=267,SNR=37										
PLID	**Pearl Lake**	**95.70**	**45**		IAMs_20	IAMs_20	12 12 19.9				
	comp=Z,11µm,22.0s										
RPN	**Rapa Nui**	**95.72**	**118**		LR	LR	12 13 09.3				
	comp=Z,2µm,21.6s,baz=270,slow=31										
R11B	**Troy Canyon, C**	**95.74**	**52**		IAMs_20	IAMs_20	12 12 03.4				
	comp=Z,16µm,22.0s										
R11B	**Troy Canyon, C**	**95.74**	**52**		P	**P**	**11 36 55.1**	**+0.7**			
	baz=268,SNR=59										
MFID	**Camas Ranch**	**95.76**	**47**		IAMs_20	IAMs_20	12 18 27.6				
	comp=Z,10µm,19.0s										
ELIB	**Princess Elisa**	**95.78**	**194**	*d*	P	**P**	**11 36 53.0**	**-0.8**			
	comp=Z,22nm,1.1s										
HOQ	**Hoqain**	**95.91**	**293**		P	**P**	**11 36 54.2**	**-1.0**			
	SNR=8.6										
IRM	**Iron Mountain**	**95.92**	**56**		P	**P**	**11 36 56.0**	**+1.0**			
	baz=267,SNR=43										
GEYT	**Alibeck**	**95.93**	**307**		P	**P**	**11 36 54.4**	**-0.6**			
	comp=Z,9.5nm,0.8s,baz=98,slow=4.4,SNR=13										
GEYT					PP	**PP**	**11 40 50.6**	**+2.8**			
	comp=Z,10nm,0.9s,baz=87,slow=5.9,SNR=6.0										
GEYT					PKiKP	**PKiKP**	**11 41 33.9**	**0.0**			
	comp=Z,7.0nm,1.1s,baz=101,slow=2.9,SNR=1.3										
GEYT					PKKPbc	**PKKPbc**	**11 53 45.0**	**+0.4**			
	comp=Z,1.9nm,0.6s,baz=258,slow=2.7,SNR=3.6										
GEYT					LR	LR	12 22 02.2				
	comp=Z,9µm,21.2s,baz=92,slow=36										
	comp=Z,9.5nm,0.8s										
BSY	**Bisya**	**95.96**	**292**		P	**P**	**11 36 54.3**	**-1.1**			
SHPR	**Sheep Range**	**96.00**	**54**		IAMs_20	IAMs_20	12 13 42.5				
	comp=Z,10µm,20.0s										
SFX	**San Felipe**	**96.02**	**59**		IAMs_20	IAMs_20	12 13 23.0				
	comp=Z,11µm,20.0s										
ELK	**Elko**	**96.11**	**50**		IAMs_20	IAMs_20	12 13 12.9				
	comp=Z,11µm,21.0s										
ELK	**Elko**	**96.11**	**50**		LR	LR	12 13 13.2				
	comp=Z,10µm,21.6s,baz=262,slow=31										
ARU	**Arti**	**96.12**	**326**	*c i*	P	**P**	**11 36 53.3**	**-2.0**			
ARU					*PP	**pP**	**11 37 06.6**	**-3.1**			
ARU							11 40 45.2				
ARU					PPP	PPP	11 42 48.3				
ARU					S	**SKSac**	**11 47 25.9**	**-1.9**			
ARU					SP	**SP**	**11 49 28.5**	**-1.1**			
ARU					SS	**SS**	**11 54 43.9**	**+1.0**			
ARU					SSS	SSS	11 58 33.8				
ARU					pmax	pmax					
	comp=Z,45nm,0.9s										
ARU					MLR	MLR					
	comp=Z,27µm,21.0s										
ARU	**Arti**	**96.12**	**326**		LR	LR	12 19 52.9				
	comp=Z,28µm,21.4s,baz=90,slow=35										
GLA	**Glamis**	**96.13**	**57**		IAMs_20	IAMs_20	12 12 00.9				
	comp=Z,11µm,21.0s										
GLA	**Glamis**	**96.13**	**57**		P	**P**	**11 36 56.8**	**+0.8**			
	baz=267,SNR=5.5										
AKTO	**Aktyubinsk**	**96.36**	**320**		P	**P**	**11 36 53.5**	**-3.1**			
AKTO	**Aktyubinsk**	**96.36**	**320**		LR	LR	12 21 19.2				
	comp=Z,18µm,20.0s,baz=80,slow=36										
Q12A	**Willow Creek R**	**96.36**	**51**		IAMs_20	IAMs_20	12 12 46.7				
	comp=Z,16µm,22.0s										
NEE2	**Needles Airpor**	**96.38**	**56**		P	**P**	**11 36 57.9**	**+0.8**			
	baz=268										
BLYC	**Blythe**	**96.41**	**57**		IAMs_20	IAMs_20	12 12 42.4				
	comp=Z,12µm,20.0s										
ARQ	**Araqi**	**96.62**	**293**		P	**P**	**11 36 56.6**	**-1.9**			
	SNR=7.2										
ARQ					S	**SKSac**	**11 47 28.7**	**-3.3**			
SOHO	**SOHO**	**96.65**	**294**	*i*	P	**P**	**11 36 56.6**	**-1.9**			
	SNR=24										
SOHO	**SOHO**	**96.65**	**294**		P	**P**	**11 36 57.3**	**-1.2**			
SOHO					S	**SKSac**	**11 47 27.2**	**-4.8**			
YKAW3	**Yellowknife Wh**	**96.69**	**28**		IAMs_20	IAMs_20	12 19 02.5				
	comp=Z,12µm,20.0s										
YKA	**Yellowknife Ar**	**96.70**	**28**	*ce*	P	**P**	**11 36 58.0**	**+0.2**			
YKA					pmax	pmax					
	comp=Z,8.0nm,1.0s										
YKA	**Yellowknife Ar**	**96.70**	**28**		P	**P**	**11 36 57.9**	**+0.2**			
	comp=Z,8.5nm,1.0s,baz=273,slow=4.5,SNR=60										
YKA					PKiKP	**PKiKP**	**11 41 35.6**	**+1.2**			
	comp=Z,1.0nm,0.7s,baz=273,slow=1.6,SNR=8.2										
YKA					PKKPbc	**PKKPbc**	**11 53 41.0**	**-2.3**			
	comp=Z,2.5nm,0.8s,baz=86,slow=2.7,SNR=22										
YKA					PKPPKP	**P'P'df**	**12 01 53.5**	**-0.3**			
	comp=Z,0.4nm,0.8s,baz=78,slow=2.6,SNR=5.5										
YKA					LR	LR	12 14 47.4				
	comp=Z,11µm,21.9s,baz=287,slow=32										
	comp=Z,8.5nm,1.0s										
SPR3	**Spring Creek 3**	**96.75**	**51**		IAMs_20	IAMs_20	12 12 47.0				
	comp=Z,17µm,22.0s										
PDMCI	**Parker Dam,Lak**	**96.75**	**56**		P	**P**	**11 37 00.0**	**+1.3**			
	baz=268,SNR=13										
YKAW1	**Yellowknife Wh**	**96.75**	**28**		IAMs_20	IAMs_20	12 19 05.1				
	comp=Z,12µm,19.0s										
HLID	**Hailey**	**96.79**	**47**		IAMs_20	IAMs_20	12 18 09.0				
	comp=Z,11µm,19.0s										
HLID	**Hailey**	**96.79**	**47**		P	**P**	**11 36 59.2**	**+0.3**			
	baz=269,SNR=18										
MDH	**Madha**	**96.92**	**295**	*i*	P	**P**	**11 36 57.8**	**-2.0**			
	SNR=8.8										
MDH	**Madha**	**96.92**	**295**		P	**P**	**11 36 57.6**	**-2.1**			
MDH					S	**SKSac**	**11 47 31.3**	**-2.1**			
UOSS	**Minazif**	**96.99**	**294**	*i*	P	**P**	**11 36 58.5**	**-1.6**			
	SNR=15										
UOSS	**Minazif**	**96.99**	**294**		P	**P**	**11 36 58.4**	**-1.6**			
HATD	**Hatta, Dubai**	**97.05**	**294**	*i*	P	**P**	**11 36 58.7**	**-1.6**			
	SNR=13										
HATD	**Hatta, Dubai**	**97.05**	**294**		P	**P**	**11 36 58.9**	**-1.4**			
	SNR=6.9										
HATD					S	**SKSac**	**11 47 30.6**	**-3.5**			
MSFE	**Esma-Masafi**	**97.05**	**295**	*i*	P	**P**	**11 36 59.1**	**-1.3**			
	SNR=22										
MASF	**Masafi**	**97.05**	**295**		P	**P**	**11 36 59.0**	**-1.3**			
	SNR=8.7										
MASF					S	**SKSac**	**11 47 30.0**	**-4.2**			
SHME	**Shamm**	**97.10**	**295**	*i*	P	**P**	**11 36 58.9**	**-1.6**			
	SNR=10.0										
SHME	**Shamm**	**97.10**	**295**		P	**P**	**11 36 59.4**	**-1.1**			
	SNR=5.8										
ASHO	**Ashiyiah**	**97.11**	**294**	*i*	P	**P**	**11 36 59.0**	**-1.6**			
	SNR=19										
ASHO	**Ashiyiah**	**97.11**	**294**		P	**P**	**11 36 59.4**	**-1.3**			
	SNR=8.8										
ASHO					S	**SKSac**	**11 47 30.2**	**-4.3**			
SHAO	**Shalim**	**97.16**	**287**	*i*	P	**P**	**11 36 59.3**	**-1.6**			
	SNR=6.6										
SHAO	**Shalim**	**97.16**	**287**		P	**P**	**11 36 59.7**	**-1.3**			
SHAO					S	**SKSac**	**11 47 33.0**	**-1.9**			
ALNE	**Al Ain**	**97.36**	**293**	*i*	P	**P**	**11 37 00.5**	**-1.2**			
	SNR=5.5										
ALNE	**Al Ain**	**97.36**	**293**		P	**P**	**11 37 00.4**	**-1.4**			
	SNR=9.0										
ALNE					S	**SKSac**	**11 47 33.3**	**-2.5**			
NAZ	**Nazwa, Dubai**	**97.49**	**294**		P	**P**	**11 37 00.6**	**-1.6**			
NAZ	**Nazwa, Dubai**	**97.49**	**294**		P	**P**	**11 37 00.7**	**-1.6**			
UMQ	**Umm Al-Quwin**	**97.51**	**295**		P	**P**	**11 37 01.8**	**-0.6**			
EDM	**Edmonton**	**97.52**	**37**		IAMs_20	IAMs_20	12 14 25.8				
	comp=Z,16µm,21.0s										
FAQ	**Al Faqa, Dubai**	**97.54**	**294**	*i*	P	**P**	**11 37 00.5**	**-2.0**			
	SNR=6.3										
FAQ	**Al Faqa, Dubai**	**97.54**	**294**		P	**P**	**11 37 01.3**	**-1.2**			
FAQ					S	**SKSac**	**11 47 34.1**	**-2.5**			
LCMT	**Little Creek M**	**97.56**	**54**		IAMs_20	IAMs_20	12 14 43.6				
	comp=Z,14µm,20.0s										
ASUD	**Al Ashush, Dub**	**97.77**	**294**	*i*	P	**P**	**11 37 02.5**	**-1.1**			
	SNR=15										
ASUD	**Al Ashush, Dub**	**97.77**	**294**		P	**P**	**11 37 03.2**	**-0.4**			
ASUD					S	**SKSac**	**11 47 34.6**	**-3.2**			
DMTO	**DMTO**	**97.78**	**287**		P	**P**	**11 37 02.5**	**-1.2**			
DMTO					S	**SKSac**	**11 47 33.5**	**-4.5**			
214A	**Organ Pipe Nat**	**97.79**	**59**		IAMs_20	IAMs_20	12 17 31.0				
	comp=Z,11µm,18.0s										
214A	**Organ Pipe Nat**	**97.79**	**59**		P	Pdif	11 37 04.5	+0.9			
	baz=268,SNR=11										
UMZA	**Um Al Zommool**	**97.84**	**292**		P	**P**	**11 37 02.2**	**-1.7**			
KNB	**Kanab**	**97.90**	**54**		IAMs_20	IAMs_20	12 14 22.5				
	comp=Z,14µm,20.0s										
DUG	**Dugway, Tooele**	**97.94**	**50**		P	Pdif	11 37 04.4	+0.2			
	baz=269,SNR=10										
HVU	**Hansel Valley**	**97.98**	**49**		IAMs_20	IAMs_20	12 16 09.5				
	comp=Z,12µm,20.0s										
AJN	**Ajban**	**98.08**	**294**		P	**P**	**11 37 03.5**	**-1.4**			
AJN	**Ajban**	**98.08**	**294**		P	**P**	**11 37 03.8**	**-1.1**			
AJN					S	**SKSac**	**11 47 36.5**	**-2.8**			
RBK	**Rabkut**	**98.48**	**287**		P	**P**	**11 37 05.4**	**-1.5**			
	SNR=7.1										
RBK					S	**SKSac**	**11 47 38.3**	**-3.4**			
NLU	**North Lily Min**	**98.51**	**51**		IAMs_20	IAMs_20	12 17 55.5				
	comp=Z,11µm,20.0s										
DOK	**Doka**	**98.61**	**288**		P	**P**	**11 37 05.7**	**-1.7**			
	SNR=8.4										
DOK					S	**SKSac**	**11 47 39.0**	**-3.2**			
BOZ	**Bozeman (W)**	**98.78**	**45**		IAMs_20	IAMs_20	12 17 33.5				
	comp=Z,9µm,20.0s										
BOZ	**Bozeman (W)**	**98.78**	**45**		Pdiff	Pdif	11 37 08.7	+0.8			
	baz=271										
MPU	**Maple Canyon**	**98.85**	**50**		IAMs_20	IAMs_20	12 18 26.5				
	comp=Z,10µm,20.0s										
HWUT	**Hardware Ranch**	**98.89**	**49**		IAMs_20	IAMs_20	12 16 46.6				
	comp=Z,11µm,20.0s										
WHFO	**Wadi Hawf**	**98.91**	**287**		P	**P**	**11 37 07.0**	**-1.9**			
	SNR=7.5										
WHFO					S	**SKSac**	**11 47 42.1**	**-1.8**			
WUAZ	**Wupatki**	**99.05**	**55**		IAMs_20	IAMs_20	12 13 51.3				
	comp=Z,15µm,22.0s										
WUAZ	**Wupatki**	**99.05**	**55**		Pdiff	**Pdif**	**11 37 10.4**	**+1.1**			
	baz=270										
MZWR	**Madinat Zayed**	**99.06**	**293**		P	**Pdif**	**11 37 08.4**	**-1.0**			
MZWR					S	**SKSac**	**11 47 41.9**	**-2.4**			
YHL	**Hebgen Lake**	**99.12**	**46**		IAMs_20	IAMs_20	12 14 32.3				
	comp=Z,17µm,22.0s										
Q16A	**Castle Valley**	**99.21**	**52**		IAMs_20	IAMs_20	12 14 18.2				
	comp=Z,15µm,22.0s										
FXWY	**Fox Creek**	**99.25**	**47**		IAMs_20	IAMs_20	12 17 03.1				
	comp=Z,15µm,20.0s										
NVL	**N'lazarevskaya**	**99.28**	**193**	*e*	P	**Pdif**	**11 37 06.5**	**-2.8**			
NVL				*e*	S	**SKSac**	**11 47 38.4**	**-5.1**			
NVL				*e*	PS	**PS**	**11 50 08.7**	**-0.8**			
NVL				*e*	SS	**SS**	**11 55 24.0**	**-1.9**			
NVL				*e*	SSS	SSS	11 59 12.9				
NVL					pmax	pmax					
	comp=Z,54nm,1.6s										
NVL					smax	smax					
	comp=E,1µm,9.0s										
IMW	**Indian Meadow**	**99.31**	**47**		IAMs_20	IAMs_20	12 20 09.5				
	comp=Z,12µm,19.0s										
TPAW	**Teton Pass**	**99.31**	**47**		IAMs_20	IAMs_20	12 17 13.5				
	comp=Z,12µm,20.0s										
ABTO	**Aybut**	**99.33**	**287**		P	**Pdif**	**11 37 09.4**	**-1.3**			
	SNR=5.9										
ABTO					S	**SKSac**	**11 47 44.8**	**-1.2**			
MOOW	**Moose Ponds**	**99.46**	**47**		IAMs_20	IAMs_20	12 15 47.4				
	comp=Z,14µm,21.0s										
SNOW	**Snow King Moun**	**99.46**	**47**		IAMs_20	IAMs_20	12 17 19.5				
	comp=Z,12µm,20.0s										
FLWY	**Flagg Ranch**	**99.48**	**46**		IAMs_20	IAMs_20	12 15 38.0				
	comp=Z,14µm,21.0s										
TUC	**Tucson**	**99.52**	**58**		IAMs_20	IAMs_20	12 18 16.7				
	comp=Z,12µm,18.0s										
TUC	**Tucson**	**99.52**	**58**		Pdiff	**Pdif**	**11 37 13.2**	**+1.8**			
	baz=269										
P17A	**Butcher Ranch,**	**99.54**	**51**		IAMs_20	IAMs_20	12 14 39.0				
	comp=Z,11µm,21.0s										
H17A	**Grant Village**	**99.56**	**46**		Pdiff	**Pdif**	**11 37 12.6**	**+1.1**			
	baz=272										
LOHW	**Long Hollow**	**99.56**	**47**		IAMs_20	IAMs_20	12 16 22.2				
	comp=Z,12µm,20.0s										
LKWY	**Lake**	**99.68**	**46**		IAMs_20	IAMs_20	12 18 06.3				
	comp=Z,14µm,20.0s										
SRU	**San Rafael Swe**	**99.71**	**51**		IAMs_20	IAMs_20	12 14 11.5				
	comp=Z,13µm,22.0s										
LPIG	**La Paz**	**99.78**	**67**		LR	LR	12 15 08.8				
	comp=Z,14µm,20.6s,baz=274,slow=31										
P18A	**Preston Nutter**	**99.92**	**51**		IAMs_20	IAMs_20	12 16 36.9				
	comp=Z,12µm,20.0s										
GHWR	**Ruwais**	**99.99**	**293**		P	**Pdif**	**11 37 12.3**	**-1.2**			
GHWR					S	**SKSac**	**11 47 46.0**	**-2.9**			
EGMT	**Eagleton**	**99.99**	**42**		IAMs_20	IAMs_20	12 18 50.2				
	comp=Z,12µm,20.0s										
EGMT	**Eagleton**	**99.99**	**42**		Pdiff	**Pdif**	**11 37 13.9**	**+0.8**			
	baz=273										
TROLL	**Troll, Antarti**	**100.03**	**189**	‖	P	**Pdif**	**11 37 13.7**	**+0.8**			
	comp=Z,600nm,0.7s										
JRN	**Qarnain Island**	**100.04**	**294**		P	**Pdif**	**11 37 12.7**	**-0.9**			
JRN					S	**SKSac**	**11 47 46.2**	**-2.8**			
BW06	**Boulder Array**	**100.35**	**48**		Pdiff	**Pdif**	**11 37 15.1**	**+0.1**			
	baz=272										
PDAR	**Pinedale Array**	**100.35**	**48**		P	**Pdif**	**11 37 13.9**	**-1.1**			
	comp=Z,20nm,1.0s,baz=267,slow=1.5,SNR=65										
PDAR					PKiKP	**PKiKP**	**11 41 40.4**	**-1.5**			
	comp=Z,2.5nm,1.0s,baz=286,slow=4.6,SNR=2.9										
PDAR					PKKPbc	**PKKPbc**	**11 53 31.3**	**-1.4**			
	comp=Z,2.3nm,0.8s,baz=101,slow=4.8,SNR=9.0										
PDAR					PKKPab	PKKPab	11 53 56.5				
	comp=Z,1.0nm,0.8s,baz=95,slow=3.8,SNR=3.9										
PDAR					PKPPKP	**P'P'df**	**12 01 49.3**	**+0.6**			
	comp=Z,1.0nm,0.9s,baz=87,slow=3.8,SNR=4.6										
W18A	**Petrified Fore**	**100.39**	**55**		IAMs_20	IAMs_20	12 14 19.6				
	comp=Z,15µm,22.0s										
W18A	**Petrified Fore**	**100.39**	**55**		Pdiff	**Pdif**	**11 37 16.9**	**+1.6**			
	baz=270										
RLMT	**Red Lodge**	**100.47**	**45**		IAMs_20	IAMs_20	12 19 07.0				
	comp=Z,9µm,20.0s										
RLMT	**Red Lodge**	**100.47**	**45**		Pdiff	**Pdif**	**11 37 16.4**	**+1.0**			
	baz=273										
KIRV	**Kirov**	**100.92**	**329**	*c i*	P	**Pdif**	**11 37 14.8**	**-2.0**			
SLWR	**Sila**	**101.07**	**293**		P	**Pdif**	**11 37 16.9**	**-1.4**			
SLWR					S	**SKSac**	**11 47 51.7**	**-2.5**			
SNAA	**Sanae**	**101.14**	**188**	‖	P	**Pdif**	**11 37 16.8**	**-0.9**			
	comp=Z,12nm,0.4s										
SNAA	**Sanae**	**101.14**	**188**		PKKPbc	PKKPbc	11 53 28.6	-2.4			
	comp=Z,2.2nm,0.9s,baz=333,slow=2.3,SNR=4.2										
MVCO	**Mesa Verde**	**101.35**	**53**		IAMs_20	IAMs_20	12 17 05.2				
	comp=Z,12µm,20.0s										
MVCO	**Mesa Verde**	**101.35**	**53**		Pdiff	**Pdif**	**11 37 20.3**	**+0.8**			
	baz=272										
VOI	**Vohitsoka**	**101.40**	**246**		P	**Pdif**	**11 37 21.5**	**+1.5**			
VOI	**Vohitsoka**	**101.40**	**246**		IAMs_20	IAMs_20	12 21 22.1				
	comp=Z,9µm,20.0s										
O20A	**White River Ci**	**101.45**	**50**		IAMs_20	IAMs_20	12 16 46.4				
	comp=Z,12µm,22.0s										
O20A	**White River Ci**	**101.45**	**50**		Pdiff	**Pdif**	**11 37 20.6**	**+0.7**			
	baz=272										
ABPO	**Ambohimpanom**	**101.52**	**249**		IAMs_20	IAMs_20	12 18 14.3				
	comp=Z,9µm,21.0s										
TRNA	**Turayna**	**101.52**	**294**		P	**Pdif**	**11 37 19.2**	**-1.0**			
TRNA					S	**SKSac**	**11 47 53.6**	**-2.6**			
SHMA	**Al-Shehemyia**	**101.76**	**295**		P	**Pdif**	**11 37 20.1**	**-1.1**			
SHMA					S	**SKSac**	**11 47 53.8**	**-3.5**			
SMRA	**Abu-Samra**	**101.87**	**294**		P	**Pdif**	**11 37 20.8**	**-1.0**			
SMRA					S	**SKSac**	**11 47 55.2**	**-2.7**			
121A	**Cookes Peak, D**	**102.05**	**58**		IAMs_20	IAMs_20	12 21 33.8				
	comp=Z,11µm,18.0s										
121A	**Cookes Peak, D**	**102.05**	**58**		Pdiff	**Pdif**	**11 37 23.6**	**+0.8**			
	baz=271										
121A	**Cookes Peak, D**	**102.05**	**58**		P	**Pdif**	**11 37 25.1**	**+2.4**			
	baz=271										
SAKB	**Bahrain**	**102.14**	**295**		P	**Pdif**	**11 37 21.9**	**-1.0**			
SAKB					S	**SKSac**	**11 47 56.4**	**-2.8**			
RWWY	**Rawlins**	**102.15**	**49**		IAMs_20	IAMs_20	12 16 49.7				
	comp=Z,9µm,22.0s										
SMCO	**Snowmass**	**102.47**	**51**		IAMs_20	IAMs_20	12 16 26.4				
	comp=Z,15µm,22.0s										
LAO	**LASA Array**	**102.48**	**44**		IAMs_20	IAMs_20	12 21 33.2				
	comp=Z,9µm,19.0s										
LAO	**LASA Array**	**102.48**	**44**		Pdiff	**Pdif**	**11 37 24.9**	**+0.7**			
	baz=275										
LAO	**LASA Array**	**102.48**	**44**		P	**Pdif**	**11 37 24.5**	**+0.4**			
	baz=275										
K22A	**Casper**	**102.59**	**48**		IAMs_20	IAMs_20	12 18 01.5				
	comp=Z,9µm,20.0s										
K22A	**Casper**	**102.59**	**48**		Pdiff	**Pdif**	**11 37 25.0**	**+0.1**			
	baz=274										
K22A	**Casper**	**102.59**	**48**		P	**Pdif**	**11 37 25.1**	**+0.2**			
	baz=274										
Y22A	**Socorro**	**102.70**	**57**		P	**Pdif**	**11 37 28.3**	**+2.7**			
	baz=272										
Y22D	**IRIS PASSCAL I**	**102.74**	**56**		Pdiff	**Pdif**	**11 37 27.4**	**+1.7**			
	baz=272										
Y22F	**Passcal Instru**	**102.74**	**56**		Pdiff	**Pdif**	**11 37 27.6**	**+1.9**			
	baz=272										
ANMO	**Albuquerque**	**103.08**	**56**		Pdiff	**Pdif**	**11 37 28.6**	**+1.3**			
	baz=272										
**AN

E28A	**Huff**	**106.27**	**43**	P		**PKiKP**	**11 41 53.2**	**+0.8**	
	baz=279								
KEV	**Kevo**	**106.56**	**343**	IAMs_20	IAMs_20		12 27 33.4		
	comp=Z,13μm,22.0s								
MDND	**Maddock**	**106.78**	**42**	IAMs_20	IAMs_20		12 25 48.0		
	comp=Z,11μm,19.0s								
MDND	**Maddock**	**106.78**	**42**	PKiKP	**PKiKP**		**11 41 53.8**	**+0.6**	
	baz=280								
ZAIG	**Zacatecas**	**106.89**	**68**	IAMs_20	IAMs_20		12 18 48.5		
	comp=Z,12μm,21.0s								
ONI	**Oni**	**106.90**	**313**	IAMs_20	IAMs_20		12 30 07.9		
	comp=Z,9μm,20.0s								
AMTX	**Amarillo**	**107.01**	**55**	IAMs_20	IAMs_20		12 18 32.9		
	comp=Z,8μm,21.0s								
AMTX	**Amarillo**	**107.01**	**55**	PKiKP	**PKiKP**		**11 41 54.5**	**+0.4**	
	baz=275								
HAMF	**Hammerfest**	**107.03**	**344**	*e*P	**Pdif**		**11 37 46.5**	**+2.8**	
HAMF				*e*PP	**PP**		**11 42 12.3**	**+2.1**	
HAMF				*e*SKSac	**SKSac**		**11 48 19.8**	**+0.3**	
HAMF				*e*SP	**SP**		**11 51 29.8**	**+5.2**	
HAMF				IVMs_BB	IVMs_BB		12 27 30.8		
	comp=Z,4μm,22.7s								
NEEM	**North Greenlan**	**107.11**	**5**	*i* P	**PKiKP**		**11 41 53.9**	**+0.5**	
NEEM				IAMs_20	IAMs_20		12 20 21.5		
	comp=Z,9μm,23.3s								
ARA0	**ARCESS Array S**	**107.12**	**343**	*e*P	**Pdif**		**11 37 48.6**	**+4.3**	
ARA0				*e*PP	**PP**		**11 42 12.9**	**+1.9**	
ARA0				*e*SKSac	**SKSac**		**11 48 18.5**	**-1.6**	
ARA0				*e*SP	**SP**		**11 51 30.7**	**+5.1**	
ARA0				*e*SS	**SS**		**11 57 20.8**	**+6.4**	
ARA0				IVMs_BB	IVMs_BB		12 27 47.0		
	comp=Z,5μm,22.0s								
ARCES	**ARCESS Array B**	**107.12**	**343**	Pdiff	**Pdif**		**11 37 44.0**	**-0.3**	
	comp=Z,21nm,1.3s,baz=60,slow=5.3,SNR=5.2								
ARCES				PKiKP	**PKiKP**		**11 41 53.8**	**+0.5**	
	comp=Z,2.6nm,0.4s,baz=90,slow=0.9,SNR=8.9								
ARCES				PKKPbc	**PKKPbc**		**11 53 10.9**	**-2.1**	
	comp=Z,2.5nm,0.6s,baz=255,slow=2.4,SNR=8.2								
KIV	**Kislovodsk**	**107.25**	**314**	IAMs_20	IAMs_20		12 29 31.9		
	comp=Z,8μm,21.0s								
KIV	**Kislovodsk**	**107.25**	**314**	*i* P	**Pdif**		**11 37 41.8**	**-3.7**	
KIV				*e*			11 42 08.9		
KIV				*e*PPP	PPP		11 44 25.4		
KIV				*e*			11 48 18.9		
KIV				*e*PS	**PS**		**11 51 30.5**	**-4.5**	
KIV				*e*SS	SS		11 57 13.2	-4.7	
KIV				*e*SSS	SSS		12 01 19.8		
KIV				pmax	pmax				
	comp=Z,11nm,1.1s								
KIV				MLR	MLR				
	comp=Z,4μm,21.0s								
MOS	**Moscow**	**107.79**	**327**	*i* P	**Pdif**		**11 37 44.5**	**-2.9**	
MOS				*e*			11 42 12.8		
MOS				*e*			11 48 17.8		
MOS				*e*PS	**PS**		**11 51 34.3**	**-5.4**	
MOS				*e*SS	SS		11 57 30.4	+6.2	
MOS				MLR	MLR				
	comp=E,16μm,20.0s								
MOS				MLR	MLR				
	comp=Z,20μm,20.0s								
SUSD	**Miller**	**107.83**	**45**	IAMs_20	IAMs_20		12 24 22.1		
	comp=Z,9μm,20.0s								
SUSD	**Miller**	**107.83**	**45**	PKiKP	**PKiKP**		**11 41 55.6**	**+0.3**	
	baz=280								
SUSD	**Miller**	**107.83**	**45**	P	**PKiKP**		**11 41 56.0**	**+0.7**	
	baz=280								
KTK1	**Kautokeino**	**108.09**	**343**	*e*P	**Pdif**		**11 37 51.4**	**+2.9**	
KTK1				IVmBBB			11 37 56.2		
	comp=Z,1μm,2.8s								
KTK1				*e*PP	**PP**		**11 42 14.7**	**-3.3**	
KTK1				*e*SKSac	**SKSac**		**11 48 24.4**	**+0.1**	
KTK1				*e*SP	**SP**		**11 51 36.9**	**+1.4**	
KTK1				*e*SS	**SS**		**11 57 31.4**	**+4.0**	
KTK1				IVMs_BB	IVMs_BB		12 30 14.8		
	comp=Z,3μm,18.6s								
CBKS	**Cedar Bluff**	**108.12**	**51**	PKiKP	**PKiKP**		**11 41 57.4**	**+1.4**	
	baz=278								
JOF	**Joensuu**	**108.25**	**335**	*e*P	**PKiKP**		**11 41 55.6**	**+0.2**	
DAG	**Danmarks Havn**	**108.57**	**358**	*i* P	**PKiKP**		**11 41 55.4**	**-0.4**	
DAG				IAMs_20	IAMs_20		12 22 10.5		
	comp=Z,8μm,24.5s								
JETT	**Jettan, Norway**	**108.58**	**344**	*e*P	**Pdif**		**11 37 48.5**	**-2.3**	
JETT				*e*PP	**PP**		**11 42 27.5**	**+6.0**	
JETT				*e*SKSac	**SKSac**		**11 48 25.1**	**-1.3**	
JETT				*e*SS	**SS**		**11 57 32.7**	**-1.4**	
JETT				IVMs_BB	IVMs_BB		12 27 30.4		
	comp=Z,5μm,25.8s								
ULM	**Lac du Bonnet**	**108.66**	**39**	IAMs_20	IAMs_20		12 22 01.5		
	comp=Z,9μm,20.0s								
ULM	**Lac du Bonnet**	**108.66**	**39**	Pdiff	**Pdif**		**11 37 52.1**	**+0.6**	
	comp=Z,1.9nm,0.7s,baz=304,slow=3.6,SNR=4.2								
ULM				PKiKP	**PKiKP**		**11 41 56.9**	**+0.3**	
	comp=Z,7.0nm,0.9s,baz=280,slow=0.9,SNR=9.9								
ULM				PKKPbc	**PKKPbc**		**11 53 06.5**	**-1.0**	
	comp=Z,3.5nm,0.9s,baz=45,slow=2.9,SNR=4.7								
ULM				PKKPab	**PKKPab**		**11 53 18.7**	**-0.2**	
	comp=Z,2.4nm,0.8s,baz=49,slow=3.2,SNR=4.3								
ULM				PKPPKP	**P'P'df**		**12 01 31.8**	**-0.1**	
	comp=Z,0.6nm,0.4s,baz=67,slow=6.5,SNR=3.3								
ELIS	**Ellis County**	**108.72**	**54**	IAMs_20	IAMs_20		12 21 18.1		
	comp=Z,12μm,21.0s								
ABTX	**Abilene, Hawle**	**108.91**	**58**	IAMs_20	IAMs_20		12 26 26.4		
	comp=Z,7μm,19.0s								
ABTX	**Abilene, Hawle**	**108.91**	**58**	PKiKP	**PKiKP**		**11 41 57.6**	**-0.1**	
	baz=276								
BGNE	**Belgrade**	**108.93**	**48**	IAMs_20	IAMs_20		12 22 54.4		
	comp=Z,10μm,20.0s								
BGNE	**Belgrade**	**108.93**	**48**	PKiKP	**PKiKP**		**11 41 57.6**	**+0.2**	
	baz=280								
BGNE	**Belgrade**	**108.93**	**48**	P	**PKiKP**		**11 41 58.5**	**+1.0**	
	baz=280								
TRO	**Tromso**	**108.94**	**344**	*e*P	**Pdif**		**11 37 58.3**	**+6.1**	
TRO				*e*PP	**PP**		**11 42 22.8**	**-1.3**	
TRO				*e*SKSac	**SKSac**		**11 48 27.9**	**+0.1**	
TRO				*e*SP	**SP**		**11 51 45.3**	**+1.3**	
TRO				IVMs_BB	IVMs_BB		12 25 40.5		
	comp=Z,4μm,31.4s								
JCT	**Junction City**	**108.97**	**60**	PKiKP	**PKiKP**		**11 41 57.7**	**-0.2**	
	baz=275								
JCT	**Junction City**	**108.97**	**60**	P	**PKiKP**		**11 41 57.8**	**0.0**	
	baz=275,SNR=7.5								
KULLO	**Kullorsuaq**	**109.00**	**8**	*i* P	**PKiKP**		**11 41 56.2**	**-0.3**	
KULLO				IAMs_20	IAMs_20		12 22 37.7		
	comp=Z,18μm,25.3s								
U32A	**Winter Ranch,**	**109.01**	**54**	IAMs_20	IAMs_20		12 25 22.9		
	comp=Z,9μm,19.0s								
AGMN	**Agassiz Nation**	**109.14**	**41**	IAMs_20	IAMs_20		12 21 13.4		
	comp=Z,12μm,22.0s								
AGMN	**Agassiz Nation**	**109.14**	**41**	PKiKP	**PKiKP**		**11 41 58.3**	**+0.8**	
	baz=284								
OK038	**West end E0370**	**109.21**	**53**	IAMs_20	IAMs_20		12 21 06.0		
	comp=Z,10μm,21.0s								
WMOK	**Wichita Mounta**	**109.39**	**55**	PKiKP	**PKiKP**		**11 41 59.0**	**+0.5**	
	baz=277								
WMOK	**Wichita Mounta**	**109.39**	**55**	P	**PKiKP**		**11 41 59.5**	**+1.0**	
	baz=277,SNR=6.1								
F33A	**5 Mile Ranch,**	**109.41**	**43**	IAMs_20	IAMs_20		12 23 57.7		
	comp=Z,10μm,20.0s								
F33A	**5 Mile Ranch,**	**109.41**	**43**	P	**PKiKP**		**11 41 58.8**	**+0.6**	
	baz=282								
SOC	**Sochi**	**109.43**	**314**	*i* P	**Pdif**		**11 37 52.4**	**-2.6**	
SOC				*e*			11 42 24.9		
SOC				*e*PPP	PPP		11 44 48.7		
SOC				*e*SS	**SKSac**		**11 48 22.8**	**-8.2**	
SOC				*e*PS	**PS**		**11 51 42.3**	**-15**	
SOC				MLR	MLR				
	comp=Z,6μm,18.0s								
833A	**Chaparral WMA,**	**109.50**	**62**	PKiKP	**PKiKP**		**11 41 58.2**	**-0.7**	
	baz=274								
N33A	**J Bar K, Exete**	**109.57**	**49**	IAMs_20	IAMs_20		12 26 21.2		
	comp=Z,8μm,19.0s								
OK032	**Salt Plains WL**	**109.59**	**53**	IAMs_20	IAMs_20		12 22 00.1		
	comp=Z,10μm,20.0s								
ECSD	**EROS Data Cent**	**109.62**	**46**	IAMs_20	IAMs_20		12 27 33.5		
	comp=Z,9μm,19.0s								
CROK	**Carrier**	**109.81**	**53**	IAMs_20	IAMs_20		12 21 55.0		
	comp=Z,9μm,20.0s								
OK029	**Liberty Lake**	**110.33**	**54**	IAMs_20	IAMs_20		12 20 55.9		
	comp=Z,11μm,22.0s								
BLOK	**Blackwell**	**110.39**	**53**	IAMs_20	IAMs_20		12 20 31.2		
	comp=Z,11μm,22.0s								
FNO	**Franklin**	**110.45**	**55**	IAMs_20	IAMs_20		12 21 30.0		
	comp=Z,11μm,21.0s								
KSU1	**Kansas State U**	**110.48**	**50**	PKiKP	**PKiKP**		**11 42 00.0**	**-0.4**	
	baz=280								
FW06	**Azle**	**110.62**	**57**	IAMs_20	IAMs_20		12 34 09.6		
	comp=Z,7μm,19.0s								
OK048	**Pawnee Station**	**110.65**	**53**	IAMs_20	IAMs_20		12 23 10.3		
	comp=Z,8μm,20.0s								
OK033	**Mehan**	**110.71**	**54**	IAMs_20	IAMs_20		12 26 24.9		
	comp=Z,9μm,19.0s								
ANN	**Anapa**	**110.78**	**316**	*i* PKiKP	**PKiKP**		**11 41 57.1**	**-3.6**	
ANN				*e*			11 42 09.9		
ANN				*e*			11 48 30.9		
ANN				pmax	pmax				
	comp=Z,44nm,1.0s								
WHTX	**Lake Whitney,**	**110.82**	**58**	IAMs_20	IAMs_20		12 24 16.0		
	comp=Z,10μm,20.0s								
WHTX	**Lake Whitney,**	**110.82**	**58**	PKiKP	**PKiKP**		**11 42 00.8**	**-0.4**	
	baz=277								
Z35A	**Perchaven, San**	**110.83**	**57**	IAMs_20	IAMs_20		12 28 26.1		
	comp=Z,10μm,19.0s								
OK052	**Battle Ridge R**	**110.83**	**54**	IAMs_20	IAMs_20		12 21 53.9		
	comp=Z,10μm,22.0s								
435B	**Jarrell**	**110.84**	**59**	PKiKP	**PKiKP**		**11 42 00.5**	**-0.8**	
	baz=276								
W35A	**Tecumseh**	**110.89**	**55**	IAMs_20	IAMs_20		12 21 53.7		
	comp=Z,8μm,20.0s								
T35A	**Sooner Cattle**	**110.92**	**53**	IAMs_20	IAMs_20		12 22 43.3		
	comp=Z,11μm,20.0s								
T35B	**Sooner Cattle**	**110.92**	**53**	P	**PKiKP**		**11 42 01.3**	**0.0**	
	baz=279								
STEI	**Steigen**	**111.07**	**344**	*e*P	**Pdif**		**11 38 02.8**	**+1.1**	
STEI				*e*SKSdf	**SKSdf**		**11 49 10.9**	**+2.4**	
STEI				*e*SS	**SS**		**11 58 13.0**	**+5.6**	
STEI				IVMs_BB	IVMs_BB		12 30 57.0		
	comp=Z,5μm,25.5s								
FINES	**FINESS Array B**	**111.11**	**335**	Pdiff	**Pdif**		**11 38 00.0**	**-2.0**	
	comp=Z,7.3nm,0.7s,baz=60,slow=5.5,SNR=17								
FINES				PKiKP	**PKiKP**		**11 42 01.3**	**+0.4**	
	comp=Z,7.4nm,0.7s,baz=65,slow=2.9,SNR=11								
FINES				PKKPbc	**PKKPbc**		**11 52 58.5**	**-1.5**	
	comp=Z,1.8nm,0.8s,baz=245,slow=5.8,SNR=3.7								
FINES				PKKPab	**PKKPab**		**11 53 06.9**	**-1.0**	
	comp=Z,1.3nm,0.6s,baz=205,slow=6.2,SNR=4.1								
KEF	**Keuruu**	**111.24**	**336**	*e*P	**PKiKP**		**11 42 00.9**	**-0.1**	
F36A	**Milaca**	**111.29**	**43**	IAMs_20	IAMs_20		12 22 38.3		
	comp=Z,13μm,22.0s								
F36A	**Milaca**	**111.29**	**43**	P	**PKiKP**		**11 42 02.3**	**+0.6**	
	baz=285								
LOF	**Lofoten**	**111.40**	**344**	*e*P	**Pdif**		**11 38 08.1**	**+4.9**	
LOF				*e*PP	**PP**		**11 42 43.8**	**+2.0**	
LOF				*e*SP	SP		11 52 11.0	+3.4	
LOF				IVMs_BB	IVMs_BB		12 24 47.3		
	comp=Z,5μm,4.7s								
FAUS	**Fauske**	**111.43**	**343**	*e*P	**Pdif**		**11 38 02.2**	**-1.2**	
FAUS				*e*PP	**PP**		**11 42 39.8**	**-2.3**	
FAUS				*e*SKSac	**SKSac**		**11 48 37.9**	**-0.4**	
FAUS				IVMs_BB	IVMs_BB		12 26 15.0		
	comp=Z,4μm,27.0s								
VAF	**Ylistaro**	**111.63**	**338**	*e*P	**PKiKP**		**11 42 02.4**	**+0.7**	
TUL3	**Leonard**	**111.65**	**54**	IAMs_20	IAMs_20		12 27 12.7		
	comp=Z,8μm,19.0s								
TUL3	**Leonard**	**111.65**	**54**	PKiKP	**PKiKP**		**11 42 02.4**	**-0.3**	
	baz=279								
TUL3	**Leonard**	**111.65**	**54**	P	**PKiKP**		**11 42 03.8**	**+1.1**	
	baz=279								
I37A	**Lemond, Waseca**	**111.83**	**45**	IAMs_20	IAMs_20		12 35 57.7		
	comp=Z,9μm,19.0s								
MG05	**Puerto Natales**	**111.84**	**152**	IAMs_20	IAMs_20		12 23 07.2		
	comp=Z,8μm,20.0s								
SPMN	**Marine on St.**	**111.94**	**43**	IAMs_20	IAMs_20		12 29 06.6		
	comp=Z,10μm,19.0s								
SPMN	**Marine on St.**	**111.94**	**43**	PKiKP	**PKiKP**		**11 42 02.9**	**0.0**	
	baz=285								
EYMN	**Ely**	**112.06**	**40**	PKiKP	**PKiKP**		**11 42 02.9**	**-0.3**	
	baz=287								
GO09	**Cerro Castillo**	**112.19**	**152**	IAMs_20	IAMs_20		12 23 35.5		
	comp=Z,7μm,19.0s								
X37A	**Clayton**	**112.20**	**55**	IAMs_20	IAMs_20		12 26 04.3		
	comp=Z,10μm,19.0s								
X37A	**Clayton**	**112.20**	**55**	P	**PKiKP**		**11 42 05.0**	**+1.3**	
	baz=279								
237A	**Washetta, Mont**	**112.21**	**58**	IAMs_20	IAMs_20		12 24 59.7		
	comp=Z,9μm,20.0s								
RLO	**Rose Lookout**	**112.22**	**53**	IAMs_20	IAMs_20		12 20 47.8		
	comp=Z,9μm,21.0s								
VSU	**Vasula**	**112.25**	**332**	*c i* PKiKP	**PKiKP**		**11 42 03.9**	**+0.8**	
VSU				pmax	pmax				
	comp=Z,27nm,1.0s								
VSU				MLR	MLR				
	comp=Z,7μm,18.0s								
E38A	**The Farm, Brul**	**112.40**	**42**	IAMs_20	IAMs_20		12 25 38.8		
	comp=Z,12μm,21.0s								
MEF	**Metsahovi**	**112.44**	**334**	*e*P	**PKiKP**		**11 42 03.7**	**+0.3**	
SCIA	**State Center**	**112.46**	**47**	IAMs_20	IAMs_20		12 23 19.6		
	comp=Z,12μm,21.0s								
SCIA	**State Center**	**112.46**	**47**	PKiKP	**PKiKP**		**11 42 03.4**	**-0.7**	
	baz=283								
MG02	**Cerro Sombrero**	**112.54**	**155**	IAMs_20	IAMs_20		12 22 28.5		
	comp=Z,11μm,20.0s								
K38A	**Parkersburg**	**112.60**	**46**	IAMs_20	IAMs_20		12 25 07.4		
	comp=Z,8μm,20.0s								
U38A	**Gravette**	**112.68**	**53**	IAMs_20	IAMs_20		12 22 02.0		
	comp=Z,9μm,22.0s								
U38A	**Gravette**	**112.68**	**53**	P	**PKiKP**		**11 42 04.1**	**-0.6**	
	baz=280,SNR=10								
P38A	**Dawn**	**112.73**	**49**	IAMs_20	IAMs_20		12 32 27.9		
	comp=Z,9μm,18.0s								
P38A	**Dawn**	**112.73**	**49**	P	**PKiKP**		**11 42 03.9**	**-0.7**	
	baz=282								
KIBK	**Kibwezi**	**112.98**	**265**	PP	**PP**		**11 42 53.5**	**-1.7**	
SIM	**Simferopol'**	**113.02**	**317**	*i* P	**Pdif**		**11 38 11.7**	**+0.7**	
SIM				*e*			11 42 56.0		
SIM				*e*SP	SP		11 52 26.0	+2.0	
HHAR	**Hobbs**	**113.07**	**53**	IAMs_20	IAMs_20		12 21 50.1		
	comp=Z,9μm,22.0s								
NATX	**Nacogdoches**	**113.21**	**58**	IAMs_20	IAMs_20		12 23 16.2		
	comp=Z,9μm,22.0s								
NATX	**Nacogdoches**	**113.21**	**58**	PKiKP	**PKiKP**		**11 42 05.0**	**-0.7**	
	baz=278								
S39A	**Bolivar**	**113.28**	**51**	P	**PKiKP**		**11 42 04.9**	**-0.8**	
	baz=282								
MNK	**Minsk**	**113.45**	**328**	*i* P	**Pdif**		**11 38 08.9**	**-3.7**	
MNK				*i*			11 49 14.8		
MNK				*i* SS	SS		11 58 36.5	-3.3	
MNK				*i* SSS	SSS		12 02 49.5		
MNK				pmax	pmax				
	comp=N,17nm,0.8s								
MNK				pmax	pmax				
	comp=E,5.0nm,0.9s								
MNK				pmax	pmax				
	comp=Z,21nm,0.9s								
MNK				MLR	MLR				
	comp=N,5μm,20.0s								
MNK				MLR	MLR				
	comp=Z,13μm,22.0s								
MNK				MLR	MLR				
	comp=E,3μm,21.0s								
MIAR	**Mount Ida**	**113.67**	**55**	PKiKP	**PKiKP**		**11 42 05.9**	**-0.6**	
	baz=280								
G40A	**Rib Lake**	**113.69**	**43**	P	**PKiKP**		**11 42 06.8**	**+0.5**	
	baz=287								
I40A	**Norwalk**	**113.80**	**44**	IAMs_20	IAMs_20		12 29 45.9		
	comp=Z,10μm,19.0s								
L40A	**Anamosa**	**113.86**	**46**	IAMs_20	IAMs_20		12 26 05.7		
	comp=Z,9μm,20.0s								
P40A	**Paris**	**113.86**	**49**	IAMs_20	IAMs_20		12 28 47.0		
	comp=Z,10μm,19.0s								
P40A	**Paris**	**113.86**	**49**	P	**PKiKP**		**11 42 06.6**	**-0.2**	
	baz=283								
ISAL	**Salakas**	**113.89**	**330**	*e*P	**PKiKP**		**11 42 09.9**	**+3.6**	
U40A	**Yellville**	**113.91**	**53**	P	**PKiKP**		**11 42 06.3**	**-0.8**	
	baz=281,SNR=21								
U40A				P	**PKiKP**		**11 42 06.3**	**-0.8**	
	baz=281,SNR=21								
R40A	**Maddies Statio**	**113.97**	**51**	P	**PKiKP**		**11 42 07.1**	**+0.1**	
	baz=282								
WLAR	**White Oak Lake**	**114.19**	**56**	IAMs_20	IAMs_20		12 28 48.2		
	comp=Z,8μm,19.0s								
AKASG	**Malin Array Be**	**114.24**	**324**	PKiKP	**PKiKP**		**11 42 07.3**	**+0.1**	
	comp=Z,18nm,0.8s,baz=62,slow=2.2,SNR=34								
AKASG				PP	**PP**		**11 43 01.1**	**-1.6**	
	comp=Z,4.4nm,0.8s,baz=60,slow=6.0,SNR=4.4								
AKASG				PKKPbc	**PKKPbc**		**11 52 47.8**	**-1.4**	
	comp=Z,2.6nm,0.7s,baz=249,slow=4.0,SNR=8.2								
AKBB	**Malin Array Si**	**114.24**	**324**	IAMs_20	IAMs_20		12 32 11.7		
	comp=Z,8μm,21.0s								
AKBB	**Malin Array Si**	**114.24**	**324**	*d i* PKiKP	PKPdf		11 42 07.0	-0.2	
KIEV	**Kiev**	**114.25**	**324**	⇑P	**PKiKP**		**11 42 07.7**	**+0.5**	
KIEV	**Kiev**	**114.25**	**324**	IAMs_20	IAMs_20		12 29 41.7		
	comp=Z,8μm,22.0s								
KIEV	**Kiev**	**114.25**	**324**	*i* P	PKPdf		11 42 06.0	-1.2	
	SNR=11								
KIEV	**Kiev**	**114.25**	**324**	⇑PKiKP	**PKiKP**		**11 42 07.7**	**+0.5**	
X40A	**Basin Creek Fa**	**114.28**	**55**	IAMs_20	IAMs_20		12 29 32.4		
	comp=Z,8μm,19.0s								
JFWS	**Jewell Farm**	**114.33**	**45**	IAMs_20	IAMs_20		12 30 38.0		
	comp=Z,7μm,20.0s								
JFWS	**Jewell Farm**	**114.33**	**45**	PKiKP	PKPdf		11 42 07.1	-0.5	
	baz=286								
Z41A	**Richland Creek**	**114.52**	**56**	IAMs_20	IAMs_20		12 27 45.9		
	comp=Z,9μm,20.0s								
WHAR	**Wooly Hollow**	**114.57**	**54**	IAMs_20	IAMs_20		12 27 11.0		
	comp=Z,10μm,19.0s								
FCAR	**Ozark Folk Cen**	**114.58**	**53**	IAMs_20	IAMs_20		12 29 27.3		
	comp=Z,8μm,19.0s								
UALR	**University of**	**114.62**	**54**	IAMs_20	IAMs_20		12 30 49.5		
	comp=Z,10μm,19.0s								
BR131	**Keskin Array S**	**114.72**	**311**	*d i* PKiKP	PKPdf		11 42 08.6	0.0	
BRTR	**Keskin Array B**	**114.72**	**311**	PKiKP	PKPdf		11 42 08.5	-0.2	
	comp=Z,8.6nm,0.9s,baz=116,slow=2.2,SNR=22								
BRTR				PP	**PP**		**11 43 07.3**	**+0.6**	
	comp=Z,7.7nm,0.9s,baz=83,slow=4.5,SNR=5.7								
BRTR				PKKPbc	**PKKPbc**		**11 52 48.3**	**+0.9**	
	comp=Z,1.4nm,0.8s,baz=241,slow=4.7,SNR=5.4								
MMAI	**Mount Meron Ar**	**114.72**	**304**	PKiKP	**PKiKP**		**11 42 09.9**	**+1.1**	
	comp=Z,4.5nm,0.7s,baz=108,slow=4.7,SNR=6.0								
VSVD	**Vaisvydziai**	**114.78**	**331**	*e*P	PKPdf		11 42 08.6	+0.6	
CCM	**Cathedral Cave**	**114.81**	**51**	PKiKP	**PKiKP**		**11 42 08.1**	**-0.6**	
	baz=283								
CCM	**Cathedral Cave**	**114.81**	**51**	P	PKPdf		11 42 09.0	+0.3	
	baz=286								
F42A	**Maple Grove Fa**	**114.92**	**42**	IAMs_20	IAMs_20		12 23 36.5		
	comp=Z,13μm,22.0s								
I42A	**Draeger Farm,**	**114.98**	**44**	IAMs_20	IAMs_20		12 27 38.1		
	comp=Z,12μm,20.0s								
L42A	**Oliver, Polo**	**114.99**	**46**	IAMs_20	IAMs_20		12 28 05.6		
	comp=Z,7μm,20.0s								
PABE	**Paberze**	**115.00**	**330**	IAMs_20	IAMs_20		12 32 49.8		
	comp=Z,12μm,22.0s								
PABE	**Paberze**	**115.00**	**330**	*e*P	PKPdf		11 42 09.7	+1.3	
CCAR	**Cane Creek**	**115.25**	**55**	IAMs_20	IAMs_20		12 28 13.1		
	comp=Z,10μm,20.0s								
ANTO	**Ankara**	**115.32**	**312**	⇑P	**PKiKP**		**11 42 09.7**	**0.0**	
ANTO	**Ankara**	**115.32**	**312**		**PKiKP**		**11 42 09.5**	**-0.2**	
ANTO	**Ankara**	**115.32**	**312**	*i* PKiKP	**PKiKP**		**11 42 09.5**	**-0.2**	
SLM	**Saint Louis**	**115.45**	**50**	IAMs_20	IAMs_20		12 26 53.9		
	comp=Z,10μm,20.0s								
FVM	**French Village**	**115.46**	**50**	P	**PKPdf**		**11 42 10.0**	**+0.1**	
	baz=284								
H43A	**Windswept, Lux**	**115.58**	**43**	IAMs_20	IAMs_20		12 30 16.0		
	comp=Z,10μm,19.0s								
HDIL	**Hopedale**	**115.66**	**47**	IAMs_20	IAMs_20		12 26 31.3		
	comp=Z,12μm,21.0s								
HDIL	**Hopedale**	**115.66**	**47**	PKiKP	**PKiKP**		**11 42 10.0**	**-0.2**	
	baz=286								
HDIL	**Hopedale**	**115.66**	**47**	P	**PKPdf**		**11 42 10.3**	**+0.1**	
	baz=286								
P43A	**Skaggs, Pawnee**	**115.73**	**49**	P	**PKPdf**		**11 42 10.4**	**+0.1**	
	baz=285								
K43A	**Burlington**	**115.74**	**45**	IAMs_20	IAMs_20		12 30 54.3		
	comp=Z,8μm,20.0s								
SORM	**Soroca**	**115.75**	**321**	⇑P	**PKPdf**		**11 42 10.5**	**+0.4**	
SORM	**Soroca**	**115.75**	**321**	⇑PKiKP	**PKP

NB2	**NORSAR Subarra**	**117.09**	**340**		PKPdf	**PKPdf**	**11 42 11.8**	**-0.6**		
	baz=44,slow=1.9									
NOA	**NORSAR Array B**	**117.09**	**340**		PKP	**PKiKP**	**11 42 12.5**	**+0.1**		
	comp=Z,18nm,1.0s,baz=47,slow=2.1,SNR=24									
NOA					SKP		11 45 44.9			
	comp=Z,1.2nm,0.7s,baz=49,slow=1.8,SNR=2.5									
NOA					PKKPbc	**PKKPbc**	**11 52 38.3**	**-1.4**		
	comp=Z,3.1nm,0.8s,baz=224,slow=3.5,SNR=8.8									
DOMB	**Dombas**	**117.09**	**341**	*e*	SKPdf	**SKiKP**	**11 45 46.0**	**+1.6**		
DOMB				*e*	SS	**SS**	**11 59 28.6**	**+1.8**		
DOMB					IVMs_BB	IVMs_BB	12 32 56.5			
	comp=Z,7μm,21.1s									
MFTR	**Murfatlar**	**117.13**	**317**	⇑	P	**PKiKP**	**11 42 14.2**	**+1.3**		
NC602	**NORSAR Array S**	**117.19**	**339**	*e*	PP	**PP**	**11 43 24.5**	**+1.6**		
NC602				*e*	SKSac	**SKSac**	**11 49 01.1**	**+0.3**		
NC602				*e*	SP	**SP**	**11 53 03.3**	**+2.6**		
NC602				*e*	SS	**SS**	**11 59 31.7**	**+3.6**		
NC602					IVMs_BB	IVMs_BB	12 29 52.2			
	comp=Z,4μm,25.3s									
E46A	**Sault Ste Mari**	**117.20**	**40**		P	**PKPdf**	**11 42 12.4**	**-0.7**		
	baz=292,SNR=8.5									
NBO00	**NORSAR Array S**	**117.25**	**340**			**PKPdf**	**11 42 12.4**	**-0.3**		
TLBR	**Topalu**	**117.25**	**318**	⇑	P	**PKiKP**	**11 42 14.4**	**+1.3**		
HARR	**Harsova**	**117.28**	**318**	⇑	P	**PKiKP**	**11 42 13.6**	**+0.4**		
HARR	**Harsova**	**117.28**	**318**	⇑	PKiKP	**PKiKP**	**11 42 13.6**	**+0.4**		
KLNR	**Kaliningrad**	**117.31**	**330**	⇑	*i* PKiKP	**PKiKP**	**11 42 14.2**	**+1.3**		
LL06	**Loncomilla**	**117.31**	**144**		IAMs_20	IAMs_20	12 25 32.6			
	comp=Z,7μm,20.0s									
SFIN	**Lafayette**	**117.32**	**47**			**PKPdf**	**11 42 12.8**	**-0.6**		
SFIN					IAMs_20	IAMs_20	12 27 02.2			
	comp=Z,10μm,22.0s									
SFIN	**Lafayette**	**117.32**	**47**		PKiKP	**PKiKP**	**11 42 13.5**	**+0.1**		
	baz=287									
SFIN	**Lafayette**	**117.32**	**47**		P	**PKPdf**	**11 42 13.2**	**-0.2**		
	baz=287									
L46A	**Eue Claire**	**117.39**	**45**		IAMs_20	IAMs_20	12 28 54.0			
	comp=Z,9μm,21.0s									
TESR	**Tescani**	**117.44**	**320**	⇑	P	**PKiKP**	**11 42 14.3**	**+0.8**		
P46A	**Rosedale**	**117.46**	**48**		P	**PKPdf**	**11 42 12.6**	**-1.1**		
	baz=287									
ISP	**Isparta**	**117.56**	**310**	⇓	*i* PKiKP	**PKPdf**	**11 42 13.5**	**-0.6**		
ISP					pmax	pmax				
	comp=Z,46nm,1.3s									
ICOR	**Ion Corvin**	**117.57**	**317**	⇑	P	**PKiKP**	**11 42 14.6**	**+0.8**		
GLMI	**Grayling**	**117.58**	**42**		IAMs_20	IAMs_20	12 29 07.6			
	comp=Z,11μm,20.0s									
GLMI	**Grayling**	**117.58**	**42**		PKiKP	**PKiKP**	**11 42 13.9**	**+0.1**		
	baz=291									
GLMI	**Grayling**	**117.58**	**42**		P	**PKPdf**	**11 42 13.5**	**-0.3**		
	baz=291									
VRI	**Vrincioaia**	**117.63**	**320**	⇑	P	**PKiKP**	**11 42 14.5**	**+0.6**		
VRI	**Vrincioaia**	**117.63**	**320**	⇑	PKiKP	**PKiKP**	**11 42 14.5**	**+0.6**		
346A	**Big Creek Wild**	**117.64**	**57**		IAMs_20	IAMs_20	12 28 52.6			
	comp=Z,9μm,21.0s									
LVV	**L'vov**	**117.64**	**324**	*i*	PKiKP	**PKiKP**	**11 42 14.5**	**+0.7**		
LVV				*e*			11 43 28.0			
LVV				*e*	PPP	PPP	11 45 56.0			
LVV				*e*			11 48 56.0			
LVV				*e*	PS	**PS**	**11 53 14.0**	**+1.8**		
LVV					MLR	MLR				
	comp=Z,4μm,23.0s									
PLOR	**Plostina**	**117.69**	**320**	⇑	P	**PKiKP**	**11 42 14.7**	**+0.6**		
PLOR	**Plostina**	**117.69**	**320**	⇑	PKiKP	**PKiKP**	**11 42 14.7**	**+0.6**		
146A	**Union**	**117.73**	**56**		IAMs_20	IAMs_20	12 33 37.9			
	comp=Z,7μm,19.0s									
146A	**Union**	**117.73**	**56**		P	**PKiKP**	**11 42 14.5**	**0.0**		
	baz=282,SNR=5.7									
BUR08	**Bucovina Ar. S**	**117.89**	**322**			**PKiKP**	**11 42 14.8**	**+0.3**		
BURAR	**Bucovina Array**	**117.89**	**322**	⇑	P	**PKiKP**	**11 42 15.7**	**+1.2**		
BURAR	**Bucovina Array**	**117.89**	**322**			**PKiKP**	**11 42 15.2**	**+0.8**		
BURAR	**Bucovina Array**	**117.89**	**322**	⇑	PKiKP	**PKiKP**	**11 42 15.7**	**+1.2**		
LL05	**Los Muermos**	**117.90**	**143**		IAMs_20	IAMs_20	12 23 31.1			
	comp=Z,6μm,20.0s									
DY2G	**Dye2**	**117.91**	**8**	*i*	P	**PKPdf**	**11 42 13.2**	**-0.9**		
DY2G					IAMs_20	IAMs_20	12 25 43.0			
	comp=Z,12μm,26.6s									
WVT	**Waverly**	**117.92**	**52**		IAMs_20	IAMs_20	12 25 16.6			
	comp=Z,11μm,22.0s									
WVT	**Waverly**	**117.92**	**52**		PKiKP	**PKPdf**	**11 42 14.4**	**-0.3**		
	baz=284									
WVT	**Waverly**	**117.92**	**52**		P	**PKPdf**	**11 42 14.5**	**-0.2**		
	baz=284									
PLAL	**Pickwick Lake**	**118.01**	**53**		IAMs_20	IAMs_20	12 29 35.0			
	comp=Z,7μm,20.0s									
ISR	**Istrita**	**118.04**	**319**	⇑	P	**PKiKP**	**11 42 15.7**	**+0.9**		
ISR	**Istrita**	**118.04**	**319**	⇑	PKiKP	**PKiKP**	**11 42 15.7**	**+0.9**		
NEHR	**Nehoiu**	**118.08**	**319**	⇑	P	**PKPdf**	**11 42 14.7**	**-0.1**		
BOSA	**Boshof**	**118.08**	**234**			**PKPdf**	**11 42 15.0**	**-0.5**		
BOSA					IAMs_20	IAMs_20	12 26 45.9			
	comp=Z,11μm,21.0s									
BOSA	**Boshof**	**118.08**	**234**		PKiKP	**PKPdf**	**11 42 15.0**	**-0.5**		
BOSA	**Boshof**	**118.08**	**234**		PKP	**PKiKP**	**11 42 16.6**	**+1.1**		
	comp=Z,10nm,0.9s,baz=116,slow=2.2,SNR=13									
BLO	**Bloomington**	**118.09**	**48**			**PKPdf**	**11 42 14.5**	**-0.4**		
BLO	**Bloomington**	**118.09**	**48**		PKiKP	**PKPdf**	**11 42 14.5**	**-0.4**		
N47A	**Urbana**	**118.18**	**46**		P	**PKiKP**	**11 42 15.4**	**+0.3**		
	baz=288									
N47A					P	**PKiKP**	**11 42 15.4**	**+0.3**		
	baz=288									
NEF	**NEVSHA**	**118.23**	**317**		P	**PKiKP**	**11 42 16.4**	**+1.3**		
T47A	**Sharon Grove**	**118.26**	**51**			**PKPdf**	**11 42 14.9**	**-0.4**		
T47A	**Sharon Grove**	**118.26**	**51**		P	**PKPdf**	**11 42 14.8**	**-0.6**		
	baz=286,SNR=15									
MLR	**Muntele Rosu**	**118.28**	**319**	⇑	P	**PKiKP**	**11 42 15.9**	**+0.5**		
MLR	**Muntele Rosu**	**118.28**	**319**			**PKPdf**	**11 42 14.7**	**-0.6**		
MLR	**Muntele Rosu**	**118.28**	**319**	⇑	PKiKP	**PKiKP**	**11 42 15.9**	**+0.5**		
SKAR	**Skarslia**	**118.34**	**340**	*e*	PKPdf	**PKPdf**	**11 42 14.3**	**-0.5**		
SKAR				*e*	PP	**PP**	**11 43 32.3**	**+1.4**		
SKAR				*e*	SKSac	**SKSac**	**11 49 05.8**	**+0.7**		
SKAR				*e*	SP	**SP**	**11 53 14.9**	**+3.7**		
SKAR					IVMs_BB	IVMs_BB	12 36 18.0			
	comp=Z,5μm,25.1s									
Z47A	**Carrollton**	**118.42**	**55**		IAMs_20	IAMs_20	12 33 06.1			
	comp=Z,7μm,20.0s									
DOPR	**Dopca**	**118.45**	**320**	⇑	P	**PKiKP**	**11 42 16.9**	**+1.4**		
KWP	**Kalwaria Pacla**	**118.49**	**325**	*e*	PKP	**PKiKP**	**11 42 17.1**	**+1.6**		
KWP	**Kalwaria Pacla**	**118.49**	**325**			**PKiKP**	**11 42 15.7**	**+0.3**		
KWP	**Kalwaria Pacla**	**118.49**	**325**		PKiKP	**PKiKP**	**11 42 15.7**	**+0.3**		
STRU	**Stroemstad**	**118.50**	**338**	*e*	P	**PKiKP**	**11 42 15.7**	**+0.6**		
WCI	**Wyandotte Cave**	**118.54**	**49**		PKiKP	**PKPdf**	**11 42 15.6**	**-0.3**		
	baz=287									
WCI	**Wyandotte Cave**	**118.54**	**49**		P	**PKPdf**	**11 42 15.2**	**-0.6**		
	baz=287,SNR=10									
RAZG	**Razgrad**	**118.64**	**317**	⇑	P	**PKiKP**	**11 42 16.1**	**+0.1**		
KONO	**Kongsberg**	**118.64**	**339**		IAMs_20	IAMs_20	12 35 51.1			
	comp=Z,8μm,20.0s									
KONO	**Kongsberg**	**118.64**	**339**	*e*	PP	**PP**	**11 43 37.4**	**+4.4**		
KONO				*e*	SKSac	**SKSac**	**11 49 05.8**	**-0.3**		
KONO				*e*	SP	**SP**	**11 53 16.2**	**+2.3**		
KONO					IVMs_BB	IVMs_BB	12 35 05.8			
	comp=Z,2μm,4.0s									
HYA	**Hoyanger**	**118.66**	**342**	*e*	PKPdf	**PKiKP**	**11 42 15.6**	**+0.2**		
HYA				*e*	SP	SP	11 53 15.4	+1.5		
HYA					IVMs_BB	IVMs_BB	12 36 33.5			
	comp=Z,6μm,17.4s									
L48A	**N Adams**	**118.72**	**45**		IAMs_20	IAMs_20	12 30 23.2			
	comp=Z,11μm,20.0s									
L48A	**N Adams**	**118.72**	**45**		P	**PKPdf**	**11 42 15.5**	**-0.6**		
	baz=290,SNR=14									
L48A					P	**PKPdf**	**11 42 15.5**	**-0.6**		
	baz=290,SNR=14									
O48B	**Farmland**	**118.77**	**47**			**PKPdf**	**11 42 15.4**	**-0.8**		
O48B					IAMs_20	IAMs_20	12 35 24.5			
	comp=Z,8μm,19.0s									
O48B	**Farmland**	**118.77**	**47**		PKiKP	**PKPdf**	**11 42 16.0**	**-0.2**		
	baz=289									
O48B	**Farmland**	**118.77**	**47**		P	**PKPdf**	**11 42 14.6**	**-1.6**		
	baz=289,SNR=13									
V48A	**Smith Brothers**	**118.81**	**52**		IAMs_20	IAMs_20	12 27 07.2			
	comp=Z,10μm,22.0s									
V48A	**Smith Brothers**	**118.81**	**52**		P	**PKPdf**	**11 42 15.8**	**-0.7**		
	baz=285,SNR=7.5									
P48A	**Milroy**	**118.82**	**48**		IAMs_20	IAMs_20	12 29 31.0			
	comp=Z,10μm,20.0s									
P48A	**Milroy**	**118.82**	**48**		P	**PKPdf**	**11 42 15.6**	**-0.7**		
	baz=288,SNR=9.4									
P48A					P	**PKPdf**	**11 42 15.6**	**-0.7**		
	baz=288,SNR=9.4									
VOIR		**118.89**	**320**	⇑	P	**PKiKP**	**11 42 17.0**	**+0.5**		
VOIR		**118.89**	**320**	⇑	PKiKP	**PKiKP**	**11 42 17.0**	**+0.5**		
X48A	**Hartselle**	**118.96**	**54**		IAMs_20	IAMs_20	12 33 32.2			
	comp=Z,9μm,19.0s									
X48A	**Hartselle**	**118.96**	**54**		P	**PKPdf**	**11 42 16.6**	**-0.1**		
	baz=284,SNR=5.5									
PETF	**Flores**	**119.06**	**74**		IAMs_20	IAMs_20	12 28 20.3			
	comp=Z,9μm,19.0s									
I49A	**Point Hope**	**119.10**	**42**		IAMs_20	IAMs_20	12 27 08.0			
	comp=Z,12μm,22.0s									
CLTN	**Cedars of Leba**	**119.10**	**52**			**PKPdf**	**11 42 15.6**	**-1.4**		
AAM	**Ann Arbor**	**119.14**	**44**		PKiKP	**PKPdf**	**11 42 16.7**	**-0.2**		
	baz=291									
AAM	**Ann Arbor**	**119.14**	**44**		P	**PKPdf**	**11 42 16.4**	**-0.4**		
	baz=291									
ARR	**Arges**	**119.18**	**320**	⇑	P	**PKiKP**	**11 42 17.7**	**+0.7**		
LBTB	**Lobatse**	**119.22**	**237**			**PKPdf**	**11 42 16.9**	**-0.8**		
LBTB					IAMs_20	IAMs_20	12 30 08.5			
	comp=Z,9μm,20.0s									
LBTB	**Lobatse**	**119.22**	**237**		PKiKP	**PKPdf**	**11 42 16.9**	**-0.8**		
N49A	**Columbus Grove**	**119.25**	**46**		IAMs_20	IAMs_20	12 33 47.2			
	comp=Z,9μm,20.0s									
N49A	**Columbus Grove**	**119.25**	**46**		P	**PKPdf**	**11 42 16.4**	**-0.7**		
	baz=290,SNR=14									
N49A					P	**PKPdf**	**11 42 16.4**	**-0.7**		
	baz=290,SNR=14									
CJR	**Cluj-Napoca**	**119.27**	**321**	⇑	P	**PKiKP**	**11 42 17.8**	**+0.7**		
CJR	**Cluj-Napoca**	**119.27**	**321**	⇑	PKiKP	**PKiKP**	**11 42 17.8**	**+0.7**		
COPA	**Copaceanca**	**119.29**	**318**	⇑	P	**PKPdf**	**11 42 15.5**	**-1.6**		
HUMR	**Humele**	**119.29**	**319**	⇑	P	**PKiKP**	**11 42 17.8**	**+0.6**		
ELND	**Elena**	**119.31**	**317**	⇑	P	**PKiKP**	**11 42 17.8**	**+0.6**		
P49A	**Miami Univ. Ec**	**119.32**	**47**		IAMs_20	IAMs_20	12 30 15.2			
	comp=Z,10μm,21.0s									
P49A	**Miami Univ. Ec**	**119.32**	**47**		PKiKP	**PKPdf**	**11 42 17.0**	**-0.3**		
	baz=289									
LRAL	**Lakeview Retre**	**119.34**	**55**		IAMs_20	IAMs_20	12 33 34.3			
	comp=Z,9μm,19.0s									
LRAL	**Lakeview Retre**	**119.34**	**55**		PKiKP	**PKPdf**	**11 42 17.1**	**-0.4**		
	baz=284									
LRAL	**Lakeview Retre**	**119.34**	**55**		P	**PKPdf**	**11 42 16.7**	**-0.8**		
	baz=284,SNR=13									
R49A	**Shelbyville**	**119.36**	**49**		P	**PKPdf**	**11 42 16.4**	**-1.0**		
	baz=288									
R49A					P	**PKPdf**	**11 42 16.4**	**-1.0**		
	baz=288									
O49A	**Covington**	**119.38**	**47**			**PKPdf**	**11 42 16.4**	**-1.0**		
O49A					IAMs_20	IAMs_20	12 28 06.8			
	comp=Z,9μm,22.0s									
O49A	**Covington**	**119.38**	**47**		P	**PKPdf**	**11 42 16.4**	**-1.0**		
	baz=289,SNR=16									
O49A					P	**PKPdf**	**11 42 16.4**	**-1.0**		
	baz=289,SNR=16									
U49A	**Red Boiling Sp**	**119.42**	**51**			**PKPdf**	**11 42 16.8**	**-0.8**		
U49A	**Red Boiling Sp**	**119.42**	**51**		P	**PKPdf**	**11 42 16.6**	**-0.9**		
	baz=286,SNR=10									
STHS	**Stebnicka Huta**	**119.43**	**325**	*e*	PKiKP	**PKiKP**	**11 42 17.6**	**+0.3**		
STHS	**Stebnicka Huta**	**119.43**	**325**	*e*	PKP	**PKiKP**	**11 42 17.6**	**+0.3**		
BSD	**Bornholm Skovb**	**119.52**	**333**	*i*	P	**PKiKP**	**11 42 17.4**	**+0.1**		
BSD					IAMs_20	IAMs_20	12 36 07.5			
	comp=Z,10μm,21.3s									
BSD	**Bornholm Skovb**	**119.52**	**333**	*e*	P	**PKPdf**	**11 42 17.2**	**0.0**		
CRVS	**Cervenica-Dubn**	**119.55**	**324**	*e*	P	**Pdif**	**11 38 42.1**	**+2.1**		
CRVS				*e*			11 42 18.3			
CRVS				*e*			11 43 42.4			
CRVS	**Cervenica-Dubn**	**119.55**	**324**	*e*	PDIFF	**Pdif**	**11 38 42.1**	**+2.1**		
CRVS	**Cervenica-Dubn**	**119.55**	**324**	*e*	PKP	**PKiKP**	**11 42 18.3**	**+0.7**		
CRVS				*e*	PP	**PP**	**11 43 42.4**	**+2.7**		
MARR	**Marisel-Cluj**	**119.58**	**322**	⇑	P	**PKiKP**	**11 42 18.5**	**+0.7**		
Y49A	**Blount Mountai**	**119.61**	**54**		IAMs_20	IAMs_20	12 29 53.6			
	comp=Z,10μm,21.0s									
Y49A	**Blount Mountai**	**119.61**	**54**		P	**PKPdf**	**11 42 16.6**	**-1.5**		
	baz=284,SNR=5.5									
ISOG	**Isortoq, Green**	**119.62**	**5**	*i*	P	**PKPdf**	**11 42 16.8**	**-0.2**		
ISOG					IAMs_20	IAMs_20	12 29 21.5			
	comp=Z,14μm,23.1s									
SWET	**Sewanee**	**119.65**	**52**			**PKPdf**	**11 42 16.6**	**-1.5**		
SWET					IAMs_20	IAMs_20	12 31 01.4			
	comp=Z,8μm,19.0s									
ANGG	**Ammassalik, Gr**	**119.66**	**4**	*i*	P	**PKPdf**	**11 42 16.8**	**-0.3**		
ANGG					IAMs_20	IAMs_20	12 31 48.1			
	comp=Z,6μm,20.1s									
ESQI	**Esquipulas**	**119.67**	**76**		IAMs_20	IAMs_20	12 23 05.6			
	comp=Z,11μm,22.0s									
K50A	**Casco**	**119.68**	**43**		P	**PKPdf**	**11 42 16.9**	**-1.0**		
	baz=292									
K50A					P	**PKPdf**	**11 42 16.9**	**-1.0**		
	baz=292									
DRGR		**119.78**	**322**	⇑	P	**PKiKP**	**11 42 18.9**	**+0.8**		
DRGR		**119.78**	**322**	⇑	PKiKP	**PKiKP**	**11 42 18.9**	**+0.8**		
SUR	**Sutherland**	**119.81**	**228**		IAMs_20	IAMs_20	12 30 44.9			
	comp=Z,10μm,20.0s									
DIM	**Dimitrovgrad**	**119.83**	**316**		P	**PKiKP**	**11 42 19.0**	**+0.7**		
M50A	**Fremont**	**119.89**	**45**			**PKiKP**	**11 42 18.4**	**0.0**		
M50A					IAMs_20	IAMs_20	12 27 56.0			
	comp=Z,12μm,22.0s									
M50A	**Fremont**	**119.89**	**45**		P	**PKPdf**	**11 42 17.2**	**-1.2**		
	baz=291									
M50A					P	**PKPdf**	**11 42 17.2**	**-1.2**		
	baz=291									
NIE	**Niedzica**	**119.97**	**325**	*e*	PKP	**PKiKP**	**11 42 20.4**	**+2.0**		
T50A	**Nancy**	**120.00**	**50**			**PKPdf**	**11 42 17.8**	**-0.9**		
T50A	**Nancy**	**120.00**	**50**		P	**PKPdf**	**11 42 17.6**	**-1.1**		
	baz=287									
T50A					P	**PKPdf**	**11 42 17.6**	**-1.1**		
	baz=287									
R50A	**Paris**	**120.00**	**49**			**PKPdf**	**11 42 18.0**	**-0.7**		
R50A	**Paris**	**120.00**	**49**		P	**PKPdf**	**11 42 17.6**	**-1.1**		
	baz=288,SNR=9.3									
R50A					P	**PKPdf**	**11 42 17.6**	**-1.1**		
	baz=288,SNR=9.3									
PLCA	**Paso Flores**	**120.05**	**144**			**PKPdf**	**11 42 18.3**	**-0.5**		
PLCA					IAMs_20	IAMs_20	12 31 35.8			
	comp=Z,6μm,18.0s									
PLCA	**Paso Flores**	**120.05**	**144**		PKiKP	**PKPdf**	**11 42 18.3**	**-0.5**		
PLCA					MLR	MLR				
	comp=Z,6μm,18.0s									
PLCA	**Paso Flores**	**120.05**	**144**		PKP	**PKPdf**	**11 42 18.6**	**-0.2**		
	comp=Z,10nm,0.7s,baz=228,slow=2.6,SNR=23									
PLCA					PKKPbc	**PKKPbc**	**11 52 28.0**	**-0.5**		
	comp=Z,6.0nm,0.9s,baz=52,slow=2.6,SNR=7.3									
PLCA	**Paso Flores**	**120.05**	**144**	*e*	P	**PKPdf**	**11 42 18.6**	**-0.2**		
DEV	**Deva**	**120.06**	**321**	⇑	P	**PKiKP**	**11 42 19.8**	**+1.2**		
DEV	**Deva**	**120.06**	**321**	⇑	PKiKP	**PKiKP**	**11 42 19.8**	**+1.2**		
HOPE	**Hope Point**	**120.06**	**175**		IAMs_20	IAMs_20	12 34 34.3			
	comp=Z,7μm,20.0s									
LSZ	**Lusaka**	**120.08**	**249**			**PKPdf**	**11 42 19.6**	**0.0**		
LSZ					IAMs_20	IAMs_20	12 29 12.4			
	comp=Z,7μm,22.0s									
LSZ	**Lusaka**	**120.08**	**249**		PKiKP	**PKPdf**	**11 42 19.6**	**0.0**		
FPAL	**Fort Paine**	**120.08**	**53**		IAMs_20	IAMs_20	12 30 19.9			
	comp=Z,9μm,20.0s									
W50A	**Signal Mountai**	**120.14**	**52**		P	**PKPdf**	**11 42 17.4**	**-1.7**		
	baz=286,SNR=10									
250A	**Grady**	**120.18**	**56**		IAMs_20	IAMs_20	12 34 02.8			
	comp=Z,10μm,20.0s									
250A	**Grady**	**120.18**	**56**		P	**PKPdf**	**11 42 17.9**	**-1.3**		
	baz=283									
RDO	**Rodhopi**	**120.19**	**315**			**PKPdf**	**11 42 17.9**	**-0.9**		
COP	**Copenhagen**	**120.25**	**335**	*i*	P	**PKiKP**	**11 42 19.2**	**+0.6**		
COP					IAMs_20	IAMs_20	12 35 09.0			
	comp=Z,17μm,21.5s									
ACSO	**Alum Creek Sta**	**120.34**	**46**		IAMs_20	IAMs_20	12 33 11.2			
	comp=Z,7μm,20.0s									
ACSO	**Alum Creek Sta**	**120.34**	**46**		PKiKP	**PKPdf**	**11 42 18.8**	**-0.4**		
	baz=290									
ACSO	**Alum Creek Sta**	**120.34**	**46**		P	**PKPdf**	**11 42 18.3**	**-0.9**		
	baz=290,SNR=14									
GZR	**Gura Zlata**	**120.36**	**320**	⇑	P	**PKiKP**	**11 42 19.9**	**+0.6**		
GZR	**Gura Zlata**	**120.36**	**320**	⇑	PKiKP	**PKiKP**	**11 42 19.9**	**+0.6**		
MBAR	**Mbarara**	**120.44**	**266**	*c*	*i* PKiKP	**PKiKP**	**11 42 20.7**	**+0.2**		
Q51A	**Peebles**	**120.49**	**48**			**PKPdf**	**11 42 18.9**	**-0.7**		
Q51A					IAMs_20	IAMs_20	12 31 41.2			
	comp=Z,9μm,20.0s									
Q51A	**Peebles**	**120.49**	**48**		P	**PKPdf**	**11 42 18.7**	**-0.9**		
	baz=289,SNR=12									
Q51A					P	**PKPdf**	**11 42 18.7**	**-0.9**		
	baz=289,SNR=12									
N51A	**Ashland**	**120.53**	**45**		IAMs_20	IAMs_20	12 28 26.1			
	comp=Z,11μm,22.0s									
N51A	**Ashland**	**120.53**	**45**		P	**PKPdf**	**11 42 19.0**	**-0.6**		
	baz=291									
N51A					P	**PKPdf**	**11 42 19.0**	**-0.6**		
	baz=291									
P51A	**Williamsport**	**120.54**	**47**		IAMs_20	IAMs_20	12 28 31.6			
	comp=Z,10μm,22.0s									
LANS	**Liptovska Anna**	**120.57**	**325**	*e*	PKiKP	**PKiKP**	**11 42 21.3**	**+1.7**		
LANS	**Liptovska Anna**	**120.57**	**325**	*e*	PKP	**PKiKP**	**11 42 21.3**	**+1.7**		
MPEP	**Malo Peshtene**	**120.58**	**318**		P	**PKiKP**	**11 42 20.5**	**+0.8**		
SURR	**Surduc**	**120.61**	**321**	⇑	P	**PKiKP**	**11 42 20.3**	**+0.7**		
VLDQ	**Val d'Or**	**120.64**	**36**			**PKPdf**	**11 42 18.4**	**-1.1**		
VLDQ					IAMs_20	IAMs_20	12 33 10.6			
	comp=Z,11μm,20.0s									
VALD	**Valchedram**	**120.65**	**318**		P	**PKiKP**	**11 42 21.1**	**+1.3**		
SIRR	**Siria**	**120.67**	**322**	⇑	P	**PKiKP**	**11 42 20.1**	**+0.3**		
X51A	**Calhoun**	**120.67**	**53**		IAMs_20	IAMs_20	12 30 56.6			
	comp=Z,11μm,20.0s									
X51A	**Calhoun**	**120.67**	**53**		P	**PKPdf**	**11 42 20.0**	**-0.1**		
	baz=286									
X51A					P	**PKPdf**	**11 42 20.0**	**-0.1**		
	baz=286									
CPCT	**Cooper Cave**	**120.69**	**52**			**PKPdf**	**11 42 19.3**	**-0.8**		
CPCT					IAMs_20	IAMs_20	12 31 11.0			
	comp=Z,9μm,22.0s									
S51A	**Beattyville**	**120.75**	**49**		P	**PKPdf**	**11 42 19.2**	**-0.9**		
	baz=288									
S51A					P	**PKPdf**	**11 42 19.2**	**-0.9**		
	baz=288									
HERR	**Herculane**	**120.81**	**320**	⇑	P	**PKPdf**	**11 42 20.0**	**0.0**		
BI05	**Punta Hualpn**	**120.84**	**139**		IAMs_20	IAMs_20	12 25 24.3			
	comp=Z,6μm,20.0s									
451A	**Vernon**	**120.92**	**58**		IAMs_20	IAMs_20	12 30 09.6			
	comp=Z,10μm,21.0s									
PSZ	**Piszkesteto**	**120.94**	**324**	⇑	P	**PKiKP**	**11 42 21.4**	**+1.0**		
PSZ	**Piszkesteto**	**120.94**	**324**			**PKPdf**	**11 42 20.2**	**-0.1**		
PSZ	**Piszkesteto**	**120.94**	**324**		PKiKP	**PKPdf**	**11 42 20.2**	**-0.1**		
PSZ					MLR	MLR				
	comp=Z,5μm,18.0s									
OKC	**Ostrava-Krasne**	**120.95**	**327**	*e*	PKPDF	**PKiKP**	**11 42 21.2**	**+1.0**		
OKC					AMS	AMS	12 36 20.0			
	comp=Z,10μm,20.7s									
OKC	**Ostrava-Krasne**	**120.95**	**327**	*e*	PKiKP	**PKiKP**

baz=288,SNR=13
V53A P PKPdf 11 42 22.1 -0.4
baz=288,SNR=13
SCHQ Schefferville 122.01 25 PKP PKPdf 11 42 22.0 0.0
comp=Z,14nm,1.0s,baz=317,slow=4.1,SNR=7.2
SMOL Smolenice 122.05 326 ePKIKP PKiKP 11 42 23.6 +1.1
SMOL e 11 43 54.6
BG3 Lake Jocassee 122.07 52 IAMs_20 IAMs_20 12 28 08.5
comp=Z,10µm,22.0s
CASEE Lake Jocassee 122.07 52 P PKPdf 11 42 22.5 -0.2
baz=287,SNR=13
VRAC Vranov 122.08 327 ⇓P PKiKP 11 42 23.6 +1.1
VRAC Vranov 122.08 327 ePKIKP PKPdf 11 42 22.4 +0.1
VRAC Vranov 122.08 327 ⇓PKIKP PKiKP 11 42 23.6 +1.1
GOGA Godfrey 122.10 54 IAMs_20 IAMs_20 12 30 39.4
comp=Z,9µm,20.0s
GOGA Godfrey 122.10 54 PKiKP PKPdf 11 42 22.8 0.0
baz=286
GOGA Godfrey 122.10 54 P PKPdf 11 42 22.6 -0.2
baz=286
PAMR Moraine State 122.12 44 P PKPdf 11 42 22.3 -0.4
baz=293
553A Crawfordville 122.13 58 IAMs_20 IAMs_20 12 34 15.4
comp=Z,9µm,20.0s
PAOC Oil Creek Stat 122.18 44 P PKPdf 11 42 22.1 -0.6
baz=294
VAY Valandovo 122.19 316 ⇓iP PKPdf 11 42 22.4 -0.3
MODS Modra-Piesok 122.21 326 ePKIKP PKiKP 11 42 23.5 +0.7
MODS e 11 44 00.8
MODS Modra-Piesok 122.21 326 ePKP PKiKP 11 42 23.5 +0.7
MODS ePP PP 11 44 00.8 +2.9
O54A Avella 122.22 45 IAMs_20 IAMs_20 12 36 14.8
comp=Z,9µm,19.0s
O54A Avella 122.22 45 P PKPdf 11 42 22.6 -0.3
baz=292,SNR=18
O54A P PKPdf 11 42 22.6 -0.3
baz=292,SNR=18
DELO Deloro Mine 122.25 40 IAMs_20 IAMs_20 12 35 31.2
comp=Z,8µm,20.0s
CNGN Cerro Negro 122.30 79 IAMs_20 IAMs_20 12 24 52.3
comp=Z,8µm,22.0s
KRUC Moravsky 122.33 327 ePKIKP PKPdf 11 42 22.7 -0.1
BSEG Bad Segeberg 122.33 334 ePKPdf PKiKP 11 42 23.3 +0.6
baz=51,slow=2.0
FRGS Fruska Gora 122.33 321 ⇑P PKiKP 11 42 23.4 +0.2
FRGS Fruska Gora 122.33 321 ⇑iP PKPdf 11 42 22.3 -0.7
Q54A Coxs Mills 122.34 47 IAMs_20 IAMs_20 12 29 46.1
comp=Z,10µm,22.0s
Q54A Coxs Mills 122.34 47 P PKPdf 11 42 22.6 -0.5
baz=291,SNR=26
Q54A P PKPdf 11 42 22.6 -0.5
baz=291,SNR=26
UPAO U. Pittsburgh 122.35 45 P PKPdf 11 42 23.1 0.0
baz=293
S54A Dingess, Beckl 122.41 48 P PKPdf 11 42 22.5 -0.9
baz=290,SNR=9.9
S54A P PKPdf 11 42 22.5 -0.9
baz=290,SNR=9.9
ZST Bratislava 122.41 325 ePKIKP PKiKP 11 42 24.2 +1.1
ZST Bratislava 122.41 325 ePKP PKiKP 11 42 24.2 +1.1
U54A Nelsons Funny 122.45 50 P PKPdf 11 42 22.8 -0.7
baz=289,SNR=5.6
U54A P PKPdf 11 42 22.8 -0.7
baz=289,SNR=5.6
PVCC Panska Ves 122.46 329 ePKPDF PKiKP 11 42 24.2 +1.0
PVCC AMS AMS 12 36 20.0
comp=Z,12µm,20.3s
PVCC Panska Ves 122.46 329 ePKIKP PKiKP 11 42 24.2 +1.0
PVCC MLR MLR
comp=Z,12µm,20.3s
IVI Ivigtut 122.51 11 IAMs_20 IAMs_20 12 33 38.6
comp=Z,11µm,21.0s
IVI Ivigtut 122.51 11 iP PKPdf 11 42 21.9 -0.8
IVI IAMs_20 IAMs_20 12 33 31.1
comp=Z,11µm,19.4s
TIGA Tifton 122.53 56 IAMs_20 IAMs_20 12 33 10.8
comp=Z,7µm,20.0s
TIGA Tifton 122.53 56 PKiKP PKiKP 11 42 23.8 -0.1
baz=285
TIGA Tifton 122.53 56 P PKiKP 11 42 24.2 +0.3
baz=285
MORH Mrgy, Hungar 122.53 323 ⇑P PKiKP 11 42 24.3 +0.8
WVNY West Valley, N 122.54 42 PKPdf 11 42 22.7 -0.8
WVNY West Valley, N 122.54 42 P PKPdf 11 42 22.9 -0.6
baz=295,SNR=8.0
BRG Berggiesshubel 122.57 329 ⇓iPKIKP PKiKP 11 42 23.9 +0.5
BRG 11 42 36.6
BRG 11 44 07.0
BRG SP SP 11 53 52.0 +2.5
BRG pmax pmax
comp=Z,62nm,1.0s
BRG pmax pmax
comp=N,7µm,21.5s
BRG MLR MLR
comp=Z,13µm,19.9s
BRG MLR MLR
comp=E,8µm,19.0s
BRG Berggiesshubel 122.57 329 ⇓iPKP PKiKP 11 42 23.9 +0.5
BRG Amp 11 42 25.5
comp=Z,62nm,1.0s
BRG Berggiesshubel 122.57 329 PP PP 11 44 07.0 +6.9
BRG Amp 11 44 28.8
comp=Z,16nm,1.3s
BRG Berggiesshubel 122.57 329 SS SS 12 00 49.0 +11
BRG Amp 12 37 17.0
comp=N,6,8nm,21.5s
BRG Amp 12 37 23.0
comp=Z,13nm,19.9s
BRG Amp 12 37 28.0
comp=E,8.4nm,19.0s
BRG Berggiesshubel 122.57 329 ePKPdf PKiKP 11 42 23.7 +0.3
baz=51,slow=2.0
154A Montrose 122.61 55 IAMs_20 IAMs_20 12 28 55.0
comp=Z,8µm,22.0s
IDI Anoyia 122.63 309 PKP PKiKP 11 42 25.0 +0.9
J55A Hilton 122.69 41 PKPdf 11 42 23.2 -0.5
J55A Hilton 122.69 41 P PKiKP 11 42 24.0 +0.2
baz=296
J55A P PKiKP 11 42 24.0 +0.2
baz=296
TREC Trest 122.69 327 ePKPDF PKiKP 11 42 24.7 +1.0
TREC AMS AMS 12 37 10.0
comp=Z,13µm,20.5s
TREC Trest 122.69 327 ePKIKP PKiKP 11 42 24.7 +1.0
TREC MLR MLR
comp=Z,13µm,20.5s
RICC Richard 122.69 329 AMS AMS 12 36 40.0
comp=Z,10µm,19.0s
SKO Skopje 122.70 317 ⇓iP PKiKP 11 42 24.2 +0.3
GOPC GO Pecny, Ondr 122.71 328 ePKPDF PKiKP 11 42 24.2 +0.5
GOPC ePP PP 11 44 00.4 -0.7
GOPC eSP SP 11 53 57.7 +6.9
GOPC AMS AMS 12 35 10.0
comp=Z,15µm,21.9s
GOPC GO Pecny, Ondr 122.71 328 ePKIKP PKiKP 11 42 24.2 +0.5
GOPC e 11 44 00.4
GOPC eSP SP 11 53 57.7 +6.9
GOPC MLR MLR
comp=Z,15µm,21.9s
LIT Litokhoron 122.73 315 PKPdf 11 42 23.0 -0.9
LIT Litokhoron 122.73 315 PKiKP PKPdf 11 42 23.0 -0.9
CLL Collm 122.78 330 iPKIKP PKPdf 11 42 23.3 -0.3
CLL pmax pmax
comp=Z,51nm,1.0s
CLL MLR MLR
comp=Z,14µm,22.3s
CLL Collm 122.78 330 ePKPdf PKiKP 11 42 23.8 0.0
baz=51,slow=2.0
PRU Pruhonice 122.79 328 ePKPDF PKiKP 11 42 24.6 +0.7
PRU ePP PP 11 44 02.5 +0.9
PRU AMS AMS 12 36 00.0
comp=Z,15µm,21.7s
PRU Pruhonice 122.79 328 ePKIKP PKiKP 11 42 24.6 +0.7
PRU e 11 44 02.5
PRU MLR MLR
comp=Z,15µm,21.7s
MCWV Mont Chateau 122.80 46 IAMs_20 IAMs_20 12 29 26.1
comp=Z,10µm,22.0s
MCWV Mont Chateau 122.80 46 PKiKP PKPdf 11 42 24.0 0.0
baz=293
MCWV Mont Chateau 122.80 46 P PKPdf 11 42 23.4 -0.6
baz=293,SNR=9.0
TEKS Tekeris 122.80 321 eP PKPdf 11 42 23.0 -0.9
PRA Prague 122.80 328 AMS AMS 12 36 00.0
comp=Z,15µm,21.7s
M55A Ridgway 122.83 43 P PKPdf 11 42 23.8 -0.3
baz=295,SNR=9.8
M55A P PKPdf 11 42 23.8 -0.3
baz=295,SNR=9.8
HODGE Hodges 122.83 53 IAMs_20 IAMs_20 12 32 39.6
comp=Z,10µm,20.0s
HODGE Hodges 122.83 53 P PKPdf 11 42 24.1 -0.1
baz=287,SNR=17
FLTG Flechtingen 122.98 332 ePKPdf PKiKP 11 42 24.2 +0.1
baz=51,slow=2.0
PSDB Penn State Uni 122.98 44 P PKiKP 11 42 24.5 0.0
baz=294
HSKC Hora Svate Kat 122.99 329 ePKPDF PKiKP 11 42 24.7 +0.4
HSKC AMS AMS 12 37 20.0
comp=Z,15µm,20.3s
PAULI Pauline 123.00 52 P PKiKP 11 42 24.6 -0.1
baz=288,SNR=13
NRS Narsarsuaq 123.05 10 IAMs_20 IAMs_20 12 34 08.8
comp=Z,8µm,22.0s
NRS Narsarsuaq 123.05 10 iP PKPdf 11 42 23.1 -0.7
NRS IAMs_20 IAMs_20 12 30 32.3
comp=Z,10µm,24.7s
SJES Sjenica 123.11 319 ⇑iP PKiKP 11 42 24.8 0.0
R55A Marlinton 123.11 47 IAMs_20 IAMs_20 12 33 50.5
comp=Z,11µm,22.0s
R55A Marlinton 123.11 47 P PKPdf 11 42 24.3 -0.5
baz=292,SNR=27
R55A P PKPdf 11 42 24.3 -0.5
baz=292,SNR=27
RONA Rosalia, Austr 123.13 325 ePKP PKiKP 11 42 24.8 +0.2
comp=Z,60nm,1.1s,SNR=29
V55A Taylorsville 123.14 50 P PKPdf 11 42 23.9 -0.9
baz=289,SNR=9.7
V55A P PKPdf 11 42 23.9 -0.9
baz=289,SNR=9.7
BBLS Lazi&#263i 123.19 320 ⇑iP PKPdf 11 42 24.6 -0.1
HLG Helgoland 123.19 335 ePKPdf PKiKP 11 42 25.1 +0.7
baz=51,slow=2.0
CONA Conrd Observa 123.25 326 ePKP PKiKP 11 42 25.1 +0.2
comp=Z,31nm,1.0s,SNR=17
KMSC Kings Mountain 123.27 51 PKPdf 11 42 25.0 0.0
KMSC Kings Mountain 123.27 51 PKiKP PKPdf 11 42 24.9 -0.2
baz=289
KMSC Kings Mountain 123.27 51 P PKPdf 11 42 24.8 -0.2
baz=289,SNR=15
BLA Blacksburg 123.28 49 PKiKP PKPdf 11 42 24.7 -0.3
baz=291
BLA Blacksburg 123.28 49 P PKPdf 11 42 24.4 -0.7
baz=291,SNR=12
ZVC Zvikov 123.30 328 ePKPDF PKiKP 11 42 25.4 +0.5
ZVC AMS AMS 12 35 30.0
comp=Z,17µm,21.8s
BOAB BOACO BROADBAN 123.31 79 PKP PKiKP 11 42 26.4 +0.6
TRQ Mont Tremblant 123.31 37 IAMs_20 IAMs_20 12 34 46.9
comp=Z,8µm,20.0s
J56A Wolcott 123.31 41 P PKiKP 11 42 25.4 +0.3
baz=297
J56A P PKiKP 11 42 25.4 +0.3
baz=297
255A Hazlehurst 123.31 55 IAMs_20 IAMs_20 12 36 09.6
comp=Z,6µm,20.0s
RUDO Rudo 123.33 320 ⇑iP PKPdf 11 42 24.7 -0.2
L56A Greenwood 123.36 42 P PKPdf 11 42 24.5 -0.5
baz=296,SNR=16
L56A P PKPdf 11 42 24.5 -0.5
baz=296,SNR=16
ASSE Asse, Remlinge 123.37 332 ePKPdf PKiKP 11 42 25.3 +0.5
baz=51,slow=2.0
HAPS Han Pijesak,Bl 123.38 320 ⇑iP PKPdf 11 42 25.1 0.0
NRDL Niedersach Rie 123.39 333 ePKPdf PKiKP 11 42 25.5 +0.7
baz=51,slow=2.0
HZTE Horizontes, Gu 123.41 81 IAMs_20 IAMs_20 12 24 45.8
comp=Z,10µm,22.0s
NEUB Neuenburg 123.44 331 ePKPdf PKiKP 11 42 25.5 +0.4
baz=51,slow=2.0
PABK Blue Knob Stat 123.45 45 P PKPdf 11 42 24.8 -0.5
baz=294
WBO Williamsburg 123.49 38 PKPdf 11 42 24.9 -0.2
OHR Ohrid 123.50 317 ⇓iP PKiKP 11 42 26.0 +0.4
ORTG Ortega, Santa 123.54 81 IAMs_20 IAMs_20 12 24 27.4
comp=Z,11µm,22.0s
CKRC Cesky Krumlov 123.60 327 ePKPDF PKiKP 11 42 26.4 +0.9
CKRC ePP PP 11 44 05.6 -1.6
CKRC eSP SP 11 54 03.8 +5.1
CKRC AMS AMS 12 38 10.0
comp=Z,15µm,20.0s
CKRC Cesky Krumlov 123.60 327 ePKIKP PKiKP 11 42 26.4 +0.9
CKRC e 11 44 05.6
CKRC eSP SP 11 54 03.8 +5.1
CKRC MLR MLR
comp=Z,15µm,20.0s
TANN Tannenbergstha 123.60 330 ePKPdf PKiKP 11 42 25.8 +0.3
baz=51,slow=2.0
JSC Jenkinsville 123.60 52 P PKiKP 11 42 25.9 -0.1
baz=288
U56A King 123.60 50 PKPdf 11 42 25.3 -0.3
U56A King 123.60 50 P PKiKP 11 42 26.6 +0.7
baz=290
U56A P PKiKP 11 42 26.6 +0.7
baz=290
HAW Hawthorne Fire 123.61 53 P PKPdf 11 42 25.4 -0.3
baz=287
BO01 Tunca 123.61 138 IAMs_20 IAMs_20 12 27 32.6
comp=Z,6µm,21.0s
CLZ Clausthal 123.70 332 ePKPdf PKiKP 11 42 26.2 +0.5
baz=51,slow=2.0
NKC Novy Kostel 123.72 330 ePKPDF PKiKP 11 42 26.4 +0.7
NKC AMS AMS 12 39 00.0
comp=Z,11µm,19.7s
NKC Novy Kostel 123.72 330 ePKIKP PKiKP 11 42 26.4 +0.7
NKC MLR MLR
comp=Z,11µm,19.7s
WCNY West Carthage 123.75 39 P PKPdf 11 42 25.5 -0.2
baz=299,SNR=7.1
SSPA Standing Stone 123.78 44 PKPdf 11 42 25.5 -0.4
SSPA Standing Stone 123.78 44 PKiKP PKPdf 11 42 25.2 -0.6
baz=295
SSPA Standing Stone 123.78 44 P PKPdf 11 42 25.3 -0.6
baz=295,SNR=26
K57A Scipio Center 123.78 41 PKPdf 11 42 24.6 -1.2
K57A Scipio Center 123.78 41 P PKPdf 11 42 25.6 -0.2
baz=297,SNR=7.8
BIGH Upper Bighouse 123.78 345 eP PKiKP 11 42 25.8 +0.3
J57A Williamstown 123.80 40 IAMs_20 IAMs_20 12 37 56.3
comp=Z,10µm,20.0s
J57A Williamstown 123.80 40 P PKPdf 11 42 25.7 -0.1
baz=298,SNR=5.1
J57A P PKPdf 11 42 25.7 -0.1
baz=298,SNR=5.1
KHC Kasperske Hory 123.81 328 PKiKP 11 42 25.9 0.0
KHC Kasperske Hory 123.81 328 ePKPDF PKiKP 11 42 26.6 +0.6
KHC epPKP pPKPdf 11 42 39.0 -1.6
KHC ePP PP 11 44 13.3 +4.7
KHC eSP SP 11 54 05.1 +4.6
KHC AMS AMS 12 36 00.0
comp=Z,16µm,21.2s
KHC Kasperske Hory 123.81 328 c iPKIKP PKPdf 11 42 25.6 -0.1
KHC pmax pmax
comp=Z,187nm,1.3s
ARSA Arzberg 123.82 325 ePKP PKPdf 11 42 25.8 +0.1
comp=Z,23nm,1.0s,SNR=11
UPM Unac-Piva 123.83 320 eP PKPdf 11 42 25.6 -0.5
MOX Moxa 123.88 330 ePKPdf PKiKP 11 42 26.2 +0.2
baz=51,slow=2.0
MOX eL L 12 39 35.5
comp=Z,11µm,20.7s
KALN Kalnik 123.88 324 i P PKPdf 11 42 25.8 -0.1
GEC2 GERESS Array S 123.91 328 PKPdf 11 42 25.9 -0.1
GEC2 GERESS Array S 123.91 328 ePKPdf PKiKP 11 42 26.2 -0.1
baz=51,slow=2.0
GERES GERESS Array B 123.91 328 PKPdf 11 42 25.7 -0.3
GERES GERESS Array B 123.91 328 PKP PKPdf 11 42 25.6 -0.4
comp=2,40nm,0.9s,baz=47,slow=2.9,SNR=89
656A Willston 123.92 58 IAMs_20 IAMs_20 12 34 08.1
comp=Z,9µm,20.0s
MOSL Moslavina 123.97 323 i P PKPdf 11 42 25.8 -0.3
M57A Sunshine Farm, 124.00 43 P PKPdf 11 42 26.0 -0.3
baz=296,SNR=17
M57A P PKPdf 11 42 26.0 -0.3
baz=296,SNR=17
TIR Tirane 124.03 317 ⇑P PKiKP 11 42 27.5 +0.9
TIR Tirane 124.03 317 ⇑PKIKP PKiKP 11 42 27.5 +0.9
JTS Las Juntas de 124.04 81 IAMs_20 IAMs_20 12 24 40.6
comp=Z,10µm,22.0s
BMNY Brushton-Moira 124.04 38 P PKPdf 11 42 25.3 -0.8
baz=300,SNR=17
MANZ Manzenberg 124.05 329 ePKPdf PKiKP 11 42 26.7 +0.3
baz=51,slow=2.0
GTTG Gottingen 124.09 332 ePKPdf PKiKP 11 42 26.8 +0.5
baz=51,slow=2.0
LONY Lake Ozonia 124.11 38 PKiKP 11 42 26.5 -0.1
LONY Lake Ozonia 124.11 38 PKiKP PKPdf 11 42 25.8 -0.6
baz=300
DRME Dracevica, Mon 124.11 318 ⇑iP PKPdf 11 42 26.1 -0.3
ROTZ Rotzenmuhle 124.13 329 ePKPdf PKiKP 11 42 26.6 +0.1
baz=51,slow=2.0
BLY Banja Luka 124.16 322 ⇑iP PKPdf 11 42 26.1 -0.3
S57A Dark Hollow, R 124.16 48 P PKPdf 11 42 25.8 -0.8
baz=292,SNR=7.9
S57A P PKPdf 11 42 25.8 -0.8
baz=292,SNR=7.9
WET Wettzell 124.17 328 ePKPdf PKiKP 11 42 26.9 +0.2
baz=51,slow=2.0
P57A Homestead Farm 124.17 45 P PKPdf 11 42 26.2 -0.4
baz=294,SNR=12
P57A P PKPdf 11 42 26.2 -0.4
baz=294,SNR=12
MOA Molln 124.18 326 ePKP PKPdf 11 42 26.3 -0.1
comp=Z,18nm,1.0s,SNR=8.6
A051A Mrakovica 124.19 322 ⇑iP PKPdf 11 42 26.2 -0.4
BRY Bratogost 124.20 319 eP PKiKP 11 42 27.1 0.0
T57A Hurt 124.22 48 P PKPdf 11 42 26.4 -0.4
baz=291,SNR=13
T57A P PKPdf 11 42 26.4 -0.4
baz=291,SNR=13
MT02 Curacav 124.23 137 IAMs_20 IAMs_20 12 27 58.3
comp=Z,7µm,20.0s
MNTQ Montreal, Queb 124.24 37 IAMs_20 IAMs_20 12 35 44.5
comp=Z,6µm,19.0s
ARE1 Arenal 1 124.27 81 IAMs_20 IAMs_20 12 25 11.7
comp=Z,10µm,22.0s
J58A Remsen 124.28 40 PKPdf 11 42 26.4 -0.3
J58A Remsen 124.28 40 P PKPdf 11 42 26.1 -0.7
baz=299,SNR=12
J58A P PKPdf 11 42 26.1 -0.7
baz=299,SNR=12
PTJ Puntijarka 124.29 324 i P PKPdf 11 42 26.3 -0.5
NEVS Nevesinje 124.30 320 eP PKiKP 11 42 27.2 0.0
W57A Gilead 124.31 51 P PKPdf 11 42 26.2 -0.8
baz=290
W57A P PKPdf 11 42 26.2 -0.8
baz=290
ZAG Zagreb 124.32 324 i P PKiKP 11 42 27.0 0.0
JACO JACO, Garabito 124.33 82 IAMs_20 IAMs_20 12 29 16.3
comp=Z,9µm,20.0s
Y57A Sumter 124.37 52 IAMs_20 IAMs_20 12 34 51.3
comp=Z,9µm,20.0s
Y57A Sumter 124.37 52 P PKPdf 11 42 26.5 -0.6
baz=289
Y57A P PKPdf 11 42 26.5 -0.6
baz=289
BINY Binghamton 124.38 41 PKiKP PKPdf 11 42 26.7 -0.3
baz=297
BINY Binghamton 124.38 41 P PKPdf 11 42 26.6 -0.3
baz=297,SNR=11
MGRS Mrkonjic Grad 124.39 322 eP PKiKP 11 42 29.1 +1.9
PERS Pernice 124.39 325 i PKPdf PKPdf 11 42 26.1 -0.8
MCD Coleburn Disti 124.39 344 eP PKiKP 11 42 26.7 -0.1
SOKA Soboth 124.41 325 ePKP PKPdf 11 42 27.0 0.0
comp=Z,57nm,1.0s,SNR=23
TREB Trebinje 124.41 319 eP PKPdf 11 42 24.5 -2.5
LINV Loch Inver, As 124.42 345 eP PKiKP 11 42 27.2 +0.5
HCY Herceg Novi 124.45 319 eP PKPdf 11 42 25.9 -1.2
257A Skidaway Islan 124.48 55 IAMs_20 IAMs_20 12 33 59.5
comp=Z,9µm,22.0s
N58A Sunbury 124.50 43 P PKPdf 11 42 26.4 -0.8
baz=296,SNR=17
N58A P PKPdf 11 42 26.4 -0.8
baz=296,SNR=17
UBBA Unterbreizbach 124.55 331 ePKPdf PKiKP 11 42 27.7 +0.5
baz=51,slow=2.0
DBRK Dubrovnik 124.57 319 i P PKPdf 11 42 26.4 -0.9
IBBN Ibbenburen 124.57 334 ePKPdf PKiKP 11 42 27.6 +0.4
baz=51,slow=2.0
FRNY Flat Rock 124.61 38 IAMs_20 IAMs_20 12 31 59.3
comp=Z,10µm,21.0s
FRNY Flat Rock 124.61 38 P PKPdf 11 42 26.4 -0.9
baz=301,SNR=12
PEL Peldehue 124.61 137 IAMs_20 IAMs_20 12 27 50.4
comp=Z,6µm,20.0s
BIOA Bad Ischl, Aus 124.62 327 ePKP PKPdf 11 42 27.1 -0.2
comp=Z,44nm,1.1s,SNR=8.0
NCB Newcomb 124.65 39 P PKPdf 11 42 27.1 -0.4
baz=300,SNR=12
VLO Vlora 124.67 316 IAMs_20 IAMs_20 12 43 28.5
comp=Z,6µm,22.0s
GRF Grafenberg Arr 124.68 330 ePKPdf PKiKP 11 42 27.7 +0.1
baz=51,slow=2.0
GRF eL L 12 36 56.3
comp=Z,11µm,21.7s
A050A Klekovaca 124.69 322 ⇑iP PKPdf 11 42 27.3 -0.3
J59A Piesco 124.73 40 P PKPdf 11 42 26.9 -0.7
baz=300,SNR=19
J59A P PKPdf 11 42 26.9 -0.7
baz=300,SNR=19
OZLJ Ozalj 124.74 324 i P PKPdf 11 42 27.3 -0.1
DRUM Mains of Drumt 124.75 343 eP PKiKP 11 42 27.6 +0.1
V58A Windy Hill, Pi 124.76 50 P PKPdf 11 42 26.8 -1.0
baz=291
V58A P PKPdf 11 42 26.8 -1.0
baz=291
STON Ston 124.76 320 ⇑iP PKPdf 11 42 26.1 -1.5
OBKA Obir 124.78 325 ePKP PKPdf 11 42 27.6 -0.2
comp=Z,36nm,1.1s,SNR=10
OBKA Obir 124.78 325 ⇑iP PKPdf 11 42 26.7 -1.0
KSPA Keystone Colle 124.81 42 PKPdf 11 42 27.2 -0.6
KSPA Keystone Colle 124.81 42 P PKPdf 11 42 27.5 -0.3
baz=297,SNR=5.6
RICI Ricice 124.82 321 i P PKPdf 11 42 27.0 -0.8
LEWI Lewis, Hebride 124.83 346 eP PKPdf 11 42 27.4 +0.1
SOR Soroa 124.85 66 IAMs_20 IAMs_20 12 32 43.1
comp=Z,8µm,20.0s
HDC Heredia 124.87 82 IAMs_20 IAMs_20 12 24 32.6
comp=Z,8µm,22.0s
R58B Mineral 124.87 47 P PKiKP 11 42 28.5 +0.2
baz=293,SNR=9.7
R58B P PKiKP 11 42 28.5 +0.2
baz=293,SNR=9.7
VA03 San Esteban 124.92 137 IAMs_20 IAMs_20 12 27 57.5
comp=Z,7µm,21.0s
BOJS Bojanci 124.93 324 ePKPdf PKPdf 11 42 28.0 +0.1
BOJS ePP PP 11 44 18.7 +2.5
BOJS ePS PS 11 54 13.2 -4.0
BOJS e 12 07 04.8
BOJS Bojanci 124.93 324 ⇑iP PKPdf 11 42 27.9 0.0
LCR2 La Lucha 2 124.97 82 IAMs_20 IAMs_20 12 24 47.3
comp=Z,8µm,22.0s
Y58A Scranton 124.97 52 IAMs_20 IAMs_20 12 35 19.4
comp=Z,8µm,20.0s
MAKA Makarska 124.99 320 i P PKPdf 11 42 27.1 -0.9
L59A Walton 125.00 41 PKPdf 11 42 28.2 0.0
L59A Walton 125.00 41 P PKPdf 11 42 27.4 -0.8
baz=298,SNR=6.6
L59A P PKPdf 11 42 27.4 -0.8
baz=298,SNR=6.6
X58A Rowland 125.02 51 P PKiKP 11 42 29.8 +1.1
baz=290
X58A P PKiKP 11 42 29.8 +1.1
baz=290
KIJV Kijevo 125.02 321 i P PKPdf 11 42 27.9 -0.3
SDMD Soldier's Deli 125.02 45 P PKiKP 11 42 28.5 -0.1
baz=295,SNR=12
KASTN Kahler Asten 125.04 332 ePKPdf PKiKP 11 42 28.6 +0.3
baz=51,slow=2.0
PLIT Plitvice 125.04 323 i P PKPdf 11 42 27.5 -0.6
RJOB Jochberg 125.05 327 ePKPdf PKiKP 11 42 28.4 -0.1
baz=51,slow=2.0
LJU Ljubljana 125.06 324 ePKPdf PKPdf 11 42 28.1 0.0
LJU epPKPdf pPKPdf 11 42 41.1 -2.0
RIMA Rio Macho 125.11 82 IAMs_20 IAMs_20 12 25 03.0
comp=Z,7µm,22.0s
KBA Koelnbreinsper 125.14 326 ePKP PKPdf 11 42 27.7 -0.8
comp=Z,59nm,1.0s,SNR=26
CBN Corbin Frederi 125.14 46 IAMs_20 IAMs_20 12 37 13.1
comp=Z,8µm,20.0s
CBN Corbin Frederi 125.14 46 PKiKP PKPdf 11 42 28.4 -0.1
baz=294
CBN Corbin Frederi 125.14 46 P PKiKP 11 42 29.1 +0.3
baz=294
UDBI Udbina 125.14 322 i P PKPdf 11 42 27.4 -1.0
DWPF Disney Wildern 125.17 59 IAMs_20 IAMs_20 12 33 29.0
comp=Z,6µm,21.0s
DWPF Disney Wildern 125.17 59 PKiKP PKiKP 11 42 29.2 0.0

baz=284
HCNY **Howe Caverns** 125.17 40 P PKiKP 11 42 28.8 0.0
baz=299,SNR=8.5
MYKA **Terra Mystica** 125.23 325 *e*PKP PKPdf 11 42 28.1 -0.4
comp=Z,32nm,1.0s,SNR=12
KPL **Plockton** 125.25 345 *e*P PKiKP 11 42 28.9 +0.4
CEY **Cerknica** 125.28 324 ⇑*i*P PKPdf 11 42 28.3 -0.3
ACCN **Adirondack Com** 125.30 39 P PKiKP 11 42 29.2 +0.2
baz=300,SNR=6.0
PEZE **Perez Zeledon,** 125.30 82 IAMs_20 IAMs_20 12 29 36.9
comp=Z,8µm,20.0s
LESA **Schwarzleotal** 125.30 327 *e*PKP PKPdf 11 42 28.6 -0.1
comp=Z,51nm,0.9s
LSTV **Lastovo** 125.33 320 *i* P PKPdf 11 42 27.8 -1.0
CO06 **Fray Jorge** 125.35 134 IAMs_20 IAMs_20 12 25 39.0
comp=Z,7µm,22.0s
BUG **Bochum--Univer** 125.39 333 *e*PKPdf PKiKP 11 42 29.1 +0.2
baz=51,slow=2.0
CADS **Cadrg** 125.41 325 *e*PKPdf PKPdf 11 42 28.2 -0.6
CADS *i* pPKPdf **pPKPdf** 11 42 40.5 -3.3
HVAR **Hvar** 125.41 321 *i* P PKPdf 11 42 27.9 -0.9
MCVT **Middlebury Col** 125.43 38 P PKPdf 11 42 29.0 +0.1
baz=301,SNR=8.5
T59A **Double "B" Far** 125.49 48 P PKPdf 11 42 29.0 -0.2
baz=293,SNR=15
T59A P PKPdf 11 42 29.0 -0.2
baz=293,SNR=15
CO02 **Combarbal** 125.51 135 IAMs_20 IAMs_20 12 27 38.1
comp=Z,6µm,21.0s
MORI **Morici** 125.52 322 *i* P PKPdf 11 42 28.2 -0.8
SCTE **Santa Cesarea** 125.55 316 PKiKP 11 42 29.5 -0.1
BATAN **Batan** 125.59 82 IAMs_20 IAMs_20 12 25 29.7
comp=Z,8µm,22.0s
FUR **Furstenfeldbru** 125.60 328 *e*PKPdf PKiKP 11 42 29.5 0.0
baz=51,slow=2.0
INVG **Invergeldie, C** 125.61 344 *e*P PKiKP 11 42 29.6 +0.3
SRBA **San Rafael, Bu** 125.61 83 IAMs_20 IAMs_20 12 29 36.3
comp=Z,9µm,20.0s
SABO **M.te Sabotino** 125.63 325 IAMs_20 IAMs_20 12 37 55.0
comp=Z,11µm,22.0s
WUPA **West Chester U** 125.66 44 P PKPdf 11 42 29.3 -0.2
WUPA IAMs_20 IAMs_20 12 36 26.5
comp=Z,7µm,19.0s
ZIRJ **Zirje** 125.67 321 *i* P PKPdf 11 42 28.6 -0.7
TNS **Taunus Mts** 125.69 332 *e*PKPdf PKiKP 11 42 29.8 +0.2
baz=51,slow=2.0
GEDE **Greenville** 125.69 44 P PKPdf 11 42 28.8 -0.7
baz=296,SNR=11
VIRC **Vir** 125.70 322 *i* P PKPdf 11 42 28.9 -0.5
PSUB **Penn St. - Bra** 125.77 44 P PKPdf 11 42 28.0 -1.7
baz=296
EDI **Edinburgh** 125.79 343 *e*P PKiKP 11 42 29.8 +0.2
ABTA **Abfaltersbach** 125.80 326 *e*PKP PKPdf 11 42 29.1 -0.5
comp=Z,77nm,1.0s,SNR=25
NPNY **Mohonk Preserv** 125.80 41 P PKPdf 11 42 29.8 +0.2
baz=299,SNR=5.7
ODNJ **Ogdensburg** 125.81 42 P PKPdf 11 42 29.7 0.0
baz=298,SNR=12
DUGI **Dugi Otok** 125.85 322 *i* P PKPdf 11 42 28.9 -0.8
CNNC **Cliffs of the** 125.89 50 PKiKP PKPdf 11 42 30.2 +0.2
baz=291
LBNH **Lisbon** 125.93 38 IAMs_20 IAMs_20 12 33 10.2
comp=Z,10µm,21.0s
LBNH **Lisbon** 125.93 38 PKiKP PKiKP 11 42 30.2 0.0
baz=302
LBNH **Lisbon** 125.93 38 P PKiKP 11 42 30.4 +0.1
baz=302,SNR=8.1
WATA **Walderalm** 125.95 327 *e*PKP PKPdf 11 42 30.0 0.0
comp=Z,79nm,1.1s,SNR=19
D62A **Allapoint, All** 125.96 33 P PKPdf 11 42 29.1 -0.8
baz=307,SNR=10
D62A P PKPdf 11 42 29.1 -0.8
baz=307,SNR=10
WTTA **Wattenberg** 125.97 327 *i* PKP PKPdf 11 42 30.1 +0.1
comp=Z,132nm,1.0s,SNR=42
STAL **STALIGIAL** 125.97 326 PKPdf 11 42 29.2 -0.7
STAL IAMs_20 IAMs_20 12 39 26.6
comp=Z,10µm,21.0s
E62A **Clayton Lake** 125.98 34 P PKPdf 11 42 29.6 -0.2
baz=306,SNR=8.3
E62A P PKPdf 11 42 29.6 -0.2
baz=306,SNR=8.3
J61A **Chester** 126.02 39 P PKPdf 11 42 30.0 0.0
baz=301,SNR=17
J61A P PKPdf 11 42 30.0 0.0
baz=301,SNR=17
BRNJ **Basking Ridge** 126.02 43 P PKPdf 11 42 29.9 -0.2
baz=298,SNR=8.5
BRNY **Black Rk. Fore** 126.05 41 P PKPdf 11 42 29.9 -0.2
baz=299,SNR=7.1
CO05 **La Serena** 126.05 133 IAMs_20 IAMs_20 12 25 58.6
comp=Z,7µm,22.0s
PANJ **Princeton** 126.07 43 P PKiKP 11 42 30.5 -0.2
baz=298,SNR=5.7
CDITO **Canoas** 126.09 83 IAMs_20 IAMs_20 12 27 16.8
comp=Z,7µm,20.0s
CIMO **Cimolais** 126.09 326 PKPdf 11 42 29.9 -0.2
CIMO IAMs_20 IAMs_20 12 37 59.8
comp=Z,14µm,22.0s
AHRW **Bad Neuenahr-A** 126.11 333 *e*PKPdf PKiKP 11 42 30.7 +0.3
baz=51,slow=2.0
LAWE **Loch Awe, Argy** 126.13 344 *e*P PKPdf 11 42 29.9 +0.1
061Z **Ochoppi** 126.14 62 IAMs_20 IAMs_20 12 31 47.0
comp=Z,6µm,22.0s
F62A **Pittston Farm,** 126.16 35 P PKPdf 11 42 30.1 -0.1
baz=305,SNR=12
F62A P PKPdf 11 42 30.1 -0.1
baz=305,SNR=12
MOTA **Moosalm** 126.20 327 *e*PKP PKPdf 11 42 30.3 -0.2
comp=Z,94nm,1.0s,SNR=29
H62A **Milan** 126.21 37 P PKiKP 11 42 30.9 +0.1
baz=303,SNR=6.4
H62A P PKiKP 11 42 30.9 +0.1
baz=303,SNR=6.4
G62A **West of Eustis** 126.22 36 P PKPdf 11 42 30.3 -0.1
baz=304,SNR=6.0
G62A P PKPdf 11 42 30.3 -0.1
baz=304,SNR=6.0
SQTA **Sankt Quirin** 126.22 327 *i* PKP PKPdf 11 42 30.5 0.0
comp=Z,86nm,1.0s,SNR=32
BRU2 **Volcan** 126.27 83 IAMs_20 IAMs_20 12 29 36.7
comp=Z,6µm,20.0s
EKA **Eskdalemuir Ar** 126.29 342 PKhKP PKPpre 11 42 20.9
comp=Z,1.5nm,0.7s,baz=45,slow=2.1,SNR=5.5
EKA PKP PKPdf 11 42 29.9 -0.2
comp=Z,27nm,0.8s,baz=22,slow=2.7,SNR=43
EKA PKKPbc PKKPbc 11 52 03.5 -1.2
comp=Z,1.8nm,0.8s,baz=230,slow=4.4,SNR=3.9
STU **Stuttgart** 126.29 330 PKiKP 11 42 31.1 +0.3
STU **Stuttgart** 126.29 330 PKiKP PKiKP 11 42 31.1 +0.3
STU MLR MLR
comp=Z,11µm,21.0s
STU **Stuttgart** 126.29 330 *e*PKPdf PKiKP 11 42 30.9 0.0
baz=51,slow=2.0
CAMR **Camarioca** 126.29 65 IAMs_20 IAMs_20 12 32 22.2
comp=Z,8µm,21.0s
RETA **Reutte** 126.30 328 *i* PKP PKPdf 11 42 30.5 -0.1
comp=Z,42nm,1.2s,SNR=14
PAL **Palisades** 126.31 42 PKPdf 11 42 30.6 0.0
PAL **Palisades** 126.31 42 PKiKP PKiKP 11 42 31.0 -0.1
baz=299
PAL **Palisades** 126.31 42 P PKPdf 11 42 30.1 -0.6
baz=299,SNR=7.7
PAL **Palisades** 126.31 42 PKIKP PKPdf 11 42 30.6 0.0
ESK **Eskdalemuir** 126.31 342 *e*P PKiKP 11 42 31.1 +0.4
ESK **Eskdalemuir** 126.31 342 IAMs_20 IAMs_20 12 41 13.6
comp=Z,9µm,20.0s
P61A **Hammonton** 126.33 44 IAMs_20 IAMs_20 12 37 32.4
comp=Z,10µm,21.0s
060A **Indiantown** 126.35 60 IAMs_20 IAMs_20 12 34 20.3
comp=Z,8µm,21.0s
L61B **Northampton** 126.40 40 PKiKP PKiKP 11 42 31.1 -0.2
baz=301
L61B **Northampton** 126.40 40 P PKPdf 11 42 30.7 -0.1
baz=301,SNR=9.7
MATE **Matera** 126.48 318 ⇑P PKiKP 11 42 31.8 +0.4
I62A **Tamworth** 126.48 38 P PKPdf 11 42 31.0 +0.1
baz=303,SNR=6.4
I62A P PKPdf 11 42 31.0 +0.1
baz=303,SNR=6.4
BTNL **Ternell** 126.51 333 *d*PKP PKiKP 11 42 31.3 0.0
UBR **Ueberruh** 126.52 328 *e*PKPdf PKPdf 11 42 31.2 +0.2
baz=51,slow=2.0
MEM **Membach** 126.55 333 *d*PKP PKiKP 11 42 31.7 +0.4
K62A **Royalston** 126.57 39 IAMs_20 IAMs_20 12 36 08.3
comp=Z,10µm,20.0s
K62A **Royalston** 126.57 39 P PKPdf 11 42 31.1 0.0
baz=301,SNR=5.3
K62A P PKPdf 11 42 31.1 0.0
baz=301,SNR=5.3
SGRT **San Giovanni R** 126.57 319 IAMs_20 IAMs_20 12 40 23.5
comp=Z,7µm,20.0s
S61A **Accomac** 126.58 46 IAMs_20 IAMs_20 12 45 39.2
comp=Z,8µm,19.0s
FETA **Feichten** 126.60 327 *e*PKP PKPdf 11 42 30.9 -0.3
comp=Z,88nm,1.0s,SNR=38
CTI **Castel Tesino** 126.69 326 PKPdf 11 42 30.6 -0.8
CTI IAMs_20 IAMs_20 12 38 37.6
comp=Z,9µm,22.0s
CTI **Castel Tesino** 126.69 326 PKIKP PKPdf 11 42 30.6 -0.8
CTI MLR MLR
comp=Z,9µm,22.0s
QUA2 **Belchertown** 126.69 40 P PKPdf 11 42 30.9 -0.5
baz=301,SNR=6.7
E63A **Oxbow** 126.71 34 P PKPdf 11 42 31.1 -0.2
baz=307,SNR=6.1
E63A P PKPdf 11 42 31.1 -0.2
baz=307,SNR=6.1
BHOU **Houvegnez** 126.73 333 *d*PKP PKiKP 11 42 32.2 +0.5
F63A **Nahmakanta, Br** 126.76 35 P PKiKP 11 42 31.7 -0.2
baz=306,SNR=7.3
F63A P PKiKP 11 42 31.7 -0.2
baz=306,SNR=7.3
BSTI **Sart Tilman** 126.76 333 *d*PKP PKiKP 11 42 32.2 +0.5
PQI **Presqu'ile Isle** 126.78 33 PKPdf 11 42 30.6 -0.8
NEWG **New Galloway** 126.79 343 *e*P PKPdf 11 42 31.2 +0.1
I63A **Otisfield** 126.84 37 IAMs_20 IAMs_20 12 32 27.3
comp=Z,10µm,21.0s
I63A **Otisfield** 126.84 37 P PKPdf 11 42 30.7 -0.8
baz=304
I63A P PKPdf 11 42 30.7 -0.8
baz=304
DAVA **Damuels** 126.89 328 *e*PKP PKPdf 11 42 32.0 +0.2
comp=Z,76nm,1.0s,SNR=13
KESW **Keswick, Cumbr** 126.90 342 *e*P PKiKP 11 42 32.5 +0.6
PKME **Peaks-Kenny Pk** 126.91 35 PKiKP PKiKP 11 42 32.0 -0.1
baz=306
PKME **Peaks-Kenny Pk** 126.91 35 P PKPdf 11 42 31.0 -0.7
baz=306,SNR=7.4
LMK **Market Rasen** 126.91 339 *e*P PKiKP 11 42 32.3 +0.4
HPK **Haverah Park** 126.95 340 *e*P PKiKP 11 42 32.5 +0.6
BCLA **Clavier** 127.00 333 *d*PKP PKiKP 11 42 32.1 -0.1
BFO **Black Forest** 127.01 330 *e*PKPdf PKPdf 11 42 31.8 0.0
baz=51,slow=2.0
UCCT **U. Connecticut** 127.02 40 IAMs_20 IAMs_20 12 42 55.4
comp=Z,9µm,19.0s
HRV **Adam Dziewonsk** 127.08 39 PKPdf 11 42 31.6 -0.5
HRV **Adam Dziewonsk** 127.08 39 IAMs_20 IAMs_20 12 39 29.7
comp=Z,9µm,19.0s
HRV **Adam Dziewonsk** 127.08 39 PKiKP PKiKP 11 42 32.5 -0.1
baz=302
HRV **Adam Dziewonsk** 127.08 39 P PKPdf 11 42 30.9 -1.2
baz=302,SNR=7.1
HRV **Adam Dziewonsk** 127.08 39 PKIKP PKPdf 11 42 31.6 -0.5
HRV MLR MLR
comp=Z,9µm,19.0s
F64A **Sherman** 127.08 34 P PKPdf 11 42 31.6 -0.4
baz=307,SNR=10
F64A P PKPdf 11 42 31.6 -0.4
baz=307,SNR=10
TEOL **Teolo** 127.09 325 PKiKP 11 42 32.3 -0.2
TEOL IAMs_20 IAMs_20 12 38 40.2
comp=Z,10µm,22.0s
AC04 **Llanos de Chal** 127.10 132 IAMs_20 IAMs_20 12 29 25.6
comp=Z,6µm,20.0s
FUORN **Ofenpass-Fuorn** 127.10 327 PKiKP 11 42 32.7 -0.2
BGES **Gesves** 127.12 334 *d*PKP PKiKP 11 42 32.5 +0.1
TIP **Timpagrande** 127.13 316 ⇑P PKiKP 11 42 33.3 +0.4
WLF **Walferdange** 127.15 332 PKiKP 11 42 32.8 +0.3
WLF **Walferdange** 127.15 332 *d*PKP PKiKP 11 42 33.4 +0.8
WLF **Walferdange** 127.15 332 PKP PKiKP 11 42 33.1 +0.6
WLF **Walferdange** 127.15 332 PKIKP PKiKP 11 42 32.8 +0.3
WLF **Walferdange** 127.15 332 *e*PKPdf PKiKP 11 42 33.3 +0.8
baz=51,slow=2.0
GAL1 **Galloway** 127.15 343 *e*P PKiKP 11 42 32.6 +0.3
WACR **West Acre** 127.16 338 *e*P PKiKP 11 42 32.8 +0.4
UNH **University of** 127.20 38 P PKiKP 11 42 33.3 +0.5
baz=303
RCHB **Rochefort** 127.22 333 *d*PKP PKiKP 11 42 32.6 0.0
WES **Weston** 127.29 39 P PKPdf 11 42 32.4 -0.1
baz=302,SNR=7.0
BMRD **Maredsous** 127.32 334 *d*PKP PKiKP 11 42 32.9 +0.1
M63A **Gales Ferry** 127.34 41 IAMs_20 IAMs_20 12 32 51.7
comp=Z,9µm,22.0s
M63A **Gales Ferry** 127.34 41 P PKiKP 11 42 33.8 +0.7
baz=301
M63A P PKiKP 11 42 33.8 +0.7
baz=301
AC05 **El Transito** 127.35 133 IAMs_20 IAMs_20 12 32 35.0
comp=Z,5µm,19.0s
CLGH **Cloghs, Cushen** 127.36 344 *e*P PKiKP 11 42 33.2 +0.4
GUMA **Gualdo di Mace** 127.41 322 IAMs_20 IAMs_20 12 44 02.2
comp=Z,9µm,21.0s
BATG **Bathurst New B** 127.43 31 PKPdf 11 42 32.5 -0.1
LBWR **Ladybower, Pea** 127.44 340 *e*P PKiKP 11 42 33.2 +0.2
ELMS **Elmsett, Ipswi** 127.52 337 *e*P PKiKP 11 42 33.5 +0.4
DOU **Dourbes** 127.54 334 *d*PKP PKiKP 11 42 33.2 0.0
SALO **Salr** 127.58 326 PKPdf 11 42 32.7 -0.3
IOMK **Kirk Michael** 127.63 342 *e*P PKiKP 11 42 33.4 0.0
CAMP **Campotosto** 127.65 321 IAMs_20 IAMs_20 12 43 09.7
comp=Z,8µm,20.0s
WIM **Isle of Man** 127.76 342 *e*P PKiKP 11 42 34.4 +0.8
L64A **Middleborough** 127.83 39 P PKPdf 11 42 33.7 +0.2
baz=302
L64A P PKPdf 11 42 33.7 +0.2
baz=302
CWF **Charnwood Fore** 127.84 339 *e*P PKiKP 11 42 33.8 0.0
G65A **Princeton** 127.93 34 P PKiKP 11 42 34.6 +0.4
baz=308,SNR=5.4
G65A P PKiKP 11 42 34.6 +0.4
baz=308,SNR=5.4
ZCCA **Zocca** 128.08 324 PKiKP 11 42 35.4 +0.8
CESX **Cesi** 128.12 322 IAMs_20 IAMs_20 12 44 44.0
comp=Z,7µm,22.0s
PRMA **PARMA** 128.22 325 IAMs_20 IAMs_20 12 41 37.1
comp=Z,9µm,20.0s
TSUM **Tsumeb** 128.32 240 PKPdf 11 42 35.5 +0.1
TSUM **Tsumeb** 128.32 240 IAMs_20 IAMs_20 12 36 32.0
comp=Z,9µm,19.0s
WPS **Cemaes, Angles** 128.35 342 *e*P PKiKP 11 42 35.0 +0.2
ILTH **Belurgan, Co L** 128.35 343 *e*P PKiKP 11 42 34.7 0.0
FOEL **Foel Wylfa** 128.36 341 *e*P PKiKP 11 42 35.4 +0.5
WLF1 **Llynfaes** 128.41 342 *e*P PKiKP 11 42 35.2 +0.3
OSSC **Osservatorio P** 128.41 324 PKPdf 11 42 33.9 -0.8
OSSC IAMs_20 IAMs_20 12 39 58.5
comp=Z,8µm,22.0s
YLL **Llanberis** 128.47 341 *e*P PKiKP 11 42 35.2 +0.2
VLC **Villacollemand** 128.54 325 PKP PKPdf 11 42 34.6 -0.2
LLW **Llanuwychllyn** 128.55 341 *e*P PKiKP 11 42 35.6 +0.4
STRD **Stroud** 128.94 339 *e*P PKiKP 11 42 36.3 +0.3
MSSA **Maissana** 128.94 325 IAMs_20 IAMs_20 12 44 44.2
comp=Z,10µm,20.0s
WOL **Wolverton** 128.97 338 *e*P PKiKP 11 42 36.4 +0.3
SWN1 **Swindon** 129.02 339 *e*P PKiKP 11 42 36.8 +0.6
MCH1 **Michaelchurch** 129.04 340 *e*P PKiKP 11 42 36.5 +0.2
CASP **Castiglione de** 129.06 323 PKPdf 11 42 35.7 -0.2
MONM **Monmouth** 129.11 340 *e*P PKiKP 11 42 36.3 0.0
PB10 **IPOC Station P** 129.93 127 IAMs_20 IAMs_20 12 29 13.8
comp=Z,6µm,22.0s
PB05 **IPOC Station P** 130.53 126 IAMs_20 IAMs_20 12 28 56.9
comp=Z,7µm,22.0s
PB04 **IPOC Station P** 130.83 126 IAMs_20 IAMs_20 12 30 53.8
comp=Z,7µm,20.0s
PB06 **IPOC Station P** 131.11 127 IAMs_20 IAMs_20 12 29 36.2
comp=Z,7µm,22.0s
PB07 **IPOC Station P** 131.34 125 IAMs_20 IAMs_20 12 30 38.3
comp=Z,7µm,21.0s
LVC **Linn Verde** 131.69 127 IAMs_20 IAMs_20 12 30 15.3
comp=Z,8µm,22.0s
PB09 **IPOC Station P** 131.82 126 IAMs_20 IAMs_20 12 31 34.2
comp=Z,7µm,20.0s
VSL **Villasalto** 131.87 320 IAMs_20 IAMs_20 12 42 46.6
comp=Z,6µm,22.0s
PB01 **IPOC Station P** 131.99 125 IAMs_20 IAMs_20 12 31 32.6
comp=Z,6µm,21.0s
PB12 **IPOC Station P** 132.40 121 IAMs_20 IAMs_20 12 29 08.9
comp=Z,8µm,22.0s
NMDO **Nuevo Mundo** 132.59 67 IAMs_20 IAMs_20 12 34 34.4
comp=Z,7µm,21.0s
PB08 **IPOC Station P** 132.69 124 PKP PKPdf 11 42 43.0 -0.9
PB16 **IPOC Station P** 133.22 121 IAMs_20 IAMs_20 12 29 23.6
comp=Z,6µm,22.0s
EJON **La Jonquera** 133.81 328 PKP PKPdf 11 42 45.3 +0.4
KEST **Kesra** 133.95 316 IAMs_20 IAMs_20 12 44 46.3
comp=Z,7µm,22.0s
KEST **Kesra** 133.95 316 PKhKP PKPpre 11 42 37.2
comp=Z,4.7nm,0.9s,baz=9.3,slow=5.8,SNR=4.3
KEST PKP PKiKP 11 42 46.9 +0.1
comp=Z,58nm,0.9s,baz=104,slow=1.1,SNR=28
KEST SKPbc SKPab 11 46 12.4 -1.1
comp=Z,16nm,1.0s,baz=57,slow=7.6,SNR=3.6
CZSB **Cruzeiro do Su** 134.08 106 IAMs_20 IAMs_20 12 32 59.5
comp=Z,5µm,20.0s
LPAZ **La Paz** 135.30 120 PKhKP PKPpre 11 42 35.7
comp=Z,3.2nm,0.8s,baz=236,slow=3.6,SNR=8.6
LPAZ PKP PKPdf 11 42 49.9 +0.8
comp=Z,31nm,0.8s,baz=276,slow=1.3,SNR=27
LPAZ SKP 11 46 20.2
comp=Z,6.2nm,0.9s,baz=304,slow=3.6,SNR=3.0
GRTK **Grand Turk** 135.88 65 IAMs_20 IAMs_20 12 40 03.1
comp=Z,6µm,21.0s
RODS **Rosario do Sul** 136.18 146 *e*P PKiKP 11 42 50.8 -0.6
SDDR **Presa de Saban** 136.32 68 IAMs_20 IAMs_20 12 44 26.3
comp=Z,6µm,19.0s
CPSB **Cacapava Do Su** 137.09 148 *e*P PKiKP 11 42 53.0 -0.3
UNIS **Unistalda (Bra** 137.23 145 *e*P PKPdf 11 42 51.2 -0.5
TBTG **Tabatinga, AM** 137.64 102 *e*P PKPdf 11 42 53.0 +0.2
CPUP **Villa Florida** 137.85 140 PKPdf 11 42 52.9 0.0
CPUP **Villa Florida** 137.85 140 PKhKP PKPpre 11 42 42.3
comp=Z,2.6nm,0.8s,baz=242,slow=5.5,SNR=4.8
CPUP PKP PKPdf 11 42 53.7 +0.8
comp=Z,30nm,0.9s,baz=252,slow=2.8,SNR=3.8
CPUP **Villa Florida** 137.85 140 *e*P PKPdf 11 42 52.5 -0.3
ECHE **Chera** 137.90 328 PKP PKiKP 11 42 53.8 -0.8
SDV **Santo Domingo** 138.18 83 PKPdf 11 42 54.1 +0.1
SDV **Santo Domingo** 138.18 83 PKP PKPdf 11 42 54.9 +0.8
comp=Z,106nm,0.9s,baz=278,slow=3.0,SNR=41
SDV **Santo Domingo** 138.18 83 *e*P PKPdf 11 42 52.1 -1.9
ALGR **Alto Alegre (B** 138.58 147 *e*P PKPdf 11 42 54.7 +0.4
PCDR **Punta Cana, DR** 139.11 68 IAMs_20 IAMs_20 12 38 31.2
comp=Z,5µm,21.0s
CART **Cartagena** 139.35 326 IAMs_20 IAMs_20 12 47 27.6
comp=Z,7µm,21.0s
ESDC **Sonseca Array** 139.37 330 PKhKP PKPpre 11 42 45.7
comp=Z,2.8nm,1.0s,baz=27,slow=3.2,SNR=5.4
ESDC PKP PKPdf 11 42 56.3 +0.9
comp=Z,6.1nm,0.9s,baz=26,slow=2.8,SNR=9.3
ESDC PP PP 11 45 48.4 -0.4
comp=Z,20nm,1.0s,baz=36,slow=4.8,SNR=15
PGAV **Gavieira, Arco** 139.43 337 *e*PKPdf PKiKP 11 42 56.9 -0.9
PGAV **Gavieira, Arco** 139.43 337 *e*LR LR 12 40 05.7
comp=Z,7µm,20.0s
ETMB **Extrema** 139.56 112 PKPdf 11 42 55.5 -0.8
ETMB IAMs_20 IAMs_20 12 34 04.2
comp=Z,6µm,22.0s
ETMB **Extrema** 139.56 112 *e*P PKPdf 11 42 56.9 +0.6
MVO **Moncorvo** 139.59 335 *e*PKPdf PKiKP 11 42 57.9 -0.2
MVO **Moncorvo** 139.59 335 *e*LR LR 12 37 10.9
comp=Z,4µm,22.0s
HATO **Hato, Curacao** 139.62 78 IAMs_20 IAMs_20 12 35 24.1
comp=Z,6µm,22.0s
PVRL **Vila Real** 139.78 335 *e*PKPdf PKiKP 11 42 58.2 -0.2
ITAB **Concordia** 140.29 146 *e*P PKPdf 11 42 57.3 0.0
AGPR **Aguadilla, PR** 140.30 68 IAMs_20 IAMs_20 12 36 14.5
comp=Z,7µm,22.0s
PVIS **Viseu** 140.33 335 *e*PKPdf PKiKP 11 42 59.0 -0.6
MTE **Manteigas** 140.44 334 *e*PKPdf PKiKP 11 42 59.5 -0.3
MTE **Manteigas** 140.44 334 *e*LR LR 12 37 53.0
comp=Z,7µm,22.0s
MLPR **Magueyes Islan** 140.47 68 IAMs_20 IAMs_20 12 42 34.3
comp=Z,6µm,21.0s
AOPR **Arecibo Observ** 140.65 68 *e*P PKPdf 11 42 53.7 -4.5
BAUV **El Baul** 140.74 83 *e*P PKPdf 11 42 47.3 -11
MURT **Porto Murtinho** 140.79 134 *e*P PKPdf 11 42 59.8 +0.7
OBIP **Obispado Ponce** 140.86 68 IAMs_20 IAMs_20 12 43 03.5
comp=Z,5µm,20.0s
PCBR **Castelo Branco** 140.87 334 *e*PKPdf PKiKP 11 42 59.7 -0.9
COI **Coimbra** 140.97 335 IAMs_20 IAMs_20 12 45 40.1
comp=Z,6µm,20.0s
PCAS **Casmilo, Conde** 141.13 335 *e*PKPdf PKiKP 11 43 00.5 -0.7
BBSD **Serra de San D** 141.16 126 *e*P PKPdf 11 42 58.6 -0.6
PMRV **Marv??o** 141.17 333 *e*PKPdf PKPdf 11 42 56.0 -2.6
PMRV **Marv??o** 141.17 333 *e*LR LR 12 35 47.5
comp=Z,6µm,20.0s
ANTJ **Antonio Joao (** 141.69 136 *e*P PKPdf 11 42 59.0 -1.0
PESTR **Estremoz** 141.72 333 *e*PKPdf PKPdf 11 42 54.9 -4.7
AMBA **Amambai (Brazi** 141.74 139 *e*P PKPdf 11 42 59.9 -0.2
PMTG **Montargil** 141.83 334 *e*PKPdf PKPdf 11 42 59.1 -0.6
PBAR **Barrancos** 142.03 332 *e*PKPdf PKPdf 11 42 58.9 -1.2
EVO **Evora** 142.18 333 *e*PKPdf PKPdf 11 43 01.0 +0.6
EKNA **AfricaArray -** 142.19 270 ⇓*e*P PKPdf 11 42 58.6 -2.5
LIS **Lisbon** 142.53 335 *e*PKPdf PKPdf 11 42 59.7 -1.3
LIS IAMs_20 IAMs_20 12 48 44.2
comp=E,9µm,18.1s
LIS **Lisbon** 142.53 335 *e*PKIKP PKPdf 11 42 59.6 -1.3
PBEJ **Beja** 142.53 333 *e*PKPdf PKPdf 11 43 01.4 +0.4
SAML **Samuel** 142.66 112 IAMs_20 IAMs_20 12 35 33.3
comp=Z,7µm,22.0s
PNCL **Nicolau / Gran** 142.76 333 *e*PKPdf PKPdf 11 43 01.9 +0.5
MESJ **Messejana** 142.84 333 *e*PKPdf PKPdf 11 42 58.8 -2.8
MESJ **Messejana** 142.84 333 IAMs_20 IAMs_20 12 48 48.1
comp=Z,7µm,20.0s
MESJ **Messejana** 142.84 333 *e*PKPdf PKPdf 11 43 00.4 -1.2
MESJ *e*PP PP 11 46 10.3 +0.6
MESJ IAMs_20 IAMs_20 12 48 52.5
comp=Z,7µm,22.6s
MESJ **Messejana** 142.84 333 *e*PKIKP PKPdf 11 43 00.4 -1.2
MESJ *e* 11 46 10.3
TEFE **Tefe** 142.91 103 *e*P PKPdf 11 43 00.3 -2.1
AQDB **Aquidauana** 142.92 135 IAMs_20 IAMs_20 12 39 23.1
comp=Z,8µm,21.0s
AQDB **Aquidauana** 142.92 135 *e*P PKPdf 11 43 02.9 +0.7
PCVE **Castro Verde** 142.93 332 *e*PKPdf PKPdf 11 43 00.6 -1.1
PVAQ **Vaqueiros** 142.96 332 *e*PKPdf PKPdf 11 43 01.1 -0.7
PVAQ **Vaqueiros** 142.96 332 IAMs_20 IAMs_20 12 51 06.4
comp=Z,6µm,20.0s
SFS **San Fernando** 142.97 329 IAMs_20 IAMs_20 12 49 32.9
comp=Z,8µm,21.0s
PBDV **Barranco-do-Ve** 143.19 332 *e*PKPdf PKiKP 11 43 04.4 -1.1
PTLB **Pontes e Lacer** 143.28 125 IAMs_20 IAMs_20 12 55 33.9
comp=Z,5µm,22.0s
PTLB **Pontes e Lacer** 143.28 125 *e*P PKPdf 11 43 03.9 +0.9
TRCB **Terra Rica** 143.35 141 *e*P PKPdf 11 43 01.7 -1.3
MORF **Marmelete** 143.48 333 *e*PKPdf PKiKP 11 43 04.7 -1.4
MORF **Marmelete** 143.48 333 IAMs_20 IAMs_20 12 46 11.9
comp=Z,20.0s
MORF **Marmelete** 143.48 333 *e*PKPdf PKPdf 11 43 01.5 -1.2
MORF IAMs_20 IAMs_20 12 42 58.1
comp=Z,7µm,23.2s
MORF **Marmelete** 143.48 333 *e*PKIKP PKPdf 11 43 01.5 -1.2
VILB **Vilhena** 143.65 120 IAMs_20 IAMs_20 13 00 07.9
comp=Z,6µm,21.0s
PFVI **Vila Bisbo** 143.70 333 *e*PKPdf PKPdf 11 43 04.0 +0.9
PFVI **Vila Bisbo** 143.70 333 IAMs_20 IAMs_20 12 51 19.7
comp=Z,7µm,19.0s
PCRV **Puerto La Cruz** 144.02 80 PKhKP PKPpre 11 43 01.0
comp=Z,53nm,0.7s,baz=267,slow=3.8,SNR=25
SABA **Saba** 144.07 67 IAMs_20 IAMs_20 12 43 11.4
comp=Z,7µm,21.0s
SMRT **St. Maarten** 144.11 67 PKPab 11 43 01.3 -0.7
SMRT IAMs_20 IAMs_20 12 43 27.4
comp=Z,7µm,22.0s
SEUS **St. Eustatius** 144.34 68 IAMs_20 IAMs_20 12 42 58.7
comp=Z,8µm,20.0s
FRTB **Fartura** 144.77 145 *e*P PKPbc 11 43 04.7 +0.2
MDT **Midelt** 144.81 324 PKP PKPdf 11 43 05.4 +0.1
comp=Z,19nm,0.7s,baz=48,slow=2.1,SNR=6.5
PCMB **Pacaembu** 145.08 141 *e*P PKPdf 11 43 06.0 0.0
PET01 **Itanhaem-SP** 145.24 149 *e*P PKPdf 11 43 06.8 +0.7
MBFL **Flemmings, Mon** 145.25 68 *e*P PKPbc 11 43 06.0 -0.1
CRUV **Carupano** 145.35 79 *e*P PKPbc 11 43 01.9 -4.5
ANBD **Bethesda, Anti** 145.58 68 *e*P PKPdf 11 43 05.3 -1.6
SPB **Sao Paulo** 145.74 148 IAMs_20 IAMs_20 12 45 30.6
comp=Z,5µm,20.0s
SPB **Sao Paulo** 145.74 148 *e*P PKPab 11 43 07.7 -0.1
SALV **Santo Antonio** 145.77 129 *e*P PKPdf 11 43 07.3 0.0
H07N1 **FLORES T-PHASE** 145.89 3 *e*PKP PKPab 11 43 08.7 +0.8
CBE **Ff, Capester** 145.98 69 IAMs_20 IAMs_20 12 44 18.1
comp=Z,8µm,21.0s
CBE **Ff, Capester** 145.98 69 *e*P PKPdf 11 43 06.5 -1.2
ABD **La Joyeuse, An** 145.99 69 IAMs_20 IAMs_20 12 44 31.4
comp=Z,6µm,21.0s
ABD **La Joyeuse, An** 145.99 69 *e*P PKPdf 11 43 07.0 -0.6
H07S1 **FLORES T-PHASE** 146.20 4 *e*PKP PKiKP 11 43 11.2 -0.4
MAGL **Barre de l'ile** 146.31 69 IAMs_20 IAMs_20 12 44 26.0
comp=Z,8µm,21.0s
GDSD **La Dsirade Is** 146.42 69 PKPdf 11 43 07.5 -0.9
GDSD IAMs_20 IAMs_20 12 55 32.8

comp=Z,6µm,21.0s
VAO Valinhos 146.46 148 *e*PKP **PKPdf 11 43 09.0 +0.6**
SRBC Serra Branca 146.62 359 *e*PKP **PKPbc 11 43 09.9 +0.3**
PGRA Graciosa 146.62 359 *e*PKP **PKiKP 11 43 15.3 +2.8**
RCLB Rio Claro- Sao 146.63 147 *e*P **PKPab 11 43 11.2 -0.2**
SVN Savane Anatole 146.68 71 *e*P **PKPdf 11 43 07.8 -1.1**
GRW Mount Saint Ca 146.70 76 *e*P **PKPdf 11 43 04.7 -4.3**
GRHS Sauteurs 146.71 76 *e*P **PKPdf 11 43 04.0 -4.9**
GRGR Grenville 146.71 76 IAMs_20 IAMs_20 12 57 57.9
comp=Z,5µm,22.0s
GRGR Grenville 146.71 76 *e*P **PKPdf 11 43 06.7 -2.2**
FDF Fort de France 146.72 72 **PKPdf 11 43 08.4 -0.5**
FDF IAMs_20 IAMs_20 12 45 09.0
comp=Z,5µm,21.0s
FDF Fort de France 146.72 72 PKIKP **PKPdf 11 43 08.4 -0.5**
MACA Manacapuru-AM 146.82 104 *e*P **PKPdf 11 43 09.4 +0.3**
BIM Bigot 146.84 72 IAMs_20 IAMs_20 12 45 03.3
comp=Z,5µm,21.0s
BIM Bigot 146.84 72 *e*P **PKPdf 11 43 08.7 -0.4**
PAGU Agualva, Azore 146.86 358 *e*PKP **PKPbc 11 43 10.6 +0.3**
PARB Paraibuna 146.86 151 *e*P **PKPbc 11 43 10.7 -0.2**
GCMP Grenada, Carri 146.87 76 *e*P **PKPdf 11 43 03.3 -5.8**
SVB Belmont 146.91 74 *e*P **PKPdf 11 43 09.5 +0.3**
PSCM Serra do Cume 146.93 358 *e*PKP **PKPab 11 43 11.4 -0.5**
ROSA Rosais 146.93 359 *e*PKP **PKPbc 11 43 10.0 +0.6**
SVT Saint Vincent 146.94 74 *e*P **PKPdf 11 43 09.5 +0.3**
SVT Saint Vincent 146.94 74 *e*P **PKPbc 11 43 10.4 -0.8**
ILAM Ilet Lapin Mar 146.97 71 *e*P **PKPdf 11 43 05.2 -4.1**
ADH Angra Heroismo 146.98 358 *e*PKP **PKPbc 11 43 10.7 +0.1**
PMAN Manadas 147.02 359 *e*PKP **PKiKP 11 43 13.3 0.0**
PCED Cedros 147.03 0 *e*PKP **PKPab 11 43 11.9 -0.4**
SLBI Saint Lucia, B 147.03 73 *e*P **PKPdf 11 43 08.2 -1.1**
ITRB Iturama 147.05 140 *e*P **PKPbc 11 43 10.7 -0.7**
MPOM Morne Pois Mar 147.05 72 IAMs_20 IAMs_20 12 45 28.9
comp=Z,7µm,21.0s
MPOM Morne Pois Mar 147.05 72 *e*P **PKPdf 11 43 07.1 -2.3**
CALA Caldeira 147.07 0 *e*PKP **PKPbc 11 43 11.0 0.0**
HOR Horta 147.13 0 *e*PKP **PKPab 11 43 12.2 -0.5**
TRN Trinidad (W) 147.14 79 *e*P **PKPdf 11 43 08.8 -0.8**
BB19B Bebedouro 147.14 144 *e*P **PKPbc 11 43 11.6 -0.1**
PICO Pico 147.15 360 *e*PKP **PKPdf 11 43 09.6 +0.5**
PPNO Prainha do Nor 147.18 360 *e*PKP **PKPbc 11 43 11.4 +0.1**
PCAN Candelaria 147.19 360 *e*PKP **PKPdf 11 43 10.2 +1.1**
PID Ribeirinha 147.21 359 *e*PKP **PKPbc 11 43 10.4 -1.0**
PDRB Porto dos Gac 147.26 121 *e*P **PKPdf 11 43 10.3 +0.5**
BART Pico Bartolome 147.72 355 *e*PKP **PKPbc 11 43 12.5 -0.4**
PSET Sete Cidades 147.72 356 *e*PKP **PKPdf 11 43 10.3 +0.3**
PCALD Caldeiras da R 147.73 355 *e*PKP **PKPdf 11 43 11.0 +1.0**
PGRON Lagoa das Cont 147.75 355 *e*PKP **PKPbc 11 43 11.9 -1.0**
CMLA Cha da Macela 147.77 355 *e*PKP **PKPbc 11 43 13.5 +0.6**
PDA Ponta Delgada 147.79 356 *e*PKP **PKiKP 11 43 14.0 -0.9**
BOAV Boa Vista 148.01 94 **PKPdf 11 43 09.7 -1.4**
BOAV **PKPbc 11 43 14.8 +0.6**
CLDB Colider 148.42 121 *e*P **PKPdf 11 43 12.5 +0.7**
PSMN Pico do Norte, 148.48 355 *e*PKP **PKPdf 11 43 12.5 +1.3**
PSMA Santa Maria 148.50 355 *e*PKP **PKPdf 11 43 12.2 +1.0**
BBGH Gun Hill 148.55 74 *e*P **PKPdf 11 43 07.4 -4.5**
VAS01 Vassouras-RJ 148.80 153 *e*P **PKPdf 11 43 10.7 -1.5**
ARAG Araguaiana, MT 148.82 233 *e*P **PKPdf 11 43 12.5 +0.1**
SHEL Horse Pasture 148.91 226 PKPdf **PKPdf 11 43 09.9 -2.7**
SHEL **PKiKP 11 43 17.6 -0.3**
SHEL Horse Pasture 148.91 226 IAMs_20 IAMs_20 12 41 33.1
comp=Z,7µm,22.0s
SHEL Horse Pasture 148.91 226 PKP2 **PKiKP 11 43 17.6 -0.3**
TOA0 Torodi Ar. Sit 149.18 286 **PKPdf 11 43 11.9 -1.1**
TOA0 PKPbc **PKiKP 11 43 17.9 -0.5**
TOA0 Torodi Ar. Sit 149.18 286 P **PKPdf 11 43 11.0 -1.9**
SNR=108
TORD Torodi Ar. Bea 149.18 286 **PKPdf 11 43 11.4 -1.5**
TORD PKPbc **PKPbc 11 43 17.4 +0.3**
TORD IAMs_20 IAMs_20 12 49 18.7
comp=Z,5µm,22.0s
TORD Torodi Ar. Bea 149.18 286 PKPbc **PKPbc 11 43 17.0 -0.1**
comp=Z,268nm,0.9s,baz=88,slow=2.7,SNR=117
BSCB Bom Sucesso 149.25 149 *e*P **PKPdf 11 43 13.8 +0.7**
IPMB Ipameri, GO 149.68 141 *e*P **PKPdf 11 43 14.2 +0.4**
PMPST Porto Santo, M 150.28 339 *e*PKPbc **PKiKP 11 43 20.7 +0.5**
PMNB Patos De Minas 150.34 144 *e*P **PKPdf 11 43 15.5 +0.7**
NPGB Novo Progresso 150.53 115 *e*P **PKPdf 11 43 15.1 -0.1**
PMAR Madeira 150.80 340 *e*PKPbc **PKiKP 11 43 22.8 +1.3**
PMOZ Porto Moniz, M 150.81 340 *e*PKPbc **PKiKP 11 43 22.6 +1.2**
PMOZ Porto Moniz, M 150.81 340 *e*LR LR 12 37 35.0
comp=Z,5µm,22.0s
ITTB Itaituba 151.18 109 *e*P **PKPdf 11 43 15.1 -1.1**
ALF01 Guarapari-ES 151.44 156 *e*P **PKPdf 11 43 17.7 +1.3**
BDFB Brasília 151.52 138 IAMs_20 IAMs_20 12 52 01.6
comp=Z,6µm,22.0s
BDFB Brasília 151.52 138 PKP **PKPdf 11 43 17.1 +0.4**
comp=Z,18nm,0.8s,baz=259,slow=0.9,SNR=21
BDFB PKPbc **PKPbc 11 43 22.9 0.0**
comp=Z,132nm,0.7s,baz=209,slow=2.6,SNR=61
SNDB Serra Nova Dou 151.53 128 *e*P **PKPdf 11 43 16.8 +0.2**
DIAM Diamantina, MG 152.07 148 *e*P **PKPdf 11 43 17.7 +0.1**
MACI Morro de la Ar 154.63 334 IAMs_20 IAMs_20 13 01 20.0
comp=Z,7µm,21.0s
MDP Montagnes des 156.06 90 PKPab **PKPab 11 43 50.2 -0.4**
comp=Z,34nm,0.8s,baz=272,slow=1.9,SNR=5.7
KIC Kosan Boka 156.25 273 *e*P **PKPdf 11 43 22.0 -1.4**
comp=Z,126nm,1.1s
DBIC Dimbokro 156.36 274 **PKPdf 11 43 22.3 -1.1**
DBIC PKPab **PKPab 11 43 52.4 +0.5**
DBIC Dimbokro 156.36 274 PKP2 **PKPab 11 43 52.4 +0.5**
DBIC 12 43 22.3
DBIC Dimbokro 156.36 274 PKP **PKPdf 11 43 23.5 0.0**
comp=Z,30nm,0.9s,baz=90,slow=1.1,SNR=22
DBIC PKPab **PKPab 11 43 51.2 -0.7**
comp=Z,103nm,1.0s,baz=92,slow=4.9,SNR=8.4
TIC Toumodi 156.52 274↑ *e*P **PKPdf 11 43 23.5 -0.2**
comp=Z,48nm,0.9s
LIC Lamto 156.54 273↑ *e*P **PKPdf 11 43 23.2 -0.5**
comp=Z,113nm,0.9s
RCBR Riachuelo 166.59 147 PKP **PKPdf 11 43 34.6 +0.4**
comp=Z,26nm,1.1s,baz=220,slow=1.6,SNR=7.2
RCBR PKPab **PKPab 11 44 37.5 +1.1**
comp=Z,10.0nm,0.9s,baz=207,slow=6.4,SNR=2.3

JMA 24 11:30:19.5±0.2, 37°1.N±0.4° × 141°1.E±1.0, h27km±1km, MV0.4/17, E OFF FUKUSHIMA PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.21**	**260**	P	Pb	11 30 25.4	-0.2
ONAJ				*e*S	Sb	11 30 29.8	+0.1
JFK	**Kawauchi**	**0.27**	**327**	S	Sb	11 30 30.7	-0.3
JFFD	**Fukushimafurud**	**0.40**	**264**	P	Pb	11 30 27.9	-0.2
JFFD				*e*S	Sb	11 30 33.8	-0.3
JOTO	**OTAMA OYAMA**	**0.72**	**306**	*e*S	Sb	11 30 43.3	+0.4

*NEIC **24** 11:30:57.8±0.9, 36.695°N±0.004° × 97.65°W±0.02, h8km±8km, Error ellipse: s-maj=2.0km s-min=0.7km az=90.0*

TUL 24 11:30:58.4±0.9, 36.702°N±0.006° × 97.67°W±0.02, h8km±5km, ML2.5, mb_Lg2.2/12(NEIC), ML2.5/44(NEIC), Error ellipse: s-maj=1.8km s-min=0.9km az=92.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GC02	**Grant County #**	**0.21**	**315**	Pg	Pg	11 31 03.0	+0.3
GC02				Sg	Sg	11 31 06.0	+0.4
CROK	**Carrier**	**0.32**	**232**	Pg	Pg	11 31 04.7	0.0
CROK				Sg	Sg	11 31 09.2	+0.3
KAN14	**Manchester OK**	**0.34**	**318**		Pg	11 31 05.3	+0.1
KAN14				Sg	Sg	11 31 10.1	+0.3
KAN13	**South Haven SW**	**0.35**	**27**	Pg	Pg	11 31 05.5	+0.3
KAN13				IAML		11 31 10.7	
	comp=N,673nm,0.3s						
KAN13				IAML		11 31 10.8	
	comp=E,348nm,0.2s						
KAN17	**Caldwell West**	**0.35**	**348**		Pg	11 31 04.5	-0.8
KAN17				IAML		11 31 13.9	
	comp=N,416nm,0.3s						
BLOK	**Blackwell**	**0.37**	**81**		Pg	11 31 06.0	+0.3
BLOK				IAML		11 31 12.2	
	comp=E,737nm,0.2s						
OK032	**Salt Plains WL**	**0.44**	**283**		Pg	11 31 07.2	+0.2
OK032				IAML		11 31 13.6	
	comp=E,579nm,0.3s						
OK048	**Pawnee Station**	**0.65**	**116**	Pg	Pg	11 31 10.3	-0.7
OK048				IAML		11 31 27.0	
	comp=E,174nm,0.2s						
OK033	**Mehan**	**0.88**	**138**	Pg	Pg	11 31 12.3	-3.1
OK033				IAML		11 31 31.8	
	comp=E,124nm,0.2s						
OK033				IAML		11 31 35.3	
	comp=E,102nm,0.2s						
QUOK	**Quay**	**0.94**	**124**	Pg	Pg	11 31 15.3	-1.1
T35A	**Sooner Cattle**	**0.96**	**77**	Pg	Pg	11 31 15.2	-1.6
T35A				IAML		11 31 29.6	
	comp=N,116nm,0.3s						
T35A				IAML		11 31 30.9	
	comp=E,98nm,0.1s						
OK052	**Battle Ridge R**	**1.00**	**135**	Pg	Pg	11 31 13.2	-4.4
OK052				IAML		11 31 35.3	
	comp=E,136nm,0.4s						
OK052				IAML		11 31 36.4	
	comp=E,143nm,0.3s						
DEOK	**Depew**	**1.28**	**132**		Pn	11 31 20.8	-1.8
DEOK				IAML		11 31 40.3	
	comp=E,104nm,0.3s						
DEOK				IAML		11 31 43.8	
	comp=N,107nm,0.2s						
OKCSW	**OKLAHOMA CITY**	**1.31**	**172**		Pn	11 31 22.6	-0.3
CSTR	**Hydro, Custer**	**1.34**	**218**		Pn	11 31 22.8	-0.6
FNO	**Franklin**	**1.46**	**171**		Pn	11 31 24.5	-0.5
W35A	**Tecumseh**	**1.68**	**157**	Pg	Pn	11 31 27.7	-0.3
TUL3	**Leonard**	**1.71**	**117**		Pn	11 31 28.6	+0.1
TUL3				IAmb_Lg		11 31 54.5	
	comp=Z,21nm,1.1s						
R32A	**Long Quarter,**	**1.91**	**335**		Pn	11 31 32.0	+0.7
WMOK	**Wichita Mounta**	**2.16**	**205**	Pn	Pn	11 31 35.0	+0.3
CBKS	**Cedar Bluff**	**2.67**	**323**	IAmb_Lg		11 32 21.6	
	comp=Z,7.2nm,0.8s						
S39A	**Bolivar**	**3.61**	**73**	IAmb_Lg		11 32 53.5	
	comp=Z,4.0nm,0.7s						
AMTX	**Amarillo**	**3.73**	**242**	IAmb_Lg		11 33 05.8	
	comp=Z,7.3nm,0.8s						
MIAR	**Mount Ida**	**3.97**	**122**	IAmb_Lg		11 33 07.6	
	comp=Z,10nm,1.3s						

JMA 24 11:32:58.6±0.3, 38°N±1.1° × 144°5E±1.0°, h46km, MV3.7/25, FAR E OFF NORTH HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakibobu**	**2.49**	**284**	P	Pn	11 33 37.9	+1.2
JIKH				S	Sn	11 34 06.9	+1.1
JIO	**Ouri**	**2.61**	**287**	P	Pn	11 33 39.7	+1.4
JIO				S	Sn	11 34 10.3	+1.5
OFUJ	**Ofunato**	**2.62**	**302**	P	Pn	11 33 40.0	+1.5
OFUJ				S	Sn	11 34 10.3	+1.2
JKMT	**Kesennumamotoy**	**2.64**	**295**	P	Pn	11 33 40.1	+1.4
JMK	**Ichinoseki**	**2.88**	**296**	P	Pn	11 33 43.6	+1.7
JOM	**Ohasama**	**3.08**	**305**	P	Pn	11 33 46.7	+2.0
JOTO	**OTAMA OYAMA**	**3.34**	**268**	P	Pn	11 33 50.0	+1.7
JOTO				S	Sn	11 34 28.8	+2.1
JYK	**Kaneyama**	**3.49**	**291**	P	Pn	11 33 52.9	+2.5
JRY	**Ryogami san**	**4.83**	**251**	*e*P	Pn	11 34 08.9	+0.1
JRY				S	Sn	11 35 00.7	-2.7
JCH	**Churui**	**4.96**	**350**	P	Pn	11 34 10.6	+0.1
JCH				*e*S	Sn	11 35 04.4	-2.1
JTKR	**Abashiri--Toko**	**6.25**	**356**	P	Pn	11 34 28.1	-0.1
JTKR				*e*S	Sn	11 35 35.3	-3.0

TEH 24 11:35:50.8, 29.14N×55.57E, h10km±65km, ML2.4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NGRK	**Negar Kerman**	**1.13**	**64**	Pg	Pg	11 36 12.4	-0.2
TVBK	**TV Kerman**	**1.34**	**51**	Pg	Pg	11 36 17.0	+0.4
KHGB	**Koh Gabri**	**1.46**	**33**	Pg	Pb	11 36 18.1	-0.1
GENO	**Geno**	**1.82**	**163**	Pn	Pb	11 36 24.1	-0.2
CHMN	**Cheshme madani**	**1.86**	**67**	Pn	Pb	11 36 25.4	+0.2
ZRDN	**Zarand Kerman**	**2.00**	**25**	Pn	Pb	11 36 27.4	0.0
IMEH	**Mehriz**	**2.39**	**340**	Pn	Pn	11 36 30.4	+0.2
IBAF	**Bafgh**	**2.44**	**0**	Pn	Pn	11 36 32.8	+2.0

IDC 24 11:38:08.7±3.6, 5.53S×152.18E, h0km, mb4.0/2, mbtmp4.0/3, ML2.0/1, Error ellipse: s-maj=144.9km s-min=47.7km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.30**	**232**	Pn	Pn	11 39 42.8	0.0
	2.4nm,0.3s,baz=60,slow=20,SNR=5.8						
PMG				Sn	Sn	11 40 50.3	-5.2
	1.4nm,0.3s,baz=0.0,slow=20,SNR=2.3						
	4.8nm,0.3s						
WRA	**Warramunga Arr**	**22.50**	**229**	P	P	11 43 10.1	0.0
	2.9nm,0.5s,baz=53,slow=9.8,SNR=17						
	2.9nm,0.5s						
ASAR	**Alice Springs**	**25.20**	**222**	P	P	11 43 36.1	-0.2
	1.9nm,0.6s,baz=56,slow=8.8,SNR=17						
	1.9nm,0.6s						
TORD	**Torodi Ar. Bea**	**149.94**	**287**	PKPbc	PKPbc	11 58 02.0	-0.2
	0.5nm,0.7s,baz=85,slow=2.4,SNR=2.1						

*DJA **24** 12:02:03.2±0.3, 9.5°S±4.1° × 117.8E±1.0°, h121km±4km, M4.3/14, mb4.2/6, MLv4.3/14*

*IDC **24** 12:02:08.5±3.2, 8.18°S×118.98E, h192km±25km, mb2.9/2, mbtmp3.4/3, Error ellipse: s-maj=76.1km s-min=15.4km az=46.0*

ISC 24 12:02:02.8±0.8, 8.369°S±0.08° × 118.34E±0.06, h150km, n29, σ1°28/33, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.57**	**256**	P	**Pn**	**12 02 23.4**	**-1.1**
PLAI	**Plampang**	**0.57**	**256**	P	**Pn**	**12 02 23.3**	**-1.2**
PLAI				S	**Sn**	**12 02 37.8**	**-3.3**
TWSI	**Taliwang, Sumb**	**1.44**	**268**	P	**Pn**	**12 02 31.3**	**-0.5**
BASI	**Baing, Sumba**	**2.68**	**125**	P	**Pn**	**12 02 46.0**	**-0.2**
SRBI	**Singaraja**	**3.15**	**281**	P	**Pn**	**12 02 52.5**	**+0.4**
EDFI	**Ende, Flores**	**3.31**	**91**	P	**Pn**	**12 02 54.2**	**-0.1**
BKSI	**Bulukumba**	**3.78**	**28**	P	**Pn**	**12 02 59.6**	**-0.7**
MMRI	**Maumere**	**3.85**	**90**	P	**Pn**	**12 03 01.2**	**0.0**
KAPI	**Kappang**	**3.91**	**21**	P	**Pn**	**12 03 02.0**	**+0.1**
JAGI	**Jajag, Banyuwa**	**4.15**	**273**	P	**Pn**	**12 03 04.4**	**-0.6**
BLJI	**Banyuglugur**	**4.79**	**281**	P	**Pn**	**12 03 14.0**	**+0.6**
GMJI	**Gumukmas**	**4.86**	**274**	P	**Pn**	**12 03 13.4**	**-1.0**
BATI	**Baumata**	**5.47**	**106**	P	**Pn**	**12 03 22.9**	**+0.4**
	82nm,0.4s,baz=275,slow=13,SNR=35						
BATI				S	**Sn**	**12 04 23.0**	**-1.7**
	46nm,0.4s,baz=135,slow=22,SNR=6.6						
BATI	**Baumata**	**5.47**	**106**	P	**Pn**	**12 03 22.5**	**0.0**
	80nm,0.7s,0.4nm						
SOEI	**Soe**	**5.95**	**101**	P	**Pn**	**12 03 29.1**	**+0.1**
SOEI	**Soe**	**5.95**	**101**	P	**Pn**	**12 03 28.9**	**-0.1**
	50nm,0.7s,0.4nm						
PWJI	**Pagerwojo**	**6.50**	**275**	P	**Pn**	**12 03 36.7**	**+0.5**
	23nm,1.8s,0.2nm						
UGM	**Wunga**	**7.77**	**275**	P	**Pn**	**12 03 53.5**	**+0.2**
	156nm,1.4s,0.8nm						
KPJI	**Karang Pucung**	**9.41**	**278**	P	**Pn**	**12 04 15.5**	**+0.4**
	24nm,2.7s						
FITZ	**Fitzroy Crossi**	**11.74**	**144**	P	**Pn**	**12 04 46.9**	**+1.1**
MBWA	**Marble Bar**	**12.47**	**174**	P	**Pn**	**12 04 56.2**	**+0.9**
DRS	**Darwin Rock St**	**12.90**	**108**	P	**Pn**	**12 05 01.0**	**+0.2**
	20nm,0.7s						
MTN	**Manton Dam**	**13.23**	**109**	P	**Pn**	**12 05 04.6**	**-0.5**
KDU	**Kakadu**	**14.45**	**107**	P	**Pn**	**12 05 20.9**	**+0.5**
FAKI	**Fak Fak**	**14.97**	**68**	P	**Pn**	**12 05 27.6**	**+0.6**
	36nm,1.7s						
WRKA	**Warakurna**	**18.83**	**151**	P	**Pn**	**12 06 15.5**	**+2.0**
WRA	**Warramunga Arr**	**19.10**	**128**	P	**Pn**	**12 06 15.9**	**-0.8**
	0.3nm,0.3s,baz=302,slow=12,SNR=15						
WRA				S	**S**	**12 09 39.0**	**-4.0**
	0.3nm,0.3s,baz=308,slow=24,SNR=2.0						
ASAR	**Alice Springs**	**21.07**	**137**	P	**P**	**12 06 37.5**	**+2.1**
	0.8nm,0.5s,baz=311,slow=9.0,SNR=20						
ASAR				S	**S**	**12 10 22.6**	**+1.1**
	0.4nm,0.6s,baz=302,slow=23,SNR=2.2						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**63.88**	**333**	P	**P**	**12 12 19.5**	**0.0**
	0.2nm,0.3s,baz=150,slow=7.7,SNR=3.1						
	0.2nm,0.3s						

*NOU **24** 12:03:31.0, 41.85S×174.53E, h13km, MLv3.8/8, Cook Strait, New Zealand*

*WEL **24** 12:03:32.0±0.3, 42°S±3°×17°4E±1.0°, h14km±3km, M3.4/25, ML3.6/25, MLv3.4/25, Error ellipse: s-maj=0.0km s-min=0.0km az=146.3*

ISC 24 12:03:31.7±1.4, 41.73S±0.03° × 174.37E±0.03, h16km±14km, n108, σ0899/112, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.12**	**261**	P	**Pb**	**12 03 36.5**	**+0.8**
SDNS	**Seddon**	**0.19**	**291**	P	**Pb**	**12 03 37.0**	**+0.2**
WDFS	**Ward Fire Stat**	**0.20**	**241**	P	**Pb**	**12 03 37.7**	**+0.7**
SEDS	**Seddon Fire St**	**0.23**	**285**	P	**Pb**	**12 03 37.5**	**0.0**
KEKS	**Kekerengu Vall**	**0.37**	**232**	P	**Pb**	**12 03 40.8**	**+0.9**
KEKS				S	**Sb**	**12 03 47.5**	**+2.2**
BSWZ	**Blackbirch Sta**	**0.37**	**272**	P	**Pb**	**12 03 39.7**	**-0.3**
BSWZ				S	**Sb**	**12 03 45.0**	**-0.4**
TUWZ	**Tuamarina**	**0.44**	**313**	P	**Pb**	**12 03 40.7**	**-0.4**
TUWZ				S	**Sb**	**12 03 47.0**	**-0.4**
BWRS	**Waikakaho Road**	**0.46**	**310**	P	**Pb**	**12 03 40.9**	**-0.4**
BWRS				S	**Sb**	**12 03 47.3**	**-0.5**
SNZO	**South Karori**	**0.49**	**31**	P	**Pb**	**12 03 42.0**	**+0.1**
BHW	**Baring Head**	**0.50**	**50**	P	**Pb**	**12 03 42.7**	**+0.7**
TCW	**Tory Channel**	**0.53**	**352**	P	**Pb**	**12 03 42.2**	**-0.4**
TCW				S	**Sb**	**12 03 49.1**	**-0.8**
WEL	**Wellington**	**0.54**	**34**	P	**Pb**	**12 03 43.4**	**+0.6**
PLWZ	**Palliser**	**0.68**	**77**	P	**Pn**	**12 03 46.8**	**+0.1**
MSWZ	**Moikau Station**	**0.73**	**65**	P	**Pn**	**12 03 48.0**	**+0.6**
CAW	**Cannon Point**	**0.81**	**40**	P	**Pb**	**12 03 48.1**	**+0.6**
PAWZ	**Paruwai Farm**	**0.87**	**67**	P	**Pg**	**12 03 49.3**	**+0.7**
NNZ	**Nelson**	**0.90**	**304**	P	**Pb**	**12 03 48.8**	**-0.2**
KHZ	**Kahutara**	**0.92**	**222**	P	**Pb**	**12 03 49.9**	**+0.6**
KHZ	**Kahutara**	**0.92**	**222**	P	**Pg**	**12 03 50.1**	**+0.5**
KIW	**Kapiti Island**	**0.96**	**25**	P	**Pg**	**12 03 50.2**	**-0.1**
DUWZ	**D'Urville Isla**	**0.99**	**340**	P	**Pg**	**12 03 50.3**	**-0.6**
MTW	**Mount Morrison**	**1.03**	**56**	P	**Pb**	**12 03 51.4**	**+0.3**
TRWZ	**Traveller**	**1.04**	**72**	P	**Pb**	**12 03 51.5**	**+0.1**
OGWZ	**Otaki Gorge**	**1.09**	**34**	P	**Pg**	**12 03 52.7**	**-0.2**
THZ	**Tophouse**	**1.10**	**268**	P	**Pb**	**12 03 52.3**	**0.0**
HOWZ	**Holdsworth Sta**	**1.20**	**46**	P	**Pn**	**12 03 53.8**	**0.0**
MRNZ	**Matakitaki Terra**	**1.25**	**285**	P	**Pn**	**12 03 55.0**	**0.0**
TKNZ	**Takaka Hill**	**1.27**	**303**	P	**Pb**	**12 03 55.0**	**-0.2**
TMWZ	**Te Maipa**	**1.30**	**62**	P	**Pn**	**12 03 55.0**	**-0.3**
MRZ	**Mangatainoka R**	**1.41**	**41**	P	**Pn**	**12 03 56.8**	**+0.1**
TIWZ	**Tintock**	**1.49**	**51**	P	**Pn**	**12 03 57.5**	**-0.4**
GVZ	**Greta Valley S**	**1.58**	**218**	P	**Pn**	**12 03 58.9**	**-0.2**
CPWZ	**Castlepoint**	**1.61**	**60**	P	**Pn**	**12 03 59.1**	**-0.3**
QRZ	**Quartz Range**	**1.66**	**303**	P	**Pb**	**12 04 01.2**	**-0.6**
QRZ	**Quartz Range**	**1.66**	**303**	P	**Pb**	**12 04 01.3**	**-0.6**
PRWZ	**Pori Road**	**1.69**	**46**	P	**Pn**	**12 04 00.3**	**-0.2**
POWZ	**Post Office Ro**	**1.71**	**39**	P	**Pn**	**12 04 00.8**	**0.0**
BFZ	**Birch Farm**	**1.76**	**54**	P	**Pn**	**12 04 00.5**	**-1.1**
BFZ	**Birch Farm**	**1.76**	**54**	P	**Pn**	**12 04 00.6**	**-0.9**
LTZ	**Lake Taylor**	**1.88**	**235**	P	**Pn**	**12 04 03.1**	**-0.1**
DSZ	**Denniston Nort**	**1.92**	**269**	P	**Pn**	**12 04 04.6**	**+0.8**
AMCZ	**Amberley**	**1.92**	**221**	P	**Pn**	**12 04 03.2**	**-0.6**
DVHZ	**Dannevirke**	**1.97**	**44**	P	**Pn**	**12 04 03.6**	**-0.9**
WAZ	**Wanganui**	**2.03**	**14**	P	**Pb**	**12 04 07.7**	**-0.5**
ANWZ	**Angora Road**	**2.04**	**52**	P	**Pn**	**12 04 04.3**	**-1.0**
TSZ	**Takaparl Road**	**2.06**	**36**	P	**Pn**	**12 04 05.2**	**-0.4**
PRHZ	**Porangahau**	**2.25**	**50**	P	**Pn**	**12 04 07.1**	**-1.2**
LREZ	**Lake Rotokare**	**2.27**	**1**	P	**Pb**	**12 04 12.6**	**+0.3**
PNHZ	**Pukenui**	**2.29**	**38**	P	**Pn**	**12 04 08.3**	**-0.6**
MQZ	**McQueen's Vall**	**2.34**	**212**	P	**Pn**	**12 04 07.8**	**-1.7**
NMEZ	**Namu Road**	**2.35**	**351**	P	**Pb**	**12 04 14.4**	**+0.8**
OXZ	**Oxford**	**2.35**	**226**	P	**Pn**	**12 04 08.3**	**-1.3**
INZ	**Inchbonnie**	**2.39**	**244**	P	**Pn**	**12 04 10.2**	**0.0**
PREZ	**Palmer Road**	**2.39**	**356**	P	**Pb**	**12 04 13.8**	**-0.6**
AKCZ	**Akaroa Harbour**	**2.39**	**206**	P	**Pn**	**12 04 09.2**	**-1.1**
KHEZ	**Kahui Hut**	**2.45**	**354**	P	**Pb**	**12 04 15.1**	**-0.3**
NEZ	**North Egmont**	**2.47**	**355**	P	**Pb**	**12 04 15.5**	**-0.2**
MTVZ	**Mangateitei**	**2.49**	**20**	P	**Pb**	**12 04 16.3**	**+0.2**
NBEZ	**Newall Road No**	**2.49**	**351**	P	**Pb**	**12 04 15.3**	**-0.7**
PXZ	**Pawanui**	**2.54**	**49**	P	**Pn**	**12 04 10.5**	**-1.7**
MOVZ	**Moawhango**	**2.55**	**25**	P	**Pb**	**12 04 16.9**	**-0.3**
PKVZ	**Pokaka**	**2.55**	**17**	P	**Pb**	**12 04 18.2**	**+1.1**
PKE	**Pukeiti**	**2.55**	**353**	P	**Pb**	**12 04 15.2**	**-2.0**
WNVZ	**Wahianoa**	**2.58**	**22**	P	**Pn**	**12 04 14.0**	**+1.1**
KRHZ	**Kereru**	**2.58**	**37**	P	**Pn**	**12 04 12.2**	**-0.7**
BHHZ	**Black Hill Sta**	**2.58**	**30**	P	**Pn**	**12 04 13.1**	**+0.2**
RACZ	**Rakaia**	**2.58**	**219**	P	**Pn**	**12 04 11.8**	**-1.0**
TRVZ	**Turoa**	**2.59**	**21**	P	**Pb**	**12 04 17.2**	**-0.7**
WHVZ	**Whangaehu Hut**	**2.62**	**21**	P	**Pb**	**12 04 18.9**	**+0.6**
VRZ	**Vera Road

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDNU	**Novodnistrovsk**	**0.08**	**202**	*e*Pg	**Pg**	**12 20 53.5**	**+0.7**
NDNU				Pm		12 20 53.5	
NDNU				*e*Sg	**Sg**	**12 20 54.0**	**0.0**
NDNU				Sm		12 20 54.1	
NDNU				m		12 20 55.0	
KMPD	**K-Podol'skiy**	**0.64**	**261**	*e*Pg	**Pb**	**12 21 04.3**	**-0.5**
KMPD				*e*Sg	**Sg**	**12 21 12.3**	**+0.6**
DRBR	**Darabani**	**0.70**	**230**	⇑P	**Pb**	**12 21 05.1**	**-0.8**
DRBR				⇑S	**Sg**	**12 21 13.5**	**-0.3**
SORM	**Soroca**	**0.82**	**130**	⇑P	**Pb**	**12 21 07.1**	**-0.8**
SORM				⇑S	**Sg**	**12 21 17.0**	**-0.5**
HORU	**Horodok**	**0.85**	**311**	*e*Pg	**Pn**	**12 21 09.8**	**0.0**
HORU				*e*Sg	**Sb**	**12 21 21.2**	**+1.1**
IAS	**Iasi**	**1.48**	**176**	⇓P	**Pg**	**12 21 19.6**	**+0.2**
IAS				⇑S	**Sb**	**12 21 37.5**	**-0.6**
PRAR	**RASCA**	**1.53**	**212**	⇓P	**Pg**	**12 21 20.1**	**-0.3**
KSV	**Kosov**	**1.60**	**258**	*e*Pn	**Pg**	**12 21 21.3**	**-0.4**
KSV				Pm		12 21 22.0	
KSV				*e*Sn	**Sn**	**12 21 41.3**	**+0.2**
KSV				Sm		12 21 44.8	
KSV				m		12 21 48.5	
BURAR	**Bucovina Array**	**1.81**	**235**	⇑P	**Pb**	**12 21 24.7**	**-0.1**
BURAR				⇑S	**Sn**	**12 21 46.6**	**+0.2**
STNU	**Starunia**	**1.93**	**272**	*e*Pn	**Pg**	**12 21 27.6**	**-0.5**
STNU				*e*Sn	**Sb**	**12 21 51.5**	**+0.4**
BIZ	**Bicaz**	**1.94**	**207**	⇓S	**Sb**	**12 21 51.5**	**0.0**
MILM	**Milestii Mici**	**1.99**	**151**	⇓P	**Pb**	**12 21 27.5**	**-0.3**
MILM				⇓S	**Sb**	**12 21 51.3**	**-1.5**
MILM	**Milestii Mici**	**1.99**	**151**	*e*Pn	**Pg**	**12 21 30.6**	**+1.4**
NSLU	**Nyzhne Selyshc**	**2.02**	**258**	*e*Sn	**Sg**	12 22 11.7	+16
TESR	**Tescani**	**2.22**	**194**	⇓P	**Pg**	**12 21 32.3**	**-1.3**
TESR				⇓S	**Sn**	**12 21 57.5**	**+1.2**
RAKU	**Rahkiv**	**2.26**	**255**	*e*Pn	**Pg**	**12 21 33.5**	**-0.9**
RAKU				Pm		12 21 35.1	
RAKU				*e*Sn	**Sb**	**12 22 00.3**	**-0.3**
RAKU				Sm		12 22 05.4	
RAKU				m		12 22 05.5	
LEOM	**Leova**	**2.27**	**165**	⇑S	**Sb**	**12 22 01.6**	**+0.7**
KIEV	**Kiev**	**2.34**	**29**	⇑P	**Pg**	**12 21 35.7**	**-0.2**
JOSR	**Joseni**	**2.34**	**214**	⇓P	**Pg**	**12 21 36.5**	**+0.5**
JOSR				⇓S	**Sb**	**12 22 04.2**	**+1.1**
MORS	**Morshin**	**2.37**	**283**	*e*Pn	**Pb**	**12 21 34.0**	**-0.2**
MORS				*e*Sn	**Sb**	**12 22 03.5**	**-0.2**
LVV	**L'vov**	**2.50**	**299**	*e*Sn	**Sb**	**12 22 06.3**	**-1.2**
SHIU	**Shidnytsya**	**2.73**	**283**	*e*Sn	**Sb**	**12 22 13.1**	**-1.0**
VRI	**Vrincioaia**	**2.84**	**190**	⇓P	**Pg**	**12 21 44.1**	**-1.5**
VRI				⇓S	**Sb**	**12 22 17.3**	**-0.1**
PLOR	**Plostina**	**2.86**	**191**	⇑P	**Pg**	**12 21 44.4**	**-1.6**
PLOR				⇓S	**Sb**	**12 22 19.5**	**+1.4**
ODBI	**Odobesti**	**2.92**	**185**	⇓P	**Pg**	**12 21 45.8**	**-1.2**
ODBI				⇓S	**Sb**	**12 22 19.8**	**+0.3**
SPBR	**Spulber**	**2.95**	**189**	⇑P	**Pb**	**12 21 44.5**	**+0.2**
SPBR				⇓S	**Sb**	**12 22 19.3**	**-1.4**
MLR	**Muntele Rosu**	**3.33**	**198**	⇓P	**Pb**	**12 21 49.5**	**-1.3**
MLR				⇑S	**Sb**	**12 22 30.6**	**-1.0**
MARR	**Marisel-Cluj**	**3.52**	**237**	⇑P	**Pb**	**12 21 53.5**	**-0.4**
MARR				⇓S	**Sn**	**12 22 28.8**	**+0.2**
CFR	**Carcaliu**	**3.53**	**172**	⇑P	**Pb**	**12 21 50.4**	**-3.5**
CFR				⇑S	**Sn**	**12 22 30.3**	**+1.7**
DRGR		**3.69**	**241**	⇓P	**Pb**	**12 21 57.6**	**+0.8**
ARR	**Arges**	**3.81**	**211**	⇓P	**Pb**	**12 21 59.4**	**+0.5**
ARR				⇓S	**Sb**	**12 22 43.0**	**-2.3**
TPGR	**Topolog**	**3.87**	**169**	⇓P	**Pn**	**12 21 53.4**	**+2.0**
TPGR				⇑S	**Sn**	**12 22 40.7**	**+3.4**
TIRR	**Tirgusor**	**4.27**	**170**	⇑P	**Pn**	**12 21 57.7**	**+0.9**
TIRR				⇓S	**Sn**	**12 22 44.3**	**-2.6**

JMA ***24*** *12:22:49.8±0.2,33˚N±3˚×13˚8E±˚, h375km, MV2.9/36, FAR S OFF SHIZUOKA PREF*
IDC ***24*** *12:22:54.4±1.6,33.90N×138.48E, h368km±15km, mb2.7/5, mbtmp3.4/6, Error ellipse: s-maj=47.1km s-min=24.7km az=63.0*
ISC 24 12:22:54.2±1.0,**33.7N**±0.1×**137.69E**±0.08,**h350**km,**n17,** σ1§**54**/22,**mb2.8/5,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**1.05**	**309**	*e*P	**Pn**	**12 23 39.4**	**-0.8**
JWY	**Kouya**	**1.81**	**286**	P	**Pn**	**12 23 43.2**	**-1.1**
JOD2	**Odawara 2**	**1.92**	**37**	*e*P	**Pn**	**12 23 45.6**	**+0.7**
JWT	**Wachi**	**2.45**	**310**	*e*P	**Pn**	**12 23 48.0**	**-0.8**
JHU	**Hanno**	**2.49**	**31**	P	**Pn**	**12 23 49.6**	**+0.5**
JHU				*e*S	**S**	**12 24 30.9**	**-2.5**
JRY	**Ryogami san**	**2.49**	**23**	P	**Pn**	**12 23 50.2**	**+1.0**
BSO3	**Boso 3**	**2.57**	**64**	*e*S	**S**	**12 24 33.5**	**-0.5**
JAI	**Aioi**	**2.70**	**272**	P	**Pn**	**12 23 49.2**	**-1.8**
MJAR	**Matsushiro Arr**	**2.84**	**8**	P	**Pn**	**12 23 52.5**	**+0.4**
	1.6nm,0.6s,baz=188,slow=9.6,SNR=12						
MJAR				S	**S**	**12 24 38.6**	**-0.1**
	0.4nm,0.5s,baz=167,slow=29,SNR=3.6						
BSO1	**Boso 1**	**2.88**	**70**	*e*P	**Pn**	**12 23 51.4**	**-0.4**
BSO1				*e*S	**S**	**12 24 37.9**	**-0.3**
JYT	**Yasato**	**3.23**	**39**	P	**Pn**	**12 23 55.1**	**-0.5**
JYT				*e*S	**S**	**12 24 41.5**	**-3.6**
JHO	**Hitachi**	**3.72**	**38**	*e*P	**Pn**	**12 23 59.8**	**-0.5**
JHO				*e*S	**S**	**12 24 50.1**	**-3.5**
SONM	**Songino Array**	**27.36**	**310**	P	**P**	**12 28 10.1**	**+1.6**
	0.2nm,0.4s,baz=108,slow=9.3,SNR=2.3 0.2nm,0.4s						
MKAR	**Makanchi Array**	**43.39**	**305**	P	**P**	**12 30 24.1**	**+0.8**
	0.3nm,0.6s,baz=87,slow=9.4,SNR=4.3 0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**45.72**	**310**	P	**P**	**12 30 42.5**	**+1.0**
	0.5nm,0.6s,baz=74,slow=6.8,SNR=4.7 0.5nm,0.6s						
WRA	**Warramunga Arr**	**53.46**	**184**	P	**P**	**12 31 39.7**	**+0.1**
	0.3nm,0.9s,baz=2.2,slow=7.5,SNR=1.3 0.3nm,0.9s						
FINES	**FINESS Array B**	**70.30**	**332**	P	**P**	**12 33 30.8**	**+0.7**
	1.4nm,0.8s,baz=64,slow=4.4,SNR=5.0 1.4nm,0.8s						

IDC 24 13:06:20.9±2.5,**4˚46N×123˚31E, h0**km,**mb3.3**/3, **mbtmp3.3**/3,**Error ellipse: s-maj=325.1km s-min=29.2km az=63.0,Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.56**	**156**	P	P	13 12 00.9	+0.1
	0.2nm,0.5s,baz=335,slow=9.6,SNR=7.0 0.2nm,0.5s						
ASAR	**Alice Springs**	**29.80**	**160**	P	P	13 12 29.6	-0.1
	0.3nm,0.7s,baz=338,slow=7.2,SNR=4.7 0.3nm,0.7s						
MKAR	**Makanchi Array**	**55.05**	**327**	P	P	13 15 54.4	-0.1
	0.1nm,0.3s,baz=125,slow=7.6,SNR=1.7 0.1nm,0.3s						

NNC 24 13:09:12.0±13.0,**36˚34N×70˚55E, h0**km,**mb3.8, mpv3.4, 3C-1D, Error ellipse: s-maj=132.2km s-min=96.6km az=149.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.75**	**360**	P	Pn	13 10 53.8	+1.3
	1.2nm,0.5s,baz=193,slow=14,SNR=9.1						
KK31				⇓S	Sn	13 12 13.3	+3.2
	1.3nm,0.3s,baz=186,slow=24,SNR=10						
TKM2	**Tokmak 2**	**7.64**	**29**	⇑P	Pn	13 11 06.3	+1.6
	1.9nm,0.7s						
TKM2				⇓S	Sn	13 12 31.3	-0.8
	0.9nm,0.6s						
AB31	**Akbulak array**	**15.05**	**332**	⇑P	Pn	13 12 41.7	-4.2
	0.9nm,0.5s,baz=158,slow=12,SNR=35						

IDC ***24*** *13:20:49.7±2.4,5˚44S×151˚50E, h39km±19km, mb4.1/18, mbtmp4.3/19, ML2.9/1, MS3.7/1, Error ellipse: s-maj=20.6km s-min=12.2km az=91.0*
DJA ***24*** *13:20:52.7±0.5,6˚S±4˚×15˚1E±˚, h66km±4km, M4.8/19, mB6.0/1, mb4.8/19, Mw(mB)5.6/1*
NEIC ***24*** *13:20:53.3±2.1,5˚58S±0.08×151˚49E±0.08, h69km±7km, mb4.7/63, Error ellipse: s-maj=12.8km s-min=10.6km az=120.0*
ISC 24 13:20:51.6±0.4,**5˚55S**±0.05×**151˚53E**±0.07,**h57**km,**n132,** σ1§**27**/136,**mb4.7**/58,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I40PG	**Keravat**	**1.33**	**21**	Pn	**Pn**	**13 21 14.6**	**+0.6**
	baz=194,slow=21						
I40PG				I	I	13 25 50.0	
	baz=219,slow=312,SNR=2.1						
MANU	**Manus Island**	**5.42**	**310**	P	Pn	13 22 15.1	+5.2
MANU	**Manus Island**	**5.42**	**310**		**Pn**	**13 22 12.3**	**+2.4**
PMG	**Port Moresby**	**5.78**	**228**		**Pn**	**13 22 15.7**	**+0.8**
PMG	**Port Moresby**	**5.78**	**228**	Pn	**Pn**	**13 22 15.5**	**+0.7**
	20nm,0.3s,baz=19,slow=3.4,SNR=73						
PMG				Sn	**Sn**	**13 23 20.5**	**+0.7**
	48nm,0.3s,baz=326,slow=13,SNR=15						
PMG				LR	LR	13 24 39.3	
	comp=Z,727nm,19.1s,baz=238,slow=39 183nm,0.7s						
COEN	**Coen**	**11.72**	**224**	Pn	**Pn**	**13 23 34.0**	**-2.2**
PATS	**Pohnpei**	**14.05**	**29**	Pn	**Pn**	**13 24 05.9**	**-2.0**
CTA	**Charters Tower**	**15.33**	**199**	Pn	**P**	**13 24 30.1**	**+1.8**
	0.4nm,0.3s,baz=84,slow=0.8,SNR=2.3						
QIS	**Mount Isa**	**18.88**	**217**	P	**P**	**13 25 08.0**	**+0.5**
FAKI	**Fak Fak**	**19.40**	**277**	P	**P**	**13 25 13.3**	**+0.2**
FAKI				IAmb	IAmb	13 25 55.4	
	comp=Z,32nm,1.1s						
FAKI	**Fak Fak**	**19.40**	**277**	P	**P**	**13 25 13.4**	**+0.2**
	comp=Z,38nm,1.8s						
EIDS	**Eidsvold**	**19.71**	**181**	P	**P**	**13 25 12.8**	**-3.7**
KDU	**Kakadu**	**20.09**	**248**	P	**P**	**13 25 20.8**	**+0.1**
GUMO	**Guam**	**20.13**	**341**	P	Pn	13 25 23.1	-0.3
	comp=Z,184nm,0.9s,baz=213,slow=7.0,SNR=4.2						
MTN	**Manton Dam**	**21.38**	**249**	P	**P**	**13 25 34.1**	**-0.5**
MTN				IAmb	IAmb	13 25 39.5	
	comp=Z,30nm,0.9s						
DRS	**Darwin Rock St**	**21.48**	**250**	P	**P**	**13 25 36.6**	**+1.0**
	comp=Z,41nm,0.8s						
WB0	**Warramunga Arr**	**21.85**	**228**	P	**P**	**13 25 39.5**	**-0.2**
WB0				IAmb	IAmb	13 25 42.8	
	comp=Z,54nm,0.7s						
WR0	**Warramunga Arr**	**21.86**	**228**	P	**P**	**13 25 39.7**	**-0.1**
DZM	**Mont Dzumac**	**21.86**	**140**	P	**P**	**13 25 40.7**	**+0.9**
	comp=Z,6.8nm,0.9s,baz=307,slow=20,SNR=1.8 comp=Z,6.8nm,0.9s						
WRAB	**Tennant Creek**	**21.99**	**228**	P	**P**	**13 25 41.0**	**-0.1**
WB2	**Warramunga Arr**	**21.99**	**228**	P	**P**	**13 25 41.0**	**-0.1**
WRA	**Warramunga Arr**	**22.00**	**228**	P	**P**	**13 25 40.0**	**-1.2**
WRA	**Warramunga Arr**	**22.00**	**228**	P	**P**	**13 25 40.9**	**-0.3**
	comp=Z,68nm,0.6s,baz=53,slow=10.0,SNR=92						
WRA				PcP	**PcP**	**13 29 38.2**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=41,slow=1.8,SNR=5.3						
WRA				ScP	**ScP**	**13 33 12.8**	**+2.0**
	comp=Z,1.0nm,1.0s,baz=53,slow=2.8,SNR=3.0						
QLP	**Quilpie**	**22.04**	**198**	P	**P**	**13 25 43.2**	**+1.6**
AULRC	**Lightning Ridg**	**23.99**	**188**	P	**P**	**13 26 01.4**	**+0.4**
INKA	**Innaminka**	**24.33**	**204**	P	**P**	**13 26 06.0**	**+1.9**
AS01	**Alice Springs**	**24.71**	**221**	P	**P**	**13 26 08.6**	**+0.9**
	comp=Z,54nm,0.8s						
ARMA	**Armidale**	**24.74**	**180**	P	**P**	**13 26 07.5**	**-0.4**
AS31	**Alice Springs**	**24.74**	**222**	P	**P**	**13 26 08.5**	**+0.5**
AS31				IAmb	IAmb	13 26 10.9	
	comp=Z,17nm,1.1s						
ASAR	**Alice Springs**	**24.75**	**222**	P	**P**	**13 26 08.6**	**+0.6**
ASAR	**Alice Springs**	**24.75**	**222**	P	**P**	**13 26 08.3**	**+0.3**
	comp=Z,31nm,0.7s,baz=58,slow=8.8,SNR=360						
ASAR				PcP	**PcP**	**13 29 43.8**	**0.0**
	comp=Z,1.5nm,0.8s,baz=33,slow=2.9,SNR=3.4						
ASAR				ScP	**ScP**	**13 33 21.0**	**+2.9**
	comp=Z,0.8nm,0.7s,baz=41,slow=2.6,SNR=5.4 comp=Z,31nm,0.7s						
CMSA	**Cobar Meteorol**	**26.43**	**191**	P	**P**	**13 26 25.4**	**+2.3**
AUDCS	**Dubbo College**	**26.68**	**185**	P	**P**	**13 26 27.9**	**+2.5**
OOD	**Oodnadatta**	**26.76**	**212**	P	**P**	**13 26 27.4**	**+1.3**
SOEI	**Soe**	**27.33**	**260**	P	**P**	**13 26 33.9**	**+2.3**
STKA	**Stephens Creek**	**27.79**	**198**	P	**P**	**13 26 34.6**	**-0.7**
STKA	**Stephens Creek**	**27.79**	**198**	P	**P**	**13 26 35.5**	**+0.1**
	comp=Z,3.0nm,0.6s,baz=26,slow=13,SNR=10 comp=Z,3.0nm,0.6s						
BATI	**Baumata**	**27.97**	**259**	P	**P**	**13 26 37.7**	**+0.5**
	comp=Z,50nm,0.9s						
FITZ	**Fitzroy Crossi**	**28.18**	**242**	P	**P**	**13 26 38.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**28.18**	**242**	P	**P**	**13 26 38.7**	**-0.3**
FITZ				IAmb	IAmb	13 26 39.5	
	comp=Z,9.1nm,0.8s						
MMRI	**Maumere**	**29.22**	**262**	P	**P**	**13 26 47.9**	**-0.4**
	comp=Z,38nm,0.7s,comp=Z,2µm						
WRKA	**Warakurna**	**29.52**	**227**	P	**P**	**13 26 50.6**	**-0.3**
MULG	**Mulgathing**	**29.60**	**212**	P	**P**	**13 26 51.1**	**-0.3**
EDFI	**Ende, Flores**	**29.77**	**262**	P	**P**	**13 26 52.0**	**-1.2**
BBOO	**Buckleboo**	**30.72**	**206**	P	**P**	**13 26 59.9**	**-1.4**
BBOO				IAmb	IAmb	13 27 03.0	
	comp=Z,36nm,1.4s						
TOLI2	**Tolitoli**	**31.41**	**281**	P	**P**	**13 27 05.4**	**-2.2**
TOLI2				IAmb	IAmb	13 27 43.2	
	comp=Z,19nm,1.0s						
FORT	**Forrest**	**33.41**	**218**	P	**P**	**13 27 24.6**	**-0.4**
MBWA	**Marble Bar**	**34.50**	**240**	P	**P**	**13 27 36.6**	**+2.1**
MBWA	**Marble Bar**	**34.50**	**240**	P	**P**	**13 27 34.2**	**-0.3**
MBWA				IAmb	IAmb	13 27 34.9	
	comp=Z,17nm,0.7s						
PSA00	**Pilbara Seismi**	**34.56**	**240**	P	**P**	**13 27 37.2**	**+2.2**
PSA00	**Pilbara Seismi**	**34.56**	**240**	P	**P**	**13 27 33.4**	**-1.7**
PSA00	**Pilbara Seismi**	**34.56**	**240**	P	**P**	**13 27 33.0**	**-2.0**
PSA00				IAmb	IAmb	13 27 38.2	
	comp=Z,14nm,1.0s						
JAGI	**Jajag, Banyuwa**	**37.20**	**263**	P	**P**	**13 27 54.9**	**-2.8**
JAGI	**Jajag, Banyuwa**	**37.20**	**263**	P	**P**	**13 27 56.1**	**-1.6**
	comp=Z,18nm,1.0s						
TAU	**Tasmania Unive**	**37.39**	**185**	P	**P**	**13 27 57.8**	**-1.1**
MEEK	**Meekatharra**	**37.74**	**233**	P	**P**	**13 28 02.4**	**+0.2**
GIRL	**Giralia**	**39.79**	**241**	P	**P**	**13 28 19.3**	**-0.1**
RTZ	**Tuatahuna**	**40.28**	**149**	P	**P**	**13 28 22.3**	**-0.4**
MORW	**Morawa**	**40.89**	**231**	P	**P**	**13 28 28.2**	**-0.2**
TUWZ	**Tumamarina**	**40.95**	**154**	P	**P**	**13 28 28.2**	**-0.5**
TPUB	**Ta-pu**	**41.62**	**315**	P	**P**	**13 28 33.5**	**-1.0**
TPUB				IAmb	IAmb	13 28 39.9	
	comp=Z,27nm,1.1s						
GVZ	**Greta Valley S**	**41.84**	**156**	P	**P**	**13 28 36.4**	**+0.4**
WKZ	**Wanaka**	**42.01**	**161**	P	**P**	**13 28 37.1**	**-0.2**
MJAR	**Matsushiro Arr**	**43.69**	**344**	P	**P**	**13 28 51.1**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=166,slow=11,SNR=6.4						
MJAR				PcP	**PcP**	**13 30 36.8**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=157,slow=3.7,SNR=6.5 comp=Z,1.7nm,0.7s						
MAJO	**Matsushiro**	**43.69**	**344**	P	**P**	**13 28 52.6**	**+1.5**
MAJO				IAmb	IAmb	13 28 53.6	
	comp=Z,6.5nm,0.8s						
MJB9	**Matsu-Tunnel**	**43.70**	**344**	P	**P**	**13 28 53.4**	**+2.4**
MJB9				IAmb	IAmb	13 28 54.6	
	comp=Z,6.3nm,0.8s						
KSRS	**Korea Array**	**48.11**	**335**	P	**P**	**13 29 25.6**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=147,slow=7.7,SNR=3.6 comp=Z,0.9nm,0.6s						
NJ2	**Nanjing**	**48.64**	**322**	*e*P	**P**	**13 29 32.0**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KULM	**Kulim**	**51.93**	**281**	P	**P**	**13 29 52.0**	**-3.2**
KULM				IAmb	IAmb	13 29 55.1	
	comp=Z,10nm,1.0s						
CRAI	**Chiangrai**	**56.41**	**299**	P	**P**	**13 30 28.1**	**+0.3**
CRAI				IAmb	IAmb	13 30 31.4	
	comp=Z,3.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**57.05**	**296**	P	**P**	**13 30 32.1**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=105,slow=5.3,SNR=7.2 comp=Z,1.1nm,0.6s						
KLR	**Kul'dur**	**57.22**	**345**	P	**P**	**13 30 32.1**	**-0.8**
	comp=Z,2.5nm,0.8s,baz=247,slow=1.1,SNR=9.9 comp=Z,2.5nm,0.8s						
PZH	**PanZhiHua**	**57.77**	**306**	P	**P**	**13 30 39.8**	**+2.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.2s						
PEA0B	**Petropavlovsk-**	**58.67**	**4**	P	**P**	**13 30 42.2**	**-0.8**
PEA0B				IAmb	IAmb	13 30 43.9	
	comp=Z,15nm,1.3s						
PETK	**Petropavlovsk-**	**58.67**	**4**	P	**P**	**13 30 44.2**	**+1.2**
PETK	**Petropavlovsk-**	**58.67**	**4**	P	**P**	**13 30 41.8**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=154,slow=5.8,SNR=14 comp=Z,1.5nm,0.6s						
HHC	**Hu-ho-hao-te**	**58.92**	**325**	*e*P	**P**	**13 30 46.3**	**+1.1**
HHC				pP	sP	13 31 10.3	+2.7
HHC				pmax	pmax		
	comp=Z,11nm,0.5s						
HHC				pmax	pmax		
	comp=Z,140nm,5.2s						
HEH	**HeiHe**	**59.37**	**342**	*e*P	**P**	**13 30 47.0**	**-0.9**
HEH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SONM	**Songino Array**	**66.29**	**329**	P	**P**	**13 31 34.8**	**+0.7**
SONM				IAmb	IAmb	13 31 36.4	
	comp=Z,3.4nm,0.6s						
SONM	**Songino Array**	**66.29**	**329**	P	**P**	**13 31 34.7**	**+0.5**
	comp=Z,3.3nm,0.6s,baz=145,slow=5.0,SNR=30 comp=Z,3.3nm,0.6s						
VNDA	**Vanda**	**72.13**	**178**	P	**P**	**13 32 10.5**	**+0.9**
VNDA				IAmb	IAmb	13 32 11.5	
	comp=Z,7.0nm,1.1s						
VNDA	**Vanda**	**72.13**	**178**	P	**P**	**13 32 10.8**	**+1.1**
	comp=Z,3.7nm,0.8s,baz=347,slow=6.1,SNR=11 comp=Z,3.7nm,0.8s						
SDPT	**Sand Point**	**72.45**	**26**	P	**P**	**13 32 12.3**	**+0.5**
M13K	**Dall Lake**	**74.63**	**21**	P	**P**	**13 32 25.8**	**+1.3**
WMQ	**Urumqi**	**75.44**	**318**	*e*P	**P**	**13 32 33.9**	**+4.2**
WMQ				pmax	pmax		
	comp=Z,19nm,0.7s						
L14K	**Kuka Creek**	**75.50**	**21**	P	**P**	**13 32 30.2**	**+0.7**
L14K				IAmb	IAmb	13 32 56.9	
	comp=Z,17nm,1.4s						
K15K	**Wolf Creek Mou**	**76.55**	**21**	P	**P**	**13 32 34.7**	**-0.8**
K15K				IAmb	IAmb	13 32 40.4	
	comp=Z,6.5nm,0.8s						
ANM	**Nome**	**76.87**	**18**	P	**P**	**13 32 38.6**	**+1.3**
ANM				IAmb	IAmb	13 33 06.6	
	comp=Z,18nm,1.5s						
L16K	**Owhat River**	**76.90**	**22**	P	**P**	**13 32 38.3**	**+0.8**
L16K				IAmb	IAmb	13 33 00.7	
	comp=Z,11nm,1.4s						
G16K	**Koyuk River**	**78.37**	**18**	P	**P**	**13 32 46.7**	**+1.1**
G16K				IAmb	IAmb	13 32 59.7	
	comp=Z,8.0nm,1.4s						
TIXI	**Tiksi**	**78.47**	**353**	P	**P**	**13 32 46.3**	**+0.2**
CNPM	**China Poot**	**78.94**	**26**	P	**P**	**13 32 50.5**	**+1.6**
F17K	**Baldwin Pennin**	**79.41**	**17**	P	**P**	**13 32 52.4**	**+1.1**
F17K				IAmb	IAmb	13 32 52.6	
	comp=Z,6.9nm,1.2s						
MK31	**Makanchi Array**	**80.06**	**319**	P	**P**	**13 32 53.8**	**-1.5**
MKAR	**Makanchi Array**	**80.06**	**319**	P	**P**	**13 32 54.2**	**-1.1**
MKAR	**Makanchi Array**	**80.06**	**319**	P	**P**	**13 32 54.7**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=102,slow=6.5,SNR=15 comp=Z,1.4nm,0.6s						
F19K	**Shaleruckik Mo**	**80.72**	**18**	P	**P**	**13 32 58.5**	**+0.2**
ZALV	**Zalesovo Beam**	**81.07**	**327**	P	**P**	**13 32 59.0**	**-1.5**
	comp=Z,2.0nm,0.4s,baz=117,slow=5.2,SNR=10.0 comp=Z,2.0nm,0.4s						
E19K	**Redstone River**	**81.28**	**18**	P	**P**	**13 33 00.9**	**-0.4**
D19K	**Kuna River**	**81.67**	**17**	P	**P**	**13 33 03.6**	**+0.1**
MLY	**Manley**	**82.04**	**21**	P	**P**	**13 33 05.3**	**-0.1**
ILAR	**Eielson Array**	**83.33**	**22**	P	**P**	**13 33 10.5**	**-1.6**
	comp=Z,1.8nm,0.6s,baz=254,slow=5.0,SNR=8.8 comp=Z,1.8nm,0.6s						
KURK	**Kurchatov**	**83.58**	**322**	P	**P**	**13 33 12.4**	**-1.3**
KURK				IAmb	IAmb	13 33 14.4	
	comp=Z,6.1nm,1.2s						
KURBB	**Kurchatov Arra**	**83.61**	**322**	P	**P**	**13 33 12.7**	**-1.1**
	comp=Z,1.7nm,0.9s,baz=106,slow=4.1,SNR=12 comp=Z,1.7nm,0.9s						
M27K	**Edge Creek, AK**	**84.30**	**25**	P	**P**	**13 33 18.1**	**+0.8**
M27K				IAmb	IAmb	13 33 21.4	
	comp=Z,4.6nm,0.7s						
F24K	**Squaw Lake**	**84.30**	**20**	P	**P**	**13 33 17.9**	**+0.9**
MAW	**Mawson**	**84.39**	**203**	P	**P**	**13 33 17.9**	**+0.4**
QSPA	**South Pole Qui**	**84.41**	**180**	P	**P**	**13 33 17.6**	**-0.2**
QSPA				IAmb	IAmb	13 33 19.0	
	comp=Z,4.7nm,0.9s						
QSPA	**South Pole Qui**	**84.41**	**180**	P	**P**	**13 33 17.9**	**+0.1**
	comp=Z,4.5nm,0.9s,baz=352,slow=3.9,SNR=9.0 comp=Z,4.5nm,0.9s						
K27K	**Chicken**	**84.88**	**24**	P	**P**	**13 33 18.5**	**-1.5**
K27K				IAmb	IAmb	13 33 22.5	
	comp=Z,4.2nm,0.6s						
HYT	**Haines Junctio**	**85.68**	**28**	P	**P**	**13 33 24.4**	**+0.2**
HYT				IAmb	IAmb	13 33 27.3	
	comp=Z,4.4nm,1.0s						
L29M	**L29M**	**86.18**	**25**	P	**P**	**13 33 25.8**	**-0.8**
L29M				IAmb	IAmb	13 33 55.1	
	comp=Z,5.2nm,1.2s						
E27K	**Coleen River**	**86.73**	**20**	P	**P**	**13 33 29.9**	**+0.7**
F28M	**Old Crow**	**87.11**	**21**	P	**P**	**13 33 31.6**	**+0.6**
J30M	**Hart River**	**87.42**	**24**	P	**P**	**13 33 32.2**	**-0.4**
J30M				IAmb

EADA	**Adamuz**	**1.10**	**287**	Pg		**Pg**	**13 27 18.6**	**-0.5**
EADA				Sg		**Sg**	**13 27 33.4**	**-0.1**
EADA				*i* Vmb_Lg			13 27 37.1	
ENIJ	**Nijar**	**1.20**	**136**	Pn		**Pg**	**13 27 20.7**	**-0.1**
ENIJ	**Nijar**	**1.20**	**136**	Pg		**Pg**	**13 27 20.7**	**-0.1**
ENIJ				Sg		**Sn**	**13 27 35.0**	**-0.5**
ENIJ				*i* Vmb_Lg			13 27 41.2	
ELOR	**Lorca, Murcia**	**1.20**	**99**	Pg		**Pg**	**13 27 21.5**	**+0.6**
ELOR				Sg		**Sg**	**13 27 36.7**	**+0.1**
ELOR				*i* Vmb_Lg			13 27 40.9	
EZAR	**Zarzadilla de**	**1.22**	**88**	Pg		**Pg**	**13 27 21.1**	**-0.1**
EZAR				Sg		**Sg**	**13 27 37.0**	**-0.3**
EZAR				*i* Vmb_Lg			13 27 39.8	
TLOR	**Lorca, Murcia**	**1.24**	**98**	Sn		**Sg**	**13 27 39.1**	**+1.3**
TLOR	**Lorca, Murcia**	**1.24**	**98**	Sg		**Sg**	**13 27 39.5**	**+1.6**
E1002	**Yechar (Murcia**	**1.44**	**80**	Pg		**Pg**	**13 27 24.7**	**-0.7**
E1002				Sg		**Sg**	**13 27 44.0**	**-0.1**
E001A	**Albudeite (Mur**	**1.47**	**83**	Pg		**Pg**	**13 27 25.5**	**-0.4**
E001A				Sg		**Sg**	**13 27 44.9**	**-0.2**
ETOB	**Tobarra**	**1.55**	**59**	Pn		**Pb**	**13 27 25.3**	**-0.6**
ETOB				Sn		**Sg**	**13 27 47.0**	**-0.7**
ETOB	**Tobarra**	**1.55**	**59**	Pn		**Pb**	**13 27 25.3**	**-0.6**
ETOB				Sg		**Sb**	**13 27 46.2**	**+0.8**
ETOB				*i* Vmb_Lg			13 27 50.4	
EMUR	**La Murta**	**1.58**	**90**	Pn		**Pb**	**13 27 26.5**	**0.0**
EMUR				Sn		**Sg**	**13 27 47.4**	**-1.3**
EMUR	**La Murta**	**1.58**	**90**	Pn		**Pb**	**13 27 26.4**	**0.0**
EMUR				Sg		**Sg**	**13 27 47.5**	**-1.2**
EMUR				*i* Vmb_Lg			13 27 49.9	
ECAB	**El Cabril**	**1.74**	**278**	Pn		**Pn**	**13 27 27.5**	**+0.5**
ECAB				Sg		**Sg**	**13 27 52.1**	**-1.6**
ECAB	**El Cabril**	**1.74**	**278**	Pn		**Pn**	**13 27 27.5**	**+0.5**
ECAB				Sg		**Sg**	**13 27 52.4**	**-1.3**
ECAB				*i* Vmb_Lg			13 27 55.0	
EMIJ	**Mijas**	**1.77**	**224**	Pn		**Pb**	**13 27 29.6**	**0.0**
CART	**Cartagena**	**1.79**	**98**	Pn		**Pb**	**13 27 29.0**	**-1.0**
CART				Sn		**Sb**	**13 27 51.7**	**-0.5**
PAB	**San Pablo**	**1.91**	**333**	Pn		**Pn**	**13 27 29.5**	**+0.1**
PAB				Pg		**Pb**	**13 27 32.6**	**+0.6**
PAB				Sn		**Sn**	**13 27 52.5**	**-0.6**
PAB				Sg		**Sg**	**13 27 57.5**	**-1.6**
PAB				*i* Vmb_Lg			13 27 59.9	
ESDC	**Sonseca Array**	**1.91**	**343**	Pn		**Pn**	**13 27 30.5**	**+1.0**
ESDC				Pg		**Pb**	**13 27 32.8**	**+0.7**
ESDC				Sn		**Sn**	**13 27 52.3**	**-0.9**
ESDC				Sg		**Sb**	**13 27 57.4**	**+1.7**
ESDC				*i* Vmb_Lg			13 27 58.6	
EVIV	**Cofrentes, Val**	**2.19**	**49**	Pn		**Pn**	**13 27 33.9**	**+0.6**
EVIV				Pg		**Pg**	**13 27 38.7**	**-0.9**
EVIV				Sn		**Sn**	**13 27 59.9**	**0.0**
EVIV				Sg		**Sg**	**13 28 07.1**	**-0.8**
EVIV				*i* Vmb_Lg			13 28 13.2	
EJIF	**Jimena Fronter**	**2.26**	**233**	Pg		**Pg**	**13 27 40.3**	**-0.7**
EJIF				Sn		**Sb**	**13 28 02.9**	**-2.7**
EJIF				Sg		**Sg**	**13 28 11.7**	**+1.3**
ESPR	**Espera**	**2.30**	**246**	Pg		**Pg**	**13 27 40.3**	**-1.5**
ESPR	**Espera**	**2.30**	**246**	Pn		**Pb**	**13 27 39.4**	**+0.7**
ESPR				Sn		**Sb**	**13 28 04.6**	**-2.2**
ESPR				*i* Vmb_Lg			13 28 18.2	
UCM	**Universidad Co**	**2.46**	**360**	Pg		**Pg**	**13 27 43.7**	**-1.1**
UCM				Sg		**Sb**	**13 28 13.8**	**+2.4**
ECHE	**Chera**	**2.49**	**45**	Pg		**Pg**	**13 27 45.0**	**-0.4**
ECHE				Sg		**Sg**	**13 28 16.8**	**-0.9**
ECHE	**Chera**	**2.49**	**45**	Pg		**Pg**	**13 27 44.9**	**-0.4**
ECHE				*i* Vmb_Lg			13 28 22.1	
EBEN2	**Beniarda presa**	**2.54**	**70**	Pn		**Pn**	**13 27 39.0**	**+1.0**
EBEN2				Pg		**Pg**	**13 27 44.7**	**-1.6**
EBEN2				Sn		**Sn**	**13 28 08.9**	**+0.4**
EBEN2				*i* Vmb_Lg			13 28 19.9	
EMIN	**Mina Concepcio**	**2.72**	**269**	Pn		**Pn**	**13 27 40.6**	**+0.1**
EMIN				Sg		**Sb**	**13 28 20.3**	**+1.5**
EMIN	**Mina Concepcio**	**2.72**	**269**	Pn		**Pn**	**13 27 40.9**	**+0.4**
EMIN				Sn		**Sn**	**13 28 13.6**	**+0.6**
EMIN				Sg		**Sb**	**13 28 21.2**	**+2.3**
EMIN				*i* Vmb_Lg			13 28 24.6	
GUD	**Guadarrama**	**2.88**	**346**	Pn		**Pn**	**13 27 43.7**	**+0.8**
GUD				Pg		**Pg**	**13 27 51.3**	**-1.6**
GUD				Sn		**Sn**	**13 28 18.2**	**+1.0**
GUD				Sg		**Sb**	**13 28 26.8**	**+3.1**
GUD				*i* Vmb_Lg			13 28 29.9	
PBAR	**Barrancos**	**3.02**	**277**	*e*Pn		**Pn**	**13 27 45.0**	**+0.4**
PBAR				*e*Sn		**Sn**	**13 28 20.9**	**+0.5**
PBAR				*e*Sg		**Sg**	**13 28 32.3**	**-2.3**
PBAR				A		A	13 28 39.2	
	37nm,0.6s							
PBAR	**Barrancos**	**3.02**	**277**	Pn		**Pn**	**13 27 44.7**	**+0.1**
PBAR				Sg		**Sb**	**13 28 30.4**	**+2.9**
EBAD	**Badajoz**	**3.10**	**288**	Sg		**Sb**	**13 28 32.6**	**+2.7**
ETOR	**Torete**	**3.11**	**17**	Pn		**Pn**	**13 27 47.7**	**+1.8**
ETOR				Pg		**Pg**	**13 27 56.3**	**-0.9**
ETOR				Sn		**Sn**	**13 28 23.8**	**+1.1**
ETOR				Sg		**Sg**	**13 28 34.4**	**-3.1**
ETOR				*i* Vmb_Lg			13 28 37.2	
EPLA	**Plasencia**	**3.13**	**316**	Pn		**Pn**	**13 27 46.5**	**+0.3**
EPLA				Pg		**Pb**	**13 27 54.9**	**+2.0**
EPLA				Sg		**Sb**	**13 28 33.2**	**+2.5**
EPLA				*i* Vmb_Lg			13 28 41.3	
EMOS	**Mosqueruela**	**3.31**	**40**	Pn		**Pn**	**13 27 49.8**	**+1.0**
EMOS				Pg		**Pn**	**13 27 58.0**	**+2.0**
EMOS				Sn		**Sn**	**13 28 28.9**	**+1.1**
EMOS				Sg		**Sg**	**13 28 40.3**	**-3.7**
EMOS				*i* Vmb_Lg			13 28 43.6	
EGRO	**El Granado**	**3.38**	**266**	Pn		**Pn**	**13 27 49.7**	**+0.1**
EGRO	**El Granado**	**3.38**	**266**	Pn		**Pn**	**13 27 49.3**	**-0.3**
EGRO				Sn		**Sn**	**13 28 27.5**	**-1.8**
EGRO				Sg		**Sg**	**13 28 42.2**	**-4.0**
EGRO				*i* Vmb_Lg			13 28 46.4	
PESTR	**Estremoz**	**3.57**	**288**	*e*Pn		**Pn**	**13 27 52.3**	**+0.1**
PESTR	**Estremoz**	**3.57**	**288**	*e*Pg		**Pg**	**13 28 03.8**	**-2.2**
PESTR				*e*Sn		**Sn**	**13 28 34.0**	**0.0**
PESTR				*e*Sg		**Sg**	**13 28 51.0**	**-1.2**
PESTR				A		A	13 28 53.6	
	48nm,0.5s							
PESTR	**Estremoz**	**3.57**	**288**	Pn		**Pn**	**13 27 52.2**	**0.0**
PVAQ	**Vaqueiros**	**3.58**	**264**	*e*Pn		**Pn**	**13 27 52.5**	**+0.1**
PVAQ				*e*Sn		**Sn**	**13 28 34.9**	**+0.6**
PVAQ				*e*Sg		**Sg**	**13 28 50.9**	**-1.8**
PVAQ				A		A	13 28 58.8	
	32nm,0.6s							
PVAQ	**Vaqueiros**	**3.58**	**264**	Pn		**Pn**	**13 27 52.5**	**+0.1**
PMRV	**Marv??o**	**3.62**	**297**	*e*Pn		**Pn**	**13 27 54.4**	**+1.6**
PMRV	**Marv??o**	**3.62**	**297**	*e*Pg		**Pg**	**13 28 04.6**	**-2.3**
PMRV				*e*Sn		**Sn**	**13 28 35.3**	**+0.2**
PMRV				*e*Sg		**Sg**	**13 28 50.9**	**-2.8**
PMRV				A		A	13 28 54.8	
	55nm,0.5s							
PBEJ	**Beja**	**3.66**	**274**	*e*Sg		**Sg**	**13 28 51.4**	**-3.8**
PBEJ				A		A	13 28 56.0	
	21nm,0.3s							
PBDV	**Barranco-do-Ve**	**3.78**	**262**	*e*Sn		**Sn**	**13 28 39.6**	**+0.5**
PBDV				*e*Sg		**Sg**	**13 28 55.7**	**-3.2**
PBDV				A		A	13 29 03.2	
	35nm,0.6s							
EVO	**Evora**	**3.82**	**282**	*e*Sn		**Sn**	**13 28 41.3**	**+1.1**
EVO				*e*Sg		**Sg**	**13 28 56.3**	**-4.1**
EVO				A		A	13 29 02.3	
	38nm,0.4s							
PCBR	**Castelo Branco**	**3.86**	**302**	*e*Pn		**Pn**	**13 27 58.0**	**+1.8**
PCBR				*e*Sn		**Sn**	**13 28 41.5**	**+0.3**
PCBR				*e*Sg		**Sg**	**13 29 00.8**	**-0.8**
PCBR				A		A	13 29 07.5	
	38nm,0.6s							
MESJ	**Messejana**	**3.94**	**271**	*e*Sn		**Sn**	**13 28 42.3**	**-0.9**
MESJ				*e*Sg		**Sg**	**13 29 03.1**	**-1.1**
MESJ				A		A	13 29 07.3	
	21nm,0.4s							
MESJ	**Messejana**	**3.94**	**271**	*e*P		**Pn**	**13 27 57.4**	**+0.1**
MESJ				*e*S		**Sn**	**13 28 40.0**	**-3.1**
MESJ				IAML			13 28 43.0	
	comp=N,7.6nm,0.2s							
PMTG	**Montargil**	**4.10**	**289**	*e*Sn		**Sn**	**13 28 46.0**	**-1.0**
PMTG				*e*Sg		**Sg**	**13 29 07.2**	**-2.1**
PMTG				A		A	13 29 15.7	
	comp=N,46nm,0.6s							
ERTA	**Horta de San J**	**4.16**	**41**	Pn		**Pn**	**13 28 00.8**	**+0.5**
ERTA				Pg		**Pg**	**13 28 14.7**	**-2.6**
ERTA				Sg		**Sb**	**13 29 05.0**	**+4.7**
ERTA				*i* Vmb_Lg			13 29 10.1	
PNCL	**Nicolau / Gran**	**4.19**	**275**	*e*Sn		**Sn**	**13 28 49.7**	**+0.5**
PNCL				*e*Sg		**Sg**	**13 29 09.4**	**-2.7**
PNCL				A		A	13 29 17.1	
	comp=N,24nm,0.5s							
MTE	**Manteigas**	**4.21**	**309**	*e*Sn		**Sn**	**13 28 50.3**	**+0.5**
MTE				*e*Sg		**Sg**	**13 29 11.4**	**-1.3**
MTE				A		A	13 29 22.8	
	comp=N,50nm,0.5s							
MORF	**Marmelete**	**4.33**	**264**	*e*Sn		**Sn**	**13 28 53.6**	**+0.7**
MORF				*e*Sg		**Sg**	**13 29 16.1**	**-0.7**
MORF				A		A	13 29 23.1	
	comp=N,12nm,0.6s							
PTEO	**Sao Teotonio**	**4.36**	**268**	*e*Sn		**Sn**	**13 28 54.2**	**+0.8**
PTEO				*e*Sg		**Sg**	**13 29 17.0**	**-0.6**
PTEO				A		A	13 29 21.7	
	comp=N,46nm,0.6s							
MVO	**Moncorvo**	**4.42**	**320**	*e*Sg		**Sg**	**13 29 18.3**	**-1.3**
MVO				A		A	13 29 32.0	
	comp=N,24nm,0.6s							
PFVI	**Vila Bisbo**	**4.50**	**263**	*e*Sn		**Sn**	**13 28 56.1**	**-0.8**
PFVI				A		A	13 29 31.2	
	comp=N,21nm,0.6s							
PVIS	**Viseu**	**4.61**	**310**	*e*Pn		**Pn**	**13 28 08.6**	**+2.0**
PVIS				*e*Sn		**Sn**	**13 29 00.6**	**+0.9**
PVIS				*e*Sg		**Sg**	**13 29 24.7**	**-0.9**
PVIS				A		A	13 29 32.6	
	comp=N,18nm,0.4s							
PCAS	**Casmilo, Conde**	**4.65**	**300**	*e*Pn		**Pn**	**13 28 09.3**	**+2.2**
PCAS				*e*Sn		**Sn**	**13 29 00.4**	**-0.3**
PCAS				*e*Sg		**Sg**	**13 29 26.0**	**-1.0**
PCAS				A		A	13 29 36.1	
	comp=N,34nm,0.6s							
PBRG	**Braganca**	**4.79**	**327**	*e*Sg		**Sg**	**13 29 29.7**	**-1.5**
PBRG				A		A	13 29 34.1	
	comp=N,15nm,0.4s							
PVRL	**Vila Real**	**4.87**	**316**	*e*Sg		**Sg**	**13 29 35.4**	**+1.5**
PMAFR	**Mafra**	**4.88**	**285**	*e*Sg		**Sg**	**13 29 35.1**	**+1.0**
PMAFR				A		A	13 29 38.8	
	comp=N,46nm,0.5s							
ETSF	**Etsaut**	**5.45**	**21**	*e*Pn		**Pn**	**13 28 20.0**	**+2.0**
ETSF				*e*Sg		**Sg**	**13 29 47.6**	**-4.8**
	comp=N,9.3nm,0.5s							
SJPF	**Ste Jean**	**5.48**	**16**	*e*Pn		**Pn**	**13 28 18.4**	**-0.1**
SJPF	**Ste Jean**	**5.48**	**16**	*e*P		**Pn**	**13 28 22.5**	**+4.0**
SJPF				*e*Sg		**Sg**	**13 29 49.1**	**-4.4**
EPF	**Esparros**	**5.86**	**27**	*e*Pn		**Pn**	**13 28 23.4**	**-0.2**
EPF				*e*Sg		**Sg**	**13 30 00.2**	**-5.3**
	comp=N,8.4nm,0.4s							

*IDC **24** 13:28:48.9±5.9,21˚.19S×177˚.77W,h276^{km}±54^{km},mb3.4/5, mbtmp4.1/7,Error ellipse: s-maj=38.6km s-min=20.5km az=104.0*

ISC 24 13:28:50.8±0.8,**21˚.13S**±0˚.10×**177˚.9W**±0˚.2,**h300**^{km},**n24,** σ1^{s}**97/25,mb3.5/5,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.61**	**263**	P	**P**	**13 32 03.0**	**-0.8**
	3.3nm,0.8s,baz=78,slow=20,SNR=1.1						
HAZ	**Te Kaha**	**16.99**	**192**	P	**Pn**	**13 32 31.8**	**-0.6**
MKAZ	**Moumakai**	**17.03**	**199**	P	**Pn**	**13 32 34.6**	**+1.7**
PKGZ	**Pakihiroa**	**17.07**	**191**	P	**Pn**	**13 32 31.3**	**-2.0**
PUZ	**Puketiti**	**17.21**	**190**	P	**Pn**	**13 32 35.1**	**+0.1**
RUGZ	**Raukumara Rang**	**17.21**	**192**	P	**Pn**	**13 32 34.1**	**-1.0**
TWGZ	**Tauwhareparae**	**17.36**	**191**	P	**Pn**	**13 32 37.0**	**+0.2**
MWZ	**Matawai**	**17.60**	**192**	P	**Pn**	**13 32 37.8**	**-1.8**
URZ	**Urewera**	**17.61**	**193**	P	**P**	**13 32 35.3**	**-0.9**
	4.2nm,0.3s,baz=192,slow=21,SNR=1.5						
URZ				S	**S**	**13 35 44.6**	**+1.3**
	15nm,0.9s,baz=136,slow=20,SNR=7.4						
URZ	**Urewera**	**17.61**	**193**	P	**Pn**	**13 32 36.5**	**-3.2**
RIGZ	**Rimuhau**	**17.92**	**191**	P	**Pn**	**13 32 42.2**	**-1.1**
OTVZ	**Oturere**	**18.81**	**196**	P	**P**	**13 32 53.8**	**+4.6**
KWHZ	**Kaweka Forest**	**18.88**	**194**	P	**P**	**13 32 51.9**	**+2.0**
VRZ	**Vera Road**	**19.02**	**198**	P	**P**	**13 32 49.6**	**-1.7**
BHHZ	**Black Hill Sta**	**19.02**	**195**	P	**P**	**13 32 52.1**	**+0.8**
STKA	**Stephens Creek**	**37.62**	**245**	P	**P**	**13 35 37.8**	**+0.2**
	0.9nm,0.4s,baz=82,slow=11,SNR=4.2						
	0.9nm,0.4s						
PETK	**Petropavlovsk-**	**76.90**	**345**	P	**P**	**13 40 12.3**	**+2.3**
	1.9nm,0.7s,baz=120,slow=8.8,SNR=3.9						
	1.9nm,0.7s						
ILAR	**Eielson Array**	**88.90**	**13**	P	**P**	**13 41 11.0**	**+0.1**
	0.3nm,0.5s,baz=220,slow=5.1,SNR=8.1						
	0.3nm,0.5s						
PDAR	**Pinedale Array**	**89.34**	**43**	P	**P**	**13 41 14.6**	**+0.8**
	0.3nm,0.6s,baz=187,slow=3.6,SNR=2.5						
	0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**90.43**	**290**	P	**P**	**13 41 21.4**	**+2.3**
	0.4nm,0.3s,baz=138,slow=3.0,SNR=4.7						
	0.4nm,0.3s						
AKASG	**Malin Array Be**	**143.62**	**331**	PKP	**PKPdf**	**13 47 48.2**	**-1.6**
	2.9nm,0.5s,baz=42,slow=4.5,SNR=22						
EKA	**Eskdalemuir Ar**	**145.62**	**5**	PKPbc	**PKiKP**	**13 47 54.6**	**-2.7**
	0.3nm,0.5s,baz=320,slow=3.4,SNR=4.5						
BRTR	**Keskin Array B**	**147.34**	**312**	PKPbc	**PKPbc**	**13 47 58.0**	**-1.6**
	0.3nm,0.3s,baz=50,slow=4.5,SNR=3.0						
MMAI	**Mount Meron Ar**	**148.22**	**299**	PKPbc	**PKPab**	**13 48 03.4**	**-2.6**
	1.0nm,0.4s,baz=67,slow=6.4,SNR=3.7						

*NEIC **24** 13:30:47.3±0.0,36˚.98N×97˚.50W,h6^{km},Error ellipse: s-maj=0.0km s-min=0.0km az=90.0*
*NEIC **24** 13:30:47.1±0.5,37˚.00N±0˚.02×97˚.50W±0˚.02,h7^{km}±6^{km}, ML2.2,Error ellipse: s-maj=2.9km s-min=0.9km az=220.0*
*NEIC **24** 13:30:56.5±0.9,36˚.98N±0˚.02×97˚.50W±0˚.02,h5^{km}±5^{km}, Error ellipse: s-maj=3.2km s-min=1.5km az=224.0*
*NEIC **24** 13:30:56.1±0.9,37˚.01N±0˚.02×97˚.50W±0˚.02,h8^{km}±8^{km}, Error ellipse: s-maj=3.4km s-min=1.4km az=216.0*

TUL 24 13:30:56.2±0.7,**36˚.99N**±0˚.02×**97˚.49W**±0˚.02,**h7**^{km}±3^{km}, **ML3.2,mb_Lg2.8**/49(NEIC),**ML3.0**(NEIC),**ML3.2**/48(NEIC), **Error ellipse: s-maj=3.3km s-min=1.0km az=217.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.02**	**30**	Pg	Pg	13 30 48.7	-8.8
KAN13	**South Haven SW**	**0.02**	**30**	Pg	Pg	13 30 57.9	+0.3
KAN13				IAML		13 30 58.9	
	comp=E,62µm,0.1s						
KAN13				IAML		13 30 58.9	
	comp=N,87µm,0.3s						
KAN09	**Caldwell North**	**0.17**	**325**	Pg	Pg	13 30 51.3	-8.5
KAN09	**Caldwell North**	**0.17**	**325**	Pg	Pg	13 31 00.3	+0.5
KAN09				Sg	Sg	13 31 03.2	+1.0
KAN09				IAML		13 31 03.8	
	comp=N,11µm,0.2s						
KAN09				IAML		13 31 05.6	
	comp=E,10µm,0.2s						
KAN17	**Caldwell West**	**0.22**	**283**	Pg	Pg	13 30 52.0	-8.7
KAN17	**Caldwell West**	**0.22**	**283**	Pg	Pg	13 31 01.1	+0.4
KAN17				Sg	Sg	13 31 04.3	+0.7
KAN17				IAML		13 31 04.5	
	comp=E,5µm,0.2s						
KAN17				IAML		13 31 04.6	
	comp=N,5µm,0.3s						
KAN01	**Argonia South**	**0.27**	**307**	Pg	Pg	13 30 52.8	-8.7
KAN01	**Argonia South**	**0.27**	**307**	Pg	Pg	13 31 02.0	+0.6
KAN01				Sg	Sg	13 31 06.0	+0.9
KAN01				IAML		13 31 06.1	
	comp=N,5µm,0.4s						
BLOK	**Blackwell**	**0.32**	**136**	Pg	Pg	13 31 02.8	+0.3
BLOK				Sg	Sg	13 31 07.7	+0.9
KS21	**Milan North St**	**0.32**	**335**	Pg	Pg	13 30 54.0	-8.5
KS21	**Milan North St**	**0.32**	**335**	Pg	Pg	13 31 03.2	+0.6
KS21	**Milan North St**	**0.32**	**335**	IAML		13 31 08.5	
	comp=N,2µm,0.2s						
KAN05	**Bluff City Nor**	**0.33**	**291**	Pg	Pg	13 30 53.8	-8.7
KAN05	**Bluff City Nor**	**0.33**	**291**	Sg	Sg	13 31 07.5	+0.6
GC02	**Grant County #**	**0.33**	**244**	Pg	Pg	13 30 53.6	-9.0
GC02	**Grant County #**	**0.33**	**244**	Pg	Pg	13 31 02.4	-0.2
KAN14	**Manchester OK**	**0.38**	**265**	Pg	Pg	13 30 54.6	-9.0
KAN14	**Manchester OK**	**0.38**	**265**	Pg	Pg	13 31 03.9	+0.3
KAN14				IAML		13 31 11.2	
	comp=E,2µm,0.1s						
KAN14				IAML		13 31 16.4	
	comp=N,700nm,0.1s						
KAN06	**Argonia West S**	**0.39**	**311**	Pg	Pg	13 30 55.2	-8.6
KAN06	**Argonia West S**	**0.39**	**311**	Pg	Pg	13 31 03.4	-0.4
KAN06				IAML		13 31 10.0	
	comp=N,3µm,0.3s						
KAN06				IAML		13 31 11.5	
	comp=E,2µm,0.2s						
KAN08	**Anthony NE Sta**	**0.45**	**301**	Pg	Pg	13 30 55.0	-10
KAN08	**Anthony NE Sta**	**0.45**	**301**		Pg	13 31 02.6	-2.3
KAN08				IAML		13 31 11.9	
	comp=N,2µm,0.3s						
KAN08				IAML		13 31 13.4	
	comp=E,2µm,0.4s						
KAN10	**Anthony SW Sta**	**0.50**	**285**	Pg	Pg	13 30 57.1	-8.7
KAN10	**Anthony SW Sta**	**0.50**	**285**	Pg	Pg	13 31 06.2	+0.4
KAN10				IAML		13 31 14.5	
	comp=E,633nm,0.2s						
KAN10				IAML		13 31 15.0	
	comp=N,802nm,0.4s						
KAN12	**Harper NE Stat**	**0.51**	**307**	Pg	Pg	13 30 57.3	-8.6
OK032	**Salt Plains WL**	**0.61**	**252**	Pg	Pg	13 30 58.7	-9.2
OK032	**Salt Plains WL**	**0.61**	**252**	Pg	Pg	13 31 07.1	-0.8
OK032				IAML		13 31 16.6	
	comp=N,1µm,0.2s						
OK032				IAML		13 31 21.7	
	comp=N,952nm,0.2s						
CROK	**Carrier**	**0.63**	**219**	Pg	Pg	13 30 59.2	-9.1
CROK	**Carrier**	**0.63**	**219**	Pg	Pg	13 31 07.8	-0.5
CROK				IAML		13 31 20.6	
	comp=N,3µm,0.3s						
CROK				IAML		13 31 22.1	
	comp=E,2µm,0.3s						
OK048	**Pawnee Station**	**0.72**	**142**	Pg	Pg	13 31 01.1	-9.0
OK048	**Pawnee Station**	**0.72**	**142**	Pg	Pg	13 31 09.3	-0.8
OK048				IAML		13 31 20.0	
	comp=E,652nm,0.4s						
OK048				IAML		13 31 21.6	
	comp=E,974nm,0.6s						
T35A	**Sooner Cattle**	**0.79**	**95**	Pg	Pg	13 31 02.5	-8.9
T35A	**Sooner Cattle**	**0.79**	**95**	Pg	Pg	13 31 11.5	+0.2
T35A				IAML		13 31 22.5	
	comp=E,496nm,0.4s						
T35A				IAML		13 31 25.6	
	comp=N,312nm,0.4s						
QUOK	**Quay**	**1.03**	**142**		Pg	13 31 06.9	-9.2
QUOK	**Quay**	**1.03**	**142**	Pg	Pg	13 31 16.0	-0.1
QUOK				IAML		13 31 30.3	
	comp=E,872nm,0.2s						
QUOK				IAML		13 31 31.2	
	comp=N,765nm,0.3s						
OK033	**Mehan**	**1.05**	**155**	Pg	Pg	13 31 15.9	-0.4
OK033				IAML		13 31 37.4	
	comp=N,735nm,0.2s						
OK038	**West end E0370**	**1.13**	**243**	Pg	Pg	13 31 08.4	-9.4
OK052	**Battle Ridge R**	**1.14**	**151**	Pg	Pg	13 31 08.5	-10
OK052	**Battle Ridge R**	**1.14**	**151**	Pg	Pg	13 31 17.7	-0.4
OK052				IAML		13 31 37.4	
	comp=N,1µm,0.5s						
OK052				IAML		13 31 39.5	
	comp=N,731nm,0.2s						
OK029	**Liberty Lake**	**1.20**	**179**	Pg	Pg	13 31 09.3	-10
OK029	**Liberty Lake**	**1.20**	**179**	Pg	Pg	13 31 18.7	-0.4
OK029				IAML		13 31 38.5	
	comp=N,313nm,0.2s						
OK029				IAML		13 31 38.8	
	comp=N,266nm,0.3s						
ADOK	**Arcadia Dam**	**1.34**	**176**		Pn	13 31 21.3	-0.1
U32A	**Winter Ranch,**	**1.36**	**244**		Pn	13 31 11.7	-10
U32A	**Winter Ranch,**	**1.36**	**244**		Pn	13 31 21.5	-0.2
DEOK	**Depew**	**1.40**	**145**		Pn	13 31 13.0	-9.2
DEOK	**Depew**	**1.40**	**145**		Pn	13 31 22.4	+0.2
CSTR	**Hydro, Custer**	**1.66**	**216**		Pn	13 31 26.3	+0.6
R32A	**Long Quarter,**	**1.72**	**326**	Pn	Pb	13 31 28.2	0.0
FNO	**Franklin**	**1.73**	**178**	Pn	Pb	13 31 27.8	-0.6
TUL3	**Leonard**	**1.75**	**128**		Pn	13 31 19.7	-7.8
TUL3	**Leonard**	**1.75**	**128**		Pb	13 31 27.8	-0.8
TUL3				IAmb_Lg		13 31 53.8	
	comp=Z,108nm,1.0s						
TUL3	**Leonard**	**1.75**	**128**		Pb	13 31 28.2	-0.4
W35A	**Tecumseh**	**1.90**	**165**	Pn	Pn	13 31 21.6	-7.6
W35A	**Tecumseh**	**1.90**	**165**	Pn	Pn	13 31 30.1	+1.0
RLO	**Rose Lookout**	**2.15**	**112**	Pn	Pn	13 31 33.9	+1.3
KSU1	**Kansas State U**	**2.22**	**18**	Pn	Pn	13 31 33.8	+0.4
KSU1				IAmb_Lg		13 32 06.6	
	comp=Z,48nm,0.8s						
WMOK	**Wichita Mounta**	**2.48**	**205**	Pn	Pn	13 31

ASAR S **S** **13 40 07.9 -0.4**
1.2nm,0.8s,baz=21,slow=28,SNR=4.2
ASAR Lg Lg 13 42 15.8
0.1nm,0.3s,baz=27,slow=32,SNR=2.8
5.6nm,0.6s
GD1S Gladstone Soft 19.68 155 P **Pn** **13 36 37.8 +1.1**
FITZ Fitzroy Crossi 20.19 232 P **P** **13 36 41.4 +0.6**
QLP Quilpie 20.54 175 P Pn 13 36 46.9 +0.1
INKA Innaminka 21.66 184 P **P** **13 36 58.7 +2.2**
OOD Oodnadatta 22.55 195 P **P** **13 37 07.1 +1.0**
WRKA Warakurna 23.18 214 P **P** **13 37 12.3 -0.4**
MULG Mulgathing 25.35 197 P **P** **13 37 35.7 +2.9**
STKA Stephens Creek 25.74 181 P **P** **13 37 37.1 +0.8**
2.9nm,0.8s,baz=342,slow=10,SNR=5.2
2.9nm,0.8s
KSRS Korea Array 45.27 344 P **P** **13 40 23.4 +0.1**
1.0nm,0.7s,baz=158,slow=8.2,SNR=5.1
1.0nm,0.7s
CMAR Chiang Mai Arr 49.16 301 P **P** **13 40 54.3 +0.3**
0.2nm,0.3s,baz=109,slow=4.9,SNR=1.4
0.2nm,0.3s
USRK Ussuriysk Ar. 50.84 350 P **P** **13 41 05.9 -0.3**
1.8nm,0.7s,baz=165,slow=7.4,SNR=3.2
1.8nm,0.7s
RAR Rarotonga 58.01 111 LR LR 14 04 00.2
comp=Z,252nm,21.6s,baz=107,slow=33
PETK Petropavlovsk- 60.33 11 P **P** **13 42 14.3 0.0**
1.0nm,0.6s,baz=148,slow=6.7,SNR=7.4
1.0nm,0.6s
SONM Songino Array 62.22 333 P **P** **13 42 27.5 +0.1**
0.4nm,0.6s,baz=140,slow=4.8,SNR=3.6
0.4nm,0.6s
MKAR Makanchi Array 74.56 322 P **P** **13 43 44.5 -0.1**
1.4nm,0.6s,baz=100,slow=7.9,SNR=19
1.4nm,0.6s
ZALV Zalesovo Beam 76.57 329 P **P** **13 43 55.4 -0.3**
0.4nm,0.3s,baz=120,slow=5.2,SNR=1.3
0.4nm,0.3s
KURBB Kurchatov Arra 78.46 324 P **P** **13 44 06.1 -0.4**
0.7nm,0.8s,baz=113,slow=4.7,SNR=7.6
0.7nm,0.8s
QSPA South Pole Qui 83.95 180 P **P** **13 44 35.4 -0.2**
1.5nm,0.7s,baz=8.7,slow=1.5,SNR=6.1
1.5nm,0.7s
BVAR Borovoye Array 84.04 325 P **P** **13 44 36.0 -0.1**
2.4nm,0.6s,baz=95,slow=6.4,SNR=10
2.4nm,0.6s
ILAR Eielson Array 87.37 24 P **P** **13 44 50.8 -1.6**
1.0nm,0.7s,baz=256,slow=4.6,SNR=16
1.0nm,0.7s

*IDC **24** 13:55:34.9±1.2,6.°10S×142.°51E,h0km,mb3.6/4, mbtmp3.6/7,ML3.7/2,Error ellipse: s-maj=30.8km s-min=21.7km az=87.0*
ISC 24 13:55:39.4±0.9,6.°37S±0.°09×142.°37E±0.°10,h35km,n7, σ1ş92/10,mb3.6/4,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.62**	**123**	Pn	**Pn**		**13 57 00.3**	**-0.2**
	3.7nm,0.2s,baz=337,slow=5.5,SNR=6.0							
PMG				Sn	**Sn**		**13 58 04.3**	**+0.5**
	0.7nm,0.3s,baz=159,slow=21,SNR=7.6							
WRA	**Warramunga Arr**	**15.59**	**209**	Pn	**P**		**13 59 18.1**	**-2.4**
	0.3nm,0.3s,baz=28,slow=13,SNR=14							
WRA				Sn	**Sn**		**14 02 08.6**	**+0.4**
	0.1nm,0.3s,baz=37,slow=24,SNR=3.1							
WRA				Lg	Lg		14 03 59.2	
	0.1nm,0.3s,baz=29,slow=29,SNR=2.5							
	0.6nm,0.5s							
ASAR	**Alice Springs**	**19.03**	**204**	P	**Pn**		**14 00 03.0**	**+3.5**
	0.3nm,0.3s,baz=31,slow=9.8,SNR=26							
ASAR				S	**Sn**		**14 03 29.5**	**-2.2**
	0.2nm,0.5s,baz=26,slow=27,SNR=2.2							
ASAR				Lg	Lg		14 05 48.9	
	0.1nm,0.3s,baz=24,slow=30,SNR=1.9							
	2.7nm,0.7s							
SONM	**Songino Array**	**62.58**	**334**	P	**P**		**14 05 59.5**	**-0.6**
	0.3nm,0.4s,baz=121,slow=5.6,SNR=2.1							
	0.3nm,0.4s							
MKAR	**Makanchi Array**	**74.90**	**322**	P	**P**		**14 07 17.7**	**+1.0**
	0.2nm,0.6s,baz=117,slow=5.0,SNR=2.8							
	0.2nm,0.6s							
BVAR	**Borovoye Array**	**84.39**	**325**	P	**P**		**14 08 08.6**	**+0.5**
	0.6nm,0.6s,baz=119,slow=5.1,SNR=1.9							
	0.6nm,0.6s							
ILAR	**Eielson Array**	**87.66**	**24**	P	**P**		**14 08 22.9**	**-1.0**
	0.3nm,0.9s,baz=256,slow=3.6,SNR=2.9							
	0.3nm,0.9s							

*NEIC **24** 14:15:16.4±2.4,5.°48S±0.°06×151.°60E±0.°07,h35km±2km, mb4.1/23,Error ellipse: s-maj=13.4km s-min=8.3km az=127.0*
*IDC **24** 14:15:19.1±4.6,5.°45S×151.°37E,h66km±39km,mb3.6/10, mbtmp3.9/11,ML2.3/1,Error ellipse: s-maj=44.4km s-min=22.5km az=114.0*
ISC 24 14:15:17.5±0.5,5.°56S±0.°07×151.°58E±0.°08,h57km,n42, σ1ş16/45,mb4.0/20,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**5.46**	**310**	Pn	**Pn**		**14 16 36.4**	**0.0**
PMG	**Port Moresby**	**5.81**	**229**		**Pn**		**14 16 42.2**	**+1.0**
PMG	**Port Moresby**	**5.81**	**229**	P	**P**		**14 16 42.4**	**+1.1**
	5.8nm,0.3s,baz=32,slow=14,SNR=19							
PMG				S	**Sn**		**14 17 46.8**	**+0.2**
	24nm,0.3s,baz=141,slow=18,SNR=7.2							
	14nm,0.4s							
HNR	**Honiara**	**9.15**	**115**	Pn	**Pn**		**14 17 26.5**	**-0.4**
KOUNC	**Koumac, New Ca**	**19.35**	**142**	P	**P**		**14 19 38.6**	**+0.1**
KOUNC				IAmb	IAmb		14 20 02.0	
	comp=Z,24nm,1.1s							
EIDS	**Eidsvold**	**19.71**	**181**	P	**P**		**14 19 40.0**	**-2.3**
EIDS				IAmb	IAmb		14 20 05.3	
	comp=Z,10nm,1.1s							
MTN	**Manton Dam**	**21.43**	**249**	P	**P**		**14 20 01.7**	**+0.6**
DZM	**Mont Dzumac**	**21.82**	**140**	P	**P**		**14 20 04.3**	**-1.0**
DZM				IAmb	IAmb		14 20 14.0	
	comp=Z,12nm,1.0s							
WB0	**Warramunga Arr**	**21.89**	**228**	P	**P**		**14 20 06.9**	**+0.9**
WB0				IAmb	IAmb		14 20 14.6	
	comp=Z,6.1nm,1.0s							
WR0	**Warramunga Arr**	**21.90**	**228**	P	**P**		**14 20 07.5**	**+1.4**
WR0				IAmb	IAmb		14 20 15.1	
	comp=Z,6.8nm,0.9s							
WRAB	**Tennant Creek**	**22.02**	**228**	P	**P**		**14 20 03.7**	**-3.7**
WRAB				IAmb	IAmb		14 20 19.1	
	comp=Z,7.8nm,0.8s							
WB2	**Warramunga Arr**	**22.03**	**228**	P	**P**		**14 20 08.0**	**+0.5**
WB2				IAmb	IAmb		14 20 22.4	
	comp=Z,7.5nm,0.9s							
WRA	**Warramunga Arr**	**22.04**	**228**	P	**P**		**14 20 08.8**	**+1.3**
WRA	**Warramunga Arr**	**22.04**	**228**	P	**P**		**14 20 06.8**	**-0.7**
	comp=Z,3.0nm,0.6s,baz=52,slow=9.9,SNR=31							
WRA				PcP	**PcP**		**14 24 04.7**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=40,slow=1.9,SNR=2.8							
	comp=Z,3.0nm,0.6s							
OUENC	**Ouen Island, N**	**22.33**	**140**	P	**P**		**14 20 10.1**	**-0.5**
PINNC	**Pines Island,**	**22.86**	**139**	P	**P**		**14 20 15.1**	**-1.1**
AS31	**Alice Springs**	**24.77**	**222**	P	**P**		**14 20 36.3**	**+2.1**
ASAR	**Alice Springs**	**24.78**	**222**	P	**P**		**14 20 34.7**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=56,slow=9.5,SNR=33							
ASAR				PcP	**PcP**		**14 24 10.1**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=29,slow=2.7,SNR=1.7							
	comp=Z,0.6nm,0.4s							
FITZ	**Fitzroy Crossi**	**28.23**	**242**	P	**P**		**14 21 04.8**	**-0.5**
MBWA	**Marble Bar**	**34.54**	**240**	P	**P**		**14 22 00.3**	**-0.5**
MBWA				IAmb	IAmb		14 22 03.4	
	comp=Z,4.1nm,0.8s							
PSA00	**Pilbara Seismi**	**34.60**	**240**	P	**P**		**14 21 59.6**	**-1.7**
UGM	**Wanagama**	**40.83**	**264**	P	**P**		**14 22 53.2**	**-0.9**
MAJO	**Matsushiro**	**43.71**	**344**	P	**P**		**14 23 16.0**	**-1.1**
MAJO				IAmb	IAmb		14 23 39.4	
	comp=Z,4.7nm,0.9s							
MJB9	**Matsu-Tunnel**	**43.72**	**344**	P	**P**		**14 23 17.1**	**-0.1**
MJB9				IAmb	IAmb		14 23 32.0	
	comp=Z,6.5nm,1.1s							
PETK	**Petropavlovsk-**	**58.67**	**4**	P	**P**		**14 25 09.7**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=174,slow=7.3,SNR=4.5							
	comp=Z,1.2nm,0.9s							
SONM	**Songino Array**	**66.32**	**329**	P	**P**		**14 26 00.2**	**-0.1**
SONM				IAmb	IAmb		14 26 07.5	
	comp=Z,1.3nm,1.1s							
SONM	**Songino Array**	**66.32**	**329**	P	**P**		**14 26 00.8**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=150,slow=5.0,SNR=6.0							
	comp=Z,0.9nm,0.6s							
SDPT	**Sand Point**	**72.43**	**26**	P	**P**		**14 26 38.4**	**+0.7**
MKAR	**Makanchi Array**	**80.10**	**319**	P	**P**		**14 27 21.2**	**-0.2**
MKAR	**Makanchi Array**	**80.10**	**319**	P	**P**		**14 27 21.0**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=95,slow=6.8,SNR=6.3							
	comp=Z,0.3nm,0.5s							
ZALV	**Zalesovo Beam**	**81.11**	**327**	P	**P**		**14 27 25.4**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=96,slow=5.8,SNR=1.9							
	comp=Z,0.8nm,0.4s							
ILAR	**Eielson Array**	**83.31**	**22**	P	**P**		**14 27 37.6**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=245,slow=5.5,SNR=11							
	comp=Z,0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**83.64**	**322**	P	**P**		**14 27 38.0**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=120,slow=3.7,SNR=2.3							
	comp=Z,0.4nm,0.6s							
QSPA	**South Pole Qui**	**84.41**	**180**	P	**P**		**14 27 44.9**	**+1.2**
QSPA				IAmb	IAmb		14 27 52.7	
	comp=Z,0.8nm,0.8s							
L27K	**Beaver Creek,**	**84.58**	**25**	P	**P**		**14 27 45.4**	**+0.9**
BCAR	**Beaver Creek A**	**84.60**	**25**	P	**P**		**14 27 45.4**	**+0.8**
C23K	**Itkillik River**	**84.63**	**17**	P	**P**		**14 27 45.7**	**+1.2**
BMAR	**Burnt Mountain**	**85.37**	**20**	P	**P**		**14 27 49.3**	**+0.9**
EGAK	**Eagle**	**85.53**	**23**	P	**P**		**14 27 50.1**	**+0.9**
EGAK				IAmb	IAmb		14 27 52.5	
	comp=Z,0.8nm,0.9s							
BVAR	**Borovoye Array**	**89.12**	**323**	P	**P**		**14 28 05.0**	**-1.7**
	comp=Z,0.6nm,0.6s,baz=86,slow=8.0,SNR=4.4							
	comp=Z,0.6nm,0.6s							
NVAR	**Mina Array Bea**	**93.51**	**52**	P	**P**		**14 28 28.6**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=255,slow=6.3,SNR=3.7							
	comp=Z,0.7nm,0.6s							
TORD	**Torodi Ar. Bea**	**149.37**	**286**	PKPbc	**PKPbc**		**14 35 01.3**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=75,slow=3.4,SNR=20							

IDC 24 14:28:24.8±5.6,5.°13S×152.°73E,h0km,mb3.3/3, mbtmp3.3/3,MS4.0/1,Error ellipse: s-maj=167.1km s-min=40.0km az=108.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.97**	**232**	Sn	Sn		14 31 12.0	-16
	0.7nm,0.3s,baz=165,slow=20,SNR=1.7							
WRA	**Warramunga Arr**	**23.18**	**229**	P	P		14 33 32.4	-0.9
	0.6nm,0.6s,baz=53,slow=9.7,SNR=7.2							
	0.6nm,0.6s							
ASAR	**Alice Springs**	**25.86**	**223**	P	P		14 33 58.9	+0.5
	0.5nm,0.8s,baz=57,slow=8.7,SNR=7.2							
	0.5nm,0.8s							
PPT	**Papeete**	**57.69**	**107**	LR	LR		14 59 33.1	
	comp=Z,118nm,19.2s,baz=272,slow=32							
MKAR	**Makanchi Array**	**80.53**	**319**	P	P		14 40 39.4	+0.3
	0.3nm,0.9s,baz=109,slow=6.7,SNR=2.6							
	0.3nm,0.9s							

IDC 24 14:42:01.6±2.6,5.°48N×123.°52E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=333.3km s-min=26.2km az=63.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.41**	**157**	P	P		14 47 49.1	-0.1
	0.1nm,0.5s,baz=334,slow=9.8,SNR=1.9							
	0.1nm,0.5s							
ASAR	**Alice Springs**	**30.69**	**161**	P	P		14 48 18.3	0.0
	0.3nm,0.6s,baz=340,slow=7.3,SNR=9.5							
	0.3nm,0.6s							
MKAR	**Makanchi Array**	**54.32**	**326**	P	P		14 51 29.9	-0.1
	0.2nm,0.5s,baz=137,slow=9.3,SNR=3.5							
	0.2nm,0.5s							

*ISK **24** 14:52:32.5,42.°75N×41.°11E,h9km,ML2.8/7*
*TIF **24** 14:52:33.0,42.°83N×41.°24E,h31km±1km*
*NORS **24** 14:52:35.0,42.°91N×41.°52E,h3km,MPVA3.6*
*AFAD **24** 14:52:36.0±0.0,42.°56N×41.°14E,h8km±1km,ML2.6*
ISC 24 14:52:32.8±1.8,42.°73N±0.°04×41.°09E±0.°06,h6km±11km, n25,σ1ş80/41,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**1.21**	**158**	Pn	**Pg**		**14 52 56.3**	**+0.3**
BATM				Sn	**Sg**		**14 53 13.9**	**+2.2**
BATM	**Batumi**	**1.21**	**158**	P	**Pg**		**14 52 56.5**	**+0.5**
BATM				S	**Sg**		**14 53 13.7**	**+2.0**
BCA	**Borcka**	**1.35**	**163**	Pn	**Pg**		**14 52 58.2**	**-0.4**
BCA				Sn	**Sg**		**14 53 16.7**	**+0.7**
TKB	**Tkibuli**	**1.46**	**105**	P	Pn		14 52 58.3	-1.3
TKB				S	**Sg**		**14 53 16.0**	**-3.5**
SHA1	**Shidzhatmaz**	**1.52**	**48**	*i* Pg	Pn		14 52 60.0	-0.7
SHA1				*e*Sg	**Sg**		**14 53 18.3**	**-3.4**
ABS	**Abastumani**	**1.61**	**127**	P	**Pn**		**14 53 01.8**	**-0.1**
ABS				S	**Sn**		**14 53 22.5**	**-0.5**
CHOM	**Cayeli-Rize**	**1.65**	**189**	Pn	**Pn**		**14 53 02.3**	**0.0**
CHOM				Sn	**Sn**		**14 53 24.9**	**+1.0**
KIV	**Kislovodsk**	**1.69**	**43**	Pn	**Pn**		**14 53 02.7**	**-0.2**
KIV				Sn	**Sn**		**14 53 24.5**	**-0.3**
EPOS	**Posof**	**1.73**	**135**	P	**Pn**		**14 53 03.6**	**+0.1**
EPOS				S	**Sn**		**14 53 22.0**	**-3.9**
EPOS				*i* AML	AML		14 53 41.0	
	comp=N,80nm,0.7s							
ONI	**Oni**	**1.75**	**94**	Pn	**Pn**		**14 53 03.4**	**-0.2**
ONI				Sn	**Sn**		**14 53 26.1**	**-0.2**
ONI	**Oni**	**1.75**	**94**	P	**Pn**		**14 53 03.5**	**-0.2**
ONI				S	**Sn**		**14 53 25.2**	**-1.1**
DAGI	**Agillar**	**1.76**	**159**	P	**Pn**		**14 53 04.2**	**+0.3**
DAGI				S	**Sn**		**14 53 25.4**	**-1.4**
DBAD	**Bademkaya**	**1.77**	**165**	P	**Pn**		**14 53 04.0**	**-0.1**
DBAD				S	**Sn**		**14 53 23.3**	**-3.6**
DBAD				*i* AML	AML		14 53 35.0	
	comp=N,62nm,0.4s							
DIGR	**Digorskoe uzhe**	**1.84**	**84**	*e*Pg	**Pn**		**14 53 06.0**	**+1.0**
DIGR				*e*Sg	**Sn**		**14 53 29.1**	**+0.3**
DDEM	**Demirkent**	**1.90**	**165**	P	**Pn**		**14 53 06.4**	**+0.5**
DDEM				S	**Sn**		**14 53 28.8**	**-1.4**
DDEM				*i* AML	AML		14 53 40.0	
	comp=E,66nm,0.3s							
AHAN	**Ardahan-Merkez**	**1.94**	**143**	P	**Pn**		**14 53 07.4**	**+1.0**
AHAN				*i* AML	AML		14 53 35.0	
	comp=E,84nm,0.5s							
AHAN				*i* AML	AML		14 53 50.0	
	comp=N,54nm,0.5s							
IZDR	**Rize**	**1.99**	**192**	P	**Pn**		**14 53 08.0**	**+1.0**
IZDR				S	**Sn**		**14 53 30.6**	**-1.6**
ALIG	**Mtskhetisjvari**	**1.99**	**108**	P	Pn		14 53 06.5	-0.5
ALIG				S	**Sn**		**14 53 30.2**	**-2.1**
KORR	**Kora**	**2.21**	**80**	*e*Pg	**Pn**		**14 53 11.9**	**+1.9**
KORR				*e*Sg	**Sn**		**14 53 41.0**	**+3.2**
AKH	**Akhalkalaki**	**2.22**	**126**	Pn	**Pn**		**14 53 10.5**	**+0.2**
LACR	**Lac**	**2.36**	**87**	*e*Pg	**Pn**		**14 53 14.7**	**+2.5**
LACR				*e*Sg	**Sn**		**14 53 44.1**	**+2.6**
SENK	**Senkaya-Erzuru**	**2.37**	**156**	Pn	**Pn**		**14 53 12.6**	**+0.3**
KRIK	**Erzurum-spir**	**2.40**	**183**	P	**Pn**		**14 53 13.2**	**+0.5**
KRIK				S	**Sn**		**14 53 42.4**	**-0.1**
CHRG	**Chargali**	**2.86**	**97**	P	**Pn**		**14 53 22.9**	**+3.8**
SHTL	**Shatili**	**2.99**	**90**	P	Pn		14 53 25.3	+4.4

NEIC 24 15:04:02.9±2.4,44.°5N±0.°1×128.°98W±0.°05,h10km±2km, ML3.6/48,Error ellipse: s-maj=18.5km s-min=4.6km az=195.0,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HEBO	**Mount Hebo**	**3.79**	**77**	Pn	Pn		15 04 59.9	-1.5
J01E	**Myrtle Point**	**3.88**	**108**	Sn	Sn		15 05 47.6	-0.6
COR	**Corvallis**	**4.06**	**87**	Pn	Pn		15 05 04.3	-0.7
COR				IAML			15 06 33.9	
	55nm,3.6s							
COR				IAML			15 07 23.1	
	74nm,3.0s							
F03A	**Seaside**	**4.10**	**67**	Pn	Pn		15 05 05.8	+0.2
F03A				IAML			15 06 04.0	
	comp=E,100nm,2.4s							
G03D	**McMinnville, O**	**4.13**	**78**	Pn	Pn		15 05 05.8	-0.2
G03D				IAML			15 07 10.5	
	comp=E,70nm,2.9s							
G03D				IAML			15 07 15.9	
	comp=N,62nm,2.6s							
RADR	**Rader Ridge**	**4.13**	**60**	Pn	Pn		15 05 03.4	-2.7
RADR				IAML			15 07 37.8	
	comp=N,82nm,1.8s							
I03D	**Drain, OR**	**4.13**	**99**	Pn	Pn		15 05 05.1	-0.9
I03D				IAML			15 05 36.5	
	comp=N,48nm,3.6s							
K02D	**Willamette Mer**	**4.25**	**113**	Pn	Pn		15 05 06.6	-1.1
K02D				IAML			15 06 21.3	
	comp=E,44nm,3.3s							
K02D				IAML			15 07 33.2	
	comp=N,51nm,2.8s							
BUCK	**Buck Mountain**	**4.31**	**92**	Pn	Pn		15 05 09.5	+0.9
BUCK				IAML			15 06 21.4	
	comp=N,55nm,3.3s							
E03A	**Lebam**	**4.33**	**60**	Pn	Pn		15 05 06.8	-1.9
E03A				IAML			15 05 44.9	
	comp=N,53nm,2.6s							
E03A				IAML			15 06 09.3	
	comp=E,51nm,2.2s							
DBO	**Dodson Butte**	**4.37**	**106**	Pn	Pn		15 05 06.8	-2.5
DBO				IAML			15 05 57.3	
	comp=E,48nm,2.9s							
DBO				IAML			15 07 37.6	
	comp=N,54nm,3.6s							
H04D	**Lebanon**	**4.47**	**87**		Pn		15 05 09.2	-1.4
H04D				IAML			15 07 32.5	
	comp=E,62nm,3.8s							
H04D				IAML			15 07 58.7	
	comp=N,60nm,3.0s							
WISH	**Wishkah**	**4.50**	**52**		Pn		15 05 11.6	+0.6
L02F	**Cave Junction**	**4.60**	**119**	Pn	Pn		15 05 10.8	-1.7
L02F				IAML			15 07 17.3	
	comp=E,47nm,3.5s							
L02F				IAML			15 08 10.7	
	comp=N,38nm,3.2s							
NLWA	**Neilton Lookou**	**4.60**	**49**		Pn		15 05 13.2	+0.7
C03A	**Quillayute Air**	**4.63**	**40**	Pn	Pn		15 05 13.2	+0.4
HUMO	**Hull Mountain**	**4.76**	**111**	Pn	Pn		15 05 14.6	-0.1
I04A	**Tendick Farm,**	**4.78**	**96**	Pn	Pn		15 05 15.2	+0.3
I04A				IAML			15 07 00.6	
	comp=E,33nm,3.3s							
H04A	**Detroit Lake**	**4.86**	**85**		Pn		15 05 15.9	-0.1
F04A	**Amboy**	**4.86**	**70**		Pn		15 05 17.1	+1.1
OZB	**Mount Ozzard**	**5.08**	**27**	Pn	Pn		15 05 19.5	+0.3
OZB				IAML			15 08 01.7	
	comp=N,49nm,1.9s							
HOOD	**Mount Hood Mea**	**5.27**	**78**		Pn		15 05 22.5	+0.7
HOOD				IAML			15 06 09.8	
	comp=E,39nm,1.9s							
HOOD				IAML			15 07 22.4	
	comp=N,25nm,2.1s							
GNW	**Green Mountain**	**5.28**	**52**		Pn		15 05 18.4	-3.3
L04D	**Klamath Falls**	**5.37**	**113**	Pn	Pn		15 05 23.9	+0.8
CLRS	**Cowichan Lake**	**5.48**	**36**	Pn	Pn		15 05 24.0	-0.5
LON	**Longmire**	**5.52**	**63**		Pn		15 05 26.1	+1.0
D05A	**Enumclaw**	**5.59**	**59**		Pn		15 05 26.7	+0.7
PGC	**Sidney**	**5.65**	**40**	Pn	Pn		15 05 26.5	-0.3
J05D	**Fort Rock, OR**	**5.72**	**99**	Pn	Pn		15 05 30.2	+2.2
PINE	**Pine Mountain**	**5.83**	**94**	Pn	Pn		15 05 29.7	+0.2
G06A	**Carlson Farm,**	**5.98**	**80**	Pn	Pn		15 05 30.8	-0.7
LTY	**Liberty**	**6.43**	**61**		Pn		15 05 38.2	+0.6
G08A	**Pilot Rock**	**7.17**	**80**		Pn		15 05 49.2	+1.4

*ISK **24** 15:04:05.2,38.°34N×40.°97E,h5km,ML4.1/16*
*AFAD **24** 15:04:06.3±0.0,38.°34N×40.°98E,h12km±2km,MW4.1*
*IDC **24** 15:04:07.1±0.9,38.°47N×40.°86E,h0km,mb3.7/9, mbtmp3.6/17,ML3.1/7,MS3.6/2,Error ellipse: s-maj=17.8km s-min=11.2km az=157.0*
ISC 24 15:04:06.8±1.0,38.°34N±0.°02×40.°98E±0.°02,h6km±7km, n87,σ1ş41/113,mb3.7/9,Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SVAN	**Silvan-Diyarba**	**0.26**	**138**	Pg	**Pg**		**15 04 11.9**	**0.0**
SVAN				Sg	**Sg**		**15 04 16.0**	**+0.7**
SVAN	**Silvan-Diyarba**	**0.26**	**138**	P	**Pg**		**15 04 11.6**	**-0.3**
SVAN				S	**Sg**		**15 04 15.9**	**+0.7**
HANI	**Diyarbakir_Han**	**0.46**	**279**	P	**Pg**		**15 04 15.3**	**-0.5**
HANI				S	**Sb**		**15 04 23.1**	**-1.5**
BTMN	**Batman**	**0.50**	**153**	P	**Pb**		**15 04 16.7**	**-1.4**
BTMN				S	**Sb**		**15 04 24.1**	**-1.7**
MUSM	**Mu-Merkez**	**0.56**	**47**	P	**Pg**		**15 04 17.1**	**-0.6**
MUSM				S	**Sg**		**15 04 24.9**	**-0.2**
SLHN	**Bingol, Solhan**	**0.61**	**3**	P	**Pg**		**15 04 18.3**	**-0.5**
SLHN				S	**Sb**		**15 04 28.1**	**-0.9**
BNGB	**Bingl**	**0.69**	**340**	Pg	**Pg**		**15 04 19.6**	**-0.6**
BNGB				Sg	**Sb**		**15 04 30.9**	**-0.3**
DYBB	**Diyarbakir**	**0.77**	**240**	Pg	**Pg**		**15 04 20.9**	**-0.7**
DIYA	**Diyarbakir**	**0.80**	**239**	P	**Pg**		**15 04 21.9**	**-0.2**
DIYA				S	**Sb**		**15 04 34.0**	**-0.2**
GURO	**Guroymak-BITLI**	**0.85**	**75**	Pg	**Pg**		**15 04 22.8**	**-0.4**
GURO				Sg	**Sn**		**15 04 35.9**	**-2.4**
BLIS	**Bitlis-Merkez**	**0.89**	**85**	P	**Pg**		**15 04 23.6**	**-0.5**
BLIS				S	**Sn**		**15 04 39.0**	**-0.4**
VRTB	**Varto-Mus**	**0.90**	**24**	Pg	**Pg**		**15 04 23.7**	**-0.4**
VRTB				Sg	**Sn**		**15 04 37.5**	**-2.0**
VRTB	**Varto-Mus**	**0.90**	**24**	P	**Pg**		**15 04 23.7**	**-0.4**
VRTB				S	**Sn**		**15 04 37.9**	**-1.6**
KARO	**Karliova-Bingo**	**0.97**	**3**	Pg	**Pg**		**15 04 24.8**	**-0.6**
MAZI	**Mazidag**	**0.98**	**206**	Pg	**Pg**		**15 04 24.9**	**-0.7**
KOVA	**Elazig, Kovanc**	**0.99**	**292**	P	**Pg**		**15 04 25.4**	**-0.4**
KOVA				S	**Sn**		**15 04 40.8**	**-0.8**
MIDY	**Mardin/Midyat-**	**0.99**	**160**	P	**Pb**		**15 04 25.5**	**-1.0**
MIDY				S	**Sn**		**15 04 39.5**	**-2.2**
MARD	**Mardin**	**1.04**	**189**	P	**Pb**		**15 04 26.1**	**-1.1**
MARD				S	**Sn**		**15 04 42.0**	**-1.0**
ECAT	**Cat-ERZURUM**	**1.26**	**360**	P	**Pn**		**15 04 30.0**	**-1.2**
ECAT

KBZ	**Khabaz**	**5.57**	**14**	Pn		**Pn**	**15 05 32.1**	**+1.9**
	0.2nm,0.3s,baz=202,slow=5.4,SNR=1.6							
	0.7nm,0.5s							
KVAR	**Kislovodsk Arr**	**5.76**	**12**	Pn		Pn	15 05 37.5	+4.6
	baz=183,slow=16							
BRTR	**Keskin Array B**	**5.88**	**286**	Pn		**Pn**	**15 05 34.8**	**+0.2**
	0.3nm,0.3s,baz=103,slow=12,SNR=12							
BRTR				Lg		Lg	15 07 09.7	
	baz=132,slow=24							
	2.0nm,0.7s							
MMAI	**Mount Meron Ar**	**6.99**	**222**	Pn		**Pn**	**15 05 51.0**	**+1.3**
	2.2nm,0.3s,baz=66,slow=15,SNR=8.8							
MMAI				Lg		Lg	15 07 41.0	
	6.4nm,0.3s,baz=30,slow=35,SNR=3.2							
ASF	**Jabal al Asfar**	**7.00**	**210**	Pn		**Pn**	**15 05 51.2**	**+1.2**
	0.7nm,0.3s,baz=166,slow=0.0,SNR=2.7							
ASF				Lg		Lg	15 07 45.4	
	1.4nm,0.3s,baz=59,slow=20,SNR=3.4							
	4.5nm,0.6s							
EIL	**Elat**	**9.99**	**212**	Pn		**Pn**	**15 06 33.9**	**+3.0**
	0.2nm,0.3s,baz=34,slow=18,SNR=2.1							
EIL				Lg		Lg	15 09 26.4	
	0.3nm,0.3s,baz=162,slow=20,SNR=4.0							
	3.2nm,0.8s							
AKASG	**Malin Array Be**	**14.91**	**330**	Pn		**Pn**	**15 07 37.1**	**-0.8**
	0.1nm,0.3s,baz=139,slow=13,SNR=9.8							
	1.6nm,0.8s							
OBN	**Obninsk**	**17.04**	**351**	LR		LR	15 16 02.4	
	comp=Z,65nm,21.0s,baz=338,slow=42							
AKTO	**Aktyubinsk**	**17.11**	**40**	P		**P**	**15 08 07.5**	**-0.7**
	0.1nm,0.3s,baz=237,slow=14,SNR=2.8							
	1.2nm,0.8s							
MNK	**Minsk**	**18.46**	**335**	*i* P		**Pn**	**15 08 23.7**	**+0.6**
	comp=E,4.0nm,1.1s							
MNK				*i* P		**Pn**	**15 08 23.7**	**+0.6**
	comp=N,26nm,1.0s							
MNK				*i* P		**Pn**	**15 08 23.7**	**+0.6**
	comp=Z,7.0nm,0.6s,baz=146							
MNK				*i* PPP		PPP	15 08 43.1	
MNK				*i* S		**S**	**15 11 50.4**	**-3.6**
MNK				*i* SS		**SnSn**	**15 12 05.5**	**+2.3**
MNK				*i* SSS		SSS	15 12 18.3	
MNK				*i* LQ		LQ	15 13 53.0	
MNK				*i* LR		LR	15 15 07.7	
MNK				*i* LRM		MLR	15 15 47.7	
	comp=Z,102nm,21.3s							
MNK				*i* LRM		MLR	15 16 04.1	
	comp=N,243nm,20.1s							
MNK				*i* LRM		MLR	15 16 06.0	
	comp=E,45nm,17.7s							
VYHS	**Vyhne**	**18.96**	**309**	*e*P		**Pn**	**15 08 34.0**	**+4.8**
NACGM	**Naroch**	**19.16**	**334**	*e*P		**Pn**	**15 08 32.6**	**+1.0**
	comp=Z,12nm,0.8s,baz=144							
ARU	**Arti**	**21.55**	**27**	P		**P**	**15 08 56.3**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=267,slow=13,SNR=3.2							
	comp=Z,1.7nm,0.5s							
FINES	**FINESS Array B**	**24.92**	**343**	P		**P**	**15 09 30.1**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=148,slow=11,SNR=9.5							
	comp=Z,0.7nm,0.4s							
BVAR	**Borovoye Array**	**25.02**	**45**	P		**P**	**15 09 32.9**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=233,slow=8.9,SNR=2.5							
	comp=Z,0.3nm,0.5s							
KEST	**Kesra**	**25.32**	**274**	P		**P**	**15 09 35.4**	**+1.0**
	comp=Z,12nm,0.9s,baz=253,slow=19,SNR=10							
	comp=Z,12nm,0.9s							
KURBB	**Kurchatov Arra**	**29.15**	**53**	P		**P**	**15 10 10.2**	**+1.8**
	comp=Z,0.5nm,0.4s,baz=262,slow=9.0,SNR=2.0							
	comp=Z,0.5nm,0.4s							
MKAR	**Makanchi Array**	**31.27**	**61**	P		**P**	**15 10 28.6**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=285,slow=6.3,SNR=4.6							
	comp=Z,0.5nm,0.8s							
ESDC	**Sonseca Array**	**34.67**	**287**	P		**P**	**15 10 56.2**	**-1.0**
	comp=Z,1.6nm,1.1s,baz=69,slow=8.3,SNR=2.2							
	comp=Z,1.6nm,1.1s							
CMAR	**Chiang Mai Arr**	**53.82**	**95**	P		**P**	**15 13 33.3**	**+2.7**
	comp=Z,0.5nm,0.6s,baz=298,slow=8.8,SNR=2.7							
	comp=Z,0.5nm,0.6s							
YKA	**Yellowknife Ar**	**77.60**	**349**	P		**P**	**15 16 05.0**	**+1.6**
	comp=Z,0.2nm,0.7s,baz=15,slow=6.2,SNR=2.9							
	comp=Z,0.2nm,0.7s							
BATI	**Baumata**	**90.58**	**102**	LR		LR	16 03 13.1	
	comp=Z,98nm,18.2s,baz=187,slow=39							

IDC 24 15:10:00.4±14.0, 5°.06S×128°.17E, h0km, mb4.0/1, mbtmp3.5/3, ML3.5/2, MS3.7/1, Error ellipse: s-maj=207.0km s-min=154.4km az=140.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.97**	**158**	Pn	Pn	15 13 46.0	-0.6
	0.2nm,0.3s,baz=340,slow=12,SNR=12						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**19.31**	**164**	P	P	15 14 27.4	+0.1
	0.1nm,0.3s,baz=346,slow=9.7,SNR=19						
	0.5nm,0.6s						
STKA	**Stephens Creek**	**29.50**	**156**	P	P	15 16 06.5	+0.1
	1.8nm,1.0s,baz=311,slow=9.3,SNR=1.8						
	1.8nm,1.0s						
DZM	**Mont Dzumac**	**40.70**	**118**	LR	LR	15 35 16.3	
	comp=Z,85nm,18.1s,baz=172,slow=37						

DJA 24 15:12:30.6±0.4, 8°.S±4°×122°.9E±°, h10km, M4.1/8, mb4.0/6, mB5.6/1, MLv4.2/8, Mw(mB)5.1/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**3.49**	**11**	P	Pn	15 13 24.5	-0.5
NLAI	**Namlea**	**5.16**	**336**	P	Pn	15 13 47.5	-0.5
	15nm,0.5s,5µm0.1nm						
SOEI	**Soe**	**5.22**	**250**	P	Pn	15 13 48.1	-0.9
FAKI	**Fak Fak**	**5.84**	**31**	P	Pn	15 13 56.7	-0.7
	25nm,1.3s,0.2nm						
BATI	**Baumata**	**5.94**	**248**	P	Pn	15 13 59.6	+0.9
	11nm,1.3s,0.1nm						
EDFI	**Ende, Flores**	**7.51**	**264**	P	Pn	15 14 20.8	+0.4

*IDC **24** 15:12:57.5±1.1, 36°.97N×28°.56E, h0km, mb3.6/4, mbtmp3.7/9, ML3.6/5, Error ellipse: s-maj=18.9km s-min=16.0km az=128.0*
*AFAD **24** 15:12:58.0±0.0, 36°.98N×28°.50E, h7km±2km, MW3.6*
*ISK **24** 15:12:58.3, 36°.97N×28°.51E, h6km, ML3.4/18*
*ATH **24** 15:12:59.8, 36°.99N×28°.42E, h6km±2km, ML3.3/5, Error ellipse: s-maj=2.7km s-min=1.0km az=220.0*
*THE **24** 15:13:00.3, 37°.02N×28°.41E, h0km±1km, ML3.3/4, Error ellipse: s-maj=1.4km s-min=1.0km az=23.0*
*GII **24** 15:13:02.8±0.5, 36°.564N±0°.004×28°.592E±0°.001, h10km, Mws3.3, confirmed*

ISC 24 15:12:58.3±0.9, 37°.01N±0°.02×28°.52E±0°.01, h9km±7km, n90, σ1°.28/134, mb3.7/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DALY	**Dalyan (Mula)**	**0.22**	**151**	Pg	**Pg**	**15 13 02.1**	**-0.8**
MULA	**Mugla, Merkez-**	**0.29**	**327**	P	**Pb**	**15 13 04.7**	**-1.0**
MULA				S	**Sb**	**15 13 09.4**	**-1.2**
TURN	**Turunc**	**0.33**	**223**	Pg	**Pg**	**15 13 04.3**	**-0.5**
TURN				Sg	**Sg**	**15 13 08.6**	**-0.4**
TURN	**Turunc**	**0.33**	**223**	P	**Pg**	**15 13 04.2**	**-0.5**
TURN				S	**Sg**	**15 13 08.7**	**-0.4**
SABU	**Mula-Dalaman**	**0.41**	**118**	P	**Pg**	**15 13 06.3**	**0.0**
SABU				S	**Sg**	**15 13 11.3**	**-0.4**
DNZT	**Denizli-Tavas-**	**0.48**	**57**	P	**Pb**	**15 13 08.1**	**-0.8**
DNZT				P	**Pg**	**15 13 08.5**	**+0.8**
DNZT				S	**Sb**	**15 13 15.1**	**-1.1**
DNZT				S	**Sg**	**15 13 15.3**	**+1.2**
TAVA	**DENIZLI_Tavas**	**0.55**	**35**	P	**Pb**	**15 13 09.4**	**-0.8**
TAVA				S	**Sb**	**15 13 16.2**	**-2.0**
FETY	**Fethiye**	**0.59**	**130**	Pg	**Pg**	**15 13 10.0**	**+0.3**
FETY				Sg	**Sg**	**15 13 18.1**	**+0.6**
CAME	**Cameli-Denizli**	**0.63**	**96**	Pg	**Pb**	**15 13 10.8**	**-0.7**
CAME				Sg	**Sb**	**15 13 20.4**	**-0.1**
CAEL	**Denizli, Camel**	**0.65**	**80**	P	**Pb**	**15 13 11.0**	**-0.8**
CAEL				S	**Sb**	**15 13 21.3**	**+0.3**
MLSB	**Milas**	**0.66**	**296**	Pg	**Pb**	**15 13 11.7**	**-0.2**
DNIZ	**Denizli-Tavas-**	**0.74**	**34**	P	**Pb**	**15 13 12.8**	**-0.5**
DNIZ				S	**Sb**	**15 13 23.7**	**+0.1**
APMY	**Acipayam-Deniz**	**0.77**	**54**	Pg	**Pn**	**15 13 14.3**	**-1.1**
ESEN	**Aydn-Nazilli**	**0.79**	**350**	P	**Pb**	**15 13 13.9**	**-0.4**
ESEN				S	**Sb**	**15 13 25.0**	**-0.1**
DAT	**Datca**	**0.81**	**250**	Pg	**Pg**	**15 13 14.0**	**+0.2**
DAT	**Datca**	**0.81**	**250**	P	**Pg**	**15 13 13.7**	**-0.1**
DAT				S	**Sb**	**15 13 26.3**	**+0.8**
DAT	**Datca**	**0.81**	**250**	P	**Pg**	**15 13 13.1**	**-0.7**
DAT				S	**Sg**	**15 13 25.2**	**+0.8**
IZZE	**Mula-Seydike**	**0.81**	**135**	P	**Pg**	**15 13 13.5**	**-0.4**
ARG	**Arkhangelos**	**0.86**	**202**	Pg	**Pg**	**15 13 14.1**	**-0.7**
ARG	**Arkhangelos**	**0.86**	**202**	P	**Pg**	**15 13 14.0**	**-0.7**
ARG				S	**Sb**	**15 13 28.2**	**+1.3**
	1µm,0.6s						
ARG	**Arkhangelos**	**0.86**	**202**	P	**Pg**	**15 13 14.4**	**-0.3**
ARG				S	**Sg**	**15 13 26.4**	**+0.5**
ARG				AML	AML	15 13 31.3	
	comp=E,2469µm,0.3s						
ARG				AML	AML	15 13 31.9	
	comp=N,1469µm,0.3s						
KNIK	**Mula-Seydike**	**0.86**	**101**	P	**Pg**	**15 13 14.3**	**-0.6**
KNIK				S	**Sg**	**15 13 25.1**	**-1.0**
BDRM	**Kayabasi**	**0.86**	**274**	P	**Pb**	**15 13 15.8**	**+0.5**
BDRM				S	**Sg**	**15 13 26.5**	**+0.4**
GOLH	**Golhisar**	**0.86**	**75**	P	**Pb**	**15 13 14.6**	**-0.8**
YAZI	**Mula-Dat§a-**	**0.92**	**249**	P	**Pg**	**15 13 15.8**	**-0.1**
YAZI				S	**Sb**	**15 13 28.9**	**+0.3**
BODT	**Bodrum**	**0.97**	**273**	Pg	**Pn**	**15 13 17.7**	**-0.3**
BODT	**Bodrum**	**0.97**	**273**	P	**Pb**	**15 13 17.6**	**+0.4**
BODT				S	**Sn**	**15 13 32.4**	**+0.5**
INCE	**Denizli-Bozkur**	**1.09**	**50**	P	**Pn**	**15 13 19.8**	**0.0**
INCE				S	**Sn**	**15 13 35.6**	**+0.6**
DDIM	**Aydin, Didim**	**1.11**	**294**	P	**Pn**	**15 13 20.1**	**+0.1**
DDIM				S	**Sn**	**15 13 35.8**	**+0.5**
ELL	**Elmali**	**1.15**	**103**	Pn	**Pn**	**15 13 20.8**	**+0.2**
AKAS	**Kas**	**1.17**	**131**	Pn	**Pn**	**15 13 21.1**	**+0.2**
AKAS	**Kas**	**1.17**	**131**	P	**Pn**	**15 13 21.1**	**+0.2**
KIRA	**zmir-Kiraz**	**1.18**	**355**	P	**Pn**	**15 13 21.1**	**0.0**
KIRA				S	**Sn**	**15 13 37.9**	**+0.5**
IZMR	**zmir-demi**	**1.21**	**338**	P	**Pg**	**15 13 21.1**	**-0.4**
IZMR				P	**Pn**	**15 13 21.5**	**+0.2**
IZMR				S	**Sn**	**15 13 38.0**	**+0.2**
KSL	**Kastellorizon**	**1.22**	**135**	P	**Pg**	**15 13 23.5**	**+1.9**
KSL				S	**Sn**	**15 13 42.6**	**+4.7**
	comp=N,2µm,0.3s						
KSL	**Kastellorizon**	**1.22**	**135**	P	**Pg**	**15 13 22.8**	**+1.2**
KSL				S	**Sn**	**15 13 39.5**	**+1.6**
KSL				AML	AML	15 13 44.2	
	comp=E,3884µm,0.3s						
KSL				AML	AML	15 13 44.7	
	comp=N,2942µm,0.3s						
GCAM	**G?zlcaml?**	**1.23**	**304**	Pn	**Pg**	**15 13 22.3**	**+0.4**
GCAM	**G?zlcaml?**	**1.23**	**304**	P	**Pg**	**15 13 21.8**	**-0.2**
KLNA	**Kalymnos**	**1.24**	**268**	P	**Pb**	**15 13 21.8**	**0.0**
KLNA				S	**Sb**	**15 13 37.2**	**-0.7**
KLNA				AML	AML	15 13 43.7	
	comp=N,3029µm,0.5s						
KLNA				AML	AML	15 13 47.0	
	comp=E,2561µm,0.3s						
BRDR	**BURDUR-Merkez**	**1.41**	**61**	P	**Pg**	**15 13 26.1**	**+0.8**
BRDR				S	**Sg**	**15 13 44.8**	**+1.3**
KORT	**Korkueli**	**1.47**	**90**	Pn	**Pg**	**15 13 26.9**	**+0.5**
KORT	**Korkueli**	**1.47**	**90**	P	**Pg**	**15 13 27.1**	**+0.7**
KORT				S	**Sg**	**15 13 46.7**	**+1.2**
MANT	**Manisa**	**1.47**	**1**	P	**Pg**	**15 13 25.9**	**-0.7**
MANT				S	**Sg**	**15 13 45.1**	**-0.6**
KULA	**Kula-Manisa**	**1.50**	**4**	Pn	**Pg**	**15 13 26.5**	**-0.7**
KULA	**Kula-Manisa**	**1.50**	**4**	P	**Pg**	**15 13 26.4**	**-0.7**
KULA				S	**Sg**	**15 13 48.6**	**+2.0**
SMG	**Samos**	**1.51**	**298**	P	**Pb**	**15 13 25.9**	**-0.5**
SMG				S	**Sg**	**15 13 46.1**	**-0.7**
	comp=E,772nm,0.6s						
SMG	**Samos**	**1.51**	**298**	P	**Pb**	**15 13 25.9**	**-0.5**
SMG				S	**Sn**	**15 13 44.7**	**-0.5**
SMG				AML	AML	15 13 56.5	
	comp=E,1488µm,0.6s						
SMG				AML	AML	15 13 57.8	
	comp=N,1601µm,0.6s						
BASM	**Basmaki-Afyon**	**1.52**	**53**	Pn	**Pg**	**15 13 26.9**	**-0.5**
PASA	**Karahalli, USA**	**1.54**	**30**	P	**Pg**	**15 13 26.9**	**-0.9**
DGB	**zmir**	**1.66**	**309**	P	**Pn**	**15 13 27.1**	**-0.5**
BCK	**Bucak**	**1.71**	**74**	Pn	**Pg**	**15 13 30.1**	**-1.0**
ANTB	**Antalya**	**1.71**	**93**	Pn	**Pb**	**15 13 29.5**	**-0.4**
USAK	**Uak-Merkez**	**1.74**	**13**	P	**Pb**	**15 13 30.0**	**-0.4**
ISP	**Isparta**	**1.79**	**63**	Pn	**Pb**	**15 13 30.9**	**-0.3**
ISP	**Isparta**	**1.79**	**63**	P	**Pg**	**15 13 31.9**	**-0.7**
BLCB	**Balcova**	**1.80**	**320**	P	**Pb**	**15 13 30.2**	**-1.2**
KARP	**Karpathos**	**1.83**	**217**	Pn	**Pn**	**15 13 30.5**	**+0.6**
KARP	**Karpathos**	**1.83**	**217**	P	**Pb**	**15 13 31.2**	**-0.7**
KARP				S	**Sb**	**15 13 55.4**	**+0.5**
KARP	**Karpathos**	**1.83**	**217**	P	**Pn**	**15 13 30.1**	**+0.2**
KARP				S	**Sn**	**15 13 52.1**	**-1.1**
KARP				AML	AML	15 14 03.4	
	comp=N,1312µm,0.3s						
KARP				AML	AML	15 14 04.2	
	comp=E,1484µm,0.6s						
AKHS	**Akhisar**	**1.94**	**344**	P	**Pn**	**15 13 31.4**	**0.0**
CHOS	**Chios island**	**2.39**	**306**	P	**Pn**	**15 13 38.4**	**+0.8**
CHOS				S	**Sn**	**15 14 06.2**	**-0.8**
APE	**Apeiranthos**	**2.39**	**272**	P	**Pn**	**15 13 37.8**	**+0.1**
APE				S	**Sn**	**15 14 07.3**	**+0.2**
APE	**Apeiranthos**	**2.39**	**272**	P	**Pn**	**15 13 37.7**	**+0.1**
EAG1	**Polichnitos, L**	**2.75**	**319**	P	**Pn**	**15 13 43.5**	**+1.0**
IDI	**Anoyia**	**3.41**	**241**	Pn	**Pn**	**15 13 52.6**	**+1.0**
	comp=E,0.1nm,0.3s,baz=49,slow=16,SNR=13						
IDI				Sn	**Sn**	**15 14 34.3**	**+2.2**
	comp=E,0.1nm,0.3s,baz=326,slow=18,SNR=5.5						
IDI	**Anoyia**	**3.41**	**241**	P	**Pn**	**15 13 51.3**	**-0.3**
CSS	**Mathiatis**	**4.41**	**116**	P	**Pn**	**15 14 05.9**	**+0.5**
BRTR	**Keskin Array B**	**4.85**	**55**	Pn	**Pn**	**15 14 13.5**	**+2.0**
	comp=E,1.2nm,0.3s,baz=231,slow=16,SNR=24						
BRTR				Sn	**Sn**	**15 15 09.0**	**+1.2**
	comp=E,0.5nm,0.3s,baz=208,slow=21,SNR=6.6						
	comp=E,5.3nm,0.6s						
MMAI	**Mount Meron Ar**	**6.91**	**123**	Pn	**Pn**	**15 14 39.3**	**-0.5**
	comp=E,5.6nm,0.3s,baz=299,slow=13,SNR=7.3						
MMAI				Sn	**Sn**	**15 15 54.0**	**-4.6**
	comp=E,2.0nm,0.3s,baz=300,slow=26,SNR=2.6						
	comp=E,3.4nm,0.3s						
GEM	**Giv'at Ha'Em**	**6.98**	**121**	S	**Sn**	**15 15 57.9**	**-2.1**
GEM	**Giv'at Ha'Em**	**6.98**	**121**	P	**Pn**	**15 14 41.3**	**+0.7**
KSHT	**Keshet**	**7.21**	**122**	P	**Pn**	**15 14 45.7**	**+1.8**
HMDT	**Nahal Hemdat**	**7.48**	**127**	S	**Sn**	**15 16 10.0**	**-2.3**
HMDT	**Nahal Hemdat**	**7.48**	**127**	P	**Pn**	**15 14 47.0**	**-0.4**
KZIT	**Kfar Ha**	**7.81**	**140**	P	**Pn**	**15 14 51.6**	**-0.4**
DSI	**Dead Sea**	**7.85**	**132**	P	**Pn**	**15 14 53.1**	**+0.4**
MSBI	**Mazada**	**8.03**	**133**	P	**Pn**	**15 14 55.1**	**+0.1**
MSBI	**Mazada**	**8.03**	**133**	S	**Sn**	**15 16 21.9**	**-3.9**
ASF	**Jabal al Asfar**	**8.43**	**123**	Pn	**Pn**	**15 14 59.8**	**-0.8**
	comp=E,0.2nm,0.3s,baz=1.0,slow=0.4,SNR=1.2						
	comp=E,2.4nm,0.3s						
PRNI	**Paran**	**8.56**	**139**	P	**Pn**	**15 15 02.6**	**+0.2**
KRMI	**Paran Flat**	**8.61**	**141**	P	**Pn**	**15 15 02.3**	**-0.7**
MLR	**Muntele Rosu**	**8.69**	**348**	Pn	**Pn**	**15 15 05.6**	**+1.4**
	comp=E,0.1nm,0.3s,baz=176,slow=15,SNR=3.2						
MLR				Sn	**Sn**	**15 16 42.8**	**+0.6**
	comp=E,0.1nm,0.3s,baz=191,slow=19,SNR=1.3						
	comp=E,1.7nm,0.7s						
HRFI	**Mount Harif**	**8.83**	**140**	S	**Sn**	**15 16 41.1**	**-4.6**
HRFI	**Mount Harif**	**8.83**	**140**	P	**Pn**	**15 15 05.7**	**-0.4**
EIL	**Elat**	**9.09**	**142**	Pn	**Pn**	**15 15 08.7**	**-0.9**
	comp=E,1.7nm,0.3s,baz=328,slow=9.5,SNR=12						
EIL				Sn	**Sn**	**15 16 45.4**	**-6.5**
	comp=E,0.9nm,0.3s,baz=90,slow=20,SNR=4.1						
	comp=E,4.6nm,0.4s						
EIL	**Elat**	**9.09**	**142**	P	**Pn**	**15 15 08.8**	**-0.8**
FINES	**FINESS Array B**	**24.50**	**357**	P	**P**	**15 18 19.1**	**+1.5**
	comp=E,1.3nm,0.7s,baz=166,slow=12,SNR=4.7						
	comp=E,1.3nm,0.7s						
AKTO	**Aktyubinsk**	**24.99**	**48**	P	**P**	**15 18 24.1**	**+2.0**
	comp=E,1.0nm,0.6s,baz=258,slow=14,SNR=3.6						
	comp=E,1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**33.77**	**232**	P	**P**	**15 19 40.8**	**+0.4**
	comp=E,0.6nm,0.5s,baz=37,slow=9.6,SNR=7.4						
	comp=E,0.6nm,0.5s						
MKAR	**Makanchi Array**	**40.49**	**59**	P	**P**	**15 20 37.7**	**+0.5**
	comp=E,0.2nm,0.4s,baz=268,slow=10,SNR=2.2						
	comp=E,0.2nm,0.4s						

IDC 24 15:22:29.5±1.2, 16°.00S×177°.88W, h0km, mb3.8/6, mbtmp3.8/6, MS3.9/4, Error ellipse: s-maj=45.0km s-min=28.5km az=136.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**22.58**	**284**	LR	LR	15 34 54.3	
	comp=Z,2µm,21.2s,baz=200,slow=33						
WRA	**Warramunga Arr**	**45.50**	**258**	P	P	15 30 50.8	-0.3
	0.8nm,1.1s,baz=90,slow=8.4,SNR=2.0						
	0.8nm,1.1s						
ASAR	**Alice Springs**	**45.82**	**252**	P	P	15 30 53.7	+0.1
	2.2nm,0.8s,baz=88,slow=8.4,SNR=11						
	2.2nm,0.8s						
JCJ	**Chichijima**	**57.77**	**317**	LR	LR	15 53 05.5	
	comp=Z,45nm,20.0s,baz=326,slow=32						
ASAJ	**Asahikawa**	**69.86**	**331**	LR	LR	16 03 26.4	
	comp=Z,38nm,18.5s,baz=196,slow=35						
PETK	**Petropavlovsk-**	**71.98**	**345**	P	P	15 33 54.7	-0.1
	1.7nm,0.8s,baz=139,slow=9.3,SNR=3.9						
	1.7nm,0.8s						
QSPA	**South Pole Qui**	**74.04**	**180**	P	P	15 34 07.1	0.0
	1.1nm,0.9s,baz=302,slow=2.9,SNR=2.0						
	1.1nm,0.9s						
KLR	**Kul'dur**	**78.74**	**329**	LR	LR	16 03 35.6	
	comp=Z,47nm,21.0s,baz=162,slow=31						
ILAR	**Eielson Array**	**83.93**	**13**	P	P	15 35 01.1	+0.1
	0.7nm,0.9s,baz=220,slow=6.5,SNR=5.2						
	0.7nm,0.9s						
TXAR	**Lajitas Array**	**84.55**	**58**	P	P	15 35 05.3	+0.2
	0.4nm,1.0s,baz=286,slow=3.4,SNR=2.4						
	0.4nm,1.0s						
BRTR	**Keskin Array B**	**143.78**	**317**	PKP	PKPdf	15 42 06.1	-1.1
	1.3nm,0.9s,baz=111,slow=4.6,SNR=5.9						

*IDC **24** 15:36:28.1±1.1, 45°.51S×96°.66E, h0km, mb4.2/9, mbtmp4.2/9, MS4.1/28, Error ellipse: s-maj=31.5km s-min=22.8km az=99.0*
*NEIC **24** 15:36:30.2±2.3, 45°.6S±0°.1×96°.8E±0°.2, h10km±1km, mb4.6/17, Error ellipse: s-maj=22.5km s-min=20.5km az=299.0*
*GCMT **24** 15:36:30.2±0.4, 45°.38S±0°.02×96°.33E±0°.04, h18km±2km, MW4.9/76, Moment Tensor Solution. s9,c9; s76,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.33±.19; $M_{\theta\theta}$=2.34±.15; $M_{\phi\phi}$2.67±.18; $M_{r\theta}$=1.35±.44; $M_{\theta\phi}$=0.70±.12; $M_{\phi r}$0.43±.32; Best double couple: M_{ϕ}2.96100×10^{16} NP1:ϕ_s214.00000°,δ75.00000°,λ-23.00000°. NP2: ϕ_s311.00000°,δ68.00000°,λ-164.00000°. Principal axes: T 2.7880, Plg5.0000°, Azm264.0000°; N 0.3450, Plg63.0000°, Azm4.0000°; P -3.1340, Plg27.0000°, Azm171.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 15:36:29.7±0.6, 45°.5S±0°.1×96°.8E±0°.1, h10km, n57, σ0°.81/28, mb4.5/16, MS4.2/29, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AIS	**Amsterdam Isla**	**16.31**	**292**	Pn	**Pn**	**15 40 19.2**	**+0.5**
H01W2	**Cape Leeuwin H**	**16.92**	**57**	T	T	15 57 56.6	
	baz=226,slow=74,SNR=73						
H01W3	**Cape Leeuwin H**	**16.94**	**57**	T	T	15 57 56.7	
	baz=226,slow=74,SNR=62						
H01W1	**Cape Leeuwin H**	**16.94**	**57**	T	T	15 57 57.4	
	baz=226,slow=74,SNR=81						
NWAO	**Narrogin (SRO)**	**20.14**	**58**	LR	LR	15 47 14.2	
	comp=Z,632nm,19.2s,baz=226,slow=32						
CASY	**Casey**	**22.07**	**165**	P	**P**	**15 41 24.1**	**-0.3**
CASY				IAmb	IAmb	15 41 29.3	
	comp=Z,37nm,1.3s						
MORW	**Morawa**	**22.36**	**49**	P	**P**	**15 41 27.3**	**-0.5**
MORW				IAmb	IAmb	15 41 32.7	
	comp=Z,28nm,1.4s						
MAW	**Mawson**	**28.31**	**207**	P	**P**	**15 42 23.2**	**+0.1**
MAW	**Mawson**	**28.31**	**207**	LR	LR	15 51 48.7	
	comp=Z,215nm,18.4s,baz=60,slow=33						
BBOO	**Buckleboo**	**32.64**	**81**	P	**P**	**15 43 00.3**	**-1.4**
STKA	**Stephens Creek**	**37.03**	**84**	P	**P**	**15 43 40.8**	**+1.2**
	comp=Z,4.2nm,0.7s,baz=269,slow=7.0,SNR=6.2						
STKA				LR	LR	15 55 56.5	
	comp=Z,530nm,21.8s,baz=212,slow=32						
	comp=Z,4.2nm,0.7s						
ASAR	**Alice Springs**	**37.05**	**67**	P	**P**	**15 43 40.1**	**+0.2**
ASAR	**Alice Springs**	**37.05**	**67**	P	**P**	**15 43 40.7**	**+0.8**
	comp=Z,3.0nm,0.9s,baz=222,slow=7.9,SNR=18						
ASAR				PcP	**PcP**	**15 45 59.6**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=220,slow=2.5,SNR=4.0						
ASAR				LR	LR	15 56 55.5	
	comp=Z,413nm,21.6s,baz=222,slow=33						
	comp=Z,3.0nm,0.9s						
AS31	**Alice Springs**	**37.06**	**67**	P	**P**	**15 43 41.4**	**+1.4**
LEM	**Lembang**	**39.68**	**17**	LR	LR	15 57 20.6	
	comp=Z,205nm,18.6s,baz=134,slow=32						
WRA	**Warramunga Arr**	**40.03**	**63**	P	**P**	**15 44 04.2**	**-0.8**
WRA	**Warramunga Arr**	**40.03**	**63**	P	**P**	**15 44 05.5**	**+0.5**
	comp=Z,5.3nm,0.8s,baz=220,slow=9.0,SNR=30						
WRA				LR	LR

comp=Z,0.3nm,0.9s
PPT **Papeete** 93.16 119 LR LR 16 23 17.7
comp=Z,48nm,19.1s,baz=165,slow=30
SONM **Songino Array** 93.36 6 P **P** **15 49 44.5 +0.1**
comp=Z,0.7nm,0.8s,baz=198,slow=4.1,SNR=2.8
comp=Z,0.7nm,0.8s
PLCA **Paso Flores** 93.38 190 LR LR 16 31 51.8
comp=Z,104nm,18.3s,baz=168,slow=36
EIL **Elat** 93.55 310 LR LR 16 25 47.4
comp=Z,77nm,18.9s,baz=248,slow=32
KURBB **Kurchatov Arra** 97.08 348 LR LR 16 29 34.3
comp=Z,68nm,20.2s,baz=175,slow=33
ZALV **Zalesovo Beam** 99.63 353 LR LR 16 30 58.5
comp=Z,56nm,21.3s,baz=33,slow=33
NVAR **Mina Array Bea** 153.10 93 PKPbc **PKPbc** **15 56 27.8 +0.3**
comp=Z,0.4nm,0.7s,baz=231,slow=6.4,SNR=1.8
YKA **Yellowknife Ar** 155.29 35 PKPbc PKPdf 15 56 31.1 +9.1
comp=Z,0.6nm,0.7s,baz=310,slow=2.6,SNR=4.5

*ISK **24** 15:38:42.1,33°.19N×28°.15E,h113km±1km,ML3.4/9*
*IDC **24** 15:38:43.4±10.0,33°.54N×28°.60E,h0km,mb3.7/4,*
mbtmp3.6/5,ML3.3/1,Error ellipse: s-maj=211.3km
s-min=31.4km az=29.0
*GII **24** 15:38:45.3±0.5,32°.955N±0°.004×28°.687E±0°.001,h10km,*
Mws3.0,confirmed
*AFAD **24** 15:38:48.0±0.0,33°.68N×28°.42E,h7km±3km,ML3.0*
ISC 24 15:38:41.1±1.2,33°.25N±0°.07×28°.42E±0°.07,h10km,n45,
σ2s08/54,mb3.5/4,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**2.52**	**336**	Pn		**Pn**	**Pn**	**15 39 22.4**	**+0.3**
KARP				Sn		Sn	**Sn**	**15 39 51.9**	**-0.9**
ZKR	**Zakros**	**2.61**	**316**	Pn		**Pn**	**Pn**	**15 39 22.6**	**-0.7**
ZKR				Sn		Sn	**Sn**	**15 39 52.1**	**-2.9**
ARG	**Arkhangelos**	**2.97**	**355**	Pn		**Pn**	**Pn**	**15 39 29.4**	**+1.2**
ARG				Sn		Sn	**Sn**	**15 40 03.9**	**0.0**
AKAS	**Kas**	**3.13**	**18**	Pn		**Pn**	**Pn**	**15 39 32.7**	**+2.1**
AKAS	**Kas**	**3.13**	**18**	P		**P**	**Pn**	**15 39 32.8**	**+2.1**
AKAS				S		**Sn**	**Sn**	**15 40 04.2**	**-3.9**
AKAS				*i*	AML	AML		15 40 22.0	
	comp=N,155nm,1.2s								
AKAS				*i*	AML	AML		15 41 11.0	
	comp=E,113nm,1.6s								
IZZE	**Mula-Seydike**	**3.25**	**11**	P		**Pn**	**Pn**	**15 39 33.2**	**+1.1**
IZZE				S		**Sn**	**Sn**	**15 40 07.3**	**-3.4**
TURN	**Turunc**	**3.52**	**358**	Pn		**Pn**	**Pn**	**15 39 36.8**	**+1.0**
TURN	**Turunc**	**3.52**	**358**	P		**Pn**	**Pn**	**15 39 36.8**	**+1.0**
TURN				S		**Sn**	**Sn**	**15 40 14.2**	**-3.2**
TURN				*i*	AML	AML		15 40 20.0	
	comp=E,38nm,0.2s								
TURN				*i*	AML	AML		15 40 21.0	
	comp=N,42nm,0.5s								
DAT	**Datca**	**3.54**	**349**	Pn		**Pn**	**Pn**	**15 39 36.6**	**+0.4**
DAT	**Datca**	**3.54**	**349**	P		Pn	Pn	15 39 34.5	-1.7
DAT				S		Sn	Sn	15 40 12.0	-6.1
DAT				*i*	AML	AML		15 40 19.0	
	comp=N,40nm,0.3s								
DAT				*i*	AML	AML		15 40 35.0	
	comp=E,51nm,1.6s								
DALY	**Dalyan (Mula)**	**3.56**	**3**	Pn		**Pn**	**Pn**	**15 39 37.6**	**+1.2**
SABU	**Mula-Dalaman**	**3.59**	**7**	P		**Pn**	**Pn**	**15 39 37.5**	**+0.7**
SABU				S		Sn	Sn	15 40 10.7	-8.6
SABU				*i*	AML	AML		15 40 47.0	
	comp=N,45nm,2.2s								
KNIK	**Mula-Seydike**	**3.71**	**14**	P		**Pn**	**Pn**	**15 39 40.2**	**+1.6**
CAME	**Cameli-Denizli**	**3.75**	**11**	Pn		**Pn**	**Pn**	**15 39 40.6**	**+1.4**
BODT	**Bodrum**	**3.91**	**347**	Pn		**Pn**	**Pn**	**15 39 41.4**	**+0.2**
CAEL	**Denizli, Camel**	**3.93**	**10**	P		Pn	Pn	15 39 35.9	-5.7
DNZT	**Denizli-Tavas-**	**4.05**	**7**	P		**Pn**	**Pn**	**15 39 42.8**	**-0.4**
DNZT				S		**Sn**	**Sn**	**15 40 27.1**	**-3.6**
GOLH	**Golhisar**	**4.08**	**13**	P		**Pn**	**Pn**	**15 39 46.4**	**+2.7**
GOLH				S		**Sn**	**Sn**	**15 40 27.6**	**-3.9**
GOLH				*i*	AML	AML		15 41 16.0	
	comp=N,51nm,3.2s								
GOLH				*i*	AML	AML		15 41 22.0	
	comp=E,63nm,2.6s								
TAVA	**DENIZLI_Tavas**	**4.22**	**5**	P		**Pn**	**Pn**	**15 39 46.8**	**+1.3**
TAVA				S		**Sn**	**Sn**	**15 40 31.3**	**-3.7**
TAVA				*i*	AML	AML		15 41 31.0	
	comp=E,22nm,2.3s								
DNIZ	**Denizli-Tavas-**	**4.39**	**6**	P		**Pn**	**Pn**	**15 39 48.8**	**+0.9**
DNIZ				S		**Sn**	**Sn**	**15 40 35.7**	**-3.5**
DNIZ				*i*	AML	AML		15 40 42.0	
	comp=N,68nm,0.3s								
APE	**Apeiranthos**	**4.49**	**329**	Pn		**Pn**	**Pn**	**15 39 48.2**	**-0.9**
MMA0	**Mount Meron ar**	**5.86**	**90**	P		**Pn**	**Pn**	**15 40 09.4**	**+1.4**
MMA0	**Mount Meron ar**	**5.86**	**90**	S		**Sn**	**Sn**	**15 41 14.4**	**-0.9**
MMAI	**Mount Meron Ar**	**5.86**	**90**	Pn		**Pn**	**Pn**	**15 40 09.6**	**+1.5**
	0.9nm,0.3s,baz=272,slow=12,SNR=5.5								
MMAI				Sn		**Sn**	**Sn**	**15 41 14.4**	**-0.9**
	2.6nm,0.3s,baz=61,slow=33,SNR=6.8								
	0.5nm,0.3s								
HMDT	**Nahal Hemdat**	**6.07**	**98**	P		**Pn**	**Pn**	**15 40 11.9**	**+1.1**
HMDT	**Nahal Hemdat**	**6.07**	**98**	S		Sn	**Sn**	**15 41 18.7**	**-1.6**
GEM	**Giv'at Ha'Em**	**6.07**	**88**	P		**Pn**	**Pn**	**15 40 11.8**	**+0.9**
DSI	**Dead Sea**	**6.12**	**104**	S		Sn	**Sn**	**15 41 19.0**	**-2.6**
DSI	**Dead Sea**	**6.12**	**104**	P		**Pn**	**Pn**	**15 40 12.4**	**+0.8**
MSBI	**Mazada**	**6.18**	**106**	P		**Pn**	**Pn**	**15 40 12.9**	**+0.6**
MSBI	**Mazada**	**6.18**	**106**	S		Sn	**Sn**	**15 41 20.7**	**-2.4**
KSHT	**Keshet**	**6.20**	**90**	P		**Pn**	**Pn**	**15 40 14.0**	**+1.3**
KRMI	**Paran Flat**	**6.21**	**119**	P		**Pn**	**Pn**	**15 40 13.4**	**+0.6**
PRNI	**Paran**	**6.30**	**116**	P		**Pn**	**Pn**	**15 40 14.8**	**+0.7**
PRNI	**Paran**	**6.30**	**116**	S		Sn	**Sn**	**15 41 22.9**	**-3.3**
HRFI	**Mount Harif**	**6.49**	**118**	S		Sn	**Sn**	**15 41 27.2**	**-3.5**
HRFI	**Mount Harif**	**6.49**	**118**	P		**Pn**	**Pn**	**15 40 15.9**	**-0.8**
MBRI	**Mt Berech**	**6.53**	**120**	P		**Pn**	**Pn**	**15 40 17.3**	**+0.1**
EIL	**Elat**	**6.62**	**121**	P		**Pn**	**Pn**	**15 40 17.3**	**-1.1**
EIL2	**Elat**	**6.62**	**121**	P		**Pn**	**Pn**	**15 40 17.5**	**-0.9**
EIL2	**Elat**	**6.62**	**121**	S		Sn	**Sn**	**15 41 29.0**	**-4.9**
FINES	**FINESS Array B**	**28.25**	**358**	P		**P**	**P**	**15 44 33.9**	**-0.2**
	1.4nm,0.9s,baz=192,slow=13,SNR=1.4								
	1.4nm,0.9s								
ARCES	**ARCESS Array B**	**36.37**	**358**	P		**P**	**P**	**15 45 47.0**	**+2.0**
	3.2nm,1.0s,baz=174,slow=8.9,SNR=1.7								
	3.2nm,1.0s								
KURBB	**Kurchatov Arra**	**40.27**	**49**	P		**P**	**P**	**15 46 19.8**	**+1.7**
	0.2nm,0.4s,baz=270,slow=8.3,SNR=4.1								
	0.2nm,0.4s								
MKAR	**Makanchi Array**	**42.61**	**55**	P		**P**	**P**	**15 46 39.2**	**+1.8**
	0.3nm,0.6s,baz=264,slow=4.3,SNR=2.5								
	0.3nm,0.6s								

*NEIC **24** 15:45:05.4±1.8,15°.0S±0°.1×175°.35W±0°.09,h94km±6km,*
mb4.2/42,Error ellipse: s-maj=19.6km s-min=6.7km
az=143.0
*IDC **24** 15:45:20.6±7.7,15°.12S×175°.45W,h238km,70km,*
mb3.5/11,mbtmp4.1/11,Error ellipse: s-maj=27.5km
s-min=21.6km az=105.0
ISC 24 15:45:05.3±0.6,15°.0S±0°.1×175°.38W±0°.10,h100km,n72,
σ1s08/74,mb4.1/30,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**16.07**	**115**	P		**Pn**	**Pn**	**15 48 45.9**	**+0.3**
RAR				IAmb		IAmb	IAmb	15 48 49.2	
	comp=Z,22nm,1.1s								
OUENC	**Ouen Island, N**	**18.39**	**244**	P		**P**	**P**	**15 49 12.2**	**-0.4**
KOUNC	**Koumac, New Ca**	**20.14**	**251**	P		**P**	**P**	**15 49 30.1**	**-1.6**
KOUNC				IAmb		IAmb	IAmb	15 49 41.9	
	comp=Z,11nm,0.8s								
URZ	**Urewera**	**24.12**	**195**	P		**P**	**P**	**15 50 12.6**	**+0.8**
	comp=Z,6.8nm,0.7s,baz=0.0,slow=1.0,SNR=1.8								
	comp=Z,6.8nm,0.7s								
HNR	**Honiara**	**24.73**	**280**	P		**P**	**P**	**15 50 15.9**	**-1.8**
BFZ	**Birch Farm**	**26.63**	**194**	P		**P**	**P**	**15 50 33.6**	**-1.0**
PATS	**Pohnpei**	**33.91**	**308**	P		**P**	**P**	**15 51 38.3**	**-0.8**
PATS				IAmb		IAmb	IAmb	15 51 43.0	
	comp=Z,1.3nm,0.4s								
CTA	**Charters Tower**	**36.88**	**256**	P		**P**	**P**	**15 52 06.2**	**+1.6**
	comp=Z,1.9nm,0.4s,baz=89,slow=3.6,SNR=6.4								
	comp=Z,1.9nm,0.4s								
CTAO	**Charters Tower**	**36.88**	**256**	P		**P**	**P**	**15 52 05.6**	**+1.1**
CTAO				IAmb		IAmb	IAmb	15 52 10.3	
	comp=Z,7.9nm,1.1s								
PMG	**Port Moresby**	**37.00**	**274**	P		**P**	**P**	**15 52 07.6**	**+2.1**
	comp=Z,9.4nm,1.0s,baz=17,slow=11,SNR=2.8								
	comp=Z,9.4nm,1.0s								
STKA	**Stephens Creek**	**42.61**	**239**	P		**P**	**P**	**15 52 52.9**	**+1.1**
	comp=Z,2.7nm,0.3s,baz=85,slow=10,SNR=6.8								
	comp=Z,2.7nm,0.3s								
BBOO	**Buckleboo**	**47.38**	**239**	P		**P**	**P**	**15 53 29.8**	**+0.1**
WR0	**Warramunga Arr**	**47.90**	**257**	P		**P**	**P**	**15 53 34.1**	**+0.2**
WB0	**Warramunga Arr**	**48.04**	**257**	P		**P**	**P**	**15 53 34.9**	**-0.1**
WB2	**Warramunga Arr**	**48.07**	**257**	P		**P**	**P**	**15 53 35.6**	**+0.4**
WB2				IAmb		IAmb	IAmb	15 53 39.1	
	comp=Z,6.6nm,1.1s								
WRA	**Warramunga Arr**	**48.09**	**257**	P		**P**	**P**	**15 53 36.0**	**+0.7**
WRA	**Warramunga Arr**	**48.09**	**257**	P		**P**	**P**	**15 53 35.2**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=90,slow=7.6,SNR=60								
WRA				PcP		**PcP**		**15 54 59.4**	**-2.3**
	comp=Z,0.4nm,0.5s,baz=87,slow=4.0,SNR=1.8								
	comp=Z,1.2nm,0.7s								
AS31	**Alice Springs**	**48.43**	**252**	P		**P**	**P**	**15 53 38.8**	**+0.9**
ASAR	**Alice Springs**	**48.43**	**252**	P		**P**	**P**	**15 53 38.7**	**+0.8**
ASAR	**Alice Springs**	**48.43**	**252**	P		**P**	**P**	**15 53 38.5**	**+0.5**
	comp=Z,21nm,0.5s,baz=88,slow=7.8,SNR=754								
ASAR				PcP		**PcP**		**15 55 00.5**	**-2.4**
	comp=Z,0.5nm,0.5s,baz=96,slow=3.7,SNR=2.0								
MTN	**Manton Dam**	**51.87**	**265**	P		**P**	**P**	**15 54 04.7**	**+0.8**
SOEI	**Soe**	**59.04**	**267**	P		**P**	**P**	**15 54 57.1**	**+1.5**
PSA00	**Pilbara Seismi**	**61.50**	**253**	P		**P**	**P**	**15 55 11.0**	**-1.1**
PSA00	**Pilbara Seismi**	**61.50**	**253**	P		**P**	**P**	**15 55 10.9**	**-1.2**
AMKA	**Amchitka**	**66.23**	**356**	P		**P**	**P**	**15 55 41.4**	**-1.0**
MJAR	**Matsushiro Arr**	**67.40**	**321**	P		**P**	**P**	**15 55 50.8**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=158,slow=5.5,SNR=3.2								
	comp=Z,1.0nm,0.8s								
JSU	**Suzuyama**	**69.53**	**312**	P		**P**	**P**	**15 56 04.6**	**+1.0**
JSU				IAmb		IAmb	IAmb	15 56 08.3	
	comp=Z,1.5nm,0.7s								
PEA0B	**Petropavlovsk-**	**71.66**	**343**	P		**P**	**P**	**15 56 16.2**	**+0.2**
PEA0B				IAmb		IAmb	IAmb	15 56 33.7	
	comp=Z,5.8nm,1.1s								
PETK	**Petropavlovsk-**	**71.66**	**343**	P		**P**	**P**	**15 56 16.8**	**+0.7**
PETK	**Petropavlovsk-**	**71.66**	**343**	P		**P**	**P**	**15 56 16.5**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=145,slow=10,SNR=4.7								
	comp=Z,2.1nm,0.8s								
YULB	**Yu-li**	**72.71**	**301**	P		**P**	**P**	**15 56 22.3**	**-0.6**
TPUB	**Ta-pu**	**73.23**	**300**	P		**P**	**P**	**15 56 25.4**	**-0.6**
QSPA	**South Pole Qui**	**75.06**	**180**	P		**P**	**P**	**15 56 35.8**	**-0.3**
QSPA				IAmb		IAmb	IAmb	15 56 50.3	
	comp=Z,2.5nm,1.1s								
QSPA	**South Pole Qui**	**75.06**	**180**	P		**P**		**15 56 36.2**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=329,slow=5.9,SNR=0.8								
	comp=Z,0.3nm,0.6s								
O16K	**Kokwok River B**	**75.62**	**9**	P		**P**	**P**	**15 56 39.6**	**+0.6**
O16K				IAmb		IAmb	IAmb	15 56 51.5	
	comp=Z,3.9nm,1.1s								
P18K	**Big Mountain,**	**75.90**	**10**	P		**P**	**P**	**15 56 41.4**	**+0.7**
P18K				IAmb		IAmb	IAmb	15 57 01.1	
	comp=Z,3.7nm,1.0s								
ILSW	**Iliamna Southw**	**76.83**	**11**	P		**P**	**P**	**15 56 46.9**	**+0.8**
ILSW				IAmb		IAmb	IAmb	15 56 52.6	
	comp=Z,9.3nm,1.1s								
M16K	**Timber Creek**	**76.87**	**8**	P		**P**	**P**	**15 56 47.2**	**+1.1**
M16K				IAmb		IAmb	IAmb	15 57 01.6	
	comp=Z,2.4nm,1.1s								
K15K	**Wolf Creek Mou**	**77.79**	**7**	P		**P**	**P**	**15 56 51.4**	**+0.2**
L18K	**Granite Mounta**	**78.34**	**9**	P		**P**	**P**	**15 56 55.8**	**+1.6**
K17K	**Iditarod**	**78.59**	**8**	P		**P**	**P**	**15 56 57.0**	**+1.4**
J16K	**Anvik River**	**78.85**	**7**	P		**P**	**P**	**15 56 59.0**	**+2.0**
J16K				IAmb		IAmb	IAmb	15 57 00.6	
	comp=Z,3.7nm,1.0s								
KNK	**Knik Glacier**	**79.09**	**13**	P		**P**	**P**	**15 56 59.2**	**+0.8**
KNK				IAmb		IAmb	IAmb	15 57 01.4	
	comp=Z,2.1nm,0.8s								
GHO	**Glory Hole Cre**	**79.31**	**12**	P		**P**	**P**	**15 57 00.5**	**+0.8**
GHO				IAmb		IAmb	IAmb	15 57 01.5	
	comp=Z,2.4nm,0.5s								
SCM	**Sheep Creek Mo**	**79.71**	**13**	P		**P**	**P**	**15 57 02.9**	**+1.0**
SCM				IAmb		IAmb	IAmb	15 57 12.0	
	comp=Z,5.5nm,1.2s								
K20K	**Telida**	**79.82**	**10**	P		**P**	**P**	**15 57 03.6**	**+1.3**
N25K	**Chitina, Valde**	**80.13**	**14**	P		**P**	**P**	**15 57 05.2**	**+1.1**
N25K				IAmb		IAmb	IAmb	15 57 06.5	
	comp=Z,2.0nm,0.7s								
GLB	**Gilahina Butte**	**80.18**	**15**	P		**P**	**P**	**15 57 06.0**	**+1.6**
GLB				IAmb		IAmb	IAmb	15 57 10.1	
	comp=Z,3.6nm,1.2s								
CTGM	**Chitina Glacie**	**80.42**	**16**	P		**P**	**P**	**15 57 07.7**	**+2.0**
CTGM				IAmb		IAmb	IAmb	15 57 08.4	
	comp=Z,2.1nm,0.8s								
TRF	**Thorofare Moun**	**80.56**	**11**	P		**P**	**P**	**15 57 07.1**	**+0.6**
J20K	**Nowinta River**	**80.58**	**9**	P		**P**	**P**	**15 57 07.1**	**+0.8**
WRH	**Wood River Hil**	**81.91**	**12**	P		**P**	**P**	**15 57 13.8**	**+0.5**
WRH				IAmb		IAmb	IAmb	15 57 15.8	
	comp=Z,2.7nm,1.1s								
MLY	**Manley**	**81.93**	**10**	P		**P**	**P**	**15 57 13.8**	**+0.3**
G19K	**Purcell Mounta**	**82.03**	**7**	P		**P**	**P**	**15 57 14.9**	**+0.9**
CCB	**Clear Creek Bu**	**82.12**	**12**	P		**P**	**P**	**15 57 15.1**	**+0.6**
CCB				IAmb		IAmb	IAmb	15 57 15.8	
	comp=Z,1.8nm,0.7s								
H21K	**Melozitna Rive**	**82.17**	**9**	P		**P**	**P**	**15 57 15.9**	**+1.2**
I23K	**Minto, Yukon-K**	**82.28**	**11**	P		**P**	**P**	**15 57 15.9**	**+0.6**
MDM	**Murphy Dome**	**82.32**	**11**	P		**P**	**P**	**15 57 15.9**	**+0.3**
IMAR	**Indian Mountai**	**82.33**	**9**	P		**P**	**P**	**15 57 15.9**	**+0.3**
ILAR	**Eielson Array**	**82.41**	**12**	P		**P**	**P**	**15 57 16.8**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=213,slow=5.5,SNR=22								
	comp=Z,0.7nm,0.4s								
PDAR	**Pinedale Array**	**83.23**	**43**	P		**P**		**15 57 21.7**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=228,slow=4.7,SNR=2.7								
	comp=Z,0.3nm,0.7s								
Q24A	**Divide**	**84.60**	**47**	P		**P**	**P**	**15 57 29.5**	**+1.3**
Q24A				IAmb		IAmb	IAmb	15 57 32.2	
	comp=Z,5.1nm,0.8s								
CMAR	**Chiang Mai Arr**	**90.67**	**289**	P		**P**		**15 57 57.3**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=88,slow=2.9,SNR=5.5								
	comp=Z,0.6nm,0.6s								
A36M	**Sachs Harbour**	**92.94**	**14**	P		**P**	**P**	**15 58 05.9**	**-0.7**
ARCES	**ARCESS Array B**	**123.92**	**351**	PKP		**PKPdf**	**PKPdf**	**16 03 49.0**	**-2.3**
	comp=Z,5.8nm,1.0s,baz=20,slow=3.9,SNR=5.1								
FINES	**FINESS Array B**	**131.10**	**347**	PKP		**PKPdf**	**PKPdf**	**16 04 03.4**	**-1.7**
	comp=Z,2.3nm,1.1s,baz=316,slow=3.8,SNR=3.4								
BR131	**Keskin Array S**	**144.62**	**320**	PKPdf		**PKPab**	**PKPab**	**16 04 29.2**	**-0.3**
BRTR	**Keskin Array B**	**144.62**	**320**			**PKPab**	**PKPab**	**16 04 28.7**	**-0.8**
BRTR	**Keskin Array B**	**144.62**	**320**	PKP		**PKPab**	**PKPab**	**16 04 28.5**	**-1.0**
	comp=Z,3.9nm,0.9s,baz=63,slow=2.8,SNR=13								
MLR	**Muntele Rosu**	**144.67**	**334**	PKPdf		**PKPab**	**PKPab**	**16 04 29.8**	**+0.2**
MMAI	**Mount Meron Ar**	**146.81**	**308**	PKPbc		**PKPdf**	**PKPdf**	**16 04 35.3**	**+0.7**
	comp=Z,1.6nm,0.5s,baz=81,slow=6.5,SNR=7.6								
FUORN	**Ofenpass-Fuorn**	**148.10**	**353**				**PKPbc**	**16 04 39.3**	**-0.5**

*IDC **24** 15:51:33.8±0.7,9°.75S×156°.60E,h0km,mb4.0/12,*
mbtmp4.0/14,ML4.2/2,MS3.4/5,Error ellipse:
s-maj=21.7km s-min=17.5km az=124.0
ISC 24 15:51:37.5±0.6,9°.8S±0°.1×156°.60E±0°.08,h24km,n19,
σ0s61/18,mb4.0/12,MS3.5/4,Bougainville-Solomon
Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.31**	**85**	Pn		**Pn**	**Pn**	**15 52 27.6**	**-0.2**
	120nm,0.3s,baz=208,slow=6.1,SNR=2.6								
HNR				Sn		**Sn**	**Sn**	**15 53 06.4**	**-0.1**
	150nm,0.3s,baz=215,slow=16,SNR=2.2								
	519nm,0.4s								
PMG	**Port Moresby**	**9.32**	**271**	LR		LR	LR	15 57 22.1	
	comp=Z,254nm,18.2s,baz=95,slow=37								
DZM	**Mont Dzumac**	**15.47**	**144**	Pn		**Pn**	**Pn**	**15 55 14.3**	**0.0**
	0.2nm,0.3s,baz=43,slow=18,SNR=1.5								
	9.9nm,1.1s								
WRA	**Warramunga Arr**	**23.76**	**242**	P		**P**	**P**	**15 56 47.8**	**-0.5**
	2.7nm,0.8s,baz=68,slow=9.6,SNR=9.9								
WRA				PcP		**PcP**	**PcP**	**16 00 31.8**	**-0.1**
	0.6nm,0.7s,baz=72,slow=2.6,SNR=3.3								
	2.7nm,0.8s								
ASAR	**Alice Springs**	**25.72**	**235**	P		**P**	**P**	**15 57 05.8**	**-0.5**
	1.5nm,0.4s,baz=62,slow=10,SNR=24								
ASAR				PcP		**PcP**	**PcP**	**16 00 35.9**	**-0.3**
	0.6nm,0.9s,baz=86,slow=2.5,SNR=2.8								
ASAR				LR		LR	LR	16 06 04.1	
	comp=Z,106nm,18.9s,baz=44,slow=34								
	1.5nm,0.4s								
GUMO	**Guam**	**25.95**	**333**	LR		LR	LR	16 05 31.4	
	comp=Z,34nm,21.0s,baz=102,slow=32								
STKA	**Stephens Creek**	**26.05**	**210**	P		**P**	**P**	**15 57 10.1**	**+1.0**
	1.7nm,0.4s,baz=7.7,slow=14,SNR=3.8								
	1.7nm,0.4s								
KSRS	**Korea Array**	**54.10**	**332**	P		**P**	**P**	**16 01 00.5**	**+0.1**
	1.2nm,0.8s,baz=151,slow=7.7,SNR=4.8								
	1.2nm,0.9s								
PETK	**Petropavlovsk-**	**62.62**	**1**	P		**P**	**P**	**16 01 59.8**	**+0.1**
	1.9nm,0.9s,baz=189,slow=8.5,SNR=2.5								
	1.9nm,0.9s								
CMAR	**Chiang Mai Arr**	**63.41**	**296**	P		**P**	**P**	**16 02 06.0**	**+0.3**
	1.4nm,1.0s,baz=121,slow=4.7,SNR=6.9								
	1.4nm,1.0s								
SHEM	**Shemya Is, Ala**	**64.01**	**12**	LR		LR	LR	16 25 30.4	
	comp=Z,46nm,21.7s,baz=338,slow=32								
MA2	**Magadan**	**69.25**	**357**	P		**P**	**P**	**16 02 42.4**	**+0.2**
	0.5nm,0.4s,baz=158,slow=10,SNR=3.7								
	0.5nm,0.4s								
SONM	**Songino Array**	**72.50**	**327**	P		**P**	**P**	**16 03 02.9**	**+0.5**
	0.8nm,0.9s,baz=112,slow=9.8,SNR=4.3								
	0.8nm,0.9s								
QSPA	**South Pole Qui**	**80.24**	**180**	P		**P**	**P**	**16 03 45.8**	**-0.3**
	4.3nm,0.8s,baz=7.0,slow=1.6,SNR=15								
	4.3nm,0.8s								
ILAR	**Eielson Array**	**85.35**	**21**	P		**P**	**P**	**16 04 11.6**	**-0.8**
	0.3nm,0.6s,baz=262,slow=5.2,SNR=5.9								
	0.3nm,0.6s								
MKAR	**Makanchi Array**	**86.51**	**318**	P		**P**	**P**	**16 04 17.4**	**-1.1**
	0.4nm,0.8s,baz=89,slow=5.2,SNR=4.4								
	0.4nm,0.8s								
NRIK	**Noril'sk**	**91.84**	**341**	LR		LR	LR	16 43 53.1	
	comp=Z,33nm,21.5s,baz=232,slow=34								
NVAR	**Mina Array Bea**	**92.17**	**52**	P		**P**	**P**	**16 04 47.0**	**+1.3**
	0.9nm,0.9s,baz=237,slow=5.6,SNR=4.9								
	0.9nm,0.9s								
ESDC	**Sonseca Array**	**145.53**	**333**	PKPbc		**PKPab**	**PKPab**	**16 11 14.5**	**+0.1**
	0.7nm,0.8s,baz=47,slow=5.6,SNR=4.1								

*JMA **24** 16:00:40.2±0.2,37°.4N×0°.4×142°.6E±0°.9,h38km,MV3.1/34,*
E OFF FUKUSHIMA PREF
*IDC **24** 16:00:42.9±3.9,37°.42N×142°.65E,h58km±32km,mb3.4/6,*
mbtmp3.6/8,ML2.5/2,MS3.5/3,Error ellipse: s-maj=45.9km
s-min=21.9km az=83.0
ISC 24 16:00:42.2±2.5,37°.39N±0°.08×142°.5E±0°.1,h47km±21km,
n29,σ0s92/27,mb3.6/6,MS3.6/3,Off east coast of
Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.22**	**319**	P		**P**	**Pn**	**16 01 02.1**	**-0.7**
JIKH				*eS*			**Sn**	**16 01 17.8**	**-0.3**
JFK	**Kawauchi**	**1.27**	**269**	P		**P**	**Pn**	**16 01 03.1**	**-0.6**
JFK				S			**Sn**	**16 01 19.6**	**0.0**
JMST	**Minamisoumatoc**	**1.30**	**285**	P		**P**	**Pn**	**16 01 03.2**	**-0.8**
JMST				*eS*			**Sn**	**16 01 20.4**	**+0.2**
ONAJ	**Iwakimizuishiy**	**1.37**	**258**	P		**P**	**Pn**	**16 01 04.1**	**-0.8**
JIO	**Ouri**	**1.39**	**320**	P		**P**	**Pn**	**16 01 04.6**	**-0.5**
JIO				S			**Sn**	**16 01 22.2**	**0.0**
JMM	**Marumori**	**1.42**	**290**	P		**P**	**Pn**	**16 01 05.2**	**-0.4**
JMM				S			**Sn**	**16 01 23.5**	**+0.5**
JOTO	**OTAMA OYAMA**	**1.71**	**276**	P		**P**	**Pn**	**16 01 10.3**	**+0.7**
JOTO				S			**Sn**	**16 01 32.4**	**+2.1**
JOU	**Okura**	**1.73**	**305**	*eP*			**Pn**	**16 01 10.0**	**+0.1**
JMK	**Ichinoseki**	**1.84**	**328**	*eP*			**Pn**	**16 01 11.3**	**-0.1**
JYK	**Kaneyama**	**2.26**	**313**	P			**Pn**	**16 01 17.6**	**+0.5**
JOM	**

QUOK	**Quay**	**0.89**	**109**		**Pg**	**16 06 27.9**	**0.0**
QUOK				IAML		16 06 41.1	
	comp=N,425nm,0.2s						
QUOK				IAML		16 06 45.5	
	comp=E,334nm,0.2s						
OK052	**Battle Ridge R**	**0.89**	**121**		**Pg**	**16 06 28.1**	**+0.1**
OK052				IAML		16 06 42.6	
	comp=E,354nm,0.5s						
OK052				IAML		16 06 50.4	
	comp=E,253nm,0.4s						
U32A	**Winter Ranch,**	**1.02**	**266**		**Pg**	**16 06 30.0**	**-0.4**
U32A				IAML		16 06 45.2	
	comp=E,311nm,0.1s						
U32A				IAML		16 06 46.7	
	comp=N,272nm,0.6s						
U32A	**Winter Ranch,**	**1.02**	**266**	P	**Pg**	**16 06 30.0**	**-0.4**
	baz=84						
U32A				S	**Sg**	**16 06 44.0**	**+0.4**
	baz=84						
T35A	**Sooner Cattle**	**1.09**	**65**		**Pg**	**16 06 31.3**	**-0.4**
T35A				IAML		16 06 48.3	
	comp=E,205nm,0.2s						
T35B	**Sooner Cattle**	**1.09**	**65**	P	**Pg**	**16 06 31.3**	**-0.4**
	baz=247						
T35B				S	**Sg**	**16 06 45.5**	**-0.3**
	baz=247						
CSTR	**Hydro, Custer**	**1.12**	**223**		**Pg**	**16 06 32.4**	**0.0**
DEOK	**Depew**	**1.18**	**121**		**Pg**	**16 06 33.0**	**-0.5**
DEOK				IAML		16 06 53.0	
	comp=E,303nm,0.2s						
FNO	**Franklin**	**1.23**	**167**		**Pg**	**16 06 34.2**	**-0.4**
FNO				IAML		16 06 55.1	
	comp=E,200nm,0.2s						
W35A	**Tecumseh**	**1.49**	**151**		**Pn**	**16 06 38.2**	**+0.1**
TUL3	**Leonard**	**1.67**	**109**		**Pn**	**16 06 41.2**	**+0.5**
TUL3				IAmb_Lg		16 07 04.5	
	comp=Z,37nm,0.8s						
TUL3	**Leonard**	**1.67**	**109**	P	**Pn**	**16 06 41.2**	**+0.5**
	baz=290						
TUL3				S	**Sb**	**16 07 03.7**	**+0.4**
	baz=290						
WMOK	**Wichita Mounta**	**1.92**	**206**		**Pn**	**16 06 44.9**	**+0.8**
WMOK	**Wichita Mounta**	**1.92**	**206**	P	**Pn**	**16 06 44.9**	**+0.8**
	baz=26						
WMOK				S	**Sb**	**16 07 10.8**	**+0.4**
	baz=26						
R32A	**Long Quarter,**	**2.10**	**339**	Pn	**Pn**	**16 06 47.0**	**+0.4**
R32A	**Long Quarter,**	**2.10**	**339**	S	**Sb**	**16 07 16.4**	**+0.6**
	baz=158						
RLO	**Rose Lookout**	**2.22**	**97**		**Pb**	**16 06 50.4**	**-1.0**
X37A	**Clayton**	**2.69**	**133**		**Pn**	**16 06 56.0**	**+1.3**
X37A				IAmb_Lg		16 07 42.9	
	comp=Z,20nm,0.8s						
X37A	**Clayton**	**2.69**	**133**	P	**Pn**	**16 06 56.1**	**+1.4**
	baz=315						
WTFS	**Witchita Falls**	**2.75**	**193**	Pn	**Pn**	**16 06 54.1**	**-1.5**
HHAR	**Hobbs**	**3.08**	**92**	Pn	**Pn**	**16 06 59.5**	**-0.5**
HHAR				IAmb_Lg		16 07 55.4	
	comp=Z,17nm,0.8s						
AMTX	**Amarillo**	**3.57**	**245**	IAmb_Lg		16 08 07.6	
	comp=Z,16nm,0.7s						
S39A	**Bolivar**	**3.74**	**70**	Pn	**Pn**	**16 07 10.5**	**+1.4**
MIAR	**Mount Ida**	**3.90**	**118**	IAmb_Lg		16 08 21.2	
	comp=Z,17nm,0.7s						
RTBA	**Rita Blanca**	**4.03**	**271**	IAmb_Lg		16 08 19.7	
	comp=Z,9.0nm,0.9s						
ABTX	**Abilene, Hawle**	**4.14**	**203**	IAmb_Lg		16 08 24.4	
	comp=Z,14nm,0.8s						
SN07	**Snyder 07**	**4.25**	**219**	IAmb_Lg		16 08 28.3	
	comp=Z,11nm,0.9s						
SN05	**Snyder 5**	**4.42**	**217**	IAmb_Lg		16 08 34.1	
	comp=Z,12nm,0.8s						
X40A	**Basin Creek Fa**	**4.46**	**115**	IAmb_Lg		16 08 35.1	
	comp=Z,9.7nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.58**	**96**	IAmb_Lg		16 08 39.9	
	comp=Z,11nm,0.7s						
WHAR	**Wooly Hollow**	**4.58**	**103**	IAmb_Lg		16 08 38.6	
	comp=Z,15nm,0.8s						
P38A	**Dawn**	**4.58**	**45**	IAmb_Lg		16 08 45.5	
	comp=Z,12nm,1.0s						
POST	**Post**	**4.59**	**223**	Pn	**Pn**	**16 07 20.7**	**-0.2**
POST				IAmb_Lg		16 08 40.2	
	comp=Z,8.4nm,1.0s						
KSCO	**Kaye Shedlock'**	**4.63**	**305**	IAmb_Lg		16 08 48.4	
	comp=Z,13nm,0.8s						
UALR	**University of**	**4.71**	**109**	IAmb_Lg		16 08 46.4	
	comp=Z,12nm,0.8s						
R40A	**Maddies Statio**	**4.73**	**66**	Pn	**Pn**	**16 07 22.8**	**+0.1**
BRDY	**Brady**	**5.27**	**192**	IAmb_Lg		16 09 01.2	
	comp=Z,7.5nm,0.8s						
LCAR	**Lake Charles**	**5.34**	**92**	IAmb_Lg		16 09 05.8	
	comp=Z,11nm,0.9s						
T42A	**Van Buren**	**5.37**	**82**	IAmb_Lg		16 09 09.9	
	comp=Z,7.6nm,0.8s						
CCM	**Cathedral Cave**	**5.42**	**71**	IAmb_Lg		16 09 07.0	
	comp=Z,9.8nm,0.9s						
FVM	**French Village**	**6.03**	**73**	IAmb_Lg		16 09 26.3	
	comp=Z,10nm,0.8s						
PHWY	**Pilot Hill**	**7.71**	**311**	IAmb_Lg		16 10 25.4	
	comp=Z,9.4nm,1.0s						

*IDC **24** 16:51:55.6±6.5,5.˚48S×151.˚31E,h62km±50km, mb3.5/6, mbtmp3.8/7, ML2.1/1, MS2.6/1, Error ellipse: s-maj=66.0km s-min=28.1km az=107.0*

ISC 24 16:51:54.8±1.5,5.˚5S±0.˚2×151.˚4E±0.˚3, h57km, n9, σ0.°64/11, mb3.7/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.74**	**227**	P	**Pn**	**16 53 18.5**	**+1.1**
	3.8nm,0.3s,baz=9.8,slow=5.7,SNR=18						
PMG				S	**Sn**	**16 54 21.2**	**-0.8**
	21nm,0.7s,baz=343,slow=7.4,SNR=5.1						
	7.3nm,0.3s						
WRA	**Warramunga Arr**	**21.96**	**228**	P	**P**	**16 56 43.1**	**-0.9**
	3.8nm,0.6s,baz=53,slow=9.9,SNR=37						
WRA				PcP	**PcP**	**17 00 41.1**	**0.0**
	0.5nm,0.8s,baz=40,slow=1.8,SNR=2.6						
	3.8nm,0.6s						
ASAR	**Alice Springs**	**24.72**	**221**	P	**P**	**16 57 11.0**	**+0.1**
	1.8nm,0.8s,baz=56,slow=8.8,SNR=47						
ASAR				PcP	**PcP**	**17 00 47.2**	**+0.3**
	0.4nm,0.9s,baz=27,slow=2.1,SNR=2.4						
	1.8nm,0.8s						
DAV	**Davao City (W)**	**28.65**	**296**	LR	LR	17 07 43.8	
	comp=Z,12nm,19.2s,baz=297,slow=33						
SONM	**Songino Array**	**66.18**	**329**	P	**P**	**17 02 37.1**	**+0.5**
	0.6nm,0.5s,baz=138,slow=4.4,SNR=4.2						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**79.94**	**319**	P	**P**	**17 03 57.7**	**-0.1**
	0.4nm,0.7s,baz=96,slow=8.4,SNR=4.2						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**80.97**	**327**	P	**P**	**17 04 02.8**	**-0.3**
	0.5nm,0.3s,baz=124,slow=7.8,SNR=1.6						
	0.5nm,0.3s						
ILAR	**Eielson Array**	**83.32**	**22**	P	**P**	**17 04 14.9**	**-0.3**
	0.3nm,0.6s,baz=236,slow=4.2,SNR=2.5						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**149.20**	**286**	PKPbc	**PKPbc**	**17 11 37.6**	**-0.4**
	0.6nm,0.5s,baz=70,slow=3.0,SNR=5.9						

TAP 24 16:53:21.9,24.˚27N×121.˚71E,h14km, ML1.0, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EAHA	**Aohua**	**0.07**	**23**	*i* P	Pg	16 53 25.0	+0.2
	baz=22						
EAHA				*i* S	Sg	16 53 27.0	+0.4
	baz=22						
ETL	**Fush Village**	**0.13**	**216**	P	Pg	16 53 25.8	+0.3
	baz=217						
ETL				*e*S	Sb	16 53 29.0	-0.2
	baz=217						
NACB	**Ninganchiao**	**0.14**	**229**	P	Pg	16 53 25.0	-0.6
	baz=221						
NACB				*i* S	Sg	16 53 28.5	+0.4
	baz=221						
ENA	**Nanau**	**0.16**	**10**	*i* P	Pg	16 53 26.0	+0.1
	baz=12						
ENA				*i* S	Sg	16 53 29.0	+0.4
	baz=12						
EWUT	**Wuta**	**0.19**	**19**	*i* P	Pg	16 53 26.5	+0.2
	baz=19						
EWUT				*i* S	Sg	16 53 29.7	+0.4
	baz=19						
TWD	**Chiawan**	**0.21**	**209**	*i* P	Pg	16 53 26.8	+0.1
	baz=208						
TWD				S	Sg	16 53 30.3	+0.4
	baz=208						
ETLH	**Xiulin Townshi**	**0.22**	**254**	*i* P	Pg	16 53 27.2	+0.4
	baz=254						
ETLH				*i* S	Sg	16 53 30.5	+0.4
	baz=254						
LATG	**Datong**	**0.32**	**328**	*i* P	Pg	16 53 28.7	+0.2
	baz=327						
LATG				S	Sg	16 53 33.7	+0.7
	baz=327						
NNSB	**Datong**	**0.34**	**298**	*i* P	Pg	16 53 29.2	+0.3
	baz=298						
NNSB				*i* S	Sg	16 53 34.2	+0.5
	baz=298						
NNS	**Nan Shan**	**0.35**	**299**	*i* P	Pg	16 53 29.4	+0.2
	baz=299						
NNS				*i* S	Sg	16 53 34.8	+0.7
	baz=299						
ETM	**Tongmen**	**0.36**	**214**	*e*P	Pg	16 53 29.2	0.0
	baz=214						
ETM				*e*S	Sb	16 53 35.2	-0.5
	baz=214						
LXIB	**Xiulin Townshi**	**0.36**	**228**	*e*P	Pb	16 53 30.5	+0.2
	baz=229						
LXIB				S	Sb	16 53 35.9	0.0
	baz=229						
NDT	**Datong Townshi**	**0.38**	**332**	*i* P	Pg	16 53 29.8	+0.2
	baz=331						
NDT				*i* S	Sg	16 53 35.5	+0.7
	baz=331						
WHF	**Hehuan Shan**	**0.42**	**253**	*i* P	Pg	16 53 30.9	+0.4
	baz=254						
WHF				*i* S	Sb	16 53 37.2	-0.7
	baz=254						
FUSS	**Fushou**	**0.43**	**267**	P	Pb	16 53 31.2	-0.2
	baz=268						
FUSS				S	Sg	16 53 36.8	+0.4
	baz=268						
FUSB	**Fushanzhiwuyua**	**0.50**	**347**	*e*P	Pg	16 53 31.9	0.0
	baz=346						
FUSB				S	Sg	16 53 38.9	+0.2
	baz=346						
CHGB	**Renai**	**0.53**	**247**	*e*P	Pg	16 53 32.7	+0.2
	baz=243						
CHGB				S	Sb	16 53 40.6	-0.2
	baz=243						
NWLT	**Wulai**	**0.54**	**340**	*e*P	Pb	16 53 33.5	+0.2
	baz=344						
NWLT				*i* S	Sg	16 53 40.0	+0.1
	baz=344						
WUSB	**Renai**	**0.61**	**243**	*e*P	Pb	16 53 34.9	+0.4
	baz=236						
WUSB				S	Sb	16 53 42.9	0.0
	baz=236						
WARBT	**Fenglin Townsh**	**0.62**	**209**	P	Pg	16 53 33.9	-0.3
	baz=214						
WARBT				*e*S	Sg	16 53 42.6	+0.2
	baz=214						
EGFH	**Guangfu**	**0.65**	**204**	*e*P	Pb	16 53 35.4	+0.4
	baz=209						
EGFH				*e*S	Sg	16 53 43.4	+0.2
	baz=209						

JMA 24 16:53:42.4±0.2,24.˚3N±0.˚4×123.˚8E±0.˚4, h16km±1km, MV1.0/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.12**	**320**	P	Pg	16 53 46.0	-0.1
JKRS	**Kuro-shima**	**0.18**	**93**	P	Pg	16 53 47.0	+0.1
JKRS				S	Sb	16 53 50.4	-0.3
HATJ	**Hateruma jima**	**0.19**	**182**	P	Pg	16 53 46.8	-0.2
HATJ				S	Sg	16 53 50.1	0.0
JIJ	**Ishigaki jima**	**0.33**	**69**	P	Pg	16 53 49.0	-0.3
JIJ				S	Sg	16 53 53.6	-0.3
JISG	**Ishigakijimahi**	**0.57**	**53**	*e*P	Pg	16 53 53.5	-0.2
JISG				*e*S	Sg	16 54 01.4	+0.1

*SJA **24** 16:54:46.2±0.8,20.˚73S×69.˚15W, h117km±4km, ML3.7, MW3.7*
*GUC **24** 16:54:49.0±0.9,20.˚77S×69.˚12W, h102km±4km, ML3.7*
*VAO **24** 16:54:53.9±0.6,20.˚98S×68.˚44W, h111km, mb4.1*

ISC 24 16:54:47.9±0.8,20.˚73S±0.˚03×69.˚19W±0.˚05, h115km±7km, n42, σ1.°48/70, 10C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.41**	**221**	*e*P	**Pn**	**16 55 03.7**	**-1.3**
PB01				*e*S	**Sn**	**16 55 17.0**	**-0.8**
PB01	**IPOC Station P**	**0.41**	**221**	*e*P	**Pn**	**16 55 04.4**	**-0.6**
PB01				*e*S	**Sn**	**16 55 16.4**	**-1.4**
PB08	**IPOC Station P**	**0.59**	**4**	*e*P	**Pn**	**16 55 05.8**	**-0.7**
PB08				*e*S	**Sn**	**16 55 19.7**	**-0.5**
PB08				IAML		16 55 20.2	
	comp=Z,1μm,0.2s						
PB08	**IPOC Station P**	**0.59**	**4**	*e*P	**Pn**	**16 55 06.0**	**-0.4**
PB08				*e*S	**Sn**	**16 55 19.3**	**-1.0**
PB08				IAML		16 55 20.4	
	comp=E,3μm,0.2s						
PB02	**IPOC Station P**	**0.88**	**228**	*e*P	**Pn**	**16 55 07.8**	**-0.7**
PB02				*e*S	**Sn**	**16 55 24.5**	**+0.5**
PB02				IAML		16 55 29.3	
	comp=Z,3μm,0.2s						
PB02	**IPOC Station P**	**0.88**	**228**	*e*P	**Pn**	**16 55 08.4**	**-0.1**
PB02				*e*S	**Sn**	**16 55 23.1**	**-1.0**
PB02				IAML		16 55 28.1	
	comp=E,3μm,0.3s						
TA01	**Diego Aracena**	**0.94**	**280**	*e*P	**Pn**	**16 55 08.6**	**-0.2**
TA01				*e*S	**Sn**	**16 55 25.2**	**+0.5**
TA01				IAML		16 55 26.4	
	comp=Z,515nm,0.3s						
TA01	**Diego Aracena**	**0.94**	**280**	*e*P	**Pn**	**16 55 08.7**	**-0.2**
TA01				*e*S	**Sn**	**16 55 24.7**	**-0.1**
TA02	**Huaiquique**	**0.99**	**297**	*e*P	**Pn**	**16 55 09.4**	**+0.1**
TA02				*e*S	**Sn**	**16 55 26.9**	**+1.2**
TA02				IAML		16 55 27.6	
	comp=Z,3μm,0.1s						
TA02	**Huaiquique**	**0.99**	**297**	*e*P	**Pn**	**16 55 09.3**	**-0.1**
TA02				*e*S	**Sn**	**16 55 25.6**	**0.0**
TA02				IAML		16 55 29.4	
	comp=N,2μm,0.1s						
GO01	**Chusmiza**	**1.06**	**0**	*e*P	**Pn**	**16 55 09.9**	**-0.7**
GO01	**Chusmiza**	**1.06**	**0**	*e*P	**Pn**	**16 55 10.6**	**-0.1**
GO01				*e*S	**Sn**	**16 55 27.8**	**0.0**
GO01				IAML		16 55 28.8	
	comp=N,5μm,0.2s						
PB11	**IPOC Station P**	**1.06**	**336**	*e*P	**Pn**	**16 55 09.5**	**-0.8**
PB11				*e*S	**Sn**	**16 55 27.8**	**+0.6**
PB11				IAML		16 55 28.1	
	comp=Z,2μm,0.3s						
PB11	**IPOC Station P**	**1.06**	**336**	*e*P	**Pn**	**16 55 10.2**	**-0.1**
PB11				*e*S	**Sn**	**16 55 27.2**	**0.0**
PB11				IAML		16 55 28.5	
	comp=E,4μm,0.2s						
PB09	**IPOC Station P**	**1.06**	**182**	*e*P	**Pn**	**16 55 09.8**	**-0.6**
PB09				*e*S	**Sn**	**16 55 27.4**	**+0.1**
PB09				IAML		16 55 28.2	
	comp=Z,2μm,0.7s						
PB09	**IPOC Station P**	**1.06**	**182**	*e*P	**Pn**	**16 55 10.0**	**-0.3**
PB09				*e*S	**Sn**	**16 55 26.4**	**-0.9**
PB09				IAML		16 55 27.7	
	comp=N,2μm,0.3s						
PB07	**IPOC Station P**	**1.18**	**213**	*e*P	**Pn**	**16 55 10.8**	**-0.9**
PB07				*e*S	**Sn**	**16 55 28.9**	**-0.7**
PB07				IAML		16 55 31.4	
	comp=Z,778nm,0.3s						
PB07	**IPOC Station P**	**1.18**	**213**	*e*P	**Pn**	**16 55 11.4**	**-0.2**
PB07				*e*S	**Sn**	**16 55 28.3**	**-1.3**
PB07				IAML		16 55 29.2	
	comp=N,2μm,0.2s						
PB04	**IPOC Station P**	**1.83**	**209**	*e*P	**Pn**	**16 55 18.9**	**-0.2**
PB04				*e*S	**Sn**	**16 55 41.7**	**-1.3**
PB04				IAML		16 55 43.1	
	comp=Z,412nm,0.3s						
PB04	**IPOC Station P**	**1.83**	**209**	*i* P	**Pn**	**16 55 18.7**	**-0.4**
PB04				*i* S	**Sn**	**16 55 41.6**	**-1.3**
PB04				IAML		16 55 46.6	
	comp=N,500nm,0.2s						
LVC	**Limon Verde**	**1.89**	**172**	*e*P	**Pn**	**16 55 20.2**	**+0.1**
LVC				*e*S	**Sn**	**16 55 45.4**	**+0.7**
LVC	**Limon Verde**	**1.89**	**172**	*e*P	**Pn**	**16 55 19.9**	**-0.2**
LVC				*e*S	**Sn**	**16 55 44.1**	**-0.5**
LVC				IAML		16 55 46.8	
	comp=N,964nm,0.2s						
LVC	**Limon Verde**	**1.89**	**172**	*e*P	**Pn**	**16 55 23.4**	**+3.3**
PB06	**IPOC Station P**	**2.00**	**190**	*e*P	**Pn**	**16 55 20.9**	**-0.4**
PB06				*e*S	**Sn**	**16 55 45.0**	**-1.7**
PB06				IAML		16 55 48.3	
	comp=Z,258nm,0.4s						
PB06	**IPOC Station P**	**2.00**	**190**	*e*P	**Pn**	**16 55 20.6**	**-0.6**
PB06				*e*S	**Sn**	**16 55 44.5**	**-2.3**
PB06				IAML		16 55 50.3	
	comp=E,376nm,0.2s						
PB12	**IPOC Station P**	**2.36**	**333**	*e*P	**Pn**	**16 55 25.1**	**-0.7**
PB12				*e*S	**Sn**	**16 55 52.0**	**-2.9**
PB12				IAML		16 55 55.7	
	comp=Z,244nm,0.3s						
PB12	**IPOC Station P**	**2.36**	**333**	*e*P	**Pn**	**16 55 25.1**	**-0.7**
PB12				*e*S	**Sn**	**16 55 53.7**	**-1.2**
PB12				IAML		16 56 56.5	
	comp=E,347nm,0.3s						
PB16	**IPOC Station P**	**2.40**	**353**	*e*P	**Pn**	**16 55 22.5**	**-4.3**
PB16				IAML		16 55 60.0	
	comp=Z,105nm,0.4s						
PB15	**IPOC Station P**	**2.48**	**186**	*e*P	**Pn**	**16 55 27.7**	**+0.3**
PB15				*e*S	**Sn**	**16 55 57.0**	**-0.8**
PB15				IAML		16 56 07.3	
	comp=Z,814nm,0.2s						
YJA	**Yavi**	**3.72**	**113**	*e*P	**Pn**	**16 55 44.6**	**+0.6**
YJA				*e*S	**Sn**	**16 56 28.9**	**+1.6**
GO02	**Mina Guanaco**	**4.43**	**185**	*e*P	**Pn**	**16 55 52.6**	**-0.7**
GO02				*e*S	**Sn**	**16 56 42.6**	**-1.5**
VILB	**Vilhena**	**11.57**	**49**	*e*P	**Pn**	**16 57 31.6**	**+2.0**
BDQN	**Bodoquena, MS**	**11.66**	**91**	*e*P	**Pn**	**16 57 26.0**	**-4.8**
PDRB	**Porto dos Gac**	**15.01**	**55**	*e*P	**P**	**16 58 15.9**	**-0.8**
TEFE	**Tefe**	**17.68**	**15**	*e*P	**Pn**	**16 58 53.0**	**+6.0**
BB19B	**Bebedouro**	**19.31**	**95**	*e*P	**P**	**16 59 03.0**	**-1.1**
IPMB	**Ipameri, GO**	**19.98**	**86**	*e*P	**P**	**16 59 10.0**	**-1.4**
RCLB	**Rio Claro- Sao**	**20.22**	**99**	*e*P	**P**	**16 59 12.3**	**-1.6**
BSCB	**Bom Sucesso**	**22.82**	**95**	*e*P	**P**	**16 59 40.7**	**-0.6**
SMTB	**Santa Maria do**	**23.95**	**64**	*e*P	**P**	**16 59 52.3**	**+0.7**
JANB	**Januaria**	**24.33**	**81**	*e*P	**P**	**16 59 54.6**	**-0.5**
ALF01	**Guarapari-ES**	**26.62**	**95**	*e*P	**P**	**17 00 15.1**	**-0.7**

*CATAC **24** 16:56:12.7±0.8,8.˚33N×82.˚60W, h25km±2km, ML3.4*
*UCR **24** 16:56:14.7±0.7,8.˚36N×82.˚72W, h33km±2km, MW3.5*

ISC 24 16:56:14.6±1.5,8.˚39N±0.˚05×82.˚68W±0.˚04, h24km±14km, n45, σ0.°92/58, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDITO	**Canoas**	**0.26**	**314**	*e*P	**Pn**	**16 56 21.8**	**-1.1**
CDITO	**Canoas**	**0.26**	**314**	*i* P	**Pn**	**16 56 21.8**	**-1.1**
CDITO				*i* S	**Sn**	**16 56 28.3**	**+0.1**
CDITO				IAML		16 56 34.7	
	comp=Z,2μm,1.0s						
CCOL	**Caracol de Cor**	**0.29**	**273**	*e*P	**Pn**	**16 56 22.4**	**-0.9**
CCOL	**Caracol de Cor**	**0.29**	**273**	*i* P	**Pn**	**16 56 22.3**	**-0.9**
CCOL				*i* S	**Sn**	**16 56 29.9**	**+1.1**
CCOL				IAML		16 56 34.8	
	comp=Z,6μm,1.0s						
BRU2	**Volcan**	**0.40**	**359**	*e*P	**Pn**	**16 56 24.0**	**-0.9**
BRU2				*e*S	**Sn**	**16 56 31.6**	**-0.3**
BRU2	**Volcan**	**0.40**	**359**	*i* P	**Pn**	**16 56 24.1**	**-0.9**
BRU2				*i* S	**Sn**	**16 56 31.5**	**-0.3**
BRU2				IAML		16 56 35.3	
	comp=Z,2μm,1.0s						
FITO	**Golfito**	**0.52**	**296**	*e*P	**Pb**	**16 56 24.4**	**-0.7**
EDAD	**Golfito**	**0.54**	**298**	*e*P	**Pb**	**16 56 24.9**	**-0.6**
PIRO	**Carate, Puerto**	**0.65**	**271**	*e*P	**Pb**	**16 56 26.8**	**-0.5**
JIME	**Puerto Jimenez**	**0.65**	**283**	*e*P	**Pb**	**16 56 27.3**	**0.0**
POTG	**Potrero Grande**	**0.79**	**327**	*e*P	**Pn**	**16 56 29.2**	**-1.0**
POTG	**Potrero Grande**	**0.79**	**327**	*i* P	**Pn**	**16 56 29.2**	**-1.0**
POTG				*i* S	**Sn**	**16 56 41.9**	**+0.7**
POTG				IAML		16 56 45.3	
	comp=Z,2μm,1.0s						
EDP2	**Potrero Grande**	**0.79**	**322**	*e*P	**Pn**	**16 56 29.6**	**-0.6**
EDPN	**Palmar Norte**	**0.95**	**306**	*e*P	**Pn**	**16 56 31.3**	**-1.1**
PLAN	**Los Planes de**	**1.02**	**286**	*i* P	**Pn**	**16 56 32.5**	**-0.9**
PLAN				IAML		16 56 33.4	
	comp=Z,2μm,1.0s						
PLAN				*i* S	**Sb**	**16 56 48.4**	**+1.7**
DRK0	**Durika**	**1.03**	**327**	*e*P	**Pn**	**16 56 32.8**	**-0.9**
SRBA	**San Rafael, Bu**	**1.07**	**321**	*e*P	**Pn**	**16 56 33.0**	**-1.2**
SRBA	**San Rafael, Bu**	**1.07**	**321**	*i* P	**Pn**	**16 56 32.8**	**-1.4**
SRBA				*i* S	**Sn**	**16 56 47.5**	**-0.8**
SRBA				IAML		16 56 48.7	
	comp=Z,630nm,1.0s						
OCHAL	**Ojochal**	**1.18**	**306**	*i* P	**Pn**	**16 56 34.8**	**-0.8**
OCHAL				IAML		16 56 36.8	
	comp=Z,640nm,1.0s						
OCHAL				*i* S	**Sb**	**16 56 51.5**	**+0.3**
PEZE	**Perez Zeledon,**	**1.39**	**315**	*e*P	**Pn**	**16 56 38.1**	**-0.4**
GMAL	**Guarumal, Vera**	**1.56**	**113**	*e*P	**Pn**	**16 56 40.1**	**-0.8**
CDM	**Cerro de Muert**	**1.57**	**317**	*e*P	**Pn**	**16 56 40.6**	**-0.8**
CDM	**Cerro de Muert**	**1.57**	**317**	*i* P	**Pn**	**16 56 40.5**	**-0.8**
CDM				*i* S	**Sn**	**16 57 01.3**	**+0.1**
CDM				IAML		16 57 02.8	
	comp=Z,260nm,1.0s						
LLNJ	**Naranjito**	**1.77**	**308**	*e*P	**Pn**	**16 56 44.0**	**+0.3**
BATAN	**Batan**	**1.83**	**338**	*e*P	**Pb**	**16 56 46.3**	**-1.0**
VERB	**Verbena**	**1.84**	**327**	*e*P	**Pn**	**16 56 45.4**	**+0.6**
LCR2	**La Lucha 2**	**1.87**	**316**	*e*P	**Pn**	**16 56 44.9**	**-0.4**
LCR2	**La Lucha 2**	**1.87**	**316**	*i* P	**Pn**	**16 56 44.9**	**-0.4**
LCR2				*i* S	**Sn**	**16 57 09.0**	**+0.7**
LCR2				IAML		16 57 12.6	
	comp=Z,280nm,1.0s						
VTCV	**VTCV, Calle Va**	**1.89**	**327**	*e*P	**Pn**	**16 56 46.2**	**+0.7**
VTCV	**VTCV, Calle Va**	**1.89**	**327**	*i* P	**Pn**	**16 56 46.4**	**+0.9**
VTCV				*i* S	**Sn**	**16 57 10.4**	**+1.8**
LCOCO	**El Coco**	**1.89**	**333**	*e*P	**Pb**	**16 56 47.1**	**-1.3**
CVTQ	**Turrialba Volc**	**1.93**	**326**	*e*P	**Pn**	**16 56 47.0**	**+0.8**
VTLA	**Turrialba Volc**	**1.93**	**326**	*e*P	**Pn**	**16 56 47.2**	**+1.0**
CVTR	**Volcan Turrial**

KAN09 Sg Sg 17 08 07.5 +0.1
KAN09 IAML 17 08 10.1
comp=N,2µm,0.2s
KAN09 IAML 17 08 10.7
comp=E,2µm,0.2s
KAN01 Argonia South 0.32 353 Pg Pg **17 08 03.4 -0.1**
KAN01 Sg Sg **17 08 08.0 +0.2**
CROK Carrier 0.40 214 Pg Pg **17 08 05.0 +0.1**
CROK Sg Sg **17 08 10.6 +0.4**
CROK IAML 17 08 11.3
comp=N,1µm,0.5s
CROK IAML 17 08 13.1
comp=E,2µm,0.5s
OK032 Salt Plains WL 0.40 265 Pg **17 08 04.8 -0.2**
OK032 IAML 17 08 14.9
comp=E,853nm,0.2s
BLOK Blackwell 0.40 101 Pg **17 08 05.0 -0.1**
BLOK IAML 17 08 13.5
comp=E,1µm,0.2s
KAN10 Anthony SW Sta 0.42 313 Pg Pg **17 08 05.3 0.0**
KAN10 Sg Sg **17 08 11.2 +0.2**
KAN10 IAML 17 08 11.6
comp=N,850nm,0.5s
KAN06 Argonia West S 0.43 344 Pg Pg **17 08 05.3 -0.2**
KAN06 IAML 17 08 13.6
comp=E,836nm,0.6s
KAN06 IAML 17 08 15.2
comp=N,952nm,0.1s
KAN08 Anthony NE Sta 0.44 332 Pg Pg **17 08 05.4 -0.3**
KAN08 IAML 17 08 13.9
comp=E,1µm,0.5s
KS21 Milan North St 0.45 5 Pg Pg **17 08 05.8 -0.1**
KS21 Sg Sg **17 08 12.2 +0.3**
KAN12 Harper NE Stat 0.51 333 Pg Pg **17 08 07.1 0.0**
KAN12 Sg Sg **17 08 13.8 -0.1**
KAN12 IAML 17 08 16.3
comp=N,2µm,0.4s
OK048 Pawnee Station 0.74 124 Pg Pg **17 08 11.0 -0.4**
OK048 Sg Sg **17 08 20.9 -0.3**
OK048 IAML 17 08 23.3
comp=N,605nm,0.4s
OK035 E0210 Rd and N 0.81 261 Pg Pg **17 08 12.2 -0.5**
OK035 Sg Sg **17 08 23.5 +0.2**
OK035 IAML 17 08 30.4
comp=N,495nm,0.4s
OK038 West end E0370 0.90 247 Pg Pg **17 08 13.9 -0.5**
OK038 Sg Sg **17 08 26.5 +0.3**
T35A Sooner Cattle 0.96 85 Pg Pg **17 08 14.9 -0.7**
T35A Sg Sg **17 08 27.7 -0.4**
T35B Sooner Cattle 0.96 85 P Pg **17 08 15.0 -0.6**
baz=266
T35B S Sg **17 08 27.9 -0.3**
baz=266
OK033 Mehan 1.01 142 Pg Pg **17 08 15.8 -0.6**
OK033 IAML 17 08 34.2
comp=N,501nm,0.3s
OK033 IAML 17 08 34.2
comp=N,565nm,0.3s
QUOK Quay 1.04 129 Pg Pg **17 08 16.4 -0.7**
OK029 Liberty Lake 1.06 169 Pg Pg **17 08 16.8 -0.6**
OK029 IAML 17 08 35.8
comp=N,227nm,0.4s
OK029 IAML 17 08 35.9
comp=N,422nm,0.5s
OK052 Battle Ridge R 1.11 139 Pg Pg **17 08 17.8 -0.7**
U32A Winter Ranch, 1.14 247 Pg Pg **17 08 18.1 -0.7**
U32A IAML 17 08 44.0
comp=N,285nm,0.7s
U32A IAML 17 08 46.7
comp=E,211nm,0.7s
U32A Winter Ranch, 1.14 247 P Pg **17 08 18.4 -0.4**
baz=66
U32A S Sb **17 08 34.0 +0.5**
baz=66
ADOK Arcadia Dam 1.21 167 Pg Pb **17 08 19.6 -0.3**
DEOK Depew 1.39 135 Pn **17 08 22.2 -0.2**
CSTR Hydro, Custer 1.43 214 Pn **17 08 23.2 +0.3**
OKCSW OKLAHOMA CITY 1.45 171 Pn **17 08 23.5 +0.4**
ELIS Ellis County 1.58 241 Pb **17 08 26.1 -0.2**
FNO Franklin 1.60 171 Pn **17 08 26.0 +0.8**
R32A Long Quarter, 1.77 334 Pn Pn **17 08 28.2 +0.5**
R32A Long Quarter, 1.77 334 P Pb **17 08 29.4 -0.1**
baz=153
R32A S Sb **17 08 51.8 0.0**
baz=153
TUL3 Leonard 1.80 120 Pn Pn **17 08 28.8 +0.7**
TUL3 IAmb_Lg 17 08 56.5
comp=Z,39nm,0.8s
TUL3 Leonard 1.80 120 P Pn **17 08 29.3 +1.3**
baz=302
TUL3 S Sb **17 08 53.2 +0.6**
baz=302
W35A Tecumseh 1.81 158 Pn Pn **17 08 29.0 +0.9**
RLO Rose Lookout 2.27 106 Pn Pn **17 08 33.9 -0.5**
WMOK Wichita Mounta 2.27 203 Pn Pn **17 08 35.4 +0.9**
WMOK Wichita Mounta 2.27 203 P Pn **17 08 35.5 +1.1**
baz=22
KSU1 Kansas State U 2.42 21 Pn Pn **17 08 36.9 +0.4**
CBKS Cedar Bluff 2.54 321 Pn Pn **17 08 38.0 -0.3**
CBKS Cedar Bluff 2.54 321 S Sb **17 09 15.5 +1.4**
baz=140
SMWD Samnorwood 2.69 231 Pn Pn **17 08 40.9 +0.6**
U38A Gravette 2.70 97 Pn Pn **17 08 41.0 +0.6**
LOOK Love County 2.87 171 Pn Pn **17 08 42.3 -0.4**
X37A Clayton 2.94 139 Pn Pn **17 08 44.5 +0.8**
X37A IAmb_Lg 17 09 35.1
comp=Z,36nm,0.7s
X37A Clayton 2.94 139 S Sb **17 09 28.0 +2.6**
baz=321
HHAR Hobbs 3.08 99 Pn Pn **17 08 46.2 +0.5**
WTFS Witchita Falls 3.12 192 Pn Pn **17 08 47.4 +1.1**
Z35A Perchaven, San 3.52 174 Pn Pn **17 08 52.1 +0.5**
S39A Bolivar 3.60 75 Pn Pn **17 08 53.0 +0.2**
S39A IAmb_Lg 17 09 57.1
comp=Z,30nm,0.9s
S39A Bolivar 3.60 75 S Sn **17 09 36.7 +1.4**
baz=258
AMTX Amarillo 3.77 240 Pn Pn **17 08 54.6 -0.6**
AMTX IAmb_Lg 17 10 06.3
comp=Z,26nm,0.8s
FW03 Perrin-Whitt E 3.80 185 Pn Pn **17 08 54.4 -1.1**
FW06 Azle 3.86 178 Pn Pn **17 08 55.1 -1.2**
N33A J Bar K, Exete 3.90 3 Pn Pn **17 08 56.0 -0.9**
APMT Aspermont 4.02 210 Pn Pn **17 08 58.0 -0.6**
PLPT Palo Pinto 4.04 187 Pn Pn **17 08 57.1 -1.8**
RTBA Rita Blanca 4.06 266 Pn Pn **17 08 59.5 +0.3**
MIAR Mount Ida 4.07 123 Pn Pn **17 08 59.1 -0.1**
DKNS Dickens 4.11 221 Pn Pn **17 09 01.1 +1.2**
DKNS IAmb_Lg 17 10 09.0
comp=Z,15nm,0.7s
Z38A Mt. Pleasant 4.21 147 Pn Pn **17 09 00.3 -0.8**
P38A Dawn 4.31 48 Pn Pn **17 09 02.4 -0.1**
P38A IAmb_Lg 17 10 15.0
comp=Z,32nm,0.7s
N35A Tabor 4.33 21 Pn Pn **17 09 03.6 +0.9**
MGMO Mountain Grove 4.37 84 Pn Pn **17 09 04.2 +0.9**
KSCO Kaye Shedlock' 4.45 301 IAmb_Lg 17 10 28.0
comp=Z,20nm,0.9s
ABTX Abilene, Hawle 4.49 201 Pn Pn **17 09 06.0 +0.9**
R40A Maddies Statio 4.56 70 Pn Pn **17 09 06.6 +0.6**
R40A IAmb_Lg 17 10 26.5
comp=Z,19nm,0.8s
SN07 Snyder 07 4.56 216 Pn Pn **17 09 04.5 -1.5**
BGNE Belgrade 4.58 356 Pn Pn **17 09 05.3 -0.9**
FCAR Ozark Folk Cen 4.61 100 Pn Pn **17 09 04.3 -2.2**
FCAR IAmb_Lg 17 10 19.9
comp=Z,13nm,0.7s
X40A Basin Creek Fa 4.61 119 Pn Pn **17 09 06.3 -0.3**
X40A IAmb_Lg 17 10 33.2
comp=Z,11nm,0.9s
WHAR Wooly Hollow 4.66 108 Pn Pn **17 09 07.0 -0.3**
WHAR IAmb_Lg 17 10 23.6
comp=Z,15nm,0.8s
SN05 Snyder 5 4.73 214 IAmb_Lg 17 10 32.6
comp=Z,18nm,0.9s
UALR University of 4.82 114 IAmb_Lg 17 10 36.6
comp=Z,16nm,0.8s
POST Post 4.88 221 Pn Pn **17 09 09.1 -1.4**
POST IAmb_Lg 17 10 32.6
comp=Z,11nm,0.8s
WLAR White Oak Lake 4.90 129 IAmb_Lg 17 10 36.1
comp=Z,17nm,0.8s
MSTX Muleshoe 5.03 237 Pn Pn **17 09 10.6 -1.9**
P40A Paris 5.21 57 Pn Pn **17 09 13.7 -1.1**
P40A IAmb_Lg 17 10 43.8
comp=Z,22nm,0.8s
L34A Svendsen Farm, 5.23 11 IAmb_Lg 17 10 48.8
comp=Z,26nm,0.7s
N38A Joes South For 5.27 40 Pn Pn **17 09 14.2 -1.5**
CCM Cathedral Cave 5.29 75 Pn Pn **17 09 14.2 -1.7**
CCM IAmb_Lg 17 10 43.3
comp=Z,23nm,0.9s
OGNE Ogallala 5.31 322 Pn Pn **17 09 16.1 -0.3**
OGNE IAmb_Lg 17 10 58.4
comp=Z,14nm,0.7s
LCAR Lake Charles 5.34 96 Pn Pn **17 09 15.6 -1.0**
T25A Trinidad 5.37 275 Pn Pn **17 09 14.9 -2.4**
T25A IAmb_Lg 17 10 47.9
comp=Z,10nm,0.9s
Z41A Richland Creek 5.38 130 IAmb_Lg 17 10 56.6
comp=Z,19nm,1.0s
BRDY Brady 5.64 191 Pn Pn **17 09 20.1 -0.7**
PBMO Poplar Bluff 5.84 88 Pn Pn **17 09 22.3 -1.2**
PBMO IAmb_Lg 17 11 13.1
comp=Z,18nm,0.8s
FVM French Village 5.91 77 Pn Pn **17 09 23.5 -1.0**
435B Jarrell 6.04 179 IAmb_Lg 17 11 19.2
comp=Z,17nm,0.8s
Q24A Divide 6.25 292 Pn Pn **17 09 29.3 -0.2**
SDCO Great Sand Dun 6.28 281 Pn Pn **17 09 27.5 -2.4**
BRIGG Briggsdale 6.38 308 IAmb_Lg 17 11 27.5
comp=Z,22nm,0.9s
CGM3 Cape Girardeau 6.45 84 Pn Pn **17 09 31.4 -0.5**
CGM3 IAmb_Lg 17 11 22.8
comp=Z,15nm,0.8s
JCT Junction City 6.58 196 IAmb_Lg 17 11 28.9
comp=Z,17nm,1.1s
N41A Harden Midland 6.60 52 Pn Pn **17 09 33.0 -0.9**
S44A Carbondale 6.80 80 Pn Pn **17 09 34.0 -2.6**
SIUC Southern Illin 6.83 80 Pn Pn **17 09 35.4 -1.7**
ISCO Idaho Springs 6.88 298 Pn Pn **17 09 36.1 -2.1**
ECSD EROS Data Cent 6.94 7 Pn Pn **17 09 37.5 -1.1**
Q44A Meyer Farm, Va 7.18 71 IAmb_Lg 17 11 57.7
comp=Z,18nm,0.8s
L40A Anamosa 7.24 42 Pn Pn **17 09 42.8 +0.1**
PECS Pecos 7.47 225 IAmb_Lg 17 12 04.9
comp=Z,7.7nm,0.9s
SUSD Miller 7.66 353 IAmb_Lg 17 12 11.0
comp=Z,16nm,0.9s

*IDC **24** 17:08:40.4±0.9, 52˚.54N×171˚.71E, h0km, mb3.5/10, mbtmp3.5/12, ML2.8/2, MS2.5/2, Error ellipse: s-maj=29.0km s-min=14.3km az=171.0*
*NEIC **24** 17:08:46.3±2.5, 52˚.6N±0˚.2×171˚.7E±0˚.1, h39km±12km, mb3.9/53, Error ellipse: s-maj=30.9km s-min=9.2km az=177.0*
*KRSC **24** 17:08:50.1±0.6, 52˚.63N×170˚.39E, h16km±19km, Ml4.0*
ISC 24 17:08:44.8±0.7, 52˚.5N±0˚.1×171˚.50E±0˚.05, h35km, n89, σ1§84/84, mb3.9/29, Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**1.60**	**81**	Pn		**Pn**	**17 09 09.2**	**-1.3**
	107nm,0.3s,baz=292,slow=2.4,SNR=45							
SHEM				Sn		**Sn**	**17 09 28.2**	**-1.7**
	276nm,0.3s,baz=198,slow=20,SNR=15							
SHEM				LR		LR	17 09 45.2	
	comp=Z,203nm,18.1s,baz=110,slow=44							
BKI	**Bering**	**4.24**	**312**	*eS*		**Sn**	**17 10 32.7**	**-2.2**
KMNR	**Kamenistaya**	**7.37**	**301**	*eP*		**Pn**	**17 10 33.1**	**+3.3**
SMAR	**Somma**	**7.72**	**281**	*eP*		**Pn**	**17 10 37.1**	**+2.3**
DALK	**Dalny**	**7.75**	**279**	*eS*		**Sn**	**17 11 57.6**	**-3.9**
KRER	**Koryakskii**	**7.75**	**281**	*eP*		**Pn**	**17 10 37.6**	**+2.4**
AVH	**Avacha**	**7.76**	**281**	*eP*		**Pn**	**17 10 37.4**	**+2.2**
PET	**Petropavlovsk**	**7.81**	**279**	Pn		Pn	17 10 40.8	+5.0
PET	**Petropavlovsk**	**7.81**	**279**	*eS*		**Sn**	**17 11 58.6**	**-4.4**
KRX	**Arik**	**7.81**	**281**	*eP*		**Pn**	**17 10 38.3**	**+2.2**
MTVR	**Mutnovka**	**8.13**	**275**	*eP*		**Pn**	**17 10 42.6**	**+2.2**
MTVR				*eS*		**Sn**	**17 12 06.6**	**-4.4**
KRMR	**Karymshinskiy**	**8.14**	**277**	*eS*		**Sn**	**17 12 07.4**	**-3.5**
KDTR	**Khodutka, Kamc**	**8.29**	**270**	*eS*		**Sn**	**17 12 10.6**	**-4.0**
ASAK	**Asacha**	**8.31**	**274**	*eP*		**Pn**	**17 10 45.4**	**+2.5**
ASAK				*eS*		**Sn**	**17 12 10.9**	**-4.5**
PEA0B	**Petropavlovsk-**	**8.39**	**279**	Pn		**Pn**	**17 10 46.2**	**+2.5**
PETK	**Petropavlovsk-**	**8.39**	**279**	Pn		**Pn**	**17 10 45.2**	**+1.5**
PETK	**Petropavlovsk-**	**8.39**	**279**	Pn		**Pn**	**17 10 46.2**	**+2.5**
	0.3nm,0.3s,baz=90,slow=18,SNR=2.8							
PETK				Sn		**Sn**	**17 12 12.6**	**-4.5**
	0.8nm,0.3s,baz=318,slow=13,SNR=3.7							
PETK				LR		LR	17 14 11.9	
	comp=Z,12nm,20.4s,baz=69,slow=39 1.2nm,0.6s							
SEY	**Seymchan**	**14.53**	**323**	Pn		**Pn**	**17 12 08.2**	**+0.6**
	0.1nm,0.3s,baz=163,slow=19,SNR=1.7 0.2nm,0.3s							
M14K	**Bethel**	**16.66**	**50**	P		**P**	**17 12 36.6**	**-0.7**
M14K				IAmb		IAmb	17 12 51.3	
	comp=Z,18nm,1.4s							
CNBA	**Chernabura Isl**	**17.23**	**71**	Pn		**Pn**	**17 12 41.2**	**-1.2**
K15K	**Wolf Creek Mou**	**17.38**	**45**	P		**P**	**17 12 45.2**	**-0.1**
K15K				IAmb		IAmb	17 13 07.4	
	comp=Z,14nm,1.4s							
N15K	**Kwethluk River**	**17.39**	**53**			**P**	**17 12 44.8**	**-0.7**
N15K				IAmb		IAmb	17 12 54.2	
	comp=Z,13nm,1.2s							
M16K	**Timber Creek**	**18.14**	**50**			**P**	**17 12 55.5**	**+1.7**
M16K				IAmb		IAmb	17 12 57.5	
	comp=Z,11nm,1.4s							
J16K	**Anvik River**	**18.16**	**43**			**P**	**17 12 56.9**	**+3.0**
J17K	**VABM Dome**	**18.83**	**43**			**Pn**	**17 13 02.6**	**+0.6**
K17K	**Iditarod**	**18.93**	**46**	P		**Pn**	**17 13 03.5**	**+0.3**
K17K				IAmb		IAmb	17 13 23.8	
	comp=Z,15nm,1.4s							
M17K	**Holitna River**	**18.95**	**50**			**Pn**	**17 13 02.4**	**-1.0**
M17K				IAmb		IAmb	17 13 14.4	
	comp=Z,14nm,1.4s							
L18K	**Granite Mounta**	**19.50**	**48**	P		**Pn**	**17 13 10.1**	**+0.1**
L18K				IAmb		IAmb	17 13 22.5	
	comp=Z,12nm,1.5s							
P18K	**Big Mountain,**	**19.69**	**56**	P		**Pn**	**17 13 11.8**	**-0.5**
H18K	**Honhosa River**	**19.82**	**39**	P		**Pn**	**17 13 13.4**	**-0.4**
H18K				IAmb		IAmb	17 13 25.1	
	comp=Z,14nm,1.5s							
J19K	**Poorman**	**20.48**	**43**	P		Pn	17 13 20.7	-0.9
OHAK	**Old Harbor**	**20.64**	**63**	P		**P**	**17 13 19.4**	**-1.6**
C18K	**Utukok River**	**20.70**	**28**	P		**P**	**17 13 20.8**	**-0.8**
KDAK	**Kodiak Island**	**21.01**	**61**	P		**P**	**17 13 22.9**	**-2.1**
KDAK	**Kodiak Island**	**21.01**	**61**	P		**P**	**17 13 23.2**	**-1.7**
	comp=Z,8.2nm,0.6s,baz=290,slow=2.6,SNR=14							
	comp=Z,8.2nm,0.6s							
J20K	**Nowinta River**	**21.16**	**43**	P		**P**	**17 13 25.6**	**-0.9**
E19K	**Redstone River**	**21.29**	**33**	P		**P**	**17 13 29.1**	**+1.2**
D19K	**Kuna River**	**21.54**	**31**	P		**P**	**17 13 31.6**	**+1.0**
D19K				IAmb		IAmb	17 13 41.6	
	comp=Z,6.9nm,1.3s							
CNPM	**China Poot**	**21.73**	**56**	P		**P**	**17 13 32.6**	**-0.1**
IMAR	**Indian Mountai**	**21.91**	**39**	P		**P**	**17 13 35.5**	**+0.9**
BRLK	**Bradley Lake**	**21.92**	**56**	P		**P**	**17 13 35.2**	**+0.4**
SUA	**Susitna One**	**22.12**	**51**	P		**P**	**17 13 37.4**	**+0.4**
SUA				IAmb		IAmb	17 13 49.5	
	comp=Z,8.8nm,1.3s							
H21K	**Melozitna Rive**	**22.16**	**40**	P		**P**	**17 13 37.8**	**+0.5**
H21K				IAmb		IAmb	17 13 51.3	
	comp=Z,6.7nm,1.4s							
G21K	**Allakaket**	**22.20**	**37**	P		**P**	**17 13 38.1**	**+0.4**
RC01	**Rabbit Creek A**	**22.57**	**52**	P		**P**	**17 13 40.8**	**-0.9**
RC01				IAmb		IAmb	17 14 06.6	
	comp=Z,6.3nm,1.0s							
TRF	**Thorofare Moun**	**22.64**	**46**	P		**P**	**17 13 41.2**	**-1.4**
TRF				IAmb		IAmb	17 13 49.5	
	comp=Z,4.6nm,1.1s							
B20K	**Meade River**	**22.66**	**28**	P		**P**	**17 13 42.3**	**-0.2**
B20K				IAmb		IAmb	17 13 48.4	
	comp=Z,6.0nm,1.1s							
B21K	**Ikpikpuk River**	**23.20**	**30**	P		**P**	**17 13 46.5**	**-1.6**
B21K				IAmb		IAmb	17 14 01.8	
	comp=Z,8.5nm,1.4s							
KNK	**Knik Glacier**	**23.21**	**52**	P		**P**	**17 13 48.5**	**+0.1**
E22K	**Anaktuvuk Pass**	**23.43**	**34**	P		**P**	**17 13 51.0**	**+0.5**
D22K	**Ayikyak River**	**23.46**	**32**	P		**P**	**17 13 51.8**	**+1.2**
D22K				IAmb		IAmb	17 13 57.8	
	comp=Z,3.7nm,0.9s							
SCM	**Sheep Creek Mo**	**23.78**	**51**	P		**P**	**17 13 53.0**	**-0.9**
WRH	**Wood River Hil**	**23.79**	**44**	P		**P**	**17 13 53.8**	**-0.1**
WRH				IAmb		IAmb	17 14 37.1	
	comp=Z,6.1nm,1.4s							
MDM	**Murphy Dome**	**23.83**	**43**	P		**P**	**17 13 54.1**	**-0.1**
MDM				IAmb		IAmb	17 13 59.1	
	comp=Z,4.0nm,1.2s							
B22K	**Teshekpuk Lake**	**23.92**	**29**	P		**P**	**17 13 54.9**	**-0.1**
YAK	**Yakutsk**	**24.11**	**310**	LR		LR	17 24 40.4	
	comp=Z,30nm,18.2s,baz=97,slow=40							
H24K	**Noodor Dome**	**24.17**	**41**	P		**P**	**17 13 58.6**	**+1.2**
ILAR	**Eielson Array**	**24.35**	**44**	P		**P**	**17 13 57.9**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=249,slow=8.2,SNR=6.8 comp=Z,0.5nm,0.7s							
TOLK	**Toolik Lake Re**	**24.39**	**34**	P		**P**	**17 13 57.5**	**-1.9**
KLU	**Klutina**	**24.43**	**52**	P		**P**	**17 13 57.5**	**-2.4**
C23K	**Itkillik River**	**24.53**	**31**	P		**P**	**17 13 59.5**	**-1.1**
C23K				IAmb		IAmb	17 14 07.8	
	comp=Z,3.6nm,0.9s							
RIDG	**Independent Ri**	**25.09**	**46**	P		**P**	**17 14 03.9**	**-1.9**
RIDG				IAmb		IAmb	17 14 20.8	
	comp=Z,6.7nm,1.2s							
GLB	**Gilahina Butte**	**25.45**	**52**	P		**P**	**17 14 08.2**	**-0.8**
GLB				IAmb		IAmb	17 14 22.3	
	comp=Z,6.2nm,1.4s							
SCRK	**Sand Creek**	**25.49**	**46**	P		**P**	**17 14 08.8**	**-0.8**
D25K	**Kavik River**	**25.71**	**33**	P		**P**	**17 14 09.3**	**-2.1**
D25K				IAmb		IAmb	17 14 17.3	
	comp=Z,2.6nm,0.9s							
J26L	**Joseph Creek**	**25.73**	**45**	P		**P**	**17 14 10.3**	**-1.4**
CRQM	**Cirque**	**25.79**	**53**	P		**P**	**17 14 14.7**	**+2.4**
BMAR	**Burnt Mountain**	**25.82**	**38**	P		**P**	**17 14 11.5**	**-0.9**
MCARA	**McCarthy VSAT**	**25.83**	**52**	P		**P**	**17 14 12.0**	**-0.4**
MCARA				IAmb		IAmb	17 14 46.1	
	comp=Z,5.0nm,1.0s							
WAX	**Waxell Ridge**	**25.94**	**54**	P		**P**	**17 14 11.8**	**-1.7**
K27K	**Chicken**	**26.34**	**46**	P		**P**	**17 14 16.9**	**-0.1**
K27K				IAmb		IAmb	17 14 41.7	
	comp=Z,8.1nm,1.5s							
G29M	**Pine Creek**	**28.26**	**40**	P		**P**	**17 14 35.0**	**+0.7**
G29M				IAmb		IAmb	17 14 37.7	
	comp=Z,3.2nm,1.2s							
K29M	**Barlow Dome**	**28.34**	**46**	P		**P**	**17 14 34.7**	**-0.4**
K29M				IAmb		IAmb	17 14 39.5	
	comp=Z,3.5nm,1.2s							
G31M	**Satah River**	**29.74**	**40**	P		**P**	**17 14 47.5**	**+0.2**
DLBC	**Dease Lake**	**32.72**	**56**	P		**P**	**17 15 13.1**	**-0.7**
DLBC				IAmb		IAmb	17 15 56.6	
	comp=Z,3.4nm,1.1s							
H11N2	**WAKE ISLAND Hy**	**32.92**	**188**	T		T	17 50 44.8	
	baz=5.3,slow=76							
H11N3	**WAKE ISLAND Hy**	**32.94**	**188**	T		T	17 50 52.0	
	baz=5.3,slow=76							
H11N1	**WAKE ISLAND Hy**	**32.94**	**188**	T		T	17 50 27.5	
	baz=5.3,slow=76							
H11S1	**WAKE ISLAND Hy**	**34.15**	**188**	T		T	17 52 19.5	
	baz=5.1,slow=76							
H11S3	**WAKE ISLAND Hy**	**34.16**	**188**	T		T	17 51 59.3	
	baz=5.1,slow=76							
H11S2	**WAKE ISLAND Hy**	**34.17**	**188**	T		T	17 52 25.8	
	baz=5.1,slow=76							
YKA	**Yellowknife Ar**	**38.76**	**45**	P		**P**	**17 16 05.2**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=290,slow=8.3,SNR=1.6 comp=Z,0.1nm,0.5s							
NVAR	**Mina Array Bea**	**49.26**	**77**	P		**P**	**17 17 30.0**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=298,slow=7.8,SNR=2.3 comp=Z,0.2nm,0.5s							
PDAR	**Pinedale Array**	**51.55**	**67**	P		**P**	**17 17 46.8**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=290,slow=4.4,SNR=4.1 comp=Z,0.6nm,0.8s							
MKAR	**Makanchi Array**	**54.48**	**302**	P		**P**	**17 18 08.5**	**-0.2**
	comp=Z,0.2nm,0.8s,baz=45,slow=8.6,SNR=1.5 comp=Z,0.2nm,0.8s							
TXAR	**Lajitas Array**	**64.28**	**75**	P		**P**	**17 19 17.1**	**+0.5**
	comp=Z,1.5nm,0.5s,baz=304,slow=5.0,SNR=26 comp=Z,1.5nm,0.5s							
CMAR	**Chiang Mai Arr**	**64.98**	**268**	P		**P**	**17 19 23.4**	**+2.3**
	comp=Z,0.2nm,0.4s,baz=18,slow=9.5,SNR=2.8 comp=Z,0.2nm,0.4s							
WRA	**Warramunga Arr**	**79.06**	**215**	P		**P**	**17 20 45.7**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=26,slow=5.8,SNR=1.8 comp=Z,0.4nm,0.8s							
ASAR	**Alice Springs**	**82.65**	**214**	P		**P**	**17 21 06.5**	**+2.2**
	comp=Z,0.4nm,0.9s,baz=7.3,slow=5.0,SNR=4.2 comp=Z,0.4nm,0.9s							

*IDC **24** 17:13:32.9±1.5, 44˚.48N×148˚.94E, h0km, mb3.3/3, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=43.4km s-min=29.3km az=147.0*
*JMA **24** 17:13:39.0±0.3, 44˚N±1˚×148˚8E±˚, h0km, MV4.1/29, SE OFF ETOROFU*
*SKHL **24** 17:13:40.8±0.2, 44˚.40N×148˚.20E, h22km±4km, mb4.6/3*
ISC 24 17:13:35.7±2.2, 44˚.23N±0˚.07×148˚.38E±0˚.09, h1km±13km, n22, σ1§69/36, mb3.7/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.07**	**340**	*i* P		**Pg**	**17 13 56.2**	**-0.1**
KUR				AMB		AMB	17 13 56.8	
	150nm,0.2s							
KUR				*i* S		**Sg**	**17 14 07.8**	**-2.4**
KUR				A		A	17 14 08.8	
	830nm,0.3s							
KUR				A		A	17 14 08.8	
	1µm,0.3s							
SHO	**Shikotan**	**1.17**	**253**	*i* P		**Pb**	**17 13 59.9**	**+1.1**
SHO				AMB		AMB	17 14 00.2	
	90nm,0.2s							
SHO				*i* S		**Sg**	**17 14 13.5**	**+0.1**
SHO				A		A	17 14 14.2	
	470nm,0.2s							
SHO				A		A	17 14 14.2	
	590nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**1.82**	**265**	*i* P		**Pn**	**17 14 09.0**	**+0.8**
YUK				AMB		AMB	17 14 10.5	
	260nm,0.2s							
YUK				*e*S		**Sn**	**17 14 30.0**	**-2.0**
YUK				A		A	17 14 35.1	
	260nm,0.3s							
YUK				A		A	17 14 35.1	
	550nm,0.3s							
NEM2	**Nemuro 2**	**2.10**	**247**	P		**Pn**	**17 14 12.8**	**+0.8**
NEM2				S		**Sn**	**17 14 37.2**	**-1.4**
NMR	**Nemuro--Hokkai**	**2.10**	**247**	*i* P		**Pn**	**17 14 12.8**	**+0.7**
NMR				*e*S		**Sn**	**17 14 36.9**	**-1.9**
JRA	**Rausu**	**2.37**	**264**	P		**Pn**	**17 14 17.5**	**+1.8**
JRA				S		**Sn**	**17 14 45.6**	**+0.3**
JNSB	**Nemuroshibetsu**	**2.48**	**261**	P		**Pn**	**17 14 19.1**	**+1.9**
JNSB				*e*S		**Sn**	**17 14 48.3**	**+0.2**
JKHN	**Kushirohamanak**	**2.60**	**245**	P		**Pn**	**17 14 20.2**	**+1.3**
JKHN				S		**Sn**	**17 14 50.4**	**-0.8**
JNK	**Nakash**	**2.72**	**258**	P		**Pn**	**17 14 22.2**	**+1.6**
JNK				S		**Sn**	**17 14 52.8**	**-1.3**
AKK	**Akkeshi**	**2.84**	**246**	*e*P		**Pn**	**17 14 23.5**	**+1.3**
AKK				*e*S		**Sn**	**17 14 55.3**	**-1.7**
JAK	**Akkeshi**	**2.94**	**247**	P		**Pn**	**17 14 24.9**	**+1.3**
JAK				S		**Sn**	**17 14 58.5**	**-1.2**
JTKR	**Abashiri--Toko**	**3.23**	**267**	*e*P		**Pn**	**17 14 29.0**	**+1.4**
JAR	**Ashorobuto**	**3.47**	**256**	P		**Pn**	**17 14 33.1**	**+2.3**
JAR				*e*S		**Sn**	**17 15 13.0**	**+0.5**
JOB	**Onbets**	**3.56**	**250**	P		**Pn**	**17 14 34.1**	**+2.0**
JOB				*e*S		**Sn**	**17 15 14.1**	**-0.7**
JCH	**Churui**	**4.00**	**248**	P		**Pn**	**17 14 39.5**	**+1.4**
JCH				S		**Sn**	**17 15 25.4**	**-0.1**
ASAJ	**Asahikawa**	**4.16**	**271**	Pn		**Pn**	**17 14 43.7**	**+3.3**
	1.9nm,0.3s,baz=94,slow=16,SNR=15							
ASAJ				Sn		**Sb**	**17 15 37.6**	**-2.9**
	1.0nm,0.3s,baz=15,slow=19,SNR=1.6 5.0nm,0.4s							
JSE	**Soyaes**	**4.21**	**282**	S		**Sn**	**17 15 34.0**	**+3.3**
JNBK	**Urakawa-nobuka**	**4.55**	**247**	P		**Pn**	**17 14 47.5**	**+1.8**
JOT	**Ohata**	**6.10**	**245**	P		**Pn**	**17 15 08.6**

PAMC				S	Sn	17 24 00.4	-0.3	
OCAC	**Ocana**	**0.81**	**346**	P	Pn	17 23 46.8	-1.3	
OCAC				S	Sn	17 24 03.2	-1.3	
BARC	**Barichara**	**0.85**	**184**	P	Pn	17 23 47.1	-1.5	
RUSC	**La Rusia**	**1.55**	**179**	P	Pn	17 23 54.0	-1.8	
RUSC				P		17 23 54.2		
RUSC				P		17 23 54.3		
RUSC				S	Sn	17 24 16.5	-1.6	
PTBC	**PUERTO BERRIO,**	**1.61**	**236**	P	Pn	17 23 53.2	-2.8	
PTBC				P		17 23 53.3		
PTBC				S	Sn	17 24 15.6	-2.8	
SPBC	**San Pablo de B**	**2.02**	**208**	P	Pn	17 24 00.9	-0.1	
SPBC				S	Sn	17 24 25.6	-1.7	
NORC	**Norcasia**	**2.56**	**223**	P	Pn	17 24 05.5	-2.1	
NORC				S	Sn	17 24 36.9	-2.3	
ARGC	**Ariguani, Magd**	**2.64**	**335**	P	Pn	17 24 08.2	-0.4	
ARGC				S	Sn	17 24 40.9	-0.1	
HELC	**Santa Helena**	**2.70**	**243**	P	Pn	17 24 07.6	-2.1	
HELC				S	Sn	17 24 41.7	-1.2	
CVER	**Cruz Verde, Cu**	**3.06**	**198**	P	Pn	17 24 15.1	+0.6	
DBBC	**Dabeiba**	**3.10**	**262**	P	Pn	17 24 11.9	-2.6	
DBBC				S	Sn	17 24 46.9	-4.7	
GUY2C	**Guyana, Caldas**	**3.14**	**225**	P	Pn	17 24 14.8	-0.7	
GUY2C				S	Sn	17 24 55.1	+1.9	
SJCC	**San Jacinto, C**	**3.17**	**320**	P	Pn	17 24 12.8	-2.7	
SJCC				S	Sn	17 24 50.0	-3.3	
CBOC	**Ciudad Bolivar**	**3.28**	**241**	P	Pn	17 24 15.2	-1.8	
CBOC				S	Sn	17 24 53.7	-2.2	
RECRC	**Villamaria, Ca**	**3.32**	**222**	P	Pn	17 24 18.9	+1.0	
RECRC				S	Sn	17 25 01.3	+3.7	
VILC	**Villavicencio,**	**3.37**	**190**	P	Pn	17 24 17.9	-0.2	
VILC				S	Sn	17 24 59.8	+1.8	
PTGC	**Puerto Gaitan,**	**3.38**	**163**	P	Pn	17 24 17.4	-0.7	
PTGC				S	Sn	17 24 57.7	-0.4	
APAC	**Apartado, Choc**	**3.46**	**278**	P	Pn	17 24 16.7	-2.5	
APAC				S	Sn	17 24 52.3	-7.6	
LCBC	**Los crdobas,**	**3.51**	**294**	P	Pn	17 24 18.2	-1.6	
LCBC				S	Sn	17 24 59.6	-1.5	
CRJC	**Cerrejon, Guaj**	**3.56**	**4**	P	Pn	17 24 17.4	-3.2	
CRJC				S	Sn	17 24 59.2	-3.2	
PLMC	**San Jos del P**	**4.04**	**231**	P	Pn	17 24 25.6	-1.3	
PLMC				S	Sn	17 25 13.4	-0.3	
ORTC	**Ortega, Tolima**	**4.11**	**211**	P	Pn	17 24 26.5	-1.3	
ORTC				S	Sn	17 25 16.1	+0.8	
CAPC	**Capurgana**	**4.35**	**286**	P	Pn	17 24 26.9	-4.1	
CAPC				S	Sn	17 25 15.0	-6.1	
PTAC	**Punta Ardita,**	**4.66**	**267**	P	Pn	17 24 32.1	-3.0	
PTAC				S	Sn	17 25 24.2	-4.3	
YOTC	**Yotoco, Valle**	**4.71**	**223**	P	Pn	17 24 34.6	-1.3	
YOTC				S	Sn	17 25 27.8	-2.0	
JAMC	**Jamundi, Valle**	**5.50**	**220**	P	Pn	17 24 44.2	-2.3	
	5.0nm,1.3s,489nm							

*IDC **24** 17:25:41.4±0.7,35°.38S×106°.02W,h0km,mb4.2/8, mbtmp4.2/8,MS3.9/24,Error ellipse: s-maj=31.8km s-min=19.2km az=76.0*

*NEIC **24** 17:25:42.7±1.7,35°.29S±0°.06×105°.7W±0°.1,h10km±1km, mb4.6/28,Error ellipse: s-maj=21.4km s-min=9.2km az=106.0*

ISC 24 17:25:42.2±0.7,**35°.22S**±0°.09×**105°.8W**±0°.1,**h10**km,**n74,** σ1§**40**/47,**mb4.6**/**22**,**MS3.9**/23,**4C**,**Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA02	**Isla de Pascua**	**8.62**	**338**	Pn	**Pn**	**17 27 43.0**	**-4.0**
RPN	**Rapa Nui**	**8.62**	**338**	LR	LR	17 30 17.8	
	comp=Z,664nm,20.8s,baz=117,slow=32						
H03N2	**Juan Fernandez**	**22.23**	**93**	T	T	17 53 47.0	
	baz=248,slow=72,SNR=5.9						
H03N3	**Juan Fernandez**	**22.23**	**93**	T	T	17 53 47.1	
	baz=248,slow=72,SNR=5.8						
H03N1	**Juan Fernandez**	**22.25**	**93**	T	T	17 53 45.1	
	baz=248,slow=72,SNR=6.6						
PLCA	**Paso Flores**	**28.19**	**112**	P	**P**	**17 31 32.9**	**-2.2**
PLCA	**Paso Flores**	**28.19**	**112**	P	**P**	**17 31 36.3**	**+1.3**
	3.6nm,0.8s,baz=260,slow=8.9,SNR=8.6						
	3.6nm,0.8s						
MT09	**Talagante**	**28.63**	**97**	P	**P**	**17 31 37.9**	**-1.2**
MT09				IAmb	IAmb	17 32 21.6	
	comp=Z,13nm,1.1s						
GO09	**Cerro Castillo**	**28.86**	**134**	P	**P**	**17 31 40.0**	**-0.7**
MG05	**Puerto Natales**	**28.91**	**135**	P	**P**	**17 31 38.6**	**-2.5**
LMEL	**Las Melosas**	**29.25**	**98**	P	**P**	**17 31 43.8**	**-0.8**
LCO	**Las Campanas**	**30.25**	**88**	P	**P**	**17 31 54.2**	**+0.6**
AC06	**Mina Casimiro**	**31.15**	**85**	P	**P**	**17 32 01.3**	**0.0**
AC06				IAmb	IAmb	17 32 26.6	
	comp=Z,15nm,1.2s						
GO03	**Copiap**	**31.16**	**86**	P	**P**	**17 32 01.7**	**+0.3**
LVC	**Limon Verde**	**34.45**	**79**	LR	LR	17 42 42.3	
	comp=Z,277nm,20.5s,baz=241,slow=30						
NNA	**Nana**	**34.96**	**56**	LR	LR	17 43 12.9	
	comp=Z,324nm,19.7s,baz=209,slow=30						
ATAH	**Atahualpa**	**37.60**	**48**	LR	LR	17 44 50.3	
	comp=Z,224nm,19.6s,baz=228,slow=30						
LPAZ	**La Paz**	**38.51**	**70**	P	**P**	**17 33 04.5**	**-1.0**
LPAZ	**La Paz**	**38.51**	**70**	P	**P**	**17 33 08.8**	**+3.3**
	comp=Z,1.9nm,1.0s,baz=260,slow=4.6,SNR=4.9						
LPAZ				LR	LR	17 45 32.5	
	comp=Z,92nm,21.1s,baz=244,slow=31						
	comp=Z,1.9nm,1.0s						
PMSA	**Palmer Station**	**38.69**	**153**	LR	LR	17 44 53.2	
	comp=Z,270nm,18.8s,baz=322,slow=30						
MCRA	**Macar, Loja**	**38.89**	**44**	P	**P**	**17 33 08.0**	**-0.1**
COHC	**Cochancay**	**40.85**	**43**	P	**P**	**17 33 23.1**	**-1.2**
CHSH	**Refugio Sur-Vo**	**41.87**	**43**	P	**P**	**17 33 32.2**	**-1.2**
CHSH				IAmb	IAmb	17 33 47.2	
	comp=Z,9.1nm,0.6s						
CPUP	**Villa Florida**	**42.22**	**92**	P	**P**	**17 33 35.0**	**-0.6**
CPUP	**Villa Florida**	**42.22**	**92**	LR	LR	17 47 57.0	
	comp=Z,87nm,21.4s,baz=224,slow=32						
PPT	**Papeete**	**42.60**	**283**	LR	LR	17 46 09.1	
	comp=Z,98nm,20.5s,baz=60,slow=29						
AQDB	**Aquidauana**	**46.20**	**85**	P	**P**	**17 34 07.0**	**-0.5**
AQDB				IAmb	IAmb	17 34 21.5	
	comp=Z,9.0nm,1.0s						
SAML	**Samuel**	**46.83**	**66**	P	**P**	**17 34 12.9**	**+0.4**
SAML				IAmb	IAmb	17 34 17.8	
	comp=Z,3.9nm,1.0s						
JTS	**Las Juntas de**	**49.37**	**27**	LR	LR	17 50 13.8	
	comp=Z,171nm,19.9s,baz=338,slow=30						
HOPE	**Hope Point**	**50.60**	**135**	P	**P**	**17 34 40.9**	**-0.1**
BELA	**Belgrano 2**	**51.90**	**165**	P	**P**	**17 34 51.1**	**+0.7**
BELA				IAmb	IAmb	17 34 57.0	
	comp=Z,10nm,1.2s						
BDFB	**Brasilia**	**54.94**	**85**	LR	LR	17 56 51.7	
	comp=Z,97nm,18.2s,baz=117,slow=34						
QSPA	**South Pole Qui**	**54.99**	**180**	P	**P**	**17 35 12.8**	**-0.7**
QSPA				IAmb	IAmb	17 35 19.5	
	comp=Z,4.5nm,0.9s						
QSPA	**South Pole Qui**	**54.99**	**180**	P	**P**	**17 35 14.0**	**+0.6**
	comp=Z,3.7nm,0.7s,baz=136,slow=1.1,SNR=21						
	comp=Z,3.7nm,0.7s						
SDV	**Santo Domingo**	**55.01**	**44**	LR	LR	17 56 05.0	
	comp=Z,48nm,20.4s,baz=230,slow=33						
VNA3	**Neumayer Olymp**	**59.00**	**158**	⇑P	**P**	**17 35 40.9**	**-0.7**
	comp=Z,30nm,0.7s						
PCRV	**Puerto La Cruz**	**59.59**	**49**	LR	LR	17 59 07.8	
	comp=Z,84nm,21.6s,slow=34						
VNA2	**Neumayer--Watz**	**59.81**	**158**	⇑P	**P**	**17 35 47.3**	**+0.1**
	comp=Z,21nm,0.6s,baz=249,slow=6.4						
URZ	**Urewera**	**60.14**	**242**	LR	LR	17 55 28.8	
	comp=Z,93nm,19.0s,baz=125,slow=30						
SNAA	**Sanae**	**60.89**	**159**	P	**P**	**17 35 54.5**	**-0.1**
SNAA	**Sanae**	**60.89**	**159**	⇑P	**P**	**17 35 53.6**	**-1.0**
	comp=Z,127nm,0.8s						
SNAA	**Sanae**	**60.89**	**159**	P	**P**	**17 35 54.3**	**-0.4**
	comp=Z,3.7nm,0.7s,baz=286,slow=8.5,SNR=7.3						
SNAA				LR	LR	17 58 38.4	
	comp=Z,97nm,18.6s,baz=280,slow=32						
	comp=Z,3.7nm,0.7s						
TROLL	**Troll, Antarti**	**62.25**	**161**	⇑P	**P**	**17 36 03.7**	**-0.2**
	comp=Z,296nm,0.5s						
MDP	**Montagnes des**	**63.99**	**62**	LR	LR	18 01 11.5	
	comp=Z,256nm,19.3s,baz=286,slow=33						
TXAR	**Lajitas Array**	**64.24**	**2**	P	**P**	**17 36 18.9**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=181,slow=8.8,SNR=7.7						
	comp=Z,0.7nm,0.7s						
PFO	**Pinyon Flats O**	**69.20**	**350**	LR	LR	18 00 35.2	
	comp=Z,42nm,18.7s,baz=98,slow=30						
MZP	**Montezuma Peak**	**73.34**	**350**	P	**P**	**17 37 16.2**	**+2.0**
NVAR	**Mina Array Bea**	**74.19**	**350**	P	**P**	**17 37 21.2**	**+2.0**
	comp=Z,1.8nm,0.7s,baz=185,slow=7.0,SNR=14						
NVAR				LR	LR	18 04 19.5	
	comp=Z,58nm,18.4s,baz=254,slow=31						
	comp=Z,1.8nm,0.7s						
KVN	**Kaiserville**	**74.77**	**350**	P	**P**	**17 37 24.3**	**+1.8**
KVN				IAmb	IAmb	17 37 51.2	
	comp=Z,4.6nm,1.3s						
BSUT	**Blindstream Ca**	**75.52**	**356**	P	**P**	**17 37 27.5**	**+0.5**
BSUT				IAmb	IAmb	17 37 36.5	
	comp=Z,12nm,1.4s						
DZM	**Mont Dzumac**	**75.87**	**253**	LR	LR	18 04 42.6	
	comp=Z,66nm,18.4s,baz=272,slow=31						
PD31	**Pinedale Array**	**77.69**	**357**	P	**P**	**17 37 39.7**	**+0.7**
PD31				IAmb	IAmb	17 37 48.5	
	comp=Z,5.6nm,1.1s						
PDAR	**Pinedale Array**	**77.69**	**357**	P	**P**	**17 37 39.4**	**+0.4**
PDAR	**Pinedale Array**	**77.69**	**357**	P	**P**	**17 37 40.6**	**+1.6**
	comp=Z,2.0nm,0.7s,baz=154,slow=5.7,SNR=10						
	comp=Z,2.0nm,0.7s						
TPAW	**Teton Pass**	**78.47**	**356**	P	**P**	**17 37 44.1**	**+0.7**
TPAW				IAmb	IAmb	17 37 51.8	
	comp=Z,8.5nm,1.2s						
FXWY	**Fox Creek**	**78.63**	**356**	P	**P**	**17 37 46.1**	**+1.9**
FXWY				IAmb	IAmb	17 38 06.8	
	comp=Z,3.1nm,0.9s						
MOOW	**Moose Ponds**	**78.72**	**356**	P	**P**	**17 37 46.0**	**+1.3**
HLID	**Hailey**	**78.80**	**354**	P	**P**	**17 37 46.7**	**+1.6**
HLID				IAmb	IAmb	17 37 57.6	
	comp=Z,5.5nm,0.8s						
FLWY	**Flagg Ranch**	**79.05**	**356**	P	**P**	**17 37 47.3**	**+0.8**
FLWY				IAmb	IAmb	17 37 58.8	
	comp=Z,6.1nm,0.8s						
SADO	**Sadowa**	**83.20**	**19**	LR	LR	18 12 53.4	
	comp=Z,32nm,19.3s,baz=344,slow=34						
ULM	**Lac du Bonnet**	**85.55**	**6**	P	**P**	**17 38 23.0**	**+3.0**
	comp=Z,1.6nm,0.7s,baz=188,slow=12,SNR=3.3						
	comp=Z,1.6nm,0.7s						
STKA	**Stephens Creek**	**88.06**	**232**	LR	LR	18 10 46.4	
	comp=Z,83nm,19.9s,baz=201,slow=31						
HNR	**Honiara**	**88.09**	**260**	LR	LR	18 12 46.9	
	comp=Z,420nm,18.8s,baz=146,slow=32						
CTA	**Charters Tower**	**92.36**	**243**	LR	LR	18 13 56.9	
	comp=Z,65nm,18.0s,baz=180,slow=31						
SCHQ	**Schefferville**	**95.73**	**21**	LR	LR	18 16 40.7	
	comp=Z,29nm,21.0s,baz=118,slow=32						
SUR	**Sutherland**	**96.15**	**137**	LR	LR	18 13 05.6	
	comp=Z,48nm,21.5s,baz=188,slow=30						
H01W1	**Cape Leeuwin H**	**100.90**	**213**	T	T	19 32 44.5	
	baz=145,slow=76,SNR=19						
H01W2	**Cape Leeuwin H**	**100.91**	**212**	T	T	19 32 44.9	
	baz=145,slow=76,SNR=20						
H01W3	**Cape Leeuwin H**	**100.92**	**213**	T	T	19 32 45.8	
	baz=145,slow=76,SNR=15						
AKASG	**Malin Array Be**	**144.22**	**50**	PKP	**PKPdf**	**17 45 18.4**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=278,slow=3.4,SNR=2.3						
BRTR	**Keskin Array B**	**147.68**	**70**	PKPbc	**PKPbc**	**17 45 27.5**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=247,slow=2.2,SNR=5.9						
MMAI	**Mount Meron Ar**	**147.93**	**83**	PKPbc	**PKPbc**	**17 45 28.4**	**+0.6**
	comp=Z,3.2nm,0.6s,baz=64,slow=1.9,SNR=5.4						
CMAR	**Chiang Mai Arr**	**152.45**	**239**	PKPbc	**PKiKP**	**17 45 39.2**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=142,slow=0.5,SNR=5.7						
SONM	**Songino Array**	**153.01**	**308**	PKPbc	**PKiKP**	**17 45 39.5**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=144,slow=1.8,SNR=7.2						

RSNC 24 17:30:54.1±0.6,**6°.N**±2°×**7°.8W**±°,**h23**km±7km,**mb4.3, mB5.4,ML2.9,Mw(mB)4.8,South of Panama**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOLC	**Bahia Solano**	**1.18**	**60**	P	Pn	17 31 11.0	-4.2
PIZC	**Pizarro, Choco**	**1.25**	**122**	P	Pn	17 31 12.9	-3.3
PIZC				S	Sn	17 31 27.5	-4.9
PTAC	**Punta Ardita,**	**1.63**	**22**	P	Pn	17 31 17.6	-3.8
PTAC				S	Sn	17 31 34.5	-7.2
MALC	**Bahia Malaga**	**1.94**	**146**	P	Pn	17 31 23.7	-2.0
MALC				S	Sn	17 31 47.8	-1.6
PLMC	**San Jos del P**	**2.26**	**109**	P	Pn	17 31 26.8	-3.3
PLMC				S	Sn	17 31 52.8	-4.5
CBOC	**Ciudad Bolivar**	**2.42**	**84**	P	Pn	17 31 28.9	-3.5
CBOC				S	Sn	17 31 55.0	-6.4
DBBC	**Dabeiba**	**2.60**	**58**	P	Pn	17 31 32.9	-2.0
GR1C	**Gorgona, Isla**	**2.62**	**174**	P	Pn	17 31 31.8	-3.3
YOTC	**Yotoco, Valle**	**2.64**	**128**	P	Pn	17 31 32.7	-2.8
YOTC				S	Sn	17 32 03.4	-3.5
AZU	**Azuero**	**2.82**	**320**	P	Pn	17 31 34.6	-3.2
AZU				S	Sn	17 32 08.2	-3.0
APAC	**Apartado, Choc**	**2.91**	**39**	P	Pn	17 31 38.5	-0.5
APAC				S	Sn	17 32 11.5	-1.8
UPD2	**Meteti**	**2.93**	**8**	P	Pb	17 31 49.6	+4.0
UPD2				S	Sn	17 32 09.9	-3.9
HELC	**Santa Helena**	**2.94**	**79**	P	Pn	17 31 37.4	-2.4
HELC				S	Sn	17 32 11.0	-3.6
CACAO	**El Cacao, Vera**	**2.96**	**305**	P	Pn	17 31 37.0	-2.7
CACAO				S	Sn	17 32 10.2	-4.3
JAMC	**Jamundi, Valle**	**2.97**	**144**	P	Pn	17 31 37.7	-2.4
GUY2C	**Guyana, Caldas**	**3.08**	**97**	P	Pn	17 31 40.3	-1.5
ANIL	**Santa Ana**	**3.22**	**110**	P	Pn	17 31 42.8	-0.8
ANIL				S	Sn	17 32 22.6	+1.2
POPC	**Popayan, Colom**	**3.53**	**150**	P	Pn	17 31 45.8	-2.0
NORC	**Norcasia**	**3.54**	**91**	P	Pn	17 31 46.8	-1.0
ORTC	**Ortega, Tolima**	**3.60**	**118**	P	Pn	17 31 47.9	-0.7
ORTC				S	Sn	17 32 31.2	+0.7
BBAC	**Balboa, Cauca**	**3.77**	**162**	P	Pn	17 31 48.9	-2.2
BCIP	**Isla Barro Col**	**3.78**	**338**	P	Pn	17 31 48.3	-2.7
BCIP				S	Sn	17 32 34.0	-0.8
LCBC	**Los crdobas,**	**3.80**	**32**	P	Pn	17 31 51.4	+0.1
LCBC				S	Sn	17 32 34.5	-0.9
PTBC	**PUERTO BERRIO,**	**4.05**	**77**	P	Pn	17 31 54.5	-0.3
BETC	**Betania**	**4.18**	**134**	P	Pn	17 31 57.5	+0.9
GARC	**Garzon, Huila**	**4.50**	**139**	P	Pn	17 32 01.1	-0.1
GARC				S	Sn	17 32 52.5	-0.5
FLOC	**Florencia**	**4.88**	**145**	P	Pn	17 32 06.5	+0.3
BARC	**Barichara**	**5.30**	**79**	P	Pn	17 32 12.4	+0.2
SJCC	**San Jacinto, C**	**5.32**	**37**	P	Pn	17 32 11.6	-0.7
	10nm,0.5s						
SJCC				S	Sn	17 33 08.3	-4.7
	10nm,0.5s						
MACC	**Macarena, Meta**	**5.73**	**127**	P	Pn	17 32 17.3	-0.6
	40nm,0.5s,2μm						
PAMC	**Pamplona, Colo**	**5.94**	**73**	P	Pn	17 32 21.5	+0.3
	16nm,0.7s,3μm						

*NOU **24** 17:32:03.4,23°.47S×175°.11W,h95km,mb4.5/19,Tonga Islands Region*

*IDC **24** 17:32:29.0±3.5,24°.78S×177°.71W,h147km±29km, mb3.8/11,mbtmp4.3/12,Error ellipse: s-maj=20.8km s-min=19.1km az=170.0*

*NEIC **24** 17:32:34.9±1.9,24°.8S±0°.1×177°.8W±0°.2,h198km±6km, mb4.4/23,Error ellipse: s-maj=22.8km s-min=18.3km az=138.0*

ISC 24 17:32:34.4±0.5,**24°.93S**±0°.09×**177°.63W**±0°.09,**h200**km, **n99,**σ1§**97**/**97**,**mb4.3**/19,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**8.21**	**330**	Pn	Pn	17 34 35.0	+4.4
NIUE	**Niue**	**9.21**	**52**		**Pn**	**17 34 45.2**	**+1.7**
NIUE				Sn	**Sn**	**17 36 23.4**	**-3.4**
OUZ	**Omahuta**	**12.76**	**214**	P	**P**	**17 35 35.3**	**+2.9**
URZ	**Urewera**	**14.02**	**197**	P	**Pn**	**17 35 43.9**	**-0.6**
URZ	**Urewera**	**14.02**	**197**	P	**Pn**	**17 35 43.3**	**-1.2**
	23nm,0.4s,baz=5.9,slow=2.9,SNR=24						
URZ				S	S	17 38 09.5	-11
	8.1nm,0.6s,baz=150,slow=20,SNR=1.9						
RTZ	**Ruatahuna**	**14.39**	**197**	Pn	Pn	17 35 45.9	-3.3
TLZ	**Tolley Road**	**14.57**	**202**	P	**P**	**17 35 54.6**	**+2.1**
DZM	**Mont Dzumac**	**14.89**	**278**	P	**P**	**17 35 55.7**	**-0.5**
	8.2nm,0.9s,baz=80,slow=18,SNR=1.9						
NMHZ	**Naumai**	**14.89**	**197**	P	**Pn**	**17 35 53.9**	**-1.4**
HIZ	**Hauiti**	**14.97**	**203**	P	**P**	**17 35 59.2**	**+2.3**
HIZ	**Hauiti**	**14.97**	**203**	P	**P**	**17 35 59.2**	**+2.3**
BKZ	**Black Stump Fm**	**15.04**	**198**	P	**Pn**	**17 35 57.8**	**+0.7**
BKZ	**Black Stump Fm**	**15.04**	**198**	Pn	**Pn**	**17 35 54.1**	**-3.0**
BKZ				IAmb	IAmb	17 36 35.7	
	comp=Z,20nm,1.4s						
BKZ	**Black Stump Fm**	**15.04**	**198**	P	**Pn**	**17 35 55.8**	**-1.3**
NTVZ	**North Tongariro**	**15.22**	**200**	P	**Pn**	**17 35 58.2**	**-1.2**
ETVZ	**East Tongariro**	**15.24**	**200**	P	**Pn**	**17 35 58.4**	**-1.2**
MCHZ	**McNeill Hill**	**15.25**	**197**	P	**Pn**	**17 35 58.6**	**-0.9**
OTVZ	**Oturere**	**15.28**	**200**	P	**Pn**	**17 35 59.0**	**-1.2**
KWHZ	**Kaweka Forest**	**15.30**	**198**	P	**Pn**	**17 35 58.2**	**-2.1**
SNVZ	**South Ngauruho**	**15.31**	**200**	P	**Pn**	**17 35 59.3**	**-1.3**
WNVZ	**Wahianoa**	**15.46**	**200**	P	**Pn**	**17 36 00.3**	**-1.9**
BHHZ	**Black Hill Sta**	**15.46**	**199**	P	**Pn**	**17 35 59.2**	**-3.1**
KRHZ	**Kereru**	**15.52**	**198**	P	**P**	**17 35 59.6**	**-3.4**
KAHZ	**Kahuranaki**	**15.53**	**196**	P	**P**	**17 36 00.5**	**-2.6**
VRZ	**Vera Road**	**15.55**	**203**	P	**P**	**17 36 03.9**	**+0.7**
PXZ	**Pawanui**	**15.76**	**196**	P	**P**	**17 36 03.1**	**-2.4**
PNHZ	**Pukenui**	**15.82**	**198**	P	**P**	**17 36 02.6**	**-3.7**
NEZ	**North Egmont**	**15.92**	**204**	P	**Pn**	**17 36 09.4**	**+1.6**
PRHZ	**Porangahau**	**16.04**	**196**	P	**P**	**17 36 07.2**	**-1.4**
WAZ	**Wanganui**	**16.04**	**201**	P	**P**	**17 36 02.9**	**-5.8**
ANWZ	**Angora Road**	**16.26**	**196**	P	**P**	**17 36 09.3**	**-1.7**
BFZ	**Birch Farm**	**16.53**	**197**	P	**P**	**17 36 12.3**	**-1.7**
BFZ	**Birch Farm**	**16.53**	**197**	P	**P**	**17 36 11.6**	**-2.5**
MRZ	**Mangatainoka R**	**16.69**	**198**	P	**P**	**17 36 11.6**	**-4.2**
HOWZ	**Holdsworth Sta**	**16.93**	**198**	P	**P**	**17 36 16.4**	**-2.0**
OGWZ	**Otaki Gorge**	**16.95**	**199**	P	**P**	**17 36 15.8**	**-2.9**
TMWZ	**Te Maipa**	**17.02**	**197**	P	**P**	**17 36 18.0**	**-1.5**
MTW	**Mount Morrison**	**17.17**	**198**	P	**P**	**17 36 19.3**	**-1.8**
CAW	**Cannon Point**	**17.25**	**199**	P	**P**	**17 36 19.6**	**-2.4**
SNZO	**South Karori**	**17.54**	**199**	P	**P**	**17 36 24.8**	**-0.3**
TCW	**Tory Channel**	**17.59**	**201**		**P**	**17 36 21.6**	**-4.1**
TCW	**Tory Channel**	**17.59**	**201**	P	**P**	**17 36 23.6**	**-2.1**
QRZ	**Quartz Range**	**17.86**	**205**	P	**P**	**17 36 29.5**	**+0.9**
QRZ	**Quartz Range**	**17.86**	**205**	P	**P**	**17 36 29.5**	**+0.9**
NNZ	**Nelson**	**17.89**	**203**	P	**P**	**17 36 26.1**	**-2.8**
TUWZ	**Tuamarina**	**17.89**	**201**	P	**P**	**17 36 24.9**	**-4.1**
TUWZ	**Tuamarina**	**17.89**	**201**	P	**P**	**17 36 26.1**	**-2.8**
THZ	**Tophouse**	**18.54**	**203**	P	**P**	**17 36 33.8**	**-2.3**
THZ				IAmb	IAmb	17 36 37.5	
	comp=Z,36nm,1.5s						
KHZ	**Kahutara**	**18.91**	**201**	P	**P**	**17 36 40.0**	**0.0**
GVZ	**Greta Valley S**	**19.57**	**201**	P	**P**	**17 36 44.1**	**-3.0**
RPZ	**Rata Peaks**	**20.91**	**204**	P	**P**	**17 37 02.3**	**+1.0**
RPZ	**Rata Peaks**	**20.91**	**204**	P	**P**	**17 36 59.3**	**-2.0**
RPZ	**Rata Peaks**	**20.91**	**204**	P	**P**	**17 36 59.7**	**-1.6**
	comp=Z,6.5nm,0.5s,baz=42,slow=3.7,SNR=7.9						
	comp=Z,6.5nm,0.5s						
JCZ	**Jackson Bay**	**22.09**	**207**	P	**P**	**17 37 12.7**	**-0.7**
ODZ	**Otahua Downs**	**22.21**	**202**	P	**P**	**17 37 14.7**	**+0.3**
WHZ	**Wether Hill Ro**	**23.93**	**205**	P	**P**	**17 37 28.9**	**-1.1**
SYZ	**Scrubby Hill**	**24.03**	**203**	P	**P**	**17 37 31.3**	**+0.4**
ARMA	**Armidale**	**27.72**	**252**	P	**P**	**17 38 04.7**	**+0.3**
ARMA				IAmb	IAmb	17 38 37.1	
	comp=Z,14nm,1.4s						
EIDS	**Eidsvold**	**28.30**	**262**	P	**P**	**17 38 10.1**	**+0.6**
EIDS				IAmb	IAmb	17 38 14.3	
	comp=Z,24nm,1.5s						
MGCD	**Mangrove Creek**	**28.47**	**246**	P	**P**	**17 38 13.1**	**+2.2**
CAN	**Canberra**	**30.54**	**242**	P	**P**	**17 38 30.2**	**+1.0**
CMSA	**Cobar Meteorol**	**32.87**	**250**	P	**P**	**17 38 50.8**	**+1.2**
CTA	**Charters Tower**	**33.65**	**271**	P	**P**	**17 38 56.0**	**-0.4**
	comp=Z,4.7nm,0.5s,baz=82,slow=1.2,SNR=5.2						
	comp=Z,4.7nm,0.5s						
CTAO	**Charters Tower**	**33.65**	**271**	P	**P**	**17 38 56.0**	**-0.4**
STKA	**Stephens Creek**	**36.37**	**250**	P	**P**	**17 39 20.7**	**+1.1**
STKA	**Stephens Creek**	**36.37**	**250**	P	**P**	**17 39 19.5**	**-0.1**
STKA	**Stephens Creek**	**36.37**	**250**	P	**P**	**17 39 19.6**	**+0.1**
	comp=Z,1.4nm,0.4s,baz=92,slow=12,SNR=7.0						
	comp=Z,1.4nm,0.4s						
INKA	**Innaminka**	**37.29**	**256**	P	**P**	**17 39 28.7**	**+1.3**
LCRK	**Leigh Creek**	**39.30**	**252**	P	**P**	**17 39 44.7**

RAHZ	**Arahi**	**1.50**	**156**	P	**Pn**	**17 46 58.5**	**+2.2**
NMHZ	**Naumai**	**1.60**	**166**	P	**Pn**	**17 46 59.8**	**+2.7**
BKZ	**Black Stump Fm**	**1.62**	**175**	P	**Pn**	**17 46 59.4**	**+2.1**
BKZ	**Black Stump Fm**	**1.62**	**175**	P	**Pn**	**17 46 59.3**	**+2.1**
NTVZ	**North Tongarir**	**1.63**	**197**	P	**Pn**	**17 47 00.5**	**+3.1**
KRVZ	**Karewarewa**	**1.63**	**198**	P	**Pn**	**17 47 00.1**	**+2.7**
RIGZ	**Rimuhau**	**1.63**	**136**	P	**Pn**	**17 46 58.6**	**+1.2**
PUZ	**Puketiti**	**1.63**	**109**	P	**Pn**	**17 46 57.3**	**-0.1**
TMVZ	**Te Maari**	**1.64**	**197**	P	**Pn**	**17 47 00.4**	**+3.0**
ETVZ	**East Tongariro**	**1.66**	**196**	P	**Pn**	**17 47 00.4**	**+2.7**
WTVZ	**West Tongariro**	**1.67**	**200**	P	**Pn**	**17 47 00.4**	**+2.7**
TWVZ	**Taurewa**	**1.67**	**204**	P	**Pn**	**17 47 00.3**	**+2.6**
NNVZ	**North Ngauruho**	**1.67**	**199**	P	**Pn**	**17 47 01.0**	**+3.2**
OTVZ	**Oturere**	**1.69**	**197**	P	**Pn**	**17 47 00.8**	**+2.8**
WHHZ	**Waihua**	**1.69**	**155**	P	**Pn**	**17 46 59.9**	**+2.1**
WMGZ	**Waiomatatini S**	**1.70**	**100**	P	**Pn**	**17 46 57.3**	**-0.5**
NGZ	**Ngauruhoe**	**1.72**	**199**	P	**Pn**	**17 47 01.1**	**+3.0**
SNVZ	**South Ngauruho**	**1.72**	**197**	P	**Pn**	**17 47 01.0**	**+2.8**
CNGZ	**Carnagh Statio**	**1.77**	**123**	P	**Pn**	**17 46 59.2**	**+0.8**
ARHZ	**Aropaoanui**	**1.80**	**163**	P	**Pn**	**17 47 00.8**	**+2.2**
FWVZ	**Far West T-bar**	**1.81**	**199**	P	**Pn**	**17 47 01.4**	**+2.4**
WNVZ	**Wahianoa**	**1.86**	**197**	P	**Pn**	**17 47 01.7**	**+2.3**
KWHZ	**Kaweka Forest**	**1.88**	**177**	P	**Pn**	**17 47 01.6**	**+2.2**
MOVZ	**Moawhango**	**1.91**	**193**	P	**Pn**	**17 47 01.8**	**+2.1**
MCHZ	**McNeill Hill**	**1.92**	**171**	P	**Pn**	**17 47 02.0**	**+2.3**
BHHZ	**Black Hill Sta**	**1.95**	**186**	P	**Pn**	**17 47 02.1**	**+2.0**
MTVZ	**Mangateitei**	**1.95**	**199**	P	**Pn**	**17 47 02.7**	**+2.6**
VRZ	**Vera Road**	**1.99**	**217**	P	**Pn**	**17 47 03.5**	**+3.2**
MHGZ	**Mahia Peninsul**	**2.04**	**142**	P	**Pn**	**17 47 01.9**	**+1.2**
KRHZ	**Kereru**	**2.10**	**179**	P	**Pn**	**17 47 03.1**	**+1.8**
CKHZ	**Cape Kidnapper**	**2.19**	**164**	P	**Pn**	**17 47 03.9**	**+1.7**
WCZ	**Waipu Caves**	**2.25**	**315**	P	**Pn**	**17 47 01.5**	**-1.3**
KAHZ	**Kahuranaki**	**2.29**	**169**	P	**Pn**	**17 47 05.0**	**+1.8**
PNHZ	**Pukenui**	**2.37**	**182**	P	**Pn**	**17 47 05.5**	**+1.6**
WAZ	**Wanganui**	**2.44**	**205**	P	**Pn**	**17 47 06.7**	**+2.2**
PKE	**Pukeiti**	**2.46**	**227**	P	**Pn**	**17 47 08.0**	**+3.2**
WPHZ	**Waipukurau**	**2.52**	**178**	P	**Pn**	**17 47 06.4**	**+1.0**
PXZ	**Pawanui**	**2.52**	**170**	P	**Pn**	**17 47 07.0**	**+1.6**
TSZ	**Takapari Road**	**2.52**	**186**	P	**Pn**	**17 47 06.9**	**+1.4**
PRHZ	**Porangahau**	**2.73**	**175**	P	**Pn**	**17 47 08.9**	**+1.3**
DVHZ	**Dannevirke**	**2.75**	**182**	P	**Pn**	**17 47 08.7**	**+1.0**
ANWZ	**Angora Road**	**2.91**	**177**	P	**Pn**	**17 47 10.8**	**+1.4**
PRWZ	**Pori Road**	**3.02**	**185**	P	**Pn**	**17 47 12.2**	**+1.6**
BFZ	**Birch Farm**	**3.13**	**181**	P	**Pn**	**17 47 12.8**	**+1.0**
BFZ	**Birch Farm**	**3.13**	**181**	P	**Pn**	**17 47 12.9**	**+1.0**
MRZ	**Mangatainoka R**	**3.16**	**190**	P	**Pn**	**17 47 12.7**	**+0.5**
TIWZ	**Tintock**	**3.24**	**186**	P	**Pn**	**17 47 14.0**	**+0.9**
OGWZ	**Otaki Gorge**	**3.38**	**195**	P	**Pn**	**17 47 15.2**	**+0.6**
HOWZ	**Holdsworth Sta**	**3.40**	**190**	P	**Pn**	**17 47 15.1**	**+0.3**
KIW	**Kapiti Island**	**3.48**	**198**	P	**Pn**	**17 47 16.3**	**+0.5**
TMWZ	**Te Maipa**	**3.57**	**185**	P	**Pn**	**17 47 17.2**	**+0.4**
MTW	**Mount Morrison**	**3.66**	**190**	P	**Pn**	**17 47 17.6**	**-0.1**
CAW	**Cannon Point**	**3.68**	**195**	P	**Pn**	**17 47 18.0**	**0.0**
DUWZ	**D'Urville Isla**	**3.74**	**209**	P	**Pn**	**17 47 18.8**	**+0.1**
TRWZ	**Traveller**	**3.88**	**187**	P	**Pn**	**17 47 20.4**	**+0.1**
WEL	**Wellington**	**3.92**	**197**	P	**Pn**	**17 47 21.0**	**+0.3**
SNZO	**South Karori**	**3.96**	**198**	P	**Pn**	**17 47 21.2**	**+0.1**
TCW	**Tory Channel**	**3.98**	**203**	P	**Pn**	**17 47 21.6**	**+0.1**
BHW	**Baring Head**	**4.01**	**196**	P	**Pn**	**17 47 21.7**	**-0.1**
PLWZ	**Palliser**	**4.10**	**191**	P	**Pn**	**17 47 22.4**	**-0.5**
TUWZ	**Tuamarina**	**4.29**	**204**	P	**Pn**	**17 47 24.7**	**-0.3**
NNZ	**Nelson**	**4.31**	**211**	P	**Pn**	**17 47 24.4**	**-0.9**
TKNZ	**Takaka Hill**	**4.34**	**216**	P	**Pn**	**17 47 24.4**	**-1.3**
QRZ	**Quartz Range**	**4.40**	**221**	P	**Pn**	**17 47 26.1**	**-0.3**
QRZ	**Quartz Range**	**4.40**	**221**	P	**Pn**	**17 47 24.9**	**-1.5**
BSWZ	**Blackbirch Sta**	**4.57**	**203**	P	**Pn**	**17 47 28.2**	**-0.2**
MRNZ	**Matariki Terra**	**4.73**	**214**	P	**Pn**	**17 47 29.0**	**-1.3**
THZ	**Tophouse**	**4.96**	**211**	P	**Pn**	**17 47 32.0**	**-1.2**
KHZ	**Kahutara**	**5.31**	**203**	P	**Pn**	**17 47 36.2**	**-1.2**
KHZ	**Kahutara**	**5.31**	**203**	P	**Pn**	**17 47 36.4**	**-1.0**
GVZ	**Greta Valley S**	**5.96**	**204**	P	**Pn**	**17 47 43.7**	**-1.8**
LTZ	**Lake Taylor**	**6.07**	**209**	P	**Pn**	**17 47 44.9**	**-2.1**
MQZ	**McQueen's Vall**	**6.75**	**203**	P	**Pn**	**17 47 52.6**	**-2.7**
TMZ	**Timaru**	**7.92**	**209**	P	**Pn**	**17 48 07.2**	**-2.9**

*IDC **24** 17:57:13.7±6.4,5.′47S×151.′34E,h62km±52km,mb3.1/4, mbtmp3.5/5,ML2.0/1,MS3.8/1,Error ellipse: s-maj=75.3km s-min=32.3km az=117.0*

ISC 24 17:57:12.7±1.9,5.°5S±0.°3×151.°5E±0.°4,h57km,n7,σ0.°63/7, mb3.4/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.77**	**228**	P	**Pn**	**17 58 36.6**	**+0.7**
	2.7nm,0.3s,baz=6.0,slow=1.8,SNR=14						
PMG				S	**Sn**	**17 59 40.0**	**-0.8**
	11nm,0.4s,baz=132,slow=20,SNR=6.5						
WRA	**Warramunga Arr**	**21.99**	**228**	P	**P**	**18 02 02.0**	**-0.3**
	6.4nm,0.3s 0.8nm,0.6s,baz=52,slow=10,SNR=11						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**24.75**	**221**	P	**P**	**18 02 29.5**	**+0.3**
	0.4nm,0.7s,baz=60,slow=8.8,SNR=13						
	0.4nm,0.7s						
JHJ	**Hachijo jima 2**	**39.99**	**345**	LR	LR	18 18 46.8	
	comp=Z,119nm,20.6s,baz=96,slow=32						
SONM	**Songino Array**	**66.23**	**329**	P	**P**	**18 07 55.1**	**+0.2**
	0.3nm,0.6s,baz=133,slow=6.1,SNR=2.7						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**83.31**	**22**	P	**P**	**18 09 32.8**	**-0.3**
	0.3nm,0.8s,baz=251,slow=4.7,SNR=2.1						
	0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**149.26**	**286**	PKPbc	**PKPbc**	**18 16 55.7**	**-0.4**
	0.5nm,0.6s,baz=62,slow=4.0,SNR=3.4						

*IDC **24** 18:07:27.5±2.7,21.′75N×143.′59E,h168km±23km,mb3.4/8, mbtmp3.9/9,MS2.9/2,Error ellipse: s-maj=37.5km s-min=16.6km az=86.0*

ISC 24 18:07:25.6±1.2,21.°7N±0.°1×143.°6E±0.°4,h150km,n11, σ0.°95/11,mb3.7/8,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.58**	**347**	P	**Pn**	**18 08 47.5**	**+0.9**
	23nm,0.5s,baz=162,slow=20,SNR=1.4						
JCJ				S	**Sn**	**18 09 50.6**	**+0.7**
	30nm,0.5s,baz=296,slow=22,SNR=2.2						
PETK	**Petropavlovsk-**	**33.22**	**16**	LR	LR	18 25 45.5	
	comp=Z,48nm,21.2s,baz=107,slow=33						
MA2	**Magadan**	**38.23**	**6**	LR	LR	18 28 32.4	
	comp=Z,10nm,21.8s,baz=105,slow=33						
WRA	**Warramunga Arr**	**42.32**	**193**	P	**P**	**18 15 05.2**	**+0.5**
	0.2nm,0.4s,baz=15,slow=9.0,SNR=6.7						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**46.02**	**192**	P	**P**	**18 15 35.5**	**+1.3**
	0.3nm,0.9s,baz=19,slow=9.8,SNR=1.3						
	0.3nm,0.9s						
MKAR	**Makanchi Array**	**55.02**	**313**	P	**P**	**18 16 41.6**	**+0.1**
	0.1nm,0.5s,baz=93,slow=8.4,SNR=2.1						
MKAR				PcP	**PcP**	**18 17 40.3**	**-1.0**
	0.3nm,0.5s,baz=69,slow=4.8,SNR=6.8						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**57.83**	**317**	P	**P**	**18 17 00.8**	**-0.5**
	1.0nm,0.4s,baz=96,slow=7.7,SNR=5.8						
	1.0nm,0.4s						
BVAR	**Borovoye Array**	**62.96**	**320**	P	**P**	**18 17 35.9**	**-0.2**
	1.7nm,0.5s,baz=89,slow=7.1,SNR=15						
	1.7nm,0.5s						
YKA	**Yellowknife Ar**	**76.31**	**28**	P	**P**	**18 18 57.6**	**-0.1**
	0.4nm,0.5s,baz=292,slow=5.9,SNR=8.1						
	0.4nm,0.5s						
ARCES	**ARCESS Array B**	**79.09**	**342**	P	**P**	**18 19 12.5**	**-0.4**
	10.0nm,1.1s,baz=71,slow=7.0,SNR=2.5						
	10.0nm,1.1s						
FINES	**FINESS Array B**	**83.39**	**335**	P	**P**	**18 19 34.1**	**-1.6**
	2.7nm,1.0s,baz=72,slow=4.5,SNR=7.8						
	2.7nm,1.0s						

IDC 24 18:15:13.2±6.0,5.°83S×141.°85E,h0km,mb3.5/2, mbtmp3.5/4,ML3.1/2,MS3.0/1,Error ellipse: s-maj=226.1km s-min=33.4km az=95.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.81**	**207**	Pn	Pn	18 18 55.2	-2.1
	0.1nm,0.3s,baz=27,slow=12,SNR=5.6						
	0.6nm,1.0s						
ASAR	**Alice Springs**	**19.31**	**203**	P	Pn	18 19 40.9	-0.1
	0.1nm,0.3s,baz=33,slow=9.5,SNR=9.5						
	1.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**48.71**	**301**	LR	LR	18 46 38.1	
	comp=Z,16nm,19.4s,baz=150,slow=39						
MKAR	**Makanchi Array**	**74.16**	**322**	P	P	18 26 51.9	+0.2
	0.2nm,0.7s,baz=123,slow=5.3,SNR=2.4						
	0.2nm,0.7s						
BVAR	**Borovoye Array**	**83.65**	**325**	P	P	18 27 43.5	-0.2
	0.4nm,0.7s,baz=102,slow=6.6,SNR=2.7						
	0.4nm,0.7s						

*CNRM **24** 18:23:47.0,36.′90N×10.′29W,h46km,ML2.3*
*INMG **24** 18:23:47.7±1.0,36.′88N×10.′41W,h37km,ML2.3,Error ellipse: s-maj=3.9km s-min=2.8km az=68.0*
*MDD **24** 18:23:47.2±1.0,37.′03N×10.′23W,h6km±6km,mb_Lg3.0/5, Error ellipse: s-maj=11.3km s-min=5.4km az=32.0*
*IGIL **24** 18:23:47.3,36.′88N×10.′41W,h32km,ML2.1*

ISC 24 18:23:44.3±2.1,36.°85N±0.°06×10.°46W±0.°10,h35km,n50, σ1.°68/88,2C,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.33**	**77**	*e*P	**Pn**	**18 24 08.0**	**+1.6**
PFVI				*e*S	**Sn**	**18 24 22.9**	**0.0**
PFVI				A	A	18 24 23.5	
	46nm,0.1s						
PFVI	**Vila Bisbo**	**1.33**	**77**	P	**Pn**	**18 24 06.7**	**+0.3**
MORF	**Marmelete**	**1.51**	**72**	*e*S	**Sn**	**18 24 27.2**	**-0.2**
MORF				A	A	18 24 28.2	
	25nm,0.3s						
MORF	**Marmelete**	**1.51**	**72**	*e*P	**Pn**	**18 24 10.3**	**+1.4**
MORF				*e*S	**Sn**	**18 24 27.1**	**-0.2**
MORF				IAML		18 24 29.0	
	comp=E,39nm,0.1s						
PTEO	**Sao Teotonio**	**1.55**	**63**	*e*P	**Pn**	**18 24 11.0**	**+1.7**
PTEO				*e*S	**Sn**	**18 24 28.5**	**+0.3**
PTEO				A	A	18 24 31.0	
	comp=E,25nm,0.3s						
PNCL	**Nicolau / Gran**	**1.98**	**50**	*e*P	**Pn**	**18 24 16.9**	**+1.5**
PNCL				*e*S	**Sn**	**18 24 38.8**	**-0.2**
PNCL				A	A	18 24 41.6	
	comp=E,15nm,0.2s						
PNCL	**Nicolau / Gran**	**1.98**	**50**	Pn	**Pn**	**18 24 16.8**	**+1.5**
PNCL				Sn	**Sn**	**18 24 38.5**	**-0.4**
MESJ	**Messejana**	**2.04**	**60**	*e*P	**Pn**	**18 24 17.6**	**+1.5**
MESJ				*e*S	**Sn**	**18 24 40.0**	**-0.3**
MESJ				A	A	18 24 44.4	
	comp=E,8.8nm,0.2s						
MESJ	**Messejana**	**2.04**	**60**	*e*P	**Pn**	**18 24 17.6**	**+1.5**
MESJ				*e*S	**Sn**	**18 24 39.7**	**-0.6**
MESJ				IAML		18 24 41.0	
	comp=N,6.2nm,0.2s						
PBDV	**Barranco-do-Ve**	**2.06**	**78**	*e*P	**Pn**	**18 24 18.4**	**+2.0**
PBDV				*e*S	**Sn**	**18 24 41.0**	**+0.2**
PBDV				A	A	18 24 43.4	
	comp=N,9.2nm,0.2s						
PCVE	**Castro Verde**	**2.08**	**67**	*e*P	**Pn**	**18 24 18.4**	**+1.7**
PCVE				*e*S	**Sn**	**18 24 41.2**	**-0.2**
PCVE				A	A	18 24 41.9	
	comp=N,8.2nm,0.4s						
PCVE	**Castro Verde**	**2.08**	**67**	Pn	**Pn**	**18 24 18.3**	**+1.6**
PCVE				Sn	**Sn**	**18 24 40.4**	**-0.9**
PVAQ	**Vaqueiros**	**2.26**	**75**	*e*P	**Pn**	**18 24 21.2**	**+2.1**
PVAQ				*e*S	**Sn**	**18 24 45.1**	**-0.6**
PVAQ				A	A	18 24 47.5	
	comp=N,18nm,0.3s						
PVAQ	**Vaqueiros**	**2.26**	**75**	Pn	**Pn**	**18 24 21.4**	**+2.3**
PVAQ				Sn	**Sn**	**18 24 45.3**	**-0.4**
PVAQ	**Vaqueiros**	**2.26**	**75**	P	**Pn**	**18 24 21.2**	**+2.1**
PVAQ	**Vaqueiros**	**2.26**	**75**	S	**Sn**	**18 24 46.2**	**+0.5**
PMAFR	**Mafra**	**2.30**	**23**	*e*P	**Pn**	**18 24 20.8**	**+1.1**
PMAFR				A	A	18 24 46.7	
	comp=N,22nm,0.7s						
PMAFR				*e*S	**Sn**	**18 24 47.0**	**+0.2**
PBEJ	**Beja**	**2.37**	**60**	*e*P	**Pn**	**18 24 22.3**	**+1.6**
PBEJ				*e*S	**Sn**	**18 24 47.6**	**-1.0**
PBEJ				A	A	18 24 52.3	
	comp=N,7.5nm,0.2s						
EGRO	**El Granado**	**2.47**	**73**	Pn	**Pn**	**18 24 24.5**	**+2.5**
EGRO				Sn	**Sn**	**18 24 50.8**	**-0.1**
EGRO				*i* Vmb_Lg		18 24 53.8	
EVO	**Evora**	**2.56**	**48**	*e*P	**Pn**	**18 24 25.1**	**+1.8**
EVO				*e*S	**Sn**	**18 24 52.5**	**-0.8**
EVO				A	A	18 24 53.9	
	comp=N,21nm,0.1s						
EVO	**Evora**	**2.56**	**48**	Pn	**Pn**	**18 24 24.6**	**+1.2**
EVO				Sn	**Sn**	**18 24 52.6**	**-0.8**
PMTG	**Montargil**	**2.83**	**38**	*e*P	**Pn**	**18 24 28.0**	**+1.0**
PMTG				*e*S	**Sn**	**18 24 58.8**	**-1.1**
PMTG				A	A	18 25 00.0	
	comp=N,6.6nm,0.2s						
PSBE	**So Bento**	**2.96**	**26**	*e*P	**Pn**	**18 24 30.4**	**+1.5**
PSBE				*e*S	**Sn**	**18 25 04.0**	**+0.8**
PBAR	**Barrancos**	**3.02**	**63**	*e*P	**Pn**	**18 24 31.9**	**+2.3**
PBAR				*e*S	**Sn**	**18 25 03.6**	**-1.0**
PBAR				A	A	18 25 04.9	
	comp=N,7.1nm,0.3s						
PBAR	**Barrancos**	**3.02**	**63**	Pn	**Pn**	**18 24 31.1**	**+1.5**
PBAR				Sn	**Sn**	**18 25 03.3**	**-1.3**
PESTR	**Estremoz**	**3.03**	**48**	*e*P	**Pn**	**18 24 31.3**	**+1.5**
PESTR				*e*S	**Sn**	**18 25 03.7**	**-1.2**
PESTR				A	A	18 25 05.5	
	comp=N,3.9nm,0.6s						
PESTR	**Estremoz**	**3.03**	**48**	P	**Pn**	**18 24 31.0**	**+1.2**
PESTR	**Estremoz**	**3.03**	**48**	S	**Sn**	**18 25 04.1**	**-0.8**
EMIN	**Mina Concepcio**	**3.15**	**72**	Pn	**Pn**	**18 24 32.7**	**+1.3**
EMIN				Sn	**Sn**	**18 25 06.7**	**-1.1**
EMIN				*i* Vmb_Lg		18 25 10.7	
EBAD	**Badajoz**	**3.33**	**54**	Sn	**Sn**	**18 25 10.7**	**-1.3**
EBAD				Pn	**Pn**	**18 24 35.3**	**+1.5**
EBAD	**Badajoz**	**3.33**	**54**	Pn	**Pn**	**18 24 34.4**	**+0.6**
EBAD				Sn	**Sn**	**18 25 11.0**	**-1.0**
EBAD				*i* Vmb_Lg		18 25 12.7	
PMRV	**Marv??o**	**3.53**	**42**	*e*P	**Pn**	**18 24 37.6**	**+1.0**
PMRV				*e*S	**Sn**	**18 25 15.4**	**-1.8**
PMRV				A	A	18 25 17.1	
	comp=N,5.2nm,0.4s						
PCAS	**Casmilo, Conde**	**3.55**	**25**	*e*P	**Pn**	**18 24 38.3**	**+1.4**
PCAS				*e*S	**Sn**	**18 25 17.0**	**-0.6**
PCBR	**Castelo Branco**	**3.79**	**37**	*e*P	**Pn**	**18 24 41.4**	**+1.2**
PCBR				*e*S	**Sn**	**18 25 21.9**	**-1.7**
PCBR				A	A	18 25 26.5	
	comp=N,2.8nm,0.6s						
ECAB	**El Cabril**	**4.19**	**71**	Pn	**Pn**	**18 24 47.1**	**+1.4**
ECAB				Sn	**Sn**	**18 25 30.8**	**-2.7**
ECAB	**El Cabril**	**4.19**	**71**	Pn	**Pn**	**18 24 47.4**	**+1.6**
ECAB				Sn	**Sn**	**18 25 31.3**	**-2.1**
ECAB				*i* Vmb_Lg		18 25 34.0	
PVIS	**Viseu**	**4.35**	**27**	*e*S	**Sn**	**18 25 35.3**	**-2.1**
EADA	**Adamuz**	**4.86**	**73**	Pn	**Pn**	**18 24 56.2**	**+1.3**
EADA				Sn	**Sn**	**18 25 46.6**	**-3.3**
EADA	**Adamuz**	**4.86**	**73**	Pn	**Pn**	**18 24 56.3**	**+1.5**
EADA				Sn	**Sn**	**18 25 47.4**	**-2.4**
EADA				*i* Vmb_Lg		18 25 50.5	
MVO	**Moncorvo**	**5.07**	**31**	*e*P	**Pn**	**18 24 59.0**	**+1.2**
MVO				*e*S	**Sn**	**18 25 52.4**	**-2.7**
ELOB	**Lobios**	**5.34**	**20**	Pn	**Pn**	**18 25 02.3**	**+0.7**
ELOB				Sn	**Sn**	**18 25 59.1**	**-2.9**
PGAV	**Gavieira, Arco**	**5.38**	**18**	*e*P	**Pn**	**18 25 03.4**	**+1.3**
PGAV				*e*S	**Sn**	**18 26 00.1**	**-2.8**
IFR	**Ifrane**	**5.49**	**126**	Pn	**Pn**	**18 25 04.3**	**+0.6**
IFR				Sn	**Sn**	**18 26 01.0**	**-4.6**
PAB	**San Pablo**	**5.51**	**59**	Pn	**Pn**	**18 25 05.3**	**+1.4**
PAB				Sn	**Sn**	**18 26 02.6**	**-3.5**
PSIM	**Granatula de C**	**5.66**	**68**	Pn	**Pn**	**18 25 07.7**	**+1.8**
PSIM				Sn	**Sn**	**18 26 06.2**	**-3.4**
TISM	**Timmit**	**6.10**	**146**	P	**Pn**	**18 25 14.7**	**+2.8**
MD31	**MD31**	**6.14**	**129**	P	**Pn**	**18 25 13.3**	**+0.8**
EAGO	**Agolada(Pontev**	**6.22**	**16**	Pn	**Pn**	**18 25 14.5**	**+0.9**
MDT	**Midelt**	**6.27**	**128**	P	**Pn**	**18 25 15.6**	**+1.3**
TTIG	**Tnine Tigouga,**	**6.50**	**164**	P	**Pn**	**18 25 20.7**	**+3.1**

IDC 24 18:23:44.7±5.5,1.°14S×100.°28E,h0km,mb3.2/3, mbtmp3.2/3,MS3.7/1,Error ellipse: s-maj=283.0km s-min=28.8km az=53.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**28.43**	**256**	T	T	18 57 36.9	
	baz=78,slow=75,SNR=8.8						
H08S3	**Diego Garcia H**	**28.44**	**256**	T	T	18 57 34.6	
	baz=78,slow=75,SNR=11						
H08S1	**Diego Carcia H**	**28.45**	**256**	T	T	18 57 37.2	
	baz=78,slow=75,SNR=5.2						
H01W3	**Cape Leeuwin H**	**35.98**	**160**	T	T	19 08 31.4	
	baz=332						
H01W2	**Cape Leeuwin H**	**35.99**	**160**	T	T	19 08 32.5	
	baz=332						
H01W1	**Cape Leeuwin H**	**35.99**	**160**	T	T	19 08 40.2	
	baz=332						
WRA	**Warramunga Arr**	**38.20**	**122**	P	P	18 31 06.8	+0.2
	0.2nm,0.6s,baz=298,slow=9.8,SNR=4.7						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**39.54**	**127**	P	P	18 31 17.5	-0.4
	0.2nm,0.6s,baz=297,slow=7.3,SNR=5.9						
	0.2nm,0.6s						
CTA	**Charters Tower**	**48.72**	**116**	LR	LR	18 55 04.3	
	comp=Z,76nm,20.9s,baz=180,slow=39						
MKAR	**Makanchi Array**	**50.28**	**344**	P	P	18 32 42.8	-0.1
	0.1nm,0.3s,baz=156,slow=8.4,SNR=5.9						
	0.1nm,0.3s						
H04N2	**CROZET ISLANDS**	**61.65**	**216**	T	T	19 39 30.9	
	baz=58,slow=75,SNR=188						
H04N1	**CROZET ISLANDS**	**61.66**	**216**	T	T	19 39 31.4	
	baz=58,slow=75,SNR=101						
H04N3	**CROZET ISLANDS**	**61.67**	**216**	T	T	19 39 30.0	
	baz=58,slow=75,SNR=144						
H04S1	**CROZET ISLANDS**	**61.95**	**216**	T	T	19 39 51.0	
	baz=56						
H04S3	**CROZET ISLANDS**	**61.96**	**216**	T	T	19 39 50.2	
	baz=56						
H04S2	**CROZET ISLANDS**	**61.96**	**216**	T	T	19 39 53.7	
	baz=56						

*SJA **24** 18:24:31.6±0.7,24.′27S×66.′95W,h183km±7km,ML3.8, MW3.7*
*IDC **24** 18:24:34.5±2.0,24.′17S×67.′04W,h166km±24km,mb3.4/2, mbtmp3.9/7,Error ellipse: s-maj=31.5km s-min=18.4km az=137.0*
*GUC **24** 18:24:35.9±0.7,24.′20S×67.′47W,h209km±6km,ML4.2*

ISC 24 18:24:34.3±0.8,24.°22S±0.°04×67.°09W±0.°04,h170km±8km, n44,σ1.°83/76,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.53**	**109**	*e*P	**Pn**	**18 25 03.6**	**-2.3**
AF01	**San Pedro de A**	**1.61**	**321**	*e*P	**Pn**	**18 25 09.3**	**+2.4**
AF01				*i* S	**Sn**	**18 25 34.9**	**+2.9**
AF01				IAML		18 25 37.5	
	comp=E,553nm,0.2s						
FSA	**Cafayete**	**2.14**	**152**	*e*P	**Pn**	**18 25 09.5**	**-3.0**
LVC	**Limon Verde**	**2.31**	**313**	*e*P	**Pn**	**18 25 15.3**	**+0.7**
LVC				*e*S	**Sn**	**18 25 46.7**	**+0.8**
LVC				IAML		18 25 47.8	
	comp=Z,94nm,0.7s						
LVC	**Limon Verde**	**2.31**	**313**	P	**Pn**	**18 25 15.7**	**+1.1**
	comp=Z,26nm,0.3s,baz=139,slow=6.7,SNR=152						
LVC				S	**Sn**	**18 25 45.6**	**-0.3**
	comp=Z,114nm,0.2s,baz=253,slow=19,SNR=66						
LVC	**Limon Verde**	**2.31**	**313**	*e*P	**Pn**	**18 25 15.8**	**+1.1**
LVC				*e*S	**Sn**	**18 25 45.8**	**-0.1**
LVC				IAML		18 25 48.3	
	comp=Z,1μm,0.4s						
PB15	**IPOC Station P**	**2.40**	**294**	*e*P	**Pn**	**18 25 16.6**	**+1.0**
PB15				*e*S	**Sn**	**18 25 47.3**	**-0.1**
PB15	**IPOC Station P**	**2.40**	**294**	*e*P	**Pn**	**18 25 16.2**	**+0.6**
PB15				*e*S	**Sn**	**18 25 46.7**	**-0.7**
GO02	**Mina Guanaco**	**2.46**	**247**	*e*P	**Pn**	**18 25 17.0**	**+0.7**
GO02				*e*S	**Sn**	**18 25 49.0**	**+0.2**
GO02	**Mina Guanaco**	**2.46**	**247**	*e*P	**Pn**	**18 25 16.9**	**+0.7**
GO02				*e*S	**Sn**	**18 25 48.7**	**-0.1**
YJA	**Yavi**	**2.50**	**36**	*e*P	**Pn**	**18 25 19.8**	**+2.9**
YJA				*e*S	**Sn**	**18 25 48.6**	**-1.2**
PB06	**IPOC Station P**	**2.73**	**303**	*e*P	**Pn**	**18 25 20.1**	**+0.7**
PB06				*e*S	**Sn**	**18 25 53.3**	**-1.1**
PB06				IAML		18 25 55.3	
	comp=Z,459nm,0.2s						
PB06	**IPOC Station P**	**2.73**	**303**	*e*P	**Pn**	**18 25 20.2**	**+0.7**
PB06				*e*S	**Sn**	**18 25 53.0**	**-1.3**
PB06				IAML		18 25 55.1	
	comp=N,1μm,0.2s						
PB14	**IPOC Station P**	**3.05**	**262**	*e*P	**Pn**	**18

TORD	**Torodi Ar. Bea**	**76.72**	**69**	P		**P**	**18 36 07.3**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=260,slow=6.2,SNR=4.5							
	comp=Z,0.6nm,0.8s							
ASAR	**Alice Springs**	**128.22**	**205**	PKP		**PKPdf**	**18 43 21.0**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=156,slow=2.2,SNR=1.8							
MKAR	**Makanchi Array**	**146.74**	**40**	PKPbc		**PKPdf**	**18 43 56.3**	**+2.1**
	comp=Z,0.3nm,0.6s,baz=324,slow=2.2,SNR=6.3							

*IDC **24** 18:41:29.4±1.6,21˚.68N×94˚.71E,h120km±13km, mb3.6/14, mbtmp4.0/17, Error ellipse: s-maj=21.8km s-min=18.6km az=34.0*
*NDI **24** 18:41:29.7±2.6,21˚.68N×94˚.65E,h119km±35km, ML4.3, MW3.9, mb4.2(NEIC)*
*NEIC **24** 18:41:29±1.9,21˚.78N±0˚.04×94˚.78E±0˚.06,h119km±7km, mb4.2/26, Error ellipse: s-maj=8.0km s-min=5.3km az=88.0*

ISC 24 18:41:26.8±0.5,**21˚.67N**±0˚.05×**94˚.64E**±0˚.05,**h97**km,**n75,** σ1§**97**/89,**mb4.1**/26,**Myanmar**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MND	**Mandalay**	**1.41**	**76**	P		**Pn**	**18 41 53.4**	**+1.6**
MND	**Mandalay**	**1.41**	**76**	Pn		**Pn**	**18 41 53.3**	**+1.5**
SAIH	**SAIHA**	**1.73**	**298**	*e*P		**Pn**	**18 41 59.2**	**+3.2**
SAIH				*e*S		**Sn**	**18 42 21.7**	**+3.5**
SAIH				IAML			18 42 28.4	
	comp=N,7μm,0.5s							
SAIH				IAML			18 42 31.6	
	comp=E,8μm,0.7s							
BRDH	**Bariadhala**	**2.95**	**290**	P		**Pn**	**18 42 15.4**	**+3.6**
	comp=E,132nm,0.3s,baz=270,slow=13,SNR=1.7							
BRDH				S		**Sn**	**18 42 48.4**	**+1.9**
	comp=E,731nm,0.4s,baz=270,slow=18,SNR=25							
IMP	**Imphal**	**3.21**	**349**	*e*P		Pn	18 42 20.3	+5.0
IMP				*i* x		x	18 42 22.6	
IMP				*e*x		x	18 43 00.8	
KOHI	**KOHIMA**	**4.06**	**353**	*e*P		**Pn**	**18 42 30.2**	**+3.3**
KOHI				*e*S		**Sn**	**18 43 14.8**	**+1.4**
SHL	**Shillong**	**4.63**	**327**	*e*P		**Pn**	**18 42 36.3**	**+1.7**
SHL				*e*x		x	18 43 24.5	
SHL				IAML			18 43 28.9	
	comp=N,662nm,0.2s							
SHL				IAML			18 43 29.2	
	comp=E,884nm,0.3s							
TNCH	**TengChong**	**4.89**	**46**	Pg		**Pn**	**18 42 41.3**	**+3.2**
TNCH				Sg		**Sn**	**18 43 35.8**	**+2.2**
TNCH				smax		smax		
	comp=N,87nm,1.0s							
TNCH				smax		smax		
	comp=E,99nm,0.8s							
TNCH				LR		LR		
	comp=N,280nm,2.2s							
TNCH				LR		LR		
	comp=E,300nm,2.0s							
CM31	**Chiang Mai Arr**	**5.16**	**128**	Pn		**Pn**	**18 42 43.1**	**+1.4**
CMAR	**Chiang Mai Arr**	**5.16**	**128**	Pn		**Pn**	**18 42 42.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**5.16**	**128**	P		**Pn**	**18 42 43.3**	**+1.6**
	comp=E,6.9nm,0.6s,baz=304,slow=13,SNR=67							
ITAN	**ITANAGAR**	**5.51**	**351**	*e*P		**Pn**	**18 42 48.3**	**+1.8**
ITAN				*e*S		**Sn**	**18 43 47.2**	**-1.3**
CRAI	**Chiangrai**	**5.55**	**104**	Pn		**Pn**	**18 42 47.1**	**+0.1**
ZIRO	**ZIRO**	**5.87**	**353**	*e*P		**Pn**	**18 42 52.8**	**+1.2**
ZIRO				*e*S		**Sn**	**18 43 54.3**	**-3.2**
PHRA	**Phrae**	**6.13**	**120**	Pn		**Pn**	**18 42 54.8**	**-0.1**
PZH	**PanZhiHua**	**8.08**	**52**	P		**Pn**	**18 43 22.6**	**+1.1**
PZH				pmax		pmax		
	comp=Z,7.0nm,0.8s							
PZH				pmax		pmax		
	comp=Z,100nm,5.1s							
BOK	**Bokaro**	**8.35**	**286**	*e*P		**Pn**	**18 43 28.6**	**+3.5**
BOK				*e*S		**Sn**	**18 44 52.9**	**-4.8**
BOK				IAML			18 45 02.9	
	comp=N,152nm,0.3s							
BOK				IAML			18 45 03.2	
	comp=E,91nm,0.3s							
SRDT	**SRDT**	**8.44**	**149**	P		**Pn**	**18 43 27.7**	**+1.4**
LSA	**Lhasa**	**8.59**	**339**	Pn		**Pn**	**18 43 29.8**	**+1.0**
NAYO	**Nakonayok**	**9.69**	**138**	P		**Pn**	**18 43 47.4**	**+4.1**
UBPT	**Khong Chiam**	**12.08**	**120**	Pn		**Pn**	**18 44 12.0**	**-3.6**
GOMU	**GeErMu**	**14.48**	**1**	P		**Pn**	**18 44 45.1**	**-2.2**
GOMU				pP		P	18 44 49.5	-1.8
GOMU				sP			18 44 50.8	
GOMU				pmax		pmax		
	comp=Z,3.0nm,0.7s							
ENH	**Enshi**	**15.85**	**54**	P		**P**	**18 45 07.3**	**+1.1**
ENH	**Enshi**	**15.85**	**54**			**Pn**	**18 45 04.5**	**+0.1**
LHMI	**Lhok Sumawe**	**16.50**	**172**			**P**	**18 45 13.7**	**+0.2**
XAN	**Xi'an**	**17.62**	**43**	P		**P**	**18 45 26.3**	**+0.5**
XAN				pP		Pn	18 45 31.6	+5.5
XAN				pmax		pmax		
	comp=Z,21nm,1.0s							
IPM	**Ipoh**	**18.18**	**159**	P		**P**	**18 45 32.4**	**+0.4**
IPM				IAmb		IAmb	18 46 05.5	
	comp=Z,17nm,1.3s							
PALK	**Pallekele**	**19.65**	**225**	P		**Pn**	**18 45 51.0**	**+0.6**
PALK				IAmb		IAmb	18 46 09.8	
	comp=Z,14nm,1.3s							
PALK	**Pallekele**	**19.65**	**225**	P		**Pn**	**18 45 51.2**	**+0.9**
	comp=Z,2.7nm,0.4s,baz=134,slow=8.7,SNR=6.9							
PALK				S		**S**	**18 49 17.8**	**-6.8**
	comp=Z,3.9nm,0.7s,baz=85,slow=14,SNR=2.9							
WHN	**Wuhan**	**19.76**	**59**	P		**P**	**18 45 50.3**	**+1.2**
LYN	**LuoYang**	**20.26**	**47**	*e*P		Pn	18 45 58.5	+1.2
LYN				pmax		pmax		
	comp=Z,22nm,0.6s							
GSI	**Gunungsitoli**	**20.45**	**172**	P		**P**	**18 45 56.9**	**+0.3**
NIL	**Nilore**	**22.34**	**307**	P		**P**	**18 46 16.6**	**-0.1**
NIL				IAmb		IAmb	18 46 18.3	
	comp=Z,10nm,0.6s							
WMQ	**Urumqi**	**22.83**	**347**	*e*P		**P**	**18 46 22.5**	**+0.8**
HNS	**HongShan**	**23.39**	**44**	*e*P		**P**	**18 46 27.0**	**0.0**
KSH	**Kashi**	**23.89**	**322**	P		**P**	**18 46 33.5**	**+1.9**
KSH				pP		pP	18 46 57.9	+5.5
KSH				S		**S**	**18 50 39.0**	**-1.9**
KSH				pmax		pmax		
	comp=Z,7.0nm,0.6s							
HHC	**Hu-ho-hao-te**	**23.90**	**33**	*e*P		**P**	**18 46 30.6**	**-1.1**
HHC				pmax		pmax		
	comp=Z,13nm,0.6s							
HHC				pmax		pmax		
	comp=Z,97nm,5.2s							
TPUB	**Ta-pu**	**24.06**	**81**	P		**P**	**18 46 34.9**	**+1.7**
TWG	**Pinlang**	**24.48**	**82**	P		**P**	**18 46 40.2**	**+3.2**
TARG	**Taragay, Kyrgy**	**24.51**	**329**			**P**	**18 46 40.2**	**+2.7**
TARG				IAmb		IAmb	18 46 42.0	
	comp=Z,5.6nm,0.7s							
MK31	**Makanchi Array**	**26.99**	**341**	P		**P**	**18 47 00.9**	**+1.4**
MKAR	**Makanchi Array**	**26.99**	**341**	P		**P**	**18 47 00.7**	**+1.2**
MKAR	**Makanchi Array**	**26.99**	**341**	P		**P**	**18 47 01.2**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=144,slow=10,SNR=17							
MKAR				pP		**pP**	**18 47 25.3**	**+3.9**
	comp=Z,1.1nm,0.5s,baz=150,slow=10,SNR=4.7							
MKAR				PcP		**PcP**	**18 50 18.8**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=176,slow=2.8,SNR=5.1							
MKAR				ScP		**ScP**	**18 53 47.5**	**-2.7**
	comp=Z,0.7nm,0.9s,baz=176,slow=4.0,SNR=5.3							
	comp=Z,0.8nm,0.5s							
MAKZ	**Makanchi**	**27.10**	**341**	P		**P**	**18 47 01.3**	**+0.9**
SONM	**Songino Array**	**27.77**	**17**	P		**P**	**18 47 08.6**	**+2.1**
	comp=Z,0.2nm,0.4s,baz=216,slow=7.9,SNR=2.1							
	comp=Z,0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**31.54**	**340**	P		**P**	**18 47 41.1**	**+1.5**
	comp=Z,0.8nm,0.4s,baz=149,slow=8.4,SNR=6.0							
KURBB				PcP		**PcP**	**18 50 30.2**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=164,slow=2.4,SNR=2.3							
KURBB				ScP		**ScP**	**18 54 02.3**	**-2.3**
	comp=Z,1.4nm,0.3s,baz=158,slow=3.0,SNR=4.2							
	comp=Z,0.8nm,0.4s							
ZALV	**Zalesovo Beam**	**33.08**	**349**	P		**P**	**18 47 53.3**	**+0.2**
ZALV	**Zalesovo Beam**	**33.08**	**349**	P		**P**	**18 47 54.6**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=166,slow=8.8,SNR=2.4							
	comp=Z,0.8nm,0.3s							
GEYT	**Alibeck**	**35.33**	**306**	ScP		**ScP**	**18 54 17.0**	**-1.2**
	comp=Z,2.8nm,0.8s,baz=90,slow=4.9,SNR=3.9							
BVAR	**Borovoye Array**	**36.40**	**335**	P		**P**	**18 48 22.1**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=126,slow=8.7,SNR=4.6							
BVAR				PcP		**PcP**	**18 50 43.8**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=137,slow=3.2,SNR=4.7							
BVAR				ScP		**ScP**	**18 54 19.4**	**-2.4**
	comp=Z,0.6nm,0.7s,baz=150,slow=3.2,SNR=3.0							
	comp=Z,0.7nm,0.5s							
ABKAR	**Akbulak array**	**38.88**	**324**	P		**P**	**18 48 42.7**	**0.0**
JGF	**Kuroka**	**39.67**	**60**	P		**P**	**18 48 48.2**	**-1.3**
JGF				IAmb		IAmb	18 49 19.7	
	comp=Z,5.4nm,1.1s							
MJAR	**Matsushiro Arr**	**40.50**	**59**	P		**P**	**18 48 56.6**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=274,slow=9.8,SNR=5.8							
	comp=Z,1.2nm,0.7s							
AKASG	**Malin Array Be**	**58.03**	**317**	P		**P**	**18 51 08.9**	**-0.7**
	comp=Z,0.2nm,0.2s,baz=82,slow=6.4,SNR=2.0							
	comp=Z,0.2nm,0.2s							
BURAR	**Bucovina Array**	**60.56**	**313**	P		**P**	**18 51 27.1**	**-0.1**
FINES	**FINESS Array B**	**60.97**	**329**	P		**P**	**18 51 29.8**	**+0.3**
	comp=Z,3.2nm,1.0s,baz=116,slow=6.3,SNR=3.4							
	comp=Z,3.2nm,1.0s							
ARCES	**ARCESS Array B**	**62.60**	**338**	P		**P**	**18 51 40.0**	**-0.3**
	comp=Z,4.2nm,0.9s,baz=92,slow=7.3,SNR=6.5							
	comp=Z,4.2nm,0.9s							
SPITS	**Spitsbergen Ar**	**66.53**	**347**	P		**P**	**18 52 05.8**	**-0.1**
	comp=Z,6.8nm,0.9s,baz=120,slow=8.8,SNR=6.1							
	comp=Z,6.8nm,0.9s							
HFS	**Hagfors**	**66.98**	**328**	P		**P**	**18 52 07.8**	**-1.1**
	comp=Z,2.9nm,1.0s,baz=98,slow=10,SNR=4.8							
	comp=Z,2.9nm,1.0s							
NOA	**NORSAR Array B**	**68.13**	**329**	P		**P**	**18 52 15.4**	**-0.8**
	comp=Z,1.1nm,1.0s,baz=90,slow=5.8,SNR=2.4							
	comp=Z,1.1nm,1.0s							
F17K	**Baldwin Pennin**	**75.82**	**24**	P		**P**	**18 53 00.9**	**-1.0**
F17K				IAmb		IAmb	18 53 02.2	
	comp=Z,11nm,1.5s							
EKA	**Eskdalemuir Ar**	**76.75**	**324**	P		**P**	**18 53 07.3**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=73,slow=5.6,SNR=3.9							
	comp=Z,0.4nm,0.5s							
B22K	**Teshekpuk Lake**	**76.83**	**19**	P		**P**	**18 53 07.1**	**-0.5**
C23K	**Itkillik River**	**77.92**	**19**	P		**P**	**18 53 13.0**	**-0.7**
CAST	**Castle Rocks**	**80.65**	**25**	P		**P**	**18 53 28.3**	**-0.4**
CAST				IAmb		IAmb	18 53 52.0	
	comp=Z,7.8nm,1.5s							
SUMG	**Summit**	**80.87**	**347**	P		**P**	**18 53 29.6**	**-0.6**
SUMG				IAmb		IAmb	18 53 31.9	
	comp=Z,4.0nm,0.8s							
BMAR	**Burnt Mountain**	**81.09**	**20**	P		**P**	**18 53 31.1**	**0.0**
MDM	**Murphy Dome**	**81.28**	**23**	P		**P**	**18 53 31.3**	**-0.7**
MDM				IAmb		IAmb	18 53 32.0	
	comp=Z,3.0nm,0.8s							
SKT	**Skwentna**	**81.60**	**26**	P		**P**	**18 53 31.4**	**-2.4**
SKT				IAmb		IAmb	18 53 35.8	
	comp=Z,9.8nm,1.3s							
ILAR	**Eielson Array**	**81.86**	**22**	P		**P**	**18 53 33.1**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=288,slow=5.0,SNR=5.9							
	comp=Z,0.5nm,0.6s							
BRLK	**Bradley Lake**	**83.02**	**28**	P		**P**	**18 53 38.8**	**-2.4**
SCRK	**Sand Creek**	**83.35**	**22**	P		**P**	**18 53 41.6**	**-1.3**
SCRK				IAmb		IAmb	18 53 44.3	
	comp=Z,2.6nm,1.2s							
RES	**Resolute Bay**	**83.68**	**3**	P		**P**	**18 53 43.5**	**-0.7**
BCAR	**Beaver Creek A**	**84.69**	**22**	P		**P**	**18 53 47.9**	**-1.8**
C36M	**Paulatuk**	**85.08**	**13**	P		**P**	**18 53 49.9**	**-1.5**
C36M				IAmb		IAmb	18 54 30.5	
	comp=Z,1.1nm,0.5s							

*IDC **24** 18:45:51.3±0.9,5˚.87S×142˚.91E,h0km,mb4.1/9, mbtmp4.1/11,ML1.8/1,MS4.7/3,Error ellipse: s-maj=37.2km s-min=21.7km az=70.0*

ISC 24 18:45:56.6±0.6,**6˚.19S**±0˚.07×**142˚.66E**±0˚.08,**h35**km,**n31,** σ2§**22**/31,**mb4.0**/9,**MS4.7**/3,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GENI	**Genyem**	**4.35**	**325**	P		**Pn**	**18 47 00.5**	**+0.3**
PMG	**Port Moresby**	**5.49**	**126**	Pn		**Pn**	**18 47 16.2**	**+0.3**
	1.8nm,0.3s,baz=323,slow=10,SNR=11							
PMG				Sn		**Sn**	**18 48 16.6**	**-1.2**
	6.6nm,0.3s,baz=221,slow=22,SNR=11							
	9.1nm,0.6s							
FAKI	**Fak Fak**	**10.87**	**287**	P		**Pn**	**18 48 29.2**	**-0.6**
KDU	**Kakadu**	**11.94**	**237**	P		**Pn**	**18 48 45.2**	**+0.8**
MTN	**Manton Dam**	**13.15**	**239**	P		**Pn**	**18 49 01.0**	**+0.1**
DRS	**Darwin Rock St**	**13.15**	**241**	P		**Pn**	**18 49 02.1**	**+1.1**
QIS	**Mount Isa**	**14.59**	**191**	P		**Pn**	**18 49 22.8**	**+2.2**
WRA	**Warramunga Arr**	**15.88**	**210**	Pn		**Pn**	**18 49 38.0**	**+0.4**
	0.6nm,0.3s,baz=29,slow=13,SNR=14							
WRA				Sn		**Sn**	**18 52 27.4**	**-5.4**
	1.0nm,0.3s,baz=29,slow=21,SNR=6.3							
WB1	**Warramunga Ar.**	**15.90**	**210**	P		**Pn**	**18 49 38.4**	**+0.6**
SOEI	**Soe**	**18.55**	**258**	P		**Pn**	**18 50 12.1**	**+1.1**
AS01	**Alice Springs**	**19.29**	**205**	P		**Pn**	**18 50 22.4**	**+2.6**
ASAR	**Alice Springs**	**19.31**	**205**	P		**Pn**	**18 50 22.5**	**+2.4**
	17nm,0.8s,baz=30,slow=12,SNR=261							
ASAR				S		**S**	**18 53 49.9**	**-5.7**
	1.7nm,0.7s,baz=19,slow=26,SNR=4.4							
ASAR				LR		LR	18 58 39.7	
	comp=Z,120nm,18.9s,baz=358,slow=39							
FITZ	**Fitzroy Crossi**	**20.39**	**233**	P		**P**	**18 50 32.8**	**+2.2**
INKA	**Innaminka**	**21.52**	**185**	P		**P**	**18 50 45.6**	**+3.0**
OOD	**Oodnadatta**	**22.49**	**196**	P		**P**	**18 50 55.5**	**+2.5**
TOLI2	**Tolitoli**	**23.01**	**288**	P		**P**	**18 50 59.4**	**+0.7**
WRKA	**Warakurna**	**23.25**	**215**	P		**P**	**18 51 02.2**	**+1.1**
LCRK	**Leigh Creek**	**24.49**	**189**	P		**P**	**18 51 13.9**	**+1.3**
MULG	**Mulgathing**	**25.30**	**198**	P		**P**	**18 51 24.2**	**+4.3**
JOW	**Kunigami**	**35.66**	**338**	LR		LR	19 06 25.4	
	comp=Z,1μm,18.5s,baz=252,slow=35							
JNU	**Nakatsue**	**40.66**	**345**	LR		LR	19 08 16.8	
	comp=Z,944nm,21.7s,baz=235,slow=33							
KSRS	**Korea Array**	**45.54**	**344**	P		**P**	**18 54 11.2**	**-1.7**
	1.0nm,0.7s,baz=162,slow=8.6,SNR=4.5							
	1.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**49.58**	**300**	P		**P**	**18 54 45.1**	**+0.5**
	1.1nm,0.7s,baz=116,slow=6.0,SNR=13							
	1.1nm,0.7s							
USRK	**Ussuriysk Ar.**	**51.07**	**350**	LR		LR	19 14 36.6	
	comp=Z,722nm,21.0s,baz=191,slow=34							
SONM	**Songino Array**	**62.55**	**333**	P		**P**	**18 56 16.4**	**-0.7**
	0.3nm,0.6s,baz=155,slow=5.4,SNR=3.1							
	0.3nm,0.6s							
MKAR	**Makanchi Array**	**74.93**	**322**	P		**P**	**18 57 34.1**	**0.0**
	1.3nm,0.7s,baz=108,slow=6.9,SNR=16							
	1.3nm,0.7s							
ZALV	**Zalesovo Beam**	**76.91**	**329**	P		**P**	**18 57 44.1**	**-1.1**
	0.9nm,0.5s,baz=113,slow=3.7,SNR=3.9							
	0.9nm,0.5s							
KURBB	**Kurchatov Arra**	**78.82**	**324**	P		**P**	**18 57 55.3**	**-0.5**
	0.4nm,0.4s,baz=116,slow=4.5,SNR=4.4							
	0.4nm,0.4s							
QSPA	**South Pole Qui**	**83.78**	**180**	P		**P**	**18 58 23.2**	**+1.1**
	1.9nm,0.9s,baz=278,slow=2.1,SNR=5.4							
	1.9nm,0.9s							
BVAR	**Borovoye Array**	**84.40**	**325**	P		**P**	**18 58 25.4**	**0.0**
	7.8nm,0.8s,baz=111,slow=6.6,SNR=38							
	7.8nm,0.8s							
ILAR	**Eielson Array**	**87.37**	**24**	P		**P**	**18 58 37.4**	**-2.4**
	1.2nm,0.8s,baz=256,slow=5.0,SNR=11							
	1.2nm,0.8s							

*JMA **24** 18:47:23.2±0.1,24˚.N±2˚×123˚.0E±0˚.5,h48km±1km, MV2.9/15,NW OFF ISHIGAKIJIMA IS*
*TAP **24** 18:47:23.1,24˚.35N×122˚.94E,h45km,ML3.4,D*

ISC 24 18:47:23.1±1.2,**24˚.29N**±0˚.03×**122˚.98E**±0˚.02,**h46**km±6km, **n149,** σ1§**45**/290,**1D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.17**	**348**	P		**Pn**	**18 47 30.7**	**-0.1**
JYNG				S		**Sn**	**18 47 36.1**	**-0.1**
YOJ	**Yonaguni jima**	**0.17**	**8**	P		**Pn**	**18 47 30.8**	**-0.1**
YOJ	**Yonaguni jima**	**0.17**	**8**	‖ *i* P		**Pn**	**18 47 30.8**	**-0.1**
	baz=26							
YOJ				*i* S		**Sn**	**18 47 36.2**	**-0.2**
	baz=26							
YOJ	**Yonaguni jima**	**0.17**	**8**	P		**Pn**	**18 47 30.8**	**-0.1**
YOJ				S		**Sn**	**18 47 36.2**	**-0.2**
EOS3	**EOS3**	**0.61**	**270**	*i* P		**Pn**	**18 47 35.4**	**0.0**
	baz=269							
EOS3				*e*S		**Sn**	**18 47 45.2**	**+1.0**
	baz=269							
EOS4	**EOS4**	**0.63**	**255**	P		**Pn**	**18 47 36.0**	**+0.6**
	baz=251							
EOS4				S		**Sn**	**18 47 45.7**	**+1.3**
	baz=251							
IRIF	**Iriomote-Funau**	**0.68**	**86**	P		**Pn**	**18 47 36.6**	**+0.2**
IRIF				S		**Sn**	**18 47 46.7**	**+0.6**
EOS2	**EOS2**	**0.70**	**281**	*i* P		**Pn**	**18 47 36.3**	**-0.2**
	baz=280							
EOS2				S		**Sn**	**18 47 46.5**	**+0.2**
	baz=280							
HATJ	**Hateruma jima**	**0.78**	**107**	P		**Pn**	**18 47 38.3**	**+0.5**
HATJ				*e*S		**Sn**	**18 47 49.8**	**+1.3**
JKRS	**Kuro-shima**	**0.94**	**93**	P		**Pn**	**18 47 40.5**	**+0.6**
JKRS				*e*S		**Sn**	**18 47 53.3**	**+1.1**
JIJ	**Ishigaki jima**	**1.06**	**86**	P		**Pn**	**18 47 41.5**	**-0.1**
JIJ				S		**Sn**	**18 47 55.0**	**-0.2**
ESAO	**Su ao**	**1.08**	**286**	*i* P		**Pn**	**18 47 41.0**	**-0.8**
	baz=293							
ESAO				*i* S		**Sn**	**18 47 53.4**	**-2.2**
	baz=293							
TWC	**Suao**	**1.08**	**287**	P		**Pn**	**18 47 40.8**	**-1.1**
	baz=285							
TWC				*i* S		**Sn**	**18 47 53.2**	**-2.6**
	baz=285							
EGS		**1.11**	**300**	*e*P		**Pn**	**18 47 40.7**	**-1.5**
	baz=306							
EGS				S		**Sn**	**18 47 55.9**	**-0.4**
	baz=306							
EWUT	**Wuta**	**1.11**	**278**	*e*P		**Pn**	**18 47 41.8**	**-0.5**
	baz=285							
EWUT				S		**Sn**	**18 47 55.0**	**-1.4**
	baz=285							
EAHA	**Aohua**	**1.14**	**272**	*e*P		**Pn**	**18 47 43.4**	**+0.7**
	baz=278							
EAHA				*i* S		**Sn**	**18 47 57.5**	**+0.4**
	baz=278							
ENA	**Nanau**	**1.14**	**277**	*e*P		**Pn**	**18 47 42.4**	**-0.3**
	baz=283							
ENA				S		**Sn**	**18 47 55.8**	**-1.4**
	baz=283							
NDS	**Dongshan**	**1.21**	**287**	P		**Pn**	**18 47 43.3**	**-0.3**
	baz=293							
NDS				*i* S		**Sn**	**18 47 57.3**	**-1.4**
	baz=293							
ILA	**Ilan**	**1.22**	**293**	*i* P		**Pn**	**18 47 44.0**	**+0.2**
	baz=291							
ILA				*i* S		**Sn**	**18 47 58.5**	**-0.7**
	baz=291							
JISG	**Ishigakijimahi**	**1.25**	**76**	P		**Pn**	**18 47 44.1**	**0.0**
JISG				S		**Sn**	**18 47 59.6**	**-0.1**
ETL	**Fush Village**	**1.25**	**264**	P		**Pn**	**18 47 44.7**	**+0.5**
	baz=248							
ETL				S		**Sn**	**18 48 00.7**	**+0.8**
	baz=248							
TIPB	**Shuangxi**	**1.25**	**303**	P		**Pn**	**18 47 43.7**	**-0.6**
	baz=311							
TIPB				*i* S		**Sn**	**18 47 57.8**	**-2.2**
	baz=311							
NACB	**Ninganchiao**	**1.27**	**265**	P		**Pn**	**18 47 44.3**	**-0.2**
NACB	**Ninganchiao**	**1.27**	**265**	P		**Pn**	**18 47 44.1**	**-0.3**
	baz=262							
NACB				S		**Sn**	**18 48 00.5**	**0.0**
	baz=262							
TWE	**Neicheng**	**1.27**	**290**	*e*P		**Pn**	**18 47 44.1**	**-0.3**
	baz=288							
TWE				*e*S		**Sn**	**18 47 59.0**	**-1.5**
	baz=288							
TWD	**Chiawan**	**1.28**	**261**	*i* P		**Pn**	**18 47 44.8**	**+0.2**
	baz=244							
TWD				S		**Sn**	**18 48 00.8**	**+0.1**
	baz=244							
SXI1	**Grass Mountain**	**1.29**	**309**	P		**Pn**	**18 47 44.4**	**-0.3**
	baz=316							
SXI1				S		**Sn**	**18 47 59.7**	**-1.2**
	baz=316							
HWA	**Hwalien**	**1.30**	**256**	*i* P		**Pn**	**18 47 45.1**	**+0.3**
	baz=240							
HWA				S		**Sn**	**18 48 02.8**	**+1.8**
	baz=240							
NWF	**Wu-fen Shan**	**1.34**	**306**	*i* P		**Pn**	**18 47 45.1**	**-0.5**
	baz=305							
NWF				S		**Sn**	**18 47 59.8**	**-2.4**
	baz=305							
LATG	**Datong**	**1.35**	**281**	P		**Pn**	**18 47 46.0**	**+0.4**
	baz=286							
LATG				S		**Sn**	**18 48 03.0**	**+0.5**
	baz=286							
FUSB	**Fushanzhiwuyua**	**1.36**	**291**	*i* P		**Pn**	**18 47 45.5**	**-0.2**
	baz=298							
FUSB				S		**Sn**	**18 48 01.3**	**-1.2**
	baz=298							
ETLH	**Xiulin Townshi**	**1.37**	**267**	*i* P		**Pn**	**18 47 46.3**	**+0.3**
	baz=264							
ETLH				S		**Sn**	**18 48 03.2**	**+0.2**
	baz=264							
NDT	**Datong Townshi**	**1.38**	**283**	P		**Pn**	**18 47 46.5**	**+0.5**
	baz=288							
NDT				S		**Sn**	**18 48 02.7**	**-0.3**
	baz=288							
SHUL	**Shoufeng**	**1.39**	**249**	*e*P		**Pn**	**18 47 46.5**	**+0.4**
	baz=246							
SHUL				*e*S		**Sn**	**18 48 03.4**	**+0.1**
	baz=246							
TNOU	**National Taiwa**	**1.40**	**308**	P		**Pn**	**18 47 45.8**	**-0.4**
	baz=314							
TN

HGSD			*i* S	**Sn**	**18 48 08.9**	**-0.3**			
	baz=239								
TWS1	**Kuangyinshan**	**1.64 300**	P	**Pn**	**18 47 49.5**	**0.0**			
	baz=299								
TWS1			S	**Sn**	**18 48 08.6**	**-0.8**			
	baz=299								
NTST	**Danshui**	**1.65 302**	P	**Pn**	**18 47 49.5**	**0.0**			
	baz=301								
NTST			S	**Sn**	**18 48 08.5**	**-1.1**			
	baz=301								
TWT	**Tachien**	**1.65 269**	P	**Pn**	**18 47 50.9**	**+1.1**			
	baz=267								
TWT			S	**Sn**	**18 48 10.4**	**+0.4**			
	baz=267								
TDCB	**Techi**	**1.67 269**	P	**Pn**	**18 47 50.5**	**+0.4**			
	baz=267								
TDCB			*e*S	**Sn**	**18 48 11.3**	**+1.0**			
	baz=267								
CHGB	**Renai**	**1.67 263**	*e*P	**Pn**	**18 47 50.7**	**+0.6**			
	baz=248								
CHGB			S	**Sn**	**18 48 09.3**	**-1.2**			
	baz=248								
OWD	**Renai**	**1.69 259**	*e*P	**Pn**	**18 47 50.5**	**+0.2**			
	baz=257								
OWD			*e*S	**Sn**	**18 48 10.3**	**-0.5**			
	baz=257								
EHYH	**Wanrong**	**1.70 243**	P	**Pn**	**18 47 50.0**	**-0.3**			
	baz=229								
EHYH			S	**Sn**	**18 48 10.2**	**-0.6**			
	baz=229								
ECBN	**Changbin**	**1.71 236**	*e*P	**Pn**	**18 47 49.7**	**-0.7**			
	baz=233								
ECBN			*e*S	**Sn**	**18 48 09.9**	**-1.1**			
	baz=233								
EHY	**Hungye**	**1.71 243**	*i* P	**Pn**	**18 47 50.2**	**-0.3**			
	baz=253								
EHY			*i* S	**Sn**	**18 48 09.7**	**-1.4**			
	baz=253								
WUSB	**Renai**	**1.73 261**	P	**Pn**	**18 47 51.2**	**+0.4**			
	baz=258								
WUSB			*e*S	**Sn**	**18 48 11.2**	**-0.7**			
	baz=258								
NFF	**Wufeng Townshi**	**1.73 282**	P	**Pn**	**18 47 51.8**	**+0.9**			
	baz=280								
NFF			S	**Sn**	**18 48 12.5**	**+0.6**			
	baz=280								
VWDT	**VWDT**	**1.77 253**	*i* P	**Pn**	**18 47 51.5**	**+0.3**			
	baz=240								
VWDT			S	**Sn**	**18 48 12.0**	**-0.5**			
	baz=240								
NCUH	**Zhongli**	**1.77 293**	P	**Pn**	**18 47 52.4**	**+1.1**			
	baz=303								
NCUH			*e*S	**Sn**	**18 48 14.1**	**+1.4**			
	baz=303								
YULB	**Yu-li**	**1.78 240**	P	**Pn**	**18 47 51.1**	**-0.4**			
YULB	**Yu-li**	**1.78 240**	*i* P	**Pn**	**18 47 51.1**	**-0.4**			
	baz=252								
YULB			S	**Sn**	**18 48 12.1**	**-0.9**			
	baz=252								
EYUL	**Yuli**	**1.79 239**	*e*P	**Pn**	**18 47 51.4**	**-0.2**			
	baz=236								
EYUL			S	**Sn**	**18 48 12.5**	**-0.6**			
	baz=236								
TWF1	**Yuli**	**1.81 239**	*i* P	**Pn**	**18 47 51.7**	**-0.1**			
	baz=236								
TWF1			*i* S	**Sn**	**18 48 12.3**	**-1.2**			
	baz=236								
CHKH	**Chenggong**	**1.82 233**	P	**Pn**	**18 47 50.4**	**-1.6**			
	baz=221								
CHKH			S	**Sn**	**18 48 11.3**	**-2.5**			
	baz=221								
NSTT	**Nanjuang**	**1.84 281**	*i* P	**Pn**	**18 47 53.7**	**+1.5**			
	baz=291								
NSTT			*i* S	**Sn**	**18 48 16.6**	**+2.2**			
	baz=291								
WHP	**Taichung City**	**1.86 270**	*i* P	**Pn**	**18 47 53.7**	**+1.1**			
	baz=258								
WHP			S	**Sn**	**18 48 15.0**	**0.0**			
	baz=258								
FULB	**Fuli**	**1.89 235**	*i* P	**Pn**	**18 47 52.0**	**-1.0**			
	baz=222								
FULB			S	**Sn**	**18 48 14.8**	**-0.9**			
	baz=222								
DPDB	**Guoxing**	**1.90 263**	P	**Pn**	**18 47 54.0**	**+0.9**			
	baz=252								
DPDB			S	**Sn**	**18 48 16.0**	**+0.2**			
	baz=252								
CHKT	**Chengkung**	**1.90 232**	*i* P	**Pn**	**18 47 52.6**	**-0.5**			
	baz=219								
CHKT			*i* S	**Sn**	**18 48 13.4**	**-2.4**			
	baz=219								
WCS	**Beigang Elemen**	**1.91 263**	P	**Pn**	**18 47 54.0**	**+0.8**			
	baz=253								
WCS			S	**Sn**	**18 48 17.0**	**+1.1**			
	baz=253								
SSLB	**Suanglung**	**1.92 255**	P	**Pn**	**18 47 53.8**	**+0.4**			
SSLB	**Suanglung**	**1.92 255**	P	**Pn**	**18 47 53.7**	**+0.4**			
	baz=253								
SSLB			S	**Sn**	**18 48 16.6**	**+0.2**			
	baz=253								
SMLT	**Sun Moon Lake**	**1.95 258**	*i* P	**Pn**	**18 47 54.5**	**+0.7**			
	baz=247								
SMLT			*i* S	**Sn**	**18 48 17.2**	**0.0**			
	baz=247								
TYC	**Yuchr**	**1.98 259**	*i* P	**Pn**	**18 47 54.9**	**+0.8**			
	baz=248								
TYC			S	**Sn**	**18 48 18.0**	**+0.2**			
	baz=248								
EHD	**Haiduan**	**1.99 236**	P	**Pn**	**18 47 53.6**	**-0.7**			
	baz=224								
EHD			S	**Sn**	**18 48 16.5**	**-1.5**			
	baz=224								
ECS	**Chishang**	**2.01 234**	P	**Pn**	**18 47 54.8**	**+0.2**			
	baz=222								
ECS			S	**Sn**	**18 48 18.0**	**-0.5**			
	baz=222								
NMLH	**Miaoli**	**2.02 278**	P	**Pn**	**18 47 55.7**	**+1.1**			
	baz=276								
NMLH			S	**Sn**	**18 48 20.9**	**+2.2**			
	baz=276								
TWQ1	**Liyutan**	**2.02 272**	*i* P	**Pn**	**18 47 57.2**	**+2.5**			
	baz=271								
TWQ1			S	**Sn**	**18 48 20.6**	**+1.9**			
	baz=271								
NSY	**Sanyi**	**2.03 274**	P	**Pn**	**18 47 57.1**	**+2.2**			
	baz=273								
NSY			S	**Sn**	**18 48 22.0**	**+2.9**			
	baz=273								
WHYT	**Xinyi Township**	**2.04 254**	*i* P	**Pn**	**18 47 56.0**	**+1.1**			
	baz=243								
WHYT			*i* S	**Sn**	**18 48 20.0**	**+0.8**			
	baz=243								
JIRB	**Irabujima**	**2.06 74**	P	**Pn**	**18 47 56.1**	**+0.8**			
ELDTW	**Lidau**	**2.11 239**	*i* P	**Pn**	**18 47 55.3**	**-0.7**			
	baz=237								
ELDTW			S	**Sn**	**18 48 17.6**	**-3.5**			
	baz=237								
TCU	**Taichung**	**2.11 267**	*i* P	**Pn**	**18 47 57.8**	**+1.9**			
	baz=278								
TCU			*i* S	**Sn**	**18 48 23.5**	**+2.4**			
	baz=278								
WJS	**Zhushan**	**2.11 258**	P	**Pn**	**18 47 58.1**	**+2.1**			
	baz=247								
WJS			S	**Sn**	**18 48 23.6**	**+2.5**			
	baz=247								
LDUT	**Ludao**	**2.13 221**	P	**Pn**	**18 47 54.9**	**-1.3**			
	baz=210								
LDUT			*i* S	**Sn**	**18 48 18.6**	**-2.7**			
	baz=210								
WDJ	**Dajia District**	**2.14 272**	*e*P	**Pn**	**18 47 58.9**	**+2.5**			
	baz=271								
WDJ			*i* S	**Sn**	**18 48 24.1**	**+2.4**			
	baz=271								
ALS	**Alishan**	**2.14 249**	*i* P	**Pn**	**18 47 57.5**	**+0.9**			
	baz=247								
ALS			S	**Sn**	**18 48 22.6**	**+0.4**			
	baz=247								
WNT	**Mingjian**	**2.14 259**	*i* P	**Pn**	**18 47 58.3**	**+1.9**			
	baz=246								
WNT			*i* S	**Sn**	**18 48 24.1**	**+2.3**			
	baz=246								
LONT	**Longtian**	**2.19 231**	*i* P	**Pn**	**18 47 56.7**	**-0.4**			
	baz=221								
LONT			*e*S	**Sn**	**18 48 22.8**	**-0.1**			
	baz=221								
CHN5	**Tsauling**	**2.22 252**	*e*P	**Pn**	**18 47 59.4**	**+1.8**			
	baz=250								
CHN5			*i* S	**Sn**	**18 48 25.4**	**+1.6**			
	baz=250								
WCHH	**Zhanghua**	**2.23 265**	*e*P	**Pn**	**18 48 00.2**	**+2.7**			
	baz=276								
WCHH			S	**Sn**	**18 48 26.6**	**+2.8**			
	baz=276								
TTN	**Taitung**	**2.27 228**	*e*P	**Pn**	**18 47 59.0**	**+0.7**			
	baz=217								
TTN			S	**Sn**	**18 48 24.7**	**-0.4**			
	baz=217								
TWGBT	**Beinan**	**2.28 230**	P	**Pn**	**18 47 58.0**	**-0.3**			
TWGBT	**Beinan**	**2.28 230**	P	**Pn**	**18 47 57.6**	**-0.7**			
	baz=240								
TWGBT			S	**Sn**	**18 48 24.4**	**-0.8**			
	baz=240								
TWG	**Pinlang**	**2.28 231**	*i* P	**Pn**	**18 47 58.0**	**-0.3**			
	baz=240								
TWG			*i* S	**Sn**	**18 48 24.1**	**-1.2**			
	baz=240								
WGK	**Gukeng**	**2.29 255**	*i* P	**Pn**	**18 48 00.4**	**+1.9**			
	baz=243								
WGK			S	**Sn**	**18 48 28.0**	**+2.5**			
	baz=243								
STYH	**Taoyuan**	**2.31 242**	P	**Pn**	**18 47 59.5**	**+0.8**			
	baz=232								
STYH			*e*S	**Sn**	**18 48 26.7**	**+0.8**			
	baz=232								
WDLH	**Douliu**	**2.32 256**	P	**Pn**	**18 48 00.6**	**+1.8**			
	baz=243								
WDLH			S	**Sn**	**18 48 28.4**	**+2.4**			
	baz=243								
WCKO	**Fanlu**	**2.34 249**	*i* P	**Pn**	**18 48 01.0**	**+1.9**			
	baz=239								
WCKO			*i* S	**Sn**	**18 48 28.8**	**+2.2**			
	baz=239								
TPUB	**Ta-pu**	**2.37 246**	*e*P	**Pn**	**18 48 01.5**	**+1.9**			
	baz=244								
TPUB			S	**Sn**	**18 48 28.8**	**+1.3**			
	baz=244								
CHN4	**Tsaushan**	**2.38 247**	*i* P	**Pn**	**18 48 01.2**	**+1.6**			
	baz=245								
CHN4			*i* S	**Sn**	**18 48 29.9**	**+2.3**			
	baz=245								
WTP	**Ta-pu**	**2.41 245**	*i* P	**Pn**	**18 48 01.9**	**+1.8**			
	baz=243								
WTP			*i* S	**Sn**	**18 48 30.2**	**+1.9**			
	baz=243								
WRL	**Guolierlin Hig**	**2.41 261**	P	**Pn**	**18 48 01.4**	**+1.3**			
	baz=260								
WRL			S	**Sn**	**18 48 29.9**	**+1.4**			
	baz=260								
CHN2	**Minshiung**	**2.42 252**	P	**Pn**	**18 48 02.9**	**+2.7**			
	baz=251								
CHN2			*i* S	**Sn**	**18 48 31.3**	**+2.8**			
	baz=251								
WTK	**Tuku**	**2.45 256**	*i* P	**Pn**	**18 48 02.6**	**+2.0**			
	baz=245								
WTK			*i* S	**Sn**	**18 48 31.5**	**+2.2**			
	baz=245								
SLGT	**Liugui**	**2.50 239**	P	**Pn**	**18 48 03.2**	**+1.8**			
	baz=230								
SLGT			S	**Sn**	**18 48 33.5**	**+2.9**			
	baz=230								
CHN1	**Nanshi**	**2.50 244**	*i* P	**Pn**	**18 48 03.2**	**+1.8**			
	baz=242								
CHN1			*i* S	**Sn**	**18 48 33.0**	**+2.3**			
	baz=242								
WTCT	**Ta-ch'eng**	**2.51 261**	*i* P	**Pn**	**18 48 02.5**	**+1.2**			
	baz=259								
WTCT			*i* S	**Sn**	**18 48 32.0**	**+1.2**			
	baz=259								
SGST	**Jiashian**	**2.51 242**	*i* P	**Pn**	**18 48 02.4**	**+0.9**			
	baz=240								
SGST			*i* S	**Sn**	**18 48 32.7**	**+1.9**			
	baz=240								
ECL	**Taimali**	**2.51 228**	*i* P	**Pn**	**18 48 00.5**	**-1.0**			
	baz=236								
ECL			*i* S	**Sn**	**18 48 28.6**	**-2.2**			
	baz=236								
SNST	**Tainan City**	**2.52 245**	P	**Pn**	**18 48 03.5**	**+2.0**			
	baz=244								
SNST			S	**Sn**	**18 48 33.4**	**+2.5**			
	baz=244								
LAY	**Lan-yu**	**2.60 211**	*i* P	**Pn**	**18 48 01.1**	**-1.6**			
	baz=208								
LAY			*i* S	**Sn**	**18 48 29.7**	**-3.4**			
	baz=208								
WSF	**Szhu**	**2.61 256**	P	**Pn**	**18 48 04.2**	**+1.4**			
	baz=268								
WSF			*i* S	**Sn**	**18 48 35.9**	**+2.6**			
	baz=268								
LYUB	**Lan-yu**	**2.62 210**	P	**Pn**	**18 48 00.6**	**-2.3**			
	baz=207								
LYUB			S	**Sn**	**18 48 30.1**	**-3.4**			
	baz=207								
WSL	**Shuilin Townsh**	**2.63 254**	P	**Pn**	**18 48 05.3**	**+2.2**			
	baz=252								
WSL			S	**Sn**	**18 48 36.6**	**+2.6**			
	baz=252								
ICHU	**Yijhu**	**2.64 250**	P	**Pn**	**18 48 04.8**	**+1.6**			
	baz=248								
ICHU			*i* S	**Sn**	**18 48 36.2**	**+2.1**			
	baz=248								
SSD	**Sandimen**	**2.65 235**	*i* P	**Pn**	**18 48 04.1**	**+0.7**			
	baz=229								
SSD			*e*S	**Sn**	**18 48 34.8**	**+0.5**			
	baz=229								
TSMG	**Majia**	**2.66 234**	P	**Pn**	**18 48 03.9**	**+0.4**			
	baz=228								
TSMG			S	**Sn**	**18 48 35.5**	**+0.8**			
	baz=228								
SCST	**Cishan**	**2.68 239**	P	**Pn**	**18 48 06.4**	**+2.7**			
	baz=226								
SCST			*e*S	**Sn**	**18 48 39.7**	**+4.8**			
	baz=226								
CHN8	**Yiju**	**2.71 250**	*e*P	**Pn**	**18 48 04.8**	**+0.7**			
	baz=249								
CHN8			*i* S	**Sn**	**18 48 38.1**	**+2.4**			
	baz=249								
SHHT	**Tainan City**	**2.73 243**	P	**Pn**	**18 48 06.3**	**+1.9**			
	baz=241								
SHHT			S	**Sn**	**18 48 41.8**	**+5.7**			
	baz=241								
MASBT	**Mashibuluo**	**2.73 233**	P	**Pn**	**18 48 04.7**	**+0.2**			
	baz=223								
MASBT			S	**Sn**	**18 48 37.8**	**+1.5**			
	baz=223								
EAST	**Anshuo**	**2.73 226**	*i* P	**Pn**	**18 48 03.5**	**-1.1**			
	baz=232								
EAST			S	**Sn**	**18 48 34.8**	**-1.5**			
	baz=232								
TAWH	**Dawu Township**	**2.73 225**	*e*P	**Pn**	**18 48 03.2**	**-1.3**			
	baz=231								
TAWH			*e*S	**Sn**	**18 48 34.3**	**-2.1**			
	baz=231								
TWM1	**Shoushan**	**2.77 239**	P	**Pn**	**18 48 08.3**	**+3.4**			
	baz=227								
TWM1			*i* S	**Sn**	**18 48 43.0**	**+5.8**			
	baz=227								
SLIU	**Shizi**	**2.88 225**	P	**Pn**	**18 48 04.6**	**-2.0**			
	baz=213								
SLIU			S	**Sn**	**18 48 39.3**	**-0.7**			
	baz=213								
TSCK	**Chigu Township**	**2.89 247**	P	**Pn**	**18 48 07.5**	**+0.9**			
	baz=246								
TSCK			S	**Sn**	**18 48 41.4**	**+1.2**			
	baz=246								
SCZT	**Fangliau**	**2.89 229**	*i* P	**Pn**	**18 48 07.2**	**+0.6**			
	baz=221								
SCZT			S	**Sn**	**18 48 40.4**	**+0.2**			
	baz=221								
HEN	**Hengchun**	**3.07 223**	*i* P	**Pn**	**18 48 07.9**	**-1.3**			
	baz=220								
HEN			*i* S	**Sn**	**18 48 45.0**	**+0.4**			
	baz=220								
WDGT	**Dungji**	**3.21 252**	*i* P	**Pn**	**18 48 12.1**	**+1.0**			
	baz=250								
WDGT			*i* S	**Sn**	**18 48 48.1**	**0.0**			
	baz=250								
PHUB	**P'eng-hu**	**3.22 257**	P	**Pn**	**18 48 11.5**	**+0.3**			
	baz=255								
PHUB			S	**Sn**	**18 48 48.0**	**-0.2**			
	baz=255								
PNG	**Penghu**	**3.22 258**	*i* P	**Pn**	**18 48 11.2**	**0.0**			
	baz=256								
PNG			*i* S	**Sn**	**18 48 47.5**	**-0.8**			
	baz=256								
VWUC	**VWUC**	**3.29 283**	P	**Pn**	**18 48 12.0**	**-0.1**			
	baz=283								
VWUC			*e*S	**Sn**	**18 48 49.4**	**-0.7**			
	baz=283								
MATB	**Ma-tsu**	**3.32 305**	*e*P	**Pn**	**18 48 11.8**	**-0.7**			
	baz=304								
MATB			S	**Sn**	**18 48 48.8**	**-1.9**			
	baz=304								
VCHM	**Qimei**	**3.43 252**	P	**Pn**	**18 48 14.5**	**+0.5**			
	baz=251								
VCHM			S	**Sn**	**18 48 53.7**	**+0.2**			
	baz=251								
PTMZ	**Houxiangcun**	**3.59 283**	P	**Pn**	**18 48 16.4**	**+0.1**			
	baz=283								
PTMZ			*i* S	**Sn**	**18 48 55.7**	**-1.8**			
	baz=283								
KNM	**Kinmen**	**4.15 273**	*e*P	**Pn**	**18 48 25.7**	**+1.7**			
	baz=283								
KNM			S	**Sn**	**18 49 13.5**	**+2.3**			
	baz=283								
KNMB	**Chin-men Tao**	**4.19 273**	P	**Pn**	**18 48 24.4**	**-0.2**			
	baz=284								
KNMB			S	**Sn**	**18 49 10.5**	**-1.8**			
	baz=284								
ZPLA	**Ao Xicun**	**4.80 267**	P	**Pn**	**18 48 32.7**	**-0.1**			
	baz=258								
ZPLA			*e*S	**Sn**	**18 49 25.6**	**-1.5**			
	baz=258								

*IDC **24** 18:58:12.6±0.5,20°.47N×120°.85E,h0km,mb4.3/27, mbtmp4.3/29,ML3.9/2,MS4.5/59,Error ellipse: s-maj=16.8km s-min=10.9km az=77.0*

*BJI **24** 18:58:14.8±0.0,20°.71N×120°.59E,h5km,mb4.4/64, mB4.9/42,Ms5.3/74,Ms7 5.0/72*

*GCMT **24** 18:58:14.4±0.2,20°.49N±0°.01×120°.64E±0°.02,h12km, MW4.9/107,Moment Tensor Solution. s26,c28; s107,c181; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr1.17±.08; Mθθ-1.77±.06; Mϕϕ0.59±.07; Mrθ-0.77±.20; Mθϕ-2.05±.05; Mϕr-0.65±.23; Best double couple: M₀2.51600×10^16^ NP1:ϕs198.00000°,δ85.00000°, λ24.00000°. NP2:ϕs106.00000°,δ66.00000°,λ174.00000°. Principal axes: T 1.8510, Plg21.0000°, Azm65.0000°; N 1.3300, Plg65.0000°, Azm210.0000°; P -3.1820, Plg13.0000°, Azm330.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **24** 18:58:14.4±1.4,20°.59N±0°.05×120°.74E±0°.02,h10km±1km, mb4.9/164,Mwr4.8/16 Error ellipse: s-maj=9.8km s-min=3.0km az=158.0,Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr1.20; Mθθ-1.50; Mϕϕ0.30; Mrθ-1.33; Mθϕ-0.08; Mϕr-0.53; Fault plane solution: M₀1.99000×10^16^ NP1:ϕs106.28000°,δ24.72000°, λ121.47000°. NP2:ϕs252.30000°,δ69.11000°,λ76.49000°. Principal axes: T 1.8810, Plg63.0000°, Azm141.0000°; N 0.1982, Plg13.0000°, Azm257.0000°; P -2.0793, Plg23.0000°, Azm353.0000°;*

*NEIC **24** 18:58:14.5,20°.59N×120°.74E,h10km*

ISC 24 18:58:14.2±0.3,20°.43N±0°.03×120°.76E±0°.04,h10km,n353, σ1s90/334,mb4.8/140,MS4.6/69,9C-6D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**1.13**	**89**	‖*e*P		**Pb**	**18 58 35.3**	**-0.6**
BBP				*i* S		**Sb**	**18 58 52.3**	**+1.6**
BBPB	**Basco Batanes**	**1.13**	**89**	‖*i*P		**Pb**	**18 58 35.5**	**-0.4**
CICP	**Calayan Island**	**1.34**	**149**	‖*e*P		**Pn**	**18 58 38.3**	**-0.7**
PACPP	**Pamplona Cagay**	**2.04**	**164**	‖*i*P		**Pn**	**18 58 47.8**	**-0.8**
TWGBT	**Beinan**	**2.40**	**7**	P		**Pn**	**18 58 52.6**	**-1.0**
TWG	**Pinlang**	**2.40**	**7**			**Pn**	**18 58 51.7**	**-1.9**
SIPP	**Brgy, Tapao**	**2.51**	**187**	‖*e*P		**Pn**	**18 58 54.6**	**-0.5**
SIPP				*e*S		**Sn**	**18 59 26.2**	**+0.4**
TPUB	**Ta-pu**	**2.86**	**358**	P		**Pn**	**18 58 57.7**	**-2.3**
TPUB	**Ta-pu**	**2.86**	**358**	Pn		**Pn**	**18 58 57.1**	**-2.8**
YULB	**Yu-li**	**2.99**	**10**	P		**Pn**	**18 59 01.0**	**-0.8**
YULB	**Yu-li**	**2.99**	**10**	Pn		**Pn**	**18 58 59.2**	**-2.6**
SSLB	**Suanglung**	**3.35**	**3**	P		**Pn**	**18 59 05.5**	**-1.2**
SSLB	**Suanglung**	**3.35**	**3**	Pn		**Pn**	**18 59 04.6**	**-2.1**
NACB	**Ninganchiao**	**3.81**	**12**	P		**Pn**	**18 59 12.1**	**-0.8**
NACB	**Ninganchiao**	**3.81**	**12**	Pn		**Pn**	**18 59 10.9**	**-2.1**
YHNB	**Yeheng**	**4.26**	**8**	P		**Pn**	**18 59 18.6**	**-0.6**
YHNB	**Yeheng**	**4.26**	**8**	Pn		**Pn**	**18 59 17.8**	**-1.5**
YOJ	**Yonaguni jima**	**4.52**	**27**	P		**Pn**	**18 59 22.2**	**-0.6**
YOJ	**Yonaguni jima**	**4.52**	**27**	Pn		**Pn**	**18 59 21.7**	**-1.1**
KNMB	**Chin-men Tao**	**4.57**	**332**	Pn		Pn	18 59 19.7	-3.9
TATO	**Taipei**	**4.57**	**8**	Pn		**Pn**	**18 59 22.1**	**-1.4**
QZH	**Quanzhou**	**4.92**	**336**	‖*i*Pn		Pn	18 59 24.9	-3.3
QZH						Sn	**19 00 18.5**	**-6.7**
QZH					LR	LR		
	comp=N,16μm,9.5s							
QZH					LR	LR		
	comp=E,34μm,11.0s							
QZH					LR	LR		
	comp=Z,20μm,10.3s							
JMJ	**Miyako jima 2**	**6.05**	**43**	P		**Pn**	**18 59 43.0**	**-0.8**
TGY	**Tagaytay City**	**6.29**	**178**	Pn		**Pn**	**18 59 50.6**	**+3.4**
	55nm,0.3s,baz=342,slow=16,SNR=6.2							
TGY					LR	LR	19 02 28.2	
	comp=Z,5μm,18.9s,baz=42,slow=40							
TGY	**Tagaytay City**	**6.29**	**178**	‖*e*P		**Pn**	**18 59 51.9**	**+4.6**
TGY				*e*S		Sb	19 01 30.8	+11
LQP	**Lukban**	**6.33**	**173**	‖*e*P		**Pn**	**18 59 48.8**	**+1.0**
HKPS	**Hong Kong Po S**	**6.44**	**288**	P		Pn	18 59 46.1	-3.0
HKPS	**Hong Kong Po S**	**6.44**	**288**	Pn		Pn	18 59 46.3	-2.8
GZH	**Guangzhou**	**7.38**	**292**	Pn		Pn	18 59 58.0	-4.1
GZH						Sn	**19 01 20.0**	**-5.9**
JOW	**Kunigami**	**9.38**	**46**	P		**Pn**	**19 00 29.1**	**-0.5**
JOW	**Kunigami**	**9.38**	**46**	Pn		**Pn**	**19 00 28.0**	**-1.6**
JOW	**Kunigami**	**9.38**	**46**	Pn		**Pn**	**19 00 28.6**	**-0.9**
	2.1nm,0.3s,baz=173,slow=16,SNR=7.5 7.3nm,0.3s							
QIZ	**Qiongzhong**	**10.38**	**264**	P		**Pn**	**19 00 45.1**	**+1.9**
QIZ					S	**Sn**	**19 02 40.0**	**+0.4**
QIZ					LR	LR		
	comp=N,3μm,9.8s							
QIZ					LR	LR		
	comp=E,5μm,10.5s							
QIZ					LR	LR		
	comp=Z,5μm,12.3s							
QIZ	**Qiongzhong**	**10.38**	**264**		Pn	**Pn**	**19 00 42.2**	**-1.0**
CNSH	**ChangSha**	**10.51**	**319**	‖P		**Pn**	**19 00 43.5**	**-1.5**
CNSH					S	**Sn**	**19 02 37.3**	**-5.5**
JMZ	**Minamidaito 2**	**11.02**	**59**	Pn		**Pn**	**19 00 50.1**	**-1.9**
TBP	**Tagbilaran**	**11.09**	**164**	*e*P		Pn	19 01 00.4	+7.4
WHN	**Wuhan**	**11.61**	**331**	‖P		Pn	19 01 06.8	+6.7
WHN					S	**Sn**	**19 03 16.6**	**+6.8**
WHN					LR	LR		
	comp=N,20μm,11.5s							
WHN					LR	LR		
	comp=E,19μm,10.8s							
WHN					LR	LR		
	comp=Z,16μm,10.2s							
NJ2	**Nanjing**	**11.70**	**352**	*e*P		**Pn**	**19 01 00.3**	**-1.0**
NJ2					pmax	pmax		
	comp=Z,7.0nm,0.6s							
NJ2					pmax	pmax		
	comp=Z,91nm,4.3s							
NJ2					LR	LR		
	comp=Z,6μm,15.1s							
NJ2					LR	LR		
	comp=Z,13μm,12.4s							
	comp=Z,9μm,11.0s							
DAV	**Davao City (W)**	**14.08**	**160**		LR	LR	19 07 33.3	
	comp=Z,5μm,20.8s,baz=342,slow=40							
ENH

SLVN	**Son La**	**15.78**	**276**	P	**Pn**	**19 01 55.1**	**-1.6**
LYN	**LuoYang**	**15.86**	**334**	⇓P	**Pn**	**19 01 56.9**	**-0.8**
LYN				sP	pP	19 02 04.9	+1.5
LYN				PP	**pwP**	**19 02 09.8**	**+2.4**
LYN				S	Sn	19 04 42.8	-11
LYN				SS	**SnSn**	**19 05 07.6**	**+0.8**
LYN				pmax	pmax		
	comp=Z,410nm,4.5s						
LYN				LR	LR		
	comp=Z,7µm,17.5s						
LYN				LR	LR		
	comp=Z,7µm,17.2s						
LYN				LR	LR		
	comp=Z,8µm,10.7s						
TIA	**Tai'an**	**16.04**	**349**	*e*P	**P**	**19 02 04.3**	**+0.9**
TIA				S	**S**	**19 05 18.0**	**+6.3**
TIA				pmax	pmax		
	comp=Z,15nm,1.0s						
TIA				LR	LR		
	comp=N,2µm,11.2s						
TIA				LR	LR		
	comp=E,2µm,12.9s						
TIA				LR	LR		
	comp=Z,2µm,9.2s						
TJN	**Taejon**	**16.91**	**19**	P	**Pn**	**19 02 09.8**	**-1.2**
XAN	**Xi'an**	**17.14**	**325**	P	**Pn**	**19 02 13.8**	**-0.2**
XAN				pP	P	19 02 18.3	+2.6
XAN				S	**Sn**	**19 05 27.3**	**+2.5**
XAN				pmax	pmax		
	comp=Z,35nm,1.2s						
XAN				pmax	pmax		
	comp=Z,790nm,11.0s						
XAN				LR	LR		
	comp=Z,9µm,11.7s						
XAN				LR	LR		
	comp=Z,7µm,12.0s						
XAN				LR	LR		
	comp=Z,11µm,10.8s						
KMI	**Kunming**	**17.26**	**289**	⇑P	**P**	**19 02 19.8**	**+2.6**
KMI				pmax	pmax		
	comp=Z,12nm,1.5s						
KMI				pmax	pmax		
	comp=Z,200nm,4.7s						
KMI				LR	LR		
	comp=Z,3µm,13.3s						
KMI				LR	LR		
	comp=Z,2µm,14.4s						
KMI				LR	LR		
	comp=Z,2µm,13.3s						
JMN	**Monobe**	**17.64**	**39**	Pn	**Pn**	**19 02 17.6**	**-2.6**
HNS	**HongShan**	**17.71**	**344**	⇑P	**Pn**	**19 02 22.6**	**+1.6**
HNS				*e*S	**Sn**	**19 05 39.3**	**+0.9**
HNS				SS	**SnSn**	**19 05 58.0**	**+5.8**
HNS				pmax	pmax		
	comp=Z,62nm,1.1s						
HNS				pmax	pmax		
	comp=Z,570nm,6.8s						
HNS				LR	LR		
	comp=Z,1µm,9.6s						
HNS				LR	LR		
	comp=Z,7µm,12.3s						
HNS				LR	LR		
	comp=Z,4µm,12.2s						
INCN	**Inchon**	**17.75**	**15**	Pn	**Pn**	**19 02 17.5**	**-3.9**
KSAR	**Wonju Array Be**	**18.05**	**19**		**Pn**	**19 02 23.3**	**-1.9**
KSRS	**Korea Array**	**18.07**	**19**	P	**Pn**	**19 02 24.0**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=201,slow=12,SNR=36						
	comp=Z,12nm,0.8s						
KS19	**Wonju Array Si**	**18.10**	**18**		**Pn**	**19 02 24.1**	**-1.8**
PZH	**PanZhiHua**	**18.45**	**293**	P	**P**	**19 02 30.4**	**+0.1**
PZH				PP	**PnPn**	**19 02 45.9**	**+3.9**
PZH				S	**Sn**	**19 05 50.3**	**-6.5**
PZH				SS	**SnSn**	**19 06 14.8**	**+4.2**
PZH				pmax	pmax		
	comp=Z,20nm,1.3s						
PZH				pmax	pmax		
	comp=Z,170nm,6.5s						
PZH				LR	LR		
	comp=Z,5µm,13.3s						
PZH				LR	LR		
	comp=Z,3µm,13.5s						
PZH				LR	LR		
	comp=Z,3µm,12.8s						
CD2	**Chengdu**	**18.52**	**308**	P	**P**	**19 02 31.8**	**+0.9**
CD2				S	**Sn**	**19 06 00.4**	**+2.3**
CD2				SS	**SnSn**	**19 06 15.8**	**+3.8**
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
CD2				pmax	pmax		
	comp=Z,350nm,9.5s						
CD2				LR	LR		
	comp=Z,7µm,9.6s						
CD2				LR	LR		
	comp=Z,8µm,11.8s						
CD2				LR	LR		
	comp=Z,4µm,12.6s						
CRAI	**Chiangrai**	**19.12**	**273**	P	**P**	**19 02 35.5**	**-2.0**
TOLI2	**Tolitoli**	**19.20**	**180**	P	Pn	19 02 48.2	+8.9
TOLI2	**Tolitoli**	**19.20**	**180**	P	**P**	**19 02 37.4**	**-1.0**
PHRA	**Phrae**	**19.45**	**268**	P	**P**	**19 02 40.5**	**-0.7**
GTOI	**Gorontalo**	**19.80**	**173**	P	**P**	**19 02 45.7**	**+0.8**
	comp=Z,49nm,1.7s,comp=Z,593nm						
MRSI	**Marisa**	**19.86**	**177**	P	**P**	**19 02 47.8**	**+2.1**
	comp=Z,175nm,1.1s,comp=Z,2µm						
BJT	**Baijiatuau**	**19.92**	**350**	P	**P**	**19 02 44.5**	**-1.6**
BJT				IAmb	IAmb	19 02 50.9	
	comp=Z,43nm,0.9s						
BJI	**Beijing**	**19.94**	**350**	P	**P**	**19 02 46.8**	**+0.5**
BJI				S	**S**	**19 06 29.3**	**-1.3**
BJI				pmax	pmax		
	comp=Z,23nm,1.0s						
BJI				LR	LR		
	comp=Z,1µm,11.1s						
BJI				LR	LR		
	comp=Z,850nm,12.0s						
BJI				LR	LR		
	comp=Z,1µm,11.6s						
KMSI	**Cibinong**	**19.98**	**171**	P	**P**	**19 02 49.2**	**+2.2**
	comp=Z,419nm,1.2s,comp=Z,5µm						
TNTI	**Ternate**	**20.58**	**161**	P	**P**	**19 02 53.7**	**+0.3**
TNTI				IAmb	IAmb	19 03 10.5	
	comp=Z,34nm,0.8s						
TNTI	**Ternate**	**20.58**	**161**	P	**P**	**19 02 53.2**	**-0.2**
	comp=Z,61nm,1.4s,comp=Z,677nm						
INU	**Inuyama**	**20.63**	**41**	P	**P**	**19 02 53.4**	**-0.5**
INU				IAmb	IAmb	19 03 05.6	
	comp=Z,129nm,1.6s						
CM31	**Chiang Mai Arr**	**20.66**	**268**	P	**P**	**19 02 53.7**	**-0.8**
CMAR	**Chiang Mai Arr**	**20.66**	**268**	P	**P**	**19 02 53.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**20.66**	**268**	P	**P**	**19 02 54.9**	**+0.5**
	comp=Z,3.0nm,0.8s,baz=71,slow=8.9,SNR=22						
CMAR				PcP	**PcP**	**19 07 05.4**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=98,slow=1.8,SNR=2.3						
CMAR				LR	LR	19 10 46.4	
	comp=Z,1µm,18.8s,baz=90,slow=36						
	comp=Z,3.0nm,0.8s						
JCJ	**Chichijima**	**20.69**	**67**	LR	LR	19 09 11.5	
	comp=Z,587nm,21.1s,baz=272,slow=32						
JGF	**Kuroka**	**21.00**	**41**	P	**P**	**19 02 56.1**	**-1.9**
TNCH	**TengChong**	**21.01**	**287**	⇓P	**P**	**19 02 59.3**	**+1.0**
TNCH				pP	pP	19 03 01.9	+1.6
TNCH				sP	sP	19 03 04.3	+3.0
TNCH				PP	**PnPn**	**19 03 19.3**	**+2.2**
TNCH				S	**S**	**19 06 49.3**	**-3.2**
TNCH				SS	**SnSn**	**19 07 17.3**	**+3.9**
TNCH				pmax	pmax		
	comp=Z,13nm,1.3s						
TNCH				pmax	pmax		
	comp=Z,250nm,3.8s						
TNCH				LR	LR		
	comp=Z,6µm,12.4s						
TNCH				LR	LR		
	comp=Z,1µm,13.0s						
TNCH				LR	LR		
	comp=Z,2µm,14.4s						
JHJ	**Hachijo jima 2**	**21.13**	**49**	LR	LR	19 10 05.2	
	comp=Z,800nm,21.4s,baz=228,slow=34						
KSM	**Kuching**	**21.43**	**210**	P	**P**	**19 03 03.1**	**+0.5**
LUWI	**Luwuk**	**21.43**	**174**	P	**P**	**19 03 04.6**	**+2.0**
LUWI	**Luwuk**	**21.43**	**174**	P	**P**	**19 03 02.8**	**+0.1**
LUWI	**Luwuk**	**21.43**	**174**	P	**P**	**19 03 05.0**	**+2.4**
	comp=Z,298nm,1.2s,comp=Z,4µm						
LZH	**Lanzhou**	**21.52**	**320**	*e*P	**P**	**19 03 04.6**	**+0.9**
LZH				pP	pwP	19 03 10.5	+0.9
LZH				PP	**PnPn**	**19 03 28.0**	**+4.0**
LZH				SS	Sn	19 07 29.1	+19
LZH				pmax	pmax		
	comp=Z,31nm,1.1s						
LZH				LR	LR		
	comp=Z,6µm,10.7s						
LZH				LR	LR		
	comp=Z,5µm,12.0s						
LZH				LR	LR		
	comp=Z,6µm,11.7s						
HHC	**Hu-ho-hao-te**	**21.81**	**341**	*e*P	**P**	**19 03 10.8**	**+4.1**
HHC				pP	pwP	19 03 15.8	+3.0
HHC				pmax	pmax		
	comp=Z,31nm,0.9s						
HHC				pmax	pmax		
	comp=Z,210nm,3.9s						
HHC				LR	LR		
	comp=Z,6µm,10.6s						
HHC				LR	LR		
	comp=Z,1µm,12.2s						
HHC				LR	LR		
	comp=Z,5µm,11.3s						
BKB	**Balikpapan**	**21.89**	**190**	P	**P**	**19 03 06.1**	**-1.4**
BKB	**Balikpapan**	**21.89**	**190**	P	**P**	**19 03 09.5**	**+2.0**
	comp=Z,303nm,1.3s,comp=Z,3µm						
LBMI	**Labuha**	**21.95**	**162**	P	**P**	**19 03 10.0**	**+1.7**
	comp=Z,134nm,0.8s,comp=Z,2µm						
MTKI	**Muara Teweh, K**	**22.00**	**196**	P	**P**	**19 03 10.3**	**+1.5**
	comp=Z,86nm,0.9s,comp=Z,1µm						
BTO	**Baotou**	**22.10**	**338**	*e*P	**P**	**19 03 12.8**	**+3.0**
BTO				pP	**pwP**	**19 03 17.0**	**+1.1**
BTO				sP	**sP**	**19 03 19.8**	**+7.1**
BTO				PP	**PnPn**	**19 03 39.3**	**+7.4**
BTO				pmax	pmax		
	comp=Z,12nm,0.5s						
BTO				pmax	pmax		
	comp=Z,380nm,4.1s						
BTO				LR	LR		
	comp=Z,7µm,10.4s						
BTO				LR	LR		
	comp=Z,7µm,13.9s						
BTO				LR	LR		
	comp=Z,7µm,11.4s						
MAJO	**Matsushiro**	**22.14**	**40**	P	**P**	**19 03 08.8**	**-1.4**
MAJO				IAmb	IAmb	19 03 29.0	
	comp=Z,68nm,1.6s						
MJAR	**Matsushiro Arr**	**22.14**	**40**	P	**P**	**19 03 09.4**	**-0.8**
	comp=Z,8.2nm,1.0s,baz=222,slow=8.3,SNR=14						
	comp=Z,8.2nm,1.0s						
MJB9	**Matsu-Tunnel**	**22.14**	**40**	P	**P**	**19 03 08.8**	**-1.4**
MJB9				IAmb	IAmb	19 03 30.0	
	comp=Z,67nm,1.6s						
STKI	**Sintang**	**22.18**	**205**	P	**P**	**19 03 09.5**	**-1.2**
SANI	**Sanana**	**22.92**	**166**	P	**P**	**19 03 16.4**	**-2.2**
SANI	**Sanana**	**22.92**	**166**	P	**P**	**19 03 14.7**	**-3.9**
TTSI	**Tana Toraja**	**23.35**	**182**	P	**P**	**19 03 24.7**	**+1.8**
	comp=Z,54nm,0.9s,comp=Z,1µm						
SWI	**Sorong**	**23.53**	**153**	P	**P**	**19 03 22.5**	**-2.2**
	comp=Z,143nm,0.6s,comp=Z,1µm						
XLT	**XiLinHaoTe**	**23.73**	**352**	*e*P	**P**	**19 03 28.1**	**+1.5**
XLT				pP	sP	19 03 32.5	+2.6
XLT				sP	pwP	19 03 35.5	+3.6
XLT				S	**S**	**19 07 44.6**	**+2.8**
XLT				sS	sS	19 07 47.6	+2.2
XLT				ScS	**ScS**	**19 14 35.4**	**-0.3**
XLT				pmax	pmax		
	comp=Z,33nm,1.3s						
XLT				pmax	pmax		
	comp=Z,350nm,5.3s						
XLT				LR	LR		
	comp=Z,250nm,11.6s						
XLT				LR	LR		
	comp=Z,2µm,16.7s						
XLT				LR	LR		
	comp=Z,3µm,11.6s						
NLAI	**Namlea**	**24.33**	**164**	P	**P**	**19 03 33.8**	**+1.5**
	comp=Z,134nm,1.2s,comp=Z,2µm						
JMM	**Marumori**	**24.57**	**41**	P	**P**	**19 03 32.1**	**-2.3**
JMM				IAmb	IAmb	19 04 02.9	
	comp=Z,33nm,1.1s						
KULM	**Kulim**	**24.66**	**235**	P	**P**	**19 03 35.3**	**-0.1**
KULM				IAmb	IAmb	19 03 54.6	
	comp=Z,22nm,1.1s						
MYKOM	**Kota Tinggi**	**24.82**	**224**	P	**P**	**19 03 36.7**	**-0.1**
MYKOM				IAmb	IAmb	19 03 45.4	
	comp=Z,25nm,1.0s						
IPM	**Ipoh**	**24.90**	**233**	P	**P**	**19 03 37.0**	**-0.6**
IPM				IAmb	IAmb	19 03 52.1	
	comp=Z,39nm,1.3s						
MDJ	**Mudanjiang**	**25.21**	**15**	P	**P**	**19 03 39.4**	**-0.7**
MDJ				pP	pwP	19 03 48.9	+3.3
MDJ				sP	sP	19 03 51.6	+8.3
MDJ				PP	**PnPn**	**19 04 13.9**	**-0.3**
MDJ				PcS	**PcS**	**19 10 52.1**	**-1.7**
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,120nm,4.0s						
MDJ				LR	LR		
	comp=Z,2µm,12.8s						
MDJ				LR	LR		
	comp=Z,3µm,14.0s						
MDJ				LR	LR		
	comp=Z,3µm,13.1s						
MDJ	**Mudanjiang**	**25.21**	**15**	P	**P**	**19 03 39.0**	**-1.1**
MDJ				IAmb	IAmb	19 04 02.4	
	comp=Z,23nm,0.9s						
KAPI	**Kappang**	**25.30**	**182**	P	**P**	**19 03 43.4**	**+2.2**
KAPI	**Kappang**	**25.30**	**182**	P	**P**	**19 03 42.2**	**+1.1**
USRK	**Ussuriysk Ar.**	**25.48**	**19**	P	**P**	**19 03 42.2**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=210,slow=8.3,SNR=1.8						
	comp=Z,2.7nm,0.7s						
BKSI	**Bulukumba**	**25.60**	**181**	P	**P**	**19 03 45.7**	**+1.9**
	comp=Z,38nm,1.6s,comp=Z,854nm						
FAKI	**Fak Fak**	**25.80**	**153**	P	**P**	**19 03 46.2**	**+0.5**
FAKI	**Fak Fak**	**25.80**	**153**	P	**P**	**19 03 45.5**	**-0.2**
FAKI	**Fak Fak**	**25.80**	**153**	P	**P**	**19 03 45.8**	**+0.1**
	comp=Z,110nm,0.7s						
BBSI	**Bau Bau**	**25.82**	**176**	P	**P**	**19 03 48.0**	**+2.2**
	comp=Z,77nm,1.3s,comp=Z,851nm						
BNX	**BinXian**	**25.83**	**11**	⇑P	**P**	**19 03 45.4**	**-0.3**
BNX				pP	**pP**	**19 03 49.8**	**+1.8**
BNX				sP	**pwP**	**19 03 52.6**	**+1.4**
BNX				PP	**PnPn**	**19 04 26.5**	**+3.8**
BNX				S	**S**	**19 08 15.3**	**+0.1**
BNX				sS	**pS**	**19 08 19.4**	**+1.9**
BNX				pmax	pmax		
	comp=Z,11nm,0.5s						
BNX				pmax	pmax		
	comp=Z,110nm,4.1s						
BNX				LR	LR		
	comp=Z,2µm,11.2s						
BNX				LR	LR		
	comp=Z,3µm,12.5s						
BNX				LR	LR		
	comp=Z,2µm,11.9s						
GTA	**Gaotai**	**26.11**	**321**	P	**P**	**19 03 47.8**	**-0.7**
GTA				pP	pP	19 03 52.3	+1.7
GTA				S	**S**	**19 08 18.3**	**-1.7**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GTA				LR	LR		
	comp=Z,3µm,14.7s						
GTA				LR	LR		
	comp=Z,2µm,11.6s						
GTA				LR	LR		
	comp=Z,3µm,11.6s						
JTM	**Tenmabayashi**	**26.66**	**36**	P	**P**	**19 03 51.9**	**-1.4**
GOMU	**GeErMu**	**27.60**	**310**	P	**P**	**19 04 03.8**	**+1.5**
GOMU				pP	sP	19 04 07.5	+2.2
GOMU				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GOMU				LR	LR		
	comp=Z,6µm,15.0s						
GOMU				LR	LR		
	comp=Z,2µm,15.5s						
GOMU				LR	LR		
	comp=Z,2µm,16.5s						
LSA	**Lhasa**	**28.30**	**295**	P	**P**	**19 04 07.1**	**-1.6**
ERM	**Erimo**	**28.65**	**36**	P	**P**	**19 04 09.0**	**-2.0**
HIA	**Hailar**	**28.78**	**359**	P	**P**	**19 04 10.6**	**-1.7**
HIA				IAmb	IAmb	19 04 20.9	
	comp=Z,19nm,1.0s						
MMRI	**Maumere**	**28.92**	**177**	P	**P**	**19 04 14.7**	**+1.1**
MMRI	**Maumere**	**28.92**	**177**	P	**P**	**19 04 15.1**	**+1.4**
	comp=Z,97nm,1.4s						
EDFI	**Ende, Flores**	**29.01**	**178**	P	**P**	**19 04 15.0**	**+0.4**
	comp=Z,55nm,0.8s,comp=Z,678nm						
SMRI	**Semarang**	**29.13**	**201**	P	**P**	**19 04 17.0**	**+1.4**
ULN	**Ulaanbaatar**	**29.53**	**341**	P	**P**	**19 04 18.5**	**-0.6**
SONM	**Songino Array**	**29.71**	**340**	P	**P**	**19 04 19.2**	**-1.4**
SONM	**Songino Array**	**29.71**	**340**	P	**P**	**19 04 20.8**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=148,slow=9.9,SNR=12						
SONM				LR	LR	19 17 20.1	
	comp=Z,2µm,19.0s,baz=154,slow=39						
	comp=Z,2.6nm,0.7s						
ASAJ	**Asahikawa**	**29.80**	**33**	LR	LR	19 17 46.9	
	comp=Z,833nm,19.4s,baz=170,slow=40						
KLR	**Kul'dur**	**30.05**	**14**	P	**P**	**19 04 23.3**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=234,slow=5.4,SNR=5.9						
	comp=Z,1.2nm,0.6s						
SAUI	**Saumlaki**	**30.08**	**159**	P	**P**	**19 04 24.8**	**+0.9**
SOEI	**Soe**	**30.19**	**173**	P	**P**	**19 04 24.9**	**-0.2**
SOEI	**Soe**	**30.19**	**173**	P	**P**	**19 04 26.8**	**+1.7**
	comp=Z,35nm,1.0s						
HEH	**HeiHe**	**30.23**	**8**	*e*P	**P**	**19 04 25.3**	**+0.4**
HEH				pP	**pP**	**19 04 29.5**	**+2.2**
HEH				sP	**pwP**	**19 04 32.1**	**+1.7**
HEH				S	**S**	**19 09 26.8**	**+2.5**
HEH				pmax	pmax		
	comp=Z,3.0nm,0.9s						
HEH				pmax	pmax		
	comp=Z,210nm,5.1s						
HEH				LR	LR		
	comp=Z,9µm,13.6s						
HEH				LR	LR		
	comp=Z,9µm,11.3s						
HEH				LR	LR		
	comp=Z,3µm,11.6s						
BATI	**Baumata**	**30.58**	**174**	LR	LR	19 18 05.9	
	comp=Z,343nm,21.8s,baz=328,slow=39						
BATI	**Baumata**	**30.58**	**174**	P	**P**	**19 04 28.2**	**-0.2**
	comp=Z,37nm,0.8s						
YSS	**Yuzh-Sakhalins**	**31.95**	**29**	P	**P**	**19 04 38.9**	**-1.3**
YSS				IAmb	IAmb	19 04 46.5	
	comp=Z,28nm,1.0s						
MANU	**Manus Island**	**34.34**	**127**	P	**P**	**19 05 01.7**	**+0.3**
MTN	**Manton Dam**	**34.60**	**162**	P	**P**	**19 05 02.3**	**-1.3**
MTN				IAmb	IAmb	19 05 12.8	
	comp=Z,30nm,0.9s						
WMQ	**Urumqi**	**36.06**	**318**	*e*P	**P**	**19 05 18.1**	**+2.0**
WMQ				LR	LR		
	comp=Z,2µm,14.9s						
WMQ				LR	LR		
	comp=Z,2µm,13.5s						
WMQ				LR	LR		
	comp=Z,810nm,14.1s						
FITZ	**Fitzroy Crossi**	**38.59**	**173**	P	**P**	**19 05 37.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**38.59**	**173**	P	**P**	**19 05 36.6**	**-1.0**
PMG	**Port Moresby**	**39.41**	**136**	P	**P**	**19 05 43.7**	**-0.9**
PMG				IAmb	IAmb	19 05 57.4	
	comp=Z,29nm,0.8s						
PMG	**Port Moresby**	**39.41**	**136**	LR	LR	19 20 39.0	
	comp=Z,265nm,20.5s,baz=310,slow=34						
COEN	**Coen**	**40.66**	**145**	P	**P**	**19 05 55.9**	**+1.0**
MK31	**Makanchi Array**	**40.83**	**319**	P	**P**	**19 05 55.3**	**-0.8**
MKAR	**Makanchi Array**	**40.83**	**319**	P	**P**	**19 05 55.8**	**-0.3**
MKAR	**Makanchi Array**	**40.83**	**319**	P	**P**	**19 05 56.1**	**0.0**
	comp=Z,2.8nm,0.6s,baz=114,slow=8.9,SNR=26						
MKAR				LR	LR	19 23 07.2	
	comp=Z,706nm,18.2s,baz=121,slow=37						
	comp=Z,2.8nm,0.6s						
MAKZ	**Makanchi**	**41.03**	**319**	P	**P**	**19 05 57.0**	**-0.7**
DHRM	**DHARAMSHALA**	**41.28**	**296**	*e*P	P	19 06 06.5	+6.3
PRZ	**Przheval'sk**	**41.74**	**312**	P	**P**	**19 06 04.0**	**+0.1**
PRZ				IAmb	IAmb	19 06 33.5	
	comp=Z,41nm,1.4s						
PSA00	**Pilbara Seismi**	**41.76**	**181**	P	**P**	**19 06 02.9**	**-1.0**
PSA00				IAmb	IAmb	19 06 35.4	
	comp=Z,64nm,1.4s						
PSA00	**Pilbara Seismi**	**41.76**	**181**	P	**P**	**19 06 02.7**	**-1.1**
PSA00				IAmb	IAmb	19 06 33.8	
	comp=Z,17nm,1.1s						
TARG	**Taragay, Kyrgy**	**41.94**	**310**	P	**P**	**19 06 03.3**	**-2.4**
YAK	**Yakutsk**	**42.03**	**6**	P	**P**	**19 06 03.9**	**-1.7**
YAK	**Yakutsk**	**42.03**	**6**	P	**P**	**19 06 05.1**	**-0.5**
	comp=Z,6.0nm,0.5s,baz=165,slow=11,SNR=6.1						
	comp=Z,6.0nm,0.5s						
WB0	**Warramunga Arr**	**42.12**	**161**	P	**P**	**19 06 06.0**	**-0.9**
WRAB	**Tennant Creek**	**42.26**	**161**	P	**P**	**19 06 07.3**	**-0.7**
WRA	**Warramunga Arr**	**42.27**	**161**	P	**P**	**19 06 07.2**	**-0.9**
WRA	**Warramunga Arr**	**42.27**	**161**	P	**P**	**19 06 07.2**	**-0.9**
	comp=Z,31nm,0.8s,baz=342,slow=9.0,SNR=168						
WRA				S	**S**	**19 12 28.2**	**-0.7**
	comp=Z,2.5nm,0.9s,baz=344,slow=13,SNR=5.0						
WRA				LR	LR	19 24 57.8	
	comp=Z,362nm,20.1s,baz=355,slow=38						
WR0	**Warramunga Arr**	**42.35**	**161**	P	**P**	**19 06 07.8**	**-1.0**
KSH	**Kashi**	**42.71**	**307**	P	**P**	**19 06 14.6**	**+2.9**
KSH				pP	pwP	19 06 20.3	+2.5
KSH				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KSH				LR	LR		
	comp=Z,2µm,14.1s						
KSH				LR	LR		
	comp=Z,700nm,11.4s						
KSH				LR	LR		
	comp=Z,2µm,15.7s						
NRN	**Naryn**	**43.16**	**309**	P	**P**	**19 06 14.3**	**-1.2**
NRN				IAmb	IAmb	19 06 44.1	
	comp=Z,25nm,1.2s						
PEA0B	**Petropavlovsk-**	**43.22**	**32**	P	**P**	**19 06 13.6**	**-1.8**
PEA0B				IAmb	IAmb	19 06 58.0	
	comp=Z,22nm,1.2s						
PETK	**Petropavlovsk-**	**43.22**	**32**	P	**P**	**19 06 13.6**	**-1.8**
PETK	**Petropavlovsk-**	**43.22**	**32**	P	**P**	**19 06 13.8**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=175,slow=8.7,SNR=7.7						
PETK				LR	LR	19 26 47.6	
	comp=Z,631nm,18.2s,baz=230,slow=40						
	comp=Z,0.8nm,0.6s						
ZAA0	**Zalesovo Array**	**43.22**	**330**	P	**P**	**19 06 14.2**	**-1.2**
ZAA0				IAmb	IAmb	19 06 22.0	
	comp=Z,17nm,0.9s						
ZALV	**Zalesovo Beam**	**43.22**	**330**	P	**P**	**19 06 13.8**	**-1.6**
ZALV	**Zalesovo Beam**	**43.22**	**330**	P	**P**	**19 06 14.8**	**-0.6**
	comp=Z,11nm,0.8s,baz=120,slow=8.7,SNR=27						
ZALV				LR	LR	19 23 07.9	
	comp=Z,347nm,22.0s,baz=104,slow=35						
	comp=Z,11nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**43.24**	**84**	T	T	19 52 31.7	
	baz=281,slow=75,SNR=155						
H11S1	**WAKE ISLAND Hy**	**43.25**	**84**	T	T	19 52 31.4	
	baz=281,slow=75,SNR=73						
H11S2	**WAKE ISLAND Hy**	**43.26**	**84**	T	T	19 52 33.6	
	baz=281,slow=75,SNR=105						
NIL	**Nilore**	**43.96**	**298**	P	**P**	**19 06 20.9**	**-0.9**
NIL				IAmb	IAmb	19 06 43.5	
	comp=Z,12nm,0.8s						
FRU1	**Bishkek**	**44.50**	**311**	P	**P**	**19 06 25.5**	**-0.5**
FRU1				IAmb	IAmb	19 06 47.8	
	comp=Z,20nm,1.3s						
AAK	**Ala-Archa**	**44.55**	**311**	P	**P**	**19 06 25.1**	**-1.4**
AAK	**Ala-Archa**	**44.55**	**311**	LR	LR	19 25 39.2	
	comp=Z,1µm,19.3s,baz=99,slow=37						
MA2	**Magadan**	**44.60**	**21**	P	**P**	**19 06 25.2**	**-1.2**
MA2	**Magadan**	**44.60**	**21**	P	**P**	**19 06 25.6**	**-0.9**
	comp=Z,3.2nm,0.8s,baz=209,slow=8.6,SNR=9.3						
MA2				PcP	**PcP**	**19 08 09.3**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=169,slow=5.2,SNR=2.0						
MA2				LR	LR	19 26 25.3	
	comp=Z,699nm,20.2s,baz=221,slow=38						
	comp=Z,3.2nm,0.8s						
QIS	**Mount Isa**	**44.72**	**155**	P	**P**	**19 06 28.1**	**+0.3**
MTSU	**Mount Surprise**	**44.75**	**147**	P	**P**	**19 06 30.0**	**+1.9**
KURK	**Kurchatov**	**44.77**	**323**	P	**P**	**19 06 26.8**	**-1.2**
KURK				IAmb	IAmb	19 06 35.1	
	comp=Z,19nm,1.1s						
**KURBB

AS01 Alice Springs 45.67 163 P **P** **19 06 35.7 +0.3**
WRKA Warakurna 45.78 170 P **P** **19 06 36.0 -0.3**
DRK Karamyk 45.87 306 P **P** **19 06 34.7 -2.5**
BTK Batken 46.71 306 P **P** **19 06 42.2 -1.4**
BTK IAmb IAmb 19 07 36.1
comp=Z,11nm,1.1s
CTA Charters Tower 47.38 147 LR LR 19 25 33.0
comp=Z,448nm,21.5s,baz=0.0,slow=35
CTAO Charters Tower 47.38 147 P **P** **19 06 50.4 +1.6**
CTAO Charters Tower 47.38 147 P **P** **19 06 49.3 +0.5**
KBL Kabul 47.51 299 P **P** **19 06 48.2 -1.8**
KBL IAmb IAmb 19 07 09.2
comp=Z,13nm,1.1s
KK31 Karatay Array 47.51 310 P **P** **19 06 48.0 -1.7**
KK31 IAmb IAmb 19 06 57.2
comp=Z,9.9nm,1.1s
KKAR Karatay Array 47.51 310 P **P** **19 06 48.0 -1.7**
KKAR IAmb IAmb 19 06 57.2
comp=Z,9.9nm,1.1s
SEY Seymchan 47.63 19 P **P** **19 06 50.4 +0.1**
comp=Z,1.5nm,0.6s,baz=248,slow=7.0,SNR=8.7
SEY PcP **PcP** **19 08 19.1 -0.6**
comp=Z,1.7nm,0.7s,baz=177,slow=5.1,SNR=2.4
comp=Z,1.5nm,0.6s
SIMJ Simiganj 47.90 304 P **P** **19 06 51.4 -1.6**
HNR Honiara 48.65 124 LR LR 19 25 19.8
comp=Z,3μm,21.0s,baz=294,slow=34
MORW Morawa 49.42 185 P **P** **19 07 04.4 0.0**
OOD Oodnadatta 50.07 163 P **P** **19 07 09.6 +0.2**
BVAR Borovoye Array 50.37 323 P **P** **19 07 11.6 +0.2**
comp=Z,2.3nm,0.7s,baz=104,slow=6.1,SNR=7.8
BVAR PcP **PcP** **19 08 30.1 +0.2**
comp=Z,2.4nm,0.8s,baz=119,slow=1.8,SNR=2.0
BVAR LR LR 19 29 46.1
comp=Z,587nm,18.6s,baz=115,slow=38
comp=Z,2.3nm,0.7s
BRVK Borovoye 50.44 323 P **P** **19 07 10.6 -1.4**
BRVK IAmb IAmb 19 08 07.5
comp=Z,17nm,1.4s
FORT Forrest 51.40 172 P **P** **19 07 19.5 +0.2**
TIXI Tiksi 51.45 3 P **P** **19 07 17.6 -1.6**
INKA Innaminka 51.65 157 P **P** **19 07 22.4 +1.2**
SHEM Shemya Is, Ala 51.98 38 LR LR 19 30 01.5
comp=Z,115nm,20.4s,baz=310,slow=37
QLP Quilpie 51.98 153 P **P** **19 07 24.5 +0.7**
NRIK Noril'sk 52.92 346 P **P** **19 07 28.9 -1.3**
NRIK IAmb IAmb 19 08 09.2
comp=Z,18nm,1.1s
NRIK Noril'sk 52.92 346 P **P** **19 07 30.1 -0.1**
comp=Z,5.3nm,0.8s,baz=132,slow=6.7,SNR=3.5
NRIK LR LR 19 31 56.9
comp=Z,1μm,18.2s,baz=152,slow=38
comp=Z,5.3nm,0.8s
NWAO Narrogin (SRO) 53.16 184 P **P** **19 07 33.3 +0.8**
EIDS Eidsvold 54.23 146 P **P** **19 07 41.5 +1.1**
EIDS IAmb IAmb 19 08 06.7
comp=Z,20nm,1.1s
BBOO Buckleboo 54.92 164 P **P** **19 07 45.2 -0.1**
BILL Bilibino 55.34 19 P **P** **19 07 47.2 -0.7**
BILL IAmb IAmb 19 08 07.2
comp=Z,36nm,1.7s
STKA Stephens Creek 55.71 159 P **P** **19 07 51.0 0.0**
STKA Stephens Creek 55.71 159 P **P** **19 07 51.4 +0.4**
comp=Z,14nm,0.7s,baz=336,slow=6.8,SNR=31
STKA LR LR 19 34 32.6
comp=Z,185nm,18.4s,baz=0.7,slow=39
comp=Z,14nm,0.7s
ABKAR Akbulak array 55.82 316 P **P** **19 07 50.4 -1.3**
ABKAR Akbulak array 55.82 316 P **P** **19 07 49.6 -2.1**
ABKAR IAmb IAmb 19 07 59.4
comp=Z,16nm,1.6s
GEYT Alibeck 56.41 303 P **P** **19 07 54.9 -1.2**
GEYT IAmb IAmb 19 08 29.9
comp=Z,11nm,1.2s
GEYT Alibeck 56.41 303 P **P** **19 07 57.8 +1.6**
comp=Z,2.0nm,0.8s,baz=81,slow=8.9,SNR=2.6
GEYT LR LR 19 36 30.1
comp=Z,588nm,18.6s,baz=108,slow=41
comp=Z,2.0nm,0.8s
GYA0B ALIBECK ARRAY 56.41 303 P **P** **19 07 53.8 -2.4**
AKTO Aktyubinsk 57.22 317 LR LR 19 32 20.5
comp=Z,488nm,18.5s,baz=65,slow=36
ARU Arti 57.89 325 P **P** **19 08 05.5 -0.7**
ARU IAmb IAmb 19 08 17.7
comp=Z,28nm,1.4s
ARU Arti 57.89 325 LR LR 19 34 29.0
comp=Z,356nm,19.1s,baz=100,slow=38
DZM Mont Dzumac 61.44 131 LR LR 19 32 39.9
comp=Z,117nm,20.6s,baz=13,slow=34
TOO Toolangi 62.22 158 P **P** **19 08 36.6 +0.5**
KIRV Kirov 63.08 326 LR LR 19 38 24.0
comp=Z,938nm,19.6s,baz=100,slow=38
BELG Belogorsk 63.84 319 LR LR 19 38 16.3
comp=Z,486nm,18.7s,baz=92,slow=38
F15K North Star Dit 65.23 26 P **P** **19 08 54.4 -1.2**
F15K IAmb IAmb 19 09 03.8
comp=Z,19nm,1.4s
C16K Lisburne Hills 65.23 23 P **P** **19 08 55.3 -0.3**
C16K IAmb IAmb 19 09 18.6
comp=Z,20nm,1.4s
M14K Bethel 66.19 32 P **P** **19 09 00.9 -1.0**
GNI Garni 66.64 306 LR LR 19 42 27.3
comp=Z,299nm,18.7s,baz=102,slow=40
F17K Baldwin Pennin 66.66 25 P **P** **19 09 05.0 +0.2**
C18K Utukok River 66.79 23 IAmb IAmb 19 09 24.2
comp=Z,10nm,1.1s
N15K Kwethluk River 67.12 32 P **P** **19 09 07.9 -0.1**
L16K Owhat River 67.39 31 P **P** **19 09 09.0 -0.6**
L16K IAmb IAmb 19 10 08.3
comp=Z,25nm,1.6s
C19K Lookout Ridge 67.40 22 IAmb IAmb 19 09 19.3
comp=Z,14nm,1.1s
KBZ Khabaz 67.54 310 LR LR 19 41 59.4
comp=Z,433nm,18.2s,baz=71,slow=39
KVAR Kislovodsk Arr 67.66 310 LR LR 19 41 49.2
comp=Z,264nm,18.4s,baz=250,slow=39
MSVF Nonsavu 67.79 120 P **P** **19 09 12.5 -0.4**
O16K Kokwok River B 68.15 33 P **P** **19 09 13.2 -1.2**
O16K IAmb IAmb 19 09 37.3
comp=Z,23nm,1.4s
B20K Meade River 68.27 22 P **P** **19 09 14.7 -0.3**
B20K IAmb IAmb 19 09 39.8
comp=Z,12nm,1.1s
H19K Roundabout Mou 68.62 26 P **P** **19 09 16.7 -0.5**
H19K IAmb IAmb 19 09 46.6
comp=Z,18nm,1.1s
F20K Avaraart Lake 68.85 25 P **P** **19 09 18.8 +0.2**
F20K IAmb IAmb 19 09 41.3
comp=Z,8.7nm,1.2s
TTA Tatalina 68.95 29 P **P** **19 09 18.8 -0.7**
TTA IAmb IAmb 19 09 55.2
comp=Z,20nm,1.5s
RAYN Ar Rayn 69.10 288 P **P** **19 09 20.3 -0.8**
B21K Ikpikpuk River 69.16 22 P **P** **19 09 19.6 -0.9**
B22K Teshekpuk Lake 69.53 21 P **P** **19 09 22.9 +0.1**
J20K Nowinta River 69.69 28 P **P** **19 09 23.6 -0.3**
J20K IAmb IAmb 19 10 17.3
comp=Z,20nm,1.4s
H21K Melozitna Rive 70.13 26 P **P** **19 09 25.7 -0.9**
H21K IAmb IAmb 19 10 01.2
comp=Z,11nm,1.1s
OBN Obninsk 70.21 323 LR LR 19 42 19.9
comp=Z,300nm,18.1s,baz=3.5,slow=38
E22K Anaktuvuk Pass 70.28 23 P **P** **19 09 26.4 -1.1**
E22K IAmb IAmb 19 09 49.9
comp=Z,19nm,1.4s
CAST Castle Rocks 70.68 28 P **P** **19 09 29.6 -0.4**
CAST IAmb IAmb 19 10 01.6
comp=Z,13nm,1.0s
SKT Skwentna 71.12 30 P **P** **19 09 32.1 -0.6**
SKT IAmb IAmb 19 10 47.4
comp=Z,24nm,1.6s
KDAK Kodiak Island 71.20 34 LR LR 19 43 24.9
comp=Z,108nm,19.3s,baz=263,slow=38
D24K Happy Valley 71.24 22 P **P** **19 09 32.2 -1.1**
D24K IAmb IAmb 19 10 11.7
comp=Z,13nm,1.1s
H23K Yukon River 71.44 26 P **P** **19 09 33.9 -0.7**
H23K IAmb IAmb 19 09 57.7
comp=Z,13nm,0.9s
SUA Susitna One 71.57 30 P **P** **19 09 35.3 -0.3**
NEA2 Nenana 71.83 27 P **P** **19 09 36.7 -0.2**
NEA2 IAmb IAmb 19 10 11.7
comp=Z,6.7nm,0.8s
MDM Murphy Dome 72.12 27 P **P** **19 09 38.1 -0.6**
MDM IAmb IAmb 19 10 01.5
comp=Z,14nm,1.1s
WRH Wood River Hil 72.27 27 P **P** **19 09 39.6 0.0**
WRH IAmb IAmb 19 10 26.8
comp=Z,30nm,1.8s
KNK Knik Glacier 72.66 30 P **P** **19 09 41.1 -0.9**
ILAR Eielson Array 72.72 27 P **P** **19 09 41.4 -0.9**
comp=Z,0.7nm,0.6s,baz=284,slow=5.4,SNR=9.3
ILAR LR LR 19 45 58.8
comp=Z,123nm,18.0s,baz=277,slow=40
comp=Z,0.7nm,0.6s
ARCES ARCESS Array B 72.86 338 LR LR 19 45 20.1
comp=Z,229nm,18.1s,baz=63,slow=39
SPITS Spitsbergen Ar 73.05 348 P **P** **19 09 44.8 +0.7**
comp=Z,6.2nm,1.0s,baz=122,slow=5.2,SNR=1.0
SPITS LR LR 19 46 37.2
comp=Z,553nm,18.6s,baz=36,slow=40
comp=Z,6.2nm,1.0s
BMAR Burnt Mountain 73.10 24 P **P** **19 09 44.5 0.0**
M24K Tolsona, Glenn 73.58 29 P **P** **19 09 47.3 -0.2**
RIDG Independent Ri 73.81 28 P **P** **19 09 47.6 -1.1**
RIDG IAmb IAmb 19 10 37.4
comp=Z,12nm,1.0s
D27M Malcolm River 73.97 22 IAmb IAmb 19 10 11.4
comp=Z,10nm,1.1s
E27K Coleen River 74.03 23 P **P** **19 09 49.3 -0.7**
E27K IAmb IAmb 19 10 18.8
comp=Z,17nm,1.6s
I26K Coal Creek Min 74.15 26 P **P** **19 09 50.6 -0.1**
I26K IAmb IAmb 19 10 24.2
comp=Z,8.7nm,1.0s
FINES FINESS Array B 74.48 330 P **P** **19 09 52.5 -0.1**
comp=Z,2.7nm,0.8s,baz=57,slow=5.1,SNR=5.2
FINES LR LR 19 45 31.3
comp=Z,606nm,18.1s,baz=67,slow=38
comp=Z,2.7nm,0.8s
E28M Babbage River 74.65 22 P **P** **19 09 52.3 -1.2**
E28M IAmb IAmb 19 10 23.4
comp=Z,18nm,1.6s
F28M Old Crow 74.81 23 P **P** **19 09 54.2 -0.3**
F28M IAmb IAmb 19 10 24.4
comp=Z,9.1nm,1.1s
GLB Gilahina Butte 74.83 30 P **P** **19 09 54.7 -0.1**
GLB IAmb IAmb 19 10 31.4
comp=Z,15nm,1.1s
M26K Nabesna, AK 74.96 29 P **P** **19 09 55.1 -0.4**
M26K IAmb IAmb 19 10 22.1
comp=Z,12nm,1.1s
BRTR Keskin Array B 75.09 307 P **P** **19 09 58.5 +1.6**
comp=Z,0.8nm,1.0s,baz=48,slow=2.1,SNR=2.3
BRTR LR LR 19 46 55.9
comp=Z,170nm,19.3s,baz=72,slow=39
comp=Z,0.8nm,1.0s
EGAK Eagle 75.11 26 P **P** **19 09 54.5 -1.7**
E29M Blow River 75.29 22 P **P** **19 09 56.7 -0.5**
L27K Beaver Creek, 75.30 28 P **P** **19 09 56.8 -0.6**
L27K IAmb IAmb 19 10 20.8
comp=Z,11nm,1.2s
BCAR Beaver Creek A 75.31 28 P **P** **19 09 56.5 -1.1**
MMAI Mount Meron Ar 75.41 300 LR LR 19 47 10.2
comp=Z,254nm,19.5s,baz=24,slow=39
AKASG Malin Array Be 75.41 319 P **P** **19 09 58.0 -0.2**
comp=Z,1.1nm,0.7s,baz=64,slow=5.7,SNR=3.7
AKASG LR LR 19 45 08.7
comp=Z,499nm,18.8s,baz=64,slow=37
comp=Z,1.1nm,0.7s
SNH Sunshine Point 75.62 31 P **P** **19 09 59.0 -0.4**
G29M Pine Creek 75.70 24 IAmb IAmb 19 10 19.3
comp=Z,11nm,0.9s
BARN Barnard Glacie 75.94 30 IAmb IAmb 19 10 26.1
comp=Z,33nm,1.7s
DAWY Dawson 76.05 27 P **P** **19 10 01.7 0.0**
DAWY IAmb IAmb 19 10 21.1
comp=Z,7.7nm,0.9s
G30M tAoh Zraii Nji 76.35 23 P **P** **19 10 02.7 -0.7**
EPYK Eagle Plains 76.37 24 IAmb IAmb 19 10 17.1
comp=Z,7.8nm,0.8s
EIL Elat 76.67 297 LR LR 19 47 22.2
comp=Z,359nm,19.4s,baz=65,slow=38
INK Inuvik 76.84 22 IAmb IAmb 19 10 37.5
comp=Z,15nm,1.4s
INK Inuvik 76.84 22 LR LR 19 47 29.2
comp=Z,296nm,18.6s,baz=291,slow=38
L29M L29M 76.89 27 IAmb IAmb 19 10 33.5
comp=Z,11nm,1.0s
I30M Mount Dempster 76.90 25 IAmb IAmb 19 10 33.4
comp=Z,16nm,1.4s
K29M Barlow Dome 76.90 26 P **P** **19 10 07.3 +0.7**
M29M Somme Creek 76.96 28 P **P** **19 10 06.7 -0.3**
F31M Tsiigehtchic 77.09 22 IAmb IAmb 19 10 15.2
comp=Z,18nm,1.3s
H31M Peel River 77.48 24 IAmb IAmb 19 10 58.9
comp=Z,9.4nm,0.9s
QRZ Quartz Range 77.62 142 P **P** **19 10 10.8 0.0**
A36M Sachs Harbour 77.81 17 IAmb IAmb 19 10 20.0
comp=Z,16nm,1.1s
N30M Aishikik Lake 77.90 29 IAmb IAmb 19 10 35.1
comp=Z,40nm,2.0s
HYT Haines Junctio 77.94 29 P **P** **19 10 11.7 -0.8**
HYT IAmb IAmb 19 10 39.9
comp=Z,14nm,1.2s
LBZ Lake Benmore 78.73 146 P **P** **19 10 16.8 0.0**
URZ Urewera 78.75 138 LR LR 19 44 49.9
comp=Z,128nm,19.7s,baz=34,slow=36
BURAR Bucovina Array 78.80 317 P **P** **19 10 18.5 +1.0**
MLR Muntele Rosu 78.97 314 LR LR 19 51 04.7
comp=Z,401nm,18.8s,baz=66,slow=40
C36M Paulatuk 79.46 19 IAmb IAmb 19 10 28.1
comp=Z,17nm,1.2s
DAG Danmarks Havn 80.00 351 *i* P **P** **19 10 25.0 +1.6**
DAG IAmb IAmb 19 10 43.6
comp=Z,3.0nm,0.7s
HFS Hagfors 80.64 331 P **P** **19 10 26.6 -0.5**
comp=Z,7.1nm,1.0s,baz=95,slow=1.7,SNR=5.2
HFS LR LR 19 47 31.4
comp=Z,482nm,19.2s,baz=62,slow=37
comp=Z,7.1nm,1.0s
NC405 NORSAR Array S 81.10 332 P **P** **19 10 29.7 +0.2**
NB2 NORSAR Subarra 81.35 332 P **P** **19 10 30.1 -0.8**
comp=Z,27nm,2.5s,baz=63,slow=5.3
NOA NORSAR Array B 81.35 332 P **P** **19 10 30.1 -0.8**
comp=Z,1.2nm,0.9s,baz=63,slow=5.4,SNR=4.2
NOA LR LR 19 49 39.9
comp=Z,1μm,18.8s,baz=60,slow=38
comp=Z,1.2nm,0.9s
NEEM North Greenlan 82.21 358 *i* P **P** **19 10 35.6 +0.1**
NEEM IAmb IAmb 19 10 57.0
comp=Z,9.1nm,0.9s
JMIC Jan Mayen 82.34 345 LR LR 19 51 49.8
comp=Z,415nm,18.5s,baz=70,slow=39
DLBC Dease Lake 82.37 30 LR LR 19 50 17.8
comp=Z,160nm,19.8s,baz=318,slow=38
RES Resolute Bay 82.41 9 P **P** **19 10 36.0 -0.2**
RES IAmb IAmb 19 10 37.9
comp=Z,10nm,1.1s
RES Resolute Bay 82.41 9 LR LR 19 50 08.1
comp=Z,248nm,20.6s,baz=6.0,slow=38
VYHS Vyhne 82.52 319 *e*P **P** **19 10 40.5 +3.2**
MORC Moravsky Berou 82.81 320 *e*PCP **PcP** **19 10 44.0 +0.3**
JAVC Velka Javorina 83.09 320 *e*PCP **PcP** **19 10 45.8 +0.8**
VRAC Vranov 83.56 320 *e*PCP **PcP** **19 10 47.3 +0.3**
VRAC Vranov 83.56 320 LR LR 19 50 13.0
comp=Z,287nm,18.4s,baz=59,slow=37
KRUC Moravsky 83.78 320 *e*PCP **PcP** **19 10 48.5 +0.6**
BRG Berggiesshubel 84.46 322 *e*P **P** **19 10 51.5 +4.3**
BRG Amp 19 10 55.7
comp=Z,9.2nm,1.2s
CONA Conrad Observa 84.57 319 *e*PcP **P** **19 10 50.8 +2.9**
comp=Z,5.2nm,1.1s
CLL Collm 84.80 323 *e*P **P** **19 10 48.0 -0.9**
CLL *i* x x 19 10 53.8
comp=Z,12nm,1.3s
CLL *ex* x 19 11 00.0
CLL *e*S **S** **19 21 24.0 +6.9**
CLL *e*PS **PnS** **19 22 12.0 +0.8**
CLL *e*SS **SS** **19 26 54.0 +5.7**
ARSA Arzberg 85.06 319 *e*pP pP 19 10 54.5 +1.8
comp=Z,8.9nm,1.2s
KULLO Kullorsuaq 85.20 359 *i* P **P** **19 10 50.4 -0.1**
KULLO IAmb IAmb 19 11 03.3
comp=Z,9.6nm,0.7s
GERES GERESS Array B 85.48 321 P **P** **19 10 51.6 -1.0**
GERES GERESS Array B 85.48 321 P **P** **19 10 52.7 +0.2**
comp=Z,1.8nm,0.8s,baz=66,slow=7.6,SNR=6.4
GERES LR LR 19 51 31.5
comp=Z,339nm,18.7s,baz=62,slow=37
comp=Z,1.8nm,0.8s
MOA Molln 85.58 320 *e*pP **P** **19 10 55.6 +2.7**
comp=Z,9.3nm,1.1s
SOKA Soboth 85.61 318 *e*pP **P** **19 10 55.7 +2.5**
comp=Z,5.3nm,1.0s
SUMG Summit 86.17 354 *i* P **P** **19 10 56.0 +0.1**
SUMG IAmb IAmb 19 11 26.9
comp=Z,3.5nm,0.9s
BBB Bella Bella 86.26 35 LR LR 19 50 48.0
comp=Z,35nm,18.9s,baz=338,slow=37
KBA Koelnbreinsper 86.47 319 *e*pP **P** **19 11 00.7 +3.2**
comp=Z,5.4nm,1.1s
YKA Yellowknife Ar 86.57 23 P **P** **19 10 55.4 -2.1**
YKA Yellowknife Ar 86.57 23 P **P** **19 10 56.3 -1.2**
comp=Z,2.0nm,0.9s,baz=314,slow=4.9,SNR=21
YKA LR LR 19 56 18.3
comp=Z,101nm,18.5s,baz=300,slow=40
comp=Z,2.0nm,0.9s
LESA Schwarzleotal 86.73 320 *e*pP pP 19 11 02.1 +1.0
comp=Z,3.0nm,0.9s
ABTA Abfaltersbach 87.13 319 *e*pP **P** **19 11 03.1 +2.4**
comp=Z,8.2nm,1.4s
WTTA Wattenberg 87.43 320 *e*pP pP 19 11 05.5 +0.9
comp=Z,2.7nm,0.7s
WATA Walderalm 87.43 320 *e*pP pP 19 11 05.5 +0.9
comp=Z,5.6nm,1.4s
SQTA Sankt Quirin 87.71 320 *e*pP pP 19 11 06.9 +1.0
comp=Z,3.3nm,0.7s
RAR Rarotonga 87.99 113 LR LR 19 46 07.6
comp=Z,65nm,19.3s,baz=298,slow=33
FETA Feichten 88.09 320 *e*pP pP 19 11 08.8 +1.0
comp=Z,4.3nm,1.2s
DAVOX Davos/Dischmat 88.72 320 LR LR 19 55 34.8
comp=Z,293nm,19.5s,baz=42,slow=39
UMMG Uummannaq 89.00 358 *i* P **P** **19 11 07.5 -1.4**
UMMG IAmb IAmb 19 11 16.0
comp=Z,5.8nm,0.7s
BORG Borgarnes 90.22 345 LR LR 19 55 29.7
comp=Z,295nm,20.1s,baz=26,slow=38
EKA Eskdalemuir Ar 90.82 332 P **P** **19 11 17.4 -0.4**
comp=Z,0.3nm,0.4s,baz=54,slow=3.9,SNR=2.5
comp=Z,0.3nm,0.4s
SFJD Kangerlussuaq 92.60 357 LR LR 19 55 50.5
comp=Z,110nm,18.1s,baz=354,slow=37
DY2G Dye2 92.81 355 *i* P **P** **19 11 26.4 -0.7**
DY2G IAmb IAmb 19 11 45.0
comp=Z,4.8nm,0.7s
FRB Frobisher Bay 95.79 4 LR LR 19 58 20.1
comp=Z,158nm,20.2s,baz=344,slow=38
TXAR Lajitas Array 114.56 42 PKP **PKiKP** **19 16 55.8 +0.4**
comp=Z,0.6nm,0.8s,baz=202,slow=0.5,SNR=4.8

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*SKHL **24** 18:58:13.9±0.5, 42°.10N×144°.80E, h35km±2km, mb4.5/3*
*JMA **24** 18:58:13.8±0.1, 42°.2N±0°.3×144°.8E±0°.6, h27km, MV3.9/39, SE OFF TOKACHI*
*NIED **24** 18:58:13.8, 42°.17N×144°.82E, h27km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.66; $M_{\theta\theta}$-1.59; $M_{\phi\phi}$-2.08; $M_{r\theta}$0.73; $M_{\theta\phi}$-2.12; $M_{r\phi}$2.71; Fault plane solution: $M_0$4.74000×10^{14} NP1:ϕ=26.00000°, δ63.00000°, λ75.00000°. NP2:ϕ=237.00000°, δ30.00000°, λ117.00000°.*
*IDC **24** 18:58:25.1±2.3, 42°.37N×142°.67E, h85km±18km, mb3.4/7, mbtmp3.7/8, MS2.6/1 Error ellipse: s-maj=36.1km s-min=25.5km az=116.0*

ISC 24 18:58:14.6±1.7, 42°.16N±0°.10×144°.82E±0°.07, h40km±15km, n29, σ0°.59/29, mb3.5/7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.84**	**354**	P		**Pn**	**18 58 29.3**	**-0.6**
JAK				*e*S		**Sn**	**18 58 41.9**	**+0.8**
AKK	**Akkeshi**	**0.85**	**1**	*i* P		**Pn**	**18 58 29.8**	**-0.4**
AKK				*i* S		**Sn**	**18 58 41.3**	**-0.2**
JKHN	**Kushirohamanak**	**0.95**	**15**	P		**Pn**	**18 58 31.5**	**0.0**
JOB	**Onbets**	**1.04**	**316**	P		**Pn**	**18 58 32.6**	**-0.1**
JTHR	**Tokachihiroo**	**1.14**	**277**	P		**Pn**	**18 58 33.7**	**-0.4**
JCH	**Churui**	**1.17**	**293**	P		**Pn**	**18 58 34.2**	**-0.3**
JCH				*e*S		**Sn**	**18 58 49.9**	**+0.7**
JEM	**Erimo**	**1.25**	**264**	P		**Pn**	**18 58 35.7**	**+0.1**
JAR	**Ashorobuto**	**1.37**	**326**	P		**Pn**	**18 58 36.6**	**-0.6**
NMR	**Nemuro--Hokkai**	**1.38**	**29**	*e*P		**Pn**	**18 58 36.7**	**-0.7**
NMR				*e*S		**Sn**	**18 58 54.4**	**0.0**
NEM2	**Nemuro 2**	**1.38**	**29**	P		**Pn**	**18 58 36.9**	**-0.5**
JNK	**Nakash**	**1.42**	**357**	P		**Pn**	**18 58 37.1**	**-0.9**
JNK				S		**Sn**	**18 58 55.6**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**2.02**	**22**	*i* P		**Pn**	**18 58 45.8**	**-0.4**
YUK				AMB		AMB	18 58 47.0	
	140nm,0.3s							
YUK				*e*S		**Sn**	**18 59 10.0**	**-0.2**
YUK				A		A	18 59 17.5	
	240nm,0.5s							
YUK				A		A	18 59 17.5	
	610nm,0.5s							
SHO	**Shikotan**	**2.25**	**40**	*e*P		**Pn**	**18 58 49.7**	**+0.3**
SHO				AMB		AMB	18 58 51.7	
	40nm,0.4s							
SHO				*e*S		**Sn**	**18 59 15.9**	**0.0**
SHO				A		A	18 59 23.2	
	220nm,0.3s							
SHO				A		A	18 59 23.2	
	160nm,0.3s							
ASAJ	**Asahikawa**	**2.54**	**321**	P		**Pn**	**18 58 53.6**	**+0.3**
	30nm,0.5s,baz=148,slow=16,SNR=43							
KUR	**Kuril'sk**	**3.78**	**35**	A		A	19 00 13.2	
	50nm,0.4s							
KUR				*e*P		**Pn**	**18 59 11.4**	**+1.1**
KUR				AMB		AMB	18 59 16.8	
	30nm,0.3s							
KUR				*e*S		**Sn**	**18 59 54.9**	**+1.3**
KUR				A		A	19 00 13.2	
	70nm,0.4s							
MJAR	**Matsushiro Arr**	**7.60**	**225**	P		**Pn**	**19 00 01.8**	**-1.0**
	1.9nm,0.5s,baz=29,slow=14,SNR=11							
MJAR				LR		LR	19 03 09.4	
	comp=Z,50nm,19.1s,baz=115,slow=42							
H11N2	**WAKE ISLAND Hy**	**29.14**	**133**	T		T	19 35 33.6	
	baz=326,slow=75,SNR=34							
H11N1	**WAKE ISLAND Hy**	**29.15**	**133**	T		T	19 35 34.0	
	baz=326,slow=75,SNR=41							
H11N3	**WAKE ISLAND Hy**	**29.16**	**133**	T		T	19 35 40.2	
	baz=326,slow=75,SNR=34							
H11S1	**WAKE ISLAND Hy**	**30.04**	**135**	T		T	19 36 43.4	
	baz=328,slow=76,SNR=56							
H11S3	**WAKE ISLAND Hy**	**30.04**	**135**	T		T	19 36 43.0	
	baz=328,slow=76,SNR=37							
H11S2	**WAKE ISLAND Hy**	**30.05**	**135**	T		T	19 36 43.4	
	baz=328,slow=76,SNR=24							
ILAR	**Eielson Array**	**43.77**	**35**	P		P	19 06 28.4	+12
	0.5nm,0.8s,baz=270,slow=5.3,SNR=2.4							
	0.5nm,0.8s							
FINES	**FINESS Array B**	**65.50**	**332**	P		**P**	**19 08 53.0**	**-0.2**
	1.0nm,0.5s,baz=52,slow=9.0,SNR=19							
	1.0nm,0.5s							
NVAR	**Mina Array Bea**	**69.88**	**56**	P		P	19 09 34.1	+13
	0.4nm,0.7s,baz=299,slow=8.1,SNR=4.2							
	0.4nm,0.7s							
NOA	**NORSAR Array B**	**70.45**	**338**	P		**P**	**19 09 24.3**	**-0.1**
	0.3nm,0.6s,baz=33,slow=6.4,SNR=1.8							
	0.3nm,0.6s							
HFS	**Hagfors**	**70.47**	**336**	P		**P**	**19 09 24.5**	**0.0**
	1.5nm,0.7s,baz=52,slow=9.3,SNR=4.8							
	1.5nm,0.7s							
AKASG	**Malin Array Be**	**71.83**	**323**	P		**P**	**19 09 32.5**	**-0.4**
	0.3nm,0.5s,baz=41,slow=6.8,SNR=1.8							
	0.3nm,0.5s							
EKA	**Eskdalemuir Ar**	**79.13**	**342**	P		**P**	**19 10 15.2**	**+0.5**
	0.2nm,0.4s,baz=28,slow=5.2,SNR=3.6							
	0.2nm,0.4s							

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*TEH **24** 19:19:33.7, 27°.55N×56°.80E, h14km±27km, ML2.9*
*OMAN **24** 19:19:34.8±1.3, 27°.46N×57°.04E, h10km, mb3.9/1, ml2.7/16, Error ellipse: s-maj=10.4km s-min=8.0km az=169.0*

ISC 24 19:19:33.3±1.3, 27°.52N±0°.04×56°.89E±0°.05, h7km±11km, n29, σ1°.19/48, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.32**	**257**	Pg		**Pg**	**19 19 39.3**	**-0.2**
GENO	**Geno**	**0.65**	**260**	Pg		**Pg**	**19 19 45.3**	**-0.4**
GENO				Sg		**Sg**	**19 19 54.1**	**-0.1**
KHNJ	**Kahnooj**	**0.84**	**59**	Pg		**Pb**	**19 19 50.7**	**+0.4**
SHME	**Shamm**	**1.61**	**205**	P		**Pg**	**19 20 04.8**	**+0.7**
	SNR=5.6							
SHME				S		**Sb**	**19 20 24.0**	**+0.2**

BANOM	**Banah**	**1.67**	**198**	P	**Pg**	**19 20 05.9**	**+0.6**
BANOM				S	**Sg**	**19 20 28.2**	**+1.2**
JASK	**Jask - Hormozg**	**1.86**	**152**	Pn	**Pb**	**19 20 07.5**	**-0.1**
JASK	**Jask - Hormozg**	**1.86**	**152**	P	**Pn**	**19 20 06.6**	**+1.0**
JASK				S	**Sb**	**19 20 31.8**	**+0.7**
KBAM	**BAM**	**2.12**	**40**	Pn	**Pb**	**19 20 11.5**	**-0.6**
NGRK	**Negar Kerman**	**2.12**	**356**	Pn	**Pn**	**19 20 09.8**	**+0.2**
MASF	**Masafi**	**2.23**	**197**	P	**Pb**	**19 20 13.4**	**-0.7**
MASF				S	**Sb**	**19 20 41.7**	**-0.2**
MDH	**Madha**	**2.27**	**194**	P	**Pb**	**19 20 13.8**	**-0.8**
MDH				S	**Sn**	**19 20 40.6**	**+1.1**
CHMN	**Cheshme madani**	**2.40**	**14**	Pn	**Pn**	**19 20 14.8**	**+1.4**
UOSS	**Minazif**	**2.63**	**194**	P	**Pn**	**19 20 16.9**	**+0.6**
UOSS				S	**Sb**	**19 20 51.9**	**-1.5**
HATD	**Hatta, Dubai**	**2.77**	**194**	P	**Pn**	**19 20 19.1**	**+1.1**
HATD				S	**Sn**	**19 20 52.8**	**+1.1**
KHGB	**Koh Gabri**	**2.87**	**353**	Pn	**Pn**	**19 20 20.4**	**+0.8**
ASHO	**Ashiyiah** SNR=7.8	**2.92**	**195**	P	**Pn**	**19 20 22.0**	**+1.8**
ASHO				S	**Sb**	**19 20 58.8**	**-2.8**
FAQ	**Al Faqa, Dubai** SNR=13	**3.00**	**203**	P	**Pn**	**19 20 22.2**	**+1.0**
FAQ				S	**Sn**	**19 20 58.9**	**+1.5**
ASUD	**Al Ashush, Dub** SNR=23	**3.20**	**206**	P	**Pn**	**19 20 25.4**	**+1.4**
ASUD				S	**Sb**	**19 21 06.8**	**-2.9**
SOHO	**SOHO**	**3.38**	**185**	P	**Pn**	**19 20 28.2**	**+1.6**
AJN	**Ajban**	**3.40**	**211**	P	**Pn**	**19 20 28.3**	**+1.5**
AJN				S	**Sn**	**19 21 08.1**	**+0.7**
ALNE	**Al Ain**	**3.60**	**197**	P	**Pn**	**19 20 31.6**	**+2.1**
ALNE				S	**Sn**	**19 21 13.6**	**+1.4**
BIDO	**Bidbid**	**4.13**	**164**	P	**Pn**	**19 20 37.3**	**+0.5**
BIDO				S	**Sn**	**19 21 25.8**	**+0.4**
SMDO	**Samad**	**4.56**	**166**	P	**Pn**	**19 20 42.8**	**0.0**
SMDO				S	**Sn**	**19 21 36.8**	**+0.6**
UMZA	**Um Al Zommool**	**5.03**	**198**	P	**Pn**	**19 20 49.1**	**-0.1**
UMZA				S	**Sn**	**19 21 47.1**	**-0.5**
WBK	**Wadi Bani Khal**	**5.24**	**158**	S	**Sn**	**19 21 52.3**	**-0.5**
JMDO	**Jabal Madar**	**5.24**	**168**	P	**Pn**	**19 20 52.2**	**+0.1**
JMDO				S	**Sn**	**19 21 54.2**	**+1.3**
JLN	**Jalan Bani Buh**	**5.81**	**156**	P	**Pn**	**19 20 58.5**	**-1.4**
JLN				S	**Sn**	**19 22 05.4**	**-1.5**
MHTO	**MHTO**	**6.58**	**171**	P	**Pn**	**19 21 08.9**	**-1.5**
MHTO				S	**Sn**	**19 22 24.7**	**-1.0**
ABTO	**Aybut**	**10.64**	**199**	P	**Pn**	**19 22 06.0**	**-0.4**

*LDG **24** 19:28:12.5±0.3,36°.97N×7°.97E,h10km,Ml3.2/9,Error ellipse: s-maj=6.7km s-min=5.8km az=112.0*
*IDC **24** 19:28:22.0±1.5,37°.57N×7°.92E,h0km,mb3.1/3, mbtmp3.2/5,ML3.6/2,Error ellipse: s-maj=31.7km s-min=25.2km az=80.0*
*CRAAG **24** 19:28:25.8,37°.13N×7°.45E,Ml3.5,Algerie 31km NW Seraidi*
ISC 24 19:28:20.8±0.8,37°.45N±0°.04×7°.81E±0°.06,h10km,n25, σ2s56/33,mb3.0/3,Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAH	**Djebel Manchou**	**0.88**	**201**	P	**Pg**	**19 28 36.7**	**-1.1**
CAEH	**'Ain El Ouahch**	**1.01**	**229**	P	**Pg**	**19 28 38.4**	**-2.0**
CBST	**Bordj Sabath**	**1.19**	**209**	P	**Pb**	**19 28 42.6**	**-0.9**
CKFL	**Kef-Lekhel**	**1.36**	**220**	P	**Pn**	**19 28 46.3**	**+0.3**
CBHR	**Beni Haroun da**	**1.51**	**235**	P	**Pn**	**19 28 48.4**	**+0.4**
CSGS	**Sigus**	**1.58**	**214**	P	Pn	19 28 41.3	-7.7
CASM	**Ain Smara**	**1.59**	**222**	P	**Pn**	**19 28 49.2**	**+0.1**
CRHA	**Rehia**	**1.68**	**185**	P	**Pg**	**19 28 52.3**	**-0.9**
COAT	**Oued Athmania**	**1.72**	**226**	P	**Pn**	**19 28 50.8**	**-0.1**
KEST	**Kesra** 2.4nm,0.3s,baz=253,slow=3.0,SNR=32	**2.11**	**144**	Pn	**Pb**	**19 28 58.4**	**-0.9**
KEST	6.1nm,0.3s,baz=169,slow=4.8,SNR=5.5 5.8nm,0.3s			Sn	**Sg**	**19 29 27.4**	**-1.4**
SET	**Setif**	**2.30**	**238**	P	**Pg**	**19 29 07.0**	**+2.1**
PGF	**Pioggiola**	**5.17**	**10**	*eP*	**Pn**	**19 29 38.9**	**+0.5**
PGF	7.7nm,0.3s			*e*Sn	**Sn**	**19 30 36.4**	**-1.8**
LMR	**La Mourre**	**5.96**	**351**	*eP*	**Pn**	**19 29 50.6**	**+1.5**
LMR	8.9nm,0.2s			*e*Sn	**Sn**	**19 30 52.6**	**-4.8**
SMRF	**Simiane la Rot**	**6.74**	**346**	*eP*	**Pn**	**19 30 00.8**	**+1.0**
SMRF	1.2nm,0.2s			*e*Sn	**Sn**	**19 31 12.9**	**-3.7**
LASF	**Ste Croix**	**7.27**	**337**	*eP*	**Pn**	**19 30 08.7**	**+1.6**
LASF	1.3nm,0.3s			*e*Sn	**Sn**	**19 31 25.7**	**-3.9**
MTLF	**Montolieu**	**7.27**	**326**	*eP*	**Pn**	**19 30 10.1**	**+3.0**
MTLF	1.1nm,0.3s			*e*Sn	**Sn**	**19 31 25.3**	**-4.3**
MBDF	**Montbardon**	**7.31**	**354**	*eP*	**Pn**	**19 30 10.9**	**+3.1**
MBDF	0.9nm,0.2s			*e*Sn	**Sn**	**19 31 27.6**	**-3.4**
ORIF	**Oris-en-Rattie**	**7.60**	**350**	*eP*	**Pn**	**19 30 13.7**	**+1.9**
VIVF	**Saint-Julien-l**	**7.77**	**343**	*eP*	**Pn**	**19 30 14.8**	**+0.8**
VIVF	0.4nm,0.2s			*e*Sn	**Sn**	**19 31 37.5**	**-4.5**
EPF	**Esparros**	**7.98**	**317**	*eP*	**Pn**	**19 30 17.8**	**+0.9**
LPL	**La Plagne**	**8.10**	**355**	*eP*	**Pn**	**19 30 20.2**	**+1.5**
LPL	0.7nm,0.3s			*e*Sn	**Sn**	**19 31 47.1**	**-3.3**
ESDC	**Sonseca Array** 0.4nm,0.3s,baz=92,slow=14,SNR=8.4 0.8nm,0.3s	**9.48**	**287**	Pn	**Pn**	**19 30 39.5**	**+2.0**
TORD	**Torodi Ar. Bea** 0.3nm,0.7s,baz=6.9,slow=9.8,SNR=2.0 0.3nm,0.7s	**24.81**	**194**	P	**P**	**19 33 47.8**	**+4.6**
KURBB	**Kurchatov Arra** 0.2nm,0.6s,baz=287,slow=8.4,SNR=2.3 0.2nm,0.6s	**50.65**	**51**	P	**P**	**19 37 20.8**	**+0.9**
MKAR	**Makanchi Array** 0.1nm,0.6s,baz=274,slow=8.2,SNR=1.8 0.1nm,0.6s	**54.11**	**55**	P	**P**	**19 37 48.4**	**+2.6**

IDC 24 19:34:10.2±3.9,5°.71S×150°.40E,h0km,mb3.1/2, mbtmp3.2/2,Error ellipse: s-maj=141.8km s-min=51.2km az=117.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.8nm,0.7s,baz=52,slow=10,SNR=6.9 0.8nm,0.7s	**21.07**	**226**	P	P	19 38 56.4	+0.2
ASAR	**Alice Springs** 0.3nm,0.6s,baz=53,slow=8.7,SNR=6.4 0.3nm,0.6s	**23.89**	**220**	P	P	19 39 25.1	-0.8
TORD	**Torodi Ar. Bea** 0.6nm,0.9s,baz=80,slow=2.2,SNR=2.4	**148.28**	**286**	PKPbc	PKPbc	19 53 59.4	-0.1

*TRN **24** 19:35:41.8,10°.87N×62°.30W,h91km,MD3.2,North o fthe Paria peninsula.*
*FUNV **24** 19:35:42.6,10°.87N×62°.30W,h85km,MW3.9*
ISC 24 19:35:41.0±1.6,10°.83N±0°.06×62°.32W±0°.06,h96km±13km, n20,σ1s58/33,1D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.57**	**103**	*eP*	**Pn**	**19 35 56.8**	**-0.1**
TCE				*e*S	**Sn**	**19 36 09.3**	**+0.4**
CRUV	**Carupano**	**0.92**	**260**	↓↓*iP*	**Pn**	**19 36 00.7**	**+0.5**
CRUV				*e*S	**Sn**	**19 36 14.0**	**-0.7**
CRUV	**Carupano**	**0.92**	**260**	*eP*	**Pn**	**19 36 00.7**	**+0.5**
CRUV				*e*S	**Sn**	**19 36 16.0**	**+1.4**
TRN	**Trinidad (W)**	**0.92**	**101**	*eP*	**Pn**	**19 36 01.0**	**+0.8**
TRN				*e*S	**Sn**	**19 36 14.0**	**-0.7**
GRFF	**Grenada Fort F**	**1.34**	**25**	*eP*	**Pn**	**19 36 04.8**	**-0.3**
GRFF				*e*S	**Sn**	**19 36 21.8**	**-1.5**
GRGR	**Grenville**	**1.45**	**27**	*eP*	**Pn**	**19 36 06.3**	**-0.2**
GRGR				*e*S	**Sn**	**19 36 24.1**	**-1.6**
GRW	**Mount Saint Ca**	**1.47**	**26**	*eP*	**Pn**	**19 36 06.9**	**+0.1**
GRW				*e*S	**Sn**	**19 36 25.1**	**-1.2**
GRHS	**Sauteurs**	**1.54**	**26**	*eP*	**Pn**	**19 36 07.8**	**+0.2**
GRHS				*e*S	**Sn**	**19 36 25.7**	**-2.0**
GRSS	**Sisters**	**1.62**	**25**	*eP*	**Pn**	**19 36 10.1**	**+1.5**
GRSS				*e*S	**Sn**	**19 36 28.2**	**-1.2**
GCMP	**Grenada, Carri**	**1.86**	**28**	*eP*	**Pn**	**19 36 11.1**	**-0.6**
GCMP				*e*S	**Sn**	**19 36 33.9**	**-1.2**
PCRV	**Puerto La Cruz**	**2.37**	**254**	*eP*	**Pn**	**19 36 20.1**	**+1.8**
PCRV				*e*S	**Sn**	**19 36 47.2**	**+0.2**
SVOC	**Richmond Hill,**	**2.55**	**25**	*e*	**Sn**	**19 36 52.6**	**+1.6**
SVOC	**Richmond Hill,**	**2.55**	**25**	*eP*	**Pn**	**19 36 21.4**	**+0.8**
SVT	**Saint Vincent**	**2.55**	**24**	*e*	**Pn**	**19 36 18.6**	**-2.1**
SVT	**Saint Vincent**	**2.55**	**24**	*e*	**Sn**	**19 36 52.9**	**+1.6**
SVB	**Belmont**	**2.64**	**23**	*e*	**Sn**	**19 36 57.4**	**+4.0**
SVB	**Belmont**	**2.64**	**23**	*eP*	**Pn**	**19 36 23.0**	**+1.0**
SVB				*e*S	**Sn**	**19 36 53.3**	**-0.1**
CACV	**CAICARA DEL OR**	**5.28**	**232**	*eP*	Pn	19 36 52.4	-5.1
CACV				*e*S	Sn	19 37 45.5	-12
BAUV	**El Baul**	**5.94**	**252**	*eP*	**Pn**	**19 37 07.0**	**+0.5**
BAUV				*e*S	**Sn**	**19 38 09.7**	**-3.5**
BAUV	**El Baul**	**5.94**	**252**	*eP*	**Pn**	**19 37 07.7**	**+1.2**
BAUV				*e*S	**Sn**	**19 38 10.5**	**-2.8**

*AEIC **24** 19:50:02.5±1.6,49°.8N±0°.1×179°.46W±0°.09,h12km±9km, Error ellipse: s-maj=18.9km s-min=7.5km az=190.0*
NEIC 24 19:50:03.2±1.1,50°.16N±0°.04×179°.29W±0°.07, h21km±11km,mb3.5/11,ML3.1(AEIC),Error ellipse: s-maj=7.8km s-min=5.1km az=130.0,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.51**	**324**		Pn	19 50 27.7	-1.3
AMKA					Sn	19 50 46.9	-1.1
GAEA	**Gareloi East**	**1.66**	**12**		Pn	19 50 31.0	0.0
GANE	**Gareloi Northe**	**1.69**	**11**		Pn	19 50 31.5	0.0
GANE					Sn	19 50 53.0	+0.5
TASE	**Tanaga Southea**	**1.85**	**25**		Pn	19 50 34.4	+0.7
TASE					Sb	19 50 58.9	-0.2
CEPE	**Semis' Perret**	**1.93**	**340**		Pn	19 50 35.0	+0.3
CEPE					Sn	19 50 59.0	+0.8
KIWB	**Kanaga Island**	**2.17**	**38**	Pn	Pn	19 50 37.8	-0.3
KIWB				Sn	Sn	19 51 04.1	-0.1
KIRH	**Kanaga Island**	**2.23**	**38**		Pn	19 50 38.8	-0.1
ADK	**Adak**	**2.38**	**43**		Pn	19 50 41.0	0.0
ADK					Sn	19 51 08.5	-1.1
GSTD	**Great Sitkin T**	**2.74**	**45**		Pn	19 50 46.4	+0.4
GSTD					Sn	19 51 18.1	-0.5
GSMY	**Great Sitkin M**	**2.78**	**46**		Pn	19 50 46.4	0.0
GSTR	**Great Sitkin T**	**2.81**	**45**	Pn	Pn	19 50 46.8	-0.1
GSTR				Sn	Sn	19 51 20.5	+0.4
ATKA	**Atka Island**	**3.80**	**56**		Pn	19 50 59.7	-0.8
KOFP	**Korovin Flat P**	**3.89**	**55**		Pn	19 51 01.8	0.0
CHGN	**Chignik**	**13.90**	**56**	Pn	Pn	19 53 16.5	-2.2
SKT	**Skwentna**	**19.31**	**42**	P	P	19 54 26.8	+0.2
SKT	comp=Z,3.4nm,1.2s			lAmb	lAmb	19 54 43.7	
J20K	**Nowinta River**	**19.37**	**34**	P	P	19 54 27.3	0.0
G19K	**Purcell Mounta**	**19.66**	**27**	P	P	19 54 30.3	0.0
C18K	**Utukok River**	**20.54**	**19**	P	P	19 54 40.0	+0.1
IMAR	**Indian Mountai**	**20.58**	**30**	P	P	19 54 38.9	-1.5
G21K	**Allakaket**	**20.99**	**29**	P	P	19 54 44.8	+0.1
G21K	comp=Z,2.4nm,0.9s			lAmb	lAmb	19 54 49.8	
B20K	**Meade River**	**22.49**	**20**	P	P	19 55 00.4	-0.4
B20K	comp=Z,3.5nm,1.4s			lAmb	lAmb	19 55 25.8	
H24K	**Noodor Dome**	**22.51**	**34**	P	P	19 55 01.3	+0.1
H24K	comp=Z,2.9nm,1.4s			lAmb	lAmb	19 55 22.5	
D22K	**Ayikyak River**	**22.77**	**25**	P	P	19 55 03.6	-0.2
B21K	**Ikpikpuk River**	**22.79**	**22**	P	P	19 55 02.8	-1.2
B21K	comp=Z,1.7nm,1.1s			lAmb	lAmb	19 55 12.2	
J25K	**Salcha River,**	**22.93**	**38**	P	P	19 55 04.0	-1.5
J25K	comp=Z,1.8nm,1.4s			lAmb	lAmb	19 55 09.3	
SCRK	**Sand Creek**	**23.26**	**40**	P	P	19 55 08.3	-0.7
SCRK	comp=Z,1.9nm,1.2s			lAmb	lAmb	19 55 21.9	
F24K	**Squaw Lake**	**23.37**	**30**	P	P	19 55 09.0	-1.0

*BJI **24** 19:58:31.0±0.0,45°.71S×95°.89E,h5km,mb5.3/86, mB5.9/81,Ms6.0/97,Ms7 5.9/92*
*MOS **24** 19:58:32.4±1.5,45°.80S×96°.14E,h10km,mb5.8/40, MS6.0/36,Error ellipse: s-maj=11.1km s-min=7.8km az=77.7*
*IDC **24** 19:58:32.4±0.4,45°.77S×96°.09E,h0km,mb5.0/18, mbtmp5.0/18,MS5.8/44,Error ellipse: s-maj=18.3km s-min=13.2km az=132.0*
*IPGP **24** 19:58:33.0,45°.83S×96°.10E,h6km,Mw6.2,Fault plane solution: NP1:φs216.00000°,δ76.00000°,λ21.00000°. NP2:φs120.00000°,δ70.00000°,λ165.00000°.*
*NEIC **24** 19:58:33.4,45°.80S×96°.08E,h10km*
*NEIC **24** 19:58:33.4,45°.61S×96°.09E,h12km,Moment Tensor Solution. Duration: 6s0 Moment tensor: Scale 10¹⁸Nm; Mrr0.04; Mθθ-1.24; Mφφ 1.20; Mrθ 0.60; Mθφ-0.43; Mφr-0.24; Fault plane solution: M0 1.44000×10¹⁸ NP1: φs305.67000°,δ86.81000°,λ-154.41000°. NP2: φs214.14000°,δ64.45000°,λ-3.54000°. Principal axes: T 1.3683, Plg15.0000°, Azm77.0000°; N 0.1476, Plg64.0000°, Azm312.0000°; P -1.5159, Plg20.0000°, Azm173.0000°;*
*NEIC **24** 19:58:33.4±1.5,45°.78S±0°.09×96°.1E±0°.1,h10km±1km, mb5.7/109,Ms_20 6.0/816,Mwb6.0/52,Mww6.0/33 Error ellipse: s-maj=15.8km s-min=14.9km az=131.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr0.23; Mθθ-1.07; Mφφ 0.85; Mrθ-0.12; Mθφ-0.35; Mφr 0.23; Fault plane solution: M0 1.07000×10¹⁸ NP1:φs36.24000°, δ75.25000°,λ10.45000°. NP2:φs303.55000°,δ79.90000°, λ165.01000°. Principal axes: T 0.9873, Plg18.0000°, Azm259.0000°; N 0.1528, Plg72.0000°, Azm90.0000°; P -1.1401, Plg3.0000°, Azm350.0000°;*
*NEIC **24** 19:58:33.4,45°.81S×96°.09E,h12km*
*GCMT **24** 19:58:38.4±0.1,45°.69S×95°.93E,h12km,MW6.1/176, Moment Tensor Solution. s162,c341; s176,c605; Duration: 2s6 Moment tensor: Scale 10¹⁸Nm; Mrr0.04±.01; Mθθ-1.47±.01; Mφφ 1.43±.01; Mrθ-0.07±.02; Mθφ-0.52±.01; Mφr-0.03±.02; Best double couple: M0 1.54100×10¹⁸ NP1:φs35.00000°,δ89.00000°, λ-2.00000°. NP2:φs125.00000°,δ88.00000°, λ-179.00000°. Principal axes: T 1.5200, Plg1.0000°, Azm80.0000°; N 0.0450, Plg87.0000°, Azm183.0000°; P -1.5630, Plg3.0000°, Azm350.0000°; nsta1 refers to body waves, cutoff=50s. Triangular moment-rate function*
ISC 24 19:58:34.5±0.4,45°.84S±0°.04×96°.15E±0°.04,h14km±2km, h13km:pP-P,n1103,s1s76/888,mb5.5/162,MS6.0/513, 19C-16D,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H** baz=226,slow=74,SNR=5862	**17.48**	**58**	T	T	20 20 47.1	
H01W3	**Cape Leeuwin H** baz=226,slow=74,SNR=6879	**17.50**	**58**	T	T	20 20 51.2	
H01W1	**Cape Leeuwin H** baz=226,slow=74,SNR=8727	**17.50**	**58**	T	T	20 20 44.8	
PAF	**Port-aux-Franc**	**17.81**	**249**		**P**	**20 02 41.7**	**-0.8**
PAF	**Port-aux-Franc**	**17.81**	**249**	P	**P**	**20 02 41.7**	**-0.8**
PAF	comp=Z,282nm,1.1s			pmax	pmax		
RKGY	**Rocky Gully** baz=19,SNR=4.3	**19.40**	**62**	P	**P**	**20 02 59.6**	**-0.4**
RKGY	**Rocky Gully**	**19.40**	**62**	P	**Pn**	**20 03 02.6**	**+1.4**
AUALB	**St Joseph's Co**	**19.72**	**64**	P	**Pn**	**20 03 06.5**	**+1.5**
NWAO	**Narrogin (SRO)** baz=21,SNR=5.4	**20.70**	**59**	P	**P**	**20 03 14.5**	**+0.2**
NWAO	baz=21,SNR=5.4			P	**P**	**20 03 14.5**	**+0.2**
NWAO	**Narrogin (SRO)**	**20.70**	**59**	P	**P**	**20 03 15.2**	**+0.9**
NWAO	**Narrogin (SRO)**	**20.70**	**59**	P	**P**	**20 03 15.5**	**+1.2**
NWAO	**Narrogin (SRO)**	**20.70**	**59**	P	**P**	**20 03 12.9**	**-1.3**
NWAO	comp=Z,860nm,1.8s			lAmb	lAmb	20 03 20.5	
NWAO	**Narrogin (SRO)**	**20.70**	**59**	P	**P**	**20 03 13.0**	**-1.3**
NWAO	comp=Z,860nm,1.8s			pmax	pmax		
NWAO	comp=Z,42μm,20.0s			MLR	MLR		
NWAO	**Narrogin (SRO)** comp=Z,79nm,1.1s,baz=220,slow=10,SNR=16	**20.70**	**59**	P	**P**	**20 03 14.3**	**0.0**
NWAO	comp=Z,41μm,20.0s,baz=221,slow=31 comp=Z,79nm,1.1s			LR	LR	20 09 23.0	
NWAO	**Narrogin (SRO)**	**20.70**	**59**	P	**P**	**20 03 14.3**	**0.0**
NWAO				P	**P**	**20 03 14.3**	**0.0**
NWAO				S	**S**	**20 07 03.7**	**-1.4**
NWAO				S	**S**	**20 07 03.7**	**-1.4**
MUN	**Mundaring** baz=21,SNR=14	**20.78**	**55**	P	**P**	**20 03 15.1**	**-0.1**
MUN	**Mundaring**	**20.78**	**55**	P	**P**	**20 03 15.6**	**+0.5**
MUN	**Mundaring**	**20.78**	**55**	P	**P**	**20 03 15.7**	**+0.6**
CASY	**Casey**	**21.90**	**164**	P	**P**	**20 03 26.2**	**-0.6**
CASY	**Casey** comp=Z,82μm,21.0s	**21.90**	**164**	lAMs_20	lAMs_20	20 09 41.1	
KLBR	**Kellerberrin** baz=22,SNR=14	**21.96**	**57**	P	**P**	**20 03 27.7**	**-0.1**
KLBR	**Kellerberrin**	**21.96**	**57**	P	**P**	**20 03 27.5**	**-0.3**
BLDU	**Ballidu** baz=22,SNR=11	**22.08**	**54**	P	**P**	**20 03 28.9**	**-0.3**
BLDU	**Ballidu**	**22.08**	**54**	P	**P**	**20 03 29.8**	**+0.7**
MORW	**Morawa** baz=23,SNR=3.3	**22.91**	**50**	P	**P**	**20 03 38.8**	**+0.9**
MORW	**Morawa**	**22.91**	**50**	P	**P**	**20 03 39.2**	**+1.2**
MORW	**Morawa**	**22.91**	**50**	P	**P**	**20 03 35.4**	**-2.6**
MORW	comp=Z,411nm,1.7s			lAmb	lAmb	20 03 54.7	
KMBL	**Kambalda** baz=25,SNR=7.3	**24.62**	**63**	P	**P**	**20 03 53.8**	**-0.7**
KMBL	**Kambalda**	**24.62**	**63**	P	**P**	**20 03 55.8**	**+1.3**
MEEK	**Meekatharra** baz=26,SNR=6.6	**26.22**	**51**	P	**P**	**20 04 07.9**	**-1.1**
MEEK	**Meekatharra**	**26.22**	**51**	P	**P**	**20 04 10.9**	**+1.9**
MAW	**Mawson** baz=28,SNR=34	**27.82**	**207**	P	**P**	**20 04 22.4**	**-0.5**
MAW	**Mawson**	**27.82**	**207**	P	**P**	**20 04 22.0**	**-1.0**
MAW	**Mawson**	**27.82**	**207**	P	**P**	**20 04 22.0**	**-1.0**
MAW	comp=Z,66nm,1.4s			pmax	pmax		
MAW	**Mawson** comp=Z,156nm,1.2s,baz=54,slow=12,SNR=36	**27.82**	**207**	P	**P**	**20 04 22.8**	**-0.2**
MAW	comp=Z,19μm,18.3s,baz=50,slow=32 comp=Z,156nm,1.2s			LR	LR	20 13 24.0	
FORT	**Forrest** baz=29,SNR=11	**28.97**	**70**	P	**P**	**20 04 34.3**	**+0.7**
FORT	**Forrest**	**28.97**	**70**	P	**P**	**20 04 36.1**	**+2.5**
FORT	**Forrest**	**28.97**	**70**	P	**P**	**20 04 31.9**	**-1.7**
FORT	comp=Z,38μm,20.0s			lAMs_20	lAMs_20	20 13 33.0	
CRZF	**Crozet Islands** comp=Z,32μm,19.0s	**30.40**	**253**	lAMs_20	lAMs_20	20 13 35.8	
PSA00	**Pilbara Seismi**	**30.99**	**47**	P	**P**	**20 04 51.8**	**+0.3**
PSA00	**Pilbara Seismi**	**30.99**	**47**	P	**P**	**20 04 49.9**	**-1.6**
PSA00	**Pilbara Seismi**	**30.99**	**47**	P	**P**	**20 04 50.1**	**-1.4**
PSA00	comp=Z,163nm,1.6s			lAmb	lAmb	20 04 53.5	
PSA00	comp=Z,13μm,21.0s			lAMs_20	lAMs_20	20 14 59.1	
MBWA	**Marble Bar**	**31.28**	**46**	P	**P**	**20 04 53.9**	**-0.1**
MBWA	**Marble Bar**	**31.28**	**46**	P	**P**	**20 04 52.7**	**-1.3**
MBWA	**Marble Bar**	**31.28**	**46**	P	**P**	**20 04 52.4**	**-1.6**
MBWA				P	**P**	**20 04 52.4**	**-1.6**
MBWA				S	**S**	**20 09 52.0**	**-8.3**
MBWA				S	**S**	**20 09 52.0**	**-8.3**
WRKA	**Warakurna** baz=33,SNR=12	**33.08**	**62**	P	**P**	**20 05 09.3**	**-0.6**
WRKA	**Warakurna**	**33.08**	**62**	P	**P**	**20 05 09.6**	**-0.3**
BBOO	**Buckleboo**	**33.15**	**81**	P	**P**	**20 05 11.6**	**+1.2**
BBOO	**Buckleboo**	**33.15**	**81**	P	**P**	**20 05 09.8**	**-0.6**
BBOO	comp=Z,126nm,1.6s			lAmb	lAmb	20 05 32.4	
BBOO	comp=Z,28μm,20.0s			lAMs_20	lAMs_20	20 15 35.8	
MULG	**Mulgathing**	**33.29**	**76**	P	**P**	**20 05 12.1**	**+0.5**
WHYH	**Whyalla**	**34.08**	**83**	P	**P**	**20 05 19.0**	**+0.6**
HTT	**Hallett** baz=35,SNR=5.8	**34.79**	**84**	P	**P**	**20 05 24.8**	**+0.1**
HTT	**Hallett**	**34.79**	**84**	P	**P**	**20 05 26.4**	**+1.7**
HTT	**Hallett**	**34.79**	**84**	P	**P**	**20 05 24.8**	**+0.1**
ARPS	**Mount Arapiles** baz=35,SNR=12	**35.08**	**92**	P	**P**	**20 05 27.8**	**+0.6**
ARPS	**Mount Arapiles**	**35.08**	**92**	P	**P**	**20 05 28.1**	**+1.0**
LCRK	**Leigh Creek**	**36.03**	**80**	P	**P**	**20 05 36.1**	**+0.8**
GEXS	**Deakin Univers**	**36.11**	**95**	P	**P**	**20 05 40.0**	**+4.1**
BRAT	**Ballarat**	**36.17**	**94**	P	**P**	**20 05 38.6**	**+2.2**
TAU	**Tasmania Unive**	**36.19**	**104**	P	**P**	**20 05 37.6**	**+1.1**
TAU	**Tasmania Unive**	**36.19**	**104**	P	**P**	**20 05 36.2**	**-0.2**
TAU	comp=Z,202nm,1.8s			lAmb	lAmb	20 05 49.6	
TAU	**Tasmania Unive**	**36.19**	**104**	P	**P**	**20 05 36.3**	**-0.2**
TAU	comp=Z,202nm,1.8s			pmax	pmax		
TAU	comp=Z,19μm,21.0s			MLR	MLR		
MOO	**Moorlands** baz=36,SNR=5.5	**36.28**	**103**	P	**P**	**20 05 37.6**	**+0.3**
MOO	**Moorlands**	**36.28**	**103**	P	**P**	**20 05 39.0**	**+1.7**
CORO	**Coronation Par**	**36.65**	**102**	P	**P**	**20 05 43.0**	**+2.5**
AULHS	**Lilydale High**	**36.78**	**102**	P	**P**	**20 05 45.8**	**+4.2**
FITZ	**Fitzroy Crossi** baz=37,SNR=12	**36.91**	**51**	P	**P**	**20 05 42.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**36.91**	**51**	P	**P**	**20 05 43.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**36.91**	**51**	P	**P**	**20 05 42.3**	**-0.6**
TOO	**Toolangi** baz=37,SNR=8.3	**37.24**	**95**	P	**P**	**20 05 45.7**	**0.0**
TOO	**Toolangi**	**37.24**	**95**	P	**P**	**20 05 47.2**	**+1.6**
TOO	**Toolangi**	**37.24**	**95**	P	**P**	**20 05 46.3**	**+0.7**
TOO	comp=Z,213nm,1.9s			lAmb	lAmb	20 05 50.5	
TOO	comp=Z,27μm,20.0s			lAMs_20	lAMs_20	20 17 24.1	
TOO	**Toolangi**	**37.24**	**95**	P	**P**	**20 05 46.3**	**+0.7**
TOO	comp=Z,213nm,1.9s			pmax	pmax		
TOO	comp=Z,27μm,20.0s			MLR	MLR		
ROCAM	**Rodrigues Isla** comp=Z,22μm,20.0s	**37.45**	**303**	lAMs_20	lAMs_20	20 16 49.5	
STKA	**Stephens Creek** baz=38,SNR=12	**37.53**	**84**	P	**P**	**20 05 48.4**	**+0.4**
STKA	**Stephens Creek**	**37.53**	**84**	P	**P**	**20 05 48.2**	**+0.1**
STKA	**Stephens Creek**	**37.53**	**84**	P	**P**	**20 05 47.5**	**-0.6**
STKA	**Stephens Creek**	**37.53**	**84**	P	**P**	**20 05 47.5**	**-0.6**
STKA	comp=Z,41nm,1.5s			pmax	pmax		
STKA	comp=Z,7μm,

comp=Z,40µm,18.1s,baz=284,slow=34
comp=Z,9.5nm,0.8s
NGJI Ngawi 40.54 24 P **P** **20 06 17.9 +4.5**
comp=Z,74nm,1.3s
SMRI Semarang 40.57 22 P **P** **20 06 15.4 +1.8**
SMRI Semarang 40.57 22 P **P** **20 06 12.9 -0.7**
CMSA Cobar Meteorol 40.58 87 P **P** **20 06 14.2 +0.6**
baz=40,SNR=18
CMSA Cobar Meteorol 40.58 87 P **P** **20 06 14.8 +1.2**
WRA Warramunga Arr 40.59 63 P **P** **20 06 11.9 -1.9**
WRA Warramunga Arr 40.59 63 P **P** **20 06 11.9 -1.9**
WRA pmax pmax
comp=Z,18nm,1.9s
WRA MLR MLR
comp=Z,5µm,20.0s
WRA Warramunga Arr 40.59 63 P **P** **20 06 12.4 -1.4**
comp=Z,28nm,1.0s,baz=223,slow=8.6,SNR=48
WRA LR LR 20 21 10.0
comp=Z,47µm,20.5s,baz=218,slow=33
comp=Z,28nm,1.0s
WB2 Warramunga Arr 40.60 63 P **P** **20 06 12.2 -1.6**
WB2 IAmb IAmb 20 06 17.4
comp=Z,194nm,1.5s
WRAB Tennant Creek 40.60 63 P **P** **20 06 12.5 -1.4**
WRAB IAmb IAmb 20 06 17.5
comp=Z,174nm,1.5s
WRAB Tennant Creek 40.60 63 P **P** **20 06 12.5 -1.4**
WRAB pmax pmax
comp=Z,174nm,1.5s
WRAB MLR MLR
comp=Z,2µm,20.0s
WR0 Warramunga Arr 40.70 64 P **P** **20 06 13.1 -1.6**
WB0 Warramunga Arr 40.76 63 P **P** **20 06 13.1 -2.0**
CAN Canberra 40.82 94 P **P** **20 06 19.0 +3.4**
CAN Canberra 40.82 94 P **P** **20 06 15.4 -0.2**
CAN IAMs_20 IAMs_20 20 19 46.7
comp=Z,20µm,20.0s
CAN Canberra 40.82 94 P **P** **20 06 15.4 -0.2**
CAN pmax pmax
comp=Z,115nm,1.7s
CAN MLR MLR
comp=Z,20µm,20.0s
BLJI Banyuglugur 40.83 27 P **P** **20 06 19.1 +3.4**
comp=Z,89nm,1.8s,comp=Z,4µm
YNG Young 40.94 93 P **P** **20 06 17.2 +0.7**
baz=41,SNR=12
YNG Young 40.94 93 P **P** **20 06 18.1 +1.5**
ABJI Asem Bagus 40.98 28 P **P** **20 06 17.5 +0.5**
comp=Z,165nm,1.4s,comp=Z,5µmcomp=Z,5µm
TWSI Taliwang, Sumb 41.04 32 P **P** **20 06 18.7 +1.2**
comp=Z,111nm,1.7s,comp=Z,3µmcomp=Z,4µm
CNB Canberra Magne 41.07 95 P **P** **20 06 21.4 +3.7**
RER Riviere de l'E 41.11 293 P **P** **20 06 17.8 -0.4**
PLAI Plampang 41.30 33 P **P** **20 06 20.8 +1.2**
PLAI Plampang 41.30 33 P **P** **20 06 19.9 +0.3**
comp=Z,115nm,1.6s,comp=Z,5µm
SBA Scott Base 41.59 162 P **P** **20 06 22.4 +1.1**
SBA Scott Base 41.59 162 IAMs_20 IAMs_20 20 21 47.8
comp=Z,26µm,20.0s
SBA Scott Base 41.59 162 P **P** **20 06 22.4 +1.1**
SBA pmax pmax
comp=Z,626nm,1.9s
SBA MLR MLR
comp=Z,26µm,20.0s
ELIB Princess Elisa 41.94 206 *d*P **P** **20 06 23.2 -1.3**
comp=Z,50nm,1.2s
ELIB *dp*P **pP** **20 06 25.5 -2.4**
ELIB *ds*P **sP** **20 06 27.7 -1.6**
AUDCS Dubbo College 42.24 90 P **P** **20 06 28.3 +1.1**
QLP Quilpie 42.57 80 P **P** **20 06 30.1 +0.2**
baz=42,SNR=11
QLP Quilpie 42.57 80 P **P** **20 06 31.0 +1.0**
BATI Baumata 42.59 42 P **P** **20 06 33.7 +3.5**
comp=Z,73nm,1.6s,comp=Z,4µmcomp=Z,3µm
EDFI Ende, Flores 42.98 39 P **P** **20 06 32.8 -0.6**
comp=Z,146nm,1.5s,comp=Z,3µmcomp=Z,3µm
H08S2 Diego Garcia H 43.18 324 T T 20 52 11.9
baz=156,slow=76,SNR=2148
H08S1 Diego Carcia H 43.18 324 T T 20 52 12.4
baz=156,slow=76,SNR=1343
H08S3 Diego Garcia H 43.20 324 T T 20 52 13.4
baz=156,slow=76,SNR=3167
SOEI Soe 43.27 43 P **P** **20 06 37.5 +1.7**
SOEI Soe 43.27 43 P **P** **20 06 34.3 -1.5**
SOEI IAmb IAmb 20 07 18.0
comp=Z,207nm,1.4s
SOEI Soe 43.27 43 P **P** **20 06 35.6 -0.2**
SOEI S **S** **20 13 03.9 +1.2**
SOEI Soe 43.27 43 P P 20 06 42.6 +6.8
MMRI Maumere 43.32 39 P **P** **20 06 34.2 -1.9**
MMRI IAmb IAmb 20 06 46.4
comp=Z,198nm,1.6s
PMBI Palembang 43.40 13 P **P** **20 06 39.5 +2.8**
PMBI Palembang 43.40 13 P **P** **20 06 36.0 -0.7**
PMBI Palembang 43.40 13 P P 20 06 44.4 +7.7
DGAR Diego Garcia 43.40 325 IAMs_20 IAMs_20 20 19 18.5
comp=Z,23µm,22.0s
DGAR Diego Garcia 43.40 325 P P 20 06 31.3 -5.5
DGAR P P 20 06 31.3 -5.5
AULRC Lightning Ridg 43.41 86 P **P** **20 06 37.3 +0.6**
QIS Mount Isa 43.52 69 P **P** **20 06 37.0 -0.7**
baz=44,SNR=6.3
QIS Mount Isa 43.52 69 P **P** **20 06 37.7 0.0**
MTN Manton Dam 44.23 53 P **P** **20 06 42.5 -0.9**
baz=44,SNR=5.1
MTN Manton Dam 44.23 53 P **P** **20 06 44.8 +1.4**
MTN Manton Dam 44.23 53 P **P** **20 06 43.1 -0.3**
MTN IAmb IAmb 20 06 47.0
comp=Z,301nm,1.9s
QSPA South Pole Qui 44.31 180 P **P** **20 06 43.4 -0.4**
QSPA South Pole Qui 44.31 180 P **P** **20 06 43.3 -0.4**
comp=Z,54nm,1.1s,baz=302,slow=3.6,SNR=27
QSPA LR LR 20 24 06.1
comp=Z,80µm,18.7s,baz=310,slow=35
comp=Z,54nm,1.1s
FOMA Nahampoana Res 44.35 281 IAMs_20 IAMs_20 20 20 04.1
comp=Z,19µm,21.0s
PPBI Pangkal Pinang 44.37 14 P **P** **20 06 47.0 +2.5**
comp=Z,40nm,0.9s,comp=Z,4µm
SISI Saibi 44.40 4 P **P** **20 06 49.1 +4.4**
comp=Z,110nm,1.1s,comp=Z,4µm
AUPHS Peel High Scho 44.46 90 P **P** **20 06 46.8 +1.6**
KDU Kakadu 45.11 55 P **P** **20 06 49.9 -0.5**
baz=45,SNR=8.3
KDU Kakadu 45.11 55 P **P** **20 06 50.6 +0.2**
ARMA Armidale 45.38 90 P **P** **20 06 52.3 -0.3**
baz=45,SNR=7.8
ARMA Armidale 45.38 90 P **P** **20 06 54.5 +1.9**
ARMA Armidale 45.38 90 P **P** **20 06 52.2 -0.4**
ARMA IAmb IAmb 20 07 07.5
comp=Z,198nm,1.6s
ARMA IAMs_20 IAMs_20 20 23 24.5
comp=Z,20µm,19.0s
BKSI Bulukumba 45.41 35 P **P** **20 06 53.5 +0.7**
comp=Z,41nm,2.1s,comp=Z,2µmcomp=Z,3µm
KAPI Kappang 45.55 34 P **P** **20 06 54.6 +0.7**
KAPI Kappang 45.55 34 P **P** **20 06 53.0 -0.9**
KAPI IAmb IAmb 20 07 10.8
comp=Z,153nm,1.8s
KAPI Kappang 45.55 34 P **P** **20 06 53.0 -0.9**
KAPI pmax pmax
comp=Z,153nm,1.8s
KAPI MLR MLR
comp=Z,4µm,21.0s
KAPI Kappang 45.55 34 P **P** **20 06 51.1 -2.8**
KAPI P **P** **20 06 51.1 -2.8**
KAPI S **S** **20 13 30.9 -4.7**
KAPI S **S** **20 13 30.9 -4.7**
NVL N'lazarevskaya 45.77 207 *e*P **P** **20 06 55.7 +0.7**
NVL *e* 20 08 42.6
NVL *e*S **S** **20 13 35.9 -1.8**
NVL *e*SS **SS** **20 17 02.0 +0.5**
NVL pmax pmax
comp=Z,209nm,2.0s
NVL smax smax
comp=N,8µm,15.7s
NVL MLR MLR
comp=Z,21µm,16.0s
DSRI Dabo 45.77 12 P **P** **20 06 58.1 +2.4**
comp=Z,41nm,1.1s,comp=Z,2µmcomp=Z,5µm
BKNI Bangkinang 46.17 7 P **P** **20 06 59.5 +0.7**
BKNI Bangkinang 46.17 7 P **P** **20 06 58.2 -0.5**
BKNI Bangkinang 46.17 7 P **P** **20 06 57.4 -1.4**
BKNI S **S** **20 13 45.1 +0.6**
BKNI Bangkinang 46.17 7 P **P** **20 07 02.3 +3.5**
comp=Z,133nm,1.0s,comp=Z,3µmcomp=Z,6µm
VOI Vohitsoka 46.52 284 P **P** **20 07 03.5 +1.8**
VOI Vohitsoka 46.52 284 P **P** **20 06 59.6 -2.1**
VOI IAmb IAmb 20 07 12.7
comp=Z,103nm,1.4s
VOI IAMs_20 IAMs_20 20 21 18.5
comp=Z,26µm,21.0s
VOI Vohitsoka 46.52 284 *e*P **P** **20 06 57.3 -4.4**
VOI Vohitsoka 46.52 284 P **P** **20 07 02.0 +0.3**
GSI Gunungsitoli 46.95 2 P **P** **20 07 06.7 +1.8**
GSI Gunungsitoli 46.95 2 P **P** **20 07 04.6 -0.4**
GSI IAmb IAmb 20 07 24.1
comp=Z,141nm,1.4s
GSI IAMs_20 IAMs_20 20 22 20.3
comp=Z,13µm,20.0s
GSI Gunungsitoli 46.95 2 P **P** **20 07 09.4 +4.5**
comp=Z,87nm,1.8s,comp=Z,3µmcomp=Z,8µm
TPRI Tanjung Pinang 47.14 11 P **P** **20 07 08.4 +2.0**
comp=Z,42nm,1.1s,comp=Z,3µmcomp=Z,4µm
SBSI Sibolga 47.24 4 P **P** **20 07 09.5 +2.3**
comp=Z,86nm,0.8s,comp=Z,3µmcomp=Z,6µm
TTSI Tana Toraja 47.38 33 P **P** **20 07 10.0 +1.7**
comp=Z,106nm,1.7s,comp=Z,3µmcomp=Z,2µm
MTKI Muara Teweh, K 47.65 26 P **P** **20 07 11.1 +0.7**
comp=Z,143nm,1.5s,comp=Z,5µmcomp=Z,4µm
STKI Sintang 47.67 21 P **P** **20 07 12.9 +2.4**
comp=Z,67nm,1.5s,comp=Z,14µm
MYKOM Kota Tinggi 47.91 10 P **P** **20 07 10.6 -1.7**
MYKOM IAmb IAmb 20 07 15.1
comp=Z,127nm,1.6s
MYKOM IAMs_20 IAMs_20 20 23 13.8
comp=Z,18µm,22.0s
BKB Balikpapan 47.99 28 P **P** **20 07 14.3 +1.3**
DCZ Deep Cove 48.08 117 P **P** **20 07 12.6 -0.8**
DCZ IAmb IAmb 20 07 31.4
comp=Z,80nm,1.3s
DCZ IAMs_20 IAMs_20 20 22 39.5
comp=Z,13µm,20.0s
EIDS Eidsvold 48.08 84 P **P** **20 07 12.9 -0.8**
EIDS IAmb IAmb 20 07 17.2
comp=Z,84nm,1.5s
EIDS IAMs_20 IAMs_20 20 24 40.2
comp=Z,17µm,20.0s
ABPO Ambohimpanom 48.23 287 P **P** **20 07 13.3 -1.8**
ABPO Ambohimpanom 48.23 287 IAMs_20 IAMs_20 20 23 37.7
comp=Z,14µm,18.0s
ABPO Ambohimpanom 48.23 287 P **P** **20 07 13.3 -1.8**
ABPO pmax pmax
comp=Z,88nm,1.9s
ABPO MLR MLR
comp=Z,14µm,18.0s
TROLL Troll, Antarti 48.25 205 ⇑P **P** **20 07 15.0 +0.4**
comp=Z,2µm,0.8s
TROLL ⇑S **S** **20 14 10.5 -2.9**
comp=Z,42nm,0.7s
CTA Charters Tower 48.27 75 P **P** **20 07 15.6 +0.4**
comp=Z,14nm,0.9s,baz=270,slow=1.6,SNR=4.7
CTA LR LR 20 26 12.3
comp=Z,15µm,19.3s,baz=181,slow=34
comp=Z,14nm,0.9s
CTAO Charters Tower 48.27 75 P **P** **20 07 15.9 +0.7**
CTAO Charters Tower 48.27 75 P **P** **20 07 14.0 -1.2**
CTAO IAmb IAmb 20 07 32.3
comp=Z,200nm,1.7s
CTAO Charters Tower 48.27 75 IAMs_20 IAMs_20 20 25 59.3
comp=Z,15µm,19.0s
CTAO Charters Tower 48.27 75 P **P** **20 07 14.0 -1.2**
CTAO pmax pmax
comp=Z,201nm,1.7s
CTAO MLR MLR
comp=Z,15µm,19.0s
MTSU Mount Surprise 48.35 71 P **P** **20 07 18.0 +2.2**
WHZ Wether Hill Ro 48.38 117 IAMs_20 IAMs_20 20 22 51.4
comp=Z,15µm,21.0s
MLZ Mavora Lakes 48.73 117 IAMs_20 IAMs_20 20 23 00.7
comp=Z,16µm,22.0s
KSM Kuching 48.74 19 P **P** **20 07 18.9 +0.1**
KSM Kuching 48.74 19 P **P** **20 07 17.8 -1.1**
KSM IAmb IAmb 20 07 36.0
comp=Z,82nm,1.4s
KCSI Kotacane, Aceh 49.16 2 P **P** **20 07 24.3 +2.3**
comp=Z,50nm,1.0s,comp=Z,2µm
AUAYR Ayr State High 49.41 76 P **P** **20 07 26.2 +2.3**
WKZ Wanaka 49.54 117 IAMs_20 IAMs_20 20 23 25.3
comp=Z,21µm,22.0s
SNAA Sanae 49.93 204 P **P** **20 07 26.8 -0.5**
SNAA IAMs_20 IAMs_20 20 28 05.5
comp=Z,17µm,18.0s
SNAA Sanae 49.93 204 *e*P **P** **20 07 27.1 -0.2**
SNAA Sanae 49.93 204 ⇑P **P** **20 07 27.7 +0.3**
comp=Z,790nm,0.8s
SNAA ⇑S **S** **20 14 38.6 +1.8**
comp=Z,0.2nm,0.2s
SNAA Sanae 49.93 204 P **P** **20 07 26.8 -0.5**
SNAA pmax pmax
comp=Z,306nm,1.5s
SNAA MLR MLR
comp=Z,17µm,18.0s
SNAA Sanae 49.93 204 P **P** **20 07 27.4 0.0**
comp=Z,40nm,0.8s,baz=142,slow=9.1,SNR=32
SNAA LR LR 20 25 59.9
comp=Z,14µm,21.3s,baz=102,slow=33
comp=Z,40nm,0.8s
IPM Ipoh 50.28 6 P **P** **20 07 30.2 -0.3**
IPM Ipoh 50.28 6 P **P** **20 07 29.4 -1.1**
LUWI Luwuk 50.37 36 P **P** **20 07 33.1 +1.9**
LUWI Luwuk 50.37 36 P **P** **20 07 30.7 -0.5**
LUWI Luwuk 50.37 36 P **P** **20 07 30.4 -0.9**
LUWI S **S** **20 14 44.1 +0.1**
LUWI Luwuk 50.37 36 P **P** **20 07 34.8 +3.6**
comp=Z,129nm,1.6s,comp=Z,3µm
ODZ Otahua Downs 50.45 118 P **P** **20 07 29.5 -2.0**
ODZ IAMs_20 IAMs_20 20 24 16.3
comp=Z,14µm,20.0s
KAAM Kaadhehdhoo 50.46 329 P **P** **20 07 30.7 -1.1**
KAAM IAmb IAmb 20 07 43.9
comp=Z,156nm,1.1s
KAAM IAMs_20 IAMs_20 20 22 52.4
comp=Z,15µm,22.0s
KAAM Kaadhehdhoo 50.46 329 P **P** **20 07 31.0 -0.8**
LBZ Lake Benmore 50.48 117 IAMs_20 IAMs_20 20 24 04.2
comp=Z,19µm,21.0s
COEN Coen 50.65 67 IAMs_20 IAMs_20 20 26 36.2
comp=Z,22µm,22.0s
LHMI Lhok Sumawe 50.84 1 P **P** **20 07 33.1 -1.6**
LHMI IAmb IAmb 20 07 38.2
comp=Z,101nm,0.9s
SANI Sanana 50.84 40 P **P** **20 07 35.1 +0.3**
SANI Sanana 50.84 40 P **P** **20 07 33.0 -1.7**
SANI S **S** **20 14 51.0 +0.4**
SANI Sanana 50.84 40 P **P** **20 07 35.3 +0.5**
comp=Z,54nm,1.5s,comp=Z,2µmcomp=Z,3µm
RPZ Rata Peaks 51.36 116 IAMs_20 IAMs_20 20 24 41.5
comp=Z,12µm,21.0s
RPZ Rata Peaks 51.36 116 LR LR 20 25 02.9
comp=Z,11µm,21.3s,baz=240,slow=31
MRSI Marisa 51.42 34 P **P** **20 07 39.7 +0.6**
comp=Z,59nm,1.1s,comp=Z,3µmcomp=Z,3µm
TOLI2 Tolitoli 51.56 32 P **P** **20 07 40.0 -0.2**
TOLI2 Tolitoli 51.56 32 P **P** **20 07 38.7 -1.6**
TOLI2 IAmb IAmb 20 07 54.5
comp=Z,158nm,1.5s
VNA2 Neumayer--Watz 51.58 204 ⇑P **P** **20 07 39.9 +0.2**
comp=Z,41nm,0.7s,baz=120,slow=8.0
VNA2 ⇑S **S** **20 15 00.2 +0.6**
comp=Z,2.5nm,0.8s,baz=274,slow=28
VNA1 Neumayer--Stat 51.97 204 ⇑P **P** **20 07 42.8 +0.3**
comp=Z,35nm,0.8s
GTOI Gorontalo 51.99 35 P **P** **20 07 44.5 +1.1**
comp=Z,44nm,1.6s,comp=Z,2µm
VNA3 Neumayer Olymp 52.05 203 ⇑P **P** **20 07 43.6 +0.3**
comp=Z,36nm,0.8s
VNA3 ⇓S **S** **20 15 05.3 -0.9**
comp=Z,3µm,6.9s
OXZ Oxford 52.17 116 P **P** **20 07 43.7 -0.8**
KMSI Cibinong 52.33 36 P **P** **20 07 48.7 +2.8**
comp=Z,259nm,1.8s,comp=Z,5µmcomp=Z,3µm
MQZ McQueen's Vall 52.37 117 IAMs_20 IAMs_20 20 25 13.2
comp=Z,15µm,22.0s
LTZ Lake Taylor 52.60 116 P **P** **20 07 47.3 -0.5**
LBMI Labuha 52.78 41 P **P** **20 07 50.9 +1.7**
comp=Z,192nm,1.8s,comp=Z,5µm
BELA Belgrano 2 52.96 192 P **P** **20 07 49.1 -0.8**
FAKI Fak Fak 53.10 47 P **P** **20 07 53.5 +1.9**
FAKI Fak Fak 53.10 47 P **P** **20 07 50.5 -1.2**
FAKI Fak Fak 53.10 47 P **P** **20 07 53.6 +1.9**
comp=Z,137nm,1.8s,comp=Z,4µm
QRZ Quartz Range 53.80 114 P P 20 08 01.8 +5.2
TNTI Ternate 53.97 40 P **P** **20 07 58.8 +0.8**
TNTI Ternate 53.97 40 P **P** **20 07 56.2 -1.8**
TNTI Ternate 53.97 40 P **P** **20 08 00.1 +2.1**
comp=Z,50nm,1.6s,comp=Z,2µm
MSEY Mahe Island 54.10 307 P **P** **20 07 57.0 -2.0**
MSEY Mahe Island 54.10 307 IAMs_20 IAMs_20 20 25 03.8
comp=Z,18µm,22.0s
MSEY Mahe Island 54.10 307 P **P** **20 07 59.7 +0.7**
MSEY Mahe Island 54.10 307 *e*P **P** **20 07 55.5 -3.5**
MSEY Mahe Island 54.10 307 P **P** **20 07 57.0 -2.0**
MSEY pmax pmax
comp=Z,78nm,1.5s
MSEY MLR MLR
comp=Z,18µm,22.0s
MSEY Mahe Island 54.10 307 P **P** **20 07 59.7 +0.7**
MSEY P **P** **20 07 59.7 +0.7**
MSEY S **S** **20 15 37.6 +2.3**
MSEY S **S** **20 15 37.6 +2.3**
SRIT Nakonsritamara 54.27 4 P **P** **20 07 58.9 -1.2**
SRIT Nakonsritamara 54.27 4 P **P** **20 07 58.6 -1.5**
SRIT IAmb IAmb 20 08 02.4
comp=Z,193nm,1.7s
SWI Sorong 54.37 45 P **P** **20 08 04.2 +3.3**
comp=Z,75nm,1.9s,comp=Z,2µm
PALK Pallekele 54.65 341 P **P** **20 08 01.0 -1.9**
PALK IAmb IAmb 20 08 05.3
comp=Z,115nm,1.6s
PALK Pallekele 54.65 341 IAMs_20 IAMs_20 20 25 31.0
comp=Z,13µm,21.0s
PALK Pallekele 54.65 341 P **P** **20 08 01.0 -1.9**
PALK pmax pmax
comp=Z,115nm,1.7s
PALK MLR MLR
comp=Z,13µm,21.0s
PALK Pallekele 54.65 341 LR LR 20 25 53.0
comp=Z,14µm,21.4s,baz=278,slow=30
PALK Pallekele 54.65 341 P **P** **20 08 02.7 -0.3**
PALK S **S** **20 15 43.0 +0.5**
KKM Kota Kinabalu 54.67 25 P **P** **20 08 02.4 -0.8**
SURA Surathani 54.84 4 P **P** **20 08 03.3 -0.9**
MALK Mahakanadarawa 55.77 341 P **P** **20 08 08.7 -2.3**
MALK S **S** **20 15 56.8 -0.7**
HMDM Hanimaadhoo 56.26 332 IAMs_20 IAMs_20 20 27 05.5
comp=Z,12µm,19.0s
BFON Badsfontein, M 56.34 257 *e*P **P** **20 08 13.9 -1.3**
BFON IAmb IAmb 20 08 29.7
comp=Z,81nm,1.4s
PMG Port Moresby 56.62 67 P **P** **20 08 16.7 -0.5**
PMG IAmb IAmb 20 08 20.4
comp=Z,250nm,1.9s
PMG Port Moresby 56.62 67 IAMs_20 IAMs_20 20 30 49.4
comp=Z,11µm,20.0s
PMG Port Moresby 56.62 67 P **P** **20 08 16.7 -0.5**
PMG pmax pmax
comp=Z,250nm,2.0s
PMG MLR MLR
comp=Z,11µm,20.0s
PMG Port Moresby 56.62 67 LR LR 20 31 09.9
comp=Z,11µm,18.9s,baz=216,slow=35
RUST Rust De Winter 57.03 267 *e*P **P** **20 08 19.2 -1.0**
RUST IAmb IAmb 20 08 31.1
comp=Z,72nm,1.2s
BOSA Boshof 57.19 261 P **P** **20 08 19.8 -1.5**
BOSA IAmb IAmb 20 08 47.7
comp=Z,177nm,1.9s
BOSA IAMs_20 IAMs_20 20 26 41.1
comp=Z,16µm,22.0s
BOSA Boshof 57.19 261 *e*P **P** **20 08 24.4 +3.1**
BOSA Boshof 57.19 261 P **P** **20 08 19.8 -1.5**
BOSA pmax pmax
comp=Z,177nm,1.9s
BOSA MLR MLR
comp=Z,16µm,22.0s
BOSA Boshof 57.19 261 P **P** **20 08 19.6 -1.7**
comp=Z,14nm,1.1s,baz=127,slow=7.3,SNR=12
BOSA LR LR 20 27 02.1
comp=Z,15µm,21.6s,baz=140,slow=30
comp=Z,14nm,1.1s
HRAO HartRAO 57.20 265 *e*P **P** **20 08 19.6 -1.8**
BKZ Black Stump Fm 57.25 114 P **P** **20 08 23.6 +2.1**
PBA Port Blair 57.31 356 *e*P **P** **20 08 22.0 +0.2**
PBA *i* x x 20 24 39.1
PBA IAMs_20 IAMs_20 20 25 27.2
comp=Z,11µm,40.8s
TOZ Tahuroa Road 57.44 112 P **P** **20 08 21.9 -0.8**
TOZ IAmb IAmb 20 08 49.8
comp=Z,186nm,2.0s
TOZ IAMs_20 IAMs_20 20 28 55.4
comp=Z,10µm,19.0s
MATJ Matjiesfontein 57.57 254 *e*P **P** **20 08 24.7 +0.9**
MATJ IAmb IAmb 20 08 27.7
comp=Z,946nm,2.5s
MNCY Minicoy 57.71 333 *e*P **P** **20 08 23.3 -1.4**
MNCY *i* x x 20 24 56.6
MNCY IAMs_20 IAMs_20 20 27 12.0
comp=Z,14µm,16.4s
SUR Sutherland 57.94 255 P **P** **20 08 25.1 -1.5**
SUR IAmb IAmb 20 09 11.0
comp=Z,135nm,1.8s
SUR Sutherland 57.94 255 *e*P **P** **20 08 23.6 -3.0**
SUR IAmb IAmb 20 08 29.6
comp=Z,4µm,4.5s
SUR Sutherland 57.94 255 LR LR 20 28 41.5
comp=Z,19µm,18.2s,baz=136,slow=31
SUR Sutherland 57.94 255 P **P** **20 08 24.5 -2.1**
SUR S **S** **20 16 32.5 +6.0**
NHAM Northam, North 58.08 266 *e*P **P** **20 08 26.8 -0.7**
NHAM IAmb IAmb 20 08 38.4
comp=Z,66nm,1.4s
URZ Urewera 58.17 114 LR LR 20 30 20.2
comp=Z,10µm,18.1s,baz=316,slow=33
KOD Kodaikanal 58.29 338 *e*P **P** **20 08 30.6 +1.4**
KOD IAMs_20 IAMs_20 20 27 00.5
comp=Z,19µm,21.7s
DGPR DIGLIPUR 58.81 356 *e*P **P** **20 08 29.2 -3.2**
DGPR *i* x x 20 25 33.0
DGPR IAMs_20 IAMs_20 20 31 19.9
comp=Z,12µm,24.6s
DAV Davao City (W) 58.87 35 P **P** **20 08 32.0 -0.9**
MTLB Matlabas, Limp 58.97 267 *e*P **P** **20 08 31.7 -2.0**
MTLB IAmb IAmb 20 08 49.9
comp=Z,214nm,1.9s
LBTB Lobatse 59.21 265 P **P** **20 08 33.4 -2.0**
LBTB Lobatse 59.21 265 *e*P **P** **20 08 34.9 -0.6**
LBTB IAmb IAmb 20 08 38.0
comp=Z,350nm,2.5s
LBTB Lobatse 59.21 265 P **P** **20 08 33.4 -2.0**
LBTB pmax pmax
comp=Z,51nm,1.4s
LBTB MLR MLR
comp=Z,19µm,18.0s
LBTB Lobatse 59.21 265 LR LR 20 28 33.6
comp=Z,15µm,21.2s,baz=136,slow=30
MXZ Matakaoa Point 59.34 114 IAMs_20 IAMs_20 20 31 16.8
comp=Z,13µm,18.0s
SRDT SRDT 59.96 3 P **P** **20 08 40.3 0.0**
NAYO Nakonayok 60.05 6 P **P** **20 08 42.1 +1.2**
KOUNC Koumac, New Ca 60.43 90 P **P** **20 08 47.1 +3.4**
KOUNC Koumac, New Ca 60.43 90 P **P** **20 08 43.8 +0.1**
KOUNC IAMs_20 IAMs_20 20 31 27.2
comp=Z,16µm,20.0s
NOUC Port Laguerre 60.82 92 P **P** **20 08 49.8 +3.5**
DZM Mont Dzumac 60.94 92 IAMs_20 IAMs_20 20 31 10.5
comp=Z,9µm,19.0s
DZM Mont Dzumac 60.94 92 *e*P **P** **20 08 42.8 -4.5**
comp=Z,371nm,23.5s
DZM Mont Dzumac 60.94 92 P **P** **20 08 49.4 +2.1**
comp=Z,10nm,0.8s,baz=238,slow=19,SNR=2.5
DZM LR LR 20 31 22.3
comp=Z,8µm,19.6s,baz=256,slow=32
comp=Z,10nm,0.8s
OUENC Ouen Island, N 60.99 93 P **P** **20 08 50.7 +3.2**
OUENC Ouen Island, N 60.99 93 P **P** **20 08 46.3 -1.2**
OUENC IAmb IAmb 20 08 52.8
comp=Z,117nm,1.4s
OUENC IAMs_20 IAMs_20 20 29 30.9
comp=Z,11µm,22.0s
PINNC Pines Island, 61.28 94 IAMs_20 IAMs_20 20 31 52.7
comp=Z,13µm,20.0s
UBPT Khong Chiam 61.41 10 P **P** **20 08 51.0 +0.8**
UBPT Khong Chiam 61.41 10 P **P** **20 08 50.2 0.0**
UBPT IAmb IAmb 20 08 53.2
comp=Z,142nm,1.8s

UBPT IAMs_20 IAMs_20 20 32 15.7
comp=Z,13µm,20.0s
VJD Vijayawada 63.63 343 *e*P **P** **20 09 04.7 -0.3**
TGY Tagaytay City 63.72 27 LR LR 20 33 50.7
comp=Z,2µm,21.9s,baz=191,slow=33
LSZ Lusaka 63.87 275 P **P** **20 09 05.2 -1.8**
LSZ Lusaka 63.87 275 P **P** **20 09 05.2 -1.8**
LSZ pmax pmax
comp=Z,221nm,1.5s
LSZ MLR MLR
comp=Z,18µm,21.0s
LSZ Lusaka 63.87 275 LR LR 20 31 50.0
comp=Z,17µm,20.0s,baz=140,slow=31
LSZ Lusaka 63.87 275 P **P** **20 09 06.9 -0.1**
LSZ P **P** **20 09 06.9 -0.1**
LSZ S **S** **20 17 46.0 +3.8**
LSZ S **S** **20 17 46.0 +3.8**
NONG Nongkai 63.91 7 P **P** **20 09 06.6 -0.2**
CM31 Chiang Mai Arr 64.04 3 P **P** **20 09 06.5 -1.2**
CM31 IAmb IAmb 20 09 25.1
comp=Z,113nm,1.3s
CMAR Chiang Mai Arr 64.04 3 P **P** **20 09 06.1 -1.6**
CMAR Chiang Mai Arr 64.04 3 *i* P **P** **20 09 07.0 -0.7**
CMAR pmax pmax
comp=Z,17nm,1.1s
CMAR Chiang Mai Arr 64.04 3 P **P** **20 09 06.8 -0.9**
comp=Z,17nm,1.1s,baz=200,slow=5.6,SNR=44
CMAR LR LR 20 32 13.2
comp=Z,14µm,21.9s,baz=195,slow=32
CMAR PKP2bc 20 38 07.8
comp=Z,0.1nm,0.3s,baz=343,slow=2.8,SNR=4.1
comp=Z,17nm,1.1s
PHRA Phrae 64.13 4 P **P** **20 09 07.9 -0.5**
GOA Goa 64.30 336 *e*P **P** **20 09 08.8 -0.6**
GOA *i* x x 20 27 51.4
GOA IAMs_20 IAMs_20 20 28 49.3
comp=Z,24µm,32.8s
GOA IAMs_20 IAMs_20 20 33 00.3
comp=Z,13µm,20.5s
VIS Vishakhapatnam 64.31 346 *e*P **P** **20 09 07.9 -1.6**
VIS *i* x x 20 27 58.7
VIS IAMs_20 IAMs_20 20 29 55.2
comp=Z,8µm,26.2s
HYB Hyderabad 64.94 341 *e*P **P** **20 09 13.2 -0.5**
HYB IVmB_BB 20 09 14.3
comp=Z,1µm,6.9s
HYB *e*S **S** **20 17 54.3 -0.7**
HYB IVMs_BB IVMs_BB 20 41 37.3
comp=Z,3µm,14.9s
HYB Hyderabad 64.94 341 *e*P **P** **20 09 12.6 -1.1**
HNR Honiara 65.10 77 P **P** **20 09 13.6 -1.3**
HNR Honiara 65.10 77 P **P** **20 09 13.6 -1.3**
HNR pmax pmax
comp=Z,182nm,1.2s
HNR MLR MLR
comp=Z,17µm,20.0s
HNR Honiara 65.10 77 LR LR 20 36 08.1
comp=Z,219µm,18.7s,baz=244,slow=35
QIZ Qiongzhong 65.74 14 P **P** **20 09 19.6 +0.8**
QIZ PP **PP** **20 11 43.3 -0.5**
QIZ S **S** **20 18 07.1 +2.5**
QIZ SS **SS** **20 22 23.4 +3.8**
QIZ pmax pmax
comp=Z,31nm,2.3s
QIZ pmax pmax
comp=Z,1µm,6.2s
QIZ LR LR
comp=Z,5µm,21.0s
QIZ LR LR
comp=Z,2µm,21.8s
QIZ LR LR
comp=Z,8µm,22.9s
QIZ Qiongzhong 65.74 14 IAMs_20 IAMs_20 20 33 52.3
comp=Z,9µm,22.0s
CRAI Chiangrai 65.86 4 P **P** **20 09 18.2 -1.3**
KAD Karad 65.92 337 *e*P **P** **20 09 17.6 -2.5**
KAD IAmb IAmb 20 09 21.1
comp=Z,24nm,1.0s
KIBK Kibwezi 66.54 292 P **P** **20 09 22.6 -1.7**
KIBK IAMs_20 IAMs_20 20 31 45.1
comp=Z,8µm,20.0s
KIBK Kibwezi 66.54 292 P **P** **20 09 24.9 +0.6**
KIBK S **S** **20 18 14.0 -1.0**
KIBK Kibwezi 66.54 292 P **P** **20 09 25.3 +1.1**
WIN Windhoek 66.70 261 P **P** **20 09 23.9 -1.5**
WIN IAmb IAmb 20 09 37.0
comp=Z,94nm,1.8s
WIN Windhoek 66.70 261 P **P** **20 09 23.9 -1.5**
WIN pmax pmax
comp=Z,94nm,1.8s
WIN MLR MLR
comp=Z,23µm,21.0s
SZP Santa 66.82 25 P **P** **20 09 27.6 +1.9**
RAO Raoul Island 66.99 109 IAMs_20 IAMs_20 20 34 47.2
comp=Z,7µm,19.0s
RAO Raoul Island 66.99 109 LR LR 20 35 07.8
comp=Z,5µm,18.2s,baz=200,slow=33
POO Poona 67.18 337 *e*P **P** **20 09 24.8 -3.3**
POO *i* x x 20 29 21.7
SLVN Son La 67.22 8 P **P** **20 09 27.1 -1.2**
SLVN IAmb IAmb 20 09 42.0
comp=Z,71nm,1.4s
SLVN IAMs_20 IAMs_20 20 36 59.4
comp=Z,7µm,20.0s
MND Mandalay 67.53 360 P **P** **20 09 28.7 -1.4**
SAIH SAIHA 68.06 357 *e*P **P** **20 09 32.8 -0.8**
JHSG JHARSUGUGA 68.21 348 *e*P **P** **20 09 34.3 -0.1**
JHSG IAmb IAmb 20 09 38.0
comp=Z,114nm,1.1s
AKL Akola 68.47 341 *e*P **P** **20 09 34.6 -1.4**
AKL IAmb IAmb 20 09 47.8
comp=Z,101nm,1.6s
TSUM Tsumeb 68.61 264 P **P** **20 09 36.0 -1.4**
TSUM IAmb IAmb 20 09 49.4
comp=Z,54nm,1.2s
TSUM Tsumeb 68.61 264 IAMs_20 IAMs_20 20 34 15.6
comp=Z,12µm,19.0s
TSUM Tsumeb 68.61 264 *e*P **P** **20 09 36.3 -1.1**
TSUM IAmb IAmb 20 09 48.4
comp=Z,55nm,1.2s
TSUM Tsumeb 68.61 264 LR LR 20 34 36.7
comp=Z,11µm,19.3s,baz=140,slow=32
PMSA Palmer Station 68.65 189 LR LR 20 40 44.0
comp=Z,27µm,18.3s,baz=140,slow=37
BELO BELONIA 68.89 355 *e*P **P** **20 09 39.8 +1.2**
AGT Agartala 69.53 355 *e*P **P** **20 09 42.9 +0.3**
BOK Bokaro 69.92 350 *e*P **P** **20 09 43.7 -1.3**
BOK *i* x x 20 30 28.8
BOK IAMs_20 IAMs_20 20 31 15.8
comp=Z,12µm,34.8s
GZH Guangzhou 70.35 17 *e*P P 20 09 54.1 +6.4
GZH S S 20 19 10.9 +11
GZH pmax pmax
comp=Z,21nm,1.3s
GZH LR LR
comp=Z,630nm,15.5s
GZH LR LR
comp=Z,770nm,15.9s
IMP Imphal 70.36 358 *e*P **P** **20 09 46.4 -1.4**
IMP IAmb IAmb 20 09 52.1
comp=Z,14nm,0.6s
TNCH TengChong 70.56 2 ⇑P **P** **20 09 48.5 -0.6**
TNCH pP sP 20 09 54.9 +1.0
TNCH sP pwP 20 09 58.0 +1.4
TNCH PP **PP** **20 12 29.0 +3.2**
TNCH S **S** **20 19 01.0 -1.3**
TNCH sS sS 20 19 10.3 +2.1
TNCH pmax pmax
comp=Z,110nm,1.8s
TNCH pmax pmax
comp=Z,1µm,6.6s
TNCH LR LR
comp=Z,2µm,17.7s
TNCH LR LR
comp=Z,2µm,18.4s
TNCH LR LR
comp=Z,8µm,25.3s
KMI Kunming 70.87 6 ⇑P **P** **20 09 51.9 +0.8**
KMI PcP **PcP** **20 10 15.0 +3.4**
KMI S **S** **20 19 00.3 -5.7**
KMI SS **SS** **20 23 33.3 -6.1**
KMI pmax pmax
comp=Z,68nm,1.7s
KMI pmax pmax
comp=Z,1µm,6.1s

KMI LR LR
comp=Z,8µm,18.0s
KMI LR LR
comp=Z,5µm,18.0s
KMI LR LR
comp=Z,9µm,18.5s
SHL Shillong 71.17 356 *e*P **P** **20 09 50.9 -1.9**
SHL *i* x x 20 31 24.1
SHL IAMs_20 IAMs_20 20 33 54.2
comp=Z,7µm,29.1s
KOHI KOHIMA 71.24 358 *e*P **P** **20 09 51.8 -1.4**
MSVF Nonsavu 71.92 97 P **P** **20 10 01.0 +3.3**
MSVF Nonsavu 71.92 97 P **P** **20 09 57.2 -0.4**
MSVF IAmb IAmb 20 10 15.6
comp=Z,70nm,1.4s
MSVF Nonsavu 71.92 97⇑ *e*P **P** **20 10 00.9 +3.3**
MSVF pmax pmax
comp=Z,58nm,1.3s
GULI GuiLin 71.96 14 P **P** **20 09 58.4 +1.0**
GULI S **S** **20 19 19.0 +0.9**
GULI LR LR
comp=Z,3µm,20.6s
GULI LR LR
comp=Z,4µm,20.6s
TWGBT Beinan 71.98 24 P **P** **20 10 00.5 +2.9**
ALBI Allahabad 72.00 346 *e*P **P** **20 09 56.6 -1.0**
ALBI IAmb IAmb 20 10 01.6
comp=Z,16nm,0.4s
PZH PanZhiHua 72.17 5 P **P** **20 09 57.8 -1.0**
PZH S **S** **20 19 21.0 +0.2**
PZH sS **sS** **20 19 27.3 +0.6**
PZH SKS **SKSac** **20 20 00.8 -1.8**
PZH SS **SS** **20 24 02.6 +3.5**
PZH pmax pmax
comp=Z,40nm,1.9s
PZH pmax pmax
comp=Z,1µm,7.5s
PZH LR LR
comp=Z,6µm,22.1s
PZH LR LR
comp=Z,4µm,24.3s
PZH LR LR
comp=Z,8µm,23.0s
HARA HARA 72.43 304 *e*P P 20 10 05.6 +4.9
HARA *e*S **SKiKP** **20 19 32.8 -2.9**
HOPE Hope Point 72.45 207 P **P** **20 09 59.8 -0.3**
HOPE Hope Point 72.45 207 IAMs_20 IAMs_20 20 39 31.7
comp=Z,10µm,20.0s
HOPE Hope Point 72.45 207 P **P** **20 09 59.8 -0.3**
HOPE pmax pmax
comp=Z,345nm,1.9s
HOPE MLR MLR
comp=Z,10µm,20.0s
GYA Guiyang 72.58 10⇓ *i*P **P** **20 10 02.5 +1.3**
GYA sP pwP 20 10 12.5 +3.8
GYA S **S** **20 19 27.3 +1.8**
GYA SKS **SKKSac** **20 20 05.9 0.0**
GYA SS **SS** **20 24 09.5 +4.2**
GYA pmax pmax
comp=Z,68nm,2.0s
GYA pmax pmax
comp=Z,2µm,6.2s
GYA LR LR
comp=Z,5µm,20.5s
GYA LR LR
comp=Z,4µm,19.8s
GYA LR LR
comp=Z,9µm,19.9s
YULB Yu-li 72.59 24 P **P** **20 10 02.9 +1.7**
MBAR Mbarara 72.64 288 P **P** **20 10 01.3 -0.8**
MBAR Mbarara 72.64 288 IAMs_20 IAMs_20 20 37 19.1
comp=Z,10µm,20.0s
MBAR Mbarara 72.64 288⇓ *i*P **P** **20 10 03.8 +1.8**
MBAR pmax pmax
comp=Z,36nm,2.3s
MBAR Mbarara 72.64 288 P **P** **20 10 04.3 +2.3**
MBAR P **P** **20 10 04.3 +2.3**
MBAR Mbarara 72.64 288 *e*P **P** **20 10 00.2 -1.8**
MBAR *e*S **S** **20 19 30.6 +3.7**
LODK Lodwar 72.65 294 P **P** **20 10 01.5 -0.5**
LODK Lodwar 72.65 294 P **P** **20 10 03.7 +1.7**
SNR=11
LODK S **S** **20 19 30.0 +3.2**
LODK Lodwar 72.65 294 *e*P **P** **20 10 03.8 +1.9**
LODK *e*S **S** **20 19 29.5 +2.7**
LODK IAMs_20 IAMs_20 20 19 37.9
comp=N,2µm,13.0s
ITAN ITANAGAR 72.67 358 *e*P **P** **20 10 00.7 -0.8**
ITAN IAmb IAmb 20 10 04.6
comp=Z,168nm,1.3s
JHNI Jhansi 72.75 343 *e*P **P** **20 09 58.9 -3.2**
SSLB Suanglung 72.87 24 P **P** **20 10 04.3 +1.4**
ZIRO ZIRO 73.04 358 *e*P **P** **20 10 03.2 -0.8**
DILA Dilla 73.14 298 *e*P **P** **20 10 07.4 +2.5**
DILA *e*S **SKiKP** **20 19 34.6 -2.2**
QZH Quanzhou 73.34 21⇑ *i*P **P** **20 10 04.6 -1.0**
QZH S **SKiKP** **20 19 39.9 +3.5**
QZH pmax pmax
comp=Z,1µm,6.5s
QZH LR LR
comp=Z,2µm,19.6s
QZH LR LR
comp=Z,3µm,16.5s
QZH LR LR
comp=Z,3µm,20.6s
SHAO Shalim 73.39 320 P **P** **20 10 05.3 -0.8**
SHAO P **P** **20 10 05.3 -0.8**
SHAO S **S** **20 19 34.8 0.0**
SHAO S **S** **20 19 34.8 0.0**
NACB Ninganchiao 73.42 24 P **P** **20 10 06.5 +0.4**
NACB Ninganchiao 73.42 24 P **P** **20 10 04.7 -1.4**
NACB IAmb IAmb 20 10 14.2
comp=Z,52nm,1.0s
DMTO DMTO 73.43 319 P **P** **20 10 07.3 +1.0**
DMTO P **P** **20 10 07.3 +1.0**
DMTO S **SKiKP** **20 19 37.7 +0.9**
DMTO S **SKiKP** **20 19 37.7 +0.9**
RBK Rabkut 73.59 318 P **P** **20 10 05.3 -2.0**
RBK P **P** **20 10 05.3 -2.0**
RBK S **S** **20 19 35.3 -1.9**
RBK S **S** **20 19 35.3 -1.9**
GUMO Guam 73.64 50 LR LR 20 43 29.3
comp=Z,1µm,18.4s,baz=212,slow=37
ABTO Aybut 73.89 317 P **P** **20 10 08.7 -0.3**
ABTO P **P** **20 10 08.7 -0.3**
DGTI Dogotuki 74.07 97 P **P** **20 10 12.6 +2.3**
WHFO Wadi Hawf 74.15 318 P **P** **20 10 09.2 -1.4**
SNR=7.3
WHFO S **S** **20 19 45.4 +1.9**
DQM DQM 74.23 322 P **P** **20 10 11.6 +0.7**
SNR=9.8
DQM S **S** **20 19 42.9 -1.3**
ATD Arta Tunnel 74.49 305 P **P** **20 10 10.8 -1.9**
ATD IAMs_20 IAMs_20 20 37 05.3
comp=Z,6µm,20.0s
ATD Arta Tunnel 74.49 305 LR LR 20 37 26.0
comp=Z,315nm,19.6s,baz=134,slow=31
ATD Arta Tunnel 74.49 305 *e*P **P** **20 10 12.8 +0.2**
ATD *e*S **S** **20 19 50.0 +2.6**
ATD IAMs_20 IAMs_20 20 19 57.8
comp=N,9µm,6.7s
AJM Ajmer 74.58 340 *e*P **P** **20 10 10.8 -2.1**
AJM IAmb IAmb 20 10 14.1
comp=Z,18nm,0.6s
DOK Doka 74.59 319 P **P** **20 10 12.9 -0.2**
SNR=9.6
DOK P **P** **20 10 12.9 -0.2**
SNR=9.6
DOK S **S** **20 19 45.3 -3.0**
DOK S **S** **20 19 45.3 -3.0**
FURI Furi 74.83 300 *e*P **P** **20 10 18.2 +3.2**
FURI *e*S **S** **20 19 55.3 +3.4**
FURI IAMs_20 IAMs_20 20 20 06.6
comp=Z,3µm,8.5s
WLRA Wolmera 74.98 300 *e*P **P** **20 10 18.3 +2.3**
WLRA *e*S **S** **20 19 57.5 +3.8**
MHTO MHTO 74.99 323 P **P** **20 10 14.3 -1.0**
SNR=16
MHTO P **P** **20 10 14.3 -1.0**
SNR=16
MHTO S **S** **20 19 48.8 -3.8**
MHTO S **S** **20 19 48.8 -3.8**
CNSH ChangSha 75.23 15⇓ P **P** **20 10 18.0 +1.5**
CNSH S **S** **20 19 56.8 +1.9**

CNSH pmax pmax
comp=Z,43nm,1.8s
CNSH LR LR
comp=Z,3µm,18.0s
CNSH LR LR
comp=Z,3µm,18.4s
CNSH LR LR
comp=Z,4µm,18.5s
LSA Lhasa 75.31 356 P **P** **20 10 15.8 -1.8**
LSA IAmb IAmb 20 10 20.2
comp=Z,107nm,1.5s
LSA Lhasa 75.31 356 *i* P **P** **20 10 16.2 -1.4**
SNR=16
LSA Lhasa 75.31 356 P **P** **20 10 15.8 -1.8**
LSA pmax pmax
comp=Z,107nm,1.5s
LSA MLR MLR
comp=Z,5µm,19.0s
LSA Lhasa 75.31 356 P **P** **20 10 15.6 -2.0**
JLN Jalan Bani Buh 75.44 325 P **P** **20 10 18.7 +0.8**
SNR=20
JLN P **P** **20 10 18.7 +0.8**
SNR=20
JLN S **S** **20 19 54.7 -2.9**
JLN S **S** **20 19 54.7 -2.9**
KUDL Kundal 75.77 342 *e*P **P** **20 10 17.8 -1.8**
DESE Dese 76.02 302 *e*P **P** **20 10 26.3 +4.5**
DESE *e*S **S** **20 20 09.0 +4.0**
WBK Wadi Bani Khal 76.03 325 P **P** **20 10 22.3 +1.0**
SNR=17
WBK P **P** **20 10 22.3 +1.0**
SNR=17
WBK S **S** **20 20 06.6 +2.5**
WBK S **S** **20 20 06.6 +2.5**
NDI New Delhi 76.14 343 *e*P **P** **20 10 18.9 -2.9**
PATS Pohnpei 76.14 65 IAMs_20 IAMs_20 20 41 55.1
comp=Z,9µm,20.0s
JMDO Jabal Madar 76.17 324 P **P** **20 10 21.8 -0.3**
SNR=10.0
JMDO P **P** **20 10 21.8 -0.3**
SNR=10.0
JMDO S **S** **20 20 03.2 -2.4**
JMDO S **S** **20 20 03.2 -2.4**
LGTI Lohaghat 76.31 346 *e*P P 20 10 17.4 -5.2
PTH Pithoragarh 76.41 346 *e*P **P** **20 10 22.4 -1.1**
CD2 Chengdu 76.69 7 P **P** **20 10 24.3 -0.6**
CD2 S **S** **20 20 11.3 +0.1**
CD2 pmax pmax
comp=Z,50nm,1.7s
CD2 pmax pmax
comp=Z,1µm,7.0s
CD2 LR LR
comp=Z,2µm,19.6s
CD2 LR LR
comp=Z,650nm,11.1s
CD2 LR LR
comp=Z,8µm,16.2s
ENH Enshi 76.71 12 P **P** **20 10 24.6 -0.4**
ENH Enshi 76.71 12 P **P** **20 10 23.9 -1.1**
SMDO Samad 76.81 324 P **P** **20 10 26.4 +0.6**
SNR=26
SMDO P **P** **20 10 26.4 +0.6**
SNR=26
SMDO S **S** **20 20 10.2 -2.6**
SMDO S **S** **20 20 10.2 -2.6**
BSY Bisya 76.88 323 P **P** **20 10 26.3 +0.2**
SNR=18
BSY P **P** **20 10 26.3 +0.2**
SNR=18
BSY S **S** **20 20 10.7 -2.7**
BSY S **S** **20 20 10.7 -2.7**
BIDO Bidbid 77.19 325 P **P** **20 10 26.4 -1.4**
SNR=18
BIDO P **P** **20 10 26.4 -1.4**
SNR=18
BIDO S **S** **20 20 18.3 +1.6**
BIDO S **S** **20 20 18.3 +1.6**
DDI Dehra Dun 77.56 344 *e*P **P** **20 10 27.5 -2.3**
HOQ Hoqain 77.58 324 P **P** **20 10 30.2 +0.2**
SNR=16
HOQ P **P** **20 10 30.2 +0.2**
SNR=16
HOQ S **S** **20 20 19.7 -1.3**
HOQ S **S** **20 20 19.7 -1.3**
ARQ Araqi 77.68 323 P **P** **20 10 30.9 +0.3**
SNR=11
ARQ P **P** **20 10 30.9 +0.3**
SNR=11
ARQ S **S** **20 20 17.8 -4.4**
ARQ S **S** **20 20 17.8 -4.4**
UMZA Um Al Zommool 77.72 322 P **P** **20 10 30.8 +0.1**
UMZA P **P** **20 10 30.8 +0.1**
UMZA S **S** **20 20 20.7 -1.8**
UMZA S **S** **20 20 20.7 -1.8**
WHN Wuhan 77.79 16⇓ P **P** **20 10 32.0 +1.0**
WHN sP **PcP** **20 10 39.8 -1.1**
WHN S **S** **20 20 27.3 +4.4**
WHN pmax pmax
comp=Z,390nm,1.6s
WHN pmax pmax
comp=Z,2µm,6.6s
WHN LR LR
comp=Z,16µm,19.6s
WHN LR LR
comp=Z,3µm,15.6s
WHN LR LR
comp=Z,12µm,17.8s
JOW Kunigami 77.99 29 LR LR 20 41 19.9
comp=Z,2µm,22.0s,baz=212,slow=33
SOHO SOHO 78.39 324 *i* P **P** **20 10 34.5 0.0**
SNR=11
SOHO SOHO 78.39 324 P **P** **20 10 34.4 0.0**
SOHO S **S** **20 20 26.8 -2.9**
SMLA Simla 78.52 343 *e*P **P** **20 10 32.2 -2.8**
SMLA *i* x x 20 35 09.9
ALNE Al Ain 78.64 323 P **P** **20 10 35.4 -0.6**
USHA Ushuaia 78.86 189 LR LR 20 44 32.7
comp=Z,17µm,20.0s,baz=164,slow=35
ASHO Ashiyiah 79.07 323 P **P** **20 10 37.8 -0.4**
ASHO Ashiyiah 79.07 323 P **P** **20 10 38.5 +0.2**
ASHO P **P** **20 10 38.5 +0.2**
ASHO S **S** **20 20 36.5 -0.6**
ASHO S **S** **20 20 36.5 -0.6**
HATD Hatta, Dubai 79.17 323 *i* P **P** **20 10 37.8 -1.0**
SNR=13
HATD Hatta, Dubai 79.17 323 P **P** **20 10 36.8 -2.0**
SNR=9.0
HATD P **P** **20 10 36.8 -2.0**
SNR=9.0
HATD S **S** **20 20 34.4 -3.6**
HATD S **S** **20 20 34.4 -3.6**
MZWR Madinat Zayed 79.19 321 P **P** **20 10 39.4 +0.5**
MZWR P **P** **20 10 39.4 +0.5**
UOSS Minazif 79.24 324 P **P** **20 10 36.6 -2.6**
UOSS IAmb IAmb 20 10 49.9
comp=Z,124nm,1.9s
UOSS Minazif 79.24 324 *i* P **P** **20 10 36.8 -2.4**
SNR=8.7
UOSS Minazif 79.24 324 P **P** **20 10 39.2 +0.1**
UOSS S **S** **20 20 33.1 -5.7**
FAQ Al Faqa, Dubai 79.32 323 P **P** **20 10 39.4 -0.2**
ASUD Al Ashush, Dub 79.33 323 *i* P **P** **20 10 40.0 +0.3**
SNR=6.1
ASUD Al Ashush, Dub 79.33 323 P **P** **20 10 39.8 +0.2**
ASUD P **P** **20 10 39.8 +0.2**
ASUD S **S** **20 20 40.5 +0.8**
ASUD S **S** **20 20 40.5 +0.8**
JASK Jask - Hormozg 79.39 325 P **P** **20 10 40.2 +0.3**
SNR=5.4
MDH Madha 79.52 324 P **P** **20 10 40.0 -0.6**
MDH S **S** **20 20 38.9 -2.8**
MSFE Esma-Masafi 79.63 324 P **P** **20 10 41.7 +0.4**
DHRM DHARAMSHALA 79.78 343 *e*P **P** **20 10 39.8 -2.4**
SSE Sheshan 79.87 22 P **P** **20 10 43.6 +1.2**
SSE sP **sP** **20 10 48.4 +1.2**
SSE S **S** **20 20 48.4 +3.3**
SSE SS **SS** **20 25 53.8 -1.5**
SSE pmax pmax
comp=Z,16nm,0.7s
SSE pmax pmax
comp=Z,380nm,5.3s
SSE LR LR
comp=Z,800nm,18.4s
THN Thein Dam 80.07 343 *e*P **P** **20 10 42.9 -0.6**

NJ2	**Nanjing**	**80.21**	**19**	⇑P	**P**	**20 10 43.0**	**-1.2**
NJ2				sP	**pwP**	**20 10 51.8**	**+0.1**
NJ2				PP	**PP**	**20 13 48.8**	**+1.6**
NJ2				S	**S**	**20 20 49.3**	**+0.7**
NJ2				SKS	**SKSac**	**20 20 55.3**	**-5.8**
NJ2				SS	**SS**	**20 26 01.0**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,31nm,1.2s						
NJ2				pmax	pmax		
	comp=Z,980nm,6.9s						
NJ2				LR	LR		
	comp=Z,2μm,18.0s						
NJ2				LR	LR		
	comp=Z,2μm,20.8s						
NJ2				LR	LR		
	comp=Z,3μm,18.9s						
XAN	**Xi'an**	**80.34**	**11**	⇑P	**P**	**20 10 44.5**	**-0.5**
XAN				pP	sP	20 10 49.3	-0.5
XAN				S	**S**	**20 20 50.4**	**+0.3**
XAN				SKS	**SKSac**	**20 20 59.6**	**-2.5**
XAN				SS	**SS**	**20 25 59.8**	**-2.7**
XAN				pmax	pmax		
	comp=Z,120nm,1.8s						
XAN				pmax	pmax		
	comp=Z,2μm,3.8s						
XAN				LR	LR		
	comp=Z,9μm,20.9s						
XAN				LR	LR		
	comp=Z,7μm,19.2s						
XAN				LR	LR		
	comp=Z,11μm,20.6s						
EFI	**East Falkland**	**80.36**	**196**	IAMs_20	IAMs_20	20 43 34.2	
	comp=Z,9μm,20.0s						
TRNA	**Turayna**	**81.23**	**319**	S	**S**	**20 21 00.3**	**+0.7**
LYN	**LuoYang**	**81.36**	**14**	⇓P	**P**	**20 10 51.5**	**+1.2**
LYN				S	**S**	**20 21 02.3**	**+1.7**
LYN				pmax	pmax		
	comp=Z,57nm,1.5s						
LYN				pmax	pmax		
	comp=Z,2μm,6.2s						
LYN				LR	LR		
	comp=Z,8μm,22.3s						
LYN				LR	LR		
	comp=Z,7μm,23.3s						
LYN				LR	LR		
	comp=Z,14μm,21.6s						
SMRA	**Abu-Samra**	**81.42**	**319**	P	**P**	**20 10 50.9**	**+0.1**
	SNR=9.2						
SMRA				S	**S**	**20 21 03.1**	**+1.5**
GOMU	**GeErMu**	**81.67**	**359**	P	**P**	**20 10 52.5**	**+0.1**
GOMU				pP	PcP	20 10 59.0	+0.8
GOMU				sP	pwP	20 11 01.3	+1.4
GOMU				S	**S**	**20 21 06.8**	**+2.3**
GOMU				pmax	pmax		
	comp=Z,35nm,1.6s						
GOMU				LR	LR		
	comp=Z,1μm,20.9s						
GOMU				LR	LR		
	comp=Z,2μm,21.6s						
GOMU				LR	LR		
	comp=Z,3μm,21.2s						
TARA	**Tarawa**	**81.77**	**80**	IAMs_20	IAMs_20	20 41 44.2	
	comp=Z,6μm,22.0s						
NIL	**Nilore**	**81.79**	**341**	P	**P**	**20 10 50.0**	**-2.7**
NIL	**Nilore**	**81.79**	**341**	IAMs_20	IAMs_20	20 42 47.0	
	comp=Z,6μm,20.0s						
NIL	**Nilore**	**81.79**	**341**	P	**P**	**20 10 50.0**	**-2.7**
NIL				pmax	pmax		
	comp=Z,312nm,1.9s						
NIL				MLR	MLR		
	comp=Z,6μm,20.0s						
NIL	**Nilore**	**81.79**	**341**	P	**P**	**20 10 52.2**	**-0.5**
NIL				P	**P**	**20 10 52.2**	**-0.5**
LZH	**Lanzhou**	**81.84**	**6**	⇑P	**P**	**20 10 52.8**	**-0.3**
LZH				pP	PcP	20 10 58.9	+0.2
LZH				PP	**PP**	**20 13 56.0**	**-4.9**
LZH				S	**S**	**20 21 06.9**	**+1.0**
LZH				pmax	pmax		
	comp=Z,77nm,1.8s						
LZH				pmax	pmax		
	comp=Z,1μm,6.1s						
LZH				LR	LR		
	comp=Z,3μm,17.9s						
LZH				LR	LR		
	comp=Z,3μm,19.9s						
LZH				LR	LR		
	comp=Z,5μm,21.0s						
SHMA	**Al-Shehemyia**	**82.31**	**320**	P	**P**	**20 10 56.8**	**+1.3**
	SNR=5.1						
SHMA				S	**S**	**20 21 11.1**	**+0.4**
RAYN	**Ar Rayn**	**82.93**	**314**	P	**P**	**20 10 57.6**	**-1.3**
RAYN				IAmb	IAmb	20 11 11.9	
	comp=Z,156nm,1.8s						
RAYN	**Ar Rayn**	**82.93**	**314**	*i*P	**P**	**20 11 00.2**	**+1.3**
	SNR=13						
RAYN	**Ar Rayn**	**82.93**	**314**	P	**P**	**20 10 57.6**	**-1.3**
RAYN				pmax	pmax		
	comp=Z,157nm,1.8s						
RAYN	**Ar Rayn**	**82.93**	**314**	P	**P**	**20 10 59.5**	**+0.7**
RAYN				S	**SKSac**	**20 21 19.0**	**-1.1**
KBU	**Kabul Universi**	**83.63**	**338**	S	**SKSac**	**20 21 26.0**	**+1.5**
KBU				P	**P**	**20 10 59.3**	**-3.1**
KBL	**Kabul**	**83.67**	**338**	P	**P**	**20 11 00.8**	**-1.9**
KBL	**Kabul**	**83.67**	**338**	P	**P**	**20 11 00.8**	**-1.9**
KBL				pmax	pmax		
	comp=Z,157nm,1.5s						
KBL				MLR	MLR		
	comp=Z,16μm,22.0s						
KBL	**Kabul**	**83.67**	**338**	P	**P**	**20 11 01.6**	**-1.1**
	SNR=50						
KBL				P	**P**	**20 11 01.6**	**-1.1**
	SNR=50						
KBL				S	**S**	**20 21 23.3**	**-1.5**
KBL				S	**S**	**20 21 23.3**	**-1.5**
TIA	**Tai'an**	**83.83**	**17**	⇑P	**P**	**20 11 02.8**	**-0.4**
TIA				S	**S**	**20 21 29.3**	**+3.5**
TIA				pmax	pmax		
	comp=Z,21nm,2.2s						
TIA				pmax	pmax		
	comp=Z,520nm,7.3s						
TIA				LR	LR		
	comp=Z,2μm,18.6s						
TIA				LR	LR		
	comp=Z,1μm,16.9s						
TIA				LR	LR		
	comp=Z,2μm,22.6s						
RAR	**Rarotonga**	**84.34**	**115**	LR	LR	20 41 56.3	
	comp=Z,2μm,20.9s,baz=224,slow=31						
TIY	**Taiyuan**	**84.45**	**13**	*e*P	**P**	**20 11 06.8**	**+0.4**
TIY				PP	**PP**	**20 14 22.6**	**+0.4**
TIY				SKS	**SKSac**	**20 21 29.1**	**-0.3**
TIY				S	**SKKSac**	**20 21 33.8**	**-1.2**
TIY				pmax	pmax		
	comp=Z,42nm,2.3s						
TIY				pmax	pmax		
	comp=Z,660nm,5.8s						
TIY				LR	LR		
	comp=Z,6μm,19.9s						
TIY				LR	LR		
	comp=Z,2μm,19.2s						
TIY				LR	LR		
	comp=Z,7μm,20.6s						
HNS	**HongShan**	**84.53**	**15**	⇑P	**P**	**20 11 06.5**	**-0.1**
HNS				PP	**PP**	**20 14 26.8**	**+4.1**
HNS				S	**S**	**20 21 32.6**	**0.0**
HNS				pmax	pmax		
	comp=Z,70nm,1.6s						
HNS				pmax	pmax		
	comp=Z,860nm,4.3s						
HNS				LR	LR		
	comp=Z,3μm,25.0s						
HNS				LR	LR		
	comp=Z,1μm,25.0s						
HNS				LR	LR		
	comp=Z,5μm,24.7s						
JNU	**Nakatsue**	**84.64**	**29**	P	**P**	**20 11 08.3**	**+0.9**
JNU	**Nakatsue**	**84.64**	**29**	P	**P**	**20 11 06.5**	**-1.0**
JNU	**Nakatsue**	**84.64**	**29**	LR	LR	20 48 48.0	
	comp=Z,593nm,20.0s,baz=202,slow=36						
GTA	**Gaotai**	**84.93**	**3**	P	**P**	**20 11 07.8**	**-1.0**
GTA				PP	**PP**	**20 14 25.9**	**-0.2**
GTA				S	**SKSac**	**20 21 32.6**	**0.0**
GTA				sS	ScS	20 21 46.1	-1.5
GTA				SS	**SS**	**20 27 12.0**	**+1.3**
GTA				pmax	pmax		
	comp=Z,36nm,2.3s						
GTA				pmax	pmax		
	comp=Z,780nm,10.4s						
GTA				LR	LR		
	comp=Z,3μm,20.3s						
GTA				LR	LR		
	comp=Z,1μm,19.5s						
GTA				LR	LR		
	comp=Z,4μm,20.3s						
HRA	**Herat**	**85.53**	**332**	P	**P**	**20 11 10.2**	**-1.9**
TJN	**Taejon**	**86.54**	**25**	P	**P**	**20 11 18.5**	**+1.8**
TJN	**Taejon**	**86.54**	**25**	P	**P**	**20 11 15.9**	**-0.8**
TJN				IAMs_20	IAMs_20	20 50 05.3	
	comp=Z,7μm,20.0s						
TJN	**Taejon**	**86.54**	**25**	⇓*i*P	**P**	**20 11 17.8**	**+1.1**
AY03	**Cochrane**	**86.77**	**188**	P	**P**	**20 11 17.2**	**-0.9**
AY03				IAmb	IAmb	20 11 36.4	
	comp=Z,131nm,1.6s						
KSH	**Kashi**	**86.88**	**345**	P	P	20 11 13.0	-5.5
KSH				pP	PcP	20 11 17.3	-3.4
KSH				S	**SKSac**	**20 21 43.3**	**-1.5**
KSH				pmax	pmax		
	comp=Z,38nm,1.6s						
KSH				pmax	pmax		
	comp=Z,820nm,6.5s						
KSH				LR	LR		
	comp=Z,6μm,18.1s						
KSH				LR	LR		
	comp=Z,11μm,17.2s						
KSH				LR	LR		
	comp=Z,10μm,20.6s						
BTO	**Baotou**	**86.95**	**11**	*e*P	**P**	**20 11 18.5**	**-0.3**
BTO				pP	**sP**	**20 11 23.3**	**-0.3**
BTO				sP	**pwP**	**20 11 25.5**	**-0.8**
BTO				PP	**PP**	**20 14 45.6**	**+3.2**
BTO				SKS	**SKSac**	**20 21 44.6**	**-0.5**
BTO				S	**S**	**20 21 56.6**	**0.0**
BTO				sS	**ScS**	**20 22 05.4**	**+1.2**
BTO				pmax	pmax		
	comp=Z,180nm,1.7s						
BTO				pmax	pmax		
	comp=Z,2μm,5.1s						
BTO				LR	LR		
	comp=Z,16μm,19.7s						
BTO				LR	LR		
	comp=Z,4μm,18.7s						
BTO				LR	LR		
	comp=Z,17μm,19.7s						
BJT	**Baijiatuan**	**87.33**	**15**	P	**P**	**20 11 22.2**	**+1.7**
BJT	**Baijiatuan**	**87.33**	**15**	P	**P**	**20 11 19.8**	**-0.7**
BJT				IAmb	IAmb	20 11 51.0	
	comp=Z,60nm,1.5s						
BJT	**Baijiatuan**	**87.33**	**15**	P	**P**	**20 11 19.8**	**-0.7**
BJT				pmax	pmax		
	comp=Z,60nm,1.5s						
BJT				MLR	MLR		
	comp=Z,2μm,22.0s						
BJI	**Beijing**	**87.36**	**15**	P	**P**	**20 11 21.6**	**+1.0**
BJI				PP	**PP**	**20 14 46.8**	**+1.2**
BJI				S	**SKSac**	**20 21 50.6**	**+3.3**
BJI				SS	**SS**	**20 27 47.1**	**+1.1**
BJI				pmax	pmax		
	comp=Z,19nm,1.8s						
BJI				pmax	pmax		
	comp=Z,440nm,5.2s						
BJI				LR	LR		
	comp=Z,1μm,24.6s						
BJI				LR	LR		
	comp=Z,690nm,27.6s						
BJI				LR	LR		
	comp=Z,3μm,26.7s						
HHC	**Hu-ho-hao-te**	**87.40**	**12**	⇓*i*P	**P**	**20 11 21.6**	**+0.7**
HHC				sP	pwP	20 11 29.8	+1.3
HHC				PP	**PP**	**20 14 50.5**	**+4.4**
HHC				SKS	**SKSac**	**20 21 50.4**	**+2.6**
HHC				S	**ScS**	**20 22 05.9**	**-2.0**
HHC				pmax	pmax		
	comp=Z,35nm,1.1s						
HHC				pmax	pmax		
	comp=Z,320nm,6.5s						
HHC				LR	LR		
	comp=Z,5μm,22.0s						
HHC				LR	LR		
	comp=Z,5μm,20.1s						
HHC				LR	LR		
	comp=Z,9μm,21.6s						
DL2	**Dalian**	**87.41**	**20**	P	**P**	**20 11 20.4**	**-0.5**
DL2				PP	**PP**	**20 14 44.8**	**-1.2**
DL2				S	**SKSac**	**20 21 51.5**	**+3.8**
DL2				SS	**SS**	**20 27 45.8**	**-1.0**
DL2				pmax	pmax		
	comp=Z,750nm,6.9s						
DL2				LR	LR		
	comp=Z,3μm,17.7s						
DL2				LR	LR		
	comp=Z,1μm,14.1s						
DL2				LR	LR		
	comp=Z,3μm,17.6s						
SIMJ	**Simiganj**	**87.58**	**339**	P	**P**	**20 11 21.0**	**-0.9**
SIMJ				IAmb	IAmb	20 11 33.6	
	comp=Z,63nm,1.2s						
SIMJ				IAMs_20	IAMs_20	20 48 02.4	
	comp=Z,8μm,19.0s						
HJU	**Haeju**	**87.63**	**23**	P	**P**	**20 11 22.7**	**+0.7**
HJU				S	**SKSac**	**20 21 45.5**	**-3.6**
HJU				AmB			
	comp=Z,612nm,2.9s						
HJU				AMS	AMS		
	comp=Z,2μm,15.9s						
KSAR	**Wonju Array Be**	**87.68**	**25**	P	**P**	**20 11 21.9**	**-0.3**
KSAR	**Wonju Array Be**	**87.68**	**25**	P	**P**	**20 11 21.9**	**-0.3**
DRK	**Karamyk**	**87.70**	**341**	P	**P**	**20 11 21.9**	**-0.8**
KSRS	**Korea Array**	**87.71**	**25**	P	**P**	**20 11 22.4**	**0.0**
	comp=Z,14nm,1.2s,baz=205,slow=3.9,SNR=27						
KSRS				LR	LR	20 50 59.6	
	comp=Z,1μm,19.6s,baz=200,slow=36						
	comp=Z,14nm,1.2s						
KS19	**Wonju Array Si**	**87.73**	**25**	P	**P**	**20 11 22.6**	**+0.1**
KS19				IAmb	IAmb	20 11 25.9	
	comp=Z,92nm,1.6s						
JHJ	**Hachijo jima 2**	**87.95**	**35**	LR	LR	20 52 19.0	
	comp=Z,993nm,18.0s,baz=261,slow=37						
COYC	**Coyhaique**	**88.39**	**188**	P	**P**	**20 11 25.2**	**-0.6**
COYC				IAmb	IAmb	20 12 10.7	
	comp=Z,62nm,1.5s						
BTK	**Batken**	**88.47**	**341**	P	**P**	**20 11 25.4**	**-0.7**
BTK				IAmb	IAmb	20 11 37.8	
	comp=Z,70nm,1.4s						
BTK	**Batken**	**88.47**	**341**	P	**P**	**20 11 25.4**	**-0.7**
BTK				pmax	pmax		
	comp=Z,70nm,1.4s						
PYAG	**Pyongyang**	**88.59**	**23**	P	**P**	**20 11 27.3**	**+0.9**
PYAG				S	**SKSac**	**20 21 54.4**	**-0.4**
PYAG				AmB			
	comp=Z,446nm,3.3s						
PYAG				AMS	AMS		
	comp=Z,2μm,14.6s						
NRN	**Naryn**	**88.73**	**345**	IAMs_20	IAMs_20	20 47 12.7	
	comp=Z,7μm,21.0s						
TBI	**Tubuai**	**89.06**	**123**	*e*P	**P**	**20 11 29.8**	**+0.5**
	comp=Z,481nm,31.8s						
TBI	**Tubuai**	**89.06**	**123**	*e*S	**S**	**20 22 13.2**	**-4.4**
TBI	comp=Z,1μm,34.5s			*e*SS	**SS**	**20 28 18.7**	**+8.9**
	comp=Z,7μm,27.5s						
TBI				*e*LQ	LQ	20 35 28.0	
	comp=Z,27μm,36.8s						
TBI				*e*LR	LR	20 39 52.4	
	comp=Z,31μm,32.5s						
TBI				*e*LR	LR	20 39 55.4	
	comp=Z,6μm,32.0s						
SUJ	**Sinuiju**	**89.24**	**21**	P	**P**	**20 11 29.9**	**+0.4**
SUJ				S	**SKSac**	**20 22 00.1**	**+1.5**
SUJ				AmB			
	comp=Z,448nm,2.7s						
SUJ				AMS	AMS		
	comp=Z,2μm,16.7s						
PRZ	**Przheval'sk**	**89.35**	**347**	IAMs_20	IAMs_20	20 49 13.6	
	comp=Z,7μm,19.0s						
WMQ	**Urumqi**	**89.59**	**354**	⇑P	**P**	**20 11 31.0**	**-0.2**
WMQ				sP	pwP	20 11 44.1	+5.4
WMQ				PP	**PP**	**20 15 06.4**	**+2.9**
WMQ				SKS	**SKSac**	**20 22 01.3**	**+0.6**
WMQ				S	**ScS**	**20 22 23.8**	**-2.1**
WMQ				pmax	pmax		
	comp=Z,59nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,750nm,7.3s						
WMQ				LR	LR		
	comp=Z,4μm,21.5s						
WMQ				LR	LR		
	comp=Z,2μm,23.9s						
WMQ				LR	LR		
	comp=Z,7μm,22.9s						
SHLS	**Shalkode**	**89.84**	**348**	*e*P	**P**	**20 11 32.4**	**-0.1**
	comp=Z,26nm,1.3s,baz=348						
SHLS	**Shalkode**	**89.84**	**348**	*e*P	**P**	**20 11 32.3**	**-0.1**
SHLS				pmax	pmax		
	comp=Z,26nm,1.3s						
HHU	**Hamhung**	**89.89**	**24**	P	**P**	**20 11 33.6**	**+1.0**
UZB	**Uzynbulak**	**89.90**	**348**	*e*P	**P**	**20 11 32.8**	**0.0**
	comp=Z,32nm,1.4s,baz=348						
UZB	**Uzynbulak**	**89.90**	**348**	*e*P	**P**	**20 11 32.7**	**0.0**
UZB				pmax	pmax		
	comp=Z,32nm,1.4s						
SATY	**Saty**	**89.91**	**347**	*e*P	**P**	**20 11 32.6**	**-0.2**
	comp=Z,37nm,1.4s,baz=347						
SATY				*e*S	**SKSac**	**20 22 02.9**	**+0.2**
	baz=347						
SATY	**Saty**	**89.91**	**347**	*e*P	**P**	**20 11 32.6**	**-0.2**
SATY				*e*S	**SKSac**	**20 22 02.9**	**+0.2**
SATY				pmax	pmax		
	comp=Z,37nm,1.4s						
ZHN	**Zhinishke**	**90.01**	**347**	*e*P	**P**	**20 11 33.3**	**+0.1**
	comp=Z,31nm,1.4s,baz=347						
ZHN	**Zhinishke**	**90.01**	**347**	*e*P	**P**	**20 11 33.3**	**+0.1**
ZHN				pmax	pmax		
	comp=Z,31nm,1.4s						
TNSS	**Tian-Shan**	**90.12**	**346**	*e*P	**P**	**20 11 34.2**	**+0.1**
	baz=346						
TNSS	**Tian-Shan**	**90.12**	**346**	*e*P	**P**	**20 11 34.2**	**+0.1**
GEYT	**Alibeck**	**90.13**	**331**	P	**P**	**20 11 32.2**	**-1.6**
GEYT				IAmb	IAmb	20 11 45.6	
	comp=Z,132nm,2.0s						
GEYT	**Alibeck**	**90.13**	**331**	P	**P**	**20 11 32.2**	**-1.6**
GEYT				pmax	pmax		
	comp=Z,132nm,2.0s						
GEYT	**Alibeck**	**90.13**	**331**	P	**P**	**20 11 33.2**	**-0.6**
	comp=Z,3.5nm,0.7s,baz=141,slow=7.5,SNR=5.9						
GEYT				LR	LR	20 46 49.3	
	comp=Z,4μm,20.7s,baz=156,slow=32						
	comp=Z,3.5nm,0.7s						
GYA0B	**ALIBECK ARRAY**	**90.13**	**331**	IAMs_20	IAMs_20	20 48 01.9	
	comp=Z,5μm,20.0s						
AAK	**Ala-Archa**	**90.18**	**344**	IAMs_20	IAMs_20	20 48 21.1	
	comp=Z,7μm,20.0s						
AAK	**Ala-Archa**	**90.18**	**344**	⇓*e*P	**P**	**20 11 35.0**	**+0.9**
AAK				pmax	pmax		
	comp=Z,28nm,1.3s						
AAK	**Ala-Archa**	**90.18**	**344**	LR	LR	20 48 43.6	
	comp=Z,7μm,19.4s,baz=180,slow=33						
MDOK	**Medeo**	**90.23**	**346**	*e*P	**P**	**20 11 34.7**	**+0.4**
	baz=346						
MDOK				*e*S	**SKSac**	**20 22 05.1**	**+0.4**
	baz=346						
MDOK				LR	LR	20 47 12.5	
	comp=Z,2μm,18.6s,baz=346						
MDOK	**Medeo**	**90.23**	**346**	*e*P	**P**	**20 11 34.7**	**+0.4**
MDOK				*e*S	**SKSac**	**20 22 05.1**	**+0.4**
AAA	**Alma-Ata**	**90.30**	**346**	*e*P	**P**	**20 11 35.0**	**+0.5**
	comp=Z,31nm,1.1s,baz=346						
AAA	**Alma-Ata**	**90.30**	**346**	*e*P	**P**	**20 11 35.0**	**+0.5**
AAA				pmax	pmax		
	comp=Z,31nm,1.1s						
FRU1	**Bishkek**	**90.32**	**344**	IAMs_20	IAMs_20	20 48 19.9	
	comp=Z,7μm,20.0s						
MJAR	**Matsushiro Arr**	**90.33**	**33**	P	**P**	**20 11 34.5**	**-0.2**
	comp=Z,6.7nm,1.1s,baz=203,slow=5.5,SNR=9.3						
	comp=Z,6.7nm,1.1s						
IUG	**Iuzhnay**	**90.64**	**341**	*e*P	**P**	**20 11 36.8**	**+0.6**
	comp=Z,30nm,1.9s,baz=341						
IUG				*e*S	**SKSac**	**20 22 07.7**	**+0.6**
	baz=341						
IUG	**Iuzhnay**	**90.64**	**341**	*e*P	**P**	**20 11 36.8**	**+0.6**
IUG				*e*S	**SKSac**	**20 22 07.6**	**+0.6**
IUG				pmax	pmax		
	comp=Z,30nm,1.9s						
SNY	**Shenyang**	**90.65**	**20**	⇓P	**P**	**20 11 36.9**	**+0.9**
SNY				PP	**PP**	**20 15 12.8**	**+0.9**
SNY				SKS	**SKSac**	**20 22 06.5**	**-0.2**
SNY				S	**S**	**20 22 31.0**	**-0.1**
SNY				SS	**SS**	**20 28 30.3**	**-3.5**
SNY				pmax	pmax		
	comp=Z,420nm,7.6s						
SNY				LR	LR		
	comp=Z,1μm,20.8s						
SNY				LR	LR		
	comp=Z,670nm,21.1s						
SNY				LR	LR		
	comp=Z,2μm,17.8s						
LL02	**Futaleuf**	**90.72**	**189**	P	**P**	**20 11 34.9**	**-2.0**
LL02				IAmb	IAmb	20 12 10.1	
	comp=Z,69nm,1.9s						
LL02				IAMs_20	IAMs_20	20 53 21.2	
	comp=Z,6μm,19.0s						
WAKE	**Wake Island**	**90.82**	**63**	IAMs_20	IAMs_20	20 48 31.1	
	comp=Z,5μm,19.0s						
CHM	**Chimkent**	**90.90**	**341**	*e*P	**P**	**20 11 37.8**	**+0.5**
	baz=341						
CHM				LR	LR	20 47 42.6	
	baz=341						
CHM	**Chimkent**	**90.90**	**341**	*e*P	**P**	**20 11 37.8**	**+0.5**
CHKK	**Chushkaly**	**90.91**	**346**	*e*P	**P**	**20 11 37.9**	**+0.5**
	baz=346						
CHKK	**Chushkaly**	**90.91**	**346**	*e*P	**P**	**20 11 37.8**	**+0.5**
SGDS	**Sogindy**	**90.94**	**345**	*e*P	**P**	**20 11 38.0**	**+0.5**
	baz=344						
SGDS	**Sogindy**	**90.94**	**345**	*e*P	**P**	**20 11 38.0**	**+0.5**
DZA	**Taraz**	**91.06**	**342**	*e*P	**P**	**20 11 38.5**	**+0.5**
	baz=342						
DZA	**Taraz**	**91.06**	**342**	*e*P	**P**	**20 11 38.5**	**+0.5**
XLT	**XiLinHaoTe**	**91.08**	**14**	*e*P	**P**	**20 11 38.5**	**+0.3**
XLT				PP	**PP**	**20 15 18.8**	**+3.4**
XLT				SKS	**SKSac**	**20 22 04.6**	**-4.8**
XLT				S	**S**	**20 22 32.4**	**-2.8**
XLT				SS	**SS**	**20 28 42.3**	**+2.0**
XLT				pmax	pmax		
	comp=Z,22nm,1.8s						
XLT				pmax	pmax		
	comp=Z,460nm,5.8s						
XLT				LR	LR		
	comp=Z,370nm,21.4s						
XLT				LR	LR		
	comp=Z,3μm,19.5s						
XLT				LR	LR		
	comp=Z,5μm,20.2s						
BRLS	**Borolday**	**91.53**	**341**	*e*P	**P**	**20 11 39.6**	**-0.6**
	baz=341						
BRLS	**Borolday**	**91.53**	**341**	*e*P	**P**	**20 11 39.6**	**-0.6**
TDK	**Taldyqorghan**	**91.81**	**348**	*e*P	**P**	**20 11 42.0**	**+0.6**
	baz=348						
TDK				LR	LR	20 49 10.4	
	comp=Z,3μm,18.2s,baz=348						
TDK	**Taldyqorghan**	**91.81**	**348**	*e*P	**P**	**20 11 42.0**	**+0.6**
CN2	**Changchun**	**92.96**	**21**	*e*P	**P**	**20 11 46.9**	**+0.1**
CN2				*e*PP	**PP**	**20 15 29.3**	**-0.8**
CN2				SKS	**SKSac**	**20 22 15.6**	**-4.2**
CN2				*e*SS	**SS**	**20 29 07.8**	**+0.6**
CN2				pmax	pmax		
	comp=Z,20nm,1.7s						
CN2				pmax	pmax		
	comp=Z,500nm,6.5s						
CN2				LR	LR		
	comp=Z,640nm,18.0s						
CN2				LR	LR		
	comp=Z,280nm,18.0s						
CN2				LR	LR		
	comp=Z,790nm,20.0s						
PLCA	**Paso Flores**	**93.00**	**190**	P	**P**	**20 11 45.3**	**-2.2**
PLCA	**Paso Flores**	**93.00**	**190**	P	**P**	**20 11 45.3**	**-2.2**
PLCA				pmax	pmax		
	comp=Z,26nm,1.4s						
PLCA				MLR	MLR		
	comp=Z,15μm,21.0s						
PLCA	**Paso Flores**	**93.00**	**190**	P	**P**	**20 11 47.8**	**+0.3**
	comp=Z,3.8nm,0.9s,baz=154,slow=0.6,SNR=5.6						
PLCA				LR	LR	20 51 37.4	
	comp=Z,13μm,21.9s,baz=171,slow=34						
	comp=Z,3.8nm,0.9s						
MKAR	**Makanchi Array**	**93.05**	**351**	LR	LR	20 51 29.5	
	comp=Z,7μm,19.4s,baz=194,slow=34						
MAKZ	**Makanchi**	**93.10**	**350**	IAMs_20	IAMs_20	20 51 27.4	

comp=Z,7µm,19.0s
EIL Elat 93.38 310 LR LR 20 47 18.0
comp=Z,8µm,20.5s,baz=125,slow=31
PPT2 Papeete2 93.40 119 *e*P P 20 12 01.8 +12
comp=Z,78nm,26.0s
PPT2 Papeete2 93.40 119 *e*S **S 20 22 56.9 -0.5**
comp=Z,342nm,25.0s
PPT2 *e*SS **SS 20 29 20.3 +7.4**
comp=Z,1µm,25.8s
PPT2 *e*LQ LQ 20 38 09.2
comp=Z,12µm,31.8s
PPT2 *e*LR LR 20 42 02.6
comp=Z,5µm,22.8s
PPT2 *e*LR LR 20 42 03.4
comp=Z,4µm,23.5s
PPT Papeete 93.42 119 LR LR 20 45 20.8
comp=Z,3µm,21.8s,baz=224,slow=30
ZSN Zaisan 93.43 352 *e*P **P 20 11 49.1 +0.3**
comp=Z,29nm,1.7s,baz=352
ZSN *e*S **SKSac 20 22 23.0 +0.7**
baz=352
ZSN Zaisan 93.43 352 *e*P **P 20 11 49.1 +0.3**
ZSN *e*S **SKSac 20 22 22.9 +0.7**
ZSN pmax pmax
comp=Z,29nm,1.7s
SONM Songino Array 93.72 7 P **P 20 11 48.6 -1.7**
SONM IAmb IAmb 20 11 52.5
comp=Z,36nm,1.3s
SONM Songino Array 93.72 7 P **P 20 11 48.6 -1.7**
SONM pmax pmax
comp=Z,36nm,1.3s
SONM Songino Array 93.72 7 P **P 20 11 48.9 -1.4**
comp=Z,13nm,1.1s,baz=188,slow=4.2,SNR=42
SONM PP **PP 20 15 41.2 +5.0**
comp=Z,1.9nm,1.1s,baz=178,slow=8.9,SNR=3.5
SONM LR LR 20 51 50.2
comp=Z,5µm,22.0s,baz=200,slow=34
comp=Z,13nm,1.1s
ULN Ulaanbaatar 93.81 7 P **P 20 11 49.1 -1.6**
ULN IAmb IAmb 20 11 52.9
comp=Z,43nm,1.4s
ULN Ulaanbaatar 93.81 7*c i*P **P 20 11 49.1 -1.6**
ULN pmax pmax
comp=Z,36nm,1.5s
ULN Ulaanbaatar 93.81 7 P **P 20 11 48.2 -2.6**
ULN P **P 20 11 48.2 -2.6**
ULN S **SKSac 20 22 26.0 +1.4**
ULN S **SKSac 20 22 26.0 +1.4**
ASF Jabal al Asfar 94.34 313 LR LR 20 48 43.4
comp=Z,5µm,20.4s,baz=244,slow=32
MDJ Mudanjiang 94.81 23 P **P 20 11 54.9 -0.3**
MDJ PP **PP 20 15 44.9 +0.3**
MDJ pmax pmax
comp=Z,7.0nm,2.4s
MDJ pmax pmax
comp=Z,330nm,4.7s
MDJ LR LR
comp=Z,2µm,18.9s
MDJ LR LR
comp=Z,850nm,17.5s
MDJ LR LR
comp=Z,3µm,18.7s
USRK Ussuriysk Ar. 95.11 25 P **P 20 11 55.4 -1.2**
USRK Ussuriysk Ar. 95.11 25 P **P 20 11 56.4 -0.3**
USRK comp=Z,4.9nm,1.0s,baz=219,slow=4.9,SNR=5.7 LR LR 20 55 37.2
comp=Z,1µm,19.8s,baz=201,slow=36
comp=Z,4.9nm,1.0s
BNX BinXian 95.27 21 ||P **P 20 11 59.1 +1.8**
BNX PP **PP 20 15 50.3 +2.2**
BNX SKS **SKSac 20 22 34.3 +2.1**
BNX S **ScS 20 23 13.0 +0.1**
BNX sS **sS 20 23 21.1 +3.0**
BNX pmax pmax
comp=Z,7.0nm,0.8s
BNX pmax pmax
comp=Z,210nm,5.1s
BNX LR LR
comp=Z,810nm,23.3s
BNX LR LR
comp=Z,880nm,21.9s
BNX LR LR
comp=Z,1µm,24.0s
MMAI Mount Meron Ar 95.78 313 LR LR 20 50 51.7
comp=Z,5µm,18.1s,baz=90,slow=33
ZAK Zakamensk 96.03 5 *e*P **P 20 12 00.0 -0.8**
ZAK pmax pmax
comp=Z,17nm,1.7s
HIA Hailar 96.92 15 IAMs_20 IAMs_20 20 56 31.0
comp=Z,4µm,20.0s
GNI Garni 97.18 323 IAMs_20 IAMs_20 20 53 18.7
comp=Z,5µm,19.0s
GNI Garni 97.18 323 LR LR 20 53 12.0
comp=Z,2µm,18.2s,baz=166,slow=34
MOY Mondy 97.21 3 *e*P Pdif 20 12 07.0 +0.8
MOY pmax pmax
comp=Z,31nm,2.2s
KURBB Kurchatov Arra 97.28 349 LR LR 20 51 38.7
comp=Z,4µm,21.5s,baz=176,slow=33
KURK Kurchatov 97.36 349 IAMs_20 IAMs_20 20 51 39.2
comp=Z,6µm,22.0s
IRK Irkutsk 97.95 5 *e*P P 20 11 59.9 -9.4
IRK pmax pmax
comp=Z,51nm,2.9s
ML02 Panimavida 98.00 190 IAMs_20 IAMs_20 20 54 53.0
comp=Z,7µm,21.0s
PLTB Pedras Altas 98.04 206 IAMs_20 IAMs_20 20 51 13.4
comp=Z,4µm,21.0s
ASCN Ascension 98.31 250 IAMs_20 IAMs_20 20 46 35.0
comp=Z,5µm,20.0s
MAK Makhachkala 98.42 326 *e*P P 20 12 06.2 -5.4
MAK *e* 20 16 08.6
MAK *e*SS SS 20 30 21.2 -3.4
MAK MLR MLR
comp=Z,2µm,17.0s
CIT Chita 98.62 11 *e*P Pdif 20 12 12.7 +0.3
CIT *e* 20 12 20.1
ARPR Arapgir-MALATY 99.16 318 IAMs_20 IAMs_20 20 52 18.3
comp=Z,4µm,20.0s
BO01 Tunca 99.31 191 IAMs_20 IAMs_20 20 56 40.7
comp=Z,6µm,20.0s
HEH HeiHe 99.47 20 *e*P **Pdif 20 12 15.8 -0.4**
HEH PP **PP 20 16 22.4 +2.0**
HEH SKS **SKSac 20 22 52.5 -1.1**
HEH pmax pmax
comp=Z,7.0nm,1.8s
HEH pmax pmax
comp=Z,260nm,5.6s
HEH LR LR
comp=Z,2µm,19.5s
HEH LR LR
comp=Z,1µm,19.7s
HEH LR LR
comp=Z,4µm,19.4s
KLR Kul'dur 99.63 23||*e*P **Pdif 20 12 17.1 +0.2**
KLR pmax pmax
comp=Z,9.0nm,1.6s
ZAA0 Zalesovo Array 99.88 353 IAMs_20 IAMs_20 20 53 46.8
comp=Z,5µm,22.0s
ZALV Zalesovo Beam 99.88 353 LR LR 20 53 46.7
comp=Z,4µm,21.6s,baz=174,slow=33
MT05 Renca 100.25 191 IAMs_20 IAMs_20 20 56 49.6
comp=Z,7µm,20.0s
ITQB Itaqui 100.89 204 IAMs_20 IAMs_20 20 58 32.0
comp=Z,4µm,20.0s
BRVK Borovoye 100.97 344 IAMs_20 IAMs_20 20 54 59.9
comp=Z,7µm,20.0s
YSS Yuzh-Sakhalins 101.06 30 *e*P **Pdif 20 12 22.1 -1.2**
YSS *e* 20 16 31.0
YSS *e* 20 22 59.9
YSS *e*S 20 23 53.0
YSS *e*PS **PS 20 25 29.0 -5.2**
YSS *e*SS **SS 20 30 58.0 -3.4**
KIV Kislovodsk 101.18 324 *e*P **Pdif 20 12 25.8 +1.7**
KIV *e* 20 16 35.0
KIV *e* 20 23 04.8
KIV *e*SS SS 20 31 05.3 +1.8
KIV *e*SSS SSS 20 34 56.9
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,3µm,20.0s
TORD Torodi Ar. Bea 102.39 276 P **Pdif 20 12 29.7 -0.3**
comp=Z,1.2nm,0.9s,baz=110,slow=4.7,SNR=5.6
TORD PP **PKiKP 20 16 48.6 -3.1**
comp=Z,2.3nm,1.1s,baz=138,slow=7.0,SNR=3.6

GO04 Tololo Observa 103.43 192 IAMs_20 IAMs_20 21 00 46.7
comp=Z,5µm,18.0s
VA02 Isla de Pascua 103.72 157 IAMs_20 IAMs_20 20 52 57.0
comp=Z,5µm,18.0s
RPN Rapa Nui 103.78 157 IAMs_20 IAMs_20 20 52 57.5
comp=Z,5µm,21.0s
CPUP Villa Florida 104.24 204 IAMs_20 IAMs_20 21 04 47.6
comp=Z,5µm,18.0s
ARU Arti 106.66 339 IAMs_20 IAMs_20 21 00 02.5
comp=Z,4µm,19.0s
TIRR Tirgusor 108.02 316 IAMs_20 IAMs_20 20 59 38.5
comp=Z,5µm,20.0s
GO02 Mina Guanaco 108.16 194 IAMs_20 IAMs_20 21 02 49.1
comp=Z,5µm,20.0s
PB14 IPOC Station P 108.82 193 IAMs_20 IAMs_20 21 03 37.5
comp=Z,5µm,20.0s
WDD Wied Dalam 109.52 301 IAMs_20 IAMs_20 21 04 37.2
comp=Z,4µm,18.0s
MLR Muntele Rosu 109.98 315 IAMs_20 IAMs_20 20 59 54.3
comp=Z,3µm,20.0s
PB15 IPOC Station P 110.05 194 IAMs_20 IAMs_20 21 04 26.2
comp=Z,5µm,20.0s
AF01 San Pedro de A 110.07 195 IAMs_20 IAMs_20 21 01 52.8
comp=Z,5µm,22.0s
CEL Celeste 110.35 304 IAMs_20 IAMs_20 21 10 25.3
comp=Z,4µm,19.0s
PB05 IPOC Station P 110.52 193 IAMs_20 IAMs_20 21 00 40.7
comp=Z,5µm,21.0s
PB06 IPOC Station P 110.56 194 IAMs_20 IAMs_20 21 04 40.7
comp=Z,5µm,20.0s
BDFB Brasilia 110.76 217 IAMs_20 IAMs_20 21 01 45.0
comp=Z,5µm,18.0s
YAK Yakutsk 110.84 16 IAMs_20 IAMs_20 21 04 56.0
comp=Z,3µm,20.0s
PB04 IPOC Station P 111.02 194 IAMs_20 IAMs_20 21 03 41.9
comp=Z,4µm,20.0s
PB09 IPOC Station P 111.39 195 IAMs_20 IAMs_20 21 04 49.8
comp=Z,4µm,20.0s
PB07 IPOC Station P 111.57 194 IAMs_20 IAMs_20 21 05 56.5
comp=Z,5µm,18.0s
PB02 IPOC Station P 111.97 194 IAMs_20 IAMs_20 21 05 50.1
comp=Z,5µm,18.0s
PB01 IPOC Station P 112.17 194 IAMs_20 IAMs_20 21 06 27.4
comp=Z,5µm,18.0s
KIEV Kiev 112.19 321 IAMs_20 IAMs_20 21 04 46.6
comp=Z,3µm,20.0s
OBN Obninsk 112.45 328 *i* PKIKP **PKiKP 20 17 10.5 +1.4**
OBN *e* 20 17 55.8
OBN *e*PPP PPP 20 20 19.9
OBN pmax pmax
comp=Z,3.0nm,0.9s
TA01 Diego Aracena 112.76 194 IAMs_20 IAMs_20 21 04 43.9
comp=Z,5µm,20.0s
PB08 IPOC Station P 113.00 195 IAMs_20 IAMs_20 21 05 38.2
comp=Z,4µm,20.0s
TA02 Huaiquique 113.04 194 IAMs_20 IAMs_20 21 06 27.4
comp=Z,4µm,19.0s
RCBR Riachuelo 113.19 233 IAMs_20 IAMs_20 20 56 53.4
comp=Z,4µm,20.0s
GO01 Chusmiza 113.46 195 IAMs_20 IAMs_20 21 07 03.6
comp=Z,5µm,18.0s
MA2 Magadan 114.17 27 PKP **PKiKP 20 17 12.5 +0.2**
comp=Z,0.6nm,0.3s,baz=188,slow=7.1,SNR=1.6
PB12 IPOC Station P 114.69 194 IAMs_20 IAMs_20 21 03 18.2
comp=Z,4µm,22.0s
PB16 IPOC Station P 114.82 195 IAMs_20 IAMs_20 21 05 39.6
comp=Z,4µm,20.0s
VSL Villasalto 114.99 302 IAMs_20 IAMs_20 21 09 26.2
comp=Z,4µm,19.0s
NRIK Noril'sk 115.03 357 IAMs_20 IAMs_20 21 05 44.5
comp=Z,4µm,22.0s
MNK Minsk 115.45 323 *i* PKIKP **PKiKP 20 17 16.2 +1.3**
MNK *i* 20 18 18.4
MNK *i* PPP PPP 20 20 44.3
MNK *i* 20 24 29.6
MNK *i* PS **PS 20 27 58.7 +1.8**
MNK *i* SS SS 20 34 18.1 +2.4
MNK *i* SSS SSS 20 38 34.7
MNK pmax pmax
comp=N,15nm,0.9s
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK pmax pmax
comp=Z,7.0nm,0.8s
MNK MLR MLR
comp=N,2µm,21.0s
MNK MLR MLR
comp=E,1µm,22.0s
MNK MLR MLR
comp=Z,4µm,23.0s
SOKA Soboth 116.37 311 *e*PKiKP **PKiKP 20 17 17.7 +0.6**
comp=Z,1.6nm,0.7s
ARSA Arzberg 116.48 311 *e*PKiKP **PKiKP 20 17 19.2 +2.0**
comp=Z,5.2nm,0.9s
BYL Byron's Ledge 116.52 89 IAMs_20 IAMs_20 21 12 59.0
comp=Z,4µm,20.0s
HATHI Halema'uma'u T 116.53 89 IAMs_20 IAMs_20 21 04 33.2
comp=Z,5µm,20.0s
CONA Conrad Observa 116.73 312 *e*pPKP pPKPdf 20 17 20.3 -1.1
comp=Z,2.8nm,1.0s
OKC Ostrava-Krasne 116.80 315 AMS AMS 21 23 30.0
comp=Z,2µm,15.3s
SUW Suwalki 117.15 321 IAMs_20 IAMs_20 21 08 58.0
comp=Z,3µm,21.0s
SEY Seymchan 117.26 25 PKP **PKiKP 20 17 18.3 +0.2**
comp=Z,0.3nm,0.3s,baz=180,slow=3.0,SNR=1.7
MOA Molln 117.52 311 *e*PKiKP **PKiKP 20 17 20.5 +1.3**
comp=Z,3.2nm,1.2s
KBA Koelnbreinsper 117.52 310 *e*PKiKP **PKiKP 20 17 19.7 +0.2**
comp=Z,0.8nm,0.6s
KRLC Kraliky 117.63 314 AMS AMS 21 22 50.0
comp=Z,2µm,17.0s
ABTA Abfaltersbach 117.77 309 *e*PKP **PKiKP 20 17 19.8 0.0**
comp=Z,1.0nm,0.5s
TREC Trest 117.79 313 AMS AMS 21 11 30.0
comp=Z,2µm,18.4s
PABE Paberze 117.80 322 IAMs_20 IAMs_20 21 06 56.9
comp=Z,4µm,20.0s
DPC Dobruska-Polom 118.03 314 AMS AMS 21 07 10.0
comp=Z,2µm,15.9s
LESA Schwarzleotal 118.09 310 *e*PKiKP **PKiKP 20 17 20.6 +0.2**
comp=Z,1.1nm,0.3s
CKRC Ceky Kamenlov 118.10 312 AMS AMS 21 17 10.0
comp=Z,2µm,16.5s
OSTC Ostas 118.21 315 AMS AMS 21 12 00.0
comp=Z,2µm,17.4s
UPC Upice 118.28 314 AMS AMS 21 12 10.0
comp=Z,2µm,20.2s
GERES GERESS Array B 118.43 312 PKP **PKiKP 20 17 21.5 +0.4**
comp=Z,2.8nm,0.9s,baz=103,slow=4.2,SNR=7.4
GOPC GO Pecny, Ondr 118.53 313 AMS AMS 21 23 30.0
comp=Z,2µm,16.5s
ZVC Zvikov 118.54 313 AMS AMS 21 11 20.0
comp=Z,2µm,15.4s
WTTA Wattenberg 118.56 309 *e*PKiKP **PKiKP 20 17 22.1 +0.6**
comp=Z,1.8nm,0.7s
KHC Kasperske Hory 118.67 312 AMS AMS 21 14 40.0
comp=Z,2µm,19.6s
PRU Pruhonice 118.70 313 AMS AMS 21 17 50.0
comp=Z,2µm,17.7s
SQTA Sankt Quirin 118.76 309 *e*PKiKP **PKiKP 20 17 22.9 +1.1**
comp=Z,4.7nm,1.0s
PRA Prague 118.81 313 AMS AMS 21 17 50.0
comp=Z,2µm,18.5s
MOTA Moosalm 118.89 309 *e*PKiKP **PKiKP 20 17 23.4 +1.3**
comp=Z,3.0nm,0.9s
FETA Feichten 118.90 309 *e*PKiKP **PKiKP 20 17 23.0 +0.9**
comp=Z,2.9nm,0.9s
PVCC Panska Ves 119.02 314 AMS AMS 21 13 00.0
comp=Z,2µm,23.5s
RETA Reute 119.16 309 *e*PKP **PKPdf 20 17 22.2 -0.2**
comp=Z,0.3nm,0.3s
TUE Stuetta 119.33 308 IAMs_20 IAMs_20 21 15 55.8
comp=Z,3µm,20.0s
TIXI Tiksi 119.46 11 PKPdf **PKPdf 20 17 21.6 -0.6**
TIXI Tiksi 119.46 11 PKIKP **PKPdf 20 17 21.6 -0.6**
TIXI MLR MLR
comp=Z,8µm,20.0s
HSKC Hora Svate Kat 119.64 313 AMS AMS 21 21 00.0
comp=Z,2µm,18.8s
NKC Novy Kostel 119.92 313 AMS AMS 21 13 30.0
comp=Z,3µm,19.8s
BNI Bardonecchia 119.98 305 IAMs_20 IAMs_20 21 13 36.3
comp=Z,4µm,20.0s
CART Cartagena 120.23 294 IAMs_20 IAMs_20 21 04 06.9
comp=Z,4µm,22.0s
CLL Collm 120.28 314 *e*PKIKP **PKiKP 20 17 26.0 +1.6**
CLL *e* 20 18 51.0

CLL pmax pmax
comp=Z,6.0nm,1.0s
FINES FINESS Array B 120.83 328 PKP **PKPdf 20 17 24.8 -0.3**
comp=Z,6.9nm,0.9s,baz=59,slow=2.8,SNR=13
SSB Saint Sauveur 121.35 304 IAMs_20 IAMs_20 21 14 04.3
comp=Z,4µm,18.0s
CEST Esterri de Car 121.75 300 IAMs_20 IAMs_20 21 10 30.2
comp=Z,5µm,20.0s
ETMB Extrema 122.38 201 IAMs_20 IAMs_20 21 12 05.9
comp=Z,4µm,20.0s
APA Apatity 122.51 336||*i* PKIKP **PKPdf 20 17 27.8 -0.3**
APA pmax pmax
comp=Z,9.0nm,1.6s
WLF Walferdange 122.92 309 IAMs_20 IAMs_20 21 16 01.8
comp=Z,3µm,19.0s
ES04 SONSECA Array 123.30 295 IAMs_20 IAMs_20 21 13 13.4
comp=Z,5µm,19.0s
ES01 SONSECA Array 123.31 295 IAMs_20 IAMs_20 20 54 20.7
comp=Z,3µm,21.0s
ESBB Sonseca Array 123.33 295 IAMs_20 IAMs_20 21 13 56.0
comp=Z,4µm,18.0s
ESDC Sonseca Array 123.33 295 IAMs_20 IAMs_20 21 13 47.0
comp=Z,4µm,18.0s
ESDC Sonseca Array 123.33 295 PKP **PKPdf 20 17 30.6 -0.1**
comp=Z,4.6nm,1.1s,baz=51,slow=1.9,SNR=8.3
ES16 SONSECA Array 123.35 295 IAMs_20 IAMs_20 21 13 58.8
comp=Z,4µm,18.0s
CLF Chambon-Foret 124.18 306 IAMs_20 IAMs_20 21 19 14.3
comp=Z,4µm,18.0s
PVAQ Vaqueiros 124.47 290 *e*SS SS 20 36 22.7 +10
PVAQ Vaqueiros 124.47 290 *e*LR LR 21 02 38.6
comp=Z,4µm,20.0s
PVAQ Vaqueiros 124.47 290 IAMs_20 IAMs_20 21 11 36.3
comp=Z,3µm,20.0s
BILL Bilibino 124.97 26 **PKiKP 20 17 33.9 +0.7**
BILL IAMs_20 IAMs_20 21 15 35.5
comp=Z,2µm,19.0s
BILL Bilibino 124.97 26 *e*PKIKP **PKiKP 20 17 33.8 +0.7**
MORF Marmelete 125.02 290 IAMs_20 IAMs_20 21 13 47.1
comp=Z,4µm,19.0s
MESJ Messejana 125.04 290 IAMs_20 IAMs_20 21 06 20.5
comp=Z,3µm,22.0s
PFVI Vila Bisbo 125.04 289 IAMs_20 IAMs_20 21 11 36.6
comp=Z,3µm,21.0s
PESTR Estremoz 125.20 292 IAMs_20 IAMs_20 21 08 38.8
comp=Z,4µm,22.0s
PMRV Marv??o 125.39 293 *e*LR LR 21 02 08.3
comp=Z,4µm,22.0s
CZSB Cruzeiro do Su 125.75 194 IAMs_20 IAMs_20 21 10 23.1
comp=Z,3µm,21.0s
ARCES ARCESS Array B 126.00 336 PKP **PKiKP 20 17 36.0 +0.8**
comp=Z,8.1nm,1.0s,baz=157,slow=2.5,SNR=5.3
MTE Manteigas 126.02 293 *e*LR LR 21 01 56.6
comp=Z,4µm,22.0s
MVO Moncorvo 126.10 295 *e*LR LR 21 06 15.1
comp=Z,6µm,20.0s
NOA NORSAR Array B 126.48 323 PKIKP **PKiKP 20 17 38.0 +1.5**
NOA NORSAR Array B 126.48 323 PKP **PKiKP 20 17 38.0 +1.5**
comp=Z,3.5nm,1.0s,baz=109,slow=3.3,SNR=5.3
PGAV Gavieira, Arco 127.31 295 *e*SS SS 20 37 10.4 +22
PGAV Gavieira, Arco 127.31 295 *e*LR LR 21 06 59.8
comp=Z,7µm,18.0s
PMOZ Porto Moniz, M 128.24 280 *e*LR LR 21 01 27.4
comp=Z,7µm,22.0s
EKA Eskdalemuir Ar 130.65 312 PKP **PKiKP 20 17 45.6 +0.7**
comp=Z,3.1nm,0.9s,baz=116,slow=3.9,SNR=6.0
ESK Eskdalemuir 130.66 312 IAMs_20 IAMs_20 21 20 18.6
comp=Z,5µm,21.0s
DSB Dublin 131.50 308 IAMs_20 IAMs_20 21 18 41.8
comp=Z,3µm,20.0s
SALI Salinas 132.12 184 IAMs_20 IAMs_20 21 11 44.8
comp=Z,3µm,19.0s
CHSH Refugio Sur-Vo 132.67 187 IAMs_20 IAMs_20 21 08 44.3
comp=Z,4µm,20.0s
SDPT Sand Point 132.78 49 IAMs_20 IAMs_20 21 16 36.8
comp=Z,3µm,20.0s
CNBA Chernabura Isl 133.06 50 IAMs_20 IAMs_20 21 13 10.2
comp=Z,3µm,22.0s
KBS Kingsbay 133.46 345 IAMs_20 IAMs_20 21 17 49.2
comp=Z,3µm,20.0s
L14K Kuka Creek 133.76 41 IAMs_20 IAMs_20 21 28 16.1
comp=Z,2µm,20.0s
IMBA Imbabura, San 134.36 188 IAMs_20 IAMs_20 21 09 44.2
comp=Z,4µm,21.0s
C16K Lisburne Hills 134.59 31 IAMs_20 IAMs_20 21 21 50.4
comp=Z,4µm,19.0s
RDOG Red Dog Mine 135.43 32 IAMs_20 IAMs_20 21 21 32.7
comp=Z,3µm,20.0s
F17K Baldwin Pennin 135.72 34 IAMs_20 IAMs_20 21 26 05.9
comp=Z,2µm,19.0s
E18K Tukpahlearik C 136.17 33 IAMs_20 IAMs_20 21 26 23.6
comp=Z,3µm,20.0s
C18K Utukok River 136.17 31 **PKPdf 20 17 54.3 +0.1**
C18K IAMs_20 IAMs_20 21 24 08.5
comp=Z,4µm,19.0s
SII Sitkinak Islan 136.53 49 IAMs_20 IAMs_20 21 13 27.7
comp=Z,2µm,21.0s
G18K Tagagawik 136.65 35 IAMs_20 IAMs_20 21 28 40.0
comp=Z,2µm,20.0s
C19K Lookout Ridge 136.82 31 PKPdf **PKPdf 20 17 55.9 +0.6**
O18K Koktuh Hills 136.89 44 IAMs_20 IAMs_20 21 14 32.0
comp=Z,3µm,21.0s
F19K Shaleruckik Mo 137.16 34 **PKPdf 20 17 56.4 +0.5**
F19K IAMs_20 IAMs_20 21 29 52.9
comp=Z,2µm,20.0s
D19K Kuna River 137.27 32 IAMs_20 IAMs_20 21 25 31.5
comp=Z,3µm,19.0s
G19K Purcell Mounta 137.32 35 IAMs_20 IAMs_20 21 27 33.8
comp=Z,3µm,20.0s
O19K Port Alsworth 137.40 44 IAMs_20 IAMs_20 21 14 59.5
comp=Z,2µm,21.0s
E19K Redstone River 137.46 33 IAMs_20 IAMs_20 21 24 04.7
comp=Z,3µm,19.0s
N19K Bonanza Creek 137.46 43 IAMs_20 IAMs_20 21 15 01.5
comp=Z,3µm,22.0s
B20K Meade River 137.77 29 IAMs_20 IAMs_20 21 28 26.7
comp=Z,3µm,20.0s
F20K Avaraart Lake 137.99 34 IAMs_20 IAMs_20 21 24 16.3
comp=Z,3µm,20.0s
SYI Shuyak Island 138.00 47 IAMs_20 IAMs_20 21 15 04.4
comp=Z,3µm,21.0s
I20K Naaghedeneel 138.20 37 IAMs_20 IAMs_20 21 30 48.0
comp=Z,3µm,20.0s
M20K Styx River 138.32 42 IAMs_20 IAMs_20 21 19 04.0
comp=Z,2µm,20.0s
NOR Nord 138.34 348 *i* P **PKiKP 20 17 59.3 -0.6**
NOR IAMs_20 IAMs_20 21 20 11.8
comp=Z,2µm,20.3s
HOM Homer 138.60 45 IAMs_20 IAMs_20 21 16 59.2
comp=Z,2µm,20.0s
B21K Ikpikpuk River 138.62 30 **PKPdf 20 17 59.5 +1.0**
B21K IAMs_20 IAMs_20 21 23 51.8
comp=Z,3µm,21.0s
IMAR Indian Mountai 138.65 36 PKPdf **PKPdf 20 17 59.1 +0.4**
CNPM China Poot 138.78 46 IAMs_20 IAMs_20 21 16 51.0
comp=Z,4µm,21.0s
F21K Alatna River 138.88 34 IAMs_20 IAMs_20 21 25 18.8
comp=Z,3µm,21.0s
BRLK Bradley Lake 139.00 45 IAMs_20 IAMs_20 21 17 09.5
comp=Z,3µm,21.0s
H21K Melozitna Rive 139.00 36 IAMs_20 IAMs_20 21 27 30.7
comp=Z,4µm,21.0s
CAST Castle Rocks 139.04 40 PKPdf **PKPdf 20 17 60.0 +0.4**
B22K Teshekpuk Lake 139.06 29 IAMs_20 IAMs_20 21 31 40.7
comp=Z,2µm,19.0s
SKT Skwentna 139.08 42 IAMs_20 IAMs_20 21 17 10.7
comp=Z,2µm,21.0s
D22K Ayikyak River 139.28 31 IAMs_20 IAMs_20 21 24 44.7
comp=Z,4µm,21.0s
I21K Tanana 139.30 37 IAMs_20 IAMs_20 21 31 24.5
comp=Z,3µm,20.0s
E22K Anaktuvuk Pass 139.57 32 IAMs_20 IAMs_20 21 28 20.4
comp=Z,3µm,19.0s
BPAW Bear Paw Mtn. 139.61 39 IAMs_20 IAMs_20 21 31 59.5
comp=Z,2µm,20.0s
O22K Cooper Landing 139.70 44 IAMs_20 IAMs_20 21 31 17.3
comp=Z,3µm,20.0s
DAG Danmarks Havn 139.76 341 *i* P **PKiKP 20 18 02.5 -0.3**
DAG IAMs_20 IAMs_20 21 30 20.4
comp=Z,3µm,24.1s
RC01 Rabbit Creek A 139.79 43 IAMs_20 IAMs_20 21 14 51.6
comp=Z,2µm,22.0s
TRF Thorofare Moun 139.85 40 IAMs_20 IAMs_20 21 17 37.8
comp=Z,3µm,22.0s
C23K Itkillik River 140.02 30 IAMs_20 IAMs_20 21 30 53.7
comp=Z,2µm,20.0s
PMR Palmer 140.15 43 IAMs_20 IAMs_20 21 16 54.1
comp=Z,2µm,21.0s

G23K	**Bananza Creek**	140.21	35	IAMs_20	IAMs_20	21 25 57.4			
	comp=Z,3µm,20.0s								
GHO	**Glory Hole Cre**	140.27	42	IAMs_20	IAMs_20	21 16 07.3			
	comp=Z,3µm,22.0s								
BWN	**Browne**	140.28	39	IAMs_20	IAMs_20	21 27 27.1			
	comp=Z,2µm,21.0s								
H23K	**Yukon River**	140.36	36	IAMs_20	IAMs_20	21 29 59.1			
	comp=Z,3µm,20.0s								
TOLK	**Toolik Lake Re**	140.41	32	IAMs_20	IAMs_20	21 26 19.1			
	comp=Z,3µm,20.0s								
SML	**Sawmill**	140.56	42	IAMs_20	IAMs_20	21 16 36.8			
	comp=Z,3µm,21.0s								
D24K	**Happy Valley**	140.67	31	IAMs_20	IAMs_20	21 31 41.3			
	comp=Z,2µm,18.0s								
BAUV	**El Baul**	140.81	205		PKPdf	20 18 02.8	-1.4		
COLA	**College**	141.02	38	IAMs_20	IAMs_20	21 30 45.6			
	comp=Z,3µm,20.0s								
H24K	**Noodor Dome**	141.04	36	IAMs_20	IAMs_20	21 25 41.7			
	comp=Z,2µm,20.0s								
F24K	**Squaw Lake**	141.05	33	IAMs_20	IAMs_20	21 26 35.7			
	comp=Z,3µm,19.0s								
DHY	**Denali Highway**	141.12	40	IAMs_20	IAMs_20	21 28 10.6			
	comp=Z,3µm,20.0s								
POKR	**Poker Plat Res**	141.21	37	IAMs_20	IAMs_20	21 30 51.7			
	comp=Z,3µm,19.0s								
G24K	**Hadweenzic Riv**	141.22	35	IAMs_20	IAMs_20	21 23 25.2			
	comp=Z,3µm,20.0s								
HIN	**Hinchinbrook I**	141.27	45	IAMs_20	IAMs_20	21 17 38.8			
	comp=Z,3µm,20.0s								
HDA	**Harding Lake**	141.39	38	IAMs_20	IAMs_20	21 17 37.6			
	comp=Z,2µm,21.0s								
ILAR	**Eielson Array**	141.43	38	PKhKP	PKPpre	20 17 59.2			
	comp=Z,0.9nm,1.0s,baz=286,slow=4.6,SNR=4.8								
GRGR	**Grenville**	141.48	216	IAMs_20	IAMs_20	21 23 01.7			
	comp=Z,3µm,20.0s								
D25K	**Kavik River**	141.53	30	IAMs_20	IAMs_20	21 29 39.1			
	comp=Z,2µm,19.0s								
M24K	**Tolsona, Glenn**	141.60	42	IAMs_20	IAMs_20	21 28 52.4			
	comp=Z,2µm,21.0s								
KLU	**Klutina**	141.67	43	IAMs_20	IAMs_20	21 16 02.2			
	comp=Z,3µm,22.0s								
E25K	**Arctic Village**	141.91	32	IAMs_20	IAMs_20	21 25 51.8			
	comp=Z,3µm,20.0s								
PRP	**Porcupine Dome**	142.02	37	IAMs_20	IAMs_20	21 27 43.0			
	comp=Z,2µm,20.0s								
FYU	**Fort Yukon**	142.12	35	IAMs_20	IAMs_20	21 25 18.4			
	comp=Z,3µm,20.0s								
RAGM	**Ragged Mountai**	142.17	45	IAMs_20	IAMs_20	21 30 39.6			
	comp=Z,3µm,20.0s								
BMAR	**Burnt Mountain**	142.33	33	PKPdf	PKPdf	20 18 03.4	-2.0		
HMT	**Hamilton**	142.37	45	IAMs_20	IAMs_20	21 30 32.9			
	comp=Z,3µm,19.0s								
F26K	**Sheenjek River**	142.48	33	P	PKPdf	20 18 05.2	-0.4		
	baz=275								
SUCK	**Suckling Hills**	142.59	46	IAMs_20	IAMs_20	21 30 56.7			
	comp=Z,2µm,20.0s								
BERG	**Berg Lake**	142.65	45	IAMs_20	IAMs_20	21 29 58.8			
	comp=Z,3µm,19.0s								
GLB	**Gilahina Butte**	142.68	43	IAMs_20	IAMs_20	21 19 42.8			
	comp=Z,2µm,22.0s								
SCRK	**Sand Creek**	142.68	39		PKPdf	20 18 05.3	-0.9		
SCRK				IAMs_20	IAMs_20	21 34 02.6			
	comp=Z,2µm,21.0s								
SCRK	**Sand Creek**	142.68	39	P	PKPdf	20 18 03.1	-3.1		
	baz=270								
VRDI	**Verde Repeater**	142.84	44	IAMs_20	IAMs_20	21 20 46.1			
	comp=Z,2µm,20.0s								
J26L	**Joseph Creek**	142.86	38	IAMs_20	IAMs_20	21 27 51.8			
	comp=Z,2µm,20.0s								
J26L	**Joseph Creek**	142.86	38	P	PKPdf	20 18 04.8	-1.7		
	baz=271								
CRQM	**Cirque**	142.96	44	IAMs_20	IAMs_20	21 29 49.1			
	comp=Z,2µm,18.0s								
CRQE	**Cirque**	142.98	44	P	PKPdf	20 18 06.4	-0.5		
	baz=266								
I26K	**Coal Creek Min**	143.01	37	IAMs_20	IAMs_20	21 24 43.8			
	comp=Z,3µm,22.0s								
I26K	**Coal Creek Min**	143.01	37	P	PKPdf	20 18 05.9	-0.7		
	baz=272								
MCARA	**McCarthy VSAT**	143.05	43	IAMs_20	IAMs_20	21 21 23.8			
	comp=Z,2µm,20.0s								
WAX	**Waxell Ridge**	143.08	45	IAMs_20	IAMs_20	21 29 59.6			
	comp=Z,3µm,19.0s								
BRU2	**Volcan**	143.08	182	IAMs_20	IAMs_20	21 13 34.3			
	comp=Z,4µm,20.0s								
M26K	**Nabesna, AK**	143.10	42	IAMs_20	IAMs_20	21 16 20.0			
	comp=Z,3µm,22.0s								
M26K	**Nabesna, AK**	143.10	42	P	PKPdf	20 18 07.0	0.0		
	baz=269								
MPOM	**Morne Pois Mar**	143.20	219	IAMs_20	IAMs_20	21 23 00.6			
	comp=Z,3µm,21.0s								
BCIP	**Isla Barro Col**	143.30	187	IAMs_20	IAMs_20	21 15 32.2			
	comp=Z,3µm,19.0s								
BIM	**Bigot**	143.36	219	IAMs_20	IAMs_20	21 23 01.7			
	comp=Z,3µm,22.0s								
E27K	**Coleen River**	143.38	32	IAMs_20	IAMs_20	21 24 59.7			
	comp=Z,3µm,20.0s								
E27K	**Coleen River**	143.38	32	P	PKPbc	20 18 05.1	+0.6		
	baz=278								
D27M	**Malcolm River**	143.45	30	IAMs_20	IAMs_20	21 24 44.8			
	comp=Z,3µm,21.0s								
D27M	**Malcolm River**	143.45	30	P	PKPdf	20 18 06.8	-0.6		
	baz=280								
ILAM	**Ilet Lapin Mar**	143.50	219	IAMs_20	IAMs_20	21 27 59.5			
	comp=Z,2µm,20.0s								
MESA	**MESA**	143.51	46	IAMs_20	IAMs_20	21 30 34.0			
	comp=Z,2µm,19.0s								
G27K	**Doyon Strip**	143.52	34	IAMs_20	IAMs_20	21 27 25.9			
	comp=Z,4µm,20.0s								
G27K	**Doyon Strip**	143.52	34	P	PKPdf	20 18 06.9	-0.6		
	baz=276								
K27K	**Chicken**	143.52	39	IAMs_20	IAMs_20	21 29 43.3			
	comp=Z,2µm,20.0s								
K27K	**Chicken**	143.52	39	P	PKPdf	20 18 06.3	-1.2		
	baz=272								
SRBA	**San Rafael, Bu**	143.53	181	IAMs_20	IAMs_20	21 13 36.1			
	comp=Z,4µm,21.0s								
FDF	**Fort de France**	143.59	219	IAMs_20	IAMs_20	21 23 05.7			
	comp=Z,4µm,22.0s								
M27K	**Edge Creek, AK**	143.62	42	P	PKPdf	20 18 06.9	-1.1		
	baz=270								
H27K	**Steamboat Moun**	143.62	35	P	PKPbc	20 18 06.2	+1.0		
	baz=275								
I27K	**Kandik River**	143.64	36	P	PKPbc	20 18 06.3	+1.0		
	baz=274								
L27K	**Beaver Creek,**	143.65	41	IAMs_20	IAMs_20	21 17 15.8			
	comp=Z,2µm,22.0s								
L27K	**Beaver Creek,**	143.65	41	P	PKPbc	20 18 06.4	+1.0		
	baz=271								
BCAR	**Beaver Creek A**	143.67	41	PKPdf	PKPbc	20 18 06.4	+1.0		
PEZE	**Perez Zeledon,**	143.68	180	IAMs_20	IAMs_20	21 13 29.2			
	comp=Z,3µm,21.0s								
BARN	**Barnard Glacie**	143.69	44		PKPbc	20 18 06.9	+1.1		
CTG	**Chitna Glacier**	143.85	44	P	PKPdf	20 18 07.5	-0.9		
	baz=268								
CTGM	**Chitina Glacie**	143.85	44		PKPdf	20 18 07.5	-0.9		
CTGM				IAMs_20	IAMs_20	21 35 22.9			
	comp=Z,2µm,20.0s								
EGAK	**Eagle**	143.88	38		PKPbc	20 18 06.9	+1.0		
EGAK				IAMs_20	IAMs_20	21 29 03.4			
	comp=Z,3µm,21.0s								
E28M	**Babbage River**	144.07	31	IAMs_20	IAMs_20	21 25 54.3			
	comp=Z,3µm,20.0s								
E28M	**Babbage River**	144.07	31	P	PKPdf	20 18 07.5	-0.9		
	baz=280								
BVCY	**Beaver Creek**	144.10	42	P	PKPbc	20 18 07.4	+0.7		
	baz=270								
F28M	**Old Crow**	144.11	33	IAMs_20	IAMs_20	21 27 30.0			
	comp=Z,2µm,21.0s								
F28M	**Old Crow**	144.11	33	P	PKPbc	20 18 07.4	+0.8		
	baz=279								
D28M	**Stokes Point**	144.21	30	P	PKPdf	20 18 08.5	-0.1		
	baz=282								
YUK3	**Moose Creek**	144.29	43	P	PKPdf	20 18 08.8	-0.5		
	baz=270								
I28M	**Miner Creek**	144.35	37	IAMs_20	IAMs_20	21 22 19.6			
	comp=Z,4µm,21.0s								
I28M	**Miner Creek**	144.35	37	P	PKPdf	20 18 08.7	-0.4		
	baz=276								
BATAN	**Batan**	144.39	181	IAMs_20	IAMs_20	21 14 40.9			
	comp=Z,3µm,18.0s								
O28M	**Mount Upton**	144.40	45	P	PKPdf	20 18 09.5	-0.1		
	baz=269								
JTS	**Las Juntas de**	144.57	178	PKPdf	PKPab	20 18 09.1	-0.2		
JTS	**Las Juntas de**	144.57	178	PKIKP	PKPab	20 18 09.1	-0.2		
JTS				MLR	MLR				
	comp=Z,5µm,22.0s								
ORTG	**Ortega, Santa**	144.62	177		PKPab	20 18 08.8	-0.8		
SOCE	**Pocosol**	144.67	179		PKPab	20 18 08.2	-1.5		
DAWY	**Dawson**	144.70	39	PKPdf	PKPab	20 18 08.4	0.0		
DAWY				IAMs_20	IAMs_20	21 30 03.9			
	comp=Z,2µm,20.0s								
DAWY	**Dawson**	144.70	39	P	PKPdf	20 18 09.6	0.0		
	baz=274								
E29M	**Blow River**	144.71	31	IAMs_20	IAMs_20	21 22 42.0			
	comp=Z,2µm,21.0s								
E29M	**Blow River**	144.71	31	P	PKPdf	20 18 09.5	0.0		
	baz=282								
MAGL	**Barre de l'ile**	144.72	220	IAMs_20	IAMs_20	21 25 15.9			
	comp=Z,3µm,20.0s								
PNL	**Peninsula**	144.77	47	P	PKPdf	20 18 09.7	-0.1		
	baz=268								
H29M	**Whitestone**	144.90	35	IAMs_20	IAMs_20	21 29 36.4			
	comp=Z,3µm,20.0s								
H29M	**Whitestone**	144.90	35	P	PKPdf	20 18 10.1	+0.2		
	baz=278								
G29M	**Pine Creek**	144.93	34	IAMs_20	IAMs_20	21 27 49.2			
	comp=Z,3µm,20.0s								
G29M	**Pine Creek**	144.93	34	P	PKPdf	20 18 09.8	-0.1		
	baz=280								
GDSD	**La Dsirade Is**	144.94	220		PKPab	20 18 09.4	-1.2		
CBE	**Ff, Capester**	144.97	219	IAMs_20	IAMs_20	21 24 54.5			
	comp=Z,3µm,21.0s								
COVE	**Coope Vega, Sa**	145.00	179	IAMs_20	IAMs_20	21 16 41.4			
	comp=Z,3µm,18.0s								
YUK4	**Talbot Arm**	145.16	44	P	PKPdf	20 18 11.8	+1.0		
	baz=271								
J29N	**Klondike Camp**	145.18	38	P	PKPdf	20 18 12.0	+1.5		
	baz=276								
M29M	**Somme Creek**	145.21	42	IAMs_20	IAMs_20	21 30 08.2			
	comp=Z,2µm,21.0s								
M29M	**Somme Creek**	145.21	42	P	PKPdf	20 18 11.9	+1.2		
	baz=273								
GDHS	**Morne Mazeau,**	145.22	219	IAMs_20	IAMs_20	21 24 58.5			
	comp=Z,3µm,20.0s								
YUK6	**Outpost Mounta**	145.30	44	P	PKPab	20 18 12.3	+1.3		
	baz=271								
L29M	**L29M**	145.33	40	IAMs_20	IAMs_20	21 30 15.2			
	comp=Z,3µm,21.0s								
L29M	**L29M**	145.33	40	P	PKPab	20 18 12.8	+1.9		
	baz=274								
EPYK	**Eagle Plains**	145.53	35	IAMs_20	IAMs_20	21 31 30.7			
	comp=Z,3µm,19.0s								
EPYK	**Eagle Plains**	145.53	35	P	PKPab	20 18 11.7	+0.2		
	baz=269								
K29M	**Barlow Dome**	145.54	39	IAMs_20	IAMs_20	21 31 35.7			
	comp=Z,2µm,19.0s								
K29M	**Barlow Dome**	145.54	39	P	PKPab	20 18 12.8	+1.2		
	baz=276								
P29M	**Windy Craggy**	145.61	47	IAMs_20	IAMs_20	21 32 56.5			
	comp=Z,2µm,20.0s								
P29M	**Windy Craggy**	145.61	47	P	PKPab	20 18 13.2	+1.3		
	baz=269								
G30M	**tAoh Zraii Nji**	145.61	33	IAMs_20	IAMs_20	21 28 54.2			
	comp=Z,2µm,19.0s								
G30M	**tAoh Zraii Nji**	145.61	33	P	PKPab	20 18 12.0	+0.2		
	baz=282								
EUNU	**Eureka**	145.64	1		PKPdf	20 18 09.7	-1.2		
F30M	**Barrier River**	145.65	32	P	PKPab	20 18 12.6	+0.8		
	baz=283								
NEEM	**North Greenlan**	145.72	348	*i* P	PKPab	20 18 12.1	-0.1		
NEEM				IAMs_20	IAMs_20	21 21 26.5			
	comp=Z,3µm,24.8s								
HYT	**Haines Junctio**	145.72	44	IAMs_20	IAMs_20	21 31 46.4			
	comp=Z,2µm,20.0s								
HYT	**Haines Junctio**	145.72	44	P	PKPab	20 18 13.7	+1.2		
	baz=271								
I30M	**Mount Dempster**	145.86	37	IAMs_20	IAMs_20	21 30 14.9			
	comp=Z,3µm,20.0s								
I30M	**Mount Dempster**	145.86	37	P	PKPab	20 18 13.4	+0.5		
	baz=279								
N30M	**Aishikik Lake**	145.90	43	IAMs_20	IAMs_20	21 31 17.7			
	comp=Z,2µm,21.0s								
N30M	**Aishikik Lake**	145.90	43	P	PKPab	20 18 14.5	+1.4		
	baz=273								
J30M	**Hart River**	145.97	38	IAMs_20	IAMs_20	21 29 50.0			
	comp=Z,2µm,20.0s								
J30M	**Hart River**	145.97	38	P	PKPab	20 18 14.2	+0.9		
	baz=278								
M30M	**Minto, Yukon**	145.98	41	P	PKPab	20 18 13.8	+0.6		
	baz=274								
P30M	**Million Dollar**	146.00	46	P	PKPab	20 18 13.9	+0.5		
	baz=271								
SUMG	**Summit**	146.07	337	PKPdf	PKPdf	20 18 12.5	+0.3		
SUMG	**Summit**	146.07	337	PKP2	PKPdf	20 18 12.5	+0.3		
SUMG				MLR	MLR				
	comp=Z,4µm,19.0s								
SUMG	**Summit**	146.07	337	*i* P	PKPab	20 18 15.0	+1.2		
SUMG				IAMs_20	IAMs_20	21 33 30.9			
	comp=Z,3µm,16.8s								
MAYO	**Mayo, Yukon**	146.29	39	IAMs_20	IAMs_20	21 31 12.0			
	comp=Z,2µm,20.0s								
INK	**Inuvik**	146.30	31	PKPdf	PKPdf	20 18 12.2	0.0		
INK				IAMs_20	IAMs_20	21 24 34.7			
	comp=Z,2µm,22.0s								
INK	**Inuvik**	146.30	31	P	PKPbc	20 18 13.4	0.0		
	baz=286								
INK	**Inuvik**	146.30	31	PKP2	PKPdf	20 18 12.2	0.0		
INK				MLR	MLR				
	comp=Z,2µm,22.0s								
PLBC	**Pleasant Camp**	146.31	47	P	PKPab	20 18 14.8	+0.3		
	baz=270								
S31K	**Pelican**	146.35	50	IAMs_20	IAMs_20	21 21 28.4			
	comp=Z,2µm,20.0s								
S31K	**Pelican**	146.35	50	P	PKPab	20 18 15.2	+0.5		
	baz=268								
G31M	**Satah River**	146.38	33	IAMs_20	IAMs_20	21 20 44.9			
	comp=Z,2µm,22.0s								
G31M	**Satah River**	146.38	33	P	PKPab	20 18 14.6	+0.1		
	baz=284								
O30N	**Mendenhall**	146.42	45	IAMs_20	IAMs_20	21 31 41.8			
	comp=Z,2µm,21.0s								
O30N	**Mendenhall**	146.42	45	P	PKPab	20 18 15.6	+0.6		
	baz=272								
F31M	**Tsiigehtchic**	146.45	32	P	PKPab	20 18 14.7	-0.1		
	baz=285								
H31M	**Peel River**	146.59	35	IAMs_20	IAMs_20	21 32 32.2			
	comp=Z,3µm,19.0s								
H31M	**Peel River**	146.59	35	P	PKPbc	20 18 14.1	-0.3		
	baz=282								
SIT	**Sitka**	146.80	51	P	PKPab	20 18 17.0	+0.5		
	baz=267								
SKAG	**Skagway**	146.83	47	P	PKPab	20 18 16.5	0.0		
	baz=271								
WHY	**Whitehorse**	147.01	45		PKPdf	20 18 13.4	-0.4		
WHY	**Whitehorse**	147.01	45	P	PKPab	20 18 16.8	-0.6		
	baz=273								
M31M	**Drury Creek, Y**	147.12	42	IAMs_20	IAMs_20	21 32 05.3			
	comp=Z,3µm,19.0s								
M31M	**Drury Creek, Y**	147.12	42	P	PKPab	20 18 17.9	+0.2		
	baz=276								
S32K	**Killisnoo**	147.22	51	IAMs_20	IAMs_20	21 21 26.5			
	comp=Z,3µm,20.0s								
S32K	**Killisnoo**	147.22	51	P	PKPab	20 18 17.8	-0.3		
	baz=269								
R32K	**Eaglecrest**	147.26	49	IAMs_20	IAMs_20	21 22 24.5			
	comp=Z,2µm,20.0s								
JIS	**Juneau Island**	147.34	49	IAMs_20	IAMs_20	21 25 44.4			
	comp=Z,2µm,20.0s								
SMRT	**St. Maarten**	147.36	219	IAMs_20	IAMs_20	21 25 28.0			
	comp=Z,3µm,20.0s								
A36M	**Sachs Harbour**	147.42	22	IAMs_20	IAMs_20	21 28 56.9			
	comp=Z,3µm,20.0s								
A36M	**Sachs Harbour**	147.42	22	P	PKPbc	20 18 16.7	+0.2		
	baz=301								
FARO	**Faro, Yukon**	147.61	42	IAMs_20	IAMs_20	21 32 45.1			
	comp=Z,2µm,20.0s								
P32M	**Atlin**	147.65	47	P	PKiKP	20 18 19.3	-0.2		
	baz=273								
N32M	**Quiet Lake**	147.85	44	IAMs_20	IAMs_20	21 33 01.7			
	comp=Z,2µm,20.0s								
N32M	**Quiet Lake**	147.85	44	P	PKiKP	20 18 19.9	0.0		
	baz=276								
ICESG	**Greenland Ices**	147.92	332	*i* P	PKiKP	20 18 19.4	-0.9		
ICESG				IAMs_20	IAMs_20	21 31 15.9			
	comp=Z,4µm,18.8s								
CRAG	**Craig**	147.94	54	IAMs_20	IAMs_20	21 22 42.8			
	comp=Z,3µm,20.0s								
CRAG	**Craig**	147.94	54	P	PKPab	20 18 21.9	+0.9		
	baz=267								
U33K	**Whale Pass**	147.97	53		PKPdf	20 18 15.7	+0.4		
U33K				IAMs_20	IAMs_20	21 16 47.6			
	comp=Z,3µm,21.0s								
U33K	**Whale Pass**	147.97	53	P	PKPab	20 18 22.0	+0.8		
	baz=268								
TGUH	**Tegucigalpa,Un**	148.19	174		PKPbc	20 18 18.7	-1.7		
ANGG	**Ammassalik, Gr**	148.35	325	*i* P	PKPbc	20 18 19.6	+0.5		
ANGG				IAMs_20	IAMs_20	21 23 19.0			
	comp=Z,4µm,21.9s								
WRAK	**Wrangell Islan**	148.42	53		PKPbc	20 18 18.3	-1.3		
WRAK	**Wrangell Islan**	148.42	53	IAMs_20	IAMs_20	21 17 55.3			
	comp=Z,3µm,21.0s								
WRAK	**Wrangell Islan**	148.42	53	P	PKPab	20 18 23.0	0.0		
	baz=269								
MMPY	**Sheldon Lake,**	148.51	41	IAMs_20	IAMs_20	21 39 04.8			
	comp=Z,2µm,20.0s								
IGPR	**InterUniversit**	148.54	214	IAMs_20	IAMs_20	21 31 09.9			
	comp=Z,2µm,20.0s								
TULEG	**Thule**	148.57	353		PKPbc	20 18 19.1	-0.3		
TULEG				IAMs_20	IAMs_20	21 36 20.5			
	comp=Z,3µm,20.0s								
TULEG	**Thule**	148.57	353	*i* P	PKPbc	20 18 19.8	+0.4		
TULEG				IAMs_20	IAMs_20	21 24 39.7			
	comp=Z,3µm,23.8s								
HUMP	**Col San Antoni**	148.60	214		PKPdf	20 18 19.2	+1.6		
HUMP				IAMs_20	IAMs_20	21 22 41.5			
	comp=Z,3µm,21.0s								
CELP	**Cerrillos**	148.82	213		PKPbc	20 18 20.6	-1.2		
GCPR	**Guaynabo City**	148.84	214		PKPdf	20 18 19.4	+1.5		
GCPR				IAMs_20	IAMs_20	21 22 55.9			
	comp=Z,2µm,20.0s								
KULLO	**Kullorsuaq**	148.89	347	*i* P	PKPbc	20 18 20.4	+0.1		
KULLO				IAMs_20	IAMs_20	21 27 31.0			
	comp=Z,4µm,23.3s								
MLPR	**Magueyes Islan**	148.90	212		PKPbc	20 18 21.1	-0.9		
MLPR				IAMs_20	IAMs_20	21 18 53.4			
	comp=Z,2µm,21.0s								
ISOG	**Isortoq, Green**	148.91	325	*i* P	PKiKP	20 18 21.3	-0.5		
ISOG				IAMs_20	IAMs_20	21 28 48.1			
	comp=Z,4µm,16.1s								
CRPR	**Cabo Rojo, PR**	148.96	212	IAMs_20	IAMs_20	21 29 41.9			
	comp=Z,2µm,19.0s								
R33M	**Jennings River**	149.06	47	P	PKiKP	20 18 22.5	-0.1		
	baz=275								
S34M	**Telegraph Cree**	149.07	50	IAMs_20	IAMs_20	21 19 02.3			
	comp=Z,2µm,20.0s								
C36M	**Paulatuk**	149.08	26	IAMs_20	IAMs_20	21 38 04.9			
	comp=Z,2µm,22.0s								
C36M	**Paulatuk**	149.08	26	P	PKPbc	20 18 20.7	-0.2		
	baz=299								
TLIG	**Tlapa**	149.26	152		PKPbc	20 18 22.2	-0.8		
TLIG				IAMs_20	IAMs_20	21 17 22.2			
	comp=Z,3µm,20.0s								
AGPR	**Aguadilla, PR**	149.38	212	IAMs_20	IAMs_20	21 19 53.1			
	comp=Z,2µm,21.0s								
SLBS	**Sierra La Lagu**	149.45	127		PKPbc	20 18 22.9	-0.5		
SLBS				IAMs_20	IAMs_20	21 16 48.2			
	comp=Z,2µm,20.0s								
T35M	**Bob Quinn**	149.57	52	P	PKPbc	20 18 22.3	-0.3		
	baz=272								
DLBC	**Dease Lake**	149.62	49	IAMs_20	IAMs_20	21 23 35.9			
	comp=Z,3µm,21.0s								
GRNB	**Grenville Isla**	149.67	58	IAMs_20	IAMs_20	21 40 17.9			
	comp=Z,2µm,20.0s								
U35K	**Hyder**	149.71	54	IAMs_20	IAMs_20	21 20 58.5			
	comp=Z,4µm,20.0s								
WTLY	**Watson Lake, Y**	150.07	45	IAMs_20	IAMs_20	21 25 22.6			
	comp=Z,2µm,21.0s								
WTLY	**Watson Lake, Y**	150.07	45	P	PKiKP	20 18 24.6	0.0		
	baz=278								
TGTN	**Hyland Airport**	150.09	42	P	PKiKP	20 18 25.2	+0.6		
	baz=281								
UPNV	**Upernavik**	150.10	344	*i* P	PKPbc	20 18 23.4	+0.1		
UPNV				IAMs_20	IAMs_20	21 37 01.5			
	comp=Z,3µm,17.4s								
MCCM	**Marconi Confer**	150.22	91	IAMs_20	IAMs_20	21 25 10.8			
	comp=Z,3µm,19.0s								
MOIG	**Morelia**	150.25	146	IAMs_20	IAMs_20	21 22 45.7			
	comp=Z,2µm,20.0s								
NUUG	**Nuugaatsiaq**	150.38	341	*i* P	PKiKP	20 18 25.0	+0.3		
NUUG				IAMs_20	IAMs_20	21 30 35.3			
	comp=Z,4µm,18.1s								
GDXM	**Geysers**	150.59	90		PKiKP	20 18

	comp=Z,3µm,21.0s							
YERR	**Yerington**	**153.15**	**92**	IAMs_20	IAMs_20	21 20 44.2		
	comp=Z,3µm,20.0s							
H04A	**Detroit Lake**	**153.16**	**79**	IAMs_20	IAMs_20	21 42 18.2		
	comp=Z,3µm,21.0s							
GTBY	**Guantanamo Bay**	**153.17**	**198**	IAMs_20	IAMs_20	21 23 36.1		
	comp=Z,2µm,20.0s							
DSP	**Deep Springs**	**153.28**	**96**	IAMs_20	IAMs_20	21 27 04.7		
	comp=Z,3µm,18.0s							
LHV	**Little Huntoon**	**153.33**	**94**	IAMs_20	IAMs_20	21 16 04.0		
	comp=Z,4µm,22.0s							
J05D	**Fort Rock, OR**	**153.40**	**82**		**PKPbc**	**20 18 30.5**	**-1.5**	
LCH	**Last Change Ra**	**153.44**	**97**	IAMs_20	IAMs_20	21 15 53.9		
	comp=Z,3µm,22.0s							
K05A	**Summer Lake**	**153.45**	**83**	IAMs_20	IAMs_20	21 19 28.1		
	comp=Z,3µm,20.0s							
RYN	**Ryan**	**153.49**	**93**	IAMs_20	IAMs_20	21 16 56.2		
	comp=Z,2µm,22.0s							
GRAC	**Grapevine Rang**	**153.52**	**98**	IAMs_20	IAMs_20	21 25 48.9		
	comp=Z,3µm,19.0s							
NVAR	**Mina Array Bea**	**153.55**	**94**	PKPdf	**PKPdf**	**20 18 24.9**	**0.0**	
NVAR	**Mina Array Bea**	**153.55**	**94**	PKP	**PKPdf**	**20 18 27.0**	**+2.1**	
	comp=Z,1.4nm,0.9s,baz=207,slow=3.5,SNR=9.7							
NVAR				PKPbc	**PKiKP**	**20 18 33.9**	**+1.2**	
	comp=Z,6.3nm,0.9s,baz=223,slow=4.1,SNR=23							
GRTK	**Grand Turk**	**153.60**	**207**	IAMs_20	IAMs_20	21 25 02.6		
	comp=Z,3µm,22.0s							
I05D	**Terrebonne, OR**	**153.64**	**80**	IAMs_20	IAMs_20	21 43 39.0		
	comp=Z,3µm,20.0s							
NV11	**Mina Array Sit**	**153.66**	**94**	IAMs_20	IAMs_20	21 25 30.7		
	comp=Z,3µm,19.0s							
HOOD	**Mount Hood Mea**	**153.69**	**77**	IAMs_20	IAMs_20	21 42 26.4		
	comp=Z,3µm,22.0s							
214A	**Organ Pipe Nat**	**153.71**	**112**	IAMs_20	IAMs_20	21 30 46.6		
	comp=Z,3µm,18.0s							
NMDO	**Nuevo Mundo**	**153.76**	**199**	IAMs_20	IAMs_20	21 27 05.5		
	comp=Z,3µm,21.0s							
MZP	**Montezuma Peak**	**153.85**	**96**	IAMs_20	IAMs_20	21 24 43.8		
	comp=Z,2µm,19.0s							
D05A	**Enumclaw**	**153.89**	**73**	IAMs_20	IAMs_20	21 16 13.2		
	comp=Z,3µm,22.0s							
G05A	**Wamic**	**153.90**	**78**	IAMs_20	IAMs_20	21 14 52.9		
	comp=Z,3µm,22.0s							
LON	**Longmire**	**153.92**	**74**	IAMs_20	IAMs_20	21 43 28.1		
	comp=Z,2µm,22.0s							
KVN	**Kaiserville**	**153.97**	**93**	IAMs_20	IAMs_20	21 37 52.0		
	comp=Z,2µm,20.0s							
TPH	**Tonopah**	**154.14**	**96**		**PKPdf**	**20 18 25.7**	**0.0**	
TPH	**Tonopah**	**154.14**	**96**	PKIKP	**PKPdf**	**20 18 25.7**	**0.0**	
TPH				MLR	MLR			
	comp=Z,9µm,19.0s							
TEIG	**Tepich**	**154.20**	**170**	IAMs_20	IAMs_20	21 19 20.2		
	comp=Z,3µm,22.0s							
G06A	**Carlson Farm,**	**154.37**	**78**	IAMs_20	IAMs_20	21 43 11.2		
	comp=Z,3µm,21.0s							
HPIG		**154.37**	**130**	IAMs_20	IAMs_20	21 14 53.1		
	comp=Z,3µm,22.0s							
Q09A	**Carvers**	**154.52**	**94**	IAMs_20	IAMs_20	21 24 53.5		
	comp=Z,3µm,19.0s							
LTY	**Liberty**	**154.78**	**73**	IAMs_20	IAMs_20	21 21 13.0		
	comp=Z,3µm,21.0s							
SHPR	**Sheep Range**	**154.79**	**101**	IAMs_20	IAMs_20	21 23 11.6		
	comp=Z,2µm,19.0s							
Y14A	**Wickenburg**	**154.81**	**108**	IAMs_20	IAMs_20	21 22 11.0		
	comp=Z,3µm,20.0s							
I07A	**Izee**	**154.83**	**81**	IAMs_20	IAMs_20	21 21 50.6		
	comp=Z,3µm,20.0s							
W13A	**Hualapai Mount**	**154.90**	**105**		**PKPdf**	**20 18 26.4**	**-0.5**	
W13A				IAMs_20	IAMs_20	21 21 19.3		
	comp=Z,3µm,20.0s							
MXC	**Moxie City**	**154.91**	**75**	IAMs_20	IAMs_20	21 25 09.2		
	comp=Z,2µm,20.0s							
WVOR	**Wild Horse Val**	**154.92**	**85**	IAMs_20	IAMs_20	21 19 59.1		
	comp=Z,3µm,22.0s							
F07A	**Phinny Hill Vi**	**155.01**	**77**	IAMs_20	IAMs_20	21 39 56.0		
	comp=Z,3µm,21.0s							
BMN	**Battle Mountai**	**155.17**	**91**	IAMs_20	IAMs_20	21 19 46.7		
	comp=Z,3µm,20.0s							
E07A	**Sunnyside**	**155.20**	**75**	IAMs_20	IAMs_20	21 23 17.0		
	comp=Z,2µm,19.0s							
TUC	**Tucson**	**155.25**	**114**	IAMs_20	IAMs_20	21 44 18.2		
	comp=Z,3µm,21.0s							
J08A	**Circle Bar Ran**	**155.33**	**83**	IAMs_20	IAMs_20	21 42 51.9		
	comp=Z,3µm,20.0s							
HAWA	**Hanford**	**155.38**	**76**	IAMs_20	IAMs_20	21 40 21.9		
	comp=Z,2µm,20.0s							
R11B	**Troy Canyon, C**	**155.41**	**96**	IAMs_20	IAMs_20	21 26 02.0		
	comp=Z,3µm,19.0s							
R11B	**Troy Canyon, C**	**155.41**	**96**	P	**PKPdf**	**20 18 30.0**	**+2.6**	
	baz=242							
G08A	**Pilot Rock**	**155.53**	**79**	IAMs_20	IAMs_20	21 36 28.9		
	comp=Z,3µm,19.0s							
319A	**Douglas**	**155.57**	**117**	IAMs_20	IAMs_20	21 32 30.6		
	comp=Z,2µm,19.0s							
E08A	**Dider Farm, El**	**155.72**	**76**	IAMs_20	IAMs_20	21 31 27.9		
	comp=Z,2µm,20.0s							
YKAW3	**Yellowknife Wh**	**155.78**	**35**	IAMs_20	IAMs_20	21 35 56.5		
	comp=Z,3µm,21.0s							
YKA	**Yellowknife Ar**	**155.81**	**35**	PKPdf	**PKPdf**	**20 18 26.2**	**-0.7**	
YKA	**Yellowknife Ar**	**155.81**	**35**	PKIKP	**PKPdf**	**20 18 26.2**	**-0.7**	
YKA	**Yellowknife Ar**	**155.81**	**35**	PKP	**PKPdf**	**20 18 27.2**	**+0.3**	
	comp=Z,0.7nm,1.0s,baz=286,slow=2.1,SNR=5.8							
YKA				PKPbc	pPKPbc	20 18 36.4	-3.6	
	comp=Z,3.0nm,0.9s,baz=307,slow=2.3,SNR=20							
YKA				PP	**PP**	**20 22 33.5**	**+2.2**	
	comp=Z,0.6nm,0.9s,baz=291,slow=5.2,SNR=4.4							
YKAW1	**Yellowknife Wh**	**155.87**	**35**	IAMs_20	IAMs_20	21 35 57.9		
	comp=Z,3µm,21.0s							
X16A	**Lo Mia Camp, P**	**156.14**	**109**	IAMs_20	IAMs_20	21 23 43.0		
	comp=Z,3µm,20.0s							
Q12A	**Willow Creek R**	**156.25**	**96**	IAMs_20	IAMs_20	21 17 47.3		
	comp=Z,3µm,22.0s							
E09A	**Wood Farm, Sta**	**156.35**	**76**	IAMs_20	IAMs_20	21 39 57.4		
	comp=Z,3µm,22.0s							
BMO	**Blue Mountains**	**156.56**	**80**	IAMs_20	IAMs_20	21 41 10.2		
	comp=Z,3µm,22.0s							
SPR3	**Spring Creek 3**	**156.58**	**96**	IAMs_20	IAMs_20	21 41 46.0		
	comp=Z,3µm,22.0s							
KNB	**Kanab**	**156.66**	**102**	IAMs_20	IAMs_20	21 21 09.0		
	comp=Z,3µm,22.0s							
ELK	**Elko**	**156.68**	**91**	IAMs_20	IAMs_20	21 41 45.0		
	comp=Z,3µm,19.0s							
PSUT	**Pine Spring**	**156.70**	**98**	IAMs_20	IAMs_20	21 25 22.0		
	comp=Z,2µm,20.0s							
U15A	**North Rim**	**156.71**	**104**	IAMs_20	IAMs_20	21 23 21.3		
	comp=Z,3µm,20.0s							
WUAZ	**Wupatki**	**156.82**	**107**	IAMs_20	IAMs_20	21 26 24.6		
	comp=Z,3µm,19.0s							
F10A	**Beach Ranch, E**	**156.86**	**78**	IAMs_20	IAMs_20	21 23 51.2		
	comp=Z,2µm,20.0s							
X18A	**Snowflake**	**157.19**	**110**	IAMs_20	IAMs_20	21 33 33.7		
	comp=Z,3µm,19.0s							
CAMR	**Camarioca**	**157.19**	**186**	IAMs_20	IAMs_20	21 21 55.3		
	comp=Z,4µm,20.0s							
MFID	**Camas Ranch**	**157.19**	**85**	IAMs_20	IAMs_20	21 41 18.1		
	comp=Z,3µm,20.0s							
PKCU	**Pink Cliffs**	**157.23**	**101**	IAMs_20	IAMs_20	21 20 26.1		
	comp=Z,4µm,22.0s							
NEW	**Newport**	**157.30**	**72**	IAMs_20	IAMs_20	21 45 57.4		
	comp=Z,3µm,20.0s							
TXAR	**Lajitas Array**	**157.34**	**130**	PKP	**PKPdf**	**20 18 30.4**	**+0.3**	
	comp=Z,2.4nm,1.1s,baz=167,slow=5.9,SNR=7.2							
TXAR				PKPab	**PKPab**	**20 19 02.5**	**+1.1**	
	comp=Z,7.3nm,1.1s,baz=198,slow=7.9,SNR=14							
PLID	**Pearl Lake**	**157.51**	**80**	IAMs_20	IAMs_20	21 23 36.5		
	comp=Z,2µm,19.0s							
EPT	**El Paso**	**157.54**	**121**	IAMs_20	IAMs_20	21 25 53.6		
	comp=Z,2µm,20.0s							
MTPU	**Mount Pierson**	**157.61**	**100**	IAMs_20	IAMs_20	21 21 22.3		
	comp=Z,3µm,22.0s							
W18A	**Petrified Fore**	**157.68**	**110**	IAMs_20	IAMs_20	21 24 22.9		
	comp=Z,3µm,21.0s							
DUG	**Dugway, Tooele**	**158.15**	**95**	IAMs_20	IAMs_20	21 44 19.9		
	comp=Z,3µm,21.0s							
MNTX	**Cornudas Mount**	**158.16**	**123**	P	**PKPdf**	**20 18 31.9**	**+1.0**	
	baz=224							
HLID	**Hailey**	**158.22**	**85**	IAMs_20	IAMs_20	21 19 21.3		
	comp=Z,3µm,22.0s							
BGU	**Big Grassy Mou**	**158.29**	**93**	IAMs_20	IAMs_20	21 45 00.4		
	comp=Z,2µm,20.0s							
HMU	**Henry Mountain**	**158.55**	**102**	IAMs_20	IAMs_20	21 26 39.1		
	comp=Z,3µm,20.0s							
KVTX	**Kingsville**	**158.61**	**144**	IAMs_20	IAMs_20	21 27 20.4		
	comp=Z,3µm,18.0s							
833A	**Chaparral WMA,**	**158.63**	**140**	IAMs_20	IAMs_20	21 28 50.4		
	comp=Z,2µm,21.0s							
Q16A	**Castle Valley**	**158.73**	**99**	IAMs_20	IAMs_20	21 22 36.6		
	comp=Z,3µm,22.0s							
HVU	**Hansel Valley**	**158.79**	**91**	IAMs_20	IAMs_20	21 47 20.5		
	comp=Z,3µm,21.0s							
SPUT	**South Promonto**	**158.85**	**92**	IAMs_20	IAMs_20	21 44 54.0		
	comp=Z,3µm,22.0s							
Y22D	**IRIS PASSCAL I**	**158.85**	**116**	IAMs_20	IAMs_20	21 37 00.5		
	comp=Z,3µm,20.0s							
MPU	**Maple Canyon**	**158.90**	**96**	IAMs_20	IAMs_20	21 29 11.4		
	comp=Z,2µm,19.0s							
CTU	**Camp Tracy**	**159.10**	**94**	IAMs_20	IAMs_20	21 44 30.6		
	comp=Z,3µm,22.0s							
SRU	**San Rafael Swe**	**159.27**	**99**	IAMs_20	IAMs_20	21 23 02.1		
	comp=Z,3µm,21.0s							
TCUT	**Toone Canyon**	**159.50**	**93**	IAMs_20	IAMs_20	21 44 30.3		
	comp=Z,3µm,22.0s							
MVCO	**Mesa Verde**	**159.69**	**106**	IAMs_20	IAMs_20	21 45 17.5		
	comp=Z,3µm,20.0s							
ANMO	**Albuquerque**	**159.70**	**114**	IAMs_20	IAMs_20	21 32 14.1		
	comp=Z,3µm,21.0s							
735A	**Kenedy**	**159.79**	**142**	IAMs_20	IAMs_20	21 31 17.8		
	comp=Z,2µm,19.0s							
PDAR	**Pinedale Array**	**161.37**	**90**	PKP	**PKPdf**	**20 18 35.2**	**+0.7**	
	comp=Z,2.4nm,1.0s,baz=187,slow=1.2,SNR=9.5							
PDAR				PKPab	**PKPab**	**20 19 19.0**	**+0.2**	
	comp=Z,1.4nm,0.9s,baz=201,slow=4.8,SNR=1.7							
RLMT	**Red Lodge**	**162.18**	**83**	P	**PKPdf**	**20 18 37.8**	**+2.5**	
	baz=259							
ISCO	**Idaho Springs**	**162.95**	**103**	P	**PKPdf**	**20 18 38.2**	**+1.9**	
	baz=242							
WMOK	**Wichita Mounta**	**164.13**	**129**	P	**PKPdf**	**20 18 38.1**	**+0.9**	
	baz=221							
ECSD	**EROS Data Cent**	**170.68**	**98**	PKPdf	**PKPdf**	**20 18 41.3**	**-0.3**	
ULM	**Lac du Bonnet**	**170.82**	**57**	PKPdf	**PKPdf**	**20 18 41.2**	**-0.2**	
ULM	**Lac du Bonnet**	**170.82**	**57**	PKIKP	**PKPdf**	**20 18 41.2**	**-0.2**	
ULM	**Lac du Bonnet**	**170.82**	**57**	PKP	**PKPdf**	**20 18 41.7**	**+0.3**	
	comp=Z,2.7nm,1.0s,baz=358,slow=1.3,SNR=3.2							
ULM				PKPab	**PKPab**	**20 19 59.0**	**-0.9**	
	comp=Z,8.5nm,1.2s,baz=288,slow=4.3,SNR=5.5							

*NNC **24** 20:06:19.5±0.9, 46˚.86N×68˚.91E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=9.4km s-min=7.9km az=25.0*
*IDC **24** 20:06:20.6±0.6, 46˚.79N×68˚.89E, h0km, mb3.8/9, mbtmp3.9/18, ML3.4/9, Error ellipse: s-maj=11.3km s-min=6.8km az=29.0*
*SOME **24** 20:06:20.8, 46˚.90N×69˚.10E, h15km*
*NEIC **24** 20:06:22.5±1.4, 46˚.85N±0˚.06×68˚.87E±0˚.06, h13km±6km, mb4.0/1, Error ellipse: s-maj=10.1km s-min=1.5km az=145.0*

ISC 24 20:06:22.6±0.5, **46˚.92N**±0˚.04×**68˚.83E**±0˚.03, **h10**km, **n75, σ3s10/91, mb3.9/9, 18C-11D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTUK	**Ortayu**	**2.72**	**60**	Pg	**Pn**	**20 07 07.4**	**+1.0**
	15nm,0.4s						
OTUK				Lg	Lg	20 07 40.6	
	28nm,0.4s						
OTUK	**Ortayu**	**2.72**	**60**	⇓Pn	**Pn**	**20 07 07.2**	**+0.9**
	16nm,0.5s						
OTUK				⇓Sn	**Sn**	**20 07 40.2**	**+0.9**
	73nm,0.5s						
BRLS	**Borolday**	**3.96**	**169**	*eP*	**Pb**	**20 07 36.1**	**+3.6**
	6.9nm,0.5s						
BRLS				*eS*	**Sg**	**20 08 28.5**	**-1.1**
	69nm,0.6s						
KK31	**Karatay Array**	**4.00**	**162**		**Pn**	**20 07 22.2**	**-1.8**
KK31				Sn	**Sn**	**20 08 11.1**	**+0.2**
KK31	**Karatay Array**	**4.00**	**162**	⇓Pn	**Pn**	**20 07 22.4**	**-1.5**
	0.3nm,0.2s,baz=359,slow=13,SNR=95						
KK31				⇓Pg	**Pb**	**20 07 31.5**	**-1.7**
	8.2nm,0.4s,baz=359,slow=13,SNR=62						
KK31				Lg	Lg	20 08 23.6	
	124nm,0.7s,baz=349,slow=29,SNR=20						
KKAR	**Karatay Array**	**4.00**	**162**		**Pn**	**20 07 22.3**	**-1.6**
DZA	**Taraz**	**4.40**	**155**	*eP*	**Pb**	**20 07 40.1**	**0.0**
	26nm,0.2s						
DZA				*eS*	**Sb**	**20 08 36.5**	**+3.3**
	407nm,0.8s						
DZA	**Taraz**	**4.40**	**155**	Pg	**Pb**	**20 07 40.1**	**0.0**
	26nm,0.2s						
DZA				Lg	Lg	20 08 36.5	
	407nm,0.8s						
IUG	**Iuzhnay**	**4.85**	**169**	*eP*	**Pb**	**20 07 49.0**	**+1.3**
	40nm,0.6s						
IUG				*eS*	**Sb**	**20 08 51.5**	**+5.4**
	401nm,1.0s						
MRKS	**Merke**	**5.21**	**142**	*eP*	**Pb**	**20 07 53.9**	**-0.1**
	11nm,0.4s						
MRKS				*eS*	**Sb**	**20 08 59.9**	**+3.3**
	75nm,0.4s						
MRKS	**Merke**	**5.21**	**142**	Pg	**Pb**	**20 07 53.9**	**-0.1**
	12nm,0.9s						
MRKS				Lg	Lg	20 08 59.9	
	75nm,0.8s						
SGDS	**Sogindy**	**5.37**	**128**	Pg	**Pb**	**20 07 55.8**	**-0.8**
	12nm,0.5s						
SGDS				Lg	Lg	20 09 03.2	
	85nm,1.2s						
USP	**Ospenovka**	**5.43**	**130**	P	**Pn**	**20 07 42.0**	**-1.6**
	SNR=12						
EKS2	**Erkin-Say**	**5.52**	**139**	P	**Pn**	**20 07 43.8**	**-1.2**
	SNR=33						
KRBS	**Karabastau**	**5.80**	**121**	*eP*	**Pb**	**20 08 06.2**	**+2.3**
	9.0nm,0.5s						
KRBS				*eS*	**Sb**	**20 09 20.3**	**+6.8**
	87nm,0.9s						
FRU1	**Bishkek**	**5.82**	**133**		**Pn**	**20 07 46.6**	**-2.4**
AAK	**Ala-Archa**	**5.88**	**135**	P	**Pn**	**20 07 48.5**	**-1.4**
	SNR=9.1						
AAK	**Ala-Archa**	**5.88**	**135**	Pn	**Pn**	**20 07 48.3**	**-1.6**
	1.8nm,0.3s,baz=304,slow=8.2,SNR=25						
AAK				Sn	**Sn**	**20 08 54.9**	**-2.6**
	3.6nm,0.3s,baz=228,slow=20,SNR=5.6						
AAK				Lg	Lg	20 09 19.4	
	2.3nm,0.3s,baz=208,slow=21,SNR=4.0						
	3.6nm,0.4s						
KBK	**Karagaybulak**	**6.09**	**132**	P	**Pn**	**20 07 52.2**	**-0.7**
	SNR=7.1						
DGS	**Degeres**	**6.14**	**124**	*eP*	**Pb**	**20 08 12.0**	**+2.4**
	10nm,0.4s						
DGS				*eS*	**Sb**	**20 09 30.1**	**+6.9**
	221nm,0.8s						
BVA0	**Borovoye Array**	**6.19**	**9**	⇑Pn	**Pn**	**20 07 54.4**	**+0.3**
	4.4nm,0.5s						
BVA0				⇑Lg	Lg	20 09 36.5	
	47nm,0.8s,baz=189,slow=30,SNR=5.8						
BVAR	**Borovoye Array**	**6.19**	**9**	Pn	**Pn**	**20 07 54.7**	**+0.6**
	0.7nm,0.3s,baz=191,slow=12,SNR=75						
BVAR				Sn	**Sn**	**20 09 04.8**	**-0.1**
	0.3nm,0.3s,baz=176,slow=22,SNR=2.1						
BVAR				Lg	Lg	20 09 36.5	
	0.6nm,0.3s,baz=185,slow=29,SNR=6.4						
	6.6nm,0.4s						
UCH	**Uchtor**	**6.20**	**137**	P	**Pn**	**20 07 54.1**	**-0.5**
	SNR=24						
BRVK	**Borovoye**	**6.21**	**8**		**Pn**	**20 07 54.9**	**+0.6**
BRVK	**Borovoye**	**6.21**	**8**	⇑Lg	Lg	20 09 34.4	
	74nm,0.8s						
TKM2	**Tokmak 2**	**6.25**	**127**	⇓Pg	**Pb**	**20 08 10.5**	**-1.1**
	6.2nm,1.0s						
TKM2				⇑Lg	Lg	20 09 32.7	
	75nm,0.7s						
ARSB	**Arslanbob**	**6.34**	**150**		**Pn**	**20 07 53.1**	**-3.1**
KST	**Kastek**	**6.37**	**125**	*eP*	**Pb**	**20 08 15.1**	**+1.5**
	5.9nm,0.5s						
KST				*eS*	**Sb**	**20 09 36.4**	**+6.5**
	113nm,1.1s						
KST	**Kastek**	**6.37**	**125**	Pg	**Pb**	**20 08 15.1**	**+1.5**
	5.9nm,0.5s						
KST				Lg	Lg	20 09 36.4	
	113nm,1.1s						
AB31	**Akbulak array**	**6.40**	**295**	⇑Pn	**Pn**	**20 07 57.2**	**+0.3**
	9.9nm,0.7s						
AB31				⇑Sn	**Sn**	**20 09 07.9**	**-2.0**
	2.2nm,0.3s						
AB31				⇑Lg	Lg	20 09 43.3	
	29nm,0.8s						
ABKAR	**Akbulak array**	**6.40**	**295**		**Pn**	**20 07 57.3**	**+0.4**
ABKAR	**Akbulak array**	**6.40**	**295**		**Pn**	**20 07 57.1**	**+0.2**
KTBS	**Karatobe**	**6.40**	**117**	*eP*	**Pb**	**20 08 15.9**	**+1.9**
	4.4nm,0.5s						
KTBS				*eS*	**Sb**	**20 09 37.0**	**+6.4**
	142nm,0.7s						
MTBS	**Maitube**	**6.58**	**122**	*eP*	**Pb**	**20 08 19.5**	**+2.3**
	1.9nm,0.1s						
MTBS				*eS*	**Sb**	**20 09 43.6**	**+7.7**
	60nm,0.4s						
MTBS	**Maitube**	**6.58**	**122**	Pg	**Pb**	**20 08 19.5**	**+2.3**
	1.9nm,0.5s						
MTBS				Lg	Lg	20 09 43.6	
	60nm,0.8s						
KASK	**Kaskelen**	**6.65**	**121**	⇑Lg	Lg	20 09 47.7	
AAA	**Alma-Ata**	**6.82**	**120**	*eP*	**Pb**	**20 08 25.8**	**+4.5**
	14nm,0.2s						
AAA				*eS*	**Sg**	**20 09 53.7**	**-7.7**
	103nm,0.6s						
KNDC	**Almaty**	**6.85**	**120**	⇑Lg	Lg	20 09 54.1	
	392nm,0.9s						
ARXS	**Arharly**	**6.87**	**110**	*eP*	**Pb**	**20 08 26.5**	**+4.4**
	2.8nm,0.5s						
ARXS				*eS*	**Sg**	**20 09 56.0**	**-7.0**
	46nm,1.1s						
MDOK	**Medeo**	**6.93**	**120**	⇑Pn	Pn	20 08 00.3	-4.0
	1.0nm,0.4s						
MDOK				⇑Lg	Lg	20 09 57.0	
	116nm,0.8s						
TNSS	**Tian-Shan**	**6.94**	**121**	*eP*	**Pb**	**20 08 25.6**	**+2.1**
	3.1nm,0.4s						
TNSS				*eS*	**Sb**	**20 09 53.7**	**+7.2**
	46nm,0.7s						
ULHL	**Ulahol**	**7.06**	**129**	P	Pn	20 08 14.4	+8.3
	SNR=5.9						
KURBB	**Kurchatov Arra**	**7.40**	**56**	Pn	**Pn**	**20 08 09.7**	**-0.9**
	0.2nm,0.3s,baz=245,slow=13,SNR=17						
KURBB				Sn	Sn	20 09 21.5	-13
	0.2nm,0.3s,baz=253,slow=24,SNR=5.9						
KURBB				Lg	Lg	20 10 11.8	
	0.5nm,0.3s,baz=246,slow=33,SNR=10						
	1.9nm,0.5s						
KURK	**Kurchatov**	**7.49**	**56**		**Pn**	**20 08 11.6**	**-0.3**
KURK	**Kurchatov**	**7.49**	**56**	⇓Pn	**Pn**	**20 08 10.1**	**-1.8**
	7.5nm,0.7s						
KURK				⇑Lg	Lg	20 10 17.8	
	38nm,0.8s						
KAPS	**Kapalarasan**	**7.50**	**99**	*eP*	**Pb**	**20 08 35.5**	**+2.7**
	1.2nm,0.3s						
KAPS				*eS*	**Sb**	**20 10 10.6**	**+8.4**
	37nm,1.0s						
NRN	**Naryn**	**7.52**	**134**	Pn	**Pn**	**20 08 12.2**	**-0.4**
AKTO	**Aktyubinsk**	**7.97**	**300**	Pn	**Pn**	**20 08 19.5**	**+1.0**
	1.4nm,0.3s,baz=103,slow=10.0,SNR=15						
AKTO				Sn	**Sn**	**20 09 47.4**	**-1.3**
	0.9nm,0.3s,baz=228,slow=22,SNR=3.5						
AKTO				Lg	Lg	20 10 33.5	
	0.6nm,0.3s,baz=202,slow=19,SNR=5.4						
	4.3nm,0.3s						
AKTO	**Aktyubinsk**	**7.97**	**300**	⇑Pn	Pn	**20 08 18.9**	**+0.4**
	7.6nm,1.2s						
AKTO				⇓Sn	**Sn**	**20 09 47.4**	**-1.3**
	3.0nm,0.5s						
AKTO				⇓Lg	Lg	20 10 33.0	
	19nm,0.9s						
DJR	**Jarkent**	**8.11**	**105**	*eP*	Pb	20 08 48.7	+5.6
	1.4nm,0.4s						
DJR				*eS*	Sg	20 10 33.0	-10
	22nm,0.9s						
SIMJ	**Simiganj**	**8.26**	**179**	Pn	**Pn**	**20 08 21.3**	**-1.2**
PDGK	**Podgornoye**	**8.35**	**112**	⇑Pn	**Pn**	**20 08 20.9**	**-2.8**
	1.5nm,0.5s						
PDGK				⇑Lg	Lg	20 10 38.4	
	62nm,0.8s						
MAKZ	**Makanchi**	**9.01**	**86**		**Pn**	**20 08 30.8**	**-1.9**
MAKZ	**Makanchi**	**9.01**	**86**	⇓Pn	**Pn**	**20 08 30.1**	**-2.7**
	2.7nm,0.8s						
MAKZ				⇑Sn	**Sn**	**20 10 07.6**	**-6.6**
	8.6nm,0.8s						
MAKZ				⇓Lg	Lg	20 11 02.4	
	37nm,1.0s						
MK31	**Makanchi Array**	**9.23**	**86**	⇓Pn	**Pn**	**20 08 34.3**	**-1.4**
	2.3nm,0.5s,baz=263,slow=16						
MK31				⇑Sn	**Sn**	**20 10 12.9**	**-6.6**
	11nm,0.7s,baz=259,slow=29						
MK31				⇑Lg	Lg	20 11 10.1	
	25nm,0.7s,baz=270,slow=28						
MKAR	**Makanchi Array**	**9.23**	**86**		**Pn**	**20 08 34.5**	**-1.2**
MKAR	**Makanchi Array**	**9.23**	**86**	Pn	**Pn**	**20 08 33.7**	**-2.0**
	0.7nm,0.3s,baz=265,slow=14,SNR=38						
MKAR				Sn	**Sn**	**20 10 13.8**	**-5.7**
	0.5nm,0.3s,baz=264,slow=23,SNR=4.3						
MKAR				Lg	Lg	20 11 08.9

ECL				*e*S		**Sn**	**20 16 29.2**	**-0.6**
	baz=301							
TWGBT	**Beinan**	**2.24 313**		*e*P		**Pb**	**20 16 05.6**	**-1.0**
TWGBT	baz=304			*e*S		**Sn**	**20 16 32.2**	**+1.1**
	baz=304							
TWG	**Pinlang**	**2.25 313**	P			**Pb**	**20 16 06.2**	**-0.6**
TWG	baz=304			*e*S		**Sn**	**20 16 31.7**	**+0.4**
	baz=304							
CHKT	**Chengkung**	**2.27 323**	*e*S			**Sn**	**20 16 30.9**	**-0.8**
LONT	baz=325 **Longtian**	**2.27 316**	*e*S			**Sn**	**20 16 32.7**	**+0.8**
	baz=323							
CHKH	**Chenggong**	**2.33 325**	P			**Pn**	**20 16 06.1**	**+1.6**
CHKH	baz=332			*e*S		**Sn**	**20 16 32.5**	**-0.6**
	baz=332							
SCZT	**Fangliau**	**2.34 298**	*e*P			**Pb**	**20 16 06.7**	**-1.6**
ECS	baz=306 **Chishang**	**2.35 320**	*e*S			**Sb**	**20 16 36.3**	**-1.4**
	baz=329							
FULB	**Fuli**	**2.39 323**	*e*P			**Pn**	**20 16 06.7**	**+1.4**
FULB	baz=325			*e*S		**Sn**	**20 16 35.6**	**+0.8**
	baz=325							
ECBN	**Changbin**	**2.40 328**	*e*S			**Sn**	**20 16 35.5**	**+0.5**
EHD	baz=330 **Haiduan**	**2.40 321**	*e*P			**Pn**	**20 16 06.4**	**+0.9**
	baz=329							
EHD				*e*S		**Sn**	**20 16 36.0**	**+0.9**
MASBT	baz=329 **Mashibuluo**	**2.44 303**	*e*P			**Pn**	**20 16 07.5**	**+1.4**
	baz=305							
TSMG	**Majia**	**2.49 305**	*e*P			**Pn**	**20 16 07.9**	**+1.2**
EYUL	baz=302 **Yuli**	**2.49 326**	*e*S			**Sn**	**20 16 39.4**	**+2.0**
	baz=331							
TWF1	**Yuli**	**2.51 325**	*e*P			**Pn**	**20 16 08.2**	**+1.2**
TWF1	baz=331			*e*S		**Sn**	**20 16 38.7**	**+1.0**
	baz=331							
YULB	**Yu-li**	**2.54 326**	*e*P			**Pn**	**20 16 08.8**	**+1.4**
YULB	baz=335			*e*S		**Sn**	**20 16 38.6**	**0.0**
	baz=335							
ELDTW	**Lidau**	**2.54 318**	*e*P			**Pn**	**20 16 08.2**	**+0.6**
HGSD	baz=320 **Ruisui**	**2.56 329**	*e*P			**Pn**	**20 16 09.5**	**+1.8**
	baz=338							
HGSD				*e*S		**Sn**	**20 16 38.5**	**-0.5**
EHY	baz=338 **Hungye**	**2.62 328**	*e*P			**Pn**	**20 16 10.0**	**+1.4**
	baz=335							
EHY				*e*S		**Sn**	**20 16 40.0**	**-0.6**
SLGT	baz=335 **Liugui**	**2.66 310**	*e*P			**Pb**	**20 16 13.9**	**+0.1**
	baz=312							
SLGT				*e*S		**Sb**	**20 16 44.2**	**-2.3**
STYH	baz=312 **Taoyuan**	**2.69 315**	*e*P			**Pn**	**20 16 11.4**	**+2.0**
	baz=322							
SGST	**Jiashian**	**2.76 311**	*e*P			**Pb**	**20 16 13.2**	**-2.3**
SHUL	baz=312 **Shoufeng**	**2.76 335**	*e*P			**Pn**	**20 16 10.9**	**+0.5**
	baz=336							
SHUL				*e*S		**Sn**	**20 16 45.1**	**+1.2**
WARBT	baz=336 **Fenglin Townsh**	**2.77 331**	*e*P			**Pn**	**20 16 11.9**	**+1.3**
	baz=338							
WARBT				*e*S		**Sn**	**20 16 43.7**	**-0.6**
ESL	baz=338 **Shilin**	**2.83 333**	*e*P			**Pn**	**20 16 13.1**	**+1.6**
	baz=342							
ESL				*e*S		**Sn**	**20 16 45.0**	**-0.8**
WTP	baz=342 **Ta-pu**	**2.84 314**	*e*P			**Pb**	**20 16 15.3**	**-1.7**
	baz=315							
TPUB	**Ta-pu**	**2.87 315**	*e*P			**Pb**	**20 16 15.2**	**-2.2**
HATJ	baz=316 **Hateruma jima**	**2.89 18**	*e*P			**Pn**	**20 16 13.9**	**+1.6**
HATJ				*e*S		**Sn**	**20 16 46.6**	**-0.6**
ALS	**Alishan**	**2.91 320**	*e*P			**Pb**	**20 16 18.0**	**-0.3**
VWDT	baz=321 **VWDT**	**2.92 327**	*e*P			**Pn**	**20 16 14.9**	**+2.3**
	baz=335							
CHN4	**Tsaushan**	**2.93 315**	*e*P			**Pb**	**20 16 16.9**	**-1.5**
WCKO	baz=316 **Fanlu**	**2.98 316**	*e*S			**Sb**	**20 16 54.1**	**-1.8**
	baz=306							
WHYT	**Xinyi Township**	**3.03 323**	*e*P			**Pb**	**20 16 17.4**	**-2.7**
WHYT	baz=330			*e*S		**Sn**	**20 16 53.0**	**+2.4**
	baz=330							
LXIB	**Xiulin Townshi**	**3.03 334**	*e*P			**Pn**	**20 16 16.2**	**+1.9**
LXIB	baz=340			*e*S		**Sn**	**20 16 52.8**	**+2.0**
	baz=340							
SSLB	**Suanglung**	**3.04 325**	*e*P			**Pb**	**20 16 18.3**	**-2.1**
SSLB	baz=333			*e*S		**Sn**	**20 16 53.1**	**+2.1**
	baz=333							
JKRS	**Kuro-shima**	**3.12 20**	*e*P			**Pn**	**20 16 17.5**	**+2.1**
JKRS				*e*S		**Sn**	**20 16 52.5**	**-0.4**
WUSB	**Renai**	**3.13 330**	*e*P			**Pn**	**20 16 17.6**	**+1.9**
IRIF	baz=338 **Iriomote-Funau**	**3.14 15**	*e*P			**Pn**	**20 16 17.8**	**+2.1**
JYNG	**Yonaguni jima**	**3.15 2**	*e*P			**Pn**	**20 16 18.5**	**+2.7**
SMLT	**Sun Moon Lake**	**3.15 325**	*e*P			**Pb**	**20 16 19.2**	**-3.0**
	baz=332							
CHGB	**Renai**	**3.16 331**	*e*P			**Pn**	**20 16 18.8**	**+2.6**
ETLH	baz=339 **Xiulin Townshi**	**3.17 337**	*e*P			**Pn**	**20 16 18.2**	**+2.0**
	baz=345							
TYC	**Yuchr**	**3.19 325**	*e*P			**Pb**	**20 16 19.8**	**-3.1**
WHF	baz=333 **Hehuan Shan**	**3.20 333**	*e*P			**Pn**	**20 16 18.2**	**+1.3**
	baz=335							
WNT	**Mingjian**	**3.26 323**	*e*P			**Pb**	**20 16 21.1**	**-3.1**
JIJ	baz=324 **Ishigaki jima**	**3.28 21**	*e*P			**Pn**	**20 16 18.7**	**+1.1**
WCS	**Beigang Elemen**	**3.29 327**	*e*P			**Pn**	**20 16 20.7**	**+3.0**
	baz=335							
EWUT	**Wuta**	**3.29 343**	*e*P			**Pn**	**20 16 20.2**	**+2.4**
FUSS	baz=344 **Fushou**	**3.30 334**	*e*P			**Pn**	**20 16 20.6**	**+2.5**
	baz=341							
NNSB	**Datong**	**3.41 337**	*e*P			**Pn**	**20 16 21.4**	**+1.9**
LATG	baz=345 **Datong**	**3.46 340**	*e*P			**Pn**	**20 16 22.3**	**+2.2**
	baz=347							
WHP	**Taichung City**	**3.46 330**	*e*P			**Pb**	**20 16 25.5**	**-1.9**
NDT	baz=335 **Datong Townshi**	**3.52 340**	*e*P			**Pn**	**20 16 23.4**	**+2.5**
	baz=347							
JISG	**Ishigakijimahi**	**3.55 22**	*e*P			**Pn**	**20 16 22.2**	**+1.0**
JISG				*e*S		**Sn**	**20 17 02.0**	**-1.4**
TWE	**Neicheng**	**3.59 342**	*e*P			**Pn**	**20 16 25.0**	**+3.2**
TWQ1	baz=344 **Liyutan**	**3.60 328**	*e*P			**Pb**	**20 16 27.6**	**-2.3**
	baz=317							
YHNB	**Yeheng**	**3.63 338**	*e*P			**Pn**	**20 16 25.9**	**+3.4**
NSK	baz=346 **Sanguang**	**3.64 338**	*e*P			**Pn**	**20 16 25.9**	**+3.3**
	baz=346							
FUSB	**Fushanzhiwuyua**	**3.65 342**	*e*P			**Pn**	**20 16 25.1**	**+2.4**
NWLT	baz=343 **Wulai**	**3.69 341**	*e*P			**Pn**	**20 16 27.2**	**+4.0**
	baz=347							
NFF	**Wufeng Townshi**	**3.69 335**	*e*P			**Pn**	**20 16 27.1**	**+3.8**
TIPB	baz=341 **Shuangxi**	**3.79 346**	*e*P			**Pn**	**20 16 28.5**	**+3.9**
	baz=347							

*TAP **24** 20:25:19.0, 25˚.32N×122˚.26E, h243km, ML2.9, D*
*JMA **24** 20:25:19.8±0.3, 25˚N±3˚×122˚.3E±0˚.9, h221km, MV2.5/10, TAIWAN REGION*

ISC 24 20:25:17.8±3.0, **25˚.4N**±0˚.1×**122˚.28E**±0˚.05, **h237**km±17km, **n41**, σ0**890**/74, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCYT	**Pengchaiyu**	**0.31**	**322**	*e*P			**Pn**	**20 25 49.6**	**+0.9**
	baz=317								
TIPB	**Shuangxi**	**0.58**	**225**	P			**Pn**	**20 25 50.2**	**+0.6**
	baz=232								
TIPB				*e*S			**S**	**20 26 14.4**	**0.0**
	baz=232								
TWE	**Neicheng**	**0.86**	**220**	*i* P			**Pn**	**20 25 52.1**	**+1.3**
	baz=225								
TWE				S			**S**	**20 26 16.4**	**-0.2**
	baz=225								
TWC	**Suao**	**0.86**	**207**	*e*P			**Pn**	**20 25 52.0**	**+1.2**
	baz=204								
TWC				*e*S			**S**	**20 26 16.1**	**-0.5**
	baz=204								
FUSB	**Fushanzhiwuyua**	**0.88**	**225**	*i* P			**Pn**	**20 25 51.8**	**+0.8**
	baz=231								
FUSB				S			**S**	**20 26 16.2**	**-0.7**
	baz=231								
NWLT	**Wulai**	**0.93**	**230**	P			**Pn**	**20 25 51.5**	**+0.3**
	baz=234								
NWLT				S			**S**	**20 26 16.0**	**-1.2**
	baz=234								
EOS2	**EOS2**	**0.96**	**183**	*e*P			**Pn**	**20 25 52.4**	**+1.2**
	baz=193								
EOS2				*e*S			**S**	**20 26 18.1**	**+0.8**
	baz=193								
EWUT	**Wuta**	**1.04**	**206**	P			**Pn**	**20 25 52.7**	**+0.9**
	baz=201								
EWUT				S			**S**	**20 26 18.1**	**-0.3**
	baz=201								
NDT	**Datong Townshi**	**1.04**	**222**	*i* P			**Pn**	**20 25 52.5**	**+0.6**
	baz=234								
NDT				S			**S**	**20 26 17.1**	**-1.3**
	baz=234								
ENA	**Nanau**	**1.07**	**207**	*e*P			**Pn**	**20 25 52.9**	**+0.9**
	baz=210								
ENA				S			**S**	**20 26 18.8**	**+0.1**
	baz=210								
YHNB	**Yeheng**	**1.09**	**229**	P			**Pn**	**20 25 52.1**	**0.0**
	baz=234								
YHNB				*e*S			**S**	**20 26 17.3**	**-1.7**
	baz=234								
LATG	**Datong**	**1.09**	**219**	P			**Pn**	**20 25 53.1**	**+0.9**
	baz=230								
LATG				*e*S			**S**	**20 26 19.0**	**-0.1**
	baz=230								
EOS3	**EOS3**	**1.09**	**178**	*e*P			**Pn**	**20 25 53.0**	**+1.1**
	baz=184								
EOS3				*e*S			**S**	**20 26 19.1**	**+0.4**
	baz=184								
NSK	**Sanguang**	**1.09**	**230**	*e*P			**Pn**	**20 25 52.5**	**+0.3**
	baz=234								
NSK				*e*S			**S**	**20 26 17.7**	**-1.4**
	baz=234								
JYNG	**Yonagunijimaku**	**1.11**	**147**	*e*P			**Pn**	**20 25 52.4**	**+0.2**
YOJ	**Yonaguni jima**	**1.13**	**144**	*e*P			**Pn**	**20 25 52.4**	**0.0**
	baz=148								
YOJ				*i* S			**S**	**20 26 18.8**	**-0.5**
	baz=148								
NNS	**Nan Shan**	**1.25**	**221**	P			**Pn**	**20 25 54.2**	**+0.9**
	baz=222								
NNS				*e*S			**S**	**20 26 20.6**	**-0.4**
	baz=222								
NNSB	**Datong**	**1.25**	**221**	P			**Pn**	**20 25 54.1**	**+0.8**
	baz=221								
NNSB				*e*S			**S**	**20 26 20.3**	**-0.8**
	baz=221								
EOS4	**EOS4**	**1.26**	**178**	*e*P			**Pn**	**20 25 53.9**	**+1.1**
	baz=176								
EOS4				*e*S			**S**	**20 26 20.3**	**+0.1**
	baz=176								
NFF	**Wufeng Townshi**	**1.29**	**235**	*e*P			**Pn**	**20 25 53.5**	**0.0**
	baz=235								
NFF				*e*S			**S**	**20 26 20.3**	**-1.1**
	baz=235								
NACB	**Ninganchiao**	**1.36**	**207**	*e*P			**Pn**	**20 25 54.0**	**+0.1**
	baz=219								
NACB				*e*S			**S**	**20 26 20.4**	**-1.8**
	baz=219								
ETLH	**Xiulin Townshi**	**1.38**	**212**	*e*S			**S**	**20 26 21.5**	**-1.1**
	baz=222								
NSTT	**Nanjuang**	**1.38**	**237**	P			**Pn**	**20 25 54.3**	**+0.2**
	baz=238								
NSTT				*e*S			**S**	**20 26 21.7**	**-0.7**
	baz=238								
FUSS	**Fushou**	**1.47**	**220**	P			**Pn**	**20 25 56.1**	**+1.1**
	baz=224								
FUSS				*e*S			**S**	**20 26 22.9**	**-1.3**
	baz=224								
TWT	**Tachien**	**1.51**	**222**	P			**Pn**	**20 25 56.4**	**+1.2**
	baz=229								
WHF	**Hehuan Shan**	**1.54**	**217**	P			**Pn**	**20 25 56.8**	**+1.0**
	baz=222								
WHF				*e*S			**S**	**20 26 24.9**	**-0.6**
	baz=222								
LXIB	**Xiulin Townshi**	**1.57**	**210**	*e*P			**Pn**	**20 25 55.7**	**-0.1**
	baz=213								
LXIB				*e*S			**S**	**20 26 24.5**	**-0.9**
	baz=213								
WHP	**Taichung City**	**1.64**	**228**	*e*P			**Pn**	**20 25 56.8**	**+0.6**
	baz=237								
CHGB	**Renai**	**1.66**	**218**	*e*P			**Pn**	**20 25 57.6**	**+1.1**
	baz=218								
CHGB				*e*S			**S**	**20 26 27.4**	**+0.6**
	baz=218								
WUSB	**Renai**	**1.74**	**218**	*e*P			**Pn**	**20 25 57.9**	**+0.8**
	baz=218								
WUSB				*e*S			**S**	**20 26 28.0**	**+0.1**
	baz=218								
WCS	**Beigang Elemen**	**1.81**	**224**	*e*P			**Pn**	**20 25 57.7**	**+0.1**
	baz=232								
WCS				*e*S			**S**	**20 26 27.7**	**-1.0**
	baz=232								
WARBT	**Fenglin Townsh**	**1.85**	**206**	*e*P			**Pn**	**20 25 57.5**	**-0.4**
	baz=204								
WARBT				*e*S			**S**	**20 26 27.6**	**-1.8**
	baz=204								
VWDT	**VWDT**	**1.93**	**213**	*e*P			**Pn**	**20 25 60.0**	**+1.4**
	baz=219								
VWDT				*e*S			**S**	**20 26 31.0**	**+0.4**
	baz=219								
JKRS	**Kuro-shima**	**1.94**	**126**	P			**Pn**	**20 25 59.7**	**+1.0**
JKRS				S			**S**	**20 26 30.3**	**-0.5**
JIJ	**Ishigaki jima**	**1.97**	**121**	P			**Pn**	**20 25 59.6**	**+0.6**
JIJ				S			**S**	**20 26 29.4**	**-1.9**
SSLB	**Suanglung**	**2.00**	**217**	*e*P			**Pn**	**20 25 60.0**	**+0.6**
	baz=227								
SSLB				*e*S			**S**	**20 26 31.1**	**-0.7**
	baz=227								
JISG	**Ishigakijimahi**	**2.01**	**113**	P			**Pn**	**20 26 00.2**	**+0.9**
JISG				S			**S**	**20 26 30.7**	**-1.1**
WHYT	**Xinyi Township**	**2.12**	**218**	*e*P			**Pn**	**20 26 01.4**	**+0.9**
	baz=219								
WHYT				*e*S			**S**	**20 26 33.5**	**-0.5**
	baz=219								
YULB	**Yu-li**	**2.18**	**205**	*e*P			**Pn**	**20 26 01.3**	**+0.3**
	baz=204								
JTJ	**Tarama**	**2.32**	**108**	*e*S			**S**	**20 26 36.7**	**-0.5**
JIRB	**Irabujima**	**2.68**	**101**	*e*S			**S**	**20 26 42.6**	**-1.3**

*IDC **24** 20:32:33.8±3.1, 5˚.38S×147˚.46E, h161km±28km, mb3.7/10, mbtmp4.2/12, Error ellipse: s-maj=28.2km s-min=17.8km az=80.0*
*NEIC **24** 20:32:36.7±1.2, 5˚.45S±0˚.07×147˚.2E±0˚.1, h173km±8km, mb4.5/30, Error ellipse: s-maj=16.2km s-min=10.3km az=82.0*

ISC 24 20:32:34.5±0.5, **5˚.48S**±0˚.05×**147˚.16E**±0˚.09, **h150**km, **n65**, σ1**930**/67, **mb4.4**/28, **1C**, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.42**	**3**		Pn		**Pn**	**20 33 29.6**	**+2.3**
PMG	**Port Moresby**	**3.90**	**180**				**Pn**	**20 33 34.9**	**+1.5**
PMG	**Port Moresby**	**3.90**	**180**	P			**Pn**	**20 33 34.6**	**+1.2**
	27nm,0.3s,baz=17,slow=9.7,SNR=41								
PMG				S			**Sn**	**20 34 18.1**	**-1.2**
	114nm,0.5s,baz=232,slow=19,SNR=7.4								
COEN	**Coen**	**9.29**	**205**	Pn			**Pn**	**20 34 47.5**	**+2.3**
CTAO	**Charters Tower**	**14.54**	**183**				**P**	**20 35 56.8**	**+1.1**
FAKI	**Fak Fak**	**15.09**	**279**	Pn			**Pn**	**20 35 59.5**	**-0.6**
FAKI				IAmb			IAmb	20 36 27.4	
	comp=Z,55nm,1.4s								
KDU	**Kakadu**	**16.17**	**243**	P			**Pn**	**20 36 13.6**	**+0.2**
QIS	**Mount Isa**	**16.68**	**205**	P			**Pn**	**20 36 21.5**	**+1.8**
MTN	**Manton Dam**	**17.42**	**244**	P			**P**	**20 36 28.7**	**+1.1**
MTN	**Manton Dam**	**17.42**	**244**	P			**P**	**20 36 28.2**	**+0.6**
DRS	**Darwin Rock St**	**17.48**	**246**	P			**P**	**20 36 28.9**	**+0.8**
WB0	**Warramunga Arr**	**18.87**	**220**	P			**P**	**20 36 44.0**	**+0.7**
WB0				IAmb			IAmb	20 36 45.3	
	comp=Z,29nm,1.0s								
WRA	**Warramunga Arr**	**19.03**	**220**	P			**P**	**20 36 44.4**	**-0.7**
WRA	**Warramunga Arr**	**19.03**	**220**	P			**P**	**20 36 46.0**	**+0.9**
	comp=Z,21nm,0.5s,baz=44,slow=11,SNR=188								
WRA				S			**S**	**20 40 09.7**	**-3.6**
	comp=Z,9.6nm,1.0s,baz=39,slow=21,SNR=11								
EIDS	**Eidsvold**	**20.13**	**170**	P			**P**	**20 36 57.7**	**+0.8**
EIDS				IAmb			IAmb	20 37 02.6	
	comp=Z,30nm,1.4s								
AS01	**Alice Springs**	**22.11**	**214**	P			**P**	**20 37 18.9**	**+1.0**
AS31	**Alice Springs**	**22.13**	**214**	P			**P**	**20 37 19.0**	**+0.8**
ASAR	**Alice Springs**	**22.13**	**214**	P			**P**	**20 37 19.1**	**+0.9**
ASAR	**Alice Springs**	**22.13**	**214**	P			**P**	**20 37 18.9**	**+0.8**
	comp=Z,15nm,0.5s,baz=34,slow=12,SNR=181								
ASAR				S			**S**	**20 41 11.1**	**-0.5**
	comp=Z,9.5nm,0.8s,baz=33,slow=22,SNR=25								
	comp=Z,15nm,0.5s								
SOEI	**Soe**	**23.08**	**258**	P			**P**	**20 37 26.9**	**-0.5**
SOEI				IAmb			IAmb	20 37 32.4	
	comp=Z,22nm,0.9s								
BATI	**Baumata**	**23.74**	**257**	P			**P**	**20 37 34.3**	**+1.1**
	comp=Z,13nm,0.5s,baz=89,slow=6.2,SNR=6.1								
	comp=Z,13nm,0.5s								
AULRC	**Lightning Ridg**	**23.83**	**178**	P			**P**	**20 37 36.3**	**+2.5**
FITZ	**Fitzroy Crossi**	**24.48**	**237**	P			**P**	**20 37 40.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**24.48**	**237**	P			**P**	**20 37 39.6**	**-0.2**
FITZ				IAmb			IAmb	20 37 42.6	
	comp=Z,12nm,0.7s								
OOD	**Oodnadatta**	**24.73**	**205**	P			**P**	**20 37 43.9**	**+1.9**
DZM	**Mont Dzumac**	**24.90**	**133**	P			**P**	**20 37 42.9**	**-0.8**
DZM				IAmb			IAmb	20 37 47.8	
	comp=Z,23nm,1.4s								
MMRI	**Maumere**	**24.93**	**261**	P			**P**	**20 37 42.7**	**-1.3**
ARMA	**Armidale**	**25.16**	**171**	P			**P**	**20 37 45.8**	**-0.3**
ARMA				IAmb			IAmb	20 37 48.7	
	comp=Z,10nm,0.6s								
WRKA	**Warakurna**	**26.56**	**221**	P			**P**	**20 37 58.6**	**-0.1**
MBWA	**Marble Bar**	**30.82**	**237**	P			**P**	**20 38 35.9**	**-0.6**
MBWA				IAmb			IAmb	20 39 04.4	
	comp=Z,20nm,1.4s								
PSA00	**Pilbara Seismi**	**30.91**	**236**	P			**P**	**20 38 36.2**	**-1.0**
PSA00				IAmb			IAmb	20 38 37.8	
	comp=Z,5.2nm,0.8s								
GIRL	**Giralia**	**36.07**	**239**	P			**P**	**20 39 22.4**	**+0.5**
MORW	**Morawa**	**37.63**	**228**	P			**P**	**20 39 34.6**	**-0.4**
YULB	**Yu-li**	**38.23**	**320**	P			**P**	**20 39 39.6**	**-0.5**
TPUB	**Ta-pu**	**38.60**	**319**	P			**P**	**20 39 42.1**	**-1.1**
SSLB	**Suanglung**	**38.73**	**320**	P			**P**	**20 39 43.9**	**-0.4**
RTZ	**Ruatahuna**	**42.64**	**145**	P			**P**	**20 40 15.6**	**-0.6**
RTZ				IAmb			IAmb	20 40 17.4	
	comp=Z,8.6nm,0.7s								
MLZ	**Mavora Lakes**	**43.72**	**159**	P			**P**	**20 40 24.5**	**-0.2**
MLZ				IAmb			IAmb	20 40 43.2	
	comp=Z,30nm,1.5s								
NJ2	**Nanjing**	**46.04**	**326**	*e*P			**P**	**20 40 44.1**	**+0.9**
NJ2				pmax			pmax		
	comp=Z,4.0nm,0.5s								
KULM	**Kulim**	**47.66**	**282**	P			**P**	**20 40 55.2**	**-0.9**
KULM				IAmb			IAmb	20 41 18.9	
	comp=Z,21nm,1.4s								
HNS	**HongShan**	**52.30**	**327**	⇑P			**P**	**20 41 30.8**	**+0.1**
HNS				pmax			pmax		
	comp=Z,7.0nm,0.9s								
CMAR	**Chiang Mai Arr**	**53.15**	**298**	P			**P**	**20 41 37.0**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=115,slow=5.9,SNR=4.7								
	comp=Z,0.4nm,0.5s								
XAN	**Xi'an**	**53.39**	**320**	P			**P**	**20 41 38.8**	**-0.1**
XAN				pmax			pmax		
	comp=Z,11nm,0.6s								
PZH	**PanZhiHua**	**54.27**	**308**	P			**P**	**20 41 46.8**	**+1.3**
PZH				pmax			pmax		
	comp=Z,6.0nm,0.7s								
PZH				pmax			pmax		
	comp=Z,100nm,4.7s								
HHC	**Hu-ho-hao-te**	**56.48**	**328**	*e*P			**P**	**20 42 01.6**	**+0.6**
HHC				pmax			pmax		
	comp=Z,9.0nm,0.6s								
GTA	**Gaotai**	**62.45**	**320**	*e*P			**P**	**20 42 42.5**	**+0.5**
GTA				pmax			pmax		
	comp=Z,3.0nm,0.8s								
SONM	**Songino Array**	**64.03**	**331**	P			**P**	**20 42 51.8**	**-0.5**
SONM	**Songino Array**	**64.03**	**331**	P			**P**	**20 42 52.4**	**+0.1**
	comp=Z,1.2nm,1.0s,baz=150,slow=7.0,SNR=6.6								
	comp=Z,1.2nm,1.0s								
VNDA	**Vanda**	**72.41**	**177**	P			**P**	**20 43 43.3**	**-0.5**
VNDA				IAmb			IAmb	20 44 09.7	
	comp=Z,17nm,1.5s								
VNDA	**Vanda**	**72.41**	**177**	P			**P**	**20 43 43.3**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=326,slow=7.3,SNR=5.4								
	comp=Z,1.5nm,0.6s								
MK31	**Makanchi Array**	**77.20**	**320**	P			**P**	**20 44 10.8**	**-1.1**
MKAR	**Makanchi Array**	**77.20**	**320**	P			**P**	**20 44 10.4**	**-1.5**
MKAR	**Makanchi Array**	**77.20**	**320**	P			**P**	**20 44 10.9**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=100,slow=7.3,SNR=13								
MKAR				pP			**pP**	**20 44 51.2**	**+2.7**
	comp=Z,0.1nm,0.5s,baz=118,slow=4.9,SNR=2.0								
	comp=Z,0.7nm,0.6s								
MAKZ	**Makanchi**	**77.41**	**320**	P			**P**	**20 44 11.8**	**-1.3**
ZALV	**Zalesovo Beam**	**78.66**	**328**	P			**P**	**20 44 17.9**	**-1.8**
	comp=Z,1.3nm,0.4s,baz=106,slow=4.7,SNR=4.6								
	comp=Z,1.3nm,0.4s								
J16K	**Anvik River**	**79.00**	**21**	P			**P**	**20 44 20.9**	**-0.5**
J16K				IAmb			IAmb	20 44 33.9	
	comp=Z,7.8nm,1.5s								
KSH	**Kashi**	**79.16**	**312**	P			**P**	**20 44 26.8**	**+3.8**
CAST	**Castle Rocks**	**82.30**	**23**	P			**P**	**20 44 38.8**	**-0.2**
C19K	**Lookout Ridge**	**82.81**	**17**	P			**P**	**20 44 41.6**	**0.0**
C19K				IAmb			IAmb	20 44 45.2	
	comp=Z,7.4nm,1.5s								
QSPA	**South Pole Qui**	**84.48**	**180**	P			**P**	**20 44 48.9**	**-1.4**
	comp=Z,1.0nm,0.4s,baz=179,slow=1.8,SNR=20								
	comp=Z,1.0nm,0.4s								
ILAR	**Eielson Array**	**84.95**	**23**	P			**P**	**20 44 50.4**	**-2.1**
ILAR	**Eielson Array**	**84.95**	**23**	P			P	20 44 48.7	-3.7
	comp=Z,0.7nm,0.6s,baz=241,slow=5.7,SNR=7.6								
	comp=Z,0.7nm,0.6s								
BVAR	**Borovoye Array**	**86.45**	**324**	P			P	20 44 56.8	-3.4
	comp=Z,0.6nm,0.6s,baz=114,slow=7.0,SNR=4.2								
	comp=Z,0.6nm,0.6s								
G29M	**Pine Creek**	**89.11**	**22**	P			**P**	**20 45 12.1**	**-0.3**

baz=344,slow=76,SNR=46
H11S2 WAKE ISLAND Hy 30.87 158 T T 21 24 19.0
baz=344,slow=76,SNR=37
MKAR Makanchi Array 47.54 297 P **P** **20 53 53.3 -1.1**
0.1nm,0.5s,baz=46,slow=8.3,SNR=1.7
0.1nm,0.5s
KURBB Kurchatov Arra 47.87 303 P **P** **20 53 55.9 -0.9**
0.5nm,0.2s,baz=62,slow=7.9,SNR=1.4
0.5nm,0.2s
BVAR Borovoye Array 51.10 309 P **P** **20 54 20.6 -0.8**
0.5nm,0.4s,baz=53,slow=9.3,SNR=4.1
0.5nm,0.4s
WRA Warramunga Arr 70.04 201 P **P** **20 56 31.0 +0.2**
0.5nm,0.9s,baz=15,slow=6.5,SNR=1.8
0.5nm,0.9s
ASAR Alice Springs 73.73 200 P **P** **20 56 53.9 +0.9**
0.2nm,0.6s,baz=16,slow=6.1,SNR=4.8
0.2nm,0.6s

IDC 24 20:45:50.1±9.4, 6.14S×151.63E, h97km±66km, mb3.1/2, mbtmp3.5/3, ML1.7/1, Error ellipse: s-maj=111.8km s-min=59.2km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.49**	**233**	P	Pn	20 47 09.5	0.0
	1.7nm,0.3s,baz=21,slow=14,SNR=3.4						
PMG				S	Sn	20 48 11.9	+0.6
	3.7nm,0.5s,baz=186,slow=17,SNR=1.9						
	6.3nm,0.3s						
WRA	**Warramunga Arr**	**21.69**	**229**	P	P	20 50 34.1	+0.8
	1.0nm,0.7s,baz=53,slow=9.8,SNR=8.5						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**24.38**	**223**	P	P	20 50 58.9	-0.6
	0.3nm,0.4s,baz=57,slow=9.1,SNR=11						
	0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**149.57**	**285**	PKPbc	PKPbc	21 05 29.0	-0.4
	0.5nm,0.7s,baz=83,slow=3.0,SNR=6.5						

TRN 24 20:51:54.3, 18.58N×62.78W, h51km, MD4.0, Far North-east of Anguilla., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANDO	**Antigua, Disas**	**1.72**	**148**	*e*P	Pn	20 52 23.5	+1.7
ANDO				*e*S	Sn	20 52 44.3	+1.7
ANBD	**Bethesda, Anti**	**1.80**	**148**	*e*P	Pn	20 52 24.7	+1.8
ANBD				*e*S	Sn	20 52 45.8	+1.1
MBFL	**Flemmings, Mon**	**1.90**	**163**	*e*P	Pn	20 52 25.5	+1.3
MBFL				*e*S	Sn	20 52 49.2	+2.2
CBE	**Ff, Capester**	**2.73**	**156**	*e*P	Pn	20 52 37.8	+2.1
CBE				*e*S	Sn	20 53 08.9	+1.3
AOPR	**Arecibo Observ**	**3.78**	**267**	*e*P	Pn	20 52 52.0	+1.9
AOPR				*e*S	Sn	20 53 33.7	+0.4

IDC 24 20:52:01.7±1.9, 28.27S×68.00W, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=104.6km s-min=46.2km az=120.0, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QSPA	**South Pole Qui**	**61.95**	**180**	P	P	21 02 23.3	0.0
	1.3nm,0.7s,baz=164,slow=2.4,SNR=9.8						
	1.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**78.95**	**69**	P	P	21 04 07.7	0.0
	0.6nm,1.0s,baz=256,slow=5.0,SNR=2.4						
	0.6nm,1.0s						
ASAR	**Alice Springs**	**124.22**	**204**	PKP	PKPdf	21 11 02.7	-0.4
	0.3nm,0.7s,baz=157,slow=2.4,SNR=2.2						
WRA	**Warramunga Arr**	**127.43**	**207**	PKP	PKPdf	21 11 09.1	-0.2
	0.5nm,0.6s,baz=164,slow=1.7,SNR=10						

*IDC **24** 21:02:33.2±1.6, 13.25N×39.88E, h0km, mb3.7/11, mbtmp3.7/11, ML2.5/1, Error ellipse: s-maj=35.8km s-min=21.4km az=20.0*
ISC 24 21:02:35.3±0.7, 13.36N±0.07×40.08E±0.08, h10km, n15, σ1s51/15, mb3.8/11, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**3.25**	**124**	Pn	**Pn**	**21 03 26.7**	**+0.2**
	0.5nm,0.3s,baz=81,slow=16,SNR=15						
ATD				Lg	Lg	21 04 14.4	
	baz=323,slow=23						
ATD	**Arta Tunnel**	**3.25**	**124**	*e*SN4	**Sb**	**21 04 10.3**	**-2.7**
I19DJ	**I19DJ**	**3.55**	**121**	I	I	21 25 00.0	
	baz=300,slow=319,SNR=3.8						
FURI	**Furi**	**4.64**	**197**	*e*PN5	**Pn**	**21 03 46.4**	**+0.5**
FURI				*e*SN4	**Sn**	**21 04 41.5**	**+1.5**
BRTR	**Keskin Array B**	**26.87**	**349**	P	**P**	**21 08 17.7**	**+1.3**
	1.3nm,0.8s,baz=170,slow=12,SNR=8.0						
	1.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**37.34**	**274**	P	**P**	**21 09 46.9**	**-1.5**
	0.2nm,0.6s,baz=97,slow=8.9,SNR=1.2						
	0.2nm,0.6s						
AKASG	**Malin Array Be**	**38.28**	**349**	P	**P**	**21 09 55.2**	**-0.6**
	0.8nm,0.7s,baz=166,slow=6.8,SNR=8.2						
	0.8nm,0.7s						
GERES	**GERESS Array B**	**41.55**	**334**	P	**P**	**21 10 22.2**	**-1.0**
	0.5nm,0.5s,baz=126,slow=5.0,SNR=5.5						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**46.33**	**25**	P	**P**	**21 11 02.1**	**+0.7**
	0.8nm,0.7s,baz=214,slow=7.0,SNR=4.9						
	0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**48.51**	**32**	P	**P**	**21 11 20.2**	**+1.8**
	1.4nm,0.8s,baz=234,slow=8.0,SNR=13						
	1.4nm,0.8s						
MKAR	**Makanchi Array**	**48.54**	**38**	P	**P**	**21 11 20.1**	**+1.4**
	0.9nm,0.7s,baz=232,slow=6.9,SNR=9.8						
	0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**53.57**	**31**	P	**P**	**21 11 55.6**	**-0.7**
	0.5nm,0.3s,baz=251,slow=8.7,SNR=4.8						
	0.5nm,0.3s						
EKA	**Eskdalemuir Ar**	**53.59**	**331**	P	**P**	**21 11 54.6**	**-1.9**
	0.9nm,0.8s,baz=140,slow=8.9,SNR=3.6						
	0.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**56.63**	**77**	P	**P**	**21 12 19.9**	**+0.8**
	0.5nm,0.7s,baz=282,slow=8.8,SNR=5.0						
	0.5nm,0.7s						
SONM	**Songino Array**	**64.34**	**43**	P	**P**	**21 13 12.8**	**+1.4**
	0.5nm,0.7s,baz=249,slow=7.2,SNR=4.5						
	0.5nm,0.7s						

*MOS **24** 21:03:36.7±0.9, 45.89N×151.71E, h65km, mb4.4/10, Error ellipse: s-maj=10.1km s-min=8.0km az=52.2*
*SKHL **24** 21:03:37.3±0.5, 45.80N×151.80E, h72km±4km, mb5.0/4*
*IDC **24** 21:03:39.6±2.6, 46.01N×151.59E, h67km±22km, mb3.6/22, mbtmp3.9/27, Error ellipse: s-maj=18.0km s-min=12.8km az=140.0*
*NEIC **24** 21:03:41.0±1.4, 46.3N±0.1×151.4E±0.2, h67km±10km, mb4.3/27, Error ellipse: s-maj=21.3km s-min=13.4km az=142.0*
ISC 24 21:03:36.7±0.5, 45.84N±0.07×151.78E±0.06, h48km, n122, σ1s34/126, mb4.1/45, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.82**	**259**	*i* P	**Pn**	**21 04 21.2**	**+2.0**
KUR				*e*S	**Sn**	**21 04 53.7**	**+1.8**
KUR				pmax	pmax		
	comp=N,80nm,0.4s						
KUR				pmax	pmax		
	comp=Z,317nm,0.4s						
KUR				pmax	pmax		
	comp=E,87nm,0.3s						
KUR				smax	smax		
	comp=E,701nm,0.6s						
KUR				smax	smax		
	comp=N,317nm,0.4s						
KUR	**Kuril'sk**	**2.82**	**259**	*i* P	**Pn**	**21 04 20.4**	**+1.2**
KUR				AMB	AMB	21 04 23.0	
	comp=N,80nm,0.4s						
KUR				AMB	AMB	21 04 23.0	
	comp=N,90nm,0.4s						
KUR				AMB	AMB	21 04 23.0	
	comp=N,320nm,0.4s						
KUR				*e*S	**Sn**	**21 04 52.4**	**+0.5**
KUR				A	A	21 04 57.8	
	comp=N,680nm,0.6s						
KUR				A	A	21 04 57.8	
	comp=N,810nm,0.6s						
SHO	**Shikotan**	**4.03**	**243**	*e*PN	**Pn**	**21 04 35.2**	**-0.7**
SHO				*e*S	**Sn**	**21 05 18.9**	**-2.9**
SHO				pmax	pmax		
	comp=Z,60nm,0.5s						
SHO				pmax	pmax		
	comp=E,44nm,0.3s						
SHO				pmax	pmax		
	comp=N,16nm,0.2s						
SHO				smax	smax		
	comp=N,57nm,0.7s						
SHO				smax	smax		
	comp=E,149nm,0.5s						
SHO	**Shikotan**	**4.03**	**243**	*i* P	**Pn**	**21 04 35.5**	**-0.4**
SHO				AMB	AMB	21 04 38.8	
	comp=E,50nm,0.4s						
SHO				*e*S	**Sn**	**21 05 19.6**	**-2.2**
SHO				A	A	21 05 24.8	
	comp=E,130nm,0.4s						
SHO				A	A	21 05 24.8	
	comp=E,180nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.58**	**249**	*e*PN	**Pn**	**21 04 45.0**	**+1.7**
YUK				*e*S	**Sn**	**21 05 35.6**	**+0.5**
YUK				pmax	pmax		
	comp=Z,208nm,0.3s						
YUK				pmax	pmax		
	comp=N,50nm,0.2s						
YUK				smax	smax		
	comp=N,357nm,0.6s						
YUK				smax	smax		
	comp=E,379nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.58**	**249**	*e*P	**Pn**	**21 04 44.7**	**+1.4**
YUK				AMB	AMB	21 04 46.6	
	comp=E,160nm,0.4s						
YUK				*e*S	**Sn**	**21 05 35.1**	**0.0**
YUK				A	A	21 05 41.1	
	comp=E,360nm,0.5s						
YUK				A	A	21 05 41.1	
	comp=E,380nm,0.5s						
RUSJ	**Misakicho**	**4.95**	**252**	*e*PN	**Pn**	**21 04 51.3**	**+2.8**
RUSJ				*e*S	**Sn**	**21 05 48.2**	**+3.8**
NMR	**Nemuro--Hokkai**	**4.98**	**242**	*e*PN	**Pn**	**21 04 48.2**	**-0.6**
NMR	**Nemuro--Hokkai**	**4.98**	**242**	*i* P	**Pn**	**21 04 48.3**	**-0.6**
NMR				*e*S	**Sn**	**21 05 42.6**	**-2.4**
SKR	**Severo-Kuril's**	**5.65**	**29**	*e*P	**Pn**	**21 04 59.0**	**+1.0**
SKR				AMB	AMB	21 05 00.9	
	comp=E,40nm,0.3s						
SKR				*e*S	**Sn**	**21 06 00.5**	**-0.9**
SKR				A	A	21 06 02.3	
	comp=E,120nm,0.3s						
SKR				A	A	21 06 02.3	
	comp=E,70nm,0.3s						
AKK	**Akkeshi**	**5.71**	**243**	*e*P	**Pn**	**21 04 59.0**	**+0.1**
YSS	**Yuzh-Sakhalins**	**6.34**	**283**	Pn	**Pn**	**21 05 08.6**	**+1.1**
YSS	**Yuzh-Sakhalins**	**6.34**	**283**	*e*PN	**Pn**	**21 05 10.6**	**+3.0**
YSS				*e*S	**Sn**	**21 06 20.5**	**+1.9**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YSS				smax	smax		
	comp=N,10.0nm,0.8s						
YSS				smax	smax		
	comp=E,10.0nm,0.7s						
YSS	**Yuzh-Sakhalins**	**6.34**	**283**	*e*P	**Pn**	**21 05 09.4**	**+1.8**
YSS				AMB	AMB	21 05 12.0	
	comp=E,10.0nm,0.2s						
YSS				*e*S	**Sn**	**21 06 18.3**	**-0.3**
YSS				A	A	21 06 22.7	
	comp=E,10.0nm,0.7s						
YSS				A	A	21 06 22.7	
	comp=E,10.0nm,0.7s						
PAU	**Pauzhetka**	**6.54**	**29**	*e*P	**Pn**	**21 05 11.8**	**+1.5**
PAU				AMB	AMB	21 05 13.5	
	comp=E,20nm,0.4s						
PAU				*e*S	**Sn**	**21 06 22.8**	**-0.7**
PAU				A	A	21 06 24.3	
	comp=E,80nm,0.3s						
PAU				A	A	21 06 24.3	
	comp=E,70nm,0.3s						
JKA	**Kamikawa-asahi**	**6.74**	**258**	Pn	**Pn**	**21 05 15.6**	**+2.6**
JKA	**Kamikawa-asahi**	**6.74**	**258**	*e*P	**Pn**	**21 05 15.6**	**+2.6**
ASAJ	**Asahikawa**	**6.74**	**258**	P	**Pn**	**21 05 15.6**	**+2.6**
	comp=E,7.0nm,0.5s,baz=77,slow=19,SNR=16						
ERM	**Erimo**	**7.30**	**242**		**Pn**	**21 05 22.2**	**+1.5**
ERM	**Erimo**	**7.30**	**242**	PN	**Pn**	**21 05 22.2**	**+1.5**
PETK	**Petropavlovsk-**	**8.23**	**26**	P	**Pn**	**21 05 34.4**	**+0.9**
	comp=E,0.9nm,0.5s,baz=205,slow=17,SNR=2.3						
JTM	**Tennabayashi**	**9.30**	**241**	Pn	**Pn**	**21 05 46.0**	**-2.0**
MA2	**Magadan**	**13.78**	**358**	Pn	**Pn**	**21 06 48.0**	**-1.2**
MA2	**Magadan**	**13.78**	**358**	P	**Pn**	**21 06 50.1**	**+1.0**
	comp=E,1.8nm,0.3s,baz=183,slow=9.3,SNR=6.7						
MJAR	**Matsushiro Arr**	**13.79**	**232**	P	**P**	**21 06 58.7**	**+2.0**
	comp=E,3.9nm,0.6s,baz=32,slow=9.5,SNR=17						
KLR	**Kul'dur**	**13.95**	**291**	P	**Pn**	**21 06 54.3**	**+2.8**
	comp=E,1.3nm,0.9s,baz=80,slow=15,SNR=3.9						
USRK	**Ussuriysk Ar.**	**14.10**	**270**	P	**Pn**	**21 06 53.9**	**+0.3**
	comp=E,1.7nm,0.7s,baz=70,slow=12,SNR=1.9						
KSRS	**Korea Array**	**19.65**	**253**	P	**P**	**21 08 02.2**	**+0.9**
	comp=E,1.6nm,0.6s,baz=56,slow=12,SNR=11						
KSAR	**Wonju Array Be**	**19.68**	**253**		**P**	**21 08 02.7**	**+1.0**
KSAR	**Wonju Array Be**	**19.68**	**253**	P	**P**	**21 08 02.7**	**+1.0**
KSAR	**Wonju Array Be**	**19.68**	**253**	*e*P	**P**	**21 08 02.7**	**+1.0**
YAK	**Yakutsk**	**20.62**	**330**		**P**	**21 08 08.4**	**-3.2**
YAK				AMb	IAmb	21 08 31.3	
	comp=Z,17nm,0.8s						
YAK	**Yakutsk**	**20.62**	**330**	*e*P	Pn	21 08 16.8	+2.5
YAK				pmax	pmax		
	comp=Z,14nm,1.0s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.4s						
YAK	**Yakutsk**	**20.62**	**330**	P	**P**	**21 08 09.4**	**-2.2**
	comp=E,5.5nm,0.3s,baz=147,slow=15,SNR=1.7						
	comp=E,5.5nm,0.3s						
TIXI	**Tiksi**	**28.10**	**345**	P	**P**	**21 09 20.6**	**-2.7**
TIXI	**Tiksi**	**28.10**	**345**	P	**P**	**21 09 20.7**	**-2.7**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.87**	**149**	T	T	21 39 59.7	
	baz=338,slow=76,SNR=1057						
H11N1	**WAKE ISLAND Hy**	**28.88**	**149**	T	T	21 40 05.4	
	baz=338,slow=76,SNR=563						
H11N3	**WAKE ISLAND Hy**	**28.88**	**149**	T	T	21 40 05.6	
	baz=338,slow=76,SNR=700						
H11S1	**WAKE ISLAND Hy**	**29.93**	**151**	T	T	21 41 26.1	
	baz=339,slow=76,SNR=696						
H11S3	**WAKE ISLAND Hy**	**29.94**	**151**	T	T	21 41 24.1	
	baz=339,slow=76,SNR=442						
H11S2	**WAKE ISLAND Hy**	**29.95**	**151**	T	T	21 41 26.3	
	baz=339,slow=76,SNR=533						
SONM	**Songino Array**	**30.78**	**290**	P	**P**	**21 09 47.3**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=96,slow=7.4,SNR=2.3						
	comp=Z,0.2nm,0.5s						
C16K	**Lisburne Hills**	**31.31**	**29**	P	**P**	**21 09 51.2**	**-0.7**
C16K				IAmb	IAmb	21 09 59.4	
	comp=Z,4.2nm,1.2s						
F17K	**Baldwin Pennin**	**32.17**	**33**	P	**P**	**21 09 59.6**	**+0.2**
F17K				IAmb	IAmb	21 10 21.0	
	comp=Z,3.8nm,1.4s						
B20K	**Meade River**	**34.66**	**28**	P	**P**	**21 10 21.8**	**+0.7**
B20K				IAmb	IAmb	21 10 22.6	
	comp=Z,3.4nm,0.6s						
B21K	**Ikpikpuk River**	**35.41**	**29**	P	**P**	**21 10 28.1**	**+0.6**
B21K				IAmb	IAmb	21 10 29.4	
	comp=Z,4.5nm,1.0s						
SML	**Sawmill**	**37.27**	**43**	P	**P**	**21 10 44.1**	**+0.6**
CCB	**Clear Creek Bu**	**37.44**	**38**	P	**P**	**21 10 46.0**	**+1.1**
ILAR	**Eielson Array**	**37.84**	**38**	P	**P**	**21 10 48.6**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=262,slow=7.6,SNR=10						
	comp=Z,0.5nm,0.6s						
BMAR	**Burnt Mountain**	**38.79**	**34**	P	**P**	**21 10 56.4**	**+0.1**
BCAR	**Beaver Creek A**	**40.19**	**40**	P	**P**	**21 11 09.4**	**+1.4**
G30M	**tAoh Zraii Nji**	**42.06**	**34**	P	**P**	**21 11 24.2**	**+0.9**
ZALV	**Zalesovo Beam**	**42.40**	**306**	PcP	**PcP**	**21 13 19.1**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=98,slow=4.4,SNR=4.6						
A36M	**Sachs Harbour**	**45.08**	**26**	P	**P**	**21 11 48.4**	**+1.1**
A36M				IAmb	IAmb	21 11 49.9	
	comp=Z,6.9nm,0.8s						
MKAR	**Makanchi Array**	**46.55**	**298**	P	**P**	**21 11 58.9**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=71,slow=5.9,SNR=5.3						
MKAR				PcP	**PcP**	**21 13 33.3**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=67,slow=3.1,SNR=12						
	comp=Z,0.5nm,0.7s						
MAKZ	**Makanchi**	**46.73**	**298**	P	**P**	**21 12 00.1**	**-0.7**
MAKZ	**Makanchi**	**46.73**	**298**	P	**P**	**21 12 00.1**	**-0.7**
MAKZ				pmax	pmax		
	comp=Z,2.0nm,1.3s						
KURK	**Kurchatov**	**47.10**	**304**	P	**P**	**21 12 01.4**	**-2.2**
KURK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KURBB	**Kurchatov Arra**	**47.20**	**304**	P	**P**	**21 12 02.7**	**-1.6**
	comp=Z,0.4nm,0.7s,baz=73,slow=8.7,SNR=4.8						
KURBB				PcP	**PcP**	**21 13 35.4**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=73,slow=3.4,SNR=4.5						
	comp=Z,0.4nm,0.7s						
CRAI	**Chiangrai**	**49.06**	**256**	P	**P**	**21 12 19.6**	**+0.5**
CRAI				IAmb	IAmb	21 12 21.3	
	comp=Z,3.1nm,1.1s						
PHRA	**Phrae**	**50.36**	**255**	P	**P**	**21 12 30.0**	**+1.1**
BVAR	**Borovoye Array**	**50.73**	**310**	PcP	**PcP**	**21 13 48.1**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=46,slow=4.2,SNR=3.9						
CMAR	**Chiang Mai Arr**	**51.26**	**256**	P	**P**	**21 12 36.7**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=45,slow=7.6,SNR=11						
	comp=Z,1.1nm,0.7s						
YKA	**Yellowknife Ar**	**52.21**	**36**	P	**P**	**21 12 43.0**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=298,slow=7.2,SNR=8.6						
	comp=Z,0.6nm,0.6s						
SPITS	**Spitsbergen Ar**	**53.35**	**350**	P	**P**	**21 12 48.8**	**-1.7**
	comp=Z,4.0nm,0.8s,baz=46,slow=9.1,SNR=1.2						
	comp=Z,4.0nm,0.8s						
ABKAR	**Akbulak array**	**58.30**	**310**		**P**	**21 13 24.8**	**-1.5**
ABKAR	**Akbulak array**	**58.30**	**310**	P	**P**	**21 13 25.0**	**-1.3**
ABKAR				IAmb	IAmb	21 13 37.3	
	comp=Z,1.1nm,1.2s						
ARCES	**ARCESS Array B**	**58.41**	**341**	P	**P**	**21 13 27.1**	**+0.4**
	comp=Z,3.3nm,0.9s,baz=26,slow=9.0,SNR=1.5						
	comp=Z,3.3nm,0.9s						
SIMJ	**Simiganj**	**59.09**	**295**	P	**P**	**21 13 31.4**	**-0.7**
SIMJ				IAmb	IAmb	21 13 33.2	
	comp=Z,4.1nm,0.8s						
SUMG	**Summit**	**61.67**	**3**	P	**P**	**21 13 49.3**	**-0.3**
SUMG	**Summit**	**61.67**	**3**	P	**P**	**21 13 49.3**	**-0.3**
SUMG				pmax	pmax		
	comp=Z,15nm,1.2s						
BOZ	**Bozeman (W)**	**63.07**	**51**	P	**P**	**21 14 00.1**	**+1.1**
BOZ				IAmb	IAmb	21 14 01.5	
	comp=Z,1.4nm,0.8s						
BOZ	**Bozeman (W)**	**63.07**	**51**	P	**P**	**21 14 00.1**	**+1.1**
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NVAR	**Mina Array Bea**	**63.68**	**61**	P	**P**	**21 14 05.0**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=297,slow=6.8,SNR=5.2						
	comp=Z,0.5nm,0.6s						
FIA1	**FINESS Array S**	**64.47**	**334**	P	**P**	**21 14 05.9**	**-1.8**
FINES	**FINESS Array B**	**64.47**	**334**	P	**P**	**21 14 05.9**	**-1.8**
FINES	**FINESS Array B**	**64.47**	**334**	P	**P**	**21 14 06.2**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=38,slow=9.6,SNR=10						
	comp=Z,0.7nm,0.4s						
OBN	**Obninsk**	**65.54**	**325**	*e*P	**P**	**21 14 14.0**	**-0.7**
OBN				*e*		21 14 46.9	
OBN				*e*		21 16 40.3	
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
OBN	**Obninsk**	**65.54**	**325**	*e*P	**P**	**21 14 14.0**	**-0.7**
PDAR	**Pinedale Array**	**66.03**	**53**	P	**P**	**21 14 19.5**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=302,slow=2.6,SNR=5.4						
	comp=Z,0.6nm,0.8s						
GEYT	**Alibeck**	**66.28**	**300**	P	**P**	**21 14 19.9**	**0.0**
GEYT				IAmb	IAmb	21 14 21.0	
	comp=Z,4.1nm,0.7s						
GEYT	**Alibeck**	**66.28**	**300**	P	**P**	**21 14 19.9**	**0.0**
GEYT				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GEYT	**Alibeck**	**66.28**	**300**	P	**P**	**21 14 20.5**	**+0.6**
	comp=Z,3.5nm,0.7s,baz=67,slow=5.0,SNR=5.4						
	comp=Z,3.5nm,0.7s						
WRA	**Warramunga Arr**	**67.36**	**198**	P	**P**	**21 14 26.8**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=19,slow=6.8,SNR=3.8						
	comp=Z,0.7nm,0.7s						
NB201	**NORSAR Array S**	**68.76**	**341**	P	**P**	**21 14 34.4**	**-0.7**
NB2	**NORSAR Subarra**	**68.79**	**341**	P	**P**	**21 14 34.9**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.79**	**341**	P	**P**	**21 14 34.7**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=29,slow=6.6,SNR=9.8						
	comp=Z,0.4nm,0.4s						
HFS	**Hagfors**	**68.98**	**339**	P	**P**	**21 14 35.4**	**-1.1**
	comp=Z,1.1nm,0.3s,baz=57,slow=5.5,SNR=13						
	comp=Z,1.1nm,0.3s						
ASAR	**Alice Springs**	**71.06**	**197**	P	**P**	**21 14 51.0**	**+1.4**
ASAR	**Alice Springs**	**71.06**	**197**	P	**P**	**21 14 51.0**	**+1.4**
	comp=Z,0.5nm,0.9s,baz=17,slow=6.2,SNR=4.9						
	comp=Z,0.5nm,0.9s						
AKASG	**Malin Array Be**	**71.79**	**326**	P	**P**	**21 14 52.2**	**-1.5**
	comp=Z,0.8nm,0.4s,baz=36,slow=5.9,SNR=10						
	comp=Z,0.8nm,0.4s						
SCHQ	**Schefferville**	**74.50**	**22**	P	**P**	**21 15 10.0**	**+0.2**
	comp=Z,3.1nm,0.9s,baz=270,slow=10,SNR=1.9						
	comp=Z,3.1nm,0.9s						
KWP	**Kalwaria Pacla**	**75.13**	**329**	P	**P**	**21 15 14.0**	**+0.5**
KWP				IAmb	IAmb	21 15 18.9	
	comp=Z,5.6nm,1.0s						
KWP	**Kalwaria Pacla**	**75.13**	**329**	P	**P**	**21 15 14.0**	**+0.5**
KWP				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BUR08	**Bucovina Ar. S**	**75.82**	**326**	P	**P**	**21 15 17.6**	**0.0**
BURAR	**Bucovina Array**	**75.84**	**326**	P	**P**	**21 15 17.8**	**+0.1**
BURAR				IAmb	IAmb	21 15 18.7	
	comp=Z,3.5nm,0.7s						
CLL	**Collm**	**76.91**	**335**	P	**P**	**21 15 22.9**	**-0.6**
CLL				IAmb	IAmb	21 15 41.7	
	comp=Z,8.2nm,1.4s						
CLL	**Collm**	**76.91**	**335**	P	**P**	**21 15 22.9**	**-0.6**
CLL				pmax	pmax		
	comp=Z,8.0nm,1.4s						
EKA	**Eskdalemuir Ar**	**77.00**	**346**	P	**P**	**21 15 24.0**	**0.0**
EKA	**Eskdalemuir Ar**	**77.00**	**346**	P	**P**	**21 15 24.0**	**0.0**
	comp=Z,0.7nm,0.3s,baz=18,slow=5.2,SNR=23						
	comp=Z,0.7nm,0.3s						
EKB	**Eskdalemuir**	**77.01**	**346**	P	**P**	**21 15 23.5**	**-0.5**
BRTR	**Keskin Array B**	**78.42**	**316**	P	**P**	**21 15 31.6**	**-0.8**
BRTR	**Keskin Array B**	**78.42**	**316**	P	**P**	**21 15 32.5**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=34,slow=7.3,SNR=4.8						
	comp=Z,1.0nm,0.8s						
KHC	**Kasperske Hory**	**78.65**	**333**	P	**P**	**21 15 33.1**	**-0.2**
K

0.6nm,0.8s,baz=218,slow=10,SNR=3.3
0.6nm,0.8s
WRA Warramunga Arr 40.94 63 P P 21 22 15.3 -0.5
2.7nm,1.1s,baz=224,slow=8.7,SNR=7.7
2.7nm,1.1s
H08S2 Diego Garcia H 43.37 325 T T 22 08 16.4
baz=156,slow=76,SNR=71
H08S1 Diego Garcia H 43.38 325 T T 22 08 15.8
baz=156,slow=76,SNR=67
H08S3 Diego Garcia H 43.39 325 T T 22 08 17.9
baz=156,slow=76,SNR=79
CMAR Chiang Mai Arr 64.42 3 P P 21 25 09.4 0.0
0.5nm,0.7s,baz=204,slow=5.6,SNR=5.3
0.5nm,0.7s

MOS ***24*** *21:15:33.6± 1.1, 47˚.27N× 153˚.66E, h56km, mb4.2/5, Error ellipse: s-maj=11.9km s-min=7.1km az=66.9*
SKHL ***24*** *21:15:34.6± 1.1, 47˚.20N× 153˚.70E, h69km± 6km, mb4.9/8*
IDC ***24*** *21:15:35.7± 2.9, 47˚.31N× 153˚.47E, h53km± 25km, mb3.6/20, mbtmp3.9/23, ML2.8/2, Error ellipse: s-maj=22.4km s-min=13.5km az=128.0*
NEIC ***24*** *21:15:37.0± 1.4, 47˚.49N± 0˚.09× 153˚.47E± 0˚.06, h56km± 10km, mb4.1/19, Error ellipse: s-maj=13.6km s-min=5.9km az=181.0*

ISC 24 21:15:34.6±0.6, **47˚.16N**±0˚.08×**153˚.73E**±0˚.08, **h50km, n98,** σ1§**41**/100, **mb4.0**/29, **3C-5D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.86**	**23**	*e*	P	**N**	**Pn**	**21 16 30.7**	**-0.7**
SKR				*e*	S	**N**	**Sn**	**21 17 12.4**	**-3.0**
SKR					pmax		pmax		
	comp=Z,17nm,0.5s								
SKR					smax		smax		
	comp=E,97nm,0.4s								
SKR					smax		smax		
	comp=N,200nm,0.5s								
SKR	**Severo-Kuril's**	**3.86**	**23**	*e*	P	**N**	**Pn**	**21 16 31.9**	**+0.5**
SKR					AMB		AMB	21 16 34.7	
	comp=N,90nm,0.3s								
SKR				*e*	S	**N**	**Sn**	**21 17 13.6**	**-1.8**
SKR					A		A	21 17 18.9	
	comp=N,170nm,0.2s								
SKR					A		A	21 17 18.9	
	comp=N,150nm,0.2s								
KUR	**Kuril'sk**	**4.50**	**247**	⇑*i*	PN	**N**	**Pn**	**21 16 42.1**	**+1.9**
KUR				*e*	S	**N**	**Sn**	**21 17 32.2**	**+0.9**
KUR					pmax		pmax		
	comp=Z,121nm,0.7s								
KUR					smax		smax		
	comp=E,209nm,0.6s								
KUR					smax		smax		
	comp=N,149nm,0.5s								
KUR	**Kuril'sk**	**4.50**	**247**	*e*	P	**N**	**Pn**	**21 16 41.1**	**+0.9**
KUR					AMB		AMB	21 16 44.1	
	comp=N,210nm,0.9s								
KUR				*e*	S	**N**	**Sn**	**21 17 30.4**	**-0.9**
KUR					A		A	21 17 42.4	
	comp=N,200nm,0.7s								
KUR					A		A	21 17 42.4	
	comp=N,320nm,0.7s								
PAU	**Pauzhetka**	**4.76**	**24**	*e*	P	**N**	**Pn**	**21 16 45.3**	**+1.6**
PAU					AMB		AMB	21 16 45.6	
	comp=N,50nm,0.3s								
PAU				*e*	S	**N**	**Sn**	**21 17 37.2**	**-0.3**
PAU					A		A	21 17 41.2	
	comp=N,150nm,0.3s								
PAU					A		A	21 17 41.2	
	comp=N,190nm,0.3s								
SHO	**Shikotan**	**5.86**	**238**	*e*	PN	**N**	**Pn**	**21 16 57.6**	**-1.2**
SHO	**Shikotan**	**5.86**	**238**	*e*	P	**N**	**Pn**	**21 16 59.2**	**+0.4**
SHO					AMB		AMB	21 17 02.5	
	comp=N,30nm,0.4s								
SHO				*e*	S	**N**	**Sn**	**21 18 03.1**	**-1.5**
SHO					A		A	21 18 24.1	
	comp=N,130nm,0.9s								
SHO					A		A	21 18 24.1	
	comp=N,120nm,0.9s								
YUK	**Yuzh-Kuril'sk**	**6.34**	**243**	*e*	P	**N**	**Pn**	**21 17 06.3**	**+0.8**
YUK					AMB		AMB	21 17 08.5	
	comp=N,120nm,0.4s								
YUK				*e*	S	**N**	**Sn**	**21 18 13.8**	**-2.7**
PEA0B	**Petropavlovsk-**	**6.48**	**22**			**N**	**Pn**	**21 17 07.0**	**-0.3**
PEA0B	**Petropavlovsk-**	**6.48**	**22**	*ce*	PN	**N**	**Pn**	**21 17 07.1**	**-0.2**
PETK	**Petropavlovsk-**	**6.48**	**22**	*e*	P	**N**	**Pn**	**21 17 06.2**	**-1.1**
	comp=N,1.8nm,0.3s,baz=180,slow=9.2,SNR=39								
PETK					S		**Sn**	**21 18 20.0**	**+0.3**
	comp=N,3.1nm,0.8s,baz=241,slow=21,SNR=1.3								
	comp=N,3.7nm,0.4s								
PET	**Petropavlovsk**	**6.67**	**27**	⇓*i*	PN	**N**	**Pn**	**21 17 11.1**	**+1.3**
PET	**Petropavlovsk**	**6.67**	**27**	*e*	P	**N**	**Pn**	**21 17 10.7**	**+0.9**
PET					AMB		AMB	21 17 13.1	
	comp=N,120nm,0.3s								
PET				*e*	S	**N**	**Sn**	**21 18 22.7**	**-1.7**
PET					A		A	21 18 26.6	
	comp=N,30nm,0.4s								
PET					A		A	21 18 26.6	
	comp=N,30nm,0.4s								
NMR	**Nemuro--Hokkai**	**6.80**	**239**	*e*	P	**N**	**Pn**	**21 17 11.4**	**-0.3**
NMR				*e*	S	**N**	**Sn**	**21 18 24.8**	**-2.9**
YSS	**Yuzh-Sakhalins**	**7.50**	**272**		Pn	**N**	**Pn**	**21 17 22.4**	**+1.0**
YSS	**Yuzh-Sakhalins**	**7.50**	**272**	*e*	PN	**N**	**Pn**	**21 17 25.2**	**+3.9**
YSS				*e*	S	**N**	**Sn**	**21 18 48.9**	**+4.0**
YSS					pmax		pmax		
	comp=Z,20nm,0.4s								
YSS					smax		smax		
	comp=N,10.0nm,0.7s								
YSS					smax		smax		
	comp=E,10.0nm,1.0s								
YSS	**Yuzh-Sakhalins**	**7.50**	**272**	*e*	P	**N**	**Pn**	**21 17 22.3**	**+1.0**
YSS					AMB		AMB	21 17 25.6	
	comp=E,20nm,0.8s								
JKA	**Kamikawa-asahi**	**8.37**	**253**			**N**	**Pn**	**21 17 34.7**	**+1.4**
JKA	**Kamikawa-asahi**	**8.37**	**253**	*e*	P	**N**	**Pn**	**21 17 34.7**	**+1.4**
ASAJ	**Asahikawa**	**8.38**	**253**		PN	**N**	**Pn**	**21 17 34.7**	**+1.4**
ASAJ	**Asahikawa**	**8.38**	**253**		P	**N**	**Pn**	**21 17 36.0**	**+2.7**
	comp=E,20nm,0.8s,baz=68,slow=15,SNR=9.9								
ERM	**Erimo**	**9.13**	**240**		Pn	**N**	**Pn**	**21 17 43.8**	**+0.2**
ERM	**Erimo**	**9.13**	**240**	⇓*e*	PN	**N**	**Pn**	**21 17 44.2**	**+0.6**
MA2	**Magadan**	**12.56**	**353**		Pn	**N**	**Pn**	**21 18 27.4**	**-3.0**
MA2	**Magadan**	**12.56**	**353**	⇑*e*	PN	**N**	**Pn**	**21 18 29.3**	**-1.1**
MA2					pmax		pmax		
	comp=Z,22nm,3.6s								
MA2	**Magadan**	**12.56**	**353**		P	**N**	**Pn**	**21 18 29.7**	**-0.7**
	comp=Z,3.4nm,0.4s,baz=146,slow=13,SNR=6.6								
MA2	**Magadan**	**12.56**	**353**	*e*	P	**N**	**Pn**	**21 18 29.3**	**-1.1**
KLR	**Kul'dur**	**14.80**	**286**	⇓*e*	P	**N**	**P**	**21 19 05.4**	**-0.1**
KLR					pmax		pmax		
	comp=Z,5.0nm,1.4s								
KLR	**Kul'dur**	**14.80**	**286**		P	**N**	**P**	**21 19 04.9**	**-0.6**
	baz=89,slow=14								
KLR	**Kul'dur**	**14.80**	**286**	*e*	P	**N**	**Pn**	**21 18 59.5**	**-1.1**
USA0B	**Ussuriysk Arra**	**15.47**	**267**	⇓*e*	P	**N**	**P**	**21 19 12.5**	**-0.6**
USRK	**Ussuriysk Ar.**	**15.47**	**267**		Pn	**N**	**Pn**	**21 19 10.0**	**+0.6**
USRK	**Ussuriysk Ar.**	**15.47**	**267**		P	**N**	**Pn**	**21 19 10.0**	**+0.6**
USRK	**Ussuriysk Ar.**	**15.47**	**267**		P	**N**	**P**	**21 19 12.3**	**-0.7**
	comp=Z,5.4nm,0.7s,baz=82,slow=11,SNR=4.1								
MJA0	**Matsu Arr-Jizo**	**15.64**	**233**	*e*	P	**N**	**P**	**21 19 16.7**	**+1.7**
MJA0					pmax		pmax		
	comp=Z,3.0nm,0.6s								
MJAR	**Matsushiro Arr**	**15.66**	**233**		P	**N**	**Pn**	**21 19 10.2**	**-1.7**
	baz=23,slow=12,SNR=5.9								
	comp=Z,1.4nm,0.8s								
MJB9	**Matsu-Tunnel**	**15.66**	**233**				**P**	**21 19 16.5**	**+1.2**
MJB9					IAmb		IAmb	21 19 18.4	
	comp=Z,8.3nm,0.8s								
MAJO	**Matsushiro**	**15.67**	**233**		Pn	**N**	**Pn**	**21 19 14.2**	**+2.2**
MAJO					IAmb		IAmb	21 19 17.4	
	comp=Z,8.6nm,0.8s								
MAJO	**Matsushiro**	**15.67**	**233**		P	**N**	**Pn**	**21 19 14.2**	**+2.2**
MAJO					pmax		pmax		
	comp=Z,9.0nm,0.8s								
SEY	**Seymchan**	**15.83**	**358**		P	**N**	**Pn**	**21 19 15.7**	**+1.9**
	comp=Z,0.8nm,0.4s,baz=170,slow=12,SNR=8.9								
JGF	**Kuroka**	**16.82**	**233**				**P**	**21 19 29.1**	**+1.0**
YAK	**Yakutsk**	**20.21**	**326**	*e*	P		Pn	21 20 16.7	+9.5
YAK					pmax		pmax		
	comp=Z,11nm,0.8s								
KSRS	**Korea Array**	**21.32**	**252**		P	**N**	**P**	**21 20 18.4**	**+1.2**
	comp=Z,1.2nm,0.6s,baz=61,slow=10,SNR=9.1								
	comp=Z,1.2nm,0.6s								
H11N2	**WAKE ISLAND Hy**	**29.40**	**154**		T		T	21 52 40.0	
	baz=343,slow=74								
H11N1	**WAKE ISLAND Hy**	**29.41**	**154**		T		T	21 53 46.6	
	baz=343								
H11N3	**WAKE ISLAND Hy**	**29.41**	**154**		T		T	21 52 45.2	
	baz=343,slow=74								
F17K	**Baldwin Pennin**	**30.32**	**34**		P		**P**	**21 21 42.2**	**+1.4**
F17K					IAmb		IAmb	21 21 53.0	
	comp=Z,3.5nm,1.1s								
H11S1	**WAKE ISLAND Hy**	**30.50**	**155**		T		T	21 54 51.9	
	baz=343,SNR=539								
H11S3	**WAKE ISLAND Hy**	**30.50**	**155**		T		T	21 53 58.8	
	baz=343,slow=74,SNR=497								
H11S2	**WAKE ISLAND Hy**	**30.51**	**155**		T		T	21 54 00.4	
	baz=343,slow=74,SNR=430								
D19K	**Kuna River**	**32.08**	**31**		P		**P**	**21 21 57.0**	**+0.6**
D19K					IAmb		IAmb	21 22 09.1	
	comp=Z,2.4nm,1.1s								
B21K	**Ikpikpuk River**	**33.60**	**30**		P		**P**	**21 22 09.2**	**-0.3**
B21K					IAmb		IAmb	21 22 19.4	
	comp=Z,2.9nm,0.9s								
E22K	**Anaktuvuk Pass**	**34.27**	**33**		P		**P**	**21 22 16.4**	**+0.8**
E22K					IAmb		IAmb	21 22 18.0	
	comp=Z,1.6nm,0.6s								
TOLK	**Toolik Lake Re**	**35.17**	**32**		P		**P**	**21 22 24.0**	**+0.7**
TOLK					IAmb		IAmb	21 22 46.3	
	comp=Z,4.1nm,1.4s								
SML	**Sawmill**	**35.38**	**44**		P		**P**	**21 22 25.6**	**+0.4**
H24K	**Noodor Dome**	**35.57**	**37**		P		**P**	**21 22 27.0**	**+0.3**
BMAR	**Burnt Mountain**	**36.94**	**34**		P		**P**	**21 22 39.5**	**+1.1**
INK	**Inuvik**	**41.08**	**33**		P		**P**	**21 23 13.2**	**+0.4**
INK	**Inuvik**	**41.08**	**33**		P		**P**	**21 23 13.2**	**+0.4**
INK					pmax		pmax		
	comp=Z,2.0nm,1.4s								
INK	**Inuvik**	**41.08**	**33**		P		**P**	**21 23 13.9**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=346,slow=8.3,SNR=6.6								
	comp=Z,0.7nm,0.5s								
MK31	**Makanchi Array**	**47.13**	**297**	⇓*e*	P		**P**	**21 23 59.2**	**-2.4**
MKAR	**Makanchi Array**	**47.13**	**297**		P		**P**	**21 24 00.2**	**-1.4**
MKAR	**Makanchi Array**	**47.13**	**297**	*e*	P		**P**	**21 24 03.2**	**+1.6**
MKAR					pmax		pmax		
	comp=Z,1.0nm,0.8s								
MKAR	**Makanchi Array**	**47.13**	**297**		P		**P**	**21 23 59.3**	**-2.3**
	comp=Z,2.7nm,1.2s,baz=57,slow=8.4,SNR=4.7								
	comp=Z,2.7nm,1.2s								
MAKZ	**Makanchi**	**47.31**	**297**		P		**P**	**21 24 01.8**	**-1.2**
MAKZ	**Makanchi**	**47.31**	**297**		P		**P**	**21 24 01.8**	**-1.2**
MAKZ					pmax		pmax		
	comp=Z,2.0nm,1.5s								
KURK	**Kurchatov**	**47.49**	**304**		P		**P**	**21 24 02.7**	**-1.6**
KURBB	**Kurchatov Arra**	**47.58**	**303**		P		**P**	**21 24 02.7**	**-2.3**
	comp=Z,0.8nm,0.2s,baz=70,slow=7.2,SNR=4.3								
	comp=Z,0.8nm,0.2s								
RES	**Resolute Bay**	**50.31**	**19**		P		**P**	**21 24 26.0**	**+0.4**
RES	**Resolute Bay**	**50.31**	**19**		P		**P**	**21 24 26.0**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=288,slow=7.7,SNR=2.0								
	comp=Z,0.4nm,0.4s								
YKA	**Yellowknife Ar**	**50.34**	**37**		P		**P**	**21 24 27.5**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=295,slow=7.5,SNR=4.5								
	comp=Z,0.2nm,0.5s								
CRAI	**Chiangrai**	**50.68**	**257**		P		**P**	**21 24 29.4**	**+0.4**
CRAI					IAmb		IAmb	21 24 30.7	
	comp=Z,2.6nm,0.7s								
BVAR	**Borovoye Array**	**50.92**	**309**		P		**P**	**21 24 30.7**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=44,slow=8.6,SNR=2.9								
	comp=Z,0.6nm,0.6s								
PHRA	**Phrae**	**52.00**	**255**		P		**P**	**21 24 40.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**52.88**	**257**		P		**P**	**21 24 46.5**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=41,slow=6.6,SNR=7.8								
	comp=Z,0.9nm,0.7s								
ARU	**Arti**	**55.00**	**318**		P		**P**	**21 24 59.1**	**-1.3**
FINES	**FINESS Array B**	**63.85**	**335**	*e*	P		**P**	**21 26 00.2**	**-1.1**
FINES					pmax		pmax		
	comp=Z,1.0nm,0.3s								
FINES	**FINESS Array B**	**63.85**	**335**		P		**P**	**21 25 59.8**	**-1.5**
	comp=Z,0.9nm,0.3s,baz=34,slow=6.7,SNR=25								
	comp=Z,0.9nm,0.3s								
FRB	**Frobisher Bay**	**64.52**	**19**		P		**P**	**21 26 06.3**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=16,slow=7.4,SNR=3.5								
	comp=Z,0.8nm,0.5s								
OBN	**Obninsk**	**65.21**	**326**	*e*	P		**P**	**21 26 09.2**	**-1.1**
OBN				*e**	PP		**pwP**	**21 26 27.1**	**+0.5**
OBN				*e*				21 26 39.0	
OBN				*e*				21 28 33.8	
OBN					pmax		pmax		
	comp=Z,2.0nm,0.9s								
OBN	**Obninsk**	**65.21**	**326**	*e*	P		**P**	**21 26 09.2**	**-1.1**
GEYT	**Alibeck**	**66.76**	**301**		P		**P**	**21 26 20.4**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=78,slow=7.5,SNR=2.3								
	comp=Z,1.1nm,0.6s								
NOA	**NORSAR Array B**	**67.97**	**341**		P		**P**	**21 26 27.3**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=27,slow=6.4,SNR=5.9								
	comp=Z,0.5nm,0.7s								
HFS	**Hagfors**	**68.22**	**340**		P		**P**	**21 26 28.3**	**-1.1**
	baz=214,slow=62,slow=6.9,SNR=14								
	comp=Z,1.2nm,0.4s								
WRA	**Warramunga Arr**	**69.04**	**200**		P		**P**	**21 26 34.6**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=19,slow=6.7,SNR=1.7								
	comp=Z,0.5nm,0.9s								
AKASG	**Malin Array Be**	**71.44**	**326**		P		**P**	**21 26 48.3**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=33,slow=6.5,SNR=5.4								
	comp=Z,0.4nm,0.3s								
ASAR	**Alice Springs**	**72.73**	**199**		P		**P**	**21 26 58.8**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=9.9,slow=5.8,SNR=10								
	comp=Z,0.5nm,0.6s								
BUR08	**Bucovina Ar. S**	**75.46**	**327**		P		**P**	**21 27 12.5**	**-0.6**
BURAR	**Bucovina Array**	**75.48**	**327**		P		**P**	**21 27 12.3**	**-1.0**
BURAR					IAmb		IAmb	21 27 14.0	
	comp=Z,2.3nm,0.8s								
EKA	**Eskdalemuir Ar**	**76.04**	**347**		P		**P**	**21 27 15.1**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=17,slow=5.3,SNR=1.4								
	comp=Z,0.4nm,0.6s								
CLL	**Collm**	**76.27**	**336**	*e*	P		**P**	**21 27 16.0**	**-1.5**
CLL	**Collm**	**76.27**	**336**	*e*	P		**P**	**21 27 16.0**	**-1.5**
TXAR	**Lajitas Array**	**76.92**	**61**		P		**P**	**21 27 22.4**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=282,slow=4.3,SNR=2.7								
	comp=Z,0.1nm,0.4s								
BRTR	**Kesin Array B**	**78.38**	**317**		P		**P**	**21 27 29.8**	**0.0**
	comp=Z,2.5nm,0.9s,baz=48,slow=2.1,SNR=5.7								
	comp=Z,2.5nm,0.9s								
MMAI	**Mount Meron Ar**	**82.86**	**312**		P		**P**	**21 27 54.3**	**+0.6**
	comp=Z,2.3nm,0.7s,baz=47,slow=4.9,SNR=1.9								
	comp=Z,2.3nm,0.7s								
H03N2	**Juan Fernandez**	**138.33**	**90**		T		T	00 08 39.2	
	baz=309,slow=77,SNR=15								
H03N1	**Juan Fernandez**	**138.34**	**90**		T		T	00 08 36.8	
	baz=309,slow=77,SNR=21								
H03N3	**Juan Fernandez**	**138.34**	**90**		T		T	00 08 40.1	
	baz=309,slow=77,SNR=18								

IDC ***24*** *21:18:38.7± 0.6, 3˚.31S× 32˚.31E, h0km, mb4.3/22, mbtmp4.3/22, MS4.5/7, Error ellipse: s-maj=18.3km s-min=13.7km az=92.0*
NEIC ***24*** *21:18:39.7± 1.4, 3˚.43S± 0˚.07× 32˚.39E± 0˚.08, h10km± 1km, mb4.7/49, Error ellipse: s-maj=13.7km s-min=12.3km az=240.0*

ISC 24 21:18:39.1±0.4, **3˚.50S**±0˚.04×**32˚.28E**±0˚.04, **h10km, n155,** σ1§**61**/154, **mb4.5**/59, **MS4.7**/7, **10C-3D, Lake Victoria region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**		**3.27**	**332**			**Pn**	**21 19 29.0**	**-1.6**
MBAR	**Mbarara**		**3.27**	**332**		P	**Pn**	**21 19 29.3**	**-1.3**
MBAR						S	**Sb**	**21 20 16.0**	**-1.2**
DODT	**Dodoma, Tanzan**		**4.37**	**128**	*i*	P	**Pn**	**21 19 44.4**	**-1.3**
DODT					*i*	S	**Sn**	**21 20 35.2**	**-1.6**
I32KE	**NAIROBI INFRAS**		**5.07**	**64**	Lg		Lg	21 21 10.0	
	baz=214,slow=28								
PDHT	**Panda Hill**		**5.53**	**170**	*i*	P	**Pn**	**21 20 04.1**	**+2.3**
PDHT					*i*	S	**Sn**	**21 21 05.6**	**0.0**
KIBK	**Kibwezi**		**5.87**	**79**	Pn		**Pn**	**21 20 03.9**	**-2.4**
KIBK	**Kibwezi**		**5.87**	**79**	P		**Pn**	**21 20 04.3**	**-2.0**
SNR=23									
KIBK	**Kibwezi**		**5.87**	**79**	*e*	P	**Pn**	**21 20 04.4**	**-2.0**
KIBK					*e*	S	**Sb**	**21 21 36.5**	**+4.3**
LODK	**Lodwar**		**7.53**	**24**	Pn		**Pn**	**21 20 25.0**	**-4.2**
LODK	**Lodwar**		**7.53**	**24**	P		**Pn**	**21 20 26.5**	**-2.7**
SNR=16									
LODK						S	**Sn**	**21 21 60.0**	**+5.2**
LODK	**Lodwar**		**7.53**	**24**	*i*	P	**Pn**	**21 20 24.9**	**-4.2**
LODK					*e*	S	**Sb**	**21 22 24.4**	**+4.4**
LSZ	**Lusaka**		**12.38**	**199**	Pn		**Pn**	**21 21 35.4**	**-0.3**
LSZ	**Lusaka**		**12.38**	**199**	*i*	P	**Pn**	**21 21 34.0**	**-1.6**
LSZ	**Lusaka**		**12.38**	**199**	Pn		**Pn**	**21 21 35.2**	**-0.5**
	12nm,0.3s,baz=20,slow=14,SNR=123								
LSZ						Sn	Sn	21 23 45.9	-7.9
	2.1nm,0.3s,baz=151,slow=19,SNR=1.8								
LSZ						Lg	Lg	21 25 03.5	
	14nm,0.3s,baz=94,slow=19,SNR=7.6								
LSZ						LR	LR	21 26 29.8	
	comp=Z,942nm,19.1s,baz=27,slow=38								
LSZ	**Lusaka**		**12.38**	**199**		P	**Pn**	**21 21 36.3**	**+0.7**
LSZ						S	**Sn**	**21 23 59.5**	**+5.7**
LSZ	**Lusaka**		**12.38**	**199**	*i*	P	**Pn**	**21 21 34.0**	**-1.6**
KRI	**Karoi**		**13.51**	**191**	⇑*i*	P	**Pn**	**21 21 50.4**	**-0.7**
KRI	**Karoi**		**13.51**	**191**	⇑*i*	P	**Pn**	**21 21 50.4**	**-0.7**
FURI	**Furi**		**13.87**	**27**	Pn		**Pn**	**21 21 53.0**	**-3.2**
CHIPN	**CHIPINGE**		**16.64**	**179**	⇓*i*	P	**Pn**	**21 22 31.9**	**-0.7**
CHIPN	**CHIPINGE**		**16.64**	**179**	⇓*i*	P	**Pn**	**21 22 31.9**	**-0.7**
BLWY	**Bulawayo**		**16.92**	**192**	*i*	P	**Pn**	**21 22 35.8**	**-0.6**
BLWY					*i*	S	Sn	21 25 31.7	-13
BLWY	**Bulawayo**		**16.92**	**192**	⇑*i*	P	**Pn**	**21 22 33.8**	**-2.5**
BLWY					*i*	S	Sn	21 25 31.7	-13
ATD	**Arta Tunnel**		**18.26**	**35**	Lg		Lg	21 28 01.1	
	baz=54,slow=19,SNR=1.9								
MUSN	**Musina, Limpop**		**18.82**	**187**	⇑*i*	P	**P**	**21 22 58.5**	**-0.7**
MUSN	**Musina, Limpop**		**18.82**	**187**	⇑*i*	P	**P**	**21 22 58.5**	**-0.7**
MOPA	**Mopani**		**19.92**	**182**	⇑*i*	P	Pn	21 23 16.4	+3.6
MOPA	**Mopani**		**19.92**	**182**	⇑*i*	P	Pn	21 23 16.4	+3.6
OPO	**Ambohidratompo**		**20.91**	**137**	P		Pn	21 23 25.0	+0.4
	17nm,1.0s,baz=329,slow=7.4,SNR=9.7								
OPO						LR	LR	21 30 31.5	
	comp=Z,616nm,19.3s,baz=202,slow=34								
	17nm,1.0s								
TSUM	**Tsumeb**		**21.21**	**222**		P	**P**	**21 23 25.8**	**+0.5**
TSUM	**Tsumeb**		**21.21**	**222**		P	**P**	**21 23 26.8**	**+1.5**
	9.1nm,0.9s,baz=44,slow=9.6,SNR=7.9								
TSUM						S	**S**	**21 27 16.3**	**-5.1**
	9.8nm,0.9s,baz=246,slow=19,SNR=3.0								
TSUM						Lg	Lg	21 29 39.8	
	baz=90,slow=20								
	9.1nm,0.9s								
ABPO	**Ambohimpanom**		**21.25**	**138**		P	**P**	**21 23 24.4**	**-1.4**
ABPO						IAmb	IAmb	21 23 32.2	
	comp=Z,30nm,1.4s								
LBTB	**Lobatse**		**22.34**	**196**		P	**P**	**21 23 37.8**	**+0.4**
LBTB						IAmb	IAmb	21 23 41.4	
	comp=Z,21nm,0.9s								
LBTB	**Lobatse**		**22.34**	**196**	*i*	P	**P**	**21 23 38.0**	**+0.6**
LBTB	**Lobatse**		**22.34**	**196**	LR		LR	21 31 22.0	
	comp=Z,665nm,18.0s,baz=24,slow=34								
LBTB	**Lobatse**		**22.34**	**196**	*i*	P	**P**	**21 23 38.0**	**+0.6**
VOI	**Vohitsoka**		**23.09**	**144**		P	**P**	**21 23 44.8**	**-0.6**
VOI						IAmb	IAmb	21 23 53.0	
	comp=Z,18nm,1.0s								
MSEY	**Mahe Island**		**23.17**	**94**		P	**P**	**21 23 44.8**	**-1.4**
MSEY	**Mahe Island**		**23.17**	**94**		P	**P**	**21 23 44.1**	**-2.1**
WIN	**Windhoek**		**24.00**	**217**		P	**P**	**21 23 54.7**	**+0.3**
BOSA	**Boshof**		**25.86**	**194**		P	**P**	**21 24 12.1**	**+0.9**
BOSA	**Boshof**		**25.86**	**194**		P	**P**	**21 24 14.5**	**+3.4**
	comp=Z,22nm,0.8s,baz=23,slow=10.0,SNR=41								
BOSA						Lg	Lg	21 32 00.9	
	comp=Z,0.2nm,0.3s,baz=135,slow=20,SNR=2.8								
	comp=Z,22nm,0.8s								
ABTO	**Aybut**		**29.32**	**44**		P	**P**	**21 24 43.0**	**+0.8**
DMTO	**DMTO**		**30.73**	**46**		P	**P**	**21 24 55.2**	**+0.6**
SHAO	**Shalim**		**31.42**	**46**		P	**P**	**21 25 01.2**	**+0.4**
TRNA	**Turayna**		**33.56**	**32**		P	**P**	**21 25 21.2**	**+1.7**
DQM	**DQM**		**34.03**	**46**		P	**P**	**21 25 24.7**	**+1.1**
UMZA	**Um Al Zommool**		**34.32**	**40**		P	**P**	**21 25 26.9**	**+0.8**
TOA0	**Torodi Ar. Sit**		**34.58**	**299**		P	**P**	**21 25 29.3**	**+0.9**
TOA0						IAmb	IAmb	21 25 30.8	
	comp=Z,10nm,1.2s								
TORD	**Torodi Ar. Bea**		**34.58**	**299**		P	**P

AKBB	**Malin Array Si**	**54.05**	**358**	P	**P**	**21 28 03.3**	**-0.4**
AKBB				IAmb	IAmb	21 28 06.3	
	comp=Z,11nm,1.1s						
RETA	**Reutte**	**54.18**	**342**	*e*P	**P**	**21 28 05.1**	**+0.3**
	comp=Z,2.0nm,0.5s						
DAVA	**Damuels**	**54.28**	**341**	*e*P	**P**	**21 28 04.5**	**-1.2**
	comp=Z,7.4nm,0.7s						
SENIN	**Lac Senin/Sane**	**54.35**	**339**	P	**P**	**21 28 05.5**	**-0.7**
ESDC	**Sonseca Array**	**54.35**	**326**	P	**P**	**21 28 07.6**	**+1.4**
	comp=Z,3.5nm,1.0s,baz=136,slow=6.3,SNR=9.6						
	comp=Z,3.5nm,1.0s						
GEC2	**GERESS Array S**	**54.58**	**345**	P	**P**	**21 28 07.0**	**-0.7**
GERES	**GERESS Array B**	**54.58**	**345**	P	**P**	**21 28 07.0**	**-0.7**
GERES	**GERESS Array B**	**54.58**	**345**	P	**P**	**21 28 07.3**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=139,slow=8.3,SNR=8.8						
	comp=Z,1.8nm,0.8s						
KHC	**Kasperske Hory**	**54.88**	**345**	P	**P**	**21 28 09.3**	**-0.5**
KHC				IAmb	IAmb	21 28 12.1	
	comp=Z,4.5nm,0.8s						
BTK	**Batken**	**55.92**	**35**	P	**P**	**21 28 16.4**	**-1.2**
BTK				IAmb	IAmb	21 28 21.6	
	comp=Z,5.4nm,1.1s						
ABKAR	**Akbulak array**	**57.76**	**21**	P	**P**	**21 28 29.7**	**-0.7**
KK31	**Karatay Array**	**57.79**	**32**	P	**P**	**21 28 29.7**	**-1.0**
KK31				IAmb	IAmb	21 28 34.5	
	comp=Z,15nm,1.4s						
KKAR	**Karatay Array**	**57.79**	**32**	P	**P**	**21 28 29.3**	**-1.4**
KKAR				IAmb	IAmb	21 28 34.5	
	comp=Z,15nm,1.4s						
SUW	**Suwalki**	**57.81**	**354**	P	**P**	**21 28 30.1**	**-0.4**
KSH	**Kashi**	**58.68**	**39**	P	**P**	**21 28 36.1**	**-1.0**
NRN	**Naryn**	**59.84**	**37**	P	**P**	**21 28 44.1**	**-1.2**
NRN				IAmb	IAmb	21 28 48.7	
	comp=Z,3.5nm,0.9s						
TARG	**Taragay, Kyrgy**	**61.10**	**38**	P	**P**	**21 28 52.0**	**-2.1**
ARU	**Arti**	**63.46**	**16**	P	**P**	**21 29 08.8**	**-0.3**
BVAR	**Borovoye Array**	**64.78**	**24**	P	**P**	**21 29 17.1**	**-0.8**
	comp=Z,2.0nm,0.6s,baz=198,slow=4.9,SNR=13						
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**64.94**	**357**	P	**P**	**21 29 18.7**	**0.0**
FINES	**FINESS Array B**	**64.94**	**357**	P	**P**	**21 29 17.8**	**-0.8**
	comp=Z,2.8nm,0.8s,baz=180,slow=5.5,SNR=10						
	comp=Z,2.8nm,0.8s						
FIA1	**FINESS Array S**	**64.94**	**357**	P	**P**	**21 29 18.8**	**+0.2**
HFS	**Hagfors**	**65.10**	**350**	P	**P**	**21 29 20.6**	**+0.9**
	comp=Z,5.1nm,1.0s,baz=148,slow=8.7,SNR=3.7						
HFS				LR	LR	22 01 52.3	
	comp=Z,491nm,18.1s,baz=286,slow=40						
	comp=Z,5.1nm,1.0s						
LSA	**Lhasa**	**65.22**	**55**	P	**P**	**21 29 20.6**	**-1.2**
LSA				IAmb	IAmb	21 29 23.2	
	comp=Z,7.0nm,1.3s						
EKA	**Eskdalemuir Ar**	**65.49**	**339**	P	**P**	**21 29 22.6**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=134,slow=5.8,SNR=14						
	comp=Z,1.2nm,0.5s						
ESK	**Eskdalemuir**	**65.49**	**339**	P	**P**	**21 29 23.1**	**+0.8**
NOA	**NORSAR Array B**	**66.40**	**349**	P	**P**	**21 29 28.9**	**+0.7**
	comp=Z,1.7nm,0.9s,baz=158,slow=6.2,SNR=4.1						
	comp=Z,1.7nm,0.9s						
MAKZ	**Makanchi**	**66.46**	**35**	P	**P**	**21 29 28.3**	**-0.5**
MAKZ				IAmb	IAmb	21 29 32.1	
	comp=Z,5.4nm,1.1s						
MK31	**Makanchi Array**	**66.63**	**35**	P	**P**	**21 29 29.3**	**-0.7**
MK31				IAmb	IAmb	21 29 33.1	
	comp=Z,5.2nm,0.9s						
MKAR	**Makanchi Array**	**66.63**	**35**	P	**P**	**21 29 29.0**	**-1.0**
MKAR	**Makanchi Array**	**66.63**	**35**	P	**P**	**21 29 29.6**	**-0.4**
	comp=Z,3.5nm,0.7s,baz=235,slow=6.4,SNR=25						
	comp=Z,3.5nm,0.7s						
KURBB	**Kurchatov Arra**	**66.86**	**30**	P	**P**	**21 29 31.3**	**0.0**
	comp=Z,5.1nm,0.9s,baz=235,slow=6.8,SNR=18						
	comp=Z,5.1nm,0.9s						
KURK	**Kurchatov**	**66.97**	**30**	P	**P**	**21 29 31.3**	**-0.6**
MAW	**Mawson**	**67.34**	**168**	P	**P**	**21 29 36.8**	**+2.8**
	comp=Z,7.8nm,0.9s,baz=282,slow=8.0,SNR=4.2						
	comp=Z,7.8nm,0.9s						
ELIB	**Princess Elisa**	**68.59**	**183**	*d*P	**P**	**21 29 41.0**	**-1.0**
CMAR	**Chiang Mai Arr**	**69.13**	**69**	P	**P**	**21 29 45.2**	**-1.0**
CMAR	**Chiang Mai Arr**	**69.13**	**69**	P	**P**	**21 29 46.5**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=252,slow=7.5,SNR=7.1						
	comp=Z,1.1nm,0.7s						
ZAA0	**Zalesovo Array**	**71.94**	**30**	P	**P**	**21 30 01.5**	**-1.1**
ZALV	**Zalesovo Beam**	**71.94**	**30**	P	**P**	**21 30 00.9**	**-1.7**
ZALV	**Zalesovo Beam**	**71.94**	**30**	P	**P**	**21 30 01.5**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=242,slow=3.2,SNR=6.5						
	comp=Z,1.4nm,0.7s						
ARCES	**ARCESS Array B**	**73.03**	**358**	P	**P**	**21 30 10.5**	**+1.6**
	comp=Z,4.1nm,0.9s,baz=177,slow=4.5,SNR=6.2						
	comp=Z,4.1nm,0.9s						
PZH	**PanZhiHua**	**73.33**	**61**	P	**P**	**21 30 12.4**	**+0.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.4s						
NRIK	**Noril'sk**	**81.66**	**17**	LR	LR	22 11 58.0	
	comp=Z,559nm,19.4s,baz=350,slow=39						
SONM	**Songino Array**	**81.99**	**41**	P	**P**	**21 31 01.4**	**+1.8**
	comp=Z,0.5nm,0.8s,baz=237,slow=5.0,SNR=2.9						
	comp=Z,0.5nm,0.8s						
HHC	**Hu-ho-hao-te**	**84.19**	**49**	*e*P	**P**	**21 31 11.1**	**0.0**
HHC				pP	sP	21 31 16.8	+0.6
HHC				sP	PcP	21 31 18.4	+3.5
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,71nm,5.2s						
HHC				LR	LR		
	comp=N,600nm,17.2s						
HHC				LR	LR		
	comp=E,360nm,16.4s						
HHC				LR	LR		
	comp=Z,930nm,18.0s						
QSPA	**South Pole Qui**	**86.55**	**180**	P	**P**	**21 31 24.4**	**+2.0**
QSPA	**South Pole Qui**	**86.55**	**180**	P	**P**	**21 31 25.0**	**+2.6**
	comp=Z,3.8nm,1.0s,baz=246,slow=3.9,SNR=6.0						
	comp=Z,3.8nm,1.0s						
NJ2	**Nanjing**	**88.93**	**58**	*e*P	**P**	**21 31 30.3**	**-4.1**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KLR	**Kul'dur**	**98.83**	**41**	LR	LR	22 21 07.6	
	comp=Z,454nm,20.5s,baz=9.5,slow=38						
ILAR	**Eielson Array**	**118.85**	**360**	PKP	**PKPdf**	**21 37 27.5**	**0.0**
	comp=Z,0.2nm,0.7s,baz=322,slow=2.8,SNR=2.3						

IDC 24 21:25:22.8±4.8, 3.58S×151.79E, h0km, mb3.1/2, mbtmp3.1/2, Error ellipse: s-maj=226.2km s-min=54.9km az=117.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.55**	**225**	P	P	21 30 34.6	-0.5
	0.3nm,0.4s,baz=52,slow=9.9,SNR=1.5						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**26.41**	**219**	P	P	21 31 02.4	+1.0
	0.3nm,0.7s,baz=40,slow=11,SNR=1.9						
	0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**148.97**	**290**	PKPbc	PKPbc	21 45 12.8	-1.1
	0.3nm,0.7s,baz=85,slow=1.6,SNR=1.9						

ATH 24 21:43:20.7, 39.61N×20.48E, h6km±2km, ML1.4/2, Error ellipse: s-maj=2.9km s-min=0.9km az=295.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.14**	**235**	P	Pg	21 43 23.9	+0.3
IGT				S	Sg	21 43 26.3	+0.7
IGT				AML	AML	21 43 29.5	
	comp=E,261μm,0.1s						
IGT				AML	AML	21 43 29.7	
	comp=N,249μm,0.1s						
JAN	**Janina**	**0.29**	**81**	P	Pg	21 43 27.2	+0.8
JAN				S	Sg	21 43 30.0	-0.1
JAN				AML	AML	21 43 31.9	
	comp=E,584μm,0.2s						
JAN				AML	AML	21 43 32.5	
	comp=N,487μm,0.3s						
KPRO	**Kipourio**	**0.76**	**63**	P	Pg	21 43 34.4	-0.9
KPRO				S	Sg	21 43 45.2	0.0
PENT	**Pentalofos**	**0.77**	**41**	P	Pg	21 43 34.2	-1.3
PENT				S	Sg	21 43 46.4	+0.9
LKD2	**Lefkada island**	**0.83**	**171**	P	Pg	21 43 36.0	-0.7
LKD2				S	Sg	21 43 47.4	-0.1
NEST	**Nestorio**	**0.91**	**28**	P	Pg	21 43 37.6	-0.6
NYDR	**Nydri-Lefkada**	**0.92**	**169**	P	Pg	21 43 37.2	-1.0
NYDR				S	Sg	21 43 50.1	0.0
DRAG	**Dragano-Lefkad**	**0.93**	**176**	P	Pg	21 43 38.3	-0.3
DRAG				S	Sb	21 43 51.4	-0.5
EVGI	**Lefkada island**	**1.00**	**172**	P	Pg	21 43 38.9	-1.0
EVGI				S	Sb	21 43 53.3	-0.5
MAKR	**Makrakomi, Fth**	**1.41**	**115**	P	Pn	21 43 45.5	-1.4
MAKR				S	Sb	21 44 04.9	-0.9
AGG	**Agios Georgios**	**1.55**	**112**	P	Pn	21 43 47.5	-1.4
AGG				S	Sn	21 44 08.7	-0.6

TRN 24 21:43:49.7, 16.97N×61.94W, h95km, MD3.7, 1D, Near South-west of Antigua., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANDO	**Antigua, Disas**	**0.17**	**36**	*e*P	Pn	21 44 04.7	+1.5
ANDO				*e*S	Sn	21 44 14.9	+1.6
ANBD	**Bethesda, Anti**	**0.18**	**64**	*e*P	Pn	21 44 04.6	+1.4
ANBD				*e*S	Sn	21 44 14.9	+1.6
MBFL	**Flemmings, Mon**	**0.34**	**230**	*e*P	Pn	21 44 05.3	+1.3
MBFL				*e*S	Sn	21 44 15.8	+1.2
ABD	**La Joyeuse, An**	**0.65**	**139**	⇓P	Pn	21 44 07.7	+1.4
ABD				*e*S	Sn	21 44 20.6	+2.0
CBE	**Ff, Capester**	**0.95**	**161**	*e*P	Pn	21 44 10.8	+1.5
CBE				*e*S	Sn	21 44 26.2	+2.3
SVN	**Savane Anatole**	**2.24**	**161**	*e*P	Pn	21 44 24.6	-0.7
SVN				*e*S	Sn	21 44 54.3	+1.7
ILAM	**Ilet Lapin Mar**	**2.41**	**155**	*e*S	Sn	21 44 56.2	-0.3
BIM	**Bigot**	**2.58**	**161**	*e*P	Pn	21 44 31.4	+1.6
BIM				*e*S	Sn	21 45 01.3	+0.8
MPOM	**Morne Pois Mar**	**2.72**	**157**	*e*P	Pn	21 44 32.6	+1.0
MPOM				*e*S	Sn	21 45 04.2	+0.5
SLBI	**Saint Lucia, B**	**3.07**	**162**	*e*P	Pn	21 44 38.5	+2.2
SLBI				*e*S	Sn	21 45 13.9	+1.6

*ROM **24** 21:44:21.4±0.2, 41.90N±0.01×15.850E±0.010, h33km, ML2.5/148, Error ellipse: s-maj=1.5km s-min=0.7km az=201.0*
*THE **24** 21:44:29.0, 41.47N×16.44E, h10km±18km, ML2.5/6, Error ellipse: s-maj=25.1km s-min=1.2km az=295.0*
ISC 24 21:44:21.5±1.1, 41.91N±0.03×15.86E±0.03, h34km±2km, n69, σ1.34/84, 3C-2D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGRT	**San Giovanni R**	**0.17**	**210**	⇑P	**Pb**	**21 44 28.1**	**0.0**
SGRT				S	**Sb**	**21 44 31.9**	**-0.6**
SGRT				AML	AML		
	comp=E,6980μm,0.1s						
SGRT				AML	AML		
	comp=N,6160μm,0.1s						
SGRT				AML	AML		
	comp=N,6160μm,0.1s						
SGRT				AML	AML		
	comp=E,6980μm,0.1s						
MSAG	**Monte S. Angel**	**0.20**	**169**	⇓P	**Pb**	**21 44 28.4**	**+0.2**
MSAG				S	**Sb**	**21 44 32.9**	**+0.1**
MSAG				AML	AML		
	comp=E,13400μm,0.6s						
MSAG				AML	AML		
	comp=N,14750μm,0.3s						
MSAG				AML	AML		
	comp=E,5595μm,0.6s						
MSAG				AML	AML		
	comp=N,6370μm,0.3s						
MSAG				AML	AML		
	comp=E,5308μm,0.1s						
MSAG				AML	AML		
	comp=N,5401μm,0.1s						
MSAG				AML	AML		
	comp=E,12936μm,0.1s						
MSAG				AML	AML		
	comp=N,12396μm,0.2s						
APRC	**Apricena**	**0.28**	**238**	⇑P	**Pb**	**21 44 29.0**	**-0.1**
APRC				S	**Sn**	**21 44 33.8**	**+0.6**
APRC				AML	AML		
	comp=N,2965μm,0.1s						
APRC				AML	AML		
	comp=E,3150μm,0.2s						
APRC				AML	AML		
	comp=E,3150μm,1.8s						
APRC				AML	AML		
	comp=E,3151μm,0.2s						
APRC				AML	AML		
	comp=N,1117μm,0.3s						
APRC				AML	AML		
	comp=N,2968μm,0.1s						
APRC				AML	AML		
	comp=E,3225μm,0.2s						
MELA	**Melanico ??? S**	**0.58**	**250**	⇑P	**Pb**	**21 44 33.4**	**0.0**
MELA				S	**Sn**	**21 44 41.9**	**+0.2**
MELA				AML	AML		
	comp=E,1820μm,0.2s						
MELA				AML	AML		
	comp=N,1870μm,0.2s						
MELA				AML	AML		
	comp=N,1995μm,0.2s						
MELA				AML	AML		
	comp=E,1825μm,0.2s						
MELA				AML	AML		
	comp=E,1950μm,0.2s						
MELA				AML	AML		
	comp=N,1870μm,0.2s						
MELA				AML	AML		
	comp=E,1952μm,0.2s						
MELA				AML	AML		
	comp=N,1871μm,0.2s						
MELA				AML	AML		
	comp=E,1823μm,0.2s						
MELA				AML	AML		
	comp=N,1994μm,0.2s						
MOCO	**Biccari - m.te**	**0.75**	**225**	P	**Pn**	**21 44 35.8**	**0.0**
MOCO				AML	AML		
	comp=E,116μm,0.7s						
MOCO				AML	AML		
	comp=N,72μm,0.5s						
MOCO				AML	AML		
	comp=E,115μm,0.7s						
MOCO				AML	AML		
	comp=E,122μm,0.7s						
MOCO				AML	AML		
	comp=N,54μm,0.3s						
MOCO				AML	AML		
	comp=E,116μm,0.7s						
MOCO				AML	AML		
	comp=N,60μm,0.4s						
CIGN	**Sant'Elia a Pi**	**0.76**	**251**	P	**Pn**	**21 44 35.8**	**0.0**
CIGN				AML	AML		
	comp=N,100μm,0.7s						
CIGN				AML	AML		
	comp=E,98μm,0.6s						
CIGN				AML	AML		
	comp=N,100μm,0.7s						
CIGN				AML	AML		
	comp=E,98μm,0.6s						
CIGN				AML	AML		
	comp=N,87μm,0.4s						
GATE	**Gambatesa**	**0.81**	**241**	P	**Pb**	**21 44 37.6**	**+0.3**
GATE				AML	AML		
	comp=N,183μm,0.5s						
GATE				AML	AML		
	comp=E,196μm,0.3s						
GATE				AML	AML		
	comp=N,240μm,0.7s						
GATE				AML	AML		
	comp=N,183μm,0.5s						
GATE				AML	AML		
	comp=E,199μm,0.5s						
SGTA	**Sant Agata di**	**0.85**	**206**	P	**Pb**	**21 44 37.7**	**-0.3**
SGTA				AML	AML		
	comp=N,304μm,0.3s						
SGTA				AML	AML		
	comp=E,256μm,1.3s						
SGTA				AML	AML		
	comp=E,290μm,0.3s						
SGTA				AML	AML		
	comp=E,249μm,0.3s						
SGTA				AML	AML		
	comp=N,303μm,0.3s						
SGTA				AML	AML		
	comp=N,270μm,0.6s						
MRVN	**Minervino Murg**	**0.88**	**163**	P	**Pn**	**21 44 37.7**	**+0.2**
MRVN				AML	AML		
	comp=E,215μm,0.2s						
MRVN				AML	AML		
	comp=N,232μm,0.6s						
MRVN				AML	AML		
	comp=N,216μm,0.2s						
MRVN				AML	AML		
	comp=E,215μm,0.2s						
VULT	**Monte Vulture**	**0.97**	**191**	P	**Pb**	**21 44 39.5**	**-0.4**
VULT				AML	AML		
	comp=E,432μm,1.6s						
VULT				AML	AML		
	comp=N,464μm,0.8s						
VULT				AML	AML		
	comp=E,431μm,1.6s						
VULT				AML	AML		
	comp=N,464μm,0.8s						
VULT				AML	AML		
	comp=E,402μm,1.4s						
VULT				AML	AML		
	comp=N,462μm,1.4s						
VULT				AML	AML		
	comp=E,431μm,0.4s						
VULT				AML	AML		
	comp=E,402μm,0.6s						
VULT				AML	AML		
	comp=N,462μm,0.6s						
VULT				AML	AML		
	comp=E,351μm,0.3s						
VULT				AML	AML		
	comp=E,364μm,0.3s						
VULT				AML	AML		
	comp=N,463μm,0.3s						
VULT				AML	AML		
	comp=N,456μm,0.3s						
TRIV	**Trivento**	**0.99**	**262**	P	**Pb**	**21 44 40.1**	**-0.1**
TRIV				AML	AML		
	comp=E,100μm,1.0s						
TRIV				AML	AML		
	comp=N,96μm,1.6s						
TRIV				AML	AML		
	comp=N,96μm,0.4s						
TRIV				AML	AML		
	comp=E,100μm,1.0s						
TRIV				AML	AML		
	comp=E,90μm,0.6s						
TRIV				AML	AML		
	comp=E,86μm,0.5s						
TRIV				AML	AML		
	comp=N,79μm,0.3s						
TRIV				AML	AML		
	comp=N,85μm,0.4s						
CAFE	**Carife**	**0.99**	**208**	P	**Pn**	**21 44 39.6**	**+0.5**
CAFE				AML	AML		
	comp=E,162μm,0.4s						
CAFE				AML	AML		
	comp=N,126μm,1.3s						
CAFE				AML	AML		
	comp=E,162μm,1.6s						
CAFE				AML	AML		
	comp=N,243μm,1.1s						
CAFE				AML	AML		
	comp=E,183μm,0.3s						
CAFE				AML	AML		
	comp=E,162μm,0.4s						
CAFE				AML	AML		
	comp=N,104μm,0.5s						
SACR	**S. Croce Del S**	**1.00**	**240**	P	**Pn**	**21 44 39.2**	**0.0**
BSSO	**Busso**	**1.01**	**250**	P	**Pn**	**21 44 40.1**	**+0.7**
BSSO				AML	AML		
	comp=N,33μm,1.5s						
BSSO				AML	AML		
	comp=N,33μm,0.5s						
BSSO				AML	AML		
	comp=E,31μm,0.5s						
BSSO				AML	AML		
	comp=E,86μm,0.5s						
BSSO				AML	AML		
	comp=N,28μm,0.4s						
BSSO				AML	AML		
	comp=E,31μm,0.5s						
BSSO				AML	AML		
	comp=N,75μm,0.4s						
MRB1	**Monte Rocchett**	**1.02**	**221**	P	**Pn**	**21 44 40.0**	**+0.5**
SNAL	**S. Angelo Dei**	**1.09**	**207**	P	**Pn**	**21 44 40.5**	**+0.1**
SNAL				AML	AML		
	comp=N,196μm,1.3s						
SNAL				AML	AML		
	comp=E,182μm,0.7s						
SNAL				AML	AML		
	comp=E,173μm,1.6s						
SNAL				AML	AML		
	comp=N,188μm,1.3s						
SNAL				AML	AML		
	comp=N,188μm,0.7s						
SNAL				AML	AML		
	comp=N,196μm,0.7s						
SNAL				AML	AML		
	comp=E,173μm,0.4s						
SNAL				AML	AML		
	comp=E,182μm,0.7s						
SNAL				AML	AML		
	comp=N,188μm,1.0s						
SNAL				AML	AML		
	comp=N,177μm,1.0s						
SNAL				AML	AML		
	comp=E,172μm,0.7s						
ACER	**Acerenza**	**1.12**	**177**	P	**Pn**	**21 44 41.3**	**+0.5**
ACER				AML	AML		
	comp=E,338μm,0.6s						
ACER				AML	AML		
	comp=E,348μm,0.5s						
ACER				AML	AML		
	comp=N,404μm,0.7s						
ACER				AML	AML		
	comp=N,348μm,0.6s						
ACER				AML	AML		
	comp=E,338μm,1.4s						
ACER				AML	AML		
	comp=N,404μm,0.7s						
ACER				AML	AML		
	comp=E,339μm,0.6s						
ACER				AML	AML		
	comp=E,347μm,0.5s						
ACER				AML	AML		
	comp=N,348μm,0.6s						
LIO3	**Lioni**	**1.13**	**207**	P	**Pn**	**21 44 41.0**	**+0.1**
AMUR	**Altamura**	**1.14**	**150**	⇓P	**Pn**	**21 44 41.7**	**+0.6**
AMUR				AML	AML		
	comp=E,182μm,0.2s						
AMUR				AML	AML		
	comp=N,178μm,0.8s						
AMUR				AML	AML		
	comp=E,182μm,0.2s						
AMUR				AML	AML		
	comp=N,163μm,0.3s						
LSTV	**Lastovo**	**1.15**	**41**	*e*Pn	**Pn**	**21 44 41.2**	**0.0**
LSTV				Sn	**Sb**	**21 44 59.2**	**+1.6**
VITU	**Vitulano (BN)**	**1.17**	**232**	P	**Pn**	**21 44 42.4**	**+0.9**
VITU				AML	AML		
	comp=E,160μm,0.8s						
VITU				AML	AML		
	comp=N,173μm,0.3s						
VITU				AML	AML		
	comp=N,173μm,1.7s						
VITU				AML	AML		
	comp=E,146μm,0.4s						
VITU				AML	AML		
	comp=E,183μm,0.8s						
VITU				AML	AML		
	comp=N,173μm,0.3s						
VITU				AML	AML		
	comp=N,202μm,0.4s						
MRLC	**Muro Lucano**	**1.18**	**194**	P	**Pn**	**21 44 42.0**	**+0.4**
MCRV	**Calabrutti - M**	**1.24**	**205**	P	**Pn**	**21 44 42.2**	**-0.3**
MCRV				AML	AML		
	comp=E,149μm,0.9s						
MCRV				AML	AML		
	comp=N,160μm,0.5s						
MCRV				AML	AML		
	comp=E,149μm,1.1s						
MCRV				AML	AML		
	comp=N,160μm,1.5s						
MCRV				AML	AML		
	comp=N,140μm,0.3s						
MCRV				AML	AML		
	comp=E,145μm,0.3s						
SCL3	**Muro Lucano (S**	**1.24**	**192**	P	**Pn**	**21 44 42.9**	**+0.4**
LPEL	**Lama dei Pelig**	**1.26**	**277**	P	**Pn**	**21 44 43.4**	**+0.7**

LPEL				AML	AML	
	comp=E,168μm,1.1s					
LPEL				AML	AML	
	comp=N,165μm,0.2s					
LPEL				AML	AML	
	comp=E,168μm,0.9s					
LPEL				AML	AML	
	comp=N,165μm,0.2s					
LPEL				AML	AML	
	comp=E,157μm,0.2s					
SNR3	**Senerchia**	**1.27 204**	P	**Pn**	**21 44 43.1 +0.1**	
RNI2	**Rionero Sannit**	**1.29 262**	P	**Pn**	**21 44 44.3 +1.1**	
RNI2				AML	AML	
	comp=E,148μm,1.6s					
RNI2				AML	AML	
	comp=N,98μm,0.7s					
RNI2				AML	AML	
	comp=N,92μm,0.7s					
RNI2				AML	AML	
	comp=E,148μm,0.4s					
RNI2				AML	AML	
	comp=E,105μm,0.7s					
RNI2				AML	AML	
	comp=N,96μm,0.3s					
RNI2				AML	AML	
	comp=E,100μm,0.3s					
RNI2				AML	AML	
	comp=N,92μm,0.3s					
RNI2				AML	AML	
	comp=E,100μm,0.5s					
HVAR	**Hvar**	**1.34 19**	*e*Pn	**Pn**	**21 44 43.9 0.0**	
HVAR	**Hvar**	**1.34 19**	P	**Pn**	**21 44 43.8 0.0**	
MIGL	**Miglionico**	**1.37 161**	P	**Pn**	**21 44 44.8 +0.6**	
MIGL				AML	AML	
	comp=E,334μm,1.3s					
MIGL				AML	AML	
	comp=N,412μm,0.5s					
MIGL				AML	AML	
	comp=E,334μm,0.7s					
MIGL				AML	AML	
	comp=N,403μm,0.3s					
MIGL				AML	AML	
	comp=E,237μm,0.3s					
PTRP	**Pietrapertosa**	**1.39 174**	P	**Pn**	**21 44 45.5 +0.9**	
PTRP				AML	AML	
	comp=E,180μm,0.8s					
PTRP				AML	AML	
	comp=N,204μm,0.5s					
PTRP				AML	AML	
	comp=E,180μm,1.2s					
PTRP				AML	AML	
	comp=E,180μm,0.8s					
PTRP				AML	AML	
	comp=N,204μm,0.5s					
MATE	**Matera**	**1.41 153**	P	**Pn**	**21 44 45.3 +0.6**	
MATE				AML	AML	
	comp=E,165μm,0.4s					
MATE				AML	AML	
	comp=N,180μm,1.1s					
MATE				AML	AML	
	comp=N,180μm,0.9s					
MATE				AML	AML	
	comp=N,178μm,0.3s					
MATE				AML	AML	
	comp=E,141μm,0.4s					
PST3	**Postiglione**	**1.42 199**	P	**Pn**	**21 44 45.4 +0.4**	
NOCI	**Noci**	**1.44 141**	P	**Pn**	**21 44 45.5 +0.3**	
NOCI				AML	AML	
	comp=E,180μm,0.2s					
NOCI				AML	AML	
	comp=N,272μm,0.3s					
NOCI				AML	AML	
	comp=E,163μm,0.1s					
NOCI				AML	AML	
	comp=N,246μm,0.1s					
VVDG	**Vesuvio Valle**	**1.52 226**	P	**Pn**	**21 44 46.5 +0.2**	
CRAC	**Craco**	**1.60 164**	P	**Pn**	**21 44 48.0 +0.7**	
CRAC				AML	AML	
	comp=N,229μm,0.6s					
CRAC				AML	AML	
	comp=E,273μm,0.3s					
CRAC				AML	AML	
	comp=E,273μm,0.3s					
CRAC				AML	AML	
	comp=N,204μm,0.4s					
MAKA	**Makarska**	**1.62 31**	*e*Pn	**Pn**	**21 44 47.9 +0.2**	
STON	**Ston**	**1.67 54**	*e*Pn	**Pn**	**21 44 48.4 0.0**	
SIRI	**Monte Sirino -**	**1.72 180**	P	**Pn**	**21 44 50.5 +1.4**	
SIRI				AML	AML	
	comp=E,70μm,0.2s					
SIRI				AML	AML	
	comp=N,59μm,0.2s					
SIRI				AML	AML	
	comp=E,70μm,0.2s					
SIRI				AML	AML	
	comp=E,70μm,1.8s					
SIRI				AML	AML	
	comp=E,70μm,0.2s					
SIRI				AML	AML	
	comp=E,70μm,0.4s					
SIRI				AML	AML	
	comp=N,59μm,0.2s					
SIRI				AML	AML	
	comp=N,60μm,0.2s					
TAR1	**Taranto**	**1.75 142**	P	**Pn**	**21 44 50.4 +1.0**	
TAR1				AML	AML	
	comp=E,88μm,0.2s					
TAR1				AML	AML	
	comp=N,101μm,0.3s					
TAR1				AML	AML	
	comp=N,101μm,1.7s					
TAR1				AML	AML	
	comp=E,82μm,0.1s					
TAR1				AML	AML	
	comp=N,83μm,0.1s					
ZIRJ	**Zirje**	**1.75 355**	*e*Pn	**Pn**	**21 44 49.2 -0.3**	
RICI	**Ricice**	**1.84 30**	*e*Pn	**Pn**	**21 44 50.8 0.0**	
DBRK	**Dubrovnik**	**1.86 65**	*e*Pn	**Pn**	**21 44 52.6 +1.6**	
MORI	**Morici**	**1.96 357**	*e*Pn	**Pn**	**21 44 52.1 -0.2**	
KIJV	**Kijevo**	**2.14 11**	*e*Pn	**Pn**	**21 44 55.4 +0.6**	
DUGI	**Dugi Otok**	**2.17 344**	*e*Pn	**Pn**	**21 44 54.9 -0.3**	
VIRC	**Vir**	**2.46 346**	*e*Pn	**Pn**	**21 44 59.4 +0.2**	
NVLJ	**Novalja**	**2.75 345**	*e*Pn	**Pn**	**21 45 03.4 +0.2**	
RABC	**Rab**	**2.95 345**	*e*Pn	**Pn**	**21 45 06.7 +0.8**	
BRJN	**Brijuni**	**3.37 334**	*e*Pn	**Pn**	**21 45 11.0 -0.6**	
SRN	**Sarande**	**3.73 121**	P	**Pn**	**21 45 18.2 +1.5**	
SRN			S	**Sn**	**21 45 56.6 -2.9**	
IGT	**Igoumenitsa**	**4.14 123**	P	**Pn**	**21 45 24.2 +1.9**	
IGT			S	**Sn**	**21 46 07.2 -2.4**	
	comp=N,10.0nm,0.2s					
NEST	**Nestorio**	**4.19 109**	P	**Pn**	**21 45 25.5 +2.4**	
NEST			S	**Sn**	**21 46 09.8 -1.1**	
	comp=N,15nm,0.4s					
FNA	**Florina**	**4.30 103**	P	**Pn**	**21 45 26.8 +2.2**	
FNA			S	**Sn**	**21 46 12.9 -0.7**	
	comp=N,15nm,0.5s					
KPRO	**Kipourio**	**4.60 113**	P	**Pn**	**21 45 31.4 +2.7**	
OBKA	**Obir**	**4.70 349**	*i* Pn	**Pn**	**21 45 30.9 +0.8**	
	comp=N,0.2nm,0.2s					
TSLK	**Tsoukalades, L**	**4.78 128**	P	**Pn**	**21 45 32.9 +1.8**	
LKD2	**Lefkada island**	**4.81 129**	P	**Pn**	**21 45 33.2 +1.7**	
LKD2			S	**Sn**	**21 46 23.7 -2.3**	
DRAG	**Dragano-Lefkad**	**4.83 130**	P	**Pn**	**21 45 33.4 +1.6**	
NYDR	**Nydri-Lefkada**	**4.88 129**	P	**Pn**	**21 45 34.1 +1.6**	
EVGI	**Lefkada island**	**4.92 130**	P	**Pn**	**21 45 34.5 +1.5**	
EVGI			S	**Sn**	**21 46 26.0 -2.8**	
	comp=N,15nm,0.1s					
VLS	**Valsamata**	**5.20 134**	P	**Pn**	**21 45 38.1 +1.2**	
VLS			S	**Sn**	**21 46 32.2 -3.4**	
	comp=N,10.0nm,0.1s					
ABTA	**Abfaltersbach**	**5.40 335**	*i* Pn	**Pn**	**21 45 39.6 -0.2**	
	comp=N,0.2nm,0.1s					
PVO	**Paravola**	**5.44 125**	P	**Pn**	**21 45 42.4 +2.3**	
PVO			S	**Sn**	**21 46 39.4 -2.1**	
	comp=N,90nm,0.8s					
MAKR	**Makrakomi, Fth**	**5.59 119**	P	**Pn**	**21 45 44.8 +2.6**	
MAKR			S	**Sn**	**21 46 43.6 -1.6**	
ANX	**Ano Chora**	**5.70 124**	P	**Pn**	**21 45 46.5 +2.8**	
AGG	**Agios Georgios**	**5.71 118**	P	**Pn**	**21 45 45.9 +2.0**	
AGG			S	**Sn**	**21 46 46.4 -1.9**	
DRO	**Drossia**	**5.98 129**	P	**Pn**	**21 45 50.0 +2.4**	
AXAR	**Agios Charalam**	**6.07 119**	P	**Pn**	**21 45 51.1 +2.3**	

*IDC **24** 21:45:35.5±1.2,6°.10S×142°.59E,h0km,mb3.8/4,*

mbtmp3.9/6,ML2.0/1,Error ellipse: s-maj=45.6km s-min=28.6km az=76.0

ISC 24 21:45:40.5±0.9,6°.4S±0°.1×142°.4E±0°.1,h35km,n7,σ2s10/9, mb3.9/4,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.58**	**122**	Pn	**Pn**	**21 47 01.7**	**+0.7**
	2.7nm,0.3s,baz=263,slow=19,SNR=3.0						
PMG				Sn	**Sn**	**21 48 02.9**	**-1.0**
	2.1nm,0.3s,baz=230,slow=19,SNR=1.7 7.7nm,0.4s						
WRA	**Warramunga Arr**	**15.54**	**209**	Pn	**Pn**	**21 49 16.9**	**-0.2**
	0.4nm,0.3s,baz=28,slow=13,SNR=16						
WRA				Sn	**Sn**	**21 52 05.1**	**-3.1**
	0.1nm,0.3s,baz=39,slow=27,SNR=2.9						
ASAR	**Alice Springs**	**18.98**	**205**	P	**Pn**	**21 50 02.7**	**+2.7**
	5.9nm,0.6s,baz=32,slow=10.0,SNR=98						
MKAR	**Makanchi Array**	**74.96**	**322**	P	**P**	**21 57 18.7**	**+0.5**
	0.1nm,0.5s,baz=101,slow=7.5,SNR=2.0 0.1nm,0.5s						
QSPA	**South Pole Qui**	**83.54**	**180**	P	**P**	**21 58 06.2**	**+1.4**
	1.3nm,1.0s,baz=1.4,slow=7.8,SNR=2.1 1.3nm,1.0s						
BVAR	**Borovoye Array**	**84.44**	**325**	P	**P**	**21 58 09.8**	**+0.3**
	0.9nm,0.6s,baz=101,slow=6.3,SNR=7.2 0.9nm,0.6s						
ILAR	**Eielson Array**	**87.71**	**24**	P	**P**	**21 58 22.9**	**-2.4**
	0.5nm,0.8s,baz=262,slow=5.1,SNR=2.4 0.5nm,0.8s						

*NEIC **24** 22:12:02.7±2.1,15°.07N±0°.06×94°.18W±0°.04,h35km±25km, mb4.0/12,Md4.3/67(MEX),Error ellipse: s-maj=8.5km s-min=5.7km az=195.0*

*MEX **24** 22:12:03.1±0.9,15°.08N×94°.29W,h16km±8km,MD4.3*

ISC 24 22:11:57.9±1.7,15°.04N±0°.05×94°.27W±0°.03,h5km±11km, n65,σ2s37/92,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.21**	**57**		**Pg**	**22 12 21.4**	**+0.4**
PCIG				*e*S	**Sg**	**22 12 35.4**	**-1.4**
PCIG		**1.21**	**57**	*e*P	**Pg**	**22 12 21.4**	**+0.4**
PCIG				*e*S	**Sg**	**22 12 35.4**	**-1.4**
CARR	**Arriaga**	**1.25**	**16**	*i* P	**Pg**	**22 12 21.9**	**0.0**
CARR				*i* S	**Sg**	**22 12 35.1**	**-3.0**
NILT	**Santiago Nilte**	**1.56**	**348**	*e*P	**Pn**	**22 12 26.0**	**-0.2**
NILT				*i* S	**Sn**	**22 12 43.2**	**-3.5**
HUIG	**Huatulco**	**1.92**	**292**		**Pn**	**22 12 31.8**	**+0.7**
HUIG	**Huatulco**	**1.92**	**292**	*e*P	**Pn**	**22 12 31.8**	**+0.7**
HUIG				*e*S	**Sn**	**22 12 52.1**	**-3.6**
THIG		**1.94**	**94**		Pn	22 12 29.9	-1.5
THIG					**Sn**	**22 12 53.4**	**-2.7**
THIG		**1.94**	**94**	*e*P	Pn	22 12 29.9	-1.5
THIG				*e*S	**Sn**	**22 12 53.4**	**-2.7**
PATR	**El Naranjo**	**1.96**	**87**	*e*P	**Pn**	**22 12 32.7**	**+0.7**
PAVE	**Pavencul**	**2.02**	**85**	*e*P	**Pn**	**22 12 33.9**	**+1.1**
PAVE				*i* S	**Sn**	**22 12 57.7**	**-0.9**
TGIG		**2.05**	**32**		**Pn**	**22 12 34.4**	**+1.3**
TGIG					**Sn**	**22 12 58.8**	**-0.3**
TGIG		**2.05**	**32**	*e*P	**Pn**	**22 12 34.4**	**+1.3**
TGIG				*e*S	**Sn**	**22 12 58.8**	**-0.3**
CHUJ	**Union Juarez**	**2.08**	**88**	*e*P	**Pn**	**22 12 34.5**	**+0.9**
CHUJ				*i* S	**Sn**	**22 12 59.1**	**-1.1**
CMIG	**Matias Romero**	**2.13**	**344**		**Pn**	**22 12 34.6**	**+0.6**
CMIG					**Sn**	**22 12 58.3**	**-2.6**
CMIG	**Matias Romero**	**2.13**	**344**	*i* P	**Pn**	**22 12 34.6**	**+0.6**
CMIG				*e*S	**Sn**	**22 12 58.3**	**-2.6**
UXUV	**UXUV**	**2.27**	**3**	*e*P	**Pn**	**22 12 37.8**	**+1.8**
UXUV				*e*S	**Sn**	**22 13 03.9**	**-0.5**
CCIG	**Comitan**	**2.40**	**59**		**Pn**	**22 12 40.1**	**+2.3**
CCIG	**Comitan**	**2.40**	**59**	*e*P	**Pn**	**22 12 40.9**	**+3.0**
CCIG				*e*S	**Sn**	**22 13 07.6**	**-0.1**
RTAL	**Retalhuleu**	**2.54**	**101**	Pn	**Pn**	**22 12 40.8**	**+1.1**
HUEH	**Huehuetenango**	**2.68**	**84**		**Pn**	**22 12 42.6**	**+0.8**
PEIG	**Puerto Escondi**	**2.94**	**289**		**Pn**	**22 12 46.1**	**+0.9**
PEIG	**Puerto Escondi**	**2.94**	**289**	*e*P	**Pn**	**22 12 46.1**	**+0.9**
PEIG				*e*S	**Sn**	**22 13 16.4**	**-4.5**
TUIG	**Tuzandepetl**	**2.98**	**357**	*e*P	**Pn**	**22 12 46.6**	**+0.8**
TUIG				*e*S	**Sn**	**22 13 21.3**	**-0.7**
NEUV	**Arroyo Zacate**	**3.04**	**331**	*e*P	**Pn**	**22 12 47.0**	**+0.4**
NEUV				*e*S	**Sn**	**22 13 20.0**	**-3.4**
OXLC	**Oaxaca**	**3.09**	**311**	*i* P	**Pn**	**22 12 48.1**	**+0.6**
OXLC				*i* S	**Sn**	**22 13 24.3**	**-0.7**
OXIG	**Oaxaca**	**3.12**	**311**		**Pn**	**22 12 51.0**	**+3.2**
VHO	**Vista Hermosa**	**3.12**	**311**	*e*P	**Pn**	**22 12 51.0**	**+3.2**
VHO				*e*S	**Sn**	**22 13 21.3**	**-4.2**
PMUV	**Sontecomapan**	**3.58**	**347**	*e*P	**Pn**	**22 12 53.2**	**-0.9**
PMUV				*e*S	**Sn**	**22 13 32.4**	**-4.5**
YOIG	**Yosondua**	**3.64**	**300**		**Pn**	**22 12 58.5**	**+3.5**
YOIG	**Yosondua**	**3.64**	**300**	*e*P	**Pn**	**22 12 58.5**	**+3.5**
YOIG				*e*S	**Sn**	**22 13 34.5**	**-4.0**
PNIG	**Pinotepa**	**3.96**	**290**		**Pn**	**22 13 00.9**	**+1.7**
PNIG	**Pinotepa**	**3.96**	**290**	*e*P	**Pn**	**22 13 00.9**	**+1.7**
PNIG				*e*S	**Sn**	**22 13 41.3**	**-4.7**
TXIG	**Tlaxiaco**	**4.02**	**304**		**Pn**	**22 13 04.0**	**+3.6**
TXIG					**Sn**	**22 13 46.0**	**-2.0**
TXIG	**Tlaxiaco**	**4.02**	**304**	*e*P	**Pn**	**22 13 04.0**	**+3.6**
TXIG				*e*S	**Sn**	**22 13 46.0**	**-2.0**
TOIG	**Toxpalan**	**4.05**	**319**		**Pn**	**22 13 04.2**	**+3.5**
TOIG					**Sn**	**22 13 49.5**	**+0.9**
TOIG	**Toxpalan**	**4.05**	**319**	*e*P	**Pn**	**22 13 04.2**	**+3.5**
TOIG				*e*S	**Sn**	**22 13 49.5**	**+0.9**
HLIG	**Huajuapan de L**	**4.38**	**310**		**Pn**	**22 13 10.1**	**+4.8**
HLIG					**Sn**	**22 13 54.5**	**-2.4**
HLIG	**Huajuapan de L**	**4.38**	**310**	*e*P	**Pn**	**22 13 10.1**	**+4.8**
HLIG				*e*S	**Sn**	**22 13 54.5**	**-2.4**
TPIG	**Tehuac#an**	**4.48**	**319**		**Pn**	**22 13 10.7**	**+4.1**
TPIG					**Sn**	**22 14 02.7**	**+3.5**
TPIG	**Tehuac#an**	**4.48**	**319**	*e*P	**Pn**	**22 13 10.7**	**+4.1**
TPIG				*e*S	**Sn**	**22 14 02.7**	**+3.5**
PETF	**Flores**	**4.62**	**66**		**Pn**	**22 13 08.8**	**+0.4**
FTIG	**Fresnillo de T**	**4.68**	**308**		**Pn**	**22 13 12.8**	**+3.6**
FTIG	**Fresnillo de T**	**4.68**	**308**	*e*P	**Pn**	**22 13 12.8**	**+3.6**
FTIG				*e*S	Sn	22 13 53.5	-11
TLIG	**Tlapa**	**4.83**	**302**		**Pn**	**22 13 13.0**	**+1.6**
TLIG	**Tlapa**	**4.83**	**302**	*e*S	Sn	22 14 02.5	-5.4
SCIG	**Sabancuy**	**4.89**	**37**	*e*P	**Pn**	**22 13 12.3**	**+0.2**
SCIG				*e*S	**Sn**	**22 14 04.6**	**-4.5**
JAUV	**Jalcomulco**	**4.94**	**331**	*e*P	**Pn**	**22 13 12.5**	**-0.3**
JAUV				*e*S	Sn	22 14 04.9	-5.5
CRIG	**Cruz Grande**	**4.98**	**290**	*e*P	Pn	22 13 09.0	-4.2
CRIG				*e*S	Sn	22 14 03.8	-7.4
PPM	**Popocatepetl**	**5.78**	**314**	*e*P	Pn	22 13 31.4	+6.6
PPM				*e*S	Sn	22 14 26.4	-5.4
CXUV	**Coxquihui**	**6.01**	**329**	*e*P	**Pn**	**22 13 28.7**	**+1.2**
TEIG	**Tepich**	**7.70**	**47**		**Pn**	**22 13 51.1**	**+0.5**
833A	**Chaparral WMA,**	**14.05**	**341**		**Pn**	**22 15 18.4**	**+0.8**
DRIO	**Del Rio**	**15.47**	**339**	Pn	**Pn**	**22 15 38.4**	**+1.6**
435B	**Jarrell**	**15.96**	**350**		**Pn**	**22 15 45.2**	**+2.0**
TX31	**Lajitas Ar. Si**	**16.67**	**330**	Pn	**Pn**	**22 15 53.5**	**+1.2**
TXAR	**Lajitas Array**	**16.67**	**330**	Pn	**Pn**	**22 15 52.6**	**+0.3**
WHTX	**Lake Whitney,**	**17.13**	**351**	P	**Pn**	**22 15 59.3**	**+1.3**
WHTX				IAmb	IAmb	22 16 05.7	
	comp=Z,9.1nm,0.6s						
SGCY	**Sterling City**	**17.93**	**341**	P	**Pn**	**22 16 07.9**	**-0.1**
SGCY				IAmb	IAmb	22 16 16.2	
	comp=Z,9.0nm,0.8s						
ABTX	**Abilene, Hawle**	**18.18**	**345**	P	**Pn**	**22 16 11.3**	**+0.2**
ABTX				IAmb	IAmb	22 16 14.6	
	comp=Z,8.8nm,0.8s						
APMT	**Aspermont**	**18.97**	**345**	P	**P**	**22 16 20.3**	**+0.3**
X37A	**Clayton**	**19.49**	**357**	P	**P**	**22 16 26.6**	**+0.8**
X37A				IAmb	IAmb	22 16 37.5	
	comp=Z,11nm,1.1s						
W35A	**Tecumseh**	**20.17**	**354**	P	**P**	**22 16 34.1**	**+0.9**
W35A				IAmb	IAmb	22 16 35.7	
	comp=Z,5.1nm,0.6s						
FNO	**Franklin**	**20.33**	**353**	P	**P**	**22 16 34.9**	**0.0**
AMTX	**Amarillo**	**20.86**	**343**	P	**P**	**22 16 40.8**	**0.0**
RTBA	**Rita Blanca**	**22.61**	**342**	P	**P**	**22 17 00.2**	**+0.6**
RTBA				IAmb	IAmb	22 17 15.2	
	comp=Z,6.6nm,1.1s						

*IDC **24** 22:14:34.4±1.5,36°.92N×23°.00E,h0km,mb3.5/5, mbtmp3.5/7,ML2.0/2,MS3.7/2,Error ellipse: s-maj=36.9km s-min=17.9km az=43.0*

*THE **24** 22:14:36.3,36°.77N×22°.68E,h7km±1km,ML3.2/10,Error ellipse: s-maj=1.8km s-min=0.8km az=197.0*

*ATH **24** 22:14:36.2,36°.76N×22°.65E,h7km±1km,ML3.1/9,Error ellipse: s-maj=1.7km s-min=0.9km az=179.0*

ISC 24 22:14:36.1±0.9,36°.76N±0°.03×22°.67E±0°.02,h14km±6km, n69,σ0s95/91,mb3.6/5,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLI	**Veliai**	**0.22**	**100**	P	**Pg**	**22 14 41.0**	**+0.1**
VLI				S	**Sg**	**22 14 44.0**	**-0.2**
	12μm,0.4s						
VLI	**Veliai**	**0.22**	**100**	P	**Pg**	**22 14 41.0**	**+0.1**
VLI				S	**Sg**	**22 14 44.4**	**+0.2**
VLI				AML	AML	22 14 44.9	
	comp=N,19668μm,0.4s						
VLI				AML	AML	22 14 45.2	
	comp=E,26390μm,0.5s						
MNVA	**Monemvasia**	**0.30**	**103**	P	**Pg**	**22 14 43.0**	**+0.6**
MNVA				S	**Sg**	**22 14 46.9**	**+0.3**
KLMT	**Kalamata**	**0.58**	**302**	P	**Pg**	**22 14 46.7**	**-0.7**
KLMT				S	**Sg**	**22 14 54.5**	**-0.6**
	comp=E,2μm,0.5s						
KRND	**KRANIDI**	**0.73**	**31**	P	**Pg**	**22 14 50.1**	**-0.2**
KRND				S	**Sb**	**22 15 00.3**	**-0.3**
	comp=E,2μm,0.3s						
KRND	**KRANIDI**	**0.73**	**31**	P	**Pg**	**22 14 50.1**	**-0.2**
KRND				S	**Sg**	**22 15 00.1**	**+0.1**
KRND				AML	AML	22 15 01.4	
	comp=E,3792μm,0.4s						
KRND				AML	AML	22 15 04.6	
	comp=N,5632μm,0.3s						
PYL	**PYLOS**	**0.76**	**281**	P	**Pg**	**22 14 49.6**	**-1.2**
PYL				S	**Sb**	**22 15 01.9**	**+0.6**
	comp=N,988nm,0.4s						
PYL	**PYLOS**	**0.76**	**281**	P	**Pg**	**22 14 50.0**	**-0.9**
PYL				S	**Sg**	**22 14 59.7**	**-1.2**
PYL				AML	AML	22 15 04.1	
	comp=E,2281μm,0.4s						
PYL				AML	AML	22 15 05.7	
	comp=N,1384μm,0.4s						
YDRA	**Hydra**	**0.87**	**47**	P	**Pg**	**22 14 52.4**	**-0.5**
YDRA				S	**Sb**	**22 15 04.6**	**+0.1**
YDRA				AML	AML	22 15 06.1	
	comp=N,5821μm,0.3s						
YDRA				AML	AML	22 15 08.2	
	comp=E,6075μm,0.3s						
GUR	**Goura**	**1.21**	**348**	P	**Pg**	**22 14 57.8**	**-1.6**
GUR				S	**Sg**	**22 15 14.3**	**-0.8**
	comp=E,2μm,0.5s						
GUR	**Goura**	**1.21**	**348**	P	**Pg**	**22 14 57.8**	**-1.6**
GUR				S	**Sb**	**22 15 15.0**	**+0.7**
LOUT	**Loutraki**	**1.25**	**11**	P	**Pb**	**22 14 59.5**	**0.0**
LOUT				S	**Sn**	**22 15 16.7**	**+0.8**
	comp=E,815nm,0.9s						
LOUT	**Loutraki**	**1.25**	**11**	P	**Pb**	**22 14 59.6**	**0.0**
LOUT				S	**Sg**	**22 15 15.5**	**-1.1**
LOUT				AML	AML	22 15 22.6	
	comp=N,303μm,0.6s						
LOUT				AML	AML	22 15 22.6	
	comp=E,271μm,0.6s						
THAL	**Thalero**	**1.28**	**360**	P	**Pn**	**22 14 59.8**	**+0.2**
THAL	**Thalero**	**1.28**	**360**	P	**Pn**	**22 14 60.0**	**+0.4**
LTK	**Loutraki**	**1.29**	**10**	P	**Pn**	**22 15 00.0**	**+0.3**
KLV	**Kalavryta, Ach**	**1.35**	**342**	P	**Pn**	**22 15 00.3**	**-0.3**
KLV				S	**Sb**	**22 15 18.3**	**-0.1**
MHLO	**Agia Marina, M**	**1.39**	**92**	P	**Pn**	**22 15 00.4**	**-0.7**
MHLO	**Agia Marina, M**	**1.39**	**92**	P	**Pn**	**22 15 00.8**	**-0.4**
DRO	**Drossia**	**1.42**	**328**	P	**Pn**	**22 15 01.8**	**+0.3**
ATH	**Athens Observa**	**1.47**	**34**	P	**Pn**	**22 15 03.0**	**+0.8**
ATH	**Athens Observa**	**1.47**	**34**	P	**Pn**	**22 15 03.0**	**+0.8**
ATH				S	**Sn**	**22 15 21.7**	**+0.5**
ATH				AML	AML	22 15 26.2	
	comp=N,1126μm,0.7s						
ATH				AML	AML	22 15 27.2	
	comp=E,1292μm,0.4s						
RODP	**Rodopos**	**1.48**	**143**	P	**Pn**	**22 15 02.8**	**+0.4**
VILL	**Villia**	**1.49**	**20**	P	**Pn**	**22 15 02.3**	**-0.3**
ATHU	**Athens Univers**	**1.50**	**36**	P	**Pn**	**22 15 02.3**	**-0.3**
ATHU				S	**Sn**	**22 15 22.7**	**+0.7**
	comp=E,202nm,0.7s						
ATHU	**Athens Univers**	**1.50**	**36**	P	**Pn**	**22 15 02.2**	**-0.3**
ATHU				S	**Sn**	**22 15 21.5**	**-0.4**
ATHU				AML	AML	22 15 27.4	
	comp=E,344μm,0.4s						
ATHU				AML	AML	22 15 28.1	
	comp=N,342μm,0.4s						
VIL2	**Platees**	**1.53**	**18**	P	**Pn**	**22 15 02.2**	**-0.8**
ALIK	**Aliki, Aigiali**	**1.56**	**344**	P	**Pb**	**22 15 05.0**	**+0.1**
PTL	**Penteli**	**1.60**	**36**	P	**Pn**	**22 15 04.7**	**+0.6**
PTL				S	**Sn**	**22 15 24.5**	**-0.1**
	comp=N,498nm,0.6s						
PTL	**Penteli**	**1.60**	**36**	P	**Pn**	**22 15 04.6**	**+0.6**
PTL				S	**Sn**	**22 15 24.4**	**-0.2**
PTL				AML	AML	22 15 29.9	
	comp=E,1022μm,0.6s						
PTL				AML	AML	22 15 30.6	
	comp=N,661μm,0.5s						
RLS	**Riolos of Patr**	**1.61**	**324**	P	**Pn**	**22 15 05.4**	**+1.2**
RLS	**Riolos of Patr**	**1.61**	**324**	P	**Pn**	**22 15 05.0**	**+0.8**
DION	**Dionisos Attik**	**1.66**	**37**	P	**Pn**	**22 15 05.4**	**+0.6**
DION				S	**Sn**	**22 15 26.7**	**+0.8**
	comp=N,1μm,0.6s						
DION	**Dionisos Attik**	**1.66**	**37**	P	**Pn**	**22 15 05.5**	**+0.7**
DION				S	**Sn**	**22 15 26.2**	**+0.3**
DION				AML	AML	22 15 30.8	
	comp=E,1445μm,0.6s						
DION				AML	AML	22 15 32.6	
	comp=N,1473μm,0.6s						
CHAN	**Chania**	**1.66**	**138**	P	**Pn**	**22 15 04.4**	**-0.3**
IMMV	**Iera Moni Meta**	**1.67**	**140**	P	**Pn**	**22 15 04.7**	**-0.3**
IMMV	**Iera Moni Meta**	**1.67**	**140**	P	**Pn**	**22 15 05.0**	**0.0**
IMMV				S	**Sn**	**22 15 26.8**	**+0.5**
LTHK	**Lithakia**	**1.75**	**304**	P	**Pn**	**22 15 07.5**	**+1.5**
ANX	**Ano Chora**	**1.93**	**342**	P	**Pn**	**22 15 09.8**	**+1.2**
ANX	**Ano Chora**	**1.93**	**342**	P	**Pn**	**22 15 09.5**	**+0.9**
AXAR	**Agios Charalam**	**2.01**	**360**	P	**Pn**	**22 15 10.5**	**+0.9**
AXAR	**Agios Charalam**	**2.01**	**360**	P	**Pn**	**22 15 10.3**	**+0.7**
VLS	**Valsamata**	**2.18**	**311**	P	**Pn**	**22 15 13.0**	**+1.0**
KYMI	**Kymi, Euboea I**	**2.19**	**31**	P	**Pn**	**22 15 11.7**	**-0.4**
KYMI				S	**Sn**	**22 15 39.1**	**+0.1**
	comp=N,202nm,1.0s						
AGG	**Agios Georgios**	**2.28**	**353**	P	**Pn**	**22 15 14.6**	**+1.3**
AGG	**Agios Georgios**	**2.28**	**353**	P	**Pn**	**22 15 13.9**	**+0.6**
MAKR	**Makr

MOS ***24*** *22:17:48.6±0.8, 36°.47N×70°.75E, h204km, mb5.1/49, Error ellipse: s-maj=4.3km s-min=3.1km az=88.4*
BJI ***24*** *22:17:49.2±0.0, 36°.58N×70°.75E, h204km, mb5.0/68, mB5.0/33*
IDC ***24*** *22:17:49.8±0.3, 36°.33N×70°.73E, h205km±2km, mb4.4/47, mbtmp5.0/50, Error ellipse: s-maj=7.5km s-min=5.3km az=11.0*
NEIC ***24*** *22:17:50.0±1.5, 36°.47N±0°.05×70°.67E±0°.07, h200km±4km, mb5.0/171, Error ellipse: s-maj=8.8km s-min=7.3km az=111.0*
GCMT ***24*** *22:17:53.0±0.3, 36°.46N±0°.02×70°.61E±0°.03, h211km±2km, MW5.1/106, Moment Tensor Solution. s20,c22; s106,c151; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.07±.20; Mθθ-3.51±.22; Mϕϕ-0.55±.21; Mrθ2.54±.17; Mθϕ0.74±.19; Mϕr-3.37±.16; Best double couple: M₀5.65200×10¹⁶ NP1:ϕs129.00000°, δ69.00000°, λ106.00000°. NP2:ϕs270.00000°, δ26.00000°, λ54.00000°. Principal axes: T 6.2310, Plg62.0000°, Azm65.0000°; N -1.1570, Plg15.0000°, Azm304.0000°; P -5.0730, Plg23.0000°, Azm207.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NNC ***24*** *22:17:54.5±2.7, 36°.92N×70°.77E, h217km±29km, mb4.9, mpv6.5 Error ellipse: s-maj=26.5km s-min=14.0km az=24.0*

ISC 24 22:17:49.7±0.2,**36°.42N**±0°.03×**70°.69E**±0°.02,**h202**km±1km, **h202**km:**pP-P,n1049,**σ1s**31**/1213,**mb4.9**/244,**79C-48D,**
Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time h m s	Res ISC
				Op		ISC		
KBL	**Kabul**	**2.30**	**216**	Pn		**Pn**	**22 18 32.1**	**+0.3**
KBL				Sn		**S**	**22 19 03.4**	**-0.6**
KBL	**Kabul**	**2.30**	**216**	PN		**Pn**	**22 18 32.1**	**+0.3**
KBL							22 19 03.4	
KBL	**Kabul**	**2.30**	**216**	P		**Pn**	**22 18 32.2**	**+0.4**
	SNR=1560							
KBL				S		**S**	**22 19 03.7**	**-0.3**
SIMJ	**Simiganj**	**2.60**	**330**	Pn		**Pn**	**22 18 34.4**	**-0.5**
DRK	**Karamyk**	**3.18**	**16**			**Pn**	**22 18 41.8**	**0.0**
NIL	**Nilore**	**3.47**	**142**	Pn		**Pn**	**22 18 46.1**	**+1.0**
NIL	**Nilore**	**3.47**	**142**	PN		**Pn**	**22 18 46.1**	**+1.0**
BTK	**Batken**	**3.64**	**2**	Pn		**Pn**	**22 18 47.4**	**+0.3**
BTK	**Batken**	**3.64**	**2**	PN		**Pn**	**22 18 47.4**	**+0.3**
JMU	**Jammu**	**5.07**	**136**	*e*P		**Pn**	**22 19 04.5**	**-0.6**
JMU				*e*S		**S**	**22 20 00.4**	**-3.6**
KSH	**Kashi**	**5.20**	**52**	P		Pn	22 19 01.8	-4.9
KSH				S		sPb	22 19 55.8	-1.2
KSH				pmax		pmax		
	comp=Z,5μm,0.8s							
KSH				smax		smax		
	comp=N,11μm,0.5s							
KSH				smax		smax		
	comp=E,8μm,0.6s							
ARSB	**Arslanbob**	**5.22**	**19**			**Pn**	**22 19 05.7**	**-1.2**
ARSB	**Arslanbob**	**5.22**	**19**	PN		**Pn**	**22 19 05.7**	**-1.2**
IUG	**Iuzhnay**	**5.74**	**355**	*e*P		**Pn**	**22 19 13.5**	**-0.2**
	baz=354							
IUG	**Iuzhnay**	**5.74**	**355**	*e*PN		**Pn**	**22 19 13.4**	**-0.2**
THN	**Thein Dam**	**5.75**	**132**	*e*P		**Pn**	**22 19 13.8**	**0.0**
THN				*e*S		**S**	**22 20 17.6**	**-2.2**
DHRM	**DHARAMSHALA**	**6.23**	**130**	*e*P		**Pn**	**22 19 20.3**	**+0.1**
DZA	**Taraz**	**6.49**	**4**	*e*Pn		**Pn**	**22 19 22.5**	**-0.7**
	baz=3.5							
DZA	**Taraz**	**6.49**	**4**	*e*PN		**Pn**	**22 19 22.5**	**-0.7**
NRN	**Naryn**	**6.50**	**38**	Pn		**Pn**	**22 19 21.1**	**-2.5**
NRN	**Naryn**	**6.50**	**38**	PN		**Pn**	**22 19 21.1**	**-2.5**
UCH	**Uchtor**	**6.52**	**26**	P		**Pn**	**22 19 23.1**	**-0.8**
	SNR=3011							
BRLS	**Borolday**	**6.64**	**355**	⇓*i*Pn		**Pn**	**22 19 20.8**	**-4.4**
	104nm,0.6s,baz=353							
BRLS	**Borolday**	**6.64**	**355**	*d i*PN		**Pn**	**22 19 20.7**	**-4.4**
BRLS				pmax		pmax		
	comp=Z,104nm,0.6s							
EKS2	**Erkin-Say**	**6.68**	**20**	P		**Pn**	**22 19 25.0**	**-0.8**
	SNR=921							
KK31	**Karatay Array**	**6.68**	**359**	Pn		**Pn**	**22 19 24.7**	**-1.0**
KK31	**Karatay Array**	**6.68**	**359**	PN		**Pn**	**22 19 24.7**	**-1.0**
KK31	**Karatay Array**	**6.68**	**359**	⇓P		**Pn**	**22 19 24.7**	**-1.0**
	comp=Z,810nm,0.4s,baz=189,slow=13							
KK31				⇓S		**S**	**22 20 35.8**	**-5.9**
	comp=Z,3μm,0.5s,baz=253,slow=40,SNR=21							
AAK	**Ala-Archa**	**6.87**	**24**	P		**Pn**	**22 19 27.6**	**-0.7**
	SNR=795							
AAK	**Ala-Archa**	**6.87**	**24**	Pn		**Pn**	**22 19 27.6**	**-0.7**
AAK	**Ala-Archa**	**6.87**	**24**	*i* P		**Pn**	**22 19 27.6**	**-0.7**
	SNR=864							
AAK	**Ala-Archa**	**6.87**	**24**	*d i*PN		**Pn**	**22 19 27.5**	**-0.8**
AAK				pmax		pmax		
	comp=Z,2μm,0.7s							
AAK	**Ala-Archa**	**6.87**	**24**	P		**Pn**	**22 19 27.8**	**-0.5**
	comp=Z,2μm,0.5s,baz=189,slow=5.7,SNR=6945							
AAK				S		**S**	**22 20 43.5**	**-3.0**
	comp=Z,3μm,0.7s,baz=327,slow=21,SNR=36							
AAK	**Ala-Archa**	**6.87**	**24**	P		**Pn**	**22 19 27.7**	**-0.7**
AAK				S		**S**	**22 20 42.8**	**-3.7**
BHK	**Bhakra**	**6.90**	**135**	*e*P		**Pn**	**22 19 28.0**	**-0.6**
KBK	**Karagaybulak**	**7.05**	**27**	P		**Pn**	**22 19 30.2**	**-0.4**
	SNR=1238							
FRU1	**Bishkek**	**7.07**	**24**			**Pn**	**22 19 30.4**	**-0.4**
FRU1	**Bishkek**	**7.07**	**24**	PN		**Pn**	**22 19 30.4**	**-0.4**
HRA	**Herat**	**7.18**	**256**	Pn		**Pn**	**22 19 32.5**	**0.0**
ULHL	**Ulahol**	**7.24**	**35**	P		**Pn**	**22 19 31.6**	**-1.5**
	SNR=333							
USP	**Ospenovka**	**7.44**	**22**	P		**Pn**	**22 19 33.9**	**-1.7**
	SNR=1671							
TKM2	**Tokmak 2**	**7.52**	**29**	P		**Pn**	**22 19 35.9**	**-0.8**
	SNR=2274							
TKM2	**Tokmak 2**	**7.52**	**29**	*i* PN		**Pn**	**22 19 35.7**	**-1.0**
TKM2				*i* S		**S**	**22 20 57.2**	**-4.6**
TKM2				pmax		pmax		
	comp=Z,2μm,0.5s							
TKM2				smax		smax		
	comp=Z,1.0nm,0.7s							
TKM2	**Tokmak 2**	**7.52**	**29**	⇑P		**Pn**	**22 19 35.8**	**-1.0**
	comp=Z,2μm,0.6s							
TKM2				⇓S		**S**	**22 20 57.2**	**-4.6**
	comp=Z,1μm,0.8s							
SMLA	**Simla**	**7.54**	**133**	*e*P		**Pn**	**22 19 37.1**	**+0.1**
SMLA				*e*S		**S**	**22 20 58.4**	**-3.9**
SGDS	**Sogindy**	**7.65**	**22**	⇓*i*Pn		**Pn**	**22 19 36.6**	**-1.8**
	baz=22							
SGDS	**Sogindy**	**7.65**	**22**	*d i*Pn		**Pn**	**22 19 36.5**	**-1.8**
TARG	**Taragay, Kyrgy**	**7.67**	**44**			**Pn**	**22 19 37.4**	**-1.5**
TARG	**Taragay, Kyrgy**	**7.67**	**44**	PN		**Pn**	**22 19 37.4**	**-1.5**
TNSS	**Tian-Shan**	**8.18**	**34**	*e*Pn		**Pn**	**22 19 44.0**	**-1.6**
	baz=34							
TNSS	**Tian-Shan**	**8.18**	**34**	*e*PN		**Pn**	**22 19 43.9**	**-1.6**
KASK	**Kaskelen**	**8.19**	**32**	⇑P		**Pn**	**22 19 44.8**	**-0.5**
AAA	**Alma-Ata**	**8.30**	**33**	⇓*e*Pn		**Pn**	**22 19 46.3**	**-0.5**
	baz=33							
AAA	**Alma-Ata**	**8.30**	**33**	*de*PN		**Pn**	**22 19 46.3**	**-0.5**
MDOK	**Medeo**	**8.33**	**34**	*e*Pn		**Pn**	**22 19 46.4**	**-0.8**
	baz=34							
MDOK	**Medeo**	**8.33**	**34**	*e*PN		**Pn**	**22 19 46.4**	**-0.8**
MDOK	**Medeo**	**8.33**	**34**	⇑P		**Pn**	**22 19 46.0**	**-1.2**
	comp=Z,1μm,0.7s							
KNDC	**Almaty**	**8.33**	**33**	⇑P		**Pn**	**22 19 46.8**	**-0.4**
	comp=Z,4μm,0.8s							
PRZ	**Przheval'sk**	**8.50**	**42**	Pn		**Pn**	**22 19 48.8**	**-0.7**
PRZ	**Przheval'sk**	**8.50**	**42**	PN		**Pn**	**22 19 48.8**	**-0.7**
DDI	**Dehra Dun**	**8.65**	**133**	*e*P		**Pn**	**22 19 52.3**	**+0.8**
DDI				*e*S		**S**	**22 21 23.5**	**-5.4**
CHKK	**Chushkaly**	**8.86**	**31**	*e*Pn		**Pn**	**22 19 52.1**	**-1.9**
	baz=31							
CHKK	**Chushkaly**	**8.86**	**31**	*e*PN		**Pn**	**22 19 52.0**	**-1.9**
SATY	**Saty**	**8.90**	**40**	⇓*i*Pn		**Pn**	**22 19 53.0**	**-1.7**
	comp=Z,74nm,0.8s,baz=39							
SATY	**Saty**	**8.90**	**40**	*d i*PN		**Pn**	**22 19 53.0**	**-1.7**
SATY				pmax		pmax		
	comp=Z,74nm,0.8s							
ZHN	**Zhinishke**	**9.00**	**39**	⇓*i*Pn		**Pn**	**22 19 54.3**	**-1.6**
	comp=Z,65nm,0.9s,baz=39							
ZHN	**Zhinishke**	**9.00**	**39**	*d i*PN		**Pn**	**22 19 54.3**	**-1.6**
ZHN				pmax		pmax		
	comp=Z,65nm,0.9s							
UZB	**Uzynbulak**	**9.29**	**41**	⇓*i*Pn		**Pn**	**22 19 58.0**	**-1.7**
	comp=Z,38nm,0.6s,baz=41							
UZB	**Uzynbulak**	**9.29**	**41**	*d i*P		**Pn**	**22 19 57.9**	**-1.7**
UZB				pmax		pmax		
	comp=Z,38nm,0.6s							
JASL	**Jaisalmer**	**9.47**	**179**	*e*P		**Pn**	**22 20 00.4**	**-1.6**
SHLS	**Shalkode**	**9.53**	**42**	⇓*i*Pn		**Pn**	**22 20 04.2**	**+1.4**
	comp=Z,83nm,0.8s,baz=44							
SHLS	**Shalkode**	**9.53**	**42**	*d i*P		**Pn**	**22 20 04.2**	**+1.4**
SHLS				pmax		pmax		
	comp=Z,83nm,0.8s							
KUDL	**Kundal**	**9.60**	**148**	*e*P		**Pn**	**22 20 02.0**	**-1.7**
PDGK	**Podgornoye**	**9.66**	**42**	*i* P		**Pn**	**22 20 02.4**	**-2.1**
PDGK	**Podgornoye**	**9.66**	**42**	⇓P		**Pn**	**22 20 02.5**	**-2.1**
	comp=Z,210nm,0.7s							
GEYT	**Alibeck**	**10.14**	**282**	Pn		**Pn**	**22 20 08.6**	**-2.1**
GEYT	**Alibeck**	**10.14**	**282**	P		**Pn**	**22 20 08.6**	**-2.1**
GEYT	**Alibeck**	**10.14**	**282**	P		**Pn**	**22 20 09.2**	**-1.5**
	comp=Z,37nm,0.4s,baz=106,slow=11,SNR=90							
GEYT				S		**S**	**22 22 00.2**	**-4.2**
	comp=Z,75nm,0.5s,baz=45,slow=57,SNR=2.1							
GYA0B	**ALIBECK ARRAY**	**10.14**	**282**	Pn		**Pn**	**22 20 09.1**	**-1.6**
TDK	**Taldyqorghan**	**10.38**	**32**	⇓*i*Pn		**Pn**	**22 20 11.7**	**-2.0**
	baz=32							
TDK	**Taldyqorghan**	**10.38**	**32**	*d i*P		**Pn**	**22 20 11.6**	**-2.0**
AJM	**Ajmer**	**10.47**	**160**	*i* P		**Pn**	**22 20 13.8**	**-1.2**
PTH	**Pithoragarh**	**10.53**	**128**	*e*P		**Pn**	**22 20 14.3**	**-1.6**
LGTI	**Lohaghat**	**10.62**	**128**	*e*P		**Pn**	**22 20 14.4**	**-2.4**
OTUK	**Ortayu**	**11.88**	**5**	*i* P		**Pn**	**22 20 30.2**	**-2.6**
OTUK	**Ortayu**	**11.88**	**5**	⇑P		**Pn**	**22 20 30.2**	**-2.6**
	comp=Z,144nm,0.8s							
JHNI	**Jhansi**	**12.82**	**146**	*e*P		**Pn**	**22 20 45.0**	**+0.1**
JHNI				*i* x		x	22 20 49.8	
BHUJ	**Bhuj**	**13.15**	**184**	*e*P		**Pn**	**22 20 48.9**	**-0.1**
MAKZ	**Makanchi**	**13.37**	**36**			**Pn**	**22 20 49.9**	**-1.6**
MAKZ	**Makanchi**	**13.37**	**36**	P		**Pn**	**22 20 49.9**	**-1.6**
MK31	**Makanchi Array**	**13.51**	**36**			**Pn**	**22 20 51.4**	**-1.8**
MK31	**Makanchi Array**	**13.51**	**36**	*d i*P		**Pn**	**22 20 51.3**	**-2.0**
MK31	**Makanchi Array**	**13.51**	**36**	P		**Pn**	**22 20 51.5**	**-1.8**
	comp=Z,67nm,0.6s,baz=204,slow=12,SNR=1003							
MKAR	**Makanchi Array**	**13.51**	**36**			**Pn**	**22 20 51.1**	**-2.2**
MKAR	**Makanchi Array**	**13.51**	**36**	*i* P		**Pn**	**22 20 51.4**	**-1.9**
MKAR				pmax		pmax		
	comp=Z,66nm,0.7s							
MKAR	**Makanchi Array**	**13.51**	**36**	P		**Pn**	**22 20 52.0**	**-1.3**
	comp=Z,74nm,0.7s,baz=214,slow=12,SNR=236							
MKAR				S		**S**	**22 23 20.9**	**-2.5**
	comp=Z,8.4nm,0.6s,baz=248,slow=22,SNR=0.9							
ALBI	**Allahabad**	**14.61**	**136**	*e*P		**Pn**	**22 21 06.0**	**-1.1**
WMQ	**Urumqi**	**14.95**	**55**	*e*P		**Pn**	**22 21 10.9**	**-0.2**
WMQ				S		**S**	**22 23 50.4**	**-6.6**
WMQ				pmax		pmax		
	comp=Z,100nm,0.9s							
WMQ				pmax		pmax		
	comp=Z,580nm,3.7s							
AB31	**Akbulak array**	**15.04**	**332**	*i* P		**Pn**	**22 21 10.4**	**-1.6**
AB31	**Akbulak array**	**15.04**	**332**	⇓P		**Pn**	**22 21 10.4**	**-1.6**
	comp=Z,23nm,0.5s							
ABKAR	**Akbulak array**	**15.04**	**332**			**Pn**	**22 21 10.4**	**-1.6**
ABKAR	**Akbulak array**	**15.04**	**332**			**Pn**	**22 21 10.4**	**-1.6**
JASK	**Jask - Hormozg**	**15.19**	**230**	P		**Pn**	**22 21 13.9**	**-0.1**
	SNR=86							
ZSN	**Zaisan**	**15.23**	**39**	*e*Pn		**Pn**	**22 21 13.9**	**-0.5**
	baz=39							
ZSN	**Zaisan**	**15.23**	**39**	*e*P		**Pn**	**22 21 13.9**	**-0.5**
KURBB	**Kurchatov Arra**	**15.28**	**19**	P		**Pn**	**22 21 12.8**	**-2.2**
	comp=Z,79nm,0.8s,baz=208,slow=11,SNR=110							
KURBB				S		**S**	**22 24 03.5**	**-0.9**
	comp=Z,16nm,0.8s,baz=197,slow=15,SNR=5.5							
KURBB				PKiKP		**PKiKP**	**22 33 58.4**	**-1.9**
	comp=Z,0.9nm,0.6s,baz=223,slow=0.5,SNR=4.9							
KURK	**Kurchatov**	**15.39**	**19**			**Pn**	**22 21 13.8**	**-2.5**
KURK	**Kurchatov**	**15.39**	**19**	*d i*P		**Pn**	**22 21 13.9**	**-2.4**
KURK				pmax		pmax		
	comp=Z,203nm,1.7s							
KURK	**Kurchatov**	**15.39**	**19**	P		**Pn**	**22 21 14.2**	**-2.1**
KURK				S		**S**	**22 24 04.2**	**-2.7**
KURK	**Kurchatov**	**15.39**	**19**	⇑P		**Pn**	**22 21 13.7**	**-2.6**
	comp=Z,177nm,1.4s							
SEM	**Semipalatinsk**	**15.60**	**23**	*e*Pn		**Pn**	**22 21 18.4**	**-0.6**
	comp=Z,59nm,0.9s,baz=23							
SEM				*e*S		**S**	**22 24 11.1**	**-0.9**
	baz=23							
SEM	**Semipalatinsk**	**15.60**	**23**	*e*P		**Pn**	**22 21 18.4**	**-0.6**
SEM				*e*S		**S**	**22 24 11.0**	**-0.9**
SEM				pmax		pmax		
	comp=Z,59nm,0.9s							
BANOM	**Banah**	**16.14**	**234**	*i* P		**Pn**	**22 21 25.8**	**+0.3**
	SNR=15							
BANOM	**Banah**	**16.14**	**234**	P		**Pn**	**22 21 25.9**	**+0.3**
SHME	**Shamm**	**16.15**	**234**	*i* P		**P**	**22 21 25.5**	**+0.4**
	SNR=59							
SHME	**Shamm**	**16.15**	**234**	P		**Pn**	**22 21 25.8**	**0.0**
	SNR=17							
SHME				S		**S**	**22 24 25.5**	**+1.2**
MDH	**Madha**	**16.57**	**232**	*i* P		**P**	**22 21 29.2**	**-0.6**
	SNR=34							
MDH	**Madha**	**16.57**	**232**	P		**P**	**22 21 29.2**	**-0.6**
	SNR=34							
AKL	**Akola**	**16.61**	**159**	*e*P		**Pn**	**22 21 32.3**	**+1.1**
AKL				IAmb		IAmb	22 21 37.1	
	comp=Z,32nm,0.4s							
AKL				*e*S		**S**	**22 24 31.0**	**-2.6**
BVA0	**Borovoye Array**	**16.61**	**359**	⇓P		**P**	**22 21 30.2**	**+0.3**
	comp=Z,59nm,0.8s,baz=0.0,slow=0.1,SNR=487							
BVAR	**Borovoye Array**	**16.61**	**359**	P		**Pn**	**22 21 30.4**	**-0.6**
	comp=Z,36nm,0.5s,baz=167,slow=10.0,SNR=217							
BVAR				S		**S**	**22 24 31.5**	**-1.6**
	comp=Z,44nm,0.5s,baz=162,slow=22,SNR=5.8							
MASF	**Masafi**	**16.61**	**233**	P		**Pn**	**22 21 31.3**	**+0.1**
	SNR=45							
MASF				S		**S**	**22 24 35.2**	**+1.5**
MSFE	**Esma-Masafi**	**16.62**	**233**	*i* P		**P**	**22 21 30.3**	**0.0**
	SNR=63							
BRVK	**Borovoye**	**16.64**	**359**			**P**	**22 21 30.6**	**+0.3**
BRVK	**Borovoye**	**16.64**	**359**	*de*P		**P**	**22 21 30.4**	**+0.2**
BRVK				pmax		pmax		
	comp=Z,206nm,1.3s							
BRVK	**Borovoye**	**16.64**	**359**	P		**P**	**22 21 29.2**	**-1.1**
BRVK				S		**S**	**22 24 29.1**	**-4.5**
AKTO	**Aktyubinsk**	**16.73**	**331**	P		**Pn**	**22 21 32.1**	**-0.2**
	comp=Z,226nm,1.0s,baz=141,slow=8.9,SNR=312							
AKTO				S		**S**	**22 24 32.3**	**-3.1**
	comp=Z,34nm,0.8s,baz=112,slow=16,SNR=1.8							
AKTO	**Aktyubinsk**	**16.73**	**331**	⇓P		**P**	**22 21 31.6**	**+0.4**
	comp=Z,190nm,1.2s							
BIDO	**Bidbid**	**16.82**	**224**	P		**Pn**	**22 21 34.0**	**+0.3**
	SNR=23							
UMQ	**Umm Al-Quwin**	**16.83**	**234**	*i* P		**Pn**	**22 21 34.1**	**+0.3**
	SNR=13							
UMQ	**Umm Al-Quwin**	**16.83**	**234**	P		**Pn**	**22 21 33.6**	**-0.1**
	SNR=13							
UOSS	**Minazif**	**16.89**	**231**	P		**P**	**22 21 31.9**	**-1.4**
UOSS	**Minazif**	**16.89**	**231**	*i* P		**P**	**22 21 32.1**	**-1.1**
	SNR=88							
UOSS	**Minazif**	**16.89**	**231**	P		**Pn**	**22 21 34.1**	**-0.4**
HATD	**Hatta, Dubai**	**17.02**	**231**	*i* P		**P**	**22 21 34.0**	**-0.7**
	SNR=33							
HATD	**Hatta, Dubai**	**17.02**	**231**	P		**P**	**22 21 35.0**	**+0.3**
	SNR=76							
WBK	**Wadi Bani Khal**	**17.10**	**220**	P		**Pn**	**22 21 37.5**	**+0.4**
	SNR=23							
ASHO	**Ashiyiah**	**17.16**	**231**	*i* P		**P**	**22 21 37.0**	**+0.7**
	SNR=251							
ASHO	**Ashiyiah**	**17.16**	**231**	P		**P**	**22 21 36.9**	**+0.7**
	SNR=251							
NAZ	**Nazwa, Dubai**	**17.20**	**233**	*i* P		**P**	**22 21 36.0**	**-0.6**
	SNR=36							
NAZ	**Nazwa, Dubai**	**17.20**	**233**	P		**Pn**	**22 21 37.6**	**-0.6**
	SNR=85							
SMDO	**Samad**	**17.23**	**223**	P		**Pn**	**22 21 38.8**	**+0.2**
	SNR=21							
HOQ	**Hoqain**	**17.23**	**226**	P		**Pn**	**22 21 38.4**	**-0.3**
	SNR=8.7							
JLN	**Jalan Bani Buh**	**17.27**	**218**	P		**Pn**	**22 21 39.3**	**+0.3**
	SNR=86							
SOHO	**SOHO**	**17.27**	**229**	*i* P		**P**	**22 21 36.1**	**-1.4**
	SNR=20							
SOHO	**SOHO**	**17.27**	**229**	P		**Pn**	**22 21 38.4**	**-0.7**
FAQ	**Al Faqa, Dubai**	**17.42**	**232**	*i* P		**P**	**22 21 39.1**	**+0.1**
	SNR=60							
FAQ	**Al Faqa, Dubai**	**17.42**	**232**	P		**P**	**22 21 39.8**	**+0.8**
	SNR=9.2							
LKRN	**Lenkeran, Azer**	**17.52**	**284**	P		**Pn**	**22 21 41.3**	**-0.5**
ASUD	**Al Ashush, Dub**	**17.67**	**233**	*i* P		**P**	**22 21 42.3**	**+0.6**
	SNR=55							
ASUD	**Al Ashush, Dub**	**17.67**	**233**	P		**Pn**	**22 21 43.2**	**-0.5**
	SNR=55							
GTK	**Tadong**	**17.69**	**116**	*e*P		**Pn**	**22 21 43.9**	**-0.3**
JMDO	**Jabal Madar**	**17.75**	**221**	P		**Pn**	**22 21 44.7**	**-0.1**
	SNR=42							
ALNE	**Al Ain**	**17.81**	**230**	*i* P		**P**	**22 21 43.7**	**+0.3**
	SNR=153							
ALNE	**Al Ain**	**17.81**	**230**	P		**P**	**22 21 44.4**	**+1.0**
	SNR=153							
ARQ	**Araqi**	**17.88**	**227**	P		**Pn**	**22 21 45.6**	**-0.7**
	SNR=48							
AJN	**Ajban**	**17.93**	**233**	*i* P		**P**	**22 21 45.0**	**+0.3**
	SNR=55							
AJN	**Ajban**	**17.93**	**233**	P		**P**	**22 21 45.6**	**+0.9**
	SNR=41							
BSY	**Bisya**	**17.95**	**224**	P		**Pn**	**22 21 46.8**	**-0.2**
	SNR=39							
BOK	**Bokaro**	**18.17**	**130**	*e*P		**Pn**	**22 21 49.2**	**-0.4**
LSA	**Lhasa**	**18.40**	**105**	P		**Pn**	**22 21 51.6**	**-1.1**
LSA	**Lhasa**	**18.40**	**105**	*i* P		**Pn**	**22 21 52.7**	**-0.1**
	SNR=60							
LSA	**Lhasa**	**18.40**	**105**	P		**Pn**	**22 21 51.6**	**-1.1**
SEKA	**Sheki**	**18.90**	**292**	P		**P**	**22 21 55.4**	**+0.4**
MNGR	**Mingechevir, A**	**18.94**	**290**	P		**P**	**22 21 57.0**	**+1.7**
MHTO	**MHTO**	**18.96**	**219**	P		**Pn**	**22 21 57.9**	**-1.1**
	SNR=43							
MAK	**Makhachkala**	**18.97**	**297**	*d i*P		**P**	**22 21 55.7**	**+0.1**
MAK				*e*S		**S**	**22 25 22.2**	**+2.1**
MAK				pmax		pmax		
	comp=Z,755nm,2.2s							
MAK				MLR		MLR		
	comp=Z,772nm,16.0s							
JRN	**Qarnain Island**	**19.10**	**238**	P		**P**	**22 21 56.7**	**-0.5**
	SNR=18							
UMZA	**Um Al Zommool**	**19.17**	**229**	P		**P**	**22 21 58.6**	**+0.6**
MZWR	**Madinat Zayed**	**19.21**	**234**	P		**P**	**22 21 57.9**	**-0.5**
MZWR				S		**S**	**22 25 21.2**	**-4.0**
ZKTA	**Zakatala**	**19.38**	**293**	P		**P**	**22 22 01.4**	**+1.2**
GOMU	**GeErMu**	**19.44**	**83**	P		**P**	**22 22 02.3**	**+1.1**
GOMU				pP		Pn	22 22 05.8	+0.9
GOMU				S		**S**	**22 25 32.0**	**+1.8**
GOMU				pmax		pmax		
	comp=Z,79nm,1.1s							
GANJ	**Ganja**	**19.50**	**290**	P		**P**	**22 22 02.2**	**+0.7**
GHWR	**Ruwais**	**19.74**	**236**	P		**P**	**22 22 03.2**	**-0.9**
GHWR				S		**S**	**22 25 30.5**	**-4.9**
SHMA	**Al-Shehemyia**	**19.86**	**244**	P		**P**	**22 22 05.3**	**-0.1**
	SNR=30							
MZR	**Muzera**	**20.01**	**233**	P		**P**	**22 22 06.9**	**-0.2**
DQM	**DQM**	**20.07**	**219**	P		**P**	**22 22 09.1**	**+1.4**
	SNR=9.3							
NAX	**Nakhchivan**	**20.08**	**285**	P		**P**	**22 22 09.0**	**+1.3**
ZAA0	**Zalesovo Array**	**20.09**	**25**	P		**P**	**22 22 07.4**	**-0.2**
ZALV	**Zalesovo Beam**	**20.09**	**25**	P		**P**	**22 22 07.5**	**-0.1**
	comp=Z,183nm,0.5s,baz=222,slow=11,SNR=693							
ZALV				S		**S**	**22 25 40.1**	**-1.8**
	comp=Z,41nm,0.9s,baz=209,slow=19,SNR=3.2							
	comp=Z,183nm,0.5s							
SAKB	**Bahrain**	**20.10**	**244**	P		**P**	**22 22 07.9**	**0.0**
HYB	**Hyderabad**	**20.17**	**158**	*e*P		**P**	**22 22 10.4**	**+1.6**
HYB				*e*S		**S**	**22 25 46.1**	**+2.1**
TRNA	**Turayna**	**20.37**	**241**	P		**P**	**22 22 09.8**	**-1.0**
TRNA				S		**S**	**22 25 42.3**	**-5.5**
SLWR	**Sila**	**20.47**	**238**	P		**P**	**22 22 10.6**	**-1.2**
SLWR				S		**S**	**22 25 43.9**	**-5.7**
KBD	**Kabd**	**20.61**	**256**	P		**P**	**22 22 14.0**	**+0.7**
SMRA	**Abu-Samra**	**20.64**	**241**	P		**P**	**22 22 12.8**	**-0.9**
	SNR=29							
SMRA				S		**S**	**22 25 48.2**	**-4.6**
GNI	**Garni**	**20.68**	**288**	P		**P**	**22 22 16.3**	**+2.1**
GNI	**Garni**	**20.68**	**286**	*d i*P		**P**	**22 22 16.2**	**+2.0**
GNI				pmax		pmax		
	comp=Z,83nm,1.3s							
GNI	**Garni**	**20.68**	**288**	P		Pn	22 22 17.2	-2.7

RAYN S **S** **22 27 06.2 -1.4**
VRH Novokhopyorsk 25.39 315 *e*P **P** **22 22 57.4 -0.8**
VRH *e**PP **pP** **22 23 41.7 +3.2**
VRH pmax pmax
comp=Z,30nm,1.2s
ARPR Arapgir-MALATY 25.64 286 P **P** **22 23 01.3 +0.4**
KIRV Kirov 26.20 335 P **P** **22 23 06.5 +1.1**
comp=Z,96nm,0.6s,baz=138,slow=3.2,SNR=57
KIRV pP **pP** **22 23 47.6 +1.2**
comp=Z,49nm,0.6s,baz=93,slow=2.0,SNR=3.3
comp=Z,96nm,0.6s
MND Mandalay 26.33 116 P **P** **22 23 07.1 +0.2**
MOY Mondy 26.34 45 *e*P **P** **22 23 08.0 +1.1**
MOY *e* 22 23 52.2
MOY pmax pmax
comp=Z,53nm,1.8s
TNCH TengChong 26.39 108 ⇑P **P** **22 23 08.6 +0.9**
TNCH pP pP 22 23 47.3 -2.4
TNCH PP **PnPn** **22 24 01.8 +1.3**
TNCH sP PP 22 24 10.1 -1.4
TNCH S **S** **22 27 28.4 +2.3**
TNCH pmax pmax
comp=Z,26nm,1.5s
TNCH pmax pmax
comp=Z,170nm,3.8s
TNCH LR LR
comp=Z,170nm,23.0s
TNCH LR LR
comp=Z,160nm,25.2s
TNCH LR LR
comp=Z,470nm,22.7s
ANN Anapa 26.45 299 *e*P **P** **22 23 03.4 -4.4**
ANN *e**PP **pP** **22 23 47.2 -1.4**
ANN *e*S **S** **22 27 20.6 -5.6**
ANN pmax pmax
comp=Z,40nm,1.1s
LZH Lanzhou 26.67 81⇑ *i*P **P** **22 23 11.5 +1.4**
LZH pP pP 22 23 51.8 0.0
LZH sP PP 22 24 14.8 +0.3
LZH pmax pmax
comp=Z,30nm,1.3s
LZH LR LR
comp=Z,790nm,20.3s
LZH LR LR
comp=Z,460nm,19.0s
LZH LR LR
comp=Z,850nm,20.6s
VORD Divnogorie 26.71 313 *e*P **P** **22 23 09.1 -0.9**
VORD *e**PP **pP** **22 23 49.4 -1.5**
VORD pmax pmax
comp=Z,9.0nm,1.1s
VSR Storozhevoye 26.87 313 *e*P **P** **22 23 10.7 -0.8**
VSR *e**PP **pP** **22 23 48.2 -4.2**
VSR pmax pmax
comp=Z,20nm,1.3s
VORR Voronezh 27.02 314 *e*P **P** **22 23 11.7 -1.1**
VORR *e**PP **pP** **22 23 53.1 -0.5**
VORR pmax pmax
comp=Z,20nm,1.1s
ZAK Zakamensk 27.23 49 *e*P **P** **22 23 15.0 +0.1**
ZAK pmax pmax
comp=Z,25nm,1.2s
LPSR Galich'ya Gora 27.54 316 *e*P **P** **22 23 16.4 -0.9**
LPSR *e**PP **pP** **22 23 57.2 -1.2**
LPSR pmax pmax
comp=Z,40nm,1.0s
CD2 Chengdu 27.98 92 P **P** **22 23 23.1 +1.4**
CD2 pmax pmax
comp=Z,70nm,0.6s
ASF Jabal al Asfar 28.15 271 P **P** **22 23 24.5 +1.3**
comp=Z,5.1nm,1.1s,baz=17,slow=0.1,SNR=1.2
ASF pP **pP** **22 24 04.8 +0.6**
comp=Z,4.1nm,0.6s,baz=141,slow=0.2,SNR=2.0
comp=Z,5.1nm,1.1s
PZH PanZhiHua 28.17 102 ⇑P **P** **22 23 24.1 +0.6**
PZH S **S** **22 27 57.0 +3.1**
PZH pmax pmax
comp=Z,90nm,4.3s
PZH LR LR
comp=Z,360nm,21.0s
PZH LR LR
comp=Z,280nm,21.2s
PZH LR LR
comp=Z,400nm,23.1s
IRK Irkutsk 28.44 46 *e*P **P** **22 23 25.1 -0.3**
IRK *e* 22 24 09.3
IRK pmax pmax
comp=Z,68nm,1.6s
SONM Songino Array 28.59 55 P **P** **22 23 27.6 +0.7**
SONM IAmb IAmb 22 24 18.9
comp=Z,33nm,0.9s
SONM Songino Array 28.59 55 P **P** **22 23 27.7 +0.7**
SONM pmax pmax
comp=Z,33nm,0.9s
SONM Songino Array 28.59 55 P **P** **22 23 28.0 +1.0**
comp=Z,17nm,0.9s,baz=260,slow=8.8,SNR=106
SONM pP **pP** **22 24 12.2 +3.0**
comp=Z,22nm,1.0s,baz=271,slow=9.5,SNR=7.2
SONM PcP **PcP** **22 26 31.6 -1.1**
comp=Z,7.2nm,1.1s,baz=242,slow=6.6,SNR=1.7
SONM ScP **ScP** **22 29 54.6 0.0**
comp=Z,0.5nm,0.5s,baz=232,slow=4.9,SNR=1.4
comp=Z,17nm,0.9s
ULN Ulaanbaatar 29.03 55 P **P** **22 23 31.4 +0.4**
ULN IAmb IAmb 22 24 25.8
comp=Z,29nm,1.1s
ULN Ulaanbaatar 29.03 55*c i*P **P** **22 23 31.3 +0.4**
ULN pmax pmax
comp=Z,38nm,1.7s
MMAI Mount Meron Ar 29.10 274 P **P** **22 23 33.2 +1.6**
comp=Z,1.5nm,0.6s,baz=61,slow=8.9,SNR=1.8
MMAI PcP **PcP** **22 26 33.8 -0.4**
comp=Z,4.2nm,0.7s,baz=82,slow=6.2,SNR=7.8
MMAI ScP **ScP** **22 29 56.0 -0.4**
comp=Z,7.1nm,0.9s,baz=108,slow=4.7,SNR=3.4
comp=Z,1.5nm,0.6s
BR131 Keskin Array S 29.22 288 P **P** **22 23 32.8 +0.2**
BR131 IAmb IAmb 22 24 17.3
comp=Z,31nm,0.9s
BR131 Keskin Array S 29.22 288*de*P **P** **22 23 34.6 +2.0**
BRTR Keskin Array B 29.22 288 P **P** **22 23 33.0 +0.4**
BRTR Keskin Array B 29.22 288 P **P** **22 23 33.6 +1.0**
comp=Z,1.7nm,0.5s,baz=108,slow=7.9,SNR=11
BRTR pP **pP** **22 24 12.9 -0.9**
comp=Z,18nm,0.9s,baz=100,slow=8.7,SNR=10
BRTR ScP **ScP** **22 29 54.8 -2.0**
comp=Z,0.8nm,0.7s,baz=120,slow=5.0,SNR=3.9
comp=Z,1.7nm,0.5s
MOS Moscow 29.57 321 *e*P **P** **22 23 35.0 -0.3**
MOS *e* 22 24 14.8
MOS pmax pmax
comp=Z,92nm,1.3s
KMI Kunming 29.62 103 ⇑P **P** **22 23 37.0 +0.6**
KMI S S 22 28 26.0 +9.0
KMI pmax pmax
comp=Z,16nm,1.2s
KMI LR LR
comp=Z,410nm,19.9s
KMI LR LR
comp=Z,280nm,23.6s
KMI LR LR
comp=Z,470nm,20.5s
OBN Obninsk 29.84 320 ⇑P **P** **22 23 38.2 +0.5**
OBN Obninsk 29.84 320 P **P** **22 23 38.1 +0.5**
OBN Obninsk 29.84 320*c i*P **P** **22 23 38.4 +0.8**
OBN *e**PP **pP** **22 24 19.5 +0.6**
OBN *e* 22 24 43.7
OBN pmax pmax
comp=Z,154nm,1.7s
OBN Obninsk 29.84 320 P **P** **22 23 38.5 +0.9**
comp=Z,39nm,0.5s,baz=101,slow=10,SNR=15
OBN pP **pP** **22 24 19.5 +0.6**
comp=Z,18nm,0.5s,baz=95,slow=7.0,SNR=2.3
comp=Z,39nm,0.5s
PALK Pallekele 30.42 160 P **P** **22 23 44.5 +1.2**
PALK IAmb IAmb 22 24 34.1
comp=Z,33nm,1.3s
PALK Pallekele 30.42 160 P **P** **22 23 44.5 +1.2**
PALK pmax pmax
comp=Z,33nm,1.3s
CRAI Chiangrai 30.55 114 P **P** **22 23 44.7 +0.4**
CRAI IAmb IAmb 22 23 46.2
comp=Z,20nm,0.7s
EIL Elat 30.58 268 P **P** **22 23 46.0 +1.5**
comp=Z,2.4nm,0.5s,baz=11,slow=7.8,SNR=2.1
EIL pP **pP** **22 24 26.5 +0.5**

comp=Z,22nm,1.1s,baz=60,slow=2.4,SNR=5.9
comp=Z,2.4nm,0.5s
CM31 Chiang Mai Arr 30.64 118 P **P** **22 23 45.2 0.0**
CM31 IAmb IAmb 22 23 47.3
comp=Z,33nm,0.9s
CMAR Chiang Mai Arr 30.64 118 *i* P **P** **22 23 45.7 +0.6**
CMAR pmax pmax
comp=Z,18nm,0.8s
CMAR Chiang Mai Arr 30.64 118 P **P** **22 23 45.8 +0.6**
comp=Z,17nm,0.8s,baz=298,slow=8.1,SNR=92
CMAR PcP **PcP** **22 26 38.0 -0.3**
comp=Z,6.3nm,0.9s,baz=312,slow=3.2,SNR=4.4
CMAR ScP **ScP** **22 29 59.5 -2.0**
comp=Z,2.1nm,0.3s,baz=300,slow=5.3,SNR=4.4
comp=Z,17nm,0.8s
BTO Baotou 30.88 70 *e*P **P** **22 23 47.0 -0.2**
BTO pP **pP** **22 24 29.0 -0.5**
BTO sP **sP** **22 24 52.8 -0.4**
BTO PP **PnPn** **22 24 56.5 -0.7**
BTO pmax pmax
comp=Z,84nm,1.1s
BTO pmax pmax
comp=Z,680nm,6.5s
XAN Xi'an 31.19 83 ⇑P **P** **22 23 50.3 +0.4**
XAN sP sP 22 24 58.4 +2.1
XAN pmax pmax
comp=Z,75nm,0.9s
XAN Xi'an 31.19 83 ⇑P **P** **22 23 50.0 +0.1**
XAN ScP **ScP** **22 30 01.2 -2.1**
KLMR Klimovskoe 31.43 331 *e*P **P** **22 23 48.4 -3.2**
KLMR *e**PP **pP** **22 24 31.5 -1.7**
KLMR pmax pmax
comp=Z,117nm,1.5s
PHRA Phrae 31.53 117 P **P** **22 23 53.3 +0.3**
HHC Hu-ho-hao-te 32.03 69 ⇑P **P** **22 23 58.4 +1.2**
HHC sP sP 22 25 05.9 +2.5
HHC pmax pmax
comp=Z,25nm,0.5s
HHC pmax pmax
comp=Z,86nm,5.4s
GYA Guiyang 32.10 98⇑ *i*P **P** **22 23 58.8 +0.7**
GYA sP sP 22 25 06.8 +2.3
GYA PcP **PcP** **22 26 41.6 -0.7**
GYA pmax pmax
comp=Z,69nm,1.0s
SLVN Son La 32.55 108 P **P** **22 24 02.3 +0.4**
SLVN IAmb IAmb 22 24 04.7
comp=Z,55nm,1.6s
ELL Elmali 32.57 283 P **P** **22 24 02.5 +0.5**
ELL Elmali 32.57 283 P **P** **22 24 02.5 +0.5**
ELL pmax pmax
comp=Z,113nm,0.7s
MILM Milestii Mici 32.64 302 ⇓P **P** **22 24 03.3 +1.0**
MILM Milestii Mici 32.64 302 P **P** **22 24 03.3 +1.0**
AKASG Malin Array Be 32.80 309 P **P** **22 24 03.6 0.0**
AKASG IAmb IAmb 22 24 49.4
comp=Z,49nm,0.8s
AKASG Malin Array Be 32.80 309 P **P** **22 24 03.8 +0.2**
comp=Z,2.5nm,0.5s,baz=81,slow=7.0,SNR=18
AKASG pP **pP** **22 24 46.6 +1.2**
comp=Z,20nm,0.6s,baz=84,slow=7.3,SNR=9.0
AKASG ScP **ScP** **22 30 06.4 -1.9**
comp=Z,3.8nm,0.8s,baz=77,slow=3.5,SNR=6.8
comp=Z,2.5nm,0.5s
AKBB Malin Array Si 32.80 309 P **P** **22 24 03.9 +0.3**
AKBB IAmb IAmb 22 24 49.3
comp=Z,26nm,0.7s
AKBB Malin Array Si 32.80 309⇓ *e*P **P** **22 24 04.2 +0.6**
AKBB pmax pmax
comp=Z,24nm,1.4s
KIEV Kiev 32.81 309 ⇑P **P** **22 24 04.7 +1.0**
KIEV Kiev 32.81 309 P **P** **22 24 04.1 +0.4**
KIEV IAmb IAmb 22 24 49.3
comp=Z,23nm,0.7s
KIEV Kiev 32.81 309 *i* P **P** **22 24 03.8 +0.1**
SNR=7.0
KIEV Kiev 32.81 309 P **P** **22 24 04.1 +0.4**
KIEV pmax pmax
comp=Z,23nm,0.7s
ENH Enshi 32.83 89 P **P** **22 24 04.6 +0.4**
ENH Enshi 32.83 89 P **P** **22 24 05.2 +1.0**
ENH ScP **ScP** **22 30 07.2 -1.6**
TPGR Topolog 32.85 298 ⇑P **P** **22 24 06.8 +2.5**
MFTR Murfatlar 32.86 297 ⇓P **P** **22 24 06.4 +2.2**
SORM Soroca 33.04 304 ⇑P **P** **22 24 06.6 +0.8**
SORM Soroca 33.04 304 P **P** **22 24 06.5 +0.8**
CFR Carcaliu 33.06 299 ⇓P **P** **22 24 06.6 +0.7**
CFR Carcaliu 33.06 299 P **P** **22 24 06.6 +0.7**
VLDR Vladesti 33.10 300 ⇑P **P** **22 24 08.5 +2.2**
HARR Harsova 33.20 298 ⇑P **P** **22 24 06.5 -0.7**
ICOR Ion Corvin 33.31 297 ⇑P **P** **22 24 09.7 +1.5**
GHRR 33.58 300 ⇑P **P** **22 24 10.9 +0.5**
SRDT SRDT 33.59 123 P **P** **22 24 12.3 +1.4**
LYN LuoYang 33.89 81⇑ *i*P **P** **22 24 14.9 +1.6**
LYN pmax pmax
comp=Z,90nm,1.3s
CIT Chita 33.90 49 *e*P **P** **22 24 13.4 +0.2**
CIT *e* 22 24 58.4
CIT *e* 22 25 17.2
CIT *e* 22 34 08.2
CIT pmax pmax
comp=Z,173nm,1.4s
NONG Nongkai 33.94 114 P **P** **22 24 14.4 +0.5**
VRI Vrincioaia 34.05 300 ⇑P **P** **22 24 16.1 +1.5**
VRI Vrincioaia 34.05 300 P **P** **22 24 16.0 +1.5**
PLOR Plostina 34.10 300 ⇑P **P** **22 24 16.7 +1.6**
PLOR Plostina 34.10 300 P **P** **22 24 16.6 +1.6**
TESR Tescani 34.11 301 ⇑P **P** **22 24 16.1 +1.1**
NRIK Noril'sk 34.25 11 P **P** **22 24 17.2 +1.3**
NRIK Noril'sk 34.25 11*c i*P **P** **22 24 16.9 +0.9**
NRIK pmax pmax
comp=Z,260nm,1.4s
NRIK Noril'sk 34.25 11 P **P** **22 24 17.4 +1.3**
comp=Z,119nm,0.9s,baz=202,slow=5.6,SNR=173
comp=Z,119nm,0.9s
MNK Minsk 34.38 315 *i* P **P** **22 24 16.5 -0.8**
comp=E,8.0nm,0.9s
MNK *i* P **P** **22 24 16.5 -0.8**
comp=N,7.0nm,0.9s
MNK *i* P **P** **22 24 16.5 -0.8**
comp=Z,18nm,1.1s,baz=104
MNK *i* pP **pP** **22 24 57.9 -1.2**
MNK *i* PP **PP** **22 25 38.8 -0.5**
MNK *i* S **S** **22 29 30.1 +0.4**
MNK *i* sS **sS** **22 30 44.1 -0.9**
MNK *i* SS **SS** **22 32 06.5 +1.3**
MNK Minsk 34.38 315 *i* P **P** **22 24 16.4 -0.8**
MNK *i* *PP **pP** **22 24 57.8 -1.2**
MNK *i* 22 25 38.8
MNK *i* S **S** **22 29 30.0 +0.4**
MNK *i* *SS **sS** **22 30 44.1 -0.9**
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK pmax pmax
comp=Z,18nm,1.0s
MNK pmax pmax
comp=E,8.0nm,0.9s
TURR Turia 34.55 300 ⇑P **P** **22 24 20.3 +1.4**
MLR Muntele Rosu 34.60 299 ⇑P **P** **22 24 21.5 +2.0**
MLR Muntele Rosu 34.60 299 P **P** **22 24 21.3 +1.9**
MLR Muntele Rosu 34.60 299 P **P** **22 24 21.3 +1.9**
MLR pmax pmax
comp=Z,430nm,1.9s
ELND Elena 34.77 295 ⇑P **P** **22 24 22.8 +2.1**
PUL Pulkovo 34.84 325⇓ *e*P **P** **22 24 21.6 +0.6**
PUL pmax pmax
comp=Z,131nm,0.6s
HNS HongShan 34.98 75 ⇑P **P** **22 24 23.8 +1.3**
HNS pmax pmax
comp=Z,19nm,1.1s
DOPR Dopca 34.98 300 ⇑P **P** **22 24 24.0 +1.5**
NACGM Naroch 35.10 316 *e*P **P** **22 24 22.9 -0.4**
comp=Z,41nm,1.2s,baz=103
NAYO Nakonayok 35.12 121 P **P** **22 24 25.6 +1.6**
BURAR Bucovina Array 35.12 303 ⇑P **P** **22 24 24.4 +0.6**
BURAR Bucovina Array 35.12 303 P **P** **22 24 23.5 -0.3**
BURAR Bucovina Array 35.12 303 P **P** **22 24 24.3 +0.6**
XLT XiLinHaoTe 35.13 63 *e*P **P** **22 24 25.4 +1.5**
XLT sP sP 22 25 32.1 +1.4
XLT PP **PnPn** **22 25 52.8 +3.7**
XLT pmax pmax
comp=Z,17nm,1.0s
XLT pmax pmax
comp=Z,380nm,10.2s

BUR08 Bucovina Ar. S 35.13 303 P **P** **22 24 24.6 +0.7**
VOIR 35.23 299 ⇑P **P** **22 24 26.6 +1.9**
VOIR 35.23 299 P **P** **22 24 26.6 +1.9**
VALR Valaam 35.26 328*c i*P **P** **22 24 25.4 +0.8**
VALR pmax pmax
comp=Z,51nm,0.8s
ATD Arta Tunnel 35.27 232 P **P** **22 24 26.2 +0.8**
ATD IAmb IAmb 22 24 28.7
comp=Z,39nm,1.3s
ARR Arges 35.53 299 ⇑P **P** **22 24 28.2 +1.0**
BOD Bodaibo 35.57 39 *e*P **P** **22 24 27.8 +0.4**
BOD pmax pmax
comp=Z,65nm,1.6s
ISAL Salakas 35.62 317 *e*P **P** **22 24 29.2 +1.5**
BJT Baijiatuau 35.62 70 P **P** **22 24 28.0 0.0**
BJT Baijiatuau 35.62 70 P **P** **22 24 28.0 0.0**
BJT pmax pmax
comp=Z,6.0nm,0.6s
BJI Beijing 35.62 70 P **P** **22 24 29.0 +1.0**
BJI PcP **PcP** **22 26 51.8 -0.1**
BJI pmax pmax
comp=Z,4.0nm,0.7s
KAAM Kaadhehdhoo 35.81 176 P **P** **22 24 31.3 +1.5**
JOF Joensuu 35.81 330 *e*P **P** **22 24 29.5 +0.1**
VSU Vasula 36.09 322⇑ *e*P **P** **22 24 32.3 +0.6**
VSU pmax pmax
comp=Z,52nm,0.8s
LOT Lotru 36.13 299 ⇑P **P** **22 24 33.4 +1.0**
MARR Marisel-Cluj 36.55 301 ⇑P **P** **22 24 37.2 +1.3**
WHN Wuhan 36.65 86 ⇑P **P** **22 24 37.8 +0.9**
WHN sP **sP** **22 25 40.5 -3.0**
WHN pmax pmax
comp=Z,240nm,1.3s
PABE Paberze 36.80 316 P **P** **22 24 38.3 +0.5**
PABE IAmb IAmb 22 25 25.1
comp=Z,41nm,0.9s
PABE Paberze 36.80 316 *e*P **P** **22 24 37.3 -0.4**
DRGR 36.82 302 ⇓P **P** **22 24 39.3 +1.0**
DRGR 36.82 302 P **P** **22 24 39.2 +1.0**
KWP Kalwaria Pacla 36.85 306 *e*pP **pP** **22 25 20.7 0.0**
KWP *e*sP sP 22 25 38.6 -5.3
KWP Kalwaria Pacla 36.85 306 P **P** **22 24 39.3 +0.9**
KWP IAmb IAmb 22 25 26.0
comp=Z,80nm,1.1s
KWP Kalwaria Pacla 36.85 306 P **P** **22 24 39.3 +0.9**
KWP pmax pmax
comp=Z,80nm,1.1s
IDI Anoyia 36.87 282 P **P** **22 24 37.9 -0.8**
IDI IAmb IAmb 22 25 36.6
comp=Z,81nm,1.5s
VSVD Vaisvydziai 36.92 317 *e*P **P** **22 24 39.3 +0.5**
SUW Suwalki 36.99 314 *e*P P 22 24 32.5 -6.9
SUW *e*pP pP 22 25 21.8 +0.1
SUW Suwalki 36.99 314 P **P** **22 24 39.7 +0.3**
SUW IAmb IAmb 22 25 25.6
comp=Z,31nm,0.8s
SUW Suwalki 36.99 314 P **P** **22 24 39.7 +0.3**
SUW pmax pmax
comp=Z,31nm,0.8s
BLKB Belogradchik 37.04 296 ⇓P **P** **22 24 41.4 +1.4**
TIA Tai'an 37.14 76 ⇑P **P** **22 24 41.5 +0.6**
TIA pmax pmax
comp=Z,17nm,2.0s
SURR Surduc 37.27 300 ⇑P **P** **22 24 42.6 +0.7**
FIA1 FINESS Array S 37.41 326 P **P** **22 24 43.6 +0.8**
FINES FINESS Array B 37.41 326 P **P** **22 24 43.6 +0.8**
comp=Z,37nm,0.5s,baz=120,slow=9.6,SNR=413
FINES pP **pP** **22 25 25.9 +0.6**
comp=Z,10.0nm,0.6s,baz=109,slow=10,SNR=3.3
comp=Z,37nm,0.5s
UBPT Khong Chiam 37.42 115 P **P** **22 24 43.3 -0.2**
UBPT Khong Chiam 37.42 115 P **P** **22 24 43.1 -0.4**
LVZ Lovozero 37.44 339 P **P** **22 24 43.4 +0.3**
LVZ Lovozero 37.44 339 P **P** **22 24 43.4 +0.3**
LVZ pmax pmax
comp=Z,184nm,1.6s
HIA Hailar 37.55 54 P **P** **22 24 44.3 +0.1**
HIA Hailar 37.55 54 P **P** **22 24 44.3 +0.1**
HIA pmax pmax
comp=Z,35nm,1.5s
APA Apatity 37.62 338⇓ *i*P **P** **22 24 43.0 -1.5**
APA *i* *PP **pP** **22 25 29.5 +2.4**
APA pmax pmax
comp=Z,20nm,0.7s
APA MLR MLR
comp=Z,2µm,12.0s
BZS Buzias 37.63 300 ⇑P **P** **22 24 46.2 +1.2**
BZS Buzias 37.63 300 P **P** **22 24 46.1 +1.2**
CRVS Cervenica-Dubn 37.65 305 *e*P **P** **22 24 47.5 +2.4**
CRVS *e* 22 25 31.6
CRVS Cervenica-Dubn 37.65 305 *e*P **P** **22 24 47.5 +2.4**
CRVS *e* 22 25 31.6
SURA Surathani 37.77 129 P **P** **22 24 47.3 +0.9**
MEF Metsahovi 37.78 324 *e*P **P** **22 24 45.7 -0.2**
AGG Agios Georgios 37.98 289 P **P** **22 24 48.6 +0.6**
AGG Agios Georgios 37.98 289 P **P** **22 24 48.6 +0.6**
AGG pmax pmax
comp=Z,12nm,1.0s
KEF Keuruu 38.21 327 *e*P **P** **22 24 49.6 +0.1**
FNA Florina 38.38 292 P **P** **22 24 52.0 +0.7**
FNA Florina 38.38 292 P **P** **22 24 52.0 +0.7**
FNA pmax pmax
comp=Z,9.0nm,1.0s
NIE Niedzica 38.42 306 *e*P **P** **22 24 55.6 +4.1**
NIE *e*pP **pP** **22 25 30.9 -3.1**
PSZ Piszkesteto 38.71 304 P **P** **22 24 54.4 +0.4**
PSZ Piszkesteto 38.71 304 P **P** **22 24 54.4 +0.4**
PSZ pmax pmax
comp=Z,18nm,1.0s
LANS Liptovska Anna 38.96 306 *e*P **P** **22 24 58.1 +2.1**
LANS Liptovska Anna 38.96 306 *e*P **P** **22 24 58.1 +2.1**
RAF Rauma 39.25 325 *e*P **P** **22 24 58.2 0.0**
PUK Puka 39.27 294 P **P** **22 24 58.8 +0.1**
PUK IAmb IAmb 22 25 44.8
comp=Z,30nm,1.0s
LHMI Lhok Sumawe 39.30 136 P **P** **22 24 59.5 +0.5**
LHMI IAmb IAmb 22 25 01.7
comp=Z,51nm,0.6s
LHMI Lhok Sumawe 39.30 136 P **P** **22 24 59.8 +0.7**
comp=Z,79nm,0.7s
VYHS Vyhne 39.40 304 *e*P **P** **22 25 01.6 +2.0**
VYHS *e* 22 25 45.2
VYHS Vyhne 39.40 304 *e*P **P** **22 25 01.6 +2.0**
VYHS *e* 22 25 45.2
VAF Ylistaro 39.46 328 *e*P **P** **22 24 59.7 -0.2**
MORH Mrgy, Hungar 39.66 301 ⇑P **P** **22 25 01.2 -0.5**
NJ2 Nanjing 39.74 82 *e*P **P** **22 25 03.3 +0.7**
NJ2 pP **pP** **22 25 45.1 -1.5**
NJ2 sP **sP** **22 26 08.3 -1.7**
NJ2 pmax pmax
comp=Z,18nm,0.5s
NJ2 pmax pmax
comp=Z,110nm,3.9s
SRO Srobarova 39.77 303 *e*P **P** **22 25 04.7 +2.0**
SRO *e* 22 25 48.6
SRO Srobarova 39.77 303 *e*P **P** **22 25 04.7 +2.0**
SRO *e* 22 25 48.6
FURI Furi 39.94 235 P **P** **22 25 06.4 +1.6**
DL2 Dalian 39.98 71 P **P** **22 25 05.3 +0.8**
DL2 pmax pmax
comp=Z,64nm,0.9s
MAUC Maruska 40.03 306 *e*P **P** **22 25 06.3 +1.4**
JAVC Velka Javorina 40.15 305 *e*pP pP 22 25 50.8 +2.0
MORC Moravsky Berou 40.21 307 ⇑P **P** **22 25 06.4 +0.1**
MORC Moravsky Berou 40.21 307 P **P** **22 25 07.0 +0.7**
MORC Moravsky Berou 40.21 307 *e*P **P** **22 25 07.2 +0.9**
MORC *e*pP **pP** **22 25 50.7 +1.5**
MORC Moravsky Berou 40.21 307 P **P** **22 25 07.0 +0.7**
MORC pmax pmax
comp=Z,35nm,1.4s
VADS Vadso 40.30 340⇑ *i*P **P** **22 25 07.9 +1.2**
VADS IAmb IAmb 22 25 08.0
comp=Z,65nm,0.5s
GKP Gorka Klasztor 40.44 312 *e*P **P** **22 25 04.5 -3.5**
GKP Gorka Klasztor 40.44 312 *e*P **P** **22 25 08.0 0.0**
VRAC Vranov 40.84 306 *e*P **P** **22 25 12.3 +0.8**
VRAC *e*pP **pP** **22 25 54.5 0.0**
VRAC Vranov 40.84 306 P **P** **22 25 11.9 +0.4**
comp=Z,1.1nm,0.3s,baz=159,slow=14,SNR=3.6
VRAC pP **pP** **22 25 55.2 +0.7**
comp=Z,20nm,1.0s,baz=85,slow=9.8,SNR=6.5
comp=Z,1.1nm,0.3s
DPC Dobruska-Polom 40.98 307 *e*P **P** **22 25 13.1 +0.5**

DPC Dobruska-Polom 40.98 307 eP P 22 25 13.1 +0.5
KRUC Moravsky 40.98 305 eP P 22 25 13.5 +0.9
KRUC epP pP 22 25 56.7 +1.0
OSTC Ostas 41.04 308 eP P 22 25 14.9 +1.8
OSTC Ostas 41.04 308 eP P 22 25 14.9 +1.8
ARA0 ARCESS Array S 41.12 338⇑iP P 22 25 14.5 +1.0
ARA0 IAmb IAmb 22 25 15.0
comp=Z,177nm,1.4s
ARCES ARCESS Array B 41.12 338 P P 22 25 14.2 +0.8
ARCES ARCESS Array B 41.12 338 P P 22 25 14.2 +0.8
ARCES pmax pmax
comp=Z,157nm,1.4s
ARCES ARCESS Array B 41.12 338 P P 22 25 14.5 +1.0
comp=Z,32nm,0.4s,baz=112,slow=7.7,SNR=373
ARCES pP pP 22 25 57.5 +0.5
comp=Z,18nm,0.6s,baz=106,slow=8.9,SNR=4.0
comp=Z,32nm,0.4s
CHVC Chvalec 41.15 308 eP P 22 25 14.8 +0.9
CHVC Chvalec 41.15 308 eP P 22 25 14.8 +0.9
KCSI Kotacane, Aceh 41.16 136 P P 22 25 13.5 -0.9
comp=Z,23nm,0.5s
SNSI Sinabang, Aceh 41.30 139 P P 22 25 16.6 +1.1
comp=Z,102nm,0.8s
KULM Kulim 41.41 131 P P 22 25 16.3 -0.1
KULM IAmb IAmb 22 25 18.3
comp=Z,52nm,1.6s
CONA Conrad Observa 41.41 304 eP P 22 25 17.4 +1.2
comp=Z,3.6nm,1.0s
CONA epP pP 22 26 01.8 +2.4
comp=Z,14nm,1.1s
KTK1 Kautokeino 41.59 336⇑iP P 22 25 18.0 +0.7
KTK1 IAmb IAmb 22 25 18.1
comp=Z,80nm,0.5s
ARSA Arzberg 41.70 303 iP pP 22 26 03.6 +1.9
comp=Z,0.8nm,0.4s
GROS Grobnik 41.80 302 iP P 22 25 20.1 +0.7
BSD Bornholm Skovb 41.89 315 iP P 22 25 18.0 -1.8
BSD iP P 22 25 18.0 -1.8
BSD Bornholm Skovb 41.89 315 eP P 22 25 20.8 +1.0
PERS Pernice 42.05 302 iP P 22 25 22.3 +1.0
SOKA Soboth 42.10 302 iP P 22 25 23.0 +1.2
comp=Z,2.8nm,0.5s
SOKA epP pP 22 26 07.3 +2.3
comp=Z,13nm,0.9s
TIP Timpagrande 42.18 291 P P 22 25 22.3 -0.2
HAMF Hammerfest 42.21 339⇑iP P 22 25 23.6 +1.4
HAMF IAmb IAmb 22 25 23.8
comp=Z,118nm,0.5s
IPM Ipoh 42.28 132 P P 22 25 23.9 +0.4
IPM Ipoh 42.28 132 P P 22 25 23.2 -0.3
IPM IAmb IAmb 22 25 24.2
comp=Z,37nm,0.7s
ZEA Zeya 42.31 47 eP P 22 25 24.8 +1.5
ZEA pmax pmax
comp=E,20nm,0.9s
ZEA pmax pmax
comp=N,20nm,0.7s
ZEA pmax pmax
comp=Z,40nm,1.1s
SGRT San Giovanni R 42.37 295 P P 22 25 23.7 -0.3
SGRT IAmb IAmb 22 26 11.4
comp=Z,50nm,1.1s
CKRC Cesky Krumlov 42.37 305 eP P 22 25 24.2 +0.3
CKRC Cesky Krumlov 42.37 305 eP P 22 25 24.2 +0.3
ZVC Zvikov 42.40 306 eP P 22 25 25.3 +1.2
OBKA Obir 42.45 302 epP pP 22 26 09.3 +1.3
comp=Z,13nm,1.1s
BRG Berggiesshubel 42.48 308 eP P 22 25 25.9 +1.3
BRG 22 26 05.4
BRG SP 22 26 28.6
BRG pmax pmax
comp=Z,6.0nm,0.9s
BRG Berggiesshubel 42.48 308 eP P 22 25 25.9 +1.3
BRG Amp 22 25 28.0
comp=Z,5.7nm,0.9s
BRG pP pP 22 26 05.4 -2.6
BRG Amp 22 26 11.2
comp=Z,12nm,0.9s
BRG sP sP 22 26 28.6 -2.3
BRG Amp 22 26 32.9
comp=Z,9.0nm,0.9s
MOA Molln 42.49 304 eP P 22 25 25.3 +0.5
comp=Z,2.4nm,0.7s
MOA epP pP 22 26 09.7 +1.5
comp=Z,1.6nm,0.4s
HEH HeiHe 42.50 53 eP P 22 25 25.4 +0.6
HEH pP pP 22 26 11.9 +2.8
HEH sP sP 22 26 32.3 -0.2
HEH pmax pmax
comp=Z,98nm,0.9s
DEL Delary 42.55 317 iP P 22 25 25.0 -0.1
DEL iP P 22 25 25.0 -0.1
DEL Delary 42.55 317 eP P 22 25 25.7 +0.6
CUC Castrocucco 42.70 292 P P 22 25 27.4 +0.7
CUC IAmb IAmb 22 26 15.0
comp=Z,56nm,1.0s
JETT Jettan, Norway 42.73 337⇑iP P 22 25 27.3 +0.8
JETT IAmb IAmb 22 25 28.2
comp=Z,54nm,1.0s
LUNU Lund 42.74 315 iP P 22 25 27.0 +0.3
LUNU iP P 22 25 27.0 +0.3
GERES GERESS Array B 42.77 305 P P 22 25 28.0 +0.8
comp=Z,0.5nm,0.4s,baz=77,slow=8.7,SNR=6.3
GERES pP pP 22 26 10.9 +0.3
comp=Z,2.7nm,0.8s,baz=72,slow=8.6,SNR=5.3
RGN Rugen 42.79 314 eP P 22 25 29.1 +2.1
KHC Kasperske Hory 42.83 306 P P 22 25 28.3 +0.8
KHC Kasperske Hory 42.83 306 eP P 22 25 28.9 +1.4
KHC ex x 22 26 06.0
KHC Kasperske Hory 42.83 306 P P 22 25 28.3 +0.8
KHC pmax pmax
comp=Z,9.0nm,1.1s
GSI Gunungsitoli 42.90 138 P P 22 25 30.1 +1.7
GSI Gunungsitoli 42.90 138 P P 22 25 29.4 +1.0
GSI IAmb IAmb 22 25 35.8
comp=Z,62nm,0.7s
GSI Gunungsitoli 42.90 138 P P 22 25 29.3 +0.9
comp=Z,114nm,0.7s
BIOA Bad Ischl, Aus 42.93 304 eP P 22 25 29.0 +0.6
comp=Z,0.6nm,0.3s
BIOA epP pP 22 26 13.7 +1.9
comp=Z,5.4nm,0.6s
BNX BinXian 42.95 59⇑P P 22 25 28.6 +0.1
BNX pmax pmax
comp=Z,6.0nm,0.7s
HFS Hagfors 42.98 322 P P 22 25 28.8 +0.3
comp=Z,21nm,0.6s,baz=99,slow=9.8,SNR=78
HFS pP pP 22 26 13.0 +1.1
comp=Z,38nm,0.5s,baz=97,slow=11,SNR=8.0
comp=Z,21nm,0.6s
CADS Cadrg 43.04 302 iP P 22 25 30.0 +0.7
CLL Collm 43.05 309 eP P 22 25 29.0 -0.2
CLL ePP pP 22 26 14.0 +1.4
CLL Collm 43.05 309 eP P 22 25 29.0 -0.2
CLL epP pP 22 26 14.0 +1.4
CLL esP sP 22 26 38.0 +2.4
CLL ePP PP 22 27 14.0 +0.7
CLL epPP 22 27 50.0
CLL ePPP PPP 22 27 54.0
MYKA Terra Mystica 43.05 302 eP P 22 25 30.4 +1.0
comp=Z,1.0nm,0.4s
MYKA epP pP 22 26 16.0 +3.1
comp=Z,0.7nm,0.3s
PRED Cave del Predi 43.13 302 P P 22 25 30.1 0.0
SABO M.te Sabotino 43.17 301 P P 22 25 30.4 +0.1
SABO IAmb IAmb 22 26 17.7
comp=Z,46nm,1.1s
KBA Koelnbreinsper 43.20 303 eP P 22 25 31.4 +0.6
comp=Z,2.3nm,0.6s
KBA epP pP 22 26 15.3 +1.1
comp=Z,2.9nm,0.5s
TRO Tromso 43.24 336⇑iP P 22 25 31.1 +0.7
MSEY Mahe Island 43.28 202 P P 22 25 32.2 +0.7
MSEY Mahe Island 43.28 202 P P 22 25 32.2 +0.7
MSEY pmax pmax
comp=Z,27nm,1.2s
MSEY Mahe Island 43.28 202 P P 22 25 30.8 -0.7
LESA Schwarzleotal 43.61 303 iP P 22 25 34.4 +0.6
comp=Z,2.7nm,0.4s
LESA pP pP 22 26 19.5 +2.1
comp=Z,6.0nm,0.7s
DGAR Diego Garcia 43.63 177 P P 22 25 32.2 -1.9
STAL STALIGIAL 43.74 302 P P 22 25 34.4 -0.5
FAUS Fauske 43.76 333 eP P 22 25 35.3 +0.7
FAUS IAmb IAmb 22 25 36.1
comp=Z,127nm,1.3s
MOR8 Moi Rana 43.76 331⇑iP P 22 25 34.8 0.0
MOR8 IAmb IAmb 22 25 35.2
comp=Z,80nm,0.6s
ABTA Abfaltersbach 43.81 302 iP P 22 25 35.6 +0.1
comp=Z,1.1nm,0.4s
ABTA pP pP 22 26 19.6 +0.5
comp=Z,2.4nm,0.8s
CIMO Cimolais 43.92 302 P P 22 25 36.6 +0.3
CIMO IAmb IAmb 22 26 23.5
comp=Z,30nm,0.9s
STEI Steigen 43.93 333 eP P 22 25 36.6 +0.6
STEI IAmb IAmb 22 25 37.3
comp=Z,39nm,0.6s
NC405 NORSAR Array S 44.06 323 P P 22 25 37.6 +0.4
NC405 IAmb IAmb 22 25 39.3
comp=Z,143nm,1.6s
NC602 NORSAR Array S 44.10 323 eP P 22 25 37.4 -0.1
STRU Stroemstad 44.14 320 eP P 22 25 37.2 -0.6
YAK Yakutsk 44.18 35 P P 22 25 37.5 -0.6
YAK Yakutsk 44.18 35c iP P 22 25 37.9 -0.1
YAK e*PP pP 22 26 20.0 -2.5
YAK e 22 27 19.4
YAK e 22 27 25.2
YAK eS S 22 31 55.2 -0.2
YAK e*SS sS 22 33 13.2 -0.1
YAK e 22 35 07.6
YAK pmax pmax
comp=Z,86nm,0.8s
YAK pmax pmax
comp=E,35nm,1.3s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=Z,28nm,1.0s
YAK smax smax
comp=E,103nm,1.8s
YAK smax smax
comp=N,41nm,1.7s
YAK Yakutsk 44.18 35 P P 22 25 38.0 -0.1
comp=N,91nm,0.7s,baz=248,slow=2.1,SNR=50
YAK pP pP 22 26 22.8 +0.3
comp=N,48nm,0.8s,baz=246,slow=4.1,SNR=2.9
comp=N,91nm,0.7s
YAK Yakutsk 44.18 35 P P 22 25 37.9 -0.1
YAK pP pP 22 26 23.4 +0.8
YAK ScP ScP 22 30 49.8 -1.7
NB2 NORSAR Subarra 44.29 323 P P 22 25 38.8 -0.3
comp=Z,13nm,0.5s,baz=98,slow=7.9
NB2 pP pP 22 26 24.0 +1.2
comp=Z,20nm,0.7s,baz=96,slow=8.6
NB2 NORSAR Subarra 44.29 323 P P 22 25 38.8 -0.3
baz=98,slow=7.9
NB2 NORSAR Subarra 44.29 323 P P 22 25 35.5 -3.6
NOA NORSAR Array B 44.29 323 P P 22 25 38.9 -0.2
comp=Z,8.3nm,0.5s,baz=97,slow=7.7,SNR=57
NOA pP pP 22 26 23.9 +1.1
comp=Z,9.6nm,0.6s,baz=97,slow=8.1,SNR=4.5
comp=Z,8.3nm,0.5s
WTTA Wattenberg 44.33 303 eP P 22 25 39.8 +0.1
comp=Z,1.1nm,0.4s
WATA Walderalm 44.36 303 pP pP 22 26 24.7 +1.1
comp=Z,3.3nm,0.6s
KONS Konsvik 44.36 331 eP P 22 25 40.0 +0.6
STOK Stokkvaagen 44.36 331 eP P 22 25 40.0 +0.5
NSS Namsos 44.43 328 eP P 22 25 40.5 +0.4
NSS IAmb IAmb 22 25 43.2
comp=Z,3μm,3.7s
OSL Oslo 44.44 322 eP P 22 25 40.6 +0.5
LOF Lofoten 44.60 333 eP P 22 25 41.4 +0.1
SQTA Sankt Quirin 44.62 303 eP P 22 25 41.8 -0.2
comp=Z,2.8nm,0.5s
SQTA pP pP 22 26 27.2 +1.5
comp=Z,4.3nm,0.6s
MOTA Moosalm 44.68 303 iP P 22 25 42.1 -0.3
comp=Z,0.7nm,0.2s
MOTA pP pP 22 26 28.5 +2.4
comp=Z,6.1nm,0.8s
YHNB Yeheng 44.74 90 P P 22 25 43.9 +0.7
SSLB Suanglung 44.82 92 P P 22 25 45.2 +1.5
SSLB Suanglung 44.82 92 P P 22 25 44.6 +0.9
SSLB IAmb IAmb 22 25 46.2
comp=Z,52nm,0.8s
RETA Reutte 44.88 304 eP P 22 25 43.9 -0.1
comp=Z,1.2nm,0.5s
FETA Feichten 44.98 303 iP P 22 25 44.6 -0.2
comp=Z,1.7nm,0.4s
FETA pP pP 22 26 29.9 +1.3
comp=Z,2.5nm,0.8s
KONO Kongsberg 44.99 321 P P 22 25 44.5 0.0
KONO Kongsberg 44.99 321 eP P 22 25 44.8 +0.3
KONO Kongsberg 44.99 321 P P 22 25 44.5 0.0
KONO pmax pmax
comp=Z,29nm,1.1s
HOPEN Hopen 45.02 346 eP P 22 25 46.5 +2.0
HOPEN IAmb IAmb 22 25 55.8
comp=Z,626nm,2.5s
TJN Taejon 45.04 72ceP P 22 25 44.4 -0.8
KS19 Wonju Array Si 45.09 71 P P 22 25 45.9 +0.2
KSAR Wonju Array Be 45.12 71 P P 22 25 46.3 +0.5
KSAR Wonju Array Be 45.12 71 P P 22 25 46.3 +0.5
KSRS Korea Array 45.15 71 P P 22 25 46.0 0.0
comp=Z,4.1nm,0.5s,baz=273,slow=7.0,SNR=34
KSRS pP pP 22 26 30.3 -0.4
comp=Z,7.8nm,1.2s,baz=287,slow=7.8,SNR=1.9
comp=Z,4.1nm,0.5s
BJO1 Bjornoya 45.27 343⇑iP P 22 25 47.3 +0.9
BJO1 IAmb IAmb 22 25 51.7
comp=Z,158nm,1.4s
YULB Yu-li 45.28 92 P P 22 25 49.3 +2.0
FUORN Ofenpass-Fuorn 45.36 303 P P 22 25 47.4 -0.5
TWGBT Beinan 45.38 93 P P 22 25 50.5 +2.4
KLR Kul'dur 45.40 54c iP P 22 25 47.9 0.0
KLR pmax pmax
comp=Z,33nm,1.5s
DOMB Dombas 45.41 324 eP P 22 25 48.4 +0.5
DOMB IAmb IAmb 22 25 50.3
comp=Z,71nm,1.6s
DAVA Damuels 45.51 304 eP P 22 25 49.0 0.0
comp=Z,1.7nm,0.2s
HOMB Homborsund 45.51 319 eP P 22 25 49.0 +0.3
HOMB IAmb IAmb 22 25 49.5
comp=Z,16nm,0.8s
HOMB Homborsund 45.51 319 iP P 22 25 48.0 -0.6
HOMB iP P 22 25 48.0 -0.6
DAVOX Davos/Dischmat 45.59 303 P P 22 25 49.7 0.0
comp=Z,2.9nm,0.5s
DAVOX pP pP 22 26 34.8 +1.2
comp=Z,6.8nm,0.6s,baz=98,slow=9.2,SNR=4.0
comp=Z,2.9nm,0.5s
SKAR Skarslia 45.69 322 eP P 22 25 50.3 +0.3
SKAR IAmb IAmb 22 25 59.7
comp=Z,546nm,3.0s
TIXI Tiksi 45.95 22 P P 22 25 52.3 +0.5
TIXI Tiksi 45.95 22c iP P 22 25 52.3 +0.5
TIXI pmax pmax
comp=Z,171nm,1.0s
TIXI Tiksi 45.95 22 ⇑P P 22 25 52.2 +0.5
TIXI pP pP 22 26 37.8 +1.0
TIXI sP sP 22 27 01.7 +1.5
MYKOM Kota Tinggi 46.11 131 P P 22 25 54.2 +0.4
YOJ Yonaguni jima 46.16 90 P P 22 25 53.8 -0.4
YOJ IAmb IAmb 22 26 53.5
comp=Z,108nm,1.3s
YOJ Yonaguni jima 46.16 90 P P 22 25 53.8 -0.4
YOJ pmax pmax
comp=Z,108nm,1.3s
SNART Snartemo 46.20 319 IAmb IAmb 22 25 54.3
comp=Z,165nm,1.3s
SNART ⇑iP P 22 25 54.4 +0.4
SNART Snartemo 46.20 319 iP P 22 25 53.0 -1.0
SNART iP P 22 25 53.0 -1.0
LODK Lodwar 46.21 233 P P 22 25 55.8 +1.1
LODK Lodwar 46.21 233 P P 22 25 55.5 +0.8
SNR=7.3
PDSI Padang 46.32 137 P P 22 25 54.7 -0.8
comp=Z,55nm,0.5s
AKN Aaknes 46.39 324 eP P 22 25 56.0 +0.5
USA0B Ussuriysk Arra 46.43 61 P P 22 25 55.6 -0.4
USA0B Ussuriysk Arra 46.43 61 P P 22 25 55.6 -0.4
USA0B pmax pmax
comp=Z,8.0nm,1.0s
USRK Ussuriysk Ar. 46.43 61 P P 22 25 55.9 -0.2
comp=Z,1.5nm,0.4s,baz=270,slow=7.7,SNR=19
USRK pP pP 22 26 40.6 -0.7
comp=Z,1.0nm,0.4s,baz=289,slow=7.2,SNR=1.6
comp=Z,1.5nm,0.4s
ODD1 Odda 46.50 321 eP P 22 25 57.2 +0.9
BLS5 Blasjo 46.58 321 eP P 22 25 58.1 +1.1
BLS5 IAmb IAmb 22 25 58.9
comp=Z,45nm,1.4s
HYA Hoyanger 46.74 323 eP P 22 25 59.6 +1.5
BER Bergen 47.15 322 eP P 22 26 02.0 +0.8
HSPB Hornsund (broa 47.15 345 eP P 22 26 02.4 +1.3
KMY Karmoy 47.21 320 eP P 22 26 02.0 +0.2
FOO Floro 47.30 324 eP P 22 26 03.7 +1.3
SENIN Lac Senin/Sane 47.42 303 P P 22 26 03.6 -0.3
SENIN IAmb IAmb 22 26 50.4
comp=Z,66nm,0.7s
SPB2 Spitsbergen Ar 47.51 347 P P 22 26 05.0 +1.1
SPB2 IAmb IAmb 22 26 06.4
comp=Z,54nm,1.1s
SPA0 Spitsbergen Ar 47.52 347⇑iP P 22 26 05.4 +1.5
SPITS Spitsbergen Ar 47.52 347 P P 22 26 05.3 +1.4
SPITS Spitsbergen Ar 47.52 347 P P 22 26 05.4 +1.5
comp=Z,18nm,0.4s,baz=124,slow=11,SNR=308
comp=Z,18nm,0.4s
MEM Membach 47.52 309 dP P 22 26 05.4 +1.1
MEM dpP pP 22 26 51.0 +2.4
KRJI Kerinci 47.84 136 P P 22 26 07.2 -0.2
comp=Z,94nm,0.7s
BNI Bardonecchia 48.12 301 P P 22 26 08.6 -0.6
BNI IAmb IAmb 22 27 08.5
comp=Z,74nm,1.8s
BNI Bardonecchia 48.12 301 P P 22 26 08.6 -0.6
BNI pmax pmax
comp=Z,75nm,1.8s
DSRI Dabo 48.35 132 P P 22 26 11.2 +0.1
comp=Z,71nm,1.1s,comp=Z,882nm
KBS Kingsbay 48.64 347 P P 22 26 13.5 +1.0
KBS IAmb IAmb 22 26 14.8
comp=Z,84nm,1.0s
KBS Kingsbay 48.64 347 eP P 22 26 12.8 +0.3
KBS Kingsbay 48.64 347 P P 22 26 13.5 +1.0
KBS pmax pmax
comp=Z,84nm,1.0s
KBS Kingsbay 48.64 347 iP P 22 26 12.6 +0.1
KBS Kingsbay 48.64 347 P P 22 26 13.8 +1.3
KBS pP pP 22 26 59.6 +2.2
KBS sP sP 22 27 24.1 +3.8
KEST Kesra 48.82 288 P P 22 26 15.1 +0.4
KEST IAmb IAmb 22 27 03.4
comp=Z,88nm,1.2s
KEST Kesra 48.82 288 P P 22 26 15.6 +0.9
comp=Z,4.0nm,0.7s,baz=18,slow=2.7,SNR=6.2
KEST pP pP 22 26 58.7 -0.5
comp=Z,21nm,0.8s,baz=91,slow=3.9,SNR=6.9
comp=Z,4.0nm,0.7s
JNU Nakatsue 48.86 75 P P 22 26 14.8 -0.1
JNU Nakatsue 48.86 75 P P 22 26 15.4 +0.5
comp=Z,8.4nm,0.6s,baz=313,slow=8.6,SNR=4.5
comp=Z,8.4nm,0.6s
KIBK Kibwezi 49.10 225 P P 22 26 18.0 +1.0
KIBK IAmb IAmb 22 26 19.6
comp=Z,64nm,1.5s
KIBK Kibwezi 49.10 225 P P 22 26 18.2 +1.2
SNR=7.9
JOW Kunigami 49.33 84 P P 22 26 17.9 -0.5
JOW IAmb IAmb 22 27 09.4
comp=Z,86nm,1.5s
JOW Kunigami 49.33 84 P P 22 26 18.0 -0.5
comp=Z,26nm,0.4s,baz=289,slow=9.1,SNR=27
comp=Z,26nm,0.4s
SSB Saint Sauveur 49.54 302 P P 22 26 20.0 +0.1
SSB IAmb IAmb 22 27 07.7
comp=Z,49nm,1.3s
SSB Saint Sauveur 49.54 302 P P 22 26 20.0 +0.1
SSB pmax pmax
comp=Z,49nm,1.3s
MNAI Manna 50.55 136 P P 22 26 28.1 +0.4
JMN Monobe 50.96 73 P P 22 26 30.6 -0.1
KKM Kota Kinabalu 51.41 115 P P 22 26 36.2 +1.9
KKM Kota Kinabalu 51.41 115 P P 22 26 35.2 +1.0
KKM IAmb IAmb 22 26 36.9
comp=Z,190nm,2.0s
TYV Tymovskoe 52.02 50 eP P 22 26 39.2 +1.0
TYV pmax pmax
comp=Z,8.0nm,0.9s
TYV pmax pmax
comp=Z,100nm,3.6s
EKA Eskdalemuir Ar 52.17 316 P P 22 26 39.4 +0.2
comp=Z,0.8nm,0.3s,baz=100,slow=7.1,SNR=22
EKA pP pP 22 27 24.4 0.0
comp=Z,8.2nm,0.7s,baz=95,slow=8.0,SNR=7.5
comp=Z,0.8nm,0.3s
ESK Eskdalemuir 52.20 316 P P 22 26 39.5 +0.1
ESK IAmb IAmb 22 26 55.1
comp=Z,82nm,1.9s
ESK Eskdalemuir 52.20 316 P P 22 26 39.5 +0.1
ESK pmax pmax
comp=Z,82nm,1.9s
MBAR Mbarara 52.25 234 P P 22 26 41.3 +0.7
MBAR IAmb IAmb 22 26 42.4
comp=Z,21nm,0.7s
MBAR Mbarara 52.25 234d iP P 22 26 41.5 +0.9
MBAR pmax pmax
comp=Z,19nm,0.6s
MBAR Mbarara 52.25 234 P P 22 26 41.4 +0.9
MBAR pP pP 22 27 27.0 +0.4
MBAR sP PcP 22 27 50.9 +1.8
STKI Sintang 52.31 124 P P 22 26 41.5 +0.7
comp=Z,13nm,0.6s,comp=Z,3μm
JSD Sado 52.72 67 P P 22 26 43.1 -0.5
JGF Kuroka 52.92 70 P P 22 26 44.2 -0.9
YSS Yuzh-Sakhalins 53.08 55 P P 22 26 46.4 +0.4
YSS Yuzh-Sakhalins 53.08 55 P P 22 26 45.2 -0.8
YSS IAmb IAmb 22 26 47.2
comp=Z,81nm,1.4s
YSS Yuzh-Sakhalins 53.08 55⇓iP P 22 26 46.0 0.0
YSS pmax pmax
comp=Z,65nm,1.3s
MJB9 Matsu-Tunnel 53.21 68 P P 22 26 46.9 -0.3
MAJO Matsushiro 53.22 68 P P 22 26 46.8 -0.4
MAJO Matsushiro 53.22 68 P P 22 26 46.3 -1.0
MAJO Matsushiro 53.22 68⇓iP P 22 26 46.6 -0.6
MAJO pmax pmax
comp=Z,13nm,1.0s
MAJO Matsushiro 53.22 68 P P 22 26 46.7 -0.6
MAJO pP pP 22 27 34.3 +0.7
MAJO PcP PcP 22 27 50.3 -2.0
MJAR Matsushiro Arr 53.22 68 P P 22 26 47.2 -0.1
comp=Z,7.3nm,1.0s,baz=288,slow=9.2,SNR=12
MJAR pP pP 22 27 33.1 -0.5
comp=Z,8.8nm,0.9s,baz=289,slow=8.7,SNR=6.3
comp=Z,7.3nm,1.0s
ASAJ Asahikawa 53.81 58 P P 22 26 50.9 -0.5
ASAJ pmax pmax
comp=Z,91nm,1.8s
JKA Kamikawa-asahi 53.81 58 P P 22 26 50.9 -0.6
JKA IAmb IAmb 22 28 12.3
comp=Z,91nm,1.8s
JTM Tenmabayashi 53.82 62 P P 22 26 51.1 -0.4
JTM IAmb IAmb 22 28 00.9
comp=Z,71nm,1.3s
NOR Nord 53.84 350 iP P 22 26 50.4 -0.6
NOR IAmb IAmb 22 26 52.6
comp=Z,7.5nm,1.0s
MA2 Magadan 54.58 38 P P 22 26 56.9 +0.2
MA2 Magadan 54.58 38 P P 22 26 56.3 -0.5
MA2 IAmb IAmb 22 26 58.3
comp=Z,52nm,1.3s
MA2 Magadan 54.58 38c iP P 22 26 56.9 +0.2
MA2 pmax pmax
comp=Z,59nm,1.7s
MA2 Magadan 54.58 38 P P 22 26 56.8 +0.2
comp=Z,12nm,0.8s,baz=285,slow=6.7,SNR=28
MA2 pP pP 22 27 42.8 -0.3
comp=Z,4.3nm,0.7s,baz=322,slow=11,SNR=1.8
comp=Z,12nm,0.8s
MA2 Magadan 54.58 38 ⇑P P 22 26 56.8 +0.1
MA2 pP pP 22 27 44.3 +1.3
MA2 PcP PcP 22 27 56.8 -0.3
SEY Seymchan 54.63 34⇑iP P 22 26 57.5 +0.6
SEY pmax pmax
comp=Z,70nm,1.3s
SEY Seymchan 54.63 34 P P 22 26 57.6 +0.6
comp=Z,29nm,0.8s,baz=275,slow=8.8,SNR=132
comp=Z,29nm,0.8s
JMM Marumori 54.65 66 P P 22 26 57.9 +0.3
JMM Marumori 54.65 66 P P 22 26 57.0 -0.5

JMM IAmb IAmb 22 26 58.8
comp=Z,25nm,0.7s
DAG Danmarks Havn 54.74 344 *i* P **P** **22 26 57.4 -0.2**
DAG *i* P **P** **22 26 58.0 +0.4**
DAG IAmb IAmb 22 26 59.2
comp=Z,19nm,0.6s
ERM Erimo 54.89 60 P **P** **22 26 59.2 0.0**
ERM IAmb IAmb 22 27 38.0
comp=Z,25nm,0.9s
ERM Erimo 54.89 60 P **P** **22 26 59.2 0.0**
ERM pmax pmax
comp=Z,25nm,1.0s
ESDC Sonseca Array 57.27 298 P **P** **22 27 16.2 0.0**
comp=Z,1.7nm,0.5s,baz=54,slow=7.5,SNR=25
ESDC pP **pP** **22 28 03.0 +0.9**
comp=Z,12nm,0.9s,baz=58,slow=7.7,SNR=9.2
comp=Z,1.7nm,0.5s
TAM Tamanrasset 57.29 276 P **P** **22 27 16.3 -0.4**
TAM IAmb IAmb 22 28 07.5
comp=Z,58nm,2.0s
TAM Tamanrasset 57.29 276 P **P** **22 27 16.3 -0.4**
TAM pmax pmax
comp=Z,58nm,2.0s
DAV Davao City (W) 57.81 106 P **P** **22 27 21.0 +0.8**
DAV Davao City (W) 57.81 106 P **P** **22 27 20.0 -0.2**
comp=Z,92nm,0.3s,baz=67,slow=7.7,SNR=4.1
TOLI2 Tolitoli 58.08 115 P **P** **22 27 22.1 +0.1**
TOLI2 IAmb IAmb 22 27 22.9
comp=Z,33nm,1.3s
BILL Bilibino 58.79 26 P **P** **22 27 27.1 +1.0**
BILL Bilibino 58.79 26 *i* P **P** **22 27 27.2 +1.0**
BILL Bilibino 58.79 26 ⇑P **P** **22 27 27.2 +1.0**
ALE Alert 59.09 354 P **P** **22 27 29.2 +1.1**
ALE pP **pP** **22 28 17.4 +2.5**
MRSI Marisa 59.36 115 P **P** **22 27 31.0 +0.2**
comp=Z,103nm,1.1s,comp=Z,789nm
ABPO Ambohimpanom 59.43 206 P **P** **22 27 32.5 +1.2**
ABPO IAmb IAmb 22 28 22.5
comp=Z,17nm,0.9s
ABPO Ambohimpanom 59.43 206 P **P** **22 27 32.5 +1.2**
ABPO pmax pmax
comp=Z,17nm,0.9s
GTOI Gorontalo 60.03 114 P **P** **22 27 34.0 -1.4**
comp=Z,16nm,1.2s
PEA0B Petropavlovsk- 60.20 44 ‖ *e*P **P** **22 27 35.9 -0.2**
PETK Petropavlovsk- 60.20 44 P **P** **22 27 34.7 -1.4**
PETK Petropavlovsk- 60.20 44 P **P** **22 27 35.4 -0.7**
comp=Z,2.9nm,0.7s,baz=2.8,slow=1.5,SNR=8.6
comp=Z,2.9nm,0.7s
TTSI Tana Toraja 60.27 120 P **P** **22 27 36.2 -0.8**
comp=Z,38nm,1.4s
SUMG Summit 61.06 341 P **P** **22 27 42.9 +0.9**
SUMG IAmb IAmb 22 27 44.4
comp=Z,73nm,1.3s
SUMG Summit 61.06 341 P **P** **22 27 42.9 +0.9**
SUMG pmax pmax
comp=Z,73nm,1.3s
SUMG Summit 61.06 341 *i* P **P** **22 27 42.0 0.0**
SUMG IAmb IAmb 22 27 44.1
comp=Z,16nm,1.0s
NEEM North Greenlan 61.06 348 *i* P **P** **22 27 40.3 -1.6**
NEEM IAmb IAmb 22 27 43.4
comp=Z,18nm,0.8s
KAPI Kappang 61.63 121 P **P** **22 27 45.3 -0.9**
KAPI IAmb IAmb 22 28 39.0
comp=Z,25nm,1.2s
KAPI Kappang 61.63 121 P **P** **22 27 45.3 -0.9**
KAPI pmax pmax
comp=Z,25nm,1.3s
VOI Vohitsoka 62.25 205 P **P** **22 27 50.4 +0.1**
VOI IAmb IAmb 22 28 41.0
comp=Z,47nm,1.0s
EUNU Eureka 63.07 356 P **P** **22 27 55.2 +0.4**
ICESG Greenland Ices 63.19 338 *i* P **P** **22 27 56.2 +0.1**
ICESG IAmb IAmb 22 27 58.1
comp=Z,7.0nm,0.7s
TNTI Ternate 63.20 111 P **P** **22 27 56.8 +0.2**
TNTI Ternate 63.20 111 P **P** **22 27 55.5 -1.0**
SANI Sanana 64.03 114 P **P** **22 28 01.8 -0.2**
SANI Sanana 64.03 114 P **P** **22 28 01.1 -0.9**
comp=Z,63nm,1.0s,comp=Z,830nm
LBMI Labuha 64.22 112 P **P** **22 28 02.2 -1.1**
comp=Z,85nm,1.7s,comp=Z,2μm
ANGG Ammassalik, Gr 64.38 334 P **P** **22 28 03.8 +0.4**
ANGG IAmb IAmb 22 28 52.8
comp=Z,56nm,1.2s
FOMA Nahampoana Res 65.03 204 P **P** **22 28 08.1 -0.1**
FOMA IAmb IAmb 22 28 59.4
comp=Z,50nm,1.0s
LSZ Lusaka 65.22 226 P **P** **22 28 10.0 +0.3**
LSZ Lusaka 65.22 226 P **P** **22 28 10.0 +0.3**
LSZ pmax pmax
comp=Z,9.0nm,0.7s
LSZ Lusaka 65.22 226 P **P** **22 28 10.5 +0.8**
LSZ pP **pP** **22 28 59.3 +1.4**
TOA0 Torodi Ar. Sit 65.46 268 P **P** **22 28 10.1 -1.2**
TORD Torodi Ar. Bea 65.46 268 P **P** **22 28 10.6 -0.7**
comp=Z,9.5nm,0.4s,baz=50,slow=6.5,SNR=55
TORD pP **pP** **22 28 55.9 -2.9**
comp=Z,11nm,0.7s,baz=42,slow=7.2,SNR=4.8
comp=Z,9.5nm,0.4s
EDFI Ende, Flores 65.64 123 P **P** **22 28 09.1 -3.4**
comp=Z,16nm,0.8s,comp=Z,413nm
KRI Karoi 65.65 224 *i* P **P** **22 28 13.1 +0.6**
KRI Karoi 65.65 224 *i* P **P** **22 28 13.1 +0.6**
DY2G Dye2 66.76 337 *i* P **P** **22 28 19.1 +0.1**
DY2G IAmb IAmb 22 28 20.8
comp=Z,16nm,0.9s
CHIPN CHIPINGE 66.84 219 *i* P **P** **22 28 20.9 +1.0**
CHIPN CHIPINGE 66.84 219 *i* P **P** **22 28 18.2 -1.7**
SWI Sorong 67.21 109 P **P** **22 28 21.2 -1.1**
comp=Z,86nm,1.1s,comp=Z,2μm
A19K Wainwright 67.32 17 P **P** **22 28 23.2 +1.1**
baz=317
A21K Barrow 67.46 15 P **P** **22 28 23.8 +0.8**
baz=320,SNR=10.0
C16K Lisburne Hills 67.62 20 P **P** **22 28 24.3 +0.2**
C16K IAmb IAmb 22 28 25.4
comp=Z,44nm,0.8s
C16K Lisburne Hills 67.62 20 P **P** **22 28 24.3 +0.2**
baz=314
SFJD Kangerlussuaq 67.74 339 P **P** **22 28 24.7 -0.1**
SFJD IAmb IAmb 22 28 25.4
comp=Z,31nm,1.4s
SFJD Kangerlussuaq 67.74 339 P **P** **22 28 24.7 -0.1**
SFJD pmax pmax
comp=Z,31nm,1.5s
B18K Kokolik River 67.75 18 P **P** **22 28 26.2 +1.3**
baz=316,SNR=61
BATI Baumata 68.03 122 P **P** **22 28 26.2 -1.2**
comp=Z,59nm,0.6s,baz=260,slow=3.2,SNR=14
comp=Z,59nm,0.6s
BATI Baumata 68.03 122 P **P** **22 28 25.4 -2.1**
comp=Z,68nm,0.6s
A22K Sinclair Lake 68.05 15 P **P** **22 28 27.6 +0.9**
baz=322
C17K DeLong Mountai 68.05 19 P **P** **22 28 27.5 +0.7**
baz=315,SNR=55
SOEI Soe 68.13 121 P **P** **22 28 29.9 +1.7**
SOEI Soe 68.13 121 P **P** **22 28 27.6 -0.6**
SOEI Soe 68.13 121 P **P** **22 28 27.6 -0.6**
comp=Z,76nm,1.5s
B20K Meade River 68.36 16 P **P** **22 28 28.7 +0.1**
B20K Meade River 68.36 16 P **P** **22 28 29.4 +0.8**
baz=320
RDOG Red Dog Mine 68.42 19 P **P** **22 28 28.8 -0.4**
RDOG IAmb IAmb 22 28 30.5
comp=Z,30nm,1.0s
RDOG Red Dog Mine 68.42 19 P **P** **22 28 29.1 0.0**
baz=316,SNR=6.0
C18K Utukok River 68.43 18 P **P** **22 28 29.7 +0.5**
baz=317
C19K Lookout Ridge 68.48 17 P **P** **22 28 30.5 +1.0**
baz=318
D17K Noatak River 68.63 19 P **P** **22 28 30.9 +0.5**
baz=316,SNR=55
TNA Tin City 68.73 22 P **P** **22 28 31.7 +0.7**
baz=312,SNR=5.8
RES Resolute Bay 68.76 356 P **P** **22 28 31.1 +0.1**
RES Resolute Bay 68.76 356 P **P** **22 28 31.2 +0.1**
RES pmax pmax
comp=Z,13nm,1.3s
BLWY Bulawayo 68.89 222 *i* P **P** **22 28 32.1 -0.7**
BLWY Bulawayo 68.89 222 *i* P **P** **22 28 33.1 +0.3**
B22K Teshekpuk Lake 68.89 15 P **P** **22 28 32.7 +0.8**
baz=323

B21K Ikpikpuk River 69.21 15 P **P** **22 28 34.8 +0.9**
baz=322
F14K Arctic Creek 69.28 22 P **P** **22 28 35.4 +1.0**
baz=314
FAKI Fak Fak 69.29 110 P **P** **22 28 35.3 0.0**
FAKI Fak Fak 69.29 110 P **P** **22 28 34.6 -0.6**
FAKI Fak Fak 69.29 110 P **P** **22 28 34.2 -1.1**
comp=Z,81nm,1.0s,comp=Z,1μm
D19K Kuna River 69.30 17 P **P** **22 28 34.9 +0.4**
baz=320
E17K Hotham Inlet 69.41 19 P **P** **22 28 35.6 +0.4**
baz=317,SNR=37
D20K Etivluk River 69.48 17 P **P** **22 28 36.1 +0.4**
baz=321
E18K Tukpahlearik C 69.49 19 P **P** **22 28 36.1 +0.4**
baz=318
C21K Knifeblade Rid 69.55 16 P **P** **22 28 37.0 +1.0**
baz=322
F15K North Star Dit 69.61 21 P **P** **22 28 37.4 +0.9**
baz=315
C23K Itkillik River 69.86 14 P **P** **22 28 38.8 +0.8**
C23K Itkillik River 69.86 14 P **P** **22 28 39.1 +1.2**
baz=326,SNR=59
E20K Nigu River 69.94 17 P **P** **22 28 38.8 +0.3**
baz=321
MUSN Musina, Limpop 69.97 220 *i* P **P** **22 28 40.6 +1.3**
MUSN Musina, Limpop 69.97 220 *i* P **P** **22 28 40.6 +1.3**
F17K Baldwin Pennin 70.04 20 P **P** **22 28 39.9 +0.9**
baz=318
ANM Nome 70.21 22 P **P** **22 28 40.1 +0.1**
ANM IAmb IAmb 22 28 42.3
comp=Z,105nm,1.6s
ANM Nome 70.21 22 P **P** **22 28 41.2 +1.1**
baz=315,SNR=14
ANM Nome 70.21 22 P **P** **22 28 40.2 +0.1**
ANM pmax pmax
comp=Z,105nm,1.6s
MOPA Mopani 70.21 218 *i* P **P** **22 28 39.9 -0.8**
MOPA Mopani 70.21 218 *i* P **P** **22 28 39.9 -0.8**
D22K Ayikyak River 70.22 15 P **P** **22 28 40.8 +0.7**
baz=324
E21K Killik River 70.30 16 P **P** **22 28 40.8 +0.2**
baz=323
G15K Niukluk 70.30 22 P **P** **22 28 41.5 +0.8**
baz=316
E19K Redstone River 70.31 18 P **P** **22 28 41.0 +0.3**
baz=321
C24K Franklin Bluff 70.33 14 P **P** **22 28 41.8 +1.1**
baz=327
F18K Selawik 70.35 19 P **P** **22 28 41.2 +0.3**
baz=319,SNR=59
G16K Koyuk River 70.50 21 P **P** **22 28 42.6 +0.7**
baz=317
D23K Nanushuk River 70.57 15 P **P** **22 28 42.9 +0.6**
baz=326
F19K Shaleruckik Mo 70.66 18 P **P** **22 28 42.2 -0.6**
F19K Shaleruckik Mo 70.66 18 P **P** **22 28 42.8 0.0**
baz=320
D24K Happy Valley 70.78 14 P **P** **22 28 44.1 +0.6**
baz=327
C26K Camden Bay 70.84 12 P **P** **22 28 45.2 +1.4**
baz=330
G17K Kiwalik Mounta 70.91 20 P **P** **22 28 44.8 +0.5**
baz=318
F20K Avaraart Lake 71.00 17 P **P** **22 28 44.5 -0.3**
baz=322
E22K Anaktuvuk Pass 71.02 16 P **P** **22 28 45.4 +0.4**
E22K IAmb IAmb 22 28 46.6
comp=Z,93nm,1.5s
E22K Anaktuvuk Pass 71.02 16 P **P** **22 28 45.4 +0.4**
baz=325
TOLK Toolik Lake Re 71.07 14 P **P** **22 28 46.0 +0.7**
baz=327,SNR=79
H16K Elim 71.09 21 P **P** **22 28 46.2 +0.7**
baz=317,SNR=26
D25K Kavik River 71.10 13 P **P** **22 28 45.6 +0.1**
D25K Kavik River 71.10 13 P **P** **22 28 46.5 +1.0**
baz=329
G18K Tagagawik 71.15 19 P **P** **22 28 45.6 -0.2**
baz=320
A36M Sachs Harbour 71.31 5 P **P** **22 28 47.3 +0.7**
A36M Sachs Harbour 71.31 5 P **P** **22 28 47.1 +0.5**
baz=346,SNR=91
G19K Purcell Mounta 71.37 19 P **P** **22 28 47.3 +0.2**
baz=321,SNR=63
F21K Alatna River 71.39 17 P **P** **22 28 47.6 +0.4**
baz=324,SNR=46
F22K John River 71.45 16 P **P** **22 28 48.3 +0.7**
baz=325
H17K Granite Mounta 71.54 20 P **P** **22 28 48.4 +0.2**
H17K IAmb IAmb 22 28 49.8
comp=Z,51nm,1.2s
H17K Granite Mounta 71.54 20 P **P** **22 28 48.8 +0.7**
baz=319,SNR=13
E23K Chandalar 71.55 15 P **P** **22 28 48.7 +0.5**
baz=327,SNR=27
GIRL Giralia 71.71 138 P **P** **22 28 50.2 +0.5**
H18K Honosa River 71.80 20 P **P** **22 28 49.9 +0.3**
baz=320
SAUI Saumlaki 71.91 115 P **P** **22 28 52.0 +0.9**
SAUI Saumlaki 71.91 115 P **P** **22 28 51.4 +0.3**
G21K Allakaket 71.95 17 P **P** **22 28 50.4 -0.2**
baz=324
H19K Roundabout Mou 72.01 19 P **P** **22 28 51.5 +0.6**
baz=322
J14K Nanvaranak Lak 72.08 23 P **P** **22 28 52.2 +0.9**
baz=317
D27M Malcolm River 72.09 11 P **P** **22 28 52.5 +1.0**
baz=334
I17K Unalakleet 72.11 21 P **P** **22 28 52.4 +0.9**
baz=319,SNR=13
COLD Coldfoot 72.12 16 P **P** **22 28 52.1 +0.5**
baz=326,SNR=40
E25K Arctic Village 72.29 13 P **P** **22 28 53.1 +0.5**
baz=330,SNR=32
IMAR Indian Mountai 72.33 18 P **P** **22 28 52.4 -0.4**
F24K Squaw Lake 72.36 15 P **P** **22 28 53.7 +0.7**
baz=328,SNR=14
D28M Stokes Point 72.36 11 P **P** **22 28 54.4 +1.6**
baz=336,SNR=53
H20K Anotleneega Mo 72.44 18 P **P** **22 28 53.8 +0.3**
baz=323,SNR=48
GCSA Galena City Sc 72.52 19 P **P** **22 28 54.5 +0.7**
baz=321
J16K Anvik River 72.59 22 P **P** **22 28 55.3 +0.9**
baz=319,SNR=23
G23K Bananza Creek 72.59 16 P **P** **22 28 55.0 +0.7**
baz=327
F25K Christian Rive 72.73 14 P **P** **22 28 56.5 +1.2**
baz=330
H21K Melozitna Rive 72.82 17 P **P** **22 28 56.0 +0.3**
baz=324
M11K Mekoryuk 72.89 26 P **P** **22 28 57.6 +1.5**
baz=315
E28M Babbage River 72.90 11 P **P** **22 28 57.1 +1.0**
baz=335
F26K Shenjek River 72.93 13 P **P** **22 28 57.1 +0.8**
baz=331
E27K Coleen River 72.94 12 P **P** **22 28 57.3 +0.9**
baz=333
J17K VABM Dome 72.95 21 P **P** **22 28 57.2 +0.7**
baz=320
H22K Ishtalitna Cre 72.96 17 P **P** **22 28 57.0 +0.5**
baz=326
K15K Wolf Creek Mou 73.05 23 P **P** **22 28 58.3 +1.2**
baz=318
BMAR Burnt Mountain 73.08 13 P **P** **22 28 58.1 +0.9**
I20K Naagheneel 73.10 19 P **P** **22 28 57.9 +0.6**
baz=323
G24K Hadweenzic Riv 73.14 15 P **P** **22 28 58.2 +0.6**
G24K IAmb IAmb 22 28 59.1
comp=Z,24nm,0.8s
G24K Hadweenzic Riv 73.14 15 P **P** **22 28 58.5 +1.0**
baz=329
E29M Blow River 73.34 11 P **P** **22 28 59.9 +1.2**
baz=336,SNR=56
G25K Bearman Lake 73.36 14 P **P** **22 29 00.1 +1.3**
baz=330
L14K Kuka Creek 73.39 24 P **P** **22 29 00.3 +1.3**
baz=318
I21K Tanana 73.41 17 P **P** **22 28 59.5 +0.4**
baz=325
H23K Yukon River 73.44 16 P **P** **22 29 00.4 +1.1**
baz=327,SNR=32
J19K Poorman 73.45 19 P **P** **22 29 00.2 +0.8**
baz=323,SNR=43
L15K Ungalak Mounta 73.52 23 P **P** **22 29 00.6 +0.8**
baz=318
J18K Innoko River 73.57 20 P **P** **22 29 00.6 +0.5**
baz=322
G26K Porcupine Rive 73.65 13 P **P** **22 29 01.4 +0.9**
baz=332,SNR=15
MBWA Marble Bar 73.66 133 P **P** **22 29 00.9 -0.3**
J20K Nowinta River 73.69 19 P **P** **22 29 01.5 +0.7**
baz=324,SNR=32
K17K Iditarod 73.70 21 P **P** **22 29 01.7 +0.9**
baz=321
FYU Fort Yukon 73.71 14 P **P** **22 29 01.9 +1.1**
F28M Old Crow 73.74 12 P **P** **22 29 02.0 +1.0**
baz=335,SNR=32
H24K Noodor Dome 73.80 15 P **P** **22 29 02.4 +0.9**
baz=328
MLY Manley 73.83 17 P **P** **22 29 02.1 +0.4**
MLY IAmb IAmb 22 29 03.3
comp=Z,30nm,1.0s
MLY Manley 73.83 17 P **P** **22 29 02.1 +0.4**
baz=326,SNR=30
H25L Birch Creek 73.85 15 P **P** **22 29 02.7 +1.0**
baz=330
M13K Dall Lake 73.85 25 P **P** **22 29 03.5 +1.8**
baz=317
C36M Paulatuk 73.98 5 P **P** **22 29 02.6 +0.2**
C36M Paulatuk 73.98 5 P **P** **22 29 02.4 +0.1**
baz=348,SNR=239
INK Inuvik 74.03 9 P **P** **22 29 03.3 +0.7**
INK Inuvik 74.03 9 P **P** **22 29 03.4 +0.7**
baz=340,SNR=114
INK Inuvik 74.03 9 P **P** **22 29 03.3 +0.7**
INK pmax pmax
comp=Z,132nm,1.3s
PSA00 Pilbara Seismi 74.04 133 P **P** **22 29 02.8 -0.6**
PSA00 IAmb IAmb 22 29 04.9
comp=Z,43nm,2.0s
PSA00 Pilbara Seismi 74.04 133 P **P** **22 29 02.4 -1.1**
PSA00 IAmb IAmb 22 30 16.8
comp=Z,94nm,1.9s
I23K Minto, Yukon-K 74.05 16 P **P** **22 29 03.5 +0.7**
baz=327,SNR=35
M14K Bethel 74.06 24 P **P** **22 29 04.3 +1.3**
baz=318,SNR=16
L16K Owhat River 74.13 22 P **P** **22 29 04.5 +1.2**
baz=320,SNR=22
L17K Donlin 74.15 22 P **P** **22 29 04.7 +1.2**
baz=321
G27K Doyon Strip 74.17 13 P **P** **22 29 04.8 +1.2**
baz=333
TTA Tatalina 74.19 20 P **P** **22 29 04.4 +0.6**
TTA IAmb IAmb 22 29 05.5
comp=Z,84nm,1.7s
TTA Tatalina 74.19 20 P **P** **22 29 04.3 +0.6**
baz=322,SNR=11
TTA Tatalina 74.19 20 P **P** **22 29 04.4 +0.6**
TTA pmax pmax
comp=Z,84nm,1.7s
F30M Barrier River 74.37 10 P **P** **22 29 05.6 +0.9**
baz=338
K20K Telida 74.37 19 P **P** **22 29 05.4 +0.6**
baz=324
CHUM Lake Minchumin 74.40 18 P **P** **22 29 05.3 +0.4**
baz=325,SNR=26
DBIC Dimbokro 74.44 267 P **P** **22 29 05.2 -0.7**
DBIC Dimbokro 74.44 267 P **P** **22 29 05.2 -0.7**
DBIC pmax pmax
comp=Z,16nm,0.9s
DBIC Dimbokro 74.44 267 P **P** **22 29 05.4 -0.5**
comp=Z,3.6nm,0.5s,baz=40,slow=6.1,SNR=16
DBIC pP **pP** **22 29 53.9 -1.0**
comp=Z,15nm,0.9s,baz=46,slow=8.2,SNR=7.2
comp=Z,3.6nm,0.5s
LBTB Lobatse 74.45 222 P **P** **22 29 06.6 +0.9**
LBTB IAmb IAmb 22 29 59.5
comp=Z,22nm,0.9s
LBTB Lobatse 74.45 222 *i* P **P** **22 29 06.7 +0.9**
LBTB Lobatse 74.45 222 P **P** **22 29 06.6 +0.9**
LBTB pmax pmax
comp=Z,23nm,1.0s
LBTB Lobatse 74.45 222 *i* P **P** **22 29 06.7 +0.9**
MDM Murphy Dome 74.47 16 P **P** **22 29 05.5 +0.2**
MDM IAmb IAmb 22 29 06.9
comp=Z,56nm,1.0s
POKR Poker Plat Res 74.51 16 P **P** **22 29 06.4 +0.8**
POKR Poker Plat Res 74.51 16 P **P** **22 29 06.3 +0.8**
baz=329,SNR=29
M15K Kasigluk River 74.52 24 P **P** **22 29 06.8 +1.2**
baz=319
KIC Kosan Boka 74.53 266 ⇑ *e*P **P** **22 29 06.0 -0.5**
comp=Z,11nm,0.5s
BPAW Bear Paw Mtn. 74.55 18 P **P** **22 29 05.4 -0.4**
BPAW IAmb IAmb 22 29 06.9
comp=Z,34nm,1.0s
BPAW Bear Paw Mtn. 74.55 18 P **P** **22 29 05.8 0.0**
baz=326,SNR=28
L18K Granite Mounta 74.56 21 P **P** **22 29 06.4 +0.6**
baz=322,SNR=16
PRP Porcupine Dome 74.57 15 P **P** **22 29 06.3 +0.3**
PRP Porcupine Dome 74.57 15 P **P** **22 29 06.7 +0.6**
baz=330,SNR=13
TIC Toumodi 74.59 267 ⇑ *i*P **P** **22 29 06.8 0.0**
comp=Z,6.9nm,0.5s
NEA2 Nenana 74.59 17 P **P** **22 29 05.7 -0.3**
NEA2 Nenana 74.59 17 P **P** **22 29 06.2 +0.2**
baz=328,SNR=59
COLA College 74.63 16 P **P** **22 29 06.8 +0.7**
COLA College 74.63 16 P **P** **22 29 06.1 0.0**
COLA College 74.63 16 P **P** **22 29 06.4 +0.2**
baz=329
COLA College 74.63 16 *c i*P **P** **22 29 06.2 +0.1**
DRS Darwin Rock St 74.63 118 P **P** **22 29 06.7 -0.2**
TSUM Tsumeb 74.67 232 P **P** **22 29 07.1 -0.1**
G29M Pine Creek 74.68 11 P **P** **22 29 07.2 +0.7**
baz=336,SNR=25
H27K Steamboat Moun 74.71 13 P **P** **22 29 07.6 +0.9**
baz=334
N14K Kuskokwak Cree 74.78 24 P **P** **22 29 08.1 +1.1**
baz=319
F31M Tsiigehtchic 74.81 10 P **P** **22 29 07.8 +0.7**
baz=340,SNR=39
M16K Timber Creek 74.82 23 P **P** **22 29 08.7 +1.3**
baz=320,SNR=7.2
LIC Lamto 74.84 267 ⇑ *e*P **P** **22 29 07.6 -0.6**
comp=Z,14nm,0.6s
CAST Castle Rocks 74.84 18 P **P** **22 29 08.0 +0.5**
baz=326,SNR=72
G30M tAoh Zraii Nji 74.89 11 P **P** **22 29 08.1 +0.4**
baz=338,SNR=69
WRH Wood River Hil 74.92 16 P **P** **22 29 07.2 -0.6**
WRH IAmb IAmb 22 29 08.6
comp=Z,18nm,0.9s
ILAR Eielson Array 74.93 16 P **P** **22 29 07.5 -0.5**
comp=Z,16nm,0.9s,baz=317,slow=4.5,SNR=112
ILAR pP **pP** **22 29 57.2 +0.2**
comp=Z,3.3nm,0.7s,baz=342,slow=4.0,SNR=4.0
ILAR PP **PP** **22 31 58.5 +0.8**
comp=Z,2.9nm,0.9s,baz=318,slow=7.1,SNR=4.1
comp=Z,16nm,0.9s
M17K Holitna River 74.98 22 P **P** **22 29 09.4 +1.1**
baz=322,SNR=16
FITZ Fitzroy Crossi 75.05 126 P **P** **22 29 09.4 +0.2**
L19K White Mountain 75.11 20 P **P** **22 29 09.7 +0.7**
baz=324
N15K Kwethluk River 75.11 24 P **P** **22 29 10.4 +1.3**
baz=320
L20K Farewell, AK 75.14 20 P **P** **22 29 09.8 +0.6**
baz=324
HDA Harding Lake 75.23 16 P **P** **22 29 08.8 -0.9**
baz=329,SNR=16
I26K Coal Creek Min 75.23 14 P **P** **22 29 10.1 +0.5**
baz=332
G31M Satah River 75.23 10 P **P** **22 29 10.0 +0.4**
baz=339,SNR=38
PPLA Purkeypile 75.25 19 P **P** **22 29 10.0 +0.1**
baz=326,SNR=9.4
I27K Kandik River 75.26 13 P **P** **22 29 10.6 +0.7**
baz=334
H29M Whitestone 75.26 12 P **P** **22 29 10.7 +0.8**
baz=336,SNR=42
TRF Thorofare Moun 75.26 18 P **P** **22 29 09.5 -0.6**
TRF Thorofare Moun 75.26 18 P **P** **22 29 09.5 -0.6**
baz=327
N16K Nishlik Lake 75.30 23 P **P** **22 29 11.6 +1.5**
baz=321
MCK McKinley 75.35 17 P **P** **22 29 10.2 -0.1**
baz=328,SNR=13
EPYK Eagle Plains 75.39 11 P **P** **22 29 10.3 -0.2**

baz=338,SNR=24
M18K Stony River 75.39 21 P P 22 29 11.0 +0.4
baz=323
J25K Salcha River, 75.39 15 P P 22 29 10.2 -0.5
baz=331
O14K Tigyukauivet M 75.42 25 P P 22 29 10.8 -0.1
baz=319
JAY Jayapura 75.55 104 P P 22 29 11.7 -0.6
I28M Miner Creek 75.70 13 P P 22 29 12.6 +0.1
baz=335,SNR=42
N17K Nushagak Hills 75.75 22 P P 22 29 13.9 +1.3
baz=322
SVW2 Sparrevohn 75.77 21 P P 22 29 14.2 +1.4
M20K Styx River 75.83 20 P P 22 29 13.2 0.0
baz=325
J26L Joseph Creek 75.86 15 P P 22 29 13.5 +0.1
baz=332
KDU Kakadu 75.93 118 P P 22 29 14.0 -0.3
O15K Ungalikthiuk R 75.96 24 P P 22 29 14.7 +0.8
baz=320
K24K Donnelly Dome 76.01 16 P P 22 29 13.9 -0.3
baz=330,SNR=16
N18K Kilae Creek 76.02 22 P P 22 29 15.0 +0.8
baz=323,SNR=5.2
EGAK Eagle 76.09 13 P P 22 29 14.4 -0.1
EGAK IAmb IAmb 22 29 16.1
comp=Z,32nm,1.1s
EGAK Eagle 76.09 13 P P 22 29 14.6 +0.1
baz=334,SNR=20
CUT Chulitna 76.15 18 P P 22 29 14.1 -0.8
baz=327
SKT Skwentna 76.18 19 P P 22 29 14.6 -0.5
SKT Skwentna 76.18 19 P P 22 29 14.6 -0.5
baz=326,SNR=27
O16K Kokwok River B 76.20 23 P P 22 29 16.5 +1.3
baz=321,SNR=13
WAT1 Susitna Watana 76.21 17 P P 22 29 14.5 -0.8
baz=328
SCRK Sand Creek 76.24 15 P P 22 29 15.9 +0.3
baz=332,SNR=36
RIDG Independent Ri 76.27 15 P P 22 29 15.2 -0.4
baz=331,SNR=21
H31M Peel River 76.27 10 P P 22 29 15.8 +0.3
baz=340
DHY Denali Highway 76.28 17 P P 22 29 15.1 -0.7
DHY IAmb IAmb 22 29 16.7
comp=Z,35nm,0.8s
DHY Denali Highway 76.28 17 P P 22 29 15.2 -0.7
baz=329,SNR=25
N19K Bonanza Creek 76.32 21 P P 22 29 16.6 +0.6
baz=324
O17K Koliganek Bris 76.37 23 P P 22 29 17.0 +0.8
baz=322,SNR=5.3
I30M Mount Dempster 76.51 11 P P 22 29 17.3 +0.3
baz=338,SNR=51
K27K Chicken 76.58 14 P P 22 29 18.1 +0.8
baz=333
WAT6 Susitna Watana 76.62 17 P P 22 29 17.2 -0.6
baz=329,SNR=16
N20K Mount Spurr 76.64 20 P P 22 29 17.6 -0.2
baz=326,SNR=6.9
P16K Nushagak River 76.67 24 P P 22 29 18.8 +1.0
baz=322,SNR=7.0
M22K Willow 76.74 19 P P 22 29 17.9 -0.3
baz=327
PAX Paxson 76.81 16 P P 22 29 18.8 +0.1
baz=331,SNR=31
SUA Susitna One 76.82 19 P P 22 29 18.4 -0.4
baz=327,SNR=14
O19K Port Alsworth 76.87 21 P P 22 29 19.4 +0.4
baz=324,SNR=6.1
O18K Koktuh Hills 76.88 22 P P 22 29 20.1 +1.1
baz=324,SNR=11
J29N Klondike Camp 76.91 12 P P 22 29 19.9 +0.7
baz=336,SNR=15
P17K Kvichak River 77.04 23 P P 22 29 21.0 +1.1
baz=323,SNR=18
DAWY Dawson 77.06 13 P P 22 29 20.0 0.0
DAWY IAmb IAmb 22 29 21.5
comp=Z,56nm,1.2s
DAWY Dawson 77.06 13 P P 22 29 20.4 +0.4
baz=336,SNR=34
J30M Hart River 77.12 12 P P 22 29 21.1 +0.6
baz=338,SNR=36
PMR Palmer 77.12 18 P P 22 29 20.3 -0.1
PMR Palmer 77.12 18 P P 22 29 20.2 -0.1
baz=328,SNR=9.7
SML Sawmill 77.14 18 P P 22 29 20.5 0.0
baz=329,SNR=38
MENT Mentasta 77.22 15 P P 22 29 21.6 +0.7
L26K Log Cabin Wild 77.22 15 P P 22 29 21.3 +0.4
baz=332,SNR=16
P18K Big Mountain, 77.25 22 P P 22 29 21.5 +0.3
baz=324,SNR=9.8
CAPN Captain Cook N 77.29 20 P P 22 29 21.5 +0.2
baz=327
M23K Glacier View 77.30 18 P P 22 29 21.4 0.0
baz=329,SNR=33
SCM Sheep Creek Mo 77.36 17 P P 22 29 21.7 -0.1
SCM IAmb IAmb 22 29 22.8
comp=Z,49nm,0.9s
SCM Sheep Creek Mo 77.36 17 P P 22 29 21.8 -0.1
baz=330,SNR=12
SCM Sheep Creek Mo 77.36 17 P P 22 29 21.7 -0.1
SCM pmax pmax
comp=Z,49nm,0.9s
HARP HAARP 77.38 16 P P 22 29 22.9 +1.1
baz=331,SNR=26
Q16K King Salmon 77.38 23 P P 22 29 22.8 +1.0
baz=323,SNR=13
RC01 Rabbit Creek A 77.40 19 P P 22 29 21.6 -0.3
baz=328,SNR=11
M24K Tolsona, Glenn 77.40 17 P P 22 29 22.8 +0.9
baz=330,SNR=24
KNK Knik Glacier 77.45 18 P P 22 29 22.1 -0.1
baz=329,SNR=15
O20K Slope Mountain 77.45 21 P P 22 29 21.8 -0.5
baz=326
UNV Unalaska Valle 77.46 31 P P 22 29 21.3 -1.0
UNV Unalaska Valle 77.46 31 P P 22 29 22.2 -0.1
baz=316
WIN Windhoek 77.46 230 P P 22 29 23.7 +0.7
WIN Windhoek 77.46 230 P P 22 29 23.7 +0.7
WIN pmax pmax
comp=Z,12nm,1.1s
L27K Beaver Creek, 77.50 15 P P 22 29 23.3 +0.8
baz=334
BCAR Beaver Creek A 77.51 15 P P 22 29 23.2 +0.6
BOSA Boshof 77.52 220 P P 22 29 23.6 +0.5
BOSA Boshof 77.52 220 *i* P P 22 29 23.9 +0.9
BOSA Boshof 77.52 220 P P 22 29 23.6 +0.5
BOSA pmax pmax
comp=Z,18nm,1.0s
BOSA Boshof 77.52 220 P P 22 29 23.1 0.0
comp=Z,6.9nm,0.4s,baz=23,slow=3.5,SNR=48
BOSA pP **pP** 22 30 11.9 -1.1
comp=Z,9.8nm,0.7s,baz=30,slow=5.9,SNR=5.0
comp=Z,6.9nm,0.4s
BOSA Boshof 77.52 220 *i* P P 22 29 23.4 +0.4
K29M Barlow Dome 77.60 12 P P 22 29 23.6 +0.5
baz=337
P19K Oil Pt 77.63 21 P P 22 29 23.8 +0.5
baz=325
S12K Black Hills 77.83 27 P P 22 29 24.5 +0.1
baz=319
MORW Morawa 77.85 140 P P 22 29 23.9 -0.8
MORW IAmb IAmb 22 29 25.2
comp=Z,111nm,2.0s
M26K Nabesna, AK 77.85 15 P P 22 29 25.2 +0.7
baz=333
O22K Cooper Landing 77.92 19 P P 22 29 24.2 -0.6
baz=328
Q17K Contact Creek 77.95 23 P P 22 29 24.5 -0.7
baz=323,SNR=5.9
KLU Klutina 78.00 17 P P 22 29 25.6 +0.3
baz=331,SNR=20
MAYO Mayo, Yukon 78.10 12 P P 22 29 26.2 +0.5
baz=338
M27K Edge Creek, AK 78.12 15 P P 22 29 27.0 +0.9
baz=334
L29M L29M 78.17 13 P P 22 29 27.0 +0.9
baz=337,SNR=34
N25K Chitina, Valde 78.20 16 P P 22 29 27.1 +0.7
baz=332,SNR=8.6
BRSE Bradley Lake S 78.26 20 P P 22 29 26.0 -0.7
baz=327
BVCY Beaver Creek 78.28 14 P P 22 29 27.9 +1.2
baz=334,SNR=26
SEW Seward 78.31 19 P P 22 29 27.8 +0.9
baz=328,SNR=5.7
GLB Gilahina Butte 78.53 16 P P 22 29 27.9 -0.3
GLB IAmb IAmb 22 29 29.7
comp=Z,23nm,1.2s
CHGN Chignik 78.68 25 P P 22 29 29.0 +0.1
baz=322
M29M Somme Creek 78.72 13 P P 22 29 30.3 +1.0
baz=336,SNR=21
Q20K Shuyak Island 78.74 21 P P 22 29 29.1 -0.2
baz=326
MCARA McCarthy VSAT 78.75 16 P P 22 29 29.9 +0.6
baz=333,SNR=6.6
BMRM Bremner River 78.77 17 P P 22 29 30.1 +0.6
baz=332,SNR=18
VRDI Verde Repeater 78.80 16 P P 22 29 30.1 +0.2
VRDI IAmb IAmb 22 29 31.3
comp=Z,38nm,1.1s
EYAK Cordova Ski Ar 78.86 17 P P 22 29 30.8 +0.9
EYAK Cordova Ski Ar 78.86 17 P P 22 29 30.6 +0.7
baz=331,SNR=11
M30M Minto, Yukon 78.90 13 P P 22 29 30.7 +0.5
baz=338,SNR=10
P23K Montague Islan 78.93 18 P P 22 29 30.8 +0.4
baz=330
YUK3 Moose Creek 78.94 15 P P 22 29 31.2 +0.5
baz=335,SNR=32
CRQE Cirque 79.30 16 P P 22 29 32.9 +0.4
baz=333
BARN Barnard Glacie 79.34 15 P P 22 29 32.9 +0.2
BARN IAmb IAmb 22 29 34.6
comp=Z,66nm,1.4s
KDAK Kodiak Island 79.37 22 P P 22 29 33.1 +0.4
KDAK Kodiak Island 79.37 22 P P 22 29 33.1 +0.4
baz=326
KDAK Kodiak Island 79.37 22 P P 22 29 33.1 +0.4
KDAK pmax pmax
comp=Z,68nm,0.9s
CHNA Chernabura Isl 79.41 27 P P 22 29 32.3 -0.6
baz=321
CTG Chitna Glacier 79.49 15 P P 22 29 34.5 +0.9
baz=334,SNR=17
OHAK Old Harbor 79.62 23 P P 22 29 34.2 +0.2
OHAK Old Harbor 79.62 23 P P 22 29 34.3 +0.3
baz=325,SNR=6.3
M31M Drury Creek, Y 79.65 12 P P 22 29 34.7 +0.5
baz=340,SNR=29
LOGN Logan Glacier 79.69 15 P P 22 29 35.1 +0.5
LOGN IAmb IAmb 22 29 36.3
comp=Z,25nm,0.8s
YUK4 Talbot Arm 79.69 14 P P 22 29 35.2 +0.5
baz=336,SNR=24
KAIM Kayak Island 79.73 17 P P 22 29 35.4 +0.8
baz=332
MMPY Sheldon Lake, 79.73 10 P P 22 29 35.8 +1.1
baz=342,SNR=14
FARO Faro, Yukon 79.79 11 P P 22 29 35.2 +0.2
baz=341,SNR=13
SII Sitkinak Islan 79.88 23 P P 22 29 35.8 +0.3
baz=325
N30M Aishikik Lake 79.88 13 P P 22 29 36.5 +1.0
baz=338,SNR=13
O28M Mount Upton 79.91 15 P P 22 29 36.4 +0.5
baz=335
WRGLY Wrigley 80.05 6 P P 22 29 37.4 +1.1
baz=348,SNR=7.6
MESA MESA 80.07 16 P P 22 29 37.7 +0.9
baz=334
YUK6 Outpost Mounta 80.12 14 P P 22 29 37.9 +0.9
baz=337,SNR=9.2
HYT Haines Junctio 80.39 14 P P 22 29 38.9 +0.6
HYT IAmb IAmb 22 29 40.3
comp=Z,28nm,0.8s
HYT Haines Junctio 80.39 14 P P 22 29 39.2 +0.8
baz=337,SNR=27
O29M Mount Kennedy 80.67 14 P P 22 29 39.9 +0.1
baz=336
O30N Mendenhall 80.70 13 P P 22 29 40.5 +0.7
baz=338,SNR=21
N32M Quiet Lake 80.86 11 P P 22 29 40.6 -0.1
baz=341
WHY Whitehorse 81.02 12 P P 22 29 41.5 -0.2
WHY IAmb IAmb 22 29 42.4
comp=Z,16nm,0.7s
WHY Whitehorse 81.02 12 P P 22 29 41.5 -0.2
baz=339,SNR=17
PNL Peninsula 81.08 15 P P 22 29 42.8 +0.9
baz=336
P30M Million Dollar 81.15 14 P P 22 29 43.1 +0.9
baz=338
TGTN Hyland Airport 81.19 9 P P 22 29 43.2 +0.7
baz=345,SNR=7.3
YKA Yellowknife Ar 81.34 2 P P 22 29 42.9 -0.2
YKA Yellowknife Ar 81.34 2 *i* P P 22 29 43.2 +0.1
YKA pmax pmax
comp=Z,17nm,0.7s
YKA Yellowknife Ar 81.34 2 P P 22 29 43.3 +0.2
comp=Z,16nm,0.7s,baz=349,slow=5.7,SNR=180
YKA pP **pP** 22 30 32.4 -0.4
comp=Z,10nm,0.8s,baz=349,slow=5.7,SNR=6.3
YKA PKKPbc **PKKPbc** 22 48 13.5 -2.9
comp=Z,0.3nm,0.6s,baz=178,slow=2.1,SNR=5.6
comp=Z,16nm,0.7s
P29M Windy Craggy 81.45 14 P P 22 29 44.0 +0.2
baz=337
NWAO Narrogin (SRO) 81.56 142 P P 22 29 43.8 -0.8
NWAO Narrogin (SRO) 81.56 142 P P 22 29 43.8 -0.8
NWAO pmax pmax
comp=Z,140nm,2.0s
P33M Teslin, Yukon 81.79 12 P P 22 29 45.8 +0.1
baz=341,SNR=61
PLBC Pleasant Camp 81.88 14 P P 22 29 46.9 +0.9
baz=338,SNR=32
SKAG Skagway 82.07 13 P P 22 29 48.0 +1.0
baz=339,SNR=10.0
SCHQ Schefferville 82.07 337 P P 22 29 46.9 -0.3
comp=Z,2.6nm,0.6s,baz=25,slow=4.4,SNR=8.0
SCHQ pP **pP** 22 30 34.8 -1.9
comp=Z,4.2nm,0.7s,baz=25,slow=4.3,SNR=2.6
comp=Z,2.6nm,0.6s
WB0 Warramunga Arr 82.08 122 P P 22 29 46.0 -1.7
WB0 IAmb IAmb 22 32 05.5
comp=Z,44nm,0.9s
WRA Warramunga Arr 82.16 122 P P 22 29 46.7 -1.4
WRA Warramunga Arr 82.16 122 *i* P P 22 29 46.7 -1.4
WRA pmax pmax
comp=Z,20nm,0.6s
WRA Warramunga Arr 82.16 122 P P 22 29 46.8 -1.2
comp=Z,20nm,0.7s,baz=323,slow=4.9,SNR=86
WRA pP **pP** 22 30 37.2 -1.3
comp=Z,6.0nm,0.7s,baz=326,slow=5.2,SNR=3.5
comp=Z,20nm,0.7s
P32M Atlin 82.23 12 P P 22 29 48.1 +0.2
baz=340,SNR=12
WTLY Watson Lake, Y 82.48 10 P P 22 29 49.6 +0.4
baz=344
SUR Sutherland 82.83 221 P P 22 29 52.1 +0.6
R33M Jennings River 82.86 11 P P 22 29 51.8 +0.5
baz=343,SNR=18
FLDN Fort Liard 82.99 7 P P 22 29 52.6 +0.9
baz=349
KOTAN Kotaneelee Air 83.04 7 P P 22 29 52.8 +0.8
Q32M Nakina River 83.07 12 P P 22 29 53.0 +0.5
baz=342
R32K Eaglecrest 83.33 13 P P 22 29 54.7 +1.2
baz=340
DLBC Dease Lake 83.92 11 P P 22 29 57.5 +0.8
baz=343,SNR=14
S32K Killisnoo 84.08 13 P P 22 29 58.0 +0.7
baz=340
TOAD Toad River Com 84.16 8 P P 22 29 58.3 +0.5
baz=347,SNR=13
S34M Telegraph Cree 84.25 12 P P 22 29 59.4 +1.1
baz=342,SNR=33
SIT Sitka 84.32 14 P P 22 29 59.4 +0.9
baz=339
FCC Fort Churchill 84.33 352 P P 22 29 58.7 +0.2
FCC Fort Churchill 84.33 352 P P 22 29 58.7 +0.2
FCC pmax pmax
comp=Z,17nm,0.9s
AS31 Alice Springs 84.42 125 P P 22 29 58.3 -1.2
ASAR Alice Springs 84.42 125 P P 22 29 58.4 -1.1
comp=Z,19nm,0.7s,baz=310,slow=5.0,SNR=75
ASAR pP **pP** 22 30 49.1 -1.2
comp=Z,5.5nm,0.7s,baz=310,slow=5.1,SNR=3.1
comp=Z,19nm,0.7s
COEN Coen 84.61 112 P P 22 29 59.2 -1.4
PMG Port Moresby 84.83 106 P P 22 30 01.3 -0.5
comp=Z,14nm,0.9s,baz=278,slow=7.5,SNR=3.0
comp=Z,14nm,0.9s
T35M Bob Quinn 85.29 11 P P 22 30 04.4 +1.0
baz=343,SNR=11
WRAK Wrangell Islan 85.47 13 P P 22 30 05.1 +0.9
WRAK IAmb IAmb 22 30 06.0
comp=Z,18nm,0.8s
WRAK Wrangell Islan 85.47 13 P P 22 30 05.2 +0.9
baz=342,SNR=8.0
U33K Whale Pass 85.62 13 P P 22 30 05.6 +0.6
baz=341
FORT Forrest 85.80 133 P P 22 30 05.5 -0.6
FORT IAmb IAmb 22 31 40.0
comp=Z,24nm,0.8s
CRAG Craig 86.23 13 P P 22 30 08.6 +0.6
baz=341
V35K Ketchikan 86.64 13 P P 22 30 10.3 +0.3
baz=342
FFC Flin Flon 89.00 356 P P 22 30 20.8 -0.5
FFC IAmb IAmb 22 31 13.9
comp=Z,17nm,1.1s
FFC Flin Flon 89.00 356 P P 22 30 20.8 -0.5
FFC pmax pmax
comp=Z,17nm,1.1s
EDM Edmonton 90.66 2 P P 22 30 28.8 -0.3
EDM Edmonton 90.66 2 P P 22 30 28.8 -0.3
EDM pmax pmax
comp=Z,87nm,1.4s
CTA Charters Tower 90.74 114 P P 22 30 28.9 -0.9
comp=Z,14nm,0.6s,baz=275,slow=0.8,SNR=22
comp=Z,14nm,0.6s
ULM Lac du Bonnet 92.89 351 P P 22 30 38.4 -1.0
comp=Z,3.5nm,0.8s,baz=37,slow=5.1,SNR=5.4
ULM pP **pP** 22 31 30.3 +0.4
comp=Z,4.0nm,0.7s,baz=26,slow=4.7,SNR=5.6
comp=Z,3.5nm,0.8s
AGMN Agassiz Nation 94.81 351 P P 22 30 48.0 -0.1
baz=11
STKA Stephens Creek 94.94 126⇑ *e*P P 22 30 49.2 +0.3
STKA Stephens Creek 94.94 126 P P 22 30 48.1 -0.8
comp=Z,1.9nm,0.4s,baz=354,slow=9.1,SNR=3.5
comp=Z,1.9nm,0.4s
DGMT Dagmar 95.36 357 P P 22 30 50.7 -0.1
baz=4.1
NEW Newport 95.41 5 P P 22 30 50.9 -0.1
baz=354
EGMT Eagleton 95.93 0 P P 22 30 53.6 +0.1
baz=360
PDAR Pinedale Array 101.19 0 P Pdif 22 31 17.2 -0.1
comp=Z,0.1nm,0.3s,baz=60,slow=5.3,SNR=2.0
PKM Mcpherson Peak 108.39 9 P PKiKP 22 35 55.0 +0.7
baz=351
GMRC Granite Mounta 108.92 6 P PKiKP 22 35 55.7 +0.5
baz=355
TPFO Pinon Flats 110.02 6 P PKiKP 22 35 58.2 +0.9
baz=354
ABTX Abilene, Hawle 110.72 351 P PKiKP 22 35 59.6 +1.1
baz=8.3
MONP2 Monument Peak 110.73 6 P PKiKP 22 35 59.5 +0.7
baz=354
TXAR Lajitas Array 114.38 355 PKP PKiKP 22 36 05.5 -0.2
comp=Z,0.2nm,0.6s,baz=98,slow=2.8,SNR=4.1
TXAR PKKPbc **PKKPbc** 22 46 44.8 -0.3
comp=Z,0.2nm,0.6s,baz=176,slow=6.6,SNR=5.4
TROLL Troll, Antarti 117.94 199 ⇑PKPdf **PKPdf** 22 36 10.9 -0.2
comp=Z,512nm,0.4s
SNAA Sanae 119.23 200 ⇓PKPdf **PKiKP** 22 36 14.4 +0.8
comp=Z,1246μm,0.1s
SNAA Sanae 119.23 200 PKP **PKPdf** 22 36 12.6 -0.9
comp=Z,1.8nm,0.7s,baz=156,slow=21,SNR=1.7
VNA2 Neumayer--Watz 120.23 202 ⇑PKPdf **PKPdf** 22 36 15.1 -0.2
comp=Z,1.2nm,0.6s,baz=14,slow=3.6
VNA3 Neumayer Olymp 121.04 202 ⇑PKPdf **PKPdf** 22 36 15.3 -1.6
comp=Z,5.4nm,0.3s
BDFB Brasilia 122.11 274 PKP **PKPdf** 22 36 20.4 -0.4
comp=Z,1.7nm,0.4s,baz=8.7,slow=3.6,SNR=4.2
QSPA South Pole Qui 126.21 180 PKP **PKPdf** 22 36 26.5 -0.6
comp=Z,3.0nm,0.7s,baz=234,slow=1.6,SNR=16
QSPA pPKP **pPKPdf** 22 37 19.7 -0.9
comp=Z,4.0nm,0.7s,baz=19,slow=0.4,SNR=4.5
CPUP Villa Florida 134.96 268 PKP **PKPdf** 22 36 43.9 -0.8
comp=Z,2.8nm,0.5s,baz=32,slow=1.5,SNR=7.2
CPUP pPKP **pPKPdf** 22 37 37.3 -1.3
comp=Z,3.1nm,0.9s,baz=358,slow=4.2,SNR=2.6
LPAZ La Paz 138.40 288 PKP **PKPdf** 22 36 51.6 -0.6
comp=Z,1.1nm,0.6s,baz=164,slow=0.8,SNR=5.4
AC02 Maricunga 144.69 274 **PKPab** 22 37 02.3 0.0
AC05 El Transito 146.44 272 **PKPdf** 22 37 06.1 +0.6
CO01 Juntas del Tor 146.73 270 **PKPdf** 22 37 06.9 +0.8
PLCA Paso Flores 149.56 250 PKPdf **PKPdf** 22 37 10.3 +0.2
PLCA Paso Flores 149.56 250 PKPbc **PKPbc** 22 37 14.7 -0.3
comp=Z,7.9nm,0.6s,baz=23,slow=2.0,SNR=21
PLCA pPKPbc **pPKPbc** 22 38 07.5 -0.8
comp=Z,7.7nm,0.8s,baz=104,slow=5.6,SNR=4.9
LL02 Futaleuf 150.62 245 **PKPbc** 22 37 16.6 -0.6
LR05 Currie 150.62 251 **PKPbc** 22 37 16.1 -1.2
AY01 Puyuhuapi 151.15 242 **PKPbc** 22 37 17.2 -1.2

VAO ***24*** *22:22:53.7±0.6,21˚.97S×68˚.42W,h10km,mb4.6*
SJA ***24*** *22:22:58.6±0.6,22˚.41S×68˚.54W,h148km±4km, ML4.3, MW4.2*
IDC ***24*** *22:22:59.7±0.6,22˚.39S×68˚.25W,h101km±7km,mb4.0/8, mbtmp4.3/12,Error ellipse: s-maj=19.4km s-min=15.5km az=116.0*
NEIC ***24*** *22:23:00.5±1.7,22˚.45S±0˚.05×68˚.43W±0˚.08,h116km±3km, mb4.5/21,Error ellipse: s-maj=10.9km s-min=7.5km az=85.0*
GUC ***24*** *22:23:02.2±0.7,22˚.44S×68˚.47W,h106km±3km,ML4.4*
ISC 24 22:23:00.2±0.6,22˚.42S±0˚.03×68˚.41W±0˚.04,h119km±5km, n134,σ1ş73/164,mb4.4/12,12C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
LVC	**Limon Verde**	**0.50**	**248**	Pn	**Pn**	**22**	**23**	**18.3**	**-0.2**
LVC				Sn	**Sn**	**22**	**23**	**31.0**	**-1.2**
LVC	**Limon Verde**	**0.50**	**248**	*e*P	**Pn**	**22**	**23**	**18.2**	**-0.2**
LVC				*e*S	**Sn**	**22**	**23**	**32.0**	**-0.2**
LVC				IAML		22	23	32.8	
comp=Z,7μm,0.2s									
LVC	**Limon Verde**	**0.50**	**248**	LR	LR	22	23	08.1	
comp=Z,63nm,18.4s,baz=329,slow=13									
LVC				P	**Pn**	**22**	**23**	**18.3**	**-0.2**
comp=Z,4μm,0.5s,baz=116,slow=3.9,SNR=9698									
LVC				S	**Sn**	**22**	**23**	**31.4**	**-0.8**
comp=Z,6μm,0.3s,baz=260,slow=20,SNR=33									
LVC	**Limon Verde**	**0.50**	**248**	*e*P	**Pn**	**22**	**23**	**18.0**	**-0.4**
LVC				*e*S	**Sn**	**22**	**23**	**31.2**	**-1.0**
AF01	**San Pedro de A**	**0.57**	**158**		**Pn**	**22**	**23**	**19.4**	**+0.6**
AF01				Sn	**Sn**	**22**	**23**	**33.1**	**+0.2**
AF01	**San Pedro de A**	**0.57**	**158**	⇓*e*P	**Pn**	**22**	**23**	**19.4**	**+0.6**
AF01				*e*S	**Sn**	**22**	**23**	**32.7**	**-0.3**
AF01				IAML		22	23	34.5	
comp=E,16μm,0.2s									
PB09	**IPOC Station P**	**0.99**	**309**		**Pn**	**22**	**23**	**22.7**	**+0.5**
PB09	**IPOC Station P**	**0.99**	**309**	*e*P	**Pn**	**22**	**23**	**22.8**	**+0.5**
PB09				IAML		22	23	43.1	
comp=Z,3μm,1.0s									
PB09	**IPOC Station P**	**0.99**	**309**	⇑*e*P	**Pn**	**22**	**23**	**22.6**	**+0.5**
PB09				*e*S	**Sn**	**22**	**23**	**38.9**	**0.0**
PB09				IAML		22	23	41.0	
comp=E,7μm,0.6s									
PB06	**IPOC Station P**	**1.11**	**255**		**Pn**	**22**	**23**	**23.4**	**+0.1**
PB06	**IPOC Station P**	**1.11**	**255**	*e*P	**Pn**	**22**	**23**	**23.4**	**+0.1**
PB06				*e*S	**Sn**	**22**	**23**	**42.8**	**+1.8**
PB06				IAML		22	23	43.5	
comp=Z,7μm,0.5s									
PB06	**IPOC Station P**	**1.11**	**255**	⇑*e*P	**Pn**	**22**	**23**	**23.5**	**+0.1**
PB06				*e*S	**Sn**	**22**	**23**	**39.4**	**-1.6**
PB06				IAML		22	23	43.1	
comp=N,12μm,0.2s									
PB15	**IPOC Station P**	**1.25**	**231**		**Pn**	**22**	**23**	**25.4**	**+0.4**
PB15	**IPOC Station P**	**1.25**	**231**	*e*P	**Pn**	**22**	**23**	**25.5**	**+0.6**
PB15				*e*S	**Sn**	**22**	**23**	**45.8**	**+2.1**
PB15	**IPOC Station P**	**1.25**	**231**	⇑*e*P	**Pn**	**22**	**23**	**25.6**	**+0.6**
PB15				*e*S	**Sn**	**22**	**23**	**44.0**	**+0.2**
PB07	**IPOC Station P**	**1.53**	**297**		**Pn**	**22**	**23**	**28.1**	**0.0**
PB07	**IPOC Station P**	**1.53**	**297**	*e*P	**Pn**	**22**	**23**	**28.3**	**+0.2**
PB07				*e*S	**Sn**	**22**	**23**	**49.7**	**+0.3**
PB07				IAML		22	23	51.5	
comp=Z,4μm,0.2s									
PB07	**IPOC Station P**	**1.53**	**297**	⇑*e*P	**Pn**	**22**	**23**	**28.3**	**+0.2**
PB07				*e*S	**Sn**	**22**	**23**	**48.5**	**-0.9**

PB07				IAML			22 23 50.4	
	comp=N,8μm,0.2s							
PB04	**IPOC Station P**	**1.61**	**273**	Pn		**Pn**	**22 23 28.8**	**-0.2**
PB04	**IPOC Station P**	**1.61**	**273**	*e*P		**Pn**	**22 23 28.9**	**-0.2**
PB04				*e*S		**Sn**	**22 23 51.2**	**+0.2**
PB04				IAML			22 23 52.5	
	comp=Z,3μm,0.2s							
PB04	**IPOC Station P**	**1.61**	**273**⇑	*e*P		**Pn**	**22 23 28.8**	**-0.2**
PB04				*e*S		**Sn**	**22 23 49.0**	**-2.0**
PB04				IAML			22 23 56.1	
	comp=N,6μm,0.4s							
PB01	**IPOC Station P**	**1.70**	**324**			**Pn**	**22 23 30.2**	**+0.2**
PB01	**IPOC Station P**	**1.70**	**324**	*e*P		**Pn**	**22 23 30.0**	**-0.1**
PB01				*e*S		**Sn**	**22 23 53.4**	**+0.6**
PB01				IAML			22 23 57.8	
	comp=Z,1μm,0.2s							
PB01	**IPOC Station P**	**1.70**	**324**	*e*P		**Pn**	**22 23 30.1**	**+0.1**
PB01				*e*S		**Sn**	**22 23 52.5**	**-0.3**
PB05	**IPOC Station P**	**1.71**	**255**			**Pn**	**22 23 29.9**	**-0.2**
PB05	**IPOC Station P**	**1.71**	**255**	*e*P		**Pn**	**22 23 29.9**	**-0.2**
PB05				*e*S		**Sn**	**22 23 53.0**	**0.0**
PB05				IAML			22 23 57.1	
	comp=Z,2μm,0.4s							
PB05	**IPOC Station P**	**1.71**	**255**⇑	*e*P		**Pn**	**22 23 29.9**	**-0.2**
PB05				*e*S		**Sn**	**22 23 51.8**	**-1.2**
PB02	**IPOC Station P**	**1.76**	**308**			**Pn**	**22 23 31.0**	**+0.2**
PB02	**IPOC Station P**	**1.76**	**308**	*e*P		**Pn**	**22 23 31.0**	**+0.2**
PB02				*e*S		**Sn**	**22 23 54.0**	**-0.1**
PB02				IAML			22 23 55.3	
	comp=Z,6μm,0.2s							
PB02	**IPOC Station P**	**1.76**	**308**⇑	*e*P		**Pn**	**22 23 31.0**	**+0.2**
PB02				*e*S		**Sn**	**22 23 53.5**	**-0.7**
PB02				IAML			22 23 57.7	
	comp=E,6μm,0.3s							
PB02				IAML			22 23 58.8	
	comp=N,6μm,0.4s							
PB10	**IPOC Station P**	**2.25**	**241**			**Pn**	**22 23 35.7**	**-1.1**
PB08	**IPOC Station P**	**2.37**	**343**			**Pn**	**22 23 40.1**	**+1.4**
PB08	**IPOC Station P**	**2.37**	**343**	*e*P		**Pn**	**22 23 40.3**	**+1.6**
PB08				*e*S		**Sn**	**22 24 10.6**	**+2.4**
PB08				IAML			22 24 14.0	
	comp=Z,418nm,0.3s							
PB08	**IPOC Station P**	**2.37**	**343**⇑	*e*P		**Pn**	**22 23 40.1**	**+1.4**
PB08				*e*S		**Sn**	**22 24 09.4**	**+1.2**
TA01	**Diego Aracena**	**2.48**	**318**	Pn		**Pn**	**22 23 39.6**	**-0.1**
TA01	**Diego Aracena**	**2.48**	**318**	*e*P		**Pn**	**22 23 39.9**	**+0.2**
TA01				*e*S		**Sn**	**22 24 07.5**	**-2.4**
TA01				IAML			22 24 16.5	
	comp=Z,741nm,0.5s							
TA02	**Huaiquique**	**2.68**	**323**			**Pn**	**22 23 41.8**	**-0.4**
YJA	**Yavi**	**2.69**	**85**	*e*P		**Pn**	**22 23 45.6**	**+2.7**
GO01	**Chusmiza**	**2.84**	**345**			**Pn**	**22 23 45.3**	**+0.5**
GO01	**Chusmiza**	**2.84**	**345**	*e*P		**Pn**	**22 23 46.3**	**+1.5**
GO01				*e*S		**Sn**	**22 24 18.9**	**-0.2**
PB14	**IPOC Station P**	**2.85**	**219**	Pn		**Pn**	**22 23 44.5**	**-0.3**
PB11	**IPOC Station P**	**2.89**	**336**			**Pn**	**22 23 45.1**	**-0.2**
PB11	**IPOC Station P**	**2.89**	**336**	*e*P		**Pn**	**22 23 45.0**	**-0.2**
PB11				*e*S		**Sn**	**22 24 17.6**	**-2.3**
PB11				IAML			22 24 54.0	
	comp=Z,438nm,0.5s							
PB11	**IPOC Station P**	**2.89**	**336**	*e*P		**Pn**	**22 23 45.0**	**-0.2**
PB11				*e*S		**Sn**	**22 24 17.9**	**-1.9**
PB11				IAML			22 24 28.3	
	comp=N,674nm,0.2s							
GO02	**Mina Guanaco**	**2.93**	**201**	Pn		**Pn**	**22 23 46.1**	**+0.2**
GO02	**Mina Guanaco**	**2.93**	**201**	*e*P		**Pn**	**22 23 46.1**	**+0.2**
GO02				*e*S		**Sn**	**22 24 23.0**	**+2.0**
SLA	**San Lorenzo**	**3.51**	**131**	*e*P		**Pn**	**22 23 56.8**	**+3.4**
PB12	**IPOC Station P**	**4.19**	**334**	Pn		**Pn**	**22 24 01.3**	**-1.1**
PB12	**IPOC Station P**	**4.19**	**334**	*e*P		**Pn**	**22 24 01.3**	**-1.1**
PB12				*e*S		Sn	22 25 02.7	+12
PB12				IAML			22 25 21.3	
	comp=Z,165nm,0.4s							
PB16	**IPOC Station P**	**4.20**	**346**	Pn		**Pn**	**22 24 03.4**	**+0.5**
PB16	**IPOC Station P**	**4.20**	**346**	*e*P		**Pn**	**22 24 04.1**	**+1.3**
PB16				*e*S		Sn	22 24 39.8	-12
AC01	**Pan de Azucar**	**4.21**	**208**	Pn		**Pn**	**22 24 00.8**	**-1.7**
AC01	**Pan de Azucar**	**4.21**	**208**	*e*P		**Pn**	**22 24 00.2**	**-2.3**
AC01	**Pan de Azucar**	**4.21**	**208**	*e*P		**Pn**	**22 24 00.8**	**-1.7**
AC01				*e*S		**Sn**	**22 24 47.1**	**-3.8**
AC02	**Maricunga**	**4.44**	**188**	Pn		**Pn**	**22 24 06.2**	**+0.1**
AC02	**Maricunga**	**4.44**	**188**	*e*P		**Pn**	**22 24 05.9**	**-0.2**
AC02				IAML			22 25 35.4	
	comp=Z,205nm,0.7s							
AC02	**Maricunga**	**4.44**	**188**⇑	*e*P		**Pn**	**22 24 06.5**	**+0.5**
AC02				*e*S		**Sn**	**22 24 49.1**	**-8.1**
AC06	**Mina Casimiro**	**5.22**	**199**			**Pn**	**22 24 13.8**	**-2.3**
GO03	**Copiap**	**5.41**	**197**	Pn		**Pn**	**22 24 16.3**	**-2.3**
LPAZ	**La Paz**	**6.11**	**3**	P		**Pn**	**22 24 29.4**	**+0.7**
	comp=Z,12nm,0.5s,baz=160,slow=6.6,SNR=58							
LPAZ				S		Sn	22 25 27.2	-10
	comp=Z,5.6nm,0.6s,baz=147,slow=6.2,SNR=4.0							
AC04	**Llanos de Chal**	**6.24**	**202**	Pn		**Pn**	**22 24 26.0**	**-3.8**
AC05	**El Transito**	**6.60**	**194**			**Pn**	**22 24 32.3**	**-2.6**
LCO	**Las Campanas**	**6.88**	**197**			**Pn**	**22 24 35.2**	**-3.5**
CO01	**Juntas del Tor**	**7.67**	**191**	Pn		**Pn**	**22 24 47.5**	**-2.0**
SIV	**San Ignacio**	**9.43**	**49**	P		**Pn**	**22 25 10.3**	**-2.8**
	comp=Z,26nm,0.4s,baz=242,slow=8.9,SNR=95							
SIV				S		**Sn**	**22 26 48.9**	**-8.5**
	comp=Z,6.6nm,0.7s,baz=288,slow=20,SNR=2.0							
CPUP	**Villa Florida**	**10.82**	**113**	Pn		**Pn**	**22 25 30.1**	**-1.7**
CPUP	**Villa Florida**	**10.82**	**113**	P		**Pn**	**22 25 30.2**	**-1.5**
	comp=Z,2.1nm,0.7s,baz=286,slow=9.6,SNR=4.2							
CPUP	**Villa Florida**	**10.82**	**113**	*e*P		**Pn**	**22 25 30.9**	**-0.8**
BDQN	**Bodoquena, MS**	**11.04**	**82**	*e*P		**Pn**	**22 25 31.9**	**-2.8**
PTLB	**Pontes e Lacer**	**11.18**	**53**			**Pn**	**22 25 34.4**	**-2.2**
ANTJ	**Antonio Joao (**	**11.50**	**90**	*e*P		**Pn**	**22 25 39.3**	**-1.6**
MT09	**Talagante**	**11.54**	**191**	Pn		**Pn**	**22 25 40.6**	**-0.7**
AQDB	**Aquidauana**	**11.99**	**83**			**Pn**	**22 25 47.4**	**+0.1**
AQDB	**Aquidauana**	**11.99**	**83**	*e*P		**Pn**	**22 25 44.2**	**-3.1**
VILB	**Vilhena**	**12.24**	**41**			**Pn**	**22 25 49.9**	**-0.8**
AMBA	**Amambai (Brazi**	**12.40**	**95**	*e*P		**Pn**	**22 25 51.4**	**-1.3**
ETMB	**Extrema**	**12.71**	**10**	Pn		**Pn**	**22 25 53.8**	**-3.0**
ETMB	**Extrema**	**12.71**	**10**	*e*P		Pn	22 25 49.1	-7.6
SALV	**Santo Antonio**	**13.65**	**64**	*e*P		**Pn**	**22 26 05.4**	**-3.5**
UNIS	**Unistalda (Bra**	**13.71**	**122**	*e*P		**Pn**	**22 26 11.4**	**+1.8**
RODS	**Rosario do Sul**	**14.22**	**126**	*e*P		**P**	**22 26 19.6**	**-0.2**
SAML	**Samuel**	**14.31**	**21**			**Pn**	**22 26 16.2**	**-1.2**
VA04	**Juan Fernndez**	**14.46**	**217**	Pn		**Pn**	**22 26 16.1**	**-3.1**
TRCB	**Terra Rica**	**14.58**	**94**	P		**P**	**22 26 23.4**	**-0.6**
PTGB	**Pitanga**	**15.16**	**102**	*e*P		**P**	**22 26 30.5**	**+0.1**
ALGR	**Alto Alegre (B**	**15.25**	**118**	*e*P		**P**	**22 26 32.2**	**+0.7**
CPSB	**Cacapava Do Su**	**15.58**	**124**	*e*P		**P**	**22 26 36.0**	**+1.0**
PCMB	**Pacaembu**	**15.93**	**90**	*e*P		**P**	**22 26 39.0**	**+0.1**
LDASE	**Londrina, Braz**	**15.96**	**97**	*e*P		**P**	**22 26 39.8**	**+0.5**
PLTB	**Pedras Altas**	**16.12**	**128**	Pn		**Pn**	**22 26 39.5**	**-0.5**
PLTB				IAmb		IAmb	22 26 58.0	
	comp=Z,15nm,1.2s							
ARAG	**Araguaiana, MT**	**17.05**	**70**	*e*P		**P**	**22 26 50.1**	**-1.1**
ITRB	**Iturama**	**17.07**	**84**	*e*P		**Pn**	**22 26 52.0**	**+0.4**
GO06	**Curarrehue**	**17.30**	**188**	P		**P**	**22 26 53.6**	**-0.4**
FRTB	**Fartura**	**17.39**	**97**	*e*P		**Pn**	**22 26 55.8**	**+0.2**
PLCA	**Paso Flores**	**18.34**	**185**	P		**P**	**22 27 05.7**	**+0.3**
PLCA	**Paso Flores**	**18.34**	**185**	P		**Pn**	**22 27 06.9**	**0.0**
	comp=Z,1.7nm,0.6s,baz=344,slow=14,SNR=5.4							
PLCA	**Paso Flores**	**18.34**	**185**	*e*P		**Pn**	**22 27 13.3**	**+6.5**
TEFE	**Tefe**	**19.16**	**12**	*e*P		**P**	**22 27 13.2**	**-1.2**
SPB	**Sao Paulo**	**19.35**	**98**	P		**P**	**22 27 16.5**	**+0.1**
SPB				IAmb		IAmb	22 27 17.3	
	comp=Z,13nm,0.9s							
SNDB	**Serra Nova Dou**	**19.35**	**60**	*e*P		**P**	**22 27 15.6**	**-0.9**
NPGB	**Novo Progresso**	**19.80**	**41**	*e*P		**P**	**22 27 19.7**	**-1.7**
LL01	**San Ignacio de**	**20.18**	**189**	P		**P**	**22 27 25.4**	**+0.3**
LL01				IAmb		IAmb	22 27 27.2	
	comp=Z,27nm,1.4s							
LL06	**Loncomilla**	**20.21**	**191**	P		**P**	**22 27 25.7**	**+0.1**
BDFB	**Brasilia**	**20.42**	**74**	P		**P**	**22 27 27.2**	**-1.0**
BDFB	**Brasilia**	**20.42**	**74**	P		**P**	**22 27 26.9**	**-1.2**
	comp=Z,3.7nm,0.4s,baz=220,slow=7.7,SNR=11							
	comp=Z,3.7nm,0.4s							
MACA	**Manacapuru-AM**	**20.56**	**22**	P		**P**	**22 27 27.7**	**-1.8**
MACA	**Manacapuru-AM**	**20.56**	**22**	*e*P		**P**	**22 27 28.3**	**-1.3**
MCRA	**Macar, Loja**	**21.14**	**326**	P		**P**	**22 27 36.9**	**+1.1**
ITTB	**Itaituba**	**21.75**	**36**	*e*P		**P**	**22 27 40.6**	**-1.6**
AY01	**Puyuhuapi**	**22.22**	**188**	P		**P**	**22 27 46.3**	**-0.5**
AY01				IAmb		IAmb	22 28 12.7	
	comp=Z,14nm,1.4s							
BOAV	**Boa Vista**	**25.84**	**18**	P		**P**	**22 28 21.5**	**+0.8**
BOAV				IAmb		IAmb	22 28 22.6	
	comp=Z,20nm,0.7s							
MCPB	**Macapa, AP**	**27.10**	**38**	*e*P		**P**	**22 28 34.7**	**+2.7**
RCBR	**Riachuelo**	**35.45**	**67**	P		**P**	**22 29 44.9**	**-0.5**

FDF	**Fort de France**	**37.61**	**12**	P		**P**	**22 30 05.2**	**+1.7**
SNAA	**Sanae**	**61.26**	**161**	P		**P**	**22 33 03.6**	**+1.2**
SNAA				IAmb		IAmb	22 33 11.2	
	comp=Z,5.9nm,1.2s							
SNAA	**Sanae**	**61.26**	**161**	⇑P		**P**	**22 33 04.0**	**+1.6**
	comp=Z,100nm,0.7s							
SNAA	**Sanae**	**61.26**	**161**	P		**P**	**22 33 03.4**	**+1.0**
	comp=Z,4.7nm,0.9s,baz=254,slow=9.8,SNR=7.3							
	comp=Z,4.7nm,0.9s							
TXAR	**Lajitas Array**	**61.65**	**325**	P		**P**	**22 33 05.2**	**-0.4**
TXAR	**Lajitas Array**	**61.65**	**325**	P		**P**	**22 33 07.0**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=156,slow=9.0,SNR=5.4							
	comp=Z,0.3nm,0.6s							
TX31	**Lajitas Ar. Si**	**61.65**	**325**	P		**P**	**22 33 04.9**	**-0.7**
TROLL	**Troll, Antarti**	**62.98**	**161**	⇑P		**P**	**22 33 15.1**	**+1.2**
	comp=Z,222nm,0.6s							
SN05	**Snyder 5**	**63.13**	**330**	P		**P**	**22 33 16.1**	**+0.8**
SN05				IAmb		IAmb	22 33 17.0	
	comp=Z,6.7nm,0.5s							
VHRN	**Van Horn**	**63.49**	**325**	P		**P**	**22 33 18.5**	**+0.6**
VHRN				IAmb		IAmb	22 33 20.3	
	comp=Z,4.1nm,0.8s							
QSPA	**South Pole Qui**	**67.77**	**180**	P		**P**	**22 33 46.6**	**+1.7**
QSPA				IAmb		IAmb	22 33 57.7	
	comp=Z,6.8nm,1.4s							
QSPA	**South Pole Qui**	**67.77**	**180**	P		**P**	**22 33 47.2**	**+2.3**
	comp=Z,2.7nm,0.5s,baz=70,slow=1.8,SNR=48							
	comp=Z,2.7nm,0.5s							
DBIC	**Dimbokro**	**68.56**	**73**	P		**P**	**22 33 50.6**	**+0.2**
DBIC				IAmb		IAmb	22 33 51.9	
	comp=Z,8.5nm,1.0s							
DBIC	**Dimbokro**	**68.56**	**73**	P		**P**	**22 33 51.3**	**+0.8**
	comp=Z,4.1nm,0.8s,baz=230,slow=9.6,SNR=4.2							
	comp=Z,4.1nm,0.8s							
TOA0	**Torodi Ar. Sit**	**77.23**	**70**	P		**P**	**22 34 42.1**	**+0.4**
TOA0				IAmb		IAmb	22 34 45.7	
	comp=Z,6.1nm,0.6s							
TORD	**Torodi Ar. Bea**	**77.23**	**70**	P		**P**	**22 34 42.3**	**+0.6**
	comp=Z,3.7nm,0.5s,baz=261,slow=5.6,SNR=24							
	comp=Z,3.7nm,0.5s							
BOSA	**Boshof**	**82.61**	**118**	P		**P**	**22 35 11.6**	**+1.0**
	comp=Z,2.4nm,1.0s,baz=185,slow=22,SNR=2.0							
	comp=Z,2.4nm,1.0s							
YKA	**Yellowknife Ar**	**92.21**	**340**	P		**P**	**22 35 57.5**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=134,slow=4.3,SNR=8.8							
	comp=Z,1.0nm,0.7s							
KURBB	**Kurchatov Arra**	**141.84**	**34**	PKP		**PKiKP**	**22 42 18.9**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=251,slow=2.8,SNR=2.4							
ZALV	**Zalesovo Beam**	**142.58**	**26**	PKP		**PKiKP**	**22 42 19.5**	**-2.4**
	comp=Z,0.6nm,0.5s,baz=280,slow=2.4,SNR=2.3							
MKAR	**Makanchi Array**	**146.10**	**37**	PKPbc		**PKPab**	**22 42 27.2**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=305,slow=2.9,SNR=15							

*IDC **24** 22:23:34.2±1.0, 6°.15S×142°.70E, h0km, mb4.0/7, mbtmp4.0/9, ML2.1/1, Error ellipse: s-maj=34.2km s-min=20.3km az=80.0*
ISC 24 22:23:39.0±0.8, 6°.3S±0°.1×142°.6E±0°.1, h35km, n10, σ1§03/11, mb4.0/7, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.51**	**125**	Pn		**Pn**	**22 24 58.9**	**+0.3**
	3.5nm,0.3s,baz=340,slow=8.8,SNR=4.2							
PMG				Sn		**Sn**	**22 26 00.5**	**-0.3**
	baz=351,slow=10							
	11nm,0.4s							
WRA	**Warramunga Arr**	**15.77**	**210**	Pn		**Pn**	**22 27 16.4**	**-2.2**
	0.6nm,0.3s,baz=26,slow=13,SNR=20							
WRA				Lg		Lg	22 32 01.3	
	0.3nm,0.3s,baz=36,slow=29,SNR=5.1							
ASAR	**Alice Springs**	**19.20**	**205**	P		**Pn**	**22 28 01.9**	**+0.8**
	5.0nm,0.6s,baz=33,slow=9.9,SNR=85							
ASAR				Lg		Lg	22 33 49.0	
	0.1nm,0.3s,baz=31,slow=32,SNR=2.2							
KSRS	**Korea Array**	**45.60**	**344**	P		**P**	**22 31 56.0**	**+0.2**
	0.9nm,0.7s,baz=130,slow=8.8,SNR=4.8							
	0.9nm,0.7s							
USRK	**Ussuriysk Ar.**	**51.14**	**350**	P		**P**	**22 32 38.0**	**-0.5**
	1.0nm,0.7s,baz=160,slow=7.7,SNR=4.5							
	1.0nm,0.7s							
PETK	**Petropavlovsk-**	**60.53**	**10**	P		**P**	**22 33 45.0**	**-0.6**
	1.6nm,0.8s,baz=163,slow=5.4,SNR=3.1							
	1.6nm,0.8s							
MKAR	**Makanchi Array**	**74.95**	**322**	P		**P**	**22 35 17.4**	**+0.8**
	0.7nm,0.8s,baz=103,slow=6.2,SNR=3.1							
	0.7nm,0.8s							
QSPA	**South Pole Qui**	**83.69**	**180**	P		**P**	**22 36 05.0**	**+0.9**
	1.1nm,0.8s,baz=318,slow=2.0,SNR=2.2							
	1.1nm,0.8s							
BVAR	**Borovoye Array**	**84.42**	**325**	P		**P**	**22 36 08.4**	**+0.5**
	2.3nm,0.7s,baz=120,slow=10,SNR=6.8							
	2.3nm,0.7s							
ILAR	**Eielson Array**	**87.49**	**24**	P		**P**	**22 36 22.1**	**-0.8**
	0.8nm,0.8s,baz=253,slow=5.4,SNR=5.3							
	0.8nm,0.8s							

*IDC **24** 22:32:59.9±0.8, 5°.95S×143°.03E, h0km, mb4.2/10, mbtmp4.2/12, ML1.9/1, MS3.8/3, Error ellipse: s-maj=31.1km s-min=16.6km az=76.0*
ISC 24 22:33:04.9±0.7, 6°.22S±0°.08×142°.76E±0°.10, h35km, n16, σ1§95/16, mb4.2/10, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.39**	**126**	Pn		**Pn**	**22 34 21.9**	**-1.0**
	2.6nm,0.3s,baz=61,slow=6.1,SNR=8.2							
PMG				Sn		**Sn**	**22 35 23.8**	**+0.1**
	2.2nm,0.3s,baz=223,slow=17,SNR=2.0							
	18nm,0.6s							
WRA	**Warramunga Arr**	**15.90**	**210**	Pn		**Pn**	**22 36 46.4**	**+0.1**
	0.4nm,0.3s,baz=21,slow=13,SNR=12							
WRA				Sn		**Sn**	**22 39 37.2**	**-4.4**
	0.1nm,0.3s,baz=24,slow=25,SNR=2.0							
WRA				Lg		Lg	22 41 30.0	
	0.1nm,0.3s,baz=41,slow=29,SNR=2.8							
BATI	**Baumata**	**19.30**	**257**	LR		LR	22 47 13.6	
	comp=Z,450nm,20.4s,baz=61,slow=44							
ASAR	**Alice Springs**	**19.32**	**205**	P		**Pn**	**22 37 31.4**	**+2.8**
	16nm,0.9s,baz=32,slow=10,SNR=43							
ASAR				S		**S**	**22 41 03.2**	**-1.1**
	1.3nm,0.7s,baz=16,slow=28,SNR=4.6							
ASAR				Lg		Lg	22 43 23.4	
	baz=202,slow=42							
STKA	**Stephens Creek**	**25.55**	**182**	P		**P**	**22 38 33.5**	**+2.9**
	2.3nm,0.8s,baz=343,slow=13,SNR=2.1							
	2.3nm,0.8s							
KSRS	**Korea Array**	**45.60**	**343**	P		**P**	**22 41 21.4**	**-0.4**
	1.8nm,0.8s,baz=162,slow=9.3,SNR=8.7							
	1.8nm,0.8s							
CMAR	**Chiang Mai Arr**	**49.68**	**300**	P		**P**	**22 41 54.3**	**+0.5**
	2.3nm,0.3s,baz=119,slow=5.6,SNR=8.1							
	2.3nm,0.3s							
USRK	**Ussuriysk Ar.**	**51.12**	**350**	P		**P**	**22 42 02.7**	**-1.5**
	2.7nm,0.8s,baz=179,slow=9.2,SNR=9.3							
	2.7nm,0.8s							
MKAR	**Makanchi Array**	**75.02**	**322**	P		**P**	**22 44 43.5**	**+0.5**
	1.3nm,0.9s,baz=108,slow=6.9,SNR=6.9							
	1.3nm,0.9s							
KURBB	**Kurchatov Arra**	**78.91**	**324**	P		**P**	**22 45 04.9**	**+0.1**
	1.0nm,0.9s,baz=114,slow=5.0,SNR=9.5							
	1.0nm,0.9s							
KDAK	**Kodiak Island**	**82.12**	**29**	LR		LR	23 17 59.8	
	comp=Z,58nm,19.9s,baz=241,slow=33							
QSPA	**South Pole Qui**	**83.75**	**180**	P		**P**	**22 45 31.9**	**+1.6**
	1.4nm,0.7s,baz=307,slow=1.5,SNR=8.8							
	1.4nm,0.7s							
NRIK	**Noril'sk**	**84.22**	**343**	P		**P**	**22 45 33.3**	**+0.9**
	1.7nm,0.6s,baz=148,slow=5.7,SNR=3.9							
	1.7nm,0.6s							
BVAR	**Borovoye Array**	**84.48**	**325**	P		**P**	**22 45 33.5**	**-0.6**
	3.9nm,0.8s,baz=106,slow=5.4,SNR=18							
	3.9nm,0.8s							
ILAR	**Eielson Array**	**87.36**	**24**	P		**P**	**22 45 46.0**	**-2.2**
	1.1nm,0.7s,baz=259,slow=5.0,SNR=11							
	1.1nm,0.7s							
ARU	**Arti**	**91.93**	**326**	LR		LR	23 29 47.0	
	comp=Z,26nm,19.7s,baz=163,slow=37							

*IDC **24** 22:41:22.8±1.5, 5°.81S×141°.41E, h0km, mb3.8/4, mbtmp3.8/5, ML3.7/1, Error ellipse: s-maj=73.3km s-min=26.1km az=89.0*
ISC 24 22:41:24.3±1.3, 5°.9S±0°.1×141°.3E±0°.4, h10km, n6, σ1§34/7, mb3.8/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.51**	**205**	Pn		**Pn**	**22 45 01.4**	**-1.8**
	0.4nm,0.3s,baz=23,slow=12,SNR=19							
WRA				Sn		**Sn**	**22 47 55.5**	**+0.2**
	0.4nm,0.3s,baz=38,slow=23,SNR=1.9							
ASAR	**Alice Springs**	**19.04**	**201**	P		**P**	**22 45 47.3**	**+0.5**
	0.2nm,0.3s,baz=29,slow=9.8,SNR=8.9							
	1.6nm,0.6s							
STKA	**Stephens Creek**	**25.85**	**179**	P		**P**	**22 46 57.5**	**+1.4**
	4.7nm,0.9s,baz=0.0,slow=7.1,SNR=3.3							
	4.7nm,0.9s							
SONM	**Songino Array**	**61.68**	**334**	P		**P**	**22 51 42.9**	**+0.2**
	0.2nm,0.4s,baz=148,slow=4.9,SNR=2.1							
	0.2nm,0.4s							
MKAR	**Makanchi Array**	**73.86**	**322**	P		**P**	**22 52 60.0**	**+0.6**
	0.3nm,0.7s,baz=112,slow=6.3,SNR=4.6							
	0.3nm,0.7s							
ILAR	**Eielson Array**	**87.66**	**24**	P		**P**	**22 54 11.7**	**-1.0**
	0.5nm,0.8s,baz=251,slow=4.2,SNR=3.2							
	0.5nm,0.8s							

*NEIC **24** 22:49:05.5±1.4, 42°.16N±0°.08×144°.93E±0°.07, h11km±3km, mb4.3/43, Error ellipse: s-maj=12.3km s-min=5.4km az=153.0*
*MOS **24** 22:49:07.8±0.9, 42°.10N×144°.79E, h39km, mb4.6/21, Error ellipse: s-maj=7.9km s-min=5.7km az=105.5*
*NIED **24** 22:49:08.8, 42°.18N×144°.81E, h27km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}1.87; $M_{\theta\theta}$-0.91; $M_{\phi\phi}$-0.96; $M_{r\theta}$0.47; $M_{r\phi}$-1.06; $M_{\theta\phi}$1.47; Fault plane solution: M_o2.48000×10¹⁵ NP1:φs28.00000°, δ65.00000°, λ75.00000°. NP2:φs240.00000°, δ29.00000°, λ118.00000°.*
*JMA **24** 22:49:08.8±0.1, 42°.2N±0°.2×144°.8E±0°.6, h27km, MD4.3/39, MV4.6/39, SE OFF TOKACHI*
JMA Felt I J1 at SE OFF TOKACHI .
*SKHL **24** 22:49:08.2±0.2, 42°.00N×144°.90E, h50km±5km, mb5.0/6, mbv5.0/3*
*IDC **24** 22:49:14.6±2.6, 42°.57N×144°.66E, h62km±21km, mb3.8/26, mbtmp4.1/30, MS3.7/10, Error ellipse: s-maj=20.9km s-min=14.3km az=160.0*
ISC 24 22:49:06.1±1.3, 42°.13N±0°.04×144°.89E±0°.04, h16km±7km, n235, σ1§30/232, mb4.3/85, MS3.9/9, 8C-7D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JAK	**Akkeshi**	**0.88**	**351**	*i* P		**Pb**	**22 49 24.3**	**+1.4**
JAK	**Akkeshi**	**0.88**	**351**	A		A	22 49 24.3	
	comp=E,13nm,1.3s,comp=N,10.0nm,1.4s							
AKK	**Akkeshi**	**0.89**	**358**	*i* P		**Pn**	**22 49 24.8**	**+0.9**
AKK				*i* S		**Sb**	**22 49 37.4**	**+2.7**
JKHN	**Kushirohamanak**	**0.97**	**12**	*i* P		**Pn**	**22 49 26.5**	**+1.5**
JKHN	**Kushirohamanak**	**0.97**	**12**	A		A	22 49 26.5	
	comp=E,32nm,0.8s,comp=N,27nm,0.9s							
JOB	**Onbets**	**1.09**	**315**	*i* P		**Pg**	**22 49 27.4**	**+0.1**
JOB	**Onbets**	**1.09**	**315**	A		A	22 49 27.4	
	comp=E,20nm,1.9s,comp=N,28nm,2.3s							
JTHR	**Tokachihiroo**	**1.19**

YSS eS Sn 22 51 20.8 +1.6
YSS pmax pmax
comp=Z,10.0nm,1.2s
YSS pmax pmax
comp=Z,100nm,2.7s
YSS smax smax
comp=N,30nm,0.7s
YSS smax smax
comp=E,40nm,0.6s
YSS MLR MLR
comp=Z,600nm,12.0s
YSS MLR MLR
comp=N,300nm,11.0s
YSS MLR MLR
comp=E,500nm,12.0s
YSS Yuzh-Sakhalins 5.06 343 eP Pn 22 50 24.1 +2.9
YSS AMB AMB 22 50 25.0
comp=E,20nm,0.2s
YSS AMB AMB 22 50 28.0
comp=E,200nm,2.7s
YSS eS Sn 22 51 20.8 +1.6
YSS A A 22 51 23.5
comp=E,40nm,0.5s
YSS A A 22 51 23.5
comp=E,20nm,0.5s
YSS AMS AMS 22 52 40.0
comp=E,300nm,12.0s
YSS AMS AMS 22 52 40.0
comp=E,500nm,12.0s
YSS AMS AMS 22 52 40.0
comp=E,600nm,12.0s
JMM Marumori 5.29 218 Pn 22 50 23.6 -0.8
JSD Sado 6.52 233 Pn Pn 22 50 41.7 +0.5
MJB9 Matsu-Tunnel 7.61 225 Pn Pn 22 50 57.2 +1.0
MAJO Matsushiro 7.61 225 Pn Pn 22 50 56.4 +0.2
MAJO Matsushiro 7.61 225⇓ ePn Pn 22 50 57.0 +0.7
MJAR Matsushiro Arr 7.61 225 P Pn 22 50 57.0 +0.8
comp=E,8.0nm,0.6s,baz=30,slow=14,SNR=38
MJAR S Sn 22 52 32.8 +11
comp=E,1.9nm,0.6s,baz=167,slow=35,SNR=1.5
JGF Kuroka 8.77 224 Pn Pn 22 51 13.0 +0.8
TYV Tymovskoe 8.87 351 ePN Pn 22 51 19.8 +6.3
TYV pmax pmax
comp=Z,100nm,3.4s
TYV pmax pmax
comp=Z,4.0nm,0.9s
TYV Tymovskoe 8.87 351 eP Pn 22 51 17.9 +4.4
TYV AMB AMB 22 51 21.5
comp=Z,100nm,3.4s
TYV AMB AMB 22 51 23.5
comp=Z,70nm,0.5s
INU Inuyama 9.14 225 Pn Pn 22 51 17.9 +0.6
USA0B Ussuriysk Arra 9.65 287 Pn Pn 22 51 24.4 +0.2
USA0B Ussuriysk Arra 9.65 287⇓ ePN Pn 22 51 26.6 +2.4
USRK Ussuriysk Ar. 9.65 287 Pn Pn 22 51 24.3 +0.1
USRK Ussuriysk Ar. 9.65 287 P Pn 22 51 26.5 +2.3
comp=Z,2.9nm,0.5s,baz=91,slow=14,SNR=10.0
USRK LR LR 22 55 24.6
comp=Z,229nm,18.4s,baz=69,slow=40
MSHR Mys Shultsa 10.17 277⇓ ePN Pn 22 51 32.9 +1.5
KLR Kul'dur 11.60 312 cePN Pn 22 51 52.4 +1.5
KLR pmax pmax
comp=Z,15nm,1.3s
KLR Kul'dur 11.60 312 P Pn 22 51 53.1 +2.2
comp=Z,1.5nm,0.7s,baz=123,slow=15,SNR=4.4
KLR LR LR 22 56 52.0
comp=Z,286nm,18.7s,baz=146,slow=41
KLR Kul'dur 11.60 312 eP Pn 22 51 52.4 +1.5
JMN Monobe 12.07 230 Pn Pn 22 51 56.7 -0.7
KSRS Korea Array 13.85 256 P Pn 22 52 22.0 +0.4
KSRS Korea Array 13.85 256 Pn Pn 22 52 21.9 +0.4
comp=Z,1.3nm,0.7s,baz=71,slow=12,SNR=7.4
KSRS Korea Array 13.85 256 eP Pn 22 52 22.0 +0.4
PETK Petropavlovsk- 13.95 34 Pn Pn 22 52 21.0 -2.0
PETK Petropavlovsk- 13.95 34 P Pn 22 52 25.1 +2.2
comp=Z,0.8nm,0.8s,baz=199,slow=12,SNR=1.3
HEH HeiHe 14.55 310 eP Pn 22 52 32.3 +1.2
HEH pmax pmax
comp=Z,5.0nm,0.8s
HEH pmax pmax
comp=Z,100nm,5.9s
HEH LR LR
comp=N,130nm,13.6s
HEH LR LR
comp=E,330nm,15.1s
HEH LR LR
comp=Z,560nm,15.8s
INCN Inchon 14.77 258 Pn Pn 22 52 33.9 -0.4
INCN Inchon 14.77 258 P Pn 22 52 33.9 -0.4
INCN Inchon 14.77 258 eP Pn 22 52 33.9 -0.4
ZEA Zeya 16.51 321 eP Pn 22 52 58.4 +1.6
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=Z,20nm,0.5s
ZEA MLR MLR
comp=N,100nm,14.0s
ZEA MLR MLR
comp=Z,200nm,14.0s
ZEA Zeya 16.51 321 eP Pn 22 52 57.5 +0.7
ZEA AMB AMB 22 52 59.0
comp=Z,10.0nm,0.5s
ZEA AMB AMB 22 52 59.0
comp=Z,20nm,0.5s
ZEA AMS AMS 22 59 56.0
comp=Z,200nm,14.0s
ZEA AMS AMS 22 59 56.0
comp=Z,300nm,14.0s
SEY Seymchan 21.30 9 P P 22 53 49.5 -2.2
comp=Z,1.3nm,0.4s,baz=354,slow=21,SNR=8.4
comp=Z,1.3nm,0.4s
YAK Yakutsk 21.90 341 P P 22 53 54.3 -3.8
YAK Yakutsk 21.90 341 eP P 22 53 55.1 -3.0
YAK e 22 57 52.7
YAK eS S 22 57 55.3 -4.0
YAK e*SS Sn 22 58 12.5 +3.1
YAK eSS SnSn 22 58 27.0 +2.3
YAK e 23 05 16.6
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.2s
YAK smax smax
comp=N,19nm,1.8s
YAK smax smax
comp=E,14nm,1.3s
YAK Yakutsk 21.90 341 P P 22 53 54.6 -3.5
comp=E,17nm,0.4s,baz=13,slow=3.0,SNR=6.5
TIA Tai'an 22.27 264 eP P 22 54 00.3 -2.0
TIA pmax pmax
comp=Z,4.0nm,1.1s
HNS HongShan 23.61 269⇓ P P 22 54 17.5 +1.4
HNS pmax pmax
comp=Z,10.0nm,1.0s
HHC Hu-ho-hao-te 24.91 278 eP P 22 54 29.8 +1.5
HHC pP pwP 22 54 39.6 +4.1
HHC PP PnPn 22 55 13.5 +12
HHC eS S 22 58 51.6 +0.7
HHC SS SnSn 22 59 46.8 +8.0
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,63nm,4.1s
HHC LR LR
comp=N,91nm,11.9s
HHC LR LR
comp=E,170nm,11.8s
HHC LR LR
comp=Z,190nm,14.3s
ULN Ulaanbaatar 27.16 295 P P 22 54 47.9 -0.8
ULN IAmb IAmb 22 54 51.6
comp=Z,6.3nm,1.0s
ULN Ulaanbaatar 27.16 295⇑ eP P 22 54 49.9 +1.2
ULN pmax pmax
comp=Z,6.0nm,0.9s
ULN Ulaanbaatar 27.16 295 eP P 22 54 49.9 +1.2
SONM Songino Array 27.61 295 P P 22 54 51.8 -0.9
SONM IAmb IAmb 22 54 55.8
comp=Z,5.1nm,0.8s
SONM Songino Array 27.61 295 P P 22 54 51.8 -0.9
SONM pmax pmax
comp=Z,5.0nm,0.8s
SONM Songino Array 27.61 295 P P 22 54 52.7 +0.1
comp=Z,4.6nm,0.6s,baz=81,slow=8.4,SNR=29

SONM LR LR 23 06 38.9
comp=Z,105nm,18.0s,baz=192,slow=38
comp=Z,4.6nm,0.6s
H11N2 WAKE ISLAND Hy 29.08 133 T T 23 26 26.8
baz=327,slow=76,SNR=326
H11N1 WAKE ISLAND Hy 29.09 133 T T 23 26 31.8
baz=327,slow=76,SNR=250
H11N3 WAKE ISLAND Hy 29.10 133 T T 23 26 30.7
baz=327,slow=76,SNR=208
ZAK Zakamensk 29.60 301 eP P 22 55 07.8 -2.5
ZAK pmax pmax
comp=Z,7.0nm,1.2s
H11S1 WAKE ISLAND Hy 29.98 135 T T 23 27 38.4
baz=328,slow=76,SNR=331
H11S3 WAKE ISLAND Hy 29.98 135 T T 23 27 38.6
baz=328,slow=76,SNR=238
H11S2 WAKE ISLAND Hy 30.00 135 T T 23 27 36.6
baz=328,slow=76,SNR=188
TIXI Tiksi 30.64 350 LR LR 23 08 29.4
comp=Z,175nm,19.2s,baz=200,slow=38
MOY Mondy 31.05 303 eP P 22 55 23.6 +0.5
MOY pmax pmax
comp=Z,14nm,2.1s
MOY Mondy 31.05 303 eP P 22 55 23.6 +0.5
LZH Lanzhou 32.18 273 eP P 22 55 34.6 +1.3
LZH pP pwP 22 55 44.5 +4.0
LZH pmax pmax
comp=Z,30nm,1.1s
F17K Baldwin Pennin 37.98 32 P P 22 56 21.1 -1.5
PZH PanZhiHua 38.46 260 P P 22 56 28.3 +0.9
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.1s
GOMU GeErMu 38.82 278 P P 22 56 31.1 +0.6
GOMU pP pwP 22 56 36.3 -1.5
GOMU sP sP 22 56 37.5 +0.8
GOMU pmax pmax
comp=Z,6.0nm,0.5s
L18K Granite Mounta 39.38 39 P P 22 56 34.3 -0.2
L18K IAmb IAmb 22 56 49.4
comp=Z,13nm,1.4s
E19K Redstone River 39.72 31 P P 22 56 37.4 +0.1
H19K Roundabout Mou 39.76 34 P P 22 56 38.3 +0.7
H19K IAmb IAmb 22 56 40.1
comp=Z,6.4nm,0.7s
NRIK Noril'sk 39.88 332 P P 22 56 37.8 -0.8
NRIK Noril'sk 39.88 332 P P 22 56 37.8 -0.8
NRIK pmax pmax
comp=Z,3.0nm,1.3s
NRIK Noril'sk 39.88 332 P P 22 56 38.1 -0.5
comp=Z,1.2nm,0.4s,baz=156,slow=1.4,SNR=4.1
comp=Z,1.2nm,0.4s
B20K Meade River 40.24 27 P P 22 56 41.5 -0.1
B20K IAmb IAmb 22 57 00.4
comp=Z,4.4nm,0.7s
ZAA0 Zalesovo Array 40.67 308 P P 22 56 44.5 -0.8
ZAA0 IAmb IAmb 22 56 57.5
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 40.67 308 P P 22 56 44.6 -0.6
ZALV Zalesovo Beam 40.67 308 P P 22 56 45.7 +0.4
comp=Z,1.9nm,0.4s,baz=84,slow=7.0,SNR=12
ZALV PcP PcP 22 58 47.5 +0.8
comp=Z,1.7nm,0.7s,baz=108,slow=4.8,SNR=5.1
comp=Z,1.9nm,0.4s
IMAR Indian Mountai 40.91 33 P P 22 56 48.1 +1.0
B21K Ikpikpuk River 41.04 28 P P 22 56 48.6 +0.5
CAST Castle Rocks 41.53 37 P P 22 56 52.4 +0.1
D22K Ayikyak River 41.61 29 P P 22 56 52.9 0.0
E22K Anaktuvuk Pass 41.85 30 P P 22 56 55.0 +0.1
KTH Kantishna Hill 42.05 37 P P 22 56 55.5 -1.0
KTH IAmb IAmb 22 57 12.2
comp=Z,7.3nm,1.1s
G23K Bananza Creek 42.45 32 P P 22 56 59.6 -0.2
H23K Yukon River 42.63 34 P P 22 57 01.2 -0.1
H23K IAmb IAmb 22 57 04.7
comp=Z,4.2nm,0.9s
D24K Happy Valley 43.02 29 P P 22 57 04.4 +0.1
D24K IAmb IAmb 22 57 07.2
comp=Z,4.5nm,0.5s
IL31 43.77 35 P P 22 57 11.0 +0.6
IL31 IAmb IAmb 22 57 32.9
comp=Z,5.3nm,1.1s
ILAR Eielson Array 43.77 35 P P 22 57 10.8 +0.3
ILAR Eielson Array 43.77 35 P P 22 57 12.2 +1.8
comp=Z,0.6nm,0.6s,baz=270,slow=7.3,SNR=9.0
comp=Z,0.6nm,0.6s
MK31 Makanchi Array 43.88 298 P P 22 57 11.3 -0.3
MK31 Makanchi Array 43.88 298 d iP P 22 57 11.5 -0.1
MKAR Makanchi Array 43.88 298 P P 22 57 11.4 -0.2
MKAR Makanchi Array 43.88 298 P P 22 57 11.5 0.0
comp=Z,1.2nm,0.7s,baz=82,slow=9.6,SNR=14
comp=Z,1.2nm,0.7s
MAKZ Makanchi 44.08 298 P P 22 57 13.0 -0.2
MAKZ IAmb IAmb 22 57 19.6
comp=Z,3.0nm,0.8s
MAKZ Makanchi 44.08 298 P P 22 57 13.0 -0.2
MAKZ pmax pmax
comp=Z,3.0nm,0.8s
E25K Arctic Village 44.19 30 P P 22 57 14.8 +1.0
PHRA Phrae 44.53 252 P P 22 57 17.4 +0.3
BMAR Burnt Mountain 44.58 31 P P 22 57 18.0 +1.1
KURK Kurchatov 45.07 305 P P 22 57 20.5 -0.5
KURK Kurchatov 45.07 305 ceP P 22 57 20.5 -0.5
KURK pmax pmax
comp=Z,6.0nm,0.7s
KURK Kurchatov 45.07 305 eP P 22 57 20.5 -0.5
SCRK Sand Creek 45.10 36 P P 22 57 21.5 +0.3
SCRK IAmb IAmb 22 57 38.7
comp=Z,3.1nm,0.8s
KURBB Kurchatov Arra 45.15 305 P P 22 57 21.3 -0.3
comp=Z,4.9nm,0.6s,baz=72,slow=8.9,SNR=27
comp=Z,4.9nm,0.6s
CMAR Chiang Mai Arr 45.47 253 P P 22 57 26.2 +1.7
comp=Z,0.8nm,0.3s,baz=55,slow=6.7,SNR=6.5
comp=Z,0.8nm,0.3s
BCAR Beaver Creek A 46.20 37 P P 22 57 31.3 +1.5
EGAK Eagle 46.22 35 P P 22 57 29.5 -0.3
EGAK IAmb IAmb 22 57 52.4
comp=Z,2.6nm,1.0s
INK Inuvik 48.63 29 P P 22 57 49.6 +1.1
INK IAmb IAmb 22 58 03.6
comp=Z,5.2nm,1.3s
INK Inuvik 48.63 29 P P 22 57 49.7 +1.1
INK pmax pmax
comp=Z,5.0nm,1.3s
HYT Haines Junctio 48.64 40 P P 22 57 49.9 +1.0
TARG Taragay, Kyrgy 48.70 293 P P 22 57 50.2 +0.2
TARG IAmb IAmb 22 58 01.8
comp=Z,2.7nm,0.6s
TARG Taragay, Kyrgy 48.70 293 P P 22 57 50.2 +0.2
TARG pmax pmax
comp=Z,3.0nm,0.6s
BVAR Borovoye Array 49.25 310 P P 22 57 53.8 +0.2
comp=Z,3.3nm,0.4s,baz=78,slow=8.6,SNR=51
comp=Z,3.3nm,0.4s
BRVK Borovoye 49.30 310 P P 22 57 53.5 -0.4
BRVK IAmb IAmb 22 57 57.2
comp=Z,3.7nm,0.8s
BRVK Borovoye 49.30 310⇓ iP P 22 57 54.2 +0.3
ARSB Arslanbob 52.14 295 P P 22 58 16.1 +0.3
ARSB IAmb IAmb 22 58 17.3
comp=Z,2.7nm,1.0s
ARSB Arslanbob 52.14 295 P P 22 58 16.1 +0.3
ARSB pmax pmax
comp=Z,3.0nm,1.0s
KK31 Karatay Array 53.00 298 P P 22 58 21.4 -0.5
KK31 IAmb IAmb 22 58 34.1
comp=Z,2.1nm,0.7s
KK31 Karatay Array 53.00 298 P P 22 58 21.4 -0.5
KK31 pmax pmax
comp=Z,2.0nm,0.7s
ARU Arti 54.39 317 P P 22 58 31.5 -0.4
ARU Arti 54.39 317 c iP P 22 58 31.3 -0.6
ARU S S 23 06 07.4 -1.8
ARU SS SS 23 09 48.8 -2.1
ARU pmax pmax
comp=Z,5.0nm,0.7s
ARU Arti 54.39 317 eP P 22 58 31.3 -0.6
EUNU Eureka 54.74 10 P P 22 58 34.2 0.0
EUNU IAmb IAmb 22 58 45.2
comp=Z,4.2nm,0.8s
SPITS Spitsbergen Ar 56.05 349 P P 22 58 43.1 -0.4
comp=Z,3.8nm,0.7s,baz=70,slow=7.2,SNR=10
comp=Z,3.8nm,0.7s

SIMJ Simiganj 56.09 294 P P 22 58 44.4 -0.1
ABKAR Akbulak array 56.78 309 P P 22 58 48.9 -0.2
ABKAR IAmb IAmb 22 58 49.7
comp=Z,4.0nm,0.9s
ABKAR Akbulak array 56.78 309 P P 22 58 49.0 -0.2
RES Resolute Bay 56.99 16 P P 22 58 50.5 +0.3
RES IAmb IAmb 22 59 02.0
comp=Z,3.7nm,0.8s
RES Resolute Bay 56.99 16 P P 22 58 50.5 +0.3
RES pmax pmax
comp=Z,4.0nm,0.8s
KIRV Kirov 57.85 322 LR LR 23 26 31.2
comp=Z,80nm,18.8s,baz=40,slow=39
YKA Yellowknife Ar 58.07 33 P P 22 58 58.9 +0.9
comp=Z,0.7nm,0.9s,baz=302,slow=7.0,SNR=7.1
comp=Z,0.7nm,0.9s
KBL Kabul 58.17 290 P P 22 58 58.1 -1.3
KBL Kabul 58.17 290 P P 22 58 58.1 -1.3
KBL pmax pmax
comp=Z,4.0nm,0.6s
ARCES ARCESS Array B 60.18 339 P P 22 59 12.9 +0.3
comp=Z,1.8nm,0.9s,baz=5.7,slow=3.7,SNR=4.6
comp=Z,1.8nm,0.9s
NEEM North Greenlan 60.29 4 i P P 22 59 15.4 +1.9
NEEM IAmb IAmb 22 59 27.2
comp=Z,2.3nm,0.8s
DAG Danmarks Havn 60.92 356 i P P 22 59 18.0 +0.6
DAG IAmb IAmb 22 59 20.5
comp=Z,2.7nm,0.9s
BELG Belogornoye 61.93 316 LR LR 23 28 36.8
comp=Z,73nm,18.7s,baz=133,slow=38
WRA Warramunga Arr 62.52 191 P P 22 59 35.1 +6.2
comp=Z,0.5nm,0.6s,baz=7.5,slow=6.7,SNR=6.2
comp=Z,0.5nm,0.6s
GEYT Alibeck 63.75 298 P P 22 59 36.9 -0.2
comp=Z,2.9nm,0.7s,baz=266,slow=5.9,SNR=5.7
comp=Z,2.9nm,0.7s
FIA1 FINESS Array S 65.55 332 P P 22 59 48.0 -0.3
FINES FINESS Array B 65.55 332 P P 22 59 48.0 -0.3
comp=Z,3.5nm,0.4s,baz=46,slow=7.4,SNR=86
comp=Z,3.5nm,0.4s
SUMG Summit 65.57 1 P P 22 59 48.8 0.0
SUMG Summit 65.57 1 P P 22 59 48.8 0.0
SUMG pmax pmax
comp=Z,21nm,1.3s
SUMG Summit 65.57 1 i P P 22 59 49.0 +0.2
SUMG IAmb IAmb 22 59 53.5
comp=Z,3.3nm,0.6s
OBN Obninsk 65.62 323 eP P 22 59 50.3 +1.4
OBN e 23 00 18.2
OBN e 23 02 13.2
OBN ePPP PPP 23 03 47.5
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN Obninsk 65.62 323 eP P 22 59 50.3 +1.4
ICESG Greenland Ices 69.05 2 i P P 23 00 10.2 -0.6
ICESG IAmb IAmb 23 00 12.4
comp=Z,3.7nm,0.7s
KVAR Kislovodsk Arr 69.58 311 LR LR 23 35 54.1
comp=Z,85nm,18.1s,baz=269,slow=40
KIV Kislovodsk 69.59 311 eP P 23 00 15.0 +0.7
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,85nm,17.0s
KIV Kislovodsk 69.59 311 eP P 23 00 15.0 +0.7
KBZ Khabaz 69.61 311⇑ eP P 23 00 15.1 +0.8
KBZ pmax pmax
comp=Z,18nm,2.5s
KBZ Khabaz 69.61 311 P P 23 00 15.5 +1.2
comp=Z,3.5nm,0.7s,baz=71,slow=7.1,SNR=5.8
comp=Z,3.5nm,0.7s
KBZ Khabaz 69.61 311 eP P 23 00 15.1 +0.8
NVAR Mina Array Bea 69.86 56 P P 23 00 19.3 +3.1
comp=Z,0.1nm,0.3s,baz=305,slow=6.3,SNR=2.2
comp=Z,0.1nm,0.3s
NC405 NORSAR Array S 70.30 338 P P 23 00 18.4 +0.1
NB2 NORSAR Subarra 70.50 338 P P 23 00 19.3 -0.2
comp=Z,0.7nm,0.5s,baz=33,slow=6.5
NOA NORSAR Array B 70.50 339 P P 23 00 19.6 0.0
comp=Z,2.8nm,0.9s,baz=35,slow=6.3,SNR=8.0
comp=Z,2.8nm,0.9s
HFS Hagfors 70.52 336 P P 23 00 19.5 -0.2
comp=Z,2.5nm,0.5s,baz=63,slow=6.8,SNR=19
comp=Z,2.5nm,0.5s
AKASG Malin Array Be 71.88 323 P P 23 00 27.9 -0.1
comp=Z,1.1nm,0.5s,baz=42,slow=6.3,SNR=10
comp=Z,1.1nm,0.5s
AKBB Malin Array Si 71.88 323⇑ eP P 23 00 26.9 -1.1
AKBB pmax pmax
comp=Z,12nm,1.7s
KIEV Kiev 71.89 323 P P 23 00 27.1 -1.0
KIEV Kiev 71.89 323 P P 23 00 27.1 -1.0
KIEV pmax pmax
comp=Z,7.0nm,1.3s
PDAR Pinedale Array 72.23 48 P P 23 00 30.5 -0.1
PDAR Pinedale Array 72.23 48 P P 23 00 31.7 +1.1
comp=Z,0.5nm,0.7s,baz=135,slow=1.0,SNR=5.7
comp=Z,0.5nm,0.7s
LANS Liptovska Anna 77.23 327 eP P 23 01 01.1 +1.9
LANS Liptovska Anna 77.23 327 eP P 23 01 01.1 +1.9
BRTR Keskin Array B 77.44 313 P P 23 01 01.0 +0.4
comp=Z,0.6nm,0.7s,baz=72,slow=4.0,SNR=3.9
comp=Z,0.6nm,0.7s
DPC Dobruska-Polom 77.52 329 eP P 23 01 01.9 +1.1
DPC Dobruska-Polom 77.52 329 eP P 23 01 01.9 +1.1
CLL Collm 77.96 331 i P P 23 01 03.2 +0.1
CLL e*PP PcP 23 01 12.0 -0.9
CLL Collm 77.96 331 i P P 23 01 03.2 +0.1
CLL ePcP PcP 23 01 12.0 -0.9
VYHS Vyhne 78.00 327 eP P 23 01 04.9 +1.4
VYHS Vyhne 78.00 327 eP P 23 01 04.8 +1.3
VRAC Vranov 78.25 328 LR LR 23 38 48.8
comp=Z,80nm,19.2s,baz=7.5,slow=38
PRU Pruhonice 78.48 330 eP P 23 01 06.8 +0.7
PRU Pruhonice 78.48 330 eP P 23 01 06.8 +0.7
ZVC Zvikov 79.06 330 eP P 23 01 09.9 +0.6
EKA Eskdalemuir Ar 79.17 342 P P 23 01 09.8 0.0
comp=Z,1.3nm,0.6s,baz=22,slow=4.9,SNR=17
comp=Z,1.3nm,0.6s
KHC Kasperske Hory 79.55 330 eP P 23 01 12.9 +0.9
KHC Kasperske Hory 79.55 330⇓ iP P 23 01 12.0 0.0
KHC pmax pmax
comp=Z,18nm,2.5s
CONA Conrad Observa 79.65 328 eP P 23 01 14.0 +1.4
comp=Z,0.7nm,0.4s
RONA Rosalia, Austr 79.66 328 i P P 23 01 13.5 +0.9
comp=Z,0.4nm,0.3s
GERES GERESS Array B 79.74 330 P P 23 01 13.4 +0.4
comp=Z,0.5nm,0.4s,baz=42,slow=6.0,SNR=4.6
comp=Z,0.5nm,0.4s
ARSA Arzberg 80.34 328 eP P 23 01 16.9 +0.6
comp=Z,2.0nm,0.6s
MOA Molln 80.34 329 eP P 23 01 17.3 +1.1
comp=Z,2.1nm,0.9s
BIOA Bad Ischl, Aus 80.71 329 eP P 23 01 19.1 +0.8
comp=Z,1.3nm,0.7s
SOKA Soboth 81.00 328 eP P 23 01 20.3 +0.4
comp=Z,2.7nm,0.6s
MMAI Mount Meron Ar 81.14 307 P P 23 01 21.8 +0.9
comp=Z,2.1nm,0.6s,baz=266,slow=39,SNR=1.8
comp=Z,2.1nm,0.6s
LESA Schwarzleotal 81.30 329 eP P 23 01 22.1 +0.7
comp=Z,0.7nm,0.4s
OBKA Obir 81.33 328 eP P 23 01 22.3 +0.6
comp=Z,1.2nm,0.4s
KBA Koelnbreinsper 81.33 329 eP P 23 01 22.6 +0.8
comp=Z,2.6nm,0.6s
MYKA Terra Mystica 81.58 328 eP P 23 01 23.3 +0.3
comp=Z,0.6nm,0.3s
WATA Walderalm 81.78 330 eP P 23 01 24.8 +0.6
comp=Z,1.4nm,0.4s
WTTA Wattenberg 81.82 330 eP P 23 01 25.2 +0.9
comp=Z,1.6nm,0.4s
ABTA Abfaltersbach 81.92 329 eP P 23 01 25.8 +1.0
comp=Z,3.5nm,1.0s
MOTA Moosalm 81.95 330 eP P 23 01 25.7 +0.7
comp=Z,2.6nm,0.7s
RETA Reutte 81.96 331 eP P 23 01 25.9 +1.0
comp=Z,0.3nm,0.2s
SQTA Sankt Quirin 82.02 330 eP P 23 01 26.1 +0.8
comp=Z,1.1nm,0.6s
BFO Black Forest 82.11 332 i P P 23 01 27.8 +2.2
FETA Feichten 82.36 330 eP P 23 01 27.7 +0.5
comp=Z,1.1nm,0.7s
DAVA Damuels 82.45 331 eP P 23 01 28.1 +0.4
comp=Z,1.6nm,0.5s

DAVOX	**Davos/Dischmat**	**82.88**	**331**	LR	LR	23 41 40.0		
	comp=Z,59nm,18.4s,baz=39,slow=38							
TXAR	**Lajitas Array**	**84.94**	**55**	P	**P**	**23 01 41.7**	**+1.1**	
	comp=Z,0.4nm,0.8s,baz=267,slow=1.8,SNR=4.0							
	comp=Z,0.4nm,0.8s							
H03N2	**Juan Fernandez**	**144.62**	**90**	T	T	01 50 31.6		
	baz=300,slow=76							
H03N3	**Juan Fernandez**	**144.64**	**90**	T	T	01 50 34.1		
	baz=300							
H03N1	**Juan Fernandez**	**144.64**	**90**	T	T	01 50 33.2		
	baz=300,slow=76							

*IDC **24** 22:57:11.8±1.0,20°.67N×120°.68E,h0km,mb3.6/7, mbtmp3.6/7,Error ellipse: s-maj=73.6km s-min=19.7km az=67.0*

ISC 24 22:57:15.7±1.1,20°.6N±0°.2×120°.6E±0°.5,h26km,n7, σ0ᵗ10/7,mb3.5/7,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**29.46**	**340**	P	**P**	**23 03 17.4**	**-0.1**
	0.6nm,0.9s,baz=151,slow=9.3,SNR=1.9						
	0.6nm,0.9s						
WRA	**Warramunga Arr**	**42.52**	**161**	P	**P**	**23 05 09.0**	**-0.1**
	0.7nm,0.6s,baz=342,slow=9.1,SNR=7.2						
	0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**42.96**	**330**	P	**P**	**23 05 12.4**	**0.0**
	1.3nm,0.8s,baz=126,slow=7.5,SNR=5.5						
	1.3nm,0.8s						
KURBB	**Kurchatov Arra**	**44.51**	**323**	P	**P**	**23 05 24.9**	**0.0**
	0.4nm,0.4s,baz=120,slow=7.7,SNR=3.1						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**45.91**	**163**	P	**P**	**23 05 36.4**	**+0.1**
	0.2nm,0.3s,baz=344,slow=7.0,SNR=4.9						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**50.10**	**323**	P	**P**	**23 06 08.5**	**+0.1**
	0.3nm,0.5s,baz=92,slow=6.5,SNR=2.2						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	**86.44**	**22**	P	**P**	**23 09 55.8**	**0.0**
	0.6nm,1.0s,baz=319,slow=4.8,SNR=6.4						
	0.6nm,1.0s						

*IDC **24** 23:11:10.1±2.4,34°.02N×138°.97E,h0km,mb3.3/2, mbtmp3.1/3,ML1.9/1,Error ellipse: s-maj=89.9km s-min=28.2km az=76.0*

*JMA **24** 23:11:17.5±0.4,37°.N±1°×13°.7E±°,h266km±3km,MV2.7/43, TOYAMA BAY REGION*

ISC 24 23:11:19.1±1.4,36°.89N±0°.08×137°.43E±0°.09,h250km,n19, σ1ᵗ02/27,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJN	**Nakama**	**0.62**	**70**	eP	**Pn**	**23 11 53.1**	**+0.7**
MAT	**Matsushiro**	**0.72**	**119**	P	**Pn**	**23 11 53.1**	**+0.3**
MAT				S	**S**	**23 12 21.3**	**+2.0**
MJAR	**Matsushiro Arr**	**0.72**	**119**	Pn	**Pn**	**23 11 52.9**	**+0.1**
	0.2nm,0.3s,baz=164,slow=13,SNR=4.0						
MJAR				Sn	**S**	**23 12 22.6**	**+3.3**
	baz=230,slow=28,SNR=5.8						
	0.8nm,0.3s						
JSD	**Sado**	**1.32**	**30**	eP	**Pn**	**23 11 55.9**	**-0.1**
JRY	**Ryogami san**	**1.47**	**126**	eP	**Pn**	**23 11 57.9**	**+0.5**
JRY				eS	**S**	**23 12 27.5**	**+0.2**
JNY	**Yasuok**	**1.57**	**167**	eP	**Pn**	**23 11 58.5**	**+0.3**
JAG	**Ashikaga**	**1.69**	**105**	eP	**Pn**	**23 11 58.9**	**0.0**
JAG				eS	**S**	**23 12 31.1**	**+0.8**
JHU	**Hanno**	**1.82**	**124**	eP	**Pn**	**23 12 00.3**	**+0.2**
JHU				S	**S**	**23 12 32.4**	**+0.1**
JOD2	**Odawara 2**	**2.11**	**140**	P	**Pn**	**23 12 03.3**	**+0.6**
JYT	**Yasato**	**2.32**	**106**	P	**Pn**	**23 12 04.0**	**-0.6**
JYT				eS	**S**	**23 12 38.9**	**-1.6**
JHO	**Hitachi**	**2.54**	**95**	eP	**Pn**	**23 12 06.8**	**+0.1**
JHO				eS	**S**	**23 12 44.2**	**-0.1**
JFK	**Kawauchi**	**2.79**	**79**	P	**Pn**	**23 12 09.8**	**+0.4**
JKN2	**Miekihoku**	**2.81**	**200**	eP	**Pn**	**23 12 09.4**	**-0.3**
BSO4	**Boso 4**	**3.03**	**128**	P	**Pn**	**23 12 12.7**	**+0.9**
BSO4				S	**S**	**23 12 54.4**	**+0.9**
BSO3	**Boso 3**	**3.26**	**129**	eP	**Pn**	**23 12 14.9**	**+0.7**
BSO3				eS	**S**	**23 12 58.5**	**+0.7**
JMK	**Ichinoseki**	**3.64**	**54**	P	**Pn**	**23 12 18.9**	**+0.3**
BSO1	**Boso 1**	**3.65**	**127**	P	**Pn**	**23 12 18.7**	**+0.4**
MKAR	**Makanchi Array**	**41.48**	**302**	P	P	23 19 20.0	+38
	0.1nm,0.7s,baz=103,slow=7.3,SNR=1.6						
	0.1nm,0.7s						
WRA	**Warramunga Arr**	**56.60**	**183**	P	**P**	**23 20 34.7**	**-1.5**
	0.6nm,0.6s,baz=358,slow=7.7,SNR=9.6						
	0.6nm,0.6s						

*HEL **24** 23:28:02.9±0.3,67°.16N×20°.57E,h0km,ML1.6,Suspected explosion*

*IDC **24** 23:28:03.1±1.1,67°.09N×20°.92E,h0km,mbtmp2.7/3, ML1.8/3,Error ellipse: s-maj=17.5km s-min=8.9km az=107.0*

*UPP **24** 23:28:03.1±0.0,67°.18N×20°.65E,h0km,ML2.1,Suspected explosion*

ISC 24 23:28:02.5±0.8,67°.18N±0°.02×20°.57E±0°.03,h0km,n37, σ1ᵗ24/61,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.06**	**180**	P	**Pg**	**23 28 04.5**	**+0.9**
DUNU				S	**Sg**	**23 28 05.5**	**+1.1**
MASU	**Masugnsbyn**	**0.62**	**63**	P	**Pg**	**23 28 14.5**	**+0.1**
MASU				S	**Sg**	**23 28 22.3**	**-0.1**
RATU	**Laukkuluspa**	**0.75**	**330**	P	**Pg**	**23 28 17.4**	**+0.5**
RATU				S	**Sg**	**23 28 27.7**	**+1.2**
KUA	**Kurravaara**	**0.78**	**354**	P	**Pg**	**23 28 17.8**	**+0.3**
SALU	**Saltoluokta**	**0.83**	**285**	P	**Pb**	**23 28 19.2**	**-0.6**
PAJU	**Pajala**	**1.01**	**98**	P	**Pg**	**23 28 21.0**	**-0.8**
LANU	**Lannavaara**	**1.03**	**31**	P	**Pg**	**23 28 21.9**	**-0.3**
HARU	**Harads**	**1.03**	**171**	P	**Pg**	**23 28 21.7**	**-0.7**
KOVU	**Salmi**	**1.06**	**352**	P	**Pg**	**23 28 22.9**	**+0.1**
KLF	**Kolari**	**1.32**	**86**	PG	**Pg**	**23 28 26.7**	**-1.2**
	baz=271						
KLF				MSG		23 28 42.8	
	comp=Z,3.7nm,0.2s						
KLF				SB	**Sg**	**23 28 44.3**	**-0.7**
HEF	**Hetta**	**1.70**	**42**	eP	**Pn**	**23 28 32.9**	**-0.5**
HEF	**Hetta**	**1.70**	**42**	PG	**Pn**	**23 28 33.5**	**0.0**
	baz=224						
HEF				MSG		23 28 54.2	
	comp=Z,5.6nm,0.2s						
HEF				SG	**Sn**	**23 28 55.3**	**-0.6**
SJUU	**Sjulsmark**	**1.73**	**166**	P	**Pn**	**23 28 34.0**	**+0.1**
KALU	**Kalix**	**1.73**	**139**	P	**Pn**	**23 28 33.8**	**0.0**
KIF	**Kilpisjarvi**	**1.83**	**3**	eP	**Pb**	**23 28 36.3**	**-0.6**
KIF	**Kilpisjarvi**	**1.83**	**3**	PG	**Pb**	**23 28 36.7**	**-0.2**
	baz=178						
KIF				MSG		23 28 59.1	
	comp=Z,6.0nm,0.2s						
KIF				SG	**Sg**	**23 29 02.6**	**+1.2**
TOF	**Tornio**	**1.86**	**125**	PG	**Pn**	**23 28 36.0**	**+0.4**
	baz=311						
TOF				MSG		23 28 58.1	
	comp=Z,4.2nm,0.2s						
TOF				SG	**Sn**	**23 29 00.6**	**+0.8**
KTK1	**Kautokeino**	**2.09**	**27**	PG	**Pb**	**23 28 40.8**	**-0.6**
KTK1				SG	**Sb**	**23 29 07.4**	**-0.4**
RNF	**Rovaniemi**	**2.22**	**102**	PG	**Pn**	**23 28 41.5**	**+0.9**
RNF				SG	**Sb**	**23 29 11.1**	**-0.5**
SGF	**Sodankyl**	**2.33**	**81**	PB	**Pn**	**23 28 43.6**	**+1.6**
	baz=269						
SGF				SG	**Sb**	**23 29 14.4**	**-0.1**
TRO	**Tromso**	**2.54**	**347**	PG	**Pb**	**23 28 49.0**	**+0.1**
TRO				SG	**Sb**	**23 29 20.4**	**-0.2**
RANF	**Ranua**	**2.75**	**112**	PB	**Pb**	**23 28 50.5**	**-2.0**
	baz=297						
RANF				SB	**Sb**	**23 29 25.8**	**-0.7**
ARA0	**ARCESS Array S**	**2.99**	**35**	PN	**Pn**	**23 28 51.7**	**+0.6**
ARA0				SB	**Sb**	**23 29 31.3**	**-2.3**
ARCES	**ARCESS Array B**	**2.99**	**35**	Pn	**Pn**	**23 28 51.7**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=221,slow=11,SNR=16						
ARCES				Sn	**Sn**	**23 29 28.9**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=215,slow=22,SNR=7.5						
	comp=Z,3.8nm,0.9s						
OBF4	**Vikkela, Lumij**	**3.01**	**140**	MSG		23 29 31.0	
	comp=Z,1.1nm,0.2s						
OBF4				SG	**Sb**	**23 29 35.4**	**+1.1**
OUL	**Oulu**	**3.02**	**132**	PG	**Pb**	**23 28 55.4**	**-1.7**
OUL				SG	**Sb**	**23 29 34.7**	**+0.2**
KMNF	**Kaamanen**	**3.11**	**48**	PN	**Pn**	**23 28 53.4**	**+0.6**
KMNF				SN	**Sn**	**23 29 31.1**	**+0.5**
RAJF	**Raja-Jooseppi**	**3.21**	**63**	PN	**Pn**	**23 28 54.6**	**+0.4**
RAJF				SG	**Sb**	**23 29 40.6**	**+0.7**
OUF	**Merijarvi**	**3.31**	**147**	PG	**Pb**	**23 29 02.4**	**+0.5**
	baz=328						
OUF				SG	**Sb**	**23 29 45.3**	**+2.6**
KEV	**Kevo**	**3.51**	**40**	PG	**Pb**	**23 29 06.3**	**+0.9**
KEV				SN	**Sn**	**23 29 41.0**	**+0.6**
VRF	**Varrio**	**3.53**	**77**	PG	**Pb**	**23 29 06.1**	**+0.4**
VRF				SG	**Sb**	**23 29 49.5**	**+0.5**
OLKF	**Oulanka, Finla**	**3.61**	**100**	PN	**Pn**	**23 29 00.5**	**+0.9**
MSF	**Maaselka**	**3.62**	**107**	PG	**Pb**	**23 29 07.9**	**+0.6**
MSF				SG	**Sb**	**23 29 55.3**	**+3.6**
KU6	**Riekki**	**3.90**	**103**	PN	**Pn**	**23 29 03.9**	**+0.4**
KU6				SG	**Sb**	**23 30 03.3**	**+3.7**
VAF	**Ylistaro**	**4.25**	**167**	PN	**Pn**	**23 29 09.9**	**+1.5**
FINES	**FINESS Array B**	**6.24**	**155**	Pn	**Pn**	**23 29 34.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=339,slow=10,SNR=3.7						
FINES				Sn	**Sn**	**23 30 45.5**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=346,slow=26,SNR=1.6						
FINES				Lg	Lg	23 31 13.2	
	comp=Z,0.2nm,0.3s,baz=341,slow=30,SNR=1.4						
	comp=Z,0.8nm,0.7s						
NOA	**NORSAR Array B**	**7.39**	**218**	Pn	**Pn**	**23 29 51.1**	**-0.5**
	baz=27,slow=11,SNR=0.9						
NOA				Sn	**Sn**	**23 31 12.4**	**-3.6**
	baz=34,slow=20,SNR=1.3						
	comp=Z,0.4nm,0.7s						

*IDC **24** 23:54:37.3±2.0,6°.09S×143°.08E,h0km,mb3.7/4, mbtmp3.8/6,ML3.6/2,Error ellipse: s-maj=61.8km s-min=30.6km az=103.0*

ISC 24 23:54:38.7±1.7,6°.3S±0°.2×143°.0E±0°.3,h10km,n6,σ1ᵗ95/7, mb3.8/4,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.95**	**211**	Pn	**Pn**	**23 58 24.1**	**+0.8**
	0.2nm,0.3s,baz=32,slow=14,SNR=12						
WRA				Sn	**Sn**	**00 01 17.9**	**-2.5**
	0.1nm,0.3s,baz=28,slow=23,SNR=1.2						
WRA				Lg	Lg	00 03 07.6	
	baz=39,slow=26						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**19.35**	**206**	P	**Pn**	**23 59 08.2**	**+2.5**
	0.3nm,0.3s,baz=35,slow=11,SNR=25						
	4.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**49.87**	**300**	P	**P**	**00 03 32.5**	**-0.1**
	0.5nm,0.3s,baz=134,slow=8.2,SNR=5.1						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**75.18**	**322**	P	**P**	**00 06 22.0**	**+0.5**
	0.4nm,0.8s,baz=122,slow=5.4,SNR=3.6						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**84.64**	**325**	P	**P**	**00 07 12.7**	**+0.2**
	0.9nm,0.7s,baz=97,slow=6.2,SNR=3.8						
	0.9nm,0.7s						
ILAR	**Eielson Array**	**87.34**	**24**	P	**P**	**00 07 24.3**	**-1.3**
	0.2nm,0.5s,baz=239,slow=3.1,SNR=2.0						
	0.2nm,0.5s						

*NEIC **24** 23:56:42.9±1.5,51°.32N±0°.07×177°.70W±0°.06, h40km±17km,mb3.7/15,ML3.0(AEIC),Error ellipse: s-maj=10.4km s-min=5.0km az=165.0*

AEIC 24 23:56:42.2±1.6,51°.32N±0°.05×177°.69W±0°.06,h43km±8km, Error ellipse: s-maj=7.8km s-min=4.5km az=153.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAFL	**Tanaga Flats**	**0.45**	**344**		Pn	23 56 52.7	+0.2
TAFL					Sn	23 57 01.1	+1.3
TASE	**Tanaga Southea**	**0.56**	**337**		Pn	23 56 54.4	+0.6
TAFP	**Tanaga Falls P**	**0.61**	**343**		Pn	23 56 54.9	+0.4
TAFP					Sn	23 57 04.4	+1.1
KIWB	**Kanaga Island**	**0.63**	**32**		Pn	23 56 55.0	+0.2
KIWB					Sn	23 57 05.0	+1.2
TANO	**Tanaga North**	**0.65**	**336**		Pn	23 56 55.8	+0.7
KIRH	**Kanaga Island**	**0.69**	**33**		Pn	23 56 56.0	+0.4
GAEA	**Gareloi East**	**0.80**	**305**		Pn	23 56 57.5	+0.4
ADK	**Adak**	**0.84**	**48**		Pn	23 56 57.8	+0.1
ADK	**Adak**	**0.84**	**48**		Sn	23 57 09.4	+0.5
GANO	**Gareloi North**	**0.85**	**306**		Pn	23 56 57.9	0.0
GSMY	**Great Sitkin M**	**1.25**	**54**		Pn	23 57 03.9	+0.7
GSMY					Sn	23 57 20.4	+1.6
GSTR	**Great Sitkin T**	**1.28**	**52**		Pn	23 57 04.2	+0.6
CEPE	**Semis' Perret**	**1.78**	**292**		Pn	23 57 11.1	+0.7
CESW	**Semis' Southwe**	**1.81**	**290**		Pn	23 57 10.9	+0.1
AMKA	**Amchitka**	**1.89**	**273**		Pn	23 57 11.5	-0.4
AMKA					Sn	23 57 36.1	+1.6
ATKA	**Atka Island**	**2.34**	**67**		Pn	23 57 18.9	+0.7
K15K	**Wolf Creek Mou**	**14.06**	**32**	Pn	Pn	00 00 00.0	+1.5
OHAK	**Old Harbor**	**15.38**	**58**	Pn	Pn	00 00 16.9	+0.9
KDAK	**Kodiak Island**	**15.88**	**56**	Pn	Pn	00 00 23.0	+0.6
J18K	**Innoko River**	**16.50**	**34**		P	00 00 33.7	+1.3
BRLK	**Bradley Lake**	**17.26**	**50**		P	00 00 40.8	0.0
BRLK					IAmb	IAmb 00 00 59.4	
	comp=Z,19nm,1.5s						
CAST	**Castle Rocks**	**18.20**	**38**		Pn	00 00 53.5	+2.2
KTH	**Kantishna Hill**	**18.73**	**39**	P	Pn	00 00 58.4	+0.7
KTH				IAmb	IAmb	00 01 16.0	
	comp=Z,6.1nm,1.2s						
E19K	**Redstone River**	**19.07**	**24**	P	Pn	00 01 02.5	+0.8
G21K	**Allakaket**	**19.48**	**29**	P	Pn	00 01 06.8	+0.1
G21K				IAmb	IAmb	00 01 12.5	
	comp=Z,7.2nm,1.5s						
SCM	**Sheep Creek Mo**	**19.56**	**46**	P	Pn	00 01 07.6	-0.1
H24K	**Noodor Dome**	**20.98**	**35**	P	P	00 01 22.7	+1.3
H24K				IAmb	IAmb	00 01 26.1	
	comp=Z,3.1nm,1.4s						
B20K	**Meade River**	**21.06**	**20**	P	P	00 01 22.3	+0.2
B20K				IAmb	IAmb	00 01 45.5	
	comp=Z,6.3nm,1.5s						
B21K	**Ikpikpuk River**	**21.33**	**22**	P	P	00 01 25.5	+0.5
B21K				IAmb	IAmb	00 01 42.4	
	comp=Z,2.0nm,1.1s						
F24K	**Squaw Lake**	**21.85**	**31**	P	P	00 01 31.6	+0.9
F24K				IAmb	IAmb	00 01 36.6	
	comp=Z,2.9nm,1.2s						
BMAR	**Burnt Mountain**	**22.90**	**33**	P	P	00 01 43.2	+1.2
K29M	**Barlow Dome**	**24.43**	**44**	P	P	00 01 56.6	0.0
K29M				IAmb	IAmb	00 02 00.0	
	comp=Z,5.5nm,1.5s						
I30M	**Mount Dempster**	**25.21**	**41**	P	P	00 02 02.8	-0.9
I30M				IAmb	IAmb	00 02 15.9	
	comp=Z,1.8nm,1.1s						

*IDC **25** 00:05:24.5±0.8,6°.26S×143°.16E,h0km,mb4.0/11, mbtmp4.0/13,ML1.8/1,MS3.0/1,Error ellipse: s-maj=33.9km s-min=19.8km az=68.0*

ISC 25 00:05:26.0±0.7,6°.47S±0°.08×142°.91E±0°.10,h10km,n16, σ1ᵗ67/17,mb4.0/11,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.12**	**125**	Pn	**Pn**	**00 06 41.2**	**-1.6**
	2.2nm,0.3s,baz=239,slow=19,SNR=1.6						
PMG				Sn	**Sn**	**00 07 43.5**	**+1.4**
	2.0nm,0.3s,baz=0.1,slow=16,SNR=1.7						
	4.9nm,0.3s						
WRA	**Warramunga Arr**	**15.77**	**211**	Pn	**Pn**	**00 09 09.4**	**+1.0**
	0.4nm,0.3s,baz=30,slow=13,SNR=11						
WRA				Sn	**Sn**	**00 12 02.8**	**-0.6**
	0.2nm,0.3s,baz=22,slow=23,SNR=0.8						
WRA				Lg	Lg	00 13 56.5	
	0.1nm,0.3s,baz=38,slow=24,SNR=5.1						
ASAR	**Alice Springs**	**19.17**	**206**	P	**Pn**	**00 09 54.2**	**+3.5**
	5.4nm,0.7s,baz=32,slow=10,SNR=59						
ASAR				S	**Sn**	**00 13 21.8**	**-4.0**
	0.6nm,0.8s,baz=21,slow=27,SNR=0.9						
ASAR				Lg	Lg	00 15 33.4	
	baz=29,slow=29						
DAV	**Davao City (W)**	**21.90**	**308**	LR	LR	00 18 20.3	
	comp=Z,45nm,21.6s,baz=316,slow=35						
MJAR	**Matsushiro Arr**	**43.01**	**354**	P	**P**	**00 13 25.9**	**+0.2**
	2.2nm,0.9s,baz=172,slow=11,SNR=5.3						
	2.2nm,0.9s						
KSRS	**Korea Array**	**45.88**	**343**	P	**P**	**00 13 48.4**	**-0.2**
	1.1nm,0.7s,baz=162,slow=9.6,SNR=4.8						
	1.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**49.93**	**301**	P	**P**	**00 14 21.6**	**+1.1**
	0.9nm,0.3s,baz=116,slow=5.5,SNR=4.6						
	0.9nm,0.3s						
SONM	**Songino Array**	**62.91**	**333**	P	**P**	**00 15 51.7**	**-0.9**
	0.5nm,0.9s,baz=173,slow=6.3,SNR=2.4						
	0.5nm,0.9s						
MKAR	**Makanchi Array**	**75.30**	**322**	P	**P**	**00 17 09.6**	**+0.1**
	1.2nm,0.8s,baz=103,slow=7.6,SNR=12						
	1.2nm,0.8s						
ZALV	**Zalesovo Beam**	**77.28**	**329**	P	**P**	**00 17 19.4**	**-1.0**
	0.6nm,0.6s,baz=112,slow=4.0,SNR=3.6						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**79.19**	**324**	P	**P**	**00 17 30.4**	**-0.7**
	0.9nm,0.9s,baz=115,slow=4.7,SNR=7.4						
	0.9nm,0.9s						
QSPA	**South Pole Qui**	**83.50**	**180**	P	**P**	**00 17 55.1**	**+1.1**
	1.2nm,1.0s,baz=36,slow=0.4,SNR=5.4						
	1.2nm,1.0s						
NRIK	**Noril'sk**	**84.50**	**343**	P	**P**	**00 17 58.5**	**-0.2**
	0.9nm,0.3s,baz=104,slow=5.6,SNR=2.6						
	0.9nm,0.3s						
BVAR	**Borovoye Array**	**84.77**	**325**	P	**P**	**00 18 00.8**	**+0.3**
	6.4nm,0.8s,baz=113,slow=6.9,SNR=25						
	6.4nm,0.8s						
ILAR	**Eielson Array**	**87.53**	**24**	P	P	00 18 12.1	-1.7
	1.1nm,0.7s,baz=249,slow=5.4,SNR=11						
	1.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**141.25**	**283**	PKP	**PKPdf**	**00 24 57.6**	**-0.5**
	0.2nm,0.5s,baz=55,slow=3.0,SNR=2.5						

IDC 25 00:07:21.4±12.0,4°.98S×102°.32W,h0km,mb3.5/4, mbtmp3.5/4,MS3.3/3,Error ellipse: s-maj=515.1km s-min=135.6km az=109.0,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**23.89**	**96**	LR	LR	00 19 32.9	
	comp=Z,65nm,20.0s,baz=200,slow=31						
NNA	**Nana**	**26.13**	**107**	LR	LR	00 21 22.6	
	comp=Z,50nm,18.9s,baz=230,slow=32						
TXAR	**Lajitas Array**	**34.14**	**358**	P	P	00 14 08.7	+0.3
	0.2nm,0.6s,baz=203,slow=8.8,SNR=2.8						
	0.2nm,0.6s						
LVC	**Limon Verde**	**36.73**	**122**	LR	LR	00 25 49.3	
	comp=Z,52nm,19.8s,baz=250,slow=30						
PDAR	**Pinedale Array**	**47.97**	**353**	P	P	00 16 01.7	-0.6
	0.7nm,0.6s,baz=161,slow=8.4,SNR=7.0						
	0.7nm,0.6s						
YKA	**Yellowknife Ar**	**67.94**	**354**	P	P	00 18 21.9	+0.1
	0.4nm,0.8s,baz=164,slow=5.8,SNR=5.8						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**76.92**	**342**	P	P	00 19 15.5	+0.1
	0.5nm,0.8s,baz=157,slow=4.8,SNR=4.7						
	0.5nm,0.8s						
H11N3	**WAKE ISLAND Hy**	**92.38**	**289**	T	T	02 01 26.9	
	baz=93,slow=75,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**92.39**	**289**	T	T	02 01 28.3	
	baz=93,slow=75,SNR=7.6						
H11N1	**WAKE ISLAND Hy**	**92.40**	**289**	T	T	02 01 28.1	
	baz=93,slow=75,SNR=7.9						
H11S2	**WAKE ISLAND Hy**	**92.48**	**288**	T	T	02 01 35.3	
	baz=95,slow=75,SNR=8.7						
H11S1	**WAKE ISLAND Hy**	**92.48**	**288**	T	T	02 01 35.5	
	baz=95,slow=75,SNR=7.9						
H11S3	**WAKE ISLAND Hy**	**92.50**	**288**	T	T	02 01 39.3	
	baz=95,slow=75,SNR=6.3						

*IDC **25** 00:14:23.9±0.9,5°.78S×142°.34E,h0km,mb3.9/8, mbtmp4.0/10,ML2.0/1,MS3.6/19,Error ellipse: s-maj=39.7km s-min=20.6km az=67.0*

*NEIC **25** 00:14:25.6±1.6,5°.9S±0°.1×142°.17E±0°.08,h10km±1km, mb4.4/9,Error ellipse: s-maj=19.0km s-min=11.5km az=26.0*

ISC 25 00:14:25.0±0.6,5°.91S±0°.07×142°.18E±0°.08,h10km,n43, σ1ᵗ52/31,mb4.1/11,MS3.6/14,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.03**	**125**	Pn	**Pn**	**00 15 55.7**	**+1.3**
PMG	**Port Moresby**	**6.03**	**125**	Pn	**Pn**	**00 15 55.1**	**+0.8**
	2.4nm,0.3s,baz=287,slow=19,SNR=2.3						
PMG				Sn	**Sn**	**00 17 02.0**	**-1.5**
	4.9nm,0.3s,baz=45,slow=23,SNR=1.9						
PMG				Lg	Lg	00 17 41.3	
	2.4nm,0.3s,baz=198,slow=17,SNR=3.2						
	8.6nm,0.4s						
COEN	**Coen**	**8.05**	**173**	Pn	**Pn**	**00 16 25.5**	**+3.3**
MTN	**Manton Dam**	**12.89**	**237**	Pn	**Pn**	**00 17 29.1**	**+0.7**
CTA	**Charters Tower**	**14.63**	**165**	LR	LR	00 23 36.6	
	comp=Z,119nm,19.2s,baz=181,slow=38						
WB0	**Warramunga Arr**	**15.71**	**208**		**Pn**	**00 18 06.4**	**-0.3**
WB0				IAmb	IAmb	00 18 27.1	
	comp=Z,42nm,1.3s						
WRA	**Warramunga Arr**	**15.89**	**208**		**Pn**	**00 18 07.2**	**-1.8**
WRA	**Warramunga Arr**	**15.89**	**208**	Pn	**Pn**	**00 18 07.9**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=28,slow=13,SNR=15						
WRA				Sn	**Sn**	**00 21 00.2**	**-5.1**
	comp=Z,0.1nm,0.3s,baz=27,slow=28,SNR=2.1						
WRA				Lg	Lg	00 22 59.3	
	comp=Z,0.4nm,0.3s,baz=33,slow=28,SNR=5.4						
HNR	**Honiara**	**17.95**	**102**	LR	LR	00 25 42.5	
	comp=Z,1μm,19.8s,baz=282,slow=38						
BATI	**Baumata**	**18.82**	**256**	LR	LR	00 28 09.6	
	comp=Z,288nm,19.6s,baz=86,slow=43						
AS31	**Alice Springs**	**19.36**	**203**		**P**	**00 18 51.8**	**+0.8**
AS31				IAmb	IAmb	00 18 57.1	
	comp=Z,7.5nm,1.1s						
ASAR	**Alice Springs**	**19.36**	**203**		**P**	**00 18 52.0**	**+0.9**
ASAR	**Alice Springs**	**19.36**	**203**	P	**P**	**00 18 54.0**	**+2.9**
	comp=Z,18nm,0.9s,baz=34,slow=9.7,SNR=40						
ASAR				S	**Sn**	**00 22 28.1**	**-1.4**
	comp=Z,1.7nm,0.9s,baz=40,slow=20,SNR=4.2						
ASAR				Lg	Lg	00 24 48.1	
	comp=Z,0.2nm,0.3s,baz=18,slow=30,SNR=4.5						
ASAR				LR	LR	00 26 54.1	
	comp=Z,674nm,18.8s,baz=32,slow=38						
GUMO	**Gu

QSPA LR LR 01 05 04.2
comp=Z,78nm,18.1s,baz=336,slow=36
comp=Z,2.2nm,0.8s
B21K Ikpikpuk River 86.49 18 P **P** **00 27 08.0 +0.3**
B21K IAmb IAmb 00 27 13.3
comp=Z,4.8nm,1.3s
ILAR Eielson Array 87.32 24 P **P** **00 27 11.7 -0.2**
comp=Z,0.5nm,0.8s,baz=259,slow=5.9,SNR=5.3
ILAR LR LR 01 02 54.2
comp=Z,26nm,21.2s,baz=318,slow=33
comp=Z,0.5nm,0.8s
BMAR Burnt Mountain 89.06 22 P **P** **00 27 20.2 0.0**
ABKAR Akbulak array 89.39 320 P **P** **00 27 20.8 -1.2**
BBB Bella Bella 94.45 38 LR LR 01 08 16.3
comp=Z,23nm,18.2s,baz=327,slow=34
KIRV Kirov 96.45 328 LR LR 01 14 03.4
comp=Z,17nm,18.7s,baz=351,slow=37

IDC 25 00:24:31.8±6.2, 5.70S×141.65E, h0km, mb3.4/1, mbtmp3.5/3, ML3.1/2, Error ellipse: s-maj=217.0km s-min=37.0km az=93.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.84**	**206**	Pn	Pn	00 28 16.0	-0.3
	0.1nm,0.3s,baz=29,slow=12,SNR=6.4						
	1.1nm,1.0s						
ASAR	**Alice Springs**	**19.36**	**202**	P	P	00 28 59.4	+0.3
	0.1nm,0.3s,baz=32,slow=9.9,SNR=6.3						
	2.0nm,0.8s						
MKAR	**Makanchi Array**	**73.93**	**322**	P	P	00 36 09.0	0.0
	0.2nm,0.7s,baz=101,slow=7.5,SNR=2.4						
	0.2nm,0.7s						

*IDC **25** 00:40:37.2±0.7, 28.96N×105.55E, h0km, mb3.8/16, mbtmp3.8/18, ML3.3/1, MS2.7/1, Error ellipse: s-maj=22.5km s-min=15.1km az=58.0*
*NEIC **25** 00:40:37.8±1.6, 28.81N±0.04×105.32E±0.1, h10km±1km, mb4.3/11, Error ellipse: s-maj=17.2km s-min=6.9km az=264.0*

ISC 25 00:40:39.2±0.7, 29.0N±0.1×105.4E±0.1, h10km, n34, σ0s97/31, mb3.8/21, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**3.74**	**69**	Pn	**Pn**	**00 41 39.6**	**+2.6**
CMAR	**Chiang Mai Arr**	**12.07**	**211**	Pn	**Pn**	**00 43 32.8**	**+1.4**
	0.5nm,0.3s,baz=22,slow=12,SNR=6.2						
SONM	**Songino Array**	**18.81**	**2**	P	**P**	**00 44 59.7**	**+0.8**
SONM	**Songino Array**	**18.81**	**2**	P	**P**	**00 44 59.6**	**+0.6**
	0.1nm,0.3s,baz=181,slow=15,SNR=5.0						
	0.8nm,0.7s						
KSRS	**Korea Array**	**20.57**	**60**	P	**P**	**00 45 17.6**	**-0.5**
	0.9nm,0.5s,baz=244,slow=10,SNR=6.0						
KSRS				LR	LR	00 53 02.8	
	comp=Z,22nm,18.4s,baz=180,slow=36						
	0.9nm,0.5s						
MK31	**Makanchi Array**	**25.32**	**321**	P	**P**	**00 46 04.9**	**-1.1**
MK31				IAmb	IAmb	00 46 13.0	
	comp=Z,1.6nm,1.1s						
MKAR	**Makanchi Array**	**25.32**	**321**	P	**P**	**00 46 04.8**	**-1.3**
MKAR	**Makanchi Array**	**25.32**	**321**	P	**P**	**00 46 07.0**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=125,slow=11,SNR=11						
	comp=Z,0.9nm,0.6s						
USRK	**Ussuriysk Ar.**	**26.00**	**47**	P	**P**	**00 46 11.9**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=136,slow=41,SNR=1.5						
	comp=Z,1.4nm,0.7s						
ZALV	**Zalesovo Beam**	**29.10**	**335**	P	**P**	**00 46 39.0**	**-0.9**
ZALV	**Zalesovo Beam**	**29.10**	**335**	P	**P**	**00 46 40.1**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=128,slow=9.8,SNR=6.8						
	comp=Z,1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**29.60**	**324**	P	**P**	**00 46 44.7**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=131,slow=9.6,SNR=5.9						
	comp=Z,0.5nm,0.7s						
BVAR	**Borovoye Array**	**35.15**	**323**	P	**P**	**00 47 33.3**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=110,slow=11,SNR=2.3						
	comp=Z,0.3nm,0.6s						
GEYT	**Alibeck**	**40.10**	**296**	P	**P**	**00 48 15.9**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=88,slow=11,SNR=3.0						
	comp=Z,1.5nm,0.7s						
NRIK	**Noril'sk**	**41.67**	**351**	P	**P**	**00 48 27.6**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=326,slow=2.9,SNR=5.9						
	comp=Z,2.3nm,0.6s						
PETK	**Petropavlovsk-**	**44.91**	**42**	P	**P**	**00 48 53.0**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=306,slow=3.2,SNR=2.4						
	comp=Z,1.0nm,0.8s						
WB0	**Warramunga Arr**	**55.97**	**147**	P	P	00 50 15.1	-2.8
WB0				IAmb	IAmb	00 50 16.2	
	comp=Z,17nm,1.4s						
WRA	**Warramunga Arr**	**56.10**	**147**	P	P	00 50 14.1	-4.8
WRA	**Warramunga Arr**	**56.10**	**147**	P	**P**	**00 50 17.2**	**-1.6**
	comp=Z,1.0nm,0.8s,baz=337,slow=8.3,SNR=16						
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**59.11**	**149**	P	**P**	**00 50 38.2**	**-1.8**
ASAR	**Alice Springs**	**59.11**	**149**	P	**P**	**00 50 39.1**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=334,slow=6.5,SNR=20						
	comp=Z,0.8nm,0.6s						
ARCES	**ARCESS Array B**	**59.63**	**336**	P	**P**	**00 50 43.0**	**0.0**
ARCES	**ARCESS Array B**	**59.63**	**336**	P	**P**	**00 50 43.3**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=79,slow=5.4,SNR=6.9						
	comp=Z,2.6nm,0.8s						
FINES	**FINESS Array B**	**59.94**	**327**	P	**P**	**00 50 45.0**	**-0.3**
FINES	**FINESS Array B**	**59.94**	**327**	P	**P**	**00 50 45.0**	**-0.3**
	comp=Z,4.2nm,1.0s,baz=28,slow=4.5,SNR=4.8						
	comp=Z,4.2nm,1.0s						
B20K	**Meade River**	**65.53**	**22**	P	**P**	**00 51 22.5**	**+0.1**
B20K				IAmb	IAmb	00 51 24.0	
	comp=Z,3.2nm,1.0s						
NOA	**NORSAR Array B**	**67.04**	**328**	P	**P**	**00 51 31.4**	**-0.8**
	comp=Z,0.6nm,0.9s,baz=77,slow=7.8,SNR=1.0						
	comp=Z,0.6nm,0.9s						
NC204	**NORSAR Array S**	**67.17**	**329**	P	P	00 51 31.7	-1.5
IMAR	**Indian Mountai**	**68.10**	**26**	P	**P**	**00 51 38.0**	**-0.8**
TTA	**Tatalina**	**68.32**	**29**	P	**P**	**00 51 40.1**	**-0.2**
TTA				IAmb	IAmb	00 51 44.1	
	comp=Z,4.0nm,1.4s						
J20K	**Nowinta River**	**68.63**	**28**	P	**P**	**00 51 41.8**	**-0.3**
J20K				IAmb	IAmb	00 52 03.9	
	comp=Z,7.4nm,1.5s						
ILAR	**Eielson Array**	**71.22**	**26**	P	**P**	**00 51 57.7**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=323,slow=33,SNR=2.1						
	comp=Z,0.3nm,0.8s						
J26L	**Joseph Creek**	**72.60**	**25**	P	**P**	**00 52 05.3**	**-1.2**
J26L				IAmb	IAmb	00 52 06.4	
	comp=Z,2.4nm,0.8s						
YKA	**Yellowknife Ar**	**83.34**	**18**	P	**P**	**00 53 05.6**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=325,slow=5.1,SNR=7.4						
	comp=Z,0.3nm,0.7s						

*NEIC **25** 00:51:48.7±1.0, 36.42N±0.02×121.01W±0.02, h13km±10km, Error ellipse: s-maj=3.3km s-min=1.8km az=47.0*

NCEDC 25 00:51:49.0±1.0, 36.42N±0.01×120.99W±0.02, h7km±6km, Md3.0/104, ML2.7/38(NEIC), Error ellipse: s-maj=2.4km s-min=1.5km az=46.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRV	**Little Rabbit**	**0.03**	**290**		Pg	00 51 51.0	+0.6
BBGB	**Big Mountain B**	**0.17**	**345**		Pg	00 51 53.6	+1.1
BBGB					Sg	00 51 56.9	+2.0
LRC	**Lone Oak Road**	**0.17**	**195**		Pg	00 51 52.7	+0.2
BSGM	**Shirttail Gulc**	**0.22**	**270**		Pg	00 51 53.2	-0.1
BVL	**Bear Valley**	**0.23**	**314**		Pg	00 51 54.0	+0.3
BAVM	**Antelope Valle**	**0.23**	**351**		Pg	00 51 54.5	+0.8
PMPB	**Monarch Peak**	**0.25**	**143**		Pg	00 51 54.7	+0.7
PMPB					Sg	00 51 58.7	+1.4
	comp=N,2μm,0.6s				IAML	00 52 01.6	
BJOM	**Mount Johnson**	**0.34**	**309**		Pg	00 51 55.4	-0.3
BJOM					Sg	00 52 00.1	0.0
BJCM	**Johnson Can.**	**0.35**	**292**		Pg	00 51 55.8	-0.2
PCCM	**Crazy Canyon**	**0.35**	**204**		Pg	00 51 56.3	+0.3
BSMM	**Soledad Missio**	**0.36**	**265**		Pg	00 51 56.0	0.0
PJUM	**Juniper Ridge**	**0.37**	**120**		Pb	00 51 57.3	-0.7
PPTM	**Peach Tree Val**	**0.37**	**145**		Pg	00 51 56.6	+0.2
SCZ	**Santa Cruz**	**0.38**	**299**		Pg	00 51 56.2	-0.3
PSAM	**San Ardo**	**0.40**	**168**		Pg	00 51 56.9	+0.2
HULI	**Fort Hunter Li**	**0.44**	**207**		Pg	00 51 57.7	+0.1
HAST	**Hastings Reser**	**0.46**	**267**		Pg	00 51 57.7	-0.2
HAST					Sg	00 52 03.9	0.0
BSLM	**Silva Ranch**	**0.46**	**321**		Pb	00 51 59.0	-0.5
PSMM	**Smith Mountain**	**0.47**	**137**		Pg	00 51 58.7	+0.6
BSRM	**Salinas Radio**	**0.50**	**300**		Pg	00 51 58.4	-0.3
PDRM	**Domengine Ranc**	**0.51**	**99**		Pb	00 52 00.1	-0.1
SAO	**San Andreas Ge**	**0.51**	**313**		Pg	00 51 58.5	-0.4
FRP	**Fremont Peak**	**0.53**	**310**		Pg	00 51 58.8	-0.5
PHPM	**Hope Ranch**	**0.53**	**145**		Pg	00 51 59.4	+0.1
BPCNC	**Pine Canyon**	**0.54**	**287**		Pg	00 51 59.4	0.0
HSFM	**Saint Francis**	**0.57**	**314**		Pg	00 52 00.0	-0.1
BAPM	**Anderson Peak**	**0.58**	**246**		Pg	00 52 00.1	-0.2
PAPM	**Alder Peak**	**0.59**	**211**		Pg	00 52 00.5	+0.1
PKD	**Bear Valley Ra**	**0.59**	**142**		Pg	00 52 00.4	-0.1
PHSB	**Hesperia Broad**	**0.59**	**185**		Pg	00 52 00.4	0.0
BPRM	**Ponciano Ridge**	**0.60**	**269**		Pg	00 52 00.4	-0.2
PVCM	**Vineyard Canyo**	**0.61**	**143**		Pg	00 52 00.9	+0.1
PSTM	**Stockdale Moun**	**0.62**	**141**		Pg	00 52 00.9	-0.1
PPO	**Portuguese Can**	**0.62**	**151**		Pg	00 52 01.5	+0.4
PWMM	**Westland Maint**	**0.63**	**88**		Pb	00 52 02.7	+0.4
HBTM	**San Juan Bauti**	**0.63**	**314**		Pg	00 52 01.1	-0.1
PANM	**San Antonio Re**	**0.64**	**174**		Pg	00 52 01.4	+0.1
BPOM	**Post Ranch**	**0.66**	**254**		Pg	00 52 01.4	-0.3
HFEM	**San Felipe**	**0.66**	**330**		Pg	00 52 02.2	+0.5
HTUM	**Tustin Road**	**0.67**	**308**		Pg	00 52 01.4	-0.5
ANZ	**Anzar Road**	**0.68**	**314**		Pg	00 52 01.7	-0.3
HPCM	**Pacheco Lake**	**0.68**	**340**		Pg	00 52 02.7	+0.5
SLD	**San Luis Dam**	**0.69**	**344**		Pg	00 52 02.7	+0.4
HERM	**Elkhorn Road**	**0.70**	**303**		Pg	00 52 02.3	-0.2
PHFM	**Heflinger Ranc**	**0.71**	**138**		Pg	00 52 03.2	+0.5
PWKM	**Work Ranch**	**0.71**	**147**		Pg	00 52 03.0	+0.3
CTM	**Castle Mountai**	**0.71**	**132**		Pb	00 52 04.0	+0.1
CDC	**Canada Road**	**0.73**	**327**		Pb	00 52 03.9	-0.3
HCBM	**Chamberlain**	**0.75**	**314**		Pg	00 52 03.9	+0.4
HCOM	**Corn Cob Canyo**	**0.75**	**309**		Pg	00 52 03.2	-0.2
PHAM	**Harlan Ranch**	**0.75**	**140**		Pg	00 52 03.5	+0.1
GHS	**Gilroy Hot Spr**	**0.77**	**332**		Pg	00 52 04.3	+0.4
HMOM	**Monterey**	**0.77**	**284**		Pg	00 52 03.5	-0.4
GHC	**Gold Hill**	**0.78**	**138**		Pg	00 52 03.7	-0.2
RAMR	**Ramage Ranch**	**0.78**	**173**		Pg	00 52 04.0	-0.1
PKEM	**Kettleman Hill**	**0.79**	**116**		Pb	00 52 05.3	+0.1
PSRM	**Scobie Ranch**	**0.80**	**134**		Pg	00 52 04.3	0.0
HLPM	**Lions Peak**	**0.81**	**321**		Pg	00 52 04.7	0.0
PKLM	**Kerr Lake**	**0.83**	**141**		Pg	00 52 05.1	+0.1
PSNM	**Stone Corral**	**0.84**	**138**		Pg	00 52 05.2	0.0
JELB	**Ellicott, Sant**	**0.85**	**307**		Pg	00 52 05.1	-0.3
TCHL	**Shandon**	**0.87**	**147**		Pg	00 52 05.8	+0.1
PMRM	**Maxey Ranch**	**0.88**	**136**		Pb	00 52 06.3	-0.3
TCAS	**Cass Winery, P**	**0.88**	**157**		Pg	00 52 05.6	-0.3
CADM	**Anderson Res.**	**0.91**	**326**		Pg	00 52 06.6	+0.1
TRAM	**Private Proper**	**0.94**	**142**		Pg	00 52 07.0	0.0
JLAB	**Laurel Hill**	**0.95**	**321**		Pg	00 52 07.0	-0.3
CCUB	**Coe Ranch Numb**	**1.01**	**327**		Pg	00 52 08.6	+0.2
TSCN	**Private Proper**	**1.01**	**149**		Pg	00 52 08.5	0.0
ARN	**Arnold Ranch**	**1.03**	**335**		Pg	00 52 08.6	-0.3
PTAM	**Tassajara Cree**	**1.04**	**167**		Pg	00 52 07.5	-1.6
MHC	**Mount Hamilton**	**1.06**	**331**		Pg	00 52 08.9	-0.6
MYLM	**Yosemite Lake**	**1.07**	**25**		Pg	00 52 09.1	-0.5
TSCS	**Shell Creek So**	**1.10**	**152**		Pg	00 52 09.0	-1.1
EFD	**Emergency Oper**	**1.11**	**169**		Pg	00 52 09.2	-1.2
PBPM	**Bitterwater Pu**	**1.11**	**138**		Pg	00 52 09.1	-1.3
CMMM	**Mount Mocho**	**1.11**	**339**		Pg	00 52 09.8	-0.6
JJOM	**Saint Joseph's**	**1.12**	**315**		Pg	00 52 09.1	-1.5
LSDC	**Los Osos Digit**	**1.12**	**174**		Pg	00 52 09.6	-1.0
MHDM	**Hidden Dam**	**1.12**	**51**		Pg	00 52 09.5	-1.1
FRI	**Friant**	**1.18**	**60**		Pg	00 52 10.1	-1.5
CMLM	**Mount Lewis**	**1.19**	**334**		Pg	00 52 10.9	-0.9
JSJM	**St Joseph**	**1.27**	**316**		Pn	00 52 12.5	-0.9
CSTL	**Corral Hollow**	**1.29**	**342**		Pn	00 52 12.9	-0.6
VOG	**Valley Oaks Go**	**1.30**	**94**		Pn	00 52 12.4	-1.3
JBMM	**Black Mountain**	**1.32**	**141**		Pn	00 52 11.8	-1.9
JPSM		**1.34**	**306**		Pn	00 52 12.3	-1.4
JFP	**Foothills Park**	**1.35**	**315**		Pn	00 52 12.8	-1.6
JSFB	**Stanford Teles**	**1.37**	**316**		Pn	00 52 14.1	-0.6
CVLM	**Vallecito**	**1.39**	**331**		Pn	00 52 14.1	-0.8
JRSC	**Jasper Ridge**	**1.41**	**315**		Pn	00 52 13.4	-1.8
MRHM	**Rocky Hill**	**1.54**	**94**		Pn	00 52 15.6	-1.4
CMB	**Columbia Colle**	**1.69**	**16**		Pn	00 52 18.6	-0.5
PKM	**Mcpherson Peak**	**1.80**	**148**		Pn	00 52 19.3	-1.4
SPG2	**Springville 2**	**1.81**	**96**		Pn	00 52 20.2	-0.5
BCW	**Bitter Crk WRg**	**1.95**	**139**		Pn	00 52 22.2	-0.5
BCW					IAML	00 52 58.4	
	comp=E,79nm,0.5s						
MDPB	**Devils Postpil**	**1.95**	**51**		Pn	00 52 23.4	+0.6
MINS	**Minaret Summit**	**1.98**	**51**		Pn	00 52 23.9	+0.7
ISA	**Isabella, Lake**	**2.17**	**110**		Pn	00 52 25.3	-0.4
ISA						00 52 56.1	
	comp=N,51nm,0.6s				IAML		
ISA					IAML	00 53 01.7	
	comp=E,38nm,0.5s						
WAKR	**Walker**	**2.42**	**30**		Pn	00 52 30.1	+0.8
WAKR					IAML	00 53 08.8	
	comp=N,38nm,1.0s						
AFDM	**Forest Hills D**	**2.53**	**0**		Pn	00 52 30.3	-0.3
DSP	**Deep Springs**	**2.60**	**68**		Pn	00 52 32.8	+1.3
EMB	**Emerald Bay**	**2.65**	**15**	Pn	Pn	00 52 32.4	0.0
EMB					IAML	00 53 13.7	
	comp=E,33nm,1.0s						
EMB					IAML	00 53 24.8	
	comp=N,30nm,0.8s						
CCAC	**Calif City Air**	**2.72**	**117**		Pn	00 52 33.2	-0.1
CCAC					IAML	00 53 24.3	
	comp=N,41nm,1.2s						
PNTR	**Pine Nut**	**2.89**	**22**		Pn	00 52 36.0	+0.3
PNTR					IAML	00 53 33.1	
	comp=E,35nm,0.9s						
PNTR					IAML	00 53 40.9	
	comp=N,35nm,1.2s						
NVAR	**Mina Array Bea**	**2.93**	**46**		Pn	00 52 37.0	+0.6
ORV	**Oroville**	**3.16**	**353**		Pn	00 52 39.1	-0.2
ORV					IAML	00 53 08.7	
	comp=E,15nm,4.7s						
PASC	**Pasadena Art C**	**3.20**	**134**		Pn	00 52 39.1	-0.8
PASC	**Pasadena Art C**	**3.20**	**134**	IAML		00 53 30.0	
	comp=N,17nm,4.3s						
PASC					IAML	00 54 31.6	
	comp=E,16nm,2.9s						
KVN	**Kaiserville**	**3.49**	**40**		Pn	00 52 45.0	+1.1
KVN					IAML	00 53 44.4	
	comp=N,13nm,4.8s						
KVN					IAML	00 53 44.8	
	comp=E,9.1nm,1.2s						
WCT	**Wildcat Mounta**	**3.53**	**83**		Pn	00 52 44.7	+0.3
WCT					IAML	00 53 41.9	
	comp=E,7.6nm,1.6s						
PFO	**Pinyon Flats O**	**4.65**	**126**	Pn	Pn	00 53 00.3	+0.5
PFO					IAML	00 54 25.5	
	comp=E,6.6nm,3.1s						
PFO					IAML	00 54 28.9	
	comp=E,5.4nm,3.3s						

*KRSC **25** 00:55:46.9±2.4, 49.46N×156.96E, h43km±26km, Mc3.7, Ml5.0*
*MOS **25** 00:55:49.1±0.8, 49.63N×156.04E, h72km, mb4.6/17, Error ellipse: s-maj=12.8km s-min=4.0km az=74.9*
*IDC **25** 00:55:50.8±2.2, 49.68N×156.00E, h68km±18km, mb3.7/23, mbtmp4.1/28, MS3.1/15, Error ellipse: s-maj=18.2km s-min=10.5km az=148.0*
*NEIC **25** 00:55:50.7±0.8, 49.7N±0.1×156.0E±0.2, h69km±8km, mb4.4/53, Error ellipse: s-maj=19.2km s-min=12.0km az=134.0*

ISC 25 00:55:49.2±0.8, 49.51N±0.07×156.29E±0.06, h60km±6km, n486, σ0s97/502, mb4.3/72, 4C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.18**	**355**	*i* PN	**Pn**	**00 56 09.1**	**-0.5**
SKR				*e*S	**Sn**	**00 56 24.3**	**-0.5**
SKR					pmax	pmax	
	comp=Z,840nm,0.5s						
SKR					smax	smax	
	comp=N,3μm,0.6s						
SKR					smax	smax	
	comp=E,4μm,0.6s						
SKR	**Severo-Kuril's**	**1.18**	**355**	*e*P	**Pn**	**00 56 09.0**	**-0.5**
SKR				*e*S	**Sn**	**00 56 24.4**	**-0.4**
PAU	**Pauzhetka**	**1.99**	**9**	PN	**Pn**	**00 56 21.6**	**+1.2**
PAU				S	**Sn**	**00 56 46.1**	**+1.9**
PAU	**Pauzhetka**	**1.99**	**9**	*e*P	**Pn**	**00 56 21.6**	**+1.2**
PAU				*e*S	**Sn**	**00 56 46.1**	**+1.9**
KDTR	**Khodutka, Kamc**	**2.57**	**26**	PN	**Pn**	**00 56 27.8**	**-0.5**
KDTR				S	**Sn**	**00 56 57.5**	**-0.9**
KDTR	**Khodutka, Kamc**	**2.57**	**26**	*e*P	**Pn**	**00 56 27.8**	**-0.5**
KDTR				*e*S	**Sn**	**00 56 57.5**	**-0.9**
ASAK	**Asacha**	**3.05**	**19**	PN	**Pn**	**00 56 36.0**	**+1.0**
ASAK				S	**Sn**	**00 57 11.7**	**+1.3**
ASAK	**Asacha**	**3.05**	**19**	*e*P	**Pn**	**00 56 36.0**	**+1.0**
ASAK				*e*S	**Sn**	**00 57 11.7**	**+1.3**
MTVR	**Mutnovka**	**3.21**	**21**	PN	**Pn**	**00 56 37.5**	**+0.3**
MTVR				S	**Sn**	**00 57 14.3**	**0.0**
MTVR	**Mutnovka**	**3.21**	**21**	*e*P	**Pn**	**00 56 37.5**	**+0.3**
MTVR				*e*S	**Sn**	**00 57 14.3**	**0.0**
RUS	**Russkaya**	**3.25**	**25**	PN	**Pn**	**00 56 36.9**	**-0.7**
RUS				S	**Sn**	**00 57 12.9**	**-2.1**
RUS	**Russkaya**	**3.25**	**25**	*e*P	**Pn**	**00 56 36.9**	**-0.7**
RUS				*e*S	**Sn**	**00 57 12.9**	**-2.1**
APC	**Apacha**	**3.46**	**9**	PN	**Pn**	**00 56 40.9**	**+0.4**
APC	**Apacha**	**3.46**	**9**	*e*P	**Pn**	**00 56 40.9**	**+0.4**
KRMR	**Karymshinskiy**	**3.52**	**18**	PN	**Pn**	**00 56 42.4**	**+1.1**
KRMR				S	**Sn**	**00 57 24.0**	**+2.3**
KRMR	**Karymshinskiy**	**3.52**	**18**	*e*P	**Pn**	**00 56 42.4**	**+1.1**
KRMR				*e*S	**Sn**	**00 57 24.0**	**+2.3**
PEA0B	**Petropavlovsk-**	**3.71**	**13**		**Pn**	**00 56 45.2**	**+1.2**
PEA0B	**Petropavlovsk-**	**3.71**	**13**	*c i* PN	**Pn**	**00 56 44.8**	**+0.8**
PETK	**Petropavlovsk-**	**3.71**	**13**	P	**Pn**	**00 56 44.5**	**+0.5**
	comp=E,14nm,0.4s,baz=188,slow=13,SNR=78						
PETK				S	**Sn**	**00 57 25.8**	**-0.6**
	comp=E,15nm,0.5s,baz=187,slow=14,SNR=1.5						
PETK				LR	LR	00 58 32.9	
	comp=E,257nm,18.8s,baz=185,slow=45						
PET	**Petropavlovsk**	**3.82**	**22**		**Pn**	**00 56 45.5**	**+0.1**
PET	**Petropavlovsk**	**3.82**	**22**	*e*PN	**Pn**	**00 56 45.7**	**+0.3**
PET				*e*S	**Sn**	**00 57 29.1**	**+0.1**
PET				pmax	pmax		
	comp=Z,56nm,0.4s						
PET				smax	smax		
	comp=E,1μm,0.5s						
PET				smax	smax		
	comp=N,1μm,0.5s						
PET				MLR	MLR		
	comp=Z,200nm,12.0s						
PET	**Petropavlovsk**	**3.82**	**22**	*e*P	**Pn**	**00 56 45.9**	**+0.5**
PET				*e*S	**Sn**	**00 57 29.7**	**+0.7**
DALK	**Dalny**	**3.85**	**23**	PN	**Pn**	**00 56 46.2**	**+0.4**
DALK				S	**Sn**	**00 57 29.9**	**+0.1**
DALK	**Dalny**	**3.85**	**23**	*e*P	**Pn**	**00 56 46.2**	**+0.4**
DALK				*e*S	**Sn**	**00 57 29.9**	**+0.1**
AVH	**Avacha**	**4.06**	**21**	PN	**Pn**	**00 56 50.4**	**+1.6**
AVH	**Avacha**	**4.06**	**21**	*e*P	**Pn**	**00 56 50.4**	**+1.6**
KOK	**Koryaka**	**4.06**	**20**	PN	**Pn**	**00 56 50.8**	**+1.9**
KOK	**Koryaka**	**4.06**	**20**	*e*P	**Pn**	**00 56 50.8**	**+1.9**
SMAR	**Somma**	**4.08**	**22**	PN	**Pn**	**00 56 49.9**	**+0.8**
SMAR	**Somma**	**4.08**	**22**	*e*P	**Pn**	**00 56 49.9**	**+0.8**
KRER	**Koryakskii**	**4.10**	**21**	PN	**Pn**	**00 56 51.0**	**+1.5**
KRER				S	**Sn**	**00 57 37.7**	**+1.5**
KRER	**Koryakskii**	**4.10**	**21**	*e*P	**Pn**	**00 56 51.0**	**+1.5**
KRER				*e*S	**Sn**	**00 57 37.7**	**+1.5**
KRX	**Arik**	**4.13**	**20**	PN	**Pn**	**00 56 51.1**	**+1.3**
KRX	**Arik**	**4.13**	**20**	*e*P	**Pn**	**00 56 51.1**	**+1.3**
NLC	**Nalytchevo**	**4.14**	**26**	PN	**Pn**	**00 56 48.4**	**-1.3**
NLC				S	**Sn**	**00 57 33.7**	**-3.1**
NLC	**Nalytchevo**	**4.14**	**26**	*e*P	**Pn**	**00 56 48.4**	**-1.3**
NLC				*e*S	**Sn**	**00 57 33.7**	**-3.1**
SPN	**Mys Shipunski**	**4.29**	**32**	PN	**Pn**	**00 56 51.6**	**-0.2**
SPN				S	**Sn**	**00 57 38.6**	**-1.9**
SPN	**Mys Shipunski**	**4.29**	**32**	*e*P	**Pn**	**00 56 51.6**	**-0.2**
SPN				*e*S	**Sn**	**00 57 38.6**	**-1.9**
GNL	**Ganaly**	**4.32**	**13**	PN	**Pn**	**00 56 54.1**	**+1.8**
GNL	**Ganaly**	**4.32**	**13**	*e*P	**Pn**	**00 56 54.1**	**+1.8**
TUMD	**Tumrok D**	**6.23**	**22**	*e*P	**Pn**	**00 57 19.7**	**+1.2**
TUMR	**Tumrok**	**6.25**	**21**	PN	**Pn**	**00 57 19.7**	**+1.0**
TUMR	**Tumrok**	**6.25**	**21**	*e*P	**Pn**	**00 57 19.7**	**+1.0**
ESO	**Esso**	**6.59**	**12**	PN	**Pn**	**00 57 25.2**	**+1.8**
ESO	**Esso**	**6.59**	**12**	*e*P	**Pn**	**00 57 25.2**	**+1.8**
KMNR	**Kamenistaya**	**6.70**	**19**	PN	**Pn**	**00 57 26.4**	**+1.5**
KMNR	**Kamenistaya**	**6.70**	**19**	*e*P	**Pn**	**00 57 26.4**	**+1.5**
KUR	**Kuril'sk**	**7.14**	**236**	*c i* PN	**Pn**	**00 57 31.7**	**+0.8**
KUR				S	**Sn**	**00 58 50.8**	**+0.3**
KUR				pmax	pmax		
	comp=Z,55nm,0.8s						
KUR				smax	smax		
	comp=N,56nm,0.6s						
KUR				smax	smax

TIXI	Tiksi	25.50	340	P		P		01 01 09.3 -2.1
TIXI	Tiksi	25.50	340	*e*P		P		01 01 09.1 -2.2
TIXI				pmax		pmax		
	comp=Z,4.0nm,0.6s							
J14K	Nanvaranak Lak	25.50	44	P		P		01 01 12.8 +1.4
	baz=258							
L14K	Kuka Creek	25.65	47	P		P		01 01 14.8 +2.0
	baz=262							
S12K	Black Hills	25.73	60	P		P		01 01 14.9 +1.3
	baz=274							
F15K	North Star Dit	25.87	37	P		P		01 01 16.2 +1.4
	baz=251							
G15K	Niukluk	25.88	38	P		P		01 01 16.3 +1.4
	baz=253							
M14K	Bethel	25.92	48	P		P		01 01 17.5 +2.3
	baz=264							
N14K	Kuskokwak Cree	25.97	50	P		P		01 01 16.8 +1.1
	baz=266							
O14K	Tigyukauivet M	26.14	52	P		P		01 01 18.7 +1.5
	baz=268							
L15K	Ungalak Mounta	26.26	46	P		P		01 01 19.4 +1.0
	baz=262							
K15K	Wolf Creek Mou	26.34	45	P		P		01 01 19.3 +0.3
	baz=261							
H16K	Elim	26.52	40	P		P		01 01 21.4 +0.7
	baz=256							
M15K	Kasigluk River	26.53	49	P		P		01 01 21.9 +1.1
	baz=265							
C16K	Lisburne Hills	26.61	31	P		P		01 01 21.6 +0.2
C16K				IAmb		IAmb		01 01 23.0
	comp=Z,9.2nm,1.0s							
C16K	Lisburne Hills	26.61	31	P		P		01 01 21.9 +0.6
	baz=245							
SDPT	Sand Point	26.65	61	P		P		01 01 22.9 +1.0
	baz=276							
G16K	Koyuk River	26.68	38	P		P		01 01 22.1 +0.1
	baz=254							
N15K	Kwethluk River	26.79	50	P		P		01 01 24.3 +1.2
	baz=267							
O15K	Ungalikthiuk R	26.88	52	P		P		01 01 24.7 +0.8
	baz=269							
J16K	Anvik River	26.93	43	P		P		01 01 25.2 +0.9
	baz=260							
I17K	Unalakleet	27.00	42	P		P		01 01 25.9 +0.9
	baz=259							
S14K	Fog Glacier	27.09	59	P		P		01 01 26.9 +0.9
	baz=275							
D17K	Noatak River	27.16	33	P		P		01 01 27.0 +0.7
	baz=249							
CHNA	Chernabura Isl	27.22	62	P		P		01 01 28.4 +1.5
	baz=278							
L16K	Owhat River	27.22	47	P		P		01 01 29.5 +2.6
L16K	Owhat River	27.22	47	P		P		01 01 28.0 +1.0
	baz=264							
RDOG	Red Dog Mine	27.35	32	P		P		01 01 28.9 +0.8
	baz=248							
G17K	Kiwalik Mounta	27.39	38	P		P		01 01 29.7 +1.2
	baz=256							
E17K	Hotham Inlet	27.40	35	P		P		01 01 29.7 +1.2
	baz=252,SNR=13							
M16K	Timber Creek	27.40	48	P		P		01 01 29.8 +1.1
	baz=266							
F17K	Baldwin Pennin	27.42	36	P		P		01 01 30.0 +1.4
	baz=253							
C17K	DeLong Mountai	27.42	31	P		P		01 01 29.2 +0.5
	baz=247							
N16K	Nishlik Lake	27.46	49	P		P		01 01 30.0 +0.8
	baz=267							
H17K	Granite Mounta	27.56	40	P		P		01 01 31.0 +1.0
	baz=258							
J17K	VABM Dome	27.63	43	P		P		01 01 31.1 +0.5
	baz=262							
CHGN	Chignik	27.72	58	P		P		01 01 32.8 +1.4
	baz=276							
O16K	Kokwok River B	27.77	51	P		P		01 01 32.7 +0.8
	baz=270							
L17K	Donlin	27.82	46	P		P		01 01 33.4 +1.1
	baz=265							
P16K	Nushagak River	27.82	52	P		P		01 01 32.5 +0.2
	baz=271							
K17K	Iditarod	27.88	45	P		P		01 01 32.9 0.0
	baz=264							
E18K	Tukpahlearik C	27.96	34	P		P		01 01 32.7 -0.8
	baz=252							
F18K	Selawik	28.08	36	P		P		01 01 34.4 -0.1
	baz=255,SNR=6.9							
R16K	Pilot Point	28.09	56	P		P		01 01 35.1 +0.4
	baz=274							
C18K	Utukok River	28.16	32	P		P		01 01 35.5 +0.1
	baz=250,SNR=5.6							
M17K	Holitna River	28.16	47	P		P		01 01 36.7 +1.3
	baz=267							
B18K	Kokolik River	28.23	30	P		P		01 01 35.9 0.0
	baz=248,SNR=6.2							
N17K	Nushagak Hills	28.25	49	P		P		01 01 37.1 +1.0
	baz=269							
H18K	Honhosa River	28.25	39	P		P		01 01 36.7 +0.6
	baz=259							
O17K	Koliganek Bris	28.28	51	P		P		01 01 37.6 +1.2
	baz=270							
G18K	Tagagawik	28.29	38	P		P		01 01 36.8 +0.3
	baz=257							
L18K	Granite Mounta	28.58	46	P		P		01 01 39.4 +0.3
	baz=266							
P17K	Kvichak River	28.62	52	P		P		01 01 39.1 -0.3
	baz=272							
J18K	Innoko River	28.69	43	P		P		01 01 39.8 -0.2
	baz=264							
A19K	Wainwright	28.80	29	P		P		01 01 40.8 0.0
	baz=247							
GCSA	Galena City Sc	28.80	41	P		P		01 01 39.8 -1.1
	baz=261							
F19K	Shaleruckik Mo	28.86	36	P		P		01 01 41.0 -0.5
	baz=257							
C19K	Lookout Ridge	28.87	31	P		P		01 01 42.0 +0.4
C19K	Lookout Ridge	28.87	31	P		P		01 01 40.5 -1.1
	baz=250							
N18K	Kilae Creek	28.89	49	P		P		01 01 41.6 -0.3
	baz=270							
M18K	Stony River	28.94	47	P		P		01 01 42.2 -0.1
	baz=268							
Q17K	Contact Creek	28.95	54	P		P		01 01 42.9 +0.4
	baz=274							
TTA	Tatalina	28.95	44	P		P		01 01 43.0 +0.6
TTA	Tatalina	28.95	44	P		P		01 01 41.4 -1.1
	baz=265							
TTA	Tatalina	28.95	44	P		P		01 01 43.0 +0.6
TTA				pmax		pmax		
	comp=Z,4.0nm,0.8s							
G19K	Purcell Mounta	28.97	38	P		P		01 01 42.0 -0.5
	baz=258							
H19K	Roundabout Mou	29.11	39	P		P		01 01 42.3 -1.4
	baz=260							
D19K	Kuna River	29.18	33	P		P		01 01 43.7 -0.7
	baz=253							
E19K	Redstone River	29.22	35	P		P		01 01 44.0 -0.7
	baz=256							
O18K	Koktuh Hills	29.23	51	P		P		01 01 44.6 -0.2
	baz=272							
P18K	Big Mountain,	29.23	52	P		P		01 01 44.6 -0.4
	baz=272							
J19K	Poorman	29.23	42	P		P		01 01 43.9 -0.9
	baz=264							
CHIR	Chirikof Islan	29.33	59	P		P		01 01 46.1 +0.3
	baz=278							
L19K	White Mountain	29.43	46	P		P		01 01 47.0 +0.3
	baz=268							
N19K	Bonanza Creek	29.58	49	P		P		01 01 47.3 -0.8
	baz=271							
M19K	Big River Lodg	29.64	47	P		P		01 01 47.7 -0.8
	baz=269							
F20K	Avaraart Lake	29.69	36	P		P		01 01 47.5 -1.3
	baz=258							
H20K	Anotleneega Mo	29.75	39	P		P		01 01 48.7 -0.7
	baz=262							
D20K	Etivluk River	29.77	33	P		P		01 01 48.4 -1.2
	baz=255,SNR=7.4							
E20K	Nigu River	29.80	34	P		P		01 01 49.4 -0.5
	baz=256,SNR=9.7							
I20K	Naaghedeneel	29.82	41	P		P		01 01 50.4 +0.4
	baz=264							
K20K	Telida	29.86	44	P		P		01 01 49.3 -1.2
	baz=266							
J20K	Nowinta River	29.90	42	P		P		01 01 50.1 -0.6
	baz=265							
L20K	Farewell, AK	29.90	45	P		P		01 01 50.5 -0.3
	baz=268							
B20K	Meade River	29.97	30	P		P		01 01 52.0 +0.7
B20K				IAmb		IAmb		01 01 53.5
	comp=Z,9.8nm,1.2s							
B20K	Meade River	29.97	30	P		P		01 01 50.5 -0.8
	baz=252,SNR=7.8							
SII	Sitkinak Islan	30.03	57	P		P		01 01 51.8 -0.2
	baz=278							
Q19K	Cape Douglas,	30.07	53	P		P		01 01 52.0 -0.4
	baz=274							
M20K	Styx River	30.24	47	P		P		01 01 53.1 -0.7
	baz=270							
P19K	Oil Pt	30.24	51	P		P		01 01 53.6 -0.2
	baz=274							
IMAR	Indian Mountai	30.28	38	P		P		01 01 54.5 +0.4
OHAK	Old Harbor	30.43	56	P		P		01 01 55.9 +0.5
	baz=278							
G21K	Allakaket	30.46	37	P		P		01 01 54.8 -0.9
	baz=262							
O20K	Slope Mountain	30.52	50	P		P		01 01 56.1 -0.3
	baz=273							
C21K	Knifeblade Rid	30.53	32	P		P		01 01 55.3 -1.0
	baz=256							
A21K	Barrow	30.58	28	P		P		01 01 55.3 -1.4
	baz=250							
F21K	Alatna River	30.59	36	P		P		01 01 55.8 -1.0
	baz=260							
H21K	Melozitna Rive	30.62	39	P		P		01 01 57.3 +0.1
	baz=264							
E21K	Killik River	30.64	34	P		P		01 01 57.0 -0.3
	baz=258							
CHUM	Lake Minchumin	30.68	43	P		P		01 01 58.0 +0.4
	baz=267							
N20K	Mount Spurr	30.68	48	P		P		01 01 56.8 -1.0
	baz=272							
PPLA	Purkeypile	30.70	45	P		P		01 01 57.6 -0.3
	baz=269							
B21K	Ikpikpuk River	30.70	31	P		P		01 01 57.7 0.0
	baz=255							
KDAK	Kodiak Island	30.74	55	P		P		01 01 58.8 +0.7
	baz=277							
Q20K	Shuyak Island	30.75	53	P		P		01 01 58.9 +0.6
	baz=276							
CAST	Castle Rocks	30.76	44	P		P		01 01 59.6 +1.2
CAST				IAmb		IAmb		01 02 00.1
	comp=Z,4.3nm,0.8s							
CAST	Castle Rocks	30.76	44	P		P		01 01 58.1 -0.3
	baz=275							
H11N2	WAKE ISLAND Hy	30.90	160	T		T		01 35 00.8
	baz=347,slow=76,SNR=28							
H11N1	WAKE ISLAND Hy	30.92	160	T		T		01 35 02.1
	baz=347,slow=76,SNR=22							
H11N3	WAKE ISLAND Hy	30.92	160	T		T		01 35 04.9
	baz=347,slow=76,SNR=52							
I21K	Tanana	30.92	40	P		P		01 02 00.2 +0.5
	baz=265							
A22K	Sinclair Lake	30.98	29	P		P		01 02 00.4 +0.2
	baz=253							
SKT	Skwentna	30.99	46	P		P		01 02 01.4 +0.9
SKT	Skwentna	30.99	46	P		P		01 02 01.4 +0.9
	baz=271							
F22K	John River	31.13	36	P		P		01 02 01.8 +0.2
	baz=261							
D22K	Ayikyak River	31.20	33	P		P		01 02 02.0 -0.2
	baz=258							
CAPN	Captain Cook N	31.21	49	P		P		01 02 02.1 -0.2
	baz=273							
H22K	Ishtalitna Cre	31.24	39	P		P		01 02 02.6 +0.1
	baz=265							
BPAW	Bear Paw Mtn.	31.27	42	P		P		01 02 03.6 +0.7
BPAW				IAmb		IAmb		01 02 04.8
	comp=Z,4.6nm,0.8s							
BPAW	Bear Paw Mtn.	31.27	42	P		P		01 02 02.9 0.0
	baz=268							
JOW	Kunigami	31.27	234	LR		LR		01 14 35.1
	comp=Z,40nm,19.6s,baz=332,slow=36							
KTH	Kantishna Hill	31.29	43	P		P		01 02 04.0 +1.0
KTH				IAmb		IAmb		01 02 05.2
	comp=Z,9.0nm,1.1s							
B22K	Teshekpuk Lake	31.29	30	P		P		01 02 02.8 -0.1
	baz=255							
E22K	Anaktuvuk Pass	31.37	34	P		P		01 02 04.1 +0.4
	baz=261							
SUA	Susitna One	31.38	47	P		P		01 02 04.4 +0.5
	baz=273							
MLY	Manley	31.43	41	P		P		01 02 05.2 +0.9
MLY				IAmb		IAmb		01 02 06.2
	comp=Z,3.1nm,0.7s							
MLY	Manley	31.43	41	P		P		01 02 05.1 +0.8
	baz=267							
BRSE	Bradley Lake S	31.49	51	P		P		01 02 05.3 +0.4
	baz=276							
TRF	Thorofare Moun	31.57	44	P		P		01 02 06.4 +0.7
TRF	Thorofare Moun	31.57	44	P		P		01 02 05.1 -0.5
	baz=270							
CUT	Chultina	31.58	46	P		P		01 02 05.6 0.0
	baz=272							
COLD	Coldfoot	31.85	36	P		P		01 02 08.4 +0.5
	baz=264							
G23K	Bananza Creek	31.86	37	P		P		01 02 08.1 0.0
	baz=265							
RC01	Rabbit Creek A	31.89	48	P		P		01 02 08.3 0.0
	baz=274							
D23K	Nanushuk River	31.93	33	P		P		01 02 08.5 -0.1
	baz=260							
O22K	Cooper Landing	31.94	49	P		P		01 02 09.1 +0.4
	baz=275							
H23K	Yukon River	31.98	39	P		P		01 02 09.0 -0.1
	baz=267							
I23K	Minto, Yukon-K	32.02	40	P		P		01 02 09.4 +0.1
	baz=268							
H11S1	WAKE ISLAND Hy	32.04	161	T		T		01 36 18.7
	baz=347,slow=76,SNR=242							
H11S3	WAKE ISLAND Hy	32.05	161	T		T		01 36 25.3
	baz=347,slow=76,SNR=214							
H11S2	WAKE ISLAND Hy	32.06	161	T		T		01 36 16.8
	baz=347,slow=76,SNR=123							
C23K	Itkillik River	32.11	31	P		P		01 02 10.3 +0.2
	baz=259							
NEA2	Nenana	32.12	41	P		P		01 02 11.5 +1.2
	baz=269,SNR=7.2							
MCK	McKinley	32.17	43	P		P		01 02 11.0 +0.2
	baz=270							
E23K	Chandar	32.17	35	P		P		01 02 11.1 +0.3
	baz=263							
TOLK	Toolik Lake Re	32.27	34	P		P		01 02 12.4 +0.7
TOLK	Toolik Lake Re	32.27	34	P		P		01 02 11.4 -0.3
	baz=262,SNR=6.8							
HHC	Hu-ho-hao-te	32.28	272	*e*P		P		01 02 12.9 +0.8
HHC				sP		sP		01 02 31.8 -2.3
HHC				pmax		pmax		
	comp=Z,11nm,0.5s							
HHC				pmax		pmax		
	comp=Z,90nm,4.6s							
WAT1	Susitna Watana	32.36	45	P		P		01 02 12.3 -0.2
	baz=272							
KNK	Knik Glacier	32.48	47	P		P		01 02 13.3 -0.2
	baz=275							
SML	Sawmill	32.51	47	P		P		01 02 14.6 +0.7
SML	Sawmill	32.51	47	P		P		01 02 13.9 +0.1
	baz=274,SNR=5.1							
D24K	Happy Valley	32.62	33	P		P		01 02 14.3 -0.2
	baz=262							
COLA	College	32.65	41	P		P		01 02 15.4 +0.5
	baz=270							
COLA	College	32.65	41	*c i*P		P		01 02 15.7 +0.8
COLA				pmax		pmax		
	comp=Z,16nm,0.8s							
H24K	Noodor Dome	32.67	39	P		P		01 02 15.9 +0.8
	baz=268,SNR=5.7							
C24K	Franklin Bluff	32.74	32	P		P		01 02 16.3 +0.7
	baz=261							
WAT6	Susitna Watana	32.75	45	P		P		01 02 16.0 0.0
	baz=273							
F24K	Squaw Lake	32.77	36	P		P		01 02 15.9 -0.1
	baz=266							
M23K	Glacier View	32.80	47	P		P		01 02 17.1 +0.8
	baz=275							
POKR	Poker Plat Res	32.83	40	P		P		01 02 17.5 +1.0
POKR	Poker Plat Res	32.83	40	P		P		01 02 15.8 -0.7
	baz=270,SNR=6.8							
NJ2	Nanjing	32.86	252	*e*P		P		01 02 16.0 -1.0
NJ2				pP		pP		01 02 31.1 -0.7
NJ2				sP		sP		01 02 39.3 +0.5
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
G24K	Hadweenzic Riv	32.87	38	P		P		01 02 16.6 -0.3
	baz=267							
DHY	Denali Highway	32.89	44	P		P		01 02 17.6 +0.3
DHY				IAmb		IAmb		01 02 19.0
	comp=Z,12nm,1.4s							
DHY	Denali Highway	32.89	44	P		P		01 02 17.5 +0.3
	baz=273							
SCM	Sheep Creek Mo	32.99	47	P		P		01 02 18.1 +0.2
	baz=275							
HDA	Harding Lake	33.04	42	P		P		01 02 18.9 +0.5
HDA	Harding Lake	33.04	42	P		P		01 02 18.2 -0.1
	baz=271,SNR=12							
ILAR	Eielson Array	33.07	41	P		P		01 02 18.8 +0.3
	comp=Z,3.6nm,0.8s,baz=252,slow=6.9,SNR=39							
ILAR				LR		LR		01 17 12.4
	comp=Z,24nm,18.6s,baz=4.0,slow=39							
	comp=Z,3.6nm,0.8s							
P23K	Montague Islan	33.14	50	P		P		01 02 19.2 0.0
	baz=278							
G25K	Bearman Lake	33.42	37	P		P		01 02 21.9 +0.3
	baz=268							
D25K	Kavik River	33.50	33	P		P		01 02 22.0 -0.4
	baz=264,SNR=39							
M24K	Tolsona, Glenn	33.51	46	P		P		01 02 22.6 +0.1
	baz=275							
H25L	Birch Creek	33.52	38	P		P		01 02 22.2 -0.2
	baz=269							
K24K	Donnelly Dome	33.58	43	P		P		01 02 23.0 -0.1
	baz=273							
F25K	Christian Rive	33.63	36	P		P		01 02 23.7 +0.2
	baz=268							
PRP	Porcupine Dome	33.64	40	P		P		01 02 23.9 +0.2
	baz=271,SNR=7.2							
KLU	Klutina	33.69	47	P		P		01 02 24.3 +0.2
	baz=276							
E25K	Arctic Village	33.69	35	P		P		01 02 23.9 -0.1
	baz=267,SNR=5.6							
J25K	Salcha River,	33.72	41	P		P		01 02 24.0 -0.4
	baz=272							
Q23K	Middleton Isla	33.75	51	P		P		01 02 24.8 +0.3
	baz=279							
PAX	Paxson	33.76	44	P		P		01 02 24.6 -0.2
	baz=275							
EYAK	Cordova Ski Ar	33.88	49	P		P		01 02 25.5 -0.2
	baz=278							
HARP	HAARP	33.96	45	P		P		01 02 25.4 -0.9
	baz=276							
RIDG	Independent Ri	33.99	43	P		P		01 02 26.7 0.0
	baz=274							
BMAR	Burnt Mountain	34.04	36	P		P		01 02 28.2 +1.2
C26K	Camden Bay	34.07	32	P		P		01 02 26.7 -0.6
	baz=265							
F26K	Sheenjek River	34.21	36	P		P		01 02 28.7 +0.2
	baz=269							
N25K	Chitina, Valde	34.30	47	P		P		01 02 29.7 +0.3
	baz=277							
G26K	Porcupine Rive	34.34	37	P		P		01 02 29.7 +0.2
	baz=270							
SCRK	Sand Creek	34.36	42	P		P		01 02 29.2 -0.7
	baz=274,SNR=7.1							
BMRM	Bremner River	34.38	48	P		P		01 02 29.8 -0.3
	baz=278							
J26L	Joseph Creek	34.51	42	P		P		01 02 30.8 -0.3
	baz=274							
I26K	Coal Creek Min	34.63	40	P		P		01 02 31.5 -0.6
	baz=273							
KAIM	Kayak Island	34.63	50	P		P		01 02 32.0 -0.2
	baz=280							
L26K	Log Cabin Wild	34.72	44	P		P		01 02 34.0 +1.1
	baz=276							
M26K	Nabesna, AK	34.96	45	P		P		01 02 34.9 -0.1
	baz=278							
MCARA	McCarthy VSAT	35.08	47	P		P		01 02 35.8 -0.2
	baz=279							
CRQE	Cirque	35.15	48	P		P		01 02 36.2 -0.5
	baz=280							
E27K	Coleen River	35.18	35	P		P		01 02 36.6 -0.3
	baz=270							
G27K	Doyon Strip	35.18	37	P		P		01 02 36.5 -0.4
	baz=272							
K27K	Chicken	35.19	42	P		P		01 02 36.6 -0.3
	baz=276,SNR=10							
H27K	Steamboat Moun	35.26	38	P		P		01 02 37.4 -0.2
	baz=273							
I27K	Kandik River	35.26	39	P		P		01 02 37.5 0.0
	baz=274							
L27K	Beaver Creek,	35.41	44	P		P		01 02 38.7 -0.1
	baz=278,SNR=13							
D27M	Malcolm River	35.42	33	P		P		01 02 38.2 -0.7
	baz=270,SNR=7.9							
BCAR	Beaver Creek A	35.43	44	P		P		01 02 40.6 +1.5
M27K	Edge Creek, AK	35.48	45	P		P		01 02 38.9 -0.7
	baz=278							
EGAK	Eagle	35.52	41	P		P		01 02 39.8 +0.1
EGAK	Eagle	35.52	41	P		P		01 02 40.0 +0.3
	baz=276,SNR=12							
MESA	MESA	35.81	49	P		P		01 02 42.5 0.0
	baz=281							
F28M	Old Crow	35.85	36	P		P		01 02 42.8 +0.2
	baz=273,SNR=14							
BVCY	Beaver Creek	35.94	45	P		P		01 02 43.1 -0.3
	baz=279,SNR=6.2							
E28M	Babbage River	35.94	34	P		P		01 02 43.4 +0.1
	baz=272							
CTG	Chitna Glacier	35.96	47	P		P		01 02 44.8 +1.1
	baz=281							
I28M	Miner Creek	35.97	40	P		P		01 02 42.9 -0.8
	baz=276							
D28M	Stokes Point	36.21	33	P		P		01 02 45.3 -0.3
	baz=272							
YUK3	Moose Creek	36.23	46	P		P		01 02 46.0 -0.1
	baz=280							
DAWY	Dawson	36.36	42	P		P		01 02 48.0 +1.0
DAWY				IAmb		IAmb		01 02 51.9
	comp=Z,7.1nm,1.3s							
DAWY	Dawson	36.36	42	P		P		01 02 46.8 -0.2
	baz=278							
H29M	Whitestone	36.54	38	P		P		01 02 48.1 -0.3
	baz=276							
O28M	Mount Upton	36.55	48	P		P		01 02 48.5 -0.4
	baz=282							
E29M	Blow River	36.55	35	P		P		01 02 49.0 +0.5
	baz=274							
G29M	Pine Creek	36.61	37	P		P		01 02 48.7 -0.4
	baz=276							
J29N	Klondike Camp	36.81	41	P		P		01 02 50.6 -0.3
	baz=279							
M29M	Somme Creek	37.03	45	P		P		01 02 53.1 +0.3
	baz=281							
L29M	L29M	37.06	43	P		P		01 02 53.1 +0.1
	baz=280							
PNL	Peninsula	37.17	49	P		P		01 02 54.2 +0.3
	baz=284							
EPYK	Eagle Plains	37.18	38	P		P		01 02 54.8 +0.8
EPYK	Eagle Plains	37.18	38	P		P		01 02 54.0 +0.1
	baz=277,SNR=5.8							
K29M	Barlow Dome	37.21	42	P		P		01 02 54.4 +0.1
	baz=280							
G30M	tAoh Zraii Nji	37.31	37	P		P		01 02 55.5 +0.5
	baz=277							
YUK6	Outpost Mounta	37.38	47	P		P		01 02 55.4 -0.6
	baz=283							
F30M	Barrier River	37.41	36	P		P		01 02 55.6 -0.2
	baz=276							
I30M	Mount Dempster	37.48	40	P		P		01 02 56.6 0.0
	baz=279							
J30M	Hart River	37.60	41	P		P		01 02 57.6 0.0
	baz=280							
M30M	Minto, Yukon	37.77	44	P		P		01 02 59.3 +0.3
	baz=282							
HYT	Haines Junctio	37.82	47	P		P		01 02 59.7 +0.2
	baz=284							
N30M	Aishikik Lake	37.87	46	P		P		01 03 00.1 +0.2
	baz=283							
MAYO	Mayo, Yukon	37.97	42	P		P		01 03 01.1 +0.5
	baz=282							
P29M	Windy Craggy	38.00	49	P		P		01 03 02.1 +1.2
	baz=285							
G31M	Satah River	38.08	37	P		P		01 03 01.8 +0.4
	baz=279,SNR=5.3							
INK	Inuvik	38.17	34	P		P		01 03 03.5 +1.3
INK				IAmb		IAmb		01 03 04.4
	comp=Z,5.4nm,0.9s							
INK	Inuvik	38.17	34	P		P		01 03 02.4 +0.3
	baz=278							
INK	Inuvik	38.17	34	P		P		01 03 03.5 +1.3
INK				pmax		pmax		
	comp=Z,5.0nm,0.9s							
F31M	Tsiigehtchic	38.21	36	P		P		01 03 02.8 +0.3
	baz=276,SNR=5.4							
H31M	Peel River	38.22	39	P		P		01 03 03.0 +0.3

baz=280
P30M Million Dollar 38.25 48 P P 01 03 03.7 +0.6
baz=285
O30N Mendenhall 38.51 47 P P 01 03 05.3 +0.1
baz=285
PLBC Pleasant Camp 38.72 49 P P 01 03 07.9 +1.0
baz=286
M31M Drury Creek, Y 38.94 44 P P 01 03 09.2 +0.4
baz=284
WHY Whitehorse 39.11 47 P P 01 03 10.6 +0.3
baz=286
S31K Pelican 39.22 51 P P 01 03 11.8 +0.7
baz=288
SKAG Skagway 39.23 49 P P 01 03 11.8 +0.7
baz=287
FARO Faro, Yukon 39.41 44 P P 01 03 13.2 +0.5
baz=285
N32M Quiet Lake 39.82 46 P P 01 03 16.4 +0.3
baz=287
P32M Atlin 39.98 48 P P 01 03 18.2 +0.8
baz=288
P33M Teslin, Yukon 40.22 47 P P 01 03 20.2 +0.7
baz=288
S32K Killisnoo 40.22 51 P P 01 03 20.5 +1.1
baz=290
MMPY Sheldon Lake, 40.24 43 P P 01 03 19.6 0.0
baz=286
A36M Sachs Harbour 40.42 28 P P 01 03 22.0 +1.1
A36M Sachs Harbour 40.42 28 P P 01 03 20.6 -0.3
baz=280,SNR=9.2
C36M Paulatuk 41.36 32 P P 01 03 28.4 -0.2
baz=284,SNR=11
R33M Jennings River 41.37 48 P P 01 03 28.9 0.0
baz=290
U33K Whale Pass 41.45 53 P P 01 03 29.7 +0.2
baz=292
CRAG Craig 41.69 54 P P 01 03 32.7 +1.3
baz=293
WRAK Wrangell Islan 41.73 52 P P 01 03 32.6 +0.8
baz=292
S34M Telegraph Cree 41.80 50 P P 01 03 32.9 +0.5
baz=292
TGTN Hyland Airport 41.91 44 P P 01 03 34.5 +1.2
baz=290
WTLY Watson Lake, Y 42.15 46 P P 01 03 36.2 +0.9
baz=291
DLBC Dease Lake 42.16 49 P P 01 03 36.2 +0.8
baz=292
V35K Ketchikan 42.54 54 P P 01 03 39.6 +1.2
baz=294
ZAA0 Zalesovo Array 42.77 304 P P 01 03 39.2 -1.0
ZALV Zalesovo Beam 42.77 304 P P 01 03 38.5 -1.7
comp=Z,0.3nm,0.4s,baz=68,slow=3.9,SNR=1.9
comp=Z,0.3nm,0.4s
U35K Hyder 43.13 52 P P 01 03 44.6 +1.5
baz=294
WRGLY Wrigley 43.44 40 P P 01 03 47.0 +1.5
baz=291
TOAD Toad River Com 44.31 47 P P 01 03 53.8 +1.1
baz=294
KOTAN Kotaneelee Air 44.35 45 P P 01 03 53.7 +0.7
baz=294
YKA Yellowknife Ar 47.44 39 P P 01 04 18.1 +1.0
comp=Z,1.8nm,0.8s,baz=298,slow=7.7,SNR=21
YKA PcP PcP 01 05 47.5 +0.9
comp=Z,0.1nm,0.6s,baz=307,slow=3.8,SNR=3.8
comp=Z,1.8nm,0.8s
PZH PanZhiHua 47.52 262 P P 01 04 17.3 -1.1
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,5.1s
RES Resolute Bay 47.53 20 P P 01 04 18.4 +0.7
RES Resolute Bay 47.53 20 P P 01 04 18.4 +0.7
RES pmax pmax
comp=Z,4.0nm,1.5s
MKAR Makanchi Array 47.59 297 P P 01 04 17.4 -1.2
MKAR Makanchi Array 47.59 297 *i* P P 01 04 17.8 -0.8
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 47.59 297 P P 01 04 17.1 -1.5
comp=Z,0.5nm,0.6s,baz=57,slow=4.5,SNR=6.0
MKAR LR LR 01 25 34.6
comp=Z,26nm,21.4s,baz=6.0,slow=38
comp=Z,0.5nm,0.6s
KURK Kurchatov 47.63 303 P P 01 04 17.6 -1.2
KURK Kurchatov 47.63 303 P P 01 04 17.6 -1.2
KURK pmax pmax
comp=Z,2.0nm,0.7s
KURBB Kurchatov Arra 47.73 303 P P 01 04 17.8 -1.8
comp=Z,1.2nm,0.6s,baz=62,slow=7.8,SNR=5.4
comp=Z,1.2nm,0.6s
SPITS Spitsbergen Ar 50.27 350 P P 01 04 36.9 -1.7
comp=Z,6.9nm,1.0s,baz=57,slow=8.1,SNR=5.2
comp=Z,6.9nm,1.0s
BVAR Borovoye Array 50.77 309 P P 01 04 41.3 -1.4
comp=Z,1.0nm,0.4s,baz=55,slow=8.9,SNR=15
comp=Z,1.0nm,0.4s
BRVK Borovoye 50.80 309 *eP* P 01 04 42.1 -0.9
BRVK pmax pmax
comp=Z,1.0nm,0.9s
EDM Edmonton 52.88 49 P P 01 04 59.0 +0.5
EDM Edmonton 52.88 49 P P 01 04 59.0 +0.5
EDM pmax pmax
comp=Z,11nm,0.8s
ARU Arti 54.42 317 P P 01 05 08.0 -1.7
ARU IAmb IAmb 01 05 08.3
comp=Z,4.0nm,1.1s
AAK Ala-Archa 54.52 296 LR LR 01 30 01.5
comp=Z,29nm,19.3s,baz=169,slow=38
L04D Klamath Falls 54.55 64 P P 01 05 12.1 +1.1
CMAR Chiang Mai Arr 55.08 257 *i* P P 01 05 16.2 +1.3
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 55.08 257 P P 01 05 15.3 +0.4
comp=Z,0.6nm,0.3s,baz=34,slow=7.9,SNR=7.4
comp=Z,0.6nm,0.3s
ARCES ARCESS Array B 55.94 341 LR LR 01 32 24.1
comp=Z,32nm,18.4s,baz=76,slow=39
PLID Pearl Lake 56.38 58 P P 01 05 25.2 +1.0
PLID IAmb IAmb 01 05 26.3
comp=Z,4.0nm,0.8s
PAHR Pah Rah Range 57.84 65 P P 01 05 35.7 +1.2
PAHR IAmb IAmb 01 05 59.7
comp=Z,4.8nm,1.2s
HLID Hailey 58.23 59 P P 01 05 38.5 +1.4
baz=310
ABKAR Akbulak array 58.29 310 P P 01 05 35.8 -1.5
ABKAR Akbulak array 58.29 310 P P 01 05 35.8 -1.5
ABKAR IAmb IAmb 01 06 01.6
comp=Z,3.4nm,1.5s
BOZ Bozeman (W) 58.44 55 P P 01 05 39.8 +1.2
BOZ IAmb IAmb 01 05 40.5
comp=Z,2.8nm,0.7s
BOZ Bozeman (W) 58.44 55 P P 01 05 39.7 +1.1
baz=310
BOZ Bozeman (W) 58.44 55 P P 01 05 39.8 +1.2
BOZ pmax pmax
comp=Z,3.0nm,0.7s
BMN Battle Mountai 58.64 63 P P 01 05 41.4 +1.3
BMN IAmb IAmb 01 05 42.6
comp=Z,5.1nm,1.0s
BMN Battle Mountai 58.64 63 P P 01 05 41.4 +1.3
BMN pmax pmax
comp=Z,5.0nm,1.0s
KVN Kaiserville 59.02 65 P P 01 05 44.2 +1.4
KVN IAmb IAmb 01 05 44.8
comp=Z,3.2nm,0.7s
KVN Kaiserville 59.02 65 P P 01 05 44.2 +1.4
KVN pmax pmax
comp=Z,3.0nm,0.7s
NVAR Mina Array Bea 59.31 66 P P 01 05 45.6 +0.8
NVAR Mina Array Bea 59.31 66 P P 01 05 46.4 +1.6
comp=Z,2.3nm,0.6s,baz=294,slow=7.6,SNR=13
comp=Z,2.3nm,0.6s
ELK Elko 59.58 62 LR LR 01 30 45.6
comp=Z,24nm,18.2s,baz=260,slow=35
VES Vestal, Richgr 60.55 68 P P 01 05 54.5 +1.4
baz=312
LAO LASA Array 60.55 52 P P 01 05 53.7 +0.7
baz=312
PKM Mcpherson Peak 60.74 70 P P 01 05 55.9 +1.3
baz=312
CWC Cottonwood Cre 60.76 67 P P 01 05 55.1 +0.4
baz=312
R11B Troy Canyon, C 60.97 64 P P 01 05 57.3 +1.1
R11B IAmb IAmb 01 05 58.2
comp=Z,2.6nm,0.9s
R11B Troy Canyon, C 60.97 64 P P 01 05 57.2 +1.1
baz=312
DUG Dugway, Tooele 61.33 61 P P 01 05 59.8 +1.3
DUG IAmb IAmb 01 06 00.9
comp=Z,3.2nm,0.9s
DUG Dugway, Tooele 61.33 61 P P 01 06 00.1 +1.6
baz=312
DUG Dugway, Tooele 61.33 61 P P 01 05 59.8 +1.3
DUG pmax pmax
comp=Z,3.0nm,0.9s
MPMC Manual Prospec 61.37 67 P P 01 05 59.9 +1.1
baz=312
BW06 Boulder Array 61.42 57 P P 01 06 00.5 +1.3
baz=313
PD31 Pinedale Array 61.42 57 P P 01 05 59.8 +0.6
PD31 IAmb IAmb 01 06 01.4
comp=Z,2.5nm,0.9s
PDAR Pinedale Array 61.42 57 P P 01 05 59.9 +0.6
PDAR Pinedale Array 61.42 57 P P 01 06 00.7 +1.4
comp=Z,2.1nm,0.8s,baz=320,slow=2.7,SNR=15
comp=Z,2.1nm,0.8s
EDW2 Edwards Air Fo 61.85 68 P P 01 06 03.1 +1.1
baz=313
SNCC San Nicolas Is 62.02 71 P P 01 06 04.1 +1.0
baz=313
FINES FINESS Array B 62.43 336 P P 01 06 04.0 -1.3
FINES FINESS Array B 62.43 336 P P 01 06 04.0 -1.3
comp=Z,2.1nm,0.9s,baz=31,slow=4.4,SNR=6.3
comp=Z,2.1nm,0.9s
ULM Lac du Bonnet 63.05 43 P P 01 06 10.0 +0.4
comp=Z,1.4nm,0.6s,baz=316,slow=10,SNR=2.8
comp=Z,1.4nm,0.6s
GMRC Granite Mounta 63.33 67 P P 01 06 12.9 +1.0
baz=314
SRU San Rafael Swe 63.37 60 P P 01 06 13.4 +1.2
SRU San Rafael Swe 63.37 60 P P 01 06 13.4 +1.2
SRU pmax pmax
comp=Z,6.0nm,0.9s
RSSD Black Hills 63.43 53 P P 01 06 13.4 +0.8
RSSD Black Hills 63.43 53 P P 01 06 13.1 +0.5
baz=314
RSSD Black Hills 63.43 53 P P 01 06 13.4 +0.8
RSSD pmax pmax
comp=Z,5.0nm,0.6s
AGMN Agassiz Nation 64.46 45 P P 01 06 19.4 +0.4
baz=317
SWSC Sam W. Stewart 64.50 69 P P 01 06 20.8 +1.3
baz=314
PDMCI Parker Dam,Lak 64.56 66 P P 01 06 20.8 +1.0
baz=314
N23A Red Feather La 64.67 56 P P 01 06 22.1 +1.3
baz=315
ISCO Idaho Springs 65.62 57 P P 01 06 27.9 +0.9
ISCO IAmb IAmb 01 06 29.5
comp=Z,2.7nm,0.8s
ISCO Idaho Springs 65.62 57 P P 01 06 28.1 +1.1
baz=315
ISCO Idaho Springs 65.62 57 P P 01 06 27.9 +0.9
ISCO pmax pmax
comp=Z,3.0nm,0.9s
MVCO Mesa Verde 65.83 61 P P 01 06 29.2 +0.8
baz=315
NC204 NORSAR Array S 66.15 343 P P 01 06 28.7 -1.0
NB2 NORSAR Subarra 66.28 342 P P 01 06 29.6 -0.9
comp=Z,1.9nm,0.6s,baz=27,slow=6.5
NOA NORSAR Array B 66.28 342 P P 01 06 29.9 -0.7
comp=Z,0.7nm,0.8s,baz=31,slow=6.6,SNR=3.7
NOA LR LR 01 40 02.0
comp=Z,14nm,18.0s,baz=35,slow=40
comp=Z,0.7nm,0.8s
HFS Hagfors 66.59 341 P P 01 06 31.5 -1.0
comp=Z,0.9nm,0.5s,baz=77,slow=6.7,SNR=7.3
comp=Z,0.9nm,0.5s
W18A Petrified Fore 66.59 63 P P 01 06 34.9 +1.7
baz=315
EYMN Ely 66.69 43 P P 01 06 32.9 -0.5
baz=319
OGNE Ogallala 66.73 54 P P 01 06 35.3 +1.5
baz=316
214A Organ Pipe Nat 67.00 67 P P 01 06 36.9 +1.3
baz=315
ECSD EROS Data Cent 67.45 49 P P 01 06 37.9 -0.3
ECSD IAmb IAmb 01 06 39.3
comp=Z,4.0nm,0.8s
KONO Kongsberg 67.88 342 P P 01 06 40.2 -0.4
KONO IAmb IAmb 01 07 02.1
comp=Z,6.4nm,0.9s
KONO Kongsberg 67.88 342 P P 01 06 40.2 -0.4
KONO pmax pmax
comp=Z,6.0nm,1.0s
TUC Tucson 67.96 66 P P 01 06 42.8 +1.1
baz=316
SPMN Marine on St. 68.15 45 P P 01 06 43.4 +0.8
baz=319
T25A Trinidad 68.18 58 P P 01 06 44.1 +0.9
baz=316
BGNE Belgrade 68.40 51 P P 01 06 44.4 +0.1
baz=318
ANMO Albuquerque 68.60 61 P P 01 06 47.4 +1.5
baz=316
121A Cookes Peak, D 69.57 64 P P 01 06 53.5 +1.6
baz=317
SCHQ Schefferville 69.92 25 P P 01 06 53.6 +0.2
comp=Z,3.8nm,0.9s,baz=315,slow=5.3,SNR=7.5
comp=Z,3.8nm,0.9s
SCIA State Center 70.47 48 P P 01 06 57.7 +0.7
baz=320
MSTX Muleshoe 71.40 59 P P 01 07 03.1 +0.2
baz=318
WRA Warramunga Arr 71.84 202 P P 01 07 06.0 +0.7
comp=Z,0.6nm,1.0s,baz=18,slow=6.4,SNR=2.7
comp=Z,0.6nm,1.0s
L44A Lake County Fo 72.76 44 P P 01 07 10.0 -0.7
baz=322
WMOK Wichita Mounta 73.03 56 P P 01 07 13.2 +0.6
baz=319
APMT Aspermont 73.36 58 P P 01 07 14.7 +0.3
APMT IAmb IAmb 01 07 15.8
comp=Z,4.3nm,0.7s
HDIL Hopedale 73.39 46 P P 01 07 14.8 +0.3
baz=322
TUL3 Leonard 73.74 54 P P 01 07 17.1 +0.5
baz=320
EKA Eskdalemuir Ar 74.12 348 P P 01 07 18.2 -0.2
comp=Z,0.8nm,0.3s,baz=19,slow=5.2,SNR=24
comp=Z,0.8nm,0.3s
ESK Eskdalemuir 74.14 348 P P 01 07 17.9 -0.7
ESK Eskdalemuir 74.14 348 P P 01 07 18.0 -0.7
ESK pmax pmax
comp=Z,19nm,1.5s
ABTX Abilene, Hawle 74.15 58 P P 01 07 19.8 +0.7
baz=319
TX31 Lajitas Ar. Si 74.31 63 P P 01 07 21.1 +0.9
TX31 IAmb IAmb 01 07 22.1
comp=Z,3.0nm,0.7s
TXAR Lajitas Array 74.31 63 P P 01 07 21.2 +1.0
comp=Z,3.0nm,0.7s,baz=299,slow=4.4,SNR=40
comp=Z,3.0nm,0.7s
BUR08 Bucovina Ar. S 74.40 328 P P 01 07 19.6 -0.8
BUR08 IAmb IAmb 01 07 25.7
comp=Z,8.2nm,1.5s
CCM Cathedral Cave 74.40 49 P P 01 07 20.3 -0.1
baz=322
BURAR Bucovina Array 74.42 328 P P 01 07 19.6 -0.9
AAM Ann Arbor 74.55 42 P P 01 07 20.3 -0.9
baz=324
O48B Farmland 75.54 44 P P 01 07 26.5 -0.4
baz=324
VRAC Vranov 75.64 334 LR LR 01 42 31.7
comp=Z,19nm,20.4s,baz=325,slow=37
JCT Junction City 75.67 60 P P 01 07 28.7 +0.8
baz=320
MIAR Mount Ida 75.94 53 P P 01 07 29.9 +0.6
baz=321
P49A Miami Univ. Ec 76.32 44 P P 01 07 30.3 -1.1
baz=324
M53A WI Miller and 76.54 40 P P 01 07 33.3 +0.7
baz=326
WCI Wyandotte Cave 76.65 46 P P 01 07 33.8 +0.6
baz=324
GERES GERESS Array B 76.86 336 P P 01 07 34.4 0.0
comp=Z,0.4nm,0.4s,baz=40,slow=8.7,SNR=3.4
comp=Z,0.4nm,0.4s
BRTR Keskin Array B 77.79 318 P P 01 07 39.9 +0.1
comp=Z,0.7nm,0.8s,baz=72,slow=4.0,SNR=3.0
comp=Z,0.7nm,0.8s
LESA Schwarzleotal 78.44 336 *i* P P 01 07 43.7 +0.4
comp=Z,1.1nm,0.3s
SOKA Soboth 78.47 334 *i* P P 01 07 43.3 -0.1
comp=Z,0.6nm,0.3s
KBA Koelnbreinsper 78.58 335 *e*P P 01 07 44.7 +0.6
comp=Z,2.0nm,0.4s
OBKA Obir 78.76 334 *e*P P 01 07 45.2 +0.2
comp=Z,1.4nm,0.5s
WATA Walderalm 78.81 336 *i* P P 01 07 46.0 +0.6
comp=Z,1.0nm,0.4s
WTTA Wattenberg 78.86 336 *i* P P 01 07 46.1 +0.4
comp=Z,0.6nm,0.4s
RETA Reutte 78.88 337 *i* P P 01 07 46.1 +0.4
comp=Z,0.2nm,0.3s
MOTA Moosalm 78.93 337 *e*P P 01 07 46.4 +0.4
comp=Z,0.7nm,0.4s
ABTA Abfaltersbach 79.11 336 *e*P P 01 07 46.9 0.0
comp=Z,0.7nm,0.4s
FETA Feichten 79.32 337 P P 01 07 48.2 0.0
comp=Z,3.9nm,1.2s
MMAI Mount Meron Ar 82.53 313 P P 01 08 05.8 +0.5
comp=Z,3.4nm,0.5s,baz=31,slow=6.8,SNR=11
comp=Z,3.4nm,0.5s
ESDC Sonseca Array 89.50 345 P P 01 08 39.2 -0.4
comp=Z,0.7nm,0.7s,baz=350,slow=5.8,SNR=4.2
comp=Z,0.7nm,0.7s
CPUP Villa Florida 145.25 61 PKPbc PKPbc 01 15 19.5 -0.1
comp=Z,0.9nm,0.6s,baz=49,slow=3.6,SNR=3.1

IDC 25 01:06:48.8±1.6, 6°43S×142°88E, h0km, mb3.7/2, mbtmp3.6/5, ML3.4/2, Error ellipse: s-maj=44.9km s-min=30.5km az=73.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.17**	**125**	Pn	Pn	01 08 05.7	-1.8
	5.8nm,0.4s,baz=300,slow=14,SNR=1.8						
PMG				Sn	Sn	01 09 02.8	-5.0
	1.0nm,0.3s,baz=281,slow=13,SNR=3.0						
WRA	**Warramunga Arr**	**15.79**	**211**	Pn	Pn	01 10 32.0	-0.7
	0.1nm,0.3s,baz=30,slow=12,SNR=3.7						
WRA				Lg	Lg	01 15 07.2	
	baz=28,slow=29,SNR=2.2						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**19.19**	**206**	P	Pn	01 11 15.0	-0.2
	0.2nm,0.3s,baz=32,slow=9.9,SNR=16						
	1.9nm,0.7s						
MKAR	**Makanchi Array**	**75.26**	**322**	P	P	01 18 34.1	+0.4
	0.2nm,0.5s,baz=133,slow=6.3,SNR=2.6						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**84.73**	**325**	P	P	01 19 24.8	0.0
	0.7nm,0.7s,baz=115,slow=5.1,SNR=3.6						
	0.7nm,0.7s						

*IDC **25** 01:16:22.9±2.5, 17°65S×178°83W, h495km±28km, mb3.5/13, mbtmp4.3/14, Error ellipse: s-maj=17.9km s-min=14.6km az=128.0*
*NEIC **25** 01:16:26.5±1.1, 17°59S±0°09×179°0W±0°1, h540km±7km, mb4.2/97, Error ellipse: s-maj=17.9km s-min=10.5km az=55.0*

ISC 25 01:16:26.6±0.5, 17°7S±0°1×179°04W±0°10, h539km, n132, σ0°89/135, mb4.2/60, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.77**	**268**	P	P	01 17 41.2	+1.8
PINNC	**Pines Island,**	**13.61**	**247**	P	P	01 19 20.3	-1.5
OUENC	**Ouen Island, N**	**14.08**	**248**	P	P	01 19 25.6	-1.1
DZM	**Mont Dzumac**	**14.34**	**250**	P	P	01 19 29.5	+0.1
DZM	**Mont Dzumac**	**14.34**	**250**	P	P	01 19 28.6	-0.8
	5.1nm,0.7s,baz=68,slow=17,SNR=2.2						
KOUNC	**Koumac, New Ca**	**16.02**	**257**	P	P	01 19 47.8	+1.1
URZ	**Urewera**	**20.80**	**189**	P	P	01 20 28.2	-2.0
	3.8nm,0.3s,baz=330,slow=3.7,SNR=8.0						
	3.8nm,0.3s						
LBZ	**Lake Benmore**	**28.14**	**197**	P	P	01 21 33.6	-1.7
EIDS	**Eidsvold**	**28.79**	**249**	P	P	01 21 40.9	-0.3
WKZ	**Wanaka**	**28.88**	**198**	P	P	01 21 40.7	-1.0
ARMA	**Armidale**	**29.55**	**239**	P	P	01 21 49.7	+1.9
MLZ	**Mavora Lakes**	**29.63**	**198**	P	P	01 21 48.5	+0.2
WHZ	**Wether Hill Ro**	**30.16**	**198**	P	P	01 21 53.3	+0.6
CTA	**Charters Tower**	**32.89**	**260**	P	P	01 22 17.4	+0.9
	2.8nm,0.6s,baz=88,slow=4.9,SNR=5.1						
	2.8nm,0.6s						
CTAO	**Charters Tower**	**32.89**	**260**	P	P	01 22 17.2	+0.7
CAN	**Canberra**	**33.38**	**232**	P	P	01 22 21.3	+0.8
TOO	**Toolangi**	**36.86**	**230**	P	P	01 22 50.7	+1.3
STKA	**Stephens Creek**	**38.22**	**241**	P	P	01 23 02.1	+1.5
STKA	**Stephens Creek**	**38.22**	**241**	P	P	01 23 02.1	+1.5
	6.8nm,0.5s,baz=77,slow=9.3,SNR=8.5						
	6.8nm,0.5s						
BBOO	**Buckleboo**	**43.00**	**241**	P	P	01 23 39.4	+0.8
WRA	**Warramunga Arr**	**44.08**	**259**	P	P	01 23 47.6	+0.4
	2.0nm,0.6s,baz=97,slow=7.1,SNR=14						
WRA				S	S	01 29 38.9	-2.1
	0.6nm,0.9s,baz=90,slow=12,SNR=2.4						
	2.0nm,0.6s						
ASAR	**Alice Springs**	**44.28**	**254**	P	P	01 23 49.5	+0.8
	22nm,0.5s,baz=89,slow=8.1,SNR=111						
ASAR				ScP	ScP	01 28 26.2	+4.0
	0.4nm,0.5s,baz=95,slow=5.2,SNR=4.3						
ASAR				S	S	01 29 44.2	+0.5
	1.9nm,1.0s,baz=86,slow=16,SNR=7.7						
	22nm,0.5s						
SOEI	**Soe**	**55.47**	**270**	P	P	01 25 08.3	-2.8
PSA00	**Pilbara Seismi**	**57.39**	**255**	P	P	01 25 22.5	-1.5
PSA00				IAmb	IAmb	01 25 54.7	
	comp=Z,21nm,1.3s						
MORW	**Morawa**	**60.03**	**246**	P	P	01 25 41.2	-0.5
MJAR	**Matsushiro Arr**	**67.35**	**324**	P	P	01 26 28.7	+0.5
	comp=Z,2.1nm,0.7s,baz=163,slow=5.8,SNR=5.9						
	comp=Z,2.1nm,0.7s						
QSPA	**South Pole Qui**	**72.39**	**180**	P	P	01 26 58.8	+0.9
QSPA				IAmb	IAmb	01 27 02.8	
	comp=Z,14nm,1.4s						
QSPA	**South Pole Qui**	**72.39**	**180**	P	P	01 26 58.3	+0.4
	comp=Z,1.8nm,0.7s,baz=47,slow=5.9,SNR=16						
	comp=Z,1.8nm,0.7s						
PETK	**Petropavlovsk-**	**73.29**	**346**	P	P	01 27 03.2	+0.3
	comp=Z,5.4nm,0.9s,baz=130,slow=7.7,SNR=9.1						
	comp=Z,5.4nm,0.9s						
NVAR	**Mina Array Bea**	**79.67**	**44**	P	P	01 27 38.4	-0.2
	comp=Z,1.4nm,0.7s,baz=224,slow=7.8,SNR=9.8						
	comp=Z,1.4nm,0.7s						
H04A	**Detroit Lake**	**80.76**	**37**	P	P	01 27 43.2	-0.7
H04A				IAmb	IAmb	01 28 26.6	
	comp=Z,6.6nm,1.2s						
K15K	**Wolf Creek Mou**	**80.89**	**8**	P	P	01 27 44.7	+0.6
RADR	**Rader Ridge**	**80.89**	**35**	P	P	01 27 43.0	-1.5
L18K	**Granite Mounta**	**81.56**	**10**	P	P	01 27 48.3	+0.8
L18K				IAmb	IAmb	01 27 48.8	
	comp=Z,3.5nm,0.8s						
M19K	**Big River Lodg**	**81.68**	**12**	P	P	01 27 47.9	-0.3
M19K				IAmb	IAmb	01 28 31.1	
	comp=Z,5.4nm,1.1s						
K17K	**Iditarod**	**81.76**	**9**	P	P	01 27 48.6	0.0
L19K	**White Mountain**	**81.85**	**11**	P	P	01 27 49.0	-0.2
L19K				IAmb	IAmb	01 27 51.6	
	comp=Z,13nm,1.4s						
M20K	**Styx River**	**81.91**	**12**	P	P	01 27 48.2	-1.2
J16K	**Anvik River**	**81.96**	**8**	P	P	01 27 49.9	+0.3
J16K				IAmb	IAmb	01 27 50.9	
	comp=Z,9.3nm,0.9s						
I07A	**Izee**	**81.99**	**39**	P	P	01 27 50.5	+0.2
SUA	**Susitna One**	**82.03**	**13**	P	P	01 27 49.9	-0.3
SUA				IAmb	IAmb	01 27 50.4	
	comp=Z,6.8nm,1.0s						
J17K	**VABM Dome**	**82.29**	**9**	P	P	01 27 48.7	-2.6
J17K				IAmb	IAmb	01 28 04.7	
	comp=Z,15nm,1.4s						
SKT	**Skwentna**	**82.33**	**13**	P	P	01 27 51.1	-0.4
SKT				IAmb	IAmb	01 28 27.8	
	comp=Z,6.1nm,1.3s						
TTA	**Tatalina**	**82.34**	**10**	P	P	01 27 51.5	-0.1
BELA	**Belgrano 2**	**82.48**	**173**	P	P	01 27 52.0	-0.2
BELA				IAmb	IAmb	01 28 19.1	
	comp=Z,7.1nm,1.2s						
X16A	**Lo Mia Camp, P**	**82.49**	**50**	P	P	01 27 51.8	-1.4
KNK	**Knik Glacier**	**82.51**	**14**	P	P	01 27 51.6	-0.8
KNK				IAmb	IAmb	01 27 52.9	
	comp=Z,9.3nm,1.2s						
PMR	**Palmer**	**82.51**	**14**	P	P	01 27 51.7	-0.6
GHO	**Glory Hole Cre**	**82.71**	**14**	P	P	01 27 52.8	-0.7
GHO				IAmb	IAmb	01 27 53.6	
	comp=Z,8.3nm,0.8s						

J18K	**Innoko River**	**82.72**	**10**	P	**P**	**01 27 53.5**	**+0.1**
J18K				IAmb	IAmb	01 27 54.1	
	comp=Z,4.8nm,0.8s						
SML	**Sawmill**	**82.88**	**14**	P	**P**	**01 27 53.5**	**-0.9**
SML				IAmb	IAmb	01 27 59.6	
	comp=Z,11nm,1.4s						
PPLA	**Purkeypile**	**83.02**	**12**	P	**P**	**01 27 53.8**	**-1.4**
PPLA				IAmb	IAmb	01 28 19.1	
	comp=Z,10nm,1.3s						
K20K	**Telida**	**83.08**	**11**	P	**P**	**01 27 55.0**	**-0.2**
K20K				IAmb	IAmb	01 27 56.2	
	comp=Z,8.8nm,1.1s						
BMRM	**Bremner River**	**83.09**	**16**	P	**P**	**01 27 54.9**	**-0.5**
BMRM				IAmb	IAmb	01 28 01.1	
	comp=Z,8.3nm,1.2s						
SCM	**Sheep Creek Mo**	**83.14**	**15**	P	**P**	**01 27 55.2**	**-0.5**
SCM				IAmb	IAmb	01 27 56.1	
	comp=Z,8.2nm,0.8s						
J19K	**Poorman**	**83.39**	**10**	P	**P**	**01 27 56.9**	**+0.1**
ISLE	**Juniper Island**	**83.41**	**17**	P	**P**	**01 27 56.7**	**-0.4**
CAST	**Castle Rocks**	**83.51**	**12**	P	**P**	**01 27 55.8**	**-1.6**
CAST				IAmb	IAmb	01 27 56.8	
	comp=Z,6.7nm,0.8s						
VRDI	**Verde Repeater**	**83.61**	**16**	P	**P**	**01 27 57.6**	**-0.6**
VRDI				IAmb	IAmb	01 28 37.7	
	comp=Z,8.6nm,1.3s						
TABL	**Table Mountain**	**83.62**	**18**	P	**P**	**01 27 57.6**	**-0.6**
N25K	**Chitina, Valde**	**83.63**	**16**	P	**P**	**01 27 57.8**	**-0.3**
M24K	**Tolsona, Glenn**	**83.66**	**15**	P	**P**	**01 27 58.1**	**-0.1**
GLB	**Gilahina Butte**	**83.70**	**16**	P	**P**	**01 27 58.1**	**-0.3**
GLB				IAmb	IAmb	01 27 58.2	
	comp=Z,5.9nm,0.8s						
G16K	**Koyuk River**	**83.77**	**7**	P	**P**	**01 27 58.8**	**+0.2**
G16K				IAmb	IAmb	01 28 02.9	
	comp=Z,5.5nm,1.2s						
J20K	**Nowinta River**	**83.82**	**11**	P	**P**	**01 27 59.2**	**+0.3**
MCARA	**McCarthy VSAT**	**83.86**	**17**	P	**P**	**01 28 00.1**	**+0.9**
MCARA				IAmb	IAmb	01 28 14.4	
	comp=Z,9.9nm,1.4s						
KTH	**Kantishna Hill**	**83.86**	**12**	P	**P**	**01 27 57.7**	**-1.5**
KTH				IAmb	IAmb	01 27 59.5	
	comp=Z,8.4nm,1.1s						
TRF	**Thorofare Moun**	**83.90**	**13**	P	**P**	**01 27 58.4**	**-1.1**
LOGN	**Logan Glacier**	**83.97**	**18**	P	**P**	**01 27 59.6**	**-0.3**
BARN	**Barnard Glacie**	**83.97**	**17**	P	**P**	**01 27 59.7**	**-0.3**
BARN				IAmb	IAmb	01 28 17.7	
	comp=Z,7.9nm,1.3s						
CTGM	**Chitina Glacie**	**83.99**	**17**	P	**P**	**01 27 59.6**	**-0.4**
P29M	**Windy Craggy**	**84.02**	**20**	P	**P**	**01 27 58.3**	**-1.7**
P29M				IAmb	IAmb	01 28 34.5	
	comp=Z,6.8nm,1.0s						
RND	**Reindeer**	**84.17**	**13**	P	**P**	**01 28 00.3**	**-0.4**
RND				IAmb	IAmb	01 28 00.8	
	comp=Z,7.0nm,0.8s						
DHY	**Denali Highway**	**84.21**	**14**	P	**P**	**01 28 00.5**	**-0.5**
DHY				IAmb	IAmb	01 28 06.7	
	comp=Z,4.5nm,1.1s						
PLID	**Pearl Lake**	**84.64**	**39**	P	**P**	**01 28 03.4**	**-0.3**
H19K	**Roundabout Mou**	**84.69**	**9**	P	**P**	**01 28 03.5**	**+0.4**
M26K	**Nabesna, AK**	**84.71**	**16**	P	**P**	**01 28 03.2**	**-0.2**
M26K				IAmb	IAmb	01 28 04.3	
	comp=Z,5.0nm,0.9s						
HLID	**Hailey**	**84.84**	**41**	P	**P**	**01 28 04.9**	**+0.2**
F17K	**Baldwin Pennin**	**84.91**	**7**	P	**P**	**01 28 04.1**	**0.0**
F17K				IAmb	IAmb	01 28 07.5	
	comp=Z,5.8nm,1.2s						
M27K	**Edge Creek, AK**	**84.97**	**16**	P	**P**	**01 28 04.9**	**+0.1**
M27K				IAmb	IAmb	01 28 05.6	
	comp=Z,5.7nm,1.0s						
S34M	**Telegraph Cree**	**85.06**	**23**	P	**P**	**01 28 05.6**	**+0.5**
S34M				IAmb	IAmb	01 28 06.9	
	comp=Z,7.7nm,1.1s						
I21K	**Tanana**	**85.12**	**11**	P	**P**	**01 28 04.6**	**-0.6**
I21K				IAmb	IAmb	01 28 18.2	
	comp=Z,5.0nm,1.4s						
G19K	**Purcell Mounta**	**85.17**	**9**	P	**P**	**01 28 04.9**	**-0.5**
WRH	**Wood River Hil**	**85.27**	**13**	P	**P**	**01 28 05.3**	**-0.6**
WRH				IAmb	IAmb	01 28 05.8	
	comp=Z,9.5nm,1.3s						
P32M	**Atlin**	**85.33**	**21**	P	**P**	**01 28 06.1**	**-0.3**
P32M				IAmb	IAmb	01 28 47.2	
	comp=Z,5.0nm,1.2s						
RIDG	**Independent Ri**	**85.37**	**15**	P	**P**	**01 28 06.2**	**-0.3**
RIDG				IAmb	IAmb	01 28 06.9	
	comp=Z,6.5nm,1.1s						
Q32M	**Nakina River**	**85.39**	**22**	P	**P**	**01 28 07.2**	**+0.3**
Q32M				IAmb	IAmb	01 28 19.6	
	comp=Z,12nm,1.5s						
H21K	**Melozitna Rive**	**85.41**	**11**	P	**P**	**01 28 07.0**	**+0.3**
O30N	**Mendenhall**	**85.42**	**20**	P	**P**	**01 28 07.0**	**+0.1**
HDA	**Harding Lake**	**85.46**	**13**	P	**P**	**01 28 06.8**	**-0.1**
HDA				IAmb	IAmb	01 28 07.2	
	comp=Z,3.1nm,0.7s						
CCB	**Clear Creek Bu**	**85.48**	**13**	P	**P**	**01 28 05.9**	**-1.1**
CCB				IAmb	IAmb	01 28 07.0	
	comp=Z,9.6nm,1.4s						
IMAR	**Indian Mountai**	**85.55**	**10**	P	**P**	**01 28 06.9**	**-0.4**
L27K	**Beaver Creek,**	**85.56**	**16**	P	**P**	**01 28 07.5**	**0.0**
BCAR	**Beaver Creek A**	**85.58**	**16**	P	**P**	**01 28 07.8**	**+0.3**
F19K	**Shaleruckik Mo**	**85.72**	**8**	P	**P**	**01 28 07.6**	**-0.4**
SCRK	**Sand Creek**	**85.78**	**15**	P	**P**	**01 28 08.7**	**+0.1**
SCRK				IAmb	IAmb	01 28 10.2	
	comp=Z,2.9nm,1.0s						
IL31		**85.78**	**13**	P	**P**	**01 28 07.6**	**-0.8**
ILAR	**Eielson Array**	**85.78**	**13**	P	**P**	**01 28 08.2**	**-0.2**
ILAR	**Eielson Array**	**85.78**	**13**	P	**P**	**01 28 07.4**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=225,slow=5.0,SNR=15						
	comp=Z,0.8nm,0.5s						
J25K	**Salcha River,**	**85.99**	**14**	P	**P**	**01 28 09.3**	**-0.2**
J25K				IAmb	IAmb	01 28 10.2	
	comp=Z,4.6nm,1.2s						
M29M	**Somme Creek**	**86.00**	**18**	P	**P**	**01 28 09.6**	**0.0**
G21K	**Allakaket**	**86.07**	**10**	P	**P**	**01 28 09.3**	**-0.4**
G21K				IAmb	IAmb	01 28 10.1	
	comp=Z,3.1nm,0.8s						
F20K	**Avaraart Lake**	**86.22**	**9**	P	**P**	**01 28 10.1**	**-0.3**
J26L	**Joseph Creek**	**86.32**	**15**	P	**P**	**01 28 11.2**	**+0.1**
J26L				IAmb	IAmb	01 28 11.8	
	comp=Z,3.2nm,0.7s						
TX31	**Lajitas Ar. Si**	**86.38**	**58**	P	**P**	**01 28 13.3**	**+1.1**
TXAR	**Lajitas Array**	**86.38**	**58**	P	**P**	**01 28 13.5**	**+1.3**
TXAR	**Lajitas Array**	**86.38**	**58**	P	**P**	**01 28 12.8**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=217,slow=6.4,SNR=18						
	comp=Z,1.2nm,0.7s						
E19K	**Redstone River**	**86.38**	**8**	P	**P**	**01 28 11.0**	**-0.2**
E19K				IAmb	IAmb	01 28 11.6	
	comp=Z,2.0nm,0.7s						
M30M	**Minto, Yukon**	**86.59**	**18**	P	**P**	**01 28 12.5**	**+0.1**
M30M				IAmb	IAmb	01 28 12.7	
	comp=Z,2.8nm,0.8s						
L29M	**L29M**	**86.61**	**17**	P	**P**	**01 28 12.9**	**+0.4**
L29M				IAmb	IAmb	01 28 28.2	
	comp=Z,4.7nm,1.4s						
F21K	**Alatna River**	**86.72**	**10**	P	**P**	**01 28 12.2**	**-0.7**
FXWY	**Fox Creek**	**87.03**	**42**	P	**P**	**01 28 15.4**	**+0.3**
I26K	**Coal Creek Min**	**87.09**	**14**	P	**P**	**01 28 14.8**	**+0.2**
I26K				IAmb	IAmb	01 28 31.4	
	comp=Z,8.1nm,1.5s						
D19K	**Kuna River**	**87.25**	**8**	P	**P**	**01 28 15.0**	**-0.3**
D19K				IAmb	IAmb	01 28 15.9	
	comp=Z,3.3nm,1.0s						
K29M	**Barlow Dome**	**87.36**	**17**	P	**P**	**01 28 16.2**	**+0.1**
PD31	**Pinedale Array**	**87.59**	**44**	P	**P**	**01 28 17.4**	**-0.4**
PDAR	**Pinedale Array**	**87.59**	**44**	P	**P**	**01 28 17.7**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=208,slow=3.1,SNR=10						
	comp=Z,0.9nm,0.6s						
C19K	**Lookout Ridge**	**87.65**	**7**	P	**P**	**01 28 17.4**	**+0.2**
YKA	**Yellowknife Ar**	**94.36**	**25**	P	**P**	**01 28 47.1**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=252,slow=4.5,SNR=8.3						
	comp=Z,0.6nm,0.8s						
A36M	**Sachs Harbour**	**96.39**	**15**	P	**P**	**01 28 56.8**	**-0.4**
BRTR	**Keskin Array B**	**144.18**	**315**	PKP	**PKPab**	**01 35 01.6**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=100,slow=3.4,SNR=6.6						
CLL	**Collm**	**145.09**	**347**		**PKPdf**	**01 35 02.3**	**-0.2**
MMAI	**Mount Meron Ar**	**145.50**	**303**	PKPbc	**PKPab**	**01 35 06.2**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=46,slow=3.6,SNR=4.2						
GERES	**GERESS Array B**	**147.22**	**344**	PKPbc	**PKPbc**	**01 35 09.9**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=16,slow=5.8,SNR=5.4						
LESA	**Schwarzleotal**	**148.79**	**345**	*i* PKP	**PKPbc**	**01 35 13.6**	**+0.1**
	comp=Z,1.8nm,0.3s						
SOKA	**Soboth**	**148.81**	**341**	*i* PKP	**PKPbc**	**01 35 13.3**	**-0.2**
	comp=Z,0.5nm,0.4s						
KBA	**Koelnbreinsper**	**148.94**	**343**	*i* PKP	**PKPbc**	**01 35 13.5**	**-0.5**
	comp=Z,0.6nm,0.3s						
RETA	**Reutte**	**149.18**	**347**	*i* PKP	**PKPbc**	**01 35 14.6**	**+0.1**
	comp=Z,0.4nm,0.3s						
WTTA	**Wattenberg**	**149.20**	**346**	*i* PKP	**PKPbc**	**01 35 14.8**	**+0.2**
	comp=Z,2.5nm,0.3s						
MOTA	**Moosalm**	**149.24**	**346**	*i* PKP	**PKPbc**	**01 35 14.7**	**0.0**
	comp=Z,0.6nm,0.3s						
SQTA	**Sankt Quirin**	**149.34**	**346**	*i* PKP	**PKPbc**	**01 35 15.1**	**+0.2**
	comp=Z,1.3nm,0.4s						
ABTA	**Abfaltersbach**	**149.46**	**344**	*i* PKP	**PKPbc**	**01 35 14.8**	**-0.4**
	comp=Z,1.1nm,0.4s						

DJA ***25*** *01:18:24.0±0.3,0.°N±4.°×12.°7E±.°, h10km, M4.0/11, mb4.1/1, MLv3.9/11*

IDC ***25*** *01:18:26.0±9.0, 0.°02S×126.°59E, h58km±86km, mb3.6/10, mbtmp3.9/10, Error ellipse: s-maj=62.8km s-min=19.3km az=64.0*

NEIC ***25*** *01:18:26.2±1.1, 0.°05N±0.°06×126.°66E±0.°05, h59km±9km, mb4.2/13, Error ellipse: s-maj=9.7km s-min=5.8km az=139.0*

ISC 25 01:18:27.0±0.6, 0.°03N±0.°06×126.°69E±0.°05, h73km, n37, σ1§14/40, mb4.1/15, Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.00**	**43**		**Pn**	**01 18 43.9**	**-1.8**
TNTI				Sn	**Sn**	**01 18 57.7**	**-1.9**
TNTI	**Ternate**	**1.00**	**43**	P	**Pn**	**01 18 43.8**	**-1.9**
LBMI	**Labuha**	**1.05**	**129**	P	**Pn**	**01 18 44.6**	**-1.7**
SANI	**Sanana**	**2.18**	**199**	P	**Pn**	**01 18 58.9**	**-2.3**
KMSI	**Cibinong**	**2.76**	**281**	P	**Pn**	**01 19 07.4**	**-1.6**
NLAI	**Namlea**	**3.27**	**173**	P	**Pn**	**01 19 15.3**	**-0.7**
GTOI	**Gorontalo**	**3.73**	**279**	P	**Pn**	**01 19 23.3**	**+1.2**
LUWI	**Luwuk**	**4.06**	**255**		**Pn**	**01 19 25.2**	**-1.5**
LUWI				Sn	**Sn**	**01 20 12.7**	**-0.3**
LUWI	**Luwuk**	**4.06**	**255**	P	**Pn**	**01 19 24.5**	**-2.2**
TOLI2	**Tolitoli**	**6.00**	**280**	Pn	**Pn**	**01 19 51.7**	**-1.5**
TOLI2				Sn	**Sn**	**01 20 58.4**	**-2.3**
FAKI	**Fak Fak**	**6.28**	**118**	Pn	**Pn**	**01 19 57.4**	**+0.3**
FAKI				Sn	**Sn**	**01 21 06.5**	**-1.0**
TTSI	**Tana Toraja**	**7.51**	**246**	P	Pn	01 20 08.5	-5.4
KAPI	**Kappang**	**8.55**	**234**	Pn	**Pn**	**01 20 27.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**18.05**	**183**	P	**Pn**	**01 22 33.8**	**+0.9**
WB0	**Warramunga Arr**	**21.07**	**159**	P	**P**	**01 23 05.2**	**-0.3**
WB0				IAmb	IAmb	01 23 47.5	
	comp=Z,12nm,1.3s						
WRA	**Warramunga Arr**	**21.22**	**160**	P	**P**	**01 23 07.0**	**0.0**
WRA	**Warramunga Arr**	**21.22**	**160**	P	**P**	**01 23 06.2**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=340,slow=11,SNR=28						
	comp=Z,1.1nm,0.4s						
WB2	**Warramunga Arr**	**21.22**	**160**	P	**P**	**01 23 06.5**	**-0.5**
WB2				IAmb	IAmb	01 23 38.7	
	comp=Z,14nm,1.4s						
WR0	**Warramunga Arr**	**21.30**	**159**	P	**P**	**01 23 07.3**	**-0.6**
WR0				IAmb	IAmb	01 23 08.5	
	comp=Z,12nm,1.1s						
SBJI	**Serang**	**21.41**	**253**	P	**P**	**01 23 09.5**	**+0.4**
AS31	**Alice Springs**	**24.57**	**164**	P	**P**	**01 23 41.8**	**+1.5**
ASAR	**Alice Springs**	**24.58**	**164**	P	**P**	**01 23 41.2**	**+0.9**
	comp=Z,4.6nm,0.9s,baz=347,slow=11,SNR=26						
	comp=Z,4.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**32.84**	**305**	P	**P**	**01 24 54.3**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=113,slow=11,SNR=0.9						
	comp=Z,0.5nm,0.3s						
SONM	**Songino Array**	**50.78**	**342**	P	**P**	**01 27 20.7**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=155,slow=7.8,SNR=8.7						
	comp=Z,1.2nm,0.8s						
PLWZ	**Palliser**	**60.25**	**140**	P	**P**	**01 28 27.4**	**-0.5**
MK31	**Makanchi Array**	**60.58**	**327**	P	**P**	**01 28 30.6**	**+0.6**
MKAR	**Makanchi Array**	**60.58**	**327**	P	**P**	**01 28 30.4**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=120,slow=8.1,SNR=28						
	comp=Z,0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**63.86**	**334**	P	**P**	**01 28 51.9**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=130,slow=5.8,SNR=2.1						
	comp=Z,0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**64.83**	**328**	P	**P**	**01 28 58.6**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=129,slow=6.3,SNR=9.0						
	comp=Z,1.2nm,0.5s						
KURK	**Kurchatov**	**64.83**	**328**	P	**P**	**01 28 58.2**	**0.0**
KK31	**Karatay Array**	**65.92**	**318**	P	**P**	**01 29 05.4**	**0.0**
KK31				IAmb	IAmb	01 29 06.6	
	comp=Z,2.8nm,1.2s						
KKAR	**Karatay Array**	**65.92**	**318**	P	**P**	**01 29 04.8**	**-0.6**
KKAR				IAmb	IAmb	01 29 06.6	
	comp=Z,2.8nm,1.2s						
ILAR	**Eielson Array**	**88.44**	**25**	P	**P**	**01 31 12.3**	**+1.4**
	comp=Z,0.3nm,0.8s,baz=231,slow=5.7,SNR=2.1						
	comp=Z,0.3nm,0.8s						
QSPA	**South Pole Qui**	**89.96**	**180**	P	**P**	**01 31 18.6**	**+0.5**
QSPA				IAmb	IAmb	01 31 27.0	
	comp=Z,2.2nm,1.2s						
QSPA	**South Pole Qui**	**89.96**	**180**	P	**P**	**01 31 18.3**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=259,slow=5.2,SNR=1.3						
	comp=Z,0.6nm,0.8s						
CRQM	**Cirque**	**90.06**	**29**	P	**P**	**01 31 19.5**	**+0.7**
BRTR	**Keskin Array B**	**92.33**	**310**	P	**P**	**01 31 30.2**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=54,slow=7.3,SNR=1.8						
	comp=Z,0.3nm,0.6s						

IDC ***25*** *01:27:55.1±0.7,5.°80S×142.°32E, h0km, mb4.3/12, mbtmp4.4/17, ML4.1/3, MS3.8/16, Error ellipse: s-maj=24.0km s-min=14.5km az=79.0*

NEIC ***25*** *01:27:57.0±2.0,5.°79S±0.°09×142.°14E±0.°04, h10km±1km, mb4.6/42, Error ellipse: s-maj=15.1km s-min=6.2km az=2.0*

GCMT ***25*** *01:27:59.0±0.3,5.°86S±0.°04×142.°03E±0.°02, h12km, MW4.8/78, Moment Tensor Solution. s15,c15; s78,c93; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr 1.84±.06; Mθθ -0.56±.06; Mφφ -1.28±.06; Mrθ 0.23±.37; Mrφ 0.62±.06; Mθφ -1.16±.25; Best double couple: Mo2.10000×10^16 NP1:φs160.00000°, δ62.00000°, λ98.00000°. NP2: φs323.00000°, δ29.00000°, λ75.00000°. Principal axes: T 2.2240, Plg72.0000°, Azm88.0000°; N -0.2530, Plg7.0000°, Azm336.0000°; P -1.9760, Plg17.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***25*** *01:28:00.3±1.6,6.°S±7.°×14.°2E±1.°9, h10km, M4.6/3, mb4.8/3, MLv4.5/1*

ISC 25 01:27:56.7±0.4, 5.°89S±0.°05×142.°20E±0.°05, h10km, n96, σ1§69/88, mb4.6/31, MS3.7/10, 1D, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.15**	**302**	P	**Pg**	**01 28 18.8**	**-0.1**
MMPI	**Merauke**	**3.13**	**215**	P	**Pn**	**01 28 50.2**	**+4.0**
JAY	**Jayapura**	**3.67**	**336**	P	**Pn**	**01 28 53.5**	**-0.1**
GENI	**Genyem**	**3.85**	**328**	P	**Pn**	**01 28 58.7**	**+2.7**
PMG	**Port Moresby**	**6.03**	**126**		**Pn**	**01 29 26.7**	**+0.7**
PMG	**Port Moresby**	**6.03**	**126**	Pn	**Pn**	**01 29 26.1**	**+0.1**
	16nm,0.4s,baz=333,slow=8.6,SNR=8.6						
PMG				Sn	**Sn**	**01 30 33.8**	**-1.4**
	3.4nm,0.3s,baz=262,slow=21,SNR=1.9						
PMG				LR	LR	01 32 17.1	
	comp=Z,816nm,18.5s,baz=325,slow=44						
COEN	**Coen**	**8.07**	**173**	P	**Pn**	**01 29 58.2**	**+4.0**
COEN	**Coen**	**8.07**	**173**	Pn	**Pn**	**01 29 57.5**	**+3.3**
FAKI	**Fak Fak**	**10.35**	**286**	P	**Pn**	**01 30 25.7**	**+0.3**
FAKI	**Fak Fak**	**10.35**	**286**	Pn	**Pn**	**01 30 24.6**	**-0.8**
KDU	**Kakadu**	**11.73**	**234**	P	**Pn**	**01 30 45.6**	**+1.3**
MTN	**Manton Dam**	**12.92**	**237**	Pn	**Pn**	**01 31 00.3**	**-0.3**
CTA	**Charters Tower**	**14.65**	**165**	Pn	**Pn**	**01 31 25.9**	**+1.7**
	0.3nm,0.3s,baz=270,slow=1.0,SNR=1.6						
CTA				Lg	Lg	01 35 39.7	
	0.2nm,0.3s,baz=90,slow=20,SNR=2.6						
CTA				LR	LR	01 37 40.2	
	comp=Z,660nm,18.2s,baz=1.0,slow=40						
	5.8nm,1.0s						
CTAO	**Charters Tower**	**14.65**	**165**	P	**P**	**01 31 32.3**	**+1.7**
QIS	**Mount Isa**	**14.80**	**190**	P	**Pn**	**01 31 28.1**	**+1.9**
WB0	**Warramunga Arr**	**15.75**	**208**		**Pn**	**01 31 38.3**	**-0.5**
WB0				IAmb	IAmb	01 32 03.5	
	comp=Z,41nm,1.1s						
WR0	**Warramunga Arr**	**15.85**	**207**		**Pn**	**01 31 39.8**	**-0.3**
WRAB	**Tennant Creek**	**15.91**	**208**		**Pn**	**01 31 40.2**	**-0.7**
WRAB				IAmb	IAmb	01 31 48.4	
	comp=Z,31nm,1.0s						
WB2	**Warramunga Arr**	**15.92**	**208**		**Pn**	**01 31 41.0**	**0.0**
WB2				IAmb	IAmb	01 31 48.6	
	comp=Z,23nm,0.8s						
WRA	**Warramunga Arr**	**15.92**	**208**		**Pn**	**01 31 41.6**	**+0.5**
WRA	**Warramunga Arr**	**15.92**	**208**	Pn	**Pn**	**01 31 40.4**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=31,slow=13,SNR=32						
WRA				Sn	**Sn**	**01 34 30.8**	**-7.0**
	comp=Z,0.6nm,0.3s,baz=41,slow=19,SNR=5.0						
WRA				Lg	Lg	01 36 23.5	
	comp=Z,0.4nm,0.3s,baz=41,slow=27,SNR=5.0						
WRA				LR	LR	01 37 52.8	
	comp=Z,950nm,20.1s,baz=26,slow=37						
	comp=Z,4.3nm,0.6s						
HNR	**Honiara**	**17.93**	**102**		**Pn**	**01 32 06.3**	**-0.1**
HNR				IAmb	IAmb	01 32 15.6	
	comp=Z,91nm,0.9s						
HNR	**Honiara**	**17.93**	**102**	P	**Pn**	**01 32 06.6**	**+0.2**
	comp=Z,776nm,0.7s,baz=218,slow=7.1,SNR=2.6						
SOEI	**Soe**	**18.17**	**257**		**Pn**	**01 32 07.1**	**-2.4**
SOEI				IAmb	IAmb	01 32 25.4	
	comp=Z,72nm,0.9s						
SOEI	**Soe**	**18.17**	**257**	P	**Pn**	**01 32 11.8**	**+2.3**
	comp=Z,85nm,1.3s						
BATI	**Baumata**	**18.84**	**256**	P	**P**	**01 32 19.8**	**+2.7**
	comp=Z,8.8nm,0.4s,baz=99,slow=7.8,SNR=2.7						
BATI				LR	LR	01 41 42.0	
	comp=Z,1μm,19.1s,baz=88,slow=44						
BATI	**Baumata**	**18.84**	**256**	P	**P**	**01 32 16.7**	**-0.4**
AS01	**Alice Springs**	**19.38**	**203**	P	**P**	**01 32 25.1**	**+2.3**
	comp=Z,28nm,0.7s						
AS31	**Alice Springs**	**19.39**	**203**		**P**	**01 32 23.6**	**+0.6**
ASAR	**Alice Springs**	**19.40**	**203**		**P**	**01 32 24.7**	**+1.6**
ASAR	**Alice Springs**	**19.40**	**203**	P	**P**	**01 32 25.5**	**+2.4**
	comp=Z,1.8nm,0.3s,baz=33,slow=9.9,SNR=106						
ASAR				S	**Sn**	**01 35 55.4**	**-6.5**
	comp=Z,2.0nm,0.7s,baz=28,slow=26,SNR=3.4						
ASAR				Lg	Lg	01 38 14.1	
	baz=22,slow=31,SNR=2.3						
ASAR				LR	LR	01 40 01.7	
	comp=Z,902nm,20.0s,baz=34,slow=37						
	comp=Z,17nm,0.7s						
GUMO	**Guam**	**19.53**	**8**	P	**P**	**01 32 25.0**	**+0.5**
	comp=Z,120nm,0.8s,baz=169,slow=19,SNR=3.5						
GUMO				LR	LR	01 39 09.5	
	comp=Z,167nm,19.0s,baz=138,slow=35						
FITZ	**Fitzroy Crossi**	**20.21**	**232**		**P**	**01 32 32.3**	**+0.3**
EIDS	**Eidsvold**	**21.16**	**157**	P	**P**	**01 32 44.4**	**+2.3**
EIDS				IAmb	IAmb	01 32 58.7	
	comp=Z,20nm,1.1s						
TOLI2	**Tolitoli**	**22.49**	**287**	P	**P**	**01 32 54.6**	**-2.0**
TOLI2				IAmb	IAmb	01 33 10.0	
	comp=Z,18nm,1.0s						
OOD	**Oodnadatta**	**22.65**	**195**	P	**P**	**01 33 00.4**	**+2.3**
WRKA	**Warakurna**	**23.24**	**214**	P	**P**	**01 33 05.6**	**+1.2**
LCRK	**Leigh Creek**	**24.72**	**188**	P	**P**	**01 33 20.5**	**+2.3**
STKA	**Stephens Creek**	**25.86**	**181**	P	**P**	**01 33 29.1**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=64,slow=17,SNR=2.0						
STKA				LR	LR	01 45 13.3	
	comp=Z,493nm,20.2s,baz=359,slow=40						
	comp=Z,1.2nm,0.3s						
LEM	**Lembang**	**34.38**	**267**	LR	LR	01 52 39.9	
	comp=Z,152nm,18.7s,baz=342,slow=43						
NWAO	**Narrogin (SRO)**	**35.55**	**218**	LR	LR	01 49 39.4	
	comp=Z,480nm,19.9s,baz=60,slow=36						
JNU	**Nakatsue**	**40.26**	**345**	LR	LR	01 51 27.1	
	comp=Z,70nm,19.1s,baz=162,slow=35						
MJAR	**Matsushiro Arr**	**42.37**	**355**	LR	LR	01 51 48.9	
	comp=Z,89nm,20.3s,baz=148,slow=34						
NJ2	**Nanjing**	**43.80**	**331**	*e*P	**P**	**01 36 03.1**	**+0.2**
NJ2				pP	**pP**	**01 36 06.8**	**+0.7**
NJ2				sP	**sP**	**01 36 08.3**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,14nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,95nm,4.2s						
KSRS	**Korea Array**	**45.13**	**344**	P	**P**	**01 36 12.2**	**-1.3**
	comp=Z,1.2nm,0.5s,baz=159,slow=8.7,SNR=6.2						
KSRS				LR	LR	01 53 41.6	
	comp=Z,43nm,19.7s,baz=145,slow=34						
	comp=Z,1.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**49.03**	**301**	LR	LR	02 00 53.4	
	comp=Z,28nm,18.3s,baz=110,slow=40						
ASAJ	**Asahikawa**	**49.77**	**0**	LR	LR	01 59 48.0	
	comp=Z,22n

RER	**Riviere de l'E**	**84.61**	**249**		**P**	**P**	**01 40 29.6**	**-1.6**
SML	**Sawmill**	**85.64**	**26**	P	**P**	**P**	**01 40 36.1**	**+0.7**
Q23K	**Middleton Isla**	**85.75**	**29**			P	01 40 34.3	-1.6
MID	**Middleton Isla**	**85.75**	**29**	P		P	01 40 34.0	-1.9
CCB	**Clear Creek Bu**	**86.87**	**24**	P		**P**	**01 40 40.5**	**-0.8**
CCB				IAmb		IAmb	01 40 52.5	
	comp=Z,4.2nm,1.0s							
ILAR	**Eielson Array**	**87.29**	**24**	P		P	01 40 41.4	-2.0
	comp=Z,0.8nm,0.7s,baz=264,slow=4.5,SNR=9.4							
	comp=Z,0.8nm,0.7s							
C23K	**Itkillik River**	**87.81**	**19**	P		**P**	**01 40 45.0**	**-0.8**
F24K	**Squaw Lake**	**87.86**	**21**	P		**P**	**01 40 45.6**	**-0.5**
F24K				IAmb		IAmb	01 41 18.6	
	comp=Z,5.2nm,1.3s							
D24K	**Happy Valley**	**88.13**	**20**	P		**P**	**01 40 46.5**	**-0.8**
D24K				IAmb		IAmb	01 40 59.8	
	comp=Z,7.5nm,1.1s							
ABKAR	**Akbulak array**	**89.38**	**320**	P		P	01 40 51.8	-1.9
TORD	**Torodi Ar. Bea**	**140.43**	**283**	PKhKP		PKPpre	01 47 19.0	
	comp=Z,0.3nm,0.7s,baz=45,slow=3.1,SNR=1.7							
CPUP	**Villa Florida**	**142.79**	**150**	PKP		**PKPdf**	**01 47 30.6**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=216,slow=19,SNR=1.5							
DBIC	**Dimbokro**	**147.25**	**273**	PKPbc		**PKPdf**	**01 47 41.4**	**+2.2**
	comp=Z,1.5nm,0.6s,baz=0.0,slow=0.0,SNR=3.8							

TEH ***25*** *01:34:49.2,37.°94N×44.°67E,h10km±66km, ML2.7*
ISK ***25*** *01:34:51.4,37.°95N×44.°52E,h5km, ML2.4/8*
AFAD ***25*** *01:34:51.0±0.0,37.°98N×44.°55E,h7km±3km, ML2.5*

ISC 25 01:34:49.8±1.2,37.°95N±0.°03×44.°67E±0.°03,h7km±11km, n22,σ0s92/32,Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YOVA	**Hakkari_Yksek**	**0.47**	**220**	P		**Pg**	**01 34 59.8**	**+0.9**
YOVA				S		**Sb**	**01 35 06.9**	**-0.8**
YOVA				*i* AML		AML	01 35 10.0	
	comp=N,583nm,0.5s							
ISHB	**Shabestar**	**0.82**	**66**	Pg		**Pg**	**01 35 04.0**	**-1.6**
HAKT	**HAKKARI**	**0.85**	**243**	P		**Pb**	**01 35 06.4**	**-0.6**
HAKT				S		**Sb**	**01 35 18.4**	**-0.4**
HAKT				*i* AML		AML	01 35 22.0	
	comp=E,210nm,0.4s							
OZAP	**Van, Ozalp-Mer**	**0.89**	**324**	P		**Pg**	**01 35 07.2**	**+0.4**
OZAP				S		**Sg**	**01 35 17.8**	**-0.6**
IAZR	**Azarshahr**	**1.07**	**104**	Pg		**Pg**	**01 35 10.1**	**-0.3**
CUKT	**Cukurca**	**1.09**	**231**	Pg		**Pb**	**01 35 11.5**	**+0.4**
CUKT				Sg		**Sn**	**01 35 27.1**	**+0.1**
CUKT	**Cukurca**	**1.09**	**231**	P		**Pb**	**01 35 11.2**	**+0.1**
CUKT				S		**Sn**	**01 35 25.9**	**-1.2**
CUKT				*i* AML		AML	01 35 32.0	
	comp=N,113nm,0.4s							
CUKT				*i* AML		AML	01 35 39.0	
	comp=E,134nm,0.6s							
IMRD	**Marand**	**1.12**	**47**	Pg		**Pg**	**01 35 10.5**	**-0.8**
IMRD				Sg		**Sg**	**01 35 26.4**	**+0.7**
TVAN	**Van**	**1.15**	**301**	P		**Pb**	**01 35 12.1**	**0.0**
TVAN				S		**Sb**	**01 35 26.3**	**-1.0**
TVAN				*i* AML		AML	01 35 33.0	
	comp=N,71nm,0.4s							
TVAN				*i* AML		AML	01 35 42.0	
	comp=E,70nm,0.7s							
VANB	**Van**	**1.19**	**303**	Pg		**Pg**	**01 35 12.3**	**-0.4**
VMUR	**Van-Muradiye**	**1.35**	**321**	P		**Pg**	**01 35 16.6**	**+0.9**
AKDM	**Akdamar-Van**	**1.38**	**286**	Pn		**Pg**	**01 35 16.1**	**-0.2**
AKDM				Sn		**Sn**	**01 35 35.8**	**+1.5**
MAKU	**Maku**	**1.40**	**1**	Pg		**Pn**	**01 35 15.8**	**-0.2**
PERV	**Siirt/Pervari-**	**1.68**	**271**	P		**Pg**	**01 35 21.7**	**-0.3**
PERV				S		**Sg**	**01 35 43.9**	**+0.1**
PERV				*i* AML		AML	01 35 58.0	
	comp=E,47nm,0.5s							
SIRN	**Sirnak**	**1.84**	**256**	P		**Pg**	**01 35 25.0**	**-0.1**
SIRN				S		**Sg**	**01 35 50.0**	**+1.0**
SIRN				*i* AML		AML	01 35 58.0	
	comp=E,56nm,0.6s							
SIRN				*i* AML		AML	01 36 01.0	
	comp=N,54nm,0.6s							
IHRS	**Heris**	**1.91**	**78**	Pn		**Pn**	**01 35 24.0**	**+1.1**
SDS1	**Sardasht. Az.**	**1.91**	**160**	Pn		**Pn**	**01 35 23.8**	**+0.9**
TASB	**TASBURUN-IGDIR**	**2.06**	**351**	Pn		**Pb**	**01 35 28.5**	**+1.0**
AGRB	**Hanur-Agry**	**2.09**	**322**	Pn		**Pb**	**01 35 27.9**	**-0.2**
GURO	**Guroymak-BITLI**	**2.16**	**287**	Pn		**Pb**	**01 35 28.3**	**-1.0**
GNI	**Garni**	**2.20**	**2**	Pn		**Pb**	**01 35 30.9**	**+0.9**
SVAN	**Silvan-Diyarba**	**2.75**	**275**	Pn		**Pb**	**01 35 36.8**	**-2.4**

NOU ***25*** *01:50:03.4,42.°62S×173.°25E,h0km, MLv3.7/8, South Island, New Zealand*
WEL ***25*** *01:50:04.7±0.4,43.°3S±3.°×17.°3E±.°,h10km±3km, M3.3/12, ML3.5/12, MLv3.3/12, Error ellipse: s-maj=0.0km s-min=0.0km az=135.5*

ISC 25 01:50:05.0±1.1,42.°58S±0.°03×173.°35E±0.°03,h20km±2km, n84,σ1s28/92,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.21**	**40**	P		**Pb**	**01 50 09.1**	**-1.5**
KHZ	**Kahutara**	**0.21**	**40**	P		**Pb**	**01 50 09.5**	**-1.1**
KHZ				S		**Sb**	**01 50 12.8**	**-1.7**
WTMC	**Te Mara Farm W**	**0.22**	**260**	P		**Pb**	**01 50 10.2**	**-0.5**
WTMC				S		**Sb**	**01 50 14.5**	**-0.2**
CECS	**Cheviot Emerge**	**0.24**	**194**	P		**Pb**	**01 50 11.8**	**+1.0**
CECS				S		**Sb**	**01 50 17.2**	**+2.3**
KIKS	**Kaikoura**	**0.29**	**58**	P		**Pb**	**01 50 11.7**	**+0.3**
KIKS				S		**Sb**	**01 50 16.8**	**+0.9**
HSES	**Hanmer Springs**	**0.39**	**278**	P		**Pb**	**01 50 12.4**	**-0.7**
GVZ	**Greta Valley S**	**0.45**	**211**	P		**Pn**	**01 50 15.6**	**-0.7**
GVZ				S		**Sn**	**01 50 23.6**	**-0.2**
SCAC	**Scargill**	**0.48**	**221**	P		**Pb**	**01 50 14.2**	**-0.4**
MOLW	**Molesworth Sta**	**0.50**	**352**	P		**Pb**	**01 50 13.7**	**-1.4**
MOLW				S		**Sb**	**01 50 20.0**	**-1.9**
WAKC	**Waikari**	**0.61**	**231**	P		**Pb**	**01 50 17.7**	**+0.7**
AMCZ	**Amberley**	**0.79**	**221**	P		**Pn**	**01 50 21.1**	**+0.2**
LTZ	**Lake Taylor**	**0.82**	**256**	P		**Pb**	**01 50 20.8**	**+0.2**
LTZ				S		**Sb**	**01 50 31.7**	**+0.4**
THZ	**Tophouse**	**0.88**	**338**	P		**Pb**	**01 50 20.8**	**-0.8**
THZ				S		**Sb**	**01 50 31.7**	**-1.3**
BSWZ	**Blackbirch Sta**	**0.95**	**24**	P		**Pb**	**01 50 22.6**	**-0.1**
BSWZ				S		**Sn**	**01 50 37.0**	**+0.9**
CMWZ	**Cape Campbell**	**1.05**	**38**	P		**Pn**	**01 50 25.7**	**+1.2**
OXZ	**Oxford**	**1.22**	**232**	P		**Pn**	**01 50 26.6**	**-0.3**
TUWZ	**Tuamarina**	**1.23**	**21**	P		**Pn**	**01 50 27.3**	**+0.3**
MQZ	**McQueen's Vall**	**1.24**	**204**	P		**Pn**	**01 50 26.5**	**-0.5**
MRNZ	**Matariki Terra**	**1.26**	**339**	P		**Pn**	**01 50 27.5**	**0.0**
AKCZ	**Akaroa Harbour**	**1.33**	**194**	P		**Pn**	**01 50 28.2**	**-0.2**
NNZ	**Nelson**	**1.36**	**1**	P		**Pb**	**01 50 29.3**	**-0.4**
INZ	**Inchbonnie**	**1.42**	**264**	P		**Pn**	**01 50 29.7**	**+0.1**
DSZ	**Denniston Nort**	**1.42**	**305**	P		**Pn**	**01 50 30.0**	**+0.3**
RACZ	**Rakaia**	**1.45**	**217**	P		**Pn**	**01 50 29.7**	**-0.3**
TCW	**Tory Channel**	**1.53**	**27**	P		**Pn**	**01 50 31.0**	**-0.1**
TKNZ	**Takaka Hill**	**1.57**	**349**	P		**Pn**	**01 50 32.5**	**+0.7**
MHCZ	**Mount Hutt**	**1.62**	**233**	P		**Pn**	**01 50 32.0**	**-0.4**
SNZO	**South Karori**	**1.62**	**39**	P		**Pn**	**01 50 33.3**	**+1.0**
BHW	**Baring Head**	**1.63**	**45**	P		**Pn**	**01 50 32.1**	**-0.3**
PLWZ	**Palliser**	**1.74**	**55**	P		**Pn**	**01 50 33.4**	**-0.6**
WACZ	**Wakanui South**	**1.75**	**219**	P		**Pn**	**01 50 33.8**	**-0.3**
DUWZ	**D'Urville Isla**	**1.83**	**14**	P		**Pn**	**01 50 35.9**	**+0.7**
QRZ	**Quartz Range**	**1.86**	**340**	P		**Pn**	**01 50 36.5**	**+0.9**
QRZ	**Quartz Range**	**1.86**	**340**	P		**Pn**	**01 50 36.7**	**+1.1**
CAW	**Cannon Point**	**1.95**	**42**	P		**Pn**	**01 50 36.4**	**-0.5**
PAWZ	**Paruwai Farm**	**1.96**	**53**	P		**Pn**	**01 50 36.0**	**-1.0**
WVZ	**Waitaha Valley**	**1.99**	**255**	P		**Pn**	**01 50 37.8**	**+0.4**
RPZ	**Rata Peaks**	**2.03**	**235**	P		**Pn**	**01 50 37.6**	**-0.4**
RPZ	**Rata Peaks**	**2.03**	**235**	P		**Pn**	**01 50 37.8**	**-0.2**
KIW	**Kapiti Island**	**2.08**	**35**	P		**Pn**	**01 50 38.7**	**0.0**
ARCZ	**Arundel**	**2.10**	**229**	P		**Pn**	**01 50 38.4**	**-0.5**
TRWZ	**Traveller**	**2.10**	**57**	P		**Pn**	**01 50 39.0**	**0.0**
MTW	**Mount Morrison**	**2.14**	**49**	P		**Pn**	**01 50 38.8**	**-0.8**
OGWZ	**Otaki Gorge**	**2.23**	**38**	P		**Pn**	**01 50 40.2**	**-0.5**
HOWZ	**Holdsworth Sta**	**2.33**	**45**	P		**Pn**	**01 50 43.4**	**+1.2**
GCSZ	**Gaunt Creek Bo**	**2.34**	**251**	P		**Pn**	**01 50 43.2**	**+0.9**
TMWZ	**Te Maipa**	**2.40**	**53**	P		**Pn**	**01 50 44.4**	**+1.2**
TMZ	**Timaru**	**2.48**	**223**	P		**Pn**	**01 50 43.8**	**-0.4**
MRZ	**Mangatainoka R**	**2.54**	**42**	P		**Pn**	**01 50 44.5**	**-0.5**
FOZ	**Fox Glacier**	**2.76**	**249**	P		**Pn**	**01 50 48.8**	**+0.7**
BFZ	**Birch Farm**	**2.88**	**50**	P		**Pn**	**01 50 52.1**	**+2.4**
BFZ	**Birch Farm**	**2.88**	**50**	P		**Pn**	**01 50 49.7**	**0.0**
LBZ	**Lake Benmore**	**2.93**	**231**	P		**Pn**	**01 50 50.3**	**0.0**
WAZ	**Wanganui**	**3.08**	**24**	P		**Pn**	**01 50 55.8**	**+3.3**
ODZ	**Otahua Downs**	**3.15**	**218**	P		**Pn**	**01 50 52.6**	**-0.8**
ODZ	**Otahua Downs**	**3.15**	**218**	P		**Pn**	**01 50 52.8**	**-0.5**
KHEZ	**Kahui Hut**	**3.32**	**9**	P		**Pn**	**01 50 59.1**	**+3.3**
NEZ	**North Egmont**	**3.35**	**10**	P		**Pb**	**01 51 03.1**	**-0.7**
PKE	**Pukeiti**	**3.42**	**8**	P		**Pn**	**01 50 59.4**	**+2.3**
VRZ	**Vera Road**	**3.61**	**18**	P		**Pn**	**01 51 02.1**	**+2.4**
JCZ	**Jackson Bay**	**3.65**	**244**	P		**Pn**	**01 51 00.0**	**-0.4**
JCZ	**Jackson Bay**	**3.65**	**244**	P		**Pn**	**01 51 00.5**	**+0.1**
WNVZ	**Wahianoa**	**3.67**	**28**	P		**Pn**	**01 51 01.7**	**+1.1**
BHHZ	**Black Hill Sta**	**3.71**	**34**	P		**Pn**	**01 51 03.4**	**+2.3**
NGZ	**Ngauruhoe**	**3.81**	**27**	P		**Pn**	**01 51 03.9**	**+1.4**
SNVZ	**South Ngauruho**	**3.81**	**28**	P		**Pn**	**01 51 06.1**	**+3.4**
OTVZ	**Oturere**	**3.84**	**28**	P		**Pn**	**01 51 05.9**	**+2.9**
NNVZ	**North Ngauruho**	**3.85**	**27**	P		**Pn**	**01 51 04.9**	**+1.7**
HHSZ	**Highcliff Hill**	**3.85**	**210**	P		**Pn**	**01 51 02.5**	**-0.5**
WTVZ	**West Tongariro**	**3.85**	**27**	P		**Pn**	**01 51 06.2**	**+3.0**
ETVZ	**East Tongariro**	**3.88**	**28**	P		**Pn**	**01 51 06.5**	**+3.0**
KRVZ	**Karewarewa**	**3.89**	**27**	P		**Pb**	**01 51 10.1**	**-2.8**
EAZ	**Earnscleugh**	**3.94**	**226**	P		**Pn**	**01 51 04.0**	**-0.3**
HIZ	**Hauiti**	**4.22**	**16**	P		**Pn**	**01 51 09.5**	**+1.4**
TUZ	**Tuapeka**	**4.30**	**217**	P		**Pn**	**01 51 08.7**	**-0.5**
NMHZ	**Naumai**	**4.36**	**38**	P		Pn	01 51 15.3	+5.2
MLZ	**Mavora Lakes**	**4.69**	**232**	P		**Pn**	**01 51 14.0**	**-0.6**
SYZ	**Scrubby Hill**	**4.97**	**216**	P		**Pn**	**01 51 18.2**	**-0.2**
SYZ	**Scrubby Hill**	**4.97**	**216**	P		**Pn**	**01 51 18.4**	**0.0**
AWAZ	**Awhitu Peninsu**	**5.60**	**11**	P		**Pn**	**01 51 28.3**	**+1.3**
MKAZ	**Moumakai**	**5.64**	**15**	P		**Pn**	**01 51 28.4**	**+0.8**
APZ	**The Paps**	**5.71**	**220**	P		**Pn**	**01 51 28.4**	**-0.3**
MYRZ	**Mayor Island**	**5.74**	**24**	P		**Pn**	**01 51 27.3**	**-1.7**
WIAZ	**Waiheke Island**	**5.94**	**14**	P		**Pn**	**01 51 32.6**	**+0.9**

IDC ***25*** *01:53:17.9±0.4,22.°92S×175.°15W,h0km, mb4.9/21, mbtmp4.9/23, ML5.2/2, MS4.8/53, Error ellipse: s-maj=16.1km s-min=14.0km az=111.0*
BJI ***25*** *01:53:17.7±0.0,22.°84S×174.°86W,h5km, mb5.3/47, mB5.8/39, Ms5.2/41, Ms7 4.9/47*
MOS ***25*** *01:53:18.5±1.2,22.°95S×175.°14W,h10km, mb5.4/37, MS5.1/8, Error ellipse: s-maj=10.7km s-min=8.6km az=75.1*
NEIC ***25*** *01:53:19.5,22.°95S×174.°42W,h16km, Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10¹⁶Nm; Mrr8.51; Mθθ-1.47; Mφφ-7.04; Mrθ-0.09; Mθφ-1.75; Mφr-0.36; Fault plane solution: Mo8.03000×10¹⁶ NP1: φs195.98000°,δ46.33000°,λ89.88000°. NP2:φs16.15000°, δ43.67000°,λ90.12000°. Principal axes: T 8.5152, Plg89.0000°, Azm102.0000°; N -0.9611, Plg0.0000°, Azm196.0000°; P -7.5540, Plg1.0000°, Azm286.0000°;*
NEIC ***25*** *01:53:19.5,22.°95S×174.°85W,h16km*
NEIC ***25*** *01:53:20.4±1.4,22.°92S±0.°07×174.°93W±0.°08,h13km±3km, mb5.3/339,Ms_20 5.2/281,Mww5.2/19, Error ellipse: s-maj=11.5km s-min=9.6km az=122.0*
GCMT ***25*** *01:53:22.4±0.1,23.°19S±0.°01×174.°55W±0.°01,h13km, MW5.2/151,Moment Tensor Solution. s111,c170; s151,c272; Duration: 1s0 Moment tensor: Scale 10¹⁷ Nm; Mrr0.87±.02; Mθθ-0.14±.01; Mφφ-0.72±.01; Mrθ0.21±.03; Mθφ-0.32±.01; Mφr0.30±.03; Best double couple: Mo0.94100×10¹⁷ NP1:φs28.00000°,δ56.00000°, λ95.00000°. NP2:φs199.00000°,δ34.00000°,λ83.00000°. Principal axes: T 0.9450, Plg78.0000°, Azm315.0000°; N -0.0070, Plg4.0000°, Azm205.0000°; P -0.9370, Plg11.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 01:53:20.9±0.6,23.°12S±0.°05×174.°98W±0.°06,h18km±2km, n983,σ1s21/813,mb5.3/212,MS5.2/219,49C-19D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.20**	**50**	P		Pn	01 54 42.8	-8.8
	baz=5.7,SNR=42							
NIUE				S		Sn	01 55 43.4	-19
	baz=5.7							
NIUE	**Niue**	**6.20**	**50**	Pn		Pn	01 54 43.5	-8.0
RAO	**Raoul Island**	**6.65**	**203**	Pn		**Pn**	**01 54 57.6**	**-0.1**
RAO	**Raoul Island**	**6.65**	**203**	Pn		**Pn**	**01 54 58.5**	**+0.8**
	153nm,0.3s,baz=59,slow=13,SNR=4.9							
RAO				Sn		**Sn**	**01 56 13.0**	**-0.1**
	25nm,0.3s,baz=84,slow=23,SNR=1.6							
	275nm,0.3s							
MSVF	**Nonsavu**	**8.45**	**308**	Pn		**Pn**	**01 55 21.7**	**-0.9**
MSVF	**Nonsavu**	**8.45**	**308**	*c iP*		**Pn**	**01 55 24.7**	**+2.1**
AFI	**Afiamalu**	**9.65**	**19**	Pn		Pn	01 55 32.0	-7.0
AFI	**Afiamalu**	**9.65**	**19**	P		Pn	01 55 32.1	-6.9
RAR	**Rarotonga**	**14.21**	**85**	Pn		Pn	01 56 35.0	-6.3
RAR	**Rarotonga**	**14.21**	**85**	P		Pn	01 56 35.1	-6.3
RAR	**Rarotonga**	**14.21**	**85**	Pn		Pn	01 56 32.9	-8.5
	7.6nm,0.3s,baz=265,slow=8.9,SNR=24							
RAR				Sn		Sn	01 58 55.7	-23
	2.4nm,0.3s,baz=300,slow=20,SNR=1.9							
RAR				LR		LR	02 01 18.4	
	comp=Z,5μm,20.7s,baz=270,slow=34							
FUNA	**Funafuti**	**15.55**	**338**	Pn		**Pn**	**01 56 56.7**	**-2.7**
FUNA				IAmb		IAmb	01 57 06.2	
	comp=Z,166nm,1.4s							
URZ	**Urewera**	**16.54**	**202**	Pn		**Pn**	**01 57 12.2**	**+0.2**
	comp=Z,2.1nm,0.3s,baz=41,slow=4.5,SNR=8.9							
URZ				Sn		Sn	02 00 01.8	-13
	comp=Z,1.0nm,0.3s,baz=101,slow=20,SNR=1.1							
	comp=Z,6.7nm,0.4s							
LIFNC	**LIFOU**	**16.66**	**275**			**Pn**	**01 57 11.5**	**-2.1**
LIFNC				IAmb		IAmb	01 57 33.4	
	comp=Z,446nm,1.4s							
TOZ	**Tahuroa Road**	**16.70**	**207**	Pn		**Pn**	**01 57 14.4**	**+0.5**
OUENC	**Ouen Island, N**	**16.79**	**269**			**Pn**	**01 57 15.3**	**+0.2**
DZM	**Mont Dzumac**	**17.19**	**270**			**Pn**	**01 57 20.4**	**0.0**
DZM	**Mont Dzumac**	**17.19**	**270**	P		**P**	**01 57 23.7**	**+1.9**
	comp=Z,46nm,1.0s,baz=84,slow=19,SNR=12							
MRZ	**Mangatainoka R**	**19.22**	**202**	P		**P**	**01 57 44.7**	**+0.7**
KOUNC	**Koumac, New Ca**	**19.42**	**274**	P		**P**	**01 57 46.0**	**-0.3**
TUWZ	**Tuamarina**	**20.49**	**204**	P		**P**	**01 57 57.6**	**-0.1**
INZ	**Inchbonnie**	**22.57**	**207**	P		**P**	**01 58 21.8**	**+1.6**
OXZ	**Oxford**	**22.84**	**205**	P		**P**	**01 58 22.9**	**-0.1**
RPZ	**Rata Peaks**	**23.55**	**206**	P		**P**	**01 58 30.3**	**0.0**
FOZ	**Fox Glacier**	**23.92**	**208**	P		**P**	**01 58 34.3**	**+0.5**
FOZ				IAmb		IAmb	01 58 37.1	
	comp=Z,70nm,1.1s							
FOZ				IAMs_20		IAMs_20	02 08 32.1	
	comp=Z,9μm,19.0s							
PPT	**Papeete**	**24.43**	**82**	LR		LR	02 06 10.2	
	comp=Z,3μm,19.4s,baz=263,slow=31							
LBZ	**Lake Benmore**	**24.46**	**206**	P		**P**	**01 58 40.5**	**+1.7**
LBZ				IAMs_20		IAMs_20	02 09 06.5	
	comp=Z,7μm,20.0s							
ODZ	**Otahua Downs**	**24.83**	**205**	P		**P**	**01 58 42.8**	**+0.7**
WKZ	**Wanaka**	**25.31**	**207**	IAMs_20		IAMs_20	02 09 17.8	
	comp=Z,6μm,19.0s							
MLZ	**Mavora Lakes**	**26.12**	**208**	P		**P**	**01 58 54.5**	**+0.7**
MLZ				IAMs_20		IAMs_20	02 09 50.2	
	comp=Z,5μm,19.0s							
WHZ	**Wether Hill Ro**	**26.61**	**207**	P		**P**	**01 58 58.3**	**+0.1**
WHZ				IAmb		IAmb	01 59 16.2	
	comp=Z,76nm,1.3s							
DCZ	**Deep Cove**	**26.62**	**209**	IAMs_20		IAMs_20	02 10 00.4	
	comp=Z,6μm,19.0s							
PYZ	**Puysegur Point**	**27.37**	**208**	IAMs_20		IAMs_20	02 10 24.3	
	comp=Z,6μm,19.0s							
HNR	**Honiara**	**27.59**	**295**	LR		LR	02 08 41.9	
	comp=Z,10μm,20.9s,baz=138,slow=34							
CMSA	**Cobar Meteorol**	**35.78**	**248**	P		**P**	**02 00 17.9**	**-1.2**
	baz=36,SNR=7.2							
CTA	**Charters Tower**	**36.10**	**267**	P		**P**	**02 00 20.7**	**-1.3**
	comp=Z,39nm,1.0s,baz=91,slow=2.8,SNR=22							
CTA				LR		LR	02 14 48.1	
	comp=Z,1μm,18.1s,baz=181,slow=36							
	comp=Z,39nm,1.0s							
CTAO	**Charters Tower**	**36.10**	**267**	P		**P**	**02 00 21.0**	**-1.0**
CTAO				IAmb		IAmb	02 00 22.3	
	comp=Z,42nm,0.9s							
CTAO	**Charters Tower**	**36.10**	**267**	P		**P**	**02 00 21.0**	**-1.0**
CTAO				pmax		pmax		
	comp=Z,42nm,1.0s							
MTSU	**Mount Surprise**	**38.33**	**270**	P		**P**	**02 00 39.9**	**-1.0**
	baz=38,SNR=8.6							
PMG	**Port Moresby**	**38.69**	**284**	P		**P**	**02 00 41.5**	**-2.5**
PMG	**Port Moresby**	**38.69**	**284**	P		**P**	**02 00 41.5**	**-2.5**
PMG				pmax		pmax		
	comp=Z,129nm,1.2s							
PMG				MLR		MLR		
	comp=Z,1μm,21.0s							
PMG	**Port Moresby**	**38.69**	**284**	P		**P**	**02 00 42.0**	**-2.0**
	comp=Z,91nm,1.0s,baz=89,slow=4.1,SNR=11							
PMG				LR		LR	02 14 14.3	
	comp=Z,1μm,19.6s,baz=146,slow=33							
	comp=Z,91nm,1.0s							
STKA	**Stephens Creek**	**39.28**	**247**	P		**P**	**02 00 48.6**	**-0.2**
	baz=40,SNR=5.0							
STKA	**Stephens Creek**	**39.28**	**247**	P		**P**	**02 00 47.5**	**-1.3**
STKA	**Stephens Creek**	**39.28**	**247**	*∥i*	*P*	**P**	**02 00 47.8**	**-1.0**
STKA	**Stephens Creek**	**39.28**	**247**	P		**P**	**02 00 47.4**	**-1.4**
	comp=Z,5.5nm,0.8s,baz=78,slow=10,SNR=6.5							
STKA				LR		LR	02 15 32.8	
	comp=Z,3μm,20.2s,baz=80,slow=34							
	comp=Z,5.5nm,0.8s							
JOHN	**Johnston Islan**	**39.97**	**8**	P		**P**	**02 00 53.3**	**-1.2**
COEN	**Coen**	**40.59**	**275**	P		**P**	**02 00 59.7**	**-0.1**
COEN				IAmb		IAmb	02 01 03.2	
	comp=Z,78nm,1.4s							
HTT	**Hallett**	**41.59**	**245**	P		**P**	**02 01 07.3**	**-0.6**
	baz=42,SNR=5.4							
MANU	**Manus Island**	**42.08**	**294**	P		**P**	**02 01 10.0**	**-2.0**
MANU				IAmb		IAmb	02 01 11.7	
	comp=Z,107nm,1.2s							
QIS	**Mount Isa**	**42.11**	**264**	P		**P**	**02 01 10.2**	**-2.1**
	baz=42,SNR=5.6							
BBOO	**Buckleboo**	**43.98**	**246**	P		**P**	**02 01 25.9**	**-1.5**
AS31	**Alice Springs**	**46.71**	**259**	P		**P**	**02 01 47.3**	**-1.8**
ASAR	**Alice Springs**	**46.71**	**259**	P		**P**	**02 01 47.0**	**-2.1**
ASAR	**Alice Springs**	**46.71**	**259**	P		**P**	**02 01 47.0**	**-2.1**
ASAR	**Alice Springs**	**46.71**	**259**	P		**P**	**02 01 47.0**	**-2.1**
	comp=Z,23nm,0.9s,baz=94,slow=7.8,SNR=74							
ASAR				S		**S**	**02 08 34.7**	**-3.5**
	comp=Z,0.4nm,0.7s,baz=90,slow=16,SNR=3.0							
ASAR				LR		LR	02 20 33.9	
	comp=Z,3μm,20.3s,baz=102,slow=35							
	comp=Z,23nm,0.9s							
ASPA	**Alice Springs**	**46.71**	**259**	P		**P**	**02 01 47.9**	**-1.3**
	baz=47							
WR0	**Warramunga Arr**	**46.88**	**264**	P		**P**	**02 01 48.0**	**-2.5**
WC3	**Warramunga Arr**	**47.03**	**264**	P		**P**	**02 01 48.9**	**-2.8**
	baz=47							
WB2	**Warramunga Arr**	**47.06**	**264**	P		**P**	**02 01 49.0**	**-2.9**
WB2				IAmb		IAmb	02 01 50.9	
	comp=Z,28nm,0.8s							
WB0	**Warramunga Arr**	**47.06**	**264**	P		**P**	**02 01 49.1**	**-2.8**
WB0				IAmb		IAmb	02 01 50.8	
	comp=Z,33nm,0.9s							
WRAB	**Tennant Creek**	**47.06**	**264**	P		**P**	**02 01 49.5**	**-2.3**
WRAB				IAmb		IAmb	02 01 53.8	
	comp=Z,27nm,0.9s							
WRAB	**Tennant Creek**	**47.06**	**264**	P		**P**	**02 01 49.5**	**-2.3**
WRAB				pmax		pmax		
	comp=Z,27nm,1.0s							
WRA	**Warramunga Arr**	**47.07**	**264**	P		**P**	**02 01 49.0**	**-2.9**
WRA	**Warramunga Arr**	**47.07**	**264**	P		**P**	**02 01 49.0**	**-2.9**
WRA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
WRA	**Warramunga Arr**	**47.07**	**264**	P		**P**	**02 01 48.9**	**-3.0**
	comp=Z,17nm,0.6s,baz=97,slow=8.3,SNR=114							
WRA				S		S	02 08 35.4	-7.9
	comp=Z

comp=Z,35nm,1.3s
SSLB IAMs_20 IAMs_20 02 34 07.3

comp=Z,961nm,22.0s
CIS Catalina Islan 77.85 46 P P 02 05 17.4 -0.2
baz=232
PKM Mcpherson Peak 77.88 44 P P 02 05 18.4 +0.5
baz=231
SMMC Simmler 78.03 43 P P 02 05 19.1 +0.6
baz=230
SAO San Andreas Ge 78.07 41 P P 02 05 20.0 +1.4
SAO IAmb IAmb 02 05 33.3

comp=Z,47nm,1.4s
SAO San Andreas Ge 78.07 41 P P 02 05 20.0 +1.4
SAO pmax pmax

comp=Z,47nm,1.4s
FALS False Pass 78.29 7 P P 02 05 20.9 +1.6
baz=191
LPIG La Paz 78.38 57 LR LR 02 32 35.2
comp=Z,985nm,19.4s,baz=218,slow=30
DECC Green Verdugo 78.43 45 P P 02 05 20.7 0.0
baz=232
SLBS Sierra La Lagu 78.45 58 P P 02 05 20.4 -0.7
SLBS IAmb IAmb 02 05 35.3

comp=Z,40nm,1.4s
TKX Tecate 78.55 47 P P 02 05 20.4 -1.1
TKX IAmb IAmb 02 05 35.2

comp=Z,61nm,1.5s
HOPS Hopland Field 78.58 39 IAMs_20 IAMs_20 02 34 39.7
comp=Z,996nm,18.0s
ARVC Arvin 78.65 44 P P 02 05 22.0 +0.1
baz=231
ELS Elsinore Mount 78.65 46 P P 02 05 20.5 -1.5
ESJX Sierra Juarez 78.66 48 P P 02 05 20.8 -1.5
CHNA Chernabura Isl 78.75 9 P P 02 05 22.9 +1.0
baz=194
MURC Murrieta 78.78 46 P P 02 05 23.2 +0.5
baz=233
BFSC Mount Baldy Ra 78.86 45 P P 02 05 24.2 +1.0
baz=232
MONP2 Monument Peak 78.87 47 P P 02 05 23.9 +0.5
baz=233
IKP In-Ko-Pah, Jac 78.94 47 P P 02 05 23.9 +0.3
baz=233
VES Vestal, Richgr 78.94 43 P P 02 05 23.9 +0.5
baz=231,SNR=6.9
EDW2 Edwards Air Fo 79.04 45 P P 02 05 24.7 +0.6
baz=232,SNR=8.1
VOG Valley Oaks Go 79.06 43 P P 02 05 24.6 +0.6
baz=231
SDPT Sand Point 79.13 8 P P 02 05 26.4 +2.5
baz=194
ISA Isabella, Lake 79.22 44 P P 02 05 24.3 -0.8
ISA IAmb IAmb 02 05 40.3

comp=Z,35nm,1.3s
ISA Isabella, Lake 79.22 44 P P 02 05 25.8 +0.8
baz=231,SNR=7.5
ISA Isabella, Lake 79.22 44 P P 02 05 24.3 -0.8
ISA pmax pmax

comp=Z,35nm,1.3s
PET Petropavlovsk 79.22 344 P P 02 05 23.7 -0.8
PET IAmb IAmb 02 05 37.7

comp=Z,46nm,1.5s
PET Petropavlovsk 79.22 344 *eP* **P 02 05 22.4 -2.1**
PET *eS* **S 02 15 23.0 -0.4**
PET MLR MLR

comp=Z,900nm,17.0s
PFO Pinyon Flats O 79.28 46 P P 02 05 24.3 -1.2
PFO Pinyon Flats O 79.28 46 P P 02 05 26.1 +0.6
baz=233
PFO Pinyon Flats O 79.28 46 *eP* **P 02 05 25.5 0.0**
PFO Pinyon Flats O 79.28 46 LR LR 02 33 25.0
comp=Z,874nm,20.1s,baz=252,slow=30
S12K Black Hills 79.28 7 P P 02 05 26.6 +1.7
baz=192
TPFO Pinon Flats 79.28 46 P P 02 05 26.7 +1.2
baz=233
SWSC Sam W. Stewart 79.32 47 P P 02 05 26.7 +1.1
baz=234
PMD Palm Desert 79.35 46 P P 02 05 24.8 -1.0
YSS Yuzh-Sakhalins 79.50 332 P P 02 05 25.8 -0.4
YSS Yuzh-Sakhalins 79.50 332 *oe* **P P 02 05 26.8 +0.6**
YSS *e* 02 05 39.3
YSS *eS* **S 02 15 25.9 -0.7**
YSS *e* PPS PPS 02 16 21.7
YSS pmax pmax

comp=Z,40nm,1.2s
YSS pmax pmax

comp=Z,700nm,3.6s
YSS pmax pmax

comp=N,200nm,2.6s
YSS pmax pmax

comp=E,100nm,2.7s
YSS smax smax

comp=N,600nm,10.9s
YSS MLR MLR

comp=Z,500nm,15.0s
YSS MLR MLR

comp=E,400nm,13.0s
CMB Columbia Colle 79.53 41 P P 02 05 24.8 -1.9
CMB Columbia Colle 79.53 41 P P 02 05 24.8 -1.9
CMB pmax pmax

comp=Z,21nm,1.1s
PEA0B Petropavlovsk- 79.54 344 P P 02 05 25.3 -1.0
PEA0B IAmb IAmb 02 05 27.3

comp=Z,30nm,1.1s
PEA0B Petropavlovsk- 79.54 344 *c i* **P P 02 05 25.7 -0.6**
PETK Petropavlovsk- 79.54 344 P P **02 05 25.3 -1.0**
comp=Z,19nm,1.0s,baz=117,slow=6.2,SNR=19
PETK LR LR 02 35 15.9

comp=Z,736nm,20.8s,baz=153,slow=32
comp=Z,19nm,1.0s
P08K Saint George I 79.54 3 P P 02 05 27.8 +1.6
baz=185
LRMC Laurel Mtn Rad 79.61 44 P P 02 05 27.7 +0.4
baz=232
AFDM Forest Hills D 79.78 40 P P 02 05 26.4 -1.6
BELC Belle Mtn. Jos 79.81 46 P P 02 05 28.7 +0.2
baz=233,SNR=5.1
ORV Oroville 79.87 39 P P 02 05 27.4 -1.0
ORV Oroville 79.87 39 P P 02 05 27.4 -1.0
ORV pmax pmax

comp=Z,30nm,1.4s
CWC Cottonwood Cre 79.95 43 P P 02 05 29.9 +0.8
baz=232
BC3 Big Chuckawall 79.97 47 P P 02 05 29.9 +0.6
baz=234
GLA Glamis 80.04 48 P P 02 05 30.3 +0.7
baz=234
MAW Mawson 80.04 199 P P 02 05 30.4 +1.4
MAW Mawson 80.04 199 P P 02 05 30.4 +1.4
MAW pmax pmax

comp=Z,19nm,1.5s
MAW Mawson 80.04 199 P P 02 05 30.2 +1.2
comp=Z,19nm,0.9s,baz=98,slow=6.7,SNR=5.4
MAW LR LR 02 41 25.1

comp=Z,843nm,18.6s,baz=116,slow=36
comp=Z,19nm,0.9s
GSC Goldstone, Bar 80.07 45 P P 02 05 28.1 -1.6
GSC Goldstone, Bar 80.07 45 P P 02 05 30.3 +0.6
baz=233
GSC Goldstone, Bar 80.07 45 P P 02 05 28.1 -1.6
GSC pmax pmax

comp=Z,25nm,1.3s
MDPB Devils Postpil 80.07 42 P P 02 05 29.1 -0.8
SPIA Saint Paul Isl 80.08 3 P P 02 05 31.3 +2.2
baz=184
HEC Hector,Ludlow 80.09 45 P P 02 05 30.4 +0.6
baz=233
MPMC Manual Prospec 80.09 44 P P 02 05 30.4 +0.5
baz=232,SNR=11
S14K Fog Glacier 80.17 9 P P 02 05 30.8 +1.0
baz=194
MLAC Mammoth, Mammo 80.22 42 P P 02 05 31.6 +0.9
baz=231
TIN Tinemaha, Big 80.24 43 P P 02 05 31.3 +0.6
baz=231
CHGN Chignik 80.34 9 P P 02 05 32.0 +1.4
baz=195
WAKR Walker 80.41 41 P P 02 05 31.5 -0.2
WAKR IAmb IAmb 02 05 46.3

comp=Z,46nm,1.3s
IRM Iron Mountain 80.48 47 P P 02 05 32.2 +0.3
baz=234
GMRC Granite Mounta 80.51 46 P P 02 05 33.2 +1.1
baz=233
HSIG 80.52 53 P P 02 05 31.7 -0.6
DSP Deep Springs 80.59 43 P P 02 05 31.8 -0.6

113A Mohawk Valley, 80.61 48 P P 02 05 30.8 -1.8
BLYC Blythe 80.66 47 P P 02 05 31.5 -1.3
PNTR Pine Nut 80.68 40 P P 02 05 32.3 -0.9
PNTR IAmb IAmb 02 05 47.5

comp=Z,52nm,1.2s
GWY Greenwater Val 80.69 44 P P 02 05 32.2 -1.0
KSRS Korea Array 80.70 317 P P 02 05 32.4 -0.5
comp=Z,8.2nm,1.0s,baz=140,slow=6.4,SNR=24
KSRS LR LR 02 35 41.7

comp=Z,334nm,21.7s,baz=135,slow=32
comp=Z,8.2nm,1.0s
LCH Last Change Ra 80.71 43 P P 02 05 32.1 -1.1
KSAR Wonju Array Be 80.72 317 P P 02 05 32.6 -0.4
KSAR Wonju Array Be 80.72 317 P P 02 05 32.6 -0.4
GRAC Grapevine Rang 80.74 43 P P 02 05 32.7 -0.5
GRAC IAmb IAmb 02 05 48.7

comp=Z,52nm,1.3s
GRAC Grapevine Rang 80.74 43 P P 02 05 34.0 +0.8
baz=232,SNR=6.9
KS19 Wonju Array Si 80.77 317 P P 02 05 32.5 -0.9
214A Organ Pipe Nat 80.81 50 P P 02 05 32.9 -0.8
214A Organ Pipe Nat 80.81 50 P P 02 05 33.1 -0.6
baz=236
LHV Little Huntoon 80.81 42 P P 02 05 33.1 -0.4
LHV IAmb IAmb 02 05 49.1

comp=Z,42nm,1.3s
GO08 Villa O'Higgin 80.82 139 P P 02 05 34.3 +0.7
TEY Ternei 80.92 328 *eP* **P 02 05 33.5 -0.4**
RYN Ryan 81.04 41 P P 02 05 32.5 -2.5
RYN IAmb IAmb 02 05 49.4

comp=Z,30nm,1.3s
NVAR Mina Array Bea 81.05 42 P P 02 05 34.1 -1.0
NVAR Mina Array Bea 81.05 42 P P 02 05 34.8 -0.3
comp=Z,8.9nm,0.9s,baz=222,slow=8.8,SNR=31
NVAR LR LR 02 33 44.9

comp=Z,610nm,20.7s,baz=235,slow=30
comp=Z,8.9nm,0.9s
WCT Wildcat Mounta 81.09 44 P P 02 05 33.7 -1.4
NV11 Mina Array Sit 81.14 42 P P 02 05 34.6 -0.9
NV11 IAmb IAmb 02 05 49.9

comp=Z,34nm,1.2s
PAHR Pah Rah Range 81.21 40 P P 02 05 34.5 -1.3
PAHR IAmb IAmb 02 05 50.2

comp=Z,33nm,1.3s
PDMCI Parker Dam,Lak 81.24 47 P P 02 05 36.8 +0.9
baz=234
TPH Tonopah 81.50 42 P P 02 05 37.2 -0.3
TPH Tonopah 81.50 42 P P 02 05 37.2 -0.3
TPH pmax pmax

comp=Z,156nm,1.3s
KVN Kaiserville 81.56 41 P P 02 05 37.2 -0.6
KVN IAmb IAmb 02 05 52.0

comp=Z,27nm,1.3s
KVN Kaiserville 81.56 41 P P 02 05 37.2 -0.6
KVN pmax pmax

comp=Z,27nm,1.3s
V12A Nelson 81.60 45 P P 02 05 36.8 -1.2
V12A IAmb IAmb 02 05 52.5

comp=Z,30nm,1.4s
Y14A Wickenburg 81.80 48 P P 02 05 37.2 -1.7
SHPR Sheep Range 81.86 45 P P 02 05 37.5 -1.8
W13A Hualapai Mount 81.87 46 P P 02 05 39.3 -0.2
MSHR Mys Shultsa 82.08 323 *ce* **P P 02 05 41.8 +1.7**
MSHR pmax pmax

comp=Z,21nm,1.1s
S11A Rachel 82.16 44 P P 02 05 40.2 -0.7
S11A IAmb IAmb 02 05 55.3

comp=Z,40nm,1.3s
H03S2 Juan Fernandez 82.21 123 T T 03 37 49.6
baz=246,slow=74,SNR=3.1
H03S1 Juan Fernandez 82.22 123 T T 03 37 48.3
baz=246,slow=74,SNR=3.2
H03S3 Juan Fernandez 82.22 123 T T 03 37 43.6
baz=246,slow=74,SNR=3.0
K05A Summer Lake 82.30 37 P P 02 05 39.8 -1.8
COYC Coyhaique 82.32 136 P P 02 05 42.4 +0.8
COYC IAmb IAmb 02 05 57.8

comp=Z,49nm,1.5s
TUC Tucson 82.43 50 P P 02 05 42.4 +0.1
TUC IAmb IAmb 02 05 57.1

comp=Z,28nm,1.5s
TUC Tucson 82.43 50 P P 02 05 42.9 +0.5
baz=237
TUC Tucson 82.43 50 P P 02 05 42.4 +0.1
TUC pmax pmax

comp=Z,28nm,1.5s
J05D Fort Rock, OR 82.48 36 P P 02 05 42.0 -0.4
J05D IAmb IAmb 02 05 57.8

comp=Z,50nm,1.2s
DLV T Lat 82.56 286 P P 02 05 42.1 -1.4
LL07 Hotel Espejo d 82.56 133 P P 02 05 41.8 -1.1
MYKOM Kota Tinggi 82.58 275 P P 02 05 43.1 -0.4
TYV Tymovskoe 82.59 334 *eP* **P 02 05 42.3 -0.3**
TYV *eS* **SKSac 02 16 00.8 -1.8**
TYV pmax pmax

comp=Z,9.0nm,1.2s
TYV pmax pmax

comp=Z,200nm,4.1s
TYV smax smax

comp=N,300nm,11.0s
TYV smax smax

comp=E,300nm,11.0s
Q17K Contact Creek 82.62 10 P P 02 05 43.6 +0.9
baz=198
R11B Troy Canyon, C 82.69 43 P P 02 05 42.6 -1.1
R11B Troy Canyon, C 82.69 43 P P 02 05 43.4 -0.3
baz=233,SNR=7.2
G03D McMinnville, O 82.70 34 P P 02 05 42.2 -1.1
USA0B Ussuriysk Arra 82.71 325 P P 02 05 43.1 -0.2
USA0B Ussuriysk Arra 82.71 325 *i* **P P 02 05 43.9 +0.5**
USRK Ussuriysk Ar. 82.71 325 P P 02 05 43.6 +0.2
comp=E,31nm,1.0s,baz=130,slow=3.8,SNR=26
USRK LR LR 02 39 51.5

comp=E,316nm,18.9s,baz=131,slow=34
comp=E,31nm,1.0s
KDAK Kodiak Island 82.74 12 P P 02 05 44.2 +1.0
baz=201
KDAK Kodiak Island 82.74 12 LR LR 02 36 22.8
comp=E,774nm,21.8s,baz=241,slow=31
O14K Tigyukauivet M 82.84 7 P P 02 05 44.8 +1.1
baz=193
Q16K King Salmon 82.90 10 P P 02 05 44.7 +0.7
baz=197
H04A Detroit Lake 82.90 35 P P 02 05 43.4 -1.0
H04A IAmb IAmb 02 05 58.6

comp=Z,41nm,1.3s
BMN Battle Mountai 82.95 41 P P 02 05 44.9 -0.1
BMN IAmb IAmb 02 05 60.0

comp=Z,46nm,1.4s
BMN Battle Mountai 82.95 41 P P 02 05 44.9 -0.1
BMN pmax pmax

comp=Z,46nm,1.4s
PINE Pine Mountain 82.98 36 P P 02 05 43.6 -1.5
319A Douglas 83.00 52 P P 02 05 45.0 -0.4
319A IAmb IAmb 02 05 60.0

comp=Z,34nm,1.5s
P16K Nushagak River 83.04 9 P P 02 05 45.6 +0.8
baz=196
X16A Lo Mia Camp, P 83.14 48 P P 02 05 45.7 -0.5
X16A IAmb IAmb 02 06 01.0

comp=Z,21nm,1.2s
WVOR Wild Horse Val 83.38 38 P P 02 05 46.5 -0.5
WVOR IAmb IAmb 02 06 01.4

comp=Z,38nm,1.2s
WVOR Wild Horse Val 83.38 38 P P 02 05 46.6 -0.5
WVOR pmax pmax

comp=Z,38nm,1.3s
LCMT Little Creek M 83.40 45 P P 02 05 46.7 -0.6
LCMT IAmb IAmb 02 06 02.1

comp=Z,35nm,1.3s
P17K Kvichak River 83.43 9 P P 02 05 47.8 +1.0
baz=197
HPIG 83.43 57 P P 02 05 46.0 -1.8
N14K Kuskokwak Cree 83.45 7 P P 02 05 48.0 +1.2
baz=192
E03A Lebam 83.47 33 P P 02 05 46.8 -0.4
LL02 Futaleuf 83.49 134 P P 02 05 47.7 -0.1
LL02 IAmb IAmb 02 06 02.5

comp=Z,31nm,1.4s
M11K Mekoryuk 83.51 4 P P 02 05 48.0 +0.9
baz=188
SYI Shuyak Island 83.56 12 IAMs_20 IAMs_20 02 43 33.8
comp=Z,1µm,20.0s
O16K Kokwok River B 83.57 9 IAMs_20 IAMs_20 02 41 25.4
comp=Z,1µm,21.0s

O16K Kokwok River B 83.57 9 P P 02 05 48.5 +1.0
baz=196
Q12A Willow Creek R 83.57 43 P P 02 05 47.6 -0.7
Q12A IAmb IAmb 02 06 03.4

comp=Z,42nm,1.3s
F04A Amboy 83.63 34 P P 02 05 46.9 -1.1
Q19K Cape Douglas, 83.63 11 P P 02 05 48.8 +0.9
baz=200
CCUT Cedar City 83.63 45 P P 02 05 47.1 -1.6
CCUT IAmb IAmb 02 06 03.6

comp=Z,38nm,1.3s
KNB Kanab 83.68 45 P P 02 05 48.7 -0.1
KNB Kanab 83.68 45 P P 02 05 48.7 -0.1
KNB pmax pmax

comp=Z,48nm,1.4s
U15A North Rim 83.69 46 P P 02 05 48.2 -0.8
NJ2 Nanjing 83.70 309 *eP* **P 02 05 51.3 +2.5**
NJ2 pmax pmax

comp=Z,17nm,0.6s
NJ2 pmax pmax

comp=Z,350nm,3.6s
NJ2 LR LR

comp=Z,360nm,17.0s
NJ2 LR LR

comp=Z,310nm,18.0s
NJ2 LR LR

comp=Z,440nm,16.6s
DUN6 Lazy B Ranch 83.77 51 P P 02 05 49.1 -0.2
M13K Dall Lake 83.77 6 P P 02 05 49.1 +0.7
baz=191
WUAZ Wupatki 83.80 47 P P 02 05 48.1 -1.4
WUAZ IAmb IAmb 02 06 04.3

comp=Z,36nm,1.4s
P18K Big Mountain, 83.80 10 P P 02 05 47.9 -0.8
P18K IAmb IAmb 02 05 50.1

comp=Z,35nm,1.1s
P18K IAMs_20 IAMs_20 02 43 36.5

comp=Z,1µm,20.0s
P18K Big Mountain, 83.80 10 P P 02 05 49.2 +0.5
baz=198
SZCU Shurtz Canyon 83.84 45 P P 02 05 49.0 -0.7
SZCU IAmb IAmb 02 06 05.3

comp=Z,35nm,1.2s
SPR3 Spring Creek 3 83.86 43 P P 02 05 48.9 -1.0
SPR3 IAmb IAmb 02 06 04.5

comp=Z,22nm,1.3s
N15K Kwethluk River 83.88 7 P P 02 05 50.1 +1.0
baz=194
ZAIG Zacatecas 83.88 62 P P 02 05 49.4 -0.9
O17K Koliganek Bris 83.89 9 P P 02 05 50.0 +0.9
baz=195
PSUT Pine Spring 83.89 44 P P 02 05 48.8 -1.1
PSUT IAmb IAmb 02 06 04.3

comp=Z,20nm,1.3s
I07A Izee 83.95 37 P P 02 05 49.0 -0.9
I07A IAmb IAmb 02 06 04.4

comp=Z,32nm,1.3s
J08A Circle Bar Ran 84.06 38 P P 02 05 49.6 -0.9
G06A Carlson Farm, 84.09 35 P P 02 05 49.5 -1.1
X18A Snowflake 84.23 49 P P 02 05 51.4 -0.3
X18A IAmb IAmb 02 06 06.5

comp=Z,25nm,1.4s
M14K Bethel 84.24 6 P P 02 05 49.5 -1.4
M14K Bethel 84.24 6 P P 02 05 52.0 +1.2
baz=192
O18K Koktuh Hills 84.25 10 IAMs_20 IAMs_20 02 44 00.2
comp=Z,957nm,20.0s
O18K Koktuh Hills 84.25 10 P P 02 05 51.3 +0.4
baz=198
PKCU Pink Cliffs 84.26 45 P P 02 05 51.5 -0.4
MDJ Mudanjiang 84.27 324 P P 02 05 51.8 +0.4
MDJ PP **PP 02 09 08.6 +2.1**
MDJ S S **02 16 21.8 +5.8**
MDJ sS SKKSac 02 16 25.0 +5.6
MDJ pmax pmax

comp=Z,36nm,1.0s
MDJ pmax pmax

comp=Z,650nm,5.3s
MDJ LR LR

comp=Z,280nm,23.4s
MDJ LR LR

comp=Z,380nm,19.9s
MDJ LR LR

comp=Z,740nm,20.6s
MDJ Mudanjiang 84.27 324 IAmb IAmb 02 05 53.7
comp=Z,26nm,0.9s
M15K Kasigluk River 84.32 7 P P 02 05 52.2 +0.9
baz=193
N16K Nishlik Lake 84.33 8 P P 02 05 52.6 +1.2
baz=195
ELK Elko 84.34 41 P P 02 05 51.1 -1.1
ELK IAmb IAmb 02 06 06.2

comp=Z,23nm,1.2s
ELK Elko 84.34 41 P P 02 05 51.1 -1.1
ELK pmax pmax

comp=Z,23nm,1.2s
ELK Elko 84.34 41 LR LR 02 35 47.7
comp=Z,692nm,21.4s,baz=222,slow=30
ELIB Princess Elisa 84.35 186 *dP* **P 02 05 52.1 +0.4**
comp=Z,13nm,0.9s
P19K Oil Pt 84.39 11 P P 02 05 52.8 +1.1
baz=200
QIZ Qiongzhong 84.48 293 P P 02 05 53.3 +0.2
QIZ S **S 02 16 21.4 +2.3**
QIZ pmax pmax

comp=Z,23nm,1.3s
QIZ pmax pmax

comp=Z,420nm,3.1s
QIZ LR LR

comp=Z,250nm,21.9s
QIZ LR LR

comp=Z,240nm,26.1s
QIZ LR LR

comp=Z,430nm,21.9s
GNW Green Mountain 84.53 32 P P 02 05 52.0 -0.7
GNW IAmb IAmb 02 06 07.1

comp=Z,32nm,1.4s
N17K Nushagak Hills 84.60 9 IAMs_20 IAMs_20 02 44 31.5
comp=Z,1µm,20.0s
N17K Nushagak Hills 84.60 9 P P 02 05 53.6 +0.9
baz=196
CNPM China Poot 84.63 12 IAMs_20 IAMs_20 02 44 36.2
comp=Z,1µm,20.0s
HOM Homer 84.68 12 IAMs_20 IAMs_20 02 44 27.4
comp=Z,1µm,20.0s
HOM Homer 84.68 12 P P 02 05 54.3 +1.2
baz=201
MTPU Mount Pierson 84.68 45 P P 02 05 52.3 -1.9
JRQG Juriquilla Cam 84.68 65 P P 02 05 53.4 -1.0
121A Cookes Peak, D 84.69 51 P P 02 05 53.1 -0.9
121A Cookes Peak, D 84.69 51 P P 02 05 53.6 -0.5
baz=238
W18A Petrified Fore 84.69 48 P P 02 05 52.9 -1.2
W18A IAmb IAmb 02 06 09.5

comp=Z,36nm,1.4s
W18A Petrified Fore 84.69 48 P P 02 05 53.7 -0.3
baz=237
D05A Enumclaw 84.69 33 P P 02 05 52.5 -1.0
O19K Port Alsworth 84.71 10 IAMs_20 IAMs_20 02 44 04.5
comp=Z,1µm,20.0s
O19K Port Alsworth 84.71 10 P P 02 05 53.6 +0.3
baz=199
L14K Kuka Creek 84.75 6 P P 02 05 54.6 +1.2
baz=191
M16K Timber Creek 84.84 8 P P 02 05 55.2 +1.2
baz=195
TLIG Tlapa 84.88 69 IAmb IAmb 02 06 10.6
comp=Z,37nm,1.3s
O20K Slope Mountain 84.89 11 P P 02 05 55.0 +0.7
baz=200
BRLK Bradley Lake 84.92 12 IAMs_20 IAMs_20 02 44 44.4
comp=Z,1µm,20.0s
BRSE Bradley Lake S 84.92 12 P P 02 05 54.8 +0.4
baz=202
N18K Kilae Creek 84.93 9 IAMs_20 IAMs_20 02 42 38.3
comp=Z,957nm,20.0s
N18K Kilae Creek 84.93 9 P P 02 05 55.1 +0.7
baz=198
TROLL Troll, Antarti 85.11 179 ⇓P **P 02 05 55.9 +0.3**
comp=Z,813nm,0.7s
GRNR Gornyy 85.12 331 *eP* **P 02 05 54.2 -1.4**
L15K Ungalak Mounta 85.19 6 P P 02 05 56.2 +0.6
baz=192
EPT El Paso 85.23 53 IAMs_20 IAMs_20 02 36 28.1
comp=Z,1µm,20.0s
N19K Bonanza Creek 85.28 10 IAMs_20 IAMs_20 02 44 42.4

comp=Z,1µm,20.0s
N19K Bonanza Creek 85.28 10 P P 02 05 56.3 0.0
baz=199
SNAA Sanae 85.31 178 P P 02 05 57.6 +1.1
SNAA IAmb IAmb 02 06 11.3
comp=Z,32nm,1.3s
SNAA Sanae 85.31 178 ⇓P P 02 05 56.1 -0.3
comp=Z,154nm,0.8s
SNAA Sanae 85.31 178⇑ *e*P P 02 05 56.7 +0.2
SNAA pmax pmax
comp=Z,27nm,1.3s
SNAA Sanae 85.31 178 P P 02 05 57.6 +1.1
comp=Z,8.8nm,0.9s,baz=183,slow=5.0,SNR=6.4
SNAA LR LR 02 41 10.7
comp=Z,2µm,20.1s,baz=188,slow=34
comp=Z,8.8nm,0.9s
GO06 Curarrehue 85.32 131 P P 02 05 58.8 +1.6
VNA3 Neumayer Olymp 85.33 175 ⇓P P 02 05 56.1 -0.4
comp=Z,21nm,0.7s
E07A Sunnyside 85.37 35 IAmb IAmb 02 06 11.4
comp=Z,39nm,1.3s
M17K Holitna River 85.41 8 IAmb IAmb 02 06 11.7
comp=Z,32nm,1.1s
M17K IAMs_20 IAMs_20 02 42 53.9
comp=Z,1µm,20.0s
M17K Holitna River 85.41 8 P P 02 05 57.3 +0.5
baz=196
BBB Bella Bella 85.42 27 LR LR 02 39 11.0
comp=Z,350nm,18.4s,baz=230,slow=32
HAWA Hanford 85.43 35 IAmb IAmb 02 06 11.6
comp=Z,47nm,1.4s
PLCA Paso Flores 85.44 132 P P 02 05 59.5 +1.8
PLCA IAmb IAmb 02 06 00.8
comp=Z,27nm,1.4s
PLCA Paso Flores 85.44 132 P P 02 05 59.5 +1.8
comp=Z,8.5nm,1.1s,baz=258,slow=4.0,SNR=8.0
PLCA LR LR 02 35 24.6
comp=Z,542nm,21.5s,baz=239,slow=30
comp=Z,8.5nm,1.1s
L16K Owhat River 85.45 7 P P 02 05 58.3 +1.4
baz=194
DUG Dugway, Tooele 85.51 43 P P 02 05 57.4 -0.5
baz=235
SEW Seward 85.51 13 P P 02 05 57.9 +0.6
baz=203
Q23K Middleton Isla 85.56 14 P P 02 05 58.5 +1.1
baz=206
MFID Camas Ranch 85.61 39 IAmb IAmb 02 06 12.3
comp=Z,24nm,1.2s
BMO Blue Mountains 85.66 37 IAmb IAmb 02 06 12.3
comp=Z,24nm,1.4s
BMO IAMs_20 IAMs_20 02 37 37.7
comp=Z,784nm,20.0s
M18K Stony River 85.72 9 P P 02 05 58.9 +0.6
baz=198
K15K Wolf Creek Mou 85.80 6 IAMs_20 IAMs_20 02 45 56.3
comp=Z,1µm,20.0s
K15K Wolf Creek Mou 85.80 6 P P 02 05 59.7 +1.0
baz=192
CAPN Captain Cook N 85.80 11 P P 02 05 58.8 +0.2
baz=202
O22K Cooper Landing 85.81 12 IAMs_20 IAMs_20 02 50 36.3
comp=Z,680nm,18.0s
O22K Cooper Landing 85.81 12 P P 02 05 59.2 +0.5
baz=203
VNA2 Neumayer--Watz 85.81 176 ⇓P P 02 05 58.9 +0.1
comp=Z,16nm,0.7s,baz=266,slow=2.9
P23K Montague Islan 85.84 13 P P 02 06 00.0 +1.1
baz=205
VHRN Van Horn 85.86 54 IAmb IAmb 02 06 14.3
comp=Z,25nm,1.2s
L17K Donlin 86.00 8 P P 02 05 60.0 +0.3
baz=195
CRAG Craig 86.01 22 P P 02 06 00.1 +0.3
baz=218
N20K Mount Spurr 86.02 11 P P 02 05 59.9 0.0
baz=201
MNTX Cornudas Mount 86.02 53 P P 02 06 01.0 +0.5
baz=240
J14K Nanvaranak Lak 86.06 5 IAMs_20 IAMs_20 02 40 53.8
comp=Z,1µm,20.0s
J14K Nanvaranak Lak 86.06 5 P P 02 06 00.2 +0.3
baz=196
CN2 Changchun 86.08 321 P P 02 06 01.0 +0.5
CN2 S S 02 16 35.4 +1.4
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 pmax pmax
comp=Z,400nm,4.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,300nm,17.0s
Y22D IRIS PASSCAL I 86.11 51 IAMs_20 IAMs_20 02 36 59.0
comp=Z,1µm,20.0s
TX31 Lajitas Ar. Si 86.14 56 IAmb IAmb 02 06 15.7
comp=Z,30nm,1.3s
TXAR Lajitas Array 86.14 56 P P 02 06 00.9 -0.4
comp=Z,5.4nm,1.0s,baz=210,slow=6.7,SNR=32
TXAR LR LR 02 37 11.0
comp=Z,360nm,19.8s,baz=231,slow=31
comp=Z,5.4nm,1.0s
BNX BinXian 86.18 324 ⇓P P 02 06 01.4 +0.5
BNX PP PP 02 09 25.8 +3.8
BNX S S 02 16 39.1 +4.3
BNX pmax pmax
comp=Z,28nm,1.1s
BNX pmax pmax
comp=Z,400nm,5.9s
BNX LR LR
comp=Z,210nm,15.7s
BNX LR LR
comp=Z,330nm,21.0s
BNX LR LR
comp=Z,460nm,18.5s
D08A Wollman Farm, 86.18 35 IAmb IAmb 02 06 15.3
comp=Z,26nm,1.3s
KLR Kul'dur 86.21 328 ⇓*i*P P 02 06 02.1 +1.1
KLR pmax pmax
comp=Z,33nm,2.5s
KLR Kul'dur 86.21 328 LR LR 02 39 34.2
comp=Z,1µm,21.1s,baz=132,slow=32
IPM Ipoh 86.23 276 P P 02 06 01.7 -0.4
WHN Wuhan 86.25 305 ⇓P P 02 06 02.8 +1.2
WHN sP pwP 02 06 15.6 +2.4
WHN SKS SKSac 02 16 27.8 +0.6
WHN S S 02 16 37.8 +1.7
WHN LR LR
comp=Z,2µm,22.1s
L18K Granite Mounta 86.29 8 IAmb IAmb 02 06 15.7
comp=Z,21nm,1.1s
L18K IAMs_20 IAMs_20 02 40 53.4
comp=Z,1µm,20.0s
L18K Granite Mounta 86.29 8 P P 02 06 02.0 +0.9
baz=197
M19K Big River Lodg 86.33 10 IAMs_20 IAMs_20 02 43 30.1
comp=Z,1µm,20.0s
M19K Big River Lodg 86.33 10 P P 02 06 01.7 +0.4
baz=199
SRU San Rafael Swe 86.36 45 IAmb IAmb 02 06 16.4
comp=Z,30nm,1.3s
RC01 Rabbit Creek A 86.36 12 P P 02 06 01.7 +0.2
baz=203
HIN Hinchinbrook I 86.39 14 IAMs_20 IAMs_20 02 43 54.8
comp=Z,972nm,20.0s
F10A Beach Ranch, E 86.40 36 IAmb IAmb 02 06 15.7
comp=Z,27nm,1.3s
P17A Butcher Ranch, 86.42 44 IAmb IAmb 02 06 16.9
comp=Z,33nm,1.4s
V35K Ketchikan 86.44 23 P P 02 06 02.1 +0.1
baz=219
KAIM Kayak Island 86.45 15 P P 02 06 02.5 +0.6
baz=208
M20K Styx River 86.50 10 P P 02 06 02.6 +0.4
baz=200
HLID Hailey 86.52 39 P P 02 06 02.4 -0.5
baz=233
L19K White Mountain 86.52 9 IAmb IAmb 02 06 18.0
comp=Z,24nm,1.3s
L19K IAMs_20 IAMs_20 02 43 26.3
comp=Z,1µm,20.0s
L19K White Mountain 86.52 9 P P 02 06 03.3 +1.0
baz=198
SUA Susitna One 86.52 11 IAmb IAmb 02 06 15.9
comp=Z,16nm,1.0s
SUA IAMs_20 IAMs_20 02 37 52.3
comp=Z,1µm,21.0s
SUA Susitna One 86.52 11 P P 02 06 02.4 0.0
baz=202
U33K Whale Pass 86.52 22 P P 02 06 03.2 +0.8
baz=218
PLID Pearl Lake 86.53 37 IAmb IAmb 02 06 16.7
comp=Z,25nm,1.4s
SIT Sitka 86.54 20 P P 02 06 02.6 +0.2
baz=216
K17K Iditarod 86.56 8 P P 02 06 02.0 -0.4
K17K IAmb IAmb 02 06 06.6
comp=Z,22nm,1.2s
K17K Iditarod 86.56 8 P P 02 06 03.3 +0.9
baz=195
UBPT Khong Chiam 86.62 288 P P 02 06 02.0 -1.8
UBPT IAmb IAmb 02 06 06.0
comp=Z,35nm,1.3s
GAMB Gambell 86.64 1 P P 02 06 03.5 +0.8
baz=183
MVCO Mesa Verde 86.66 47 P P 02 06 03.1 -0.7
baz=238
ALPN Alpine 86.67 55 P P 02 06 03.0 -1.0
ALPN IAmb IAmb 02 06 18.0
comp=Z,34nm,1.4s
EYAK Cordova Ski Ar 86.70 14 P P 02 06 03.9 +0.8
baz=207
HMT Hamilton 86.85 15 IAMs_20 IAMs_20 02 44 14.8
comp=Z,1µm,20.0s
J16K Anvik River 86.86 6 IAmb IAmb 02 06 18.4
comp=Z,37nm,1.2s
J16K IAMs_20 IAMs_20 02 46 29.4
comp=Z,1µm,20.0s
J16K Anvik River 86.86 6 P P 02 06 04.5 +0.7
baz=193
SKT Skwentna 86.86 11 IAmb IAmb 02 06 16.5
comp=Z,27nm,1.4s
SKT Skwentna 86.86 11 P P 02 06 03.7 -0.2
baz=202
ANMO Albuquerque 86.89 50 P P 02 06 05.3 +0.3
ANMO IAmb IAmb 02 06 20.2
comp=Z,25nm,1.4s
ANMO Albuquerque 86.89 50 P P 02 06 04.0 -1.0
baz=239
ANMO Albuquerque 86.89 50⇑ *e*P P 02 06 05.3 +0.3
ANMO pmax pmax
comp=Z,25nm,1.5s
ANMO Albuquerque 86.89 50 LR LR 02 37 46.8
comp=Z,1µm,20.1s,baz=340,slow=31
M22K Willow 86.91 12 IAMs_20 IAMs_20 02 39 09.4
comp=Z,778nm,21.0s
M22K Willow 86.91 12 P P 02 06 04.7 +0.6
baz=203
KNK Knik Glacier 86.91 12 P P 02 06 04.3 +0.1
baz=204
PMR Palmer 86.94 12 IAmb IAmb 02 06 18.8
comp=Z,30nm,1.3s
PMR Palmer 86.94 12 P P 02 06 04.8 +0.5
baz=204
L20K Farewell, AK 86.95 10 P P 02 06 04.8 +0.4
baz=199
BSUT Blindstream Ca 87.00 43 IAmb IAmb 02 06 20.4
comp=Z,24nm,1.3s
S31K Pelican 87.00 20 P P 02 06 05.8 +1.2
baz=215
WRAK Wrangell Islan 87.03 22 P P 02 06 04.3 -0.5
WRAK IAmb IAmb 02 06 19.6
comp=Z,24nm,1.1s
WRAK Wrangell Islan 87.03 22 P P 02 06 05.1 +0.2
baz=219
MA2 Magadan 87.07 343 P P 02 06 03.6 -1.3
MA2 IAmb IAmb 02 06 18.2
comp=Z,36nm,1.5s
MA2 Magadan 87.07 343 *ce*P P 02 06 03.8 -1.2
MA2 pmax pmax
comp=Z,15nm,1.2s
MA2 Magadan 87.07 343 LR LR 02 41 58.3
comp=Z,383nm,19.0s,baz=152,slow=34
TTA Tatalina 87.07 9 P P 02 06 04.7 -0.3
TTA IAmb IAmb 02 06 20.0
comp=Z,42nm,1.3s
TTA Tatalina 87.07 9 P P 02 06 05.4 +0.4
baz=197,SNR=7.9
TTA Tatalina 87.07 9 P P 02 06 04.7 -0.3
TTA pmax pmax
comp=Z,42nm,1.3s
HWUT Hardware Ranch 87.09 42 P P 02 06 04.0 -1.8
TIA Tai'an 87.11 311 P P 02 06 06.0 +0.3
TIA SKS SKSac 02 16 35.3 +3.0
TIA S SKKSac 02 16 44.8 +3.7
TIA pmax pmax
comp=Z,11nm,0.9s
TIA pmax pmax
comp=Z,170nm,6.8s
TIA LR LR
comp=Z,120nm,19.1s
TIA LR LR
comp=Z,140nm,26.5s
TIA LR LR
comp=Z,230nm,24.6s
S32K Killisnoo 87.12 21 P P 02 06 05.4 +0.2
baz=217
J17K VABM Dome 87.13 7 IAmb IAmb 02 06 19.8
comp=Z,18nm,1.1s
J17K VABM Dome 87.13 7 P P 02 06 05.6 +0.4
baz=195
MESA MESA 87.27 16 P P 02 06 06.2 0.0
baz=210
WAX Waxell Ridge 87.28 15 IAMs_20 IAMs_20 02 44 09.3
comp=Z,1µm,20.0s
SML Sawmill 87.30 12 P P 02 06 06.7 +0.6
baz=204
BMRM Bremner River 87.33 14 P P 02 06 06.2 0.0
baz=208
M23K Glacier View 87.40 13 P P 02 06 06.9 +0.3
baz=205
I17K Unalakleet 87.44 6 IAmb IAmb 02 06 21.3
comp=Z,19nm,1.2s
I17K IAMs_20 IAMs_20 02 43 50.7
comp=Z,930nm,19.0s
I17K Unalakleet 87.44 6 P P 02 06 07.4 +0.8
baz=193
CUT Chulitna 87.48 11 IAMs_20 IAMs_20 02 43 37.7
comp=Z,1µm,20.0s
CUT Chulitna 87.48 11 P P 02 06 07.1 +0.3
baz=203
CRQM Cirque 87.48 15 IAmb IAmb 02 06 33.2
comp=Z,20nm,1.0s
J18K Innoko River 87.49 8 IAMs_20 IAMs_20 02 43 59.9
comp=Z,1µm,20.0s
J18K Innoko River 87.49 8 P P 02 06 07.6 +0.7
baz=197
CRQE Cirque 87.49 15 P P 02 06 08.0 +0.9
baz=209
PNL Peninsula 87.50 17 P P 02 06 07.4 +0.3
baz=212
KLU Klutina 87.50 13 IAmb IAmb 02 06 32.4
comp=Z,18nm,1.2s
KLU IAMs_20 IAMs_20 02 44 23.2
comp=Z,765nm,20.0s
KLU Klutina 87.50 13 P P 02 06 06.3 -0.8
baz=207
SCM Sheep Creek Mo 87.52 13 IAMs_20 IAMs_20 02 45 56.6
comp=Z,705nm,19.0s
SCM Sheep Creek Mo 87.52 13 P P 02 06 06.6 -0.6
baz=205
ISLE Juniper Island 87.54 15 P P 02 06 06.3 -1.2
ISLE IAmb IAmb 02 06 22.3
comp=Z,32nm,1.2s
ISLE IAMs_20 IAMs_20 02 47 40.1
comp=Z,1µm,19.0s
PPLA Purkeypile 87.61 10 P P 02 06 07.6 -0.1
baz=201
SAND Sanderson 87.62 56 P P 02 06 07.2 -1.2
SAND IAmb IAmb 02 06 24.2
comp=Z,17nm,1.4s
ANM Nome 87.72 4 IAMs_20 IAMs_20 02 42 39.1
comp=Z,749nm,20.0s
ANM Nome 87.72 4 P P 02 06 08.5 +0.6
baz=189
K20K Telida 87.75 9 IAmb IAmb 02 06 22.1
comp=Z,35nm,1.4s
K20K IAMs_20 IAMs_20 02 44 04.9
comp=Z,730nm,19.0s
K20K Telida 87.75 9 P P 02 06 08.9 +0.7
baz=199
R32K Eaglecrest 87.78 20 P P 02 06 08.5 0.0
baz=217
VRDI Verde Repeater 87.82 15 IAmb IAmb 02 06 22.8
comp=Z,29nm,1.4s
VRDI IAMs_20 IAMs_20 02 44 38.6
comp=Z,715nm,19.0s
CMIG Matias Romero 87.86 71 LR LR 02 36 31.7
comp=Z,596nm,20.1s,baz=246,slow=30
NEW Newport 87.89 34 IAMs_20 IAMs_20 02 44 18.6
comp=Z,1µm,19.0s
NEW Newport 87.89 34 P P 02 06 08.6 -0.7
baz=231
NEW Newport 87.89 34 LR LR 02 38 32.8
comp=Z,862nm,20.6s,baz=221,slow=31
BO01 Tunca 87.89 127 P P 02 06 09.6 -0.2
BO01 IAmb IAmb 02 06 11.3
comp=Z,29nm,1.4s
N25K Chitina, Valde 87.90 14 IAmb IAmb 02 06 15.7
comp=Z,14nm,1.1s
N25K IAMs_20 IAMs_20 02 44 52.5
comp=Z,776nm,20.0s
N25K Chitina, Valde 87.90 14 P P 02 06 09.3 +0.3
baz=208
GLB Gilahina Butte 87.93 14 IAmb IAmb 02 06 23.3
comp=Z,28nm,1.2s
P29M Windy Craggy 87.93 18 P P 02 06 09.2 0.0
baz=214
M24K Tolsona, Glenn 88.00 13 P P 02 06 09.8 +0.3
baz=206
H16K Elim 88.03 5 P P 02 06 10.1 +0.7
baz=192
MCARA McCarthy VSAT 88.06 15 P P 02 06 09.4 -0.3
baz=209
LOGN Logan Glacier 88.07 16 IAMs_20 IAMs_20 02 44 33.0
comp=Z,980nm,20.0s
CTG Chitna Glacier 88.10 16 P P 02 06 10.4 +0.3
baz=211
CTGM Chitina Glacie 88.11 16 IAMs_20 IAMs_20 02 44 15.0
comp=Z,749nm,20.0s
BARN Barnard Glacie 88.11 16 IAMs_20 IAMs_20 02 44 36.0
comp=Z,808nm,20.0s
WAT6 Susitna Watana 88.12 12 P P 02 06 10.0 -0.1
baz=205,SNR=9.1
CAST Castle Rocks 88.12 10 IAmb IAmb 02 06 22.5
comp=Z,26nm,1.3s
CAST Castle Rocks 88.12 10 P P 02 06 09.7 -0.3
baz=201,SNR=7.6
J19K Poorman 88.14 8 P P 02 06 09.9 -0.1
J19K IAmb IAmb 02 06 24.5
comp=Z,21nm,1.4s
J19K IAMs_20 IAMs_20 02 46 43.1
comp=Z,1µm,20.0s
J19K Poorman 88.14 8 P P 02 06 10.0 0.0
baz=198
GSI Gunungsitoli 88.16 272 P P 02 06 11.1 -0.2
PLBC Pleasant Camp 88.18 19 P P 02 06 10.5 +0.2
baz=215
WAT1 Susitna Watana 88.19 12 P P 02 06 09.9 -0.4
baz=204
T35M Bob Quinn 88.20 23 P P 02 06 10.1 -0.5
baz=220
O28M Mount Upton 88.23 16 P P 02 06 10.1 -0.7
baz=212
G15K Niukluk 88.23 5 P P 02 06 10.6 +0.2
baz=190
O29M Mount Kennedy 88.26 17 IAmb IAmb 02 06 25.5
comp=Z,31nm,1.4s
O29M IAMs_20 IAMs_20 02 48 09.1
comp=Z,672nm,18.0s
O29M Mount Kennedy 88.26 17 P P 02 06 09.9 -0.9
baz=213
ODSA Odessa 88.32 54 P P 02 06 10.8 -1.0
ODSA IAmb IAmb 02 06 27.7
comp=Z,36nm,1.5s
O20A White River Ci 88.39 45 P P 02 06 10.8 -1.3
baz=238
KTH Kantishna Hill 88.43 11 IAmb IAmb 02 06 24.3
comp=Z,25nm,1.4s
TRF Thorofare Moun 88.45 11 P P 02 06 11.5 -0.2
baz=203
HARP HAARP 88.48 13 P P 02 06 11.4 -0.3
baz=207
SKAG Skagway 88.49 19 P P 02 06 11.8 +0.1
SKAG Skagway 88.49 19 P P 02 06 11.6 -0.2
baz=216
CHUM Lake Minchumin 88.52 10 P P 02 06 12.2 +0.5
baz=201
REDW Red Top Meadow 88.52 41 P P 02 06 11.9 -0.8
J20K Nowinta River 88.52 9 IAmb IAmb 02 06 25.8
comp=Z,28nm,1.2s
J20K IAMs_20 IAMs_20 02 46 54.1
comp=Z,779nm,20.0s
J20K Nowinta River 88.52 9 P P 02 06 12.3 +0.5
baz=199
DRIO Del Rio 88.53 57 P P 02 06 12.0 -0.7
DRIO IAmb IAmb 02 06 26.4
comp=Z,27nm,1.4s
TPAW Teton Pass 88.53 41 P P 02 06 11.3 -1.4
H17K Granite Mounta 88.54 6 P P 02 06 11.2 -0.7
H17K IAmb IAmb 02 06 25.9
comp=Z,30nm,1.5s
H17K IAMs_20 IAMs_20 02 47 41.9
comp=Z,1µm,20.0s
H17K Granite Mounta 88.54 6 P P 02 06 12.3 +0.4
baz=194
P30M Million Dollar 88.56 18 P P 02 06 12.2 +0.1
baz=214
F14K Arctic Creek 88.56 4 P P 02 06 12.5 +0.6
baz=188
TNA Tin City 88.56 3 P P 02 06 12.3 +0.4
baz=186
FXWY Fox Creek 88.57 41 P P 02 06 12.2 -0.6
MT05 Renca 88.60 126 P P 02 06 12.6 -0.6
S34M Telegraph Cree 88.61 22 P P 02 06 11.0 -1.4
S34M IAmb IAmb 02 06 27.4
comp=Z,34nm,1.4s
S34M Telegraph Cree 88.61 22 P P 02 06 12.4 +0.1
baz=220
SNOW Snow King Moun 88.63 41 P P 02 06 12.7 -0.5
SNOW IAmb IAmb 02 06 41.4
comp=Z,23nm,1.5s
DHY Denali Highway 88.64 12 P P 02 06 11.2 -1.4
DHY IAmb IAmb 02 06 28.8
comp=Z,31nm,1.5s
DHY Denali Highway 88.64 12 P P 02 06 11.9 -0.7
baz=205
RND Reindeer 88.66 11 P P 02 06 11.6 -1.0
RND IAMs_20 IAMs_20 02 44 44.8
comp=Z,879nm,20.0s
RND Reindeer 88.66 11 P P 02 06 11.6 -1.0
RND pmax pmax
comp=Z,93nm,1.4s
RND MLR MLR
comp=Z,900nm,20.0s
GCSA Galena City Sc 88.70 8 P P 02 06 12.6 0.0
baz=197
G16K Koyuk River 88.76 5 P P 02 06 12.3 -0.6
G16K IAmb IAmb 02 06 29.1
comp=Z,19nm,1.5s
G16K IAMs_20 IAMs_20 02 45 37.4
comp=Z,938nm,20.0s
G16K Koyuk River 88.76 5 P P 02 06 12.1 -0.8
baz=192
LMEL Las Melosas 88.79 126 P P 02 06 14.9 +0.7
MOOW Moose Ponds 88.80 41 P P 02 06 13.2 -0.7
LOHW Long Hollow 88.81 41 P P 02 06 13.4 -0.6
LOHW IAMs_20 IAMs_20 02 47 01.8
comp=Z,700nm,19.0s
OZNA Ozona 88.83 56 P P 02 06 13.3 -0.9
YUK6 Outpost Mounta 88.86 17 P P 02 06 14.0 +0.2
baz=213
F15K North Star Dit 88.90 4 IAMs_20 IAMs_20 02 45 34.4
comp=Z,930nm,20.0s
F15K North Star Dit 88.90 4 P P 02 06 14.3 +0.8
baz=190
H18K Honhosa River 88.92 7 P P 02 06 13.3 -0.4
H18K IAmb IAmb 02 06 27.4
comp=Z,24nm,1.4s
H18K Honhosa River 88.92 7 P P 02 06 13.0 -0.7
baz=195
PAX Paxson 88.92 13 P P 02 06 13.3 -0.5
baz=207
BPAW Bear Paw Mtn. 88.93 10 P P 02 06 12.3 -1.4
BPAW IAMs_20 IAMs_20 02 45 05.0
comp=Z,1µm,20.0s
BPAW Bear Paw Mtn. 88.93 10 P P 02 06 13.6 -0.2
baz=202
MCK McKinley 88.95 11 P P 02 06 14.5 +0.6
baz=204,SNR=5.8
M26K Nabesna, AK 88.96 14 P P 02 06 13.6 -0.4

M26K IAMs_20 IAMs_20 02 45 27.6
comp=Z,761nm,20.0s
SDCO Great Sand Dun 88.98 48 P P 02 06 14.4 -0.5
SDCO IAMs_20 IAMs_20 02 38 09.6
comp=Z,1µm,20.0s
SDCO Great Sand Dun 88.98 48 P P 02 06 14.1 -0.9
baz=240
BW06 Boulder Array 88.98 42 P P 02 06 15.0 +0.2
baz=237
PD31 Pinedale Array 88.98 42 P P 02 06 12.5 -2.3
PDAR Pinedale Array 88.98 42 P P 02 06 12.3 -2.5
PDAR Pinedale Array 88.98 42 P P 02 06 13.7 -1.1
comp=Z,2.5nm,1.0s,baz=180,slow=3.0,SNR=11
PDAR LR LR 02 38 48.6
comp=Z,356nm,21.1s,baz=248,slow=31
comp=Z,2.5nm,1.0s
833A Chaparral WMA, 88.98 59 P P 02 06 13.9 -0.9
833A IAmb IAmb 02 06 31.6
comp=Z,16nm,1.2s
833A Chaparral WMA, 88.98 59 P P 02 06 13.2 -1.7
baz=243
HYT Haines Junctio 88.99 17 P P 02 06 13.3 -1.0
HYT IAmb IAmb 02 06 28.9
comp=Z,39nm,1.5s
HYT Haines Junctio 88.99 17 P P 02 06 15.0 +0.7
baz=214
HEH HeiHe 89.01 327 *e*P **P 02 06 14.3 -0.1**
HEH S **S 02 17 05.3 +3.5**
HEH pmax pmax
comp=Z,23nm,1.2s
HEH pmax pmax
comp=Z,380nm,5.5s
HEH LR LR
comp=Z,400nm,20.1s
HEH LR LR
comp=Z,350nm,19.5s
HEH LR LR
comp=Z,670nm,19.3s
YUK3 Moose Creek 89.02 16 P P 02 06 14.5 0.0
baz=211,SNR=12
G17K Kiwalik Mounta 89.02 6 P P 02 06 14.4 +0.3
baz=193
MSTX Muleshoe 89.05 52 P P 02 06 15.4 +0.2
MSTX IAmb IAmb 02 06 18.8
comp=Z,18nm,1.4s
MSTX Muleshoe 89.05 52 P P 02 06 14.0 -1.2
baz=241
Q32M Nakina River 89.05 21 P P 02 06 13.9 -0.8
Q32M IAmb IAmb 02 06 29.6
comp=Z,34nm,1.4s
Q32M Nakina River 89.05 21 P P 02 06 14.2 -0.5
baz=219
I20K Naaghedeneel 89.06 9 IAMs_20 IAMs_20 02 47 21.5
comp=Z,925nm,20.0s
I20K Naaghedeneel 89.06 9 P P 02 06 14.6 +0.3
baz=199
P32M Atlin 89.09 20 P P 02 06 14.3 -0.3
P32M IAmb IAmb 02 06 29.3
comp=Z,26nm,1.4s
P32M Atlin 89.09 20 P P 02 06 14.7 0.0
baz=217
YUK4 Talbot Arm 89.12 17 P P 02 06 16.0 +1.1
baz=213
YFT Old Faithful 89.14 40 P P 02 06 15.6 +0.1
SRIT Nakonsritamara 89.16 280 P P 02 06 16.9 +0.9
M27K Edge Creek, AK 89.18 15 P P 02 06 15.3 +0.2
M27K IAMs_20 IAMs_20 02 45 13.4
comp=Z,807nm,20.0s
M27K Edge Creek, AK 89.18 15 P P 02 06 15.4 +0.2
baz=210,SNR=18
H17A Grant Village 89.26 40 P P 02 06 16.2 +0.1
H17A Grant Village 89.26 40 P P 02 06 15.9 -0.2
baz=236
MENT Mentasta 89.27 14 P P 02 06 15.6 +0.1
SGCY Sterling City 89.29 55 P P 02 06 15.9 -0.4
YHH Holmes Hill 89.31 40 P P 02 06 15.8 -0.6
BOZ Bozeman (W) 89.32 39 P P 02 06 15.4 -0.8
BOZ IAmb IAmb 02 06 30.4
comp=Z,25nm,1.4s
BOZ Bozeman (W) 89.32 39 P P 02 06 16.1 -0.1
baz=235
BOZ Bozeman (W) 89.32 39 P P 02 06 15.4 -0.8
BOZ pmax pmax
comp=Z,25nm,1.4s
O30N Mendenhall 89.34 18 P P 02 06 15.4 -0.4
O30N Mendenhall 89.34 18 P P 02 06 15.7 -0.1
baz=215
YNR Norris Junctio 89.38 40 P **P 02 06 16.5 -0.1**
HNS HongShan 89.38 311 ⇑P **P 02 06 17.1 +0.6**
HNS SKS **SKSac 02 16 43.8 -2.0**
HNS *e*S **S 02 17 08.8 +3.1**
HNS pmax pmax
comp=Z,310nm,4.9s
HNS LR LR
comp=Z,210nm,16.7s
HNS LR LR
comp=Z,330nm,18.3s
HNS LR LR
comp=Z,410nm,21.6s
OVMT Ovando 89.39 37 P P 02 06 14.9 -1.6
DLBC Dease Lake 89.39 22 P P 02 06 16.1 0.0
DLBC IAmb IAmb 02 06 30.9
comp=Z,35nm,1.4s
DLBC Dease Lake 89.39 22 P P 02 06 16.9 +0.8
baz=221
T25A Trinidad 89.42 49 P P 02 06 15.4 -1.7
T25A Trinidad 89.42 49 P P 02 06 16.6 -0.4
baz=240
L26K Log Cabin Wild 89.43 14 P P 02 06 15.4 -0.7
L26K IAmb IAmb 02 06 31.3
comp=Z,16nm,1.1s
L26K IAMs_20 IAMs_20 02 41 09.0
comp=Z,1µm,21.0s
L26K Log Cabin Wild 89.43 14 P P 02 06 16.9 +0.8
baz=209
LKWY Lake 89.46 40 P P 02 06 16.4 -0.7
LKWY Lake 89.46 40 P P 02 06 16.4 -0.7
LKWY pmax pmax
comp=Z,9.0nm,1.4s
BVCY Beaver Creek 89.47 15 P P 02 06 16.9 +0.5
baz=211,SNR=9.0
H19K Roundabout Mou 89.50 8 IAmb IAmb 02 06 31.4
comp=Z,29nm,1.2s
H19K Roundabout Mou 89.50 8 P P 02 06 16.3 0.0
baz=197
SEY Seymchan 89.57 346 *ce*P **P 02 06 16.8 0.0**
SEY pmax pmax
comp=Z,21nm,1.7s
SEY Seymchan 89.57 346 LR LR 02 43 51.1
comp=Z,654nm,19.2s,baz=150,slow=34
LYN LuoYang 89.58 308 *e*P **P 02 06 17.8 +0.3**
LYN SKS **SKSac 02 16 46.1 -1.0**
LYN pmax pmax
comp=Z,36nm,1.2s
LYN pmax pmax
comp=Z,460nm,4.0s
LYN LR LR
comp=Z,470nm,17.5s
LYN LR LR
comp=Z,300nm,18.2s
LYN LR LR
comp=Z,860nm,21.4s
WHY Whitehorse 89.60 18 IAmb IAmb 02 06 31.7
comp=Z,33nm,1.4s
WHY Whitehorse 89.60 18 P P 02 06 17.0 -0.1
baz=216
G18K Tagagawik 89.61 7 IAmb IAmb 02 06 30.6
comp=Z,21nm,1.3s
G18K IAMs_20 IAMs_20 02 45 30.0
comp=Z,1µm,20.0s
G18K Tagagawik 89.61 7 P P 02 06 17.5 +0.6
baz=195
K24K Donnelly Dome 89.61 13 P P 02 06 17.0 0.0
baz=207,SNR=10
N30M Aishikik Lake 89.63 17 P P 02 06 16.9 -0.3
baz=214
JCT Junction City 89.64 57 IAMs_20 IAMs_20 02 39 30.3
comp=Z,858nm,20.0s
JCT Junction City 89.64 57 P P 02 06 16.7 -1.2
baz=243
H20K Anotleneega Mo 89.67 8 P P 02 06 17.4 +0.2
baz=198
NEA2 Nenana 89.71 11 P P 02 06 17.3 -0.2
baz=204
BJI Beijing 89.72 314 P P 02 06 19.0 +1.0
BJI pmax pmax
comp=Z,6.0nm,1.0s
BJI pmax pmax
comp=Z,150nm,3.5s
BJI LR LR
comp=Z,65nm,12.8s
BJI LR LR
comp=Z,87nm,13.9s
BJI LR LR
comp=Z,100nm,24.7s
RIDG Independent Ri 89.74 13 IAMs_20 IAMs_20 02 47 08.3
comp=Z,864nm,20.0s
RIDG Independent Ri 89.74 13 P P 02 06 17.9 +0.3
baz=208
WRH Wood River Hil 89.78 11 IAMs_20 IAMs_20 02 40 07.3
comp=Z,715nm,21.0s
I21K Tanana 89.78 9 IAmb IAmb 02 06 31.4
comp=Z,22nm,1.4s
I21K Tanana 89.78 9 P P 02 06 18.4 +0.7
L27K Beaver Creek, 89.80 14 IAmb IAmb 02 06 32.2
comp=Z,22nm,1.2s
L27K Beaver Creek, 89.80 14 P P 02 06 18.2 +0.3
baz=210,SNR=6.0
R33M Jennings River 89.81 21 IAmb IAmb 02 06 33.8
comp=Z,37nm,1.3s
R33M Jennings River 89.81 21 P P 02 06 18.1 -0.1
baz=220
Q24A Divide 89.83 47 P P 02 06 17.9 -1.0
baz=240
MLY Manley 89.84 10 IAMs_20 IAMs_20 02 45 32.0
comp=Z,748nm,20.0s
MLY Manley 89.84 10 P P 02 06 18.1 0.0
baz=202
P33M Teslin, Yukon 89.86 20 P P 02 06 18.5 +0.2
baz=218
F17K Baldwin Pennin 89.89 5 IAmb IAmb 02 06 32.9
comp=Z,27nm,1.4s
F17K IAMs_20 IAMs_20 02 45 52.1
comp=Z,819nm,20.0s
F17K Baldwin Pennin 89.89 5 P P 02 06 18.7 +0.6
baz=193
HDA Harding Lake 89.93 12 IAmb IAmb 02 06 32.1
comp=Z,26nm,1.2s
HDA Harding Lake 89.93 12 P P 02 06 18.2 -0.2
baz=206,SNR=12
ISCO Idaho Springs 89.94 46 P P 02 06 18.0 -1.5
baz=240
CCB Clear Creek Bu 89.99 11 IAMs_20 IAMs_20 02 41 07.8
comp=Z,867nm,22.0s
G19K Purcell Mounta 90.02 7 IAmb IAmb 02 06 33.6
comp=Z,31nm,1.3s
G19K IAMs_20 IAMs_20 02 48 15.9
comp=Z,938nm,20.0s
G19K Purcell Mounta 90.02 7 P P 02 06 19.1 +0.2
baz=196
M29M Somme Creek 90.09 16 IAmb IAmb 02 06 33.8
comp=Z,26nm,1.2s
M29M IAMs_20 IAMs_20 02 45 49.4
comp=Z,872nm,19.0s
M29M Somme Creek 90.09 16 P P 02 06 18.9 -0.4
baz=213
H21K Melozitna Rive 90.11 9 IAMs_20 IAMs_20 02 48 16.2
comp=Z,824nm,20.0s
H21K Melozitna Rive 90.11 9 P P 02 06 19.1 -0.1
baz=200
SCRK Sand Creek 90.13 13 IAmb IAmb 02 06 33.7
comp=Z,21nm,1.3s
SCRK IAMs_20 IAMs_20 02 46 59.6
comp=Z,680nm,20.0s
SCRK Sand Creek 90.13 13 P P 02 06 19.5 0.0
baz=208,SNR=7.8
I23K Minto, Yukon-K 90.17 11 P P 02 06 18.3 -1.2
I23K Minto, Yukon-K 90.17 11 P P 02 06 19.4 -0.1
baz=203
COLA College 90.19 11 P P 02 06 18.5 -1.1
COLA College 90.19 11 IAMs_20 IAMs_20 02 41 35.1
comp=Z,1µm,22.0s
COLA College 90.19 11 P P 02 06 19.8 +0.2
baz=205
COLA College 90.19 11 P P 02 06 18.5 -1.1
COLA pmax pmax
comp=Z,63nm,1.4s
F18K Selawik 90.19 6 P P 02 06 19.5 0.0
baz=194
RTBA Rita Blanca 90.25 50 P P 02 06 19.7 -1.1
DKNS Dickens 90.26 53 P P 02 06 18.9 -2.0
IL31 90.27 12 IAmb IAmb 02 06 34.2
comp=Z,31nm,1.2s
ILAR Eielson Array 90.27 12 P P 02 06 18.9 -1.2
comp=Z,4.7nm,1.0s,baz=220,slow=4.9,SNR=29
ILAR LR LR 02 44 37.1
comp=Z,222nm,18.3s,baz=201,slow=34
comp=Z,4.7nm,1.0s
N23A Red Feather La 90.28 45 P P 02 06 19.4 -1.6
baz=239
IMAR Indian Mountai 90.29 9 P P 02 06 19.4 -0.7
GYA Guiyang 90.37 299 ⇓*i*P **P 02 06 22.8 +1.2**
GYA SKS **SKSac 02 16 52.0 -0.4**
GYA S **S 02 17 16.4 +0.6**
GYA pmax pmax
comp=Z,22nm,1.1s
GYA LR LR
comp=Z,660nm,22.7s
J25K Salcha River, 90.42 12 IAmb IAmb 02 06 35.4
comp=Z,32nm,1.2s
J25K Salcha River, 90.42 12 P P 02 06 21.0 +0.2
baz=207
RLMT Red Lodge 90.44 40 P P 02 06 20.5 -1.1
RLMT Red Lodge 90.44 40 P P 02 06 20.6 -0.9
baz=237
E17K Hotham Inlet 90.47 5 P P 02 06 20.9 +0.1
baz=192
POKR Poker Plat Res 90.48 11 IAmb IAmb 02 06 34.4
comp=Z,16nm,1.1s
POKR IAMs_20 IAMs_20 02 41 33.0
comp=Z,932nm,21.0s
POKR Poker Plat Res 90.48 11 P P 02 06 20.4 -0.6
baz=205
N32M Quiet Lake 90.52 19 IAmb IAmb 02 06 36.0
comp=Z,30nm,1.2s
N32M Quiet Lake 90.52 19 P P 02 06 20.9 -0.4
baz=218
H22K Ishtalitna Cre 90.54 9 P P 02 06 21.1 -0.2
baz=202
K27K Chicken 90.59 14 IAmb IAmb 02 06 37.0
comp=Z,34nm,1.2s
K27K IAMs_20 IAMs_20 02 41 54.6
comp=Z,814nm,20.0s
K27K Chicken 90.59 14 P P 02 06 21.6 +0.1
baz=210
F19K Shaleruckik Mo 90.61 7 IAmb IAmb 02 06 36.0
comp=Z,32nm,1.4s
F19K IAMs_20 IAMs_20 02 46 09.5
comp=Z,995nm,20.0s
F19K Shaleruckik Mo 90.61 7 P P 02 06 21.6 +0.1
baz=196
M30M Minto, Yukon 90.63 17 IAmb IAmb 02 06 36.6
comp=Z,23nm,1.2s
M30M IAMs_20 IAMs_20 02 45 55.8
comp=Z,857nm,19.0s
M30M Minto, Yukon 90.63 17 P P 02 06 21.6 -0.2
baz=215,SNR=8.7
J26L Joseph Creek 90.68 13 P P 02 06 22.9 +0.8
baz=209
L29M L29M 90.73 16 IAMs_20 IAMs_20 02 49 52.4
comp=Z,969nm,18.0s
L29M L29M 90.73 16 P P 02 06 23.1 +0.8
baz=214
ABTX Abilene, Hawle 90.73 55 P P 02 06 21.7 -1.3
baz=243
H23K Yukon River 90.77 10 P P 02 06 22.5 +0.1
baz=203
K22A Casper 90.81 43 P P 02 06 23.1 -0.2
baz=239
G21K Allakaket 90.82 8 IAmb IAmb 02 06 36.7
comp=Z,23nm,1.4s
G21K IAMs_20 IAMs_20 02 45 54.1
comp=Z,893nm,20.0s
G21K Allakaket 90.82 8 P P 02 06 23.2 +0.7
baz=200
E18K Tukpahlearik C 90.90 6 IAmb IAmb 02 06 37.6
comp=Z,34nm,1.3s
E18K IAMs_20 IAMs_20 02 46 34.9
comp=Z,778nm,20.0s
E18K Tukpahlearik C 90.90 6 P P 02 06 23.4 +0.5
baz=193
M31M Drury Creek, Y 90.98 18 IAmb IAmb 02 06 37.3
comp=Z,16nm,1.3s
M31M Drury Creek, Y 90.98 18 P P 02 06 24.0 +0.6
baz=217
F20K Avaraart Lake 91.05 7 IAmb IAmb 02 06 38.3
comp=Z,19nm,1.2s
F20K IAMs_20 IAMs_20 02 46 33.1
comp=Z,1µm,20.0s
F20K Avaraart Lake 91.05 7 P P 02 06 24.5 +1.0
baz=198
WTLY Watson Lake, Y 91.07 21 P P 02 06 24.5 +0.6
baz=222,SNR=7.9
PRP Porcupine Dome 91.19 12 IAmb IAmb 02 06 38.9
comp=Z,29nm,1.2s
PRP IAMs_20 IAMs_20 02 48 03.8
comp=Z,683nm,20.0s
PRP Porcupine Dome 91.19 12 P P 02 06 24.0 -0.5
baz=207,SNR=7.0
DAWY Dawson 91.23 15 IAmb IAmb 02 06 39.6
comp=Z,24nm,1.2s
DAWY Dawson 91.23 15 P P 02 06 25.1 +0.5
baz=212,SNR=14
E19K Redstone River 91.27 7 IAMs_20 IAMs_20 02 46 51.0
comp=Z,922nm,20.0s
E19K Redstone River 91.27 7 P P 02 06 25.0 +0.3
baz=196
ZEA Zeya 91.28 330 *e*P **P 02 06 25.7 +0.7**
ZEA pmax pmax
comp=Z,100nm,11.7s
FARO Faro, Yukon 91.30 18 P P 02 06 25.5 +0.6
baz=218
RDOG Red Dog Mine 91.34 5 IAMs_20 IAMs_20 02 44 31.9
comp=Z,876nm,20.0s
TOAD Toad River Com 91.39 23 P P 02 06 25.9 +0.5
baz=225,SNR=12
C16K Lisburne Hills 91.40 4 IAmb IAmb 02 06 39.8
comp=Z,31nm,1.4s
C16K IAMs_20 IAMs_20 02 45 07.5
comp=Z,667nm,20.0s
C16K Lisburne Hills 91.40 4 P P 02 06 26.0 +0.9
baz=189
BRLDA Berland Lookou 91.42 30 P P 02 06 24.3 -1.4
EGAK Eagle 91.44 14 IAMs_20 IAMs_20 02 46 38.1
comp=Z,916nm,20.0s
EGAK Eagle 91.44 14 P P 02 06 26.0 +0.6
baz=211,SNR=13
I26K Coal Creek Min 91.47 13 IAMs_20 IAMs_20 02 47 31.1
comp=Z,810nm,20.0s
I26K Coal Creek Min 91.47 13 P P 02 06 26.2 +0.6
baz=209
F21K Alatna River 91.50 8 IAMs_20 IAMs_20 02 46 34.8
comp=Z,1µm,20.0s
F21K Alatna River 91.50 8 P P 02 06 26.1 +0.4
baz=200
K29M Barlow Dome 91.50 16 IAMs_20 IAMs_20 02 46 14.6
comp=Z,941nm,20.0s
K29M Barlow Dome 91.50 16 P P 02 06 25.9 0.0
baz=214
G23K Bananza Creek 91.51 10 IAMs_20 IAMs_20 02 41 46.2
comp=Z,776nm,22.0s
G23K Bananza Creek 91.51 10 P P 02 06 25.8 0.0
baz=203
MAYO Mayo, Yukon 91.70 16 P P 02 06 26.7 0.0
baz=216
EGMT Eagleton 91.74 38 IAMs_20 IAMs_20 02 40 35.8
comp=Z,875nm,20.0s
EGMT Eagleton 91.74 38 P P 02 06 27.0 -0.3
baz=237
H25L Birch Creek 91.81 11 P P 02 06 27.6 +0.5
baz=207
PLPT Palo Pinto 91.82 55 IAmb IAmb 02 06 41.7
comp=Z,22nm,1.3s
J29N Klondike Camp 91.83 15 IAMs_20 IAMs_20 02 46 46.6
comp=Z,669nm,20.0s
J29N Klondike Camp 91.83 15 P P 02 06 27.7 +0.3
baz=213
G24K Hadweenzic Riv 91.91 11 P P 02 06 28.2 +0.6
baz=205
F22K John River 91.94 9 P P 02 06 27.3 -0.4
baz=201
BILL Bilibino 91.94 353 IAMs_20 IAMs_20 02 42 44.9
comp=Z,1µm,20.0s
BILL Bilibino 91.94 353 *e*P **P 02 06 27.4 -0.3**
XAN Xi'an 91.94 306 P **P 02 06 29.6 +1.0**
XAN SKS **SKSac 02 17 02.8 +1.9**
XAN S **ScS 02 17 35.8 +3.7**
XAN pmax pmax
comp=Z,43nm,1.4s
XAN pmax pmax
comp=Z,430nm,5.5s
XAN LR LR
comp=Z,660nm,20.6s
XAN LR LR
comp=Z,460nm,18.5s
XAN LR LR
comp=Z,960nm,19.9s
COLD Coldfoot 91.96 9 P P 02 06 27.4 -0.4
baz=203
I27K Kandik River 92.05 13 P P 02 06 28.3 -0.1
baz=210
C18K Utukok River 92.06 5 IAmb IAmb 02 06 42.0
comp=Z,12nm,1.1s
C18K IAMs_20 IAMs_20 02 49 48.8
comp=Z,991nm,20.0s
C18K Utukok River 92.06 5 P P 02 06 29.0 +0.7
baz=193
FW03 Perrin-Whitt E 92.11 55 IAmb IAmb 02 06 43.0
comp=Z,21nm,1.3s
WHTX Lake Whitney, 92.11 56 P P 02 06 28.1 -1.3
baz=244
E20K Nigu River 92.15 7 P P 02 06 29.4 +0.6
baz=197
D19K Kuna River 92.18 6 IAmb IAmb 02 06 42.7
comp=Z,26nm,1.4s
D19K IAMs_20 IAMs_20 02 49 49.1
comp=Z,1µm,20.0s
D19K Kuna River 92.18 6 P P 02 06 29.5 +0.6
baz=196
FYU Fort Yukon 92.19 11 IAMs_20 IAMs_20 02 46 47.0
comp=Z,677nm,20.0s
MMPY Sheldon Lake, 92.21 19 IAmb IAmb 02 06 43.7
comp=Z,22nm,1.3s
MMPY Sheldon Lake, 92.21 19 P P 02 06 29.7 +0.6
baz=220
G25K Bearman Lake 92.21 11 P P 02 06 29.1 +0.2
baz=206
I28M Miner Creek 92.28 14 IAmb IAmb 02 06 43.5
comp=Z,16nm,1.2s
I28M IAMs_20 IAMs_20 02 47 13.4
comp=Z,833nm,19.0s
I28M Miner Creek 92.28 14 P P 02 06 29.1 -0.4
baz=212
TGTN Hyland Airport 92.30 20 P P 02 06 29.8 +0.2
baz=222,SNR=5.4
WMOK Wichita Mounta 92.33 53 P P 02 06 29.3 -1.0
baz=244
J30M Hart River 92.39 16 IAmb IAmb 02 06 44.3
comp=Z,14nm,1.2s
J30M IAMs_20 IAMs_20 02 47 23.4
comp=Z,968nm,20.0s
J30M Hart River 92.39 16 P P 02 06 30.5 +0.4
baz=215
PHRA Phrae 92.51 289 P P 02 06 33.5 +2.0
D20K Etivluk River 92.55 7 P P 02 06 30.5 -0.1
baz=197
E22K Anaktuvuk Pass 92.58 8 IAMs_20 IAMs_20 02 42 06.4
comp=Z,1µm,22.0s
E22K Anaktuvuk Pass 92.58 8 P P 02 06 31.1 +0.3
baz=201
E21K Killik River 92.59 8 IAMs_20 IAMs_20 02 47 22.7
comp=Z,725nm,20.0s
E21K Killik River 92.59 8 P P 02 06 31.0 +0.3
baz=199
F24K Squaw Lake 92.59 10 IAmb IAmb 02 06 45.1
comp=Z,14nm,1.4s
F24K Squaw Lake 92.59 10 P P 02 06 30.8 0.0
baz=205
H27K Steamboat Moun 92.61 13 P P 02 06 30.9 0.0
baz=210
C19K Lookout Ridge 92.64 5 P P 02 06 31.0 0.0
baz=194
NNA Nana 92.69 104 LR LR 02 39 02.6
comp=Z,1µm,19.9s,baz=224,slow=30
B18K Kokolik River 92.71 5 P P 02 06 32.5 +1.3
baz=192
KOTAN Kotaneelee Air 92.72 23 P P 02 06 32.0 +0.5
baz=226
G26K Porcupine Rive 92.80 12 P P 02 06 32.8 +1.2
baz=208
E23K Chandalar 92.82 9 P P 02 06 31.5 -0.4
baz=203

OGNE	**Ogallala**	**92.89**	**46**	IAMs_20	IAMs_20	02 41 22.9		
	comp=Z,1μm,20.0s							
OGNE	**Ogallala**	**92.89**	**46**	P	**P**	**02 06 32.5**	**-0.3**	
	baz=242							
I30M	**Mount Dempster**	**92.92**	**15**	IAmb	IAmb	02 06 46.5		
	comp=Z,26nm,1.3s							
I30M				IAMs_20	IAMs_20	02 47 30.2		
	comp=Z,814nm,20.0s							
I30M	**Mount Dempster**	**92.92**	**15**	P	**P**	**02 06 32.2**	**-0.2**	
	baz=215							
FLDN	**Fort Liard**	**93.01**	**23**	P	**P**	**02 06 33.7**	**+0.9**	
	baz=226							
KMI	**Kunming**	**93.03**	**296**	⇑P	**P**	**02 06 35.3**	**+1.3**
KMI				SKS	**SKSac**	**02 17 08.3**	**+0.6**
KMI				pmax	pmax			
	comp=Z,16nm,1.4s							
KMI				pmax	pmax			
	comp=Z,240nm,3.5s							
KMI				LR	LR			
	comp=Z,100nm,24.6s							
KMI				LR	LR			
	comp=Z,220nm,19.1s							
KMI				LR	LR			
	comp=Z,320nm,21.2s							
F25K	**Christian Rive**	**93.03**	**11**	P	**P**	**02 06 33.8**	**+1.0**	
	baz=207							
LAO	**LASA Array**	**93.07**	**40**	P	**P**	**02 06 33.8**	**+0.3**	
	baz=239							
G27K	**Doyon Strip**	**93.09**	**13**	IAmb	IAmb	02 06 47.5		
	comp=Z,13nm,1.4s							
G27K				IAMs_20	IAMs_20	02 48 13.8		
	comp=Z,753nm,20.0s							
G27K	**Doyon Strip**	**93.09**	**13**	P	**P**	**02 06 33.5**	**+0.4**	
	baz=210							
RSSD	**Black Hills**	**93.12**	**43**	P	**P**	**02 06 34.4**	**+0.4**	
RSSD				IAmb	IAmb	02 06 48.2		
	comp=Z,26nm,1.3s							
RSSD	**Black Hills**	**93.12**	**43**	IAMs_20	IAMs_20	02 40 51.7		
	comp=Z,980nm,21.0s							
RSSD	**Black Hills**	**93.12**	**43**	P	**P**	**02 06 33.1**	**-0.9**	
	baz=241							
RSSD	**Black Hills**	**93.12**	**43**	P	**P**	**02 06 34.4**	**+0.4**	
RSSD				pmax	pmax			
	comp=Z,26nm,1.3s							
D22K	**Ayikyak River**	**93.16**	**8**	IAmb	IAmb	02 06 48.5		
	comp=Z,15nm,1.4s							
D22K	**Ayikyak River**	**93.16**	**8**	P	**P**	**02 06 33.7**	**+0.4**	
	baz=200							
C21K	**Knifeblade Rid**	**93.17**	**7**	P	**P**	**02 06 33.6**	**+0.2**	
	baz=198							
HHC	**Hu-ho-hao-te**	**93.19**	**313**	*e*P	**P**	**02 06 33.3**	**-0.9**	
HHC				sP	pwP	02 06 45.8	0.0	
HHC				SKS	**SKSac**	**02 17 10.0**	**+2.4**	
HHC				S	**S**	**02 17 36.4**	**-4.1**	
HHC				sS	sS	02 17 47.0	-0.5	
HHC				SS	**SS**	**02 23 57.3**	**+0.8**	
HHC				pmax	pmax			
	comp=Z,7.0nm,0.5s							
HHC				pmax	pmax			
	comp=Z,180nm,5.5s							
HHC				LR	LR			
	comp=Z,160nm,17.9s							
HHC				LR	LR			
	comp=Z,270nm,19.4s							
HHC				LR	LR			
	comp=Z,470nm,21.6s							
ATAH	**Atahualpa**	**93.24**	**99**	LR	LR	02 38 59.9		
	comp=Z,627nm,20.6s,baz=255,slow=29							
H29M	**Whitestone**	**93.28**	**14**	P	**P**	**02 06 33.9**	**-0.1**	
	baz=213							
TOLK	**Toolik Lake Re**	**93.36**	**9**	P	**P**	**02 06 34.6**	**+0.3**	
	baz=203							
F26K	**Sheenjek River**	**93.39**	**11**	P	**P**	**02 06 35.3**	**+0.9**	
	baz=208							
CBKS	**Cedar Bluff**	**93.47**	**49**	P	**P**	**02 06 34.9**	**-0.6**	
	baz=243							
D23K	**Nanushuk River**	**93.51**	**9**	P	**P**	**02 06 35.6**	**+0.7**	
	baz=202							
E25K	**Arctic Village**	**93.52**	**11**	IAmb	IAmb	02 06 50.4		
	comp=Z,19nm,1.5s							
E25K	**Arctic Village**	**93.52**	**11**	P	**P**	**02 06 36.2**	**+1.2**	
	baz=207							
A19K	**Wainwright**	**93.59**	**5**	P	**P**	**02 06 35.7**	**+0.5**	
	baz=193							
CMAR	**Chiang Mai Arr**	**93.62**	**288**	*i* P	**P**	**02 06 38.4**	**+1.8**	
CMAR				pmax	pmax			
	comp=Z,9.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**93.62**	**288**	P	**P**	**02 06 37.1**	**+0.5**	
	comp=Z,6.8nm,0.8s,baz=119,slow=3.0,SNR=34							
CMAR				LR	LR	02 50 15.5		
	comp=Z,50nm,18.2s,baz=120,slow=37							
	comp=Z,6.8nm,0.8s							
B21K	**Ikpikpuk River**	**93.63**	**7**	P	**P**	**02 06 36.5**	**+1.0**	
	baz=199							
B20K	**Meade River**	**93.74**	**6**	IAMs_20	IAMs_20	02 48 17.2		
	comp=Z,976nm,20.0s							
B20K	**Meade River**	**93.74**	**6**	P	**P**	**02 06 36.9**	**+1.0**	
	baz=196							
EPYK	**Eagle Plains**	**93.78**	**14**	IAmb	IAmb	02 06 52.1		
	comp=Z,16nm,1.3s							
EPYK	**Eagle Plains**	**93.78**	**14**	P	**P**	**02 06 36.7**	**+0.4**	
	baz=215							
H31M	**Peel River**	**93.89**	**16**	P	**P**	**02 06 36.4**	**-0.4**	
	baz=217							
G29M	**Pine Creek**	**93.94**	**14**	IAMs_20	IAMs_20	02 46 19.2		
	comp=Z,702nm,20.0s							
G29M	**Pine Creek**	**93.94**	**14**	P	**P**	**02 06 36.8**	**-0.2**	
	baz=214							
D24K	**Happy Valley**	**93.94**	**9**	IAMs_20	IAMs_20	02 43 15.5		
	comp=Z,823nm,22.0s							
D24K	**Happy Valley**	**93.94**	**9**	P	**P**	**02 06 38.0**	**+1.1**	
	baz=204							
BTO	**Baotou**	**94.11**	**312**	*e*P	**P**	**02 06 40.6**	**+2.1**	
BTO				pP	**sP**	**02 06 45.3**	**+1.4**	
BTO				sP	**pwP**	**02 06 47.6**	**-2.5**	
BTO				PP	**PP**	**02 10 30.6**	**+5.2**	
BTO				SKS	**SKSac**	**02 17 14.9**	**+2.2**	
BTO				sS	**sS**	**02 17 58.4**	**+2.8**	
BTO				pmax	pmax			
	comp=Z,27nm,0.8s							
BTO				pmax	pmax			
	comp=Z,350nm,10.2s							
BTO				LR	LR			
	comp=Z,470nm,20.0s							
BTO				LR	LR			
	comp=Z,640nm,20.5s							
BTO				LR	LR			
	comp=Z,920nm,20.9s							
F28M	**Old Crow**	**94.14**	**13**	IAmb	IAmb	02 07 03.1		
	comp=Z,14nm,1.4s							
F28M				IAMs_20	IAMs_20	02 49 05.6		
	comp=Z,984nm,20.0s							
F28M	**Old Crow**	**94.14**	**13**	P	**P**	**02 06 38.0**	**+0.1**	
	baz=212							
NATX	**Nacogdoches**	**94.16**	**57**	P	**P**	**02 06 37.9**	**-0.9**	
	baz=246							
OK033	**Mehan**	**94.25**	**53**	IAMs_20	IAMs_20	02 43 19.0		
	comp=Z,879nm,20.0s							
E27K	**Coleen River**	**94.29**	**12**	IAmb	IAmb	02 06 53.9		
	comp=Z,17nm,1.4s							
E27K				IAMs_20	IAMs_20	02 50 20.6		
	comp=Z,740nm,20.0s							
E27K	**Coleen River**	**94.29**	**12**	P	**P**	**02 06 39.0**	**+0.4**	
	baz=210							
C23K	**Itkillik River**	**94.33**	**8**	P	**P**	**02 06 39.6**	**+1.0**	
	baz=202							
G30M	**tAoh Zraii Nji**	**94.39**	**14**	IAMs_20	IAMs_20	02 48 47.3		
	comp=Z,641nm,20.0s							
G30M	**tAoh Zraii Nji**	**94.39**	**14**	P	**P**	**02 06 38.8**	**-0.3**	
	baz=215							
PZH	**PanZhiHua**	**94.40**	**297**	P	**P**	**02 06 40.6**	**+0.4**	
PZH				SKS	**SKSac**	**02 17 15.0**	**0.0**	
PZH				S	**ScS**	**02 17 58.8**	**+5.7**	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
PZH				pmax	pmax			
	comp=Z,140nm,6.1s							
PZH				LR	LR			
	comp=Z,170nm,23.5s							
PZH				LR	LR			
	comp=Z,160nm,24.0s							
PZH				LR	LR			
	comp=Z,240nm,22.5s							
B22K	**Teshekpuk Lake**	**94.45**	**7**	IAMs_20	IAMs_20	02 48 45.0		
	comp=Z,862nm,20.0s							
B22K	**Teshekpuk Lake**	**94.45**	**7**	P	**P**	**02 06 39.7**	**+0.5**	
	baz=200							
D25K	**Kavik River**	**94.47**	**10**	P	**P**	**02 06 39.9**	**+0.5**	
	baz=206							
C24K	**Franklin Bluff**	**94.48**	**9**	P	**P**	**02 06 39.5**	**+0.2**	
	baz=204							
CD2	**Chengdu**	**94.55**	**302**	P	**P**	**02 06 41.3**	**+0.6**	
CD2				SKS	**SKSac**	**02 17 15.3**	**-0.1**	
CD2				S	**S**	**02 17 53.1**	**+0.3**	
CD2				pmax	pmax			
	comp=Z,160nm,4.5s							
CD2				LR	LR			
	comp=Z,440nm,17.9s							
HDC	**Heredia**	**94.65**	**81**	IAMs_20	IAMs_20	02 38 43.6		
	comp=Z,826nm,18.0s							
G31M	**Satah River**	**94.80**	**15**	IAmb	IAmb	02 06 54.6		
	comp=Z,17nm,1.1s							
G31M				IAMs_20	IAMs_20	02 49 00.0		
	comp=Z,862nm,20.0s							
G31M	**Satah River**	**94.80**	**15**	P	**P**	**02 06 40.8**	**-0.1**	
	baz=217							
TEIG	**Tepich**	**94.84**	**70**	IAMs_20	IAMs_20	02 42 34.0		
	comp=Z,577nm,18.0s							
TEIG	**Tepich**	**94.84**	**70**	LR	LR	02 42 25.7		
	comp=Z,4μm,20.2s,slow=31							
A22K	**Sinclair Lake**	**94.91**	**6**	P	**P**	**02 06 41.6**	**+0.3**	
	baz=198							
LVC	**Limon Verde**	**94.94**	**117**	LR	LR	02 40 32.7		
	comp=Z,664nm,20.0s,baz=267,slow=30							
F30M	**Barrier River**	**95.01**	**14**	P	**P**	**02 06 42.1**	**+0.2**	
	baz=216							
TUL3	**Leonard**	**95.03**	**53**	P	**P**	**02 06 41.9**	**-0.8**	
	baz=245							
E28M	**Babbage River**	**95.05**	**12**	IAmb	IAmb	02 06 56.3		
	comp=Z,12nm,1.2s							
E28M				IAMs_20	IAMs_20	02 50 13.6		
	comp=Z,852nm,20.0s							
E28M	**Babbage River**	**95.05**	**12**	P	**P**	**02 06 41.9**	**-0.1**	
	baz=212							
A21K	**Barrow**	**95.05**	**6**	P	**P**	**02 06 41.9**	**0.0**	
	baz=197							
WRGLY	**Wrigley**	**95.09**	**21**	P	**P**	**02 06 41.9**	**-0.3**	
	baz=226							
DGMT	**Dagmar**	**95.15**	**39**	P	**P**	**02 06 42.8**	**-0.2**	
DGMT	**Dagmar**	**95.15**	**39**	P	**P**	**02 06 42.4**	**-0.6**	
	baz=241							
E29M	**Blow River**	**95.20**	**13**	IAMs_20	IAMs_20	02 49 18.5		
	comp=Z,941nm,20.0s							
E29M	**Blow River**	**95.20**	**13**	P	**P**	**02 06 42.9**	**+0.3**	
	baz=214							
C26K	**Camden Bay**	**95.23**	**10**	P	**P**	**02 06 43.2**	**+0.5**	
	baz=208							
D27M	**Malcolm River**	**95.32**	**12**	IAmb	IAmb	02 06 58.5		
	comp=Z,16nm,1.4s							
D27M				IAMs_20	IAMs_20	02 51 02.9		
	comp=Z,715nm,20.0s							
D27M	**Malcolm River**	**95.32**	**12**	P	**P**	**02 06 43.7**	**+0.4**	
	baz=211							
F31M	**Tsiigehtchic**	**95.34**	**15**	IAMs_20	IAMs_20	02 53 17.3		
	comp=Z,799nm,20.0s							
F31M	**Tsiigehtchic**	**95.34**	**15**	P	**P**	**02 06 43.2**	**-0.1**	
	baz=218							
YAK	**Yakutsk**	**95.59**	**337**	LR	LR	02 47 20.0		
	comp=Z,143nm,19.1s,baz=107,slow=34							
BGNE	**Belgrade**	**95.71**	**47**	P	**P**	**02 06 44.9**	**-0.8**	
	baz=244							
D28M	**Stokes Point**	**95.82**	**12**	P	**P**	**02 06 45.9**	**+0.4**	
	baz=213							
INK	**Inuvik**	**96.08**	**14**	P	**P**	**02 06 45.3**	**-1.4**	
INK				IAmb	IAmb	02 07 00.2		
	comp=Z,11nm,1.4s							
INK	**Inuvik**	**96.08**	**14**	P	**P**	**02 06 47.6**	**+0.9**	
	baz=218							
INK	**Inuvik**	**96.08**	**14**	P	**P**	**02 06 45.3**	**-1.4**	
INK				pmax	pmax			
	comp=Z,11nm,1.4s							
MIAR	**Mount Ida**	**96.13**	**55**	P	**P**	**02 06 47.2**	**-0.6**	
MIAR				IAMs_20	IAMs_20	02 43 09.0		
	comp=Z,921nm,20.0s							
MIAR	**Mount Ida**	**96.13**	**55**	P	**P**	**02 06 46.6**	**-1.1**	
	baz=246							
MIAR	**Mount Ida**	**96.13**	**55**	P	**P**	**02 06 47.2**	**-0.6**	
MIAR				pmax	pmax			
	comp=Z,10.0nm,1.3s							
TNCH	**TengChong**	**96.51**	**294**	*e*P	**P**	**02 06 49.3**	**-0.6**	
TNCH				SKS	**SKSac**	**02 17 25.5**	**-0.8**	
TNCH				S	**S**	**02 18 07.4**	**-2.9**	
TNCH				pmax	pmax			
	comp=Z,220nm,5.1s							
TNCH				LR	LR			
	comp=Z,370nm,18.5s							
LZH	**Lanzhou**	**96.58**	**306**	*e*P	**P**	**02 06 50.8**	**+0.8**	
LZH				SKS	**SKSac**	**02 17 25.6**	**-0.6**	
LZH				S	**ScS**	**02 18 16.5**	**+5.6**	
LZH				pmax	pmax			
	comp=Z,18nm,1.1s							
LZH				pmax	pmax			
	comp=Z,240nm,5.1s							
LZH				LR	LR			
	comp=Z,360nm,19.0s							
LZH				LR	LR			
	comp=Z,530nm,18.0s							
LZH				LR	LR			
	comp=Z,800nm,20.3s							
ECSD	**EROS Data Cent**	**97.72**	**46**	IAMs_20	IAMs_20	02 43 55.8		
	comp=Z,940nm,21.0s							
YKA	**Yellowknife Ar**	**97.73**	**24**	P	**P**	**02 06 53.3**	**-1.0**	
	comp=Z,2.1nm,0.9s,baz=239,slow=4.0,SNR=23							
YKA				LR	LR	02 45 59.5		
	comp=Z,339nm,19.6s,baz=242,slow=32							
	comp=Z,2.1nm,0.9s							
LPAZ	**La Paz**	**98.48**	**112**	LR	LR	02 44 06.0		
	comp=Z,165nm,19.6s,baz=216,slow=31							
C36M	**Paulatuk**	**99.15**	**16**	IAMs_20	IAMs_20	02 53 21.0		
	comp=Z,690nm,20.0s							
C36M	**Paulatuk**	**99.15**	**16**	P	**Pdif**	**02 07 01.3**	**+0.8**	
	baz=226							
OXF	**Oxford**	**99.29**	**57**	IAMs_20	IAMs_20	02 46 38.9		
	comp=Z,966nm,20.0s							
SONM	**Songino Array**	**99.57**	**318**	P	**Pdif**	**02 07 02.0**	**-1.1**	
	comp=Z,0.2nm,0.4s,baz=113,slow=3.3,SNR=1.8							
	comp=Z,0.2nm,0.4s							
PLAL	**Pickwick Lake**	**100.48**	**56**	IAMs_20	IAMs_20	02 47 25.5		
	comp=Z,766nm,20.0s							
LRAL	**Lakeview Retre**	**100.64**	**59**	IAMs_20	IAMs_20	03 00 57.4		
	comp=Z,740nm,18.0s							
LRAL	**Lakeview Retre**	**100.64**	**59**	P	**Pdif**	**02 07 06.5**	**-1.5**	
	baz=250							
A36M	**Sachs Harbour**	**100.72**	**14**	IAMs_20	IAMs_20	02 52 22.3		
	comp=Z,620nm,20.0s							
A36M	**Sachs Harbour**	**100.72**	**14**	P	**Pdif**	**02 07 07.2**	**-0.2**	
	baz=226							
WVT	**Waverly**	**101.08**	**55**	IAMs_20	IAMs_20	02 47 08.0		
	comp=Z,770nm,20.0s							
JFWS	**Jewell Farm**	**101.70**	**48**	IAMs_20	IAMs_20	02 46 25.4		
	comp=Z,875nm,20.0s							
JFWS	**Jewell Farm**	**101.70**	**48**	P	**Pdif**	**02 07 11.7**	**-0.8**	
	baz=250							
EYMN	**Ely**	**102.64**	**43**	IAMs_20	IAMs_20	02 47 36.6		
	comp=Z,772nm,20.0s							
EYMN	**Ely**	**102.64**	**43**	P	**Pdif**	**02 07 15.5**	**-1.0**	
	baz=250							
SFIN	**Lafayette**	**103.06**	**52**	P	**Pdif**	**02 07 17.7**	**-0.9**	
	baz=251							
L44A	**Lake County Fo**	**103.07**	**50**	P	**Pdif**	**02 07 17.8**	**-0.9**	
	baz=251							
DWPF	**Disney Wildern**	**103.49**	**65**	P	**Pdif**	**02 07 19.5**	**-1.3**	
	baz=251							
GOGA	**Godfrey**	**103.55**	**59**	IAMs_20	IAMs_20	02 49 36.6		
	comp=Z,704nm,20.0s							
GOGA	**Godfrey**	**103.55**	**59**	P	**Pdif**	**02 07 20.1**	**-0.9**	
	baz=251							
TZTN	**Tazewell**	**104.47**	**56**	IAMs_20	IAMs_20	02 57 08.1		
	comp=Z,834nm,19.0s							
TZTN	**Tazewell**	**104.47**	**56**	P	**Pdif**	**02 07 24.6**	**-0.4**	
	baz=252							
P49A	**Miami Univ. Ec**	**104.52**	**53**	IAMs_20	IAMs_20	02 48 20.0		
	comp=Z,930nm,21.0s							
ACSO	**Alum Creek Sta**	**106.00**	**53**	P	**PKiKP**	**02 11 43.6**	**-0.4**	
	baz=253							
SAML	**Samuel**	**106.10**	**107**	IAMs_20	IAMs_20	02 47 07.3		
	comp=Z,552nm,20.0s							
P52A	**Corning**	**106.46**	**54**	P	**PKiKP**	**02 11 45.1**	**+0.3**	
	baz=254							
BLA	**Blacksburg**	**107.07**	**56**	P	**PKiKP**	**02 11 45.3**	**-0.8**	
	baz=254							
O53A	**New Philadelph**	**107.31**	**53**	P	**PKiKP**	**02 11 45.9**	**-0.5**	
	baz=254							
M53A	**WI Miller and**	**108.02**	**52**	P	**PKiKP**	**02 11 46.5**	**-1.1**	
	baz=255							
MCWV	**Mont Chateau**	**108.17**	**54**	P	**PKiKP**	**02 11 46.8**	**-1.2**	
	baz=255							
CNNC	**Cliffs of the**	**108.50**	**59**	IAMs_20	IAMs_20	03 02 46.5		
	comp=Z,505nm,18.0s							
CBN	**Corbin Frederi**	**109.66**	**56**	IAMs_20	IAMs_20	03 00 24.3		
	comp=Z,642nm,18.0s							
SSPA	**Standing Stone**	**109.86**	**53**	P	**PKiKP**	**02 11 50.3**	**-0.8**	
	baz=256							
WMQ	**Urumqi**	**110.76**	**310**	*e*PKP	**PKiKP**	**02 11 52.8**	**0.0**	
WMQ				LR	LR			
	comp=Z,300nm,20.1s							
BINY	**Binghamton**	**111.61**	**52**	P	**PKiKP**	**02 11 53.5**	**-0.9**	
	baz=258							
PAL	**Palisades**	**112.89**	**54**	P	**PKiKP**	**02 11 56.1**	**-0.7**	
	baz=259							
LONY	**Lake Ozonia**	**113.08**	**50**	P	**PKiKP**	**02 11 56.1**	**-1.0**	
	baz=260							
L61B	**Northampton**	**114.06**	**52**	P	PKPdf	02 11 58.1	-0.9	
	baz=260							
ZALV	**Zalesovo Beam**	**114.29**	**320**	PKP	PKPdf	02 11 58.3	-0.7	
	comp=Z,1.0nm,0.6s,baz=40,slow=2.5,SNR=4.9							
HRV	**Adam Dziewonsk**	**114.89**	**52**	P	PKPdf	02 11 59.8	-0.8	
	baz=261							
LBNH	**Lisbon**	**114.89**	**51**	P	PKPdf	02 12 00.2	-0.4	
	baz=262							
MK31	**Makanchi Array**	**115.03**	**312**	⇓*i*PKiKP	**PKPdf**	**02 11 58.8**	**-2.0**	
MKAR	**Makanchi Array**	**115.03**	**312**	PKP	**PKPdf**	**02 11 59.2**	**-1.6**	
	comp=Z,0.7nm,0.6s,baz=23,slow=0.1,SNR=7.7							
KURK	**Kurchatov**	**117.82**	**316**	PKPdf	**PKPdf**	**02 12 04.4**	**-1.5**	
KURK	**Kurchatov**	**117.82**	**316**	⇑*i*PKiKP	**PKPdf**	**02 12 04.3**	**-1.7**	
KURK				pmax	pmax			
	comp=Z,10.0nm,2.5s							
KURBB	**Kurchatov Arra**	**117.87**	**316**	PKP	**PKPdf**	**02 12 04.4**	**-1.7**	
	comp=Z,1.5nm,0.8s,baz=100,slow=1.9,SNR=14							
AAK	**Ala-Archa**	**120.11**	**307**		**PKPdf**	**02 12 11.0**	**+0.1**	
AAK	**Ala-Archa**	**120.11**	**307**	⇑*i*PKiKP	**PKPdf**	**02 12 10.6**	**-0.3**	
AAK				pmax	pmax			
	comp=Z,2.0nm,1.3s							
BVAR	**Borovoye Array**	**122.89**	**319**	PKP	**PKPdf**	**02 12 14.7**	**-0.9**	
	comp=Z,2.9nm,0.8s,baz=74,slow=2.1,SNR=17							
BRVK	**Borovoye**	**122.95**	**319**	PKPdf	**PKPdf**	**02 12 14.8**	**-1.0**	
BRVK	**Borovoye**	**122.95**	**319**	⇓*i*PKiKP	**PKPdf**	**02 12 15.1**	**-0.7**	
BRVK				pmax	pmax			
	comp=Z,13nm,2.5s							
KBL	**Kabul**	**123.59**	**297**	PKPdf	**PKPdf**	**02 12 17.4**	**-0.5**	
KBL	**Kabul**	**123.59**	**297**	PKiKP	**PKPdf**	**02 12 17.4**	**-0.5**	
SPITS	**Spitsbergen Ar**	**124.62**	**357**	PKP	**PKPdf**	**02 12 17.6**	**-0.8**	
	comp=Z,14nm,1.0s,baz=291,slow=4.5,SNR=2.4							
BOSA	**Boshof**	**124.99**	**202**	PKP	**PKPdf**	**02 12 22.1**	**+1.3**	
	comp=Z,3.5nm,1.0s,baz=256,slow=6.5,SNR=3.9							
ARU	**Arti**	**128.95**	**325**	*i* PKiKP	**PKPdf**	**02 12 26.3**	**-0.8**	
ARU						02 19 37.2		
ARCES	**ARCESS Array B**	**131.97**	**350**	PKP	**PKPdf**	**02 12 33.4**	**+0.9**	
	comp=Z,3.2nm,0.9s,baz=309,slow=0.6,SNR=1.6							
GEYT	**Alibeck**	**132.54**	**301**	PKP	**PKPdf**	**02 12 34.3**	**-0.3**	
	comp=Z,3.6nm,0.9s,baz=272,slow=8.8,SNR=6.1							
KLMR	**Klimovskoe**	**135.39**	**337**	*e*PKiKP	**PKPdf**	**02 12 36.9**	**-2.2**	
KLMR				pmax	pmax			
	comp=Z,19nm,1.4s							
VALR	**Valaam**	**137.84**	**342**	⇑*i*PKiKP	**PKPdf**	**02 12 45.3**	**+1.6**
FINES	**FINESS Array B**	**139.05**	**345**	PKiKP	**PKPdf**	**02 12 45.0**	**-0.9**
FINES	**FINESS Array B**	**139.05**	**345**	PKP	**PKPdf**	**02 12 45.0**	**-0.9**
	comp=Z,4.8nm,1.1s,baz=25,slow=6.3,SNR=3.8							
MAK	**Makhachkala**	**139.78**	**310**	*i* P	**Pdif**	**02 09 54.8**	**-7.0**	
MAK				*i*		02 12 44.3		
MAK				*e*PPP	PPP	02 18 43.5		
MAK				*e*SSS	SSS	02 39 08.5		
MAK				pmax	pmax			
	comp=Z,118nm,1.2s							
ATD	**Arta Tunnel**	**142.21**	**259**	IAMs_20	IAMs_20	03 13 49.3		
	comp=Z,427nm,20.0s							
HFS	**Hagfors**	**142.52**	**353**	PKhKP	PKPpre	02 12 47.2		
	comp=Z,1.8nm,0.6s,baz=96,slow=4.5,SNR=6.6							
KBZ	**Khabaz**	**142.73**	**313**	⇓*e*PKiKP	**PKPdf**	**02 12 53.1**	**0.0**
KBZ	**Khabaz**	**142.73**	**313**	PKP	**PKPdf**	**02 12 53.3**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=98,slow=7.1,SNR=3.1							
KIV	**Kislovodsk**	**142.79**	**313**	*i* PKiKP	**PKPdf**	**02 12 55.1**	**+1.8**
KIV				pmax	pmax			
	comp=Z,6.0nm,1.1s							
KIV				MLR	MLR			
	comp=Z,433nm,24.0s							
RAYN	**Ar Rayn**	**142.91**	**279**		**PKPdf**	**02 12 51.0**	**-3.1**
RAYN	**Ar Rayn**	**142.91**	**279**	PKiKP	**PKPdf**	**02 12 51.0**	**-3.1**
ERBR	**Yeremizino-Bor**	**143.51**	**317**	*i* PKiKP	PKPbc	02 12 52.7	+1.0
ERBR				pmax	pmax			
	comp=Z,100nm,3.3s							
LABN	**Labinsk**	**143.81**	**315**	*i* PKiKP	PKPab	02 12 53.1	+1.1
LABN				pmax	pmax			
	comp=Z,67nm,2.5s							
SOC	**Sochi**	**144.91**	**314**	*i* PKiKP	PKPbc	02 12 57.6	+1.5
SOC				*e*		02 16 09.5		
SOC				*e*SSS	SSS	02 40 34.7		
SOC				MLR	MLR			
	comp=Z,310nm,19.0s							
MBAR	**Mbarara**	**145.62**	**230**	*ce*PKiKP	**PKPbc**	**02 13 00.7**	**+1.2**
ANN	**Anapa**	**145.84**	**317**	*i* PKiKP	**PKPdf**	**02 12 58.6**	**+0.1**
ANN				pmax	pmax			
	comp=Z,108nm,1.1s							
SUW	**Suwalki**	**146.25**	**341**	*e*PKP	**PKPbc**	**02 13 01.4**	**+1.4**
KLNR	**Kaliningrad**	**146.56**	**344**	*ce*PKP2	**PKPdf**	**02 12 59.9**	**+0.5**
AKASG	**Malin Array Be**	**146.65**	**332**	PKPbc	**PKPdf**	**02 12 59.9**	**+0.2**
	comp=Z,14nm,0.8s,baz=38,slow=3.9,SNR=45							
AKBB	**Malin Array Si**	**146.65**	**332**	*de*PKiKP	**PKPdf**	**02 12 59.1**	**-0.6**
KIEV	**Kiev**	**146.66**	**332**	⇓P	**PKPdf**	**02 13 00.1**	**+0.5**
KIEV	**Kiev**	**146.66**	**332**		**PKPdf**	**02 13 00.2**	**+0.5**
KIEV	**Kiev**	**146.66**	**332**

HARR	Harsova	151.47	324	⇑PKIKP	PKPbc	02	13	12.7 -1.0
TURR	Turia	151.49	328	⇑P	PKPbc	02	13	13.7 -0.1
BISRR	Bisoca	151.51	327	⇑P	PKPdf	02	13	11.8 +4.0
MMAI	Mount Meron Ar	151.52	297	PKPbc	PKPbc	02	13	13.6 -0.8
	comp=Z,23nm,1.0s,baz=77,slow=3.7,SNR=11							
OZUR		151.57	329	⇑P	PKPbc	02	13	13.8 -0.2
MORC	Moravsky Berou	151.63	343	⇑P	PKPbc	02	13	14.1 +0.1
MORC	Moravsky Berou	151.63	343	*e*PKP	PKPbc	02	13	13.8 -0.2
MORC	Moravsky Berou	151.63	343	⇑PKIKP	PKPbc	02	13	14.1 +0.1
PVCC	Panska Ves	151.64	347	*e*PKP	PKPbc	02	13	14.3 +0.3
PVCC	Panska Ves	151.64	347	*e*PKIKP	PKPbc	02	13	14.3 +0.3
DOPR	Dopca	151.86	329	⇑P	PKPbc	02	13	14.9 +0.3
MAUC	Maruska	151.93	342	*e*PKP	PKPbc	02	13	14.4 -0.3
MLR	Muntele Rosu	151.93	328	⇑P	PKPbc	02	13	13.9 -1.1
MLR	Muntele Rosu	151.93	328	⇑PKIKP	PKPbc	02	13	13.9 -1.1
CJR	Cluj-Napoca	152.10	332	⇑P	PKPbc	02	13	13.9 -1.3
CJR	Cluj-Napoca	152.10	332	⇑PKIKP	PKPbc	02	13	13.9 -1.3
GOPC	GO Pecny, Ondr	152.18	346	AMS	AMS	03	20	50.0
	comp=Z,600nm,15.5s							
VRAC	Vranov	152.31	344	*e*PKP	PKPbc	02	13	15.4 -0.2
VRAC				*e*		02	13	25.1
VRAC				*e*		02	13	38.9
MARR	Marisel-Cluj	152.34	333	⇓P	PKPbc	02	13	15.2 -0.6
VYHS	Vyhne	152.40	340	*e*PKIKP	PKPbc	02	13	16.3 +0.5
VYHS	Vyhne	152.40	340	*e*PKP	PKPbc	02	13	16.3 +0.5
VYHS				*e*		02	13	26.1
VYHS				*ep*	sPKPab	02	13	39.4 +8.2
DRGR		152.42	333	⇑P	PKPbc	02	13	15.4 -0.6
DRGR		152.42	333	⇑PKIKP	PKPbc	02	13	15.4 -0.6
JAVC	Velka Javorina	152.43	342	*e*PKP	PKPbc	02	13	16.3 +0.4
JAVC				*e*		02	13	26.7
JAVC				*e*		02	13	40.3
KRUC	Moravsky	152.59	344	*e*PKP	PKPbc	02	13	15.8 -0.4
KRUC				*e*		02	13	39.6
ARR	Arges	152.66	329	⇓P	PKPbc	02	13	16.6 +0.1
ZVC	Zvikov	152.75	347	*e*PKP	PKPbc	02	13	16.5 0.0
ZVC				AMS	AMS	03	21	20.0
	comp=Z,500nm,21.9s							
MODS	Modra-Piesok	152.98	342	*e*PKIKP	PKPbc	02	13	17.3 +0.2
MODS	Modra-Piesok	152.98	342	*e*PKP	PKPbc	02	13	17.3 +0.2
MODS				*e*		02	13	29.7
MODS				*ep*	sPKPab	02	13	42.0 +8.3
KHC	Kasperske Hory	153.17	347	*e*PKP	PKPbc	02	13	17.6 +0.1
KHC				*ex*	x	02	13	41.0
KHC				AMS	AMS	03	21	50.0
	comp=Z,600nm,16.8s							
KHC	Kasperske Hory	153.17	347	*e*PKIKP	PKPbc	02	13	17.6 +0.1
KHC				MLR	MLR			
	comp=Z,600nm,16.8s							
SIRR	Siria	153.27	334	⇑P	PKPbc	02	13	17.1 -0.7
GERES	GERESS Array B	153.42	347	PKP	PKPdf	02	13	10.2 -0.3
	comp=Z,1.0nm,0.9s,baz=39,slow=6.3,SNR=3.7							
GERES				PKPbc	PKPbc	02	13	18.1 -0.1
	comp=Z,1.9nm,1.0s,baz=46,slow=6.1,SNR=5.9							
SURR	Surduc	153.49	333	⇓P	PKPbc	02	13	17.9 -0.3
CONA	Conrad Observa	153.77	343	*ep*PKP	PKPab	02	13	33.0 +1.2
	comp=Z,12nm,1.2s							
RONA	Rosalia, Austr	153.87	343	*ep*PKP	PKPab	02	13	32.3 +0.2
	comp=Z,5.4nm,0.8s							
ARSA	Arzberg	154.49	343	*ep*PKP	PKPab	02	13	36.3 +1.6
	comp=Z,5.8nm,0.9s							
BIOA	Bad Ischl, Aus	154.53	346	*e*PKP	PKPab	02	13	34.1 -0.7
	comp=Z,5.1nm,1.1s							
FRGS	Fruska Gora	154.92	335	⇑P	PKPdf	02	12	59.9 -13
SOKA	Soboth	155.15	343	*ep*PKP	PKPab	02	13	37.7 +0.1
	comp=Z,3.3nm,0.7s							
WTTA	Wattenberg	155.33	349	*i* pPKP	PKPab	02	13	38.4 -0.1
	comp=Z,3.2nm,0.9s							
MOTA	Moosalm	155.34	350	*ep*PKP	PKPab	02	13	38.5 0.0
	comp=Z,7.1nm,1.2s							
OBKA	Obir	155.43	344	*e*PKP	PKPab	02	13	38.6 -0.2
	comp=Z,2.2nm,1.0s							
ABTA	Abfaltersbach	155.66	347	*e*PKP	PKPab	02	13	39.5 -0.4
	comp=Z,1.0nm,0.5s							
DBIC	Dimbokro	161.08	148	PKP	PKPdf	02	13	21.3 +0.2
	comp=Z,5.4nm,1.1s,baz=304,slow=2.7,SNR=3.6							
DBIC				PKPab	PKPab	02	14	03.4 -0.6
	comp=Z,4.2nm,1.0s,baz=282,slow=3.0,SNR=3.3							
ESDC	Sonseca Array	161.82	23	PKPab	PKPab	02	14	05.7 -1.0
	comp=Z,1.3nm,1.1s,baz=320,slow=5.8,SNR=4.0							
TORD	Torodi Ar. Bea	169.59	162	PKP	PKPdf	02	13	26.6 -1.6
	comp=Z,1.2nm,0.9s,baz=247,slow=5.6,SNR=6.4							
TORD				PKPab	PKPab	02	14	42.0 +0.7
	comp=Z,0.9nm,0.7s,baz=165,slow=2.7,SNR=4.2							

IDC 25 01:53:59.9±9.3, 5°27S×150°87E, h63km±67km, mb3.3/2, mbtmp3.7/3, ML1.7/1, Error ellipse: s-maj=116.4km s-min=57.0km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.51**	**222**	P	Pn	01 55 18.8	-0.7
	1.5nm,0.3s,baz=49,slow=20,SNR=2.0						
PMG				S	Sn	01 56 22.5	+0.9
	5.6nm,0.4s,baz=37,slow=20,SNR=1.8						
	5.1nm,0.3s						
WRA	**Warramunga Arr**	**21.71**	**226**	P	P	01 58 46.3	+0.3
	2.0nm,0.7s,baz=52,slow=10.0,SNR=19						
	2.0nm,0.7s						
ASAR	**Alice Springs**	**24.53**	**220**	P	P	01 59 13.9	+0.2
	0.8nm,0.6s,baz=55,slow=9.2,SNR=15						
	0.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**148.61**	**287**	PKPbc	PKPbc	02 13 40.1	-0.9
	2.5nm,1.2s,baz=78,slow=2.3,SNR=7.7						

*IDC **25** 01:56:13.2±1.2, 34°.76N×23°.75E, h0km, mb3.8/10, mbtmp3.8/13, ML3.2/3, MS3.5/3, Error ellipse: s-maj=24.5km s-min=11.2km az=164.0*
*ATH **25** 01:56:13.1, 34°.62N×23°.65E, h10km±2km, ML3.5/4, Error ellipse: s-maj=4.4km s-min=2.4km az=17.0*
*THE **25** 01:56:14.0, 34°.64N×23°.69E, h9km±1km, ML3.0/4, Error ellipse: s-maj=1.7km s-min=1.1km az=27.0*
ISC 25 01:56:15.6±1.4, 34°.67N±0°.06×23°.80E±0°.05, h15km±8km, n51, σ1§47/60, mb3.7/10, MS3.9/3, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.29**	**54**	P	**Pb**	**01 56 21.8**	**-0.7**
GVD				S	**Sg**	**01 56 27.3**	**+1.4**
GVD	**Gavdhos**	**0.29**	**54**	P	**Pg**	**01 56 21.6**	**-0.1**
GVD				S	**Sg**	**01 56 26.5**	**+0.6**
GVD				AML	AML	01 56 27.5	
GVD				AML	AML	01 56 28.3	
	comp=E,87224μm,0.3s						
IMMV	**Iera Moni Meta**	**0.80**	**10**	P	**Pg**	**01 56 29.7**	**-1.5**
IMMV				S	**Sb**	**01 56 42.6**	**+0.6**
	comp=E,5μm,0.2s						
IMMV	**Iera Moni Meta**	**0.80**	**10**	P	**Pg**	**01 56 29.4**	**-1.8**
IMMV				S	**Sg**	**01 56 42.1**	**+0.3**
IMMV				AML	AML	01 56 42.7	
	comp=N,8451μm,0.2s						
IMMV				AML	AML	01 56 43.5	
	comp=E,9497μm,0.2s						
CHAN	**Chania**	**0.87**	**13**	P	**Pg**	**01 56 31.0**	**-1.5**
CHAN				S	**Sg**	**01 56 44.5**	**+0.5**
CHAN				AML	AML	01 56 47.3	
	comp=N,3735μm,0.2s						
CHAN				AML	AML	01 56 49.4	
	comp=E,3898μm,0.3s						
TMBK	**Timbaki Herakl**	**0.89**	**63**	P	**Pb**	**01 56 32.7**	**0.0**
TMBK				S	**Sn**	**01 56 47.1**	**+0.9**
TMBK	**Timbaki Herakl**	**0.89**	**63**	P	**Pb**	**01 56 32.5**	**-0.2**
TMBK				S	**Sn**	**01 56 47.1**	**+0.9**
RODP	**Rodopos**	**0.89**	**358**	P	**Pg**	**01 56 31.2**	**-1.7**
RODP				S	**Sg**	**01 56 45.2**	**+0.6**
	comp=E,410nm,0.3s						
PRNS	**Prines Rethymn**	**0.90**	**39**	P	**Pg**	**01 56 30.9**	**-2.2**
PRNS				S	**Sb**	**01 56 44.8**	**0.0**
	comp=E,832nm,0.3s						
IDI	**Anoyia**	**1.09**	**55**	P	**Pg**	**01 56 35.0**	**-1.6**
IDI				S	**Sn**	**01 56 52.1**	**+0.9**
	comp=E,408nm,0.4s						
IDI	**Anoyia**	**1.09**	**55**	Pg	**Pg**	**01 56 35.2**	**-1.4**
	comp=E,0.1nm,0.3s,baz=234,slow=11,SNR=70						
IDI				Lg	Lg	01 56 47.9	
	comp=E,1.3nm,0.3s,baz=308,slow=15,SNR=13						
IDI	**Anoyia**	**1.09**	**55**	P	**Pg**	**01 56 35.0**	**-1.6**
IDI				S	**Sn**	**01 56 51.5**	**+0.4**
IDI				AML	AML	01 56 55.9	
	comp=E,875μm,0.6s						
IDI				AML	AML	01 56 60.0	
	comp=N,942μm,0.3s						

KSTL	Kastelli Herak	1.22	58	P		Pg	01	56 40.0 +0.9
KRND	KRANIDI	2.76	349	P		Pn	01	57 01.8 +2.5
APE	Apeiranthos	2.78	30	P		Pn	01	57 00.7 +1.1
KARP	Karpathos	2.89	71	P		Pb	01	57 04.3 -2.6
DION	Dionisos Attik	3.40	2	P		Pn	01	57 10.5 +2.3
GUR	Goura	3.47	341	P		Pn	01	57 11.8 +2.6
VILL	Villia	3.51	354	P		Pn	01	57 10.9 +1.2
KLV	Kalavryta, Ach	3.62	339	P		Pn	01	57 13.0 +1.8
DRO	Drossia	3.69	333	P		Pn	01	57 14.7 +2.6
AXAR	Agios Charalam	4.19	348	P		Pn	01	57 20.4 +1.4
ANX	Ano Chora	4.20	339	P		Pn	01	57 21.9 +2.7
AGG	Agios Georgios	4.50	345	P		Pn	01	57 24.6 +1.3
MAKR	Makrakomi, Fth	4.54	343	P		Pn	01	57 26.0 +2.2
NEO	Neokhori	4.65	354	P		Pn	01	57 26.0 +0.6
BRTR	Keskin Array B	9.33	54	Pn		Pn	01	58 30.8 +1.1
	baz=231,slow=14,SNR=3.1							
	comp=N,0.4nm,0.7s							
MMAI	Mount Meron Ar	9.79	96	Pn		Pn	01	58 36.7 +0.8
	comp=N,0.7nm,0.3s,baz=304,slow=12,SNR=6.2							
	comp=N,4.5nm,0.8s							
EIL	Elat	10.68	115	Pn		Pn	01	58 48.0 0.0
	comp=N,0.3nm,0.3s,baz=131,slow=10,SNR=4.2							
	comp=N,1.8nm,0.5s							
KBA	Koelnbreinsper	14.69	331	*ep*P		P	01	59 51.6 +2.5
	comp=N,1.0nm,0.4s							
ABTA	Abfaltersbach	14.78	328	*i* pP		P	01	59 51.6 +1.6
	comp=N,1.8nm,0.7s							
MOA	Molln	14.98	334	*e*P		P	01	59 53.1 +1.0
	comp=N,1.9nm,0.7s							
BIOA	Bad Ischl, Aus	15.07	333	*ep*P		P	01	59 54.2 +0.9
	comp=N,0.8nm,0.4s							
LESA	Schwarzleotal	15.24	330	*ep*P		P	01	59 56.2 +1.1
	comp=N,5.2nm,0.5s							
VRAC	Vranov	15.57	342	Pn		P	01	59 58.2 -0.5
	comp=N,0.3nm,0.3s,baz=158,slow=9.8,SNR=5.2							
WATA	Walderalm	15.64	328	*e*P		P	02	00 01.8 +2.1
	comp=N,0.6nm,0.2s							
SQTA	Sankt Quirin	15.71	327	*ep*P		P	02	00 02.0 +1.5
	comp=N,0.5nm,0.3s							
GERES	GERESS Array B	16.02	335	Pn		P	02	00 04.1 +0.3
	comp=N,0.1nm,0.3s,baz=150,slow=14,SNR=5.6							
RETA	Reutte	16.11	327	*i* pP		P	02	00 06.9 +2.1
	comp=N,1.3nm,0.6s							
ESDC	Sonseca Array	22.64	291	P		P	02	01 16.7 +0.6
	comp=N,0.6nm,0.7s,baz=78,slow=9.1,SNR=5.6							
	comp=N,0.6nm,0.7s							
HFS	Hagfors	26.32	349	P		P	02	01 48.9 -1.6
	comp=N,1.2nm,0.4s,baz=148,slow=12,SNR=14							
	comp=N,1.2nm,0.4s							
FINES	FINESS Array B	26.83	2	P		P	02	01 53.8 -1.3
	comp=N,1.4nm,1.0s,baz=186,slow=15,SNR=1.2							
	comp=N,1.4nm,1.0s							
NOA	NORSAR Array B	27.61	347	P		P	02	02 00.7 -1.4
	comp=N,0.7nm,0.8s,baz=150,slow=9.7,SNR=1.7							
NOA				LR		LR	02	15 18.5
	comp=N,15nm,18.2s,baz=335,slow=42							
	comp=N,0.7nm,0.8s							
EKA	Eskdalemuir Ar	27.81	326	P		P	02	02 02.8 -1.2
	comp=N,0.2nm,0.4s,baz=124,slow=9.7,SNR=1.6							
	comp=N,0.2nm,0.4s							
TORD	Torodi Ar. Bea	29.32	228	P		P	02	02 17.4 -0.5
	comp=N,0.5nm,0.7s,baz=34,slow=9.1,SNR=4.4							
	comp=N,0.5nm,0.7s							
KURBB	Kurchatov Arra	42.30	51	P		P	02	04 06.8 -1.6
	comp=N,0.7nm,0.3s,baz=275,slow=8.5,SNR=2.6							
	comp=N,0.7nm,0.3s							
SPITS	Spitsbergen Ar	43.73	358	P		P	02	04 19.2 -0.6
	comp=N,11nm,1.0s,baz=171,slow=9.8,SNR=2.2							
	comp=N,11nm,1.0s							
MKAR	Makanchi Array	44.97	56	P		P	02	04 30.2 0.0
	comp=N,1.2nm,0.4s,baz=269,slow=7.7,SNR=30							
	comp=N,1.2nm,0.4s							
ZALV	Zalesovo Beam	46.15	46	P		P	02	04 38.7 -0.6
	comp=N,4.4nm,0.3s,baz=254,slow=7.8,SNR=2.4							
	comp=N,0.4nm,0.3s							
LSZ	Lusaka	49.84	174	LR		LR	02	26 22.5
	comp=N,129nm,21.6s,baz=139,slow=36							
TSUM	Tsumeb	53.90	187	LR		LR	02	31 14.6
	comp=N,98nm,20.4s,baz=120,slow=39							

*IDC **25** 02:17:29.0±1.3, 5°.92S×142°.81E, h0km, mb3.8/3, mbtmp3.8/6, ML3.6/1, Error ellipse: s-maj=38.7km s-min=23.1km az=99.0*
*NEIC **25** 02:17:33.6±1.5, 5°.85S±0°.1×142°.0E±0°.2, h10km±1km, mb4.0/7, Error ellipse: s-maj=33.5km s-min=5.8km az=120.0*
ISC 25 02:17:32.5±0.8, 6°.13S±0°.09×142°.6E±0°.1, h28km, n17, σ1§84/18, mb4.0/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.55**	**126**	Pn	**Pn**	**02 18 53.0**	**-0.4**
	2.8nm,0.3s,baz=93,slow=22,SNR=1.3						
MANU	**Manus Island**	**6.24**	**50**	Pn	Pb	02 19 09.8	-11
MTN	**Manton Dam**	**13.14**	**239**	Pn	**Pn**	**02 20 36.6**	**-0.9**
WB0	**Warramunga Arr**	**15.74**	**210**	Pn	**P**	**02 21 14.5**	**-1.6**
WB2	**Warramunga Arr**	**15.91**	**210**	Pn	**P**	**02 21 16.5**	**-1.5**
WB2				IAmb	IAmb	02 21 24.6	
	comp=Z,18nm,1.2s						
WRA	**Warramunga Arr**	**15.91**	**210**	Pn	**P**	**02 21 16.5**	**-1.5**
WRA	**Warramunga Arr**	**15.91**	**210**	Pn	**Pn**	**02 21 16.0**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=30,slow=12,SNR=14						
WRA				Sn	**Sn**	**02 24 11.2**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=38,slow=23,SNR=2.1						
WRA				Lg	Lg	02 26 03.1	
	comp=Z,0.1nm,0.3s,baz=38,slow=26,SNR=4.6						
	comp=Z,0.6nm,0.4s						
AS31	**Alice Springs**	**19.34**	**205**		**Pn**	**02 22 00.9**	**+3.8**
AS31				IAmb	IAmb	02 22 04.0	
	comp=Z,5.6nm,1.4s						
ASAR	**Alice Springs**	**19.35**	**205**		**Pn**	**02 22 00.3**	**+3.1**
ASAR	**Alice Springs**	**19.35**	**205**	P	**Pn**	**02 22 00.1**	**+2.9**
	comp=Z,7.7nm,1.0s,baz=36,slow=11,SNR=33						
ASAR				S	**S**	**02 25 31.1**	**-2.3**
	comp=Z,0.2nm,0.6s,baz=20,slow=28,SNR=2.1						
ASAR				Lg	Lg	02 27 51.3	
	baz=21,slow=29,SNR=4.1						
MK31	**Makanchi Array**	**74.86**	**322**	P	**P**	**02 29 10.4**	**-0.3**
MK31				IAmb	IAmb	02 29 13.7	
	comp=Z,1.9nm,1.4s						
MKAR	**Makanchi Array**	**74.86**	**322**	P	**P**	**02 29 10.9**	**+0.2**
MKAR	**Makanchi Array**	**74.86**	**322**	P	**P**	**02 29 11.1**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=106,slow=7.0,SNR=7.2						
	comp=Z,0.6nm,0.7s						
KK31	**Karatay Array**	**81.28**	**315**	P	**P**	**02 29 45.7**	**-0.7**
KK31				IAmb	IAmb	02 29 49.6	
	comp=Z,2.7nm,1.4s						
KKAR	**Karatay Array**	**81.28**	**315**	P	**P**	**02 29 46.2**	**-0.2**
KKAR				IAmb	IAmb	02 29 49.6	
	comp=Z,2.7nm,1.4s						
BVAR	**Borovoye Array**	**84.33**	**325**	P	**P**	**02 30 03.0**	**+1.0**
	comp=Z,1.4nm,0.9s,baz=110,slow=6.5,SNR=5.8						
	comp=Z,1.4nm,0.9s						
ILAR	**Eielson Array**	**87.34**	**24**	P	**P**	**02 30 16.0**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=260,slow=5.4,SNR=1.9						
	comp=Z,0.2nm,0.7s						

IDC 25 02:22:38.3±6.2, 5°.77S×141°.70E, h0km, mb3.9/3, mbtmp3.8/5, ML3.4/2, Error ellipse: s-maj=240.4km s-min=31.0km az=95.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.80**	**206**	Pn	Pn	02 26 21.2	-1.2
	0.1nm,0.3s,baz=25,slow=13,SNR=4.9						
WRA				Sn	Sn	02 29 14.3	-4.0
	baz=22,slow=26,SNR=1.0						
	1.7nm,0.9s						
ASAR	**Alice Springs**	**19.32**	**202**	P	P	02 27 05.5	+0.3
	0.1nm,0.3s,baz=32,slow=10,SNR=7.7						
	1.9nm,0.8s						
MKAR	**Makanchi Array**	**74.02**	**322**	P	P	02 34 16.4	+0.4
	0.7nm,0.8s,baz=100,slow=7.7,SNR=6.7						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**77.93**	**324**	P	P	02 34 37.7	-0.4
	0.2nm,0.3s,baz=97,slow=7.5,SNR=4.8						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**83.51**	**325**	P	P	02 35 08.2	+0.2
	2.4nm,1.0s,baz=113,slow=5.6,SNR=8.6						
	2.4nm,1.0s						

*IDC **25** 02:31:10.5±6.3, 7°.37S×128°.76E, h125km±57km, mb3.4/4, mbtmp4.0/7, Error ellipse: s-maj=78.2km s-min=24.6km az=58.0*

ISC 25 02:31:13.2±1.2, 7°.8S±0°.1×128°.6E±0°.1, h150km, n7, σ2§46/10, mb3.5/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.44**	**243**	P	**Pn**	**02 32 34.0**	**+1.4**
	37nm,0.3s,baz=67,slow=3.8,SNR=7.9						
BATI				S	**Sn**	**02 33 32.6**	**-1.9**
	24nm,0.3s,baz=47,slow=19,SNR=7.2						
WRA	**Warramunga Arr**	**13.33**	**156**	P	**Pn**	**02 34 17.6**	**+0.9**
	1.2nm,0.4s,baz=334,slow=13,SNR=34						
WRA				S	**Sn**	**02 36 40.7**	**-3.6**
	1.7nm,0.3s,baz=283,slow=25,SNR=7.8						
ASAR	**Alice Springs**	**16.61**	**163**	P	**Pn**	**02 35 01.2**	**+3.7**
	3.2nm,0.7s,baz=342,slow=11,SNR=42						
ASAR				S	**S**	**02 38 01.9**	**-0.4**
	0.9nm,0.5s,baz=313,slow=16,SNR=6.0						
MKAR	**Makanchi Array**	**68.11**	**328**	P	**P**	**02 41 55.2**	**-1.7**
	0.2nm,0.3s,baz=120,slow=7.7,SNR=5.6						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**72.44**	**329**	P	**P**	**02 42 21.6**	**-1.5**
	1.0nm,0.6s,baz=127,slow=5.0,SNR=13						
	1.0nm,0.6s						
BVAR	**Borovoye Array**	**77.97**	**328**	P	**P**	**02 42 54.0**	**-0.8**
	0.5nm,0.6s,baz=140,slow=7.0,SNR=2.4						
	0.5nm,0.6s						
QSPA	**South Pole Qui**	**82.22**	**180**	P	**P**	**02 43 19.5**	**+2.0**
	0.8nm,0.8s,baz=312,slow=9.3,SNR=1.8						
	0.8nm,0.8s						

*IDC **25** 02:40:13.0±0.9, 6°.37S×143°.16E, h0km, mb4.1/6, mbtmp4.1/8, ML1.3/1, Error ellipse: s-maj=35.9km s-min=21.8km az=61.0*
ISC 25 02:40:14.8±0.8, 6°.58S±0°.10×143°.0E±0°.1, h10km, n10, σ1§59/11, mb4.2/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.01**	**124**	Pn	**Pn**	**02 41 29.1**	**-0.9**
	0.8nm,0.3s,baz=302,slow=17,SNR=2.1						
PMG				Sn	**Sn**	**02 42 28.0**	**0.0**
	1.5nm,0.3s,baz=222,slow=22,SNR=7.3						
	9.2nm,0.5s						
WRA	**Warramunga Arr**	**15.71**	**211**	Pn	**Pn**	**02 43 55.6**	**-0.7**
	0.3nm,0.3s,baz=28,slow=12,SNR=14						
WRA				Sn	**Sn**	**02 46 48.4**	**-2.2**
	0.1nm,0.3s,baz=36,slow=24,SNR=3.1						
WRA				Lg	Lg	02 48 31.8	
	0.2nm,0.3s,baz=35,slow=26,SNR=2.3						
ASAR	**Alice Springs**	**19.10**	**206**	P	**P**	**02 44 40.9**	**+3.1**
	4.6nm,0.6s,baz=30,slow=10,SNR=26						
ASAR				Lg	Lg	02 50 20.1	
	0.1nm,0.3s,baz=30,slow=31,SNR=1.1						
CMAR	**Chiang Mai Arr**	**50.04**	**301**	P	**P**	**02 49 09.1**	**-0.9**
	1.1nm,0.2s,baz=116,slow=6.9,SNR=4.3						
	1.1nm,0.2s						
SONM	**Songino Array**	**63.04**	**333**	P	**P**	**02 50 41.3**	**-0.9**
	0.7nm,0.6s,baz=155,slow=6.7,SNR=5.3						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**75.43**	**322**	P	**P**	**02 51 59.0**	**0.0**
	0.8nm,0.7s,baz=98,slow=7.9,SNR=7.2						
	0.8nm,0.7s						
QSPA	**South Pole Qui**	**83.39**	**180**	P	**P**	**02 52 42.9**	**+0.7**
	2.3nm,1.2s,baz=306,slow=2.6,SNR=5.6						
	2.3nm,1.2s						
BVAR	**Borovoye Array**	**84.90**	**325**	P	**P**	**02 52 50.3**	**+0.4**
	3.4nm,0.8s,baz=99,slow=9.2,SNR=12						
	3.4nm,0.8s						
ILAR	**Eielson Array**	**87.60**	**24**	P	P	02 53 01.4	-1.6
	0.9nm,0.7s,baz=257,slow=4.7,SNR=16						
	0.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**141.33**	**283**	PKP	**PKPdf**	**02 59 48.5**	**+1.5**
	0.5nm,0.9s,baz=59,slow=1.9,SNR=2.6						

*IDC **25** 02:42:39.7±1.7, 27°.28N×140°.28E, h367km±16km, mb3.1/13, mbtmp3.9/17, Error ellipse: s-maj=26.6km s-min=12.0km az=79.0*
*NEIC **25** 02:42:39.6±1.0, 27°.30N±0°.10×140°.3E±0°.1, h357km±8km, mb4.0/17, Error ellipse: s-maj=19.3km s-min=13.9km az=87.0*
*JMA **25** 02:42:41.9±0.2, 28°.1N±1°×141°.1E±°, h361km, MV3.6/33, W OFF OGASAWARA*
ISC 25 02:42:38.5±0.5, 27°.35N±0°.06×140°.23E±0°.10, h350km, n62, σ1§89/73, mb3.8/22, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.76**	**98**	P	**Pn**	**02 43 30.1**	**+1.9**
CBIJ				*e*S	**S**	**02 44 08.3**	**+0.2**
JCJ	**Chichijima**	**1.76**	**98**		**Pn**	**02

	comp=Z,0.9nm,0.5s,baz=91,slow=8.2,SNR=20							
KURBB					PcP	**PcP**	**02 52 17.7**	**-0.7**
	comp=Z,1.1nm,1.0s,baz=108,slow=4.5,SNR=5.3							
	comp=Z,0.9nm,0.5s							
D19K	**Kuna River**	**54.52**	**23**		P	**P**	**02 51 31.9**	**+1.1**
D19K					IAmb	IAmb	02 52 07.9	
	comp=Z,6.3nm,1.5s							
D19K					pwP	**pwP**	**02 52 51.4**	**+3.1**
E19K	**Redstone River**	**54.57**	**25**		P	**P**	**02 51 33.0**	**+1.7**
E19K					pwP	**pwP**	**02 52 50.4**	**+1.8**
AAK	**Ala-Archa**	**54.68**	**304**		P	**P**	**02 51 33.1**	**+0.5**
BVAR	**Borovoye Array**	**56.68**	**317**		P	**P**	**02 51 47.2**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=95,slow=6.2,SNR=5.7							
	comp=Z,1.1nm,0.5s							
KNK	**Knik Glacier**	**57.48**	**33**		P	**P**	**02 51 53.5**	**+1.8**
KNK					IAmb	IAmb	02 52 14.4	
	comp=Z,7.5nm,1.2s							
KK31	**Karatay Array**	**57.52**	**305**		P	**P**	**02 51 53.1**	**+0.7**
KKAR	**Karatay Array**	**57.52**	**305**		P	**P**	**02 51 52.9**	**+0.6**
KKAR					IAmb	IAmb	02 51 53.9	
	comp=Z,1.8nm,0.8s							
KBS	**Kingsbay**	**70.02**	**351**		P	**P**	**02 53 12.4**	**-0.1**
ARCES	**ARCESS Array B**	**72.73**	**340**		P	**P**	**02 53 29.5**	**+0.8**
	comp=Z,1.5nm,0.6s,baz=86,slow=7.4,SNR=6.7							
	comp=Z,1.5nm,0.6s							
YKA	**Yellowknife Ar**	**72.74**	**28**		P	**P**	**02 53 29.4**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=300,slow=6.3,SNR=2.0							
	comp=Z,0.1nm,0.5s							
FINES	**FINESS Array B**	**76.94**	**333**		P	**P**	**02 53 52.6**	**-0.2**
	comp=Z,4.7nm,0.4s,baz=69,slow=4.9,SNR=105							
AKASG	**Malin Array Be**	**81.38**	**323**		P	**P**	**02 54 15.7**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=52,slow=5.3,SNR=4.6							
	comp=Z,0.3nm,0.3s							
NVAR	**Mina Array Bea**	**81.73**	**51**		P	**P**	**02 54 19.6**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=304,slow=5.3,SNR=2.7							
	comp=Z,0.3nm,0.6s							
EGMT	**Eagleton**	**82.28**	**40**		P	**P**	**02 54 20.8**	**-0.9**
HFS	**Hagfors**	**82.50**	**336**		P	**P**	**02 54 21.4**	**-1.0**
	comp=Z,1.2nm,0.4s,baz=72,slow=4.7,SNR=12							
	comp=Z,1.2nm,0.4s							
NB2	**NORSAR Subarra**	**82.72**	**338**		P	**P**	**02 54 22.6**	**-1.0**
	comp=Z,2.6nm,0.7s,baz=45,slow=5.1							
NOA	**NORSAR Array B**	**82.72**	**338**		P	**P**	**02 54 22.8**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=45,slow=5.0,SNR=6.9							
	comp=Z,1.4nm,0.6s							
RAYN	**Ar Rayn**	**83.45**	**293**		P	**P**	**02 54 28.1**	**+0.1**
RAYN					IAmb	IAmb	02 54 29.8	
	comp=Z,4.1nm,0.9s							
BRTR	**Keskin Array B**	**84.55**	**312**		P	**P**	**02 54 32.7**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=29,slow=3.3,SNR=1.7							
	comp=Z,0.3nm,0.7s							
TKX	**Tecate**	**85.77**	**56**			pP	02 55 59.2	+0.1
QSPA	**South Pole Qui**	**117.12**	**180**		PKP	**PKPdf**	**03 00 40.0**	**-1.6**
	comp=Z,2.0nm,1.0s,baz=277,slow=0.9,SNR=9.3							
TORD	**Torodi Ar. Bea**	**123.09**	**310**		PKP	**PKPdf**	**03 00 53.7**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=47,slow=3.1,SNR=7.3							
SMAI	**San Martin Ant**	**136.03**	**166**			PKPpre	03 01 08.4	

NNC 25 02:43:39.6±7.8, 38.00N×70.30E, h0km, mb3.7, mpv3.1, 2C-3D, Error ellipse: s-maj=64.0km s-min=46.2km az=115.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.11**	**2**	P		Pn	02 44 57.0	-0.3
	0.7nm,0.2s,baz=270,slow=3.2,SNR=44							
KK31				⇑S		Sn	02 45 58.2	+1.2
	26nm,0.6s,baz=170,slow=19,SNR=33							
AB31	**Akbulak array**	**13.51**	**330**	⇓P		Pn	02 46 53.5	+1.0
	1.0nm,0.6s,baz=140,slow=11,SNR=33							
AB31				⇓S		Sn	02 49 23.2	0.0
	1.5nm,0.6s,baz=155,slow=22,SNR=10							
AKTO	**Aktyubinsk**	**15.21**	**329**	⇑P		Pn	02 47 15.7	+0.1
	1.7nm,1.0s							
AKTO				⇓S		Sn	02 50 06.9	+2.2
	1.8nm,0.7s							

IDC 25 02:55:13.8±7.8, 5.79S×142.11E, h0km, mb3.5/1, mbtmp3.3/3, ML2.8/2, Error ellipse: s-maj=274.4km s-min=38.2km az=94.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.96**	**208**	P		Pn	02 59 00.2	+0.2
	baz=28,slow=13,SNR=1.8							
	0.3nm,0.7s							
ASAR	**Alice Springs**	**19.45**	**203**	P		P	02 59 42.0	-0.1
	0.1nm,0.3s,baz=32,slow=11,SNR=4.2							
	0.4nm,0.6s							
MKAR	**Makanchi Array**	**74.29**	**322**	P		P	03 06 53.2	+0.1
	0.4nm,0.8s,baz=104,slow=6.1,SNR=3.0							
	0.4nm,0.8s							

AFAD ***25*** *02:57:12.8±0.0, 37.03N×44.96E, h5km±1km, ML2.3*
TEH ***25*** *02:57:12.9, 37.22N×45.09E, h10km±89km, ML2.5*
ISC 25 02:57:12.5±1.4, 37.18N±0.05×45.02E±0.04, h5km±17km, n9, σ0°86/14, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAHB	**Mahabad**	**0.68**	**127**	Pg	**Pg**	**02 57 26.0**	**+0.4**
MAHB				Sg	**Sb**	**02 57 36.3**	**-0.4**
YOVA	**Hakkari_Yksek**	**0.71**	**305**	P	**Pg**	**02 57 26.9**	**+0.7**
YOVA				S	**Sg**	**02 57 36.4**	**+0.9**
YOVA				*i* AML	AML	02 57 37.0	
	comp=N,126nm,0.8s						
YOVA				*i* AML	AML	02 57 45.0	
	comp=E,288nm,0.1s						
SDS1	**Sardasht. Az.**	**1.09**	**160**	Pg	**Pn**	**02 57 34.6**	**0.0**
HAKT	**HAKKARI**	**1.12**	**290**	P	**Pg**	**02 57 33.7**	**-0.2**
HAKT				S	**Sg**	**02 57 48.9**	**+0.5**
HAKT				*i* AML	AML	02 57 53.0	
	comp=N,64nm,0.5s						
HAKT				*i* AML	AML	02 57 54.0	
	comp=E,55nm,0.4s						
CUKT	**Cukurca**	**1.13**	**274**	P	**Pg**	**02 57 32.8**	**-1.4**
CUKT				S	**Sg**	**02 57 47.8**	**-1.1**
CUKT				*i* AML	AML	02 58 01.0	
	comp=E,178nm,0.7s						
CUKT				*i* AML	AML	02 58 03.0	
	comp=N,117nm,0.6s						
ISHB	**Shabestar**	**1.20**	**23**	Pg	**Pg**	**02 57 34.6**	**-1.0**
ITBZ	**Tabriz**	**1.38**	**40**	Pg	**Pn**	**02 57 37.8**	**-0.8**
IMRD	**Marand**	**1.63**	**19**	Pg	**Pn**	**02 57 42.6**	**+0.7**
PERV	**Siirt/Pervari-**	**2.12**	**292**	P	**Pb**	**02 57 52.1**	**+0.7**
PERV				S	**Sg**	**02 58 20.3**	**-0.2**
PERV				*i* AML	AML	02 58 34.0	
	comp=E,30nm,0.9s						

KRSC 25 03:08:59.1±1.5, 49.17N×156.53E, h7km±20km, MI3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.54**	**350**	*e*P	Pn	03 09 25.6	-1.3
SKR				*e*S	Sn	03 09 45.9	-1.3
PAU	**Pauzhetka**	**2.31**	**4**	*e*P	Pb	03 09 39.4	-1.6
PAU				*e*S	Sb	03 10 09.1	-0.6
KDTR	**Khodutka, Kamc**	**2.82**	**20**	*e*P	Pn	03 09 46.8	+2.2
KDTR				*e*S	Sb	03 10 22.2	-2.3
ASAK	**Asacha**	**3.33**	**15**	*e*P	Pb	03 09 55.6	-3.0
MTVR	**Mutnovka**	**3.48**	**17**	*e*P	Pn	03 09 56.7	+3.0
MTVR				*e*S	Sb	03 10 40.7	-3.0
RUS	**Russkaya**	**3.50**	**20**	*e*P	Pn	03 09 56.0	+2.1
RUS				*e*S	Sb	03 10 40.7	-3.4
AVH	**Avacha**	**4.33**	**18**	*e*P	Pn	03 10 09.3	+3.9
KOK	**Koryaka**	**4.34**	**17**	*e*P	Pn	03 10 09.7	+4.3
SMAR	**Somma**	**4.34**	**18**	*e*P	Pn	03 10 09.5	+3.9
KRX	**Arik**	**4.40**	**17**	*e*P	Pn	03 10 10.8	+4.3

IDC ***25*** *03:29:12.1±2.2, 37.41N×141.44E, h60km±20km, mb3.4/10, mbtmp3.7/15, MS2.3/1, Error ellipse: s-maj=19.2km s-min=12.6km az=86.0*
JMA ***25*** *03:29:13.0±0.1, 37.5N±0.2×141.2E±0.4, h61km, MV3.8/40, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
ISC 25 03:29:12.6±1.0, 37.44N±0.04×141.33E±0.07, h60km±7km, n33, σ1°12/41, mb3.6/10, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.37**	**259**	*i* P	**Pn**	**03 29 23.2**	**-0.2**
JFK				S	**Sn**	**03 29 30.6**	**-0.5**
JMST	**Minamisoumatoc**	**0.45**	**309**	*i* P	**Pn**	**03 29 23.9**	**-0.1**
JMST				S	**Sn**	**03 29 31.9**	**-0.5**
ONAJ	**Iwakimizuishiy**	**0.54**	**232**	*i* P	**Pn**	**03 29 25.0**	**0.0**
ONAJ				S	**Sn**	**03 29 33.8**	**-0.4**
JMM	**Marumori**	**0.60**	**315**	*i* P	**Pn**	**03 29 25.6**	**-0.1**
JMM				S	**Sn**	**03 29 34.7**	**-0.5**
JFFD	**Fukushimafurud**	**0.71**	**241**	*i* P	**Pn**	**03 29 26.8**	**-0.2**
JFFD				S	**Sn**	**03 29 36.6**	**-0.8**
JOTO	**OTAMA OYAMA**	**0.80**	**279**	*i* P	**Pn**	**03 29 27.9**	**-0.2**
JOTO				S	**Sn**	**03 29 38.9**	**-0.6**
JIO	**Ouri**	**1.01**	**1**	*i* P	**Pn**	**03 29 30.9**	**+0.2**
JIO				S	**Sn**	**03 29 44.0**	**-0.3**
JOU	**Okura**	**1.06**	**330**	*i* P	**Pn**	**03 29 31.3**	**-0.2**
JOU				S	**Sn**	**03 29 45.1**	**-0.4**
JYS	**Shirataka**	**1.27**	**308**	P	**Pn**	**03 29 34.2**	**0.0**
JYS				S	**Sn**	**03 29 49.8**	**-0.5**
JFY	**Yanaizu**	**1.30**	**269**	⇓P	**Pn**	**03 29 34.2**	**-0.3**
JFY				⇓S	**Sn**	**03 29 50.2**	**-0.8**
JMK	**Ichinoseki**	**1.51**	**357**	*i* P	**Pn**	**03 29 37.7**	**+0.3**
JMK				S	**Sn**	**03 29 56.2**	**+0.1**
JNS	**Sasagawa**	**1.64**	**284**	P	**Pn**	**03 29 38.8**	**-0.3**
JNS				*e*S	**Sn**	**03 29 55.4**	**-3.9**
MJAR	**Matsushiro Arr**	**2.66**	**251**	P	**Pn**	**03 29 53.4**	**+0.4**
	3.3nm,0.3s,baz=53,slow=11,SNR=31						
MJAR				S	**Sn**	**03 30 24.8**	**+0.8**
	8.5nm,0.4s,baz=310,slow=29,SNR=2.6						
MJAR				LR	LR	03 30 44.2	
	comp=Z,53nm,18.2s,baz=328,slow=34						
JHJ	**Hachijo jima 2**	**4.49**	**197**	P	**Pn**	**03 30 18.6**	**+0.5**
	106nm,0.8s,baz=245,slow=24,SNR=1.9						
JHJ				S	**Sn**	**03 31 08.5**	**-0.6**
	212nm,0.9s,baz=70,slow=22,SNR=2.2						
ASAJ	**Asahikawa**	**6.74**	**8**	P	**Pn**	**03 30 47.9**	**-0.9**
	2.0nm,0.3s,baz=160,slow=33,SNR=10						
USRK	**Ussuriysk Ar.**	**9.78**	**317**	P	**Pn**	**03 31 32.9**	**+2.5**
	1.7nm,0.6s,baz=124,slow=14,SNR=3.3						
KSRS	**Korea Array**	**10.66**	**274**	P	**Pn**	**03 31 44.9**	**+2.4**
	1.0nm,0.6s,baz=87,slow=14,SNR=3.3						
SONM	**Songino Array**	**27.51**	**303**	P	**P**	**03 34 55.4**	**+2.0**
	0.6nm,0.5s,baz=113,slow=8.0,SNR=5.3						
	0.6nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.41**	**121**	T	T	04 05 17.9	
	baz=315,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**28.42**	**121**	T	T	04 05 19.9	
	baz=315,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hy**	**28.43**	**121**	T	T	04 05 30.5	
	baz=315,slow=75,SNR=32						
H11S1	**WAKE ISLAND Hy**	**29.14**	**123**	T	T	04 06 10.6	
	baz=317,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**29.14**	**123**	T	T	04 06 32.5	
	baz=317,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**29.15**	**123**	T	T	04 06 35.1	
	baz=317,slow=76,SNR=16						
ZALV	**Zalesovo Beam**	**41.59**	**312**	P	**P**	**03 36 53.9**	**-0.4**
	0.3nm,0.4s,baz=93,slow=7.4,SNR=1.9						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**43.85**	**302**	P	**P**	**03 37 12.0**	**-0.7**
	0.3nm,0.5s,baz=88,slow=9.8,SNR=4.3						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**45.70**	**308**	P	**P**	**03 37 26.2**	**-1.1**
	0.9nm,0.5s,baz=82,slow=7.9,SNR=10						
	0.9nm,0.5s						
ILAR	**Eielson Array**	**49.19**	**33**	P	**P**	**03 37 52.1**	**-2.1**
	0.4nm,0.7s,baz=269,slow=6.0,SNR=4.5						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**50.25**	**312**	P	**P**	**03 38 03.7**	**+1.2**
	0.5nm,0.7s,baz=75,slow=7.6,SNR=2.6						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**57.45**	**188**	P	**P**	**03 38 54.4**	**-1.0**
	0.8nm,0.4s,baz=3.6,slow=7.1,SNR=23						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**61.18**	**188**	P	**P**	**03 39 20.9**	**-0.1**
	0.5nm,0.7s,baz=10,slow=6.1,SNR=7.0						
	0.5nm,0.7s						
FINES	**FINESS Array B**	**68.42**	**332**	P	**P**	**03 40 07.3**	**-0.3**
	1.5nm,0.9s,baz=34,slow=10,SNR=3.7						
	1.5nm,0.9s						
TXAR	**Lajitas Array**	**89.92**	**52**	P	**P**	**03 42 05.8**	**+0.3**
	0.2nm,0.6s,baz=324,slow=4.5,SNR=2.0						
	0.2nm,0.6s						

IDC 25 03:37:29.9±43.0, 15.77S×170.71W, h0km, mb4.3/3, mbtmp4.3/3, Error ellipse: s-maj=857.6km s-min=195.7km az=80.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**46.11**	**241**	P	P	03 45 56.4	+0.2
	1.3nm,0.5s,baz=86,slow=13,SNR=3.2						
	1.3nm,0.5s						
WRA	**Warramunga Arr**	**52.28**	**257**	P	P	03 46 43.4	-0.3
	0.8nm,0.6s,baz=95,slow=6.8,SNR=17						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**52.46**	**252**	P	P	03 46 44.9	-0.1
	8.0nm,0.5s,baz=89,slow=8.2,SNR=173						
	8.0nm,0.5s						

IDC ***25*** *04:00:02.6±0.9, 22.85S×175.18W, h0km, mb4.1/7, mbtmp4.1/7, MS3.7/4, Error ellipse: s-maj=39.9km s-min=23.6km az=154.0*
ISC 25 04:00:07.2±0.9, 22.85S±0.3×175.2W±0.2, h30km, n13, σ0°40/9, mb4.2/7, MS3.8/4, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**14.41**	**87**	Pn	Pn	04 03 18.9	-10
	2.2nm,0.3s,baz=231,slow=8.8,SNR=4.3						
RAR				Sn	Sn	04 05 41.2	-27
	0.5nm,0.3s,baz=166,slow=22,SNR=1.9						
HNR	**Honiara**	**27.27**	**295**	LR	LR	04 15 20.3	
	comp=Z,237nm,18.2s,baz=133,slow=34						
CTA	**Charters Tower**	**35.90**	**267**	P	**P**	**04 07 05.5**	**+0.5**
	5.3nm,0.8s,baz=90,slow=4.0,SNR=3.0						
	5.3nm,0.8s						
ASAR	**Alice Springs**	**46.56**	**258**	P	**P**	**04 08 32.8**	**+0.2**
	2.2nm,0.8s,baz=95,slow=32,SNR=4.8						
ASAR				LR	LR	04 27 17.8	
	comp=Z,66nm,18.7s,baz=224,slow=35						
	2.2nm,0.8s						
WRA	**Warramunga Arr**	**46.89**	**264**	P	**P**	**04 08 34.5**	**-0.6**
	2.8nm,0.8s,baz=91,slow=6.1,SNR=27						
	2.8nm,0.8s						
BATI	**Baumata**	**59.57**	**271**	LR	LR	04 35 04.2	
	comp=Z,68nm,19.4s,baz=18,slow=35						
QSPA	**South Pole Qui**	**67.26**	**180**	P	**P**	**04 10 58.6**	**-0.1**
	3.7nm,1.0s,baz=49,slow=2.9,SNR=6.2						
	3.7nm,1.0s						
NVAR	**Mina Array Bea**	**80.97**	**42**	P	**P**	**04 12 19.4**	**+0.2**
	0.9nm,0.8s,baz=232,slow=9.3,SNR=5.5						
	0.9nm,0.8s						
TXAR	**Lajitas Array**	**86.15**	**56**	P	**P**	**04 12 46.1**	**+0.3**
	1.1nm,1.1s,baz=205,slow=5.5,SNR=7.1						
	1.1nm,1.1s						
ILAR	**Eielson Array**	**90.02**	**12**	P	**P**	**04 13 03.1**	**-0.3**
	0.7nm,1.0s,baz=229,slow=5.5,SNR=2.0						
	0.7nm,1.0s						
NNA	**Nana**	**92.97**	**104**	LR	LR	04 45 18.8	
	comp=Z,33nm,20.2s,baz=218,slow=29						
AKASG	**Malin Array Be**	**146.28**	**332**	PKPbc	**PKPbc**	**04 19 44.3**	**-0.3**
	0.6nm,0.6s,baz=38,slow=3.7,SNR=2.9						
BRTR	**Keskin Array B**	**150.31**	**311**	PKPbc	**PKiKP**	**04 19 56.5**	**-0.1**
	0.9nm,1.0s,baz=45,slow=0.3,SNR=3.9						

DJA 25 04:30:46.1±0.2, 3°S±3°×122°8E±°, h10km, M4.3/13, mb4.5/6, mB5.6/4, MLv4.0/13, Mw(mB)5.1/4, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANI	**Sanana**	**1.83**	**297**	P	Pn	04 31 18.1	+0.4
SANI				S	Sn	04 31 40.0	-0.9
LBMI	**Labuha**	**2.24**	**357**	P	Pn	04 31 21.8	-1.5
LBMI				S	Sn	04 31 51.8	+0.8
SWI	**Sorong**	**4.16**	**61**	P	Pn	04 31 50.0	+0.3
FAKI	**Fak Fak**	**4.62**	**90**	P	Pn	04 31 56.8	+0.7
KMSI	**Cibinong**	**5.01**	**313**	P	Pn	04 32 01.9	+0.5
	109nm,0.4s,0.6nm						
LUWI	**Luwuk**	**5.18**	**291**	P	Pn	04 32 04.3	+0.5
	88nm,0.6s,4µm0.4nm						
SAUI	**Saumlaki**	**6.25**	**144**	P	Pn	04 32 18.6	+0.2
	233nm,0.8s,1.0nm						
MRSI	**Marisa**	**6.59**	**300**	P	Pn	04 32 23.7	+0.6
TTSI	**Tana Toraja**	**7.79**	**269**	P	Pn	04 32 40.0	+0.4
	11nm,0.5s,2µm0.1nm						
BKSI	**Bulukumba**	**7.86**	**252**	P	Pn	04 32 40.5	-0.1
	4.5nm,1.1s,0.1nm						

TAP 25 04:36:42.7, 23.02N×120.15E, h17km, ML2.3, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAI	**Tainan**	**0.05**	**117**	P	Pg	04 36 46.5	+0.6
	baz=116						
TAI				S	Sg	04 36 49.4	+1.4
	baz=116						
TAI1	**Yung-k'ang**	**0.08**	**75**	P	Pg	04 36 46.7	+0.7
	baz=78						
TAI1				S	Sg	04 36 50.2	+1.9
	baz=78						
TSCK	**Chigu Township**	**0.14**	**337**	*i* P	Pb	04 36 47.2	+0.4
	baz=329						
TSCK				*i* S	Sb	04 36 51.5	+1.9
	baz=329						
SCLT	**Jiali**	**0.16**	**16**	*e*P	Pb	04 36 47.5	+0.2
	baz=19						
SCLT				S	Sb	04 36 52.2	+2.0
	baz=19						
SSHA	**Shanhua**	**0.17**	**49**	P	Pb	04 36 48.4	+0.9
	baz=49						
SSHA				S	Sb	04 36 53.1	+2.4
	baz=49						
SHHT	**Tainan City**	**0.19**	**90**	P	Pb	04 36 48.7	+1.1
	baz=95						
SHHT				S	Sb	04 36 53.6	+2.6
	baz=95						
CHN8	**Yiju**	**0.33**	**11**	P	Pb	04 36 50.6	+0.5
	baz=12						
CHN8				S	Sn	04 36 57.1	-1.9
	baz=12						
ICHU	**Yijhu**	**0.36**	**20**	P	Pb	04 36 50.8	+0.2
	baz=21						
ICHU				S	Sb	04 36 57.2	+1.2
	baz=21						
SNST	**Tainan City**	**0.38**	**58**	*e*P	Pb	04 36 51.8	+0.8
	baz=58						
CHN1	**Nanshi**	**0.39**	**65**	*e*P	Pb	04 36 52.0	+0.9
	baz=65						
WSSB	**Gushan**	**0.39**	**164**	*e*P	Pn	04 36 52.8	-0.7
	baz=172						
TWK	**Hsinying**	**0.40**	**52**	*e*P	Pb	04 36 52.4	+1.1
	baz=54						
TWK				*e*S	Sn	04 36 59.6	-1.2
	baz=54						
SGST	**Jiashian**	**0.41**	**81**	*e*P	Pb	04 36 51.5	0.0
	baz=81						
SLGT	**Liugui**	**0.46**	**93**	*e*P	Pn	04 36 53.5	-1.0
	baz=106						
SLGT				*e*S	Sn	04 37 01.6	-0.8
	baz=106						
WTP	**Ta-pu**	**0.49**	**62**	*e*P	Pb	04 36 53.0	+0.2
	baz=63						
WTP				*e*S	Sn	04 37 01.7	-1.3
	baz=63						
WDGT	**Dungji**	**0.51**	**298**	P	Pb	04 36 53.1	0.0
	baz=309						
WDGT				S	Sb	04 37 00.2	0.0
	baz=309						
SSD	**Sandimen**	**0.53**	**121**	*e*P	Pb	04 36 54.2	+0.8
	baz=121						
SSD				*e*S	Sb	04 37 01.7	+0.9
	baz=121						
TPUB	**Ta-pu**	**0.53**	**58**	*i* P	Pb	04 36 53.9	+0.4
	baz=58						
TPUB				S	Sb	04 37 02.3	+1.5
	baz=58						
STYT	**Tauyuan**	**0.58**	**76**	*e*P	Pb	04 36 55.3	+0.9
	baz=66						
STYT				*e*S	Sn	04 37 04.9	-0.4
	baz=66						
WCKO	**Fanlu**	**0.59**	**45**	*e*P	Pb	04 36 55.3	+0.7
	baz=46						
WCKO				*e*S	Sn	04 37 04.5	-1.1
	baz=46						
MASBT	**Mashibuluo**	**0.61**	**132**	*e*P	Pn	04 36 56.4	-0.1
	baz=122						
MASBT				*e*S	Sn	04 37 06.0	+0.1
	baz=122						
VCHM	**Qimei**	**0.69**	**286**	*e*P	Pg	04 36 56.2	0.0
	baz=299						
VCHM				*e*S	Sb	04 37 05.7	+0.4
	baz=299						
WTK	**Tuku**	**0.70**	**19**	*i* P	Pg	04 36 57.0	+0.5
	baz=19						
WTK				S	Sn	04 37 07.6	-0.6
	baz=19						
PHUB	**P'eng-hu**	**0.72**	**313**	P	Pb	04 36 56.3	-0.5
	baz=313						
PHUB				S	Sb	04 37 06.1	-0.2
	baz=313						
PNG	**Penghu**	**0.77**	**315**	*e*P	Pb	04 36 57.2	-0.4
	baz=316						
PNG				*e*S	Sb	04 37 07.8	0.0
	baz=316						
ALS	**Alishan**	**0.78**	**51**	*e*S	Sn	04 37 10.4	-0.1
	baz=52						
SCZT	**Fangliau**	**0.78**	**146**	*e*P	Pn	04 36 59.8	+1.0
	baz=145						
SCZT				*e*S	Sn	04 37 11.7	+1.5
	baz=145						
ELDTW	**Lidau**	**0.82**	**78**	*e*P	Pn	04 36 59.8	+0.3
	baz=79						
ELDTW				*e*S	Sn	04 37 12.4	+1.1
	baz=79						
TWG	**Pinlang**	**0.88**	**103**	*e*P	Pn	04 37 01.3	+1.1
	baz=103						
TWG				*e*S	Sn	04 37 13.5	+1.0
	baz=103						
TWGBT	**Beinan**	**0.89**	**103**	*e*P	Pn	04 37 01.2	+0.9
	baz=103						
TWGBT				*e*S	Sn	04 37 13.8	+1.0
	baz=103						
RLNB	**Erlin**	**0.89**	**13**	*e*S	Sn	04 37 13.1	+0.3
	baz=22						
WRL	**Guolierlin Hig**	**0.90**	**14**	*e*P	Pb	04 37 00.0	+0.1
	baz=23						
WRL				*e*S	Sn	04 37 13.1	-0.1

baz=43
CHGB Renai 1.40 42 *e*S Sg 04 37 28.1 0.0
baz=43
WHP Taichung City 1.45 30 *e*P Pb 04 37 09.1 -0.2
baz=31
WHP *e*S Sb 04 37 28.5 +1.0
baz=31

TAP 25 04:36:52.0, 23.61N×120.73E, h11km, ML1.2, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHN5	**Tsauling** baz=258	**0.04**	**257**	P	Pg	04 36 54.6	+0.3
CHN5	baz=258			S	Sg	04 36 56.6	+0.7
ALS	**Alishan** baz=141	**0.12**	**143**	*e*P	Pg	04 36 55.8	+0.5
ALS	baz=141			*e*S	Sg	04 36 58.9	+1.2
ALS	**Alishan** baz=52	**0.12**	**143**	*e*P	Sg	04 36 58.8	+1.1
WHYT	**Xinyi Township** baz=60	**0.15**	**53**	P	Pb	04 36 56.1	-0.6
WHYT	baz=60			S	Sg	04 36 59.2	+1.3
WDLH	**Douliu** baz=13	**0.19**	**295**	*e*P	Pg	04 36 56.7	+0.6
WDLH	**Douliu** baz=295	**0.19**	**295**	*e*P	Pg	04 36 56.8	+0.7
SSLB	**Suanglung** baz=49	**0.28**	**49**	P	Pb	04 36 58.4	-0.6
SSLB	baz=49			*e*S	Sb	04 37 03.0	-0.6

*IDC **25** 04:44:24.0±0.9, 28.49N×86.72E, h78km±8km, mb3.7/17, mbtmp4.0/19, MS2.5/1, Error ellipse: s-maj=25.1km s-min=13.3km az=59.0*

ISC 25 04:44:22.3±0.9, 28.6N±0.1×86.7E±0.2, h57km, n21, σ1°01/23, mb4.0/17, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** comp=Z,19nm,20.1s,baz=295,slow=40	**15.11**	**129**	LR	LR	04 54 28.7	
AAK	**Ala-Archa** 2.7nm,0.7s,baz=167,slow=14,SNR=7.9	**17.13**	**328**	P	**P**	**04 48 19.5**	**+0.7**
MKAR	**Makanchi Array** 6.7nm,0.4s,baz=176,slow=10,SNR=110	**18.49**	**350**	P	**Pn**	**04 48 34.4**	**+0.1**
KURBB	**Kurchatov Arra** 6.2nm,0.6s,baz=165,slow=10,SNR=47	**22.84**	**347**	P	**P**	**04 49 20.9**	**+0.3**
KURBB	1.2nm,0.5s,baz=165,slow=10,SNR=2.6			pP	**sP**	**04 49 39.9**	**-2.8**
SONM	**Songino Array** 1.9nm,0.5s,baz=219,slow=9.8,SNR=14	**24.55**	**33**	P	**P**	**04 49 37.1**	**+0.3**
ZALV	**Zalesovo Beam** 2.3nm,0.4s,baz=179,slow=8.8,SNR=13	**25.36**	**357**	P	**P**	**04 49 44.3**	**+0.4**
BVAR	**Borovoye Array** 0.9nm,0.5s,baz=147,slow=10,SNR=11	**27.21**	**338**	P	**P**	**04 50 01.6**	**+1.1**
NRIK	**Noril'sk** 5.3nm,0.6s,baz=171,slow=7.1,SNR=4.9	**40.78**	**0**	P	**P**	**04 51 58.4**	**+0.9**
AKASG	**Malin Array Be** 0.3nm,0.4s,baz=77,slow=6.8,SNR=2.3	**48.06**	**314**	P	**P**	**04 52 55.6**	**-0.2**
FINES	**FINESS Array B** 1.1nm,0.5s,baz=102,slow=8.4,SNR=18	**51.31**	**328**	P	**P**	**04 53 20.9**	**+0.4**
ARCES	**ARCESS Array B** 5.9nm,1.0s,baz=104,slow=6.9,SNR=9.9	**53.49**	**337**	P	**P**	**04 53 37.2**	**+0.7**
HFS	**Hagfors** 2.3nm,0.6s,baz=105,slow=8.1,SNR=10	**57.24**	**325**	P	**P**	**04 54 03.6**	**0.0**
SPITS	**Spitsbergen Ar** 5.6nm,0.9s,baz=116,slow=9.7,SNR=9.2	**58.19**	**347**	P	**P**	**04 54 11.0**	**+1.0**
NB2	**NORSAR Subarra** comp=Z,4.4nm,1.0s,baz=65,slow=4.6	**58.44**	**326**	P	**P**	**04 54 11.8**	**-0.2**
NOA	**NORSAR Array B** comp=Z,0.6nm,0.6s,baz=108,slow=4.3,SNR=4.6	**58.44**	**326**	P	**P**	**04 54 11.4**	**-0.5**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.5s,baz=326,slow=6.6,SNR=12	**66.69**	**131**	P	**P**	**04 55 06.5**	**-1.1**
WRA	comp=Z,0.9nm,0.5s,baz=323,slow=6.7,SNR=4.9			pP	**pP**	**04 55 26.0**	**+1.3**
EKA	**Eskdalemuir Ar** comp=Z,0.3nm,0.5s,baz=77,slow=6.0,SNR=4.1	**66.90**	**322**	P	**P**	**04 55 08.4**	**0.0**
ASAR	**Alice Springs** comp=Z,0.4nm,0.7s,baz=316,slow=6.9,SNR=4.8	**69.06**	**134**	P	**P**	**04 55 21.7**	**-0.6**
ASAR	comp=Z,0.5nm,0.6s,baz=316,slow=6.3,SNR=3.5			pP	**pP**	**04 55 41.4**	**+1.8**
ILAR	**Eielson Array** comp=Z,0.5nm,0.8s,baz=312,slow=5.3,SNR=6.2	**78.09**	**21**	P	**P**	**04 56 13.9**	**-0.8**
TORD	**Torodi Ar. Bea** comp=Z,0.9nm,0.6s,baz=56,slow=5.1,SNR=10.0	**79.48**	**279**	P	**P**	**04 56 22.8**	**-0.4**
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.7s,baz=331,slow=5.1,SNR=6.3	**87.63**	**10**	P	**P**	**04 57 03.2**	**-1.0**

comp=Z,0.3nm,0.7s

TAP 25 04:52:29.7, 24.93N×122.41E, h21km±1km, ML2.1, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS	baz=252	**0.44**	**259**	*e*P	Pb	04 52 39.0	+0.3
SXI1	**Grass Mountain** baz=288	**0.51**	**289**	P	Pb	04 52 40.5	+0.5
SXI1	baz=288			S	Sb	04 52 48.0	+1.0
EOS2	**EOS2** baz=207	**0.53**	**198**	*e*P	Pb	04 52 40.5	+0.2
EOS2	baz=207			*e*S	Sb	04 52 48.1	+0.7
TIPB	**Shuangxi** baz=274	**0.53**	**275**	P	Pb	04 52 41.0	+0.7
TIPB	baz=274			*e*S	Sb	04 52 48.2	+0.6
WFSB	**Wu-fen Shan** baz=284	**0.59**	**284**	*e*S	Sb	04 52 50.2	+0.9
TWC	**Suao** baz=237	**0.60**	**238**	P	Pb	04 52 40.8	-0.7
TWC	baz=237			*e*S	Sb	04 52 49.7	+0.1
EOS3	**EOS3** baz=187	**0.64**	**187**	P	Pb	04 52 42.4	+0.2
EOS3	baz=187			*e*S	Sn	04 52 51.9	-1.1
TWE	**Neicheng** baz=246	**0.70**	**253**	*e*P	Pb	04 52 43.0	-0.2
YOJ	**Yonaguni jima** baz=122	**0.72**	**130**	P	Pb	04 52 43.3	-0.2
YOJ	baz=122			S	Sb	04 52 52.3	-0.6
FUSB	**Fushanzhiwuyua** baz=257	**0.77**	**258**	*e*P	Pb	04 52 44.7	+0.4
FUSB	baz=257			*e*S	Sn	04 52 55.4	-0.9
YM01	**YM01** baz=273	**0.79**	**286**	*e*P	Pn	04 52 46.2	+0.5
YM01	baz=273			*e*S	Sn	04 52 56.5	-0.4
EOS4	**EOS4** baz=185	**0.81**	**186**	P	Pn	04 52 45.5	0.0
EOS4	baz=185			*e*S	Sn	04 52 56.6	0.0
NWLT	**Wulai** baz=259	**0.84**	**260**	*e*P	Pb	04 52 45.8	+0.3
NWLT	baz=259			*e*S	Sb	04 52 56.5	+0.1
LATG	**Datong** baz=231	**0.89**	**244**	*e*P	Pb	04 52 46.1	-0.4
LATG	baz=231			*e*S	Sb	04 52 58.4	+0.3
YHNB	**Yeheng** baz=263	**0.97**	**255**	*e*P	Pn	04 52 48.1	-0.1
NACB	**Ninganchiao** baz=224	**1.05**	**225**	*e*P	Pb	04 52 49.2	0.0
NACB				*e*S	Sn	04 53 03.0	-0.4
NNS	**Nan Shan** baz=242	**1.06**	**243**	*e*P	Pb	04 52 49.2	-0.2
NNS	baz=242			*e*S	Sn	04 53 03.3	-0.3
ETLH	**Xiulin Townshi** baz=229	**1.11**	**230**	*e*P	Pn	04 52 49.9	-0.2
ETLH	baz=229			*e*S	Sn	04 53 04.5	-0.2
LXIB	**Xiulin Townshi** baz=225	**1.28**	**225**	*e*P	Pb	04 52 53.0	-0.1
WHF	**Hehuan Shan** baz=233	**1.30**	**233**	*e*P	Pb	04 52 54.1	+0.5
WHP	**Taichung City** baz=256	**1.48**	**244**	*e*P	Pb	04 52 58.0	+1.5
WUSB	**Renai** baz=231	**1.50**	**232**	*e*P	Pb	04 52 57.0	+0.1

JMA 25 04:52:49.7±0.1, 24.2N±0.3×123.8E±0.3, h16km±1km, MV1.1/8, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.14**	**314**	P	Pg	04 52 53.7	0.0
IRIF				S	Sg	04 52 56.3	+0.1
JKRS	**Kuro-shima**	**0.15**	**89**	P	Pg	04 52 53.7	0.0
JKRS				S	Sb	04 52 56.9	-0.3
HATJ	**Hateruma jima**	**0.18**	**191**	P	Pg	04 52 54.0	-0.1
HATJ				S	Sg	04 52 57.3	+0.2
JIJ	**Ishigaki jima**	**0.30**	**65**	P	Pg	04 52 55.9	-0.3
JIJ				S	Sg	04 53 00.3	-0.2
JISG	**Ishigakijimahi**	**0.55**	**50**	P	Pg	04 53 00.7	0.0
JISG				S	Sb	04 53 08.4	-0.3
JYNG	**Yonagunijimaku**	**0.85**	**285**	S	Sb	04 53 17.1	-0.1
JTJ	**Tarama**	**0.88**	**62**	S	Sg	04 53 18.8	+0.4

*IDC **25** 04:58:33.5±2.1, 14.1N×146.84E, h0km, mb3.5/5, mbtmp3.5/6, Error ellipse: s-maj=45.7km s-min=28.5km az=112.0*

ISC 25 04:58:38.1±1.6, 14.2N±0.2×146.9E±0.2, h35km, n6, σ1°20/7, mb3.6/5, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam** 43nm,0.4s,baz=41,slow=19,SNR=1.5	**2.04**	**254**	Pn	**Pn**	**04 59 08.9**	**-1.1**
GUMO	baz=360,slow=18			Sn	**Sn**	**04 59 35.3**	**+1.0**
WRA	**Warramunga Arr** 0.3nm,0.6s,baz=21,slow=9.2,SNR=1.8	**36.08**	**200**	P	**P**	**05 05 36.8**	**+0.1**
SONM	**Songino Array** 0.2nm,0.3s,baz=141,slow=7.1,SNR=2.1	**47.41**	**324**	P	**P**	**05 07 07.9**	**-1.3**
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=93,slow=5.8,SNR=2.8	**62.44**	**316**	P	**P**	**05 08 58.5**	**+0.7**
KURBB	**Kurchatov Arra** 0.5nm,0.4s,baz=98,slow=6.7,SNR=6.5	**65.46**	**319**	P	**P**	**05 09 18.5**	**+0.9**
BVAR	**Borovoye Array** 0.5nm,0.4s,baz=96,slow=2.9,SNR=3.3	**70.69**	**322**	P	**P**	**05 09 51.1**	**+0.7**

0.5nm,0.4s

*GUC **25** 05:00:59.3±0.6, 21.20S×68.73W, h112km±2km, ML3.2*
*IDC **25** 05:01:00.1±4.1, 21.26S×68.21W, h111km±37km, mb3.4/2, mbtmp3.7/4, Error ellipse: s-maj=57.3km s-min=40.1km az=122.0*

ISC 25 05:00:59.1±0.9, 21.17S±0.03×68.85W±0.07, h119km±7km, n23, σ1°31/38, 6C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.61**	**282**	*e*P	**Pn**	**05 01 17.4**	**-0.4**
PB01				*e*S	**Sn**	**05 01 31.1**	**-0.6**
PB01	comp=N,1μm,0.2s			IAML		05 01 32.7	
PB09	**IPOC Station P**	**0.72**	**210**	*i*P	**Pn**	**05 01 18.5**	**-0.2**
PB09				*e*S	**Sn**	**05 01 33.6**	**+0.2**
PB09	comp=Z,447nm,0.2s			IAML		05 01 35.1	
PB02	**IPOC Station P**	**0.99**	**261**	*i*P	**Pn**	**05 01 21.3**	**+0.3**
PB02				*e*S	**Sn**	**05 01 38.0**	**+0.5**
PB08	**IPOC Station P**	**1.06**	**345**	*i*P	**Pn**	**05 01 22.3**	**+0.2**
PB08				*e*S	**Sn**	**05 01 39.5**	**+0.1**
PB08	comp=E,292nm,0.3s			IAML		05 01 41.4	
PB07	**IPOC Station P**	**1.11**	**240**	*i*P	**Pn**	**05 01 22.5**	**+0.1**
PB07				*e*S	**Sn**	**05 01 40.3**	**+0.4**
PB07	comp=E,459nm,0.3s			IAML		05 01 42.9	
TA01	**Diego Aracena**	**1.38**	**296**	*i*P	**Pn**	**05 01 25.5**	**+0.5**
TA01				*e*S	**Sn**	**05 01 45.3**	**+0.5**
TA01	comp=E,729nm,0.2s			IAML		05 01 47.1	
LVC	**Limon Verde**	**1.43**	**182**	*e*P	**Pn**	**05 01 25.5**	**-0.5**
LVC				*e*S	**Sn**	**05 01 45.9**	**-0.6**
LVC	comp=E,528nm,0.2s			IAML		05 01 49.8	
TA02	**Huaiquique**	**1.50**	**307**	*e*P	**Pn**	**05 01 26.6**	**+0.2**
TA02				*e*S	**Sn**	**05 01 47.9**	**+0.7**
TA02	comp=N,452nm,0.2s			IAML		05 01 49.7	
GO01	**Chusmiza**	**1.53**	**348**	*e*P	**Pn**	**05 01 27.3**	**0.0**
GO01				*e*S	**Sn**	**05 01 49.0**	**+0.3**
GO01	comp=N,354nm,0.2s			IAML		05 01 50.9	
PB11	**IPOC Station P**	**1.59**	**332**	*e*P	**Pn**	**05 01 27.9**	**+0.1**
PB11				*e*S	**Sn**	**05 01 49.8**	**+0.3**
PB11	comp=E,405nm,0.3s			IAML		05 01 53.1	
PB06	**IPOC Station P**	**1.67**	**204**	*i*P	**Pn**	**05 01 28.5**	**-0.1**
PB06				*e*S	**Sn**	**05 01 50.7**	**-0.3**
PB06	comp=E,260nm,0.2s			IAML		05 01 56.5	
PB04	**IPOC Station P**	**1.67**	**226**	*e*P	**Pn**	**05 01 28.4**	**-0.2**
PB04				*i*S	**Sn**	**05 01 52.2**	**+1.1**
PB04	comp=N,247nm,0.4s			IAML		05 02 00.1	
AF01	**San Pedro de A**	**1.88**	**161**	*e*P	**Pn**	**05 01 31.4**	**+0.2**
AF01				*e*S	**Sn**	**05 01 55.0**	**-0.8**
PB05	**IPOC Station P**	**2.09**	**217**	*e*P	**Pn**	**05 01 33.3**	**-0.5**
PB05				*e*S	**Sn**	**05 01 57.9**	**-2.4**
PB05	comp=E,104nm,0.7s			IAML		05 02 10.9	
PB15	**IPOC Station P**	**2.11**	**196**	*e*P	**Pn**	**05 01 33.6**	**-0.5**
PB15				*e*S	**Sn**	**05 02 00.8**	**0.0**
PB16	**IPOC Station P**	**2.89**	**348**	*e*P	**Pn**	**05 01 45.8**	**+1.3**
PB12	**IPOC Station P**	**2.90**	**331**	*e*P	**Pn**	**05 01 44.0**	**-0.2**
PB12				*e*S	**Sn**	**05 02 12.7**	**-6.2**
PB12	comp=E,61nm,0.2s			IAML		05 02 29.6	
PB14	**IPOC Station P**	**3.72**	**202**	*e*P	**Pn**	**05 01 56.6**	**+1.4**
LPAZ	**La Paz** comp=E,2.3nm,0.4s,baz=198,slow=3.9,SNR=14	**4.91**	**8**	P	**Pn**	**05 02 12.8**	**+1.5**
LPAZ	comp=E,0.8nm,0.5s,baz=255,slow=6.6,SNR=1.2			S	Sn	05 02 58.7	-8.8
SIV	**San Ignacio** comp=E,3.7nm,0.4s,baz=241,slow=14,SNR=41	**9.00**	**56**	P	Pn	05 03 01.2	-5.0
QSPA	**South Pole Qui** comp=E,1.3nm,1.1s,baz=200,slow=5.2,SNR=1.7	**69.02**	**180**	P	**P**	**05 11 53.0**	**+1.4**
TORD	**Torodi Ar. Bea** comp=E,0.5nm,0.8s,baz=257,slow=5.1,SNR=8.1	**77.19**	**70**	P	**P**	**05 12 39.3**	**-1.2**
MKAR	**Makanchi Array** comp=E,0.2nm,0.7s,baz=318,slow=3.9,SNR=2.8	**145.34**	**36**	PKPbc	**PKPab**	**05 20 23.3**	**+0.1**

comp=E,0.5nm,0.8s

*IDC **25** 05:08:20.9±1.9, 37.86N×141.02E, h0km, mb3.8/7, mbtmp3.7/9, ML2.8/2, Error ellipse: s-maj=38.3km s-min=26.8km az=97.0*
*NIED **25** 05:08:27.8, 37.31N×140.94E, h61km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-1.63; Mθθ1.66; Mϕϕ-0.03; Mrθ1.62; Mθϕ0.89; Mϕr3.57; Fault plane solution: M₀4.32000×10¹⁴ NP1: ϕs210.00000°, δ80.00000°, λ-106.00000°. NP2: ϕs90.00000°, δ19.00000°, λ-32.00000°.*
*JMA **25** 05:08:27.8±0.1, 37.3N±0.2×140.9E±0.4, h61km, MV3.5/40, EASTERN FUKUSHIMA PREF*
JMA Felt II J1 at EASTERN FUKUSHIMA PREF.

ISC 25 05:08:26.9±1.0, 37.33N±0.04×141.00E±0.06, h65km±6km, n36, σ1°06/42, mb3.8/7, 12D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.10**	**289**	⇓P	**Pn**	**05 08 36.9**	**+0.3**
JFK				⇓S	**Sn**	**05 08 43.3**	**-0.4**
ONAJ	**Iwakimizuishiy**	**0.28**	**214**	P	**Pn**	**05 08 37.6**	**+0.2**
ONAJ				S	**Sn**	**05 08 44.8**	**-0.3**
JMST	**Minamisoumatoc**	**0.40**	**348**	⇓*i*P	**Pn**	**05 08 39.1**	**+0.8**
JMST				⇓S	**Sn**	**05 08 47.2**	**+0.6**
JFFD	**Fukushimafurud**	**0.42**	**235**	⇓*i*P	**Pn**	**05 08 38.7**	**+0.2**
JFFD				⇓S	**Sn**	**05 08 46.5**	**-0.6**
JMM	**Marumori**	**0.56**	**343**	P	**Pn**	**05 08 40.5**	**+0.7**
JMM	**Marumori**	**0.56**	**343**	⇓P	**Pn**	**05 08 40.6**	**+0.8**
JMM				⇓S	**Sn**	**05 08 50.0**	**+0.7**
JOTO	**OTAMA OYAMA**	**0.57**	**293**	P	**Pn**	**05 08 40.4**	**+0.4**
JOTO				*e*S	**Sn**	**05 08 49.9**	**+0.3**
JFY	**Yanaizu**	**1.03**	**274**	⇓P	**Pn**	**05 08 45.8**	**+0.3**
JFY				⇓S	**Sn**	**05 08 59.0**	**-0.3**
JOU	**Okura**	**1.06**	**346**	P	**Pn**	**05 08 46.9**	**+0.9**
JOU				S	**Sn**	**05 09 01.0**	**+0.9**
JYS	**Shirataka**	**1.15**	**321**	S	**Sn**	**05 09 02.0**	**-0.1**
JIO	**Ouri**	**1.15**	**14**	P	**Pn**	**05 08 47.9**	**+0.8**
JIO				S	**Sn**	**05 09 02.5**	**+0.4**
JNS	**Sasagawa**	**1.42**	**290**	*e*P	**Pn**	**05 08 50.9**	**+0.3**
JNS				S	**Sn**	**05 09 06.6**	**-1.8**
JKT	**Katashina**	**1.51**	**248**	*e*P	**Pn**	**05 08 52.4**	**+0.6**
JAG	**Ashikaga**	**1.53**	**234**	⇓P	**Pn**	**05 08 52.3**	**+0.2**
JAG				⇓S	**Sn**	**05 09 10.2**	**-0.9**
JUON	**Uonuma**	**1.55**	**266**	P	**Pn**	**05 08 52.7**	**+0.4**
JSD	**Sado**	**2.28**	**289**	P	**Pn**	**05 09 01.9**	**-0.3**
MJAR	**Matsushiro Arr** 0.8nm,0.3s,baz=76,slow=15,SNR=41	**2.37**	**251**	Pn	**Pn**	**05 09 04.2**	**+0.8**
MJAR	1.1nm,0.3s,baz=14,slow=16,SNR=4.6 4.2nm,0.4s			Sn	**Sn**	**05 09 35.2**	**+3.8**
MAJO	**Matsushiro**	**2.37**	**251**	P	**Pn**	**05 09 04.6**	**+1.2**
JGF	**Kuroka**	**3.40**	**241**	P	**Pn**	**05 09 19.7**	**+2.1**
INU	**Inuyama**	**3.77**	**240**	P	**Pn**	**05 09 24.7**	**+2.2**
JHJ	**Hachijo jima 2** 5.3nm,0.3s,baz=66,slow=13,SNR=1.6	**4.32**	**194**	Pn	**Pn**	**05 09 31.0**	**+0.9**
JHJ	14nm,0.3s,baz=89,slow=22,SNR=0.9			Sn	**Sn**	**05 10 19.0**	**-0.1**
ASAJ	**Asahikawa** 0.2nm,0.3s,baz=108,slow=18,SNR=1.1	**6.88**	**10**	Pn	**Pn**	**05 10 03.1**	**-1.9**
ASAJ	0.3nm,0.3s,baz=154,slow=33,SNR=1.2			Sn	Sn	05 11 10.9	-11
KSRS	**Korea Array** 0.2nm,0.3s,baz=100,slow=11,SNR=2.0 0.3nm,0.4s	**10.40**	**275**	Pn	**Pn**	**05 10 52.3**	**-0.9**
SONM	**Songino Array** 0.5nm,0.5s,baz=112,slow=8.6,SNR=6.0 0.5nm,0.5s	**27.34**	**304**	P	**P**	**05 14 05.0**	**-0.7**
H11N2	**WAKE ISLAND Hy** baz=314,slow=75,SNR=28	**28.59**	**121**	T	T	05 44 31.0	
H11N1	**WAKE ISLAND Hy** baz=314,slow=75,SNR=26	**28.60**	**121**	T	T	05 44 32.2	
H11N3	**WAKE ISLAND Hy** baz=314,slow=75,SNR=25	**28.61**	**121**	T	T	05 44 32.5	
H11S1	**WAKE ISLAND Hy** baz=315,slow=76,SNR=23	**29.30**	**123**	T	T	05 45 17.2	
H11S3	**WAKE ISLAND Hy** baz=315,slow=76,SNR=18	**29.30**	**123**	T	T	05 45 17.4	
H11S2	**WAKE ISLAND Hy** baz=315,slow=76,SNR=12	**29.32**	**123**	T	T	05 45 17.7	
ZALV	**Zalesovo Beam** 0.8nm,0.4s,baz=100,slow=6.2,SNR=5.3 0.8nm,0.4s	**41.47**	**312**	P	**P**	**05 16 06.7**	**-0.4**
MKAR	**Makanchi Array** 0.8nm,0.7s,baz=89,slow=8.8,SNR=8.4 0.8nm,0.7s	**43.68**	**302**	P	**P**	**05 16 25.1**	**0.0**
KURBB	**Kurchatov Arra** 1.0nm,0.5s,baz=82,slow=8.5,SNR=9.7 1.0nm,0.5s	**45.55**	**308**	P	**P**	**05 16 39.7**	**-0.2**
BVAR	**Borovoye Array** 0.4nm,0.6s,baz=54,slow=9.8,SNR=1.4 0.4nm,0.6s	**50.12**	**312**	P	**P**	**05 17 15.1**	**-0.2**
WRA	**Warramunga Arr** 1.1nm,0.8s,baz=360,slow=7.8,SNR=1.9 1.1nm,0.8s	**57.31**	**187**	P	P	05 18 14.3	+6.2
AKASG	**Malin Array Be** 0.5nm,0.4s,baz=46,slow=6.0,SNR=6.9 0.5nm,0.4s	**73.86**	**322**	P	**P**	**05 19 54.4**	**0.0**

IDC 25 05:09:26.5±7.0, 5.87S×142.77E, h0km, mb3.5/1, mbtmp3.5/3, ML2.9/2, Error ellipse: s-maj=242.3km s-min=36.5km az=95.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** baz=27,slow=10,SNR=1.7 0.5nm,0.7s	**16.22**	**210**	Pn	Pn	05 13 14.2	-1.7
ASAR	**Alice Springs** 0.1nm,0.3s,baz=37,slow=9.9,SNR=11 2.4nm,1.3s	**19.65**	**205**	P	Pn	05 13 57.9	-0.5
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=98,slow=6.2,SNR=3.8 0.3nm,0.7s	**74.75**	**322**	P	P	05 21 08.4	0.0

*IDC **25** 05:09:31.2±0.5, 5.77S×152.28E, h0km, mb4.7/28, mbtmp4.8/31, ML3.3/2, MS4.3/30, Error ellipse: s-maj=17.0km s-min=10.9km az=98.0*
*MOS **25** 05:09:33.1±0.8, 5.79S×152.28E, h21km, mb5.1/22, Error ellipse: s-maj=10.2km s-min=6.5km az=102.5*
*BJI **25** 05:09:36.9±0.0, 5.52S×152.23E, h35km, mb4.7/53, mB5.1/31, Ms4.7/29, Ms7 4.4/37*
*NEIC **25** 05:09:37.9, 5.76S×152.32E, h26km, Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10¹⁶Nm; Mrr5.41; Mθθ-4.64; Mϕϕ-0.77; Mrθ0.14; Mθϕ-1.33; Mϕr0.37; Fault plane solution: M₀5.25000×10¹⁶ NP1:ϕs69.57000°, δ46.43000°, λ85.70000°. NP2:ϕs255.80000°, δ43.74000°, λ94.51000°. Principal axes: T 5.4329, Plg87.0000°, Azm276.0000°; N -0.3741, Plg3.0000°, Azm73.0000°; P -5.0588, Plg1.0000°, Azm163.0000°;*
*NEIC **25** 05:09:37.9±1.1, 5.88S±0.06×152.24E±0.07, h35km±1km, mb5.3/97, Mww5.1/14 Error ellipse: s-maj=12.1km s-min=9.5km az=106.0*
*GCMT **25** 05:09:37.9±0.2, 5.99S±0.01×152.25E±0.02, h13km, MW5.0/117, Moment Tensor Solution. s67,c89; s117,c180; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.90±.13; Mθθ-3.51±.09; Mϕϕ-0.38±.09; Mrθ2.12±.23; Mθϕ-1.13±.07; Mϕr1.32±.28; Best double couple: M₀4.62000×10¹⁶ NP1:ϕs65.00000°, δ61.00000°, λ83.00000°. NP2:ϕs259.00000°, δ29.00000°, λ103.00000°. Principal axes: T 4.6650, Plg73.0000°, Azm318.0000°; N -0.0880, Plg6.0000°, Azm68.0000°; P -4.5760, Plg16.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **25** 05:09:37.9, 5.86S×152.22E, h26km*
*DJA **25** 05:09:42.3±1.2, 6.7S±15.2E±1.1°, h86km±10km, M5.4/14, mb5.1/14, mB5.8/6, MLv5.6/1, Mw(mB)5.3/6, MwMwp5.1/1, Mwp5.3/1*

ISC 25 05:09:36.3±0.5, 5.84S±0.04×152.32E±0.05, h28km±3km, h30km:pP-P, n617, σ1°38/625, mb5.1/109, MS4.4/44, 10C-5D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I40PG	**Keravat** baz=197,slow=33	**1.56**	**349**	Pn	**Pn**	**05 10 01.8**	**-0.4**
MANU	**Manus Island**	**6.22**	**307**	P	Pn	05 11 12.1	+5.9
MANU	**Manus Island**	**6.22**	**307**		**Pn**	**05 11 09.1**	**+2.9**
PMG	**Port Moresby**	**6.22**	**235**		**Pn**	**05 11 07.3**	**+1.1**
PMG	**Port Moresby** 17nm,0.3s,baz=49,slow=5.5,SNR=66	**6.22**	**235**	Pn	**Pn**	**05 11 06.5**	**+0.3**
PMG	9.0nm,0.3s,baz=54,slow=18,SNR=8.7 363nm,0.7s			Sn	**Sn**	**05 12 18.0**	**+1.6**
HNR	**Honiara**	**8.36**	**116**		**Pn**	**05 11 38.1**	**+2.4**
HNR	**Honiara** 500nm,0.4s,baz=204,slow=5.4,SNR=2.3	**8.36**	**116**	Pn	**Pn**	**05 11 35.6**	**-0.1**
HNR				LR	LR	05 14 42.8	

comp=Z,12µm,18.9s,baz=271,slow=37
TV1H Townsville Har 14.38 201 P **P** **05 13 04.3 -0.4**
MTSU Mount Surprise 14.50 212 P **Pn** **05 13 01.3 +1.5**
baz=14,SNR=7.8
MTSU Mount Surprise 14.50 212 P **P** **05 13 04.9 -1.2**
CTA Charters Tower 15.34 202 Pn **Pn** **05 13 10.8 -0.1**
0.2nm,0.3s,baz=90,slow=19,SNR=12
8.2nm,1.0s
CTAO Charters Tower 15.34 202 P **P** **05 13 16.2 +0.8**
CTAO Charters Tower 15.34 202 **Pn** **05 13 10.9 -0.1**
CTAO Charters Tower 15.34 202 P **Pn** **05 13 10.9 -0.1**
CTAO pmax pmax
comp=Z,38nm,1.1s
RK1H Rockhampton Ha 17.53 186 P **P** **05 13 42.4 +2.7**
QIS Mount Isa 19.14 219 P **Pn** **05 13 57.8 -0.6**
baz=19,SNR=11
QIS Mount Isa 19.14 219 P **Pn** **05 13 59.1 +0.7**
EIDS Eidsvold 19.45 183 P **Pn** **05 14 02.0 -0.1**
baz=20,SNR=3.3
EIDS Eidsvold 19.45 183 P **Pn** **05 14 02.2 +0.1**
EIDS Eidsvold 19.45 183 P **P** **05 14 00.8 0.0**
FAKI Fak Fak 20.22 277 P **P** **05 14 07.6 -1.7**
GUMO Guam 20.67 339 P **P** **05 14 12.3 -1.8**
comp=Z,108nm,0.8s,baz=184,slow=14,SNR=2.4
comp=Z,108nm,0.8s
KDU Kakadu 20.72 249 P **P** **05 14 14.2 -0.5**
baz=21,SNR=30
KDU Kakadu 20.72 249 P **P** **05 14 15.1 +0.4**
LIFNC LIFOU 20.74 137 P Pn 05 14 16.4 -0.9
LIFNC LIFOU 20.74 137 P **P** **05 14 15.4 +0.6**
LIFNC IAmb IAmb 05 14 17.1
comp=Z,139nm,1.0s
NOUC Port Laguerre 21.07 141 P **P** **05 14 20.5 +2.1**
DZM Mont Dzumac 21.14 141 P **P** **05 14 21.1 +1.8**
DZM Mont Dzumac 21.14 141 P **P** **05 14 19.8 +0.5**
DZM Mont Dzumac 21.14 141 *e*P **P** **05 14 14.2 -5.1**
comp=Z,174nm,28.2s
DZM *e*LR LR 05 19 21.3
comp=Z,4µm,25.2s
DZM Mont Dzumac 21.14 141 P **P** **05 14 19.7 +0.5**
comp=Z,24nm,1.0s,baz=8.0,slow=10.0,SNR=7.9
DZM LR LR 05 21 13.7
comp=Z,2µm,20.9s,baz=318,slow=33
comp=Z,24nm,1.0s
OUENC Ouen Island, N 21.64 141 P **P** **05 14 24.4 -0.2**
OUENC IAmb IAmb 05 14 36.3
comp=Z,218nm,2.0s
MTN Manton Dam 22.02 250 P **P** **05 14 28.0 -0.7**
baz=22,SNR=8.4
MTN Manton Dam 22.02 250 P **P** **05 14 28.9 +0.2**
MTN Manton Dam 22.02 250 P **P** **05 14 27.9 -0.7**
MTN IAmb IAmb 05 14 41.5
comp=Z,118nm,1.4s
QLP Quilpie 22.02 200 P **P** **05 14 29.2 +0.7**
baz=22,SNR=5.2
QLP Quilpie 22.02 200 P **P** **05 14 30.3 +1.7**
DRS Darwin Rock St 22.12 251 P **P** **05 14 30.9 +1.1**
GC1S Gold Coast 1 S 22.23 177 P **P** **05 14 32.9 +2.2**
WB0 Warramunga Arr 22.26 230 P **P** **05 14 30.7 -0.5**
WB0 IAmb IAmb 05 14 34.3
comp=Z,120nm,1.4s
WR0 Warramunga Arr 22.26 229 P **P** **05 14 30.5 -0.8**
WC3 Warramunga Arr 22.39 230 P **P** **05 14 32.5 -0.1**
baz=22
WB2 Warramunga Arr 22.39 230 P **P** **05 14 32.3 -0.3**
baz=22
WB2 Warramunga Arr 22.39 230 P **P** **05 14 32.0 -0.6**
WB2 IAmb IAmb 05 14 35.7
comp=Z,113nm,1.4s
WRA Warramunga Arr 22.40 230 P **P** **05 14 31.6 -1.2**
WRA Warramunga Arr 22.40 230 *i*P **P** **05 14 32.5 -0.3**
WRA pmax pmax
comp=Z,47nm,1.0s
WRA Warramunga Arr 22.40 230 P **P** **05 14 32.3 -0.5**
comp=Z,45nm,1.0s,baz=54,slow=10,SNR=70
WRA PcP **PcP** **05 18 27.4 +0.1**
comp=Z,1.2nm,0.7s,baz=46,slow=2.4,SNR=1.4
WRA LR LR 05 23 56.4
comp=Z,640nm,19.6s,baz=46,slow=39
comp=Z,45nm,1.0s
WB1 Warramunga Ar. 22.41 230 P **P** **05 14 33.8 +1.0**
AULRC Lightning Ridg 23.82 189 P **P** **05 14 47.2 +0.2**
INKA Innaminka 24.40 205 P **P** **05 14 53.5 +1.1**
ARMA Armidale 24.45 181 P **P** **05 14 53.8 +0.8**
baz=25,SNR=5.9
ARMA Armidale 24.45 181 P **P** **05 14 54.5 +1.5**
ARMA Armidale 24.45 181 P **P** **05 14 53.0 0.0**
AS01 Alice Springs 25.03 223 P **P** **05 14 58.4 +0.2**
AS31 Alice Springs 25.06 223 P **P** **05 14 58.3 -0.2**
ASAR Alice Springs 25.06 223 P **P** **05 14 57.8 -0.7**
ASAR Alice Springs 25.06 223 P **P** **05 14 58.5 0.0**
comp=Z,68nm,0.9s,baz=58,slow=8.8,SNR=142
ASAR PcP **PcP** **05 18 32.7 -0.3**
comp=Z,1.6nm,1.1s,baz=19,slow=4.2,SNR=3.1
ASAR S **S** **05 19 24.3 +2.9**
comp=Z,0.6nm,1.0s,baz=50,slow=15,SNR=1.1
comp=Z,68nm,0.9s
ASPA Alice Springs 25.06 223 P **P** **05 14 58.2 -0.3**
baz=25
CMSA Cobar Meteorol 26.30 193 P **P** **05 15 09.9 +0.2**
baz=26,SNR=12
CMSA Cobar Meteorol 26.30 193 P **P** **05 15 10.9 +1.3**
LHI Lord Howe Isla 26.32 167 P **P** **05 15 08.9 -0.8**
LHI Lord Howe Isla 26.32 167 P **P** **05 15 08.5 -1.2**
OOD Oodnadatta 26.95 214 P **P** **05 15 15.6 +0.1**
STKA Stephens Creek 27.77 200 P **P** **05 15 22.5 -0.3**
baz=28,SNR=11
STKA Stephens Creek 27.77 200 P **P** **05 15 23.3 +0.4**
STKA Stephens Creek 27.77 200 P **P** **05 15 22.0 -0.8**
STKA Stephens Creek 27.77 200 P **P** **05 15 22.0 -0.8**
comp=Z,22nm,1.0s,baz=26,slow=7.2,SNR=7.6
comp=Z,22nm,1.0s
LCRK Leigh Creek 27.84 207 P **P** **05 15 23.5 +0.1**
SOEI Soe 28.05 260 P **P** **05 15 25.1 -0.6**
SOEI Soe 28.05 260 P **P** **05 15 24.8 -0.9**
SOEI Soe 28.05 260 P **P** **05 15 25.8 +0.1**
comp=Z,146nm,1.0s,comp=Z,2µm
BATI Baumata 28.69 259 LR LR 05 29 03.7
comp=Z,1µm,19.8s,baz=104,slow=41
FITZ Fitzroy Crossi 28.75 243 P **P** **05 15 30.9 -0.7**
baz=29,SNR=22
FITZ Fitzroy Crossi 28.75 243 P **P** **05 15 31.5 -0.2**
FITZ Fitzroy Crossi 28.75 243 P **P** **05 15 30.6 -1.1**
DAV Davao City (W) 29.60 295 LR LR 05 27 22.3
comp=Z,729nm,18.0s,baz=113,slow=36
MULG Mulgathing 29.77 213 P **P** **05 15 40.7 +0.1**
WRKA Warakurna 29.90 228 P **P** **05 15 40.9 -1.0**
baz=30,SNR=16
WRKA Warakurna 29.90 228 P **P** **05 15 41.2 -0.7**
MMRI Maumere 29.96 263 P **P** **05 15 40.8 -1.8**
MMRI IAmb IAmb 05 16 11.7
comp=Z,117nm,1.1s
BASI Baing, Sumba 31.71 260 P **P** **05 15 58.4 +0.4**
comp=Z,253nm,1.0s,comp=Z,3µm
ARPS Mount Arapiles 32.24 196 P **P** **05 16 02.3 0.0**
baz=32
FORT Forrest 33.68 220 P **P** **05 16 14.8 -0.3**
baz=34
FORT Forrest 33.68 220 P **P** **05 16 14.9 -0.1**
FORT Forrest 33.68 220 P **P** **05 16 13.8 -1.2**
FORT IAmb IAmb 05 16 28.2
comp=Z,78nm,1.0s
PLAI Plampang 34.38 263 P **P** **05 16 20.2 -1.1**
MBWA Marble Bar 35.04 241 P **P** **05 16 26.3 -0.6**
MBWA Marble Bar 35.04 241 P **P** **05 16 25.8 -1.2**
MBWA IAmb IAmb 05 16 27.2
comp=Z,34nm,1.1s
MBWA Marble Bar 35.04 241 P **P** **05 16 26.6 -0.4**
MBWA sP **pwP** **05 16 41.8 -0.5**
PSA00 Pilbara Seismi 35.09 240 P **P** **05 16 27.1 -0.3**
PSA00 Pilbara Seismi 35.09 240 P **P** **05 16 26.4 -1.0**
PSA00 IAmb IAmb 05 16 28.7
comp=Z,22nm,1.1s
JAGI Jajag, Banyuwa 37.95 264 P **P** **05 16 48.8 -3.1**
JAGI IAmb IAmb 05 16 49.7
comp=Z,30nm,0.8s
TOZ Tahuroa Road 38.12 150 P **P** **05 16 52.9 0.0**
MEEK Meekatharra 38.20 233 P **P** **05 16 53.2 -0.6**
baz=38,SNR=6.8
MEEK Meekatharra 38.20 233 P **P** **05 16 53.6 -0.2**
NIUE Niue 39.03 113 P **P** **05 17 00.3 -0.6**
URZ Urewera 39.34 149 LR LR 05 29 59.4
comp=Z,370nm,19.3s,baz=80,slow=31
RTZ Ruatahuna 39.54 149 P **P** **05 17 05.7 +0.7**
RTZ IAmb IAmb 05 17 18.0

comp=Z,133nm,2.0s
JOW Kunigami 39.97 325 P **P** **05 17 08.2 -0.2**
JOW IAmb IAmb 05 17 19.9
comp=Z,57nm,1.1s
JOW Kunigami 39.97 325 P **P** **05 17 08.3 -0.2**
comp=Z,16nm,0.9s,baz=117,slow=3.5,SNR=3.6
JOW LR LR 05 30 15.5
comp=Z,306nm,20.9s,baz=118,slow=31
comp=Z,16nm,0.9s
TCW Tory Channel 40.31 154 P **P** **05 17 11.6 +0.4**
RPZ Rata Peaks 41.17 159 LR LR 05 34 03.3
comp=Z,906nm,18.4s,baz=320,slow=36
MORW Morawa 41.32 232 P **P** **05 17 19.5 -0.3**
baz=41,SNR=3.8
MORW Morawa 41.32 232 P **P** **05 17 19.0 -0.8**
MORW IAmb IAmb 05 17 19.8
comp=Z,40nm,1.2s
JNU Nakatsue 43.77 334 P **P** **05 17 37.9 -1.7**
JNU Nakatsue 43.77 334 P **P** **05 17 38.4 -1.2**
comp=Z,11nm,0.9s,baz=142,slow=4.7,SNR=5.9
comp=Z,11nm,0.9s
MJAR Matsushiro Arr 44.19 344 P **P** **05 17 39.2 -3.6**
comp=Z,2.4nm,0.9s,baz=168,slow=5.1,SNR=5.2
MJAR PcP **PcP** **05 19 27.8 +0.4**
comp=Z,0.8nm,0.7s,baz=188,slow=3.4,SNR=1.7
comp=Z,2.4nm,0.9s
MAJO Matsushiro 44.19 344⇑ *e*P **P** **05 17 41.7 -1.2**
MAJO pmax pmax
comp=Z,13nm,1.3s
TJN Taejon 48.07 333 P **P** **05 18 12.8 -0.6**
TJN Taejon 48.07 333 P **P** **05 18 12.8 -0.6**
TJN pmax pmax
comp=Z,145nm,1.3s
QIZ Qiongzhong 48.59 302 P **P** **05 18 17.6 -0.1**
QIZ S **S** **05 25 20.0 +1.9**
QIZ sS **sS** **05 25 35.9 +5.7**
QIZ ScS **ScS** **05 28 09.0 0.0**
QIZ LR LR
comp=Z,260nm,16.8s
QIZ LR LR
comp=Z,280nm,25.2s
QIZ LR LR
comp=Z,560nm,23.5s
KSRS Korea Array 48.72 334 P **P** **05 18 16.9 -1.5**
comp=Z,3.4nm,0.9s,baz=153,slow=9.5,SNR=13
KSRS ScP **ScP** **05 23 38.8 +2.4**
comp=Z,0.4nm,0.4s,baz=160,slow=3.9,SNR=4.2
KSRS LR LR 05 39 39.2
comp=Z,131nm,18.1s,baz=155,slow=37
comp=Z,3.4nm,0.9s
KSAR Wonju Array Be 48.72 334 P **P** **05 18 17.6 -0.8**
KSAR Wonju Array Be 48.72 334 P **P** **05 18 17.6 -0.8**
RAR Rarotonga 48.81 113 LR LR 05 35 58.5
comp=Z,87nm,20.8s,baz=302,slow=32
INCN Inchon 49.31 333 P **P** **05 18 21.9 -1.0**
INCN IAmb IAmb 05 18 23.6
comp=Z,46nm,1.1s
INCN Inchon 49.31 333 P **P** **05 18 21.9 -1.0**
INCN pmax pmax
comp=Z,46nm,1.2s
NJ2 Nanjing 49.35 322 *e*P **P** **05 18 25.1 +1.8**
NJ2 pP **pwP** **05 18 34.8 -3.8**
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 pmax pmax
comp=Z,360nm,5.0s
NJ2 LR LR
comp=Z,460nm,19.9s
NJ2 LR LR
comp=Z,330nm,16.6s
NJ2 LR LR
comp=Z,650nm,18.0s
JKA Kamikawa-asahi 50.50 351 P **P** **05 18 30.6 -1.2**
JKA IAmb IAmb 05 19 11.9
comp=Z,61nm,1.7s
ASAJ Asahikawa 50.50 351 P **P** **05 18 30.6 -1.2**
ASAJ pmax pmax
comp=Z,61nm,1.7s
WHN Wuhan 51.28 317 P **P** **05 18 39.5 +1.6**
WHN LR LR
comp=Z,1µm,20.8s
USA0B Ussuriysk Arra 53.08 342 P **P** **05 18 49.6 -1.5**
USA0B Ussuriysk Arra 53.08 342 P **P** **05 18 49.6 -1.5**
USA0B pmax pmax
comp=Z,8.0nm,0.7s
USRK Ussuriysk Ar. 53.08 342 P **P** **05 18 49.9 -1.2**
USRK Ussuriysk Ar. 53.08 342 P **P** **05 18 49.7 -1.4**
comp=Z,2.7nm,0.8s,baz=152,slow=6.1,SNR=5.4
USRK LR LR 05 39 22.2
comp=Z,108nm,21.9s,baz=172,slow=34
comp=Z,2.7nm,0.8s
MDJ Mudanjiang 54.23 340 P **P** **05 19 01.9 +2.4**
MDJ pmax pmax
comp=Z,8.0nm,1.0s
MDJ pmax pmax
comp=Z,120nm,3.6s
GYA Guiyang 54.65 308 P **P** **05 19 03.9 +0.8**
GYA S **S** **05 26 41.4 -0.2**
GYA pmax pmax
comp=Z,11nm,1.0s
GYA LR LR
comp=Z,320nm,18.6s
LYN LuoYang 55.02 320 ⇓P **P** **05 19 05.0 -0.4**
LYN pP sP 05 19 14.6 +0.2
LYN S **S** **05 26 47.1 +1.1**
LYN pmax pmax
comp=Z,12nm,0.7s
LYN pmax pmax
comp=Z,190nm,5.7s
LYN LR LR
comp=Z,380nm,15.7s
LYN LR LR
comp=Z,430nm,16.3s
LYN LR LR
comp=Z,770nm,24.2s
CN2 Changchun 55.05 336 P **P** **05 19 09.4 +3.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
HNS HongShan 55.49 324 ⇑P **P** **05 19 08.3 -0.5**
HNS pP **sP** **05 19 18.6 +0.8**
HNS PcP **PcP** **05 20 09.8 +1.1**
HNS S **S** **05 26 48.4 -3.9**
HNS pmax pmax
comp=Z,9.0nm,1.4s
HNS pmax pmax
comp=Z,150nm,5.1s
HNS LR LR
comp=Z,340nm,16.7s
HNS LR LR
comp=Z,320nm,19.1s
HNS LR LR
comp=Z,450nm,17.9s
BNX BinXian 55.96 339 ⇓P **P** **05 19 10.9 -1.1**
BNX pmax pmax
comp=Z,9.0nm,1.0s
BNX pmax pmax
comp=Z,69nm,3.5s
PHRA Phrae 56.76 296 P **P** **05 19 17.6 -0.6**
XAN Xi'an 57.05 317 P **P** **05 19 19.1 -1.0**
XAN pP sP 05 19 29.5 +0.4
XAN S **S** **05 27 13.9 +0.7**
XAN pmax pmax
comp=Z,18nm,1.2s
XAN LR LR
comp=Z,360nm,17.2s
XAN LR LR
comp=Z,330nm,19.1s
XAN LR LR
comp=Z,570nm,17.3s
KMI Kunming 57.17 305 ⇑P **P** **05 19 21.6 +0.3**
KMI pP pwP 05 19 32.1 -4.3
KMI S **S** **05 27 13.3 -2.2**
KMI pmax pmax
comp=Z,13nm,1.2s
KMI LR LR
comp=Z,170nm,15.4s
KMI LR LR
comp=Z,230nm,22.6s
KMI LR LR
comp=Z,290nm,27.4s
CRAI Chiangrai 57.24 298 P **P** **05 19 21.0 -0.6**
KLR Kul'dur 57.71 344 *ce*P **P** **05 19 23.1 -1.2**
KLR pmax pmax
comp=Z,12nm,2.5s
KLR Kul'dur 57.71 344 P **P** **05 19 22.8 -1.5**
comp=Z,2.3nm,0.9s,baz=139,slow=5.8,SNR=6.5

comp=Z,2.3nm,0.9s
PPT Papeete 57.88 107 LR LR 05 41 19.1
comp=Z,64nm,18.4s,baz=312,slow=33
PPT2 Papeete2 57.88 107 *e*S S 05 27 16.0 -8.7
comp=Z,86nm,25.2s
PPT2 *e*LQ LQ 05 33 34.9
comp=Z,274nm,24.0s
PPT2 *e*LR LR 05 35 50.5
comp=Z,118nm,25.5s
PPT2 *e*LR LR 05 36 09.3
comp=Z,121nm,24.8s
CM31 Chiang Mai Arr 57.89 296 P **P** **05 19 25.7 -0.5**
CMAR Chiang Mai Arr 57.89 296 P **P** **05 19 24.9 -1.4**
CMAR Chiang Mai Arr 57.89 296 *i*P **P** **05 19 26.7 +0.5**
CMAR pmax pmax
comp=Z,3.0nm,0.6s
CMAR Chiang Mai Arr 57.89 296 P **P** **05 19 25.6 -0.6**
comp=Z,3.2nm,0.7s,baz=115,slow=5.1,SNR=24
comp=Z,3.2nm,0.7s
TBI Tubuai 58.58 114 *e*S **S** **05 27 31.1 -2.4**
comp=Z,436nm,33.5s
TBI *e*SS **SS** **05 31 31.0 +4.4**
comp=Z,389nm,26.5s
TBI *e*LQ LQ 05 34 02.9
comp=Z,2µm,33.8s
TBI *e*LR LR 05 36 49.8
comp=Z,2µm,33.0s
PZH PanZhiHua 58.58 306 P **P** **05 19 30.4 -0.7**
PZH S **S** **05 27 37.3 +3.6**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,6.0s
PZH LR LR
comp=Z,190nm,20.5s
PZH LR LR
comp=Z,200nm,22.0s
PZH LR LR
comp=Z,260nm,24.5s
PET Petropavlovsk 58.89 4 *e*P **P** **05 19 36.0 +3.5**
PET *e*S **S** **05 27 36.3 -0.1**
PET MLR MLR
comp=Z,200nm,17.0s
PEA0B Petropavlovsk- 58.91 4 P **P** **05 19 32.7 +0.1**
PEA0B IAmb IAmb 05 20 33.4
comp=Z,29nm,1.3s
PEA0B Petropavlovsk- 58.91 4 P **P** **05 19 32.7 +0.1**
PEA0B pmax pmax
comp=Z,29nm,1.3s
PETK Petropavlovsk- 58.91 4 P **P** **05 19 32.1 -0.5**
PETK Petropavlovsk- 58.91 4 P **P** **05 19 32.1 -0.5**
PETK Petropavlovsk- 58.91 4 P **P** **05 19 32.3 -0.4**
comp=Z,2.1nm,0.4s,baz=176,slow=4.0,SNR=1.5
comp=Z,2.1nm,0.4s
CD2 Chengdu 59.05 311 P **P** **05 19 35.3 +1.1**
CD2 S **S** **05 27 42.8 +3.2**
CD2 pmax pmax
comp=Z,70nm,5.1s
CD2 LR LR
comp=Z,300nm,22.1s
XLT XiLinHaoTe 59.32 330 *e*P **pP** **05 19 45.8 +3.6**
XLT pP pwP 05 19 55.8 +3.8
XLT sP sP 05 20 00.4 +16
XLT PcP **PcP** **05 20 25.3 +1.6**
XLT pmax pmax
comp=Z,22nm,1.1s
XLT pmax pmax
comp=Z,130nm,4.8s
HHC Hu-ho-hao-te 59.61 325 *e*P **P** **05 19 37.9 0.0**
HHC pP pwP 05 19 48.3 -5.8
HHC sP sP 05 19 52.3 +5.3
HHC PcP **PcP** **05 20 23.4 -1.6**
HHC sS sS 05 28 04.5 +6.1
HHC SS **SS** **05 31 43.0 +0.3**
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,70nm,4.9s
HHC LR LR
comp=Z,290nm,16.1s
HHC LR LR
comp=Z,190nm,15.1s
HHC LR LR
comp=Z,330nm,16.3s
HEH HeiHe 59.89 342 *e*P **P** **05 19 38.5 -1.0**
HEH pmax pmax
comp=Z,5.0nm,0.8s
HEH pmax pmax
comp=Z,120nm,8.0s
DRV Dumont d'Urvil 61.32 186 P **P** **05 19 49.3 +0.3**
LZH Lanzhou 61.64 316 *e*P **P** **05 19 52.5 +0.6**
LZH pP sP 05 20 01.8 +0.8
LZH sP pwP 05 20 06.1 -1.0
LZH S **S** **05 28 16.3 +3.5**
LZH pmax pmax
comp=Z,16nm,1.1s
LZH LR LR
comp=Z,230nm,16.8s
LZH LR LR
comp=Z,250nm,16.8s
LZH LR LR
comp=Z,360nm,17.9s
ZEA Zeya 63.00 344 *e*P **P** **05 20 00.1 -0.3**
ZEA *e* 05 20 08.0
MA2 Magadan 65.22 359 P **P** **05 20 14.5 -0.3**
MA2 Magadan 65.22 359⇓ *i*P **P** **05 20 14.6 -0.3**
MA2 pmax pmax
comp=Z,10.0nm,1.3s
MA2 Magadan 65.22 359 P **P** **05 20 14.8 -0.1**
GTA Gaotai 66.09 318 *e*P **P** **05 20 21.3 +0.1**
GTA pP pwP 05 20 32.0 -5.3
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA LR LR
comp=Z,120nm,21.9s
GTA LR LR
comp=Z,290nm,20.7s
GTA LR LR
comp=Z,220nm,19.9s
ULN Ulaanbaatar 66.63 329 P **P** **05 20 24.5 +0.1**
ULN IAmb IAmb 05 20 36.2
comp=Z,20nm,1.1s
ULN Ulaanbaatar 66.63 329*c* *i*P **P** **05 20 24.5 +0.1**
ULN pmax pmax
comp=Z,15nm,1.3s
ULN Ulaanbaatar 66.63 329 P **P** **05 20 24.6 +0.2**
ULN pP **pwP** **05 20 35.2 -5.4**
SONM Songino Array 66.95 328 P **P** **05 20 26.3 -0.2**
SONM IAmb IAmb 05 20 38.6
comp=Z,16nm,1.0s
SONM Songino Array 66.95 328 P **P** **05 20 26.3 -0.2**
comp=Z,13nm,1.1s,baz=142,slow=5.7,SNR=42
comp=Z,13nm,1.1s
SEY Seymchan 68.58 0⇑ *e*P **P** **05 20 36.0 -0.2**
SEY pmax pmax
comp=Z,9.0nm,1.3s
UNV Unalaska Valle 68.76 25 P **P** **05 20 38.9 +1.4**
baz=225
YAK Yakutsk 69.90 349 *e*P **P** **05 20 41.0 -3.4**
YAK pmax pmax
comp=Z,7.0nm,0.7s
YAK pmax pmax
comp=N,2.0nm,0.8s
YAK pmax pmax
comp=E,4.0nm,1.4s
ZAK Zakamensk 70.13 329 *e*P **P** **05 20 45.9 -0.3**
ZAK pmax pmax
comp=Z,18nm,1.1s
FALS False Pass 70.77 25 P **P** **05 20 51.2 +1.3**
baz=227
CCD Concordia, Ant 71.17 188 P **P** **05 20 52.9 +0.3**
CCD sP **pwP** **05 21 07.9 -0.9**
VNDA Vanda 71.81 178 P **P** **05 20 54.6 -1.2**
comp=Z,4.8nm,1.0s,baz=315,slow=6.8,SNR=4.6
comp=Z,4.8nm,1.0s
S12K Black Hills 71.91 25 P **P** **05 20 58.4 +1.6**
baz=228
MOY Mondy 72.06 329 *e*P **P** **05 20 58.2 +0.3**
MOY *e* 05 21 07.9
MOY pmax pmax
comp=Z,19nm,1.1s
SDPT Sand Point 72.36 26 P **P** **05 21 00.3 +0.8**
baz=230
CHNA Chernabura Isl 72.42 27 P **P** **05 21 00.7 +0.9**
baz=231
PALK Pallekele 72.63 279 LR LR 05 55 12.7

comp=Z,65nm,20.7s,baz=213,slow=38
S14K Fog Glacier 73.36 26 P P 05 21 06.2 +0.7
baz=231
M11K Mekoryuk 73.60 20 P P 05 21 08.3 +1.7
baz=223
CHGN Chignik 73.87 26 P P 05 21 09.7 +1.4
baz=232
BILL Bilibino 74.37 5 P P 05 21 11.4 +0.4
BILL Bilibino 74.37 5 eP P 05 21 11.6 +0.6
GAMB Gambell 74.51 16 P P 05 21 13.7 +1.8
baz=217
O14K Tigyukauivet M 74.60 23 P P 05 21 14.1 +1.6
baz=228
M13K Dall Lake 74.61 21 P P 05 21 13.9 +1.3
baz=226
CHIR Chirikof Islan 74.83 27 P P 05 21 15.0 +1.1
baz=234
N14K Kuskokwak Cree 74.89 22 P P 05 21 15.9 +1.8
baz=228
O15K Ungalikthiuk R 75.11 23 P P 05 21 16.8 +1.4
baz=230
M14K Bethel 75.35 21 P P 05 21 17.6 +0.8
M14K IAmb IAmb 05 21 19.6
comp=Z,73nm,1.1s
M14K Bethel 75.35 21 P P 05 21 18.8 +2.0
baz=227
L14K Kuka Creek 75.49 21 P P 05 21 18.9 +1.3
L14K Kuka Creek 75.49 21 P P 05 21 19.1 +1.4
baz=227
N15K Kwethluk River 75.65 22 P P 05 21 20.2 +1.6
N15K IAmb IAmb 05 21 32.2
comp=Z,59nm,1.1s
N15K Kwethluk River 75.65 22 P P 05 21 20.4 +1.8
baz=229
P16K Nushagak River 75.75 24 P P 05 21 20.3 +1.1
baz=232
M15K Kasigluk River 75.77 22 P P 05 21 20.8 +1.5
baz=229,SNR=5.5
SII Sitkinak Islan 75.91 27 P P 05 21 21.2 +1.0
SII Sitkinak Islan 75.91 27 P P 05 21 21.2 +1.0
baz=236
O16K Kokwok River B 76.06 24 P P 05 21 22.5 +1.6
baz=231
Q16K King Salmon 76.08 25 P P 05 21 22.8 +1.8
baz=233
L15K Ungalak Mounta 76.14 21 P P 05 21 22.5 +1.2
baz=226
Q17K Contact Creek 76.15 25 P P 05 21 22.3 +0.7
baz=234
J14K Nanvaranak Lak 76.18 19 P P 05 21 22.9 +1.4
baz=226
WMQ Urumqi 76.18 318 eP P 05 21 23.8 +1.7
WMQ LR LR
comp=Z,170nm,23.8s
N16K Nishlik Lake 76.35 23 P P 05 21 23.9 +1.3
baz=230
P17K Kvichak River 76.48 24 P P 05 21 24.6 +1.3
baz=233
K15K Wolf Creek Mou 76.54 20 P P 05 21 25.0 +1.4
K15K Wolf Creek Mou 76.54 20 P P 05 21 25.3 +1.7
baz=228
O17K Koliganek Bris 76.57 24 P P 05 21 24.9 +1.1
baz=232
M16K Timber Creek 76.63 22 P P 05 21 24.9 +0.8
M16K Timber Creek 76.63 22 P P 05 21 26.2 +2.0
baz=230
OHAK Old Harbor 76.69 27 P P 05 21 25.4 +0.8
baz=236
L16K Owhat River 76.88 21 P P 05 21 26.6 +1.0
L16K IAmb IAmb 05 21 38.5
comp=Z,72nm,1.4s
L16K Owhat River 76.88 21 P P 05 21 27.0 +1.5
baz=230,SNR=7.0
ANM Nome 76.91 17 P P 05 21 26.8 +1.1
ANM IAmb IAmb 05 21 28.5
comp=Z,54nm,1.2s
ANM Nome 76.91 17 P P 05 21 27.2 +1.5
baz=224,SNR=15
ANM Nome 76.91 17 P P 05 21 26.8 +1.1
ANM pmax pmax
comp=Z,54nm,1.2s
TNA Tin City 76.93 16 P P 05 21 27.0 +1.3
baz=221,SNR=5.7
N17K Nushagak Hills 76.99 23 P P 05 21 27.7 +1.5
baz=232
P18K Big Mountain, 77.10 25 P P 05 21 27.7 +0.9
baz=234
F14K Arctic Creek 77.30 16 P P 05 21 29.2 +1.4
baz=222
KDAK Kodiak Island 77.32 27 P P 05 21 29.7 +1.6
baz=237
KDAK Kodiak Island 77.32 27 LR LR 05 49 04.7
comp=Z,146nm,21.7s,baz=254,slow=31
O18K Koktuh Hills 77.38 24 P P 05 21 28.7 +0.2
O18K IAmb IAmb 05 21 41.1
comp=Z,33nm,1.4s
O18K Koktuh Hills 77.38 24 P P 05 21 29.8 +1.3
baz=234
M17K Holitna River 77.44 22 P P 05 21 30.6 +1.9
baz=232,SNR=6.7
Q19K Cape Douglas, 77.50 25 P P 05 21 29.5 +0.3
Q19K Cape Douglas, 77.50 25 P P 05 21 30.8 +1.7
baz=236,SNR=5.7
J16K Anvik River 77.53 20 P P 05 21 30.9 +1.8
J16K Anvik River 77.53 20 P P 05 21 31.5 +2.4
baz=228,SNR=11
L17K Donlin 77.58 21 P P 05 21 31.7 +2.2
baz=231
N18K Kilae Creek 77.60 23 P P 05 21 31.9 +2.3
baz=233,SNR=11
G15K Niukluk 77.62 17 P P 05 21 30.9 +1.3
baz=225,SNR=10
Q20K Shuyak Island 77.86 26 P P 05 21 32.9 +1.8
baz=237
SYI Shuyak Island 77.86 26 P P 05 21 32.5 +1.4
I17K Unalakleet 77.90 19 P P 05 21 32.5 +1.3
I17K Unalakleet 77.90 19 P P 05 21 33.5 +2.3
baz=228,SNR=15
H16K Elim 77.92 18 P P 05 21 32.7 +1.4
baz=226,SNR=10
O19K Port Alsworth 77.94 24 P P 05 21 33.1 +1.6
baz=235
F15K North Star Dit 77.95 17 P P 05 21 33.2 +1.7
baz=224,SNR=14
K17K Iditarod 77.95 21 P P 05 21 33.1 +1.5
baz=231,SNR=18
SVW2 Sparrevohn 77.97 23 P P 05 21 33.1 +1.4
SVW2 IAmb IAmb 05 21 35.2
comp=Z,32nm,1.0s
P19K Oil Pt 78.08 25 P P 05 21 32.3 -0.1
P19K Oil Pt 78.08 25 P P 05 21 33.4 +1.0
baz=236,SNR=6.8
M18K Stony River 78.11 23 P P 05 21 34.3 +1.8
baz=233
J17K VABM Dome 78.12 20 P P 05 21 34.4 +2.0
baz=230
L18K Granite Mounta 78.23 22 P P 05 21 35.1 +2.1
baz=232
N19K Bonanza Creek 78.23 24 P P 05 21 34.6 +1.3
baz=234
G16K Koyuk River 78.41 18 P P 05 21 35.7 +1.7
baz=226
O20K Slope Mountain 78.57 25 P P 05 21 36.0 +0.9
baz=236,SNR=6.2
RSO Redoubt South 78.73 24 P P 05 21 37.1 +1.0
HOM Homer 78.75 25 P P 05 21 37.6 +1.5
baz=237
H17K Granite Mounta 78.85 19 P P 05 21 37.6 +1.1
H17K IAmb IAmb 05 21 39.6
comp=Z,59nm,0.9s
H17K Granite Mounta 78.85 19 P P 05 21 38.4 +1.9
baz=229
CNPM China Poot 78.86 26 P P 05 21 37.4 +0.8
TIXI Tiksi 78.86 353 P P 05 21 36.2 -0.2
TIXI Tiksi 78.86 353 ceP P 05 21 36.0 -0.4
TIXI pmax pmax
comp=Z,8.0nm,1.5s
L19K White Mountain 78.89 22 P P 05 21 38.6 +1.8
baz=234
M19K Big River Lodg 78.91 23 P P 05 21 38.4 +1.6
baz=234
TTA Tatalina 78.91 21 P P 05 21 38.4 +1.5
baz=233,SNR=26
J18K Innoko River 78.99 21 P P 05 21 38.8 +1.6
baz=232
G17K Kiwalik Mounta 79.00 18 P P 05 21 39.3 +2.0
baz=228
BRLK Bradley Lake 79.14 26 P P 05 21 39.0 +0.8
BRLK IAmb IAmb 05 21 42.1
comp=Z,33nm,1.0s
BRSE Bradley Lake S 79.19 26 P P 05 21 39.9 +1.5
baz=238,SNR=5.1
ZSN Zaisan 79.36 320 eP P 05 21 39.1 -0.6
comp=Z,11nm,1.1s,baz=320
ZSN Zaisan 79.36 320 eP P 05 21 39.0 -0.6
ZSN pmax pmax
comp=Z,11nm,1.1s
N20K Mount Spurr 79.36 24 P P 05 21 40.8 +1.3
baz=236,SNR=8.9
M20K Styx River 79.38 23 P P 05 21 40.5 +1.0
M20K IAmb IAmb 05 21 53.5
comp=Z,61nm,1.1s
M20K Styx River 79.38 23 P P 05 21 41.1 +1.5
baz=236
L20K Farewell, AK 79.44 22 P P 05 21 41.5 +1.7
baz=235
F17K Baldwin Pennin 79.46 17 P P 05 21 41.4 +1.7
baz=227,SNR=35
H18K Honhosa River 79.49 19 P P 05 21 41.4 +1.4
baz=230
CAPN Captain Cook N 79.56 25 P P 05 21 42.2 +1.8
baz=238
C16K Lisburne Hills 79.64 15 P P 05 21 42.2 +1.6
baz=223
J19K Poorman 79.70 21 P P 05 21 42.8 +1.7
baz=233,SNR=29
GCSA Galena City Sc 79.73 20 P P 05 21 42.7 +1.5
baz=232,SNR=12
E17K Hotham Inlet 79.73 17 P P 05 21 43.0 +1.8
baz=227,SNR=90
D17K Noatak River 79.81 16 P P 05 21 43.3 +1.7
baz=225,SNR=32
K20K Telida 79.88 22 P P 05 21 44.1 +2.0
baz=234
G18K Tagagawik 79.88 18 P P 05 21 43.2 +1.1
baz=230
SEW Seward 79.93 26 P P 05 21 43.4 +1.0
baz=239,SNR=14
O22K Cooper Landing 80.01 25 P P 05 21 43.4 +0.5
O22K Cooper Landing 80.01 25 P P 05 21 43.3 +0.5
baz=239,SNR=11
F18K Selawik 80.04 18 P P 05 21 43.6 +0.8
baz=229,SNR=12
SKT Skwentna 80.06 23 P P 05 21 43.8 +0.7
SKT Skwentna 80.06 23 P P 05 21 43.5 +0.4
baz=237
SUA Susitna One 80.10 24 P P 05 21 44.0 +0.5
baz=238,SNR=13
RDOG Red Dog Mine 80.11 16 P P 05 21 45.1 +1.9
baz=225,SNR=20
E18K Tukpahlearik C 80.31 17 P P 05 21 46.0 +1.6
baz=228
PPLA Purkeypile 80.31 23 P P 05 21 45.7 +1.0
baz=236,SNR=5.6
RC01 Rabbit Creek A 80.32 25 P P 05 21 45.3 +0.8
baz=239,SNR=21
J20K Nowinta River 80.33 21 P P 05 21 45.5 +1.0
J20K Nowinta River 80.33 21 P P 05 21 46.1 +1.6
baz=234
C17K DeLong Mountai 80.34 15 P P 05 21 46.1 +1.6
baz=225
H19K Roundabout Mou 80.36 19 P P 05 21 46.0 +1.4
baz=232
M22K Willow 80.51 24 P P 05 21 47.0 +1.5
baz=238
G19K Purcell Mounta 80.53 19 P P 05 21 46.6 +1.0
G19K Purcell Mounta 80.53 19 P P 05 21 47.2 +1.6
baz=231
I20K Naaghedeneel 80.58 20 P P 05 21 47.8 +2.1
baz=234
CAST Castle Rocks 80.65 22 P P 05 21 46.4 +0.2
baz=236,SNR=27
P23K Montague Islan 80.77 26 P P 05 21 47.9 +1.0
baz=241
CUT Chulitna 80.79 23 P P 05 21 47.4 +0.4
baz=238
MK31 Makanchi Array 80.79 319 diP P 05 21 48.0 +0.6
MKAR Makanchi Array 80.79 319 P P 05 21 46.8 -0.6
MKAR Makanchi Array 80.79 319 P P 05 21 46.2 -1.2
comp=Z,1.4nm,0.7s,baz=96,slow=8.7,SNR=15
comp=Z,1.4nm,0.7s
CHUM Lake Minchumin 80.82 22 P P 05 21 48.5 +1.4
baz=236,SNR=44
PMR Palmer 80.83 24 P P 05 21 47.2 0.0
PMR IAmb IAmb 05 21 51.8
comp=Z,47nm,1.2s
PMR Palmer 80.83 24 P P 05 21 47.7 +0.5
baz=239,SNR=22
PMR Palmer 80.83 24 P P 05 21 47.2 0.0
PMR pmax pmax
comp=Z,47nm,1.2s
H20K Anotleneega Mo 80.85 20 P P 05 21 48.9 +1.5
baz=233
C18K Utukok River 80.98 16 P P 05 21 48.5 +0.5
C18K IAmb IAmb 05 22 01.3
comp=Z,53nm,1.3s
C18K Utukok River 80.98 16 P P 05 21 49.0 +1.0
baz=227
MAKZ Makanchi 81.00 319 P P 05 21 48.6 +0.1
MAKZ Makanchi 81.00 319 P P 05 21 48.6 +0.1
MAKZ pmax pmax
comp=Z,19nm,1.4s
KNK Knik Glacier 81.02 25 P P 05 21 48.8 +0.5
KNK Knik Glacier 81.02 25 P P 05 21 49.6 +1.3
baz=240,SNR=12
SML Sawmill 81.27 24 P P 05 21 50.7 +1.0
baz=240,SNR=20
B18K Kokolik River 81.32 15 P P 05 21 51.1 +1.4
baz=226
E19K Redstone River 81.32 18 P P 05 21 51.2 +1.4
E19K Redstone River 81.32 18 P P 05 21 51.0 +1.2
baz=231,SNR=61
TRF Thorofare Moun 81.34 23 P P 05 21 50.3 +0.1
baz=238,SNR=6.3
HIN Hinchinbrook I 81.36 26 P P 05 21 49.7 -0.4
BPAW Bear Paw Mtn. 81.43 22 P P 05 21 50.9 +0.4
baz=237,SNR=10
M23K Glacier View 81.51 25 P P 05 21 52.0 +1.1
baz=241,SNR=6.4
IMAR Indian Mountai 81.52 20 P P 05 21 51.3 +0.4
F20K Avaraart Lake 81.52 18 P P 05 21 52.0 +1.2
baz=232
SHLS Shalkode 81.62 315 eP P 05 21 49.8 -2.2
baz=215
SHLS Shalkode 81.62 315 eP P 05 21 49.8 -2.2
H21K Melozitna Rive 81.65 20 P P 05 21 53.1 +1.5
baz=235
I21K Tanana 81.67 21 P P 05 21 53.2 +1.6
baz=236
SCM Sheep Creek Mo 81.69 25 P P 05 21 53.2 +1.2
baz=241,SNR=14
WAT1 Susitna Watana 81.69 23 P P 05 21 52.6 +0.7
baz=240
C19K Lookout Ridge 81.72 16 P P 05 21 53.3 +1.4
baz=228
D19K Kuna River 81.73 16 P P 05 21 52.8 +0.8
D19K IAmb IAmb 05 22 04.6
comp=Z,31nm,1.1s
D19K Kuna River 81.73 16 P P 05 21 53.2 +1.3
baz=230
ZALV Zalesovo Beam 81.75 327 P P 05 21 51.2 -1.1
ZALV Zalesovo Beam 81.75 327 iP P 05 21 51.9 -0.4
ZALV pmax pmax
comp=Z,6.0nm,0.9s
ZALV Zalesovo Beam 81.75 327 P P 05 21 50.5 -1.8
comp=Z,6.4nm,0.9s,baz=116,slow=5.0,SNR=17
comp=Z,6.4nm,0.9s
EYAK Cordova Ski Ar 81.76 26 P P 05 21 53.8 +1.7
baz=242
RND Reindeer 81.87 23 P P 05 21 53.4 +0.6
RND Reindeer 81.87 23 P P 05 21 53.4 +0.6
RND pmax pmax
comp=Z,88nm,1.3s
WAT6 Susitna Watana 81.89 24 P P 05 21 54.4 +1.3
baz=240,SNR=16
G21K Allakaket 81.91 19 P P 05 21 54.1 +1.2
baz=235,SNR=20
UZB Uzynbulak 81.93 315 eP P 05 21 52.9 -0.8
comp=Z,8.7nm,1.2s,baz=315
UZB Uzynbulak 81.93 315 eP P 05 21 52.9 -0.8
UZB pmax pmax
comp=Z,9.0nm,1.2s
MCK McKinley 82.00 23 P P 05 21 53.7 +0.2
baz=239,SNR=58
MLY Manley 82.02 21 P P 05 21 54.6 +1.1
baz=237,SNR=22
KAIM Kayak Island 82.07 27 P P 05 21 56.2 +2.4
baz=244
A19K Wainwright 82.08 14 P P 05 21 55.1 +1.4
baz=227
KLU Klutina 82.12 25 P P 05 21 55.4 +1.2
baz=242,SNR=20
E20K Nigu River 82.13 17 P P 05 21 55.7 +1.6
baz=232,SNR=25
H22K Ishtalitna Cre 82.27 20 P P 05 21 56.3 +1.5
baz=237,SNR=16
DHY Denali Highway 82.28 24 P P 05 21 55.9 +0.8
DHY IAmb IAmb 05 22 09.2
comp=Z,52nm,1.2s
DHY Denali Highway 82.28 24 P P 05 21 56.1 +1.0
baz=241,SNR=17
D20K Etivluk River 82.29 17 P P 05 21 56.5 +1.6
baz=231
M24K Tolsona, Glenn 82.30 25 P P 05 21 56.2 +1.1
baz=242,SNR=8.6
F21K Alatna River 82.33 19 P P 05 21 56.3 +1.1
baz=234
SATY Saty 82.34 315 eP P 05 21 54.8 -1.0
comp=Z,12nm,1.4s,baz=315
SATY Saty 82.34 315 eP P 05 21 54.8 -1.0
SATY pmax pmax
comp=Z,11nm,1.4s
NEA2 Nenana 82.40 22 P P 05 21 56.4 +0.9
baz=239,SNR=16
BMRM Bremner River 82.45 26 P P 05 21 57.4 +1.5
baz=244
I23K Minto, Yukon-K 82.58 21 P P 05 21 57.3 +0.9
baz=239,SNR=7.7
BGLC Bering Glacier 82.66 27 P P 05 21 58.9 +2.0
baz=245
N25K Chitina, Valde 82.74 25 P P 05 21 58.9 +1.5
baz=243
TDK Taldyqorghan 82.86 317 eP P 05 21 57.8 -0.6
comp=Z,8.3nm,0.8s,baz=317
TDK Taldyqorghan 82.86 317 eP P 05 21 57.7 -0.6
TDK pmax pmax
comp=Z,8.0nm,0.8s
HARP HAARP 82.86 25 P P 05 21 59.0 +1.0
baz=243
H23K Yukon River 82.87 21 P P 05 21 59.3 +1.3
baz=238
E21K Killik River 82.90 17 P P 05 21 59.3 +1.2
baz=234
F22K John River 82.91 19 P P 05 21 59.3 +1.2
baz=236
B20K Meade River 82.96 16 P P 05 21 59.5 +1.2
baz=231
COLA College 82.99 22 P P 05 21 58.8 +0.3
baz=240
COLA College 82.99 22 ciP P 05 21 58.2 -0.3
COLA pmax pmax
comp=Z,34nm,0.9s
PAX Paxson 83.00 24 P P 05 21 59.7 +0.9
baz=242,SNR=6.3
VRDI Verde Repeater 83.06 26 P P 05 21 59.2 0.0
C21K Knifeblade Rid 83.09 17 P P 05 22 00.0 +1.0
baz=233
HDA Harding Lake 83.10 22 P P 05 21 59.3 +0.2
baz=241,SNR=12
G23K Bananza Creek 83.18 20 P P 05 22 00.5 +0.9
G23K IAmb IAmb 05 22 13.2
comp=Z,37nm,1.2s
G23K Bananza Creek 83.18 20 P P 05 22 00.9 +1.3
baz=238,SNR=21
SEM Semipalatinsk 83.21 322 eP P 05 21 59.1 -1.2
baz=322
SEM Semipalatinsk 83.21 322 eP P 05 21 59.1 -1.2
KSH Kashi 83.25 311 P P 05 22 03.8 +3.2
KSH pmax pmax
comp=Z,7.0nm,0.6s
K24K Donnelly Dome 83.26 23 P P 05 22 01.2 +1.1
baz=242,SNR=8.3
POKR Poker Plat Res 83.27 22 P P 05 22 01.1 +1.1
baz=240
MESA MESA 83.30 27 P P 05 22 02.1 +1.6
baz=246
ILAR Eielson Array 83.30 22 P P 05 21 59.6 -0.6
comp=Z,17nm,0.8s,baz=248,slow=4.2,SNR=98
ILAR LR LR 05 57 00.8
comp=Z,191nm,19.4s,baz=252,slow=34
comp=Z,17nm,0.8s
MCARA McCarthy VSAT 83.32 26 P P 05 22 01.6 +1.2
baz=245
MDOK Medeo 83.33 315 eP P 05 22 00.2 -0.8
baz=315
MDOK Medeo 83.33 315 eP P 05 22 00.2 -0.8
TNSS Tian-Shan 83.37 314 eP P 05 22 00.7 -0.8
baz=314
TNSS Tian-Shan 83.37 314 eP P 05 22 00.7 -0.8
E22K Anaktuvuk Pass 83.38 18 P P 05 22 02.1 +1.5
baz=236
COLD Coldfoot 83.39 19 P P 05 22 02.3 +1.7
baz=238,SNR=36
H24K Noodor Dome 83.47 21 P P 05 22 02.5 +1.5
baz=240
D22K Ayikyak River 83.54 17 P P 05 22 03.0 +1.7
baz=235
RIDG Independent Ri 83.60 23 P P 05 22 02.6 +0.8
baz=243,SNR=11
M26K Nabesna, AK 83.77 25 P P 05 22 03.9 +1.3
baz=245
TABL Table Mountain 83.77 27 P P 05 22 03.1 +0.2
TABL IAmb IAmb 05 22 17.0
comp=Z,39nm,1.0s
BARN Barnard Glacie 83.78 27 P P 05 22 03.2 +0.2
BARN IAmb IAmb 05 22 17.3
comp=Z,21nm,0.8s
J25K Salcha River, 83.80 23 P P 05 22 03.7 +0.8
baz=242
L26K Log Cabin Wild 83.89 24 P P 05 22 04.6 +1.3
baz=244,SNR=9.8
CTG Chitna Glacier 83.89 27 P P 05 22 03.5 +0.1
baz=246,SNR=12
A21K Barrow 83.93 15 P P 05 22 03.8 +0.5
baz=231
LOGN Logan Glacier 83.98 27 P P 05 22 04.5 +0.6
LOGN IAmb IAmb 05 22 18.1
comp=Z,31nm,1.0s
E23K Chandalar 84.03 19 P P 05 22 05.5 +1.5
baz=238,SNR=37
G24K Hadweenzic Riv 84.04 20 P P 05 22 05.1 +1.2
baz=240
SCRK Sand Creek 84.05 23 P P 05 22 05.1 +1.0
baz=244,SNR=16
QSPA South Pole Qui 84.12 180 P P 05 22 04.3 -0.3
QSPA IAmb IAmb 05 22 06.4
comp=Z,27nm,1.2s
QSPA South Pole Qui 84.12 180 P P 05 22 03.7 -0.9
comp=Z,15nm,1.0s,baz=342,slow=1.0,SNR=27
comp=Z,15nm,1.0s
A22K Sinclair Lake 84.16 15 P P 05 22 05.3 +1.0
baz=233
PRP Porcupine Dome 84.16 22 P P 05 22 04.9 +0.2
baz=242
B22K Teshekpuk Lake 84.17 16 P P 05 22 05.5 +1.1
baz=234
D23K Nanushuk River 84.19 18 P P 05 22 06.5 +1.9
baz=237
M27K Edge Creek, AK 84.22 25 P P 05 22 06.7 +1.6
baz=246
PNL Peninsula 84.28 28 P P 05 22 06.8 +1.4
baz=248
KURK Kurchatov 84.29 322 P P 05 22 04.9 -0.6
F24K Squaw Lake 84.31 20 P P 05 22 07.0 +1.7
baz=240
KURBB Kurchatov Arra 84.32 322 P P 05 22 04.9 -0.7
comp=Z,13nm,1.0s,baz=110,slow=4.0,SNR=42
comp=Z,13nm,1.0s
O28M Mount Upton 84.33 27 P P 05 22 07.2 +1.4
baz=248
TOLK Toolik Lake Re 84.35 18 P P 05 22 07.0 +1.5
baz=238,SNR=18
H25L Birch Creek 84.41 21 P P 05 22 07.1 +1.3
baz=242
MAW Mawson 84.43 203 LR LR 05 55 46.0
comp=Z,268nm,21.6s,baz=83,slow=33
J26L Joseph Creek 84.45 23 P P 05 22 07.5 +1.3
baz=244
L27K Beaver Creek, 84.53 25 P P 05 22 07.4 +0.9
L27K IAmb IAmb 05 22 11.5
comp=Z,17nm,1.0s
L27K Beaver Creek, 84.53 25 P P 05 22 08.1 +1.6

baz=246,SNR=17
G25K Bearman Lake 84.55 21 P P 05 22 07.9 +1.4
baz=242,SNR=21
YUK3 Moose Creek 84.60 26 P P 05 22 08.6 +1.4
baz=247,SNR=13
BVCY Beaver Creek 84.68 25 P P 05 22 09.1 +1.8
baz=247,SNR=8.1
C23K Ikilllik River 84.68 17 P P 05 22 08.5 +1.5
baz=237
YUK8 Steele Glacier 84.72 27 P P 05 22 09.5 +1.7
baz=248,SNR=6.7
K27K Chicken 84.83 24 P P 05 22 10.0 +2.0
baz=246
D24K Happy Valley 84.85 18 P P 05 22 09.6 +1.7
baz=239
O29M Mount Kennedy 84.90 28 P P 05 22 10.4 +1.9
baz=249
I26K Coal Creek Min 84.95 22 P P 05 22 10.1 +1.6
baz=244
AAK Ala-Archa 85.03 314 P P 05 22 08.1 -1.6
comp=Z,5.5nm,0.8s,baz=112,slow=5.2,SNR=15
comp=Z,5.5nm,0.8s
P29M Windy Craggy 85.05 29 P P 05 22 11.0 +1.7
baz=250
F25K Christian Rive 85.10 20 P P 05 22 11.2 +1.8
baz=242,SNR=17
SGDS Sogindy 85.11 314 *e*P P 05 22 08.9 -1.1
comp=Z,12nm,1.2s,baz=314
SGDS Sogindy 85.11 314 *e*P P 05 22 08.8 -1.2
SGDS pmax pmax
comp=Z,12nm,1.2s
C24K Franklin Bluff 85.19 17 P P 05 22 11.3 +1.7
baz=239
YUK6 Outpost Mounta 85.23 27 P P 05 22 11.7 +1.4
baz=249
S31K Pelican 85.23 30 P P 05 22 11.9 +1.8
baz=251
YUK4 Talbot Arm 85.24 27 P P 05 22 12.8 +2.4
baz=249,SNR=10
E25K Arctic Village 85.38 19 P P 05 22 12.2 +1.5
baz=242,SNR=17
BMAR Burnt Mountain 85.39 20 P P 05 22 11.7 +0.9
SIT Sitka 85.41 31 P P 05 22 12.1 +1.1
baz=252
G26K Porcupine Rive 85.45 21 P P 05 22 13.0 +2.1
baz=244
EGAK Eagle 85.50 23 P P 05 22 12.7 +1.3
baz=246,SNR=27
HYT Haines Junctio 85.58 28 P P 05 22 14.1 +2.1
baz=250,SNR=14
P30M Million Dollar 85.59 28 P P 05 22 13.3 +1.4
baz=250
PLBC Pleasant Camp 85.65 29 P P 05 22 13.7 +1.5
baz=251
F26K Sheenjek River 85.66 20 P P 05 22 13.5 +1.4
baz=243
I27K Kandik River 85.66 22 P P 05 22 13.4 +1.2
baz=246
D25K Kavik River 85.69 18 P P 05 22 13.6 +1.3
baz=241
M29M Somme Creek 85.72 26 P P 05 22 14.2 +1.6
baz=249,SNR=14
S32K Kiliisnoo 85.92 31 P P 05 22 14.9 +1.4
baz=253
DAWY Dawson 85.93 24 P P 05 22 14.3 +0.7
DAWY IAmb IAmb 05 22 27.8
comp=Z,39nm,1.4s
DAWY Dawson 85.93 24 P P 05 22 15.2 +1.7
baz=248,SNR=14
H27K Steamboat Moun 85.95 22 P P 05 22 14.8 +1.2
baz=246
N30M Aishikik Lake 85.98 27 P P 05 22 15.6 +1.7
baz=250
L29M L29M 86.10 25 P P 05 22 16.4 +2.0
baz=249,SNR=17
CRAG Craig 86.12 33 P P 05 22 16.3 +1.8
baz=254
G27K Doyon Strip 86.15 21 P P 05 22 16.2 +1.7
baz=246
SKAG Skagway 86.16 29 P P 05 22 16.5 +1.9
baz=252
R32K Eaglecrest 86.19 30 P P 05 22 16.9 +2.0
baz=253
O30N Mendenhall 86.21 28 P P 05 22 16.8 +1.8
baz=251
I28M Miner Creek 86.24 23 P P 05 22 15.8 +0.7
I28M IAmb IAmb 05 22 29.0
comp=Z,46nm,1.5s
I28M Miner Creek 86.24 23 P P 05 22 16.8 +1.7
baz=247
U33K Whale Pass 86.30 33 P P 05 22 17.4 +2.1
baz=254
C26K Camden Bay 86.43 18 P P 05 22 18.1 +2.3
baz=242
M30M Minto, Yukon 86.49 26 P P 05 22 18.1 +1.8
baz=250,SNR=6.3
J29N Klondike Camp 86.55 24 P P 05 22 18.3 +1.7
baz=249
T33K Petersburg 86.58 32 P P 05 22 18.9 +2.2
baz=254
K29M Barlow Dome 86.62 25 P P 05 22 17.9 +0.9
K29M IAmb IAmb 05 22 32.2
comp=Z,51nm,1.4s
K29M Barlow Dome 86.62 25 P P 05 22 18.9 +1.9
baz=250,SNR=18
E27K Coleen River 86.74 20 P P 05 22 19.3 +1.9
baz=246
WHY Whitehorse 86.74 28 P P 05 22 19.7 +2.0
baz=252
NRIK Noril'sk 86.79 341 *c i*P P 05 22 16.8 -0.8
NRIK pmax pmax
comp=Z,9.0nm,0.9s
NRIK Noril'sk 86.79 341 P P 05 22 14.8 -2.8
comp=Z,4.2nm,0.6s,baz=107,slow=3.2,SNR=9.2
NRIK LR LR 05 58 49.9
comp=Z,86nm,21.6s,baz=118,slow=34
comp=Z,4.2nm,0.6s
WRAK Wrangell Islan 86.80 33 P P 05 22 19.3 +1.5
baz=255
V35K Ketchikan 86.91 34 P P 05 22 19.8 +1.4
baz=255
P32M Atlin 86.98 29 P P 05 22 20.5 +1.7
baz=253,SNR=6.7
F28M Old Crow 87.11 21 P P 05 22 20.3 +1.1
F28M IAmb IAmb 05 22 24.5
comp=Z,17nm,1.0s
F28M Old Crow 87.11 21 P P 05 22 20.8 +1.6
baz=247,SNR=21
H29M Whitestone 87.13 22 P P 05 22 20.8 +1.5
baz=249
MAYO Mayo, Yukon 87.22 25 P P 05 22 21.3 +1.5
baz=251
J30M Hart River 87.36 24 P P 05 22 21.3 +0.7
J30M Hart River 87.36 24 P P 05 22 22.4 +1.7
baz=251,SNR=24
DZA Taraz 87.36 313 *e*P P 05 22 20.0 -1.1
comp=Z,9.3nm,1.1s,baz=313
DZA Taraz 87.36 313 *e*P P 05 22 19.9 -1.1
DZA pmax pmax
comp=Z,9.0nm,1.1s
D27M Malcolm River 87.38 19 P P 05 22 22.2 +1.6
baz=246
M31M Drury Creek, Y 87.44 27 P P 05 22 21.6 +0.7
M31M IAmb IAmb 05 22 35.8
comp=Z,21nm,1.2s
M31M Drury Creek, Y 87.44 27 P P 05 22 22.2 +1.3
baz=253,SNR=9.8
G29M Pine Creek 87.51 22 P P 05 22 22.5 +1.3
baz=249,SNR=20
Q32M Nakina River 87.52 30 P P 05 22 22.9 +1.3
baz=254
I30M Mount Dempster 87.56 24 P P 05 22 22.6 +1.0
baz=251
P33M Teslin, Yukon 87.59 29 P P 05 22 23.5 +1.8
baz=254,SNR=6.1
E28M Babbage River 87.61 20 P P 05 22 23.1 +1.6
baz=248
N32M Quiet Lake 87.73 28 P P 05 22 23.7 +1.4
baz=254
EPYK Eagle Plains 87.81 22 P P 05 22 23.7 +1.1
baz=250,SNR=26
S34M Telegraph Cree 87.82 31 P P 05 22 24.4 +1.6
baz=256,SNR=16
FARO Faro, Yukon 87.91 27 P P 05 22 24.6 +1.4
baz=254,SNR=17
U35K Hyder 87.93 33 P P 05 22 24.8 +1.5
baz=257
KK31 Karatay Array 87.99 314 P P 05 22 23.5 -0.5
KK31 IAmb IAmb 05 22 36.4
comp=Z,37nm,1.8s
KK31 Karatay Array 87.99 314 P P 05 22 23.5 -0.5
KK31 pmax pmax
comp=Z,37nm,1.8s
KKAR Karatay Array 87.99 314 P P 05 22 23.6 -0.3
KKAR IAmb IAmb 05 22 36.4
comp=Z,37nm,1.8s
KKAR Karatay Array 87.99 314 P P 05 22 23.7 -0.3
KKAR pmax pmax
comp=Z,37nm,1.8s
T35M Bob Quinn 88.06 32 P P 05 22 25.1 +1.1
baz=256,SNR=5.6
E29M Blow River 88.09 20 P P 05 22 25.5 +1.7
baz=249,SNR=6.0
D28M Stokes Point 88.15 19 P P 05 22 25.7 +1.6
baz=248
IUG Iuzhnay 88.18 312 *e*P P 05 22 23.8 -1.3
comp=Z,9.5nm,1.4s,baz=312
IUG Iuzhnay 88.18 312 *e*P P 05 22 23.7 -1.3
IUG pmax pmax
comp=Z,10.0nm,1.4s
G30M tAoh Zraii Nji 88.20 22 P P 05 22 25.5 +1.0
baz=251,SNR=11
BBB Bella Bella 88.21 37 LR LR 05 55 50.9
comp=Z,78nm,20.2s,baz=242,slow=32
R33M Jennings River 88.28 30 P P 05 22 26.6 +1.4
baz=256
BRLS Borolday 88.47 313 *e*P P 05 22 25.6 -0.7
baz=313
BRLS Borolday 88.47 313 *e*P P 05 22 25.6 -0.7
DLBC Dease Lake 88.52 31 P P 05 22 27.7 +1.5
baz=256,SNR=12
DLBC Dease Lake 88.52 31 LR LR 05 58 06.4
comp=Z,464nm,19.1s,baz=276,slow=33
F30M Barrier River 88.57 21 P P 05 22 27.8 +1.6
baz=251
G31M Satah River 88.91 22 P P 05 22 28.8 +1.1
baz=252
F31M Tsiigehtchic 89.26 22 P P 05 22 30.5 +1.1
baz=253
WTLY Watson Lake, Y 89.51 29 P P 05 22 32.4 +1.7
baz=258,SNR=20
INK Inuvik 89.59 21 P P 05 22 32.0 +1.1
baz=253
INK Inuvik 89.59 21 LR LR 06 02 21.0
comp=Z,154nm,18.6s,baz=183,slow=35
BVAR Bovoye Array 89.78 323 P P 05 22 30.8 -1.4
comp=Z,10nm,0.8s,baz=102,slow=6.2,SNR=47
BVAR LR LR 06 05 06.7
comp=Z,83nm,18.2s,baz=84,slow=37
comp=Z,10nm,0.8s
TGTN Hyland Airport 90.07 28 P P 05 22 35.3 +2.0
baz=258,SNR=5.6
TOAD Toad River Com 91.06 31 P P 05 22 40.3 +2.3
baz=261
PKM Mcpherson Peak 91.56 55 P P 05 22 42.9 +1.8
baz=264
SBC Santa Barbara 91.59 56 P P 05 22 42.6 +1.6
baz=264
SNCC San Nicolas Is 91.63 57 P P 05 22 42.6 +1.3
baz=264
KOTAN Kotaneelee Air 91.85 30 P P 05 22 43.5 +1.8
baz=262
VES Vestal, Richgr 92.25 54 P P 05 22 45.1 +1.1
baz=264
CIS Catalina Islan 92.57 57 P P 05 22 46.6 +1.1
baz=265
ISA Isabella, Lake 92.72 55 P P 05 22 47.5 +1.2
baz=265
TIN Tinemaha, Big 93.04 53 P P 05 22 49.1 +1.2
baz=265
EDW2 Edwards Air Fo 93.05 55 P P 05 22 49.2 +1.4
baz=265
NVAR Mina Array Bea 93.10 52 P P 05 22 49.3 +1.1
NVAR Mina Array Bea 93.10 52 P P 05 22 49.2 +1.0
comp=Z,2.8nm,0.8s,baz=254,slow=6.0,SNR=15
NVAR LR LR 06 00 54.1
comp=Z,264nm,18.5s,baz=272,slow=33
comp=Z,2.8nm,0.8s
CWC Cottonwood Cre 93.11 54 P P 05 22 48.9 +0.7
baz=265
C36M Paulatuk 93.17 21 P P 05 22 48.1 +0.6
baz=262
A36M Sachs Harbour 93.17 18 P P 05 22 47.6 +0.1
A36M IAmb IAmb 05 23 01.2
comp=Z,16nm,1.1s
A36M Sachs Harbour 93.17 18 P P 05 22 48.5 +1.0
baz=261
BFSC Mount Baldy Ra 93.27 56 P P 05 22 50.0 +1.0
baz=265
DSP Deep Springs 93.28 53 P P 05 22 49.0 +0.3
DSP IAmb IAmb 05 23 03.3
comp=Z,12nm,1.3s
MPMC Manual Prospec 93.56 54 P P 05 22 50.9 +0.6
baz=265
MURC Murrieta 93.60 57 P P 05 22 51.3 +0.9
baz=265
MZP Montezuma Peak 93.77 53 P P 05 22 51.4 +0.1
GSC Goldstone, Bar 94.05 55 P P 05 22 53.4 +1.0
baz=266
FURC Furnace Creek, 94.09 54 P P 05 22 53.8 +1.4
baz=266
MONP2 Monument Peak 94.19 58 P P 05 22 54.3 +1.0
baz=266
PFO Pinyon Flats O 94.21 57 LR LR 06 00 57.8
comp=Z,162nm,18.2s,baz=239,slow=33
TPFO Pinon Flats 94.22 57 P P 05 22 55.0 +1.7
baz=266
WCT Wildcat Mounta 94.31 54 P P 05 22 53.1 -0.5
HEC Hector,Ludlow 94.40 56 P P 05 22 55.8 +1.7
baz=266
SHOC Shoshone, Teco 94.53 55 P P 05 22 56.3 +1.7
baz=266
NEW Newport 94.69 42 P P 05 22 56.0 +0.9
NEW IAmb IAmb 05 24 30.3
comp=Z,22nm,1.9s
NEW Newport 94.69 42 P P 05 22 57.1 +2.1
baz=267
NEW Newport 94.69 42 P P 05 22 56.0 +0.9
NEW pmax pmax
comp=Z,22nm,2.0s
NEW Newport 94.69 42 LR LR 06 01 49.9
comp=Z,208nm,18.6s,baz=267,slow=33
SWSC Sam W. Stewart 94.72 57 P P 05 22 57.4 +1.9
baz=266
RPN Rapa Nui 94.75 118 LR LR 05 55 26.2
comp=Z,33nm,21.4s,baz=264,slow=29
BRLDA Berland Lookou 94.85 36 P P 05 22 56.2 +0.5
BRLDA IAmb IAmb 05 23 01.8
comp=Z,18nm,1.1s
GMRC Granite Mounta 94.95 56 P P 05 22 58.1 +1.4
baz=266
BC3 Big Chuckawall 95.05 57 P P 05 22 58.6 +1.4
baz=266
R11B Troy Canyon, C 95.23 52 P P 05 22 59.5 +1.5
baz=267
IRM Iron Mountain 95.34 56 P P 05 22 59.5 +1.2
baz=267
ELK Elko 95.62 50 LR LR 06 04 04.5
comp=Z,210nm,18.1s,baz=268,slow=34
ELIB Princess Elisa 95.68 194 *d*P P 05 22 58.9 -0.4
comp=Z,3.6nm,1.4s
ABKAR Akbulak array 95.94 319 P P 05 22 58.4 -2.2
YKA Yellowknife Ar 96.57 28 P P 05 23 03.7 +0.5
comp=Z,1.2nm,0.8s,baz=274,slow=4.8,SNR=15
YKA LR LR 06 03 29.0
comp=Z,195nm,19.3s,baz=292,slow=34
comp=Z,1.2nm,0.8s
GEYT Alibeck 96.86 307 LR LR 06 07 44.6
comp=Z,82nm,21.7s,baz=156,slow=36
ARU Arti 96.91 326 *i e*P P 05 23 02.6 -2.3
ARU pmax pmax
comp=Z,46nm,3.9s
ARU Arti 96.91 326 P P 05 23 02.8 -2.1
comp=Z,2.2nm,0.5s,baz=95,slow=6.0,SNR=5.6
comp=Z,2.2nm,0.5s
AKTO Aktyubinsk 97.21 320 P P 05 23 03.7 -2.7
comp=Z,2.0nm,0.9s,baz=34,slow=3.8,SNR=4.0
AKTO LR LR 06 08 27.1
comp=Z,160nm,18.9s,baz=150,slow=36
comp=Z,2.0nm,0.9s
EDM Edmonton 97.24 37 P P 05 23 05.5 -1.0
EDM IAmb IAmb 05 23 39.4
comp=Z,26nm,1.6s
EDM Edmonton 97.24 37 P P 05 23 05.5 -1.0
EDM pmax pmax
comp=Z,26nm,1.6s
BOZ Bozeman (W) 98.38 45 P Pdif 05 23 12.2 +0.2
baz=270
EGMT Eagleton 99.62 42 P **Pdif** 05 23 17.9 +0.5
baz=272
BW06 Boulder Array 99.90 48 P **Pdif** 05 23 19.0 +0.1
baz=271
PDAR Pinedale Array 99.90 48 P **Pdif** 05 23 17.0 -2.0
comp=Z,0.3nm,0.7s,baz=204,slow=3.3,SNR=4.1
PDAR LR LR 06 06 25.6
comp=Z,328nm,18.2s,baz=274,slow=34
comp=Z,0.3nm,0.7s
RLMT Red Lodge 100.05 45 P **Pdif** 05 23 19.7 +0.2
baz=272
MVCO Mesa Verde 100.82 53 P **Pdif** 05 23 23.1 0.0
baz=271
O20A White River Ci 100.96 50 P **Pdif** 05 23 23.7 +0.1
baz=272
LAO LASA Array 102.09 44 P **Pdif** 05 23 28.9 +0.6
baz=274
K22A Casper 102.14 48 P **Pdif** 05 23 29.3 +0.5
baz=273
MNTX Cornudas Mount 103.51 59 P **Pdif** 05 23 35.6 +0.7
baz=272
RSSD Black Hills 103.84 46 P **Pdif** 05 23 37.4 +1.0
baz=275
T25A Trinidad 104.08 53 P **Pdif** 05 23 38.3 +0.6
baz=273
SFIN Lafayette 116.87 47 P **PKiKP** 05 28 19.1 +0.4
baz=286
P49A Miami Univ. Ec 118.87 48 P **PKiKP** 05 28 22.8 +0.3
baz=288
ACSO Alum Creek Sta 119.91 47 P **PKPdf** 05 28 24.5 0.0
baz=289
TZTN Tazewell 120.63 51 P **PKPdf** 05 28 25.9 -0.1
baz=287
P52A Corning 120.73 47 P **PKPdf** 05 28 25.7 -0.3
baz=290
M53A WI Miller and 121.13 45 P **PKPdf** 05 28 26.1 -0.7
baz=292
O53A New Philadelph 121.18 46 P **PKiKP** 05 28 27.2 +0.2
baz=291
GOGA Godfrey 121.56 54 P **PKPdf** 05 28 27.5 -0.4
baz=285
TIGA Tifton 121.95 57 P **PKPdf** 05 28 28.3 -0.3
baz=284
MCWV Mont Chateau 122.37 46 P **PKPdf** 05 28 29.1 -0.1
baz=292
KMSC Kings Mountain 122.77 52 P **PKPdf** 05 28 30.3 +0.2
baz=288
BLA Blacksburg 122.81 49 P **PKiKP** 05 28 30.6 +0.2
baz=290
CLL Collm 123.52 331 *e*PKiKP **PKPdf** 05 28 31.0 -0.1
CLL Collm 123.52 331 *e*PKPdf **PKPdf** 05 28 31.0 -0.1
LONY Lake Ozonia 123.80 39 P **PKPdf** 05 28 32.0 +0.1
baz=299
BINY Binghamton 124.02 42 P **PKiKP** 05 28 32.8 +0.1
baz=296
GERES GERESS Array B 124.68 328 PKP **PKPdf** 05 28 30.2 -3.3
comp=Z,0.3nm,0.6s,baz=46,slow=4.2,SNR=2.6
LBNH Lisbon 125.63 38 P **PKiKP** 05 28 36.0 +0.2
baz=302
PAL Palisades 125.95 42 P **PKPdf** 05 28 35.7 -0.3
baz=298
L61B Northampton 126.06 40 P **PKPdf** 05 28 36.2 0.0
baz=300
PKME Peaks-Kenny Pk 126.65 36 P **PKiKP** 05 28 37.7 0.0
baz=305
HRV Adam Dziewonsk 126.75 40 P **PKPdf** 05 28 37.6 +0.1
baz=301
EKA Eskdalemuir Ar 126.88 343 PKP **PKPdf** 05 28 35.5 -1.9
comp=Z,1.3nm,0.9s,baz=33,slow=2.7,SNR=3.0
TORD Torodi Ar. Bea 150.15 286 PKP **PKPdf** 05 29 19.9 -0.6
comp=Z,1.5nm,1.1s,baz=40,slow=3.8,SNR=5.4
TORD PKPbc **pPKPdf** 05 29 24.8 -2.5
comp=Z,15nm,1.0s,baz=44,slow=3.0,SNR=35
BDFB Brasilia 150.66 137 PKPbc **PKPbc** 05 29 25.7 -1.2
comp=Z,5.2nm,1.1s,baz=187,slow=12,SNR=3.7
DBIC Dimbokro 157.29 273 PKPab **PKPab** 05 30 01.5 -0.4
comp=Z,3.6nm,0.8s,baz=96,slow=4.6,SNR=5.6

IDC ***25*** *05:23:22.8±1.1,20°.43S×67°.77E, h0km, mb3.9/9, mbtmp3.9/9, MS3.6/5, Error ellipse: s-maj=37.3km s-min=28.1km az=91.0*

ISC 25 05:23:25.2±1.0, 20°.4S±0°.2×67°.8E±0°.2, h15km, n23, σ0s32/9, mb4.0/9, MS3.4/5, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC h m s	ISC
H08S1	**Diego Carcia H** baz=200,slow=76,SNR=109	**13.49**	**20**	T	T	05 40 11.2	
H08S2	**Diego Garcia H** baz=200,slow=76,SNR=231	**13.50**	**20**	T	T	05 40 14.9	
H08S3	**Diego Garcia H** baz=200,slow=76,SNR=101	**13.51**	**20**	T	T	05 40 15.0	
H04N2	**CROZET ISLANDS** baz=32,slow=75,SNR=1736	**28.83**	**203**	T	T	05 59 47.5	
H04N1	**CROZET ISLANDS** baz=32,slow=75,SNR=1188	**28.83**	**203**	T	T	05 59 53.0	
H04N3	**CROZET ISLANDS** baz=32,slow=75,SNR=1577	**28.84**	**203**	T	T	05 59 43.5	
LSZ	**Lusaka** comp=Z,2nm,21.9s,baz=164,slow=32	**37.98**	**271**	LR	LR	05 43 28.5	
H01W2	**Cape Leeuwin H** baz=279	**43.13**	**120**	T	T	06 17 19.8	
H01W3	**Cape Leeuwin H** baz=279	**43.13**	**120**	T	T	06 17 19.7	
H01W1	**Cape Leeuwin H** baz=279	**43.15**	**120**	T	T	06 17 23.1	
TSUM	**Tsumeb** comp=Z,42nm,18.4s,baz=140,slow=33	**47.10**	**262**	LR	LR	05 48 55.6	
CMAR	**Chiang Mai Arr** 0.8nm,0.3s,baz=239,slow=8.2,SNR=13 0.8nm,0.3s	**49.26**	**40**	P	**P**	**05 32 13.8**	**+0.3**
ASAR	**Alice Springs** 0.7nm,0.7s,baz=262,slow=6.5,SNR=1.7 0.7nm,0.7s	**60.88**	**106**	P	**P**	**05 33 37.3**	**-0.4**
MKAR	**Makanchi Array** 1.1nm,0.8s,baz=205,slow=5.4,SNR=10 1.1nm,0.8s	**68.17**	**11**	P	**P**	**05 34 25.1**	**+0.3**
QSPA	**South Pole Qui** 2.1nm,1.2s,baz=228,slow=1.9,SNR=2.4 2.1nm,1.2s	**69.68**	**180**	P	**P**	**05 34 34.6**	**+0.4**
KURBB	**Kurchatov Arra** 1.2nm,0.8s,baz=204,slow=6.6,SNR=9.4 1.2nm,0.8s	**71.37**	**7**	P	**P**	**05 34 44.6**	**+0.3**
TORD	**Torodi Ar. Bea** 0.6nm,0.9s,baz=96,slow=8.9,SNR=2.4 0.6nm,0.9s	**73.03**	**291**	P	**P**	**05 34 54.8**	**-0.3**
BVAR	**Borovoye Array** 0.8nm,0.7s,baz=156,slow=7.5,SNR=4.6 0.8nm,0.7s	**73.17**	**2**	P	**P**	**05 34 55.1**	**0.0**
ZALV	**Zalesovo Beam** 1.5nm,0.7s,baz=207,slow=5.6,SNR=7.2 1.5nm,0.7s	**75.51**	**10**	P	**P**	**05 35 08.5**	**-0.2**
SONM	**Songino Array** 0.4nm,0.5s,baz=210,slow=4.6,SNR=3.9 0.4nm,0.5s	**76.27**	**26**	P	**P**	**05 35 13.2**	**-0.1**
KIRV	**Kirov** comp=Z,107nm,21.6s,baz=87,slow=35	**80.17**	**350**	LR	LR	06 09 42.7	
FINES	**FINESS Array B** comp=Z,76nm,18.5s,baz=62,slow=37	**88.16**	**341**	LR	LR	06 17 06.3	
NOA	**NORSAR Array B** comp=Z,11nm,19.9s,baz=35,slow=36	**92.96**	**336**	LR	LR	06 18 50.5	

IDC 25 05:24:49.5±2.1, 5°.80S×142°.30E, h0km, mb3.5/2, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=91.1km s-min=32.1km az=105.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC h m s	ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=26,slow=11,SNR=2.6 0.3nm,0.4s	**16.05**	**208**	Pn	Pn	05 28 36.1	-0.6
ASAR	**Alice Springs** 0.2nm,0.3s,baz=33,slow=10,SNR=23 0.9nm,0.7s	**19.52**	**204**	P	P	05 29 18.7	+0.2
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=99,slow=7.5,SNR=3.7 0.2nm,0.5s	**74.41**	**322**	P	P	05 36 29.6	+0.1
ILAR	**Eielson Array** 0.4nm,1.0s,baz=244,slow=3.1,SNR=2.5 0.4nm,1.0s	**87.17**	**24**	P	P	05 37 37.3	0.0

IDC ***25*** *05:26:56.9±0.7, 5°.98S×142°.35E, h0km, mb4.3/14, mbtmp4.3/17, ML2.8/2, MS4.0/21, Error ellipse:*

s-maj=28.3km s-min=13.9km az=79.0
*NEIC **25** 05:26:59.5±1.6,5.°98S±0.°09×142.°11E±0.°04,h10km±1km, mb4.6/41,Error ellipse: s-maj=15.9km s-min=2.9km az=203.0*
*DJA **25** 05:27:03.8±0.9,6.°5S±4.°×14.°2E±1.°0,h41km±9km,M4.8/5, mb4.6/5,MLv4.9/3*

ISC 25 05:27:02.2±0.4,6.°07S±0.°05×142.°18E±0.°06,h35km,n105, σ1§90/95,mb4.6/34,MS4.0/16,1C,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**1.24**	**310**	P	**Pn**	**05 27 21.6**	**-1.5**
MMPI	**Merauke**	**2.97**	**217**	P	**Pn**	**05 27 48.3**	**+1.4**
JAY	**Jayapura**	**3.82**	**337**	P	**Pn**	**05 27 58.8**	**+0.1**
JAY				S	**Sn**	**05 28 41.5**	**-1.0**
GENI	**Genyem**	**3.99**	**330**	P	**Pn**	**05 28 02.5**	**+1.5**
PMG	**Port Moresby**	**5.95**	**124**	Pn	**Pn**	**05 28 28.7**	**+0.8**
PMG	**Port Moresby**	**5.95**	**124**	Pn	**Pn**	**05 28 25.9**	**-2.0**
	4.3nm,0.3s,baz=288,slow=3.2,SNR=7.0						
PMG				Sn	**Sn**	**05 29 33.2**	**-1.7**
	3.0nm,0.3s,baz=234,slow=22,SNR=2.2						
	16nm,0.5s						
COEN	**Coen**	**7.90**	**173**	P	**Pn**	**05 28 57.6**	**+2.9**
COEN	**Coen**	**7.90**	**173**	Pn	**Pn**	**05 28 55.3**	**+0.6**
FAKI	**Fak Fak**	**10.38**	**287**	Pn	**Pn**	**05 29 26.5**	**-2.2**
KDU	**Kakadu**	**11.61**	**235**	P	**Pn**	**05 29 45.5**	**-0.1**
MTN	**Manton Dam**	**12.80**	**237**	Pn	**Pn**	**05 30 00.6**	**-1.3**
CTA	**Charters Tower**	**14.49**	**165**	Pn	**Pn**	**05 30 23.1**	**-1.7**
	0.1nm,0.3s,baz=89,slow=3.1,SNR=1.7						
CTA				Lg	Lg	05 34 38.5	
	0.1nm,0.3s,baz=90,slow=4.3,SNR=1.6						
CTA				LR	LR	05 36 13.4	
	comp=Z,776nm,18.7s,baz=359,slow=38						
	2.5nm,0.6s						
QIS	**Mount Isa**	**14.62**	**190**	P	**Pn**	**05 30 29.5**	**+2.9**
WB0	**Warramunga Arr**	**15.58**	**208**	Pn	**Pn**	**05 30 38.0**	**-1.4**
WR0	**Warramunga Arr**	**15.68**	**208**	Pn	**Pn**	**05 30 39.0**	**-1.6**
WR0				IAmb	IAmb	05 30 46.5	
	comp=Z,25nm,0.7s						
WRAB	**Tennant Creek**	**15.74**	**208**		**Pn**	**05 30 42.5**	**+1.1**
WRAB				IAmb	IAmb	05 30 54.7	
	comp=Z,27nm,0.9s						
WB2	**Warramunga Arr**	**15.75**	**208**	Pn	**Pn**	**05 30 40.3**	**-1.2**
WB2				IAmb	IAmb	05 30 55.9	
	comp=Z,20nm,0.7s						
WRA	**Warramunga Arr**	**15.76**	**208**	Pn	**Pn**	**05 30 39.5**	**-2.1**
WRA	**Warramunga Arr**	**15.76**	**208**	Pn	**Pn**	**05 30 39.2**	**-2.5**
	comp=Z,1.2nm,0.3s,baz=20,slow=12,SNR=34						
WRA				Sn	**Sn**	**05 33 26.8**	**-8.5**
	comp=Z,0.3nm,0.3s,baz=29,slow=22,SNR=2.6						
WRA				Lg	Lg	05 35 19.3	
	comp=Z,0.3nm,0.3s,baz=33,slow=30,SNR=2.4						
WRA				LR	LR	05 37 30.1	
	comp=Z,1μm,21.0s,baz=47,slow=40						
HNR	**Honiara**	**17.92**	**102**	LR	LR	05 37 43.4	
	comp=Z,3μm,20.5s,baz=272,slow=36						
SOEI	**Soe**	**18.11**	**257**		**Pn**	**05 31 11.1**	**-0.3**
SOEI				IAmb	IAmb	05 31 32.1	
	comp=Z,61nm,1.1s						
SOEI	**Soe**	**18.11**	**257**	P	**Pn**	**05 31 11.7**	**+0.4**
	comp=Z,52nm,0.9s						
BATI	**Baumata**	**18.78**	**256**	LR	LR	05 39 17.9	
	comp=Z,651nm,21.1s,baz=78,slow=39						
AS01	**Alice Springs**	**19.20**	**204**	P	**Pn**	**05 31 25.3**	**+0.9**
	comp=Z,17nm,0.6s						
AS31	**Alice Springs**	**19.22**	**204**		**P**	**05 31 25.0**	**+1.5**
ASAR	**Alice Springs**	**19.22**	**204**	P	**P**	**05 31 25.2**	**+1.7**
	comp=Z,9.4nm,0.6s,baz=30,slow=10,SNR=65						
ASAR				Sn	**Sn**	**05 34 51.6**	**-7.6**
	comp=Z,0.1nm,0.3s,baz=17,slow=29,SNR=2.1						
ASAR				Lg	Lg	05 37 10.9	
	baz=28,slow=27						
ASAR				LR	LR	05 39 38.9	
	comp=Z,1μm,20.4s,baz=23,slow=39						
GUMO	**Guam**	**19.71**	**8**	LR	LR	05 38 16.4	
	comp=Z,170nm,19.8s,baz=145,slow=35						
FITZ	**Fitzroy Crossi**	**20.08**	**232**	P	**P**	**05 31 33.5**	**+0.6**
QLP	**Quilpie**	**20.50**	**175**	P	Pn	05 31 41.0	+1.4
PATS	**Pohnpei**	**20.58**	**52**	P	Pn	05 31 41.4	+0.7
EIDS	**Eidsvold**	**21.00**	**157**	P	**P**	**05 31 44.2**	**+1.5**
BKSI	**Bulukumba**	**21.96**	**271**	P	**P**	**05 31 54.8**	**+1.6**
	comp=Z,25nm,0.9s						
OOD	**Oodnadatta**	**22.47**	**195**	P	**P**	**05 32 01.0**	**+2.5**
WRKA	**Warakurna**	**23.08**	**214**	P	**P**	**05 32 06.2**	**+1.2**
LCRK	**Leigh Creek**	**24.54**	**188**	P	**P**	**05 32 21.3**	**+2.6**
	comp=Z,25nm,0.9s						
MULG	**Mulgathing**	**25.27**	**197**	P	**P**	**05 32 27.9**	**+2.6**
STKA	**Stephens Creek**	**25.68**	**181**	P	**P**	**05 32 30.7**	**+1.7**
STKA	**Stephens Creek**	**25.68**	**181**	P	**P**	**05 32 29.1**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=341,slow=12,SNR=5.5						
STKA				LR	LR	05 43 52.5	
	comp=Z,542nm,18.6s,baz=354,slow=39						
	comp=Z,2.6nm,0.6s						
KOUNC	**Koumac, New Ca**	**25.83**	**126**	P	**P**	**05 32 35.3**	**+4.8**
BBOO	**Buckleboo**	**27.21**	**191**	P	**P**	**05 32 45.5**	**+2.6**
BBOO	**Buckleboo**	**27.21**	**191**	P	**P**	**05 32 44.1**	**+1.3**
BBOO				IAmb	IAmb	05 32 48.6	
	comp=Z,21nm,1.1s						
FORT	**Forrest**	**27.93**	**207**	P	**P**	**05 32 49.7**	**+0.4**
JOW	**Kunigami**	**35.37**	**338**	LR	LR	05 46 35.0	
	comp=Z,126nm,19.7s,baz=112,slow=33						
NWAO	**Narrogin (SRO)**	**35.39**	**218**	P	**P**	**05 33 55.3**	**+0.4**
NWAO	**Narrogin (SRO)**	**35.39**	**218**	LR	LR	05 49 09.4	
	comp=Z,582nm,20.4s,baz=48,slow=38						
JHJ	**Hachijo jima 2**	**39.04**	**357**	LR	LR	05 47 30.3	
	comp=Z,321nm,20.3s,baz=54,slow=32						
MJAR	**Matsushiro Arr**	**42.55**	**355**	P	**P**	**05 34 52.9**	**-1.7**
	comp=Z,1.2nm,0.7s,baz=152,slow=5.5,SNR=3.1						
MJAR				LR	LR	05 50 44.6	
	comp=Z,158nm,18.5s,baz=161,slow=34						
	comp=Z,1.2nm,0.7s						
MAJO	**Matsushiro**	**42.55**	**355**	P	**P**	**05 34 54.2**	**-0.5**
MAJO				IAmb	IAmb	05 35 07.0	
	comp=Z,21nm,1.5s						
MJB9	**Matsu-Tunnel**	**42.55**	**355**	P	**P**	**05 34 54.4**	**-0.2**
MJB9				IAmb	IAmb	05 35 07.0	
	comp=Z,20nm,1.5s						
NJ2	**Nanjing**	**43.94**	**331**	*eP*	**P**	**05 35 07.0**	**+1.0**
NJ2				pP	**pP**	**05 35 10.6**	**-5.7**
NJ2				sP	sP	05 35 12.8	-7.7
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,170nm,3.5s						
URZ	**Urewera**	**45.04**	**140**	LR	LR	05 54 55.5	
	comp=Z,132nm,18.3s,baz=326,slow=37						
WHN	**Wuhan**	**45.12**	**325**	P	P	05 35 24.3	+8.9
TUWZ	**Tuamarina**	**45.17**	**146**	P	**P**	**05 35 18.9**	**+3.2**
KSRS	**Korea Array**	**45.30**	**344**	P	**P**	**05 35 16.7**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=163,slow=9.2,SNR=12						
KSRS				LR	LR	05 53 44.0	
	comp=Z,71nm,18.8s,baz=145,slow=36						
	comp=Z,3.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**49.10**	**301**	P	**P**	**05 35 46.5**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=123,slow=3.3,SNR=1.2						
	comp=Z,0.6nm,0.3s						
ASAJ	**Asahikawa**	**49.95**	**0**	LR	LR	05 56 10.6	
	comp=Z,32nm,21.5s,baz=338,slow=35						
HNS	**HongShan**	**50.27**	**331**	⇑P	**P**	**05 35 56.4**	**+1.2**
HNS				pmax	pmax		
	comp=Z,7.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**50.87**	**351**	P	**P**	**05 35 59.5**	**-0.1**
USRK	**Ussuriysk Ar.**	**50.87**	**351**	P	**P**	**05 35 58.0**	**-1.6**
	comp=Z,5.6nm,0.8s,baz=150,slow=6.4,SNR=11						
USRK				LR	LR	05 55 15.5	
	comp=Z,112nm,20.5s,baz=171,slow=33						
	comp=Z,5.6nm,0.8s						
USA0B	**Ussuriysk Arra**	**50.87**	**351**	P	**P**	**05 35 58.9**	**-0.8**
USA0B				IAmb	IAmb	05 36 02.0	
	comp=Z,5.2nm,0.8s						
HHC	**Hu-ho-hao-te**	**54.49**	**332**	*eP*	**P**	**05 36 28.3**	**+1.7**
HHC				pP	pP	05 36 33.5	-3.8
HHC				sP	sP	05 36 36.3	-5.1
HHC				pmax	pmax		
	comp=Z,13nm,0.5s						
HHC				pmax	pmax		
	comp=Z,66nm,4.5s						
HHC				LR	LR		
	comp=N,140nm,13.7s						
HHC				LR	LR		
	comp=Z,130nm,17.6s						
PEA0B	**Petropavlovsk-**	**60.40**	**11**	P	**P**	**05 37 07.9**	**0.0**
PETK	**Petropavlovsk-**	**60.40**	**11**	P	**P**	**05 37 07.8**	**-0.2**
PETK	**Petropavlovsk-**	**60.40**	**11**	P	**P**	**05 37 08.1**	**+0.2**
	comp=Z,5.4nm,0.8s,baz=180,slow=6.8,SNR=13						
	comp=Z,5.4nm,0.8s						
ULN	**Ulaanbaatar**	**61.96**	**334**	P	**P**	**05 37 18.9**	**+0.1**
ULN				IAmb	IAmb	05 37 21.7	
	comp=Z,2.9nm,0.8s						
SONM	**Songino Array**	**62.23**	**334**	P	**P**	**05 37 22.4**	**+1.9**
	comp=Z,0.5nm,0.6s,baz=180,slow=0.1,SNR=2.1						
	comp=Z,0.5nm,0.6s						
MA2	**Magadan**	**65.79**	**5**	LR	LR	06 03 19.9	
	comp=Z,31nm,21.8s,baz=176,slow=33						
MK31	**Makanchi Array**	**74.54**	**322**		**P**	**05 38 37.8**	**+0.3**
MKAR	**Makanchi Array**	**74.54**	**322**	P	**P**	**05 38 38.2**	**+0.6**
	comp=Z,2.9nm,0.7s,baz=109,slow=7.3,SNR=32						
	comp=Z,2.9nm,0.7s						
MAKZ	**Makanchi**	**74.74**	**322**	P	**P**	**05 38 39.3**	**+0.7**
MAKZ				IAmb	IAmb	05 38 41.6	
	comp=Z,4.6nm,0.8s						
ZAA0	**Zalesovo Array**	**76.56**	**329**	P	**P**	**05 38 50.1**	**+1.2**
ZALV	**Zalesovo Beam**	**76.56**	**329**	P	**P**	**05 38 49.1**	**+0.2**
ZALV	**Zalesovo Beam**	**76.56**	**329**	P	**P**	**05 38 48.2**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=77,slow=9.3,SNR=4.8						
	comp=Z,1.5nm,0.7s						
KURBB	**Kurchatov Arra**	**78.45**	**324**	P	**P**	**05 38 59.8**	**+0.3**
	comp=Z,1.6nm,0.9s,baz=118,slow=4.7,SNR=14						
	comp=Z,1.6nm,0.9s						
L14K	**Kuka Creek**	**79.51**	**24**	P	**P**	**05 39 05.5**	**+0.4**
MAW	**Mawson**	**80.34**	**202**	LR	LR	06 13 41.2	
	comp=Z,124nm,18.0s,baz=60,slow=35						
M16K	**Timber Creek**	**80.87**	**25**	P	**P**	**05 39 12.9**	**+0.5**
KKAR	**Karatay Array**	**80.93**	**315**	P	**P**	**05 39 14.5**	**+1.3**
L16K	**Owhat River**	**81.01**	**24**	P	**P**	**05 39 13.8**	**+0.7**
L16K				IAmb	IAmb	05 39 15.8	
	comp=Z,13nm,1.3s						
OHAK	**Old Harbor**	**81.69**	**30**	P	**P**	**05 39 17.7**	**+0.9**
OHAK				IAmb	IAmb	05 39 24.6	
	comp=Z,13nm,1.4s						
M20K	**Styx River**	**83.75**	**26**	P	**P**	**05 39 28.0**	**+0.4**
QSPA	**South Pole Qui**	**83.90**	**180**	P	**P**	**05 39 29.3**	**+0.9**
QSPA	**South Pole Qui**	**83.90**	**180**	P	**P**	**05 39 29.3**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=309,slow=0.9,SNR=12						
QSPA				LR	LR	06 16 54.2	
	comp=Z,181nm,18.9s,baz=8.0,slow=36						
	comp=Z,1.7nm,0.7s						
NRIK	**Noril'sk**	**83.91**	**343**	P	**P**	**05 39 29.4**	**+1.3**
NRIK				IAmb	IAmb	05 39 38.4	
	comp=Z,9.6nm,1.5s						
NRIK	**Noril'sk**	**83.91**	**343**	P	**P**	**05 39 27.8**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=122,slow=4.8,SNR=4.6						
	comp=Z,1.2nm,0.4s						
BVAR	**Borovoye Array**	**84.03**	**325**	P	**P**	**05 39 29.8**	**+0.7**
	comp=Z,8.9nm,0.7s,baz=120,slow=5.8,SNR=32						
	comp=Z,8.9nm,0.7s						
F19K	**Shaleruckik Mo**	**84.26**	**20**	P	**P**	**05 39 30.6**	**+0.7**
J20K	**Nowinta River**	**84.33**	**23**	P	**P**	**05 39 32.0**	**+1.6**
J20K				IAmb	IAmb	05 39 32.0	
	comp=Z,5.4nm,1.1s						
SUA	**Susitna One**	**84.61**	**26**	P	**P**	**05 39 31.7**	**-0.3**
SUA				IAmb	IAmb	05 39 33.0	
	comp=Z,4.2nm,0.9s						
D19K	**Kuna River**	**84.99**	**19**	P	**P**	**05 39 34.2**	**+0.5**
D19K				IAmb	IAmb	05 39 56.6	
	comp=Z,8.0nm,1.3s						
F20K	**Avaraart Lake**	**85.07**	**20**	P	**P**	**05 39 35.0**	**+1.0**
F20K				IAmb	IAmb	05 39 36.5	
	comp=Z,2.7nm,1.1s						
IMAR	**Indian Mountai**	**85.29**	**22**	P	**P**	**05 39 34.8**	**-0.3**
KNK	**Knik Glacier**	**85.61**	**27**	P	**P**	**05 39 37.0**	**+0.1**
DHY	**Denali Highway**	**86.67**	**25**	P	**P**	**05 39 41.8**	**-0.5**
DHY				IAmb	IAmb	05 39 49.8	
	comp=Z,9.1nm,1.4s						
B22K	**Teshekpuk Lake**	**87.33**	**18**	P	**P**	**05 39 44.8**	**-0.3**
ILAR	**Eielson Array**	**87.46**	**24**	P	**P**	**05 39 44.9**	**-1.0**
ILAR	**Eielson Array**	**87.46**	**24**	P	**P**	**05 39 44.4**	**-1.5**
	comp=Z,2.5nm,0.8s,baz=256,slow=4.9,SNR=27						
ILAR				LR	LR	06 15 24.9	
	comp=Z,53nm,19.3s,baz=262,slow=33						
	comp=Z,2.5nm,0.8s						
TOLK	**Toolik Lake Re**	**87.86**	**20**	P	**P**	**05 39 47.8**	**0.0**
TOLK				IAmb	IAmb	05 39 51.0	
	comp=Z,3.6nm,0.8s						
C23K	**Itkillik River**	**87.99**	**19**	P	**P**	**05 39 48.9**	**+0.7**
BCAR	**Beaver Creek A**	**89.10**	**26**	P	**P**	**05 39 54.1**	**+0.3**
ABKAR	**Akbulak array**	**89.50**	**320**	P	**P**	**05 39 55.1**	**-0.7**
EGAK	**Eagle**	**89.81**	**25**	P	**P**	**05 39 57.5**	**+0.6**
EGAK				IAmb	IAmb	05 39 59.0	
	comp=Z,3.0nm,0.9s						
INK	**Inuvik**	**93.48**	**22**	LR	LR	06 18 48.5	
	comp=Z,32nm,20.6s,baz=181,slow=33						
BBB	**Bella Bella**	**94.57**	**38**	LR	LR	06 18 20.5	
	comp=Z,64nm,18.3s,baz=238,slow=33						
TORD	**Torodi Ar. Bea**	**140.45**	**283**	PKP	**PKiKP**	**05 46 30.8**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=11,slow=2.9,SNR=1.7						

*IDC **25** 05:33:18.1±1.4,34.°63N×26.°61E,h0km,mb3.7/8, mbtmp3.6/10,ML2.8/2,Error ellipse: s-maj=30.3km s-min=25.7km az=145.0*
*ISK **25** 05:33:20.6,34.°58N×26.°66E,h9km,ML3.2/13*
*ATH **25** 05:33:21.4,34.°62N×26.°70E,h13km±4km,ML3.0/4, Manual Solution by S.Liakopoulos This location: 2020/05/30 23:48:33 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
*THE **25** 05:33:23.6,34.°69N×26.°67E,h0km±4km,ML2.3/2,Error ellipse: s-maj=8.7km s-min=2.2km az=158.0*
*AFAD **25** 05:33:31.3±0.0,35.°11N×27.°24E,h14km±3km,ML2.5*

ISC 25 05:33:19.8±1.5,34.°55N±0.°06×26.°72E±0.°04,h15km±9km, n45,σ2§25/59,mb3.6/8,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.70**	**324**	Pg	**Pg**	**05 33 33.2**	**-0.3**
ZKR				Sg	**Sb**	**05 33 43.3**	**+0.1**
ZKR	**Zakros**	**0.70**	**324**	P	**Pb**	**05 33 33.9**	**+0.2**
ZKR				S	**Sb**	**05 33 43.3**	**+0.1**
	738nm,0.7s						
ZKR	**Zakros**	**0.70**	**324**	P	**Pg**	**05 33 33.8**	**+0.3**
ZKR				S	**Sb**	**05 33 42.3**	**-0.9**
SIT2	**Siteia**	**0.83**	**323**	P	**Pb**	**05 33 37.2**	**+1.4**
SIT2				S	**Sb**	**05 33 46.2**	**-0.6**
FRMA	**Ierapetra Chan**	**0.94**	**300**	P	**Pg**	**05 33 37.0**	**-1.0**
FRMA				S	**Sg**	**05 33 49.5**	**-0.7**
FRMA	**Ierapetra Chan**	**0.94**	**300**	P	**Pg**	**05 33 37.0**	**-1.0**
FRMA				S	**Sg**	**05 33 47.3**	**-2.9**
AGNA	**Agios Nikolaos**	**1.04**	**308**	P	**Pb**	**05 33 40.4**	**+0.9**
AGNA				S	**Sb**	**05 33 53.3**	**+0.4**
KARP	**Karpathos**	**1.06**	**20**	Pg	**Pn**	**05 33 41.5**	**+1.4**
KARP				Sg	**Sn**	**05 33 56.0**	**+1.4**
KARP	**Karpathos**	**1.06**	**20**	P	**Pn**	**05 33 41.9**	**+1.8**
KSTL	**Kastelli Herak**	**1.55**	**300**	P	**Pn**	**05 33 46.3**	**-0.5**
KSTL				S	**Sn**	**05 34 04.8**	**-1.8**
	78nm,0.9s						
IDI	**Anoyia**	**1.68**	**297**	Pn	**Pn**	**05 33 50.5**	**+1.9**
IDI	**Anoyia**	**1.68**	**297**	P	**Pg**	**05 33 51.8**	**-0.2**
ARG	**Arkhangelos**	**2.02**	**34**	Pn	**Pn**	**05 33 55.9**	**+2.6**
ARG	**Arkhangelos**	**2.02**	**34**	P	**Pb**	**05 33 57.2**	**+1.0**
DAT	**Datca**	**2.29**	**18**	Pn	**Pn**	**05 33 58.9**	**+1.9**
DAT	**Datca**	**2.29**	**18**	P	**Pn**	**05 33 57.6**	**+0.6**
IMMV	**Iera Moni Meta**	**2.43**	**293**	P	**Pn**	**05 34 01.8**	**+3.0**
TURN	**Turunc**	**2.55**	**29**	Pn	**Pn**	**05 34 03.3**	**+2.8**
TURN	**Turunc**	**2.55**	**29**	P	**Pn**	**05 34 02.9**	**+2.5**
RODP	**Rodopos**	**2.63**	**293**	P	**Pn**	**05 34 04.9**	**+3.2**
APE	**Apeiranthos**	**2.70**	**339**	Pn	**Pn**	**05 34 04.1**	**+1.5**
DALY	**Dalyan (Mula)**	**2.76**	**34**	Pn	**Pn**	**05 34 06.3**	**+2.9**
IZZE	**Mula-Seydike**	**2.78**	**47**	P	**Pn**	**05 34 05.2**	**+1.5**
IZZE				*i* AML	AML	05 34 46.0	
	comp=N,33nm,0.5s						
IZZE				*i* AML	AML	05 34 50.0	
	comp=E,41nm,0.7s						
FETY	**Fethiye**	**2.84**	**42**	Pn	**Pn**	**05 34 07.5**	**+3.0**
AKAS	**Kas**	**2.90**	**54**	Pn	**Pn**	**05 34 08.5**	**+3.1**
AKAS	**Kas**	**2.90**	**54**	P	**Pn**	**05 34 07.3**	**+1.9**
SABU	**Mula-Dalaman**	**2.92**	**38**	P	**Pn**	**05 34 07.7**	**+2.1**
SABU				S	**Sn**	**05 34 34.4**	**-6.0**
SABU				*i* AML	AML	05 34 45.0	
	comp=N,51nm,1.5s						
SABU				*i* AML	AML	05 35 07.0	
	comp=E,47nm,1.8s						
CAME	**Cameli-Denizli**	**3.18**	**41**	Pn	**Pn**	**05 34 12.3**	**+2.9**
KNIK	**Mula-Seydike**	**3.26**	**45**	P	**Pn**	**05 34 11.1**	**+0.6**
KNIK				*i* AML	AML	05 34 59.0	
	comp=E,26nm,2.3s						
KNIK				*i* AML	AML	05 35 26.0	
	comp=N,23nm,2.7s						
DNZT	**Denizli-Tavas-**	**3.31**	**34**	P	**Pn**	**05 34 13.7**	**+2.7**
DNZT				S	**Sn**	**05 34 44.0**	**-6.1**
DNZT				*i* AML	AML	05 35 32.0	
	comp=N,21nm,2.5s						
TAVA	**DENIZLI_Tavas**	**3.41**	**31**	P	**Pn**	**05 34 14.5**	**+2.0**
TAVA				S	**Sn**	**05 34 50.1**	**-2.6**
GOLH	**Golhisar**	**3.54**	**40**	P	**Pn**	**05 34 16.3**	**+2.1**
GOLH				S	**Sn**	**05 34 53.9**	**-1.9**
GOLH				*i* AML	AML	05 35 04.0	
	comp=E,20nm,0.8s						
APMY	**Acipayam-Deniz**	**3.59**	**35**	Pn	**Pn**	**05 34 18.3**	**+3.4**
VLI	**Velial**	**3.77**	**306**	P	**Pn**	**05 34 19.9**	**+2.6**
KORT	**Korkueli**	**3.83**	**49**	Pn	**Pn**	**05 34 21.8**	**+3.5**
BRTR	**Keskin Array B**	**7.56**	**45**	Pn	**Pn**	**05 35 10.9**	**+1.3**
	0.1nm,0.3s,baz=201,slow=20,SNR=1.6						
	0.3nm,0.5s						
EIL	**Elat**	**8.51**	**123**	Pn	**Pn**	**05 35 23.2**	**+0.8**
	0.2nm,0.3s,baz=359,slow=21,SNR=1.6						
EIL				Sn	**Sn**	**05 36 53.9**	**-4.2**
	0.6nm,0.3s,baz=310,slow=17,SNR=1.4						
	2.1nm,0.6s						
FINES	**FINESS Array B**	**26.92**	**359**	P	**P**	**05 39 00.3**	**+0.3**
	1.5nm,0.9s,baz=162,slow=12,SNR=0.9						
	1.5nm,0.9s						
HFS	**Hagfors**	**26.98**	**346**	P	**P**	**05 39 00.5**	**0.0**
	1.4nm,0.8s,baz=140,slow=11,SNR=1.6						
	1.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**31.11**	**233**	P	**P**	**05 39 38.2**	**+0.5**
	0.2nm,0.5s,baz=33,slow=9.1,SNR=2.1						
	0.2nm,0.5s						
ARCES	**ARCESS Array B**	**35.05**	**359**	P	**P**	**05 40 10.6**	**-1.0**
	3.7nm,0.9s,baz=186,slow=6.8,SNR=1.6						
	3.7nm,0.9s						
KURBB	**Kurchatov Arra**	**40.52**	**50**	P	**P**	**05 40 59.3**	**+1.4**
	0.6nm,0.6s,baz=271,slow=8.9,SNR=5.4						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**43.05**	**56**	P	**P**	**05 41 20.6**	**+1.8**
	0.4nm,0.6s,baz=258,slow=7.8,SNR=4.4						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**44.51**	**46**	P	**P**	**05 41 30.4**	**0.0**
	0.5nm,0.4s,baz=277,slow=12,SNR=2.6						
	0.5nm,0.4s						
SONM	**Songino Array**	**58.88**	**51**	P	**P**	**05 43 19.2**	**+1.2**
	0.3nm,0.6s,baz=316,slow=4.0,SNR=2.1						
	0.3nm,0.6s						

*IDC **25** 06:04:33.6±1.8,2.°36S×140.°35E,h0km,mb3.7/6, mbtmp3.7/7,ML3.6/1,MS2.9/1,Error ellipse: s-maj=75.4km s-min=24.0km az=92.0*
*DJA **25** 06:04:37.0±0.5,3.°5S±12.°×14.°0E±.°,h30km±11km,M4.7/4, mb5.5/1,MLv4.3/4*

ISC 25 06:04:35.7±0.7,2.°68S±0.°09×139.°83E±0.°06,h10km,n19, σ2§27/18,mb3.8/6,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.34**	**76**	P	**Pg**	**06 04 45.7**	**+3.2**
GENI				S	**Sg**	**06 04 49.5**	**+2.4**
JAY	**Jayapura**	**0.89**	**80**	P	**Pg**	**06 04 51.9**	**-0.9**
JAY				S	**Sg**	**06 05 01.6**	**-2.7**
MMPI	**Merauke**	**5.78**	**175**	P	**Pn**	**06 06 00.3**	**-1.3**
FAKI	**Fak Fak**	**7.58**	**268**	P	**Pn**	**06 06 26.9**	**+0.6**
SWI	**Sorong**	**8.76**	**282**	P	**Pn**	**06 06 42.0**	**-0.5**
PMG	**Port Moresby**	**9.89**	**133**	LR	LR	06 11 19.7	
	comp=Z,66nm,18.8s,baz=100,slow=42						
SAUI	**Saumlaki**	**10.00**	**238**	P	**Pn**	**06 06 58.4**	**-1.1**
NLAI	**Namlea**	**12.73**	**267**	P	**Pn**	**06 07 37.8**	**+0.9**
WRA	**Warramunga Arr**	**17.98**	**197**	P	**P**	**06 08 50.4**	**+4.0**
	0.2nm,0.3s,baz=19,slow=12,SNR=11						
WRA				S	**Sn**	**06 12 04.6**	**-2.1**
	0.7nm,0.8s,baz=8.1,slow=23,SNR=1.6						
	1.8nm,0.7s						
ASAR	**Alice Springs**	**21.64**	**195**	P	**P**	**06 09 30.5**	**+4.1**
	1.0nm,0.8s,baz=22,slow=10,SNR=9.8						
ASAR				S	Sn	06 13 34.7	-0.2
	0.3nm,0.9s,baz=161,slow=42,SNR=1.2						
	1.0nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**34.66**	**49**	T	T	06 47 48.6	
	baz=233,slow=76,SNR=14						
H11N2	**WAKE ISLAND Hy**	**34.67**	**49**	T	T	06 47 51.1	
	baz=233,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**34.68**	**49**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.18**	**125**		**Pn**	**06 39 24.2**	**-1.0**
PMG	**Port Moresby**	**5.18**	**125**	Pn	**Pn**	**06 39 23.3**	**-1.9**
	4.4nm,0.3s,baz=293,slow=15,SNR=6.8						
PMG				Sn	**Sn**	**06 40 20.5**	**-4.5**
	6.1nm,0.3s,baz=236,slow=18,SNR=10						
	23nm,0.6s						
COEN	**Coen**	**7.49**	**178**	Pn	**Pn**	**06 39 58.8**	**+1.8**
FAKI	**Fak Fak**	**11.14**	**288**	Pn	**Pn**	**06 40 45.6**	**-1.5**
MTN	**Manton Dam**	**13.21**	**240**	Pn	**Pn**	**06 41 15.8**	**+0.5**
CTA	**Charters Tower**	**13.98**	**167**	Pn	**Pn**	**06 41 27.1**	**+1.3**
	baz=273,slow=1.2,SNR=2.1						
CTA				Lg	Lg	06 45 33.4	
	baz=90,slow=20						
CTA				LR	LR	06 46 11.1	
	comp=Z,158nm,20.0s,baz=0.0,slow=34						
	8.8nm,1.2s						
WB0	**Warramunga Arr**	**15.62**	**211**	Pn	**Pn**	**06 41 49.1**	**+1.3**
WB0				IAmb	IAmb	06 42 02.7	
	comp=Z,19nm,0.9s						
WR0	**Warramunga Arr**	**15.70**	**210**	Pn	**Pn**	**06 41 48.9**	**-0.1**
WR0				IAmb	IAmb	06 42 05.0	
	comp=Z,15nm,0.9s						
WB2	**Warramunga Arr**	**15.78**	**211**	Pn	**Pn**	**06 41 50.6**	**+0.6**
WRA	**Warramunga Arr**	**15.79**	**211**	Pn	**Pn**	**06 41 50.4**	**+0.2**
WRA	**Warramunga Arr**	**15.79**	**211**	Pn	**Pn**	**06 41 49.6**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=30,slow=13,SNR=13						
WRA				Sn	**Sn**	**06 44 39.5**	**-5.9**
	comp=Z,0.4nm,0.3s,baz=29,slow=24,SNR=2.3						
WRA				Lg	Lg	06 46 30.2	
	comp=Z,0.1nm,0.3s,baz=16,slow=24,SNR=2.1						
WRA				LR	LR	06 48 32.2	
	comp=Z,318nm,21.9s,baz=321,slow=39						
HNR	**Honiara**	**17.18**	**101**	P	**P**	**06 42 10.6**	**+1.2**
SOEI	**Soe**	**18.71**	**259**		**P**	**06 42 25.7**	**-0.8**
SOEI				IAmb	IAmb	06 42 46.9	
	comp=Z,45nm,0.8s						
AS31	**Alice Springs**	**19.19**	**206**		**P**	**06 42 33.4**	**+1.8**
ASAR	**Alice Springs**	**19.19**	**206**		**P**	**06 42 33.1**	**+1.5**
ASAR	**Alice Springs**	**19.19**	**206**	P	**Pn**	**06 42 36.4**	**+3.8**
	comp=Z,15nm,0.7s,baz=30,slow=11,SNR=49						
ASAR				Sn	**Sn**	**06 46 02.4**	**-5.5**
	comp=Z,0.1nm,0.3s,baz=20,slow=26,SNR=0.9						
ASAR				Lg	Lg	06 48 17.4	
	comp=Z,0.1nm,0.3s,baz=20,slow=31,SNR=2.7						
ASAR				LR	LR	06 50 38.8	
	comp=Z,306nm,18.2s,baz=32,slow=38						
FITZ	**Fitzroy Crossi**	**20.42**	**234**		**P**	**06 42 45.8**	**+0.7**
LUWI	**Luwuk**	**20.75**	**284**	P	**P**	**06 42 46.8**	**-1.8**
DAV	**Davao City (W)**	**21.84**	**308**	LR	LR	06 53 16.8	
	comp=Z,31nm,18.7s,baz=20,slow=41						
STKA	**Stephens Creek**	**25.35**	**183**	P	**P**	**06 43 38.6**	**+3.8**
	comp=Z,4.6nm,0.8s,baz=351,slow=12,SNR=4.4						
STKA				LR	LR	06 54 32.7	
	comp=Z,125nm,19.8s,baz=12,slow=38						
	comp=Z,4.6nm,0.8s						
DZM	**Mont Dzumac**	**27.57**	**127**	LR	LR	06 54 00.8	
	comp=Z,118nm,19.6s,baz=3.5,slow=35						
NWAO	**Narrogin (SRO)**	**35.55**	**219**	LR	LR	07 00 42.7	
	comp=Z,156nm,18.2s,baz=237,slow=38						
NJ2	**Nanjing**	**44.59**	**331**	*e*P	**P**	**06 46 20.0**	**0.0**
NJ2				pP	**pP**	**06 46 23.0**	**-0.3**
NJ2				sP	**sP**	**06 46 25.3**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,180nm,5.6s						
SNZO	**South Karori**	**44.84**	**146**	P	**P**	**06 46 23.9**	**+2.0**
KSRS	**Korea Array**	**45.83**	**343**	P	**P**	**06 46 30.2**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=162,slow=9.0,SNR=2.7						
	comp=Z,1.2nm,0.8s						
CM31	**Chiang Mai Arr**	**49.88**	**301**	P	**P**	**06 46 59.5**	**-2.0**
CM31				IAmb	IAmb	06 47 08.2	
	comp=Z,15nm,0.9s						
CMAR	**Chiang Mai Arr**	**49.88**	**301**	P	**P**	**06 46 59.9**	**-1.7**
CMAR	**Chiang Mai Arr**	**49.88**	**301**	P	**P**	**06 47 00.3**	**-1.3**
	comp=Z,1.6nm,0.6s,baz=102,slow=13,SNR=7.5						
USA0B	**Ussuriysk Arra**	**51.34**	**350**	P	**P**	**06 47 11.3**	**-0.8**
USA0B				IAmb	IAmb	06 47 35.5	
	comp=Z,10.0nm,0.8s						
XAN	**Xi'an**	**51.49**	**324**	P	**P**	**06 47 16.0**	**+2.5**
XAN				pP	sP	06 47 19.5	+1.4
XAN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HHC	**Hu-ho-hao-te**	**55.13**	**331**	*e*P	**P**	**06 47 43.0**	**+2.8**
HHC				sP	sP	06 47 50.8	+5.9
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,40nm,3.6s						
LZH	**Lanzhou**	**55.93**	**322**	*e*P	**P**	**06 47 49.8**	**+3.6**
LZH				pP	sP	06 47 54.0	+3.2
LZH				pmax	pmax		
	comp=Z,20nm,1.0s						
GTA	**Gaotai**	**60.51**	**323**	*e*P	**P**	**06 48 18.5**	**+0.4**
GTA				pP	sP	06 48 25.0	+2.2
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
PETK	**Petropavlovsk-**	**60.62**	**10**	P	**P**	**06 48 17.2**	**-1.3**
PETK	**Petropavlovsk-**	**60.62**	**10**	P	**P**	**06 48 16.7**	**-1.8**
	comp=Z,2.7nm,0.9s,baz=126,slow=6.0,SNR=4.5						
	comp=Z,2.7nm,0.9s						
SONM	**Songino Array**	**62.85**	**333**	P	**P**	**06 48 33.6**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=166,slow=6.0,SNR=4.8						
	comp=Z,0.7nm,0.9s						
MK31	**Makanchi Array**	**75.25**	**322**	P	**P**	**06 49 49.1**	**-1.5**
MK31				IAmb	IAmb	06 49 53.1	
	comp=Z,3.7nm,1.1s						
MKAR	**Makanchi Array**	**75.25**	**322**	P	**P**	**06 49 51.0**	**+0.3**
MKAR	**Makanchi Array**	**75.25**	**322**	P	**P**	**06 49 51.5**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=105,slow=7.6,SNR=19						
	comp=Z,1.5nm,0.5s						
MAKZ	**Makanchi**	**75.44**	**322**	P	**P**	**06 49 51.8**	**0.0**
MAKZ				IAmb	IAmb	06 49 54.1	
	comp=Z,5.8nm,0.7s						
ZALV	**Zalesovo Beam**	**77.22**	**329**	P	**P**	**06 50 01.3**	**-0.4**
ZALV	**Zalesovo Beam**	**77.22**	**329**	P	**P**	**06 50 00.9**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=82,slow=5.1,SNR=5.6						
	comp=Z,1.4nm,0.8s						
KURBB	**Kurchatov Arra**	**79.14**	**324**	P	**P**	**06 50 12.2**	**-0.2**
	comp=Z,2.1nm,0.9s,baz=114,slow=4.2,SNR=13						
	comp=Z,2.1nm,0.9s						
KK31	**Karatay Array**	**81.67**	**315**	P	**P**	**06 50 26.3**	**+0.1**
KKAR	**Karatay Array**	**81.67**	**315**	P	**P**	**06 50 25.6**	**-0.6**
KKAR				IAmb	IAmb	06 50 30.4	
	comp=Z,2.2nm,1.1s						
QSPA	**South Pole Qui**	**83.55**	**180**	P	**P**	**06 50 36.2**	**+0.4**
QSPA				IAmb	IAmb	06 50 44.8	
	comp=Z,3.2nm,1.0s						
QSPA	**South Pole Qui**	**83.55**	**180**	P	**P**	**06 50 36.3**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=305,slow=5.5,SNR=17						
	comp=Z,1.3nm,0.5s						
NRIK	**Noril'sk**	**84.44**	**343**	P	**P**	**06 50 39.9**	**-0.1**
NRIK				IAmb	IAmb	06 50 41.9	
	comp=Z,6.8nm,1.0s						
NRIK	**Noril'sk**	**84.44**	**343**	P	**P**	**06 50 39.2**	**-0.8**
	comp=Z,2.9nm,0.6s,baz=112,slow=4.9,SNR=6.9						
	comp=Z,2.9nm,0.6s						
BVAR	**Borovoye Array**	**84.71**	**325**	P	**P**	**06 50 42.6**	**+0.9**
	comp=Z,6.5nm,0.8s,baz=110,slow=6.5,SNR=28						
	comp=Z,6.5nm,0.8s						
C19K	**Lookout Ridge**	**84.97**	**18**	P	**P**	**06 50 42.5**	**-0.2**
C19K				IAmb	IAmb	06 51 10.6	
	comp=Z,2.8nm,1.1s						
F20K	**Avaraart Lake**	**85.16**	**20**	P	**P**	**06 50 43.6**	**0.0**
B21K	**Ikpikpuk River**	**86.76**	**18**	P	**P**	**06 50 51.7**	**+0.2**
B21K				IAmb	IAmb	06 51 19.5	
	comp=Z,2.3nm,1.1s						
D22K	**Ayikyak River**	**87.03**	**19**	P	**P**	**06 50 53.2**	**+0.3**
D22K				IAmb	IAmb	06 50 58.6	
	comp=Z,3.7nm,1.0s						
ILAR	**Eielson Array**	**87.50**	**24**	P	**P**	**06 50 53.8**	**-1.4**
	comp=Z,1.3nm,0.8s,baz=257,slow=4.8,SNR=11						
	comp=Z,1.3nm,0.8s						
C23K	**Itkillik River**	**88.10**	**19**	P	**P**	**06 50 58.8**	**+0.8**
CTGM	**Chitina Glacie**	**88.74**	**28**	P	**P**	**06 51 01.3**	**-0.1**
M27K	**Edge Creek, AK**	**88.87**	**27**	P	**P**	**06 51 01.7**	**-0.3**
M27K				IAmb	IAmb	06 51 06.6	
	comp=Z,2.0nm,0.8s						
BCAR	**Beaver Creek A**	**89.11**	**26**	P	**P**	**06 51 03.1**	**+0.1**
BMAR	**Burnt Mountain**	**89.28**	**22**	P	**P**	**06 51 03.7**	**+0.1**
DBIC	**Dimbokro**	**147.94**	**272**	PKPbc	**PKiKP**	**06 57 56.0**	**-0.2**
	comp=Z,6.8nm,1.0s,baz=115,slow=4.1,SNR=5.3						

*IDC **25** 06:39:55.5±1.3,5.7°78S×142.9°90E,h0km,mb3.9/9, mbtmp3.9/11,ML3.6/1,Error ellipse: s-maj=57.4km s-min=24.2km az=95.0*

ISC 25 06:40:00.9±1.1,5.8°8S±0.1°×142.9°9E±0.3,h35km,n11, σ0.6s9/11,mb3.9/9,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.31**	**210**	Pn	**Pn**	**06 43 47.6**	**+0.2**
	2.1nm,0.7s,baz=27,slow=12,SNR=2.0						
ASAR	**Alice Springs**	**19.74**	**205**	P	**P**	**06 44 27.0**	**-0.8**
	0.2nm,0.3s,baz=37,slow=11,SNR=3.2						
	4.5nm,0.9s						
KSRS	**Korea Array**	**45.24**	**343**	P	**P**	**06 48 15.9**	**+1.0**
	1.4nm,1.0s,baz=165,slow=6.3,SNR=2.9						
	1.4nm,1.0s						
PETK	**Petropavlovsk-**	**60.02**	**10**	P	**P**	**06 50 03.2**	**-0.8**
	1.2nm,0.8s,baz=159,slow=6.0,SNR=1.2						
	1.2nm,0.8s						
SONM	**Songino Array**	**62.30**	**333**	P	**P**	**06 50 19.7**	**-0.1**
	0.5nm,0.9s,baz=134,slow=6.2,SNR=2.1						
	0.5nm,0.9s						
MKAR	**Makanchi Array**	**74.77**	**322**	P	**P**	**06 51 37.7**	**+0.2**
	1.3nm,0.8s,baz=106,slow=8.9,SNR=5.0						
	1.3nm,0.8s						
ZALV	**Zalesovo Beam**	**76.69**	**329**	P	**P**	**06 51 47.8**	**-0.5**
	0.3nm,0.3s,baz=85,slow=1.6,SNR=1.7						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**78.64**	**324**	P	**P**	**06 51 58.6**	**-0.6**
	1.1nm,0.9s,baz=109,slow=4.7,SNR=5.0						
	1.1nm,0.9s						
QSPA	**South Pole Qui**	**84.16**	**180**	P	**P**	**06 52 29.2**	**+0.8**
	1.2nm,0.8s,baz=290,slow=2.1,SNR=2.2						
	1.2nm,0.8s						
BVAR	**Borovoye Array**	**84.21**	**325**	P	**P**	**06 52 29.1**	**+0.4**
	3.6nm,1.0s,baz=67,slow=3.9,SNR=5.7						
	3.6nm,1.0s						
ILAR	**Eielson Array**	**86.95**	**24**	P	**P**	**06 52 42.0**	**-0.1**
	0.7nm,1.0s,baz=282,slow=5.1,SNR=2.8						
	0.7nm,1.0s						

*IDC **25** 06:53:02.4±1.1,27.5°58N×56.5°58E,h0km,mb3.8/22, mbtmp3.8/22,MS3.3/3,Error ellipse: s-maj=25.5km s-min=17.0km az=2.0*
*DSN **25** 06:53:03.6±2.4,27.5°85N×56.7°66E,h10km,ML3.5/9,Error ellipse: s-maj=85.1km s-min=21.6km az=102.0*
*TEH **25** 06:53:05.5,27.5°55N×56.7°77E,h18km±24km,ML3.7*
*OMAN **25** 06:53:05.7±0.2,27.5°56N×57.1°2E,h10km,mb4.6/3, ml3.7/17,Error ellipse: s-maj=2.2km s-min=1.3km az=18.0*

ISC 25 06:53:04.8±0.5,27.6°1N±0.0°04×56.8°0E±0.0°04,h10km,n77, σ1.9s69/83,mb3.8/21,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.29**	**235**	Pg	**Pg**	**06 53 11.2**	**+0.6**
GENO	**Geno**	**0.60**	**249**	Pg	**Pg**	**06 53 16.6**	**+0.1**
KHNJ	**Kahnooj**	**0.87**	**67**	Pg	**Pg**	**06 53 22.5**	**+0.9**
SHME	**Shamm**	**1.67**	**201**	P	**Pn**	**06 53 36.2**	**+2.0**
	SNR=14						
SHME				S	**Sn**	**06 53 58.2**	**+2.7**
BANOM	**Banah**	**1.74**	**195**	P	**Pn**	**06 53 34.5**	**-0.7**
BANOM	**Banah**	**1.74**	**195**	P	**Pn**	**06 53 35.6**	**+0.4**
BANOM				S	**Sn**	**06 54 00.3**	**+2.8**
JASK	**Jask - Hormozg**	**1.98**	**151**	Pn	**Pn**	**06 53 39.4**	**+0.9**
JASK	**Jask - Hormozg**	**1.98**	**151**	P	Pn	06 53 36.5	-2.0
	SNR=11						
NGRK	**Negar Kerman**	**2.02**	**358**	Pn	**Pn**	**06 53 41.7**	**+2.4**
KBAM	**BAM**	**2.10**	**43**	Pn	**Pn**	**06 53 43.2**	**+3.1**
LAR1	**LAR**	**2.15**	**272**	Pn	**Pn**	**06 53 42.9**	**+2.0**
MASF	**Masafi**	**2.31**	**195**	P	**Pn**	**06 53 43.9**	**+0.9**
MSFE	**Esma-Masafi**	**2.32**	**195**	P	**Pn**	**06 53 44.3**	**+1.2**
MSFE				S	**Sb**	**06 54 18.3**	**+2.8**
CHMN	**Cheshme madani**	**2.33**	**16**	Pn	**Pn**	**06 53 46.4**	**+2.8**
MDH	**Madha**	**2.35**	**191**	P	**Pn**	**06 53 43.9**	**+0.4**
MDH	**Madha**	**2.35**	**191**	P	**Pn**	**06 53 44.5**	**+0.9**
TVBK	**TV Kerman**	**2.36**	**359**	Pn	**Pn**	**06 53 46.6**	**+2.6**
UOSS	**Minazif**	**2.71**	**192**	P	**Pn**	**06 53 50.9**	**+2.4**
KHGB	**Koh Gabri**	**2.77**	**354**	Pn	**Pn**	**06 53 52.3**	**+2.8**
NAZ	**Nazwa, Dubai**	**2.81**	**202**	P	**Pn**	**06 53 53.1**	**+3.3**
NAZ	**Nazwa, Dubai**	**2.81**	**202**	P	**Pn**	**06 53 51.8**	**+2.0**
	SNR=6.1						
HATD	**Hatta, Dubai**	**2.84**	**192**	P	**Pn**	**06 53 53.5**	**+3.2**
HATD	**Hatta, Dubai**	**2.84**	**192**	P	**Pn**	**06 53 51.7**	**+1.4**
KRM1	**Kerman Provinc**	**2.91**	**8**	Pn	**Pn**	**06 53 54.2**	**+2.8**
ASHO	**Ashiyiah**	**2.99**	**193**	P	**Pn**	**06 53 55.2**	**+2.8**
ASHO	**Ashiyiah**	**2.99**	**193**	P	**Pn**	**06 53 54.2**	**+1.8**
	SNR=16						
ASHO				S	**Sn**	**06 54 30.9**	**+2.5**
FAQ	**Al Faqa, Dubai**	**3.06**	**201**	P	**Pn**	**06 53 53.4**	**+0.2**
FAQ	**Al Faqa, Dubai**	**3.06**	**201**	P	**Pn**	**06 53 55.2**	**+1.9**
ASUD	**Al Ashush, Dub**	**3.26**	**204**	P	**Pn**	**06 53 57.6**	**+1.6**
ASUD	**Al Ashush, Dub**	**3.26**	**204**	P	**Pn**	**06 53 58.0**	**+2.0**
SOHO	**SOHO**	**3.47**	**184**	P	**Pn**	**06 53 60.0**	**+1.0**
ZHDN	**Zahedan**	**3.95**	**62**	Pn	**Pn**	**06 54 08.1**	**+2.4**
HOQ	**Hoqain**	**4.04**	**173**	Pn	**Pn**	**06 54 07.6**	**+0.8**
HOQ	**Hoqain**	**4.04**	**173**	P	**Pn**	**06 54 07.0**	**+0.2**
HOQ				S	**Sn**	**06 54 53.8**	**-0.4**
BIDO	**Bidbid**	**4.25**	**163**	P	**Pn**	**06 54 08.9**	**-0.8**
BIDO				S	**Sn**	**06 54 58.4**	**-0.9**
ARQ	**Araqi**	**4.27**	**183**	P	**Pn**	**06 54 10.6**	**+0.7**
ARQ				S	**Sn**	**06 55 01.8**	**+2.0**
SMDO	**Samad**	**4.67**	**166**	P	**Pn**	**06 54 14.9**	**-0.7**
	SNR=12						
SMDO				S	**Sn**	**06 55 09.9**	**0.0**
	SNR=5.7						
NHDN	**Nehbandan**	**4.71**	**36**	Pn	**Pn**	**06 54 19.2**	**+3.1**
BSY	**Bisya**	**4.86**	**176**	P	**Pn**	**06 54 18.4**	**+0.3**
DSBU	**Dashti - Bushe**	**4.96**	**280**	Pn	**Pn**	**06 54 20.1**	**+0.7**
JMDO	**Jabal Madar**	**5.35**	**167**	P	**Pn**	**06 54 24.4**	**-0.4**
	SNR=10						
JMDO				S	**Sn**	**06 55 26.7**	**+0.1**
WBK	**Wadi Bani Khal**	**5.36**	**158**	Pn	**Pn**	**06 54 25.6**	**+0.6**
WBK	**Wadi Bani Khal**	**5.36**	**158**	P	**Pn**	**06 54 23.2**	**-1.7**
	SNR=6.4						
WBK				S	**Sn**	**06 55 25.2**	**-1.5**
TPRV	**Parvadeh(Tabas**	**5.40**	**359**	Pn	**Pn**	**06 54 27.8**	**+2.3**
SHMA	**Al-Shehemyia**	**5.51**	**253**	P	**Pn**	**06 54 28.6**	**+1.7**
	SNR=11						
KLNJ	**Kolanjah**	**5.67**	**308**	Pn	**Pn**	**06 54 31.0**	**+1.6**
IRAM	**Ramesheh**	**5.68**	**318**	Pn	**Pn**	**06 54 30.7**	**+1.2**
JLN	**Jalan Bani Buh**	**5.93**	**156**	P	**Pn**	**06 54 31.2**	**-1.6**
JLN				S	**Sn**	**06 55 38.6**	**-2.2**
AFRZ	**Afriz**	**6.10**	**18**	Pn	**Pn**	**06 54 37.5**	**+2.3**
IGAR	**Gharneh**	**6.31**	**320**	Pn	**Pn**	**06 54 39.6**	**+1.4**
MHTO	**MHTO**	**6.68**	**171**	P	**Pn**	**06 54 43.4**	**+0.3**
MHTO				S	**Sn**	**06 55 58.0**	**-1.3**
ISFB	**Sefidab**	**7.77**	**331**	Pn	**Pn**	**06 54 59.8**	**+1.7**
KVAR	**Kislovodsk Arr**	**19.87**	**329**	LR	LR	07 06 41.8	
	comp=Z,69nm,18.8s,baz=74,slow=41						
AAK	**Ala-Archa**	**20.77**	**39**	P	**P**	**06 57 47.8**	**+1.7**
	2.4nm,0.6s,baz=280,slow=19,SNR=2.7						
	2.4nm,0.6s						
BRTR	**Keskin Array B**	**22.68**	**308**	P	**P**	**06 58 04.6**	**-2.0**
	2.0nm,1.0s,baz=127,slow=12,SNR=7.7						
	2.0nm,1.0s						
AKTO	**Aktyubinsk**	**22.81**	**2**	P	**P**	**06 58 08.0**	**+0.2**
	5.9nm,0.6s,baz=185,slow=9.3,SNR=21						
	5.9nm,0.6s						
BVAR	**Borovoye Array**	**27.32**	**18**	P	**P**	**06 58 49.7**	**0.0**
	0.5nm,0.4s,baz=205,slow=6.4,SNR=4.9						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**27.70**	**39**	P	**P**	**06 58 53.2**	**0.0**
	0.1nm,0.4s,baz=226,slow=8.2,SNR=2.2						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**28.30**	**30**	P	**P**	**06 58 58.1**	**-0.3**
	0.7nm,0.9s,baz=227,slow=8.3,SNR=6.1						
	0.7nm,0.9s						
AKASG	**Malin Array Be**	**31.13**	**325**	P	**P**	**06 59 22.2**	**-1.3**
	1.0nm,0.5s,baz=134,slow=8.4,SNR=8.8						
AKASG				LR	LR	07 12 53.2	
	comp=Z,29nm,18.6s,baz=246,slow=38						
	1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**33.39**	**30**	P	**P**	**06 59 43.6**	**+0.3**
	1.4nm,0.4s,baz=247,slow=7.5,SNR=6.1						
	1.4nm,0.4s						
GERES	**GERESS Array B**	**39.27**	**315**	P	P	07 00 30.6	-3.2
	0.2nm,0.3s,baz=118,slow=12,SNR=1.3						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**39.57**	**337**	P	**P**	**07 00 35.0**	**-0.9**
	1.4nm,0.5s,baz=132,slow=8.5,SNR=17						
	1.4nm,0.5s						
SONM	**Songino Array**	**43.26**	**48**	P	**P**	**07 01 06.5**	**-0.1**
	0.4nm,0.7s,baz=271,slow=8.2,SNR=2.2						
	0.4nm,0.7s						
HFS	**Hagfors**	**43.66**	**330**	P	**P**	**07 01 08.0**	**-1.5**
	3.1nm,0.7s,baz=128,slow=9.6,SNR=18						
	3.1nm,0.7s						
NB2	**NORSAR Subarra**	**45.17**	**331**	P	**P**	**07 01 20.2**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=114,slow=7.9						
NOA	**NORSAR Array B**	**45.17**	**331**	P	**P**	**07 01 19.9**	**-1.7**
	comp=Z,1.3nm,0.8s,baz=116,slow=7.9,SNR=4.6						
	comp=Z,1.3nm,0.8s						
EKA	**Eskdalemuir Ar**	**50.79**	**320**	P	**P**	**07 02 03.6**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=96,slow=8.1,SNR=2.3						
	comp=Z,0.8nm,0.7s						
ESDC	**Sonseca Array**	**51.12**	**300**	P	P	07 02 04.9	-3.1
	comp=Z,0.9nm,0.9s,baz=59,slow=7.9,SNR=2.7						
	comp=Z,0.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**53.23**	**266**	P	P	07 02 21.7	-2.2
	comp=Z,0.5nm,0.4s,baz=67,slow=7.9,SNR=6.0						
	comp=Z,0.5nm,0.4s						
SPITS	**Spitsbergen Ar**	**53.81**	**350**	P	**P**	**07 02 26.5**	**-0.8**
	comp=Z,12nm,1.0s,baz=133,slow=14,SNR=2.5						
	comp=Z,12nm,1.0s						
JMIC	**Jan Mayen**	**56.15**	**339**	LR	LR	07 27 34.3	
	comp=Z,45nm,20.4s,baz=341,slow=37						
KSRS	**Korea Array**	**59.49**	**61**	P	**P**	**07 03 07.9**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=282,slow=7.4,SNR=2.3						
	comp=Z,0.6nm,0.5s						
ILAR	**Eielson Array**	**86.08**	**10**	P	**P**	**07 05 45.8**	**+0.2**
	comp=Z,0.3nm,1.0s,baz=316,slow=5.0,SNR=2.5						
	comp=Z,0.3nm,1.0s						
WRA	**Warramunga Arr**	**88.63**	**113**	P	**P**	**07 05 57.9**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=313,slow=4.1,SNR=2.1						
	comp=Z,0.7nm,0.8s						
YKA	**Yellowknife Ar**	**89.94**	**356**	P	**P**	**07 06 03.4**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=353,slow=5.0,SNR=6.3						
	comp=Z,0.3nm,0.8s						
ASAR	**Alice Springs**	**90.14**	**117**	P	**P**	**07 06 07.2**	**+1.6**
	comp=Z,0.5nm,0.9s,baz=307,slow=5.1,SNR=2.2						
	comp=Z,0.5nm,0.9s						

*IDC **25** 06:54:30.4±1.4,5.8°82S×142.6°60E,h0km,mb3.7/4, mbtmp3.7/6,ML3.4/2,Error ellipse: s-maj=58.9km s-min=27.8km az=95.0*

ISC 25 06:54:36.1±1.2,6.0°0S±0.2°×142.0°0E±0.4,h35km,n6,σ2.2s56/8, mb3.7/4,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.71**	**208**	Pn	**P**	**06 58 17.4**	**-1.1**
	0.1nm,0.3s,baz=30,slow=12,SNR=8.7						
WRA				Sn	**Sn**	**07 01 04.5**	**-3.4**
	baz=28,slow=4.1,SNR=2.1						
WRA				Lg	Lg	07 02 57.4	
	baz=92,slow=29						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**19.19**	**203**	P	**Pn**	**06 59 01.5**	**+3.4**
	0.1nm,0.3s,baz=32,slow=10,SNR=17						
ASAR				S	**S**	**07 02 32.9**	**+0.2**
	0.3nm,0.7s,baz=335,slow=42,SNR=0.9						
	2.4nm,0.8s						
MKAR	**Makanchi Array**	**74.42**	**322**	P	**P**	**07 06 11.3**	**+0.6**
	0.4nm,0.6s,baz=109,slow=5.7,SNR=3.0						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**76.46**	**329**	P	**P**	**07 06 23.1**	**+1.0**
	0.7nm,0.5s,baz=123,slow=5.3,SNR=2.1						
	0.7nm,0.5s						
QSPA	**South Pole Qui**	**83.93**	**180**	P	**P**	**07 07 03.4**	**+1.0**
	1.4nm,1.0s,baz=0.0,slow=1.0,SNR=1.6						
	1.4nm,1.0s						
ILAR	**Eielson Array**	**87.50**	**24**	P	**P**	**07 07 17.5**	**-2.4**
	0.2nm,0.8s,baz=230,slow=6.7,SNR=2.3						
	0.2nm,0.8s						

*NEIC **25** 07:00:48.6±0.5,18.6°68N±0.0°06×66.9°96W±0.0°03,h62km±4km, ML2.1/24,Md2.9/10(RSPR),Error ellipse: s-maj=8.7km s-min=3.7km az=158.0*
*RSPR **25** 07:00:49.2,18.7°0N×66.9°97W,h60km±1km,MD2.9/10*
*OSPL **25** 07:00:50.0±0.7,18.6°66N×66.9°1W,h48km±5km,ML2.1*
*SDD **25** 07:00:50.0±

IGPR			IAML		07 01 23.6	
	comp=N,44nm,0.3s					
IGPR			IAML		07 01 23.8	
	comp=E,55nm,0.3s					
HUMP	**Col San Antoni**	**1.19 117**	*eP*	**Pn**	**07 01 09.2**	**0.0**
HUMP	**Col San Antoni**	**1.19 117**	*eS*	**Sn**	**07 01 24.6**	**+0.2**
HUMP	**Col San Antoni**	**1.19 117**		**Pn**	**07 01 09.0**	**-0.2**
HUMP				**Sn**	**07 01 24.4**	**0.0**
HUMP			IAML		07 01 25.9	
	comp=N,26nm,0.3s					
HUMP			IAML		07 01 26.8	
	comp=E,42nm,0.2s					
PCDR	**Punta Cana, DR**	**1.36 263**	Pn	**Pn**	**07 01 11.4**	**-0.2**
PCDR	**Punta Cana, DR**	**1.36 263**	*i* P	**Pn**	**07 01 11.8**	**+0.3**
PCDR			*eS*	**Sn**	**07 01 28.9**	**+0.3**
PCDR			IAML		07 01 30.7	
	comp=Z,134nm,1.7s					

SKHL ***25*** *07:01:14.8±0.2, 44.˚10N×153.˚30E, h49km±4km, mb4.4/3*
JMA ***25*** *07:01:15.6±0.9, 46.˚7N×15.˚2E±.˚, h132km, MV3.3/9, KURILE ISLANDS REGION*
IDC ***25*** *07:01:17.6±2.2, 47.˚46N×151.˚56E, h169km±21km, mb3.1/13, mbtmp3.6/17, Error ellipse: s-maj=21.8km s-min=14.3km az=137.0*

ISC 25 07:01:14.7±0.7, 47.˚1N±0.˚1×151.˚69E±0.˚10, h150km, n37, σ2§20/38, mb3.3/13, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.25**	**236**	*eP*	Pn	07 02 14.6	+9.5
KUR				AMB	AMB	07 02 15.3	
	20nm,0.3s						
SHO	**Shikotan**	**4.70**	**228**	*eP*	**Pn**	**07 02 23.5**	**-0.6**
SHO				AMB	AMB	07 02 26.5	
	10.0nm,0.2s						
SHO				*eS*	**Sn**	**07 03 14.9**	**-3.3**
SHO				A	A	07 03 23.7	
	30nm,0.3s						
SHO				A	A	07 03 23.7	
	20nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.11**	**235**	*eP*	**Pn**	**07 02 32.7**	**+3.2**
YUK				AMB	AMB	07 02 33.8	
	10.0nm,0.2s						
YUK				*eS*	**Sn**	**07 03 29.6**	**+1.7**
YUK				A	A	07 03 37.1	
	40nm,0.3s						
YUK				A	A	07 03 37.1	
	40nm,0.3s						
NEM2	**Nemuro 2**	**5.62**	**230**	*eP*	**Pn**	**07 02 35.5**	**-0.7**
NEM2				*eS*	**Sn**	**07 03 37.0**	**-3.0**
NMR	**Nemuro--Hokkai**	**5.62**	**231**	*eP*	**Pn**	**07 02 35.8**	**-0.5**
NMR				*eS*	**Sn**	**07 03 36.6**	**-3.5**
JTKR	**Abashiri--Toko**	**6.29**	**243**	*eP*	**Pn**	**07 02 48.5**	**+3.2**
AKK	**Akkeshi**	**6.34**	**232**	*eP*	**Pn**	**07 02 45.6**	**-0.2**
AKK				*eS*	**Sn**	**07 03 53.8**	**-3.4**
JAK	**Akkeshi**	**6.43**	**233**	*eP*	**Pn**	**07 02 46.5**	**-0.6**
JAK				*eS*	**Sn**	**07 03 57.0**	**-2.4**
JOB	**Onbets**	**6.97**	**236**	*eP*	**Pn**	**07 02 55.3**	**+1.1**
ASAJ	**Asahikawa**	**7.04**	**248**	P	**Pn**	**07 02 58.8**	**+3.6**
	4.6nm,0.4s,baz=51,slow=12,SNR=8.6						
JKK2	**Kamakawa 2**	**7.06**	**246**	*eP*	**Pn**	**07 02 58.5**	**+2.9**
PETK	**Petropavlovsk-**	**7.15**	**31**	P	**Pn**	**07 02 56.3**	**-0.3**
	4.5nm,0.7s,baz=206,slow=13,SNR=11						
JCH	**Churui**	**7.42**	**236**	*eP*	**Pn**	**07 03 00.6**	**+0.3**
MYR	**Moyori**	**7.68**	**234**	*eP*	**Pn**	**07 03 03.4**	**-0.3**
MYR				*eS*	**Sn**	**07 04 24.3**	**-5.0**
JNBK	**Urakawa-nobuka**	**7.98**	**236**	*eP*	**Pn**	**07 03 08.0**	**+0.2**
KLR	**Kul'dur**	**13.47**	**286**	P	**Pn**	**07 04 19.9**	**+0.2**
	0.6nm,0.6s,baz=111,slow=9.5,SNR=2.2						
MJAR	**Matsushiro Arr**	**14.55**	**228**	P	**P**	**07 04 38.5**	**+2.7**
	0.4nm,0.4s,baz=29,slow=11,SNR=1.4						
KSRS	**Korea Array**	**19.98**	**250**	P	**P**	**07 05 36.2**	**+0.9**
	0.8nm,0.5s,baz=49,slow=10.0,SNR=3.0						
	0.8nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**30.00**	**150**	T	T	07 38 46.0	
	baz=339,slow=75,SNR=7.1						
H11N1	**WAKE ISLAND Hy**	**30.01**	**150**	T	T	07 38 44.7	
	baz=339,slow=75,SNR=9.8						
H11N3	**WAKE ISLAND Hy**	**30.01**	**150**	T	T	07 38 44.8	
	baz=339,slow=75,SNR=5.0						
SONM	**Songino Array**	**30.29**	**288**	pP	pP	07 07 42.3	-0.1
	0.3nm,0.7s,baz=44,slow=4.4,SNR=1.9						
H11S1	**WAKE ISLAND Hy**	**31.07**	**152**	T	T	07 40 05.4	
	baz=340,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**31.08**	**152**	T	T	07 40 01.9	
	baz=340,slow=76,SNR=5.8						
H11S2	**WAKE ISLAND Hy**	**31.09**	**152**	T	T	07 40 04.0	
	baz=340,slow=76,SNR=3.3						
MKAR	**Makanchi Array**	**45.91**	**296**	P	**P**	**07 09 21.2**	**-0.9**
	0.4nm,0.5s,baz=63,slow=7.0,SNR=5.4						
MKAR				pP	**pwP**	**07 09 58.4**	**-0.8**
	0.5nm,0.7s,baz=59,slow=4.7,SNR=4.6						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**49.88**	**309**	P	**P**	**07 09 51.3**	**-1.1**
	0.3nm,0.4s,baz=46,slow=4.2,SNR=3.6						
	0.3nm,0.4s						
YKA	**Yellowknife Ar**	**51.23**	**36**	P	**P**	**07 10 02.4**	**0.0**
	0.2nm,0.5s,baz=301,slow=8.0,SNR=3.7						
	0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**51.51**	**255**	P	**P**	**07 10 07.5**	**+2.5**
	1.1nm,0.3s,baz=32,slow=7.5,SNR=1.6						
	1.1nm,0.3s						
NVAR	**Mina Array Bea**	**63.13**	**62**	P	**P**	**07 11 26.9**	**+0.4**
	0.2nm,0.5s,baz=318,slow=7.7,SNR=2.2						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**63.30**	**334**	P	**P**	**07 11 24.1**	**-2.9**
	1.8nm,0.9s,baz=32,slow=8.2,SNR=1.4						
FINES				pP	**PcP**	**07 12 02.3**	**-0.5**
	1.3nm,0.9s,baz=15,slow=3.0,SNR=3.6						
	1.8nm,0.9s						
NOA	**NORSAR Array B**	**67.57**	**340**	P	**P**	**07 11 52.9**	**-1.6**
	0.8nm,0.9s,baz=28,slow=6.4,SNR=2.1						
	0.8nm,0.9s						
HFS	**Hagfors**	**67.78**	**339**	P	**P**	**07 11 54.4**	**-1.4**
	1.1nm,0.6s,baz=64,slow=6.8,SNR=4.7						
	1.1nm,0.6s						
WRA	**Warramunga Arr**	**68.54**	**198**	P	**P**	**07 12 04.4**	**+3.5**
	0.6nm,1.0s,baz=16,slow=6.9,SNR=2.0						
	0.6nm,1.0s						
ASAR	**Alice Springs**	**72.24**	**197**	P	**P**	**07 12 25.4**	**+2.0**
	0.2nm,0.5s,baz=336,slow=3.9,SNR=1.8						
	0.2nm,0.5s						
EKA	**Eskdalemuir Ar**	**75.76**	**345**	P	**P**	**07 12 42.9**	**-0.5**
	0.2nm,0.3s,baz=21,slow=5.4,SNR=7.0						
	0.2nm,0.3s						
TXAR	**Lajitas Array**	**78.17**	**60**	P	**P**	**07 12 56.8**	**-0.8**
	0.1nm,0.4s,baz=290,slow=5.5,SNR=3.9						
	0.1nm,0.4s						

IDC ***25*** *07:02:48.2±0.7, 57.˚38S×25.˚78W, h0km, mb4.3/6, mbtmp4.2/7, ML3.8/1, MS3.4/2, Error ellipse: s-maj=34.0km s-min=18.7km az=72.0*
NEIC ***25*** *07:02:53.8±0.9, 57.˚4S±0.˚1×25.˚8W±0.˚2, h39km±8km, mb4.6/30, Error ellipse: s-maj=17.1km s-min=14.2km az=214.0*

ISC 25 07:02:56.3±0.5, 57.˚42S±0.˚07×25.˚91W±0.˚09, h65km, n59, σ0§82/50, mb4.5/18, 6D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**6.73**	**293**	Pn	**Pn**	**07 04 30.3**	**-2.1**
VNA1	**Neumayer--Stat**	**15.26**	**157**	⇓P	**Pn**	**07 06 26.9**	**-0.6**
	comp=Z,1.6nm,0.2s						
VNA3	**Neumayer Olymp**	**15.46**	**160**	⇓P	**Pn**	**07 06 28.9**	**-1.2**
	comp=Z,1.9nm,0.3s						
VNA3				⇓S	Sn	07 09 07.5	-13
	comp=Z,0.1nm,0.2s						
VNA2	**Neumayer--Watz**	**15.65**	**157**	⇓P	**Pn**	**07 06 31.8**	**-0.7**
	comp=Z,0.9nm,0.2s,baz=317,slow=14						
SNAA	**Sanae**	**17.20**	**155**	P	**Pn**	**07 06 50.2**	**-1.6**
SNAA	**Sanae**	**17.20**	**155**	⇓P	**P**	**07 06 52.2**	**-0.3**
	comp=Z,23nm,0.4s						
SNAA	**Sanae**	**17.20**	**155**	P	**Pn**	**07 06 51.2**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=313,slow=13,SNR=10						
SNAA				S	Sn	07 09 44.9	-17
	comp=Z,2.0nm,0.9s,baz=260,slow=19,SNR=1.2						
SNAA				LR	LR	07 11 52.1	
	comp=Z,119nm,20.9s,baz=152,slow=32						
	comp=Z,1.2nm,0.4s						
TROLL	**Troll, Antarti**	**18.70**	**153**	⇓P	**Pn**	**07 07 12.6**	**+2.4**
	comp=Z,16nm,0.1s						
PMSA	**Palmer Station**	**19.57**	**232**	P	**P**	**07 07 18.5**	**0.0**
BELA	**Belgrano 2**	**20.77**	**185**	P	**P**	**07 07 30.7**	**-0.7**
TRIS	**Tristan da Cun**	**22.27**	**30**	P	**P**	**07 07 46.6**	**-1.1**
GO09	**Cerro Castillo**	**27.30**	**263**	P	**P**	**07 08 34.2**	**-0.3**
GO09				IAmb	IAmb	07 08 44.1	
	comp=Z,39nm,1.2s						
PLTB	**Pedras Altas**	**31.94**	**312**	P	**P**	**07 09 16.2**	**+0.6**
PLTB				IAmb	IAmb	07 09 36.0	
	comp=Z,21nm,1.3s						
QSPA	**South Pole Qui**	**32.83**	**180**	P	**P**	**07 09 23.4**	**+0.1**
QSPA				IAmb	IAmb	07 09 24.5	
	comp=Z,5.3nm,0.7s						
QSPA	**South Pole Qui**	**32.83**	**180**	P	**P**	**07 09 23.9**	**+0.6**
	comp=Z,3.6nm,0.6s,baz=210,slow=2.0,SNR=49						
	comp=Z,3.6nm,0.6s						
PLCA	**Paso Flores**	**32.94**	**281**	P	**P**	**07 09 23.9**	**-0.6**
PLCA				IAmb	IAmb	07 09 44.8	
	comp=Z,11nm,1.4s						
ITQB	**Itaqui**	**35.01**	**309**	P	**P**	**07 09 43.0**	**+0.6**
CPUP	**Villa Florida**	**38.24**	**311**	P	**P**	**07 10 10.2**	**+0.4**
CPUP				IAmb	IAmb	07 10 35.7	
	comp=Z,13nm,1.4s						
CPUP	**Villa Florida**	**38.24**	**311**	P	**P**	**07 10 10.2**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=145,slow=8.3,SNR=3.9						
	comp=Z,1.4nm,0.8s						
MT09	**Talagante**	**38.41**	**288**	P	**P**	**07 10 11.9**	**+0.6**
MT09				IAmb	IAmb	07 10 24.2	
	comp=Z,26nm,1.4s						
AC05	**El Transito**	**42.02**	**294**	P	**P**	**07 10 41.4**	**+0.1**
AC05				IAmb	IAmb	07 10 49.0	
	comp=Z,12nm,1.1s						
AQDB	**Aquidauana**	**42.88**	**317**	P	**P**	**07 10 48.5**	**+0.3**
AC02	**Maricunga**	**43.12**	**296**	P	**P**	**07 10 50.7**	**+0.1**
AC02				IAmb	IAmb	07 11 04.5	
	comp=Z,12nm,1.3s						
SHEL	**Horse Pasture**	**44.08**	**28**	P	**P**	**07 10 57.3**	**-0.5**
BDFB	**Brasilia**	**44.90**	**329**	P	**P**	**07 11 03.5**	**-1.0**
BDFB				IAmb	IAmb	07 11 18.8	
	comp=Z,8.6nm,1.3s						
BDFB	**Brasilia**	**44.90**	**329**	P	**P**	**07 11 05.2**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=177,slow=4.0,SNR=5.3						
	comp=Z,2.0nm,0.7s						
VNDA	**Vanda**	**45.23**	**182**	P	**P**	**07 11 07.1**	**+0.8**
VNDA	**Vanda**	**45.23**	**182**	P	**P**	**07 11 06.8**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=179,slow=7.9,SNR=8.9						
	comp=Z,1.9nm,0.5s						
BOSA	**Boshof**	**45.66**	**73**	P	**P**	**07 11 09.4**	**-1.0**
H04S2	**CROZET ISLANDS**	**46.36**	**112**	T	T	08 01 49.7	
	baz=226						
H04S3	**CROZET ISLANDS**	**46.37**	**112**	T	T	08 01 51.9	
	baz=226						
H04S1	**CROZET ISLANDS**	**46.38**	**112**	T	T	08 01 51.3	
	baz=226						
LVC	**Limon Verde**	**46.60**	**300**	P	**P**	**07 11 17.9**	**-0.2**
LVC				IAmb	IAmb	07 11 25.3	
	comp=Z,5.3nm,1.2s						
LBTB	**Lobatse**	**48.76**	**71**	LR	LR	07 28 35.9	
	comp=Z,48nm,18.0s,baz=196,slow=32						
PTLB	**Pontes e Lacer**	**48.77**	**315**	P	**P**	**07 11 34.7**	**+0.2**
H10S2	**ASCENSION HYDR**	**49.13**	**15**	T	T	08 05 22.4	
	baz=188,slow=74,SNR=6.2						
H10S3	**ASCENSION HYDR**	**49.13**	**15**	T	T	08 05 23.0	
	baz=32,slow=74,SNR=10						
GO01	**Chusmiza**	**49.27**	**301**	P	**P**	**07 11 38.4**	**-0.5**
GO01				IAmb	IAmb	07 11 41.1	
	comp=Z,8.8nm,1.4s						
H10N1	**ASCENSION HYDR**	**50.25**	**15**	T	T	08 06 47.3	
	baz=188,slow=75						
H10N3	**ASCENSION HYDR**	**50.25**	**15**	T	T	08 06 46.9	
	baz=188,slow=75,SNR=8.3						
H10N2	**ASCENSION HYDR**	**50.26**	**15**	T	T	08 06 48.2	
	baz=188,slow=75,SNR=12						
PB16	**IPOC Station P**	**50.57**	**302**	P	**P**	**07 11 48.2**	**-0.6**
PB16				IAmb	IAmb	07 11 56.0	
	comp=Z,8.0nm,1.4s						
LPAZ	**La Paz**	**51.74**	**305**	P	**P**	**07 11 58.2**	**+0.6**
LPAZ				IAmb	IAmb	07 12 00.2	
	comp=Z,3.2nm,0.6s						
LPAZ	**La Paz**	**51.74**	**305**	P	**P**	**07 11 58.3**	**+0.6**
	comp=Z,2.8nm,0.5s,baz=132,slow=4.3,SNR=16						
	comp=Z,2.8nm,0.5s						
SAML	**Samuel**	**56.27**	**314**	P	**P**	**07 12 30.3**	**+0.4**
SAML				IAmb	IAmb	07 12 31.5	
	comp=Z,2.8nm,0.5s						
ETMB	**Extrema**	**56.69**	**310**	P	**P**	**07 12 33.0**	**0.0**
MACA	**Manacapuru-AM**	**60.67**	**319**	P	**P**	**07 13 00.6**	**0.0**
BOAV	**Boa Vista**	**65.79**	**322**	P	**P**	**07 13 35.3**	**+0.8**
BOAV				IAmb	IAmb	07 13 35.7	
	comp=Z,4.8nm,0.7s						
TOA0	**Torodi Ar. Sit**	**73.92**	**28**	P	**P**	**07 14 24.3**	**+0.1**
TOA0				IAmb	IAmb	07 14 26.5	
	comp=Z,4.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**73.92**	**28**	P	**P**	**07 14 25.4**	**+1.2**
	comp=Z,3.0nm,0.6s,baz=197,slow=5.7,SNR=17						
	comp=Z,3.0nm,0.6s						
GRGR	**Grenville**	**75.29**	**324**	P	**P**	**07 14 33.8**	**+1.6**
AUA1	**Aruba**	**78.55**	**316**	P	**P**	**07 14 51.7**	**+1.3**
TUWZ	**Tuamarina**	**80.11**	**195**	P	**P**	**07 14 59.2**	**+0.5**
PDAR	**Pinedale Array**	**121.66**	**301**	PKP	**PKPdf**	**07 21 41.5**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=157,slow=4.8,SNR=3.8						
FINES	**FINESS Array B**	**125.27**	**28**	PKP	**PKPdf**	**07 21 48.0**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=174,slow=1.9,SNR=15						
BVAR	**Borovoye Array**	**134.92**	**58**	PKP	**PKiKP**	**07 22 07.4**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=179,slow=4.9,SNR=2.5						
YKA	**Yellowknife Ar**	**137.66**	**316**	PKP	**PKPdf**	**07 22 11.6**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=125,slow=2.2,SNR=17						
SONM	**Songino Array**	**150.09**	**88**	PKPbc	**PKPbc**	**07 22 38.6**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=230,slow=3.3,SNR=14						
ILAR	**Eielson Array**	**151.54**	**310**	PKPbc	**PKiKP**	**07 22 42.0**	**+0.3**
	comp=Z,4.4nm,0.8s,baz=145,slow=5.6,SNR=48						

IDC 25 07:19:50.0±5.0, 18.˚09S×177.˚85W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=397.4km s-min=36.9km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.12**	**260**	P	P	07 28 07.9	-0.6
	0.5nm,1.0s,baz=97,slow=6.4,SNR=2.3						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**45.26**	**254**	P	P	07 28 09.7	+0.1
	1.1nm,0.5s,baz=87,slow=8.3,SNR=16						
	1.1nm,0.5s						
PDAR	**Pinedale Array**	**87.12**	**43**	P	P	07 32 38.2	+0.1
	0.2nm,0.6s,baz=198,slow=4.4,SNR=3.5						
	0.2nm,0.6s						

DJA 25 07:41:45.6±0.6, 2.˚S±3.˚×117.˚9E±.˚, h16km±4km, M3.6/6, mb4.0/3, MLv3.4/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTSI	**Tana Toraja**	**1.39**	**127**	P	Pg	07 42 12.3	-0.1
TTSI				S	Sb	07 42 29.6	+0.8
BKB	**Balikpapan**	**2.04**	**298**	P	Pn	07 42 19.9	+0.7
BKSI	**Bulukumba**	**3.40**	**155**	P	Pn	07 42 38.8	+0.8
BKSI				S	Sn	07 43 17.0	-1.1
BBSI	**Bau Bau**	**5.05**	**130**	P	Pn	07 43 01.1	+0.3
	62nm,0.8s						
GTOI	**Gorontalo**	**5.15**	**57**	P	Pn	07 43 00.9	-1.3
	3.9nm,1.2s,0.0nm						
PLAI	**Plampang**	**6.64**	**188**	P	Pn	07 43 23.3	+0.7

NEIC ***25*** *07:43:49.8±1.1, 21.˚08S±0.˚06×173.˚56W±0.˚09, h10km±1km, mb4.2/16, Error ellipse: s-maj=14.7km s-min=10.1km az=287.0*
IDC ***25*** *07:43:52.5±0.9, 21.˚21S×174.˚37W, h0km, mb4.1/10, mbtmp4.1/11, ML3.4/1, MS3.2/2, Error ellipse: s-maj=36.7km s-min=21.3km az=149.0*

ISC 25 07:43:53.9±0.7, 21.˚2S±0.˚1×174.˚1W±0.˚1, h10km, n37, σ1§34/33, mb4.1/16, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.48**	**63**		Pn	07 44 51.4	-10
AFI	**Afiamalu**	**7.59**	**18**		Pn	07 45 36.5	-8.1
MSVF	**Nonsavu**	**8.14**	**294**		**Pn**	**07 45 54.1**	**+1.8**
RAR	**Rarotonga**	**13.39**	**93**	Pn	Pn	07 46 55.0	-9.1
RAR	**Rarotonga**	**13.39**	**93**	LR	LR	07 51 58.5	
	comp=Z,76nm,18.5s,baz=268,slow=36						
DZM	**Mont Dzumac**	**18.08**	**264**	P	**Pn**	**07 48 07.1**	**+1.6**
DZM	**Mont Dzumac**	**18.08**	**264**	P	**Pn**	**07 48 03.9**	**-1.5**
	0.1nm,0.3s,baz=136,slow=12,SNR=2.2						
	5.8nm,0.9s						
HIZ	**Hauiti**	**19.70**	**206**	P	**Pn**	**07 48 25.8**	**+1.1**
HIZ				IAmb	IAmb	07 48 29.9	
	comp=Z,24nm,1.1s						
QRZ	**Quartz Range**	**22.61**	**207**	P	**P**	**07 48 57.1**	**+2.3**
PPT	**Papeete**	**23.43**	**85**	LR	LR	07 56 45.7	
	comp=Z,62nm,18.1s,baz=250,slow=33						
KHZ	**Kahutara**	**23.56**	**203**	P	**P**	**07 49 06.4**	**+1.9**
KHZ				IAmb	IAmb	07 49 33.7	
	comp=Z,5.3nm,0.9s						
STKA	**Stephens Creek**	**40.77**	**245**	P	**P**	**07 51 36.1**	**+0.7**
COEN	**Coen**	**41.24**	**273**	P	**P**	**07 51 39.1**	**-0.3**
AS31	**Alice Springs**	**47.88**	**257**	P	**P**	**07 52 31.3**	**-1.2**
AS31				IAmb	IAmb	07 52 31.9	
	comp=Z,0.9nm,0.7s						
ASAR	**Alice Springs**	**47.88**	**257**	P	**P**	**07 52 31.0**	**-1.6**
ASAR	**Alice Springs**	**47.88**	**257**	P	**P**	**07 52 30.6**	**-1.9**
	comp=Z,3.0nm,0.7s,baz=100,slow=7.5,SNR=32						
ASAR				PcP	**PcP**	**07 54 00.6**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=106,slow=4.0,SNR=1.9						
	comp=Z,3.0nm,0.7s						
WR0	**Warramunga Arr**	**47.90**	**262**	P	**P**	**07 52 32.1**	**-0.6**
WR0				IAmb	IAmb	07 52 36.6	
	comp=Z,3.6nm,1.1s						
WB0	**Warramunga Arr**	**48.07**	**262**	P	**P**	**07 52 33.4**	**-0.6**
WB0				IAmb	IAmb	07 52 59.7	
	comp=Z,4.3nm,1.1s						
WB2	**Warramunga Arr**	**48.08**	**262**	P	**P**	**07 52 32.7**	**-1.3**
WB2				IAmb	IAmb	07 52 38.8	
	comp=Z,3.9nm,1.1s						
WRA	**Warramunga Arr**	**48.09**	**262**	P	**P**	**07 52 32.8**	**-1.3**
WRA	**Warramunga Arr**	**48.09**	**262**	P	**P**	**07 52 31.8**	**-2.3**
	comp=Z,1.2nm,0.7s,baz=96,slow=8.0,SNR=11						
WRA				PcP	**PcP**	**07 54 00.9**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=100,slow=2.9,SNR=1.7						
	comp=Z,1.2nm,0.7s						
FITZ	**Fitzroy Crossi**	**56.52**	**262**	P	**P**	**07 53 35.5**	**-1.3**
VNDA	**Vanda**	**57.57**	**186**	P	**P**	**07 53 39.5**	**-3.7**
VNDA				IAmb	IAmb	07 54 09.1	
	comp=Z,0.9nm,0.9s						
NWAO	**Narrogin (SRO)**	**61.29**	**243**	P	**P**	**07 54 08.4**	**-1.4**
MORW	**Morawa**	**62.91**	**247**	P	**P**	**07 54 19.1**	**-1.6**
QSPA	**South Pole Qui**	**68.88**	**180**	P	**P**	**07 54 56.1**	**-2.5**
QSPA				IAmb	IAmb	07 55 01.2	
	comp=Z,2.9nm,1.1s						
QSPA	**South Pole Qui**	**68.88**	**180**	P	**P**	**07 54 59.0**	**+0.4**
	comp=Z,1.6nm,1.0s,baz=357,slow=21,SNR=2.4						
	comp=Z,1.6nm,1.0s						
MJAR	**Matsushiro Arr**	**72.96**	**321**	P	**P**	**07 55 23.2**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=156,slow=5.9,SNR=8.7						
	comp=Z,2.7nm,0.8s						
NVAR	**Mina Array Bea**	**79.09**	**41**	P	**P**	**07 56 00.4**	**+1.5**
	comp=Z,1.2nm,0.7s,baz=222,slow=9.4,SNR=9.0						
	comp=Z,1.2nm,0.7s						
KSRS	**Korea Array**	**79.84**	**317**	P	**P**	**07 56 01.9**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=145,slow=8.9,SNR=5.1						
	comp=Z,0.9nm,0.7s						
PDAR	**Pinedale Array**	**87.03**	**42**	P	**P**	**07 56 40.4**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=157,slow=4.2,SNR=4.4						
	comp=Z,0.3nm,0.6s						
ILAR	**Eielson Array**	**88.24**	**11**	P	**P**	**07 56 44.8**	**0.0**
	comp=Z,0.4nm,0.9s,baz=223,slow=5.4,SNR=4.2						
	comp=Z,0.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**93.77**	**288**	P	**P**	**07 57 11.6**	**0.0**
	comp=Z,1.3nm,0.3s,baz=115,slow=3.1,SNR=6.9						
	comp=Z,1.3nm,0.3s						
YKA	**Yellowknife Ar**	**95.66**	**24**	P	**P**	**07 57 19.8**	**+0.6**
	comp=Z,0.3nm,0.9s,baz=256,slow=3.8,SNR=4.6						
	comp=Z,0.3nm,0.9s						
EKA	**Eskdalemuir Ar**	**145.25**	**9**	PKPbc	**PKPbc**	**08 03 31.2**	**0.0**
	comp=Z,1.6nm,0.7s,baz=320,slow=3.6,SNR=8.2						
AKASG	**Malin Array Be**	**145.31**	**334**	PKPbc	**PKPbc**	**08 03 31.2**	**-0.3**
	comp=Z,2.7nm,0.6s,baz=40,slow=4.0,SNR=13						
BRTR	**Keskin Array B**	**149.95**	**314**	PKPbc	**PKPbc**	**08 03 45.0**	**0.0**
	comp=Z,0.5nm,0.7s,baz=101,slow=1.3,SNR=4.1						

IDC 25 07:47:06.7±5.5, 23.˚13S×179.˚67E, h0km, mb3.8/2, mbtmp3.8/2, MS3.3/1, Error ellipse: s-maj=237.0km s-min=85.7km az=158.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.26**	**272**	LR	LR	07 53 49.1	
	comp=Z,130nm,18.4s,baz=38,slow=33						
ASAR	**Alice Springs**	**41.86**	**260**	P	P	07 54 58.9	0.0
	0.9nm,0.8s,baz=94,slow=7.8,SNR=5.4						
	0.9nm,0.8s						
WRA	**Warramunga Arr**	**42.16**	**265**	P	P	07 55 01.0	-0.3
	1.3nm,0.6s,baz=103,slow=7.8,SNR=11						
	1.3nm,0.6s						
FINES	**FINESS Array B**	**137.62**	**342**	PKP	PKPdf	08 06 32.0	-0.2

MTHZ S **Sn** **08 02 22.3 -2.9**
NMHZ Naumai 11.73 209 P Pn 08 00 17.3 -2.1
NMHZ S **Sn** **08 02 29.6 -1.0**
BKZ Black Stump Fm 11.93 210 Pn Pn 08 00 19.2 -2.9
BKZ Black Stump Fm 11.93 210 P **Pn** **08 00 23.7 +1.7**
MCHZ McNeill Hill 12.07 209 P **Pn** **08 00 25.1 +1.1**
MCHZ S **Sn** **08 02 37.8 -0.9**
NTVZ North Tongarir 12.25 213 P Pn 08 00 24.7 -1.8
NTVZ S **Sn** **08 02 40.0 -3.1**
KAHZ Kahuranaki 12.29 207 P Pn 08 00 24.1 -2.9
KAHZ S **Sn** **08 02 42.5 -1.7**
BFZ Birch Farm 13.30 207 Pn Pn 08 00 38.5 -2.3
MRZ Mangatainoka R 13.56 209 Pn Pn 08 00 40.9 -3.4
PLWZ Palliser 14.45 208 Pn Pn 08 00 54.1 -2.4
CTZ Chatham Island 14.67 182 Pn Pn 08 00 58.0 -1.4
NNZ Nelson 15.00 213 Pn Pn 08 01 01.4 -2.5
MRNZ Matariki Terra 15.44 214 Pn **Pn** **08 01 07.7 -2.1**
THZ Tophouse 15.65 213 Pn **Pn** **08 01 11.8 -0.7**
RAR Rarotonga 16.48 65 Pn Pn 08 01 15.7 -7.5
2.1nm,0.3s,baz=22,slow=12,SNR=2.8
RAR Sn Sn 08 04 02.1 -24
1.9nm,0.3s,baz=68,slow=13,SNR=2.7
RAR LR LR 08 06 56.1
comp=Z,783nm,20.2s,baz=252,slow=34
LIFNC LIFOU 17.43 294 P **Pn** **08 01 33.9 -1.4**
DZM Mont Dzumac 17.45 289 P **Pn** **08 01 36.1 +0.6**
DZM Mont Dzumac 17.45 289 *e*P **Pn** **08 01 35.0 -0.5**
439nm,31.2s
DZM *e*LR LR 08 05 17.7
3µm,28.8s
DZM Mont Dzumac 17.45 289 P **Pn** **08 01 36.0 +0.4**
9.8nm,0.6s,baz=94,slow=16,SNR=17
DZM LR LR 08 07 19.5
comp=Z,899nm,18.5s,baz=112,slow=34
RPZ Rata Peaks 18.02 212 P **Pn** **08 01 43.4 +1.0**
2.1nm,0.3s,baz=34,slow=3.4,SNR=8.1
5.9nm,0.4s
KOUNC Koumac, New Ca 19.93 291 P **P** **08 02 05.5 -1.5**
KOUNC IAmb IAmb 08 02 13.1
comp=Z,122nm,1.5s
TBI Tubuai 24.29 83 *e*P **P** **08 02 51.8 +2.3**
comp=Z,205nm,20.8s
TBI *e*S **S** **08 07 06.9 -1.6**
comp=Z,6µm,29.2s
TBI *e*LR LR 08 08 17.7
comp=Z,1µm,35.5s
TBI *e*LR LR 08 08 36.4
comp=Z,6µm,32.8s
PPT2 Papeete2 26.59 70 *e*P **P** **08 03 07.6 -3.0**
comp=Z,58nm,25.0s
PPT2 *e*S **S** **08 07 39.7 -5.7**
comp=Z,2µm,24.8s
PPT2 *e*LR LR 08 09 17.7
comp=Z,784nm,35.0s
PPT2 *e*LR LR 08 09 32.3
comp=Z,2µm,35.2s
PPT Papeete 26.60 70 LR LR 08 11 57.6
comp=Z,535nm,18.1s,baz=249,slow=33
ARMA Armidale 28.26 259 P **P** **08 03 24.4 -1.1**
ARMA IAmb IAmb 08 03 30.8
comp=Z,40nm,1.6s
EIDS Eidsvold 29.62 269 P **P** **08 03 36.3 -1.2**
HNR Honiara 29.96 306 LR LR 08 14 56.1
comp=Z,5µm,18.0s,baz=142,slow=35
CTA Charters Tower 35.51 276 LR LR 08 18 17.4
comp=Z,1µm,18.0s,baz=0.0,slow=35
CTAO Charters Tower 35.51 276 P **P** **08 04 27.6 -1.5**
CTAO Charters Tower 35.51 276 P **P** **08 04 27.6 -1.5**
CTAO pmax pmax
comp=Z,94nm,2.0s
STKA Stephens Creek 36.65 255 P **P** **08 04 38.0 -0.8**
STKA Stephens Creek 36.65 255 P **P** **08 04 38.0 -0.8**
STKA pmax pmax
comp=Z,5.0nm,1.4s
STKA Stephens Creek 36.65 255 P **P** **08 04 38.4 -0.4**
comp=Z,1.8nm,0.4s,baz=104,slow=13,SNR=13
STKA LR LR 08 18 50.8
comp=Z,731nm,18.6s,baz=83,slow=35
comp=Z,1.8nm,0.4s
TAOE Nuku Hiva Isla 39.02 66 *e*S S 08 10 51.9 -6.5
comp=Z,131nm,25.6s
TAOE *e*LR LR 08 14 51.5
comp=Z,550nm,31.2s
PMG Port Moresby 39.81 292 LR LR 08 19 40.6
comp=Z,317nm,19.0s,baz=158,slow=34
COEN Coen 40.78 283 P P 08 05 11.7 -1.9
COEN IAmb IAmb 08 06 27.2
comp=Z,73nm,1.6s
BBOO Buckleboo 41.18 252 P **P** **08 05 15.2 -1.5**
AS31 Alice Springs 45.11 265 P P 08 05 46.6 -2.1
ASAR Alice Springs 45.11 265 P **P** **08 05 47.1 -1.6**
ASAR Alice Springs 45.11 265 P **P** **08 05 47.1 -1.6**
ASAR Alice Springs 45.11 265 P P 08 05 46.2 -2.5
comp=Z,2.7nm,0.4s,baz=106,slow=7.7,SNR=36
ASAR LR LR 08 24 25.2
comp=Z,779nm,18.4s,baz=102,slow=36
comp=Z,2.7nm,0.4s
WR0 Warramunga Arr 45.80 270 P P 08 05 51.7 -2.4
WB2 Warramunga Arr 45.97 270 P P 08 05 52.8 -2.7
WB2 IAmb IAmb 08 05 56.4
comp=Z,20nm,1.1s
WRA Warramunga Arr 45.98 270 P P 08 05 52.9 -2.7
WRA Warramunga Arr 45.98 270 P P 08 05 52.9 -2.7
WRA pmax pmax
comp=Z,5.0nm,1.9s
WRA Warramunga Arr 45.98 270 P P 08 05 52.5 -3.1
comp=Z,7.6nm,0.5s,baz=109,slow=7.1,SNR=102
WRA LR LR 08 24 53.9
comp=Z,418nm,18.2s,baz=116,slow=36
comp=Z,7.6nm,0.5s
WB0 Warramunga Arr 46.00 270 P P 08 05 53.1 -2.6
FORT Forrest 48.24 253 P P 08 06 10.8 -2.3
VNDA Vanda 49.63 186 P **P** **08 06 22.8 -0.2**
VNDA IAmb IAmb 08 07 47.8
comp=Z,49nm,1.9s
VNDA Vanda 49.63 186 P **P** **08 06 22.8 -0.2**
VNDA pmax pmax
comp=Z,49nm,1.9s
VNDA Vanda 49.63 186 LR LR 08 22 49.1
comp=Z,74nm,20.9s,baz=10,slow=30
MTN Manton Dam 51.69 277 P P 08 06 37.2 -2.2
MTN IAmb IAmb 08 08 18.4
comp=Z,43nm,1.6s
FITZ Fitzroy Crossi 54.29 268 P P 08 06 56.8 -1.9
NWAO Narrogin (SRO) 56.66 248 LR LR 08 30 50.5
comp=Z,208nm,19.4s,baz=176,slow=35
GUMO Guam 56.92 313 LR LR 08 30 50.6
comp=Z,108nm,18.0s,baz=86,slow=35
RPN Rapa Nui 57.96 105 LR LR 08 27 23.3
comp=Z,188nm,19.7s,baz=236,slow=31
MBWA Marble Bar 58.28 262 P P 08 07 25.1 -2.0
BATI Baumata 59.40 275 LR LR 08 34 13.8
comp=Z,903nm,18.3s,baz=122,slow=37
QSPA South Pole Qui 61.05 180 P **P** **08 07 47.0 +1.2**
QSPA IAmb IAmb 08 08 24.3
comp=Z,27nm,1.4s
QSPA South Pole Qui 61.05 180 P **P** **08 07 49.1 +3.4**
comp=Z,7.4nm,1.0s,baz=68,slow=2.1,SNR=13
QSPA LR LR 08 32 16.0
comp=Z,366nm,18.5s,baz=40,slow=34
comp=Z,7.4nm,1.0s
UGM Wanagama 71.94 271 P **P** **08 08 55.4 -0.7**
KSM Kuching 76.67 279 P P 08 09 21.6 -1.9
KSM IAmb IAmb 08 09 24.2
comp=Z,18nm,0.8s
JGF Kuroka 77.99 323 P **P** **08 09 29.6 -0.9**
MJAR Matsushiro Arr 78.25 324 P P 08 09 29.2 -2.7
comp=Z,2.6nm,0.7s,baz=153,slow=6.3,SNR=7.2
comp=Z,2.6nm,0.7s
MAJO Matsushiro 78.26 324 P **P** **08 09 30.9 -1.0**
MAJO IAmb IAmb 08 09 32.7
comp=Z,46nm,1.9s
MAJO Matsushiro 78.26 324 P **P** **08 09 30.9 -1.0**
MAJO pmax pmax
comp=Z,47nm,1.9s
ELIB Princess Elisa 78.39 186 *dx* x 08 09 34.5
SNAA Sanae 79.43 178 *i* P **P** **08 09 37.4 -0.6**
SNAA pmax pmax
comp=Z,7.0nm,1.4s
H03S2 Juan Fernandez 79.61 123 T T 09 37 17.1
baz=241
H03S1 Juan Fernandez 79.62 123 T T 09 37 17.8
baz=241
H03S3 Juan Fernandez 79.62 123 T T 09 37 16.8
baz=241
H03N3 Juan Fernandez 79.78 123 T T 09 37 22.8
baz=241
H03N2 Juan Fernandez 79.79 122 T T 09 37 22.2
baz=241
H03N1 Juan Fernandez 79.80 122 T T 09 37 23.6
baz=241
JNU Nakatsue 79.85 317 P **P** **08 09 39.9 -0.8**
JNU IAmb IAmb 08 09 41.6
comp=Z,37nm,1.4s
ADK Adak 80.59 359 P **P** **08 09 43.0 -1.2**
ADK Adak 80.59 359 P **P** **08 09 43.0 -1.2**
ADK pmax pmax
comp=Z,196nm,1.5s
SHEM Shemya Is, Ala 81.91 354 LR LR 08 41 02.1
comp=Z,122nm,19.1s,baz=67,slow=32
PLCA Paso Flores 82.02 132 P **P** **08 09 54.0 +1.6**
comp=Z,2.3nm,1.0s,baz=53,slow=5.8,SNR=3.0
comp=Z,2.3nm,1.0s
JKA Kamikawa-asahi 82.15 331 P **P** **08 09 51.3 -1.4**
JKA IAmb IAmb 08 09 55.1
comp=Z,15nm,1.2s
ASAJ Asahikawa 82.16 331 P **P** **08 09 51.3 -1.4**
ASAJ pmax pmax
comp=Z,15nm,1.2s
BFSC Mount Baldy Ra 83.56 45 P **P** **08 10 01.1 +0.7**
baz=228
VES Vestal, Richgr 83.76 43 P **P** **08 10 01.4 +0.2**
baz=227
PFO Pinyon Flats O 83.90 46 P **P** **08 10 03.6 +1.4**
baz=229
PFO Pinyon Flats O 83.90 46 *i* P **P** **08 10 01.0 -1.2**
PFO pmax pmax
comp=Z,10.0nm,1.1s
PFO Pinyon Flats O 83.90 46 LR LR 08 39 05.8
comp=Z,234nm,21.0s,baz=192,slow=30
PMD Palm Desert 83.97 46 P **P** **08 10 01.7 -0.7**
PMD IAmb IAmb 08 10 04.8
comp=Z,25nm,1.6s
ISA Isabella, Lake 84.01 44 P **P** **08 10 02.7 +0.1**
ISA IAmb IAmb 08 10 04.7
comp=Z,22nm,1.6s
ISA Isabella, Lake 84.01 44 P **P** **08 10 03.8 +1.2**
baz=228
ISA Isabella, Lake 84.01 44 P **P** **08 10 02.7 +0.1**
ISA pmax pmax
comp=Z,22nm,1.6s
TJN Taejon 84.18 317 *i* P **P** **08 10 02.5 -0.9**
YSS Yuzh-Sakhalins 84.39 333 *ce*P P 08 10 02.1 -2.0
YSS pmax pmax
comp=Z,21nm,1.3s
BELC Belle Mtn. Jos 84.44 46 P **P** **08 10 05.8 +0.9**
baz=229
CMB Columbia Colle 84.49 41 P **P** **08 10 04.9 -0.1**
CMB IAmb IAmb 08 10 06.5
comp=Z,9.4nm,1.1s
CMB Columbia Colle 84.49 41 P **P** **08 10 04.9 -0.1**
CMB pmax pmax
comp=Z,9.0nm,1.2s
BC3 Big Chuckawall 84.56 47 P **P** **08 10 06.4 +0.9**
baz=230
GLA Glamis 84.58 48 P P 08 10 04.3 -1.3
GLA Glamis 84.58 48 P **P** **08 10 04.3 -1.3**
GLA pmax pmax
comp=Z,27nm,1.6s
KSRS Korea Array 84.58 318 P **P** **08 10 05.2 -0.1**
comp=Z,2.8nm,1.0s,baz=152,slow=5.7,SNR=8.1
comp=Z,2.8nm,1.0s
KSAR Wonju Array Be 84.60 318 P **P** **08 10 04.2 -1.2**
KSAR Wonju Array Be 84.60 318 P **P** **08 10 04.2 -1.2**
CWC Cottonwood Cre 84.76 43 P **P** **08 10 07.2 +0.7**
baz=228
GSC Goldstone, Bar 84.79 45 P **P** **08 10 06.0 -0.6**
GSC Goldstone, Bar 84.79 45 P **P** **08 10 06.6 0.0**
baz=229
GSC Goldstone, Bar 84.79 45 P **P** **08 10 06.0 -0.6**
GSC pmax pmax
comp=Z,30nm,1.6s
AFDM Forest Hills D 84.79 40 P **P** **08 10 06.0 -0.4**
AFDM IAmb IAmb 08 10 07.8
comp=Z,18nm,1.6s
MPMC Manual Prospec 84.87 44 P **P** **08 10 06.9 -0.2**
baz=228
ORV Oroville 84.92 39 P **P** **08 10 06.7 -0.4**
ORV IAmb IAmb 08 10 10.4
comp=Z,20nm,1.6s
ORV Oroville 84.92 39 P **P** **08 10 06.7 -0.4**
ORV pmax pmax
comp=Z,20nm,1.6s
PEA0B Petropavlovsk- 85.01 344 *ce*P **P** **08 10 05.9 -1.2**
PETK Petropavlovsk- 85.01 344 P **P** **08 10 05.9 -1.2**
PETK Petropavlovsk- 85.01 344 P **P** **08 10 06.0 -1.1**
comp=Z,8.7nm,0.8s,baz=110,slow=7.2,SNR=17
comp=Z,8.7nm,0.8s
IRM Iron Mountain 85.08 47 P **P** **08 10 08.4 +0.4**
baz=230
GMRC Granite Mounta 85.16 46 P **P** **08 10 08.7 +0.1**
baz=230
QSM Queen of Sheba 85.18 44 P P 08 10 07.0 -1.4
QSM IAmb IAmb 08 10 11.1
comp=Z,12nm,1.1s
214A Organ Pipe Nat 85.21 49 P **P** **08 10 07.8 -1.0**
BLYC Blythe 85.22 47 P **P** **08 10 07.6 -1.1**
PDMCI Parker Dam,Lak 85.82 47 P **P** **08 10 12.0 +0.4**
baz=230
NVAR Mina Array Bea 85.96 42 P **P** **08 10 12.4 -0.1**
NVAR Mina Array Bea 85.96 42 P **P** **08 10 12.2 -0.4**
comp=Z,8.6nm,1.2s,baz=220,slow=8.1,SNR=17
NVAR LR LR 08 43 00.1
comp=Z,387nm,18.6s,baz=256,slow=32
comp=Z,8.6nm,1.2s
KVN Kaiserville 86.50 41 P **P** **08 10 14.8 -0.4**
KVN IAmb IAmb 08 10 16.5
comp=Z,12nm,1.2s
KVN Kaiserville 86.50 41 P **P** **08 10 14.8 -0.4**
KVN pmax pmax
comp=Z,12nm,1.2s
TUC Tucson 86.79 50 P **P** **08 10 17.6 +1.0**
baz=233
NJ2 Nanjing 86.84 309 *e*P **P** **08 10 17.3 +0.6**
NJ2 pP **pP** **08 10 20.3 +2.4**
NJ2 sP **PcP** **08 10 22.3 +3.3**
NJ2 pmax pmax
comp=Z,13nm,0.5s
USA0B Ussuriysk Arra 87.12 325 P **P** **08 10 17.5 -0.2**
USA0B IAmb IAmb 08 10 19.1
comp=Z,11nm,0.9s
USA0B Ussuriysk Arra 87.12 325 *i* P **P** **08 10 17.0 -0.8**
USRK Ussuriysk Ar. 87.12 325 P **P** **08 10 17.7 -0.1**
USRK Ussuriysk Ar. 87.12 325 P **P** **08 10 17.7 -0.1**
USRK Ussuriysk Ar. 87.12 325 P **P** **08 10 17.2 -0.5**
comp=Z,5.5nm,0.8s,baz=113,slow=5.0,SNR=14
comp=Z,5.5nm,0.8s
TYV Tymovskoe 87.61 335 *e*P **P** **08 10 20.4 +0.4**
TYV pmax pmax
comp=Z,6.0nm,1.4s
TYV pmax pmax
comp=Z,100nm,3.2s
TLIG Tlapa 87.73 69 P **P** **08 10 20.9 -0.6**
WUAZ Wupatki 88.35 47 P **P** **08 10 25.0 +0.9**
baz=232
MDJ Mudanjiang 88.62 324 P **P** **08 10 24.8 -0.2**
MDJ pmax pmax
comp=Z,14nm,1.4s
MDJ pmax pmax
comp=Z,210nm,4.5s
121A Cookes Peak, D 88.96 52 P **P** **08 10 28.0 +0.9**
baz=234
121A Cookes Peak, D 88.96 52 P **P** **08 10 27.8 +0.7**
baz=234
W18A Petrified Fore 89.17 49 P **P** **08 10 29.2 +1.2**
baz=233
GNW Green Mountain 89.91 33 P **P** **08 10 30.8 -0.2**
GNW IAmb IAmb 08 10 32.7
comp=Z,17nm,1.2s
TX31 Lajitas Ar. Si 90.06 56 P **P** **08 10 32.5 +0.3**
baz=236
TXAR Lajitas Array 90.06 56 P **P** **08 10 32.0 -0.2**
TXAR Lajitas Array 90.06 56 P **P** **08 10 32.0 -0.2**
TXAR Lajitas Array 90.06 56 P **P** **08 10 32.5 +0.2**
comp=Z,6.6nm,1.1s,baz=207,slow=5.2,SNR=22
comp=Z,6.6nm,1.1s
MNTX Cornudas Mount 90.15 53 P **P** **08 10 32.4 -0.1**
baz=236
MNTX Cornudas Mount 90.15 53 P **P** **08 10 32.3 -0.2**
baz=236
CN2 Changchun 90.24 322 P **P** **08 10 33.0 +0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
Y22A Socorro 90.33 51 P **P** **08 10 34.1 +0.6**
baz=235
CMIG Matias Romero 90.52 71 LR LR 08 43 13.7
comp=Z,83nm,19.4s,baz=210,slow=30
O19K Port Alsworth 90.66 11 P **P** **08 10 34.0 0.0**
baz=199
KLR Kul'dur 90.86 329 *ce*P **P** **08 10 34.6 -0.7**
KLR pmax pmax
comp=Z,11nm,1.5s
ANMO Albuquerque 91.25 50 P **P** **08 10 37.6 -0.2**
ANMO IAmb IAmb 08 10 39.8
comp=Z,15nm,1.4s
ANMO Albuquerque 91.25 50 P **P** **08 10 38.5 +0.8**
baz=235
ANMO Albuquerque 91.25 50 P **P** **08 10 38.1 +0.4**
baz=235
ANMO Albuquerque 91.25 50 *i* P P 08 10 36.5 -1.3
ANMO pmax pmax
comp=Z,5.0nm,1.2s
E09A Wood Farm, Sta 91.49 36 P **P** **08 10 37.5 -0.8**
HLID Hailey 91.55 40 P **P** **08 10 38.8 -0.2**
baz=230
DRIO Del Rio 92.34 58 P **P** **08 10 42.1 -0.7**
DRIO IAmb IAmb 08 10 44.0
comp=Z,7.2nm,1.1s
MA2 Magadan 92.52 344 P **P** **08 10 42.1 -0.7**
MA2 IAmb IAmb 08 10 43.0
comp=Z,6.8nm,1.0s
MA2 Magadan 92.52 344 *ce*P P 08 10 40.4 -2.4
MA2 pmax pmax
comp=Z,5.0nm,1.0s
HNS HongShan 92.74 312 ⇑P **P** **08 10 45.5 +1.2**
HNS pmax pmax
comp=Z,8.0nm,1.2s
AHID Auburn Hatcher 92.95 42 P **P** **08 10 44.3 -1.2**
IMW Indian Meadow 93.73 41 P **P** **08 10 48.4 -0.7**
IMW IAmb IAmb 08 10 50.7
comp=Z,10nm,1.2s
PDAR Pinedale Array 93.85 42 P P 08 10 48.3 -1.4
comp=Z,1.0nm,1.0s,baz=205,slow=3.1,SNR=4.9
comp=Z,1.0nm,1.0s
BOZ Bozeman (W) 94.37 39 P **P** **08 10 51.6 -0.3**
baz=232
LKWY Lake 94.44 41 P **P** **08 10 52.5 +0.2**
LKWY IAmb IAmb 08 10 55.1
comp=Z,6.6nm,1.1s
LKWY Lake 94.44 41 P **P** **08 10 52.5 +0.2**
LKWY pmax pmax
comp=Z,7.0nm,1.2s
OVMT Ovando 94.54 38 P P 08 10 50.9 -1.7
SEY Seymchan 95.12 346 *ce*P P 08 10 52.1 -2.5
SEY pmax pmax
comp=Z,6.0nm,1.1s
H19K Roundabout Mou 95.46 8 P **P** **08 10 55.7 -0.4**
baz=197
XLT XiLinHaoTe 95.61 318 *e*P P 08 11 02.5 +5.0
XLT pP sP 08 11 06.5 +7.4
XLT sP pwP 08 11 10.3 +2.9
XLT pmax pmax
comp=Z,7.0nm,0.6s
XLT pmax pmax
comp=Z,57nm,4.0s
WRH Wood River Hil 95.71 12 P P 08 10 55.8 -1.5
WRH IAmb IAmb 08 10 57.7
comp=Z,5.6nm,0.9s
ILAR Eielson Array 96.20 12 P P 08 10 57.0 -2.5
comp=Z,0.8nm,0.6s,baz=221,slow=5.6,SNR=16
comp=Z,0.8nm,0.6s
PZH PanZhiHua 96.39 297 P **P** **08 11 01.8 +0.3**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,4.9s
HHC Hu-ho-hao-te 96.69 313 *e*P **P** **08 11 03.5 +1.0**
HHC pP sP 08 11 08.8 +4.7
HHC *e*S **S** **08 22 29.0 +5.0**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,120nm,5.6s
HHC LR LR
comp=Z,94nm,12.2s
HHC LR LR
comp=Z,120nm,15.9s
BILL Bilibino 97.72 353 *i* P **P** **08 11 06.0 -0.3**
RSSD Black Hills 97.93 44 P **P** **08 11 07.9 -0.3**
baz=237
RSSD Black Hills 97.93 44 P **P** **08 11 07.8 -0.3**
baz=237
LAO LASA Array 98.06 41 P **P** **08 11 08.7 +0.3**
baz=236
YAK Yakutsk 100.74 337 *i* P **Pdif** **08 11 17.7 -2.2**
YAK pmax pmax
comp=Z,5.0nm,0.5s
WMQ Urumqi 113.89 308 *e*PKP **PKiKP** **08 16 09.8 -1.2**
ZALV Zalesovo Beam 118.29 319 PKP **PKPdf** **08 16 15.8 -3.1**
comp=Z,0.5nm,0.4s,baz=144,slow=5.2,SNR=2.4
MK31 Makanchi Array 118.36 310 *c i*PKIKP **PKPdf** **08 16 18.3 -1.1**
MKAR Makanchi Array 118.36 310 PKP **PKPdf** **08 16 17.6 -1.9**
comp=Z,1.2nm,0.9s,baz=119,slow=1.5,SNR=7.7
KURK Kurchatov 121.49 314 PKIKP **PKPdf** **08 16 23.5 -1.7**
KURBB Kurchatov Arra 121.53 314 PKP **PKPdf** **08 16 23.5 -1.8**
comp=Z,1.9nm,1.0s,baz=105,slow=1.9,SNR=10.0
BVAR Borovoye Array 126.76 316 PKP **PKPdf** **08 16 33.9 -1.4**
comp=Z,1.5nm,0.6s,baz=101,slow=3.2,SNR=9.9
ARU Arti 133.24 322 *i* PKIKP **PKPdf** **08 16 46.7 -0.8**
ARU 08 19 12.3
ARU Arti 133.24 322 PKP **PKPdf** **08 16 48.1 +0.6**
comp=Z,3.5nm,0.6s,baz=95,slow=9.1,SNR=4.7
KIRV Kirov 137.27 327 *c i*PKIKP **PKPdf** **08 16 54.3 -0.6**
ARCES ARCESS Array B 137.66 349 PKhKP PKPpre 08 16 46.7
comp=Z,3.3nm,0.9s,baz=32,slow=7.1,SNR=4.2
BELG Belogornoye 140.48 319 *i* PKIKP **PKPdf** **08 17 01.7 +0.7**
VALR Valaam 143.15 339 *i* PKIKP PKPab 08 17 04.6 +3.6
MOS Moscow 144.26 328 *e*PKIKP **PKPab** **08 17 04.3 -1.2**
VRH Novokhopyorsk 144.33 319 *e*PKIKP **PKPab** **08 17 04.9 -1.0**
VRH pmax pmax
comp=Z,58nm,1.2s
FINES FINESS Array B 144.50 342 PKP **PKPab** **08 17 04.4 -1.8**
comp=Z,10nm,0.5s,baz=32,slow=2.6,SNR=91
GNI Garni 145.11 299 *c i*PKIKP **PKPbc** **08 17 08.5 -0.8**
GNI pmax pmax
comp=Z,24nm,1.3s
OBN Obninsk 145.11 327 ⇓*i*PKIKP **PKPbc** **08 17 07.7 -0.9**
OBN *e*SS SS 08 39 19.4 +1.7
OBN pmax pmax
comp=Z,47nm,1.4s
OBN Obninsk 145.11 327 PKP **PKPbc** **08 17 06.3 -2.2**
comp=Z,12nm,0.4s,baz=41,slow=4.1,SNR=8.9
LPSR Galich'ya Gora 145.25 322 *e*PKP2 **PKPbc** **08 17 06.1 -3.0**
LPSR pmax pmax
comp=Z,60nm,1.6s
NCK Nalchik 145.45 305 *i* PKIKP **PKPbc** **08 17 08.6 -1.6**
VORR Voronezh 145.54 321 *e*PKHKP PKPpre 08 17 04.3
VORR pmax pmax
comp=Z,50nm,0.4s
ONI Oni 145.73 304 PKPdf **PKPdf** **08 17 11.9 +1.2**
ONI Oni 145.73 304 PKIKP **PKPdf** **08 17 11.9 +1.2**
VSR Storozhevoye 145.77 320 *e*PKP2 **PKPdf** **08 17 08.2 -2.2**
VSR pmax pmax
comp=Z,40nm,1.1s
KBZ Khabaz 145.90 306 *c i*PKP2 **PKPdf** **08 17 11.0 +0.2**
KBZ Khabaz 145.90 306 PKPbc **PKPdf** **08 17 10.0 -0.8**
comp=Z,6.0nm,1.2s,baz=73,slow=3.3,SNR=8.0
KIV Kislovodsk 146.00 306 **PKPdf** **08 17 12.4 +1.3**
KIV Kislovodsk 146.00 306 *i* PKP2 **PKPdf** **08 17 11.6 +0.4**
KIV pmax pmax
comp=Z,17nm,1.0s
VSU Vasula 146.72 338 *c i*PKP2 **PKPdf** **08 17 11.1 -0.6**
VSU pmax pmax
comp=Z,124nm,1.7s
NC405 NORSAR Array S 147.55 353 **PKPdf** **08 17 15.8 +2.7**
NB2 NORSAR Subarra 147.67 354 PKP **PKPdf** **08 17 14.9 +1.6**
comp=Z,1.3nm,0.6s,baz=9.6,slow=2.9
NOA NORSAR Array B 147.67 354 PKPbc **PKPdf** **08 17 13.8 +0.5**
comp=Z,2.1nm,0.6s,baz=12,slow=4.4,SNR=9.0
HFS Hagfors 148.26 351 PKPbc **PKPdf** **08 17 16.4 +2.1**
comp=Z,5.6nm,0.5s,baz=72,slow=4.8,SNR=20
ANN Anapa 149.38 310 *i* PKP2 **PKPdf** **08 17 21.7 +5.2**
ARPR Arapgir-MALATY 150.15 299 PKPab **PKPbc** **08 17 24.4 +1.1**
AKASG Malin Array Be 151.32 326 PKPbc **PKPdf** **08 17 23.7 +4.3**
comp=Z,7.6nm,0.6s,baz=42,slow=3.1,SNR=34
KIEV Kiev 151.33 326 **PKPdf** **08 17 24.6 +5.2**
KIEV Kiev 151.33 326 PKIKP **PKPdf** **08 17 24.6 +5.2**
BNN Bunyan 152.10 299 **PKPbc** **08 17 28.1 +0.3**

MMAI	Mount Meron Ar	153.02	286	PKPbc	PKPbc	08 17 29.8	-0.2
	comp=Z,1.1nm,0.2s,baz=81,slow=8.9,SNR=2.9						
EKA	Eskdalemuir Ar	153.21	9	PKPbc	PKPdf	08 17 28.0	+5.9
	comp=Z,0.7nm,0.5s,baz=348,slow=2.3,SNR=9.1						
BRTR	Keskin Array B	153.58	302	PKPbc	PKPdf	08 17 30.2	+6.9
	comp=Z,0.4nm,0.6s,baz=72,slow=4.0,SNR=5.6						
CHVC	Chvalec	156.70	341	*e*PKPAB	PKPab	08 17 56.1	-0.2
CHVC	Chvalec	156.70	341	*e*PKP2	PKPab	08 17 56.1	-0.2
UPC	Upice	156.78	341	*e*PKPAB	PKPab	08 17 56.4	-0.2
UPC	Upice	156.78	341	*e*PKP2	PKPab	08 17 56.4	-0.2
CLL	Collm	156.81	346	PKPab	PKPab	08 17 55.9	-0.8
CLL	Collm	156.81	346	*i* PKP2	PKPab	08 17 55.1	-1.6
CLL				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CLL	Collm	156.81	346	*i* PKPab	PKPab	08 17 55.1	-1.6
	comp=Z,9.0nm,0.8s						
DPC	Dobruska-Polom	156.83	340	*e*PKPAB	PKPab	08 17 55.8	-1.1
DPC	Dobruska-Polom	156.83	340	*e*PKP2	PKPab	08 17 55.8	-1.1
MORC	Moravsky Berou	156.94	338	*e*PKP	PKPab	08 17 56.6	-0.8
BRG	Berggiesshubel	157.00	344	*i* PKP2	PKPab	08 17 56.8	-0.7
BRG				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BRG	Berggiesshubel	157.00	344	*i* PKP	PKPab	08 17 56.8	-0.7
BRG				Amp		08 17 58.3	
	comp=Z,9.3nm,1.0s						
VYHS	Vyhne	157.55	334	*e*PKP2	PKPab	08 17 59.6	-0.5
VYHS	Vyhne	157.55	334	*e*PKP	PKPab	08 17 59.6	-0.5
VRAC	Vranov	157.66	338	*e*PKP	PKPab	08 18 00.2	-0.3
JAVC	Velka Javorina	157.68	336	*e*PKP	PKPab	08 18 01.2	+0.6
KRUC	Moravsky	157.94	338	*e*PKP	PKPab	08 18 01.1	-0.6
NKC	Novy Kostel	157.94	346	*e*PKPAB	PKPab	08 18 01.0	-0.7
NKC	Novy Kostel	157.94	346	*e*PKP2	PKPab	08 18 01.0	-0.7
MODS	Modra-Piesok	158.23	336	*e*PKP2	PKPab	08 18 04.3	+1.3
MODS	Modra-Piesok	158.23	336	*e*PKP	PKPab	08 18 04.3	+1.3
ZVC	Zvikov	158.25	342	*e*PKPAB	PKPab	08 18 03.1	+0.1
KHC	Kasperske Hory	158.70	343	*e*PKPAB	PKPab	08 18 03.8	-1.2
KHC	Kasperske Hory	158.70	343	*e*PKP2	PKPab	08 18 03.8	-1.2
GERES	GERESS Array B	158.93	342	PKPab	PKPab	08 18 04.2	-1.9
	comp=Z,1.2nm,0.8s,baz=46,slow=5.9,SNR=5.2						
CONA	Conrad Observa	159.10	338	*e*PKP	PKPab	08 18 07.3	+0.5
	comp=Z,1.3nm,0.6s						
RONA	Rosalia, Austr	159.15	337	*i* PKP	PKPab	08 18 07.4	+0.4
	comp=Z,1.0nm,0.4s						
MOA	Molln	159.67	340	*i* PKP	PKPab	08 18 09.0	-0.3
	comp=Z,0.9nm,0.5s						
ARSA	Arzberg	159.80	337	*e*PKP	PKPab	08 18 07.8	-2.0
	comp=Z,0.8nm,0.4s						
BIOA	Bad Ischl, Aus	160.00	341	*i* PKP	PKPab	08 18 10.0	-0.7
	comp=Z,0.8nm,0.2s						
SOKA	Soboth	160.47	337	*e*PKP	PKPab	08 18 11.8	-1.0
	comp=Z,1.1nm,1.3s						
LESA	Schwarzleotal	160.51	343	*e*PKP	PKPab	08 18 12.3	-0.7
	comp=Z,18nm,1.5s						
KBA	Koelnbreinsper	160.64	341	*e*PKP	PKPab	08 18 12.6	-1.0
	comp=Z,14nm,1.6s						
RETA	Reutte	160.90	346	*e*PKP	PKPab	08 18 14.6	0.0
	comp=Z,9.1nm,1.4s						
WTTA	Wattenberg	160.91	344	*e*PKP	PKPab	08 18 14.4	-0.5
	comp=Z,6.3nm,0.7s						
MYKA	Terra Mystica	160.96	340	*e*PKP	PKPab	08 18 13.8	-1.1
	comp=Z,9.6nm,1.2s						
MOTA	Moosalm	160.96	345	*e*PKP	PKPab	08 18 13.8	-1.2
	comp=Z,4.5nm,1.2s						
SQTA	Sankt Quirin	161.06	345	*e*PKP	PKPab	08 18 13.7	-1.7
	comp=Z,9.8nm,1.6s						
PRED	Cave del Predi	161.15	340	PKPab	PKPab	08 18 13.5	-2.3
ABTA	Abfaltersbach	161.17	342	*e*PKP	PKPab	08 18 13.9	-2.0
	comp=Z,10.0nm,1.4s						
CTI	Castel Tesino	162.05	343	PKPab	PKPab	08 18 18.5	-1.3
CTI	Castel Tesino	162.05	343	PKP2	PKPab	08 18 18.5	-1.3
TORD	Torodi Ar. Bea	164.00	171	PKP	PKPdf	08 17 35.7	-0.5
	comp=Z,1.0nm,0.9s,baz=12,slow=4.0,SNR=5.5						
TORD				PKPab	PKPab	08 18 30.1	+1.2
	comp=Z,4.0nm,1.0s,baz=182,slow=2.7,SNR=12						

IDC ***25*** *08:04:38.6±2.2,34°.32N×138°.62E,h0km,mb3.1/2, mbtmp3.2/3,ML2.6/1,Error ellipse: s-maj=69.0km s-min=29.7km az=81.0*

JMA ***25*** *08:04:41.1±0.2,34°.91N±0°.04×140°.01E±0°.05,h60km±7km, MV2.7/39,SE OFF BOSO PENINSULA*

ISC 25 08:04:41.5±1.0,34°.91N±0°.04×140°.01E±0°.05,h60km±7km, n21,σ0946/29,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TATJ	Tateyama 2	0.16	323	*i*	P		Pn	08 04 51.1	+0.3
TATJ				*e*	S		Sn	08 04 58.5	+1.0
BSO4	Boso 4	0.28	73	P	P		Pn	08 04 51.8	+0.5
JKUC	kamogawauchiur	0.30	32	*i*	P		Pn	08 04 51.4	-0.2
JKUC					S		Sn	08 04 58.5	-0.4
KTR	Katsuura	0.35	46	P	P		Pn	08 04 52.0	0.0
KTR				*e*	S		Sn	08 04 59.5	-0.1
BSO3	Boso 3	0.43	104	P	P		Pn	08 04 52.7	+0.3
JIM2	Oshima 3	0.51	248	P	P		Pn	08 04 53.4	-0.2
JIM2					S		Sn	08 05 01.7	-0.7
JOD2	Odawara 2	0.83	296	*i*	P		Pn	08 04 56.9	-0.5
JOD2				*e*	S		Sn	08 05 08.4	-0.7
BSO1	Boso 1	0.84	107	P	P		Pn	08 04 56.9	-0.1
JMYK	Miyake Tsubota	0.93	204	P	P		Pn	08 04 58.8	+0.2
JMYK				*e*	S		Sn	08 05 11.6	+0.4
JIZS	Izushimoda	0.95	259	*e*	P		Pn	08 04 58.6	-0.2
JIZS					S		Sn	08 05 11.6	-0.1
JMKN	Mikurajimanish	1.07	199	P	P		Pn	08 05 00.8	+0.3
JMKN				*e*	S		Sn	08 05 14.4	-0.1
JFNN	Fujinakano	1.12	285	S	S		Sn	08 05 16.4	+0.6
JYN	Shimob	1.33	297	*i*	P		Pn	08 05 04.1	+0.1
JYN					S		Sn	08 05 21.2	+0.3
JRY	Ryogami san	1.43	321	*i*	P		Pn	08 05 05.3	0.0
JRY					S		Sn	08 05 22.9	-0.2
SHZ3	Shizuoka 3	1.48	277	P	P		Pn	08 05 06.8	+0.7
MJAR	Matsushiro Arr	2.19	319	Pn	Pn		Pn	08 05 16.4	+0.8
	1.5nm,0.3s,baz=173,slow=14,SNR=114								
MJAR					Sn		Sn	08 05 41.5	-0.1
	0.7nm,0.3s,baz=203,slow=28,SNR=11								
	15nm,0.3s								
H11N2	WAKE ISLAND Hy	28.15	115	T	T			08 40 04.9	
	baz=308,slow=75,SNR=11								
H11N1	WAKE ISLAND Hy	28.16	115	T	T			08 40 04.2	
	baz=308,slow=75,SNR=11								
H11N3	WAKE ISLAND Hy	28.17	115	T	T			08 40 10.2	
	baz=308,slow=75,SNR=8.8								
MKAR	Makanchi Array	44.31	304	P	P		P	08 12 45.4	0.0
	0.2nm,0.6s,baz=104,slow=8.9,SNR=2.1								
	0.2nm,0.6s								
WRA	Warramunga Arr	54.81	187	P	P		P	08 14 05.1	-0.3
	0.2nm,0.5s,baz=1.9,slow=7.4,SNR=1.2								
	0.2nm,0.5s								

IDC ***25*** *08:14:13.0±4.9,55°.49N×149°.03W,h0km,mb4.2/1, mbtmp3.6/6,ML2.9/5,MS3.8/2,Error ellipse: s-maj=73.7km s-min=32.6km az=14.0*

NEIC ***25*** *08:14:13.7±1.2,55°.6N±0°.1×149°.2W±0°.1,h7km±7km, mb3.7/2,ML3.7/42,ML3.5(AEIC),Error ellipse: s-maj=15.1km s-min=9.8km az=166.0*

AEIC ***25*** *08:14:19.5±1.2,55°.7N±0°.1×149°.2W±0°.1,h12km±7km, Error ellipse: s-maj=15.1km s-min=9.4km az=167.0*

ISC 25 08:14:15.5±1.2,55°.84N±0°.10×149°.22W±0°.06,h10km, n208,σ1944/205,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.65	303				Pn	08 14 58.1	0.0
OHAK	Old Harbor	2.65	303				Sn	08 15 29.1	-1.1
OHAK	Old Harbor	2.65	303	P	P		Pn	08 14 58.1	0.0
	baz=127								
OHAK				S			Sn	08 15 29.1	-1.1
	baz=127								
KDAK	Kodiak Island	2.69	318	Pn	P		Pn	08 14 59.2	+0.5
	6.2nm,0.3s,baz=131,slow=5.0,SNR=166								
KDAK					Sn		Sn	08 15 29.3	-1.9
	6.0nm,0.3s,baz=341,slow=20,SNR=8.2								
KDAK				LR	LR		LR	08 16 17.2	
	comp=Z,157nm,18.6s,baz=186,slow=41								
	16nm,0.4s								
SII	Sitkinak Islan	2.87	287	Pn	P		Pn	08 15 00.4	-0.8
SII				IAML				08 15 42.2	
	comp=E,143nm,0.8s								
SII	Sitkinak Islan	2.87	287	P	P		Pn	08 15 00.6	-0.6
	baz=111								
SYI	Shuyak Island	3.27	329	Pn	P		Pn	08 15 07.8	+1.1
Q20K	Shuyak Island	3.27	329	P	P		Pn	08 15 07.6	+1.0
	baz=149								
Q20K					S		Sn	08 15 45.4	-0.2
	baz=149								
CHIR	Chirikof Islan	3.61	272	Pn	Pn		Pn	08 15 08.7	-2.7
CHIR				IAML				08 15 51.0	
	comp=N,115nm,2.0s								
CHIR				IAML				08 16 13.5	
	comp=E,98nm,1.9s								
CHIR	Chirikof Islan	3.61	272	P	P		Pn	08 15 10.4	-1.0
	baz=95								
CNPM	China Poot	3.85	345				Pn	08 15 15.5	+0.8
CNPM				IAML				08 16 10.7	
	comp=E,62nm,0.5s								
Q19K	Cape Douglas,	3.91	324				Pn	08 15 17.4	+1.8
Q19K				IAML				08 16 15.6	
	comp=N,172nm,0.8s								
Q19K	Cape Douglas,	3.91	324	P	P		Pn	08 15 17.0	+1.4
	baz=143								
Q23K	Middleton Isla	3.92	22				Pn	08 15 15.9	+0.4
Q23K				IAML				08 16 25.0	
	comp=E,143nm,2.0s								
Q23K				IAML				08 16 48.6	
	comp=N,109nm,2.0s								
Q23K	Middleton Isla	3.92	22	P	P		Pn	08 15 17.0	+1.4
	baz=200								
MID	Middleton Isla	3.92	22				Pn	08 15 16.2	+0.6
MID				IAML				08 16 14.7	
	comp=N,120nm,1.9s								
MID				IAML				08 17 15.8	
	comp=E,106nm,1.8s								
BRSE	Bradley Lake S	4.00	349				Pn	08 15 17.4	+0.7
BRSE	Bradley Lake S	4.00	349	P	P		Pn	08 15 17.5	+0.8
	baz=167								
KAKN	Katmai Knife C	4.03	310				Pn	08 15 18.4	+1.1
BRLK	Bradley Lake	4.04	348				Pn	08 15 17.8	+0.5
BRLK				IAML				08 16 07.8	
	comp=E,51nm,0.4s								
HOM	Homer	4.04	342	Pn	Pn		Pn	08 15 18.8	+1.4
HOM	Homer	4.04	342	P	Pn		Pn	08 15 18.8	+1.4
	baz=160								
KAHC	Katmai Hardscr	4.22	314				Pn	08 15 21.3	+1.4
KAHC	Katmai Hardscr	4.22	314	P	Pn		Pn	08 15 21.1	+1.3
	baz=133								
SEW	Seward	4.28	358				Pn	08 15 21.4	+0.9
SEW	Seward	4.28	358	P	Pn		Pn	08 15 21.8	+1.2
	baz=177								
P23K	Montague Islan	4.28	12				Pn	08 15 21.7	+1.1
P23K							Sn	08 16 08.7	-1.9
P23K	Montague Islan	4.28	12	P	P		Pn	08 15 21.9	+1.3
	baz=191								
P23K				S			Sn	08 16 08.7	-1.9
	baz=191								
CNTC	Contact Creek	4.38	306				Pn	08 15 23.1	+1.1
Q17K	Contact Creek	4.38	306	P	Pn		Pn	08 15 23.1	+1.1
	baz=125								
P19K	Oil Pt	4.38	332	Pn	Pn		Pn	08 15 23.4	+1.3
P19K				IAML				08 16 17.8	
	comp=E,107nm,0.4s								
P19K				IAML				08 16 17.8	
	comp=N,96nm,0.4s								
P19K	Oil Pt	4.38	332	P	P		Pn	08 15 23.5	+1.5
	baz=150								
O20K	Slope Mountain	4.62	338				Pn	08 15 26.3	+0.9
O20K	Slope Mountain	4.62	338	P	Pn		Pn	08 15 26.3	+0.9
	baz=156								
ILSW	Iliamna Southw	4.65	335				Pn	08 15 26.8	+1.0
ILSW				IAML				08 16 21.9	
	comp=N,50nm,0.3s								
ILSW				IAML				08 16 22.8	
	comp=E,48nm,0.7s								
IVE	Iliamna Volcan	4.65	336				Pn	08 15 26.2	+0.4
O22K	Cooper Landing	4.66	357	P	Pn		Pn	08 15 27.0	+1.2
	baz=175								
SLKM	Skilak Lake	4.71	354				Pn	08 15 27.1	+0.6
SLKM							Sn	08 16 19.8	-1.4
HIN	Hinchinbrook I	4.79	16	Pn	Pn		Pn	08 15 28.9	+1.3
HIN				IAML				08 16 22.9	
	comp=N,70nm,1.5s								
HIN				IAML				08 16 26.1	
	comp=E,62nm,0.8s								
P18K	Big Mountain,	4.81	320	Pn	Pn		Pn	08 15 28.1	+0.3
P18K	Big Mountain,	4.81	320	P	Pn		Pn	08 15 28.2	+0.3
	baz=138								
KAIM	Kayak Island	4.83	30	Pn	Pn		Pn	08 15 29.4	+1.2
KAIM				IAML				08 16 27.1	
	comp=N,68nm,1.7s								
KAIM				IAML				08 17 58.6	
	comp=E,78nm,2.0s								
KAIM	Kayak Island	4.83	30	P	Pn		Pn	08 15 29.4	+1.2
	baz=210								
Q16K	King Salmon	4.94	308				Pn	08 15 30.5	+0.9
Q16K	King Salmon	4.94	308	P	Pn		Pn	08 15 30.5	+0.9
	baz=126								
RED	Redoubt Volcan	4.96	339				Pn	08 15 30.4	+0.3
RSO	Redoubt South	5.00	339				Pn	08 15 31.5	+0.9
RDT	Redoubt	5.04	342				Pn	08 15 31.4	+0.3
CAPN	Captain Cook N	5.05	349	Pn	Pn		Pn	08 15 32.4	+1.3
EYAK	Cordova Ski Ar	5.07	20				Pn	08 15 32.8	+1.5
EYAK	Cordova Ski Ar	5.07	20	P	Pn		Pn	08 15 32.7	+1.3
	baz=199								
SUCK	Suckling Hills	5.14	32	Pn	Pn		Pn	08 15 33.2	+0.8
SUCK				IAML				08 16 35.1	
	comp=N,40nm,1.3s								
SUCK				IAML				08 16 48.0	
	comp=E,39nm,1.7s								
O19K	Port Alsworth	5.14	330				Pn	08 15 33.1	+0.8
O19K	Port Alsworth	5.14	330	P	Pn		Pn	08 15 32.9	+0.6
	baz=147								
O18K	Koktuh Hills	5.14	324	Pn	Pn		Pn	08 15 33.1	+0.7
O18K				IAML				08 16 41.8	
	comp=N,23nm,2.0s								
O18K	Koktuh Hills	5.14	324	P	Pn		Pn	08 15 33.0	+0.7
	baz=141								
P17K	Kvichak River	5.14	314				Pn	08 15 33.7	+1.3
P17K	Kvichak River	5.14	314	P	Pn		Pn	08 15 33.7	+1.3
	baz=131								
RAGM	Ragged Mountai	5.16	26				Pn	08 15 34.3	+1.6
RAGM				IAML				08 16 39.5	
	comp=E,58nm,0.8s								
CHGN	Chignik	5.17	279	Pn	Pn		Pn	08 15 31.6	-1.2
NICHA	Nichawak Mount	5.22	30				Pn	08 15 35.1	+1.7
HMT	Hamilton	5.22	28				Pn	08 15 35.1	+1.6
RC01	Rabbit Creek A	5.27	357				Pn	08 15 35.5	+1.3
RC01	Rabbit Creek A	5.27	357	P	Pn		Pn	08 15 35.9	+1.7
	baz=176								
GOAT	Goat Mountain	5.31	25				Pn	08 15 36.6	+1.8
BERG	Berg Lake	5.42	30				Pn	08 15 37.6	+1.4
GRIN	Grindle Hills	5.44	33				Pn	08 15 38.4	+1.8
SNH	Sunshine Point	5.52	35	Pn	Pn		Pn	08 15 39.0	+1.4
KHIT	Khitrov Hills	5.59	32				Pn	08 15 39.9	+1.2
N20K	Mount Spurr	5.60	345	P	Pn		Pn	08 15 39.7	+0.9
	baz=162								
SPCR	Spurr Chakacha	5.60	345				Pn	08 15 39.4	+0.6
KNK	Knik Glacier	5.60	4				Pn	08 15 40.5	+1.7
KNK	Knik Glacier	5.60	4	P	Pn		Pn	08 15 40.5	+1.7
	baz=183								
SPCP	Crater Peak Br	5.65	345				Pn	08 15 40.9	+1.3
BMRM	Bremner River	5.68	23				Pn	08 15 41.4	+1.6
BMRM	Bremner River	5.68	23	P	Pn		Pn	08 15 41.5	+1.6
	baz=204								
SUA	Susitna One	5.70	353				Pn	08 15 41.1	+0.9
N19K	Bonanza Creek	5.71	333				Pn	08 15 40.6	+0.4
N19K	Bonanza Creek	5.71	333	P	Pn		Pn	08 15 40.6	+0.4
	baz=150								
WAX	Waxell Ridge	5.72	33				Pn	08 15 41.6	+1.2
O17K	Koliganek Bris	5.77	316				Pn	08 15 42.0	+1.0
O17K	Koliganek Bris	5.77	316	P	Pn		Pn	08 15 42.0	+1.0
	baz=132								
PMR	Palmer	5.77	0				Pn	08 15 42.5	+1.5
PMR	Palmer	5.77	0	P	Pn		Pn	08 15 42.3	+1.3
	baz=179								
BARK	Barkley Ridge	5.80	35				Pn	08 15 42.9	+1.4
STLK	Strandline Lak	5.84	348				Pn	08 15 43.0	+1.0
KLU	Klutina	5.92	16				Pn	08 15 45.0	+1.8
KLU	Klutina	5.92	16	P	Pn		Pn	08 15 45.1	+1.8
	baz=196								
M22K	Willow	5.95	356	Pn	Pn		Pn	08 15 44.6	+1.2
GHO	Glory Hole Cre	5.95	1				Pn	08 15 45.1	+1.5
TGL	Tana Glacier	5.97	32				Pn	08 15 45.4	+1.5
N18K	Kilae Creek	5.99	327				Pn	08 15 44.8	+0.6
N18K	Kilae Creek	5.99	327	P	Pn		Pn	08 15 44.7	+0.6
	baz=143								
BAGL	Bagley Icefiel	6.00	36				Pn	08 15 45.5	+1.4
ISLE	Juniper Island	6.00	34				Pn	08 15 45.6	+1.3
SML	Sawmill	6.00	4				Pn	08 15 46.1	+1.9
SML	Sawmill	6.00	4	P	Pn		Pn	08 15 46.2	+1.9
	baz=183								
CNBA	Chernabura Isl	6.01	264	Pn	Pn		Pn	08 15 42.3	-2.0
SCM	Sheep Creek Mo	6.09	8				Pn	08 15 47.6	+2.1
SCM	Sheep Creek Mo	6.09	8	P	Pn		Pn	08 15 47.5	+2.0
	baz=188								
VRDI	Verde Repeater	6.19	27	Pn	Pn		Pn	08 15 48.1	+1.2
SVW2	Sparrevohn	6.24	330	Pn	Pn		Pn	08 15 47.7	+0.2
KIAG	Kiagna River	6.24	32				Pn	08 15 49.1	+1.4
N25K	Chitina, Valde	6.26	21				Pn	08 15 49.5	+1.7
N25K	Chitina, Valde	6.26	21	P	Pn		Pn	08 15 49.7	+1.8
	baz=202								
GLB	Gilahina Butte	6.29	24				Pn	08 15 49.7	+1.5
GRNC	Granite Creek	6.29	36				Pn	08 15 49.7	+1.3
TABL	Table Mountain	6.29	40				Pn	08 15 49.9	+1.6
PTPK	Patty Peak	6.42	31				Pn	08 15 51.6	+1.5
MCARA	McCarthy VSAT	6.43	28				Pn	08 15 51.9	+1.8
MCARA	McCarthy VSAT	6.43	28	P	Pn		Pn	08 15 52.4	+2.3
	baz=210								
M24K	Tolsona, Glenn	6.48	13				Pn	08 15 52.8	+2.0
M24K	Tolsona, Glenn	6.48	13	P	Pn		Pn	08 15 53.3	+2.5
	baz=193								
PNL	Peninsula	6.51	50				Pn	08 15 52.4	+1.3
PNL	Peninsula	6.51	50	P	Pn		Pn	08 15 52.7	+1.6
	baz=234								
BARN	Barnard Glacie	6.56	34				Pn	08 15 53.6	+1.5
CTG	Chitna Glacier	6.60	36	P	Pn		Pn	08 15 54.0	+1.5
	baz=219								
CTGM	Chitina Glacie	6.60	36				Pn	08 15 53.9	+1.4
LOGN	Logan Glacier	6.61	37				Pn	08 15 53.9	+1.2
O15K	Ungalikthiuk R	6.62	305				Pn	08 15 53.8	+1.1
O15K	Ungalikthiuk R	6.62	305	P	Pn		Pn	08 15 53.8	+1.1
	baz=119								
M18K	Stony River	6.63	331				Pn	08 15 53.0	+0.2
M18K	Stony River	6.63	331	P	Pn		Pn	08 15 53.3	+0.5
	baz=147								
M19K	Big River Lodg	6.64	338	Pn	Pn		Pn	08 15 53.6	+0.6
WAT6	Susitna Watana	6.80	6				Pn	08 15 57.2	+1.9
WAT6	Susitna Watana	6.80	6	P	Pn		Pn	08 15 57.3	+1.9
	baz=186								
O28M	Mount Upton	6.86	40				Pn	08 15 57.7	+1.5
O28M	Mount Upton	6.86	40	P	Pn		Pn	08 15 57.7	+1.5
	baz=224								
HARP	HAARP	6.90	16				Pn	08 15 58.5	+1.9
HARP	HAARP	6.90	16	P	Pn		Pn	08 15 58.5	+1.9
	baz=197								
L19K	White Mountain	6.99	338				Pn	08 15 58.3	+0.5
L19K	White Mountain	6.99	338	P	Pn		Pn	08 15 58.5	+0.7
	baz=154								
M17K	Holitna River	7.03	326				Pn	08 15 59.5	+1.2
O29M	Mount Kennedy	7.20	47				Pn	08 16 02.8	+2.0
O29M	Mount Kennedy	7.20	47	P	Pn		Pn	08 16 02.7	+1.9
	baz=232								
N15K	Kwethluk River	7.22	311	Pn	Pn		Pn	08 16 02.9	+1.9
P29M	Windy Craggy	7.22	54				Pn	08 16 02.1	+1.2
P29M	Windy Craggy	7.22	54	P	Pn		Pn	08 16 02.2	+1.2
	baz=239								
PN7A	Pavlof North-7	7.25	272				Pn	08 16 00.9	-0.5
S12K	Black Hills	7.25	274				Pn	08 16 00.7	-0.6
S12K	Black Hills	7.25	274	P	Pn		Pn	08 16 00.9	-0.4
	baz=88								
M16K	Timber Creek	7.28	319				Pn	08 16 03.0	+1.1
M16K	Timber Creek	7.28	319	P	Pn		Pn	08 16 02.7	+0.9
	baz=133								
M26K	Nabesna, AK	7.32	23				Pn	08 16 03.8	+1.5
M26K	Nabesna, AK	7.32	23	P	Pn		Pn	08 16 04.3	+2.0
	baz=206								
DHY	Denali Highway	7.32	7				Pn	08 16 04.0	+1.6
DHY	Denali Highway	7.32	7	P	Pn		Pn	08 16 04.0	+1.6
	baz=187								
O14K	Tigyukauivet M	7.33	303	Pn	Pn		Pn	08 16 03.1	+0.7
S31K	Pelican	7.42	68				Pn	08 16 03.4	-0.3
S31K	Pelican	7.42	68	P	Pn		Pn	08 16 03.1	-0.5
	baz=255								
L18K	Granite Mounta	7.46	332	Pn	Pn		Pn	08 16 04.7	+0.4
YUK3	Moose Creek	7.49	34				Pn	08 16 07.2	+2.4
YUK3	Moose Creek	7.49	34	P	Pn		Pn	08 16 07.0	+2.2
	baz=218								
MENT	Mentasta	7.65	19	Pn	Pn		Pn	08 16 08.0	+1.2
TRF	Thorofare Moun	7.65	356	Pn	Pn		Pn	08 16 08.6	+1.5
CAST	Castle Rocks	7.74	350				Pn	08 16 10.9

comp=Z,0.6nm,0.4s,baz=24,slow=12,SNR=10

*IDC **25** 08:24:37.9±3.7, 6°32.5′S×10°10.84′W, h0km, mb3.8/7, mbtmp3.8/8, ML3.4/1, MS4.1/28, Error ellipse: s-maj=161.8km s-min=27.2km az=140.0*

*NEIC **25** 08:24:37.7±0.3, 6°46.5′S×10°08.1′±2.2′W×0.1′, h10km±2km, mb4.4/9, Error ellipse: s-maj=16.8km s-min=13.2km az=92.0*

*GCMT **25** 08:24:40.7±0.2, 6°36.5′S×11°26.1′W±0.01, h12km, MW4.9/103, Moment Tensor Solution. s34,c39; s103,c149; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.61±.07; Mθθ 0.51±.07; Mφφ 2.09±.06; Mrθ 1.80±.29; Mθφ-0.58±.06; Mφr-0.85±.23; Best double couple: M₀3.09400×10¹⁶ NP1:φs318.00000°, δ64.00000°, λ-109.00000°. NP2:φs175.00000°, δ32.00000°, λ-57.00000°. Principal axes: T 2.7020, Plg17.0000°, Azm61.0000°; N 0.7750, Plg17.0000°, Azm326.0000°; P -3.4850, Plg66.0000°, Azm194.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 08:24:37.5±0.7, 6°55.5′S±0.1′×11°11.1′W±0.1′, h10km, n52, σ1§70/22, mb4.2/11, MS4.2/28, 2C, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASCN	**Ascension**	**3.53**	**246**	Pn		**Pn**	**08 25 32.1**	**-0.4**
H10N1	**ASCENSION HYDR**	**3.61**	**248**	T		T	08 29 09.3	
	baz=68,slow=74,SNR=307							
H10N2	**ASCENSION HYDR**	**3.61**	**248**	T		T	08 29 10.0	
	baz=68,slow=74,SNR=381							
H10N3	**ASCENSION HYDR**	**3.63**	**248**	T		T	08 29 03.4	
	baz=68,slow=74,SNR=33							
H10S2	**ASCENSION HYDR**	**4.28**	**235**	T		T	08 29 52.7	
	baz=165,slow=74,SNR=33							
H10S3	**ASCENSION HYDR**	**4.29**	**235**	T		T	08 29 52.7	
	baz=55,slow=74,SNR=70							
LIC	**Lamto**	**14.02**	**26**	*i*P		**Pn**	**08 27 58.9**	**+2.5**
	4.7nm,0.5s							
KIC	**Kosan Boka**	**14.27**	**27**	*i*P		**Pn**	**08 28 02.6**	**+2.8**
	4.3nm,0.6s							
TIC	**Toumodi**	**14.40**	**25**	*e*P		**Pn**	**08 28 03.4**	**+1.7**
	4.6nm,0.7s							
DBIC	**Dimbokro**	**14.49**	**26**	Pn		**Pn**	**08 28 02.2**	**-0.7**
DBIC	**Dimbokro**	**14.49**	**26**	Pn		**Pn**	**08 28 02.6**	**-0.3**
	0.2nm,0.3s,baz=308,slow=6.7,SNR=1.7							
DBIC				LR		LR	08 32 32.6	
	comp=Z,756nm,20.5s,baz=192,slow=33							
	1.7nm,0.7s							
MBO	**M'Bour**	**21.56**	**344**	P		**P**	**08 29 26.0**	**-1.3**
TOA0	**Torodi Ar. Sit**	**23.30**	**33**	P		**P**	**08 29 45.3**	**-0.5**
TOA0				IAmb		IAmb	08 29 55.4	
	comp=Z,9.1nm,0.8s							
TORD	**Torodi Ar. Bea**	**23.30**	**33**	P		**P**	**08 29 45.1**	**-0.7**
TORD				IAmb		IAmb	08 29 55.4	
	comp=Z,7.4nm,0.9s							
TORD	**Torodi Ar. Bea**	**23.30**	**33**	P		**P**	**08 29 44.0**	**-1.8**
	comp=Z,2.3nm,0.7s,baz=216,slow=9.0,SNR=15							
TORD				LR		LR	08 37 48.6	
	comp=Z,784nm,20.3s,baz=206,slow=34							
	comp=Z,2.3nm,0.7s							
RCBR	**Riachuelo**	**24.67**	**270**	LR		LR	08 36 58.3	
	comp=Z,674nm,21.3s,baz=66,slow=30							
TSUM	**Tsumeb**	**30.61**	**117**	P		**P**	**08 30 52.0**	**-0.2**
TSUM				IAmb		IAmb	08 31 07.7	
	comp=Z,4.4nm,1.1s							
TSUM	**Tsumeb**	**30.61**	**117**	LR		LR	08 40 38.8	
	comp=Z,548nm,21.4s,baz=328,slow=32							
BDFB	**Brasilia**	**37.29**	**253**	P		**P**	**08 31 54.9**	**+4.6**
	comp=Z,1.9nm,0.8s,baz=98,slow=12,SNR=3.6							
BDFB				LR		LR	08 44 15.4	
	comp=Z,364nm,19.9s,baz=124,slow=31							
	comp=Z,1.9nm,0.8s							
SUR	**Sutherland**	**39.31**	**135**	LR		LR	08 43 59.5	
	comp=Z,349nm,20.9s,baz=305,slow=30							
LSZ	**Lusaka**	**39.49**	**106**	LR		LR	08 45 50.1	
	comp=Z,342nm,21.4s,baz=309,slow=32							
MDT	**Midelt**	**39.59**	**9**	LR		LR	08 47 59.4	
	comp=Z,433nm,19.7s,baz=157,slow=36							
LBTB	**Lobatse**	**39.63**	**122**	LR		LR	08 46 06.0	
	comp=Z,266nm,21.6s,baz=282,slow=33							
BOSA	**Boshof**	**40.78**	**127**	LR		LR	08 45 56.3	
	comp=Z,147nm,21.9s,baz=279,slow=31							
MDP	**Montagnes des**	**43.05**	**285**	LR		LR	08 48 18.1	
	comp=Z,96nm,20.9s,baz=94,slow=33							
KEST	**Kesra**	**46.21**	**23**	LR		LR	08 52 30.9	
	comp=Z,434nm,20.2s,baz=158,slow=36							
ESDC	**Sonseca Array**	**46.42**	**8**	LR		LR	08 53 12.0	
	comp=Z,105nm,18.5s,baz=184,slow=37							
LODK	**Lodwar**	**47.42**	**79**	P		**P**	**08 33 11.5**	**-1.3**
SIV	**San Ignacio**	**49.80**	**255**	LR		LR	08 53 54.7	
	comp=Z,346nm,18.5s,baz=100,slow=35							
BOAV	**Boa Vista**	**50.13**	**279**	P		**P**	**08 33 32.5**	**-1.0**
BOAV				IAmb		IAmb	08 33 33.7	
	comp=Z,4.3nm,0.8s							
ETMB	**Extrema**	**54.61**	**263**	P		**P**	**08 34 05.2**	**-1.6**
ETMB				IAmb		IAmb	08 34 15.1	
	comp=Z,4.3nm,0.8s							
ATD	**Arta Tunnel**	**56.58**	**72**	LR		LR	08 56 35.0	
	comp=Z,7.3nm,20.2s,baz=56,slow=34							
LPAZ	**La Paz**	**56.59**	**255**	LR		LR	08 57 40.0	
	comp=Z,267nm,20.1s,baz=80,slow=35							
EIL	**Elat**	**56.99**	**48**	LR		LR	08 59 20.2	
	comp=Z,210nm,19.1s,baz=245,slow=37							
LVC	**Limon Verde**	**57.85**	**247**	LR		LR	08 58 29.4	
	comp=Z,211nm,18.5s,baz=114,slow=35							
MMAI	**Mount Meron Ar**	**59.09**	**45**	LR		LR	09 02 39.6	
	comp=Z,62nm,18.1s,baz=204,slow=39							
GERES	**GERESS Array B**	**59.25**	**19**	P		**P**	**08 34 39.8**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=197,slow=3.1,SNR=4.0							
	comp=Z,0.3nm,0.3s							
ASF	**Jabal al Asfar**	**59.72**	**47**	LR		LR	09 00 19.2	
	comp=Z,188nm,20.6s,baz=193,slow=36							
VRAC	**Vranov**	**60.61**	**20**	LR		LR	09 02 07.5	
	comp=Z,224nm,19.0s,baz=207,slow=37							
MLR	**Muntele Rosu**	**61.45**	**29**	LR		LR	09 02 11.4	
	comp=Z,163nm,21.6s,baz=190,slow=37							
BRTR	**Keskin Array B**	**61.79**	**38**	P		**P**	**08 34 56.8**	**0.0**
	comp=Z,0.2nm,0.4s,baz=207,slow=3.9,SNR=2.4							
	comp=Z,0.2nm,0.4s							
PLCA	**Paso Flores**	**62.81**	**227**	LR		LR	08 58 03.2	
	comp=Z,124nm,21.9s,baz=89,slow=32							
NNA	**Nana**	**65.00**	**260**	LR		LR	09 01 53.9	
	comp=Z,173nm,21.6s,baz=101,slow=34							
AKASG	**Malin Array Be**	**66.74**	**27**	P		**P**	**08 35 30.0**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=223,slow=6.8,SNR=4.5							
	comp=Z,0.1nm,0.3s							
COHC	**Cochancay**	**68.03**	**270**	P		**P**	**08 35 36.0**	**-1.8**
HFS	**Hagfors**	**69.27**	**13**	P		**P**	**08 35 44.3**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=236,slow=7.8,SNR=2.0							
HFS				LR		LR	09 09 07.7	
	comp=Z,106nm,18.8s,baz=206,slow=39							
	comp=Z,1.7nm,0.8s							
NOA	**NORSAR Array B**	**69.57**	**11**	LR		LR	09 06 14.0	
	comp=Z,74nm,21.8s,baz=205,slow=36							
BORG	**Borgarnes**	**71.47**	**355**	LR		LR	09 01 55.6	
	comp=Z,87nm,21.7s,baz=150,slow=31							
BELA	**Belgrano 2**	**72.39**	**185**	P		**P**	**08 36 03.8**	**+0.5**
FINES	**FINESS Array B**	**73.64**	**18**	P		**P**	**08 36 10.6**	**-0.3**
	comp=Z,3.9nm,1.1s,baz=202,slow=3.0,SNR=2.1							
	comp=Z,3.9nm,1.1s							
TKL	**Tuckaleechee C**	**79.89**	**308**	LR		LR	09 04 33.8	
	comp=Z,161nm,20.9s,baz=94,slow=30							
ARCES	**ARCESS Array B**	**79.91**	**12**	LR		LR	09 11 53.8	
	comp=Z,117nm,21.7s,baz=241,slow=36							

*NEIC **25** 08:25:17.9±1.0, 4°33.5′S×103°08.7′±153°46.6′E±0°07, h26km±7km, mb4.4/13, Error ellipse: s-maj=13.7km s-min=7.5km az=140.0*

*IDC **25** 08:25:25.2±5.4, 4°39.5′S×153°18.6′E, h86km±45km, mb3.7/10, mbtmp4.0/11, MS3.7/4, Error ellipse: s-maj=42.7km s-min=19.1km az=93.0*

ISC 25 08:25:18.7±0.6, 4°30.5′S±0°07.4′×153°36.6′E±0°08.8′, h35km, n35, σ1§07/35, mb4.2/16, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**1.20**	**275**			**Pn**	**08 25 39.8**	**+0.8**
MANU	**Manus Island**	**6.39**	**290**	Pn		**Pn**	**08 26 51.4**	**+0.9**
PMG	**Port Moresby**	**7.98**	**230**			**Pn**	**08 27 12.5**	**+0.3**
PMG	**Port Moresby**	**7.98**	**230**	P		**Pn**	**08 27 15.9**	**+3.7**
	16nm,0.6s,baz=15,slow=11,SNR=4.2							
PMG				S		**Sn**	**08 28 40.2**	**-1.2**
	18nm,0.7s,baz=42,slow=20,SNR=1.4							
PMG				LR		LR	08 30 23.0	
	comp=Z,255nm,21.2s,baz=336,slow=38							
HNR	**Honiara**	**8.29**	**128**	Pn		**Pn**	**08 27 15.0**	**-1.5**
HNR	**Honiara**	**8.29**	**128**	LR		LR	08 30 47.9	
	comp=Z,2μm,19.0s,baz=244,slow=38							
PATS	**Pohnpei**	**12.12**	**24**	Pn		**Pn**	**08 28 08.3**	**-0.7**
COEN	**Coen**	**13.89**	**226**	Pn		**Pn**	**08 28 32.8**	**-0.5**
CTA	**Charters Tower**	**17.15**	**203**	LR		LR	08 35 49.8	
	comp=Z,117nm,18.4s,baz=270,slow=37							
WB0	**Warramunga Arr**	**24.05**	**229**	P		**P**	**08 30 31.1**	**+0.3**
WR0	**Warramunga Arr**	**24.05**	**228**	P		**P**	**08 30 31.5**	**+0.6**
WR0				IAmb		IAmb	08 30 33.0	
	comp=Z,9.5nm,0.9s							
WB2	**Warramunga Arr**	**24.18**	**228**	P		**P**	**08 30 32.7**	**+0.7**
WB2				IAmb		IAmb	08 30 47.5	
	comp=Z,12nm,1.0s							
WRA	**Warramunga Arr**	**24.19**	**228**	P		**P**	**08 30 32.3**	**+0.1**
WRA	**Warramunga Arr**	**24.19**	**228**	P		**P**	**08 30 32.4**	**+0.1**
	comp=Z,5.1nm,0.6s,baz=53,slow=10,SNR=86							
	comp=Z,5.1nm,0.6s							
ARMA	**Armidale**	**26.03**	**183**	P		**P**	**08 30 48.9**	**+0.1**
AS31	**Alice Springs**	**26.89**	**222**	P		**P**	**08 30 56.2**	**-0.5**
ASAR	**Alice Springs**	**26.89**	**222**	P		**P**	**08 30 56.8**	**+0.1**
ASAR	**Alice Springs**	**26.89**	**222**	P		**P**	**08 30 56.5**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=57,slow=9.0,SNR=11							
ASAR				PcP		**PcP**	**08 34 17.7**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=42,slow=4.3,SNR=4.1							
	comp=Z,0.6nm,0.5s							
STKA	**Stephens Creek**	**29.57**	**201**	P		**P**	**08 31 21.1**	**+0.7**
STKA	**Stephens Creek**	**29.57**	**201**	P		**P**	**08 31 20.2**	**-0.2**
	comp=Z,3.4nm,0.8s,baz=19,slow=14,SNR=6.3							
STKA				LR		LR	08 42 50.0	
	comp=Z,123nm,18.3s,baz=23,slow=36							
	comp=Z,3.4nm,0.8s							
FITZ	**Fitzroy Crossi**	**30.39**	**241**	P		**P**	**08 31 27.5**	**-0.3**
FITZ				IAmb		IAmb	08 31 46.3	
	comp=Z,2.3nm,0.9s							
MBWA	**Marble Bar**	**36.70**	**240**	P		**P**	**08 32 22.5**	**-0.2**
MBWA				IAmb		IAmb	08 32 39.7	
	comp=Z,5.8nm,0.8s							
PSA00	**Pilbara Seismi**	**36.77**	**239**	P		**P**	**08 32 23.1**	**-0.1**
PSA00				IAmb		IAmb	08 32 42.5	
	comp=Z,7.0nm,1.1s							
PETK	**Petropavlovsk-**	**57.31**	**3**	P		**P**	**08 35 03.9**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=160,slow=8.9,SNR=1.9							
	comp=Z,0.5nm,0.6s							
VNDA	**Vanda**	**73.31**	**178**	P		**P**	**08 36 47.4**	**+1.2**
VNDA	**Vanda**	**73.31**	**178**	P		**P**	**08 36 46.9**	**+0.7**
	comp=Z,4.0nm,0.6s,baz=327,slow=6.5,SNR=12							
	comp=Z,4.0nm,0.6s							
E19K	**Redstone River**	**79.54**	**17**	P		**P**	**08 37 23.1**	**+1.4**
E19K				IAmb		IAmb	08 37 39.2	
	comp=Z,3.7nm,0.9s							
IMAR	**Indian Mountai**	**79.73**	**19**	P		**P**	**08 37 22.7**	**0.0**
MKAR	**Makanchi Array**	**80.32**	**319**	P		**P**	**08 37 27.1**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=105,slow=4.3,SNR=2.0							
	comp=Z,0.1nm,0.3s							
ZALV	**Zalesovo Beam**	**81.05**	**326**	P		**P**	**08 37 31.5**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=94,slow=8.7,SNR=1.7							
	comp=Z,0.3nm,0.3s							
ILAR	**Eielson Array**	**81.49**	**22**	P		**P**	**08 37 34.2**	**+2.1**
	comp=Z,0.3nm,0.7s,baz=260,slow=6.5,SNR=4.2							
	comp=Z,0.3nm,0.7s							
QSPA	**South Pole Qui**	**85.66**	**180**	P		**P**	**08 37 53.8**	**+0.1**
QSPA				IAmb		IAmb	08 37 54.7	
	comp=Z,4.1nm,1.1s							
QSPA	**South Pole Qui**	**85.66**	**180**	P		**P**	**08 37 53.3**	**-0.4**
	comp=Z,2.3nm,0.4s,baz=54,slow=8.7,SNR=46							
	comp=Z,2.3nm,0.4s							
BVAR	**Borovoye Array**	**89.18**	**323**	P		**P**	**08 38 09.3**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=64,slow=3.4,SNR=4.2							
	comp=Z,0.9nm,0.8s							
TORD	**Torodi Ar. Bea**	**150.68**	**289**	PKPbc		**PKPbc**	**08 45 08.0**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=57,slow=3.1,SNR=19							

*IDC **25** 08:57:08.7±0.9, 30°65N×131°89E, h0km, mb4.1/23, mbtmp4.1/28, ML3.3/6, MS4.4/2, Error ellipse: s-maj=22.6km s-min=15.8km az=150.0*

*NIED **25** 08:57:11.4, 30°60N×132°08E, h61km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-1.84; Mθθ 0.63; Mφφ 1.21; Mrθ-0.04; Mθφ 0.39; Mφr 0.82; Fault plane solution: M₀1.81000×10¹⁵ NP1: φs196.00000°, δ58.00000°, λ-100.00000°. NP2: φs33.00000°, δ33.00000°, λ-75.00000°.*

*JMA **25** 08:57:11.4±0.1, 30°6N±0.4×132°1E±0.9, h61km±2km, MV3.7/40, E OFF TANEGASHIMA ISLAND*

ISC 25 08:57:09.7±2.5, 30°60N±0°05×132°08E±0°06, h11km±14km, n58, σ1§17/69, mb4.2/28, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JTN	**Tanegashima 3**	**0.95**	**273**	*i* P		**Pn**	**08 57 28.8**	**-0.3**
JTN				S		**Sn**	**08 57 41.8**	**-0.8**
JMTN	**Minamitane**	**1.04**	**259**	*i* P		**Pn**	**08 57 30.2**	**-0.1**
JMTN				S		**Sn**	**08 57 44.7**	**-0.1**
JTSR	**Tashiro 2**	**1.14**	**300**	P		**Pb**	**08 57 31.1**	**-0.4**
JNAR	**Kushima--Naru**	**1.15**	**323**	*i* P		**Pn**	**08 57 31.9**	**0.0**
JNAR				S		**Sn**	**08 57 47.1**	**-0.5**
JNKG	**Nichinankitago**	**1.22**	**330**	*i* P		**Pb**	**08 57 32.7**	**-0.1**
JNKG				S		**Sg**	**08 57 48.1**	**-0.9**
JYAK	**Yakushimahirau**	**1.40**	**255**	*i* P		**Pn**	**08 57 35.0**	**-0.2**
JYAK				S		**Sn**	**08 57 53.5**	**-0.4**
JTZ	**Takazaki**	**1.55**	**327**	*i* P		**Pn**	**08 57 37.4**	**+0.1**
JTZ				S		**Sn**	**08 57 56.2**	**-1.1**
JKC	**Kuchinoerabu**	**1.63**	**266**	P		**Pn**	**08 57 38.4**	**0.0**
JKC				*e*S		**Sn**	**08 57 58.8**	**-0.7**
JSU	**Suzuyama**	**1.66**	**303**	*i* P		**Pn**	**08 57 38.6**	**-0.3**
JSU				S		**Sn**	**08 57 59.4**	**-0.8**
JTSN	**Tsuno**	**1.71**	**343**	*i* P		**Pn**	**08 57 39.6**	**+0.1**
JTSN				S		**Sn**	**08 58 00.8**	**-0.6**
JNN	**Nakanoshima**	**2.05**	**249**	*e*P		**Pn**	**08 57 44.3**	**0.0**
JIU3	**Izumi3**	**2.22**	**331**	P		**Pn**	**08 57 47.1**	**+0.6**
JIU3				*e*S		**Sn**	**08 58 13.0**	**-1.0**
JSJ	**Shimokoshiki**	**2.29**	**298**	P		**Pn**	**08 57 46.5**	**-1.0**
JTO	**Tosashimizu**	**2.33**	**15**	P		**Pn**	**08 57 47.1**	**-0.9**
JTO				S		**Sn**	**08 58 12.6**	**-4.2**
UWA2	**Uwa jima 2**	**2.64**	**10**	P		**Pn**	**08 57 51.9**	**-0.5**
UWA2				S		**Sn**	**08 58 20.9**	**-3.6**
JNU	**Nakatsue**	**2.71**	**338**	Pn		**Pn**	**08 57 54.0**	**+0.7**
	15nm,0.3s,baz=199,slow=2.6,SNR=94							
JNU				Sn		**Sn**	**08 58 25.2**	**-1.0**
	7.4nm,0.3s,baz=328,slow=23,SNR=6.7							
	40nm,0.4s							
JOW	**Kunigami**	**5.03**	**223**	Pn		**Pn**	**08 58 25.6**	**+0.4**
	3.7nm,0.3s,baz=109,slow=23,SNR=18							
JOW				Sn		**Sn**	**08 59 19.1**	**-4.2**
	5.4nm,0.3s,baz=226,slow=30,SNR=11							
	9.8nm,0.3s							
JHJ	**Hachijo jima 2**	**7.02**	**67**	Pn		Pn	08 59 00.8	+8.3
	11nm,0.3s,baz=208,slow=15,SNR=2.3							
KSRS	**Korea Array**	**7.65**	**334**	Pn		**Pn**	**08 59 01.9**	**+0.8**
	0.2nm,0.3s,baz=152,slow=15,SNR=4.1							
MJAR	**Matsushiro Arr**	**7.82**	**39**	Pn		**Pn**	**08 59 05.4**	**+1.9**
	0.3nm,0.3s,baz=240,slow=14,SNR=19							
	1.7nm,0.4s							
USRK	**Ussuriysk Ar.**	**13.57**	**360**	Pn		**Pn**	**09 00 23.3**	**+1.1**
	0.1nm,0.3s,baz=178,slow=10,SNR=2.2							
	1.3nm,0.8s							
KLR	**Kul'dur**	**18.61**	**359**	P		**Pn**	**09 01 28.2**	**+1.0**
	0.2nm,0.3s,baz=168,slow=6.6,SNR=15							
	5.1nm,0.8s							
TGY	**Tagaytay City**	**19.36**	**214**	LR		LR	09 08 37.0	
	comp=Z,2μm,20.2s,baz=310,slow=36							
SONM	**Songino Array**	**26.12**	**318**	P		**P**	**09 02 43.3**	**-0.6**
	1.4nm,0.8s,baz=138,slow=9.6,SNR=4.6							
	1.4nm,0.8s							
PETK	**Petropavlovsk-**	**29.21**	**32**	P		**P**	**09 03 12.7**	**+1.4**
	3.1nm,0.9s,baz=216,slow=6.4,SNR=5.1							
	3.1nm,0.9s							
MA2	**Magadan**	**31.60**	**18**	P		**P**	**09 03 33.0**	**+0.7**
	1.0nm,0.3s,baz=166,slow=8.9,SNR=4.5							
	1.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**32.36**	**256**	P		**P**	**09 03 39.9**	**+0.4**
	3.4nm,0.3s,baz=55,slow=6.2,SNR=8.2							
CMAR				LR		LR	09 18 32.4	
	comp=Z,486nm,20.5s,baz=120,slow=40							
	3.4nm,0.3s							
H11N2	**WAKE ISLAND Hy**	**33.20**	**101**	T		T	09 38 50.3	
	baz=296,slow=74,SNR=7.6							
H11N1	**WAKE ISLAND Hy**	**33.20**	**101**	T		T	09 38 51.4	
	baz=296,slow=74,SNR=5.9							
H11N3	**WAKE ISLAND Hy**	**33.21**	**101**	T		T	09 38 52.3	
	baz=296,slow=74,SNR=7.6							
SEY	**Seymchan**	**34.88**	**16**	P		**P**	**09 04 02.2**	**+1.4**
	0.4nm,0.3s,baz=221,slow=13,SNR=4.7							
	0.4nm,0.3s							
ZALV	**Zalesovo Beam**	**41.02**	**319**	PcP		**PcP**	**09 06 52.5**	**-0.2**
	0.4nm,0.4s,baz=98,slow=3.1,SNR=3.9							
TIXI	**Tiksi**	**41.14**	**358**	P		**P**	**09 04 53.3**	**-0.2**
	1.8nm,0.2s,baz=150,slow=7.6,SNR=4.4							
	1.8nm,0.2s							
MKAR	**Makanchi Array**	**41.37**	**307**	P		**P**	**09 04 54.7**	**-1.1**
	0.9nm,0.8s,baz=93,slow=8.2,SNR=6.6							
MKAR				PcP		**PcP**	**09 06 54.4**	**+0.5**
	0.4nm,0.6s,baz=84,slow=6.2,SNR=4.5							
	0.9nm,0.8s							
KURBB	**Kurchatov Arra**	**44.21**	**313**	P		**P**	**09 05 17.9**	**-0.9**
	2.6nm,0.7s,baz=98,slow=9.0,SNR=12							
	2.6nm,0.7s							
NRIK	**Noril'sk**	**46.23**	**340**	P		**P**	**09 05 33.2**	**-1.3**
	2.1nm,0.6s,baz=202,slow=10,SNR=4.4							
	2.1nm,0.6s							
BVAR	**Borovoye Array**	**49.41**	**316**	P		**P**	**09 05 58.3**	**-1.1**
	1.1nm,0.5s,baz=98,slow=9.6,SNR=9.3							
BVAR				PcP		**PcP**	**09 07 22.2**	**+0.5**
	1.6nm,0.9s,baz=99,slow=4.7,SNR=4.2							
	1.1nm,0.5s							
ILAR	**Eielson Array**	**58.98**	**30**	P		**P**	**09 07 09.9**	**+0.9**
	1.6nm,0.8s,baz=270,slow=6.0,SNR=19							
	1.6nm,0.8s							
KBZ	**Khabaz**	**69.03**	**309**	P		**P**	**09 08 15.7**	**+0.3**
	1.4nm,0.7s,baz=119,slow=4.5,SNR=4.0							
	1.4nm,0.7s							
FINES	**FINESS Array B**	**70.73**	**331**	P		**P**	**09 08 25.6**	**0.0**
	3.9nm,0.6s,baz=71,slow=6.2,SNR=32							
	3.9nm,0.6s							
YKA	**Yellowknife Ar**	**73.13**	**26**	P		**P**	**09 08 41.1**	**+1.1**
	1.1nm,0.8s,baz=303,slow=6.1,SNR=20							
	1.1nm,0.8s							
AKASG	**Malin Array Be**	**74.40**	**320**	P		**P**	**09 08 47.2**	**-0.4**
	2.5nm,0.8s,baz=54,slow=6.0,SNR=6.8							
	2.5nm,0.8s							
HFS	**Hagfors**	**76.50**	**333**	P		**P**	**09 08 59.0**	**-0.5**
	2.2nm,0.7s,baz=52,slow=12,SNR=6.0							
	2.2nm,0.7s							
NB2	**NORSAR Subarra**	**76.87**	**335**	P		**P**	**09 09 01.6**	**0.0**
	comp=Z,0.6nm,0.6s,baz=49,slow=5.9							
NOA	**NORSAR Array B**	**76.87**	**335**	P		**P**	**09 09 00.7**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=50,slow=5.7,SNR=4.5							
	comp=Z,1.1nm,0.7s							
BRTR	**Keskin Array B**	**77.01**	**308**	P		**P**	**09 09 02.6**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=99,slow=7.6,SNR=5.1							
	comp=Z,0.9nm,0.8s							
CLL	**Collm**	**82.45**	**326**	*i* PKPbc		**P**	**09 09 33.0**	**+0.9**
RONA	**Rosalia, Austr**	**83.10**	**322**	*e*PcP		**PcP**	**09 09 39.0**	**-1.3**
	comp=Z,3.1nm,0.7s							
CONA	**Conrad Observa**	**83.18**	**323**	*e*P		**P**	**09 09 37.1**	**+1.0**
	comp=Z,2.4nm,0.9s							
GERES	**GERESS Array B**	**83.71**	**324**	P		**P**	**09 09 39.3**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=46,slow=7.6,SNR=5.7							
	comp=Z,1.3nm,0.8s							
MOA	**Molln**	**84.06**	**323**	*e*PcP		**P**	**09 09 41.7**	**+1.2**
	comp=Z,6.1nm,1.2s							
SOKA	**Soboth**	**84.41**	**322**	*e*PcP		**P**	**09 09 43.4**	**+1.0**
	comp=Z,4.6nm,0.7s							
OBKA	**Obir**	**84.78**	**322**	*e*P		**P**	**09 09 44.6**	**+0.3**
	comp=Z,3.0nm,0.8s							
NVAR	**Mina Array Bea**	**85.05**	**48**	P		**P**	**09 09 47.8**	**+1.8**
	comp=Z,1.1nm,0.6s,baz=301,slow=5.3,SNR=12							
	comp=Z,1.1nm,0.6s							
MYKA	**Terra Mystica**	**85.17**	**323**	*e*P		**P**	**09 09 46.5**	**+0.3**
	comp=Z,4.7nm,1.0s							
EKA	**Eskdalemuir Ar**	**86.22**	**336**	P		**P**	**09 09 50.8**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=25,slow=6.4,SNR=4.7							
	comp=Z,1.6nm,0.8s							
PDAR	**Pinedale Array**	**87.64**	**40**	P		**P**	**09 09 59.3**	**+0.6**

MTN **Manton Dam** 6.07 155 P Pn 08 59 37.1 -2.0
baz=6.1,SNR=1000
MTN S Sn 09 00 41.9 -6.0
baz=6.1
MTN **Manton Dam** 6.07 155 P Pn 08 59 38.7 -0.4
MTN **Manton Dam** 6.07 155 Pn Pn 08 59 38.3 -0.9
MTN **Manton Dam** 6.07 155 ⇓P Pn 08 59 37.1 -2.0
BBSI **Bau Bau** 6.16 287 P Pn 08 59 42.3 +2.0
4µm,1.5s,63µm26µm15nm
MMRI **Maumere** 6.33 258 P Pn 08 59 43.9 +1.3
MMRI **Maumere** 6.33 258 Pn Pn 08 59 43.2 +0.6
MMRI **Maumere** 6.33 258 ⇓P Pn 08 59 42.8 +0.3
MMRI **Maumere** 6.33 258 P Pn 08 59 43.1 +0.6
12µm,1.2s,128µm27µm34nm
MMRI S Sn 09 00 55.0 +0.9
12µm,1.2s,128µm27µm34nm
KDU **Kakadu** 6.62 144 P Pn 08 59 44.2 -2.1
baz=6.6,SNR=1000
KDU S Sn 09 00 53.5 -7.4
baz=6.6
KDU **Kakadu** 6.62 144 P Pn 08 59 44.7 -1.7
LBMI **Labuha** 6.71 351 P Pn 08 59 50.3 +2.6
2µm,1.2s,23µm6.9nm
SWI **Sorong** 6.99 23 P Pn 08 59 51.9 +0.6
2µm,0.7s,19µm43µm14nm
SWI S Sn 09 01 10.0 +0.2
2µm,0.7s,19µm43µm14nm
TNTI **Ternate** 8.12 352 P Pn 09 00 09.5 +3.1
TNTI **Ternate** 8.12 352 Pn Pn 09 00 04.3 -2.1
TNTI **Ternate** 8.12 352 ⇑P Pn 09 00 09.9 +3.5
TNTI **Ternate** 8.12 352 P Pn 09 00 09.9 +3.5
320nm,1.2s,4µm6µm
BASI **Baing, Sumba** 8.33 249 P Pn 09 00 08.1 -1.1
9µm,1.0s,93µm21µm
BKSI **Bulukumba** 8.55 283 P Pn 09 00 13.8 +1.7
1µm,1.6s,20µm15µm
KMSI **Cibinong** 9.04 330 P Pn 09 00 22.7 +4.0
1µm,1.3s,13µm
TTSI **Tana Toraja** 9.62 296 P Pn 09 00 29.7 +3.3
581nm,1.2s,8µm16µm
MRSI **Marisa** 10.14 320 P Pn 09 00 37.3 +4.2
568nm,1.2s,5µm12µm
PLAI **Plampang** 10.71 261 P Pn 09 00 40.2 -0.5
PLAI **Plampang** 10.71 261 P Pn 09 00 38.4 -2.3
1µm,0.9s,13µm14µm
FITZ **Fitzroy Crossi** 11.06 194 P Pn 09 00 40.9 -4.4
baz=11,SNR=751
FITZ **Fitzroy Crossi** 11.06 194 Pn Pn 09 00 42.2 -3.1
SGSI **Sangihe** 11.33 345 P Pn 09 00 50.7 +1.9
3µm,1.1s,36µm8µm
TOLI2 **Tolitoli** 11.37 317 P Pn 09 00 50.9 +1.5
TOLI2 **Tolitoli** 11.37 317 Pn Pn 09 00 47.9 -1.4
MPSI **Mapaga** 11.46 311 P P 09 00 54.7 -3.1
132nm,1.4s,5µm12µm
TWSI **Taliwang, Sumb** 11.58 262 P Pn 09 00 50.8 -1.3
526nm,1.0s,7µm12µm
MMPI **Merauke** 11.83 96 P Pn 09 00 54.0 -1.4
6µm,1.2s,64µm14µm
GENI **Genyem** 12.54 69 P Pn 09 01 05.4 +0.9
GENI **Genyem** 12.54 69 ⇓P Pn 09 01 03.1 -1.4
GENI **Genyem** 12.54 69 P Pn 09 01 05.1 +0.6
1µm,0.9s,17µm16µm
TABU **Tabubil** 12.82 82 P Pn 09 01 08.5 +0.4
BKB **Balikpapan** 13.03 297 P P 09 01 14.3 -1.0
BKB **Balikpapan** 13.03 297 Pn Pn 09 01 10.8 0.0
BKB **Balikpapan** 13.03 297 ⇓P P 09 01 16.2 +0.9
BKB **Balikpapan** 13.03 297 P P 09 01 16.9 +1.6
741nm,1.1s,10µm16µm
JAY **Jayapura** 13.07 69 P Pn 09 01 11.1 -0.2
400nm,0.9s,4µm13µm
SMKI **Samarinda** 13.16 301 P Pn 09 01 14.0 +1.5
607nm,1.4s,9µm15µm
DNP **Denpasar** 13.22 263 P P 09 01 16.1 -1.3
586nm,0.9s
WB0 **Warramunga Arr** 13.63 156 Pn Pn 09 01 14.5 -3.8
WRAB **Tennant Creek** 13.76 156 Pn 09 01 16.6 -3.5
WRAB **Tennant Creek** 13.76 156 P Pn 09 01 16.6 -3.5
WRA **Warramunga Arr** 13.77 156 Pn Pn 09 01 17.2 -2.9
WRA **Warramunga Arr** 13.77 156 P Pn 09 01 17.2 -2.9
WRA **Warramunga Arr** 13.77 156 P Pn 09 01 16.9 -3.2
66nm,0.4s,baz=341,slow=13,SNR=388
WRA S Sn 09 03 40.8 -12
754nm,0.7s,baz=328,slow=25,SNR=13
WRA LR LR 09 07 17.4
comp=Z,6µm,18.1s,baz=337,slow=40
WRA P3KPbc 09 37 04.6
0.6nm,0.9s,baz=149,slow=3.7,SNR=2.5
WB2 **Warramunga Arr** 13.77 156 Pn Pn 09 01 17.6 -2.6
WR0 **Warramunga Arr** 13.86 156 Pn Pn 09 01 17.8 -3.6
ABJI **Asem Bagus** 14.14 267 P Pn 09 01 25.6 +0.8
506nm,1.3s,9µm15µm
JAGI **Jajag, Banyuwa** 14.25 264 P P 09 01 27.9 -0.9
JAGI **Jajag, Banyuwa** 14.25 264 Pn Pn 09 01 24.1 -2.1
JAGI **Jajag, Banyuwa** 14.25 264 ⇑P Pn 09 01 25.2 -1.0
JAGI **Jajag, Banyuwa** 14.25 264 P Pn 09 01 26.2 0.0
302nm,0.7s,6µm11µm
DAV **Davao City (W)** 14.59 348 P P 09 01 32.5 -0.1
DAV **Davao City (W)** 14.59 348 P P 09 01 32.3 -0.3
199nm,0.5s,baz=108,slow=4.0,SNR=9.6
DAV **Davao City (W)** 14.59 348 P P 09 01 33.7 +1.1
BLJI **Banyuglugur** 14.78 267 P Pn 09 01 33.5 +0.8
654nm,0.7s,6µm12µm
GMJI **Gumukmas** 14.94 265 P Pn 09 01 33.9 -0.9
BWJI **Bawean** 15.80 274 P P 09 01 48.6 +2.6
682nm,1.0s,12µm
COEN **Coen** 15.86 116 P Pn 09 01 44.9 -1.2
baz=16,SNR=167
COEN **Coen** 15.86 116 P Pn 09 01 45.2 -0.9
COEN **Coen** 15.86 116 P Pn 09 01 44.8 -1.4
COEN **Coen** 15.86 116 ⇑P Pn 09 01 44.9 -1.2
GRJI **Gresik** 15.89 270 P P 09 01 47.4 +0.4
1µm,1.0s,9µm13µm
MBWA **Marble Bar** 16.15 211 P Pn 09 01 49.5 -0.1
MBWA **Marble Bar** 16.15 211 P Pn 09 01 47.8 -1.9
MBWA **Marble Bar** 16.15 211 ⇓P Pn 09 01 47.5 -2.2
MBWA **Marble Bar** 16.15 211 P Pn 09 01 48.9 -0.8
PSA00 **Pilbara Seismi** 16.44 210 P P 09 01 52.1 -0.9
PSA00 **Pilbara Seismi** 16.44 210 P P 09 01 52.7 -0.4
PWJI **Pagerwojo** 16.55 266 P P 09 01 53.2 -1.1
261nm,0.8s,4µm
NGJI **Ngawi** 16.89 269 P Pn 09 01 59.8 +1.2
204nm,0.9s,20µm
QIS **Mount Isa** 17.00 142 P P 09 01 58.6 -0.6
baz=17,SNR=224
QIS **Mount Isa** 17.00 142 P P 09 01 59.3 +0.1
AS31 **Alice Springs** 17.06 163 P P 09 02 00.2 +0.3
ASAR **Alice Springs** 17.06 163 P P 09 01 59.5 -0.3
ASAR **Alice Springs** 17.06 163 P Pn 09 02 00.8 +0.1
560nm,0.6s,baz=336,slow=9.7,SNR=1764
ASAR S S 09 05 01.2 -8.6
139nm,0.5s,baz=324,slow=19,SNR=7.4
ASAR LR LR 09 08 39.9
comp=Z,2µm,19.4s,baz=333,slow=37
ASAR P3KPbc 09 36 54.1
2.6nm,1.0s,baz=181,slow=4.5,SNR=9.7
ASAR P4KP 09 45 43.8
3.6nm,0.9s,baz=343,slow=4.9,SNR=21
AS01 **Alice Springs** 17.07 163 P Pn 09 02 01.0 +0.2
WRKA **Warakurna** 17.62 181 P P 09 02 06.0 +0.1
baz=18,SNR=949
WRKA **Warakurna** 17.62 181 P Pn 09 02 06.7 -0.6
WRKA **Warakurna** 17.62 181 ⇓P P 09 02 05.9 0.0
UGM **Wanagama** 17.82 267 P P 09 02 07.2 -1.0
UGM **Wanagama** 17.82 267 P Pn 09 02 09.7 -0.1
222nm,0.6s,9µm
SMRI **Semarang** 17.91 270 P Pn 09 02 12.4 +1.6
SMRI **Semarang** 17.91 270 P P 09 02 09.5 +0.3
SMRI **Semarang** 17.91 270 P Pn 09 02 10.3 -0.5
373nm,1.1s,14µm
YOGI **Yogyakarta** 18.05 267 P P 09 02 11.4 +0.7
251nm,1.4s
KKM **Kota Kinabalu** 18.07 317 P Pn 09 02 14.7 +2.0
KKM **Kota Kinabalu** 18.07 317 P P 09 02 10.6 -0.5
KKM **Kota Kinabalu** 18.07 317 ⇑P Pn 09 02 13.9 +1.2
STKI **Sintang** 18.49 293 P Pn 09 02 19.2 +1.6
858nm,1.2s,17µm12µm
PMG **Port Moresby** 18.58 98 P P 09 02 16.5 -0.1
PMG **Port Moresby** 18.58 98 P Pn 09 02 17.9 -0.8
1µm,0.9s,baz=293,slow=7.1,SNR=23
PMG S S 09 05 34.1 -6.2
108nm,1.0s,baz=336,slow=17,SNR=1.6
PMG LR LR 09 09 16.3
comp=Z,3µm,21.5s,baz=268,slow=36
MTSU **Mount Surprise** 18.79 126 P P 09 02 19.7 +0.9
baz=19,SNR=44
MTSU **Mount Surprise** 18.79 126 P P 09 02 19.9 +1.1
AUCSH **Cairns State H** 19.38 121 P Pn 09 02 28.0 0.0
KPJI **Karang Pucung** 19.40 269 P P 09 02 24.1 -1.3
232nm,1.2s,4µm
MANU **Manus Island** 19.52 75 P P 09 02 28.1 +1.3
MANU **Manus Island** 19.52 75 P P 09 02 27.9 +1.1
MANU **Manus Island** 19.52 75 ⇓P Pn 09 02 29.8 0.0
CMJI **Cimerak** 19.88 267 P P 09 02 29.0 -1.6
303nm,0.8s,4µm7µm
SKM **Kuching** 20.14 295 P P 09 02 33.5 +0.2
GIRL **Giralia** 20.50 221 P P 09 02 39.0 +1.9
baz=20,SNR=38
GIRL **Giralia** 20.50 221 P Pn 09 02 39.9 -1.4
GIRL **Giralia** 20.50 221 P P 09 02 37.9 +0.7
GIRL **Giralia** 20.50 221 ⇑P P 09 02 39.2 +2.0
BBJI **Bungbulang** 20.67 268 P P 09 02 38.2 -0.9
LEM **Lembang** 20.72 270 P P 09 02 40.8 +1.0
63nm,0.5s,baz=34,slow=11,SNR=8.8
LEM S S 09 06 15.8 -7.0
54nm,0.7s,baz=164,slow=14,SNR=2.0
LEM LR LR 09 13 19.4
comp=Z,2µm,18.1s,baz=81,slow=44
63nm,0.5s
LEM **Lembang** 20.72 270 P P 09 02 40.5 +0.7
135nm,1.3s,5µm
TV1H **Townsville Har** 21.38 126 P P 09 02 47.7 +1.1
MEEK **Meekatharra** 21.38 205 P P 09 02 46.1 -0.6
baz=21,SNR=116
MEEK **Meekatharra** 21.38 205 P P 09 02 47.0 +0.4
CTA **Charters Tower** 21.39 128 P P 09 02 47.9 +1.2
CTA **Charters Tower** 21.39 128 P P 09 02 47.5 +0.8
141nm,0.8s,baz=270,slow=2.5,SNR=87
CTA S S 09 06 35.5 +0.9
78nm,1.0s,baz=270,slow=5.1,SNR=11
CTA LR LR 09 12 00.3
comp=Z,6µm,19.0s,baz=359,slow=39
141nm,0.8s
CTAO **Charters Tower** 21.39 128 P P 09 02 47.7 +1.0
CTAO **Charters Tower** 21.39 128 P P 09 02 46.7 0.0
CTAO **Charters Tower** 21.39 128 ⇑P P 09 02 47.5 +0.8
CTAO **Charters Tower** 21.39 128 P P 09 02 46.7 0.0
OOD **Oodnadatta** 21.47 162 P P 09 02 47.5 0.0
CBJI **Citeko** 21.50 271 P P 09 02 47.5 -0.5
218nm,0.5s,8µm
DBJI **Dramaga** 21.60 271 P P 09 02 49.6 +0.6
108nm,1.2s,14µm8µm
AUAYR **Ayr State High** 22.04 125 P P 09 02 54.7 +1.3
TGY **Tagaytay City** 22.57 341 P P 09 03 00.2 +1.6
1µm,0.7s,baz=242,slow=3.9,SNR=17
1µm,0.7s
XMI **Christmas Isla** 22.74 260 P P 09 03 00.9 +0.7
XMI **Christmas Isla** 22.74 260 ⇑P P 09 02 59.7 -0.5
XMIS **Christmas Isla** 22.78 260 P P 09 03 00.4 -0.2
XMIS **Christmas Isla** 22.78 260 P P 09 02 59.7 -0.8
PPBI **Pangkal Pinang** 22.85 282 P P 09 03 02.3 +1.0
262nm,1.3s,12µm
FORT **Forrest** 23.34 181 P P 09 03 05.6 0.0
baz=23,SNR=144
FORT **Forrest** 23.34 181 P P 09 03 06.2 +0.7
FORT **Forrest** 23.34 181 P P 09 03 05.5 0.0
FORT **Forrest** 23.34 181 ⇓P P 09 03 05.5 0.0
INKA **Innaminka** 23.39 152 P P 09 03 07.4 +1.4
MULG **Mulgathing** 23.43 168 P P 09 03 07.1 +0.8
KASI **Kota Agung** 23.91 273 P P 09 03 09.3 -1.6
69nm,1.2s,3µm
PMBI **Palembang** 24.02 279 P P 09 03 15.3 +3.4
PMBI **Palembang** 24.02 279 P P 09 03 14.4 +2.5
577nm,0.9s,9µm
QLP **Quilpie** 24.31 144 P P 09 03 14.6 +0.2
baz=24,SNR=89
QLP **Quilpie** 24.31 144 P P 09 03 15.5 +1.1
QLP **Quilpie** 24.31 144 ⇓P P 09 03 14.6 +0.2
LWLI **Liwa** 24.40 274 P P 09 03 16.9 +1.4
165nm,1.0s,6µm
MORW **Morawa** 24.61 207 P P 09 03 17.4 +0.3
baz=25,SNR=64
MORW **Morawa** 24.61 207 P P 09 03 17.4 +0.3
MORW **Morawa** 24.61 207 P P 09 03 16.9 -0.2
MORW IAmb IAmb 09 03 21.1
comp=Z,212nm,0.8s
MORW **Morawa** 24.61 207 ⇑P P 09 03 17.5 +0.3
KMBL **Kambalda** 24.71 194 P P 09 03 17.9 -0.1
baz=25,SNR=245
KMBL **Kambalda** 24.71 194 P P 09 03 17.9 -0.1
LCRK **Leigh Creek** 24.75 160 P P 09 03 19.0 +0.7
DSRI **Dabo** 24.79 285 P P 09 03 20.3 +1.4
comp=Z,148nm,1.3s,comp=Z,3µmcomp=Z,8µm
TPRI **Tanjung Pinang** 25.27 289 P P 09 03 25.0 +1.7
comp=Z,161nm,0.9s,comp=Z,6µm
MNAI **Manna** 25.57 275 P P 09 03 26.5 +0.5
MNAI IAmb IAmb 09 04 11.0
comp=Z,249nm,1.2s
MNAI **Manna** 25.57 275 P P 09 03 27.8 +1.8
comp=Z,206nm,1.1s
BLDU **Ballidu** 25.67 204 P P 09 03 26.4 -0.2
baz=26,SNR=70
BLDU **Ballidu** 25.67 204 P P 09 03 27.6 +0.9
KLBR **Kellerberrin** 26.14 201 P P 09 03 31.1 +0.2
baz=25,SNR=45
KLBR **Kellerberrin** 26.14 201 P P 09 03 31.5 +0.6
MYKOM **Kota Tinggi** 26.20 289 P P 09 03 31.3 -0.3
MYKOM IAmb IAmb 09 03 36.5
comp=Z,373nm,1.3s
BBOO **Buckleboo** 26.32 166 P P 09 03 32.2 -0.2
baz=26,SNR=228
BBOO **Buckleboo** 26.32 166 P P 09 03 32.5 0.0
BBOO **Buckleboo** 26.32 166 P P 09 03 32.8 +0.3
GUMO **Guam** 26.38 38 P P 09 03 32.9 -0.3
GUMO IAmb IAmb 09 03 34.2
comp=Z,536nm,1.1s
GUMO **Guam** 26.38 38 P P 09 03 32.9 -0.3
GUMO pmax pmax
comp=Z,536nm,1.2s
GUMO **Guam** 26.38 38 P P 09 03 33.2 0.0
comp=Z,135nm,0.5s,baz=203,slow=5.4,SNR=5.7
comp=Z,135nm,0.5s
RK1H **Rockhampton Ha** 26.49 129 P P 09 03 35.1 +1.0
WHYH **Whyalla** 26.93 163 P P 09 03 38.8 +0.8
MUN **Mundaring** 27.07 203 P P 09 03 38.9 -0.3
baz=27,SNR=26
MUN **Mundaring** 27.07 203 P P 09 03 39.3 +0.1
RMQ **Roma** 27.11 137 P P 09 03 39.8 +0.1
baz=27,SNR=4.0
RMQ **Roma** 27.11 137 P P 09 03 41.8 +2.2
PTPS **Port Pirie** 27.19 162 P P 09 03 41.7 +1.5
GD1S **Gladstone Soft** 27.26 130 P P 09 03 42.4 +1.4
STKA **Stephens Creek** 27.32 155 P P 09 03 41.3 -0.1
baz=27,SNR=358
STKA **Stephens Creek** 27.32 155 P P 09 03 41.0 -0.4
STKA **Stephens Creek** 27.32 155 P P 09 03 41.6 +0.2
STKA **Stephens Creek** 27.32 155*c* *i*P P 09 03 41.9 +0.5
STKA **Stephens Creek** 27.32 155 P P 09 03 41.3 -0.1
comp=Z,307nm,0.8s,baz=326,slow=9.4,SNR=396
STKA LR LR 09 15 54.3
comp=Z,3µm,19.2s,baz=325,slow=39
comp=Z,307nm,0.8s
NWAO **Narrogin (SRO)** 27.54 201 P P 09 03 43.4 +0.1
baz=28,SNR=58
NWAO P P 09 03 43.4 +0.1
baz=28,SNR=58
NWAO **Narrogin (SRO)** 27.54 201 P P 09 03 43.9 +0.5
NWAO **Narrogin (SRO)** 27.54 201 P P 09 03 43.7 +0.3
NWAO IAmb IAmb 09 04 21.9
comp=Z,643nm,1.7s
NWAO **Narrogin (SRO)** 27.54 201 P P 09 03 43.6 +0.3
comp=Z,80nm,0.8s,baz=37,slow=7.5,SNR=61
NWAO LR LR 09 15 23.7
comp=Z,3µm,19.6s,baz=25,slow=37
comp=Z,80nm,0.8s
NWAO **Narrogin (SRO)** 27.54 201 P P 09 03 43.7 +0.3
DLV **T Lat** 27.61 314 P P 09 03 45.6 +1.2
DLV **T Lat** 27.61 314 P P 09 03 45.8 +1.4
HTT **Hallett** 27.72 161 P P 09 03 45.2 +0.2
baz=28,SNR=160
HTT **Hallett** 27.72 161 P P 09 03 45.9 +0.9
HTT **Hallett** 27.72 161 ⇑P P 09 03 45.4 +0.4
EIDS **Eidsvold** 28.05 132 P P 09 03 48.0 -0.1
baz=28,SNR=19
EIDS **Eidsvold** 28.05 132 P P 09 03 48.0 -0.1
EIDS **Eidsvold** 28.05 132 P P 09 03 47.2 -0.9
EIDS **Eidsvold** 28.05 132 ⇑P P 09 03 46.9 -1.2
BKNI **Bangkinang** 28.41 284 P P 09 03 53.0 +1.6
BKNI **Bangkinang** 28.41 284 P P 09 03 52.7 +1.3
comp=Z,100nm,0.5s,comp=Z,7µmcomp=Z,4µm
AULRC **Lightning Ridg** 28.64 143 P P 09 03 53.8 +0.6

PDSI **Padang** 28.66 282 P P 09 03 52.8 -0.8
comp=Z,25nm,1.0s,comp=Z,4µm
CMSA **Cobar Meteorol** 28.95 149 P P 09 03 56.4 +0.4
baz=29,SNR=146
CMSA **Cobar Meteorol** 28.95 149 P P 09 03 56.8 +0.9
GHSS **Government Hou** 29.00 163 P P 09 03 57.6 +1.3
RKGY **Rocky Gully** 29.15 200 P P 09 03 59.5 +1.9
baz=29,SNR=19
RKGY **Rocky Gully** 29.15 200 P P 09 03 59.6 +1.9
AUALB **St Joseph's Co** 29.22 198 P P 09 04 00.2 +2.0
IPM **Ipoh** 29.81 292 P P 09 04 05.4 +1.6
IPM **Ipoh** 29.81 292 P P 09 04 04.3 +0.5
TW1H **Toowoomba 1 Ha** 29.99 135 P P 09 04 06.9 +1.6
KULM **Kulim** 30.48 294 P P 09 04 09.8 +0.1
KULM **Kulim** 30.48 294 ⇑P P 09 04 10.3 +0.7
TWGBT **Beinan** 30.82 347 P P 09 04 12.3 -0.2
TWG **Pinlang** 30.83 347 P P 09 04 10.8 -1.8
AUDCS **Dubbo College** 31.07 146 P P 09 04 15.4 +0.8
HNR **Honiara** 31.18 96 P P 09 04 17.0 +1.2
HNR **Honiara** 31.18 96 P P 09 04 15.8 -0.1
HNR IAmb IAmb 09 05 12.6
comp=Z,404nm,1.1s
HNR **Honiara** 31.18 96 P P 09 04 15.8 -0.1
HNR pmax pmax
comp=Z,404nm,1.1s
HNR **Honiara** 31.18 96 LR LR 09 17 54.5
comp=Z,16µm,18.6s,baz=261,slow=38
HNR **Honiara** 31.18 96 P P 09 04 15.9 +0.1
YULB **Yu-li** 31.33 347 P P 09 04 16.5 -0.4
YULB **Yu-li** 31.33 347 P P 09 04 14.1 -2.8
TPUB **Ta-pu** 31.39 346 P P 09 04 17.3 -0.2
TPUB **Ta-pu** 31.39 346 P P 09 04 15.9 -1.6
GC1S **Gold Coast 1 S** 31.45 134 P P 09 04 20.6 +2.6
AUPHS **Peel High Scho** 31.59 141 P P 09 04 20.8 +1.5
ARMA **Armidale** 31.60 140 P P 09 04 21.0 +1.6
baz=32,SNR=51
ARMA **Armidale** 31.60 140 P P 09 04 21.0 +1.6
ARMA **Armidale** 31.60 140 P P 09 04 20.6 +1.2
ARMA **Armidale** 31.60 140 ⇑P P 09 04 20.7 +1.2
ARPS **Mount Arapiles** 31.74 159 P P 09 04 21.3 +0.9
baz=32,SNR=94
ARPS **Mount Arapiles** 31.74 159 P P 09 04 21.7 +1.3
SSLB **Suanglung** 31.79 347 P P 09 04 20.1 -0.9
SSLB **Suanglung** 31.79 347 P P 09 04 19.2 -1.7
QIZ **Qiongzhong** 32.00 325 P P 09 04 24.3 +1.4
QIZ sP **sP** 09 05 09.0 -3.3
QIZ S S 09 09 21.0 -1.9
QIZ sS **sS** 09 10 19.0 -2.1
QIZ pmax pmax
comp=Z,110nm,1.6s
QIZ LR LR
comp=Z,1µm,13.1s
QIZ LR LR
comp=Z,1µm,15.1s
QIZ LR LR
comp=Z,2µm,17.7s
QIZ **Qiongzhong** 32.00 325 P P 09 04 24.3 +1.4
QIZ **Qiongzhong** 32.00 325 P P 09 04 23.3 +0.5
QIZ **Qiongzhong** 32.00 325 P P 09 04 24.2 +1.4
QIZ PcP **PcP** 09 07 11.0 +1.9
GSI **Gunungsitoli** 32.01 284 P P 09 04 25.5 +2.4
GSI **Gunungsitoli** 32.01 284 P P 09 04 22.6 -0.5
GSI IAmb IAmb 09 04 26.9
comp=Z,92nm,0.8s
GSI **Gunungsitoli** 32.01 284 ⇑P P 09 04 23.5 +0.3
GSI **Gunungsitoli** 32.01 284 P P 09 04 22.9 -0.2
comp=Z,140nm,1.0s
NACB **Ninganchiao** 32.02 348 P P 09 04 22.1 -0.9
NACB **Ninganchiao** 32.02 348 P P 09 04 21.9 -1.1
YOJ **Yonaguni jima** 32.04 351 P P 09 04 23.7 +0.6
YOJ **Yonaguni jima** 32.04 351 P P 09 04 23.3 +0.2
YOJ IAmb IAmb 09 04 24.5
comp=Z,199nm,0.7s
YOJ **Yonaguni jima** 32.04 351 ⇑P P 09 04 23.1 -0.1
YOJ **Yonaguni jima** 32.04 351 P P 09 04 23.3 +0.2
YOJ pmax pmax
comp=Z,199nm,0.7s
AUMAG **Moama Anglican** 32.27 155 P P 09 04 27.6 +2.5
KCSI **Kotacane, Aceh** 32.49 288 P P 09 04 26.2 -1.1
comp=Z,43nm,1.2s,comp=Z,1µm
YNG **Young** 32.52 148 P P 09 04 28.6 +1.3
baz=33,SNR=18
YNG **Young** 32.52 148 P P 09 04 29.0 +1.7
YHNB **Yeheng** 32.55 348 P P 09 04 27.6 -0.1
YHNB **Yeheng** 32.55 348 P P 09 04 27.0 -0.7
HKPS **Hong Kong Po S** 32.61 335 P P 09 04 29.6 +1.5
HKPS **Hong Kong Po S** 32.61 335 P P 09 04 27.4 -0.8
HKPS IAmb IAmb 09 04 30.6
comp=Z,433nm,1.5s
SRIT **Nakonsritamara** 32.85 298 P P 09 04 32.2 +1.8
SRIT **Nakonsritamara** 32.85 298 P P 09 04 31.6 +1.2
SRIT IAmb IAmb 09 04 35.2
comp=Z,160nm,1.0s
PATS **Pohnpei** 32.90 65 P P 09 04 30.5 -0.4
baz=33,SNR=3.6
KNMB **Chin-men Tao** 33.09 343 P P 09 04 32.0 -0.3
KNMB IAmb IAmb 09 04 34.0
comp=Z,318nm,1.0s
SURA **Surathani** 33.10 299 P P 09 04 35.3 +2.8
BRAT **Ballarat** 33.20 157 P P 09 04 34.6 +1.5
MGCD **Mangrove Creek** 33.21 144 P P 09 04 35.7 +2.4
baz=33,SNR=8.7
NTLH **Newcastle Hard** 33.34 143 P P 09 04 36.2 +1.8
SYDH **Sydney Hard Ro** 33.40 145 P P 09 04 36.6 +1.7
QZH **Quanzhou** 33.49 344 ⇑*i*P P 09 04 36.0 +0.3
QZH S S 09 09 43.8 -2.1
QZH pmax pmax
comp=Z,190nm,1.1s
CAN **Canberra** 33.63 149 P P 09 04 38.9 +1.9
CAN **Canberra** 33.63 149 P P 09 04 37.8 +0.9
CAN IAmb IAmb 09 04 40.0
comp=Z,534nm,1.5s
CAN **Canberra** 33.63 149 ⇑P P 09 04 38.5 +1.5
CAN **Canberra** 33.63 149 P P 09 04 37.8 +0.9
CAN pmax pmax
comp=Z,534nm,1.5s
CAN **Canberra** 33.63 149 P P 09 04 38.4 +1.5
CAN pP **pP** 09 05 10.9 +0.5
CAN ScP **ScP** 09 10 43.9 +0.4
CNB **Canberra Magne** 33.81 148 P P 09 04 39.6 +1.1
baz=34,SNR=20
CNB **Canberra Magne** 33.81 148 P P 09 04 39.7 +1.1
MLBS **Spotswood, Mel** 33.82 156 P P 09 04 41.4 +3.0
TOO **Toolangi** 33.84 155 P P 09 04 40.6 +1.9
baz=34,SNR=101
TOO **Toolangi** 33.84 155 P P 09 04 41.0 +2.3
TOO **Toolangi** 33.84 155 P P 09 04 40.2 +1.5
TOO **Toolangi** 33.84 155 ⇑P P 09 04 40.6 +1.9
TOO **Toolangi** 33.84 155 P P 09 04 40.2 +1.5
TOO pmax pmax
comp=Z,493nm,1.3s
GEXS **Deakin Univers** 33.90 157 P P 09 04 41.5 +2.3
WOLH **Wollongong Har** 33.94 146 P P 09 04 39.6 0.0
JOW **Kunigami** 33.95 360 P P 09 04 40.8 +1.1
JOW **Kunigami** 33.95 360 P P 09 04 40.4 +0.6
JOW **Kunigami** 33.95 360 ⇑P P 09 04 40.6 +0.9
JOW **Kunigami** 33.95 360 P P 09 04 40.5 +0.8
comp=Z,291nm,0.9s,baz=184,slow=8.2,SNR=55
comp=Z,291nm,0.9s
MLSI **Meulaboh, Aceh** 34.03 289 P P 09 04 39.6 -1.0
comp=Z,97nm,0.5s
AUSMG **Snowy Mountain** 34.30 151 P P 09 04 45.0 +2.2
MILA **Mila** 35.07 151 P P 09 04 50.7 +1.4
baz=35,SNR=14
MILA **Mila** 35.07 151 P P 09 04 50.6 +1.3
MILA **Mila** 35.07 151 ⇑P P 09 04 50.8 +1.4
NONG **Nongkai** 35.53 316 P P 09 04 54.9 +1.5
JCJ **Chichijima** 36.70 21 P P 09 05 02.9 -0.3
JCJ IAmb IAmb 09 05 05.6
comp=Z,170nm,0.6s
JCJ **Chichijima** 36.70 21 ⇑P P 09 05 02.4 -0.9
JCJ **Chichijima** 36.70 21 P P 09 04 57.9 -5.4
comp=Z,114nm,0.4s,baz=243,slow=7.8,SNR=15
GULI **GuiLin** 36.91 332 ⇑P P 09 05 07.3 +2.3
GULI S S 09 10 35.8 -2.4
GULI pmax pmax
comp=Z,210nm,1.5s
GULI LR LR
comp=Z,1µm,21.3s
GULI LR LR
comp=Z,2µm,15.9s
GULI LR LR
comp=Z,1µm,17.4s

KOUNC	Koumac, New Ca	37.04	115	P	P	09 05 07.4	+1.2
KOUNC	Koumac, New Ca	37.04	115	P	P	09 05 06.4	+0.2
KOUNC				IAmb	IAmb	09 05 08.8	
	comp=Z,453nm,1.9s						
KOUNC	Koumac, New Ca	37.04	115	⇓P	P	09 05 07.5	+1.2
SLVN	Son La	37.33	320	P	P	09 05 09.6	+0.9
AULHS	Lilydale High	37.67	157	P	P	09 05 13.1	+1.8
GLAD	Gladstone	37.76	156	P	P	09 05 13.8	+1.8
CORO	Coronation Par	37.81	157	P	P	09 05 13.9	+1.5
PHRA	Phrae	37.89	313	P	P	09 05 14.9	+1.5
CNSH	ChangSha	38.37	338	⇑P	P	09 05 18.3	+1.1
CNSH				S	S	09 10 57.3	-2.8
CNSH				pmax	pmax		
	comp=Z,170nm,1.2s						
CNSH				LR	LR		
	comp=Z,890nm,13.0s						
CNSH				LR	LR		
	comp=Z,450nm,12.4s						
CNSH				LR	LR		
	comp=Z,680nm,29.0s						
MOO	Moorlands	38.68	158	P	P	09 05 22.0	+2.3
	baz=39,SNR=6.1						
MOO	Moorlands	38.68	158	P	P	09 05 22.4	+2.7
CM31	Chiang Mai Arr	38.81	312	P	P	09 05 22.7	+1.6
CM31				IAmb	IAmb	09 05 24.3	
	comp=Z,372nm,1.2s						
CMAR	Chiang Mai Arr	38.81	312	P	P	09 05 21.6	+0.5
CMAR	Chiang Mai Arr	38.81	312	P	P	09 05 22.8	+1.7
	comp=Z,92nm,1.0s,baz=144,slow=7.2,SNR=274						
CMAR				PcP	PcP	09 07 31.5	+2.2
	comp=Z,30nm,0.8s,baz=165,slow=2.8,SNR=9.9						
CMAR				ScP	ScP	09 11 02.9	+0.1
	comp=Z,2.4nm,0.6s,baz=132,slow=1.3,SNR=2.1						
CMAR				PKiKP	PKiKP	09 14 43.0	+0.3
	comp=Z,2.5nm,0.8s,baz=276,slow=1.4,SNR=4.9						
	comp=Z,92nm,1.0s						
SSE	Sheshan	38.84	350	P	P	09 05 22.0	+0.9
SSE				S	S	09 11 05.5	-1.6
SSE				pmax	pmax		
	comp=Z,100nm,1.3s						
SSE				pmax	pmax		
	comp=Z,460nm,4.0s						
SSE				LR	LR		
	comp=Z,190nm,14.1s						
SSE				LR	LR		
	comp=Z,200nm,14.4s						
SSE	Sheshan	38.84	350	P	P	09 05 21.8	+0.7
CRAI	Chiangrai	38.92	315	P	P	09 05 22.5	+0.5
CRAI				IAmb	IAmb	09 05 25.2	
	comp=Z,316nm,1.2s						
NOUC	Port Laguerre	39.27	116	P	P	09 05 26.3	+1.4
NOUC	Port Laguerre	39.27	116	P	P	09 05 26.0	+1.0
NOUC				PcP	PcP	09 07 32.3	+1.6
DZM	Mont Dzumac	39.39	116	P	P	09 05 27.9	+1.9
DZM	Mont Dzumac	39.39	116	P	P	09 05 26.7	+0.7
DZM				IAmb	IAmb	09 05 28.7	
	comp=Z,386nm,1.6s						
DZM	Mont Dzumac	39.39	116	⇑P	P	09 05 27.1	+1.1
DZM	Mont Dzumac	39.39	116	eP	P	09 05 20.7	-5.3
	comp=Z,278nm,28.1s						
DZM				eS	S	09 11 17.0	+1.0
	comp=Z,2µm,29.8s						
DZM				eSS	SS	09 14 14.7	-2.0
	comp=Z,2µm,25.6s						
DZM	Mont Dzumac	39.39	116	P	P	09 05 27.3	+1.3
	comp=Z,94nm,0.8s,baz=290,slow=7.2,SNR=26						
DZM				LR	LR	09 22 51.7	
	comp=Z,1µm,18.1s,baz=300,slow=38						
	comp=Z,94nm,0.8s						
DZM	Mont Dzumac	39.39	116	P	P	09 05 27.3	+1.3
ONTNC	Ouen Toro	39.46	116	P	P	09 05 28.2	+1.7
ONTNC	Ouen Toro	39.46	116	⇑P	P	09 05 27.6	+1.1
GYA	Guiyang	39.70	329	⇑iP	P	09 05 29.5	+1.0
GYA				pP	pP	09 06 02.0	+0.5
GYA				sP	sP	09 06 23.8	+5.0
GYA				PP	PP	09 07 02.5	-0.7
GYA				PcP	PcP	09 07 34.3	+2.2
GYA				ScP	ScP	09 11 08.8	+2.5
GYA				S	S	09 11 16.0	-4.5
GYA				sS	sS	09 12 14.5	-5.5
GYA				pmax	pmax		
	comp=Z,220nm,1.2s						
GYA				LR	LR		
	comp=Z,750nm,14.1s						
GYA				LR	LR		
	comp=Z,640nm,19.0s						
GYA				LR	LR		
	comp=Z,1µm,17.5s						
LIFNC	LIFOU	39.77	114	P	P	09 05 29.6	+0.5
LIFNC	LIFOU	39.77	114	P	P	09 05 30.1	+1.1
OUENC	Ouen Island, N	39.84	116	P	P	09 05 30.8	+1.2
OUENC	Ouen Island, N	39.84	116	P	P	09 05 31.0	+1.3
OUENC				IAmb	IAmb	09 05 32.7	
	comp=Z,530nm,1.5s						
WHN	Wuhan	40.02	341	⇑P	P	09 05 32.5	+1.6
WHN				pP	pP	09 06 05.0	+1.1
WHN				S	S	09 11 23.5	-1.3
WHN				pmax	pmax		
	comp=Z,2µm,1.0s						
NJ2	Nanjing	40.22	347	⇑iP	P	09 05 34.0	+1.5
NJ2				pP	pP	09 06 06.8	+1.3
NJ2				sP	sP	09 06 22.3	-0.5
NJ2				ScP	ScP	09 11 08.3	+0.3
NJ2				S	S	09 11 28.0	+0.2
NJ2				sS	sS	09 12 26.5	-0.9
NJ2				ScS	ScS	09 15 22.8	+0.7
NJ2				pmax	pmax		
	comp=Z,290nm,1.1s						
PBA	Port Blair	40.25	298	ex	P	09 05 28.8	-4.2
PBA				eS	S	09 11 21.9	-6.8
JNU	Nakatsue	40.28	3	P	P	09 05 33.7	+0.6
JNU	Nakatsue	40.28	3	P	P	09 05 33.1	0.0
JNU				IAmb	IAmb	09 05 34.8	
	comp=Z,277nm,1.1s						
JNU	Nakatsue	40.28	3	⇑P	P	09 05 32.5	-0.7
JNU	Nakatsue	40.28	3	P	P	09 05 33.3	+0.2
	comp=Z,146nm,1.0s,baz=180,slow=5.1,SNR=38						
	comp=Z,146nm,1.0s						
PINNC	Pines Island,	40.43	116	P	P	09 05 36.8	+2.3
PINNC	Pines Island,	40.43	116	P	P	09 05 35.5	+1.1
MARNC	Mare, Loyalty	40.66	114	P	P	09 05 39.1	+2.7
MARNC	Mare, Loyalty	40.66	114	P	P	09 05 37.4	+1.1
DGPR	DIGLIPUR	40.77	300	ex	P	09 05 36.0	-1.4
KMI	Kunming	40.85	323	⇑P	P	09 05 40.3	+2.2
KMI				pP	pP	09 06 12.0	+0.8
KMI				sP	sP	09 06 31.0	+2.6
KMI				PcP	PcP	09 07 37.5	+1.5
KMI				S	S	09 11 37.5	-0.3
KMI				sS	sS	09 12 36.5	-1.0
KMI				pmax	pmax		
	comp=Z,150nm,1.5s						
KMI				pmax	pmax		
	comp=Z,1µm,4.0s						
KMI				LR	LR		
	comp=Z,670nm,17.2s						
KMI				LR	LR		
	comp=Z,610nm,15.8s						
KMI				LR	LR		
	comp=Z,980nm,17.8s						
KMI	Kunming	40.85	323	⇑P	P	09 05 40.7	+2.6
JMN	Monobe	41.15	7	P	P	09 05 41.4	+1.2
JMN	Monobe	41.15	7	P	P	09 05 40.8	+0.7
JMN				IAmb	IAmb	09 05 42.5	
	comp=Z,470nm,1.4s						
JMN	Monobe	41.15	7	⇓P	P	09 05 40.6	+0.5
ENH	Enshi	41.59	335	P	P	09 05 45.1	+1.2
ENH	Enshi	41.59	335	P	P	09 05 44.2	+0.4
ENH				IAmb	IAmb	09 05 46.0	
	comp=Z,181nm,0.8s						
ENH	Enshi	41.59	335	P	P	09 05 44.5	+0.6
JHJ	Hachijo jima 2	41.63	14	P	P	09 05 44.7	+0.7
	comp=Z,163nm,0.8s,baz=73,slow=21,SNR=1.9						
	comp=Z,163nm,0.8s						
JTU	Tsushima	41.63	1	P	P	09 05 45.4	+1.4
JTU	Tsushima	41.63	1	P	P	09 05 44.9	+0.9
JTU				IAmb	IAmb	09 05 46.3	
	comp=Z,253nm,1.5s						
PZH	PanZhiHua	42.48	323	P	P	09 05 52.5	+1.3
PZH				pP	pwP	09 06 28.8	-2.0
PZH				sP	sP	09 06 41.5	-0.3
PZH				PP	PcP	09 07 38.8	-2.4
PZH				S	S	09 11 59.5	-2.0
PZH				sS	sS	09 12 58.5	-3.1
PZH				SS	SS	09 15 15.3	-2.2
PZH				pmax	pmax		
	comp=Z,170nm,1.0s						
PZH				pmax	pmax		
	comp=Z,1µm,4.0s						
PZH				LR	LR		
	comp=Z,520nm,17.2s						
PZH				LR	LR		
	comp=Z,700nm,17.6s						
PZH				LR	LR		
	comp=Z,630nm,15.2s						
MND	Mandalay	43.10	313	P	P	09 05 57.3	+1.2
INU	Inuyama	43.20	10	P	P	09 05 57.5	+0.8
INU	Inuyama	43.20	10	P	P	09 05 56.3	-0.3
INU				IAmb	IAmb	09 05 58.3	
	comp=Z,302nm,1.7s						
INU	Inuyama	43.20	10	⇑P	P	09 05 56.9	+0.2
INU	Inuyama	43.20	10	P	P	09 05 56.9	+0.2
INU				PcP	PcP	09 07 44.6	+1.4
INU				ScP	ScP	09 11 20.6	+0.8
TNCH	TengChong	43.43	319	⇑P	P	09 06 00.5	+1.6
TNCH				pP	pP	09 06 33.8	+1.4
TNCH				sP	sP	09 06 51.0	+1.4
TNCH				ScP	ScP	09 11 22.0	+0.8
TNCH				S	S	09 12 17.5	+1.9
TNCH				sS	sS	09 13 16.0	+0.2
TNCH				ScS	ScS	09 15 41.8	-0.7
TNCH				pmax	pmax		
	comp=Z,230nm,1.0s						
TNCH				pmax	pmax		
	comp=Z,1µm,4.5s						
TNCH				LR	LR		
	comp=Z,770nm,15.2s						
TNCH				LR	LR		
	comp=Z,830nm,9.7s						
TNCH				LR	LR		
	comp=Z,1µm,16.4s						
TJN	Taejon	43.48	359	P	P	09 06 00.2	+1.3
TJN	Taejon	43.48	359	P	P	09 05 59.7	+0.8
TJN	Taejon	43.48	359	ceP	P	09 05 59.8	+0.8
JGF	Kuroka	43.50	11	P	P	09 05 59.6	+0.4
JGF	Kuroka	43.50	11	P	P	09 05 59.2	0.0
JGF	Kuroka	43.50	11	⇑P	P	09 05 59.1	-0.1
LYN	LuoYang	44.32	341	⇑iP	P	09 06 06.5	+0.8
LYN				pP	pP	09 06 39.8	+0.6
LYN				sP	sP	09 06 57.3	+0.9
LYN				PP	PP	09 07 54.5	+2.1
LYN				ScP	ScP	09 11 26.8	+2.4
LYN				S	S	09 12 25.8	-2.1
LYN				sS	sS	09 13 25.5	-2.8
LYN				SS	ScS	09 15 47.0	-0.4
LYN				pmax	pmax		
	comp=Z,540nm,1.5s						
LYN				pmax	pmax		
	comp=Z,1µm,4.7s						
KSAR	Wonju Array Be	44.53	359	P	P	09 06 07.9	+0.6
KSAR	Wonju Array Be	44.53	359	P	P	09 06 07.9	+0.6
KSRS	Korea Array	44.55	359	P	P	09 06 08.5	+1.1
	comp=Z,66nm,1.0s,baz=179,slow=10,SNR=179						
KSRS				PcP	PcP	09 07 49.0	+1.2
	comp=Z,9.6nm,0.8s,baz=190,slow=3.2,SNR=4.3						
KSRS				ScP	ScP	09 11 26.9	+1.7
	comp=Z,4.7nm,1.0s,baz=191,slow=4.5,SNR=3.4						
KSRS				PKiKP	PKiKP	09 14 47.3	0.0
	comp=Z,0.8nm,0.6s,baz=105,slow=0.6,SNR=4.7						
	comp=Z,66nm,1.0s						
MJAR	Matsushiro Arr	44.58	11	P	P	09 06 06.4	-1.3
	comp=Z,73nm,0.9s,baz=187,slow=8.4,SNR=150						
MJAR				PcP	PcP	09 07 49.0	+1.0
	comp=Z,32nm,1.1s,baz=214,slow=1.7,SNR=4.7						
MJAR				ScP	ScP	09 11 25.0	-0.5
	comp=Z,2.0nm,0.6s,baz=176,slow=4.8,SNR=5.4						
	comp=Z,73nm,0.9s						
MAJO	Matsushiro	44.58	11	P	P	09 06 07.4	-0.3
MAJO	Matsushiro	44.58	11	P	P	09 06 06.1	-1.6
MAJO	Matsushiro	44.58	11	⇓P	P	09 06 06.6	-1.1
MAJO	Matsushiro	44.58	11	c iP	P	09 06 06.6	-1.1
MAJO				pmax	pmax		
	comp=Z,137nm,1.0s						
MAJO	Matsushiro	44.58	11	P	P	09 06 06.6	-1.1
MAJO				PcP	PcP	09 07 48.6	+0.7
MJB9	Matsu-Tunnel	44.58	11	P	P	09 06 06.8	-1.0
KS19	Wonju Array Si	44.59	359	P	P	09 06 08.4	+0.6
KS19				IAmb	IAmb	09 06 10.1	
	comp=Z,229nm,1.3s						
TIA	Tai'an	44.60	347	P	P	09 06 08.0	+0.1
TIA				sP	sP	09 07 00.3	+1.6
TIA				S	S	09 12 29.0	-2.9
TIA				sS	sS	09 13 35.8	+3.4
TIA				pmax	pmax		
	comp=Z,110nm,1.2s						
TIA				pmax	pmax		
	comp=Z,520nm,4.6s						
TIA				LR	LR		
	comp=Z,260nm,13.8s						
TIA				LR	LR		
	comp=Z,310nm,13.2s						
TIA				LR	LR		
	comp=Z,330nm,20.2s						
INCN	Inchon	44.61	358	P	P	09 06 09.5	+1.6
INCN	Inchon	44.61	358	P	P	09 06 08.8	+0.9
INCN	Inchon	44.61	358	P	P	09 06 08.8	+0.9
INCN				pmax	pmax		
	comp=Z,189nm,1.3s						
INCN	Inchon	44.61	358	P	P	09 06 09.3	+1.4
INCN	Inchon	44.61	358	P	P	09 06 09.0	+1.1
CD2	Chengdu	44.80	329	P	P	09 06 09.8	+0.2
CD2				sP	sP	09 06 57.5	-2.8
CD2				S	S	09 12 32.0	-3.0
CD2				sS	sS	09 13 36.8	+1.3
CD2				pmax	pmax		
	comp=Z,320nm,1.2s						
CD2				pmax	pmax		
	comp=Z,750nm,3.8s						
XAN	Xi'an	45.12	337	⇑P	P	09 06 11.8	-0.3
XAN				pP	pP	09 06 46.5	+0.7
XAN				sP	sP	09 07 01.0	-1.9
XAN				PcP	PcP	09 07 53.8	+3.8
XAN				S	S	09 12 36.5	-3.1
XAN				SS	ScS	09 15 55.0	+2.3
XAN				pmax	pmax		
	comp=Z,860nm,1.2s						
XAN				pmax	pmax		
	comp=Z,2µm,3.5s						
XAN				LR	LR		
	comp=Z,800nm,17.2s						
XAN				LR	LR		
	comp=Z,970nm,15.2s						
XAN				LR	LR		
	comp=Z,1µm,17.2s						
XAN	Xi'an	45.12	337	P	P	09 06 12.0	-0.1
XAN				PcP	PcP	09 07 51.2	+1.2
HJU	Haeju	45.20	357	P	P	09 06 13.6	+1.0
HJU				pP	pP	09 06 47.6	+1.3
HJU				S	S	09 12 34.4	-6.1
HJU				AmB			
	comp=Z,1µm,3.2s						
SAIH	SAIHA	45.68	311	eP	P	09 06 16.9	+0.1
JSD	Sado	46.04	11	P	P	09 06 20.5	+1.4
JSD	Sado	46.04	11	P	P	09 06 19.5	+0.3
JSD				IAmb	IAmb	09 06 20.7	
	comp=Z,433nm,1.7s						
JSD	Sado	46.04	11	⇑P	P	09 06 19.2	+0.1
PYAG	Pyongyang	46.21	357	P	P	09 06 21.5	+1.1
PYAG				S	S	09 12 49.7	-5.1
PYAG				AmB			
	comp=Z,741nm,2.5s						
HNS	HongShan	46.32	345	⇑P	P	09 06 21.0	-0.3
HNS				pP	pP	09 06 55.0	-0.2
HNS				sP	sP	09 07 14.3	+2.0
HNS				PcP	PcP	09 07 53.3	-0.7
HNS				PP	PP	09 08 12.5	-0.3
HNS				ScP	ScP	09 11 34.3	+1.7
HNS				S	S	09 12 52.3	-4.1
HNS				sS	sS	09 13 56.8	-0.5
HNS				ScS	ScS	09 16 01.0	+0.9
HNS				pmax	pmax		
	comp=Z,630nm,1.1s						
HNS				LR	LR		
	comp=Z,620nm,20.7s						
HNS				LR	LR		
	comp=Z,600nm,17.5s						
HNS				LR	LR		
	comp=Z,610nm,16.7s						
JMM	Marumori	46.40	13	P	P	09 06 22.9	+0.9
JMM	Marumori	46.40	13	P	P	09 06 21.6	-0.4
JMM				IAmb	IAmb	09 06 25.4	
	comp=Z,158nm,0.9s						
JMM	Marumori	46.40	13	⇓P	P	09 06 21.8	-0.2
IMP	Imphal	46.41	315	eP	P	09 06 23.2	+0.9
DL2	Dalian	46.43	353	P	P	09 06 21.0	-1.2
DL2				S	S	09 12 54.3	-3.7
DL2				pmax	pmax		
	comp=Z,230nm,1.1s						
DL2				pmax	pmax		
	comp=Z,630nm,4.0s						
AZL	Aizawl	46.64	312	eP	P	09 06 25.5	+1.2
KOHI	KOHIMA	46.86	316	eP	P	09 06 26.4	+0.5
MOKO	MOKOCHONG	46.97	317	eP	P	09 06 27.8	+1.0
HHU	Hamhung	47.02	359	P	P	09 06 27.8	+1.1
HHU				S	S	09 13 01.9	-4.5
HHU				AmB			
	comp=Z,2µm,8.0s						
TIY	Taiyuan	47.25	343	eP	P	09 06 29.0	+0.3
TIY				PP	PP	09 08 22.5	+1.2
TIY				S	S	09 13 07.3	-2.5
TIY				ScS	ScS	09 16 05.3	-1.1
TIY				SS	SS	09 16 38.0	-1.6
TIY				pmax	pmax		
	comp=Z,210nm,0.9s						
TIY				pmax	pmax		
	comp=Z,630nm,3.5s						
TIY				LR	LR		
	comp=Z,500nm,18.6s						
TIY				LR	LR		
	comp=Z,310nm,13.1s						
TIY				LR	LR		
	comp=Z,470nm,16.5s						
BELO	BELONIA	47.27	311	ex	P	09 06 32.1	+3.1
SUJ	Sinuiju	47.33	356	P	P	09 06 29.7	+0.6
SUJ				S	S	09 13 05.0	-5.8
SUJ				AmB			
	comp=Z,112nm,1.4s						
AGT	Agartala	47.79	312	ex	P	09 06 34.8	+1.9
ITAN	ITANAGAR	48.04	317	eP	P	09 06 36.7	+1.8
ZIRO	ZIRO	48.20	317	eP	P	09 06 37.6	+1.3
SHL	Shillong	48.33	314	eP	P	09 06 37.5	+0.1
BJT	Baijiatuau	48.46	347	P	P	09 06 39.1	+1.2
BJT	Baijiatuau	48.46	347	P	P	09 06 38.0	+0.1
BJT	Baijiatuau	48.46	347	P	P	09 06 38.0	+0.1
BJT				pmax	pmax		
	comp=Z,378nm,1.0s						
BJT	Baijiatuau	48.46	347	P	P	09 06 38.2	+0.4
BJT				PcP	PcP	09 08 03.2	+1.7
BJI	Beijing	48.48	347	P	P	09 06 38.0	0.0
BJI				PcP	PcP	09 08 02.8	+1.2
BJI				S	S	09 13 22.5	-4.4
BJI				sS	sS	09 14 26.8	-1.4
BJI				pmax	pmax		
	comp=Z,210nm,1.2s						
YSA	Yasawairara	48.79	106	P	P	09 06 42.2	+1.4
LZH	Lanzhou	49.00	333	⇑iP	P	09 06 43.8	+1.5
LZH				pP	pP	09 07 16.5	0.0
LZH				PP	PP	09 08 35.0	-2.4
LZH				PcS	PcS	09 12 01.3	+0.7
LZH				S	S	09 13 27.5	-7.3
LZH				SS	SS	09 17 08.5	+0.4
LZH				pmax	pmax		
	comp=Z,960nm,1.3s						
LZH				pmax	pmax		
	comp=Z,3µm,4.5s						
LZH				LR	LR		
	comp=Z,1µm,16.5s						
LZH				LR	LR		
	comp=Z,1µm,19.9s						
LZH				LR	LR		
	comp=Z,990nm,20.6s						
SNY	Shenyang	49.12	355	⇑P	P	09 06 43.0	+0.2
SNY				S	S	09 13 33.3	-2.5
SNY				pmax	pmax		
	comp=Z,120nm,1.3s						
SNY				pmax	pmax		
	comp=Z,810nm,2.7s						
SNY				LR	LR		
	comp=Z,780nm,13.0s						
SNY				LR	LR		
	comp=Z,390nm,12.2s						
SNY				LR	LR		
	comp=Z,790nm,21.1s						
JTM	Tenmabayashi	49.25	13	P	P	09 06 44.8	+0.9
JTM	Tenmabayashi	49.25	13	P	P	09 06 44.5	+0.6
JTM				IAmb	IAmb	09 06 45.8	
	comp=Z,237nm,0.9s						
JTM	Tenmabayashi	49.25	13	⇑P	P	09 06 44.1	+0.3
MSVF	Nonsavu	49.34	107	P	P	09 06 47.6	+2.5
MSVF	Nonsavu	49.34	107	P	P	09 06 47.2	+2.1
PASG	PASIGHAT	49.62	316	eP	P	09 06 32.8	-14
MSHR	Mys Shultsa	49.72	3	ceP	P	09 06 48.7	+1.3
MSHR				pmax	pmax		
	comp=Z,211nm,1.7s						
PSTR	Posyet	49.78	2	c iP	P	09 06 48.4	+0.6
PALK	Pallekele	49.82	286	c iP	P	09 06 47.6	-1.1
PALK				pmax	pmax		
	comp=Z,122nm,2.0s						
PALK	Pallekele	49.82	286	P	P	09 06 48.5	-0.2
PALK				pP	pP	09 07 21.9	-1.0
PALK				PcP	PcP	09 08 09.0	+1.8
FUNA	Funafuti	50.21	95	P	P	09 06 53.4	+1.8
FUNA	Funafuti	50.21	95	P	P	09 06 52.4	+0.8
FUNA				IAmb	IAmb	09 06 54.2	
	comp=Z,378nm,1.2s						
MALK	Mahakanadarawa	50.28	287	⇑P	P	09 06 52.0	-0.1
HHC	Hu-ho-hao-te	50.40	343	⇑iP	P	09 06 54.0	+1.3
HHC				sP	sP	09 07 46.0	+2.0
HHC				PP	PP	09 08 51.0	+1.0
HHC				S	S	09 13 51.0	-3.0
HHC				sS	sS	09 14 51.8	-3.9
HHC				SS	SS	09 17 29.5	-0.6
HHC				pmax	pmax		
	comp=Z,280nm,1.1s						
HHC				pmax	pmax		
	comp=Z,180nm,4.3s						
HHC				LR	LR		
	comp=Z,440nm,17.3s						
HHC				LR	LR		
	comp=Z,350nm,19.2s						
HHC				LR	LR		
	comp=Z,580nm,20.6s						
DCZ	Deep Cove	50.58	145	P	P	09 06 55.0	+1.1
DCZ				IAmb	IAmb	09 06 56.8	
	comp=Z,262nm,1.6s						
BTO	Baotou	50.64	342	eP	P	09 06 56.5	+2.0
BTO				sP	sP	09 07 51.0	+5.2
BTO				PP	PP	09 08 56.0	+3.9
BTO				S	S	09 13 59.8	+2.6
BTO				sS	sS	09 15 02.5	+3.6
BTO				SS	SS	09 17 34.3	+0.5
BTO				pmax	pmax		
	comp=Z,260nm,1.4s						
BTO				pmax	pmax		
	comp=Z,2µm,7.5s						
BTO				LR	LR		
	comp=Z,850nm,12.1s						
BTO				LR	LR		
	comp=Z,630nm,15.3s						
BTO				LR	LR		
	comp=Z,1µm,14.0s						
JCZ	Jackson Bay	50.72	143	P	P	09 06 56.6	+1.5
DGTI	Dogotuki	50.83	105	P	P	09 06 57.7	+1.5
JEM	Erimo	50.90	14	P	P	09 06 57.7	+1.5
CN2	Changchun	50.96	357	P	P	09 06 56.8	+0.1
CN2				PcP	PcP	09 08 10.8	+0.1
CN2				S	S	09 13 57.0	-4.3
CN2				pmax	pmax		
	comp=Z,40nm,1.3s						
CN2				pmax	pmax		
	comp=Z,500nm,5.0s						
FOZ	Fox Glacier	51.05	142	P	P	09 06 58.2	+0.9
MLZ	Mavora Lakes	51.07	145	P	P	09 06 58.0	+0.4
VIS	Vishakhapatnam	51.07	300	iP	P	09 06 58.9	+0.9
TAVE	Taveuni	51.20	105	P	P	09 07 00.6	+1.6
AWAZ	Awhitu Peninsu	51.27	132	P	P	09 07 01.5	+2.3
WHZ	Wether Hill Ro	51.28	145	P	P	09 06 58.8	-0.3
WHZ				IAmb	IAmb	09 07 01.2	
	comp=Z,162nm,0.9s						
USA0B	Ussuriysk Arra	51.38	3	P	P	09 07 00.2	+0.5
USA0B				IAmb	IAmb	09 07 02.0	
	comp=Z,340nm,1.6s						
USA0B	Ussuriysk Arra	51.38	3	iP	P	09 07 00.4	+0.6

USRK	**Ussuriysk Ar.**	**51.38**	**3**	P	**P**	**09 07 00.7 +0.9**				
USRK	**Ussuriysk Ar.**	**51.38**	**3**	P	**P**	**09 07 00.4 +0.6**				
	comp=Z,23nm,0.4s,baz=189,slow=6.9,SNR=73									
USRK				LR	LR	09 25 55.7				
	comp=Z,290nm,20.4s,baz=176,slow=32									
	comp=Z,23nm,0.4s									
LSA	**Lhasa**	**51.41**	**318**	P	**P**	**09 07 01.7 +0.8**				
LSA	**Lhasa**	**51.41**	**318**	P	**P**	**09 07 02.5 +1.6**				
LSA	**Lhasa**	**51.41**	**318**	P	**P**	**09 07 01.7 +0.8**				
LSA				pmax	pmax					
	comp=Z,796nm,2.0s									
LSA	**Lhasa**	**51.41**	**318**	P	**P**	**09 07 03.1 +2.2**				
LSA	**Lhasa**	**51.41**	**318**	P	**P**	**09 07 02.7 +1.8**				
WIAZ	**Waiheke Island**	**51.52**	**132**	P	**P**	**09 07 02.7 +1.6**				
RAGD	**RAYAGADA**	**51.63**	**301**	⇑*i*P	**P**	**09 07 03.1 +1.0**				
MKAZ	**Moumakai**	**51.66**	**132**	P	**P**	**09 07 03.9 +1.8**				
MDJ	**Mudanjiang**	**51.71**	**1**	P	**P**	**09 07 03.0 +0.8**				
MDJ				pP	pP	09 07 36.3 -0.5				
MDJ				PP	**PP**	**09 09 01.5 -0.1**				
MDJ				S	**S**	**09 14 11.5 0.0**				
MDJ				sS	sS	09 15 12.8 -0.8				
MDJ				pmax	pmax					
	comp=Z,190nm,1.5s									
MDJ				pmax	pmax					
	comp=Z,1μm,3.6s									
MDJ	**Mudanjiang**	**51.71**	**1**	P	**P**	**09 07 03.6 +1.4**				
MDJ	**Mudanjiang**	**51.71**	**1**	P	**P**	**09 07 02.6 +0.4**				
MDJ				IAmb	IAmb	09 07 04.8				
	comp=Z,392nm,1.5s									
MDJ	**Mudanjiang**	**51.71**	**1**	P	**P**	**09 07 03.2 +1.0**				
GTK	**Tadong**	**51.73**	**313**	*e*P	**P**	**09 07 04.4 +1.4**				
KHEZ	**Kahui Hut**	**51.74**	**135**	P	**P**	**09 07 04.0 +1.2**				
BOK	**Bokaro**	**51.83**	**308**	*e*P	**P**	**09 07 03.6 0.0**				
RPZ	**Rata Peaks**	**51.90**	**141**	P	**P**	**09 07 05.5 +1.7**				
RPZ	**Rata Peaks**	**51.90**	**141**	P	**P**	**09 07 05.0 +1.1**				
	comp=Z,332nm,0.8s,baz=299,slow=2.3,SNR=95									
RPZ				ScP	**ScP**	**09 11 58.4 +1.9**				
	comp=Z,4.9nm,0.7s,baz=35,slow=13,SNR=1.3									
RPZ				LR	LR	09 30 30.5				
	comp=Z,2μm,18.5s,baz=312,slow=37									
	comp=Z,332nm,0.8s									
HIZ	**Hauiti**	**52.01**	**134**	P	**P**	**09 07 06.7 +2.0**				
MDRS	**Chennai**	**52.03**	**293**	*e*P	**P**	**09 07 05.2 +0.1**				
TOZ	**Tahuroa Road**	**52.16**	**133**	P	**P**	**09 07 07.7 +1.9**				
XLT	**XiLinHaoTe**	**52.21**	**349**	*e*P	**P**	**09 07 07.0 +0.9**				
XLT				pP	pwP	09 07 44.0 -3.1				
XLT				sP	sP	09 07 59.3 +1.8				
XLT				S	**S**	**09 14 12.3 -6.3**				
XLT				sS	sS	09 15 24.0 +3.5				
XLT				pmax	pmax					
	comp=Z,480nm,1.1s									
XLT				pmax	pmax					
	comp=Z,1μm,3.4s									
SYZ	**Scrubby Hill**	**52.33**	**145**	P	**P**	**09 07 08.4 +1.6**				
ODZ	**Otahua Downs**	**52.36**	**143**	⇑P	**P**	**09 07 07.9 +0.7**				
JHSG	**JHARSUGUGA**	**52.52**	**304**	⇑*i*P	**P**	**09 07 09.7 +1.0**				
JHSG				IAmb	IAmb	09 07 11.8				
	comp=Z,286nm,1.1s									
TEY	**Ternei**	**52.63**	**7**	⇓*e*P	**P**	**09 07 09.2 +0.2**				
TEY				*e*		09 14 17.4				
TEY				pmax	pmax					
	comp=Z,80nm,1.1s									
TEY				pmax	pmax					
	comp=N,50nm,1.1s									
TEY				pmax	pmax					
	comp=E,10.0nm,1.1s									
TWVZ	**Taurewa**	**52.65**	**134**	P	**P**	**09 07 11.0 +1.4**				
PKVZ	**Pokaka**	**52.68**	**135**	P	**P**	**09 07 10.5 +0.8**				
TGRZ	**Tauranga**	**52.71**	**132**	P	**P**	**09 07 11.5 +1.6**				
ASAJ	**Asahikawa**	**52.77**	**13**	P	**P**	**09 07 10.8 +0.8**				
ASAJ				pmax	pmax					
	comp=Z,650nm,1.9s									
ASAJ	**Asahikawa**	**52.77**	**13**	P	**P**	**09 07 10.5 +0.4**				
	comp=Z,46nm,0.4s,baz=233,slow=9.7,SNR=147									
ASAJ				LR	LR	09 29 18.3				
	comp=Z,380nm,21.4s,baz=194,slow=35									
	comp=Z,46nm,0.4s									
JKA	**Kamikawa-asahi**	**52.77**	**13**	P	**P**	**09 07 10.8 +0.8**				
KATZ	**Kakaramea**	**52.80**	**134**	P	**P**	**09 07 11.8 +1.2**				
FUTU	**Fugatoga**	**52.80**	**102**	P	**P**	**09 07 13.7 +2.8**				
NNVZ	**North Ngauruho**	**52.80**	**134**	P	**P**	**09 07 12.0 +1.3**				
FWVZ	**Far West T-bar**	**52.81**	**134**	P	**P**	**09 07 12.1 +1.2**				
NGZ	**Ngauruhoe**	**52.81**	**134**	P	**P**	**09 07 11.9 +1.2**				
TRVZ	**Turoa**	**52.83**	**135**	P	**P**	**09 07 12.3 +1.4**				
BNX	**BinXian**	**52.83**	**359**	⇓P	**P**	**09 07 10.8 +0.3**				
BNX				pmax	pmax					
	comp=Z,75nm,1.5s									
BNX				pmax	pmax					
	comp=Z,270nm,4.4s									
WNVZ	**Wahianoa**	**52.87**	**135**	P	**P**	**09 07 12.8 +1.5**				
VJD	**Vijayawada**	**52.92**	**297**	⇑*i*P	**P**	**09 07 12.5 +0.8**				
VJD				*i* x	x	09 07 21.8				
VJD				*ex*	x	09 07 51.2				
MCQ	**Macquarie Isla**	**53.02**	**158**	P	**P**	**09 07 13.5 +1.8**				
	baz=53,SNR=4.5									
MCQ	**Macquarie Isla**	**53.02**	**158**	P	**P**	**09 07 13.3 +1.6**				
MCQ	**Macquarie Isla**	**53.02**	**158**	P	**P**	**09 07 12.9 +1.2**				
MCQ	**Macquarie Isla**	**53.02**	**158**	P	**P**	**09 07 12.9 +1.2**				
MCQ				pmax	pmax					
	comp=Z,353nm,1.0s									
SNZO	**South Karori**	**53.10**	**137**	P	**P**	**09 07 13.6 +1.0**				
SNZO	**South Karori**	**53.10**	**137**	P	**P**	**09 07 12.1 -0.6**				
SNZO				IAmb	IAmb	09 07 13.9				
	comp=Z,178nm,0.9s									
SNZO	**South Karori**	**53.10**	**137**	P	**P**	**09 07 12.7 +0.1**				
BHW	**Baring Head**	**53.26**	**137**	P	**P**	**09 07 13.4 -0.4**				
BHW				IAmb	IAmb	09 07 14.8				
	comp=Z,96nm,0.8s									
MRZ	**Mangatainoka R**	**53.42**	**136**	P	**P**	**09 07 15.3 +0.3**				
MRZ				IAmb	IAmb	09 07 16.3				
	comp=Z,107nm,1.0s									
BKZ	**Black Stump Fm**	**53.44**	**134**	P	**P**	**09 07 16.3 +1.0**				
URZ	**Urewera**	**53.54**	**133**	P	**P**	**09 07 16.1 +0.2**				
	comp=Z,34nm,0.6s,baz=1.4,slow=1.9,SNR=16									
URZ				LR	LR	09 29 18.4				
	comp=Z,906nm,20.6s,baz=31,slow=35									
	comp=Z,34nm,0.6s									
GTA	**Gaotai**	**53.55**	**332**	P	**P**	**09 07 16.8 +0.8**				
GTA				pP	pP	09 07 53.8 +3.0				
GTA				sP	sP	09 08 07.8 +0.2				
GTA				PP	**PP**	**09 09 18.3 -0.2**				
GTA				ScP	**ScP**	**09 12 05.0 +1.2**				
GTA				S	**S**	**09 14 34.3 -2.7**				
GTA				sS	sS	09 15 36.8 -0.9				
GTA				ScS	**ScS**	**09 16 49.5 -0.2**				
GTA				pmax	pmax					
	comp=Z,540nm,1.1s									
GTA				pmax	pmax					
	comp=Z,2μm,9.6s									
GTA				LR	LR					
	comp=Z,570nm,19.1s									
GTA				LR	LR					
	comp=Z,490nm,19.9s									
GTA				LR	LR					
	comp=Z,690nm,15.5s									
GOMU	**GeErMu**	**53.61**	**326**	P	**P**	**09 07 18.3 +1.4**				
GOMU				pmax	pmax					
	comp=Z,100nm,1.7s									
GOMU				LR	LR					
	comp=Z,630nm,20.2s									
GOMU				LR	LR					
	comp=Z,400nm,21.0s									
GOMU				LR	LR					
	comp=Z,800nm,19.8s									
KOD	**Kodaikanal**	**53.72**	**288**	*e*P	**P**	**09 07 17.1 -0.9**				
BFZ	**Birch Farm**	**53.88**	**136**	P	**P**	**09 07 20.0 +1.6**				
RAO	**Raoul Island**	**54.83**	**121**	LR	LR	09 29 41.9				
	comp=Z,1μm,20.0s,baz=336,slow=34									
HYB	**Hyderabad**	**55.12**	**297**	*e*P	**P**	**09 07 27.1 -0.5**				
HYB				IAmb	IAmb	09 07 29.1				
	comp=Z,318nm,1.4s									
HYB				*e*pP	**pP**	**09 08 01.2 -1.4**				
HYB				*e*		09 14 52.7				
HYB	**Hyderabad**	**55.12**	**297**	⇑*e*P	**P**	**09 07 26.5 -1.2**				
YSS	**Yuzh-Sakhalins**	**55.51**	**12**	P	**P**	**09 07 30.8 +1.0**				
YSS	**Yuzh-Sakhalins**	**55.51**	**12**	P	**P**	**09 07 30.1 +0.3**				
YSS				IAmb	IAmb	09 07 33.2				
	comp=Z,98nm,0.7s									
YSS	**Yuzh-Sakhalins**	**55.51**	**12**	*o**e*P	**P**	**09 07 30.1 +0.3**				
YSS				*e**P	**pP**	**09 08 06.3 +1.5**				
YSS				*e**SP	**sP**	**09 08 22.7 +1.1**				
YSS				*e*S	**S**	**09 14 57.8 -4.8**				
YSS				*e*SSS	SSS	09 21 08.9				
YSS				pmax	pmax					
	comp=Z,900nm,2.7s									
YSS				pmax	pmax					
	comp=N,400nm,4.6s									
YSS				pmax	pmax					
	comp=Z,130nm,0.6s									
YSS				smax	smax					
	comp=N,300nm,7.6s									
YSS	**Yuzh-Sakhalins**	**55.51**	**12**	P	**P**	**09 07 30.3 +0.5**				
ALBI	**Allahabad**	**55.80**	**307**	⇑*i*P	**P**	**09 07 32.5 +0.2**				
KAAM	**Kaadhehdhoo**	**55.89**	**276**	P	**P**	**09 07 34.2 +1.0**				
KLR	**Kul'dur**	**56.39**	**3**	*ce*P	**P**	**09 07 36.1 +0.1**				
KLR				pmax	pmax					
	comp=Z,234nm,1.7s									
KLR	**Kul'dur**	**56.39**	**3**	P	**P**	**09 07 36.8 +0.7**				
	comp=Z,163nm,1.3s,baz=192,slow=5.8,SNR=111									
KLR				ScP	**ScP**	**09 12 16.4 +0.6**				
	comp=Z,3.4nm,0.7s,baz=206,slow=4.0,SNR=3.2									
	comp=Z,163nm,1.3s									
HIA	**Hailar**	**56.87**	**353**	P	**P**	**09 07 41.8 +2.3**				
HIA	**Hailar**	**56.87**	**353**	P	**P**	**09 07 40.2 +0.7**				
HIA				IAmb	IAmb	09 07 42.2				
	comp=Z,120nm,1.3s									
HIA	**Hailar**	**56.87**	**353**	P	**P**	**09 07 40.2 +0.7**				
HIA				pmax	pmax					
	comp=Z,120nm,1.3s									
HEH	**HeiHe**	**57.35**	**359**	*e*P	**P**	**09 07 43.0 +0.2**				
HEH				pP	**pP**	**09 08 19.8 +1.8**				
HEH				PcP	**sP**	**09 08 32.3 -2.4**				
HEH				S	**S**	**09 15 29.3 +2.5**				
HEH				pmax	pmax					
	comp=Z,200nm,1.4s									
UGL	**Uglegorsk**	**57.41**	**11**	*e*P	**P**	**09 07 44.2 +1.0**				
UGL				pmax	pmax					
	comp=Z,980nm,2.0s									
UGL				pmax	pmax					
	comp=E,240nm,1.0s									
UGL				pmax	pmax					
	comp=N,70nm,0.9s									
UGL				pmax	pmax					
	comp=Z,310nm,0.9s									
MNCY	**Minicoy**	**57.41**	**285**	*e*P	**P**	**09 07 43.4 -0.5**				
AKL	**Akola**	**57.73**	**300**	*i* P	**P**	**09 07 45.4 -0.6**				
ULN	**Ulaanbaatar**	**58.12**	**343**	P	**P**	**09 07 50.0 +1.6**				
ULN	**Ulaanbaatar**	**58.12**	**343**	*ce*P	**P**	**09 07 48.9 +0.4**				
ULN				pmax	pmax					
	comp=Z,475nm,1.2s									
ULN	**Ulaanbaatar**	**58.12**	**343**	P	**P**	**09 07 50.2 +1.8**				
ULN	**Ulaanbaatar**	**58.12**	**343**	P	**P**	**09 07 50.1 +1.6**				
ULN				pP	**pP**	**09 08 25.2 +1.5**				
GRNR	**Gornyy**	**58.26**	**6**	⇑*i*P	**P**	**09 07 48.7 -0.5**				
GRNR				*e*S	**S**	**09 15 39.4 +0.7**				
GRNR				pmax	pmax					
	comp=E,10.0nm,0.7s									
GRNR				pmax	pmax					
	comp=N,20nm,1.0s									
GRNR				pmax	pmax					
	comp=Z,60nm,0.9s									
GRNR				smax	smax					
	comp=N,2.0nm,0.9s									
SONM	**Songino Array**	**58.29**	**343**	P	**P**	**09 07 50.4 +0.8**				
SONM	**Songino Array**	**58.29**	**343**	P	**P**	**09 07 50.4 +0.8**				
SONM				pmax	pmax					
	comp=Z,514nm,1.2s									
SONM	**Songino Array**	**58.29**	**343**	P	**P**	**09 07 51.2 +1.6**				
	comp=Z,289nm,1.0s,baz=162,slow=5.9,SNR=424									
SONM				ScP	**ScP**	**09 12 26.0 +1.6**				
	comp=Z,3.2nm,0.9s,baz=197,slow=1.5,SNR=2.1									
SONM				LR	LR	09 37 10.5				
	comp=Z,400nm,18.4s,baz=212,slow=40									
SONM				PKPPKP	**P'P'df**	**09 37 19.5 -7.2**				
	comp=Z,1.0nm,0.8s,baz=238,slow=2.8,SNR=4.8									
SONM				PKP2bc		09 37 36.5				
	comp=Z,6.2nm,0.9s,baz=265,slow=2.2,SNR=10									
	comp=Z,289nm,1.0s									
JHNI	**Jhansi**	**58.48**	**306**	⇑*i*P	**P**	**09 07 50.1 -1.1**				
JHNI				IAmb	IAmb	09 07 51.6				
	comp=Z,105nm,0.5s									
JHNI				*i* x	x	09 07 59.4				
JHNI				*ex*	x	09 08 27.0				
GOA	**Goa**	**58.70**	**293**	*e*P	**P**	**09 07 52.2 -0.6**				
AFI	**Afiamalu**	**58.95**	**102**	P	**P**	**09 07 56.0 +1.3**				
AFI	**Afiamalu**	**58.95**	**102**	P	**P**	**09 07 56.0 +1.3**				
AFI	**Afiamalu**	**58.95**	**102**	P	**P**	**09 07 56.0 +1.3**				
AFI				pmax	pmax					
	comp=Z,294nm,1.2s									
AFI	**Afiamalu**	**58.95**	**102**	P	**P**	**09 07 56.7 +2.0**				
KAD	**Karad**	**58.98**	**295**	*e*P	**P**	**09 07 53.5 -1.2**				
KAD				*i* x	x	09 08 32.6				
PTH	**Pithoragarh**	**59.13**	**311**	*e*P	**P**	**09 07 55.4 -0.4**				
PTH				*i* x	x	09 08 43.0				
TYV	**Tymovskoe**	**59.23**	**10**	*e*P	**P**	**09 07 57.4 +1.6**				
TYV				*e*S	**S**	**09 15 53.2 +2.0**				
TYV				pmax	pmax					
	comp=Z,800nm,3.7s									
TYV				pmax	pmax					
	comp=Z,65nm,1.0s									
TYV				smax	smax					
	comp=N,400nm,7.0s									
TYV				smax	smax					
	comp=E,100nm,7.0s									
TYV				smax	smax					
	comp=N,3.0nm,2.1s									
TYV				smax	smax					
	comp=E,6.0nm,2.1s									
POO	**Poona**	**59.69**	**296**	*e*P	**P**	**09 07 57.9 -1.9**				
DRV	**Dumont d'Urvil**	**59.78**	**175**	P	**P**	**09 08 00.2 +0.8**				
CTZ	**Chatham Island**	**59.95**	**137**	P	**P**	**09 08 03.3 +2.3**				
CTZ	**Chatham Island**	**59.95**	**137**	P	**P**	**09 08 02.3 +1.3**				
CTZ				IAmb	IAmb	09 08 04.0				
	comp=Z,188nm,1.1s									
CASY	**Casey**	**60.16**	**188**	P	**P**	**09 08 03.0 +1.0**				
CASY				IAmb	IAmb	09 08 04.5				
	comp=Z,160nm,0.9s									
CASY	**Casey**	**60.16**	**188**	P	**P**	**09 08 03.3 +1.3**				
CIT	**Chita**	**60.48**	**349**	*e*P	**P**	**09 08 05.7 +1.3**				
CIT				*e*		09 08 41.2				
CIT				*e*		09 08 47.1				
CIT				*e*		09 08 57.6				
CIT				*e*		09 10 19.1				
CIT				*e*		09 16 09.1				
CIT				pmax	pmax					
	comp=Z,436nm,1.8s									
NIUE	**Niue**	**60.82**	**108**	P	**P**	**09 08 07.1 -0.2**				
	baz=61,SNR=7.1									
NIUE	**Niue**	**60.82**	**108**	P	**P**	**09 08 09.0 +1.7**				
NIUE	**Niue**	**60.82**	**108**	P	**P**	**09 08 08.8 +1.5**				
ZEA	**Zeya**	**60.84**	**359**	*e*P	**P**	**09 08 07.3 +0.6**				
ZEA				*e**PP	**pP**	**09 08 42.6 +0.3**				
ZEA				*e**SP	**sP**	**09 08 59.6 +0.7**				
ZEA				*e*S	**S**	**09 16 14.8 +3.2**				
ZEA				pmax	pmax					
	comp=N,60nm,0.9s									
ZEA				pmax	pmax					
	comp=Z,100nm,0.9s									
ZEA				pmax	pmax					
	comp=Z,200nm,6.8s									
ZEA				smax	smax					
	comp=N,100nm,10.5s									
NDI	**New Delhi**	**61.00**	**308**	⇑*i*P	**P**	**09 08 07.5 -0.9**				
NKL	**Nikolayevsk**	**61.12**	**8**	*e*P	**P**	**09 08 07.3 -1.3**				
NKL				*e*		09 08 48.2				
NKL				*e*S	**S**	**09 16 16.7 +1.5**				
NKL				pmax	pmax					
	comp=E,173nm,0.7s									
NKL				pmax	pmax					
	comp=N,203nm,1.0s									
NKL				pmax	pmax					
	comp=Z,738nm,1.0s									
NKL				pmax	pmax					
	comp=Z,534nm,1.3s									
NKL				smax	smax					
	comp=N,164nm,2.8s									
NKL				smax	smax					
	comp=E,72nm,2.8s									
NKL				MLR	MLR					
	comp=N,2μm,23.0s									
NKL				MLR	MLR					
	comp=E,11μm,24.0s									
NKL				MLR	MLR					
	comp=Z,4μm,24.0s									
DDI	**Dehra Dun**	**61.14**	**310**	*e*P	**P**	**09 08 09.1 -0.2**				
KUDL	**Kundal**	**61.32**	**308**	⇑*i*P	**P**	**09 08 09.5 -1.0**				
ZAK	**Zakamensk**	**61.49**	**342**	*e*P	**P**	**09 08 12.0 +0.6**				
ZAK				pmax	pmax					
	comp=Z,172nm,1.9s									
AJM	**Ajmer**	**62.07**	**305**	⇑*i*P	**P**	**09 08 15.2 -0.4**				
AJM				IAmb	IAmb	09 08 16.8				
	comp=Z,67nm,0.6s									
SMLA	**Simla**	**62.20**	**311**	⇑*i*P	**P**	**09 08 17.2 +0.9**				
SMLA				IAmb	IAmb	09 08 20.5				
	comp=Z,176nm,0.9s									
SMLA				*i* x	x	09 08 55.0				
SKR	**Severo-Kuril's**	**62.52**	**19**	*e*P	**P**	**09 08 14.7 -3.3**				
SKR				*e*S	**S**	**09 16 30.3 -2.6**				
SKR				*e*		09 17 03.6				
SKR				*e*SS	**SS**	**09 20 36.6 -3.6**				
SKR				pmax	pmax					
	comp=Z,400nm,5.9s									
SKR				MLR	MLR					
	comp=Z,300nm,19.0s									
IRK	**Irkutsk**	**62.85**	**344**	*e*P	**P**	**09 08 21.0 +0.8**				
IRK				pmax	pmax					
	comp=Z,643nm,2.2s									
WMQ	**Urumqi**	**62.86**	**328**	⇑*i*P	**P**	**09 08 22.0 +1.4**				
WMQ				PcP	**PcP**	**09 08 57.5 +0.1**				
WMQ				S	**S**	**09 16 38.5 +0.9**				
WMQ				pmax	pmax					
	comp=Z,450nm,1.5s									
WMQ				pmax	pmax					
	comp=Z,2μm,3.8s									
WMQ				LR	LR					
	comp=Z,1μm,19.1s									
WMQ				LR	LR					
	comp=Z,590nm,15.9s									
WMQ				LR	LR					
	comp=Z,310nm,21.1s									
WMQ	**Urumqi**	**62.86**	**328**	P	**P**	**09 08 22.2 +1.6**				
BHK	**Bhakra**	**62.90**	**311**	⇑*i*P	**P**	**09 08 21.8 +0.8**				
BHK				IAmb	IAmb	09 08 23.3				
	comp=Z,87nm,0.7s									
BHK				*i* x	x	09 08 59.2				
MOY	**Mondy**	**63.33**	**341**	*e*P	**P**	**09 08 25.1 +1.6**				
MOY				pmax	pmax					
	comp=Z,651nm,1.7s									
DHRM	**DHARAMSHALA**	**63.38**	**312**	*i* P	**P**	**09 08 24.8 +0.3**				
DHRM				IAmb	IAmb	09 08 26.9				
	comp=Z,471nm,3.2s									
DHRM				IAmb	IAmb	09 08 29.6				
	comp=Z,148nm,0.4s									
DHRM				*i* pP	**PcP**	**09 08 57.8 -2.3**				
THN	**Thein Dam**	**63.91**	**311**	⇑*i*P	**P**	**09 08 27.9 +0.3**				
JMU	**Jammu**	**64.65**	**311**	⇑*i*P	**P**	**09 08 33.8 +1.5**				
PEA0B	**Petropavlovsk-**	**65.10**	**19**	P	**P**	**09 08 35.7 +0.8**				
PEA0B	**Petropavlovsk-**	**65.10**	**19**	*ce*P	**P**	**09 08 36.0 +1.1**				
PETK	**Petropavlovsk-**	**65.10**	**19**	P	**P**	**09 08 35.1 +0.2**				
PETK	**Petropavlovsk-**	**65.10**	**19**	P	**P**	**09 08 35.6 +0.7**				
	comp=Z,268nm,0.8s,baz=197,slow=4.6,SNR=245									
PETK				PcP	**PcP**	**09 09 06.6 +0.3**				
	comp=Z,38nm,0.7s,baz=208,slow=1.5,SNR=9.1									
PETK				LR	LR	09 33 18.4				
	comp=Z,212nm,21.3s,baz=207,slow=32									
	comp=Z,268nm,0.8s									
PET	**Petropavlovsk**	**65.34**	**20**	P	**P**	**09 08 37.6 +1.2**				
PET	**Petropavlovsk**	**65.34**	**20**	P	**P**	**09 08 37.1 +0.7**				
PET	**Petropavlovsk**	**65.34**	**20**	*e*P	**P**	**09 08 37.2 +0.8**				
PET				*e**PP	**pwP**	**09 09 16.1 -1.7**				
PET				*e*S	**S**	**09 17 07.1 -0.5**				
PET				pmax	pmax					
	comp=Z,415nm,1.1s									
PET				pmax	pmax					
	comp=Z,300nm,9.9s									
PET	**Petropavlovsk**	**65.34**	**20**	⇑P	**P**	**09 08 37.5 +1.0**				
BOD	**Bodaibo**	**65.98**	**352**	*e*P	**P**	**09 08 41.0 +0.5**				
BOD				pmax	pmax					
	comp=Z,236nm,1.7s									
WUS	**Wushi**	**66.09**	**321**	P	**P**	**09 08 43.3 +1.6**				
NIL	**Nilore**	**66.30**	**312**	P	**P**	**09 08 43.0 0.0**				
NIL				IAmb	IAmb	09 08 44.8				
	comp=Z,92nm,0.6s									
NIL	**Nilore**	**66.30**	**312**	P	**P**	**09 08 43.1 0.0**				
NIL				pmax	pmax					
	comp=Z,92nm,0.6s									
NIL	**Nilore**	**66.30**	**312**	P	**P**	**09 08 43.5 +0.4**				
NIL	**Nilore**	**66.30**	**312**	P	**P**	**09 08 43.7 +0.7**				
ZSN	**Zaisan**	**66.78**	**329**	*e*P	**P**	**09 08 47.1 +1.3**				
	comp=Z,116nm,1.0s,baz=329									
ZSN				*e*S	**S**	**09 17 26.8 +1.5**				
	baz=329									
ZSN	**Zaisan**	**66.78**	**329**	*e*P	**P**	**09 08 47.1 +1.3**				
ZSN				*e*S	**S**	**09 17 26.7 +1.5**				
ZSN				pmax	pmax					
	comp=Z,116nm,1.0s									
SHLS	**Shalkode**	**67.07**	**323**	*e*P	**P**	**09 08 47.3 -0.5**				
	baz=323									
SHLS	**Shalkode**	**67.07**	**323**	*e*P	**P**	**09 08 47.3 -0.5**				
PDGK	**Podgornoye**	**67.15**	**323**	P	**P**	**09 08 48.6 +0.2**				
KSH	**Kashi**	**67.25**	**318**	P	**P**	**09 08 50.5 +1.4**				
KSH				PcP	**PcP**	**09 09 17.8 +2.0**				
KSH				pP	pwP	09 09 28.5 -2.0				
KSH				S	**S**	**09 17 30.8 -0.7**				
KSH				sS	SKiKP	09 18 32.8 +0.3				
KSH				pmax	pmax					
	comp=Z,150nm,0.9s									
TARG	**Taragay, Kyrgy**	**67.27**	**321**	P	**P**	**09 08 50.4 +0.9**				
TARG				IAmb	IAmb	09 09 02.3				
	comp=Z,226nm,1.6s									
TARG	**Taragay, Kyrgy**	**67.27**	**321**	P	**P**	**09 08 50.4 +0.9**				
TARG				pmax	pmax					
	comp=Z,226nm,1.6s									
PRZ	**Przheval'sk**	**67.32**	**322**	P	**P**	**09 08 51.0 +1.5**				
PRZ	**Przheval'sk**	**67.32**	**322**	P	**P**	**09

MA2 Magadan 69.01 12 P P 09 09 00.2 +0.8
comp=Z,167nm,0.9s,baz=185,slow=5.9,SNR=215
MA2 LR LR 09 38 14.4
comp=Z,223nm,21.1s,slow=35
comp=Z,167nm,0.9s
MA2 Magadan 69.01 12 P **P 09 08 59.9 +0.4**
MA2 PcP **PcP 09 09 23.3 +0.8**
MA2 pP **pP 09 09 37.1 +1.0**
YAK Yakutsk 69.15 1 P **P 09 09 00.3 0.0**
YAK Yakutsk 69.15 1*c iP* **P 09 09 00.2 0.0**
YAK *e* 09 09 23.4
YAK *e**PP **pP 09 09 36.7 -0.1**
YAK *e* 09 11 32.4
YAK *e*PPP PPP 09 13 13.5
YAK *e*S **S 09 17 52.1 -0.7**
YAK *e* 09 18 43.1
YAK *e*SS **SS 09 22 21.2 -1.4**
YAK pmax pmax
comp=Z,599nm,1.1s
YAK pmax pmax
comp=N,199nm,1.6s
YAK pmax pmax
comp=E,42nm,1.9s
YAK pmax pmax
comp=Z,182nm,3.4s
YAK pmax pmax
comp=N,313nm,5.6s
YAK pmax pmax
comp=E,294nm,7.8s
YAK smax smax
comp=E,194nm,2.5s
YAK smax smax
comp=N,121nm,2.5s
YAK Yakutsk 69.15 1 P **P 09 09 00.1 -0.2**
comp=N,412nm,0.7s,baz=202,slow=0.9,SNR=118
YAK S **S 09 17 51.2 -1.6**
comp=N,7.4nm,0.3s,baz=280,slow=23,SNR=10
comp=N,412nm,0.7s
YAK Yakutsk 69.15 1 P **P 09 09 00.5 +0.2**
YAK pP **pP 09 09 36.6 -0.1**
TKM2 Tokmak 2 69.29 321 P **P 09 09 02.7 +0.9**
SNR=92
TKM2 Tokmak 2 69.29 321 *i* P **P 09 09 02.1 +0.3**
TKM2 pmax pmax
comp=Z,211nm,1.1s
KBK Karagaybulak 69.55 321 P **P 09 09 05.2 +1.8**
SNR=38
UCH Uchtor 69.61 320 P **P 09 09 05.4 +1.4**
SNR=121
AAK Ala-Archa 69.83 321 P **P 09 09 06.1 +1.1**
SNR=74
AAK Ala-Archa 69.83 321 P **P 09 09 06.6 +1.5**
AAK Ala-Archa 69.83 321 P **P 09 09 06.6 +1.5**
comp=Z,109nm,1.0s,baz=134,slow=5.0,SNR=136
AAK S **S 09 18 00.6 -1.3**
comp=Z,0.7nm,0.4s,baz=31,slow=17,SNR=1.2
comp=Z,109nm,1.0s
AAK Ala-Archa 69.83 321 P **P 09 09 06.7 +1.6**
AAK PcP **PcP 09 09 28.2 +1.6**
AAK pP **pP 09 09 43.8 +1.9**
KBL Kabul 69.83 311 P **P 09 09 05.3 0.0**
KBL Kabul 69.83 311 P **P 09 09 05.3 0.0**
KBL pmax pmax
comp=Z,42nm,0.9s
KBL Kabul 69.83 311 P **P 09 09 06.6 +1.3**
SNR=34
ARSB Arslanbob 70.14 319 P **P 09 09 07.2 +0.3**
ARSB IAmb IAmb 09 09 09.8
comp=Z,214nm,1.6s
ARSB Arslanbob 70.14 319 P **P 09 09 07.3 +0.3**
ARSB pmax pmax
comp=Z,214nm,1.6s
USP Ospenovka 70.15 321 P **P 09 09 07.7 +0.8**
SNR=203
SGDS Sogindy 70.17 321 *e*P **P 09 09 08.1 +1.1**
comp=Z,112nm,1.0s,baz=321
SGDS Sogindy 70.17 321 *e*P **P 09 09 08.1 +1.1**
SGDS pmax pmax
comp=Z,112nm,1.0s
EKS2 Erkin-Say 70.30 320 P **P 09 09 09.5 +1.6**
SNR=118
RAR Rarotonga 70.39 110 P **P 09 09 10.4 +1.7**
RAR Rarotonga 70.39 110 P **P 09 09 09.7 +1.0**
RAR IAmb IAmb 09 09 11.4
comp=Z,173nm,1.2s
RAR Rarotonga 70.39 110 P **P 09 09 09.7 +1.0**
RAR pmax pmax
comp=Z,173nm,1.3s
RAR Rarotonga 70.39 110 P **P 09 09 09.9 +1.2**
comp=Z,103nm,1.1s,baz=255,slow=5.5,SNR=9.3
RAR ScP 09 13 18.9
comp=Z,4.2nm,0.4s,baz=81,slow=9.2,SNR=3.6
RAR LR LR 09 37 01.5
comp=Z,173nm,21.8s,baz=264,slow=33
comp=Z,103nm,1.1s
RAR Rarotonga 70.39 110 P **P 09 09 10.2 +1.6**
SEM Semipalatinsk 71.01 330 *e*P **P 09 09 13.4 +1.2**
comp=Z,163nm,1.0s,baz=330
SEM Semipalatinsk 71.01 330 *e*P **P 09 09 13.3 +1.2**
SEM pmax pmax
comp=Z,163nm,1.0s
ZAA0 Zalesovo Array 71.22 334 P **P 09 09 12.7 -0.3**
ZALV Zalesovo Beam 71.22 334 P **P 09 09 12.5 -0.5**
ZALV Zalesovo Beam 71.22 334 *i* P **P 09 09 12.6 -0.4**
ZALV pmax pmax
comp=Z,159nm,0.7s
ZALV Zalesovo Beam 71.22 334 P **P 09 09 12.8 -0.2**
comp=Z,157nm,0.7s,baz=128,slow=5.0,SNR=396
ZALV S **S 09 18 14.7 -2.5**
comp=Z,6.2nm,1.1s,baz=128,slow=13,SNR=5.7
ZALV PKPPKP **P'P'df 09 37 01.8 -3.7**
comp=Z,5.9nm,1.0s,baz=302,slow=3.3,SNR=15
comp=Z,157nm,0.7s
SHEM Shemya Is, Ala 71.25 27 P **P 09 09 14.2 +1.0**
comp=Z,211nm,1.1s,baz=58,slow=2.7,SNR=5.5
SHEM LR LR 09 35 27.5
comp=Z,213nm,20.9s,baz=261,slow=31
comp=Z,211nm,1.1s
RER Riviere de l'E 71.33 250 P **P 09 09 15.9 +1.3**
SIMJ Simiganj 71.60 315 P **P 09 09 16.2 +0.4**
SIMJ IAmb IAmb 09 09 18.1
comp=Z,225nm,1.1s
SIMJ Simiganj 71.60 315 P **P 09 09 16.6 +0.7**
DZA Taraz 71.97 320 *e*P **P 09 09 18.5 +0.6**
baz=320
DZA Taraz 71.97 320 *e*P **P 09 09 18.4 +0.6**
KURBB Kurchatov Arra 72.01 329 P **P 09 09 18.1 +0.3**
comp=Z,178nm,0.7s,baz=130,slow=5.0,SNR=743
KURBB S **S 09 18 24.8 -1.6**
comp=Z,1.4nm,0.2s,baz=102,slow=18,SNR=8.1
KURBB PKPPKP **P'P'df 09 36 58.2 -6.2**
comp=Z,1.6nm,1.1s,baz=301,slow=2.7,SNR=5.7
KURBB LR LR 09 43 01.4
comp=Z,342nm,21.8s,baz=160,slow=37
comp=Z,178nm,0.7s
KURK Kurchatov 72.02 329 P **P 09 09 18.1 +0.2**
VNDA Vanda 72.31 173 P **P 09 09 19.6 +0.4**
VNDA Vanda 72.31 173 P **P 09 09 19.6 +0.4**
comp=Z,47nm,0.8s,baz=323,slow=6.7,SNR=100
VNDA LR LR 09 41 40.6
comp=Z,746nm,19.3s,baz=356,slow=36
comp=Z,47nm,0.8s
SEY Seymchan 72.40 11*c e*P **P 09 09 20.2 +0.3**
SEY pmax pmax
comp=Z,471nm,1.3s
SEY Seymchan 72.40 11 P **P 09 09 20.4 +0.5**
comp=Z,219nm,0.7s,baz=208,slow=4.9,SNR=598
SEY LR LR 09 41 21.2
comp=Z,181nm,20.5s,baz=190,slow=36
comp=Z,219nm,0.7s
IUG Iuzhnay 72.47 318 *e*P **P 09 09 21.8 +0.8**
comp=Z,166nm,1.3s,baz=318
IUG Iuzhnay 72.47 318 *e*P **P 09 09 21.7 +0.8**
IUG pmax pmax
comp=Z,166nm,1.3s
MSEY Mahe Island 72.60 267 P **P 09 09 22.6 +0.4**
KK31 Karatay Array 72.60 319 P **P 09 09 21.9 +0.4**
KK31 IAmb IAmb 09 09 24.2
comp=Z,240nm,1.1s
KK31 Karatay Array 72.60 319 P **P 09 09 22.0 +0.4**
KK31 pmax pmax
comp=Z,240nm,1.2s
KKAR Karatay Array 72.60 319 P **P 09 09 22.3 +0.7**
KKAR IAmb IAmb 09 09 24.2
comp=Z,239nm,1.1s
KKAR Karatay Array 72.60 319 P **P 09 09 22.3 +0.7**
KKAR pmax pmax
comp=Z,239nm,1.2s
BRLS Borolday 73.01 319 *e*P **P 09 09 24.9 +0.9**
comp=Z,148nm,1.1s,baz=319
BRLS Borolday 73.01 319 *e*P **P 09 09 24.8 +0.9**
BRLS pmax pmax
comp=Z,148nm,1.1s
SBA Scott Base 73.22 172 P **P 09 09 25.7 +1.2**
SBA Scott Base 73.22 172 P **P 09 09 25.7 +1.2**
SBA pmax pmax
comp=Z,104nm,1.0s
JLN Jalan Bani Buh 73.69 296 P **P 09 09 28.8 +0.5**
SNR=6.7
MAW Mawson 74.11 201 P **P 09 09 31.2 +1.4**
baz=74,SNR=15
MAW Mawson 74.11 201 P **P 09 09 30.7 +0.9**
MAW Mawson 74.11 201 P **P 09 09 30.7 +0.9**
MAW pmax pmax
comp=Z,86nm,1.5s
MAW Mawson 74.11 201 P **P 09 09 30.4 +0.6**
comp=Z,146nm,1.1s,baz=66,slow=7.8,SNR=22
MAW LR LR 09 39 21.0
comp=Z,529nm,21.0s,baz=62,slow=33
comp=Z,146nm,1.1s
WBK Wadi Bani Khal 74.20 296 P **P 09 09 32.0 +0.7**
SNR=12
XMAS Kiritimati 74.47 86 P **P 09 09 34.1 +1.1**
XMAS IAmb IAmb 09 09 36.7
comp=Z,176nm,1.2s
MHTO MHTO 74.69 294 P **P 09 09 34.0 -0.1**
SNR=14
DQM DQM 74.83 293 P **P 09 09 36.2 +1.2**
JMDO Jabal Madar 74.91 295 P **P 09 09 36.0 +0.6**
SNR=10
KIWB Kanaga Island 74.98 31 P **P 09 09 36.2 +1.1**
SMDO Samad 75.14 296 P **P 09 09 37.4 +0.6**
SNR=16
BIDO Bidbid 75.19 297 P **P 09 09 37.8 +0.9**
SNR=30
ADK Adak 75.24 32 P **P 09 09 38.0 +1.4**
ADK Adak 75.24 32 P **P 09 09 37.7 +1.1**
ADK Adak 75.24 32 P **P 09 09 37.7 +1.1**
ADK pmax pmax
comp=Z,683nm,1.6s
BSY Bisya 75.82 296 P **P 09 09 41.1 +0.5**
SNR=6.4
HOQ Hoqain 75.92 296 P **P 09 09 43.1 +1.9**
SNR=25
JASK Jask - Hormozg 76.02 299 P **P 09 09 43.5 +1.9**
SNR=11
SHAO Shalim 76.17 291 P **P 09 09 42.6 0.0**
SHAO Shalim 76.17 291 P **P 09 09 43.2 +0.6**
ARQ Araqi 76.57 296 P **P 09 09 46.0 +1.2**
SNR=17
ATKA Atka Island 76.71 32 P **P 09 09 47.3 +2.4**
ATKA Atka Island 76.71 32 P **P 09 09 44.9 0.0**
DMTO DMTO 76.73 290 P **P 09 09 46.1 +0.3**
SOHO SOHO 76.75 297 *i* P **P 09 09 45.6 -0.2**
SNR=32
SOHO SOHO 76.75 297 P **P 09 09 46.3 +0.5**
UOSS Minazif 77.24 298 P **P 09 09 48.1 -0.5**
MDH Madha 77.25 298 *i* P **P 09 09 47.8 -0.7**
SNR=7.0
MDH Madha 77.25 298 P **P 09 09 49.3 +0.7**
HATD Hatta, Dubai 77.28 297 *i* P **P 09 09 49.1 +0.3**
SNR=18
HATD Hatta, Dubai 77.28 297 P **P 09 09 49.6 +0.8**
SNR=16
ASHO Ashiyiah 77.31 297 *i* P **P 09 09 49.2 +0.2**
SNR=28
ASHO Ashiyiah 77.31 297 P **P 09 09 50.0 +1.0**
SNR=16
RBK Rabkut 77.38 290 P **P 09 09 50.1 +0.6**
MSFE Esma-Masafi 77.38 298 *i* P **P 09 09 49.7 +0.4**
SNR=24
MASF Masafi 77.39 298 P **P 09 09 50.7 +1.3**
SNR=20
ALNE Al Ain 77.42 297 *i* P **P 09 09 49.9 +0.3**
SNR=18
ALNE Al Ain 77.42 297 P **P 09 09 50.6 +1.0**
SNR=21
KIP Kipapa 77.49 66 P **P 09 09 51.5 +1.5**
KIP Kipapa 77.49 66 P **P 09 09 51.8 +1.8**
KIP Kipapa 77.49 66*ce*P **P 09 09 49.8 -0.2**
KIP pmax pmax
comp=Z,322nm,2.5s
BVA0 Borovoye Array 77.54 328 *i* P **P 09 09 50.2 +0.6**
BVAR Borovoye Array 77.54 328 P **P 09 09 49.8 +0.2**
comp=Z,50nm,0.5s,baz=126,slow=7.5,SNR=293
BVAR S **S 09 19 25.3 -2.4**
comp=Z,1.3nm,0.9s,baz=154,slow=11,SNR=3.6
BVAR PKKPbc **PKKPbc 09 28 52.7 -2.4**
comp=Z,1.5nm,0.9s,baz=272,slow=5.5,SNR=5.0
comp=Z,50nm,0.5s
SHME Shamm 77.57 299 *i* P **P 09 09 51.5 +1.2**
SNR=12
SHME Shamm 77.57 299 P **P 09 09 51.5 +1.2**
SNR=14
UMZA Um Al Zommool 77.64 295 P **P 09 09 50.8 0.0**
DOK Doka 77.68 291 P **P 09 09 51.0 -0.1**
SNR=6.2
NAZ Nazwa, Dubai 77.73 297 *i* P **P 09 09 51.5 +0.3**
SNR=8.5
NAZ Nazwa, Dubai 77.73 297 P **P 09 09 52.3 +1.0**
SNR=13
FAQ Al Faqa, Dubai 77.73 297 *i* P **P 09 09 51.4 +0.1**
SNR=14
FAQ Al Faqa, Dubai 77.73 297 P **P 09 09 51.9 +0.7**
SNR=16
WHFO Wadi Hawf 77.87 290 P **P 09 09 51.7 -0.5**
ASUD Al Ashush, Dub 77.94 297 *i* P **P 09 09 53.2 +0.9**
SNR=19
ASUD Al Ashush, Dub 77.94 297 P **P 09 09 53.4 +1.1**
SNR=8.6
ABTO Aybut 78.20 289 P **P 09 09 54.1 +0.1**
SNR=5.8
AJN Ajban 78.22 297 *i* P **P 09 09 53.9 0.0**
SNR=7.6
AJN Ajban 78.22 297 P **P 09 09 55.9 +2.0**
SNR=6.1
TIXI Tiksi 78.81 0 P **P 09 09 55.8 -0.4**
TIXI Tiksi 78.81 0*ce*P **P 09 09 55.3 -0.8**
TIXI pmax pmax
comp=Z,142nm,1.0s
TIXI Tiksi 78.81 0 P **P 09 09 56.2 +0.1**
comp=Z,54nm,0.5s,baz=201,slow=3.4,SNR=180
TIXI S **S 09 19 36.3 -4.1**
comp=Z,1.0nm,0.3s,baz=349,slow=1.5,SNR=12
TIXI LR LR 09 44 50.1
comp=Z,462nm,20.3s,baz=192,slow=36
comp=Z,54nm,0.5s
MZWR Madinat Zayed 79.02 296 P **P 09 09 59.4 +1.0**
FOMA Nahampoana Res 79.28 246 P **P 09 10 01.2 +1.5**
FOMA IAmb IAmb 09 10 02.8
comp=Z,171nm,1.2s
FOMA Nahampoana Res 79.28 246 P **P 09 10 02.0 +2.3**
SNR=5.2
GEYT Alibeck 79.28 311 P **P 09 10 00.3 +0.8**
GEYT IAmb IAmb 09 10 02.4
comp=Z,329nm,1.7s
GEYT Alibeck 79.28 311 P **P 09 10 00.3 +0.8**
GEYT pmax pmax
comp=Z,329nm,1.7s
GEYT Alibeck 79.28 311 P **P 09 10 00.5 +1.0**
comp=Z,28nm,0.9s,baz=108,slow=4.8,SNR=57
GEYT LR LR 09 50 26.5
comp=Z,247nm,20.3s,baz=139,slow=40
comp=Z,28nm,0.9s
GYA0B ALIBECK ARRAY 79.28 311 P **P 09 10 00.0 +0.5**
GYA0B IAmb IAmb 09 10 02.3
comp=Z,255nm,1.6s
CLES Cleveland East 79.31 33 P **P 09 09 60.0 +0.7**
VOI Vohitsoka 79.63 249 P **P 09 10 03.1 +1.2**
VOI Vohitsoka 79.63 249 P **P 09 10 02.3 +0.4**
VOI Vohitsoka 79.63 249 P **P 09 10 03.5 +1.6**
SNR=12
BILL Bilibino 79.77 14 P **P 09 10 01.8 +0.3**
BILL Bilibino 79.77 14 *e*P **P 09 10 01.7 +0.3**
TBI Tubuai 79.86 112 *e*P **P 09 10 03.4 +0.5**
comp=Z,872nm,24.5s
TBI Tubuai 79.86 112 *e*P **P 09 10 05.0 +2.1**
comp=Z,258nm,1.0s
TBI comp=Z,2μm,41.2s *e*S **S 09 19 47.8 -5.7**
TBI comp=Z,2μm,29.2s *e*SS **SS 09 25 00.2 -6.2**
TBI Tubuai 79.86 112 *e*LR LR 09 35 07.9
comp=Z,1μm,33.8s
TBI *e*LR LR 09 35 24.6
comp=Z,5μm,29.5s
NIKH Nikolski High 79.94 33 P **P 09 10 03.3 +0.7**
baz=243
GHWR Ruwais 79.96 296 P **P 09 10 04.2 +0.8**
PPT2 Papeete2 80.16 107 *e*PKIKP **P 09 10 00.5 -4.2**
comp=Z,270nm,24.5s
PPT2 *e*S S 09 19 47.4 -10
comp=Z,347nm,25.8s
PPT2 Papeete2 80.16 107 *e*LQ LQ 09 31 53.4
comp=Z,597nm,25.8s
PPT2 *e*LR LR 09 35 26.9
comp=Z,1μm,30.2s
PPT2 *e*LR LR 09 35 28.0
comp=Z,648nm,31.0s
PPT Papeete 80.17 107 P **P 09 10 05.7 +1.0**
comp=Z,111nm,1.0s,baz=53,slow=3.1,SNR=8.8
PPT LR LR 09 41 51.8
comp=Z,173nm,21.1s,baz=288,slow=33
comp=Z,111nm,1.0s
PPTF Pamatai, Papee 80.17 107 P **P 09 10 07.6 +2.8**
JRN Qarnain Island 80.20 297 P **P 09 10 05.2 +0.6**
TVO Taravao 80.46 107 *e*PKIKP **P 09 10 08.1 +1.8**
comp=Z,41nm,1.2s
SLWR Sila 81.04 296 P **P 09 10 10.0 +0.9**
P08K Saint George I 81.23 30 P **P 09 10 10.7 +1.2**
baz=242
NRIK Noril'sk 81.51 346*ce*P **P 09 10 11.2 +0.5**
NRIK pmax pmax
comp=Z,202nm,0.9s
NRIK Noril'sk 81.51 346 P **P 09 10 11.2 +0.5**
comp=Z,196nm,0.9s,baz=135,slow=5.7,SNR=139
NRIK S **S 09 20 07.0 -1.9**
comp=Z,1.2nm,0.5s,baz=232,slow=22,SNR=1.9
NRIK LR LR 09 49 46.4
comp=Z,329nm,19.1s,baz=142,slow=38
comp=Z,196nm,0.9s
UNV Unalaska Valle 81.58 33 P **P 09 10 12.7 +1.4**
UNV Unalaska Valle 81.58 33 P **P 09 10 12.1 +0.7**
baz=245,SNR=5.5
TRNA Turayna 81.61 296 P **P 09 10 12.9 +0.8**
SNR=11
AB31 Akbulak array 81.83 322 *i* P **P 09 10 12.7 -0.1**
ABKAR Akbulak array 81.83 322 P **P 09 10 12.6 -0.2**
SMRA Abu-Samra 81.96 296 P **P 09 10 14.8 +0.8**
SNR=24
PMOR Pomariorio Ree 82.00 104 *e*P **P 09 10 15.7 +1.3**
comp=Z,275nm,1.1s
SHMA Al-Shehemyia 82.06 297 P **P 09 10 15.3 +0.9**
SNR=12
AKUT Akutan 82.10 33 P **P 09 10 14.3 +0.3**
AKUT Akutan 82.10 33 P **P 09 10 14.5 +0.5**
SAKB Bahrain 82.46 297 P **P 09 10 17.6 +1.0**
QSPA South Pole Qui 82.66 180 P **P 09 10 16.9 -0.1**
QSPA IAmb IAmb 09 10 18.7
comp=Z,163nm,0.9s
QSPA South Pole Qui 82.66 180 P **P 09 10 16.9 -0.1**
comp=Z,111nm,0.8s,baz=323,slow=2.6,SNR=166
QSPA PKKPbc **PKKPbc 09 28 39.2 -5.1**
comp=Z,6.6nm,1.0s,baz=220,slow=2.9,SNR=8.2
QSPA LR LR 09 48 03.7
comp=Z,770nm,18.5s,baz=350,slow=36
comp=Z,111nm,0.8s
AKTO Aktyubinsk 83.42 323 P **P 09 10 20.5 -0.5**
AKTO Aktyubinsk 83.42 323 P **P 09 10 21.4 +0.5**
comp=Z,127nm,0.8s,baz=108,slow=4.8,SNR=225
AKTO S **SKSac 09 20 27.5 -0.9**
comp=Z,2.3nm,0.9s,baz=223,slow=20,SNR=3.0
comp=Z,127nm,0.8s
FALS False Pass 83.64 33 P **P 09 10 22.5 +0.5**
baz=248
GAMB Gambell 83.79 23 P **P 09 10 23.8 +1.3**
baz=240
SVE Sverdlovsk 84.27 329*de*P **P 09 10 25.7 +0.5**
SVE *e*S **SKSac 09 20 33.2 -0.5**
SVE pmax pmax
comp=Z,459nm,1.4s
M11K Mekoryuk 84.50 27 P **P 09 10 28.0 +1.8**
baz=245
S12K Black Hills 84.68 32 P **P 09 10 27.8 +0.5**
baz=249,SNR=6.0
ARU Arti 85.19 328 P **P 09 10 29.4 -0.4**
ARU IAmb IAmb 09 10 31.5
comp=Z,377nm,1.3s
ARU Arti 85.19 328*ce*P **P 09 10 29.8 0.0**
ARU pmax pmax
comp=Z,446nm,1.7s
ARU Arti 85.19 328 P **P 09 10 30.2 +0.4**
comp=Z,43nm,0.4s,baz=109,slow=2.4,SNR=118
ARU PP **PP 09 13 47.2 -2.4**
comp=Z,13nm,0.8s,baz=82,slow=6.6,SNR=4.4
ARU LR LR 09 50 37.2
comp=Z,116nm,21.9s,baz=126,slow=37
comp=Z,43nm,0.4s
SDPT Sand Point 85.40 33 P **P 09 10 31.7 +0.9**
SDPT Sand Point 85.40 33 P **P 09 10 31.2 +0.4**
baz=250,SNR=5.5
KBD Kabd 85.57 300 P **P 09 10 32.9 +0.7**
CNBA Chernabura Isl 85.70 33 P **P 09 10 32.8 +0.5**
CNBA IAmb IAmb 09 10 33.9
comp=Z,163nm,1.1s
CHNA Chernabura Isl 85.71 33 P **P 09 10 32.5 +0.2**
baz=251
M13K Dall Lake 85.80 28 P **P 09 10 34.5 +1.9**
M13K Dall Lake 85.80 28 P **P 09 10 34.1 +1.5**
baz=247
TNA Tin City 86.08 22 P **P 09 10 34.4 +0.5**
baz=243
S14K Fog Glacier 86.20 32 P **P 09 10 35.7 +0.8**
baz=251
O14K Tigyukauivet M 86.35 29 P **P 09 10 35.8 +0.4**
O14K IAmb IAmb 09 10 37.7
comp=Z,305nm,1.3s
O14K Tigyukauivet M 86.35 29 P **P 09 10 36.4 +1.0**
baz=248,SNR=9.7
N14K Kuskokwak Cree 86.39 28 P **P 09 10 36.7 +1.2**
baz=249
L14K Kuka Creek 86.46 27 P **P 09 10 36.9 +1.0**
L14K Kuka Creek 86.46 27 P **P 09 10 36.8 +1.0**
baz=248,SNR=41
RAYN Ar Rayn 86.51 294 P **P 09 10 37.8 +0.8**
M14K Bethel 86.57 27 P **P 09 10 37.4 +1.0**
M14K Bethel 86.57 27 P **P 09 10 37.2 +0.9**
baz=249,SNR=44
ANM Nome 86.61 23 P **P 09 10 37.5 +0.9**
ANM Nome 86.61 23 P **P 09 10 37.1 +0.5**
baz=245,SNR=10
ANM Nome 86.61 23 P **P 09 10 37.5 +0.9**
ANM pmax pmax
comp=Z,35nm,0.9s
J14K Nanvaranak Lak 86.62 25 P **P 09 10 37.6 +1.0**
baz=247
F14K Arctic Creek 86.63 22 P **P 09 10 37.4 +0.7**
baz=244
O15K Ungalikthiuk R 87.02 29 P **P 09 10 39.4 +0.7**
baz=250
L15K Umgalak Mounta 87.11 27 P **P 09 10 39.8 +0.8**
baz=249
M15K Kasigluk River 87.13 28 P **P 09 10 39.9 +0.8**
baz=250,SNR=44
N15K Kwethluk River 87.23 28 P **P 09 10 40.3 +0.7**
N15K Kwethluk River 87.23 28 P **P 09 10 41.0 +1.3**
baz=250,SNR=26
G15K Niukluk 87.31 23 P **P 09 10 39.6 -0.3**
baz=246
K15K Wolf Creek Mou 87.32 26 P **P 09 10 41.0 +1.0**
baz=249
F15K North Star Dit 87.36 22 P **P 09 10 40.5 +0.3**
baz=246
ELIB Princess Elisa 87.73 198 *d*P **P 09 10 43.2 +1.1**
comp=Z,119nm,0.9s
P16K Nushagak River 87.87 30 P **P 09 10 43.5 +0.9**
baz=252,SNR=9.7
H16K Elim 87.88 24 P **P 09 10 43.1 +0.5**
baz=248,SNR=27
N16K Nishlik Lake 87.95 28 P **P 09 10 44.2 +1.1**
baz=251
O16K Kokwok River B 88.00 29 P **P 09 10 44.1 +0.8**
baz=252
L16K Owhat River 88.03 27 P **P 09 10 43.7 +0.4**
L16K IAmb IAmb 09 11 49.8
comp=Z,133nm,1.2s
L16K Owhat River 88.03 27 P **P 09 10 44.0 +0.6**
baz=251,SNR=21
M16K Timber Creek 88.04 28 P **P 09 10 44.5 +1.0**

baz=251
J16K **Anvik River** 88.07 25 P P 09 10 44.6 +1.1
baz=250
G16K **Koyuk River** 88.12 23 P P 09 10 44.0 +0.2
baz=248
CHIR **Chirikof Islan** 88.17 33 P P 09 10 44.7 +0.6
baz=254
C16K **Lisburne Hills** 88.18 20 P P 09 10 44.4 +0.4
baz=245
I17K **Unalakleet** 88.24 25 P P 09 10 45.4 +1.1
I17K IAmb IAmb 09 10 46.6
comp=Z,63nm,0.9s
I17K **Unalakleet** 88.24 25 P P 09 10 45.2 +0.9
baz=250,SNR=17
MAK **Makhachkala** 88.39 314*c i*P P 09 10 44.8 -0.7
MAK *e**PP **pP** 09 11 21.7 -2.4
MAK *e**SP **sP** 09 11 37.4 -2.8
MAK *e* 09 14 12.9
MAK *e*PPP PPP 09 16 10.0
MAK *e* 09 20 58.7
MAK *e*SS SS 09 27 11.6 +0.1
MAK *e*SSS SSS 09 30 46.6
MAK pmax pmax
comp=Z,286nm,1.2s
Q16K **King Salmon** 88.43 30 P P 09 10 45.2 -0.1
baz=253
O17K **Koliganek Bris** 88.53 29 P P 09 10 46.5 +0.7
baz=253,SNR=16
P17K **Kvichak River** 88.68 30 P P 09 10 46.6 0.0
baz=253
L17K **Donlin** 88.69 27 P P 09 10 47.5 +1.0
baz=252,SNR=17
Q17K **Contact Creek** 88.70 31 P P 09 10 46.2 -0.6
baz=254
N17K **Nushagak Hills** 88.71 28 P P 09 10 47.6 +1.0
baz=253
D17K **Noatak River** 88.73 21 P P 09 10 47.4 +0.8
baz=247,SNR=185
G17K **Kiwalik Mounta** 88.82 23 P P 09 10 47.6 +0.6
baz=250
M17K **Holitna River** 88.86 28 P P 09 10 48.3 +1.0
baz=252
K17K **Iditarod** 88.87 26 P P 09 10 48.3 +0.9
baz=252,SNR=44
H17K **Granite Mounta** 88.92 24 P P 09 10 48.1 +0.6
baz=250
F17K **Baldwin Pennin** 88.93 22 P P 09 10 47.9 +0.4
baz=249
RDOG **Red Dog Mine** 88.93 20 P P 09 10 47.6 0.0
RDOG IAmb IAmb 09 10 49.2
comp=Z,204nm,1.3s
RDOG **Red Dog Mine** 88.93 20 P P 09 10 48.1 +0.5
baz=247,SNR=52
E17K **Hotham Inlet** 88.95 22 P P 09 10 48.1 +0.5
baz=248,SNR=87
C17K **DeLong Mountai** 89.00 20 P P 09 10 48.3 +0.4
baz=247
SII **Sitkinak Islan** 89.14 33 P P 09 10 50.5 +1.7
SII **Sitkinak Islan** 89.14 33 P P 09 10 49.7 +0.9
baz=255,SNR=7.3
P18K **Big Mountain,** 89.34 30 P P 09 10 49.3 -0.4
baz=254
N18K **Kilae Creek** 89.37 28 P P 09 10 50.8 +1.1
baz=254
L18K **Granite Mounta** 89.44 27 P P 09 10 50.9 +0.9
baz=253,SNR=34
O18K **Koktuh Hills** 89.47 29 P P 09 10 50.6 +0.3
baz=254,SNR=5.3
E18K **Tukpahlearik C** 89.51 21 P P 09 10 50.6 +0.4
baz=250,SNR=66
F18K **Selawik** 89.58 22 P P 09 10 50.5 0.0
baz=250,SNR=14
H18K **Honhosa River** 89.61 24 P P 09 10 50.4 -0.4
baz=252
M18K **Stony River** 89.62 28 P P 09 10 51.7 +0.8
baz=254
SVW2 **Sparrevohn** 89.63 28 P P 09 10 53.0 +2.0
SVW2 **Sparrevohn** 89.63 28 P P 09 10 51.9 +0.9
G18K **Tagagawik** 89.73 23 P P 09 10 51.6 +0.2
G18K IAmb IAmb 09 10 52.6
comp=Z,118nm,1.6s
G18K **Tagagawik** 89.73 23 P P 09 10 51.3 0.0
baz=251
C18K **Utukok River** 89.74 20 P P 09 10 51.3 0.0
baz=249
OHAK **Old Harbor** 89.78 32 P P 09 10 52.9 +1.2
OHAK **Old Harbor** 89.78 32 P P 09 10 52.2 +0.6
OHAK IAmb IAmb 09 10 53.6
comp=Z,140nm,1.3s
OHAK **Old Harbor** 89.78 32 P P 09 10 52.3 +0.6
baz=256,SNR=10
J18K **Innoko River** 89.79 26 P P 09 10 52.1 +0.5
J18K IAmb IAmb 09 10 54.6
comp=Z,105nm,1.1s
J18K **Innoko River** 89.79 26 P P 09 10 51.8 +0.2
baz=253
B18K **Kokolik River** 89.80 19 P P 09 10 52.3 +0.7
baz=248,SNR=89
GNI **Garni** 89.92 310 P P 09 10 53.7 +0.7
GNI **Garni** 89.92 310 P P 09 10 54.4 +1.4
GNI **Garni** 89.92 310 *ce*P P 09 10 54.2 +1.2
GNI pmax pmax
comp=Z,69nm,1.3s
GNI **Garni** 89.92 310 P P 09 10 53.6 +0.6
comp=Z,62nm,1.2s,baz=191,slow=4.2,SNR=8.5
comp=Z,62nm,1.2s
GNI **Garni** 89.92 310 P P 09 10 54.5 +1.5
TTA **Tatalina** 89.94 26 P P 09 10 53.9 +1.4
TTA **Tatalina** 89.94 26 P P 09 10 52.8 +0.4
TTA IAmb IAmb 09 10 54.3
comp=Z,106nm,1.2s
TTA **Tatalina** 89.94 26 P P 09 10 52.9 +0.4
baz=254,SNR=43
TTA **Tatalina** 89.94 26 P P 09 10 52.8 +0.4
TTA pmax pmax
comp=Z,106nm,1.2s
O19K **Port Alsworth** 89.99 29 P P 09 10 52.5 -0.1
baz=255
Q19K **Cape Douglas,** 90.01 30 P P 09 10 52.7 -0.1
baz=256
N19K **Bonanza Creek** 90.07 29 P P 09 10 53.3 +0.2
N19K IAmb IAmb 09 11 59.8
comp=Z,97nm,1.1s
N19K **Bonanza Creek** 90.07 29 P P 09 10 53.4 +0.3
baz=255,SNR=29
GCSA **Galena City Sc** 90.09 24 P P 09 10 53.3 +0.3
baz=253,SNR=32
KIBK **Kibwezi** 90.15 268 P P 09 10 55.2 +0.7
KIBK **Kibwezi** 90.15 268 P P 09 10 56.0 +1.5
SNR=18
BELG **Belogornoye** 90.20 323 *i* P P 09 10 53.8 0.0
BELG pmax pmax
comp=Z,21nm,1.0s
BELG **Belogornoye** 90.20 323 P P 09 10 53.6 -0.1
comp=Z,114nm,1.0s,baz=193,slow=0.8,SNR=34
BELG PKKPbc **PKKPdf** 09 28 22.8 +1.9
comp=Z,17nm,0.8s,baz=315,slow=1.4,SNR=3.4
comp=Z,114nm,1.0s
TAOE **Nuku Hiva Isla** 90.22 99 *e*PKIKP P 09 10 53.7 -1.2
comp=Z,353nm,1.3s
L19K **White Mountain** 90.25 27 P P 09 10 54.4 +0.6
L19K IAmb IAmb 09 10 55.9
comp=Z,92nm,1.0s
L19K **White Mountain** 90.25 27 P P 09 10 54.7 +0.8
baz=255
KDAK **Kodiak Island** 90.28 32 P P 09 10 54.7 +0.7
baz=257
KDAK **Kodiak Island** 90.28 32 LR LR 09 46 56.2
comp=Z,153nm,22.0s,baz=265,slow=32
A19K **Wainwright** 90.34 19 P P 09 10 54.9 +0.9
baz=249
F19K **Shaleruckik Mo** 90.37 22 P P 09 10 53.8 -0.5
baz=252
P19K **Oil Pt** 90.39 30 P P 09 10 54.4 -0.2
baz=256
M19K **Big River Lodg** 90.39 27 P P 09 10 55.4 +0.9
baz=255
J19K **Poorman** 90.40 25 P P 09 10 55.2 +0.7
baz=254
G19K **Purcell Mounta** 90.42 23 P P 09 10 55.1 +0.5
baz=253
C19K **Lookout Ridge** 90.44 20 P P 09 10 55.7 +1.1
baz=250,SNR=211
H19K **Roundabout Mou** 90.49 24 P P 09 10 55.2 +0.4
baz=253
KIRV **Kirov** 90.54 329 *i* P P 09 10 54.8 -0.4
KIRV **Kirov** 90.54 329 P P 09 10 57.1 +1.9
comp=Z,26nm,0.5s,baz=135,slow=4.4,SNR=16
KIRV LR LR 09 55 35.3
comp=Z,129nm,18.4s,baz=117,slow=38
comp=Z,26nm,0.5s
Q20K **Shuyak Island** 90.56 31 P P 09 10 55.4 +0.1
baz=257
D19K **Kuna River** 90.75 21 P P 09 10 56.3 +0.2
baz=252
E19K **Redstone River** 90.76 22 P P 09 10 56.5 +0.5
baz=253
L20K **Farewell, AK** 90.77 27 P P 09 10 56.9 +0.6
baz=256
K20K **Telida** 90.90 26 P P 09 10 57.6 +0.7
baz=256,SNR=39
M20K **Styx River** 90.97 28 P P 09 10 57.9 +0.6
baz=256
J20K **Nowinta River** 91.08 25 P P 09 10 58.2 +0.6
baz=256
I20K **Naaghedeneel** 91.09 25 P P 09 10 58.2 +0.6
baz=255
H20K **Anotleneega Mo** 91.11 24 P P 09 10 58.1 +0.4
baz=255
HOM **Homer** 91.17 30 P P 09 10 57.9 -0.2
baz=258
F20K **Avaraart Lake** 91.20 22 P P 09 10 58.7 +0.6
baz=254
N20K **Mount Spurr** 91.24 28 P P 09 10 58.1 -0.4
baz=257,SNR=27
KARS **Kars** 91.25 311 P P 09 11 00.4 +1.3
KARS **Kars** 91.25 311 P P 09 11 00.4 +1.3
KARS pmax pmax
comp=Z,440nm,1.4s
D20K **Etivluk River** 91.35 21 P P 09 10 58.9 +0.1
baz=253
CNPM **China Poot** 91.35 30 P P 09 10 58.7 -0.3
CNPM IAmb IAmb 09 12 05.7
comp=Z,138nm,1.4s
E20K **Nigu River** 91.37 21 P P 09 10 59.2 +0.2
baz=254,SNR=111
B20K **Meade River** 91.54 19 P P 09 10 59.7 +0.1
baz=253
BRLK **Bradley Lake** 91.57 30 P P 09 10 59.5 -0.5
BRLK IAmb IAmb 09 11 00.9
comp=Z,99nm,1.4s
NVL **N'lazarevskaya** 91.61 197 *e*P P 09 11 00.8 +0.8
NVL pmax pmax
comp=Z,113nm,1.2s
PPLA **Purkeypile** 91.62 27 P P 09 11 00.1 -0.3
baz=257,SNR=34
BRSE **Bradley Lake S** 91.64 30 P P 09 11 00.1 -0.2
baz=258,SNR=5.8
CAPN **Captain Cook N** 91.65 29 P P 09 11 00.9 +0.6
baz=258,SNR=8.2
SKT **Skwentna** 91.72 28 P P 09 10 59.8 -0.9
baz=258,SNR=43
CAST **Castle Rocks** 91.79 26 P P 09 11 00.3 -0.7
CAST **Castle Rocks** 91.79 26 P P 09 11 00.9 0.0
baz=257,SNR=32
CHUM **Lake Minchumin** 91.79 26 P P 09 11 01.6 +0.7
baz=257,SNR=59
KBZ **Khabaz** 91.83 314 P P 09 11 02.1 +0.5
comp=Z,21nm,1.0s,baz=101,slow=2.7,SNR=26
comp=Z,21nm,1.0s
G21K **Allakaket** 91.91 23 P P 09 11 01.6 +0.2
baz=256
GOF **Gofitskoye** 91.92 315 *ce*P P 09 11 02.5 +0.5
SUA **Susitna One** 91.98 28 P P 09 11 01.4 -0.7
baz=258,SNR=55
H21K **Melozitna Rive** 91.99 24 P P 09 11 02.1 +0.3
baz=257,SNR=32
KIV **Kislovodsk** 92.02 314 *e*P P 09 11 03.1 +0.5
KIV *e* 09 14 42.5
KIV *e* 09 21 21.4
KIV pmax pmax
comp=Z,21nm,1.1s
KIV MLR MLR
comp=Z,187nm,20.0s
KIV **Kislovodsk** 92.02 314 P P 09 11 02.8 +0.2
F21K **Alatna River** 92.09 22 P P 09 11 02.1 -0.2
baz=256
A21K **Barrow** 92.10 18 P P 09 11 02.4 +0.2
baz=253,SNR=20
C21K **Knifeblade Rid** 92.10 20 P P 09 11 02.7 +0.4
baz=255,SNR=41
E21K **Killik River** 92.21 21 P P 09 11 02.9 0.0
baz=256
I21K **Tanana** 92.22 25 P P 09 11 03.0 +0.2
baz=257
O22K **Cooper Landing** 92.28 29 P P 09 11 03.0 -0.2
baz=259,SNR=11
B21K **Ikpikpuk River** 92.28 20 P P 09 11 03.2 +0.2
baz=255
M22K **Willow** 92.33 28 P P 09 11 02.6 -0.8
baz=259,SNR=34
SEW **Seward** 92.34 30 P P 09 11 03.1 -0.5
baz=260,SNR=16
RC01 **Rabbit Creek A** 92.39 29 P P 09 11 03.3 -0.4
baz=259,SNR=31
CUT **Chulitna** 92.39 27 P P 09 11 03.1 -0.6
baz=259,SNR=16
BPAW **Bear Paw Mtn.** 92.41 26 P P 09 11 03.4 -0.4
baz=258,SNR=7.5
A22K **Sinclair Lake** 92.52 19 P P 09 11 04.5 +0.4
baz=255
TRF **Thorofare Moun** 92.58 26 P P 09 11 04.0 -0.8
baz=259,SNR=34
H22K **Ishtalitna Cre** 92.61 24 P P 09 11 05.0 +0.3
baz=258
F22K **John River** 92.65 22 P P 09 11 05.4 +0.6
baz=257
MLY **Manley** 92.70 25 P P 09 11 05.1 -0.1
baz=259,SNR=26
PMR **Palmer** 92.77 28 P P 09 11 05.8 +0.4
PMR **Palmer** 92.77 28 P P 09 11 04.9 -0.5
baz=260,SNR=32
D22K **Ayikyak River** 92.77 21 P P 09 11 06.0 +0.7
baz=257
B22K **Teshekpuk Lake** 92.86 19 P P 09 11 05.8 +0.1
baz=256
E22K **Anaktuvuk Pass** 92.92 22 P P 09 11 06.6 +0.5
baz=258
KNK **Knik Glacier** 93.06 29 P P 09 11 07.2 +0.3
baz=260,SNR=56
SML **Sawmill** 93.18 28 P P 09 11 07.5 +0.1
baz=260,SNR=79
MCK **McKinley** 93.23 26 P P 09 11 07.1 -0.5
baz=260,SNR=82
WAT1 **Susitna Watana** 93.25 27 P P 09 11 07.4 -0.3
baz=260
I23K **Minto, Yukon-K** 93.30 25 P P 09 11 08.0 +0.2
baz=260,SNR=127
G23K **Bananza Creek** 93.31 23 P P 09 11 08.6 +0.7
baz=259,SNR=42
NEA2 **Nenana** 93.32 25 P P 09 11 07.4 -0.6
baz=260,SNR=10
COLD **Coldfoot** 93.34 23 P P 09 11 08.5 +0.5
baz=259,SNR=58
P23K **Montague Islan** 93.34 30 P P 09 11 08.4 +0.3
baz=261
H23K **Yukon River** 93.34 24 P P 09 11 08.4 +0.4
baz=260,SNR=58
M23K **Glacier View** 93.46 28 P P 09 11 08.5 -0.2
baz=261,SNR=46
TROLL **Troll, Antarti** 93.48 195 ⇑P P 09 11 10.8 +2.0
comp=Z,4μm,0.8s
D23K **Nanushuk River** 93.50 21 P P 09 11 09.5 +0.8
baz=259
LABN **Labinsk** 93.50 314 *e*P P 09 11 09.3 0.0
LABN pmax pmax
comp=Z,88nm,1.6s
LODK **Lodwar** 93.53 273 P P 09 11 11.4 +1.2
SNR=5.7
WAT6 **Susitna Watana** 93.58 27 P P 09 11 09.1 -0.3
baz=261,SNR=58
VRH **Novokhopyorsk** 93.63 321 *e*P P 09 11 09.0 -0.6
VRH pmax pmax
comp=Z,108nm,1.2s
SCM **Sheep Creek Mo** 93.66 28 P P 09 11 09.7 0.0
baz=261,SNR=43
C23K **Itkillik River** 93.69 20 P P 09 11 10.0 +0.5
baz=259
E23K **Chandalar** 93.71 22 P P 09 11 10.3 +0.5
baz=260
ERBR **Yeremizino-Bor** 93.80 315 *e*P P 09 11 10.5 -0.1
ERBR *e*S **SKSac** 09 21 30.4 0.0
ERBR pmax pmax
comp=Z,93nm,1.4s
DHY **Denali Highway** 93.82 27 P P 09 11 10.7 +0.2
baz=262,SNR=92
TOLK **Toolik Lake Re** 93.83 21 P P 09 11 10.7 +0.4
baz=260,SNR=47
COLA **College** 93.88 25 P P 09 11 11.8 +1.3
COLA **College** 93.88 25 P P 09 11 09.1 -1.4
baz=261
H24K **Noodor Dome** 94.02 24 P P 09 11 11.4 +0.2
baz=261,SNR=113
POKR **Poker Plat Res** 94.09 25 P P 09 11 11.7 +0.2
baz=262
SOC **Sochi** 94.11 313 *e*P P 09 11 09.9 -2.1
SOC *e**PP **pP** 09 11 46.6 -4.1
SOC *e**SP **sP** 09 12 04.5 -2.3
SOC *e* 09 14 56.4
SOC *e*PPP PPP 09 16 59.7
SOC *e*S **SKSac** 09 21 30.0 -2.1
SOC *e*SSS SSS 09 32 11.6
D24K **Happy Valley** 94.19 21 P P 09 11 12.4 +0.5
baz=261,SNR=67
HDA **Harding Lake** 94.20 26 P P 09 11 10.8 -1.3
baz=262,SNR=51
M24K **Tolsona, Glenn** 94.23 28 P P 09 11 13.1 +0.8
baz=262,SNR=46
EYAK **Cordova Ski Ar** 94.23 30 P P 09 11 14.0 +1.8
EYAK **Cordova Ski Ar** 94.23 30 P P 09 11 12.4 +0.2
baz=263,SNR=7.3
KLU **Klutina** 94.27 29 P P 09 11 12.4 -0.1
baz=263,SNR=20
F24K **Squaw Lake** 94.27 23 P P 09 11 13.4 +1.1
F24K IAmb IAmb 09 11 14.3
comp=Z,88nm,1.1s
F24K **Squaw Lake** 94.27 23 P P 09 11 12.7 +0.4
baz=261
ILAR **Eielson Array** 94.28 25 P P 09 11 11.1 -1.3
comp=Z,24nm,0.9s,baz=270,slow=4.1,SNR=144
ILAR ScP 09 14 55.0
comp=Z,7.5nm,1.0s,baz=257,slow=7.3,SNR=7.4
ILAR PKIKP **PKiKP** 09 15 54.9 -0.2
comp=Z,1.3nm,0.6s,baz=270,slow=3.0,SNR=7.3
ILAR PKKPbc **PKKPdf** 09 28 13.3 -0.6
comp=Z,4.2nm,0.8s,baz=28,slow=1.8,SNR=27
ILAR LR LR 09 49 28.9
comp=Z,135nm,19.9s,baz=264,slow=33
comp=Z,24nm,0.9s
G24K **Hadweenzic Riv** 94.31 23 P P 09 11 13.1 +0.6
baz=262
C24K **Franklin Bluff** 94.32 20 P P 09 11 12.3 -0.1
baz=261
BELA **Belgrano 2** 94.41 184 P P 09 11 13.1 +0.3
BELA IAmb IAmb 09 11 14.4
comp=Z,85nm,0.9s
K24K **Donnelly Dome** 94.63 26 P P 09 11 13.8 -0.3
baz=263,SNR=41
PAX **Paxson** 94.67 27 P P 09 11 14.5 +0.2
baz=263,SNR=72
ARPR **Arapgir-MALATY** 94.68 309 P P 09 11 15.6 +0.6
ARPR IAmb IAmb 09 13 44.3
comp=Z,72nm,0.9s
HARP **HAARP** 94.74 28 P P 09 11 14.9 +0.3
baz=263,SNR=18
KAIM **Kayak Island** 94.82 30 P P 09 11 14.4 -0.5
baz=264
BMRM **Bremner River** 94.84 29 P P 09 11 15.1 0.0
baz=264,SNR=13
G25K **Bearman Lake** 94.86 23 P P 09 11 15.7 +0.7
baz=263,SNR=31
J25K **Salcha River,** 94.90 26 P P 09 11 14.3 -1.0
baz=263
H25L **Birch Creek** 94.91 24 P P 09 11 15.6 +0.4
baz=263
N25K **Chitina, Valde** 94.92 29 P P 09 11 15.7 +0.3
baz=264,SNR=32
PRP **Porcupine Dome** 94.94 25 P P 09 11 14.1 -1.5
baz=263,SNR=7.8
SNAA **Sanae** 95.00 194 P P 09 11 17.0 +1.4
SNAA IAmb IAmb 09 11 18.4
comp=Z,74nm,1.0s
SNAA **Sanae** 95.00 194 ⇑P P 09 11 17.1 +1.4
comp=Z,691nm,0.7s
SNAA **Sanae** 95.00 194 *ce*P P 09 11 16.4 +0.7
SNAA pmax pmax
comp=Z,59nm,1.0s
SNAA **Sanae** 95.00 194 P P 09 11 16.8 +1.1
comp=Z,46nm,0.9s,baz=97,slow=3.6,SNR=25
SNAA LR LR 09 54 13.0
comp=Z,596nm,20.0s,baz=120,slow=35
comp=Z,46nm,0.9s
RIDG **Independent Ri** 95.03 26 P P 09 11 15.8 -0.1
baz=264,SNR=63
D25K **Kavik River** 95.08 21 P P 09 11 15.9 -0.1
baz=263,SNR=23
VORD **Divnogorie** 95.12 321 *e*P P 09 11 15.5 -1.0
VORD pmax pmax
comp=Z,100nm,0.9s
F25K **Christian Rive** 95.14 23 P P 09 11 16.6 +0.3
baz=263
ASF **Jabal al Asfar** 95.19 302 LR LR 10 00 36.8
comp=Z,188nm,19.3s,baz=243,slow=39
E25K **Arctic Village** 95.23 22 P P 09 11 17.5 +0.8
baz=264,SNR=58
VSR **Storozhevoye** 95.23 321 *e*P P 09 11 15.3 -1.7
VSR pmax pmax
comp=Z,100nm,1.4s
VORR **Voronezh** 95.24 321 *e*P P 09 11 16.7 -0.3
VORR pmax pmax
comp=Z,116nm,0.5s
SCRK **Sand Creek** 95.44 26 P P 09 11 17.9 +0.1
baz=265,SNR=30
MENT **Mentasta** 95.46 27 P P 09 11 18.8 +1.0
LPSR **Galich'ya Gora** 95.49 322 *e*P P 09 11 17.1 -1.1
LPSR pmax pmax
comp=Z,110nm,1.2s
L26K **Log Cabin Wild** 95.63 27 P P 09 11 19.0 +0.3
baz=265,SNR=33
MCARA **McCarthy VSAT** 95.64 29 P P 09 11 19.0 +0.3
baz=265,SNR=11
C26K **Camden Bay** 95.65 20 P P 09 11 19.6 +1.1
baz=264
J26L **Joseph Creek** 95.67 26 P P 09 11 18.9 0.0
baz=265,SNR=76
F26K **Sheenjek River** 95.72 23 P P 09 11 19.7 +0.8
baz=265,SNR=37
M26K **Nabesna, AK** 95.74 28 P P 09 11 19.3 +0.2
baz=265
G26K **Porcupine Rive** 95.79 23 P P 09 11 19.9 +0.7
baz=265
KLMR **Klimovskoe** 95.84 331 *e*P P 09 11 15.3 -4.2
KLMR pmax pmax
comp=Z,78nm,1.4s
ANN **Anapa** 95.85 314 *e*P P 09 11 18.5 -1.5
ANN *e*S **SKSac** 09 21 39.8 -1.5
ANN pmax pmax
comp=Z,72nm,1.2s
I26K **Coal Creek Min** 95.91 25 P P 09 11 19.6 -0.2
baz=265
MESA **MESA** 96.08 30 P P 09 11 19.9 -1.0
baz=266
M27K **Edge Creek, AK** 96.26 28 P P 09 11 22.1 +0.4
baz=266,SNR=16
K27K **Chicken** 96.28 26 P P 09 11 22.3 +0.8
K27K **Chicken** 96.28 26 P P 09 11 22.6 +1.1
baz=266,SNR=103
L27K **Beaver Creek,** 96.33 27 P P 09 11 22.5 +0.7
baz=266
CTG **Chitna Glacier** 96.43 29 P P 09 11 23.0 +0.6
baz=267,SNR=9.7
MOS **Moscow** 96.48 325 *e*P P 09 11 20.5 -2.1
MOS *e**PP **pP** 09 11 58.8 -2.6
MOS *e* 09 15 19.8
MOS pmax pmax
comp=Z,88nm,1.3s
MMAI **Mount Meron Ar** 96.52 302 P P 09 11 24.4 +1.0
comp=Z,16nm,1.0s,baz=83,slow=6.8,SNR=4.0
MMAI LR LR 10 03 23.8
comp=Z,164nm,18.2s,baz=49,slow=40
comp=Z,16nm,1.0s
I27K **Kandik River** 96.57 25 P P 09 11 23.5 +0.6
baz=267
VNA2 **Neumayer--Watz** 96.58 193 ⇑P P 09 11 23.9 +1.1
comp=Z,12nm,0.8s,baz=136,slow=5.1
G27K **Doyon Strip** 96.62 23 P P 09 11 23.5 +0.5
baz=267,SNR=34
H27K **Steamboat Moun** 96.64 24 P P 09 11 23.7 +0.5
baz=267
EIL **Elat** 96.64 299 LR LR 10 00 29.6
comp=Z,160nm,20.3s,baz=65,slow=39
E27K **Coleen River** 96.71 22 P P 09 11 23.4 0.0

baz=267
EGAK Eagle 96.72 26 P **P** 09 11 23.6 +0.1
baz=267,SNR=28
BVCY Beaver Creek 96.74 28 P **P** 09 11 23.9 +0.2
baz=267,SNR=24
VNA3 Neumayer Olymp 96.85 193 ⇑P **P** 09 11 25.1 +1.0
comp=Z,17nm,0.8s
YUK3 Moose Creek 96.89 29 P **P** 09 11 24.7 +0.1
baz=267,SNR=8.2
O28M Mount Upton 96.98 30 P **P** 09 11 25.0 -0.1
baz=268
D27M Malcolm River 96.99 21 P **P** 09 11 24.9 +0.2
baz=268,SNR=35
OBN Obninsk 97.05 325 *ce*P **P** 09 11 24.6 -0.5
OBN *e* 09 15 24.5
OBN *e*S **SKSac** 09 21 52.0 +4.9
OBN *e*PS **SP** 09 24 02.9 +6.6
OBN *e*SS **SS** 09 29 14.4 -0.2
OBN pmax pmax
comp=Z,70nm,1.3s
OBN Obninsk 97.05 325 P **P** 09 11 24.5 -0.7
comp=Z,53nm,0.5s,baz=88,slow=2.2,SNR=13
comp=Z,53nm,0.5s
I28M Miner Creek 97.26 25 P Pdif 09 11 26.6 +0.5
baz=268
PNL Peninsula 97.33 31 P Pdif 09 11 26.5 +0.1
baz=268
F28M Old Crow 97.34 23 P **P** 09 11 26.2 -0.1
baz=269,SNR=40
DAWY Dawson 97.46 26 P Pdif 09 11 27.1 +0.2
baz=269,SNR=55
E28M Babbage River 97.49 22 P **P** 09 11 26.7 -0.2
baz=269
YUK4 Talbot Arm 97.75 29 P Pdif 09 11 29.2 +0.7
baz=269
O29M Mount Kennedy 97.76 30 P **P** 09 11 27.6 -0.9
baz=269
D28M Stokes Point 97.78 21 P Pdif 09 11 28.3 +0.2
baz=270
M29M Somme Creek 97.85 28 P Pdif 09 11 29.2 +0.4
baz=269
YUK6 Outpost Mounta 97.88 29 P **P** 09 11 28.7 -0.4
baz=269
H29M Whitestone 97.92 24 P **P** 09 11 28.9 0.0
baz=270
LSZ Lusaka 97.94 253 LR LR 09 50 29.6
comp=Z,173nm,21.8s,baz=125,slow=32
LSZ Lusaka 97.94 253 P Pdif 09 11 30.8 +0.5
J29N Klondike Camp 97.98 26 P Pdif 09 11 29.8 +0.6
baz=270,SNR=16
BOSA Boshof 98.01 240 P Pdif 09 11 31.0 +0.7
comp=Z,22nm,1.1s,baz=107,slow=6.1,SNR=15
BOSA PKKPbc **PKKPbc** 09 28 03.2 -0.5
comp=Z,1.2nm,0.6s,baz=171,slow=2.6,SNR=3.9
BOSA LR LR 09 52 28.4
comp=Z,194nm,19.7s,baz=108,slow=33
comp=Z,22nm,1.1s
L29M L29M 98.01 27 P Pdif 09 11 30.3 +0.9
baz=270
G29M Pine Creek 98.06 23 P Pdif 09 11 29.5 0.0
baz=270
E29M Blow River 98.09 22 P **P** 09 11 29.5 -0.1
baz=271
P29M Windy Craggy 98.18 31 P Pdif 09 11 30.8 +0.6
baz=270
K29M Barlow Dome 98.28 27 P Pdif 09 11 31.0 +0.3
baz=270
HYT Haines Junctio 98.30 30 P Pdif 09 11 31.0 +0.2
baz=270,SNR=6.8
BRTR Keskin Array B 98.36 309 P **P** 09 11 31.0 -0.6
comp=Z,14nm,1.2s,baz=108,slow=4.0,SNR=18
BRTR PP **PP** 09 15 34.5 +0.8
comp=Z,4.1nm,0.9s,baz=115,slow=6.6,SNR=5.9
BRTR PKiKP **PKiKP** 09 16 04.0 +0.7
comp=Z,1.2nm,0.7s,baz=147,slow=5.2,SNR=4.5
BRTR PKKPbc **PKKPbc** 09 28 03.3 0.0
comp=Z,1.1nm,0.8s,baz=255,slow=3.3,SNR=5.4
BRTR LR LR 10 03 04.3
comp=Z,152nm,21.4s,baz=95,slow=40
comp=Z,14nm,1.2s
LBTB Lobatse 98.49 243 P Pdif 09 11 32.5 0.0
LBTB IAmb IAmb 09 11 34.6
comp=Z,35nm,1.1s
LBTB Lobatse 98.49 243 P **P** 09 11 32.5 0.0
LBTB pmax pmax
comp=Z,35nm,1.1s
LBTB Lobatse 98.49 243 LR LR 09 50 54.3
comp=Z,93nm,20.7s,baz=119,slow=32
N30M Aishikik Lake 98.50 29 P Pdif 09 11 32.1 +0.4
baz=270
P30M Million Dollar 98.57 30 P Pdif 09 11 32.4 +0.4
baz=270
EPYK Eagle Plains 98.58 24 P **P** 09 11 31.8 -0.1
baz=271,SNR=27
M30M Minto, Yukon 98.63 28 P Pdif 09 11 32.7 +0.5
baz=271,SNR=12
APA Apatity 98.67 337 ⇓*i*P **P** 09 11 29.4 -2.7
APA pmax pmax
comp=Z,13nm,0.9s
I30M Mount Dempster 98.76 25 P **P** 09 11 32.6 -0.2
baz=272
G30M tAoh Zraii Nji 98.76 23 P **P** 09 11 32.4 -0.3
baz=272
J30M Hart River 98.79 26 P Pdif 09 11 33.5 +0.5
baz=272
PLBC Pleasant Camp 98.88 31 P Pdif 09 11 33.5 +0.2
baz=271
F30M Barrier River 98.91 23 P **P** 09 11 33.1 -0.1
baz=272
S31K Pelican 98.96 33 P **P** 09 11 33.2 -0.5
baz=271
O30N Mendenhall 98.99 30 P **P** 09 11 33.4 -0.4
baz=271
ANTO Ankara 99.01 309 P **Pdif** 09 11 33.8 -0.6
MAYO Mayo, Yukon 99.01 27 P **Pdif** 09 11 33.9 +0.1
baz=272,SNR=11
R31K City Hall, Gus 99.22 32 P **Pdif** 09 11 35.1 +0.3
baz=271
SKAG Skagway 99.40 31 P **Pdif** 09 11 37.5 +1.9
SKAG Skagway 99.40 31 P **Pdif** 09 11 36.2 +0.6
baz=272,SNR=5.7
SIT Sitka 99.47 33 P **Pdif** 09 11 35.4 -0.5
baz=271
G31M Satah River 99.53 23 P **Pdif** 09 11 35.8 -0.2
baz=274,SNR=19
H31M Peel River 99.58 24 P **Pdif** 09 11 36.2 -0.1
baz=274
WHY Whitehorse 99.59 30 P **Pdif** 09 11 37.2 +0.6
baz=272,SNR=12
F31M Tsiigehtchic 99.70 23 P **Pdif** 09 11 36.1 -0.6
baz=274,SNR=8.5
INK Inuvik 99.72 22 P **Pdif** 09 11 36.4 -0.4
baz=275,SNR=23
INK Inuvik 99.72 22 LR LR 09 53 02.1
comp=Z,85nm,21.0s,baz=356,slow=33
JOF Joensuu 99.75 333 *e*P **Pdif** 09 11 36.5 -0.5
M31M Drury Creek, Y 99.76 28 P **Pdif** 09 11 36.8 -0.4
baz=273
S32K Killisnoo 99.86 33 P **Pdif** 09 11 37.8 +0.1
baz=272
R32K Eaglecrest 99.86 32 P **Pdif** 09 11 37.6 -0.1
baz=272
P32M Atlin 100.22 31 P **Pdif** 09 11 39.5 +0.2
baz=273,SNR=5.6
FARO Faro, Yukon 100.24 28 P **Pdif** 09 11 39.2 -0.1
baz=274,SNR=12
N32M Quiet Lake 100.44 29 P **Pdif** 09 11 40.2 -0.1
baz=274
P33M Teslin, Yukon 100.64 30 P **Pdif** 09 11 41.3 +0.1
baz=274,SNR=7.1
U33K Whale Pass 100.72 34 P **Pdif** 09 11 41.5 0.0
baz=273
CRAG Craig 100.75 35 P **Pdif** 09 11 41.7 +0.1
baz=273
Q32M Nakina River 101.00 31 P **Pdif** 09 11 42.7 -0.3
baz=274
WRAK Wrangell Islan 101.13 34 P **Pdif** 09 11 43.5 +0.1
baz=274,SNR=5.6
ARCES ARCESS Array B 101.36 340 P **Pdif** 09 11 43.5 -0.6
comp=Z,23nm,0.9s,baz=80,slow=5.2,SNR=24
ARCES PP **PP** 09 15 53.5 -1.9
comp=Z,8.5nm,1.1s,baz=49,slow=5.5,SNR=5.1
ARCES PKiKP **PKiKP** 09 16 07.9 +0.3
comp=Z,13nm,1.0s,baz=103,slow=1.6,SNR=36
AKASG Malin Array Be 101.50 320 P **Pdif** 09 11 44.6 -0.5
comp=Z,7.7nm,0.8s,baz=73,slow=4.2,SNR=29
AKASG PP **PP** 09 15 56.8 -0.1
comp=Z,2.4nm,0.8s,baz=72,slow=7.0,SNR=6.0

KIEV Kiev 101.51 320 ⇓P **Pdif** 09 11 44.7 -0.5
KIEV Kiev 101.51 320 *i*P **Pdif** 09 11 44.7 -0.5
SNR=6.5
KIEV Kiev 101.51 320 ⇓P **Pdif** 09 11 44.7 -0.5
SPITS Spitsbergen Ar 101.59 349 P **Pdif** 09 11 45.1 +0.1
comp=Z,28nm,0.9s,baz=83,slow=6.8,SNR=18
SPITS PP **PP** 09 15 55.4 -1.5
comp=Z,39nm,1.2s,baz=30,slow=14,SNR=5.5
SPITS PKiKP **PKiKP** 09 16 07.4 -0.5
comp=Z,6.2nm,0.8s,baz=111,slow=4.6,SNR=8.0
V35K Ketchikan 101.61 35 P **Pdif** 09 11 45.8 +0.3
baz=274
R33M Jennings River 101.63 31 P **Pdif** 09 11 46.0 +0.3
baz=275
S34M Telegraph Cree 101.68 32 P **Pdif** 09 11 46.1 +0.3
baz=275,SNR=6.6
A36M Sachs Harbour 101.93 18 P **Pdif** 09 11 46.9 +0.3
baz=283,SNR=11
MNK Minsk 102.09 324 *i*P **Pdif** 09 11 47.8 +0.2
MNK *i* 09 16 03.7
MNK *i*PPP PPP 09 18 12.5
MNK *i*S **SKSac** 09 22 12.8 +0.8
MNK *i*SS **SS** 09 30 27.9 +3.2
MNK *i*SSS SSS 09 34 22.6
MNK pmax pmax
comp=Z,47nm,1.0s
MNK pmax pmax
comp=E,12nm,1.1s
MNK pmax pmax
comp=N,21nm,0.9s
MNK MLR MLR
comp=Z,86nm,13.0s
MNK MLR MLR
comp=N,229nm,14.0s
MNK MLR MLR
comp=E,244nm,20.0s
SORM Soroca 102.18 318 ⇓P **Pdif** 09 11 47.8 -0.4
SORM Soroca 102.18 318 ⇓P **Pdif** 09 11 47.8 -0.4
DLBC Dease Lake 102.21 32 P **Pdif** 09 11 48.5 +0.3
baz=276,SNR=6.0
T35M Bob Quinn 102.24 33 P **Pdif** 09 11 48.9 +0.6
baz=275,SNR=6.8
TPGR Topolog 102.26 314 ⇑P **Pdif** 09 11 49.1 +0.4
TIRR Tirgusor 102.28 314 ⇑P **Pdif** 09 11 49.2 +0.5
TIRR Tirgusor 102.28 314 ⇑P **Pdif** 09 11 49.2 +0.5
FINES FINESS Array B 102.33 331 P **Pdif** 09 11 47.8 -0.7
comp=E,1.5nm,0.5s,baz=62,slow=4.6,SNR=20
FINES PKiKP **PKiKP** 09 16 09.5 0.0
comp=E,11nm,0.7s,baz=90,slow=8.0,SNR=7.7
U35K Hyder 102.46 34 P **Pdif** 09 11 49.7 +0.4
baz=275
HARR Harsova 102.62 314 ⇑P **Pdif** 09 11 50.9 +0.7
HARR Harsova 102.62 314 ⇑P **Pdif** 09 11 50.9 +0.7
WTLY Watson Lake, Y 102.65 30 P **Pdif** 09 11 50.5 +0.4
baz=277,SNR=8.0
TGTN Hyland Airport 102.71 29 P **Pdif** 09 11 50.9 +0.6
baz=278,SNR=7.6
C36M Paulatuk 102.94 20 P **Pdif** 09 11 51.3 +0.2
baz=284,SNR=16
ISAL Salakas 103.00 325 *e*P **Pdif** 09 11 53.3 +1.7
MEF Metsahovi 103.32 330 *e*P **Pdif** 09 11 54.7 +1.8
VRI Vrincioaia 103.41 315 ⇑P **Pdif** 09 11 54.9 +1.1
VRI Vrincioaia 103.41 315 ⇑P **Pdif** 09 11 54.9 +1.1
TESR Tescani 103.42 316 ⇓P **Pdif** 09 11 54.4 +0.6
PLOR Plostina 103.46 315 ⇑P **Pdif** 09 11 55.2 +1.1
PLOR Plostina 103.46 315 ⇑P **Pdif** 09 11 55.2 +1.1
VAF Ylistaro 103.65 333 *e*P **Pdif** 09 11 55.1 +0.7
MLR Muntele Rosu 103.98 315 ⇑P **Pdif** 09 11 57.5 +1.0
MLR Muntele Rosu 103.98 315 ⇑P **Pdif** 09 11 57.5 +1.0
MLR Muntele Rosu 103.98 315 PKiKP **PKiKP** 09 16 12.8 -0.4
comp=E,25nm,1.0s,baz=8.8,slow=6.1,SNR=6.7
VSVD Vaisvydziai 104.18 326 *e*P **Pdif** 09 11 57.6 +0.7
ELND Elena 104.19 312 ⇑P **Pdif** 09 11 57.8 +0.5
PABE Paberze 104.22 325 *e*P **Pdif** 09 11 57.9 +0.8
BURAR Bucovina Array 104.32 317 ⇓P **Pdif** 09 11 59.2 +1.3
BURAR Bucovina Array 104.32 317 ⇓P **Pdif** 09 11 59.2 +1.3
WRGLY Wrigley 104.60 26 P **Pdif** 09 11 59.1 +0.5
baz=283
TOAD Toad River Com 104.64 31 P **Pdif** 09 11 59.6 +0.7
baz=280
SUW Suwalki 104.88 324 *e*P **Pdif** 09 12 01.8 +1.7
KOTAN Kotaneelee Air 104.98 30 P **Pdif** 09 12 01.2 +0.7
baz=282
FLDN Fort Liard 105.25 29 P **PKiKP** 09 16 16.3 +1.5
baz=282
MARR Marisel-Cluj 105.84 316 ⇑P **Pdif** 09 12 06.1 +1.4
DRGR 106.10 317 ⇑P **Pdif** 09 12 07.1 +1.3
DRGR 106.10 317 ⇑P **Pdif** 09 12 07.1 +1.3
GZR Gura Zlata 106.21 315 ⇓P **Pdif** 09 12 07.0 +0.7
GZR Gura Zlata 106.21 315 ⇓P **Pdif** 09 12 07.0 +0.7
HERR Herculane 106.52 315 ⇓P **Pdif** 09 12 08.3 +0.7
CRVS Cervenica-Dubn 106.67 319 *e*P **Pdif** 09 12 10.1 +1.9
CRVS Cervenica-Dubn 106.67 319 *e*PDIFF **Pdif** 09 12 10.1 +1.9
CRVS *e* 09 27 56.4
STHS Stebnicka Huta 106.74 319 *e*PKP **PKiKP** 09 16 22.3 +4.3
SIRR Siria 106.89 316 ⇑P **Pdif** 09 12 10.2 +0.9
FRGS Fruska Gora 108.32 315 ⇑*i*P **PKiKP** 09 16 21.1 0.0
DAG Danmarks Havn 108.37 352 *i*P **PKiKP** 09 16 19.8 -0.4
VYHS Vyhne 108.45 319 *e*PKP **PKiKP** 09 16 21.7 +0.5
VYHS *e*PP **PP** 09 16 54.3 +5.9
VYHS *e* 09 27 33.2
VYHS *e* 09 27 47.1
SJES Sjenica 108.46 313 ⇑*i*P **PKiKP** 09 16 21.8 +0.3
HFS Hagfors 108.53 331 Pdiff **Pdif** 09 12 15.3 -0.9
comp=E,3.6nm,0.9s,baz=116,slow=3.4,SNR=8.6
HFS PKiKP **PKiKP** 09 16 20.7 -0.3
comp=E,4.0nm,0.6s,baz=108,slow=4.7,SNR=7.4
HFS PKKPbc **PKKPbc** 09 27 28.8 -4.8
comp=E,1.3nm,0.7s,baz=178,slow=4.3,SNR=2.1
TEKS Tekeris 108.60 314 ⇑*i*P **PKiKP** 09 16 21.4 -0.2
YKA Yellowknife Ar 108.70 26 Pdiff **Pdif** 09 12 17.4 +0.5
comp=E,2.5nm,0.8s,baz=293,slow=5.3,SNR=26
YKA PKiKP **PKiKP** 09 16 21.1 -0.2
comp=E,11nm,0.8s,baz=300,slow=1.9,SNR=93
YKA PKKPbc **PKKPbc** 09 27 30.4 -2.8
comp=E,4.4nm,0.7s,baz=105,slow=2.9,SNR=42
BBLS Lazi&#263i 108.79 314 ⇑*i*P **PKiKP** 09 16 22.6 +0.5
RUDO Rudo 108.85 314 ⇑*i*P **PKiKP** 09 16 21.6 -0.5
MORC Moravsky Berou 109.05 320 *e*PKiKP **PKiKP** 09 16 23.6 +1.3
MORC *e*PP **PP** 09 16 57.6 +4.9
MORC *e*PKKP **PKKPbc** 09 27 30.4 -1.3
MORC *e* 09 27 44.0
HAPS Han Pijesak,Bl 109.08 314 ⇑*i*P **PKiKP** 09 16 22.9 +0.2
JAVC Velka Javorina 109.14 319 *e*PKiKP **PKiKP** 09 16 24.6 +2.0
JAVC *e*PP **PP** 09 16 59.0 +5.6
JAVC *e*PKKP **PKKPbc** 09 27 30.0 -1.4
DRME Dracevica, Mon 109.18 312 ⇑*i*P **PKiKP** 09 16 23.2 +0.4
NB2 NORSAR Subarra 109.38 333 PKPdif **PKiKP** 09 16 22.4 -0.2
comp=Z,14nm,1.2s,baz=68,slow=1.9
NB2 PKKP **PKKPbc** 09 27 28.7 -2.3
comp=Z,0.3nm,0.7s,baz=243,slow=4.0
NB2 NORSAR Subarra 109.38 333 PKPdif **PKiKP** 09 16 22.4 -0.2
baz=68,slow=1.9
NOA NORSAR Array B 109.38 333 Pdiff **Pdif** 09 12 19.6 -0.4
comp=Z,0.2nm,0.5s,baz=78,slow=6.0,SNR=3.9
NOA PKiKP **PKiKP** 09 16 22.4 -0.2
comp=Z,6.8nm,0.8s,baz=262,slow=3.2,SNR=24
KRLC Kraliky 109.47 321 *e*PKP **PKiKP** 09 16 24.7 +1.6
MODS Modra-Piesok 109.49 319 *e*PKP **PKiKP** 09 16 25.0 +1.8
MODS *e* 09 27 29.6
MODS *e* 09 27 42.6
BRY Bratogost 109.55 313 *e*P **PKiKP** 09 16 23.8 +0.2
DPC Dobruska-Polom 109.70 321 *e*PKP **PKiKP** 09 16 24.9 +1.4
OSTC Ostas 109.72 321 *e*PKP **PKiKP** 09 16 24.9 +1.4
VRAC Vranov 109.75 320 *e*PKiKP **PKiKP** 09 16 24.5 +0.9
VRAC *e*PP **PP** 09 17 01.6 +3.9
VRAC *e*PKKP **PKKPbc** 09 27 28.9 -0.5
VRAC Vranov 109.75 320 PKiKP **PKiKP** 09 16 24.0 +0.4
comp=Z,6.9nm,0.8s,baz=111,slow=3.2,SNR=7.4
CHVC Chvalec 109.81 321 *e*PKP **PKiKP** 09 16 25.1 +1.4
UPC Upice 109.85 321 *e*PKP **PKiKP** 09 16 25.1 +1.3
NEEM North Greenlan 109.91 360 *i*P **PKiKP** 09 16 23.5 -0.1
KRUC Moravsky 109.93 320 *e*PKiKP **PKiKP** 09 16 25.0 +1.0
KRUC *e*PP **PP** 09 17 03.0 +4.0
KRUC *e*PKKP **PKKPbc** 09 27 28.1 -0.7
STON Ston 110.16 313 ⇑*i*P **PKiKP** 09 16 23.2 -1.3
BLY Banja Luka 110.22 315 ⇑*i*P **PKiKP** 09 16 24.5 -0.1
RONA Rosalia, Austr 110.27 318 *e*PKiKP **PKiKP** 09 16 25.2 +0.5
comp=Z,9.3nm,1.0s
RONA *e*SKP 09 19 45.5
comp=Z,1.8nm,0.7s
MGRS Mrkonjic Grad 110.35 315 ⇑*i*P **PKiKP** 09 16 27.7 +2.8
A051A Mrakovica 110.37 315 ⇑*i*P **PKiKP** 09 16 25.5 +0.5
CONA Conrad Observa 110.51 318 *e*PKiKP **PKiKP** 09 16 25.1 -0.1
comp=Z,5.5nm,0.7s
CONA Conrad Observa 110.51 318 *e*PKKP 09 27 26.2
comp=Z,4.7nm,0.7s,SNR=9.0
COP Copenhagen 110.56 327 *i*P **PKiKP** 09 16 25.3 +0.4
RUE Ruedersdorf 110.72 324 *e*PKPdif **PKiKP** 09 16 26.4 +1.1
baz=75,slow=1.9
A050A Klekovaca 110.73 315 ⇑*i*P **PKiKP** 09 16 25.1 -0.6
PVCC Panska Ves 110.75 321 *e*PKP **PKiKP** 09 16 26.4 +1.0
PVCC Panska Ves 110.75 321 *e*PKiKP **PKiKP** 09 16 26.4 +1.0
GOPC GO Pecny, Ondr 110.76 321 *e*PKP **PKiKP** 09 16 26.6 +1.1
GOPC GO Pecny, Ondr 110.76 321 *e*PKiKP **PKiKP** 09 16 26.6 +1.1
ARSA Arzberg 110.88 318 *e*PKiKP **PKiKP** 09 16 26.3 +0.4
comp=Z,12nm,1.1s
ARSA Arzberg 110.88 318 *i*PKKP 09 27 25.2
comp=Z,3.1nm,0.6s,SNR=6.3
PRU Pruhonice 110.89 321 *e*PKP **PKiKP** 09 16 26.3 +0.6
PRU Pruhonice 110.89 321 *e*PKiKP **PKiKP** 09 16 26.3 +0.6
BRG Berggiesshubel 111.04 322 *i*PKiKP **PKiKP** 09 16 26.9 +0.9
BRG 09 27 25.4
BRG pmax pmax
comp=Z,15nm,0.8s
BRG Berggiesshubel 111.04 322 *e*PKPdif **PKiKP** 09 16 27.1 +1.1
baz=75,slow=1.9
ZVC Zvikov 111.25 320 *e*PKP **PKiKP** 09 16 26.9 +0.5
PERS Pernice 111.28 317 *i*PKiKP **PKiKP** 09 16 26.9 +0.2
PERS *i*PP **PP** 09 17 13.3 +4.4
PERS *i*PKKPbc **PKKPbc** 09 27 23.9 -0.5
CKRC Cesky Krumlov 111.32 320 *e*PKP **PKiKP** 09 16 27.0 +0.4
CKRC Cesky Krumlov 111.32 320 *e*PKiKP **PKiKP** 09 16 27.0 +0.4
SOKA Soboth 111.33 317 *e*PKiKP **PKiKP** 09 16 26.7 -0.1
comp=Z,6.1nm,0.6s,SNR=8.0
SOKA *e*SKP 09 19 47.3
comp=Z,0.3nm,0.2s
SOKA Soboth 111.33 317 *e*PKKP 09 27 23.3
comp=Z,1.9nm,0.6s,SNR=4.3
BOJS Bojanci 111.42 316 *i*PKiKP **PKiKP** 09 16 27.7 +0.8
BOJS Bojanci 111.42 316 ⇑*i*P **PKiKP** 09 16 27.1 +0.2
CLL Collm 111.50 322 *e*P **Pdif** 09 12 30.0 +0.4
CLL *i* 09 16 27.2
CLL *e* 09 22 52.0
CLL *i* 09 27 33.2
CLL pmax pmax
comp=Z,19nm,0.8s
CLL pmax pmax
comp=Z,15nm,1.2s
CLL Collm 111.50 322 *e*Pdif **Pdif** 09 12 30.0 +0.4
CLL *i*PKiKP **PKiKP** 09 16 27.2 +0.4
comp=Z,19nm,0.8s
CLL *ex* x 09 16 48.0
CLL *e*PP **PP** 09 17 10.0 -0.1
CLL *e*PP 09 17 46.0
CLL *ex* x 09 19 06.0
CLL *e*PPP PPP 09 19 31.0
CLL *e*SKPdf **SKiKP** 09 19 48.0 +0.4
CLL *es*PPP 09 20 24.0
CLL *e*PPPP 09 21 24.0
CLL *e*SKSac **SKSac** 09 22 52.0 -1.4
CLL *e*SKKSac **SKKSac** 09 23 55.0 -1.9
CLL *e*Sdif **Sdif** 09 24 42.0 +6.8
CLL *e*(SP) 09 26 18.0
CLL *e*PKiKPbc **PKKPbc** 09 27 24.1 +0.3
CLL *es*PS 09 27 26.0
CLL *i*PKKPab **PKKPab** 09 27 33.2 +1.5
comp=Z,15nm,1.2s
CLL *es*PPS 09 28 36.0
CLL *e*PcPPKPre 09 31 25.0
CLL *e*SS **SS** 09 32 30.0 -2.2
CLL *e*PPPrev 09 35 06.0
CLL *e*(SSS) 09 36 24.0
CLL *ex* x 09 41 24.0
CLL Collm 111.50 322 *e*PKPdf **PKiKP** 09 16 27.6 +0.8
baz=75,slow=1.9
CLL *ep*PKPdf **PP** 09 17 11.2 +1.1
MOA Molln 111.58 319 *e*PKiKP **PKiKP** 09 16 27.2 0.0
comp=Z,9.8nm,1.0s
MOA Molln 111.58 319 *i*PKKP 09 27 23.0
comp=Z,2.0nm,0.3s
NEW Newport 111.58 41 P **PKiKP** 09 16 27.9 +0.7
baz=284
OBKA Obir 111.69 317 *e*PKiKP **PKiKP** 09 16 27.6 +0.1
comp=Z,2.2nm,0.6s
OBKA *e*SKP 09 19 49.5
comp=Z,1.5nm,0.6s
OBKA Obir 111.69 317 *i*PKKP 09 27 23.0
comp=Z,4.7nm,0.7s,SNR=6.3
OBKA Obir 111.69 317 ⇑*i*P **PKiKP** 09 16 27.0 -0.5
GEC2 GERESS Array S 111.70 320 *e*PKPdf **PKiKP** 09 16 28.2 +0.7
baz=75,slow=1.9
GERES GERESS Array B 111.70 320 Pdiff **Pdif** 09 12 31.5 +0.8
comp=Z,0.9nm,1.0s,baz=69,slow=8.7,SNR=3.4
GERES PKiKP **PKiKP** 09 16 27.4 0.0
comp=Z,13nm,0.6s,baz=48,slow=3.7,SNR=61
GERES PP **PP** 09 17 11.5 -0.3
comp=Z,1.9nm,0.7s,baz=53,slow=6.9,SNR=4.5
GERES SKP 09 19 47.1
comp=Z,2.1nm,0.7s,baz=43,slow=4.2,SNR=4.4
GERES PKKPbc **PKKPbc** 09 27 21.6 -1.5
comp=Z,2.2nm,0.8s,baz=330,slow=1.1,SNR=8.6
KHC Kasperske Hory 111.71 320 *e*PKP **PKiKP** 09 16 27.9 +0.5
KHC Kasperske Hory 111.71 320 *e*PKiKP **PKiKP** 09 16 27.9 +0.5
SMMC Simmler 111.74 55 P **PKiKP** 09 16 29.1 +1.2
baz=277
PKM Mcpherson Peak 111.93 55 P **PKiKP** 09 16 29.9 +1.4
baz=276,SNR=6.2
CEY Cerknica 111.94 316 *i*PKiKP **PKiKP** 09 16 28.4 +0.5
CEY *i*PKKPbc **PKKPbc** 09 27 22.1 0.0
CEY Cerknica 111.94 316 ⇑*i*P **PKiKP** 09 16 27.8 -0.1
BIOA Bad Ischl, Aus 112.03 319 *e*PKiKP **PKiKP** 09 16 28.3 +0.3
comp=Z,11nm,0.8s,SNR=5.6
BIOA Bad Ischl, Aus 112.03 319 *e*PKKP 09 27 21.5
comp=Z,1.4nm,0.4s
SBC Santa Barbara 112.07 56 P **PKiKP** 09 16 30.0 +1.6
baz=276
TANN Tannenbergstha 112.08 322 *e*PKPdf **PKiKP** 09 16 29.0 +0.9
baz=75,slow=1.9
VOG Valley Oaks Go 112.11 54 P **PKiKP** 09 16 29.6 +1.2
baz=277
SSRD Sdr. Stenderup 112.13 327 *i*P **PKiKP** 09 16 28.4 +0.5
NKC Novy Kostel 112.13 321 *e*PKP **PKiKP** 09 16 29.6 +1.5
NKC Novy Kostel 112.13 321 *e*PKiKP **PKiKP** 09 16 29.6 +1.5
WET Wettzell 112.15 320 *e*PKPdf **PKiKP** 09 16 29.2 +1.0
baz=75,slow=1.9
FLTG Flechtingen 112.26 324 *e*PKPdf **PKiKP** 09 16 29.1 +0.9
baz=75,slow=1.9
NEUB Neuenburg 112.27 323 *e*PKPdf **PKiKP** 09 16 29.2 +0.9
baz=75,slow=1.9
MYKA Terra Mystica 112.27 317 *e*PKiKP **PKiKP** 09 16 28.8 +0.2
comp=Z,3.7nm,0.6s
MYKA Terra Mystica 112.27 317 *e*PKKP 09 27 20.6
comp=Z,5.9nm,0.6s,SNR=5.3
BSEG Bad Segeberg 112.28 326 *e*PKPdf **PKiKP** 09 16 29.8 +1.6
baz=75,slow=1.9
SNCC San Nicolas Is 112.35 57 P **PKiKP** 09 16 29.9 +0.8
baz=276
KBA Koelnbreinsper 112.37 318 *i*PKiKP **PKiKP** 09 16 27.9 -0.9
comp=Z,7.2nm,0.6s
KBA Koelnbreinsper 112.37 318 *i*PKKP 09 27 20.1
comp=Z,2.5nm,0.7s
ROTZ Rotzenmuhle 112.41 321 *e*PKPdf **PKiKP** 09 16 29.5 +0.8
baz=75,slow=1.9
ROTZ *ep*PKPdf **PP** 09 17 15.0 -1.7
MANZ Manzenberg 112.41 321 *e*PKPdf **PKiKP** 09 16 29.7 +1.0
baz=75,slow=1.9
VES Vestal, Richgr 112.41 54 P **PKiKP** 09 16 30.1 +1.1
baz=277
MOX Moxa 112.53 322 *e*PKPdf **PKiKP** 09 16 29.7 +0.8
baz=75,slow=1.9
RJOB Jochberg 112.57 319 *e*PKPdf **PKiKP** 09 16 29.4 +0.3
baz=75,slow=1.9
ASSE Asse, Remlinge 112.65 324 *e*PKPdf **PKiKP** 09 16 30.1 +1.2
baz=75,slow=1.9
NVAR Mina Array Bea 112.67 51 Pdiff **Pdif** 09 12 37.4 +2.0
comp=Z,3.3nm,1.0s,baz=255,slow=6.2,SNR=8.2
NVAR PKiKP **PKiKP** 09 16 31.4 +1.6
comp=Z,9.2nm,1.0s,baz=253,slow=2.5,SNR=28
NVAR PP **PP** 09 17 16.6 -2.6
comp=Z,3.3nm,0.9s,baz=258,slow=5.1,SNR=4.6
NVAR PKKPbc **PKKPbc** 09 27 17.1 -2.7
comp=Z,2.7nm,0.7s,baz=111,slow=4.0,SNR=12
ARVC Arvin 112.71 55 P **PKiKP** 09 16 31.2 +1.5
baz=277,SNR=5.5
KULLO Kullorsuaq 112.71 2 *i*P **PKiKP** 09 16 28.1 -0.5
LESA Schwarzleotal 112.72 318 *e*PKiKP **PKiKP** 09 16 28.9 -0.5
comp=Z,12nm,0.7s
LESA *e*SKP 09 19 49.1

comp=Z,1.0nm,0.4s
LESA Schwarzleotal 112.72 318 *i* PKKP 09 27 19.6
comp=Z,2.9nm,0.5s
NRDL Niedersach Rie 112.86 324 *e*PKPdf **PKiKP 09 16 30.8 +1.5**
baz=75,slow=1.9
NRDL *e*pPKPdf **PP 09 17 15.3 -4.4**
CLZ Clausthal 112.92 324 *e*PKPdf **PKiKP 09 16 30.9 +1.3**
baz=75,slow=1.9
ISA Isabella, Lake 112.93 54 P **PKiKP 09 16 31.4 +1.2**
baz=278
TIN Tinemaha, Big 112.93 53 P **PKiKP 09 16 31.5 +1.3**
baz=278
ABTA Abfaltersbach 113.00 318 *e*PKiKP **PKiKP 09 16 29.5 -0.5**
comp=Z,16nm,0.6s,SNR=13
ABTA *e*SKP 09 19 50.2
comp=Z,3.8nm,0.9s
ABTA Abfaltersbach 113.00 318 *i* PKKP 09 27 18.5
comp=Z,4.9nm,0.8s,SNR=6.0
GRF Grafenberg Arr 113.05 321 *e*PKPdf **PKiKP 09 16 30.7 +0.9**
baz=75,slow=1.9
CWC Cottonwood Cre 113.14 54 P **PKiKP 09 16 31.7 +1.1**
baz=278
SCI2 San Clemente I 113.19 57 P **PKiKP 09 16 31.6 +1.0**
baz=276
DECC Green Verdugo 113.22 56 P **PKiKP 09 16 31.7 +1.0**
baz=277
GTTG Gottingen 113.25 323 *e*PKPdf **PKiKP 09 16 31.4 +1.2**
baz=75,slow=1.9
CIS Catalina Islan 113.26 57 P **PKiKP 09 16 31.7 +0.9**
baz=277
FMP Fort Macarthur 113.32 57 P **PKiKP 09 16 31.9 +1.1**
baz=277
EDW2 Edwards Air Fo 113.42 55 P **PKiKP 09 16 32.3 +1.2**
baz=278,SNR=14
FUR Furstenfeldbru 113.44 320 *e*PKPdf **PKiKP 09 16 31.5 +0.8**
baz=75,slow=1.9
WTTA Wattenberg 113.45 319 *e*PKiKP **PKiKP 09 16 30.8 -0.1**
comp=Z,73nm,0.7s,SNR=34
WTTA *i* SKP 09 19 51.8
comp=Z,6.6nm,0.5s
WTTA Wattenberg 113.45 319 *e*PKKP 09 27 17.6
comp=Z,5.7nm,0.9s,SNR=5.5
UBBA Unterbreizbach 113.46 323 *e*PKPdf **PKiKP 09 16 31.1 +0.7**
baz=75,slow=1.9
WATA Walderalm 113.47 319 *e*PKiKP **PKiKP 09 16 30.6 -0.3**
comp=Z,16nm,0.5s,SNR=19
WATA *e*SKP 09 19 51.0
comp=Z,1.0nm,0.3s
WATA Walderalm 113.47 319 *i* PKKP 09 27 17.3
comp=Z,12nm,1.0s
HLG Helgoland 113.53 327 *e*PKPdf **PKiKP 09 16 32.1 +1.5**
baz=75,slow=1.9
LRMC Laurel Mtn Rad 113.59 55 P **PKiKP 09 16 32.7 +1.2**
baz=278,SNR=9.4
GRAC Grapevine Rang 113.62 53 P **PKiKP 09 16 33.2 +1.7**
baz=279,SNR=6.0
MPMC Manual Prospec 113.67 54 P **PKiKP 09 16 32.9 +1.2**
baz=278,SNR=18
SQTA Sankt Quirin 113.74 319 *e*PKP **PKiKP 09 16 31.5 0.0**
comp=Z,14nm,1.0s,SNR=9.5
SQTA Sankt Quirin 113.74 319 *e*PKKP 09 27 16.4
comp=Z,1.9nm,0.3s,SNR=4.4
MOTA Moosalm 113.78 319 *e*PKP **PKiKP 09 16 31.1 -0.4**
comp=Z,21nm,0.5s,SNR=12
MOTA *e*SKP 09 19 51.6
comp=Z,6.1nm,1.0s
MOTA Moosalm 113.78 319 *i* PKKP 09 27 16.1
comp=Z,3.9nm,0.6s
BFSC Mount Baldy Ra 113.78 56 P **PKiKP 09 16 33.6 +1.7**
baz=278
RETA Reutte 113.96 319 *e*PKP **PKiKP 09 16 31.1 -0.7**
comp=Z,8.9nm,0.6s,SNR=5.3
RETA Reutte 113.96 319 *e*PKKP 09 27 15.6
comp=Z,3.7nm,0.8s
FURC Furnace Creek, 114.10 53 P **PKiKP 09 16 33.9 +1.7**
baz=279,SNR=9.0
FETA Feichten 114.11 318 *e*PKP PKPdf 09 16 32.1 -0.1
comp=Z,12nm,0.7s,SNR=7.2
FETA *e*SKP 09 19 53.0
comp=Z,0.8nm,0.5s
FETA Feichten 114.11 318 *e*PKKP 09 27 15.0
comp=Z,3.2nm,0.7s,SNR=4.1
MURC Murrieta 114.24 57 P **PKiKP 09 16 34.0 +1.3**
baz=278
KASTN Kahler Asten 114.28 323 *e*PKPdf **PKiKP 09 16 33.3 +1.1**
baz=75,slow=1.9
IBBN Ibbenburen 114.28 325 *e*PKPdf **PKiKP 09 16 33.1 +1.0**
baz=75,slow=1.9
SUMG Summit 114.32 356 *i* P **PKiKP 09 16 33.0 +0.8**
GSC Goldstone, Bar 114.33 55 P **PKiKP 09 16 34.2 +1.3**
baz=279,SNR=11
UBR Ueberruh 114.33 319 *e*PKPdf **PKiKP 09 16 33.1 +0.6**
baz=75,slow=1.9
BBRC Big Bear Solar 114.38 56 P **PKiKP 09 16 34.4 +1.2**
baz=278
109C Camp Elliot, M 114.41 57 P **PKiKP 09 16 34.4 +1.4**
baz=277
UPNV Upernavik 114.54 2 *i* P PKPdf 09 16 32.0 0.0
HLID Hailey 114.54 45 P **PKiKP 09 16 34.8 +1.6**
baz=284,SNR=54
TNS Taunus Mts 114.59 322 *e*PKPdf **PKiKP 09 16 33.8 +1.0**
baz=75,slow=1.9
STU Stuttgart 114.59 321 *e*PKPdf **PKiKP 09 16 33.6 +0.8**
baz=75,slow=1.9
DAVA Damuels 114.59 319 *e*PKP PKPdf 09 16 33.1 -0.1
comp=Z,38nm,0.5s,SNR=14
DAVA *i* SKP 09 19 54.1
comp=Z,2.3nm,0.3s
DAVA Damuels 114.59 319 *e*PKKP 09 27 13.7
comp=Z,7.3nm,1.0s
SHOC Shoshone, Teco 114.66 54 P **PKiKP 09 16 34.9 +1.4**
baz=279,SNR=6.8
DAVOX Davos/Dischmat 114.74 318 PKP PKPdf 09 16 33.5 0.0
comp=Z,21nm,0.6s,baz=108,slow=2.9,SNR=58
DAVOX SKP 09 19 54.1
comp=Z,3.3nm,0.7s,baz=51,slow=6.5,SNR=3.5
HEC Hector,Ludlow 114.78 55 P **PKiKP 09 16 35.2 +1.4**
baz=279
R11B Troy Canyon, C 114.78 51 P **PKiKP 09 16 35.2 +1.4**
baz=281,SNR=22
PFO Pinyon Flats O 114.85 56 P PKPdf 09 16 35.2 +1.2
baz=278
TPFO Pinon Flats 114.86 56 P PKPdf 09 16 35.3 +1.3
baz=278,SNR=9.5
BUG Bochum--Univer 114.87 324 *e*PKPdf PKPdf 09 16 34.2 +1.0
baz=75,slow=1.9
MONP2 Monument Peak 114.98 57 P PKPdf 09 16 35.6 +1.3
baz=278,SNR=6.5
TUQ Turquoise Moun 115.02 54 P **PKPdf 09 16 36.0 +1.7**
baz=279
BELC Belle Mtn. Jos 115.18 56 P **PKPdf 09 16 36.1 +1.4**
baz=278,SNR=20
LRW Lerwick 115.25 335 *e*P **PKPdf 09 16 33.9 +0.2**
BFO Black Forest 115.27 320 *e*PKPdf **PKPdf 09 16 34.4 +0.2**
baz=75,slow=1.9
IKP In-Ko-Pah, Jac 115.27 57 P **PKPdf 09 16 36.6 +1.9**
baz=278
AHRW Bad Neuenahr-A 115.30 323 *e*PKPdf **PKPdf 09 16 35.3 +1.2**
baz=75,slow=1.9
GMRC Granite Mounta 115.33 55 P **PKPdf 09 16 36.5 +1.6**
baz=279,SNR=6.9
SWSC Sam W. Stewart 115.49 57 P **PKiKP 09 16 36.7 +1.7**
baz=278
BC3 Big Chuckawall 115.67 56 P **PKiKP 09 16 37.2 +1.6**
baz=279,SNR=16
NUUG Nuugaatsiaq 115.84 1 *i* P **PKPdf 09 16 34.8 +0.2**
BTNL Ternell 115.85 323 *d*PKP **PKPdf 09 16 35.0 -0.3**
IRM Iron Mountain 115.85 56 P **PKiKP 09 16 37.0 +1.2**
baz=279
MEM Membach 115.92 323 *d*PKP **PKiKP 09 16 36.0 +0.7**
BOZ Bozeman (W) 115.92 43 P **PKiKP 09 16 36.9 +1.2**
baz=287,SNR=25
BHOU Houvegnez 116.01 323 *d*PKP **PKiKP 09 16 36.5 +1.0**
WLF Walferdange 116.17 322 *d*PKP **PKiKP 09 16 36.3 +0.4**
WLF Walferdange 116.17 322 *e*PKPdf **PKiKP 09 16 37.1 +1.3**
baz=75,slow=1.9
NEE2 Needles Airpor 116.18 55 P **PKiKP 09 16 37.4 +1.1**
baz=280
BSTI Sart Tilman 116.19 323 *d*PcP **PKiKP 09 16 36.2 +0.3**
GLA Glamis 116.28 57 P **PKiKP 09 16 37.7 +1.1**
baz=279
HINF Hinteralfeld 116.38 320 *e*PKiKP **PKPdf 09 16 34.9 -1.5**
EGMT Eagleton 116.38 40 P **PKiKP 09 16 37.3 +0.9**
baz=290
BCLA Clavier 116.40 323 *d*PKPdf **PKiKP 09 16 36.5 +0.2**
PGF Pioggiola 116.50 314 *e*PKiKP **PKPdf 09 16 36.7 -0.2**
DUG Dugway, Tooele 116.50 49 P **PKiKP 09 16 38.4 +1.4**
baz=284,SNR=26
BGES Gesves 116.54 323 *d*PKPdf **PKiKP 09 16 37.0 +0.4**
RCHB Rochefort 116.55 323 *d*PKP **PKiKP 09 16 37.5 +0.9**
PDMCI Parker Dam,Lak 116.65 55 P **PKiKP 09 16 38.6 +1.3**
baz=280,SNR=7.9
BMRD Maredsous 116.77 323 *d*PKP **PKiKP 09 16 37.7 +0.7**
GIVF Givet 116.81 323 *e*PKiKP **PKiKP 09 16 37.3 +0.2**
DOU Dourbes 116.95 323 *d*PKPdf **PKiKP 09 16 38.1 +0.8**
H17A Grant Village 116.99 44 P **PKiKP 09 16 39.9 +1.9**
baz=287,SNR=15
BAIF Baives 117.19 323 *e*PKiKP **PKiKP 09 16 38.1 +0.3**
LPG La Plagne 117.20 318 *e*PKiKP **PKPdf 09 16 38.3 -0.1**
LPL La Plagne 117.20 318 *e*PKiKP **PKPdf 09 16 38.2 -0.1**
MCD Coleburn Disti 117.55 333 *e*P **PKPdf 09 16 37.8 -0.4**
RLMT Red Lodge 117.65 43 P **PKiKP 09 16 40.5 +1.3**
baz=289,SNR=16
SOEG Soedalen 117.73 352 *i* P **PKPdf 09 16 38.2 -0.1**
ICESG Greenland Ices 117.82 355 *i* P **PKPdf 09 16 38.8 -0.2**
KEST Kesra 117.82 307 PKP **PKiKP 09 16 40.3 +0.7**
comp=Z,27nm,0.8s,baz=100,slow=0.6,SNR=19
KEST PP **PP 09 17 51.6 -3.7**
comp=Z,32nm,1.2s,baz=342,slow=1.8,SNR=4.1
ORIF Oris-en-Rattie 117.97 317 *e*PKiKP **PKPdf 09 16 39.4 -0.2**
LMR La Mourre 118.03 315 *e*PKiKP **PKiKP 09 16 39.7 0.0**
GDLE Glaisdale, N Y 118.03 329 *e*P **PKiKP 09 16 39.5 +0.2**
WACR West Acre 118.09 327 *e*P **PKPdf 09 16 39.2 -0.2**
214A Organ Pipe Nat 118.14 58 P **PKiKP 09 16 41.4 +1.1**
baz=279
BW06 Boulder Array 118.18 45 P **PKiKP 09 16 41.1 +0.8**
baz=287
ELMS Elmsett, Ipswi 118.18 326 *e*P **PKiKP 09 16 40.0 +0.3**
ELMS IAmb IAmb 09 16 40.9
comp=Z,54nm,0.7s
PDAR Pinedale Array 118.18 45 Pdiff **Pdif 09 13 02.5 +2.6**
comp=Z,0.1nm,0.3s,baz=305,slow=6.3,SNR=1.4
PDAR PKP **PKPdf 09 16 40.2 -0.1**
comp=Z,16nm,0.7s,baz=239,slow=1.3,SNR=102
PDAR PKKPbc **PKKPbc 09 27 00.1 -0.7**
comp=Z,5.9nm,0.7s,baz=113,slow=6.9,SNR=23
EDMD Edmundbyers 118.40 330 *e*P **PKiKP 09 16 40.2 +0.2**
EDMD IAmb IAmb 09 16 41.5
comp=Z,75nm,1.3s
LOR Lormes 118.47 320 *e*PKiKP **PKPdf 09 16 40.2 -0.2**
ELSH Elham, Standar 118.52 325 *e*P **PKiKP 09 16 40.9 +0.5**
ELSH IAmb IAmb 09 16 41.8
comp=Z,95nm,0.9s
INVG Invergeldie, C 118.55 332 *e*P **PKPdf 09 16 39.9 -0.3**
WUAZ Wupatki 118.65 54 P **PKiKP 09 16 42.9 +1.6**
baz=282,SNR=17
HPK Haverah Park 118.68 329 *e*P **PKPdf 09 16 40.5 0.0**
SMF Signal de Mont 118.71 320 *e*PKiKP **PKPdf 09 16 39.7 -1.2**
EKA Eskdalemuir Ar 118.72 331 PKP **PKiKP 09 16 40.8 +0.2**
comp=Z,5.0nm,0.4s,baz=41,slow=3.7,SNR=63
EKA PP **PP 09 17 57.0 -3.6**
comp=Z,6.9nm,1.0s,baz=52,slow=5.4,SNR=3.4
EKA PKKPbc **PKKPbc 09 26 57.1 -1.8**
comp=Z,2.5nm,0.7s,baz=256,slow=2.9,SNR=7.1
KPL Plockton 118.75 334 *e*P **PKPdf 09 16 40.3 -0.2**
ESK Eskdalemuir 118.76 331 *e*P **PKPdf 09 16 40.4 -0.2**
SSF Saint Saulge 118.77 320 *e*PKiKP **PKPdf 09 16 40.9 0.0**
VIVF Saint-Julien-l 118.80 318 *e*PKiKP **PKPdf 09 16 41.0 -0.1**
AVF Avril sur Loir 118.97 320 *e*PKiKP **PKPdf 09 16 41.0 -0.3**
LBWR Ladybower, Pea 119.01 328 *e*P **PKPdf 09 16 41.1 -0.1**
KESW Keswick, Cumbr 119.09 330 *e*P **PKiKP 09 16 41.5 +0.1**
LAO LASA Array 119.10 40 P **PKiKP 09 16 43.4 +1.6**
baz=292,SNR=66
LAO LASA Array 119.10 40 P **PKiKP 09 16 42.7 +1.0**
baz=292,SNR=66
CWF Charnwood Fore 119.12 328 *e*P **PKiKP 09 16 41.6 +0.1**
NEWG New Galloway 119.36 331 *e*P **PKPdf 09 16 41.6 -0.1**
BGF Bois d'Agland 119.38 320 *e*PKiKP **PKiKP 09 16 42.3 +0.1**
DGMT Dagmar 119.65 38 P **PKiKP 09 16 43.4 +0.7**
baz=295
DGMT Dagmar 119.65 38 P **PKiKP 09 16 43.4 +0.7**
baz=295
GAL1 Galloway 119.73 331 *e*P **PKPdf 09 16 42.3 -0.2**
TUC Tucson 119.77 57 P **PKiKP 09 16 44.9 +1.4**
baz=281
O20A White River Ci 119.90 48 P **PKiKP 09 16 45.1 +1.4**
baz=287,SNR=82
SWN1 Swindon 119.98 327 *e*P **PKPdf 09 16 42.7 -0.4**
SWN1 IAmb IAmb 09 16 44.5
comp=Z,112nm,0.7s
IOMK Kirk Michael 119.99 330 *e*P **PKiKP 09 16 43.2 0.0**
FOEL Foel Wylfa 120.03 328 *e*P **PKiKP 09 16 43.9 +0.6**
FOEL IAmb IAmb 09 16 44.7
comp=Z,34nm,0.7s
W18A Petrified Fore 120.05 54 P **PKiKP 09 16 45.4 +1.3**
baz=283,SNR=5.9
STRD Stroud 120.05 327 *e*P **PKiKP 09 16 43.4 0.0**
HLM1 Long Mynd 120.06 328 *e*P **PKPdf 09 16 43.3 0.0**
WIM Long Man 120.11 330 *e*P **PKiKP 09 16 43.4 0.0**
CLGH Cloghs, Cushen 120.27 332 *e*P **PKiKP 09 16 43.9 +0.3**
LLW Llanuwchllyn 120.30 329 *e*P **PKPdf 09 16 43.6 0.0**
K22A Casper 120.34 44 P **PKiKP 09 16 45.0 +0.6**
baz=290,SNR=38
K22A Casper 120.34 44 P **PKiKP 09 16 44.5 +0.1**
baz=290
MONM Monmouth 120.36 327 *e*P **PKiKP 09 16 44.1 +0.2**
LDF La Druitiere 120.38 323 *e*PKiKP **PKPdf 09 16 43.9 -0.1**
MCH1 Michaelchurch 120.39 328 *e*P **PKiKP 09 16 44.2 +0.2**
SFJD Kangerlussuaq 120.42 360 *i* P **PKPdf 09 16 43.3 -0.2**
WPS Cemaes, Angles 120.43 329 *e*P **PKPdf 09 16 43.5 -0.4**
WPS IAmb IAmb 09 16 45.6
comp=Z,35nm,0.9s
WLF1 Llynfaes 120.44 329 *e*P **PKPdf 09 16 43.9 0.0**
WLF1 IAmb IAmb 09 16 45.3
comp=Z,102nm,0.8s
MVCO Mesa Verde 120.51 51 P **PKiKP 09 16 46.6 +1.6**
baz=285,SNR=48
DY2G Dye2 120.83 358 *i* P **PKiKP 09 16 44.9 +0.2**
ILTH Belurgan, Co L 120.98 331 *e*P **PKPdf 09 16 44.6 -0.3**
ANGG Ammassalik, Gr 121.00 353 *i* P **PKPdf 09 16 43.9 -0.7**
ISOG Isortoq, Green 121.21 354 *i* P **PKPdf 09 16 44.8 -0.3**
MFF Saint Martin d 121.25 321 *e*PKiKP **PKPdf 09 16 45.6 -0.1**
N23A Red Feather La 121.33 46 P **PKiKP 09 16 47.4 +0.8**
baz=289,SNR=20
RSBS Rosebush, Pemb 121.33 328 *e*P **PKiKP 09 16 45.8 0.0**
RSBS IAmb IAmb 09 16 46.8
comp=Z,40nm,0.8s
LFF La Frestale 121.36 319 *e*PKiKP **PKiKP 09 16 46.4 +0.3**
RSSD Black Hills 121.50 42 P **PKiKP 09 16 47.1 +0.3**
baz=293
RSSD Black Hills 121.50 42 P **PKPdf 09 16 46.4 -0.2**
baz=293
ISCO Idaho Springs 121.92 47 P **PKiKP 09 16 48.9 +1.0**
baz=289,SNR=48
ISCO Idaho Springs 121.92 47 P **PKPdf 09 16 47.5 -0.1**
baz=289
SBD Saint Breward 122.03 327 *e*P **PKiKP 09 16 47.4 +0.1**
121A Cookes Peak, D 122.21 56 P **PKiKP 09 16 49.6 +1.2**
baz=283,SNR=21
121A Cookes Peak, D 122.21 56 P **PKiKP 09 16 49.0 +0.6**
baz=283,SNR=21
QUIF Quistinic 122.49 323 *e*PKiKP **PKPdf 09 16 47.9 -0.1**
CCA1 Carnmenellis 122.53 327 *e*P **PKiKP 09 16 48.6 +0.3**
CCA1 IAmb IAmb 09 16 49.4
comp=Z,46nm,0.8s
Q24A Divide 122.53 48 P **PKiKP 09 16 49.7 +0.7**
baz=289,SNR=8.9
Y22A Socorro 122.55 54 P **PKiKP 09 16 49.9 +0.8**
baz=284,SNR=57
Y22D IRIS PASSCAL I 122.55 54 P **PKiKP 09 16 50.0 +1.0**
baz=284,SNR=15
Y22D IRIS PASSCAL I 122.55 54 P **PKiKP 09 16 50.5 +1.5**
baz=284,SNR=15
Y22F Pascal Instru 122.55 54 P **PKiKP 09 16 50.1 +1.0**
baz=284,SNR=16
E28A Huff 122.61 38 P **PKiKP 09 16 48.7 +0.1**
baz=297
SDCO Great Sand Dun 122.65 50 P **PKiKP 09 16 50.3 +1.0**
baz=288,SNR=57
SDCO Great Sand Dun 122.65 50 P **PKiKP 09 16 50.5 +1.2**
baz=288
MDND Maddock 122.67 37 P **PKiKP 09 16 48.9 +0.3**
baz=289,SNR=5.6
MDND Maddock 122.67 37 P **PKiKP 09 16 49.0 +0.3**
baz=299,SNR=5.6
ANMO Albuquerque 122.70 53 P **PKiKP 09 16 50.6 +1.3**
baz=285
ANMO Albuquerque 122.70 53 P **PKiKP 09 16 50.4 +1.1**
baz=285,SNR=79
IGLA Glengowla, Co 122.80 331 *e*P **PKiKP 09 16 48.6 0.0**
NUUK Nuuk 123.25 0 *i* P **PKiKP 09 16 49.5 +0.3**
ULM Lac du Bonnet 123.53 33 PKP **PKPdf 09 16 49.6 -0.4**
comp=Z,37nm,0.7s,baz=305,slow=2.3,SNR=74
ULM PKKPbc **PKKPab 09 26 38.5 -0.4**
comp=Z,4.4nm,0.8s,baz=104,slow=2.2,SNR=5.0
T25A Trinidad 123.66 50 P **PKiKP 09 16 52.3 +1.1**
baz=288,SNR=21
OGNE Ogallala 124.08 45 P **PKiKP 09 16 52.2 +0.4**
baz=292,SNR=11
OGNE Ogallala 124.08 45 P **PKiKP 09 16 52.1 +0.4**
baz=292
KSCO Kaye Shedlock' 124.37 47 P **PKiKP 09 16 52.9 +0.4**
baz=291,SNR=9.4
KSCO Kaye Shedlock' 124.37 47 P **PKiKP 09 16 53.3 +0.8**
baz=291
MNTX Cornudas Mount 124.38 57 P **PKiKP 09 16 53.5 +0.9**
baz=284,SNR=102
MNTX Cornudas Mount 124.38 57 P **PKiKP 09 16 53.5 +0.9**
baz=284,SNR=102
D32B Dogwood Acres, 124.55 36 P **PKiKP 09 16 52.6 +0.2**
baz=301
AGMN Agassiz Nation 124.60 35 P **PKPdf 09 16 52.2 +0.1**
baz=303,SNR=9.9
AGMN Agassiz Nation 124.60 35 P **PKPdf 09 16 52.1 0.0**
baz=303
SUSD Miller 124.67 40 P **PKiKP 09 16 52.9 +0.1**
baz=297,SNR=10
SUSD Miller 124.67 40 P **PKiKP 09 16 53.1 +0.4**
baz=297
K30B Basset 125.03 42 P **PKiKP 09 16 53.8 +0.3**
baz=296
F33A 5 Mile Ranch, 125.64 37 P **PKiKP 09 16 54.9 +0.4**
baz=301
B35A Bob, Littlefor 125.75 34 P **PKPdf 09 16 54.2 -0.2**
baz=305
MSTX Muleshoe 125.89 53 P **PKiKP 09 16 56.1 +0.5**
baz=287,SNR=40
MSTX Muleshoe 125.89 53 P **PKiKP 09 16 55.8 +0.2**
baz=287,SNR=40
NRS Narsarsuaq 126.09 356 *i* P **PKiKP 09 16 54.9 0.0**
IVI Ivigtut 126.17 358 *i* P **PKPdf 09 16 54.8 +0.1**
TX31 Lajitas Ar. Si 126.38 59 P **PKiKP 09 16 57.2 +0.5**
baz=283
TXAR Lajitas Array 126.38 59 PKhKP PKPpre 09 16 41.7
comp=Z,0.3nm,0.7s,baz=224,slow=2.2,SNR=5.3
TXAR PKP **PKiKP 09 16 57.3 +0.6**
comp=Z,9.2nm,0.7s,baz=260,slow=1.6,SNR=59
TXAR PKKPbc **PKKPbc 09 26 29.5 +0.2**
comp=Z,1.0nm,0.7s,baz=116,slow=6.1,SNR=6.8
TXAR SKKPbc SKKPbc 09 30 04.0 -1.8
comp=Z,0.5nm,0.5s,baz=119,slow=5.6,SNR=3.5
AMTX Amarillo 126.47 52 P **PKiKP 09 16 57.5 +0.8**
baz=289
AMTX Amarillo 126.47 52 P **PKiKP 09 16 57.1 +0.4**
baz=289,SNR=7.9
CBKS Cedar Bluff 126.53 46 P **PKiKP 09 16 57.1 +0.4**
baz=293,SNR=14
CBKS Cedar Bluff 126.53 46 P **PKiKP 09 16 57.0 +0.4**
baz=293
BGNE Belgrade 126.56 43 P **PKiKP 09 16 56.4 -0.2**
baz=296,SNR=44
BGNE Belgrade 126.56 43 P **PKiKP 09 16 56.5 -0.1**
baz=296
ESDC Sonseca Array 126.68 315 PKP **PKiKP 09 16 57.4 +0.4**
comp=Z,18nm,1.0s,baz=24,slow=2.5,SNR=40
ESDC PP **PP 09 18 54.9 +0.1**
comp=Z,7.9nm,1.1s,baz=72,slow=6.2,SNR=5.2
EYMN Ely 127.21 33 P **PKiKP 09 16 57.6 0.0**
baz=307,SNR=8.6
EYMN Ely 127.21 33 P **PKiKP 09 16 57.5 -0.2**
baz=307
F36A Milaca 127.27 36 P **PKPdf 09 16 57.5 +0.2**
baz=304,SNR=32
N33B J Bar K, Exete 127.33 43 P **PKPdf 09 16 57.8 +0.2**
baz=296
TORD Torodi Ar. Bea 127.40 281 PKhKP PKPpre 09 16 45.2
comp=Z,0.4nm,0.4s,baz=89,slow=2.9,SNR=3.7
TORD PKP **PKiKP 09 16 58.9 -0.1**
comp=Z,36nm,0.7s,baz=59,slow=2.8,SNR=85
TORD SKPbc SKPbc 09 20 00.7
comp=Z,3.5nm,0.8s,baz=70,slow=5.4,SNR=3.4
TORD PKKPbc PKKPbc 09 26 25.2
comp=Z,3.4nm,1.2s,baz=318,slow=4.0,SNR=5.1
R32A Long Quarter, 127.43 47 P **PKiKP 09 16 58.2 -0.3**
baz=294
L34A Svendsen Farm, 127.49 42 P **PKPdf 09 16 57.7 -0.1**
baz=298
PBRG Braganca 127.64 318 *e*PKPdf **PKiKP 09 16 59.6 +0.8**
E38A The Farm, Brul 127.97 34 P **PKPdf 09 16 57.9 -0.7**
baz=306
U32A Winter Ranch, 128.00 49 P **PKiKP 09 17 00.7 +1.1**
baz=292,SNR=5.9
SPMN Marine on St. 128.04 36 P **PKiKP 09 16 59.2 -0.1**
baz=304,SNR=11
SPMN Marine on St. 128.04 36 P **PKiKP 09 16 59.3 -0.1**
baz=304,SNR=11
MVO Moncorvo 128.13 318 *e*PKPdf **PKiKP 09 17 00.8 +1.0**
I37B Waseca 128.35 38 P **PKPdf 09 16 59.7 +0.2**
baz=302
N35A Tabor 128.50 42 P **PKPdf 09 16 59.9 +0.1**
baz=298
PVRL Vila Real 128.53 318 *e*PKPdf **PKiKP 09 17 02.0 +1.4**
PGAV Gavieira, Arco 128.56 319 *e*PKPdf **PKiKP 09 17 00.9 +0.2**
KSU1 Kansas State U 128.63 45 P **PKiKP 09 17 00.7 0.0**
baz=296,SNR=25
KSU1 Kansas State U 128.63 45 P **PKiKP 09 17 01.2 +0.4**
baz=296
WMOK Wichita Mounta 128.76 51 P **PKiKP 09 17 01.3 +0.1**
baz=291,SNR=15
WMOK Wichita Mounta 128.76 51 P **PKiKP 09 17 01.3 +0.1**
baz=291,SNR=15
ABTX Abilene, Hawle 128.80 54 P **PKiKP 09 17 01.6 +0.3**
baz=289,SNR=16
ABTX Abilene, Hawle 128.80 54 P **PKPdf 09 16 59.9 -0.8**
baz=289
MTE Manteigas 128.83 317 *e*PKPdf **PKiKP 09 17 02.6 +1.4**
PVIS Viseu 128.92 318 *e*PKPdf **PKiKP 09 17 01.8 +0.4**
PCBR Castelo Branco 129.04 316 *e*PKPdf **PKiKP 09 17 02.4 +0.8**
PLCA Paso Flores 129.07 161 PKhKP PKPpre 09 16 45.0
comp=Z,1.5nm,0.8s,baz=327,slow=9.3,SNR=3.0
PLCA PKP **PKiKP 09 17 02.2 +0.5**
comp=Z,47nm,1.0s,baz=212,slow=2.9,SNR=52
PLCA SKPbc SKPbc 09 20 06.8 -1.0
comp=Z,7.1nm,0.9s,baz=203,slow=2.4,SNR=4.8
PLCA Paso Flores 129.07 161 *e*P **PKPdf 09 17 00.7 -0.4**
PMRV Marv??o 129.17 316 *e*PKPdf **PKiKP 09 17 02.5 +0.6**
PTO Porto 129.18 318 *e*PKPdf **PKiKP 09 17 02.5 +0.7**
D41A Chassel 129.32 32 P **PKPdf 09 17 00.7 -0.4**
baz=310
JCT Junction City 129.32 56 P **PKiKP 09 17 02.4 -0.1**
baz=287,SNR=40
JCT Junction City 129.32 56 P **PKPdf 09 17 00.3 -1.4**
baz=287,SNR=40
K38A Parkersburg 129.47 39 P **PKPdf 09 17 00.6 -1.0**
baz=302
PBAR Barrancos 129.48 314 *e*PKPdf **PKiKP 09 17 03.2 +0.7**
G40A Rib Lake 129.52 35 P **PKPdf 09 17 01.7 0.0**
baz=307
PESTR Estremoz 129.56 315 *e*PKPdf **PKiKP 09 17 03.1 +0.4**
PESTR *e*SKP 09 20 10.9
SCIA State Center 129.57 40 P **PKPdf 09 17 02.0 +0.2**
baz=301
SCIA State Center 129.57 40 P **PKiKP 09 17 03.4 +0.8**
baz=301
COWI Conover 129.61 33 P **PKiKP 09 17 02.2 -0.4**
baz=308
T35B Sooner Cattle 129.63 47 P **PKiKP 09 17 03.0 +0.1**
baz=294,SNR=31
PCAS Casmilo, Conde 129.64 317 *e*PKPdf **PKiKP 09 17 04.1 +1.3**
MDT Midelt 129.72 307 PKP **PKPdf 09 17 02.5 0.0**
comp=Z,17nm,0.8s,baz=102,slow=3.4,SNR=7.3
MDT SKPbc SKPab 09 20 08.0 -1.8
comp=Z,6.6nm,0.9s,baz=90,slow=2.4,SNR=4.2
PMTG Montargil 129.91 316 *e*PKPdf **PKiKP 09 17 04.3 +1.0**
PMTG *e*SKP 09 20 11.0
EVO Evora 130.01 315 *e*SKP 09 20 11.3
I40A Norwalk 130.09 37 P **PKPdf 09 17 03.1 +0.3**
baz=305,SNR=7.9
PSBE So Bento 130.09 317 *e*PKPdf **PKiKP 09 17 05.5 +1.8**
N38A Joes South For 130.13 41 P **PKPdf 09 17 02.9 0.0**
baz=300
PBEJ Beja 130.13 315 *e*PKPdf **PKiKP 09 17 04.7 +0.9**
PBEJ *e*SKP 09 20 11.9
833A Chaparral WMA, 130.26 59 P **PKiKP 09 17 04.8 +0.4**
baz=286,SNR=20
833A Chaparral WMA, 130.26 59 P **PKiKP 09 17 05.0 +0.7**
baz=286
PVAQ Vaqueiros 130.30 314 *e*PKPdf **PKiKP 09 17 04.7 +0.5**
PVAQ *e*SKP 09 20 12.5
F42A Maple Grove Fa 130.37 33 P **PKiKP 09 17 03.8 -0.3**

	baz=309							
PCVE	**Castro Verde**	**130.43**	**314**	*e*PKPdf		**PKiKP**	**09 17 04.9**	**+0.5**
PCVE				*e*SKP			09 20 12.6	
Z35A	**Perchaven, San**	**130.45**	**52**	P		**PKPdf**	**09 17 03.4**	**-0.4**
	baz=291							
MESJ	**Messejana**	**130.47**	**314**	*e*PKPdf		**PKiKP**	**09 17 04.1**	**-0.4**
MESJ				*e*SKP			09 20 13.4	
MESJ	**Messejana**	**130.47**	**314**	*e*PKPdf		**PKPdf**	**09 17 04.0**	**+0.3**
P38A	**Dawn**	**130.51**	**43**	P		**PKPdf**	**09 17 03.1**	**-0.6**
	baz=299							
PBDV	**Barranco-do-Ve**	**130.53**	**314**	*e*PKPdf		**PKiKP**	**09 17 05.5**	**+0.8**
PBDV				*e*SKP			09 20 15.3	
PNCL	**Nicolau / Gran**	**130.56**	**315**	*e*PKPdf		**PKiKP**	**09 17 05.3**	**+0.6**
TUL3	**Leonard**	**130.57**	**48**	P		**PKiKP**	**09 17 04.5**	**-0.3**
	baz=294,SNR=31							
TUL3	**Leonard**	**130.57**	**48**	P		**PKPdf**	**09 17 03.8**	**-0.1**
	baz=294,SNR=31							
E43A	**Lone Tree Farm**	**130.59**	**32**	P		**PKPdf**	**09 17 03.5**	**-0.1**
	baz=311							
L40A	**Anamosa**	**130.75**	**39**	P		**PKPdf**	**09 17 03.9**	**-0.2**
	baz=303							
WHTX	**Lake Whitney,**	**130.75**	**54**	P		**PKiKP**	**09 17 05.1**	**-0.1**
	baz=290,SNR=21							
WHTX	**Lake Whitney,**	**130.75**	**54**	P		**PKiKP**	**09 17 06.0**	**+0.8**
	baz=290							
JFWS	**Jewell Farm**	**130.87**	**37**	P		**PKPdf**	**09 17 04.5**	**+0.2**
	baz=305,SNR=12							
JFWS	**Jewell Farm**	**130.87**	**37**	P		**PKPdf**	**09 17 03.6**	**-0.7**
	baz=305,SNR=12							
PTEO	**Sao Teotonio**	**130.96**	**314**	*e*PKPdf		**PKiKP**	**09 17 07.1**	**+1.6**
MORF	**Marmelete**	**131.01**	**314**	*e*PKPdf		**PKiKP**	**09 17 06.7**	**+1.0**
MORF				*e*SKP			09 20 15.7	
MORF	**Marmelete**	**131.01**	**314**	*e*PKPdf		**PKPdf**	**09 17 05.0**	**+0.2**
435B	**Jarrell**	**131.05**	**55**	P		**PKPdf**	**09 17 05.4**	**+0.5**
	baz=289							
435B	**Jarrell**	**131.05**	**55**	P		**PKPdf**	**09 17 05.2**	**+0.2**
	baz=289,SNR=12							
SCHQ	**Schefferville**	**131.06**	**12**	PKhKP		PKPpre	09 16 57.1	
	comp=Z,5.5nm,0.7s,baz=291,slow=6.4,SNR=10							
SCHQ				PKP		**PKiKP**	**09 17 05.4**	**+0.2**
	comp=Z,35nm,0.7s,baz=306,slow=2.5,SNR=32							
SCHQ				SKPbc		**SKPbc**	**09 20 13.0**	**-1.2**
	comp=Z,21nm,0.6s,baz=4.5,slow=3.8,SNR=22							
I42A	**Draeger Farm,**	**131.09**	**36**	P		**PKPdf**	**09 17 04.7**	**+0.1**
	baz=307							
PFVI	**Vila Bisbo**	**131.22**	**314**	*e*PKPdf		**PKiKP**	**09 17 05.6**	**-0.4**
U38A	**Gravette**	**131.38**	**47**	P		**PKiKP**	**09 17 06.1**	**-0.3**
	baz=296,SNR=18							
X37A	**Clayton**	**131.42**	**50**	P		**PKiKP**	**09 17 07.2**	**+0.7**
	baz=294,SNR=19							
P40A	**Paris**	**131.55**	**42**	P		**PKPdf**	**09 17 05.9**	**+0.2**
	baz=301							
S39A	**Bolivar**	**131.57**	**45**	P		**PKPdf**	**09 17 05.8**	**+0.1**
	baz=298,SNR=59							
N41A	**Harden Midland**	**131.72**	**40**	P		**PKiKP**	**09 17 06.6**	**-0.3**
	baz=303							
L42A	**Oliver, Polo**	**131.74**	**38**	P		**PKiKP**	**09 17 06.5**	**-0.4**
	baz=305,SNR=5.2							
E46A	**Sault Ste Mari**	**131.97**	**30**	P		**PKPdf**	**09 17 05.7**	**-0.5**
	baz=314							
R40A	**Maddies Statio**	**132.02**	**44**	P		**PKiKP**	**09 17 07.1**	**-0.5**
	baz=299,SNR=26							
237A	**Washetta, Mont**	**132.06**	**53**	P		**PKiKP**	**09 17 08.8**	**+0.9**
	baz=291,SNR=14							
G45A	**Suttons Bay**	**132.17**	**32**	P		**PKPdf**	**09 17 06.6**	**0.0**
	baz=311							
G45A				P		**PKPdf**	**09 17 06.6**	**0.0**
	baz=311							
Z38A	**Mt. Pleasant**	**132.24**	**51**	P		**PKiKP**	**09 17 08.0**	**-0.2**
	baz=293							
U40A	**Yellville**	**132.52**	**46**	P		**PKPdf**	**09 17 07.0**	**-0.6**
	baz=297,SNR=23							
U40A				P		**PKPdf**	**09 17 07.0**	**-0.6**
	baz=297,SNR=23							
L44A	**Lake County Fo**	**132.70**	**37**	P		**PKiKP**	**09 17 08.3**	**-0.5**
	baz=307							
MIAR	**Mount Ida**	**132.79**	**49**	P		**PKiKP**	**09 17 09.0**	**-0.3**
	baz=295,SNR=18							
MIAR	**Mount Ida**	**132.79**	**49**	P		**PKPdf**	**09 17 08.2**	**0.0**
	baz=295,SNR=18							
HDIL	**Hopedale**	**132.79**	**40**	P		**PKPdf**	**09 17 08.4**	**+0.5**
	baz=304,SNR=7.5							
HDIL	**Hopedale**	**132.79**	**40**	P		**PKiKP**	**09 17 09.3**	**+0.2**
	baz=304,SNR=7.5							
CCM	**Cathedral Cave**	**132.84**	**43**	P		**PKiKP**	**09 17 08.8**	**-0.4**
	baz=300							
CCM	**Cathedral Cave**	**132.84**	**43**	P		**PKiKP**	**09 17 08.7**	**-0.5**
	baz=300,SNR=14							
GLMI	**Grayling**	**132.86**	**32**	P		**PKiKP**	**09 17 08.9**	**-0.2**
	baz=312,SNR=6.5							
GLMI	**Grayling**	**132.86**	**32**	P		**PKiKP**	**09 17 09.2**	**+0.1**
	baz=312							
NATX	**Nacogdoches**	**133.06**	**53**	P		**PKiKP**	**09 17 09.7**	**-0.2**
	baz=292,SNR=9.4							
NATX	**Nacogdoches**	**133.06**	**53**	P		**PKiKP**	**09 17 10.1**	**+0.1**
	baz=292							
M44A	**Midewin, Midew**	**133.09**	**38**	P		**PKiKP**	**09 17 10.2**	**+0.5**
	baz=306							
P43A	**Skaggs, Pawnee**	**133.15**	**41**	P		**PKPdf**	**09 17 09.1**	**+0.5**
	baz=303,SNR=10							
FVM	**French Village**	**133.43**	**43**	P		**PKiKP**	**09 17 10.1**	**-0.4**
	baz=301,SNR=15							
T42A	**Van Buren**	**133.45**	**45**	P		**PKPdf**	**09 17 09.1**	**-0.1**
	baz=300							
O44A	**Mansfield**	**133.54**	**39**	P		**PKiKP**	**09 17 10.4**	**-0.3**
	baz=305,SNR=6.3							
KIC	**Kosan Boka**	**133.57**	**272**⇑	*e*PKIKP		**PKPdf**	**09 17 10.8**	**+0.6**
	comp=Z,55nm,0.7s							
DBIC	**Dimbokro**	**133.71**	**272**	PKhKP		PKPpre	09 16 59.7	
	comp=Z,2.6nm,0.3s,baz=106,slow=1.8,SNR=5.9							
DBIC				PKP		**PKiKP**	**09 17 11.2**	**-0.5**
	comp=Z,43nm,0.8s,baz=84,slow=2.4,SNR=29							
DBIC				SKPbc		**SKPbc**	**09 20 23.8**	**-0.9**
	comp=Z,27nm,0.9s,baz=85,slow=3.8,SNR=12							
L46A	**Eue Claire**	**133.75**	**36**	P		**PKPdf**	**09 17 10.0**	**+0.3**
	baz=308							
L46A				P		**PKPdf**	**09 17 10.0**	**+0.3**
	baz=308							
J47A	**Sunmer**	**133.81**	**34**	P		**PKiKP**	**09 17 10.4**	**-0.6**
	baz=311							
J47A				P		**PKiKP**	**09 17 10.4**	**-0.6**
	baz=311							
LIC	**Lamto**	**133.85**	**272**⇑	*e*PKIKP		**PKPdf**	**09 17 11.1**	**+0.4**
	comp=Z,108nm,0.6s							
TIC	**Toumodi**	**133.87**	**272**⇑	*e*PKIKP		**PKPdf**	**09 17 11.0**	**+0.3**
	comp=Z,36nm,0.6s							
Q44A	**Meyer Farm, Va**	**133.88**	**41**	P		**PKiKP**	**09 17 11.1**	**-0.3**
	baz=303,SNR=11							
SFIN	**Lafayette**	**134.26**	**38**	P		**PKiKP**	**09 17 11.5**	**-0.5**
	baz=306,SNR=5.1							
S44A	**Carbondale**	**134.37**	**43**	P		**PKPdf**	**09 17 11.1**	**+0.1**
	baz=302,SNR=9.2							
OLIL	**Olney**	**134.57**	**41**	P		**PKiKP**	**09 17 12.2**	**-0.5**
	baz=304,SNR=16							
P46A	**Rosedale**	**134.64**	**39**	P		**PKiKP**	**09 17 12.8**	**-0.1**
	baz=306,SNR=9.9							
L48A	**N Adams**	**134.87**	**35**	P		**PKPdf**	**09 17 11.9**	**+0.1**
	baz=311							
L48A				P		**PKPdf**	**09 17 11.9**	**+0.1**
	baz=311							
AAM	**Ann Arbor**	**135.07**	**34**	P		**PKPdf**	**09 17 12.7**	**+0.6**
	baz=312							
T45B	**Paducah**	**135.14**	**43**	P		**PKiKP**	**09 17 13.4**	**-0.6**
	baz=302,SNR=8.1							
O48B	**Farmland**	**135.52**	**37**	P		**PKPdf**	**09 17 13.6**	**+0.5**
	baz=308							
N49A	**Columbus Grove**	**135.67**	**36**	P		**PKPdf**	**09 17 13.3**	**-0.1**
	baz=310,SNR=7.5							
N49A				P		**PKPdf**	**09 17 13.3**	**-0.1**
	baz=310,SNR=7.5							
P48A	**Milroy**	**135.84**	**38**	P		**PKPdf**	**09 17 14.1**	**+0.5**
	baz=308,SNR=9.6							
P48A				P		**PKPdf**	**09 17 14.1**	**+0.5**
	baz=308,SNR=9.6							
OXF	**Oxford**	**135.87**	**47**	P		**PKPdf**	**09 17 14.5**	**+0.7**
	baz=299,SNR=6.0							
WCI	**Wyandotte Cave**	**136.03**	**40**	P		**PKPdf**	**09 17 14.7**	**+0.6**
	baz=306							
WCI	**Wyandotte Cave**	**136.03**	**40**	P		**PKiKP**	**09 17 15.5**	**-0.2**
	baz=306							
O49A	**Covington**	**136.05**	**37**	P		**PKPdf**	**09 17 14.5**	**+0.5**
	baz=309,SNR=8.4							
O49A				P		**PKPdf**	**09 17 14.5**	**+0.5**
	baz=309,SNR=8.4							
VBMS	**Vicksburg**	**136.10**	**50**	P		**PKPdf**	**09 17 14.8**	**+0.5**
	baz=296,SNR=7.7							
VBMS	**Vicksburg**	**136.10**	**50**	P		**PKPdf**	**09 17 14.3**	**0.0**
	baz=296							
WVT	**Waverly**	**136.17**	**44**	P		**PKPdf**	**09 17 14.5**	**+0.1**
	baz=302							
WVT	**Waverly**	**136.17**	**44**	P		**PKPdf**	**09 17 15.0**	**+0.6**
	baz=302							
T47A	**Sharon Grove**	**136.19**	**42**	P		**PKPdf**	**09 17 14.9**	**+0.5**
	baz=304,SNR=8.4							
P49A	**Miami Univ. Ec**	**136.23**	**38**	P		**PKPdf**	**09 17 14.7**	**+0.3**
	baz=308,SNR=10							
P49A	**Miami Univ. Ec**	**136.23**	**38**	P		**PKPdf**	**09 17 14.9**	**+0.5**
	baz=308,SNR=10							
R49A	**Shelbyville**	**136.70**	**39**	P		**PKiKP**	**09 17 16.6**	**-0.6**
	baz=307,SNR=6.7							
R49A				P		**PKiKP**	**09 17 16.6**	**-0.6**
	baz=307,SNR=6.7							
N51A	**Ashland**	**136.71**	**35**	P		**PKPdf**	**09 17 15.4**	**+0.2**
	baz=312,SNR=5.2							
N51A				P		**PKPdf**	**09 17 15.4**	**+0.2**
	baz=312,SNR=5.2							
ACSO	**Alum Creek Sta**	**136.81**	**36**	P		**PKPdf**	**09 17 15.7**	**+0.2**
	baz=311,SNR=6.3							
ACSO	**Alum Creek Sta**	**136.81**	**36**	P		**PKPdf**	**09 17 16.2**	**+0.7**
	baz=311,SNR=6.3							
R50A	**Paris**	**137.24**	**39**	P		**PKPdf**	**09 17 17.1**	**+0.8**
	baz=308,SNR=5.8							
R50A				P		**PKPdf**	**09 17 17.1**	**+0.8**
	baz=308,SNR=5.8							
M53A	**WI Miller and**	**137.28**	**33**	P		**PKPdf**	**09 17 16.3**	**0.0**
	baz=315,SNR=5.8							
Q51A	**Peebles**	**137.38**	**37**	P		**PKPdf**	**09 17 17.5**	**+0.9**
	baz=310,SNR=5.5							
Q51A				P		**PKPdf**	**09 17 17.5**	**+0.9**
	baz=310,SNR=5.5							
O52A	**Adamsville**	**137.55**	**35**	P		**PKPdf**	**09 17 17.1**	**+0.3**
	baz=312,SNR=7.4							
O52A				P		**PKPdf**	**09 17 17.1**	**+0.3**
	baz=312,SNR=7.4							
X48A	**Hartselle**	**137.59**	**45**	P		**PKPdf**	**09 17 16.9**	**-0.1**
	baz=301							
BMNY	**Brushton-Moira**	**137.61**	**24**	P		**PKPdf**	**09 17 17.0**	**+0.3**
	baz=325							
D62A	**Allapoint, All**	**137.63**	**18**	P		**PKPdf**	**09 17 17.2**	**+0.5**
	baz=334							
D62A				P		**PKPdf**	**09 17 17.2**	**+0.5**
	baz=334							
WVNY	**West Valley, N**	**137.66**	**30**	P		**PKPdf**	**09 17 17.5**	**+0.5**
	baz=318,SNR=7.1							
P52A	**Corning**	**137.70**	**36**	P		**PKPdf**	**09 17 17.3**	**+0.1**
	baz=311,SNR=9.8							
PAOC	**Oil Creek Stat**	**137.76**	**32**	P		**PKPdf**	**09 17 17.0**	**-0.1**
	baz=316							
LONY	**Lake Ozonia**	**137.76**	**25**	P		**PKPdf**	**09 17 17.5**	**+0.4**
	baz=325							
O53A	**New Philadelph**	**137.81**	**34**	P		**PKPdf**	**09 17 17.9**	**+0.6**
	baz=313							
E62A	**Clayton Lake**	**137.90**	**19**	P		**PKPdf**	**09 17 17.7**	**+0.5**
	baz=333,SNR=7.2							
E62A				P		**PKPdf**	**09 17 17.7**	**+0.5**
	baz=333,SNR=7.2							
FRNY	**Flat Rock**	**137.99**	**24**	P		**PKPdf**	**09 17 17.5**	**+0.1**
	baz=326,SNR=6.1							
Q52A	**Bidwell**	**138.06**	**37**	P		**PKPdf**	**09 17 18.5**	**+0.7**
	baz=311,SNR=5.7							
Q52A				P		**PKPdf**	**09 17 18.5**	**+0.7**
	baz=311,SNR=5.7							
P53A	**Whipple**	**138.23**	**35**	P		**PKPdf**	**09 17 18.7**	**+0.6**
	baz=312,SNR=9.5							
P53A				P		**PKPdf**	**09 17 18.7**	**+0.6**
	baz=312,SNR=9.5							
M55A	**Ridgway**	**138.27**	**31**	P		**PKPdf**	**09 17 18.5**	**+0.4**
	baz=317							
M55A				P		**PKPdf**	**09 17 18.5**	**+0.4**
	baz=317							
LRAL	**Lakeview Retre**	**138.34**	**47**	P		**PKPdf**	**09 17 18.8**	**+0.3**
	baz=300,SNR=8.7							
L56A	**Greenwood**	**138.37**	**29**	P		**PKPdf**	**09 17 18.1**	**-0.2**
	baz=319,SNR=5.2							
L56A				P		**PKPdf**	**09 17 18.1**	**-0.2**
	baz=319,SNR=5.2							
K57A	**Scipio Center**	**138.41**	**28**	P		**PKPdf**	**09 17 18.9**	**+0.6**
	baz=321,SNR=6.4							
NCB	**Newcomb**	**138.44**	**25**	P		**PKiKP**	**09 17 19.5**	**-1.1**
	baz=325,SNR=9.0							
PMPST	**Porto Santo, M**	**138.55**	**313**	*e*PKPdf		**PKPdf**	**09 17 19.0**	**+0.1**
PMPS	**Porto Santo**	**138.56**	**313**	*e*PKPdf		**PKPdf**	**09 17 18.9**	**0.0**
PMPS	**Porto Santo**	**138.56**	**313**	*e*PP		**PP**	**09 20 11.3**	**+0.6**
J59A	**Piesco**	**138.73**	**26**	P		**PKPdf**	**09 17 19.8**	**+0.8**
	baz=324,SNR=6.1							
J59A				P		**PKPdf**	**09 17 19.8**	**+0.8**
	baz=324,SNR=6.1							
TZTN	**Tazewell**	**138.78**	**40**	P		**PKPdf**	**09 17 19.6**	**+0.4**
	baz=307							
MCWV	**Mont Chateau**	**138.98**	**34**	P		**PKPdf**	**09 17 19.9**	**+0.5**
	baz=314							
X51A	**Calhoun**	**139.05**	**44**	P		**PKPdf**	**09 17 20.6**	**+0.8**
	baz=304							
X51A				P		**PKPdf**	**09 17 20.6**	**+0.8**
	baz=304							
BINY	**Binghamton**	**139.07**	**28**	P		**PKPdf**	**09 17 20.4**	**+0.8**
	baz=321							
BINY	**Binghamton**	**139.07**	**28**	P		**PKPdf**	**09 17 20.6**	**+1.0**
	baz=321							
LBNH	**Lisbon**	**139.13**	**23**	P		**PKPdf**	**09 17 20.3**	**+0.7**
	baz=328							
LBNH	**Lisbon**	**139.13**	**23**	P		**PKPdf**	**09 17 20.4**	**+0.8**
	baz=328							
H62A	**Milan**	**139.13**	**22**	P		**PKPdf**	**09 17 20.5**	**+0.9**
	baz=329							
H62A				P		**PKPdf**	**09 17 20.5**	**+0.9**
	baz=329							
TKL	**Tuckaleechee C**	**139.16**	**42**	P		**PKPdf**	**09 17 20.9**	**+0.9**
	baz=326							
V52A	**Sevierville**	**139.17**	**41**	P		**PKiKP**	**09 17 21.3**	**-1.0**
	baz=306							
PKME	**Peaks-Kenny Pk**	**139.18**	**19**	P		**PKPdf**	**09 17 20.5**	**+0.8**
	baz=332							
PABK	**Blue Knob Stat**	**139.23**	**32**	P		**PKPdf**	**09 17 20.8**	**+0.9**
	baz=316							
SSPA	**Standing Stone**	**139.33**	**31**	P		**PKPdf**	**09 17 20.7**	**+0.6**
	baz=318							
W52A	**Murphy**	**139.39**	**42**	P		**PKPdf**	**09 17 21.2**	**+0.8**
	baz=305							
BLA	**Blacksburg**	**140.31**	**37**	P		**PKPdf**	**09 17 22.3**	**+0.2**
	baz=311,SNR=9.0							
L61B	**Northampton**	**140.33**	**25**	P		**PKPdf**	**09 17 22.4**	**+0.6**
	baz=326							
GOGA	**Godfrey**	**140.66**	**44**	P		**PKPdf**	**09 17 23.5**	**+0.8**
	baz=304							
HRV	**Adam Dziewonsk**	**140.74**	**24**	P		**PKPdf**	**09 17 23.2**	**+0.6**
	baz=328							
PAL	**Palisades**	**140.97**	**27**	P		**PKPdf**	**09 17 23.3**	**+0.3**
	baz=323							
KMSC	**Kings Mountain**	**141.06**	**40**	P		**PKPdf**	**09 17 23.5**	**+0.1**
	baz=308,SNR=9.3							
CBN	**Corbin Frederi**	**141.37**	**33**	P		**PKPdf**	**09 17 24.3**	**+0.5**
	baz=316							
TIGA	**Tifton**	**141.64**	**47**	P		**PKPdf**	**09 17 25.2**	**+0.7**
	baz=302							
M65A	**Bushy, Falmout**	**141.90**	**24**	P		**PKPdf**	**09 17 25.2**	**+0.6**
	baz=328							
CNNC	**Cliffs of the**	**143.15**	**37**	P		**PKPdf**	**09 17 27.5**	**+0.4**
	baz=313,SNR=7.3							
CNCH	**Conchagua**	**143.80**	**78**	*i* P		PKPbc	09 17 27.9	+0.9
DWPF	**Disney Wildern**	**144.96**	**50**	P		**PKPdf**	**09 17 30.6**	**+0.1**
	baz=301							
MACN	**El Madrono**	**145.00**	**79**	*i* P		**PKPdf**	**09 17 31.8**	**+0.9**
LVC	**Limon Verde**	**145.72**	**151**	*e*P		**PKPbc**	**09 17 32.7**	**-0.3**
BOAB	**BOACO BROADBAN**	**145.99**	**79**	*i* P		**PKPdf**	**09 17 32.7**	**+0.2**
CPUP	**Villa Florida**	**146.07**	**171**	PKPbc		**PKPbc**	**09 17 33.8**	**+0.3**
	comp=Z,134nm,0.9s,baz=197,slow=2.2,SNR=124							
SAJU	**San Juanillo,**	**146.09**	**83**	IAML			09 17 37.0	
	comp=Z,240nm,1.0s							
SAJU	**San Juanillo,**	**146.09**	**83**	*i* P		**PKPdf**	**09 17 31.6**	**-1.1**
HZTE	**Horizontes, Gu**	**146.18**	**82**	IAML			09 17 37.0	
	comp=Z,720nm,1.0s							
HZTE	**Horizontes, Gu**	**146.18**	**82**	*i* P		**PKPdf**	**09 17 33.1**	**+0.2**
INDI	**Punta indio, G**	**146.30**	**83**	IAML			09 17 37.7	
	comp=Z,230nm,1.0s							
INDI	**Punta indio, G**	**146.30**	**83**	*i* P		**PKPdf**	**09 17 27.1**	**-6.0**
ORTG	**Ortega, Santa**	**146.33**	**82**	IAML			09 17 37.0	
	comp=Z,390nm,1.0s							
ORTG	**Ortega, Santa**	**146.33**	**82**	*i* P		**PKPdf**	**09 17 33.5**	**+0.2**
ACON	**Acoyapa**	**146.51**	**79**	*i* P		**PKPdf**	**09 17 32.4**	**-1.0**
SIUN	**Universidad Ur**	**146.71**	**76**	*i* P		**PKPbc**	**09 17 36.1**	**+0.4**
LAFE	**Finca La Fe, P**	**146.89**	**83**	IAML			09 17 39.3	
	comp=Z,2.2nm,1.0s							
LAFE	**Finca La Fe, P**	**146.89**	**83**	*i* P		**PKPdf**	**09 17 30.2**	**-3.9**
JACO	**JACO, Garabito**	**147.14**	**84**	IAML			09 17 39.8	
	comp=Z,310nm,1.0s							
JACO	**JACO, Garabito**	**147.14**	**84**	*i* P		PKPdf	09 17 26.3	-8.2
SOCE	**Pocosol**	**147.15**	**82**	IAML			09 17 39.3	
	comp=Z,170nm,1.0s							
SOCE	**Pocosol**	**147.15**	**82**	*i* P		**PKPbc**	**09 17 35.9**	**-1.1**
COVE	**Coope Vega, Sa**	**147.35**	**82**	IAML			09 17 38.9	
	comp=Z,250nm,1.0s							
COVE	**Coope Vega, Sa**	**147.35**	**82**	*i* P		**PKPdf**	**09 17 35.5**	**+0.6**
CPMI	**Catarata Coope**	**147.39**	**82**	IAML			09 17 39.9	
	comp=Z,180nm,1.0s							
CPMI	**Catarata Coope**	**147.39**	**82**	*i* P		**PKPdf**	**09 17 34.3**	**-0.9**
TCS1	**Tacares**	**147.48**	**83**	IAML			09 17 41.3	
	comp=Z,2µm,1.0s							
TCS1	**Tacares**	**147.48**	**83**	*i* P		**PKPdf**	**09 17 32.6**	**-2.6**
HDC	**Heredia**	**147.66**	**83**	IAML			09 17 41.7	
	comp=Z,720nm,1.0s							
HDC	**Heredia**	**147.66**	**83**	*e*P		**PKPdf**	**09 17 36.3**	**+0.8**
HDC	**Heredia**	**147.66**	**83**	*i* P		**PKPbc**	**09 17 37.1**	**-1.4**
HDC3	**Heredia 3**	**147.67**	**83**	IAML			09 17 41.8	
	comp=Z,720nm,1.0s							
HDC3	**Heredia 3**	**147.67**	**83**	*i* P		**PKPdf**	**09 17 36.3**	**+0.7**
LCR2	**La Lucha 2**	**147.78**	**83**	IAML			09 17 42.0	
	comp=Z,370nm,1.0s							
LCR2	**La Lucha 2**	**147.78**	**83**	*i* P		**PKPdf**	**09 17 34.4**	**-1.5**
OCM	**Ochomogo**	**147.82**	**83**	IAML			09 17 42.1	
	comp=Z,550nm,1.0s							
OCM	**Ochomogo**	**147.82**	**83**	*i* P		**PKPdf**	**09 17 36.3**	**+0.4**
RIFO	**Rio Frio, Sara**	**147.84**	**82**	*i* P		**PKPdf**	**09 17 36.6**	**+0.9**
BLUN	**Bluefields**	**147.87**	**79**	*i* P		**PKPdf**	**09 17 34.7**	**-1.0**
RIMA	**Rio Macho**	**147.92**	**83**	IAML			09 17 42.7	
	comp=Z,330nm,1.0s							
RIMA	**Rio Macho**	**147.92**	**83**	*i* P		**PKPdf**	**09 17 35.3**	**-0.8**
VTUN	**Crater Central**	**148.01**	**83**	IAML			09 17 43.0	
	comp=Z,730nm,1.0s							
VTUN	**Crater Central**	**148.01**	**83**	*i* P		**PKPbc**	**09 17 38.5**	**-1.3**
CDM	**Cerro de Muert**	**148.02**	**84**	IAML			09 17 42.9	
	comp=Z,350nm,1.0s							
CDM	**Cerro de Muert**	**148.02**	**84**	*i* P		**PKPdf**	**09 17 34.7**	**-1.9**
VTCV	**VTCV, Calle Va**	**148.05**	**83**	IAML			09 17 42.9	
	comp=Z,1µm,1.0s							
VTCV	**VTCV, Calle Va**	**148.05**	**83**	*i* P		**PKPdf**	**09 17 36.9**	**+0.6**
PEZE	**Perez Zeledon,**	**148.11**	**84**	IAML			09 19 26.2	
	comp=Z,480nm,1.0s							
PEZE	**Perez Zeledon,**	**148.11**	**84**	*i* P		**PKPdf**	**09 17 35.2**	**-1.0**
OCHAL	**Ojochal**	**148.15**	**85**	IAML			09 17 43.2	
	comp=Z,250nm,1.0s							
OCHAL	**Ojochal**	**148.15**	**85**	*i* P		**PKPdf**	**09 17 31.4**	**-4.8**
SRBA	**San Rafael, Bu**	**148.43**	**84**	IAML			09 17 43.5	
	comp=Z,270nm,1.0s							
SRBA	**San Rafael, Bu**	**148.43**	**84**	*i* P		**PKPdf**	**09 17 37.4**	**+0.6**
CDITO	**Canoas**	**148.92**	**86**	IAML			09 17 47.2	
	comp=Z,580nm,1.0s							
CDITO	**Canoas**	**148.92**	**86**	*i* P		**PKiKP**	**09 17 42.6**	**-0.3**
SPB	**Sao Paulo**	**149.02**	**187**	*e*P		**PKPdf**	**09 17 38.3**	**+0.9**
BRU2	**Volcan**	**149.09**	**85**	IAML			09 17 45.7	
	comp=Z,610nm,1.0s							
BRU2	**Volcan**	**149.09**	**85**	*i* P		**PKiKP**	**09 17 44.7**	**+1.3**
LPAZ	**La Paz**	**151.35**	**145**	PKP		**PKPdf**	**09 17 43.6**	**+1.6**
	comp=Z,35nm,1.1s,baz=241,slow=1.1,SNR=70							
LPAZ				PKPbc		**PKiKP**	**09 17 49.4**	**+0.8**
	comp=Z,124nm,0.8s,baz=276,slow=0.4,SNR=65							
LPAZ				PKPab		**PKPab**	**09 17 58.8**	**+2.2**
	comp=Z,125nm,0.7s,baz=185,slow=4.4,SNR=29							
LPAZ	**La Paz**	**151.35**	**145**	*e*P		**PKPdf**	**09 17 42.4**	**+0.5**
BDFB	**Brasilia**	**156.92**	**189**	PKP		**PKPdf**	**09 17 49.3**	**+0.2**
	comp=Z,20nm,0.9s,baz=160,slow=2.1,SNR=25							
BDFB				PKPab		**PKPab**	**09 18 20.7**	**+1.1**
	comp=Z,14nm,0.8s,baz=130,slow=3.4,SNR=6.8							
BDFB				PP		**PP**	**09 21 56.6**	**-0.2

MPOM			*e*S	Sn	09 07 25.4	+0.4
SLBI	**Saint Lucia, B**	**2.26 161**	*e*P	Pn	09 07 00.7	+0.6
SLBI			*e*S	Sn	09 07 31.2	-0.5
SVB	**Belmont**	**2.92 171**	*e*P	Pn	09 07 07.5	-0.3
SVB			*e*S	Sn	09 07 43.4	-2.0

IDC ***25*** *09:24:57.0±0.9, 17°.92N×120°.96E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=54.6km s-min=19.3km az=70.0*

ISC 25 09:25:01.2±1.1, 18°.0N±0°.2×121°.0E±0°.3, h28km, n7, σ1§57/7, mb3.7/5, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**20.33**	**16**	P	**P**	**09 29 33.3**	**-1.9**
	0.4nm,0.5s,baz=198,slow=11,SNR=1.6						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**39.88**	**160**	P	**P**	**09 32 31.8**	**-1.0**
	0.3nm,0.3s,baz=344,slow=8.9,SNR=13						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**42.87**	**321**	P	**P**	**09 32 56.9**	**-0.2**
	0.9nm,0.8s,baz=128,slow=9.3,SNR=8.0						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**43.25**	**163**	P	**P**	**09 33 00.2**	**-0.2**
	1.4nm,0.5s,baz=339,slow=6.9,SNR=51						
	1.4nm,0.5s						
KURBB	**Kurchatov Arra**	**46.89**	**324**	P	**P**	**09 33 28.6**	**-0.4**
	0.6nm,0.6s,baz=121,slow=8.7,SNR=4.9						
	0.6nm,0.6s						
YKA	**Yellowknife Ar**	**88.73**	**23**	P	**P**	**09 37 54.1**	**+2.2**
	0.3nm,0.8s,baz=309,slow=4.5,SNR=4.6						
	0.3nm,0.8s						
TXAR	**Lajitas Array**	**116.18**	**43**	PKP	**PKiKP**	**09 43 43.2**	**+0.6**
	0.2nm,0.9s,baz=266,slow=1.4,SNR=2.0						

ISN ***25*** *09:49:24.9±2.1, 34°.63N×46°.26E, h10km, ML2.2*
TEH ***25*** *09:49:24.4, 34°.62N×46°.40E, h10km±33km, ML2.5*

ISC 25 09:49:24.1±1.1, 34°.63N±0°.06×46°.36E±0°.08, h13km±9km, n6, σ0§38/8, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.07**	**15**	Pg	**Pg**	**09 49 26.9**	**-0.2**
IDHR				Sg	**Sg**	**09 49 29.5**	**+0.3**
IGHG	**Ghaleghazi**	**0.34**	**150**	Pg	**Pg**	**09 49 31.0**	**-0.1**
ILIN	**Lien**	**0.57**	**59**	Pg	**Pg**	**09 49 35.2**	**-0.2**
KGS1	**Ghasr-e-Shirin**	**0.65**	**260**	Pg	**Pb**	**09 49 37.7**	**+0.4**
KCHF	**Cheshme Sefid,**	**0.66**	**122**	Pg	**Pg**	**09 49 37.3**	**+0.2**
IBDR	**Badra**	**1.56**	**194**	*e*Pg	**Pn**	**09 49 51.0**	**-0.4**
	baz=10.0						
IBDR				*e*Sg	**Sg**	**09 50 14.0**	**-0.1**
IBDR				AML	AML	09 50 31.5	
	comp=N,39nm,0.5s						

ISC 25 09:54:51.5±7.9, 2°.39N×126°.02E, h0km, mb3.6/3, mbtmp3.7/3, MS3.4/2, Error ellipse: s-maj=187.9km s-min=123.0km az=72.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.65**	**160**	P	P	10 00 04.7	-0.1
	1.8nm,0.7s,baz=339,slow=10,SNR=23						
	1.8nm,0.7s						
ASAR	**Alice Springs**	**27.01**	**164**	P	P	10 00 35.9	+0.4
	0.2nm,0.4s,baz=344,slow=9.6,SNR=7.4						
	0.2nm,0.4s						
STKA	**Stephens Creek**	**37.15**	**158**	P	P	10 02 03.9	-0.4
	1.0nm,0.5s,baz=352,slow=7.1,SNR=3.9						
	1.0nm,0.5s						
PETK	**Petropavlovsk-**	**56.93**	**22**	LR	LR	10 28 54.2	
	comp=Z,22nm,20.7s,baz=107,slow=36						
BRTR	**Keskin Array B**	**90.32**	**310**	LR	LR	10 54 57.6	
	comp=Z,37nm,20.3s,baz=252,slow=40						

HEL ***25*** *09:58:48.4±0.3, 67°.73N×20°.00E, h0km, ML1.6, Explosion*
UPP ***25*** *09:58:49.3±0.0, 67°.87N×20°.16E, h0km, ML2.3, Confirmed Induced event*
IDC ***25*** *09:58:54.1±1.4, 67°.78N×21°.15E, h0km, mbtmp2.9/3, ML1.8/3, Error ellipse: s-maj=23.8km s-min=8.4km az=117.0*

ISC 25 09:58:49.8±0.9, 67°.85N±0°.03×20°.18E±0°.03, h0km, n27, σ1§11/35, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.12**	**29**	P	**Pg**	**09 58 51.5**	**-0.7**
KUA				S	**Sg**	**09 58 53.1**	**-0.7**
RATU	**Laukkuluspa**	**0.22**	**265**	P	**Pg**	**09 58 53.6**	**-0.4**
KOVU	**Salmi**	**0.38**	**359**	P	**Pg**	**09 58 56.4**	**-0.6**
LANU	**Lannavaara**	**0.72**	**73**	P	**Pg**	**09 59 02.7**	**-0.8**
LANU	**Lannavaara**	**0.72**	**73**	PG	**Pg**	**09 59 02.8**	**-0.8**
LANU				SG	**Sg**	**09 59 13.5**	**+0.7**
DUNU	**Dundret**	**0.74**	**168**	P	**Pg**	**09 59 04.0**	**0.0**
SALU	**Saltoluokta**	**0.79**	**235**	P	**Pg**	**09 59 04.4**	**-0.6**
MASU	**Masugnsbyn**	**0.80**	**118**	P	**Pg**	**09 59 05.0**	**-0.1**
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*P	**Pb**	**09 59 12.5**	**-0.6**
KIF	**Kilpisjarvi**	**1.19**	**11**	PG	**Pb**	**09 59 12.7**	**-0.5**
	baz=195						
KIF				SG	**Sb**	**09 59 27.8**	**-1.2**
KIF				MSG		09 59 29.4	
	comp=Z,7.3nm,0.2s						
PAJU	**Pajala**	**1.40**	**125**	PN	**Pn**	**09 59 14.4**	**-2.2**
	baz=301						
PAJU				SN	**Sg**	**09 59 34.4**	**-0.4**
HEF	**Hetta**	**1.42**	**65**	*e*P	**Pb**	**09 59 16.9**	**-0.2**
HEF	**Hetta**	**1.42**	**65**	PG	**Pn**	**09 59 16.4**	**-0.5**
HEF				MSG		09 59 34.5	
	comp=Z,3.9nm,0.2s						
HEF				SG	**Sn**	**09 59 36.2**	**0.0**
KLF	**Kolari**	**1.58**	**111**	PN	**Pn**	**09 59 18.2**	**-0.8**
KLF				MSG		09 59 36.4	
	comp=Z,3.4nm,0.2s						
KTK1	**Kautokeino**	**1.63**	**43**	PG	**Pb**	**09 59 20.1**	**-0.6**
KTK1				SN	**Sg**	**09 59 43.3**	**+1.3**
TRO	**Tromso**	**1.85**	**346**	SG	**Sg**	**09 59 49.3**	**+0.1**
KALU	**Kalix**	**2.36**	**146**	PG	**Pn**	**09 59 30.1**	**+0.4**
	baz=325						
TOF	**Tornio**	**2.41**	**135**	PG	**Pn**	**09 59 31.4**	**+1.0**
TOF				MSG		09 59 58.6	
	comp=Z,1.8nm,0.2s						
SGF	**Sodankyl**	**2.46**	**97**	PG	**Pb**	**09 59 33.4**	**-1.4**
	baz=281						
SGF				SG	**Sb**	**10 00 05.3**	**-0.3**
ARA0	**ARCESS Array S**	**2.58**	**46**	PB	**Pn**	**09 59 34.3**	**+1.5**
	baz=227						
ARA0				SB	**Sb**	**10 00 09.4**	**+0.2**
ARCES	**ARCESS Array B**	**2.58**	**46**	Pn	**Pn**	**09 59 34.3**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=227,slow=15,SNR=18						
ARCES				Lg	Lg	10 00 09.1	
	comp=Z,1.2nm,0.3s,baz=227,slow=23,SNR=15						
	comp=Z,4.7nm,0.9s						
RNF	**Rovaniemi**	**2.59**	**116**	PG	**Pn**	**09 59 34.2**	**+1.3**
RNF				SG	**Sb**	**10 00 08.6**	**-0.7**
KEV	**Kevo**	**3.14**	**49**	SN	**Sn**	**10 00 20.2**	**+1.8**
VRF	**Varrio**	**3.58**	**87**	PG	**Pb**	**09 59 53.2**	**-0.8**
KU6	**Riekki**	**4.24**	**111**	PB	**Pn**	**09 59 58.6**	**+3.1**
FINES	**FINESS Array B**	**6.91**	**156**	Pn	**Pn**	**10 00 33.7**	**+1.6**
	baz=345,slow=12,SNR=2.8						
FINES				Lg	Lg	10 02 24.2	
	comp=Z,0.1nm,0.3s,baz=346,slow=28,SNR=1.9						
	comp=Z,3.5nm,1.0s						
NOA	**NORSAR Array B**	**7.84**	**214**	Pn	Pn	10 00 50.5	+5.4
	baz=29,slow=16,SNR=1.8						
	comp=Z,0.5nm,0.9s						

IDC ***25*** *10:02:46.2±2.2, 5°.35S×151°.62E, h0km, mb3.5/5, mbtmp3.6/6, ML2.0/1, Error ellipse: s-maj=86.1km s-min=23.9km az=117.0*

ISC 25 10:02:54.2±1.9, 5°.4S±0°.3×151°.5E±0°.4, h57km, n7, σ0§41/8, mb3.4/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.80**	**227**	Pn	**Pn**	**10 04 17.8**	**+0.1**
	2.3nm,0.3s,baz=24,slow=12,SNR=5.1						
PMG				Sn	**Sn**	**10 05 22.7**	**-0.3**
	1.5nm,0.3s,baz=129,slow=18,SNR=1.9						
	9.1nm,0.4s						
WRA	**Warramunga Arr**	**22.02**	**228**	P	**P**	**10 07 43.8**	**-0.3**
	0.9nm,0.6s,baz=52,slow=10,SNR=12						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**24.78**	**221**	P	**P**	**10 08 11.6**	**+0.6**
	1.1nm,0.7s,baz=57,slow=9.0,SNR=24						
	1.1nm,0.7s						
SONM	**Songino Array**	**66.15**	**329**	P	**P**	**10 13 35.9**	**0.0**
	0.5nm,0.6s,baz=151,slow=7.1,SNR=3.2						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**79.92**	**319**	P	**P**	**10 14 57.4**	**+0.3**
	0.1nm,0.4s,baz=79,slow=3.1,SNR=2.1						
	0.1nm,0.4s						
ILAR	**Eielson Array**	**83.25**	**22**	P	**P**	**10 15 13.9**	**-0.4**
	0.2nm,0.6s,baz=267,slow=5.7,SNR=2.6						
	0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**149.21**	**287**	PKPbc	**PKPbc**	**10 22 37.7**	**+0.2**
	0.6nm,0.5s,baz=78,slow=2.3,SNR=6.4						

IDC ***25*** *10:04:27.2±1.9, 6°.06S×142°.83E, h0km, mb3.7/4, mbtmp3.7/6, ML3.6/2, Error ellipse: s-maj=69.8km s-min=25.9km az=107.0*

ISC 25 10:04:28.7±1.8, 6°.2S±0°.2×142°.6E±0°.5, h10km, n6, σ2§08/7, mb3.7/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.82**	**210**	Pn	**Pn**	**10 08 12.8**	**+1.1**
	0.3nm,0.3s,baz=28,slow=13,SNR=13						
WRA				Sn	**Sn**	**10 11 04.8**	**-2.6**
	baz=22,slow=23,SNR=2.2						
WRA				Lg	Lg	10 12 58.9	
	0.1nm,0.3s,baz=30,slow=29,SNR=1.8						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**19.26**	**205**	P	**Pn**	**10 08 56.9**	**+2.4**
	0.1nm,0.3s,baz=40,slow=8.9,SNR=11						
	1.6nm,0.9s						
MKAR	**Makanchi Array**	**74.92**	**322**	P	**P**	**10 16 11.3**	**+1.3**
	0.6nm,0.9s,baz=123,slow=6.0,SNR=4.5						
	0.6nm,0.9s						
KURBB	**Kurchatov Arra**	**78.82**	**324**	P	**P**	**10 16 32.1**	**+0.3**
	0.2nm,0.6s,baz=125,slow=4.7,SNR=2.1						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**84.39**	**325**	P	**P**	**10 17 00.4**	**-0.8**
	1.6nm,0.8s,baz=90,slow=4.8,SNR=4.4						
	1.6nm,0.8s						
ILAR	**Eielson Array**	**87.43**	**24**	P	**P**	**10 17 15.1**	**-1.0**
	0.5nm,0.8s,baz=253,slow=4.3,SNR=4.9						
	0.5nm,0.8s						

IDC ***25*** *10:08:14.3±2.0, 5°.48S×151°.67E, h0km, mb3.5/4, mbtmp3.6/5, ML1.3/1, Error ellipse: s-maj=79.6km s-min=24.0km az=122.0*

ISC 25 10:08:21.2±1.9, 5°.7S±0°.3×151°.7E±0°.4, h57km, n6, σ0§76/7, mb3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.88**	**230**	Pn	**Pn**	**10 09 45.1**	**-0.7**
	0.5nm,0.3s,baz=31,slow=12,SNR=3.6						
PMG				Sn	**Sn**	**10 10 52.7**	**+0.8**
	0.5nm,0.3s,baz=101,slow=20,SNR=1.9						
	17nm,0.8s						
WRA	**Warramunga Arr**	**22.09**	**228**	P	**P**	**10 13 11.4**	**-0.5**
	2.2nm,0.8s,baz=53,slow=10.0,SNR=4.2						
	2.2nm,0.8s						
ASAR	**Alice Springs**	**24.82**	**222**	P	**P**	**10 13 39.0**	**+0.8**
	1.4nm,0.9s,baz=58,slow=8.6,SNR=7.3						
	1.4nm,0.9s						
SONM	**Songino Array**	**66.49**	**328**	P	**P**	**10 19 05.1**	**+0.1**
	0.3nm,0.4s,baz=122,slow=6.5,SNR=2.0						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**83.34**	**22**	P	**P**	**10 20 42.0**	**+0.3**
	0.2nm,0.8s,baz=247,slow=8.7,SNR=2.0						
	0.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**149.55**	**286**	PKPbc	**PKiKP**	**10 28 06.0**	**-0.4**
	0.5nm,0.6s,baz=66,slow=3.5,SNR=4.5						

IDC ***25*** *10:08:48.8±1.0, 8°.20N×37°.89W, h0km, mb3.7/6, mbtmp3.8/7, ML3.7/1, MS3.7/6, Error ellipse: s-maj=30.6km s-min=24.0km az=127.0*

ISC 25 10:08:51.2±0.8, 8°.1N±0°.1×37°.8W±0°.1, h16km, n21, σ1§04/13, mb3.6/6, MS3.7/6, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NBCL	**Cascavel-CE**	**12.30**	**182**	*e*P	**Pn**	**10 11 45.0**	**-0.7**
RCBR	**Riachuelo**	**14.01**	**172**	Pn	**Pn**	**10 12 07.5**	**-1.7**
	0.4nm,0.3s,baz=352,slow=19,SNR=2.9						
RCBR				Sn	Sn	10 14 31.2	-13
	baz=282,slow=18,SNR=2.4						
	6.2nm,0.8s						
NBLV	**Livramento - P**	**15.43**	**177**	*e*P	**Pn**	**10 12 28.2**	**-0.2**
MCPB	**Macapa, AP**	**16.52**	**240**	*e*P	**P**	**10 12 44.0**	**-1.0**
SMTB	**Santa Maria do**	**19.50**	**210**	*e*P	**Pn**	**10 13 19.8**	**+0.6**
SDBA	**SAO DESIDERIO**	**21.60**	**199**	*e*P	**P**	**10 13 42.4**	**+1.8**
BDFB	**Brasilia**	**25.70**	**203**	P	**P**	**10 14 21.7**	**+0.7**
	4.0nm,0.9s,baz=34,slow=11,SNR=3.8						
	4.0nm,0.9s						
SAML	**Samuel**	**30.45**	**237**	*e*P	P	10 15 07.5	+4.1
CZSB	**Cruzeiro do Su**	**38.18**	**246**	*e*P	P	10 16 14.4	+3.9
LPAZ	**La Paz**	**38.59**	**231**	P	**P**	**10 16 14.3**	**-0.2**
	0.8nm,0.5s,baz=11,slow=4.3,SNR=3.5						
	0.8nm,0.5s						
LPAZ	**La Paz**	**38.59**	**231**	*e*P	**P**	**10 16 15.8**	**+1.2**
TORD	**Torodi Ar. Bea**	**39.12**	**79**	P	**P**	**10 16 18.9**	**+0.6**
	0.7nm,0.7s,baz=279,slow=8.6,SNR=5.6						
	0.7nm,0.7s						
EKA	**Eskdalemuir Ar**	**54.49**	**24**	P	**P**	**10 18 17.8**	**-0.2**
	1.1nm,0.8s,baz=237,slow=9.0,SNR=2.4						
	1.1nm,0.8s						
DAVOX	**Davos/Dischmat**	**55.93**	**38**	LR	LR	10 41 45.5	
	comp=Z,54nm,18.0s,baz=254,slow=35						
GERES	**GERESS Array B**	**59.16**	**37**	LR	LR	10 40 49.6	
	comp=Z,49nm,21.2s,baz=288,slow=32						
TSUM	**Tsumeb**	**60.97**	**117**	LR	LR	10 39 29.5	
	comp=Z,127nm,20.2s,baz=328,slow=30						
TXAR	**Lajitas Array**	**65.02**	**298**	P	**P**	**10 19 30.6**	**-0.5**
	0.2nm,0.5s,baz=108,slow=6.1,SNR=9.3						
	0.2nm,0.5s						
LBTB	**Lobatse**	**69.95**	**120**	LR	LR	10 44 25.5	
	comp=Z,96nm,20.8s,baz=270,slow=30						
BOSA	**Boshof**	**70.91**	**124**	LR	LR	10 45 55.3	
	comp=Z,28nm,20.1s,baz=343,slow=31						
EIL	**Elat**	**71.06**	**62**	LR	LR	10 50 54.2	
	comp=Z,38nm,19.3s,baz=246,slow=36						
YKA	**Yellowknife Ar**	**76.72**	**332**	P	**P**	**10 20 41.3**	**-0.2**
	0.1nm,0.6s,baz=93,slow=6.4,SNR=3.6						
	0.1nm,0.6s						

IDC ***25*** *10:45:16.0±0.8, 41°.48N×45°.95E, h0km, mb3.7/9, mbtmp3.7/13, ML3.6/4, MS2.6/2, Error ellipse: s-maj=13.6km s-min=8.3km az=120.0*
TIF ***25*** *10:45:18.6, 41°.40N×45°.94E, h39km*
MOS ***25*** *10:45:18.8, 41°.44N×45°.91E, h22km, MPVA4.6*
NSSP ***25*** *10:45:18.0, 41°.43N×45°.82E, h19km, Ms3.9*
AZER ***25*** *10:45:18.9, 41°.39N×45°.99E, h16km, ml3.7*
NORS ***25*** *10:45:19.1, 41°.41N×46°.10E, h28km, MPVA4.4*
DRS ***25*** *10:45:20.7, 41°.46N×45°.81E, h18km*
ISK ***25*** *10:45:20.5, 41°.47N×45°.72E, h1km, ML3.2/8*
AFAD ***25*** *10:45:25.2±0.0, 41°.37N×45°.55E, h9km±3km, ML3.1*

ISC 25 10:45:18.2±0.9, 41°.44N±0°.01×45°.9E±0°.01, h17km±7km, n126, σ1§57/228, mb3.6/8, 10C-5D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGRG	**David-gareji**	**0.40**	**272**	P	**Pn**	**10 45 29.9**	**+0.7**
DGRG				S	**Sb**	**10 45 38.3**	**+5.6**
DGRG	**David-gareji**	**0.40**	**272**	*e*Pg	**Pn**	**10 45 29.9**	**+0.7**
DGRG				*e*Sg	**Sb**	**10 45 38.3**	**+5.6**
VSHL	**Vashlovani**	**0.43**	**119**	P	**Pn**	**10 45 30.5**	**+0.9**
VSHL				S	**Sb**	**10 45 37.6**	**+4.1**
LGD	**Lagodekhi**	**0.47**	**33**	P	**Pn**	**10 45 29.5**	**-0.7**
LGD				S	**Sb**	**10 45 37.2**	**+2.5**
LGD	**Lagodekhi**	**0.47**	**33**	*e*Pg	**Pn**	**10 45 29.5**	**-0.7**
LGD				*e*Sg	**Sb**	**10 45 37.2**	**+2.5**
QZX	**Qazax, Azerbai**	**0.55**	**227**	P	**Pn**	**10 45 31.5**	**+0.2**
QZX				S	**Sn**	**10 45 40.5**	**+0.4**
ZKTA	**Zakatala**	**0.57**	**70**	P	**Pn**	**10 45 31.2**	**-0.4**
ZKTA				S	**Sn**	**10 45 39.7**	**-1.0**
GDB	**GEDABAY**	**0.73**	**189**	P	**Pn**	**10 45 33.9**	**0.0**
GDB				S	**Sn**	**10 45 44.2**	**-0.4**
GANJ	**Ganja**	**0.85**	**158**	P	**Pn**	**10 45 35.8**	**+0.3**
GANJ				S	**Sn**	**10 45 47.9**	**+0.4**
SEKA	**Sheki**	**1.00**	**103**	P	**Pn**	**10 45 38.8**	**+1.2**
SEKA				S	**Sn**	**10 45 53.7**	**+2.4**
MNGR	**Mingechevir, A**	**1.11**	**126**	Pn	**Pg**	**10 45 41.1**	**+1.3**
MNGR				Sn	**Sn**	**10 45 57.2**	**+3.4**
KZRT	**Kazreti**	**1.13**	**268**	P	**Pg**	**10 45 39.7**	**-0.4**
KZRT				S	**Sn**	**10 45 54.9**	**+0.4**
KZRT	**Kazreti**	**1.13**	**268**	*e*Pg	**Pg**	**10 45 39.7**	**-0.4**
KZRT				*e*Sg	**Sn**	**10 45 54.9**	**+0.4**
CHRG	**Chargali**	**1.15**	**321**	P	**Pg**	**10 45 40.1**	**-0.4**
CHRG				S	**Sg**	**10 45 55.4**	**-0.2**
CHRG	**Chargali**	**1.15**	**321**	*e*Pg	**Pg**	**10 45 40.1**	**-0.4**
CHRG				*e*Sg	**Sg**	**10 45 55.4**	**-0.2**
STEZ	**Stepenevan**	**1.22**	**249**	*e*P	**Pg**	**10 45 41.5**	**-0.2**
STEZ				*e*S	**Sn**	**10 45 58.2**	**+1.5**
GNBR	**Gunib**	**1.24**	**39**	*i* Pg	**Pg**	**10 45 42.3**	**+0.1**
	234nm,0.2s						
GNBR				*e*Sg	**Sg**	**10 45 58.9**	**+0.6**
	419nm,0.5s						
XNZR	**Khunzakh**	**1.25**	**28**	*e*Pg	**Pg**	**10 45 42.8**	**+0.3**
	349nm,0.3s						
XNZR				*e*Sg	**Sg**	**10 46 00.0**	**+1.1**
	1µm,0.3s						
DMNI	**Dmanisi**	**1.29**	**266**	P	**Pb**	**10 45 42.2**	**+0.1**
DMNI				S	**Sn**	**10 45 59.3**	**+0.7**
DMNI	**Dmanisi**	**1.29**	**266**	*e*Pg	**Pb**	**10 45 42.2**	**+0.1**
DMNI				*e*Sg	**Sn**	**10 45 59.3**	**+0.7**
SHTL	**Shatili**	**1.34**	**336**	P	**Pb**	**10 45 43.1**	**+0.1**
SHTL				S	**Sg**	**10 46 00.9**	**-0.6**
SHTL	**Shatili**	**1.34**	**336**	*e*Pg	**Pb**	**10 45 43.1**	**+0.1**
SHTL				*e*Sg	**Sg**	**10 46 00.9**	**-0.6**
TRLG	**Trialeti**	**1.36**	**275**	P	**Pb**	**10 45 43.3**	**0.0**
TRLG				S	**Sn**	**10 46 00.9**	**+0.7**
TRLG	**Trialeti**	**1.36**	**275**	*e*Pg	**Pb**	**10 45 43.3**	**0.0**
TRLG				*e*Sg	**Sn**	**10 46 00.9**	**+0.7**
AKT	**Akhty**	**1.37**	**88**	*e*Pg	**Pg**	**10 45 44.2**	**-0.5**
	101nm,0.3s						
AKT				*e*Sg	**Sg**	**10 46 02.4**	**-0.3**
	827nm,0.4s						
ARKR	**Arakani**	**1.42**	**35**	*i* Pg	**Pg**	**10 45 45.5**	**-0.1**
	263nm,0.5s						
ARKR				*e*Sg	**Sg**	**10 46 04.5**	**+0.4**
	303nm,0.2s						
UNCR	**Uncukul**	**1.44**	**27**	*e*Pg	**Pg**	**10 45 45.9**	**0.0**
UNCR				*e*Sg	**Sg**	**10 46 05.0**	**+0.4**
KAPZ	**Kaputan**	**1.44**	**220**	⇑*i*P	**Pg**	**10 45 46.0**	**0.0**
KAPZ				⇑*i*S	**Sg**	**10 46 05.8**	**+0.9**
GUDG	**Gudauri**	**1.48**	**314**	P	**Pb**	**10 45 45.6**	**+0.2**
GUDG				S	**Sg**	**10 46 05.5**	**-0.4**
GUDG	**Gudauri**	**1.48**	**314**	*e*Pg	**Pb**	**10 45 45.6**	**+0.2**
GUDG				*e*Sg	**Sg**	**10 46 05.6**	**-0.4**
URKR	**Urkarakh**	**1.48**	**60**	*e*Pg	**Pg**	**10 45 47.1**	**+0.3**
	206nm,0.4s						
URKR				*e*Sg	**Sg**	**10 46 07.1**	**+0.9**
	363nm,0.3s						
BRDA	**Brd**	**1.52**	**140**	Pn	**Pg**	**10 45 47.8**	**+0.3**
BRDA				Sn	**Sg**	**10 46 10.2**	**+2.9**
QBL	**Gabala**	**1.54**	**108**	Pn	**Pg**	**10 45 47.1**	**-0.8**
QBL				Sn	**Sg**	**10 46 08.6**	**+0.7**
GNI	**Garni**	**1.56**	**215**	⇓*i*P	**Pg**	**10 45 48.2**	**-0.1**
GNI				⇑*i*S	**Sg**	**10 46 10.2**	**+1.6**
GNI	**Garni**	**1.56**	**215**	*e*Pg	**Pg**	**10 45 48.2**	**-0.1**
GNI				*e*Sg	**Sg**	**10 46 11.2**	**+2.6**
GNI	**Garni**	**1.56**	**215**	Pg	**Pg**	**10 45 48.3**	**-0.1**
	61nm,0.3s,baz=14,slow=3.2,SNR=69						
GNI				Lg	Lg	10 46 09.2	
	62nm,0.3s,baz=41,slow=19,SNR=21						
GNI				LR	LR	10 46 38.5	
	comp=Z,78nm,20.2s,baz=332,slow=51						
BRNG	**Burnasheti**	**1.57**	**277**	P	**Pb**	**10 45 47.3**	**+0.4**
BRNG				S	**Sg**	**10 46 08.7**	**-0.2**
KRNR	**Karanay**	**1.57**	**28**	*e*Pg	**Pg**	**10 45 47.8**	**-0.8**
	93nm,0.2s						
KRNR				*e*Sg	**Sg**	**10 46 08.1**	**-1.0**
	949nm,0.8s						
MTEO	**Meteo**	**1.61**	**321**	P	**Pb**	**10 45 47.6**	**0.0**
MTEO				S	**Sb**	**10 46 08.8**	**+1.0**
MTEO	**Meteo**	**1.61**	**321**	*e*Pg	**Pb**	**10 45 47.6**	**0.0**
MTEO				*e*Sg	**Sb**	**10 46 08.8**	**+1.0**
AGDM	**Agdam**	**1.61**	**145**	Pn	**Pg**	**10 45 48.3**	**-1.0**
AGDM				Sn	**Sg**	**10 46 10.4**	**+0.1**
AMBZ	**Amberd**	**1.63**	**230**	⇑*i*P	**Pg**	**10 45 49.5**	**-0.1**
AMBZ				⇑*i*S	**Sg**	**10 46 12.2**	**+1.4**
BUJR	**Buynaksk**	**1.65**	**33**	*e*Pg	**Pg**	**10 45 49.7**	**-0.3**
	174nm,0.5s						
BUJR				*e*Sg	**Sg**	**10 46 11.9**	**+0.4**
	4.0nm,0.1s						
SGKR	**Sergokala**	**1.66**	**51**	*e*Pg	**Pg**	**10 45 49.8**	**-0.4**
	153nm,0.4s						
SGKR				*e*Sg	**Sg**	**10 46 12.0**	**+0.3**
	233nm,0.5s						
XNQ	**Khinaliq**	**1.71**	**98**	Pn	**Pb**	**10 45 49.6**	**+0.4**
XNQ				Sn	**Sg**	**10 46 12.7**	**-0.5**
DLMR	**Dylym**	**1.72**	**18**	*e*Pg	**Pg**	**10 45 50.7**	**-0.6**
	225nm,0.2s						
DLMR				*e*Sg	**Sg**	**10 46 14.0**	**+0.4**
	347nm,0.2s						
NRKZ	**NAREK**	**1.72**	**214**	*e*P	**Pg**	**10 45 51.4**	**+0.1**
NRKZ				*e*S	**Sg**	**10 46 15.2**	**+1.5**
**D

ONI				*e*Sg	**Sb**	**10 46 22.4**	**-0.9**
DIGO	**Kars**	**2.17 243**		P	**Pb**	**10 45 58.2**	**+1.0**
DIGO				S	**Sg**	**10 46 27.9**	**-0.2**
DIGO				*i* AML	AML	10 46 32.0	
	comp=N,464nm,0.5s						
DIGO				*i* AML	AML	10 46 36.0	
	comp=E,565nm,0.5s						
QRD	**Qoradiz**	**2.25 151**		Pn	**Pn**	**10 45 55.3**	**+0.6**
QRD				Sn	**Sg**	**10 46 28.2**	**-2.4**
DIGR	**Digorskoe uzhe**	**2.26 311**		*e*Pn	**Pb**	**10 45 57.3**	**-1.3**
DIGR				*e*Sn	**Sb**	**10 46 26.5**	**+0.1**
NAX	**Nakhchivan**	**2.28 188**		Pn	**Pg**	**10 46 01.1**	**-0.9**
NAX				Sn	**Sg**	**10 46 29.4**	**-2.3**
KARS	**Kars**	**2.29 250**		Pn	**Pb**	**10 45 58.8**	**-0.3**
SIZA	**Siyzn**	**2.29 98**		Pn	**Pb**	**10 45 58.5**	**-0.6**
SIZA				Sn	**Sb**	**10 46 28.5**	**+1.5**
TKB	**Tkibuli**	**2.35 294**		P	**Pb**	**10 45 59.6**	**-0.6**
TKB				S	**Sb**	**10 46 30.4**	**+1.4**
TKB	**Tkibuli**	**2.35 294**		*e*Pn	**Pb**	**10 45 59.6**	**-0.6**
TKB				*e*Sn	**Sb**	**10 46 30.4**	**+1.4**
ATGJ	**Altiaghaj**	**2.36 103**		Pn	**Pb**	**10 45 60.0**	**-0.4**
ATGJ				Sn	**Sb**	**10 46 29.5**	**+0.2**
BOZK	**Kars-Merkez-Bo**	**2.37 250**		P	**Pg**	**10 46 03.2**	**-0.5**
BOZK				S	**Sb**	**10 46 29.8**	**+0.2**
EPOS	**Posof**	**2.39 273**		S	**Sb**	**10 46 31.5**	**+1.5**
LSNR	**Lesken**	**2.40 321**		*e*Pn	**Pb**	**10 46 01.5**	**+0.6**
LSNR				*e*Sn	**Sb**	**10 46 31.8**	**+1.6**
GBS	**Qobustan**	**2.47 110**		Pn	**Pb**	**10 46 02.1**	**-0.1**
GBS				Sn	**Sb**	**10 46 32.4**	**0.0**
AHAN	**Ardahan-Merkez**	**2.48 265**		P	**Pg**	**10 46 04.5**	**-1.4**
AHAN				S	**Sg**	**10 46 35.8**	**-2.4**
AHAN				*i* AML	AML	10 46 46.0	
	comp=N,90nm,0.5s						
AHAN				*i* AML	AML	10 46 46.0	
	comp=E,104nm,0.4s						
ORD	**Ordubad**	**2.51 178**		Pn	**Pb**	**10 46 04.2**	**+1.4**
ORD				Sn	**Sb**	**10 46 33.3**	**-0.1**
GOLE	**Ardahan-G¶le**	**2.57 258**		P	**Pg**	**10 46 06.4**	**-1.1**
GOLE				S	**Sb**	**10 46 36.3**	**+1.0**
ALIB	**&Aumlli-Bayram**	**2.78 121**		Pn	**Pb**	**10 46 06.3**	**-1.1**
SENK	**Senkaya-Erzuru**	**2.83 253**		Pn	**Pb**	**10 46 06.6**	**-1.8**
AGRB	**Hanur-Agry**	**2.90 231**		Pn	**Pb**	**10 46 08.1**	**-1.4**
GLBA	**Cilabad**	**2.90 138**		Pn	**Pb**	**10 46 06.0**	**+2.4**
GLBA				Sn	**Sn**	**10 46 41.5**	**+3.4**
KBTC	**Kuba-Taba**	**3.01 323**		*e*Pn	**Pn**	**10 46 08.0**	**+2.9**
KBTC				*e*Sn	**Sb**	**10 46 45.1**	**-2.6**
DAGI	**Agillar**	**3.03 264**		P	**Pg**	**10 46 14.1**	**-2.2**
YRD	**Yardimli**	**3.09 144**		Pn	**Pn**	**10 46 09.2**	**+2.8**
YRD				Sn	**Sn**	**10 46 45.4**	**+2.4**
BATM	**Batumi**	**3.17 274**		Pn	**Pb**	**10 46 11.2**	**-2.8**
KBZ	**Khabaz**	**3.19 317**		*e*Pn	**Pn**	**10 46 08.7**	**+1.2**
KBZ				*e*Sn	**Sn**	**10 46 48.2**	**+3.1**
KBZ	**Khabaz**	**3.19 317**		Pn	**Pn**	**10 46 10.1**	**+2.6**
	2.4nm,0.3s,baz=150,slow=9.4,SNR=27						
KBZ				Lg	Lg	10 46 58.8	
	5.5nm,0.3s,baz=96,slow=10,SNR=7.9						
KBZ				LR	LR	10 47 40.4	
	comp=Z,73nm,20.9s,baz=199,slow=45 4.0nm,0.5s						
DBAD	**Bademkaya**	**3.20 264**		P	**Pb**	**10 46 16.1**	**+1.5**
DBAD				S	**Sb**	**10 46 53.9**	**+0.5**
DBAD				*i* AML	AML	10 47 03.0	
	comp=E,43nm,0.5s						
DBAD				*i* AML	AML	10 47 08.0	
	comp=N,53nm,0.6s						
BCA	**Borcka**	**3.22 272**		Pn	**Pb**	**10 46 11.9**	**-3.0**
SHA1	**Shidzhatmaz**	**3.32 315**		*e*Pn	**Pn**	**10 46 12.6**	**+3.0**
SHA1				*e*Sn	**Sn**	**10 46 53.2**	**+4.5**
PYA1	**Pyatigorsk**	**3.34 323**		*e*Pn	**Pn**	**10 46 12.5**	**+2.9**
PYA1				*e*Sn	**Sn**	**10 46 52.1**	**+3.2**
LRK	**Lerik**	**3.36 145**		Pn	**Pn**	**10 46 11.2**	**+1.1**
LRK				Sn	**Sn**	**10 46 52.3**	**+2.7**
KIV	**Kislovodsk**	**3.46 318**		*e*Pn	**Pn**	**10 46 13.7**	**+2.3**
KIV				*e*Sn	**Sn**	**10 46 54.7**	**+2.8**
LKRN	**Lenkeran, Azer**	**3.51 140**		Sn	**Sn**	**10 46 55.8**	**+2.9**
ASTR	**Astara**	**3.63 141**		Pn	**Pb**	**10 46 18.4**	**-3.5**
ASTR				Sn	**Sn**	**10 46 57.4**	**+1.4**
ALER	**Alexandrovskoy**	**3.98 328**		*e*Pn	**Pn**	**10 46 21.4**	**+3.0**
ALER				*e*Sn	**Sn**	**10 47 07.3**	**+2.6**
GUZR	**Guzeripl'**	**4.97 303**		*e*Pn	**Pn**	**10 46 34.1**	**+2.1**
GUZR				*e*Sn	**Sn**	**10 47 29.1**	**0.0**
GEYT	**Alibeck**	**10.04 106**		Pn	**Pn**	**10 47 40.2**	**-1.5**
	1.0nm,0.3s,baz=319,slow=16,SNR=6.0						
GEYT				Sn	**Sn**	**10 49 28.4**	**-5.6**
	0.6nm,0.3s,baz=288,slow=27,SNR=2.4 1.2nm,0.3s						
BELG	**Belogornoye**	**11.02**	**6**	Pn	**Pn**	**10 47 52.8**	**-2.1**
	0.7nm,0.3s,baz=221,slow=9.3,SNR=3.2						
BELG				Sn	**Sn**	**10 49 52.7**	**-5.0**
	0.7nm,0.3s,baz=151,slow=18,SNR=2.9						
BELG				LR	LR	10 52 39.0	
	comp=Z,35nm,19.7s,baz=337,slow=40 6.7nm,0.6s						
AKTO	**Aktyubinsk**	**12.31**	**39**	Pn	**Pn**	**10 48 10.5**	**-2.1**
	0.3nm,0.3s,baz=224,slow=6.5,SNR=6.1						
AKTO				Sn	Sn	10 50 19.2	-10
	0.3nm,0.3s,baz=191,slow=22,SNR=2.5 0.7nm,0.3s						
AKTO	**Aktyubinsk**	**12.31**	**39**	⇑P	**Pn**	**10 48 11.1**	**-1.5**
	3.9nm,1.2s						
AKTO				⇓S	Sn	10 50 19.4	-10
	3.5nm,1.1s						
AB31	**Akbulak array**	**12.58**	**47**	P	**Pn**	**10 48 14.8**	**-1.4**
	1.3nm,0.8s,baz=244,slow=13,SNR=13						
AB31				⇓S	Sn	10 50 27.4	-8.5
	0.8nm,0.5s,baz=244,slow=28,SNR=4.6						
BVAR	**Borovoye Array**	**20.16**	**47**	P	**P**	**10 49 50.9**	**-0.5**
	0.3nm,0.4s,baz=250,slow=8.3,SNR=5.3 0.3nm,0.4s						
FINES	**FINESS Array B**	**23.35**	**336**	P	**P**	**10 50 25.1**	**-0.3**
	1.4nm,0.7s,baz=188,slow=3.9,SNR=5.1 1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**24.27**	**57**	P	**P**	**10 50 34.9**	**+0.6**
	0.5nm,0.6s,baz=264,slow=9.3,SNR=7.4 0.5nm,0.6s						
MKAR	**Makanchi Array**	**26.50**	**66**	P	**P**	**10 50 55.7**	**+1.2**
	0.1nm,0.4s,baz=260,slow=5.7,SNR=3.2 0.1nm,0.4s						
HFS	**Hagfors**	**27.23**	**324**	P	**P**	**10 51 00.7**	**-0.2**
	1.2nm,0.7s,baz=106,slow=5.1,SNR=1.5 1.2nm,0.7s						
ZALV	**Zalesovo Beam**	**28.65**	**51**	P	**P**	**10 51 13.1**	**-0.5**
	0.3nm,0.4s,baz=261,slow=9.6,SNR=1.6 0.3nm,0.4s						
ARCES	**ARCESS Array B**	**30.11**	**346**	P	**P**	**10 51 26.2**	**-0.3**
	6.4nm,1.1s,baz=166,slow=8.2,SNR=1.5 6.4nm,1.1s						
SPITS	**Spitsbergen Ar**	**38.74**	**351**	P	**P**	**10 52 40.5**	**-0.4**
	9.5nm,1.1s,baz=153,slow=9.7,SNR=1.3 9.5nm,1.1s						
TORD	**Torodi Ar. Bea**	**47.62**	**247**	P	**P**	**10 53 53.4**	**0.0**
	0.7nm,1.1s,baz=38,slow=7.3,SNR=1.7 0.7nm,1.1s						

IDC 25 11:06:45.7±2.0,5°93S×142°89E,h0km,mb3.5/3, mbtmp3.4/5,ML3.5/2,Error ellipse: s-maj=78.3km s-min=26.6km az=108.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.22 210**		Pn	Pn	11 10 33.0	-2.2
	0.1nm,0.3s,baz=27,slow=12,SNR=8.3						
WRA				Sn	Sn	11 13 23.7	-12
	0.1nm,0.3s,baz=34,slow=24,SNR=1.2						
WRA				Lg	Lg	11 15 20.0	
	baz=38,slow=28,SNR=3.7 0.4nm,0.6s						
ASAR	**Alice Springs**	**19.64 205**		P	Pn	11 11 17.5	-0.1
	0.2nm,0.3s,baz=35,slow=10,SNR=17 1.0nm,0.8s						
MKAR	**Makanchi Array**	**74.87 322**		P	P	11 18 26.8	-1.6
	0.2nm,0.8s,baz=116,slow=6.6,SNR=2.2 0.2nm,0.8s						
BVAR	**Borovoye Array**	**84.32 325**		P	P	11 19 20.9	+1.2
	0.5nm,0.7s,baz=97,slow=6.0,SNR=2.9 0.5nm,0.7s						
ILAR	**Eielson Array**	**87.05**	**24**	P	P	11 19 33.3	+0.4
	0.2nm,0.7s,baz=245,slow=5.9,SNR=1.5 0.2nm,0.7s						

IDC 25 11:09:58.5±1.5,11°84N×143°85E,h0km,mb3.7/5, mbtmp3.7/5,Error ellipse: s-maj=49.2km s-min=33.0km az=95.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.94 197**		P	P	11 16 35.1	+0.1
	0.4nm,0.6s,baz=21,slow=9.7,SNR=2.1 0.4nm,0.6s						
MKAR	**Makanchi Array**	**62.07 317**		P	P	11 20 20.7	-0.5
	0.2nm,0.6s,baz=100,slow=7.6,SNR=2.5 0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**65.32 320**		P	P	11 20 42.2	-0.3
	0.5nm,0.3s,baz=106,slow=6.5,SNR=9.6 0.5nm,0.3s						
ILAR	**Eielson Array**	**70.56**	**25**	P	P	11 21 15.5	+0.2
	0.2nm,0.4s,baz=258,slow=5.6,SNR=9.0 0.2nm,0.4s						
BVAR	**Borovoye Array**	**70.69 322**		P	P	11 21 16.5	+0.3
	1.1nm,0.4s,baz=99,slow=7.6,SNR=9.5 1.1nm,0.4s						

*NEIC **25** 11:10:37.7±1.1,56°26N±0°08×148°8W±0°1,h22km±10km, ML3.5/64,ML3.3(AEIC),Error ellipse: s-maj=12.4km s-min=7.9km az=156.0*
*AEIC **25** 11:10:40.8±1.1,56°26N±0°09×148°7W±0°1,h6km±7km, Error ellipse: s-maj=13.4km s-min=9.2km az=164.0*

ISC 25 11:10:36.2±1.6,56°30N±0°09×148°79W±0°06,h10km, n186,σ1§20/185,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.55 307**			**Pn**	**11 11 18.5**	**+0.9**
KDAK	**Kodiak Island**	**2.55 307**			**Sn**	**11 11 47.3**	**-1.3**
KDAK	**Kodiak Island**	**2.55 307**		S	**Sn**	**11 11 47.3**	**-1.3**
	baz=125						
OHAK	**Old Harbor**	**2.64 292**		P	**Pn**	**11 11 19.4**	**+0.6**
OHAK	**Old Harbor**	**2.64 292**			**Pn**	**11 11 19.2**	**+0.4**
OHAK					**Sn**	**11 11 49.4**	**-1.5**
OHAK	**Old Harbor**	**2.64 292**		P	**Pn**	**11 11 19.2**	**+0.4**
	baz=109						
OHAK				S	**Sn**	**11 11 49.4**	**-1.5**
	baz=109						
SII	**Sitkinak Islan**	**3.01 277**			**Sn**	**11 11 57.7**	**-2.3**
SII	**Sitkinak Islan**	**3.01 277**		Pn	**Pn**	**11 11 22.9**	**-1.0**
SII	**Sitkinak Islan**	**3.01 277**		IAML		11 11 60.0	
	comp=E,106nm,0.9s						
SII				IAML		11 12 15.0	
	comp=N,108nm,1.0s						
SII	**Sitkinak Islan**	**3.01 277**		S	**Sn**	**11 11 57.7**	**-2.3**
	baz=94						
SYI	**Shuyak Island**	**3.02 321**			**Pn**	**11 11 25.4**	**+1.3**
SYI					**Sn**	**11 12 00.5**	**+0.2**
Q20K	**Shuyak Island**	**3.02 321**		P	**Pn**	**11 11 25.4**	**+1.3**
	baz=139						
Q20K				S	**Sn**	**11 12 00.5**	**+0.2**
	baz=139						
Q23K	**Middleton Isla**	**3.40 22**			**Pn**	**11 11 29.6**	**+0.4**
Q23K	**Middleton Isla**	**3.40 22**		IAML		11 12 17.9	
	comp=N,99nm,1.1s						
Q23K				IAML		11 12 22.0	
	comp=E,90nm,1.0s						
Q23K	**Middleton Isla**	**3.40 22**		P	**Pn**	**11 11 29.6**	**+0.4**
	baz=203						
MID	**Middleton Isla**	**3.40 22**		P	**Pn**	**11 11 29.9**	**+0.7**
MID	**Middleton Isla**	**3.40 22**		Pn	**Pn**	**11 11 28.2**	**-0.9**
MID				IAML		11 12 10.4	
	comp=E,104nm,1.0s						
MID				IAML		11 12 28.6	
	comp=N,86nm,1.2s						
CNPM	**China Poot**	**3.48 339**			**Pn**	**11 11 31.4**	**+0.9**
CNPM					**Sn**	**11 12 10.3**	**-1.5**
BRSE	**Bradley Lake S**	**3.60 344**			**Pn**	**11 11 32.7**	**+0.6**
BRSE					**Sn**	**11 12 13.2**	**-1.4**
BRSE	**Bradley Lake S**	**3.60 344**		P	**Pn**	**11 11 32.7**	**+0.6**
	baz=162						
BRSE				S	**Sn**	**11 12 13.2**	**-1.4**
	baz=162						
BRLK	**Bradley Lake**	**3.65 343**			**Pn**	**11 11 33.1**	**+0.4**
BRLK					**Sn**	**11 12 14.7**	**-1.1**
HOM	**Homer**	**3.69 337**		Pn	**Pn**	**11 11 34.0**	**+0.7**
HOM				IAML		11 12 35.0	
	comp=N,153nm,1.0s						
HOM				IAML		11 12 44.5	
	comp=E,126nm,1.2s						
Q19K	**Cape Douglas,**	**3.71 317**		Pn	**Pn**	**11 11 36.2**	**+2.6**
Q19K				IAML		11 12 29.7	
	comp=N,105nm,1.1s						
P23K	**Montague Islan**	**3.78 11**			**Pn**	**11 11 35.0**	**+0.5**
P23K					**Sn**	**11 12 16.2**	**-2.7**
P23K	**Montague Islan**	**3.78 11**		P	**Pn**	**11 11 35.0**	**+0.5**
	baz=192						
P23K				S	**Sn**	**11 12 16.2**	**-2.7**
	baz=192						
SEW	**Seward**	**3.83 355**			**Pn**	**11 11 35.5**	**+0.4**
SEW	**Seward**	**3.83 355**		P	**Pn**	**11 11 35.5**	**+0.4**
	baz=174						
KAKN	**Katmai Knife C**	**3.95 303**			**Pn**	**11 11 38.1**	**+1.2**
P19K	**Oil Pt**	**4.11 327**		Pn	**Pn**	**11 11 41.3**	**+2.3**
P19K				IAML		11 12 39.9	
	comp=E,58nm,0.4s						
P19K				IAML		11 12 40.0	
	comp=N,59nm,0.7s						
O22K	**Cooper Landing**	**4.22 354**		Pn	**Pn**	**11 11 40.4**	**-0.1**
HIN	**Hinchinbrook I**	**4.28 15**			**Pn**	**11 11 42.1**	**+0.7**
HIN	**Hinchinbrook I**	**4.28 15**		IAML		11 12 30.3	
	comp=N,86nm,1.1s						
HIN				IAML		11 12 38.2	
	comp=E,73nm,1.1s						
SLKM	**Skilak Lake**	**4.28 350**			**Pn**	**11 11 41.5**	**0.0**
O20K	**Slope Mountain**	**4.30 333**			**Pn**	**11 11 42.5**	**+0.8**
O20K	**Slope Mountain**	**4.30 333**		P	**Pn**	**11 11 42.4**	**+0.8**
	baz=150						
KAIM	**Kayak Island**	**4.31 31**			**Pn**	**11 11 42.2**	**+0.4**
KAIM	**Kayak Island**	**4.31 31**		IAML		11 12 44.9	
	comp=N,60nm,0.6s						
KAIM				IAML		11 12 45.6	
	comp=E,78nm,1.2s						
KAIM	**Kayak Island**	**4.31 31**		P	**Pn**	**11 11 42.2**	**+0.4**
	baz=214						
IVE	**Iliamna Volcan**	**4.34 331**			**Pn**	**11 11 42.0**	**-0.3**
ILSW	**Iliamna Southw**	**4.35 330**			**Pn**	**11 11 42.5**	**+0.1**
ILSW	**Iliamna Southw**	**4.35 330**		IAML		11 12 41.6	
	comp=E,49nm,0.8s						
ILSW				IAML		11 12 44.5	
	comp=N,25nm,0.9s						
EYAK	**Cordova Ski Ar**	**4.55 19**			**Pn**	**11 11 45.7**	**+0.7**
EYAK	**Cordova Ski Ar**	**4.55 19**		P	**Pn**	**11 11 45.7**	**+0.7**
	baz=202						
SUCK	**Suckling Hills**	**4.62 33**			**Pn**	**11 11 46.3**	**+0.3**
SUCK	**Suckling Hills**	**4.62 33**		IAML		11 12 43.6	
	comp=N,44nm,1.2s						
SUCK				IAML		11 13 02.5	
	comp=E,41nm,1.2s						
P18K	**Big Mountain,**	**4.63 315**			**Pn**	**11 11 46.6**	**+0.4**
P18K	**Big Mountain,**	**4.63 315**		P	**Pn**	**11 11 46.6**	**+0.4**
	baz=130						
RAGM	**Ragged Mountai**	**4.63 26**			**Pn**	**11 11 47.3**	**+1.0**
CAPN	**Captain Cook N**	**4.65 346**		Pn	**Pn**	**11 11 48.0**	**+1.6**
RDSO	**Redoubt South**	**4.65 335**			**Pn**	**11 11 47.1**	**+0.4**
RSO	**Redoubt South**	**4.66 335**			Pn	11 11 44.7	-2.1
RDT	**Redoubt**	**4.69 338**			**Pn**	**11 11 47.4**	**+0.4**
NICHA	**Nichawak Mount**	**4.69 31**			**Pn**	**11 11 47.9**	**+0.8**
HMT	**Hamilton**	**4.70 29**			**Pn**	**11 11 47.6**	**+0.5**
RDWB	**Redoubt West**	**4.71 335**			**Pn**	**11 11 48.0**	**+0.6**
GOAT	**Goat Mountain**	**4.79 25**			**Pn**	**11 11 48.9**	**+0.4**
RC01	**Rabbit Creek A**	**4.83 355**			**Pn**	**11 11 49.4**	**+0.6**
RC01	**Rabbit Creek A**	**4.83 355**		IAML		11 12 44.9	
	comp=E,35nm,0.5s						
RC01				IAML		11 12 45.1	
	comp=N,23nm,0.3s						
RC01	**Rabbit Creek A**	**4.83 355**		P	**Pn**	**11 11 49.4**	**+0.6**
	baz=174						
O19K	**Port Alsworth**	**4.87 325**			**Pn**	**11 11 49.9**	**+0.4**
O19K				IAML		11 12 48.1	
	comp=N,52nm,0.4s						
BERG	**Berg Lake**	**4.90 31**			**Pn**	**11 11 50.1**	**+0.2**
BERG	**Berg Lake**	**4.90 31**		IAML		11 12 46.8	
	comp=N,64nm,0.7s						
FIS	**Fire Island**	**4.91 352**		Pn	**Pn**	**11 11 49.5**	**-0.5**
FIS				IAML		11 12 55.0	
	comp=N,62nm,1.1s						
O18K	**Koktuh Hills**	**4.93 319**			**Pn**	**11 11 51.0**	**+0.8**
O18K	**Koktuh Hills**	**4.93 319**		P	**Pn**	**11 11 51.0**	**+0.8**
	baz=134						
SNH	**Sunshine Point**	**5.00 36**			**Pn**	**11 11 51.8**	**+0.5**
SNH	**Sunshine Point**	**5.00 36**		IAML		11 12 46.7	
	comp=E,26nm,0.9s						
SNH				IAML		11 14 38.1	
	comp=N,28nm,1.2s						
KHIT	**Khitrov Hills**	**5.07 33**			**Pn**	**11 11 52.9**	**+0.5**
KNK	**Knik Glacier**	**5.13 2**		Pn	**Pn**	**11 11 53.9**	**+0.9**
KNK				IAML		11 12 57.2	
KNK	comp=E,19nm,0.7s			IAML		11 12 57.5	
	comp=N,16nm,0.6s						
BMRM	**Bremner River**	**5.16 23**			**Pn**	**11 11 54.6**	**+1.1**
BMRM	**Bremner River**	**5.16 23**		P	**Pn**	**11 11 54.6**	**+1.1**
	baz=206						
WAX	**Waxell Ridge**	**5.20 34**			**Pn**	**11 11 54.4**	**+0.3**
WAX				IAML		11 12 58.1	
	comp=E,40nm,0.4s						
N20K	**Mount Spurr**	**5.22 342**		P	**Pn**	**11 11 55.0**	**+0.6**
	baz=159						
SPCR	**Spurr Chakacha**	**5.22 342**			**Pn**	**11 11 55.0**	**+0.6**
SUA	**Susitna One**	**5.28 350**			**Pn**	**11 11 55.5**	**+0.4**
SUA	**Susitna One**	**5.28 350**		P	**Pn**	**11 11 55.5**	**+0.4**
	baz=168						
BARK	**Barkley Ridge**	**5.28 36**			**Pn**	**11 11 56.0**	**+0.8**
MESA	**MESA**	**5.30 40**			**Pn**	**11 11 55.7**	**+0.1**
MESA	**MESA**	**5.30 40**		IAML		11 12 53.7	
	comp=E,35nm,1.0s						
MESA	**MESA**	**5.30 40**		P	**Pn**	**11 11 55.7**	**+0.1**
	baz=225						
PMR	**Palmer**	**5.31 358**		P	**Pn**	**11 11 57.8**	**+2.4**
PMR	**Palmer**	**5.31 358**			**Pn**	**11 11 57.3**	**+1.8**
PMR				IAML		11 12 56.0	
	comp=E,16nm,0.8s						
PMR				IAML		11 12 56.1	
	comp=N,18nm,0.8s						
CHGN	**Chignik**	**5.36 274**		Pn	**Pn**	**11 11 55.4**	**-0.8**
KLU	**Klutina**	**5.41 15**			**Pn**	**11 11 58.2**	**+1.2**
KLU	**Klutina**	**5.41 15**		P	**Pn**	**11 11 58.2**	**+1.2**
	baz=197						
N19K	**Bonanza Creek**	**5.42 329**		Pn	**Pn**	**11 11 57.6**	**+0.6**
STLK	**Strandline Lak**	**5.44 344**			**Pn**	**11 11 58.1**	**+0.7**
TGL	**Tana Glacier**	**5.45 32**			**Pn**	**11 11 57.8**	**+0.3**
ISLE	**Juniper Island**	**5.48 35**		Pn	**Pn**	**11 11 58.9**	**+0.9**
GHO	**Glory Hole Cre**	**5.49 359**			**Pn**	**11 11 59.7**	**+1.7**
M22K	**Willow**	**5.51 353**		Pn	**Pn**	**11 12 01.6**	**+3.4**
SML	**Sawmill**	**5.53 2**			**Pn**	**11 11 59.1**	**+0.6**
SML	**Sawmill**	**5.53 2**		P	**Pn**	**11 11 59.1**	**+0.6**
	baz=182						
SCM	**Sheep Creek Mo**	**5.60 7**			**Pn**	**11 11 59.9**	**+0.4**
VRDI	**Verde Repeater**	**5.67 27**			**Pn**	**11 12 00.7**	**+0.1**
KIAG	**Kiagna River**	**5.72 33**			**Pn**	**11 12 00.8**	**-0.6**
N25K	**Chitina, Valde**	**5.74 20**			**Pn**	**11 12 03.0**	**+1.4**
N25K	**Chitina, Valde**	**5.74 20**		P	**Pn**	**11 12 02.9**	**+1.4**
	baz=204						
N18K	**Kilae Creek**	**5.75 323**			**Pn**	**11 12 02.2**	**+0.6**
N18K	**Kilae Creek**	**5.75 323**		P	**Pn**	**11 12 02.2**	**+0.6**
	baz=137						
GLB	**Gilahina Butte**	**5.76 25**			**Pn**	**11 12 02.2**	**+0.4**
TABL	**Table Mountain**	**5.78 41**			**Pn**	**11 12 03.2**	**+1.0**
SKT	**Skwentna**	**5.87 347**			**Pn**	**11 12 03.9**	**+0.7**
SKT	**Skwentna**	**5.87 347**		P	**Pn**	**11 12 03.9**	**+0.7**
	baz=165						
PTPK	**Patty Peak**	**5.90 31**			**Pn**	**11 12 03.8**	**0.0**
MCARA	**McCarthy VSAT**	**5.91 28**			**Pn**	**11 12 04.6**	**+0.9**
O16K	**Kokwok River B**	**5.95 308**			**Pn**	**11 12 05.0**	**+0.8**
O16K	**Kokwok River B**	**5.95 308**		P	**Pn**	**11 12 05.0**	**+0.8**
	baz=120						
SVW2	**Sparrevohn**	**5.97 326**		P	**Pn**	**11 12 05.3**	**+0.8**
SVW2	**Sparrevohn**	**5.97 326**		Pn	**Pn**	**11 12 05.5**	**+0.9**
M24K	**Tolsona, Glenn**	**5.97 12**			**Pn**	**11 12 06.9**	**+2.2**
M24K	**Tolsona, Glenn**	**5.97 12**		P	**Pn**	**11 12 06.9**	**+2.2**
	baz=194						
M20K	**Styx River**	**6.03 340**			**Pn**	**11 12 05.9**	**+0.5**
M20K	**Styx River**	**6.03 340**		P	**Pn**	**11 12 05.9**	**+0.5**
	baz=156						
PNL	**Peninsula**	**6.03 52**		P	**Pn**	**11 12 06.4**	**+1.1**
PNL	**Peninsula**	**6.03 52**			**Pn**	**11 12 06.5**	**+1.1**
PNL	**Peninsula**	**6.03 52**		P	**Pn**	**11 12 06.5**	**+1.1**
	baz=240						
BARN	**Barnard Glacie**	**6.04 35**			**Pn**	**11 12 05.8**	**0.0**
BCPM	**Bancas Point**	**6.07 49**			**Pn**	**11 12 06.8**	**+0.8**
CTGM	**Chitina Glacie**	**6.08 37**			**Pn**	**11 12 06.8**	**+0.6**
LOGN	**Logan Glacier**	**6.09 39**			**Pn**	**11 12 06.6**	**+0.2**
N17K	**Nushagak Hills**	**6.11 317**		Pn	**Pn**	**11 12 07.3**	**+0.8**
CUT	**Chulitna**	**6.17 354**		Pn	**Pn**	**11 12 08.2**	**+1.0**
CHNA	**Chernabura Isl**	**6.30 261**		P	**Pn**	**11 12 09.7**	**+0.6**
	baz=72						
CNBA	**Chernabura Isl**	**6.30 261**			**Pn**	**11 12 09.7**	**+0.6**
M19K	**Big River Lodg**	**6.31 335**			**Pn**	**11 12 09.7**	**+0.5**
M19K	**Big River Lodg**	**6.31 335**		P	**Pn**	**11 12 09.7**	**+0.5**
	baz=150						
M18K	**Stony River**	**6.35 328**			**Pn**	**11 12 10.2**	**+0.5**
M18K	**Stony River**	**6.35 328**		P	**Pn**	**11 12 10.2**	**+0.5**
	baz=142						
HARP	**HAARP**	**6.39 15**			**Pn**	**11 12 12.8**	**+2.5**
HARP	**HAARP**	**6.39 15**		P	**Pn**	**11 12 12.8**	**+2.5**
	baz=198						
L19K	**White Mountain**	**6.66 335**			**Pn**	**11 12 14.5**	**+0.4

*NEIC **25** 11:11:53.6±1.2, 8.1N±0.1×37.9W±0.1, h10km±1km, mb4.8/32, Error ellipse: s-maj=21.7km s-min=20.5km az=157.0*

*GCMT **25** 11:11:57.6±0.1, 8.04N±0.01×37.92W±0.01, h12km, MW5.1/138, Moment Tensor Solution. s60,c74; s138,c229; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=5.98±.10; $M_{\theta\theta}$-0.10±.10; $M_{\phi\phi}$6.08±.08; $M_{r\theta}$1.02±.40; $M_{\theta\phi}$0.94±.08; $M_{r\phi}$0.42±.28; Best double couple: M_o6.20200×10^{16} NP1:ϕ_s197.00000°, δ48.00000°, λ-78.00000°. NP2:ϕ_s359.00000°, δ43.00000°, λ-103.00000°. Principal axes: T 6.2470, Plg3.0000°, Azm279.0000°; N -0.0850, Plg9.0000°, Azm9.0000°; P -6.1570, Plg81.0000°, Azm172.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 11:11:53.5±0.4, 8.14N±0.07×37.96W±0.07, h16km, n152, σ1^{9}78/87, mb4.5/34, MS4.3/73, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NBPB	**Pedra_Branca-C**	**13.69**	**187**	*eP*		**Pn**		**11 15 06.8**	**-0.4**
RCBR	**Riachuelo**	**14.03**	**172**	Pn		**Pn**		**11 15 10.9**	**-0.9**
RCBR	**Riachuelo**	**14.03**	**172**	Pn		**Pn**		**11 15 09.6**	**-2.2**
	1.3nm,0.3s,baz=354,slow=15,SNR=13								
RCBR				Sn		Sn		11 17 32.7	-15
	0.1nm,0.3s,baz=285,slow=20,SNR=1.6								
RCBR				LR		LR		11 19 10.6	
	comp=Z,661nm,20.0s,baz=42,slow=31								
	3.3nm,0.3s								
TMAB	**Tom-Au,PA,Br**	**14.54**	**224**	*eP*		Pn		11 15 11.5	-7.2
MDP	**Montagnes des**	**14.89**	**259**	Pn		**Pn**		**11 15 19.7**	**-4.0**
	0.2nm,0.3s,baz=114,slow=7.3,SNR=2.5								
MDP				LR		LR		11 20 06.1	
	comp=Z,2μm,21.2s,baz=76,slow=33								
	31nm,1.1s								
MCPB	**Macapa, AP**	**16.40**	**240**	*eP*		**Pn**		**11 15 38.4**	**-4.8**
NBLA	**Lagarto - SE**	**19.01**	**179**	*eP*		**Pn**		**11 16 19.7**	**+4.2**
MALB	**Monte Alegre**	**19.05**	**239**	*eP*		**P**		**11 16 10.7**	**-4.6**
SDBA	**SAO DESIDERIO**	**21.55**	**199**	*eP*		**P**		**11 16 42.5**	**0.0**
ITTB	**Itaituba**	**21.65**	**236**	*eP*		**P**		**11 16 41.9**	**-1.7**
GDU01	**Guandu, BA**	**21.78**	**184**	*eP*		**P**		**11 16 46.6**	**+1.7**
BOAV	**Boa Vista**	**23.18**	**257**	P		**P**		**11 16 58.2**	**-1.5**
BOAV	**Boa Vista**	**23.18**	**257**	*eP*		**P**		**11 16 59.4**	**-0.4**
H05S1	**Guadeloupe/Mar**	**23.28**	**288**	T		T		11 40 54.6	
	SNR=7.6								
JANB	**Januaria**	**23.89**	**195**	*eP*		**P**		**11 17 07.5**	**+0.7**
SNDB	**Serra Nova Dou**	**23.98**	**214**	*eP*		**P**		**11 17 07.6**	**0.0**
MACA	**Manacapuru-AM**	**25.30**	**245**	*eP*		**P**		**11 17 21.5**	**+1.9**
BDFB	**Brasilia**	**25.64**	**203**	P		**P**		**11 17 23.3**	**+0.4**
BDFB					IAmb	IAmb		11 17 33.1	
	comp=Z,23nm,1.0s								
BDFB	**Brasilia**	**25.64**	**203**	P		**P**		**11 17 22.4**	**-0.5**
	comp=Z,9.0nm,0.8s,baz=25,slow=9.9,SNR=10.0								
BDFB				LR		LR		11 26 53.4	
	comp=Z,347nm,19.5s,baz=346,slow=35								
	comp=Z,9.0nm,0.8s								
ABR01	**Abrolhos, BA**	**25.95**	**182**	*eP*		P		11 17 32.9	+7.4
PCRV	**Puerto La Cruz**	**26.41**	**276**	LR		LR		11 28 02.4	
	comp=Z,457nm,19.8s,slow=37								
DIAM	**Diamantina, MG**	**26.87**	**192**	*eP*		**P**		**11 17 37.7**	**+3.8**
PDRB	**Porto dos Gac**	**27.09**	**224**	*eP*		**P**		**11 17 37.6**	**+1.8**
ARAG	**Araguaiana, MT**	**27.38**	**210**	*eP*		**P**		**11 17 39.8**	**+1.4**
IPMB	**Ipameri, GO**	**27.86**	**201**	*eP*		**P**		**11 17 46.8**	**+4.0**
H10N3	**ASCENSION HYDR**	**28.26**	**124**	T		T		11 47 23.7	
	baz=303,slow=75,SNR=410								
H10N2	**ASCENSION HYDR**	**28.26**	**124**	T		T		11 47 24.0	
	baz=303,slow=75,SNR=421								
H10N1	**ASCENSION HYDR**	**28.28**	**124**	T		T		11 47 25.3	
	baz=303,slow=75,SNR=467								
H10S3	**ASCENSION HYDR**	**28.76**	**126**	T		T		11 48 00.8	
	baz=300,slow=74,SNR=202								
H10S2	**ASCENSION HYDR**	**28.77**	**126**	T		T		11 48 02.2	
	baz=280,slow=74,SNR=77								
TEFE	**Tefe**	**29.02**	**247**	*eP*		**P**		**11 17 55.5**	**+2.4**
CELP	**Cerrillos**	**29.53**	**292**	P		**P**		**11 17 57.9**	**+0.3**
SALV	**Santo Antonio**	**29.65**	**216**	*eP*		**P**		**11 18 00.1**	**+1.4**
BSCB	**Bom Sucesso**	**29.72**	**193**	*eP*		P		11 18 04.2	+4.9
ITRB	**Iturama**	**30.25**	**204**	*eP*		**P**		**11 18 06.7**	**+2.9**
SAML	**Samuel**	**30.33**	**236**	P		**P**		**11 18 04.6**	**-0.1**
SAML	**Samuel**	**30.33**	**236**	*eP*		**P**		**11 18 05.5**	**+0.8**
VILB	**Vilhena**	**30.45**	**227**	*eP*		**P**		**11 18 06.7**	**+0.8**
BB19B	**Bebedouro**	**30.83**	**200**	*eP*		**P**		**11 18 10.9**	**+1.8**
PTLB	**Pontes e Lacer**	**31.46**	**222**	*eP*		**P**		**11 18 15.9**	**+1.3**
RVDE	**Rio Verde (Bra**	**31.77**	**212**	*eP*		**P**		**11 18 18.7**	**+1.3**
RCLB	**Rio Claro- Sao**	**31.79**	**197**	*eP*		**P**		**11 18 21.5**	**+4.0**
SDV	**Santo Domingo**	**32.32**	**274**	LR		LR		11 31 15.3	
	comp=Z,602nm,20.4s,baz=92,slow=36								
DBIC	**Dimbokro**	**32.85**	**90**	P		**P**		**11 18 27.5**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=239,slow=11,SNR=2.2								
DBIC				LR		LR		11 29 24.3	
	comp=Z,1μm,18.9s,baz=254,slow=32								
	comp=Z,1.9nm,0.8s								
SIV	**San Ignacio**	**33.15**	**224**	LR		LR		11 31 24.1	
	comp=Z,1μm,18.5s,baz=67,slow=35								
ETMB	**Extrema**	**33.32**	**238**	P		**P**		**11 18 31.0**	**0.0**
ETMB	**Extrema**	**33.32**	**238**	*eP*		**P**		**11 18 31.3**	**+0.3**
BBSD	**Serra de San D**	**33.69**	**222**	*eP*		**P**		**11 18 36.6**	**+2.4**
BDQN	**Bodoquena, MS**	**33.89**	**213**	*eP*		**P**		**11 18 37.1**	**+1.2**
TBTG	**Tabatinga, AM**	**34.14**	**250**	*eP*		**P**		**11 18 39.9**	**+1.7**
CZSB	**Cruzeiro do Su**	**38.06**	**246**	P		**P**		**11 19 10.7**	**-1.0**
CZSB					IAmb	IAmb		11 19 20.1	
	comp=Z,17nm,1.0s								
LPAZ	**La Paz**	**38.48**	**231**	P		**P**		**11 19 15.7**	**-0.2**
LPAZ	**La Paz**	**38.48**	**231**	P		**P**		**11 19 16.0**	**+0.1**
	comp=Z,5.2nm,0.7s,baz=45,slow=5.9,SNR=12								
LPAZ				LR		LR		11 35 44.7	
	comp=Z,458nm,18.5s,baz=52,slow=37								
	comp=Z,5.2nm,0.7s								
LPAZ	**La Paz**	**38.48**	**231**	*eP*		**P**		**11 19 15.5**	**-0.5**
CPUP	**Villa Florida**	**39.09**	**208**	LR		LR		11 35 49.4	
	comp=Z,547nm,18.3s,baz=27,slow=37								
TOA0	**Torodi Ar. Sit**	**39.25**	**79**	P		**P**		**11 19 22.9**	**+1.1**
TORD	**Torodi Ar. Bea**	**39.25**	**79**	P		**P**		**11 19 22.2**	**+0.4**
TORD	**Torodi Ar. Bea**	**39.25**	**79**	P		**P**		**11 19 21.7**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=271,slow=8.1,SNR=15								
TORD				LR		LR		11 33 43.0	
	comp=Z,2μm,20.2s,baz=262,slow=33								
	comp=Z,1.9nm,0.7s								
MDT	**Midelt**	**39.44**	**47**	LR		LR		11 34 33.5	
	comp=Z,377nm,18.8s,baz=152,slow=34								
LVC	**Limon Verde**	**43.05**	**224**	LR		LR		11 38 32.3	
	comp=Z,306nm,18.0s,baz=30,slow=37								
LVC	**Limon Verde**	**43.05**	**224**	*eP*		**P**		**11 19 55.6**	**+2.3**
ATAH	**Atahualpa**	**43.08**	**250**	LR		LR		11 38 44.0	
	comp=Z,314nm,18.9s,baz=84,slow=38								
NNA	**Nana**	**43.52**	**243**	LR		LR		11 38 24.4	
	comp=Z,961nm,19.9s,baz=66,slow=37								
ESDC	**Sonseca Array**	**43.70**	**39**	LR		LR		11 34 46.3	
	comp=Z,444nm,20.4s,baz=232,slow=32								
RIMA	**Rio Macho**	**45.35**	**276**	P		**P**		**11 20 13.5**	**+1.8**
JTS	**Las Juntas de**	**46.41**	**276**	LR		LR		11 40 56.2	
	comp=Z,406nm,19.4s,baz=84,slow=38								
TKL	**Tuckaleechee C**	**49.94**	**310**	LR		LR		11 37 32.9	
	comp=Z,1μm,21.9s,baz=122,slow=31								
TEIG	**Tepich**	**50.06**	**290**	LR		LR		11 41 22.7	
	comp=Z,2μm,19.4s,slow=36								
SADO	**Sadowa**	**50.99**	**323**	LR		LR		11 38 26.8	
	comp=Z,279nm,20.0s,baz=130,slow=31								
H09W1	**TRISTAN DA CUN**	**51.00**	**154**	T		T		12 15 39.7	
KEST	**Kesra**	**51.09**	**50**	LR		LR		11 43 05.0	
	comp=Z,524nm,19.1s,baz=184,slow=37								
APG	**El Apazote**	**51.79**	**283**	LR		LR		11 42 25.3	
	comp=Z,34nm,21.3s,baz=89,slow=36								
SCHQ	**Schefferville**	**51.95**	**339**	LR		LR		11 39 39.4	
	comp=Z,267nm,21.7s,baz=164,slow=32								
EKA	**Eskdalemuir Ar**	**54.55**	**24**	P		**P**		**11 21 20.0**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=238,slow=4.1,SNR=1.3								
	comp=Z,0.5nm,0.7s								
DAVOX	**Davos/Dischmat**	**56.02**	**38**	LR		LR		11 41 57.8	
	comp=Z,487nm,21.4s,baz=249,slow=32								
CMIG	**Matias Romero**	**56.10**	**285**	LR		LR		11 41 59.4	
	comp=Z,156nm,21.0s,baz=104,slow=32								
PLCA	**Paso Flores**	**57.15**	**209**	P		**P**		**11 21 39.2**	**-0.5**
	comp=Z,3.0nm,1.0s,baz=12,slow=9.1,SNR=3.2								
PLCA				LR		LR		11 47 07.5	
	comp=Z,278nm,18.8s,baz=22,slow=37								
	comp=Z,3.0nm,1.0s								
BORG	**Borgarnes**	**57.72**	**8**	LR		LR		11 40 30.4	
	comp=Z,32nm,20.5s,baz=200,slow=30								
SABO	**M.te Sabotino**	**57.99**	**40**	P		**P**		**11 21 42.0**	**-3.6**
SABO					IAmb	IAmb		11 21 44.1	
	comp=Z,28nm,1.3s								
GERES	**GERESS Array B**	**59.25**	**37**	LR		LR		11 44 41.5	
	comp=Z,86nm,21.1s,baz=250,slow=33								
SFJD	**Kangerlussuaq**	**59.40**	**354**	LR		LR		11 41 33.5	
	comp=Z,110nm,21.7s,baz=176,slow=30								
FRB	**Frobisher Bay**	**59.67**	**345**	LR		LR		11 43 30.2	
	comp=Z,333nm,21.9s,baz=178,slow=32								
TSUM	**Tsumeb**	**61.09**	**117**	LR		LR		11 42 23.8	
	comp=Z,1μm,21.2s,baz=324,slow=30								
VRAC	**Vranov**	**61.17**	**37**	LR		LR		11 45 04.2	
	comp=Z,227nm,22.0s,baz=250,slow=33								
U32A	**Winter Ranch,**	**61.97**	**307**			**S**		**11 30 40.5**	**+3.5**
BGNE	**Belgrade**	**62.43**	**313**	P		**P**		**11 22 16.8**	**+0.7**
IDI	**Anoyia**	**63.22**	**55**	LR		LR		11 49 07.7	
	comp=Z,5.6nm,21.8s,baz=274,slow=35								
ULM	**Lac du Bonnet**	**63.55**	**323**	P		**P**		**11 22 23.6**	**+0.3**
ULM					IAmb	IAmb		11 22 26.2	
	comp=Z,17nm,1.4s								
ULM	**Lac du Bonnet**	**63.55**	**323**	P		**P**		**11 22 22.4**	**-0.9**
	comp=Z,2.7nm,0.8s,baz=99,slow=6.2,SNR=5.1								
ULM				LR		LR		11 46 10.8	
	comp=Z,300nm,19.7s,baz=159,slow=32								
	comp=Z,2.7nm,0.8s								
SAND	**Sanderson**	**63.62**	**299**	P		**P**		**11 22 25.0**	**+0.8**
SAND					IAmb	IAmb		11 22 27.4	
	comp=Z,13nm,1.5s								
NOA	**NORSAR Array B**	**64.03**	**24**	P		**P**		**11 22 26.3**	**0.0**
	comp=Z,1.1nm,0.9s,baz=249,slow=7.2,SNR=2.2								
NOA				LR		LR		11 48 30.0	
	comp=Z,84nm,18.5s,baz=230,slow=34								
	comp=Z,1.1nm,0.9s								
HFS	**Hagfors**	**64.58**	**26**	P		**P**		**11 22 29.8**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=183,slow=10,SNR=2.4								
HFS				LR		LR		11 46 53.5	
	comp=Z,91nm,19.6s,baz=234,slow=33								
	comp=Z,2.0nm,0.8s								
TXAR	**Lajitas Array**	**64.90**	**298**	P		**P**		**11 22 32.8**	**0.0**
	comp=Z,0.5nm,0.5s,baz=99,slow=6.0,SNR=10								
TXAR				LR		LR		11 50 58.0	
	comp=Z,36nm,20.8s,baz=74,slow=36								
	comp=Z,0.5nm,0.5s								
ALPN	**Alpine**	**64.97**	**300**	P		**P**		**11 22 34.3**	**+1.1**
MDND	**Maddock**	**65.12**	**319**	P		**P**		**11 22 35.6**	**+1.9**
JMIC	**Jan Mayen**	**65.45**	**10**	LR		LR		11 44 16.4	
	comp=Z,68nm,20.1s,baz=14,slow=30								
MLR	**Muntele Rosu**	**66.02**	**44**	LR		LR		11 49 19.7	
	comp=Z,162nm,21.1s,baz=266,slow=34								
ISCO	**Idaho Springs**	**67.69**	**310**	P		**P**		**11 22 51.7**	**+1.0**
ISCO					IAmb	IAmb		11 23 19.6	
	comp=Z,17nm,1.7s								
ANMO	**Albuquerque**	**67.77**	**304**	LR		LR		11 49 11.3	
	comp=Z,916nm,21.1s,baz=186,slow=33								
SUR	**Sutherland**	**68.94**	**129**	LR		LR		11 46 43.6	
	comp=Z,412nm,18.6s,baz=294,slow=30								
AKASG	**Malin Array Be**	**69.35**	**39**	P		**P**		**11 23 01.2**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=269,slow=3.7,SNR=1.6								
AKASG				LR		LR		11 51 02.5	
	comp=Z,147nm,21.1s,baz=226,slow=34								
	comp=Z,0.3nm,0.4s								
LSZ	**Lusaka**	**69.54**	**110**	LR		LR		11 47 44.7	
	comp=Z,441nm,20.8s,baz=315,slow=31								
LBTB	**Lobatse**	**70.07**	**120**	LR		LR		11 48 10.2	
	comp=Z,817nm,19.7s,baz=282,slow=31								
FINES	**FINESS Array B**	**70.63**	**27**	P		**P**		**11 23 09.1**	**+1.0**
	comp=Z,1.5nm,1.0s,baz=232,slow=9.0,SNR=4.2								
FINES				LR		LR		11 50 56.3	
	comp=Z,121nm,20.8s,baz=244,slow=33								
	comp=Z,1.5nm,1.0s								
LPIG	**La Paz**	**70.64**	**293**	LR		LR		11 56 29.9	
	comp=Z,121nm,18.0s,baz=70,slow=38								
BRTR	**Keskin Array B**	**70.69**	**51**	P		**P**		**11 23 09.0**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=264,slow=5.7,SNR=3.9								
BRTR				LR		LR		11 54 18.0	
	comp=Z,137nm,22.0s,baz=248,slow=36								
	comp=Z,0.7nm,0.7s								
BOSA	**Boshof**	**71.02**	**124**	LR		LR		11 47 57.0	
	comp=Z,504nm,21.7s,baz=296,slow=30								
PDAR	**Pinedale Array**	**71.02**	**312**	P		**P**		**11 23 10.8**	**-0.4**
	comp=Z,2.6nm,1.3s,baz=92,slow=10,SNR=5.6								
PDAR				LR		LR		11 50 30.3	
	comp=Z,780nm,21.8s,baz=124,slow=33								
	comp=Z,2.6nm,1.3s								
RLMT	**Red Lodge**	**71.10**	**315**	P		**P**		**11 23 12.9**	**+1.3**
RLMT					IAmb	IAmb		11 23 15.7	
	comp=Z,11nm,1.4s								
EIL	**Elat**	**71.18**	**62**	LR		LR		11 55 10.7	
	comp=Z,284nm,18.8s,baz=246,slow=36								
MMAI	**Mount Meron Ar**	**71.67**	**58**	LR		LR		11 54 48.5	
	comp=Z,161nm,21.4s,baz=212,slow=36								
LOHW	**Long Hollow**	**71.87**	**313**	P		**P**		**11 23 16.7**	**+0.4**
MOOW	**Moose Ponds**	**71.99**	**313**	P		**P**		**11 23 17.6**	**+0.6**
MOOW					IAmb	IAmb		11 23 52.6	
	comp=Z,14nm,1.8s								
FLWY	**Flagg Ranch**	**71.99**	**314**	P		**P**		**11 23 18.3**	**+1.3**
FLWY					IAmb	IAmb		11 23 35.6	
	comp=Z,22nm,1.4s								
TPAW	**Teton Pass**	**72.11**	**313**	P		**P**		**11 23 18.7**	**+0.9**
TPAW					IAmb	IAmb		11 23 20.1	
	comp=Z,22nm,1.6s								
YFT	**Old Faithful**	**72.13**	**314**	P		**P**		**11 23 18.2**	**+0.4**
YFT					IAmb	IAmb		11 23 21.8	
	comp=Z,12nm,1.2s								
IMW	**Indian Meadow**	**72.14**	**313**	P		**P**		**11 23 19.0**	**+1.0**
IMW					IAmb	IAmb		11 23 24.3	
	comp=Z,8.0nm,1.1s								
TCUT	**Toone Canyon**	**72.23**	**310**	P		**P**		**11 23 19.0**	**+0.5**
TCUT					IAmb	IAmb		11 23 30.6	
	comp=Z,7.2nm,0.8s								
HWUT	**Hardware Ranch**	**72.39**	**311**	P		**P**		**11 23 20.3**	**+1.0**
HWUT					IAmb	IAmb		11 23 30.0	
	comp=Z,8.7nm,1.1s								
ASF	**Jabal al Asfar**	**72.91**	**59**	LR		LR		11 55 01.7	
	comp=Z,76nm,21.5s,baz=59,slow=36								
DUG	**Dugway, Tooele**	**73.23**	**309**	P		**P**		**11 23 26.4**	**+2.0**
DUG					IAmb	IAmb		11 23 29.4	
	comp=Z,14nm,1.6s								
ARCES	**ARCESS Array B**	**73.31**	**19**	P		**P**		**11 23 22.3**	**-1.7**
	comp=Z,2.7nm,1.0s,baz=320,slow=4.0,SNR=1.0								
ARCES				LR		LR		11 50 57.7	
	comp=Z,72nm,20.9s,baz=231,slow=32								
	comp=Z,2.7nm,1.0s								
RES	**Resolute Bay**	**73.79**	**347**	P		**P**		**11 23 28.1**	**+1.4**
RES	**Resolute Bay**	**73.79**	**347**	LR		LR		11 52 15.5	
	comp=Z,150nm,20.5s,baz=177,slow=33								
EDM	**Edmonton**	**74.78**	**323**	P		**P**		**11 23 34.0**	**+1.0**
EDM					IAmb	IAmb		11 23 36.6	
	comp=Z,12nm,1.1s								
ELK	**Elko**	**75.11**	**310**	LR		LR		11 53 03.3	
	comp=Z,599nm,21.8s,baz=98,slow=33								
SPITS	**Spitsbergen Ar**	**75.13**	**10**	LR		LR		11 49 16.3	
	comp=Z,110nm,18.5s,baz=186,slow=30								
PFO	**Pinyon Flats O**	**75.98**	**303**	LR		LR		11 56 29.3	
	comp=Z,280nm,18.5s,baz=86,slow=35								
TPH	**Tonopah**	**76.59**	**307**	P		**P**		**11 23 45.1**	**+1.2**
YKA	**Yellowknife Ar**	**76.66**	**332**	P		**P**		**11 23 42.3**	**-1.2**
	comp=Z,2.2nm,1.1s,baz=95,slow=5.6,SNR=14								
YKA				LR		LR		11 56 30.0	
	comp=Z,251nm,18.1s,baz=120,slow=35								
	comp=Z,2.2nm,1.1s								
BMO	**Blue Mountains**	**76.76**	**314**	P		**P**		**11 23 45.3**	**+0.7**
BMO					IAmb	IAmb		11 24 22.0	
	comp=Z,15nm,1.9s								
RPN	**Rapa Nui**	**77.41**	**240**	LR		LR		11 56 18.8	
	comp=Z,194nm,18.6s,baz=77,slow=34								
NVAR	**Mina Array Bea**	**77.44**	**308**	P		**P**		**11 23 46.6**	**-2.1**
	comp=Z,0.4nm,0.9s,baz=138,slow=9.6,SNR=1.8								
	comp=Z,0.4nm,0.9s								
KVAR	**Kislovodsk Arr**	**77.68**	**47**	LR		LR		11 57 10.4	
	comp=Z,47nm,21.9s,baz=132,slow=35								
KBZ	**Khabaz**	**77.82**	**47**	P		**P**		**11 23 48.9**	**-1.5**
	comp=Z,1.3nm,0.8s,baz=281,slow=5.2,SNR=2.2								
KBZ				LR		LR		12 01 13.2	
	comp=Z,41nm,18.5s,baz=282,slow=38								
	comp=Z,1.3nm,0.8s								
GNI	**Garni**	**79.23**	**51**	LR		LR		11 59 53.4	
	comp=Z,38nm,21.6s,baz=276,slow=36								
ATD	**Arta Tunnel**	**79.45**	**80**	LR		LR		11 57 16.5	
	comp=Z,13nm,21.4s,baz=346,slow=34								
BELG	**Belogornoye**	**80.92**	**38**	LR		LR		12 00 12.0	
	comp=Z,52nm,18.5s,baz=303,slow=36								
SNAA	**Sanae**	**82.95**	**169**	P		**P**		**11 24 17.3**	**-0.1**
	comp=Z,5.5nm,0.9s,baz=300,slow=12,SNR=3.7								
	comp=Z,5.5nm,0.9s								
BBB	**Bella Bella**	**83.73**	**322**	LR		LR		11 59 03.1	
	comp=Z,237nm,20.8s,baz=86,slow=34								
DLBC	**Dease Lake**	**84.21**	**328**	LR		LR		11 58 28.5	
	comp=Z,271nm,20.6s,baz=88,slow=33								
INK	**Inuvik**	**84.56**	**338**	LR		LR		12 00 31.9	
	comp=Z,463nm,18.2s,baz=18,slow=35								
ARU	**Arti**	**86.87**	**34**	LR		LR		12 00 53.8	
	comp=Z,192nm,21.3s,baz=268,slow=34								
AKTO	**Aktyubinsk**	**87.58**	**40**	LR		LR		12 02 41.2	
	comp=Z,54nm,21.7s,baz=295,slow=35								
GEYT	**Alibeck**	**89.81**	**52**	LR		LR		12 07 29.4	
	comp=Z,59nm,21.0s,baz=316,slow=37								
ILAR	**Eielson Array**	**90.61**	**336**	P		**P**		**11 24 54.8**	**-0.2**
	comp=Z,0.2nm,0.8s,baz=53,slow=4.8,SNR=2.8								
ILAR				LR		LR		12 03 20.4	
	comp=Z,220nm,19.9s,baz=77,slow=34								
	comp=Z,0.2nm,0.8s								
NRIK	**Norilʹsk**	**94.16**	**17**	LR		LR		12 04 27.7	
	comp=Z,48nm,21.9s,baz=282,slow=34								
BVAR	**Borovoye Array**	**94.37**	**35**	LR		LR		12 07 31.1	
	comp=Z,149nm,19.5s,baz=275,slow=35								
KDAK	**Kodiak Island**	**95.87**	**331**	LR		LR		12 08 33.4	
	comp=Z,209nm,19.2s,baz=81,slow=36								
TIXI	**Tiksi**	**99.90**	**4**	LR		LR		12 05 54.8	
	comp=Z,29nm,18.6s,baz=20,slow=32								
KURBB	**Kurchatov Arra**	**99.95**	**35**	LR		LR		12 11 52.5	
	comp=Z,53nm,18.1s,baz=173,slow=36								
ASAR	**Alice Springs**	**162.70**	**154**	PKP		**PKPdf**		**11 31 52.7**	**-3.1**
	comp=Z,0.5nm,1.0s,baz=187,slow=4.7,SNR=1.8								
ASAR				PKPab		**PKPab**		**11 32 44.4**	**+0.2**
	comp=Z,0.9nm,1.0s,baz=201,slow=4.2,SNR=6.2								

IDC 25 11:13:55.1±7.3, 37.04N×70.27E, h250km±113km, mbtmp3.5/5, Error ellipse: s-maj=135.7km s-min=44.9km az=162.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GEYT	**Alibeck**	**9.70**	**279**	P		P		11 16 09.3	-0.6
	0.7nm,0.3s,baz=87,slow=12,SNR=1.8								
MKAR	**Makanchi Array**	**13.22**	**39**	P		Pn		11 16 53.9	+0.3
	0.2nm,0.6s,baz=214,slow=12,SNR=2.4								
KURBB	**Kurchatov Arra**	**14.82**	**21**	P		P		11 17 12.2	-0.4
	0.6nm,0.6s,baz=207,slow=11,SNR=4.8								
BVAR	**Borovoye Array**	**15.99**	**0**	P		Pn		11 17 27.3	+0.5
	0.3nm,0.4s,baz=179,slow=11,SNR=2.7								
ZALV	**Zalesovo Beam**	**19.68**	**26**	P		P		11 18 05.2	-0.2
	3.0nm,0.5s,baz=220,slow=9.9,SNR=13								

IDC 25 11:15:11.2±1.5, 7.65N×37.83W, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=49.2km s-min=32.0km az=165.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H10N3	**ASCENSION HYDR**	**27.88**	**123**	T		T		11 50 37.9	
	baz=302								
H10N2	**ASCENSION HYDR**	**27.89**	**123**	T		T		11 50 37.9	
	baz=302								
H10N1	**ASCENSION HYDR**	**27.90**	**123**	T		T		11 50 37.9	
	baz=302								
H10S3	**ASCENSION HYDR**	**28.37**	**125**	T		T		11 51 19.0	
	baz=278								
H10S2	**ASCENSION

SDBA	**SAO DESIDERIO**	**21.53 199**	*e*P		**P**		**11 55 51.4**	**0.0**
GDU01	**Guandu, BA**	**21.70 185**	*e*P		**P**		**11 55 56.4**	**+3.2**
ITTB	**Itaituba**	**21.77 236**	*e*P		**P**		**11 55 52.5**	**-1.5**
NPGB	**Novo Progresso**	**23.08 230**	*e*P		**P**		**11 56 07.0**	**-0.9**
BOAV	**Boa Vista**	**23.35 257**	P		**P**		**11 56 09.7**	**-1.0**
BOAV			IAmb		IAmb		11 56 16.4	
	comp=Z,12nm,1.0s							
BOAV	**Boa Vista**	**23.35 257**	*e*P		**P**		**11 56 10.4**	**-0.3**
JANB	**Januaria**	**23.86 196**	*e*P		**P**		**11 56 18.1**	**+2.5**
SNDB	**Serra Nova Dou**	**24.02 214**	*e*P		**P**		**11 56 17.6**	**+0.5**
BDFB	**Brasilia**	**25.64 203**	P		**P**		**11 56 33.4**	**+1.5**
BDFB			IAmb		IAmb		11 57 01.8	
	comp=Z,18nm,1.4s							
BDFB	**Brasilia**	**25.64 203**	P		**P**		**11 56 32.0**	**0.0**
	comp=Z,4.4nm,0.8s,baz=17,slow=20,SNR=4.0							
BDFB			LR		LR		12 06 05.9	
	comp=Z,110nm,18.9s,baz=321,slow=35 comp=Z,4.4nm,0.8s							
PCRV	**Puerto La Cruz**	**26.62 277**	LR		LR		12 08 09.6	
	comp=Z,122nm,18.2s,slow=39							
SJMB	**Sao Joao De Ma**	**26.79 187**	*e*P		**P**		**11 56 46.5**	**+4.2**
H10N3	**ASCENSION HYDR**	**28.04 124**	T		T		12 26 31.8	
	baz=303,slow=75,SNR=20							
H10N2	**ASCENSION HYDR**	**28.05 124**	T		T		12 26 32.5	
	baz=303,slow=75,SNR=20							
H10N1	**ASCENSION HYDR**	**28.06 124**	T		T		12 26 33.7	
	baz=303,slow=75,SNR=31							
H10S3	**ASCENSION HYDR**	**28.54 126**	T		T		12 27 11.2	
	baz=279,slow=74,SNR=19							
H10S2	**ASCENSION HYDR**	**28.56 126**	T		T		12 27 08.6	
	baz=301,slow=74,SNR=7.5							
SAML	**Samuel**	**30.45 237**	P		**P**		**11 57 15.8**	**+0.9**
SAML			IAmb		IAmb		11 57 22.9	
	comp=Z,10nm,1.1s							
SAML	**Samuel**	**30.45 237**	*e*P		**P**		**11 57 14.4**	**-0.5**
ROSA	**Rosais**	**31.72 14**	P		**P**		**11 57 23.3**	**-2.6**
SDV	**Santo Domingo**	**32.53 274**	LR		LR		12 10 33.7	
	comp=Z,122nm,19.0s,baz=93,slow=36							
DBIC	**Dimbokro**	**32.65 90**	P		**P**		**11 57 37.2**	**+2.8**
DBIC			IAmb		IAmb		11 57 43.3	
	comp=Z,10nm,1.1s							
DBIC	**Dimbokro**	**32.65 90**	P		**P**		**11 57 35.6**	**+1.2**
	comp=Z,2.7nm,0.8s,baz=279,slow=13,SNR=3.9							
DBIC			LR		LR		12 08 32.2	
	comp=Z,213nm,18.9s,baz=246,slow=32 comp=Z,2.7nm,0.8s							
SIV	**San Ignacio**	**33.22 224**	LR		LR		12 10 51.5	
	comp=Z,292nm,18.3s,baz=73,slow=36							
ETMB	**Extrema**	**33.44 238**	P		**P**		**11 57 42.3**	**+1.0**
ETMB			IAmb		IAmb		11 57 48.7	
	comp=Z,5.4nm,1.1s							
BDQN	**Bodoquena, MS**	**33.92 213**	*e*P		**P**		**11 57 47.3**	**+2.0**
LPAZ	**La Paz**	**38.58 231**	P		**P**		**11 58 26.4**	**+0.4**
LPAZ	**La Paz**	**38.58 231**	P		**P**		**11 58 25.3**	**-0.7**
	comp=Z,3.5nm,0.9s,baz=67,slow=6.3,SNR=5.6							
LPAZ			LR		LR		12 14 55.1	
	comp=Z,108nm,19.1s,baz=53,slow=37 comp=Z,3.5nm,0.9s							
LPAZ	**La Paz**	**38.58 231**	*e*P		**P**		**11 58 26.6**	**+0.7**
TOA0	**Torodi Ar. Sit**	**39.08 79**	P		**P**		**11 58 31.8**	**+2.3**
TORD	**Torodi Ar. Bea**	**39.08 79**	P		**P**		**11 58 30.7**	**+1.2**
	comp=Z,1.6nm,0.6s,baz=276,slow=8.4,SNR=11							
TORD			LR		LR		12 12 50.2	
	comp=Z,370nm,20.1s,baz=274,slow=33 comp=Z,1.6nm,0.6s							
CPUP	**Villa Florida**	**39.10 208**	LR		LR		12 14 50.2	
	comp=Z,161nm,19.0s,baz=35,slow=37							
MDT	**Midelt**	**39.36 47**	LR		LR		12 13 59.3	
	comp=Z,104nm,18.9s,baz=347,slow=35							
UNIS	**Unistalda (Bra**	**40.50 204**	*e*P		**P**		**11 58 43.0**	**+1.9**
LVC	**Limon Verde**	**43.12 224**	LR		LR		12 17 16.2	
	comp=Z,91nm,18.5s,baz=41,slow=37							
TBOT	**Tacuaremb**	**43.16 203**	*e*P		P		11 59 07.2	+4.3
ATAH	**Atahualpa**	**43.23 251**	LR		LR		12 17 43.3	
	comp=Z,95nm,18.8s,baz=83,slow=37							
ESDC	**Sonseca Array**	**43.65 38**	LR		LR		12 14 22.6	
	comp=Z,125nm,18.4s,baz=212,slow=32							
NNA	**Nana**	**43.66 243**	LR		LR		12 17 34.4	
	comp=Z,213nm,19.8s,baz=62,slow=37							
JTS	**Las Juntas de**	**46.62 277**	LR		LR		12 19 44.9	
	comp=Z,98nm,19.7s,baz=89,slow=37							
CO03	**El Pedregal**	**49.91 218**	P		**P**		**11 59 56.6**	**+0.6**
CO03			IAmb		IAmb		12 00 35.8	
	comp=Z,16nm,1.2s							
TKL	**Tuckaleechee C**	**50.16 310**	LR		LR		12 16 41.1	
	comp=Z,173nm,21.9s,baz=128,slow=31							
TEIG	**Tepich**	**50.28 290**	LR		LR		12 19 19.7	
	comp=Z,651nm,21.4s,slow=34							
SCHQ	**Schefferville**	**52.11 339**	LR		LR		12 18 13.6	
	comp=Z,64nm,21.9s,baz=150,slow=31							
EKA	**Eskdalemuir Ar**	**54.56 23**	P		**P**		**12 00 30.4**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=215,slow=6.1,SNR=1.1 comp=Z,0.7nm,0.8s							
DAVOX	**Davos/Dischmat**	**55.97 38**	LR		LR		12 20 43.0	
	comp=Z,143nm,21.8s,baz=248,slow=32							
PLCA	**Paso Flores**	**57.17 209**	LR		LR		12 25 57.2	
	comp=Z,88nm,18.1s,baz=26,slow=37							
BORG	**Borgarnes**	**57.79 8**	LR		LR		12 20 29.0	
	comp=Z,23nm,21.4s,baz=204,slow=31							
GERES	**GERESS Array B**	**59.20 37**	LR		LR		12 23 36.7	
	comp=Z,22nm,21.3s,baz=268,slow=33							
SFJD	**Kangerlussuaq**	**59.52 354**	LR		LR		12 21 38.4	
	comp=Z,37nm,19.6s,baz=180,slow=31							
FRB	**Frobisher Bay**	**59.81 345**	LR		LR		12 22 58.5	
	comp=Z,42nm,20.3s,baz=178,slow=32							
BRG	**Berggiesshubel**	**60.23 35**	*e*P		P		12 01 14.9	+4.7
BRG			Amp				12 01 17.8	
	comp=Z,5.0nm,1.3s							
TSUM	**Tsumeb**	**60.87 117**	LR		LR		12 21 43.3	
	comp=Z,241nm,20.9s,baz=332,slow=30							
VRAC	**Vranov**	**61.12 37**	LR		LR		12 23 59.7	
	comp=Z,69nm,21.8s,baz=274,slow=32							
ULM	**Lac du Bonnet**	**63.74 323**	P		**P**		**12 01 32.2**	**-1.6**
	comp=Z,2.7nm,0.8s,baz=94,slow=8.6,SNR=4.8							
ULM			LR		LR		12 24 48.6	
	comp=Z,53nm,21.4s,baz=142,slow=32 comp=Z,2.7nm,0.8s							
NOA	**NORSAR Array B**	**64.03 24**	P		**P**		**12 01 36.1**	**+0.4**
	comp=Z,1.4nm,1.0s,baz=234,slow=6.6,SNR=3.7							
NOA			LR		LR		12 27 35.6	
	comp=Z,23nm,18.3s,baz=235,slow=34 comp=Z,1.4nm,1.0s							
HFS	**Hagfors**	**64.58 26**	LR		LR		12 24 35.9	
	comp=Z,25nm,19.5s,baz=240,slow=31							
TXAR	**Lajitas Array**	**65.12 299**	P		**P**		**12 01 42.5**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=100,slow=6.3,SNR=14							
TXAR			LR		LR		12 29 55.8	
	comp=Z,12nm,20.6s,baz=72,slow=36 comp=Z,0.3nm,0.5s							
MLR	**Muntele Rosu**	**65.95 44**	LR		LR		12 28 59.3	
	comp=Z,51nm,21.2s,baz=288,slow=34							
ANMO	**Albuquerque**	**67.99 304**	LR		LR		12 28 19.4	
	comp=Z,154nm,21.2s,baz=182,slow=33							
SUR	**Sutherland**	**68.72 129**	LR		LR		12 25 44.5	
	comp=Z,133nm,21.7s,baz=322,slow=30							
AKASG	**Malin Array Be**	**69.29 39**	P		**P**		**12 02 09.0**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=260,slow=4.6,SNR=1.3							
AKASG			LR		LR		12 29 47.3	
	comp=Z,42nm,21.7s,baz=220,slow=34 comp=Z,0.3nm,0.5s							
LSZ	**Lusaka**	**69.32 110**	LR		LR		12 26 53.0	
	comp=Z,80nm,20.4s,baz=330,slow=31							
LBTB	**Lobatse**	**69.85 120**	LR		LR		12 27 39.4	
	comp=Z,148nm,19.5s,baz=276,slow=31							
BRTR	**Keskin Array B**	**70.60 51**	P		**P**		**12 02 17.0**	**-0.8**
	comp=Z,1.0nm,1.0s,baz=233,slow=8.9,SNR=4.2							
BRTR			LR		LR		12 33 57.0	
	comp=Z,41nm,20.9s,baz=277,slow=36 comp=Z,1.0nm,1.0s							
FINES	**FINESS Array B**	**70.62 27**	P		**P**		**12 02 16.3**	**-1.0**
	comp=Z,1.9nm,1.0s,baz=230,slow=11,SNR=1.6							
FINES			LR		LR		12 29 51.7	
	comp=Z,38nm,20.5s,baz=310,slow=33 comp=Z,1.9nm,1.0s							
BOSA	**Boshof**	**70.80 124**	LR		LR		12 26 55.9	
	comp=Z,90nm,20.8s,baz=243,slow=30							
EIL	**Elat**	**71.05 61**	LR		LR		12 34 37.6	
	comp=Z,63nm,19.2s,baz=246,slow=37							
PDAR	**Pinedale Array**	**71.23 312**	LR		LR		12 29 38.6	
	comp=Z,114nm,21.8s,baz=116,slow=33							
MMAI	**Mount Meron Ar**	**71.55 58**	LR		LR		12 33 33.9	
	comp=Z,45nm,21.5s,baz=209,slow=36							
HWUT	**Hardware Ranch**	**72.60 311**	P		**P**		**12 02 30.0**	**+0.1**
HWUT			IAmb		IAmb		12 02 38.9	
	comp=Z,5.8nm,0.9s							
ASF	**Jabal al Asfar**	**72.78 59**	LR		LR		12 37 55.8	
	comp=Z,32nm,18.1s,baz=219,slow=39							
ARCES	**ARCESS Array B**	**73.33 19**	P		**P**		**12 02 34.6**	**+1.1**
	comp=Z,5.6nm,1.0s,baz=252,slow=5.8,SNR=4.0							
ARCES			LR		LR		12 30 15.9	
	comp=Z,24nm,21.8s,baz=248,slow=32 comp=Z,5.6nm,1.0s							
OBN	**Obninsk**	**74.48 35**	LR		LR		12 33 58.8	
	comp=Z,57nm,19.9s,baz=226,slow=35							
ELK	**Elko**	**75.32 310**	LR		LR		12 32 22.2	
	comp=Z,86nm,21.7s,baz=100,slow=33							
PFO	**Pinyon Flats O**	**76.20 303**	LR		LR		12 35 10.4	
	comp=Z,48nm,19.0s,baz=4.0,slow=35							
YKA	**Yellowknife Ar**	**76.84 332**	P		**P**		**12 02 52.5**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=94,slow=5.2,SNR=7.0							
YKA			LR		LR		12 34 28.5	
	comp=Z,35nm,18.9s,baz=302,slow=34 comp=Z,0.4nm,0.8s							
NEW	**Newport**	**76.97 318**	LR		LR		12 35 19.4	
	comp=Z,25nm,19.2s,baz=99,slow=35							
RPN	**Rapa Nui**	**77.54 240**	LR		LR		12 35 19.1	
	comp=Z,52nm,18.5s,baz=54,slow=34							
NVAR	**Mina Array Bea**	**77.66 308**	P		**P**		**12 02 59.4**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=27,slow=6.5,SNR=2.3							
NVAR			LR		LR		12 33 38.9	
	comp=Z,56nm,22.0s,baz=122,slow=33 comp=Z,0.4nm,0.7s							
GNI	**Garni**	**79.14 51**	LR		LR		12 42 01.7	
	comp=Z,17nm,18.0s,baz=266,slow=39							
BELG	**Belogornoye**	**80.86 38**	LR		LR		12 40 31.2	
	comp=Z,15nm,18.1s,baz=185,slow=37							
KIRV	**Kirov**	**81.72 32**	LR		LR		12 38 09.7	
	comp=Z,35nm,19.3s,baz=5.4,slow=35							
BBB	**Bella Bella**	**83.93 322**	LR		LR		12 39 50.4	
	comp=Z,36nm,19.1s,baz=123,slow=35							
INK	**Inuvik**	**84.72 338**	LR		LR		12 39 12.4	
	comp=Z,72nm,18.8s,baz=172,slow=34							
ARU	**Arti**	**86.84 34**	LR		LR		12 39 49.7	
	comp=Z,70nm,21.3s,baz=241,slow=34							
ILAR	**Eielson Array**	**90.77 336**	P		**P**		**12 04 05.2**	**+0.2**
	comp=Z,0.1nm,0.6s,baz=66,slow=4.4,SNR=1.6							
ILAR			LR		LR		12 42 49.0	
	comp=Z,21nm,19.8s,baz=35,slow=34 comp=Z,0.1nm,0.6s							
BVAR	**Borovoye Array**	**94.33 35**	LR		LR		12 46 35.7	
	comp=Z,38nm,19.2s,baz=281,slow=35							
KDAK	**Kodiak Island**	**96.05 331**	LR		LR		12 44 50.3	
	comp=Z,40nm,20.9s,baz=42,slow=34							
ASAR	**Alice Springs**	**162.53 154**	PKPab		**PKPab**		**12 11 52.4**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=197,slow=4.7,SNR=2.4							

*IDC **25** 11:52:42.3±4.3,38.57N×49.05E,h0km,mb3.5/6, mbtmp3.6/7,ML3.5/1,MS3.5/2,Error ellipse: s-maj=90.3km s-min=24.3km az=14.0*
*TEH **25** 11:52:44.9,38.58N×49.14E,h19km±37km,ML3.3*
*AZER **25** 11:52:46.6,38.63N×48.92E,h30km,ml3.3*

ISC 25 11:52:46.5±0.8,38.59N±0.03×49.06E±0.03,h30km±6km, n57,σ1§24/75,mb3.4/5,2C-1D,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASTR	**Astara**	**0.21**	**262**			Pg	**Pb**	**11 52 53.1**	**+0.2**
ASTR	**Astara**	**0.21**	**262**			P	**Pb**	**11 52 53.2**	**+0.2**
ASTR						S	**Sb**	**11 52 58.0**	**+0.8**
LKRN	**Lenkeran, Azer**	**0.25**	**298**			Pg	**Pb**	**11 52 53.2**	**-0.1**
LKRN	**Lenkeran, Azer**	**0.25**	**298**			P	**Pb**	**11 52 53.2**	**-0.1**
LKRN						S	**Sb**	**11 52 58.1**	**+0.1**
LRK	**Lerik**	**0.57**	**276**			Pg	**Pb**	**11 52 57.9**	**-0.3**
LRK	**Lerik**	**0.57**	**276**			P	**Pb**	**11 52 57.9**	**-0.3**
LRK						S	**Sb**	**11 53 06.4**	**+0.2**
YRD	**Yardimli**	**0.72**	**297**			Pg	**Pn**	**11 52 59.8**	**-1.0**
YRD	**Yardimli**	**0.72**	**297**			P	**Pn**	**11 52 59.9**	**-1.0**
YRD						S	**Sb**	**11 53 09.8**	**-0.6**
GLBA	**Cilabad**	**0.83**	**321**			P	**Pn**	**11 53 01.9**	**-0.4**
GLBA						S	**Sn**	**11 53 13.7**	**+0.2**
GRMI	**Germi**	**0.94**	**284**			Pg	**Pn**	**11 53 03.3**	**-0.5**
CSN1	**Caspian**	**1.02**	**179**			Pg	**Pn**	**11 53 04.7**	**-0.1**
SAAT	**Saatly**	**1.36**	**339**			Sn	**Sb**	**11 53 31.1**	**+2.6**
ALIB	**&Aumlli-Bayram**	**1.37**	**358**			Pg	**Pn**	**11 53 10.8**	**+1.3**
ALIB	**&Aumlli-Bayram**	**1.37**	**358**			Pn	**Pn**	**11 53 10.8**	**+1.3**
ALIB						Sn	**Sn**	**11 53 28.1**	**+1.5**
IHRS	**Heris**	**1.61**	**261**			Pg	**Pn**	**11 53 14.8**	**+1.6**
QRD	**Qoradiz**	**1.61**	**303**			Pg	**Pn**	**11 53 12.7**	**-0.2**
QRD	**Qoradiz**	**1.61**	**303**			Pn	**Pn**	**11 53 12.8**	**-0.2**
QRD						Sn	**Sn**	**11 53 33.6**	**+0.9**
BLQ	**Beylaqan**	**1.62**	**314**			Pn	**Pn**	**11 53 13.6**	**+0.5**
BLQ						Sn	**Sn**	**11 53 34.4**	**+1.3**
KDMR	**Kurdemir**	**1.91**	**339**			Sn	**Sn**	**11 53 41.6**	**+1.6**
IHSH	**Hashtrud**	**1.92**	**229**			Pn	**Pn**	**11 53 20.9**	**+3.4**
GBS	**Qobustan**	**1.94**	**357**			Sn	**Sb**	**11 53 45.7**	**+0.5**
AGDM	**Agdam**	**2.14**	**316**			Pn	**Pn**	**11 53 20.1**	**-0.2**
AGDM						Sg	**Sb**	**11 53 52.0**	**+1.1**
BRDA	**Brd**	**2.22**	**319**			Pn	**Pn**	**11 53 21.7**	**+0.4**
BRDA						Sg	**Sb**	**11 53 54.2**	**+1.3**
ATGJ	**Altiaghaj**	**2.27**	**358**			Pg	**Pb**	**11 53 27.6**	**+0.7**
ATGJ						Sn	**Sn**	**11 53 50.0**	**+0.8**
IML	**Ismayilli**	**2.30**	**343**			Pg	**Pb**	**11 53 27.5**	**+0.1**
IML						Sn	**Sn**	**11 53 50.5**	**+0.6**
ORD	**Ordubad**	**2.42**	**279**			Pg	**Pn**	**11 53 26.8**	**+2.6**
ORD						Sg	**Sb**	**11 53 58.8**	**-0.2**
SIZA	**Siyzn**	**2.49**	**357**			Pg	**Pb**	**11 53 31.9**	**+1.3**
QBL	**Gabala**	**2.54**	**339**			Pn	**Pn**	**11 53 27.2**	**+1.5**
QBL						Sn	**Sn**	**11 53 55.8**	**+0.2**
IMRD	**Marand**	**2.63**	**274**			Pn	**Pn**	**11 53 29.6**	**+2.5**
XNQ	**Khinaliq**	**2.67**	**345**			Pn	**Pn**	**11 53 30.1**	**+2.4**
XNQ						Sn	**Sn**	**11 53 59.5**	**+0.2**
QUBA	**Quba, Azerbaij**	**2.80**	**351**			Pg	**Pb**	**11 53 36.8**	**+1.0**
QUBA						Sn	**Sn**	**11 54 03.2**	**+1.2**
NAX	**Nakhchivan**	**2.84**	**283**			Pg	**Pn**	**11 53 34.5**	**+4.6**
NAX						Sg	**Sb**	**11 54 12.3**	**+1.2**
SBZ	**Shahbuz**	**2.85**	**288**			Pg	Pn	11 53 35.2	+5.1
SBZ						Sg	**Sb**	**11 54 11.1**	**-0.2**
MZPU	**Pul - Mazandar**	**2.93**	**136**			Pn	**Pn**	**11 53 31.6**	**+0.4**
GANJ	**Ganja**	**2.95**	**315**			Pn	**Pn**	**11 53 31.7**	**+0.3**
GANJ						Sn	**Sn**	**11 54 06.5**	**+0.7**
SEKA	**Sheki**	**2.98**	**332**			Pn	**Pn**	**11 53 31.9**	**+0.1**
SEKA						Sn	**Sn**	**11 54 06.3**	**-0.3**
IMHD	**Mahdasht**	**3.17**	**156**			Pn	**Pn**	**11 53 36.3**	**+1.8**
GDB	**GEDABAY**	**3.32**	**311**			Pn	**Pn**	**11 53 37.4**	**+0.7**
GDB						Sn	**Sn**	**11 54 13.7**	**-1.5**
IPRN	**Peran**	**3.51**	**131**			Pn	**Pn**	**11 53 39.6**	**+0.4**
ZKTA	**Zakatala**	**3.57**	**329**			Pn	**Pn**	**11 53 41.0**	**+1.1**
ZKTA						Sn	**Sn**	**11 54 21.1**	**0.0**
QZX	**Qazax, Azerbai**	**3.76**	**312**			Sn	**Sn**	**11 54 26.8**	**+1.0**
IALA	**Alasht**	**3.90**	**129**			Pn	**Pn**	**11 53 45.4**	**+0.7**
IGLO	**Ghaloghah**	**4.32**	**117**			Pn	**Pn**	**11 53 50.6**	**+0.2**
MRVT	**Maraveh tapeh**	**5.62**	**97**			Pn	**Pn**	**11 54 08.0**	**-0.1**
GEYT	**Ailbek**	**7.16**	**92**			Pn	**Pn**	**11 54 28.9**	**-0.3**
	0.9nm,0.3s,baz=283,slow=14,SNR=7.5								
GEYT						Sn	**Sn**	**11 55 46.0**	**-3.4**
	1.2nm,0.3s,baz=322,slow=23,SNR=1.9 1.7nm,0.3s								
ISFR	**Sfrayin**	**7.24**	**99**			Pn	**Pn**	**11 54 31.4**	**+0.8**
IEMG	**Emamgholi**	**7.66**	**96**			Pn	**Pn**	**11 54 36.7**	**+0.3**
AB31	**Akbulak array**	**13.22**	**33**			P	Pn	11 55 47.9	-4.2
	0.7nm,0.7s,baz=217,slow=14,SNR=1.1								
AB31					||S	Sn	11 58 05.7	-12
	0.4nm,0.4s,baz=218,slow=27,SNR=6.3								
AKTO	**Aktyubinsk**	**13.44**	**25**		⇑	P	**Pn**	**11 55 51.5**	**-3.6**
	1.5nm,0.8s								
AKTO					⇑	S	Sn	11 58 10.8	-13
	1.3nm,0.6s								
BVAR	**Borovoye Array**	**20.61**	**39**			P	**P**	**11 57 23.4**	**+0.3**
	0.4nm,0.4s,baz=243,slow=6.5,SNR=3.5 0.4nm,0.4s								
KURBB	**Kurchatov Arra**	**24.01**	**50**			P	**P**	**11 57 59.5**	**+1.0**
	0.6nm,0.7s,baz=256,slow=9.8,SNR=4.8 0.6nm,0.7s								
MKAR	**Makanchi Array**	**25.61**	**61**			P	**P**	**11 58 12.3**	**-0.8**
	0.5nm,0.8s,baz=256,slow=9.9,SNR=5.6 0.5nm,0.8s								
FINES	**FINESS Array B**	**26.95**	**336**			P	**P**	**11 58 27.0**	**+2.1**
	2.4nm,1.0s,baz=137,slow=8.7,SNR=3.4 2.4nm,1.0s								
HFS	**Hagfors**	**30.95**	**326**			P	**P**	**11 59 00.1**	**-0.5**
	1.5nm,0.8s,baz=133,slow=6.3,SNR=4.6 1.5nm,0.8s								
NOA	**NORSAR Array B**	**32.45**	**326**			P	**P**	**11 59 13.2**	**-0.6**
	0.3nm,0.6s,baz=118,slow=8.5,SNR=1.7 0.3nm,0.6s								
CMAR	**Chiang Mai Arr**	**47.56**	**100**			LR	LR	12 27 30.3	
	comp=Z,42nm,21.3s,baz=285,slow=44								
USRK	**Ussurlysk Ar.**	**59.94**	**56**			LR	LR	12 34 11.1	
	comp=Z,56nm,18.2s,baz=10,slow=42								

*DJA **25** 12:18:41.5±0.6,1°N±6°×12°3E±°,h12km±3km,M4.2/6, mb4.7/1,MLv4.0/6*
*IDC **25** 12:18:42.8±1.7,0°.80N×123°.81E,h0km,mb3.6/3, mbtmp3.6/3,MS2.7/1,Error ellipse: s-maj=191.5km s-min=24.9km az=63.0*

ISC 25 12:18:40.4±2.3,1°.1N±0°.2×122°.73E±0°.06,h10km,n8, σ2§38/8,mb3.8/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.99**	**233**			P	**Pg**	**12 18 59.4**	**-0.1**
MRSI						S	**Sb**	**12 19 13.6**	**+0.7**
KMSI	**Cibinong**	**1.35**	**112**			P	**Pn**	**12 19 06.0**	**+0.7**
KMSI						S	**Sn**	**12 19 26.0**	**+2.7**
MPSI	**Mapaga**	**2.93**	**255**			P	**Pn**	**12 19 28.2**	**+1.2**
TTSI	**Tana Toraja**	**5.03**	**215**			P	**Pn**	**12 19 56.7**	**+0.8**
DAV	**Davao City (W)**	**6.59**	**25**			LR	LR	12 22 56.3	
	comp=Z,60nm,19.1s,baz=130,slow=39								
WRA	**Warramunga Arr**	**23.80**	**152**			P	**P**	**12 23 50.1**	**-3.5**
	1.8nm,0.7s,baz=332,slow=10,SNR=18 1.8nm,0.7s								
ASAR	**Alice Springs**	**26.89**	**157**			P	**P**	**12 24 19.4**	**-2.4**
	0.5nm,0.6s,baz=335,slow=9.7,SNR=7.8 0.5nm,0.6s								
MKAR	**Makanchi Array**	**57.56**	**328**			P	P	12 28 40.0	+10
	0.5nm,0.6s,baz=119,slow=8.4,SNR=6.2 0.5nm,0.6s								

IDC 25 12:25:06.4±2.0,15°.60S×178°.10W,h0km,mb3.6/5, mbtmp3.6/5,Error ellipse: s-maj=138.8km s-min=30.0km az=151.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.74**	**252**			P	P	12 33 29.7	-0.2
	1.4nm,0.8s,baz=86,slow=8.6,SNR=9.7 1.4nm,0.8s								
NVAR	**Mina Array Bea**	**77.57**	**44**			P	P	12 37 03.1	-1.6
	0.4nm,0.7s,baz=226,slow=4.8,SNR=3.7 0.4nm,0.7s								
ILAR	**Eielson Array**	**83.58**	**13**			P	P	12 37 36.8	+0.6
	0.1nm,0.5s,baz=210,slow=5.2,SNR=4.2 0.1nm,0.5s								
TXAR	**Lajitas Array**	**84.52**	**58**			P	P	12 37 43.6	+1.7
	0.5nm,1.0s,baz=210,slow=5.2,SNR=3.4 0.5nm,1.0s								
PDAR	**Pinedale Array**	**85.48**	**43**			P	P	12 37 46.2	-0.4
	0.4nm,0.9s,baz=222,slow=3.4,SNR=2.6 0.4nm,0.9s								

*IPEC **25** 12:43:07.3±0.2,51°.52N×16°.19E,h1km,ML2.5/5,Error ellipse: s-maj=1.7km s-min=1.0km az=28.0*
*IDC **25** 12:43:07.8±0.8,51°.50N×16°.01E,h0km,mbtmp3.4/7, ML2.8/7,Error ellipse: s-maj=13.8km s-min=7.5km az=117.0*
*VIE **25** 12:43:07.9±1.4,51°.48N×16°.04E,h0km,mb2.6/6,ml2.9/7, Error ellipse: s-maj=16.0km s-min=6.1km az=7.0, Suspected Mining induced.*
*DNK **25** 12:43:09.1±2.1,51°.56N×16°.02E,h20km±78km,ML2.7*
*PRU **25** 12:43:10.1,51°.43N×16°.10E,h0km*

ISC 25 12:43:05.7±0.7,51°.59N±0°.03×16°.11E±0°.03,h0km,n46, σ1§43/82,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHVC	**Chvalec**	**1.01**	**182**			*e*PG	**Pg**	**12 43 25.6**	**+0.6**
CHVC						*e*SG	**Sg**	**12 43 37.3**	**-0.7**
	comp=Z,77nm,0.6s								
OSTC	**Ostas**	**1.04**	**176**			*e*PG	**Pg**	**12 43 26.2**	**+0.6**
OSTC						*e*SG	**Sg**	**12 43 38.8**	**-0.2**
	comp=Z,63nm,0.3s								
UPC	**

comp=Z,0.4nm,0.1s
LUNU Lund 4.35 340 *i* P **Pn 12 44 14.0 +1.0**
LUNU *i* S **Sn 12 45 03.6 -0.7**
ARSA Arzberg 4.36 185 *e*Pn **Pn 12 44 14.5 +1.2**
comp=Z,0.5nm,0.3s
BLEU Blekinge 4.72 358 *i* P **Pn 12 44 22.2 +4.1**
BLEU *i* S **Sn 12 45 12.0 -1.5**
LESA Schwarzleotal 4.73 210 *e*Pn **Pn 12 44 18.3 -0.1**
comp=Z,1.0nm,0.2s
KBA Koelnbreinsper 4.87 203 *e*Pn **Pn 12 44 21.2 +0.9**
comp=Z,1.2nm,0.4s,SNR=5.1
DEL Delary 5.06 346 *i* P **Pn 12 44 24.0 +1.2**
DEL *i* S **Sn 12 45 19.7 -2.2**
WTTA Wattenberg 5.22 216 *e*Pn **Pn 12 44 25.0 -0.2**
comp=Z,0.3nm,0.2s
FABU Falkenberg 5.77 341 *i* S **Sn 12 45 36.5 -2.8**
DAVOX Davos/Dischmat 6.31 223 Pn **Pn 12 44 40.2 0.0**
comp=Z,0.2nm,0.3s,baz=0.0,slow=7.1,SNR=2.3
DAVOX Sn **Sn 12 45 48.0 -5.0**
comp=Z,0.1nm,0.3s,baz=76,slow=14,SNR=1.5
DAVOX Lg Lg 12 46 26.9
comp=Z,0.3nm,0.3s,baz=24,slow=18,SNR=1.8
comp=Z,0.5nm,0.3s
AKASG Malin Array Be 8.29 91 Pn **Pn 12 45 06.8 -0.3**
comp=Z,0.8nm,0.3s,baz=279,slow=12,SNR=6.2
AKASG Sn Sn 12 46 27.6 -14
comp=Z,0.7nm,0.3s,baz=259,slow=24,SNR=2.7
AKASG Lg Lg 12 47 33.8
comp=Z,0.5nm,0.3s,baz=311,slow=13,SNR=2.6
comp=Z,0.5nm,0.5s
HFS Hagfors 8.67 352 Pn **Pn 12 45 13.0 +0.8**
comp=Z,0.1nm,0.3s,baz=175,slow=17,SNR=1.3
comp=Z,1.0nm,0.6s
FINES FINESS Array B 11.29 25 Pn **Pn 12 45 46.8 -1.3**
comp=Z,0.2nm,0.3s,baz=205,slow=11,SNR=6.3
comp=Z,3.1nm,1.0s
ARCES ARCESS Array B 18.54 10 Pn **P 12 47 21.2 -2.4**
comp=Z,0.1nm,0.3s,baz=187,slow=13,SNR=2.4
comp=Z,5.7nm,1.0s

IDC 25 12:57:34.9±4.2, 19°.87S×167°.80E, h0km, mb3.7/2, mbtmp3.6/3, ML2.9/1, Error ellipse: s-maj=82.6km s-min=37.7km az=103.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.54**	**210**	Pn	Pn	12 58 16.9	-0.5
	2.3nm,0.3s,baz=58,slow=19,SNR=96						
DZM				Sn	Sb	12 58 51.3	-1.9
	10nm,0.3s,baz=120,slow=20,SNR=14						
	9.4nm,0.3s						
WRA	**Warramunga Arr**	**31.44**	**264**	P	P	13 03 58.2	0.0
	0.6nm,0.9s,baz=93,slow=8.0,SNR=4.6						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**31.67**	**257**	P	P	13 04 00.1	-0.1
	1.0nm,0.7s,baz=87,slow=9.1,SNR=18						
	1.0nm,0.7s						
AKASG	**Malin Array Be**	**135.20**	**323**	PKP	PKPdf	13 16 56.4	+0.1
	0.4nm,0.5s,baz=63,slow=2.6,SNR=1.4						

IDC 25 13:32:47.0±5.2, 6°.76S×129°.05E, h182km±48km, mb2.8/1, mbtmp3.2/3, Error ellipse: s-maj=66.1km s-min=21.9km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.33**	**237**	P	Pn	13 34 17.4	-1.1
	34nm,0.5s,baz=58,slow=6.7,SNR=8.5						
WRA	**Warramunga Arr**	**14.08**	**159**	P	P	13 36 00.0	-0.9
	0.2nm,0.3s,baz=344,slow=10,SNR=11						
WRA				S	Sn	13 38 25.9	-10
	0.1nm,0.3s,baz=330,slow=25,SNR=6.5						
ASAR	**Alice Springs**	**17.45**	**165**	P	Pn	13 36 39.5	-0.1
	0.3nm,0.4s,baz=350,slow=11,SNR=12						
ASAR				S	S	13 39 49.1	-1.2
	0.3nm,1.0s,baz=352,slow=26,SNR=1.0						
MKAR	**Makanchi Array**	**67.51**	**327**	P	P	13 43 23.5	0.0
	0.1nm,0.4s,baz=122,slow=8.6,SNR=1.6						
	0.1nm,0.4s						

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*IDC **25** 13:34:45.1±0.9, 29°.47S×71°.88W, h0km, mb4.1/4, mbtmp4.0/7, ML3.5/3, MS2.9/2, Error ellipse: s-maj=39.2km s-min=21.5km az=103.0*
*SJA **25** 13:34:45.5±1.1, 29°.41S×72°.00W, h25km, ML3.8, MW3.9*
*GUC **25** 13:34:49.3±0.8, 29°.51S×71°.74W, h43km±1km, ML3.7*
ISC 25 13:34:46.4±1.5, 29°.45S±0°.02×71°.94W±0°.05, h12km±9km, n51, σ1§17/78, mb4.1/5, 8C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO05	**La Serena**	**0.77**	**128**	*e*P	**Pg**	**13 35 01.6**	**+0.2**
CO05				*e*S	**Sg**	**13 35 10.7**	**-0.9**
CO05				IAML		13 35 14.6	
	comp=E,5μm,0.4s						
LCO	**Las Campanas**	**1.17**	**69**	*e*P	**Pg**	**13 35 09.7**	**+0.7**
LCO				*e*S	**Sb**	**13 35 24.4**	**+0.3**
LCO	**Las Campanas**	**1.17**	**69**	*e*P	**Pb**	**13 35 09.1**	**+0.3**
LCO				*e*S	**Sb**	**13 35 23.1**	**-0.9**
GO04	**Tololo Observa**	**1.23**	**126**	*e*P	**Pg**	**13 35 10.5**	**+0.3**
GO04				*e*S	**Sn**	**13 35 26.8**	**+0.3**
GO04				IAML		13 35 28.3	
	comp=Z,6μm,0.4s						
GO04	**Tololo Observa**	**1.23**	**126**	*e*P	**Pn**	**13 35 08.6**	**-1.1**
GO04				*e*S	**Sb**	**13 35 24.0**	**-1.8**
GO04				IAML		13 35 27.4	
	comp=E,8μm,0.4s						
GO04				IAML		13 35 28.4	
	comp=N,7μm,0.4s						
CO06	**Fray Jorge**	**1.25**	**168**	*e*P	**Pb**	**13 35 10.0**	**-0.1**
CO06				*e*S	**Sb**	**13 35 25.5**	**-0.7**
CO06				IAML		13 35 25.8	
	comp=N,1μm,0.2s						
AC04	**Llanos de Chal**	**1.45**	**32**	*e*P	**Pn**	**13 35 12.5**	**-0.1**
AC04				*e*S	**Sn**	**13 35 30.8**	**-0.8**
AC04				IAML		13 35 38.7	
	comp=Z,820nm,0.3s						
AC04	**Llanos de Chal**	**1.45**	**32**	*e*P	**Pb**	**13 35 13.3**	**-0.2**
AC04				*e*S	**Sn**	**13 35 30.9**	**-0.7**
AC04				IAML		13 35 31.4	
	comp=E,5μm,0.1s						
AC05	**El Transito**	**1.58**	**68**	*e*P	**Pb**	**13 35 15.8**	**+0.1**
AC05				*e*S	**Sb**	**13 35 36.1**	**+0.4**
AC05				IAML		13 35 37.3	
	comp=Z,875nm,0.2s						
AC05	**El Transito**	**1.58**	**68**	*e*P	**Pb**	**13 35 15.7**	**-0.1**
AC05				*e*S	**Sn**	**13 35 33.5**	**-1.4**
AC05				IAML		13 35 37.2	
	comp=N,3μm,0.1s						
CO01	**Juntas del Tor**	**1.69**	**109**	*e*P	**Pb**	**13 35 17.6**	**-0.1**
CO01				*e*S	**Sn**	**13 35 38.1**	**+0.2**
CO01				IAML		13 35 39.8	
	comp=Z,1μm,0.3s						
CO01	**Juntas del Tor**	**1.69**	**109**	*e*P	**Pn**	**13 35 17.1**	**+1.0**
CO01				*e*S	**Sn**	**13 35 35.3**	**-2.6**
CO01				IAML		13 35 39.9	
	comp=N,928nm,0.3s						
CO03	**El Pedregal**	**1.76**	**142**	*e*P	**Pn**	**13 35 17.6**	**+0.7**
CO03				*e*P	**Pn**	**13 35 17.8**	**+0.7**
CO03				*e*S	**Sn**	**13 35 39.3**	**-0.2**
CO03				IAML		13 35 40.9	
	comp=Z,484nm,0.4s						
CO03	**El Pedregal**	**1.76**	**142**	*e*P	**Pn**	**13 35 17.3**	**+0.3**
CO03				*e*S	**Sn**	**13 35 36.9**	**-2.5**
CO03				IAML		13 35 42.7	
	comp=N,1μm,0.4s						
CO03				IAML		13 35 43.5	
	comp=E,1μm,0.2s						
CO02	**Combarbal**	**1.93**	**155**	*e*P	**Pn**	**13 35 19.8**	**+0.5**
CO02				*e*S	**Sb**	**13 35 45.4**	**-0.5**
CO02				IAML		13 35 50.5	
	comp=Z,499nm,0.2s						
CO02	**Combarbal**	**1.93**	**155**	*e*P	**Pn**	**13 35 19.5**	**+0.2**
CO02				*e*S	**Sn**	**13 35 41.7**	**-1.9**
CO02				IAML		13 35 49.6	
	comp=N,2μm,0.6s						
AROD	**Rodeo**	**2.26**	**109**	*e*P	**Pb**	**13 35 27.2**	**-0.3**
AROD				*e*S	**Sb**	**13 35 55.0**	**-0.6**
GO03	**Copiap**	**2.38**	**40**	*e*P	**Pn**	**13 35 25.9**	**+0.4**
GO03				*e*S	**Sn**	**13 35 55.2**	**+0.6**
GO03				IAML		13 36 09.6	
	comp=Z,403nm,0.3s						
GO03	**Copiap**	**2.38**	**40**	*e*P	**Pn**	**13 35 25.8**	**+0.4**
GO03				*e*S	**Sn**	**13 35 53.9**	**-0.7**
GO03				IAML		13 36 08.5	
	comp=E,900nm,0.4s						
ACDV	**Cuesta del Vie**	**2.56**	**107**	*e*P	**Pb**	**13 35 31.2**	**-1.3**
ACDV				*e*S	**Sb**	**13 36 04.5**	**+0.5**
ACDV				IAML		13 36 05.5	
	comp=Z,279nm,0.4s						
ACCO	**Cerro Coronel**	**2.74**	**115**	*e*P	**Pb**	**13 35 34.5**	**-1.2**
ACCO				*e*S	**Sb**	**13 36 11.6**	**+2.1**
DOCA	**Reserva Natura**	**2.90**	**122**	*e*P	Pn	13 35 24.0	-8.8
DOCA				*e*S	**Sb**	**13 36 11.9**	**-1.9**
DOCA				IAML		13 36 20.5	
	comp=Z,200nm,1.2s						
AGUA	**GUANDACOL**	**3.01**	**92**	*e*P	**Pb**	**13 35 38.6**	**-1.5**
AGUA				*e*S	**Sn**	**13 36 11.9**	**+1.7**
AGUA				IAML		13 36 29.0	
	comp=Z,304nm,0.8s						
VCA	**Vinchina**	**3.35**	**79**	*e*P	Pn	13 35 28.6	-10
VCA				*e*S	**Sb**	**13 36 25.4**	**-1.2**
VCA				IAML		13 36 35.4	
	comp=Z,364nm,0.4s						
AC01	**Pan de Azucar**	**3.49**	**20**	*e*P	**Pn**	**13 35 40.6**	**0.0**
AC01				*e*S	**Sn**	**13 36 20.2**	**-1.8**
AC01				IAML		13 36 47.6	
	comp=Z,104nm,0.6s						
VA03	**San Esteban**	**3.52**	**161**	*e*P	**Pn**	**13 35 42.8**	**+1.7**
VA03				*e*S	**Sn**	**13 36 25.6**	**+2.9**
VA03				IAML		13 36 42.3	
	comp=Z,170nm,0.8s						
AC02	**Maricunga**	**3.60**	**44**	*e*P	**Pn**	**13 35 43.5**	**+0.9**
AC02				*e*S	**Sb**	**13 36 34.4**	**+0.3**
AC02				IAML		13 36 46.5	
	comp=Z,190nm,0.7s						
MT02	**Curacav**	**3.87**	**170**	*e*P	**Pn**	**13 35 46.5**	**+0.8**
MT02				*e*S	**Sn**	**13 36 31.2**	**0.0**
MT02				IAML		13 36 54.2	
	comp=Z,84nm,0.9s						
AVFE	**Valle Fertil**	**4.07**	**108**	*e*P	**Pn**	**13 35 49.4**	**+0.7**
AVFE				*e*P	Pb	13 35 51.9	-6.3
AVFE				*e*S	**Sb**	**13 36 47.4**	**-0.1**
AVFE				IAML		13 36 55.1	
	comp=Z,226nm,0.8s						
ASAL	**Salagasta**	**4.12**	**140**	*e*P	Pn	13 35 37.0	-12
ASAL				*e*S	**Sb**	**13 36 49.4**	**+0.6**
ASAL				IAML		13 37 03.0	
	comp=Z,102nm,0.6s						
MT03	**Universidad Ad**	**4.22**	**163**	*e*P	**Pn**	**13 35 52.4**	**+1.7**
MT03				IAML		13 37 15.4	
	comp=Z,91nm,0.8s						
MT01	**Popeta**	**4.45**	**173**	*e*P	**Pn**	**13 35 53.9**	**+0.2**
MT01				*e*S	**Sn**	**13 36 43.8**	**-1.7**
MT01				IAML		13 37 16.2	
	comp=Z,52nm,0.6s						
GO02	**Mina Guanaco**	**4.75**	**27**	*e*P	**Pn**	**13 35 59.3**	**+1.0**
GO02				*e*S	**Sn**	**13 36 53.1**	**-0.3**
GO02				IAML		13 37 30.2	
	comp=Z,124nm,0.8s						
ACHE	**Chepes**	**4.88**	**112**	*e*P	**Pn**	**13 36 02.1**	**+2.3**
ACHE				*e*S	**Sb**	**13 37 10.9**	**+0.3**
BO01	**Tunca**	**4.99**	**172**	*e*P	**Pn**	**13 36 01.9**	**+0.8**
H03N1	**Juan Fernandez**	**7.16**	**234**	T	T	13 44 21.5	
	baz=63,slow=72						
H03N2	**Juan Fernandez**	**7.18**	**235**	T	T	13 44 15.1	
	baz=63,slow=72						
H03N3	**Juan Fernandez**	**7.18**	**234**	T	T	13 44 17.6	
	baz=63,slow=72						
LVC	**Limon Verde**	**7.33**	**23**	Pn	**Pn**	**13 36 33.0**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=204,slow=8.9,SNR=6.7						
LVC				Sn	**Sn**	**13 37 52.9**	**-4.2**
	comp=Z,0.6nm,0.3s,baz=192,slow=20,SNR=1.7						
LVC				Lg	Lg	13 38 28.2	
	comp=Z,2.6nm,0.3s,baz=284,slow=10,SNR=5.5						
LVC				LR	LR	13 39 22.4	
	comp=Z,96nm,19.0s,baz=216,slow=38						
	comp=Z,1.6nm,0.2s						
PLCA	**Paso Flores**	**11.32**	**175**	Pn	**Pn**	**13 37 28.3**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=341,slow=14,SNR=2.2						
	comp=Z,0.7nm,0.4s						
LPAZ	**La Paz**	**13.56**	**16**	LR	LR	13 44 03.9	
	comp=Z,41nm,18.8s,baz=210,slow=41						
SIV	**San Ignacio**	**16.71**	**39**	Pn	**Pn**	**13 38 41.2**	**+0.6**
	baz=228,slow=13,SNR=9.6						
	comp=Z,1.8nm,0.6s						
USHA	**Ushuaia**	**25.50**	**175**	LR	LR	13 49 39.5	
	comp=Z,2μm,20.9s,baz=166,slow=35						
BDFB	**Brasilia**	**25.95**	**63**	P	**P**	**13 40 18.6**	**-0.6**
	comp=Z,1.9nm,0.5s,baz=208,slow=8.1,SNR=3.3						
	comp=Z,1.9nm,0.5s						
SNAA	**Sanae**	**55.78**	**159**	P	**P**	**13 44 23.2**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=274,slow=12,SNR=2.4						
	comp=Z,2.8nm,0.7s						
QSPA	**South Pole Qui**	**60.78**	**180**	P	**P**	**13 44 58.4**	**+0.3**
	comp=Z,1.6nm,1.1s,baz=16,slow=2.3,SNR=5.7						
	comp=Z,1.6nm,1.1s						
TXAR	**Lajitas Array**	**65.83**	**330**	P	**P**	**13 45 32.8**	**+0.9**
	comp=Z,0.2nm,0.7s,baz=150,slow=9.3,SNR=2.4						
TORD	**Torodi Ar. Bea**	**82.60**	**70**	P	**P**	**13 47 10.4**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=279,slow=4.8,SNR=10						
	comp=Z,1.3nm,0.7s						
WRA	**Warramunga Arr**	**124.75**	**210**	PKP	**PKPdf**	**13 53 46.2**	**-0.6**
	comp=Z,0.7nm,1.1s,baz=161,slow=1.5,SNR=5.7						
ZALV	**Zalesovo Beam**	**150.25**	**28**	PKPbc	**PKiKP**	**13 54 38.2**	**+0.4**
	comp=Z,2.7nm,0.5s,baz=299,slow=3.1,SNR=14						
MKAR	**Makanchi Array**	**153.52**	**42**	PKPbc	**PKiKP**	**13 54 45.0**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=232,slow=4.7,SNR=4.4						

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*JMA **25** 14:08:50.6±0.5, 27°.N±2°.×12°.6E±°, h13km, MV3.1/10, NW OFF OKINAWAJIMA IS*
*IDC **25** 14:08:52.0±1.5, 26°.92N×125°.22E, h0km, mb3.5/5, mbtmp3.5/6, ML3.0/1, MS2.8/4, Error ellipse: s-maj=68.7km s-min=22.5km az=68.0*
ISC 25 14:08:51.1±0.9, 26.74N±0°.08×125°.85E±0°.08, h10km, n17, σ1§94/14, mb3.6/5, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.94**	**116**	P	**Pg**	**14 09 08.4**	**-0.7**
JKE				*e*S	**Sg**	**14 09 21.0**	**-0.3**
JAGN	**Aguni-jima**	**1.26**	**96**	*e*P	**Pn**	**14 09 13.6**	**-1.1**
JJT3	**Tamagusuku3**	**1.83**	**108**	*e*P	**Pb**	**14 09 23.7**	**-1.0**
JNTH	**Nagotoyohara**	**1.96**	**96**	*e*P	**Pn**	**14 09 24.4**	**+0.1**
JMJ2	**Miyako jima3**	**2.04**	**193**	*e*S	**Sn**	**14 09 51.1**	**+0.1**
JOW	**Kunigami**	**2.17**	**87**	*e*P	**Pn**	**14 09 27.3**	**0.0**
JYRO	**Yoronjima**	**2.34**	**82**	*e*P	**Pn**	**14 09 29.7**	**+0.1**
JAMN	**Amaminishikomi**	**3.31**	**62**	*e*P	**Pn**	**14 09 45.4**	**+2.3**
KSRS	**Korea Array**	**10.83**	**9**	Pn	**Pn**	**14 11 27.2**	**+1.1**
	0.1nm,0.3s,baz=194,slow=14,SNR=2.2						
KSRS				LR	LR	14 15 54.3	
	comp=Z,56nm,19.2s,baz=195,slow=39						
	0.3nm,0.3s						
MJAR	**Matsushiro Arr**	**14.35**	**44**	LR	LR	14 17 42.6	
	comp=Z,26nm,18.4s,baz=214,slow=36						
KLR	**Kul'dur**	**22.92**	**10**	LR	LR	14 22 27.0	
	comp=Z,20nm,18.8s,baz=210,slow=36						
CMAR	**Chiang Mai Arr**	**26.13**	**257**	LR	LR	14 24 35.4	
	comp=Z,16nm,18.7s,baz=95,slow=37						
MKAR	**Makanchi Array**	**39.61**	**312**	P	**P**	**14 16 21.0**	**-1.8**
	0.5nm,0.6s,baz=101,slow=9.3,SNR=7.8						
	comp=Z,0.6s						
ZALV	**Zalesovo Beam**	**40.56**	**323**	P	**P**	**14 16 29.0**	**-1.5**
	0.7nm,0.5s,baz=110,slow=7.8,SNR=2.1						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**47.13**	**169**	P	**P**	**14 17 28.1**	**+4.5**
	0.5nm,0.9s,baz=352,slow=9.0,SNR=2.4						
	0.5nm,0.9s						
BVAR	**Borovoye Array**	**48.48**	**318**	P	**P**	**14 17 31.3**	**-2.5**
	0.8nm,0.8s,baz=98,slow=10,SNR=2.6						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**50.71**	**170**	P	P	14 17 55.8	+4.7
	0.4nm,1.0s,baz=358,slow=9.5,SNR=2.0						
	0.4nm,1.0s						

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*KOLA **25** 14:09:41.1, 80°.24N×23°.30E, h0km, ML1.9, Error ellipse: s-maj=40.3km s-min=28.0km az=130.0, Spitsbergen, Barentz Sea, Arctic Ocean*
*NAO **25** 14:09:50.6±4.4, 79°.85N×21°.44E, h23km±22km, ML2.2*
BER 25 14:09:49.2±1.9, 80°.13N×21°.44E, h23km±7km, ML1.9, Confirmed Earthquake, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**2.12**	**240**	P	Pb	14 10 25.5	-1.3
KBS				S	Sb	14 10 51.8	-0.7
KBS	**Kingsbay**	**2.12**	**240**	*e*P	Pn	14 10 22.0	-1.0
KBS				*e*Pg	Pb	14 10 26.8	0.0
KBS				*e*Sg	Sb	14 10 52.2	-0.3
KBS				IAML		14 10 54.9	
	comp=Z,28nm,0.4s						
KBS	**Kingsbay**	**2.12**	**240**	Pn	Pn	14 10 21.9	-1.2
KBS				Pg	Pb	14 10 26.7	0.0
KBS				Lg	Lg	14 10 51.9	
SPA0	**Spitsbergen Ar**	**2.19**	**209**	*e*P	Pn	14 10 22.4	-1.6
SPA0				*e*Pg	Pb	14 10 26.9	-1.1
SPA0				*e*Sg	Sb	14 10 53.6	-0.9
SPA0				IAML		14 10 59.1	
	comp=Z,12nm,0.8s						
SPA0	**Spitsbergen Ar**	**2.19**	**209**	Pn	Pn	14 10 22.3	-1.8
	baz=32,slow=14						
SPA0				Pg	Pb	14 10 26.5	-1.4
	baz=25,slow=16						
SPA0				Sg	Sb	14 10 53.4	-1.1
	baz=39,slow=28						
SPA0	**Spitsbergen Ar**	**2.19**	**209**	Pn	Pn	14 10 22.3	-1.8
	baz=32,slow=14						
SPA0				Pg	Pb	14 10 26.5	-1.4
	baz=25,slow=16						
SPA0				Lg	Lg	14 10 53.4	
	baz=39,slow=28						
SPITS	**Spitsbergen Ar**	**2.19**	**209**	P	Pn	14 10 22.3	-1.7
SPITS				S	Sb	14 10 53.7	-0.8
BRBB	**Barentsburg B**	**2.46**	**217**	P	Pn	14 10 26.4	-1.4
BRBB				S	Sb	14 11 03.0	+0.5
BRBB	**Barentsburg B**	**2.46**	**217**	*e*P	Pn	14 10 25.4	-2.4
BRBB				*e*S	Sn	14 10 53.8	-3.3
BRBB				*e*Sg	Sb	14 11 03.3	+0.8
BRBB	**Barentsburg B**	**2.46**	**217**	Pn	Pn	14 10 26.5	-1.4
BRBB				Sg	Sb	14 11 03.1	+0.6
BRBB	**Barentsburg B**	**2.46**	**217**	Pn	Pn	14 10 26.5	-1.4
BRBB				Lg	Lg	14 11 03.1	
BRBA	**Barentsburg A**	**2.49**	**217**	*e*P	Pn	14 10 26.1	-2.1
BRBA				*e*S	Sn	14 10 54.6	-3.3
BRBA				*e*Sg	Sb	14 11 02.7	-0.7
BRBA				IAML		14 11 04.8	
	comp=Z,10nm,0.4s						
BRBA	**Barentsburg A**	**2.49**	**217**	*e*P	Pn	14 10 26.9	-1.4
BRBA				*e*S	Sn	14 10 54.5	-3.4
BRBA				*e*Sg	Sb	14 11 03.3	0.0
BRBA				IAML		14 11 04.7	
	comp=Z,10nm,0.4s						
HSPB	**Hornsund (broa**	**3.36**	**203**	S	Sn	14 11 16.4	-2.8
HSPB	**Hornsund (broa**	**3.36**	**203**	*e*P	Pn	14 10 39.7	-0.4
HSPB				*e*Pg	Pb	14 10 47.7	-0.2
HSPB				*e*Sg	Sb	14 11 29.1	+0.9
HSPB				IAML		14 11 35.1	
	comp=Z,6.0nm,0.5s						
HSPB	**Hornsund (broa**	**3.36**	**203**	*e*P	Pn	14 10 39.7	-0.4
HSPB				*e*Pg	Pb	14 10 47.3	-0.6
HSPB				*e*Sg	Sb	14 11 28.8	+0.6
HSPB				IAML		14 11 35.1	
	comp=Z,6.0nm,0.5s						
HSPB	**Hornsund (broa**	**3.36**	**203**	Pg	Pb	14 10 47.1	-0.8
HSPB				Lg	Lg	14 11 30.0	
HOPEN	**Hopen**	**3.71**	**167**	*e*P	Pn	14 10 43.0	-1.9
HOPEN				*e*S	Sn	14 11 24.0	-3.9
HOPEN				*e*Sg	Sb	14 11 39.2	+0.8
HOPEN				IAML		14 11 58.5	
	comp=Z,6.9nm,1.0s						
HOPEN	**Hopen**	**3.71**	**167**	*e*P	Pn	14 10 43.4	-1.6
HOPEN				*e*Pg	Pb	14 10 55.5	+1.5
HOPEN				*e*S	Sn	14 11 23.5	-4.4
HOPEN				*e*Sg	Sb	14 11 40.9	+2.5
HOPEN				IAML		14 11 58.5	
	comp=Z,6.9nm,1.0s						
HOPEN	**Hopen**	**3.71**	**167**	Pn	Pn	14 10 43.3	-1.7
HOPEN				Pg	Pb	14 10 55.8	+1.8
HOPEN				Sn	Sn	14 11 23.3	-4.7
HOPEN				Lg	Lg	14 11 40.1	

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*BER **25** 14:12:41.1±2.5, 77°.97N×8°.18E, h22km±11km, mb(Pn)2.5, Confirmed Earthquake*
ISC 25 14:12:37.3±3.2, 77°.93N±0°.09×7°.9E±0°.2, h10km, n7, σ1§47/13, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.29**	**37**	*e*P	**Pn**	**14 13 01.1**	**-0.2**
KBS				*e*S	**Sb**	**14 13 15.8**	**-2.4**
KBS				IAML		14 13 18.7	
	comp=Z,8.1nm,0.2s						
BRBA	**Barentsburg A**	**1.33**	**81**	*e*Pg	**Pn**	**14 13 02.2**	**+0.3**
BRBA				IAML		14 13 18.6	
	comp=Z,9.2nm,0.3s						
BRBB	**Barentsburg B**	**1.33**	**80**	*e*P	**Pn**	**14 13 02.1**	**+0.2**
BRBB				*e*Pg	**Pg**	**14 13 04.1**	**+1.3**
BRBB				*e*S	**Sb**	**14 13 17.5**	**-1.9**
BRBB				*e*Sg	**Sn**	**14 13 21.3**	**+1.7**
SPA0	**Spitsbergen Ar**	**1.79**	**78**	*e*P	**Pn**	**14 13 09.5**	**+1.4**
SPA0				*e*Pg	**Pb**	**14 13 10.2**	**+0.2**
SPA0				*e*Sg	**Sn**	**14 13 30.7**	**-0.1**
SPA0				IAML		14 13 33.2	
	comp=Z,6.5nm,0.3s						
HSPB	**Hornsund (broa**	**1.92**	**116**	*e*P	**Pn**	**14 13 09.7**	**-0.1**
HSPB				*e*S	**Sn**	**14 13 31.6**	**-2.4**
HSPB				IAML		14 13 38.4	
	comp=Z,1.6nm,0.3s						
HOPEN	**Hopen**	**4.06**	**102**	*e*P	**Pn**	**14 13 39.7**	**+0.4**
DAG	**Danmarks Havn**	**5.91**	**272**	*i* P	Pn	14 14 03.1	-1.6
DAG				*i* S	Sn	14 15 04.2	-8.0

RSNC 25 14:14:52.4±0.0, 5°N±1°×7°4W±°, h146km±3km, mb4.4, mB4.7, ML3.0, Mw(mB)3.9, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPBC	**San Pablo de B**	**0.54**	**316**	P	Pn	14 15 12.3	-1.3
SPBC				S	Sn	14 15 28.4	-1.3
CVER	**Cruz Verde, Cu**	**0.82**	**207**	P	Pn	14 15 15.3	-0.6
CVER				S	Sn	14 15 32.2	-1.6
RUSC	**La Rusia**	**0.88**	**44**	P	Pn	14 15 15.6	-0.8
RUSC				S	Sn	14 15 33.0	-0.7
VILC	**Villavicencio,**	**1.14**	**180**	P	Pn	14 15 16.7

PIZC	Pizarro, Choco	3.66	266	P	Pn	14 15 48.9	+0.8
MALC	Bahia Malaga	3.83	251	P	Pn	14 15 50.0	-0.3
APAC	Apartado, Choc	3.88	313	P	Pn	14 15 48.7	-2.3
POPC	Popayan, Colom	4.01	228	P	Pn	14 15 52.8	-0.2
FLOC	Florencia	4.14	208	P	Pn	14 15 52.9	-1.6
LCBC	Los crdobas,	4.45	324	P	Pn	14 15 54.9	-3.6
LCBC				S	Sn	14 16 48.0	-1.9
ARGC	Ariguani, Magd	4.60	353	P	Pn	14 15 59.0	-1.5
ARGC				S	Sn	14 16 52.3	-1.2
SJCC	San Jacinto, C	4.83	342	P	Pn	14 15 59.1	-4.6
SJCC				S	Sn	14 16 52.6	-6.6
CRJC	Cerrejon, Guaj	5.78	8	P	Pn	14 16 12.8	-3.5
CRJC				S	Sn	14 17 15.7	-6.1

*IDC **25** 14:15:14.8±2.3,23°.91S×175°.52W,h0km,mb4.0/5, mbtmp3.9/5,Error ellipse: s-maj=110.3km s-min=31.9km az=151.0*

*NEIC **25** 14:15:14.9±0.7,23°.89S±0°.09×175°.2W±0°.1,h10km±2km, mb4.6/8,Error ellipse: s-maj=23.4km s-min=6.2km az=130.0*

ISC 25 14:15:18.2±0.9,23°.9S±0°.2×175°.4W±0°.1,h28km,n18, σ0°98/19,mb4.2/10,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	8.66	314	Pn	Pn	14 17 21.2	-0.6
MQZ	McQueen's Vall	22.11	204	P	P	14 20 10.0	-1.2
MQZ				IAmb	IAmb	14 20 26.4	
	comp=Z,44nm,1.3s						
XMAS	Kiritimati	31.10	37	P	P	14 21 31.9	-2.4
CTAO	Charters Tower	35.72	268	P	P	14 22 14.7	+0.1
AS31	Alice Springs	46.22	259	P	P	14 23 40.3	-0.8
ASAR	Alice Springs	46.22	259	P	P	14 23 40.5	-0.6
ASAR	Alice Springs	46.22	259	P	P	14 23 41.2	+0.1
	comp=Z,0.7nm,0.6s,baz=96,slow=7.4,SNR=21						
ASAR				PcP	PcP	14 25 16.9	+0.3
	comp=Z,0.6nm,1.1s,baz=105,slow=3.2,SNR=1.5						
	comp=Z,0.7nm,0.6s						
WR0	Warramunga Arr	46.45	265	P	P	14 23 42.5	-0.5
WR0				IAmb	IAmb	14 23 47.9	
	comp=Z,8.5nm,1.3s						
WB2	Warramunga Arr	46.62	265	P	P	14 23 44.2	-0.1
WB2				IAmb	IAmb	14 24 06.7	
	comp=Z,10nm,1.3s						
WB0	Warramunga Arr	46.63	265	P	P	14 23 44.0	-0.3
WB0				IAmb	IAmb	14 24 01.8	
	comp=Z,6.6nm,1.1s						
WRA	Warramunga Arr	46.63	265	P	P	14 23 43.5	-0.9
	comp=Z,1.5nm,0.7s,baz=105,slow=8.2,SNR=21						
	comp=Z,1.5nm,0.7s						
FITZ	Fitzroy Crossi	55.05	264	P	P	14 24 48.1	+0.3
FITZ				IAmb	IAmb	14 24 48.5	
	comp=Z,2.2nm,1.2s						
PETK	Petropavlovsk-	80.15	344	P	P	14 27 26.6	+1.2
	comp=Z,2.2nm,1.0s,baz=161,slow=4.9,SNR=2.0						
	comp=Z,2.2nm,1.0s						
PDAR	Pinedale Array	89.77	42	P	P	14 28 15.9	+1.6
	comp=Z,0.3nm,0.8s,baz=242,slow=1.9,SNR=2.3						
	comp=Z,0.3nm,0.8s						
CMAR	Chiang Mai Arr	93.51	289	P	P	14 28 32.7	+0.7
	comp=Z,0.8nm,0.9s,baz=161,slow=3.5,SNR=6.0						
	comp=Z,0.8nm,0.9s						
BVAR	Borovoye Array	123.21	319	PKP	PKiKP	14 34 12.8	+0.6
	comp=Z,0.7nm,0.8s,baz=350,slow=3.4,SNR=3.3						
AKASG	Malin Array Be	147.12	331	PKPbc	PKPbc	14 34 58.6	+0.2
	comp=Z,0.8nm,0.6s,baz=42,slow=3.9,SNR=5.3						
BRTR	Keskin Array B	150.88	310	PKPbc	PKiKP	14 35 09.4	+0.3
	comp=Z,0.7nm,0.9s,baz=72,slow=4.7,SNR=2.8						

*NEIC **25** 14:26:52.6±1.7,55°.71N±0°.08×149°.29W±0°.10,h10km±7km, ML3.8/42,ML3.6(AEIC),Error ellipse: s-maj=12.2km s-min=7.3km az=164.0*

*AEIC **25** 14:26:57.8±1.3,55°.80N±0°.09×149°.3W±0°.1,h10km±5km, Error ellipse: s-maj=12.7km s-min=8.6km az=164.0*

ISC 25 14:26:52.9±1.1,55°.81N±0°.07×149°.31W±0°.06,h10km, n278,σ1°13/289,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	Old Harbor	2.62	304	P	Pn	14 27 35.5	+0.3
OHAK	Old Harbor	2.62	304		Pn	14 27 35.2	0.0
OHAK	Old Harbor	2.62	304		Sn	14 28 04.9	-2.1
OHAK	Old Harbor	2.62	304	P	Pn	14 27 35.7	+0.5
	baz=124						
OHAK				S	Sn	14 28 04.9	-2.1
	baz=124						
KDAK	Kodiak Island	2.68	319	Pn	Pn	14 27 36.4	+0.5
KDAK				IAML		14 28 07.0	
	204nm,0.4s						
KDAK	Kodiak Island	2.68	319		Sn	14 28 06.1	-2.3
SII	Sitkinak Islan	2.83	287	P	Pn	14 27 38.5	+0.4
SII	Sitkinak Islan	2.83	287	Pn	Pn	14 27 36.9	-1.1
SII				IAML		14 28 15.0	
	comp=E,195nm,0.7s						
SII	Sitkinak Islan	2.83	287		Sn	14 28 10.1	-2.1
SII	Sitkinak Islan	2.83	287	P	Pn	14 27 38.5	+0.4
	baz=106						
SII				S	Sn	14 28 10.6	-1.5
	baz=106						
Q20K	Shuyak Island	3.27	330	P	Pn	14 27 44.5	+0.4
	baz=149						
Q20K				S	Sn	14 28 21.6	-1.4
	baz=149						
SYI	Shuyak Island	3.27	330	Pn	Pn	14 27 44.7	+0.6
SYI				IAML		14 28 23.2	
	comp=E,169nm,0.5s						
SYI				IAML		14 28 23.5	
	comp=N,122nm,0.4s						
CHIR	Chirikof Islan	3.56	273	Pn	Pn	14 27 48.0	-0.1
CHIR				IAML		14 28 28.1	
	comp=N,117nm,0.9s						
CHIR				IAML		14 28 31.0	
	comp=E,137nm,1.4s						
CHIR	Chirikof Islan	3.56	273		Sn	14 28 26.6	-3.6
CHIR	Chirikof Islan	3.56	273	P	Pn	14 27 48.3	+0.2
	baz=90						
CHIR				S	Sn	14 28 26.6	-3.6
	baz=90						
CNPM	China Poot	3.87	345	Pn	Pn	14 27 52.5	+0.1
CNPM				IAML		14 28 37.9	
	comp=E,77nm,0.5s						
CNPM	China Poot	3.87	345		Sn	14 28 35.8	-2.1
Q19K	Cape Douglas,	3.91	325	Pn	Pn	14 27 53.9	+0.9
Q19K	Cape Douglas,	3.91	325		Sn	14 28 37.3	-1.6
Q19K	Cape Douglas,	3.91	325	P	Pn	14 27 53.9	+0.9
	baz=142						
Q19K				S	Sn	14 28 37.3	-1.6
	baz=142						
Q23K	Middleton Isla	3.97	22		Pn	14 27 53.6	0.0
Q23K	Middleton Isla	3.97	22	IAML		14 28 57.8	
	comp=E,155nm,1.4s						
Q23K				IAML		14 29 06.7	
	comp=N,127nm,1.4s						
Q23K	Middleton Isla	3.97	22	P	Pn	14 27 53.9	+0.2
	baz=204						
MID	Middleton Isla	3.97	23	P	Pn	14 27 53.9	+0.2
MID	Middleton Isla	3.97	23	Pn	Pn	14 27 53.7	0.0
MID				IAML		14 28 57.8	
	comp=E,126nm,1.4s						
MID				IAML		14 29 42.3	
	comp=N,112nm,1.4s						
KAKN	Katmai Knife C	4.01	311		Pn	14 27 55.5	+1.2
BRSE	Bradley Lake S	4.02	350		Pn	14 27 54.2	-0.2
BRSE					Sn	14 28 38.4	-3.1
BRSE	Bradley Lake S	4.02	350	P	Pn	14 27 54.2	-0.2
	baz=168						
BRSE				S	Sn	14 28 38.4	-3.1
	baz=168						
BRLK	Bradley Lake	4.06	349	Pn	Pn	14 27 54.7	-0.2
BRLK	Bradley Lake	4.06	349		Sn	14 28 39.9	-2.6
HOM	Homer	4.06	343		Pn	14 27 55.6	+0.7
HOM					Sn	14 28 41.9	-0.5
HOM	Homer	4.06	343	IAML		14 28 44.7	
	comp=N,191nm,0.7s						
HOM	Homer	4.06	343	P	Pn	14 27 56.0	+1.1
	baz=161						
HOM				S	Sn	14 28 41.9	-0.5
	baz=161						
ACHA	Angle Creek He	4.08	309		Pn	14 27 56.5	+1.2
ANCK	Angle Creek	4.14	308		Pn	14 27 57.8	+1.6
ANCK					Sn	14 28 43.9	-0.8
KAHC	Katmai Hardscr	4.21	315		Pn	14 27 58.6	+1.6
	baz=131						
PLK3	Peulik 3	4.27	299		Pn	14 27 59.3	+1.4
SEW	Seward	4.31	359		Pn	14 27 57.9	-0.4
SEW	Seward	4.31	359	P	Pn	14 27 57.9	-0.4
	baz=178						
P23K	Montague Islan	4.33	13		Pn	14 27 58.6	+0.1
P23K					Sn	14 28 45.5	-3.5
P23K	Montague Islan	4.33	13	P	Pn	14 27 58.6	+0.1
	baz=193						
P23K				S	Sn	14 28 45.5	-3.5
	baz=193						
CNTC	Contact Creek	4.35	307		Pn	14 28 00.2	+1.1
Q17K	Contact Creek	4.36	307	P	Pn	14 28 00.2	+1.1
	baz=123						
P19K	Oil Pt	4.39	333	Pn	Pn	14 28 00.6	+1.1
P19K	Oil Pt	4.39	333	P	Pn	14 28 00.4	+0.9
	baz=150						
P19K				S	Sn	14 28 49.4	-1.3
	baz=150						
PLK1	Peulik 1	4.48	300		Pn	14 28 01.8	+1.0
O20K	Slope Mountain	4.64	339		Pn	14 28 03.6	+0.6
O20K					Sn	14 28 55.9	-0.9
O20K	Slope Mountain	4.64	339	P	Pn	14 28 03.9	+0.9
	baz=156						
O20K				S	Sn	14 28 55.9	-0.9
	baz=156						
ILSW	Iliamna Southw	4.66	336	Pn	Pn	14 28 03.9	+0.5
ILSW				IAML		14 28 59.3	
	comp=N,73nm,0.4s						
ILSW				IAML		14 29 00.4	
	comp=E,48nm,0.9s						
IVE	Iliamna Volcan	4.66	336		Pn	14 28 03.7	+0.4
O22K	Cooper Landing	4.69	358		Pn	14 28 03.9	+0.3
O22K	Cooper Landing	4.69	358	P	Pn	14 28 04.0	+0.3
	baz=177						
SLKM	Skilak Lake	4.74	355		Pn	14 28 04.1	-0.2
P18K	Big Mountain,	4.80	321	Pn	Pn	14 28 05.6	+0.4
P18K	Big Mountain,	4.80	321	P	Pn	14 28 05.7	+0.5
	baz=137						
HIN	Hinchinbrook I	4.84	17	Pn	Pn	14 28 06.0	+0.3
HIN				IAML		14 28 59.6	
	comp=N,109nm,0.7s						
HIN				IAML		14 29 01.0	
	comp=E,57nm,0.5s						
KAIM	Kayak Island	4.89	30	Pn	Pn	14 28 06.9	+0.6
KAIM				IAML		14 29 03.0	
	comp=E,122nm,1.5s						
KAIM				IAML		14 29 08.1	
	comp=N,109nm,1.1s						
KAIM	Kayak Island	4.89	30	P	Pn	14 28 07.1	+0.7
	baz=213						
Q16K	King Salmon	4.92	309		Pn	14 28 07.7	+1.0
Q16K	King Salmon	4.92	309	P	Pn	14 28 07.7	+1.0
	baz=124						
RED	Redoubt Volcan	4.97	340		Pn	14 28 08.4	+0.8
RDT	Redoubt	5.05	342		Pn	14 28 08.1	-0.6
EYAK	Cordova Ski Ar	5.12	20	P	Pn	14 28 10.0	+0.5
EYAK	Cordova Ski Ar	5.12	20	Pn	Pn	14 28 09.9	+0.5
EYAK	Cordova Ski Ar	5.12	20	P	Pn	14 28 09.9	+0.5
	baz=202						
CHGN	Chignik	5.13	279	P	Pn	14 28 10.3	+0.8
	baz=94						
P17K	Kvichak River	5.13	314		Pn	14 28 10.6	+1.0
P17K	Kvichak River	5.13	314	P	Pn	14 28 10.6	+1.0
	baz=129						
O18K	Koktuh Hills	5.14	325	Pn	Pn	14 28 10.1	+0.3
O18K				IAML		14 29 08.7	
	comp=N,56nm,0.6s						
O18K	Koktuh Hills	5.14	325	P	Pn	14 28 10.0	+0.3
	baz=140						
SUCK	Suckling Hills	5.19	32	Pn	Pn	14 28 11.4	+0.9
SUCK				IAML		14 29 08.4	
	comp=E,62nm,1.3s						
SUCK				IAML		14 29 10.4	
	comp=N,92nm,0.4s						
RAGM	Ragged Mountai	5.21	26		Pn	14 28 11.6	+0.8
RAGM				IAML		14 29 18.7	
	comp=E,80nm,0.7s						
NICHA	Nichawak Mount	5.27	30		Pn	14 28 13.0	+1.4
HMT	Hamilton	5.27	28		Pn	14 28 12.0	+0.4
RC01	Rabbit Creek A	5.30	358	Pn	Pn	14 28 11.9	-0.1
RC01	Rabbit Creek A	5.30	358	P	Pn	14 28 12.1	+0.1
	baz=177						
GOAT	Goat Mountain	5.37	25		Pn	14 28 13.9	+0.9
BGLC	Bering Glacier	5.38	34		Pn	14 28 14.1	+1.0
BGLC	Bering Glacier	5.38	34	P	Pn	14 28 14.1	+1.0
	baz=218						
BERG	Berg Lake	5.48	31		Pn	14 28 14.7	+0.3
GRIN	Grindle Hills	5.50	33		Pn	14 28 15.8	+1.1
SNH	Sunshine Point	5.57	35	Pn	Pn	14 28 16.5	+0.8
N20K	Mount Spurr	5.62	346	P	Pn	14 28 16.7	+0.2
	baz=163						
SPCR	Spurr Chakacha	5.62	346		Pn	14 28 16.7	+0.2
KNK	Knik Glacier	5.64	4	Pn	Pn	14 28 17.0	+0.3
KNK	Knik Glacier	5.64	4	P	Pn	14 28 17.2	+0.5
	baz=184						
KHIT	Khitrov Hills	5.65	32		Pn	14 28 17.5	+0.6
DIV	Divide	5.65	18		Pn	14 28 17.0	+0.1
VNKR	Veniaminof 5	5.66	276		Pn	14 28 18.1	+1.2
P16K	Nushagak River	5.70	308		Pn	14 28 18.6	+1.2
P16K	Nushagak River	5.70	308	P	Pn	14 28 18.5	+1.2
	baz=122						
N19K	Bonanza Creek	5.71	334		Pn	14 28 17.6	-0.1
N19K	Bonanza Creek	5.71	334	P	Pn	14 28 17.7	-0.1
	baz=150						
SUA	Susitna One	5.72	353		Pn	14 28 17.9	0.0
SUA	Susitna One	5.72	353	P	Pn	14 28 17.9	0.0
	baz=172						
BMRM	Bremner River	5.74	24		Pn	14 28 18.8	+0.8
BMRM	Bremner River	5.74	24	P	Pn	14 28 18.8	+0.8
	baz=207						
O17K	Koliganek Bris	5.75	317		Pn	14 28 18.6	+0.4
O17K	Koliganek Bris	5.75	317	P	Pn	14 28 18.6	+0.4
	baz=131						
S14K	Fog Glacier	5.76	279	P	Pn	14 28 18.9	+0.5
	baz=92						
VNFG	Fog Glacier, M	5.76	279		Pn	14 28 19.3	+0.9
WAX	Waxell Ridge	5.78	34		Pn	14 28 18.8	+0.2
PMR	Palmer	5.80	1	P	Pn	14 28 20.0	+1.1
PMR	Palmer	5.80	1	Pn	Pn	14 28 19.4	+0.6
PMR	Palmer	5.80	1	P	Pn	14 28 19.3	+0.4
	baz=181						
SPNN	North Nagishla	5.85	344		Pn	14 28 20.0	+0.3
BARK	Barkley Ridge	5.86	35		Pn	14 28 20.4	+0.7
STLK	Strandline Lak	5.86	348		Pn	14 28 19.9	+0.2
MESA	MESA	5.88	39	Pn	Pn	14 28 21.5	+1.5
MESA	MESA	5.88	39	P	Pn	14 28 21.0	+0.9
	baz=224						
CHNA	Chernabura Isl	5.95	265	P	Pn	14 28 20.6	-0.3
	baz=78						
CNBA	Chernabura Isl	5.95	265		Pn	14 28 20.6	-0.3
KLU	Klutina	5.97	16		Pn	14 28 21.8	+0.5
KLU	Klutina	5.97	16	P	Pn	14 28 21.9	+0.6
	baz=198						
GHO	Glory Hole Cre	5.99	2		Pn	14 28 22.4	+0.9
N18K	Kilae Creek	5.99	327	Pn	Pn	14 28 21.8	+0.3
N18K	Kilae Creek	5.99	327	P	Pn	14 28 21.7	+0.1
	baz=142						
SML	Sawmill	6.04	4		Pn	14 28 23.0	+0.8
SML	Sawmill	6.04	4	P	Pn	14 28 23.2	+1.0
	baz=185						
O16K	Kokwok River B	6.05	312	Pn	Pn	14 28 23.2	+0.9
O16K	Kokwok River B	6.05	312	P	Pn	14 28 23.1	+0.9
	baz=126						
BAGL	Bagley Icefiel	6.05	36		Pn	14 28 23.2	+0.9
ISLE	Juniper Island	6.06	35		Pn	14 28 23.3	+0.8
SCM	Sheep Creek Mo	6.13	9		Pn	14 28 24.3	+0.8
SCM	Sheep Creek Mo	6.13	9	P	Pn	14 28 24.3	+0.8
	baz=190						
SVW2	Sparrevohn	6.24	331	P	Pn	14 28 24.8	-0.1
VRDI	Verde Repeater	6.24	27		Pn	14 28 25.3	+0.2
SAMH	Samovar Hills	6.27	43		Pn	14 28 26.7	+1.2
KIAG	Kiagna River	6.30	33		Pn	14 28 26.6	+0.8
N25K	Chitina, Valde	6.31	21		Pn	14 28 26.7	+0.7
N25K	Chitina, Valde	6.31	21	P	Pn	14 28 26.9	+1.0
	baz=204						
GLB	Gilahina Butte	6.34	25		Pn	14 28 26.8	+0.6
TABL	Table Mountain	6.35	40		Pn	14 28 27.5	+1.0
SDPT	Sand Point	6.35	270	P	Pn	14 28 27.2	+0.8
SDPT	Sand Point	6.35	270		Pn	14 28 27.0	+0.6
SDPT	Sand Point	6.35	270	P	Pn	14 28 27.0	+0.6
	baz=83						
M20K	Styx River	6.41	344		Pn	14 28 27.6	+0.3
	baz=160						
PTPK	Patty Peak	6.48	31		Pn	14 28 29.3	+1.0
MCARA	McCarthy VSAT	6.48	28		Pn	14 28 29.1	+0.9
MCARA	McCarthy VSAT	6.48	28	P	Pn	14 28 29.6	+1.4
	baz=212						
M24K	Tolsona, Glenn	6.52	13		Pn	14 28 30.2	+1.4
M24K	Tolsona, Glenn	6.52	13	P	Pn	14 28 30.0	+1.2
	baz=195						
PNL	Peninsula	6.57	50	P	Pn	14 28 30.7	+1.3
PNL	Peninsula	6.57	50		Pn	14 28 30.3	+0.9
PNL	Peninsula	6.57	50	P	Pn	14 28 30.5	+1.1
	baz=237						
O15K	Ungalikthiuk R	6.60	305		Pn	14 28 31.1	+1.3
O15K	Ungalikthiuk R	6.60	305	P	Pn	14 28 30.8	+1.0
	baz=117						
BARN	Barnard Glacie	6.62	34		Pn	14 28 31.0	+0.7
BCPM	Bancas Point	6.62	47	Pn	Pn	14 28 31.1	+1.0
M18K	Stony River	6.63	332		Pn	14 28 30.2	-0.1
M18K	Stony River	6.63	332	P	Pn	14 28 30.2	-0.1
	baz=147						
CTG	Chitna Glacier	6.65	36	P	Pn	14 28 31.3	+0.6
	baz=221						
CTGM	Chitina Glacie	6.66	36	Pn	Pn	14 28 31.1	+0.4
LOGN	Logan Glacier	6.67	38		Pn	14 28 31.4	+0.5
WASW	Wrangell South	6.69	21		Pn	14 28 32.1	+0.8
WACK	Wrangell Chich	6.71	21		Pn	14 28 32.5	+0.9
WAT6	Susitna Watana	6.84	6		Pn	14 28 33.8	+0.5
WAT6	Susitna Watana	6.84	6	P	Pn	14 28 33.8	+0.5
	baz=187						
N16K	Nishlik Lake	6.85	317		Pn	14 28 34.2	+1.0
N16K	Nishlik Lake	6.85	317	P	Pn	14 28 34.2	+1.0
	baz=130						
O28M	Mount Upton	6.92	40		Pn	14 28 35.4	+1.0
O28M	Mount Upton	6.92	40	P	Pn	14 28 35.4	+1.0
	baz=227						
HARP	HAARP	6.95	16		Pn	14 28 35.8	+1.1
HARP	HAARP	6.95	16	P	Pn	14 28 35.7	+1.1
	baz=199						
L19K	White Mountain	7.00	338		Pn	14 28 35.2	-0.1
L19K	White Mountain	7.00	338	P	Pn	14 28 35.2	-0.1
	baz=154						
M17K	Holitna River	7.03	326		Pn	14 28 36.1	+0.4
M17K	Holitna River	7.03	326	P	Pn	14 28 36.1	+0.4
	baz=140						
WAT7	Susitna Watana	7.05	2		Pn	14 28 36.8	+0.7
PS1A	Pavlof South-1	7.05	272		Pn	14 28 36.2	+0.1
PVV	Pavlof Volcano	7.09	272		Pn	14 28 36.8	+0.3
PS4A	Pavlof South-4	7.13	271		Pn	14 28 37.5	+0.4
HAG	Hague Volcano	7.16	271		Pn	14 28 38.0	+0.5
PN7A	Pavlof North-7	7.20	272		Pn	14 28 38.9	+0.8
S12K	Black Hills	7.20	274		Pn	14 28 38.6	+0.6
S12K	Black Hills	7.20	274	P	Pn	14 28 38.6	+0.6
	baz=85						
O29M	Mount Kennedy	7.26	47		Pn	14 28 40.4	+1.4
O29M	Mount Kennedy	7.26	47	P	Pn	14 28 40.4	+1.4
	baz=235						
M16K	Timber Creek	7.28	320		Pn	14 28 39.9	+0.8
M16K	Timber Creek	7.28	320	P	Pn	14 28 39.9	+0.8
	baz=132						
P29M	Windy Craggy	7.28	54		Pn	14 28 40.1	+0.8
P29M	Windy Craggy	7.28	54	P	Pn	14 28 40.1	+0.8
	baz=242						
DHY	Denali Highway	7.36	7		Pn	14 28 41.1	+0.8
DHY	Denali Highway	7.36	7	P	Pn	14 28 41.2	+0.8
	baz=188						
M26K	Nabesna, AK	7.37	24		Pn	14 28 40.0	-0.4
M26K	Nabesna, AK	7.37	24	P	Pn	14 28 41.6	+1.2
	baz=208						
YUK2	White River	7.43	33		Pn	14 28 43.1	+1.8
S31K	Pelican	7.48	68	Pn	Pn	14 28 40.8	-1.1
S31K	Pelican	7.48	68	P	Pn	14 28 41.0	-0.9
	baz=258						
M27K	Edge Creek, AK	7.60	27		Pn	14 28 44.3	+0.7
M27K	Edge Creek, AK	7.60	27	P	Pn	14 28 45.1	+1.5
	baz=213						
RND	Reindeer	7.63	2	Pn	Pn	14 28 45.4	+1.4
TRF	Thorofare Moun	7.68	357	Pn	Pn	14 28 45.9	+1.0
MENT	Mentasta	7.70	19		Pn	14 28 46.7	+1.8
CAST	Castle Rocks	7.76	351	Pn	Pn	14 28 47.9	+2.1
KTH	Kantishna Hill	7.81	355	Pn	Pn	14 28 48.8	+2.3
PLBC	Pleasant Camp	7.85	57		Pn	14 28 48.2	+1.3
PLBC	Pleasant Camp	7.85	57	P	Pn	14 28 48.2	+1.3
	baz=247						
SIT	Sitka	7.86	75	P	Pn	14 28 45.1	-1.9
SIT	Sitka	7.86	75		Pn	14 28 44.5	-2.5
TTA	Tatalina	7.92	337	P	Pn	14 28 49.2	+1.3
TTA	Tatalina	7.92	337	Pn	Pn	14 28 49.0	+1.1
BVCY	Beaver Creek	7.92	30		Pn	14 28 49.6	+1.6
BVCY	Beaver Creek	7.92	30	P	Pn	14 28 49.2	+1.3
	baz=216						
L16K	Owhat River	7.93	322	Pn	Pn	14 28 48.4	+0.4
MCK	McKinley	7.95	1	Pn	Pn	14 28 49.9	+1.5
HYT	Haines Junctio	7.99	46	Pn	Pn	14 28 50.2	+1.2
FALS	False Pass	8.10	269	P	Pn	14 28 51.0	+0.6
FALS	False Pass	8.10	269		Pn	14 28 50.4	0.0
FALS	False Pass	8.10	269	P	Pn	14 28 50.4	0.0
	baz=79						
L27K	Beaver Creek,	8.21	25	Pn	Pn	14 28 52.5	+0.6
BCAR	Beaver Creek A	8.22	25	Pn	Pn	14 28 53.5	+1.3
RIDG	Independent Ri	8.27	14		Pn	14 28 54.1	+1.4
S32K	Killisnoo	8.29	72	Pn	Pn	14 28 51.2	-1.8
S32K	Killisnoo	8.29	72	P	Pn	14 28 52.6	-0.4
	baz=263						
ISLZ	Isanotski Laza	8.30	268		Pn	14 28 53.4	+0.3
ISNN	Isanotski Nort	8.31	269		Pn	14 28 54.2	+0.9
K17K	Iditarod	8.31	330	Pn	Pn	14 28 54.0	+0.7
BESE	Bessie Mountai	8.33	65		Pn	14 28 53.8	+0.3
SKAG	Skagway	8.34	58	P	Pn	14 28 55.7	+2.0
SKAG	Skagway	8.34	58	Pn	Pn	14 28 54.5	+0.8
BWN	Browne	8.39	360	Pn	Pn	14 28 56.0	+1.6
R32K	Eaglecrest	8.44	67	Pn	Pn	14 28 54.4	-0.6
JIS	Juneau Island	8.51	67	P	Pn	14 28 55.7	-0.2
JIS	Juneau Island	8.51	67	Pn	Pn	14 28 54.5	-1.4
N30M	Aishikik Lake	8.52	43	Pn	Pn	14 28 57.5	+1.3
N30M	Aishikik Lake

R33M	**Jennings River**	**10.47**	**62**	Pn	**Pn**	**14 29 24.0 +1.1**
T35M	**Bob Quinn**	**10.63**	**76**	Pn	**Pn**	**14 29 26.0 +1.0**
I28M	**Miner Creek**	**10.70**	**22**	Pn	**Pn**	**14 29 27.9 +1.9**
DLBC	**Dease Lake**	**10.80**	**68**	Pn	**Pn**	**14 29 27.8 +0.3**
J30M	**Hart River**	**10.89**	**31**	Pn	**Pn**	**14 29 30.0 +1.4**
FYU	**Fort Yukon**	**10.97**	**9**	Pn	**Pn**	**14 29 30.5 +0.8**
F21K	**Alatna River**	**11.62**	**352**	Pn	**Pn**	**14 29 39.2 +0.7**
E25K	**Arctic Village**	**12.48**	**7**	Pn	**Pn**	**14 29 52.1 +1.8**
G31M	**Satah River**	**13.22**	**27**	Pn	**Pn**	**14 30 01.0 +0.6**
A36M	**Sachs Harbour**	**19.12**	**23**	P	**P**	**14 31 15.9 +0.3**

*SJA **25** 14:28:27.8±0.6,27.′00S×63.′23W,h601km±7km,ML5.5, MW5.5*

*NEIC **25** 14:28:33.8,26.′78S×63.′34W,h549km*

*NEIC **25** 14:28:34.3,26.′87S×63.′42W,h600km,Moment Tensor Solution. Duration: 3ᵺ0 Moment tensor: Scale 10¹⁷Nm; Mrr=2.37; Mθθ=0.35; Mϕϕ=2.73; Mrθ=0.46; Mθϕ=0.28; Mϕr=0.93; Fault plane solution: M₀2.77000×10¹⁷ NP1: ϕs165.79000°,δ56.00000°,λ-100.87000°. NP2:ϕs4.74000°, δ35.49000°,λ-74.38000°. Principal axes: T 2.9282, Plg10.0000°, Azm264.0000°; N -0.3220, Plg9.0000°, Azm172.0000°; P -2.6062, Plg76.0000°, Azm42.0000°;*

*MOS **25** 14:28:34.3±1.1,26.′75S×63.′35W,h572km,mb5.2/22 Error ellipse: s-maj=10.7km s-min=7.4km az=83.9*

*VAO **25** 14:28:34.5±0.2,26.′79S×63.′38W,h568km,mb5.5*

*NEIC **25** 14:28:34.3,26.′77S×63.′31W,h600km*

*IDC **25** 14:28:35.1±0.4,26.′73S×63.′31W,h572km±4km,mb4.7/16, mbtmp5.6/22,Error ellipse: s-maj=9.6km s-min=7.3km az=69.0*

*NEIC **25** 14:28:35.3±2.6,26.′79S±0.′09×63.′4W±0.′1,h577km±4km, mb5.2/593,Mwb5.6/20,Mww5.6/38,Error ellipse: s-maj=14.9km s-min=12.3km az=78.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=3.36; Mθθ0.33; Mϕϕ3.03; Mrθ-0.15; Mθϕ-0.33; Mϕr1.12; Fault plane solution: M₀3.42000×10¹⁷ NP1:ϕs353.23000°, δ35.31000°,λ-89.73000°. NP2:ϕs172.89000°,δ54.69000°, λ-90.19000°. Principal axes: T 3.2628, Plg10.0000°, Azm263.0000°; N 0.2883, Plg0.0000°, Azm173.0000°; P -3.5511, Plg80.0000°, Azm82.0000°;*

*GCMT **25** 14:28:36.3±0.2,26.′88S±0.′02×63.′20W±0.′02,h582km±1km, MW5.6/111,Moment Tensor Solution. s111,c167; Duration: 1ᵺ5 Moment tensor: Scale 10¹⁷Nm; Mrr=2.84±.05; Mθθ0.12±.09; Mϕϕ2.71±.10; Mrθ-0.41±.09; Mθϕ0.07±.08; Mϕr0.70±.10; Best double couple: M₀2.89000×10¹⁷ NP1:ϕs174.00000°,δ53.00000°, λ-100.00000°. NP2:ϕs9.00000°,δ39.00000°,λ-78.00000°. Principal axes: T 2.7980, Plg7.0000°, Azm270.0000°; N 0.1770, Plg8.0000°, Azm180.0000°; P -2.9830, Plg80.0000°, Azm43.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 25 14:28:34.8±0.3,26.′82S±0.′03×63.′41W±0.′04,h573km±3km, h574km:pP-P,n1208,σ1ᵺ03/1126,mb5.2/330,7C-26D, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
FSA	**Cafayete**	**2.41**	**286**	*eP*	**P**		**14 29 48.1**	**-0.7**
CYA	**Choya**	**2.67**	**232**	*eP*	**P**		**14 29 48.4**	**-1.4**
CYA				*eS*	**S**		**14 30 47.0**	**-4.1**
CYA				IAML			14 30 49.5	
	comp=Z,578nm,0.5s							
TICA	**Tres Isletas**	**2.74**	**82**	*eP*	**P**		**14 29 51.1**	**+0.8**
TICA				*eS*	**S**		**14 30 51.6**	**-0.1**
SLA	**San Lorenzo**	**2.82**	**317**	*eP*	**P**		**14 29 50.6**	**-0.3**
SLA				IAML			14 30 59.5	
	comp=Z,544nm,0.6s							
ACLC	**CERRO LA CRUZ**	**4.07**	**229**	*eP*	**P**		**14 29 57.3**	**-1.6**
ACLC				*eS*	**S**		**14 31 04.5**	**-3.2**
ACLC				IAML			14 31 07.3	
	comp=Z,3μm,0.8s							
APLL	**PUNTA DE LOS L**	**4.50**	**217**	*eP*	**P**		**14 29 59.8**	**-2.2**
APLL				*eS*	**S**		**14 31 07.5**	**-5.8**
TCA	**Tanti**	**4.62**	**193**	*eP*	**P**		**14 30 01.1**	**-1.9**
TCA				IAML			14 31 21.2	
	comp=Z,369nm,1.5s							
VCA	**Vinchina**	**4.66**	**245**	*eP*	**P**		**14 30 03.0**	**-0.4**
VCA				*eS*	**S**		**14 31 15.8**	**-0.1**
AC02	**Maricunga**	**5.11**	**269**	P	**P**		**14 30 08.4**	**+0.9**
AC02	**Maricunga**	**5.11**	**269**	*eP*	**P**		**14 30 08.3**	**+0.9**
AC02	**Maricunga**	**5.11**	**269⇓**	*eP*	**P**		**14 30 08.5**	**+0.9**
AC02				*eS*	**S**		**14 31 20.2**	**-3.0**
ACHE	**Chepes**	**5.18**	**213**	*eP*	**P**		**14 30 05.7**	**-1.9**
AGUA	**GUANDACOL**	**5.22**	**238**	*eP*	**P**		**14 30 07.8**	**-0.1**
AGUA				*eS*	**S**		**14 31 23.2**	**-0.8**
AGUA				IAML			14 31 25.8	
	comp=Z,2μm,0.9s							
AVFE	**Valle Fertil**	**5.22**	**222**	*eP*	**P**		**14 30 06.9**	**-1.0**
AVFE				*eS*	**S**		**14 31 21.1**	**-2.9**
AVFE				IAML			14 31 33.7	
	comp=Z,1μm,0.9s							
CPUP	**Villa Florida**	**5.46**	**86**	P	**P**		**14 30 09.7**	**-0.2**
CPUP	**Villa Florida**	**5.46**	**86**	P	**P**		**14 30 09.6**	**-0.3**
	comp=Z,1μm,0.8s,baz=259,slow=8.5,SNR=1486							
CPUP				S	**S**		**14 31 26.9**	**-0.6**
	comp=Z,265nm,1.0s,baz=67,slow=14,SNR=1.9							
CPUP	**Villa Florida**	**5.46**	**86**	*eP*	**P**		**14 30 10.0**	**+0.1**
CPUP				*eS*	**S**		**14 31 27.6**	**0.0**
AF01	**San Pedro de A**	**5.79**	**311**	P	**P**		**14 30 12.7**	**-0.5**
AF01	**San Pedro de A**	**5.79**	**311**	*eP*	**P**		**14 30 12.8**	**-0.5**
AF01				*eS*	**S**		**14 31 29.6**	**-3.8**
GO02	**Mina Guanaco**	**5.80**	**285**	P	**P**		**14 30 13.3**	**+0.1**
GO03	**Copiap**	**6.13**	**261**	P	**P**		**14 30 15.3**	**-0.4**
AC06	**Mina Casimiro**	**6.22**	**263**	P	**P**		**14 30 16.0**	**-0.5**
AC06	**Mina Casimiro**	**6.22**	**263**	*eP*	**P**		**14 30 15.7**	**-0.8**
AC06				*eS*	**S**		**14 31 36.2**	**-3.5**
AC05	**El Transito**	**6.40**	**250**	P	**P**		**14 30 18.4**	**+0.1**
AC01	**Pan de Azucar**	**6.48**	**274**	P	**P**		**14 30 18.4**	**-0.5**
LVC	**Limon Verde**	**6.52**	**309**	P	**P**		**14 30 19.0**	**-0.7**
LVC	**Limon Verde**	**6.52**	**309**	P	**P**		**14 30 19.5**	**-0.3**
	comp=Z,724nm,0.4s,baz=115,slow=6.3,SNR=1188							
LVC				S	**S**		**14 31 42.8**	**-2.7**
	comp=Z,2μm,0.5s,baz=203,slow=23,SNR=58							
LVC				ScP	**ScP**		**14 38 41.6**	**+1.8**
	comp=Z,3.6nm,0.5s,baz=60,slow=5.1,SNR=1.8							
LVC	**Limon Verde**	**6.52**	**309**	*eP*	**P**		**14 30 19.3**	**-0.5**
PB15	**IPOC Station P**	**6.57**	**302**	P	**P**		**14 30 19.6**	**-0.4**
ITQB	**Itaqui**	**6.62**	**117**	P	**P**		**14 30 19.9**	**-0.1**
ITQB	**Itaqui**	**6.62**	**117**	*eP*	**P**		**14 30 20.4**	**+0.3**
ITQB				*eS*	**S**		**14 31 45.8**	**-0.5**
PSAL	**Palomas, Salto**	**6.62**	**131**	*eP*	**P**		**14 30 19.9**	**-0.1**
PSAL				*eS*	**S**		**14 31 45.4**	**-0.9**
PB14	**IPOC Station P**	**6.68**	**288**	P	**P**		**14 30 20.6**	**-0.5**
CO01	**Juntas del Tor**	**6.68**	**240**	P	**P**		**14 30 21.8**	**+0.9**
CO01	**Juntas del Tor**	**6.68**	**240⇑**	*eP*	**P**		**14 30 22.1**	**+1.2**
CO01				*eS*	**S**		**14 31 47.8**	**+0.1**
LCO	**Las Campanas**	**6.81**	**250**	P	**P**		**14 30 21.9**	**-0.3**
LCO	**Las Campanas**	**6.81**	**250**	P	**P**		**14 30 21.9**	**-0.3**
PB06	**IPOC Station P**	**6.94**	**305**	P	**P**		**14 30 22.8**	**-0.6**
AC04	**Llanos de Chal**	**6.95**	**257**	P	**P**		**14 30 22.7**	**-0.5**
AC04	**Llanos de Chal**	**6.95**	**257⇑**	*eP*	**P**		**14 30 23.0**	**-0.2**
PB10	**IPOC Station P**	**7.26**	**295**	P	**P**		**14 30 25.8**	**-0.5**
GO04	**Tololo Observa**	**7.31**	**241⇑**	*eP*	**P**		**14 30 26.5**	**-0.4**
GO04				*eS*	**S**		**14 31 53.8**	**-4.8**
MURT	**Porto Murtinho**	**7.37**	**47**	*eP*	**P**		**14 30 27.4**	**+0.1**
MURT				*eS*	**S**		**14 31 58.9**	**-0.4**
UNIS	**Unistalda (Bra**	**7.71**	**109**	*eP*	**P**		**14 30 30.3**	**0.0**
CO02	**Combarbal**	**7.96**	**235**	P	**P**		**14 30 32.1**	**-0.7**
RODS	**Rosario do Sul**	**8.03**	**118**	*eP*	**P**		**14 30 33.0**	**-0.4**
TBOT	**Tacuaremb**	**8.13**	**128**	*eP*	**P**		**14 30 34.5**	**+0.1**
TBOT				*eS*	**S**		**14 32 13.2**	**+0.8**
ANTJ	**Antonio Joao (**	**8.28**	**56**	*eP*	**P**		**14 30 35.5**	**-0.5**
ANTJ				*eS*	**S**		**14 32 15.5**	**+0.1**
CRSM	**Crissiumal (Br**	**8.37**	**97**	*eP*	**P**		**14 30 37.0**	**+0.1**
PB08	**IPOC Station P**	**8.48**	**320**	P	**P**		**14 30 38.4**	**-0.1**
AMBA	**Amambai (Brazi**	**8.57**	**65**	*eP*	**P**		**14 30 39.6**	**+0.8**
TA01	**Diego Aracena**	**8.79**	**314**	P	**P**		**14 30 40.3**	**-0.7**
BDQN	**Bodoquena, MS**	**8.80**	**45**	*eP*	**P**		**14 30 40.7**	**-0.5**
BDQN				*eS*	**S**		**14 32 24.8**	**+0.1**
GO01	**Chusmiza**	**8.88**	**322**	P	**P**		**14 30 42.2**	**-0.3**
PEL	**Peldehue**	**8.92**	**223**	P	**P**		**14 30 41.7**	**-0.5**
VA06	**Catapilco**	**8.93**	**228**	P	**P**		**14 30 40.6**	**-1.6**
MT05	**Renca**	**9.12**	**222**	P	**P**		**14 30 43.5**	**-0.7**
ALGR	**Alto Alegre (B**	**9.40**	**104**	*eP*	**P**		**14 30 46.7**	**-0.4**
ALGR				*eS*	**S**		**14 32 35.4**	**-0.3**
CPSB	**Cacapava Do Su**	**9.46**	**115**	*eP*	**P**		**14 30 46.7**	**-0.9**
CPSB				*eS*	**S**		**14 32 35.0**	**-1.7**
AQDB	**Aquidauana**	**9.47**	**50**	P	**P**		**14 30 47.7**	**-0.1**
AQDB	**Aquidauana**	**9.47**	**50**	*eP*	**P**		**14 30 48.0**	**+0.1**
AQDB				*eS*	**S**		**14 32 37.0**	**0.0**
PLTB	**Pedras Altas**	**9.87**	**122**	P	**P**		**14 30 50.6**	**-1.1**
PLTB	**Pedras Altas**	**9.87**	**122**	*eP*	**P**		**14 30 50.9**	**-0.9**
PLTB				*eS*	**S**		**14 32 43.5**	**-0.8**
BBSD	**Serra de San D**	**9.93**	**16**	*eP*	**P**		**14 30 52.1**	**-0.4**
ITAB	**Concordia**	**10.06**	**95**	P	**P**		**14 30 52.5**	**-1.2**
ITAB	**Concordia**	**10.06**	**95**	*eP*	**P**		**14 30 52.5**	**-1.2**
PB16	**IPOC Station P**	**10.15**	**325**	P	**P**		**14 30 55.3**	**0.0**
BO02	**Sierra Bellavi**	**10.16**	**217**	P	**P**		**14 30 53.7**	**-0.9**
PB12	**IPOC Station P**	**10.36**	**321**	P	**P**		**14 30 56.1**	**-0.9**
PTGB	**Pitanga**	**10.44**	**81**	*eP*	**P**		**14 30 57.5**	**-0.1**
TRCB	**Terra Rica**	**10.57**	**70**	P	**P**		**14 30 58.7**	**-0.2**
TRCB	**Terra Rica**	**10.57**	**70**	*eP*	**P**		**14 30 58.7**	**-0.2**
TRCB				*eS*	**S**		**14 32 58.0**	**+0.6**
SIV	**San Ignacio**	**10.99**	**12**	P	**P**		**14 31 02.6**	**-0.7**
	comp=Z,525nm,1.3s,baz=192,slow=8.5,SNR=193							
SIV				S	**S**		**14 33 03.3**	**-1.9**
	comp=Z,28nm,0.8s,baz=279,slow=20,SNR=6.2							
RVDE	**Rio Verde (Bra**	**10.99**	**47**	*eP*	**P**		**14 31 02.9**	**-0.4**
RVDE				*eS*	**S**		**14 33 05.0**	**-0.3**
LPAZ	**La Paz**	**11.36**	**336**	P	**P**		**14 31 06.8**	**-0.8**
LPAZ	**La Paz**	**11.36**	**336**	*eP*	**P**		**14 31 06.9**	**-0.8**
LPAZ				pmax	pmax			
	comp=Z,82nm,0.3s							
LPAZ	**La Paz**	**11.36**	**336**	P	**P**		**14 31 07.2**	**-0.5**
	comp=Z,82nm,0.3s,baz=145,slow=5.0,SNR=463							
LPAZ				S	**S**		**14 33 09.9**	**-3.3**
	comp=Z,52nm,0.6s,baz=322,slow=7.2,SNR=4.6							
LPAZ				PKiKP	**PKiKP**		**14 44 04.8**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=197,slow=4.0,SNR=3.5							
LPAZ	**La Paz**	**11.36**	**336**	*eP*	**P**		**14 31 07.0**	**-0.6**
LPAZ				*eS*	**S**		**14 33 11.1**	**-2.1**
CNLB	**Canela**	**11.36**	**106**	*eP*	**P**		**14 31 06.0**	**-0.9**
LDASE	**Londrina, Braz**	**11.64**	**76**	*eP*	**P**		**14 31 08.7**	**-1.2**
LDASE				*eS*	**S**		**14 33 16.9**	**-0.6**
PTLB	**Pontes e Lacer**	**11.99**	**20**	P	**P**		**14 31 22.6**	**-0.8**
PTLB	**Pontes e Lacer**	**11.99**	**20**	*eP*	**P**		**14 31 12.6**	**-0.8**
PTLB				*eS*	**S**		**14 33 23.7**	**-0.2**
PCMB	**Pacaembu**	**12.23**	**68**	*eP*	**P**		**14 31 15.1**	**-0.8**
PCMB				*eS*	**S**		**14 33 28.1**	**-0.4**
FRTB	**Fartura**	**13.01**	**78**	*eP*	**P**		**14 31 22.8**	**-1.1**
SALV	**Santo Antonio**	**13.02**	**35**	*eP*	**P**		**14 31 22.8**	**-1.2**
SALV				*eS*	**S**		**14 33 42.4**	**-0.8**
ITRB	**Iturama**	**13.92**	**62**	*eP*	**P**		**14 31 31.9**	**-1.3**
ITRB				*eS*	**S**		**14 33 59.4**	**-0.3**
VILB	**Vilhena**	**14.12**	**13**	P	**P**		**14 31 32.8**	**-2.5**
VILB	**Vilhena**	**14.12**	**13**	*eP*	**P**		**14 31 33.2**	**-2.1**
VILB				*eS*	**S**		**14 34 02.3**	**-1.1**
BB19B	**Bebedouro**	**14.76**	**70**	*eP*	**P**		**14 31 40.2**	**-1.3**
BB19B				*eS*	**S**		**14 34 14.3**	**-0.4**
SPB	**Sao Paulo**	**14.81**	**81**	P	**P**		**14 31 40.6**	**-1.4**
SPB	**Sao Paulo**	**14.81**	**81**	*eP*	**P**		**14 31 40.6**	**-1.4**
SPB				*eS*	**S**		**14 34 16.4**	**+0.9**
H03N1	**Juan Fernandez**	**14.95**	**240**	P	**P**		**14 31 42.8**	**+0.1**
H03N2	**Juan Fernandez**	**14.96**	**240**	P	**P**		**14 31 43.1**	**+0.1**
H03N3	**Juan Fernandez**	**14.96**	**240**	P	**P**		**14 31 43.0**	**+0.1**
RCLB	**Rio Claro- Sao**	**15.09**	**77**	*eP*	**P**		**14 31 43.2**	**-1.5**
RCLB				*eS*	**S**		**14 34 18.9**	**-1.5**
PLCA	**Paso Flores**	**15.09**	**201**	P	**P**		**14 31 42.3**	**-2.1**
PLCA	**Paso Flores**	**15.09**	**201**	*eP*	**P**		**14 31 42.5**	**-2.0**
PLCA				pmax	pmax			
	comp=Z,50nm,0.4s							
PLCA	**Paso Flores**	**15.09**	**201**	P	**P**		**14 31 42.8**	**-1.6**
	comp=Z,50nm,0.5s,baz=17,slow=9.7,SNR=253							
PLCA				S	**S**		**14 34 18.6**	**-1.4**
	comp=Z,18nm,1.0s,baz=97,slow=21,SNR=1.9							
PLCA				PcP	**PcP**		**14 36 10.0**	**-0.5**
	comp=Z,22nm,0.6s,baz=36,slow=1.4,SNR=9.1							
PLCA				ScP	**ScP**		**14 38 51.9**	**+1.1**
	comp=Z,5.4nm,0.8s,baz=10,slow=4.2,SNR=4.7							
PLCA				PKiKP	**PKiKP**		**14 44 04.5**	**-0.5**
	comp=Z,2.7nm,0.9s,baz=191,slow=3.8,SNR=5.5							
PLCA	**Paso Flores**	**15.09**	**201**	*eS*	**S**		**14 34 19.7**	**-0.2**
H03S3	**Juan Fernandez**	**15.09**	**239**	P	**P**		**14 31 43.6**	**-0.6**
	baz=32,slow=15,SNR=22							
H03S1	**Juan Fernandez**	**15.10**	**239**	P	**P**		**14 31 43.5**	**-0.8**
	baz=32,slow=15,SNR=17							
H03S2	**Juan Fernandez**	**15.11**	**239**	P	**P**		**14 31 43.8**	**-0.6**
	baz=32,slow=15,SNR=13							
VAO	**Valinhos**	**15.39**	**79**	*eP*	**P**		**14 31 46.9**	**-0.9**
VAO				*eS*	**S**		**14 34 25.5**	**0.0**
PDRB	**Porto dos Gac**	**16.38**	**24**	*eP*	**P**		**14 31 55.8**	**-1.3**
PDRB				*eS*	**S**		**14 34 41.3**	**-0.5**
PARB	**Paraibuna**	**16.48**	**82**	*eP*	**P**		**14 31 57.2**	**-0.7**
PARB				*eS*	**S**		**14 34 42.1**	**-1.3**
IPMB	**Ipameri, GO**	**16.56**	**61**	*eP*	**P**		**14 31 57.4**	**-1.3**
IPMB				*eS*	**S**		**14 34 43.8**	**-1.0**
ETMB	**Extrema**	**17.12**	**351**	P	**P**		**14 32 02.1**	**-1.5**
ETMB	**Extrema**	**17.12**	**351**	*eP*	**P**		**14 32 02.4**	**-1.3**
CLDB	**Colider**	**17.41**	**26**	*eP*	**P**		**14 32 06.5**	**+0.2**
PMNB	**Patos De Minas**	**17.68**	**66**	*eP*	**P**		**14 32 08.9**	**0.0**
LL02	**Futaleuf**	**17.72**	**201**	P	**P**		**14 32 08.2**	**-0.5**
SAML	**Samuel**	**17.77**	**1**	P	**P**		**14 32 09.1**	**-0.5**
SAML	**Samuel**	**17.77**	**1**	P	**P**		**14 32 09.1**	**-0.5**
SAML	**Samuel**	**17.77**	**1**	*eP*	**P**		**14 32 09.2**	**-0.5**
BSCB	**Bom Sucesso**	**17.99**	**75**	*eP*	**P**		**14 32 11.7**	**0.0**
BDFB	**Brasilia**	**18.13**	**55**	P	**P**		**14 32 12.8**	**-0.3**
BDFB	**Brasilia**	**18.13**	**55**	P	**P**		**14 32 13.0**	**-0.1**
	comp=Z,389nm,0.7s,baz=230,slow=8.8,SNR=374							
BDFB				S	**S**		**14 35 08.4**	**-2.0**
	comp=Z,53nm,0.8s,baz=72,slow=19,SNR=2.8							
SNDB	**Serra Nova Dou**	**18.65**	**40**	*eP*	**P**		**14 32 17.0**	**-0.7**
VAS01	**Vassouras-RJ**	**18.71**	**80**	*eP*	**P**		**14 32 18.6**	**+0.5**
NNA	**Nana**	**19.42**	**317**	*c iP*	**P**		**14 32 24.0**	**-0.7**
NNA				pmax	pmax			
	comp=Z,125nm,0.9s							
NNA	**Nana**	**19.42**	**317**	P	**P**		**14 32 25.2**	**+0.5**
	comp=Z,65nm,0.7s,baz=160,slow=9.0,SNR=41							
NNA				S	**S**		**14 35 30.0**	**-1.1**
	comp=Z,2.8nm,0.3s,baz=253,slow=17,SNR=1.2							
NNA				PcP	**PcP**		**14 36 17.9**	**-0.1**
	comp=Z,17nm,0.6s,baz=51,slow=4.4,SNR=4.6							
NNA				ScP	**ScP**		**14 39 01.3**	**+1.1**
	comp=Z,10nm,0.8s,baz=217,slow=5.9,SNR=4.6							
COYC	**Coyhaique**	**19.96**	**198**	P	**P**		**14 32 28.3**	**-0.8**
DIAM	**Diamantina, MG**	**20.08**	**69**	*eP*	**P**		**14 32 31.0**	**+0.2**
CZSB	**Cruzeiro do Su**	**20.94**	**333**	P	**P**		**14 32 36.5**	**-1.8**
CZSB	**Cruzeiro do Su**	**20.94**	**333**	*eP*	**P**		**14 32 37.1**	**-1.3**
NPGB	**Novo Progresso**	**21.10**	**23**	*eP*	**P**		**14 32 39.0**	**-0.9**
JANB	**Januaria**	**21.30**	**60**	*eP*	**P**		**14 32 41.2**	**-0.4**
SJMB	**Sao Joao De Ma**	**22.00**	**73**	*eP*	**P**		**14 32 47.9**	**0.0**
SDBA	**SAO DESIDERIO**	**22.52**	**54**	*eP*	**P**		**14 32 52.0**	**-0.6**
GO08	**Villa O'Higgin**	**22.76**	**196**	P	**P**		**14 32 54.9**	**+0.7**
TEFE	**Tefe**	**23.21**	**357**	*eP*	**P**		**14 32 58.2**	**-0.4**
TBTG	**Tabatinga, AM**	**23.35**	**343**	P	**P**		**14 32 59.9**	**+0.1**
TBTG	**Tabatinga, AM**	**23.35**	**343**	*eP*	**P**		**14 33 00.3**	**+0.5**
ITTB	**Itaituba**	**23.50**	**20**	*eP*	**P**		**14 32 59.9**	**-1.3**
MACA	**Manacapuru-AM**	**23.67**	**7**	P	**P**		**14 33 01.5**	**-1.2**
MACA	**Manacapuru-AM**	**23.67**	**7**	*eP*	**P**		**14 33 01.7**	**-1.0**
ABRO	**Abrolhos, BA**	**24.45**	**74**	*eP*	**P**		**14 33 08.9**	**-0.7**
MG05	**Puerto Natales**	**25.77**	**193**	P	**P**		**14 33 20.8**	**0.0**
MALB	**Monte Alegre**	**26.33**	**21**	*eP*	**P**		**14 33 25.4**	**-0.7**
GO10	**Punta Arenas**	**26.92**	**190**	P	**P**		**14 33 32.2**	**+1.3**
TMAB	**Tom-Au,PA,Br**	**28.40**	**34**	*eP*	**P**		**14 33 44.5**	**+0.2**
MCPB	**Macapa, AP**	**28.48**	**24**	*eP*	**P**		**14 33 44.6**	**-0.4**
NBLA	**Lagarto - SE**	**28.81**	**62**	*eP*	**P**		**14 33 46.8**	**-1.0**
BOAV	**Boa Vista**	**29.18**	**6**	P	**P**		**14 33 50.0**	**-1.0**
CHSH	**Refugio Sur-Vo**	**29.23**	**327**	IAmb	IAmb		14 34 12.6	
	comp=Z,54nm,0.8s							
SLOR	**San Lorenzo -**	**29.72**	**328**	IAmb	IAmb		14 34 16.6	
	comp=Z,49nm,0.6s							
NBPB	**Pedra_Branca-C**	**31.04**	**51**	*eP*	**P**		**14 34 07.0**	**0.0**
NBLV	**Livramento - P**	**31.74**	**57**	*eP*	**P**		**14 34 12.3**	**-0.8**
NBCA	**Caruaru-PE**	**31.88**	**60**	*eP*	**P**		**14 34 13.4**	**-0.8**
NBCL	**Cascavel-CE**	**32.88**	**51**	*eP*	**P**		**14 34 22.3**	**-0.4**
MPGF	**Montagnes des**	**33.41**	**20**	P	**P**		**14 34 26.5**	**-0.6**
MPGF				PcP	**PcP**		**14 36 52.4**	**+0.9**
RCBR	**Riachuelo**	**33.50**	**56**	P	**P**		**14 34 27.8**	**-0.2**
RCBR				IAmb	IAmb		14 36 08.3	
	comp=Z,55nm,0.9s							
RCBR	**Riachuelo**	**33.50**	**56**	P	**P**		**14 34 27.8**	**-0.2**
RCBR				pmax	pmax			
	comp=Z,55nm,1.0s							
RCBR	**Riachuelo**	**33.50**	**56**	*eP*	**P**		**14 34 28.3**	**+0.3**
RCBR	**Riachuelo**	**33.50**	**56**	P	**P**		**14 34 28.3**	**+0.3**
RCBR				pP	**pP**		**14 36 05.8**	**+2.8**
RCBR				PcP	**PcP**		**14 36 52.2**	**+0.4**
HOPE	**Hope Point**	**33.83**	**152**	P	**P**		**14 34 29.7**	**-0.3**
HOPE	**Hope Point**	**33.83**	**152**	P	**P**		**14 34 29.7**	**-0.3**
HOPE				pmax	pmax			
	comp=Z,139nm,1.2s							
HOPE	**Hope Point**	**33.83**	**152**	P	**P**		**14 34 30.1**	**+0.1**
HOPE				pP	**pP**		**14 36 07.3**	**+2.1**
HOPE				PcP	**PcP**		**14 36 52.4**	**+0.5**
HOPE				ScP	**ScP**		**14 39 43.4**	**+0.7**
SDV	**Santo Domingo**	**36.18**	**348**	P	**P**		**14 34 48.2**	**-2.1**
SDV	**Santo Domingo**	**36.18**	**348**	*eP*	**P**		**14 34 48.6**	**-1.7**
PAYG	**Puerto Ayora**	**36.65**	**311**	P	**P**		**14 34 55.2**	**+1.2**
PAYG				IAmb	IAmb		14 34 57.1	
	comp=Z,40nm,0.8s							
GRGR	**Grenville**	**38.75**	**3**	P	**P**		**14 35 10.2**	**-0.8**
BCIP	**Isla Barro Col**	**39.16**	**334**	IAmb	IAmb		14 35 16.8	
	comp=Z,67nm,0.7s							
H05S1	**Guadeloupe/Mar**	**41.07**	**4**	P	**P**		**14 35 28.4**	**-1.1**
	SNR=6.9							
FDF	**Fort de France**	**41.36**	**3**	P	**P**		**14 35 30.8**	**-1.1**
FDF	**Fort de France**	**41.36**	**3**	P	**P**		**14 35 30.8**	**-1.1**
FDF				pmax	pmax			
	comp=Z,180nm,0.5s							
FDF	**Fort de France**	**41.36**	**3**	P	**P**		**14 35 31.1**	**-0.8**
FDF				PcP	**PcP**		**14 37 17.2**	**+1.0**
LCR2	**La Lucha 2**	**41.48**	**328**	IAmb	IAmb		14 35 37.3	
	comp=Z,35nm,0.7s							
HDC	**Heredia**	**41.76**	**328**	*eP*	**P**		**14 35 36.3**	**+1.2**
SOCE	**Pocosol**	**42.33**	**328**	IAmb	IAmb		14 35 43.6	
	comp=Z,71nm,1.1s							
JTS	**Las Juntas de**	**42.41**	**328**	P	**P**		**14 35 41.8**	**+1.7**
ORTG	**Ortega, Santa**	**42.71**	**327**	IAmb	IAmb		14 35 46.3	
	comp=Z,48nm,0.8s							
GDHS	**Morne Mazeau,**	**42.86**	**2**	IAmb	IAmb		14 35 46.2	
	comp=Z,78nm,0.7s							
GDSD	**La Desirade Is**	**42.93**	**3**	P	**P**		**14 35 42.3**	**-1.8**
H05N1	**Guadeloupe/Mar**	**42.94**	**3**	P	**P**		**14 35 42.2**	**-1.9**
	SNR=23							
HZTE	**Horizontes, Gu**	**43.08**	**327**	IAmb	IAmb		14 35 49.8	
	comp=Z,96nm,1.1s							
ACON	**Acoyapa**	**43.97**	**328**	IAmb	IAmb		14 35 54.8	
	comp=Z,43nm,0.8s							
IGPR	**InterUniversit**	**44.59**	**356**	IAmb	IAmb		14 35 55.7	
	comp=Z,38nm,0.5s							
SMRT	**St. Maarten**	**44.60**	**0**	IAmb	IAmb		14 35 54.8	
	comp=Z,45nm,0.6s							
MLPR	**

X58A	**Rowland**	**62.88**	**345**	IAmb	IAmb	14 38 07.3
	comp=Z,114nm,0.8s					
X58A	**Rowland**	**62.88**	**345**	P	**P**	**14 38 05.9 +0.5**
	baz=164,SNR=13					
X58A				P	**P**	**14 38 05.9 +0.5**
	baz=164,SNR=13					
346A	**Big Creek Wild**	**63.00**	**335**	IAmb	IAmb	14 38 07.5
	comp=Z,72nm,0.6s					
346A	**Big Creek Wild**	**63.00**	**335**	P	**P**	**14 38 06.2 -0.1**
	baz=154,SNR=7.8					
JSC	**Jenkinsville**	**63.08**	**343**	P	**P**	**14 38 07.2 +0.5**
	baz=162,SNR=7.0					
CNNC	**Cliffs of the**	**63.22**	**347**	IAmb	IAmb	14 38 09.3
	comp=Z,55nm,0.8s					
CNNC	**Cliffs of the**	**63.22**	**347**	P	**P**	**14 38 08.5 +0.8**
	baz=166					
CNNC	**Cliffs of the**	**63.22**	**347**	P	**P**	**14 38 08.3 +0.7**
	baz=166					
BIRD	**Birdtown, Kers**	**63.23**	**344**	IAmb	IAmb	14 38 09.2
	comp=Z,59nm,0.6s					
BIRD	**Birdtown, Kers**	**63.23**	**344**	P	**P**	**14 38 08.4 +0.7**
	baz=163,SNR=10					
W59A	**Clinton**	**63.27**	**346**	IAmb	IAmb	14 38 09.5
	comp=Z,57nm,0.8s					
HODGE	**Hodges**	**63.29**	**343**	IAmb	IAmb	14 38 11.0
	comp=Z,211nm,2.0s					
HODGE	**Hodges**	**63.29**	**343**	P	**P**	**14 38 09.0 +0.9**
	baz=161,SNR=6.6					
QSPA	**South Pole Qui**	**63.40**	**180**	P	**P**	**14 38 09.5 +0.9**
	comp=Z,112nm,0.7s,baz=160,slow=4.5,SNR=767					
QSPA				pP	**pP**	**14 40 02.5 +0.3**
	comp=Z,7.9nm,0.7s,baz=296,slow=2.5,SNR=2.8					
QSPA				S	**S**	**14 45 58.1 +1.1**
	comp=Z,11nm,1.0s,baz=22,slow=18,SNR=22					
	comp=Z,112nm,0.7s					
QSPA	**South Pole Qui**	**63.40**	**180**	⇓P	**P**	**14 38 09.5 +0.9**
QSPA				pP	**pP**	**14 40 02.6 +0.4**
Y52A	**Lilburn**	**63.45**	**341**	P	**P**	**14 38 09.1 -0.1**
	baz=159,SNR=10					
Y52A				P	**P**	**14 38 09.1 -0.1**
	baz=159,SNR=10					
W57A	**Gilead**	**63.60**	**345**	IAmb	IAmb	14 38 11.8
	comp=Z,93nm,0.8s					
W57A	**Gilead**	**63.60**	**345**	P	**P**	**14 38 10.6 +0.6**
	baz=164,SNR=16					
W57A				P	**P**	**14 38 10.6 +0.6**
	baz=164,SNR=16					
LRAL	**Lakeview Retre**	**63.61**	**338**	IAmb	IAmb	14 38 11.3
	comp=Z,79nm,1.0s					
LRAL	**Lakeview Retre**	**63.61**	**338**	P	**P**	**14 38 09.9 -0.2**
	baz=156,SNR=27					
PAULI	**Pauline**	**63.73**	**343**	IAmb	IAmb	14 38 12.8
	comp=Z,71nm,1.0s					
PAULI	**Pauline**	**63.73**	**343**	P	**P**	**14 38 11.5 +0.6**
	baz=162,SNR=6.8					
ELIB	**Princess Elisa**	**63.76**	**160**	*d*P	**P**	**14 38 11.2 +0.4**
	comp=Z,92nm,0.5s					
ELIB				*d*PcP	**PcP**	**14 38 42.0 +1.4**
ELIB				*d*pP	**pP**	**14 40 04.9 +0.3**
KMSC	**Kings Mountain**	**63.91**	**344**	IAmb	IAmb	14 38 14.0
	comp=Z,71nm,0.8s					
KMSC	**Kings Mountain**	**63.91**	**344**	P	**P**	**14 38 13.3 +1.2**
	baz=162,SNR=13					
KMSC	**Kings Mountain**	**63.91**	**344**	P	**P**	**14 38 12.7 +0.6**
	baz=162,SNR=13					
441A	**DeRidder**	**63.93**	**332**	IAmb	IAmb	14 38 15.3
	comp=Z,112nm,1.1s					
441A	**DeRidder**	**63.93**	**332**	P	**P**	**14 38 13.3 +1.0**
	baz=150,SNR=6.8					
146A	**Union**	**63.97**	**336**	IAmb	IAmb	14 38 14.0
	comp=Z,108nm,0.9s					
146A	**Union**	**63.97**	**336**	P	**P**	**14 38 12.9 +0.4**
	baz=155,SNR=8.1					
V58A	**Windy Hill, Pi**	**64.02**	**346**	IAmb	IAmb	14 38 14.8
	comp=Z,57nm,1.0s					
V58A	**Windy Hill, Pi**	**64.02**	**346**	P	**P**	**14 38 12.9 +0.2**
	baz=164,SNR=7.9					
V58A				P	**P**	**14 38 12.9 +0.2**
	baz=164,SNR=7.9					
Z47A	**Carrollton**	**64.12**	**337**	IAmb	IAmb	14 38 14.5
	comp=Z,104nm,0.8s					
Z47A	**Carrollton**	**64.12**	**337**	P	**P**	**14 38 13.0 -0.4**
	baz=156,SNR=20					
VBMS	**Vicksburg**	**64.14**	**335**	IAmb	IAmb	14 38 15.3
	comp=Z,77nm,1.1s					
VBMS	**Vicksburg**	**64.14**	**335**	P	**P**	**14 38 14.2 +0.6**
	baz=153					
VBMS	**Vicksburg**	**64.14**	**335**	P	**P**	**14 38 13.9 +0.4**
	baz=153					
Y49A	**Blount Mountai**	**64.17**	**339**	IAmb	IAmb	14 38 14.8
	comp=Z,85nm,0.7s					
Y49A	**Blount Mountai**	**64.17**	**339**	P	**P**	**14 38 13.6 -0.2**
	baz=157,SNR=23					
BG3	**Lake Jocassee**	**64.19**	**342**	IAmb	IAmb	14 38 15.2
	comp=Z,41nm,0.6s					
CASEE	**Lake Jocassee**	**64.19**	**342**	P	**P**	**14 38 14.1 +0.2**
	baz=161,SNR=8.4					
X51A	**Calhoun**	**64.34**	**340**	IAmb	IAmb	14 38 16.1
	comp=Z,90nm,0.8s					
X51A	**Calhoun**	**64.34**	**340**	P	**P**	**14 38 14.6 -0.2**
	baz=159,SNR=17					
X51A				P	**P**	**14 38 14.6 -0.2**
	baz=159,SNR=17					
HKT	**Hockley**	**64.42**	**329**	P	**P**	**14 38 15.9 +0.6**
HKT	**Hockley**	**64.42**	**329**	P	**P**	**14 38 16.4 +1.2**
	baz=148					
HKT	**Hockley**	**64.42**	**329**	*i* P	**P**	**14 38 15.8 +0.5**
HKT				pmax	pmax	
	comp=Z,82nm,2.0s					
HKT	**Hockley**	**64.42**	**329**	P	**P**	**14 38 16.2 +0.9**
735A	**Kenedy**	**64.44**	**327**	IAmb	IAmb	14 38 18.1
	comp=Z,94nm,0.9s					
735A	**Kenedy**	**64.44**	**327**	P	**P**	**14 38 16.6 +1.1**
	baz=146					
FPAL	**Fort Paine**	**64.55**	**340**	IAmb	IAmb	14 38 17.2
	comp=Z,50nm,0.8s					
V55A	**Taylorsville**	**64.56**	**344**	P	**P**	**14 38 16.9 +0.7**
	baz=162,SNR=36					
V55A				P	**P**	**14 38 16.9 +0.7**
	baz=162,SNR=36					
W52A	**Murphy**	**64.56**	**341**	IAmb	IAmb	14 38 17.6
	comp=Z,63nm,1.1s					
W52A	**Murphy**	**64.56**	**341**	P	**P**	**14 38 16.3 +0.1**
	baz=160,SNR=11					
V53A	**Saluda**	**64.80**	**343**	IAmb	IAmb	14 38 19.3
	comp=Z,69nm,0.9s					
V53A	**Saluda**	**64.80**	**343**	P	**P**	**14 38 17.8 +0.1**
	baz=161,SNR=17					
V53A				P	**P**	**14 38 17.8 +0.1**
	baz=161,SNR=17					
833A	**Chaparral WMA,**	**64.80**	**325**	P	**P**	**14 38 18.4 +0.6**
	baz=145,SNR=21					
833A	**Chaparral WMA,**	**64.80**	**325**	P	**P**	**14 38 18.5 +0.6**
	baz=145,SNR=21					
T59A	**Double "B" Far**	**64.83**	**348**	P	**P**	**14 38 18.4 +0.6**
	baz=166					
T59A				P	**P**	**14 38 18.4 +0.6**
	baz=166					
U56A	**King**	**64.83**	**345**	IAmb	IAmb	14 38 20.4
	comp=Z,132nm,1.1s					
U56A	**King**	**64.83**	**345**	P	**P**	**14 38 18.8 +0.9**
	baz=163,SNR=20					
U56A				P	**P**	**14 38 18.8 +0.9**
	baz=163,SNR=20					
MLDN	**Muldoon**	**64.86**	**328**	IAmb	IAmb	14 38 20.7
	comp=Z,64nm,0.7s					
143A	**Socs Landing,**	**64.91**	**334**	P	**P**	**14 38 19.3 +0.9**
	baz=152,SNR=12					
X48A	**Hartselle**	**64.92**	**339**	IAmb	IAmb	14 38 19.4
	comp=Z,71nm,0.7s					
X48A	**Hartselle**	**64.92**	**339**	P	**P**	**14 38 18.4 0.0**
	baz=157,SNR=32					
TKL	**Tuckaleechee C**	**65.05**	**342**	IAmb	IAmb	14 38 20.3
	comp=Z,56nm,0.9s					
TKL	**Tuckaleechee C**	**65.05**	**342**	P	**P**	**14 38 18.9 -0.4**
	baz=160,SNR=12					
CPCT	**Cooper Cave**	**65.07**	**341**	IAmb	IAmb	14 38 20.5
	comp=Z,61nm,0.7s					
W50A	**Signal Mountai**	**65.07**	**340**	IAmb	IAmb	14 38 20.6
	comp=Z,78nm,0.8s					
W50A	**Signal Mountai**	**65.07**	**340**	P	**P**	**14 38 19.2 -0.2**
	baz=158,SNR=20					
V52A	**Sevierville**	**65.17**	**342**	IAmb	IAmb	14 38 21.1
	comp=Z,71nm,0.9s					
V52A	**Sevierville**	**65.17**	**342**	P	**P**	**14 38 19.8 -0.2**
	baz=160,SNR=14					
T57A	**Hurt**	**65.20**	**346**	P	**P**	**14 38 20.7 +0.6**
	baz=164,SNR=5.8					
T57A				P	**P**	**14 38 20.7 +0.6**
	baz=164,SNR=5.8					
Y45A	**Yeager Farm, C**	**65.25**	**336**	P	**P**	**14 38 20.7 +0.2**
	baz=154,SNR=17					
SWET	**Sewanee**	**65.27**	**340**	IAmb	IAmb	14 38 21.3
	comp=Z,62nm,0.6s					
LIC	**Lamto**	**65.32**	**69**	⇓*e*P	**P**	**14 38 20.6 -0.8**
	comp=Z,104nm,0.5s					
U54A	**Nelsons Funny**	**65.34**	**344**	P	**P**	**14 38 21.5 +0.4**
	baz=162,SNR=49					
U54A				P	**P**	**14 38 21.5 +0.4**
	baz=162,SNR=49					
NATX	**Nacogdoches**	**65.43**	**331**	IAmb	IAmb	14 38 24.3
	comp=Z,110nm,0.8s					
NATX	**Nacogdoches**	**65.43**	**331**	P	**P**	**14 38 22.9 +1.2**
	baz=149,SNR=13					
NATX	**Nacogdoches**	**65.43**	**331**	P	**P**	**14 38 22.8 +1.1**
	baz=149,SNR=13					
TIC	**Toumodi**	**65.56**	**68**	⇓*e*P	**P**	**14 38 22.9 0.0**
	comp=Z,76nm,0.6s					
KIC	**Kosan Boka**	**65.64**	**69**	⇓*i*P	**P**	**14 38 22.8 -0.6**
	comp=Z,174nm,0.5s					
BLA	**Blacksburg**	**65.67**	**345**	IAmb	IAmb	14 38 25.6
	comp=Z,149nm,1.4s					
BLA	**Blacksburg**	**65.67**	**345**	P	**P**	**14 38 23.4 +0.3**
	baz=163,SNR=6.2					
BLA	**Blacksburg**	**65.67**	**345**	P	**P**	**14 38 23.9 +0.7**
	baz=163,SNR=6.2					
DBIC	**Dimbokro**	**65.71**	**68**	P	**P**	**14 38 23.4 -0.4**
DBIC	**Dimbokro**	**65.71**	**68**	P	**P**	**14 38 23.4 -0.4**
	comp=Z,112nm,0.6s,baz=222,slow=6.8,SNR=208					
DBIC				S	**S**	**14 46 24.1 -1.8**
	comp=Z,1.0nm,0.6s,baz=103,slow=21,SNR=1.2					
	comp=Z,112nm,0.6s					
DBIC	**Dimbokro**	**65.71**	**68**	⇓P	**P**	**14 38 23.4 -0.4**
DBIC				pP	**pP**	**14 40 20.1 +1.4**
HNDO	**Hondo**	**65.73**	**326**	IAmb	IAmb	14 38 25.8
	comp=Z,74nm,0.9s					
PLAL	**Pickwick Lake**	**65.75**	**338**	IAmb	IAmb	14 38 24.4
	comp=Z,92nm,0.9s					
OXF	**Oxford**	**65.78**	**337**	IAmb	IAmb	14 38 24.6
	comp=Z,93nm,1.0s					
OXF	**Oxford**	**65.78**	**337**	P	**P**	**14 38 23.2 -0.7**
	baz=155,SNR=6.9					
OXF	**Oxford**	**65.78**	**337**	P	**P**	**14 38 23.3 -0.5**
	baz=155,SNR=6.9					
TZTN	**Tazewell**	**65.82**	**342**	IAmb	IAmb	14 38 24.7
	comp=Z,205nm,1.9s					
TZTN	**Tazewell**	**65.82**	**342**	P	**P**	**14 38 23.9 -0.1**
	baz=160,SNR=7.0					
TZTN	**Tazewell**	**65.82**	**342**	P	**P**	**14 38 23.9 -0.1**
	baz=160,SNR=7.0					
R58B	**Mineral**	**65.85**	**347**	IAmb	IAmb	14 38 26.6
	comp=Z,45nm,0.8s					
R58B	**Mineral**	**65.85**	**347**	P	**P**	**14 38 25.3 +1.1**
	baz=166,SNR=11					
R58B				P	**P**	**14 38 25.3 +1.1**
	baz=166,SNR=11					
435B	**Jarrell**	**65.94**	**328**	IAmb	IAmb	14 38 27.0
	comp=Z,50nm,0.7s					
435B	**Jarrell**	**65.94**	**328**	P	**P**	**14 38 25.4 +0.5**
	baz=147					
435B	**Jarrell**	**65.94**	**328**	P	**P**	**14 38 25.5 +0.5**
	baz=147,SNR=5.5					
Z41A	**Richland Creek**	**65.95**	**333**	IAmb	IAmb	14 38 28.0
	comp=Z,37nm,0.7s					
CBN	**Corbin Frederi**	**65.99**	**348**	P	**P**	**14 38 25.4 +0.4**
	baz=166					
V48A	**Smith Brothers**	**66.03**	**339**	IAmb	IAmb	14 38 26.2
	comp=Z,88nm,0.7s					
V48A	**Smith Brothers**	**66.03**	**339**	P	**P**	**14 38 25.2 -0.2**
	baz=157,SNR=34					
237A	**Washetta, Mont**	**66.14**	**330**	IAmb	IAmb	14 38 28.6
	comp=Z,66nm,0.8s					
237A	**Washetta, Mont**	**66.14**	**330**	P	**P**	**14 38 27.3 +1.1**
	baz=148,SNR=10					
U49A	**Red Boiling Sp**	**66.43**	**340**	IAmb	IAmb	14 38 28.5
	comp=Z,58nm,0.6s					
U49A	**Red Boiling Sp**	**66.43**	**340**	P	**P**	**14 38 27.2 -0.5**
	baz=158,SNR=23					
S54A	**Dingess, Beckl**	**66.44**	**345**	P	**P**	**14 38 28.3 +0.4**
	baz=163,SNR=24					
S54A				P	**P**	**14 38 28.3 +0.4**
	baz=163,SNR=24					
T50A	**Nancy**	**66.62**	**341**	IAmb	IAmb	14 38 29.9
	comp=Z,57nm,0.7s					
T50A	**Nancy**	**66.62**	**341**	P	**P**	**14 38 28.5 -0.5**
	baz=159					
T50A				P	**P**	**14 38 28.5 -0.5**
	baz=159					
R55A	**Marlinton**	**66.62**	**346**	IAmb	IAmb	14 38 31.9
	comp=Z,51nm,0.7s					
R55A	**Marlinton**	**66.62**	**346**	P	**P**	**14 38 30.6 +1.5**
	baz=164,SNR=8.3					
R55A				P	**P**	**14 38 30.6 +1.5**
	baz=164,SNR=8.3					
WVT	**Waverly**	**66.71**	**339**	P	**P**	**14 38 28.6 -0.9**
WVT	**Waverly**	**66.71**	**339**	P	**P**	**14 38 28.8 -0.8**
	baz=156					
WVT	**Waverly**	**66.71**	**339**	P	**P**	**14 38 28.8 -0.8**
	baz=156,SNR=43					
WVT	**Waverly**	**66.71**	**339**	P	**P**	**14 38 28.6 -0.9**
WVT				pmax	pmax	
	comp=Z,100nm,0.8s					
WVT	**Waverly**	**66.71**	**339**	P	**P**	**14 38 28.8 -0.8**
WVT				PcP	**PcP**	**14 38 53.0 -0.1**
WVT				pP	**pP**	**14 40 25.8 +0.2**
JCT	**Junction City**	**66.76**	**326**	IAmb	IAmb	14 38 31.5
	comp=Z,55nm,0.8s					
JCT	**Junction City**	**66.76**	**326**	P	**P**	**14 38 30.4 +0.4**
	baz=145,SNR=25					
JCT	**Junction City**	**66.76**	**326**	P	**P**	**14 38 30.7 +0.7**
	baz=145,SNR=25					
S51A	**Beattyville**	**66.86**	**343**	IAmb	IAmb	14 38 31.8
	comp=Z,61nm,1.1s					
S51A	**Beattyville**	**66.86**	**343**	P	**P**	**14 38 30.2 -0.2**
	baz=160,SNR=9.9					
S51A				P	**P**	**14 38 30.2 -0.2**
	baz=160,SNR=9.9					
Z38A	**Mt. Pleasant**	**66.86**	**332**	IAmb	IAmb	14 38 32.9
	comp=Z,69nm,1.1s					
Z38A	**Mt. Pleasant**	**66.86**	**332**	P	**P**	**14 38 31.4 +0.9**
	baz=150					
WHTX	**Lake Whitney,**	**66.88**	**329**	P	**P**	**14 38 31.4 +0.7**
	baz=147					
BRDY	**Brady**	**67.03**	**327**	IAmb	IAmb	14 38 32.9
	comp=Z,46nm,0.6s					
FW16	**Waxahatchie**	**67.04**	**330**	IAmb	IAmb	14 38 33.3
	comp=Z,62nm,0.7s					
SDMD	**Soldier's Deli**	**67.07**	**349**	P	**P**	**14 38 32.5 +0.9**
	baz=167,SNR=11					
FW14	**Alvarado**	**67.10**	**329**	IAmb	IAmb	14 38 33.9
	comp=Z,44nm,0.9s					
UALR	**University of**	**67.11**	**334**	IAmb	IAmb	14 38 33.4
	comp=Z,44nm,0.8s					
HBAR	**Harrisburg**	**67.17**	**336**	IAmb	IAmb	14 38 33.8
	comp=Z,63nm,0.8s					
FW13	**Cleburne**	**67.17**	**329**	IAmb	IAmb	14 38 34.1
	comp=Z,41nm,0.6s					
UTMT	**University of**	**67.25**	**338**	IAmb	IAmb	14 38 33.4
	comp=Z,80nm,0.8s					
GEDE	**Greenville**	**67.26**	**350**	P	**P**	**14 38 34.0 +1.2**
	baz=168,SNR=8.1					
T47A	**Sharon Grove**	**67.27**	**340**	P	**P**	**14 38 32.4 -0.6**
	baz=157,SNR=39					
P57A	**Homestead Farm**	**67.35**	**348**	P	**P**	**14 38 34.8 +1.4**
	baz=166,SNR=27					
P57A				P	**P**	**14 38 34.8 +1.4**
	baz=166,SNR=27					
MIAR	**Mount Ida**	**67.39**	**333**	IAmb	IAmb	14 38 35.5
	comp=Z,60nm,1.2s					
MIAR	**Mount Ida**	**67.39**	**333**	P	**P**	**14 38 33.8 +0.1**
	baz=151,SNR=25					
MIAR	**Mount Ida**	**67.39**	**333**	P	**P**	**14 38 33.8 +0.1**
	baz=151,SNR=25					
Q54A	**Coxs Mills**	**67.46**	**345**	IAmb	IAmb	14 38 35.2
	comp=Z,31nm,0.7s					
Q54A	**Coxs Mills**	**67.46**	**345**	P	**P**	**14 38 34.2 +0.2**
	baz=163,SNR=7.4					
Q54A				P	**P**	**14 38 34.2 +0.2**
	baz=163,SNR=7.4					
SAND	**Sanderson**	**67.53**	**324**	IAmb	IAmb	14 38 37.0
	comp=Z,71nm,0.9s					
WHAR	**Wooly Hollow**	**67.54**	**335**	IAmb	IAmb	14 38 37.3
	comp=Z,48nm,0.9s					
HICK	**Hickman**	**67.55**	**338**	IAmb	IAmb	14 38 35.5
	comp=Z,105nm,1.1s					
MVL	**Millersville**	**67.56**	**349**	IAmb	IAmb	14 38 37.0
	comp=Z,40nm,0.8s					
FW07	**Weatherford**	**67.63**	**329**	IAmb	IAmb	14 38 37.6
	comp=Z,54nm,0.8s					
R50A	**Paris**	**67.66**	**342**	IAmb	IAmb	14 38 36.5
	comp=Z,56nm,0.8s					
R50A	**Paris**	**67.66**	**342**	P	**P**	**14 38 35.1 -0.2**
	baz=160,SNR=22					
R50A				P	**P**	**14 38 35.1 -0.2**
	baz=160,SNR=22					
PANJ	**Princeton**	**67.67**	**351**	P	**P**	**14 38 36.3 +1.0**
	baz=169,SNR=9.0					
FW06	**Azle**	**67.75**	**329**	IAmb	IAmb	14 38 38.0
	comp=Z,53nm,0.8s					
Q52A	**Bidwell**	**67.77**	**344**	P	**P**	**14 38 36.3 +0.3**
	baz=162,SNR=21					
Q52A				P	**P**	**14 38 36.3 +0.3**
	baz=162,SNR=21					
OZNA	**Ozona**	**67.79**	**325**	IAmb	IAmb	14 38 37.4
	comp=Z,38nm,0.8s					
T45B	**Paducah**	**67.79**	**338**	P	**P**	**14 38 35.5 -0.6**
	baz=156,SNR=8.7					
LCAR	**Lake Charles**	**67.81**	**336**	IAmb	IAmb	14 38 37.5
	comp=Z,72nm,1.0s					
TX31	**Lajitas Ar. Si**	**67.87**	**322**	P	**P**	**14 38 37.2 +0.3**
	baz=142,SNR=69					
TXAR	**Lajitas Array**	**67.87**	**322**	P	**P**	**14 38 37.3 +0.4**
	comp=Z,7.8nm,0.4s,baz=148,slow=7.4,SNR=185					
TXAR				PKP2bc		15 06 50.2
	comp=Z,1.8nm,1.1s,baz=7.6,slow=2.7,SNR=8.2					
TXAR				P4KPbc		15 15 06.8
	comp=Z,0.9nm,1.0s,baz=64,slow=6.1,SNR=4.8					
	comp=Z,7.8nm,0.4s					
MCWV	**Mont Chateau**	**67.89**	**346**	IAmb	IAmb	14 38 39.0
	comp=Z,87nm,0.9s					
MCWV	**Mont Chateau**	**67.89**	**346**	P	**P**	**14 38 37.5 +0.8**
	baz=164,SNR=14					
MCWV	**Mont Chateau**	**67.89**	**346**	P	**P**	**14 38 37.7 +1.0**
	baz=164,SNR=14					
R49A	**Shelbyville**	**67.90**	**342**	IAmb	IAmb	14 38 37.2
	comp=Z,216nm,1.9s					
R49A	**Shelbyville**	**67.90**	**342**	P	**P**	**14 38 36.4 -0.4**
	baz=159,SNR=6.5					
R49A				P	**P**	**14 38 36.4 -0.4**
	baz=159,SNR=6.5					
Z35A	**Perchaven, San**	**67.92**	**330**	IAmb	IAmb	14 38 39.0
	comp=Z,84nm,0.8s					
Z35A	**Perchaven, San**	**67.92**	**330**	P	**P**	**14 38 37.8 +0.8**
	baz=148,SNR=13					
BRNJ	**Basking Ridge**	**67.95**	**351**	IAmb	IAmb	14 38 39.4
	comp=Z,89nm,0.8s					
BRNJ	**Basking Ridge**	**67.95**	**351**	P	**P**	**14 38 37.8 +0.9**
	baz=169,SNR=8.0					
LUPA	**Lehigh Univers**	**67.99**	**350**	IAmb	IAmb	14 38 39.1
	comp=Z,31nm,0.7s					
P53A	**Whipple**	**68.06**	**345**	IAmb	IAmb	14 38 39.7
	comp=Z,89nm,0.9s					
P53A	**Whipple**	**68.06**	**345**	P	**P**	**14 38 38.1 +0.3**
	baz=163,SNR=16					
P53A				P	**P**	**14 38 38.1 +0.3**
	baz=163,SNR=16					
Q51A	**Peebles**	**68.10**	**343**	IAmb	IAmb	14 38 39.3
	comp=Z,53nm,0.8s					
Q51A	**Peebles**	**68.10**	**343**	P	**P**	**14 38 38.2 +0.2**
	baz=161,SNR=13					
Q51A				P	**P**	**14 38 38.2 +0.2**
	baz=161,SNR=13					
X37A	**Clayton**	**68.17**	**332**	P	**P**	**14 38 39.0 +0.6**
	baz=149,SNR=13					
WCI	**Wyandotte Cave**	**68.17**	**341**	P	**P**	**14 38 37.6 -0.7**
WCI				IAmb	IAmb	14 38 39.0
	comp=Z,83nm,0.8s					
WCI	**Wyandotte Cave**	**68.17**	**341**	P	**P**	**14 38 37.7 -0.7**
	baz=158					
WCI	**Wyandotte Cave**	**68.17**	**341**	P	**P**	**14 38 37.7 -0.7**
	baz=158,SNR=30					
WCI	**Wyandotte Cave**	**68.17**	**341**	P	**P**	**14 38 37.6 -0.7**
WCI				pmax	pmax	
	comp=Z,83nm,0.8s					
WCI	**Wyandotte Cave**	**68.17**	**341**	P	**P**	**14 38 37.7 -0.7**
WCI				PcP	**PcP**	**14 38 59.5 +0.2**
WCI				pP	**pP**	**14 40 35.3 +0.5**
PAL	**Palisades**	**68.18**	**351**	P	**P**	**14 38 38.8 +0.5**
	baz=170					
PAL	**Palisades**	**68.18**	**351**	P	**P**	**14 38 40.2 +1.8**
	baz=170					
PBMO	**Poplar Bluff**	**68.18**	**337**	P	**P**	**14 38 38.1 -0.4**
	baz=154,SNR=78					
PABK	**Blue Knob Stat**	**68.22**	**348**	P	**P**	**14 38 39.6 +1.0**
	baz=165					
WSPT	**Westport, CT**	**68.27**	**352**	IAmb	IAmb	14 38 41.0
	comp=Z,66nm,1.0s					
USIN	**University of**	**68.34**	**340**	IAmb	IAmb	14 38 39.7
	comp=Z,54nm,0.8s					
M63A	**Gales Ferry**	**68.35**	**353**	P	**P**	**14 38 40.5 +1.2**
	baz=172					
M63A				P	**P**	**14 38 40.5 +1.2**
	baz=172					
ODNJ	**Ogdensburg**	**68.35**	**351**	IAmb	IAmb	14 38 41.5
	comp=Z,61nm,0.9s					
ODNJ	**Ogdensburg**	**68.35**	**351**	P	**P**	**14 38 40.2 +0.8**
	baz=169,SNR=16					
YLE	**Yale**	**68.36**	**352**	IAmb	IAmb	14 38 42.0
	comp=Z,54nm,0.8s					
P52A	**Corning**	**68.38**	**345**	P	**P**	**14 38 39.3 -0.3**
	baz=162,SNR=22					
ABTX	**Abilene, Hawle**	**68.44**	**328**	IAmb	IAmb	14 38 41.9
	comp=Z,42nm,0.9s					
ABTX	**Abilene, Hawle**	**68.44**	**328**	P	**P**	**14 38 40.3 +0.1**
	baz=146,SNR=18					
ABTX	**Abilene, Hawle**	**68.44**	**328**	P	**P**	**14 38 40.5 +0.3**
	baz=146,SNR=18					
N58A	**Sunbury**	**68.44**	**349**	IAmb	IAmb	14 38 42.5
	comp=Z,77nm,0.8s					
N58A	**Sunbury**	**68.44**	**349**	P	**P**	**14 38 41.0 +1.1**
	baz=167,SNR=14					
N58A				P	**P**	**14 38 41.0 +1.1**
	baz=167,SNR=14					
LOOK	**Love County**	**68.44**	**330**	IAmb	IAmb	14 38 42.1
	comp=Z,72nm,1.0s					
SSPA	**Standing Stone**	**68.44**	**348**	P	**P**	**14 38 40.6 +0.6**
SSPA				IAmb	IAmb	14 38 42.3
	comp=Z,53nm,0.9s					
SSPA	**Standing Stone**	**68.44**	**348**	P	**P**	**14 38 40.8 +0.8**
	baz=166					
SSPA	**Standing Stone**	**68.44**	**348**	P	**P**	**14 38 40.9 +0.9**
	baz=166,SNR=12					
SSPA	**Standing Stone**	**68.44**	**348**	P	**P**	**14 38 40.8 +0.8**
SSPA				pP	**pP**	**14 40 38.9 +2.6**
P51A	**Williamsport**	**68.46**	**344**	IAmb	IAmb	14 38 41.2
	comp=Z,59nm,0.8s					
P51A	**Williamsport**	**68.46**	**344**	P	**P**	**14 38 40.0 -0.1**
	baz=161,SNR=12					
P51A				P	**P**	**14 38 40.0 -0.1**
	baz=161,SNR=12					
O54A	**Avella**	**68.50**	**346**	IAmb	IAmb	14 38 42.0
	comp=Z,51nm,0.9s					
O54A	**Avella**	**68.50**	**

P49A	**Miami Univ. Ec**	**68.94**	**342**	P	**P**	**14 38 42.5**	**-0.5**
	baz=160,SNR=15							
P49A	**Miami Univ. Ec**	**68.94**	**342**	P	**P**	**14 38 42.3**	**-0.7**
	baz=160,SNR=15							
NPNY	**Mohonk Preserv**	**68.95**	**351**	P	**P**	**14 38 44.1**	**+1.2**
	baz=170,SNR=25							
KSPA	**Keystone Colle**	**68.99**	**350**	IAmb	IAmb	14 38 45.6		
	comp=Z,67nm,0.8s							
KSPA	**Keystone Colle**	**68.99**	**350**	P	**P**	**14 38 44.1**	**+0.9**
	baz=168,SNR=19							
M57A	**Sunshine Farm,**	**68.99**	**349**	IAmb	IAmb	14 38 45.7		
	comp=Z,60nm,0.8s							
M57A	**Sunshine Farm,**	**68.99**	**349**	P	**P**	**14 38 44.5**	**+1.2**
	baz=167,SNR=14							
M57A				P	**P**	**14 38 44.5**	**+1.2**
	baz=167,SNR=14							
P48A	**Milroy**	**69.06**	**342**	P	**P**	**14 38 42.7**	**-1.1**
	baz=159,SNR=8.3							
P48A				P	**P**	**14 38 42.7**	**-1.1**
	baz=159,SNR=8.3							
PSDB	**Penn State Uni**	**69.08**	**348**	P	**P**	**14 38 45.4**	**+1.6**
	baz=165							
BLO	**Bloomington**	**69.11**	**341**	IAmb	IAmb	14 38 44.5		
	comp=Z,62nm,0.7s							
ACSO	**Alum Creek Sta**	**69.15**	**344**	IAmb	IAmb	14 38 45.5		
	comp=Z,70nm,0.8s							
ACSO	**Alum Creek Sta**	**69.15**	**344**	P	**P**	**14 38 43.9**	**-0.3**
	baz=161,SNR=12							
ACSO	**Alum Creek Sta**	**69.15**	**344**	P	**P**	**14 38 44.0**	**-0.3**
	baz=161,SNR=12							
PAMR	**Moraine State**	**69.17**	**347**	P	**P**	**14 38 45.3**	**+0.9**
	baz=164							
OLIL	**Olney**	**69.18**	**340**	IAmb	IAmb	14 38 44.9		
	comp=Z,59nm,0.8s							
OLIL	**Olney**	**69.18**	**340**	P	**P**	**14 38 43.7**	**-0.8**
	baz=156,SNR=11							
N53A	**Lisbon**	**69.20**	**346**	P	**P**	**14 38 45.2**	**+0.6**
	baz=163,SNR=5.3							
N53A				P	**P**	**14 38 45.2**	**+0.6**
	baz=163,SNR=5.3							
SN05	**Snyder 5**	**69.25**	**327**	IAmb	IAmb	14 38 46.6		
	comp=Z,52nm,1.0s							
FVM	**French Village**	**69.26**	**337**	P	**P**	**14 38 44.6**	**-0.4**
	baz=154,SNR=50							
U38A	**Gravette**	**69.36**	**334**	IAmb	IAmb	14 38 47.1		
	comp=Z,40nm,0.7s							
U38A	**Gravette**	**69.36**	**334**	P	**P**	**14 38 45.6**	**0.0**
	baz=151,SNR=34							
RLO	**Rose Lookout**	**69.38**	**333**	IAmb	IAmb	14 38 47.1		
	comp=Z,45nm,0.6s							
HRV	**Adam Dziewonsk**	**69.39**	**354**	P	**P**	**14 38 46.1**	**+0.5**
HRV				IAmb	IAmb	14 38 48.0		
	comp=Z,60nm,0.9s							
HRV	**Adam Dziewonsk**	**69.39**	**354**	P	**P**	**14 38 46.2**	**+0.6**
	baz=172							
HRV	**Adam Dziewonsk**	**69.39**	**354**	P	**P**	**14 38 46.6**	**+1.0**
	baz=172,SNR=6.2							
HRV	**Adam Dziewonsk**	**69.39**	**354**	P	**P**	**14 38 46.1**	**+0.5**
HRV				pmax	pmax			
	comp=Z,60nm,0.9s							
HRV	**Adam Dziewonsk**	**69.39**	**354**	P	**P**	**14 38 46.6**	**+1.0**
M55A	**Ridgway**	**69.42**	**348**	P	**P**	**14 38 46.5**	**+0.7**
	baz=165,SNR=21							
M55A				P	**P**	**14 38 46.5**	**+0.7**
	baz=165,SNR=21							
L61B	**Northampton**	**69.45**	**353**	IAmb	IAmb	14 38 48.2		
	comp=Z,40nm,0.8s							
L61B	**Northampton**	**69.45**	**353**	P	**P**	**14 38 46.4**	**+0.4**
	baz=171,SNR=9.2							
L61B	**Northampton**	**69.45**	**353**	P	**P**	**14 38 46.9**	**+0.9**
	baz=171,SNR=9.2							
O49A	**Covington**	**69.45**	**343**	IAmb	IAmb	14 38 47.0		
	comp=Z,45nm,0.7s							
O49A	**Covington**	**69.45**	**343**	P	**P**	**14 38 45.8**	**-0.3**
	baz=160,SNR=8.9							
O49A				P	**P**	**14 38 45.8**	**-0.3**
	baz=160,SNR=8.9							
ODSA	**Odessa**	**69.47**	**325**	IAmb	IAmb	14 38 47.8		
	comp=Z,78nm,0.9s							
TUL3	**Leonard**	**69.47**	**332**	IAmb	IAmb	14 38 47.4		
	comp=Z,41nm,0.6s							
TUL3	**Leonard**	**69.47**	**332**	P	**P**	**14 38 46.2**	**-0.1**
	baz=149,SNR=14							
TUL3	**Leonard**	**69.47**	**332**	P	**P**	**14 38 46.4**	**+0.1**
	baz=149,SNR=14							
L59A	**Walton**	**69.50**	**351**	IAmb	IAmb	14 38 49.0		
	comp=Z,82nm,0.8s							
L59A	**Walton**	**69.50**	**351**	P	**P**	**14 38 47.2**	**+0.8**
	baz=169,SNR=20							
L59A				P	**P**	**14 38 47.2**	**+0.8**
	baz=169,SNR=20							
FNO	**Franklin**	**69.60**	**331**	IAmb	IAmb	14 38 49.4		
	comp=Z,70nm,0.8s							
CCM	**Cathedral Cave**	**69.61**	**337**	P	**P**	**14 38 46.6**	**-0.5**
CCM	**Cathedral Cave**	**69.61**	**337**	P	**P**	**14 38 46.7**	**-0.5**
	baz=154							
CCM	**Cathedral Cave**	**69.61**	**337**	P	**P**	**14 38 46.7**	**-0.3**
	baz=154,SNR=56							
CCM	**Cathedral Cave**	**69.61**	**337**	P	**P**	**14 38 46.6**	**-0.5**
CCM				pmax	pmax			
	comp=Z,96nm,0.7s							
CCM	**Cathedral Cave**	**69.61**	**337**	P	**P**	**14 38 46.6**	**-0.5**
CCM				PcP	**PcP**	**14 39 06.1**	**+0.7**
Q44A	**Meyer Farm, Va**	**69.63**	**339**	IAmb	IAmb	14 38 47.4		
	comp=Z,47nm,0.9s							
Q44A	**Meyer Farm, Va**	**69.63**	**339**	P	**P**	**14 38 46.0**	**-1.1**
	baz=156,SNR=6.8							
PAOC	**Oil Creek Stat**	**69.64**	**347**	P	**P**	**14 38 47.7**	**+0.5**
	baz=164							
BINY	**Binghamton**	**69.65**	**350**	IAmb	IAmb	14 38 49.6		
	comp=Z,78nm,0.8s							
BINY	**Binghamton**	**69.65**	**350**	P	**P**	**14 38 47.3**	**+0.1**
	baz=168,SNR=19							
BINY	**Binghamton**	**69.65**	**350**	P	**P**	**14 38 47.5**	**+0.3**
	baz=168,SNR=19							
N51A	**Ashland**	**69.65**	**345**	IAmb	IAmb	14 38 48.5		
	comp=Z,91nm,0.9s							
N51A	**Ashland**	**69.65**	**345**	P	**P**	**14 38 47.4**	**+0.2**
	baz=162,SNR=7.5							
N51A				P	**P**	**14 38 47.4**	**+0.2**
	baz=162,SNR=7.5							
P46A	**Rosedale**	**69.72**	**341**	IAmb	IAmb	14 38 48.3		
	comp=Z,60nm,0.9s							
P46A	**Rosedale**	**69.72**	**341**	P	**P**	**14 38 47.0**	**-0.7**
	baz=157,SNR=11							
O48B	**Farmland**	**69.73**	**342**	P	**P**	**14 38 47.2**	**-0.5**
	baz=159,SNR=22							
O48B	**Farmland**	**69.73**	**342**	P	**P**	**14 38 46.9**	**-0.9**
	baz=159,SNR=22							
M53A	**WI Miller and**	**69.77**	**346**	IAmb	IAmb	14 38 49.8		
	comp=Z,67nm,0.8s							
M53A	**WI Miller and**	**69.77**	**346**	P	**P**	**14 38 48.3**	**+0.4**
	baz=164,SNR=11							
WMOK	**Wichita Mounta**	**69.78**	**329**	IAmb	IAmb	14 38 49.6		
	comp=Z,108nm,1.9s							
WMOK	**Wichita Mounta**	**69.78**	**329**	P	**P**	**14 38 48.2**	**0.0**
	baz=147,SNR=20							
WMOK	**Wichita Mounta**	**69.78**	**329**	P	**P**	**14 38 48.0**	**-0.2**
	baz=147,SNR=20							
SLM	**Saint Louis**	**69.79**	**338**	IAmb	IAmb	14 38 50.0		
	comp=Z,53nm,0.7s							
L56A	**Greenwood**	**69.84**	**349**	P	**P**	**14 38 49.2**	**+0.8**
	baz=167,SNR=32							
L56A				P	**P**	**14 38 49.2**	**+0.8**
	baz=167,SNR=32							
ALLY	**Alegheny Colle**	**69.86**	**347**	P	**P**	**14 38 49.0**	**+0.5**
	baz=164,SNR=20							
HCNY	**Howe Caverns**	**69.91**	**351**	P	**P**	**14 38 49.6**	**+0.9**
	baz=170,SNR=21							
M52A	**Chesterland**	**70.02**	**346**	IAmb	IAmb	14 38 51.0		
	comp=Z,51nm,0.7s							
S39A	**Bolivar**	**70.05**	**335**	P	**P**	**14 38 49.9**	**+0.2**
	baz=152,SNR=110							
QUOK	**Quay**	**70.08**	**332**	IAmb	IAmb	14 38 51.8		
	comp=Z,79nm,1.0s							
OK029	**Liberty Lake**	**70.08**	**331**	IAmb	IAmb	14 38 51.7		
	comp=Z,85nm,1.3s							
N49A	**Columbus Grove**	**70.10**	**343**	P	**P**	**14 38 49.7**	**-0.2**
	baz=160,SNR=25							
N49A				P	**P**	**14 38 49.7**	**-0.2**
	baz=160,SNR=25							
R40A	**Maddies Statio**	**70.19**	**336**	IAmb	IAmb	14 38 51.4		
	comp=Z,69nm,0.7s							
R40A	**Maddies Statio**	**70.19**	**336**	P	**P**	**14 38 50.0**	**-0.5**
	baz=153,SNR=46							
K57A	**Scipio Center**	**70.25**	**350**	IAmb	IAmb	14 38 52.0		
	comp=Z,35nm,0.8s							
K57A	**Scipio Center**	**70.25**	**350**	P	**P**	**14 38 50.9**	**+0.2**
	baz=168,SNR=5.8							
M50A	**Fremont**	**70.27**	**344**	IAmb	IAmb	14 38 52.1		
	comp=Z,87nm,0.9s							
M50A	**Fremont**	**70.27**	**344**	P	**P**	**14 38 50.9**	**0.0**
	baz=161							
M50A				P	**P**	**14 38 50.9**	**0.0**
	baz=161							
WVNY	**West Valley, N**	**70.29**	**348**	P	**P**	**14 38 52.0**	**+1.0**
	baz=166,SNR=20							
J61A	**Chester**	**70.32**	**353**	P	**P**	**14 38 52.9**	**+1.7**
	baz=171,SNR=5.7							
J61A				P	**P**	**14 38 52.9**	**+1.7**
	baz=171,SNR=5.7							
OK048	**Pawnee Station**	**70.39**	**332**	IAmb	IAmb	14 38 53.6		
	comp=Z,95nm,1.0s							
SFIN	**Lafayette**	**70.39**	**341**	IAmb	IAmb	14 38 52.0		
	comp=Z,90nm,0.7s							
SFIN	**Lafayette**	**70.39**	**341**	P	**P**	**14 38 50.9**	**-0.7**
	baz=158,SNR=7.0							
SFIN	**Lafayette**	**70.39**	**341**	P	**P**	**14 38 51.2**	**-0.4**
	baz=158,SNR=7.0							
P43A	**Skaggs, Pawnee**	**70.46**	**339**	P	**P**	**14 38 51.5**	**-0.5**
	baz=155,SNR=11							
N47A	**Urbana**	**70.46**	**342**	P	**P**	**14 38 51.4**	**-0.6**
	baz=159,SNR=13							
N47A				P	**P**	**14 38 51.4**	**-0.6**
	baz=159,SNR=13							
ACCN	**Adirondack Com**	**70.49**	**352**	P	**P**	**14 38 53.0**	**+0.8**
	baz=170,SNR=5.6							
O44A	**Mansfield**	**70.59**	**340**	P	**P**	**14 38 51.9**	**-1.0**
	baz=156,SNR=15							
MNTX	**Cornudas Mount**	**70.63**	**323**	P	**P**	**14 38 52.8**	**-0.5**
	baz=141,SNR=32							
MNTX	**Cornudas Mount**	**70.63**	**323**	P	**P**	**14 38 52.6**	**-0.6**
	baz=141,SNR=32							
T35A	**Sooner Cattle**	**70.63**	**332**	IAmb	IAmb	14 38 55.1		
	comp=Z,81nm,0.9s							
T35B	**Sooner Cattle**	**70.63**	**332**	P	**P**	**14 38 53.7**	**+0.6**
	baz=149,SNR=26							
HNH	**Hanover**	**70.65**	**353**	IAmb	IAmb	14 38 56.1		
	comp=Z,42nm,0.8s							
J58A	**Remsen**	**70.68**	**351**	IAmb	IAmb	14 38 54.9		
	comp=Z,25nm,0.6s							
J58A	**Remsen**	**70.68**	**351**	P	**P**	**14 38 53.9**	**+0.7**
	baz=169,SNR=13							
J58A				P	**P**	**14 38 53.9**	**+0.7**
	baz=169,SNR=13							
SMWD	**Samnorwood**	**70.76**	**329**	IAmb	IAmb	14 38 56.0		
	comp=Z,62nm,0.9s							
BLOK	**Blackwell**	**70.80**	**332**	IAmb	IAmb	14 38 56.1		
	comp=Z,74nm,1.0s							
I63A	**Otisfield**	**70.83**	**355**	IAmb	IAmb	14 38 58.0		
	comp=Z,60nm,0.8s							
I63A	**Otisfield**	**70.83**	**355**	P	**P**	**14 38 55.9**	**+1.8**
	baz=173,SNR=12							
I63A				P	**P**	**14 38 55.9**	**+1.8**
	baz=173,SNR=12							
J57A	**Williamstown**	**70.83**	**350**	P	**P**	**14 38 54.6**	**+0.4**
	baz=168,SNR=7.9							
J57A				P	**P**	**14 38 54.6**	**+0.4**
	baz=168,SNR=7.9							
J56A	**Wolcott**	**70.84**	**350**	P	**P**	**14 38 54.4**	**+0.3**
	baz=167,SNR=7.0							
J56A				P	**P**	**14 38 54.4**	**+0.3**
	baz=167,SNR=7.0							
MCVT	**Middlebury Col**	**70.97**	**353**	P	**P**	**14 38 56.2**	**+1.3**
	baz=171,SNR=6.3							
J55A	**Hilton**	**70.98**	**349**	IAmb	IAmb	14 38 56.6		
	comp=Z,44nm,0.7s							
MSTX	**Muleshoe**	**71.06**	**326**	IAmb	IAmb	14 38 57.7		
	comp=Z,101nm,0.8s							
MSTX	**Muleshoe**	**71.06**	**326**	P	**P**	**14 38 56.5**	**+0.7**
	baz=143,SNR=40							
MSTX	**Muleshoe**	**71.06**	**326**	P	**P**	**14 38 56.5**	**+0.7**
	baz=143,SNR=40							
L48A	**N Adams**	**71.13**	**344**	IAmb	IAmb	14 38 56.7		
	comp=Z,75nm,0.7s							
L48A	**N Adams**	**71.13**	**344**	P	**P**	**14 38 55.6**	**-0.3**
	baz=160,SNR=5.6							
L48A				P	**P**	**14 38 55.6**	**-0.3**
	baz=160,SNR=5.6							
NCB	**Newcomb**	**71.14**	**352**	IAmb	IAmb	14 38 58.2		
	comp=Z,41nm,0.8s							
NCB	**Newcomb**	**71.14**	**352**	P	**P**	**14 38 56.6**	**+0.6**
	baz=170,SNR=12							
J54A	**Appleton**	**71.14**	**348**	IAmb	IAmb	14 38 57.2		
	comp=Z,48nm,0.7s							
J54A	**Appleton**	**71.14**	**348**	P	**P**	**14 38 56.3**	**+0.4**
	baz=166							
J54A				P	**P**	**14 38 56.3**	**+0.4**
	baz=166							
LBNH	**Lisbon**	**71.14**	**354**	IAmb	IAmb	14 38 58.7		
	comp=Z,42nm,0.7s							
LBNH	**Lisbon**	**71.14**	**354**	P	**P**	**14 38 57.4**	**+1.4**
	baz=172,SNR=8.4							
LBNH	**Lisbon**	**71.14**	**354**	P	**P**	**14 38 57.5**	**+1.5**
	baz=172,SNR=8.4							
ELIS	**Ellis County**	**71.17**	**330**	IAmb	IAmb	14 38 58.7		
	comp=Z,70nm,0.9s							
P40A	**Paris**	**71.21**	**337**	IAmb	IAmb	14 38 57.6		
	comp=Z,61nm,0.8s							
P40A	**Paris**	**71.21**	**337**	P	**P**	**14 38 56.3**	**-0.2**
	baz=153,SNR=19							
OK038	**West end E0370**	**71.22**	**331**	IAmb	IAmb	14 38 58.6		
	comp=Z,63nm,0.7s							
HDIL	**Hopedale**	**71.22**	**339**	P	**P**	**14 38 56.0**	**-0.4**
	baz=156,SNR=12							
HDIL	**Hopedale**	**71.22**	**339**	P	**P**	**14 38 56.1**	**-0.4**
	baz=156,SNR=12							
U32A	**Winter Ranch,**	**71.25**	**330**	IAmb	IAmb	14 38 59.0		
	comp=Z,64nm,0.8s							
U32A	**Winter Ranch,**	**71.25**	**330**	P	**P**	**14 38 57.7**	**+0.9**
	baz=147,SNR=17							
AMTX	**Amarillo**	**71.26**	**327**	IAmb	IAmb	14 38 58.7		
	comp=Z,38nm,0.8s							
AMTX	**Amarillo**	**71.26**	**327**	P	**P**	**14 38 56.9**	**0.0**
	baz=144							
AMTX	**Amarillo**	**71.26**	**327**	P	**P**	**14 38 57.4**	**+0.4**
	baz=144,SNR=18							
OK032	**Salt Plains WL**	**71.26**	**331**	IAmb	IAmb	14 38 58.9		
	comp=Z,91nm,0.9s							
WVL	**Waterville**	**71.26**	**355**	IAmb	IAmb	14 38 59.3		
	comp=Z,76nm,0.8s							
AAM	**Ann Arbor**	**71.27**	**344**	IAmb	IAmb	14 38 57.5		
	comp=Z,30nm,0.7s							
AAM	**Ann Arbor**	**71.27**	**344**	P	**P**	**14 38 57.0**	**+0.3**
	baz=161							
EMMW	**East Machias**	**71.27**	**357**	P	**P**	**14 38 58.0**	**+1.3**
	baz=176,SNR=9.0							
WCNY	**West Carthage**	**71.34**	**351**	P	**P**	**14 38 57.7**	**+0.6**
	baz=168,SNR=17							
H62A	**Milan**	**71.40**	**354**	IAmb	IAmb	14 38 59.9		
	comp=Z,38nm,0.6s							
H62A	**Milan**	**71.40**	**354**	P	**P**	**14 38 59.1**	**+1.7**
	baz=173,SNR=8.2							
H62A				P	**P**	**14 38 59.1**	**+1.7**
	baz=173,SNR=8.2							
K50A	**Casco**	**71.48**	**345**	P	**P**	**14 38 57.9**	**0.0**
	baz=162,SNR=13							
K50A				P	**P**	**14 38 57.9**	**0.0**
	baz=162,SNR=13							
SBA	**Scott Base**	**71.50**	**190**	P	**P**	**14 38 59.1**	**+1.5**
SBA				IAmb	IAmb	14 39 00.2		
	comp=Z,88nm,1.4s							
SBA	**Scott Base**	**71.50**	**190**	P	**P**	**14 38 59.1**	**+1.5**
SBA				pmax	pmax			
	comp=Z,88nm,1.5s							
KAN12	**Harper NE Stat**	**71.58**	**332**	IAmb	IAmb	14 39 00.8		
	comp=Z,69nm,0.7s							
SUR	**Sutherland**	**71.62**	**117**	P	**P**	**14 38 59.9**	**+0.5**
SUR				IAmb	IAmb	14 39 01.6		
	comp=Z,64nm,0.7s							
SUR	**Sutherland**	**71.62**	**117**	P	**P**	**14 39 00.3**	**+0.8**
L46A	**Eue Claire**	**71.68**	**342**	P	**P**	**14 38 58.3**	**-0.8**
	baz=159,SNR=6.7							
L46A				P	**P**	**14 38 58.3**	**-0.8**
	baz=159,SNR=6.7							
G65A	**Princeton**	**71.77**	**357**	IAmb	IAmb	14 39 02.3		
	comp=Z,42nm,0.7s							
G65A	**Princeton**	**71.77**	**357**	P	**P**	**14 39 00.9**	**+1.4**
	baz=176,SNR=7.0							
G65A				P	**P**	**14 39 00.9**	**+1.4**
	baz=176,SNR=7.0							
LONY	**Lake Ozonia**	**71.82**	**352**	P	**P**	**14 39 00.9**	**+1.0**
	baz=170,SNR=11							
P38A	**Dawn**	**71.82**	**336**	P	**P**	**14 38 59.6**	**-0.4**
	baz=152,SNR=93							
N41A	**Harden Midland**	**71.86**	**338**	P	**P**	**14 38 59.5**	**-0.7**
	baz=154,SNR=12							
FRNY	**Flat Rock**	**71.91**	**352**	IAmb	IAmb	14 39 02.8		
	comp=Z,38nm,0.8s							
FRNY	**Flat Rock**	**71.91**	**352**	P	**P**	**14 39 01.3**	**+0.9**
	baz=170,SNR=13							
PKME	**Peaks-Kenny Pk**	**71.94**	**356**	P	**P**	**14 39 01.5**	**+1.0**
	baz=174,SNR=19							
PKME	**Peaks-Kenny Pk**	**71.94**	**356**	P	**P**	**14 39 01.7**	**+1.2**
	baz=174,SNR=19							
G62A	**West of Eustis**	**71.98**	**355**	P	**P**	**14 39 02.4**	**+1.6**
	baz=173,SNR=18							
G62A				P	**P**	**14 39 02.4**	**+1.6**
	baz=173,SNR=18							
BMNY	**Brushton-Moira**	**72.03**	**352**	P	**P**	**14 39 02.2**	**+1.2**
	baz=170,SNR=14							
DELO	**Deloro Mine**	**72.17**	**349**	IAmb	IAmb	14 39 03.7		
	comp=Z,50nm,1.0s							
L44A	**Lake County Fo**	**72.29**	**341**	P	**P**	**14 39 02.2**	**-0.4**
	baz=157							
WBO	**Williamsburg**	**72.29**	**351**	IAmb	IAmb	14 39 04.8		
	comp=Z,92nm,0.9s							
F63A	**Nahmakanta, Br**	**72.36**	**356**	IAmb	IAmb	14 39 05.7		
	comp=Z,67nm,0.9s							
F63A	**Nahmakanta, Br**	**72.36**	**356**	P	**P**	**14 39 04.3**	**+1.3**
	baz=175,SNR=8.5							
F63A				P	**P**	**14 39 04.3**	**+1.3**
	baz=175,SNR=8.5							
H07S1	**FLORES T-PHASE**	**72.39**	**26**	*eP*	**P**	**14 39 07.3**	**+4.0**
J47A	**Sunmer**	**72.44**	**344**	IAmb	IAmb	14 39 04.6		
	comp=Z,70nm,0.9s							
J47A	**Sunmer**	**72.44**	**344**	P	**P**	**14 39 03.3**	**-0.2**
	baz=160,SNR=6.2							
J47A				P	**P**	**14 39 03.3**	**-0.2**
	baz=160,SNR=6.2							
F64A	**Sherman**	**72.47**	**356**	P	**P**	**14 39 04.9**	**+1.3**
	baz=175,SNR=22							
F64A				P	**P**	**14 39 04.9**	**+1.3**
	baz=175,SNR=22							
VNDA	**Vanda**	**72.47**	**189**	P	**P**	**14 39 04.5**	**+1.2**
VNDA	**Vanda**	**72.47**	**189**	P	**P**	**14 39 04.5**	**+1.2**
VNDA				pmax	pmax			
	comp=Z,36nm,0.9s							
VNDA	**Vanda**	**72.47**	**189**	P	**P**	**14 39 04.9**	**+1.6**
	comp=Z,44nm,1.1s,baz=132,slow=5.4,SNR=97							
VNDA				pP	**pP**	**14 41 01.6**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=138,slow=8.2,SNR=1.9							
	comp=Z,44nm,1.1s							
KSU1	**Kansas State U**	**72.54**	**333**	P	**P**	**14 39 04.3**	**+0.1**
	baz=149,SNR=14							
KSU1	**Kansas State U**	**72.54**	**333**	P	**P**	**14 39 04.1**	**-0.1**
	baz=149,SNR=14							
319A	**Douglas**	**72.56**	**320**	IAmb	IAmb	14 39 07.5		
	comp=Z,54nm,0.9s							
MNTQ	**Montreal, Queb**	**72.57**	**352**	IAmb	IAmb	14 39 06.5		
	comp=Z,67nm,0.8s							
121A	**Cookes Peak, D**	**72.58**	**322**	P	**P**	**14 39 06.3**	**+1.5**
	baz=139,SNR=20							
121A	**Cookes Peak, D**	**72.58**	**322**	P	**P**	**14 39 05.6**	**+0.8**
	baz=139,SNR=20							
F62A	**Pittston Farm,**	**72.61**	**355**	IAmb	IAmb	14 39 07.1		
	comp=Z,87nm,0.9s							
F62A	**Pittston Farm,**	**72.61**	**355**	P	**P**	**14 39 05.8**	**+1.4**
	baz=174							
F62A				P	**P**	**14 39 05.8**	**+1.4**
	baz=174							
I49A	**Point Hope**	**72.63**	**345**	P	**P**	**14 39 04.6**	**+0.1**
	baz=162,SNR=5.9							
I49A				P	**P**	**14 39 04.6**	**+0.1**
	baz=162,SNR=5.9							
L42A	**Oliver, Polo**	**72.65**	**340**	IAmb	IAmb	14 39 05.7		
	comp=Z,46nm,0.9s							
L42A	**Oliver, Polo**	**72.65**	**340**	P	**P**	**14 39 04.4**	**-0.3**
	baz=156,SNR=5.4							
SADO	**Sadowa**	**72.68**	**348**	IAmb	IAmb	14 39 05.9		
	comp=Z,47nm,0.7s							
CALA	**Caldeira**	**72.72**	**28**	*eP*	P	14 39 10.7	+5.4
N38A	**Joes South For**	**72.75**	**337**	IAmb	IAmb	14 39 06.2		
	comp=Z,63nm,0.8s							
N38A	**Joes South For**	**72.75**	**337**	P	**P**	**14 39 04.7**	**-0.6**
	baz=152,SNR=13							
PICO	**Pico**	**72.76**	**28**	*eP*	**P**	**14 39 06.8**	**+1.2**
PPNO	**Prainha do Nor**	**72.81**	**28**	*eP*	**P**	**14 39 07.2**	**+1.4**
R32A	**Long Quarter,**	**72.83**	**332**	P	**P**	**14 39 06.6**	**+0.7**
	baz=147,SNR=38							
PID	**Ribeirinha**	**72.84**	**28**	*eP*	**P**	**14 39 07.7**	**+1.7**
K43A	**Burlington**	**72.89**	**341**	P	**P**	**14 39 06.1**	**-0.1**
	baz=157,SNR=5.7							
PSMA	**Santa Maria**	**72.97**	**31**	*eP*	**P**	**14 39 07.3**	**+0.6**
PSMN	**Pico do Norte,**	**73.01**	**31**	*eP*	**P**	**14 39 07.3**	**+0.4**
PMAN	**Manadas**	**73.02**	**28**	*eP*	**P**	**14 39 08.0**	**+1.1**
ROSA	**Rosais**	**73.03**	**28**	*eP*	**P**	**14 39 08.0**	**+1.0**
ROSA	**Rosais**	**73.03**	**28**	P	**P**	**14 39 06.8**	**-0.1**
ROSA				IAmb	IAmb	14 39 09.4		
	comp=Z,73nm,0.7s							
E63A	**Oxbow**	**73.03**	**356**	P	**P**	**14 39 08.0**	**+1.2**
	baz=175,SNR=11							
E63A				P	**P**	**14 39 08.0**	**+1.2**
	baz=175,SNR=11							
L40A	**Anamosa**	**73.20**	**339**	P	**P**	**14 39 07.6**	**-0.3**
	baz=154,SNR=21							
Y22A	**Socorro**	**73.20**	**323**	P	**P**	**14 39 09.7**	**+1.4**
	baz=140,SNR=11							
PQI	**Presque Isle**	**73.26**	**357**	IAmb	IAmb	14 39 10.7		
	comp=Z,59nm,0.8s							
Y22D	**IRIS PASSCAL I**	**73.28**	**323**	P	**P**	**14 39 10.6**	**+1.9**
	baz=140							
Y22F	**Passcal Instru**	**73.28**	**323**	P	**P**	**14 39 10.4**	**+1.7**
	baz=140							
E62A	**Clayton Lake**	**73.30**	**356**	P	**P**	**14 39 09.9**	**+1.6**
	baz=174,SNR=30							
E62A				P	**P**	**14 39 09.9**	**+1.6**

G45A Suttons Bay 74.34 344 P **P** 14 39 14.5 +0.2
baz=159,SNR=10
G45A P **P** 14 39 14.5 +0.2
baz=159,SNR=10
H43A Windswept, Lux 74.36 342 IAmb IAmb 14 39 15.6
comp=Z,98nm,0.8s
H43A Windswept, Lux 74.36 342 P **P** 14 39 14.5 +0.1
baz=158,SNR=6.6
T25A Trinidad 74.38 327 IAmb IAmb 14 39 17.9
comp=Z,53nm,0.8s
T25A Trinidad 74.38 327 P **P** 14 39 16.4 +1.4
baz=143,SNR=43
TORD Torodi Ar. Bea 74.63 66 P **P** 14 39 16.2 -0.3
comp=Z,154nm,0.6s,baz=270,slow=4.8,SNR=277
TORD pP **pP** 14 41 16.1 +0.5
comp=Z,10nm,0.8s,baz=251,slow=6.3,SNR=3.5
TORD S **S** 14 48 04.1 -2.9
comp=Z,1.7nm,0.8s,baz=250,slow=9.5,SNR=6.3
TORD PKPPKP **P'P'df** 15 06 35.3 -3.6
comp=Z,1.3nm,0.9s,baz=325,slow=0.1,SNR=3.9
comp=Z,154nm,0.6s
I40A Norwalk 74.66 340 IAmb IAmb 14 39 17.2
comp=Z,54nm,0.9s
I40A Norwalk 74.66 340 P **P** 14 39 15.6 -0.4
baz=155,SNR=11
L34A Svendsen Farm, 74.92 335 P **P** 14 39 17.4 -0.2
baz=150,SNR=36
KSCO Kaye Shedlock' 75.04 329 P **P** 14 39 19.9 +1.4
baz=144,SNR=6.0
KSCO Kaye Shedlock' 75.04 329 P **P** 14 39 19.5 +1.0
baz=144,SNR=6.0
214A Organ Pipe Nat 75.05 318 IAmb IAmb 14 39 21.5
comp=Z,43nm,0.8s
214A Organ Pipe Nat 75.05 318 P **P** 14 39 19.9 +1.3
baz=136,SNR=17
BGNE Belgrade 75.12 334 P **P** 14 39 18.9 +0.1
baz=148,SNR=21
BGNE Belgrade 75.12 334 P **P** 14 39 18.8 +0.1
baz=148,SNR=21
E46A Sault Ste Mari 75.26 345 IAmb IAmb 14 39 20.7
comp=Z,66nm,1.1s
E46A Sault Ste Mari 75.26 345 P **P** 14 39 19.3 0.0
baz=161,SNR=8.7
SDCO Great Sand Dun 75.39 327 P **P** 14 39 22.0 +1.2
baz=142,SNR=32
SDCO Great Sand Dun 75.39 327 P **P** 14 39 21.9 +1.2
baz=142,SNR=32
W18A Petrified Fore 75.59 322 P **P** 14 39 23.2 +1.4
baz=138,SNR=7.7
VLDQ Val d'Or 75.64 350 IAmb IAmb 14 39 23.5
comp=Z,72nm,0.9s
F42A Maple Grove Fa 75.65 342 IAmb IAmb 14 39 23.7
comp=Z,43nm,0.6s
F42A Maple Grove Fa 75.65 342 P **P** 14 39 22.0 +0.4
baz=157,SNR=8.7
I37B Waseca 75.66 338 P **P** 14 39 21.5 -0.2
baz=153,SNR=30
G40A Rib Lake 75.78 341 P **P** 14 39 22.3 0.0
baz=156,SNR=6.0
DRLN Deer Lake 75.91 4 P **P** 14 39 23.3 +0.4
E43A Lone Tree Farm 75.92 343 P **P** 14 39 23.4 +0.3
baz=158,SNR=29
X16A Lo Mia Camp, P 76.02 321 IAmb IAmb 14 39 27.3
comp=Z,46nm,0.9s
Q24A Divide 76.18 328 IAmb IAmb 14 39 27.9
comp=Z,71nm,0.8s
Q24A Divide 76.18 328 P **P** 14 39 26.4 +1.4
baz=142,SNR=52
COWI Conover 76.24 342 IAmb IAmb 14 39 26.1
comp=Z,35nm,0.6s
COWI Conover 76.24 342 P **P** 14 39 25.5 +0.7
baz=156
OGNE Ogallala 76.35 331 IAmb IAmb 14 39 28.2
comp=Z,54nm,0.8s
OGNE Ogallala 76.35 331 P **P** 14 39 26.7 +1.1
baz=145
OGNE Ogallala 76.35 331 P **P** 14 39 26.7 +1.1
baz=145
MVCO Mesa Verde 76.50 324 P **P** 14 39 27.9 +1.2
baz=140,SNR=34
ECSD EROS Data Cent 76.53 336 IAmb IAmb 14 39 27.9
comp=Z,39nm,0.9s
SPMN Marine on St. 76.54 339 P **P** 14 39 26.2 -0.3
baz=153,SNR=11
SPMN Marine on St. 76.54 339 P **P** 14 39 25.9 -0.6
baz=153,SNR=11
BOSA Boshof 76.58 115 P **P** 14 39 27.2 -0.2
comp=Z,112nm,0.5s,baz=258,slow=3.8,SNR=498
comp=Z,112nm,0.5s
WUAZ Wupatki 76.78 322 P **P** 14 39 29.7 +1.5
baz=137,SNR=22
D41A Chassel 76.97 343 P **P** 14 39 29.8 +1.1
baz=157,SNR=54
GLA Glamis 77.03 318 P **P** 14 39 30.9 +1.5
baz=134,SNR=6.4
ISCO Idaho Springs 77.06 328 P **P** 14 39 31.2 +1.3
baz=142,SNR=60
ISCO Idaho Springs 77.06 328 P **P** 14 39 31.0 +1.2
baz=142,SNR=60
BRIGG Briggsdale 77.08 329 IAmb IAmb 14 39 32.2
comp=Z,41nm,0.8s
SMCO Snowmass 77.23 327 IAmb IAmb 14 39 34.1
comp=Z,43nm,0.7s
F36A Milaca 77.34 339 P **P** 14 39 30.7 -0.1
baz=153,SNR=24
E38A The Farm, Brul 77.39 341 P **P** 14 39 31.3 +0.2
baz=154,SNR=13
PDMCI Parker Dam,Lak 77.50 319 P **P** 14 39 33.4 +1.5
baz=135,SNR=7.2
IKP In-Ko-Pah, Jac 77.53 317 P **P** 14 39 33.7 +1.4
baz=133
SWSC Sam W. Stewart 77.54 317 P **P** 14 39 33.8 +1.6
baz=134
MAW Mawson 77.77 162 P **P** 14 39 33.3 +0.4
MAW Mawson 77.77 162 P **P** 14 39 33.3 +0.4
MAW pmax pmax
comp=Z,17nm,0.9s
MAW Mawson 77.77 162 P **P** 14 39 33.4 +0.6
comp=Z,55nm,0.7s,baz=214,slow=6.6,SNR=44
MAW pP **pP** 14 41 33.3 +0.2
comp=Z,15nm,0.7s,baz=231,slow=7.5,SNR=6.0
comp=Z,55nm,0.7s
BC3 Big Chuckawall 77.82 318 P **P** 14 39 35.3 +1.4
baz=134,SNR=20
MONP2 Monument Peak 77.89 317 P **P** 14 39 35.9 +1.6
baz=133
IRM Iron Mountain 77.99 318 P **P** 14 39 36.5 +1.8
baz=134,SNR=7.8
SUSD Miller 78.01 335 IAmb IAmb 14 39 35.8
comp=Z,76nm,0.8s
SUSD Miller 78.01 335 P **P** 14 39 34.9 +0.4
baz=148
SUSD Miller 78.01 335 P **P** 14 39 34.6 +0.1
baz=148
N23A Red Feather La 78.08 328 P **P** 14 39 36.6 +1.4
baz=142,SNR=14
NEE2 Needles Airpor 78.10 319 P **P** 14 39 36.7 +1.5
baz=135
HMU Henry Mountain 78.22 324 IAmb IAmb 14 39 40.5
comp=Z,66nm,1.2s
F33A 5 Mile Ranch, 78.24 337 P **P** 14 39 36.2 +0.5
baz=150
LBTB Lobatse 78.30 112 IAmb IAmb 14 39 37.9
comp=Z,102nm,0.8s
BELC Belle Mtn. Jos 78.39 318 P **P** 14 39 38.4 +1.5
baz=134,SNR=14
TPFO Pinon Flats 78.40 317 P **P** 14 39 38.5 +1.5
baz=133
PFO Pinyon Flats O 78.40 317 P **P** 14 39 38.2 +1.2
PFO Pinyon Flats O 78.40 317 P **P** 14 39 38.6 +1.6
baz=133
PFO Pinyon Flats O 78.40 317 *i* P **P** 14 39 38.1 +1.2
PFO pmax pmax
comp=Z,77nm,2.0s
EYMN Ely 78.59 341 IAmb IAmb 14 39 38.9
comp=Z,61nm,0.8s
EYMN Ely 78.59 341 P **P** 14 39 37.5 0.0
baz=155,SNR=18
O20A White River Ci 78.59 327 IAmb IAmb 14 39 40.9
comp=Z,146nm,1.6s
O20A White River Ci 78.59 327 P **P** 14 39 39.4 +1.4
baz=140,SNR=18
KNB Kanab 78.68 322 IAmb IAmb 14 39 41.7
comp=Z,122nm,0.8s
PKCU Pink Cliffs 78.70 322 IAmb IAmb 14 39 41.4
comp=Z,35nm,0.6s
GMRC Granite Mounta 78.73 318 P **P** 14 39 40.2 +1.6
baz=134,SNR=27

MURC Murrieta 78.84 317 P **P** 14 39 40.9 +1.6
baz=133,SNR=6.3
SRU San Rafael Swe 78.98 324 IAmb IAmb 14 39 42.5
comp=Z,58nm,0.8s
BBRC Big Bear Solar 79.13 317 P **P** 14 39 42.4 +1.4
baz=133
HEC Hector,Ludlow 79.16 318 P **P** 14 39 42.6 +1.7
baz=134,SNR=12
P18A Preston Nutter 79.22 325 IAmb IAmb 14 39 44.3
comp=Z,52nm,0.8s
RWWY Rawlins 79.30 328 IAmb IAmb 14 39 44.4
comp=Z,86nm,0.8s
TUQ Turquoise Moun 79.33 319 P **P** 14 39 43.2 +1.3
baz=134
CCUT Cedar City 79.36 322 IAmb IAmb 14 39 45.5
comp=Z,64nm,0.8s
CIS Catalina Islan 79.47 316 P **P** 14 39 43.8 +1.3
baz=132
BFSC Mount Baldy Ra 79.56 317 P **P** 14 39 44.4 +1.3
baz=133
RRX Edison Barstow 79.59 318 P **P** 14 39 44.4 +1.3
baz=133
D32A Dogwood Acres, 79.61 337 IAmb IAmb 14 39 44.5
comp=Z,78nm,0.6s
B35A Bob, Littlefor 79.62 340 P **P** 14 39 43.3 +0.4
baz=153,SNR=100
K22A Casper 79.73 329 P **P** 14 39 44.9 +1.1
baz=142,SNR=11
K22A Casper 79.73 329 P **P** 14 39 45.2 +1.4
baz=142,SNR=11
GSC Goldstone, Bar 79.77 318 P **P** 14 39 45.4 +1.3
baz=133,SNR=9.8
RSSD Black Hills 79.80 332 P **P** 14 39 44.3 +0.1
RSSD Black Hills 79.80 332 P **P** 14 39 45.1 +0.9
baz=144
RSSD Black Hills 79.80 332 P **P** 14 39 44.8 +0.6
baz=144,SNR=18
RSSD Black Hills 79.80 332 P **P** 14 39 44.3 +0.1
RSSD pmax pmax
comp=Z,25nm,0.8s
SHOC Shoshone, Teco 79.86 319 P **P** 14 39 45.5 +1.0
baz=134
DECC Green Verdugo 79.98 316 P **P** 14 39 46.2 +1.0
baz=132
BSUT Blindstream Ca 80.16 325 IAmb IAmb 14 39 49.3
comp=Z,50nm,0.9s
EDW2 Edwards Air Fo 80.19 317 P **P** 14 39 47.4 +1.1
baz=132,SNR=6.6
PRN Pahroc Range 80.20 321 IAmb IAmb 14 39 49.7
comp=Z,47nm,0.9s
AGMN Agassiz Nation 80.24 339 IAmb IAmb 14 39 47.9
comp=Z,111nm,0.8s
AGMN Agassiz Nation 80.24 339 P **P** 14 39 46.6 +0.5
baz=151,SNR=69
LRMC Laurel Mtn Rad 80.41 318 P **P** 14 39 48.4 +0.9
baz=133
OSI Osito Audit: C 80.46 317 P **P** 14 39 48.9 +1.2
baz=132
E28A Huff 80.47 335 P **P** 14 39 48.3 +0.9
baz=147,SNR=14
FURC Furnace Creek, 80.60 319 P **P** 14 39 50.2 +1.9
baz=133,SNR=9.0
SCZ2 Santa Cruz Isl 80.62 316 P **P** 14 39 49.8 +1.3
baz=131
MPMC Manual Prospec 80.69 318 P **P** 14 39 50.3 +1.3
baz=133,SNR=9.8
TCUT Toone Canyon 80.92 325 IAmb IAmb 14 39 54.5
comp=Z,58nm,0.8s
DUG Dugway, Tooele 80.97 324 P **P** 14 39 51.6 +1.3
baz=137,SNR=22
ISA Isabella, Lake 81.01 317 IAmb IAmb 14 39 53.4
comp=Z,97nm,1.9s
ISA Isabella, Lake 81.01 317 P **P** 14 39 51.9 +1.4
baz=132,SNR=7.9
BCW Bitter Crk WRg 81.10 316 IAmb IAmb 14 39 54.0
comp=Z,162nm,1.9s
MDND Maddock 81.14 336 P **P** 14 39 51.7 +0.9
baz=148,SNR=32
MDND Maddock 81.14 336 P **P** 14 39 51.8 +0.9
baz=148,SNR=32
R11B Troy Canyon, C 81.16 321 P **P** 14 39 52.8 +1.4
baz=134,SNR=53
BW06 Boulder Array 81.24 327 P **P** 14 39 52.2 +0.4
baz=139,SNR=43
PDAR Pinedale Array 81.24 327 P **P** 14 39 52.1 +0.4
comp=Z,9.7nm,0.4s,baz=137,slow=7.6,SNR=166
PDAR pP **pP** 14 41 54.9 +1.1
comp=Z,1.9nm,0.6s,baz=134,slow=8.9,SNR=4.5
PDAR PKKPbc **PKKPbc** 14 58 21.8 -1.8
comp=Z,0.9nm,0.6s,baz=211,slow=1.1,SNR=7.0
comp=Z,9.7nm,0.4s
GRAC Grapevine Rang 81.25 319 P **P** 14 39 52.9 +1.2
baz=133
CWC Cottonwood Cre 81.30 318 P **P** 14 39 53.6 +1.6
baz=133
PKM Mcpherson Peak 81.32 316 P **P** 14 39 53.6 +1.3
baz=131,SNR=12
HWUT Hardware Ranch 81.36 326 IAmb IAmb 14 39 56.5
comp=Z,51nm,0.8s
SCHQ Schefferville 81.37 358 IAmb IAmb 14 39 53.5
comp=Z,66nm,0.8s
SCHQ Schefferville 81.37 358 P **P** 14 39 51.9 +0.1
comp=Z,48nm,0.7s,baz=176,slow=4.3,SNR=59
comp=Z,48nm,0.7s
VES Vestal, Richgr 81.50 317 P **P** 14 39 54.1 +1.2
baz=132,SNR=17
SPUT South Promonto 81.59 325 IAmb IAmb 14 39 55.9
comp=Z,49nm,0.8s
SMMC Simmler 81.71 316 P **P** 14 39 55.6 +1.5
baz=131,SNR=6.5
TIN Tinemaha, Big 81.80 319 P **P** 14 39 56.1 +1.5
baz=132
ULM Lac du Bonnet 81.95 340 IAmb IAmb 14 39 56.4
comp=Z,57nm,0.8s
ULM Lac du Bonnet 81.95 340 *eP* **P** 14 39 54.7 -0.2
ULM pmax pmax
comp=Z,41nm,0.7s
ULM Lac du Bonnet 81.95 340 P **P** 14 39 54.9 0.0
comp=Z,41nm,0.7s,baz=148,slow=6.6,SNR=85
ULM pP **pP** 14 41 57.1 -0.3
comp=Z,24nm,1.3s,baz=149,slow=5.1,SNR=3.6
ULM PKKPbc **PKKPbc** 14 58 19.6 -2.4
comp=Z,4.0nm,0.7s,baz=26,slow=2.4,SNR=7.8
comp=Z,41nm,0.7s
AHID Auburn Hatcher 81.99 327 IAmb IAmb 14 39 57.8
comp=Z,39nm,0.8s
PTEO Sao Teotonio 82.05 41 *eP* **P** 14 39 56.8 +1.1
comp=Z,82nm,1.1s
HVU Hansel Valley 82.10 325 IAmb IAmb 14 39 58.1
comp=Z,31nm,0.7s
PBDV Barranco-do-Ve 82.31 42 *eP* **P** 14 39 57.8 +0.7
comp=Z,72nm,1.6s
PCVE Castro Verde 82.51 41 *eP* **P** 14 39 58.6 +0.6
comp=Z,49nm,1.9s
MESJ Messejana 82.54 41 *eP* **P** 14 39 58.9 +0.7
comp=Z,66nm,1.6s
MESJ Messejana 82.54 41 *eP* **P** 14 39 58.6 +0.5
MESJ IAmb IAmb 14 40 00.1
comp=Z,26nm,0.7s
MESJ Messejana 82.54 41 *eP* **P** 14 39 58.6 +0.5
PNCL Nicolau / Gran 82.54 41 *eP* **P** 14 39 58.7 +0.6
comp=Z,45nm,1.6s
PVAQ Vaqueiros 82.55 42 *eP* **P** 14 39 58.8 +0.6
comp=Z,92nm,1.7s
LIS Lisbon 82.60 40 *eP* **P** 14 40 01.0 +2.6
comp=Z,191nm,1.6s
IMW Indian Meadow 82.75 327 IAmb IAmb 14 40 01.8
comp=Z,51nm,0.8s
NVAR Mina Array Bea 82.77 320 P **P** 14 40 00.4 +0.8
comp=Z,7.3nm,0.8s,baz=141,slow=4.9,SNR=40
NVAR pP **pP** 14 42 05.0 +2.6
comp=Z,1.6nm,0.9s,baz=134,slow=5.2,SNR=2.5
NVAR PKKPbc **PKKPbc** 14 58 20.5 +0.7
comp=Z,0.8nm,0.6s,baz=282,slow=1.7,SNR=5.4
comp=Z,7.3nm,0.8s
LAO LASA Array 82.77 332 IAmb IAmb 14 40 01.0
comp=Z,41nm,0.8s
LAO LASA Array 82.77 332 P **P** 14 39 59.7 +0.5
baz=142,SNR=6.0
PBEJ Beja 82.87 41 *eP* **P** 14 40 00.8 +1.0
comp=Z,50nm,2.2s
RLMT Red Lodge 82.89 329 P **P** 14 40 00.7 +0.7
baz=140,SNR=30
TAM Tamanrasset 82.90 60 IAmb IAmb 14 40 02.3
comp=Z,48nm,0.8s
H17A Grant Village 82.95 328 P **P** 14 40 01.8 +1.4
baz=139,SNR=9.0
EVO Evora 83.13 41 *eP* **P** 14 40 02.3 +1.2

comp=Z,39nm,2.1s
PSBE So Bento 83.34 39 *eP* **P** 14 40 03.1 +1.0
comp=Z,182nm,1.8s
PMTG Montargil 83.36 40 *eP* **P** 14 40 02.7 +0.5
comp=Z,97nm,1.0s
DGMT Dagmar 83.38 334 P **P** 14 40 03.1 +1.0
baz=144,SNR=28
PBAR Barranco 83.46 41 *eP* **P** 14 40 03.0 +0.3
comp=Z,58nm,1.5s
WAKR Walker 83.48 319 IAmb IAmb 14 40 06.2
comp=Z,161nm,2.0s
PESTR Estremoz 83.60 41 *eP* **P** 14 40 03.8 +0.4
comp=Z,54nm,1.7s
PESTR Estremoz 83.60 41 P **P** 14 40 03.6 +0.2
PESTR IAmb IAmb 14 40 04.9
comp=Z,36nm,0.7s
YERR Yerington 83.69 320 IAmb IAmb 14 40 06.8
comp=Z,170nm,2.0s
PCAS Casmilo, Conde 83.87 39 *eP* **P** 14 40 05.0 +0.3
comp=Z,89nm,0.9s
PNTR Pine Nut 83.96 319 IAmb IAmb 14 40 08.4
comp=Z,54nm,0.8s
COI Coimbra 84.03 39 *eP* **P** 14 40 06.4 +0.9
comp=Z,75nm,0.8s
COI Coimbra 84.03 39 IAmb IAmb 14 40 07.4
comp=Z,73nm,1.0s
PMRV Marv??o 84.09 40 *eP* **P** 14 40 05.8 0.0
comp=Z,49nm,1.6s
HLID Hailey 84.22 325 IAmb IAmb 14 40 09.6
comp=Z,69nm,0.8s
HLID Hailey 84.22 325 P **P** 14 40 08.1 +1.5
baz=136,SNR=138
PAHR Pah Rah Range 84.25 320 IAmb IAmb 14 40 09.6
comp=Z,39nm,0.9s
PCBR Castelo Branco 84.31 40 *eP* **P** 14 40 06.9 0.0
comp=Z,69nm,1.3s
BOZ Bozeman (W) 84.35 328 IAmb IAmb 14 40 09.6
comp=Z,82nm,2.0s
BOZ Bozeman (W) 84.35 328 P **P** 14 40 07.6 +0.4
baz=138,SNR=14
PTO Porto 84.55 38 *eP* **P** 14 40 08.4 +0.4
comp=Z,130nm,1.9s
LSZ Lusaka 84.64 104 P **P** 14 40 10.0 +0.7
LSZ Lusaka 84.64 104 P **P** 14 40 10.0 +0.7
LSZ pmax pmax
comp=Z,125nm,0.9s
MTE Manteigas 84.65 39 *eP* **P** 14 40 08.4 -0.2
comp=Z,102nm,0.9s
MTE Manteigas 84.65 39 P **P** 14 40 08.0 -0.7
MTE IAmb IAmb 14 40 10.2
comp=Z,82nm,1.0s
PVIS Viseu 84.66 39 *eP* **P** 14 40 08.5 -0.2
PVRL Vila Real 85.14 39 *eP* **P** 14 40 11.5 +0.6
comp=Z,102nm,0.9s
PGAV Gavieira, Arco 85.30 38 *eP* **P** 14 40 12.3 +0.6
comp=Z,41nm,1.7s
EGMT Eagleton 85.32 331 IAmb IAmb 14 40 13.4
comp=Z,40nm,1.1s
EGMT Eagleton 85.32 331 P **P** 14 40 12.3 +0.5
baz=140,SNR=14
ORV Oroville 85.38 319 P **P** 14 40 12.9 +0.8
ORV IAmb IAmb 14 40 14.8
comp=Z,59nm,1.3s
ORV Oroville 85.38 319 P **P** 14 40 12.9 +0.8
ORV pmax pmax
comp=Z,59nm,1.3s
MVO Moncorvo 85.45 39 *eP* **P** 14 40 12.8 +0.3
comp=Z,102nm,2.0s
PAB San Pablo 85.94 42 P **P** 14 40 14.6 -0.3
PAB IAmb IAmb 14 40 16.7
comp=Z,34nm,1.1s
PAB San Pablo 85.94 42 P **P** 14 40 14.6 -0.3
PAB pmax pmax
comp=Z,34nm,1.1s
PBRG Braganca 86.03 39 *eP* **P** 14 40 15.5 +0.3
comp=Z,38nm,2.1s
PLID Pearl Lake 86.11 326 IAmb IAmb 14 40 18.1
comp=Z,59nm,0.9s
ESDC Sonseca Array 86.26 42 IAmb IAmb 14 40 18.4
comp=Z,66nm,1.7s
ESDC Sonseca Array 86.26 42 P **P** 14 40 16.6 +0.2
comp=Z,14nm,0.7s,baz=235,slow=4.8,SNR=96
ESDC pP **pP** 14 42 20.4 +0.3
comp=Z,4.6nm,1.0s,baz=252,slow=3.6,SNR=7.5
comp=Z,14nm,0.7s
K05A Summer Lake 87.10 322 IAmb IAmb 14 40 23.2
comp=Z,70nm,1.1s
F10A Beach Ranch, E 87.34 326 IAmb IAmb 14 40 29.9
comp=Z,27nm,0.7s
K04D Chiloquin, OR 87.51 321 IAmb IAmb 14 40 24.8
comp=Z,50nm,1.1s
J05D Fort Rock, OR 87.65 322 IAmb IAmb 14 40 25.5
comp=Z,95nm,1.8s
FFC Flin Flon 87.72 339 P **P** 14 40 23.6 +0.9
FFC IAmb IAmb 14 40 24.7
comp=Z,34nm,0.9s
FFC Flin Flon 87.72 339 P **P** 14 40 23.6 +0.9
FFC pmax pmax
comp=Z,35nm,0.9s
PINE Pine Mountain 87.83 322 IAmb IAmb 14 40 26.1
comp=Z,20nm,0.9s
I05D Terrebonne, OR 88.40 323 IAmb IAmb 14 40 28.4
comp=Z,18nm,0.7s
I04A Tendick Farm, 88.64 322 IAmb IAmb 14 40 28.9
comp=Z,53nm,1.8s
K02D Willamette Mer 88.64 320 IAmb IAmb 14 40 30.2
comp=Z,48nm,1.0s
DBO Dodson Butte 88.67 321 IAmb IAmb 14 40 30.2
comp=Z,34nm,0.8s
HAWA Hanford 88.80 325 IAmb IAmb 14 40 31.2
comp=Z,15nm,0.8s
NRS Narsarsuaq 88.87 9 IAmb IAmb 14 40 29.7
comp=Z,40nm,0.9s
NEW Newport 88.88 327 P **P** 14 40 28.5 +0.1
baz=134,SNR=16
NEW Newport 88.88 327 P **P** 14 40 28.5 +0.1
comp=Z,9.8nm,0.7s,baz=135,slow=6.0,SNR=32
comp=Z,9.8nm,0.7s
H04A Detroit Lake 89.08 322 IAmb IAmb 14 40 30.9
comp=Z,22nm,0.8s
C09A Chrisman Ranch 89.12 327 IAmb IAmb 14 40 31.3
comp=Z,37nm,0.8s
HOOD Mount Hood Mea 89.21 323 IAmb IAmb 14 40 32.3
comp=Z,15nm,0.7s
BUCK Buck Mountain 89.21 322 IAmb IAmb 14 40 32.1
comp=Z,38nm,0.8s
COR Corvallis 89.64 322 P **P** 14 40 32.8 +0.9
COR Corvallis 89.64 322 P **P** 14 40 32.8 +0.9
COR pmax pmax
comp=Z,55nm,0.9s
F04A Amboy 90.02 323 IAmb IAmb 14 40 35.1
comp=Z,32nm,0.7s
D05A Enumclaw 90.60 324 IAmb IAmb 14 40 37.9
comp=Z,24nm,1.0s
EPF Esparros 90.87 41 P **P** 14 40 38.4 +0.7
E03A Lebam 91.02 323 IAmb IAmb 14 40 40.1
comp=Z,22nm,0.8s
QUIF Quistinic 91.93 36 P **P** 14 40 41.5 -0.9
ROSF Rostrenen 92.14 35 P **P** 14 40 42.5 -0.8
LFF La Frestale 92.24 40 P **P** 14 40 43.6 -0.3
MFF Saint Martin d 92.74 38 P **P** 14 40 45.7 -0.4
BRLDA Berland Lookou 93.05 331 IAmb IAmb 14 40 48.4
comp=Z,18nm,0.8s
DSB Dublin 93.81 30 IAmb IAmb 14 40 51.1
comp=Z,17nm,0.7s
LDF La Druitiere 93.95 36 P **P** 14 40 50.7 -0.9
VIVF Saint-Julien-l 94.48 41 P **P** 14 40 54.2 0.0
MONM Monmouth 94.57 33 *eP* **P** 14 40 53.1 -1.3
MCH1 Michaelchurch 94.58 33 *eP* **P** 14 40 53.3 -1.1
LLW Llanuwchllyn 94.80 32 *eP* **P** 14 40 54.4 -0.9
AVF Avril sur Loir 94.80 39 P **P** 14 40 54.9 -0.6
SMF Signal de Mont 95.00 40 P **P** 14 40 54.9 -1.6
SSF Saint Saulge 95.04 39 P **P** 14 40 55.8 -0.8
FOEL Foel Wylfa 95.04 32 *eP* **P** 14 40 56.2 -0.3
FOEL IAmb IAmb 14 40 58.2
comp=Z,19nm,0.8s
CLGH Cloghs, Cushen 95.14 29 *eP* **P** 14 40 56.3 -0.6
WIM Isle of Man 95.16 30 *eP* **P** 14 40 56.1 -0.9
ORIF Oris-en-Rattie 95.23 42 P **P** 14 40 58.0 +0.3
LOR Lormes 95.36 39 P **P** 14 40 57.3 -0.8
GAL1 Galloway 95.61 30 *eP* **P** 14 40 57.7 -1.3
GAL1 IAmb IAmb 14 41 01.4
comp=Z,22nm,1.2s
CWF Charnwood Fore 95.85 33 *eP* **P** 14 40 59.3 -0.8
NEWG New Galloway 95.98 30 *eP* **P** 14 41 00.0 -0.6
LBWR Ladybower, Pea 96.06 32 *eP* **P** 14 41 00.7 -0.3
LBWR IAmb IAmb 14 41 02.1

comp=Z,15nm,0.8s
LPL La Plagne 96.06 42 P **P** 14 41 01.9 +0.3
LPG La Plagne 96.06 42 P **P** 14 41 02.0 +0.3
KESW Keswick, Cumbr 96.15 31 *e*P **P** 14 41 00.9 -0.5
KESW IAmb IAmb 14 41 02.0
comp=Z,17nm,0.6s
ESK Eskdalemuir 96.56 30 *e*P **P** 14 41 02.4 -0.9
ESK IAmb IAmb 14 41 03.1
comp=Z,13nm,0.6s
ESK Eskdalemuir 96.56 30 P **P** 14 41 02.3 -0.9
ESK IAmb IAmb 14 41 03.3
comp=Z,12nm,0.7s
ESK Eskdalemuir 96.56 30 P **P** 14 41 02.3 -0.9
ESK pmax pmax
comp=Z,12nm,0.7s
EKA Eskdalemuir Ar 96.60 30 P **P** 14 41 02.4 -1.0
comp=Z,5.6nm,0.7s,baz=226,slow=1.4,SNR=34
EKA pP **pP** 14 43 08.0 -1.0
comp=Z,2.0nm,0.8s,baz=232,slow=3.5,SNR=3.8
EKA PKKPbc **PKKPbc** 14 57 44.6 -1.0
comp=Z,1.1nm,0.6s,baz=54,slow=3.6,SNR=5.5
comp=Z,5.6nm,0.7s
WACR West Acre 96.79 33 *e*P **P** 14 41 03.6 -0.7
WACR IAmb IAmb 14 41 04.7
comp=Z,46nm,0.8s
EDMD Edmundbyers 96.83 31 *e*P **P** 14 41 03.8 -0.7
EDMD IAmb IAmb 14 41 05.2
comp=Z,12nm,0.6s
INVG Invergeldie, C 96.90 29 *e*P **P** 14 41 04.4 -0.3
INVG IAmb IAmb 14 41 05.0
comp=Z,25nm,0.9s
BAIF Baives 97.11 37 P Pdif 14 41 05.0 -0.8
DOU Dourbes 97.34 37 *d*P Pdif 14 41 06.2 -0.7
comp=Z,6.4nm,1.0s
GIVF Givet 97.46 37 P Pdif 14 41 06.7 -0.7
BMRD Maredsous 97.54 37 *d*P **P** 14 41 07.8 0.0
comp=Z,14nm,0.8s
RCHB Rochefort 97.71 37 *d*P Pdif 14 41 07.9 -0.6
BGES Gesves 97.76 37 *d*P Pdif 14 41 08.4 -0.3
comp=Z,9.9nm,0.7s
BCLA Clavier 97.89 37 *d*P Pdif 14 41 09.2 -0.1
comp=Z,7.1nm,0.7s
YKA Yellowknife Ar 97.90 339 *e*P Pdif 14 41 08.9 -0.1
YKA pmax pmax
comp=Z,6.0nm,0.6s
YKA Yellowknife Ar 97.90 339 P Pdif 14 41 08.9 -0.1
comp=Z,5.1nm,0.6s,baz=124,slow=4.1,SNR=106
YKA pP pP 14 43 14.2 -0.7
comp=Z,6.6nm,0.9s,baz=126,slow=4.1,SNR=21
YKA PKiKP **PKiKP** 14 45 39.3 +0.6
comp=Z,0.7nm,0.7s,baz=131,slow=2.0,SNR=3.8
YKA PKKPbc **PKKPbc** 14 57 40.2 -2.1
comp=Z,0.4nm,0.5s,baz=319,slow=2.6,SNR=7.7
comp=Z,5.1nm,0.6s
WLF Walferdange 97.95 38 *d*P **P** 14 41 09.9 +0.3
comp=Z,19nm,0.9s
BSTI Sart Tilman 98.12 37 *d*P **P** 14 41 10.7 +0.4
MEM Membach 98.37 37 *d*P Pdif 14 41 10.7 -0.8
comp=Z,7.8nm,0.8s
BTNL Ternell 98.43 37 *d*P **P** 14 41 12.2 +0.4
comp=Z,5.1nm,0.6s
FUORN Ofenpass-Fuorn 98.74 42 IAmb IAmb 14 41 15.2
comp=Z,5.0nm,0.8s
DAVA Damuels 98.84 41 *i* Pdiff **P** 14 41 14.7 +0.7
comp=Z,6.2nm,0.6s
FETA Feichten 99.22 42 *e*Pdiff **Pdif** 14 41 15.3 -0.2
comp=Z,3.5nm,0.7s
TOAD Toad River Com 99.44 332 P **Pdif** 14 41 17.3 +1.2
baz=127,SNR=5.9
RETA Reutte 99.46 41 *i* Pdiff **Pdif** 14 41 16.5 0.0
comp=Z,0.5nm,0.2s
FLDN Fort Liard 99.58 334 P **Pdif** 14 41 17.7 +1.2
baz=128
MOTA Moosalm 99.60 42 *e*Pdiff **Pdif** 14 41 17.4 +0.2
comp=Z,4.7nm,0.6s,SNR=6.5
SQTA Sankt Quirin 99.60 42 *e*Pdiff **Pdif** 14 41 17.5 +0.4
comp=Z,2.6nm,0.5s,SNR=5.8
KOTAN Kotaneelee Air 99.74 334 P **Pdif** 14 41 18.6 +1.3
baz=128
WTTA Wattenberg 99.87 42 *e*Pdiff **Pdif** 14 41 18.2 -0.2
comp=Z,2.0nm,0.6s
ABTA Abfaltersbach 100.15 43 *e*Pdiff **Pdif** 14 41 20.0 +0.4
comp=Z,3.3nm,0.6s,SNR=9.7
T35M Bob Quinn 100.55 329 P **Pdif** 14 41 22.0 +1.0
baz=123
LESA Schwarzleotal 100.57 42 *e*Pdiff **Pdif** 14 41 21.5 0.0
comp=Z,3.8nm,0.6s
MYKA Terra Mystica 100.78 43 *e*Pdiff **Pdif** 14 41 23.0 +0.7
comp=Z,3.3nm,0.5s
KBA Koelnbreinsper 100.81 43 *e*Pdiff **Pdif** 14 41 22.7 +0.1
comp=Z,2.3nm,0.6s,SNR=5.4
DLBC Dease Lake 101.25 331 P **Pdif** 14 41 25.8 +1.6
baz=123
BIOA Bad Ischl, Aus 101.27 42 *i* Pdiff **Pdif** 14 41 25.0 +0.5
comp=Z,0.8nm,0.3s
OBKA Obir 101.29 44 *i* Pdiff **Pdif** 14 41 25.8 +1.2
comp=Z,3.2nm,0.7s
WTLY Watson Lake, Y 101.66 332 P **Pdif** 14 41 27.6 +1.7
baz=124
MOA Molln 101.72 42 *e*Pdiff **Pdif** 14 41 27.0 +0.6
comp=Z,0.9nm,0.4s
GERES GERESS Array B 101.84 41 P **Pdif** 14 41 27.9 +0.8
comp=Z,1.1nm,0.7s,baz=188,slow=2.9,SNR=5.4
GERES pP pP 14 43 33.1 +0.1
comp=Z,0.7nm,0.6s,baz=234,slow=6.0,SNR=2.9
GERES PKiKP **PKiKP** 14 45 46.8 +0.4
comp=Z,1.0nm,0.7s,baz=202,slow=1.1,SNR=5.2
KHC Kasperske Hory 101.90 41 *i* P **Pdif** 14 41 26.5 -0.7
R33M Jennings River 102.18 331 P **Pdif** 14 41 29.3 +0.9
baz=122
Q32M Nakina River 102.52 330 P **Pdif** 14 41 31.0 +1.0
baz=121
CLL Collm 102.56 39 *e*P **Pdif** 14 41 30.0 0.0
CLL Collm 102.56 39 *e*Pdif **Pdif** 14 41 30.0 0.0
S32K Kilisnoo 102.81 328 P **Pdif** 14 41 31.7 +0.8
baz=120
P33M Teslin, Yukon 103.41 331 P **Pdif** 14 41 34.7 +1.0
baz=121
NOA NORSAR Array B 106.06 29 PKiKP **PKiKP** 14 45 53.8 +0.2
comp=Z,0.7nm,0.7s,baz=246,slow=2.2,SNR=3.8
NOA PKKP **PKKPab** 14 57 34.5 +0.2
comp=Z,1.5nm,0.8s,baz=65,slow=4.5,SNR=4.5
M30M Minto, Yukon 106.23 332 P **PKiKP** 14 45 55.1 +1.2
baz=117
H31M Peel River 106.77 336 P **PKiKP** 14 45 54.5 -0.3
baz=118
HFS Hagfors 106.78 31 PKiKP **PKiKP** 14 45 54.2 -0.8
comp=Z,1.7nm,0.6s,baz=211,slow=5.0,SNR=2.5
HFS PKKP **PKKPab** 14 57 31.3 +0.2
comp=Z,2.5nm,0.6s,baz=90,slow=4.3,SNR=9.1
M29M Somme Creek 106.86 332 P **PKiKP** 14 45 56.4 +1.2
baz=116
O28M Mount Upton 106.90 330 P **PKiKP** 14 45 56.6 +1.0
baz=115
L29M L29M 107.01 333 P **PKiKP** 14 45 56.1 +0.7
baz=116
K29M Barlow Dome 107.09 334 P **PKiKP** 14 45 55.4 -0.2
baz=116
A36M Sachs Harbour 107.17 343 P **PKiKP** 14 45 55.3 0.0
baz=124
I30M Mount Dempster 107.26 335 P **PKiKP** 14 45 56.0 +0.1
baz=116
G31M Satah River 107.27 337 P **PKiKP** 14 45 55.9 +0.3
baz=118
YUK3 Moose Creek 107.43 331 P **PKiKP** 14 45 56.4 0.0
baz=114
INK Inuvik 107.67 338 PKKPbc PKKPbc 14 57 12.4 -1.4
comp=Z,5.5nm,0.6s,baz=333,slow=6.0,SNR=23
EPYK Eagle Plains 107.89 336 P **PKiKP** 14 45 57.4 +0.5
baz=116
DAWY Dawson 107.93 333 P **PKiKP** 14 45 57.7 +0.6
baz=114
G30M tAoh Zraii Nji 107.98 337 P **PKiKP** 14 45 58.3 +1.2
baz=116
F30M Barrier River 108.11 337 P **PKiKP** 14 45 58.2 +0.9
baz=116
MLR Muntele Rosu 108.17 48 PKiKP **PKiKP** 14 45 58.6 +0.4
comp=Z,2.0nm,0.6s,baz=252,slow=3.2,SNR=3.3
M27K Edge Creek, AK 108.28 331 P **PKiKP** 14 45 58.5 +0.6
baz=113
MCARA McCarthy VSAT 108.41 330 P **PKiKP** 14 45 59.3 +1.4
baz=112
H29M Whitestone 108.43 336 P **PKiKP** 14 45 59.0 +1.1
baz=114
KAIM Kayak Island 108.50 328 P **PKiKP** 14 45 59.1 +0.9
baz=111
L27K Beaver Creek, 108.53 332 P **PKiKP** 14 45 58.7 +0.5
baz=113
G29M Pine Creek 108.59 336 P **PKiKP** 14 45 58.8 +0.6
baz=115
I28M Miner Creek 108.70 335 P **PKiKP** 14 45 58.8 +0.2
baz=113
M26K Nabesna, AK 108.78 331 P **PKiKP** 14 45 60.0 +1.3
baz=112
EGAK Eagle 108.92 334 P **PKiKP** 14 45 59.8 +1.0
baz=113
BMRM Bremner River 108.97 329 P **PKiKP** 14 45 59.9 +0.8
baz=111
K27K Chicken 109.00 333 P **PKiKP** 14 46 00.1 +1.1
baz=112
L26K Log Cabin Wild 109.16 332 P **PKiKP** 14 46 00.0 +0.6
baz=111
E29M Blow River 109.16 338 P **PKiKP** 14 45 59.7 +0.5
baz=114
N25K Chitina, Valde 109.19 330 P **PKiKP** 14 46 00.5 +0.9
baz=111
Q23K Middleton Isla 109.24 328 P **PKiKP** 14 46 00.5 +1.0
baz=110
EYAK Cordova Ski Ar 109.34 329 P **PKiKP** 14 46 00.5 +0.9
baz=110
I27K Kandik River 109.41 334 P **PKiKP** 14 46 00.5 +0.7
baz=112
F28M Old Crow 109.53 337 P **PKiKP** 14 46 00.1 +0.2
baz=113
H27K Steamboat Moun 109.61 335 P **PKiKP** 14 46 00.4 +0.2
baz=112
HARP HAARP 109.72 331 P **PKiKP** 14 46 01.0 +0.6
baz=110
KLU Klutina 109.75 330 P **PKiKP** 14 46 00.6 0.0
baz=110
SCRK Sand Creek 109.77 332 P **PKiKP** 14 46 00.5 -0.1
baz=110
J26L Joseph Creek 109.78 333 P **PKiKP** 14 46 01.5 +0.9
baz=111
E28M Babbage River 109.80 338 P **PKiKP** 14 46 00.5 +0.1
baz=113
D28M Stokes Point 109.82 339 P **PKiKP** 14 46 00.4 0.0
baz=113
G27K Doyon Strip 109.87 336 P **PKiKP** 14 46 01.6 +1.0
baz=112
I26K Coal Creek Min 109.90 334 P **PKiKP** 14 46 01.6 +0.9
baz=111
RIDG Independent Ri 110.04 332 P **PKiKP** 14 46 01.7 +0.6
baz=110
M24K Tolsona, Glenn 110.07 330 P **PKiKP** 14 46 02.2 +1.1
baz=109
E27K Coleen River 110.36 337 P **PKiKP** 14 46 02.2 +0.7
baz=111
K24K Donnelly Dome 110.45 332 P **PKiKP** 14 46 03.3 +1.5
baz=109
SCM Sheep Creek Mo 110.49 330 P **PKiKP** 14 46 03.3 +1.4
baz=108
D27M Malcolm River 110.52 338 P **PKiKP** 14 46 02.4 +0.5
baz=111
J25K Salcha River, 110.55 333 P **PKiKP** 14 46 02.8 +0.8
baz=109
M23K Glacier View 110.66 330 P **PKiKP** 14 46 03.1 +0.8
baz=108
G26K Porcupine Rive 110.71 335 P **PKiKP** 14 46 03.2 +1.1
baz=110
KNK Knik Glacier 110.88 329 P **PKiKP** 14 46 03.8 +1.2
baz=108
DHY Denali Highway 110.90 331 P **PKiKP** 14 46 03.5 +0.7
baz=108
PRP Porcupine Dome 110.91 334 P **PKiKP** 14 46 03.8 +1.0
baz=109
WAT6 Susitna Watana 110.91 330 P **PKiKP** 14 46 03.1 +0.2
baz=108
SEW Seward 110.95 328 P **PKiKP** 14 46 03.5 +0.8
baz=107
MMAI Mount Meron Ar 111.00 63 PKiKP **PKiKP** 14 46 03.5 -0.3
comp=Z,1.3nm,0.5s,baz=100,slow=3.2,SNR=2.2
F26K Sheenjek River 111.09 336 P **PKiKP** 14 46 03.4 +0.5
baz=109
HDA Harding Lake 111.13 332 P **PKiKP** 14 46 04.1 +1.1
baz=108
ILAR Eielson Array 111.22 333 PKiKP **PKiKP** 14 46 03.0 -0.1
comp=Z,0.7nm,0.4s,baz=135,slow=0.8,SNR=16
ILAR PKKPbc **PKKPbc** 14 57 00.2 -2.2
comp=Z,0.7nm,0.7s,baz=250,slow=2.9,SNR=4.8
PMR Palmer 111.24 329 P **PKiKP** 14 46 04.6 +1.4
baz=107
H25L Birch Creek 111.26 335 P **PKiKP** 14 46 04.6 +1.4
baz=108
WAT1 Susitna Watana 111.34 331 P **PKiKP** 14 46 04.0 +0.5
baz=107
RC01 Rabbit Creek A 111.37 329 P **PKiKP** 14 46 04.5 +1.0
baz=107
BRSE Brralley Lake S 111.46 327 P **PKiKP** 14 46 04.9 +1.1
baz=106
G25K Bearman Lake 111.52 335 P **PKiKP** 14 46 05.0 +1.4
baz=108
POKR Poker Plat Res 111.55 333 P **PKiKP** 14 46 04.7 +0.9
baz=107
F25K Christian Rive 111.60 336 P **PKiKP** 14 46 05.1 +1.2
baz=108
COLA College 111.64 333 P **PKiKP** 14 46 04.8 +0.9
baz=107
BRTR Keskin Array B 111.73 55 PKiKP **PKiKP** 14 46 04.8 -0.4
comp=Z,2.6nm,0.8s,baz=199,slow=3.5,SNR=15
M22K Willow 111.73 329 P **PKiKP** 14 46 05.7 +1.5
baz=106
E25K Arctic Village 111.74 336 P **PKiKP** 14 46 05.2 +1.0
baz=108
MCK McKinley 111.77 331 P **PKiKP** 14 46 05.5 +1.2
baz=106
KDAK Kodiak Island 111.84 325 PKKPbc PKKPbc 14 56 58.7 -1.5
comp=Z,8.3nm,0.8s,baz=175,slow=12,SNR=5.4
AKASG Malin Array Be 111.86 43 PKiKP **PKiKP** 14 46 03.7 -1.1
comp=Z,5.0nm,0.7s,baz=262,slow=2.7,SNR=21
AKASG PP **PP** 14 46 57.2 -2.5
comp=Z,0.2nm,0.3s,baz=260,slow=7.0,SNR=4.3
H24K Noodor Dome 111.93 334 P **PKiKP** 14 46 05.2 +0.6
baz=106
SUA Susitna One 111.94 329 P **PKiKP** 14 46 05.9 +1.1
baz=106
Q20K Shuyak Island 111.97 326 P **PKiKP** 14 46 05.6 +0.8
baz=106
CUT Chulitna 111.98 330 P **PKiKP** 14 46 05.8 +1.2
baz=106
G24K Hadweenzic Riv 112.02 335 P **PKiKP** 14 46 05.8 +1.1
baz=106
C26K Camden Bay 112.06 338 P **PKiKP** 14 46 05.8 +1.2
baz=108
OHAK Old Harbor 112.06 324 P **PKiKP** 14 46 05.7 +0.8
baz=105
NEA2 Nenana 112.06 332 P **PKiKP** 14 46 05.6 +0.8
baz=106
TRF Thorofare Moun 112.27 331 P **PKiKP** 14 46 06.0 +0.6
baz=105
I23K Minto, Yukon-K 112.34 333 P **PKiKP** 14 46 05.8 +0.6
baz=106
SII Sitkinak Islan 112.36 323 P **PKiKP** 14 46 06.2 +0.6
baz=105
D25K Pavik River 112.37 338 P **PKiKP** 14 46 05.4 +0.1
baz=106
F24K Squaw Lake 112.41 336 P **PKiKP** 14 46 06.2 +0.7
baz=106
SKT Skwentna 112.44 329 P **PKiKP** 14 46 06.2 +0.6
baz=105
O20K Slope Mountain 112.47 327 P **PKiKP** 14 46 06.7 +0.9
baz=105
VSU Vasula 112.51 35 *i* PKiKP **PKiKP** 14 46 05.8 0.0
VSU pmax pmax
comp=Z,12nm,0.8s
N20K Mount Spurr 112.55 328 P **PKiKP** 14 46 06.5 +0.6
baz=105
H23K Yukon River 112.59 334 P **PKiKP** 14 46 07.0 +1.2
baz=105
BPAW Bear Paw Mtn. 112.74 332 P **PKiKP** 14 46 06.4 +0.3
baz=104
MLY Manley 112.87 333 P **PKiKP** 14 46 06.7 +0.3
baz=104
FINES FINESS Array B 112.93 31 PKiKP **PKiKP** 14 46 06.3 -0.2
comp=Z,2.3nm,0.7s,baz=108,slow=4.5,SNR=9.0
FINES PKKPbc **PKKPbc** 14 56 55.0 -1.7
comp=Z,2.2nm,0.6s,baz=86,slow=5.7,SNR=11
PPLA Purkeypile 112.97 330 P **PKiKP** 14 46 06.9 +0.1
baz=104
G23K Bananza Creek 113.00 334 P **PKiKP** 14 46 07.3 +0.7
baz=104
CAST Castle Rocks 113.05 331 P **PKiKP** 14 46 06.8 0.0
baz=104
M20K Styx River 113.15 329 P **PKiKP** 14 46 07.8 +0.8
baz=104
D24K Happy Valley 113.17 337 P **PKiKP** 14 46 07.5 +0.8
baz=104
E23K Chandalar 113.18 336 P **PKiKP** 14 46 07.5 +0.6
baz=104
COLD Coldfoot 113.20 335 P **PKiKP** 14 46 08.0 +1.1
baz=104
CHUM Lake Minchumin 113.26 331 P **PKiKP** 14 46 07.6 +0.5
baz=103
C24K Franklin Bluff 113.27 338 P **PKiKP** 14 46 08.4 +1.5
baz=104
TOLK Tolik Lake Re 113.31 337 P **PKiKP** 14 46 08.0 +0.9
baz=104
H22K Ishtalitna Cre 113.34 333 P **PKiKP** 14 46 08.3 +1.1
baz=103
I21K Tanana 113.42 333 P **PKiKP** 14 46 08.3 +1.0
baz=103
N19K Bonanza Creek 113.54 328 P **PKiKP** 14 46 09.2 +1.4
baz=103
M19K Big River Lodg 113.74 329 P **PKiKP** 14 46 09.3 +1.2
baz=102
D23K Nanushuk River 113.77 337 P **PKiKP** 14 46 09.2 +1.2
baz=103
H21K Melozitna Rive 113.86 333 P **PKiKP** 14 46 09.1 +0.9
baz=102
K20K Telida 113.90 330 P **PKiKP** 14 46 09.6 +1.2
baz=102
C23K Ikilllik River 113.94 338 P **PKiKP** 14 46 09.3 +1.1
baz=102
SPITS Spitsbergen Ar 113.98 13 PKiKP **PKiKP** 14 46 07.9 -0.2
comp=Z,2.8nm,0.7s,baz=274,slow=3.9,SNR=7.8
SPITS PKKPbc **PKKPbc** 14 56 52.0 -1.5
comp=Z,3.2nm,0.6s,baz=115,slow=5.6,SNR=11
E22K Anaktuvuk Pass 114.00 336 P **PKiKP** 14 46 09.2 +0.8
baz=102
F22K John River 114.00 335 P **PKiKP** 14 46 09.7 +1.2
baz=102
J20K Nowinta River 114.11 331 P **PKiKP** 14 46 10.1 +1.4
baz=102
G21K Allakaket 114.31 334 P **PKiKP** 14 46 10.4 +1.3
baz=101
F21K Alatna River 114.44 335 P **PKiKP** 14 46 10.6 +1.3
baz=101
ARCES ARCESS Array B 114.46 23 PKP PKPdf 14 46 08.9 -0.3
comp=Z,5.4nm,0.8s,baz=246,slow=3.9,SNR=23
ARCES PKKPbc **PKKPbc** 14 56 50.4 -1.4
comp=Z,4.6nm,0.6s,baz=86,slow=4.0,SNR=21
D22K Ayikyak River 114.46 337 **PKiKP** 14 46 10.2 +0.9
D22K Ayikyak River 114.46 337 P **PKiKP** 14 46 10.8 +1.5
baz=101
H20K Anotleneega Mo 114.67 333 P **PKiKP** 14 46 11.3 +1.5
baz=100
E21K Killik River 114.85 336 P **PKiKP** 14 46 11.5 +1.4
baz=100
B22K Teshekpuk Lake 114.98 338 P **PKiKP** 14 46 11.1 +0.9
baz=100
C21K Kniefblade Rid 115.26 337 P **PKiKP** 14 46 11.9 +1.1
baz=99
B21K Ikpikpuk River 115.27 337 P **PKiKP** 14 46 12.0 +1.2
baz=99
A22K Sinclair Lake 115.59 339 P **PKiKP** 14 46 12.9 +1.6
baz=98
ANN Anapa 115.77 51 *i* PKiKP **PKPdf** 14 46 12.1 -0.4
ANN *e* 14 47 25.4
ANN pmax pmax
comp=Z,12nm,0.6s
A21K Barrow 116.16 339 P **PKiKP** 14 46 13.4 +1.0
baz=96
STKA Stephens Creek 116.95 204 *e*PKiKP **PKiKP** 14 46 15.6 +0.2
STKA pmax pmax
comp=Z,3.0nm,0.6s
STKA Stephens Creek 116.95 204 PKP **PKPdf** 14 46 14.9 -0.4
comp=Z,2.7nm,0.6s,baz=123,slow=2.2,SNR=6.2
STKA PKKPbc **PKKPbc** 14 56 41.9 -1.5
comp=Z,5.9nm,0.7s,baz=27,slow=6.0,SNR=10.0
OBN Obninsk 117.14 39 *e*PKiKP **PKPdf** 14 46 14.0 -0.8
OBN *e* 14 47 32.8
OBN pmax pmax
comp=Z,16nm,0.9s
OBN Obninsk 117.14 39 PKP **PKPdf** 14 46 14.3 -0.4
comp=Z,18nm,0.4s,baz=264,slow=21,SNR=4.1
LABN Labinsk 118.03 52 *i* PKiKP **PKPdf** 14 46 11.9 -5.0
LABN *e* 14 47 41.8
LABN pmax pmax
comp=Z,24nm,0.4s
ERBR Yeremizino-Bor 118.07 50 *i* PKiKP **PKiKP** 14 46 17.5 +0.6
ERBR *e* 14 47 45.5
ERBR pmax pmax
comp=Z,21nm,0.8s
VSR Storozhevoye 118.11 44 *e*PKiKP **PKPdf** 14 46 13.7 -3.1
VSR pmax pmax
comp=Z,20nm,1.0s
VORD Divnogorie 118.16 44 *e*PKiKP **PKPdf** 14 46 15.0 -1.9
VORD pmax pmax
comp=Z,10.0nm,0.5s
LPSR Galich'ya Gora 118.17 43 *e*PKiKP **PKPdf** 14 46 15.3 -1.5
LPSR pmax pmax
comp=Z,40nm,0.7s
VORR Voronezh 118.21 44 *e*PKiKP **PKPdf** 14 46 15.0 -1.9
VORR pmax pmax
comp=Z,70nm,0.5s
SHA1 Shidzhatmaz 119.23 53 *i* PKiKP **PKPdf** 14 46 19.0 -0.5
KLMR Klimovskoe 119.28 33 *e*PKiKP **PKPdf** 14 46 15.8 -2.9
KLMR pmax pmax
comp=Z,25nm,0.6s
KIV Kislovodsk 119.29 53 PKPdf **PKPdf** 14 46 19.1 -0.3
KIV Kislovodsk 119.29 53 *e*PKiKP **PKPdf** 14 46 18.7 -0.7
KIV pmax pmax
comp=Z,26nm,1.1s
KBZ Khabaz 119.41 53 *i* PKiKP **PKPdf** 14 46 19.0 -0.5
KBZ pmax pmax
comp=Z,8.0nm,0.6s
KBZ Khabaz 119.41 53 PKP **PKiKP** 14 46 19.8 +0.2
comp=Z,7.8nm,0.6s,baz=201,slow=6.7,SNR=23
PYA1 Pyatigorsk 119.60 53 *i* PKiKP **PKPdf** 14 46 19.3 -0.7
VRH Novokhopyorsk 119.70 44 *e*PKiKP **PKPdf** 14 46 17.7 -2.1
VRH pmax pmax
comp=Z,20nm,0.7s
NCK Nalchik 119.86 53 *i* PKiKP **PKPdf** 14 46 20.1 -0.4
GNI Garni 120.10 57 *i* PKiKP **PKiKP** 14 46 21.5 +0.2
BELG Belogornoye 123.44 43 PKP **PKPdf** 14 46 26.7 -0.2
comp=Z,70nm,0.7s,baz=343,slow=4.6,SNR=48
KIRV Kirov 124.32 36 PKP **PKiKP** 14 46 28.9 +0.1
comp=Z,26nm,0.6s,baz=335,slow=0.9,SNR=7.9
CTAO Charters Tower 125.22 215 **PKPdf** 14 46 31.5 0.0
CTAO Charters Tower 125.22 215 PKiKP **PKPdf** 14 46 31.5 0.0
UOSS Minazif 126.09 78 PKPdf **PKPdf** 14 46 31.9 -1.1
ASAR Alice Springs 127.10 200 PKP **PKPdf** 14 46 34.8 -0.3
comp=Z,30nm,0.6s,baz=144,slow=1.9,SNR=126
ASAR PKKPab PKKPab 14 56 05.0
comp=Z,2.0nm,0.7s,baz=341,slow=3.5,SNR=7.8
ASAR PKKP **PKKPdf** 14 56 46.5 -1.1
comp=Z,0.8nm,0.6s,baz=358,slow=1.9,SNR=4.9
AS31 Alice Springs 127.10 200 PKPdf **PKPdf** 14 46 34.4 -0.7
BILL Bilibino 129.29 338 *i* PKiKP **PKPdf** 14 46 37.7 0.0
ARU Arti 129.49 38 PKPdf **PKiKP** 14 46 39.4 +0.1
ARU Arti 129.49 38 *i* PKiKP **PKPdf** 14 46 38.1 -0.3
ARU Arti 129.49 38 PKP **PKiKP** 14 46 39.7 +0.4
comp=Z,24nm,0.7s,baz=281,slow=2.7,SNR=27
AKTO Aktyubinsk 130.01 45 PKP **PKPdf** 14 46 39.6 0.0
comp=Z,10nm,0.7s,baz=281,slow=1.7,SNR=26
AKTO PKKPab PKKPab 14 55 51.5
comp=Z,9.1nm,1.1s,baz=74,slow=14,SNR=5.9
GEYT Alibeck 130.10 62 PKhKP PKPpre 14 46 31.2
comp=Z,3.3nm,0.5s,baz=237,slow=5.0,SNR=6.2
GEYT PKP **PKiKP** 14 46 41.0 -0.1
comp=Z,5.7nm,0.6s,baz=262,slow=2.9,SNR=10
GYA0B ALIBECK ARRAY 130.10 62 **PKPdf** 14 46 40.1 -0.1
WR0 Warramunga Arr 130.35 202 PKPpre 14 46 29.8
WRA Warramunga Arr 130.44 202 SKPbc **SKPbc** 14 49 11.7 -0.3
comp=Z,50nm,0.9s,baz=157,slow=3.7,SNR=15
WRAB Tennant Creek 130.44 202 PKPpre 14 46 30.1
WRAB Tennant Creek 130.44 202 PKHKP PKPpre 14 46 30.1
AB31 Akbulak array 131.37 47 *i* PKiKP **PKPdf** 14 46 42.6 +0.4
PSA00 Pilbara Seismi 131.79 184 PKPdf **PKPdf** 14 46 43.5 -0.5
MBWA Marble Bar 132.21 184 PKPdf **PKPdf** 14 46 44.6 -0.1
SEY Seymchan 136.94 337 PKP **PKiKP** 14 46 53.6 -0.6
comp=Z,27nm,0.6s,baz=98,slow=4.4,SNR=14
SEY SKPbc **SKPbc** 14 49 32.7 +1.0
comp=Z,7.5nm,0.6s,baz=85,slow=4.6,SNR=7.6
BVAR Borovoye Array 136.99 40 PKP **PKiKP** 14 46 54.4 -0.2
comp=Z,25nm,0.6s,baz=290,slow=2.0,SNR=9.2
BVAR SKKPbc SKKPbc 14 58 24.4 -2.8
comp=Z,1.3nm,0.7s,baz=117,slow=5.0,SNR=4.7
CHM Chimkent 138.86 56 *e*PKP **PKPdf** 14 46 57.2 +0.8
baz=56
CHM Chimkent 138.86 56 *e*PKiKP **PKPdf** 14 46 57.2 +0.8
BRLS Boroldaу 138.94 54 *e*PKP **PKPdf** 14 46 57.1 +0.6

baz=55
IUG Iuzhnay 139.20 56 *e*PKP **PKPdf 14 46 57.4 +0.2**
baz=56
PETK Petropavlovsk- 139.82 322 PKPdf **PKPdf 14 46 58.9 +1.2**
PETK Petropavlovsk- 139.82 322 PKP **PKiKP 14 46 59.6 -0.8**
comp=Z,12nm,0.6s,baz=75,slow=2.0,SNR=12
PETK SKPbc **SKiKP 14 49 41.4 -1.1**
comp=Z,8.6nm,0.8s,baz=90,slow=7.0,SNR=8.0
DZA Taraz 140.05 54 *e*PKP **PKPdf 14 46 59.3 +0.7**
baz=54
DZA Taraz 140.05 54 *e*PKIKP **PKPdf 14 46 59.2 +0.7**
SGDS Sogindy 142.32 53 *e*PKP **PKPdf 14 47 03.9 +1.2**
baz=53
SGDS Sogindy 142.32 53 *e*PKIKP **PKPdf 14 47 03.8 +1.2**
KURBB Kurchatov Arra 142.57 40 PKP **PKPdf 14 47 00.9 -1.8**
comp=Z,41nm,0.7s,baz=299,slow=3.3,SNR=12
KURK Kurchatov 142.58 40 PKIKP **PKPdf 14 47 01.0 -1.8**
SEM Semipalatinsk 143.65 40 *e*PKP **PKPdf 14 47 05.8 +0.8**
baz=40
SEM Semipalatinsk 143.65 40 *e*PKIKP **PKPdf 14 47 05.7 +0.8**
YAK Yakutsk 143.72 350 *e*PKIKP PKPab 14 47 03.6 +0.1
YAK *e* 14 50 23.7
YAK pmax pmax
comp=Z,318nm,0.7s
YAK pmax pmax
comp=N,75nm,1.9s
YAK pmax pmax
comp=E,42nm,1.3s
YAK pmax pmax
comp=Z,692nm,6.6s
YAK pmax pmax
comp=N,294nm,3.7s
YAK pmax pmax
comp=E,1μm,5.1s
YAK Yakutsk 143.72 350 PKP PKPab 14 47 03.7 +0.2
comp=E,408nm,0.8s,baz=96,slow=0.8,SNR=31
AAA Alma-Ata 144.00 53 *e*PKP **PKPdf 14 47 06.6 +1.0**
baz=52
AAA Alma-Ata 144.00 53 *e*PKIKP **PKPdf 14 47 06.6 +1.0**
KSH Kashi 144.01 59 PKP PKPbc 14 47 05.0 -0.3
KSH pPKP pPKPdf 14 49 19.5 +0.1
TNSS Tian-Shan 144.06 53 *e*PKP **PKPdf 14 47 06.5 +0.3**
baz=53
TNSS Tian-Shan 144.06 53 *e*PKIKP **PKPdf 14 47 06.4 +0.3**
MDOK Medeo 144.11 53 *e*PKP **PKPdf 14 47 06.3 +0.3**
baz=53
MDOK Medeo 144.11 53 *e*PKIKP **PKPdf 14 47 06.2 +0.3**
ZALV Zalesovo Beam 144.20 32 *e*PKIKP **PKPab 14 47 05.7 +0.1**
ZALV pmax pmax
comp=Z,116nm,0.4s
ZALV Zalesovo Beam 144.20 32 PKP **PKPab 14 47 05.9 +0.3**
comp=Z,116nm,0.4s,baz=298,slow=4.3,SNR=115
ZALV pPKP **pPKPdf 14 49 19.1 -0.1**
comp=Z,20nm,0.9s,baz=302,slow=4.1,SNR=5.0
ZALV SKPbc **SKiKP 14 49 52.1 +0.7**
comp=Z,11nm,0.6s,baz=308,slow=3.1,SNR=3.5
ZALV SKKPbc **SKKPab 14 57 54.9 -2.5**
comp=Z,1.3nm,0.8s,baz=104,slow=6.3,SNR=4.0
MMRI Maumere 144.34 190 PKPbc 14 47 06.9 0.0
TDK Taldyqorghan 144.55 49 *e*PKP **PKPab 14 47 07.0 -0.3**
baz=49
TDK Taldyqorghan 144.55 49 *e*PKIKP PKPbc 14 47 07.0 +0.3
JAGI Jajag, Banyuwa 144.84 176 PKPdf **PKPdf 14 47 07.6 -0.2**
ZHN Zhinishke 145.09 52 *e*PKP **PKPbc 14 47 08.4 -0.1**
baz=52
ZHN Zhinishke 145.09 52 *e*PKIKP **PKPbc 14 47 08.4 -0.1**
SATY Saty 145.09 52 *e*PKP **PKPbc 14 47 08.6 0.0**
baz=52
SATY Saty 145.09 52 *e*PKP2 **PKPbc 14 47 08.5 0.0**
UZB Uzynbulak 145.51 52 *e*PKP **PKPbc 14 47 09.4 -0.4**
baz=52
UZB Uzynbulak 145.51 52 *e*PKIKP **PKPbc 14 47 09.4 -0.4**
SHLS Shalkode 145.81 52 *e*PKP **PKPbc 14 47 10.5 -0.2**
baz=52
SHLS Shalkode 145.81 52 *e*PKIKP **PKPbc 14 47 10.4 -0.2**
MKAR Makanchi Array 146.44 44 PKPbc **PKPdf 14 47 10.8 +1.2**
comp=Z,48nm,0.5s,baz=300,slow=2.3,SNR=30
MKAR pPKPbc **pPKPdf 14 49 23.7 +0.4**
comp=Z,24nm,0.8s,baz=312,slow=2.7,SNR=6.7
MKAR SKKPbc SKKPbc 14 57 48.8 -0.4
comp=Z,1.4nm,0.6s,baz=101,slow=6.4,SNR=8.4
ZSN Zaisan 147.72 42 *e*PKP **PKPdf 14 47 12.8 +1.1**
baz=42
ZSN *e*PP **PP 14 50 49.6 +0.9**
baz=42
ZSN Zaisan 147.72 42 *e*PKIKP **PKPdf 14 47 12.8 +1.1**
ZSN *e* 14 50 49.6
KAPI Kappang 148.21 186 **PKPbc 14 47 18.0 +0.4**
KAPI Kappang 148.21 186 PKP2 **PKPbc 14 47 18.0 +0.4**
BOD Bodaibo 148.96 3 *e*PKHKP PKPpre 14 47 18.1
BOD pmax pmax
comp=Z,150nm,0.8s
BKNI Bangkinang 149.71 148 PKPdf **PKPdf 14 47 15.4 -0.4**
BKNI **PKPbc 14 47 20.3 -1.0**
UGL Uglegorsk 150.29 325 *e*PKIKP **PKiKP 14 47 22.7 +0.7**
UGL *e* 14 47 31.7
UGL pmax pmax
comp=Z,80nm,0.9s
WMQ Urumqi 151.16 46 *e*P **PKPdf 14 47 17.5 +0.2**
YSS Yuzh-Sakhalins 151.21 321 PKPdf **PKPdf 14 47 17.7 +0.6**
MYKOM Kota Tinggi 152.27 152 **PKPbc 14 47 26.8 -0.3**
ASAJ Asahikawa 152.85 316 PKP **PKPdf 14 47 20.8 +1.2**
comp=Z,13nm,0.8s,baz=63,slow=2.3,SNR=3.9
ASAJ PKPbc **PKiKP 14 47 28.4 +0.9**
comp=Z,22nm,0.8s,baz=267,slow=7.3,SNR=7.5
IPM Ipoh 153.27 144 **PKPdf 14 47 20.7 -0.5**
KLR Kul'dur 154.73 336 PKP **PKPdf 14 47 22.5 +0.4**
comp=Z,12nm,0.9s,baz=31,slow=1.8,SNR=4.7
KLR PKPbc **PKiKP 14 47 31.1 -0.1**
comp=Z,12nm,0.7s,baz=106,slow=3.2,SNR=6.0
HIA Hailar 157.45 355 **PKPab 14 48 00.9 -0.2**
HIA Hailar 157.45 355 PKP2 **PKPab 14 48 00.9 -0.2**
SONM Songino Array 157.55 18 PKP **PKPdf 14 47 26.9 +0.9**
comp=Z,9.9nm,0.8s,baz=337,slow=0.4,SNR=4.2
SONM PKPab **PKPab 14 48 00.7 -0.9**
comp=Z,8.9nm,0.6s,baz=315,slow=3.5,SNR=5.8
USRK Ussuriysk Ar. 158.66 328 PKPab **PKPab 14 48 04.3 -2.1**
comp=Z,2.7nm,1.0s,baz=12,slow=4.6,SNR=5.9
MJAR Matsushiro Arr 159.25 303 PKP **PKPdf 14 47 28.4 +0.2**
comp=Z,2.7nm,1.0s,baz=166,slow=1.8,SNR=2.6
MJAR PKPab **PKPab 14 48 09.8 +0.4**
comp=Z,4.8nm,0.8s,baz=72,slow=5.1,SNR=5.5
MDJ Mudanjiang 159.39 333 P **PKPdf 14 47 29.8 +1.8**
MDJ pmax pmax
comp=Z,20nm,1.8s
MDJ pmax pmax
comp=Z,4μm,11.6s
GTA Gaotai 161.19 44 PKP **PKPdf 14 47 31.8 +1.4**
GTA PKPab **PKPab 14 48 19.0 +1.1**
GTA pPKP pPKPdf 14 49 45.5 +0.7
GTA sPKP 14 50 15.8
CMAR Chiang Mai Arr 161.72 113 PKP **PKPdf 14 47 32.7 +1.4**
comp=Z,4.4nm,0.8s,baz=258,slow=2.3,SNR=4.2
CMAR PKPab **PKPab 14 48 20.9 +0.3**
comp=Z,4.4nm,0.8s,baz=257,slow=5.3,SNR=7.4
CMAR PP **PP 14 52 06.8 +0.3**
comp=Z,1.5nm,1.0s,baz=262,slow=4.5,SNR=4.1
HHC Hu-ho-hao-te 165.40 15 *e*P **PKPdf 14 47 36.5 +2.3**
KSRS Korea Array 165.71 321 PKP **PKPdf 14 47 34.5 +0.2**
comp=Z,3.4nm,0.8s,baz=55,slow=0.9,SNR=5.1
KSRS PKPab **PKPab 14 48 38.3 +0.7**
comp=Z,3.0nm,0.7s,baz=56,slow=4.4,SNR=7.8
LZH Lanzhou 165.74 47 *e*PKP **PKPdf 14 47 32.5 -2.2**
LZH pPKP pPKPdf 14 49 37.8 -12
KSAR Wonju Array Be 165.74 321 **PKPdf 14 47 35.0 +0.6**
KSAR Wonju Array Be 165.74 321 PKIKP **PKPdf 14 47 35.0 +0.6**
PZH PanZhiHua 166.71 88 PKP **PKPdf 14 47 36.3 +0.6**
PZH PKPab **PKPab 14 48 40.0 -2.8**
PZH pPKP **pPKPdf 14 49 51.3 +1.0**
PZH PP **PP 14 52 32.0 -0.7**
KMI Kunming 167.42 95 ⇑PKP **PKPdf 14 47 37.5 +1.2**
HNS HongShan 169.33 8 ⇑PKP **PKPdf 14 47 38.8 +1.9**
HNS PKPab **PKPab 14 48 55.0 +1.5**
HNS pPKP pPKPdf 14 49 39.5 -12
JOW Kunigami 169.56 273 PKP **PKPdf 14 47 38.4 +1.0**
comp=Z,28nm,0.9s,baz=41,slow=2.9,SNR=6.2
XAN Xi'an 170.22 41 ⇓PKP PKPdf 14 47 26.5 -11
XAN PKP **PKPab 14 48 58.3 +0.4**
XAN pP pPKPdf 14 49 52.5 +0.1
XAN SKS **SKSdf 14 53 41.3 -6.2**
LYN LuoYang 171.51 24 ⇑PKP **PKPdf 14 47 39.5 +1.3**
LYN PKPab **PKPab 14 49 04.3 +0.9**
NJ2 Nanjing 174.42 340 *e*P **PKPdf 14 47 40.3 +0.9**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s

JMA 25 14:36:08.3±0.1, 31.3°N±0.3°×130.6°E±0.2, h11km±1km, MW0.3/9, SATSUMA PENINSULA REGION, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSU	**Suzuyama**	**0.23**	**322**	*e*P	Pg	14 36 13.2	+0.1
JTSR	**Tashiro 2**	**0.30**	**122**	*e*P	Pg	14 36 14.4	0.0
JTSR				*e*S	Sg	14 36 18.3	-0.2

*BJI **25** 14:37:15.0±0.0, 32.4°47N×141.4°42E, h60km, mb5.3/82, mB5.3/69, Ms5.4/95, Ms7 5.3/92*
*MOS **25** 14:37:21.2±1.0, 32.6°61N×140.6°66E, h50km, mb6.0/88, MS5.2/24, Error ellipse: s-maj=6.8km s-min=3.4km az=113.4*
*NIED **25** 14:37:23.0, 32.6°64N×140.8°89E, h41km, MW5.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^17Nm; Mrr2.60; Mθθ0.00; Mφφ-2.60; Mrθ0.73; Mθφ-2.53; Mφr-1.19; Fault plane solution: M0 3.84000×10^17 NP1: ϕs183.00000°, δ58.00000°, λ51.00000°. NP2:ϕs61.00000°, δ49.00000°, λ136.00000°.*
*JMA **25** 14:37:23.0±0.2, 32.6°6N±0.5°×140.9°E±0.8, h41km, MD5.8/38, MW5.7/38, E OFF HACHIJOJIMA ISLAND*
JMA Felt III J1 at E OFF HACHIJOJIMA ISLAND.
*IDC **25** 14:37:23.8±0.8, 32.5°54N×140.6°60E, h61km±6km, mb5.3/45, mbtmp5.6/47, MS4.9/76, Error ellipse: s-maj=10.3km s-min=8.4km az=64.0*
*NEIC **25** 14:37:23.2±1.8, 32.5°59N±0.7°×140.6°69E±0.8, h50km±1km, mb6.1/768, Ms_20 4.9/327, Mwb5.7/77, Mww5.7/34, Error ellipse: s-maj=12.7km s-min=10.6km az=205.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr3.13; Mθθ-0.88; Mφφ-2.25; Mrθ0.52; Mθφ-1.75; Mφr-2.17; Fault plane solution: M0 3.99000×10^17 NP1: ϕs191.40000°, δ61.68000°, λ65.71000°. NP2:ϕs54.97000°, δ36.64000°, λ127.35000°. Principal axes: T 4.1448, Plg65.0000°, Azm59.0000°; N -0.3382, Plg21.0000°, Azm203.0000°; P -3.8066, Plg13.0000°, Azm299.0000°;*
*NEIC **25** 14:37:23.2, 32.6°1N×140.9°0E, h50km, Moment Tensor Solution. Duration: 3s5 Moment tensor: Scale 10^17Nm; Mrr2.67; Mθθ0.10; Mφφ-2.77; Mrθ0.47; Mθφ-2.20; Mφr-2.11; Fault plane solution: M0 4.09000×10^17 NP1: ϕs183.18000°, δ64.00000°, λ59.39000°. NP2:ϕs56.64000°, δ39.33000°, λ136.23000°. Principal axes: T 3.8125, Plg59.0000°, Azm49.0000°; N 0.5465, Plg27.0000°, Azm198.0000°; P -4.3590, Plg14.0000°, Azm295.0000°;*
*NEIC **25** 14:37:23.2, 32.6°1N×140.6°6E, h50km*
*NEIC **25** 14:37:23.2, 32.6°1N×140.6°6E, h50km*
*IPGP **25** 14:37:24.0, 32.6°3N×140.6°3E, h61km, Mw5.6, Fault plane solution: NP1:ϕs187.00000°, δ68.00000°, λ67.00000°. NP2:ϕs57.00000°, δ31.00000°, λ135.00000°.*
*GCMT **25** 14:37:26.2±0.1, 32.5°58N±0.0°×140.7°5E±0.0°, h66km, MW5.7/159, Moment Tensor Solution. s146,c281; s159,c322; Duration: 1s7 Moment tensor: Scale 10^17 Nm; Mrr2.60±.05; Mθθ0.51±.05; Mφφ-3.11±.04; Mrθ0.66±.04; Mθφ-2.91±.04; Mφr-2.19±.04; Best double couple: M0 4.63100×10^17 NP1:ϕs178.00000°, δ67.00000°, λ50.00000°. NP2:ϕs63.00000°, δ46.00000°, λ146.00000°. Principal axes: T 4.1860, Plg51.0000°, Azm42.0000°; N 0.8900, Plg36.0000°, Azm197.0000°; P -5.0760, Plg12.0000°, Azm296.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 14:37:23.2±0.2, 32.6°4N±0.0°×140.7°0E±0.0°3, h57km±1km, h57km:pP-P, n2065, σ1s965/1732, mb6.0/578, MS5.0/271, 64C-70D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**0.81**	**258**	⇓P	**Pn**	**14 37 40.4**	**+1.8**
JAOM				⇓*e*S	**Sn**	**14 37 53.1**	**+3.3**
JAOM	**Aogashimamukai**	**0.81**	**258**	A	A	14 37 40.4	
	comp=E,3μm,2.7s,comp=N,2μm,2.9s						
JHCJ	**Hachijojimakas**	**0.87**	**300**	⇓P	**Pn**	**14 37 40.8**	**+1.3**
JHCJ				⇓*e*S	**Sn**	**14 37 54.0**	**+2.7**
JHCJ	**Hachijojimakas**	**0.87**	**300**	A	A	14 37 40.8	
	comp=E,657nm,1.1s,comp=N,592nm,1.8s						
JHJ2	**Mitsune**	**0.88**	**303**	P	**Pn**	**14 37 41.9**	**+2.4**
JHJ2	**Mitsune**	**0.88**	**303**		**Pn**	**14 37 40.9**	**+1.4**
JHJ2	**Mitsune**	**0.88**	**303**	⇓P	**Pn**	**14 37 41.3**	**+1.8**
JHJ2	**Mitsune**	**0.88**	**303**	A	A	14 37 41.3	
	comp=E,623nm,4.3s,comp=N,826nm,4.2s						
JHJ	**Hachijo jima 2**	**0.91**	**302**	P	**Pn**	**14 37 41.2**	**+1.4**
	comp=N,50μm,0.3s,baz=139,slow=11,SNR=2628						
JHJ				S	**Sn**	**14 37 52.9**	**+0.7**
	comp=N,42μm,0.3s,baz=83,slow=20,SNR=8.8						
JMKN	**Mikurajimanish**	**1.56**	**324**	⇓P	**Pn**	**14 37 50.2**	**+1.7**
JMKN				⇓*e*S	**Sn**	**14 38 10.0**	**+2.3**
JMKN	**Mikurajimanish**	**1.56**	**324**	A	A	14 37 50.2	
	comp=E,321nm,2.9s,comp=N,227nm,2.3s						
JMYK	**Miyake Tsubota**	**1.72**	**326**	P	**Pn**	**14 37 52.6**	**+1.9**
JMYK				*e*S	**Sn**	**14 38 13.2**	**+1.7**
JMYK	**Miyake Tsubota**	**1.72**	**326**	A	A	14 37 52.6	
	comp=E,570nm,2.3s,comp=N,348nm,1.6s						
JKO	**Kozu shima**	**2.02**	**320**	A	A	14 37 57.2	
	comp=E,785nm,3.3s,comp=N,368nm,2.4s						
BSO1	**Boso 1**	**2.03**	**7**	*e*P	**Pn**	**14 37 55.3**	**+0.8**
JNIO	**Niijimaoohara**	**2.09**	**326**	A	A	14 37 57.9	
	comp=E,355nm,2.0s,comp=N,437nm,1.6s						
JSKK	**Shikinejimakit**	**2.10**	**324**	A	A	14 37 58.1	
	comp=E,412nm,2.0s,comp=N,382nm,1.7s						
BSO3	**Boso 3**	**2.17**	**356**	P	**Pn**	**14 37 58.1**	**+1.5**
JTHY	**Toshimahigashi**	**2.22**	**328**	A	A	14 37 59.7	
	comp=E,224nm,3.9s,comp=N,281nm,3.1s						
JIM2	**Oshima 3**	**2.33**	**333**	⇓P	**Pn**	**14 38 00.7**	**+1.6**
JIM2				⇓*e*S	**Sn**	**14 38 28.4**	**+1.8**
JIM2	**Oshima 3**	**2.33**	**333**	A	A	14 38 00.7	
	comp=E,172nm,2.7s,comp=N,219nm,1.7s						
TATJ	**Tateyama 2**	**2.48**	**345**	A	A	14 38 02.9	
	comp=E,319nm,4.6s,comp=N,296nm,2.1s						
JKUC	**kamogawauchiur**	**2.55**	**351**	A	A	14 38 03.6	
	comp=E,149nm,2.5s,comp=N,227nm,3.5s						
JIZS	**Izushimoda**	**2.57**	**324**	⇓P	**Pn**	**14 38 04.9**	**+2.5**
JIZS				⇓*e*S	**Sn**	**14 38 35.3**	**+2.8**
JIZS	**Izushimoda**	**2.57**	**324**	A	A	14 38 04.9	
	comp=E,81nm,1.2s,comp=N,119nm,1.8s						
I30JP	**ISUMI INFRASON**	**2.69**	**353**	P	**Pn**	**14 38 06.7**	**+2.8**
	baz=182,slow=26,SNR=1.1						
JHTM	**Izuhatsuma**	**2.71**	**329**	A	A	14 38 06.6	
	comp=E,177nm,2.3s,comp=N,172nm,1.4s						
JYO	**Yokosk**	**2.72**	**342**	A	A	14 38 06.4	
	comp=E,320nm,2.4s,comp=N,181nm,3.2s						
JCN	**Nagara**	**2.81**	**352**	A	A	14 38 07.2	
	comp=E,272nm,8.8s,comp=N,199nm,2.7s						
JSG	**Sagara**	**2.92**	**315**	P	Pn	14 38 11.1	+4.0
JSG	**Sagara**	**2.92**	**315**		**Pn**	**14 38 10.5**	**+3.4**
JSG	**Sagara**	**2.92**	**315**	A	A	14 38 10.1	
	comp=E,99nm,8.1s,comp=N,77nm,4.0s						
JOD2	**Odawara 2**	**2.94**	**333**	P	**Pn**	**14 38 09.4**	**+1.9**
JOD2				*e*S	**Sn**	**14 38 43.2**	**+1.6**
JOD2	**Odawara 2**	**2.94**	**333**	A	A	14 38 09.4	
	comp=E,77nm,1.7s,comp=N,68nm,2.4s						
TTO5	**TONANKAI O.B.S**	**2.97**	**304**	A	A	14 38 11.0	
	comp=E,155nm,3.3s,comp=N,136nm,3.1s						
TTO4	**TONANKAI O.B.S**	**2.98**	**298**	A	A	14 38 11.3	
	comp=E,118nm,4.2s,comp=N,118nm,3.2s						
JSMT	**Sammumatsuo**	**3.01**	**356**	A	A	14 38 09.8	
	comp=E,175nm,5.5s,comp=N,165nm,4.4s						
TTO3	**TONANKAI O.B.S**	**3.02**	**295**	A	A	14 38 12.0	
	comp=E,187nm,5.7s,comp=N,178nm,3.6s						
JFNN	**Fujinakano**	**3.05**	**327**	P	**Pn**	**14 38 12.0**	**+3.1**
JFNN				*e*S	**Sn**	**14 38 48.7**	**+4.5**
JFNN	**Fujinakano**	**3.05**	**327**	A	A	14 38 12.0	
	comp=E,127nm,4.3s,comp=N,115nm,4.3s						
JKKS	**Kakegawashinom**	**3.09**	**314**	A	A	14 38 12.5	
	comp=E,91nm,5.6s,comp=N,79nm,4.6s						
TOK	**Tokyo**	**3.14**	**346**	A	A	14 38 12.2	
	comp=E,210nm,1.1s,comp=N,189nm,1.8s						
SHZ3	**Shizuoka 3**	**3.19**	**320**	P	**Pn**	**14 38 14.2**	**+3.4**
SHZ3	**Shizuoka 3**	**3.19**	**320**	A	A	14 38 14.2	
	comp=E,47nm,3.6s,comp=N,56nm,2.4s						
JSGW	**Sagamiharawaka**	**3.21**	**338**	A	A	14 38 13.4	
	comp=E,62nm,1.5s,comp=N,70nm,1.2s						
TTO2	**TONANKAI O.B.S**	**3.27**	**291**	A	A	14 38 15.5	
	comp=E,194nm,3.6s,comp=N,125nm,3.2s						
HMMJ	**Hamamatsu 2**	**3.32**	**313**	A	A	14 38 15.9	
	comp=E,22nm,5.9s,comp=N,21nm,3.9s						
JIHU	**Itakohorinouch**	**3.33**	**358**	A	A	14 38 14.3	
	comp=E,272nm,2.5s,comp=N,262nm,3.0s						
JYN	**Shimob**	**3.37**	**329**	P	**Pn**	**14 38 16.6**	**+3.3**
JYN	**Shimob**	**3.37**	**329**	A	A	14 38 16.6	
	comp=E,57nm,4.1s,comp=N,33nm,3.3s						
JHU	**Hanno**	**3.42**	**340**	A	A	14 38 16.3	
	comp=E,51nm,1.8s,comp=N,48nm,1.4s						
TTO1	**TONANKAI O.B.S**	**3.43**	**288**	*e*P	**Pn**	**14 38 16.4**	**+2.7**
JSSY	**Shinshiroyabe**	**3.50**	**311**	A	A	14 38 18.3	
	comp=E,19nm,2.7s,comp=N,23nm,2.8s						
JAA	**Atsumi**	**3.57**	**305**	A	A	14 38 19.6	
	comp=E,18nm,2.7s,comp=N,16nm,3.8s						
JNY	**Yasuok**	**3.59**	**320**	A	A	14 38 19.5	
	comp=E,33nm,5.2s,comp=N,51nm,2.4s						
JYT	**Yasato**	**3.61**	**354**	A	A	14 38 18.5	
	comp=E,66nm,6.2s,comp=N,42nm,3.6s						
JRY	**Ryogami san**	**3.69**	**337**	P	**Pn**	**14 38 20.1**	**+2.5**
JRY				*e*S	**Sn**	**14 39 02.5**	**+2.7**
JRY	**Ryogami san**	**3.69**	**337**	A	A	14 38 20.1	
	comp=E,50nm,5.3s,comp=N,47nm,5.4s						
JHYU	**Hitachinakayam**	**3.70**	**359**	A	A	14 38 19.5	
	comp=E,57nm,2.3s,comp=N,46nm,5.5s						
JIE	**Ise**	**3.76**	**299**	⇓P	**Pn**	**14 38 21.4**	**+2.7**
JIE				⇓*e*S	**Sn**	**14 39 05.9**	**+4.2**
JIE	**Ise**	**3.76**	**299**	A	A	14 38 21.4	
	comp=E,22nm,8.0s,comp=N,20nm,3.7s						
JNT	**Takato**	**3.86**	**327**	A	A	14 38 23.1	
	comp=E,53nm,5.4s,comp=N,50nm,6.3s						
JAO	**Obara**	**3.88**	**314**	A	A	14 38 23.7	
	comp=E,33nm,2.6s,comp=N,38nm,2.5s						
JAG	**Ashikaga**	**3.92**	**345**	P	**Pn**	**14 38 22.0**	**+1.2**
JAG	**Ashikaga**	**3.92**	**345**	A	A	14 38 22.0	
	comp=E,71nm,6.0s,comp=N,41nm,5.6s						
JHO	**Hitachi**	**3.97**	**359**	A	A	14 38 23.3	
	comp=E,45nm,7.1s,comp=N,20nm,2.8s						
JKN2	**Miekihoku**	**4.03**	**295**	A	A	14 38 26.2	
	comp=E,19nm,4.5s,comp=N,23nm,3.6s						
JGF	**Kuroka**	**4.05**	**318**	P	Pn	14 38 26.9	+4.2
JGF	**Kuroka**	**4.05**	**318**	Pn	Pn	14 38 26.7	+4.0
JGF	**Kuroka**	**4.05**	**318**	A	A	14 38 26.0	
	comp=E,47nm,4.6s,comp=N,29nm,4.9s						
INU	**Inuyama**	**4.08**	**313**	P	Pn	14 38 26.9	+3.8
INU	**Inuyama**	**4.08**	**313**	Pn	**Pn**	**14 38 26.3**	**+3.3**
TSUJ	**Tsu 2**	**4.12**	**301**	A	A	14 38 27.4	
	comp=E,20nm,5.2s,comp=N,21nm,2.7s						
JICN	**Ichinomiyachia**	**4.16**	**311**	A	A	14 38 27.7	
	comp=E,58nm,3.1s,comp=N,60nm,2.7s						
JWKM	**Wakayamakubim**	**4.23**	**282**	A	A	14 38 29.1	
	comp=E,21nm,1.9s,comp=N,18nm,9.7s						
JGK	**Kuni**	**4.27**	**337**	A	A	14 38 28.4	
	comp=E,61nm,6.6s,comp=N,95nm,4.1s						
JKT	**Katashina**	**4.29**	**344**	A	A	14 38 28.4	
	comp=E,47nm,7.0s,comp=N,37nm,1.6s						
JNG	**Nsakai**	**4.33**	**331**	A	A	14 38 29.5	
	comp=E,42nm,2.5s,comp=N,56nm,2.6s						
JNTK	**Naratenkawa**	**4.34**	**293**	A	A	14 38 30.6	
	comp=E,15nm,2.5s,comp=N,16nm,3.6s						
JEG	**Eigenji**	**4.36**	**306**	A	A	14 38 30.7	
	comp=E,21nm,3.2s,comp=N,20nm,6.3s						
JSB	**Shibaa**	**4.37**	**352**	A	A	14 38 29.3	
	comp=E,89nm,4.0s,comp=N,121nm,3.3s						
MJAR	**Matsushiro Arr**	**4.40**	**333**	P	**Pn**	**14 38 29.7**	**+2.2**
	comp=N,2μm,1.1s,baz=159,slow=9.1,SNR=279						
MJAR				S	**Sn**	**14 39 21.1**	**+3.7**
	comp=N,864nm,0.7s,baz=150,slow=25,SNR=9.6						
MAJO	**Matsushiro**	**4.41**	**333**	P	Pn	14 38 30.8	+3.3
MAJO	**Matsushiro**	**4.41**	**333**	Pn	**Pn**	**14 38 29.9**	**+2.4**
MAJO	**Matsushiro**	**4.41**	**333**	*i* P	**Pn**	**14 38 29.4**	**+1.9**
MJB9	**Matsu-Tunnel**	**4.41**	**333**	Pn	**Pn**	**14 38 30.7**	**+3.1**
JYTA	**Yamagatataniai**	**4.42**	**313**	A	A	14 38 31.2	
	comp=E,27nm,2.6s,comp=N,26nm,2.5s						
JTNC	**Tanabenakahech**	**4.42**	**287**	A	A	14 38 31.8	
	comp=E,18nm,1.4s,comp=N,16nm,3.3s						
JFFD	**Fukushimafurud**	**4.45**	**359**	A	A	14 38 30.0	
	comp=E,43nm,4.0s,comp=N,40nm,3.8s						
ONAJ	**Iwakimizuishiy**	**4.46**	**1**	A	A	14 38 30.1	
	comp=E,48nm,5.1s,comp=N,35nm,4.1s						
JGN	**Niukaw**	**4.54**	**323**	A	A	14 38 32.7	
	comp=E,35nm,6.4s,comp=N,19nm,2.0s						
JWY	**Kouya**	**4.55**	**292**	A	A	14 38 33.6	
	comp=E,22nm,2.3s,comp=N,17nm,3.6s						
JWM	**Minabe**	**4.64**	**287**	A	A	14 38 34.9	
	comp=E,21nm,1.7s,comp=N,11nm,5.9s						
JHE	**Heguri**	**4.64**	**297**	A	A	14 38 34.7	
	comp=E,12nm,2.4s,comp=N,15nm,1.8s						
JFK	**Kawauchi**	**4.72**	**2**	A	A	14 38 33.8	
	comp=E,30nm,4.7s,comp=N,14nm,2.9s						
JUON	**Uonuma**	**4.76**	**344**	A	A	14 38 34.9	
	comp=E,46nm,6.1s,comp=N,18nm,2.0s						
JFY	**Yanaizu**	**4.83**	**351**	A	A	14 38 35.7	
	comp=E,59nm,5.1s,comp=N,34nm,3.7s						
JTT	**Ttatey**	**4.83**	**326**	A	A	14 38 36.7	
	comp=E,68nm,4.5s,comp=N,38nm,2.4s						
JFM	**Mihama**	**4.86**	**308**	A	A	14 38 37.6	
	comp=E,13nm,6.8s,comp=N,21nm,5.5s						
JJN	**Nakama**	**4.92**	**336**	A	A	14 38 37.6	
	comp=E,50nm,8.6s,comp=N,33nm,8.5s						
JOTO	**OTAMA OYAMA**	**4.92**	**357**	A	A	14 38 36.8	
	comp=E,92nm,6.2s,comp=N,55nm,1.7s						
JMST	**Minamisoumatoc**	**5.08**	**2**	A	A	14 38 38.8	
	comp=E,20nm,4.8s,comp=N,21nm,1.1s						
JKG	**Kaga**	**5.12**	**316**	A	A	14 38 41.0	
	comp=E,29nm,4.6s,comp=N,23nm,4.7s						
JWT	**Wachi**	**5.13**	**302**	A	A	14 38 41.5	
	comp=E,10.0nm,4.6s,comp=N,9.0nm,11.0s						
JIZZ	**Izumozaki**	**5.15**	**342**	A	A	14 38 40.6	
	comp=E,92nm,2.0s,comp=N,134nm,3.5s						
JAWN	**Awajishima-nag**	**5.18**	**292**	A	A	14 38 42.3	
	comp=E,11nm,1.5s,comp=N,18nm,3.3s						
JMIK	**Miki**	**5.18**	**296**	A	A	14 38 42.3	
	comp=E,21nm,2.0s,comp=N,16nm,2.0s						
JMM	**Marumori**	**5.22**	**1**	P	**Pn**	**14 38 39.9**	**+1.3**
JMM	**Marumori**	**5.22**	**1**		**Pn**	**14 38 39.0**	**+0.4**
JMM	**Marumori**	**5.22**	**1**	A	A	14 38 40.8	
	comp=E,41nm,4.7s,comp=N,23nm,1.3s		

ASAJ	**Asahikawa**	**11.56**	**7**	P	**Pn**	**14 40 03.3**	**-2.0**
ASAJ	**Asahikawa**	**11.56**	**7**	P	**Pn**	**14 40 03.1**	**-2.3**
	comp=Z,84nm,0.4s,baz=202,slow=10.0,SNR=193						
ASAJ				S	**Sn**	**14 42 05.8**	**-7.1**
	comp=Z,96nm,0.6s,baz=291,slow=20,SNR=5.6						
JKA	**Kamikawa-asahi**	**11.56**	**7**		**Pn**	**14 40 03.2**	**-2.1**
KS19	**Wonju Array Si**	**11.57**	**298**		**Pn**	**14 40 08.9**	**+3.3**
TJN	**Taejon**	**11.61**	**292**	P	**Pn**	**14 40 09.7**	**+3.6**
TJN	**Taejon**	**11.61**	**292**	P	**Pn**	**14 40 09.7**	**+3.6**
TJN	**Taejon**	**11.61**	**292**	*ce*P	Pn	14 40 10.3	+4.2
RUSJ	**Misakicho**	**11.99**	**16**	*e*P	**Pn**	**14 40 08.9**	**-2.3**
YUK	**Yuzh-Kuril'sk**	**12.08**	**18**	*c i*P	**Pn**	**14 40 10.4**	**-2.0**
YUK				pmax	pmax		
	comp=Z,278nm,0.3s						
YUK				pmax	pmax		
	comp=N,122nm,0.2s						
YUK				pmax	pmax		
	comp=Z,827nm,2.0s						
SHO	**Shikotan**	**12.20**	**21**	P	**Pn**	**14 40 11.6**	**-2.5**
SHO				pmax	pmax		
	comp=Z,114nm,0.3s						
SHO				pmax	pmax		
	comp=E,54nm,0.2s						
SHO				pmax	pmax		
	comp=N,22nm,0.1s						
SHO				pmax	pmax		
	comp=Z,188nm,1.3s						
JOW	**Kunigami**	**12.24**	**245**	P	**Pn**	**14 40 17.4**	**+2.6**
JOW	**Kunigami**	**12.24**	**245**		**Pn**	**14 40 17.3**	**+2.5**
JOW	**Kunigami**	**12.24**	**245**	P	Pn	14 40 19.6	+4.9
	comp=Z,140nm,0.4s,baz=73,slow=8.4,SNR=98						
JOW				LR	LR	14 44 34.2	
	comp=Z,8μm,21.3s,baz=79,slow=36						
JOW				ScS	ScS	14 52 56.3	-1.8
	comp=Z,10nm,0.7s,baz=118,slow=30,SNR=6.8						
MSHR	**Mys Shultsa**	**12.47**	**325**	*i* P	**Pn**	**14 40 20.0**	**+2.2**
MSHR				pmax	pmax		
	comp=Z,49nm,0.9s						
INCN	**Inchon**	**12.49**	**297**	P	**Pn**	**14 40 21.9**	**+3.8**
INCN	**Inchon**	**12.49**	**297**		**Pn**	**14 40 21.3**	**+3.1**
INCN	**Inchon**	**12.49**	**297**	P	**Pn**	**14 40 21.3**	**+3.1**
INCN	**Inchon**	**12.49**	**297**	P	Pn	14 40 23.1	+4.9
PSTR	**Posyet**	**12.69**	**325**	*i* P	**Pn**	**14 40 23.1**	**+2.3**
TEY	**Ternei**	**12.78**	**347**	⇑*e*P	**Pn**	**14 40 21.3**	**-0.7**
TEY				pmax	pmax		
	comp=N,20nm,1.3s						
TEY				pmax	pmax		
	comp=Z,20nm,1.3s						
TEY				pmax	pmax		
	comp=E,10.0nm,1.3s						
TEY				MLR	MLR		
	comp=E,100nm,12.0s						
TEY				MLR	MLR		
	comp=N,100nm,14.0s						
TEY				MLR	MLR		
	comp=Z,200nm,12.0s						
USA0B	**Ussuriysk Arra**	**13.40**	**332**		**Pn**	**14 40 30.7**	**+0.2**
USA0B	**Ussuriysk Arra**	**13.40**	**332**	*i* P	**Pn**	**14 40 32.2**	**+1.7**
USRK	**Ussuriysk Ar.**	**13.40**	**332**		**Pn**	**14 40 30.2**	**-0.3**
USRK	**Ussuriysk Ar.**	**13.40**	**332**	P	**Pn**	**14 40 31.2**	**+0.7**
	comp=Z,8.7nm,0.7s,baz=150,slow=12,SNR=23						
USRK				LR	LR	14 45 40.1	
	comp=Z,4μm,18.7s,baz=148,slow=37						
KUR	**Kuril'sk**	**13.75**	**22**	*e*P	**Pn**	**14 40 35.8**	**+0.6**
KUR				pmax	pmax		
	comp=Z,2μm,3.7s						
KUR				pmax	pmax		
	comp=Z,138nm,1.2s						
KUR				pmax	pmax		
	comp=N,43nm,0.9s						
KUR				pmax	pmax		
	comp=E,54nm,1.0s						
KUR				MLR	MLR		
	comp=Z,2μm,15.0s						
YSS	**Yuzh-Sakhalins**	**14.39**	**6**	P	**Pn**	**14 40 42.8**	**-0.8**
YSS	**Yuzh-Sakhalins**	**14.39**	**6**		**Pn**	**14 40 40.9**	**-2.8**
YSS	**Yuzh-Sakhalins**	**14.39**	**6**	*e*P	**Pn**	**14 40 41.4**	**-2.2**
YSS				*e*S	**Sn**	**14 43 16.5**	**-5.1**
YSS				pmax	pmax		
	comp=Z,1μm,2.7s						
YSS				pmax	pmax		
	comp=Z,250nm,0.9s						
YSS				pmax	pmax		
	comp=Z,180nm,0.7s						
MDJ	**Mudanjiang**	**14.76**	**327**	P	**Pn**	**14 40 48.8**	**+0.3**
MDJ				sP	P	14 41 05.5	+12
MDJ				S	**Sn**	**14 43 32.5**	**+1.8**
MDJ				SS	**SnSn**	**14 43 47.5**	**+3.4**
MDJ				pmax	pmax		
	comp=Z,41nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,1μm,11.2s						
MDJ				LR	LR		
	comp=Z,9μm,17.9s						
MDJ				LR	LR		
	comp=Z,8μm,16.5s						
MDJ				LR	LR		
	comp=Z,11μm,24.7s						
MDJ	**Mudanjiang**	**14.76**	**327**	P	**Pn**	**14 40 48.9**	**+0.4**
MDJ	**Mudanjiang**	**14.76**	**327**		**Pn**	**14 40 48.5**	**0.0**
CN2	**Changchun**	**16.34**	**317**	P	**Pn**	**14 41 10.3**	**+1.6**
CN2				S	**Sn**	**14 44 09.8**	**+0.8**
CN2				pmax	pmax		
	comp=Z,100nm,1.1s						
CN2				pmax	pmax		
	comp=Z,1μm,6.0s						
CN2				LR	LR		
	comp=Z,3μm,12.0s						
CN2				LR	LR		
	comp=Z,4μm,12.0s						
CN2				LR	LR		
	comp=Z,3μm,13.0s						
SNY	**Shenyang**	**16.41**	**309**	⇑P	**Pn**	**14 41 12.5**	**+2.9**
SNY				S	**Sn**	**14 44 16.5**	**+5.8**
SNY				pmax	pmax		
	comp=Z,260nm,1.4s						
SNY				pmax	pmax		
	comp=Z,950nm,3.5s						
SNY				LR	LR		
	comp=Z,4μm,14.7s						
SNY				LR	LR		
	comp=Z,5μm,16.7s						
SNY				LR	LR		
	comp=Z,8μm,16.5s						
UGL	**Uglegorsk**	**16.46**	**3**	*e*P	**Pn**	**14 41 10.8**	**+0.6**
UGL				pmax	pmax		
	comp=Z,2μm,1.9s						
UGL				pmax	pmax		
	comp=N,2μm,3.0s						
UGL				pmax	pmax		
	comp=Z,378nm,1.2s						
UGL				pmax	pmax		
	comp=E,400nm,1.3s						
UGL				MLR	MLR		
	comp=N,2μm,11.0s						
BNX	**BinXian**	**16.62**	**326**	⇑P	**Pn**	**14 41 11.8**	**-0.5**
BNX				pP	**pwP**	**14 41 27.0**	**+1.0**
BNX				sP	**sP**	**14 41 34.0**	**+0.9**
BNX				S	**Sn**	**14 44 14.8**	**-1.1**
BNX				pmax	pmax		
	comp=N,60nm,1.2s						
BNX				pmax	pmax		
	comp=N,940nm,4.7s						
BNX				LR	LR		
	comp=N,7μm,17.3s						
BNX				LR	LR		
	comp=N,4μm,16.5s						
BNX				LR	LR		
	comp=N,7μm,24.7s						
SSE	**Sheshan**	**16.65**	**270**	P	**Pn**	**14 41 14.8**	**+2.1**
SSE				S	**Sn**	**14 44 19.5**	**+2.9**
SSE				pmax	pmax		
	comp=N,90nm,1.1s						
SSE				pmax	pmax		
	comp=N,1μm,7.9s						
SSE				LR	LR		
	comp=N,1μm,22.0s						
SSE				LR	LR		
	comp=N,2μm,22.0s						
DL2	**Dalian**	**16.68**	**297**	P	**Pn**	**14 41 12.5**	**-0.5**
DL2				S	**Sn**	**14 44 16.8**	**-0.5**
DL2				pmax	pmax		
	comp=N,380nm,1.5s						
DL2				pmax	pmax		
	comp=N,5μm,5.8s						
DL2				LR	LR		
	comp=N,6μm,13.2s						
DL2				LR	LR		
	comp=N,10μm,16.7s						
DL2				LR	LR		
	comp=N,11μm,16.9s						
YOJ	**Yonaguni jima**	**17.53**	**247**	P	**Pn**	**14 41 26.2**	**+2.6**
YOJ	**Yonaguni jima**	**17.53**	**247**	P	**Pn**	**14 41 24.5**	**+0.9**
YOJ	**Yonaguni jima**	**17.53**	**247**	P	**Pn**	**14 41 24.5**	**+0.9**
YOJ				pmax	pmax		
	comp=Z,861nm,1.2s						
KLR	**Kul'dur**	**17.88**	**341**	*ce*P	**Pn**	**14 41 24.9**	**-2.8**
KLR				pmax	pmax		
	comp=Z,73nm,1.3s						
KLR	**Kul'dur**	**17.88**	**341**	P	**Pn**	**14 41 25.2**	**-2.5**
	comp=Z,22nm,0.5s,baz=146,slow=13,SNR=52						
KLR				S	**Sn**	**14 44 44.1**	**-2.1**
	comp=Z,11nm,0.9s,baz=328,slow=20,SNR=1.5						
KLR				LR	LR	14 48 04.2	
	comp=Z,1μm,19.3s,baz=152,slow=36						
TYV	**Tymovskoe**	**18.27**	**4**	*e*P	**Pn**	**14 41 33.6**	**+1.1**
TYV				*e*S	**S**	**14 44 58.4**	**+0.7**
TYV				pmax	pmax		
	comp=Z,2μm,3.6s						
TYV				pmax	pmax		
	comp=Z,120nm,1.4s						
TYV				smax	smax		
	comp=N,46nm,2.6s						
TYV				smax	smax		
	comp=E,38nm,2.6s						
TYV				smax	smax		
	comp=N,3μm,6.5s						
TYV				smax	smax		
	comp=E,4μm,6.5s						
GRNR	**Gornyy**	**18.39**	**351**	⇑*i*P	**P**	**14 41 31.6**	**-1.8**
GRNR				*e*S	**Sn**	**14 44 52.1**	**-6.5**
GRNR				pmax	pmax		
	comp=N,30nm,1.0s						
GRNR				pmax	pmax		
	comp=E,10.0nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,30nm,1.0s						
GRNR				smax	smax		
	comp=E,10.0nm,0.9s						
GRNR				MLR	MLR		
	comp=N,1μm,13.0s						
NJ2	**Nanjing**	**18.46**	**274**	⇑*i*P	**P**	**14 41 36.5**	**+2.2**
NJ2				pP	**pP**	**14 41 47.5**	**+1.1**
NJ2				sP	**sP**	**14 41 53.0**	**-0.4**
NJ2				S	**Sn**	**14 45 01.3**	**+0.7**
NJ2				sS	**sS**	**14 45 19.0**	**-2.1**
NJ2				pmax	pmax		
	comp=N,170nm,1.3s						
NJ2				pmax	pmax		
	comp=N,950nm,3.7s						
NJ2				LR	LR		
	comp=N,4μm,18.0s						
NJ2				LR	LR		
	comp=N,4μm,23.2s						
NJ2				LR	LR		
	comp=N,6μm,21.8s						
TATO	**Taipei**	**18.46**	**251**	P	**P**	**14 41 35.6**	**+1.2**
TATO	**Taipei**	**18.46**	**251**	P	**P**	**14 41 35.4**	**+1.1**
TATO	**Taipei**	**18.46**	**251**	P	**P**	**14 41 36.1**	**+1.7**
YHNB	**Yeheng**	**18.70**	**250**	P	**P**	**14 41 38.7**	**+1.6**
YHNB	**Yeheng**	**18.70**	**250**	P	**P**	**14 41 36.8**	**-0.2**
NACB	**Ninganchiao**	**18.78**	**248**	P	**P**	**14 41 38.9**	**+1.1**
NACB	**Ninganchiao**	**18.78**	**248**	P	**P**	**14 41 37.2**	**-0.6**
GUMO	**Guam**	**19.34**	**168**	P	**Pn**	**14 41 46.2**	**+0.7**
GUMO	**Guam**	**19.34**	**168**	P	**P**	**14 41 40.5**	**-3.5**
	comp=N,39nm,0.5s,baz=58,slow=23,SNR=1.5						
GUMO				S	**S**	**14 45 16.3**	**-3.6**
	comp=N,108nm,0.9s,baz=158,slow=17,SNR=1.7						
GUMO				LR	LR	14 46 37.1	
	comp=N,2μm,21.7s,baz=356,slow=29						
YULB	**Yu-li**	**19.42**	**247**	P	**P**	**14 41 45.4**	**+0.5**
YULB	**Yu-li**	**19.42**	**247**	P	**P**	**14 41 44.5**	**-0.4**
SSLB	**Suanglung**	**19.48**	**248**	P	**P**	**14 41 45.8**	**+0.3**
SSLB	**Suanglung**	**19.48**	**248**	P	**P**	**14 41 45.4**	**-0.1**
TIA	**Tai'an**	**19.76**	**287**	P	**P**	**14 41 47.3**	**-1.2**
TIA				S	**S**	**14 45 24.0**	**-4.1**
TIA				sS	sS	14 45 52.5	+5.2
TIA				pmax	pmax		
	comp=N,700nm,12.1s						
TIA				LR	LR		
	comp=N,2μm,13.6s						
TIA				LR	LR		
	comp=N,9μm,16.8s						
TIA				LR	LR		
	comp=N,11μm,17.5s						
TWGBT	**Beinan**	**19.90**	**246**	P	**P**	**14 41 51.4**	**+1.3**
TWG	**Pinlang**	**19.90**	**246**	P	**P**	**14 41 49.8**	**-0.3**
TWG				IAmb	IAmb	14 41 57.4	
	comp=Z,1μm,1.7s						
TPUB	**Ta-pu**	**19.99**	**247**	P	**P**	**14 41 52.3**	**+1.3**
TPUB	**Ta-pu**	**19.99**	**247**	P	**P**	**14 41 50.9**	**-0.1**
HEH	**HeiHe**	**20.17**	**335**	*e*P	**P**	**14 41 50.0**	**-2.7**
HEH				sP	**sP**	**14 42 08.8**	**-3.2**
HEH				S	**S**	**14 45 33.3**	**-2.6**
HEH				pmax	pmax		
	comp=Z,130nm,1.1s						
HEH				pmax	pmax		
	comp=Z,1μm,5.1s						
HEH				LR	LR		
	comp=Z,5μm,16.4s						
HEH				LR	LR		
	comp=Z,5μm,16.1s						
HEH				LR	LR		
	comp=Z,6μm,18.4s						
NKL	**Nikolayevsk**	**20.50**	**360**	*e*P	**P**	**14 41 55.6**	**-0.7**
NKL				*e*S	**S**	**14 45 39.4**	**-3.0**
NKL				pmax	pmax		
	comp=N,453nm,1.0s						
NKL				pmax	pmax		
	comp=E,513nm,1.0s						
NKL				pmax	pmax		
	comp=Z,2μm,1.0s						
NKL				smax	smax		
	comp=E,3μm,4.8s						
NKL				smax	smax		
	comp=N,2μm,4.6s						
NKL				MLR	MLR		
	comp=N,3μm,11.0s						
NKL				MLR	MLR		
	comp=E,4μm,11.0s						
NKL				MLR	MLR		
	comp=Z,9μm,18.0s						
QZH	**Quanzhou**	**20.81**	**254**	⇓*i*P	**P**	**14 41 58.8**	**-1.1**
QZH				S	S	14 45 43.0	-5.9
QZH				pmax	pmax		
	comp=Z,190nm,1.2s						
QZH				pmax	pmax		
	comp=Z,1μm,3.9s						
QZH				LR	LR		
	comp=Z,3μm,18.5s						
QZH				LR	LR		
	comp=Z,6μm,17.5s						
QZH				LR	LR		
	comp=Z,5μm,18.2s						
BJI	**Beijing**	**21.05**	**297**	P	**P**	**14 42 01.8**	**-0.5**
BJI				pP	**pP**	**14 42 12.3**	**-2.4**
BJI				S	**S**	**14 45 51.0**	**-2.5**
BJI				ScP	**ScP**	**14 49 37.5**	**-1.6**
BJI				pmax	pmax		
	comp=Z,310nm,6.8s						
BJI				LR	LR		
	comp=Z,1μm,16.7s						
BJI				LR	LR		
	comp=Z,2μm,18.9s						
BJI				LR	LR		
	comp=Z,3μm,19.2s						
BJT	**Baijiatuau**	**21.05**	**297**	P	**P**	**14 42 02.6**	**+0.2**
BJT	**Baijiatuau**	**21.05**	**297**	IAMs_20	IAMs_20	14 50 13.4	
	comp=Z,6μm,21.0s						
KNMB	**Chin-men Tao**	**21.19**	**253**	P	**P**	**14 42 04.4**	**+0.5**
KNMB				IAMs_20	IAMs_20	14 49 56.0	
	comp=Z,5μm,20.0s						
SKR	**Severo-Kuril's**	**21.32**	**28**	*ce*P	**P**	**14 42 05.4**	**+0.3**
HNS	**HongShan**	**21.78**	**290**	⇓P	**P**	**14 42 07.8**	**-2.4**
HNS				sP	**sP**	**14 42 28.8**	**-0.8**
HNS				S	S	14 46 01.5	-6.4
HNS				ScS	**ScS**	**14 53 23.5**	**-1.9**
HNS				pmax	pmax		
	comp=Z,180nm,1.2s						
HNS				pmax	pmax		
	comp=Z,670nm,4.2s						
HNS				LR	LR		
	comp=Z,3μm,17.7s						
HNS				LR	LR		
	comp=Z,9μm,18.0s						
HNS				LR	LR		
	comp=Z,10μm,15.9s						
XLT	**XiLinHaoTe**	**22.28**	**307**	*e*P	**P**	**14 42 13.5**	**-2.1**
XLT				pP	sP	14 42 32.3	-2.8
XLT				sP	pwP	14 42 38.8	+11
XLT				PP	pP	14 42 44.8	+17
WHN	**Wuhan**	**22.52**	**272**	⇑P	**P**	**14 42 17.3**	**-0.9**
WHN				sP	**sP**	**14 42 36.0**	**-1.4**
WHN				PP	**PnPn**	**14 42 47.3**	**+3.8**
WHN				S	**S**	**14 46 19.8**	**-1.6**
WHN				sS	**sS**	**14 46 44.3**	**+1.9**
WHN				SS	**SnSn**	**14 47 08.3**	**+14**
WHN				pmax	pmax		
	comp=Z,680nm,1.0s						
WHN				pmax	pmax		
	comp=Z,2μm,5.6s						
WHN				LR	LR		
	comp=Z,11μm,15.0s						
WHN				LR	LR		
	comp=Z,16μm,19.7s						
WHN				LR	LR		
	comp=Z,14μm,17.0s						
HIA	**Hailar**	**22.82**	**323**	P	**P**	**14 42 20.2**	**-1.1**
ZEA	**Zeya**	**23.18**	**339**	*e*P	**P**	**14 42 26.2**	**+1.4**
ZEA				*e**PP	**sP**	**14 42 40.2**	**-4.0**
ZEA				*e**SP	pwP	14 42 50.0	+13
ZEA				*e*S	**S**	**14 46 26.3**	**-5.7**
ZEA				*e*		14 46 47.6	
ZEA				pmax	pmax		
	comp=E,700nm,1.9s						
ZEA				pmax	pmax		
	comp=N,2μm,1.4s						
ZEA				pmax	pmax		
	comp=Z,4μm,1.4s						
ZEA				smax	smax		
	comp=N,3μm,10.6s						
ZEA				MLR	MLR		
	comp=E,1μm,15.0s						
ZEA				MLR	MLR		
	comp=N,2μm,14.0s						
LYN	**LuoYang**	**23.56**	**282**	⇓P	**P**	**14 42 26.0**	**-2.6**
LYN				pP	pwP	14 42 43.0	+1.3
LYN				sP	sP	14 42 50.5	+2.1
LYN				PP	**PnPn**	**14 42 58.3**	**+0.6**
LYN				S	S	14 46 31.8	-6.7
LYN				ScS	**ScS**	**14 53 30.3**	**-2.0**
LYN				pmax	pmax		
	comp=N,91nm,1.0s						
LYN				pmax	pmax		
	comp=N,1μm,7.1s						
TIY	**Taiyuan**	**23.61**	**290**	*e*P	**P**	**14 42 27.0**	**-2.0**
TIY				pP	**sP**	**14 42 45.8**	**-3.1**
TIY				S	S	14 46 32.3	-7.0
TIY				pmax	pmax		
	comp=N,860nm,5.6s						
TIY				LR	LR		
	comp=N,2μm,15.1s						
TIY				LR	LR		
	comp=N,8μm,15.5s						
TIY				LR	LR		
	comp=N,10μm,16.1s						
SZP	**Santa**	**23.63**	**235**	P	**P**	**14 42 28.3**	**-1.0**
PEA0B	**Petropavlovsk-**	**23.84**	**26**	*ce*P	**P**	**14 42 31.1**	**+0.2**
PETK	**Petropavlovsk-**	**23.84**	**26**	P	**P**	**14 42 31.7**	**+0.8**
PETK	**Petropavlovsk-**	**23.84**	**26**	P	**P**	**14 42 32.0**	**+1.1**
	comp=N,123nm,1.1s,baz=208,slow=4.8,SNR=94						
PETK				PcP	**PcP**	**14 46 13.2**	**+0.6**
	comp=N,12nm,0.9s,baz=137,slow=1.3,SNR=4.2						
PETK				LR	LR	14 54 23.9	
	comp=N,2μm,19.2s,baz=218,slow=43						
	comp=N,123nm,1.1s						
PET	**Petropavlovsk**	**24.14**	**27**	P	**P**	**14 42 35.1**	**+1.5**
PET	**Petropavlovsk**	**24.14**	**27**	P	**P**	**14 42 35.3**	**+1.7**
PET				IAmb	IAmb	14 42 37.6	
	comp=Z,872nm,1.3s						
PET	**Petropavlovsk**	**24.14**	**27**	⇑*i*P	**P**	**14 42 34.6**	**+1.0**
PET				*e*S	**S**	**14 46 44.7**	**-2.6**
PET				pmax	pmax		
	comp=Z,2μm,6.7s						
PET				pmax	pmax		
	comp=Z,705nm,1.3s						
PET				MLR	MLR		
	comp=Z,2μm,14.0s						
PET				MLR	MLR		
	comp=Z,1μm,15.0s						
CNSH	**ChangSha**	**24.32**	**267**	⇑P	**P**	**14 42 35.0**	**-0.5**
CNSH				S	**S**	**14 46 52.5**	**+1.7**
CNSH				pmax	pmax		
	comp=Z,71nm,1.0s						
CNSH				LR	LR		
	comp=Z,3μm,16.8s						
CNSH				LR	LR		
	comp=Z,3μm,19.1s						
CNSH				LR	LR		
	comp=Z,4μm,16.2s						
HHC	**Hu-ho-hao-te**	**24.66**	**298**	*e*P	**P**	**14 42 36.8**	**-1.8**
HHC				sP	sP	14 42 55.5	-3.4
HHC				PP	**PnPn**	**14 43 16.5**	**+3.8**
HHC				S	**S**	**14 46 51.0**	**-5.3**
HHC				pmax	pmax		
	comp=Z,92nm,1.3s						
HHC				pmax	pmax		
	comp=Z,310nm,5.6s						
HHC				LR	LR		
	comp=Z,3μm,15.9s						
HHC				LR	LR		
	comp=Z,5μm,19.6s						
HHC				LR	LR		
	comp=Z,7μm,19.4s						
HKPS	**Hong Kong Po S**	**25.66**	**253**	IAMs_20	IAMs_20	14 52 53.4	
	comp=Z,3μm,20.0s						
BTO	**Baotou**	**25.78**	**297**	*e*P	**P**	**14 42 49.0**	**+0.2**
BTO				pP	**pwP**	**14 43 03.5**	**+1.0**
BTO				sP	**sP**	**14 43 10.8**	**+1.7**
BTO				PP	**PnPn**	**14 43 32.0**	**+4.0**
BTO				S	**S**	**14 47 13.5**	**-0.6**
BTO				sS	**sS**	**14 47 40.0**	**+3.1**
BTO				SS	**SnSn**	**14 48 23.5**	**+10**
BTO				pmax	pmax		
	comp=Z,140nm,2.1s						
BTO				pmax	pmax		
	comp=Z,2μm,7.5s						
BTO				LR	LR		
	comp=Z,9μm,19.6s						
BTO				LR	LR		
	comp=Z,16μm,18.8s						
BTO				LR	LR		
	comp=Z,23μm,19.7s						
TGY	**Tagaytay City**	**25.79**	**229**	LR	LR	14 51 39.1	
	comp=Z,2μm,21.0s,baz=93,slow=33						
GZH	**Guangzhou**	**25.92**	**255**	P	P	14 42 45.5	-4.6
GZH				sP	sP	14 43 08.3	-1.8
GZH				S	S	14 47 08.8	-7.6
GZH				LR	LR		
	comp=Z,1μm,12.0s						
GZH				LR	LR		
	comp=Z,1μm,10.6s						
XAN	**Xi'an**	**26.53**	**282**	⇓P	**P**	**14 42 54.3**	**-1.3**
XAN				sP	sP	14 43 13.3	-2.5
XAN				PP	**PnPn**	**14 43 38.0**	**-0.3**
XAN				S	**S**	**14 47 22.5**	**-3.5**
XAN				pmax	pmax		
	comp=Z,130nm,1.2s						
XAN				pmax	pmax		
	comp=Z,1μm,5.4s						
XAN				LR	LR		
	comp=Z,4μm,15.0s						
XAN				LR	LR		
	comp=Z,2μm,16.0s						
XAN				LR	LR		
	comp=Z,5μm,14.3s						
ENH	**Enshi**	**26.68**	**273**	P	**P**	**14 42 56.8**	**-0.2**
ENH	**Enshi**	**26.68**	**273**	IAMs_20	IAMs_20	14 53 38.2	
	comp=Z,5μm,21.0s						
H11N2	**WAKE ISLAND Hy**	**26.71**	**112**	T	T	15 11 54.2	
	baz=304,slow=75,SNR=273						
H11N1	**WAKE ISLAND Hy**	**26.72**	**112**	T	T	15 11 51.4	
	baz=304,slow=75,SNR=147						
H11N3	**WAKE ISLAND Hy**	**26.73**	**112**	T	T	15 11 52.0	
	baz=304,slow=75,SNR=108						
WAKE	**Wake Island**	**26.77**	**113**	IAMs_20	IAMs_20	14 51 10.9	
	comp=Z,4μm,20.0s						

H11S3 WAKE ISLAND Hy 27.26 115 T T 15 12 11.8
baz=305,slow=75,SNR=88
H11S1 WAKE ISLAND Hy 27.26 115 T T 15 12 12.0
baz=305,slow=75,SNR=83
H11S2 WAKE ISLAND Hy 27.27 115 T T 15 12 14.8
baz=305,slow=75,SNR=76
GULI GuiLin 27.46 262 ⇑P **P** **14 43 03.8 -0.2**
GULI S **S** **14 47 35.0 -5.7**
GULI pmax pmax
comp=Z,40nm,1.1s
GULI LR LR
comp=Z,4μm,18.6s
GULI LR LR
comp=Z,2μm,21.2s
GULI LR LR
comp=Z,6μm,15.7s
CIT Chita 27.63 323 *e*P **P** **14 43 05.6 +0.3**
CIT *e* 14 43 21.2
CIT *e* 14 43 53.0
CIT *e* 14 47 43.4
CIT *e* 14 49 04.4
CIT *e* 14 53 46.6
CIT pmax pmax
comp=Z,775nm,2.5s
MA2 Magadan 27.77 11 P **P** **14 43 07.4 +1.0**
MA2 Magadan 27.77 11 P **P** **14 43 06.4 0.0**
MA2 IAmb IAmb 14 43 12.9
comp=Z,515nm,1.2s
MA2 Magadan 27.77 11 *ce*P **P** **14 43 06.1 -0.3**
MA2 Magadan 27.77 11 P **P** **14 43 07.0 +0.6**
comp=Z,201nm,1.0s,baz=193,slow=10.0,SNR=226
MA2 S **S** **14 47 46.0 +1.1**
comp=Z,6.3nm,0.9s,baz=318,slow=18,SNR=1.5
MA2 LR LR 14 55 33.6
comp=Z,2μm,18.7s,baz=209,slow=39
comp=Z,201nm,1.0s
DAV Davao City (W) 29.06 212 IAMs_20 IAMs_20 14 52 38.8
comp=Z,3μm,20.0s
DAV Davao City (W) 29.06 212 LR LR 14 52 51.7
comp=Z,2μm,21.9s,baz=49,slow=32
ULN Ulaanbaatar 29.57 311 P **P** **14 43 23.2 +0.6**
ULN Ulaanbaatar 29.57 311 *ce*P **P** **14 43 23.7 +1.0**
ULN pmax pmax
comp=Z,355nm,1.7s
ULN Ulaanbaatar 29.57 311 P **P** **14 43 24.2 +1.6**
SONM Songino Array 29.98 311 P **P** **14 43 26.6 +0.4**
SONM Songino Array 29.98 311 P **P** **14 43 27.4 +1.2**
comp=Z,119nm,1.1s,baz=112,slow=8.6,SNR=180
SONM PcP **PcP** **14 46 27.9 +0.4**
comp=Z,4.7nm,0.6s,baz=120,slow=3.5,SNR=2.3
SONM ScP **ScP** **14 50 02.7 -2.1**
comp=Z,5.4nm,1.0s,baz=120,slow=2.9,SNR=4.2
SONM ScS **ScS** **14 53 55.2 -5.0**
comp=Z,0.6nm,0.7s,baz=82,slow=10,SNR=1.6
SONM LR LR 14 56 15.7
comp=Z,7μm,18.1s,baz=182,slow=38
SONM P3KPbc 15 15 26.4
comp=Z,0.7nm,0.9s,baz=270,slow=1.5,SNR=6.1
comp=Z,119nm,1.1s
GYA Guiyang 30.15 267 ⇑P **P** **14 43 26.5 -1.5**
GYA sP sP 14 43 48.8 +0.5
GYA PP **PnPn** **14 44 32.0 +4.7**
GYA S **S** **14 48 21.5 -1.7**
GYA sS sS 14 48 48.0 +1.9
GYA SS **ScP** **14 50 06.8 +1.1**
GYA pmax pmax
comp=Z,23nm,1.0s
GYA LR LR
comp=Z,3μm,22.2s
GYA LR LR
comp=Z,3μm,20.5s
GYA LR LR
comp=Z,6μm,16.7s
YAK Yakutsk 30.25 350 P **P** **14 43 28.4 0.0**
YAK Yakutsk 30.25 350 *e*P **P** **14 43 28.9 +0.5**
YAK *e**PP **sP** **14 43 47.0 -1.6**
YAK *e* 14 44 30.4
YAK *e* 14 46 27.6
YAK *e*S **S** **14 48 21.6 -2.2**
YAK *e*SS **ScP** **14 50 04.7 -0.4**
YAK *e* 14 53 55.9
YAK pmax pmax
comp=Z,125nm,1.2s
YAK pmax pmax
comp=N,79nm,1.7s
YAK pmax pmax
comp=E,34nm,2.1s
YAK pmax pmax
comp=Z,414nm,4.1s
YAK pmax pmax
comp=N,474nm,5.1s
YAK pmax pmax
comp=E,181nm,4.0s
YAK smax smax
comp=N,1μm,3.8s
YAK smax smax
comp=E,1μm,4.1s
YAK Yakutsk 30.25 350 P **P** **14 43 28.8 +0.5**
comp=E,93nm,0.9s,baz=164,slow=5.4,SNR=40
YAK S **S** **14 48 19.0 -4.8**
comp=E,22nm,0.9s,baz=243,slow=23,SNR=6.8
YAK ScS **ScS** **14 53 55.6 -4.9**
comp=E,14nm,0.4s,baz=318,slow=23,SNR=24
YAK LR LR 14 56 00.7
comp=E,4μm,19.6s,baz=153,slow=37
comp=E,93nm,0.9s
LZH Lanzhou 30.50 287 *e*P **P** **14 43 29.8 -1.3**
LZH sP sP 14 43 50.0 -1.4
LZH PP **PnPn** **14 44 33.0 +1.3**
LZH S S 14 48 21.8 -6.8
LZH ScP **ScP** **14 50 05.0 -1.7**
LZH ScS **ScS** **14 54 01.0 -2.1**
LZH pmax pmax
comp=E,46nm,1.2s
LZH pmax pmax
comp=E,460nm,5.9s
LZH LR LR
comp=E,4μm,17.2s
LZH LR LR
comp=E,6μm,19.6s
LZH LR LR
comp=E,9μm,19.6s
QIZ Qiongzhong 30.77 251 P **P** **14 43 32.0 -1.4**
QIZ pP **pP** **14 43 45.3 -1.8**
QIZ sP **sP** **14 43 53.5 -0.1**
QIZ S **S** **14 48 29.5 -3.3**
QIZ sS **sS** **14 48 55.5 -0.2**
QIZ LR LR
comp=E,2μm,26.1s
QIZ LR LR
comp=E,2μm,26.1s
QIZ LR LR
comp=E,4μm,27.8s
QIZ Qiongzhong 30.77 251 IAMs_20 IAMs_20 14 54 56.8
comp=Z,3μm,21.0s
BOD Bodaibo 31.04 332 *e*P **P** **14 43 36.2 +0.9**
BOD pmax pmax
comp=Z,254nm,1.7s
SEY Seymchan 31.21 10 *ce*P **P** **14 43 36.9 +0.1**
SEY pmax pmax
comp=Z,195nm,1.3s
SEY Seymchan 31.21 10 P **P** **14 43 37.8 +1.0**
comp=Z,81nm,1.0s,baz=202,slow=7.0,SNR=215
SEY LR LR 14 58 12.3
comp=Z,2μm,18.9s,baz=196,slow=40
comp=Z,81nm,1.0s
SHEM Shemya Is, Ala 31.30 40 P **P** **14 43 39.7 +2.0**
comp=Z,447nm,1.0s,baz=327,slow=3.9,SNR=13
SHEM LR LR 14 55 06.0
comp=Z,2μm,19.3s,baz=236,slow=34
comp=Z,447nm,1.0s
CD2 Chengdu 31.35 277 P P 14 43 35.8 -2.7
CD2 PP **PnPn** **14 44 42.5 -0.2**
CD2 S S 14 48 34.5 -7.3
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,200nm,3.7s
CD2 LR LR
comp=Z,3μm,11.6s
CD2 LR LR
comp=Z,3μm,15.5s
CD2 LR LR
comp=Z,9μm,17.1s
ZAK Zakamensk 32.72 314 *e*P **P** **14 43 50.6 +0.3**
ZAK pmax pmax
comp=Z,193nm,1.4s
IRK Irkutsk 32.78 318 *e*P **P** **14 43 51.0 +0.3**
IRK *e*S **S** **14 49 04.4 +0.8**
IRK pmax pmax
comp=Z,476nm,2.2s
GTA Gaotai 33.53 293 P **P** **14 43 55.8 -1.8**
GTA sP sP 14 44 14.5 -3.5
GTA PP **PnPn** **14 45 08.0 -2.4**
GTA S S 14 49 09.3 -6.4
GTA SS **SnSn** **14 51 30.3 +7.7**
GTA ScS **ScS** **14 54 14.0 -4.2**
GTA pmax pmax
comp=Z,41nm,1.1s
GTA pmax pmax
comp=Z,310nm,8.0s
GTA LR LR
comp=Z,1μm,19.1s
GTA LR LR
comp=Z,3μm,19.1s
GTA LR LR
comp=Z,4μm,15.9s
KMI Kunming 33.93 267 ⇓P **P** **14 44 01.0 -0.3**
KMI PP **PnPn** **14 45 16.5 +0.8**
KMI S S 14 49 15.5 -6.8
KMI pmax pmax
comp=Z,19nm,1.4s
KMI pmax pmax
comp=Z,190nm,8.1s
KMI LR LR
comp=Z,2μm,18.4s
KMI LR LR
comp=Z,3μm,18.3s
KMI LR LR
comp=Z,4μm,17.6s
TNTI Ternate 34.09 204 P **P** **14 44 03.9 +1.5**
TNTI Ternate 34.09 204 P **P** **14 44 01.1 -1.3**
TNTI Ternate 34.09 204 P **P** **14 44 03.4 +1.0**
comp=Z,84nm,1.4s,comp=Z,2μm
PZH PanZhiHua 34.29 270 P P 14 44 01.8 -2.5
PZH sP sP 14 44 22.0 -2.6
PZH PP **PP** **14 45 22.8 +0.1**
PZH S S 14 49 20.0 -7.6
PZH ScP **ScP** **14 50 18.0 -1.8**
PZH ScS **ScS** **14 54 19.8 -2.8**
PZH pmax pmax
comp=Z,40nm,1.2s
PZH pmax pmax
comp=Z,210nm,10.3s
PZH LR LR
comp=Z,2μm,14.9s
PZH LR LR
comp=Z,3μm,15.5s
PZH LR LR
comp=Z,3μm,17.1s
MOY Mondy 34.49 315 *e*P **P** **14 44 06.4 +0.7**
MOY pmax pmax
comp=Z,224nm,1.5s
SWI Sorong 34.49 197 P **P** **14 44 04.1 -1.8**
comp=Z,102nm,1.1s,comp=Z,1μm
SLVN Son La 34.50 260 IAMs_20 IAMs_20 15 00 06.8
comp=Z,2μm,18.0s
LBMI Labuha 35.36 203 P **P** **14 44 13.6 +0.2**
comp=Z,233nm,1.9s,comp=Z,5μm
GTOI Gorontalo 35.93 211 P **P** **14 44 16.5 -1.7**
comp=Z,41nm,1.6s,comp=Z,637nm
DLV T Lat 36.00 243 P **P** **14 44 20.1 +1.0**
KIWB Kanaga Island 36.00 45 P **P** **14 44 18.6 +0.1**
FAKI Fak Fak 36.26 194 IAMs_20 IAMs_20 14 56 44.5
comp=Z,3μm,20.0s
MIDW Midway 36.26 86 IAMs_20 IAMs_20 14 55 42.2
comp=Z,3μm,21.0s
ADK Adak 36.29 45 P **P** **14 44 22.7 +1.7**
ADK Adak 36.29 45 P **P** **14 44 21.9 +0.9**
ADK Adak 36.29 45 P **P** **14 44 21.9 +0.9**
ADK pmax pmax
comp=Z,656nm,1.3s
ADK Adak 36.29 45 P **P** **14 44 22.1 +1.1**
UBPT Khong Chiam 36.32 250 P **P** **14 44 21.5 -0.1**
TOLI2 Tolitoli 36.53 215 P **P** **14 44 25.0 +1.6**
TOLI2 Tolitoli 36.53 215 P **P** **14 44 21.8 -1.6**
MRSI Marisa 36.55 213 P **P** **14 44 24.3 +0.8**
comp=Z,210nm,1.4s,comp=Z,2μm,comp=Z,2μm
NONG Nongkai 36.70 256 P **P** **14 44 24.6 -0.2**
SANI Sanana 37.20 205 P **P** **14 44 27.7 -1.4**
SANI Sanana 37.20 205 P P 14 44 25.3 -3.8
TNCH TengChong 37.52 269 ⇑P **P** **14 44 31.5 -0.5**
TNCH pP pP 14 44 45.0 -1.0
TNCH PP **PP** **14 45 59.5 +1.0**
TNCH S **S** **14 50 13.5 -3.8**
TNCH pmax pmax
comp=Z,150nm,1.3s
TNCH pmax pmax
comp=Z,450nm,4.1s
TNCH LR LR
comp=Z,1μm,16.1s
TNCH LR LR
comp=Z,1μm,17.7s
TNCH LR LR
comp=Z,4μm,17.5s
MPSI Mapaga 37.64 216 P **P** **14 44 33.7 +0.9**
comp=Z,28nm,2.6s
TABU Tabubil 37.70 179 P **P** **14 44 35.1 +1.8**
GOMU GeErMu 37.75 288 P **P** **14 44 33.0 -1.0**
GOMU SS SS 14 53 06.5 -1.4
GOMU pmax pmax
comp=Z,110nm,1.5s
GOMU LR LR
comp=Z,2μm,17.4s
GOMU LR LR
comp=Z,4μm,17.5s
GOMU LR LR
comp=Z,6μm,18.0s
ATKA Atka Island 37.86 45 P **P** **14 44 36.5 +2.2**
ATKA Atka Island 37.86 45 P **P** **14 44 35.1 +0.8**
ATKA IAmb IAmb 14 44 36.5
comp=Z,372nm,1.0s
NLAI Namlea 37.94 202 P **P** **14 44 35.7 +0.4**
comp=Z,84nm,1.9s
CRAI Chiangrai 37.95 261 IAMs_20 IAMs_20 15 02 20.9
comp=Z,3μm,20.0s
BILL Bilibino 38.41 15 P **P** **14 44 38.8 +0.1**
BILL IAmb IAmb 14 44 41.1
comp=Z,235nm,1.2s
BILL Bilibino 38.41 15 *e*P **P** **14 44 38.5 -0.2**
BILL Bilibino 38.41 15 P **P** **14 44 39.4 +0.7**
BILL PcP **PcP** **14 46 52.3 +1.3**
PHRA Phrae 38.88 259 P **P** **14 44 41.7 -1.6**
TIXI Tiksi 39.59 354 P **P** **14 44 48.2 -0.3**
TIXI Tiksi 39.59 354 P **P** **14 44 48.2 -0.3**
TIXI pmax pmax
comp=Z,102nm,1.0s
TIXI Tiksi 39.59 354 P **P** **14 44 48.5 +0.1**
comp=Z,74nm,0.9s,baz=161,slow=5.6,SNR=103
TIXI S **S** **14 50 46.6 -0.3**
comp=Z,13nm,0.9s,baz=258,slow=23,SNR=14
TIXI LR LR 15 04 18.8
comp=Z,2μm,18.2s,baz=170,slow=41
comp=Z,74nm,0.9s
TIXI Tiksi 39.59 354 P **P** **14 44 48.6 +0.2**
TIXI pP **sP** **14 45 07.7 -1.4**
CMAR Chiang Mai Arr 39.97 260 P **P** **14 44 51.0 -1.3**
CMAR Chiang Mai Arr 39.97 260 P **P** **14 44 51.5 -0.9**
comp=Z,11nm,0.7s,baz=53,slow=7.3,SNR=92
CMAR PcP **PcP** **14 46 58.2 +1.5**
comp=Z,14nm,1.1s,baz=34,slow=3.6,SNR=8.7
CMAR ScP **ScP** **14 50 38.6 -2.3**
comp=Z,7.3nm,1.0s,baz=30,slow=3.4,SNR=8.1
CMAR LR LR 15 03 27.2
comp=Z,2μm,18.1s,baz=60,slow=39
comp=Z,11nm,0.7s
NAYO Nakonayok 40.17 252 P **P** **14 44 53.4 -0.6**
BKB Balikpapan 40.53 218 IAMs_20 IAMs_20 14 59 58.0
comp=Z,2μm,21.0s
CLES Cleveland East 40.56 45 P **P** **14 44 57.6 +0.8**
MND Mandalay 40.74 266 P **P** **14 44 57.6 -1.0**
ITAN ITANAGAR 40.83 275 *e*P **P** **14 44 58.4 -1.0**
ITAN IAmb IAmb 14 44 59.5
comp=Z,2μm,2.5s
NIKH Nikolski High 41.20 45 P **P** **14 45 04.2 +2.1**
NIKH Nikolski High 41.20 45 P **P** **14 45 02.7 +0.6**
baz=261,SNR=10
SPIA Saint Paul Isl 41.30 39 P **P** **14 45 03.7 +0.9**
baz=255
MTKI Muara Teweh, K 41.34 221 P **P** **14 45 02.7 -0.9**
comp=Z,31nm,0.8s
P08K Saint George I 41.53 40 P **P** **14 45 05.7 +1.0**
baz=256
SRDT SRDT 41.93 254 P **P** **14 45 08.2 -0.3**
KSM Kuching 42.16 229 P **P** **14 45 10.0 -0.3**
KSM Kuching 42.16 229 IAMs_20 IAMs_20 15 01 45.7
comp=Z,2μm,21.0s
LSA Lhasa 42.19 280 IAMs_20 IAMs_20 15 03 27.6
comp=Z,2μm,20.0s
LSA Lhasa 42.19 280 P **P** **14 45 10.6 -0.4**
PMG Port Moresby 42.26 170 LR LR 15 01 39.2
comp=Z,508nm,20.7s,baz=14,slow=34
PMG Port Moresby 42.26 170 P **P** **14 45 11.3 +0.3**
PMG pP **sP** **14 45 29.7 -1.3**
PMG PcP **PcP** **14 47 05.5 +1.3**
KAPI Kappang 42.40 212 P **P** **14 45 14.2 +1.9**
KAPI Kappang 42.40 212 P **P** **14 45 12.3 0.0**
KAPI Kappang 42.40 212 P **P** **14 45 12.3 0.0**
KAPI pmax pmax
comp=Z,133nm,1.4s
WMQ Urumqi 42.45 301 ⇑*i*P **P** **14 45 13.5 +1.0**
WMQ pP pwP 14 45 29.5 +2.7
WMQ sP sP 14 45 35.5 +2.3
WMQ ScP **ScP** **14 50 44.8 -5.7**
WMQ S **S** **14 51 29.0 -1.3**
WMQ pmax pmax
comp=Z,190nm,1.5s
WMQ pmax pmax
comp=Z,910nm,3.6s
WMQ LR LR
comp=Z,3μm,18.7s
WMQ LR LR
comp=Z,2μm,24.0s
WMQ LR LR
comp=Z,2μm,24.1s
WMQ Urumqi 42.45 301 P **P** **14 45 13.1 +0.6**
UNV Unalaska Valle 42.73 44 P **P** **14 45 15.6 +1.1**
UNV Unalaska Valle 42.73 44 P **P** **14 45 14.3 -0.1**
baz=262
SHL Shillong 42.93 274 *eP* **P** **14 45 14.8 -1.9**
SHL *i* PCP **PcP** **14 47 06.5 -0.1**
SAIH SAIHA 43.18 269 *eP* P 14 45 16.1 -2.6
SAIH IAmb IAmb 14 45 17.9
comp=Z,102nm,0.8s
AGT Agartala 44.09 272 *eP* **P** **14 45 25.4 -0.5**
AGT IAmb IAmb 14 45 26.6
comp=Z,441nm,1.2s
M11K Mekoryuk 44.16 35 P **P** **14 45 27.1 +1.2**
baz=256,SNR=7.5
BELO BELONIA 44.17 271 *eP* **P** **14 45 26.6 +0.1**
BELO *i* x x 15 02 30.8
ZSN Zaisan 44.29 306 *eP* **P** **14 45 27.4 +0.1**
comp=Z,80nm,1.1s,baz=306
ZSN *eS* **S** **14 51 56.3 -0.8**
baz=306
ZSN Zaisan 44.29 306 *eP* **P** **14 45 27.3 +0.1**
ZSN *eS* **S** **14 51 56.2 -0.8**
ZSN pmax pmax
comp=Z,80nm,1.1s
SURA Surathani 44.51 248 P **P** **14 45 28.7 -0.6**
ZAA0 Zalesovo Array 44.55 316 IAmb IAmb 14 47 07.2
comp=Z,402nm,1.4s
ZAA0 IAMs_20 IAMs_20 15 04 52.0
comp=Z,2μm,18.0s
ZALV Zalesovo Beam 44.55 316 P **P** **14 45 28.8 -0.3**
ZALV Zalesovo Beam 44.55 316 *i* P **P** **14 45 28.8 -0.3**
ZALV pmax pmax
comp=Z,48nm,0.9s
ZALV Zalesovo Beam 44.55 316 P **P** **14 45 29.4 +0.3**
comp=Z,48nm,0.9s,baz=108,slow=4.7,SNR=96
ZALV ScP **ScP** **14 50 55.9 -2.8**
comp=Z,8.4nm,0.8s,baz=107,slow=1.5,SNR=4.8
ZALV LR LR 15 05 02.1
comp=Z,2μm,18.1s,baz=95,slow=37
comp=Z,48nm,0.9s
FALS False Pass 44.64 43 P **P** **14 45 31.4 +1.5**
baz=264
MMRI Maumere 44.66 206 P **P** **14 45 32.2 +1.8**
MMRI Maumere 44.66 206 P **P** **14 45 28.8 -1.6**
MMRI Maumere 44.66 206 P **P** **14 45 28.9 -1.5**
comp=Z,125nm,0.8s,comp=Z,2μm
SRIT Nakonsritamara 44.88 247 P **P** **14 45 31.5 -0.8**
SOEI Soe 44.98 203 P **P** **14 45 34.2 +1.1**
SOEI Soe 44.98 203 P **P** **14 45 30.9 -2.2**
SOEI IAmb IAmb 14 46 02.8
comp=Z,205nm,1.0s
SOEI IAMs_20 IAMs_20 15 03 44.6
comp=Z,2μm,21.0s
SOEI Soe 44.98 203 P **P** **14 45 31.4 -1.7**
comp=Z,222nm,1.0s,comp=Z,3μm
TNA Tin City 45.00 27 P **P** **14 45 34.7 +2.2**
baz=249,SNR=34
S12K Black Hills 45.50 42 P **P** **14 45 38.4 +1.7**
baz=264
M13K Dall Lake 45.54 35 P **P** **14 45 40.0 +3.0**
baz=258,SNR=17
F14K Arctic Creek 45.59 28 P **P** **14 45 40.1 +2.9**
baz=250
BATI Baumata 45.60 204 S S 14 52 09.9 -6.5
comp=Z,18nm,0.5s,baz=182,slow=23,SNR=2.5
BATI LR LR 15 03 43.6
comp=Z,2μm,21.6s,baz=21,slow=35
BATI Baumata 45.60 204 P **P** **14 45 35.1 -2.8**
comp=Z,164nm,1.0s
ANM Nome 45.68 29 IAmb IAmb 14 45 42.0
comp=Z,333nm,1.2s
ANM Nome 45.68 29 P **P** **14 45 40.5 +2.5**
baz=252,SNR=75
HNR Honiara 45.69 153 IAMs_20 IAMs_20 15 02 41.1
comp=Z,2μm,21.0s
HNR Honiara 45.69 153 P **P** **14 45 37.9 -0.6**
comp=Z,346nm,0.5s,baz=274,slow=15,SNR=1.6
HNR LR LR 15 04 00.4
comp=Z,10μm,20.7s,baz=326,slow=35
comp=Z,346nm,0.5s
KDU Kakadu 45.75 191 P **P** **14 45 39.5 +0.5**
J14K Nanvaranak Lak 45.97 32 IAmb IAmb 14 45 44.0
comp=Z,300nm,1.3s
J14K Nanvaranak Lak 45.97 32 P **P** **14 45 42.6 +2.4**
baz=256,SNR=29
L14K Kuka Creek 46.05 34 P **P** **14 45 43.6 +2.7**
baz=258,SNR=41
MK31 Makanchi Array 46.08 306 IAmb IAmb 14 45 43.1
comp=Z,308nm,1.0s
MK31 Makanchi Array 46.08 306 *d*P **P** **14 45 41.1 -0.3**
MKAR Makanchi Array 46.08 306 P **P** **14 45 41.6 +0.2**
MKAR Makanchi Array 46.08 306 P **P** **14 45 41.5 +0.1**
comp=Z,231nm,0.9s,baz=89,slow=7.9,SNR=768
MKAR ScP **ScP** **14 51 02.4 -2.9**
comp=Z,14nm,1.1s,baz=93,slow=4.9,SNR=4.9
MKAR S **S** **14 52 20.5 -2.3**
comp=Z,17nm,1.2s,baz=90,slow=18,SNR=6.4
MKAR ScS **ScS** **14 55 25.9 -5.8**
comp=Z,4.5nm,1.1s,baz=95,slow=11,SNR=4.2
MKAR LR LR 15 05 49.2
comp=Z,3μm,19.9s,baz=99,slow=37
MKAR PKPPKP P'P'df 15 17 05.9 -7.1
comp=Z,0.3nm,0.8s,baz=263,slow=2.3,SNR=3.5
comp=Z,231nm,0.9s
MTN Manton Dam 46.14 193 P **P** **14 45 41.4 -0.7**
MTN Manton Dam 46.14 193 P **P** **14 45 40.6 -1.4**
MTN IAmb IAmb 14 45 59.6
comp=Z,289nm,1.4s
MYKOM Kota Tinggi 46.25 236 IAmb IAmb 14 47 27.8
comp=Z,29nm,0.7s
N14K Kuskokwak Cree 46.27 36 P **P** **14 45 44.8 +2.1**
baz=260,SNR=30
M14K Bethel 46.28 35 P **P** **14 45 45.0 +2.3**
baz=259,SNR=53
MAKZ Makanchi 46.29 306 P **P** **14 45 43.1 0.0**
MAKZ Makanchi 46.29 306 P **P** **14 45 43.1 0.0**
MAKZ MLR MLR
comp=Z,3μm,19.0s
MAKZ Makanchi 46.29 306 ⇓P **P** **14 45 43.5 +0.4**
F15K North Star Dit 46.33 28 P **P** **14 45 45.7 +2.6**
baz=252
G15K Niukluk 46.36 29 P **P** **14 45 45.8 +2.5**
baz=253,SNR=51
SDPT Sand Point 46.37 42 P **P** **14 45 44.8 +1.3**
SDPT Sand Point 46.37 42 P **P** **14 45 43.7 +0.2**
baz=266
O14K Tigyukauivet M 46.38 37 IAmb IAmb 14 45 47.0
comp=Z,284nm,1.1s
O14K Tigyukauivet M 46.38 37 P **P** **14 45 45.5 +2.0**
baz=261,SNR=13
COEN Coen 46.39 177 P **P** **14 45 44.7 +0.7**
COEN Coen 46.39 177 P **P** **14 45 43.8 -0.2**

IPM	Ipoh	46.44	241		P		P		14 45 42.9	-1.7	
PLAI	Plampang	46.67	212		P		P		14 45 45.0	-1.3	
PLAI	Plampang	46.67	212		P		P		14 45 44.1	-2.2	
	comp=Z,154nm,1.0s,comp=Z,2µm										
L15K	Ungalak Mounta	46.68	34		P		P		14 45 48.1	+2.2	
	baz=259,SNR=18										
K15K	Wolf Creek Mou	46.78	33		IAmb		IAmb		14 45 50.7		
	comp=Z,321nm,1.2s										
K15K	Wolf Creek Mou	46.78	33		P		P		14 45 49.3	+2.6	
	baz=258,SNR=31										
CHNA	Chernabura Isl	46.85	43		P		P		14 45 48.2	+1.0	
	baz=267,SNR=22										
CNBA	Chernabura Isl	46.85	43		IAMs_20		IAMs_20		14 59 15.6		
	comp=Z,1µm,21.0s										
M15K	Kasigluk River	46.89	35		P		P		14 45 49.5	+2.0	
	baz=261,SNR=30										
C16K	Lisburne Hills	46.92	24		P		P		14 45 49.5	+1.8	
	baz=249,SNR=121										
S14K	Fog Glacier	46.96	41		P		P		14 45 50.5	+2.2	
	baz=266										
TWSI	Taliwang, Sumb	46.99	213		P		P		14 45 47.7	-1.1	
	comp=Z,148nm,1.1s,comp=Z,1µm										
H16K	Elim	47.00	30		P		P		14 45 50.1	+1.7	
	baz=256,SNR=58										
NRIK	Noril'sk	47.05	337		P		P		14 45 49.1	+0.5	
NRIK					IAmb		IAmb		14 45 54.2		
	comp=Z,238nm,1.2s										
NRIK	Noril'sk	47.05	337	*i*	P		P		14 45 48.5	-0.1	
NRIK					pmax		pmax				
	comp=Z,97nm,0.9s										
NRIK	Noril'sk	47.05	337		P		P		14 45 49.6	+1.0	
	comp=Z,97nm,1.0s,baz=111,slow=8.2,SNR=90										
NRIK					PcP		PcP		14 47 20.3	+0.5	
	comp=Z,42nm,0.9s,baz=103,slow=6.1,SNR=2.2										
NRIK					S		S		14 52 32.9	-3.1	
	comp=Z,12nm,1.0s,baz=198,slow=19,SNR=7.6										
NRIK					ScS		ScS		14 55 32.2	-5.0	
	comp=Z,4.3nm,0.8s,baz=209,slow=9.3,SNR=1.6										
NRIK					LR		LR		15 07 08.4		
	comp=Z,3µm,18.8s,baz=118,slow=38										
	comp=Z,97nm,1.0s										
N15K	Kwethluk River	47.10	36		P		P		14 45 51.3	+2.2	
	baz=262										
O15K	Ungalikthiuk R	47.10	37		P		P		14 45 51.2	+2.0	
	baz=263,SNR=54										
G16K	Koyuk River	47.15	29		P		P		14 45 51.4	+2.0	
	baz=255										
SEM	Semipalatinsk	47.25	311	*eP*			P		14 45 51.0	+0.2	
	comp=Z,74nm,1.0s,baz=311										
SEM					LR		LR		15 06 04.5		
	comp=Z,2µm,16.3s,baz=311										
SEM	Semipalatinsk	47.25	311	*eP*			P		14 45 51.0	+0.2	
SEM					pmax		pmax				
	comp=Z,74nm,1.0s										
SEM					MLR		MLR				
	comp=Z,2µm,16.0s										
DSRI	Dabo	47.38	233		P		P		14 45 51.1	-0.8	
	comp=Z,40nm,1.1s,comp=Z,687nm										
J16K	Anvik River	47.40	32		P		P		14 45 53.9	+2.5	
	baz=258,SNR=16										
I17K	Unalakleet	47.48	31		IAmb		IAmb		14 45 55.9		
	comp=Z,224nm,1.1s										
I17K	Unalakleet	47.48	31		P		P		14 45 54.6	+2.6	
	baz=258,SNR=38										
D17K	Noatak River	47.54	25		P		P		14 45 54.9	+2.5	
	baz=252,SNR=208										
CHGN	Chignik	47.59	41		IAMs_20		IAMs_20		15 02 02.3		
	comp=Z,1µm,21.0s										
CHGN	Chignik	47.59	41		P		P		14 45 54.8	+1.8	
	baz=267										
PPBI	Pangkal Pinang	47.60	230		P		P		14 45 52.4	-1.2	
DGPR	DIGLIPUR	47.62	257	*ex*			P		14 45 53.0	-0.8	
L16K	Owhat River	47.63	34		P		P		14 45 54.5	+1.3	
L16K					IAmb		IAmb		14 45 56.7		
	comp=Z,393nm,1.4s										
L16K	Owhat River	47.63	34		P		P		14 45 55.3	+2.0	
	baz=261,SNR=40										
RDOG	Red Dog Mine	47.71	25		P		P		14 45 56.2	+2.4	
	baz=252,SNR=123										
C17K	DeLong Mountai	47.75	24		P		P		14 45 56.5	+2.4	
	baz=251,SNR=116										
M16K	Timber Creek	47.77	35		IAmb		IAmb		14 45 57.9		
	comp=Z,338nm,1.1s										
M16K					IAMs_20		IAMs_20		15 04 02.9		
	comp=Z,1µm,20.0s										
M16K	Timber Creek	47.77	35		P		P		14 45 56.4	+2.0	
	baz=262,SNR=40										
N16K	Nishlik Lake	47.79	36		P		P		14 45 57.1	+2.5	
	baz=263,SNR=99										
E17K	Hotham Inlet	47.82	26		P		P		14 45 57.0	+2.4	
	baz=254,SNR=115										
F17K	Baldwin Pennin	47.86	27		P		P		14 45 57.4	+2.4	
	baz=255										
G17K	Kiwalik Mounta	47.87	29		P		P		14 45 57.3	+2.3	
	baz=256,SNR=49										
P16K	Nushagak River	48.02	38		P		P		14 45 58.7	+2.4	
	baz=265,SNR=20										
O16K	Kokwok River B	48.03	37		P		P		14 45 58.2	+1.9	
	baz=264,SNR=52										
H17K	Granite Mounta	48.04	30		IAmb		IAmb		14 45 59.5		
	comp=Z,154nm,1.2s										
H17K					IAMs_20		IAMs_20		15 07 12.9		
	comp=Z,1µm,19.0s										
H17K	Granite Mounta	48.04	30		P		P		14 45 58.9	+2.4	
	baz=258,SNR=13										
JAGI	Jajag, Banyuwa	48.07	216		P		P		14 45 58.4	+1.2	
JAGI	Jajag, Banyuwa	48.07	216		P		P		14 45 56.5	-0.7	
JAGI					IAmb		IAmb		14 47 09.9		
	comp=Z,198nm,1.1s										
R16K	Pilot Point	48.13	40		P		P		14 45 56.7	-0.5	
	baz=266										
L17K	Donlin	48.25	33		P		P		14 46 00.5	+2.5	
	baz=262										
KURK	Kurchatov	48.28	311		P		P		14 45 58.0	-0.4	
KURK	Kurchatov	48.28	311	*i*	P		P		14 45 57.8	-0.6	
KURK	Kurchatov	48.28	311		P		P		14 45 58.8	+0.4	
KURK	Kurchatov	48.28	311		P		P		14 45 58.2	-0.2	
KURK					pP		sP		14 46 16.9	-2.3	
K17K	Iditarod	48.33	33		P		P		14 46 01.0	+2.4	
	baz=261,SNR=74										
KURBB	Kurchatov Arra	48.34	311		P		P		14 45 59.5	+0.5	
	comp=Z,165nm,0.9s,baz=89,slow=7.1,SNR=651										
KURBB					S		S		14 52 49.6	-5.2	
	comp=Z,13nm,1.2s,baz=86,slow=16,SNR=10										
KURBB					LR		LR		15 07 15.6		
	comp=Z,6µm,18.9s,baz=96,slow=37										
	comp=Z,165nm,0.9s										
E18K	Tukpahlearik C	48.37	26		P		P		14 46 01.3	+2.4	
	baz=255,SNR=155										
PDGK	Podgornoye	48.43	301		P		P		14 45 57.8	-2.1	
SHLS	Shalkode	48.48	301	⇓	*i*	P	P		14 45 57.6	-2.7	
	comp=Z,79nm,1.4s,baz=301										
SHLS	Shalkode	48.48	301	*d*	*i*	P	P		14 45 57.5	-2.8	
SHLS					pmax		pmax				
	comp=Z,79nm,1.4s										
C18K	Utukok River	48.50	25		IAMs_20		IAMs_20		15 04 20.6		
	comp=Z,1µm,22.0s										
C18K	Utukok River	48.50	25		P		P		14 46 02.1	+2.2	
	baz=253										
B18K	Kokolik River	48.50	24		P		P		14 46 02.8	+2.9	
	baz=252,SNR=316										
F18K	Selawik	48.52	27		P		P		14 46 02.4	+2.4	
	baz=256,SNR=136										
O17K	Koliganek Bris	48.55	37		P		P		14 46 02.6	+2.2	
	baz=265,SNR=50										
M17K	Holitna River	48.55	34		P		P		14 46 03.1	+2.7	
	baz=263,SNR=78										
N17K	Nushagak Hills	48.58	36		P		P		14 46 03.0	+2.4	
	baz=264,SNR=79										
BOK	Bokaro	48.64	274	⇓	*i*	P	P		14 46 00.2	-1.4	
BOK					IAmb		IAmb		14 46 02.3		
	comp=Z,90nm,0.9s										
Q16K	King Salmon	48.69	38		P		P		14 46 03.3	+1.9	
	baz=266,SNR=38										
H18K	Honhosa River	48.73	29		IAmb		IAmb		14 46 06.1		
	comp=Z,187nm,1.0s										
H18K					IAMs_20		IAMs_20		15 08 14.0		
	comp=Z,971nm,20.0s										
H18K	Honhosa River	48.73	29		P		P		14 46 03.6	+1.9	
	baz=259,SNR=66										
G18K	Tagagawik	48.76	28		IAmb		IAmb		14 46 05.2		
	comp=Z,314nm,1.1s										
G18K					IAMs_20		IAMs_20		15 05 14.7		
	comp=Z,1µm,22.0s										
G18K	Tagagawik	48.76	28		P		P		14 46 03.8	+1.8	
	baz=258,SNR=67										
UZB	Uzynbulak	48.80	301	*d*	*i*	P	P		14 46 02.4	-0.3	
	comp=Z,68nm,1.4s,baz=301										
UZB	Uzynbulak	48.80	301	*d*	*i*	P	P		14 46 02.4	-0.3	
UZB						pmax	pmax				
	comp=Z,68nm,1.4s										
P17K	Kvichak River	48.84	37		P		P		14 46 04.7	+2.1	
	baz=266,SNR=19										
PWJI	Pagerwojo	48.91	219		P		P		14 46 00.2	-3.5	
	comp=Z,70nm,0.7s										
TDK	Taldyqorghan	48.96	304	⇓	*i*	P	P		14 46 04.3	+0.5	
	comp=Z,81nm,1.1s,baz=304										
TDK						*eS*	S		14 53 03.3	-0.5	
	baz=304										
TDK						LR	LR		15 07 07.4		
	comp=Z,1µm,17.1s,baz=304										
TDK	Taldyqorghan	48.96	304	*d*	*i*	P	P		14 46 04.3	+0.5	
TDK						*eS*	S		14 53 03.2	-0.5	
TDK						pmax	pmax				
	comp=Z,81nm,1.1s										
TDK						MLR	MLR				
	comp=Z,1µm,17.0s										
WUS	Wushi	48.99	299		P		P		14 46 04.4	+0.1	
L18K	Granite Mounta	49.01	33		P		P		14 46 06.5	+2.7	
	baz=263,SNR=75										
A19K	Wainwright	49.01	23		P		P		14 46 06.4	+2.7	
	baz=252										
PMBI	Palembang	49.07	231		IAMs_20		IAMs_20		15 04 09.6		
	comp=Z,1µm,20.0s										
Q17K	Contact Creek	49.07	39		P		P		14 46 05.0	+0.5	
	baz=267,SNR=23										
CHIR	Chirikof Islan	49.14	42		P		P		14 46 06.9	+1.9	
	baz=270										
J18K	Innoko River	49.16	32		IAmb		IAmb		14 46 08.3		
	comp=Z,349nm,1.9s										
J18K	Innoko River	49.16	32		P		P		14 46 06.7	+1.7	
	baz=262,SNR=29										
C19K	Lookout Ridge	49.18	24		IAMs_20		IAMs_20		15 04 54.9		
	comp=Z,1µm,21.0s										
C19K	Lookout Ridge	49.18	24		P		P		14 46 07.7	+2.5	
	baz=258,SNR=492										
ZHN	Zhinishke	49.22	301	⇓	*i*	P	P		14 46 05.7	-0.2	
	baz=301										
ZHN	Zhinishke	49.22	301	*d*	*i*	P	P		14 46 05.6	-0.3	
N18K	Kilae Creek	49.23	36		P		P		14 46 08.2	+2.5	
	baz=265,SNR=58										
SATY	Saty	49.25	301	⇓	*i*	P	P		14 46 06.1	-0.1	
	comp=Z,70nm,1.5s,baz=301										
SATY						*eS*	S		14 53 07.2	-1.1	
	baz=301										
SATY	Saty	49.25	301	*d*	*i*	P	P		14 46 06.1	-0.1	
SATY						*eS*	S		14 53 07.1	-1.1	
SATY						pmax	pmax				
	comp=Z,70nm,1.5s										
BKNI	Bangkinang	49.26	237		P		P		14 46 07.2	+0.8	
BKNI	Bangkinang	49.26	237		P		P		14 46 06.2	-0.2	
	comp=Z,95nm,0.5s										
GCSA	Galena City Sc	49.28	30		P		P		14 46 07.1	+1.3	
	baz=261,SNR=32										
F19K	Shaleruckik Mo	49.30	27		IAmb		IAmb		14 46 10.1		
	comp=Z,125nm,1.1s										
F19K	Shaleruckik Mo	49.30	27		P		P		14 46 07.7	+1.7	
	baz=258										
M18K	Stony River	49.33	34		P		P		14 46 08.7	+2.3	
	baz=264,SNR=54										
TTA	Tatalina	49.40	33		P		P		14 46 09.2	+2.2	
TTA	Tatalina	49.40	33		P		P		14 46 08.0	+1.0	
TTA	Tatalina	49.40	33		P		P		14 46 08.4	+1.5	
	baz=263,SNR=39										
TTA	Tatalina	49.40	33		P		P		14 46 08.0	+1.0	
TTA					pmax		pmax				
	comp=Z,125nm,1.2s										
SVW2	Sparrevohn	49.41	35		P		P		14 46 08.7	+1.7	
SVW2	Sparrevohn	49.41	35		IAmb		IAmb		14 46 10.9		
	comp=Z,348nm,1.2s										
SVW2					IAMs_20		IAMs_20		15 07 02.8		
	comp=Z,967nm,20.0s										
G19K	Purcell Mounta	49.44	28		IAmb		IAmb		14 47 31.6		
	comp=Z,143nm,1.1s										
G19K	Purcell Mounta	49.44	28		P		P		14 46 08.8	+1.7	
	baz=259,SNR=67										
P18K	Big Mountain,	49.47	37		IAMs_20		IAMs_20		15 07 32.7		
	comp=Z,1µm,20.0s										
P18K	Big Mountain,	49.47	37		P		P		14 46 09.3	+1.9	
	baz=267,SNR=65										
ARXS	Arharly	49.48	303	*eP*			P		14 46 07.8	-0.1	
KCSI	Kotacane, Aceh	49.50	243		P		P		14 46 04.5	-3.8	
	comp=Z,16nm,1.4s										
O18K	Koktuh Hills	49.51	37		IAMs_20		IAMs_20		15 05 40.7		
	comp=Z,982nm,20.0s										
O18K	Koktuh Hills	49.51	37		P		P		14 46 10.0	+2.3	
	baz=266,SNR=50										
D19K	Kuna River	49.55	25		P		P		14 46 10.1	+2.2	
	baz=256,SNR=216										
H19K	Roundabout Mou	49.59	29		IAmb		IAmb		14 46 11.8		
	comp=Z,325nm,1.2s										
H19K	Roundabout Mou	49.59	29		P		P		14 46 10.5	+2.3	
	baz=260,SNR=75										
E19K	Redstone River	49.64	27		P		P		14 46 10.8	+2.2	
	baz=258,SNR=492										
J19K	Poorman	49.71	31		IAmb		IAmb		14 46 12.4		
	comp=Z,281nm,1.3s										
J19K	Poorman	49.71	31		P		P		14 46 10.9	+1.7	
	baz=262,SNR=73										
L19K	White Mountain	49.86	34		IAmb		IAmb		14 46 14.0		
	comp=Z,380nm,1.4s										
L19K	White Mountain	49.86	34		P		P		14 46 12.6	+2.2	
	baz=265,SNR=70										
N19K	Bonanza Creek	49.93	35		IAmb		IAmb		14 46 14.6		
	comp=Z,202nm,1.1s										
N19K					IAMs_20		IAMs_20		15 06 58.8		
	comp=Z,941nm,21.0s										
N19K	Bonanza Creek	49.93	35		P		P		14 46 13.3	+2.3	
	baz=266,SNR=30										
KPJI	Karang Pucung	49.94	223		P		P		14 46 08.8	-2.7	
	comp=Z,48nm,1.7s										
SII	Sitkinak Islan	49.95	41		P		P		14 46 12.4	+1.3	
SII	Sitkinak Islan	49.95	41		P		P		14 46 12.1	+0.9	
SII					IAMs_20		IAMs_20		15 05 15.6		
	comp=Z,2µm,20.0s										
SII	Sitkinak Islan	49.95	41		P		P		14 46 12.5	+1.3	
	baz=270,SNR=6.9										
M19K	Big River Lodg	50.05	34		IAMs_20		IAMs_20		15 07 33.9		
	comp=Z,969nm,21.0s										
M19K	Big River Lodg	50.05	34		P		P		14 46 14.3	+2.5	
	baz=265										
D20K	Etivluk River	50.13	25		P		P		14 46 14.4	+2.0	
	baz=258,SNR=446										
F20K	Avaraart Lake	50.14	27		IAmb		IAmb		14 46 15.8		
	comp=Z,150nm,1.1s										
F20K	Avaraart Lake	50.14	27		P		P		14 46 14.5	+2.1	
	baz=260										
E20K	Nigu River	50.19	26		P		P		14 46 14.8	+1.9	
	baz=258,SNR=191										
MDOK	Medeo	50.22	301	*eP*			P		14 46 14.0	+0.5	
	baz=301										
MDOK						*eS*	S		14 53 21.1	-0.6	
	baz=301										
MDOK						LR	LR		15 07 53.2		
	comp=Z,965nm,14.7s,baz=301										
MDOK	Medeo	50.22	301	*eP*			P		14 46 14.0	+0.5	
MDOK						*eS*	S		14 53 21.1	-0.6	
MDOK						MLR	MLR				
	comp=Z,965nm,15.0s										
H20K	Anotleneega Mo	50.23	29		P		P		14 46 15.2	+2.1	
	baz=262,SNR=45										
B20K	Meade River	50.24	23		P		P		14 46 15.2	+2.1	
	baz=256										
Q19K	Cape Douglas,	50.26	38		P		P		14 46 14.0	+0.5	
	baz=269,SNR=6.3										
AAA	Alma-Ata	50.30	302	*eP*			P		14 46 14.2	+0.1	
	comp=Z,108nm,1.2s,baz=302										
AAA						LR	LR		15 07 57.2		
	baz=302										
AAA	Alma-Ata	50.30	302	*eP*			P		14 46 14.1	0.0	
AAA						pmax	pmax				
	comp=Z,108nm,1.2s										
I20K	Naaghedeneel	50.30	30		P		P		14 46 15.9	+2.2	
	baz=263										
TNSS	Tian-Shan	50.31	301	*eP*			P		14 46 14.3	-0.3	
	baz=301										
TNSS	Tian-Shan	50.31	301	*eP*			P		14 46 14.2	-0.3	
K20K	Telida	50.33	32		P		P		14 46 16.3	+2.4	
	baz=264,SNR=92										
L20K	Farewell, AK	50.34	33		P		P		14 46 16.3	+2.3	
	baz=265,SNR=55										
J20K	Nowinta River	50.38	31		IAmb		IAmb		14 46 17.9		
	comp=Z,280nm,1.1s										
J20K	Nowinta River	50.38	31		P		P		14 46 16.4	+2.2	
	baz=264,SNR=89										
OHAK	Old Harbor	50.44	40		P		P		14 46 16.3	+1.5	
OHAK	Old Harbor	50.44	40		P		P		14 46 14.9	+0.2	
OHAK					IAmb		IAmb		14 46 17.0		
	comp=Z,206nm,1.2s										
OHAK					IAMs_20		IAMs_20		15 05 21.5		
	comp=Z,1µm,20.0s										
OHAK	Old Harbor	50.44	40		P		P		14 46 15.8	+1.0	
	baz=270,SNR=21										
P19K	Oil Pt	50.49	37		P		P		14 46 16.9	+1.6	
	baz=268,SNR=13										
PDSI	Padang	50.54	237		P		P		14 46 12.9	-3.2	
	comp=Z,23nm,1.0s										
ILSW	Iliamna Southw	50.55	37		IAmb		IAmb		14 46 19.1		
	comp=Z,239nm,1.3s										
ILSW					IAMs_20		IAMs_20		15 07 18.4		
	comp=Z,829nm,18.0s										
MTSU	Mount Surprise	50.60	176		P		P		14 46 18.0	+1.6	
M20K	Styx River	50.64	34		P		P		14 46 18.5	+2.1	
	baz=267										
KRJI	Kerinci	50.68	235		P		P		14 46 17.1	-0.1	
	comp=Z,200nm,0.8s,comp=Z,3µm										
A21K	Barrow	50.74	22		P		P		14 46 18.8	+2.0	
	baz=256,SNR=98										
KDAK	Kodiak Island	50.81	39		P		P		14 46 17.9	+0.2	
KDAK	Kodiak Island	50.81	39		P		P		14 46 18.7	+1.1	
	baz=270										
KDAK	Kodiak Island	50.81	39	*i*	P		P		14 46 16.6	-1.0	
KDAK	Kodiak Island	50.81	39		LR		LR		15 06 12.7		
	comp=Z,939nm,21.8s,baz=276,slow=34										
KDAK	Kodiak Island	50.81	39		P		P		14 46 18.3	+0.7	
KDAK					pP		sP		14 46 37.8	-0.4	
O20K	Slope Mountain	50.81	36		P		P		14 46 18.8	+1.1	
	baz=268,SNR=18										
C21K	Knifeblade Rid	50.87	25		P		P		14 46 20.2	+2.3	
	baz=259,SNR=141										
Q20K	Shuyak Island	50.91	38		P		P		14 46 19.2	+0.8	
	baz=270,SNR=25										
SYI	Shuyak Island	50.91	38		IAMs_20		IAMs_20		15 06 22.0		
	comp=Z,1µm,21.0s										
G21K	Allakaket	50.92	28		P		P		14 46 20.4	+2.0	
	baz=262										
ULHL	Ulahol	50.97	300		P		P		14 46 19.6	+0.2	
	SNR=39										
B21K	Ikpikpuk River	51.02	24		P		P		14 46 21.1	+2.1	
	baz=259										
F21K	Alatna River	51.03	27		IAmb		IAmb		14 46 23.6		
	comp=Z,115nm,1.0s										
F21K	Alatna River	51.03	27		P		P		14 46 20.7	+1.6	
	baz=262,SNR=6.1										
E21K	Killik River	51.03	26		P		P		14 46 21.1	+1.9	
	baz=260										
N20K	Mount Spurr	51.05	35		P		P		14 46 21.6	+2.1	
	baz=268,SNR=175										
H21K	Melozitna Rive	51.10	29		P		P		14 46 22.0	+2.3	
	baz=264,SNR=96										
LWLI	Liwa	51.11	230		P		P		14 46 17.9	-2.6	
	comp=Z,141nm,0.8s,comp=Z,4µm										
GSI	Gunungsitoli	51.11	241		P		P		14 46 19.1	-1.3	
GSI	Gunungsitoli	51.11	241		IAmb		IAmb		14 46 43.4		
	comp=Z,230nm,1.1s										
GSI	Gunungsitoli	51.11	241		P		P		14 46 17.6	-2.8	
	comp=Z,187nm,1.2s,comp=Z,3µm										
PPLA	Purkeypile	51.14	33		P		P		14 46 22.7	+2.5	
	baz=267,SNR=57										
CHUM	Lake Minchumin	51.15	32		P		P		14 46 22.6	+2.6	
	baz=266,SNR=39										
A22K	Sinclair Lake	51.19	22		P		P		14 46 22.7	+2.5	
	baz=257										
CAST	Castle Rocks	51.22	32		P		P		14 46 22.8	+2.1	
	baz=266,SNR=59										
JHSG	JHARSUGUGA	51.25	273	*eP*			P		14 46 20.4	-1.0	
JHSG				*i*	x		x		14 47 22.0		
PTH	Pithoragarh	51.27	284	*eP*			P		14 46 20.8	-0.9	
PTH				*i*	x		x		14 47 16.7		
HOM	Homer	51.30	37		P		P		14 46 21.8	+0.6	
	baz=270,SNR=6.4										
TKM2	Tokmak 2	51.31	301		P		P		14 46 22.5	+0.7	
	SNR=23										
TKM2	Tokmak 2	51.31	301		P		P		14 46 21.4	-0.4	
NRN	Naryn	51.32	299		IAMs_20		IAMs_20		15 09 19.1		
	comp=Z,2µm,20.0s										
I21K	Tanana	51.40	30		IAmb		IAmb		14 46 25.8		
	comp=Z,238nm,1.1s										
I21K	Tanana	51.40	30		P		P		14 46 24.1	+2.2	
	baz=265,SNR=72										
SKT	Skwentna	51.40	34		IAMs_20		IAMs_20		15 09 40.8		
	comp=Z,880nm,20.0s										
SKT	Skwentna	51.40	34		P		P		14 46 23.5	+1.5	
	baz=268,SNR=44										
ALBI	Allahabad	51.48	278	*eP*			P		14

comp=Z,1µm,18.5s,baz=92,slow=38
AAK Ala-Archa 52.16 301 ⇓P **P** **14 46 28.0 -0.1**
UCH Uchtor 52.23 301 P **P** **14 46 29.5 +0.5**
SNR=79
RC01 Rabbit Creek A 52.25 35 P **P** **14 46 29.3 +1.0**
baz=270,SNR=84
O22K Cooper Landing 52.26 36 IAMs_20 IAMs_20 15 08 35.6
comp=Z,1µm,20.0s
O22K Cooper Landing 52.26 36 P **P** **14 46 28.9 +0.6**
baz=271,SNR=22
D23K Nanushuk River 52.30 25 P **P** **14 46 30.8 +2.2**
baz=263,SNR=163
COLD Coldfoot 52.30 27 P **P** **14 46 30.6 +2.0**
baz=265,SNR=41
G23K Bananza Creek 52.33 28 IAmb IAmb 14 46 32.4
comp=Z,277nm,1.1s
G23K Bananza Creek 52.33 28 P **P** **14 46 30.8 +1.9**
baz=266,SNR=108
SEW Seward 52.40 36 P **P** **14 46 30.2 +0.8**
baz=271,SNR=76
C23K Itkillik River 52.43 24 P **P** **14 46 31.5 +2.0**
baz=263,SNR=197
WB0 Warramunga Arr 52.45 187 IAMs_20 IAMs_20 15 08 10.9
comp=Z,2µm,22.0s
H23K Yukon River 52.46 29 P **P** **14 46 32.5 +2.7**
baz=267
FITZ Fitzroy Crossi 52.46 198 P **P** **14 46 32.0 +1.7**
WB8 Warramunga Arr 52.50 188 IAMs_20 IAMs_20 15 07 49.1
comp=Z,1µm,19.0s
I23K Minto, Yukon-K 52.50 30 IAmb IAmb 14 46 33.5
comp=Z,144nm,1.1s
I23K IAMs_20 IAMs_20 15 08 03.8
comp=Z,892nm,20.0s
I23K Minto, Yukon-K 52.50 30 P **P** **14 46 31.8 +1.7**
baz=267,SNR=81
PMR Palmer 52.54 35 P **P** **14 46 31.6 +1.2**
PMR Palmer 52.54 35 IAMs_20 IAMs_20 15 08 44.9
comp=Z,838nm,20.0s
PMR Palmer 52.54 35 P **P** **14 46 31.3 +0.9**
baz=270,SNR=153
E23K Chandalar 52.59 26 P **P** **14 46 33.0 +2.1**
baz=265,SNR=196
NEA2 Nenana 52.61 31 P **P** **14 46 32.7 +1.8**
baz=268,SNR=67
WB3 Warramunga Arr 52.61 188 IAMs_20 IAMs_20 15 08 28.0
comp=Z,1µm,19.0s
OTUK Ortayu 52.61 309 P **P** **14 46 31.5 +0.3**
WC2 Warramunga Arr 52.61 188 IAMs_20 IAMs_20 15 06 46.1
comp=Z,1µm,22.0s
WR0 Warramunga Arr 52.63 187 IAMs_20 IAMs_20 15 08 14.5
comp=Z,2µm,21.0s
WR7 Warramunga Arr 52.63 187 IAMs_20 IAMs_20 15 08 04.5
comp=Z,2µm,22.0s
WB2 Warramunga Arr 52.63 188 IAMs_20 IAMs_20 15 08 16.6
comp=Z,2µm,22.0s
WR4 Warramunga Arr 52.63 187 IAMs_20 IAMs_20 15 08 16.6
comp=Z,2µm,22.0s
WRA Warramunga Arr 52.63 188 P **P** **14 46 29.8 -1.7**
comp=Z,34nm,0.4s,baz=4.5,slow=7.5,SNR=111
WRA PcP **PcP** **14 47 40.9 0.0**
comp=Z,35nm,0.6s,baz=359,slow=4.0,SNR=10
WRA ScP **ScP** **14 51 31.1 -2.2**
comp=Z,3.5nm,0.8s,baz=6.1,slow=4.6,SNR=6.4
WRA S S 14 53 47.5 -7.4
comp=Z,3.0nm,0.6s,baz=8.5,slow=14,SNR=6.0
WRA LR LR 15 08 38.3
comp=Z,1µm,22.0s,baz=16,slow=36
WRA PKP2ab 15 17 42.5
comp=Z,2.5nm,1.0s,baz=190,slow=3.3,SNR=5.7
comp=Z,34nm,0.4s
MCK McKinley 52.64 32 P **P** **14 46 32.2 +1.0**
baz=269,SNR=84
WC3 Warramunga Arr 52.65 187 IAMs_20 IAMs_20 15 08 04.9
comp=Z,2µm,20.0s
TOLK Toolik Lake Re 52.66 26 P **P** **14 46 33.5 +2.1**
baz=264,SNR=70
EKS2 Erkin-Say 52.67 301 P **P** **14 46 32.0 +0.1**
SNR=11
CTA Charters Tower 52.69 173 LR LR 15 09 16.7
comp=Z,692nm,21.7s,baz=1.0,slow=36
CTAO Charters Tower 52.69 173 P **P** **14 46 32.8 +0.8**
CTAO Charters Tower 52.69 173 IAMs_20 IAMs_20 15 08 18.4
comp=Z,1µm,19.0s
DDI Dehra Dun 52.78 285 *e*P **P** **14 46 32.4 -0.3**
WAT1 Susitna Watana 52.81 33 P **P** **14 46 33.5 +1.0**
baz=270
KNK Knik Glacier 52.86 35 P **P** **14 46 34.2 +1.4**
baz=271,SNR=214
QIS Mount Isa 52.90 181 P **P** **14 46 33.4 -0.1**
SML Sawmill 52.92 34 IAMs_20 IAMs_20 15 09 06.9
comp=Z,848nm,21.0s
SML Sawmill 52.92 34 P **P** **14 46 34.5 +1.2**
baz=271,SNR=129
D24K Happy Valley 52.98 25 P **P** **14 46 35.6 +2.0**
baz=265
WRH Wood River Hil 53.03 31 IAmb IAmb 14 46 37.8
comp=Z,107nm,0.9s
C24K Franklin Bluff 53.08 24 P **P** **14 46 36.2 +2.0**
baz=265
COLA College 53.14 30 P **P** **14 46 36.5 +1.8**
COLA College 53.14 30 P **P** **14 46 35.6 +0.9**
COLA IAmb IAmb 14 46 38.8
comp=Z,273nm,1.2s
COLA College 53.14 30 IAMs_20 IAMs_20 15 09 46.4
comp=Z,866nm,20.0s
COLA College 53.14 30 P **P** **14 46 36.4 +1.7**
baz=269
COLA College 53.14 30 *i* P **P** **14 46 34.8 +0.1**
COLA pmax pmax
comp=Z,121nm,0.9s
COLA College 53.14 30 ⇑P **P** **14 46 36.1 +1.4**
H24K Noodor Dome 53.15 29 IAmb IAmb 14 46 38.6
comp=Z,252nm,1.1s
H24K Noodor Dome 53.15 29 P **P** **14 46 37.1 +2.2**
baz=268,SNR=122
CCB Clear Creek Bu 53.15 31 IAmb IAmb 14 46 38.6
comp=Z,148nm,1.2s
CCB IAMs_20 IAMs_20 15 09 36.9
comp=Z,944nm,19.0s
BVA0 Borovoye Array 53.17 315 *i* P **P** **14 46 35.0 -0.2**
BVAR Borovoye Array 53.17 315 P **P** **14 46 35.4 +0.1**
comp=Z,43nm,0.5s,baz=92,slow=7.0,SNR=157
BVAR ScP **ScP** **14 51 33.9 -1.5**
comp=Z,12nm,1.1s,baz=77,slow=5.6,SNR=4.8
BVAR S **S** **14 53 59.6 -2.0**
comp=Z,28nm,1.3s,baz=96,slow=15,SNR=7.8
BVAR LR LR 15 10 19.1
comp=Z,2µm,19.4s,baz=79,slow=37
BVAR P4KPbc 15 23 59.1
comp=Z,1.1nm,0.8s,baz=104,slow=6.3,SNR=5.2
comp=Z,43nm,0.5s
WAT6 Susitna Watana 53.18 33 P **P** **14 46 36.6 +1.2**
baz=271,SNR=85
M23K Glacier View 53.20 34 P **P** **14 46 36.6 +1.2**
baz=271,SNR=75
F24K Squaw Lake 53.21 27 IAmb IAmb 14 46 38.9
comp=Z,148nm,1.1s
F24K Squaw Lake 53.21 27 P **P** **14 46 37.5 +2.1**
baz=267,SNR=77
BRVK Borovoye 53.23 315 P **P** **14 46 35.6 0.0**
BRVK IAmb IAmb 14 46 40.9
comp=Z,380nm,1.4s
BRVK Borovoye 53.23 315 *i* P **P** **14 46 35.4 -0.2**
BRVK pmax pmax
comp=Z,173nm,1.1s
BRVK Borovoye 53.23 315 P **P** **14 46 36.6 +1.0**
BRVK Borovoye 53.23 315 ⇓P **P** **14 46 35.9 +0.3**
SMLA Simla 53.23 287 *e*P **P** **14 46 35.2 -0.8**
SMLA IAmb IAmb 14 46 39.1
comp=Z,68nm,0.4s
SMLA *i* pP sP 14 47 07.2 +10
SMLA *i* x x 14 51 32.0
POKR Poker Plat Res 53.32 30 P **P** **14 46 37.8 +1.7**
baz=269,SNR=104
G24K Hadweenzic Riv 53.34 28 IAmb IAmb 14 46 40.3
comp=Z,258nm,1.2s
G24K Hadweenzic Riv 53.34 28 P **P** **14 46 38.6 +2.3**
baz=268
DHY Denali Highway 53.34 33 IAmb IAmb 14 46 39.0
comp=Z,160nm,1.3s
DHY IAMs_20 IAMs_20 15 09 10.1
comp=Z,900nm,20.0s
DHY Denali Highway 53.34 33 P **P** **14 46 37.6 +1.1**
baz=271,SNR=46
SCM Sheep Creek Mo 53.39 34 P **P** **14 46 38.5 +1.7**
baz=272,SNR=117
VIS Vishakhapatnam 53.41 269 *e*P **P** **14 46 36.7 -0.8**
P23K Montague Islan 53.43 36 P **P** **14 46 38.9 +1.8**
baz=273,SNR=30
HDA Harding Lake 53.52 31 IAmb IAmb 14 46 39.6
comp=Z,283nm,1.1s
HDA IAMs_20 IAMs_20 15 09 49.7
comp=Z,890nm,19.0s
HDA Harding Lake 53.52 31 P **P** **14 46 38.2 +0.6**
baz=270,SNR=126
IL31 53.55 31 IAmb IAmb 14 46 39.9
comp=Z,213nm,1.0s
ILAR Eielson Array 53.55 31 P **P** **14 46 38.1 +0.3**
comp=Z,130nm,0.9s,baz=270,slow=6.2,SNR=339
ILAR PcP **PcP** **14 47 44.0 +0.1**
comp=Z,12nm,0.9s,baz=278,slow=4.4,SNR=1.1
ILAR LR LR 15 10 32.2
comp=Z,438nm,21.6s,baz=274,slow=37
ILAR PKPPKP P'P'df 15 16 54.9 -8.0
comp=Z,0.5nm,0.9s,baz=208,slow=3.7,SNR=4.8
comp=Z,130nm,0.9s
DHRM DHARAMSHALA 53.56 288 *e*P **P** **14 46 38.1 -0.6**
DHRM IAmb IAmb 14 46 39.2
comp=Z,102nm,1.0s
DHRM *i* x x 14 47 07.7
BHK Bhakra 53.74 287 *e*P **P** **14 46 39.1 -0.6**
BHK *i* pP sP 14 47 08.2 +7.5
HIN Hinchinbrook I 53.86 36 IAMs_20 IAMs_20 15 09 27.8
comp=Z,1µm,20.0s
D25K Kavik River 53.87 25 IAmb IAmb 14 46 43.4
comp=Z,237nm,1.1s
D25K Kavik River 53.87 25 P **P** **14 46 42.0 +1.8**
baz=267
G25K Bearman Lake 53.88 28 P **P** **14 46 42.7 +2.4**
baz=269
M24K Tolsona, Glenn 53.93 34 P **P** **14 46 42.5 +1.8**
baz=273,SNR=37
THN Thein Dam 53.97 289 *e*P **P** **14 46 40.2 -1.2**
THN *i* x x 14 47 06.2
H25L Birch Creek 53.99 29 P **P** **14 46 43.4 +2.3**
baz=270,SNR=84
Q23K Middleton Isla 54.00 37 P **P** **14 46 43.2 +2.0**
baz=274
NDI New Delhi 54.03 284 *e*P **P** **14 46 40.1 -1.8**
NDI *i* x x 14 47 08.6
K24K Donnelly Dome 54.05 32 P **P** **14 46 42.5 +1.0**
baz=272,SNR=67
F25K Christian Rive 54.08 27 P **P** **14 46 44.3 +2.6**
baz=269,SNR=200
KLU Klutina 54.08 35 P **P** **14 46 43.5 +1.6**
baz=273,SNR=97
E25K Arctic Village 54.12 26 P **P** **14 46 44.5 +2.6**
baz=269,SNR=210
PRP Porcupine Dome 54.12 30 P **P** **14 46 42.4 +0.3**
baz=271,SNR=44
JHNI Jhansi 54.14 280 *e*P **P** 14 46 39.4 -3.4
JHNI *i* x x 14 47 10.8
J25K Salcha River, 54.20 31 P **P** **14 46 42.5 -0.2**
baz=271
PAX Paxson 54.22 33 P **P** **14 46 44.2 +1.4**
baz=272,SNR=91
EYAK Cordova Ski Ar 54.22 36 P **P** **14 46 44.3 +1.5**
EYAK Cordova Ski Ar 54.22 36 P **P** **14 46 44.5 +1.7**
baz=274,SNR=45
DZA Taraz 54.37 302 *e*P **P** **14 46 44.1 -0.2**
comp=Z,61nm,1.6s,baz=302
DZA Taraz 54.37 302 *e*P **P** **14 46 44.0 -0.2**
DZA pmax pmax
comp=Z,61nm,1.6s
HARP HAARP 54.39 33 P **P** **14 46 45.9 +1.9**
baz=273,SNR=72
C26K Camden Bay 54.40 24 P **P** **14 46 46.8 +2.9**
baz=268,SNR=168
RIDG Independent Ri 54.46 32 IAMs_20 IAMs_20 15 14 34.6
comp=Z,888nm,19.0s
RIDG Independent Ri 54.46 32 P **P** **14 46 45.4 +0.9**
baz=272,SNR=46
JMU Jammu 54.53 289 *e*P **P** **14 46 45.1 -0.3**
JMU *i* x x 14 47 03.7
F26K Sheenjek River 54.65 27 P **P** **14 46 48.6 +2.7**
baz=270,SNR=198
N25K Chitina, Valde 54.70 34 IAmb IAmb 14 46 50.8
comp=Z,447nm,1.9s
N25K Chitina, Valde 54.70 34 P **P** **14 46 48.2 +1.9**
baz=274,SNR=29
BMRM Bremner River 54.75 35 P **P** **14 46 48.5 +1.8**
baz=275,SNR=74
RAGM Ragged Mountai 54.77 36 IAMs_20 IAMs_20 15 10 14.8
comp=Z,1µm,20.0s
G26K Porcupine Rive 54.80 28 P **P** **14 46 49.6 +2.7**
baz=271,SNR=126
KUDL Kundal 54.83 283 *e*P **P** **14 46 46.6 -1.0**
KUDL *i* x x 14 47 06.3
SCRK Sand Creek 54.83 31 IAMs_20 IAMs_20 15 10 40.3
comp=Z,798nm,21.0s
SCRK Sand Creek 54.83 31 P **P** **14 46 48.5 +1.2**
baz=273,SNR=216
DRK Karamyk 54.90 298 IAmb IAmb 14 46 49.9
comp=Z,125nm,1.0s
KK31 Karatay Array 54.91 303 IAmb IAmb 14 46 49.6
comp=Z,332nm,1.2s
KK31 Karatay Array 54.91 303 *i* P **P** **14 46 47.4 -0.7**
KKAR Karatay Array 54.91 303 IAmb IAmb 14 46 49.6
comp=Z,330nm,1.2s
KAIM Kayak Island 54.94 36 P **P** **14 46 50.2 +2.2**
baz=276,SNR=10
HMT Hamilton 54.98 36 IAmb IAmb 14 46 51.6
comp=Z,301nm,1.2s
HMT IAMs_20 IAMs_20 15 08 30.3
comp=Z,1µm,20.0s
J26L Joseph Creek 54.98 31 IAmb IAmb 14 46 50.5
comp=Z,186nm,1.1s
J26L Joseph Creek 54.98 31 P **P** **14 46 49.2 +0.8**
baz=273,SNR=113
MENT Mentasta 55.02 33 P **P** **14 46 50.0 +1.4**
MENT Mentasta 55.02 33 IAmb IAmb 14 46 52.0
comp=Z,210nm,1.0s
KIP Kipapa 55.07 85 P **P** **14 46 52.0 +2.5**
KIP Kipapa 55.07 85 P **P** **14 46 51.4 +1.9**
KIP Kipapa 55.07 85 P **P** **14 46 50.1 +0.6**
KIP IAmb IAmb 14 46 52.5
comp=Z,307nm,1.4s
KIP Kipapa 55.07 85 P **P** **14 46 50.1 +0.6**
KIP pmax pmax
comp=Z,307nm,1.4s
GLB Gilahina Butte 55.09 35 IAMs_20 IAMs_20 15 09 10.4
comp=Z,974nm,22.0s
I26K Coal Creek Min 55.12 30 P **P** **14 46 49.5 +0.4**
baz=273
L26K Log Cabin Wild 55.18 33 P **P** **14 46 51.8 +2.1**
baz=274,SNR=137
SUCK Suckling Hills 55.24 36 IAMs_20 IAMs_20 15 08 27.4
comp=Z,901nm,21.0s
BERG Berg Lake 55.25 36 IAMs_20 IAMs_20 15 08 00.5
comp=Z,985nm,21.0s
M26K Nabesna, AK 55.39 33 IAmb IAmb 14 46 54.8
comp=Z,376nm,1.4s
M26K Nabesna, AK 55.39 33 P **P** **14 46 53.0 +1.7**
baz=275,SNR=83
BRLS Boroldav 55.40 303 ⇓*i* P **P** **14 46 53.0 +1.3**
comp=Z,58nm,1.0s,baz=302
BRLS *e*S **S** **14 54 33.4 +1.2**
baz=302
BRLS Boroldav 55.40 303 *d i* P **P** **14 46 52.9 +1.3**
BRLS *e*S **S** **14 54 33.3 +1.2**
BRLS pmax pmax
comp=Z,58nm,1.0s
BTK Batken 55.47 299 IAMs_20 IAMs_20 15 11 25.4
comp=Z,2µm,22.0s
MCARA McCarthy VSAT 55.48 35 P **P** **14 46 53.7 +1.9**
baz=276,SNR=99
BGLC Bering Glacier 55.48 36 P **P** **14 46 54.0 +2.2**
baz=276
IUG luzhnay 55.49 302 *e*P **P** **14 46 52.5 +0.1**
comp=Z,70nm,1.1s,baz=302
IUG *e*S **S** **14 54 32.6 -0.8**
baz=302
IUG luzhnay 55.49 302 *e*P **P** **14 46 52.5 +0.1**
IUG *e*S **S** **14 54 32.6 -0.8**
IUG pmax pmax
comp=Z,70nm,1.1s
NIL Nilore 55.53 291 P **P** **14 46 52.3 -0.4**
NIL IAmb IAmb 14 46 54.2
comp=Z,388nm,1.6s
NIL Nilore 55.53 291 P **P** **14 46 52.3 -0.4**
NIL pmax pmax
comp=Z,388nm,1.6s
NIL Nilore 55.53 291 P **P** **14 46 52.8 +0.1**
NIL Nilore 55.53 291 P **P** **14 46 52.8 +0.1**
E27K Coleen River 55.60 26 IAmb IAmb 14 46 56.4
comp=Z,273nm,1.1s
E27K IAMs_20 IAMs_20 15 09 52.4
comp=Z,841nm,21.0s
E27K Coleen River 55.60 26 P **P** **14 46 54.9 +2.3**
baz=272
G27K Doyon Strip 55.65 28 P **P** **14 46 55.3 +2.3**
baz=273,SNR=45
WAX Waxell Ridge 55.66 36 IAMs_20 IAMs_20 15 10 47.4
comp=Z,749nm,18.0s
K27K Chicken 55.67 31 P **P** **14 46 55.3 +2.1**
baz=275
SNH Sunshine Point 55.70 36 IAMs_20 IAMs_20 15 12 24.4
comp=Z,982nm,20.0s
H27K Steamboat Moun 55.73 29 P **P** **14 46 56.2 +2.5**
baz=274,SNR=138
I27K Kandik River 55.74 29 P **P** **14 46 55.5 +1.8**
baz=274,SNR=76
D27M Malcolm River 55.79 25 IAmb IAmb 14 46 57.7
comp=Z,188nm,1.1s
D27M Malcolm River 55.79 25 P **P** **14 46 56.3 +2.2**
baz=272
L27K Beaver Creek, 55.87 32 IAmb IAmb 14 46 58.1
comp=Z,283nm,1.1s
L27K IAMs_20 IAMs_20 15 13 13.6
comp=Z,781nm,20.0s
L27K Beaver Creek, 55.87 32 P **P** **14 46 56.5 +1.8**
baz=276,SNR=193
ISLE Juniper Island 55.89 35 IAMs_20 IAMs_20 15 09 45.6
comp=Z,814nm,20.0s
M27K Edge Creek, AK 55.91 33 IAMs_20 IAMs_20 15 10 14.1
comp=Z,948nm,22.0s
M27K Edge Creek, AK 55.91 33 P **P** **14 46 57.1 +2.0**
baz=276,SNR=138
EGAK Eagle 56.00 30 IAmb IAmb 14 46 59.1
comp=Z,153nm,1.1s
EGAK Eagle 56.00 30 P **P** **14 46 56.3 +0.8**
baz=275,SNR=77
MESA MESA 56.14 36 IAmb IAmb 14 47 00.0
comp=Z,272nm,1.2s
MESA IAMs_20 IAMs_20 15 09 16.1
comp=Z,791nm,20.0s
MESA MESA 56.14 36 P **P** **14 46 58.6 +1.8**
baz=278,SNR=19
BARN Barnard Glacie 56.17 35 IAmb IAmb 14 47 00.1
comp=Z,236nm,1.1s
BARN IAMs_20 IAMs_20 15 09 25.8
comp=Z,820nm,22.0s
VJD Vijayawada 56.23 269 *e*P **P** **14 46 57.3 -0.5**
VJD *i* x x 14 47 09.9
F28M Old Crow 56.29 27 P **P** **14 46 59.7 +2.2**
baz=274,SNR=86
CTG Chitna Glacier 56.33 35 P **P** **14 46 60.0 +1.8**
baz=278,SNR=58
CTGM Chitina Glacie 56.34 35 IAmb IAmb 14 47 01.3
comp=Z,308nm,1.2s
CTGM IAMs_20 IAMs_20 15 09 51.2
comp=Z,896nm,22.0s
E28M Babbage River 56.34 26 IAmb IAmb 14 47 01.8
comp=Z,336nm,1.2s
E28M Babbage River 56.34 26 P **P** **14 47 00.3 +2.4**
baz=274,SNR=140
ASAR Alice Springs 56.36 187 P **P** **14 46 56.5 -2.0**
comp=Z,15nm,0.4s,baz=2.0,slow=6.8,SNR=27
ASAR PcP **PcP** **14 47 55.4 +0.1**
comp=Z,15nm,0.5s,baz=358,slow=3.7,SNR=6.1
ASAR S S 14 54 38.7 -6.2
comp=Z,2.0nm,0.8s,baz=7.9,slow=11,SNR=7.3
ASAR LR LR 15 10 53.0
comp=Z,2µm,21.7s,baz=8.0,slow=36
ASAR PKP2bc 15 17 09.0
comp=Z,4.5nm,0.9s,baz=175,slow=2.0,SNR=13
ASAR P4KPbc 15 24 12.3
comp=Z,0.6nm,0.6s,baz=0.3,slow=3.7,SNR=8.4
comp=Z,15nm,0.4s
BVCY Beaver Creek 56.38 33 P **P** **14 47 00.1 +1.8**
baz=277,SNR=46
I28M Miner Creek 56.45 30 IAmb IAmb 14 47 02.1
comp=Z,263nm,1.1s
I28M Miner Creek 56.45 30 P **P** **14 47 00.6 +1.8**
baz=276,SNR=86
RK1H Rockhampton Ha 56.49 169 P **P** **14 47 00.2 +0.8**
TABL Table Mountain 56.50 36 IAmb IAmb 14 47 02.3
comp=Z,207nm,1.1s
TABL IAMs_20 IAMs_20 15 11 34.6
comp=Z,870nm,20.0s
LOGN Logan Glacier 56.52 35 IAmb IAmb 14 47 02.5
comp=Z,138nm,1.2s
LOGN IAMs_20 IAMs_20 15 10 07.0
comp=Z,881nm,22.0s
D28M Stokes Point 56.58 25 P **P** **14 47 01.7 +2.2**
baz=274,SNR=40
YUK3 Moose Creek 56.65 34 P **P** **14 47 02.1 +1.7**
baz=278,SNR=94
DAWY Dawson 56.84 31 IAmb IAmb 14 47 04.7
comp=Z,174nm,1.3s
DAWY Dawson 56.84 31 P **P** **14 47 03.0 +1.4**
baz=277,SNR=70
O28M Mount Upton 56.92 35 P **P** **14 47 04.4 +2.0**
baz=278
E29M Blow River 56.96 26 IAmb IAmb 14 47 06.0
comp=Z,302nm,1.2s
E29M Blow River 56.96 26 P **P** **14 47 04.7 +2.3**
baz=276,SNR=82
AJM Ajmer 56.98 282 *e*P P 14 47 00.1 -3.1
AJM *i* x x 14 47 34.2
AJM *ex* x x 14 48 04.1
H29M Whitestone 57.01 29 IAmb IAmb 14 47 06.3
comp=Z,304nm,1.2s
H29M Whitestone 57.01 29 P **P** **14 47 04.9 +2.2**
baz=277,SNR=82
G29M Pine Creek 57.07 28 P **P** **14 47 05.8 +2.7**
baz=276,SNR=230
MBWA Marble Bar 57.12 203 P **P** **14 47 04.4 +0.4**
MBWA Marble Bar 57.12 203 P **P** **14 47 03.4 -0.6**
MBWA IAmb IAmb 14 47 22.8
comp=Z,274nm,1.6s
MBWA Marble Bar 57.12 203 P **P** **14 47 05.9 +1.9**
SIMJ Simiganj 57.22 298 IAMs_20 IAMs_20 15 14 04.6
comp=Z,2µm,20.0s
SIMJ Simiganj 57.22 298 P **P** **14 47 04.7 -0.1**
SIMJ ScP **ScP** **14 51 51.5 -2.1**
J29N Klondike Camp 57.30 31 IAmb IAmb 14 47 08.2
comp=Z,255nm,1.2s
J29N IAMs_20 IAMs_20 15 12 37.5
comp=Z,1µm,22.0s
J29N Klondike Camp 57.30 31 P **P** **14 47 06.9 +2.1**
baz=278,SNR=67
BCPM Bancas Point 57.32 36 IAMs_20 IAMs_20 15 12 30.3
comp=Z,991nm,21.0s
AKL Akola 57.39 275 *e*P P 14 47 03.6 -2.5
PSA00 Pilbara Seismi 57.47 203 P **P** **14 47 08.1 +1.7**
PSA00 Pilbara Seismi 57.47 203 IAmb IAmb 14 47 25.3
comp=Z,196nm,1.6s
PSA00 Pilbara Seismi 57.47 203 IAmb IAmb 14 47 25.2
comp=Z,172nm,1.8s
M29M Somme Creek 57.48 33 IAMs_20 IAMs_20 15 11 41.4
comp=Z,706nm,20.0s
M29M Somme Creek 57.48 33 P **P** **14 47 08.7 +2.5**
baz=279,SNR=197
PNL Peninsula 57.49 36 P **P** **14 47 07.9 +1.7**
PNL Peninsula 57.49 36 P **P** **14 47 08.1 +1.9**
baz=280,SNR=21
KOUNC Koumac, New Ca 57.50 154 P **P** **14 47 06.6 0.0**
L29M L29M 57.53 32 IAMs_20 IAMs_20 15 12 07.7
comp=Z,804nm,22.0s
L29M L29M 57.53 32 P **P** **14 47 09.3 +2.8**
baz=279,SNR=289
YUK4 Talbot Arm 57.57 34 P **P** **14 47 09.5 +2.5**
baz=280,SNR=150
HYB Hyderabad 57.58 271 *e*P P 14 47 04.6 -2.9
HYB IVmBB 14 47 05.9
comp=Z,2µm,0.9s
EPYK Eagle Plains 57.65 28 P **P** **14 47 09.4 +2.1**
baz=278,SNR=273
K29M Barlow Dome 57.69 31 IAMs_20 IAMs_20 15 13 02.8
comp=Z,860nm,21.0s
K29M Barlow Dome 57.69 31 P **P** **14 47 09.9 +2.2**
baz=279,SNR=167
G30M tAoh Zraii Nji 57.76 27 P **P** **14 47 09.7 +1.6**
baz=278
YUK6 Outpost Mounta 57.77 35 P **P** **14 47 10.8 +2.4**
baz=280,SNR=77
O29M Mount Kennedy 57.78 36 IAMs_20 IAMs_20 15 12 26.3
comp=Z,1µm,21.0s
O29M Mount Kennedy 57.78 36 P **P** **14 47 11.0 +2.6**
baz=280
F30M Barrier River 57.84 27 P **P** **14 47 10.9 +2.3**

baz=278,SNR=158
POHA Pohakuloa 57.89 86 P **P** **14 47 11.6 +1.7**
POHA Pohakuloa 57.89 86 P **P** **14 47 10.0 +0.1**
POHA Pohakuloa 57.89 86 P **P** **14 47 11.6 +1.7**
POHA pP **sP** **14 47 31.6 +1.2**
POHA sP pwP 14 47 41.1 +13
I30M Mount Dempster 57.96 30 IAMs_20 IAMs_20 15 12 23.0
comp=Z,714nm,21.0s
I30M Mount Dempster 57.96 30 P **P** **14 47 11.4 +1.8**
baz=279,SNR=344
KHU Kahuku 58.05 87 P **P** **14 47 11.0 0.0**
KHU Kahuku 58.05 87 P **P** **14 47 11.0 0.0**
KHU pmax pmax
comp=Z,509nm,1.3s
J30M Hart River 58.08 30 IAmb IAmb 14 47 13.8
comp=Z,146nm,1.1s
J30M IAMs_20 IAMs_20 15 13 11.3
comp=Z,832nm,20.0s
J30M Hart River 58.08 30 P **P** **14 47 12.5 +2.1**
baz=279,SNR=94
SVE Sverdlovsk 58.10 320 *ce*P **P** **14 47 11.0 +0.5**
SVE *e*S **S** **14 55 05.9 -1.3**
SVE pmax pmax
comp=Z,198nm,1.6s
HYT Haines Junctio 58.21 35 IAMs_20 IAMs_20 15 13 25.7
comp=Z,804nm,20.0s
HYT Haines Junctio 58.21 35 P **P** **14 47 14.0 +2.6**
baz=281,SNR=115
M30M Minto, Yukon 58.22 33 IAmb IAmb 14 47 15.1
comp=Z,197nm,1.1s
M30M Minto, Yukon 58.22 33 P **P** **14 47 13.6 +2.3**
baz=280,SNR=100
MDRS Chennai 58.26 265 *ex* P 14 47 00.6 -12
N30M Aishikik Lake 58.29 34 IAmb IAmb 14 47 15.6
comp=Z,223nm,1.3s
N30M Aishikik Lake 58.29 34 P **P** **14 47 14.2 +2.3**
baz=281
P29M Windy Craggy 58.32 36 IAMs_20 IAMs_20 15 12 09.6
comp=Z,699nm,20.0s
P29M Windy Craggy 58.32 36 P **P** **14 47 14.6 +2.5**
baz=281
MAYO Mayo, Yukon 58.44 31 P **P** **14 47 15.1 +2.3**
baz=280,SNR=30
KBL Kabul 58.52 293 P **P** **14 47 13.0 -1.1**
KBL IAmb IAmb 14 47 14.8
comp=Z,178nm,1.2s
KBL Kabul 58.52 293 P **P** **14 47 13.0 -1.1**
KBL pmax pmax
comp=Z,179nm,1.2s
KBL Kabul 58.52 293 P **P** **14 47 13.5 -0.6**
SNR=43
EIDS Eidsvold 58.52 169 P **P** **14 47 14.9 +1.2**
EIDS Eidsvold 58.52 169 IAmb IAmb 14 47 34.8
comp=Z,208nm,1.1s
G31M Satah River 58.53 27 IAmb IAmb 14 47 17.1
comp=Z,187nm,0.9s
G31M Satah River 58.53 27 P **P** **14 47 14.7 +1.5**
baz=280,SNR=84
WRKA Warakurna 58.56 193 P **P** **14 47 14.8 +0.8**
INK Inuvik 58.58 26 IAmb IAmb 14 47 16.2
comp=Z,200nm,1.2s
INK Inuvik 58.58 26 P **P** **14 47 15.0 +1.4**
baz=280,SNR=73
INK Inuvik 58.58 26 LR LR 15 18 19.2
comp=Z,155nm,18.2s,baz=338,slow=42
P30M Million Dollar 58.61 36 P **P** **14 47 16.7 +2.7**
baz=282
F31M Tsiigehtchic 58.65 27 IAMs_20 IAMs_20 15 11 37.0
comp=Z,702nm,20.0s
F31M Tsiigehtchic 58.65 27 P **P** **14 47 15.0 +0.9**
baz=280,SNR=101
H31M Peel River 58.70 29 IAMs_20 IAMs_20 15 14 05.3
comp=Z,776nm,22.0s
H31M Peel River 58.70 29 P **P** **14 47 16.4 +1.8**
baz=280
O30N Mendenhall 58.90 35 IAmb IAmb 14 47 19.5
comp=Z,232nm,1.2s
O30N IAMs_20 IAMs_20 15 12 41.0
comp=Z,745nm,20.0s
O30N Mendenhall 58.90 35 P **P** **14 47 18.0 +1.9**
baz=282,SNR=65
QLP Quilpie 58.98 176 P **P** **14 47 17.7 +0.8**
PLBC Pleasant Camp 59.04 36 P **P** **14 47 19.1 +2.1**
baz=282,SNR=119
ARU Arti 59.31 320 P **P** **14 47 18.4 -0.5**
ARU IAmb IAmb 14 47 23.1
comp=Z,177nm,1.2s
ARU Arti 59.31 320 *i* P **P** **14 47 18.8 0.0**
ARU pmax pmax
comp=Z,109nm,1.1s
ARU Arti 59.31 320 P **P** **14 47 18.9 0.0**
comp=Z,68nm,0.7s,baz=90,slow=5.0,SNR=38
ARU S **S** **14 55 20.2 -2.6**
comp=Z,0.9nm,0.3s,baz=160,slow=23,SNR=16
ARU LR LR 15 15 23.2
comp=Z,2µm,18.1s,baz=78,slow=38
comp=Z,68nm,0.7s
ARU Arti 59.31 320 P **P** **14 47 18.9 0.0**
M31M Drury Creek, Y 59.39 33 IAmb IAmb 14 47 22.8
comp=Z,234nm,1.1s
M31M IAMs_20 IAMs_20 15 13 40.0
comp=Z,796nm,20.0s
M31M Drury Creek, Y 59.39 33 P **P** **14 47 21.4 +1.9**
baz=282,SNR=101
S31K Pelican 59.45 38 IAmb IAmb 14 47 23.3
comp=Z,149nm,1.1s
S31K Pelican 59.45 38 P **P** **14 47 21.9 +2.1**
baz=283,SNR=12
WHY Whitehorse 59.50 35 IAMs_20 IAMs_20 15 13 33.0
comp=Z,730nm,20.0s
WHY Whitehorse 59.50 35 P **P** **14 47 22.5 +2.2**
baz=283,SNR=142
SKAG Skagway 59.56 36 P **P** **14 47 22.6 +2.1**
SKAG Skagway 59.56 36 IAMs_20 IAMs_20 15 12 55.5
comp=Z,749nm,21.0s
SKAG Skagway 59.56 36 P **P** **14 47 22.7 +2.2**
baz=283,SNR=52
R31K City Hall, Gus 59.59 37 P **P** **14 47 23.0 +2.2**
baz=284
NOUC Port Laguerre 59.68 152 P **P** **14 47 23.5 +1.8**
NOUC Port Laguerre 59.68 152 P **P** **14 47 23.0 +1.2**
NOUC pP **sP** **14 47 43.7 +1.4**
DZM Mont Dzumac 59.71 152 P **P** **14 47 23.8 +1.7**
DZM Mont Dzumac 59.71 152 P **P** **14 47 23.2 +1.1**
DZM Mont Dzumac 59.71 152 LR LR 15 12 05.2
comp=Z,685nm,20.9s,baz=352,slow=35
FARO Faro, Yukon 59.86 33 IAmb IAmb 14 47 25.9
comp=Z,266nm,1.2s
FARO IAMs_20 IAMs_20 15 12 27.4
comp=Z,846nm,20.0s
FARO Faro, Yukon 59.86 33 P **P** **14 47 24.5 +1.8**
baz=283,SNR=151
INKA Innaminka 60.04 180 P **P** **14 47 25.2 +1.1**
SIT Sitka 60.14 39 P **P** **14 47 26.2 +1.6**
SIT Sitka 60.14 39 P **P** **14 47 25.6 +1.1**
SIT IAmb IAmb 14 47 28.3
comp=Z,295nm,1.8s
SIT IAMs_20 IAMs_20 15 12 32.0
comp=Z,1µm,20.0s
SIT Sitka 60.14 39 P **P** **14 47 26.8 +2.2**
baz=285,SNR=5.1
SIT Sitka 60.14 39 P **P** **14 47 25.6 +1.1**
SIT pmax pmax
comp=Z,295nm,1.8s
OUENC Ouen Island, N 60.17 152 P **P** **14 47 27.3 +2.1**
N32M Quiet Lake 60.24 34 IAmb IAmb 14 47 28.4
comp=Z,252nm,1.2s
N32M IAMs_20 IAMs_20 15 10 40.3
comp=Z,770nm,22.0s
N32M Quiet Lake 60.24 34 P **P** **14 47 27.2 +1.9**
baz=284
R32K Eaglecrest 60.25 37 IAmb IAmb 14 47 29.0
comp=Z,162nm,1.1s
R32K Eaglecrest 60.25 37 P **P** **14 47 27.4 +2.1**
baz=285,SNR=16
OOD Oodnadatta 60.28 185 P **P** **14 47 25.6 -0.2**
JIS Juneau Island 60.32 37 P **P** **14 47 27.7 +1.9**
JIS Juneau Island 60.32 37 P **P** **14 47 28.0 +2.3**
P32M Atlin 60.33 36 IAmb IAmb 14 47 29.4
comp=Z,249nm,1.1s
P32M Atlin 60.33 36 P **P** **14 47 27.8 +1.9**
baz=284,SNR=59
S32K Killisnoo 60.43 38 IAmb IAmb 14 47 30.0
comp=Z,170nm,1.3s
S32K IAMs_20 IAMs_20 15 13 13.6
comp=Z,928nm,20.0s
S32K Killisnoo 60.43 38 P **P** **14 47 28.2 +1.7**
baz=285,SNR=13
A36M Sachs Harbour 60.56 21 IAmb IAmb 14 47 34.1
comp=Z,142nm,0.8s
A36M Sachs Harbour 60.56 21 P **P** **14 47 28.6 +1.4**
baz=285,SNR=82
P33M Teslin, Yukon 60.60 35 IAMs_20 IAMs_20 15 13 55.1
comp=Z,1µm,20.0s
P33M Teslin, Yukon 60.60 35 P **P** **14 47 29.6 +1.8**
baz=285,SNR=111
PALK Pallekele 60.91 259 P **P** **14 47 29.4 -1.1**
PALK Pallekele 60.91 259 P **P** **14 47 29.4 -1.1**
PALK pmax pmax
comp=Z,42nm,1.0s
PALK Pallekele 60.91 259 LR LR 15 17 38.0
comp=Z,635nm,18.1s,baz=163,slow=40
PALK Pallekele 60.91 259 P **P** **14 47 30.1 -0.5**
PALK Pallekele 60.91 259 P **P** **14 47 29.8 -0.7**
Q32M Nakina River 61.21 36 IAmb IAmb 14 47 35.8
comp=Z,141nm,1.2s
Q32M Nakina River 61.21 36 P **P** **14 47 34.3 +2.2**
baz=286
AKTO Aktyubinsk 61.22 314 P **P** **14 47 32.6 +0.5**
comp=Z,36nm,0.7s,baz=70,slow=8.9,SNR=19
AKTO S **S** **14 55 43.7 -3.9**
comp=Z,15nm,1.3s,baz=308,slow=20,SNR=12
AKTO LR LR 15 15 47.9
comp=Z,2µm,18.1s,baz=62,slow=38
comp=Z,36nm,0.7s
KAD Karad 61.32 273 *e*P **P** **14 47 31.7 -1.6**
DGTI Dogotuki 61.34 136 P **P** **14 47 36.5 +3.3**
T33K Petersburg 61.46 39 P **P** **14 47 35.9 +2.4**
baz=287,SNR=6.5
MSVF Nonsavu 61.53 139 P **P** **14 47 37.0 +2.5**
MSVF Nonsavu 61.53 139 P **P** **14 47 35.1 +0.6**
MSVF Nonsavu 61.53 139 P **P** **14 47 35.1 +0.6**
MSVF pmax pmax
comp=Z,95nm,1.3s
MSVF Nonsavu 61.53 139 P **P** **14 47 37.9 +3.4**
MSVF pP sP 14 47 59.0 +3.9
U33K Whale Pass 61.57 39 IAmb IAmb 14 47 37.9
comp=Z,148nm,1.1s
U33K IAMs_20 IAMs_20 15 13 39.8
comp=Z,826nm,20.0s
U33K Whale Pass 61.57 39 P **P** **14 47 36.5 +2.3**
baz=287,SNR=9.4
C36M Paulatuk 61.67 24 IAmb IAmb 14 47 37.1
comp=Z,284nm,1.3s
C36M Paulatuk 61.67 24 P **P** **14 47 35.6 +0.9**
baz=287,SNR=102
R33M Jennings River 61.73 36 IAmb IAmb 14 47 39.3
comp=Z,178nm,1.2s
R33M Jennings River 61.73 36 P **P** **14 47 37.9 +2.4**
baz=287
CRAG Craig 61.76 40 P **P** **14 47 37.9 +2.3**
CRAG Craig 61.76 40 P **P** **14 47 36.8 +1.2**
CRAG IAmb IAmb 14 47 39.1
comp=Z,111nm,1.2s
CRAG Craig 61.76 40 P **P** **14 47 37.6 +2.0**
baz=287,SNR=7.1
TAVE Taveuni 61.87 136 P **P** **14 47 39.9 +3.1**
WRAK Wrangell Islan 61.89 39 P **P** **14 47 37.2 +0.8**
WRAK Wrangell Islan 61.89 39 IAMs_20 IAMs_20 15 11 55.4
comp=Z,970nm,21.0s
WRAK Wrangell Islan 61.89 39 P **P** **14 47 38.6 +2.1**
baz=287,SNR=7.8
S34M Telegraph Cree 62.08 37 IAmb IAmb 14 47 41.5
comp=Z,181nm,1.2s
S34M IAMs_20 IAMs_20 15 13 13.2
comp=Z,680nm,20.0s
S34M Telegraph Cree 62.08 37 P **P** **14 47 40.1 +2.4**
baz=287,SNR=40
AULRC Lightning Ridg 62.11 173 P **P** **14 47 39.4 +1.3**
TGTN Hyland Airport 62.37 33 P **P** **14 47 41.8 +2.1**
baz=288,SNR=187
BHUJ Bhuj 62.43 281 *e*P **P** **14 47 40.9 +0.4**
DLBC Dease Lake 62.48 36 IAmb IAmb 14 47 44.3
comp=Z,211nm,1.3s
DLBC Dease Lake 62.48 36 P **P** **14 47 42.9 +2.4**
baz=288,SNR=49
DLBC Dease Lake 62.48 36 LR LR 15 13 03.2
comp=Z,445nm,21.6s,baz=304,slow=34
GOA Goa 62.48 271 *e*P **P** **14 47 41.0 0.0**
WTLY Watson Lake, Y 62.56 34 IAmb IAmb 14 47 44.3
comp=Z,230nm,1.2s
WTLY IAMs_20 IAMs_20 15 15 14.8
comp=Z,703nm,19.0s
WTLY Watson Lake, Y 62.56 34 P **P** **14 47 42.8 +1.8**
baz=288,SNR=14
MEEK Meekatharra 62.58 202 P **P** **14 47 43.3 +1.9**
V35K Ketchikan 62.62 40 IAMs_20 IAMs_20 15 11 48.6
comp=Z,692nm,21.0s
V35K Ketchikan 62.62 40 P **P** **14 47 42.9 +1.6**
baz=288,SNR=5.6
LCRK Leigh Creek 62.78 182 P **P** **14 47 43.3 +0.7**
DIB Dawson Inlet, 62.82 42 P **P** **14 47 43.0 +0.3**
DIB IAmb IAmb 14 47 45.4
comp=Z,203nm,1.2s
DIB IAMs_20 IAMs_20 15 14 53.9
comp=Z,739nm,20.0s
T35M Bob Quinn 62.82 38 IAmb IAmb 14 47 46.7
comp=Z,226nm,1.2s
T35M IAMs_20 IAMs_20 15 12 38.9
comp=Z,871nm,20.0s
T35M Bob Quinn 62.82 38 P **P** **14 47 45.0 +2.3**
baz=288,SNR=43
MULG Mulgathing 62.89 186 P **P** **14 47 44.4 +1.1**
U35K Hyder 63.28 39 IAmb IAmb 14 48 00.5
comp=Z,153nm,1.1s
U35K IAMs_20 IAMs_20 15 12 01.2
comp=Z,838nm,21.0s
U35K Hyder 63.28 39 P **P** **14 47 47.6 +1.9**
baz=289,SNR=8.9
KIRV Kirov 63.43 324 *i* P **P** **14 47 46.5 -0.1**
KIRV Kirov 63.43 324 P **P** **14 47 47.4 +0.8**
comp=Z,57nm,0.6s,baz=75,slow=7.1,SNR=28
KIRV S **S** **14 56 12.6 -2.3**
comp=Z,13nm,1.1s,baz=256,slow=21,SNR=25
KIRV LR LR 15 17 00.3
comp=Z,2µm,20.9s,baz=73,slow=37
comp=Z,57nm,0.6s
ARMA Armidale 63.56 169 P **P** **14 47 49.3 +1.4**
ARMA Armidale 63.56 169 IAmb IAmb 14 48 08.9
comp=Z,122nm,0.9s
RUBB Prince Rupert 63.69 41 IAMs_20 IAMs_20 15 15 09.0
comp=Z,610nm,21.0s
HRA Herat 63.80 295 IAmb IAmb 14 47 51.6
comp=Z,285nm,1.4s
WRGLY Wrigley 63.92 30 IAmb IAmb 14 47 52.9
comp=Z,209nm,1.1s
WRGLY Wrigley 63.92 30 P **P** **14 47 51.4 +1.6**
baz=291,SNR=36
CMSA Cobar Meteorol 64.00 175 P **P** **14 47 52.1 +1.5**
GRNB Grenville Isla 64.02 41 P **P** **14 47 51.1 +0.5**
GRNB IAmb IAmb 14 47 53.9
comp=Z,318nm,1.6s
HOPEN Hopen 64.16 346 *e*P **P** **14 47 52.1 +0.9**
HOPEN IAmb IAmb 14 47 56.8
comp=Z,107nm,0.9s
STKA Stephens Creek 64.17 179 P **P** **14 47 52.3 +0.6**
STKA Stephens Creek 64.17 179 P **P** **14 47 51.1 -0.6**
STKA Stephens Creek 64.17 179 *i* P **P** **14 47 51.2 -0.6**
STKA Stephens Creek 64.17 179 P **P** **14 47 51.1 -0.6**
comp=Z,13nm,0.5s,baz=356,slow=7.0,SNR=39
STKA LR LR 15 17 38.6
comp=Z,566nm,18.6s,baz=4.7,slow=38
comp=Z,13nm,0.5s
FORT Forrest 64.19 192 P **P** **14 47 53.7 +1.8**
FORT Forrest 64.19 192 P **P** **14 47 51.1 -0.8**
FORT IAmb IAmb 14 48 11.9
comp=Z,130nm,0.8s
TOAD Toad River Com 64.70 35 P **P** **14 47 56.5 +1.4**
baz=291,SNR=33
SPA0 Spitsbergen Ar 64.72 349 *e*P **P** **14 47 56.2 +1.3**
SPA0 IAmb IAmb 14 47 57.9
comp=Z,122nm,1.3s
SPITS Spitsbergen Ar 64.72 349 P **P** **14 47 56.0 +1.2**
comp=Z,33nm,0.8s,baz=96,slow=8.8,SNR=18
SPITS LR LR 15 18 19.0
comp=Z,862nm,20.8s,baz=12,slow=38
comp=Z,33nm,0.8s
KOTAN Kotaneelee Air 64.79 33 P **P** **14 47 56.8 +1.2**
baz=292,SNR=20
KBS Kingsbay 64.88 350 P **P** **14 47 56.6 +0.7**
KBS Kingsbay 64.88 350 *e*P **P** **14 47 57.3 +1.4**
KBS IAmb IAmb 14 48 01.3
comp=Z,82nm,1.1s
KBS Kingsbay 64.88 350 P **P** **14 47 56.6 +0.7**
KBS pmax pmax
comp=Z,76nm,1.0s
KBS Kingsbay 64.88 350 *i* P **P** **14 47 56.7 +0.7**
KBS Kingsbay 64.88 350 P **P** **14 47 57.2 +1.4**
KBS pP **sP** **14 48 16.8 -0.2**
AUDCS Dubbo College 64.95 173 P **P** **14 47 58.4 +1.6**
FLDN Fort Liard 65.01 33 IAMs_20 IAMs_20 15 17 12.6
comp=Z,924nm,22.0s
FLDN Fort Liard 65.01 33 P **P** **14 47 58.6 +1.6**
baz=292
BBOO Buckleboo 65.24 184 P **P** **14 47 59.7 +1.0**
BBOO Buckleboo 65.24 184 P **P** **14 47 58.5 -0.2**
XMAS Kiritimati 65.37 104 P **P** **14 48 01.7 +1.7**
XMAS Kiritimati 65.37 104 P **P** **14 48 00.4 +0.4**
XMAS IAmb IAmb 14 48 02.6
comp=Z,154nm,1.1s
WHYH Whyalla 65.38 183 P **P** **14 48 00.9 +1.3**
NOR Nord 65.39 356 *i* P **P** **14 47 59.0 -0.2**
NOR IAmb IAmb 14 48 04.9
comp=Z,9.6nm,0.7s
GEYT Alibeck 65.50 300 IAmb IAmb 14 48 02.4
comp=Z,164nm,1.1s
GEYT Alibeck 65.50 300 P **P** **14 48 01.1 +0.5**
comp=Z,101nm,1.0s,baz=60,slow=3.5,SNR=88
GEYT LR LR 15 18 52.8
comp=Z,1µm,18.3s,baz=92,slow=38
comp=Z,101nm,1.0s
GYA0B ALIBECK ARRAY 65.50 300 IAmb IAmb 14 48 02.4
comp=Z,131nm,1.1s
HSPB Hornsund (broa 65.62 348 *e*P **P** **14 48 01.6 +1.0**
BBB Bella Bella 65.66 42 IAmb IAmb 14 48 03.9
comp=Z,150nm,1.2s
BBB Bella Bella 65.66 42 LR LR 15 15 33.1
comp=Z,437nm,19.4s,baz=288,slow=35
MORW Morawa 65.68 204 P **P** **14 48 03.3 +1.7**
MORW Morawa 65.68 204 P **P** **14 48 00.8 -0.8**
HTT Hallett 65.74 182 P **P** **14 48 03.7 +1.8**
KMBL Kambalda 66.10 198 P **P** **14 48 05.6 +1.3**
HOLB Holberg 66.24 44 IAmb IAmb 14 48 07.9
comp=Z,302nm,1.3s
APA Apatity 66.46 336 ⇓ *i* P **P** **14 48 06.8 +0.6**
APA *i* 14 48 24.4
APA *i* S **S** **14 56 49.0 -3.0**
APA *i* 14 57 35.0
APA pmax pmax
comp=Z,39nm,0.9s
VADS Vadso 66.46 340 *e*P **P** **14 48 07.0 +0.8**
VADS IAmb IAmb 14 48 09.2
comp=Z,72nm,0.9s
BJO1 Bjornoya 66.56 346 *e*P **P** **14 48 07.6 +0.9**
BELG Belogornoye 66.64 318 *i* P **P** **14 48 07.5 -0.1**
BELG pmax pmax
comp=Z,46nm,1.2s
BELG Belogornoye 66.64 318 P **P** **14 48 07.3 -0.3**
comp=Z,153nm,1.1s,baz=45,slow=1.4,SNR=38
BELG LR LR 15 19 40.0
comp=Z,2µm,18.3s,baz=109,slow=38
comp=Z,153nm,1.1s
SYDH Sydney Hard Ro 66.72 171 P **P** **14 48 09.6 +1.5**
BLDU Ballidu 66.88 202 P **P** **14 48 10.7 +1.4**
YNG Young 66.97 173 P **P** **14 48 11.3 +1.5**
RES Resolute Bay 67.00 14 IAmb IAmb 14 48 11.7
comp=Z,165nm,1.2s
RES Resolute Bay 67.00 14 LR LR 15 18 48.9
comp=Z,467nm,21.9s,baz=345,slow=37
KLMR Klimovskoe 67.17 329 *e*P **P** **14 48 09.7 -1.1**
KLMR S **S** **14 56 57.6 -3.2**
KLMR pmax pmax
comp=Z,143nm,1.4s
KLMR MLR MLR
comp=Z,1µm,16.0s
KLBR Kellerberrin 67.46 201 P **P** **14 48 14.7 +1.8**
HAMF Hammerfest 67.78 341 *e*P **P** **14 48 15.4 +0.9**
ARA0 ARCESS Array S 67.91 340 *e*P **P** **14 48 16.2 +0.9**
ARA0 IAmb IAmb 14 48 18.6
comp=Z,66nm,1.1s
ARCES ARCESS Array B 67.91 340 P **P** **14 48 16.0 +0.6**
ARCES ARCESS Array B 67.91 340 P **P** **14 48 15.9 +0.6**
comp=Z,16nm,0.7s,baz=54,slow=7.3,SNR=62
ARCES LR LR 15 22 22.1
comp=Z,2µm,20.1s,baz=68,slow=40
comp=Z,16nm,0.7s
YKA Yellowknife Ar 67.92 29 P **P** **14 48 15.9 +0.4**
comp=Z,23nm,0.9s,baz=297,slow=6.4,SNR=146
YKA PKPPKP P'P'df 15 16 33.7 -6.1
comp=Z,5.0nm,1.3s,baz=122,slow=2.8,SNR=6.9
YKA LR LR 15 23 27.0
comp=Z,140nm,18.8s,baz=290,slow=41
comp=Z,23nm,0.9s
CAN Canberra 68.05 173 P **P** **14 48 18.2 +1.6**
CAN Canberra 68.05 173 IAmb IAmb 14 48 37.9
comp=Z,242nm,1.1s
CAN Canberra 68.05 173 P **P** **14 48 18.0 +1.4**
CAN pP **sP** **14 48 37.3 -0.2**
AUUHS Ulladulla High 68.26 171 P **P** **14 48 19.7 +1.9**
NWAO Narrogin (SRO) 68.86 201 P **P** **14 48 22.7 +1.0**
NWAO Narrogin (SRO) 68.86 201 P **P** **14 48 22.6 +0.9**
NWAO Narrogin (SRO) 68.86 201 P **P** **14 48 21.4 -0.3**
NWAO Narrogin (SRO) 68.86 201 P **P** **14 48 21.4 -0.3**
NWAO pmax pmax
comp=Z,102nm,1.1s
NWAO Narrogin (SRO) 68.86 201 P **P** **14 48 23.8 +2.1**
NWAO Narrogin (SRO) 68.86 201 P **P** **14 48 21.9 +0.2**
NWAO pP **sP** **14 48 40.3 -2.3**
KTK1 Kautokeino 68.87 340 *e*P **P** **14 48 21.2 -0.2**
KTK1 IAmb IAmb 14 48 24.4
comp=Z,94nm,1.3s
JETT Jettan, Norway 69.33 341 *e*P **P** **14 48 24.9 +0.7**
CLRS Cowichan Lake 69.36 45 IAmb IAmb 14 48 28.1
comp=Z,237nm,1.3s
TULEG Thule 69.53 7 IAmb IAmb 14 48 27.1
comp=Z,189nm,1.3s
TULEG IAMs_20 IAMs_20 15 20 18.0
comp=Z,550nm,21.0s
JOF Joensuu 69.57 333 *e*P **P** **14 48 27.1 +1.4**
TRO Tromso 69.68 341 *e*P **P** **14 48 26.8 +0.5**
TRO IAmb IAmb 14 48 27.6
comp=Z,461nm,2.2s
NEEM North Greenlan 69.94 3 *i* P **P** **14 48 28.1 -0.1**
NEEM IAmb IAmb 14 48 31.2
comp=Z,50nm,0.7s
B04A Port Angeles 70.07 45 IAmb IAmb 14 48 32.8
comp=Z,276nm,1.1s
DAG Danmarks Havn 70.09 355 *i* P **P** **14 48 29.0 +0.2**
DAG IAmb IAmb 14 48 34.7
comp=Z,60nm,0.8s
NLWA Neilton Lookou 70.15 46 IAmb IAmb 14 48 33.6
comp=Z,299nm,1.2s
WISH Wishkah 70.34 46 IAmb IAmb 14 48 35.0
comp=Z,313nm,1.1s
MOS Moscow 70.44 324 *e*P **P** **14 48 30.3 -0.9**
MOS *e**PP **sP** **14 48 48.6 -4.0**
MOS *e**SP **PcP** **14 48 57.8 +5.5**
MOS *e* 14 51 06.0
MOS *e*S **S** **14 57 35.2 -4.4**
MOS *e**SS **sS** **14 58 07.1 +1.4**
MOS *e* 14 58 24.8
MOS *e*SS **SS** **15 02 07.6 -3.0**
MOS pmax pmax
comp=Z,152nm,1.5s
MOS MLR MLR
comp=Z,1µm,17.0s
VRH Novokhopyorsk 70.46 319 *e*P **P** **14 48 31.4 0.0**
VRH pmax pmax
comp=Z,77nm,1.0s
VALR Valaam 70.58 331 *i* P **P** **14 48 31.7 -0.2**
VALR pmax pmax
comp=Z,118nm,0.9s
RADR Rader Ridge 70.64 47 IAmb IAmb 14 48 36.6
comp=Z,373nm,1.3s
BRLDA Berland Lookou 70.66 38 IAmb IAmb 14 48 35.2
comp=Z,314nm,1.5s
GNW Green Mountain 70.71 45 IAmb IAmb 14 48 36.8
comp=Z,296nm,1.3s
GNW IAMs_20 IAMs_20 15 16 15.8
comp=Z,551nm,20.0s
E03A Lebam 70.72 47 IAmb IAmb 14 48 36.7
comp=Z,286nm,1.2s
MAK Makhachkala 70.73 309 *e*P **P** **14 48 32.2 -1.0**
MAK *e**PP **pwP** **14 48 50.7 +0.1**
MAK *e* 14 51 09.1
MAK *e*PPP PPP 14 52 52.8
MAK *e*S **S** **14 57 41.0 -2.4**
MAK *e**SS **SKiKP** **14 58 15.7 +4.7**
MAK *e*SS **SS** **15 02 12.9 -2.8**

MAK pmax pmax
comp=Z,219nm,1.4s
MAK MLR MLR
comp=Z,3µm,17.0s
JASK Jask - Hormozg 70.86 289 P P 14 48 36.5 +2.2
SNR=23
F03A Seaside 71.01 47 IAmb IAmb 14 48 38.6
comp=Z,456nm,1.4s
HEBO Mount Hebo 71.22 48 IAmb IAmb 14 48 39.9
comp=Z,188nm,1.2s
F04D Rainier, OR 71.28 47 IAmb IAmb 14 48 40.0
comp=Z,305nm,1.5s
OBN Obninsk 71.28 324⇑eP P 14 48 36.9 +0.6
OBN i 14 48 55.3
OBN e 14 51 14.9
OBN iS S 14 57 50.6 +1.3
OBN eSS SS 15 02 27.5 +4.1
OBN pmax pmax
comp=Z,106nm,1.2s
OBN MLR MLR
comp=Z,2µm,21.0s
OBN Obninsk 71.28 324 P P 14 48 36.8 +0.6
comp=Z,22nm,0.4s,baz=50,slow=8.7,SNR=11
OBN LR LR 15 21 45.7
comp=Z,2µm,21.5s,baz=54,slow=37
comp=Z,22nm,0.4s
LPSR Galich'ya Gora 71.31 321 eP P 14 48 36.4 -0.2
LPSR pmax pmax
comp=Z,150nm,1.9s
JLN Jalan Bani Buh 71.35 285 P P 14 48 38.0 +0.6
SNR=38
D05A Enumclaw 71.38 46 IAmb IAmb 14 48 41.0
comp=Z,492nm,1.6s
WBK Wadi Bani Khal 71.50 285 P P 14 48 39.3 +1.1
SNR=45
G03D McMinnville, O 71.53 48 IAmb IAmb 14 48 41.6
comp=Z,312nm,1.3s
VORR Voronezh 71.62 320 eP P 14 48 38.7 +0.3
VORR pmax pmax
comp=Z,70nm,0.4s
PUL Pulkovo 71.68 330 iP P 14 48 38.9 +0.3
PUL pmax pmax
comp=Z,65nm,0.9s
F04A Amboy 71.71 47 IAmb IAmb 14 48 42.4
comp=Z,319nm,1.2s
BIDO Bidbid 71.75 287 P P 14 48 40.7 +1.0
SNR=30
COR Corvallis 71.79 48 P P 14 48 40.5 +0.9
COR IAmb IAmb 14 48 43.6
comp=Z,287nm,1.2s
COR Corvallis 71.79 48 P P 14 48 40.5 +0.9
COR pmax pmax
comp=Z,287nm,1.2s
COR Corvallis 71.79 48 P P 14 48 42.0 +2.4
STEI Steigen 71.82 341 eP P 14 48 39.7 +0.3
STEI IAmb IAmb 14 48 43.7
comp=Z,174nm,1.3s
VSR Storozhevoye 71.87 320 eP P 14 48 39.7 -0.2
VSR pmax pmax
comp=Z,160nm,1.5s
VORD Divnogorie 71.92 319 eP P 14 48 40.2 -0.1
VORD pmax pmax
comp=Z,100nm,1.3s
SMDO Samad 72.03 286 P P 14 48 42.6 +1.0
SNR=41
J01E Myrtle Point 72.06 50 IAmb IAmb 14 48 44.8
comp=Z,183nm,1.1s
LOF Lofoten 72.14 342 eP P 14 48 42.1 +0.9
LTY Liberty 72.14 45 IAmb IAmb 14 48 44.6
comp=Z,216nm,1.5s
LTY IAMs_20 IAMs_20 15 12 32.8
comp=Z,579nm,22.0s
SHME Shamm 72.15 290 iP P 14 48 42.6 +0.5
SNR=64
SHME Shamm 72.15 290 P P 14 48 42.9 +0.8
SNR=59
BUCK Buck Mountain 72.18 49 IAmb IAmb 14 48 46.0
comp=Z,399nm,1.1s
H04D Lebanon 72.18 48 IAmb IAmb 14 48 45.7
comp=Z,212nm,1.3s
I03D Drain, OR 72.18 49 IAmb IAmb 14 48 45.6
comp=Z,264nm,1.1s
FAUS Fauske 72.19 341 eP P 14 48 42.3 +0.8
FAUS IAmb IAmb 14 48 46.0
comp=Z,165nm,1.2s
JMDO Jabal Madar 72.31 286 P P 14 48 43.3 +0.2
SNR=36
KBO Bosley Butte 72.31 51 IAmb IAmb 14 48 46.5
comp=Z,203nm,1.1s
HOQ Hoqain 72.38 287 P P 14 48 44.7 +1.1
MDH Madha 72.38 289 P P 14 48 42.7 -0.8
MDH Madha 72.38 289 P P 14 48 43.2 -0.3
SNR=9.6
KULLO Kullorsuaq 72.40 5 iP P 14 48 42.9 +0.2
KULLO IAmb IAmb 14 48 48.4
comp=Z,79nm,0.8s
FIA1 FINESS Array S 72.43 333 IAmb IAmb 14 48 45.7
comp=Z,186nm,0.8s
FINES FINESS Array B 72.43 333 P P 14 48 43.0 -0.1
comp=Z,54nm,0.6s,baz=82,slow=4.3,SNR=78
FINES S S 14 57 59.0 -3.4
comp=Z,3.6nm,1.1s,baz=68,slow=21,SNR=6.0
FINES LR LR 15 22 37.1
comp=Z,994nm,20.8s,baz=50,slow=37
comp=Z,54nm,0.6s
H04A Detroit Lake 72.45 48 IAmb IAmb 14 48 46.7
comp=Z,268nm,1.2s
KEF Keuruu 72.46 334 eP P 14 48 44.4 +1.2
MASF Masafi 72.46 289 P P 14 48 45.2 +1.2
SNR=43
MSFE Esma-Masafi 72.46 289 iP P 14 48 44.3 +0.3
SNR=38
HOOD Mount Hood Mea 72.48 47 IAmb IAmb 14 48 47.2
comp=Z,404nm,1.2s
DBG Daneborg 72.58 355 iP P 14 48 43.9 +0.1
DBG IAmb IAmb 14 48 49.7
comp=Z,18nm,0.9s
GOF Gofitskoye 72.60 313ceP P 14 48 44.8 +0.3
UOSS Minazif 72.62 289 iP P 14 48 44.9 -0.1
SNR=14
UOSS Minazif 72.62 289 P P 14 48 45.6 +0.6
MXC Moxie City 72.70 46 IAmb IAmb 14 48 48.3
comp=Z,215nm,1.2s
VAF Ylistaro 72.72 335 eP P 14 48 46.5 +1.8
G05A Wamic 72.72 47 IAmb IAmb 14 48 53.9
comp=Z,192nm,1.3s
I04A Tendick Farm, 72.73 49 IAmb IAmb 14 48 48.4
comp=Z,215nm,1.1s
HATD Hatta, Dubai 72.74 289 iP P 14 48 46.0 +0.4
SNR=64
HATD Hatta, Dubai 72.74 289 P P 14 48 46.8 +1.1
SNR=39
SOHO SOHO 72.74 288 P P 14 48 45.7 +0.1
SOHO SOHO 72.74 288 P P 14 48 46.5 +0.8
UMQ Umm Al-Quwin 72.78 290 iP P 14 48 46.9 +1.0
SNR=6.5
UMQ Umm Al-Quwin 72.78 290 P P 14 48 47.5 +1.7
SNR=8.2
ASHO Ashiyiah 72.86 289 P P 14 48 46.6 +0.2
ASHO Ashiyiah 72.86 289 P P 14 48 47.2 +0.8
BSY Bisya 72.87 286 P P 14 48 47.0 +0.5
SNR=43
E07A Sunnyside 72.97 45 IAmb IAmb 14 48 50.0
comp=Z,294nm,1.3s
NCK Nalchik 73.01 311 iP P 14 48 47.0 +0.1
NCK pmax pmax
comp=Z,82nm,1.0s
NAZ Nazwa, Dubai 73.04 289 iP P 14 48 48.0 +0.6
SNR=21
NAZ Nazwa, Dubai 73.04 289 P P 14 48 48.0 +0.6
SNR=34
PYA1 Pyatigorsk 73.05 312 iP P 14 48 46.8 -0.4
MHTO MHTO 73.09 284 P P 14 48 48.1 +0.4
SNR=43
ARQ Araqi 73.13 287 P P 14 48 49.0 +1.0
SNR=75
G06A Carlson Farm, 73.15 47 IAmb IAmb 14 48 51.0
comp=Z,363nm,1.5s
EDM Edmonton 73.18 37 IAmb IAmb 14 48 50.1
comp=Z,252nm,1.2s
EDM IAMs_20 IAMs_20 15 18 00.7
comp=Z,763nm,22.0s
FAQ Al Faqa, Dubai 73.21 289 iP P 14 48 48.3 -0.1
SNR=19
FAQ Al Faqa, Dubai 73.21 289 P P 14 48 49.0 +0.6
SNR=26
KMPM Mount Pierce 73.24 53 IAmb IAmb 14 48 52.1
comp=Z,301nm,1.2s
HAWA Hanford 73.25 45 IAmb IAmb 14 48 51.5
comp=Z,224nm,1.4s
F07A Phinny Hill Vi 73.25 46 IAmb IAmb 14 48 51.6
comp=Z,253nm,1.3s
KHMM Horse Mountain 73.28 52 IAmb IAmb 14 48 52.4
comp=Z,216nm,1.1s
MOR8 Moi Rana 73.28 340 eP P 14 48 47.0 -1.1
D08A Wollman Farm, 73.28 45 IAmb IAmb 14 48 51.3
comp=Z,178nm,1.1s
C09A Chrisman Ranch 73.29 44 IAmb IAmb 14 48 51.4
comp=Z,213nm,1.1s
KBZ Khabaz 73.34 311 iP P 14 48 49.4 +0.6
KBZ pmax pmax
comp=Z,208nm,1.1s
KBZ Khabaz 73.34 311 P P 14 48 49.8 +1.0
comp=Z,187nm,1.0s,baz=79,slow=3.8,SNR=79
KBZ S S 14 58 11.4 -1.8
comp=Z,1.0nm,0.7s,baz=261,slow=23,SNR=1.7
KBZ LR LR 15 23 53.6
comp=Z,2µm,19.2s,baz=62,slow=38
comp=Z,187nm,1.0s
KIV Kislovodsk 73.36 312 ⇑P P 14 48 50.5 +1.4
KIV Kislovodsk 73.36 312 P P 14 48 49.7 +0.6
KIV Kislovodsk 73.36 312 iP P 14 48 50.1 +1.0
SNR=56
KIV Kislovodsk 73.36 312 eP P 14 48 49.6 +0.5
KIV e 14 51 34.7
KIV eS S 14 58 13.0 -0.8
KIV eSS SS 15 02 57.7 +1.6
KIV pmax pmax
comp=Z,84nm,4.3s
KIV pmax pmax
comp=Z,301nm,1.0s
KIV MLR MLR
comp=Z,1µm,18.0s
KIV Kislovodsk 73.36 312 P P 14 48 50.7 +1.6
ALNE Al Ain 73.41 288 iP P 14 48 49.6 0.0
SNR=39
ALNE Al Ain 73.41 288 P P 14 48 50.1 +0.5
SNR=81
KONS Konsvik 73.42 341 eP P 14 48 50.7 +1.9
ASUD Al Ashush, Dub 73.47 289 iP P 14 48 50.4 +0.5
SNR=26
ASUD Al Ashush, Dub 73.47 289 P P 14 48 51.0 +1.0
SNR=17
SHA1 Shidzhatmaz 73.49 312 iP P 14 48 50.5 +0.5
ONI Oni 73.54 310 IAmb IAmb 14 48 56.4
comp=Z,235nm,1.2s
L04D Klamath Falls 73.56 50 IAmb IAmb 14 48 53.5
comp=Z,305nm,1.1s
STOK Stokkvaagen 73.57 341 eP P 14 48 50.5 +0.8
PINE Pine Mountain 73.67 48 IAmb IAmb 14 48 54.7
comp=Z,362nm,1.1s
NEW Newport 73.72 43 IAmb IAmb 14 48 53.9
comp=Z,211nm,1.1s
NEW Newport 73.72 43 P P 14 48 52.5 +1.5
baz=301,SNR=107
NEW Newport 73.72 43 LR LR 15 17 33.3
comp=Z,268nm,21.8s,baz=310,slow=33
K04D Chiloquin, OR 73.72 50 IAmb IAmb 14 48 54.5
comp=Z,273nm,1.1s
J05D Fort Rock, OR 73.73 49 IAmb IAmb 14 48 54.9
comp=Z,321nm,1.2s
AJN Ajban 73.78 289 iP P 14 48 51.3 -0.4
SNR=14
AJN Ajban 73.78 289 P P 14 48 52.2 +0.5
SNR=18
MEF Metsahovi 73.83 332 eP P 14 48 53.2 +1.8
ERBR Yeremizino-Bor 73.85 314diP P 14 48 52.8 +1.0
ERBR e*PP sP 14 49 11.9 -1.3
ERBR ePPP PPP 14 53 23.3
ERBR eS SKiKP 14 58 17.1 +1.5
ERBR pmax pmax
comp=Z,387nm,1.2s
ERBR MLR MLR
comp=Z,2µm,21.0s
GNI Garni 73.88 307 P P 14 48 53.1 +0.8
GNI IAmb IAmb 14 48 58.7
comp=Z,467nm,1.4s
GNI Garni 73.88 307 iP P 14 48 53.3 +1.0
GNI pmax pmax
comp=Z,132nm,1.2s
GNI Garni 73.88 307 LR LR 15 24 26.3
comp=Z,2µm,18.9s,baz=51,slow=38
GNI Garni 73.88 307 P P 14 48 54.5 +2.2
VSU Vasula 73.95 330 iP P 14 48 53.0 +0.9
VSU pmax pmax
comp=Z,94nm,1.0s
KCPM Cahto Peak 73.95 53 IAmb IAmb 14 48 56.0
comp=Z,335nm,1.2s
E09A Wood Farm, Sta 74.02 45 IAmb IAmb 14 48 55.9
comp=Z,305nm,1.2s
UPNV Upernavik 74.23 5 iP P 14 48 53.7 +0.2
UPNV IAmb IAmb 14 48 56.3
comp=Z,33nm,0.8s
LABN Labinsk 74.24 313 eP P 14 48 55.8 +1.7
LABN e*PP sP 14 49 14.3 -1.2
LABN eS SKiKP 14 58 23.2 +7.0
LABN pmax pmax
comp=Z,189nm,1.0s
RAF Rauma 74.33 334 eP P 14 48 55.6 +1.3
UMZA Um Al Zommool 74.53 287 P P 14 48 56.3 +0.2
F10A Beach Ranch, E 74.84 45 IAmb IAmb 14 49 00.7
comp=Z,279nm,1.9s
MZWR Madinat Zayed 75.05 289 P P 14 48 59.2 +0.1
SUMG Summit 75.07 360 IAmb IAmb 14 49 05.3
comp=Z,176nm,0.9s
SUMG Summit 75.07 360 iP P 14 49 00.0 +1.1
SUMG IAmb IAmb 14 49 05.7
comp=Z,101nm,0.8s
NSS Namsos 75.19 340 eP P 14 49 00.4 +1.2
NSS IAmb IAmb 14 49 16.8
comp=Z,2µm,3.5s
BCA Borcka 75.29 310 ⇑P P 14 49 00.8 +0.5
JRN Qarnain Island 75.29 290 P P 14 49 00.5 0.0
SNR=24
SOC Sochi 75.41 313 eP P 14 48 59.2 -1.7
SOC e*PP sP 14 49 19.0 -3.3
SOC ePPP PPP 14 53 36.1
SOC eS S 14 58 33.7 -2.8
SOC eSSS SSS 15 06 39.3
SOC pmax pmax
comp=Z,158nm,1.0s
SOC MLR MLR
comp=Z,932nm,19.0s
ORV Oroville 75.41 52 IAmb IAmb 14 49 03.4
comp=Z,172nm,1.2s
J08A Circle Bar Ran 75.43 48 IAmb IAmb 14 49 04.4
comp=Z,284nm,1.2s
AAL Aland 75.55 334 eP P 14 49 02.5 +1.1
NUUG Nuugaatsiaq 75.65 5 iP P 14 49 02.2 +0.5
NUUG IAmb IAmb 14 49 07.6
comp=Z,14nm,0.7s
MZR Muzera 75.74 288 iP P 14 49 03.1 0.0
SNR=7.3
MZR Muzera 75.74 288 P P 14 49 03.3 +0.1
SNR=5.1
GHWR Ruwais 75.75 289 P P 14 49 03.4 +0.3
WVOR Wild Horse Val 75.81 49 IAmb IAmb 14 49 06.5
comp=Z,185nm,1.2s
MNK Minsk 75.81 326 iP P 14 49 03.4 +0.5
MNK i*PP sP 14 49 22.2 -2.2
MNK i 14 51 53.8
MNK iPPP PPP 14 53 41.3
MNK iS S 14 58 36.9 -3.6
MNK i*SS ScS 14 59 16.2 +4.0
MNK iSS SS 15 03 33.8 +1.4
MNK iSSS SSS 15 06 56.5
MNK pmax pmax
comp=Z,95nm,1.0s
MNK pmax pmax
comp=E,23nm,1.0s
MNK pmax pmax
comp=N,45nm,1.1s
MNK MLR MLR
comp=Z,1µm,15.0s
MNK MLR MLR
comp=E,422nm,14.0s
MNK MLR MLR
comp=N,969nm,15.0s
ISAL Salakas 75.97 328 eP P 14 49 05.6 +1.8
PLID Pearl Lake 76.04 45 IAMs_20 IAMs_20 15 16 15.8
comp=Z,582nm,21.0s
AFDM Forest Hills D 76.07 53 IAmb IAmb 14 49 07.5
comp=Z,355nm,1.9s
AFDM IAMs_20 IAMs_20 15 14 40.3
comp=Z,1µm,22.0s
ANN Anapa 76.17 314 eP P 14 49 05.3 +0.2
ANN e*PP sP 14 49 23.6 -3.0
ANN e 14 51 52.7
ANN eS S 14 58 42.1 -2.6
ANN e*SS SKSac 14 59 12.0 +0.7
ANN pmax pmax
comp=Z,445nm,1.2s
ANN pmax pmax
comp=Z,727nm,1.4s
SHMA Al-Shehemyia 76.33 292 P P 14 49 06.5 +0.1
SNR=22
SCO Scoresbysund 76.42 354 IAmb IAmb 14 49 09.2
comp=Z,233nm,1.2s
SCO Scoresbysund 76.42 354 iP P 14 49 07.5 +1.4
SCO IAmb IAmb 14 49 12.8
comp=Z,54nm,0.8s
SHAO Shalim 76.46 283 P P 14 49 07.2 -0.1
SHAO Shalim 76.46 283 P P 14 49 07.8 +0.5
SNR=5.8
GURO Guroymak-BITLI 76.50 307 IAmb IAmb 14 49 13.5
comp=Z,197nm,1.1s
MPK Martis Peak 76.53 52 IAMs_20 IAMs_20 15 12 54.1
comp=Z,1µm,20.0s
UMMG Uummannaq 76.57 4 iP P 14 49 06.4 -0.5
UMMG IAmb IAmb 14 49 09.5
comp=Z,18nm,0.9s
SAKB Bahrain 76.60 292 P P 14 49 08.3 +0.3
SLWR Sila 76.64 290 P P 14 49 08.5 +0.3
EMB Emerald Bay 76.64 52 IAmb IAmb 14 49 11.1
comp=Z,283nm,1.2s
TBLU Trondheim 76.64 339 eP P 14 49 07.4 -0.2
UPP Uppsala 76.64 334 eP P 14 49 08.8 +1.2
VSVD Vaisvydziai 76.68 329 eP P 14 49 10.2 +2.3
TRNA Turayna 76.69 291 P P 14 49 08.5 +0.1
SNR=23
PAHR Pah Rah Range 76.74 51 IAmb IAmb 14 49 11.5
comp=Z,186nm,1.2s
SAO San Andreas Ge 76.87 55 IAmb IAmb 14 49 11.9
comp=Z,149nm,1.2s
PNTR Pine Nut 76.92 52 IAmb IAmb 14 49 12.9
comp=Z,178nm,1.2s
PNTR IAMs_20 IAMs_20 15 19 35.5
comp=Z,1µm,20.0s
CMB Columbia Colle 76.94 53 IAmb IAmb 14 49 12.5
comp=Z,284nm,1.2s
CMB IAMs_20 IAMs_20 15 15 24.1
comp=Z,1µm,22.0s
PABE Paberze 76.97 329 eP P 14 49 11.2 +1.8
SMRA Abu-Samra 76.99 291 P P 14 49 10.3 +0.2
SNR=35
MFID Camas Ranch 77.04 47 IAmb IAmb 14 49 13.3
comp=Z,188nm,1.2s
DMTO DMTO 77.17 283 P P 14 49 11.8 +0.5
KBD Kabd 77.19 296 P P 14 49 11.6 +0.4
YERR Yerington 77.21 52 IAmb IAmb 14 49 14.3
comp=Z,309nm,1.3s
YERR IAMs_20 IAMs_20 15 19 56.3
comp=Z,1µm,21.0s
BBGB Big Mountain B 77.24 55 IAmb IAmb 14 49 14.6
comp=Z,321nm,1.1s
WAKR Walker 77.33 52 IAmb IAmb 14 49 15.3
comp=Z,154nm,1.3s
DOK Doka 77.39 284 P P 14 49 12.7 +0.2
SNR=21
AKASG Malin Array Be 77.42 323 iP P 14 49 12.5 +0.4
AKASG pmax pmax
comp=Z,8.0nm,0.4s
AKASG Malin Array Be 77.42 323 P P 14 49 12.0 -0.1
comp=Z,7.5nm,0.3s,baz=46,slow=5.8,SNR=85
AKASG S S 14 58 54.7 -3.5
comp=Z,1.8nm,0.9s,baz=54,slow=10,SNR=6.7
AKASG LR LR 15 26 29.8
comp=Z,2µm,19.2s,baz=48,slow=38
comp=Z,7.5nm,0.3s
AKBB Malin Array Si 77.42 323 iP P 14 49 11.6 -0.5
AKBB pmax pmax
comp=Z,68nm,1.1s
KIEV Kiev 77.43 323 ⇓P P 14 49 12.6 +0.4
KIEV Kiev 77.43 323 P P 14 49 12.1 -0.1
KIEV Kiev 77.43 323 iP P 14 49 12.3 +0.2
SNR=46
KIEV Kiev 77.43 323 P P 14 49 12.1 -0.1
KIEV pmax pmax
comp=Z,114nm,1.2s
KIEV MLR MLR
comp=Z,3µm,22.0s
PBUR Paburge 77.52 330 eP P 14 49 12.6 +0.1
HIZ Hauiti 77.59 153 P P 14 49 15.1 +2.1
PMPB Monarch Peak 77.59 55 IAmb IAmb 14 49 16.4
comp=Z,230nm,1.3s
FFC Flin Flon 77.73 32 P P 14 49 13.6 -0.2
FFC IAmb IAmb 14 49 15.7
comp=Z,188nm,1.2s
FFC Flin Flon 77.73 32 P P 14 49 13.6 -0.2
FFC pmax pmax
comp=Z,188nm,1.2s
BMN Battle Mountai 77.77 50 IAmb IAmb 14 49 17.6
comp=Z,230nm,1.2s
NC405 NORSAR Array S 77.79 337 IAmb IAmb 14 49 18.8
comp=Z,165nm,1.1s
HLID Hailey 77.82 46 P P 14 49 16.4 +1.6
baz=304,SNR=83
HFS Hagfors 77.85 336 P P 14 49 14.1 -0.2
comp=Z,31nm,0.6s,baz=67,slow=3.7,SNR=80
HFS S S 14 58 57.6 -5.0
comp=Z,5.1nm,1.0s,baz=61,slow=9.2,SNR=3.7
comp=Z,31nm,0.6s
RYN Ryan 77.88 52 IAmb IAmb 14 49 18.0
comp=Z,185nm,1.3s
RBK Rabkut 77.89 283 P P 14 49 15.7 +0.4
SNR=12
DOMB Dombas 77.92 339 eP P 14 49 15.4 +0.6
KVN Kaiserville 77.93 51 IAmb IAmb 14 49 18.3
comp=Z,285nm,1.3s
KVN IAMs_20 IAMs_20 15 15 57.3
comp=Z,1µm,21.0s
VIKU Vikbolandet 77.93 334 eP P 14 49 15.2 +0.4
MOL Molde 77.97 340 eP P 14 49 16.1 +1.2
NB201 NORSAR Array S 77.98 337 IAmb IAmb 14 49 20.4
comp=Z,166nm,1.2s
NC204 NORSAR Array S 77.98 338 IAmb IAmb 14 49 19.9
comp=Z,130nm,1.1s
EGMT Eagleton 77.98 40 IAmb IAmb 14 49 18.0
comp=Z,221nm,1.4s
EGMT IAMs_20 IAMs_20 15 23 13.9
comp=Z,630nm,19.0s
EGMT Eagleton 77.98 40 P P 14 49 16.5 +1.1
baz=306,SNR=41
NB2 NORSAR Subarra 78.01 337 P P 14 49 15.0 -0.3
comp=Z,129nm,1.2s,baz=43,slow=5.9
NB2 NORSAR Subarra 78.01 337 P P 14 49 15.0 -0.3
baz=43,slow=5.9
NB2 NORSAR Subarra 78.01 337 P P 14 49 18.4 +3.1
NOA NORSAR Array B 78.01 337 P P 14 49 14.8 -0.4
comp=Z,56nm,1.0s,baz=42,slow=5.4,SNR=63
NOA LR LR 15 28 37.3
comp=Z,734nm,20.5s,baz=50,slow=39
comp=Z,56nm,1.0s
WHFO Wadi Hawf 78.04 284 P P 14 49 15.9 -0.2
SNR=12
SIM Simferopol' 78.06 316 eP P 14 49 16.8 +1.0
SIM eS S 14 59 05.1 -0.2
SIM pmax pmax
comp=Z,94nm,0.7s
SIM smax smax
comp=N,95nm,15.8s
LHV Little Huntoon 78.09 52 IAmb IAmb 14 49 19.6
comp=Z,366nm,1.3s
VRZ Vera Road 78.09 154 P P 14 49 18.7 +3.0
RAR Rarotonga 78.10 125 LR LR 15 20 37.1
comp=Z,876nm,19.8s,baz=311,slow=33
NVAR Mina Array Bea 78.13 52 P P 14 49 17.4 +0.8
comp=Z,39nm,0.8s,baz=284,slow=3.6,SNR=166
NVAR LR LR 15 20 57.7
comp=Z,578nm,18.3s,baz=284,slow=33
comp=Z,39nm,0.8s
NC602 NORSAR Array S 78.13 337 eP P 14 49 15.9 0.0
NC602 IAmb IAmb 14 49 19.8
comp=Z,106nm,1.4s
MLAC Mammoth, Mammo 78.19 53 P P 14 49 18.6 +1.6
baz=302,SNR=7.8
FCC Fort Churchill 78.20 26 IAmb IAmb 14 49 17.7
comp=Z,147nm,1.2s
NV11 Mina Array Sit 78.22 52 IAmb IAmb 14 49 20.0
comp=Z,218nm,1.5s

URZ Urewera 78.25 151 P **P** **14 49 16.8 +0.1**
comp=Z,13nm,0.8s,baz=0.0,slow=4.0,SNR=3.9
URZ LR LR 15 20 21.4
comp=Z,496nm,21.8s,baz=74,slow=33
comp=Z,13nm,0.8s
SUW Suwalki 78.28 328 IAmb IAmb 14 49 22.0
comp=Z,277nm,1.5s
SUW Suwalki 78.28 328 P **P** **14 49 18.3 +1.5**
SUW Suwalki 78.28 328 *e*P **P** **14 49 18.9 +2.1**
BOZ Bozeman (W) 78.33 43 P **P** **14 49 18.5 +1.0**
baz=305,SNR=69
NNVZ North Ngauruho 78.42 153 P **P** **14 49 19.9 +2.1**
AKN Aaknes 78.44 340 *e*P **P** **14 49 18.7 +1.1**
COVZ Chateau Observ 78.45 153 P **P** **14 49 19.5 +1.6**
ETVZ East Tongariro 78.46 153 P **P** **14 49 20.4 +2.5**
FWVZ Far West T-bar 78.50 153 P **P** **14 49 19.9 +1.6**
VOG Valley Oaks Go 78.52 54 P **P** **14 49 19.5 +1.1**
baz=302,SNR=5.4
ICESG Greenland Ices 78.58 0 *i* P **P** **14 49 19.0 +0.3**
ICESG IAmb IAmb 14 49 25.3
comp=Z,75nm,0.8s
SMMC Simmler 78.62 55 P **P** **14 49 21.0 +1.9**
baz=302,SNR=22
Q09A Carvers 78.65 51 IAmb IAmb 14 49 22.2
comp=Z,223nm,1.3s
MOVZ Moawhango 78.71 153 P **P** **14 49 20.1 +0.8**
ABTO Aybut 78.72 283 P **P** **14 49 20.3 +0.4**
WAZ Wanganui 78.72 154 P **P** **14 49 22.1 +2.9**
BKZ Black Stump Fm 78.79 152 P **P** **14 49 20.6 +0.9**
ELK Elko 78.86 49 LR LR 15 25 35.1
comp=Z,375nm,18.1s,baz=300,slow=37
CNGZ Carnagh Statio 78.89 151 P **P** **14 49 20.8 +0.6**
BHHZ Black Hill Sta 78.90 153 P **P** **14 49 20.9 +0.6**
TIN Tinemaha, Big 78.91 53 P **P** **14 49 22.2 +1.4**
baz=302,SNR=15
DSP Deep Springs 78.92 53 IAmb IAmb 14 49 23.9
comp=Z,227nm,1.3s
DSP IAMs_20 IAMs_20 15 17 17.4
comp=Z,910nm,20.0s
VES Vestal, Richgr 78.97 55 P **P** **14 49 21.6 +0.6**
baz=302,SNR=78
PKM Mcpherson Peak 78.98 56 P **P** **14 49 23.0 +1.7**
baz=302,SNR=32
OSL Oslo 79.00 337 *e*P **P** **14 49 21.7 +1.0**
KRHZ Kereru 79.15 153 P **P** **14 49 22.4 +0.7**
KLNR Kaliningrad 79.19 329 *i* P **P** **14 49 22.6 +0.8**
KLNR pmax pmax
comp=Z,38nm,1.2s
SKAR Skarslia 79.21 338 *e*P **P** **14 49 22.5 +0.6**
SKAR IAmb IAmb 14 49 26.8
comp=Z,58nm,1.0s
DIKM Dikmen 79.22 313 ⇓P **P** **14 49 23.8 +1.6**
BCW Bitter Crk WRg 79.23 55 IAmb IAmb 14 49 25.7
comp=Z,411nm,1.3s
SBC Santa Barbara 79.28 56 P **P** **14 49 24.3 +1.6**
baz=302
CWC Cottonwood Cre 79.34 54 P **P** **14 49 24.2 +1.0**
baz=303
TSZ Takapari Road 79.36 153 P **P** **14 49 23.7 +0.9**
SORM Soroca 79.42 321 ⇓P **P** **14 49 22.9 -0.3**
SORM Soroca 79.42 321 P **P** **14 49 22.8 -0.3**
NNZ Nelson 79.43 156 P **P** **14 49 23.2 +0.2**
YFT Old Faithful 79.45 44 IAmb IAmb 14 49 30.6
comp=Z,300nm,1.9s
FOO Floro 79.46 340 *e*P **P** **14 49 23.8 +0.7**
HYA Hoyanger 79.47 339 *e*P **P** **14 49 24.3 +1.1**
KAHZ Kahuranaki 79.48 152 P **P** **14 49 24.4 +1.0**
ISA Isabella, Lake 79.49 54 P **P** **14 49 24.3 +0.4**
baz=303,SNR=25
GRAC Grapevine Rang 79.52 53 IAmb IAmb 14 49 27.0
comp=Z,249nm,1.2s
GRAC Grapevine Rang 79.52 53 P **P** **14 49 25.3 +1.2**
baz=303,SNR=15
STRU Stroemstad 79.52 336 *e*P **P** **14 49 24.5 +1.0**
ARVC Arvin 79.53 55 P **P** **14 49 25.1 +1.0**
baz=303,SNR=22
WPHZ Waipukurau 79.55 153 P **P** **14 49 24.9 +1.1**
SCZ2 Santa Cruz Isl 79.57 56 P **P** **14 49 25.1 +0.8**
baz=302
KONO Kongsberg 79.59 337 P **P** **14 49 23.9 0.0**
KONO Kongsberg 79.59 337 *e*P **P** **14 49 24.3 +0.4**
KONO Kongsberg 79.59 337 *i* P **P** **14 49 24.4 +0.5**
KONO pmax pmax
comp=Z,31nm,1.0s
H17A Grant Village 79.63 44 IAmb IAmb 14 49 29.4
comp=Z,213nm,1.1s
H17A Grant Village 79.63 44 P **P** **14 49 27.8 +3.0**
baz=306,SNR=112
DVHZ Dannevirke 79.64 153 P **P** **14 49 25.7 +1.4**
KIW Kapiti Island 79.66 154 P **P** **14 49 26.1 +1.8**
MRZ Mangatainoka R 79.74 154 IAMs_20 IAMs_20 15 15 20.7
comp=Z,695nm,20.0s
MRZ Mangatainoka R 79.74 154 P **P** **14 49 25.4 +0.7**
PRWZ Pori Road 79.79 153 P **P** **14 49 25.7 +0.6**
TUWZ Tuamarina 79.81 155 P **P** **14 49 26.1 +0.9**
OSI Osito Audit: C 79.88 55 P **P** **14 49 27.6 +1.6**
baz=303,SNR=9.5
ANWZ Angora Road 79.90 153 P **P** **14 49 27.4 +1.7**
MILM Milestii Mici 79.91 320 ⇓P **P** **14 49 25.8 0.0**
MILM Milestii Mici 79.91 320 *e*P **P** **14 49 25.0 -0.8**
comp=Z,100nm,1.0s
MILM *i* S **S** **14 59 21.0 -3.9**
comp=Z,1μm,9.5s
MILM *e*L L 15 25 11.0
MILM LRM MLR 15 27 34.0
comp=Z,1μm,17.0s
MILM Milestii Mici 79.91 320 *e*P **P** **14 49 25.0 -0.8**
MILM *e* 14 49 44.0
MILM *i* S **S** **14 59 21.0 -3.9**
MILM pmax pmax
comp=Z,500nm,4.1s
MILM smax smax
comp=E,1μm,9.5s
CAW Cannon Point 79.94 154 P **P** **14 49 26.9 +1.1**
MPMC Manual Prospec 79.95 54 P **P** **14 49 27.6 +1.0**
baz=303,SNR=99
RLMT Red Lodge 79.96 42 P **P** **14 49 27.7 +1.2**
baz=306,SNR=52
R11B Troy Canyon, C 79.96 51 P **P** **14 49 27.9 +1.3**
baz=304,SNR=148
SUE Sulen 79.98 340 *e*P **P** **14 49 26.9 +1.0**
SNZO South Karori 79.98 155 IAMs_20 IAMs_20 15 20 00.2
comp=Z,976nm,22.0s
BFZ Birch Farm 80.00 153 P **P** **14 49 27.0 +0.7**
SNCC San Nicolas Is 80.05 57 IAmb IAmb 14 49 29.5
comp=Z,447nm,1.4s
SNCC San Nicolas Is 80.05 57 P **P** **14 49 27.5 +0.6**
baz=302
Q12A Willow Creek R 80.07 50 IAmb IAmb 14 49 31.0
comp=Z,343nm,1.5s
CCAC Calif City Air 80.08 55 IAmb IAmb 14 49 29.8
comp=Z,240nm,1.1s
BHW Baring Head 80.13 155 IAMs_20 IAMs_20 15 19 17.1
comp=Z,849nm,22.0s
LRMC Laurel Mtn Rad 80.13 54 P **P** **14 49 28.4 +1.0**
baz=303,SNR=47
MTW Mount Morrison 80.14 154 P **P** **14 49 27.7 +0.8**
FURC Furnace Creek, 80.15 53 P **P** **14 49 28.7 +1.4**
baz=303,SNR=60
TMWZ Te Maipa 80.24 154 P **P** **14 49 28.6 +1.1**
EDW2 Edwards Air Fo 80.24 55 P **P** **14 49 29.3 +1.4**
baz=303,SNR=47
S11A Rachel 80.25 52 IAmb IAmb 14 49 31.0
comp=Z,302nm,1.4s
S11A IAMs_20 IAMs_20 15 13 00.6
comp=Z,988nm,21.0s
SFJD Kangerlussuaq 80.31 4 P **P** **14 49 27.7 +0.1**
SFJD Kangerlussuaq 80.31 4 P **P** **14 49 27.7 +0.1**
SFJD pmax pmax
comp=Z,141nm,1.3s
SFJD Kangerlussuaq 80.31 4 *i* P **P** **14 49 27.8 +0.1**
SFJD IAmb IAmb 14 49 30.5
comp=Z,24nm,0.7s
SFJD Kangerlussuaq 80.31 4 LR LR 15 27 42.2
comp=Z,565nm,20.1s,baz=349,slow=38
ODD1 Odda 80.33 338 *e*P **P** **14 49 28.4 +0.5**
DECC Green Verdugo 80.35 56 P **P** **14 49 29.5 +0.9**
baz=303,SNR=18
BER Bergen 80.35 339 *e*P **P** **14 49 28.6 +0.7**
SPR3 Spring Creek 3 80.42 50 IAmb IAmb 14 49 32.5
comp=Z,210nm,1.4s
TRWZ Traveller 80.42 154 P **P** **14 49 29.5 +1.1**
QSM Queen of Sheba 80.42 53 IAmb IAmb 14 49 31.4
comp=Z,342nm,1.2s
GWY Greenwater Val 80.44 53 IAmb IAmb 14 49 31.6
comp=Z,290nm,1.2s
DEL Delary 80.45 333 *e*P **P** **14 49 30.4 +1.8**
PASC Pasadena Art C 80.49 56 IAmb IAmb 14 49 31.6
comp=Z,223nm,1.4s
LVV L'vov 80.58 324 *e*P **P** **14 49 31.3 +1.9**
LVV *e* 14 49 42.3
LVV *e* 14 52 33.6
LVV *e*S **S** **14 59 30.9 -1.0**
LVV MLR MLR
comp=Z,1μm,17.0s
DGMT Dagmar 80.66 38 IAmb IAmb 14 49 32.0
comp=Z,205nm,1.4s
DGMT Dagmar 80.66 38 P **P** **14 49 30.5 +0.6**
baz=309,SNR=20
DGMT Dagmar 80.66 38 P **P** **14 49 30.5 +0.6**
baz=309
FMP Fort Macarthur 80.67 56 P **P** **14 49 31.2 +1.0**
baz=303
LAO LASA Array 80.70 40 IAmb IAmb 14 49 32.9
comp=Z,175nm,1.1s
LAO IAMs_20 IAMs_20 15 24 32.9
comp=Z,585nm,18.0s
LAO LASA Array 80.70 40 P **P** **14 49 31.5 +1.2**
baz=308,SNR=52
LAO LASA Array 80.70 40 P **P** **14 49 31.2 +0.9**
baz=308
DUG Dugway, Tooele 80.70 48 IAmb IAmb 14 49 33.4
comp=Z,260nm,1.2s
DUG Dugway, Tooele 80.70 48 P **P** **14 49 32.0 +1.5**
baz=305,SNR=130
CIS Catalina Islan 80.75 56 P **P** **14 49 31.5 +0.8**
baz=303,SNR=5.1
BLS5 Blasjo 80.77 338 *e*P **P** **14 49 30.9 +0.6**
BEL Belsk 80.80 327 *e*P **P** **14 49 32.4 +1.9**
BFSC Mount Baldy Ra 80.82 55 P **P** **14 49 32.0 +0.8**
baz=303,SNR=31
GSC Goldstone, Bar 80.83 54 IAmb IAmb 14 49 33.7
comp=Z,181nm,1.2s
GSC Goldstone, Bar 80.83 54 P **P** **14 49 32.0 +0.8**
baz=304,SNR=52
SHOC Shoshone, Teco 80.86 53 P **P** **14 49 32.1 +0.9**
baz=304,SNR=23
SCI2 San Clemente I 80.89 57 P **P** **14 49 32.5 +1.2**
baz=303
RRX Edison Barstow 80.93 54 P **P** **14 49 32.7 +1.1**
baz=304
TLCR 80.96 318 ⇑P **P** **14 49 33.1 +1.5**
TLCR 80.96 318 P **P** **14 49 33.0 +1.5**
HOMB Homborsund 81.02 337 *e*P **P** **14 49 32.7 +1.2**
BSD Bornholm Skovb 81.03 332 *i* P **P** **14 49 32.1 +0.4**
BSD IAmb IAmb 14 49 36.2
comp=Z,14nm,0.8s
BSD Bornholm Skovb 81.03 332 *e*P **P** **14 49 33.9 +2.2**
TCUT Toone Canyon 81.04 47 IAmb IAmb 14 49 38.3
comp=Z,183nm,1.1s
DY2G Dye2 81.06 3 *i* P **P** **14 49 32.4 +0.4**
DY2G IAmb IAmb 14 49 37.9
comp=Z,41nm,0.7s
SCTR Scanteiesti 81.12 319 ⇓P **P** **14 49 33.3 +1.0**
FRB Frobisher Bay 81.18 13 LR LR 15 27 20.4
comp=Z,464nm,21.9s,baz=348,slow=37
BW06 Boulder Array 81.19 45 P **P** **14 49 33.9 +0.8**
baz=307,SNR=45
PDAR Pinedale Array 81.19 45 P **P** **14 49 33.5 +0.3**
comp=Z,29nm,0.9s,baz=298,slow=1.9,SNR=105
PDAR LR LR 15 19 37.3
comp=Z,167nm,21.0s,baz=314,slow=31
comp=Z,29nm,0.9s
NEGRR Negrea 81.27 319 ⇑P **P** **14 49 33.6 +0.4**
ELS Elsinore Mount 81.31 56 IAmb IAmb 14 49 36.1
comp=Z,525nm,1.8s
KMY Karmoy 81.32 339 *e*P **P** **14 49 33.8 +0.6**
BBRC Big Bear Solar 81.32 55 P **P** **14 49 34.7 +0.7**
baz=304
BR131 Keskin Array S 81.33 312 *i* P **P** **14 49 33.7 -0.1**
BRTR Keskin Array B 81.33 312 *i* P **P** **14 49 34.5 +0.7**
BRTR pmax pmax
comp=Z,62nm,0.9s
BRTR Keskin Array B 81.33 312 P **P** **14 49 34.5 +0.7**
comp=Z,58nm,0.9s,baz=93,slow=2.3,SNR=133
BRTR PKKPbc **PKKPbc** **15 08 08.7 +1.2**
comp=Z,1.1nm,0.8s,baz=217,slow=3.6,SNR=4.9
BRTR LR LR 15 29 32.9
comp=Z,837nm,18.2s,baz=75,slow=38
comp=Z,58nm,0.9s
TESR Tescani 81.33 320 ⇑P **P** **14 49 33.8 +0.2**
CFR Carcaliu 81.34 319 ⇑P **P** **14 49 33.8 +0.3**
CFR Carcaliu 81.34 319 P **P** **14 49 33.8 +0.3**
TUQ Turquoise Moun 81.35 53 P **P** **14 49 35.0 +1.0**
baz=304,SNR=25
KWP Kalwaria Pacla 81.36 324 *e*P **P** **14 49 36.0 +2.4**
KWP Kalwaria Pacla 81.36 324 IAmb IAmb 14 49 40.0
comp=Z,338nm,1.1s
TPGR Topolog 81.38 318 ⇑P **P** **14 49 34.3 +0.5**
SNART Snartemo 81.39 337 *e*P **P** **14 49 34.1 +0.5**
BURAR Bucovina Array 81.39 322 ⇑P **P** **14 49 34.6 +0.6**
BURAR Bucovina Array 81.39 322 P **P** **14 49 34.5 +0.6**
HEC Hector,Ludlow 81.41 54 P **P** **14 49 35.5 +1.2**
baz=304,SNR=20
PANC Panciu 81.46 320 ⇑P **P** **14 49 35.3 +1.2**
MURC Murrieta 81.50 56 P **P** **14 49 35.4 +0.8**
baz=304,SNR=30
MPU Maple Canyon 81.55 48 IAmb IAmb 14 49 37.8
comp=Z,241nm,1.2s
COP Copenhagen 81.58 333 *i* P **P** **14 49 35.4 +0.8**
COP IAmb IAmb 14 49 37.1
comp=Z,44nm,0.6s
ODBI Odobesti 81.58 320 ⇑P **P** **14 49 35.9 +1.1**
TIRR Tirgusor 81.63 318 ⇓P **P** **14 49 36.0 +0.8**
TIRR Tirgusor 81.63 318 P **P** **14 49 35.9 +0.8**
PLOR Plostina 81.75 320 ⇓P **P** **14 49 36.9 +1.1**
PLOR Plostina 81.75 320 P **P** **14 49 36.8 +1.1**
HARR Harsova 81.76 318 ⇑P **P** **14 49 36.8 +1.0**
HARR Harsova 81.76 318 P **P** **14 49 36.8 +1.0**
ANTO Ankara 81.77 312 ⇑P **P** **14 49 36.6 +0.5**
ANTO Ankara 81.77 312 P **P** **14 49 36.5 +0.5**
ANTO IAmb IAmb 14 49 41.2
comp=Z,234nm,1.6s
ANTO Ankara 81.77 312 IAMs_20 IAMs_20 15 29 59.0
comp=Z,800nm,20.0s
ANTO Ankara 81.77 312 P **P** **14 49 36.6 +0.5**
ANTO pmax pmax
comp=Z,234nm,1.6s
ANTO MLR MLR
comp=Z,800nm,20.0s
ANTO Ankara 81.77 312 P **P** **14 49 37.7 +1.7**
RAYN Ar Rayn 81.78 293 P **P** **14 49 36.5 +0.1**
RAYN IAmb IAmb 14 49 41.5
comp=Z,257nm,0.9s
RAYN Ar Rayn 81.78 293 P **P** **14 49 36.9 +0.6**
RAYN Ar Rayn 81.78 293 P **P** **14 49 36.5 +0.1**
RAYN pmax pmax
comp=Z,257nm,1.0s
BR231 Keskin MP Arra 81.80 312 IAmb IAmb 14 49 42.5
comp=Z,324nm,1.9s
GMRC Granite Mounta 81.90 54 P **P** **14 49 37.8 +0.9**
baz=304,SNR=43
BISRR Bisoca 81.90 320 ⇑P **P** **14 49 38.0 +1.4**
V12A Nelson 81.91 53 IAmb IAmb 14 49 39.7
comp=Z,177nm,1.3s
109C Camp Elliot, M 81.95 56 IAmb IAmb 14 49 39.4
comp=Z,252nm,1.4s
109C Camp Elliot, M 81.95 56 P **P** **14 49 38.0 +1.0**
baz=304,SNR=12
TURR Turia 81.96 320 ⇑P **P** **14 49 38.2 +1.3**
PFO Pinyon Flats O 82.00 55 P **P** **14 49 37.7 +0.2**
PFO IAmb IAmb 14 49 39.8
comp=Z,217nm,1.2s
PFO Pinyon Flats O 82.00 55 P **P** **14 49 38.4 +1.0**
baz=304,SNR=45
PFO Pinyon Flats O 82.00 55 *i* P **P** **14 49 38.4 +1.0**
PFO pmax pmax
comp=Z,206nm,1.1s
PFO Pinyon Flats O 82.00 55 LR LR 15 22 56.0
comp=Z,998nm,18.6s,baz=268,slow=33
TPFO Pinon Flats 82.01 55 P **P** **14 49 38.6 +1.1**
baz=304,SNR=37
PMD Palm Desert 82.04 55 IAmb IAmb 14 49 39.7
comp=Z,238nm,1.3s
OZUR 82.06 320 ⇑P **P** **14 49 38.5 +1.1**
ANGG Ammassalik, Gr 82.06 359 *i* P **P** **14 49 36.3 -0.6**
ANGG IAmb IAmb 14 49 42.8
comp=Z,53nm,0.8s
RGN Rugen 82.08 332 *e*P **P** **14 49 38.8 +1.6**
BELC Belle Mtn. Jos 82.10 55 P **P** **14 49 38.7 +0.7**
baz=304,SNR=36
ISOG Isortoq, Green 82.14 360 *i* P **P** **14 49 37.0 -0.3**
ISOG IAmb IAmb 14 49 39.7
comp=Z,44nm,0.9s
ARCR ARCALIA 82.18 322 ⇓P **P** **14 49 39.8 +1.8**
MUD Monsted U'grnd 82.19 335 *i* P **P** **14 49 39.0 +1.2**
MUD IAmb IAmb 14 49 43.7
comp=Z,16nm,0.7s
STHS Stebnicka Huta 82.21 325 *e*P **P** **14 49 39.6 +1.4**
STHS pmax pmax
comp=Z,39nm,1.1s
STHS Stebnicka Huta 82.21 325 *e*P **P** **14 49 39.5 +1.4**
BMR Baia Mare 82.24 323 ⇓P **P** **14 49 39.6 +1.3**
BMR Baia Mare 82.24 323 P **P** **14 49 39.5 +1.3**
LCMT Little Creek M 82.25 51 IAmb IAmb 14 49 41.6
comp=Z,148nm,1.2s
LCMT IAMs_20 IAMs_20 15 22 53.6
comp=Z,1μm,20.0s
ISR Istrita 82.27 319 ⇑P **P** **14 49 39.9 +1.4**
ISR Istrita 82.27 319 P **P** **14 49 39.9 +1.4**
PSN Preselentsi 82.30 317 P **P** **14 49 39.0 +0.4**
DOPR Dopca 82.35 320 ⇓P **P** **14 49 40.3 +1.4**
MLR Muntele Rosu 82.36 320 ⇑P **P** **14 49 40.1 +1.0**
MLR Muntele Rosu 82.36 320 P **P** **14 49 39.5 +0.4**
comp=Z,14nm,0.5s,baz=16,slow=5.8,SNR=22
MLR LR LR 15 29 38.0
comp=Z,1μm,18.4s,baz=55,slow=38
comp=Z,14nm,0.5s
BAR Barrett 82.37 56 IAMs_20 IAMs_20 15 18 34.1
comp=Z,633nm,20.0s
MONP2 Monument Peak 82.43 56 P **P** **14 49 40.7 +1.0**
baz=304,SNR=16
CRVS Cervenica-Dubn 82.45 324 *e*P **P** **14 49 41.3 +1.9**
CRVS pmax pmax
comp=Z,494nm,1.9s
CRVS Cervenica-Dubn 82.45 324 *e*P **P** **14 49 41.3 +1.9**
Q16A Castle Valley 82.48 48 IAmb IAmb 14 49 43.0
comp=Z,323nm,1.3s
TKX Tecate 82.48 56 IAmb IAmb 14 49 42.1
comp=Z,232nm,1.5s
CBX Cerro Bola 82.58 56 IAmb IAmb 14 49 42.8
comp=Z,184nm,1.2s
IRM Iron Mountain 82.60 54 P **P** **14 49 41.6 +1.1**
baz=304,SNR=16
NEE2 Needles Airpor 82.61 53 P **P** **14 49 41.3 +0.8**
baz=305,SNR=6.7
NIE Niedzica 82.67 325 *e*P **P** **14 49 42.7 +2.2**
BC3 Big Chuckawall 82.67 55 P **P** **14 49 42.0 +1.1**
baz=304,SNR=62
SRU San Rafael Swe 82.77 48 IAmb IAmb 14 49 43.9
comp=Z,237nm,1.0s
SSRD Sdr. Stenderup 82.78 334 *i* P **P** **14 49 42.6 +1.7**
SSRD IAmb IAmb 14 49 47.3
comp=Z,40nm,0.7s
IKP In-Ko-Pah, Jac 82.78 56 P **P** **14 49 42.6 +1.1**
baz=304,SNR=16
CBBR Cluj-Babes-Bol 82.81 322 ⇑P **P** **14 49 41.3 0.0**
CJR Cluj-Napoca 82.82 322 ⇑P **P** **14 49 42.5 +1.1**
CJR Cluj-Napoca 82.82 322 P **P** **14 49 42.4 +1.1**
CCX Cicese 82.83 57 IAmb IAmb 14 49 43.7
comp=Z,211nm,1.7s
SWSC Sam W. Stewart 82.83 55 P **P** **14 49 42.6 +1.0**
baz=304,SNR=13
MESR Mesesenl 82.87 322 ⇑P **P** **14 49 43.1 +1.6**
YUH Yuha Desert 82.91 56 IAmb IAmb 14 49 44.5
comp=Z,531nm,1.9s
PRD Provadia 83.01 317 P **P** **14 49 43.0 +0.7**
NUUK Nuuk 83.01 5 *i* P **P** **14 49 42.2 +0.3**
NUUK IAmb IAmb 14 49 48.5
comp=Z,46nm,0.8s
K22A Casper 83.03 43 IAmb IAmb 14 49 46.0
comp=Z,131nm,1.1s
K22A Casper 83.03 43 P **P** **14 49 43.5 +0.8**
baz=308,SNR=17
K22A Casper 83.03 43 P **P** **14 49 43.2 +0.5**
baz=308,SNR=17
MARR Marisel-Cluj 83.09 322 ⇑P **P** **14 49 43.5 +0.6**
ARR Arges 83.14 320 ⇑P **P** **14 49 44.5 +1.4**
PDMCI Parker Dam,Lak 83.20 54 P **P** **14 49 44.5 +1.0**
baz=305,SNR=39
KECS Kecovo 83.21 325 *e*P **P** **14 49 45.1 +1.8**
KECS Kecovo 83.21 325 *e*P **P** **14 49 45.1 +1.8**
U15A North Rim 83.21 51 IAmb IAmb 14 49 48.0
comp=Z,276nm,1.6s
DRGR 83.23 322 ⇑P **P** **14 49 44.1 +0.5**
DRGR 83.23 322 P **P** **14 49 44.0 +0.5**
RWWY Rawlins 83.23 44 IAmb IAmb 14 49 46.1
comp=Z,260nm,1.2s
PPT Papeete 83.23 116 P **P** **14 49 44.1 +0.3**
comp=Z,98nm,1.0s,baz=348,slow=9.3,SNR=8.3
PPT LR LR 15 27 57.4
comp=Z,493nm,18.4s,baz=307,slow=36
comp=Z,98nm,1.0s
ESJX Sierra Juarez 83.25 56 IAmb IAmb 14 49 46.7
comp=Z,262nm,1.6s
PPTF Pamatai, Papee 83.25 116 P **P** **14 49 46.6 +2.6**
PPTF Pamatai, Papee 83.25 116 P **P** **14 49 44.3 +0.3**
PPTF IAmb IAmb 14 49 50.3
comp=Z,142nm,1.1s
BLYC Blythe 83.25 54 IAmb IAmb 14 49 46.5
comp=Z,252nm,1.5s
HMU Henry Mountain 83.33 49 IAmb IAmb 14 49 46.8
comp=Z,263nm,1.2s
MDND Maddock 83.39 36 IAmb IAmb 14 49 46.3
comp=Z,301nm,1.2s
MDND Maddock 83.39 36 P **P** **14 49 45.0 +0.8**
baz=312,SNR=17
MDND Maddock 83.39 36 P **P** **14 49 44.9 +0.6**
baz=312
OKC Ostrava-Krasne 83.39 327 *e*P **P** **14 49 46.0 +1.8**
OKC AMS AMS 15 31 20.0
comp=Z,1μm,15.0s
OKC Ostrava-Krasne 83.39 327 *e*P **P** **14 49 46.0 +1.8**
OKC MLR MLR
comp=Z,1μm,15.0s
RUE Ruedersdorf 83.42 331 *e*P **P** **14 49 45.0 +0.8**
GLA Glamis 83.44 55 IAmb IAmb 14 49 47.5
comp=Z,238nm,1.2s
GLA Glamis 83.44 55 P **P** **14 49 46.0 +1.1**
baz=305,SNR=17
ASF Jabal al Asfar 83.47 304 LR LR 15 30 49.2
comp=Z,539nm,18.5s,baz=65,slow=38
ULM Lac du Bonnet 83.51 33 P **P** **14 49 44.5 -0.3**
comp=Z,46nm,1.1s,baz=329,slow=9.4,SNR=37
ULM LR LR 15 27 52.6
comp=Z,177nm,21.8s,baz=328,slow=36
comp=Z,46nm,1.1s
RSSD Black Hills 83.51 41 P **P** **14 49 45.2 0.0**
RSSD Black Hills 83.51 41 P **P** **14 49 45.7 +0.5**
baz=310
RSSD Black Hills 83.51 41 P **P** **14 49 45.6 +0.4**
baz=310
RSSD Black Hills 83.51 41 P **P** **14 49 45.2 0.0**
RSSD pmax pmax
comp=Z,125nm,1.4s
O20A White River Ci 83.56 46 IAmb IAmb 14 49 47.9
comp=Z,320nm,1.1s
O20A White River Ci 83.56 46 P **P** **14 49 46.3 +0.8**
baz=308,SNR=91
E28A Huff 83.69 38 IAMs_20 IAMs_20 15 26 39.9
comp=Z,886nm,20.0s
E28A Huff 83.69 38 P **P** **14 49 46.2 +0.4**
baz=312
MORC Moravsky Berou 83.71 327 ⇑P **P** **14 49 46.6 +0.6**
MORC Moravsky Berou 83.71 327 *e*P **P** **14 49 46.5 +0.6**
MORC Moravsky Berou 83.71 327 P **P** **14 49 46.5 +0.6**
VTX Valle De La Tr 83.71 57 IAmb IAmb 14 49 48.9
comp=Z,182nm,1.5s
SZH Strazhitsa 83.75 318 P **P** **14 49 44.0 -2.2**
OSTC Ostas 83.76 328 *e*P **P** **14 49 47.0 +0.9**
OSTC AMS AMS 15 31 10.0
comp=Z,1μm,17.3s
OSTC Ostas 83.76 328 *e*P **P** **14 49 47.0 +0.9**
OSTC MLR MLR
comp=Z,1μm,17.3s
CHVC Chvalec 83.81 328 *e*P **P** **14 49 47.2 +0.8**
CHVC Chvalec 83.81 328 *e*P **P** **14 49 47.2 +0.8**
KRLC Kraliky 83.85 327 *e*P **P** **14 49 47.3 +0.7**
KRLC Kraliky 83.85 327 *e*P **P** **14 49 47.3 +0.7**
DPC Dobruska-Polom 83.86 328 *e*P **P** **14 49 47.5 +0.9**
DPC *e*SKS **SKSac** **15 00 01.7 -3.1**
DPC AMS AMS 15 31 00.0
comp=Z,2μm,15.7s
DPC Dobruska-Polom 83.86 328 *e*P **P** **14 49 47.5 +0.9**
DPC *e* 15 00 01.7
DPC MLR MLR
comp=Z,2μm,15.7s

PSZ **Piszkesteto** 83.89 324 ⇑P P 14 49 48.2 +1.3
PSZ **Piszkesteto** 83.89 324 lAmb lAmb 14 49 52.9
comp=Z,248nm,1.4s
PSZ **Piszkesteto** 83.89 324 P P 14 49 48.1 +1.3
UPC **Upice** 83.89 328 eP P 14 49 47.7 +1.0
UPC ex x 14 50 05.6
UPC AMS AMS 15 31 00.0
comp=Z,1μm,14.8s
UPC **Upice** 83.89 328 eP P 14 49 47.7 +1.0
UPC e 14 50 05.6
UPC MLR MLR
comp=Z,1μm,14.8s
VYHS **Vyhne** 84.00 325 eP P 14 49 48.4 +1.0
VYHS pmax pmax
comp=Z,163nm,1.2s
VYHS **Vyhne** 84.00 325 eP P 14 49 48.4 +1.0
ELND **Elena** 84.03 318 ⇓P P 14 49 49.3 +1.7
MMAI **Mount Meron Ar** 84.03 305 P P 14 49 48.7 +0.8
comp=Z,126nm,0.9s,baz=49,slow=4.8,SNR=50
MMAI LR LR 15 30 57.5
comp=Z,862nm,20.3s,baz=20,slow=38
comp=Z,126nm,0.9s
GZR **Gura Zlata** 84.12 321 ⇓P P 14 49 49.6 +1.4
GZR **Gura Zlata** 84.12 321 P P 14 49 49.5 +1.4
SIRR **Siria** 84.12 322 ⇑P P 14 49 48.5 +0.5
Y14A **Wickenburg** 84.18 53 lAmb lAmb 14 49 51.0
comp=Z,141nm,1.1s
SURR **Surduc** 84.22 322 ⇑P P 14 49 48.9 +0.4
CSS **Mathiatis** 84.30 308 lAmb lAmb 14 49 53.7
comp=Z,160nm,0.9s
JAVC **Velka Javorina** 84.30 326 eP P 14 49 50.5 +1.6
113A **Mohawk Valley,** 84.34 55 lAmb lAmb 14 49 51.6
comp=Z,164nm,1.2s
WUAZ **Wupatki** 84.35 51 lAmb lAmb 14 49 52.2
comp=Z,216nm,1.1s
WUAZ **Wupatki** 84.35 51 P P 14 49 50.6 +1.1
baz=306,SNR=76
SRE **Strehaia** 84.37 320 ⇑P P 14 49 50.8 +1.4
SRE **Strehaia** 84.37 320 P P 14 49 50.7 +1.4
ISP **Isparta** 84.42 312 lAMs_20 lAMs_20 15 34 59.8
comp=Z,796nm,19.0s
N23A **Red Feather La** 84.47 44 P P 14 49 51.6 +1.4
baz=309,SNR=58
VRAC **Vranov** 84.48 327 eP P 14 49 50.3 +0.5
VRAC ePP PP 14 53 03.0 -1.9
VRAC **Vranov** 84.48 327 P P 14 49 50.3 +0.5
comp=Z,65nm,0.9s,baz=56,slow=5.5,SNR=33
VRAC LR LR 15 30 45.9
comp=Z,1μm,18.8s,baz=44,slow=38
comp=Z,65nm,0.9s
PHWY **Pilot Hill** 84.50 44 lAmb lAmb 14 49 52.8
comp=Z,237nm,1.3s
PVCC **Panska Ves** 84.51 329 eP P 14 49 51.1 +1.2
PVCC **Panska Ves** 84.51 329 eP P 14 49 51.1 +1.2
BRG **Berggiesshubel** 84.53 329 i P P 14 49 50.3 +0.4
BRG 14 53 00.8
BRG 15 00 08.0
BRG i 15 00 59.3
BRG SS SS 15 05 46.0 +3.4
BRG pmax pmax
comp=Z,74nm,1.1s
BRG pmax pmax
comp=Z,9.0nm,1.2s
BRG **Berggiesshubel** 84.53 329 i P P 14 49 50.3 +0.4
BRG Amp 14 49 54.9
comp=Z,74nm,1.1s
BRG PP PP 14 53 00.8 -4.3
BRG Amp 14 53 08.0
comp=Z,25nm,1.3s
BRG **Berggiesshubel** 84.53 329 SKS SKSac 15 00 08.0 -1.0
SFX **San Felipe** 84.57 57 lAmb lAmb 14 49 52.9
comp=Z,139nm,1.2s
BZS **Buzias** 84.58 322 ⇑P P 14 49 50.4 0.0
BZS **Buzias** 84.58 322 P P 14 49 50.3 0.0
CLL **Colm** 84.61 330 lAMs_20 lAMs_20 15 34 08.0
comp=Z,818nm,20.0s
CLL **Collm** 84.61 330 eP P 14 49 50.0 -0.3
CLL e*PP sP 14 50 08.0 -3.8
CLL eS SKSac 15 00 04.0 -5.4
CLL pmax pmax
comp=Z,137nm,1.3s
HERR **Herculane** 84.65 321 ⇑P P 14 49 52.4 +1.8
SMOL **Smolenice** 84.66 326 eP P 14 49 52.0 +1.3
SMOL pmax pmax
comp=Z,74nm,1.1s
SRO **Srobarova** 84.73 325 eP P 14 49 52.5 +1.5
SRO pmax pmax
comp=Z,75nm,1.1s
SRO **Srobarova** 84.73 325 eP P 14 49 52.5 +1.5
KRUC **Moravsky** 84.75 327 eP P 14 49 51.4 +0.3
KRUC ePP PP 14 53 07.0 -0.1
MODS **Modra-Piesok** 84.83 326 eP P 14 49 52.6 +1.1
MODS pmax pmax
comp=Z,330nm,1.3s
MODS **Modra-Piesok** 84.83 326 eP P 14 49 52.6 +1.1
GOPC **GO Pecny, Ondr** 84.86 328 eP P 14 49 52.4 +0.7
GOPC ex x 14 50 11.0
GOPC AMS AMS 15 31 50.0
comp=Z,1μm,13.1s
GOPC **GO Pecny, Ondr** 84.86 328 eP P 14 49 52.4 +0.7
GOPC e 14 50 11.0
GOPC MLR MLR
comp=Z,1μm,13.1s
VALD **Valchedram** 84.89 320 P P 14 49 52.0 +0.1
AGMN **Agassiz Nation** 84.89 34 lAMs_20 lAMs_20 15 24 02.4
comp=Z,793nm,22.0s
AGMN **Agassiz Nation** 84.89 34 P P 14 49 51.2 -0.6
baz=315,SNR=12
AGMN **Agassiz Nation** 84.89 34 P P 14 49 51.5 -0.3
baz=315
GHAJ **Ghor Haditha** 84.89 304 lAmb lAmb 14 50 00.5
comp=Z,166nm,0.9s
PRA **Prague** 84.90 329 eP P 14 49 55.9 +4.1
PRA eSKS SKSac 15 00 12.8 +1.4
PRA **Prague** 84.90 329 eP P 14 49 55.9 +4.1
PRA e 15 00 12.8
PRU **Pruhonice** 84.92 328 eP P 14 49 52.6 +0.7
PRU ex x 14 50 11.2
PRU eSKS SKSac 15 00 13.3 +1.8
PRU AMS AMS 15 31 50.0
comp=Z,1μm,15.7s
PRU **Pruhonice** 84.92 328 eP P 14 49 52.6 +0.7
PRU e 14 50 11.2
PRU e 15 00 13.3
PRU MLR MLR
comp=Z,1μm,15.7s
SMCO **Snowmass** 84.92 46 lAmb lAmb 14 49 55.4
comp=Z,224nm,1.1s
SMCO lAMs_20 lAMs_20 15 25 40.0
comp=Z,740nm,20.0s
MPEP **Malo Peshtene** 84.94 319 P P 14 49 52.1 -0.1
HSKC **Hora Svate Kat** 84.94 329 eP P 14 49 52.5 +0.4
HSKC eSKS SKSac 15 00 14.1 +2.4
HSKC AMS AMS 15 31 50.0
comp=Z,2μm,16.8s
X16A **Lo Mia Camp, P** 84.95 52 lAmb lAmb 14 49 55.4
comp=Z,130nm,1.2s
ZST **Bratislava** 85.03 326 eP P 14 49 54.1 +1.6
ZST **Bratislava** 85.03 326 eP P 14 49 54.1 +1.6
D32A **Dogwood Acres,** 85.16 35 lAMs_20 lAMs_20 15 28 47.4
comp=Z,773nm,22.0s
MVCO **Mesa Verde** 85.19 48 lAmb lAmb 14 49 56.2
comp=Z,165nm,1.2s
MVCO **Mesa Verde** 85.19 48 P P 14 49 54.7 +0.8
baz=308,SNR=54
ALN **Alexandroupoli** 85.22 316 lAMs_20 lAMs_20 15 31 46.0
comp=Z,433nm,21.0s
PIX **Pinacate** 85.25 55 lAmb lAmb 14 49 56.1
comp=Z,139nm,1.2s
BLKB **Belogradchik** 85.35 320 ⇑P P 14 49 55.1 +0.8
ISCO **Idaho Springs** 85.35 45 lAmb lAmb 14 49 57.4
comp=Z,128nm,1.1s
ISCO **Idaho Springs** 85.35 45 P P 14 49 56.1 +1.3
baz=309,SNR=85
ISCO **Idaho Springs** 85.35 45 P P 14 49 55.7 +1.0
baz=309
RZN **Rozhen** 85.46 318 P P 14 49 55.9 +0.8
214A **Organ Pipe Nat** 85.47 55 lAmb lAmb 14 49 57.6
comp=Z,154nm,1.2s
214A **Organ Pipe Nat** 85.47 55 P P 14 49 56.2 +1.2
baz=306,SNR=25
ZVC **Zvikov** 85.47 328 eP P 14 49 55.3 +0.6
ZVC eSKS S 15 00 20.1 -1.5
NKC **Novy Kostel** 85.64 330 eP P 14 49 56.5 +0.9
NKC **Novy Kostel** 85.64 330 eP P 14 49 56.5 +0.9

W18A **Petrified Fore** 85.66 51 P P 14 49 57.0 +0.8
baz=307,SNR=11
MORH **Mrgy, Hungar** 85.68 324 ⇑P P 14 49 56.1 +0.3
PLNA **Plana** 85.69 319 P P 14 49 57.0 +0.9
VTS **Vitosha** 85.70 319 P P 14 49 55.0 -1.2
RONA **Rosalia, Austr** 85.77 326 ePcP P 14 49 57.4 +1.1
comp=Z,85nm,1.3s,SNR=32
RONA ePP PP 14 53 12.9 -2.5
comp=Z,24nm,1.3s
RONA eS S 15 00 25.8 +1.1
comp=Z,1.7nm,0.6s
CONA **Conrad Observa** 85.81 326 ePcP P 14 49 57.1 +0.6
comp=Z,93nm,1.3s,SNR=41
CONA ePP PP 14 53 12.9 -2.9
comp=Z,14nm,1.3s
CONA eS S 15 00 27.1 +2.0
comp=Z,2.4nm,1.0s
FRGS **Fruska Gora** 85.82 322 ⇓P P 14 49 57.4 +0.8
FRGS **Fruska Gora** 85.82 322 eP P 14 49 56.4 -0.2
B35A **Bob, Littlefor** 85.84 33 P P 14 49 56.2 -0.3
baz=317,SNR=16
CKRC **Cesky Krumlov** 85.87 328 eP P 14 49 57.0 +0.2
CKRC eSKS SKSac 15 00 19.9 +2.3
CKRC AMS AMS 15 31 20.0
comp=Z,1μm,18.4s
CKRC **Cesky Krumlov** 85.87 328 eP P 14 49 57.0 +0.2
CKRC e 15 00 19.9
CKRC MLR MLR
comp=Z,1μm,18.4s
KHC **Kasperske Hory** 85.97 328 lAMs_20 lAMs_20 15 29 57.2
comp=Z,909nm,21.0s
KHC **Kasperske Hory** 85.97 328 eP P 14 49 57.6 +0.3
KHC ex x 14 50 16.6
KHC eSKS S 15 00 23.8 -2.8
KHC AMS AMS 15 32 30.0
comp=Z,2μm,16.2s
KHC **Kasperske Hory** 85.97 328 eP P 14 49 57.6 +0.3
KHC e 14 50 16.6
KHC e 15 00 23.8
KHC MLR MLR
comp=Z,2μm,16.2s
KPL **Plockton** 85.98 342 eP P 14 49 57.6 +0.6
KPL lAmb lAmb 14 49 59.4
comp=Z,115nm,1.0s
SUSD **Miller** 86.03 38 P P 14 49 57.9 +0.2
baz=313,SNR=6.2
SUSD **Miller** 86.03 38 P P 14 49 58.2 +0.5
baz=313
MMB **Musomishta** 86.12 318 P P 14 49 58.0 -0.1
GERES **GERESS Array B** 86.13 328 P P 14 49 58.4 +0.3
comp=Z,16nm,0.9s,baz=36,slow=7.2,SNR=20
GERES PP PP 14 53 20.4 +2.0
comp=Z,4.9nm,1.0s,baz=42,slow=11,SNR=4.6
GERES PKKPbc PKKPbc 15 07 56.8 +0.1
comp=Z,1.0nm,0.8s,baz=193,slow=4.0,SNR=4.6
GERES LR LR 15 30 36.6
comp=Z,936nm,21.0s,baz=44,slow=37
comp=Z,16nm,0.9s
Q24A **Divide** 86.16 45 P P 14 49 59.9 +1.2
baz=310,SNR=26
IVI **Ivigtut** 86.22 4 lAmb lAmb 14 50 03.1
comp=Z,73nm,1.0s
IVI **Ivigtut** 86.22 4 i P P 14 49 58.0 -0.1
IVI lAmb lAmb 14 50 03.9
comp=Z,40nm,0.9s
EIL **Elat** 86.27 303 P P 14 49 58.8 -0.2
comp=Z,24nm,0.8s,baz=64,slow=3.1,SNR=9.7
EIL LR LR 15 32 51.9
comp=Z,830nm,21.1s,baz=66,slow=39
comp=Z,24nm,0.8s
INVG **Invergeldie, C** 86.36 341 eP P 14 49 59.1 +0.2
INVG lAmb lAmb 14 50 03.4
comp=Z,123nm,1.3s
TEKS **Tekeris** 86.39 322 eP P 14 49 56.4 -3.0
F33A **5 Mile Ranch,** 86.42 36 lAMs_20 lAMs_20 15 20 14.9
comp=Z,668nm,19.0s
F33A **5 Mile Ranch,** 86.42 36 P P 14 50 00.3 +0.8
baz=315
ARSA **Arzberg** 86.46 326 ePcP P 14 50 00.2 +0.5
comp=Z,49nm,1.5s,SNR=24
ARSA eS S 15 00 33.5 +2.2
comp=Z,3.3nm,1.1s
GRA1 **Grafenberg Arr** 86.57 330 lAmb lAmb 14 50 06.1
comp=Z,148nm,1.3s
GRFO **Grafenberg** 86.57 330 P P 14 50 00.1 -0.1
GRFO lAmb lAmb 14 50 06.0
comp=Z,156nm,1.3s
GRFO **Grafenberg** 86.57 330 P P 14 50 00.1 -0.1
GRFO pmax pmax
comp=Z,156nm,1.3s
MOA **Molln** 86.61 327 ePcP P 14 50 00.8 +0.5
comp=Z,45nm,1.1s,SNR=17
MOA ePP PP 14 53 19.8 -2.4
comp=Z,16nm,1.8s
MOA S S 15 00 33.0 +0.2
comp=Z,11nm,1.9s
TUC **Tucson** 86.64 54 P P 14 50 01.2 +0.3
TUC **Tucson** 86.64 54 P P 14 50 01.8 +0.8
baz=307
TUC **Tucson** 86.64 54 P P 14 50 01.2 +0.3
TUC pmax pmax
comp=Z,84nm,1.4s
KOGS **Kog** 86.69 325 i P P 14 50 00.5 -0.3
KOGS i pP sP 14 50 20.0 -2.3
KOGS i sP pwP 14 50 31.4 +13
OGNE **Ogallala** 86.70 42 P P 14 50 01.7 +0.6
baz=311,SNR=15
OGNE **Ogallala** 86.70 42 P P 14 50 01.5 +0.5
baz=311,SNR=15
SDCO **Great Sand Dun** 86.72 47 lAmb lAmb 14 50 04.1
comp=Z,92nm,1.1s
SDCO **Great Sand Dun** 86.72 47 P P 14 50 02.5 +1.0
baz=309,SNR=51
LAWE **Loch Awe, Argy** 86.87 342 eP P 14 50 01.0 -0.4
K30B **Basset** 86.89 40 lAMs_20 lAMs_20 15 20 27.6
comp=Z,499nm,19.0s
K30B **Basset** 86.89 40 P P 14 50 02.5 +0.6
baz=313,SNR=8.8
BBLS **Lazi&#263i** 86.92 322 eP P 14 50 00.9 -1.2
VAY **Valandovo** 86.94 318 i P P 14 49 60.0 -2.1
HAPS **Han Pijesak,Bl** 87.01 322 eP P 14 50 01.8 -0.7
BIOA **Bad Ischl, Aus** 87.01 327 ePcP P 14 50 02.9 +0.5
comp=Z,56nm,1.4s,SNR=21
BIOA eS S 15 00 36.6 -0.1
comp=Z,21nm,1.8s
PGBU **Glenifferbraes** 87.02 341 eP P 14 50 02.7 +0.5
PGBU lAmb lAmb 14 50 07.6
comp=Z,176nm,1.0s
SJES **Sjenica** 87.04 321 eP P 14 50 01.7 -1.0
EKA **Eskdalemuir Ar** 87.07 340 P P 14 50 02.3 -0.1
comp=Z,19nm,0.7s,baz=27,slow=4.8,SNR=40
comp=Z,19nm,0.7s
ESK **Eskdalemuir** 87.09 340 eP P 14 50 02.8 +0.2
ESK lAmb lAmb 14 50 07.2
comp=Z,63nm,1.0s
ESK **Eskdalemuir** 87.09 340 P P 14 50 02.6 0.0
ESK **Eskdalemuir** 87.09 340 P P 14 50 02.6 0.0
ESK pmax pmax
comp=Z,64nm,1.1s
PERS **Pernice** 87.09 326 i P P 14 50 02.5 -0.3
SOKA **Soboth** 87.10 326 eP P 14 50 02.7 -0.2
comp=Z,74nm,1.7s,SNR=42
SOKA eS S 15 00 36.7 -1.1
comp=Z,6.0nm,1.6s
RUDO **Rudo** 87.11 322 eP P 14 50 01.5 -1.4
SKO **Skopje** 87.13 319 i P P 14 50 04.5 +1.5
EDMD **Edmundbyers** 87.15 339 eP P 14 50 02.9 0.0
EDMD lAmb lAmb 14 50 07.2
comp=Z,104nm,1.2s
EYMN **Ely** 87.16 32 lAmb lAmb 14 50 04.6
comp=Z,121nm,1.2s
EYMN **Ely** 87.16 32 P P 14 50 03.2 +0.2
baz=318,SNR=16
EYMN **Ely** 87.16 32 P P 14 50 02.8 -0.2
baz=318,SNR=16
A051A **Mrakovica** 87.39 324 eP P 14 50 02.2 -2.1
BLY **Banja Luka** 87.44 324 eP P 14 50 04.4 -0.1
OBKA **Obir** 87.45 326 ePP PP 14 53 18.1 -11
comp=Z,3.3nm,0.9s
OBKA PP PP 14 53 32.8 +3.7
comp=Z,23nm,1.2s
OBKA eS S 15 00 39.6 -1.6
comp=Z,12nm,1.8s
OBKA **Obir** 87.45 326 eP P 14 50 03.4 -1.2
NEWG **New Galloway** 87.56 341 eP P 14 50 04.8 0.0
NEWG lAmb lAmb 14 50 06.0

comp=Z,49nm,1.1s
KBA **Koelnbreinsper** 87.60 327 eP P 14 50 04.6 -0.8
comp=Z,19nm,1.1s,SNR=10
KBA ePP PP 14 53 30.9 +0.6
comp=Z,26nm,1.6s
KSCO **Kaye Shedlock'** 87.63 44 P P 14 50 06.4 +0.8
baz=311,SNR=13
KSCO **Kaye Shedlock'** 87.63 44 P P 14 50 06.0 +0.3
baz=311,SNR=13
LESA **Schwarzleotal** 87.64 328 eP P 14 50 04.8 -0.7
comp=Z,37nm,1.5s
KESW **Keswick, Cumbr** 87.70 340 eP P 14 50 05.7 +0.3
MGRS **Mrkonjic Grad** 87.73 323 eP P 14 50 05.9 0.0
ECSD **EROS Data Cent** 87.74 38 lAmb lAmb 14 50 07.5
comp=Z,176nm,1.1s
F36A **Milaca** 87.75 35 lAMs_20 lAMs_20 15 26 49.1
comp=Z,559nm,21.0s
F36A **Milaca** 87.75 35 P P 14 50 05.7 -0.3
baz=317,SNR=15
T25A **Trinidad** 87.78 47 lAmb lAmb 14 50 09.0
comp=Z,130nm,1.3s
T25A **Trinidad** 87.78 47 P P 14 50 07.5 +1.1
baz=310,SNR=34
MYKA **Terra Mystica** 87.79 327 eP P 14 50 05.4 -0.8
comp=Z,22nm,0.8s,SNR=6.6
MYKA PP PP 14 53 33.8 +2.0
comp=Z,38nm,1.6s
HPK **Haverah Park** 87.80 339 eP P 14 50 06.5 +0.5
LMK **Market Rasen** 87.83 338 eP P 14 50 06.5 +0.4
BOJS **Bojanci** 87.85 325 eP P 14 50 05.8 -0.6
ANMO **Albuquerque** 87.89 49 P P 14 50 07.2 +0.2
ANMO **Albuquerque** 87.89 49 P P 14 50 07.9 +0.8
baz=309
ANMO **Albuquerque** 87.89 49 P P 14 50 07.8 +0.8
baz=309,SNR=49
ANMO **Albuquerque** 87.89 49 i P P 14 50 06.8 -0.2
ANMO pmax pmax
comp=Z,38nm,1.1s
ANMO **Albuquerque** 87.89 49 LR LR 15 26 53.7
comp=Z,530nm,19.0s,baz=40,slow=34
GAL1 **Galloway** 87.91 341 eP P 14 50 06.3 -0.1
GAL1 lAmb lAmb 14 50 08.2
comp=Z,104nm,1.2s
BTNL **Ternell** 87.93 333 dP P 14 50 06.3 -0.4
comp=Z,20nm,1.4s
BEBN **Eben Emael** 87.94 333 dP P 14 50 06.7 +0.1
comp=Z,41nm,0.0s
A050A **Klekovaca** 87.96 324 eP P 14 50 06.6 -0.4
MEM **Membach** 87.96 333 dP P 14 50 06.3 -0.5
comp=Z,25nm,1.2s
BRY **Bratogost** 88.05 322 eP P 14 50 06.3 -1.3
OHR **Ohrid** 88.06 319 i P P 14 50 08.6 +1.0
CEY **Cerknica** 88.08 326 i P P 14 50 06.7 -0.8
CEY epP sP 14 50 26.4 -2.6
CEY eSKSac SKSac 15 00 25.5 -5.8
CEY i S SKKSac 15 00 43.1 +1.4
CEY **Cerknica** 88.08 326 eP P 14 50 02.3 -5.2
E38A **The Farm, Brul** 88.13 33 lAmb lAmb 14 50 09.0
comp=Z,160nm,1.1s
E38A **The Farm, Brul** 88.13 33 P P 14 50 07.5 -0.2
baz=318,SNR=34
Y22D **IRIS PASSCAL I** 88.13 50 lAMs_20 lAMs_20 15 19 04.3
comp=Z,876nm,20.0s
Y22D **IRIS PASSCAL I** 88.13 50 P P 14 50 09.1 +0.9
baz=309
Y22F **Passcal Instru** 88.13 50 P P 14 50 09.0 +0.8
baz=309
WACR **West Acre** 88.14 337 eP P 14 50 07.2 -0.3
WACR lAmb lAmb 14 50 11.8
comp=Z,206nm,1.2s
BSTI **Sart Tilman** 88.15 333 dP P 14 50 08.3 +0.7
BHOU **Houvegnez** 88.17 333 dP P 14 50 08.3 +0.5
Y22A **Socorro** 88.19 50 P P 14 50 09.2 +0.7
baz=309,SNR=16
WATA **Walderalm** 88.20 328 eP P 14 50 07.8 -0.4
comp=Z,38nm,1.7s,SNR=11
WATA ePP PP 14 53 31.2 -3.9
comp=Z,22nm,1.2s
WATA S S 15 00 44.9 -3.4
comp=Z,13nm,2.0s
DRME **Dracevica, Mon** 88.20 321 eP P 14 50 07.7 -0.4
ABTA **Abfaltersbach** 88.22 327 eP P 14 50 07.3 -1.0
comp=Z,31nm,0.9s,SNR=16
ABTA ePP PP 14 53 35.7 +0.5
comp=Z,2.4nm,0.9s
ABTA eS S 15 00 44.6 -3.8
comp=Z,13nm,1.3s
WTTA **Wattenberg** 88.23 328 i P P 14 50 08.0 -0.4
comp=Z,14nm,0.8s
WTTA PP PP 14 53 32.8 -2.6
comp=Z,16nm,1.2s
WTTA S S 15 00 50.2 +1.5
comp=Z,16nm,1.6s
SABO **M.te Sabotino** 88.29 326 lAmb lAmb 14 50 11.8
comp=Z,55nm,1.2s
SABO lAMs_20 lAMs_20 15 33 50.1
comp=Z,2μm,18.0s
LBWR **Ladybower, Pea** 88.31 339 eP P 14 50 08.5 +0.1
LBWR lAmb lAmb 14 50 13.1
comp=Z,188nm,1.2s
RICI **Ricice** 88.36 323 i P P 14 50 07.7 -1.2
KIJV **Kijevo** 88.36 323 i P P 14 50 08.3 -0.6
BCLA **Clavier** 88.38 333 dP P 14 50 08.2 -0.6
comp=Z,18nm,0.0s
HCY **Herceg Novi** 88.39 321 eP P 14 50 08.7 -0.3
KBN **Korca** 88.40 319 lAMs_20 lAMs_20 15 34 03.1
comp=Z,773nm,20.0s
MOTA **Moosalm** 88.41 328 eP P 14 50 08.7 -0.5
comp=Z,17nm,1.0s
MOTA PP PP 14 53 33.8 -3.0
comp=Z,9.2nm,1.2s
DBRK **Dubrovnik** 88.42 322 i P P 14 50 09.2 0.0
RETA **Reutte** 88.45 329 eP P 14 50 09.0 -0.3
comp=Z,54nm,1.3s,SNR=22
RETA eS S 15 00 50.4 -0.2
comp=Z,6.5nm,1.6s
SQTA **Sankt Quirin** 88.45 328 eP P 14 50 08.8 -0.6
comp=Z,20nm,1.2s,SNR=5.3
SQTA ePP PP 14 53 38.0 +0.9
comp=Z,21nm,1.6s
MSEY **Mahe Island** 88.47 264 P P 14 50 09.7 -0.2
MSEY **Mahe Island** 88.47 264 i P P 14 50 09.8 -0.1
SNR=5.5
MSEY **Mahe Island** 88.47 264 P P 14 50 09.7 -0.2
MSEY pmax pmax
comp=Z,54nm,1.3s
MSEY **Mahe Island** 88.47 264 P P 14 50 10.8 +0.9
BGES **Gesves** 88.49 333 dP P 14 50 09.5 +0.2
comp=Z,17nm,1.3s
STON **Ston** 88.51 322 i P P 14 50 08.0 -1.5
STON **Ston** 88.51 322 eP P 14 50 06.4 -3.1
121A **Cookes Peak, D** 88.52 52 lAmb lAmb 14 50 14.1
comp=Z,156nm,1.9s
121A **Cookes Peak, D** 88.52 52 P P 14 50 11.1 +1.0
baz=308,SNR=24
121A **Cookes Peak, D** 88.52 52 P P 14 50 11.0 +1.0
baz=308,SNR=24
BGNE **Belgrade** 88.55 40 lAmb lAmb 14 50 11.2
comp=Z,137nm,0.9s
BGNE **Belgrade** 88.55 40 P P 14 50 09.7 -0.2
baz=314,SNR=12
BGNE **Belgrade** 88.55 40 P P 14 50 09.7 -0.2
baz=314,SNR=12
MAKA **Makarska** 88.56 323 i P P 14 50 08.3 -1.4
SPMN **Marine on St.** 88.57 35 lAmb lAmb 14 50 11.5
comp=Z,164nm,1.2s
SPMN **Marine on St.** 88.57 35 P P 14 50 10.3 +0.5
baz=317,SNR=17
SPMN **Marine on St.** 88.57 35 P P 14 50 10.1 +0.3
baz=317,SNR=17
SRIG **Santa Rosalia** 88.58 58 lAmb lAmb 14 50 12.7
comp=Z,247nm,1.7s
RCHB **Rochefort** 88.62 333 dP P 14 50 10.1 +0.2
comp=Z,19nm,1.3s
WLF **Walferdange** 88.66 332 lAmb lAmb 14 50 15.1
comp=Z,114nm,1.5s
WLF **Walferdange** 88.66 332 dP P 14 50 11.0 +0.8
comp=Z,18nm,1.5s
BMRD **Maredsous** 88.68 334 dP P 14 50 10.5 +0.3
comp=Z,25nm,1.1s
CWF **Charnwood Fore** 88.75 338 eP P 14 50 10.4 -0.1
MORI **Morici** 88.81 324 i P P 14 50 08.3 -2.7
FETA **Feichten** 88.82 328 eP P 14 50 10.4 -0.8
comp=Z,23nm,1.1s
FETA ePP PP 14 53 37.9 -2.2
comp=Z,19nm,1.2s
GIVF **Givet** 88.82 333 P P 14 50 10.7 -0.2

VIRC Vir 88.83 324 *i* P P 14 50 09.3 -1.7
BFO Black Forest 88.84 330 P P 14 50 10.2 -0.9
BFO Black Forest 88.84 330 P P 14 50 10.2 -0.9
BFO pmax pmax
comp=Z,88nm,1.6s
DOU Dourbes 88.91 333 *d*P P 14 50 11.6 +0.3
comp=Z,14nm,1.4s
HVAR Hvar 88.93 323 *i* P P 14 50 09.2 -2.4
DAVA Damuels 88.99 329 *e*P P 14 50 11.6 -0.3
comp=Z,70nm,1.5s,SNR=5.2
DAVA *e*PP PP 14 53 38.3 -3.1
comp=Z,13nm,1.2s
LSTV Lastovo 89.00 322 *i* P P 14 50 10.3 -1.5
ZIRJ Zirje 89.00 324 *i* P P 14 50 10.5 -1.4
DUGI Dugi Otok 89.05 324 *i* P P 14 50 11.0 -1.1
BAIF Baives 89.08 334 P P 14 50 12.0 -0.1
L34A Svendsen Farm, 89.11 39 P P 14 50 12.8 +0.3
baz=315,SNR=19
D41A Chassel 89.13 31 P P 14 50 12.9 +0.5
baz=320,SNR=12
I37B Waseca 89.16 36 P P 14 50 13.4 +0.8
baz=317,SNR=14
FOEL Foel Wylfa 89.20 339 *e*P P 14 50 13.0 +0.4
FOEL IAmb IAmb 14 50 17.4
comp=Z,84nm,1.0s
WLF1 Llynfaes 89.21 340 *e*P P 14 50 12.6 0.0
YLL Llanberis 89.27 340 *e*P P 14 50 12.6 -0.3
FUORN Ofenpass-Fuorn 89.33 328 IAmb IAmb 14 50 18.4
comp=Z,80nm,1.1s
FUORN IAMs_20 IAMs_20 15 33 22.1
comp=Z,803nm,20.0s
DAVOX Davos/Dischmat 89.38 329 PKKPbc PKKPbc 15 07 48.8 -0.2
comp=Z,0.8nm,0.4s,baz=11,slow=21,SNR=4.5
DAVOX LR LR 15 34 38.8
comp=Z,1µm,18.9s,baz=46,slow=38
N33A J Bar K, Exete 89.40 40 IAmb IAmb 14 50 14.7
comp=Z,64nm,0.9s
N33A IAMs_20 IAMs_20 15 28 38.0
comp=Z,676nm,22.0s
ECH Echery 89.41 331 IAMs_20 IAMs_20 15 33 36.0
comp=Z,870nm,20.0s
HLM1 Long Mynd 89.43 339 *e*P P 14 50 13.6 -0.1
CBKS Cedar Bluff 89.44 43 P P 14 50 14.2 +0.1
baz=313,SNR=20
CBKS Cedar Bluff 89.44 43 P P 14 50 13.8 -0.3
baz=313,SNR=20
IDI Anoyia 89.53 313 P P 14 50 13.0 -1.6
comp=Z,0.3nm,0.7s,baz=26,slow=9.2,SNR=9.6
IDI LR LR 15 35 48.2
comp=Z,6.9nm,18.5s,baz=66,slow=39
COWI Conover 89.61 32 IAmb IAmb 14 50 16.3
comp=Z,106nm,1.1s
COWI Conover 89.61 32 P P 14 50 14.9 +0.2
baz=320
SCHQ Schefferville 89.72 16 P P 14 50 15.8 +0.8
comp=Z,28nm,0.9s,baz=342,slow=9.7,SNR=13
SCHQ LR LR 15 34 57.5
comp=Z,241nm,18.5s,baz=346,slow=38
comp=Z,28nm,0.9s
G40A Rib Lake 89.76 33 IAmb IAmb 14 50 17.1
comp=Z,110nm,1.1s
G40A Rib Lake 89.76 33 P P 14 50 15.9 +0.5
baz=319,SNR=21
DSB Dublin 89.81 341 IAmb IAmb 14 50 46.6
comp=Z,115nm,2.0s
EPT El Paso 89.84 52 IAMs_20 IAMs_20 15 26 46.7
comp=Z,842nm,20.0s
STRD Stroud 89.85 338 *e*P P 14 50 15.7 +0.1
STRD IAmb IAmb 14 50 20.1
comp=Z,195nm,1.1s
TUE Stuetta 89.85 329 IAmb IAmb 14 50 21.3
comp=Z,198nm,1.9s
MCH1 Michaelchurch 89.92 339 *e*P P 14 50 16.0 +0.1
MCH1 IAmb IAmb 14 50 18.4
comp=Z,44nm,0.8s
MONM Monmouth 89.99 338 *e*P P 14 50 16.2 -0.1
MONM IAmb IAmb 14 50 20.6
comp=Z,86nm,1.1s
N35A Tabor 90.28 39 IAmb IAmb 14 50 19.8
comp=Z,116nm,1.1s
N35A Tabor 90.28 39 P P 14 50 18.1 +0.2
baz=316,SNR=9.7
R32A Long Quarter, 90.29 43 IAmb IAmb 14 50 20.5
comp=Z,62nm,1.1s
R32A Long Quarter, 90.29 43 P P 14 50 17.7 -0.4
baz=314,SNR=8.9
SGRT San Giovanni R 90.32 322 IAmb IAmb 14 50 22.5
comp=Z,55nm,0.9s
F42A Maple Grove Fa 90.32 32 IAmb IAmb 14 50 19.8
comp=Z,83nm,1.2s
F42A Maple Grove Fa 90.32 32 P P 14 50 18.5 +0.5
baz=321,SNR=5.2
E43A Lone Tree Farm 90.34 31 IAmb IAmb 14 50 19.8
comp=Z,146nm,1.1s
E43A Lone Tree Farm 90.34 31 P P 14 50 18.3 +0.2
baz=322,SNR=25
ATD Arta Tunnel 90.36 284 IAmb IAmb 14 50 24.5
comp=Z,116nm,1.3s
K38A Parkersburg 90.47 36 IAmb IAmb 14 50 20.6
comp=Z,161nm,1.4s
K38A Parkersburg 90.47 36 P P 14 50 19.2 +0.4
baz=317,SNR=5.2
RSBS Rosebush, Pemb 90.48 339 *e*P P 14 50 18.1 -0.5
GUMA Gualdo di Mace 90.58 324 IAmb IAmb 14 50 26.0
comp=Z,83nm,1.2s
GUMA IAMs_20 IAMs_20 15 34 22.3
comp=Z,2µm,21.0s
I40A Norwalk 90.60 34 IAMs_20 IAMs_20 15 28 14.4
comp=Z,749nm,21.0s
I40A Norwalk 90.60 34 P P 14 50 19.5 +0.2
baz=319,SNR=5.6
MNTX Cornudas Mount 90.63 51 P P 14 50 20.4 +0.6
baz=310,SNR=43
MNTX Cornudas Mount 90.63 51 P P 14 50 20.1 +0.4
baz=310,SNR=43
ZCCA Zocca 90.74 327 IAmb IAmb 14 50 46.9
comp=Z,102nm,1.2s
SCIA State Center 90.79 37 P P 14 50 21.1 +0.9
baz=317,SNR=7.1
SCIA State Center 90.79 37 P P 14 50 21.2 +0.9
baz=317,SNR=7.1
MSTX Muleshoe 90.84 48 IAmb IAmb 14 50 22.5
comp=Z,86nm,1.5s
MSTX Muleshoe 90.84 48 P P 14 50 21.0 +0.2
baz=311,SNR=9.6
MSTX Muleshoe 90.84 48 P P 14 50 21.0 +0.2
baz=311,SNR=9.6
NRCA Norcia 90.86 324 IAmb IAmb 14 50 26.0
comp=Z,168nm,1.6s
AMTX Amarillo 90.92 47 P P 14 50 22.0 +0.9
baz=312
AMTX Amarillo 90.92 47 P P 14 50 22.1 +0.9
baz=312,SNR=38
CAMP Campotosto 90.93 324 IAmb IAmb 14 53 03.0
comp=Z,65nm,0.8s
KSU1 Kansas State U 91.00 41 P P 14 50 21.6 +0.3
baz=315,SNR=17
KSU1 Kansas State U 91.00 41 P P 14 50 21.5 +0.1
baz=315,SNR=17
OSSC Osservatorio P 91.24 326 IAMs_20 IAMs_20 15 37 59.8
comp=Z,776nm,18.0s
I42A Draeger Farm, 91.40 33 IAmb IAmb 14 50 24.8
comp=Z,82nm,1.1s
I42A Draeger Farm, 91.40 33 P P 14 50 23.0 -0.1
baz=320,SNR=8.1
VHRN Van Horn 91.47 52 IAmb IAmb 14 50 26.3
comp=Z,144nm,1.3s
E46A Sault Ste Mari 91.48 29 P P 14 50 23.9 +0.5
baz=323,SNR=23
CLF Chambon-Foret 91.49 334 IAmb IAmb 14 50 29.2
comp=Z,150nm,1.5s
JFWS Jewell Farm 91.52 35 IAMs_20 IAMs_20 15 29 03.6
comp=Z,712nm,22.0s
JFWS Jewell Farm 91.52 35 P P 14 50 23.7 +0.1
baz=319
JFWS Jewell Farm 91.52 35 P P 14 50 23.5 -0.1
baz=319
U32A Winter Ranch, 91.53 44 P P 14 50 24.5 +0.6
baz=313,SNR=8.4
N38A Joes South For 91.60 38 P P 14 50 24.3 +0.3
baz=317,SNR=7.9
L40A Anamosa 91.68 36 IAmb IAmb 14 50 25.8
comp=Z,139nm,1.3s
L40A Anamosa 91.68 36 P P 14 50 24.6 +0.2
baz=318,SNR=11
OK032 Salt Plains WL 91.70 43 IAMs_20 IAMs_20 15 34 37.1
comp=Z,542nm,21.0s
LPL La Plagne 91.73 330 P P 14 50 24.7 -0.1
LPG La Plagne 91.74 330 P P 14 50 24.9 0.0
PECS Pecos 91.83 51 IAmb IAmb 14 50 27.6
comp=Z,118nm,1.2s
LPIG La Paz 91.89 60 LR LR 15 29 29.4
comp=Z,440nm,18.3s,baz=300,slow=34
G45A Suttons Bay 91.97 31 P P 14 50 25.8 +0.2
baz=322,SNR=7.2
G45A P P 14 50 25.8 +0.2
baz=322,SNR=7.2
SMF Signal de Mont 92.01 332 P P 14 50 25.6 -0.2
ODSA Odessa 92.20 49 IAmb IAmb 14 50 29.1
comp=Z,134nm,1.2s
POST Post 92.24 48 IAmb IAmb 14 50 29.2
comp=Z,143nm,1.3s
P38A Dawn 92.29 39 IAmb IAmb 14 50 30.1
comp=Z,56nm,0.9s
P38A Dawn 92.29 39 P P 14 50 27.7 +0.4
baz=317,SNR=25
SLBS Sierra La Lagu 92.41 60 P P 14 50 28.8 +0.6
L42A Oliver, Polo 92.48 35 IAmb IAmb 14 50 29.3
comp=Z,65nm,1.1s
L42A Oliver, Polo 92.48 35 P P 14 50 27.8 -0.2
baz=320,SNR=5.8
MNHN Monahans 92.57 50 IAmb IAmb 14 50 30.9
comp=Z,90nm,1.2s
GLMI Grayling 92.59 30 P P 14 50 29.3 +0.8
baz=323,SNR=11
GLMI Grayling 92.59 30 P P 14 50 29.1 +0.5
baz=323,SNR=11
T35B Sooner Cattle 92.59 42 P P 14 50 29.3 +0.6
baz=315,SNR=26
SN07 Snyder 07 92.60 48 IAmb IAmb 14 50 30.7
comp=Z,94nm,1.2s
ALPN Alpine 92.62 51 IAmb IAmb 14 50 31.4
comp=Z,107nm,1.2s
VLDQ Val d'Or 92.65 24 IAmb IAmb 14 50 29.5
comp=Z,150nm,1.8s
SN05 Snyder 5 92.75 48 IAmb IAmb 14 50 31.2
comp=Z,89nm,1.1s
WMOK Wichita Mounta 92.78 45 P P 14 50 29.9 +0.3
baz=313,SNR=45
WMOK Wichita Mounta 92.78 45 P P 14 50 30.2 +0.5
baz=313,SNR=45
OK033 Mehan 92.96 43 IAMs_20 IAMs_20 15 33 41.6
comp=Z,717nm,22.0s
OK052 Battle Ridge R 93.07 43 IAMs_20 IAMs_20 15 33 25.6
comp=Z,681nm,21.0s
VIVF Saint-Julien-l 93.13 330 P P 14 50 30.8 -0.3
P40A Paris 93.14 38 IAmb IAmb 14 50 32.9
comp=Z,97nm,1.1s
P40A IAMs_20 IAMs_20 15 31 08.9
comp=Z,798nm,19.0s
P40A Paris 93.14 38 P P 14 50 31.6 +0.5
baz=318,SNR=21
L44A Lake County Fo 93.19 34 P P 14 50 31.4 +0.1
baz=321
TX31 Lajitas Ar. Si 93.28 52 P P 14 50 32.9 +0.8
baz=310
TXAR Lajitas Array 93.28 52 P P 14 50 32.7 +0.5
comp=Z,104nm,0.9s,baz=305,slow=3.2,SNR=332
TXAR LR LR 15 29 46.9
comp=Z,436nm,18.6s,baz=310,slow=34
QUIF Quistinic 93.51 337 P P 14 50 32.5 -0.2
ABTX Abilene, Hawle 93.69 47 P P 14 50 34.7 +0.8
baz=313,SNR=35
TUL3 Leonard 93.71 43 IAmb IAmb 14 50 35.6
comp=Z,105nm,1.1s
TUL3 Leonard 93.71 43 P P 14 50 34.1 +0.3
baz=315,SNR=17
M44A Midewin, Midew 93.74 35 IAmb IAmb 14 50 35.4
comp=Z,115nm,1.1s
HDIL Hopedale 93.77 36 P P 14 50 34.2 +0.1
baz=320
HDIL Hopedale 93.77 36 P P 14 50 34.6 +0.5
baz=320
J47A Sunmer 93.77 32 IAmb IAmb 14 50 35.9
comp=Z,108nm,1.2s
J47A Sunmer 93.77 32 P P 14 50 34.8 +0.8
baz=323
J47A P P 14 50 34.8 +0.8
baz=323
S39A Bolivar 93.81 40 IAmb IAmb 14 50 35.2
comp=Z,66nm,1.1s
S39A Bolivar 93.81 40 P P 14 50 33.6 -0.7
baz=317,SNR=25
SAND Sanderson 93.89 51 IAmb IAmb 14 50 36.9
comp=Z,119nm,1.3s
OZNA Ozona 93.90 49 IAmb IAmb 14 50 36.4
comp=Z,61nm,1.1s
R40A Maddies Statio 93.94 39 IAmb IAmb 14 50 36.1
comp=Z,85nm,1.1s
R40A Maddies Statio 93.94 39 P P 14 50 34.8 0.0
baz=318,SNR=26
RLO Rose Lookout 93.97 42 IAmb IAmb 14 50 36.7
comp=Z,87nm,1.2s
U38A Gravette 94.13 42 IAmb IAmb 14 50 37.2
comp=Z,73nm,1.1s
U38A Gravette 94.13 42 P P 14 50 35.3 -0.5
baz=316,SNR=25
LOOK Love County 94.25 45 IAmb IAmb 14 50 38.0
comp=Z,103nm,1.2s
P43A Skaggs, Pawnee 94.35 37 IAmb IAmb 14 50 38.1
comp=Z,93nm,1.1s
FW03 Perrin-Whitt E 94.38 46 IAmb IAmb 14 50 38.9
comp=Z,123nm,1.2s
HHAR Hobbs 94.50 41 IAmb IAmb 14 50 39.8
comp=Z,160nm,1.9s
CCM Cathedral Cave 94.66 39 P P 14 50 37.8 -0.3
CCM IAmb IAmb 14 50 39.5
comp=Z,79nm,1.1s
CCM Cathedral Cave 94.66 39 P P 14 50 38.3 +0.1
baz=318
CCM Cathedral Cave 94.66 39 P P 14 50 38.2 +0.1
baz=318,SNR=22
CCM Cathedral Cave 94.66 39 P P 14 50 37.8 -0.3
CCM pmax pmax
comp=Z,79nm,1.1s
Z35A Perchaven, San 94.67 45 P P 14 50 38.5 +0.2
baz=314,SNR=19
FW06 Azle 94.73 46 IAmb IAmb 14 50 40.5
comp=Z,114nm,1.2s
SLM Saint Louis 94.75 38 IAmb IAmb 14 50 39.8
comp=Z,80nm,1.1s
MGMO Mountain Grove 94.78 40 IAmb IAmb 14 50 39.7
comp=Z,51nm,1.1s
FW07 Weatherford 94.78 46 IAmb IAmb 14 50 40.9
comp=Z,131nm,1.2s
SADO Sadowa 94.86 27 IAmb IAmb 14 50 40.0
comp=Z,58nm,1.2s
SADO Sadowa 94.86 27 LR LR 15 36 28.6
comp=Z,278nm,19.5s,baz=46,slow=37
X37A Clayton 94.89 43 IAmb IAmb 14 50 40.9
comp=Z,61nm,1.2s
X37A Clayton 94.89 43 P P 14 50 39.4 +0.1
baz=316,SNR=11
SFIN Lafayette 94.97 35 IAmb IAmb 14 50 41.1
comp=Z,64nm,1.2s
SFIN Lafayette 94.97 35 P P 14 50 39.3 -0.3
baz=321
SFIN Lafayette 94.97 35 P P 14 50 40.2 +0.6
baz=321
L48A N Adams 94.97 32 IAmb IAmb 14 50 41.1
comp=Z,87nm,1.1s
L48A N Adams 94.97 32 P P 14 50 39.4 -0.2
baz=323
L48A P P 14 50 39.4 -0.2
baz=323
AAM Ann Arbor 95.03 31 P P 14 50 39.6 -0.2
baz=324
JCT Junction City 95.04 49 P P 14 50 40.5 +0.4
baz=313,SNR=21
JCT Junction City 95.04 49 P P 14 50 40.0 -0.1
baz=313
U40A Yellville 95.04 41 P P 14 50 39.7 -0.3
baz=317,SNR=40
U40A P P 14 50 39.7 -0.3
baz=317,SNR=40
K50A Casco 95.10 30 IAmb IAmb 14 50 41.5
comp=Z,57nm,1.1s
FVM French Village 95.14 38 IAmb IAmb 14 50 41.8
comp=Z,53nm,1.2s
FVM French Village 95.14 38 P P 14 50 40.2 -0.2
baz=319,SNR=11
Q44A Meyer Farm, Va 95.17 37 IAmb IAmb 14 50 41.9
comp=Z,70nm,1.1s
Q44A Meyer Farm, Va 95.17 37 P P 14 50 40.6 +0.1
baz=320,SNR=5.2
N47A Urbana 95.24 33 IAmb IAmb 14 50 42.0
comp=Z,73nm,1.2s
N47A Urbana 95.24 33 P P 14 50 40.8 +0.1
baz=322
N47A P P 14 50 40.8 +0.1
baz=322
TRQ Mont Tremblant 95.28 24 IAmb IAmb 14 50 42.1
comp=Z,59nm,1.2s
LMQ La Malbaie 95.45 21 IAmb IAmb 14 50 43.1
comp=Z,51nm,1.1s
WHTX Lake Whitney, 95.47 46 P P 14 50 42.7 +0.7
baz=314,SNR=20
WHTX Lake Whitney, 95.47 46 P P 14 50 42.4 +0.4
baz=314,SNR=20
P46A Rosedale 95.51 35 IAmb IAmb 14 50 43.6
comp=Z,51nm,1.1s
P46A Rosedale 95.51 35 P P 14 50 42.4 +0.4
baz=321
DELO Deloro Mine 95.66 26 IAmb IAmb 14 50 43.7
comp=Z,50nm,1.2s
OLIL Olney 95.75 36 IAmb IAmb 14 50 44.7
comp=Z,78nm,1.1s
OLIL Olney 95.75 36 P P 14 50 43.6 +0.5
baz=320,SNR=8.2
N49A Columbus Grove 95.90 33 IAmb IAmb 14 50 45.1
comp=Z,57nm,1.1s
N49A Columbus Grove 95.90 33 P P 14 50 44.1 +0.3
baz=323,SNR=7.2
N49A P P 14 50 44.1 +0.3
baz=323,SNR=7.2
MIAR Mount Ida 95.95 42 IAmb IAmb 14 50 45.8
comp=Z,93nm,1.1s
MIAR Mount Ida 95.95 42 P P 14 50 44.3 +0.1
baz=317,SNR=33
S44A Carbondale 95.96 38 IAmb IAmb 14 50 45.5
comp=Z,55nm,1.2s
S44A Carbondale 95.96 38 P P 14 50 44.4 +0.3
baz=320,SNR=6.2
SIUC Southern Illin 95.97 38 IAmb IAmb 14 50 45.5
comp=Z,58nm,1.2s
O48B Farmland 95.99 34 IAmb IAmb 14 50 45.4
comp=Z,47nm,1.1s
O48B Farmland 95.99 34 P P 14 50 44.0 -0.2
baz=323,SNR=5.9
O48B Farmland 95.99 34 P P 14 50 42.8 -1.4
baz=323,SNR=5.9
HNDO Hondo 96.01 49 IAmb IAmb 14 50 46.5
comp=Z,59nm,1.2s
PBMO Poplar Bluff 96.04 39 IAmb IAmb 14 50 45.9
comp=Z,71nm,1.2s
PBMO Poplar Bluff 96.04 39 P P 14 50 44.8 +0.4
baz=319,SNR=16
WBO Williamsburg 96.10 25 IAmb IAmb 14 50 45.5
comp=Z,41nm,1.1s
435B Jarrell 96.23 47 IAmb IAmb 14 50 47.2
comp=Z,80nm,1.3s
435B Jarrell 96.23 47 P P 14 50 45.8 +0.3
baz=314
435B Jarrell 96.23 47 P P 14 50 46.9 +1.4
baz=314
J54A Appleton 96.32 28 P P 14 50 46.2 +0.6
baz=328
J54A P P 14 50 46.2 +0.6
baz=328
237A Washetta, Mont 96.46 45 IAmb IAmb 14 50 48.6
comp=Z,106nm,1.6s
P48A Milroy 96.49 34 IAmb IAmb 14 50 50.9
comp=Z,91nm,1.6s
BMNY Brushton-Moira 96.51 24 P P 14 50 45.4 -1.1
baz=331,SNR=6.0
LONY Lake Ozonia 96.67 25 P P 14 50 47.0 -0.2
baz=331
833A Chaparral WMA, 96.75 50 P P 14 50 48.6 +0.7
baz=313,SNR=8.7
P49A Miami Univ. Ec 96.77 34 IAmb IAmb 14 50 48.9
comp=Z,59nm,1.2s
P49A Miami Univ. Ec 96.77 34 P P 14 50 47.5 -0.2
baz=323
P49A Miami Univ. Ec 96.77 34 P P 14 50 47.0 -0.8
baz=323
WLAR White Oak Lake 96.84 43 IAmb IAmb 14 50 49.9
comp=Z,87nm,1.2s
ACSO Alum Creek Sta 97.00 32 IAmb IAmb 14 50 50.1
comp=Z,47nm,1.1s
ACSO Alum Creek Sta 97.00 32 P P 14 50 48.7 -0.1
baz=324,SNR=5.8
ACSO Alum Creek Sta 97.00 32 P P 14 50 49.0 +0.2
baz=324,SNR=5.8
M53A WI Miller and 97.02 30 P P 14 50 48.5 -0.4
baz=326
WCI Wyandotte Cave 97.04 35 P P 14 50 48.6 -0.3
WCI IAmb IAmb 14 50 49.9
comp=Z,51nm,1.4s
WCI Wyandotte Cave 97.04 35 P P 14 50 49.1 +0.1
baz=322
WCI Wyandotte Cave 97.04 35 P P 14 50 48.7 -0.3
baz=322,SNR=6.9
WCI Wyandotte Cave 97.04 35 P P 14 50 48.7 -0.3
WCI pmax pmax
comp=Z,51nm,1.4s
F62A Pittston Farm, 97.05 21 IAmb IAmb 14 50 50.7
comp=Z,64nm,1.2s
WVNY West Valley, N 97.06 28 IAmb IAmb 14 50 50.6
comp=Z,56nm,1.2s
WVNY West Valley, N 97.06 28 P P 14 50 48.4 -0.7
baz=328
J57A Williamstown 97.21 26 P P 14 50 50.2 +0.5
baz=330
J57A P P 14 50 50.2 +0.5
baz=330
MLDN Muldoon 97.24 48 IAmb IAmb 14 50 52.3
comp=Z,108nm,1.3s
NATX Nacogdoches 97.32 45 P P 14 50 50.9 +0.5
baz=316
NCB Newcomb 97.36 25 P P 14 50 50.5 +0.2
baz=331
J58A Remsen 97.52 26 P P 14 50 50.6 -0.5
baz=330,SNR=5.3
J58A P P 14 50 50.6 -0.5
baz=330,SNR=5.3
R49A Shelbyville 97.53 35 P P 14 50 51.1 -0.1
baz=322
R49A P P 14 50 51.1 -0.1
baz=322
P51A Williamsport 97.57 33 P P 14 50 51.2 -0.2
baz=324
P51A P P 14 50 51.2 -0.2
baz=324
T47A Sharon Grove 97.60 37 IAmb IAmb 14 50 53.1
comp=Z,45nm,1.2s
T47A Sharon Grove 97.60 37 P P 14 50 51.7 +0.2
baz=321,SNR=6.0
PAMR Moraine State 97.68 30 P P 14 50 51.1 -0.7
baz=326
L56A Greenwood 97.70 28 P P 14 50 52.3 +0.3
baz=328
L56A P P 14 50 52.3 +0.3
baz=328
O53A New Philadelph 97.77 31 P P 14 50 52.2 0.0
baz=325
M55A Ridgway 97.79 29 IAmb IAmb 14 52 49.9
comp=Z,93nm,1.9s
M55A Ridgway 97.79 29 P P 14 50 51.2 -1.2
baz=327
M55A P P 14 50 51.2 -1.2
baz=327
MCVT Middlebury Col 97.81 24 P P 14 50 52.7 +0.3
baz=332
Q51A Peebles 97.81 33 IAmb IAmb 14 50 53.9
comp=Z,54nm,1.1s
Q51A Peebles 97.81 33 P P 14 50 51.8 -0.7
baz=324,SNR=9.9
Q51A P P 14 50 51.8 -0.7
baz=324,SNR=9.9
PKME Peaks-Kenny Pk 97.82 21 P P 14 50 52.4 0.0
baz=335
P52A Corning 97.87 32 P P 14 50 52.3 -0.4
baz=325
HKT Hockley 97.89 47 P P 14 50 53.1 +0.2
HKT IAmb IAmb 14 50 55.2
comp=Z,92nm,1.7s
HKT Hockley 97.89 47 P Pdif 14 50 54.0 +1.1
baz=315
HKT Hockley 97.89 47 P P 14 50 53.1 +0.2
HKT pmax pmax
comp=Z,92nm,1.7s
WVT Waverly 97.89 38 P P 14 50 52.5 -0.4
baz=320
WVT Waverly 97.89 38 P P 14 50 52.9 0.0

baz=320
LBNH Lisbon 97.91 23 P **P** 14 50 52.5 -0.4
baz=333
R50A Paris 97.94 34 P **P** 14 50 52.7 -0.4
baz=323,SNR=6.0
R50A P **P** 14 50 52.7 -0.4
baz=323,SNR=6.0
ACCN Adirondack Com 98.07 25 IAmb IAmb 14 50 54.9
comp=Z,50nm,1.3s
ACCN Adirondack Com 98.07 25 P **P** 14 50 53.9 +0.3
baz=331
PSDB Penn State Uni 98.08 29 P Pdif 14 50 55.1 +1.4
baz=327
BINY Binghamton 98.26 27 P **P** 14 50 53.7 -0.7
baz=330
BINY Binghamton 98.26 27 P **P** 14 50 54.6 +0.2
baz=330
OXF Oxford 98.29 40 P **P** 14 50 54.1 -0.6
baz=319
M57A Sunshine Farm, 98.55 28 IAmb IAmb 14 50 57.5
comp=Z,66nm,1.2s
M57A Sunshine Farm, 98.55 28 P **P** 14 50 55.8 0.0
baz=328,SNR=6.4
M57A P **P** 14 50 55.8 0.0
baz=328,SNR=6.4
L59A Walton 98.62 26 IAmb IAmb 14 50 58.2
comp=Z,168nm,1.9s
U49A Red Boiling Sp 98.64 36 P **P** 14 50 56.0 -0.2
baz=322
T50A Nancy 98.70 35 P **P** 14 50 56.9 +0.4
baz=323
T50A P **P** 14 50 56.9 +0.4
baz=323
Y45A Yeager Farm, C 98.70 40 IAmb IAmb 14 50 58.3
comp=Z,74nm,1.1s
Y45A Yeager Farm, C 98.70 40 P **P** 14 50 56.6 +0.1
baz=319
V48A Smith Brothers 98.71 37 P **P** 14 50 56.2 -0.4
baz=321
SSPA Standing Stone 98.84 29 Pdiff **P** 14 50 56.8 -0.2
baz=328
MCWV Mont Chateau 98.85 31 Pdiff **P** 14 50 56.9 -0.2
baz=326
Q54A Coxs Mills 98.98 32 IAmb IAmb 14 50 59.5
comp=Z,85nm,1.4s
L61B Northampton 99.24 24 Pdiff **Pdif** 14 50 58.3 -0.5
baz=332
VBMS Vicksburg 99.39 42 Pdiff **Pdif** 14 50 59.6 0.0
baz=318
HRV Adam Dziewonsk 99.58 24 Pdiff **Pdif** 14 51 00.2 -0.1
baz=333
TZTN Tazewell 99.70 35 Pdiff **Pdif** 14 51 00.9 -0.2
baz=323
PAL Palisades 100.07 26 Pdiff **Pdif** 14 51 01.9 -0.6
baz=331
BLA Blacksburg 100.62 32 Pdiff **Pdif** 14 51 04.3 -0.8
baz=326
LRAL Lakeview Retre 100.71 39 Pdiff **Pdif** 14 51 05.1 -0.5
baz=321
M65A Busby, Falmout 100.72 23 Pdiff **Pdif** 14 51 04.8 -0.5
baz=334
ESDC Sonseca Array 100.95 333 PP **PP** 14 55 14.5 +0.3
comp=Z,6.9nm,1.1s,baz=28,slow=8.2,SNR=5.6
CBN Corbin Frederi 101.11 30 Pdiff **Pdif** 14 51 06.8 -0.4
baz=328
KMSC Kings Mountain 101.89 34 Pdiff **Pdif** 14 51 10.2 -0.5
baz=325
KIBK Kibwezi 101.91 275 P **Pdif** 14 51 11.9 +0.6
GOGA Godfrey 102.25 37 Pdiff **Pdif** 14 51 11.8 -0.5
baz=323
CNNC Cliffs of the 103.39 32 Pdiff **Pdif** 14 51 16.6 -0.8
baz=327
TIGA Tifton 103.75 38 Pdiff **Pdif** 14 51 18.1 -1.0
baz=323
DWPF Disney Wildern 107.53 38 PKiKP **PKiKP** 14 55 44.2 +0.3
baz=324
VNDA Vanda 110.65 175 PKiKP **PKiKP** 14 55 48.8 +0.5
comp=Z,1.4nm,0.7s,baz=301,slow=2.4,SNR=6.6
LSZ Lusaka 116.89 269 PKPdf **PKPdf** 14 56 02.1 0.0
LSZ Lusaka 116.89 269 PKIKP **PKPdf** 14 56 02.1 0.0
LSZ Lusaka 116.89 269 PKP **PKPdf** 14 56 02.4 +0.3
comp=Z,4.0nm,0.7s,baz=96,slow=3.6,SNR=7.9
ORTG Ortega, Santa 118.63 54 **PKPdf** 14 56 04.5 -1.1
TOA0 Torodi Ar. Sit 119.94 312 PKPdf **PKPdf** 14 56 06.9 -1.0
TORD Torodi Ar. Bea 119.94 312 PKP **PKPdf** 14 56 06.7 -1.2
comp=Z,5.8nm,0.5s,baz=22,slow=2.4,SNR=48
TORD PKKPbc **PKKPbc** 15 06 14.2 -1.8
comp=Z,1.2nm,1.0s,baz=346,slow=5.4,SNR=3.9
QSPA South Pole Qui 122.39 180 PKP **PKPdf** 14 56 10.2 -0.9
comp=Z,24nm,0.8s,baz=262,slow=1.2,SNR=80
QSPA PKKPbc **PKKPab** 15 06 07.1 +2.8
comp=Z,4.1nm,1.0s,baz=265,slow=1.1,SNR=8.2
LBTB Lobatse 123.40 260 PKPdf **PKPdf** 14 56 14.3 0.0
LBTB Lobatse 123.40 260 PKIKP **PKPdf** 14 56 14.4 0.0
SMRT St. Maarten 124.70 28 **PKPdf** 14 56 16.8 -0.2
BOSA Boshof 125.06 256 PKPdf **PKPdf** 14 56 16.9 -0.6
BOSA Boshof 125.06 256 PKIKP **PKPdf** 14 56 16.9 -0.6
BOSA Boshof 125.06 256 PKP **PKPdf** 14 56 17.6 +0.1
comp=Z,8.3nm,0.9s,baz=71,slow=3.6,SNR=12
HATO Hato, Curacao 127.19 37 IAMs_20 IAMs_20 15 59 31.5
comp=Z,275nm,20.0s
TSUM Tsumeb 127.67 270 **PKPdf** 14 56 22.5 -0.2
DBIC Dimbokro 128.99 314 PKP **PKPdf** 14 56 25.4 +0.1
comp=Z,14nm,0.9s,baz=30,slow=2.1,SNR=13
DBIC PP **PP** 14 58 30.9 -1.5
comp=Z,17nm,1.2s,baz=48,slow=11,SNR=4.0
SDV Santo Domingo 129.04 41 PKPdf **PKPdf** 14 56 25.3 -0.3
SDV IAMs_20 IAMs_20 15 53 10.9
comp=Z,378nm,22.0s
SDV Santo Domingo 129.04 41 PKP **PKPdf** 14 56 25.8 +0.2
comp=Z,70nm,1.1s,baz=341,slow=1.4,SNR=40
ELIB Princess Elisa 129.11 201 *d*PKPdf **PKPdf** 14 56 24.5 +0.6
ELIB *ds*PKP 14 56 44.6
TIC Toumodi 129.11 314⇑ *e*PKP1 **PKPdf** 14 56 26.1 +0.5
comp=Z,4.0nm,0.4s
KIC Kosan Boka 129.16 313⇑ *e*PKP1 **PKPdf** 14 56 25.3 -0.3
comp=Z,24nm,0.8s
LIC Lamto 129.45 314⇑ *e*PKP1 **PKPdf** 14 56 25.8 -0.4
comp=Z,24nm,0.7s
PCRV Puerto La Cruz 131.04 34 PKP **PKPdf** 14 56 28.2 -1.0
comp=Z,19nm,0.9s,baz=326,slow=3.6,SNR=5.2
TROLL Troll, Antarti 134.87 197 ⇑PKPdf **PKPdf** 14 56 35.4 +0.5
comp=Z,462nm,0.5s
TROLL ⇓pPKPdf **sPKPdf** 14 56 56.0 -0.5
comp=Z,2μm,1.1s
TROLL ⇑SKPbc **SKPbc** 14 59 58.2 -2.1
comp=Z,2μm,1.1s
ATAH Atahualpa 135.74 64 PKP **PKPdf** 14 56 40.0 +1.5
comp=Z,17nm,1.1s,baz=278,slow=3.6,SNR=9.6
SNAA Sanae 136.37 196 **PKPdf** 14 56 38.0 +0.5
SNAA Sanae 136.37 196 ⇓PKPdf **PKPdf** 14 56 37.3 -0.2
comp=Z,69nm,0.4s
SNAA ⇑SKPbc **SKPbc** 15 00 02.3 -2.5
comp=Z,432nm,1.1s
SNAA Sanae 136.37 196 PKIKP **PKPdf** 14 56 38.0 +0.5
VNA2 Neumayer--Watz 137.93 195 ⇓PKPdf **PKPdf** 14 56 42.0 +1.7
comp=Z,17nm,0.6s,baz=131,slow=2.0
VNA2 ⇓SKPbc **SKPbc** 15 00 05.7 -3.7
comp=Z,16nm,0.8s,baz=288,slow=22
VNA3 Neumayer Olymp 138.17 194 ⇓PKPdf **PKPdf** 14 56 41.0 +0.3
comp=Z,25nm,1.0s
VNA1 Neumayer--Stat 138.33 195 ⇑PKPdf **PKPdf** 14 56 43.4 +2.4
comp=Z,36nm,0.9s
NNA Nana 139.94 68 PKP **PKPdf** 14 56 46.2 +0.5
comp=Z,4.9nm,0.4s,baz=334,slow=2.6,SNR=4.4
MDP Montagnes des 140.39 21 PKP **PKPdf** 14 56 48.6 +2.0
comp=Z,34nm,1.0s,baz=85,slow=4.7,SNR=3.2
MACA Manacapuru-AM 144.48 39 **PKPab** 14 56 51.3 -0.9
H03N2 Juan Fernandez 146.91 102 T T 17 42 20.1
baz=280,slow=74,SNR=12
H03N3 Juan Fernandez 146.92 102 T T 17 42 15.6
baz=280,slow=74,SNR=15
H03N1 Juan Fernandez 146.92 102 T T 17 42 18.2
baz=280,slow=74,SNR=14
SAML Samuel 147.69 48 PKPdf **PKPdf** 14 56 58.8 -0.4
SAML Samuel 147.69 48 PKIKP **PKPdf** 14 56 58.8 -0.4
LPAZ La Paz 149.26 65 PKPbc **PKPbc** 14 57 07.1 +0.3
comp=Z,78nm,1.0s,baz=334,slow=3.2,SNR=33
COYC Coyhaique 151.68 127 PKPdf **PKPdf** 14 57 04.1 -0.5
COYC PKPbc **PKPbc** 14 57 11.6 +0.7
LVC Limon Verde 152.01 77 PKPbc **PKPbc** 14 57 13.9 +1.0
comp=Z,49nm,0.8s,baz=279,slow=2.5,SNR=29
LCO Las Campanas 152.85 91 **PKPbc** 14 57 14.7 +0.2
LCO Las Campanas 152.85 91 PKIKP **PKPbc** 14 57 14.7 +0.2
RCBR Riachuelo 153.14 352 **PKPbc** 14 57 15.0 -0.2
RCBR Riachuelo 153.14 352 PKIKP **PKPbc** 14 57 15.0 -0.2
RCBR Riachuelo 153.14 352 PKPbc **PKPbc** 14 57 15.6 +0.4
comp=Z,25nm,1.0s,baz=45,slow=3.6,SNR=9.9
RCBR PKPab **sPKPdf** 14 57 26.6 -3.1
comp=Z,35nm,1.1s,baz=11,slow=7.5,SNR=5.9
PLCA Paso Flores 153.77 117 PKPbc **PKPbc** 14 57 17.1 +1.3
comp=Z,28nm,1.0s,baz=243,slow=4.1,SNR=32
SIV San Ignacio 154.24 55 PKP **PKPdf** 14 57 10.2 +0.9
comp=Z,19nm,1.0s,baz=328,slow=1.4,SNR=41
SIV PKPbc **PKPbc** 14 57 18.4 +1.0
comp=Z,32nm,0.9s,baz=325,slow=2.5,SNR=22
SIV PKPab **pPKPbc** 14 57 31.4 -2.1
comp=Z,67nm,0.9s,baz=304,slow=4.5,SNR=26
BDFB Brasilia 161.32 27 PKP **PKPdf** 14 57 19.3 +1.2
comp=Z,10nm,1.1s,baz=27,slow=2.3,SNR=8.1
BDFB PKPab **PKPab** 14 58 02.7 +0.6
comp=Z,17nm,0.9s,baz=332,slow=3.6,SNR=12
CPUP Villa Florida 163.10 73 PKP **PKPdf** 14 57 21.5 +2.0
comp=Z,4.6nm,1.0s,baz=318,slow=4.3,SNR=5.2
CPUP PKPab **PKPab** 14 58 10.3 +0.6
comp=Z,33nm,1.1s,baz=308,slow=5.4,SNR=16

*MDD **25** 14:45:09.1±1.1, 37.°26N× 13.°50W, h0km, Mb4.4/11, M_mb3.8/7, Error ellipse: s-maj=8.0km s-min=6.1km az=58.0*
*IGIL **25** 14:45:12.4, 36.°80N× 13.°61W, h79km, ML2.3*
*INMG **25** 14:45:13.7±1.3, 36.°91N× 13.°70W, h10km, ML2.5, Error ellipse: s-maj=7.6km s-min=6.9km az=105.0*

ISC 25 14:45:08.4±2.2, 37.°09N±0.°06× 13.°4W±0.°1, h10km, n56, σ25°67/93, 11C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**3.66**	**88**	*e*P	**Pn**	**14 46 07.5**	**+2.4**
PFVI				*e*S	**Sn**	**14 46 47.6**	**-0.7**
PFVI				A	A	14 46 48.2	
	11nm,0.9s						
PFVI	**Vila Bisbo**	**3.66**	**88**	S	**Sn**	**14 46 46.8**	**-1.6**
PFVI				P	**Pn**	**14 46 06.7**	**+1.6**
PMAFR	**Mafra**	**3.75**	**59**	*e*P	**Pn**	**14 46 09.4**	**+3.0**
PMAFR				*e*S	**Sn**	**14 46 53.2**	**+2.6**
PMAFR				A	A	14 47 11.3	
	17nm,0.6s						
PMAFR	**Mafra**	**3.75**	**59**	S	**Sn**	**14 46 51.4**	**+0.8**
PMAFR				P	**Pn**	**14 46 09.1**	**+2.7**
PTEO	**Sao Teotonio**	**3.76**	**82**	*e*P	**Pn**	**14 46 09.3**	**+2.8**
PTEO				*e*S	**Sn**	**14 46 50.0**	**-0.8**
PTEO				A	A	14 46 55.2	
	12nm,0.8s						
MORF	**Marmelete**	**3.80**	**85**	*e*S	**Sn**	**14 46 51.0**	**-0.9**
MORF				IAML		14 46 52.8	
	comp=E,6.6nm,0.1s						
PNCL	**Nicolau / Gran**	**4.01**	**74**	*e*P	**Pn**	**14 46 13.0**	**+3.2**
PNCL				*e*S	**Sn**	**14 46 57.1**	**+0.3**
PNCL				A	A	14 47 00.8	
	comp=E,3.5nm,0.6s						
PNCL	**Nicolau / Gran**	**4.01**	**74**	P	**Pn**	**14 46 12.1**	**+2.2**
PNCL				S	**Sn**	**14 46 55.4**	**-1.4**
MESJ	**Messejana**	**4.19**	**78**	*e*P	**Pn**	**14 46 15.4**	**+3.0**
MESJ				*e*S	**Sn**	**14 47 01.8**	**+0.3**
MESJ				A	A	14 47 04.7	
	comp=E,3.3nm,0.9s						
MESJ	**Messejana**	**4.19**	**78**	*e*P	**Pn**	**14 46 15.0**	**+2.6**
MESJ				*e*S	**Sn**	**14 47 00.3**	**-1.2**
PCVE	**Castro Verde**	**4.31**	**81**	P	**Pn**	**14 46 15.9**	**+1.9**
PSBE	**So Bento**	**4.36**	**55**	*e*P	**Pn**	**14 46 18.5**	**+3.8**
PSBE				*e*S	**Sn**	**14 47 08.1**	**+2.5**
PSBE				A	A	14 47 11.1	
	comp=E,6.7nm,0.8s						
PBDV	**Barranco-do-Ve**	**4.38**	**86**	*e*P	**Pn**	**14 46 17.7**	**+2.7**
PBDV				*e*S	**Sn**	**14 47 05.6**	**-0.4**
PBDV				A	A	14 47 07.5	
	comp=E,7.2nm,0.5s						
PBDV	**Barranco-do-Ve**	**4.38**	**86**	P	**Pn**	**14 46 16.8**	**+1.8**
PBDV				S	**Sn**	**14 47 03.5**	**-2.5**
PBEJ	**Beja**	**4.50**	**76**	*e*P	**Pn**	**14 46 19.4**	**+2.8**
PBEJ				*e*S	**Sn**	**14 47 09.2**	**+0.2**
EVO	**Evora**	**4.51**	**70**	*e*S	**Sn**	**14 47 10.0**	**+0.8**
EVO				A	A	14 47 21.6	
	comp=E,24nm,0.2s						
EVO	**Evora**	**4.51**	**70**	S	**Sn**	**14 47 08.6**	**-0.6**
PMTG	**Montargil**	**4.54**	**63**	*e*P	**Pn**	**14 46 20.2**	**+3.0**
PMTG				*e*S	**Sn**	**14 47 11.0**	**+1.0**
PMTG				A	A	14 47 21.5	
	comp=E,3.4nm,0.7s						
PVAQ	**Vaqueiros**	**4.55**	**84**	*e*P	**Pn**	**14 46 20.4**	**+3.1**
PVAQ				*e*S	**Sn**	**14 47 09.6**	**-0.7**
PVAQ				A	A	14 47 15.2	
	comp=E,4.9nm,0.6s						
PVAQ	**Vaqueiros**	**4.55**	**84**	P	**Pn**	**14 46 19.6**	**+2.3**
PVAQ				S	**Sn**	**14 47 09.9**	**-0.3**
EGRO	**El Granado**	**4.74**	**83**	S	**Sn**	**14 47 13.7**	**-1.3**
EGRO				P	**Pn**	**14 46 24.6**	**+4.6**
EGRO	**El Granado**	**4.74**	**83**	⇑*i*Vmb_V		14 46 25.2	
	comp=E,115nm,SNR=0.5						
EGRO				Sn	**Sn**	**14 47 15.1**	**+0.1**
PCAS	**Casmilo, Conde**	**4.85**	**51**	*e*P	**Pn**	**14 46 24.0**	**+2.5**
PCAS				*e*S	**Sn**	**14 47 17.5**	**-0.2**
PCAS				A	A	14 47 31.1	
	comp=E,3.6nm,0.7s						
PESTR	**Estremoz**	**4.93**	**67**	*e*P	**Pn**	**14 46 26.4**	**+3.9**
PESTR				*e*S	**Sn**	**14 47 19.6**	**0.0**
PESTR				A	A	14 47 24.5	
	comp=E,2.0nm,0.5s						
PESTR	**Estremoz**	**4.93**	**67**	P	**Pn**	**14 46 25.1**	**+2.6**
PESTR				S	**Sn**	**14 47 18.5**	**-1.0**
PBAR	**Barrancos**	**5.17**	**76**	*e*P	**Pn**	**14 46 29.2**	**+3.4**
PBAR				*e*S	**Sn**	**14 47 25.5**	**0.0**
PBAR				A	A	14 47 28.7	
	comp=E,2.6nm,0.6s						
PBAR	**Barrancos**	**5.17**	**76**	P	**Pn**	**14 46 28.8**	**+3.0**
PBAR				S	**Sn**	**14 47 24.7**	**-0.8**
PMOZ	**Porto Moniz, M**	**5.27**	**217**	P	**Pn**	**14 46 28.5**	**+1.2**
PMRV	**Marv??o**	**5.28**	**62**	*e*P	**Pn**	**14 46 31.1**	**+3.8**
PMRV				*e*S	**Sn**	**14 47 28.0**	**-0.2**
PMRV				A	A	14 47 30.5	
	comp=E,2.9nm,0.7s						
EBAD	**Badajoz**	**5.32**	**70**	S	**Sn**	**14 47 26.4**	**-2.9**
PCBR	**Castelo Branco**	**5.40**	**58**	*e*S	**Sn**	**14 47 31.4**	**+0.2**
EMIN	**Mina Concepcio**	**5.40**	**81**	P	**Pn**	**14 46 30.2**	**+1.2**
EMIN				S	**Sn**	**14 47 29.1**	**-2.2**
EMIN	**Mina Concepcio**	**5.40**	**81**	Pn	**Pn**	**14 46 30.8**	**+1.8**
EMIN				⇑*i*Vmb_V		14 46 35.1	
	comp=E,101nm,SNR=0.9						
EMIN				Sn	**Sn**	**14 47 30.8**	**-0.5**
PVIS	**Viseu**	**5.62**	**48**	*e*P	**Pn**	**14 46 35.0**	**+2.9**
PVIS				*e*S	**Sn**	**14 47 33.9**	**-2.8**
PVIS				A	A	14 47 46.3	
	comp=E,2.5nm,0.4s						
MTE	**Manteigas**	**5.65**	**52**	*e*S	**Sn**	**14 47 37.3**	**-0.1**
ESPR	**Espera**	**6.05**	**90**	P	**Pn**	**14 46 40.0**	**+2.1**
ESPR	**Espera**	**6.05**	**90**	Pn	**Pn**	**14 46 40.0**	**+2.1**
ESPR				⇑*i*Vmb_V		14 46 40.7	
	comp=E,234nm,SNR=1.2						
ESPR				Sn	**Sn**	**14 47 45.4**	**-1.8**
ESPR	**Espera**	**6.05**	**90**	S	**Sn**	**14 47 45.9**	**-1.3**
PVRL	**Vila Real**	**6.08**	**45**	*e*S	**Sn**	**14 47 45.3**	**-2.8**
AVE	**Averroes**	**6.20**	**126**	S	**Sn**	**14 47 47.7**	**-3.1**
EZAM	**Zamans**	**6.22**	**34**	Pn	**Pn**	**14 46 39.4**	**-1.0**
EZAM				⇑*i*Vmb_V		14 46 42.9	
	comp=E,168nm,SNR=0.6						
EZAM				Sn	**Sn**	**14 47 45.0**	**-6.6**
PGAV	**Gavieira, Arco**	**6.28**	**38**	*e*P	**Pn**	**14 46 44.4**	**+3.2**
PGAV				*e*S	**Sn**	**14 47 49.2**	**-3.9**
PGAV				A	A	14 47 59.6	
	comp=E,4.2nm,0.6s						
ELOB	**Lobios**	**6.31**	**39**	Pn	**Pn**	**14 46 41.6**	**0.0**
ELOB				⇑*i*Vmb_V		14 46 43.2	
	comp=E,238nm,SNR=1.0						
ELOB				Sn	**Sn**	**14 47 49.4**	**-4.3**
MVO	**Moncorvo**	**6.41**	**49**	*e*P	**Pn**	**14 46 45.5**	**+2.5**
MVO				*e*S	**Sn**	**14 47 54.7**	**-1.6**
MVO				A	A	14 47 57.6	
	comp=E,4.2nm,0.5s						
ECAB	**El Cabril**	**6.42**	**79**	S	**Sn**	**14 47 54.0**	**-2.4**
ECAB	**El Cabril**	**6.42**	**79**	Pn	**Pn**	**14 46 45.0**	**+1.9**
ECAB				⇑*i*Vmb_V		14 46 47.4	
	comp=E,124nm,SNR=1.3						
ECAB				Sn	**Sn**	**14 47 54.6**	**-1.8**
ECAB	**El Cabril**	**6.42**	**79**	P	**Pn**	**14 46 45.4**	**+2.3**
EPLA	**Plasencia**	**6.46**	**60**	⇑*i*Vmb_V		14 46 47.1	
	comp=E,251nm,SNR=1.6						
EPLA				Sn	**Sn**	**14 47 54.6**	**-2.9**
EMAZ	**Mazaricos**	**6.77**	**29**	⇑*i*Vmb_V		14 46 53.7	
	comp=E,685nm,SNR=1.6						
EMAZ				Sn	**Sn**	**14 47 57.3**	**-7.6**
PBRG	**Braganca**	**6.98**	**46**	*e*P	**Pn**	**14 46 53.4**	**+2.6**
PBRG				*e*S	**Sn**	**14 48 08.3**	**-1.9**
EAGO	**Agolada(Pontev**	**7.01**	**34**	⇑*i*Vmb_V		14 46 53.9	
	comp=E,253nm,SNR=0.9						
EAGO				Sn	**Sn**	**14 48 04.5**	**-6.5**
EADA	**Adamuz**	**7.09**	**79**	Pn	**Pn**	**14 46 51.7**	**-0.5**
EADA				⇑*i*Vmb_V		14 46 56.6	
	comp=E,104nm,SNR=0.6						
EADA				Sn	**Sn**	**14 48 09.4**	**-3.5**
PAB	**San Pablo**	**7.53**	**68**	Pn	**Pn**	**14 46 58.7**	**+0.3**
PAB				⇑*i*Vmb_V		14 47 05.6	
	comp=E,118nm,SNR=0.6						
PAB				Sn	**Sn**	**14 48 20.7**	**-3.2**
IFR	**Ifrane**	**7.65**	**115**	S	**Sn**	**14 48 21.3**	**-5.6**
PSIM	**Granatula de C**	**7.82**	**74**	Pn	**Pn**	**14 47 02.9**	**+0.7**
PSIM				Sn	**Sn**	**14 48 27.4**	**-3.4**
TIO	**Tiouine**	**7.99**	**139**	P	**Pn**	**14 47 05.0**	**+0.4**
TIO				S	**Sn**	**14 48 29.3**	**-5.9**

IDC 25 14:47:10.5±5.6, 17.°35S× 176.°96W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=195.9km s-min=63.4km az=135.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.11**	**241**	P	P	14 54 48.1	-0.1
	2.3nm,0.7s,baz=86,slow=16,SNR=1.5						
	2.3nm,0.7s						
WRA	**Warramunga Arr**	**46.10**	**259**	P	P	14 55 36.4	-0.4
	0.4nm,0.3s,baz=95,slow=6.6,SNR=14						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**46.28**	**254**	P	P	14 55 38.2	0.0
	1.3nm,0.4s,baz=87,slow=8.0,SNR=21						
	1.3nm,0.4s						
BRTR	**Keskin Array B**	**145.36**	**316**	PKPbc	PKPbc	15 06 50.1	-0.6
	0.6nm,0.7s,baz=85,slow=3.5,SNR=2.6						

*IDC **25** 15:01:20.2±2.6, 19.°74S× 177.°74W, h486km±28km, mb3.8/14, mbtmp4.6/16, Error ellipse: s-maj=17.5km s-min=13.2km az=52.0*
*NEIC **25** 15:01:21.9±2.0, 19.°9S±0.°1× 177.°7W±0.°1, h501km±6km, mb4.5/74, Error ellipse: s-maj=16.5km s-min=14.4km az=122.0*
*NOU **25** 15:01:22.7, 19.°73S× 177.°66W, h528km, mb4.6/50, Fiji Islands Region*

ISC 25 15:01:21.5±0.4, 19.°87S±0.°07× 177.°72W±0.°07, h500km, n202, σ0°98/202, mb4.6/57, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAVE	**Taveuni**	**3.77**	**326**	P	**P**	**15 02 41.5**	**+3.3**
DGTI	**Dogotuki**	**4.30**	**325**	P	**P**	**15 02 45.3**	**+2.9**
MSVF	**Nonsavu**	**4.54**	**297**	P	**P**	**15 02 47.9**	**+3.4**
MSVF	**Nonsavu**	**4.54**	**297**	P	**P**	**15 02 47.6**	**+3.1**
YSA	**Yasawairara**	**5.47**	**304**	P	**P**	**15 02 55.5**	**+2.7**
NIUE	**Niue**	**7.39**	**85**	P	**P**	**15 03 13.6**	**+1.9**
NIUE	**Niue**	**7.39**	**85**	P	**P**	**15 03 13.3**	**+1.6**
AFI	**Afiamalu**	**8.21**	**45**	P	**P**	**15 03 19.2**	**-1.1**
AFI	**Afiamalu**	**8.21**	**45**	P	**P**	**15 03 18.5**	**-1.8**
RAO	**Raoul Island**	**9.34**	**181**	P	**P**	**15 03 31.6**	**-0.2**
RAO	**Raoul Island**	**9.34**	**181**	P	**P**	**15 03 31.0**	**-0.8**
	243nm,0.3s,baz=69,slow=13,SNR=3.1						
RAO				S	**S**	**15 05 17.5**	**-1.4**
	229nm,0.4s,baz=71,slow=24,SNR=1.9						
FUNA	**Funafuti**	**11.67**	**345**	P	**P**	**15 03 57.8**	**+1.2**
MARNC	**Mare, Loyalty**	**13.44**	**261**	P	**P**	**15 04 15.6**	**+0.3**
PINNC	**Pines Island,**	**14.10**	**256**	P	**P**	**15 04 23.4**	**+1.2**
PINNC	**Pines Island,**	**14.10**	**256**	P	**P**	**15 04 23.2**	**+1.0**
LIFNC	**LIFOU**	**14.14**	**264**	P	**P**	**15 04 23.2**	**+0.5**
LIFNC	**LIFOU**	**14.14**	**264**	P	**P**	**15 04 22.1**	**-0.6**
OUENC	**Ouen Island, N**	**14.63**	**257**	P	**P**	**15 04 28.8**	**+1.0**
OUENC	**Ouen Island, N**	**14.63**	**257**	P	**P**	**15 04 28.7**	**+1.0**
	24nm,1.1s						
OUENC	**Ouen Island, N**	**14.63**	**257**	P	**P**	**15 04 28.4**	**+0.7**
DZM	**Mont Dzumac**	**14.96**	**259**	P	**P**	**15 04 32.7**	**+1.3**
DZM	**Mont Dzumac**	**14.96**	**259**	P	**P**	**15 04 31.8**	**+0.5**
DZM	**Mont Dzumac**	**14.96**	**259**	P	**P**	**15 04 31.7**	**+0.3**
	13nm,0.6s,baz=77,slow=17,SNR=14						
NOUC	**Port Laguerre**	**15.09**	**259**	P	**P**	**15 04 34.3**	**+1.6**
NOUC	**Port Laguerre**	**15.09**	**259**	P	**P**	**15 04 34.2**	**+1.6**
	29nm,1.1s						
KOUNC	**Koumac, New Ca**	**16.91**	**265**	P	**P**	**15 04 52.6**	**+1.0**
KOUNC	**Koumac, New Ca**	**16.91**	**265**	P	**P**	**15 04 52.7**	**+1.1**
	174nm,1.5s						
KOUNC	**Koumac, New Ca**	**16.91**	**265**	P	**P**	**15 04 52.3**	**+0.7**
OUZ	**Omahuta**	**17.11**	**205**	P	**P**	**15 04 55.2**	**+1.9**
URZ	**Urewera**	**18.87**	**193**	P	**P**	**15 05 09.1**	**-0.5**
URZ	**Urewera**	**18.87**	**193**	P	**P**	**15 05 08.8**	**-0.8**
	4.1nm,0.4s,baz=354,slow=2.8,SNR=5.7						
URZ				S	S	15 08 04.2	-11
	8.9nm,1.0s,baz=198,slow=18,SNR=1.9						
RTZ	**Ruatahuna**	**19.24**	**193**	P	**P**	**15 05 12.0**	**-1.0**
RTZ				IAmb	IAmb	15 05 27.2	
	comp=Z,23nm,1.2s						
HIZ	**Hauiti**	**19.66**	**198**	P	**P**	**15 05 19.7**	**+2.8**
BKZ	**Black Stump Fm**	**19.87**	**193**	P	**P**	**15 05 17.9**	**-0.9**
BKZ				IAmb	IAmb	15 05 27.4	
	comp=Z,15nm,1.3s						
BFZ	**Birch Farm**	**21.38**	**193**	P	**P**	**15 05 34.4**	**+2.0**
BFZ	**Birch Farm**	**21.38**	**193**	P	**P**	**15 05 31.2**	**-1.2**
BFZ				IAmb	IAmb	15 06 10.5	
	comp=Z,32nm,1.2s						
SNZO	**South Karori**	**22.32**	**195**	P	**P**	**15 05 40.8**	**-0.1**
QRZ	**Quartz Range**	**22.49**	**200**	P	**P**	**15 05 43.1**	**+0.7**
QRZ	**Quartz Range**	**22.49**	**200**	P	**P**	**15 05 42.4**	**0.0**
NNZ	**Nelson**	**22.59**	**198**	P	**P**	**15 05 42.9**	**-0.5**
MRNZ	**Matariki Terra**	**22.94**	**199**	P	**P**	**15 05 46.1**	**-0.3**
THZ	**Tophouse**	**23.23**	**198**	P	**P**	**15 05 48.8**	**-0.4**
THZ				IAmb	IAmb	15 06 06.2	
	comp=Z,12nm,1.1s						
KHZ	**Kahutara**	**23.66**	**196**	P	**P**	**15 05 52.5**	**-0.3**
KHZ				IAmb	IAmb	15 06 21.9	
	comp=Z,23nm,1.3s						
GVZ	**Greta Valley S**	**24.31**	**197**	P	**P**	**15 05 57.8**	**-0.9**
OXZ	**Oxford**	**24.92**	**198**	P	**P**	**15 06 03.6**	**-0.5**
OXZ				IAmb	IAmb	15 06 38.4	
	comp=Z,36nm,1.4s						
MQZ	**McQueen's Vall**	**25.10**	**197**	P	**P**	**15 06 05.

MTSU Mount Surprise 35.89 266 P **P** 15 07 39.0 0.0
comp=Z,29nm,0.7s
TOO Toolangi 36.48 233 P **P** 15 07 44.0 +0.3
TOO Toolangi 36.48 233 P **P** 15 07 43.9 +0.2
COEN Coen 37.81 273 P **P** 15 07 55.3 +0.4
COEN Coen 37.81 273 P **P** 15 07 54.9 0.0
COEN IAmb IAmb 15 07 55.7
comp=Z,19nm,0.7s
STKA Stephens Creek 38.30 243 P **P** 15 07 59.0 +0.3
comp=Z,5.3nm,1.1s
STKA Stephens Creek 38.30 243 P **P** 15 07 58.8 +0.1
STKA Stephens Creek 38.30 243 P **P** 15 07 58.9 +0.3
comp=Z,14nm,0.6s,baz=91,slow=10,SNR=32
comp=Z,14nm,0.6s
INKA Innaminka 38.66 250 P **P** 15 08 02.9 +1.3
comp=Z,47nm,1.1s
QIS Mount Isa 39.97 261 P **P** 15 08 13.2 +0.8
HTT Hallett 40.75 242 P **P** 15 08 18.6 +0.1
LCRK Leigh Creek 41.03 246 P **P** 15 08 20.5 -0.2
LCRK Leigh Creek 41.03 246 P **P** 15 08 20.8 +0.1
comp=Z,82nm,2.5s
WHYH Whyalla 41.82 242 P **P** 15 08 27.1 +0.2
comp=Z,44nm,0.7s
BBOO Buckleboo 43.06 243 P **P** 15 08 36.4 -0.3
BBOO Buckleboo 43.06 243 P **P** 15 08 36.5 -0.3
OOD Oodnadatta 43.14 250 P **P** 15 08 38.0 +0.6
OOD Oodnadatta 43.14 250 P **P** 15 08 37.9 +0.6
comp=Z,40nm,1.1s
MULG Mulgathing 44.61 247 P **P** 15 08 48.3 -0.5
WR0 Warramunga Arr 44.76 261 P **P** 15 08 49.2 -0.9
WR0 IAmb IAmb 15 08 50.8
comp=Z,15nm,0.5s
AS01 Alice Springs 44.88 256 P **P** 15 08 50.7 -0.3
AS31 Alice Springs 44.92 256 P **P** 15 08 50.7 -0.6
AS31 IAmb IAmb 15 08 52.1
comp=Z,13nm,0.9s
ASAR Alice Springs 44.92 256 P **P** 15 08 50.9 -0.5
comp=Z,53nm,0.8s,baz=87,slow=8.5,SNR=156
ASAR PcP **PcP** 15 10 21.9 -0.5
comp=Z,3.7nm,0.7s,baz=97,slow=3.7,SNR=8.2
comp=Z,53nm,0.8s
WB0 Warramunga Arr 44.93 262 P **P** 15 08 50.7 -0.8
WB2 Warramunga Arr 44.94 261 P **P** 15 08 50.8 -0.8
WRAB Tennant Creek 44.94 261 P **P** 15 08 50.3 -1.2
WRA Warramunga AY 44.95 261 P **P** 15 08 50.5 -1.2
comp=Z,17nm,0.4s,baz=97,slow=7.8,SNR=90
comp=Z,17nm,0.4s
MTN Manton Dam 49.42 270 P **P** 15 09 24.9 -0.4
MTN IAmb IAmb 15 09 26.2
comp=Z,34nm,0.8s
FORT Forrest 49.79 246 P **P** 15 09 27.2 -0.7
FORT Forrest 49.79 246 P **P** 15 09 26.9 -0.9
WRKA Warakurna 49.89 254 P **P** 15 09 28.1 -0.7
FITZ Fitzroy Crossi 53.38 262 P **P** 15 09 53.7 -0.3
SOEI Soe 56.75 271 P **P** 15 10 19.0 +1.1
SOEI Soe 56.75 271 P **P** 15 10 18.8 +1.0
BATI Baumata 57.18 271 P **P** 15 10 21.6 +0.9
comp=Z,21nm,0.6s,baz=124,slow=11,SNR=3.1
comp=Z,21nm,0.6s
PSA00 Pilbara Seismi 58.07 256 P **P** 15 10 26.1 -0.6
PSA00 Pilbara Seismi 58.07 256 P **P** 15 10 25.6 -1.0
PSA00 IAmb IAmb 15 10 26.6
comp=Z,29nm,0.8s
MBWA Marble Bar 58.25 257 P **P** 15 10 26.9 -1.0
MBWA Marble Bar 58.25 257 P **P** 15 10 26.9 -1.0
MBWA IAmb IAmb 15 10 27.8
comp=Z,23nm,0.8s
MEEK Meekatharra 58.38 250 P **P** 15 10 27.6 -1.1
VNDA Vanda 58.56 185 P **P** 15 10 30.1 +1.1
VNDA Vanda 58.56 185 P **P** 15 10 30.3 +1.3
comp=Z,1.5nm,0.8s,baz=357,slow=7.9,SNR=12
comp=Z,1.5nm,0.8s
NWAO Narrogin (SRO) 58.89 243 P **P** 15 10 31.2 -0.9
NWAO IAmb IAmb 15 11 12.0
comp=Z,48nm,1.4s
MMRI Maumere 58.99 272 P **P** 15 10 31.9 -1.2
MMRI IAmb IAmb 15 10 33.7
comp=Z,24nm,0.7s
BLDU Ballidu 59.55 246 P **P** 15 10 35.8 -0.7
MORW Morawa 60.31 247 P **P** 15 10 41.1 -0.5
MORW Morawa 60.31 247 P **P** 15 10 40.5 -1.1
MORW IAmb IAmb 15 11 12.2
comp=Z,25nm,1.5s
GIRL Giralia 62.97 254 P **P** 15 10 59.7 +0.6
PLAI Plampang 63.13 270 P **P** 15 10 59.6 -0.7
TOLI2 Tolitoli 63.74 282 P **P** 15 11 05.1 +0.9
TOLI2 IAmb IAmb 15 11 27.6
comp=Z,9.4nm,0.9s
JAGI Jajag, Banyuwa 66.65 269 P **P** 15 11 20.6 -1.9
JAGI IAmb IAmb 15 11 21.6
comp=Z,19nm,0.8s
KKM Kota Kinabalu 69.86 284 P **P** 15 11 41.9 -0.2
KKM Kota Kinabalu 69.86 284 P **P** 15 11 41.3 -0.8
MJAR Matsushiro Arr 69.86 323 P **P** 15 11 40.2 -1.3
comp=Z,1.6nm,0.6s,baz=153,slow=6.5,SNR=9.5
comp=Z,1.6nm,0.6s
QSPA South Pole Qui 70.19 180 P **P** 15 11 43.9 +0.6
QSPA IAmb IAmb 15 11 45.2
comp=Z,5.9nm,0.8s
QSPA South Pole Qui 70.19 180 P **P** 15 11 44.2 +0.9
comp=Z,4.6nm,0.7s,baz=9.3,slow=1.3,SNR=20
comp=Z,4.6nm,0.7s
UGM Wanagama 70.24 269 P **P** 15 11 43.8 -0.6
UGM Wanagama 70.24 269 P **P** 15 11 43.6 -0.8
NACB Ninganchiao 73.54 304 P **P** 15 12 02.4 -0.9
NACB IAmb IAmb 15 12 11.8
comp=Z,24nm,1.1s
SSLB Suanglung 73.85 303 P **P** 15 12 03.6 -1.5
SSLB IAmb IAmb 15 12 38.8
comp=Z,35nm,1.5s
TPUB Ta-pu 73.86 303 P **P** 15 12 03.2 -2.0
TPUB IAmb IAmb 15 12 40.0
comp=Z,35nm,1.3s
PETK Petropavlovsk- 75.73 345 P **P** 15 12 14.2 -0.8
PETK Petropavlovsk- 75.73 345 P **P** 15 12 13.6 -1.4
comp=Z,2.2nm,0.9s,baz=123,slow=6.5,SNR=4.5
comp=Z,2.2nm,0.9s
BELA Belgrano 2 80.15 173 P **P** 15 12 38.3 -0.3
BELA IAmb IAmb 15 12 45.2
comp=Z,23nm,1.4s
NVAR Mina Array Bea 80.39 43 P **P** 15 12 40.7 0.0
comp=Z,0.5nm,0.6s,baz=231,slow=12,SNR=3.0
MZP Montezuma Peak 80.58 44 P **P** 15 12 42.4 +0.6
J05D Fort Rock, OR 81.45 38 P **P** 15 12 47.1 +1.1
PINE Pine Mountain 81.93 38 P **P** 15 12 50.4 +1.8
K15K Wolf Creek Mou 82.89 8 P **P** 15 12 53.5 +0.8
K15K IAmb IAmb 15 13 07.1
comp=Z,13nm,1.3s
IPM Ipoh 83.31 277 P **P** 15 12 55.8 -0.2
IPM IAmb IAmb 15 12 56.6
comp=Z,8.7nm,0.6s
L18K Granite Mounta 83.50 10 P **P** 15 12 56.6 +0.8
L19K White Mountain 83.77 11 P **P** 15 12 57.2 +0.1
L19K IAmb IAmb 15 12 58.8
comp=Z,17nm,1.5s
SUA Susitna One 83.89 13 P **P** 15 12 57.6 -0.2
KULM Kulim 83.95 278 P **P** 15 12 59.3 +0.2
KULM IAmb IAmb 15 13 41.3
comp=Z,25nm,1.3s
GHO Glory Hole Cre 84.55 13 P **P** 15 13 00.8 -0.3
GHO IAmb IAmb 15 13 42.5
comp=Z,8.1nm,1.3s
SCM Sheep Creek Mo 84.96 14 P **P** 15 13 03.2 +0.1
SCM IAmb IAmb 15 13 11.4
comp=Z,19nm,1.4s
GSI Gunungsitoli 85.46 273 P **P** 15 13 06.6 +0.1
GSI IAmb IAmb 15 13 07.9
comp=Z,14nm,0.7s
PLID Pearl Lake 85.56 39 P **P** 15 13 07.0 +0.4
DHY Denali Highway 86.05 13 P **P** 15 13 09.2 +0.9
TXAR Lajitas Array 86.50 57 P **P** 15 13 12.3 +1.1
TXAR Lajitas Array 86.50 57 P **P** 15 13 12.5 +1.3
comp=Z,0.4nm,0.7s,baz=222,slow=6.6,SNR=6.2
comp=Z,0.4nm,0.7s
M27K Edge Creek, AK 86.73 16 P **P** 15 13 12.4 +0.7
ELIB Princess Elisa 87.30 186 *d*P **P** 15 13 14.1 -0.2
comp=Z,7.5nm,0.7s
H21K Melozitna Rive 87.34 10 P **P** 15 13 14.1 -0.1
CCB Clear Creek Bu 87.35 12 P **P** 15 13 13.5 -0.8
ILAR Eielson Array 87.64 13 P **P** 15 13 15.1 -0.6
ILAR Eielson Array 87.64 13 P **P** 15 13 14.3 -1.4
comp=Z,0.9nm,1.0s,baz=212,slow=4.2,SNR=5.7
comp=Z,0.9nm,1.0s
M29M Somme Creek 87.72 17 P **P** 15 13 16.9 +0.6
J25K Salcha River, 87.83 13 P **P** 15 13 16.2 -0.4

J26L Joseph Creek 88.14 14 P **P** 15 13 18.6 +0.5
M30M Minto, Yukon 88.29 18 P **P** 15 13 19.2 +0.4
PDAR Pinedale Array 88.32 43 P **P** 15 13 20.4 +0.6
comp=Z,0.4nm,0.6s,baz=198,slow=2.7,SNR=4.4
comp=Z,0.4nm,0.6s
L29M L29M 88.34 17 P **P** 15 13 19.7 +0.7
L29M IAmb IAmb 15 13 20.2
comp=Z,6.4nm,1.5s
TROLL Troll, Antarti 88.36 180 ⇓P **P** 15 13 19.5 +0.2
comp=Z,267nm,0.7s
E19K Redstone River 88.38 8 P **P** 15 13 19.3 +0.2
K29M Barlow Dome 89.10 17 P **P** 15 13 23.2 +0.6
K29M IAmb IAmb 15 13 24.0
comp=Z,4.2nm,1.1s
I28M Miner Creek 89.78 15 P **P** 15 13 25.9 +0.1
I28M IAmb IAmb 15 13 29.1
comp=Z,4.1nm,1.3s
CMAR Chiang Mai Arr 90.15 289 P **P** 15 13 28.9 +0.5
CMAR Chiang Mai Arr 90.15 289 P **P** 15 13 29.4 +0.9
comp=Z,2.5nm,0.9s,baz=119,slow=2.8,SNR=16
comp=Z,2.5nm,0.9s
MKAR Makanchi Array 110.96 314 PKiKP **PKiKP** 15 18 55.5 -2.0
comp=Z,0.3nm,0.6s,baz=70,slow=1.7,SNR=3.0
KURBB Kurchatov Arra 113.76 317 PKiKP **PKiKP** 15 19 00.7 -2.0
comp=Z,0.2nm,0.4s,baz=89,slow=1.9,SNR=6.9
BVAR Borovoye Array 118.77 320 PKP **PKPdf** 15 19 10.7 -1.6
comp=Z,1.6nm,0.7s,baz=159,slow=1.3,SNR=6.0
ARCES ARCESS Array B 128.35 350 PKP **PKPdf** 15 19 29.1 -1.1
comp=Z,9.0nm,1.1s,baz=15,slow=5.0,SNR=6.2
FINES FINESS Array B 135.24 344 PKhKP PKPpre 15 19 38.9
comp=Z,2.4nm,1.1s,baz=157,slow=35,SNR=2.4
FINES PKP **PKPdf** 15 19 43.4 +0.1
comp=Z,3.5nm,1.0s,baz=54,slow=2.4,SNR=4.6
AKASG Malin Array Be 142.59 332 PKhKP PKPpre 15 19 52.6
comp=Z,1.1nm,0.4s,baz=41,slow=4.1,SNR=13
LODK Lodwar 143.83 247 PKPab 15 19 58.5 -0.8
EKA Eskdalemuir Ar 144.36 5 PKP PKPbc 15 19 59.4 -0.3
comp=Z,1.6nm,0.7s,baz=8.4,slow=2.4,SNR=5.8
BR131 Keskin Array S 146.61 313 **PKPbc** 15 20 06.5 -0.5
BRTR Keskin Array B 146.61 313 PKPbc **PKPdf** 15 20 05.8 +1.3
comp=Z,2.5nm,0.7s,baz=139,slow=3.7,SNR=15
BUR08 Bucovina Ar. S 146.63 331 **PKPbc** 15 20 07.0 +0.2
OSTC Ostas 147.45 343 *e*PKP **PKPbc** 15 20 09.4 +0.7
DPC Dobruska-Polom 147.60 343 *e*PKP **PKPbc** 15 20 09.6 +0.4
MMAI Mount Meron Ar 147.73 301 PKPbc **PKPbc** 15 20 10.1 0.0
comp=Z,5.3nm,0.6s,baz=69,slow=4.6,SNR=7.7
MDUB Mudurnu 147.88 316 **PKPbc** 15 20 09.9 -0.4
PRU Pruhonice 148.40 345 *e*PKP **PKPbc** 15 20 11.2 +0.1
ZVC Zvikov 148.99 345 *e*PKP **PKPbc** 15 20 12.5 -0.1
KHC Kasperske Hory 149.43 345 **PKPbc** 15 20 13.3 -0.5
KHC Kasperske Hory 149.43 345 *e*PKP **PKPbc** 15 20 13.6 -0.1
CKRC Cesky Krumlov 149.54 344 *e*PKP **PKPbc** 15 20 14.0 0.0
GEC2 GERESS Array S 149.67 345 **PKPbc** 15 20 13.9 -0.4
GERES GERESS Array B 149.67 345 PKPbc **PKPbc** 15 20 14.2 -0.2
comp=Z,2.8nm,0.8s,baz=35,slow=4.9,SNR=11
CONA Conrad Observa 149.92 342 *i* PKiKP **PKPbc** 15 20 14.9 0.0
comp=Z,2.8nm,0.6s
RONA Rosalia, Austr 149.99 341 *i* PKiKP **PKPbc** 15 20 15.0 -0.1
comp=Z,2.5nm,0.5s
ARSA Arzberg 150.63 341 *i* PKP **PKPbc** 15 20 15.3 -1.2
comp=Z,0.2nm,0.2s
BIOA Bad Ischl, Aus 150.75 344 *i* PKP **PKPbc** 15 20 15.9 -1.0
comp=Z,0.9nm,0.3s
LESA Schwarzleotal 151.24 345 *i* PKP **PKPbc** 15 20 17.5 -0.5
comp=Z,1.1nm,0.3s
SOKA Soboth 151.29 342 *e*PKP **PKPbc** 15 20 16.9 -1.3
comp=Z,0.6nm,0.4s
KBA Koelnbreinsper 151.40 344 *i* PKP **PKPbc** 15 20 17.8 -0.8
comp=Z,1.4nm,0.5s
WTTA Wattenberg 151.63 347 *i* PKP **PKPbc** 15 20 18.4 -0.6
comp=Z,1.7nm,0.3s
MOTA Moosalm 151.67 347 *i* PKP **PKPbc** 15 20 18.6 -0.4
comp=Z,1.1nm,0.5s
ABTA Abfaltersbach 151.91 345 *e*PKP **PKPbc** 15 20 18.4 -1.2
comp=Z,1.7nm,0.5s
TORD Torodi Ar. Bea 173.29 175 PKP **PKPdf** 15 20 32.0 -1.8
comp=Z,0.7nm,0.9s,baz=234,slow=6.9,SNR=3.5
TORD PKPab **PKPab** 15 22 05.6 +0.4
comp=Z,0.6nm,1.1s,baz=219,slow=3.7,SNR=2.1

*IDC **25** 15:01:35.6± 1.0, 6˚.23S× 142˚.80E, h0km, mb3.8/7, mbtmp3.9/10, ML3.6/1, Error ellipse: s-maj=29.2km s-min=20.5km az=86.0*
ISC 25 15:01:40.6±0.8, 6˚.3S±0˚.1×142˚.7E±0˚.1, h35km, n10, σ1§12/11, mb3.7/7, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.36**	**125**	Pn		**Pn**	**15 02 58.1**	**-0.1**
	7.0nm,0.4s,baz=332,slow=7.4,SNR=2.6							
PMG				Sn		**Sn**	**15 03 59.0**	**+0.3**
	1.5nm,0.3s,baz=268,slow=22,SNR=3.4							
WRA	**Warramunga Arr**	**15.82**	**210**	Pn		**Pn**	**15 05 19.0**	**-1.8**
	0.2nm,0.3s,baz=22,slow=13,SNR=16							
WRA				Sn		Sn	15 08 04.4	-11
	0.2nm,0.3s,baz=32,slow=23,SNR=2.6							
WRA				Lg		Lg	15 09 59.5	
	baz=31,slow=26							
	0.9nm,0.6s							
ASAR	**Alice Springs**	**19.24**	**205**	P		**P**	**15 06 03.8**	**+1.7**
	7.8nm,0.7s,baz=34,slow=9.2,SNR=70							
ASAR				Lg		Lg	15 11 49.5	
	baz=33,slow=31							
KSRS	**Korea Array**	**45.68**	**343**	P		**P**	**15 09 57.9**	**-0.2**
	1.0nm,0.9s,baz=165,slow=9.9,SNR=3.8							
	1.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**49.70**	**301**	P		**P**	**15 10 30.0**	**+0.3**
	0.6nm,0.6s,baz=119,slow=7.3,SNR=3.0							
	0.6nm,0.6s							
MKAR	**Makanchi Array**	**75.07**	**322**	P		**P**	**15 13 20.4**	**+1.4**
	0.4nm,0.5s,baz=118,slow=6.1,SNR=5.9							
	0.4nm,0.5s							
ZALV	**Zalesovo Beam**	**77.05**	**329**	P		**P**	**15 13 29.6**	**-0.4**
	0.2nm,0.3s,baz=100,slow=6.0,SNR=1.8							
	0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**78.96**	**324**	P		**P**	**15 13 40.4**	**-0.4**
	0.9nm,1.0s,baz=109,slow=4.5,SNR=5.4							
	0.9nm,1.0s							
BVAR	**Borovoye Array**	**84.54**	**325**	P		**P**	**15 14 11.1**	**+1.0**
	2.0nm,0.7s,baz=113,slow=5.6,SNR=12							
	2.0nm,0.7s							
ILAR	**Eielson Array**	**87.45**	**24**	P		**P**	**15 14 23.6**	**-0.7**
	0.6nm,0.7s,baz=255,slow=4.8,SNR=9.3							
	0.6nm,0.7s							

*IDC **25** 15:01:57.9± 1.6, 41˚.65N× 26˚.98E, h0km, mb3.1/3, mbtmp3.1/7, ML3.1/4, Error ellipse: s-maj=24.6km s-min=9.3km az=54.0*
*ISK **25** 15:01:58.8, 41˚.63N× 26˚.78E, h13km, ML3.6/30*
*AFAD **25** 15:01:59.5± 0.0, 41˚.60N× 26˚.82E, h7km± 2km, MW3.8*
*THE **25** 15:01:59.2, 41˚.61N× 26˚.86E, h2km± 2km, ML3.4/9, Error ellipse: s-maj=2.2km s-min=0.9km az=9.0*
*SOF **25** 15:01:59.4, 41˚.66N± 0˚.02× 26˚.77E± 0˚.02, h18km± 6km, MD3.6/9*
*ATH **25** 15:02:00.0, 41˚.62N× 26˚.77E, h10km± 1km, ML3.3/8, Error ellipse: s-maj=2.2km s-min=1.4km az=214.0*
ISC 25 15:01:59.2±0.8, 41˚.63N±0˚.02× 26˚.81E±0˚.02, h17km± 6km, n142, σ1§48/200, 39C-13D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EDRB	**Edirne**	**0.22**	**348**	Pg		**Pg**	**15 02 04.4**	**0.0**
EDRB				Sg		**Sg**	**15 02 07.6**	**-0.3**
EDRB	**Edirne**	**0.22**	**348**	P		**Pg**	**15 02 04.4**	**0.0**
EDRB				S		**Sg**	**15 02 07.8**	**-0.1**
	15μm,0.3s							
KIRK	**Kırklareli**	**0.27**	**55**	P		**Pb**	**15 02 05.7**	**+0.1**
KIRK				S		**Sg**	**15 02 09.3**	**+0.2**
KIRK				*i* AML		AML	15 02 10.0	
	comp=N,8μm,0.3s							
KIRK				*i* AML		AML	15 02 10.0	
	comp=E,6μm,0.7s							
UKOP	**Uzunkopru-Edir**	**0.52**	**195**	Pg		**Pb**	**15 02 10.6**	**+0.8**
ARMN	**Kirklareli, Me**	**0.52**	**63**	P		**Pb**	**15 02 09.9**	**0.0**
ARMN				S		**Sg**	**15 02 16.7**	**0.0**
ARMN				*i* AML		AML	15 02 18.0	
	comp=E,3μm,0.1s							
PHSR	**Pinarhisar**	**0.54**	**90**	Pg		**Pb**	**15 02 10.2**	**0.0**
VIZE	**Kirklareli, Vi**	**0.78**	**93**	P		**Pb**	**15 02 14.3**	**0.0**
VIZE				S		**Sn**	**15 02 27.1**	**+0.4**
VIZE				*i* AML		AML	15 02 28.0	
	comp=E,2μm,0.2s							

VIZE *i* AML AML 15 02 29.0
comp=N,2μm,0.1s
CRLT Corlu 0.86 125 Pg **Pg** **15 02 15.9 0.0**
JMB Yambol 0.89 347 Pg **Pb** **15 02 15.9 -0.3**
JMB Yambol 0.89 347 *i* P **Pb** **15 02 16.3 +0.1**
JMB *i* S **Sg** **15 02 28.4 +0.3**
ALN Alexandroupoli 0.93 218 Pg **Pb** **15 02 16.6 -0.3**
ALN Sg **Sn** **15 02 30.2 -0.2**
ALN Alexandroupoli 0.93 218 P **Pb** **15 02 16.9 0.0**
ALN S **Sn** **15 02 30.4 0.0**
1μm,0.6s
ALN Alexandroupoli 0.93 218 P **Pb** **15 02 16.9 0.0**
ALN S **Sg** **15 02 29.6 +0.1**
ALN AML AML 15 02 30.9
comp=E,1693μm,0.5s
ALN AML AML 15 02 31.0
comp=N,2662μm,0.6s
RKY Sarkoy-Tekirda 0.98 163 Pg **Pn** **15 02 18.8 +0.5**
RKY Sg **Sn** **15 02 32.5 +0.7**
ERIK Erikli-Kesan 0.98 193 Pg **Pb** **15 02 17.9 +0.1**
DIM Dimitrovgrad 1.01 295 *i* P **Pb** **15 02 18.1 -0.1**
DIM *i* S **Sg** **15 02 32.1 +0.1**
ENEZ Enez 1.02 209 Pg **Pb** **15 02 18.3 -0.1**
ENEZ Sg **Sn** **15 02 33.3 +0.7**
ENEZ Enez 1.02 209 P **Pg** **15 02 19.2 +0.3**
ENEZ S **Sn** **15 02 33.5 +0.9**
comp=N,5μm,0.6s
CAVK Edirne/Enez-Ca 1.05 207 P **Pg** **15 02 19.8 +0.3**
CAVK S **Sn** **15 02 34.1 +0.6**
CAVK *i* AML AML 15 02 35.0
comp=N,2μm,0.6s
CAVK *i* AML AML 15 02 42.0
comp=N,2μm,1.0s
RDO Rodhopi 1.07 244 Pg **Pb** **15 02 18.9 -0.4**
RDO Rodhopi 1.07 244 P **Pb** **15 02 19.1 -0.1**
RDO S **Sg** **15 02 34.6 +0.7**
comp=N,3μm,0.3s
RDO Rodhopi 1.07 244 P **Pb** **15 02 19.2 -0.1**
RDO S **Sn** **15 02 33.8 -0.1**
RDO AML AML 15 02 34.9
comp=N,8534μm,0.4s
RDO AML AML 15 02 36.2
comp=E,4185μm,0.3s
KDZ Kurdzhali 1.10 271 Pg **Pb** **15 02 19.6 -0.2**
KDZ Kurdzhali 1.10 271 *i* P **Pn** **15 02 20.1 +0.2**
KDZ *i* S **Sb** **15 02 33.9 0.0**
CTVL Yalikoy Yolu 1.12 97 Pn **Pb** **15 02 20.4 +0.2**
SLVT Silivri 1.13 110 Pn **Pg** **15 02 21.2 +0.2**
KIVI Yalikoy-Catalc 1.13 97 Pn **Pg** **15 02 20.8 -0.2**
MRMT Marmara Adasi 1.19 150 Pn **Pb** **15 02 21.4 +0.1**
GELI Tayfur-Gelibol 1.25 192 Pn **Pb** **15 02 22.5 +0.1**
LPK Lapseki 1.25 182 Pn **Pg** **15 02 23.2 -0.2**
KRBG Karabiga-Canak 1.29 163 Pn **Pb** **15 02 23.1 +0.1**
ELBA Catalca 1.31 111 P **Pb** **15 02 23.5 0.0**
ELBA S **Sn** **15 02 39.4 -0.5**
ELBA *i* AML AML 15 02 43.0
comp=E,980nm,0.5s
ELBA *i* AML AML 15 02 43.0
comp=E,1μm,0.2s
CTKS Kestanelik-??a 1.34 106 Pn **Pb** **15 02 23.8 0.0**
KNL Balıkesir 1.46 158 P **Pb** **15 02 26.6 +0.7**
KNL S **Sb** **15 02 44.3 +0.1**
KNL *i* AML AML 15 02 48.0
comp=E,672nm,0.3s
KNL *i* AML AML 15 02 49.0
comp=E,703nm,0.4s
ELND Elena 1.47 332 ⇑P **Pb** **15 02 26.1 0.0**
SMTH Samothraki Isl 1.51 220 P **Pn** **15 02 26.0 +0.6**
SMTH S **Sg** **15 02 48.1 +0.3**
comp=E,648nm,0.4s
SMTH Samothraki Isl 1.51 220 P **Pn** **15 02 26.1 +0.6**
SMTH S **Sn** **15 02 44.8 +0.1**
SMTH AML AML 15 02 53.2
comp=E,898μm,0.4s
SMTH AML AML 15 02 54.4
comp=N,1100μm,0.3s
EDC Edincik 1.51 148 Pn **Pb** **15 02 26.5 -0.3**
BGKT Bogazkoy 1.54 106 Pn **Pn** **15 02 26.6 +0.6**
COMU Canakkale 1.55 189 Pn **Pb** **15 02 26.9 -0.5**
RZN Rozhen 1.55 273 *i* P **Pb** **15 02 28.0 +0.4**
RZN *i* S **Sb** **15 02 47.7 +0.7**
GADA Gvkgeada 1.59 206 Pn **Pn** **15 02 26.9 +0.3**
CNKL anakkale-Mer 1.59 192 P **Pn** **15 02 27.4 +0.8**
CNKL S **Sn** **15 02 47.4 +0.6**
PRD Provadia 1.59 16 *i* P **Pb** **15 02 28.2 0.0**
PRD *i* S **Sb** **15 02 49.4 +1.3**
BAND Balkesir-Ban 1.60 142 P **Pb** **15 02 28.7 +0.3**
BAND S **Sn** **15 02 47.6 +0.5**
BAND *i* AML AML 15 02 52.0
comp=N,461nm,0.3s
BAND *i* AML AML 15 02 52.0
comp=N,561nm,0.4s
GOAD anakkale-G¶ 1.61 205 P **Pn** **15 02 27.5 +0.5**
GOAD S **Sb** **15 02 49.7 +1.0**
PLD Plovdiv 1.62 289 Pn **Pn** **15 02 27.2 +0.2**
PLD Plovdiv 1.62 289 *i* P **Pb** **15 02 29.3 +0.6**
PLD *i* S **Sg** **15 02 51.4 -0.1**
GONE Gonen-Balikesi 1.71 157 Pn **Pn** **15 02 29.1 +0.8**
KLYT Kilyos 1.72 102 Pn **Pn** **15 02 29.1 +0.7**
SZH Strazhitsa 1.75 340 *i* P **Pb** **15 02 29.9 -0.9**
ISK Istanbul-Kandi 1.79 108 Pn **Pn** **15 02 29.9 +0.7**
ISK Istanbul-Kandi 1.79 108 P **Pn** **15 02 30.0 +0.7**
ISK S **Sn** **15 02 52.5 +0.9**
comp=N,448nm,0.5s
KAVV Kandilli-Istan 1.79 108 Pn **Pn** **15 02 29.9 +0.6**
KCTX Karacabey (Bur 1.80 139 Pn **Pn** **15 02 30.4 +0.9**
EZN Ezine 1.84 192 Pn **Pn** **15 02 30.8 +0.8**
EZN Ezine 1.84 192 P **Pn** **15 02 31.0 +1.0**
EZN S **Sb** **15 02 54.5 -0.5**
comp=N,400nm,0.5s
KAVA Kavala 1.84 251 P **Pn** **15 02 30.7 +0.7**
KAVA S **Sg** **15 02 57.8 -0.6**
comp=N,1μm,0.5s
KAVA Kavala 1.84 251 P **Pn** **15 02 30.8 +0.7**
KAVA S **Sn** **15 02 53.0 +0.1**
BOZC Bozcaada 1.87 198 P **Pb** **15 02 32.0 -0.9**
BOZC S **Sn** **15 02 54.9 +1.1**
THAS Thassos island 1.88 238 P **Pb** **15 02 32.1 -0.9**
THAS S **Sg** **15 02 58.3 -1.4**
comp=N,480nm,0.4s
THAS Thassos island 1.88 238 P **Pn** **15 02 31.2 +0.7**
THAS S **Sn** **15 02 54.1 +0.2**
THAS AML AML 15 03 03.4
comp=E,988μm,0.6s
THAS AML AML 15 03 03.7
comp=N,930μm,0.3s
ARMT Armutlu 1.88 124 Pn **Pn** **15 02 31.8 +1.2**
BAYC CANAKKALE_Bayr 1.90 186 P **Pn** **15 02 32.0 +1.2**
BAYC S **Sn** **15 02 55.5 +1.1**
RAZG Razgrad 1.95 354 ⇑P **Pb** **15 02 33.1 -1.2**
RAZG ⇓S **Sg** **15 03 05.8 +3.9**
KVLA Kavala 1.95 250 P **Pn** **15 02 32.6 +1.1**
BLKS Balkesir-Sus 1.96 153 P **Pb** **15 02 33.6 -0.9**
BLKS S **Sn** **15 02 56.2 +0.2**
BALY Balya 1.98 162 P **Pb** **15 02 33.6 -1.3**
BALY S **Sn** **15 02 57.5 +0.9**
LIA Limnos Island 2.12 216 P **Pn** **15 02 34.4 +0.5**
LIA Limnos Island 2.12 216 P **Pn** **15 02 34.5 +0.5**
LIA S **Sn** **15 02 59.4 -0.5**
LIA AML AML 15 03 10.6
comp=E,1996μm,0.5s
LIA AML AML 15 03 11.8
comp=N,1419μm,0.4s
NVR Nevrokopi 2.23 264 P **Pb** **15 02 38.8 -0.3**
NVR Nevrokopi 2.23 264 P **Pb** **15 02 38.2 -0.9**
NVR S **Sn** **15 03 02.0 -0.6**
NVR AML AML 15 03 19.3
comp=N,863μm,0.9s
NVR AML AML 15 03 23.1
comp=E,725μm,0.5s
PSN Preselentsi 2.23 26 *i* P **Pb** **15 02 38.6 -0.5**
KOKK Kokkinochori, 2.27 250 P **Pn** **15 02 36.5 +0.6**
KOKK Kokkinochori, 2.27 250 P **Pn** **15 02 36.6 +0.6**
ZIMR 2.29 333 ⇓P **Pn** **15 02 38.0 +1.8**
PRK Paraskevi 2.41 190 P **Pn** **15 02 39.2 +1.2**
PRK Paraskevi 2.41 190 P **Pb** **15 02 39.1 +1.2**
PRK S **Sn** **15 03 07.5 +0.4**
PRK AML AML 15 03 22.5
comp=N,1062μm,0.6s
PRK AML AML 15 03 26.0
comp=E,973μm,0.7s
SRS Serrai 2.47 259 P **Pn** **15 02 40.4 +1.7**
SRS Serrai 2.47 259 P **Pn** **15 02 39.9 +1.1**

SIGR	SIGRI	2.52	197	P		Pn	15 02 40.0	+0.6	
SIGR	SIGRI	2.52	197	P		Pn	15 02 40.3	+0.9	
SIGR				S		Sn	15 03 10.0	+0.3	
SIGR				AML		AML	15 03 20.9		
	comp=E,459µm,0.7s								
SIGR				AML		AML	15 03 23.6		
	comp=N,556µm,0.4s								
TSMN	Mangalia Port-	2.54	31	⇓P		Pb	15 02 42.8	-1.6	
TSMN				⇓S		Sg	15 03 20.8	0.0	
MANR	Mangalia	2.55	30	⇑P		Pb	15 02 43.3	-1.2	
SGRR	Singureni	2.66	347	⇑P		Pn	15 02 43.7	+2.3	
SOH	Sokhos	2.73	254	P		Pn	15 02 44.3	+2.0	
EFOR	EFORIE	2.79	28	⇑P		Pb	15 02 46.4	-2.3	
MPEP	Malo Peshtene	2.85	308	*i* P		Pb	15 02 45.3	+1.4	
CVDA	Cernavoda	2.85	18	⇓P		Pb	15 02 47.7	-1.9	
TSCT	Constanta Port	2.87	28	⇓P		Pb	15 02 47.7	-2.3	
TSCT				⇑S		Sb	15 03 27.1	+2.3	
PAIG	Paliouri	2.92	235	P		Pn	15 02 45.9	+1.0	
KNT	Kendrikon	2.98	262	P		Pn	15 02 46.7	+1.0	
TLBR	Topalu	3.05	17	⇓P		Pb	15 02 50.0	-3.1	
TLBR				⇑S		Sb	15 03 32.7	+2.7	
TIRR	Tirgusor	3.06	22	⇑P		Pn	15 02 48.2	+1.3	
TIRR				⇑S		Sb	15 03 34.0	+3.6	
SULR		3.08	353	⇑P		Pb	15 02 50.4	-3.0	
SULR				⇑S		Sb	15 03 33.4	+2.7	
HARR	Harsova	3.17	15	⇑P		Pn	15 02 49.8	+1.5	
HUMR	Humele	3.19	336	⇑P		Pn	15 02 49.9	+1.3	
VAY	Valandovo	3.20	266	*i* Pn		Pg	15 02 58.8	-1.7	
VALD	Valchedram	3.23	311	P		Pn	15 02 50.2	+1.1	
CHOS	Chios island	3.29	190	P		Pn	15 02 50.8	+0.8	
CHOS	Chios island	3.29	190	P		Pn	15 02 50.7	+0.7	
TPGR	Topolog	3.44	20	⇑P		Pn	15 02 55.0	+3.0	
TPGR				⇓S		Sb	15 03 42.2	+1.2	
STFAR	Stefanesti-Arg	3.50	338	⇑P		Pn	15 02 55.2	+2.3	
BLKB	Belogradchik	3.64	305	⇓P		Pn	15 02 54.4	-0.5	
CFR	Carcaliu	3.68	15	⇑P		Pn	15 02 58.5	+3.2	
MTUR	Matau	3.81	341	⇓P		Pn	15 02 58.9	+1.7	
NEHR	Nehoiu	3.82	355	⇑P		Pn	15 03 01.0	+3.8	
TLCR		3.85	22	⇑P		Pn	15 03 00.5	+2.9	
TLCR				⇑S		Sb	15 03 54.4	+1.5	
MLR	Muntele Rosu	3.91	351	⇑P		Pn	15 03 01.7	+3.1	
MLR	Muntele Rosu	3.91	351	Pn		Pn	15 03 00.8	+2.2	
	comp=N,4.8nm,0.3s,baz=130,slow=3.0,SNR=45								
MLR				Sn		Sn	15 03 46.0	+1.7	
	comp=N,3.3nm,0.3s,baz=112,slow=12,SNR=3.4								
MLR				Lg		Lg	15 04 01.9		
	comp=N,2.3nm,0.3s,baz=288,slow=23,SNR=1.4								
VOIR		4.02	342	⇑P		Pn	15 03 01.3	+1.3	
VOIR				⇑S		Sb	15 03 54.1	-3.7	
ARR	Arges	4.06	338	⇑P		Pn	15 03 03.1	+2.5	
ODBI	Odobesti	4.14	2	⇓P		Pn	15 03 04.9	+3.3	
PLOR	Plostina	4.22	359	⇑P		Pn	15 03 05.4	+2.6	
VRI	Vrincioaia	4.24	359	⇑P		Pn	15 03 05.9	+2.9	
VLDR	Vladesti	4.32	12	⇑P		Pn	15 03 07.4	+3.4	
VARL	Varlezi	4.34	10	⇑P		Pn	15 03 07.2	+2.9	
LOT	Lotru	4.41	331	⇑P		Pn	15 03 07.1	+1.6	
DOPR	Dopca	4.46	347	⇑P		Pn	15 03 08.3	+2.3	
TURR	Turia	4.46	353	⇑P		Pn	15 03 09.0	+2.8	
BOSR	Bodos	4.52	350	⇑P		Pn	15 03 09.8	+2.9	
OZUR		4.53	351	⇑P		Pn	15 03 09.6	+2.6	
HERR	Herculane	4.57	317	⇑P		Pn	15 03 07.3	-0.2	
GZR	Gura Zlata	4.77	323	⇑P		Pn	15 03 10.9	+0.5	
TESR	Tescani	4.88	359	⇑P		Pn	15 03 13.9	+2.0	
VASR	Vaslui	5.06	8	⇑P		Pn	15 03 17.8	+3.5	
SURR	Surduc	5.34	322	⇑P		Pn	15 03 19.2	+1.0	
MILM	Milestii Mici	5.48	15	⇑P		Pn	15 03 21.8	+1.7	
MILM	Milestii Mici	5.48	15	*e*P		Pn	15 03 21.0	+0.9	
	comp=N,13nm,0.6s								
MILM				*e*S		Sn	15 04 22.0	-0.7	
BRTR	Keskin Array B	5.53	108	Pn		Pn	15 03 20.8	-0.1	
	comp=N,0.2nm,0.3s,baz=324,slow=31,SNR=6.4								
BRTR				Pg		Pb	15 03 33.0	-2.5	
	comp=N,0.3nm,0.3s,baz=279,slow=16,SNR=4.9								
BRTR				Sn		Sn	15 04 21.2	-3.0	
	comp=N,0.2nm,0.3s,baz=158,slow=21,SNR=2.2								
	comp=N,0.3nm,0.3s								
TARU	Tarkhankut	5.60	46	*e*P		Pn	15 03 22.5	+0.8	
TARU				*ex*		x	15 04 24.9		
TARU				*e*S		Sn	15 04 27.3	+1.7	
TARU				Sm			15 04 33.1		
	comp=N,15nm,0.3s								
TARU				Sm			15 04 33.1		
	comp=E,4.0nm,0.3s								
MARR	Marisel-Cluj	5.70	334	⇑P		Pn	15 03 24.9	+1.8	
SEV	Sevastopol'	5.81	58	*e*P		Pn	15 03 22.5	-2.0	
SEV				Pm			15 03 29.5		
	comp=Z,3.0nm,0.4s								
SEV				*e*S		Sn	15 04 27.4	-3.3	
SEV				Sm			15 04 37.3		
	comp=N,5.0nm,0.3s								
SEV				Sm			15 04 37.3		
	comp=E,13nm,0.4s								
SIRR	Siria	5.94	323	⇑P		Pn	15 03 27.7	+1.2	
BURAR	Bucovina Array	6.09	350	⇓P		Pn	15 03 31.9	+3.3	
IDI	Anoyia	6.51	194	Pn		Pn	15 03 34.5	+0.3	
	comp=E,0.3nm,1.0s,baz=356,slow=19,SNR=2.2								
SUDU	Sudak	6.81	59	*e*P		Pn	15 03 38.6	+0.3	
SUDU				Pm			15 03 40.0		
	comp=Z,5.0nm,0.2s								
SUDU				*e*S		Sn	15 04 54.2	-1.2	
SUDU				Sm			15 05 02.4		
	comp=N,19nm,0.4s								
SUDU				Sm			15 05 02.4		
	comp=E,3.0nm,0.4s								
AKASG	Malin Array Be	9.23	10	Pn		Pn	15 04 11.4	0.0	
	comp=E,0.7nm,0.3s,baz=196,slow=12,SNR=2.4								
AKASG				Sn		Sn	15 05 49.5	-5.3	
	comp=E,1.1nm,0.3s,baz=341,slow=23,SNR=1.2								
	comp=E,0.2nm,0.3s								
FINES	FINESS Array B	19.85	359	P		P	15 06 28.3	-0.7	
	comp=E,0.1nm,0.3s,baz=179,slow=18,SNR=1.6								
	comp=E,1.5nm,0.9s								
HFS	Hagfors	20.22	341	P		P	15 06 33.3	+0.2	
	comp=E,0.9nm,0.6s,baz=156,slow=11,SNR=1.5								
	comp=E,0.9nm,0.6s								
NOA	NORSAR Array B	21.63	339	P		P	15 06 47.9	-0.5	
	comp=E,0.2nm,0.5s,baz=149,slow=10,SNR=2.1								
	comp=E,0.2nm,0.5s								
MKAR	Makanchi Array	39.40	63	P		P	15 09 27.9	0.0	
	comp=E,0.3nm,0.7s,baz=292,slow=4.5,SNR=2.5								
	comp=E,0.3nm,0.7s								

IDC 25 15:16:01.4±3.6, 5.75S×131.06E, h0km, mb3.5/1, mbtmp3.2/3, ML3.3/2, MS3.9/3, Error ellipse: s-maj=251.4km s-min=33.3km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
WRA	Warramunga Arr	14.47	168	Pn		Pn	15 19 28.4		+0.8
	0.2nm,0.3s,baz=349,slow=11,SNR=22								
WRA				Sn		Sn	15 21 53.6	-15	
	0.1nm,0.3s,baz=343,slow=22,SNR=2.2								
	0.3nm,0.7s								
ASAR	Alice Springs	18.03	172	P		Pn	15 20 13.0	-0.5	
	0.1nm,0.3s,baz=340,slow=8.6,SNR=6.4								
ASAR				S		Sn	15 23 21.3	-14	
	0.3nm,0.7s,baz=320,slow=15,SNR=5.2								
	0.3nm,0.7s								
ASAJ	Asahikawa	50.71	11	LR		LR	15 46 02.5		
	comp=Z,113nm,20.4s,baz=162,slow=36								
MKAR	Makanchi Array	67.77	326	P		P	15 27 01.1	0.0	
	0.3nm,0.7s,baz=121,slow=6.9,SNR=2.4								
	0.3nm,0.7s								
SHEM	Shemya Is, Ala	68.70	26	LR		LR	15 51 59.3		
	comp=Z,67nm,21.6s,baz=320,slow=31								
SEY	Seymchan	70.39	10	LR		LR	16 00 59.1		
	comp=Z,97nm,18.1s,baz=117,slow=38								

*JMA **25** 15:22:17.6±0.1, 37.8N±0.2×138.0E±0.3, h21km, MD4.0/38, MV4.1/38, SADOGASHIMA IS REG*
JMA Felt II J1 at SADOGASHIMA IS REG .
*IDC **25** 15:22:20.4±1.4, 37.70N×138.00E, h50km±19km, mb3.3/7, mbtmp3.5/11, ML2.9/4, Error ellipse: s-maj=19.9km s-min=12.2km az=49.0*
ISC 25 15:22:16.6±1.0, 37.71N±0.04×138.07E±0.03, h17km±7km, n30, σ1$50/31, mb3.6/7, 6D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
JSD	Sado	0.36	25	⇓P		Pg	15 22 24.2		+0.2
JSD				⇓*e*S		Sg	15 22 29.0		-0.1
JSD	Sado	0.36	25	A		A	15 22 24.2		
	comp=E,6.0nm,1.1s,comp=N,16nm,0.4s								
JIZZ	Izumozaki	0.54	109	⇓P		Pb	15 22 29.1		+1.5
JIZZ				⇓*e*S		Sb	15 22 38.2		+3.1
JIZZ	Izumozaki	0.54	109	A		A	15 22 29.1		
	comp=E,17nm,0.3s,comp=N,42nm,0.3s								
JJN	Nakama	0.61	173	*e*P		Pn	15 22 30.8		+0.3
JJN				*e*S		Sn	15 22 41.0		+1.0
JJN	Nakama	0.61	173	A		A	15 22 30.8		
	comp=E,34nm,0.7s,comp=N,20nm,0.4s								
JSZ	Suzu	0.62	245	P		Pb	15 22 29.8		+0.9
JSZ				*e*S		Sn	15 22 38.8		-1.3
JSZ	Suzu	0.62	245	A		A	15 22 29.8		
	comp=E,16nm,0.6s,comp=N,7.0nm,0.4s								
JHG	Hegura jima	0.92	279	P		Pg	15 22 34.1		-0.4
JHG	Hegura jima	0.92	279	A		A	15 22 34.1		
	comp=E,11nm,1.7s,comp=N,11nm,0.7s								
JUON	Uonuma	0.94	122	⇓P		Pb	15 22 35.0		+0.6
JUON				⇓*e*S		Sb	15 22 48.0		+1.6
JUON	Uonuma	0.94	122	A		A	15 22 35.0		
	comp=E,5.0nm,0.3s,comp=N,5.0nm,0.3s								
JNS	Sasagawa	1.00	84	P		Pb	15 22 35.4		+0.1
JNS				*e*S		Sb	15 22 48.6		+0.4
MAT	Matsushiro	1.17	174	P		Pn	15 22 38.7		+0.5
MAT				*e*S		Sb	15 22 54.3		+0.9
MJAR	Matsushiro Arr	1.18	174	P		Pb	15 22 39.6		+1.1
	comp=N,104nm,0.3s,baz=349,slow=22,SNR=2121								
MJAR				S		Sg	15 22 55.9		+1.2
	comp=N,183nm,0.3s,baz=31,slow=25,SNR=12								
JKT	Katashina	1.33	135	A		A	15 22 42.0		
	comp=E,9.0nm,0.3s,comp=N,7.0nm,0.3s								
JFY	Yanaizu	1.34	103	A		A	15 22 41.8		
	comp=E,2.0nm,1.6s,comp=N,2.0nm,0.2s								
JSB	Shiboa	1.65	116	A		A	15 22 46.6		
	comp=E,4.0nm,1.6s,comp=N,3.0nm,1.3s								
JHJ	Hachijo jima 2	4.79	162	P		Pn	15 23 25.4		-2.6
	comp=N,32nm,0.4s,baz=52,slow=18,SNR=1.5								
ASAJ	Asahikawa	7.26	27	P		Pn	15 24 04.5		+2.7
	comp=N,0.2nm,0.3s,baz=297,slow=29,SNR=1.3								
	comp=N,2.6nm,1.0s								
JNU	Nakatsue	7.44	234	P		Pn	15 24 06.0		+1.6
	comp=N,0.2nm,0.3s,baz=5.4,slow=22,SNR=2.4								
	comp=N,4.1nm,0.9s								
USRK	Ussuriysk Ar.	7.94	327	P		Pn	15 24 12.9		+1.7
	comp=N,0.1nm,0.3s,baz=119,slow=18,SNR=1.1								
	comp=N,1.2nm,0.7s								
KSRS	Korea Array	8.06	271	P		Pn	15 24 15.1		+2.3
	comp=N,0.4nm,0.3s,baz=83,slow=14,SNR=6.8								
KSRS				S		Sn	15 25 45.9		+2.4
	comp=N,0.6nm,0.5s,baz=78,slow=23,SNR=4.8								
	comp=N,1.0nm,0.3s								
SONM	Songino Array	25.19	304	P		P	15 27 41.5		+0.3
	comp=N,1.5nm,0.8s,baz=106,slow=9.0,SNR=6.7								
	comp=N,1.5nm,0.8s								
MKAR	Makanchi Array	41.49	301	P		P	15 30 01.6		-1.0
	comp=N,0.1nm,0.5s,baz=93,slow=11,SNR=1.7								
MKAR				PcP		PcP	15 31 59.1		-1.0
	comp=N,0.1nm,0.4s,baz=90,slow=4.3,SNR=1.9								
	comp=N,0.1nm,0.5s								
KURBB	Kurchatov Arra	43.47	307	P		P	15 30 17.2		-1.4
	comp=N,0.3nm,0.5s,baz=87,slow=7.8,SNR=5.3								
	comp=N,0.3nm,0.5s								
ILAR	Eielson Array	50.35	33	P		P	15 31 12.4		+0.2
	comp=N,0.7nm,0.7s,baz=269,slow=5.3,SNR=12								
	comp=N,0.7nm,0.7s								
FINES	FINESS Array B	66.95	331	P		P	15 33 06.0		-1.8
	comp=N,0.9nm,0.7s,baz=19,slow=4.7,SNR=1.2								
	comp=N,0.9nm,0.7s								
PDAR	Pinedale Array	79.06	44	P		P	15 34 19.9		-0.2
	comp=N,0.4nm,0.6s,baz=287,slow=2.5,SNR=3.9								
	comp=N,0.4nm,0.6s								
TXAR	Lajitas Array	91.78	50	P		P	15 35 24.7		+0.9
	comp=N,0.2nm,0.7s,baz=270,slow=0.9,SNR=2.4								
	comp=N,0.2nm,0.7s								

*DJA **25** 15:24:28.9±0.4, 7.7S×3.3×12.2E×, h209km±11km, M4.7/14, mb4.7/13, mB5.2/6, MLv4.8/14, Mw(mB)4.5/6*
*NEIC **25** 15:24:29.8±1.3, 6.90S±0.07×129.24E±0.07, h160km±8km, mb4.5/32, Error ellipse: s-maj=11.1km s-min=10.4km az=136.0*
*IDC **25** 15:24:33.2±2.7, 7.10S×129.04E, h196km±28km, mb3.7/9, mbtmp4.4/11, Error ellipse: s-maj=25.0km s-min=12.9km az=44.0*
ISC 25 15:24:29.5±0.4, 6.99S±0.04×129.24E±0.05, h156km, n106, σ1$63/113, mb4.4/23, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
SAUI	Saumlaki	2.27	116	P		Pn	15 25 10.9		+2.7
SAUI	Saumlaki	2.27	116	Pn		Pn	15 25 10.4		+2.2
SAUI	Saumlaki	2.27	116	P		Pn	15 25 10.8		+2.6
BNDI	Bandanaira	2.54	15	P		Pn	15 25 14.1		+2.6
BNDI	Bandanaira	2.54	15	P		Pn	15 25 14.0		+2.6
NLAI	Namlea	4.29	330	P		Pn	15 25 36.0		+2.2
FAKI	Fak Fak	5.03	37			Pn	15 25 41.4		-2.2
FAKI	Fak Fak	5.03	37	P		Pn	15 25 41.7		-1.9
SOEI	Soe	5.63	240	P		Pn	15 25 53.0		+1.4
SOEI	Soe	5.63	240			Pn	15 25 52.1		+0.5
SOEI	Soe	5.63	240	P		Pn	15 25 52.5		+0.9
	254nm,0.6s,4µm1.1nm								
DRS	Darwin Rock St	5.65	163	P		Pn	15 25 53.3		+1.6
SANI	Sanana	5.88	326	P		Pn	15 25 56.5		+1.7
SANI	Sanana	5.88	326	P		Pn	15 25 56.3		+1.5
	74nm,1.1s,0.2nm								
MTN	Manton Dam	6.11	162	P		Pn	15 25 58.7		+0.9
MTN	Manton Dam	6.11	162	Pn		Pn	15 25 58.5		+0.7
BATI	Baumata	6.37	240	P		Pn	15 26 02.0		+0.7
	425nm,0.4s,baz=126,slow=1.6,SNR=132								
BATI				S		Sn	15 27 13.6		+0.3
	109nm,0.4s,baz=138,slow=21,SNR=6.0								
BATI	Baumata	6.37	240	P		Pn	15 26 02.0		+0.7
	579nm,0.5s,9µm2.4nm								
SWI	Sorong	6.41	18	P		Pn	15 26 00.6		-1.2
	33nm,0.4s,2µm0.7nm								
KDU	Kakadu	6.50	151	P		Pn	15 26 03.5		+0.6
LBMI	Labuha	6.54	345	P		Pn	15 26 05.0		+1.4
	193nm,0.7s,2µm0.6nm								
MMRI	Maumere	7.13	256	P		Pn	15 26 13.0		+1.6
MMRI	Maumere	7.13	256	Pn		Pn	15 26 12.2		+0.8
MMRI	Maumere	7.13	256	P		Pn	15 26 12.2		+0.8
	60nm,0.7s,0.2nm								
EDFI	Ende, Flores	7.68	256	P		Pn	15 26 19.9		+1.1
	37nm,0.7s,0.1nm								
BASI	Baing, Sumba	9.14	249	P		Pn	15 26 38.3		+0.1
	115nm,1.2s,2µm								
MRSI	Marisa	10.39	315	P		Pn	15 26 57.4		+2.7
PLAI	Plampang	11.50	260	P		Pn	15 27 09.0		-0.2
PLAI	Plampang	11.50	260	P		Pn	15 27 08.4		-0.8
FITZ	Fitzroy Crossi	11.59	197	P		Pn	15 27 08.9		-1.4
FITZ	Fitzroy Crossi	11.59	197	Pn		Pn	15 27 08.4		-1.9
WB0	Warramunga Arr	13.65	159	Pn		Pn	15 27 34.4		-2.5
WRAB	Tennant Creek	13.79	159			Pn	15 27 36.5		-2.1
WRA	Warramunga Arr	13.79	159	P		Pn	15 27 36.6		-2.1
	15nm,0.5s,baz=337,slow=13,SNR=91								
WRA				S		Sn	15 30 01.2		-11
	17nm,0.4s,baz=338,slow=21,SNR=7.9								
WB2	Warramunga Arr	13.80	159	Pn		Pn	15 27 36.5		-2.3
WR0	Warramunga Arr	13.88	159			Pn	15 27 37.6		-2.2
JAGI	Jajag, Banyuwa	15.02	263	P		Pn	15 27 54.5		+0.4
JAGI	Jajag, Banyuwa	15.02	263	Pn		Pn	15 27 50.5		-3.6
JAGI				IAmb		IAmb	15 28 08.7		
	comp=Z,18nm,1.1s								
COEN	Coen	15.35	118	P		P	15 27 59.6		+0.3
COEN	Coen	15.35	118	Pn		Pn	15 27 57.6		-0.5
COEN				IAmb		IAmb	15 28 21.9		
	comp=Z,24nm,0.9s								
MTKI	Muara Teweh, K	15.51	292	P		P	15 28 02.9		+1.7
QIS	Mount Isa	16.82	144	P		Pn	15 28 17.0		+1.0
MBWA	Marble Bar	16.82	212	P		P	15 28 15.7		+0.1
MBWA	Marble Bar	16.82	212	P		P	15 28 14.4		-1.2
MBWA				IAmb		IAmb	15 28 49.9		
	comp=Z,15nm,1.1s								
PSA00	Pilbara Seismi	17.11	211	P		Pn	15 28 19.9		+0.5
PSA00	Pilbara Seismi	17.11	211	P		P	15 28 18.2		-0.5
PSA00				IAmb		IAmb	15 28 20.3		
	comp=Z,22nm,0.6s								
AS31	Alice Springs	17.18	165	P		P	15 28 19.6		+0.1
AS31				IAmb		IAmb	15 28 22.3		
	comp=Z,10nm,0.8s								
ASAR	Alice Springs	17.18	165	P		P	15 28 19.9		+0.5
ASAR	Alice Springs	17.18	165	P		Pn	15 28 20.9		+0.6
	comp=Z,16nm,0.3s,baz=341,slow=9.5,SNR=827								
ASAR				S		S	15 31 26.1		-4.6
	comp=Z,7.8nm,0.5s,baz=344,slow=23,SNR=10.0								

AS01	Alice Springs	17.19	165	P		Pn	15 28 21.0		+0.5
PMG	Port Moresby	17.90	99	P		Pn	15 28 30.5		+1.5
	comp=Z,16nm,0.8s,baz=283,slow=18,SNR=4.9								
WRKA	Warakurna	17.97	183	P		Pn	15 28 30.3		+0.5
KKM	Kota Kinabalu	18.34	315	P		Pn	15 28 34.5		+0.2
KKM	Kota Kinabalu	18.34	315	P		P	15 28 31.1		-1.3
SMRI	Semarang	18.66	269	P		P	15 28 35.8		0.0
MANU	Manus Island	18.72	76	P		P	15 28 35.9		-0.5
MANU				IAmb		IAmb	15 28 39.7		
	comp=Z,23nm,0.7s								
CTA	Charters Tower	21.02	130	P		P	15 29 02.7		+1.6
	comp=Z,5.7nm,0.8s,baz=269,slow=6.5,SNR=6.6								
	comp=Z,5.7nm,0.8s								
CTAO	Charters Tower	21.02	130	P		P	15 29 03.2		+2.1
CTAO	Charters Tower	21.02	130	P		P	15 29 01.2		+0.1
CTAO				IAmb		IAmb	15 29 01.4		
	comp=Z,28nm,1.5s								
OOD	Oodnadatta	21.58	164	P		P	15 29 07.7		+0.7
MEEK	Meekatharra	22.00	206	P		P	15 29 11.9		+0.5
INKA	Innaminka	23.35	154	P		P	15 29 26.4		+2.4
MULG	Mulgathing	23.61	170	P		P	15 29 27.2		+0.8
FORT	Forrest	23.69	183	P		P	15 29 29.0		+1.9
FORT	Forrest	23.69	183	P		P	15 29 27.4		+0.3
QLP	Quilpie	24.15	146	P		P	15 29 35.0		+3.6
LCRK	Leigh Creek	24.81	161	P		P	15 29 38.7		+1.4
MORW	Morawa	25.25	208	P		P	15 29 42.3		+1.0
MORW	Morawa	25.25	208	P		P	15 29 40.7		-0.6
MORW				IAmb		IAmb	15 29 50.0		
	comp=Z,11nm,1.1s								
RK1H	Rockhampton Ha	26.14	131	P		P	15 29 50.4		+1.1
	comp=Z,8.7nm,0.7s								
BLDU	Ballidu	26.28	205	P		P	15 29 51.3		+0.8
BBOO	Buckleboo	26.46	167	P		P	15 29 52.5		+0.3
STKA	Stephens Creek	27.32	157	P		P	15 29 59.6		-0.1
STKA	Stephens Creek	27.32	157	P		P	15 29 59.7		-0.1
	comp=Z,5.5nm,0.6s,baz=354,slow=11,SNR=3.4								
	comp=Z,2.5nm,0.6s								
NWAO	Narrogin (SRO)	28.12	202	P		P	15 30 07.5		+0.6
TPUB	Ta-pu	31.26	345	P		P	15 30 31.9		-2.8
YHNB	Yeheng	32.39	347	P		P	15 30 41.9		-2.7
TOO	Toolangi	33.84	156	P		P	15 30 58.1		+0.9
CMAR	Chiang Mai Arr	39.15	311	P		P	15 31 41.1		-1.2
	comp=Z,0.4nm,0.4s,baz=147,slow=7.6,SNR=6.5								
	comp=Z,0.4nm,0.4s								
NJ2	Nanjing	40.07	346	*e*P		P	15 31 50.8		+1.1
NJ2				pP		pwP	15 32 26.0		-2.5
NJ2				sP		sP	15 32 44.0		+4.6
NJ2				pmax		pmax			
	comp=Z,8.0nm,0.9s								
KSRS	Korea Array	44.23	358	P		P	15 32 22.5		-0.8
	comp=Z,0.5nm,0.5s,baz=174,slow=9.9,SNR=4.6								
	comp=Z,0.5nm,0.5s								
HHC	Hu-ho-hao-te	50.30	343	*e*P		P	15 33 12.0		+1.6
HHC				pP		pP	15 33 47.3		+3.0
HHC				pmax		pmax			
	comp=Z,20nm,0.5s								
HHC				pmax		pmax			
	comp=Z,120nm,5.6s								
XLT	XiLinHaoTe	52.03	348	*e*P		P	15 33 27.5		+4.3
XLT				pP		pwP	15 34 03.0		-0.5
XLT				sP		sP	15 34 22.5		+8.4
XLT				PcP		PcP	15 34 32.5		-0.7
XLT				PP		PP	15 35 27.0		+3.9
XLT				pmax		pmax			
	comp=Z,10.0nm,0.7s								
XLT				pmax		pmax			
	comp=Z,140nm,6.3s								
SONM	Songino Array	58.20	342	P		P	15 34 07.7		+0.3
	comp=Z,0.7nm,0.4s,baz=157,slow=7.2,SNR=6.1								
	comp=Z,0.7nm,0.4s								
WMQ	Urumqi	62.98	327	*e*P

3.6nm,0.5s
EMIN Mina Concepcio 3.80 345 ⇑*i*Vmb_V 15 28 10.5
98nm,SNR=0.8
EMIN Sn **Sn** **15 28 50.9 -1.7**
EGRO El Granado 3.81 335 Pn **Pn** **15 28 06.7 -1.6**
EGRO ⇑*i*Vmb_V 15 28 08.0
181nm,SNR=0.8
EGRO Sn **Sn** **15 28 52.7 -0.2**
ZGR Zagora 3.96 182 P **Pn** **15 28 11.0 +0.6**
ZGR Zagora 3.96 182 S **Pn** **15 28 56.7 +0.1**
ECAB El Cabril 3.98 1 Pn **Pn** **15 28 11.8 +1.1**
ECAB ⇑*i*Vmb_V 15 28 14.0
173nm,SNR=1.3
ECAB Sn **Sn** **15 28 53.9 -3.2**
FIGM Figuig 4.03 118 P **Pn** **15 28 11.4 -0.1**
FIGM Figuig 4.03 118 S **Sn** **15 29 00.5 +2.0**
MORF Marmelete 4.13 322 *e*P **Pn** **15 28 13.5 +0.8**
EADA Adamuz 4.14 10 Pn **Pn** **15 28 14.0 +1.2**
EADA ⇑*i*Vmb_V 15 28 17.2
103nm,SNR=1.0
EADA Sn **Sn** **15 28 58.6 -2.3**
PBAR Barrancos 4.27 343 *e*P **Pn** **15 28 15.3 +0.6**
PBAR *e*S **Sn** **15 29 02.3 -2.0**
PBAR A A 15 29 11.3
1.5nm,0.4s
PTEO Sao Teotonio 4.35 323 *e*P **Pn** **15 28 17.2 +1.5**
MESJ Messejana 4.36 330 *e*P **Pn** **15 28 16.6 +0.7**
MESJ *e*S **Sn** **15 29 05.8 -0.6**
MESJ A A 15 29 08.5
3.1nm,0.6s
PNCL Nicolau / Gran 4.72 329 *e*P **Pn** **15 28 18.4 -2.4**
PNCL *e*S **Sn** **15 29 14.7 -0.5**
PESTR Estremoz 5.07 341 *e*P **Pn** **15 28 26.8 +1.2**
PESTR *e*S **Sn** **15 29 22.0 -1.9**
PMTG Montargil 5.45 337 *e*P **Pn** **15 28 31.9 +1.1**
PMTG *e*S **Sn** **15 29 30.6 -2.5**
PMRV Marv??o 5.55 344 *e*P **Pn** **15 28 33.2 +0.9**

BJI ***25*** *15:36:14.4±0.0,32˚.20N×141˚.57E,h50km,mb4.7/59, mB4.8/24,Ms4.0/11,Ms7 3.8/12*
MOS ***25*** *15:36:22.1±0.9,32˚.48N×140˚.66E,h52km,mb5.1/57,Error ellipse: s-maj=8.5km s-min=4.1km az=114.7*
NEIC ***25*** *15:36:24.9±1.5,32˚.52N±0˚.07×140˚.65E±0˚.09,h54km±4km, mb5.0/292,Error ellipse: s-maj=11.5km s-min=10.4km az=51.0*
NIED ***25*** *15:36:25.8,32˚.64N×140˚.79E,h53km,MW4.6,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr6.87; Mθθ0.17; Mφφ-7.03; Mrθ0.36; Mθφ-1.56; Mφr-3.80; Fault plane solution: M₀8.08000×10¹⁵ NP1: φs183.00000°,δ59.00000°,λ81.00000°. NP2:φs21.00000°, δ32.00000°,λ105.00000°.*
IDC ***25*** *15:36:25.2±0.5,32˚.52N×140˚.60E,h62km±3km,mb4.4/33, mbtmp4.7/36,MS3.7/18 Error ellipse: s-maj=10.6km s-min=6.6km az=43.0*
JMA ***25*** *15:36:25.8±0.1,32˚.6N±0˚.3×140˚.8E±0˚.7,h53km,MD4.8/37, MV5.0/37,E OFF HACHIJOJIMA ISLAND*
JMA Felt II J1 at E OFF HACHIJOJIMA ISLAND.
ISC 25 15:36:23.6±0.3,32.55N±0.04×140.76E±0.04,h50km±2km, h50km:pP-P,n919,σ1≒41/838,mb4.9/237,MS3.8/18, 42C-33D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**0.85**	**265**	⇓P		**Pn**	**15 36 42.3**	**+3.0**
JAOM				⇓*e*S		**Sn**	**15 36 54.3**	**+3.6**
JAOM	**Aogashimamukai**	**0.85**	**265**	A		A	15 36 42.3	
	comp=E,162nm,0.7s,comp=N,220nm,0.5s							
JHCJ	**Hachijojimakas**	**0.96**	**303**	⇓P		**Pn**	**15 36 42.9**	**+2.1**
JHCJ				⇓*e*S		**Sn**	**15 36 55.2**	**+1.7**
JHCJ	**Hachijojimakas**	**0.96**	**303**	A		A	15 36 42.9	
	comp=E,59nm,0.8s,comp=N,70nm,0.5s							
JHJ2	**Mitsune**	**0.97**	**306**	P		**Pn**	**15 36 43.3**	**+2.4**
JHJ2	**Mitsune**	**0.97**	**306**			**Pn**	**15 36 43.1**	**+2.1**
JHJ2				Sn		**Sn**	**15 36 53.7**	**0.0**
JHJ2	**Mitsune**	**0.97**	**306**	⇓P		**Pn**	**15 36 43.3**	**+2.4**
JHJ2				⇓*e*S		**Sn**	**15 36 55.7**	**+2.0**
JHJ2	**Mitsune**	**0.97**	**306**	A		A	15 36 43.3	
	comp=E,64nm,0.3s,comp=N,54nm,0.3s							
JHJ	**Hachijo jima 2**	**1.00**	**305**	P		**Pn**	**15 36 43.1**	**+1.8**
	comp=N,17μm,0.4s,baz=93,slow=22,SNR=2159							
JHJ				S		**Sn**	**15 36 54.8**	**+0.4**
	comp=N,41μm,0.3s,baz=283,slow=21,SNR=34							
JHJ				LR		LR	15 36 57.7	
	comp=N,1μm,20.9s,baz=162,slow=37							
JMKN	**Mikurajimanish**	**1.66**	**324**	⇓P		**Pn**	**15 36 52.2**	**+2.0**
JMKN				⇓*e*S		**Sn**	**15 37 11.6**	**+1.1**
JMKN	**Mikurajimanish**	**1.66**	**324**	A		A	15 36 52.2	
	comp=E,15nm,0.3s,comp=N,13nm,0.3s							
JMYK	**Miyake Tsubota**	**1.82**	**326**	P		**Pn**	**15 36 54.6**	**+2.2**
JMYK				*e*S		**Sn**	**15 37 15.9**	**+1.6**
JMYK	**Miyake Tsubota**	**1.82**	**326**	A		A	15 36 54.6	
	comp=E,32nm,0.9s,comp=N,29nm,0.8s							
BSO1	**Boso 1**	**2.11**	**5**	⇓P		**Pn**	**15 36 57.4**	**+1.5**
JKO	**Kozu shima**	**2.13**	**321**	*e*P		**Pn**	**15 36 59.2**	**+2.5**
JKO				*e*S		**Sn**	**15 37 23.5**	**+1.7**
JKO	**Kozu shima**	**2.13**	**321**	A		A	15 36 59.2	
	comp=E,46nm,0.7s,comp=N,28nm,0.4s							
JNIO	**Niijimaoohara**	**2.19**	**326**	A		A	15 36 59.8	
	comp=E,20nm,1.6s,comp=N,24nm,0.6s							
JSKK	**Shikinejimakit**	**2.20**	**324**	A		A	15 36 60.0	
	comp=E,14nm,1.2s,comp=N,14nm,1.4s							
BSO3	**Boso 3**	**2.26**	**355**	P		**Pn**	**15 36 59.9**	**+1.6**
JTHY	**Toshimahigashi**	**2.32**	**328**	A		A	15 37 01.6	
	comp=E,16nm,0.5s,comp=N,18nm,0.4s							
JIM2	**Oshima 3**	**2.43**	**333**	⇓P		**Pn**	**15 37 02.8**	**+1.9**
JIM2				⇓*e*S		**Sn**	**15 37 29.5**	**+0.1**
JIM2	**Oshima 3**	**2.43**	**333**	A		A	15 37 02.8	
	comp=E,13nm,0.3s,comp=N,14nm,0.7s							
TATJ	**Tateyama 2**	**2.58**	**344**	A		A	15 37 05.1	
	comp=E,9.0nm,1.0s,comp=N,10.0nm,3.5s							
JIZS	**Izushimoda**	**2.67**	**325**	⇓P		**Pn**	**15 37 06.8**	**+2.7**
JIZS				⇓*e*S		**Sn**	**15 37 37.0**	**+1.7**
JIZS	**Izushimoda**	**2.67**	**325**	A		A	15 37 06.8	
	comp=E,5.0nm,0.5s,comp=N,4.0nm,1.9s							
JYO	**Yokosk**	**2.82**	**341**	A		A	15 37 08.5	
	comp=E,7.0nm,0.9s,comp=N,8.0nm,0.7s							
JSG	**Sagara**	**3.02**	**315**	P		Pn	15 37 13.1	+4.2
JSG	**Sagara**	**3.02**	**315**	P		Pn	15 37 12.9	+4.0
JSG	**Sagara**	**3.02**	**315**			**Pn**	**15 37 12.0**	**+3.1**
JOD2	**Odawara 2**	**3.04**	**333**	P		**Pn**	**15 37 11.4**	**+2.2**
JOD2				*e*S		**Sn**	**15 37 44.4**	**-0.1**
JFNN	**Fujinakano**	**3.15**	**327**	*e*P		**Pn**	**15 37 14.1**	**+3.4**
TOK	**Tokyo**	**3.24**	**345**	A		A	15 37 14.4	
	comp=E,12nm,1.8s,comp=N,9.0nm,0.6s							
SHZ3	**Shizuoka 3**	**3.29**	**320**	P		**Pn**	**15 37 16.3**	**+3.6**
JYN	**Shimob**	**3.47**	**329**	P		**Pn**	**15 37 18.7**	**+3.5**
TTO1	**TONANKAI O.B.S**	**3.50**	**289**	*e*P		**Pn**	**15 37 18.6**	**+3.3**
JRY	**Ryogami san**	**3.79**	**337**	P		**Pn**	**15 37 22.1**	**+2.7**
JIE	**Ise**	**3.85**	**300**	⇓P		**Pn**	**15 37 23.4**	**+3.1**
JGF	**Kuroka**	**4.15**	**318**	P		Pn	15 37 29.0	+4.5
JGF	**Kuroka**	**4.15**	**318**	P		**Pn**	**15 37 28.4**	**+3.9**
JGF	**Kuroka**	**4.15**	**318**	Pn		**Pn**	**15 37 27.6**	**+3.1**
INU	**Inuyama**	**4.18**	**313**	P		Pn	15 37 28.8	+4.0
INU	**Inuyama**	**4.18**	**313**	P		**Pn**	**15 37 28.5**	**+3.7**
INU	**Inuyama**	**4.18**	**313**	Pn		**Pn**	**15 37 27.4**	**+2.5**
MJAR	**Matsushiro Arr**	**4.51**	**333**	P		**Pn**	**15 37 31.3**	**+2.0**
	comp=N,63nm,0.5s,baz=158,slow=13,SNR=198							
MJAR				S		**Sn**	**15 38 22.5**	**+2.0**
	comp=N,65nm,0.6s,baz=190,slow=20,SNR=5.4							
MJAR				LR		LR	15 38 46.1	
	comp=N,229nm,19.1s,baz=134,slow=32							
MAJO	**Matsushiro**	**4.51**	**333**	P		**Pn**	**15 37 32.6**	**+3.3**
MAJO	**Matsushiro**	**4.51**	**333**	P		**Pn**	**15 37 32.0**	**+2.7**
MAJO	**Matsushiro**	**4.51**	**333**	Pn		**Pn**	**15 37 31.6**	**+2.3**
MAJO	**Matsushiro**	**4.51**	**333**	*i*P		**Pn**	**15 37 31.8**	**+2.5**
MJB9	**Matsu-Tunnel**	**4.51**	**333**	Pn		**Pn**	**15 37 32.7**	**+3.4**
JMM	**Marumori**	**5.31**	**0**	P		**Pn**	**15 37 40.8**	**+0.6**
JMM	**Marumori**	**5.31**	**0**	P		**Pn**	**15 37 41.1**	**+0.9**
JMM	**Marumori**	**5.31**	**0**			**Pn**	**15 37 40.4**	**+0.1**
JCJ	**Chichijima**	**5.57**	**167**	P		**Pn**	**15 37 40.3**	**-3.6**
JCJ	**Chichijima**	**5.57**	**167**	P		Pn	15 37 39.5	-4.4
	comp=N,38nm,0.3s,baz=345,slow=23,SNR=16							
JCJ				S		Sn	15 38 38.5	-8.2
	comp=N,82nm,0.4s,baz=280,slow=23,SNR=1.6							
JSD	**Sado**	**5.85**	**340**	P		**Pn**	**15 37 49.5**	**+1.9**
JSD	**Sado**	**5.85**	**340**	P		**Pn**	**15 37 51.0**	**+3.4**
JSD	**Sado**	**5.85**	**340**			**Pn**	**15 37 48.2**	**+0.6**
JMN	**Monobe**	**5.89**	**283**	P		Pn	15 37 52.6	+4.3
JMN	**Monobe**	**5.89**	**283**	Pn		**Pn**	**15 37 51.8**	**+3.4**
JTM	**Tenmabayashi**	**8.23**	**2**	P		**Pn**	**15 38 20.2**	**-0.1**
JTM	**Tenmabayashi**	**8.23**	**2**			**Pn**	**15 38 19.7**	**-0.5**
JNU	**Nakatsue**	**8.34**	**277**	P		Pn	15 38 26.4	+4.6
JNU	**Nakatsue**	**8.34**	**277**	P		Pn	15 38 26.0	+4.1
	comp=N,176nm,0.7s,baz=94,slow=8.5,SNR=157							
JNU				LR		LR	15 41 41.8	
	comp=N,442nm,18.3s,baz=92,slow=39							
ERM	**Erimo**	**9.64**	**11**	P		**Pn**	**15 38 40.1**	**+0.5**
ERM	**Erimo**	**9.64**	**11**			**Pn**	**15 38 37.5**	**-2.1**
ERM	**Erimo**	**9.64**	**11**	*i*P		**Pn**	**15 38 38.3**	**-1.3**
JEM	**Erimo**	**9.64**	**11**	P		**Pn**	**15 38 40.1**	**+0.5**
NMR	**Nemuro--Hokkai**	**11.49**	**18**	*e*P		**Pn**	**15 39 01.6**	**-3.3**
KSRS	**Korea Array**	**11.61**	**298**	P		Pn	15 39 12.3	+5.9
	comp=N,15nm,0.9s,baz=116,slow=14,SNR=40							
KSRS				LR		LR	15 43 44.3	
	comp=N,324nm,19.0s,baz=110,slow=38							
KSAR	**Wonju Array Be**	**11.63**	**298**			Pn	15 39 11.0	+4.2
KSAR	**Wonju Array Be**	**11.63**	**298**	P		Pn	15 39 11.0	+4.2
ASAJ	**Asahikawa**	**11.64**	**7**	P		**Pn**	**15 39 04.8**	**-2.1**
ASAJ	**Asahikawa**	**11.64**	**7**	P		**Pn**	**15 39 05.4**	**-1.5**
	comp=N,19nm,0.6s,baz=224,slow=10,SNR=48							
ASAJ				S		Sn	15 41 05.7	-10
	comp=N,8.4nm,0.6s,baz=31,slow=33,SNR=2.0							
JKA	**Kamikawa-asahi**	**11.64**	**7**			**Pn**	**15 39 04.8**	**-2.1**
KS19	**Wonju Array Si**	**11.66**	**299**			**Pn**	**15 39 08.2**	**+0.9**
TJN	**Taejon**	**11.70**	**293**			**Pn**	**15 39 08.4**	**+0.7**
TJN	**Taejon**	**11.70**	**293**	P		**Pn**	**15 39 08.5**	**+0.7**
RUSJ	**Misakicho**	**12.06**	**16**	*e*P		**Pn**	**15 39 10.7**	**-2.0**
YUK	**Yuzh-Kuril'sk**	**12.14**	**18**	P		**Pn**	**15 39 11.1**	**-2.7**
JOW	**Kunigami**	**12.25**	**246**	P		Pn	15 39 20.0	+4.6
JOW	**Kunigami**	**12.25**	**246**	P		P	15 39 20.7	-5.7
	comp=N,38nm,0.5s,baz=114,slow=3.2,SNR=27							
JOW				LR		LR	15 43 34.3	
	comp=N,249nm,20.0s,baz=52,slow=35							
SHO	**Shikotan**	**12.27**	**21**	*e*P		**Pn**	**15 39 16.0**	**+0.6**
SHO				pmax		pmax		
	comp=Z,18nm,0.3s							
USRK	**Ussuriysk Ar.**	**13.51**	**332**	P		**Pn**	**15 39 33.0**	**+0.6**
USRK	**Ussuriysk Ar.**	**13.51**	**332**	P		**Pn**	**15 39 33.0**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=141,slow=44,SNR=2.1							
USRK				LR		LR	15 44 39.8	
	comp=Z,166nm,18.4s,baz=167,slow=37							
KUR	**Kuril'sk**	**13.81**	**21**	P		**Pn**	**15 39 38.1**	**+1.5**
YSS	**Yuzh-Sakhalins**	**14.47**	**5**			**Pn**	**15 39 43.5**	**-1.9**
YSS	**Yuzh-Sakhalins**	**14.47**	**5**	*e*P		**Pn**	**15 39 43.2**	**-2.1**
YSS				*e*S		**Sn**	**15 42 20.9**	**-3.4**
YSS				pmax		pmax		
	comp=Z,20nm,0.8s							
YSS				MLR		MLR		
	comp=Z,300nm,14.0s							
MDJ	**Mudanjiang**	**14.86**	**327**	P		**Pn**	**15 39 51.5**	**+1.0**
MDJ				sP		P	15 40 08.0	+13
MDJ				S		**Sn**	**15 42 38.0**	**+4.1**
MDJ				PcS		**PcS**	**15 48 25.8**	**-7.3**
MDJ				pmax		pmax		
	comp=Z,5.0nm,1.4s							
MDJ				pmax		pmax		
	comp=Z,180nm,5.3s							
MDJ				LR		LR		
	comp=Z,340nm,14.1s							
MDJ				LR		LR		
	comp=Z,280nm,13.7s							
MDJ				LR		LR		
	comp=Z,260nm,19.2s							
MDJ	**Mudanjiang**	**14.86**	**327**	Pn		**Pn**	**15 39 50.9**	**+0.3**
CN2	**Changchun**	**16.44**	**317**	P		**P**	**15 40 14.5**	**+1.7**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
SNY	**Shenyang**	**16.51**	**309**	⇑P		**P**	**15 40 14.0**	**+0.5**
SNY				pmax		pmax		
	comp=Z,17nm,0.6s							
YOJ	**Yonaguni jima**	**17.54**	**247**	P		**P**	**15 40 27.8**	**+2.7**
KLR	**Kul'dur**	**17.98**	**341**	*ce*P		**Pn**	**15 40 27.9**	**-1.9**
KLR				pmax		pmax		
	comp=Z,14nm,2.5s							
KLR	**Kul'dur**	**17.98**	**341**	P		**Pn**	**15 40 26.6**	**-3.2**
	comp=Z,3.0nm,0.4s,baz=164,slow=8.2,SNR=15							
TYV	**Tymovskoe**	**18.36**	**4**	*e*P		**Pn**	**15 40 35.6**	**+1.3**
TYV				pmax		pmax		
	comp=Z,100nm,3.6s							
TYV				pmax		pmax		
	comp=Z,12nm,0.9s							
GRNR	**Gornyy**	**18.49**	**351**	⇓*i*P		**P**	**15 40 35.5**	**+0.2**
GRNR				pmax		pmax		
	comp=N,1.0nm,0.9s							
GRNR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
GRNR				MLR		MLR		
	comp=N,80nm,15.0s							
GRNR				MLR		MLR		
	comp=E,150nm,15.0s							
GRNR				MLR		MLR		
	comp=Z,160nm,13.0s							
NJ2	**Nanjing**	**18.53**	**274**	*e*P		**P**	**15 40 35.3**	**-0.6**
NJ2				pP		**pP**	**15 40 48.0**	**+1.2**
NJ2				sP		**sP**	**15 40 52.5**	**-0.3**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.5s							
YHNB	**Yeheng**	**18.72**	**250**	P		**Pn**	**15 40 40.0**	**+0.9**
YHNB	**Yeheng**	**18.72**	**250**	Pn		**Pn**	**15 40 39.1**	**+0.1**
YHNB				IAmb		IAmb	15 40 45.1	
	comp=Z,62nm,0.7s							
NACB	**Ninganchiao**	**18.80**	**249**	P		**Pn**	**15 40 40.0**	**+0.1**
NACB	**Ninganchiao**	**18.80**	**249**	P		**P**	**15 40 38.7**	**-0.2**
GUMO	**Guam**	**19.24**	**168**	P		**P**	**15 40 44.2**	**+0.4**
	comp=Z,210nm,1.0s,baz=0.0,slow=10,SNR=3.0							
YULB	**Yu-li**	**19.44**	**247**	P		**Pn**	**15 40 46.7**	**-0.8**
YULB	**Yu-li**	**19.44**	**247**	P		**Pn**	**15 40 46.3**	**-1.2**
SSLB	**Suanglung**	**19.50**	**248**	P		**Pn**	**15 40 48.2**	**0.0**
SSLB	**Suanglung**	**19.50**	**248**	P		**Pn**	**15 40 47.0**	**-1.2**
SSLB				IAmb		IAmb	15 40 54.5	
	comp=Z,87nm,1.0s							
TWG	**Pinlang**	**19.92**	**246**	P		**Pn**	**15 40 51.7**	**-1.5**
TWG				IAmb		IAmb	15 40 58.2	
	comp=Z,59nm,0.8s							
TPUB	**Ta-pu**	**20.00**	**248**	P		**Pn**	**15 40 54.2**	**0.0**
TPUB	**Ta-pu**	**20.00**	**248**	P		**P**	**15 40 52.5**	**+0.3**
TPUB				IAmb		IAmb	15 41 04.6	
	comp=Z,47nm,0.9s							
HEH	**HeiHe**	**20.27**	**335**	*e*P		**P**	**15 40 54.5**	**-0.3**
HEH				pmax		pmax		
	comp=Z,8.0nm,0.7s							
BJI	**Beijing**	**21.14**	**298**	P		**P**	**15 41 03.8**	**-0.4**
BJI				pmax		pmax		
	comp=Z,4.0nm,0.7s							
BJI				pmax		pmax		
	comp=Z,39nm,4.7s							
BJI				LR		LR		
	comp=Z,81nm,13.3s							
BJI				LR		LR		
	comp=Z,83nm,14.8s							
BJI				LR		LR		
	comp=Z,130nm,15.8s							
HNS	**HongShan**	**21.86**	**290**	⇑P		**P**	**15 41 12.8**	**+0.8**
HNS				*e*S		**S**	**15 45 03.5**	**-7.3**
HNS				pmax		pmax		
	comp=Z,30nm,0.5s							
HNS				LR		LR		
	comp=Z,140nm,15.9s							
HNS				LR		LR		
	comp=Z,300nm,15.1s							
HNS				LR		LR		
	comp=Z,310nm,17.5s							
XLT	**XiLinHaoTe**	**22.37**	**308**	*e*P		**P**	**15 41 20.3**	**+2.7**
XLT				pP		pP	15 41 30.5	+1.7
XLT				sP		sP	15 41 35.8	+0.9
XLT				PP		**PnPn**	**15 41 49.5**	**+7.6**
XLT				pmax		pmax		
	comp=Z,12nm,0.6s							
XLT				pmax		pmax		
	comp=Z,150nm,4.5s							
WHN	**Wuhan**	**22.58**	**272**	⇑P		**P**	**15 41 20.0**	**+0.2**
WHN				pmax		pmax		
	comp=Z,78nm,0.6s							
WHN				LR		LR		
	comp=Z,740nm,22.8s							
HIA	**Hailar**	**22.93**	**323**	P		**P**	**15 41 23.3**	**0.0**
HIA				IAmb		IAmb	15 41 24.5	
	comp=Z,20nm,0.6s							
HIA	**Hailar**	**22.93**	**323**	P		**P**	**15 41 23.3**	**0.0**
HIA				pmax		pmax		
	comp=Z,20nm,0.6s							
ZEA	**Zeya**	**23.28**	**339**	*e*P		**P**	**15 41 27.5**	**+0.8**
ZEA				*e*			15 41 44.9	
ZEA				*e*			15 45 39.8	
ZEA				pmax		pmax		
	comp=N,40nm,1.0s							
ZEA				pmax		pmax		
	comp=Z,80nm,0.9s							
LYN	**LuoYang**	**23.64**	**283**	*e*P		**P**	**15 41 28.8**	**-1.4**
LYN				pP		pP	15 41 42.3	+0.2
LYN				pmax		pmax		
	comp=Z,20nm,0.5s							
PEA0B	**Petropavlovsk-**	**23.90**	**26**	*i*P		**P**	**15 41 31.8**	**-0.7**
PETK	**Petropavlovsk-**	**23.90**	**26**	P		**P**	**15 41 33.9**	**+1.4**
	comp=Z,5.2nm,0.9s,baz=225,slow=6.4,SNR=16							
PETK				PcP		**PcP**	**15 45 13.2**	**-0.8**
	comp=Z,2.2nm,0.9s,baz=94,slow=1.2,SNR=4.4							
	comp=Z,5.2nm,0.9s							
HHC	**Hu-ho-hao-te**	**24.75**	**298**	*e*P		**P**	**15 41 43.0**	**+2.5**
HHC				pP		sP	15 41 56.3	-2.3
HHC				*e*S		**S**	**15 46 01.0**	**+1.7**
HHC				pmax		pmax		
	comp=Z,13nm,0.7s							
HHC				pmax		pmax		
	comp=Z,230nm,8.2s							
HHC				LR		LR		
	comp=Z,160nm,10.8s							
HHC				LR		LR		
	comp=Z,220nm,10.8s							
HHC				LR		LR		
	comp=Z,220nm,11.8s							
XAN	**Xi'an**	**26.60**	**282**	P		**P**	**15 41 55.8**	**-1.5**
XAN				pP		pP	15 42 08.0	-1.6
XAN				pmax		pmax		
	comp=Z,16nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**26.63**	**112**	T		T	16 10 59.2	
	baz=304,slow=75,SNR=418							
H11N1	**WAKE ISLAND Hy**	**26.63**	**112**	T		T	16 10 59.3	
	baz=304,slow=75,SNR=208							
H11N3	**WAKE ISLAND Hy**	**26.65**	**112**	T		T	16 11 00.2	
	baz=304,slow=75,SNR=394							
H11S3	**WAKE ISLAND Hy**	**27.17**	**115**	T		T	16 11 37.4	
	baz=306,slow=75,SNR=34							
H11S1	**WAKE ISLAND Hy**	**27.17**	**115**	T		T	16 11 37.4	
	baz=306,slow=75,SNR=31							
H11S2	**WAKE ISLAND Hy**	**27.19**	**115**	T		T	16 11 38.4	
	baz=306,slow=75,SNR=26							
MA2	**Magadan**	**27.85**	**11**	P		**P**	**15 42 08.0**	**-0.1**
MA2	**Magadan**	**27.85**	**11**	*ce*P		**P**	**15 42 08.5**	**+0.4**
MA2				pmax		pmax		
	comp=Z,24nm,1.3s							
DAV	**Davao City (W)**	**29.02**	**212**	LR		LR	15 51 54.7	
	comp=Z,96nm,21.6s,baz=338,slow=32							
ULN	**Ulaanbaatar**	**29.66**	**311**	P		**P**	**15 42 25.1**	**+0.5**
ULN				IAmb		IAmb	15 42 26.2	
	comp=Z,12nm,0.7s							
ULN	**Ulaanbaatar**	**29.66**	**311**	*ce*P		**P**	**15 42 25.2**	**+0.6**
ULN				pmax		pmax		
	comp=Z,11nm,0.6s							
SONM	**Songino Array**	**30.07**	**311**	P		**P**	**15 42 28.6**	**+0.4**
SONM	**Songino Array**	**30.07**	**311**	P		**P**	**15 42 28.9**	**+0.7**
	comp=Z,9.0nm,0.6s,baz=111,slow=8.6,SNR=76							
SONM				PcP		**PcP**	**15 45 29.2**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=131,slow=4.4,SNR=3.8							
SONM				ScP		**ScP**	**15 49 04.9**	**-2.1**
	comp=Z,0.6nm,0.8s,baz=127,slow=3.5,SNR=2.9							
SONM				LR		LR	15 54 58.5	
	comp=Z,140nm,19.1s,baz=20,slow=37							
	comp=Z,9.0nm,0.6s							
YAK	**Yakutsk**	**30.35**	**350**	P		**P**	**15 42 30.7**	**+0.5**
YAK				IAmb		IAmb	15 42 34.2	
	comp=Z,16nm,0.8s							
YAK	**Yakutsk**	**30.35**	**350**	*e*P		**P**	**15 42 30.4**	**+0.1**
YAK				*e*PP		**sP**	**15 42 52.0**	**+3.9**
YAK				*e*			15 43 33.2	
YAK				*e*			15 45 28.7	
YAK				*e*S		**S**	**15 47 23.6**	**-3.3**
YAK				*e*SS		**ScP**	**15 49 08.9**	**+1.5**
YAK				*e*			15 52 57.8	
YAK				pmax		pmax		
	comp=Z,24nm,1.3s							
YAK				pmax		pmax		
	comp=N,6.0nm,1.3s							
YAK				pmax		pmax		
	comp=E,3.0nm,1.1s							
YAK				pmax		pmax		
	comp=Z,165nm,7.3s							
YAK				pmax		pmax		
	comp=N,134nm,6.5s							
YAK				pmax		pmax		
	comp=E,110nm,6.3s							
YAK				smax		smax		
	comp=E,113nm,6.5s							
YAK				smax		smax		
	comp=N,97nm,4.3s							
YAK	**Yakutsk**	**30.35**	**350**	P		**P**	**15 42 30.4**	**+0.1**
YAK				pP		**sP**	**15 42 46.6**	**-1.5**
SEY	**Seymchan**	**31.29**	**10**	*ce*P		**P**	**15 42 37.9**	**-0.6**
SEY				pmax		pmax		
	comp=Z,12nm,1.3s							
ZAK	**Zakamensk**	**32.82**	**314**	*e*P		**P**	**15 42 51.6**	**-0.6**
ZAK				pmax		pmax		
	comp=Z,8.0nm,1.2s							
IRK	**Irkutsk**	**32.88**	**318**	*e*P		**P**	**15 42 52.0**	**-0.7**
IRK				pmax		pmax		
	comp=Z,23nm,1.7s							
GTA	**Gaotai**	**33.62**	**293**	*e*P		**P**	**15 42 58.0**	**-1.4**
GTA				pmax		pmax		
	comp=Z,3.0nm,1.1s							
PZH	**PanZhiHua**	**34.34**	**270**	P		**P**	**15 43 04.3**	**-1.5**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.

SOEI **Soe** 44.92 203 P **P** 15 44 33.0 -0.7
SOEI **Soe** 44.92 203 P **P** 15 44 32.6 -1.1
TNA **Tin City** 45.05 27 P **P** 15 44 35.4 +1.4
baz=249
S12K **Black Hills** 45.53 42 P **P** 15 44 38.8 +0.8
baz=264
M13K **Dall Lake** 45.58 35 P **P** 15 44 40.1 +1.8
baz=258
HNR **Honiara** 45.59 153 LR LR 16 01 55.4
comp=Z,628nm,20.3s,baz=241,slow=34
F14K **Arctic Creek** 45.64 28 P **P** 15 44 40.6 +1.8
baz=250
ANM **Nome** 45.73 29 IAmb IAmb 15 44 42.8
comp=Z,14nm,0.8s
ANM **Nome** 45.73 29 P **P** 15 44 40.9 +1.4
baz=252,SNR=7.2
J14K **Nanvaranak Lak** 46.01 32 P **P** 15 44 42.0 +0.3
baz=256
L14K **Kuka Creek** 46.09 34 P **P** 15 44 43.2 +0.9
baz=258
MK31 **Makanchi Array** 46.17 306 *ce*P **P** 15 44 43.2 -0.1
MKAR **Makanchi Array** 46.17 306 P **P** 15 44 43.5 +0.2
comp=Z,26nm,0.6s,baz=90,slow=9.8,SNR=298
MKAR PcP **PcP** 15 46 18.2 -0.3
comp=Z,2.4nm,0.7s,baz=82,slow=5.4,SNR=2.4
MKAR ScP **ScP** 15 50 05.0 -2.6
comp=Z,1.1nm,0.6s,baz=80,slow=6.0,SNR=6.4
MKAR LR LR 16 03 31.6
comp=Z,65nm,19.2s,baz=58,slow=35
comp=Z,26nm,0.6s
COEN **Coen** 46.30 177 P **P** 15 44 45.9 +1.5
N14K **Kuskokwak Cree** 46.31 36 P **P** 15 44 45.5 +1.4
baz=260
M14K **Bethel** 46.32 35 P **P** 15 44 46.0 +1.8
M14K IAmb IAmb 15 44 47.3
comp=Z,24nm,0.9s
M14K **Bethel** 46.32 35 P **P** 15 44 45.2 +1.1
baz=259
F15K **North Star Dit** 46.38 28 P **P** 15 44 45.7 +1.2
baz=252
MAKZ **Makanchi** 46.38 306 P **P** 15 44 45.1 +0.2
MAKZ **Makanchi** 46.38 306 P **P** 15 44 45.1 +0.2
MAKZ pmax pmax
comp=Z,25nm,0.6s
MAKZ **Makanchi** 46.38 306 P **P** 15 44 44.8 -0.1
G15K **Niukluk** 46.41 29 P **P** 15 44 46.2 +1.4
baz=253
L15K **Ungalak Mounta** 46.72 34 P **P** 15 44 47.6 +0.3
baz=259
K15K **Wolf Creek Mou** 46.83 33 P **P** 15 44 48.7 +0.6
baz=258
CHNA **Chernabura Isl** 46.87 43 P **P** 15 44 49.2 +0.6
baz=267
M15K **Kasigluk River** 46.93 35 P **P** 15 44 50.0 +1.1
baz=261
C16K **Lisburne Hills** 46.98 24 IAmb IAmb 15 44 51.9
comp=Z,20nm,0.9s
C16K **Lisburne Hills** 46.98 24 P **P** 15 44 50.2 +1.0
baz=249,SNR=13
S14K **Fog Glacier** 46.99 41 P **P** 15 44 49.6 0.0
baz=266
H16K **Elim** 47.05 30 P **P** 15 44 50.6 +0.8
baz=256,SNR=5.1
O15K **Ungalikthiuk R** 47.13 37 P **P** 15 44 51.7 +1.1
baz=263
N15K **Kwethluk River** 47.14 36 P **P** 15 44 50.8 +0.2
baz=262
NRIK **Noril'sk** 47.15 337 P **P** 15 44 50.8 +0.3
NRIK **Noril'sk** 47.15 337 *ce*P **P** 15 44 50.7 +0.2
NRIK pmax pmax
comp=Z,9.0nm,1.0s
NRIK **Noril'sk** 47.15 337 P **P** 15 44 50.2 -0.3
comp=Z,2.1nm,0.3s,baz=99,slow=13,SNR=9.1
NRIK pP **sP** 15 45 07.1 -1.9
comp=Z,4.8nm,0.6s,baz=106,slow=8.4,SNR=4.3
NRIK PcP **PcP** 15 46 21.6 +0.2
comp=Z,4.4nm,0.7s,baz=146,slow=6.1,SNR=3.6
comp=Z,2.1nm,0.3s
G16K **Koyuk River** 47.20 29 P **P** 15 44 51.9 +0.9
baz=255
SEM **Semipalatinsk** 47.35 311 *e*P **P** 15 44 52.8 +0.1
baz=311
SEM **Semipalatinsk** 47.35 311 *e*P **P** 15 44 52.8 +0.1
J16K **Anvik River** 47.45 32 P **P** 15 44 54.3 +1.3
baz=258
I17K **Unalakleet** 47.53 31 P **P** 15 44 54.8 +1.3
baz=258
D17K **Noatak River** 47.59 25 P **P** 15 44 54.8 +0.8
baz=252,SNR=20
CHGN **Chignik** 47.62 41 P **P** 15 44 55.8 +1.4
baz=267
L16K **Owhat River** 47.67 34 P **P** 15 44 55.5 +0.8
baz=261
RDOG **Red Dog Mine** 47.77 25 IAmb IAmb 15 44 58.5
comp=Z,18nm,1.0s
RDOG **Red Dog Mine** 47.77 25 P **P** 15 44 56.3 +0.9
baz=252,SNR=6.7
C17K **DeLong Mountai** 47.81 24 P **P** 15 44 56.3 +0.7
baz=251,SNR=9.9
M16K **Timber Creek** 47.81 35 P **P** 15 44 56.8 +1.0
baz=262
N16K **Nishlik Lake** 47.83 36 P **P** 15 44 57.5 +1.5
baz=263,SNR=6.8
E17K **Hotham Inlet** 47.87 26 P **P** 15 44 57.2 +1.0
baz=254,SNR=10
F17K **Baldwin Pennin** 47.92 27 P **P** 15 44 57.5 +1.1
baz=255
G17K **Kiwalik Mounta** 47.92 29 P **P** 15 44 57.3 +0.8
baz=256,SNR=6.2
O16K **Kokwok River B** 48.06 37 P **P** 15 44 58.6 +0.9
baz=264
H17K **Granite Mounta** 48.09 29 P **P** 15 44 59.1 +1.2
baz=258
R16K **Pilot Point** 48.16 40 P **P** 15 44 59.7 +1.2
baz=266
L17K **Donlin** 48.29 33 P **P** 15 45 00.5 +1.1
baz=262
K17K **Iditarod** 48.38 33 P **P** 15 45 01.2 +1.1
baz=261,SNR=6.4
KURK **Kurchatov** 48.38 311 P **P** 15 44 59.8 -0.5
KURK **Kurchatov** 48.38 311 *ce*P **P** 15 44 59.6 -0.7
KURK pmax pmax
comp=Z,48nm,1.3s
KURK **Kurchatov** 48.38 311 P **P** 15 44 59.9 -0.5
KURK pP **sP** 15 45 17.3 -1.5
E18K **Tukpahlearik C** 48.42 26 P **P** 15 45 00.8 +0.4
baz=255
KURBB **Kurchatov Arra** 48.44 311 P **P** 15 44 59.8 -1.0
KURBB **Kurchatov Arra** 48.44 311 P **P** 15 45 00.5 -0.3
comp=Z,17nm,0.5s,baz=88,slow=6.7,SNR=358
KURBB pP **sP** 15 45 18.0 -1.3
comp=Z,4.8nm,0.5s,baz=89,slow=7.6,SNR=4.2
KURBB PcP **PcP** 15 46 24.7 -1.7
comp=Z,1.2nm,0.7s,baz=89,slow=3.9,SNR=1.0
KURBB ScP **ScP** 15 50 13.5 -3.5
comp=Z,0.3nm,0.6s,baz=91,slow=4.8,SNR=1.8
KURBB LR LR 16 06 42.6
comp=Z,129nm,19.1s,baz=170,slow=38
comp=Z,17nm,0.5s
PDGK **Podgornoye** 48.52 301 P **P** 15 45 00.5 -1.2
C18K **Utukok River** 48.55 24 P **P** 15 45 02.6 +1.1
baz=253,SNR=21
B18K **Kokolik River** 48.56 23 P **P** 15 45 02.2 +0.8
baz=252,SNR=18
SHLS **Shalkode** 48.57 301 *e*P **P** 15 44 58.8 -3.3
comp=Z,3.3nm,0.4s,baz=301
SHLS **Shalkode** 48.57 301 *e*P **P** 15 44 58.7 -3.3
SHLS pmax pmax
comp=Z,3.0nm,0.4s
F18K **Selawik** 48.58 27 P **P** 15 45 01.9 +0.4
baz=256,SNR=10.0
O17K **Koliganek Bris** 48.59 37 P **P** 15 45 02.5 +0.7
baz=265
M17K **Holitna River** 48.59 34 P **P** 15 45 02.8 +0.9
baz=263
N17K **Nushagak Hills** 48.62 36 P **P** 15 45 02.8 +0.8
baz=264
Q16K **King Salmon** 48.72 38 P **P** 15 45 03.2 +0.4
baz=266
H18K **Honhosa River** 48.78 29 P **P** 15 45 03.4 +0.2
baz=259
G18K **Tagagawik** 48.81 28 IAmb IAmb 15 45 06.1
comp=Z,17nm,0.8s
G18K **Tagagawik** 48.81 28 P **P** 15 45 03.8 +0.4
baz=258,SNR=6.4
P17K **Kvichak River** 48.87 37 P **P** 15 45 04.5 +0.5
baz=266
UZB **Uzunbulak** 48.89 301 *e*P **P** 15 45 03.7 -0.8
comp=Z,5.9nm,0.6s,baz=301
UZB **Uzunbulak** 48.89 301 *e*P **P** 15 45 03.7 -0.8
UZB pmax pmax
comp=Z,6.0nm,0.6s
L18K **Granite Mounta** 49.05 33 P **P** 15 45 05.9 +0.6
baz=263
TDK **Taldyqorghan** 49.05 304 *e*P **P** 15 45 05.5 -0.1
comp=Z,6.5nm,0.6s,baz=304
TDK **Taldyqorghan** 49.05 304 *e*P **P** 15 45 05.5 -0.1
TDK pmax pmax
comp=Z,6.0nm,0.6s
A19K **Wainwright** 49.07 23 P **P** 15 45 06.3 +1.0
baz=252
Q17K **Contact Creek** 49.10 39 P **P** 15 45 06.8 +0.9
baz=267
J18K **Innoko River** 49.20 32 P **P** 15 45 07.5 +1.0
baz=262
C19K **Lookout Ridge** 49.24 24 P **P** 15 45 08.2 +1.5
baz=254
N18K **Kilae Creek** 49.27 35 P **P** 15 45 07.8 +0.8
baz=265
GCSA **Galena City Sc** 49.33 30 P **P** 15 45 08.8 +1.5
baz=261
SATY **Saty** 49.35 301 *e*P **P** 15 45 08.2 +0.2
baz=301
SATY **Saty** 49.35 301 *e*P **P** 15 45 08.2 +0.2
F19K **Shaleruckik Mo** 49.36 27 P **P** 15 45 08.5 +1.0
baz=258
M18K **Stony River** 49.37 34 P **P** 15 45 08.9 +1.2
baz=264
TTA **Tatalina** 49.45 33 P **P** 15 45 10.3 +1.9
TTA **Tatalina** 49.45 33 P **P** 15 45 09.7 +1.3
TTA IAmb IAmb 15 46 17.4
comp=Z,31nm,1.8s
TTA **Tatalina** 49.45 33 P **P** 15 45 10.1 +1.6
baz=263
TTA **Tatalina** 49.45 33 P **P** 15 45 09.7 +1.3
TTA pmax pmax
comp=Z,31nm,1.8s
PRZ **Przheval'sk** 49.45 300 IAmb IAmb 15 45 10.1
comp=Z,11nm,0.7s
SVW2 **Sparrevohn** 49.45 35 P **P** 15 45 09.2 +0.8
G19K **Purcell Mounta** 49.49 28 P **P** 15 45 10.0 +1.4
baz=259,SNR=5.4
P18K **Big Mountain,** 49.50 37 P **P** 15 45 10.2 +1.3
baz=267,SNR=6.4
O18K **Koktuh Hills** 49.54 37 P **P** 15 45 09.7 +0.5
baz=266
D19K **Kuna River** 49.60 25 P **P** 15 45 10.3 +0.8
baz=256,SNR=19
H19K **Roundabout Mou** 49.64 29 IAmb IAmb 15 45 12.1
comp=Z,13nm,0.7s
H19K **Roundabout Mou** 49.64 29 P **P** 15 45 11.0 +1.3
baz=260,SNR=8.8
E19K **Redstone River** 49.69 27 P **P** 15 45 11.6 +1.4
baz=258,SNR=45
J19K **Postman** 49.76 31 P **P** 15 45 11.9 +1.3
baz=262
L19K **White Mountain** 49.90 34 P **P** 15 45 13.3 +1.4
baz=265
N19K **Bonanza Creek** 49.97 35 P **P** 15 45 12.8 +0.3
baz=266
SII **Sitkinak Islan** 49.98 41 P **P** 15 45 12.7 +0.2
baz=270
M19K **Big River Lodg** 50.09 34 P **P** 15 45 14.1 +0.9
baz=265
D20K **Etivluk River** 50.19 25 P **P** 15 45 15.1 +1.1
baz=258
F20K **Avaraart Lake** 50.19 27 P **P** 15 45 15.2 +1.3
baz=260
E20K **Nigu River** 50.25 26 P **P** 15 45 14.2 -0.2
baz=258
H20K **Anotleneega Mo** 50.28 29 P **P** 15 45 14.7 +0.1
baz=262
B20K **Meade River** 50.30 23 P **P** 15 45 15.8 +1.1
baz=256
MDOK **Medeo** 50.31 302 *e*P **P** 15 45 15.2 -0.2
baz=302
MDOK **Medeo** 50.31 302 *e*P **P** 15 45 15.2 -0.2
I20K **Naaghedeneel** 50.35 30 P **P** 15 45 16.2 +1.1
baz=263
K20K **Telida** 50.37 32 P **P** 15 45 16.6 +1.2
baz=264
L20K **Farewell, AK** 50.38 33 P **P** 15 45 16.8 +1.3
baz=265
TNSS **Tian-Shan** 50.40 301 *e*P **P** 15 45 16.2 -0.2
baz=301
TNSS **Tian-Shan** 50.40 301 *e*P **P** 15 45 16.2 -0.2
J20K **Nowinta River** 50.42 31 P **P** 15 45 17.2 +1.5
baz=264,SNR=12
OHAK **Old Harbor** 50.47 40 P **P** 15 45 17.8 +1.7
OHAK **Old Harbor** 50.47 40 P **P** 15 45 16.5 +0.3
baz=270
P19K **Oil Pt** 50.53 37 P **P** 15 45 17.3 +0.6
baz=268
M20K **Styx River** 50.69 34 P **P** 15 45 18.2 +0.3
baz=267
A21K **Barrow** 50.80 22 P **P** 15 45 19.3 +0.9
baz=256,SNR=18
KDAK **Kodiak Island** 50.85 39 P **P** 15 45 19.5 +0.6
baz=270
KDAK **Kodiak Island** 50.85 39 LR LR 16 05 12.4
comp=Z,108nm,21.4s,baz=337,slow=34
KDAK **Kodiak Island** 50.85 39 P **P** 15 45 19.9 +1.0
KDAK pP **sP** 15 45 38.3 +1.1
O20K **Slope Mountain** 50.85 36 P **P** 15 45 19.6 +0.6
baz=268
C21K **Knifeblade Rid** 50.93 25 P **P** 15 45 20.5 +1.0
baz=259
G21K **Allakaket** 50.98 28 P **P** 15 45 20.5 +0.7
baz=262
B21K **Ikpikpuk River** 51.08 24 P **P** 15 45 21.6 +1.1
baz=259,SNR=40
F21K **Alatna River** 51.08 27 P **P** 15 45 21.9 +1.2
baz=262
E21K **Killik River** 51.09 26 P **P** 15 45 21.9 +1.2
baz=260
N20K **Mount Spurr** 51.09 35 P **P** 15 45 22.2 +1.3
baz=268,SNR=18
GSI **Gunungsitoli** 51.11 242 P **P** 15 45 20.0 -1.5
GSI IAmb IAmb 15 45 44.1
comp=Z,20nm,0.9s
H21K **Melozitna River** 51.15 29 P **P** 15 45 22.5 +1.3
baz=264
PPLA **Purkeypile** 51.19 33 P **P** 15 45 22.5 +0.8
baz=267,SNR=6.0
CHUM **Lake Minchumin** 51.20 32 P **P** 15 45 22.8 +1.3
baz=266,SNR=6.1
A22K **Sinclair Lake** 51.24 22 P **P** 15 45 22.5 +0.7
baz=257
CAST **Castle Rocks** 51.27 32 IAmb IAmb 15 45 24.7
comp=Z,11nm,0.8s
CAST **Castle Rocks** 51.27 32 P **P** 15 45 23.2 +1.1
baz=266,SNR=10
SKT **Skwentna** 51.45 34 IAmb IAmb 15 45 25.7
comp=Z,22nm,1.1s
SKT **Skwentna** 51.45 34 P **P** 15 45 24.3 +0.8
baz=268,SNR=7.5
I21K **Tanana** 51.45 30 IAmb IAmb 15 45 26.1
comp=Z,9.5nm,0.8s
I21K **Tanana** 51.45 30 P **P** 15 45 24.2 +0.8
baz=265,SNR=5.7
B22K **Teshekpuk Lake** 51.62 23 P **P** 15 45 26.2 +1.6
baz=260
F22K **John River** 51.62 27 P **P** 15 45 25.8 +1.1
baz=263
D22K **Ayikyak River** 51.62 25 P **P** 15 45 25.9 +1.2
baz=261,SNR=25
H22K **Ishtalitna Cre** 51.76 29 P **P** 15 45 26.9 +1.1
baz=265
BPAW **Bear Paw Mtn.** 51.80 31 P **P** 15 45 26.7 +0.6
baz=267
BRSE **Bradley Lake S** 51.80 37 P **P** 15 45 26.6 +0.5
baz=270
SUA **Susitna One** 51.80 35 P **P** 15 45 27.1 +0.8
baz=269,SNR=13
E22K **Anaktuvuk Pass** 51.84 26 P **P** 15 45 27.6 +1.3
baz=263
KSH **Kashi** 51.86 297 P **P** 15 45 30.3 +3.3
KSH pP sP 15 45 45.8 +0.3
KSH pmax pmax
comp=Z,13nm,1.0s
MLY **Manley** 51.96 30 IAmb IAmb 15 45 30.2
comp=Z,20nm,0.9s
MLY **Manley** 51.96 30 P **P** 15 45 28.4 +1.1
baz=266,SNR=7.8
SGDS **Sogindy** 51.99 302 *e*P **P** 15 45 27.1 -0.8
comp=Z,5.5nm,0.8s,baz=302
SGDS **Sogindy** 51.99 302 *e*P **P** 15 45 27.0 -0.8
SGDS pmax pmax
comp=Z,6.0nm,0.8s
CUT **Chulitna** 52.05 33 P **P** 15 45 27.8 -0.1
baz=269
TRF **Thorofare Moun** 52.07 32 IAmb IAmb 15 45 32.0
comp=Z,10nm,0.8s
TRF **Thorofare Moun** 52.07 32 P **P** 15 45 28.7 +0.4
baz=268,SNR=5.5
M22K **Willow** 52.11 34 P **P** 15 45 28.9 +0.6
baz=269
AAK **Ala-Archa** 52.25 301 P **P** 15 45 29.6 -0.4
AAK **Ala-Archa** 52.25 301 P **P** 15 45 29.8 -0.2
AAK **Ala-Archa** 52.25 301 P **P** 15 45 29.6 -0.4
AAK pmax pmax
comp=Z,6.0nm,0.7s
AAK **Ala-Archa** 52.25 301 LR LR 16 07 55.4
comp=Z,76nm,18.6s,baz=92,slow=36
AAK **Ala-Archa** 52.25 301 P **P** 15 45 29.9 0.0
RC01 **Rabbit Creek A** 52.29 35 P **P** 15 45 30.2 +0.5
baz=270,SNR=7.4
O22K **Cooper Landing** 52.30 36 P **P** 15 45 30.3 +0.5
baz=271
COLD **Coldfoot** 52.35 27 P **P** 15 45 30.8 +0.7
baz=265
D23K **Nanushuk River** 52.35 25 P **P** 15 45 30.9 +0.8
baz=263
WB0 **Warramunga Arr** 52.37 188 P **P** 15 45 30.4 -0.3
WB0 IAmb IAmb 15 45 31.2
comp=Z,10nm,0.7s
G23K **Bananza Creek** 52.38 28 P **P** 15 45 31.3 +0.9
baz=266
SEW **Seward** 52.44 36 P **P** 15 45 31.6 +0.8
baz=271
C23K **Itkillik River** 52.49 24 P **P** 15 45 31.9 +0.9
baz=263,SNR=25
H23K **Yukon River** 52.51 29 P **P** 15 45 32.3 +0.9
baz=267
WRAB **Tennant Creek** 52.54 188 P **P** 15 45 31.6 -0.3
WRAB IAmb IAmb 15 45 36.4
comp=Z,27nm,1.4s
WRAB **Tennant Creek** 52.54 188 P **P** 15 45 31.7 -0.3
WRAB pmax pmax
comp=Z,27nm,1.4s
WR0 **Warramunga Arr** 52.55 187 P **P** 15 45 31.8 -0.2
WR0 IAmb IAmb 15 46 47.4
comp=Z,14nm,0.8s
I23K **Minto, Yukon-K** 52.55 30 IAmb IAmb 15 46 43.4
comp=Z,8.2nm,0.7s
I23K **Minto, Yukon-K** 52.55 30 P **P** 15 45 32.6 +1.0
baz=267,SNR=6.8
WB2 **Warramunga Arr** 52.55 188 P **P** 15 45 31.7 -0.4
WB2 IAmb IAmb 15 46 46.8
comp=Z,11nm,0.7s
WRA **Warramunga Arr** 52.55 188 *ce*P **P** 15 45 31.7 -0.4
WRA pmax pmax
comp=Z,5.0nm,0.4s
WRA **Warramunga Arr** 52.55 188 P **P** 15 45 31.2 -0.9
comp=Z,5.6nm,0.4s,baz=2.6,slow=7.7,SNR=126
WRA PcP **PcP** 15 46 42.4 +0.5
comp=Z,9.4nm,0.7s,baz=359,slow=3.9,SNR=8.6
WRA ScP **ScP** 15 50 32.5 -2.4
comp=Z,0.5nm,0.8s,baz=9.6,slow=5.2,SNR=2.2
comp=Z,5.6nm,0.4s
PMR **Palmer** 52.58 34 P **P** 15 45 33.0 +1.2
baz=270,SNR=6.1
CTA **Charters Tower** 52.60 173 LR LR 16 08 48.9
comp=Z,36nm,18.5s,baz=1.0,slow=37
CTAO **Charters Tower** 52.60 173 P **P** 15 45 33.1 +0.7
E23K **Chandalar** 52.65 26 P **P** 15 45 33.3 +0.9
baz=265,SNR=23
NEA2 **Nenana** 52.65 31 P **P** 15 45 33.4 +1.1
baz=268,SNR=6.1
MCK **McKinley** 52.69 32 P **P** 15 45 33.8 +1.1
baz=269,SNR=8.8
RND **Reindeer** 52.72 32 IAmb IAmb 15 45 34.6
comp=Z,20nm,0.8s
TOLK **Toolik Lake Re** 52.72 26 IAmb IAmb 15 45 36.2
comp=Z,23nm,1.0s
TOLK **Toolik Lake Re** 52.72 26 P **P** 15 45 34.1 +1.3
baz=264,SNR=16
QIS **Mount Isa** 52.82 181 P **P** 15 45 34.2 +0.2
WAT1 **Susitna Watana** 52.85 33 P **P** 15 45 33.8 -0.1
baz=270
KNK **Knik Glacier** 52.90 35 P **P** 15 45 35.0 +0.7
baz=271,SNR=12
SML **Sawmill** 52.96 34 P **P** 15 45 36.0 +1.3
baz=271,SNR=14
D24K **Happy Valley** 53.04 25 P **P** 15 45 36.6 +1.4
baz=265
WRH **Wood River Hil** 53.07 31 IAmb IAmb 15 45 38.7
comp=Z,11nm,0.7s
C24K **Franklin Bluff** 53.13 24 P **P** 15 45 37.3 +1.5
baz=265
COLA **College** 53.18 30 P **P** 15 45 38.4 +2.2
COLA **College** 53.18 30 P **P** 15 45 37.8 +1.6
COLA IAmb IAmb 15 45 39.2
comp=Z,17nm,0.8s
COLA **College** 53.18 30 P **P** 15 45 37.8 +1.6
baz=269
COLA **College** 53.18 30 P **P** 15 45 37.8 +1.6
COLA pmax pmax
comp=Z,17nm,0.8s
COLA **College** 53.18 30 P **P** 15 45 37.9 +1.7
COLA pP **sP** 15 45 56.4 +1.9
H24K **Noodor Dome** 53.20 29 P **P** 15 45 37.6 +1.2
baz=268
CCB **Clear Creek Bu** 53.20 31 IAmb IAmb 15 45 39.9
comp=Z,11nm,0.7s
WAT6 **Susitna Watana** 53.23 33 P **P** 15 45 38.0 +1.2
baz=271,SNR=12
M23K **Glacier View** 53.25 34 P **P** 15 45 37.9 +1.1
baz=271,SNR=6.1
F24K **Squaw Lake** 53.27 27 P **P** 15 45 38.1 +1.2
baz=267,SNR=18
BVA0 **Borovoye Array** 53.27 315 *i*P **P** 15 45 36.8 -0.3
BVAR **Borovoye Array** 53.27 315 P **P** 15 45 37.0 -0.1
comp=Z,9.8nm,0.6s,baz=99,slow=7.7,SNR=87
BVAR PcP **PcP** 15 46 44.4 +0.1
comp=Z,4.6nm,0.7s,baz=90,slow=4.3,SNR=4.7
comp=Z,9.8nm,0.6s
BRVK **Borovoye** 53.33 315 P **P** 15 45 37.8 +0.3
BRVK IAmb IAmb 15 45 41.7
comp=Z,16nm,1.1s
BRVK **Borovoye** 53.33 315 *ce*P **P** 15 45 37.6 +0.1
BRVK pmax pmax
comp=Z,20nm,1.3s
BRVK **Borovoye** 53.33 315 P **P** 15 45 37.4 -0.1
POKR **Poker Plat Res** 53.37 30 IAmb IAmb 15 45 40.5
comp=Z,18nm,0.8s
POKR **Poker Plat Res** 53.37 30 P **P** 15 45 39.1 +1.5
baz=269,SNR=7.1
DHY **Denali Highway** 53.39 33 IAmb IAmb 15 45 42.2
comp=Z,6.4nm,0.6s
DHY **Denali Highway** 53.39 33 P **P** 15 45 39.5 +1.5
baz=271
G24K **Hadweenzic Riv** 53.39 28 P **P** 15 45 39.2 +1.4
baz=268
SCM **Sheep Creek Mo** 53.43 34 P **P** 15 45 39.6 +1.3
baz=272,SNR=13
P23K **Montague Islan** 53.47 36 P **P** 15 45 39.9 +1.5
baz=273
HDA **Harding Lake** 53.57 31 P **P** 15 45 39.4 +0.2
baz=270,SNR=22
IL31 **Iliamna** 53.59 30 IAmb IAmb 15 45 40.8
comp=Z,14nm,0.7s
ILAR **Eielson Array** 53.59 30 P **P** 15 45 39.8 +0.5
comp=Z,13nm,0.8s,baz=268,slow=6.2,SNR=126
comp=Z,13nm,0.8s
D25K **Kavik River** 53.92 25 IAmb IAmb 15 45 44.3
comp=Z,15nm,0.8s
D25K **Kavik River** 53.92 25 P **P** 15 45 41.8 +0.1
baz=267,SNR=12
G25K **Bearman Lake** 53.94 28 P **P** 15 45 42.6 +0.9
baz=269
M24K **Tolsona, Glenn** 53.97 34 P **P** 15 45 42.7 +0.6
baz=272,SNR=8.3
H25L **Birch Creek** 54.05 29 P **P** 15 45 43.1 +0.6
baz=270
K24K **Donnelly Dome** 54.09 32 P **P** 15 45 43.6 +0.6
baz=272,SNR=9.5
KLU **Klutina** 54.12 35 IAmb IAmb 15 45 45.7
comp=Z,14nm,0.8s
KLU **Klutina** 54.12 35 P **P** 15 45 44.2 +0.9
baz=273,SNR=7.8
F25K **Christian River** 54.13 27 P **P** 15 45 44.5 +1.3
baz=269

PRP **Porcupine Dome** 54.17 30 IAmb IAmb 15 45 45.3
comp=Z,15nm,1.3s
PRP **Porcupine Dome** 54.17 30 P **P** **15 45 44.5 +0.9**
baz=271,SNR=6.9
E25K **Arctic Village** 54.17 26 IAmb IAmb 15 45 46.8
comp=Z,19nm,0.8s
E25K **Arctic Village** 54.17 26 P **P** **15 45 45.3 +1.8**
baz=269,SNR=29
J25K **Salcha River,** 54.25 31 P **P** **15 45 44.7 +0.6**
baz=271
PAX **Paxson** 54.26 33 P **P** **15 45 45.3 +1.0**
baz=272,SNR=9.5
EYAK **Cordova Ski Ar** 54.26 36 P **P** **15 45 45.8 +1.6**
EYAK **Cordova Ski Ar** 54.26 36 P **P** **15 45 45.1 +0.9**
baz=274
HARP **HAARP** 54.43 33 P **P** **15 45 47.0 +1.6**
baz=273,SNR=14
C26K **Camden Bay** 54.46 24 P **P** **15 45 47.7 +2.2**
baz=266
DZA **Taraz** 54.47 302 *e*P **P** **15 45 46.2 +0.1**
comp=Z,4.4nm,0.5s,baz=302
DZA **Taraz** 54.47 302 *e*P **P** **15 45 46.1 +0.1**
DZA pmax pmax
comp=Z,4.0nm,0.5s
RIDG **Independent Ri** 54.51 32 IAmb IAmb 15 45 48.8
comp=Z,9.1nm,0.8s
RIDG **Independent Ri** 54.51 32 P **P** **15 45 46.9 +0.9**
baz=272,SNR=6.5
F26K **Sheenjek River** 54.70 27 P **P** **15 45 49.3 +1.9**
baz=270
N25K **Chitina, Valde** 54.74 34 IAmb IAmb 15 45 50.9
comp=Z,8.7nm,0.7s
N25K **Chitina, Valde** 54.74 34 P **P** **15 45 48.7 +0.9**
baz=274,SNR=6.2
BMRM **Bremner River** 54.79 35 P **P** **15 45 49.5 +1.4**
baz=275,SNR=8.5
G26K **Porcupine Rive** 54.85 28 P **P** **15 45 49.8 +1.4**
baz=271,SNR=11
SCRK **Sand Creek** 54.88 31 P **P** **15 45 49.4 +0.6**
baz=273,SNR=32
DRK **Karamyk** 54.99 298 IAmb IAmb 15 45 50.9
comp=Z,13nm,0.6s
KK31 **Karatay Array** 55.00 303 IAmb IAmb 15 45 50.5
comp=Z,13nm,0.7s
KK31 **Karatay Array** 55.00 303 *i* P **P** **15 45 49.3 -0.6**
KKAR **Karatay Array** 55.00 303 IAmb IAmb 15 45 50.5
comp=Z,12nm,0.7s
J26L **Joseph Creek** 55.03 31 P **P** **15 45 50.5 +0.7**
baz=273
MENT **Mentasta** 55.06 33 IAmb IAmb 15 45 52.9
comp=Z,18nm,0.7s
GLB **Gilahina Butte** 55.13 35 IAmb IAmb 15 45 54.1
comp=Z,29nm,1.3s
I26K **Coal Creek Min** 55.16 30 P **P** **15 45 51.7 +1.0**
baz=273
L26K **Log Cabin Wild** 55.22 33 P **P** **15 45 52.5 +1.3**
baz=274,SNR=16
VRDI **Verde Repeater** 55.33 35 IAmb IAmb 15 45 54.8
comp=Z,34nm,1.5s
M26K **Nabesna, AK** 55.43 33 IAmb IAmb 15 45 58.9
comp=Z,25nm,1.5s
M26K **Nabesna, AK** 55.43 33 P **P** **15 45 54.0 +1.3**
baz=275,SNR=6.6
BRLS **Boroldav** 55.50 303 *e*P **P** **15 45 54.3 +0.8**
baz=302
BRLS **Boroldav** 55.50 303 *e*P **P** **15 45 54.2 +0.8**
MCARA **McCarthy VSAT** 55.52 35 P **P** **15 45 55.0 +1.8**
baz=276,SNR=9.9
IUG **luzhnay** 55.58 302 *e*P **P** **15 45 54.1 -0.1**
comp=Z,12nm,0.7s,baz=302
IUG **luzhnay** 55.58 302 *e*P **P** **15 45 54.0 -0.1**
IUG pmax pmax
comp=Z,12nm,0.7s
NIL **Nilore** 55.61 291 P **P** **15 45 54.1 -0.3**
NIL IAmb IAmb 15 45 57.2
comp=Z,10nm,0.6s
NIL **Nilore** 55.61 291 P **P** **15 45 54.1 -0.3**
NIL pmax pmax
comp=Z,10.0nm,0.6s
NIL **Nilore** 55.61 291 P **P** **15 45 54.4 0.0**
E27K **Coleen River** 55.66 26 IAmb IAmb 15 45 57.3
comp=Z,12nm,0.8s
E27K **Coleen River** 55.66 26 P **P** **15 45 56.1 +1.9**
baz=272,SNR=19
G27K **Doyon Strip** 55.70 28 P **P** **15 45 56.2 +1.6**
baz=273
K27K **Chicken** 55.71 31 P **P** **15 45 56.4 +1.8**
baz=275
H27K **Steamboat Moun** 55.78 29 P **P** **15 45 57.0 +1.8**
baz=274,SNR=25
I27K **Kandik River** 55.79 29 P **P** **15 45 56.6 +1.4**
baz=274
CHM **Chimkent** 55.84 302 *e*P **P** **15 45 55.8 -0.2**
baz=302
CHM **Chimkent** 55.84 302 *e*P **P** **15 45 55.7 -0.2**
CHM MLR MLR
comp=Z,1µm,20.0s
D27M **Malcolm River** 55.84 25 IAmb IAmb 15 45 58.6
comp=Z,11nm,0.9s
D27M **Malcolm River** 55.84 25 P **P** **15 45 57.6 +2.1**
baz=272,SNR=13
L27K **Beaver Creek,** 55.91 32 IAmb IAmb 15 45 59.0
comp=Z,18nm,0.8s
L27K **Beaver Creek,** 55.91 32 P **P** **15 45 57.6 +1.5**
baz=276,SNR=23
M27K **Edge Creek, AK** 55.96 33 P **P** **15 45 57.8 +1.2**
baz=276
EGAK **Eagle** 56.05 30 IAmb IAmb 15 46 00.5
comp=Z,7.6nm,0.8s
EGAK **Eagle** 56.05 30 P **P** **15 45 57.6 +0.6**
baz=275,SNR=8.3
MESA **MESA** 56.18 36 P **P** **15 45 59.4 +1.2**
baz=278
AS01 **Alice Springs** 56.27 188 P **P** **15 45 58.5 -0.6**
comp=Z,5.4nm,0.5s
ASAR **Alice Springs** 56.28 188 P **P** **15 45 58.8 -0.3**
comp=Z,3.5nm,0.5s,baz=357,slow=5.4,SNR=72
ASAR PcP **PcP** **15 46 56.9 +0.8**
comp=Z,3.9nm,0.7s,baz=3.5,slow=3.7,SNR=6.3
comp=Z,3.5nm,0.5s
F28M **Old Crow** 56.34 27 IAmb IAmb 15 46 02.2
comp=Z,16nm,1.1s
F28M **Old Crow** 56.34 27 P **P** **15 46 01.2 +2.1**
baz=274,SNR=14
CTG **Chitna Glacier** 56.37 35 P **P** **15 46 01.1 +1.5**
baz=277,SNR=6.3
CTGM **Chitina Glacie** 56.38 35 IAmb IAmb 15 46 02.1
comp=Z,19nm,1.0s
E28M **Babbage River** 56.40 26 P **P** **15 46 00.8 +1.3**
baz=274
BVCY **Beaver Creek** 56.42 33 P **P** **15 46 01.5 +1.7**
baz=277,SNR=7.3
I28M **Miner Creek** 56.50 29 P **P** **15 46 01.5 +1.2**
baz=276
D28M **Stokes Point** 56.63 25 P **P** **15 46 03.1 +2.0**
baz=274,SNR=7.6
YUK3 **Moose Creek** 56.69 34 P **P** **15 46 03.3 +1.4**
baz=278,SNR=8.9
DAWY **Dawson** 56.88 31 IAmb IAmb 15 46 06.2
comp=Z,43nm,1.9s
DAWY **Dawson** 56.88 31 P **P** **15 46 05.0 +1.9**
baz=277,SNR=6.0
O28M **Mount Upton** 56.96 35 P **P** **15 46 05.4 +1.5**
baz=278
E29M **Blow River** 57.01 26 P **P** **15 46 05.5 +1.7**
baz=276,SNR=12
H29M **Whitestone** 57.06 28 P **P** **15 46 05.7 +1.5**
baz=277,SNR=6.5
MBWA **Marble Bar** 57.06 204 P **P** **15 46 06.4 +1.7**
G29M **Pine Creek** 57.12 28 P **P** **15 46 06.6 +2.0**
baz=276
SIMJ **Simiganj** 57.31 298 P **P** **15 46 06.0 -0.6**
SIMJ **Simiganj** 57.31 298 ‖P **P** **15 46 05.9 -0.6**
J29N **Klondike Camp** 57.34 31 P **P** **15 46 08.1 +1.8**
baz=278
M29M **Somme Creek** 57.52 33 P **P** **15 46 09.5 +1.8**
baz=279,SNR=32
PNL **Peninsula** 57.52 36 P **P** **15 46 09.8 +2.2**
PNL **Peninsula** 57.52 36 P **P** **15 46 09.1 +1.5**
baz=280
L29M **L29M** 57.57 32 P **P** **15 46 09.9 +2.0**
baz=279,SNR=30
YUK4 **Talbot Arm** 57.61 34 P **P** **15 46 10.8 +2.4**
baz=280,SNR=16
HYB **Hyderabad** 57.64 271 *e*P **P** **15 46 07.8 -1.3**
HYB IVmB_BB 15 46 07.9
comp=Z,157nm,0.8s
EPYK **Eagle Plains** 57.70 28 P **P** **15 46 10.6 +1.8**
baz=278,SNR=33
K29M **Barlow Dome** 57.73 31 P **P** **15 46 10.9 +1.8**
baz=279
YUK6 **Outpost Mounta** 57.81 35 P **P** **15 46 12.0 +2.1**
baz=280,SNR=9.0
G30M **tAoh Zraii Nji** 57.81 27 P **P** **15 46 11.2 +1.6**
baz=278,SNR=23
O29M **Mount Kennedy** 57.82 35 P **P** **15 46 12.4 +2.6**
baz=280
F30M **Barrier River** 57.90 27 P **P** **15 46 12.0 +2.0**
baz=278
I30M **Mount Dempster** 58.01 30 P **P** **15 46 12.5 +1.5**
baz=279
J30M **Hart River** 58.13 30 P **P** **15 46 13.8 +1.9**
baz=279,SNR=7.7
SVE **Sverdlovsk** 58.20 320 *e*P **P** **15 46 12.8 +0.4**
HYT **Haines Kunctio** 58.25 35 P **P** **15 46 14.9 +2.1**
baz=281,SNR=12
M30M **Minto, Yukon** 58.27 33 IAmb IAmb 15 46 15.9
comp=Z,9.5nm,0.8s
M30M **Minto, Yukon** 58.27 33 P **P** **15 46 14.5 +1.8**
baz=280,SNR=8.5
N30M **Aishikik Lake** 58.33 34 P **P** **15 46 15.3 +2.1**
baz=281
P29M **Windy Craggy** 58.36 36 P **P** **15 46 15.9 +2.5**
baz=281
WRKA **Warakurna** 58.48 193 P **P** **15 46 15.5 +0.8**
G31M **Satah River** 58.58 27 P **P** **15 46 16.1 +1.3**
baz=280,SNR=19
KBL **Kabul** 58.61 293 P **P** **15 46 14.7 -1.1**
KBL IAmb IAmb 15 46 15.7
comp=Z,8.2nm,0.8s
KBL **Kabul** 58.61 293 P **P** **15 46 14.7 -1.1**
KBL pmax pmax
comp=Z,8.0nm,0.8s
INK **Inuvik** 58.63 26 IAmb IAmb 15 46 17.1
comp=Z,10nm,0.9s
INK **Inuvik** 58.63 26 P **P** **15 46 16.0 +0.9**
baz=280,SNR=13
P30M **Million Dollar** 58.65 36 P **P** **15 46 17.5 +2.0**
baz=282
F31M **Tsiigehtchic** 58.70 27 IAmb IAmb 15 46 18.4
comp=Z,9.3nm,0.8s
F31M **Tsiigehtchic** 58.70 27 P **P** **15 46 16.6 +1.1**
baz=280,SNR=11
H31M **Peel River** 58.75 29 P **P** **15 46 17.4 +1.3**
baz=280
O30N **Mendenhall** 58.94 35 IAmb IAmb 15 46 20.4
comp=Z,11nm,1.0s
O30N **Mendenhall** 58.94 35 P **P** **15 46 19.0 +1.5**
baz=282,SNR=5.2
PLBC **Pleasant Camp** 59.08 36 P **P** **15 46 20.7 +2.3**
baz=282,SNR=14
ARU **Arti** 59.41 320 P **P** **15 46 20.2 -0.5**
ARU **Arti** 59.41 320 *d* P **P** **15 46 20.4 -0.4**
ARU *PP **pP** **15 46 34.4 +0.5**
ARU 15 47 06.0
ARU 15 48 28.4
ARU S **S** **15 54 27.2 +1.3**
ARU SS **SS** **15 58 19.6 -1.3**
ARU pmax pmax
comp=Z,8.0nm,0.7s
ARU **Arti** 59.41 320 P **P** **15 46 20.3 -0.4**
ARU pP **sP** **15 46 37.7 -1.7**
M31M **Drury Creek, Y** 59.44 33 IAmb IAmb 15 46 23.5
comp=Z,18nm,1.1s
M31M **Drury Creek, Y** 59.44 33 P **P** **15 46 22.8 +1.9**
baz=282,SNR=12
S31K **Pelican** 59.48 38 P **P** **15 46 23.3 +2.2**
baz=283
WHY **Whitehorse** 59.54 35 P **P** **15 46 23.7 +2.0**
baz=283,SNR=13
NOUC **Port Laguerre** 59.58 152 P **P** **15 46 22.4 +0.2**
SKAG **Skagway** 59.60 36 P **P** **15 46 24.3 +2.4**
FARO **Faro, Yukon** 59.91 33 P **P** **15 46 26.0 +1.9**
baz=283,SNR=9.9
INKA **Innaminka** 59.96 180 P **P** **15 46 25.1 +0.4**
comp=Z,37nm,2.2s
SIT **Sitka** 60.17 39 P **P** **15 46 27.4 +1.5**
baz=285
OOD **Oodnadatta** 60.20 185 P **P** **15 46 27.4 +1.0**
N32M **Quiet Lake** 60.28 34 P **P** **15 46 28.8 +2.1**
baz=284
R32K **Eaglecrest** 60.29 37 P **P** **15 46 29.1 +2.3**
baz=285
P32M **Atlin** 60.36 36 P **P** **15 46 29.0 +1.7**
P32M IAmb IAmb 15 46 30.3
comp=Z,11nm,0.8s
P32M **Atlin** 60.36 36 P **P** **15 46 29.2 +1.9**
baz=284,SNR=5.5
S32K **Killisnoo** 60.46 38 P **P** **15 46 29.5 +1.6**
baz=285
AB31 **Akbulak array** 60.48 312 *e*P **P** **15 46 27.6 -0.6**
ABKAR **Akbulak array** 60.48 312 P **P** **15 46 27.5 -0.6**
A36M **Sachs Harbour** 60.62 21 IAmb IAmb 15 46 31.1
comp=Z,13nm,0.8s
A36M **Sachs Harbour** 60.62 21 P **P** **15 46 30.2 +1.4**
baz=285,SNR=24
P33M **Teslin, Yukon** 60.65 35 P **P** **15 46 30.8 +1.5**
P33M IAmb IAmb 15 46 32.2
comp=Z,20nm,1.1s
P33M **Teslin, Yukon** 60.65 35 P **P** **15 46 31.2 +2.0**
baz=285,SNR=10.0
MMPY **Sheldon Lake,** 60.76 32 P **P** **15 46 31.6 +1.7**
MMPY IAmb IAmb 15 46 32.8
comp=Z,24nm,1.7s
MMPY **Sheldon Lake,** 60.76 32 P **P** **15 46 32.1 +2.2**
baz=285,SNR=5.0
Q32M **Nakina River** 61.24 36 P **P** **15 46 35.8 +2.3**
baz=286
AKTO **Aktyubinsk** 61.32 314 P **P** **15 46 33.4 -0.5**
C36M **Paulatuk** 61.73 24 IAmb IAmb 15 46 37.5
comp=Z,12nm,0.6s
C36M **Paulatuk** 61.73 24 P **P** **15 46 37.2 +0.9**
baz=287,SNR=16
R33M **Jennings River** 61.77 35 P **P** **15 46 39.0 +2.0**
baz=287
WRAK **Wrangell Islan** 61.93 39 P **P** **15 46 40.1 +2.2**
baz=287
S34M **Telegraph Cree** 62.12 37 P **P** **15 46 41.3 +2.2**
baz=287
TGTN **Hyland Airport** 62.41 33 P **P** **15 46 43.2 +2.1**
baz=288,SNR=15
DLBC **Dease Lake** 62.52 36 P **P** **15 46 43.3 +1.4**
baz=288
WTLY **Watson Lake, Y** 62.60 34 P **P** **15 46 44.3 +1.9**
baz=288,SNR=8.4
LCRK **Leigh Creek** 62.70 182 P **P** **15 46 43.5 +0.3**
comp=Z,45nm,0.8s
MULG **Mulgathing** 62.81 187 P **P** **15 46 45.1 +1.2**
T35M **Bob Quinn** 62.86 38 P **P** **15 46 46.6 +2.5**
baz=288
KIRV **Kirov** 63.53 324 *ce*P **P** **15 46 48.9 +0.5**
HRA **Herat** 63.89 296 P **P** **15 46 51.3 -0.3**
CMSA **Cobar Meteorol** 63.91 175 P **P** **15 46 51.9 +0.7**
WRGLY **Wrigley** 63.97 30 IAmb IAmb 15 46 53.7
comp=Z,12nm,0.7s
WRGLY **Wrigley** 63.97 30 P **P** **15 46 52.4 +1.1**
baz=291,SNR=5.6
STKA **Stephens Creek** 64.08 179 P **P** **15 46 52.1 -0.2**
STKA **Stephens Creek** 64.08 179 P **P** **15 46 51.7 -0.6**
comp=Z,4.7nm,0.5s,baz=353,slow=8.4,SNR=9.8
comp=Z,4.7nm,0.5s
FORT **Forrest** 64.12 192 P **P** **15 46 54.2 +1.6**
FORT **Forrest** 64.12 192 P **P** **15 46 52.8 +0.2**
ALE **Alert** 64.61 3 P **P** **15 46 55.7 +0.5**
ALE pP **sP** **15 47 13.0 -0.8**
EUNU **Eureka** 64.69 8 IAmb IAmb 15 47 00.3
comp=Z,11nm,0.7s
TOAD **Toad River Com** 64.74 35 P **P** **15 46 58.2 +1.8**
baz=291
SPITS **Spitsbergen Ar** 64.81 349 P **P** **15 46 56.5 -0.1**
comp=Z,6.8nm,0.8s,baz=98,slow=7.4,SNR=16
comp=Z,6.8nm,0.8s
KOTAN **Kotaneelee Air** 64.83 33 P **P** **15 46 59.0 +2.0**
baz=292
BBOO **Buckleboo** 65.16 184 P **P** **15 47 00.0 +0.7**
NOR **Nord** 65.49 356 *i* P **P** **15 47 00.8 -0.1**
NOR IAmb IAmb 15 47 04.8
comp=Z,1.9nm,0.6s
GEYT **Alibeck** 65.59 301 IAmb IAmb 15 47 03.4
comp=Z,8.3nm,0.8s
GEYT **Alibeck** 65.59 301 P **P** **15 47 02.0 -0.4**
GEYT **Alibeck** 65.59 301 P **P** **15 47 02.0 -0.4**
comp=Z,5.7nm,0.7s,baz=66,slow=7.2,SNR=14
comp=Z,5.7nm,0.7s
GYA0B **ALIBECK ARRAY** 65.59 301 IAmb IAmb 15 47 05.9
comp=Z,8.5nm,0.8s
MORW **Morawa** 65.62 204 P **P** **15 47 04.7 +2.3**
HTT **Hallett** 65.65 182 P **P** **15 47 03.2 +0.6**
BELG **Belogornoye** 66.75 318 *i* P **P** **15 47 09.0 -0.4**
BELG pmax pmax
comp=Z,4.0nm,1.0s
BLDU **Ballidu** 66.82 202 P **P** **15 47 11.9 +1.8**
RES **Resolute Bay** 67.07 14 IAmb IAmb 15 47 12.5
comp=Z,7.0nm,0.8s
KLMR **Klimovskoe** 67.28 329 *e*P **P** **15 47 09.8 -2.8**
KLMR *e*PP **pP** **15 47 25.7 -0.4**
KLMR pmax pmax
comp=Z,32nm,2.2s
YKA **Yellowknife Ar** 67.97 29 *ce*P **P** **15 47 17.2 +0.2**
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA **Yellowknife Ar** 67.97 29 P **P** **15 47 16.9 -0.1**
comp=Z,2.1nm,0.8s,baz=298,slow=6.5,SNR=31
YKA pP **pwP** **15 47 34.6 +1.1**
comp=Z,2.4nm,0.9s,baz=297,slow=6.5,SNR=6.1
comp=Z,2.1nm,0.8s
ARCES **ARCESS Array B** 68.01 340 P **P** **15 47 17.5 +0.3**
comp=Z,8.8nm,0.9s,baz=51,slow=6.9,SNR=12
comp=Z,8.8nm,0.9s
NWAO **Narrogin (SRO)** 68.80 201 P **P** **15 47 24.2 +1.7**
NWAO **Narrogin (SRO)** 68.80 201 P **P** **15 47 22.7 +0.2**
ARPS **Mount Arapiles** 68.97 179 P **P** **15 47 24.7 +1.3**
JOF **Joensuu** 69.67 333 *e*P **P** **15 47 27.2 -0.4**
NEEM **North Greenlan** 70.03 3 *i* P **P** **15 47 29.7 -0.2**
NEEM IAmb IAmb 15 47 34.7
comp=Z,8.7nm,0.8s
NLWA **Neilton Lookou** 70.17 46 IAmb IAmb 15 47 34.1
comp=Z,12nm,0.9s
DAG **Danmarks Havn** 70.19 355 *i* P **P** **15 47 30.0 -0.5**
DAG IAmb IAmb 15 47 35.0
comp=Z,8.6nm,0.8s
VRH **Novokhopyorsk** 70.57 319 *e*P **P** **15 47 32.8 -0.4**
VRH pmax pmax
comp=Z,20nm,0.6s
VALR **Valaam** 70.68 331 *i* P **P** **15 47 34.7 +1.0**
VALR pmax pmax
comp=Z,20nm,1.0s
GNW **Green Mountain** 70.73 45 IAmb IAmb 15 47 37.7
comp=Z,15nm,1.2s
OBN **Obninsk** 71.38 324 *e*P **P** **15 47 37.8 -0.3**
OBN pmax pmax
comp=Z,7.0nm,1.0s
LPSR **Galich'ya Gora** 71.42 321 *e*P **P** **15 47 41.2 +2.8**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VORR **Voronezh** 71.72 320 *e*P **P** **15 47 40.9 +0.7**
VORR pmax pmax
comp=Z,10.0nm,0.8s
F04A **Amboy** 71.73 47 IAmb IAmb 15 47 43.1
comp=Z,16nm,1.1s
VSR **Storozhevoye** 71.97 320 *e*P **P** **15 47 41.8 +0.1**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VORD **Divnogorie** 72.02 319 *e*P **P** **15 47 39.6 -2.4**
VORD pmax pmax
comp=Z,5.0nm,0.8s
SHME **Shamm** 72.23 290 P **P** **15 47 44.3 +0.5**
KULLO **Kullorsuaq** 72.48 5 *i* P **P** **15 47 44.1 -0.3**
KULLO IAmb IAmb 15 47 49.1
comp=Z,6.9nm,0.7s
FINES **FINESS Array B** 72.54 333 *ce*P **P** **15 47 44.7 -0.2**
FINES pmax pmax
comp=Z,11nm,0.8s
FINES **FINESS Array B** 72.54 333 P **P** **15 47 44.6 -0.3**
comp=Z,7.4nm,0.6s,baz=94,slow=5.3,SNR=42
FINES pP **pwP** **15 48 00.8 -0.1**
comp=Z,8.3nm,0.6s,baz=85,slow=6.1,SNR=6.6
comp=Z,7.4nm,0.6s
KEF **Keuruu** 72.56 334 *e*P **P** **15 47 44.2 -0.8**
UOSS **Minazif** 72.70 289 P **P** **15 47 46.3 -0.3**
UOSS **Minazif** 72.70 289 P **P** **15 47 46.7 +0.1**
MXC **Moxie City** 72.72 46 IAmb IAmb 15 47 49.1
comp=Z,14nm,1.1s
I04A **Tendick Farm,** 72.75 49 IAmb IAmb 15 47 49.3
comp=Z,15nm,0.8s
HATD **Hatta, Dubai** 72.82 289 P **P** **15 47 47.6 +0.3**
VAF **Ylistaro** 72.82 335 *e*P **P** **15 47 46.8 +0.2**
SOHO **SOHO** 72.82 288 P **P** **15 47 47.3 0.0**
ASHO **Ashiyiah** 72.94 289 P **P** **15 47 48.0 0.0**
NCK **Nalchik** 73.11 311 *i* P **P** **15 47 48.6 -0.1**
NCK pmax pmax
comp=Z,11nm,1.0s
HAWA **Hanford** 73.27 45 IAmb IAmb 15 47 52.3
comp=Z,34nm,1.9s
FAQ **Al Faqa, Dubai** 73.29 289 P **P** **15 47 49.4 -0.7**
D08A **Wollman Farm,** 73.30 45 IAmb IAmb 15 47 52.2
comp=Z,12nm,1.0s
KBZ **Khabaz** 73.44 311 *ce*P **P** **15 47 51.0 +0.4**
KBZ pmax pmax
comp=Z,22nm,1.0s
KBZ **Khabaz** 73.44 311 P **P** **15 47 51.4 +0.8**
comp=Z,20nm,1.0s,baz=81,slow=4.1,SNR=30
comp=Z,20nm,1.0s
KIV **Kislovodsk** 73.46 312 P **P** **15 47 50.6 -0.3**
KIV **Kislovodsk** 73.46 312 P **P** **15 47 51.7 +0.8**
KIV **Kislovodsk** 73.46 312 *e*P **P** **15 47 51.8 +0.9**
KIV pmax pmax
comp=Z,27nm,1.1s
ALNE **Al Ain** 73.49 288 P **P** **15 47 51.2 -0.1**
E08A **Dider Farm, El** 73.50 45 IAmb IAmb 15 47 53.6
comp=Z,21nm,1.5s
YBH **Yreka Blue Hor** 73.55 51 P **P** **15 47 53.3 +1.9**
YBH IAmb IAmb 15 47 54.4
comp=Z,8.9nm,0.8s
YBH **Yreka Blue Hor** 73.55 51 P **P** **15 47 53.3 +1.9**
YBH pmax pmax
comp=Z,9.0nm,0.8s
ASUD **Al Ashush, Dub** 73.55 289 P **P** **15 47 51.7 +0.1**
SHA1 **Shidzhatmaz** 73.58 312 *i* P **P** **15 47 50.9 -0.9**
ONI **Oni** 73.64 310 IAmb IAmb 15 47 57.1
comp=Z,14nm,1.1s
J05D **Fort Rock, OR** 73.75 49 P **P** **15 47 54.5 +1.8**
J05D IAmb IAmb 15 47 55.7
comp=Z,23nm,1.2s
NEW **Newport** 73.75 43 IAmb IAmb 15 47 54.8
comp=Z,11nm,0.9s
NEW **Newport** 73.75 43 P **P** **15 47 53.9 +1.5**
baz=301,SNR=12
NEW **Newport** 73.75 43 P **P** **15 47 53.2 +0.8**
comp=Z,8.7nm,0.9s,baz=319,slow=4.2,SNR=14
comp=Z,8.7nm,0.9s
MEF **Metsahovi** 73.94 332 *e*P **P** **15 47 52.9 -0.3**
ERBR **Yeremizino-Bor** 73.95 314 *e*P **P** **15 47 49.9 -3.7**
ERBR pmax pmax
comp=Z,12nm,0.7s
GNI **Garni** 73.98 308 LR LR 16 23 35.2
comp=Z,47nm,18.2s,baz=38,slow=38
VSU **Vasula** 74.05 330 *i* P **P** **15 47 53.7 -0.2**
VSU pmax pmax
comp=Z,11nm,1.0s
K05A **Summer Lake** 74.24 49 IAmb IAmb 15 47 58.7
comp=Z,22nm,0.9s
LABN **Labinsk** 74.34 313 *e*P **P** **15 47 51.4 -4.5**
LABN *e*PP **pP** **15 48 07.1 -2.3**
LABN pmax pmax
comp=Z,31nm,0.6s
RAF **Rauma** 74.44 334 *e*P **P** **15 47 56.3 +0.2**
SUMG **Summit** 75.16 360 P **P** **15 48 01.7 +1.1**
SUMG IAmb IAmb 15 48 06.4
comp=Z,14nm,0.8s
SUMG **Summit** 75.16 360 P **P** **15 48 01.7 +1.1**
SUMG pmax pmax
comp=Z,14nm,0.8s
SUMG **Summit** 75.16 360 *i* P **P** **15 48 01.0 +0.4**
SUMG IAmb IAmb 15 48 06.4
comp=Z,12nm,0.7s
BMO **Blue Mountains** 75.40 46 IAmb IAmb 15 48 04.5
comp=Z,7.7nm,0.7s
ORV **Oroville** 75.42 52 P **P** **15 48 02.7 +0.5**
ORV **Oroville** 75.42 52 P **P** **15 48 02.7 +0.5**
ORV pmax pmax
comp=Z,12nm,1.3s
J08A **Circle Bar Ran** 75.45 48 IAmb IAmb 15 48 05.2
comp=Z,30nm,1.3s
MNK **Minsk** 75.91 326 *i* P **P** **15 48 02.9 -1.8**
MNK *i* *PP **PcP** **15 48 17.4 +0.4**
MNK *i* 15 50 52.9
MNK *i* PPP PPP 15 52 39.6
MNK *i* S **S** **15 57 42.5 -0.9**
MNK *i* *SS **sS** **15 58 07.1 +0.4**

MNK *i* SS **SS** **16 02 35.8 +0.3**
MNK *i* SSS SSS 16 05 59.1
MNK pmax pmax
comp=N,10.0nm,0.9s
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK pmax pmax
comp=Z,13nm,0.9s
ANN Anapa 76.27 315 *e*P **P** **15 48 06.6 -0.3**
ANN *e**PP **PcP** **15 48 19.5 +0.8**
ANN *e*S **S** **15 57 46.5 -1.1**
ANN pmax pmax
comp=Z,24nm,1.0s
GURO Guroymak-BITLI 76.59 307 IAmb IAmb 15 48 14.2
comp=Z,16nm,1.1s
UMMG Uummannaq 76.65 4 *i* P **P** **15 48 09.4 +0.8**
UMMG IAmb IAmb 15 48 13.5
comp=Z,4.6nm,0.7s
UPP Uppsala 76.75 334 *e*P **P** **15 48 09.1 -0.2**
CMB Columbia Colle 76.94 53 IAmb IAmb 15 48 13.5
comp=Z,22nm,1.4s
MFID Camas Ranch 77.06 47 IAmb IAmb 15 48 13.7
comp=Z,7.0nm,0.7s
PABE Paberze 77.07 329 P **P** **15 48 11.0 -0.2**
PABE Paberze 77.07 329 *e*P **P** **15 48 11.5 +0.3**
YERR Yerington 77.22 52 IAmb IAmb 15 48 15.3
comp=Z,32nm,1.4s
AKASG Malin Array Be 77.52 323 *ce*P **P** **15 48 13.8 -0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 77.52 323 P **P** **15 48 13.3 -0.5**
comp=Z,4.6nm,0.7s,baz=49,slow=5.7,SNR=17
AKASG pP **sP** **15 48 31.3 -1.6**
comp=Z,3.1nm,0.5s,baz=50,slow=5.6,SNR=5.2
AKASG LR LR 16 24 48.7
comp=Z,65nm,18.1s,baz=49,slow=38
comp=Z,4.6nm,0.7s
AKBB Malin Array Si 77.52 323 IAmb IAmb 15 48 18.2
comp=Z,9.9nm,0.9s
AKBB Malin Array Si 77.52 323 *ce*P **P** **15 48 14.2 +0.3**
AKBB pmax pmax
comp=Z,7.0nm,0.9s
KIEV Kiev 77.53 323 P **P** **15 48 13.8 -0.1**
KIEV IAmb IAmb 15 48 18.2
comp=Z,8.9nm,0.9s
KIEV Kiev 77.53 323 P **P** **15 48 13.8 -0.1**
KIEV pmax pmax
comp=Z,9.0nm,1.0s
PBUR Paburge 77.62 330 *e*P **P** **15 48 13.5 -0.8**
FFC Flin Flon 77.78 32 P **P** **15 48 15.4 +0.2**
FFC IAmb IAmb 15 48 16.6
comp=Z,8.3nm,0.9s
FFC Flin Flon 77.78 32 P **P** **15 48 15.4 +0.2**
FFC pmax pmax
comp=Z,8.0nm,0.9s
BMN Battle Mountai 77.78 50 IAmb IAmb 15 48 18.5
comp=Z,15nm,1.4s
HLID Hailey 77.84 46 P **P** **15 48 17.8 +1.7**
baz=304,SNR=7.7
RYN Ryan 77.89 52 IAmb IAmb 15 48 18.9
comp=Z,15nm,1.3s
KVN Kaiserville 77.94 51 IAmb IAmb 15 48 19.1
comp=Z,24nm,1.4s
HFS Hagfors 77.95 336 P **P** **15 48 15.9 -0.2**
comp=Z,8.4nm,0.7s,baz=53,slow=7.4,SNR=44
HFS pP **pwP** **15 48 33.1 +0.4**
comp=Z,3.4nm,0.5s,baz=116,slow=3.4,SNR=4.4
comp=Z,8.4nm,0.7s
EGMT Eagleton 78.01 40 P **P** **15 48 17.7 +0.9**
baz=306
VIKU Vikbolandet 78.03 334 *e*P **P** **15 48 16.7 +0.1**
LHV Little Huntoon 78.10 52 IAmb IAmb 15 48 25.4
comp=Z,14nm,1.2s
NB2 NORSAR Subarra 78.11 337 P **P** **15 48 16.7 -0.3**
comp=Z,4.1nm,0.7s,baz=41,slow=5.6
NB2 NORSAR Subarra 78.11 337 P **P** **15 48 15.0 -2.0**
NOA NORSAR Array B 78.11 337 P **P** **15 48 16.7 -0.3**
comp=Z,7.4nm,0.8s,baz=42,slow=5.4,SNR=19
NOA pP **sP** **15 48 34.7 -1.3**
comp=Z,5.9nm,0.7s,baz=42,slow=5.6,SNR=8.2
NOA LR LR 16 27 35.1
comp=Z,27nm,18.8s,baz=5.0,slow=39
comp=Z,7.4nm,0.8s
NVAR Mina Array Bea 78.14 52 P **P** **15 48 19.4 +1.5**
comp=Z,4.1nm,0.6s,baz=292,slow=5.6,SNR=29
comp=Z,4.1nm,0.6s
SIM Simferopol' 78.16 316 *e*P **P** **15 48 16.6 -0.9**
SIM *e*S **S** **15 58 02.5 -5.7**
SIM pmax pmax
comp=Z,18nm,0.8s
SIM smax smax
comp=E,34nm,13.7s
BOZ Bozeman (W) 78.35 43 P **P** **15 48 20.1 +1.3**
baz=305,SNR=8.9
ICESG Greenland Ices 78.67 0 *i* P **P** **15 48 20.6 +0.3**
ICESG IAmb IAmb 15 48 25.6
comp=Z,11nm,0.8s
ARPR Arapgir-MALATY 78.76 309 IAmb IAmb 15 48 26.8
comp=Z,28nm,1.2s
ELK Elko 78.88 49 P **P** **15 48 23.3 +1.4**
comp=Z,5.2nm,0.8s,baz=289,slow=6.0,SNR=15
comp=Z,5.2nm,0.8s
PKM Mcpherson Peak 78.98 56 P **P** **15 48 23.5 +1.0**
baz=302
VES Vestal, Richgr 78.98 55 P **P** **15 48 24.6 +2.4**
baz=302,SNR=5.5
CWC Cottonwood Cre 79.35 54 P **P** **15 48 25.6 +1.1**
baz=303
ISA Isabella, Lake 79.50 54 P **P** **15 48 25.7 +0.5**
baz=303
SORM Soroca 79.52 321 ⇑P **P** **15 48 24.8 -0.1**
SORM Soroca 79.52 321 ⇑P **P** **15 48 24.8 -0.1**
GRAC Grapevine Rang 79.53 53 P **P** **15 48 26.2 +0.9**
baz=303
SCZ2 Santa Cruz Isl 79.58 56 P **P** **15 48 26.1 +0.5**
baz=302
H17A Grant Village 79.66 44 P **P** **15 48 26.9 +0.8**
baz=306,SNR=6.9
YMP Mirror Lake Pl 79.70 43 IAmb IAmb 15 48 45.5
comp=Z,23nm,2.0s
HVU Hansel Valley 79.84 47 IAmb IAmb 15 48 29.7
comp=Z,9.0nm,0.8s
OSI Osito Audit: C 79.89 55 P **P** **15 48 27.9 +0.7**
baz=303
MPMC Manual Prospec 79.96 54 P **P** **15 48 28.9 +1.1**
baz=303,SNR=6.4
R11B Troy Canyon, C 79.97 51 P **P** **15 48 29.3 +1.4**
baz=304,SNR=13
RLMT Red Lodge 79.98 43 P **P** **15 48 29.0 +1.2**
baz=306
LRMC Laurel Mtn Rad 80.14 54 P **P** **15 48 29.7 +1.0**
baz=303
FURC Furnace Creek, 80.16 53 P **P** **15 48 29.1 +0.6**
baz=303
EDW2 Edwards Air Fo 80.25 55 P **P** **15 48 30.3 +1.1**
baz=303
QSM Queen of Sheba 80.43 53 IAmb IAmb 15 48 32.2
comp=Z,16nm,1.0s
SPR3 Spring Creek 3 80.43 50 IAmb IAmb 15 48 33.4
comp=Z,29nm,1.9s
GWY Greenwater Val 80.44 53 IAmb IAmb 15 48 32.5
comp=Z,14nm,1.1s
BNN Bunyan 80.52 310 IAmb IAmb 15 48 35.0
comp=Z,32nm,1.0s
HWUT Hardware Ranch 80.68 46 IAmb IAmb 15 48 34.3
comp=Z,11nm,0.9s
DGMT Dagmar 80.69 38 P **P** **15 48 32.3 +1.0**
baz=309
DUG Dugway, Tooele 80.72 48 IAmb IAmb 15 48 34.2
comp=Z,11nm,0.7s
DUG Dugway, Tooele 80.72 48 P **P** **15 48 32.7 +0.9**
baz=305,SNR=18
LAO LASA Array 80.73 40 IAmb IAmb 15 51 27.0
comp=Z,8.7nm,0.8s
LAO LASA Array 80.73 40 P **P** **15 48 32.5 +0.9**
baz=308,SNR=5.6
CIS Catalina Islan 80.75 56 P **P** **15 48 32.5 +0.6**
baz=303
BFSC Mount Baldy Ra 80.83 55 P **P** **15 48 32.9 +0.5**
baz=303
GSC Goldstone, Bar 80.83 54 P **P** **15 48 33.5 +1.1**
baz=304
SCI2 San Clemente I 80.89 57 P **P** **15 48 33.7 +1.1**
baz=303
RRX Edison Barstow 80.94 54 P **P** **15 48 34.0 +1.2**
baz=303
TCUT Toone Canyon 81.06 47 IAmb IAmb 15 48 36.1
comp=Z,10nm,0.7s
BW06 Boulder Array 81.21 45 P **P** **15 48 35.3 +0.8**
baz=307,SNR=5.0
PDAR Pinedale Array 81.21 45 P **P** **15 48 34.7 +0.3**
comp=Z,2.1nm,0.6s,baz=267,slow=2.6,SNR=26
comp=Z,2.1nm,0.6s
NLU North Lily Min 81.32 48 IAmb IAmb 15 48 37.0
comp=Z,7.1nm,0.7s
BR131 Keskin Array S 81.43 312 IAmb IAmb 15 48 42.5
comp=Z,12nm,0.9s
BR131 Keskin Array S 81.43 312 *i* P **P** **15 48 34.6 -0.9**
BRTR Keskin Array B 81.43 312 *ce*P **P** **15 48 36.2 +0.7**
BRTR pmax pmax
comp=Z,8.0nm,0.8s
BRTR Keskin Array B 81.43 312 P **P** **15 48 35.8 +0.3**
comp=Z,7.1nm,0.8s,baz=83,slow=3.3,SNR=28
BRTR pP **pwP** **15 48 50.9 -1.1**
comp=Z,5.2nm,0.9s,baz=106,slow=2.8,SNR=5.9
comp=Z,7.1nm,0.8s
TESR Tescani 81.43 320 ⇑P **P** **15 48 35.0 -0.2**
CFR Carcaliu 81.45 319 ⇑P **P** **15 48 35.5 +0.2**
CFR Carcaliu 81.45 319 ⇑P **P** **15 48 35.5 +0.2**
TPGR Topolog 81.49 318 ⇓P **P** **15 48 36.1 +0.5**
BURAR Bucovina Array 81.50 322 ⇓P **P** **15 48 36.1 +0.4**
BURAR Bucovina Array 81.50 322 ⇓P **P** **15 48 36.1 +0.4**
MURC Murrieta 81.50 56 P **P** **15 48 37.4 +1.5**
baz=304
MPU Maple Canyon 81.56 48 IAmb IAmb 15 48 38.6
comp=Z,11nm,0.6s
VRI Vrincioaia 81.80 320 ⇓P **P** **15 48 38.8 +1.6**
VRI Vrincioaia 81.80 320 ⇓P **P** **15 48 38.8 +1.6**
TCRU Three Creeks R 81.86 49 IAmb IAmb 15 48 41.7
comp=Z,9.8nm,0.6s
RAYN Ar Rayn 81.87 293 P **P** **15 48 38.2 +0.2**
ANTO Ankara 81.87 312 P **P** **15 48 37.0 -0.8**
ANTO IAmb IAmb 15 48 42.2
comp=Z,18nm,0.7s
ANTO Ankara 81.87 312 P **P** **15 48 37.0 -0.8**
ANTO pmax pmax
comp=Z,18nm,0.7s
GMRC Granite Mounta 81.90 54 P **P** **15 48 39.4 +1.3**
baz=304
109C Camp Elliot, M 81.95 56 P **P** **15 48 39.2 +1.0**
baz=304
PFO Pinyon Flats O 82.00 55 P **P** **15 48 40.0 +1.4**
baz=304
PFO Pinyon Flats O 82.00 55 LR LR 16 18 32.9
comp=Z,45nm,19.5s,baz=180,slow=31
TPFO Pinon Flats 82.01 55 P **P** **15 48 39.8 +1.1**
baz=304
PMD Palm Desert 82.04 55 IAmb IAmb 15 48 40.4
comp=Z,13nm,1.1s
TURR Turia 82.06 320 ⇑P **P** **15 48 40.1 +1.5**
BELC Belle Mtn. Jos 82.11 55 P **P** **15 48 40.0 +0.8**
baz=304
OZUR 82.16 320 ⇓P **P** **15 48 39.4 +0.3**
ICOR Ion Corvin 82.29 318 ⇑P **P** **15 48 41.0 +1.2**
MTPU Mount Pierson 82.36 50 IAmb IAmb 15 48 43.0
comp=Z,9.0nm,0.8s
ISR Istrita 82.37 319 ⇑P **P** **15 48 42.2 +2.0**
ISR Istrita 82.37 319 ⇑P **P** **15 48 42.2 +2.0**
MONP2 Monument Peak 82.43 56 P **P** **15 48 41.8 +0.8**
baz=304
MLR Muntele Rosu 82.46 320 ⇑P **P** **15 48 41.2 +0.4**
MLR Muntele Rosu 82.46 320 ⇑P **P** **15 48 41.2 +0.4**
IRM Iron Mountain 82.61 54 P **P** **15 48 42.3 +0.7**
baz=304
BC3 Big Chuckawall 82.68 55 P **P** **15 48 43.1 +0.9**
baz=304
IKP In-Ko-Pah, Jac 82.78 56 P **P** **15 48 43.9 +1.2**
baz=304
SWSC Sam W. Stewart 82.83 56 P **P** **15 48 44.5 +1.6**
baz=304
VOIR 82.98 320 ⇓P **P** **15 48 44.2 +0.8**
VOIR 82.98 320 ⇓P **P** **15 48 44.2 +0.8**
K22A Casper 83.06 43 P **P** **15 48 45.0 +0.9**
baz=308
PPT2 Papeete2 83.16 116 *e*LR LR 16 14 44.3
comp=Z,181nm,27.0s
MARR Marisel-Cluj 83.19 322 ⇑P **P** **15 48 45.3 +0.8**
PDMCI Parker Dam,Lak 83.21 54 P **P** **15 48 45.7 +0.9**
baz=305
RWWY Rawlins 83.25 44 IAmb IAmb 15 48 46.9
comp=Z,14nm,0.8s
DRGR 83.33 322 ⇓P **P** **15 48 45.6 +0.4**
DRGR 83.33 322 ⇓P **P** **15 48 45.6 +0.4**
HMU Henry Mountain 83.34 49 IAmb IAmb 15 48 47.7
comp=Z,14nm,0.9s
MDND Maddock 83.43 36 P **P** **15 48 46.6 +1.0**
baz=312
GLA Glamis 83.45 55 P **P** **15 48 47.4 +1.3**
baz=305
RSSD Black Hills 83.54 41 P **P** **15 48 47.8 +1.2**
baz=310
ULM Lac du Bonnet 83.55 33 P **P** **15 48 46.0 -0.2**
ULM Lac du Bonnet 83.55 33 P **P** **15 48 46.0 -0.2**
comp=Z,1.0nm,0.4s,baz=346,slow=15,SNR=2.2
comp=Z,1.0nm,0.4s
O20A White River Ci 83.58 46 IAmb IAmb 15 48 49.2
comp=Z,15nm,0.8s
O20A White River Ci 83.58 46 P **P** **15 48 48.0 +1.1**
baz=308,SNR=10
LOT Lotru 83.66 321 ⇑P **P** **15 48 48.0 +1.0**
MORC Moravsky Berou 83.82 327 ⇑P **P** **15 48 47.5 -0.1**
MORC Moravsky Berou 83.82 327 IAmb IAmb 15 48 51.7
comp=Z,7.3nm,0.8s
MORC Moravsky Berou 83.82 327 *e*P **P** **15 48 49.6 +2.0**
MORC Moravsky Berou 83.82 327 ⇑P **P** **15 48 47.5 -0.1**
KRLC Kraliky 83.95 328 *e*P **P** **15 48 49.7 +1.4**
KRLC Kraliky 83.95 328 *e*P **P** **15 48 49.7 +1.4**
DPC Dobruska-Polom 83.96 328 *e*P **P** **15 48 49.0 +0.6**
DPC Dobruska-Polom 83.96 328 *e*P **P** **15 48 49.0 +0.6**
PSZ Piszkesteto 83.99 325 ⇓P **P** **15 48 49.3 +0.7**
PSZ Piszkesteto 83.99 325 IAmb IAmb 15 48 54.7
comp=Z,9.8nm,1.0s
PSZ Piszkesteto 83.99 325 ⇓P **P** **15 48 49.3 +0.7**
UPC Upice 83.99 328 *e*P **P** **15 48 49.1 +0.7**
UPC Upice 83.99 328 *e*P **P** **15 48 49.1 +0.7**
VYHS Vyhne 84.11 325 *e*P **P** **15 48 49.7 +0.6**
VYHS pmax pmax
comp=Z,20nm,1.4s
VYHS Vyhne 84.11 325 *e*P **P** **15 48 49.7 +0.6**
MMAI Mount Meron Ar 84.12 305 P **P** **15 48 49.8 +0.3**
comp=Z,6.5nm,0.6s,baz=46,slow=6.0,SNR=8.4
comp=Z,6.5nm,0.6s
ELND Elena 84.13 318 ⇑P **P** **15 48 50.0 +0.7**
SIRR Siria 84.22 322 ⇑P **P** **15 48 50.2 +0.5**
GZR Gura Zlata 84.22 321 ⇑P **P** **15 48 50.7 +0.9**
GZR Gura Zlata 84.22 321 ⇑P **P** **15 48 50.7 +0.9**
SURR Surduc 84.32 322 ⇓P **P** **15 48 50.6 +0.4**
WUAZ Wupatki 84.36 51 IAmb IAmb 15 48 53.6
comp=Z,11nm,0.9s
WUAZ Wupatki 84.36 51 P **P** **15 48 52.6 +1.7**
baz=306,SNR=7.0
JAVC Velka Javorina 84.40 326 *e*P **P** **15 48 53.1 +2.5**
N23A Red Feather La 84.49 44 P **P** **15 48 52.8 +1.2**
baz=309
VRAC Vranov 84.58 327 ⇓P **P** **15 48 51.8 +0.3**
VRAC Vranov 84.58 327 *e*P **P** **15 48 52.1 +0.6**
VRAC Vranov 84.58 327 ⇓P **P** **15 48 51.8 +0.3**
PVCC Panska Ves 84.61 329 *e*P **P** **15 48 52.1 +0.5**
PVCC Panska Ves 84.61 329 *e*P **P** **15 48 52.1 +0.5**
BRG Berggiesshubel 84.63 329 *e*P **P** **15 48 51.9 +0.3**
BRG pmax pmax
comp=Z,7.0nm,0.8s
BRG Berggiesshubel 84.63 329 *e*P **P** **15 48 52.0 +0.3**
BRG Amp 15 48 55.6
comp=Z,6.7nm,0.8s
CLL Collm 84.71 330 IAmb IAmb 15 48 56.1
comp=Z,14nm,0.8s
CLL Collm 84.71 330 *i* P **P** **15 48 51.6 -0.4**
CLL *e**PP **pwP** **15 49 07.0 -1.8**
CLL pmax pmax
comp=Z,15nm,0.9s
CLL Collm 84.71 330 *i* P **P** **15 48 51.6 -0.4**
comp=Z,5.0nm,0.6s
CLL *i* x x 15 48 53.1
comp=Z,8.0nm,1.0s
CLL *i* Pmax 15 48 55.0
comp=Z,15nm,0.9s
CLL *e*pP **pwP** **15 49 07.0 -1.8**
CLL *i* x x 15 49 10.1
CLL *e*PP **PP** **15 52 09.0 +1.3**
SMOL Smolenice 84.76 326 *e*P **P** **15 48 56.4 +4.0**
SRO Srobarova 84.83 325 *e*P **P** **15 48 55.9 +3.2**
SRO Srobarova 84.83 325 *e*P **P** **15 48 55.9 +3.2**
KRUC Moravsky 84.85 327 *e*P **P** **15 48 52.9 +0.1**
MODS Modra-Piesok 84.93 326 *e*P **P** **15 48 56.1 +2.8**
MODS Modra-Piesok 84.93 326 *e*P **P** **15 48 56.1 +2.8**
AGMN Agassiz Nation 84.93 34 P **P** **15 48 54.3 +1.1**
baz=315
GOPC GO Pecny, Ondr 84.96 328 *e*P **P** **15 48 53.6 +0.2**
GOPC GO Pecny, Ondr 84.96 328 *e*P **P** **15 48 53.6 +0.2**
HSKC Hora Svate Kat 85.05 329 *e*P **P** **15 48 54.3 +0.5**
MVCO Mesa Verde 85.20 49 IAmb IAmb 15 48 56.5
comp=Z,5.6nm,0.6s
MVCO Mesa Verde 85.20 49 P **P** **15 48 56.2 +1.1**
baz=308,SNR=6.2
ISCO Idaho Springs 85.38 45 IAmb IAmb 15 48 58.3
comp=Z,6.8nm,0.8s
ISCO Idaho Springs 85.38 45 P **P** **15 48 56.9 +0.8**
baz=309,SNR=9.7
214A Organ Pipe Nat 85.47 55 P **P** **15 48 57.7 +1.4**
baz=306
W18A Petrified Fore 85.67 51 IAmb IAmb 15 49 02.1
comp=Z,9.2nm,0.8s
W18A Petrified Fore 85.67 51 P **P** **15 48 59.0 +1.5**
baz=307
MORH Mrgy, Hungar 85.78 324 ⇑P **P** **15 48 58.0 +0.5**
RONA Rosalia, Austr 85.87 326 *i* P **P** **15 48 57.6 -0.4**
comp=Z,1.3nm,0.4s
CONA Conrad Observa 85.91 326 *e*P **P** **15 48 57.9 -0.4**
comp=Z,0.5nm,0.4s
CKRC Cesky Krumlov 85.98 328 *e*P **P** **15 48 59.2 +0.7**
CKRC Cesky Krumlov 85.98 328 *e*P **P** **15 48 59.2 +0.7**
SUSD Miller 86.07 38 P **P** **15 48 59.6 +0.6**
baz=313
KHC Kasperske Hory 86.07 328 *ce*P **P** **15 48 58.5 -0.5**
KHC pmax pmax
comp=Z,13nm,1.3s
Q24A Divide 86.18 46 IAmb IAmb 15 49 02.0
comp=Z,8.0nm,0.9s
Q24A Divide 86.18 46 P **P** **15 49 00.9 +0.8**
baz=310,SNR=5.2
GEC2 GERESS Array S 86.23 328 IAmb IAmb 15 49 02.8
comp=Z,22nm,1.9s
GERES GERESS Array B 86.23 328 P **P** **15 48 59.6 -0.3**
comp=Z,2.2nm,0.8s,baz=23,slow=7.2,SNR=11
GERES pP **pwP** **15 49 16.8 +0.3**
comp=Z,1.3nm,0.6s,baz=25,slow=11,SNR=3.7
comp=Z,2.2nm,0.8s
ARSA Arzberg 86.56 326 *e*P **P** **15 49 01.7 +0.4**
comp=Z,0.5nm,0.3s
TUC Tucson 86.65 54 P **P** **15 49 03.2 +1.0**
baz=307
MOA Molln 86.71 327 *e*PcP **P** **15 49 02.8 +0.7**
comp=Z,0.4nm,0.3s
OGNE Ogallala 86.73 42 P **P** **15 49 03.4 +1.0**
baz=311
SDCO Great Sand Dun 86.74 47 IAmb IAmb 15 49 37.9
comp=Z,24nm,1.9s
SDCO Great Sand Dun 86.74 47 P **P** **15 49 03.8 +1.0**
baz=309
EKA Eskdalemuir Ar 87.17 340 P **P** **15 49 03.9 -0.2**
comp=Z,4.9nm,0.8s,baz=34,slow=4.9,SNR=12
EKA pP **sP** **15 49 22.2 -1.0**
comp=Z,1.0nm,0.6s,baz=43,slow=5.2,SNR=2.7
comp=Z,4.9nm,0.8s
EYMN Ely 87.20 32 P **P** **15 49 05.1 +0.7**
baz=318
SOKA Soboth 87.21 326 *i* P **P** **15 49 03.5 -1.1**
comp=Z,0.6nm,0.4s
KSCO Kaye Shedlock' 87.66 44 P **P** **15 49 07.0 0.0**
baz=311
KBA Koelnbreinsper 87.70 327 *e*P **P** **15 49 06.1 -1.0**
comp=Z,2.9nm,0.7s
LESA Schwarzleotal 87.75 328 *i* P **P** **15 49 07.1 -0.1**
comp=Z,1.5nm,0.5s
ECSD EROS Data Cent 87.78 38 IAmb IAmb 15 49 08.4
comp=Z,10nm,1.0s
T25A Trinidad 87.80 47 P **P** **15 49 08.9 +1.1**
baz=310
ANMO Albuquerque 87.90 49 P **P** **15 49 09.5 +1.2**
baz=309
ANMO Albuquerque 87.90 49 *ce*P **P** **15 49 06.7 -1.6**
ANMO pmax pmax
comp=Z,3.0nm,1.3s
ANMO Albuquerque 87.90 49 P **P** **15 49 09.5 +1.2**
comp=Z,1.5nm,0.7s,baz=36,slow=6.2,SNR=6.5
comp=Z,1.5nm,0.7s
Y22D IRIS PASSCAL I 88.14 50 P **P** **15 49 09.2 -0.2**
baz=309
Y22F Passcal Instru 88.14 50 P **P** **15 49 09.5 0.0**
baz=309
E38A The Farm, Brul 88.17 33 IAmb IAmb 15 49 09.9
comp=Z,15nm,1.1s
WATA Walderalm 88.31 328 *e*P **P** **15 49 08.9 -1.1**
comp=Z,0.4nm,0.2s
ABTA Abfaltersbach 88.33 327 *e*P **P** **15 49 09.0 -1.0**
comp=Z,0.6nm,0.4s
MOTA Moosalm 88.51 328 *e*PcP **P** **15 49 11.2 +0.3**
comp=Z,0.3nm,0.2s
121A Cookes Peak, D 88.53 52 P **P** **15 49 12.6 +1.3**
baz=308
RETA Reutte 88.55 329 *i* P **P** **15 49 10.8 -0.2**
comp=Z,1.7nm,0.6s
BGNE Belgrade 88.58 40 P **P** **15 49 11.4 +0.2**
baz=314
SPMN Marine on St. 88.61 35 P **P** **15 49 12.0 +0.8**
baz=317
BMRD Maredsous 88.78 334 *d*PcP **P** **15 49 12.5 +0.6**
FETA Feichten 88.92 328 *i* P **P** **15 49 12.4 -0.5**
comp=Z,0.6nm,0.5s
FUORN Ofenpass-Fuorn 89.43 328 IAmb IAmb 15 49 19.1
comp=Z,9.2nm,0.8s
CBKS Cedar Bluff 89.47 43 P **P** **15 49 16.6 +1.2**
baz=313
SCHQ Schefferville 89.79 16 P **P** **15 49 17.0 +0.4**
comp=Z,3.3nm,0.9s,baz=355,slow=12,SNR=1.7
comp=Z,3.3nm,0.9s
TUE Stuetta 89.95 329 IAmb IAmb 15 49 36.0
comp=Z,9.3nm,1.4s
MNTX Cornudas Mount 90.64 51 P **P** **15 49 21.7 +0.7**
baz=310
SCIA State Center 90.83 37 P **P** **15 49 22.4 +0.7**
baz=317
MSTX Muleshoe 90.86 48 P **P** **15 49 23.0 +0.9**
baz=311
AMTX Amarillo 90.94 47 P **P** **15 49 23.1 +0.7**
baz=312
KSU1 Kansas State U 91.03 41 P **P** **15 49 23.0 +0.3**
baz=315
P38A Dawn 92.33 39 IAmb IAmb 15 49 30.0
comp=Z,7.5nm,0.8s
ALPN Alpine 92.64 51 IAmb IAmb 15 49 31.8
comp=Z,3.6nm,0.8s
GLMI Grayling 92.64 30 P **P** **15 49 30.8 +0.9**
baz=323
WMOK Wichita Mounta 92.80 45 IAmb IAmb 15 49 32.3
comp=Z,7.1nm,0.8s
WMOK Wichita Mounta 92.80 45 P **P** **15 49 31.6 +0.6**
baz=313,SNR=7.7
TXAR Lajitas Array 93.29 52 P **P** **15 49 34.5 +1.2**
comp=Z,11nm,0.7s,baz=301,slow=3.1,SNR=145
TXAR pP **pwP** **15 49 51.5 +1.0**
comp=Z,3.2nm,0.7s,baz=326,slow=3.4,SNR=5.0
comp=Z,11nm,0.7s
ABTX Abilene, Hawle 93.71 47 P **P** **15 49 36.3 +1.1**
baz=313
TUL3 Leonard 93.74 43 P **P** **15 49 35.8 +0.6**
baz=315
SAND Sanderson 93.90 51 IAmb IAmb 15 49 39.4
comp=Z,16nm,1.7s
CCM Cathedral Cave 94.69 39 P **P** **15 49 39.7 +0.2**
baz=318
BRDY Brady 95.02 48 IAmb IAmb 15 49 42.8
comp=Z,6.0nm,1.0s
JCT Junction City 95.06 49 P **P** **15 49 42.1 +0.7**
baz=313
WHTX Lake Whitney, 95.49 47 P **P** **15 49 44.3 +0.9**
baz=314
MIAR Mount Ida 95.98 42 P **P** **15 49 45.9 +0.4**
baz=317
O48B Farmland 96.03 34 P **P** **15 49 45.8 +0.2**
baz=323
435B Jarrell 96.25 47 P **P** **15 49 46.8 0.0**
baz=314
833A Chaparral WMA, 96.77 50 P **P** **15 49 50.3 +1.2**
baz=313
ACSO Alum Creek Sta 97.05 32 P **P** **15 49 50.5 +0.3**
baz=324
M53A WI Miller and 97.07 30 P **P** **15 49 50.6 +0.4**
baz=326

WVT	**Waverly**	**97.93**	**38**	P	**P**	**15 49 54.3**	**+0.1**
	baz=320							
SSPA	**Standing Stone**	**98.90**	**29**	P	**P**	**15 49 57.7**	**-0.8**
	baz=328							
HRV	**Adam Dziewonsk**	**99.63**	**24**	P	**Pdif**	**15 50 01.4**	**-0.4**
	baz=333							
TZTN	**Tazewell**	**99.75**	**35**	P	**Pdif**	**15 50 02.3**	**-0.1**
	baz=323							
PAL	**Palisades**	**100.12**	**26**	P	**Pdif**	**15 50 03.8**	**-0.1**
	baz=331							
BLA	**Blacksburg**	**100.67**	**32**	P	**Pdif**	**15 50 05.8**	**-0.7**
	baz=326							
TORD	**Torodi Ar. Bea**	**120.03**	**313**	PKPdf	**PKPdf**	**15 55 08.0**	**-1.4**
TORD	**Torodi Ar. Bea**	**120.03**	**313**	PKP	**PKPdf**	**15 55 08.4**	**-1.0**
	comp=Z,1.2nm,0.5s,baz=10,slow=1.9,SNR=15							
TORD				pPKP	**sPKPdf**	**15 55 27.7**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=43,slow=2.0,SNR=2.8							
QSPA	**South Pole Qui**	**122.30**	**180**	PKP	**PKPdf**	**15 55 11.6**	**-0.6**
	comp=Z,3.4nm,0.6s,baz=292,slow=1.3,SNR=36							
QSPA				pPKP	**sPKPdf**	**15 55 31.0**	**-0.2**
	comp=Z,4.3nm,0.6s,baz=312,slow=0.5,SNR=5.9							
SDV	**Santo Domingo**	**129.07**	**42**	PKPdf	**PKPdf**	**15 55 25.8**	**-1.2**
ETMB	**Extrema**	**146.36**	**54**	PKPdf	**PKPdf**	**15 55 57.8**	**-0.4**
H03N2	**Juan Fernandez**	**146.83**	**103**	T	T	18 42 02.6	
	baz=285,slow=75,SNR=4.4							
H03N3	**Juan Fernandez**	**146.84**	**103**	T	T	18 41 32.0		
	baz=285,slow=75,SNR=4.7							
H03N1	**Juan Fernandez**	**146.85**	**103**	T	T	18 41 33.1		
	baz=285,slow=75,SNR=3.9							
SAML	**Samuel**	**147.71**	**49**	PKPbc	**PKPbc**	**15 56 03.3**	**-0.1**
SAML	**Samuel**	**147.71**	**49**	PKP2	**PKPbc**	**15 56 03.3**	**-0.1**
SAML	**Samuel**	**147.71**	**49**	*eP*	**PKPdf**	**15 56 01.5**	**+0.9**
LPAZ	**La Paz**	**149.25**	**65**	PKPdf	**PKPdf**	**15 56 03.4**	**-0.3**
LPAZ	**La Paz**	**149.25**	**65**	PKPbc	**PKPbc**	**15 56 08.2**	**+0.2**
	comp=Z,12nm,0.7s,baz=306,slow=2.2,SNR=28							
LPAZ	**La Paz**	**149.25**	**65**	*eP*	**PKPdf**	**15 56 04.5**	**+0.8**
LVC	**Limon Verde**	**151.98**	**77**		**PKPbc**	**15 56 14.4**	**+0.3**
LVC	**Limon Verde**	**151.98**	**77**	PKPbc	**PKPbc**	**15 56 14.5**	**+0.4**
	comp=Z,8.8nm,0.6s,baz=308,slow=2.1,SNR=10							
LVC	**Limon Verde**	**151.98**	**77**	*eP*	**PKPdf**	**15 56 08.6**	**+1.1**
PLCA	**Paso Flores**	**153.69**	**117**	PKPbc	**PKPbc**	**15 56 17.6**	**+0.7**
	comp=Z,3.3nm,0.8s,baz=241,slow=3.5,SNR=9.4							
SIV	**San Ignacio**	**154.24**	**55**	PKP	**PKPdf**	**15 56 10.4**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=342,slow=5.0,SNR=5.9							

NEIC ***25*** *15:37:21.2±1.2,56.13N±0.05×153.34W±0.09,h31km±6km, Error ellipse: s-maj=8.9km s-min=5.1km az=135.0*
AEIC ***25*** *15:37:22.0±1.6,56.16N±0.05×153.29W±0.09,h30km±7km, ML3.1,ML3.3/46(NEIC),Error ellipse: s-maj=8.8km s-min=5.2km az=137.0*
IDC ***25*** *15:37:29.5±10.0,56.64N×153.23W,h64km,90km, mb3.0/2, mbtmp3.3/3,ML2.9/1,Error ellipse: s-maj=76.1km s-min=44.7km az=9.0*

ISC 25 15:37:22.1±1.3,56.17N±0.08×153.27W±0.06,h35km, n158,σ0.86/161,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SII	**Sitkinak Islan**	**0.64**	**308**		**Pn**	**15 37 33.1**	**-1.7**
SII	**Sitkinak Islan**	**0.64**	**308**		**Sn**	**15 37 42.7**	**-1.1**
SII	**Sitkinak Islan**	**0.64**	**308**	P	**Pn**	**15 37 33.3**	**-1.5**
	baz=127						
SII				S	**Sn**	**15 37 42.7**	**-1.1**
	baz=127						
OHAK	**Old Harbor**	**1.06**	**359**		**Pn**	**15 37 39.8**	**-0.6**
OHAK	**Old Harbor**	**1.06**	**359**		**Sn**	**15 37 52.7**	**-1.2**
OHAK	**Old Harbor**	**1.06**	**359**	IAML		15 38 08.8	
	comp=E,446nm,1.2s						
OHAK	**Old Harbor**	**1.06**	**359**	P	**Pn**	**15 37 39.9**	**-0.6**
	baz=180						
OHAK				S	**Sn**	**15 37 52.7**	**-1.2**
	baz=180						
CHIR	**Chirikof Islan**	**1.37**	**256**	Pn	**Pn**	**15 37 43.0**	**-1.6**
CHIR	**Chirikof Islan**	**1.37**	**256**		**Sn**	**15 37 58.8**	**-2.7**
CHIR	**Chirikof Islan**	**1.37**	**256**	P	**Pn**	**15 37 43.2**	**-1.5**
	baz=74						
KDAK	**Kodiak Island**	**1.66**	**13**		**Pn**	**15 37 48.6**	**-0.1**
KDAK	**Kodiak Island**	**1.66**	**13**		**Sn**	**15 38 08.0**	**-0.8**
KDAK	**Kodiak Island**	**1.66**	**13**	S	**Sn**	**15 38 08.0**	**-0.8**
	baz=194						
KDAK	**Kodiak Island**	**1.66**	**13**	LR	LR	15 38 25.2	
	comp=E,144nm,18.5s,baz=106,slow=46						
PLK3	**Peulik 3**	**2.24**	**314**		**Pn**	**15 37 56.4**	**-0.3**
ACHA	**Angle Creek He**	**2.33**	**332**		**Pn**	**15 37 57.5**	**-0.5**
KAKN	**Katmai Knife C**	**2.35**	**336**		**Pn**	**15 37 57.8**	**-0.4**
KAKN					**Sn**	**15 38 27.6**	**+1.7**
ANCK	**Angle Creek**	**2.37**	**330**		**Pn**	**15 37 57.9**	**-0.6**
Q20K	**Shuyak Island**	**2.49**	**11**	P	**Pn**	**15 38 00.4**	**+0.2**
	baz=191						
Q20K				S	**Sn**	**15 38 28.9**	**-0.4**
	baz=191						
SYI	**Shuyak Island**	**2.50**	**11**	Pn	**Pn**	**15 38 00.3**	**+0.2**
SYI	**Shuyak Island**	**2.50**	**11**		**Sn**	**15 38 28.9**	**-0.4**
CNTC	**Contact Creek**	**2.54**	**327**		**Pn**	**15 38 00.9**	**+0.1**
Q17K	**Contact Creek**	**2.54**	**327**	P	**Pn**	**15 38 00.9**	**+0.1**
	baz=145						
ANNE	**Aniakchak Nort**	**2.76**	**288**		**Pn**	**15 38 02.6**	**-1.2**
Q19K	**Cape Douglas,**	**2.78**	**356**	Pn	**Pn**	**15 38 04.5**	**+0.4**
Q19K				IAML		15 39 12.3	
	comp=N,170nm,1.2s						
Q19K	**Cape Douglas,**	**2.78**	**356**	P	**Pn**	**15 38 04.3**	**+0.2**
	baz=176						
ANNW	**Aniakchak Nort**	**2.85**	**288**		**Pn**	**15 38 04.7**	**-0.4**
CHGN	**Chignik**	**2.88**	**275**	Pn	**Pn**	**15 38 04.3**	**-1.0**
CHGN				IAML		15 39 56.8	
	comp=E,128nm,0.1s						
CHGN				IAML		15 39 57.1	
	comp=N,109nm,0.1s						
Q16K	**King Salmon**	**3.11**	**325**		**Pn**	**15 38 07.6**	**-1.0**
Q16K	**King Salmon**	**3.11**	**325**	P	**Pn**	**15 38 07.6**	**-1.0**
	baz=143						
VNHG	**Veniaminof 1**	**3.30**	**273**		**Pn**	**15 38 10.8**	**-0.5**
P18K	**Big Mountain,**	**3.40**	**343**	Pn	**Pn**	**15 38 12.3**	**-0.3**
P18K	**Big Mountain,**	**3.40**	**343**	P	**Pn**	**15 38 11.5**	**-1.1**
	baz=161						
P17K	**Kvichak River**	**3.48**	**332**		**Pn**	**15 38 12.6**	**-1.1**
P17K	**Kvichak River**	**3.48**	**332**	P	**Pn**	**15 38 12.6**	**-1.1**
	baz=149						
P19K	**Oil Pt**	**3.50**	**0**	Pn	**Pn**	**15 38 14.5**	**+0.5**
P19K				IAML		15 39 25.4	
	comp=E,73nm,1.4s						
P19K	**Oil Pt**	**3.50**	**0**	P	**Pn**	**15 38 13.8**	**-0.1**
	baz=180						
CNPM	**China Poot**	**3.54**	**17**		**Pn**	**15 38 14.8**	**+0.3**
CNPM				IAML		15 39 24.9	
	comp=N,34nm,2.2s						
CNPM	**China Poot**	**3.54**	**17**		**Sn**	**15 38 53.7**	**-1.4**
HOM	**Homer**	**3.61**	**13**	Pn	**Pn**	**15 38 16.3**	**+0.9**
HOM	**Homer**	**3.61**	**13**	P	**Pn**	**15 38 15.8**	**+0.4**
	baz=195						
BRLK	**Bradley Lake**	**3.82**	**18**		**Pn**	**15 38 18.2**	**-0.2**
BRLK				IAML		15 39 04.6	
	comp=N,28nm,3.3s						
BRLK				IAML		15 39 39.5	
	comp=E,36nm,1.6s						
BRLK	**Bradley Lake**	**3.82**	**18**		**Sn**	**15 38 59.8**	**-2.3**
ILSW	**Iliamna Southw**	**3.83**	**1**	Pn	**Pn**	**15 38 18.6**	**0.0**
ILSW				IAML		15 39 49.7	
	comp=E,28nm,2.8s						
BRSE	**Bradley Lake S**	**3.83**	**20**		**Pn**	**15 38 18.3**	**-0.2**
BRSE	**Bradley Lake S**	**3.83**	**20**	P	**Pn**	**15 38 18.3**	**-0.2**
	baz=202						
P16K	**Nushagak River**	**3.83**	**320**		**Pn**	**15 38 17.5**	**-1.0**
P16K	**Nushagak River**	**3.83**	**320**	P	**Pn**	**15 38 17.5**	**-1.0**
	baz=137						
CHNA	**Chernabura Isl**	**3.84**	**252**	P	**Pn**	**15 38 17.7**	**-0.9**
	baz=67						
CHNA				S	**Sn**	**15 39 00.3**	**-2.1**
	baz=67						
O18K	**Koktuh Hills**	**3.84**	**345**	Pn	**Pn**	**15 38 18.4**	**-0.3**
O18K				IAML		15 39 28.5	
	comp=E,33nm,0.8s						
O18K				IAML		15 39 31.6	
	comp=N,40nm,3.5s						
O18K	**Koktuh Hills**	**3.84**	**345**	P	**Pn**	**15 38 18.2**	**-0.4**
	baz=164						
CNBA	**Chernabura Isl**	**3.84**	**252**	Pn	**Pn**	**15 38 17.5**	**-1.1**
CNBA				IAML		15 40 04.0	
	comp=N,56nm,3.1s						
CNBA	**Chernabura Isl**	**3.84**	**252**		**Sn**	**15 39 00.3**	**-2.2**
O20K	**Slope Mountain**	**3.94**	**5**		**Pn**	**15 38 20.6**	**+0.6**
O20K	**Slope Mountain**	**3.94**	**5**	P	**Pn**	**15 38 20.6**	**+0.6**
	baz=185						
O16K	**Kokwok River B**	**4.29**	**325**	Pn	**Pn**	**15 38 23.9**	**-0.9**
O16K				IAML		15 39 46.1	
	comp=E,37nm,4.2s						
O16K				IAML		15 41 13.8	
	comp=N,34nm,4.0s						
O16K	**Kokwok River B**	**4.29**	**325**	P	**Pn**	**15 38 23.7**	**-1.1**
	baz=141						
RSO	**Redoubt South**	**4.32**	**3**		**Pn**	**15 38 25.8**	**+0.5**
RDWB	**Redoubt West**	**4.34**	**3**		**Pn**	**15 38 25.5**	**-0.1**
RDT	**Redoubt**	**4.44**	**5**		**Pn**	**15 38 26.4**	**-0.6**
DFR	**Drift River**	**4.45**	**4**		**Pn**	**15 38 26.7**	**-0.3**
O15K	**Ungalikthiuk R**	**4.64**	**313**		**Pn**	**15 38 28.6**	**-0.9**
O15K	**Ungalikthiuk R**	**4.64**	**313**	P	**Pn**	**15 38 28.6**	**-0.9**
	baz=128						
SLKM	**Skilak Lake**	**4.64**	**19**		**Pn**	**15 38 29.0**	**-0.6**
N19K	**Bonanza Creek**	**4.70**	**353**	Pn	**Pn**	**15 38 30.7**	**+0.2**
N19K				IAML		15 40 11.3	
	comp=E,28nm,4.2s						
N19K				IAML		15 40 31.7	
	comp=N,34nm,4.5s						
N19K	**Bonanza Creek**	**4.70**	**353**	P	**Pn**	**15 38 30.4**	**-0.1**
	baz=172						
N18K	**Kilae Creek**	**4.73**	**344**	Pn	**Pn**	**15 38 30.9**	**0.0**
N18K				IAML		15 40 13.0	
	comp=E,28nm,3.9s						
N18K				IAML		15 40 51.2	
	comp=N,29nm,3.6s						
N18K	**Kilae Creek**	**4.73**	**344**	P	**Pn**	**15 38 30.5**	**-0.3**
	baz=162						
N17K	**Nushagak Hills**	**4.83**	**336**	Pn	**Pn**	**15 38 32.0**	**-0.3**
N17K				IAML		15 39 28.5	
	comp=E,26nm,3.7s						
N17K				IAML		15 39 32.7	
	comp=N,35nm,3.8s						
PS1A	**Pavlof South-1**	**4.84**	**265**		**Pn**	**15 38 31.3**	**-1.1**
PS4A	**Pavlof South-4**	**4.92**	**264**		**Pn**	**15 38 32.1**	**-1.4**
S12K	**Black Hills**	**4.97**	**268**	Pn	**Pn**	**15 38 32.9**	**-1.2**
PN7A	**Pavlof North-7**	**4.98**	**265**		**Pn**	**15 38 33.9**	**-0.5**
N20K	**Mount Spurr**	**5.08**	**6**	P	**Pn**	**15 38 36.1**	**+0.4**
	baz=187						
SPCR	**Spurr Chakacha**	**5.08**	**6**		**Pn**	**15 38 36.0**	**+0.4**
SVW2	**Sparrevohn**	**5.09**	**347**	Pn	**Pn**	**15 38 35.6**	**-0.2**
SVW2				IAML		15 39 32.4	
	comp=N,23nm,3.7s						
SVW2				IAML		15 40 50.0	
	comp=E,22nm,4.0s						
SPBG	**Spurr Blockage**	**5.13**	**5**		**Pn**	**15 38 35.9**	**-0.5**
N16K	**Nishlik Lake**	**5.20**	**328**		**Pn**	**15 38 36.6**	**-0.7**
N16K	**Nishlik Lake**	**5.20**	**328**	P	**Pn**	**15 38 36.6**	**-0.7**
	baz=144						
RC01	**Rabbit Creek A**	**5.27**	**19**	Pn	**Pn**	**15 38 37.6**	**-0.6**
RC01				IAML		15 39 17.5	
	comp=N,18nm,3.8s						
RC01				IAML		15 40 53.2	
	comp=E,15nm,3.2s						
N15K	**Kwethluk River**	**5.40**	**321**	Pn	**Pn**	**15 38 39.9**	**-0.1**
N15K	**Kwethluk River**	**5.40**	**321**	P	**Pn**	**15 38 39.4**	**-0.6**
	baz=135						
STLK	**Strandline Lak**	**5.40**	**7**		**Pn**	**15 38 39.8**	**-0.3**
SUA	**Susitna One**	**5.47**	**13**	Pn	**Pn**	**15 38 40.9**	**-0.3**
SUA	**Susitna One**	**5.47**	**13**	P	**Pn**	**15 38 40.6**	**-0.5**
	baz=195						
M18K	**Stony River**	**5.50**	**347**		**Pn**	**15 38 41.1**	**-0.3**
M18K	**Stony River**	**5.50**	**347**	P	**Pn**	**15 38 41.1**	**-0.3**
	baz=165						
HIN	**Hinchinbrook I**	**5.54**	**37**	Pn	**Pn**	**15 38 41.3**	**-0.7**
M17K	**Holitna River**	**5.68**	**339**	Pn	**Pn**	**15 38 43.7**	**-0.2**
M17K	**Holitna River**	**5.68**	**339**	P	**Pn**	**15 38 43.6**	**-0.2**
	baz=156						
M16K	**Timber Creek**	**5.71**	**331**	Pn	**Pn**	**15 38 43.9**	**-0.4**
M16K	**Timber Creek**	**5.71**	**331**	P	**Pn**	**15 38 43.8**	**-0.4**
	baz=146						
M20K	**Styx River**	**5.73**	**1**	Pn	**Pn**	**15 38 45.2**	**+0.5**
M20K	**Styx River**	**5.73**	**1**	P	**Pn**	**15 38 44.8**	**+0.1**
	baz=181						
M19K	**Big River Lodg**	**5.78**	**355**		**Pn**	**15 38 45.3**	**0.0**
M19K	**Big River Lodg**	**5.78**	**355**	P	**Pn**	**15 38 45.3**	**0.0**
	baz=174						
KNK	**Knik Glacier**	**5.82**	**23**		**Pn**	**15 38 44.8**	**-1.0**
KNK	**Knik Glacier**	**5.82**	**23**	P	**Pn**	**15 38 44.8**	**-1.0**
	baz=208						
SKT	**Skwentna**	**5.90**	**8**	Pn	**Pn**	**15 38 47.7**	**+0.8**
EYAK	**Cordova Ski Ar**	**5.91**	**39**		**Pn**	**15 38 46.2**	**-0.8**
EYAK	**Cordova Ski Ar**	**5.91**	**39**	P	**Pn**	**15 38 46.2**	**-0.8**
	baz=225						
KAIM	**Kayak Island**	**6.02**	**48**	Pn	**Pn**	**15 38 49.0**	**+0.4**
GHO	**Glory Hole Cre**	**6.05**	**20**	Pn	**Pn**	**15 38 49.0**	**-0.1**
L19K	**White Mountain**	**6.09**	**353**	Pn	**Pn**	**15 38 49.8**	**+0.3**
ISLZ	**Isanotski Laza**	**6.12**	**261**		**Pn**	**15 38 48.5**	**-1.4**
RAGM	**Ragged Mountai**	**6.20**	**43**		**Pn**	**15 38 50.5**	**-0.6**
SML	**Sawmill**	**6.20**	**22**	Pn	**Pn**	**15 38 51.4**	**+0.2**
L18K	**Granite Mounta**	**6.32**	**345**	Pn	**Pn**	**15 38 53.1**	**+0.5**
L18K	**Granite Mounta**	**6.32**	**345**	P	**Pn**	**15 38 52.2**	**-0.5**
	baz=162						
DIV	**Divide**	**6.33**	**35**		**Pn**	**15 38 51.3**	**-1.5**
L16K	**Owhat River**	**6.42**	**333**	Pn	**Pn**	**15 38 54.8**	**+0.8**
SCM	**Sheep Creek Mo**	**6.46**	**26**		**Pn**	**15 38 54.3**	**-0.3**
SCM	**Sheep Creek Mo**	**6.46**	**26**	P	**Pn**	**15 38 53.7**	**-0.9**
	baz=211						
M14K	**Bethel**	**6.47**	**319**	Pn	**Pn**	**15 38 55.2**	**+0.5**
KLU	**Klutina**	**6.56**	**32**	Pn	**Pn**	**15 38 55.6**	**-0.4**
KLU	**Klutina**	**6.56**	**32**	P	**Pn**	**15 38 55.6**	**-0.4**
	baz=219						
BERG	**Berg Lake**	**6.58**	**46**	Pn	**Pn**	**15 38 56.1**	**-0.2**
KHIT	**Khitrov Hills**	**6.80**	**47**		**Pn**	**15 38 58.9**	**-0.3**
TTA	**Tatalina**	**6.93**	**350**	Pn	**Pn**	**15 39 01.1**	**+0.1**
WAX	**Waxell Ridge**	**6.96**	**48**	Pn	**Pn**	**15 39 01.4**	**-0.1**
M24K	**Tolsona, Glenn**	**6.98**	**29**	Pn	**Pn**	**15 39 02.3**	**+0.5**
K17K	**Iditarod**	**7.05**	**341**	Pn	**Pn**	**15 39 02.9**	**+0.2**
N25K	**Chitina, Valde**	**7.06**	**36**	Pn	**Pn**	**15 39 03.3**	**+0.4**
BARK	**Barkley Ridge**	**7.09**	**49**		**Pn**	**15 39 02.8**	**-0.5**
VRDI	**Verde Repeater**	**7.20**	**41**	Pn	**Pn**	**15 39 04.7**	**-0.2**
GLB	**Gilahina Butte**	**7.21**	**39**	Pn	**Pn**	**15 39 04.7**	**-0.3**
K20K	**Telida**	**7.22**	**357**	Pn	**Pn**	**15 39 04.8**	**-0.3**
ISLE	**Juniper Island**	**7.26**	**48**	Pn	**Pn**	**15 39 05.7**	**+0.1**
CAST	**Castle Rocks**	**7.30**	**4**	Pn	**Pn**	**15 39 06.4**	**+0.3**
BAGL	**Bagley Icefiel**	**7.30**	**49**		**Pn**	**15 39 05.9**	**-0.2**
MCARA	**McCarthy VSAT**	**7.46**	**41**	Pn	**Pn**	**15 39 08.7**	**+0.3**
TRF	**Thorofare Moun**	**7.46**	**10**	Pn	**Pn**	**15 39 08.7**	**+0.3**
K15K	**Wolf Creek Mou**	**7.46**	**329**	Pn	**Pn**	**15 39 08.6**	**+0.3**
DHY	**Denali Highway**	**7.54**	**21**	Pn	**Pn**	**15 39 09.3**	**-0.2**
RND	**Reindeer**	**7.59**	**15**	Pn	**Pn**	**15 39 10.2**	**0.0**
TABL	**Table Mountain**	**7.69**	**51**	Pn	**Pn**	**15 39 12.0**	**+0.4**
CTGM	**Chitina Glacie**	**7.87**	**47**	Pn	**Pn**	**15 39 14.6**	**+0.5**
LOGN	**Logan Glacier**	**7.94**	**49**	Pn	**Pn**	**15 39 15.4**	**+0.4**
J19K	**Poorman**	**7.94**	**352**	Pn	**Pn**	**15 39 15.5**	**+0.7**
J20K	**Nowinta River**	**8.05**	**357**	Pn	**Pn**	**15 39 16.7**	**+0.3**
P29M	**Windy Craggy**	**8.96**	**61**	Pn	**Pn**	**15 39 29.9**	**+1.0**
SCRK	**Sand Creek**	**9.09**	**27**	Pn	**Pn**	**15 39 31.9**	**+1.1**
MDM	**Murphy Dome**	**9.16**	**14**	Pn	**Pn**	**15 39 31.8**	**+0.2**
IL31		**9.18**	**17**	Pn	**Pn**	**15 39 32.5**	**+0.7**
ILAR	**Eielson Array**	**9.18**	**17**	Pn	**Pn**	**15 39 32.3**	**+0.5**
ILAR	**Eielson Array**	**9.18**	**17**	P	**Pn**	**15 39 32.6**	**+0.8**
	comp=E,0.1nm,0.3s,baz=203,slow=14,SNR=8.2						
ILAR				S	**Sn**	**15 41 10.2**	**-3.6**
	comp=E,0.2nm,0.4s,baz=197,slow=23,SNR=2.3						
	comp=E,0.3nm,0.3s						
J25K	**Salcha River,**	**9.32**	**21**	Pn	**Pn**	**15 39 34.5**	**+0.6**
H18K	**Honhosa River**	**9.35**	**347**	Pn	**Pn**	**15 39 34.0**	**-0.2**
H21K	**Melozitna Rive**	**9.53**	**1**	Pn	**Pn**	**15 39 37.0**	**+0.4**
J26L	**Joseph Creek**	**9.63**	**26**	Pn	**Pn**	**15 39 37.8**	**-0.4**
M29M	**Somme Creek**	**9.82**	**44**	Pn	**Pn**	**15 39 41.8**	**+1.0**
L29M	**L29M**	**10.33**	**41**	Pn	**Pn**	**15 39 47.9**	**+0.3**
M30M	**Minto, Yukon**	**10.55**	**46**	Pn	**Pn**	**15 39 51.9**	**+1.2**
F20K	**Avaraart Lake**	**10.98**	**355**	Pn	**Pn**	**15 39 57.9**	**+1.5**
FYU	**Fort Yukon**	**11.11**	**17**	Pn	**Pn**	**15 39 59.1**	**+1.0**
A36M	**Sachs Harbour**	**19.71**	**26**	P	**Pn**	**15 41 49.9**	**+0.3**
YKA	**Yellowknife Ar**	**20.45**	**56**	P	Pn	15 41 58.9	+0.4
	comp=E,0.3nm,0.5s,baz=272,slow=11,SNR=4.5						
	comp=E,0.3nm,0.5s						
SONM	**Songino Array**	**56.98**	**308**	P	**P**	**15 47 06.0**	**+2.1**
	comp=E,0.7nm,0.7s,baz=60,slow=8.5,SNR=1.4						
	comp=E,0.7nm,0.7s						

CATAC ***25*** *15:57:28.6±1.2,12.87N×89.18W,h19km±8km, ML4.3*
SNET ***25*** *15:57:31.0±0.6,12.96N×89.15W,h30km±14km, ML4.2*
GCG ***25*** *15:57:31.0±0.5,13.10N×89.25W,h131km±45km, MD4.1*

ISC 25 15:57:29.9±1.7,12.92N±0.08×89.16W±0.05,h30km±15km, n73,σ0.58/79,6C-9D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.59**	**344**	⇓*iP*		**Pb**	**15 57 42.0**	**+0.2**
LALI	**Alcalda de L**	**0.59**	**344**	*i* P		**Pb**	**15 57 42.0**	**+0.2**
LALI					IAML		15 57 50.4	
	comp=Z,4μm,1.0s						
PANCS	**Alcalda de**	**0.69**	**358**	*i* P		**Pn**	**15 57 43.0**	**-0.7**
PANCS					IAML		15 57 53.6	
	comp=Z,25μm,1.0s						
LFRS	**El Faro**	**0.71**	**7**	*eP*		**Pn**	**15 57 43.6**	**-0.4**
SJTE	**Alcalda de S**	**0.71**	**12**	⇑*eP*		**Pn**	**15 57 43.5**	**-0.5**
SJTE	**Alcalda de S**	**0.71**	**12**	*i* P		**Pn**	**15 57 43.5**	**-0.5**
SJTE					IAML		15 57 54.6	
	comp=Z,14μm,1.0s						
TECO	**Alcaldia de Te**	**0.71**	**31**	⇑*iP*		**Pn**	**15 57 43.4**	**-0.6**
TECO	**Alcaldia de Te**	**0.71**	**31**	*i* P		**Pn**	**15 57 43.4**	**-0.6**
TECO					IAML		15 57 57.3	
	comp=Z,4μm,1.0s						
LOMA	**Loma Larga**	**0.72**	**359**	⇓*iP*		**Pn**	**15 57 43.9**	**-0.4**
LOMA				*eS*		**Sb**	**15 57 54.2**	**+0.4**
LOMA	**Loma Larga**	**0.72**	**359**	*i* P		**Pn**	**15 57 43.8**	**-0.4**
LOMA					IAML		15 57 56.0	
	comp=Z,17μm,1.0s						
COEG	**Centro de Oper**	**0.75**	**21**	*eP*		**Pn**	**15 57 44.0**	**-0.5**
COEG				*eS*		**Sb**	**15 57 54.8**	**+0.4**
COEG					IAML		15 57 56.4	
	comp=Z,6μm,0.3s						
COEG	**Centro de Oper**	**0.75**	**21**	*i* P		**Pn**	**15 57 44.1**	**-0.5**
COEG					IAML		15 57 55.7	
	comp=Z,4μm,1.0s						
ITCA	**Escuela Especi**	**0.76**	**351**	*i* P		**Pn**	**15 57 44.3**	**-0.4**
ITCA					IAML		15 57 55.9	
	comp=Z,29μm,1.0s						
SNET	**Serv Nac Est T**	**0.77**	**354**	*eP*		**Pn**	**15 57 44.5**	**-0.3**
SNET	**Serv Nac Est T**	**0.77**	**354**	*i* P		**Pn**	**15 57 44.5**	**-0.3**
SNET					IAML		15 57 58.1	
	comp=Z,22μm,1.0s						
MAGS	**Ministerio de**	**0.77**	**350**	*eP*		**Pn**	**15 57 44.5**	**-0.4**
UTEC	**Universidad Te**	**0.78**	**357**	*i* P		**Pn**	**15 57 44.6**	**-0.4**
UTEC					IAML		15 57 57.4	
	comp=Z,8μm,1.0s						
SEMO	**Seminario San**	**0.78**	**355**	*i* P		**Pn**	**15 57 44.7**	**-0.3**
SEMO					IAML		15 57 56.3	
	comp=Z,31μm,1.0s						
JAYA	**Jayaque - finc**	**0.79**	**339**	⇓*iP*		**Pn**	**15 57 44.5**	**-0.6**
JAYA				*eS*		**Sb**	**15 57 55.5**	**-0.1**
JAYA					IAML		15 57 58.0	
	comp=Z,18μm,0.2s						
JAYA	**Jayaque - finc**	**0.79**	**339**	*i* P		**Pn**	**15 57 44.5**	**-0.6**
JAYA					IAML		15 57 57.9	
	comp=Z,42μm,1.0s						
IGN	**Direccin Gen**	**0.79**	**359**	*i* P		**Pn**	**15 57 44.9**	**-0.2**
IGN					IAML		15 57 58.5	
	comp=Z,27μm,1.0s						
UDBS	**Universidad Do**	**0.79**	**360**	*i* P		**Pn**	**15 57 44.9**	**-0.2**
UDBS					IAML		15 57 58.9	
	comp=Z,7μm,1.0s						
UESV	**Universidad de**	**0.80**	**27**	*i* P		**Pn**	**15 57 44.8**	**-0.4**
UESV					IAML		15 58 01.0	
	comp=Z,3μm,1.0s						
PMON	**Piamonte**	**0.81**	**349**	⇓*iP*		**Pn**	**15 57 44.9**	**-0.4**
PMON	**Piamonte**	**0.81**	**349**	*i* P		**Pn**	**15 57 44.9**	**-0.4**
PMON					IAML		15 58 00.6	
	comp=Z,14μm,1.0s						
PAVA	**Las Pavas**	**0.82**	**15**	⇑*eP*		**Pn**	**15 57 45.2**	**-0.3**
PAVA	**Las Pavas**	**0.82**	**15**	*i* P		**Pn**	**15 57 45.3**	**-0.3**
P

BOAB	**BOACO BROADBAN**	**8.44**	**97**	*i* P		**Pn**	**15 58 21.0**	**-0.4**
BOAB				IAML			15 59 12.8	
	comp=Z,85nm,1.0s							

IDC ***25*** *16:02:59.0±1.2, 16°.20S×173°.49W, h0km, mb3.8/6, mbtmp3.8/6, MS4.6/2, Error ellipse: s-maj=56.9km s-min=23.8km az=138.0*

ISC 25 16:03:06.1±1.1, 16°.3S±0°.3×173°.5W±0°.3, h50km, n9, σ1§76/7, mb3.7/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
URZ	**Urewera**	**23.42**	**199**	P	**P**		**16 08 10.4**	**-0.3**
	18nm,1.3s,baz=257,slow=14,SNR=2.0 18nm,1.3s							
HNR	**Honiara**	**26.73**	**281**	LR	LR		16 18 15.2	
	comp=Z,962nm,18.1s,baz=16,slow=34							
WRA	**Warramunga Arr**	**49.54**	**257**	P	**P**		**16 11 52.1**	**-0.2**
	0.7nm,1.1s,baz=94,slow=6.8,SNR=6.2 0.7nm,1.1s							
ASAR	**Alice Springs**	**49.74**	**253**	P	**P**		**16 11 53.2**	**-0.7**
	1.2nm,0.7s,baz=88,slow=8.2,SNR=18 1.2nm,0.7s							
NVAR	**Mina Array Bea**	**75.04**	**42**	P	**P**		**16 14 42.6**	**-0.3**
	0.6nm,0.8s,baz=202,slow=8.7,SNR=2.8 0.6nm,0.8s							
PDAR	**Pinedale Array**	**82.98**	**42**	P	**P**		**16 15 25.7**	**-0.6**
	0.6nm,0.7s,baz=218,slow=5.7,SNR=4.9 0.6nm,0.7s							
ILAR	**Eielson Array**	**83.31**	**11**	P	**P**		**16 15 26.4**	**-0.7**
	0.2nm,0.5s,baz=218,slow=5.3,SNR=1.7 0.2nm,0.5s							
TEIG	**Tepich**	**91.19**	**69**	LR	LR		16 50 59.2	
	comp=Z,433nm,20.3s,slow=32							
BRTR	**Keskin Array B**	**146.74**	**320**	PKPbc	**PKPdf**		**16 22 44.6**	**+3.3**
	0.5nm,0.9s,baz=141,slow=4.8,SNR=2.7							

IDC 25 16:05:53.5±3.1, 6°.14S×150°.74E, h0km, mb3.4/2, mbtmp3.5/3, ML1.1/1, Error ellipse: s-maj=116.3km s-min=38.7km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
PMG	**Port Moresby**	**4.81**	**227**	Pn	Pn		16 07 09.4	+2.1
	0.5nm,0.3s,baz=293,slow=12,SNR=1.9							
PMG				Sn	Sn		16 08 04.8	+1.1
	1.0nm,0.3s,baz=233,slow=22,SNR=2.0 6.1nm,0.7s							
WRA	**Warramunga Arr**	**21.03**	**228**	P	P		16 10 38.8	-0.4
	0.9nm,0.5s,baz=53,slow=11,SNR=14 0.9nm,0.5s							
ASAR	**Alice Springs**	**23.79**	**221**	P	P		16 11 07.6	-0.6
	0.7nm,0.5s,baz=56,slow=9.1,SNR=35 0.7nm,0.5s							
TORD	**Torodi Ar. Bea**	**148.72**	**285**	PKPbc	PKPbc		16 25 43.6	-0.4
	0.5nm,0.8s,baz=108,slow=2.3,SNR=2.9							

IDC ***25*** *16:29:30.3±1.3, 5°.97S×142°.81E, h0km, mb3.7/4, mbtmp3.6/7, ML3.6/2, MS3.6/1, Error ellipse: s-maj=32.8km s-min=21.7km az=77.0*

ISC 25 16:29:35.5±1.0, 6°.38S±0°.10×142°.56E±0°.10, h35km, n8, σ1§97/10, mb3.6/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
PMG	**Port Moresby**	**5.46**	**124**	Pn	**Pn**		**16 30 53.8**	**-0.5**
	8.3nm,1.1s,baz=280,slow=21,SNR=1.4							
PMG				Sn	**Sn**		**16 31 56.3**	**+0.3**
	1.2nm,0.3s,baz=212,slow=22,SNR=1.9							
WRA	**Warramunga Arr**	**15.68**	**210**	Pn	**P**		**16 33 16.6**	**-1.0**
	0.2nm,0.3s,baz=31,slow=13,SNR=14							
WRA				Sn	**Sn**		**16 36 05.4**	**-1.1**
	baz=249,slow=23,SNR=1.5							
WRA				Lg	Lg		16 38 01.1	
	0.1nm,0.3s,baz=29,slow=37,SNR=2.4 0.8nm,0.9s							
ASAR	**Alice Springs**	**19.10**	**205**	P	**Pn**		**16 34 00.7**	**+4.2**
	0.2nm,0.3s,baz=36,slow=8.6,SNR=18							
ASAR				S	**S**		**16 37 28.4**	**-2.0**
	0.2nm,0.5s,baz=0.6,slow=7.9,SNR=1.2							
ASAR				Lg	Lg		16 39 53.3	
	baz=24,slow=30,SNR=2.0 0.9nm,0.8s							
JCJ	**Chichijima**	**33.27**	**359**	LR	LR		16 46 58.3	
	comp=Z,116nm,21.4s,baz=119,slow=32							
CMAR	**Chiang Mai Arr**	**49.59**	**301**	P	**P**		**16 38 24.4**	**+0.7**
	0.2nm,0.3s,baz=125,slow=5.4,SNR=4.2 0.2nm,0.3s							
MKAR	**Makanchi Array**	**75.02**	**322**	P	**P**		**16 41 12.7**	**-0.9**
	0.4nm,0.6s,baz=106,slow=6.4,SNR=4.4 0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**78.92**	**324**	P	**P**		**16 41 34.3**	**-1.1**
	0.2nm,0.5s,baz=116,slow=4.2,SNR=2.3 0.2nm,0.5s							
BVAR	**Borovoye Array**	**84.50**	**325**	P	**P**		**16 42 04.3**	**-0.4**
	1.5nm,0.5s,baz=113,slow=4.7,SNR=7.5 1.5nm,0.5s							

IDC 25 17:11:27.5±2.0, 5°.88S×143°.14E, h0km, mb3.3/1, mbtmp3.6/4, ML3.5/2, MS3.7/1, Error ellipse: s-maj=37.4km s-min=28.8km az=69.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
PMG	**Port Moresby**	**5.30**	**132**	Pn	Pn		17 12 48.7	+0.7
	7.6nm,0.7s,baz=251,slow=11,SNR=2.2							
PMG				Sn	Sn		17 13 48.5	-1.4
	1.6nm,0.3s,baz=256,slow=16,SNR=2.0							
WRA	**Warramunga Arr**	**16.39**	**211**	Pn	Pn		17 15 17.1	-2.0
	0.1nm,0.3s,baz=29,slow=13,SNR=7.7							
WRA				Lg	Lg		17 20 07.1	
	0.1nm,0.3s,baz=36,slow=28,SNR=5.2 0.7nm,0.7s							
ASAR	**Alice Springs**	**19.79**	**206**	P	Pn		17 16 00.8	-0.3
	0.2nm,0.3s,baz=34,slow=9.0,SNR=23 3.0nm,0.8s							
RPZ	**Rata Peaks**	**44.97**	**151**	LR	LR		17 38 57.3	
	comp=Z,81nm,18.1s,baz=132,slow=37							
MKAR	**Makanchi Array**	**74.99**	**322**	P	P		17 23 10.7	-0.1
	0.3nm,0.8s,baz=101,slow=7.5,SNR=2.3 0.3nm,0.8s							

NEIC ***25*** *17:15:01.9±1.8, 20°.5S±0°.1×178°.0W±0°.1, h523km±2km, mb4.6/53, Error ellipse: s-maj=17.7km s-min=15.3km az=123.0*

NOU ***25*** *17:15:02.5, 20°.50S×177°.85W, h539km, mb4.7/20, Fiji Islands Region*

IDC ***25*** *17:15:03.1±1.8, 20°.51S×178°.24W, h523km±18km, mb3.6/16, mbtmp4.5/18, Error ellipse: s-maj=13.8km s-min=12.4km az=123.0*

ISC 25 17:15:03.0±0.4, 20°.61S±0°.07×178°.12W±0°.07, h534km, n189, σ1§08/195, mb4.5/47, 28C-10D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
TAVE	**Taveuni**	**4.24**	**336**	P	**P**		**17 16 26.0**	**+0.3**
MSVF	**Nonsavu**	**4.62**	**308**	P	**P**		**17 16 29.6**	**+0.8**
MSVF	**Nonsavu**	**4.62**	**308**	P	**P**		**17 16 29.2**	**+0.4**
DGTI	**Dogotuki**	**4.75**	**334**	P	**P**		**17 16 30.0**	**+0.1**
YSA	**Yasawairara**	**5.64**	**313**	P	**P**		**17 16 37.9**	**+0.3**
NIUE	**Niue**	**7.86**	**80**	P	**P**		**17 16 58.1**	**-0.7**
RAO	**Raoul Island**	**8.60**	**179**	P	**P**		**17 17 04.4**	**-1.9**
AFI	**Afiamalu**	**9.00**	**43**	P	**P**		**17 17 07.8**	**-2.8**
AFI	**Afiamalu**	**9.00**	**43**	P	**P**		**17 17 07.6**	**-3.0**
FUNA	**Funafuti**	**12.29**	**347**	P	**P**		**17 17 42.0**	**-2.6**
MARNC	**Mare, Loyalty**	**12.97**	**264**	P	**P**		**17 17 50.1**	**-1.4**
PINNC	**Pines Island,**	**13.58**	**259**	P	**P**		**17 17 58.2**	**+0.3**
OUENC	**Ouen Island, N**	**14.12**	**260**	P	**P**		**17 18 01.7**	**-1.8**
DZM	**Mont Dzumac**	**14.46**	**261**	P	**P**		**17 18 07.8**	**+0.5**
DZM	**Mont Dzumac**	**14.46**	**261**	P	**P**		**17 18 06.7**	**-0.6**
	14nm,0.8s,baz=98,slow=19,SNR=11							
KOUNC	**Koumac, New Ca**	**16.48**	**267**	P	**P**		**17 18 29.4**	**+1.8**
KOUNC	**Koumac, New Ca**	**16.48**	**267**	P	**P**		**17 18 29.4**	**+1.8**
TOZ	**Tahuroa Road**	**17.94**	**197**	P	**P**		**17 18 41.5**	**+0.7**
URZ	**Urewera**	**18.07**	**192**	P	**P**		**17 18 42.8**	**+0.8**
	23nm,1.1s							
URZ	**Urewera**	**18.07**	**192**	P	**P**		**17 18 41.5**	**-0.6**
	3.9nm,0.3s,baz=1.2,slow=5.2,SNR=10							
URZ				S	**S**		**17 21 37.0**	**-3.5**
	6.4nm,0.9s,baz=103,slow=21,SNR=7.8							
RTZ	**Ruatahuna**	**18.44**	**192**	P	**P**		**17 18 45.4**	**-0.1**
RTZ				IAmb	IAmb		17 19 14.1	
	comp=Z,28nm,1.4s							
BKZ	**Black Stump Fm**	**19.07**	**193**	P	**P**		**17 18 50.3**	**-0.9**
BFZ	**Birch Farm**	**20.58**	**192**	P	**P**		**17 19 05.1**	**+0.2**
MRZ	**Mangatainoka R**	**20.70**	**194**	P	**P**		**17 19 05.3**	**-0.6**
MRZ				IAmb	IAmb		17 19 38.0	
	comp=Z,31nm,1.3s							
TCW	**Tory Channel**	**21.53**	**196**	P	**P**		**17 19 13.7**	**+0.2**
QRZ	**Quartz Range**	**21.67**	**200**	P	**P**		**17 19 15.8**	**+1.1**
QRZ	**Quartz Range**	**21.67**	**200**	P	**P**		**17 19 15.4**	**+0.7**
TKNZ	**Takaka Hill**	**21.73**	**198**	P	**P**		**17 19 15.2**	**-0.1**
TUWZ	**Tuamarina**	**21.82**	**196**	P	**P**		**17 19 15.7**	**-0.4**
MRNZ	**Matariki Terra**	**22.12**	**198**	P	**P**		**17 19 18.1**	**-0.7**
THZ	**Tophouse**	**22.41**	**198**	P	**P**		**17 19 21.0**	**-0.5**
THZ				IAmb	IAmb		17 19 37.5	
	comp=Z,30nm,1.3s							
KHZ	**Kahutara**	**22.85**	**196**	P	**P**		**17 19 24.3**	**-0.9**
KHZ				IAmb	IAmb		17 19 34.1	
	comp=Z,21nm,1.2s							
GVZ	**Greta Valley S**	**23.50**	**196**	P	**P**		**17 19 30.5**	**-0.6**
LTZ	**Lake Taylor**	**23.54**	**198**	P	**P**		**17 19 30.0**	**-1.4**
LTZ				IAmb	IAmb		17 20 06.0	
	comp=Z,21nm,1.1s							
OXZ	**Oxford**	**24.10**	**198**	P	**P**		**17 19 33.9**	**-2.5**
OXZ				IAmb	IAmb		17 20 07.8	
	comp=Z,31nm,1.4s							
MQZ	**McQueen's Vall**	**24.29**	**196**	P	**P**		**17 19 36.1**	**-1.9**
MLZ	**Mavora Lakes**	**27.17**	**202**	P	**P**		**17 20 04.6**	**+1.0**
MLZ				IAmb	IAmb		17 20 46.9	
	comp=Z,32nm,1.3s							
WHZ	**Wether Hill Ro**	**27.69**	**201**	P	**P**		**17 20 09.1**	**+1.0**
EIDS	**Eidsvold**	**28.71**	**255**	P	**P**		**17 20 15.9**	**-1.3**
EIDS				IAmb	IAmb		17 20 18.6	
	comp=Z,13nm,0.6s							
ARMA	**Armidale**	**28.92**	**244**	P	**P**		**17 20 19.3**	**+0.1**
ARMA				IAmb	IAmb		17 20 57.1	
	comp=Z,32nm,1.4s							
AULRC	**Lightning Ridg**	**31.86**	**247**	P	**P**		**17 20 46.3**	**+2.0**
CTA	**Charters Tower**	**33.37**	**265**	P	**P**		**17 20 57.3**	**0.0**
	comp=Z,18nm,0.4s,baz=90,slow=3.6,SNR=55 comp=Z,18nm,0.4s							
CTAO	**Charters Tower**	**33.37**	**265**	P	**P**		**17 20 57.9**	**+0.6**
CMSA	**Cobar Meteorol**	**34.14**	**244**	P	**P**		**17 21 04.9**	**+1.3**
QLP	**Quilpie**	**34.92**	**253**	P	**P**		**17 21 11.5**	**+1.3**
PMG	**Port Moresby**	**35.26**	**283**	P	**P**		**17 21 13.1**	**-0.1**
MTSU	**Mount Surprise**	**35.48**	**267**	P	**P**		**17 21 16.2**	**+1.2**
	comp=Z,19nm,0.8s							
TOO	**Toolangi**	**35.74**	**234**	P	**P**		**17 21 17.0**	**+0.1**
TOO				IAmb	IAmb		17 21 29.1	
	comp=Z,38nm,1.5s							
COEN	**Coen**	**37.48**	**274**	P	**P**		**17 21 29.4**	**-2.0**
COEN				IAmb	IAmb		17 22 03.0	
	comp=Z,25nm,1.3s							
STKA	**Stephens Creek**	**37.64**	**244**	P	**P**		**17 21 32.8**	**+0.2**
STKA	**Stephens Creek**	**37.64**	**244**	P	**P**		**17 21 32.8**	**+0.2**
	comp=Z,5.5nm,0.5s,baz=97,slow=11,SNR=26 comp=Z,5.5nm,0.5s							
INKA	**Innaminka**	**38.06**	**251**	P	**P**		**17 21 37.5**	**+1.5**
BBOO	**Buckleboo**	**42.40**	**244**	P	**P**		**17 22 10.2**	**-0.5**
MULG	**Mulgathing**	**43.98**	**247**	P	**P**		**17 22 23.9**	**+0.9**
WR0	**Warramunga Arr**	**44.29**	**262**	P	**P**		**17 22 24.8**	**-0.8**
WR0				IAmb	IAmb		17 22 28.6	
	comp=Z,8.9nm,0.7s							
AS31	**Alice Springs**	**44.39**	**257**	P	**P**		**17 22 26.6**	**+0.3**
AS31				IAmb	IAmb		17 22 27.4	
	comp=Z,9.7nm,0.6s							
ASAR	**Alice Springs**	**44.39**	**257**	P	**P**		**17 22 26.6**	**+0.3**
	comp=Z,42nn1,0.8s,baz=92,slow=8.1,SNR=397							
ASAR				PcP	**PcP**		**17 23 59.5**	**+0.8**
	comp=Z,5.5nm,0.7s,baz=102,slow=3.9,SNR=9.6							
ASAR				ScP	**ScP**		**17 27 02.7**	**+2.7**
	comp=Z,0.3nm,0.6s,baz=98,slow=4.2,SNR=2.4							
ASAR				S	**S**		**17 28 20.9**	**-1.4**
	comp=Z,1.0nm,0.8s,baz=95,slow=16,SNR=7.2 comp=Z,42nn,0.8s							
WB0	**Warramunga Arr**	**44.46**	**262**	P	**P**		**17 22 26.9**	**0.0**
WB2	**Warramunga Arr**	**44.47**	**262**	P	**P**		**17 22 26.7**	**-0.3**
WB2				IAmb	IAmb		17 22 27.6	
	comp=Z,20nm,0.6s							
WRAB	**Tennant Creek**	**44.47**	**262**	P	**P**		**17 22 26.7**	**-0.3**
WRAB				IAmb	IAmb		17 22 27.1	
	comp=Z,14nm,0.7s							
WRA	**Warramunga Arr**	**44.48**	**262**	P	**P**		**17 22 26.6**	**-0.4**
WRA	**Warramunga Arr**	**44.48**	**262**	P	**P**		**17 22 26.7**	**-0.4**
	comp=Z,15nm,0.6s,baz=97,slow=7.4,SNR=157							
WRA				PcP	**PcP**		**17 23 58.5**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=94,slow=3.3,SNR=4.7							
WRA				ScP	**ScP**		**17 27 03.3**	**+2.9**
	comp=Z,0.4nm,0.9s,baz=84,slow=3.4,SNR=2.0 comp=Z,15nm,0.6s							
MTN	**Manton Dam**	**49.05**	**271**	P	**P**		**17 23 02.7**	**+1.0**
MTN	**Manton Dam**	**49.05**	**271**	P	**P**		**17 23 01.5**	**-0.1**
MTN				IAmb	IAmb		17 23 02.8	
	comp=Z,23nm,0.7s							
FORT	**Forrest**	**49.15**	**247**	P	**P**		**17 23 01.8**	**-0.4**
FORT				IAmb	IAmb		17 23 08.8	
	comp=Z,26nm,1.0s							
WRKA	**Warakurna**	**49.33**	**254**	P	**P**		**17 23 04.3**	**+0.7**
FITZ	**Fitzroy Crossi**	**52.91**	**262**	P	**P**		**17 23 29.6**	**0.0**
SOEI	**Soe**	**56.40**	**272**	P	**P**		**17 23 55.2**	**+0.9**
SOEI	**Soe**	**56.40**	**272**	P	**P**		**17 23 55.8**	**+1.5**
BATI	**Baumata**	**56.82**	**271**	P	**P**		**17 23 58.3**	**+1.2**
	comp=Z,18nm,0.6s,baz=137,slow=4.4,SNR=4.6 comp=Z,18nm,0.6s							
SANI	**Sanana**	**57.50**	**281**	P	**P**		**17 24 02.5**	**+0.8**
PSA00	**Pilbara Seismi**	**57.54**	**257**	P	**P**		**17 24 02.3**	**+0.4**
PSA00	**Pilbara Seismi**	**57.54**	**257**	P	**P**		**17 24 01.2**	**-0.6**
PSA00				IAmb	IAmb		17 24 02.8	
	comp=Z,25nm,0.8s							
MBWA	**Marble Bar**	**57.72**	**257**	P	**P**		**17 24 03.0**	**-0.1**
MBWA				IAmb	IAmb		17 24 03.9	
	comp=Z,18nm,0.7s							
SBA	**Scott Base**	**57.75**	**184**	P	**P**		**17 24 05.5**	**+3.1**
VNDA	**Vanda**	**57.79**	**185**	P	**P**		**17 24 04.1**	**+1.5**
VNDA	**Vanda**	**57.79**	**185**	P	**P**		**17 24 05.0**	**+2.4**
	comp=Z,0.7nm,0.6s,baz=7.3,slow=5.9,SNR=6.1 comp=Z,0.7nm,0.6s							
KLBR	**Kellerberrin**	**57.91**	**245**	P	**P**		**17 24 04.8**	**+0.5**
MMRI	**Maumere**	**58.65**	**272**	P	**P**		**17 24 09.1**	**-0.4**
MMRI				IAmb	IAmb		17 24 10.3	
	comp=Z,29nm,1.0s							
MORW	**Morawa**	**59.69**	**248**	P	**P**		**17 24 15.6**	**-0.7**
TOLI2	**Tolitoli**	**63.52**	**282**	P	**P**		**17 24 41.7**	**+0.2**
TOLI2				IAmb	IAmb		17 24 42.5	
	comp=Z,12nm,0.9s							
QSPA	**South Pole Qui**	**69.46**	**180**	P	**P**		**17 25 18.3**	**+0.8**
QSPA	**South Pole Qui**	**69.46**	**180**	P	**P**		**17 25 19.4**	**+1.9**
	comp=Z,3.3nm,0.7s,baz=45,slow=5.8,SNR=23 comp=Z,3.3nm,0.7s							
KKM	**Kota Kinabalu**	**69.68**	**285**	P	**P**		**17 25 18.7**	**-1.0**
UGM	**Wanagama**	**69.85**	**269**	P	**P**		**17 25 19.3**	**-1.4**
MJAR	**Matsushiro Arr**	**70.23**	**324**	P	**P**		**17 25 22.4**	**0.0**
	comp=Z,1.8nn,0.7s,baz=167,slow=6.0,SNR=8.5 comp=Z,1.8nn,0.7s							
YULB	**Yu-li**	**73.47**	**303**	P	**P**		**17 25 38.9**	**-2.6**
SSLB	**Suanglung**	**73.94**	**304**	P	**P**		**17 25 42.5**	**-1.8**
SSLB				IAmb	IAmb		17 26 02.1	
	comp=Z,22nm,1.4s							
PEA0B	**Petropavlovsk-**	**76.35**	**345**	P	**P**		**17 25 55.9**	**-1.0**
PETK	**Petropavlovsk-**	**76.35**	**345**	P	**P**		**17 25 54.9**	**-2.0**
PETK	**Petropavlovsk-**	**76.35**	**345**	P	**P**		**17 25 56.9**	**0.0**
	comp=Z,3.0nm,0.6s,baz=125,slow=7.0,SNR=14 comp=Z,3.0nm,0.6s							
KSRS	**Korea Array**	**76.90**	**319**	P	**P**		**17 26 00.7**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=157,slow=14,SNR=3.5 comp=Z,0.8nm,0.7s							
USRK	**Ussuriysk Ar.**	**79.00**	**326**	P	**P**		**17 26 12.7**	**+1.2**
	comp=Z,3.9nm,0.9s,baz=104,slow=8.0,SNR=5.3 comp=Z,3.9nm,0.9s							
NJ2	**Nanjing**	**79.87**	**310**	*e*P	**P**		**17 26 17.0**	**+0.7**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
MDJ	**Mudanjiang**	**80.55**	**325**	P	**P**		**17 26 21.0**	**+1.4**
MDJ				pmax	pmax			
	comp=Z,7.0nm,0.8s							
MDJ				pmax	pmax			
	comp=Z,87nm,3.6s							
BNX	**BinXian**	**82.45**	**325**	⇑P	**P**		**17 26 30.0**	**+0.7**
BNX				pmax	pmax			
	comp=Z,5.0nm,0.7s							
BNX				pmax	pmax			
	comp=Z,160nm,4.4s							
MA2	**Magadan**	**83.86**	**345**	P	**P**		**17 26 36.0**	**0.0**
GHO	**Glory Hole Cre**	**85.36**	**13**	P	**P**		**17 26 42.8**	**-0.6**
GHO				IAmb	IAmb		17 26 45.0	
	comp=Z,12nm,1.0s							
E08A	**Dider Farm, El**	**85.42**	**36**	P	**P**		**17 26 42.8**	**-1.1**
E08A				IAmb	IAmb		17 26 46.1	
	comp=Z,9.2nm,0.5s							
ELIB	**Princess Elisa**	**86.52**	**187**	*d*PcP	**PcP**		**17 26 50.1**	**-0.6**
ELIB				*dp*P	**pP**		**17 28 41.7**	**-3.6**
RND	**Reindeer**	**86.83**	**13**	P	**P**		**17 26 50.0**	**-0.3**
RND				IAmb	IAmb		17 26 51.5	
	comp=Z,6.0nm,0.7s							
TXAR	**Lajitas Array**	**87.21**	**57**	P	**P**		**17 26 55.0**	**+2.0**
	comp=Z,0.2nm,0.7s,baz=284,slow=5.0,SNR=3.5 comp=Z,0.2nm,0.7s							
XAN	**Xi'an**	**88.11**	**307**	*e*P	**P**		**17 26 59.0**	**+2.0**
HDA	**Harding Lake**	**88.12**	**13**	P	**P**		**17 26 56.0**	**-0.2**
HDA				IAmb	IAmb		17 26 57.1	
	comp=Z,4.7nm,0.7s							
CCB	**Clear Creek Bu**	**88.15**	**13**	P	**P**		**17 26 56.1**	**-0.2**
CCB				IAmb	IAmb		17 26 57.0	
	comp=Z,5.2nm,0.7s							
ILAR	**Eielson Array**	**88.45**	**13**	P	**P**		**17 26 57.6**	**-0.1**
	comp=Z,1.1nn,0.5s,baz=214,slow=5.2,SNR=12 comp=Z,1.1nn,0.5s							
E19K	**Redstone River**	**89.17**	**8**	P	**P**		**17 27 01.6**	**+0.6**
PLCA	**Paso Flores**	**89.28**	**134**	P	**P**		**17 27 04.6**	**+2.1**
	comp=Z,1.5nn,0.9s,baz=291,slow=2.6,SNR=3.0 comp=Z,1.5nn,0.9s							
HHC	**Hu-ho-hao-te**	**89.35**	**314**	*e*P	**P**		**17 27 02.0**	**-0.7**
HHC				pmax	pmax			
	comp=Z,17nm,0.6s							
HHC				pmax	pmax			
	comp=Z,72nn,4.3s							
CMAR	**Chiang Mai Arr**	**90.05**	**290**	P	**P**		**17 27 08.2**	**+1.8**
	comp=Z,2.5nn,0.9s,baz=114,slow=2.8,SNR=18 comp=Z,2.5nn,0.9s							
PZH	**PanZhiHua**	**90.67**	**298**	P	**P**		**17 27 10.5**	**+1.3**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,100nn,5.7s							
SONM	**Songino Array**	**95.77**	**319**	P	**P**		**17 27 32.5**	**+0.5**
	comp=Z,0.2nn,0.5s,baz=131,slow=4.0,SNR=2.2 comp=Z,0.2nn,0.5s							
ZALV	**Zalesovo Beam**	**110.51**	**321**	PKiKP	**PKiKP**		**17 32 33.9**	**-0.5**
	comp=Z,0.5nn,0.5s,baz=66,slow=3.6,SNR=3.9							
MKAR	**Makanchi Array**	**111.20**	**313**	PKiKP	**PKiKP**		**17 32 35.3**	**-0.7**
	comp=Z,0.7nn,0.6s,baz=158,slow=0.6,SNR=10							
KURBB	**Kurchatov Arra**	**114.05**	**317**	PKiKP	PKPdf		17 32 40.5	-0.7
	comp=Z,0.7nn,0.7s,baz=91,slow=1.8,SNR=9.0							
BVAR	**Borovoye Array**	**119.09**	**320**	PKP	**PKPdf**		**17 32 50.5**	**-0.4**
	comp=Z,2.5nn,0.4s,baz=122,slow=2.5,SNR=22							
GEYT	**Alibeck**	**128.75**	**303**	PKP	**PKPdf**		**17 33 08.8**	**-1.2**
	comp=Z,1.2nn,0.8s,baz=65,slow=18,SNR=1.8							
ARCES	**ARCESS Array B**	**129.01**	**350**	PKP	**PKPdf**		**17 33 09.4**	**-0.1**
	comp=Z,15nn,1.1s,baz=327,slow=2.0,SNR=6.9							
FINES	**FINESS Array B**	**135.85**	**344**	PKP	**PKiKP**		**17 33 23.6**	**-0.7**
	comp=Z,0.8nn,0.5s,baz=76,slow=3.8,SNR=7.3							
NB2	**NORSAR Subarra**	**139.08**	**353**	PKP	PKPpre		17 33 20.4	
	comp=Z,1.0nn,1.0s,baz=16,slow=3.2							
NOA	**NORSAR Array B**	**139.08**	**353**	PKhKP	PKPpre		17 33 18.6	
	comp=Z,0.4nn,0.6s,baz=3.1,slow=2.4,SNR=1.8							
HFS	**Hagfors**	**139.63**	**351**	PKhKP	PKPpre		17 33 21.9	
	comp=Z,1.3nn,0.3s,baz=60,slow=2.3,SNR=24							
AKASG	**Malin Array Be**	**143.06**	**331**	PKhKP	PKPpre		17 33 33.3	
	comp=Z,10nn,0.5s,baz=42,slow=4.2,SNR=66							
AKBB	**Malin Array Si**	**143.06**	**331**			PKPab	17 33 33.7	+0.2
KIEV	**Kiev**	**143.07**	**331**			PKPab	17 33 33.7	+0.2
LODK	**Lodwar**	**143.20**	**247**	PKPdf		**PKPdf**	**17 33 36.8**	**-0.5**
EKA	**Eskdalemuir Ar**	**145.12**	**5**	PKPbc		**PKPbc**	**17 33 40.1**	**-0.1**
	comp=Z,1.1nn,0.5s,baz=324,slow=2.8,SNR=9.5							
SORM	**Soroca**	**145.24**	**328**	⇑P		**PKPbc**	**17 33 41.0**	**+0.3**
MILM	**Milestii Mici**	**145.82**	**326**	⇑P		**PKPbc**	**17 33 42.8**	**+0.3**
MILM	**Milestii Mici**	**145.82**	**326**	*e*PKP		**PKPbc**	**17 33 42.0**	**-0.5**
	comp=Z,27nn,0.6s							
BR131	**Keskin Array S**	**146.83**	**312**			**PKPbc**	**17 33 46.2**	**+0.5**
BRTR	**Keskin Array B**	**146.83**	**312**	PKPbc		**PKPbc**	**17 33 45.9**	**+0.2**
	comp=Z,4.1nn,0.6s,baz=38,slow=7.3,SNR=27							
TLCR		**146.94**	**324**	⇓P		**PKiKP**	**17 33 46.6**	**-0.9**
BURAR	**Bucovina Array**	**147.10**	**330**	⇑P		**PKiKP**	**17 33 47.2**	**-0.7**
BURAR	**Bucovina Array**	**147.10**	**330**	PKPab		**PKiKP**

az=150.0

ISC 25 17:25:27.0±1.5, 17°3S±0.6°×178.7W±0.4, h550km, n7, σ1°60/9, mb3.9/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.74**	**249**	P	**P**	**17 28 35.7**	**+1.7**
	4.0nm,0.6s,baz=218,slow=20,SNR=1.7						
STKA	**Stephens Creek**	**38.65**	**240**	P	**P**	**17 32 03.5**	**-0.3**
	1.5nm,0.5s,baz=89,slow=7.9,SNR=6.6						
	1.5nm,0.5s						
WRA	**Warramunga Arr**	**44.45**	**259**	P	**P**	**17 32 49.5**	**-0.3**
	2.4nm,0.5s,baz=93,slow=7.1,SNR=104						
WRA				PcP	**PcP**	**17 34 18.9**	**-2.5**
	0.5nm,0.8s,baz=103,slow=3.1,SNR=1.9						
	2.4nm,0.5s						
ASAR	**Alice Springs**	**44.66**	**254**	P	**P**	**17 32 51.4**	**0.0**
	14nm,0.6s,baz=86,slow=9.0,SNR=494						
ASAR				PcP	**PcP**	**17 34 20.2**	**-1.9**
	0.4nm,0.7s,baz=110,slow=3.9,SNR=2.3						
	14nm,0.6s						
ILAR	**Eielson Array**	**85.41**	**13**	P	**P**	**17 37 06.3**	**+0.2**
	0.2nm,0.5s,baz=217,slow=4.3,SNR=2.5						
	0.2nm,0.5s						
TXAR	**Lajitas Array**	**85.94**	**58**	P	**P**	**17 37 10.8**	**+1.2**
	0.3nm,0.6s,baz=226,slow=5.0,SNR=5.1						
	0.3nm,0.6s						
BRTR	**Keskin Array B**	**144.18**	**315**	PKP	**PKPdf**	**17 44 00.2**	**-0.7**
	0.3nm,0.5s,baz=91,slow=2.3,SNR=2.5						

*NNC **25** 17:33:02.5±2.6, 41.67°N×83.57°E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=18.0km s-min=9.8km az=141.0*
*SOME **25** 17:33:07.3, 42.02°N×83.83°E, h5km*

ISC 25 17:33:03.4±3.0, 41.7°N±0.1×83.8°E±0.1, h10km, n10, σ1°61/14, 4C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**3.56**	**298**	⇓Pg	**Pb**	**17 34 05.1**	**-1.4**
	2.1nm,0.6s						
PDGK				⇑Lg	Lg	17 34 49.4	
	16nm,0.7s						
DJR	**Jarkent**	**3.92**	**313**	*e*P	**Pg**	**17 34 17.6**	**-0.9**
	2.5nm,0.2s						
DJR				*e*S	**Sg**	**17 35 07.6**	**-1.7**
	6.0nm,0.4s						
DJR	**Jarkent**	**3.92**	**313**	Pg	**Pb**	**17 34 13.4**	**+0.7**
	2.7nm,0.6s						
DJR				Lg	Lg	17 35 08.2	
	6.4nm,0.8s						
SATY	**Saty**	**4.21**	**290**	*e*P	**Pg**	**17 34 23.9**	**-0.1**
	2.3nm,0.3s						
SATY				*e*S	**Sg**	**17 35 18.8**	**+0.3**
	18nm,0.2s						
SATY	**Saty**	**4.21**	**290**	Pg	**Pb**	**17 34 16.4**	**-1.1**
	2.1nm,0.3s						
SATY				Lg	Lg	17 35 13.8	
	17nm,0.5s						
KNOS	**Konyrlen**	**4.28**	**309**	Pg	**Pb**	**17 34 20.3**	**+1.4**
	5.5nm,0.3s						
KNOS				Lg	Lg	17 35 18.7	
	2.8nm,0.2s						
KOTS	**Kotyrbulak**	**5.17**	**289**	Pg	**Pb**	**17 34 32.9**	**-1.0**
	3.7nm,0.5s						
KOTS				Lg	Lg	17 35 41.1	
	18nm,0.5s						
MK31	**Makanchi Array**	**5.17**	**348**	⇓Pn	**Pn**	**17 34 21.9**	**+1.1**
	baz=185,slow=12,SNR=7.9						
MK31				⇑Pg	**Pg**	**17 34 39.7**	**-2.8**
	0.8nm,0.6s,baz=171,slow=16,SNR=4.2						
MK31				⇑Sn	**Sn**	**17 35 22.6**	**+2.0**
	0.7nm,0.5s						
MK31				⇓Lg	Lg	17 35 47.4	
	2.7nm,0.6s,baz=164,slow=29,SNR=3.6						
MAKZ	**Makanchi**	**5.24**	**346**	⇑Sn	**Sn**	**17 35 24.4**	**+2.2**
	1.0nm,0.6s						
MAKZ				⇓Lg	Lg	17 35 47.9	
	1.8nm,0.8s						
KST	**Kastek**	**5.95**	**285**	Pg	**Pb**	**17 34 47.5**	**+0.3**
	1.0nm,0.2s						
KST				Lg	Lg	17 36 05.7	
	5.5nm,0.5s						

*NEIC **25** 17:35:55.9±2.2, 56.34°N±0.08°×149.2°W±0.1, h21km±9km, ML3.4/44, ML3.2(AEIC), Error ellipse: s-maj=11.7km s-min=8.2km az=161.0*
*IDC **25** 17:35:55.3±2.7, 56.37°N×149.33°W, h0km, mb3.2/1, mbtmp3.1/5, ML3.1/4, MS2.7/2, Error ellipse: s-maj=40.3km s-min=23.0km az=7.0*
*AEIC **25** 17:35:59±2.0, 56.40°N±0.09°×149.3°W±0.1, h9km±7km, Error ellipse: s-maj=12.8km s-min=9.0km az=168.0*

ISC 25 17:35:55.4±1.0, 56°48N±0.07°×149°25W±0.05, h10km, n162, σ1°39/160, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.24**	**307**	Pn	**Pn**	**17 36 31.8**	**-0.7**
	2.8nm,0.3s,baz=141,slow=5.6,SNR=50						
KDAK				Sn	**Sn**	**17 36 58.6**	**-1.6**
	4.3nm,0.3s,baz=259,slow=22,SNR=17						
KDAK				LR	LR	17 37 41.9	
	comp=Z,170nm,20.1s,baz=137,slow=47						
	5.8nm,0.3s						
OHAK	**Old Harbor**	**2.34**	**290**	P	**Pn**	**17 36 34.0**	**+0.1**
OHAK	**Old Harbor**	**2.34**	**290**		**Pn**	**17 36 32.8**	**-1.1**
OHAK					**Sn**	**17 36 59.3**	**-3.3**
OHAK	**Old Harbor**	**2.34**	**290**	P	**Pn**	**17 36 32.9**	**-0.9**
	baz=110						
OHAK				S	**Sn**	**17 36 59.3**	**-3.3**
	baz=110						
SYI	**Shuyak Island**	**2.73**	**323**		**Pn**	**17 36 39.2**	**0.0**
SYI					**Sn**	**17 37 11.2**	**-1.0**
Q20K	**Shuyak Island**	**2.73**	**323**	P	**Pn**	**17 36 39.2**	**0.0**
	baz=142						
Q20K				S	**Sn**	**17 37 11.6**	**-0.6**
	baz=142						
CNPM	**China Poot**	**3.24**	**342**		**Pn**	**17 36 46.0**	**-0.3**
CNPM					**Sn**	**17 37 24.0**	**-0.8**
Q23K	**Middleton Isla**	**3.34**	**26**		**Pn**	**17 36 47.4**	**-0.2**
Q23K	**Middleton Isla**	**3.34**	**26**	IAML		17 38 11.0	
	comp=N,118nm,1.1s						
Q23K				IAML		17 38 57.8	
	comp=E,101nm,1.1s						
Q23K	**Middleton Isla**	**3.34**	**26**	P	**Pn**	**17 36 47.7**	**+0.1**
	baz=208						
MID	**Middleton Isla**	**3.34**	**26**	P	**Pn**	**17 36 48.3**	**+0.6**
BRSE	**Bradley Lake S**	**3.37**	**347**		**Pn**	**17 36 47.4**	**-0.6**
BRSE					**Sn**	**17 37 25.8**	**-2.3**
BRSE	**Bradley Lake S**	**3.37**	**347**	P	**Pn**	**17 36 47.4**	**-0.6**
	baz=166						
BRSE				S	**Sn**	**17 37 25.8**	**-2.3**
	baz=166						
Q19K	**Cape Douglas,**	**3.41**	**318**		**Pn**	**17 36 49.0**	**+0.4**
Q19K	**Cape Douglas,**	**3.41**	**318**	P	**Pn**	**17 36 48.9**	**+0.4**
	baz=136						
BRLK	**Bradley Lake**	**3.41**	**346**		**Pn**	**17 36 47.7**	**-1.0**
BRLK					**Sn**	**17 37 27.7**	**-1.5**
BRLK	**Bradley Lake**	**3.41**	**346**	IAML		17 37 37.1	
	comp=E,47nm,0.9s						
CHIR	**Chirikof Islan**	**3.62**	**262**		**Pn**	**17 36 51.2**	**-0.3**
CHIR					**Sn**	**17 37 29.3**	**-5.0**
CHIR	**Chirikof Islan**	**3.62**	**262**	IAML		17 37 32.2	
	comp=N,68nm,1.2s						
CHIR				IAML		17 39 12.8	
	comp=E,73nm,1.1s						
CHIR	**Chirikof Islan**	**3.62**	**262**	P	**Pn**	**17 36 51.2**	**-0.3**
	baz=79						
CHIR				S	**Sn**	**17 37 29.3**	**-5.0**
	baz=79						
KAKN	**Katmai Knife C**	**3.63**	**303**		**Pn**	**17 36 52.4**	**+0.6**
SEW	**Seward**	**3.64**	**358**		**Pn**	**17 36 51.4**	**-0.3**
SEW	**Seward**	**3.64**	**358**	P	**Pn**	**17 36 51.4**	**-0.3**
	baz=178						
P23K	**Montague Islan**	**3.67**	**15**		**Pn**	**17 36 51.9**	**-0.2**
P23K					**Sn**	**17 37 32.9**	**-2.5**
P23K	**Montague Islan**	**3.67**	**15**	P	**Pn**	**17 36 51.9**	**-0.2**
	baz=196						
P23K				S	**Sn**	**17 37 32.9**	**-2.5**
	baz=196						
P19K	**Oil Pt**	**3.82**	**328**		**Pn**	**17 36 54.3**	**0.0**
P19K	**Oil Pt**	**3.82**	**328**	IAML		17 37 42.2	
	comp=E,91nm,0.6s						
P19K				IAML		17 37 43.6	
	comp=N,69nm,0.9s						
P19K	**Oil Pt**	**3.82**	**328**	P	**Pn**	**17 36 54.3**	**0.0**
	baz=146						
O22K	**Cooper Landing**	**4.03**	**357**		**Pn**	**17 36 57.1**	**+0.1**
O22K	**Cooper Landing**	**4.03**	**357**	P	**Pn**	**17 36 57.1**	**+0.1**
	baz=176						
O20K	**Slope Mountain**	**4.03**	**335**		**Pn**	**17 36 57.1**	**-0.1**
O20K	**Slope Mountain**	**4.03**	**335**	P	**Pn**	**17 36 57.1**	**-0.1**
	baz=153						
IVE	**Iliamna Volcan**	**4.07**	**332**		**Pn**	**17 36 57.7**	**0.0**
ILSW	**Iliamna Southw**	**4.08**	**331**	Pn	**Pn**	**17 36 60.0**	**+2.1**
ILSW				IAML		17 37 48.8	
	comp=N,32nm,0.7s						
ILSW				IAML		17 38 04.6	
	comp=E,37nm,0.8s						
SLKM	**Skilak Lake**	**4.08**	**353**		**Sn**	**17 37 42.7**	**-2.8**
HIN	**Hinchinbrook I**	**4.19**	**19**		**Pn**	**17 36 59.3**	**-0.1**
HIN					**Sn**	**17 37 45.5**	**-2.9**
HIN	**Hinchinbrook I**	**4.19**	**19**	IAML		17 37 53.1	
	comp=N,75nm,0.7s						
HIN				IAML		17 37 53.7	
	comp=E,58nm,1.1s						
KAIM	**Kayak Island**	**4.30**	**34**		**Pn**	**17 37 01.1**	**+0.2**
KAIM	**Kayak Island**	**4.30**	**34**	IAML		17 37 49.8	
	comp=E,72nm,1.2s						
KAIM	**Kayak Island**	**4.30**	**34**	P	**Pn**	**17 37 01.1**	**+0.2**
	baz=217						
P18K	**Big Mountain,**	**4.32**	**315**		**Pn**	**17 37 00.6**	**-0.6**
P18K	**Big Mountain,**	**4.32**	**315**	P	**Pn**	**17 37 00.6**	**-0.6**
	baz=131						
RDSO	**Redoubt South**	**4.39**	**337**		**Pn**	**17 37 01.7**	**-0.5**
RSO	**Redoubt South**	**4.40**	**337**	Pn	**Pn**	**17 37 03.2**	**+0.8**
EYAK	**Cordova Ski Ar**	**4.48**	**23**	P	**Pn**	**17 37 03.5**	**+0.3**
EYAK	**Cordova Ski Ar**	**4.48**	**23**	P	**Pn**	**17 37 03.6**	**+0.3**
	baz=205						
RAGM	**Ragged Mountai**	**4.60**	**30**		**Pn**	**17 37 05.2**	**+0.1**
SUCK	**Suckling Hills**	**4.62**	**36**	Pn	**Pn**	**17 37 06.0**	**+0.7**
SUCK				IAML		17 38 03.0	
	comp=E,29nm,1.1s						
SUCK				IAML		17 38 03.0	
	comp=N,40nm,1.0s						
O18K	**Koktuh Hills**	**4.63**	**320**		**Pn**	**17 37 05.0**	**-0.3**
O18K	**Koktuh Hills**	**4.63**	**320**	P	**Pn**	**17 37 05.0**	**-0.3**
	baz=136						
RC01	**Rabbit Creek A**	**4.64**	**357**	IAML		17 38 00.9	
	comp=N,19nm,0.5s						
RC01				IAML		17 38 06.0	
	comp=E,26nm,0.5s						
RC01	**Rabbit Creek A**	**4.64**	**357**	P	**Pn**	**17 37 05.3**	**-0.1**
	baz=177						
HMT	**Hamilton**	**4.68**	**32**		**Pn**	**17 37 06.3**	**+0.2**
NICHA	**Nichawak Mount**	**4.69**	**34**		**Pn**	**17 37 06.3**	**+0.2**
GOAT	**Goat Mountain**	**4.75**	**28**		**Pn**	**17 37 07.0**	**-0.1**
BERG	**Berg Lake**	**4.89**	**34**		**Pn**	**17 37 09.2**	**+0.2**
BERG	**Berg Lake**	**4.89**	**34**	IAML		17 38 12.2	
	comp=N,39nm,0.7s						
KNK	**Knik Glacier**	**4.97**	**4**		**Pn**	**17 37 10.0**	**0.0**
KNK	**Knik Glacier**	**4.97**	**4**	IAML		17 38 15.5	
	comp=N,16nm,1.0s						
KNK				IAML		17 38 18.7	
	comp=E,16nm,1.0s						
KNK	**Knik Glacier**	**4.97**	**4**	P	**Pn**	**17 37 10.0**	**0.0**
	baz=185						
N20K	**Mount Spurr**	**4.98**	**343**	P	**Pn**	**17 37 09.6**	**-0.7**
	baz=161						
SPCR	**Spurr Chakacha**	**4.98**	**343**		**Pn**	**17 37 09.6**	**-0.7**
SNH	**Sunshine Point**	**5.02**	**40**		**Pn**	**17 37 11.0**	**+0.2**
SNH	**Sunshine Point**	**5.02**	**40**	IAML		17 38 14.7	
	comp=E,23nm,1.2s						
SNH				IAML		17 38 30.1	
	comp=N,22nm,0.8s						
KHIT	**Khitrov Hills**	**5.08**	**36**		**Pn**	**17 37 11.4**	**-0.1**
BMRM	**Bremner River**	**5.12**	**26**		**Pn**	**17 37 12.2**	**+0.1**
BMRM	**Bremner River**	**5.12**	**26**	P	**Pn**	**17 37 12.2**	**+0.1**
	baz=209						
STLK	**Strandline Lak**	**5.21**	**346**		**Pn**	**17 37 13.1**	**-0.3**
WAX	**Waxell Ridge**	**5.21**	**37**		**Pn**	**17 37 14.7**	**+1.2**
WAX				IAML		17 38 23.3	
	comp=E,31nm,1.0s						
BARK	**Barkley Ridge**	**5.30**	**39**		**Pn**	**17 37 14.9**	**+0.3**
GHO	**Glory Hole Cre**	**5.32**	**2**		**Pn**	**17 37 15.5**	**+0.7**
KLU	**Klutina**	**5.32**	**18**		**Pn**	**17 37 15.3**	**+0.4**
KLU	**Klutina**	**5.32**	**18**	P	**Pn**	**17 37 15.3**	**+0.4**
	baz=200						
MESA	**MESA**	**5.35**	**43**		**Pn**	**17 37 15.4**	**0.0**
MESA	**MESA**	**5.35**	**43**	P	**Pn**	**17 37 15.4**	**0.0**
	baz=228						
SML	**Sawmill**	**5.37**	**5**	Pn	**Pn**	**17 37 16.6**	**+1.0**
N18K	**Kilae Creek**	**5.46**	**323**		**Pn**	**17 37 16.3**	**-0.5**
N18K	**Kilae Creek**	**5.46**	**323**	P	**Pn**	**17 37 16.3**	**-0.5**
	baz=138						
SCM	**Sheep Creek Mo**	**5.47**	**10**	Pn	**Pn**	**17 37 19.3**	**+2.4**
ISLE	**Juniper Island**	**5.50**	**38**		**Pn**	**17 37 17.5**	**+0.1**
BAGL	**Bagley Icefiel**	**5.51**	**40**		**Pn**	**17 37 17.7**	**+0.3**
VRDI	**Verde Repeater**	**5.64**	**30**		**Pn**	**17 37 19.4**	**+0.1**
O16K	**Kokwok River B**	**5.64**	**307**	Pn	**Pn**	**17 37 19.5**	**+0.3**
SKT	**Skwentna**	**5.64**	**349**	Pn	**Pn**	**17 37 20.3**	**+1.0**
N25K	**Chitina, Valde**	**5.68**	**23**		**Pn**	**17 37 20.9**	**+1.1**
N25K	**Chitina, Valde**	**5.68**	**23**	P	**Pn**	**17 37 20.4**	**+0.6**
	baz=206						
SVW2	**Sparrevohn**	**5.68**	**327**	P	**Pn**	**17 37 20.3**	**+0.5**
SVW2	**Sparrevohn**	**5.68**	**327**	Pn	**Pn**	**17 37 19.8**	**0.0**
GLB	**Gilahina Butte**	**5.72**	**27**		**Pn**	**17 37 20.9**	**+0.5**
KIAG	**Kiagna River**	**5.73**	**36**		**Pn**	**17 37 20.8**	**+0.2**
M20K	**Styx River**	**5.78**	**341**	Pn	**Pn**	**17 37 22.1**	**+0.9**
N17K	**Nushagak Hills**	**5.81**	**318**	Pn	**Pn**	**17 37 20.6**	**-1.0**
TABL	**Table Mountain**	**5.82**	**44**		**Pn**	**17 37 21.9**	**0.0**
M24K	**Tolsona, Glenn**	**5.87**	**14**	Pn	**Pn**	**17 37 23.8**	**+1.5**
MCARA	**McCarthy VSAT**	**5.88**	**31**		**Pn**	**17 37 23.2**	**+0.6**
MCARA	**McCarthy VSAT**	**5.88**	**31**	P	**Pn**	**17 37 23.2**	**+0.6**
	baz=215						
PTPK	**Patty Peak**	**5.89**	**34**		**Pn**	**17 37 23.4**	**+0.5**
M19K	**Big River Lodg**	**6.05**	**336**	Pn	**Pn**	**17 37 25.5**	**+0.7**
BARN	**Barnard Glacie**	**6.06**	**38**		**Pn**	**17 37 25.9**	**+0.7**
CHNA	**Chernabura Isl**	**6.08**	**259**	P	**Pn**	**17 37 24.6**	**-0.6**
	baz=71						
CNBA	**Chernabura Isl**	**6.08**	**258**		**Pn**	**17 37 24.6**	**-0.6**
CTG	**Chitna Glacier**	**6.10**	**39**	P	**Pn**	**17 37 25.8**	**+0.2**
	baz=225						
CTGM	**Chitina Glacie**	**6.11**	**39**		**Pn**	**17 37 25.9**	**+0.1**
LOGN	**Logan Glacier**	**6.13**	**41**		**Pn**	**17 37 26.1**	**0.0**
PNL	**Peninsula**	**6.13**	**54**	P	**Pn**	**17 37 27.1**	**+1.1**
PNL	**Peninsula**	**6.13**	**54**		**Pn**	**17 37 26.5**	**+0.5**
PNL	**Peninsula**	**6.13**	**54**	P	**Pn**	**17 37 26.5**	**+0.5**
	baz=242						
WAT6	**Susitna Watana**	**6.17**	**7**		**Pn**	**17 37 27.0**	**+0.3**
WAT6	**Susitna Watana**	**6.17**	**7**	P	**Pn**	**17 37 27.0**	**+0.3**
	baz=188						
HARP	**HAARP**	**6.30**	**18**		**Pn**	**17 37 28.8**	**+0.6**
HARP	**HAARP**	**6.30**	**18**	P	**Pn**	**17 37 28.8**	**+0.6**
	baz=201						
L19K	**White Mountain**	**6.40**	**336**	Pn	**Pn**	**17 37 31.2**	**+1.5**
M17K	**Holitna River**	**6.50**	**323**		**Pn**	**17 37 30.8**	**-0.3**
M17K	**Holitna River**	**6.50**	**323**	P	**Pn**	**17 37 30.8**	**-0.3**
	baz=136						
DHY	**Denali Highway**	**6.69**	**7**	Pn	**Pn**	**17 37 36.3**	**+2.6**
M26K	**Nabesna, AK**	**6.74**	**26**	Pn	**Pn**	**17 37 36.0**	**+1.6**
O29M	**Mount Kennedy**	**6.80**	**51**		**Pn**	17 37 32.4	-2.8
M16K	**Timber Creek**	**6.80**	**316**	Pn	**Pn**	**17 37 37.3**	**+2.2**
N15K	**Kwethluk River**	**6.80**	**307**	Pn	**Pn**	**17 37 36.6**	**+1.4**
P29M	**Windy Craggy**	**6.88**	**58**		**Pn**	**17 37 36.6**	**+0.3**
P29M	**Windy Craggy**	**6.88**	**58**	P	**Pn**	**17 37 36.6**	**+0.3**
	baz=247						
M27K	**Edge Creek, AK**	**7.00**	**29**	Pn	**Pn**	**17 37 40.4**	**+2.4**
TRF	**Thorofare Moun**	**7.02**	**356**	Pn	**Pn**	**17 37 40.0**	**+1.7**
S12K	**Black Hills**	**7.21**	**269**		**Pn**	**17 37 40.1**	**-0.7**
S12K	**Black Hills**	**7.21**	**269**	P	**Pn**	**17 37 40.1**	**-0.7**
	baz=80						
L26K	**Log Cabin Wild**	**7.21**	**22**	Pn	**Pn**	**17 37 43.3**	**+2.5**
S31K	**Pelican**	**7.23**	**73**	Pn	**Pn**	**17 37 40.8**	**-0.1**
L16K	**Owhat River**	**7.43**	**319**	Pn	**Pn**	**17 37 44.1**	**+0.4**
SIT	**Sitka**	**7.68**	**80**	P	**Pn**	**17 37 46.2**	**-1.0**
SIT	**Sitka**	**7.68**	**80**	Pn	**Pn**	**17 37 45.6**	**-1.5**
K17K	**Iditarod**	**7.76**	**328**	Pn	**Pn**	**17 37 48.1**	**-0.1**
N30M	**Aishikik Lake**	**8.02**	**46**	Pn	**Pn**	**17 37 53.4**	**+1.4**
J20K	**Nowinta River**	**8.10**	**345**	Pn	**Pn**	**17 37 54.0**	**+1.2**
M29M	**Somme Creek**	**8.12**	**38**		**Pn**	**17 37 55.3**	**+2.0**
JIS	**Juneau Island**	**8.24**	**71**	P	**Pn**	**17 37 56.2**	**+1.4**
ILAR	**Eielson Array**	**8.40**	**7**	Pn	**Pn**	**17 37 56.5**	**-0.7**
	comp=E,0.1nm,0.3s,baz=185,slow=13,SNR=2.6						
ILAR				Sn	**Sn**	**17 39 28.9**	**-3.0**
	comp=E,0.1nm,0.3s,baz=186,slow=15,SNR=2.3						
	comp=E,0.3nm,0.6s						
J26L	**Joseph Creek**	**8.53**	**17**		**Pn**	**17 38 00.6**	**+1.8**
MDM	**Murphy Dome**	**8.53**	**3**	Pn	**Pn**	**17 38 00.3**	**+1.5**
WHY	**Whitehorse**	**8.60**	**55**	Pn	**Pn**	**17 38 02.0**	**+2.1**
L29M	**L29M**	**8.69**	**35**	Pn	**Pn**	**17 38 02.5**	**+1.4**
P32M	**Atlin**	**8.81**	**63**	Pn	**Pn**	**17 38 03.3**	**+0.6**
U33K	**Whale Pass**	**8.98**	**86**	Pn	**Pn**	**17 38 03.4**	**-1.6**
DAWY	**Dawson**	**9.04**	**29**	Pn	**Pn**	**17 38 06.1**	**+0.2**
H21K	**Melozitna Rive**	**9.37**	**351**	Pn	**Pn**	**17 38 11.3**	**+0.9**
K29M	**Barlow Dome**	**9.41**	**33**	Pn	**Pn**	**17 38 12.2**	**+1.2**
M31M	**Drury Creek, Y**	**9.51**	**47**	Pn	**Pn**	**17 38 14.1**	**+1.9**
J14K	**Nanvaranak Lak**	**9.58**	**317**	Pn	**Pn**	**17 38 13.1**	**-0.1**
AKUT	**Akutan**	**9.71**	**263**	P	**Pn**	**17 38 18.2**	**+3.3**
R33M	**Jennings River**	**10.15**	**66**	Pn	**Pn**	**17 38 22.5**	**+1.4**
T35M	**Bob Quinn**	**10.45**	**79**	Pn	**Pn**	**17 38 27.5**	**+2.3**
DLBC	**Dease Lake**	**10.54**	**71**	Pn	**Pn**	**17 38 27.8**	**+1.4**
DLBC	**Dease Lake**	**10.54**	**71**	Pn	**Pn**	**17 38 27.9**	**+1.5**
	comp=E,0.2nm,0.3s,baz=260,slow=11,SNR=8.7						
DLBC				Sn	**Sn**	**17 40 18.3**	**-6.1**
	comp=E,0.2nm,0.3s,baz=46,slow=24,SNR=6.9						
	comp=E,0.4nm,0.3s						
BBB	**Bella Bella**	**13.04**	**100**	LR	LR	17 42 52.3	
	comp=E,29nm,20.0s,baz=104,slow=32						
INK	**Inuvik**	**13.86**	**25**	Pn	**P**	**17 39 19.7**	**-0.3**
	comp=E,0.2nm,0.3s,baz=194,slow=9.1,SNR=5.0						
YKA	**Yellowknife Ar**	**18.42**	**57**	P	**P**	**17 40 13.4**	**+2.9**
	comp=E,0.1nm,0.3s,baz=267,slow=11,SNR=8.3						
	comp=E,0.7nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**48.99**	**240**	T	T	18 37 47.3	
	baz=25						
H11N3	**WAKE ISLAND Hy**	**49.00**	**240**	T	T	18 37 42.3	
	baz=25						
H11N1	**WAKE ISLAND Hy**	**49.01**	**240**	T	T	18 37 59.2	
	baz=25						
H11S1	**WAKE ISLAND Hy**	**50.14**	**239**	T	T	18 39 28.6	
	baz=29						
H11S2	**WAKE ISLAND Hy**	**50.15**	**239**	T	T	18 39 32.5	
	baz=29						
H11S3	**WAKE ISLAND Hy**	**50.15**	**239**	T	T	18 39 32.2	
	baz=29						
SONM	**Songino Array**	**58.53**	**310**	P	**P**	**17 45 53.9**	**+2.2**
	comp=E,0.2nm,0.7s,baz=57,slow=5.8,SNR=1.9						
	comp=E,0.2nm,0.7s						

*NNC **25** 17:57:36.3±0.2, 43.50°N×78.57°E, h0km, mb2.6, mpv2.5, Error ellipse: s-maj=1.9km s-min=0.8km az=175.0*
*SOME **25** 17:57:36.4, 43.52°N×78.53°E, h5km*

ISC 25 17:57:36.6±1.1, 43.52°N±0.03°×78.55°E±0.02, h7km±13km, n15, σ0°39/30, 3C-1D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURS	**Kuram**	**0.27**	**265**	*e*P	**Pg**	**17 57 42.0**	**0.0**
	0.4nm,0.1s						
KURS				*e*S	**Sg**	**17 57 46.4**	**+0.7**
	1.0nm,0.1s						
ZHN	**Zhinishke**	**0.36**	**193**	*e*P	**Pg**	**17 57 43.6**	**0.0**
	7.2nm,0.1s						
ZHN				*e*S	**Sg**	**17 57 48.6**	**+0.3**
	34nm,0.2s						
ZHN	**Zhinishke**	**0.36**	**193**	P	**Pg**	**17 57 43.4**	**-0.2**
	7.2nm,0.1s						
ZHN				S	**Sg**	**17 57 48.5**	**+0.2**
	34nm,0.2s						
SATY	**Saty**	**0.47**	**193**	*e*P	**Pg**	**17 57 45.4**	**-0.3**
	4.4nm,0.1s						
SATY				*e*S	**Sg**	**17 57 51.8**	**0.0**
	15nm,0.1s						
SATY	**Saty**	**0.47**	**193**	P	**Pg**	**17 57 45.4**	**-0.3**
	4.4nm,0.1s						
SATY				S	**Sg**	**17 57 51.8**	**0.0**
	15nm,0.1s						
UZB	**Uzynbulak**	**0.51**	**136**	*e*P	**Pg**	**17 57 46.2**	**-0.2**
	3.4nm,0.1s						
UZB				*e*S	**Sg**	**17 57 53.3**	**+0.2**
	24nm,0.1s						
UZB	**Uzynbulak**	**0.51**	**136**	P	**Pg**	**17 57 46.2**	**-0.2**
	3.4nm,0.1s						
UZB				S	**Sg**	**17 57 53.3**	**+0.2**
	24nm,0.1s						
PDGK	**Podgornoye**	**0.71**	**105**	P	**Pg**	**17 57 50.1**	**-0.3**
	0.2nm,0.1s						
PDGK				S	**Sg**	**17 57 59.7**	**+0.1**
	1.2nm,0.2s						
PDGK	**Podgornoye**	**0.71**	**105**	⇑P	**Pg**	**17 57 49.7**	**-0.6**
	1.2nm,0.8s						
PDGK				⇓S	**Sg**	**17 57 59.6**	**-0.1**
	1.2nm,0.6s						
ARXS	**Arharly**	**0.87**	**324**	*e*P	**Pg**	**17 57 53.1**	**-0.3**
	2.1nm,0.1s						
ARXS				*e*S	**Sg**	**17 58 05.0**	**+0.4**
	2.3nm,0.1s						
KOTS	**Kotyrbulak**	**1.08**	**255**	*e*P	**Pg**	**17 57 56.6**	**-0.8**
	1.0nm,0.1s						
KOTS				*e*S	**S

comp=Z,7.9nm,1.2s
LPAZ La Paz 50.91 305 P **P** **18 06 52.8 +0.8**
LPAZ IAmb IAmb 18 06 53.0
comp=Z,2.5nm,0.6s
LPAZ La Paz 50.91 305 P **P** **18 06 52.6 +0.6**
comp=Z,2.8nm,0.6s,baz=132,slow=5.3,SNR=7.5
comp=Z,2.8nm,0.6s
TORD Torodi Ar. Bea 73.34 29 P **P** **18 09 22.9 +1.6**
TORD Torodi Ar. Bea 73.34 29 P **P** **18 09 18.9 -2.4**
comp=Z,0.4nm,0.7s,baz=206,slow=7.1,SNR=2.2
comp=Z,0.4nm,0.7s
A36M Sachs Harbour 144.79 328 **PKPdf** **18 17 24.0 +0.1**
G29M Pine Creek 147.64 317 **PKPbc** **18 17 32.2 +0.3**
ILAR Eielson Array 150.67 311 PKPbc **PKPbc** **18 17 39.7 +0.2**
comp=Z,0.8nm,0.7s,baz=113,slow=2.7,SNR=8.3
TOLK Toolik Lake Re 152.25 319 **PKiKP** **18 17 43.6 +0.3**

*IDC **25** 18:04:20.0±1.2, 41.°00N×48.°07E, h0km, mb4.0/6, mbtmp3.9/10, ML3.3/4, MS3.0/2, Error ellipse: s-maj=27.4km s-min=10.4km az=149.0*
*AZER **25** 18:04:20.8, 40.°92N×48.°15E, h15km, ml3.4*
*TIF **25** 18:04:20.4, 40.°81N×48.°23E, h15km±2km*
*TEH **25** 18:04:22.0, 40.°85N×48.°13E, h20km±88km, ML3.4*
*MOS **25** 18:04:22.2, 40.°92N×48.°06E, h9km, MPVA4.2*
*DRS **25** 18:04:22.4, 40.°83N×48.°01E, h15km*
ISC 25 18:04:22.1±0.8, 40.°89N±0.°02×48.°17E±0.°02, h18km±4km, n113, σ1°97/180, mb3.9/6, 1C-3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
IML	**Ismayilli**	**0.10**	**175**	Pg	**Pg**		**18 04 25.5**	**-0.2**
IML	**Ismayilli**	**0.10**	**175**	P	**Pg**		**18 04 25.5**	**-0.2**
IML				S	**Sg**		**18 04 28.7**	**+0.5**
QBL	**Gabala**	**0.26**	**283**	Pg	**Pg**		**18 04 27.8**	**-0.1**
QBL	**Gabala**	**0.26**	**283**	P	**Pg**		**18 04 27.9**	**-0.1**
QBL				S	**Sg**		**18 04 32.3**	**+0.3**
XNQ	**Khinaliq**	**0.28**	**355**	Pg	**Pg**		**18 04 28.4**	**-0.1**
XNQ	**Khinaliq**	**0.28**	**355**	P	**Pg**		**18 04 28.4**	**-0.1**
XNQ				S	**Sg**		**18 04 33.1**	**+0.2**
PQL	**Pirkuli**	**0.34**	**107**	Pg	**Pb**		**18 04 30.1**	**+0.5**
PQL	**Pirkuli**	**0.34**	**107**	P	**Pb**		**18 04 30.1**	**+0.5**
PQL				S	**Sb**		**18 04 37.1**	**+2.3**
KDMR	**Kurdemir**	**0.51**	**179**	P	**Pg**		**18 04 32.9**	**+0.6**
KDMR				S	**Sn**		**18 04 42.3**	**-0.5**
QUB	**Quba**	**0.51**	**16**	Pg	**Pb**		**18 04 33.9**	**+1.3**
QUBA	**Quba, Azerbaij**	**0.53**	**28**	P	**Pb**		**18 04 34.0**	**+1.1**
QUBA				S	**Sb**		**18 04 41.5**	**+1.4**
ATGJ	**Altiaghaj**	**0.58**	**92**	Pg	**Pb**		**18 04 34.8**	**+1.0**
ATGJ	**Altiaghaj**	**0.58**	**92**	P	**Pb**		**18 04 34.8**	**+1.0**
ATGJ				S	**Sn**		**18 04 44.5**	**-0.3**
SIZA	**Siyzn**	**0.58**	**71**	P	**Pb**		**18 04 35.1**	**+1.3**
SIZA				S	**Sn**		**18 04 44.2**	**-0.5**
QSAR	**Qusar**	**0.63**	**6**	Pg	**Pb**		**18 04 35.3**	**+0.7**
QSAR	**Qusar**	**0.63**	**6**	P	**Pb**		**18 04 35.3**	**+0.7**
QSAR				S	**Sb**		**18 04 44.4**	**+1.3**
AKT	**Akhty**	**0.68**	**331**	*e*Pg	**Pg**		**18 04 35.2**	**-0.3**
AKT				*e*Sg	**Sg**		**18 04 44.9**	**+0.3**
GBS	**Qobustan**	**0.69**	**121**	Pg	**Pn**		**18 04 37.2**	**+0.2**
GBS	**Qobustan**	**0.69**	**121**	P	**Pn**		**18 04 37.2**	**+0.5**
GBS				S	**Sn**		**18 04 48.7**	**+1.5**
ZRD	**Zardab**	**0.71**	**211**	P	**Pb**		**18 04 36.9**	**+0.9**
ZRD				S	**Sn**		**18 04 49.2**	**+1.5**
KSMR	**Kasumkent**	**0.71**	**357**	*e*Pg	**Pb**		**18 04 36.6**	**+0.6**
KSMR				*e*Sg	**Sb**		**18 04 46.6**	**+1.0**
SEKA	**Sheki**	**0.80**	**294**	P	**Pg**		**18 04 37.0**	**-0.7**
SEKA				S	**Sg**		**18 04 48.4**	**0.0**
MNGR	**Mingechevir, A**	**0.83**	**262**	P	**Pg**		**18 04 38.6**	**+0.3**
MNGR				S	**Sn**		**18 04 51.4**	**+0.7**
BRDA	**Brd**	**0.98**	**231**	Pg	**Pb**		**18 04 41.4**	**+0.9**
BRDA	**Brd**	**0.98**	**231**	P	**Pb**		**18 04 41.5**	**+0.9**
BRDA				S	**Sn**		**18 04 56.0**	**+1.7**
SAAT	**Saatly**	**1.04**	**169**	P	**Pb**		**18 04 41.1**	**-0.5**
SAAT				S	**Sn**		**18 04 57.2**	**+1.2**
AGDM	**Agdam**	**1.12**	**226**	P	**Pb**		**18 04 43.1**	**+0.1**
AGDM				S	**Sn**		**18 04 59.8**	**+1.8**
ALIB	**&Aumlli-Bayram**	**1.13**	**145**	P	**Pg**		**18 04 45.4**	**+1.5**
ALIB				S	**Sn**		**18 05 03.5**	**+5.5**
DRN	**Derbent**	**1.15**	**6**	*e*Pg	**Pg**		**18 04 44.6**	**+0.3**
DRN				*e*Sg	**Sn**		**18 05 00.8**	**+2.3**
BLQ	**Beylaqan**	**1.26**	**202**	P	**Pn**		**18 04 45.0**	**+0.3**
BLQ				S	**Sn**		**18 05 02.7**	**+1.5**
GOBA	**Gobu**	**1.28**	**112**	P	**Pb**		**18 04 46.6**	**+0.9**
GOBA				S	**Sg**		**18 05 04.7**	**+1.1**
URKR	**Urkarakh**	**1.34**	**343**	*e*Pg	**Pg**		**18 04 48.5**	**+0.5**
URKR				*e*Sg	**Sg**		**18 05 06.8**	**+1.4**
VSHL	**Vashlovani**	**1.38**	**285**	P	**Pn**		**18 04 47.9**	**+1.4**
VSHL				S	**Sg**		**18 05 07.0**	**+0.2**
ZKTA	**Zakatala**	**1.39**	**303**	Pn	**Pn**		**18 04 47.3**	**+0.8**
ZKTA				Sn	**Sb**		**18 05 06.5**	**+1.6**
NDR	**Nardaran**	**1.41**	**102**	Sn	**Sg**		**18 05 08.9**	**+1.2**
GANJ	**Ganja**	**1.42**	**261**	Pg	**Pn**		**18 04 46.9**	**-0.2**
GANJ	**Ganja**	**1.42**	**261**	Pn	**Pn**		**18 04 46.9**	**-0.2**
GANJ				Sn	**Sn**		**18 05 05.9**	**+0.5**
QRD	**Qoradiz**	**1.57**	**205**	Pn	**Pn**		**18 04 49.0**	**+0.3**
QRD				Sn	**Sn**		**18 05 10.2**	**+1.4**
SGKR	**Sergokala**	**1.62**	**346**	*e*Pg	**Pg**		**18 04 53.3**	**+0.1**
SGKR				*e*Sg	**Sg**		**18 05 15.8**	**+1.5**
GLBA	**Clilabad**	**1.65**	**174**	Pn	**Pn**		**18 04 51.2**	**+1.0**
GLBA				Sn	**Sb**		**18 05 13.5**	**+1.0**
LGD	**Lagodekhi**	**1.73**	**304**	P	**Pb**		**18 04 53.4**	**0.0**
LGD				S	**Sg**		**18 05 17.9**	**0.0**
LGD	**Lagodekhi**	**1.73**	**304**	*e*Pg	**Pb**		**18 04 53.4**	**0.0**
LGD				*e*Sg	**Sg**		**18 05 17.9**	**0.0**
GNBR	**Gunib**	**1.75**	**329**	*e*Pg	**Pg**		**18 04 56.5**	**+0.8**
GNBR				*e*Sg	**Sg**		**18 05 21.2**	**+2.7**
GDB	**GEDABAY**	**1.84**	**266**	Pn	**Pn**		**18 04 52.9**	**-0.1**
GDB				Sn	**Sn**		**18 05 16.8**	**+0.9**
ARKR	**Arakani**	**1.93**	**333**	*e*Pg	**Pg**		**18 04 58.9**	**-0.2**
ARKR				*e*Sg	**Sg**		**18 05 25.5**	**+1.4**
YRD	**Yardimli**	**1.97**	**178**	Pn	**Pn**		**18 04 55.1**	**+0.3**
YRD				Sn	**Sn**		**18 05 21.3**	**+2.2**
XNZR	**Khunzakh**	**1.98**	**327**	*e*Pg	**Sg**		**18 04 58.8**	**+1.0**
XNZR				*e*Sg	**Sg**		**18 05 25.0**	**-0.9**
GRMI	**Germi**	**2.09**	**186**	Pn	**Pn**		**18 04 56.2**	**-0.1**
BUJR	**Buynaksk**	**2.09**	**338**	*e*Pg	**Pb**		**18 05 00.9**	**+1.4**
BUJR				*e*Sg	**Sg**		**18 05 28.5**	**-0.9**
UNCR	**Uncukul**	**2.09**	**331**	*e*Pg	**Pb**		**18 05 00.3**	**+0.8**
UNCR				*e*Sg	**Sb**		**18 05 27.2**	**+2.0**
QZX	**Qazax, Azerbai**	**2.12**	**275**	Pn	**Pn**		**18 04 57.5**	**+0.7**
QZX				Sn	**Sn**		**18 05 24.6**	**+1.9**
MAK	**Makhachkala**	**2.13**	**347**	*e*Pg	**Pb**		**18 05 01.2**	**+1.1**
MAK				*e*Sg	**Sb**		**18 05 28.1**	**+1.9**
KRNR	**Karanay**	**2.15**	**334**	*e*Pg	**Pb**		**18 05 01.1**	**+0.4**
KRNR				*e*Sg	**Sb**		**18 05 29.8**	**+2.8**
DGRG	**David-gareji**	**2.19**	**286**	P	**Pn**		**18 04 59.7**	**+2.1**
DGRG				S	**Sb**		**18 05 28.8**	**+0.9**
DGRG	**David-gareji**	**2.19**	**286**	*e*Pg	**Pn**		**18 04 59.7**	**+2.1**
DGRG				*e*Sg	**Sb**		**18 05 28.8**	**+0.9**
LKRN	**Lenkeran, Azer**	**2.23**	**168**	Pn	**Pn**		**18 05 59.3**	**+1.2**
LKRN				Sn	**Sn**		**18 05 28.0**	**+2.9**
LRK	**Lerik**	**2.25**	**177**	Pn	**Pn**		**18 04 59.4**	**+0.8**
LRK				Sn	**Sn**		**18 05 28.0**	**+2.1**
DBC	**Dubki**	**2.35**	**335**	*e*Pn	**Pb**		**18 05 03.2**	**-0.8**
DBC				*e*Sn	**Sb**		**18 05 34.5**	**+1.8**
KANR	**Karaman**	**2.36**	**348**	*e*Pn	**Pb**		**18 05 05.8**	**+1.8**
KANR				*e*Sn	**Sg**		**18 05 36.5**	**-1.5**
ASTR	**Astara**	**2.37**	**168**	Pn	**Pn**		**18 05 00.7**	**+0.6**
ASTR				Sn	**Sn**		**18 05 31.2**	**+2.5**
DLMR	**Dylym**	**2.46**	**333**	*e*Pn	**Pn**		**18 05 04.1**	**+2.8**
DLMR				*e*Sn	**Sb**		**18 05 35.8**	**-0.1**
SBZ	**Shahbuz**	**2.50**	**234**	Pn	**Pn**		**18 05 03.6**	**+1.6**
SBZ				Sn	**Sn**		**18 05 34.9**	**+2.8**
GAS1	**Astara - Iran**	**2.55**	**168**	Pn	**Pn**		**18 05 03.2**	**+0.6**
DVE	**Vedeno**	**2.57**	**324**	*e*Pn	**Pb**		**18 05 06.9**	**-0.8**
DVE				*e*Sn	**Sn**		**18 05 35.8**	**+2.1**
ORD	**Ordubad**	**2.58**	**221**	Pn	**Pn**		**18 05 04.2**	**+1.3**
ORD				Sn	**Sn**		**18 05 37.0**	**+3.1**
NAX	**Nakhchivan**	**2.67**	**231**	Pn	**Pn**		**18 05 05.5**	**+1.2**
NAX				Sg	**Sg**		**18 05 46.5**	**-1.5**
IHRS	**Heris**	**2.71**	**199**	Pn	**Pn**		**18 05 06.0**	**+1.0**
GNI	**Garni**	**2.72**	**255**	*e*Pn	**Pn**		**18 05 07.3**	**+2.3**
GNI				*e*Sn	**Sn**		**18 05 41.7**	**+4.2**
GNI	**Garni**	**2.72**	**255**	Pn	**Pn**		**18 05 07.4**	**+2.5**
	7.1nm,0.3s,baz=349,slow=5.2,SNR=21							
GNI				Lg	Lg		18 05 45.5	
	9.4nm,0.3s,baz=337,slow=22,SNR=3.7							
	20nm,0.5s							
HYR	**Heyderabad**	**2.79**	**246**	Pn	**Pn**		**18 05 07.5**	**+1.5**
HYR				Sg	**Sb**		**18 05 48.7**	**+3.3**
CHRG	**Chargali**	**2.83**	**302**	P	**Pn**		**18 05 08.9**	**+2.4**
CHRG				S	**Sn**		**18 05 44.4**	**+4.3**
CHRG	**Chargali**	**2.83**	**302**	*e*Pn	**Pn**		**18 05 08.9**	**+2.4**
CHRG				*e*Sn	**Sn**		**18 05 44.4**	**+4.3**
SHTL	**Shatili**	**2.87**	**309**	P	**Pb**		**18 05 10.9**	**-1.9**
SHTL	**Shatili**	**2.87**	**309**	*e*Pn	**Pb**		**18 05 10.9**	**-1.9**
IMRD	**Marand**	**2.89**	**222**	Pn	**Pn**		**18 05 07.5**	**+0.2**
DMNI	**Dmanisi**	**3.04**	**280**	P	**Pn**		**18 05 11.4**	**+2.0**
DMNI	**Dmanisi**	**3.04**	**280**	*e*Pn	**Pn**		**18 05 11.4**	**+2.0**
ITBZ	**Tabriz**	**3.08**	**211**	Pn	**Pn**		**18 05 10.8**	**+0.8**
MAKU	**Maku**	**3.08**	**241**	Pn	**Pn**		**18 05 10.9**	**+0.9**
TRLG	**Trialeti**	**3.14**	**283**	P	**Pn**		**18 05 12.9**	**+2.2**
TRLG				S	**Sn**		**18 05 51.7**	**+3.8**
TRLG	**Trialeti**	**3.14**	**283**	*e*Pn	**Pn**		**18 05 12.9**	**+2.2**
TRLG				*e*Sn	**Sn**		**18 05 51.7**	**+3.8**
GUDG	**Gudauri**	**3.18**	**301**	*e*Pn	**Pn**		**18 05 14.7**	**+3.2**
GUDG				*e*Sn	**Sn**		**18 05 53.8**	**+4.7**
MTEO	**Meteo**	**3.26**	**305**	P	**Pn**		**18 05 16.9**	**+4.3**
MTEO	**Meteo**	**3.26**	**305**	*e*Pn	**Pn**		**18 05 16.9**	**+4.3**
ISHB	**Shabestar**	**3.27**	**218**	Pn	**Pn**		**18 05 12.9**	**+0.3**
BRNG	**Burnasheti**	**3.35**	**284**	P	**Pb**		**18 05 18.5**	**-2.7**
ALIG	**Mtskhetisjvari**	**3.61**	**291**	P	**Pn**		**18 05 18.7**	**+1.6**
ALIG	**Mtskhetisjvari**	**3.61**	**291**	*e*Pn	**Pn**		**18 05 18.7**	**+1.6**
ONI	**Oni**	**3.92**	**297**	P	**Pn**		**18 05 24.3**	**+2.9**
ONI	**Oni**	**3.92**	**297**	*e*Pn	**Pn**		**18 05 24.3**	**+2.9**
ONI				*e*Sn	**Sn**		**18 06 09.1**	**+2.1**
TKB	**Tkibuli**	**4.15**	**292**	P	**Pn**		**18 05 27.0**	**+2.5**
TKB	**Tkibuli**	**4.15**	**292**	*e*Pn	**Pn**		**18 05 27.0**	**+2.5**
KBZ	**Khabaz**	**4.83**	**308**	*e*Pn	**Pn**		**18 05 36.0**	**+2.1**
KBZ				*e*Sn	**Sn**		**18 06 30.8**	**+1.4**
KBZ	**Khabaz**	**4.83**	**308**	Pn	Pn		18 05 40.6	+6.7
	0.1nm,0.3s,baz=267,slow=15,SNR=2.0							
KBZ				Sn	**Sn**		**18 06 32.0**	**+2.7**
	0.3nm,0.3s,baz=106,slow=11,SNR=2.5							
KBZ				Lg	Lg		18 06 51.9	
	0.3nm,0.3s,baz=159,slow=17,SNR=1.5							
PYA1	**Pyatigorsk**	**4.91**	**312**	*e*Pn	**Pn**		**18 05 38.6**	**+3.6**
PYA1				*e*Sn	**Sn**		**18 06 32.2**	**+0.8**
KLST	**Kelardasht - M**	**4.91**	**152**	Pn	**Pn**		**18 05 35.2**	**-0.2**
SHA1	**Shidzhatmaz**	**4.98**	**307**	*e*Pn	**Pn**		**18 05 40.4**	**+4.2**
SHA1				*e*Sn	**Sn**		**18 06 33.2**	**-0.2**
KVAR	**Kislovodsk Arr**	**5.08**	**309**	Sn	**Sn**		**18 06 37.5**	**+1.8**
	baz=10.0,slow=5.8							
KIV	**Kislovodsk**	**5.08**	**309**	*e*Pn	**Pn**		**18 05 35.9**	**-1.6**
KIV				*e*Sn	**Sn**		**18 06 31.5**	**-4.3**
IPRN	**Peran**	**5.67**	**144**	Pn	**Pn**		**18 05 45.6**	**0.0**
GEYT	**Alibeck**	**8.25**	**108**	Pn	**Pn**		**18 06 23.1**	**+2.2**
	0.5nm,0.3s,baz=286,slow=11,SNR=5.5							
GEYT				Sn	**Sn**		**18 07 49.6**	**-4.0**
	0.3nm,0.3s,baz=29,slow=34,SNR=1.4							
	1.5nm,0.5s							
AKTO	**Aktyubinsk**	**11.76**	**32**	Pn	**Pn**		**18 07 07.2**	**-1.7**
	0.4nm,0.3s,baz=215,slow=11,SNR=5.4							
AKTO				Sn	**Sn**		**18 09 13.3**	**-6.3**
	0.2nm,0.3s,baz=101,slow=22,SNR=1.4							
	0.9nm,0.3s							
AKTO	**Aktyubinsk**	**11.76**	**32**	⇓P	**Pn**		**18 07 07.4**	**-1.5**
	3.3nm,1.3s							
AKTO				⇓S	**Sn**		**18 09 13.6**	**-6.0**
	2.9nm,1.4s							
AB31	**Akbulak array**	**11.79**	**41**	⇑P	**Pn**		**18 07 08.7**	**-0.5**
	0.2nm,0.3s,baz=236,slow=14,SNR=12							
AB31				⇓S	**Sn**		**18 09 14.8**	**-5.5**
	0.9nm,0.7s,baz=235,slow=23							
MMAI	**Mount Meron Ar**	**12.88**	**236**	LR	LR		18 11 52.0	
	comp=Z,21nm,19.8s,baz=301,slow=35							
BVAR	**Borovoye Array**	**19.33**	**44**	P	**P**		**18 08 46.5**	**+0.3**
	baz=249,slow=11,SNR=7.2							
	0.4nm,0.3s							
KURBB	**Kurchatov Arra**	**23.16**	**55**	P	**P**		**18 09 28.0**	**+0.6**
	1.3nm,0.2s,baz=260,slow=10,SNR=2.0							
	1.3nm,0.2s							
FINES	**FINESS Array B**	**24.58**	**334**	P	**P**		**18 09 40.1**	**-0.6**
	1.0nm,0.5s,baz=131,slow=10,SNR=11							
	1.0nm,0.5s							
MKAR	**Makanchi Array**	**25.17**	**65**	P	**P**		**18 09 46.2**	**-0.2**
	0.3nm,0.5s,baz=257,slow=8.9,SNR=2.4							
	0.3nm,0.5s							
HFS	**Hagfors**	**28.68**	**324**	P	**P**		**18 10 16.6**	**-1.1**
	1.6nm,0.8s,baz=101,slow=7.6,SNR=2.1							
	1.6nm,0.8s							
ARCES	**ARCESS Array B**	**31.08**	**345**	P	**P**		**18 10 38.1**	**-0.7**
	4.7nm,1.0s,baz=145,slow=9.8,SNR=2.0							
	4.7nm,1.0s							
SPITS	**Spitsbergen Ar**	**39.56**	**350**	P	**P**		**18 11 52.3**	**+0.7**
	14nm,1.0s,baz=137,slow=11,SNR=2.8							
	14nm,1.0s							
JNU	**Nakatsue**	**64.19**	**68**	LR	LR		18 47 13.9	
	comp=Z,29nm,19.0s,baz=150,slow=40							

*SNET **25** 18:19:16.0±0.8, 13.°11N×89.°62W, h30km±19km, ML3.7*
*GCG **25** 18:19:16.1±0.5, 13.°25N×89.°80W, h122km±20km, MD3.7*
*CATAC **25** 18:19:17.3±1.0, 13.°23N×89.°56W, h25km±4km, ML3.6*
ISC 25 18:19:15.8±1.7, 13.°16N±0.°08×89.°62W±0.°04, h27km±14km, n57, σ0°59/66, 11D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
LALI	**Alcalda de L**	**0.44**	**42**	⇓*i*P	**Pn**		**18 19 26.4**	**-0.1**
LALI				*e*S	**Sn**		**18 19 34.2**	**+0.8**
LALI	**Alcalda de L**	**0.44**	**42**	*i*P	**Pn**		**18 19 26.3**	**-0.1**
LALI				IAML			18 19 26.6	
	comp=Z,550nm,1.0s							
JAYA	**Jayaque - finc**	**0.52**	**19**	⇓*i*P	**Pn**		**18 19 27.6**	**-0.1**
JAYA				*e*S	**Sn**		**18 19 37.1**	**+1.3**
JAYA	**Jayaque - finc**	**0.52**	**19**	*i*P	**Pn**		**18 19 27.6**	**-0.1**
JAYA				IAML			18 19 27.8	
	comp=Z,5μm,1.0s							
ITCA	**Escuela Especi**	**0.61**	**33**	*i*P	**Pn**		**18 19 28.9**	**0.0**
ITCA				IAML			18 19 29.0	
	comp=Z,4μm,1.0s							
PANCS	**Alcalda de**	**0.62**	**44**	*i*P	**Pn**		**18 19 28.6**	**-0.4**
PANCS				IAML			18 19 39.1	
	comp=Z,6μm,1.0s							
PMON	**Piamonte**	**0.62**	**29**	*i*P	**Pn**		**18 19 29.1**	**0.0**
PMON				IAML			18 19 43.0	
	comp=Z,3μm,1.0s							
SNET	**Serv Nac Est T**	**0.65**	**36**	⇓*i*P	**Pn**		**18 19 29.3**	**-0.1**
SNET	**Serv Nac Est T**	**0.65**	**36**	*i*P	**Pn**		**18 19 29.3**	**-0.1**
SNET				IAML			18 19 44.0	
	comp=Z,6μm,1.0s							
LOMA	**Loma Larga**	**0.65**	**42**	⇓*i*P	**Pn**		**18 19 29.4**	**-0.1**
LOMA				IAML			18 19 29.9	
	comp=Z,3μm,0.2s							
LOMA	**Loma Larga**	**0.65**	**42**	*i*P	**Pn**		**18 19 29.4**	**-0.1**
LOMA				IAML			18 19 29.6	
	comp=Z,3μm,1.0s							
BOQS	**Boqueron**	**0.66**	**30**	⇓*e*P	**Pn**		**18 19 29.8**	**+0.1**
CEVE	**Cerro Verde**	**0.66**	**360**	⇓*e*P	**Pn**		**18 19 30.0**	**+0.2**
CEVE				IAML			18 19 45.0	
	comp=Z,3μm,0.3s							
CEVE	**Cerro Verde**	**0.66**	**360**	*i*P	**Pn**		**18 19 30.0**	**+0.2**
CEVE				IAML			18 19 45.0	
	comp=Z,3μm,1.0s							
SBLS	**San Blas**	**0.68**	**360**	⇓*e*P	**Pn**		**18 19 30.1**	**+0.2**
UTEC	**Universidad Te**	**0.68**	**37**	*i*P	**Pn**		**18 19 29.8**	**+0.1**
UTEC				IAML			18 19 29.9	
	comp=Z,5μm,1.0s							
PIC2	**El Picacho**	**0.68**	**32**	*e*P	**Pn**		**18 19 30.1**	**+0.2**
SNJE	**San Jose**	**0.70**	**1**	⇓*e*P	**Pn**		**18 19 30.4**	**+0.2**
IGN	**Direccin Gen**	**0.70**	**39**	*i*P	**Pn**		**18 19 30.3**	**+0.2**
IGN				IAML			18 19 30.4	
	comp=Z,12μm,1.0s							
LFRS	**El Faro**	**0.71**	**50**	*e*P	**Pn**		**18 19 30.2**	**-0.1**
UDBS	**Universidad Do**	**0.71**	**39**	*i*P	**Pn**		**18 19 30.4**	**+0.1**
UDBS				IAML			18 19 42.7	
	comp=Z,4μm,1.0s							
RTR	**El Retiro**	**0.73**	**358**	*e*P	**Pn**		**18 19 30.9**	**+0.3**
SJTE	**Alcalda de S**	**0.75**	**53**	⇓*e*P	**Pn**		**18 19 30.6**	**-0.2**
SJTE	**Alcalda de S**	**0.75**	**53**	*i*P	**Pn**		**18 19 30.7**	**-0.1**
SJTE				IAML			18 19 30.8	
	comp=Z,3μm,1.0s							
QUEZ	**Alcaldia de Qu**	**0.75**	**27**	*i*P	**Pn**		**18 19 31.3**	**+0.5**
QUEZ				IAML			18 19 31.3	
	comp=Z,6μm,1.0s							
NUBE	**Las Nubes**	**0.75**	**348**	⇓*i*P	**Pn**		**18 19 30.9**	**-0.1**
NUBE				*e*S	**Sn**		**18 19 42.1**	**+0.6**
NUBE	**Las Nubes**	**0.75**	**348**	*i*P	**Pn**		**18 19 30.8**	**-0.1**
NUBE				IAML			18 19 31.1	
	comp=Z,2μm,1.0s							
LFU	**La Fuente**	**0.77**	**40**	*e*P	**Pn**		**18 19 31.3**	**+0.3**
UNIC	**Universidad Ca**	**0.82**	**5**	*i*P	**Pn**		**18 19 32.3**	**+0.6**
UNIC				IAML			18 19 32.8	
	comp=Z,410nm,1.0s							
LOAL	**Lomas de Alarc**	**0.85**	**350**	*i*P	**Pb**		**18 19 32.7**	**+0.7**
LOAL				IAML			18 19 54.9	
	comp=Z,3μm,1.0s							
COEG	**Centro de Oper**	**0.85**	**58**	*e*P	**Pb**		**18 19 32.0**	**-0.1**
COEG				IAML			18 19 45.9	
	comp=Z,2μm,0.3s							
COEG	**Centro de Oper**	**0.85**	**58**	*i*P	**Pb**		**18 19 32.0**	**-0.1**
COEG				IAML			18 19 48.2	
	comp=Z,2μm,1.0s							
PAVA	**Las Pavas**	**0.86**	**50**	⇓*i*P	**Pb**		**18 19 32.8**	**+0.4**
PAVA	**Las Pavas**	**0.86**	**50**	*i*P	**Pb**		**18 19 32.7**	**+0.4**
PAVA				IAML			18 19 32.9	
	comp=Z,10μm,1.0s							
SLOZ	**Alcaldia de Sa**	**0.88**	**350**	*e*P	**Pb**		**18 19 32.8**	**+0.4**
TECO	**Alcaldia de Te**	**0.90**	**65**	*e*P	**Pn**		**18 19 32.1**	**-0.7**
TECO	**Alcaldia de Te**	**0.90**	**65**	*i*P	**Pb**		**18 19 32.9**	**0.0**
TECO				*i*S	**Sn**		**18 19 44.4**	**-0.6**
TECO				IAML			18 19 49.4	
	comp=Z,770nm,1.0s							
UESV	**Universidad de**	**0.94**	**60**	*i*P	**Pb**		**18 19 33.1**	**-0.4**
UESV				IAML			18 19 48.3	
	comp=Z,860nm,1.0s							
SCLA	**Alcaldia de Sa**	**1.02**	**58**	*e*P	**Pb**		**18 19 34.6**	**-0.3**
SCLA	**Alcaldia de Sa**	**1.02**	**58**	*i*P	**Pb**		**18 19 34.7**	**-0.3**
SCLA				IAML			18 19 59.8	
	comp=Z,460nm,1.0s							
ALJI	**Alcalda de J**	**1.04**	**81**	*i*P	**Pb**		**18 19 36.1**	**+0.9**
ALJI				IAML			18 19 40.7	
	comp=Z,900nm,1.0s							
PQSS	**Presa 15 de Se**	**1.13**	**66**	*e*P	**Pn**		**18 19 35.6**	**-0.3**
PQSS	**Presa 15 de Se**	**1.13**	**66**	*i*P	**Pn**		**18 19 35.9**	**0.0**
PQSS				*i*S	**Sb**		**18 19 50.9**	**-0.2**
PQSS				IAML			18 19 52.5	
	comp=Z,670nm,1.0s							
LLGN	**La Laguna**	**1.20**	**33**	*i*P	**Pb**		**18 19 37.5**	**-0.4**
LLGN				IAML			18 19 56.3	
	comp=Z,480nm,1.0s							
PACA	**Pacayal**	**1.30**	**76**	*e*P	**Pn**		**18 19 38.5**	**+0.2**
PACA	**Pacayal**	**1.30**	**76**	*i*P	**Pn**		**18 19 38.6**	**+0.2**
PACA				IAML			18 20 00.5	
	comp=Z,7μm,1.0s							
RANC	**El Ranchito**	**1.33**	**78**	*i*P	**Pn**		**18 19 38.9**	**+0.1**
RANC				IAML			18 20 01.7	
	comp=Z,890nm,1.0s							
BLLM	**Bellamira**	**1.38**	**78**	*e*P	**Pn**		**18 19 39.3**	**-0.1**
ESQI	**Esquipulas**	**1.42**	**11**	*i*P	**Pb**		**18 19 40.2**	**-1.5**
ESQI				IAML			18 20 25.4	
	comp=Z,450nm,1.0s							
NBG	**Las Nubes**	**1.58**	**334**	*e*P	**Pb**		**18 19

comp=Z,133nm,21.5s,baz=96,slow=31
TEIG Tepich 49.96 290 LR LR 18 51 13.8
comp=Z,369nm,21.7s,slow=34
SCHQ Schefferville 51.98 339 LR LR 18 51 60.0
comp=Z,35nm,19.1s,baz=94,slow=33
T47A Sharon Grove 52.88 311 P P 18 32 18.9 -3.6
T47A IAmb IAmb 18 32 27.5
comp=Z,19nm,1.1s
DAVOX Davos/Dischmat 56.17 38 LR LR 18 53 08.8
comp=Z,113nm,21.4s,baz=259,slow=32
E43A Lone Tree Farm 56.55 321 P **P** **18 32 47.7 -1.3**
WLAR White Oak Lake 56.62 305 P **P** **18 32 49.9 +0.3**
PLCA Paso Flores 57.01 209 LR LR 18 57 49.8
comp=Z,63nm,18.2s,baz=24,slow=36
S39A Bolivar 57.80 310 P **P** **18 32 59.5 +1.4**
S39A IAmb IAmb 18 33 01.8
comp=Z,18nm,1.5s
GERES GERESS Array B 59.40 37 LR LR 18 55 30.3
comp=Z,24nm,21.9s,baz=259,slow=33
FRB Frobisher Bay 59.71 345 LR LR 18 54 43.2
comp=Z,40nm,21.7s,baz=210,slow=32
BRDY Brady 61.04 301 P **P** **18 33 20.5 0.0**
BRDY IAmb IAmb 18 33 22.5
comp=Z,11nm,1.4s
TSUM Tsumeb 61.18 117 LR LR 18 53 45.4
comp=Z,153nm,20.6s,baz=302,slow=30
VRAC Vranov 61.32 38 LR LR 18 56 15.3
comp=Z,54nm,21.9s,baz=260,slow=32
ULM Lac du Bonnet 63.53 323 P **P** **18 33 36.9 0.0**
ULM Lac du Bonnet 63.53 323 P **P** **18 33 36.0 -0.9**
comp=Z,8.9nm,1.2s,baz=79,slow=8.8,SNR=5.1
comp=Z,8.9nm,1.2s
SAND Sanderson 63.54 299 P **P** **18 33 38.4 +0.9**
SAND IAmb IAmb 18 33 41.2
comp=Z,7.6nm,1.3s
NOA NORSAR Array B 64.16 24 LR LR 18 59 40.1
comp=Z,22nm,18.4s,baz=355,slow=34
HFS Hagfors 64.72 26 P **P** **18 33 44.9 +0.5**
comp=Z,2.1nm,0.9s,baz=238,slow=14,SNR=2.0
HFS LR LR 18 57 34.3
comp=Z,26nm,19.7s,baz=246,slow=32
comp=Z,2.1nm,0.9s
TXAR Lajitas Array 64.82 299 P **P** **18 33 46.2 +0.4**
comp=Z,0.7nm,0.7s,baz=102,slow=5.8,SNR=6.2
TXAR LR LR 19 02 31.0
comp=Z,8.4nm,19.9s,baz=28,slow=36
comp=Z,0.7nm,0.7s
MLR Muntele Rosu 66.18 44 LR LR 19 03 55.0
comp=Z,31nm,18.1s,baz=296,slow=37
ISCO Idaho Springs 67.64 310 P P 18 34 00.9 -3.1
ISCO IAmb IAmb 18 34 08.1
comp=Z,4.7nm,1.1s
ANMO Albuquerque 67.70 304 LR LR 19 00 34.9
comp=Z,110nm,20.8s,baz=184,slow=33
FFC Flin Flon 68.51 326 P **P** **18 34 09.0 +0.1**
AKASG Malin Array Be 69.50 39 P **P** **18 34 15.2 +0.2**
comp=Z,0.1nm,0.3s,baz=258,slow=7.1,SNR=4.5
AKASG LR LR 19 02 23.2
comp=Z,42nm,20.4s,baz=230,slow=34
comp=Z,0.1nm,0.3s
LSZ Lusaka 69.64 110 LR LR 18 59 06.5
comp=Z,66nm,19.7s,baz=313,slow=31
LBTB Lobatse 70.15 120 LR LR 18 59 51.4
comp=Z,107nm,19.2s,baz=264,slow=32
BRTR Keskin Array B 70.85 51 P **P** **18 34 24.2 +0.4**
comp=Z,0.9nm,0.8s,baz=305,slow=4.4,SNR=5.0
BRTR LR LR 19 05 50.6
comp=Z,27nm,21.5s,baz=279,slow=36
comp=Z,0.9nm,0.8s
PDAR Pinedale Array 70.97 312 P **P** **18 34 25.6 +1.1**
comp=Z,0.9nm,1.0s,baz=104,slow=6.3,SNR=5.3
PDAR LR LR 19 01 43.7
comp=Z,87nm,21.9s,baz=114,slow=33
comp=Z,0.9nm,1.0s
RLMT Red Lodge 71.06 315 P **P** **18 34 26.6 +1.6**
RLMT IAmb IAmb 18 34 35.8
comp=Z,12nm,1.4s
BOSA Boshof 71.08 124 LR LR 18 58 11.9
comp=Z,60nm,21.9s,baz=272,slow=30
P18A Preston Nutter 71.16 309 P **P** **18 34 25.6 -0.2**
P18A IAmb IAmb 18 34 30.1
comp=Z,9.8nm,1.3s
EIL Elat 71.34 61 LR LR 19 06 12.0
comp=Z,54nm,19.1s,baz=246,slow=36
YMP Mirror Lake Pl 71.64 314 P **P** **18 34 30.2 +1.6**
YMP IAmb IAmb 18 34 39.5
comp=Z,9.1nm,1.2s
BSUT Blindstream Ca 71.64 310 P **P** **18 34 30.3 +1.5**
BSUT IAmb IAmb 18 34 32.2
comp=Z,14nm,1.4s
X16A Lo Mia Camp, P 71.76 303 P **P** **18 34 30.3 +0.8**
X16A IAmb IAmb 18 34 33.4
comp=Z,8.9nm,1.3s
LKWY Lake 71.79 314 P **P** **18 34 30.3 +0.9**
LKWY IAmb IAmb 18 34 36.9
comp=Z,7.2nm,1.4s
LOHW Long Hollow 71.83 313 P **P** **18 34 29.8 +0.1**
LOHW IAmb IAmb 18 34 33.9
comp=Z,11nm,1.4s
MMAI Mount Meron Ar 71.83 58 LR LR 19 07 39.2
comp=Z,31nm,19.0s,baz=212,slow=37
MOOW Moose Ponds 71.94 313 P **P** **18 34 30.6 +0.2**
MOOW IAmb IAmb 18 34 47.4
comp=Z,6.3nm,1.4s
FLWY Flagg Ranch 71.95 314 IAmb IAmb 18 34 42.4
comp=Z,11nm,1.2s
TPAW Teton Pass 72.06 313 IAmb IAmb 18 34 34.0
comp=Z,10nm,1.2s
FXWY Fox Creek 72.14 313 IAmb IAmb 18 34 48.6
comp=Z,11nm,1.5s
HWUT Hardware Ranch 72.34 311 IAmb IAmb 18 34 39.2
comp=Z,6.6nm,0.9s
BOZ Bozeman (W) 72.77 315 P **P** **18 34 36.8 +1.6**
ASF Jabal al Asfar 73.07 59 LR LR 19 06 03.2
comp=Z,14nm,21.6s,baz=243,slow=35
LODK Lodwar 73.16 89 P **P** **18 34 38.6 +0.7**
DUG Dugway, Tooele 73.17 309 P **P** **18 34 37.9 +0.2**
DUG IAmb IAmb 18 34 48.9
comp=Z,9.2nm,1.4s
HVU Hansel Valley 73.25 311 IAmb IAmb 18 34 41.9
comp=Z,8.9nm,1.4s
BGU Big Grassy Mou 73.39 310 IAmb IAmb 18 34 42.3
comp=Z,15nm,1.4s
ARCES ARCESS Array B 73.43 19 LR LR 19 02 27.8
comp=Z,16nm,19.9s,baz=90,slow=32
RES Resolute Bay 73.84 347 IAmb IAmb 18 34 51.1
comp=Z,7.6nm,1.2s
EDM Edmonton 74.76 323 P **P** **18 34 47.4 +0.8**
EDM IAmb IAmb 18 34 50.5
comp=Z,9.3nm,1.1s
ELK Elko 75.05 310 LR LR 19 04 16.6
comp=Z,77nm,21.8s,baz=102,slow=33
PFO Pinyon Flats O 75.91 303 LR LR 19 08 36.8
comp=Z,44nm,18.0s,baz=186,slow=36
QSM Queen of Sheba 76.24 305 IAmb IAmb 18 35 02.6
comp=Z,5.7nm,1.1s
BMN Battle Mountai 76.55 310 IAmb IAmb 18 35 02.1
comp=Z,6.2nm,1.1s
YKA Yellowknife Ar 76.67 332 P **P** **18 34 57.6 +0.4**
comp=Z,2.4nm,1.1s,baz=94,slow=5.8,SNR=16
YKA LR LR 19 04 53.3
comp=Z,40nm,21.5s,baz=301,slow=33
comp=Z,2.4nm,1.1s
NEW Newport 76.73 318 LR LR 19 07 22.6
comp=Z,26nm,18.8s,baz=108,slow=35
DSP Deep Springs 77.12 306 IAmb IAmb 18 35 05.2
comp=Z,6.4nm,1.2s
RPN Rapa Nui 77.25 240 LR LR 19 06 28.6
comp=Z,49nm,19.1s,baz=103,slow=34
NVAR Mina Array Bea 77.38 308 P **P** **18 35 03.8 +1.8**
comp=Z,0.8nm,0.8s,baz=117,slow=5.6,SNR=6.4
NVAR LR LR 19 05 53.6
comp=Z,37nm,21.7s,baz=50,slow=33
comp=Z,0.8nm,0.8s
LHV Little Huntoon 77.54 307 IAmb IAmb 18 35 14.3
comp=Z,13nm,1.3s
KBZ Khabaz 77.98 47 P **P** **18 35 06.1 +1.2**
comp=Z,2.3nm,0.9s,baz=298,slow=5.3,SNR=6.2
comp=Z,2.3nm,0.9s
GNI Garni 79.39 51 LR LR 19 11 52.2
comp=Z,14nm,19.5s,baz=244,slow=37
BELG Belogornoye 81.06 38 LR LR 19 10 04.2
comp=Z,11nm,19.0s,baz=3.4,slow=35
KIRV Kirov 81.89 32 LR LR 19 10 23.7
comp=Z,28nm,19.5s,baz=303,slow=35
INK Inuvik 84.58 338 LR LR 19 11 26.6
comp=Z,68nm,18.6s,baz=235,slow=34
M31M Drury Creek, Y 85.87 332 IAmb IAmb 18 35 57.5
comp=Z,9.1nm,0.9s
GEYT Alibeck 89.97 52 LR LR 19 18 40.7
comp=Z,15nm,21.1s,baz=240,slow=37
ILAR Eielson Array 90.62 336 P **P** **18 36 10.3 +1.6**
comp=Z,0.4nm,0.8s,baz=63,slow=4.2,SNR=3.4
comp=Z,0.4nm,0.8s
BVAR Borovoye Array 94.51 35 LR LR 19 19 10.4
comp=Z,31nm,18.6s,baz=262,slow=36
KDAK Kodiak Island 95.87 331 LR LR 19 17 13.7
comp=Z,30nm,19.5s,baz=101,slow=34

*IDC **25** 18:53:57.2±0.8,48.°17N×159.°28E, h0km, mb3.7/9, mbtmp3.8/12, ML3.2/2, MS2.2/2, Error ellipse: s-maj=24.9km s-min=18.5km az=153.0*
*MOS **25** 18:53:58.7±0.8,48.°38N×159.°34E, h21km, mb4.2/6, Error ellipse: s-maj=17.8km s-min=4.0km az=95.6*
*KRSC **25** 18:53:59.2±1.7,48.°61N×159.°44E, h22km±46km, Ml4.4*
ISC 25 18:54:00.1±0.8,48.°46N±0.°08×159.°29E±0.°07, h10km, n84, σ1.28/101, mb3.8/15, 3C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.03**	**318**	*eP*	**Pn**	**18 54 47.4**	**-0.8**
SKR				*eS*	**Sn**	**18 55 23.0**	**-1.5**
SKR				pmax	pmax		
	comp=Z,236nm,0.3s						
SKR				smax	smax		
	comp=N,1μm,0.5s						
SKR				smax	smax		
	comp=E,1μm,0.5s						
SKR	**Severo-Kuril's**	**3.03**	**318**	*eP*	**Pn**	**18 54 47.3**	**-0.8**
SKR				*eS*	**Sn**	**18 55 23.0**	**-1.5**
PAU	**Pauzhetka**	**3.41**	**333**	P	**Pn**	**18 54 54.6**	**+1.4**
PAU				S	**Sn**	**18 55 34.9**	**+1.2**
PAU	**Pauzhetka**	**3.41**	**333**	*eP*	**Pn**	**18 54 54.6**	**+1.4**
PAU				*eS*	**Sn**	**18 55 34.9**	**+1.2**
KDTR	**Khodutka, Kamc**	**3.44**	**347**	P	**Pn**	**18 54 53.3**	**-0.4**
KDTR				S	**Sn**	**18 55 32.4**	**-2.0**
KDTR	**Khodutka, Kamc**	**3.44**	**347**	*eP*	**Pn**	**18 54 53.3**	**-0.4**
KDTR				*eS*	**Sn**	**18 55 32.4**	**-2.0**
RUS	**Russkaya**	**4.00**	**353**	P	**Pn**	**18 55 01.3**	**-0.2**
RUS				S	**Sn**	**18 55 46.8**	**-1.6**
RUS	**Russkaya**	**4.00**	**353**	*eP*	**Pn**	**18 55 01.3**	**-0.2**
RUS				*eS*	**Sn**	**18 55 46.8**	**-1.6**
ASAK	**Asacha**	**4.02**	**348**	P	**Pn**	**18 55 01.8**	**0.0**
ASAK				S	**Sn**	**18 55 48.8**	**-0.2**
ASAK	**Asacha**	**4.02**	**348**	*eP*	**Pn**	**18 55 01.8**	**0.0**
ASAK				*eS*	**Sn**	**18 55 48.8**	**-0.2**
MTVR	**Mutnovka**	**4.09**	**350**	P	**Pn**	**18 55 02.8**	**+0.1**
MTVR				S	**Sn**	**18 55 49.5**	**-1.2**
MTVR	**Mutnovka**	**4.09**	**350**	*eP*	**Pn**	**18 55 02.8**	**+0.1**
MTVR				*eS*	**Sn**	**18 55 49.5**	**-1.2**
KRMR	**Karymshinskiy**	**4.43**	**351**	P	**Pn**	**18 55 07.9**	**+0.6**
KRMR				S	**Sn**	**18 55 59.7**	**+0.8**
KRMR	**Karymshinskiy**	**4.43**	**351**	*eP*	**Pn**	**18 55 07.9**	**+0.6**
KRMR				*eS*	**Sn**	**18 55 59.7**	**+0.8**
PET	**Petropavlovsk**	**4.58**	**355**	*eP*	**Pn**	**18 55 09.4**	**0.0**
PET				*eS*	**Sn**	**18 56 01.0**	**-1.6**
PET				pmax	pmax		
	comp=Z,98nm,0.4s						
PET				smax	smax		
	comp=E,52nm,0.4s						
PET				smax	smax		
	comp=N,100nm,0.5s						
PET	**Petropavlovsk**	**4.58**	**355**	*eP*	**Pn**	**18 55 09.7**	**+0.3**
PET				*eS*	**Sn**	**18 56 01.1**	**-1.6**
DALK	**Dalny**	**4.59**	**356**	P	**Pn**	**18 55 09.6**	**+0.2**
DALK				S	**Sn**	**18 56 01.6**	**-1.1**
DALK	**Dalny**	**4.59**	**356**	*eP*	**Pn**	**18 55 09.6**	**+0.2**
DALK				*eS*	**Sn**	**18 56 01.6**	**-1.1**
SPN	**Mys Shipunski**	**4.66**	**5**	P	**Pn**	**18 55 10.5**	**0.0**
SPN	**Mys Shipunski**	**4.66**	**5**	*eP*	**Pn**	**18 55 10.5**	**0.0**
APC	**Apacha**	**4.67**	**344**	P	**Pn**	**18 55 11.5**	**+0.9**
APC	**Apacha**	**4.67**	**344**	*eP*	**Pn**	**18 55 11.5**	**+0.9**
NLC	**Nalytchevo**	**4.71**	**0**	P	**Pn**	**18 55 10.8**	**-0.4**
NLC				S	**Sn**	**18 56 03.7**	**-2.1**
NLC	**Nalytchevo**	**4.71**	**0**	*eP*	**Pn**	**18 55 10.8**	**-0.4**
NLC				*eS*	**Sn**	**18 56 03.7**	**-2.1**
PEA0B	**Petropavlovsk-**	**4.76**	**348**	*i P*	**Pn**	**18 55 12.6**	**+0.8**
PETK	**Petropavlovsk-**	**4.76**	**348**	Pn	**Pn**	**18 55 12.1**	**+0.3**
	comp=N,5.5nm,0.3s,baz=107,slow=32,SNR=114						
PETK				Sn	**Sn**	**18 56 10.3**	**+3.2**
	comp=N,1.3nm,0.3s,baz=100,slow=41,SNR=1.5						
PETK				LR	LR	18 58 02.9	
	comp=N,13nm,18.3s,baz=92,slow=49						
	comp=N,10.0nm,0.5s						
SMAR	**Somma**	**4.81**	**356**	P	**Pn**	**18 55 12.8**	**0.0**
SMAR	**Somma**	**4.81**	**356**	*eP*	**Pn**	**18 55 12.8**	**0.0**
AVH	**Avacha**	**4.82**	**356**	P	**Pn**	**18 55 13.2**	**+0.5**
AVH	**Avacha**	**4.82**	**356**	*eP*	**Pn**	**18 55 13.2**	**+0.5**
KOK	**Koryaka**	**4.85**	**355**	P	**Pn**	**18 55 13.9**	**+0.7**
KOK	**Koryaka**	**4.85**	**355**	*eP*	**Pn**	**18 55 13.9**	**+0.7**
KRER	**Koryakskii**	**4.86**	**356**	P	**Pn**	**18 55 13.8**	**+0.4**
KRER	**Koryakskii**	**4.86**	**356**	*eP*	**Pn**	**18 55 13.8**	**+0.4**
KRX	**Arik**	**4.92**	**355**	P	**Pn**	**18 55 14.6**	**+0.4**
KRX	**Arik**	**4.92**	**355**	*eP*	**Pn**	**18 55 14.6**	**+0.4**
GNL	**Ganaly**	**5.31**	**351**	P	**Pn**	**18 55 21.2**	**+1.7**
GNL	**Ganaly**	**5.31**	**351**	*eP*	**Pn**	**18 55 21.2**	**+1.7**
TUMD	**Tumrok D**	**6.78**	**5**	*eP*	**Pn**	**18 55 40.4**	**+0.8**
TUMD				*eS*	**Sn**	**18 56 55.3**	**-1.6**
TUMR	**Tumrok**	**6.85**	**4**	P	**Pn**	**18 55 40.4**	**-0.2**
TUMR				S	**Sn**	**18 56 55.3**	**-3.3**
TUMR	**Tumrok**	**6.85**	**4**	*eP*	**Pn**	**18 55 42.4**	**+1.8**
KMNR	**Kamenistaya**	**7.33**	**4**	P	**Pn**	**18 55 49.1**	**+1.9**
KMNR				S	**Sn**	**18 57 10.0**	**-0.3**
KMNR	**Kamenistaya**	**7.33**	**4**	*eP*	**Pn**	**18 55 49.1**	**+1.9**
KMNR				*eS*	**Sn**	**18 57 10.0**	**-0.3**
ESO	**Esso**	**7.48**	**357**	P	**Pn**	**18 55 50.5**	**+1.3**
ESO	**Esso**	**7.48**	**357**	*eP*	**Pn**	**18 55 50.5**	**+1.3**
KIRR	**Kirishev**	**7.53**	**5**	P	**Pn**	**18 55 52.2**	**+2.2**
KIRR	**Kirishev**	**7.53**	**5**	*eP*	**Pn**	**18 55 52.2**	**+2.2**
KPT	**Kopyto**	**7.54**	**4**	P	**Pn**	**18 55 51.8**	**+1.8**
KPT	**Kopyto**	**7.54**	**4**	*eP*	**Pn**	**18 55 51.8**	**+1.8**
SRDR	**Sredinnyy**	**7.87**	**2**	P	**Pn**	**18 55 55.8**	**+1.2**
SRDR	**Sredinnyy**	**7.87**	**2**	*eP*	**Pn**	**18 55 55.8**	**+1.2**
SHEM	**Shemya Is, Ala**	**10.33**	**60**	Pn	**Pn**	**18 56 27.2**	**-1.0**
	comp=N,14nm,0.3s,baz=90,slow=23,SNR=1.2						
SHEM				Sn	Sn	18 58 16.0	-8.0
	comp=N,2.5nm,0.3s,baz=277,slow=20,SNR=1.8						
MA2	**Magadan**	**12.20**	**339**	*ceP*	**Pn**	**18 56 53.6**	**-0.1**
MA2				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MA2	**Magadan**	**12.20**	**339**	Pn	**Pn**	**18 56 53.8**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=142,slow=8.2,SNR=9.5						
MA2				LR	LR	19 02 43.8	
	comp=Z,18nm,19.4s,baz=256,slow=42						
ASAJ	**Asahikawa**	**12.34**	**256**	Pn	Pn	18 56 52.3	-3.4
	comp=Z,0.2nm,0.3s,baz=35,slow=17,SNR=2.1						
	comp=Z,4.7nm,1.0s						
SEY	**Seymchan**	**15.00**	**348**	Pn	**Pn**	**18 57 33.2**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=177,slow=23,SNR=1.8						
USA0B	**Ussuriysk Arra**	**19.29**	**267**	*i P*	**P**	**18 58 25.2**	**+0.3**
BILL	**Bilibino**	**19.95**	**8**	*i P*	**P**	**18 58 35.7**	**+3.8**
YAK	**Yakutsk**	**21.41**	**320**	*ceP*	**P**	**18 58 46.4**	**-1.4**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
TIXI	**Tiksi**	**27.17**	**339**	*ceP*	**P**	**18 59 44.1**	**+0.9**
TIXI				pmax	pmax		
	comp=Z,11nm,2.5s						
H11N2	**WAKE ISLAND Hy**	**29.32**	**165**	T	T	19 30 35.4	
	baz=350,slow=76,SNR=9.3						
H11N3	**WAKE ISLAND Hy**	**29.33**	**165**	T	T	19 30 33.9	
	baz=350,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**29.33**	**165**	T	T	19 30 30.8	
	baz=350,slow=76,SNR=9.8						
XLT	**XiLinHaoTe**	**29.96**	**278**	*eP*	**P**	**19 00 07.3**	**-1.2**
XLT				pP	sP	19 00 15.8	+5.3
XLT				sP	pwP	19 00 19.8	+2.7
XLT				PP	**PnPn**	**19 01 00.5**	**-4.2**
XLT				pmax	pmax		
	comp=Z,10.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,67nm,4.9s						
H11S1	**WAKE ISLAND Hy**	**30.48**	**166**	T	T	19 31 56.3	
	baz=350,slow=76,SNR=9.8						
H11S3	**WAKE ISLAND Hy**	**30.49**	**166**	T	T	19 31 59.1	
	baz=350,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**30.50**	**166**	T	T	19 31 58.0	
	baz=350,slow=76,SNR=9.1						
ULN	**Ulaanbaatar**	**34.29**	**289**	*i P*	**P**	**19 00 46.3**	**-0.2**
ULN				pmax	pmax		
	comp=Z,5.0nm,2.3s						
YKA	**Yellowknife Ar**	**47.00**	**39**	*i P*	**P**	**19 02 30.7**	**-0.2**
YKA	**Yellowknife Ar**	**47.00**	**39**	P	**P**	**19 02 31.9**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=293,slow=7.9,SNR=7.3						
	comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**49.83**	**299**	P	**P**	**19 02 52.3**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=53,slow=6.4,SNR=5.6						
	comp=Z,0.4nm,0.7s						
KURK	**Kurchatov**	**49.86**	**305**	P	**P**	**19 02 53.9**	**+0.8**
KURBB	**Kurchatov Arra**	**49.96**	**305**	P	**P**	**19 02 53.9**	**0.0**
	comp=Z,1.2nm,0.6s,baz=65,slow=7.5,SNR=5.3						
	comp=Z,1.2nm,0.6s						
BVAR	**Borovoye Array**	**52.95**	**311**	P	**P**	**19 03 16.4**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=52,slow=7.5,SNR=5.9						
	comp=Z,0.7nm,0.6s						
BRVK	**Borovoye**	**52.99**	**311**	*i P*	**P**	**19 03 16.8**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**56.81**	**260**	*eP*	**P**	**19 03 46.2**	**+1.5**
CMAR	**Chiang Mai Arr**	**56.81**	**260**	P	**P**	**19 03 44.1**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=33,slow=7.9,SNR=4.1						
	comp=Z,0.3nm,0.5s						
NVAR	**Mina Array Bea**	**57.92**	**67**	P	**P**	**19 03 53.0**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=282,slow=9.7,SNR=2.1						
	comp=Z,0.5nm,0.8s						
WRA	**Warramunga Arr**	**71.66**	**205**	P	P	19 05 18.4	-3.5
	comp=Z,1.0nm,0.7s,baz=21,slow=6.3,SNR=10						
	comp=Z,1.0nm,0.7s						
KIV	**Kislovodsk**	**72.49**	**317**	*eP*	**P**	**19 05 25.9**	**-0.9**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TXAR	**Lajitas Array**	**72.99**	**65**	P	**P**	**19 05 29.5**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=303,slow=3.2,SNR=6.4						
	comp=Z,0.5nm,0.6s						
ASAR	**Alice Springs**	**75.32**	**204**	P	P	19 05 40.3	-3.0
	comp=Z,0.4nm,0.7s,baz=23,slow=5.2,SNR=2.9						
	comp=Z,0.4nm,0.7s						
CLL	**Collm**	**76.50**	**339**	*eP*	**P**	**19 05 50.0**	**+0.1**
CLL	**Collm**	**76.50**	**339**	*eP*	**P**	**19 05 50.0**	**+0.1**

*NEIC **25** 18:59:33.4±2.6,38.°76N±0.°02×122.°76W±0.°03, h4km±7km, Error ellipse: s-maj=4.7km s-min=0.9km az=224.0*
NCEDC 25 18:59:33.8±1.6,38.°80N±0.°03×122.°78W±0.°03, h2km±2km, ML3.0/31, ML2.8/52(NEIC), Error ellipse: s-maj=5.6km s-min=1.1km az=223.0, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDXM	**Geysers**	**0.01**	**292**	Pg	Pg	18 59 34.2	-0.1
GCRM	**Castle Rock Sp**	**0.06**	**121**		Pg	18 59 35.1	+0.2
GGPM	**Geyser Peak**	**0.06**	**234**		Pg	18 59 35.4	+0.3
GBGM	**Boggs Mountain**	**0.08**	**81**		Pg	18 59 35.8	+0.4
GSGM	**Seigler Mounta**	**0.08**	**39**		Pg	18 59 36.0	+0.6
GPMM	**Pine Mountain**	**0.14**	**289**		Pg	18 59 37.0	+0.5
GRTM	**Round Top Moun**	**0.16**	**32**		Pg	18 59 37.1	+0.2
GRTM					Sg	18 59 40.3	+1.2
NHSM	**Mount Saint He**	**0.19**	**139**		Pg	18 59 37.7	+0.2
NMTM	**Middletown**	**0.26**	**89**		Pg	18 59 39.2	+0.4
MNRC	**McLaughlin Min**	**0.27**	**74**		Pg	18 59 40.0	+1.0
MNRC					Sb	18 59 44.8	-1.7
HOPS	**Hopland Field**	**0.30**	**310**		Pg	18 59 40.1	+0.6
HOPS				IAML		18 59 48.4	
	comp=E,2μm,0.8s						
HOPS				IAML		18 59 49.4	
	comp=N,1μm,1.1s						
HOPS	**Hopland Field**	**0.30**	**310**		Sb	18 59 45.6	-1.8
GHLM	**Highland Sprin**	**0.30**	**322**		Pg	18 59 40.0	+0.4
GDCM	**Dry Creek**	**0.36**	**265**		Pg	18 59 41.6	+0.9
GHCM	**House Creek**	**0.38**	**239**		Pg	18 59 41.9	+0.8
GBMM	**Baldy Mountain**	**0.41**	**33**		Pg	18 59 42.3	+0.7
NTYM	**Taylor**	**0.42**	**168**		Pg	18 59 42.5	+0.6
NBPM	**Berryessa Peak**	**0.48**	**106**		Pb	18 59 44.2	-0.7
CVS	**Carmenet Viney**	**0.52**	**151**		Pg	18 59 44.1	+0.4
GTSM	**Trough Springs**	**0.53**	**15**		Pb	18 59 45.0	-0.9
NAPC	**Atlas Peak**	**0.55**	**131**		Pg	18 59 44.6	+0.3
NBRB	**Beebe Ranch Br**	**0.57**	**162**		Pg	18 59 45.1	+0.5
GWRM	**Wonder Ranch**	**0.57**	**315**		Pg	18 59 45.3	+0.5
MCCM	**Marconi Confer**	**0.66**	**187**		Pb	18 59 47.5	-0.5
MCCM				IAML		18 59 57.8	
	comp=E,612nm,0.8s						
SNT	**Sears Point**	**0.67**	**158**		Pg	18 59 46.6	0.0
NDHM	**Dunnigan Hills**	**0.68**	**93**		Pb	18 59 48.9	+0.6
NADM	**Allendale**	**0.72**	**118**		Pb	18 59 49.5	+0.5
NOLM	**Olema**	**0.76**	**181**		Pb	18 59 49.3	-0.5
GCK	**Clark Valley**	**0.79**	**20**		Pn	18 59 51.5	-0.4
DCMP	**DeCamp, Califo**	**0.80**	**327**		Pg	18 59 49.5	+0.5
GTC	**Three Chop Rid**	**0.85**	**315**		Pg	18 59 50.7	+0.6
OSUM	**Sutter Buttes**	**0.86**	**57**		Pg	18 59 50.4	+0.2
SUTB	**Sutter Butte**	**0.88**	**61**		Pg	18 59 51.0	+0.3
CPMM	**Point Molate**	**0.90**	**161**		Pg	18 59 51.5	+0.4
CPIM	**Pinole Ridge**	**0.93**	**151**		Pg	18 59 51.8	+0.3
CTAM	**Taylor**	**0.98**	**142**		Pb	18 59 53.3	-0.2
BRK	**Berkeley--Havi**	**1.01**	**156**		Pg	18 59 52.9	-0.3
BL67	**Building 67, L**	**1.01**	**156**		Pg	18 59 53.4	+0.2
VAK	**Adit at Lawren**	**1.01**	**156**		Pb	18 59 53.6	-0.4
CVPM	**Vollmer Peak**	**1.02**	**154**		Pg	18 59 52.7	-0.5
BKS	**Berkeley--Byer**	**1.02**	**155**		Pg	18 59 52.9	-0.3
JPRM	**Presidio of Sa**	**1.03**	**167**		Pg	18 59 53.8	+0.2
OSTM	**Stimpson Lane**	**1.08**	**58**		Pg	18 59 53.8	-0.6
KCPM	**Cahto Peak**	**1.08**	**325**		Pn	18 59 56.1	-0.1
KCPM				IAML		19 00 17.1	
	comp=N,286nm,0.6s						
KCPM				IAML		19 00 17.8	
	comp=E,270nm,1.1s						
CRPB	**Russellman Par**	**1.12**	**142**		Pg	18 59 54.9	-0.4
BGC	**Bolinger Road**	**1.13**	**150**		Pg	18 59 54.5	-1.0
KIPM	**Iron Peak**	**1.14**	**332**		Pn	18 59 57.0	+0.1
JMGM	**Milagra Ridge**	**1.19**	**168**		Pg	18 59 56.3	-0.2
ORV	**Oroville**	**1.25**	**52**	Pg	Pg	18 59 57.3	-0.4
CMOB	**Morgan Territo**	**1.25**	**142**		Pg	18 59 56.8	-1.0
JCHM	**Cahill Ridge**	**1.32**	**166**		Pg	18 59 57.4	-1.7
CNIC	**Niles Canyon**	**1.35**	**152**		Pg	18 59 59.4	-0.3
O02D	**Mt. Diablo Mer**	**1.37**	**360**		Pb	19 00 01.2	+0.9
AFDM	**Forest Hills D**	**1.42**	**84**		Pn	18 59 58.5	-2.2
CSTL	**Corral Hollow**	**1.54**	**139**		Pn	19 00 00.2	-2.1
KMRM	**Mail Ridge**	**1.59**	**333**		Pg	19 00 06.1	+1.8
KMRM				IAML		19 00 11.0	
	comp=N,103nm

comp=E,16nm,0.9s
LHV Little Huntoon 3.40 98 Pn Pn 19 00 28.0 +0.3
LHV IAML 19 01 27.0
comp=E,31nm,0.7s
NV11 Mina Array Sit 3.64 94 Pn 19 00 31.9 +0.6
NV11 IAML 19 01 31.5
comp=N,19nm,1.8s
NV11 IAML 19 01 59.7
comp=E,16nm,4.8s
KVN Kaiserville 3.66 85 Pn Pn 19 00 31.7 +0.1

IDC ***25*** *19:07:41.1±1.2,6˚56S×130˚28E, h0km, mb3.9/5, mbtmp3.9/8, ML4.2/3, Error ellipse: s-maj=52.3km s-min=21.6km az=72.0*
DJA ***25*** *19:07:57.5±0.6,7˚S±5˚×13˚0E±˚, h179km±22km, M4.2/7, mb3.8/6, mB4.7/1, MLv4.4/7, Mw(mB)4.0/1*
ISC 25 19:07:58.3±0.7,7˚36S±0.06×129˚55E±0.07, h150km, n30, σ2§65/33, mb3.5/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.84**	**110**	P	**Pn**	**19 08 33.6**	**+2.0**
FAKI	**Fak Fak**	**5.17**	**31**	P	**Pn**	**19 09 11.1**	**-2.9**
26nm,1.2s,0.3nm							
DRS	**Darwin Rock St**	**5.21**	**165**	P	**Pn**	**19 09 15.7**	**+1.2**
MTN	**Manton Dam**	**5.67**	**164**	P	**Pn**	**19 09 22.0**	**+1.4**
SOEI	**Soe**	**5.74**	**245**	P	**Pn**	**19 09 22.2**	**+0.5**
SOEI	**Soe**	**5.74**	**245**	P	**Pn**	**19 09 22.2**	**+0.5**
21nm,1.2s,0.3nm							
KDU	**Kakadu**	**6.02**	**152**	P	**Pn**	**19 09 26.4**	**+1.1**
BATI	**Baumata**	**6.47**	**244**	Pn	**Pn**	**19 09 32.0**	**+0.7**
6.8nm,0.3s,baz=264,slow=1.9,SNR=6.6							
BATI				Sn	**Sn**	**19 10 43.7**	**-0.5**
10nm,0.3s,baz=36,slow=20,SNR=11							
15nm,0.4s							
BATI	**Baumata**	**6.47**	**244**	P	**Pn**	**19 09 31.3**	**0.0**
SWI	**Sorong**	**6.68**	**15**	P	**Pn**	**19 09 31.3**	**-2.8**
23nm,0.8s,0.1nm							
EDFI	**Ende, Flores**	**7.90**	**259**	P	**Pn**	**19 09 51.0**	**+0.4**
FITZ	**Fitzroy Crossi**	**11.33**	**199**	P	**Pn**	**19 10 34.5**	**-1.4**
0.2nm,1.2s							
PLAI	**Plampang**	**11.75**	**262**	P	**Pn**	**19 10 42.8**	**+1.4**
TOLI2	**Tolitoli**	**12.14**	**314**	P	**P**	**19 10 53.8**	**+1.0**
WRA	**Warramunga Arr**	**13.34**	**160**	Pn	**Pn**	**19 11 00.5**	**-1.5**
1.3nm,0.3s,baz=336,slow=15,SNR=40							
WRA				Sn	**Sn**	**19 13 22.7**	**-7.0**
3.3nm,0.3s,baz=339,slow=22,SNR=14							
1.4nm,0.4s							
COEN	**Coen**	**14.90**	**117**	P	**P**	**19 11 25.8**	**+2.3**
QIS	**Mount Isa**	**16.34**	**144**	P	**Pn**	**19 11 41.7**	**+2.5**
ASAR	**Alice Springs**	**16.74**	**166**	P	**Pn**	**19 11 46.5**	**+2.3**
0.6nm,0.3s,baz=337,slow=9.3,SNR=50							
ASAR				S	**S**	**19 14 42.7**	**-7.7**
1.0nm,0.5s,baz=319,slow=20,SNR=4.3							
1.5nm,0.5s							
AS01	**Alice Springs**	**16.75**	**166**	P	**Pn**	**19 11 46.1**	**+1.8**
4.2nm,0.7s							
PSA00	**Pilbara Seismi**	**16.95**	**213**	P	**Pn**	**19 11 48.0**	**+1.3**
21nm,1.1s							
WRKA	**Warakurna**	**17.62**	**184**	P	**Pn**	**19 11 55.8**	**+1.1**
OOD	**Oodnadatta**	**21.14**	**165**	P	**P**	**19 12 34.6**	**+3.2**
MULG	**Mulgathing**	**23.19**	**170**	P	**P**	**19 12 54.5**	**+2.7**
FORT	**Forrest**	**23.34**	**183**	P	**P**	**19 12 56.1**	**+2.9**
LCRK	**Leigh Creek**	**24.36**	**162**	P	**P**	**19 13 06.3**	**+3.8**
STKA	**Stephens Creek**	**26.85**	**157**	P	**P**	**19 13 26.7**	**+1.7**
2.8nm,0.9s,baz=349,slow=10,SNR=1.9							
2.8nm,0.9s							
MKAR	**Makanchi Array**	**68.28**	**327**	P	**P**	**19 18 42.8**	**-0.3**
0.5nm,0.4s,baz=131,slow=6.6,SNR=16							
0.5nm,0.4s							
ZALV	**Zalesovo Beam**	**71.71**	**334**	P	**P**	**19 19 02.5**	**-1.2**
0.3nm,0.4s,baz=115,slow=5.4,SNR=2.1							
0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**72.58**	**329**	P	**P**	**19 19 08.3**	**-0.7**
0.4nm,0.4s,baz=110,slow=4.1,SNR=5.3							
0.4nm,0.4s							
BVAR	**Borovoye Array**	**78.13**	**328**	P	**P**	**19 19 40.1**	**-0.6**
0.5nm,0.8s,baz=131,slow=4.4,SNR=2.7							
0.5nm,0.8s							

IDC ***25*** *20:01:02.1±1.2,5˚95S×142˚91E, h0km, mb3.8/4, mbtmp3.8/6, ML1.5/1, Error ellipse: s-maj=43.7km s-min=30.1km az=73.0*
ISC 25 20:01:06.6±1.0,6˚2S±0.1×142˚9E±0.1, h35km, n7, σ2§11/8, mb3.8/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.26**	**127**	Pn	**Pn**	**20 02 25.0**	**+2.2**
1.0nm,0.3s,baz=166,slow=23,SNR=1.9							
PMG				Sn	**Sn**	**20 03 19.7**	**-2.5**
2.2nm,0.3s,baz=45,slow=4.6,SNR=2.5							
5.3nm,0.5s							
WRA	**Warramunga Ar**	**15.98**	**211**	Pn	**Pn**	**20 04 46.7**	**-2.2**
0.3nm,0.3s,baz=28,slow=14,SNR=17							
ASAR	**Alice Springs**	**19.39**	**206**	P	**P**	**20 05 31.9**	**+2.2**
2.0nm,0.6s,baz=33,slow=8.7,SNR=26							
MKAR	**Makanchi Array**	**75.12**	**322**	P	**P**	**20 12 45.5**	**+0.3**
0.4nm,0.7s,baz=108,slow=7.8,SNR=3.8							
0.4nm,0.7s							
KURBB	**Kurchatov Arra**	**79.01**	**324**	P	**P**	**20 13 07.5**	**+0.6**
0.1nm,0.3s,baz=107,slow=4.2,SNR=3.9							
0.1nm,0.3s							
BVAR	**Borovoye Array**	**84.58**	**325**	P	**P**	**20 13 35.7**	**-0.6**
1.5nm,0.7s,baz=90,slow=5.8,SNR=8.4							
1.5nm,0.7s							
ILAR	**Eielson Array**	**87.31**	**24**	P	**P**	**20 13 48.9**	**-0.6**
0.7nm,0.7s,baz=266,slow=4.6,SNR=8.1							
0.7nm,0.7s							

IDC 25 20:01:24.1±6.1,2˚10S×150˚07E, h0km, mb3.7/2, mbtmp3.8/2, Error ellipse: s-maj=273.8km s-min=53.1km az=110.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.81**	**202**	Sn	Sn	20 04 44.6	-3.8
1.6nm,0.3s,baz=317,slow=21,SNR=2.3							
WRA	**Warramunga Arr**	**23.46**	**220**	P	P	20 06 34.4	-1.2
1.5nm,0.4s,baz=42,slow=9.2,SNR=8.1							
1.5nm,0.4s							
ASAR	**Alice Springs**	**26.54**	**215**	P	P	20 07 04.9	+1.0
0.7nm,0.7s,baz=50,slow=8.8,SNR=7.9							
0.7nm,0.7s							
TORD	**Torodi Ar. Bea**	**146.84**	**291**	PKPbc	PKPbc	20 21 08.6	-0.9
0.2nm,0.5s,baz=92,slow=2.4,SNR=2.9							

JMA ***25*** *20:14:15.2±0.2,43˚4N±0.8×14˚0E±˚, h202km±2km, MV2.9/35, NW OFF SHAKOTAN PEN*
IDC ***25*** *20:14:16.1±10.0,43˚37N×139˚72E, h209km±156km, mb3.3/9, mbtmp3.8/10, Error ellipse: s-maj=131.4km s-min=28.0km az=175.0*
ISC 25 20:14:15.7±0.8,43˚41N±0.07×139˚59E±0.08, h201km±8km, n30, σ0§59/37, mb3.6/9, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSK	**Shakotan**	**0.65**	**95**	P	**Pn**	**20 14 43.1**	**-0.4**
JSH	**Shimam**	**0.84**	**156**	P	**Pn**	**20 14 44.1**	**-0.5**
JSH				eS	S	20 14 45.0	-0.3
JOSM	**Okushiri--Mats**	**1.33**	**184**	P	**Pn**	**20 14 48.2**	**+0.1**
JISS	**Ishikarishitsu**	**1.34**	**95**	eP	**Pn**	**20 14 47.6**	**-0.6**
JYM2	**Yakumo 2**	**1.42**	**156**	P	**Pn**	**20 14 48.6**	**-0.2**
JYM2				S	**S**	**20 15 14.2**	**+0.1**
JNB	**Noboribetsu**	**1.42**	**131**	P	**Pn**	**20 14 48.4**	**-0.5**
JNB				eS	**S**	**20 15 15.2**	**+1.1**
JEW	**Eniwo**	**1.48**	**112**	eP	**Pn**	**20 14 49.3**	**0.0**
JEW				eS	**S**	**20 15 14.8**	**-0.1**
JHR	**Hokuryu**	**1.59**	**77**	P	**Pn**	**20 14 50.1**	**-0.2**
JYG	**Yagishiri**	**1.67**	**52**	P	**Pn**	**20 14 50.2**	**-0.8**
JOMM	**Oshimamatsumae**	**1.91**	**171**	eP	**Pn**	**20 14 53.5**	**+0.1**
JSS	**Shosan**	**1.91**	**58**	P	**Pn**	**20 14 53.2**	**-0.1**
JRBN	**Rebuntou**	**2.27**	**27**	P	**Pn**	**20 14 56.6**	**-0.5**
JKK2	**Kamakawa 2**	**2.34**	**78**	P	**Pn**	**20 14 57.6**	**-0.2**
JKK2				S	**S**	**20 15 31.1**	**+1.0**
JWK2	**Keihoku**	**2.52**	**40**	P	**Pn**	**20 15 00.2**	**+0.3**
JNBK	**Urakawa-nobuka**	**2.59**	**115**	P	**Pn**	**20 14 59.9**	**-0.7**
JNBK				eS	**S**	**20 15 35.3**	**+0.4**
JSE	**Soyaes**	**2.65**	**53**	P	**Pn**	**20 15 00.8**	**-0.5**
JCH	**Churui**	**2.88**	**105**	P	**Pn**	**20 15 04.8**	**+0.8**
JAR	**Ashorobuto**	**3.05**	**91**	P	**Pn**	**20 15 05.4**	**-0.6**
JAR				eS	**S**	**20 15 44.8**	**+0.2**
JTKR	**Abashiri--Toko**	**3.18**	**78**	eP	**Pn**	**20 15 07.5**	**0.0**
JANG	**Nango**	**3.36**	**154**	P	**Pn**	**20 15 08.4**	**-1.3**
MJAR	**Matsushiro Arr**	**6.94**	**189**	P	**Pn**	**20 15 55.8**	**+0.5**
3.0nm,0.9s,baz=4.2,slow=14,SNR=8.7							
ZALV	**Zalesovo Beam**	**36.79**	**306**	P	**P**	**20 21 03.7**	**-0.2**
0.7nm,0.4s,baz=89,slow=10,SNR=5.1							
0.7nm,0.4s							
MKAR	**Makanchi Array**	**39.82**	**295**	P	**P**	**20 21 29.3**	**+0.1**
0.1nm,0.5s,baz=74,slow=11,SNR=2.4							
0.1nm,0.5s							
KURBB	**Kurchatov Arra**	**41.19**	**302**	P	**P**	**20 21 40.4**	**0.0**
1.1nm,0.5s,baz=77,slow=9.1,SNR=8.5							
1.1nm,0.5s							
ILAR	**Eielson Array**	**44.99**	**36**	P	**P**	**20 22 09.4**	**-1.1**
0.3nm,0.7s,baz=285,slow=8.0,SNR=2.7							
0.3nm,0.7s							
BVAR	**Borovoye Array**	**45.41**	**308**	P	**P**	**20 22 14.8**	**+0.8**
1.1nm,0.3s,baz=75,slow=10,SNR=12							
1.1nm,0.3s							
ARCES	**ARCESS Array B**	**57.56**	**338**	P	**P**	**20 23 44.8**	**+1.1**
7.7nm,0.9s,baz=39,slow=7.3,SNR=2.6							
7.7nm,0.9s							
FINES	**FINESS Array B**	**62.56**	**330**	P	**P**	**20 24 17.9**	**+0.2**
0.8nm,0.4s,baz=59,slow=7.7,SNR=14							
0.8nm,0.4s							
HFS	**Hagfors**	**67.73**	**334**	P	**P**	**20 24 50.9**	**-0.1**
1.4nm,0.8s,baz=39,slow=5.7,SNR=6.6							
1.4nm,0.8s							
NOA	**NORSAR Array B**	**67.79**	**336**	P	**P**	**20 24 51.3**	**-0.1**
0.2nm,0.6s,baz=38,slow=7.9,SNR=1.1							
0.2nm,0.6s							

BJI ***25*** *20:14:45.5±0.0,6˚63S×129˚83E, h170km, mb6.1/94, mB6.3/82*
MOS ***25*** *20:14:45.1±1.0,6˚53S×129˚64E, h161km, mb6.3/74, MS5.6/10, Error ellipse: s-maj=8.4km s-min=4.8km az=110.0*
NEIC ***25*** *20:14:46.7,6˚87S×129˚81E, h190km, Moment Tensor Solution. Duration: 7§6 Moment tensor: Scale 10¹⁸Nm; Mrr=0.23; Mθθ-2.94; Mϕϕ3.16; Mrθ2.24; Mrϕ-1.04; Mθϕ3.61; Fault plane solution: M₀5.33000×10¹⁸ NP1: ϕs213.45000°, δ88.56000°, λ-52.94000°. NP2: ϕs305.36000°, δ37.08000°, λ-177.61000°. Principal axes: T 5.4664, Plg33.0000°, Azm273.0000°; N -0.2763, Plg37.0000°, Azm32.0000°; P -5.1900, Plg36.0000°, Azm155.0000°;*
NEIC ***25*** *20:14:46.7,6˚67S×129˚81E, h190km*
NEIC ***25*** *20:14:47.4,6˚67S×129˚83E, h169km*
NEIC ***25*** *20:14:47.7±2.2,6˚63S±0.05×129˚82E±0.06, h169km, mb6.1/363, Mwb6.4/50, Mww6.4/87, Error ellipse: s-maj=10.8km s-min=9.2km az=76.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr0.86; Mθθ-2.56; Mϕϕ1.70; Mrθ2.04; Mrϕ-1.64; Mθϕ3.90; Fault plane solution: M₀5.21000×10¹⁸ NP1:ϕs291.66000°, δ31.22000°, λ169.24000°. NP2:ϕs30.89000°, δ84.45000°, λ59.23000°. Principal axes: T 5.2020, Plg42.0000°, Azm272.0000°; N 0.0072, Plg31.0000°, Azm34.0000°; P -5.2092, Plg32.0000°, Azm146.0000°;*
IPGP ***25*** *20:14:47.0,6˚66S×129˚87E, h175km, Mw6.5, Fault plane solution: NP1:ϕs28.00000°, δ88.00000°, λ48.00000°. NP2:ϕs296.00000°, δ42.00000°, λ177.00000°.*
DJA ***25*** *20:14:47.3±0.2,7˚S±2˚×13˚0E±˚, h179km±2km, M6.6/108, mb6.6/108, mB6.9/107, MLv7.2/16, Mw6.4/54, Mw(mB)6.8/107, MwMwp6.3/96, Mwp6.2/96*
IDC ***25*** *20:14:48.3±0.5,6˚63S×129˚79E, h179km±3km, mb5.8/33, mbtmp6.3/35, MS5.4/29, Error ellipse: s-maj=11.4km s-min=6.8km az=72.0*
GCMT ***25*** *20:14:49.7±0.0,6˚72S×129˚84E, h182km, MW6.4/181, Moment Tensor Solution. s178,c455; s181,c767; Duration: 4§0 Moment tensor: Scale 10¹⁸Nm; Mrr0.28±.02; Mθθ-3.07±.02; Mϕϕ2.79±.03; Mrθ2.06±.02; Mθϕ-1.36±.02; Mrϕ4.11±.02; Best double couple: M₀5.61100×10¹⁸ NP1:ϕs32.00000°, δ88.00000°, λ55.00000°. NP2:ϕs299.00000°, δ35.00000°, λ177.00000°. Principal axes: T 5.8340, Plg37.0000°, Azm271.0000°; N -0.4480, Plg35.0000°, Azm33.0000°; P -5.3870, Plg34.0000°, Azm151.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 25 20:14:47.7±0.2,6˚67S±0.02×129˚74E±0.03, h180km±1km, h181km:pP-P, n2319, σ1§62/2847, mb6.1/332, 199C-82D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.02**	**130**	P	**Pn**	**20 15 24.4**	**-0.6**
SAUI	**Saumlaki**	**2.02**	**130**	Pn	**Pn**	**20 15 23.9**	**-1.1**
SAUI				Sn	**Sn**	**20 15 51.4**	**-2.6**
SAUI	**Saumlaki**	**2.02**	**130**	↑P	**Pn**	**20 15 24.1**	**-0.9**
SAUI	**Saumlaki**	**2.02**	**130**	P	**Pn**	**20 15 23.9**	**-1.1**
BNDI	**Bandanaira**	**2.14**	**4**	P	**Pn**	**20 15 27.3**	**+0.9**
BNDI	**Bandanaira**	**2.14**	**4**	↓P	**Pn**	**20 15 27.1**	**+0.7**
BNDI	**Bandanaira**	**2.14**	**4**	P	**Pn**	**20 15 26.7**	**+0.3**
NLAI	**Namlea**	**4.31**	**322**	P	**Pn**	**20 15 54.7**	**+1.9**
FAKI	**Fak Fak**	**4.49**	**34**	P	**Pn**	**20 15 54.1**	**-1.0**
FAKI	**Fak Fak**	**4.49**	**34**	Pn	**Pn**	**20 15 52.2**	**-2.9**
FAKI	**Fak Fak**	**4.49**	**34**	↑P	**Pn**	**20 15 52.1**	**-3.1**
FAKI	**Fak Fak**	**4.49**	**34**	P	**Pn**	**20 15 52.0**	**-3.1**
DRS	**Darwin Rock St**	**5.83**	**169**	P	**Pn**	**20 16 11.7**	**-0.8**
SANI	**Sanana**	**5.92**	**321**	P	**Pn**	**20 16 15.0**	**+1.3**
SANI	**Sanana**	**5.92**	**321**	P	**Pn**	**20 16 12.2**	**-1.5**
SANI				S	**Sn**	**20 17 20.9**	**-0.6**
SANI	**Sanana**	**5.92**	**321**	P	**Pn**	**20 16 15.3**	**+1.6**
16µm,0.9s,174µm440µm60nm							
SWI	**Sorong**	**5.97**	**15**	P	**Pn**	**20 16 11.4**	**-2.9**
9µm,0.6s,200µm110µm192nm							
SOEI	**Soe**	**6.22**	**240**	P	**Pn**	**20 16 18.4**	**+0.6**
SOEI	**Soe**	**6.22**	**240**	Pn	**Pn**	**20 16 17.9**	**+0.1**
SOEI	**Soe**	**6.22**	**240**	S	**Sn**	**20 17 25.5**	**-3.3**
SOEI				P	**Pn**	**20 16 13.6**	**-4.1**
SOEI	**Soe**	**6.22**	**240**	↑P	**Pn**	**20 16 16.8**	**-0.9**
SOEI	**Soe**	**6.22**	**240**	P	**Pn**	**20 16 17.8**	**0.0**
40µm,0.7s,604µm333µm817nm							
MTN	**Manton Dam**	**6.28**	**167**	P	**Pn**	**20 16 16.4**	**-2.0**
baz=6.3,SNR=1000							
MTN				S	**Sn**	**20 17 23.4**	**-6.6**
baz=6.3							
MTN	**Manton Dam**	**6.28**	**167**	P	**Pn**	**20 16 17.4**	**-1.0**
MTN	**Manton Dam**	**6.28**	**167**	Pn	**Pn**	**20 16 16.4**	**-2.0**
MTN	**Manton Dam**	**6.28**	**167**	↓P	**Pn**	**20 16 16.4**	**-2.0**
LBMI	**Labuha**	**6.40**	**339**	P	**Pn**	**20 16 20.6**	**+0.6**
29µm,1.2s,366µm169µm115nm							
KDU	**Kakadu**	**6.55**	**156**	P	**Pn**	**20 16 19.8**	**-2.2**
baz=6.6,SNR=1000							
KDU				S	**Sn**	**20 17 29.8**	**-6.7**
baz=6.6							
KDU	**Kakadu**	**6.55**	**156**	P	**Pn**	**20 16 20.8**	**-1.2**
KDU	**Kakadu**	**6.55**	**156**	↓P	**Pn**	**20 16 18.5**	**-3.5**
BATI	**Baumata**	**6.96**	**239**	P	**Pn**	**20 16 27.9**	**+0.5**
35µm,0.4s,baz=91,slow=2.3,SNR=3008							
BATI				S	**Sn**	**20 17 41.3**	**-4.8**
56µm,0.6s,baz=1.1,slow=1.2,SNR=4.1							
BATI				LR	LR	20 19 35.3	
comp=Z,51µm,18.3s,baz=108,slow=41							
BATI				ScS	**ScS**	**20 29 47.6**	**+0.5**
220nm,1.0s,baz=23,slow=22,SNR=3.1							
BATI	**Baumata**	**6.96**	**239**	P	**Pn**	**20 16 27.3**	**-0.1**
68µm,0.9s,667µm140µm349nm							
BBSI	**Bau Bau**	**7.23**	**279**	P	**Pn**	**20 16 34.1**	**+3.2**
10µm,1.2s,162µm116µm37nm							
MMRI	**Maumere**	**7.69**	**255**	P	**Pn**	**20 16 38.5**	**+1.6**
MMRI	**Maumere**	**7.69**	**255**	Pn	**Pn**	**20 16 36.9**	**-0.1**
MMRI	**Maumere**	**7.69**	**255**	↑P	**Pn**	**20 16 37.4**	**+0.5**
MMRI	**Maumere**	**7.69**	**255**	P	**Pn**	**20 16 37.0**	**+0.1**
18µm,1.1s,176µm172µm64nm							
TNTI	**Ternate**	**7.77**	**342**	P	**Pn**	**20 16 38.5**	**+0.5**
TNTI	**Ternate**	**7.77**	**342**	Pn	**Pn**	**20 16 38.2**	**+0.3**
TNTI	**Ternate**	**7.77**	**342**	↓P	**Pn**	**20 16 38.3**	**+0.4**
TNTI	**Ternate**	**7.77**	**342**	P	**Pn**	**20 16 38.4**	**+0.5**
2µm,0.9s,37µm99µm8.0nm							
EDFI	**Ende, Flores**	**8.24**	**255**	P	**Pn**	**20 16 44.4**	**+0.1**
16µm,0.7s,154µm127µm							
LUWI	**Luwuk**	**8.92**	**309**		**Pn**	**20 16 56.1**	**+2.9**
LUWI	**Luwuk**	**8.92**	**309**	P	**Pn**	**20 16 52.1**	**-1.0**
LUWI				S	**Sn**	**20 18 35.0**	**+2.2**
KNRA	**Kununurra**	**9.00**	**186**	P	**Pn**	**20 16 51.8**	**-2.3**
baz=9.1							
KNRA				S	**Sn**	**20 18 26.3**	**-8.4**
baz=9.1							
KNRA	**Kununurra**	**9.00**	**186**		**Pn**	**20 16 51.7**	**-2.5**
KMSI	**Cibinong**	**9.21**	**321**	P	**Pn**	**20 16 58.7**	**+1.7**
12µm,1.0s,120µm83µm							
BKSI	**Bulukumba**	**9.66**	**277**	P	**Pn**	**20 17 04.6**	**+1.8**
3µm,0.8s,84µm119µm							
BASI	**Baing, Sumba**	**9.72**	**248**	P	**Pn**	**20 17 01.1**	**-2.6**
43µm,0.6s,436µm102µm							
GTOI	**Gorontalo**	**9.89**	**317**	P	**Pn**	**20 17 10.6**	**+4.7**
2µm,0.8s,19µm35µm							
KAPI	**Kappang**	**10.07**	**279**	P	**Pn**	**20 17 09.3**	**+1.1**
KAPI	**Kappang**	**10.07**	**279**	Pn	**Pn**	**20 17 10.1**	**+1.9**
KAPI	**Kappang**	**10.07**	**279**	↑P	**Pn**	**20 17 10.3**	**+2.1**
KAPI	**Kappang**	**10.07**	**279**	P	**Pn**	**20 17 10.1**	**+1.9**
KAPI	**Kappang**	**10.07**	**279**	P	**Pn**	**20 17 10.6**	**+2.4**
KAPI				P	**Pn**	**20 17 10.6**	**+2.4**
KAPI				S	**S**	**20 19 04.7**	**+3.5**
KAPI				S	**S**	**20 19 04.7**	**+3.5**
TTSI	**Tana Toraja**	**10.52**	**290**	P	**Pn**	**20 17 17.1**	**+3.0**
2µm,0.9s,67µm108µm							
MRSI	**Marisa**	**10.54**	**312**	P	**Pn**	**20 17 16.9**	**+2.6**
6µm,0.8s,57µm90µm							
MMPI	**Merauke**	**10.70**	**100**	P	**Pn**	**20 17 13.3**	**-3.1**
10µm,0.5s,125µm86µm							
SGSI	**Sangihe**	**11.12**	**338**	P	**Pn**	**20 17 21.5**	**-0.3**
7µm,0.8s,81µm65µm							
GENI	**Genyem**	**11.15**	**69**	P	**Pn**	**20 17 24.4**	**+2.1**
GENI	**Genyem**	**11.15**	**69**	↑P	**Pn**	**20 17 20.0**	**-2.3**
GENI	**Genyem**	**11.15**	**69**	P	**Pn**	**20 17 20.3**	**-2.0**
5µm,0.9s,71µm107µm							
TABU	**Tabubil**	**11.51**	**84**	P	**Pn**	**20 17 26.6**	**-0.3**
JAY	**Jayapura**	**11.68**	**70**	P	**Pn**	**20 17 25.2**	**-4.0**
2µm,1.0s,19µm69µm							
TOLI2	**Tolitoli**	**11.82**	**311**	P	**Pn**	**20 17 32.0**	**+1.1**
TOLI2	**Tolitoli**	**11.82**	**311**	Pn	**Pn**	**20 17 33.0**	**+2.1**
FITZ	**Fitzroy Crossi**	**12.04**	**199**	P	**Pn**	**20 17 30.4**	**-3.3**
baz=12,SNR=1000							
FITZ	**Fitzroy Crossi**	**12.04**	**199**		**Pn**	**20 17 30.4**	**-3.3**
MPSI	**Mapaga**	**12.04**	**305**	P	**P**	**20 17 36.5**	**-2.6**
3µm,1.3s,76µm81µm							
PLAI	**Plampang**	**12.05**	**259**	P	**Pn**	**20 17 32.4**	**-1.4**
PLAI	**Plampang**	**12.05**	**259**	P	**Pn**	**20 17 30.6**	**-3.2**
12µm,0.7s,171µm93µm							
TWSI	**Taliwang, Sumb**	**12.91**	**260**	P	**Pn**	**20 17 41.1**	**-3.6**
7µm,0.7s,68µm91µm							
WB0	**Warramunga Arr**	**13.78**	**161**		**Pn**	**20 17 51.2**	**-4.5**
BKB	**Balikpapan**	**13.89**	**292**	P	**P**	**20 18 01.8**	**+2.1**
BKB	**Balikpapan**	**13.89**	**292**	P	**P**	**20 18 02.5**	**+2.8**
16µm,1.1s,219µm212µm							
I07AU	**WARRAMUNGA INF**	**13.92**	**162**	P	**Pn**	**20 17 53.6**	**-3.8**
baz=323,slow=20,SNR=3.8							
WRAB	**Tennant Creek**	**13.92**	**162**	Pn	**Pn**	**20 17 53.0**	**-4.5**
WRAB	**Tennant Creek**	**13.92**	**162**	P	**Pn**	**20 17 53.0**	**-4.5**
WRA	**Warramunga Ar**	**13.93**	**162**	Pn	**Pn**	**20 17 52.9**	**-4.6**
WRA	**Warramunga Ar**	**13.93**	**162**	P	**Pn**	**20 17 52.9**	**-4.6**
WRA	**Warramunga Ar**	**13.93**	**162**	P	**Pn**	**20 17 53.4**	**-4.1**
327nm,0.6s,baz=342,slow=13,SNR=689							
WRA				S	Sn	20 20 18.6	-14
2µm,0.7s,baz=337,slow=23,SNR=5.4							
WRA				ScS	**ScS**	**20 29 56.8**	**-2.9**
37nm,0.7s,baz=339,slow=6.8,SNR=1.7							
WRA				P3KPbc		20 53 27.2	
1.3nm,1.0s,baz=101,slow=1.1,SNR=5.3							
WB2	**Warramunga Ar**	**13.93**	**162**		**Pn**	**20 17 53.3**	**-4.3**
SMKI	**Samarinda**	**13.95**	**296**	P	**P**	**20 18 02.5**	**+2.2**
10µm,1.0s,104µm186µm							
WR0	**Warramunga Ar**	**14.01**	**161**	P	Pn	20 17 53.3	-5.2
DAV	**Davao City (W)**	**14.27**	**343**	P	**P**	**20 18 03.1**	**-0.8**
DAV	**Davao City (W)**	**14.27**	**343**	Pn	**Pn**	**20 17 59.6**	**-2.2**
DAV	**Davao City (W)**	**14.27**	**343**	↓P	**Pn**	**20 18 02.7**	**+0.9**
DAV	**Davao City (W)**	**14.27**	**343**	P	**Pn**	**20 18 01.9**	**+0.1**
308nm,0.5s,baz=128,slow=3.7,SNR=3.0							
DAV				S	**Sn**	**20 20 40.5**	**-0.5**
434nm,0.6s,baz=245,slow=23,SNR=1.5							
DAV	**Davao City (W)**	**14.27**	**343**	P	**P**	**20 18 03.2**	**-0.6**
DAV				P	**P**	**20 18 03.2**	**-0.6**
DAV				S	**Sn**	**20 20 35.2**	**-5.8**
DAV				S	**Sn**	**20 20 35.2**	**-5.8**
SRBI	**Singaraja**	**14.48**	**264**	P	**Pn**	**20 18 01.8**	**-2.6**
6µm,0.8s,81µm100µm							
DNP	**Denpasar**	**14.54**	**261**	P	**Pn**	**20 18 02.5**	**-2.7**
9µm,0.5s,143µm90µm							
COEN	**Coen**	**15.06**	**120**	P	**Pn**	**20 18 09.6**	**-2.1**
baz=15,SNR=1000							
COEN	**Coen**	**15.06**	**120**	P	**Pn**	**20 18 11.0**	**-0.7**
**

3µm,0.9s,51µm
TV1H Townsville Har 20.77 129 P P 20 19 15.9 +1.1
CTA Charters Tower 20.85 131 P P 20 19 16.3 +0.7
3µm,0.9s,baz=270,slow=2.6,SNR=924
CTA S S 20 22 59.5 +1.3
161nm,0.6s,baz=90,slow=2.8,SNR=1.7
3µm,0.9s
CTAO Charters Tower 20.85 131 P P 20 19 15.9 +0.3
CTAO Charters Tower 20.85 131 P P 20 19 15.8 +0.2
CTAO Charters Tower 20.85 131 ⇓P P 20 19 16.2 +0.6
CTAO Charters Tower 20.85 131 P P 20 19 15.8 +0.2
KSM Kuching 21.02 292 P P 20 19 17.3 -0.2
KSM Kuching 21.02 292 P P 20 19 17.2 -0.2
KSM Kuching 21.02 292 ⇑P P 20 19 16.9 -0.6
CMJI Cimerak 21.15 266 P P 20 19 14.4 -4.5
4µm,0.7s,61µm58µm
JCJI Jatiwangi 21.33 269 P P 20 19 18.5 -2.3
9µm,1.4s,141µm83µm
AUAYR Ayr State High 21.43 128 P P 20 19 22.7 +0.9
OOD Oodnadatta 21.75 166 P P 20 19 24.7 -0.3
GIRL Giralia 21.81 222 P P 20 19 26.8 +1.1
baz=22,SNR=439
GIRL Giralia 21.81 222 P P 20 19 27.2 +1.6
GIRL Giralia 21.81 222 P P 20 19 26.8 +1.1
GIRL Giralia 21.81 222 ⇑P P 20 19 26.8 +1.1
BBJI Bungbulang 21.94 267 P P 20 19 25.3 -1.8
MEEK Meekatharra 22.50 207 P P 20 19 31.8 -0.6
baz=23,SNR=667
MEEK Meekatharra 22.50 207 P P 20 19 33.2 +0.8
CBJI Citeko 22.74 269 P P 20 19 33.7 -0.9
7µm,1.2s,104µm74µm
DBJI Dramaga 22.84 269 P P 20 19 33.1 -2.4
4µm,1.0s,50µm68µm
TNG Tangerang 22.95 270 P P 20 19 37.6 +1.1
60nm,1.7s,2µm
TNG P P 20 19 34.1 -2.4
4µm,1.6s,58µm60µm
SKJI Sukabumi 23.02 268 P P 20 19 33.7 -3.4
10µm,0.7s,116µm68µm
INKA Innaminka 23.41 155 P P 20 19 41.8 +1.3
SBJI Serang 23.47 270 P P 20 19 38.8 -2.4
3µm,1.6s,35µm
MULG Mulgathing 23.83 171 P P 20 19 44.8 +0.4
PPBI Pangkal Pinang 23.95 280 P P 20 19 46.0 +0.4
3µm,1.2s,71µm76µm
FORT Forrest 24.03 184 P P 20 19 46.6 +0.4
baz=24,SNR=1000
FORT Forrest 24.03 184 P P 20 19 46.9 +0.7
FORT Forrest 24.03 184 P P 20 19 46.6 +0.4
FORT Forrest 24.03 184 ⇓P P 20 19 46.5 +0.3
XMI Christmas Isla 24.07 259 P P 20 19 46.7 0.0
XMI Christmas Isla 24.07 259 ⇑P P 20 19 45.0 -1.7
XMIS Christmas Isla 24.11 259 P P 20 19 47.3 +0.2
XMIS Christmas Isla 24.11 259 P P 20 19 45.2 -1.9
QLP Quilpie 24.14 147 P P 20 19 47.6 +0.4
baz=24,SNR=732
QLP Quilpie 24.14 147 P P 20 19 48.0 +0.8
QLP Quilpie 24.14 147 ⇓P P 20 19 47.5 +0.4
LCRK Leigh Creek 24.95 162 P P 20 19 55.2 +0.7
GUMO Guam 25.12 37 P P 20 19 57.1 +1.0
GUMO Guam 25.12 37 ⇑P P 20 19 59.5 +3.4
KASI Kota Agung 25.13 271 P P 20 19 54.3 -2.0
2µm,1.0s,18µm36µm
PMBI Palembang 25.15 277 P P 20 19 59.2 +2.7
PMBI Palembang 25.15 277 P P 20 19 58.5 +2.0
PMBI Palembang 25.15 277 ⇑P P 20 19 57.2 +0.7
PMBI Palembang 25.15 277 P P 20 19 59.4 +2.9
10µm,1.2s,111µm73µm
LWLI Liwa 25.60 272 P P 20 20 00.1 -0.6
2µm,1.0s,32µm43µm
KMBL Kambalda 25.64 196 P P 20 20 01.2 +0.4
baz=26,SNR=1000
KMBL Kambalda 25.64 196 P P 20 20 01.4 +0.6
SZP Santa 25.76 339 P P 20 20 02.1 +0.2
MORW Morawa 25.76 208 P P 20 20 02.1 +0.3
baz=26,SNR=202
MORW Morawa 25.76 208 P P 20 20 02.3 +0.5
MORW Morawa 25.76 208 P P 20 20 02.0 +0.2
MORW IAmb IAmb 20 20 04.4
comp=Z,785nm,1.0s
MORW Morawa 25.76 208 ⇓P P 20 20 02.1 +0.2
DSRI Dabo 25.84 283 P P 20 20 03.4 +0.6
comp=Z,2µm,1.1s,comp=Z,43µmcomp=Z,47µm
RK1H Rockhampton Ha 25.97 132 P P 20 20 04.3 +0.5
TPRI Tanjung Pinang 26.27 286 P P 20 20 07.3 +0.7
comp=Z,3µm,1.8s,comp=Z,59µmcomp=Z,48µm
JMBI JAMBI 26.50 280 P P 20 20 12.2 +3.6
comp=Z,1µm,1.4s,comp=Z,37µm
BBOO Buckleboo 26.66 168 P P 20 20 09.6 -0.3
baz=27,SNR=644
BBOO Buckleboo 26.66 168 P P 20 20 09.6 -0.3
BBOO Buckleboo 26.66 168 P P 20 20 09.6 -0.3
GD1S Gladstone Soft 26.74 132 P P 20 20 11.5 +0.9
MNAI Manna 26.76 274 P P 20 20 11.2 +0.2
MNAI Manna 26.76 274 P P 20 20 09.4 -1.6
MNAI Manna 26.76 274 ⇑P P 20 20 07.6 -3.4
MNAI Manna 26.76 274 P P 20 20 12.0 +1.0
comp=Z,2µm,0.8s,comp=Z,83µmcomp=Z,105µm
RMQ Roma 26.77 140 P P 20 20 11.3 +0.4
baz=27,SNR=43
RMQ Roma 26.77 140 P P 20 20 11.6 +0.7
BLDU Ballidu 26.77 206 P P 20 20 11.2 +0.3
baz=27,SNR=386
BLDU Ballidu 26.77 206 P P 20 20 11.2 +0.3
MYKOM Kota Tinggi 27.18 287 P P 20 20 15.4 +0.7
MYKOM Kota Tinggi 27.18 287 ⇑P P 20 20 15.4 +0.7
KLBR Kellerberrin 27.21 203 P P 20 20 15.4 +0.6
baz=27,SNR=286
KLBR Kellerberrin 27.21 203 P P 20 20 15.1 +0.4
WHYH Whyalla 27.22 166 P P 20 20 15.0 +0.2
STKA Stephens Creek 27.41 158 P P 20 20 16.8 +0.3
baz=28,SNR=1000
STKA Stephens Creek 27.41 158 P P 20 20 17.0 +0.4
STKA Stephens Creek 27.41 158 P P 20 20 16.7 +0.1
STKA IAmb IAmb 20 21 08.1
comp=Z,462nm,1.1s
STKA Stephens Creek 27.41 158*d* iP P 20 20 15.9 -0.7
STKA Stephens Creek 27.41 158 P P 20 20 16.8 +0.3
comp=Z,719nm,0.5s,baz=337,slow=8.4,SNR=3264
STKA S S 20 24 38.1 -5.4
comp=Z,143nm,0.6s,baz=113,slow=16,SNR=1.2
comp=Z,719nm,0.5s
PTPS Port Pirie 27.46 165 P P 20 20 17.8 +0.9
EIDS Eidsvold 27.60 135 P P 20 20 17.8 -0.6
baz=28,SNR=82
EIDS Eidsvold 27.60 135 P P 20 20 17.8 -0.6
EIDS Eidsvold 27.60 135 P P 20 20 17.5 -0.8
EIDS IAmb IAmb 20 21 11.4
comp=Z,449nm,0.9s
EIDS Eidsvold 27.60 135 ⇓P P 20 20 17.8 -0.6
HTT Hallett 27.95 163 P P 20 20 21.7 +0.2
baz=28,SNR=128
HTT Hallett 27.95 163 P P 20 20 21.9 +0.5
HTT Hallett 27.95 163 ⇓P P 20 20 21.6 +0.2
DLV T Lat 28.09 311 P P 20 20 23.5 +0.6
DLV T Lat 28.09 311 P P 20 20 23.2 +0.3
DLV T Lat 28.09 311 ⇑P P 20 20 23.4 +0.4
MUN Mundaring 28.17 205 P P 20 20 23.8 +0.6
baz=28,SNR=126
MUN Mundaring 28.17 205 P P 20 20 23.9 +0.6
MTKN Mount Kenneth 28.31 206 P P 20 20 26.7 +2.2
AULRC Lightning Ridg 28.43 145 P P 20 20 26.0 +0.4
KRJI Kerinci 28.55 278 P P 20 20 26.8 -0.2
comp=Z,4µm,1.3s,comp=Z,51µmcomp=Z,76µm
NWAO Narrogin (SRO) 28.59 202 P P 20 20 27.8 +0.7
baz=29,SNR=372
NWAO P P 20 20 27.8 +0.7
baz=29,SNR=372
NWAO Narrogin (SRO) 28.59 202 P P 20 20 27.5 +0.5
NWAO Narrogin (SRO) 28.59 202 P P 20 20 27.7 +0.7
NWAO Narrogin (SRO) 28.59 202 P P 20 20 27.7 +0.7
NWAO IAmb IAmb 20 21 27.4
comp=Z,540nm,0.8s
NWAO Narrogin (SRO) 28.59 202 P P 20 20 27.7 +0.7
NWAO pmax pmax
comp=Z,540nm,0.9s
NWAO Narrogin (SRO) 28.59 202 P P 20 20 27.8 +0.7
comp=Z,228nm,0.5s,baz=36,slow=6.9,SNR=528
NWAO S S 20 24 57.1 -4.9
comp=Z,282nm,0.8s,baz=294,slow=22,SNR=1.6
NWAO LR LR 20 31 30.9
comp=Z,6µm,21.7s,baz=13,slow=35
comp=Z,228nm,0.5s
NWAO Narrogin (SRO) 28.59 202 P P 20 20 27.8 +0.7
CMSA Cobar Meteorol 28.89 151 P P 20 20 30.2 +0.6
baz=29,SNR=1000
CMSA Cobar Meteorol 28.89 151 P P 20 20 30.2 +0.6
GHSS Government Hou 29.27 165 P P 20 20 34.0 +1.0
BKNI Bangkinang 29.47 283 P P 20 20 35.9 +0.9
BKNI Bangkinang 29.47 283 P P 20 20 35.2 +0.1
BKNI Bangkinang 29.47 283 P P 20 20 36.0 +0.9
BKNI Bangkinang 29.47 283 ⇑P P 20 20 35.1 +0.1
BKNI Bangkinang 29.47 283 P P 20 20 35.1 +0.1
comp=Z,3µm,1.4s,comp=Z,55µmcomp=Z,51µm
PDSI Padang 29.76 280 P P 20 20 35.2 -2.4
comp=Z,1µm,0.9s,comp=Z,16µmcomp=Z,38µm
PPSI Pulau Pagai 29.88 276 P P 20 20 39.0 +0.4
comp=Z,1µm,1.7s,comp=Z,24µmcomp=Z,46µm
HNR Honiara 30.03 97 P P 20 20 39.6 -0.4
HNR Honiara 30.03 97 P P 20 20 39.4 -0.6
HNR Honiara 30.03 97 ⇓P P 20 20 39.3 -0.7
HNR Honiara 30.03 97 P P 20 20 39.4 -0.6
HNR pmax pmax
comp=Z,3µm,1.1s
HNR Honiara 30.03 97 LR LR 20 34 25.9
comp=Z,139µm,18.6s,baz=256,slow=39
RKGY Rocky Gully 30.19 201 P P 20 20 43.1 +2.0
baz=30,SNR=81
RKGY Rocky Gully 30.19 201 P P 20 20 43.4 +2.3
AUALB St Joseph's Co 30.23 200 P P 20 20 43.6 +2.2
TWGBT Beinan 30.51 344 P P 20 20 42.8 -1.2
TWG Pinlang 30.52 344 P P 20 20 41.3 -2.8
IPM Ipoh 30.73 290 P P 20 20 46.2 0.0
IPM Ipoh 30.73 290 P P 20 20 46.2 0.0
IPM Ipoh 30.73 290 ⇓P P 20 20 44.1 -2.0
AUDCS Dubbo College 30.93 148 P P 20 20 48.5 +0.8
YULB Yu-li 31.00 345 P P 20 20 48.5 +0.2
YULB Yu-li 31.00 345 P P 20 20 45.7 -2.7
SISI Saibi 31.02 279 P P 20 20 47.5 -1.2
comp=Z,1µm,1.2s,comp=Z,21µmcomp=Z,54µm
GC1S Gold Coast 1 S 31.04 136 P P 20 20 49.8 +1.2
TPUB Ta-pu 31.09 344 P P 20 20 48.4 -0.8
TPUB Ta-pu 31.09 344 P P 20 20 47.8 -1.4
TPUB IAmb IAmb 20 21 12.6
comp=Z,210nm,0.7s
ARMA Armidale 31.31 142 P P 20 20 52.2 +1.0
baz=31,SNR=591
ARMA Armidale 31.31 142 P P 20 20 52.2 +1.0
ARMA Armidale 31.31 142 P P 20 20 52.2 +1.0
ARMA Armidale 31.31 142 ⇓P P 20 20 52.1 +1.0
AUPHS Peel High Scho 31.35 143 P P 20 20 52.1 +0.7
KULM Kulim 31.37 292 P P 20 20 51.5 -0.3
KULM Kulim 31.37 292 ⇑P P 20 20 51.5 -0.3
SSLB Suanglung 31.47 344 P P 20 20 51.1 -1.4
SSLB Suanglung 31.47 344 P P 20 20 50.5 -2.0
SSLB IAmb IAmb 20 20 54.2
comp=Z,196nm,0.9s
PATS Pohnpei 31.51 65 P P 20 20 53.9 +1.0
PATS Pohnpei 31.51 65 P P 20 20 50.4 -2.6
H01W1 Cape Leeuwin H 31.54 205 P P 20 20 55.3 +2.5
baz=42,slow=6.8,SNR=52
H01W3 Cape Leeuwin H 31.54 205 P P 20 20 55.3 +2.6
baz=42,slow=6.8,SNR=53
H01W2 Cape Leeuwin H 31.56 205 P P 20 20 55.4 +2.6
baz=42,slow=6.8,SNR=63
JMJ Miyako jima 2 31.60 352 P P 20 20 54.4 +0.9
YOJ Yonaguni jima 31.63 348 P P 20 20 54.6 +0.7
YOJ Yonaguni jima 31.63 348 P P 20 20 53.5 -0.4
YOJ IAmb IAmb 20 20 55.6
comp=Z,499nm,0.9s
YOJ Yonaguni jima 31.63 348 ⇑P P 20 20 53.5 -0.4
YOJ Yonaguni jima 31.63 348 P P 20 20 53.5 -0.4
YOJ pmax pmax
comp=Z,499nm,0.9s
NACB Ninganchiao 31.67 346 P P 20 20 54.0 -0.2
NACB Ninganchiao 31.67 346 P P 20 20 52.0 -2.2
NACB IAmb IAmb 20 21 38.1
comp=Z,528nm,1.7s
ARPS Mount Arapiles 31.93 161 P P 20 20 57.5 +1.1
baz=32,SNR=208
ARPS Mount Arapiles 31.93 161 P P 20 20 57.5 +1.1
PBSI Pulau Batu 32.07 281 P P 20 20 58.0 +0.1
comp=Z,1µm,1.3s,comp=Z,59µmcomp=Z,63µm
QIZ Qiongzhong 32.20 323 ⇑*i*P P 20 20 59.3 +0.4
QIZ pP pP 20 21 35.5 +0.5
QIZ sP sP 20 21 55.8 +0.6
QIZ S S 20 25 57.0 -1.7
QIZ sS sS 20 27 04.5 +1.1
QIZ pmax pmax
comp=Z,330nm,2.0s
QIZ pmax pmax
comp=Z,6µm,3.1s
QIZ Qiongzhong 32.20 323 P P 20 20 59.3 +0.4
QIZ Qiongzhong 32.20 323 IAmb IAmb 20 21 01.2
comp=Z,2µm,1.9s
QIZ Qiongzhong 32.20 323 P P 20 20 59.1 +0.2
QIZ pP pP 20 21 36.7 +1.6
QIZ ScP ScP 20 27 11.5 +1.3
YHNB Yeheng 32.20 346 P P 20 20 58.7 -0.2
YHNB Yeheng 32.20 346 P P 20 20 57.5 -1.4
YHNB IAmb IAmb 20 21 00.0
comp=Z,218nm,0.7s
JMZ Minamidaito 2 32.33 3 P P 20 21 00.9 +1.0
JMZ Minamidaito 2 32.33 3 ⇑P P 20 21 01.5 +1.6
AUMAG Moama Anglican 32.36 157 P P 20 21 01.9 +1.8
YNG Young 32.45 150 P P 20 21 02.1 +1.1
baz=33,SNR=311
YNG Young 32.45 150 P P 20 21 01.8 +0.8
TATO Taipei 32.47 346 P P 20 20 00.3 -0.8
TATO Taipei 32.47 346 P P 20 20 59.2 -1.9
TATO IAmb IAmb 20 21 19.0
comp=Z,786nm,1.9s
TATO Taipei 32.47 346 P P 20 20 59.6 -1.6
TATO P P 20 20 59.6 -1.6
TATO S S 20 25 56.2 -6.4
TATO S S 20 25 56.2 -6.4
TATO Taipei 32.47 346 P P 20 20 60.0 -1.2
TATO ScP ScP 20 27 09.8 -1.1
UBPT Khong Chiam 32.47 312 P P 20 21 01.6 +0.3
UBPT Khong Chiam 32.47 312 IAmb IAmb 20 21 03.7
comp=Z,576nm,0.8s
HKPS Hong Kong Po S 32.58 332 P P 20 21 02.6 +0.4
HKPS Hong Kong Po S 32.58 332 P P 20 21 01.0 -1.2
HKPS IAmb IAmb 20 21 04.2
comp=Z,2µm,1.9s
HKC Hong Kong Obse 32.58 333 ⇑P P 20 21 02.0 -0.2
MCO Taipa Grande 32.72 331 P P 20 21 02.0 -1.4
KNMB Chin-men Tao 32.87 341 P P 20 21 04.3 -0.3
KNMB IAmb IAmb 20 21 06.5
comp=Z,625nm,0.8s
COCO West Island 32.90 258 P P 20 21 06.9 +1.8
COCO West Island 32.90 258 P P 20 21 04.8 -0.3
COCO IAmb IAmb 20 22 23.7
comp=Z,435nm,0.9s
COCO West Island 32.90 258 P P 20 21 04.8 -0.3
COCO pmax pmax
comp=Z,435nm,1.0s
COCO West Island 32.90 258 P P 20 21 07.1 +2.0
COCO P P 20 21 07.1 +2.0
MGCD Mangrove Creek 33.03 146 P P 20 21 07.6 +1.7
baz=33,SNR=482
MGCD Mangrove Creek 33.03 146 P P 20 21 07.9 +1.9
GSI Gunungsitoli 33.07 283 P P 20 21 05.4 -1.2
GSI Gunungsitoli 33.07 283 P P 20 21 05.0 -1.5
GSI PcP PcP 20 23 49.3 +3.4
GSI ScP ScP 20 27 13.6 +0.3
GSI Gunungsitoli 33.07 283 ⇑P P 20 21 04.8 -1.8
GSI Gunungsitoli 33.07 283 P P 20 21 04.7 -1.9
comp=Z,3µm,1.2s,comp=Z,62µmcomp=Z,72µm
NTLH Newcastle Hard 33.13 145 P P 20 21 07.8 +0.9
SYDH Sydney Hard Ro 33.24 147 P P 20 21 08.7 +0.9
QZH Quanzhou 33.25 341 ⇑*i*P P 20 21 07.8 -0.1
QZH pP pP 20 21 43.0 -1.1
QZH sP sP 20 22 06.3 +2.1
QZH S S 20 26 11.5 -3.2
QZH ScP ScP 20 27 14.0 +0.4
QZH sS sS 20 27 19.5 -0.1
QZH ScS ScS 20 31 13.5 -1.3
QZH pmax pmax
comp=Z,450nm,0.6s
QZH pmax pmax
comp=Z,4µm,6.0s
QZH LR LR
comp=Z,5µm,13.1s
QZH LR LR
comp=Z,5µm,15.1s
QZH LR LR
comp=Z,9µm,16.5s
AUHPC Hawkesdale P12 33.31 162 P P 20 21 10.7 +2.4
JOW Kunigami 33.34 358 P P 20 21 09.6 +0.9
JOW Kunigami 33.34 358 ScP ScP 20 27 13.9 0.0
JOW Kunigami 33.34 358 ⇑P P 20 21 09.3 +0.7
JOW Kunigami 33.34 358 P P 20 21 09.5 +0.8
JOW Kunigami 33.34 358 S S 20 26 14.8 -1.2
comp=Z,25nm,1.0s,baz=56,slow=29,SNR=6.3
JOW ScP ScP 20 27 13.4 -0.5
comp=Z,352nm,0.9s,baz=168,slow=4.0,SNR=21
JOW ScS ScS 20 31 13.7 -1.6
comp=Z,10nm,0.8s,baz=257,slow=30,SNR=1.8
JOW LR LR 20 33 28.7
comp=Z,10µm,20.1s,baz=184,slow=34
BRAT Ballarat 33.34 159 P P 20 21 09.9 +1.3
KCSI Kotacane, Aceh 33.48 287 P P 20 21 08.5 -1.7
comp=Z,950nm,1.8s,comp=Z,22µmcomp=Z,44µm
CAN Canberra 33.56 151 P P 20 21 11.7 +1.0
CAN Canberra 33.56 151 ⇓P P 20 21 12.0 +1.3
CAN Canberra 33.56 151 ⇓P P 20 21 12.2 +1.5
CAN pP pP 20 21 50.3 +2.4
CAN ScP ScP 20 27 14.6 -0.1
GZH Guangzhou 33.64 332 P P 20 21 14.5 +3.1
GZH pP pwP 20 21 51.0 -2.7
GZH PP PP 20 22 34.8 +3.4
GZH PcP PcP 20 23 48.0 +0.7
GZH S S 20 26 28.0 +7.2
GZH ScS ScS 20 31 19.0 +2.1
GZH pmax pmax
comp=Z,260nm,0.8s
SRIT Nakonsritamara 33.66 296 P P 20 21 12.2 +0.6
CNB Canberra Magne 33.74 150 P P 20 21 13.4 +1.2
baz=34,SNR=578
CNB Canberra Magne 33.74 150 P P 20 21 13.4 +1.2
WOLH Wollongong Har 33.80 148 P P 20 21 13.7 +1.1
SURA Surathani 33.88 297 P P 20 21 14.3 +0.7
TOO Toolangi 33.93 157 P P 20 21 15.7 +1.9
baz=34,SNR=113
TOO Toolangi 33.93 157 P P 20 21 15.7 +1.9
TOO Toolangi 33.93 157 ⇓P P 20 21 15.7 +1.9
MLBS Spotswood, Mel 33.93 158 P P 20 21 16.0 +2.3
GEXS Deakin Univers 34.05 159 P P 20 21 16.5 +1.8
AUSMG Snowy Mountain 34.27 152 P P 20 21 18.3 +1.5
AUUHS Ulladulla High 34.33 149 P P 20 21 18.4 +1.3
SNSI Sinabang, Aceh 34.55 284 P P 20 21 19.5 +0.1
comp=Z,1µm,1.1s,comp=Z,54µmcomp=Z,57µm
LHMI Lhok Sumawe 34.80 289 P P 20 21 22.1 +0.6
LHMI Lhok Sumawe 34.80 289 ⇑P P 20 21 21.0 -0.5
LHMI Lhok Sumawe 34.80 289 P P 20 21 20.8 -0.7
comp=Z,7µm,1.0s,comp=Z,79µmcomp=Z,61µm
JAM Amami Oshima 34.88 360 P P 20 21 22.6 +0.7
MLSI Meulaboh, Aceh 35.01 287 P P 20 21 21.2 -2.1
comp=Z,2µm,0.5s,comp=Z,22µmcomp=Z,2µm
AUSSC Sale College, 35.02 156 P P 20 21 24.8 +1.8
MILA Mila 35.04 152 P P 20 21 24.1 +0.8
baz=35,SNR=40
MILA Mila 35.04 152 P P 20 21 24.8 +1.4
MILA Mila 35.04 152 ⇓P P 20 21 24.9 +1.6
NAYO Nakonayok 35.07 307 P P 20 21 24.4 +0.7
JCJ Chichijima 35.67 19 P P 20 21 29.4 +0.7
JCJ Chichijima 35.67 19 IAmb IAmb 20 22 23.7
comp=Z,384nm,0.8s
JCJ Chichijima 35.67 19 ⇑P P 20 21 27.4 -1.3
JCJ Chichijima 35.67 19 S S 20 26 41.3 -11
comp=Z,475nm,1.0s,baz=108,slow=23,SNR=3.7
NONG Nongkai 35.96 314 P P 20 21 31.4 +0.1
KOUNC Koumac, New Ca 36.20 116 P P 20 21 33.5 +0.2
KOUNC Koumac, New Ca 36.20 116 P P 20 21 33.3 0.0
KOUNC IAmb IAmb 20 21 35.6
comp=Z,1µm,1.3s
KOUNC Koumac, New Ca 36.20 116 ⇑P P 20 21 33.1 -0.2
SRDT SRDT 36.86 305 P P 20 21 39.7 +0.7
LHI Lord Howe Isla 36.90 136 P P 20 21 37.6 -1.6
GULI GuiLin 36.94 330 ⇑P P 20 21 41.0 +1.5
GULI S S 20 27 07.5 -3.8
GULI pmax pmax
comp=Z,250nm,0.9s
GULI LR LR
comp=Z,13µm,15.2s
GULI LR LR
comp=Z,16µm,14.1s
GULI LR LR
comp=Z,11µm,17.6s
AULHS Lilydale High 37.79 158 P P 20 21 48.0 +1.5
GLAD Gladstone 37.86 157 P P 20 21 47.8 +0.7
CORO Coronation Par 37.94 159 P P 20 21 49.0 +1.3
JSU Suzuyama 37.97 1 P P 20 21 48.3 +0.2
CNSH ChangSha 38.26 336 ⇑P P 20 21 50.0 -0.6
CNSH S S 20 27 28.0 -3.1
CNSH pmax pmax
comp=Z,240nm,0.9s
CNSH LR LR
comp=Z,6µm,16.5s
CNSH LR LR
comp=Z,8µm,17.2s
CNSH LR LR
comp=Z,9µm,20.7s
PHRA Phrae 38.38 311 P P 20 21 52.4 +0.7
PHRA PcP PcP 20 24 04.5 +2.9
PHRA ScP S 20 27 34.0 +0.9
SSE Sheshan 38.44 348 P P 20 21 52.5 +0.5
SSE S S 20 27 27.8 -5.8
SSE sS sS 20 28 33.8 -5.7
SSE pmax pmax
comp=Z,210nm,1.0s
SSE pmax pmax
comp=Z,2µm,7.3s
SSE LR LR
comp=Z,3µm,20.9s
SSE Sheshan 38.44 348 P P 20 21 52.4 +0.5
SSE pP pP 20 22 28.9 0.0
SSE PcP PcP 20 24 03.0 +1.5
NOUC Port Laguerre 38.46 117 P P 20 21 52.4 +0.1
NOUC Port Laguerre 38.46 117 ⇓P P 20 21 52.6 +0.2
DZM Mont Dzumac 38.57 117 P P 20 21 53.9 +0.5
DZM Mont Dzumac 38.57 117 ⇓P P 20 21 53.8 +0.3
DZM Mont Dzumac 38.57 117 *eP* P 20 21 48.4 -5.0
comp=Z,4µm,32.0s
DZM *eS* S 20 27 33.9 -2.3
comp=Z,6µm,34.6s
DZM *eSS* SS 20 30 27.8 -6.1
comp=Z,72µm,34.9s
DZM Mont Dzumac 38.57 117 ⇓P P 20 21 53.9 +0.5
ONTNC Ouen Toro 38.65 118 P P 20 21 54.4 +0.4
ONTNC Ouen Toro 38.65 118 ⇓P P 20 21 54.0 +0.1
MOO Moorlands 38.83 159 P P 20 21 57.0 +1.9
baz=39,SNR=48
MOO Moorlands 38.83 159 P P 20 21 57.1 +1.9
LIFNC LIFOU 38.91 115 P P 20 21 57.5 +1.4
LIFNC LIFOU 38.91 115 P P 20 21 55.5 -0.6
OUENC Ouen Island, N 39.03 118 P P 20 21 58.2 +1.1
OUENC Ouen Island, N 39.03 118 P P 20 21 57.7 +0.6
JFU Fukue jima 2 39.12 359 P P 20 21 58.1 +0.4
TAU Tasmania Unive 39.28 159 P P 20 22 00.9 +2.0
TAU Tasmania Unive 39.28 159 P P 20 22 00.2 +1.4
TAU ScP ScP 20 27 35.5 -0.2
TAU Tasmania Unive 39.28 159 ⇓P P 20 22 00.4 +1.5
TAU Tasmania Unive 39.28 159 ⇓P P 20 22 00.5 +1.6
CM31 Chiang Mai Arr 39.33 310 P P 20 22 00.5 +0.9
CMAR Chiang Mai Arr 39.33 310 P P 20 22 00.4 +0.9
CMAR PcP PcP 20 24 07.2 +2.6
CMAR ScP ScP 20 27 37.9 +1.6
CMAR Chiang Mai Arr 39.33 310 P P 20 22 00.4 +0.9
CMAR 20 24 07.2
CMAR 20 27 37.9
CMAR Chiang Mai Arr 39.33 310 P P 20 22 00.5 +0.9
comp=Z,348nm,0.9s,baz=140,slow=7.4,SNR=1128
CMAR PcP PcP 20 24 06.5 +1.9
comp=Z,96nm,0.7s,baz=175,slow=2.4,SNR=7.6
CMAR ScP ScP 20 27 37.4 +1.1
comp=Z,240nm,1.1s,baz=156,slow=3.1,SNR=22
CMAR PKiKP PKiKP 20 31 17.6 +0.9
comp=Z,2.8nm,0.5s,baz=216,slow=1.7,SNR=4.5
CMAR ScS ScS 20 31 50.7 +1.7
comp=Z,2.0nm,0.7s,baz=314,slow=4.2,SNR=2.2
CMAR P3KPbc 20 51 54.6
comp=Z,1.7nm,1.0s,baz=320,slow=5.9,SNR=9.1
CMAR P3KP 20 53 35.0
comp=Z,0.5nm,0.7s,baz=254,slow=3.5,SNR=1.8
comp=Z,348nm,0.9s
CRAI Chiangrai 39.35 313 P P 20 22 00.2 +0.4
CRAI IAmb IAmb 20 22 09.4
comp=Z,585nm,1.0s
CRAI ScP ScP 20 27 38.1 +1.8

JNU	**Nakatsue**	39.59	1	P	**P**	**20 22 02.6 +1.0**
JNU	**Nakatsue**	39.59	1	P	**P**	**20 22 01.6 0.0**
JNU				IAmb	IAmb	20 22 03.8
	comp=Z,358nm,0.8s					
JNU	**Nakatsue**	39.59	1	⇑P	**P**	**20 22 01.4 -0.1**
JNU	**Nakatsue**	39.59	1	P	**P**	**20 22 01.6 0.0**
JNU	**Nakatsue**	39.59	1	ScP	**ScP**	**20 27 35.8 -1.2**
	comp=Z,158nm,1.1s,baz=88,slow=0.5,SNR=8.5					
JNU				ScS	**ScS**	**20 31 48.0 -2.0**
	comp=Z,9.7nm,0.8s,baz=69,slow=21,SNR=2.2					
JNU				LR	LR	20 37 00.4
	comp=Z,10μm,20.9s,baz=182,slow=34					
PINNC	**Pines Island,**	39.62	118	P	**P**	**20 22 03.4 +1.4**
PINNC	**Pines Island,**	39.62	118	P	**P**	**20 22 03.0 +1.0**
MARNC	**Mare, Loyalty**	39.81	116	P	**P**	**20 22 04.9 +1.3**
MARNC	**Mare, Loyalty**	39.81	116	P	**P**	**20 22 03.1 -0.5**
MARNC	**Mare, Loyalty**	39.81	116	⇓P	**P**	**20 22 04.1 +0.5**
GYA	**Guiyang**	39.82	327	⇑*i*P	**P**	**20 22 04.3 +0.6**
GYA				pP	pP	20 22 42.3 +1.4
GYA				sP	sP	20 23 02.8 +2.0
GYA				ScP	**ScP**	**20 27 39.0 +0.8**
GYA				S	**S**	**20 27 52.5 -2.2**
GYA				sS	sS	20 29 00.5 -0.5
GYA				ScS	**ScS**	**20 31 51.5 -0.3**
GYA				pmax	pmax	
	comp=Z,330nm,0.9s					
GYA				pmax	pmax	
	comp=Z,6μm,3.5s					
WHN	**Wuhan**	39.84	339	⇑P	**P**	**20 22 04.8 +1.2**
WHN				pP	**pP**	**20 22 41.0 +0.2**
WHN				sP	**sP**	**20 23 03.0 +2.3**
WHN				ScP	**ScP**	**20 27 37.0 -0.9**
WHN				S	**S**	**20 27 53.5 -1.1**
WHN				PcS	**PcS**	**20 27 59.0 +2.6**
WHN				sS	**sS**	**20 28 55.0 -5.8**
WHN				ScS	**ScS**	**20 31 51.0 -0.4**
WHN				pmax	pmax	
	comp=Z,2μm,1.0s					
NJ2	**Nanjing**	39.88	346	⇑*i*P	**P**	**20 22 05.0 +1.1**
NJ2				pP	**pP**	**20 22 41.5 +0.3**
NJ2				sP	**sP**	**20 23 03.0 +2.0**
NJ2				ScP	**ScP**	**20 27 38.0 -0.1**
NJ2				S	**S**	**20 27 54.5 -0.7**
NJ2				sS	**sS**	**20 28 59.5 -2.0**
NJ2				ScS	**ScS**	**20 31 52.0 +0.4**
NJ2				pmax	pmax	
	comp=Z,280nm,0.9s					
NJ2				pmax	pmax	
	comp=Z,4μm,3.6s					
JMN	**Monobe**	40.37	5	P	**P**	**20 22 09.4 +1.4**
JMN	**Monobe**	40.37	5	P	**P**	**20 22 08.7 +0.7**
JMN				IAmb	IAmb	20 22 10.5
	comp=Z,409nm,0.7s					
JMN				ScP	**ScP**	**20 27 40.0 -0.1**
JMN	**Monobe**	40.37	5	⇑P	**P**	**20 22 08.8 +0.7**
JMN	**Monobe**	40.37	5	P	**P**	**20 22 08.7 +0.7**
JHJ	**Hachijo jima 2**	40.71	13	ScP	**ScP**	**20 27 40.9 -0.4**
	comp=Z,208nm,0.8s,baz=166,slow=6.0,SNR=5.7					
JHJ				LR	LR	20 37 12.9
	comp=Z,18μm,20.2s,baz=197,slow=33					
JHJ2	**Mitsune**	40.71	13	P	**P**	**20 22 10.0 -0.7**
JTU	**Tsushima**	40.98	360	P	**P**	**20 22 14.3 +1.4**
JTU	**Tsushima**	40.98	360	P	**P**	**20 22 13.1 +0.3**
JTU	**Tsushima**	40.98	360	⇑P	**P**	**20 22 12.8 -0.1**
PBA	**Port Blair**	41.06	296	*e*P	**P**	**20 22 12.0 -1.9**
KMI	**Kunming**	41.10	321	⇑P	**P**	**20 22 15.8 +1.4**
KMI				pP	pP	20 22 51.8 0.0
KMI				sP	sP	20 23 10.5 -1.0
KMI				PP	**PP**	**20 23 55.8 +2.7**
KMI				ScP	**ScP**	**20 27 44.5 +1.1**
KMI				S	**S**	**20 28 12.8 -1.2**
KMI				sS	sS	20 29 19.8 -0.7
KMI				ScS	**ScS**	**20 32 01.0 +1.2**
KMI				pmax	pmax	
	comp=Z,340nm,2.4s					
KMI				pmax	pmax	
	comp=Z,6μm,7.6s					
KMI				LR	LR	
	comp=Z,5μm,16.7s					
KMI				LR	LR	
	comp=Z,8μm,17.4s					
KMI				LR	LR	
	comp=Z,8μm,17.7s					
KMI	**Kunming**	41.10	321	⇑P	**P**	**20 22 15.6 +1.3**
KMI				pP	**pP**	**20 22 53.8 +2.0**
KMI				ScP	**ScP**	**20 27 45.0 +1.6**
JIE	**Ise**	41.37	9	P	**P**	**20 22 16.6 +0.5**
DGPR	**DIGLIPUR**	41.54	298	⇑*i*P	**P**	**20 22 15.9 -1.9**
ENH	**Enshi**	41.56	333	⇑P	**P**	**20 22 18.0 +0.3**
ENH	**Enshi**	41.56	333	⇑P	**P**	**20 22 17.8 +0.1**
ENH				pP	**pP**	**20 22 56.3 +1.0**
ENH				ScP	**ScP**	**20 27 44.8 0.0**
JHS	**Saijyo**	41.57	4	P	**P**	**20 22 18.3 +0.6**
JAD	**Aida**	41.60	5	P	**P**	**20 22 18.2 +0.2**
JSG	**Sagara**	41.89	10	P	**P**	**20 22 21.9 +1.6**
JSG	**Sagara**	41.89	10	⇑P	**P**	**20 22 19.6 -0.7**
JSG	**Sagara**	41.89	10	P	**P**	**20 22 20.8 +0.4**
JWT	**Wachi**	42.07	7	P	**P**	**20 22 22.4 +0.6**
NFK	**Norfolk Island**	42.33	126	P	**P**	**20 22 24.2 +0.2**
	baz=42,SNR=7.5					
NFK	**Norfolk Island**	42.33	126	P	**P**	**20 22 24.9 +0.9**
NFK	**Norfolk Island**	42.33	126	⇓P	**P**	**20 22 24.6 +0.5**
INU	**Inuyama**	42.35	9	P	**P**	**20 22 25.0 +0.9**
INU	**Inuyama**	42.35	9	P	**P**	**20 22 24.3 +0.2**
INU				ScP	**ScP**	**20 27 48.1 +0.2**
INU	**Inuyama**	42.35	9	⇑P	**P**	**20 22 24.1 0.0**
INU	**Inuyama**	42.35	9	P	**P**	**20 22 24.2 +0.2**
INU				pP	**pP**	**20 23 02.8 +0.7**
INU				ScP	**ScP**	**20 27 47.8 -0.1**
JGF	**Kuroka**	42.66	9	P	**P**	**20 22 27.2 +0.7**
JGF	**Kuroka**	42.66	9	P	**P**	**20 22 26.1 -0.4**
JGF	**Kuroka**	42.66	9	⇑P	**P**	**20 22 26.1 -0.4**
JGF	**Kuroka**	42.66	9	P	**P**	**20 22 26.2 -0.3**
PZH	**PanZhiHua**	42.72	322	P	**P**	**20 22 27.5 +0.2**
PZH				pP	**pP**	**20 23 06.0 +0.8**
PZH				sP	**sP**	**20 23 23.0 -1.9**
PZH				ScP	**ScP**	**20 27 50.0 +0.3**
PZH				PcS	**PcS**	**20 28 03.3 -5.1**
PZH				S	**S**	**20 28 33.5 -4.0**
PZH				ScS	**ScS**	**20 32 08.8 -0.7**
PZH				pmax	pmax	
	comp=Z,350nm,0.8s					
PZH				pmax	pmax	
	comp=Z,5μm,7.9s					
PZH				LR	LR	
	comp=Z,12μm,18.0s					
PZH				LR	LR	
	comp=Z,8μm,20.0s					
PZH				LR	LR	
	comp=Z,9μm,22.0s					
TJN	**Taejon**	42.88	357	P	**P**	**20 22 30.0 +1.7**
TJN	**Taejon**	42.88	357	P	**P**	**20 22 28.8 +0.5**
TJN	**Taejon**	42.88	357	*ce*P	**P**	**20 22 28.8 +0.5**
JGN	**Niukaw**	43.26	9	P	**P**	**20 22 31.0 -0.4**
JRY	**Ryogami san**	43.33	11	P	**P**	**20 22 30.9 -1.0**
MND	**Mandalay**	43.57	312	P	**P**	**20 22 34.3 +0.2**
MAJO	**Matsushiro**	43.72	10	P	**P**	**20 22 34.8 -0.2**
MAJO	**Matsushiro**	43.72	10	P	**P**	**20 22 34.2 -0.8**
MAJO				IAmb	IAmb	20 22 36.3
	comp=Z,566nm,0.9s					
MAJO				ScP	**ScP**	**20 27 53.2 -0.2**
MAJO	**Matsushiro**	43.72	10	⇑P	**P**	**20 22 34.1 -0.9**
MAJO	**Matsushiro**	43.72	10	*c*⇑P	**P**	**20 22 33.2 -1.8**
MAJO				pmax	pmax	
	comp=Z,597nm,0.9s					
MAJO	**Matsushiro**	43.72	10	P	**P**	**20 22 34.2 -0.8**
MAJO				pP	**pP**	**20 23 12.3 -0.9**
MAJO				pwP	**pwP**	**20 23 19.6 +1.6**
MAJO				ScP	**ScP**	**20 27 52.9 -0.4**
MAT	**Matsushiro**	43.72	10	P	**P**	**20 22 34.0 -1.0**
MJAR	**Matsushiro Arr**	43.72	10	P	**P**	**20 22 33.9 -1.1**
	comp=Z,371nm,0.9s,baz=187,slow=9.1,SNR=397					
MJAR				ScP	**ScP**	**20 27 52.9 -0.5**
	comp=Z,98nm,0.9s,baz=186,slow=4.5,SNR=16					
MJAR				S	**S**	**20 28 47.2 -4.3**
	comp=Z,7.4nm,0.9s,baz=286,slow=41,SNR=1.3					
MJAR				ScS	**SS**	**20 32 13.0 -1.2**
	comp=Z,1.6nm,0.9s,baz=248,slow=11,SNR=1.3					
MJAR				P3KP		20 53 29.9
	comp=Z,0.5nm,0.7s,baz=350,slow=0.4,SNR=1.6					
MJAR				PKP2ab		20 55 21.3
	comp=Z,5.7nm,1.1s,baz=356,slow=5.5,SNR=7.6					
	comp=Z,371nm,0.9s					
MJB9	**Matsu-Tunnel**	43.72	10	P	**P**	**20 22 35.2 +0.2**
MJB9				IAmb	IAmb	20 22 37.3
	comp=Z,549nm,0.9s					
MJB9				ScP	**ScP**	**20 27 53.8 +0.4**
TNCH	**TengChong**	43.78	317	⇑P	**P**	**20 22 36.5 +0.6**
TNCH				pP	pP	20 23 13.8 0.0
TNCH				sP	sP	20 23 33.3 -0.2
TNCH				PcP	**PcP**	**20 24 20.0 +0.6**
TNCH				ScP	**ScP**	**20 27 55.3 +1.2**
TNCH				S	**S**	**20 28 52.5 -0.6**
TNCH				sS	sS	20 29 59.8 -0.4
TNCH				ScS	**ScS**	**20 32 19.0 +2.7**
TNCH				pmax	pmax	
	comp=Z,460nm,1.8s					
TNCH				pmax	pmax	
	comp=Z,6μm,5.0s					
TNCH				LR	LR	
	comp=Z,3μm,10.8s					
TNCH				LR	LR	
	comp=Z,6μm,14.9s					
TNCH				LR	LR	
	comp=Z,9μm,20.6s					
JYT	**Yasato**	43.79	12	P	**P**	**20 22 35.0 -0.5**
TARA	**Tarawa**	43.83	81	P	**P**	**20 22 36.8 +0.5**
KSAR	**Wonju Array Be**	43.92	358	P	**P**	**20 22 37.5 +1.0**
KSAR				ScP	**ScP**	**20 27 54.0 -0.1**
KSRS	**Korea Array**	43.93	358	P	**P**	**20 22 37.5 +0.8**
	comp=Z,64nm,0.6s,baz=175,slow=10,SNR=248					
KSRS				pP	**pP**	**20 23 16.1 +1.5**
	comp=Z,41nm,0.7s,baz=176,slow=9.8,SNR=2.5					
KSRS				PcP	**PcP**	**20 24 20.9 +1.6**
	comp=Z,33nm,0.7s,baz=181,slow=4.3,SNR=5.9					
KSRS				ScP	**ScP**	**20 27 54.0 -0.1**
	comp=Z,97nm,1.0s,baz=180,slow=4.1,SNR=15					
KSRS				S	**S**	**20 28 52.2 -2.3**
	comp=Z,6.3nm,1.0s,baz=186,slow=6.2,SNR=1.6					
KSRS				ScS	**ScS**	**20 32 16.5 +0.2**
	comp=Z,3.9nm,1.0s,baz=188,slow=7.4,SNR=1.4					
KSRS				LR	LR	20 39 47.3
	comp=Z,4μm,21.6s,baz=185,slow=34					
KSRS				P3KP		20 53 28.8
	comp=Z,0.2nm,0.3s,baz=357,slow=2.7,SNR=1.4					
KSRS				PKP2ab		20 55 19.6
	comp=Z,2.4nm,0.9s,baz=357,slow=3.1,SNR=4.4					
	comp=Z,64nm,0.6s					
KS19	**Wonju Array Si**	43.98	358	P	**P**	**20 22 37.2 +0.2**
KS19				IAmb	IAmb	20 23 19.6
	comp=Z,806nm,1.9s					
INCN	**Inchon**	44.02	356	P	**P**	**20 22 38.5 +1.1**
INCN	**Inchon**	44.02	356	P	**P**	**20 22 37.5 +0.1**
INCN				IAmb	IAmb	20 23 25.6
	comp=Z,324nm,0.9s					
INCN	**Inchon**	44.02	356	⇑P	**P**	**20 22 38.2 +0.8**
INCN	**Inchon**	44.02	356	P	**P**	**20 22 37.5 +0.1**
INCN				pmax	pmax	
	comp=Z,324nm,0.9s					
INCN	**Inchon**	44.02	356	P	**P**	**20 22 38.3 +0.8**
INCN				S	**S**	**20 28 56.4 +0.5**
INCN	**Inchon**	44.02	356	P	**P**	**20 22 38.3 +0.8**
INCN				pP	**pP**	**20 23 16.7 +1.3**
INCN				pwP	**pwP**	**20 23 23.1 +2.0**
INCN				ScP	**ScP**	**20 27 54.4 -0.2**
LYN	**LuoYang**	44.13	339	⇑*i*P	**P**	**20 22 38.8 +0.5**
LYN				pP	pP	20 23 15.0 -1.3
LYN				sP	sP	20 23 37.0 +1.1
LYN				PP	**PP**	**20 24 27.5 +2.4**
LYN				ScP	**ScP**	**20 27 55.5 +0.4**
LYN				PcS	**PcS**	**20 28 10.5 -3.0**
LYN				S	**S**	**20 28 55.0 -2.5**
LYN				sS	sS	20 30 03.0 -1.8
LYN				SS	**ScS**	**20 32 17.5 -0.2**
LYN				pmax	pmax	
	comp=Z,650nm,0.9s					
LYN				pmax	pmax	
	comp=Z,7μm,10.3s					
TIA	**Tai'an**	44.27	345	P	**P**	**20 22 39.3 -0.1**
TIA				pP	**pP**	**20 23 15.3 -2.0**
TIA				sP	**sP**	**20 23 38.0 +1.0**
TIA				ScP	**ScP**	**20 27 55.8 +0.2**
TIA				S	**S**	**20 28 55.5 -4.0**
TIA				sS	**sS**	**20 30 03.5 -3.3**
TIA				ScS	**ScS**	**20 32 19.5 +0.9**
TIA				pmax	pmax	
	comp=Z,93nm,0.9s					
TIA				pmax	pmax	
	comp=Z,2μm,8.3s					
TIA				LR	LR	
	comp=Z,2μm,12.6s					
TIA				LR	LR	
	comp=Z,2μm,15.5s					
TIA				LR	LR	
	comp=Z,3μm,17.1s					
HJU	**Haeju**	44.64	355	P	**P**	**20 22 43.1 +0.8**
HJU				S	**S**	**20 29 04.2 -0.5**
HJU				AmB		
	comp=Z,4μm,3.5s					
CD2	**Chengdu**	44.89	328	⇑*i*P	**P**	**20 22 44.3 -0.2**
CD2				pP	pP	20 23 21.3 -1.3
CD2				sP	sP	20 23 40.0 -2.4
CD2				S	**S**	**20 29 04.0 -4.7**
CD2				sS	sS	20 30 18.3 +2.2
CD2				ScS	**ScS**	**20 32 20.5 -2.4**
CD2				pmax	pmax	
	comp=Z,410nm,0.9s					
CD2				pmax	pmax	
	comp=Z,5μm,6.0s					
CD2				LR	LR	
	comp=Z,2μm,13.6s					
CD2				LR	LR	
	comp=Z,2μm,11.8s					
CD2				LR	LR	
	comp=Z,5μm,15.3s					
XAN	**Xi'an**	45.04	335	⇑P	**P**	**20 22 45.5 -0.1**
XAN				pP	pP	20 23 23.5 -0.1
XAN				sP	sP	20 23 44.5 +1.2
XAN				ScP	**ScP**	**20 27 59.3 +0.4**
XAN				S	**S**	**20 29 08.3 -2.4**
XAN				sS	sS	20 30 19.5 +1.4
XAN				ScS	**ScS**	**20 32 21.8 -1.9**
XAN				SS	**SS**	**20 32 29.8 -6.6**
XAN				pmax	pmax	
	comp=Z,2μm,0.8s					
XAN				pmax	pmax	
	comp=Z,8μm,3.8s					
XAN				LR	LR	
	comp=Z,5μm,17.9s					
XAN				LR	LR	
	comp=Z,10μm,16.5s					
XAN				LR	LR	
	comp=Z,9μm,16.7s					
XAN	**Xi'an**	45.04	335	⇑P	**P**	**20 22 45.3 -0.2**
XAN				pP	**pP**	**20 23 24.1 +0.5**
XAN				pwP	**pwP**	**20 23 31.0 +1.3**
XAN				ScP	**ScP**	**20 27 59.2 +0.3**
JSD	**Sado**	45.18	9	P	**P**	**20 22 47.5 +0.9**
JSD	**Sado**	45.18	9	P	**P**	**20 22 46.7 +0.2**
JSD	**Sado**	45.18	9	⇑P	**P**	**20 22 46.2 -0.3**
JSD	**Sado**	45.18	9	*e*P	**P**	**20 22 46.3 -0.3**
JMM	**Marumori**	45.49	12	P	**P**	**20 22 50.2 +1.2**
JMM	**Marumori**	45.49	12	P	**P**	**20 22 49.1 +0.1**
JMM				IAmb	IAmb	20 22 54.6
	comp=Z,582nm,0.8s					
JMM	**Marumori**	45.49	12	⇑P	**P**	**20 22 49.1 +0.1**
JMM	**Marumori**	45.49	12	P	**P**	**20 22 49.2 +0.2**
PYAG	**Pyongyang**	45.64	356	P	**P**	**20 22 50.8 +0.7**
PYAG				pP	**pP**	**20 23 29.6 +1.3**
PYAG				S	**S**	**20 29 19.8 +0.8**
PYAG				AmB		
	comp=Z,2μm,2.8s					
DL2	**Dalian**	45.97	351	P	**P**	**20 22 52.8 +0.1**
DL2				pP	**pwP**	**20 23 34.5 -2.6**
DL2				ScP	**ScP**	**20 28 00.8 -1.7**
DL2				S	**S**	**20 29 22.3 -1.4**
DL2				ScS	**ScS**	**20 32 28.0 -1.3**
DL2				pmax	pmax	
	comp=Z,370nm,0.9s					
DL2				pmax	pmax	
	comp=Z,6μm,9.8s					
JYA	**Atsumi**	45.98	11	P	**P**	**20 22 53.3 +0.5**
HNS	**HongShan**	46.04	343	⇑P	**P**	**20 22 53.5 +0.2**
HNS				pP	**pP**	**20 23 30.3 -1.2**
HNS				sP	**sP**	**20 23 52.3 +1.2**
HNS				PcP	**PcP**	**20 24 28.8 +2.1**
HNS				PP	**PP**	**20 24 44.5 0.0**
HNS				ScP	**ScP**	**20 28 02.8 -0.1**
HNS				S	**S**	**20 29 21.8 -3.0**
HNS				sS	**sS**	**20 30 31.5 -1.0**
HNS				ScS	**ScS**	**20 32 29.8 0.0**
HNS				pmax	pmax	
	comp=Z,1μm,1.0s					
HNS				pmax	pmax	
	comp=Z,5μm,6.5s					
HNS				LR	LR	
	comp=Z,4μm,17.5s					
HNS				LR	LR	
	comp=Z,5μm,13.5s					
HNS				LR	LR	
	comp=Z,4μm,16.7s					
SAIH	**SAIHA**	46.20	310	⇑*i*P	**P**	**20 22 55.5 +0.5**
SAIH				*i* x	x	20 29 22.5
SAIH				*i* x	x	20 29 23.2
SAIH				*ex*	x	20 32 27.9
SAIH				*ex*	x	20 32 28.2
HHU	**Hamhung**	46.41	358	P	**P**	**20 22 56.2 +0.1**
HHU				S	**S**	**20 29 30.7 +0.7**
HHU				AmB		
	comp=Z,520nm,0.7s					
SUJ	**Sinuiju**	46.79	354	P	**P**	**20 22 59.3 +0.2**
SUJ				S	**S**	**20 29 34.9 -0.5**
SUJ				AmB		
	comp=Z,2μm,3.3s					
IMP	**Imphal**	46.85	313	*i* P	**P**	**20 22 59.4 -0.6**
IMP				*i* x	x	20 29 31.2
IMP				*ex*	x	20 32 30.2
TIY	**Taiyuan**	47.02	341	⇑P	**P**	**20 23 01.5 +0.5**
TIY				pP	**pP**	**20 23 40.3 +0.9**
TIY				sP	**sP**	**20 24 04.3 +5.4**
TIY				PP	**PP**	**20 24 57.0 +3.5**
TIY				S	**S**	**20 29 35.3 -3.6**
TIY				sS	**sS**	**20 30 50.3 +3.5**
TIY				pmax	pmax	
	comp=Z,210nm,0.9s					
TIY				pmax	pmax	
	comp=Z,4μm,5.7s					
JOM	**Ohasama**	47.14	12	P	**P**	**20 23 02.2 +0.4**
KOHI	**KOHIMA**	47.28	314	⇑*i*P	**P**	**20 23 03.0 -0.3**
KOHI				*i* x	x	20 29 36.3
KOHI				*e*SCS		20 32 37.1
YSA	**Yasawairara**	47.78	106	P	**P**	**20 23 08.3 +1.1**
BELO	**BELONIA**	47.80	310	*i* P	**P**	**20 23 08.7 +1.6**
BELO				*i* x	x	20 29 46.6
BELO				*i* x	x	20 29 49.3
BELO				*ex*	x	20 32 35.8
BELO				*ex*	x	20 32 42.2
JORH	**JORHAT**	47.81	316	⇑*i*P	**P**	**20 23 07.0 -0.2**
JORH				*i* x	x	20 29 43.3
JORH				*ex*	x	20 32 36.6
BJT	**Baijiatuau**	48.12	346	P	**P**	**20 23 10.0 +0.6**
BJT	**Baijiatuau**	48.12	346	IAmb	IAmb	20 23 11.8
	comp=Z,556nm,0.7s					
BJT	**Baijiatuau**	48.12	346	P	**P**	**20 23 09.9 +0.6**
BJT				pP	**pP**	**20 23 48.7 +0.8**
BJT				pwP	**pwP**	**20 23 55.7 +1.5**
BJT				PcP	**PcP**	**20 24 35.8 +1.7**
BJT				ScP	**ScP**	**20 28 11.6 0.0**
BJI	**Beijing**	48.14	346	P	**P**	**20 23 10.0 +0.5**
BJI				pP	**pP**	**20 23 49.5 +1.5**
BJI				PcP	**PcP**	**20 24 35.0 +0.9**
BJI				ScP	**ScP**	**20 28 11.5 -0.1**
BJI				S	**S**	**20 29 52.0 -2.4**
BJI				ScS	**ScS**	**20 32 43.8 +0.2**
BJI				pmax	pmax	
	comp=Z,360nm,0.8s					
BJI				pmax	pmax	
	comp=Z,2μm,3.9s					
AGT	**Agartala**	48.30	310	⇑*i*P	**P**	**20 23 12.5 +1.5**
AGT				*i* x	x	20 29 54.5
AGT				*ex*	x	20 32 46.7
MSVF	**Nonsavu**	48.35	108	P	**P**	**20 23 12.7 +1.0**
MSVF	**Nonsavu**	48.35	108	P	**P**	**20 23 11.6 0.0**
MSVF				IAmb	IAmb	20 23 14.8
	comp=Z,788nm,1.2s					
MSVF	**Nonsavu**	48.35	108	*d*⇑P	**P**	**20 23 12.6 +1.0**
MSVF				pmax	pmax	
	comp=Z,762nm,1.2s					
MSVF	**Nonsavu**	48.35	108	P	**P**	**20 23 12.6 +1.0**
MSVF				ScP	**ScP**	**20 28 15.8 +2.5**
JTM	**Tenmabayashi**	48.36	12	P	**P**	**20 23 12.7 +1.5**
JTM	**Tenmabayashi**	48.36	12	P	**P**	**20 23 11.7 +0.5**
JTM				IAmb	IAmb	20 23 13.8
	comp=Z,521nm,1.0s					
JTM				ScP	**ScP**	**20 28 12.7 +0.1**
JTM	**Tenmabayashi**	48.36	12	⇑P	**P**	**20 23 11.5 +0.3**
JTM	**Tenmabayashi**	48.36	12	P	**P**	**20 23 11.6 +0.5**
ITAN	**ITANAGAR**	48.43	316	⇑*i*P	**P**	**20 23 12.6 +0.6**
SNY	**Shenyang**	48.59	354	⇑P	**P**	**20 23 13.0 +0.1**
SNY				S	**S**	**20 29 52.3 -8.5**
SNY				pmax	pmax	
	comp=Z,280nm,0.8s					
SNY				pmax	pmax	
	comp=Z,2μm,5.9s					
SNY				LR	LR	
	comp=Z,3μm,19.0s					
SNY				LR	LR	
	comp=Z,7μm,20.6s					
SNY				LR	LR	
	comp=Z,6μm,16.3s					
SHL	**Shillong**	48.79	313	⇑*i*P	**P**	**20 23 14.8 -0.2**
JOT	**Ohata**	48.93	11	*e*P	**P**	**20 23 16.5 +1.0**
LZH	**Lanzhou**	49.00	332	⇑*i*P	**P**	**20 23 17.5 +1.2**
LZH				pP	pP	20 23 55.0 -0.1
LZH				PP	**PP**	**20 25 11.3 -0.4**
LZH				ScP	**ScP**	**20 28 16.5 +0.8**
LZH				S	**S**	**20 30 04.5 -2.5**
LZH				sS	sS	20 31 17.0 +1.6
LZH				ScS	**ScS**	**20 32 49.8 -0.2**
LZH				SS	**SS**	**20 33 39.3 -1.3**
LZH				pmax	pmax	
	comp=Z,2μm,0.9s					
LZH				pmax	pmax	
	comp=Z,8μm,4.4s					
LZH				LR	LR	
	comp=Z,9μm,18.5s					
LZH				LR	LR	
	comp=Z,7μm,19.3s					
LZH				LR	LR	
	comp=Z,9μm,19.2s					
FUNA	**Funafuti**	49.03	95	P	**P**	**20 23 17.6 +0.8**
FUNA	**Funafuti**	49.03	95	P	**P**	**20 23 17.0 +0.2**
FUNA	**Funafuti**	49.03	95	⇓P	**P**	**20 23 17.3 +0.5**
FUNA	**Funafuti**	49.03	95	P	**P**	**20 23 17.2 +0.5**
FUNA				pP	**pP**	**20 23 55.1 -0.5**
FUNA				pwP	**pwP**	**20 24 02.3 +1.3**
FUNA				sP	**sP**	**20 24 14.8 -0.4**
MSHR	**Mys Shultsa**	49.03	1	*ce*P	**P**	**20 23 17.0 +0.7**
MSHR				pmax	pmax	
	comp=Z,182nm,0.6s					
PSTR	**Posyet**	49.10	1	*c i*P	**P**	**20 23 17.6 +0.9**
OUZ	**Omahuta**	49.25	132	P	**P**	**20 23 19.8 +1.7**
OUZ	**Omahuta**	49.25	132	⇓P	**P**	**20 23 19.9 +1.7**
DGTI	**Dogotuki**	49.80	106	P	**P**	**20 23 22.9 +0.3**
JSH	**Shimam**	49.97	10	*e*P	**P**	**20 23 23.8 +0.5**
ERM	**Erimo**	49.98	13	P	**P**	**20 23 25.4 +2.0**
ERM	**Erimo**	49.98	13	P	**P**	**20 23 23.6 +0.1**
ERM	**Erimo**	49.98	13	⇑P	**P**	**20 23 24.0 +0.6**
ERM	**Erimo**	49.98	13	*ce*P	**P**	**20 23 23.5 +0.1**
ERM				pmax	pmax	
	comp=Z,85nm,0.8s					
ERM	**Erimo**	49.98	13	P	**P**	**20 23 25.2 +1.8**
ERM				sP	**sP**	**20 24 23.7 +1.6**
JEM	**Erimo**	49.98	13	P	**P**	**

CN2 ScP **ScP** **20 28 20.5 -0.7**
CN2 S **S** **20 30 23.5 -2.2**
CN2 pmax pmax
comp=Z,200nm,0.5s
CN2 pmax pmax
comp=Z,2µm,5.0s
DCZ **Deep Cove** **50.41 146** P **P** **20 23 25.7 -1.0**
DCZ IAmb IAmb 20 23 28.5
comp=Z,1µm,1.5s
DCZ ScP **ScP** **20 28 22.0 +0.6**
JEW **Eniwo** **50.42 11** P **P** **20 23 27.2 +0.5**
BTO **Baotou** **50.42 341** *eP* **P** **20 23 28.5 +1.5**
BTO pP **pP** **20 24 08.3 +2.4**
BTO sP **sP** **20 24 27.3 +2.0**
BTO PP **PP** **20 25 28.0 +3.5**
BTO S **S** **20 30 27.0 +0.4**
BTO SS **SS** **20 34 04.8 +1.7**
BTO pmax pmax
comp=Z,160nm,0.9s
BTO pmax pmax
comp=Z,10µm,7.8s
BTO LR LR
comp=Z,7µm,15.4s
BTO LR LR
comp=Z,8µm,20.7s
BTO LR LR
comp=Z,10µm,19.0s
JCZ **Jackson Bay** **50.50 144** P **P** **20 23 28.7 +1.2**
PYZ **Puysegur Point** **50.60 147** P **P** **20 23 29.1 +1.0**
PYZ **Puysegur Point** **50.60 147** P **P** **20 23 29.1 +1.0**
PYZ IAmb IAmb 20 23 29.9
comp=Z,728nm,1.3s
PYZ ScP **ScP** **20 28 23.2 +1.0**
USA0B **Ussuriysk Arra** **50.68 2** P **P** **20 23 29.2 +0.6**
USA0B IAmb IAmb 20 23 30.9
comp=Z,261nm,0.7s
USA0B **Ussuriysk Arra** **50.68 2** P **P** **20 23 29.2 +0.6**
USA0B pmax pmax
comp=Z,261nm,0.7s
USRK **Ussuriysk Ar.** **50.68 2** P **P** **20 23 28.9 +0.4**
USRK **Ussuriysk Ar.** **50.68 2** P **P** **20 23 29.0 +0.4**
USRK **Ussuriysk Ar.** **50.68 2** P **P** **20 23 29.2 +0.6**
comp=Z,310nm,0.7s,baz=183,slow=5.8,SNR=243
USRK ScP **ScP** **20 28 22.1 -0.3**
comp=Z,61nm,1.0s,baz=189,slow=2.9,SNR=9.6
USRK S **S** **20 30 27.7 -2.0**
comp=Z,15nm,1.0s,baz=180,slow=4.5,SNR=3.2
USRK ScS **ScS** **20 33 00.2 -0.5**
comp=Z,3.3nm,0.8s,baz=212,slow=5.7,SNR=1.2
USRK PKP2ab 20 54 49.6
comp=Z,20nm,0.9s,baz=349,slow=4.3,SNR=18
comp=Z,310nm,0.7s
FOZ **Fox Glacier** **50.80 143** IAmb IAmb 20 23 31.1
comp=Z,1µm,1.5s
FOZ ScP **ScP** **20 28 24.1 +1.0**
PALK **Pallekele** **50.84 285** P **P** **20 23 29.6 -0.8**
PALK PcP **PcP** **20 24 46.2 +1.5**
PALK **Pallekele** **50.84 285** *c iP* **P** **20 23 29.2 -1.3**
PALK pmax pmax
comp=Z,237nm,0.9s
PALK **Pallekele** **50.84 285** P **P** **20 23 30.1 -0.4**
PALK P **P** **20 23 30.1 -0.4**
PALK S **S** **20 30 29.0 -4.0**
PALK S **S** **20 30 29.0 -4.0**
PALK **Pallekele** **50.84 285** P **P** **20 23 29.9 -0.5**
PALK pP **pP** **20 24 09.7 +0.3**
PALK PcP **PcP** **20 24 45.7 +1.0**
PALK ScP **ScP** **20 28 24.2 +0.3**
MLZ **Mavora Lakes** **50.89 146** IAmb IAmb 20 23 32.6
comp=Z,840nm,1.4s
MDJ **Mudanjiang** **51.05 360** P **P** **20 23 32.3 +0.9**
MDJ pP pP 20 24 10.5 0.0
MDJ PP **PP** **20 25 29.5 -0.5**
MDJ PcS **PcS** **20 28 44.5 +2.1**
MDJ S **S** **20 30 34.3 -0.5**
MDJ sS sS 20 31 42.5 -1.2
MDJ ScS **ScS** **20 33 02.3 -1.0**
MDJ SS **SS** **20 34 13.8 +1.2**
MDJ pmax pmax
comp=Z,240nm,1.0s
MDJ pmax pmax
comp=Z,3µm,8.6s
MDJ **Mudanjiang** **51.05 360** P **P** **20 23 32.5 +1.1**
MDJ **Mudanjiang** **51.05 360** IAmb IAmb 20 23 34.3
comp=Z,248nm,0.7s
MDJ **Mudanjiang** **51.05 360** ⇑P **P** **20 23 32.1 +0.7**
MDJ pP **pP** **20 24 11.5 +1.0**
MDJ sP **sP** **20 24 32.0 +2.0**
MDJ PcP **PcP** **20 24 46.0 +1.3**
MDJ ScP **ScP** **20 28 23.3 -0.8**
DSZ **Denniston Nort** **51.07 140** ScP **ScP** **20 28 25.0 +0.6**
QRZ **Quartz Range** **51.07 138** P **P** **20 23 33.3 +1.6**
WHZ **Wether Hill Ro** **51.12 146** IAmb IAmb 20 23 33.2
comp=Z,688nm,1.0s
MALK **Mahakanadarawa** **51.28 286** P **P** **20 23 32.0 -1.7**
MALK **Mahakanadarawa** **51.28 286** ⇑P **P** **20 23 33.4 -0.3**
KHEZ **Kahui Hut** **51.34 136** P **P** **20 23 35.0 +1.1**
KHEZ **Kahui Hut** **51.34 136** P **P** **20 23 35.9 +2.0**
KHEZ ScP **ScP** **20 28 24.8 -0.8**
INZ **Inchbonnie** **51.35 141** IAmb IAmb 20 23 38.1
comp=Z,221nm,0.7s
LKBA **Tubou, Lakemba** **51.37 108** P **P** **20 23 34.8 +0.5**
HIZ **Hauiti** **51.58 135** P **P** **20 23 38.0 +2.5**
HIZ ScP **ScP** **20 28 27.4 +0.8**
RPZ **Rata Peaks** **51.65 142** P **P** **20 23 37.4 +1.4**
TOZ **Tahuroa Road** **51.70 134** P **P** **20 23 38.3 +1.9**
TOZ ScP **ScP** **20 28 29.0 +1.9**
FUTU **Fugatoga** **51.73 103** P **P** **20 23 39.0 +2.0**
VRZ **Vera Road** **51.78 136** P **P** **20 23 39.7 +2.7**
THZ **Tophouse** **51.78 139** P **P** **20 23 37.0 -0.1**
LSA **Lhasa** **51.78 316** P **P** **20 23 38.9 +1.2**
LSA **Lhasa** **51.78 316** ⇑P **P** **20 23 39.0 +1.3**
NNZ **Nelson** **51.82 139** IAmb IAmb 20 23 40.6
comp=Z,439nm,1.3s
NNZ **Nelson** **51.82 139** P **P** **20 23 37.5 +0.2**
XLT **XiLinHaoTe** **51.83 347** ⇑*iP* **P** **20 23 38.0 +0.6**
XLT pP pP 20 24 19.3 +2.8
XLT sP sP 20 24 34.0 -1.9
XLT PcP **PcP** **20 24 46.0 -1.8**
XLT PP **PP** **20 25 39.8 +2.6**
XLT S S 20 30 36.3 -9.4
XLT sS sS 20 31 52.5 -2.3
XLT ScS **ScS** **20 33 07.5 -1.5**
XLT SS **SS** **20 34 25.3 +0.1**
XLT pmax pmax
comp=Z,380nm,1.0s
XLT pmax pmax
comp=Z,4µm,3.8s
TEY **Ternei** **51.84 6** ⇑*eP* **P** **20 23 37.8 +0.6**
TEY *e* 20 24 14.5
TEY *e* 20 30 41.0
TEY pmax pmax
comp=N,70nm,1.0s
TEY pmax pmax
comp=Z,130nm,1.0s
VIS **Vishakhapatnam** **51.84 299** ⇑*iP* **P** **20 23 38.8 +1.0**
ASAJ **Asahikawa** **51.87 12** P **P** **20 23 37.9 +0.4**
ASAJ **Asahikawa** **51.87 12** S **S** **20 30 44.6 -1.4**
comp=Z,8.5nm,0.8s,baz=87,slow=21,SNR=1.4
ASAJ LR LR 20 45 30.4
comp=Z,4µm,21.0s,baz=198,slow=36
JKA **Kamikawa-asahi** **51.87 12** IAmb IAmb 20 24 38.4
comp=Z,284nm,1.1s
JMP **Maruseppu** **51.93 12** P **P** **20 23 38.5 +0.6**
SLGI **Shiliguri** **51.99 311** *eP* **P** **20 23 38.1 -0.6**
OXZ **Oxford** **52.04 141** IAmb IAmb 20 23 41.5
comp=Z,375nm,0.6s
ODZ **Otahua Downs** **52.15 144** P **P** **20 23 39.7 +0.1**
ODZ **Otahua Downs** **52.15 144** P **P** **20 23 39.5 -0.1**
ODZ IAmb IAmb 20 23 41.6
comp=Z,838nm,1.5s
ODZ **Otahua Downs** **52.15 144** ⇓P **P** **20 23 39.8 +0.2**
SYZ **Scrubby Hill** **52.16 146** P **P** **20 23 39.5 -0.2**
GTK **Tadong** **52.20 312** ⇑*iP* **P** **20 23 41.2 +0.7**
BNX **BinXian** **52.22 358** ⇑P **P** **20 23 39.5 -0.5**
BNX pP **pP** **20 24 20.3 +1.0**
BNX sP **sP** **20 24 34.0 -4.7**
BNX PcP **PcP** **20 24 51.8 +2.8**
BNX S **S** **20 30 48.5 -2.2**
BNX sS **sS** **20 31 58.8 -1.9**
BNX ScS **ScS** **20 33 08.3 -3.0**
BNX pmax pmax
comp=Z,140nm,1.0s
BNX pmax pmax
comp=Z,2µm,9.2s
WAZ **Wanganui** **52.22 136** P **P** **20 23 42.4 +2.1**
TWVZ **Taurewa** **52.23 135** P **P** **20 23 41.5 +1.0**
TWVZ ScP **ScP** **20 28 30.0 +0.4**
PKVZ **Pokaka** **52.26 135** P **P** **20 23 42.3 +1.6**
PKVZ ScP **ScP** **20 28 29.8 +0.2**
WATZ **Wairara** **52.28 135** P **P** **20 23 42.8 +2.0**
KARZ **Kaharoa** **52.35 134** P **P** **20 23 44.4 +3.1**
WTVZ **West Tongariro** **52.35 135** P **P** **20 23 42.8 +1.4**
WTVZ ScP **ScP** **20 28 30.7 +0.6**
COVZ **Chateau Observ** **52.36 135** P **P** **20 23 42.8 +1.4**
COVZ ScP **ScP** **20 28 29.7 -0.4**
KATZ **Kakaramea** **52.37 135** P **P** **20 23 43.1 +1.5**
KATZ ScP **ScP** **20 28 31.0 +0.8**
NNVZ **North Ngauruho** **52.38 135** P **P** **20 23 43.3 +1.6**
NNVZ ScP **ScP** **20 28 30.6 +0.4**
KRVZ **Karewarewa** **52.38 135** P **P** **20 23 43.1 +1.5**
KRVZ ScP **ScP** **20 28 30.4 +0.1**
MTVZ **Mangateitei** **52.39 136** P **P** **20 23 44.1 +2.5**
MTVZ ScP **ScP** **20 28 30.6 +0.4**
NGZ **Ngauruhoe** **52.39 135** P **P** **20 23 43.0 +1.3**
NGZ ScP **ScP** **20 28 30.7 +0.4**
FWVZ **Far West T-bar** **52.39 135** P **P** **20 23 42.9 +1.1**
FWVZ ScP **ScP** **20 28 30.0 -0.4**
GRRZ **Galatos Road** **52.40 134** P **P** **20 23 43.3 +1.7**
MAVZ **Matarangi** **52.40 135** P **P** **20 23 43.6 +1.6**
MAVZ ScP **ScP** **20 28 30.4 -0.1**
TRVZ **Turoa** **52.41 135** P **P** **20 23 38.4 -3.5**
NTVZ **North Tongarir** **52.41 135** P **P** **20 23 43.4 +1.6**
NTVZ ScP **ScP** **20 28 30.2 -0.2**
SNVZ **South Ngauruho** **52.42 135** P **P** **20 23 43.4 +1.5**
SNVZ ScP **ScP** **20 28 29.7 -0.7**
BOK **Bokaro** **52.42 307** ⇑*iP* **P** **20 23 42.5 +0.5**
BOK IAmb IAmb 20 23 45.5
comp=Z,177nm,0.8s
WHVZ **Whangaehu Hut** **52.43 135** P **P** **20 23 43.5 +1.4**
WHVZ ScP **ScP** **20 28 29.6 -0.9**
OTVZ **Oturere** **52.43 135** P **P** **20 23 43.6 +1.6**
OTVZ ScP **ScP** **20 28 29.4 -1.1**
TMVZ **Te Maari** **52.43 135** P **P** **20 23 43.8 +1.8**
TMVZ ScP **ScP** **20 28 29.6 -0.8**
ETVZ **East Tongariro** **52.45 135** P **P** **20 23 43.8 +1.7**
ETVZ ScP **ScP** **20 28 29.9 -0.6**
WNVZ **Wahianoa** **52.45 135** P **P** **20 23 43.4 +1.2**
WNVZ ScP **ScP** **20 28 30.8 +0.2**
TUVZ **Tukino** **52.47 135** P **P** **20 23 43.7 +1.4**
TUVZ ScP **ScP** **20 28 31.1 +0.4**
OMRZ **Omania** **52.48 134** P **P** **20 23 44.0 +1.8**
RITZ **Rihia Road** **52.48 135** P **P** **20 23 45.1 +2.9**
OPRZ **Ohinepanea** **52.51 133** P **P** **20 23 43.4 +1.1**
KHZ **Kahutara** **52.52 140** P **P** **20 23 42.4 +0.1**
KHZ **Kahutara** **52.52 140** ⇓P **P** **20 23 42.5 +0.1**
HLRZ **Highlands Stat** **52.53 134** P **P** **20 23 45.1 +2.5**
YUK **Yuzh-Kuril'sk** **52.53 15** *d iP* **P** **20 23 42.1 -0.3**
YUK *e* 20 25 41.7
YUK *i* S **S** **20 30 52.3 -2.7**
YUK pmax pmax
comp=Z,653nm,1.1s
YUK pmax pmax
comp=N,131nm,0.6s
YUK pmax pmax
comp=E,122nm,0.8s
MKRZ **Makatiti** **52.56 134** P **P** **20 23 45.6 +2.7**
MOVZ **Moawhango** **52.59 135** P **P** **20 23 43.6 +0.4**
MOVZ ScP **ScP** **20 28 30.2 -0.9**
MQZ **McQueen's Vall** **52.62 142** IAmb IAmb 20 23 45.6
comp=Z,796nm,1.2s
TARZ **Mount Tarawera** **52.63 134** P **P** **20 23 45.3 +1.8**
OHWZ **Ohakea** **52.65 137** P **P** **20 23 44.2 +0.8**
PRRZ **Plateau Road** **52.66 134** P **P** 20 23 48.5 +5.0
KIW **Kapiti Island** **52.67 137** P **P** **20 23 43.7 +0.1**
KIW ScP **ScP** **20 28 30.2 -1.2**
SNZO **South Karori** **52.74 138** P **P** **20 23 43.6 -0.4**
SNZO **South Karori** **52.74 138** P **P** **20 23 43.8 -0.3**
SNZO **South Karori** **52.74 138** P **P** **20 23 43.4 -0.7**
SNZO ScP **ScP** **20 28 31.0 -0.6**
WEL **Wellington** **52.77 138** P **P** **20 23 44.5 +0.2**
OGWZ **Otaki Gorge** **52.83 137** P **P** **20 23 44.9 +0.2**
OGWZ ScP **ScP** **20 28 31.5 -0.4**
WIZ **White Island** **52.84 133** P **P** **20 23 46.2 +1.4**
BHHZ **Black Hill Sta** **52.85 135** P **P** **20 23 45.1 +0.1**
BHHZ ScP **ScP** **20 28 31.8 -0.4**
CAW **Cannon Point** **52.89 138** P **P** **20 23 44.8 -0.3**
CAW ScP **ScP** **20 28 31.7 -0.5**
JWK2 **Keihoku** **52.89 11** P **P** **20 23 45.5 +0.6**
BHW **Baring Head** **52.90 138** IAmb IAmb 20 23 46.0
comp=Z,1µm,1.3s
BHW **Baring Head** **52.90 138** P **P** **20 23 44.5 -0.7**
BHW ScP **ScP** **20 28 31.5 -0.7**
MUGZ **Murupara** **52.92 134** P **P** **20 23 46.1 +0.6**
MDRS **Chennai** **52.93 292** ⇑*iP* **P** **20 23 46.1 +0.2**
MDRS IAmb IAmb 20 23 49.5
comp=Z,667nm,1.2s
BKZ **Black Stump Fm** **53.01 135** P **P** **20 23 46.0 -0.1**
BKZ **Black Stump Fm** **53.01 135** IAmb IAmb 20 23 49.4
comp=Z,751nm,1.4s
BKZ **Black Stump Fm** **53.01 135** P **P** **20 23 46.3 +0.2**
TSZ **Takapari Road** **53.02 136** P **P** **20 23 46.5 +0.2**
MRZ **Mangatainoka R** **53.03 137** IAmb IAmb 20 23 47.4
comp=Z,889nm,1.3s
MRZ **Mangatainoka R** **53.03 137** P **P** **20 23 45.7 -0.5**
POWZ **Post Office Ro** **53.04 137** P **P** **20 23 46.1 -0.2**
KWHZ **Kaweka Forest** **53.07 135** P **P** **20 23 47.2 +0.6**
URZ **Urewera** **53.08 134** P **P** **20 23 46.4 -0.1**
URZ **Urewera** **53.08 134** P **P** **20 23 46.4 -0.1**
HOWZ **Holdsworth Sta** **53.10 137** P **P** **20 23 46.3 -0.4**
HOWZ ScP **ScP** **20 28 32.5 -0.7**
MTHZ **Maungataniwha** **53.12 134** P **P** **20 23 47.3 +0.3**
MTHZ ScP **ScP** **20 28 33.4 0.0**
PNHZ **Pukenui** **53.13 136** P **P** **20 23 47.0 0.0**
PNHZ ScP **ScP** **20 28 32.9 -0.5**
RTZ **Ruatahuna** **53.13 134** P **P** **20 23 47.3 +0.3**
KRHZ **Kereru** **53.13 135** P **P** **20 23 47.2 +0.3**
KRHZ ScP **ScP** **20 28 33.3 0.0**
MCQ **Macquarie Isla** **53.17 159** P **P** **20 23 48.6 +1.8**
baz=53,SNR=20
MCQ **Macquarie Isla** **53.17 159** P **P** **20 23 48.3 +1.4**
JHSG **JHARSUGUGA** **53.18 303** ⇑*iP* **P** **20 23 48.4 +0.8**
NMHZ **Naumai** **53.20 135** P **P** **20 23 48.7 +1.1**
NMHZ ScP **ScP** **20 28 33.9 +0.2**
MTW **Mount Morrison** **53.21 138** P **P** **20 23 47.0 -0.5**
MTW ScP **ScP** **20 28 32.9 -0.8**
PLWZ **Palliser** **53.23 138** P **P** **20 23 47.1 -0.6**
PLWZ ScP **ScP** **20 28 33.6 -0.1**
PRWZ **Pori Road** **53.25 137** P **P** **20 23 47.9 +0.1**
PAWZ **Paruwai Farm** **53.26 138** P **P** **20 23 47.6 -0.3**
PAWZ ScP **ScP** **20 28 33.8 -0.1**
MCHZ **McNeill Hill** **53.27 135** P **P** **20 23 48.8 +0.8**
DVHZ **Dannevirke** **53.27 136** P **P** **20 23 47.9 -0.1**
DVHZ ScP **ScP** **20 28 32.5 -1.5**
TIWZ **Tintock** **53.29 137** P **P** **20 23 47.8 -0.3**
TIWZ ScP **ScP** **20 28 34.0 0.0**
RAHZ **Arahi** **53.33 134** P **P** **20 23 49.4 +0.9**
RAGZ **Rawiri** **53.39 134** P **P** **20 23 49.2 +0.3**
MWZ **Matawai** **53.41 133** P **P** **20 23 49.2 +0.1**
TRWZ **Traveller** **53.44 138** P **P** **20 23 49.1 -0.1**
TRWZ ScP **ScP** **20 28 34.6 -0.1**
TMWZ **Te Maipa** **53.44 137** P **P** **20 23 49.3 +0.1**
TMWZ ScP **ScP** **20 28 34.5 -0.2**
SNGZ **Shannon Statio** **53.45 134** P **P** **20 23 49.8 +0.5**
BFZ **Birch Farm** **53.49 137** P **P** **20 23 50.0 +0.4**
BFZ **Birch Farm** **53.49 137** P **P** **20 23 49.2 -0.4**
WHHZ **Waihua** **53.50 134** P **P** **20 23 50.2 +0.6**
ANWZ **Angora Road** **53.55 136** P **P** **20 23 50.6 +0.6**
ANWZ ScP **ScP** **20 28 35.4 +0.2**
GTA **Gaotai** **53.56 331** ⇑P **P** **20 23 51.3 +1.1**
GTA pP pP 20 24 28.5 -1.1
GTA sP sP 20 24 50.5 +1.5
GTA ScP **ScP** **20 28 36.5 +1.2**
GTA S **S** **20 31 07.3 -2.2**
GTA sS sS 20 32 16.0 -2.2
GTA ScS **ScS** **20 33 21.8 +0.4**
GTA pmax pmax
comp=Z,1µm,1.3s
GTA pmax pmax
comp=Z,6µm,9.9s
GTA LR LR
comp=Z,4µm,18.5s
GTA LR LR
comp=Z,5µm,18.5s
GTA LR LR
comp=Z,7µm,17.4s
CKHZ **Cape Kidnapper** **53.63 135** P **P** **20 23 51.1 +0.5**
CKHZ ScP **ScP** **20 28 34.8 -0.7**
MXZ **Matakaoa Point** **53.67 132** P **P** **20 23 51.9 +1.0**
TWGZ **Tauwhareparae** **53.67 133** P **P** **20 23 51.6 +0.7**
VJD **Vijayawada** **53.74 296** ⇑*iP* **P** **20 23 52.8 +1.1**
VJD *i* x x 20 27 15.9
GOMU **GeErMu** **53.78 325** P **P** **20 23 53.3 +1.2**
GOMU S **S** **20 31 09.5 -3.5**
GOMU pmax pmax
comp=Z,200nm,0.8s
GOMU LR LR
comp=Z,5µm,18.4s
GOMU LR LR
comp=Z,4µm,19.8s
GOMU LR LR
comp=Z,6µm,18.4s
RAO **Raoul Island** **54.09 121** LR LR 20 46 02.8
comp=Z,3µm,20.8s,baz=282,slow=35
KUR **Kuril'sk** **54.17 16** *c iP* **P** **20 23 54.2 -0.1**
KUR *e* 20 24 50.1
KUR *eS* **S** **20 31 16.3 -0.8**
KUR *i* *SS **sS** **20 32 19.2 -6.8**
KUR *i* 20 33 24.5
KUR pmax pmax
comp=Z,523nm,1.1s
KUR pmax pmax
comp=Z,1µm,6.0s
YSS **Yuzh-Sakhalins** **54.63 11** P **P** **20 23 59.4 +1.9**
YSS **Yuzh-Sakhalins** **54.63 11** P **P** **20 23 56.0 -1.5**
YSS IAmb IAmb 20 23 59.9
comp=Z,130nm,0.6s
YSS **Yuzh-Sakhalins** **54.63 11** ⇑P **P** **20 23 57.8 +0.3**
YSS **Yuzh-Sakhalins** **54.63 11** *ceP* **P** **20 23 57.9 +0.4**
YSS *e*PP **pP** **20 24 35.8 -1.6**
YSS *e*SP **PcP** **20 24 58.7 +0.5**
YSS *eS* **S** **20 31 20.6 -2.5**
YSS *e*SS **sS** **20 32 27.6 -4.6**
YSS *e* 20 33 25.8
YSS pmax pmax
comp=Z,170nm,0.6s
YSS pmax pmax
comp=Z,700nm,4.1s
YSS pmax pmax
comp=N,700nm,4.7s
YSS smax smax
comp=N,4µm,10.5s
YSS **Yuzh-Sakhalins** **54.63 11** P **P** **20 23 57.8 +0.3**
YSS pP **pP** **20 24 37.6 +0.2**
YSS sP **sP** **20 24 57.2 +0.4**
KOD **Kodaikanal** **54.70 287** ⇑*iP* **P** **20 23 59.1 0.0**
KOD IAmb IAmb 20 24 02.1
comp=Z,209nm,0.8s
KOD *i* x x 20 27 18.1
TRD **Trivandrum** **54.74 285** *eP* **P** **20 23 58.7 -0.3**
KLR **Kul'dur** **55.70 2** *ceP* **P** **20 24 05.6 +0.4**
KLR pmax pmax
comp=Z,226nm,1.0s
KLR **Kul'dur** **55.70 2** ScP **ScP** **20 28 43.5 -0.7**
comp=Z,87nm,1.0s,baz=219,slow=2.2,SNR=7.2
KLR S **S** **20 31 36.1 -1.2**
comp=Z,16nm,1.1s,baz=33,slow=20,SNR=11
KLR ScS **ScS** **20 33 33.7 -2.3**
comp=Z,5.2nm,1.0s,baz=6.5,slow=19,SNR=6.5
KLR LR LR 20 44 53.8
comp=Z,3µm,21.3s,baz=175,slow=32
HYB **Hyderabad** **55.94 296** ⇑*eP* **P** **20 24 07.2 -0.4**
HYB IVmB_BB 20 24 12.0
comp=Z,13µm,2.4s
HYB *e*pP **pP** **20 24 47.5 +0.3**
HYB *e* 20 28 46.3
HYB *e* 20 31 35.6
HYB **Hyderabad** **55.94 296** ⇑*iP* **P** **20 24 07.1 -0.4**
HYB *i* x x 20 24 45.4
HIA **Hailar** **56.39 352** P **P** **20 24 12.2 +2.1**
HIA **Hailar** **56.39 352** P **P** **20 24 10.6 +0.5**
HIA pP **pP** **20 24 51.0 +1.0**
HIA ScP **ScP** **20 28 47.2 -0.1**
ALBI **Allahabad** **56.41 306** ⇑*iP* **P** **20 24 10.7 0.0**
ALBI IAmb IAmb 20 24 13.4
comp=Z,396nm,0.7s
AIS **Amsterdam Isla** **56.42 229** P **P** **20 24 11.9 +1.3**
AIS **Amsterdam Isla** **56.42 229** P **P** **20 24 13.6 +3.0**
UGL **Uglegorsk** **56.56 10** *c iP* **P** **20 24 12.2 +1.0**
UGL *e* 20 24 51.1
UGL *i* S **S** **20 31 48.8 +0.2**
UGL *e* 20 33 39.5
UGL pmax pmax
comp=Z,780nm,0.9s
UGL pmax pmax
comp=Z,2µm,4.0s
UGL smax smax
comp=N,8µm,9.0s
UGL smax smax
comp=E,6µm,9.0s
HEH **HeiHe** **56.73 358** *eP* **P** **20 24 11.5 -0.9**
HEH PcP **PcP** **20 25 07.5 +1.2**
HEH sP **sP** **20 25 09.5 -2.2**
HEH ScP **ScP** **20 28 47.5 -1.2**
HEH S **S** **20 31 46.8 -4.1**
HEH sS **sS** **20 32 55.8 -4.5**
HEH SS **SS** **20 35 38.0 -3.9**
HEH pmax pmax
comp=E,470nm,1.0s
HEH pmax pmax
comp=E,3µm,7.2s
DGAR **Diego Garcia** **56.83 266** P **P** **20 24 15.0 +1.1**
DGAR **Diego Garcia** **56.83 266** *ceP* **P** **20 24 14.1 +0.2**
DGAR pmax pmax
comp=Z,3µm,1.7s
DGAR **Diego Garcia** **56.83 266** P **P** **20 24 15.2 +1.4**
DGAR P **P** **20 24 15.2 +1.4**
DGAR **Diego Garcia** **56.83 266** P **P** **20 24 15.0 +1.1**
KAAM **Kaadhehdhoo** **57.06 275** P **P** **20 24 15.6 0.0**
KAAM **Kaadhehdhoo** **57.06 275** ⇑P **P** **20 24 16.5 +0.9**
KAAM **Kaadhehdhoo** **57.06 275** P **P** **20 24 17.0 +1.4**
SNR=25
GRNR **Gornyy** **57.50 5** ⇑*iP* **P** **20 24 18.8 +0.9**
GRNR *e* 20 24 55.7
GRNR pmax pmax
comp=N,50nm,1.1s
GRNR pmax pmax
comp=Z,130nm,1.1s
AFI **Afiamalu** **57.87 102** P **P** **20 24 21.7 +0.5**
AFI **Afiamalu** **57.87 102** P **P** **20 24 21.7 +0.5**
AFI pmax pmax
comp=Z,1µm,1.3s
ULN **Ulaanbaatar** **57.88 342** P **P** **20 24 22.6 +1.8**
ULN **Ulaanbaatar** **57.88 342** ⇑P **P** **20 24 22.2 +1.5**
ULN **Ulaanbaatar** **57.88 342** *ceP* **P** **20 24 22.0 +1.2**
ULN pmax pmax
comp=Z,920nm,0.8s
ULN **Ulaanbaatar** **57.88 342** P **P** **20 24 22.3 +1.5**
ULN S **S** **20 32 00.7 -5.6**
ULN **Ulaanbaatar** **57.88 342** ⇑P **P** **20 24 22.4 +1.6**
ULN pP **pP** **20 25 01.8 +1.0**
ULN pwP **pwP** **20 25 08.7 +1.9**
ULN ScP **ScP** **20 28 54.4 +0.3**
MNGI **Mangalore** **57.93 290** *eP* **P** **20 24 21.5 -0.1**
SONM **Songino Array** **58.05 342** P **P** **20 24 23.5 +1.5**
SONM IAmb IAmb 20 24 25.5
comp=Z,564nm,1.2s
SONM **Songino Array** **58.05 342** P **P** **20 24 23.2 +1.2**
comp=Z,228nm,0.7s,baz=153,slow=7.6,SNR=629
SONM pP **pP** **20 25 03.3 +1.4**
comp=Z,146nm,1.0s,baz=167,slow=8.5,SNR=2.6
SONM PcP **PcP** **20 25 11.0 -0.8**
comp=Z,235nm,0.9s,baz=150,slow=5.1,SNR=9.0
SONM ScP **ScP** **20 28 54.5 -0.3**
comp=Z,55nm,1.1s,baz=151,slow=3.4,SNR=5.1
SONM S **S** **20 32 09.4 +0.8**
comp=Z,43nm,1.2s,baz=154,slow=14,SNR=7.5
SONM ScS **ScS** **20 33 51.3 -2.2**
comp=Z,2.2nm,0.8s,baz=151,slow=6.5,SNR=0.8
SONM PKPPKP **P'P'df** **20 54 01.1 +0.4**
comp=Z,20nm,1.2s,baz=302,slow=1.8,SNR=10
SONM PKP2bc 20 54 14.1
comp=Z,29nm,1.0s,baz=290,slow=1.7,SNR=15
SONM P4KPbc 21 01 31.3
comp=Z,1.2nm,0.8s,baz=164,slow=5.9,SNR=7.9
comp=Z,228nm,0.7s
TYV **Tymovskoe** **58.38 10** *eP* **P** **20 24 25.4 +1.4**
TYV *eS* **S** **20 32 14.3 +1.9**

TYV pmax pmax
comp=Z,1μm,4.0s
TYV pmax pmax
comp=Z,70nm,1.5s
TYV smax smax
comp=N,4μm,8.2s
TYV smax smax
comp=E,4μm,8.2s
TYV smax smax
comp=N,21nm,2.7s
TYV smax smax
comp=E,33nm,2.7s
MNCY Minicoy 58.45 284 *e*P **P** **20 24 25.6 +0.4**
AKL Akola 58.49 299⇑*i*P **P** **20 24 25.1 -0.3**
AKL IAmb IAmb 20 24 27.3
comp=Z,332nm,0.7s
JHNI Jhansi 59.12 305 *i* P **P** **20 24 28.6 -1.0**
CTZ Chatham Island 59.58 137 P **P** **20 24 33.5 +1.1**
LGTI Lohaghat 59.59 310⇑*i*P **P** **20 24 32.9 +0.2**
LGTI IAmb IAmb 20 24 35.3
comp=Z,184nm,0.8s
GOA Goa 59.60 292⇑*i*P **P** **20 24 33.4 +0.4**
PTH Pithoragarh 59.66 310⇑*i*P **P** **20 24 32.9 -0.6**
KAD Karad 59.83 294⇑*i*P **P** **20 24 34.2 -0.5**
KAD IAmb IAmb 20 24 35.5
comp=Z,823nm,1.1s
KAD *i* x x 20 24 39.6
NIUE Niue 59.84 108 P **P** **20 24 36.1 +1.4**
baz=60,SNR=10
NIUE Niue 59.84 108 P **P** **20 24 35.7 +1.1**
CIT Chita 60.09 349 *e*P **P** **20 24 37.2 +1.5**
CIT *e* 20 25 17.8
CIT *e* 20 25 29.2
CIT *e*S **S** **20 32 37.0 +2.6**
CIT pmax pmax
comp=Z,766nm,2.6s
ZEA Zeya 60.22 358 *e*P **P** **20 24 37.3 +0.8**
ZEA *e* 20 25 16.3
ZEA *e*S **S** **20 32 36.8 +0.9**
ZEA *e* 20 34 08.9
ZEA pmax pmax
comp=N,180nm,0.9s
ZEA pmax pmax
comp=Z,390nm,0.8s
ZEA pmax pmax
comp=Z,800nm,9.9s
ZEA smax smax
comp=N,2μm,7.0s
NKL Nikolayevsk 60.31 8 *e*P **P** **20 24 33.9 -3.2**
NKL *e* 20 25 19.4
NKL *e*S **S** **20 32 35.8 -1.2**
NKL pmax pmax
comp=N,533nm,0.7s
NKL pmax pmax
comp=Z,2μm,0.7s
NKL pmax pmax
comp=Z,1μm,1.1s
NKL smax smax
comp=E,4μm,5.4s
NKL smax smax
comp=N,584nm,1.8s
NKL MLR MLR
comp=N,4μm,14.0s
NKL MLR MLR
comp=Z,6μm,14.0s
DRV Dumont d'Urvil 60.31 175⇓P **P** **20 24 37.8 +0.9**
DRV PcP **PcP** **20 25 20.6 +0.3**
POO Poona 60.52 296⇑*i*P **P** **20 24 38.9 -0.4**
CASY Casey 60.98 189 P **P** **20 24 42.0 +0.5**
CASY IAmb IAmb 20 24 43.5
comp=Z,371nm,1.0s
CASY Casey 60.98 189 P **P** **20 24 42.3 +0.8**
CASY sP **sP** **20 25 41.3 -1.3**
ZAK Zakamensk 61.27 341 *e*P **P** **20 24 44.5 +0.6**
ZAK pmax pmax
comp=Z,321nm,1.7s
SKR Severo-Kuril's 61.51 19 *e*P **P** **20 24 47.4 +2.2**
SKR *e* 20 25 26.9
SKR *e*S **S** **20 32 52.0 -0.2**
SKR pmax pmax
comp=Z,500nm,6.3s
NDI New Delhi 61.58 308 *i* P **P** **20 24 45.3 -1.0**
DDI Dehra Dun 61.67 310⇑*i*P **P** **20 24 47.1 +0.2**
DDI *i* x x 20 25 45.7
KUDL Kundal 61.92 307⇑*i*P **P** **20 24 47.6 -0.9**
KUDL *i* x x 20 24 55.0
KKR Kurukshetra 62.46 309 *e*P **P** **20 24 52.5 +0.4**
IRK Irkutsk 62.59 343 *e*P **P** **20 24 52.7 +0.2**
IRK *e* 20 25 35.2
IRK *e*S **S** **20 33 06.7 +0.8**
IRK *e* 20 34 24.0
IRK pmax pmax
comp=Z,1μm,1.8s
SMLA Simla 62.72 310⇑*i*P **P** **20 24 54.7 +0.9**
AJM Ajmer 62.73 304⇑*i*P **P** **20 24 53.7 -0.3**
AJM IAmb IAmb 20 24 55.2
comp=Z,464nm,0.6s
AJM *i* pP **PcP** **20 25 31.5 +0.6**
AJM *ex* x 20 27 13.4
WMQ Urumqi 62.98 327⇑*i*P **P** **20 24 56.8 +1.5**
WMQ pP pP 20 25 36.3 +0.2
WMQ sP sP 20 25 57.3 +2.2
WMQ PP **PP** **20 27 14.0 -2.3**
WMQ ScP **ScP** **20 29 17.5 +0.7**
WMQ S **S** **20 33 09.8 -1.4**
WMQ ScS **SKSac** **20 34 28.0 -2.5**
WMQ pmax pmax
comp=Z,2μm,0.9s
WMQ pmax pmax
comp=Z,8μm,5.1s
WMQ LR LR
comp=Z,10μm,20.3s
WMQ LR LR
comp=Z,5μm,20.3s
WMQ LR LR
comp=Z,4μm,23.3s
WMQ Urumqi 62.98 327⇑P **P** **20 24 56.8 +1.5**
WMQ pP **pP** **20 25 37.0 +0.9**
WMQ pwP **pwP** **20 25 44.2 +2.5**
MOY Mondy 63.12 340 *e*P **P** **20 24 57.8 +1.6**
MOY pmax pmax
comp=Z,1μm,2.2s
BHK Bhakra 63.42 310⇑*i*P **P** **20 24 59.3 +0.8**
DHRM DHARAMSHALA 63.89 311⇑*i*P **P** **20 25 02.1 +0.3**
PEA0B Petropavlovsk- 64.10 18 IAmb IAmb 20 25 05.5
comp=Z,326nm,1.0s
PEA0B Petropavlovsk- 64.10 18 *ce*P **P** **20 25 03.3 +1.0**
PETK Petropavlovsk- 64.10 18 P **P** **20 25 02.4 0.0**
PETK Petropavlovsk- 64.10 18 P **P** **20 25 03.0 +0.6**
comp=Z,134nm,0.5s,baz=194,slow=5.6,SNR=374
PETK PcP **PcP** **20 25 35.9 0.0**
comp=Z,55nm,0.5s,baz=220,slow=2.1,SNR=8.0
PETK ScP 20 29 21.8
comp=Z,33nm,0.9s,baz=80,slow=1.4,SNR=3.3
PETK S **S** **20 33 25.6 +1.1**
comp=Z,0.7nm,0.3s,baz=266,slow=36,SNR=1.1
PETK PKPPKP **P'P'df** **20 53 51.4 +0.5**
comp=Z,5.0nm,1.0s,baz=58,slow=9.3,SNR=4.5
comp=Z,134nm,0.5s
PET Petropavlovsk 64.33 19 P **P** **20 25 05.1 +1.3**
PET Petropavlovsk 64.33 19 P **P** **20 25 03.9 +0.1**
PET IAmb IAmb 20 25 06.8
comp=Z,173nm,0.6s
PET Petropavlovsk 64.33 19 *e*P **P** **20 25 04.5 +0.7**
PET *e**SP **sP** **20 26 05.0 +0.8**
PET *e*S **S** **20 33 27.8 +0.6**
PET *e**SS **sS** **20 34 41.6 +1.0**
PET pmax pmax
comp=Z,1μm,5.4s
PET pmax pmax
comp=Z,336nm,0.6s
PET pmax pmax
comp=Z,700nm,8.5s
PET Petropavlovsk 64.33 19 P **P** **20 25 04.5 +0.7**
PET PcP **PcP** **20 25 37.8 +1.0**
THN Thein Dam 64.42 311⇑*i*P **P** **20 25 05.3 +0.5**
JMU Jammu 65.16 311 *e*P **P** **20 25 11.2 +1.6**
PAF Port-aux-Franc 65.37 218 P **P** **20 25 12.9 +2.2**
PAF Port-aux-Franc 65.37 218 P **P** **20 25 12.9 +2.2**
PAF pmax pmax
comp=Z,853nm,1.3s
PAF Port-aux-Franc 65.37 218 P **P** **20 25 13.2 +2.5**
BOD Bodaibo 65.53 351⇓*i*P **P** **20 25 12.0 +0.5**
BOD pmax pmax
comp=Z,470nm,1.8s
ROCAM **Rodrigues Isla 65.56 251** P **P** **20 25 14.7 +2.2**
BHUJ Bhuj 65.78 299⇑*i*P **P** **20 25 13.9 +0.1**
BHUJ IAmb IAmb 20 25 18.0
comp=Z,159nm,0.7s
JASL Jaisalmer 65.99 303 *e*P **P** **20 25 15.1 0.0**
WUS Wushi 66.37 321 P **P** **20 25 18.8 +1.4**
NIL Nilore 66.81 311 P **P** **20 25 21.0 +0.8**
NIL Nilore 66.81 311 P **P** **20 25 21.0 +0.8**
NIL pmax pmax
comp=Z,638nm,0.7s
NIL Nilore 66.81 311 P **P** **20 25 21.0 +0.8**
ZSN Zaisan 66.86 329 *e*P **P** **20 25 20.2 -0.1**
comp=Z,353nm,0.9s,baz=329
ZSN *e*S **S** **20 33 59.7 +1.4**
baz=329
ZSN Zaisan 66.86 329 *e*P **P** **20 25 20.1 -0.1**
ZSN *e*S **S** **20 33 59.7 +1.4**
ZSN pmax pmax
comp=Z,353nm,0.9s
SHLS Shalkode 67.30 322 *e*P **P** **20 25 21.8 -1.5**
comp=Z,365nm,0.8s,baz=323
SHLS Shalkode 67.30 322 *e*P **P** **20 25 21.8 -1.5**
SHLS pmax pmax
comp=Z,365nm,0.8s
UZB Uzynbulak 67.57 322 *e*P **P** **20 25 25.1 +0.1**
comp=Z,370nm,1.5s,baz=322
UZB *e*S **S** **20 34 07.4 +0.2**
baz=322
UZB Uzynbulak 67.57 322 *e*P **P** **20 25 25.0 +0.1**
UZB *e*S **S** **20 34 07.4 +0.2**
UZB pmax pmax
comp=Z,370nm,1.5s
KSH Kashi 67.61 318 P **P** **20 25 27.0 +1.8**
KSH sP sP 20 26 23.5 -1.9
KSH PP **PP** **20 27 54.8 -2.0**
KSH S **S** **20 34 08.0 +0.2**
KSH ScS **SKiKP** **20 35 05.0 +0.6**
KSH pmax pmax
comp=Z,710nm,0.8s
KSH pmax pmax
comp=Z,7μm,3.8s
KSH LR LR
comp=Z,8μm,23.5s
KSH LR LR
comp=Z,7μm,20.6s
KSH LR LR
comp=Z,6μm,18.6s
MKAR Makanchi Array 67.81 327 P **P** **20 25 27.1 +0.9**
MKAR Makanchi Array 67.81 327 P **P** **20 25 27.1 +0.9**
MKAR Makanchi Array 67.81 327 P **P** **20 25 27.6 +1.4**
comp=Z,4μm,0.7s,baz=120,slow=7.1,SNR=9229
MKAR S **S** **20 34 08.0 -1.7**
comp=Z,8.5nm,0.9s,baz=161,slow=3.3,SNR=3.0
MKAR ScS **SKiKP** **20 35 04.6 +0.2**
comp=Z,4.6nm,0.9s,baz=136,slow=6.9,SNR=1.0
MKAR PKP2bc 20 53 48.2
comp=Z,11nm,1.1s,baz=304,slow=2.8,SNR=8.5
MKAR P4KPbc 21 02 11.1
comp=Z,1.4nm,0.7s,baz=137,slow=4.1,SNR=11
MK31 Makanchi Array 67.81 327 P **P** **20 25 27.7 +1.4**
MK31 Makanchi Array 67.81 327 *ce*P **P** **20 25 27.3 +1.1**
SATY Saty 67.89 322 *e*P **P** **20 25 27.2 +0.2**
comp=Z,272nm,1.1s,baz=322
SATY *e*S **S** **20 34 11.9 +0.8**
baz=322
ZHN Zhinishke 67.94 322 *e*P **P** **20 25 27.2 0.0**
comp=Z,356nm,1.0s,baz=322
ZHN *e*S **S** **20 34 11.9 +0.4**
baz=322
ZHN Zhinishke 67.94 322 *e*P **P** **20 25 27.2 0.0**
ZHN *e*S **S** **20 34 11.9 +0.4**
ZHN pmax pmax
comp=Z,356nm,1.0s
MAKZ Makanchi 67.99 327 P **P** **20 25 28.9 +1.5**
MAKZ Makanchi 67.99 327 P **P** **20 25 28.9 +1.5**
MAKZ pmax pmax
comp=Z,2μm,0.7s
MAKZ Makanchi 67.99 327⇑P **P** **20 25 28.8 +1.5**
MA2 Magadan 68.13 11 P **P** **20 25 29.5 +1.6**
MA2 Magadan 68.13 11 P **P** **20 25 29.1 +1.2**
MA2 IAmb IAmb 20 25 31.2
comp=Z,244nm,0.9s
MA2 Magadan 68.13 11 *ce*P **P** **20 25 28.6 +0.7**
MA2 pmax pmax
comp=Z,285nm,1.0s
MA2 Magadan 68.13 11 LR LR 20 54 49.2
comp=Z,2μm,20.3s,baz=202,slow=35
MA2 Magadan 68.13 11 P **P** **20 25 29.1 +1.2**
MA2 PcP **PcP** **20 25 54.5 +1.9**
CCD Concordia, Ant 68.48 182⇓P **P** **20 25 31.7 +1.3**
CCD PcP **PcP** **20 25 55.6 +1.2**
YAK Yakutsk 68.50 360 P **P** **20 25 30.6 +0.5**
YAK Yakutsk 68.50 360 *c* *i*P **P** **20 25 30.7 +0.6**
YAK *e* 20 25 54.7
YAK *e**PP **pP** **20 26 13.3 +1.6**
YAK *e* 20 28 03.2
YAK *e*S **S** **20 34 17.8 +0.6**
YAK *e* 20 35 09.1
YAK *e*SS **SS** **20 38 43.7 -1.4**
YAK *e*SSS SSS 20 41 55.2
YAK pmax pmax
comp=Z,1μm,1.0s
YAK pmax pmax
comp=N,191nm,1.3s
YAK pmax pmax
comp=E,56nm,1.0s
YAK pmax pmax
comp=Z,878nm,5.5s
YAK pmax pmax
comp=N,532nm,5.2s
YAK pmax pmax
comp=E,379nm,6.2s
YAK smax smax
comp=E,1μm,1.6s
YAK smax smax
comp=N,853nm,4.1s
YAK Yakutsk 68.50 360 LR LR 20 52 26.2
comp=N,2μm,21.9s,baz=176,slow=33
YAK Yakutsk 68.50 360⇑P **P** **20 25 30.7 +0.6**
YAK pP **pP** **20 26 13.0 +1.3**
NRN Naryn 68.55 319 IAmb IAmb 20 25 34.5
comp=Z,332nm,0.9s
TNSS Tian-Shan 68.78 321 *e*P **P** **20 25 33.1 +0.3**
baz=321
TNSS Tian-Shan 68.78 321 *e*P **P** **20 25 33.1 +0.3**
MDOK Medeo 68.79 321 *e*P **P** **20 25 32.9 +0.3**
baz=321
MDOK LR LR 20 54 38.5
comp=Z,2μm,17.8s,baz=321
MDOK Medeo 68.79 321 *e*P **P** **20 25 32.8 +0.3**
ULHL Ulahol 68.81 320 P **P** **20 25 34.3 +1.5**
SNR=38
TDK Taldyqorghan 68.97 324 *e*P **P** **20 25 33.5 +0.1**
comp=Z,311nm,0.6s,baz=324
TDK LR LR 20 57 17.0
comp=Z,2μm,17.6s,baz=324
TDK Taldyqorghan 68.97 324 *e*P **P** **20 25 33.5 +0.1**
TDK pmax pmax
comp=Z,311nm,0.6s
TDK MLR MLR
comp=Z,2μm,18.0s
RAR Rarotonga 69.44 110 P **P** **20 25 37.7 +0.9**
RAR Rarotonga 69.44 110 P **P** **20 25 37.5 +0.6**
RAR IAmb IAmb 20 25 39.5
comp=Z,759nm,1.6s
RAR Rarotonga 69.44 110 P **P** **20 25 37.5 +0.6**
RAR pmax pmax
comp=Z,759nm,1.6s
RAR Rarotonga 69.44 110 P **P** **20 25 37.8 +0.9**
TKM2 Tokmak 2 69.57 321 P **P** **20 25 39.0 +1.6**
SNR=948
KBK Karagaybulak 69.85 320 P **P** **20 25 40.9 +1.8**
SNR=468
UCH Uchtor 69.91 319 P **P** **20 25 41.6 +1.8**
SNR=71
SHEM Shemya Is, Ala 70.11 27 LR LR 20 52 46.3
comp=Z,3μm,21.4s,baz=224,slow=32
FRU1 Bishkek 70.13 320 IAmb IAmb 20 25 44.1
comp=Z,517nm,0.7s
AAK Ala-Archa 70.13 320 P **P** **20 25 42.6 +1.8**
SNR=582
AAK Ala-Archa 70.13 320 P **P** **20 25 42.7 +1.8**
AAK Ala-Archa 70.13 320 *i* P **P** **20 25 42.6 +1.8**
SNR=620
AAK Ala-Archa 70.13 320 *ce*P **P** **20 25 42.3 +1.5**
AAK pmax pmax
comp=Z,2μm,1.7s
AAK Ala-Archa 70.13 320 P **P** **20 25 42.6 +1.8**
comp=Z,830nm,0.8s,baz=118,slow=4.3,SNR=548
AAK S **S** **20 34 38.3 +0.9**
comp=Z,5.3nm,0.9s,baz=256,slow=21,SNR=7.8
comp=Z,830nm,0.8s
AAK Ala-Archa 70.13 320 P **P** **20 25 42.8 +2.0**
AAK P **P** **20 25 42.8 +2.0**
AAK S **S** **20 34 37.9 +0.4**
AAK S **S** **20 34 37.9 +0.4**
KBU Kabul Universi 70.28 310 P **P** **20 25 38.8 -3.1**
KBU S **S** **20 34 35.1 -4.5**
KBL Kabul 70.36 310 P **P** **20 25 43.5 +1.1**
KBL IAmb IAmb 20 25 53.1
comp=Z,464nm,0.8s
KBL Kabul 70.36 310 P **P** **20 25 43.5 +1.1**
KBL pmax pmax
comp=Z,464nm,0.8s
KBL Kabul 70.36 310 P **P** **20 25 43.4 +1.0**
SNR=305
KBL S **S** **20 34 38.4 -2.1**
USP Ospenovka 70.44 320 P **P** **20 25 44.0 +1.5**
SNR=210
SGDS Sogindy 70.45 321 *e*P **P** **20 25 42.4 -0.2**
comp=Z,312nm,0.7s,baz=321
SGDS *e*S **S** **20 34 42.3 +1.4**
baz=321
SGDS Sogindy 70.45 321 *e*P **P** **20 25 42.4 -0.2**
SGDS *e*S **S** **20 34 42.3 +1.4**
SGDS pmax pmax
comp=Z,312nm,0.7s
EKS2 Erkin-Say 70.60 320 P **P** **20 25 45.6 +2.0**
SNR=122
SEM Semipalatinsk 71.09 329 *e*P **P** **20 25 45.7 -0.8**
comp=Z,312nm,1.0s,baz=329
SEM *e*S **S** **20 34 48.2 -0.1**
baz=329
SEM LR LR 20 58 43.3
comp=Z,1μm,26.0s,baz=329
SEM Semipalatinsk 71.09 329 *e*P **P** **20 25 45.6 -0.8**
SEM *e*S **S** **20 34 48.2 -0.1**
SEM pmax pmax
comp=Z,311nm,1.0s
SEM MLR MLR
comp=Z,1μm,26.0s
ZAA0 Zalesovo Array 71.18 334 P **P** **20 25 47.0 +0.3**
ZAA0 IAmb IAmb 20 25 48.8
comp=Z,469nm,0.8s
ZALV Zalesovo Beam 71.18 334 P **P** **20 25 46.9 +0.3**
ZALV Zalesovo Beam 71.18 334 *i* P **P** **20 25 46.7 +0.1**
ZALV pmax pmax
comp=Z,385nm,0.7s
ZALV Zalesovo Beam 71.18 334 P **P** **20 25 46.8 +0.1**
comp=Z,383nm,0.7s,baz=120,slow=4.8,SNR=960
ZALV S **S** **20 34 41.6 -7.1**
comp=Z,26nm,0.9s,baz=126,slow=7.5,SNR=6.5
ZALV PKPPKP **P'P'df** **20 53 36.7 -2.6**
comp=Z,7.2nm,1.0s,baz=321,slow=2.1,SNR=8.2
comp=Z,383nm,0.7s
SEY Seymchan 71.53 11 *c* *i*P **P** **20 25 49.6 +1.0**
SEY pmax pmax
comp=Z,373nm,0.9s
AMKA Amchitka 71.71 30 P **P** **20 25 51.1 +1.3**
SIMJ Simiganj 72.04 314 P **P** **20 25 53.4 +1.1**
KURBB Kurchatov Arra 72.10 329 P **P** **20 25 53.2 +1.0**
comp=Z,471nm,0.6s,baz=128,slow=4.8,SNR=3012
KURBB pP **pP** **20 26 36.0 +2.0**
comp=Z,167nm,1.0s,baz=127,slow=5.0,SNR=1.4
KURBB S **S** **20 34 54.0 -5.4**
comp=Z,96nm,1.2s,baz=137,slow=12,SNR=19
KURBB PKPPKP **P'P'df** **20 53 35.1 -2.9**
comp=Z,3.6nm,1.0s,baz=280,slow=3.0,SNR=5.0
KURBB P4KPbc 21 02 27.9
comp=Z,0.2nm,0.7s,baz=130,slow=3.6,SNR=1.8
comp=Z,471nm,0.6s
KURK Kurchatov 72.11 329 P **P** **20 25 53.3 +1.1**
KURK Kurchatov 72.11 329 *ce*P **P** **20 25 53.0 +0.7**
KURK pmax pmax
comp=Z,2μm,1.7s
KURK Kurchatov 72.11 329 P **P** **20 25 53.4 +1.1**
KURK S **S** **20 34 54.9 -4.6**
DZA Taraz 72.29 319 *e*P **P** **20 25 53.6 0.0**
comp=Z,398nm,0.6s,baz=319
DZA Taraz 72.29 319 *e*P **P** **20 25 53.6 0.0**
DZA pmax pmax
comp=Z,398nm,0.6s
RER Riviere de l'E 72.72 250 P **P** **20 25 58.8 +2.1**
SNR=23
VNDA Vanda 72.80 173 P **P** **20 25 56.5 +0.5**
VNDA IAmb IAmb 20 25 57.2
comp=Z,328nm,1.1s
VNDA Vanda 72.80 173 P **P** **20 25 56.5 +0.5**
VNDA pmax pmax
comp=Z,328nm,1.1s
VNDA Vanda 72.80 173 P **P** **20 25 56.5 +0.5**
comp=Z,149nm,0.7s,baz=319,slow=6.8,SNR=883
VNDA S **S** **20 35 03.4 -3.2**
comp=Z,8.5nm,1.0s,baz=76,slow=20,SNR=10
VNDA PKPPKP **P'P'df** **20 53 40.1 +3.5**
comp=Z,5.5nm,1.2s,baz=161,slow=2.8,SNR=4.4
VNDA LR LR 20 57 02.3
comp=Z,3μm,20.7s,baz=345,slow=35
comp=Z,149nm,0.7s
IUG Iuzhnay 72.82 318 *e*P **P** **20 25 57.1 +0.2**
comp=Z,527nm,0.8s,baz=318
IUG *e*S **S** **20 35 09.5 +1.3**
baz=318
IUG Iuzhnay 72.82 318 *e*P **P** **20 25 57.0 +0.2**
IUG *e*S **S** **20 35 09.5 +1.3**
IUG pmax pmax
comp=Z,527nm,0.8s
KK31 Karatay Array 72.93 319 IAmb IAmb 20 26 00.5
comp=Z,774nm,1.1s
KKAR Karatay Array 72.93 319 IAmb IAmb 20 26 00.5
comp=Z,769nm,1.1s
CHM Chimkent 73.18 318 LR LR 20 59 59.5
comp=Z,1μm,20.3s,baz=318
XMAS Kiritimati 73.19 86 P **P** **20 26 00.7 +1.3**
BRLS Boroldav 73.34 319 *e*P **P** **20 25 59.7 -0.1**
comp=Z,326nm,0.6s,baz=318
BRLS Boroldav 73.34 319 *e*P **P** **20 25 59.6 -0.2**
BRLS pmax pmax
comp=Z,326nm,0.6s
SBA Scott Base 73.69 172 P **P** **20 26 01.7 +0.5**
SBA IAmb IAmb 20 26 03.5
comp=Z,400nm,1.1s
SBA Scott Base 73.69 172 P **P** **20 26 01.7 +0.5**
SBA pmax pmax
comp=Z,400nm,1.1s
KIWB Kanaga Island 73.78 31 P **P** **20 26 02.9 +0.8**
MSEY Mahe Island 73.86 267 P **P** **20 26 04.5 +1.0**
MSEY Mahe Island 73.86 267 *i* P **P** **20 26 04.5 +1.0**
SNR=133
MSEY Mahe Island 73.86 267 P **P** **20 26 04.5 +1.0**
MSEY pmax pmax
comp=Z,1μm,1.3s
MSEY Mahe Island 73.86 267 P **P** **20 26 04.8 +1.3**
MSEY S **S** **20 35 22.0 +1.1**
ADK Adak 74.04 31 P **P** **20 26 05.2 +1.6**
ADK Adak 74.04 31 P **P** **20 26 04.7 +1.1**
ADK Adak 74.04 31 P **P** **20 26 04.7 +1.1**
ADK pmax pmax
comp=Z,138nm,0.8s
JLN Jalan Bani Buh 74.53 295 P **P** **20 26 08.1 +1.0**
SNR=16
JLN S **S** **20 35 23.2 -4.6**
WBK Wadi Bani Khal 75.04 295 P **P** **20 26 11.4 +1.3**
SNR=33
WBK S **S** **20 35 31.6 -2.0**
MAW Mawson 75.16 201 P **P** **20 26 11.2 +1.5**
MAW Mawson 75.16 201 P **P** **20 26 11.2 +1.5**
comp=Z,616nm,1.0s,baz=72,slow=6.4,SNR=243
MAW S **S** **20 35 31.9 -1.2**
comp=Z,64nm,1.3s,baz=200,slow=17,SNR=6.0
MAW LR LR 20 56 47.1
comp=Z,3μm,20.8s,baz=73,slow=34
comp=Z,616nm,1.0s
ATKA Atka Island 75.50 32 P **P** **20 26 12.6 +0.6**
ATKA Atka Island 75.50 32 IAmb IAmb 20 26 14.4
comp=Z,261nm,0.8s
HRA Herat 75.55 308 IAmb IAmb 20 26 15.9
comp=Z,725nm,1.0s
MHTO MHTO 75.57 294 P **P** **20 26 13.7 +0.7**
SNR=164

MHTO S **S** **20 35 35.7 -3.7**
DQM **DQM** **75.73 292** P **P** **20 26 14.9 +1.0**
SNR=14
DQM S **S** **20 35 38.9 -2.3**
JMDO **Jabal Madar** **75.76 295** P **P** **20 26 14.9 +0.8**
SNR=150
JMDO S **S** **20 35 38.8 -2.7**
SMDO **Samad** **75.97 296** P **P** **20 26 16.4 +1.0**
SNR=52
SMDO S **S** **20 35 42.0 -2.0**
BIDO **Bidbid** **76.01 296** P **P** **20 26 17.0 +1.5**
SNR=334
BIDO S **S** **20 35 41.9 -2.2**
HON **Honolulu** **76.09 66** IAmb IAmb 20 26 19.4
comp=Z,430nm,0.7s
KIP **Kipapa** **76.10 66** P **P** **20 26 17.8 +1.8**
KIP **Kipapa** **76.10 66** P **P** **20 26 16.1 +0.1**
KIP IAmb IAmb 20 26 19.3
comp=Z,960nm,1.9s
KIP **Kipapa** **76.10 66** *ce*P **P** **20 26 17.2 +1.2**
KIP pmax pmax
comp=Z,469nm,1.7s
OPA **Opana** **76.16 66** P **P** **20 26 17.1 +0.7**
OPA IAmb IAmb 20 27 21.9
comp=Z,314nm,1.4s
OPA **Opana** **76.16 66** P **P** **20 26 17.1 +0.7**
OPA pmax pmax
comp=Z,314nm,1.4s
BSY **Bisya** **76.66 295** P **P** **20 26 20.2 +1.0**
SNR=50
BSY S **S** **20 35 49.3 -2.0**
HOQ **Hoqain** **76.75 296** P **P** **20 26 21.0 +1.3**
SNR=470
HOQ S **S** **20 35 50.4 -1.9**
JASK **Jask - Hormozg** **76.80 298** P **P** **20 26 22.4 +2.5**
SNR=392
JASK S **S** **20 35 54.1 +1.4**
H04S1 **CROZET ISLANDS** **76.84 224** P **P** **20 26 22.8 +3.4**
baz=63,slow=5.1,SNR=4.4
CRZF **Crozet Islands** **76.84 224** IAmb IAmb 20 26 22.8
comp=Z,395nm,1.1s
H04S2 **CROZET ISLANDS** **76.85 224** P **P** **20 26 22.5 +3.0**
baz=63,slow=5.1,SNR=14
H04S3 **CROZET ISLANDS** **76.85 224** P **P** **20 26 22.8 +3.2**
baz=63,slow=5.1,SNR=11
SHAO **Shalim** **77.10 290** *i* P **P** **20 26 22.6 +0.9**
SNR=58
SHAO **Shalim** **77.10 290** P **P** **20 26 22.6 +0.9**
SNR=56
SHAO S **S** **20 35 52.9 -3.3**
ARQ **Araqi** **77.40 296** P **P** **20 26 24.4 +1.1**
SNR=291
ARQ S **S** **20 35 57.1 -2.2**
KHLH **Kahului Airpor** **77.43 67** IAmb IAmb 20 26 27.1
comp=Z,597nm,1.4s
SOHO **SOHO** **77.57 296** *i* P **P** **20 26 25.0 +0.8**
SNR=47
SOHO **SOHO** **77.57 296** P **P** **20 26 25.2 +1.0**
SOHO S **S** **20 35 58.9 -2.1**
KHLU **Kahalu`u** **77.65 68** IAmb IAmb 20 26 27.9
comp=Z,913nm,1.7s
BVAR **Borovoye Array** **77.65 328** P **P** **20 26 24.8 +0.7**
comp=Z,456nm,0.8s,baz=125,slow=7.4,SNR=917
BVAR pP **pP** **20 27 08.1 +1.6**
comp=Z,106nm,0.9s,baz=120,slow=8.9,SNR=1.5
BVAR S **S** **20 35 58.4 -2.4**
comp=Z,35nm,1.0s,baz=147,slow=6.0,SNR=9.1
BVAR PKKPbc **PKKPbc** **20 45 26.8 -1.8**
comp=Z,1.3nm,0.4s,baz=293,slow=2.0,SNR=9.1
BVAR PKPPKP 20 53 25.9
comp=Z,2.9nm,0.9s,baz=318,slow=2.0,SNR=6.3
comp=Z,456nm,0.8s
DMTO **DMTO** **77.68 290** P **P** **20 26 25.8 +0.9**
SNR=37
DMTO S **S** **20 35 58.3 -4.0**
HUH **Hualalai** **77.72 68** IAmb IAmb 20 27 21.8
comp=Z,271nm,1.2s
BRVK **Borovoye** **77.72 328** P **P** **20 26 25.2 +0.8**
BRVK IAmb IAmb 20 26 27.2
comp=Z,533nm,0.8s
BRVK **Borovoye** **77.72 328** *ce*P **P** **20 26 25.0 +0.6**
BRVK pmax pmax
comp=Z,875nm,1.3s
BRVK **Borovoye** **77.72 328** P **P** **20 26 25.4 +1.0**
BRVK S **S** **20 35 59.0 -2.5**
HPAH **Hawaii Prepara** **77.92 68** IAmb IAmb 20 26 29.2
comp=Z,421nm,1.3s
MLOA **Mauna Loa Obse** **77.93 68** IAmb IAmb 20 26 30.1
comp=Z,1μm,1.8s
POHA **Pohakuloa** **78.02 68** P **P** **20 26 28.1 +1.0**
POHA IAmb IAmb 20 26 30.2
comp=Z,442nm,1.4s
HMH **Humu'ula Sheep** **78.03 68** IAmb IAmb 20 26 30.8
comp=Z,1μm,1.6s
MDH **Madha** **78.04 298** *i* P **P** **20 26 26.7 -0.1**
SNR=83
MDH **Madha** **78.04 298** P **P** **20 26 26.8 0.0**
SNR=7.5
MDH S **S** **20 36 03.2 -2.9**
MDH S **S** **20 36 03.5 -2.6**
UOSS **Minazif** **78.05 297** P **P** **20 26 27.4 +0.6**
UOSS IAmb IAmb 20 26 29.2
comp=Z,525nm,0.8s
UOSS **Minazif** **78.05 297** *i* P **P** **20 26 27.3 +0.4**
SNR=295
UOSS **Minazif** **78.05 297** P **P** **20 26 27.6 +0.8**
HATD **Hatta, Dubai** **78.08 297** *i* P **P** **20 26 28.1 +1.1**
SNR=248
HATD **Hatta, Dubai** **78.08 297** P **P** **20 26 28.2 +1.1**
SNR=303
HATD S **S** **20 36 03.7 -2.8**
CLES **Cleveland East** **78.09 33** P **P** **20 26 27.3 +0.9**
ASHO **Ashiyiah** **78.11 297** *i* P **P** **20 26 28.2 +1.0**
SNR=214
ASHO **Ashiyiah** **78.11 297** P **P** **20 26 28.4 +1.1**
SNR=321
ASHO S **S** **20 36 04.2 -2.8**
TIXI **Tiksi** **78.17 360** P **P** **20 26 26.2 -0.3**
TIXI IAmb IAmb 20 26 28.6
comp=Z,274nm,0.7s
TIXI **Tiksi** **78.17 360** *ce*P **P** **20 26 25.7 -0.8**
TIXI pmax pmax
comp=Z,311nm,0.8s
TIXI **Tiksi** **78.17 360** LR LR 21 01 49.5
comp=Z,μm,20.5s,baz=202,slow=36
MSFE **Esma-Masafi** **78.18 298** *i* P **P** **20 26 28.7 +1.1**
SNR=211
MASF **Masafi** **78.18 298** P **P** **20 26 28.8 +1.2**
SNR=281
BANOM **Banah** **78.19 298** *i* P **P** **20 26 29.1 +1.5**
SNR=24
BANOM **Banah** **78.19 298** S **S** **20 36 06.0 -1.7**
ALNE **Al Ain** **78.25 296** *i* P **P** **20 26 28.9 +0.9**
SNR=496
ALNE **Al Ain** **78.25 296** P **P** **20 26 29.2 +1.3**
SNR=327
ALNE S **S** **20 36 06.3 -2.0**
RBK **Rabkut** **78.33 289** P **P** **20 26 29.3 +0.8**
SNR=96
RBK S **S** **20 36 05.3 -4.1**
SHME **Shamm** **78.35 298** *i* P **P** **20 26 30.0 +1.5**
SNR=294
SHME **Shamm** **78.35 298** P **P** **20 26 30.2 +1.7**
SNR=249
SHME S **S** **20 36 08.1 -1.3**
UMZA **Um Al Zommool** **78.49 295** P **P** **20 26 30.0 +0.7**
UMZA S **S** **20 36 06.5 -4.4**
NAZ **Nazwa, Dubai** **78.53 297** *i* P **P** **20 26 30.4 +0.9**
SNR=85
NAZ **Nazwa, Dubai** **78.53 297** P **P** **20 26 30.5 +1.0**
SNR=193
NAZ S **S** **20 36 09.3 -2.0**
FAQ **Al Faqa, Dubai** **78.54 297** *i* P **P** **20 26 30.6 +1.0**
SNR=44
FAQ **Al Faqa, Dubai** **78.54 297** P **P** **20 26 30.6 +1.0**
SNR=228
FAQ S **S** **20 36 09.4 -2.1**
DOK **Doka** **78.61 290** P **P** **20 26 30.6 +0.5**
SNR=98
DOK S **S** **20 36 07.2 -5.2**
UMQ **Umm Al-Quwin** **78.65 298** *i* P **P** **20 26 32.3 +2.1**
SNR=22
UMQ **Umm Al-Quwin** **78.65 298** P **P** **20 26 32.1 +2.0**
SNR=34
UMQ S **S** **20 36 13.4 +0.9**
NIKH **Nikolski High** **78.72 33** P **P** **20 26 31.9 +2.0**
baz=243
NIKH **Nikolski High** **78.72 33** P **P** **20 26 30.9 +1.0**
ASUD **Al Ashush, Dub** **78.75 297** *i* P **P** **20 26 32.0 +1.4**
SNR=190
ASUD **Al Ashush, Dub** **78.75 297** P **P** **20 26 32.2 +1.5**
SNR=168
ASUD S **S** **20 36 12.5 -1.1**
WHFO **Wadi Hawf** **78.81 290** P **P** **20 26 31.7 +0.4**
SNR=74
WHFO S **S** **20 36 07.4 -7.2**
BILL **Bilibino** **78.86 13** P **P** **20 26 30.8 +0.5**
BILL **Bilibino** **78.86 13** *e*P **P** **20 26 30.9 +0.5**
TBI **Tubuai** **78.96 112** *e*P P 20 26 19.9 -12
comp=Z,18μm,30.2s
TBI **Tubuai** **78.96 112** *e*P **P** **20 26 32.9 +1.0**
comp=Z,864nm,1.1s
TBI **Tubuai** **78.96 112** *e*PP PP 20 29 22.7 -11
comp=Z,5μm,36.0s
TBI *e*S **S** **20 36 23.7 +7.8**
comp=Z,15μm,26.0s
TBI *e*SS **SS** **20 41 31.5 +6.0**
comp=Z,7μm,28.8s
TBI *e*LQ LQ 20 47 35.9
comp=Z,71μm,31.0s
TBI *e*LR LR 20 51 04.2
comp=Z,27μm,28.5s
TBI *e*LR LR 20 51 07.0
comp=Z,6μm,28.2s
AJN **Ajban** **79.04 297** *i* P **P** **20 26 33.3 +1.1**
SNR=49
AJN **Ajban** **79.04 297** P **P** **20 26 33.1 +0.8**
SNR=87
AJN S **S** **20 36 13.4 -3.2**
ABTO **Aybut** **79.16 289** P **P** **20 26 34.0 +0.9**
SNR=110
ABTO S S 20 36 05.6 -13
PPT2 **Papeete2** **79.16 107** *e*P **P** **20 26 29.2 -4.0**
comp=Z,5μm,27.8s
PPT2 **Papeete2** **79.16 107** *e*PP **PP** **20 29 33.2 -2.0**
comp=Z,3μm,41.0s
PPT2 *e*S **S** **20 36 21.7 +3.3**
comp=Z,3μm,24.5s
PPT2 *e*SS SS 20 41 41.3 +12
comp=Z,3μm,29.5s
PPT2 *e*LQ LQ 20 47 44.4
comp=Z,14μm,30.5s
PPT2 *e*LR LR 20 51 05.5
comp=Z,4μm,32.5s
PPT2 *e*LR LR 20 51 11.0
comp=Z,5μm,25.2s
PPT **Papeete** **79.16 107** P **P** **20 26 34.9 +1.8**
comp=Z,178nm,0.7s,baz=82,slow=3.8,SNR=40
comp=Z,178nm,0.7s
PPTF **Pamatai, Papee** **79.17 107** P **P** **20 26 34.4 +1.2**
PPTF **Pamatai, Papee** **79.17 107** IAmb IAmb 20 26 37.3
comp=Z,1μm,1.5s
TVO **Taravao** **79.46 107** *e*P **P** **20 26 35.4 +0.6**
comp=Z,250nm,1.3s
GEYT **Alibeck** **79.81 310** P **P** **20 26 37.6 +1.3**
GEYT **Alibeck** **79.81 310** P **P** **20 26 37.5 +1.3**
comp=Z,312nm,0.7s,baz=141,slow=5.0,SNR=454
GEYT S **S** **20 36 23.5 -0.9**
comp=Z,5.5nm,1.0s,baz=122,slow=5.6,SNR=1.9
GEYT PKKPbc **PKKPbc** **20 45 22.4 -0.5**
comp=Z,2.6nm,0.5s,baz=252,slow=7.2,SNR=6.4
GEYT PKPPKP **P'P'df** **20 53 26.0 +0.5**
comp=Z,2.3nm,0.8s,baz=65,slow=7.0,SNR=7.0
comp=Z,312nm,0.7s
MZWR **Madinat Zayed** **79.86 296** S **S** **20 36 20.5 -4.9**
SPIA **Saint Paul Isl** **80.00 29** P **P** **20 26 37.9 +1.2**
baz=241
P08K **Saint George I** **80.06 29** P **P** **20 26 38.1 +1.1**
baz=242
MZR **Muzera** **80.06 295** *i* P **P** **20 26 39.1 +1.3**
SNR=29
MZR **Muzera** **80.06 295** P **P** **20 26 39.1 +1.3**
SNR=20
UNV **Unalaska Valle** **80.37 33** P **P** **20 26 40.6 +1.9**
UNV **Unalaska Valle** **80.37 33** P **P** **20 26 40.0 +1.3**
baz=245,SNR=10
FOMA **Nahampoana Res** **80.67 246** IAmb IAmb 20 26 44.4
comp=Z,820nm,1.2s
FOMA **Nahampoana Res** **80.67 246** P **P** **20 26 43.0 +1.9**
SNR=27
GHWR **Ruwais** **80.80 296** S **S** **20 36 30.3 -4.8**
ABPO **Ambohimpanom** **80.80 252** P **P** **20 26 43.0 +0.9**
ABPO IAmb IAmb 20 26 45.0
comp=Z,942nm,1.5s
ABPO **Ambohimpanom** **80.80 252** P **P** **20 26 43.0 +0.9**
ABPO pmax pmax
comp=Z,942nm,1.5s
AKUT **Akutan** **80.89 33** P **P** **20 26 43.2 +1.7**
AKUT **Akutan** **80.89 33** IAmb IAmb 20 27 39.3
comp=Z,1μm,1.9s
PMOR **Pomariorio Ree** **80.95 104** *e*P **P** **20 26 43.2 +0.5**
comp=Z,1μm,1.3s
JRN **Jarnain Island** **81.02 296** P **P** **20 26 43.9 +1.0**
SNR=131
JRN S **S** **20 36 34.0 -3.3**
VOI **Vohitsoka** **81.02 249** P **P** **20 26 43.9 +0.8**
VOI **Vohitsoka** **81.02 249** P **P** **20 26 44.5 +1.3**
SNR=105
NRIK **Noril'sk** **81.18 346** IAmb IAmb 20 26 46.6
comp=Z,291nm,0.9s
NRIK **Noril'sk** **81.18 346** *ce*P **P** **20 26 43.4 +0.6**
NRIK pmax pmax
comp=Z,405nm,1.0s
NRIK **Noril'sk** **81.18 346** P **P** **20 26 43.6 +0.8**
comp=Z,206nm,0.8s,baz=133,slow=5.7,SNR=155
NRIK pP **pP** **20 27 27.9 +2.4**
comp=Z,151nm,0.9s,baz=135,slow=5.9,SNR=2.2
NRIK S **S** **20 36 35.2 -2.1**
comp=Z,32nm,1.2s,baz=143,slow=12,SNR=19
NRIK PKKPbc **PKKPbc** **20 45 17.8 -3.5**
comp=Z,4.1nm,0.4s,baz=5.2,slow=0.9,SNR=6.6
NRIK PKPPKP **P'P'df** **20 53 21.8 +0.9**
comp=Z,3.3nm,0.5s,baz=89,slow=3.7,SNR=4.3
NRIK LR LR 21 06 26.2
comp=Z,3μm,19.1s,baz=136,slow=38
comp=Z,206nm,0.8s
VAH **Vaihoa** **81.19 104** *e*P **P** **20 26 44.3 +0.3**
comp=Z,539nm,1.3s
SLWR **Sila** **81.88 295** S **S** **20 36 42.5 -3.7**
ABKAR **Akbulak array** **82.09 322** P **P** **20 26 48.6 +0.6**
FALS **False Pass** **82.43 32** P **P** **20 26 52.1 +2.5**
FALS **False Pass** **82.43 32** P **P** **20 26 50.7 +1.2**
baz=247,SNR=7.4
TRNA **Turayna** **82.44 296** P **P** **20 26 51.4 +1.1**
SNR=194
TRNA S **S** **20 36 48.8 -3.1**
GAMB **Gambell** **82.72 22** P **P** **20 26 52.5 +1.7**
baz=239
SMRA **Abu-Samra** **82.79 296** P **P** **20 26 53.2 +1.1**
SNR=254
SMRA S **S** **20 36 52.9 -2.5**
SHMA **Al-Shehemyia** **82.87 297** P **P** **20 26 53.6 +1.1**
SNR=169
SHMA S **S** **20 36 53.3 -2.9**
SAKB **Bahrain** **83.27 297** S **SKSac** **20 36 57.4 -2.7**
QSPA **South Pole Qui** **83.30 180** P **P** **20 26 54.2 +0.1**
QSPA IAmb IAmb 20 26 54.8
comp=Z,412nm,1.0s
QSPA **South Pole Qui** **83.30 180** P **P** **20 26 54.2 +0.1**
comp=Z,156nm,0.4s,baz=284,slow=0.5,SNR=636
QSPA S **SKSac** **20 36 55.2 -3.8**
comp=Z,85nm,1.1s,baz=21,slow=17,SNR=30
QSPA PKKPbc **PKKPbc** **20 45 13.0 -3.6**
comp=Z,5.7nm,0.5s,baz=263,slow=0.8,SNR=16
QSPA PKPPKP **P'P'df** **20 53 18.1 0.0**
comp=Z,5.7nm,0.9s,baz=189,slow=1.7,SNR=4.8
comp=Z,156nm,0.4s
M11K **Mekoryuk** **83.36 27** P **P** **20 26 55.7 +1.5**
baz=244
S12K **Black Hills** **83.47 32** IAmb IAmb 20 26 56.7
comp=Z,225nm,0.8s
S12K **Black Hills** **83.47 32** P **P** **20 26 56.1 +1.2**
baz=248,SNR=12
AKTO **Aktyubinsk** **83.66 322** P **P** **20 26 56.7 +0.7**
comp=Z,168nm,0.8s,baz=107,slow=4.9,SNR=152
AKTO pP **pP** **20 27 40.9 +1.9**
comp=Z,132nm,0.9s,baz=80,slow=7.6,SNR=2.2
AKTO LR LR 21 08 32.9
comp=Z,1μm,22.0s,baz=128,slow=38
comp=Z,168nm,0.8s
SDPT **Sand Point** **84.19 33** P **P** **20 27 00.1 +1.6**
SDPT **Sand Point** **84.19 33** IAmb IAmb 20 27 00.7
comp=Z,495nm,0.7s
SDPT **Sand Point** **84.19 33** P **P** **20 26 59.7 +1.1**
baz=250,SNR=18
SVE **Sverdlovsk** **84.36 329** *d* P **P** **20 26 59.8 +0.4**
SVE *e*S **SKSac** **20 37 06.4 +0.6**
SVE pmax pmax
comp=Z,1μm,1.6s
CNBA **Chernabura Isl** **84.48 33** IAmb IAmb 20 27 02.6
comp=Z,152nm,0.7s
CHNA **Chernabura Isl** **84.49 33** P **P** **20 27 01.3 +1.2**
baz=250,SNR=14
M13K **Dall Lake** **84.66 27** IAmb IAmb 20 27 52.4
comp=Z,264nm,1.3s
M13K **Dall Lake** **84.66 27** P **P** **20 27 02.4 +1.7**
baz=246
S14K **Fog Glacier** **85.00 32** P **P** **20 27 04.3 +1.5**
baz=250
TNA **Tin City** **85.02 22** P **P** **20 27 04.1 +1.6**
baz=242,SNR=17
O14K **Tigyukauivet M** **85.19 29** P **P** **20 27 05.2 +1.7**
baz=248,SNR=9.3
N14K **Kuskokwak Cree** **85.24 28** P **P** **20 27 05.4 +1.7**
baz=248
ARU **Arti** **85.29 328** P **P** **20 27 03.7 -0.4**
ARU **Arti** **85.29 328** *ce*P **P** **20 27 03.5 -0.6**
ARU pmax pmax
comp=Z,876nm,1.7s
ARU **Arti** **85.29 328** P **P** **20 27 04.2 +0.2**
comp=Z,275nm,0.7s,baz=110,slow=2.0,SNR=347
ARU PKiKP **PKiKP** **20 32 15.1 +1.3**
comp=Z,7.4nm,0.5s,baz=358,slow=19,SNR=1.4
ARU LR LR 21 07 16.2
comp=Z,2μm,21.2s,baz=114,slow=37
comp=Z,275nm,0.7s
L14K **Kuka Creek** **85.32 27** IAmb IAmb 20 27 06.9
comp=Z,198nm,0.8s
L14K **Kuka Creek** **85.32 27** P **P** **20 27 06.2 +2.1**
baz=247,SNR=52
M14K **Bethel** **85.42 27** IAmb IAmb 20 27 07.7
comp=Z,268nm,0.7s
M14K **Bethel** **85.42 27** P **P** **20 27 06.6 +2.1**
baz=248,SNR=52
J14K **Nanvaranak Lak** **85.51 25** IAmb IAmb 20 27 08.4
comp=Z,225nm,1.1s
J14K **Nanvaranak Lak** **85.51 25** P **P** **20 27 07.1 +2.1**
baz=246
ANM **Nome** **85.53 23** P **P** **20 27 07.0 +2.0**
baz=244,SNR=24
F14K **Arctic Creek** **85.57 22** P **P** **20 27 07.2 +2.0**
baz=243
O15K **Ungalikthiuk R** **85.85 29** P **P** **20 27 08.4 +1.7**
baz=250
M15K **Kasigluk River** **85.98 28** P **P** **20 27 09.2 +1.8**
baz=249
L15K **Ungalak Mounta** **85.98 26** P **P** **20 27 09.2 +1.8**
baz=248
N15K **Kwethluk River** **86.07 28** IAmb IAmb 20 27 12.6
comp=Z,198nm,0.8s
N15K **Kwethluk River** **86.07 28** P **P** **20 27 09.9 +2.1**
baz=249,SNR=25
K15K **Wolf Creek Mou** **86.19 26** P **P** **20 27 10.0 +1.6**
K15K IAmb IAmb 20 27 11.9
comp=Z,173nm,0.8s
K15K **Wolf Creek Mou** **86.19 26** P **P** **20 27 10.6 +2.2**
baz=248
G15K **Niukluk** **86.23 23** P **P** **20 27 09.4 +0.9**
baz=246
F15K **North Star Dit** **86.30 22** IAmb IAmb 20 28 17.4
comp=Z,290nm,1.6s
F15K **North Star Dit** **86.30 22** P **P** **20 27 10.2 +1.4**
baz=245
KBD **Kabd** **86.32 300** P **P** **20 27 10.6 +0.9**
KBD S **SKSac** **20 37 18.8 -0.5**
P16K **Nushagak River** **86.70 30** P **P** **20 27 12.3 +1.4**
baz=251,SNR=13
H16K **Elim** **86.79 24** P **P** **20 27 12.4 +1.2**
baz=247,SNR=32
N16K **Nishlik Lake** **86.80 28** P **P** **20 27 13.6 +2.3**
baz=251
O16K **Kokwok River B** **86.83 29** P **P** **20 27 13.2 +1.7**
baz=251,SNR=23
M16K **Timber Creek** **86.89 28** IAmb IAmb 20 27 15.0
comp=Z,179nm,0.7s
M16K **Timber Creek** **86.89 28** P **P** **20 27 13.7 +1.9**
baz=250
L16K **Owhat River** **86.89 27** IAmb IAmb 20 27 14.8
comp=Z,137nm,0.7s
L16K **Owhat River** **86.89 27** P **P** **20 27 13.6 +1.8**
baz=250,SNR=47
CHIR **Chirikof Islan** **86.95 33** P **P** **20 27 13.4 +1.3**
CHIR IAmb IAmb 20 28 57.4
comp=Z,466nm,1.4s
CHIR **Chirikof Islan** **86.95 33** P **P** **20 27 13.7 +1.6**
baz=254
J16K **Anvik River** **86.96 25** IAmb IAmb 20 28 10.9
comp=Z,168nm,1.0s
J16K **Anvik River** **86.96 25** P **P** **20 27 13.6 +1.5**
baz=249,SNR=47
G16K **Koyuk River** **87.04 23** P **P** **20 27 13.8 +1.4**
baz=247
I17K **Unalakleet** **87.14 25** IAmb IAmb 20 27 16.7
comp=Z,132nm,0.8s
I17K **Unalakleet** **87.14 25** P **P** **20 27 14.7 +1.8**
baz=249
C16K **Lisburne Hills** **87.15 20** IAmb IAmb 20 27 15.1
comp=Z,142nm,0.9s
C16K **Lisburne Hills** **87.15 20** P **P** **20 27 13.3 +0.4**
baz=244
O17K **Koliganek Bris** **87.36 29** P **P** **20 27 15.4 +1.3**
baz=252,SNR=15
RAYN **Ar Rayn** **87.38 294** P **P** **20 27 15.2 +0.2**
RAYN **Ar Rayn** **87.38 294** *i* P **P** **20 27 16.0 +1.0**
SNR=887
RAYN **Ar Rayn** **87.38 294** P **P** **20 27 15.3 +0.2**
RAYN pmax pmax
comp=Z,922nm,0.9s
RAYN **Ar Rayn** **87.38 294** P **P** **20 27 16.2 +1.2**
RAYN S **SKSac** **20 37 28.5 +2.3**
P17K **Kvichak River** **87.51 30** P **P** **20 27 14.9 +0.2**
baz=253
Q17K **Contact Creek** **87.51 31** P **P** **20 27 15.3 +0.3**
baz=253,SNR=14
N17K **Nushagak Hills** **87.55 28** IAmb IAmb 20 28 06.5
comp=Z,225nm,1.6s
N17K **Nushagak Hills** **87.55 28** P **P** **20 27 16.2 +1.2**
baz=252
L17K **Donlin** **87.56 27** P **P** **20 27 16.3 +1.4**
baz=251
D17K **Noatak River** **87.69 21** P **P** **20 27 16.5 +1.1**
baz=246,SNR=275
M17K **Holitna River** **87.71 27** IAmb IAmb 20 27 19.4
comp=Z,132nm,0.9s
M17K **Holitna River** **87.71 27** P **P** **20 27 17.7 +2.0**
baz=252,SNR=20
G17K **Kiwalik Mounta** **87.74 23** P **P** **20 27 17.0 +1.3**
baz=249
K17K **Iditarod** **87.75 26** IAmb IAmb 20 28 14.7
comp=Z,179nm,1.0s
K17K **Iditarod** **87.75 26** P **P** **20 27 17.4 +1.6**
baz=251
H17K **Granite Mounta** **87.83 24** IAmb IAmb 20 27 18.8
comp=Z,132nm,0.7s
H17K **Granite Mounta** **87.83 24** P **P** **20 27 17.4 +1.1**
baz=249,SNR=68
F17K **Baldwin Pennin** **87.86 22** P **P** **20 27 17.4 +1.1**
baz=248,SNR=32
RDOG **Red Dog Mine** **87.89 20** IAmb IAmb 20 27 18.3
comp=Z,102nm,0.7s
RDOG **Red Dog Mine** **87.89 20** P **P** **20 27 17.4 +0.9**
baz=246,SNR=81
E17K **Hotham Inlet** **87.89 21** P **P** **20 27 17.7 +1.3**
baz=248,SNR=45
SII **Sitkinak Islan** **87.92 33** IAmb IAmb 20 28 17.1
comp=Z,242nm,0.9s
SII **Sitkinak Islan** **87.92 33** P **P** **20 27 17.7 +0.8**
baz=255
C17K **DeLong Mountai** **87.97 20** P **P** **20 27 17.7 +0.9**
baz=246,SNR=78
P18K **Big Mountain,** **88.16 30** P **P** **20 27 18.9 +1.0**
baz=254
N18K **Kilae Creek** **88.21 28** P **P** **20 27 19.6 +1.5**
N18K **Kilae Creek** **88.21 28** P **P** **20 27 20.0 +1.9**
baz=253
ATD **Arta Tunnel** **88.29 282** LR LR 21 05 43.6
comp=Z,62nm,20.7s,baz=94,slow=35
ATD **Arta Tunnel** **88.29 282** *e*P **P** **20 27 22.0 +2.5**
ATD *e*SKsac **SKSac** **20 37 38.0 +6.0**
O18K **Koktuh Hills** **88.30 29** P **P** **20 27 19.6 +1.1**
baz=254

L18K **Granite Mounta** 88.30 27 P P 20 27 20.3 +1.8
baz=252
E18K **Tukpahlearik C** 88.46 21 IAmb IAmb 20 27 21.6
comp=Z,162nm,1.2s
E18K **Tukpahlearik C** 88.46 21 P P 20 27 19.8 +0.7
baz=249
SVW2 **Sparrevohn** 88.47 28 P P 20 27 22.2 +2.9
M18K **Stony River** 88.48 28 P P 20 27 21.4 +2.1
baz=253
F18K **Selawik** 88.52 22 P P 20 27 20.1 +0.8
baz=250,SNR=21
H18K **Honhosa River** 88.52 24 P P 20 27 20.4 +0.9
baz=251
OHAK **Old Harbor** 88.57 32 P P 20 27 21.7 +1.9
OHAK **Old Harbor** 88.57 32 IAmb IAmb 20 28 23.0
comp=Z,321nm,1.6s
OHAK **Old Harbor** 88.57 32 P P 20 27 21.2 +1.4
baz=255,SNR=10
G18K **Tagagawik** 88.66 23 P P 20 27 20.7 +0.6
baz=250
J18K **Innoko River** 88.67 26 P P 20 27 21.2 +1.0
baz=252
C18K **Utukok River** 88.71 20 IAmb IAmb 20 27 22.5
comp=Z,378nm,1.9s
C18K **Utukok River** 88.71 20 P P 20 27 21.3 +0.9
baz=248
ELIB **Princess Elisa** 88.72 197 *d*PcP PcP 20 27 21.6 -0.3
comp=Z,201nm,1.0s
B18K **Kokolik River** 88.78 19 P P 20 27 21.7 +1.1
baz=248
TTA **Tatalina** 88.81 26 P P 20 27 22.8 +1.8
TTA **Tatalina** 88.81 26 P P 20 27 21.9 +1.0
baz=253,SNR=41
O19K **Port Alsworth** 88.82 29 P P 20 27 22.2 +1.2
baz=254
Q19K **Cape Douglas,** 88.82 30 P P 20 27 21.5 +0.4
Q19K IAmb IAmb 20 27 31.3
comp=Z,189nm,1.1s
Q19K **Cape Douglas,** 88.82 30 P P 20 27 22.2 +1.2
baz=255
MAK **Makhachkala** 88.85 313 *e*P P 20 27 19.3 -2.1
MAK *e**PP **pP** 20 27 59.8 -5.5
MAK *e**SP **sP** 20 28 17.6 -6.2
MAK *e* 20 30 50.0
MAK *e* 20 37 31.7
MAK *e*SS SS 20 43 53.8 +3.3
MAK *e*SSS SSS 20 47 25.5
MAK pmax pmax
comp=Z,1µm,2.0s
MAK MLR MLR
comp=Z,2µm,18.0s
N19K **Bonanza Creek** 88.91 28 IAmb IAmb 20 27 26.3
comp=Z,110nm,0.8s
N19K **Bonanza Creek** 88.91 28 P P 20 27 23.1 +1.6
baz=254
GCSA **Galena City Sc** 88.99 24 P P 20 27 22.9 +1.3
baz=252,SNR=5.6
KDAK **Kodiak Island** 89.08 32 P P 20 27 23.3 +1.1
KDAK IAmb IAmb 20 28 24.9
comp=Z,117nm,0.8s
KDAK **Kodiak Island** 89.08 32 P P 20 27 23.5 +1.3
baz=256
KDAK **Kodiak Island** 89.08 32 P P 20 27 23.3 +1.1
comp=Z,30nm,0.5s,baz=271,slow=3.9,SNR=27
KDAK pP **pP** 20 28 05.4 -1.3
comp=Z,75nm,0.8s,baz=223,slow=7.8,SNR=5.0
KDAK LR LR 21 05 00.0
comp=Z,2µm,20.4s,baz=268,slow=34
comp=Z,30nm,0.5s
TAOE **Nuku Hiva Isla** 89.10 99 P P 20 27 24.4 +1.0
TAOE **Nuku Hiva Isla** 89.10 99⇑ *i*PKIKP P 20 27 24.6 +1.2
comp=Z,574nm,1.4s
L19K **White Mountain** 89.11 27 P P 20 27 23.8 +1.5
baz=254
P19K **Oil Pt** 89.21 30 P P 20 27 23.1 +0.3
P19K IAmb IAmb 20 28 35.3
comp=Z,313nm,1.9s
P19K **Oil Pt** 89.21 30 P P 20 27 23.6 +0.7
baz=255
M19K **Big River Lodg** 89.25 27 P P 20 27 24.1 +1.2
baz=254
J19K **Poorman** 89.29 25 P P 20 27 24.2 +1.1
baz=253,SNR=41
F19K **Shaleruckik Mo** 89.30 22 P P 20 27 23.7 +0.7
baz=251
A19K **Wainwright** 89.33 19 P P 20 27 24.2 +1.1
baz=248
G19K **Purcell Mounta** 89.34 23 IAmb IAmb 20 27 27.3
comp=Z,100nm,0.8s
G19K **Purcell Mounta** 89.34 23 P P 20 27 24.2 +0.9
baz=252,SNR=104
H19K **Roundabout Mou** 89.40 24 IAmb IAmb 20 27 27.6
comp=Z,106nm,0.8s
H19K **Roundabout Mou** 89.40 24 P P 20 27 24.7 +1.1
baz=252
C19K **Lookout Ridge** 89.42 20 IAmb IAmb 20 27 26.4
comp=Z,217nm,0.8s
C19K **Lookout Ridge** 89.42 20 P P 20 27 24.8 +1.2
baz=250,SNR=178
L20K **Farewell, AK** 89.63 27 P P 20 27 25.7 +1.0
baz=255
E19K **Redstone River** 89.70 22 IAmb IAmb 20 27 27.3
comp=Z,137nm,0.9s
E19K **Redstone River** 89.70 22 P P 20 27 25.8 +0.9
baz=252
D19K **Kuna River** 89.71 21 IAmb IAmb 20 27 28.7
comp=Z,150nm,0.8s
D19K **Kuna River** 89.71 21 P P 20 27 25.8 +0.8
baz=251
K20K **Telida** 89.78 26 P P 20 27 26.5 +1.1
K20K **Telida** 89.78 26 P P 20 27 26.2 +0.8
baz=255
M20K **Styx River** 89.82 28 P P 20 27 26.7 +1.0
baz=256
J20K **Nowinta River** 89.96 25 P P 20 27 27.3 +1.1
baz=255
I20K **Naaghedeneel** 89.99 25 P P 20 27 27.5 +1.2
baz=254
HOM **Homer** 90.00 30 P P 20 27 27.0 +0.6
baz=257
H20K **Anotleneega Mo** 90.02 24 P P 20 27 27.7 +1.2
baz=254
N20K **Mount Spurr** 90.08 28 P P 20 27 27.4 +0.5
baz=256,SNR=15
F20K **Avaraart Lake** 90.13 22 P P 20 27 27.8 +0.9
baz=253
CNPM **China Poot** 90.17 30 P P 20 27 28.4 +1.1
D20K **Etivluk River** 90.31 21 P P 20 27 28.9 +1.1
baz=252
E20K **Nigu River** 90.32 21 P P 20 27 29.1 +1.2
baz=253
BELG **Belogornoye** 90.44 323 *i* P P 20 27 27.1 -1.5
BELG pmax pmax
comp=Z,29nm,0.9s
BELG **Belogornoye** 90.44 323 P P 20 27 27.8 -0.9
comp=Z,114nm,0.7s,baz=276,slow=0.3,SNR=40
comp=Z,114nm,0.7s
GNI **Garni** 90.44 310 P P 20 27 30.8 +1.6
GNI IAmb IAmb 20 28 12.7
comp=Z,269nm,1.1s
GNI **Garni** 90.44 310 *ce*P P 20 27 29.9 +0.7
GNI pmax pmax
comp=Z,638nm,2.5s
GNI **Garni** 90.44 310 P P 20 27 30.1 +0.8
comp=Z,149nm,1.1s,baz=164,slow=0.5,SNR=58
GNI S **SKSac** 20 37 42.2 -1.6
comp=Z,16nm,1.1s,baz=246,slow=16,SNR=2.7
comp=Z,149nm,1.1s
GNI **Garni** 90.44 310 P P 20 27 30.8 +1.6
GNI S **SKSac** 20 37 45.8 +1.9
BRSE **Bradley Lake S** 90.46 30 P P 20 27 29.0 +0.4
baz=258
CAPN **Captain Cook N** 90.48 29 P P 20 27 28.8 +0.1
baz=257
PPLA **Purkeypile** 90.49 27 P P 20 27 29.6 +0.8
baz=256,SNR=12
B20K **Meade River** 90.52 19 IAmb IAmb 20 27 30.5
comp=Z,103nm,0.7s
B20K **Meade River** 90.52 19 P P 20 27 29.4 +0.8
baz=252
SKT **Skwentna** 90.58 28 P P 20 27 28.9 -0.3
baz=257,SNR=29
IMAR **Indian Mountai** 90.60 23 P P 20 27 28.1 -1.1
KIRV **Kirov** 90.62 329 *ce*P P 20 27 28.4 -0.9
KIRV **Kirov** 90.62 329 P P 20 27 28.2 -1.1
comp=Z,119nm,0.7s,baz=106,slow=3.2,SNR=40
KIRV PKiKP **PKiKP** 20 32 24.0 +1.4
comp=Z,9.1nm,0.6s,baz=246,slow=3.7,SNR=0.8
KIRV S **SKSac** 20 37 41.5 -2.0
comp=Z,8.5nm,0.6s,baz=292,slow=22,SNR=9.2
KIRV LR LR 21 11 29.0
comp=Z,3µm,20.9s,baz=119,slow=38
comp=Z,119nm,0.7s
CAST **Castle Rocks** 90.66 26 P P 20 27 29.9 +0.4
baz=256,SNR=21
CHUM **Lake Minchumin** 90.67 26 P P 20 27 30.1 +0.7
baz=256,SNR=77
TASB **TASBURUN-IGDIR** 90.80 310 *e*P P 20 27 32.2 +1.4
SUA **Susitna One** 90.83 28 P P 20 27 31.1 +0.7
baz=258,SNR=25
G21K **Allakaket** 90.83 23 P P 20 27 30.9 +0.7
baz=255
H21K **Melozitna Rive** 90.89 24 P P 20 27 31.5 +0.9
baz=256
CUKT **Chukurca** 90.92 307 *e*P P 20 27 32.0 +0.5
F21K **Alatna River** 91.02 22 P P 20 27 31.8 +0.6
baz=255,SNR=25
C21K **Knifeblade Rid** 91.07 20 P P 20 27 32.1 +0.8
baz=254
A21K **Barrow** 91.10 18 P P 20 27 31.9 +0.7
baz=252,SNR=60
O22K **Cooper Landing** 91.11 29 IAmb IAmb 20 29 03.4
comp=Z,175nm,0.9s
O22K **Cooper Landing** 91.11 29 P P 20 27 32.1 +0.6
baz=258,SNR=11
I21K **Tanana** 91.11 24 P P 20 27 32.5 +1.0
baz=256
E21K **Killik River** 91.16 21 P P 20 27 32.6 +0.8
baz=255
SEW **Seward** 91.17 30 P P 20 27 32.7 +0.8
baz=259,SNR=8.6
M22K **Willow** 91.18 28 IAmb IAmb 20 29 14.5
comp=Z,164nm,1.1s
M22K **Willow** 91.18 28 P P 20 27 32.0 +0.2
baz=258,SNR=12
RC01 **Rabbit Creek A** 91.23 29 P P 20 27 32.6 +0.4
baz=258,SNR=20
CUT **Chulitna** 91.25 27 IAmb IAmb 20 29 24.0
comp=Z,147nm,1.3s
CUT **Chulitna** 91.25 27 P P 20 27 32.4 +0.2
baz=258,SNR=11
B21K **Ikpikpuk River** 91.25 20 IAmb IAmb 20 27 34.3
comp=Z,110nm,0.7s
B21K **Ikpikpuk River** 91.25 20 P P 20 27 33.1 +1.0
baz=254,SNR=109
VANB **Van** 91.27 309 *e*P P 20 27 34.1 +1.1
BPAW **Bear Paw Mtn.** 91.29 26 P P 20 27 32.9 +0.5
baz=257,SNR=12
DESE **Dese** 91.37 281 *e*P P 20 27 37.0 +2.8
DESE *e*SKSac **SKSac** 20 37 54.8 +4.4
KIBK **Kibwezi** 91.41 267 IAmb IAmb 20 27 37.3
comp=Z,411nm,1.3s
KIBK **Kibwezi** 91.41 267 P P 20 27 34.2 0.0
KIBK **Kibwezi** 91.41 267 P P 20 27 35.7 +1.5
SNR=112
TRF **Thorofare Moun** 91.45 26 P P 20 27 33.5 +0.2
baz=258,SNR=14
A22K **Sinclair Lake** 91.52 18 P P 20 27 34.2 +0.9
baz=254
H22K **Ishtalitna Cre** 91.52 24 P P 20 27 34.8 +1.3
baz=257
AKDM **Akdamar-Van** 91.56 308 *e*P P 20 27 35.7 +1.3
AKH **Nanalkalaki** 91.56 311 *e*P P 20 27 35.9 +1.5
F22K **John River** 91.58 22 P P 20 27 34.6 +0.9
baz=256
MLY **Manley** 91.59 25 IAmb IAmb 20 27 36.5
comp=Z,81nm,0.7s
MLY **Manley** 91.59 25 P P 20 27 34.4 +0.6
baz=258,SNR=70
PMR **Palmer** 91.61 28 P P 20 27 34.6 +0.7
PMR **Palmer** 91.61 28 P P 20 27 34.3 +0.5
baz=259,SNR=19
AGRB **Hanur-Agry** 91.70 309 *e*P P 20 27 36.6 +1.5
D22K **Ayikyak River** 91.73 21 IAmb IAmb 20 28 41.9
comp=Z,176nm,1.6s
D22K **Ayikyak River** 91.73 21 P P 20 27 35.5 +1.2
baz=256
ONI **Oni** 91.74 313 *e*P P 20 27 36.2 +1.2
ONI **Oni** 91.74 313 IAmb IAmb 20 27 40.5
comp=Z,90nm,1.0s
NCK **Nalchik** 91.75 313 *ci*P P 20 27 35.4 +0.4
NCK pmax pmax
comp=Z,404nm,1.9s
B22K **Teshekpuk Lake** 91.84 19 IAmb IAmb 20 27 36.7
comp=Z,130nm,0.6s
B22K **Teshekpuk Lake** 91.84 19 P P 20 27 35.8 +1.0
baz=255
KNK **Knik Glacier** 91.90 28 P P 20 27 35.5 +0.2
baz=260,SNR=18
BWN **Browne** 91.96 26 IAmb IAmb 20 27 39.0
comp=Z,212nm,1.0s
MLAZ **Malazgirt-MUS** 91.99 309 *e*P P 20 27 37.9 +1.5
SML **Sawmill** 92.03 28 IAmb IAmb 20 27 40.1
comp=Z,110nm,0.9s
SML **Sawmill** 92.03 28 P P 20 27 36.4 +0.5
baz=260,SNR=31
FURI **Furi** 92.06 279 *e*P P 20 27 40.5 +3.1
FURI *e*S **SKSac** 20 38 01.1 +6.8
FURI IVMs_BB IVMs_BB 20 38 04.8
comp=Z,8µm,5.4s
RND **Reindeer** 92.08 26 IAmb IAmb 20 27 37.3
comp=Z,176nm,1.0s
MCK **McKinley** 92.10 26 P P 20 27 36.4 +0.2
baz=259,SNR=46
WAT1 **Susitna Watana** 92.11 27 P P 20 27 36.7 +0.4
baz=260
P23K **Montague Islan** 92.16 30 P P 20 27 36.9 +0.4
baz=260
PYA1 **Pyatigorsk** 92.18 314 *ci*P P 20 27 36.4 -0.6
I23K **Minto, Yukon-K** 92.19 25 IAmb IAmb 20 27 38.7
comp=Z,148nm,0.8s
I23K **Minto, Yukon-K** 92.19 25 P P 20 27 37.4 +1.0
baz=259,SNR=135
NEA2 **Nenana** 92.21 25 P P 20 27 37.5 +0.8
baz=259,SNR=7.3
G23K **Bananza Creek** 92.23 23 IAmb IAmb 20 27 39.3
comp=Z,126nm,0.9s
G23K **Bananza Creek** 92.23 23 P P 20 27 37.7 +1.0
baz=258
H23K **Yukon River** 92.25 24 IAmb IAmb 20 27 39.1
comp=Z,72nm,0.8s
H23K **Yukon River** 92.25 24 P P 20 27 37.6 +0.8
baz=259,SNR=83
COLD **Coldfoot** 92.27 23 P P 20 27 37.7 +0.8
baz=258,SNR=39
KBZ **Khabaz** 92.28 314 P P 20 27 37.2 -0.1
comp=Z,21nm,0.7s,baz=88,slow=4.7,SNR=50
KBZ S **SKSac** 20 37 52.9 -0.8
comp=Z,13nm,1.2s,baz=269,slow=23,SNR=6.9
KBZ PKKPbc **PKKPbc** 20 44 52.5 -0.7
comp=Z,2.9nm,1.0s,baz=212,slow=3.3,SNR=3.5
KBZ PKPPKP **P'P'df** 20 53 03.7 +1.6
comp=Z,2.7nm,1.0s,baz=242,slow=7.7,SNR=3.6
comp=Z,21nm,0.7s
M23K **Glacier View** 92.31 28 P P 20 27 37.5 +0.4
baz=260,SNR=27
SENK **Senkaya-Erzuru** 92.31 310 *e*P P 20 27 39.1 +1.2
GURO **Guroymak-BITLI** 92.32 308 *e*P P 20 27 39.3 +1.4
WAT6 **Susitna Watana** 92.43 27 P P 20 27 37.9 0.0
baz=260,SNR=40
D23K **Nanushuk River** 92.45 21 P P 20 27 38.8 +1.1
baz=258
KVAR **Kislovodsk Arr** 92.46 314 P P 20 27 40.3 +1.9
comp=Z,4.5nm,0.6s,baz=98,slow=23,SNR=5.8
KVAR S **SKSac** 20 37 54.6 -0.3
comp=Z,135nm,1.3s,baz=180,slow=21,SNR=18
KIV **Kislovodsk** 92.46 314 ⇓P P 20 27 38.8 +0.5
KIV **Kislovodsk** 92.46 314 P P 20 27 38.1 -0.3
KIV **Kislovodsk** 92.46 314 *i* P P 20 27 38.6 +0.2
SNR=28
KIV **Kislovodsk** 92.46 314 *e*P P 20 27 37.7 -0.7
KIV *e**PP **pP** 20 28 21.1 -1.2
KIV *e**SP **sP** 20 28 38.9 -1.9
KIV *e* 20 31 21.4
KIV *e*PPP PPP 20 33 22.3
KIV *e* 20 37 54.4
KIV pmax pmax
comp=Z,175nm,3.0s
KIV pmax pmax
comp=Z,35nm,1.1s
KIV MLR MLR
comp=Z,1µm,20.0s
KIV **Kislovodsk** 92.46 314 P P 20 27 38.7 +0.3
KIV S **SKSac** 20 37 55.1 +0.2
SCM **Sheep Creek Mo** 92.50 28 P P 20 27 38.6 +0.4
baz=261,SNR=21
NVL **N'lazarevskaya** 92.59 197 *e*P P 20 27 38.1 -0.2
NVL *e*S **SKSac** 20 37 50.7 -3.7
NVL *e* 20 38 23.9
NVL pmax pmax
comp=Z,165nm,1.1s
NVL smax smax
comp=N,780nm,6.8s
WRH **Wood River Hil** 92.60 25 IAmb IAmb 20 27 39.6
comp=Z,120nm,1.0s
KOPR **Koprukoy-ERZUR** 92.62 310 *e*P P 20 27 40.5 +1.2
E23K **Chandalar** 92.65 22 P P 20 27 39.8 +1.1
baz=259
C23K **Itkillik River** 92.66 20 P P 20 27 39.2 +0.6
baz=258,SNR=46
DHY **Denali Highway** 92.68 27 IAmb IAmb 20 27 41.1
comp=Z,69nm,0.8s
DHY **Denali Highway** 92.68 27 P P 20 27 39.5 +0.4
baz=261,SNR=59
CCB **Clear Creek Bu** 92.75 25 IAmb IAmb 20 27 40.0
comp=Z,126nm,0.8s
COLA **College** 92.77 25 P P 20 27 39.5 +0.3
COLA **College** 92.77 25 P P 20 27 38.7 -0.4
COLA **College** 92.77 25 P P 20 27 39.3 +0.1
baz=260
COLA **College** 92.77 25 *ci*P P 20 27 38.4 -0.8
COLA pmax pmax
comp=Z,56nm,0.8s
TOLK **Toolik Lake Re** 92.78 21 IAmb IAmb 20 27 41.8
comp=Z,103nm,1.2s
TOLK **Toolik Lake Re** 92.78 21 P P 20 27 40.1 +0.8
baz=259,SNR=45
VRTB **Varto-Mus** 92.84 309 *e*P P 20 27 42.1 +1.8
BATM **Batumi** 92.92 311 *e*P P 20 27 40.9 +0.5
H24K **Noodor Dome** 92.92 24 IAmb IAmb 20 27 42.2
comp=Z,109nm,0.8s
H24K **Noodor Dome** 92.92 24 P P 20 27 40.6 +0.6
baz=260
SVAN **Sivan-Diyarba** 92.93 308 *e*P P 20 27 41.5 +0.9
BCA **Borcka** 92.96 311 ⇑P P 20 27 40.9 +0.2
BCA **Borcka** 92.96 311 *e*P P 20 27 40.9 +0.2
POKR **Poker Plat Res** 92.99 25 P P 20 27 39.9 -0.3
baz=261,SNR=17
EYAK **Cordova Ski Ar** 93.06 30 P P 20 27 42.0 +1.4
EYAK **Cordova Ski Ar** 93.06 30 P P 20 27 41.3 +0.7
baz=262
HDA **Harding Lake** 93.08 26 P P 20 27 39.9 -0.8
baz=261,SNR=97
M24K **Tolsona, Glenn** 93.08 28 IAmb IAmb 20 27 50.2
comp=Z,99nm,0.9s
M24K **Tolsona, Glenn** 93.08 28 P P 20 27 41.8 +1.0
baz=262,SNR=17
KLU **Klutina** 93.11 29 P P 20 27 41.7 +0.7
baz=262,SNR=10
D24K **Happy Valley** 93.14 21 IAmb IAmb 20 27 43.5
comp=Z,98nm,0.9s
D24K **Happy Valley** 93.14 21 P P 20 27 42.1 +1.3
baz=260
ILAR **Eielson Array** 93.16 25 P P 20 27 40.3 -0.7
ILAR **Eielson Array** 93.16 25 P P 20 27 40.0 -1.0
comp=Z,43nm,0.7s,baz=273,slow=4.3,SNR=334
ILAR PKiKP **PKiKP** 20 32 28.9 +2.1
comp=Z,2.6nm,0.8s,baz=261,slow=3.3,SNR=1.3
ILAR S **SKSac** 20 37 56.6 -1.0
comp=Z,1.4nm,0.9s,baz=322,slow=18,SNR=4.9
ILAR PKKPbc **PKKPdf** 20 44 50.0 +0.4
comp=Z,6.7nm,0.8s,baz=52,slow=1.2,SNR=16
ILAR SKKP 20 48 08.4
comp=Z,5.2nm,0.8s,baz=8.5,slow=1.8,SNR=9.7
ILAR PKPPKP **P'P'df** 20 52 57.9 -1.3
comp=Z,3.2nm,1.1s,baz=4.8,slow=1.8,SNR=7.0
ILAR LR LR 21 06 39.3
comp=Z,1µm,22.0s,baz=254,slow=33
comp=Z,43nm,0.7s
KARO **Karliova-Bingo** 93.17 309 *e*P P 20 27 43.3 +1.4
F24K **Squaw Lake** 93.20 22 IAmb IAmb 20 27 44.0
comp=Z,114nm,0.9s
F24K **Squaw Lake** 93.20 22 P P 20 27 42.1 +0.9
baz=260,SNR=127
G24K **Hadweenzic Riv** 93.23 23 IAmb IAmb 20 27 43.4
comp=Z,82nm,0.8s
G24K **Hadweenzic Riv** 93.23 23 P P 20 27 41.9 +0.6
baz=261
C24K **Franklin Bluff** 93.29 20 P P 20 27 42.4 +1.0
baz=260
BNGB **Bingl** 93.42 309 *e*P P 20 27 43.9 +1.0
MAZI **Mazidag** 93.45 307 *e*P P 20 27 43.8 +0.7
K24K **Donnelly Dome** 93.50 26 P P 20 27 43.2 +0.6
baz=262,SNR=36
PAX **Paxson** 93.52 27 P P 20 27 43.7 +0.8
baz=262,SNR=60
CHOM **Cayeli-Rize** 93.57 311 *e*P P 20 27 42.8 -0.6
HARP **HAARP** 93.59 28 P P 20 27 44.2 +1.2
baz=262,SNR=11
BMRM **Bremner River** 93.67 29 P P 20 27 44.1 +0.6
baz=263,SNR=17
DYBB **Diyarbakir** 93.74 308 *e*P P 20 27 45.3 +0.9
N25K **Chitina, Valde** 93.75 29 P P 20 27 44.6 +0.7
baz=263,SNR=13
G25K **Bearman Lake** 93.78 23 P P 20 27 44.5 +0.8
baz=262,SNR=34
J25K **Salcha River,** 93.79 25 IAmb IAmb 20 27 46.7
comp=Z,88nm,1.1s
H25L **Birch Creek** 93.82 24 P P 20 27 44.6 +0.6
baz=262,SNR=63
PRP **Porcupine Dome** 93.84 25 P P 20 27 43.5 -0.8
baz=262,SNR=18
RIDG **Independent Ri** 93.90 26 IAmb IAmb 20 27 46.3
comp=Z,90nm,0.8s
RIDG **Independent Ri** 93.90 26 P P 20 27 44.6 +0.1
baz=263,SNR=50
VRH **Novokhopyorsk** 93.91 321 *e*P P 20 27 41.8 -2.9
VRH *e**SP **sP** 20 28 44.8 -2.0
VRH *e* 20 37 58.1
VRH *e*S **S** 20 38 35.2 -3.7
VRH pmax pmax
comp=Z,120nm,0.7s
VRH smax smax
comp=N,6µm,4.4s
LABN **Labinsk** 93.94 314 *ci*P P 20 27 45.3 +0.3
LABN *e* 20 31 32.1
LABN *e*S **SKSac** 20 38 04.3 +1.6
LABN *e*SS **SS** 20 45 03.1 -0.4
LABN pmax pmax
comp=Z,282nm,2.0s
BAYT **Aydıntepe-Bayb** 93.97 310 *e*P P 20 27 46.6 +1.1
SUCK **Suckling Hills** 93.97 30 P P 20 27 45.4 +0.5
SUCK IAmb IAmb 20 28 06.5
comp=Z,200nm,1.6s
D25K **Kavik River** 94.03 21 P P 20 27 45.4 +0.4
baz=262,SNR=26
F25K **Christian Rive** 94.06 22 P P 20 27 45.8 +0.6
baz=262
FYU **Fort Yukon** 94.09 24 IAmb IAmb 20 27 47.5
comp=Z,108nm,0.9s
E25K **Arctic Village** 94.16 22 IAmb IAmb 20 27 48.4
comp=Z,117nm,1.1s
E25K **Arctic Village** 94.16 22 P P 20 27 46.4 +0.8
baz=262,SNR=104
ERBR **Yeremizino-Bor** 94.21 315 *ci*P P 20 27 45.9 -0.3
ERBR *e**PP **pP** 20 28 27.6 -2.8
ERBR *e*S **SKSac** 20 38 03.7 -0.4
ERBR pmax pmax
comp=Z,270nm,1.8s
KTUT **Trabzon** 94.31 311 ⇑P P 20 27 48.5 +1.7
KTUT **Trabzon** 94.31 311 *e*P P 20 27 46.9 +0.1
SCRK **Sand Creek** 94.31 26 P P 20 27 46.9 +0.5
baz=264,SNR=39
MENT **Mentasta** 94.31 27 P P 20 27 48.2 +1.8
PTK **Pertek** 94.41 308 *e*P P 20 27 48.6 +1.0
TROLL **Troll, Antarti** 94.41 194 ⇓P P 20 27 48.1 +1.2
comp=Z,10µm,0.9s
TROLL ⇑PKiKP **PKiKP** 20 32 30.4 +1.3
comp=Z,48nm,0.3s
TROLL ⇓SKSac **SKSac** 20 38 03.9 -0.8
comp=Z,2µm,0.9s
TROLL ⇑PKKPbc **PKKPdf** 20 44 45.4 -1.3
comp=Z,314nm,0.5s
BMAR **Burnt Mountain** 94.45 23 P P 20 27 47.9 +0.9
SNH **Sunshine Point** 94.45 30 IAmb IAmb 20 29 25.1
comp=Z,76nm,1.1s
WAX **Waxell Ridge** 94.47 30 IAmb IAmb 20 27 51.5
comp=Z,83nm,1.2s
MCARA **McCarthy VSAT** 94.48 29 P P 20 27 47.5 +0.4
baz=264

L26K	**Log Cabin Wild**	**94.49**	**27**	P		**P**		**20 27 48.0**	**+0.8**
	baz=264,SNR=18								
J26L	**Joseph Creek**	**94.55**	**26**	IAmb		IAmb		20 27 49.5	
	comp=Z,121nm,0.7s								
J26L	**Joseph Creek**	**94.55**	**26**	P		**P**		**20 27 48.1**	**+0.6**
	baz=264								
SOC	**Sochi**	**94.56**	**313**	*c*	*i*P	**P**		**20 27 46.5**	**-1.4**
SOC					*e**PP	**pP**		**20 28 28.0**	**-3.9**
SOC					*e**SP	**sP**		**20 28 47.2**	**-3.1**
SOC					*e*			20 31 36.1	
SOC					*e*PPP	PPP		20 33 41.6	
SOC					*e*			20 38 05.3	
SOC					pmax	pmax			
	comp=Z,118nm,0.9s								
M26K	**Nabesna, AK**	**94.59**	**28**	P		**P**		**20 27 48.3**	**+0.6**
	baz=264,SNR=19								
C26K	**Camden Bay**	**94.62**	**20**	P		**P**		**20 27 48.9**	**+1.3**
	baz=263,SNR=33								
F26K	**Sheenjek River**	**94.65**	**22**	P		**P**		**20 27 48.8**	**+1.0**
	baz=264								
G26K	**Porcupine Rive**	**94.71**	**23**	P		**P**		**20 27 48.9**	**+0.8**
	baz=264,SNR=145								
LODK	**Lodwar**	**94.73**	**273**	IAmb		IAmb		20 27 52.4	
	comp=Z,225nm,1.5s								
LODK	**Lodwar**	**94.73**	**273**	P		**P**		**20 27 50.8**	**+1.3**
	SNR=53								
LODK	**Lodwar**	**94.73**	**273**	*e*P		**P**		**20 27 50.6**	**+1.2**
LODK				*e*S		**SKSac**		**20 38 10.5**	**+2.0**
ISLE	**Juniper Island**	**94.74**	**30**	IAmb		IAmb		20 28 54.0	
	comp=Z,86nm,1.2s								
MESA	**MESA**	**94.89**	**30**	P		**P**		**20 27 49.6**	**+0.3**
	baz=265								
M27K	**Edge Creek, AK**	**95.11**	**28**	P		**P**		**20 27 51.3**	**+1.2**
	baz=265,SNR=20								
BARN	**Barnard Glacie**	**95.11**	**29**	IAmb		IAmb		20 29 28.5	
	comp=Z,102nm,1.4s								
K27K	**Chicken**	**95.15**	**26**	IAmb		IAmb		20 27 53.4	
	comp=Z,152nm,1.0s								
K27K	**Chicken**	**95.15**	**26**	P		**P**		**20 27 52.1**	**+1.9**
	baz=265								
L27K	**Beaver Creek,**	**95.19**	**27**	IAmb		IAmb		20 27 53.0	
	comp=Z,73nm,0.9s								
L27K	**Beaver Creek,**	**95.19**	**27**	P		**P**		**20 27 51.8**	**+1.4**
	baz=266								
BCAR	**Beaver Creek A**	**95.21**	**27**	P		**P**		**20 27 51.0**	**+0.5**
ARPR	**Arapgir-MALATY**	**95.25**	**309**	*e*P		**P**		**20 27 52.4**	**+1.0**
CTG	**Chitna Glacier**	**95.26**	**29**	P		**P**		**20 27 52.1**	**+1.3**
	baz=266,SNR=10								
CTGM	**Chitina Glacie**	**95.26**	**29**	IAmb		IAmb		20 29 29.1	
	comp=Z,55nm,1.0s								
TABL	**Table Mountain**	**95.32**	**30**	IAmb		IAmb		20 29 03.4	
	comp=Z,97nm,1.3s								
LOGN	**Logan Glacier**	**95.41**	**29**	IAmb		IAmb		20 29 12.9	
	comp=Z,59nm,1.1s								
VORD	**Divnogorie**	**95.41**	**321**	*e*P		**P**		**20 27 49.8**	**-1.8**
VORD				pmax		pmax			
	comp=Z,50nm,0.5s								
I27K	**Kandik River**	**95.47**	**25**	P		**P**		**20 27 53.0**	**+1.3**
	baz=266,SNR=158								
VSR	**Storozhevoye**	**95.51**	**321**	*e*P		**P**		**20 27 50.1**	**-1.9**
VSR				*e**SP		**sP**		**20 28 48.6**	**-5.5**
VSR				*e*				20 38 04.8	
VSR				*e*S		**S**		**20 38 49.5**	**-3.3**
VSR				pmax		pmax			
	comp=Z,80nm,1.0s								
VSR				smax		smax			
	comp=N,2μm,3.9s								
VORR	**Voronezh**	**95.51**	**321**	*e*P		**P**		**20 27 49.3**	**-2.7**
VORR				*e*				20 38 06.7	
VORR				pmax		pmax			
	comp=Z,90nm,0.6s								
G27K	**Doyon Strip**	**95.53**	**23**	P		**P**		**20 27 53.4**	**+1.5**
	baz=266								
H27K	**Steamboat Moun**	**95.55**	**24**	P		**P**		**20 27 53.6**	**+1.7**
	baz=266								
BVCY	**Beaver Creek**	**95.58**	**28**	P		**P**		**20 27 53.6**	**+1.4**
	baz=266,SNR=16								
EGAK	**Eagle**	**95.60**	**25**	IAmb		IAmb		20 27 54.2	
	comp=Z,83nm,0.9s								
EGAK	**Eagle**	**95.60**	**25**	P		**P**		**20 27 53.0**	**+0.8**
	baz=266,SNR=75								
E27K	**Coleen River**	**95.65**	**22**	P		**P**		**20 27 52.8**	**+0.5**
	baz=266,SNR=90								
YUK3	**Moose Creek**	**95.73**	**29**	P		**P**		**20 27 53.8**	**+0.7**
	baz=267,SNR=14								
LPSR	**Galich'ya Gora**	**95.74**	**322**	*e*P		**P**		**20 27 50.7**	**-2.4**
LPSR				*e**SP		**pwP**		**20 28 47.6**	**+5.5**
LPSR				*e*				20 38 08.6	
LPSR				*e*S		**S**		**20 38 49.5**	**-5.3**
LPSR				pmax		pmax			
	comp=Z,100nm,0.8s								
LPSR				smax		smax			
	comp=N,1μm,2.6s								
O28M	**Mount Upton**	**95.81**	**30**	P		**P**		**20 27 54.1**	**+0.5**
	baz=267								
DARE	**Darende-Malaty**	**95.87**	**308**	*e*P		**P**		**20 27 55.1**	**+0.9**
KLMR	**Klimovskoe**	**95.89**	**331**	*c*	*i*P	**P**		**20 27 51.8**	**-1.7**
KLMR				*e**PP		**pP**		**20 28 35.6**	**-1.9**
KLMR				*e*				20 31 44.8	
KLMR				*e*S		**SKSac**		**20 38 11.3**	**-1.0**
KLMR				pmax		pmax			
	comp=Z,277nm,1.6s								
ASF	**Jabal al Asfar**	**95.91**	**302**	LR		LR		21 16 06.6	
	comp=Z,1μm,21.9s,baz=63,slow=38								
SNAA	**Sanae**	**95.92**	**194**	IAmb		IAmb		20 27 55.8	
	comp=Z,202nm,1.1s								
SNAA	**Sanae**	**95.92**	**194**	⇓P		**P**		**20 27 54.5**	**+0.8**
	comp=Z,3μm,1.0s								
SNAA				⇑PKiKP		**PKiKP**		**20 32 32.2**	**+0.7**
	comp=Z,11nm,0.3s								
SNAA				⇑SKSac		**SKSac**		**20 38 11.1**	**-1.4**
	comp=Z,288nm,0.9s								
SNAA				⇑PKKPbc		**PKKPdf**		**20 44 40.8**	**-3.2**
	comp=Z,99nm,0.5s								
SNAA	**Sanae**	**95.92**	**194**	*ce*P		**P**		**20 27 54.5**	**+0.8**
SNAA				pmax		pmax			
	comp=Z,207nm,1.1s								
SNAA	**Sanae**	**95.92**	**194**	P		**P**		**20 27 54.4**	**+0.8**
	comp=Z,103nm,0.8s,baz=166,slow=4.4,SNR=72								
SNAA				S		**SKSac**		**20 38 10.7**	**-1.8**
	comp=Z,16nm,1.0s,baz=248,slow=22,SNR=24								
SNAA				PKKPbc		**PKKPdf**		**20 44 42.2**	**-1.7**
	comp=Z,5.7nm,0.8s,baz=244,slow=6.2,SNR=5.6								
	comp=Z,103nm,0.8s								
D27M	**Malcolm River**	**95.94**	**21**	IAmb		IAmb		20 27 57.1	
	comp=Z,53nm,0.9s								
D27M	**Malcolm River**	**95.94**	**21**	P		**P**		**20 27 54.2**	**+0.5**
	baz=267,SNR=94								
GAZ	**Gaziantep**	**96.00**	**307**	*e*P		**P**		**20 27 54.9**	**+0.2**
YUK8	**Steele Glacier**	**96.04**	**29**	P		**P**		**20 27 55.3**	**+0.7**
	baz=267								
RSDY	**Resadiye-TOKAT**	**96.11**	**310**	*e*P		**P**		**20 27 55.5**	**+0.4**
PNL	**Peninsula**	**96.15**	**31**	P		**P**		**20 27 56.0**	**+1.2**
	baz=267								
I28M	**Miner Creek**	**96.16**	**25**	IAmb		IAmb		20 27 57.3	
	comp=Z,123nm,0.8s								
I28M	**Miner Creek**	**96.16**	**25**	P		**P**		**20 27 55.3**	**+0.5**
	baz=268,SNR=119								
KMRS	**Kahramanmaras**	**96.27**	**307**	*e*P		**P**		**20 27 56.2**	**+0.3**
F28M	**Old Crow**	**96.27**	**23**	IAmb		IAmb		20 27 57.4	
	comp=Z,54nm,0.9s								
F28M	**Old Crow**	**96.27**	**23**	P		**P**		**20 27 55.4**	**+0.2**
	baz=268,SNR=73								
ANN	**Anapa**	**96.29**	**314**	⇑	*i*P	**P**		**20 27 54.6**	**-1.1**
ANN				*e**PP		**pP**		**20 28 35.7**	**-4.2**
ANN				*e*				20 31 49.6	
ANN				*e*S		**SKSac**		**20 38 13.8**	**-1.3**
ANN				pmax		pmax			
	comp=Z,124nm,0.8s								
DAWY	**Dawson**	**96.33**	**26**	IAmb		IAmb		20 27 58.1	
	comp=Z,112nm,0.9s								
DAWY	**Dawson**	**96.33**	**26**	P		**P**		**20 27 56.4**	**+0.8**
	baz=268,SNR=94								
SVSK	**Karacayir**	**96.33**	**309**	*e*P		**P**		**20 27 56.7**	**+0.7**
E28M	**Babbage River**	**96.43**	**22**	IAmb		IAmb		20 27 58.2	
	comp=Z,165nm,1.5s								
E28M	**Babbage River**	**96.43**	**22**	P		**P**		**20 27 56.5**	**+0.6**
	baz=268								
FKH	**Fakeheh**	**96.46**	**304**	*e*P		**P**		**20 27 57.7**	**+0.8**
YUK4	**Talbot Arm**	**96.58**	**29**	P		**P**		**20 27 58.0**	**+1.0**
	baz=268,SNR=9.4								
O29M	**Mount Kennedy**	**96.58**	**30**	P		**P**		**20 27 57.6**	**+0.7**
	baz=268								
MOS	**Moscow**	**96.66**	**325**	*e*P		**P**		**20 27 53.7**	**-3.4**
MOS				*e**PP		**pP**		**20 28 35.8**	**-5.3**
MOS				*e*				20 31 51.4	
MOS				*e*				20 38 13.8	
MOS				*e*S		S		20 38 51.2	-11
MOS				*e*SS		**SS**		**20 45 37.5**	**-3.8**
MOS				pmax		pmax			
	comp=Z,198nm,1.5s								
BEIL	**Beino**	**96.66**	**304**	*e*P		**P**		**20 27 58.5**	**+0.7**
SARI	**SarD1z-Kayseri**	**96.70**	**308**	*e*P		**P**		**20 27 58.3**	**+0.3**
M29M	**Somme Creek**	**96.70**	**28**	P		**P**		**20 27 58.5**	**+1.1**
	baz=268,SNR=25								
TOKT	**Tokat**	**96.70**	**310**	*e*P		**P**		**20 27 58.1**	**+0.3**
YUK6	**Outpost Mounta**	**96.71**	**29**	P		**P**		**20 27 58.7**	**+1.1**
	baz=268								
D28M	**Stokes Point**	**96.74**	**21**	P		**P**		**20 27 58.3**	**+1.2**
	baz=269,SNR=68								
TAHT	**Tahtakopru-Hat**	**96.77**	**306**	*e*P		**P**		**20 27 58.6**	**+0.5**
H29M	**Whitestone**	**96.82**	**24**	P		**P**		**20 27 58.6**	**+0.9**
	baz=269,SNR=19								
HWQ	**Hawqa**	**96.84**	**304**	*e*P		**P**		**20 27 56.4**	**-2.2**
J29N	**Klondike Camp**	**96.86**	**26**	IAmb		IAmb		20 28 01.0	
	comp=Z,105nm,1.3s								
J29N	**Klondike Camp**	**96.86**	**26**	P		**P**		**20 27 59.5**	**+1.5**
	baz=269,SNR=15								
ZAHL	**Zahle**	**96.87**	**303**	*e*P		**P**		**20 27 59.2**	**+0.4**
L29M	**L29M**	**96.87**	**27**	P		**P**		**20 27 59.2**	**+1.1**
	baz=269,SNR=27								
RCY	**Rachaya**	**96.89**	**303**	*e*P		**P**		**20 27 59.4**	**+0.4**
G29M	**Pine Creek**	**96.97**	**23**	IAmb		IAmb		20 28 02.2	
	comp=Z,97nm,0.8s								
G29M	**Pine Creek**	**96.97**	**23**	P		**P**		**20 27 59.4**	**+1.0**
	baz=269,SNR=79								
P29M	**Windy Craggy**	**96.99**	**31**	IAmb		IAmb		20 29 36.1	
	comp=Z,66nm,1.4s								
P29M	**Windy Craggy**	**96.99**	**31**	P		**P**		**20 27 59.9**	**+1.3**
	baz=269								
E29M	**Blow River**	**97.03**	**22**	P		Pdif		20 27 59.0	+0.4
	baz=270,SNR=42								
BHL	**Bhannes**	**97.06**	**303**	*e*P		**P**		**20 27 59.2**	**-0.4**
KOZT	**Kozan**	**97.12**	**307**	*e*P		Pdif		20 27 59.9	+0.1
DQRL	**Deir Qamar**	**97.12**	**303**	*e*P		Pdif		20 28 00.4	+0.4
HYT	**Haines Junctio**	**97.12**	**30**	P		Pdif		20 28 00.5	+1.1
	baz=269,SNR=9.0								
K29M	**Barlow Dome**	**97.15**	**26**	IAmb		IAmb		20 28 02.2	
	comp=Z,72nm,1.1s								
K29M	**Barlow Dome**	**97.15**	**26**	P		Pdif		20 28 00.9	+1.4
	baz=270,SNR=57								
BNN	**Bunyan**	**97.17**	**308**	*e*P		Pdif		20 28 00.2	+0.1
MMLI	**Mount Malkishu**	**97.17**	**302**	*e*P		Pdif		20 28 00.7	+0.5
MMAI	**Mount Meron Ar**	**97.22**	**302**	P		Pdif		20 28 00.9	+0.5
	comp=Z,37nm,0.8s,baz=90,slow=7.5,SNR=33								
MMAI				PKiKP		**PKiKP**		**20 32 36.8**	**+1.8**
	comp=Z,3.2nm,0.4s,baz=95,slow=4.2,SNR=12								
MMAI				S		**SKSac**		**20 38 20.9**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=110,slow=4.5,SNR=1.7								
MMAI				PKKPbc		**PKKPbc**		**20 44 40.0**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=357,slow=2.9,SNR=5.5								
MMAI				LR		LR		21 18 22.9	
	comp=Z,1μm,19.7s,baz=50,slow=39								
	comp=Z,37nm,0.8s								
OBN	**Obninsk**	**97.24**	**325**	⇓P		**P**		**20 27 59.0**	**-0.8**
OBN	**Obninsk**	**97.24**	**325**	P		**P**		**20 27 58.8**	**-1.0**
OBN				IAmb		IAmb		20 28 01.4	
	comp=Z,97nm,0.8s								
OBN	**Obninsk**	**97.24**	**325**	*ce*P		**P**		**20 27 58.0**	**-1.7**
OBN				*e*				20 32 01.0	
OBN				*e*S		**SKSac**		**20 38 20.9**	**+1.3**
OBN				pmax		pmax			
	comp=Z,359nm,2.1s								
OBN	**Obninsk**	**97.24**	**325**	P		**P**		**20 27 58.7**	**-1.0**
	comp=Z,55nm,0.4s,baz=80,slow=3.1,SNR=23								
OBN				S		**SKSac**		**20 38 19.5**	**-0.1**
	comp=Z,18nm,0.6s,baz=312,slow=23,SNR=12								
OBN				LR		LR		21 15 08.6	
	comp=Z,1μm,20.8s,baz=94,slow=37								
	comp=Z,55nm,0.4s								
N30M	**Aishikik Lake**	**97.33**	**29**	P		Pdif		20 28 01.6	+1.4
	baz=270,SNR=12								
HRFI	**Mount Harif**	**97.36**	**299**	*e*P		Pdif		20 28 01.5	+0.5
P30M	**Million Dollar**	**97.39**	**30**	P		Pdif		20 28 01.7	+1.2
	baz=270								
EIL	**Elat**	**97.41**	**299**	*e*P		Pdif		20 28 01.6	+0.4
M30M	**Minto, Yukon**	**97.48**	**28**	P		Pdif		20 28 02.1	+1.3
	baz=270,SNR=17								
VNA2	**Neumayer--Watz**	**97.49**	**193**	⇓P		Pdif		20 28 01.5	+0.8
	comp=Z,46nm,0.7s,baz=126,slow=4.8								
VNA2				⇑PKiKP		**PKiKP**		**20 32 34.5**	**+0.3**
	comp=Z,0.7nm,0.2s,baz=141,slow=6.6								
VNA2				⇑SKSac		**SKSac**		**20 38 18.7**	**-1.8**
	comp=Z,24nm,1.5s,baz=359,slow=7.0								
VNA2				⇓PKKPbc		**PKKPbc**		**20 44 36.7**	**-3.5**
	comp=Z,12nm,0.5s,baz=329,slow=2.9								
EPYK	**Eagle Plains**	**97.49**	**24**	IAmb		IAmb		20 29 03.1	
	comp=Z,232nm,1.7s								
EPYK	**Eagle Plains**	**97.49**	**24**	P		Pdif		20 28 01.4	+0.6
	baz=270,SNR=41								
I30M	**Mount Dempster**	**97.64**	**25**	P		Pdif		20 28 02.5	+0.9
	baz=271								
J30M	**Hart River**	**97.67**	**26**	IAmb		IAmb		20 28 05.9	
	comp=Z,65nm,1.0s								
J30M	**Hart River**	**97.67**	**26**	P		Pdif		20 28 03.1	+1.4
	baz=271,SNR=57								
G30M	**tAoh Zraii Nji**	**97.68**	**23**	IAmb		IAmb		20 28 03.0	
	comp=Z,76nm,1.0s								
G30M	**tAoh Zraii Nji**	**97.68**	**23**	P		Pdif		20 28 02.0	+0.4
	baz=271								
PLBC	**Pleasant Camp**	**97.68**	**31**	P		Pdif		20 28 02.7	+0.9
	baz=270								
KARA	**Karaisali**	**97.72**	**307**	*e*P		**P**		**20 28 02.4**	**0.0**
DIKM	**Dikmen**	**97.74**	**311**	⇑P		Pdif		20 28 04.5	+2.1
VNA3	**Neumayer Olymp**	**97.75**	**192**	⇓P		Pdif		20 28 02.1	+0.3
	comp=Z,44nm,0.8s								
VNA3				⇑SKSac		**SKSac**		**20 38 20.0**	**-1.8**
	comp=Z,7.0nm,0.8s								
VNA3				⇑PKKPbc		**PKKPbc**		**20 44 35.7**	**-3.8**
	comp=Z,15nm,0.8s								
CMRD	**Camardi-Nigde**	**97.79**	**307**	*e*P		**P**		**20 28 02.9**	**0.0**
O30N	**Mendenhall**	**97.82**	**30**	P		Pdif		20 28 03.0	+0.6
	baz=270,SNR=6.3								
F30M	**Barrier River**	**97.83**	**23**	P		Pdif		20 28 03.1	+0.9
	baz=272								
MAYO	**Mayo, Yukon**	**97.88**	**27**	IAmb		IAmb		20 29 02.3	
	comp=Z,65nm,1.0s								
MAYO	**Mayo, Yukon**	**97.88**	**27**	P		Pdif		20 28 04.0	+1.4
	baz=271								
VNA1	**Neumayer--Stat**	**97.89**	**193**	⇓P		Pdif		20 28 03.5	+1.1
	comp=Z,62nm,0.9s								
VNA1				⇑SKSac		**SKSac**		**20 38 23.2**	**+0.7**
	comp=Z,31nm,1.0s								
LVZ	**Lovozero**	**98.06**	**338**	*i*	P	**P**		**20 28 02.8**	**-0.4**
LVZ				pmax		pmax			
	comp=Z,128nm,1.9s								
CORM	**Corum**	**98.16**	**310**	*e*P		Pdif		20 28 04.8	+0.3
SKAG	**Skagway**	**98.21**	**31**	P		Pdif		20 28 05.3	+1.3
SKAG	**Skagway**	**98.21**	**31**	P		Pdif		20 28 05.2	+1.2
	baz=271								
GULA	**Gulagac**	**98.41**	**308**	*e*P		**P**		**20 28 05.5**	**-0.1**
WHY	**Whitehorse**	**98.41**	**30**	P		Pdif		20 28 06.5	+1.4
	baz=271,SNR=12								
KIZK	**Mersin**	**98.42**	**306**	*e*P		**P**		**20 28 05.1**	**-0.4**
G31M	**Satah River**	**98.45**	**23**	IAmb		IAmb		20 28 06.6	
	comp=Z,52nm,1.0s								
G31M	**Satah River**	**98.45**	**23**	P		Pdif		20 28 05.5	+0.6
	baz=273,SNR=34								
H31M	**Peel River**	**98.47**	**24**	IAmb		IAmb		20 28 07.1	
	comp=Z,38nm,1.1s								
H31M	**Peel River**	**98.47**	**24**	P		Pdif		20 28 05.8	+0.6
	baz=273								
APA	**Apatity**	**98.55**	**337**	⇓	*i*P	**P**		**20 28 03.8**	**-1.6**
APA					*i*			20 32 07.9	
APA					*i*			20 38 25.0	
APA					*i* S	S		20 39 09.0	-9.1
APA				pmax		pmax			
	comp=Z,14nm,1.0s								
SILI	**Silifke-Mersin**	**98.59**	**306**	*e*P		**P**		**20 28 05.9**	**-0.4**
M31M	**Drury Creek, Y**	**98.60**	**28**	P		Pdif		20 28 05.9	+0.1
	baz=272								
F31M	**Tsiigehtchic**	**98.63**	**23**	IAmb		IAmb		20 28 07.2	
	comp=Z,59nm,1.1s								
F31M	**Tsiigehtchic**	**98.63**	**23**	P		Pdif		20 28 06.1	+0.4
	baz=273,SNR=19								
SIM	**Simferopol'**	**98.65**	**314**	*e*P		**P**		**20 28 05.6**	**-0.8**
SIM				*e*				20 32 09.5	
SIM				*e*S		**S**		**20 39 16.1**	**-3.9**
SIM				pmax		pmax			
	comp=Z,51nm,0.8s								
SIM				pmax		pmax			
	comp=Z,81nm,0.9s								
SIM				pmax		pmax			
	comp=Z,369nm,13.4s								
INK	**Inuvik**	**98.65**	**22**	IAmb		IAmb		20 28 07.4	
	comp=Z,87nm,1.4s								
INK	**Inuvik**	**98.65**	**22**	P		Pdif		20 28 06.2	+0.3
	baz=274,SNR=40								
INK	**Inuvik**	**98.65**	**22**	P		**P**		**20 28 05.3**	**-0.5**
	comp=Z,25nm,0.8s,baz=270,slow=4.9,SNR=63								
INK				pP		**pP**		**20 28 50.8**	**+1.0**
	comp=Z,15nm,1.0s,baz=189,slow=7.3,SNR=2.4								
INK				PKiKP		**PKiKP**		**20 32 37.6**	**+1.3**
	comp=Z,10nm,0.5s,baz=262,slow=2.6,SNR=18								
INK				S		**SKSac**		**20 38 24.0**	**-2.2**
	comp=Z,12nm,1.0s,baz=137,slow=29,SNR=20								
INK				LR		LR		21 10 35.3	
	comp=Z,875nm,20.9s,baz=270,slow=34								
	comp=Z,25nm,0.8s								
R32K	**Eaglecrest**	**98.66**	**32**	P		**P**		**20 28 05.7**	**-0.4**
	baz=271								
YAYX	**Yaylak**	**98.76**	**308**	*e*P		**P**		**20 28 06.6**	**-0.5**
IKL	**Isikli**	**98.78**	**306**	*e*P		**P**		**20 28 06.9**	**-0.2**
YESY	**Yesilyurt**	**98.78**	**307**	*e*P		**P**		**20 28 07.1**	**-0.2**
KAMT	**Kaman**	**98.85**	**309**	*e*P		**P**		**20 28 06.9**	**-0.6**
MBAR	**Mbarara**	**98.87**	**268**	*c*	*i*P	Pdif		20 28 08.4	+0.1
MBAR				pmax		pmax			
	comp=Z,88nm,1.4s								
MBAR	**Mbarara**	**98.87**	**268**	P		Pdif		20 28 09.1	+0.8
MBAR				S		**SKSac**		**20 38 31.0**	**+1.0**
MBAR	**Mbarara**	**98.87**	**268**	*e*P		Pdif		20 28 08.8	+0.5
MBAR				*e*S		**SKSac**		**20 38 28.4**	**-1.7**
AKKU	**Akkuyu-Mersin**	**98.89**	**305**	*e*P		**P**		**20 28 07.4**	**-0.2**
BR131	**Keskin Array S**	**98.91**	**309**	*e*P		**P**		**20 28 06.4**	**-1.4**
BR131	**Keskin Array S**	**98.91**	**309**	IAmb		IAmb		20 32 11.7	
	comp=Z,59nm,1.2s								
BR131	**Keskin Array S**	**98.91**	**309**	*c*	*i*P	**P**		**20 28 06.7**	**-1.1**
BRTR	**Keskin Array B**	**98.91**	**309**	P		**P**		**20 28 07.2**	**-0.7**
	comp=Z,15nm,0.7s,baz=128,slow=5.1,SNR=35								
BRTR				PP		**PP**		**20 32 09.4**	**-2.6**
	comp=Z,9.4nm,0.7s,baz=130,slow=9.8,SNR=6.4								
BRTR				PKiKP		**PKiKP**		**20 32 38.9**	**+1.1**
	comp=Z,4.9nm,0.8s,baz=128,slow=3.7,SNR=5.1								
BRTR				PKKPbc		**PKKPbc**		**20 44 35.3**	**-0.1**
	comp=Z,2.9nm,0.9s,baz=207,slow=3.2,SNR=6.8								
BRTR				LR		LR		21 20 08.0	
	comp=Z,947nm,18.6s,baz=112,slow=40								
	comp=Z,15nm,0.7s								
CSS	**Mathiatis**	**99.03**	**304**	*e*P		**Pdif**		**20 28 08.1**	**-0.2**
CSS	**Mathiatis**	**99.03**	**304**	IAmb		IAmb		20 28 10.2	
	comp=Z,144nm,1.5s								
P32M	**Atlin**	**99.03**	**31**	P		**Pdif**		**20 28 08.8**	**+1.0**
	baz=272,SNR=5.8								
FARO	**Faro, Yukon**	**99.09**	**28**	P		**Pdif**		**20 28 08.9**	**+1.0**
	baz=273,SNR=17								
N32M	**Quiet Lake**	**99.27**	**29**	P		**Pdif**		**20 28 09.9**	**+1.1**
	baz=273								
LSZ	**Lusaka**	**99.31**	**253**	P		**Pdif**		**20 28 10.8**	**+0.7**
LSZ				S		**SKSac**		**20 38 32.2**	**+0.2**
AFSR	**Afar-Bala (An**	**99.34**	**309**	*e*P		**Pdif**		**20 28 09.5**	**-0.2**
BOSA	**Boshof**	**99.41**	**240**	P		**Pdif**		**20 28 11.0**	**+0.7**
BOSA	**Boshof**	**99.41**	**240**	P		**Pdif**		**20 28 11.0**	**+0.7**
	comp=Z,52nm,1.1s,baz=105,slow=5.3,SNR=27								
BOSA				PP		**PP**		**20 32 15.4**	**-0.5**
	comp=Z,58nm,1.1s,baz=109,slow=6.7,SNR=5.5								
BOSA				PKKPbc		**PKKPbc**		**20 44 33.1**	**-0.4**
	comp=Z,3.7nm,1.0s,baz=261,slow=1.4,SNR=4.0								
	comp=Z,52nm,1.1s								
P33M	**Teslin, Yukon**	**99.45**	**30**	P		**Pdif**		**20 28 10.4**	**+0.7**
	baz=273,SNR=5.6								
ANTO	**Ankara**	**99.56**	**309**	P		**Pdif**		**20 28 10.6**	**0.0**
ANTO				S		**SKSac**		**20 38 32.6**	**+0.4**
JOF	**Joensuu**	**99.75**	**333**	*e*P		**Pdif**		**20 28 09.9**	**-0.9**
HDMB	**Hadim**	**99.76**	**306**	*e*P		**Pdif**		**20 28 11.6**	**-0.2**
VADS	**Vadso**	**99.77

	comp=Z,2µm,2.4s							
HAMF				*e*P	**Pdif**	**20 28 20.4**	**+1.6**
HAMF				*e*PP	**PP**	**20 32 30.8**	**-0.1**
HAMF				*e*SKSac	**SKSac**	**20 38 42.8**	**+2.5**
HAMF				*e*SS	**SS**	**20 46 53.3**	**+4.4**
KBS	**Kingsbay**	**101.70**	**350**	*e*P	**Pdif**	**20 28 19.4**	**+0.2**
KBS				IVmB_BB		20 28 26.4	
	comp=Z,640nm,2.6s						
KBS				*e*PP	**PP**	**20 32 34.2**	**+2.5**
KBS				*e*SKSac	**SKSac**	**20 38 43.5**	**+2.6**
KBS				*e*SS	**SS**	**20 46 52.3**	**+1.8**
AKASG	**Malin Array Be**	**101.79**	**320**	P	**Pdif**	**20 28 19.1**	**-1.1**
	comp=Z,4.3nm,0.5s,baz=71,slow=4.3,SNR=28						
AKASG				PP	**PP**	**20 32 32.4**	**-0.8**
	comp=Z,6.5nm,0.8s,baz=74,slow=6.9,SNR=4.0						
AKASG				PKiKP	**PKiKP**	**20 32 42.7**	**+0.2**
	comp=Z,14nm,0.8s,baz=90,slow=2.3,SNR=6.3						
AKASG				S	**SKSac**	**20 38 40.3**	**-2.0**
	comp=Z,4.0nm,1.0s,baz=102,slow=8.9,SNR=4.0						
AKASG				PKPPKP		20 52 42.8	
	comp=Z,0.3nm,0.4s,baz=267,slow=2.7,SNR=6.0						
KIEV	**Kiev**	**101.80**	**320**	⇓P	**Pdif**	**20 28 19.5**	**-0.7**
KIEV	**Kiev**	**101.80**	**320**	*i* P	**Pdif**	**20 28 19.2**	**-1.0**
	SNR=9.7						
KIEV	**Kiev**	**101.80**	**320**	⇓P	**Pdif**	**20 28 19.5**	**-0.7**
HSPB	**Hornsund (broa**	**101.81**	**348**	*e*Pdif	**Pdif**	**20 28 19.3**	**-0.4**
HSPB	**Hornsund (broa**	**101.81**	**348**	*e*P	**Pdif**	**20 28 19.8**	**+0.1**
CAVI	**Cavuskoy**	**101.83**	**310**	*e*P	**Pdif**	**20 28 20.4**	**-0.3**
BJO1	**Bjornoya**	**101.88**	**345**	IVmB_BB		20 28 18.9	
	comp=Z,2µm,3.7s						
BJO1				*e*P	**Pdif**	**20 28 20.9**	**+0.9**
BJO1				*e*PP	**PP**	**20 32 33.8**	**+0.7**
BJO1				*e*SKSac	**SKSac**	**20 38 44.6**	**+2.9**
BJO1				*e*SS	**SS**	**20 46 51.5**	**-1.5**
C36M	**Paulatuk**	**101.90**	**20**	P	**Pdif**	**20 28 20.4**	**+0.1**
	baz=283,SNR=43						
ADVT	**Abdulvahap**	**101.90**	**310**	*e*P	**Pdif**	**20 28 20.6**	**-0.3**
KTK1	**Kautokeino**	**102.08**	**339**	*e*P	**Pdif**	**20 28 20.4**	**-0.8**
KTK1				IVmBBB		20 28 22.4	
	comp=Z,2µm,2.2s						
KTK1				*e*PP	**PP**	**20 32 33.8**	**-1.1**
KTK1				*e*SKSac	**SKSac**	**20 38 44.8**	**+1.9**
KTK1				*e*SS	**SS**	**20 46 59.8**	**+3.5**
MNK	**Minsk**	**102.29**	**324**	*i* P	**Pdif**	**20 28 21.8**	**-0.5**
MNK				*i*		20 32 34.9	
MNK				*i* PPP	PPP	20 34 47.6	
MNK				*i* S	**SKSac**	**20 38 43.6**	**-0.7**
MNK				*i* SS	**SS**	**20 47 02.5**	**+2.8**
MNK				*i* SSS	SSS	20 50 57.9	
MNK				pmax	pmax		
	comp=Z,80nm,0.8s						
MNK				pmax	pmax		
	comp=E,23nm,1.0s						
MNK				pmax	pmax		
	comp=N,13nm,0.8s						
MNK				MLR	MLR		
	comp=N,988nm,17.0s						
MNK				MLR	MLR		
	comp=Z,1µm,17.0s						
MNK				MLR	MLR		
	comp=E,363nm,15.0s						
KIS	**Kishinev**	**102.30**	**317**	*e*P	**Pdif**	**20 28 21.6**	**-0.9**
	comp=E,400nm,6.1s						
KIS	**Kishinev**	**102.30**	**317**	*e*P	**Pdif**	**20 28 22.0**	**-0.5**
KIS				*i*		20 38 44.0	
KIS				*e*S	**Sdif**	**20 39 45.0**	**-5.3**
KIS				*e*PS	**SP**	**20 41 21.0**	**-3.8**
KIS				pmax	pmax		
	comp=Z,400nm,6.1s						
KIS				pmax	pmax		
	comp=Z,600nm,3.4s						
MILM	**Milestii Mici**	**102.31**	**316**	*i* P	**Pdif**	**20 28 21.6**	**-1.0**
	comp=Z,500nm,3.4s						
MILM	**Milestii Mici**	**102.31**	**316**	*i* P	**Pdif**	**20 28 22.0**	**-0.6**
MILM				*i*		20 32 40.0	
MILM				*i*		20 38 43.0	
MILM				*e*S	**Sdif**	**20 39 45.0**	**-5.4**
MILM				*e*PS	**SP**	**20 41 19.0**	**-5.9**
MILM				pmax	pmax		
	comp=Z,500nm,3.4s						
MILM				pmax	pmax		
	comp=Z,1µm,3.3s						
MILM				pmax	pmax		
	comp=E,2µm,3.0s						
FINES	**FINESS Array B**	**102.36**	**331**	P	**Pdif**	**20 28 21.6**	**-0.9**
	comp=E,10nm,0.7s,baz=74,slow=4.5,SNR=35						
FINES				PKiKP	**PKiKP**	**20 32 43.8**	**+0.6**
	comp=E,18nm,0.5s,baz=55,slow=1.9,SNR=27						
FINES				S	**SKSac**	**20 38 42.6**	**-1.8**
	comp=E,19nm,1.0s,baz=89,slow=7.8,SNR=7.3						
FINES				PKKPbc	**PKKPbc**	**20 44 23.6**	**-2.6**
	comp=E,2.8nm,0.4s,baz=304,slow=3.2,SNR=13						
TLCR		**102.40**	**315**	⇑P	**Pdif**	**20 28 24.0**	**+1.0**
TLCR		**102.40**	**315**	⇑P	**Pdif**	**20 28 24.0**	**+1.0**
SORM	**Soroca**	**102.54**	**318**	⇓P	**Pdif**	**20 28 23.2**	**-0.4**
SORM	**Soroca**	**102.54**	**318**	⇓P	**Pdif**	**20 28 23.2**	**-0.4**
ARMT	**Armutlu**	**102.57**	**310**	*e*P	**Pdif**	**20 28 22.9**	**-1.0**
TPGR	**Topolog**	**102.70**	**314**	⇓P	**Pdif**	**20 28 24.6**	**+0.2**
TIRR	**Tirgusor**	**102.73**	**314**	⇑P	**Pdif**	**20 28 24.8**	**+0.3**
TIRR	**Tirgusor**	**102.73**	**314**	*e*P	**Pdif**	**20 28 24.0**	**-0.5**
TIRR	**Tirgusor**	**102.73**	**314**	⇑P	**Pdif**	**20 28 24.8**	**+0.3**
KULA	**Kula-Manisa**	**102.79**	**308**	*e*P	**Pdif**	**20 28 24.9**	**-0.1**
KEF	**Keuruu**	**102.80**	**332**	*e*P	**Pdif**	**20 28 23.4**	**-1.0**
VLDR	**Vladesti**	**102.88**	**315**	⇑P	**Pdif**	**20 28 25.4**	**+0.3**
CFR	**Carcaliu**	**102.88**	**315**	⇑P	**Pdif**	**20 28 25.1**	**0.0**
CFR	**Carcaliu**	**102.88**	**315**	⇑P	**PKKPbc**	**20 44 23.7**	**-0.3**
CFR	**Carcaliu**	**102.88**	**315**	⇑P	**Pdif**	**20 28 25.1**	**0.0**
JETT	**Jettan, Norway**	**102.92**	**340**	*e*P	**Pdif**	**20 28 24.9**	**+0.1**
JETT				IVmBBB		20 28 26.0	
	comp=Z,2µm,1.4s						
JETT				*e*PP	**PKiKP**	**20 32 45.2**	**+1.2**
JETT				*e*SKSac	**SKSac**	**20 38 48.4**	**+1.4**
JETT				*e*SS	**SS**	**20 47 11.7**	**+3.9**
SCTR	**Scanteiesti**	**102.95**	**315**	⇑P	**Pdif**	**20 28 26.2**	**+0.8**
VASR	**Vaslui**	**103.02**	**316**	⇓P	**Pdif**	**20 28 26.9**	**+1.1**
SLVT	**Silivri**	**103.03**	**311**	*e*P	**Pdif**	**20 28 25.3**	**-0.7**
HARR	**Harsova**	**103.06**	**314**	⇑P	**Pdif**	**20 28 26.6**	**+0.6**
HARR	**Harsova**	**103.06**	**314**	⇑P	**Pdif**	**20 28 26.6**	**+0.6**
ISAL	**Salakas**	**103.17**	**325**	*e*P	**Pdif**	**20 28 28.1**	**+1.9**
TRO	**Tromso**	**103.40**	**340**	*e*P	**Pdif**	**20 28 27.4**	**+0.5**
TRO				IVmBBB		20 28 27.8	
	comp=Z,1µm,4.1s						
TRO				*e*PP	**PKiKP**	**20 32 46.8**	**+2.0**
TRO				*e*SKSac	**SKSac**	**20 38 49.7**	**+0.7**
TRO				*e*SS	**SS**	**20 47 18.6**	**+4.5**
WRGLY	**Wrigley**	**103.47**	**26**	P	**Pdif**	**20 28 28.1**	**+0.7**
	baz=282						
VAF	**Ylistaro**	**103.63**	**333**	*e*P	**Pdif**	**20 28 27.7**	**-0.4**
NOR	**Nord**	**103.64**	**355**	*i* P	**PP**	**20 32 51.6**	**+5.4**
DAT	**Datca**	**103.70**	**306**	*e*P	**Pdif**	**20 28 28.6**	**-0.6**
KOTAN	**Kotaneelee Air**	**103.81**	**30**	P	**Pdif**	**20 28 30.1**	**+1.1**
	baz=281						
VRI	**Vrincioaia**	**103.82**	**315**	⇑P	**Pdif**	**20 28 29.8**	**+0.4**
VRI	**Vrincioaia**	**103.82**	**315**	⇑P	**PKKPbc**	**20 44 21.0**	**-0.4**
VRI	**Vrincioaia**	**103.82**	**315**	⇑P	**Pdif**	**20 28 29.8**	**+0.4**
TESR	**Tescani**	**103.82**	**316**	⇑P	**Pdif**	**20 28 29.5**	**+0.1**
PLOR	**Plostina**	**103.88**	**315**	⇑P	**Pdif**	**20 28 29.9**	**+0.3**
PLOR	**Plostina**	**103.88**	**315**	⇓P	**PKKPbc**	**20 44 23.9**	**+2.8**
PLOR	**Plostina**	**103.88**	**315**	⇑P	**Pdif**	**20 28 29.9**	**+0.3**
ISR	**Istrita**	**104.01**	**315**	⇑P	**PKKPbc**	**20 44 21.1**	**+0.3**
NEHR	**Nehoiu**	**104.16**	**315**	⇑P	**Pdif**	**20 28 32.0**	**+1.1**
SULR		**104.25**	**314**	⇑P	**Pdif**	**20 28 32.5**	**+1.3**
TURR	**Turia**	**104.30**	**316**	⇓P	**Pdif**	**20 28 32.1**	**+0.6**
VSVD	**Vaisvydziai**	**104.33**	**326**	*e*P	**Pdif**	**20 28 31.5**	**+0.1**
PABE	**Paberze**	**104.39**	**326**	*e*P	**Pdif**	**20 28 31.7**	**+0.1**
MLR	**Muntele Rosu**	**104.40**	**315**	⇓P	**Pdif**	**20 28 32.5**	**+0.4**
MLR	**Muntele Rosu**	**104.40**	**315**	⇑P	**PKKPbc**	**20 44 19.0**	**-0.7**
MLR	**Muntele Rosu**	**104.40**	**315**	⇑P	**Pdif**	**20 28 32.5**	**+0.4**
OZUR		**104.45**	**316**	⇓P	**PKKPbc**	**20 44 19.9**	**+0.4**
RAF	**Rauma**	**104.48**	**331**	*e*P	**Pdif**	**20 28 29.8**	**-2.0**
ELND	**Elena**	**104.67**	**313**	⇑P	**Pdif**	**20 28 33.2**	**0.0**
ELND	**Elena**	**104.67**	**313**	⇑P	**PKKPbc**	**20 44 18.6**	**0.0**
BURAR	**Bucovina Array**	**104.69**	**317**	⇑P	**Pdif**	**20 28 33.9**	**+0.6**
BURAR	**Bucovina Array**	**104.69**	**317**	⇓P	**PKKPbc**	**20 44 18.7**	**-0.2**
BURAR	**Bucovina Array**	**104.69**	**317**	⇑P	**Pdif**	**20 28 33.9**	**+0.6**
VOIR		**105.03**	**315**	⇑P	**Pdif**	**20 28 34.8**	**0.0**
VOIR		**105.03**	**315**	⇑P	**PKKPbc**	**20 44 17.0**	**-0.8**
VOIR		**105.03**	**315**	⇑P	**Pdif**	**20 28 34.8**	**0.0**
SUW	**Suwalki**	**105.09**	**324**	*e*Pdif	**Pdif**	**20 28 34.5**	**-0.3**
SUW	**Suwalki**	**105.09**	**324**	*e*P	**Pdif**	**20 28 35.0**	**+0.3**
LVV	**L'vov**	**105.20**	**320**	*e*P	**Pdif**	**20 28 34.4**	**-1.0**
LVV				*e*		20 32 54.6	
LVV				*e*		20 38 58.7	
LVV				*e*		20 40 06.2	
LVV				pmax	pmax		
	comp=Z,90nm,1.6s						
STEI	**Steigen**	**105.22**	**339**	*e*P	**Pdif**	**20 28 33.9**	**-1.1**
FAUS	**Fauske**	**105.40**	**339**	*e*P	**Pdif**	**20 28 35.2**	**-0.6**
FAUS				IVmBBB		20 28 36.9	
	comp=Z,2µm,4.2s						
FAUS				*e*PP	**PP**	**20 33 00.1**	**+0.7**
FAUS				*e*SKSac	**SKSac**	**20 38 57.8**	**-0.4**
FAUS				*e*SS	**SKKPbc**	**20 47 42.7**	**-0.8**
LOF	**Lofoten**	**105.74**	**340**	*e*P	**Pdif**	**20 28 35.1**	**-2.3**
LOF				*e*PP	**PP**	**20 33 04.1**	**+2.2**
LOF				*e*SKSac	**SKSac**	**20 39 01.0**	**+1.3**
LOF				*e*SS	**SS**	**20 47 49.5**	**+3.3**
IDI	**Anoyia**	**105.94**	**305**	PKP	**PKiKP**	**20 32 52.4**	**+1.8**
KWP	**Kalwaria Pacla**	**106.08**	**320**	*e*Pdif	**Pdif**	**20 28 39.4**	**+0.1**
MOR8	**Moi Rana**	**106.14**	**338**	*e*P	**Pdif**	**20 28 39.7**	**+0.5**
MOR8				IVmB_BB		20 28 46.8	
	comp=Z,2µm,4.6s						
MOR8				*e*PP	**PP**	**20 33 04.2**	**-0.7**
MOR8				*e*SKSac	**SKSac**	**20 38 60.0**	**-1.6**
MOR8				*e*SS	**SS**	**20 47 51.2**	**-0.5**
MARR	**Marisel-Cluj**	**106.22**	**317**	⇑P	**Pdif**	**20 28 41.3**	**+1.2**
MARR	**Marisel-Cluj**	**106.22**	**317**	⇓P	**PKKPbc**	**20 44 13.8**	**-0.4**
KONS	**Konsvik**	**106.51**	**338**	*e*P	**Pdif**	**20 28 45.2**	**+4.4**
STOK	**Stokkvaagen**	**106.61**	**338**	IVmBBB		20 28 42.3	
	comp=Z,2µm,3.5s						
STOK				*e*P	**Pdif**	**20 28 43.1**	**+1.9**
STOK				*e*PP	**PP**	**20 33 04.8**	**-3.5**
STOK				*e*SKSac	**SKSac**	**20 39 04.5**	**+0.9**
STOK				*e*SS	**SS**	**20 48 00.8**	**+2.8**
GZR	**Gura Zlata**	**106.63**	**315**	⇑P	**PKKPbc**	**20 44 12.5**	**-0.3**
BLKB	**Belogradchik**	**106.92**	**313**	⇓P	**Pdif**	**20 28 43.8**	**+0.5**
HERR	**Herculane**	**106.95**	**315**	⇑P	**Pdif**	**20 28 43.3**	**0.0**
CRVS	**Cervenica-Dubn**	**107.00**	**319**	*e*P	**Pdif**	**20 28 44.3**	**+0.8**
CRVS	**Cervenica-Dubn**	**107.00**	**319**	*e*PDIFF	**Pdif**	**20 28 44.2**	**+0.8**
CRVS				*e*		20 44 28.0	
CRVS				*e*		21 11 27.1	
SURR	**Surduc**	**107.03**	**316**	⇑P	**Pdif**	**20 28 44.6**	**+1.0**
SURR	**Surduc**	**107.03**	**316**	⇑P	**PKKPbc**	**20 44 11.3**	**-0.2**
STHS	**Stebnicka Huta**	**107.05**	**320**	*e*P	**Pdif**	**20 28 45.0**	**+1.3**
STHS	**Stebnicka Huta**	**107.05**	**320**	*e*PDIFF	**Pdif**	**20 28 45.0**	**+1.3**
SIRR	**Siria**	**107.28**	**316**	⇓P	**Pdif**	**20 28 45.4**	**+0.7**
SIRR	**Siria**	**107.28**	**316**	⇑P	**PKKPbc**	**20 44 10.7**	**-0.1**
BZS	**Buzias**	**107.40**	**316**	⇓P	**Pdif**	**20 28 45.5**	**+0.3**
BZS	**Buzias**	**107.40**	**316**	⇓P	**PKKPbc**	**20 44 10.2**	**-0.2**
YKA	**Yellowknife Ar**	**107.57**	**26**	Pdiff	**Pdif**	**20 28 46.5**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=294,slow=5.0,SNR=32						
YKA				PKiKP	**PKiKP**	**20 32 53.6**	**+0.9**
	comp=Z,8.9nm,0.6s,baz=297,slow=1.8,SNR=87						
YKA				SKiKP	**SKiKP**	**20 36 10.3**	**-0.8**
	comp=Z,11nm,0.8s,baz=297,slow=1.9,SNR=8.1						
YKA				PKKPbc	**PKKPbc**	**20 44 08.3**	**-2.1**
	comp=Z,11nm,0.8s,baz=104,slow=2.6,SNR=4.5						
YKA				PKKPab	**PKKPab**	**20 44 21.0**	**-1.9**
	comp=Z,11nm,1.0s,baz=97,slow=4.0,SNR=7.4						
YKA				SKKPbc	**SKKPbc**	**20 47 32.0**	**-5.2**
	comp=Z,8.8nm,1.0s,baz=100,slow=2.5,SNR=8.1						
YKA				PKPPKP	**P'P'df**	**20 52 31.1**	**-0.7**
	comp=Z,1.5nm,1.0s,baz=115,slow=1.9,SNR=3.7						
VIKU	**Vikbolandet**	**107.60**	**330**	*e*P	**Pdif**	**20 28 45.8**	**0.0**
NIE	**Niedzica**	**107.66**	**320**	*e*Pdif	**Pdif**	**20 28 48.2**	**+1.8**
NSS	**Namsos**	**107.71**	**336**	*e*P	**Pdif**	**20 28 46.7**	**+0.5**
NSS				IVmBBB		20 28 49.5	
	comp=Z,2µm,3.8s						
NSS				*e*PP	**PP**	**20 33 15.8**	**-0.6**
NSS				*e*SKSac	**SKSac**	**20 39 10.0**	**+1.6**
NSS				*e*SS	**SS**	**20 48 14.3**	**+1.4**
DAG	**Danmarks Havn**	**107.89**	**353**	*i* P	**PKiKP**	**20 32 52.8**	**-0.2**
HFS	**Hagfors**	**108.56**	**332**	Pdiff	**Pdif**	**20 28 49.0**	**-1.1**
	comp=Z,7.6nm,0.7s,baz=98,slow=4.5,SNR=36						
HFS				PKiKP	**PKiKP**	**20 32 55.3**	**+0.6**
	comp=Z,14nm,0.7s,baz=183,slow=2.6,SNR=10						
HFS				PP	**PP**	**20 33 23.4**	**+0.7**
	comp=Z,13nm,0.7s,baz=20,slow=2.2,SNR=2.8						
HFS				PKKPbc	**PKKPbc**	**20 44 04.1**	**-3.2**
	comp=Z,4.6nm,0.6s,baz=202,slow=3.2,SNR=20						
HFS				SKKPbc	SKKPbc	20 47 28.8	-5.5
	comp=Z,4.6nm,0.8s,baz=157,slow=8.0,SNR=3.5						
FRGS	**Fruska Gora**	**108.73**	**315**	*e*P	**PKiKP**	**20 32 56.0**	**+0.5**
VYHS	**Vyhne**	**108.78**	**319**	*e*P	**Pdif**	**20 28 51.4**	**0.0**
VYHS				*e*		20 33 27.6	
VYHS	**Vyhne**	**108.78**	**319**	*e*PDIFF	**Pdif**	**20 28 51.4**	**0.0**
VYHS				*e*		20 32 09.8	
VYHS	**Vyhne**	**108.78**	**319**	*e*PKP	**PKiKP**	**20 32 57.0**	**+1.5**
VYHS				*e*PP	**PP**	**20 33 27.6**	**+2.8**
VYHS				*e*		20 44 18.9	
VYHS				*e*		20 47 30.4	
TBLU	**Trondheim**	**108.91**	**335**	*e*PP	**PP**	**20 33 23.2**	**-2.0**
TBLU				*e*SKSac	**SKSac**	**20 39 13.7**	**+0.1**
TBLU				*e*SS	**SS**	**20 48 30.9**	**+1.8**
SJES	**Sjenica**	**108.92**	**313**	*e*P	**PKiKP**	**20 32 56.3**	**+0.3**
OKC	**Ostrava-Krasne**	**108.94**	**320**	*e*PKP	**PKiKP**	**20 32 56.8**	**+1.1**
TEKS	**Tekeris**	**109.03**	**315**	*e*P	**PKiKP**	**20 32 53.1**	**-3.0**
BBLS	**Lazi&#263i**	**109.23**	**314**	*e*P	**PKiKP**	**20 32 57.1**	**+0.6**
MAUC	**Maruska**	**109.25**	**320**	*e*PKP	**PKiKP**	**20 32 57.8**	**+1.4**
MAUC				*e*SKS	**SKSac**	**20 39 16.6**	**+0.8**
SRO	**Srobarova**	**109.26**	**318**	*e*PKP	**PKiKP**	**20 32 57.9**	**+1.6**
SRO				*e*PP	**PP**	**20 33 30.2**	**+2.0**
NEEM	**North Greenlan**	**109.26**	**0**	*i* P	**PKiKP**	**20 32 56.6**	**+0.6**
RUDO	**Rudo**	**109.30**	**314**	*e*P	**PKiKP**	**20 32 56.0**	**-0.6**
MORC	**Moravsky Berou**	**109.34**	**320**	*e*PDIFF	**Pdif**	**20 28 54.4**	**+0.5**
MORC				*e*		20 32 58.0	
MORC				*e*PP	**PP**	**20 33 31.8**	**+3.0**
NC602	**NORSAR Array S**	**109.34**	**333**	*e*P	**Pdif**	**20 28 53.1**	**-0.5**
NC602				IVmB_BB		20 28 54.2	
	comp=Z,2µm,4.0s						
NC602				*e*PP	**PP**	**20 33 27.4**	**-1.0**
NC602				*e*SKSac	**SKSac**	**20 39 17.3**	**+1.8**
NC602				*e*SS	**SS**	**20 48 34.1**	**-1.0**
NB2	**NORSAR Subarra**	**109.37**	**333**	P	**Pdif**	**20 28 52.8**	**-0.9**
	comp=Z,27nm,1.0s,baz=68,slow=4.6						
NB2	**NORSAR Subarra**	**109.37**	**333**	PKPdf	**PKiKP**	**20 32 56.9**	**+0.7**
	comp=Z,3.4nm,0.6s,baz=68,slow=1.9						
NB2				PKKP	**PKKPbc**	**20 44 02.7**	**-2.0**
	comp=Z,4.6nm,0.6s,baz=233,slow=2.6						
NB2				SKKP		20 47 27.8	
	comp=Z,2.2nm,0.8s,baz=236,slow=2.4						
NB2	**NORSAR Subarra**	**109.37**	**333**	P	**Pdif**	**20 28 52.8**	**-0.9**
	baz=68,slow=4.6						
NB2	**NORSAR Subarra**	**109.37**	**333**	*e*	**PKiKP**	**20 32 56.9**	**+0.7**
	baz=68,slow=1.9						
NOA	**NORSAR Array B**	**109.37**	**333**	Pdiff	**Pdif**	**20 28 52.6**	**-1.2**
	comp=Z,7.8nm,0.8s,baz=69,slow=4.6,SNR=38						
NOA				PKiKP	**PKiKP**	**20 32 56.6**	**+0.4**
	comp=Z,8.2nm,0.8s,baz=264,slow=3.0,SNR=10						
NOA				PP	**PP**	**20 33 28.5**	**-0.1**
	comp=Z,6.0nm,0.8s,baz=70,slow=7.8,SNR=3.9						
NOA				PKKPbc	**PKKPbc**	**20 44 03.0**	**-1.8**
	comp=Z,1.5nm,0.5s,baz=250,slow=4.4,SNR=19						
NOA				PKKPab	**PKKPab**	**20 44 14.5**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=78,slow=2.1,SNR=3.8						
NOA				SKKPbc	SKKPbc	20 47 27.0	-5.1
	comp=Z,4.3nm,0.9s,baz=69,slow=2.7,SNR=7.2						
JAVC	**Velka Javorina**	**109.46**	**320**	*e*PDIFF	**Pdif**	**20 28 55.5**	**+1.1**
JAVC				*e*		20 32 58.9	
JAVC				*e*PP	**PP**	**20 33 35.0**	**+5.3**
BSD	**Bornholm Skovb**	**109.52**	**326**	*i* P	**PKiKP**	**20 32 57.1**	**+0.6**
BSD	**Bornholm Skovb**	**109.52**	**326**	*e*P	**Pdif**	**20 28 53.6**	**-0.8**
HAPS	**Han Pijesak,Bl**	**109.52**	**314**	*e*P	**PKiKP**	**20 32 57.0**	**-0.1**
DRME	**Dracevica, Mon**	**109.66**	**312**	*e*P	**PKiKP**	**20 32 57.6**	**+0.3**
DEL	**Delary**	**109.67**	**328**	*e*P	**Pdif**	**20 28 53.5**	**-1.6**
UPM	**Unac-Piva**	**109.70**	**313**	*e*P	**PKiKP**	**20 32 57.5**	**-0.1**
KRLC	**Kraliky**	**109.75**	**321**	*e*PKP	**PKiKP**	**20 32 58.9**	**+1.6**
MODS	**Modra-Piesok**	**109.82**	**319**	*e*PKP	**PKiKP**	**20 32 59.7**	**+2.3**
MODS				*e*PP	**PP**	**20 33 33.9**	**+1.6**
MODS				*e*		20 44 13.8	
MODS				*e*		20 47 27.8	
DOMB	**Dombas**	**109.92**	**334**	*e*PP	**PP**	**20 33 33.4**	**+0.9**
DOMB				*e*SKSac	**SKSac**	**20 39 19.1**	**+1.1**
DOMB				*e*SS	**SS**	**20 48 46.0**	**+3.3**
DPC	**Dobruska-Polom**	**109.97**	**321**	*e*PKP	**PKiKP**	**20 32 59.4**	**+1.7**
ZST	**Bratislava**	**109.97**	**319**	*e*PKP	**PKiKP**	**20 32 59.0**	**+1.3**
ZST				*e*PP	**PP**	**20 33 36.1**	**+2.7**
OSTC	**Ostas**	**109.99**	**322**	*e*PKP	**PKiKP**	**20 32 59.4**	**+1.7**
BRY	**Bratogost**	**110.02**	**313**	*e*P	**PKiKP**	**20 32 58.2**	**+0.1**
OSL	**Oslo**	**110.02**	**332**	*e*PP	**PP**	**20 33 30.1**	**-3.1**
OSL				*e*SKSac	**SKSac**	**20 39 17.5**	**-0.9**
VRAC	**Vranov**	**110.05**	**320**	*e*PDIFF	**Pdif**	**20 28 57.4**	**+0.4**
VRAC				*e*		20 32 59.1	
VRAC				*e*PP	**PP**	**20 33 37.7**	**+3.8**
VRAC				*e*SKS	**SKSac**	**20 39 19.8**	**+0.7**
CHVC	**Chvalec**	**110.08**	**322**	*e*PKP	**PKiKP**	**20 32 59.3**	**+1.4**
HCY	**Herceg Novi**	**110.12**	**313**	*e*P	**PKiKP**	**20 32 57.8**	**-0.4**
UPC	**Upice**	**110.12**	**321**	*e*PKP	**PKiKP**	**20 32 59.3**	**+1.4**
TREB	**Trebinje**	**110.18**	**313**	*e*P	**PKiKP**	**20 32 57.9**	**-0.4**
KRUC	**Moravsky**	**110.23**	**320**	*e*PDIFF	**Pdif**	**20 28 58.1**	**+0.3**
KRUC				*e*		20 32 59.3	
KRUC				*e*PP	**PP**	**20 33 40.0**	**+4.8**
KRUC				*e*SKS	**SKSac**	**20 39 20.6**	**+0.8**
NEVS	**Nevesinje**	**110.26**	**314**	*e*P	**PKiKP**	**20 32 58.3**	**-0.2**
NEW	**Newport**	**110.28**	**41**	P	**PKiKP**	**20 32 59.6**	**+1.2**
	baz=283						
NEW	**Newport**	**110.28**	**41**	Pdiff	**Pdif**	**20 28 59.4**	**+1.3**
	comp=Z,1.1nm,0.6s,baz=255,slow=1.4,SNR=1.8						
NEW				PKiKP	**PKiKP**	**20 32 59.5**	**+1.2**
	comp=Z,12nm,0.7s,baz=64,slow=1.0,SNR=12						
NEW				SKiKP	**SKiKP**	**20 36 17.0**	**+0.1**
	comp=Z,7.3nm,0.7s,baz=324,slow=1.9,SNR=5.0						
MOL	**Molde**	**110.33**	**335**	*e*PP	**PP**	**20 33 34.4**	**-0.9**
DBRK	**Dubrovnik**	**110.34**	**313**	*i* P	**PKiKP**	**20 32 58.8**	**+0.2**
PKM	**Mcpherson Peak**	**110.55**	**55**	P	**PKiKP**	**20 33 01.3**	**+1.8**
	baz=276,SNR=5.9						
RGN	**Rugen**	**110.57**	**326**	*e*P	**Pdif**	**20 29 01.0**	**+1.9**
RONA	**Rosalia, Austr**	**110.61**	**319**	*i* PKiKP	**PKiKP**	**20 32 59.8**	**+0.8**
	comp=Z,5.9nm,0.6s						
RONA				*e*PKKP	**PKKPbc**	**20 43 59.5**	**-0.8**
	comp=Z,6.3nm,0.7s						
STON	**Ston**	**110.63**	**313**	*i* P	**PKiKP**	**20 32 59.5**	**+0.5**
STON	**Ston**	**110.63**	**313**	*e*P	**PKiKP**	**20 32 58.6**	**-0.5**
BLY	**Banja Luka**	**110.64**	**315**	*e*P	**PKiKP**	**20 32 57.4**	**-1.7**
KONO	**Kongsberg**	**110.66**	**332**	*e*PP	**PP**	**20 33 38.2**	**+0.5**
KONO				*e*SKSac	**SKSac**	**20 39 21.7**	**+0.6**
KONO				*e*SS	**SS**	**20 48 55.6**	**+3.0**
COP	**Copenhagen**	**110.68**	**327**	*i* P	**PKiKP**	**20 32 59.3**	**+0.6**
JMI	**Jan Mayen**	**110.70**	**347**	*e*PP	**PP**	**20 33 37.2**	**-0.5**
TREC	**Trest**	**110.76**	**320**	*e*PKP	**PKiKP**	**20 33 00.4**	**+1.2**
TREC	**Trest**	**110.76**	**320**	*e*

	comp=Z,1.0nm,0.5s								
MOA				*e*PKKP		**PKKPbc**	**20 43 55.1**	**-0.9**	
	comp=Z,4.2nm,0.6s								
MOA				*i* SKKP			20 47 20.0		
	comp=Z,3.5nm,0.7s								
ODD1	**Odda**	**111.91**	**333**	*e*P		**Pdif**	**20 29 06.8**	**+1.8**	
ODD1				IVmB_BB			20 29 18.2		
	comp=Z,1µm,3.3s								
ODD1				*e*PP		PP	20 33 37.5	-9.3	
ODD1				*e*SKSac		**SKSac**	**20 39 29.8**	**+3.5**	
ODD1				*e*SS		**SS**	**20 49 10.9**	**+1.6**	
FMP	**Fort Macarthur**	**111.93**	**56**	P		**PKiKP**	**20 33 03.1**	**+1.3**	
	baz=277								
ZIRJ	**Zirje**	**111.95**	**314**	*i* P		**PKiKP**	**20 33 01.6**	**0.0**	
GEC2	**GERESS Array S**	**112.01**	**320**	*e*PKPdf		**PKiKP**	**20 33 02.6**	**+0.9**	
	baz=73,slow=1.9								
GERES	**GERESS Array B**	**112.01**	**320**	Pdiff		**Pdif**	**20 29 06.0**	**+0.2**	
	comp=Z,1.2nm,0.8s,baz=98,slow=9.6,SNR=6.4								
GERES				PKiKP		**PKiKP**	**20 33 01.9**	**+0.3**	
	comp=Z,32nm,0.5s,baz=56,slow=3.5,SNR=146								
GERES				PP		**PP**	**20 33 48.7**	**+0.7**	
	comp=Z,13nm,0.8s,baz=55,slow=7.0,SNR=5.2								
GERES				SKP			20 36 20.1		
	comp=Z,11nm,0.9s,baz=35,slow=4.9,SNR=3.5								
GERES				PKKPbc		**PKKPbc**	**20 43 55.6**	**-0.2**	
	comp=Z,1.9nm,0.9s,baz=352,slow=1.4,SNR=5.4								
GERES				PKKPab		**PKKPab**	**20 44 04.0**	**+0.5**	
	comp=Z,5.1nm,1.1s,baz=288,slow=1.3,SNR=6.6								
GERES				SKKPbc		SKKPbc	20 47 19.9	-4.1	
	comp=Z,1.0nm,0.8s,baz=228,slow=1.6,SNR=4.1								
KHC	**Kasperske Hory**	**112.01**	**321**	*e*PKP		**PKiKP**	**20 33 02.1**	**+0.5**	
KHC				*ex*		x	20 33 26.5		
KHC				*e*PP		**PP**	**20 33 44.5**	**-3.4**	
KHC				*e*SKS		**SKSac**	**20 39 27.2**	**+0.1**	
KHC				*e*PKKP		**PKKPab**	**20 44 04.7**	**+1.3**	
KHC				AMS		AMS	21 23 40.0		
	comp=Z,3µm,20.8s								
KHC	**Kasperske Hory**	**112.01**	**321**	*e*PKIKP		**PKiKP**	**20 33 02.1**	**+0.5**	
KHC				*e*			20 33 44.5		
KHC				*e*			20 39 27.2		
KHC				MLR		MLR			
	comp=Z,3µm,20.8s								
KULLO	**Kullorsuaq**	**112.03**	**2**	*i* P		**PKiKP**	**20 32 59.9**	**-0.9**	
EDW2	**Edwards Air Fo**	**112.03**	**55**	P		**PKiKP**	**20 33 03.6**	**+1.5**	
	baz=277,SNR=13								
OBKA	**Obir**	**112.06**	**318**	*i* PKiKP		**PKiKP**	**20 33 02.6**	**+0.8**	
	comp=Z,8.9nm,0.9s								
OBKA				*e*SKS		**SKSac**	**20 39 29.4**	**+1.8**	
	comp=Z,3.0nm,0.8s								
OBKA				*e*PKKP		**PKKPbc**	**20 43 55.0**	**-0.6**	
	comp=Z,6.9nm,0.8s								
OBKA				*e*SKKP			20 47 20.9		
	comp=Z,3.3nm,0.6s								
OBKA	**Obir**	**112.06**	**318**	*e*P		**PKiKP**	**20 33 02.0**	**+0.2**	
LJU	**Ljubljana**	**112.18**	**317**	*i* Pdiff		**Pdif**	**20 29 07.8**	**+1.3**	
LJU				*i* PKiKP		**PKiKP**	**20 33 03.1**	**+1.2**	
LJU				*e*pPKiKP		**pPKiKP**	**20 33 39.6**	**-9.0**	
LJU				*e*PP		**PP**	**20 33 51.5**	**+2.2**	
LJU				*e*pPP			20 34 32.5		
LJU				*e*			20 35 41.5		
LJU				*e*			20 36 14.4		
LJU				*e*			20 37 11.5		
LJU				*e*SKSac		**SKSac**	**20 39 26.9**	**-1.0**	
LJU				*i*			20 40 30.3		
LJU				*e*Sdiff		**Sdif**	**20 41 13.6**	**+0.7**	
LJU				*e*SP		**SP**	**20 43 12.2**	**+8.5**	
LJU				*e*			20 44 21.3		
LJU				*e*SS		**SS**	**20 49 06.6**	**-7.3**	
BLS5	**Blasjo**	**112.20**	**333**	*e*P		**Pdif**	**20 29 09.1**	**+2.8**	
BLS5				IVmB_BB			20 29 09.5		
	comp=Z,2µm,3.7s								
BLS5				*e*PP		**PP**	**20 33 49.9**	**+1.0**	
BLS5				*e*SKSac		**SKSac**	**20 39 30.1**	**+2.6**	
BLS5				*e*SS		**SS**	**20 49 15.6**	**+2.4**	
VIRC	**Vir**	**112.22**	**315**	*i* P		**PKiKP**	**20 33 01.9**	**-0.1**	
GRAC	**Grapevine Rang**	**112.24**	**53**	P		**PKiKP**	**20 33 03.8**	**+1.4**	
	baz=279,SNR=6.9								
MPMC	**Manual Prospec**	**112.28**	**54**	P		**PKiKP**	**20 33 04.0**	**+1.2**	
	baz=278,SNR=13								
DUGI	**Dugi Otok**	**112.29**	**315**	*i* P		**PKiKP**	**20 33 02.1**	**-0.1**	
NVLJ	**Novalja**	**112.29**	**315**	*i* P		**PKiKP**	**20 33 02.1**	**0.0**	
RABC	**Rab**	**112.31**	**316**	*i* P		**PKiKP**	**20 33 02.9**	**+0.7**	
SNART	**Snartemo**	**112.32**	**331**	*e*PP		**PP**	**20 33 47.2**	**-2.4**	
CEY	**Cerknica**	**112.32**	**317**	*i* Pdiff		**Pdif**	**20 29 08.0**	**+0.8**	
CEY				*i* PKiKP		**PKiKP**	**20 33 03.1**	**+0.8**	
CEY				*i* PP		**PP**	**20 33 52.0**	**+1.7**	
CEY				*i* SKSac		**SKSac**	**20 39 28.6**	**+0.1**	
CEY				*e*			20 40 30.5		
CEY				*e*Sdiff		**Sdif**	**20 41 13.3**	**-0.9**	
CEY	**Cerknica**	**112.32**	**317**	*e*P		**PKiKP**	**20 33 01.4**	**-0.9**	
TANN	**Tannenbergstha**	**112.33**	**322**	*e*PKPdf		**PKiKP**	**20 33 03.5**	**+1.3**	
	baz=73,slow=1.9								
BIOA	**Bad Ischl, Aus**	**112.36**	**319**	*e*PKiKP		**PKiKP**	**20 33 02.5**	**+0.2**	
	comp=Z,9.9nm,0.5s,SNR=5.3								
BIOA				*e*SKP			20 36 19.1		
	comp=Z,3.0nm,0.5s								
BIOA				*e*PKKP		**PKKPbc**	**20 43 53.8**	**-0.7**	
	comp=Z,5.4nm,0.7s								
BIOA				*e*SKKP			20 47 19.0		
	comp=Z,5.1nm,0.7s								
BFSC	**Mount Baldy Ra**	**112.39**	**56**	P		**PKiKP**	**20 33 04.2**	**+1.3**	
	baz=277,SNR=5.6								
NKC	**Novy Kostel**	**112.39**	**322**	*e*PKP		**PKiKP**	**20 33 02.9**	**+0.6**	
NKC				AMS		AMS	21 22 20.0		
	comp=Z,2µm,18.0s								
NKC	**Novy Kostel**	**112.39**	**322**	*e*PKIKP		**PKiKP**	**20 33 02.9**	**+0.6**	
NKC				MLR		MLR			
	comp=Z,2µm,18.0s								
BSEG	**Bad Segeberg**	**112.43**	**326**	*e*PKPdf		**PKiKP**	**20 33 03.8**	**+1.7**	
	baz=73,slow=1.9								
WET	**Wettzell**	**112.44**	**321**	*e*PKPdf		**PKiKP**	**20 33 03.5**	**+1.1**	
	baz=73,slow=1.9								
FLTG	**Flechtingen**	**112.46**	**324**	*e*PKPdf		**PKiKP**	**20 33 03.2**	**+1.0**	
	baz=73,slow=1.9								
NEUB	**Neuenburg**	**112.50**	**323**	*e*PKPdf		**PKiKP**	**20 33 03.5**	**+1.1**	
	baz=73,slow=1.9								
MYKA	**Terra Mystica**	**112.63**	**318**	*i* PKiKP		**PKiKP**	**20 33 02.8**	**-0.1**	
	comp=Z,16nm,0.7s								
MYKA				*i* SKP			20 36 20.8		
	comp=Z,3.8nm,0.6s								
MYKA				*e*PKKP		**PKKPbc**	**20 43 51.8**	**-1.9**	
	comp=Z,4.8nm,0.4s								
MANZ	**Manzenberg**	**112.68**	**322**	*e*PKPdf		**PKiKP**	**20 33 04.0**	**+1.1**	
	baz=73,slow=1.9								
KBA	**Koelnbreinsper**	**112.71**	**318**	*e*Pdiff		**Pdif**	**20 29 10.0**	**+0.9**	
	comp=Z,2.6nm,0.9s								
KBA				*i* PKiKP		**PKiKP**	**20 33 03.2**	**0.0**	
	comp=Z,14nm,0.6s								
KBA				*e*SKP			20 36 20.0		
	comp=Z,5.8nm,1.0s								
KBA				*e*SKS		**SKSac**	**20 39 29.2**	**-1.2**	
	comp=Z,5.3nm,0.8s								
KBA				*e*PKKP		**PKKPbc**	**20 43 52.4**	**-1.1**	
	comp=Z,2.1nm,0.5s								
KBA				*i* SKKP			20 47 17.6		
	comp=Z,4.1nm,0.7s								
FURC	**Furnace Creek,**	**112.72**	**53**	P		**PKiKP**	**20 33 05.3**	**+2.0**	
	baz=279								
MOX	**Moxa**	**112.78**	**322**	*e*PKPdf		**PKiKP**	**20 33 03.8**	**+0.8**	
	baz=73,slow=1.9								
KMY	**Karmoy**	**112.85**	**333**	*e*PP		**PP**	**20 33 53.5**	**+0.1**	
KMY				*e*SKSac		**SKSac**	**20 39 29.0**	**-0.9**	
KMY				*e*SS		**SS**	**20 49 24.2**	**+2.6**	
MURC	**Murrieta**	**112.85**	**56**	P		**PKiKP**	**20 33 04.8**	**+1.2**	
	baz=277								
RJOB	**Jochberg**	**112.89**	**319**	*e*PKPdf		**PKiKP**	**20 33 03.8**	**+0.4**	
	baz=73,slow=1.9								
GSC	**Goldstone, Bar**	**112.94**	**55**	P		**PKiKP**	**20 33 05.5**	**+1.6**	
	baz=278,SNR=14								
BRJN	**Brijuni**	**112.99**	**316**	*i* P		**PKiKP**	**20 33 03.8**	**+0.3**	
109C	**Camp Elliot, M**	**113.02**	**57**	P		**PKiKP**	**20 33 05.7**	**+1.7**	
	baz=277								
LESA	**Schwarzleotal**	**113.06**	**319**	*e*Pdiff		**Pdif**	**20 29 11.2**	**+0.7**	
	comp=Z,5.4nm,0.9s								
LESA				*i* PKiKP		**PKiKP**	**20 33 03.1**	**-0.6**	
	comp=Z,22nm,0.5s								
LESA				*e*PKKP		**PKKPbc**	**20 43 49.0**	**-3.3**	
	comp=Z,2.6nm,0.5s								
LESA				*e*SKKP			20 47 17.6		
	comp=Z,4.6nm,0.7s								
NRDL	**Niedersach Rie**	**113.06**	**325**	*e*PKPdf		**PKiKP**	**20 33 04.6**	**+1.3**	
	baz=73,slow=1.9								
CLZ	**Clausthal**	**113.13**	**324**	*e*PKPdf		**PKiKP**	**20 33 04.5**	**+0.9**	
	baz=73,slow=1.9								
HLID	**Hailey**	**113.21**	**45**	P		**PKiKP**	**20 33 06.0**	**+1.7**	
	baz=284,SNR=36								
ELK	**Elko**	**113.22**	**49**	Pdiff		**Pdif**	**20 29 13.8**	**+2.2**	
	comp=Z,0.3nm,0.3s,baz=270,slow=5.6,SNR=1.9								
ELK				PKiKP		**PKiKP**	**20 33 05.2**	**+0.8**	
	comp=Z,12nm,0.6s,baz=275,slow=3.0,SNR=37								
ELK				PP		**PP**	**20 33 57.6**	**+0.5**	
	comp=Z,3.0nm,0.6s,baz=264,slow=2.0,SNR=5.3								
ELK				SKP			20 36 23.2		
	comp=Z,15nm,0.9s,baz=292,slow=4.1,SNR=5.9								
SHOC	**Shoshone, Teco**	**113.28**	**54**	P		**PKiKP**	**20 33 06.5**	**+2.1**	
	baz=279								
ABTA	**Abfaltersbach**	**113.35**	**318**	*e*Pdiff		**Pdif**	**20 29 12.5**	**+0.7**	
	comp=Z,2.9nm,0.8s								
ABTA				*i* PKiKP		**PKiKP**	**20 33 04.2**	**-0.1**	
	comp=Z,37nm,0.6s,SNR=16								
ABTA				*e*SKP			20 36 22.3		
	comp=Z,20nm,1.0s								
ABTA				*e*SKS		**SKSac**	**20 39 30.1**	**-2.6**	
	comp=Z,9.8nm,1.1s								
ABTA				*e*PKKP		**PKKPbc**	**20 43 50.4**	**-0.9**	
	comp=Z,5.8nm,1.0s								
ABTA				*i* SKKP			20 47 16.2		
	comp=Z,4.6nm,1.1s								
HEC	**Hector,Ludlow**	**113.39**	**55**	P		**PKiKP**	**20 33 06.4**	**+1.7**	
	baz=278								
R11B	**Troy Canyon, C**	**113.41**	**51**	P		**PKiKP**	**20 33 06.7**	**+1.8**	
	baz=280,SNR=16								
PFO	**Pinyon Flats O**	**113.46**	**56**	P		**PKiKP**	**20 33 06.7**	**+1.8**	
	baz=278,SNR=12								
GTTG	**Gottingen**	**113.47**	**324**	*e*PKPdf		**PKiKP**	**20 33 06.0**	**+1.7**	
	baz=73,slow=1.9								
TPFO	**Pinon Flats**	**113.47**	**56**	P		**PKiKP**	**20 33 06.7**	**+1.8**	
	baz=278,SNR=13								
MONP2	**Monument Peak**	**113.59**	**57**	P		**PKiKP**	**20 33 07.2**	**+1.9**	
	baz=278,SNR=8.2								
TUQ	**Turquoise Moun**	**113.63**	**54**	P		**PKiKP**	**20 33 07.2**	**+1.9**	
	baz=279,SNR=6.9								
FUR	**Furstenfeldbru**	**113.75**	**320**	*e*PKPdf		**PKiKP**	**20 33 05.9**	**+1.0**	
	baz=73,slow=1.9								
SUMG	**Summit**	**113.77**	**356**	*i* P		**PKiKP**	**20 33 04.7**	**-0.1**	
WTTA	**Wattenberg**	**113.78**	**319**	*e*Pdiff		**Pdif**	**20 29 14.4**	**+0.5**	
	comp=Z,0.4nm,0.2s								
WTTA				*i* PKiKP		**PKiKP**	**20 33 05.5**	**+0.2**	
	comp=Z,159nm,0.4s,SNR=42								
WTTA				*e*SKP			20 36 22.7		
	comp=Z,21nm,0.8s								
WTTA				*e*SKS		**SKSac**	**20 39 32.7**	**-1.8**	
	comp=Z,19nm,0.9s								
WTTA				*e*PKKP		**PKKPbc**	**20 43 49.3**	**-0.7**	
	comp=Z,3.3nm,0.6s								
WTTA				*e*SKKP			20 47 15.4		
	comp=Z,1.5nm,0.5s								
BELC	**Belle Mtn. Jos**	**113.79**	**56**	P		**PKiKP**	**20 33 07.6**	**+2.0**	
	baz=278,SNR=24								
WATA	**Walderalm**	**113.80**	**319**	*i* PKP		**PKiKP**	**20 33 05.2**	**0.0**	
	comp=Z,30nm,0.4s,SNR=26								
WATA				*e*SKP			20 36 23.1		
	comp=Z,19nm,1.2s								
WATA				*e*SKS		**SKSac**	**20 39 33.6**	**-0.9**	
	comp=Z,6.0nm,0.8s								
WATA				*e*PKKP		**PKKPbc**	**20 43 49.8**	**-0.1**	
	comp=Z,2.4nm,0.5s								
UPNV	**Upernavik**	**113.86**	**2**	*i* P		**PKiKP**	**20 33 03.8**	**-0.6**	
UPNV	**Upernavik**	**113.86**	**2**	*i* P		**PKKPbc**	**20 43 46.0**	**-4.1**	
IKP	**In-Ko-Pah, Jac**	**113.88**	**57**	P		**PKiKP**	**20 33 07.7**	**+2.0**	
	baz=278,SNR=7.6								
GMRC	**Granite Mounta**	**113.95**	**55**	P		**PKiKP**	**20 33 07.8**	**+1.9**	
	baz=279,SNR=25								
SQTA	**Sankt Quirin**	**114.07**	**319**	PKiKP		**PKiKP**	**20 33 05.8**	**+0.2**	
	comp=Z,35nm,0.5s,SNR=13								
SQTA				*e*SKP			20 36 23.6		
	comp=Z,11nm,0.9s								
SQTA				*e*SKS		**SKSac**	**20 39 34.4**	**-1.1**	
	comp=Z,3.9nm,0.8s								
SQTA				*e*PKKP		**PKKPbc**	**20 43 48.3**	**-0.6**	
	comp=Z,2.5nm,0.5s								
SQTA				*e*SKKP			20 47 14.7		
	comp=Z,4.5nm,0.8s								
SWSC	**Sam W. Stewart**	**114.10**	**57**	P		**PKiKP**	**20 33 07.8**	**+1.8**	
	baz=278,SNR=5.8								
MOTA	**Moosalm**	**114.10**	**319**	*e*Pdiff		**Pdif**	**20 29 15.0**	**-0.2**	
	comp=Z,0.5nm,0.4s								
MOTA				*i* PKP		PKPdf	20 33 05.8	0.0	
	comp=Z,50nm,0.5s,SNR=17								
MOTA				*e*SKP			20 36 23.5		
	comp=Z,20nm,0.9s								
MOTA				*e*SKS		**SKSac**	**20 39 33.8**	**-1.9**	
	comp=Z,5.5nm,0.8s								
MOTA				*e*PKKP		**PKKPbc**	**20 43 48.1**	**-0.7**	
	comp=Z,6.0nm,0.8s								
MOTA				*e*SKKP			20 47 15.3		
	comp=Z,6.1nm,0.8s								
RETA	**Reutte**	**114.28**	**319**	*i* PKP		PKPdf	20 33 06.0	0.0	
	comp=Z,18nm,0.5s,SNR=7.0								
RETA				*e*PKKP		**PKKPbc**	**20 43 47.5**	**-0.6**	
	comp=Z,2.8nm,0.5s								
BC3	**Big Chuckawall**	**114.29**	**56**	P		**PKiKP**	**20 33 08.3**	**+1.8**	
	baz=278,SNR=20								
FETA	**Feichten**	**114.44**	**319**	*i* PKiKP		**PKiKP**	**20 33 06.8**	**+0.3**	
	comp=Z,21nm,0.5s,SNR=8.9								
FETA				*e*SKP			20 36 24.5		
	comp=Z,11nm,0.9s								
FETA				*e*PKKP		**PKKPbc**	**20 43 45.3**	**-2.3**	
	comp=Z,1.8nm,0.7s								
IRM	**Iron Mountain**	**114.46**	**56**	P		**PKiKP**	**20 33 08.8**	**+2.0**	
	baz=279,SNR=20								
IBBN	**Ibbenburen**	**114.47**	**325**	*e*PKPdf		**PKiKP**	**20 33 07.4**	**+1.3**	
	baz=73,slow=1.9								
KASTN	**Kahler Asten**	**114.50**	**324**	*e*PKPdf		**PKiKP**	**20 33 06.7**	**+0.4**	
	baz=73,slow=1.9								
BOZ	**Bozeman (W)**	**114.61**	**43**	P		**PKiKP**	**20 33 08.4**	**+1.5**	
	baz=286,SNR=22								
UBR	**Ueberruh**	**114.64**	**320**	*e*PKPdf		**PKiKP**	**20 33 07.3**	**+0.6**	
	baz=73,slow=1.9								
NEE2	**Needles Airpor**	**114.80**	**55**	P		**PKiKP**	**20 33 09.4**	**+2.1**	
	baz=280								
TNS	**Taunus Mts**	**114.83**	**323**	*e*PKPdf		PKPdf	20 33 08.2	+1.2	
	baz=73,slow=1.9								
STU	**Stuttgart**	**114.87**	**321**	*e*PKPdf		PKPdf	20 33 07.9	+0.9	
	baz=73,slow=1.9								
GLA	**Glamis**	**114.89**	**57**	P		PKPdf	20 33 09.4	+1.8	
	baz=279								
DAVA	**Damuels**	**114.91**	**319**	*i* PKiKP		PKPdf	20 33 07.6	+0.3	
	comp=Z,85nm,0.5s,SNR=25								
DAVA				*e*SKP			20 36 25.6		
	comp=Z,28nm,1.1s								
BUG	**Bochum--Univer**	**115.08**	**324**	*e*PKPdf		**PKPdf**	**20 33 08.4**	**+1.1**	
	baz=73,slow=1.9								
EGMT	**Eagleton**	**115.09**	**40**	P		**PKPdf**	**20 33 09.0**	**+1.4**	
	baz=289,SNR=52								
DUG	**Dugway, Tooele**	**115.14**	**49**	P		**PKPdf**	**20 33 09.5**	**+1.5**	
	baz=283,SNR=34								
NUUG	**Nuugaatsiaq**	**115.18**	**1**	*i* P		**PKiKP**	**20 33 06.1**	**-0.8**	
LRW	**Lerwick**	**115.19**	**335**	*e*P		**PKiKP**	**20 33 07.1**	**-0.2**	
PDMCI	**Parker Dam,Lak**	**115.26**	**55**	P		**PKPdf**	**20 33 09.9**	**+1.7**	
	baz=280,SNR=8.4								
BDI	**Bagni Di Lucca**	**115.39**	**316**	P		**PKiKP**	**20 33 07.2**	**-1.1**	
VLC	**Villacollemand**	**115.51**	**316**	PKP		**PKPdf**	**20 33 08.9**	**+0.5**	
AHRW	**Bad Neuenahr-A**	**115.53**	**323**	*e*PKPdf		**PKPdf**	**20 33 09.5**	**+1.3**	
	baz=73,slow=1.9								
BFO	**Black Forest**	**115.56**	**321**			**PKiKP**	**20 33 09.3**	**+0.9**	
BFO	**Black Forest**	**115.56**	**321**	PKIKP		**PKiKP**	**20 33 09.3**	**+0.9**	
BFO	**Black Forest**	**115.56**	**321**	*e*PKPdf		**PKiKP**	**20 33 08.8**	**+0.4**	
	baz=73,slow=1.9								
H17A	**Grant Village**	**115.67**	**44**	P		**PKiKP**	**20 33 10.8**	**+1.8**	
	baz=287,SNR=13								
MUGIO	**Muggio**	**115.89**	**318**	P		**PKPdf**	**20 33 09.1**	**-0.1**	
UMMG	**Uummannaq**	**116.06**	**1**	*i* P		**PKPdf**	**20 33 07.5**	**-1.1**	
UMMG	**Uummannaq**	**116.06**	**1**	*i* P		**PKKPbc**	**20 43 38.6**	**-3.9**	
BTNL	**Ternell**	**116.07**	**324**	*d*PcP		**PKiKP**	**20 33 09.5**	**+0.2**	
MEM	**Membach**	**116.13**	**324**	*d*PKP		**PKiKP**	**20 33 09.6**	**+0.2**	
BHOU	**Houvegnez**	**116.23**	**324**	*d*PKP		**PKiKP**	**20 33 10.8**	**+1.1**	
BEBN	**Eben Emael**	**116.25**	**324**	*d*PKP		**PKiKP**	**20 33 10.7**	**+1.1**	
RLMT	**Red Lodge**	**116.34**	**43**	P		**PKiKP**	**20 33 11.9**	**+1.7**	
	baz=288,SNR=17								
BSTI	**Sart Tilman**	**116.40**	**324**	*d*PKP		**PKiKP**	**20 33 11.4**	**+1.5**	
BSTI				*d*PP		**PP**	**20 34 20.7**	**+2.0**	
WLF	**Walferdange**	**116.41**	**323**	*d*PKP		**PKiKP**	**20 33 11.6**	**+1.7**	
WLF	**Walferdange**	**116.41**	**323**	PKP		**PKiKP**	**20 33 11.2**	**+1.2**	
BCLA	**Clavier**	**116.62**	**324**	*d*PKP		**PKPdf**	**20 33 10.3**	**0.0**	
214A	**Organ Pipe Nat**	**116.74**	**58**	P		**PKiKP**	**20 33 12.6**	**+1.4**	
	baz=279,SNR=9.6								
BGES	**Gesves**	**116.76**	**324**	*d*PKP		**PKPdf**	**20 33 10.2**	**-0.4**	
RCHB	**Rochefort**	**116.77**	**324**	*d*PKP		**PKiKP**	**20 33 11.2**	**+0.6**	
RCHB				*d*PP		**PP**	**20 34 22.2**	**+1.0**	
FFC	**Flin Flon**	**116.81**	**31**			**PKiKP**	**20 33 11.3**	**+0.7**	
FFC	**Flin Flon**	**116.81**	**31**	PKIKP		**PKiKP**	**20 33 11.3**	**+0.7**	
BW06	**Boulder Array**	**116.84**	**45**	P		**PKiKP**	**20 33 12.5**	**+1.2**	
	baz=287,SNR=36								
PDAR	**Pinedale Array**	**116.84**	**45**			**PKiKP**	**20 33 12.4**	**+1.1**	
PDAR	**Pinedale Array**	**116.84**	**45**	Pdiff		**Pdif**	**20 29 29.4**	**+1.7**	
	comp=Z,0.1nm,0.4s,baz=76,slow=3.8,SNR=1.6								
PDAR				PKP		**PKiKP**	**20 33 11.8**	**+0.5**	
	comp=Z,24nm,0.7s,baz=211,slow=0.9,SNR=49								
PDAR				SKP			20 36 30.1		
	comp=Z,12nm,0.8s,baz=157,slow=0.3,SNR=7.2								
PDAR				PKKPbc		**PKKPbc**	**20 43 38.4**	**-0.9**	
	comp=Z,9.4nm,0.8s,baz=123,slow=6.5,SNR=7.6								
PDAR				PKKPab		**PKKPab**	**20 43 42.8**	**+0.4**	
	comp=Z,40nm,1.2s,baz=100,slow=5.0,SNR=10								
PDAR				SKKPbc		SKKPbc	20 47 05.8	-3.3	
	comp=Z,3.6nm,0.6s,baz=109,slow=4.8,SNR=13								
TRAV	**Traversella**	**116.88**	**318**	P		**PKiKP**	**20 33 11.3**	**+0.2**	
CIRO	**Champorcher**	**116.97**	**318**	P		**PKiKP**	**20 33 12.3**	**+0.8**	
BMRD	**Maredsous**	**116.98**	**324**	*d*PKP		**PKiKP**	**20 33 11.4**	**+0.3**	
BMRD				*d*PP		**PP**	**20 34 22.9**	**+0.2**	
DOU	**Dourbes**	**117.17**	**324**	*d*PKP		**PKiKP**	**20 33 11.8**	**+0.4**	
WUAZ	**Wupatki**	**117.27**	**53**	P		**PKiKP**	**20 33 13.7**	**+1.4**	
	baz=282,SNR=22								
ICESG	**Greenland Ices**	**117.27**	**356**	*i* P		**PKPdf**	**20 33 11.2**	**-0.3**	
MCD	**Coleburn Disti**	**117.52**	**334**	*e*P		**PKiKP**	**20 33 11.9**	**+0.1**	
BNI	**Bardonecchia**	**117.75**	**318**			**PKiKP**	**20 33 13.6**	**+0.7**	
BNI	**Bardonecchia**	**117.75**	**318**	PKIKP		**PKiKP**	**20 33 13.6**	**+0.7**	
LAO	**LASA Array**	**117.81**	**40**	P		**PKiKP**	**20 33 14.3**	**+1.5**	
	baz=292,SNR=48								
LAO	**LASA Array**	**117.81**	**40**	P		**PKiKP**	**20 33 14.4**	**+1.5**	
	baz=292								
GDLE	**Glaisdale, N Y**	**118.11**	**330**	*e*P		**PKiKP**	**20 33 13.4**	**+0.3**	
HOPE	**Hope Point**	**118.18**	**189**			**PKiKP**	**20 33 13.3**	**+0.1**	
HOPE	**Hope Point**	**118.18**	**189**	PKIKP		**PKiKP**	**20 33 13.3**	**+0.1**	
WACR	**West Acre**	**118.21**	**328**	*e*P		**PKPdf**	**20 33 13.3**	**0.0**	
ELMS	**Elmsett, Ipswi**	**118.32**	**327**	*e*P		**PKiKP**	**20 33 13.6**	**0.0**	
TUC	**Tucson**	**118.38**	**57**	P		**PKiKP**	**20 33 15.4**	**+1.0**	
	baz=281								
DGMT	**Dagmar**	**118.38**	**38**	P		**PKiKP**	**20 33 15.1**	**+1.2**	
	baz=294,SNR=25								
DGMT	**Dagmar**	**118.38**	**38**	P		**PKiKP**	**20 33 14.6**	**+0.7**	
	baz=294,SNR=25								
EDMD	**Edmundbyers**	**118.46**	**331**	*e*P		**PKiKP**	**20 33 14.0**	**+0.2**	
INVG	**Invergeldie, C**	**118.55**	**333**	*e*P		**PKiKP**	**20 33 14.1**	**+0.2**	
O20A	**White River Ci**	**118.55**	**48**	P		**PKiKP**	**20 33 16.1**	**+1.4**	
	baz=287,SNR=54								
W18A	**Petrified Fore**	**118.67**	**54**	P		**PKiKP**	**20 33 16.7**	**+

baz=292,SNR=19
OGNE Ogallala 122.75 45 P PKiKP 20 33 23.1 +0.3
baz=292
IGLA Glengowla, Co 122.82 332 eP PKPdf 20 33 22.2 +0.1
MNTX Cornudas Mount 122.99 56 P PKiKP 20 33 24.3 +0.9
baz=284,SNR=52
MNTX Cornudas Mount 122.99 56 P PKiKP 20 33 24.7 +1.3
baz=284
KSCO Kaye Shedlock' 123.02 47 P PKiKP 20 33 24.4 +1.0
baz=290,SNR=17
KSCO Kaye Shedlock' 123.02 47 P PKiKP 20 33 24.4 +1.0
baz=290
D32B Dogwood Acres, 123.30 37 P PKPdf 20 33 23.4 +0.1
baz=300
AGMN Agassiz Nation 123.37 35 P PKiKP 20 33 23.7 +0.1
baz=302,SNR=22
AGMN Agassiz Nation 123.37 35 P PKPdf 20 33 23.4 0.0
baz=302
SUSD Miller 123.38 40 P PKiKP 20 33 24.0 +0.2
baz=297,SNR=9.5
SUSD Miller 123.38 40 P PKiKP 20 33 23.9 +0.1
baz=297
K30B Basset 123.72 42 P PKiKP 20 33 24.8 +0.2
baz=295
F33A 5 Mile Ranch, 124.38 38 P PKPdf 20 33 25.2 -0.2
baz=300
MSTX Muleshoe 124.51 53 P PKiKP 20 33 26.8 +0.3
baz=287,SNR=18
MSTX Muleshoe 124.51 53 P PKiKP 20 33 27.0 +0.5
baz=287,SNR=18
B35A Bob, Littlefor 124.53 34 P PKPdf 20 33 25.3 -0.3
baz=304
TX31 Lajitas Ar. Si 124.98 59 P PKiKP 20 33 27.9 +0.4
baz=283
TXAR Lajitas Array 124.98 59 PKiKP 20 33 28.5 +0.9
TXAR Lajitas Array 124.98 59 PKP PKiKP 20 33 28.1 +0.6
comp=Z,11nm,0.6s,baz=200,slow=2.1,SNR=45
TXAR PKKPbc PKKPbc 20 43 08.3 +0.1
comp=Z,2.5nm,0.5s,baz=120,slow=4.5,SNR=13
TXAR SKKPbc SKKPbc 20 46 39.2 -2.7
comp=Z,2.6nm,0.9s,baz=115,slow=5.3,SNR=8.9
ECHE Chera 125.02 314 PKP PKiKP 20 33 27.9 +0.7
AMTX Amarillo 125.10 52 P PKiKP 20 33 28.0 +0.4
baz=288
AMTX Amarillo 125.10 52 P PKiKP 20 33 28.4 +0.8
baz=288,SNR=7.4
CBKS Cedar Bluff 125.19 47 P PKiKP 20 33 27.8 +0.2
baz=293,SNR=19
CBKS Cedar Bluff 125.19 47 P PKiKP 20 33 28.1 +0.5
baz=293
BGNE Belgrade 125.25 43 P PKiKP 20 33 27.8 +0.2
baz=296,SNR=66
BGNE Belgrade 125.25 43 P PKPdf 20 33 27.4 +0.1
baz=296
NRS Narsarsuaq 125.51 357 i P PKPdf 20 33 26.3 -0.7
IVI Ivigtut 125.56 359 i P PKPdf 20 33 26.1 -1.1
ETOB Tobarra 125.81 313 PKP PKiKP 20 33 30.5 +1.6
EMUR La Murta 125.89 312 PKP PKiKP 20 33 31.3 +2.3
EYMN Ely 125.99 33 P PKiKP 20 33 29.3 +0.4
baz=306,SNR=33
EYMN Ely 125.99 33 P PKPdf 20 33 28.6 +0.2
baz=306
F36A Milaca 126.02 36 P PKiKP 20 33 29.0 0.0
baz=303
R32A Long Quarter, 126.08 47 P PKiKP 20 33 29.9 +0.5
baz=293
L34A Svendsen Farm, 126.19 42 P PKiKP 20 33 29.5 +0.1
baz=298
UCM Universidad Co 126.32 316 PKP PKiKP 20 33 32.8 +3.0
U32A Winter Ranch, 126.64 49 P PKiKP 20 33 30.8 +0.3
baz=292,SNR=7.2
E38A The Farm, Brul 126.74 35 P PKPdf 20 33 30.2 +0.3
baz=305
SPMN Marine on St. 126.79 37 P PKiKP 20 33 30.9 +0.3
baz=303,SNR=27
SPMN Marine on St. 126.79 37 P PKPdf 20 33 29.9 -0.1
baz=303
LL06 Loncomilla 126.88 158 PKiKP 20 33 31.8 +1.0
ENIJ Nijar 126.93 312 PKP PKiKP 20 33 32.2 +1.1
I37B Waseca 127.08 38 P PKPdf 20 33 29.9 -0.7
baz=302
ESDC Sonseca Array 127.09 316 PKP PKiKP 20 33 32.0 +0.6
comp=Z,24nm,1.1s,baz=14,slow=2.4,SNR=23
ESDC PP PP 20 35 32.7 +1.2
comp=Z,18nm,0.8s,baz=68,slow=6.4,SNR=14
ESDC PKKP PKKPdf 20 43 46.0 +0.3
comp=Z,1.2nm,0.5s,baz=265,slow=2.0,SNR=19
ESDC SKKPbc SKKPbc 20 46 32.7 -2.5
comp=Z,3.1nm,1.1s,baz=254,slow=3.5,SNR=4.7
N35A Tabor 127.19 43 P PKiKP 20 33 31.9 +0.4
baz=298
KSU1 Kansas State U 127.30 45 P PKiKP 20 33 32.4 +0.6
baz=295,SNR=15
KSU1 Kansas State U 127.30 45 P PKiKP 20 33 32.5 +0.8
baz=295
WMOK Wichita Mounta 127.39 51 P PKiKP 20 33 32.6 +0.5
baz=291,SNR=28
WMOK Wichita Mounta 127.39 51 P PKPdf 20 33 30.8 -0.8
baz=291,SNR=28
PAB San Pablo 127.42 316 PKiKP 20 33 34.1 +2.0
PAB San Pablo 127.42 316 PKIKP PKiKP 20 33 34.1 +2.0
ABTX Abilene, Hawle 127.42 54 P PKiKP 20 33 33.0 +0.8
baz=288,SNR=22
ABTX Abilene, Hawle 127.42 54 P PKPdf 20 33 30.6 -1.0
baz=288
JCT Junction City 127.93 56 P PKiKP 20 33 34.1 +0.8
baz=287
JCT Junction City 127.93 56 P PKPdf 20 33 32.5 -0.2
baz=287
PBRG Braganca 127.97 319 ePKPdf PKiKP 20 33 33.8 +0.7
PBRG Braganca 127.97 319 ePP PP 20 35 37.0 -0.1
PBRG eLQ LQ 20 36 33.5
D41A Chassel 128.11 33 P PKPdf 20 33 32.3 -0.1
baz=309
K38A Parkersburg 128.18 39 P PKPdf 20 33 33.1 +0.3
baz=301
SCIA State Center 128.28 40 P PKiKP 20 33 34.2 +0.6
baz=300
T35B Sooner Cattle 128.28 48 P PKPdf 20 33 32.3 -0.8
baz=294,SNR=38
G40A Rib Lake 128.28 35 P PKiKP 20 33 33.6 0.0
baz=306
COWI Conover 128.39 34 P PKiKP 20 33 33.7 0.0
baz=307
MVO Moncorvo 128.47 319 ePKPdf PKiKP 20 33 35.6 +1.5
MVO Moncorvo 128.47 319 ePP PP 20 35 41.4 +1.0
MVO eLQ LQ 20 36 35.0
TORD Torodi Ar. Bea 128.49 281 PKP PKPdf 20 33 33.7 -0.4
comp=Z,51nm,0.7s,baz=54,slow=7.5,SNR=51
TORD SKPbc SKPbc 20 36 37.0
comp=Z,100nm,0.8s,baz=60,slow=4.0,SNR=18
N38A Joes South For 128.82 42 P PKiKP 20 33 34.7 -0.1
baz=300
I40A Norwalk 128.83 37 P PKiKP 20 33 34.5 -0.2
baz=304
833A Chaparral WMA, 128.86 59 P PKiKP 20 33 36.2 +1.1
baz=285
833A Chaparral WMA, 128.86 59 P PKiKP 20 33 35.2 0.0
baz=285
PVRL Vila Real 128.86 319 ePKPdf PKiKP 20 33 35.9 +1.0
PVRL eLQ LQ 20 36 37.4
PGAV Gavieira, Arco 128.87 320 ePKPdf PKiKP 20 33 35.8 +0.9
PGAV Gavieira, Arco 128.87 320 ePP PP 20 35 44.9 +1.9
PGAV eLQ LQ 20 36 37.4
Z35A Perchaven, San 129.08 52 P PKiKP 20 33 36.0 +0.6
baz=291
F42A Maple Grove Fa 129.15 34 P PKiKP 20 33 35.5 +0.2
baz=308
MTE Manteigas 129.19 318 ePKPdf PKiKP 20 33 36.6 +1.0
MTE Manteigas 129.19 318 ePP PP 20 35 45.6 +0.5
MTE eLQ LQ 20 36 39.8
P38A Dawn 129.19 43 P PKiKP 20 33 35.9 +0.3
baz=299
TUL3 Leonard 129.22 48 P PKiKP 20 33 36.2 +0.5
baz=294,SNR=23
PVIS Viseu 129.26 319 ePKPdf PKiKP 20 33 36.7 +1.0
PVIS Viseu 129.26 319 ePP PP 20 35 41.5 -4.0
PVIS eLQ LQ 20 36 39.2
PLCA Paso Flores 129.27 160 PKP PKPdf 20 33 35.4 +0.3
comp=Z,65nm,0.8s,baz=212,slow=2.2,SNR=64
PLCA SKPbc SKPab 20 36 39.4 +0.2
comp=Z,95nm,0.8s,baz=222,slow=4.9,SNR=23
PLCA SKP 20 36 53.7
comp=Z,46nm,0.9s,baz=77,slow=0.6,SNR=4.0
PLCA SKKPbc SKKPbc 20 46 22.0 -4.9
comp=Z,4.3nm,0.7s,baz=52,slow=3.7,SNR=5.4
PLCA Paso Flores 129.27 160 eP PKPdf 20 33 34.6 -0.5

WHTX Lake Whitney, 129.37 54 P PKiKP 20 33 36.8 +0.7
baz=290,SNR=11
WHTX Lake Whitney, 129.37 54 P PKiKP 20 33 36.2 +0.1
baz=290
E43A Lone Tree Farm 129.38 32 P PKiKP 20 33 35.5 -0.2
baz=310
PCBR Castelo Branco 129.42 317 ePKPdf PKiKP 20 33 37.1 +1.2
PCBR Castelo Branco 129.42 317 ePP PP 20 35 47.6 +1.1
PCBR eLQ LQ 20 36 39.8
L40A Anamosa 129.47 39 P PKPdf 20 33 35.3 0.0
baz=303
PTO Porto 129.51 319 ePKPdf PKiKP 20 33 37.2 +1.1
PTO eLQ LQ 20 36 40.4
PMRV Marv??o 129.56 317 ePKPdf PKiKP 20 33 37.3 +1.0
PMRV Marv??o 129.56 317 ePP PP 20 35 47.9 +0.4
PMRV eLQ LQ 20 36 40.7
JFWS Jewell Farm 129.60 38 P PKiKP 20 33 36.0 -0.2
baz=304,SNR=26
JFWS Jewell Farm 129.60 38 P PKPdf 20 33 35.5 +0.1
baz=304
435B Jarrell 129.66 55 P PKiKP 20 33 37.1 +0.4
baz=288
I42A Draeger Farm, 129.84 36 P PKPdf 20 33 36.3 +0.4
baz=306
COI Coimbra 129.86 318 ePKPdf PKiKP 20 33 37.7 +0.9
COI Coimbra 129.86 318 ePP PP 20 35 51.5 +2.2
COI eLQ LQ 20 36 42.0
PBAR Barrancos 129.91 315 ePKPdf PKiKP 20 33 37.7 +0.7
PBAR Barrancos 129.91 315 ePP PP 20 35 50.9 +1.1
PBAR eLQ LQ 20 36 42.1
PESTR Estremoz 129.96 316 ePKPdf PKiKP 20 33 38.2 +1.1
PESTR Estremoz 129.96 316 ePP PP 20 35 50.1 0.0
PESTR eLQ LQ 20 36 42.2
PCAS Casmilo, Conde 130.00 318 ePKPdf PKiKP 20 33 37.3 +0.2
PCAS Casmilo, Conde 130.00 318 ePP PP 20 35 50.1 -0.2
PCAS eLQ LQ 20 36 42.2
U38A Gravette 130.03 47 P PKPdf 20 33 36.8 +0.3
baz=296,SNR=24
735A Kenedy 130.06 58 P PKPdf 20 33 37.0 +0.2
baz=287
X37A Clayton 130.06 50 P PKiKP 20 33 37.8 +0.4
baz=293
SCHQ Schefferville 130.16 12 PKP PKiKP 20 33 36.8 -0.2
comp=Z,32nm,0.8s,baz=358,slow=2.2,SNR=17
SCHQ SKPbc SKPab 20 36 41.8 -0.5
comp=Z,683nm,0.9s,baz=356,slow=4.0,SNR=87
SCHQ SKKPbc SKKPbc 20 46 19.8 -5.4
comp=Z,27nm,1.0s,baz=116,slow=5.0,SNR=5.9
P40A Paris 130.24 42 P PKiKP 20 33 37.7 +0.1
baz=300
S39A Bolivar 130.24 45 P PKPdf 20 33 37.1 +0.3
baz=297,SNR=101
PMTG Montargil 130.30 317 ePKPdf PKiKP 20 33 38.4 +0.7
PMTG Montargil 130.30 317 ePP PP 20 35 52.9 +0.6
PMTG eLQ LQ 20 36 42.9
EVO Evora 130.41 316 ePKPdf PKiKP 20 33 38.9 +0.9
EVO Evora 130.41 316 ePP PP 20 35 53.8 +0.8
EVO eLQ LQ 20 36 44.6
N41A Harden Midland 130.42 41 P PKPdf 20 33 37.4 +0.4
baz=302
PSBE So Bento 130.46 318 ePKPdf PKiKP 20 33 39.7 +1.6
PSBE So Bento 130.46 318 ePP PP 20 35 53.8 +0.5
PSBE eLQ LQ 20 36 42.6
L42A Oliver, Polo 130.47 38 P PKiKP 20 33 37.8 -0.2
baz=304
PBEJ Beja 130.55 316 ePKPdf PKiKP 20 33 39.0 +0.7
PBEJ Beja 130.55 316 ePP PP 20 35 57.2 +3.2
PBEJ eLQ LQ 20 36 44.9
237A Washetta, Mont 130.69 53 P PKiKP 20 33 38.3 -0.4
baz=291
R40A Maddies Statio 130.69 44 P PKPdf 20 33 38.0 +0.3
baz=299,SNR=29
PVAQ Vaqueiros 130.74 315 ePKPdf PKiKP 20 33 40.2 +1.5
PVAQ Vaqueiros 130.74 315 ePP PP 20 35 55.2 0.0
PVAQ eLQ LQ 20 36 45.4
E46A Sault Ste Mari 130.78 31 P PKiKP 20 33 38.6 +0.1
baz=313
PCVE Castro Verde 130.86 315 ePKPdf PKiKP 20 33 39.5 +0.6
PCVE Castro Verde 130.86 315 ePP PP 20 35 56.1 +0.1
PCVE eLQ LQ 20 36 46.1
Z38A Mt. Pleasant 130.87 51 P PKiKP 20 33 40.0 +0.9
baz=292
MESJ Messejana 130.89 315 ePKPdf PKiKP 20 33 39.5 +0.5
MESJ Messejana 130.89 315 ePPP PP 20 35 57.5 +1.4
MESJ eLQ LQ 20 36 46.3
MESJ Messejana 130.89 315 ePKPdf PKPdf 20 33 38.5 +0.5
MESJ ePPP PP 20 35 57.4 +1.2
MESJ eSKP 20 36 46.2
G45A Suttons Bay 130.96 33 P PKiKP 20 33 38.8 -0.1
baz=310
G45A P PKiKP 20 33 38.8 -0.1
baz=310
PBDV Barranco-do-Ve 130.97 315 ePKPdf PKiKP 20 33 40.4 +1.2
PBDV Barranco-do-Ve 130.97 315 ePP PP 20 35 57.9 +1.2
PBDV eLQ LQ 20 36 46.5
PNCL Nicolau / Gran 130.97 316 ePKPdf PKiKP 20 33 39.7 +0.6
PNCL Nicolau / Gran 130.97 316 ePPP PP 20 35 57.9 +1.3
PNCL eLQ LQ 20 36 46.5
PMAFR Mafra 131.07 317 ePPP PP 20 35 58.3 +1.1
PMAFR eLQ LQ 20 36 47.0
LIS Lisbon 131.10 317 ePPP PP 20 35 58.6 +1.2
LIS eSKP 20 36 47.1
U40A Yellville 131.18 47 P PKiKP 20 33 39.5 -0.2
baz=297,SNR=23
U40A P PKiKP 20 33 39.5 -0.2
baz=297,SNR=23
PTEO Sao Teotonio 131.38 315 ePP PP 20 36 00.5 +1.2
PTEO eLQ LQ 20 36 48.2
MIAR Mount Ida 131.43 49 P PKiKP 20 33 40.2 +0.1
baz=295,SNR=18
L44A Lake County Fo 131.44 37 P PKiKP 20 33 39.7 -0.3
baz=306
MORF Marmelete 131.44 315 ePKPdf PKiKP 20 33 41.4 +1.2
MORF Marmelete 131.44 315 ePPP PP 20 36 00.9 +1.1
MORF eLQ LQ 20 36 48.3
MORF Marmelete 131.44 315 ePKPdf PKPdf 20 33 39.5 +0.3
MORF ePPP PP 20 36 01.2 +1.4
MORF eSKP 20 36 48.5
HDIL Hopedale 131.50 40 P PKiKP 20 33 40.3 +0.2
baz=303,SNR=16
HDIL Hopedale 131.50 40 P PKiKP 20 33 39.8 -0.3
baz=303
CCM Cathedral Cave 131.51 44 P PKiKP 20 33 40.2 -0.1
baz=300
CCM Cathedral Cave 131.51 44 P PKiKP 20 33 40.1 -0.1
baz=300,SNR=19
PFVI Vila Bisbo 131.65 315 ePKPdf PKiKP 20 33 41.8 +1.3
PFVI Vila Bisbo 131.65 315 ePP PP 20 36 02.0 +1.0
PFVI eLQ LQ 20 36 49.3
GLMI Grayling 131.66 33 P PKiKP 20 33 40.6 +0.3
baz=311,SNR=14
GLMI Grayling 131.66 33 P PKiKP 20 33 40.4 0.0
baz=311
NATX Nacogdoches 131.68 53 P PKiKP 20 33 40.6 -0.2
baz=292,SNR=6.8
M44A Midewin, Midew 131.82 38 P PKiKP 20 33 41.0 +0.3
baz=305
P43A Skaggs, Pawnee 131.85 41 P PKiKP 20 33 41.4 +0.5
baz=302,SNR=20
FVM French Village 132.11 43 P PKiKP 20 33 41.4 -0.1
baz=300,SNR=13
T42A Van Buren 132.12 45 P PKiKP 20 33 41.3 -0.2
baz=299
O44A Mansfield 132.25 40 P PKiKP 20 33 42.5 +0.9
baz=304
L46A Eue Claire 132.50 36 P PKiKP 20 33 41.9 -0.2
baz=308
L46A P PKiKP 20 33 41.9 -0.2
baz=308
Q44A Meyer Farm, Va 132.58 42 P PKiKP 20 33 42.1 -0.2
baz=302,SNR=14
J47A Sunmer 132.58 34 P PKiKP 20 33 42.3 0.0
baz=310
J47A P PKiKP 20 33 42.3 0.0
baz=310
SFIN Lafayette 132.99 39 P PKiKP 20 33 43.1 -0.1
baz=306
SFIN Lafayette 132.99 39 P PKiKP 20 33 43.0 -0.1
baz=306,SNR=7.7
I49A Point Hope 133.20 32 P PKiKP 20 33 43.5 0.0
baz=313
I49A P PKiKP 20 33 43.5 0.0
baz=313
OLIL Olney 133.27 41 P PKiKP 20 33 43.9 +0.1
baz=303,SNR=22

P46A Rosedale 133.35 40 P PKiKP 20 33 43.7 -0.2
baz=305,SNR=7.3
N47A Urbana 133.55 37 P PKiKP 20 33 43.9 -0.4
baz=308,SNR=8.5
N47A P PKiKP 20 33 43.9 -0.4
baz=308,SNR=8.5
L48A N Adams 133.63 35 P PKiKP 20 33 44.3 -0.1
baz=310
L48A P PKiKP 20 33 44.3 -0.1
baz=310
AAM Ann Arbor 133.84 34 P PKiKP 20 33 44.3 -0.5
baz=311
O48B Farmland 134.25 38 P PKiKP 20 33 45.1 -0.6
baz=308,SNR=7.6
O48B Farmland 134.25 38 P PKiKP 20 33 45.1 -0.6
baz=308,SNR=7.6
N49A Columbus Grove 134.42 36 P PKiKP 20 33 45.4 -0.6
baz=309,SNR=10
N49A P PKiKP 20 33 45.4 -0.6
baz=309,SNR=10
OXF Oxford 134.53 47 P PKPdf 20 33 45.5 +0.6
baz=298
P48A Milroy 134.56 39 P PKPdf 20 33 45.7 +0.7
baz=307,SNR=11
P48A P PKPdf 20 33 45.7 +0.7
baz=307,SNR=11
WCI Wyandotte Cave 134.73 41 P PKiKP 20 33 46.3 -0.4
baz=305
VBMS Vicksburg 134.73 50 P PKiKP 20 33 46.3 -0.6
baz=296
M50A Fremont 134.77 35 P PKiKP 20 33 46.2 -0.5
baz=311
M50A P PKiKP 20 33 46.2 -0.5
baz=311
KIC Kosan Boka 134.79 272 ↑ePKP2 SKPab 20 36 58.1 -5.4
comp=Z,1μm,0.9s
KIC Kosan Boka 134.79 272 eP PKPpre 20 33 28.7
comp=Z,4.2nm,0.7s
O49A Covington 134.79 37 P PKiKP 20 33 46.4 -0.4
baz=308,SNR=14
O49A P PKiKP 20 33 46.4 -0.4
baz=308,SNR=14
WVT Waverly 134.84 44 P PKiKP 20 33 46.5 -0.5
baz=301
WVT Waverly 134.84 44 P PKiKP 20 33 46.5 -0.5
baz=301
T47A Sharon Grove 134.88 43 P PKPdf 20 33 46.3 +0.7
baz=303
DBIC Dimbokro 134.92 273 PKP PKiKP 20 33 47.3 -0.5
comp=Z,86nm,0.6s,baz=91,slow=2.2,SNR=25
DBIC PP PP 20 36 22.2 -0.8
comp=Z,71nm,1.2s,baz=88,slow=7.4,SNR=9.3
DBIC SKPbc SKPbc 20 36 59.5 -0.6
comp=Z,416nm,0.9s,baz=90,slow=3.9,SNR=38
P49A Miami Univ. Ec 134.96 38 P PKiKP 20 33 46.6 -0.6
baz=308,SNR=12
P49A Miami Univ. Ec 134.96 38 P PKiKP 20 33 46.8 -0.4
baz=308,SNR=12
LIC Lamto 135.06 272 ↑ePKP2 SKPbc 20 36 59.1 -1.4
comp=Z,1μm,1.0s
LIC Lamto 135.06 272 ↑ePKP2 SKPbc 20 36 59.1 -1.4
comp=Z,1μm,1.0s
LIC Lamto 135.06 272 eP PKPpre 20 33 29.7
comp=Z,4.6nm,0.6s
TIC Toumodi 135.08 273 ↑ePKP2 SKPbc 20 36 59.5 -1.1
comp=Z,410nm,1.0s
TIC Toumodi 135.08 273 ↑ePKP2 SKPbc 20 36 59.4 -1.1
comp=Z,448nm,1.0s
TIC Toumodi 135.08 273 eP PKPpre 20 33 30.5
comp=Z,4.7nm,0.4s
R49A Shelbyville 135.41 40 P PKiKP 20 33 48.3 +0.2
baz=306,SNR=13
R49A P PKiKP 20 33 48.3 +0.2
baz=306,SNR=13
N51A Ashland 135.47 35 P PKiKP 20 33 47.6 -0.6
baz=311,SNR=8.1
N51A P PKiKP 20 33 47.6 -0.6
baz=311,SNR=8.1
ACSO Alum Creek Sta 135.56 36 P PKiKP 20 33 47.9 -0.4
baz=310,SNR=10
ACSO Alum Creek Sta 135.56 36 P PKiKP 20 33 48.0 -0.4
baz=310,SNR=10
146A Union 135.66 49 P PKiKP 20 33 48.2 -0.6
baz=297
V48A Smith Brothers 135.74 44 P PKiKP 20 33 48.2 -0.7
baz=302
PEL Peldehue 135.90 155 eP PKPpre 20 33 36.3
ROCH El Roble 135.91 155 eP PKPpre 20 33 36.5
R50A Paris 135.96 39 P PKiKP 20 33 48.8 -0.4
baz=307
R50A P PKiKP 20 33 48.8 -0.4
baz=307
M53A WI Miller and 136.07 33 P PKPdf 20 33 48.3 +0.6
baz=314,SNR=9.7
Q51A Peebles 136.11 38 P PKiKP 20 33 49.2 -0.4
baz=309,SNR=7.3
Q51A P PKiKP 20 33 49.2 -0.4
baz=309,SNR=7.3
VA06 Catapilco 136.14 154 eP PKPpre 20 33 39.0
ALLY Alegheny Colle 136.21 33 P PKPdf 20 33 48.7 +0.7
baz=314,SNR=6.0
J55A Hilton 136.23 29 P PKiKP 20 33 48.9 -0.7
baz=318,SNR=7.6
J55A P PKiKP 20 33 48.9 -0.7
baz=318,SNR=7.6
X48A Hartselle 136.25 46 P PKPdf 20 33 48.8 +0.6
baz=301
VA03 San Esteban 136.29 155 eP PKPpre 20 33 38.2
O52A Adamsville 136.31 36 P PKiKP 20 33 49.1 -0.8
baz=311,SNR=8.1
O52A P PKiKP 20 33 49.1 -0.8
baz=311,SNR=8.1
T50A Nancy 136.37 41 PKPdf PKiKP 20 33 50.4 +0.2
T50A Nancy 136.37 41 P PKiKP 20 33 49.5 -0.6
baz=305
T50A P PKiKP 20 33 49.5 -0.6
baz=305
N53A Lisbon 136.41 34 P PKPdf 20 33 49.2 +0.8
baz=313,SNR=9.5
N53A P PKPdf 20 33 49.2 +0.8
baz=313,SNR=9.5
P52A Corning 136.45 36 P PKPdf 20 33 49.3 +0.9
baz=310,SNR=11
WVNY West Valley, N 136.47 31 P PKiKP 20 33 49.9 -0.3
baz=317,SNR=8.9
PAOC Oil Creek Stat 136.55 32 P PKiKP 20 33 49.8 -0.5
baz=315
O53A New Philadelph 136.58 35 P PKiKP 20 33 49.8 -0.6
baz=312,SNR=6.6
LONY Lake Ozonia 136.65 25 P PKiKP 20 33 49.9 -0.6
baz=323
J56A Wolcott 136.68 28 P PKiKP 20 33 49.7 -0.8
baz=320,SNR=7.0
J56A P PKiKP 20 33 49.7 -0.8
baz=320,SNR=7.0
Q52A Bidwell 136.80 37 P PKiKP 20 33 50.6 -0.4
baz=310
Q52A P PKiKP 20 33 50.6 -0.4
baz=310
S51A Beattyville 136.80 40 P PKiKP 20 33 50.7 -0.3
baz=307
S51A P PKiKP 20 33 50.7 -0.3
baz=307
E62A Clayton Lake 136.88 19 P PKPdf 20 33 49.9 +0.9
baz=331,SNR=6.8
E62A P PKPdf 20 33 49.9 +0.9
baz=331,SNR=6.8
FRNY Flat Rock 136.89 24 P PKPdf 20 33 49.8 +0.7
baz=325,SNR=5.8
P53A Whipple 136.98 36 P PKiKP 20 33 50.9 -0.3
baz=311,SNR=12
P53A P PKiKP 20 33 50.9 -0.3
baz=311,SNR=12
J57A Williamstown 136.98 28 P PKiKP 20 33 50.4 -0.8
baz=321,SNR=8.5
J57A P PKiKP 20 33 50.4 -0.8
baz=321,SNR=8.5
LRAL Lakeview Retre 137.00 47 P PKiKP 20 33 50.9 -0.6
baz=300,SNR=9.0
LRAL Lakeview Retre 137.00 47 P PKiKP 20 33 51.1 -0.4
baz=300
Y49A Blount Mountai 137.01 46 P PKiKP 20 33 51.0 -0.6
baz=301
M55A Ridgway 137.07 32 P PKiKP 20 33 50.8 -0.6
baz=316,SNR=11
M55A P PKiKP 20 33 50.8 -0.6
baz=316,SNR=11
W50A Signal Mountai 137.07 44 P PKiKP 20 33 51.0 -0.7

	baz=303								
O54A	**Avella**	**137.09**	**34**	P		**PKiKP**	**20 33 51.0**	**-0.5**	
	baz=313,SNR=9.5								
O54A				P		**PKiKP**	**20 33 51.0**	**-0.5**	
	baz=313,SNR=9.5								
L56A	**Greenwood**	**137.20**	**30**	P		**PKiKP**	**20 33 50.9**	**-0.8**	
	baz=318,SNR=7.7								
L56A				P		**PKiKP**	**20 33 50.9**	**-0.8**	
	baz=318,SNR=7.7								
K57A	**Scipio Center**	**137.26**	**29**	P		**PKPdf**	**20 33 50.8**	**+1.0**	
	baz=320,SNR=8.8								
NCB	**Newcomb**	**137.33**	**26**	P		**PKiKP**	**20 33 51.6**	**-0.3**	
	baz=324,SNR=8.9								
J58A	**Remsen**	**137.34**	**27**	P		**PKiKP**	**20 33 51.4**	**-0.5**	
	baz=322,SNR=13								
J58A				P		**PKiKP**	**20 33 51.4**	**-0.5**	
	baz=322,SNR=13								
F62A	**Pittston Farm,**	**137.37**	**20**	P		**PKiKP**	**20 33 51.3**	**-0.6**	
	baz=330								
F62A				P		**PKiKP**	**20 33 51.3**	**-0.6**	
	baz=330								
TZTN	**Tazewell**	**137.49**	**41**	P		**PKiKP**	**20 33 52.0**	**-0.4**	
	baz=306,SNR=8.5								
J59A	**Piesco**	**137.61**	**26**	P		**PKiKP**	**20 33 51.9**	**-0.6**	
	baz=323								
J59A				P		**PKiKP**	**20 33 51.9**	**-0.6**	
	baz=323								
X51A	**Calhoun**	**137.73**	**44**	P		**PKiKP**	**20 33 52.5**	**-0.5**	
	baz=303								
X51A				P		**PKiKP**	**20 33 52.5**	**-0.5**	
	baz=303								
MCWV	**Mont Chateau**	**137.75**	**35**	P		**PKiKP**	**20 33 52.4**	**-0.5**	
	baz=313,SNR=8.0								
MCWV	**Mont Chateau**	**137.75**	**35**	P		**PKiKP**	**20 33 52.3**	**-0.5**	
	baz=313								
G62A	**West of Eustis**	**137.75**	**21**	P		**PKiKP**	**20 33 52.2**	**-0.5**	
	baz=329								
G62A				P		**PKiKP**	**20 33 52.2**	**-0.5**	
	baz=329								
TKL	**Tuckaleechee C**	**137.85**	**42**	P		**PKiKP**	**20 33 52.7**	**-0.5**	
	baz=305								
V52A	**Sevierville**	**137.87**	**42**	P		**PKiKP**	**20 33 52.7**	**-0.5**	
	baz=306								
BINY	**Binghamton**	**137.92**	**29**	P		**PKiKP**	**20 33 52.3**	**-0.8**	
	baz=320,SNR=12								
BINY	**Binghamton**	**137.92**	**29**	P		**PKiKP**	**20 33 52.2**	**-1.0**	
	baz=320,SNR=12								
M57A	**Sunshine Farm,**	**138.00**	**31**	P		**PKiKP**	**20 33 52.8**	**-0.5**	
	baz=318								
M57A				P		**PKiKP**	**20 33 52.8**	**-0.5**	
	baz=318								
PABK	**Blue Knob Stat**	**138.02**	**33**	P		**PKiKP**	**20 33 52.9**	**-0.5**	
	baz=315								
250A	**Grady**	**138.05**	**48**	P		**PKiKP**	**20 33 52.7**	**-1.0**	
	baz=299								
LBNH	**Lisbon**	**138.05**	**23**	P		**PKiKP**	**20 33 53.3**	**0.0**	
	baz=327								
W52A	**Murphy**	**138.07**	**43**	P		**PKiKP**	**20 33 52.7**	**-1.0**	
	baz=305								
SSPA	**Standing Stone**	**138.13**	**32**	P		**PKiKP**	**20 33 53.2**	**-0.4**	
	baz=316								
SSPA	**Standing Stone**	**138.13**	**32**	P		**PKiKP**	**20 33 52.9**	**-0.7**	
	baz=316								
PKME	**Peaks-Kenny Pk**	**138.15**	**20**	P		**PKiKP**	**20 33 53.5**	**+0.1**	
	baz=331								
Y52A	**Lilburn**	**138.66**	**44**	P		**PKiKP**	**20 33 54.6**	**-0.3**	
	baz=303								
Y52A				P		**PKiKP**	**20 33 54.6**	**-0.3**	
	baz=303								
I63A	**Otisfield**	**138.73**	**22**	P		**PKiKP**	**20 33 54.8**	**+0.1**	
	baz=328								
I63A				P		**PKiKP**	**20 33 54.8**	**+0.1**	
	baz=328								
152A	**Waverly Hall**	**138.84**	**46**	P		**PKiKP**	**20 33 54.8**	**-0.5**	
	baz=302								
P57A	**Homestead Farm**	**138.89**	**33**	P		**PKiKP**	**20 33 54.2**	**-1.0**	
	baz=315								
P57A				P		**PKiKP**	**20 33 54.2**	**-1.0**	
	baz=315								
PMPST	**Porto Santo, M**	**139.00**	**314**	*e*LQ		LQ	20 37 11.7		
BLA	**Blacksburg**	**139.04**	**38**	P		**PKiKP**	**20 33 54.9**	**-0.7**	
	baz=310								
L61B	**Northampton**	**139.22**	**26**	P		**PKiKP**	**20 33 55.5**	**-0.3**	
	baz=325								
GOGA	**Godfrey**	**139.33**	**45**	P		**PKiKP**	**20 33 55.4**	**-0.8**	
	baz=304								
GOGA	**Godfrey**	**139.33**	**45**	P		**PKPdf**	**20 33 55.0**	**+1.1**	
	baz=304								
PMAR	**Madeira**	**139.60**	**314**	*e*PKPdf		**PKPdf**	**20 33 52.7**	**-2.0**	
PMAR				*e*LQ		LQ	20 37 14.2		
HRV	**Adam Dziewonsk**	**139.65**	**25**	P		**PKiKP**	**20 33 56.4**	**-0.2**	
	baz=326								
APG	**El Apazote**	**139.71**	**75**	SKPbc		**SKPbc**	**20 37 14.9**	**+0.6**	
	comp=Z,16nm,1.0s,baz=158,slow=10.0,SNR=26								
PMOZ	**Porto Moniz, M**	**139.75**	**315**	*e*LQ		LQ	20 37 15.0		
KMSC	**Kings Mountain**	**139.76**	**41**	P		**PKiKP**	**20 33 57.1**	**0.0**	
	baz=308								
PAL	**Palisades**	**139.83**	**28**	P		**PKiKP**	**20 33 57.0**	**-0.1**	
	baz=322								
CBN	**Corbin Frederi**	**140.14**	**34**	P		**PKiKP**	**20 33 57.5**	**-0.3**	
	baz=315								
TIGA	**Tifton**	**140.29**	**47**	P		**PKiKP**	**20 33 57.8**	**-0.4**	
	baz=301								
VCA	**Vinchina**	**140.78**	**155**	*e*P		PKPpre	20 33 52.1		
T59A	**Double "B" Far**	**140.90**	**36**	PKPdf		PKPpre	20 33 52.5		
ASCN	**Ascension**	**141.37**	**248**	PKPdf		**PKPdf**	**20 33 56.1**	**-2.0**	
MACI	**Morro de la Ar**	**141.53**	**308**	PKPdf		**PKPdf**	**20 33 55.8**	**-2.5**	
BART	**Pico Bartolome**	**141.56**	**327**	*e*PKP		**PKPdf**	**20 33 58.6**	**+0.7**	
BART	**Pico Bartolome**	**141.56**	**327**	*e*PP		**SKPbc**	**20 37 18.9**	**+0.6**	
PCALD	**Caldeiras da R**	**141.71**	**328**	*e*PP		**SKPbc**	**20 37 19.5**	**+0.9**	
CMLA	**Cha da Macela**	**141.76**	**328**	*e*PKP		**PKPdf**	**20 33 55.5**	**-2.7**	
CMLA	**Cha da Macela**	**141.76**	**328**	*e*PP		**SKPbc**	**20 37 19.7**	**+1.0**	
PSET	**Sete Cidades**	**141.82**	**328**	*e*PKP		**PKPdf**	**20 33 57.3**	**-1.0**	
PSET	**Sete Cidades**	**141.82**	**328**	*e*PP		**SKPbc**	**20 37 20.0**	**+1.1**	
PDA	**Ponta Delgada**	**141.84**	**328**	*e*PKP			20 37 18.6		
PAGU	**Agualva, Açore**	**141.85**	**330**	*e*PKP		**PKPdf**	**20 33 54.9**	**-3.4**	
PAGU	**Agualva, Açore**	**141.85**	**330**	*e*PP		**SKPbc**	**20 37 19.7**	**+0.8**	
PSCM	**Serra do Cume**	**141.87**	**330**	*e*PKP		**PKPdf**	**20 33 59.6**	**+1.2**	
PSCM	**Serra do Cume**	**141.87**	**330**	*e*PP		**SKPbc**	**20 37 19.7**	**+0.7**	
CNNC	**Cliffs of the**	**141.88**	**38**	P		**PKiKP**	**20 34 01.1**	**-0.3**	
	baz=312								
PSBA	**Serra de Santa**	**141.92**	**330**	*e*PP		**SKPbc**	**20 37 20.3**	**+1.2**	
PACA	**Pacayal**	**141.96**	**77**	IAML			20 34 16.4		
	comp=Z,650nm,1.0s								
PACA	**Pacayal**	**141.96**	**77**	*i* P		**PKiKP**	**20 34 02.3**	**0.0**	
ADH	**Angra Heroismo**	**141.96**	**330**	*e*PKP		**PKPdf**	**20 33 55.4**	**-3.1**	
ADH	**Angra Heroismo**	**141.96**	**330**	*e*PP		**SKPbc**	**20 37 19.7**	**+0.6**	
AC02	**Maricunga**	**142.00**	**152**	PKPdf		**PKPdf**	**20 33 56.5**	**-3.2**	
PGRA	**Graciosa**	**142.03**	**331**	*e*PKP		**PKiKP**	**20 34 05.4**	**+3.8**	
SRBC	**Serra Branca**	**142.05**	**331**	*e*PP		**SKPbc**	**20 37 20.3**	**+0.9**	
PSMN	**Pico do Norte,**	**142.07**	**326**	*e*PKP		PKPpre	20 33 53.7		
PSMN	**Pico do Norte,**	**142.07**	**326**	*e*PP		**SKPbc**	**20 37 20.5**	**+1.0**	
PSMA	**Santa Maria**	**142.11**	**326**	*e*PKP		**PKPdf**	**20 33 59.0**	**+0.2**	
PSMA	**Santa Maria**	**142.11**	**326**	*e*PP		**SKPbc**	**20 37 21.4**	**+1.8**	
PMAN	**Manadas**	**142.39**	**331**	*e*PKP		**PKPdf**	**20 33 56.7**	**-2.6**	
PMAN	**Manadas**	**142.39**	**331**	*e*PP		**SKPbc**	**20 37 21.1**	**+0.9**	
ROSA	**Rosais**	**142.40**	**331**	*e*PKP		**PKPdf**	**20 33 56.7**	**-2.6**	
ROSA	**Rosais**	**142.40**	**331**	*e*PP		**SKPbc**	**20 37 21.6**	**+1.3**	
ROSA	**Rosais**	**142.40**	**331**	PKPdf		**PKPdf**	**20 33 57.6**	**-1.7**	
Y60A	**Bolivia**	**142.48**	**40**			**PKPdf**	**20 33 56.9**	**-2.7**	
PID	**Ribeirinha**	**142.56**	**331**	*e*PKP		**PKPdf**	**20 33 57.3**	**-2.3**	
PPNO	**Prainha do Nor**	**142.60**	**331**	*e*PP		**SKPbc**	**20 37 21.9**	**+1.0**	
PICO	**Pico**	**142.66**	**331**	*e*PKP		**PKPdf**	**20 33 57.1**	**-2.8**	
PICO	**Pico**	**142.66**	**331**	*e*PP		**SKPbc**	**20 37 22.7**	**+1.7**	
PCED	**Cedros**	**142.69**	**332**	*e*PP		**SKPbc**	**20 37 21.0**	**0.0**	
PCAN	**Candelaria**	**142.72**	**331**	*e*PKP		**PKPdf**	**20 33 57.6**	**-2.3**	
CALA	**Caldeira**	**142.73**	**332**	*e*PKP		**PKPdf**	**20 33 57.6**	**-2.4**	
CALA	**Caldeira**	**142.73**	**332**	*e*PP		**SKPbc**	**20 37 21.9**	**+0.7**	
HOR	**Horta**	**142.74**	**331**	*e*PKP		**SKPbc**	**20 37 22.4**	**+1.3**	
H07N1	**FLORES T-PHASB**	**142.89**	**335**	*e*P		**PKPdf**	**20 34 00.0**	**-0.2**	
H07N1	**FLORES T-PHASB**	**142.89**	**335**	*e*PP		**SKPbc**	**20 37 21.9**	**+0.4**	
H07S1	**FLORES T-PHASB**	**143.19**	**335**	*e*PKP		**PKiKP**	**20 34 03.7**	**-0.3**	
H07S1	**FLORES T-PHASB**	**143.19**	**335**	*e*PP		**SKPbc**	**20 37 26.2**	**+4.0**	
CRIN	**San Cristobal**	**143.27**	**78**	IAML			20 34 03.0		
	comp=Z,1μm,1.0s								
CRIN	**San Cristobal**	**143.27**	**78**	*i* P		PKPbc	20 34 00.3	+1.2	
ITQB	**Itaqui**	**143.35**	**171**			PKPbc	20 33 59.2	+0.4	
DWPF	**Disney Wildern**	**143.60**	**50**	P		**PKiKP**	**20 34 04.7**	**-0.4**	
	baz=300								
MOMN	**Momotombo**	**143.80**	**78**	IAML			20 34 02.2		
	comp=Z,25nm,1.0s								
MOMN	**Momotombo**	**143.80**	**78**	*i* P		PKPbc	20 34 01.2	+0.6	
MOM2	**El Cardon**	**143.85**	**78**	IAML			20 34 02.8		
	comp=Z,980nm,1.0s								
MOM2	**El Cardon**	**143.85**	**78**	*i* P		PKPbc	20 34 01.5	+0.8	
LIMN	**Finca el Limon**	**143.90**	**77**	IAML			20 34 03.7		
	comp=Z,520nm,1.0s								
LIMN	**Finca el Limon**	**143.90**	**77**	*i* P		**PKPdf**	**20 34 02.1**	**-0.6**	
SAPS	**Ciudad Sandino**	**143.95**	**79**	IAML			20 34 02.4		
	comp=Z,1μm,1.0s								
SAPS	**Ciudad Sandino**	**143.95**	**79**	*i* P		**PKPdf**	**20 34 02.2**	**-0.5**	
PB10	**IPOC Station P**	**144.04**	**147**			**PKPdf**	**20 34 02.3**	**-0.3**	
BOAB	**BOACO BROADBAN**	**144.64**	**78**	IAML			20 34 05.5		
	comp=Z,2μm,1.0s								
BOAB	**BOACO BROADBAN**	**144.64**	**78**	*i* P		**PKPdf**	**20 34 04.1**	**+0.2**	
PB05	**IPOC Station P**	**144.76**	**147**	PKPdf		**PKPdf**	**20 34 05.0**	**+0.9**	
SAJU	**San Juanillo,**	**144.78**	**82**	IAML			20 34 06.4		
	comp=Z,860nm,1.0s								
SAJU	**San Juanillo,**	**144.78**	**82**	*i* P		**PKPdf**	**20 34 05.1**	**+1.0**	
PB15	**IPOC Station P**	**144.86**	**148**	PKPdf		**PKPdf**	**20 34 05.7**	**+1.3**	
ORTG	**Ortega, Santa**	**145.01**	**82**	IAML			20 34 07.2		
	comp=Z,1μm,1.0s								
ORTG	**Ortega, Santa**	**145.01**	**82**	*i* P		**PKPdf**	**20 34 06.0**	**+1.4**	
ACON	**Acoyapa**	**145.17**	**79**	IAML			20 34 07.0		
	comp=Z,1μm,1.0s								
ACON	**Acoyapa**	**145.17**	**79**	*i* P		**PKPab**	**20 34 06.1**	**+1.1**	
PB04	**IPOC Station P**	**145.21**	**146**	PKPdf		**PKPab**	**20 34 06.5**	**+1.4**	
SIUN	**Universidad Ur**	**145.35**	**76**	IAML			20 34 08.0		
	comp=Z,250nm,1.0s								
SIUN	**Universidad Ur**	**145.35**	**76**	*i* P		**PKPab**	**20 34 06.9**	**+1.2**	
JTS	**Las Juntas de**	**145.51**	**82**	PKPdf		**PKPab**	**20 34 07.5**	**+1.1**	
JTS	**Las Juntas de**	**145.51**	**82**	PKPbc		**PKPab**	**20 34 06.5**	**+0.2**	
	comp=Z,153nm,0.5s,baz=269,slow=0.7,SNR=95								
LVC	**Limon Verde**	**145.65**	**148**	PKPbc		**PKPab**	**20 34 07.8**	**+0.8**	
	comp=Z,192nm,0.4s,baz=271,slow=2.7,SNR=129								
LVC				SKPbc		**SKiKP**	**20 37 29.8**	**+0.5**	
	comp=Z,201nm,1.1s,baz=238,slow=2.2,SNR=8.5								
LVC				SKKPbc		**SKKPbc**	**20 45 23.8**	**-0.5**	
	comp=Z,24nm,1.1s,baz=41,slow=5.4,SNR=5.3								
SOCE	**Pocosol**	**145.84**	**81**	PKPbc		**PKPab**	**20 34 08.6**	**+1.0**	
SOCE	**Pocosol**	**145.84**	**81**	IAML			20 34 08.6		
	comp=Z,290nm,1.0s								
SOCE	**Pocosol**	**145.84**	**81**	*i* P		**PKPab**	**20 34 08.5**	**+0.9**	
PB07	**IPOC Station P**	**145.84**	**146**	PKP		**PKPbc**	**20 34 06.7**	**-0.2**	
CAMR	**Camarioca**	**145.92**	**58**	PKPbc		**PKiKP**	**20 34 09.0**	**-1.1**	
ESPN	**Las Esperanzas**	**146.00**	**78**	PKPbc		**PKPab**	**20 34 08.8**	**+0.7**	
ESPN	**Las Esperanzas**	**146.00**	**78**	IAML			20 34 09.7		
	comp=Z,420nm,1.0s								
ESPN	**Las Esperanzas**	**146.00**	**78**	*i* P		**PKPab**	**20 34 09.2**	**+1.1**	
ITAB	**Concordia**	**146.24**	**177**			**PKPab**	**20 34 09.1**	**+0.5**	
CPUP	**Villa Florida**	**146.48**	**168**	PKPbc		**PKPbc**	**20 34 08.7**	**+0.3**	
	comp=Z,582nm,0.8s,baz=206,slow=1.8,SNR=401								
CPUP				SKPbc		**SKiKP**	**20 37 30.4**	**0.0**	
	comp=Z,277nm,0.9s,baz=168,slow=1.4,SNR=12								
PB08	**IPOC Station P**	**147.51**	**145**	PKP		**PKPab**	**20 34 15.2**	**+0.9**	
NNA	**Nana**	**147.71**	**125**			**PKiKP**	**20 34 13.4**	**-0.6**	
NNA	**Nana**	**147.71**	**125**	PKP2		**PKiKP**	**20 34 13.4**	**-0.6**	
NNA	**Nana**	**147.71**	**125**	PKPbc		**PKPbc**	**20 34 10.8**	**-1.4**	
	comp=Z,234nm,0.6s,baz=257,slow=3.9,SNR=58								
ATAH	**Atahualpa**	**148.76**	**116**	PKPbc		**PKPbc**	**20 34 13.6**	**-1.8**	
	comp=Z,190nm,0.9s,baz=271,slow=1.6,SNR=78								
SPB	**Sao Paulo**	**149.79**	**185**	PKPab		**PKiKP**	**20 34 20.0**	**+1.9**	
LPAZ	**La Paz**	**151.13**	**142**	PKP		**PKPdf**	**20 34 16.6**	**+1.3**	
	comp=Z,117nm,1.1s,baz=24,slow=0.7,SNR=132								
LPAZ				PKPbc		**PKiKP**	**20 34 22.6**	**+0.8**	
	comp=Z,266nm,0.4s,baz=46,slow=2.4,SNR=85								
LPAZ				PKPab		**PKPab**	**20 34 30.9**	**+1.4**	
	comp=Z,296nm,0.9s,baz=237,slow=1.7,SNR=7.3								
SIV	**San Ignacio**	**155.07**	**155**	PKP		**PKPdf**	**20 34 21.2**	**+1.0**	
	comp=Z,51nm,0.8s,baz=205,slow=1.6,SNR=96								
SIV				PKPab		**PKPab**	**20 34 46.0**	**+0.7**	
	comp=Z,55nm,0.5s,baz=210,slow=4.6,SNR=21								
BDFB	**Brasilia**	**157.72**	**186**	PKP		**PKPdf**	**20 34 25.0**	**+1.3**	
	comp=Z,74nm,1.0s,baz=148,slow=0.9,SNR=45								
BDFB				PKPab		**PKPab**	**20 34 57.6**	**+0.9**	
	comp=Z,13nm,0.4s,baz=149,slow=6.6,SNR=6.4								
SDV	**Santo Domingo**	**159.70**	**82**			**PKPdf**	**20 34 27.2**	**+0.9**	
SDV	**Santo Domingo**	**159.70**	**82**	PKP		**PKPdf**	**20 34 26.6**	**+0.3**	
	comp=Z,121nm,1.0s,baz=258,slow=1.3,SNR=88								
SDV				PKPab		**PKPab**	**20 35 06.5**	**+0.7**	
	comp=Z,23nm,0.4s,baz=161,slow=5.6,SNR=6.0								
RCBR	**Riachuelo**	**161.04**	**229**	PKP		**PKPdf**	**20 34 28.7**	**+1.1**	
	comp=Z,18nm,0.8s,baz=136,slow=3.5,SNR=9.6								
RCBR				PKPab		**pPKPdf**	**20 35 13.4**	**-0.3**	
	comp=Z,235nm,1.1s,baz=138,slow=6.2,SNR=40								
BAUV	**El Baul**	**162.24**	**82**			**PKPdf**	**20 34 28.8**	**+0.1**	
MACA	**Manacapuru-AM**	**165.73**	**133**			**PKPab**	**20 35 33.6**	**+1.7**	
GDSD	**La Dsirade Is**	**165.73**	**47**			**PKPdf**	**20 34 30.8**	**-1.0**	
MDP	**Montagnes des**	**177.16**	**123**	PKP		**PKPdf**	**20 34 38.1**	**+0.5**	
	comp=Z,200nm,1.2s,baz=6.2,slow=1.3,SNR=9.4								

JMA ***25*** *20:27:27.1±0.2,21°.9N±0°.7×121°.5E±0°.6,h12km,MV4.0/15, TAIWAN REGION*

TAP ***25*** *20:27:28.0,21°.88N×121°.47E,h29km,ML3.4,D*

ISC 25 20:27:29.4±1.1,21°.94N±0°.06×121°.45E±0°.03,h28km±7km, n108,σ1$22/128,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.14**	**44**	*e*P		**P**	**Pb**	**20 27 34.2**	**-0.6**
	baz=28								
LAY				*e*S			**Sb**	**20 27 38.9**	**+0.4**
	baz=28								
LYUB	**Lan-yu**	**0.14**	**63**	*e*P		**P**	**Pb**	**20 27 33.9**	**-0.9**
	baz=41								
LYUB				*e*S			**Sb**	**20 27 38.6**	**+0.1**
	baz=41								
SMST	**Manzhou Townsh**	**0.57**	**279**	*e*P		**P**	**Pb**	**20 27 40.1**	**-0.8**
	baz=283								
SMST				*e*S			**Sn**	**20 27 49.5**	**-0.6**
	baz=283								
TWKBT	**Hengchun**	**0.59**	**271**	*e*P		**P**	**Pb**	**20 27 40.2**	**-0.9**
	baz=275								
TWK1	**Hengchun**	**0.59**	**271**	*e*P		**P**	**Pb**	**20 27 40.3**	**-1.0**
	baz=275								
TWK1				*e*S			**Sb**	**20 27 49.4**	**+0.1**
	baz=275								
TAW	**Tawu**	**0.66**	**310**	*e*P		**P**	**Pb**	**20 27 42.0**	**-0.3**
	baz=312								
TAW				*e*S			**Sn**	**20 27 52.4**	**+0.1**
	baz=312								
HEN	**Hengchun**	**0.66**	**276**	*e*P		**P**	**Pb**	**20 27 41.7**	**-0.6**
	baz=280								
HEN				*e*S			**Sn**	**20 27 51.8**	**-0.5**
	baz=280								
SLIU	**Shizi**	**0.66**	**295**	*e*P		**P**	**Pb**	**20 27 42.0**	**-0.4**
	baz=298								
SLIU				*e*S			**Sb**	**20 27 51.8**	**+0.5**
	baz=298								
EAST	**Anshuo**	**0.71**	**309**	*e*P		**P**	**Pb**	**20 27 42.9**	**-0.3**
	baz=311								
EAST				*e*S			**Sb**	**20 27 52.9**	**+0.3**
	baz=311								
LDUT	**Ludao**	**0.73**	**2**	*e*P		**P**	**Pn**	**20 27 43.1**	**-0.8**
ECL	**Taimali**	**0.80**	**325**	*e*P		**P**	**Pb**	**20 27 44.2**	**-0.5**
	baz=326								
ECL				*e*S			**Sb**	**20 27 55.2**	**0.0**
	baz=326								
SCZT	**Fangliau**	**0.88**	**300**	*e*P		**P**	**Pn**	**20 27 45.8**	**-0.1**
	baz=302								
TWGBT	**Beinan**	**0.94**	**339**	P		**P**	**Pn**	**20 27 46.5**	**-0.2**
TWGBT	**Beinan**	**0.94**	**339**	*e*P		**P**	**Pb**	**20 27 46.3**	**-0.8**
	baz=338								
TWGBT				*e*S			**Sn**	**20 27 59.7**	**+0.4**
	baz=338								
TWG	**Pinlang**	**0.95**	**339**	*e*P		**P**	**Pb**	**20 27 46.3**	**-0.9**
	baz=338								
TWG				*e*S			**Sn**	**20 27 59.8**	**+0.4**
	baz=338								
LONT	**Longtian**	**1.01**	**343**	*e*P		**P**	**Pn**	**20 27 47.4**	**-0.3**
	baz=342								
MASBT	**Mashibuluo**	**1.01**	**312**	*e*P		**P**	**Pb**	**20 27 47.6**	**-0.7**
	baz=313								
MASBT				*e*S			**Sb**	**20 28 01.2**	**0.0**
	baz=313								
TSMG	**Majia**	**1.06**	**316**	*e*P		**P**	**Pb**	**20 27 49.6**	**+0.4**
	baz=317								
TWP	**Hsiaoliuchiu**	**1.08**	**292**	*e*P		**P**	**Pb**	**20 27 49.1**	**-0.3**
	baz=294								
CHKT	**Chengkung**	**1.16**	**356**	*e*P		**P**	**Pb**	**20 27 49.9**	**-0.9**
	baz=355								
ECS	**Chishang**	**1.17**	**350**	*e*P		**P**	**Pb**	**20 27 50.5**	**-0.5**
	baz=349								
EHD	**Haiduan**	**1.23**	**350**	*e*P		**P**	**Pn**	**20 27 50.5**	**-0.2**
	baz=349								
CHKH	**Chenggong**	**1.25**	**358**	*e*P		**P**	**Pb**	**20 27 51.0**	**-1.3**
	baz=357								
FULB	**Fuli**	**1.26**	**354**	*e*P		**P**	**Pb**	**20 27 51.7**	**-0.9**
	baz=353								
SLGT	**Liugui**	**1.29**	**325**	*e*P		**P**	**Pb**	**20 27 52.1**	**-0.8**
	baz=325								
SCST	**Cishan**	**1.29**	**317**	*e*P		**P**	**Pb**	**20 27 52.7**	**-0.3**
	baz=317								
TWM1	**Shoushan**	**1.29**	**313**	*e*P		**P**	**Pb**	**20 27 53.7**	**+0.6**
	baz=314								
WSSB	**Gushan**	**1.30**	**303**	*e*P		**P**	**Pb**	**20 27 52.1**	**-1.1**
	baz=304								
ELDTW	**Lidau**	**1.31**	**342**	*e*P		**P**	**Pn**	**20 27 51.5**	**-0.4**
	baz=342								
STYH	**Taoyuan**	**1.38**	**333**	*e*P		**P**	**Pb**	**20 27 53.6**	**-0.8**
	baz=333								
SGST	**Jiashian**	**1.39**	**325**	*e*P		**P**	**Pb**	**20 27 53.8**	**-1.0**
	baz=325								
EYUL	**Yuli**	**1.41**	**355**	*e*P		**P**	**Pb**	**20 27 54.5**	**-0.6**
	baz=354								
TWF1	**Yuli**	**1.42**	**354**	*e*P		**P**	**Pb**	**20 27 54.4**	**-0.8**
	baz=354								
YULB	**Yu-li**	**1.46**	**355**	P		**P**	**Pb**	**20 27 56.1**	**+0.3**
YULB	**Yu-li**	**1.46**	**355**	*e*P		**P**	**Pn**	**20 27 54.1**	**+0.3**
	baz=354								
CHN1	**Nanshi**	**1.50**	**326**	*e*P		**P**	**Pb**	**20 27 57.0**	**+0.3**
	baz=326								
WTP	**Ta-pu**	**1.51**	**330**	*e*P		**P**	**Pb**	**20 27 56.9**	**+0.1**
	baz=330								
HGSD	**Ruisui**	**1.55**	**359**	*e*P		**P**	**Pb**	**20 27 56.0**	**-1.5**
	baz=358								
SNST	**Tainan City**	**1.55**	**326**	*e*P		**P**	**Pb**	**20 27 57.1**	**-0.3**
	baz=326								
TPUB	**Ta-pu**	**1.55**	**331**	P		**P**	**Pb**	**20 27 57.7**	**+0.2**
TPUB	**Ta-pu**	**1.55**	**331**	*e*P		**P**	**Pb**	**20 27 56.8**	**-0.7**
	baz=331								
EHY	**Hungye**	**1.57**	**356**	*e*P		**P**	**Pb**	**20 27 56.0**	**-1.7**
	baz=355								
TWK	**Hsinying**	**1.59**	**326**	*e*P		**P**	**Pb**	**20 27 57.8**	**-0.4**
	baz=327								
ALS	**Alishan**	**1.68**	**339**	*e*P		**P**	**Pb**	**20 27 58.5**	**-1.2**
	baz=339								
WCKO	**Fanlu**	**1.69**	**333**	*e*P		**P**	**Pb**	**20 27 58.8**	**-0.9**
	baz=332								
TSCK	**Chigu Township**	**1.74**	**314**	*e*P		**P**	**Pn**	**20 27 58.4**	**+0.7**
	baz=314								
WARBT	**Fenglin Townsh**	**1.77**	**358**	*e*P		**P**	**Pn**	**20 27 58.9**	**+0.7**
	baz=357								
CHN5	**Tsauling**	**1.80**	**337**	*e*P		**P**	**Pb**	**20 28 01.2**	**-0.5**
	baz=336								
VWDT	**VWDT**	**1.83**	**351**	*e*P		**P**	**

	0.4nm,0.4s							
WRA	**Warramunga Arr**	**45.22**	**264**	P	P	20 49 34.8	-0.6	
	0.5nm,0.5s,baz=100,slow=6.1,SNR=9.0							
	0.5nm,0.5s							
ILAR	**Eielson Array**	**90.18**	**12**	P	P	20 54 18.3	+0.5	
	0.6nm,0.9s,baz=210,slow=4.1,SNR=2.1							
	0.6nm,0.9s							

*IDC **25** 20:53:20.4±1.7,5.°99S×130.°63E, h0km, mb3.9/2, mbtmp3.9/5, ML3.9/3, Error ellipse: s-maj=58.2km s-min=27.6km az=80.0*
*NOU **25** 20:53:39.1,6.°74S×129.°97E, h217km, MLv4.4/7, Banda Sea*
ISC 25 20:53:39.8±1.0, 6.°90S±0.°08×129.°85E±0.°08, h200km, n12, σ2.°48/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.79**	**127**	P	**Pn**	**20 54 17.2**	**+1.0**
FAKI	**Fak Fak**	**4.62**	**31**	P	**Pn**	**20 54 46.3**	**-3.1**
DRS	**Darwin Rock St**	**5.59**	**169**	P	**Pn**	**20 55 03.1**	**+1.3**
MTN	**Manton Dam**	**6.04**	**168**	P	**Pn**	**20 55 08.6**	**+1.0**
SANI	**Sanana**	**6.17**	**321**	P	**Pn**	**20 55 08.7**	**-0.6**
SOEI	**Soe**	**6.21**	**242**	P	**Pn**	**20 55 11.2**	**+1.3**
KDU	**Kakadu**	**6.30**	**156**	P	**Pn**	**20 55 12.2**	**+1.2**
BATI	**Baumata**	**6.95**	**241**	Pn	**Pn**	**20 55 20.0**	**+0.6**
	2.5nm,0.3s,baz=248,slow=18,SNR=1.5						
BATI				Sn	**Sn**	**20 56 35.1**	**-3.3**
	4.0nm,0.3s,baz=128,slow=9.3,SNR=2.2						
	7.1nm,0.3s						
WRA	**Warramunga Arr**	**13.68**	**162**	Pn	**Pn**	**20 56 44.9**	**-0.9**
	0.6nm,0.3s,baz=347,slow=13,SNR=21						
WRA				Sn	**S**	**20 59 13.3**	**-4.9**
	0.6nm,0.3s,baz=338,slow=23,SNR=6.1						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**17.12**	**167**	P	**Pn**	**20 57 29.9**	**+2.4**
	0.4nm,0.3s,baz=345,slow=10,SNR=18						
ASAR				S	**S**	**21 00 36.8**	**+2.6**
	0.4nm,0.5s,baz=349,slow=26,SNR=2.5						
	1.3nm,0.5s						
MKAR	**Makanchi Array**	**68.06**	**327**	P	**P**	**21 04 19.9**	**+2.1**
	1.0nm,0.3s,baz=116,slow=8.0,SNR=24						
	1.0nm,0.3s						
KURBB	**Kurchatov Arra**	**72.35**	**329**	P	**P**	**21 04 45.7**	**+2.0**
	0.3nm,0.5s,baz=124,slow=5.0,SNR=5.6						
	0.3nm,0.5s						

*NEIC **25** 20:55:26.4±1.1, 14.°1S±0.°1×167.°6E±0.°2, h147km±13km, mb4.4/15, Error ellipse: s-maj=29.7km s-min=12.3km az=66.0*
*IDC **25** 20:55:32.0±3.7, 14.°58S×167.°39E, h172km±32km, mb3.8/10, mbtmp4.2/11, Error ellipse: s-maj=24.7km s-min=19.3km az=70.0*
ISC 25 20:55:31.8±0.8, 14.°54S±0.°08×167.°3E±0.°1, h170km, n39, σ1.°14/38, mb4.2/14, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**6.20**	**181**	Pn	**Pn**	**20 56 59.9**	**-1.4**
KOUNC	**Koumac, New Ca**	**6.64**	**205**		**Pn**	**20 57 08.5**	**+1.4**
DZM	**Mont Dzumac**	**7.53**	**186**	P	**Pn**	**20 57 20.4**	**+1.3**
	6.6nm,0.6s,baz=180,slow=15,SNR=15						
DZM				S	**Sn**	**20 58 42.4**	**-1.3**
	3.1nm,0.5s,baz=131,slow=22,SNR=0.8						
OUENC	**Ouen Island, N**	**7.85**	**183**	Pn	**Pn**	**20 57 25.4**	**+2.3**
PINNC	**Pines Island,**	**8.03**	**179**	Pn	**Pn**	**20 57 27.9**	**+2.4**
LHI	**Lord Howe Isla**	**18.52**	**203**	P	**P**	**20 59 34.6**	**-0.7**
EIDS	**Eidsvold**	**18.66**	**232**	P	**Pn**	**20 59 38.1**	**-1.2**
EIDS				IAmb	IAmb	20 59 40.0	
	comp=Z,11nm,1.2s						
ARMA	**Armidale**	**21.40**	**220**	P	**P**	**21 00 08.0**	**+1.5**
ARMA				IAmb	IAmb	21 00 37.8	
	comp=Z,28nm,1.4s						
STKA	**Stephens Creek**	**29.15**	**229**	P	**P**	**21 01 18.0**	**+0.9**
STKA	**Stephens Creek**	**29.15**	**229**	P	**P**	**21 01 17.8**	**+0.7**
	comp=Z,5.8nm,0.4s,baz=55,slow=9.0,SNR=20						
	comp=Z,5.8nm,0.4s						
WB0	**Warramunga Arr**	**31.86**	**256**	P	**P**	**21 01 40.2**	**-0.9**
WRA	**Warramunga Arr**	**31.92**	**256**	P	**P**	**21 01 40.1**	**-1.5**
WRA				IAmb	IAmb	21 02 06.2	
	comp=Z,6.5nm,1.4s						
WRA	**Warramunga Arr**	**31.92**	**256**	P	**P**	**21 01 40.9**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=85,slow=9.3,SNR=3.8						
WRA				PcP	**PcP**	**21 04 27.6**	**-0.4**
	comp=Z,0.8nm,1.0s,baz=87,slow=1.6,SNR=2.5						
	comp=Z,0.9nm,0.5s						
AS31	**Alice Springs**	**32.79**	**249**	P	**P**	**21 01 48.8**	**-0.4**
AS31				IAmb	IAmb	21 02 20.1	
	comp=Z,21nm,0.8s						
ASAR	**Alice Springs**	**32.79**	**249**	P	**P**	**21 01 48.5**	**-0.6**
	comp=Z,1.9nm,0.4s,baz=80,slow=8.8,SNR=18						
	comp=Z,1.9nm,0.4s						
BBOO	**Buckleboo**	**33.73**	**232**	P	**P**	**21 01 57.6**	**+0.5**
FORT	**Forrest**	**39.44**	**239**		**P**	**21 02 45.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**40.10**	**259**	P	**P**	**21 02 48.7**	**-2.3**
PSA00	**Pilbara Seismi**	**45.54**	**254**	P	**P**	**21 03 34.3**	**-0.6**
PSA00				IAmb	IAmb	21 04 14.8	
	comp=Z,19nm,1.3s						
MORW	**Morawa**	**49.39**	**244**	P	**P**	**21 04 04.2**	**-0.3**
MORW				IAmb	IAmb	21 04 05.1	
	comp=Z,9.0nm,0.9s						
VNDA	**Vanda**	**63.05**	**181**	P	**P**	**21 05 40.5**	**+0.1**
VNDA				IAmb	IAmb	21 05 51.5	
	comp=Z,2.6nm,1.1s						
VNDA	**Vanda**	**63.05**	**181**	P	**P**	**21 05 40.2**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=353,slow=7.6,SNR=18						
	comp=Z,1.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**74.92**	**294**	P	**P**	**21 06 56.2**	**+1.7**
	comp=Z,0.5nm,0.4s,baz=117,slow=5.2,SNR=4.1						
	comp=Z,0.5nm,0.4s						
QSPA	**South Pole Qui**	**75.48**	**180**	P	**P**	**21 06 56.0**	**-1.1**
QSPA				IAmb	IAmb	21 07 03.2	
	comp=Z,8.7nm,1.4s						
QSPA	**South Pole Qui**	**75.48**	**180**	P	**P**	**21 06 56.6**	**-0.4**
	comp=Z,3.2nm,0.8s,baz=258,slow=1.3,SNR=13						
	comp=Z,3.2nm,0.8s						
MAW	**Mawson**	**82.08**	**202**	P	**P**	**21 07 33.8**	**+1.0**
SONM	**Songino Array**	**82.38**	**324**	P	**P**	**21 07 35.6**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=124,slow=3.8,SNR=5.2						
	comp=Z,0.5nm,0.5s						
ILAR	**Eielson Array**	**86.33**	**18**	P	**P**	**21 07 53.1**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=233,slow=5.7,SNR=10.0						
	comp=Z,1.3nm,0.7s						
MKAR	**Makanchi Array**	**97.11**	**316**	P	**P**	**21 08 45.9**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=93,slow=5.7,SNR=10.0						
	comp=Z,1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**97.27**	**324**	P	**P**	**21 08 44.3**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=120,slow=5.7,SNR=2.6						
	comp=Z,0.6nm,0.6s						
H03S2	**Juan Fernandez**	**100.74**	**129**	T	T	22 59 31.3	
	baz=241,slow=74,SNR=3.2						
H03S1	**Juan Fernandez**	**100.75**	**129**	T	T	22 59 32.4	
	baz=179,slow=74,SNR=5.8						
H03S3	**Juan Fernandez**	**100.76**	**129**	T	T	23 01 13.5	
	SNR=8.3						
ARCES	**ARCESS Array B**	**120.09**	**345**	PKP	**PKPdf**	**21 14 01.4**	**-0.3**
	comp=Z,3.3nm,0.7s,baz=63,slow=2.8,SNR=8.7						
FINES	**FINESS Array B**	**125.57**	**338**	PKP	**PKPdf**	**21 14 12.5**	**+0.1**
	comp=Z,1.9nm,1.0s,baz=123,slow=3.2,SNR=4.3						
BRTR	**Keskin Array B**	**132.43**	**311**	PKP	**PKPdf**	**21 14 27.2**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=127,slow=3.8,SNR=2.5						
BRG	**Berggiesshubel**	**137.87**	**335**	*eP*	**Pdif**	**21 11 46.4**	**+0.5**
BRG				Amp		21 11 48.3	
	comp=Z,4.8nm,1.6s						
ESDC	**Sonseca Array**	**153.82**	**345**	PKPab	**PKPab**	**21 15 24.0**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=350,slow=4.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**165.97**	**266**	PKPab	**PKPab**	**21 16 18.0**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=105,slow=4.4,SNR=4.8						

*NEIC **25** 21:00:59.4±0.6, 19.°22N±0.°02×155.°44W±0.°02, h38km±2km, Error ellipse: s-maj=4.0km s-min=2.3km az=140.0*
HVO 25 21:01:00.8±0.9, 19.°20N±0.°06×155.°40W±0.°08, h33km±7km, ML2.7/23, ML2.7/30(NEIC), Error ellipse: s-maj=13.3km s-min=4.5km az=127.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.04**	**7**		Pb	21 01 06.0	-0.3
HLP	**Hilina Pali**	**0.13**	**43**		Pn	21 01 06.4	-0.1
HLP	**Hilina Pali**	**0.13**	**43**	IAML		21 01 10.8	
	comp=N,1μm,0.3s						
HLP				IAML		21 01 11.1	
	comp=E,876nm,0.3s						
KHU	**Kahuku**	**0.21**	**283**		Pb	21 01 06.7	-1.0
KHU					Sn	21 01 11.2	-0.6
KHU	**Kahuku**	**0.21**	**283**	IAML		21 01 11.3	
	comp=N,723nm,0.2s						
KHU				IAML		21 01 11.5	
	comp=E,716nm,0.3s						
KKO	**Keanakako`i**	**0.24**	**33**		Pb	21 01 07.0	-0.8
KKO	**Keanakako`i**	**0.24**	**33**	IAML		21 01 16.0	
	comp=N,1μm,0.5s						
KKO				IAML		21 01 18.2	
	comp=E,748nm,1.3s						
OBL	**Observatory Le**	**0.24**	**27**		Pb	21 01 07.0	-0.9
OBL	**Observatory Le**	**0.24**	**27**	IAML		21 01 13.8	
	comp=N,2μm,0.5s						
OBL				IAML		21 01 14.1	
	comp=E,2μm,0.6s						
PUH	**Pauahi**	**0.25**	**45**		Pb	21 01 07.0	-0.9
PUH	**Pauahi**	**0.25**	**45**	IAML		21 01 11.8	
	comp=E,674nm,0.4s						
PUH				IAML		21 01 13.2	
	comp=N,544nm,0.2s						
BYL	**Byron's Ledge**	**0.25**	**33**		Sb	21 01 11.9	-1.0
UWB	**Uwekahuna B**	**0.25**	**28**		Pb	21 01 07.0	-1.0
UWB	**Uwekahuna B**	**0.25**	**28**	IAML		21 01 16.4	
	comp=N,367nm,0.9s						
UWB				IAML		21 01 16.8	
	comp=E,204nm,1.6s						
HATHI	**Halema'uma'u T**	**0.26**	**31**		Pb	21 01 07.1	-1.0
HATHI	**Halema'uma'u T**	**0.26**	**31**	IAML		21 01 12.1	
	comp=N,800nm,0.5s						
HATHI				IAML		21 01 12.8	
	comp=E,818nm,0.8s						
SBLHI	**Steaming Bluff**	**0.26**	**29**		Pn	21 01 09.1	+0.7
SBLHI	**Steaming Bluff**	**0.26**	**29**	IAML		21 01 12.0	
	comp=E,637nm,0.2s						
SBLHI				IAML		21 01 12.0	
	comp=N,861nm,0.3s						
KNHH	**Kane Nui o Ham**	**0.28**	**51**		Pb	21 01 07.4	-0.9
STCH	**Steam Cracks**	**0.32**	**55**		Pb	21 01 07.8	-1.0
STCH					Sb	21 01 13.0	-1.3
JCUZ	**Jacuzzi**	**0.34**	**57**		Pn	21 01 13.4	+3.9
JCUZ	**Jacuzzi**	**0.34**	**57**	IAML		21 01 14.2	
	comp=N,474nm,0.9s						
JCUZ				IAML		21 01 18.8	
	comp=E,432nm,0.7s						
MWH	**Moku'aweowe**	**0.34**	**327**		Pb	21 01 08.2	-1.3
MWH					Sb	21 01 13.6	-1.7
MWH	**Moku'aweowe**	**0.34**	**327**	IAML		21 01 14.0	
	comp=N,1μm,0.2s						
MWH				IAML		21 01 14.1	
	comp=E,1μm,0.5s						
MLOA	**Mauna Loa Obse**	**0.37**	**334**		Pb	21 01 08.6	-1.3
MLOA				IAML		21 01 19.4	
	comp=E,430nm,0.3s						
HMH	**Humu'ula Sheep**	**0.41**	**349**		Pb	21 01 09.2	-1.0
HMH	**Humu'ula Sheep**	**0.41**	**349**	IAML		21 01 15.6	
	comp=N,2μm,0.2s						
HMH				IAML		21 01 16.0	
	comp=E,629nm,0.4s						
ALEP	**Alea Permanent**	**0.41**	**326**		Pn	21 01 14.5	+3.8
JOKA	**Jonika Flow**	**0.44**	**58**		Pb	21 01 09.1	-1.3
JOKA					Pn	21 01 15.3	+4.4
POHA	**Pohakuloa**	**0.57**	**348**		Pb	21 01 10.7	-1.9
POHA				IAML		21 01 24.1	
	comp=E,557nm,0.3s						
POHA				IAML		21 01 26.3	
	comp=E,376nm,0.4s						
KHLU	**Kahalu`u**	**0.60**	**310**		Pb	21 01 11.0	-2.1
KHLU	**Kahalu`u**	**0.60**	**310**	IAML		21 01 18.9	
	comp=N,350nm,0.4s						
KHLU				IAML		21 01 24.2	
	comp=E,214nm,0.2s						

*NEIC **25** 21:04:41.8±0.5, 18.°88N±0.°07×155.°36W±0.°02, h32km±10km, Error ellipse: s-maj=10.4km s-min=2.3km az=167.0*
HVO 25 21:04:44.6±1.4, 18.°94N±0.°03×155.°37W±0.°02, h12km±5km, ML2.7/17, ML2.7/34(NEIC), Error ellipse: s-maj=4.4km s-min=2.0km az=147.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.30**	**356**		Pg	21 04 50.7	-0.1
HLP	**Hilina Pali**	**0.36**	**10**		Pg	21 04 51.9	0.0
KHU	**Kahuku**	**0.38**	**323**		Pg	21 04 51.9	-0.4
KHU					Sg	21 04 57.6	+0.1
KHU	**Kahuku**	**0.38**	**323**	IAML		21 05 05.8	
	comp=E,1μm,0.6s						
SDHHI	**Sand Hill**	**0.45**	**9**		Pg	21 04 54.1	+0.4
SDHHI	**Sand Hill**	**0.45**	**9**	IAML		21 05 02.0	
	comp=E,837nm,0.4s						
SDHHI				IAML		21 05 10.1	
	comp=N,1μm,0.8s						
PUH	**Pauahi**	**0.46**	**19**		Pg	21 04 52.8	-0.8
PUH	**Pauahi**	**0.46**	**19**	IAML		21 05 06.9	
	comp=N,478nm,1.1s						
KKO	**Keanakako`i**	**0.47**	**13**		Pg	21 04 53.1	-0.8
KKO	**Keanakako`i**	**0.47**	**13**	IAML		21 05 06.0	
	comp=E,782nm,0.9s						
KNHH	**Kane Nui o Ham**	**0.48**	**24**		Pg	21 04 53.2	-0.9
BYL	**Byron's Ledge**	**0.48**	**13**		Pg	21 04 53.3	-0.9
BYL	**Byron's Ledge**	**0.48**	**13**	IAML		21 05 08.3	
	comp=N,899nm,0.6s						
BYL				IAML		21 05 08.5	
	comp=E,553nm,0.5s						
UWB	**Uwekahuna B**	**0.49**	**11**		Pg	21 04 53.5	-0.8
HATHI	**Halema'uma'u T**	**0.49**	**12**		Pg	21 04 53.4	-0.9
HATHI	**Halema'uma'u T**	**0.49**	**12**	IAML		21 05 06.7	
	comp=N,674nm,0.7s						
STCH	**Steam Cracks**	**0.50**	**28**		Pg	21 04 53.4	-1.0
STCH	**Steam Cracks**	**0.50**	**28**	IAML		21 05 07.0	
	comp=N,476nm,0.7s						
STCH				IAML		21 05 07.9	
	comp=E,498nm,0.6s						
RSD	**Rainshed**	**0.53**	**10**		Pg	21 04 54.0	-1.1
RSD	**Rainshed**	**0.53**	**10**	IAML		21 04 58.8	
	comp=E,286nm,4.2s						
RSD				IAML		21 05 12.7	
	comp=N,347nm,2.0s						
MLH	**Mauna Loa**	**0.55**	**359**		Pg	21 04 54.5	-1.0
MLH					Sg	21 05 02.9	0.0
MLH	**Mauna Loa**	**0.55**	**359**	IAML		21 05 10.1	
	comp=N,475nm,0.6s						
MWH	**Moku'aweowe**	**0.58**	**339**		Pg	21 04 54.9	-1.2
MWH	**Moku'aweowe**	**0.58**	**339**	IAML		21 05 09.2	
	comp=E,537nm,2.0s						
MWH				IAML		21 05 16.7	
	comp=N,362nm,0.8s						
JOKA	**Jonika Flow**	**0.60**	**35**		Pg	21 04 54.9	-1.5
MLOA	**Mauna Loa Obse**	**0.62**	**342**		Pg	21 04 55.5	-1.4
ALEP	**Alea Permanent**	**0.65**	**337**		Pg	21 04 55.7	-1.7
ALEP					Sg	21 05 04.2	-1.9
HMH	**Humu'ula Sheep**	**0.67**	**351**		Pg	21 04 56.3	-1.4
HMH	**Humu'ula Sheep**	**0.67**	**351**	IAML		21 05 09.8	
	comp=N,288nm,0.6s						
HMH				IAML		21 05 12.9	
	comp=E,291nm,0.4s						
POHA	**Pohakuloa**	**0.83**	**350**		Pg	21 04 58.4	-2.3
POHA				IAML		21 05 16.5	
	comp=E,296nm,0.6s						
POHA				IAML		21 05 25.7	
	comp=E,260nm,0.6s						
HUH	**Hualalai**	**0.86**	**330**		Pg	21 04 59.9	-1.4
HPAH	**Hawaii Prepara**	**1.13**	**344**		Pb	21 05 02.2	-3.9
HPAH	**Hawaii Prepara**	**1.13**	**344**	IAML		21 05 16.0	
	comp=E,144nm,0.2s						
HPAH				IAML		21 05 37.2	
	comp=N,139nm,3.4s						

*NEIC **25** 21:06:40.6±2.2, 18.°93N±0.°06×155.°36W±0.°03, h27km±11km, Error ellipse: s-maj=9.2km s-min=3.1km az=154.0*
HVO 25 21:06:41.9±1.6, 18.°89N±0.°03×155.°35W±0.°02, h14km±4km, ML2.8/10, ML2.9/30(NEIC), Error ellipse: s-maj=4.4km s-min=2.5km az=155.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.34**	**352**		Pg	21 06 47.9	-1.0
HLP	**Hilina Pali**	**0.40**	**6**		Pg	21 06 49.6	-0.5
KHU	**Kahuku**	**0.43**	**324**		Pg	21 06 49.6	-1.0
KHU	**Kahuku**	**0.43**	**324**		Sg	21 06 55.6	-0.9
KHU	**Kahuku**	**0.43**	**324**	IAML		21 06 58.2	
	comp=E,1μm,0.4s						
KHU				IAML		21 07 06.1	
	comp=N,955nm,0.4s						
PUH	**Pauahi**	**0.49**	**15**		Pg	21 06 50.3	-1.5
PUH				IAML		21 07 06.6	
	comp=N,651nm,0.4s						
SDHHI	**Sand Hill**	**0.50**	**6**		Pg	21 06 51.7	-0.1
SDHHI	**Sand Hill**	**0.50**	**6**	IAML		21 07 02.4	
	comp=E,1μm,0.4s						
KKO	**Keanakako`i**	**0.51**	**9**		Pg	21 06 50.8	-1.2
KKO	**Keanakako`i**	**0.51**	**9**	IAML		21 07 05.9	
	comp=E,970nm,0.5s						
KNHH	**Kane Nui o Ham**	**0.51**	**19**		Pg	21 06 50.9	-1.1
HATHI	**Halema'uma'u T**	**0.53**	**9**		Pg	21 06 51.1	-1.4
HATHI	**Halema'uma'u T**	**0.53**	**9**	IAML		21 07 11.8	
	comp=N,894nm,0.5s						
UWB	**Uwekahuna B**	**0.53**	**7**		Pg	21 06 51.3	-1.2
UWB	**Uwekahuna B**	**0.53**	**7**	IAML		21 07 11.0	
	comp=N,628nm,1.2s						
SBLHI	**Steaming Bluff**	**0.54**	**8**		Pg	21 06 51.3	-1.3
SBLHI	**Steaming Bluff**	**0.54**	**8**	IAML		21 07 10.7	
	comp=N,793nm,0.5s						
SBLHI				IAML		21 07 10.7	
	comp=E,830nm,0.5s						
RSD	**Rainshed**	**0.57**	**7**		Pg	21 06 51.6	-1.5
MLH	**Mauna Loa**	**0.60**	**357**		Pg	21 06 52.3	-1.5
MLH	**Mauna Loa**	**0.60**	**357**	IAML		21 07 15.2	
	comp=N,543nm,1.0s						
MWH	**Moku'aweowe**	**0.63**	**338**		Pg	21 06 52.6	-1.8
MWH				IAML		21 07 15.5	
	comp=E,692nm,1.2s						
MWH				IAML		21 07 15.5	
	comp=N,637nm,1.0s						
MLOA	**Mauna Loa Obse**	**0.67**	**342**		Sb	21 07 05.0	-0.2
ALEP	**Alea Permanent**	**0.70**	**337**		Pg	21 06 53.4	-2.3
ALEP					Sg	21 07 02.1	-2.9
HMH	**Humu'ula Sheep**	**0.72**	**350**		Pg	21 06 54.1	-1.8
KHLU	**Kahalu`u**	**0.86**	**324**		Pg	21 06 56.7	-2.0
KHLU				IAML		21 07 14.3	
	comp=E,407nm,0.4s						
KHLU				IAML		21 07 21.2	
	comp=N,312nm,0.4s						
POHA	**Pohakuloa**	**0.88**	**349**	Pg	Pg	21 06 56.0	-3.0
POHA				IAML		21 07 17.9	
	comp=N,431nm,0.5s						
POHA				IAML		21 07 23.2	
	comp=N,326nm,0.4s						
HUH	**Hualalai**	**0.91**	**330**		Pg	21 06 57.6	-2.0
HLK	**Haleakala**	**2.04**	**336**		Pn	21 07 16.5	+0.4

IDC 25 21:09:00.0±1.8, 2.°41N×126.°44E, h0km, mb3.6/4, mbtmp3.6/4, MS3.8/1, Error ellipse: s-maj=176.5km s-min=21.9km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.52**	**161**	P	P	21 14 11.4	-0.6
	1.0nm,0.4s,baz=339,slow=11,SNR=18						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**26.92**	**165**	P	P	21 14 44.0	+0.8
	0.3nm,0.5s,baz=350,slow=7.3,SNR=7.4						
	0.3nm,0.5s						
KSRS	**Korea Array**	**34.90**	**2**	LR	LR	21 30 02.0	
	comp=Z,146nm,20.9s,baz=330,slow=36						
MKAR	**Makanchi Array**	**58.48**	**326**	P	P	21 18 57.6	-0.4
	0.2nm,0.5s,baz=118,slow=6.0,SNR=2.5						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**62.69**	**328**	P	P	21 19 26.7	0.0
	0.7nm,0.6s,baz=130,slow=6.6,SNR=5.7						
	0.7nm,0.6s						

*JMA **25** 21:22:44.8±0.1, 24.°0N±0.°7×123.°5E±0.°3, h27km±1km, MV3.3/10, NEAR ISHIGAKIJIMA ISLAND*
ISC 25 21:22:44.6±1.3, 23.°97N±0.°08×123.°48E±0.°03, h27km±12km, n16, σ0.°72/24, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.31**	**73**	P	**Pb**	**21 22 51.9**	**-0.1**
HATJ				S	**Sb**	**21 22 57.1**	**0.0**
IRIF	**Iriomote-Funau**	**0.43**	**32**	P	**Pb**	**21 22 53.8**	**-0.1**
IRIF				S	**Sb**	**21 23 00.2**	**0.0**
JKRS	**Kuro-shima**	**0.56**	**61**	P	**Pb**	**21 22 56.0**	**+0.1**
JKRS				*eS*	**Sb**	**21 23 03.4**	**0.0**
YOJ	**Yonaguni jima**	**0.65**	**319**	P	**Pb**	**21 22 57.5**	**0.0**
YOJ	**Yonaguni jima**	**0.65**	**319**	P	**Pb**	**21 22 57.6**	**0.0**
YOJ				S	**Sb**	**21 23 05.8**	**-0.5**
JYNG	**Yonagunijimaku**	**0.69**	**315**	*i* P	**Pb**	**21 22 57.7**	**-0.4**
JYNG				S	**Sb**	**21 23 07.0**	**-0.2**
JIJ	**Ishigaki jima**	**0.72**	**57**	P	**Pb**	**21 22 58.2**	**-0.5**
JIJ				S	**Sb**	**21 23 08.0**	**-0.3**
JISG	**Ishigakijimahi**	**0.98**	**51**	*i* P	**Pn**	**21 23 02.2**	**-0.4**
JISG				*eS*	**Sb**	**21 23 15.3**	**-0.2**
JTJ	**Tarama**	**1.30**	**59**	*eP*	**Pb**	**21 23 08.1**	**-0.4**
JTJ				*eS*	**Sb**	**21 23 24.9**	**+0.1**
NACB	**Ninganchiao**	**1.74**	**277**	P	**Pn**	**21 23 13.5**	**+0.5**
JMJ	**Miyako jima 2**	**1.86**	**63**	P	**Pb**	**21 23 17.7**	**-0.2**
YHNB	**Yeheng**	**2.04**	**291**	P	**Pn**	**21 23 19.3**	**+2.0**
TATO	**Taipei**	**2.08**	**299**	P	**Pb**	**21 23 19.9**	**-1.7**
YULB	**Yu-li**	**2.08**	**255**	P	**Pn**	**21 23 17.9**	**+0.2**
SSLB	**Suanglung**	**2.32**	**266**	P	**Pn**	**21 23 22.4**	**+1.4**
TWGBT	**Beinan**	**2.48**	**243**	P	**Pn**	**21 23 23.3**	**0.0**

*IDC **25** 21:26:54.3±1.5, 2.°33S×141.°75E, h0km, mb3.9/5, mbtmp4.0/6, ML4.1/1, Error ellipse: s-maj=61.9km s-min=23.5km az=96.0*
ISC 25 21:26:58.7±1.6, 2.°5S±0.°2×142.°0E±0.°5, h35km, n12, σ0.°21/6, mb3.8/5, Near north coast of New Guinea

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

0.4nm,0.4s,baz=319,slow=21,SNR=5.0
1.7nm,0.5s

MKAR Makanchi Array 67.96 328 P **P** **21 38 00.1 -1.1**
0.1nm,0.5s,baz=119,slow=8.5,SNR=2.2
0.1nm,0.5s

ZALV Zalesovo Beam 71.62 335 P **P** **21 38 22.0 -1.3**
0.5nm,0.4s,baz=123,slow=5.3,SNR=2.4
0.5nm,0.4s

KURBB Kurchatov Arra 72.32 330 P **P** **21 38 26.0 -1.5**
0.7nm,0.7s,baz=130,slow=5.0,SNR=8.6
0.7nm,0.7s

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*IDC **25** 21:36:08.2±2.3, 1°.99S×127°.94E, h0km, mb3.4/2, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=197.7km s-min=26.3km az=67.0*

DJA 25 21:36:25.0±0.4, 3°.5S±3°.1×12°.8E±°, h10km, M3.2/5, MLv3.2/5, Seram

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NLAI	**Namlea**	**1.24**	**275**	P		Pn	21 36 47.3	-1.1
SANI	**Sanana**	**2.68**	**299**	P		Pn	21 37 08.9	+0.7
SANI				S		Sn	21 37 41.5	+0.7
WRA	**Warramunga Arr**	**17.50**	**161**	P		P	21 40 30.0	-0.4
	0.1nm,0.3s,baz=343,slow=12,SNR=2.5							
	0.4nm,0.6s							
ASAR	**Alice Springs**	**20.90**	**166**	P		P	21 41 08.2	+0.4
	0.4nm,0.5s,baz=346,slow=12,SNR=6.2							
	0.4nm,0.5s							
MKAR	**Makanchi Array**	**64.29**	**327**	P		P	21 46 36.5	-24
	0.3nm,0.4s,baz=114,slow=8.5,SNR=7.9							
	0.3nm,0.4s							

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*IDC **25** 22:11:57.0±1.2, 22°.62S×66°.11W, h242km±16km, mb3.4/2, mbtmp3.8/7, Error ellipse: s-maj=25.6km s-min=16.4km az=123.0*
*SJA **25** 22:11:57.1±0.8, 22°.66S×66°.31W, h284km±24km, ML3.9, MW3.8*
*NEIC **25** 22:11:57.9±1.5, 22°.63S±0°.05×66°.3W±0°.1, h258km±11km, mb4.2/9, Error ellipse: s-maj=16.9km s-min=6.2km az=104.0*
*GUC **25** 22:11:58.0±0.6, 22°.74S×66°.66W, h280km, ML4.5*

ISC 25 22:11:57.3±0.6, 22°.61S±0°.05×66°.23W±0°.05, h250km, n88, σ1s07/106, mb4.1/5, 8C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YJA	**Yavi**	**0.79**	**57**	*i* P		Pn	**22 12 33.8**	**+1.9**
YJA				*e*S		**S**	**22 12 57.5**	**-1.4**
YJA				IAML			22 13 01.4	
	comp=Z,46nm,0.5s							
AF01	**San Pedro de A**	**1.83**	**259**			**Pn**	**22 12 41.2**	**+2.5**
AF01	**San Pedro de A**	**1.83**	**259**	*e*P		**Pn**	**22 12 41.1**	**+2.5**
SLA	**San Lorenzo**	**2.21**	**163**	*i* P		**Pn**	**22 12 43.4**	**+1.5**
SLA				IAML			22 13 37.0	
	comp=Z,10nm,1.5s							
LVC	**Limon Verde**	**2.48**	**269**	*i* P		**Pn**	**22 12 46.3**	**+1.5**
LVC				IAML			22 13 25.3	
	comp=Z,47nm,0.5s							
LVC	**Limon Verde**	**2.48**	**269**	P		**Pn**	**22 12 46.3**	**+1.5**
	comp=Z,52nm,0.3s,baz=96,slow=5.6,SNR=126							
LVC				S		**S**	**22 13 22.8**	**+0.7**
	comp=Z,39nm,0.4s,baz=229,slow=21,SNR=16							
LVC	**Limon Verde**	**2.48**	**269**	*e*P		**Pn**	**22 12 46.2**	**+1.5**
LVC				*e*S		**S**	**22 13 22.4**	**+0.3**
LVC				IAML			22 13 29.5	
	comp=Z,3μm,0.1s							
PB09	**IPOC Station P**	**2.91**	**286**			**Pn**	**22 12 50.6**	**+1.6**
PB09	**IPOC Station P**	**2.91**	**286**	*i* P		**Pn**	**22 12 51.0**	**+2.0**
PB09				IAML			22 13 33.5	
	comp=Z,172nm,0.7s							
PB09	**IPOC Station P**	**2.91**	**286**	⇑*i* P		**Pn**	**22 12 50.9**	**+1.9**
PB09				*e*S		**S**	**22 13 31.1**	**+1.3**
PB09				IAML			22 13 34.1	
	comp=N,176nm,0.2s							
PB15	**IPOC Station P**	**3.05**	**258**			**Pn**	**22 12 51.2**	**+0.7**
PB15	**IPOC Station P**	**3.05**	**258**	*i* P		**Pn**	**22 12 52.4**	**+1.9**
PB15				*e*S		**S**	**22 13 33.4**	**+0.8**
PB15				IAML			22 13 34.1	
	comp=Z,3μm,0.2s							
PB15	**IPOC Station P**	**3.05**	**258**	*e*P		**Pn**	**22 12 51.4**	**+0.8**
PB15				*e*S		**S**	**22 13 32.6**	**0.0**
PB06	**IPOC Station P**	**3.09**	**268**			**Pn**	**22 12 51.6**	**+0.7**
PB06	**IPOC Station P**	**3.09**	**268**	*i* P		**Pn**	**22 12 52.0**	**+1.0**
PB06				IAML			22 13 38.9	
	comp=Z,218nm,0.2s							
PB06	**IPOC Station P**	**3.09**	**268**	*e*P		**Pn**	**22 12 51.9**	**+1.0**
PB06				*e*S		**S**	**22 13 33.0**	**-0.3**
PB01	**IPOC Station P**	**3.40**	**297**			**Pn**	**22 12 55.4**	**+1.0**
PB01	**IPOC Station P**	**3.40**	**297**	*i* P		**Pn**	**22 12 55.6**	**+1.2**
PB01				*e*S		**S**	**22 13 39.7**	**+0.2**
PB01				IAML			22 13 41.3	
	comp=Z,217nm,0.1s							
PB01	**IPOC Station P**	**3.40**	**297**	⇑*i* P		**Pn**	**22 12 55.5**	**+1.2**
PB01				*e*S		**S**	**22 13 39.2**	**-0.4**
PB07	**IPOC Station P**	**3.50**	**284**			**Pn**	**22 12 56.7**	**+1.2**
PB07	**IPOC Station P**	**3.50**	**284**	*i* P		**Pn**	**22 12 56.8**	**+1.2**
PB07				*e*S		**S**	**22 13 40.7**	**-0.9**
PB07				IAML			22 13 42.0	
	comp=Z,251nm,0.4s							
PB07	**IPOC Station P**	**3.50**	**284**	⇑*i* P		**Pn**	**22 12 56.7**	**+1.2**
PB07				*e*S		**S**	**22 13 40.2**	**-1.5**
PB04	**IPOC Station P**	**3.63**	**274**			**Pn**	**22 12 57.9**	**+0.9**
PB04	**IPOC Station P**	**3.63**	**274**	*i* P		**Pn**	**22 12 58.2**	**+1.1**
PB04				*e*S		**S**	**22 13 43.7**	**-0.7**
PB04				IAML			22 13 45.8	
	comp=Z,490nm,0.1s							
PB04	**IPOC Station P**	**3.63**	**274**	*i* P		**Pn**	**22 12 58.1**	**+1.0**
PB04				*e*S		**S**	**22 13 43.0**	**-1.4**
PB02	**IPOC Station P**	**3.64**	**290**			**Pn**	**22 12 57.5**	**+0.4**
PB02	**IPOC Station P**	**3.64**	**290**	*i* P		**Pn**	**22 12 58.0**	**+0.9**
PB02				IAML			22 13 47.9	
	comp=Z,498nm,0.2s							
PB02	**IPOC Station P**	**3.64**	**290**	*i* P		**Pn**	**22 12 58.0**	**+0.9**
PB02				*e*S		**S**	**22 13 42.8**	**-1.5**
PB08	**IPOC Station P**	**3.67**	**311**			**Pn**	**22 12 58.9**	**+1.2**
PB08	**IPOC Station P**	**3.67**	**311**	*i* P		**Pn**	**22 12 59.7**	**+2.1**
PB08				IAML			22 13 51.0	
	comp=Z,66nm,0.3s							
PB08	**IPOC Station P**	**3.67**	**311**	⇑*i* P		**Pn**	**22 12 59.8**	**+2.1**
PB08				*e*S		**S**	**22 13 45.4**	**-0.1**
PB05	**IPOC Station P**	**3.67**	**265**			**Pn**	**22 12 57.5**	**0.0**
PB05	**IPOC Station P**	**3.67**	**265**	*i* P		**Pn**	**22 12 58.5**	**+1.0**
PB05				IAML			22 13 47.2	
	comp=Z,142nm,0.2s							
PB05	**IPOC Station P**	**3.67**	**265**	⇑*i* P		**Pn**	**22 12 58.3**	**+0.8**
PB05				*e*S		**S**	**22 13 43.5**	**-1.7**
GO02	**Mina Guanaco**	**3.99**	**230**	Pn		**Pn**	**22 13 02.0**	**+0.7**
GO02	**Mina Guanaco**	**3.99**	**230**	*i* P		**Pn**	**22 13 02.3**	**+1.0**
GO02	**Mina Guanaco**	**3.99**	**230**	⇑*i* P		**Pn**	**22 13 02.1**	**+0.7**
GO02				*e*S		**S**	**22 13 51.6**	**-0.5**
GO01	**Chusmiza**	**4.03**	**316**			**Pn**	**22 13 03.4**	**+1.5**
GO01	**Chusmiza**	**4.03**	**316**	*i* P		**Pn**	**22 13 03.9**	**+1.9**
GO01	**Chusmiza**	**4.03**	**316**	*i* P		**Pn**	**22 13 03.5**	**+1.5**
PB10	**IPOC Station P**	**4.08**	**256**	Pn		**Pn**	**22 13 02.6**	**+0.6**
PB10	**IPOC Station P**	**4.08**	**256**	*i* P		**Pn**	**22 13 03.0**	**+0.9**
PB10				IAML			22 13 55.2	
	comp=Z,162nm,0.2s							
PB10	**IPOC Station P**	**4.08**	**256**	*e*P		**Pn**	**22 13 02.7**	**+0.6**
TA01	**Diego Aracena**	**4.20**	**298**			**Pn**	**22 13 03.7**	**+0.2**
TA01	**Diego Aracena**	**4.20**	**298**	*i* P		**Pn**	**22 13 03.5**	**0.0**
TA01				IAML			22 13 55.7	
	comp=Z,106nm,0.2s							
TA01	**Diego Aracena**	**4.20**	**298**	*e*P		**Pn**	**22 13 03.7**	**+0.2**
PB11	**IPOC Station P**	**4.27**	**311**			**Pn**	**22 13 04.9**	**+0.3**
PB11	**IPOC Station P**	**4.27**	**311**	*i* P		**Pn**	**22 13 05.2**	**+0.6**
PB11				IAML			22 13 59.1	
	comp=Z,122nm,0.4s							
PB11	**IPOC Station P**	**4.27**	**311**	⇑*i* P		**Pn**	**22 13 05.0**	**+0.5**
TA02	**Huaiquique**	**4.31**	**302**			**Pn**	**22 13 04.7**	**-0.2**
PB14	**IPOC Station P**	**4.32**	**241**	Pn		**Pn**	**22 13 05.0**	**-0.2**
PB14	**IPOC Station P**	**4.32**	**241**	⇑*i* P		**Pn**	**22 13 05.9**	**+0.6**
AC02	**Maricunga**	**4.96**	**211**	Pn		**Pn**	**22 13 12.7**	**-0.4**
AC02	**Maricunga**	**4.96**	**211**	*i* P		**Pn**	**22 13 13.8**	**+0.6**
AC02				IAML			22 14 17.5	
	comp=Z,21nm,0.4s							
PB16	**IPOC Station P**	**5.25**	**324**	Pn		**Pn**	**22 13 16.8**	**+0.1**
PB16	**IPOC Station P**	**5.25**	**324**	*i* P		**Pn**	**22 13 18.5**	**+1.7**
PB16				IAML			22 14 25.2	
	comp=Z,28nm,0.8s							
AC01	**Pan de Azucar**	**5.32**	**228**	Pn		**Pn**	**22 13 16.6**	**-0.5**
AC01	**Pan de Azucar**	**5.32**	**228**	*i* P		**Pn**	**22 13 16.5**	**-0.5**
AC01				IAML			22 14 20.2	
	comp=Z,50nm,0.2s							
PB12	**IPOC Station P**	**5.52**	**315**	Pn		**Pn**	**22 13 19.2**	**-0.6**
AC06	**Mina Casimiro**	**6.03**	**218**	Pn		**Pn**	**22 13 24.9**	**-0.9**
GO03	**Copiap**	**6.15**	**215**	Pn		**Pn**	**22 13 26.4**	**-1.0**
LPAZ	**La Paz**	**6.54**	**344**	P		**Pn**	**22 13 33.4**	**+0.5**
	comp=Z,1.0nm,0.4s,baz=165,slow=12,SNR=2.7							
LPAZ				S		**S**	**22 14 49.6**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=123,slow=7.2,SNR=4.2							
AC05	**El Transito**	**7.19**	**210**	Pn		**Pn**	**22 13 40.1**	**-0.4**
SIV	**San Ignacio**	**8.19**	**37**	P		**Pn**	**22 13 52.5**	**-0.7**
	comp=Z,8.3nm,0.6s,baz=217,slow=12,SNR=33							
CO03	**El Pedregal**	**9.11**	**205**	Pn		**Pn**	**22 14 04.1**	**-0.7**
MT02	**Curacav**	**11.46**	**201**	Pn		**Pn**	**22 14 34.3**	**+0.1**
MT09	**Talagante**	**11.89**	**200**	Pn		**Pn**	**22 14 39.6**	**0.0**
BO04	**La Punta**	**11.97**	**198**			**Pn**	**22 14 41.2**	**+0.7**
MT01	**Popeta**	**12.05**	**200**	Pn		**Pn**	**22 14 41.5**	**0.0**
BO01	**Tunca**	**12.49**	**199**	Pn		**Pn**	**22 14 45.2**	**-1.7**
BO02	**Sierra Bellavi**	**12.78**	**197**			**Pn**	**22 14 50.7**	**+0.1**
GO05	**Huala**	**13.32**	**201**			**P**	**22 14 58.2**	**-0.4**
ITAB	**Concordia**	**13.60**	**113**			**Pn**	**22 15 00.6**	**0.0**
PLTB	**Pedras Altas**	**14.46**	**132**			**P**	**22 15 11.3**	**+0.2**
GO06	**Curarrehue**	**17.50**	**194**	P		**P**	**22 15 44.4**	**-0.1**
LR05	**Currie**	**18.24**	**194**	P		**P**	**22 15 53.2**	**+0.9**
PLCA	**Paso Flores**	**18.43**	**190**	P		**P**	**22 15 53.1**	**-1.5**
PLCA				IAmb		IAmb	22 16 01.4	
	comp=Z,7.5nm,1.4s							
PLCA	**Paso Flores**	**18.43**	**190**	P		**P**	**22 15 55.1**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=0.1,slow=12,SNR=1.9							
BDFB	**Brasilia**	**18.55**	**71**	P		**P**	**22 15 55.9**	**-0.3**
BDFB				IAmb		IAmb	22 15 58.1	
	comp=Z,8.2nm,1.0s							
BDFB	**Brasilia**	**18.55**	**71**	P		**P**	**22 15 55.8**	**-0.3**
	comp=Z,4.7nm,0.7s,baz=242,slow=13,SNR=8.1							
BOAV	**Boa Vista**	**25.47**	**13**	P		**P**	**22 17 02.3**	**-0.6**
BOAV				IAmb		IAmb	22 17 17.4	
	comp=Z,11nm,1.5s							
SNAA	**Sanae**	**60.43**	**161**	P		**P**	**22 21 41.1**	**+0.8**
DBIC	**Dimbokro**	**66.69**	**72**	P		**P**	**22 22 21.1**	**-0.9**
DBIC				IAmb		IAmb	22 22 26.3	
	comp=Z,14nm,1.4s							
TOA0	**Torodi Ar. Sit**	**75.41**	**69**	P		**P**	**22 23 13.3**	**-0.8**
TOA0				IAmb		IAmb	22 23 48.2	
	comp=Z,5.5nm,1.4s							
TORD	**Torodi Ar. Bea**	**75.41**	**69**	P		**P**	**22 23 13.3**	**-0.9**
TORD	**Torodi Ar. Bea**	**75.41**	**69**	P		**P**	**22 23 13.3**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=259,slow=5.7,SNR=32							
	comp=Z,1.4nm,0.5s							
YKA	**Yellowknife Ar**	**93.07**	**340**	P		**P**	**22 24 43.6**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=121,slow=4.4,SNR=2.8							
	comp=Z,0.2nm,0.6s							
MKAR	**Makanchi Array**	**145.00**	**39**	PKP		**PKPab**	**22 31 05.8**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=305,slow=3.7,SNR=14							

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*CATAC **25** 22:34:04.8±1.7, 12°.80N×90°.23W, h11km±9km, ML4.1*
*IDC **25** 22:34:05.6±2.3, 12°.99N×90°.14W, h0km, mb3.2/3, mbtmp3.3/5, ML2.9/2, MS1.4/1, Error ellipse: s-maj=57.4km s-min=26.5km az=48.0*
*SNET **25** 22:34:06.0±1.0, 12°.80N×90°.30W, h36km±4km, ML4.0*
*GCG **25** 22:34:23.3±0.4, 14°.37N×90°.60W, h59km±6km, MD3.9*

ISC 25 22:34:08.3±1.1, 13°.01N±0°.06×90°.11W±0°.05, h29km, n75, σ1s44/80, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LALI	**Alcalda de L**	**0.91**	**58**	*e*P		**Pb**	**22 34 25.5**	**0.0**
LALI	**Alcalda de L**	**0.91**	**58**	*i* P		**Pb**	**22 34 25.5**	**0.0**
LALI				IAML			22 34 43.4	
	comp=Z,340nm,1.0s							
JAYA	**Jayaque - finc**	**0.91**	**45**	*e*P		**Pb**	**22 34 26.2**	**+0.4**
JAYA				*e*S		**Sb**	**22 34 41.0**	**+3.4**
JAYA				IAML			22 34 45.9	
	comp=Z,2μm,0.2s							
JAYA	**Jayaque - finc**	**0.91**	**45**	*i* P		**Pb**	**22 34 26.1**	**+0.4**
JAYA				IAML			22 34 48.6	
	comp=Z,4μm,1.0s							
CEVE	**Cerro Verde**	**0.95**	**30**	*e*P		**Pb**	**22 34 26.8**	**+0.4**
CEVE				IAML			22 34 47.3	
	comp=Z,3μm,0.2s							
CEVE	**Cerro Verde**	**0.95**	**30**	*i* P		**Pb**	**22 34 26.9**	**+0.6**
CEVE				IAML			22 34 51.0	
	comp=Z,3μm,1.0s							
NUBE	**Las Nubes**	**0.95**	**20**	*e*P		**Pb**	**22 34 26.4**	**+0.1**
NUBE	**Las Nubes**	**0.95**	**20**	*i* P		**Pb**	**22 34 26.4**	**+0.1**
NUBE				IAML			22 34 44.0	
	comp=Z,1μm,1.0s							
SBLS	**San Blas**	**0.96**	**30**	*e*P		**Pb**	**22 34 26.8**	**+0.3**
SNJE	**San Jose**	**0.99**	**30**	*e*P		**Pb**	**22 34 27.2**	**+0.2**
RTR	**El Retiro**	**1.00**	**27**	*e*P		**Pb**	**22 34 27.7**	**+0.5**
LOAL	**Lomas de Alarc**	**1.04**	**18**	*i* P		**Pb**	**22 34 27.9**	**+0.1**
LOAL				IAML			22 34 46.6	
	comp=Z,5μm,1.0s							
PMON	**Piamonte**	**1.05**	**48**	*i* P		**Pb**	**22 34 28.0**	**0.0**
PMON				IAML			22 34 57.5	
	comp=Z,3μm,1.0s							
ITCA	**Escuela Especi**	**1.05**	**51**	*i* P		**Pb**	**22 34 28.1**	**+0.1**
ITCA				IAML			22 34 49.9	
	comp=Z,4μm,1.0s							
CEDA	**San Andres**	**1.06**	**41**	*e*P		**Pb**	**22 34 29.0**	**+1.0**
CEDA	**San Andres**	**1.06**	**41**	*i* P		**Pb**	**22 34 29.1**	**+1.0**
CEDA				IAML			22 34 51.1	
	comp=Z,4μm,1.0s							
SLOZ	**Alcaldia de Sa**	**1.06**	**17**	*e*P		**Pb**	**22 34 28.0**	**-0.2**
SLOZ				*e*S		**Sb**	**22 34 44.9**	**+3.1**
BOQS	**Boqueron**	**1.09**	**48**	*e*P		**Pb**	**22 34 28.7**	**0.0**
PANCS	**Alcalda de**	**1.09**	**56**	*i* P		**Pb**	**22 34 28.3**	**-0.3**
PANCS				IAML			22 34 46.7	
	comp=Z,4μm,1.0s							
SNET	**Serv Nac Est T**	**1.09**	**52**	*i* P		**Pb**	**22 34 28.6**	**-0.1**
SNET				IAML			22 34 49.2	
	comp=Z,4μm,1.0s							
UNIC	**Universidad Ca**	**1.11**	**29**	*i* P		**Pb**	**22 34 29.2**	**+0.1**
UNIC				IAML			22 34 32.7	
	comp=Z,450nm,1.0s							
LOMA	**Loma Larga**	**1.12**	**55**	*e*P		**Pb**	**22 34 28.8**	**-0.3**
LOMA	**Loma Larga**	**1.12**	**55**	*i* P		**Pb**	**22 34 28.8**	**-0.3**
LOMA				IAML			22 34 30.8	
	comp=Z,2μm,1.0s							
IGN	**Direccin Gen**	**1.16**	**52**	*i* P		**Pn**	**22 34 27.9**	**-0.7**
IGN				IAML			22 35 01.2	
	comp=Z,5μm,1.0s							
QUEZ	**Alcaldia de Qu**	**1.16**	**45**	*i* P		**Pb**	**22 34 30.2**	**+0.4**
QUEZ				IAML			22 34 53.1	
	comp=Z,6μm,1.0s							
UDBS	**Universidad Do**	**1.17**	**53**	*i* P		**Pb**	**22 34 29.8**	**-0.2**
UDBS				IAML			22 34 49.9	
	comp=Z,2μm,1.0s							
SJTE	**Alcalda de S**	**1.23**	**61**	*e*P		**Pb**	**22 34 30.4**	**-0.7**
SJTE	**Alcalda de S**	**1.23**	**61**	*i* P		**Pb**	**22 34 30.4**	**-0.7**
SJTE				IAML			22 34 56.1	
	comp=Z,1μm,1.0s							
PAVA	**Las Pavas**	**1.34**	**58**	*e*P		**Pb**	**22 34 32.7**	**-0.2**
PAVA	**Las Pavas**	**1.34**	**58**	*i* P		**Pb**	**22 34 32.8**	**-0.2**
PAVA				IAML			22 34 33.4	
	comp=Z,3μm,1.0s							
COEG	**Centro de Oper**	**1.35**	**63**	⇑*e*P		**Pb**	**22 34 32.0**	**-1.0**
COEG				IAML			22 34 33.3	
	comp=Z,3μm,0.3s							
COEG	**Centro de Oper**	**1.35**	**63**	*i* P		**Pb**	**22 34 32.0**	**-1.0**
COEG				IAML			22 34 33.0	
	comp=Z,3μm,1.0s							
TECO	**Alcaldia de Te**	**1.40**	**68**	*e*P		**Pb**	**22 34 32.4**	**-1.5**
TECO	**Alcaldia de Te**	**1.40**	**68**	*i* P		**Pb**	**22 34 32.5**	**-1.4**
TECO				IAML			22 34 34.0	
	comp=Z,710nm,1.0s							
UESV	**Universidad de**	**1.44**	**64**	*i* P		**Pb**	**22 34 33.2**	**-1.3**
UESV				IAML			22 34 33.6	
	comp=Z,1μm,1.0s							
PCG	**Pacaya**	**1.46**	**341**	*e*P		**Pn**	**22 34 33.0**	**0.0**
SCLA	**Alcaldia de Sa**	**1.52**	**63**	*e*P		**Pb**	**22 34 34.7**	**-1.1**
SCLA	**Alcaldia de Sa**	**1.52**	**63**	*i* P		**Pb**	**22 34 34.9**	**-0.9**
SCLA				IAML			22 35 15.0	
	comp=Z,350nm,1.0s							
NBG	**Las Nubes**	**1.59**	**352**	*e*P		**Pb**	**22 34 36.5**	**-0.8**
GUNB	**GUNB**	**1.60**	**352**	*i* P		**Pn**	**22 34 34.6**	**-0.3**
GUNB				IAML			22 35 02.6	
	comp=Z,690nm,1.0s							
FUG	**Fuego 3**	**1.60**	**334**	*e*P		**Pn**	**22 34 33.7**	**-1.1**
LLGN	**La Laguna**	**1.62**	**45**	*i* P		**Pb**	**22 34 36.8**	**-0.8**
LLGN				IAML			22 35 05.6	
	comp=Z,430nm,1.0s							
PQSS	**Presa 15 de Se**	**1.63**	**68**	*e*P		**Pb**	**22 34 35.9**	**-1.9**
PQSS	**Presa 15 de Se**	**1.63**	**68**	*i* P		**Pb**	**22 34 36.0**	**-1.8**
PQSS				IAML			22 34 37.4	
	comp=Z,940nm,1.0s							
TECA	**Tecapa**	**1.64**	**73**	*e*P		**Pb**	**22 34 35.8**	**-2.2**
ESQI	**Esquipulas**	**1.72**	**26**	*i* P		**Pb**	**22 34 38.5**	**-0.8**
ESQI				IAML			22 35 06.8	
	comp=Z,830nm,1.0s							
PACA	**Pacayal**	**1.80**	**75**	*e*P		**Pb**	**22 34 38.9**	**-1.9**
PACA	**Pacayal**	**1.80**	**75**	*i* P		**Pb**	**22 34 38.7**	**-2.1**
PACA				IAML			22 35 11.1	
	comp=Z,6μm,1.0s							
LCY	**Lacayo**	**1.82**	**77**	*e*P		**Pb**	**22 34 38.6**	**-2.5**
RANC	**El Ranchito**	**1.83**	**76**	*i* P		**Pb**	**22 34 38.7**	**-2.5**
RANC				IAML			22 34 39.8	
	comp=Z,720nm,1.0s							
BLLM	**Bellamira**	**1.88**	**76**	*e*P		**Pb**	**22 34 39.5**	**-2.5**
APG	**El Apazote**	**2.02**	**350**	Pn		**Pn**	**22 34 41.5**	**+0.9**
	comp=Z,1.2nm,0.3s,baz=156,slow=9.4,SNR=53							
APG				Sn		**Sb**	**22 35 08.0**	**-1.2**
	comp=Z,1.5nm,0.3s,baz=204,slow=14,SNR=4.7							
APG				LR		LR	22 35 19.7	
	comp=Z,8.4nm,20.8s,baz=198,slow=37							
	comp=Z,4.1nm,0.2s							
MRL	**Marmol**	**2.10**	**11**	*e*P		**Pb**	**22 34 44.0**	**-2.0**
MRL				*e*S		**Sn**	**22 34 60.0**	**-7.2**
STG3	**Santiaguito 3,**	**2.21**	**320**	*e*P		**Pn**	**22 34 42.0**	**-1.2**
CNCH	**Conchagua**	**2.24**	**83**	*e*P		**Pn**	**22 34 43.7**	**+0.2**
CNCH	**Conchagua**	**2.24**	**83**	*i* P		**Pn**	**22 34 43.5**	**-0.1**
CNCH				IAML			22 35 17.6	
	comp=Z,930nm,1.0s							
QUIS	**Sacapulas**	**2.46**	**337**	*i* P		**Pn**	**22 34 47.3**	**+0.6**
QUIS				IAML			22 34 50.7	
	comp=Z,430nm,1.0s							
CRIN	**San Cristobal**	**3.00**	**95**	*i* P		**Pn**	**22 34 54.0**	**-0.1**
CRIN				IAML			22 34 54.5	
	comp=Z,990nm,1.0s							
PKGN	**Cerro Pekin**	**3.08**	**96**	*i* P		**Pn**	**22 34 54.5**	**-0.5**
PKGN				IAML			22 35 34.3	
	comp=Z,1μm,1.0s							
HERN	**Volcan Telica**	**3.23**	**97**	*i* P		**Pn**	**22 34 56.3**	**-0.8**
HERN				IAML			22 34 57.0	
	comp=Z,1μm,1.0s							
PLRN	**Geotermica Pol**	**3.29**	**97**	*i* P		**Pn**	**22 34 57.4**	**-0.5**
PLRN				IAML			22 36 13.4	
	comp=Z,930nm,1.0s							
CNGN	**Cerro Negro**	**3.37**	**98**	*i* P		**Pn**	**22 34 57.6**	**-1.5**
CNGN				IAML			22 35 48.1	
	comp=Z,270nm,1.0s							
MACN	**El Madrono**	**3.40**	**99**	*i* P		**Pn**	**22 34 59.2**	**-0.3**
MACN				IAML			22 35 01.0	
	comp=Z,160nm,1.0s							
MOMN	**Momotombo**	**3.54**	**99**	*i* P		**Pn**	**22 35 00.6**	**-0.8**
MOMN				IAML			22 35 02.5	
	comp=Z,13nm,1.0s							
MOM2	**El Cardon**	**3.58**	**99**	*i* P		**Pn**	**22 35 01.1**	**-0.9**
MOM2				IAML			22 35 03.4	
	comp=Z,230nm,1.0s							
LIMN	**Finca el Limon**	**3.65**	**89**	*i* P		**Pn**	**22 35 02.9**	**-0.1**
LIMN				IAML			22 35 03.2	
	comp=Z,260nm,1.0s							
RCPN	**Sur Rio San Ju**	**3.95**	**82**	*i* P		**Pn**	**22 35 06.4**	**-0.7**
RCPN				IAML			22 35 17.8	
	comp=Z,1.0nm,1.0s							
BOAB	**BOACO BROADBAN**	**4.37**	**97**	*i* P		**Pn**	**22 35 12.1**	**-0.7**
BOAB				IAML			22 35 12.5	
	comp=Z,75nm,1.0s							
HZTE	**Horizontes, Gu**	**4.97**	**117**	*i* P		**Pn**	**22 35 21.5**	**+0.4**
HZTE				IAML			22 35 22.3	
	comp=Z,540nm,1.0s							
ORTG	**Ortega, Santa**	**5.26**	**119**	*i* P		**Pn**	**22 35 25.4**	**+0.3**
JTS	**Las Juntas de**	**5.73**	**118**	Pn		**Pn**	**22 35 32.1**	**+0.6**
	comp=Z,13nm,0.3s,baz=299,slow=19,SNR=66							
JTS				Sn		**Sn**	**22 36 36.9**	**+0.5**
	baz=271,slow=22							
CMIG	**Matias

GC02	**Grant County #**	**0.09**	**162**	Pg	Pg	23 38 04.6	+0.4
GC02				Sg	Sg	23 38 06.0	+0.4
KAN17	**Caldwell West**	**0.15**	**44**	Pg	Pg	23 38 06.0	+0.6
KAN17				Sg	Sg	23 38 08.2	+0.8
KAN17				IAML		23 38 08.3	
	comp=N,2µm,0.2s						
KAN05	**Bluff City Nor**	**0.17**	**6**	Pg	Pg	23 38 06.4	+0.6
KAN05				Sg	Sg	23 38 09.2	+1.0
KAN05				IAML		23 38 09.2	
	comp=N,1µm,0.2s						
KAN01	**Argonia South**	**0.24**	**26**	Pg	Pg	23 38 07.6	+0.5
KAN01				Sg	Sg	23 38 11.1	+0.8
KAN01				IAML		23 38 11.3	
	comp=N,521nm,0.2s						
KAN10	**Anthony SW Sta**	**0.25**	**319**	Pg	Pg	23 38 07.9	+0.7
KAN10				Sg	Sg	23 38 11.5	+1.1
KAN10				IAML		23 38 11.6	
	comp=E,572nm,0.2s						
OK032	**Salt Plains WL**	**0.29**	**243**	Pg	Pg	23 38 08.4	+0.5
OK032				Sg	Sg	23 38 12.5	+0.8
OK032				IAML		23 38 14.4	
	comp=E,438nm,0.2s						
OK032				IAML		23 38 14.5	
	comp=E,728nm,0.2s						
KAN08	**Anthony NE Sta**	**0.30**	**348**	Pg	Pg	23 38 08.8	+0.6
KAN08				Sg	Sg	23 38 13.1	+1.0
KAN08				IAML		23 38 14.8	
	comp=N,419nm,0.4s						
KAN09	**Caldwell North**	**0.30**	**48**		Pg	23 38 08.7	+0.5
KAN09				Sg	Sg	23 38 12.7	+0.6
KAN09				IAML		23 38 14.7	
	comp=N,883nm,0.3s						
KAN09				IAML		23 38 14.9	
	comp=E,658nm,0.2s						
KAN06	**Argonia West S**	**0.31**	**5**	Pg	Pg	23 38 08.9	+0.5
KAN06				IAML	Sg	23 38 13.6	+1.0
	comp=N,420nm,0.2s						
KAN06				Sg	Sg	23 38 13.6	+1.0
KAN13	**South Haven SW**	**0.34**	**77**	Pg	Pg	23 38 09.6	+0.5
KAN13				Sg	Sg	23 38 14.0	+0.5
KAN13				IAML		23 38 14.2	
	comp=E,433nm,0.2s						
KAN13				IAML		23 38 18.2	
	comp=N,361nm,0.2s						
KAN12	**Harper NE Stat**	**0.37**	**347**	Pg	Pg	23 38 10.1	+0.5
KAN12				Sg	Sg	23 38 15.4	+1.0
KAN12				IAML		23 38 22.7	
	comp=E,663nm,0.4s						
KS21	**Milan North St**	**0.40**	**28**	IAML		23 38 17.4	
	comp=E,347nm,0.1s						
KS21	**Milan North St**	**0.40**	**28**	Pg	Pg	23 38 10.5	+0.4
KS21				Sg	Sg	23 38 16.1	+0.9
CROK	**Carrier**	**0.44**	**189**	Pg	Pg	23 38 11.2	+0.4
CROK				Sg	Sg	23 38 17.2	+0.7
CROK				IAML		23 38 21.8	
	comp=N,414nm,0.3s						
CROK				IAML		23 38 22.0	
	comp=E,346nm,0.3s						
OK038	**West end E0370**	**0.82**	**236**	Pg	Pg	23 38 18.2	+0.1
OK038				Sg	Sg	23 38 29.4	+0.6
OK048	**Pawnee Station**	**0.92**	**124**	Pg	Pg	23 38 19.9	-0.2
U32A	**Winter Ranch,**	**1.05**	**238**	Pg	Pg	23 38 22.2	-0.3
U32A				IAML		23 38 42.8	
	comp=N,94nm,0.2s						
T35A	**Sooner Cattle**	**1.11**	**91**		Pg	23 38 23.5	-0.1
T35A				IAML		23 38 43.3	
	comp=E,65nm,0.2s						
T35A				IAML		23 38 45.3	
	comp=N,84nm,0.3s						
OK033	**Mehan**	**1.18**	**139**		Pg	23 38 24.8	-0.2
QUOK	**Quay**	**1.22**	**128**		Pg	23 38 25.5	-0.3
OK052	**Battle Ridge R**	**1.29**	**137**		Pg	23 38 26.6	-0.5
CSTR	**Hydro, Custer**	**1.44**	**207**		Pn	23 38 29.1	-0.1
DEOK	**Depew**	**1.57**	**134**		Pn	23 38 30.9	0.0
OKCSW	**OKLAHOMA CITY**	**1.57**	**166**		Pn	23 38 31.4	+0.4
R32A	**Long Quarter,**	**1.62**	**337**		Pb	23 38 32.5	-0.4
FNO	**Franklin**	**1.72**	**166**		Pn	23 38 33.6	+0.5
W35A	**Tecumseh**	**1.96**	**155**		Pn	23 38 36.7	+0.3
TUL3	**Leonard**	**1.98**	**121**	Pn	Pn	23 38 37.3	+0.6
TUL3				IAmb_Lg		23 39 06.0	
	comp=Z,15nm,0.9s						
WMOK	**Wichita Mounta**	**2.31**	**198**	Pn	Pn	23 38 41.9	+0.7
CBKS	**Cedar Bluff**	**2.38**	**323**	Pn	Pn	23 38 42.3	+0.1
CBKS				IAmb_Lg		23 39 23.8	
	comp=Z,6.7nm,0.7s						
KSU1	**Kansas State U**	**2.39**	**25**	Pn	Pn	23 38 42.6	+0.4
RLO	**Rose Lookout**	**2.44**	**108**	Pg	Pg	23 38 48.5	-0.6
SMWD	**Samnorwood**	**2.64**	**227**		Pn	23 38 45.3	-0.5
U38A	**Gravette**	**2.86**	**99**	Pn	Pn	23 38 49.4	+0.6
LOOK	**Love County**	**3.00**	**169**	Pn	Pn	23 38 51.3	+0.7
X37A	**Clayton**	**3.11**	**138**	Pn	Pn	23 38 53.4	+1.1
HHAR	**Hobbs**	**3.25**	**100**	Pn	Pn	23 38 54.5	+0.4
AMTX	**Amarillo**	**3.69**	**237**	Pn	Pn	23 39 00.9	+0.6
S39A	**Bolivar**	**3.72**	**77**	Pn	Pn	23 39 01.7	+1.1
FW03	**Perrin-Whitt E**	**3.89**	**182**	Pn	Pn	23 39 03.7	+0.8
RTBA	**Rita Blanca**	**3.92**	**264**	Pn	Pn	23 39 03.8	+0.2
RSSD	**Black Hills**	**8.56**	**329**	IAmb_Lg		23 42 49.2	
	comp=Z,9.4nm,0.7s						
K22A	**Casper**	**8.75**	**313**	IAmb_Lg		23 42 53.9	
	comp=Z,15nm,0.8s						

*HEL **25** 23:38:13.9±0.3, 67°17N×20°58E, h0km, ML1.7, Suspected explosion*
*UPP **25** 23:38:14.4±0.0, 67°20N×20°68E, h0km, ML2.3, Suspected explosion*
*IDC **25** 23:38:15.3±0.8, 67°15N×20°93E, h0km, mbtmp3.1/5, ML2.2/5, Error ellipse: s-maj=14.4km s-min=7.1km az=111.0*

ISC 25 23:38:14.2±0.7, **67°22N**±0°02×**20°65E**±0°03, **h0km, n43,** σ1§**36/68, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.10**	**197**	P	**Pg**	**23 38 16.3**	**+0.2**
DUNU				S	**Sg**	**23 38 17.6**	**+0.2**
MASU	**Masugnsbyn**	**0.57**	**65**	P	**Pg**	**23 38 25.5**	**+0.3**
RATU	**Laukkuluspa**	**0.73**	**327**	P	**Pg**	**23 38 28.6**	**+0.5**
KUA	**Kurravaara**	**0.75**	**351**	P	**Pg**	**23 38 28.8**	**+0.3**
SALU	**Saltoluokta**	**0.85**	**282**	P	**Pg**	**23 38 30.7**	**+0.3**
LANU	**Lannavaara**	**0.98**	**31**	P	**Pg**	**23 38 32.8**	**-0.2**
LANU	**Lannavaara**	**0.98**	**31**	PG	**Pg**	**23 38 32.6**	**-0.4**
LANU				SB	**Sb**	**23 38 47.1**	**-0.4**
PAJU	**Pajala**	**0.98**	**100**	P	**Pg**	**23 38 32.2**	**-0.9**
PAJU	**Pajala**	**0.98**	**100**	PG	**Pg**	**23 38 32.1**	**-0.9**
	baz=282						
PAJU				SB	**Sg**	**23 38 45.8**	**+0.1**
KOVU	**Salmi**	**1.02**	**350**	P	**Pg**	**23 38 33.9**	**+0.1**
HARU	**Harads**	**1.07**	**173**	P	**Pg**	**23 38 33.4**	**-1.3**
KLF	**Kolari**	**1.29**	**88**	PG	**Pg**	**23 38 37.4**	**-1.5**
	baz=273						
KLF				MSG		23 38 53.8	
	comp=Z,3.5nm,0.2s						
KLF				SB	**Sg**	**23 38 55.4**	**-0.3**
HEF	**Hetta**	**1.65**	**42**	*e*P	**Pn**	**23 38 44.5**	**0.0**
HEF	**Hetta**	**1.65**	**42**	PG	**Pn**	**23 38 44.2**	**-0.3**
HEF				MSG		23 39 05.0	
	comp=Z,5.3nm,0.2s						
HEF				SN	**Sn**	**23 39 06.3**	**-0.1**
KALU	**Kalix**	**1.75**	**140**	P	**Pn**	**23 38 45.3**	**-0.4**
KALU	**Kalix**	**1.75**	**140**	PG	**Pn**	**23 38 45.2**	**-0.4**
	baz=323						
KALU				SN	**Sn**	**23 39 09.0**	**+0.5**
SJUU	**Sjulsmark**	**1.76**	**167**	P	**Pn**	**23 38 45.7**	**-0.2**
KIF	**Kilpisjarvi**	**1.79**	**2**	*e*P	**Pb**	**23 38 48.0**	**+0.2**
KIF	**Kilpisjarvi**	**1.79**	**2**	PG	**Pb**	**23 38 47.7**	**-0.2**
KIF				MSG		23 39 09.9	
	comp=Z,9.6nm,0.2s						
KIF				SN	**Sg**	**23 39 13.8**	**+2.0**
TOF	**Tornio**	**1.86**	**126**	PG	**Pn**	**23 38 47.3**	**+0.1**
	baz=303						
TOF				MSG		23 39 09.1	
	comp=Z,5.9nm,0.2s						
TOF				SG	**Sb**	**23 39 12.4**	**-0.3**
KTK1	**Kautokeino**	**2.04**	**27**	PG	**Pb**	**23 38 51.6**	**-0.6**
KTK1				SG	**Sg**	**23 39 19.3**	**-0.6**
RNF	**Rovaniemi**	**2.20**	**104**	PG	**Pn**	**23 38 52.8**	**+0.9**
RNF				SG	**Sb**	**23 39 22.7**	**+0.1**
SGF	**Sodankyl**	**2.29**	**82**	PG	**Pn**	**23 38 54.3**	**+1.2**
SGF				SG	**Sb**	**23 39 24.9**	**-0.2**
TRO	**Tromso**	**2.51**	**346**	PG	**Pb**	**23 38 59.7**	**-0.3**
TRO				SG	**Sg**	**23 39 34.1**	**-0.5**
RANF	**Ranua**	**2.73**	**113**	PB	**Pn**	**23 39 00.1**	**+0.8**
	baz=299						
RANF				SG	**Sb**	**23 39 38.0**	**+0.1**
ARA0	**ARCESS Array S**	**2.94**	**36**	PN	**Pn**	**23 39 03.2**	**+1.1**
ARA0				SB	**Sb**	**23 39 41.6**	**-2.3**
ARCES	**ARCESS Array B**	**2.94**	**36**	Pn	**Pn**	**23 39 03.2**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=213,slow=13,SNR=36						
ARCES				Sn	**Sn**	**23 39 39.7**	**+1.6**
	comp=Z,1.2nm,0.3s,baz=214,slow=24,SNR=17						
	comp=Z,1.1nm,0.3s						
OUL	**Oulu**	**3.02**	**133**	SG	**Sb**	**23 39 47.8**	**+1.6**
KMNF	**Kaamanen**	**3.06**	**48**	PN	**Pn**	**23 39 04.4**	**+0.6**
KMNF				SN	**Sn**	**23 39 41.8**	**+0.8**
RAJF	**Raja-Jooseppi**	**3.17**	**63**	PG	**Pb**	**23 39 11.5**	**+0.2**
RAJF				SG	**Sb**	**23 39 52.0**	**+1.7**
OUF	**Merijarvi**	**3.32**	**148**	SG	**Sb**	**23 39 57.4**	**+2.6**
KEV	**Kevo**	**3.46**	**40**	PN	**Pn**	**23 39 10.1**	**+0.9**
KEV				SN	**Sn**	**23 39 52.6**	**+1.7**
VRF	**Varrio**	**3.49**	**77**	PN	**Pn**	**23 39 10.3**	**+0.6**
VRF				SG	**Sb**	**23 40 01.2**	**+1.6**
OLKF	**Oulanka, Finla**	**3.58**	**101**	PN	**Pn**	**23 39 12.1**	**+1.1**
OLKF				SG	**Sb**	**23 40 03.7**	**+1.3**
MSF	**Maaselka**	**3.60**	**108**	PG	**Pb**	**23 39 20.0**	**+1.3**
MSF				SG	**Sb**	**23 40 04.6**	**+1.8**
KU6	**Riekki**	**3.88**	**104**	PN	**Pn**	**23 39 15.8**	**+0.8**
HUSU	**Husum**	**3.94**	**189**	PN	**Pn**	**23 39 16.6**	**+0.8**
VAF	**Ylistaro**	**4.28**	**168**	PN	**Pn**	**23 39 21.7**	**+1.2**
	baz=349						
VAF				SG	**Sb**	**23 40 26.7**	**+4.3**
HEMU	**Hemsoen**	**4.70**	**195**	SN	**Sn**	**23 40 20.6**	**-0.7**
FINES	**FINESS Array B**	**6.26**	**155**	Pn	**Pn**	**23 39 48.1**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=342,slow=13,SNR=8.1						
FINES				Sn	**Sn**	**23 40 57.0**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=346,slow=21,SNR=2.1						
FINES				Lg	Lg	23 41 27.9	
	comp=Z,0.6nm,0.3s,baz=342,slow=26,SNR=8.7						
	comp=Z,0.5nm,0.4s						
NOA	**NORSAR Array B**	**7.44**	**218**	Pn	**Pn**	**23 40 04.2**	**+0.3**
	baz=27,slow=11,SNR=1.0						
NOA				Sn	**Sn**	**23 41 23.8**	**-5.2**
	baz=0.2,slow=16,SNR=1.6						
NOA				Lg	Lg	23 42 09.1	
	baz=134,slow=24,SNR=5.7						
	comp=Z,0.4nm,0.9s						
HFS	**Hagfors**	**7.75**	**207**	Pn	**Pn**	**23 40 07.3**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=27,slow=14,SNR=4.9						
HFS				Sn	**Sn**	**23 41 33.3**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=25,slow=21,SNR=5.6						
	comp=Z,2.2nm,0.9s						
SPITS	**Spitsbergen Ar**	**11.09**	**355**	Pn	**Pn**	**23 40 53.7**	**0.0**
	baz=166,slow=13						
	comp=Z,4.3nm,1.0s						

*NNC **25** 23:40:11.9±7.6, 36°57N×70°10E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=61.0km s-min=44.9km az=175.0*
*IDC **25** 23:40:12.5±5.7, 36°23N×70°10E, h108km±51km, mb3.7/2, mbtmp3.9/7, MS3.3/1, Error ellipse: s-maj=64.6km s-min=20.6km az=156.0*

ISC 25 23:40:12.2±1.6, **36°2N**±0°1×**70°14E**±0°08, **h100km, n12,** σ1§**14/17, 4C-3D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.87**	**2**	⇓P	**Pn**	**23 41 51.6**	**+1.3**
	3.6nm,0.3s,baz=170,slow=12,SNR=52						
KK31				⇑S	**Sn**	**23 43 07.8**	**+1.0**
	7.2nm,0.5s,baz=195,slow=24,SNR=6.1						
AAK	**Ala-Archa**	**7.23**	**26**	P	**Pn**	**23 41 56.4**	**+1.1**
	7.0nm,0.5s,baz=190,slow=12,SNR=16						
AAK				S	**Sn**	**23 43 15.5**	**-0.3**
	9.7nm,0.6s,baz=44,slow=16,SNR=3.8						
TKM2	**Tokmak 2**	**7.89**	**31**	⇑P	**Pn**	**23 42 04.9**	**+0.5**
	2.7nm,0.4s						
TKM2				⇓S	**Sn**	**23 43 30.1**	**-2.0**
	9.4nm,1.2s						
GEYT	**Alibeck**	**9.75**	**284**	P	**Pn**	**23 42 29.5**	**-0.1**
	0.9nm,0.3s,baz=124,slow=10,SNR=10						
GEYT				S	**Sn**	**23 44 16.1**	**-1.1**
	0.7nm,0.3s,baz=208,slow=42,SNR=3.0						
MKAR	**Makanchi Array**	**13.92**	**37**	P	**Pn**	**23 43 25.4**	**+0.4**
	3.1nm,0.9s,baz=230,slow=16,SNR=8.6						
AB31	**Akbulak array**	**14.99**	**333**	P	**Pn**	**23 43 39.6**	**+0.9**
	1.4nm,0.4s,baz=160,slow=12,SNR=56						
AB31				⇑S	**Sn**	**23 46 21.6**	**-2.5**
	0.6nm,0.5s,baz=157,slow=24,SNR=4.9						
KURBB	**Kurchatov Arra**	**15.60**	**20**	P	**P**	**23 43 48.2**	**-0.3**
	1.5nm,0.8s,baz=209,slow=10,SNR=13						
AKTO	**Aktyubinsk**	**16.68**	**332**	⇓P	**P**	**23 44 01.0**	**+0.7**
	1.2nm,0.8s						
AKTO				⇑S	**Sn**	**23 47 04.8**	**+0.2**
	2.1nm,1.4s						
BVAR	**Borovoye Array**	**16.79**	**1**	P	**P**	**23 44 02.0**	**+0.4**
	1.0nm,0.5s,baz=168,slow=11,SNR=10						
ZALV	**Zalesovo Beam**	**20.45**	**25**	P	**P**	**23 44 41.6**	**+0.1**
	15nm,0.4s,baz=221,slow=11,SNR=83						
	15nm,0.4s						
SONM	**Songino Array**	**29.06**	**55**	P	**P**	**23 46 02.1**	**-0.9**
	0.3nm,0.5s,baz=273,slow=9.6,SNR=4.0						
	0.3nm,0.5s						
PALK	**Pallekele**	**30.40**	**159**	LR	LR	00 00 03.1	
	comp=Z,51nm,18.4s,baz=287,slow=39						

*IDC **25** 23:42:21.8±4.3, 14°23S×167°19E, h255km±38km, mb3.6/10, mbtmp4.2/11, Error ellipse: s-maj=25.8km s-min=20.8km az=55.0*
*NEIC **25** 23:42:22.7±2.2, 14°3S±0°1×167°2E±0°2, h255km±9km, mb4.3/23, Error ellipse: s-maj=21.8km s-min=18.6km az=116.0*

ISC 25 23:42:21.4±0.7, **14°2S**±0°1×**167°2E**±0°1, **h250km, n39,** σ0§**86/39, mb4.2/17, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.84**	**185**	Pn	**Pn**	**23 44 13.0**	**+0.2**
DZM	**Mont Dzumac**	**7.84**	**185**	P	**Pn**	**23 44 13.3**	**+0.5**
	2.4nm,0.4s,baz=262,slow=20,SNR=1.6						
MSVF	**Nonsavu**	**11.02**	**110**	P	**P**	**23 44 56.5**	**-0.7**
EIDS	**Eidsvold**	**18.76**	**231**	P	**P**	**23 46 23.1**	**+0.8**
EIDS				IAmb	IAmb	23 46 37.1	
	comp=Z,13nm,1.3s						
CTA	**Charters Tower**	**20.83**	**251**	P	**P**	**23 46 45.2**	**+0.9**
	comp=Z,6.6nm,0.8s,baz=90,slow=11,SNR=2.4						
	comp=Z,6.6nm,0.8s						
CTAO	**Charters Tower**	**20.83**	**251**	P	**P**	**23 46 45.0**	**+0.6**
ARMA	**Armidale**	**21.57**	**219**		**P**	**23 46 52.3**	**+0.7**
ARMA				IAmb	IAmb	23 47 09.7	
	comp=Z,24nm,1.2s						
COEN	**Coen**	**23.29**	**268**	P	**P**	**23 47 07.5**	**+0.2**
COEN				IAmb	IAmb	23 47 33.0	
	comp=Z,30nm,1.5s						
STKA	**Stephens Creek**	**29.27**	**229**	P	**P**	**23 48 01.2**	**+0.6**
STKA				IAmb	IAmb	23 48 01.8	
	comp=Z,2.2nm,1.1s						
STKA	**Stephens Creek**	**29.27**	**229**	P	**P**	**23 48 01.2**	**+0.6**
	comp=Z,3.5nm,0.5s,baz=55,slow=9.1,SNR=9.9						
	comp=Z,3.5nm,0.5s						
WR0	**Warramunga Arr**	**31.69**	**255**	P	**P**	**23 48 21.0**	**-1.0**
WR0				IAmb	IAmb	23 49 04.9	
	comp=Z,11nm,1.4s						
WB0	**Warramunga Arr**	**31.81**	**255**	P	**P**	**23 48 22.2**	**-0.9**
WB0				IAmb	IAmb	23 48 22.8	
	comp=Z,7.6nm,0.5s						
WB2	**Warramunga Arr**	**31.86**	**255**	P	**P**	**23 48 22.8**	**-0.8**
WB2				IAmb	IAmb	23 48 38.3	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**31.87**	**255**	P	**P**	**23 48 21.9**	**-1.8**
WRA	**Warramunga Arr**	**31.87**	**255**	P	**P**	**23 48 22.8**	**-0.9**
	comp=Z,2.7nm,0.5s,baz=86,slow=9.4,SNR=34						
	comp=Z,2.7nm,0.5s						
AS31	**Alice Springs**	**32.78**	**248**	P	**P**	**23 48 30.5**	**-1.0**
AS31				IAmb	IAmb	23 48 31.8	
	comp=Z,2.0nm,0.3s						
ASAR	**Alice Springs**	**32.78**	**248**	P	**P**	**23 48 31.0**	**-0.6**
ASAR	**Alice Springs**	**32.78**	**248**	P	**P**	**23 48 30.6**	**-1.0**
	comp=Z,2.4nm,0.4s,baz=77,slow=9.3,SNR=41						
	comp=Z,2.4nm,0.4s						
BBOO	**Buckleboo**	**33.83**	**231**	P	**P**	**23 48 40.6**	**+0.2**
FORT	**Forrest**	**39.49**	**239**	P	**P**	**23 49 28.1**	**0.0**
FORT				IAmb	IAmb	23 49 50.6	
	comp=Z,31nm,1.1s						
FITZ	**Fitzroy Crossi**	**40.03**	**259**	P	**P**	**23 49 33.2**	**+0.5**
PSA00	**Pilbara Seismi**	**45.50**	**254**	P	**P**	**23 50 14.3**	**-2.2**
MORW	**Morawa**	**49.42**	**244**	P	**P**	**23 50 46.3**	**-0.1**
MORW				IAmb	IAmb	23 51 11.6	
	comp=Z,22nm,1.3s						
VNDA	**Vanda**	**63.37**	**181**	P	**P**	**23 52 23.5**	**-0.3**
VNDA				IAmb	IAmb	23 52 25.6	
	comp=Z,2.8nm,1.3s						
VNDA	**Vanda**	**63.37**	**181**	P	**P**	**23 52 23.4**	**-0.3**
	comp=Z,1.1nm,1.0s,baz=344,slow=7.2,SNR=6.3						
	comp=Z,1.1nm,1.0s						
SBA	**Scott Base**	**63.64**	**180**	P	**P**	**23 52 26.7**	**+1.2**
QSPA	**South Pole Qui**	**75.81**	**180**	P	**P**	**23 53 39.6**	**-0.2**
QSPA				IAmb	IAmb	23 53 60.0	
	comp=Z,4.4nm,1.4s						
QSPA	**South Pole Qui**	**75.81**	**180**	P	**P**	**23 53 39.5**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=294,slow=0.9,SNR=9.9						
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**82.04**	**324**	P	**P**	**23 54 14.7**	**+0.9**
SONM	**Songino Array**	**82.04**	**324**	P	**P**	**23 54 14.5**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=131,slow=5.3,SNR=6.1						
	comp=Z,0.5nm,0.4s						
HMT	**Hamilton**	**83.83**	**22**	P	**P**	**23 54 23.9**	**+1.4**
BWN	**Browne**	**84.86**	**18**	P	**P**	**23 54 29.1**	**+1.4**
ILAR	**Eielson Array**	**86.07**	**18**	P	**P**	**23 54 32.1**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=250,slow=4.7,SNR=5.0						
	comp=Z,0.4nm,0.7s						
D22K	**Ayikyak River**	**87.64**	**14**	P	**P**	**23 54 41.0**	**-0.1**
B21K	**Ikpikpuk River**	**87.80**	**13**	P	**P**	**23 54 42.1**	**+0.4**
MKAR	**Makanchi Array**	**96.78**	**316**	P	**P**	**23 55 23.5**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=92,slow=6.0,SNR=10						
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**96.93**	**324**	P	**P**	**23 55 24.1**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=116,slow=3.4,SNR=4.4						
	comp=Z,0.7nm,0.6s						
ARCES	**ARCESS Array B**	**119.74**	**345**	PKP	**PKPdf**	**00 00 41.1**	**0.0**
	comp=Z,4.6nm,0.9s,baz=64,slow=1.8,SNR=13						
FINES	**FINESS Array B**	**125.22**	**338**	PKP	**PKPdf**	**00 00 51.8**	**0.0**
	comp=Z,1.2nm,0.8s,baz=116,slow=3.2,SNR=5.6						

IDC 26 00:05:34.5±1.6, **30°44N×101°31E, h0km, mb3.7/3, mbtmp3.7/4, MS3.2/2, Error ellipse: s-maj=83.1km s-min=24.1km az=62.0, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.12**	**191**	LR	LR	00 13 36.4	
	comp=Z,59nm,20.6s,baz=195,slow=40						
SONM	**Songino Array**	**17.80**	**11**	P	Pn	00 09 43.9	+0.1
	0.9nm,0.8s,baz=194,slow=12,SNR=5.4						
MKAR	**Makanchi Array**	**21.98**	**323**	P	P	00 10 30.0	-0.1
	0.8nm,0.8s,baz=131,slow=10,SNR=6.1						
	0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**26.35**	**338**	P	P	00 11 12.1	0.0
	1.0nm,0.5s,baz=141,slow=9.6,SNR=6.1						
	1.0nm,0.5s						
EIL	**Elat**	**56.65**	**287**	LR	LR	00 42 54.1	
	comp=Z,45nm,19.8s,baz=237,slow=40						
WRA	**Warramunga Arr**	**59.32**	**143**	P	P	00 15 38.4	0.0
	1.8nm,0.8s,baz=335,slow=7.9,SNR=9.6						
	1.8nm,0.8s						

*NEIC **26** 00:35:46.0±1.5, 18°99N±0°07×145°5E±0°2, h245km±13km, mb4.4/8, Error ellipse: s-maj=26.5km s-min=10.5km az=87.0*
*IDC **26** 00:35:49.4±6.7, 19°13N×145°80E, h294km±68km, mb3.1/6, mbtmp3.8/7, Error ellipse: s-maj=117.3km s-min=15.2km az=86.0*

ISC 26 00:35:42.0±0.9, **19°0N**±0°1×**145°5E**±0°2, **h214km, n16,** σ1§**37/16, mb3.5/7, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**15.00**	**341**	P	**Pn**	**00 39 03.5**	**0.0**
JOW	**Kunigami**	**17.72**	**299**	P	**Pn**	**00 39 36.1**	**+0.1**
JOW				IAmb	IAmb	00 40 00.3	
	comp=Z,32nm,1.2s						
JGF	**Kuroka**	**18.09**	**338**	P	**P**	**00 39 39.4**	**+1.6**
JGF				IAmb	IAmb	00 39 40.9	
	comp=Z,5.6nm,0.7s						
MJAR	**Matsushiro Arr**	**18.67**	**341**	P	**P**	**00 39 45.3**	**+1.2**
	comp=Z,5.5nm,0.5s,baz=162,slow=10.0,SNR=3.3						
JMM	**Marumori**	**19.29**	**349**	P	**P**	**00 39 52.1**	**+1.4**
JMM				IAmb	IAmb	00 39 58.9	
	comp=Z,34nm,1.4s						
KLR	**Kul'dur**	**32.18**	**343**	P	**P**	**00 41 49.7**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=151,slow=13,SNR=5.2						
	comp=Z,0.6nm,0.3s						
SOEI	**Soe**	**35.41**	**218**	P	**P**	**00 42 16.0**	**-2.0**
WB0	**Warramunga Arr**	**40.01**	**196**	P	**P**	**00 42 57.3**	**+1.1**
WB2	**Warramunga Arr**	**40.19**	**196**	P	**P**	**00 42 59.1**	**+1.4**
WB2				IAmb	IAmb	00 43 35.3	
	comp=Z,9.8nm,1.4s						
WRA	**Warramunga Arr**	**40.19**	**196**	P	**P**	**00 42 59.6**	**+1.9**
	comp=Z,0.5nm,0.4s,baz=19,slow=8.6,SNR=12						
	comp=Z,0.5nm,0.4s						
FITZ	**Fitzroy Crossi**	**41.69**	**209**	P	**P**	**00 43 10.8**	**+0.8**
SONM	**Songino Array**	**42.84**	**321**	P	**P**	**00 43 18.8**	**-0.4**

MADR	Mao Valverde	0.97	313	⇑	*e*Pg		Pn	00 42 57.1	-0.4
MADR				⇑	*e*Sg		Sn	00 43 12.7	+0.2
MADR					IAML			00 43 13.1	
	comp=N,377nm,0.5s								
MADR					IAML			00 43 16.0	
	comp=E,641nm,0.4s								
BRH1	Barahona	0.99	226	⇑	*e*Sg		Sn	00 43 14.3	+1.4
REDR	Restauracion	1.02	285	⇑	*e*Pg		Pn	00 43 00.4	+2.4
REDR				⇓	*e*Sg		Sn	00 43 19.1	+5.5
REDR					IAML			00 43 21.0	
	comp=E,278nm,0.1s								
REDR					IAML			00 43 21.6	
	comp=N,304nm,0.1s								
LOBA2	Hotel Casa Bon	1.08	221	⇓	*e*Sg		Sn	00 43 14.7	-0.1
LOBA2					IAML			00 43 15.2	
	comp=N,23nm,0.4s								
LOBA2					IAML			00 43 15.8	
	comp=E,31nm,0.3s								
PODR	Polo	1.15	230	⇓	*e*Pg		Pn	00 42 59.3	-0.5
PODR				⇑	*e*Sg		Sn	00 43 16.2	-0.3
PODR					IAML			00 43 18.5	
	comp=N,101nm,0.8s								
PODR					IAML			00 43 23.1	
	comp=N,73nm,1.7s								
PODR	Polo	1.15	230		*i* P		Pn	00 42 59.2	-0.5
PODR					*e*S		Sn	00 43 14.3	-2.2
SMDR	Samana, DR	1.16	71	⇑	*e*Pg		Pn	00 43 00.7	+1.1
SMDR				⇑	*e*Sg		Sn	00 43 15.4	-0.8
SMDR					IAML			00 43 21.2	
	comp=N,112nm,0.5s								
MIDR	Miches	1.23	86	⇑	*e*Pg		Pn	00 43 00.1	-0.3
MIDR				⇑	*e*Sg		Sn	00 43 17.6	-0.1
MIDR					IAML			00 43 18.6	
	comp=N,57nm,0.5s								
MIDR					IAML			00 43 19.5	
	comp=E,50nm,0.3s								
LODA1	ITESIL, Dajabo	1.43	297		*e*Sg		Sn	00 43 22.0	-0.1
LODA1					IAML			00 43 23.1	
	comp=E,927nm,4.0s								
LODA1	ITESIL, Dajabo	1.43	297		*e*S		Sn	00 43 20.8	-1.2
JIDR	Jimani	1.48	254	⇑	*e*Pg		Pn	00 43 03.1	-0.3
JIDR				⇑	*e*Sg		Sn	00 43 23.8	+0.6
JIDR					IAML			00 43 41.2	
	comp=N,38nm,0.9s								
MCDR	Montecristi	1.58	309	⇑	*e*Pg		Pn	00 43 03.5	-1.1
MCDR				⇑	*e*Sg		Sn	00 43 24.3	-1.0
	comp=E,126nm,0.2s								
MCDR					IAML			00 43 31.0	
	comp=N,156nm,1.0s								
MCDR					IAML			00 43 32.4	
	comp=E,126nm,0.2s								
MCDR					IAML			00 43 32.9	
	comp=N,132nm,0.1s								
LOPE2	Hotel El Peder	1.59	237		*e*Pg		Pn	00 43 05.4	+0.7
LOPE2				⇑	*e*Sg		Sn	00 43 25.1	-0.4
LOPE2					IAML			00 43 28.0	
	comp=N,28nm,0.9s								
LOPE2	Hotel El Peder	1.59	237		*i* P		Pn	00 43 03.9	-0.8
LOPE2					*e*S		Sn	00 43 25.0	-0.4
LOPE2					IAML			00 43 28.4	
	comp=Z,54nm,0.9s								
SADR	Isla Saona	1.65	115	⇑	*e*Pg		Pn	00 43 06.4	+1.0
SADR				⇑	*e*Sg		Sn	00 43 23.7	-3.1
SADR					IAML			00 43 33.1	
	comp=E,77nm,1.6s								
SADR					IAML			00 43 38.7	
	comp=N,141nm,1.8s								
PCDR	Punta Cana, DR	1.90	101		*e*Pg		Pn	00 43 09.2	+0.4
PCDR					IAML			00 43 39.8	
	comp=E,79nm,3.6s								
PCDR					IAML			00 43 41.8	
	comp=N,185nm,1.3s								
PCDR	Punta Cana, DR	1.90	101		*i* P		Pn	00 43 09.5	+0.8
PCDR					*e*S		Sn	00 43 31.3	-1.3
PCDR					IAML			00 43 49.6	
	comp=Z,117nm,1.4s								
GRTK	Grand Turk	2.70	344	⇑	*e*Sg		Sn	00 43 48.6	-2.5
GRTK					IAML			00 43 50.9	
	comp=E,44nm,2.0s								
GRTK					IAML			00 44 28.8	
	comp=N,72nm,4.2s								
GRTK	Grand Turk	2.70	344		*i* P		Pn	00 43 17.8	-1.3
GRTK					IAML			00 43 59.1	
	comp=Z,54nm,2.5s								
CRPR	Cabo Rojo, PR	3.20	106		*i* P		Pn	00 43 27.5	+1.7
AOPR	Arecibo Observ	3.45	99		*e*P		Pn	00 43 30.4	+1.2
AOPR					*e*S		Sn	00 44 11.4	+2.1

IDC ***26*** *00:46:10.2±0.8, 41°.43S×86°.82W, h0km, mb4.2/8, mbtmp4.2/8, MS4.2/37, Error ellipse: s-maj=30.3km s-min=20.9km az=114.0*

GCMT ***26*** *00:46:11.7±0.2, 41°.42S±0°.01×87°.08W±0°.02, h18km±1km, MW5.1/122, Moment Tensor Solution. s35,c42; s122,c188; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.83±.20; Mθθ 1.38±.17; Mϕϕ-0.54±. 15; Mrθ-0.05±.36; Mθϕ-5.38±.13; Mϕr-0.67±.35; Best double couple: M₀5.51100×10¹⁶ NP1:ϕs355.00000°, δ87.00000°, λ-7.00000°. NP2:ϕs85.00000°, δ83.00000°, λ-177.00000°. Principal axes: T 5.9050, Plg3.0000°, Azm40.0000°; N -0.7840, Plg82.0000°, Azm154.0000°; P -5.1170, Plg7.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***26*** *00:46:14.7±1.6, 41°.06S±0°.10×86°.7W±0°.2, h10km±1km, mb4.8/88 Error ellipse: s-maj=20.6km s-min=16.7km az=270.0*

ISC 26 00:46:11.8±0.5, 41°.28S±0°.07×86°.93W±0°.08, h10km, n219, σ1s47/187, mb4.7/41, MS4.2/36, 2D, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**9.77**	**43**	Pn	**Pn**	**00 48 31.6**	**-0.6**
	baz=261,slow=9.0						
H03S2				T	T	00 58 41.1	
	baz=216,slow=73,SNR=242						
H03S1	**Juan Fernandez**	**9.78**	**43**	Pn	**Pn**	**00 48 31.7**	**-0.5**
	baz=261,slow=9.0						
H03S1				T	T	00 58 52.3	
	baz=216,slow=73,SNR=253						
H03S3	**Juan Fernandez**	**9.79**	**43**	Pn	**Pn**	**00 48 31.5**	**-0.9**
	baz=261,slow=9.0						
H03S3				T	T	00 58 41.6	
	baz=216,slow=73,SNR=420						
VA04	**Juan Fernndez**	**9.98**	**43**	Pn	**Pn**	**00 48 32.6**	**-2.5**
LL06	**Loncomilla**	**9.99**	**100**	Pn	**Pn**	**00 48 35.8**	**+0.5**
H03N3	**Juan Fernandez**	**10.08**	**42**	Pn	**Pn**	**00 48 33.7**	**-2.6**
	baz=185,slow=22						
H03N3				T	T	00 59 03.5	
H03N2	**Juan Fernandez**	**10.09**	**42**	Pn	**Pn**	**00 48 33.2**	**-3.2**
	baz=185,slow=22						
H03N2				T	T	00 59 07.1	
H03N1	**Juan Fernandez**	**10.10**	**42**	Pn	**Pn**	**00 48 33.6**	**-3.0**
	baz=185,slow=22						
H03N1				T	T	00 59 01.0	
LL01	**San Ignacio de**	**10.89**	**101**	Pn	**Pn**	**00 48 48.8**	**+1.1**
AY01	**Puyuhuapi**	**10.95**	**111**	Pn	**Pn**	**00 48 51.4**	**+3.1**
AY01	**Puyuhuapi**	**10.95**	**111**	*e*P	**Pn**	**00 48 51.8**	**+3.4**
LR03	**Panguipulli**	**11.24**	**86**		**Pn**	**00 48 53.5**	**+1.1**
LL02	**Futaleuf**	**11.35**	**105**		**Pn**	**00 48 55.4**	**+1.5**
LR05	**Currie**	**11.37**	**90**	Pn	**Pn**	**00 48 55.2**	**+0.9**
BI05	**Punta Hualpn**	**11.61**	**71**	Pn	**Pn**	**00 48 53.0**	**-4.5**
COYC	**Coyhaique**	**11.62**	**117**	Pn	**Pn**	**00 48 58.8**	**+1.2**
AY03	**Cochrane**	**11.88**	**125**		**Pn**	**00 49 02.6**	**+1.4**
AY03	**Cochrane**	**11.88**	**125**	*e*P	**Pn**	**00 49 02.8**	**+1.6**
GO06	**Curarrehue**	**11.90**	**87**	Pn	**Pn**	**00 49 00.2**	**-1.4**
PLCA	**Paso Flores**	**12.39**	**93**		**Pn**	**00 49 08.8**	**+0.5**
PLCA	**Paso Flores**	**12.39**	**93**	Pn	**Pn**	**00 49 09.8**	**+1.5**
	0.4nm,0.3s,baz=286,slow=10,SNR=15						
PLCA				LR	LR	00 52 48.9	
	comp=Z,926nm,19.8s,baz=262,slow=32						
PLCA	**Paso Flores**	**12.39**	**93**	*e*P	**Pn**	**00 49 09.4**	**+1.1**
PLCA	**Paso Flores**	**12.39**	**93**	*e*P	Pn	00 49 12.7	+4.5
GO08	**Villa O'Higgin**	**12.46**	**130**		**Pn**	**00 49 09.6**	**+0.5**
ML02	**Panimavida**	**13.33**	**71**	Pn	**Pn**	**00 49 18.4**	**-2.6**
GO05	**Huala**	**13.36**	**67**		**Pn**	**00 49 17.5**	**-3.9**
GO09	**Cerro Castillo**	**14.17**	**140**		**Pn**	**00 49 34.1**	**+1.7**
BO02	**Sierra Bellavi**	**14.27**	**68**		**Pn**	**00 49 31.1**	**-2.9**
BO01	**Tunca**	**14.28**	**66**		**Pn**	**00 49 31.0**	**-3.0**
VA05	**Santo Domingo**	**14.34**	**63**	Pn	**Pn**	**00 49 32.0**	**-2.8**
MG05	**Puerto Natales**	**14.36**	**141**		**P**	**00 49 39.5**	**-2.5**
MT05	**Renca**	**15.08**	**64**	Pn	**Pn**	**00 49 44.0**	**-1.0**
MT03	**Universidad Ad**	**15.18**	**64**		**Pn**	**00 49 45.1**	**-1.2**
VA06	**Catapilco**	**15.22**	**60**	Pn	**Pn**	**00 49 44.6**	**-2.1**
MG04	**Isla Riesco**	**15.56**	**143**	Pn	**P**	**00 49 55.0**	**-0.4**
VA03	**San Esteban**	**15.59**	**62**		**Pn**	**00 49 49.8**	**-1.8**
GO10	**Punta Arenas**	**16.00**	**143**	P	**P**	**00 50 00.1**	**-0.2**
CO06	**Fray Jorge**	**16.27**	**54**		**Pn**	**00 49 59.0**	**-1.4**
CO06				IAmb	IAmb	00 50 09.1	
	comp=Z,81nm,1.4s						
CO02	**Combarbal**	**16.30**	**57**	IAmb	IAmb	00 50 02.9	
	comp=Z,88nm,0.9s						
CO03	**El Pedregal**	**16.74**	**57**	P	**Pn**	**00 50 05.5**	**-1.0**
CO05	**La Serena**	**17.04**	**53**		**P**	**00 50 09.7**	**-2.3**
CO05				IAmb	IAmb	00 50 15.0	
	comp=Z,112nm,1.5s						
GO04	**Tololo Observa**	**17.13**	**55**	Pn	**Pn**	**00 50 10.0**	**-1.6**
GO04				IAmb	IAmb	00 50 26.3	
	comp=Z,81nm,1.2s						
CO01	**Juntas del Tor**	**17.70**	**56**		**Pn**	**00 50 17.4**	**-1.2**
LCO	**Las Campanas**	**18.02**	**52**	P	**P**	**00 50 22.4**	**-0.7**
LCO				IAmb	IAmb	00 50 25.0	
	comp=Z,103nm,1.2s						
AC05	**El Transito**	**18.40**	**53**	P	**Pn**	**00 50 25.3**	**-1.9**
AC05				IAmb	IAmb	00 50 33.5	
	comp=Z,139nm,1.4s						
GO03	**Copiap**	**19.35**	**50**	P	**Pn**	**00 50 36.9**	**-1.7**
AC06	**Mina Casimiro**	**19.46**	**50**	P	**Pn**	**00 50 38.2**	**-1.6**
AC01	**Pan de Azucar**	**20.26**	**47**	P	**P**	**00 50 46.0**	**-1.4**
AC01				IAmb	IAmb	00 50 51.3	
	comp=Z,91nm,1.1s						
AC02	**Maricunga**	**20.56**	**51**	P	**P**	**00 50 50.2**	**-1.0**
PB14	**IPOC Station P**	**21.58**	**45**	P	**P**	**00 51 00.2**	**-1.7**
PB14				IAmb	IAmb	00 51 05.7	
	comp=Z,40nm,1.0s						
GO02	**Mina Guanaco**	**21.59**	**47**	P	**P**	**00 51 00.8**	**-1.2**
PB10	**IPOC Station P**	**22.41**	**43**	P	**P**	**00 51 09.3**	**-1.2**
PB05	**IPOC Station P**	**23.14**	**43**	P	**P**	**00 51 17.7**	**-0.6**
PB05				IAmb	IAmb	00 51 19.3	
	comp=Z,47nm,1.2s						
PB15	**IPOC Station P**	**23.22**	**44**	P	**P**	**00 51 18.9**	**-0.3**
PB06	**IPOC Station P**	**23.58**	**44**	P	**P**	**00 51 22.3**	**-0.5**
PB06				IAmb	IAmb	00 51 25.2	
	comp=Z,18nm,0.9s						
PB04	**IPOC Station P**	**23.59**	**42**	P	**P**	**00 51 22.9**	**-0.1**
LVC	**Limon Verde**	**24.01**	**45**	P	**P**	**00 51 27.0**	**-0.2**
LVC	**Limon Verde**	**24.01**	**45**	LR	LR	00 58 34.0	
	comp=Z,743nm,19.8s,baz=242,slow=31						
LVC	**Limon Verde**	**24.01**	**45**	*e*P	**P**	**00 51 27.3**	**+0.1**
AF01	**San Pedro de A**	**24.12**	**46**	P	**P**	**00 51 29.4**	**+1.3**
PB07	**IPOC Station P**	**24.23**	**42**	P	**P**	**00 51 29.0**	**0.0**
PB09	**IPOC Station P**	**24.50**	**43**	P	**P**	**00 51 31.5**	**0.0**
PB02	**IPOC Station P**	**24.57**	**41**	P	**P**	**00 51 32.0**	**-0.1**
PB02				IAmb	IAmb	00 51 34.7	
	comp=Z,30nm,1.1s						
PB01	**IPOC Station P**	**25.01**	**41**	P	**P**	**00 51 36.0**	**0.0**
TA01	**Diego Aracena**	**25.07**	**40**	P	**P**	**00 51 36.2**	**-0.3**
TA01				IAmb	IAmb	00 51 39.4	
	comp=Z,30nm,1.0s						
TA02	**Huaiquique**	**25.35**	**39**	P	**P**	**00 51 39.3**	**+0.3**
PSAL	**Palomas, Salto**	**25.66**	**76**	*e*P	**P**	**00 51 41.7**	**0.0**
PB08	**IPOC Station P**	**25.93**	**41**	P	**P**	**00 51 45.1**	**+0.4**
PB11	**IPOC Station P**	**26.01**	**40**	P	**P**	**00 51 44.4**	**-0.7**
PB11				IAmb	IAmb	00 51 50.4	
	comp=Z,26nm,1.1s						
GO01	**Chusmiza**	**26.32**	**40**	P	**P**	**00 51 47.7**	**-0.6**
TICA	**Tres Isletas**	**26.45**	**64**	*e*P	**P**	**00 51 48.9**	**-0.1**
TBOT	**Tacuaremb**	**26.58**	**79**	*e*P	**P**	**00 51 52.5**	**+2.5**
PB12	**IPOC Station P**	**26.69**	**37**	P	**P**	**00 51 50.5**	**-0.7**
PB12				IAmb	IAmb	00 51 56.9	
	comp=Z,15nm,0.9s						
PMSA	**Palmer Station**	**26.95**	**158**	LR	LR	00 59 24.6	
	comp=Z,507nm,21.2s,baz=338,slow=30						
PMSA	**Palmer Station**	**26.95**	**158**	*e*P	**P**	**00 51 51.4**	**-1.6**
ITQB	**Itaqui**	**27.13**	**74**	P	**P**	**00 51 54.8**	**-0.2**
ITQB	**Itaqui**	**27.13**	**74**	*e*P	**P**	**00 51 55.2**	**+0.2**
PB16	**IPOC Station P**	**27.31**	**38**	P	**P**	**00 51 56.9**	**-0.5**
PB16				IAmb	IAmb	00 51 59.4	
	comp=Z,16nm,1.1s						
RODS	**Rosario do Sul**	**27.81**	**77**	*e*P	**P**	**00 52 01.1**	**0.0**
PLTB	**Pedras Altas**	**28.27**	**81**	*e*P	**P**	**00 52 04.3**	**-1.0**
UNIS	**Unistalda (Bra**	**28.59**	**75**	*e*P	**P**	**00 52 08.4**	**+0.3**
CPUP	**Villa Florida**	**28.59**	**68**	P	**P**	**00 52 07.6**	**-0.5**
	comp=Z,6.2nm,1.0s,baz=248,slow=9.9,SNR=7.3						
CPUP				LR	LR	01 02 44.6	
	comp=Z,708nm,19.4s,baz=238,slow=35						
	comp=Z,6.2nm,1.0s						
CPUP	**Villa Florida**	**28.59**	**68**	*e*P	**P**	**00 52 07.9**	**-0.2**
LPAZ	**La Paz**	**29.73**	**39**	P	**P**	**00 52 18.9**	**-0.1**
LPAZ	**La Paz**	**29.73**	**39**	P	**P**	**00 52 19.7**	**+0.7**
	comp=Z,3.5nm,1.0s,baz=194,slow=8.2,SNR=7.5						
	comp=Z,3.5nm,1.0s						
CRSM	**Crissiumal (Br**	**30.23**	**73**	*e*P	**P**	**00 52 22.4**	**-0.2**
ALGR	**Alto Alegre (B**	**30.23**	**76**	*e*P	**P**	**00 52 22.7**	**-0.1**
NNA	**Nana**	**30.50**	**20**	LR	LR	01 01 38.9	
	comp=Z,459nm,19.3s,baz=193,slow=30						
CNLB	**Canela**	**31.56**	**79**	*e*P	**P**	**00 52 37.0**	**+2.6**
ITAB	**Corcordia**	**31.76**	**75**	*e*P	**P**	**00 52 36.5**	**+0.4**
ANTJ	**Antonio Joao (**	**32.35**	**63**	*e*P	**P**	**00 52 41.4**	**0.0**
AMBA	**Amambai (Brazi**	**32.41**	**65**	*e*P	**P**	**00 52 42.6**	**+0.7**
BDQN	**Bodoquena, MS**	**32.94**	**60**	*e*P	**P**	**00 52 45.8**	**-0.7**
BBSD	**Serra de San D**	**32.99**	**51**	*e*P	**P**	**00 52 46.8**	**-0.2**
PTGB	**Pitanga**	**33.31**	**71**	*e*P	**P**	**00 52 50.4**	**+0.5**
AQDB	**Aquidauana**	**33.61**	**61**	P	**P**	**00 52 51.7**	**-0.7**
AQDB	**Aquidauana**	**33.61**	**61**	*e*P	**P**	**00 52 52.2**	**-0.2**
SIV	**San Ignacio**	**33.67**	**49**	LR	LR	01 05 29.0	
	comp=Z,527nm,20.8s,baz=276,slow=34						
TRCB	**Terra Rica**	**34.13**	**68**	P	**P**	**00 52 56.3**	**-0.7**
TRCB	**Terra Rica**	**34.13**	**68**	*e*P	**P**	**00 52 56.9**	**-0.1**
ATAH	**Atahualpa**	**34.84**	**15**	LR	LR	01 03 48.4	
	comp=Z,650nm,21.7s,baz=208,slow=30						
RVDE	**Rio Verde (Bra**	**35.14**	**61**	*e*P	**P**	**00 53 06.2**	**+0.5**
PTLB	**Pontes e Lacer**	**35.22**	**51**	P	**P**	**00 53 06.1**	**-0.3**
PTLB				IAmb	IAmb	00 53 07.6	
	comp=Z,27nm,1.2s						
PTLB	**Pontes e Lacer**	**35.22**	**51**	*e*P	**P**	**00 53 06.4**	**+0.1**
CZSB	**Cruzeiro do Su**	**35.73**	**25**	P	**P**	**00 53 10.7**	**-0.1**
CZSB				IAmb	IAmb	00 53 13.8	
	comp=Z,15nm,0.8s						
CZSB	**Cruzeiro do Su**	**35.73**	**25**	*e*P	**P**	**00 53 10.8**	**+0.1**
PCMB	**Pacaembu**	**35.87**	**68**	*e*P	**P**	**00 53 11.9**	**0.0**
FRTB	**Fartura**	**35.95**	**72**	*e*P	**P**	**00 53 12.7**	**0.0**
ETMB	**Extrema**	**36.29**	**36**	P	**P**	**00 53 15.2**	**-0.3**
ETMB				IAmb	IAmb	00 53 18.8	
	comp=Z,14nm,1.1s						
ETMB	**Extrema**	**36.29**	**36**	*e*P	**P**	**00 53 15.5**	**0.0**
VILB	**Vilhena**	**36.62**	**47**	P	**P**	**00 53 17.8**	**-0.6**
VILB	**Vilhena**	**36.62**	**47**	*e*P	**P**	**00 53 18.3**	**-0.1**
SALV	**Santo Antonio**	**36.96**	**56**	*e*P	**P**	**00 53 21.7**	**+0.4**
MCRA	**Macar, Loja**	**37.28**	**12**	P	**P**	**00 53 24.4**	**+0.3**
SPB	**Sao Paulo**	**37.34**	**74**	*e*P	**P**	**00 53 24.4**	**0.0**
ITRB	**Iturama**	**37.76**	**66**	*e*P	**P**	**00 53 28.2**	**+0.1**
RCLB	**Rio Claro- Sao**	**37.99**	**73**	*e*P	**P**	**00 53 30.3**	**+0.2**
VAO	**Valinhos**	**38.04**	**74**	*e*P	**P**	**00 53 30.6**	**+0.2**
BB19B	**Bebedouro**	**38.14**	**70**	*e*P	**P**	**00 53 30.6**	**-0.7**
SAML	**Samuel**	**38.45**	**40**	P	**P**	**00 53 33.4**	**-0.5**
SAML				IAmb	IAmb	00 53 34.9	
	comp=Z,17nm,1.1s						
SAML	**Samuel**	**38.45**	**40**	*e*P	**P**	**00 53 34.2**	**+0.3**
COHC	**Cochancay**	**39.26**	**12**	P	**P**	**00 53 41.7**	**+1.1**
ARAG	**Araguaiana, MT**	**39.60**	**60**	*e*P	**P**	**00 53 43.4**	**-0.1**
PDRB	**Porto dos Gac**	**39.68**	**51**	*e*P	**P**	**00 53 44.0**	**-0.2**
IPMB	**Ipameri, GO**	**40.42**	**67**	*e*P	**P**	**00 53 50.0**	**-0.4**
BSCB	**Bom Sucesso**	**40.87**	**73**	*e*P	**P**	**00 53 54.5**	**+0.4**
VAS01	**Vassouras-RJ**	**41.04**	**76**	*e*P	**P**	**00 53 56.8**	**+1.4**
SLOR	**San Lorenzo -**	**41.08**	**13**	P	**P**	**00 53 56.8**	**+0.5**
PMNB	**Patos De Minas**	**41.28**	**69**	*e*P	**P**	**00 53 57.7**	**+0.1**
BDFB	**Brasilia**	**42.18**	**64**	P	**P**	**00 54 04.1**	**-0.8**
BDFB				IAmb	IAmb	00 54 05.7	
	comp=Z,22nm,0.8s						
BDFB	**Brasilia**	**42.18**	**64**	P	**P**	**00 54 04.6**	**-0.3**
	comp=Z,18nm,0.8s,baz=230,slow=8.0,SNR=29						
BDFB				LR	LR	01 10 51.2	
	comp=Z,555nm,21.3s,baz=203,slow=35						
	comp=Z,18nm,0.8s						
TEFE	**Tefe**	**42.61**	**34**	*e*P	**P**	**00 54 08.2**	**-0.1**
SNDB	**Serra Nova Dou**	**42.70**	**57**	*e*P	**P**	**00 54 09.0**	**0.0**
DIAM	**Diamantina, MG**	**43.40**	**71**	*e*P	**P**	**00 54 15.6**	**+0.8**
NPGB	**Novo Progresso**	**44.16**	**48**	*e*P	**P**	**00 54 20.0**	**-0.8**
RIB01	**Linhares ES**	**45.11**	**75**	*e*P	**P**	**00 54 29.2**	**+0.8**
JANB	**Januaria**	**45.13**	**67**	*e*P	**P**	**00 54 28.7**	**+0.1**
ITTB	**Itaituba**	**46.17**	**46**	*e*P	**P**	**00 54 35.7**	**-1.1**
SDBA	**SAO DESIDERIO**	**46.59**	**64**	*e*P	**P**	**00 54 40.2**	**+0.1**
QSPA	**South Pole Qui**	**48.95**	**180**	P	**P**	**00 54 56.8**	**-1.2**
	comp=Z,1.5nm,0.9s,baz=135,slow=1.4,SNR=6.7						
QSPA				LR	LR	01 12 31.5	
	comp=Z,157nm,18.7s,baz=136,slow=32						
	comp=Z,1.5nm,0.9s						
MALB	**Monte Alegre**	**49.06**	**46**	*e*P	**P**	**00 54 58.7**	**-0.5**
SNAA	**Sanae**	**49.60**	**156**	LR	LR	01 12 08.5	
	comp=Z,184nm,18.8s,baz=276,slow=32						
BOAV	**Boa Vista**	**49.67**	**36**	P	**P**	**00 55 02.5**	**-1.3**
BOAV				IAmb	IAmb	00 55 03.5	
	comp=Z,10nm,1.1s						
TROLL	**Troll, Antarti**	**51.17**	**156**	P	**P**	**00 55 12.7**	**-2.1**
	comp=Z,382nm,1.1s						
JTS	**Las Juntas de**	**51.35**	**2**	LR	LR	01 12 13.9	
	comp=Z,116nm,18.1s,baz=122,slow=30						
MCPB	**Macapa, AP**	**51.51**	**47**	*e*P	**P**	**00 55 17.5**	**-0.3**
SDV	**Santo Domingo**	**52.13**	**21**	P	**P**	**00 55 21.3**	**-1.2**
SDV				IAmb	IAmb	00 55 22.6	
	comp=Z,20nm,1.2s						
SDV	**Santo Domingo**	**52.13**	**21**	LR	LR	01 15 19.1	
	comp=Z,195nm,21.8s,baz=205,slow=34						
SDV	**Santo Domingo**	**52.13**	**21**	*e*P	**P**	**00 55 21.7**	**-0.9**
TMAB	**Tom-Au,PA,Br**	**52.15**	**53**	*e*P	**P**	**00 55 23.3**	**+0.7**
NBLA	**Lagarto - SE**	**52.51**	**69**	*e*P	**P**	**00 55 24.9**	**-0.4**
BAUV	**El Baul**	**52.91**	**24**	P	**P**	**00 55 26.9**	**-1.3**
VNDA	**Vanda**	**54.39**	**194**	P	**P**	**00 55 37.2**	**-1.1**
	comp=Z,2.6nm,1.1s,baz=119,slow=6.1,SNR=6.0						
VNDA				LR	LR	01 14 05.7	
	comp=Z,183nm,21.3s,baz=120,slow=31						
	comp=Z,2.6nm,1.1s						
TBI	**Tubuai**	**54.65**	**269**	*e*LR	LR	01 11 11.0	
	comp=Z,1μm,28.8s						
NBPB	**Pedra_Branca-C**	**55.16**	**63**	*e*P	**P**	**00 55 45.0**	**+0.4**
PCRV	**Puerto La Cruz**	**55.17**	**27**	LR	LR	01 18 45.9	
	comp=Z,231nm,20.6s,slow=35						
NBLV	**Livramento - P**	**55.67**	**67**	*e*P	**P**	**00 55 49.3**	**+0.9**
MDP	**Montagnes des**	**55.79**	**43**	LR	LR	01 17 31.4	
	comp=Z,314nm,22.0s,baz=228,slow=34						
NBCL	**Cascavel-CE**	**56.99**	**63**	*e*P	**P**	**00 55 58.5**	**+0.7**
ELIB	**Princess Elisa**	**57.11**	**160**	*d*P	**P**	**00 56 00.1**	**+2.1**
ELIB				*d*PP	**PP**	**00 58 06.0**	**+1.7**
RCBR	**Riachuelo**	**57.46**	**67**	LR	LR	01 20 13.9	
	comp=Z,252nm,19.3s,baz=244,slow=36						
PPT2	**Papeete2**	**58.15**	**274**	*e*S	**S**	**01 04 02.0**	**-5.6**
	comp=Z,77nm,26.5s						
PPT2				*e*SS	SS	01 07 50.1	-8.9
	comp=Z,164nm,22.5s						
PPT2				*e*LR	LR	01 13 03.8	
	comp=Z,201nm,34.2s						
PPT2				*e*LR	LR	01 13 03.8	
	comp=Z,284nm,27.2s						
TEIG	**Tepich**	**61.21**	**359**	LR	LR	01 17 28.0	
	comp=Z,1μm,20.6s,slow=31						
RAR	**Rarotonga**	**63.65**	**264**	LR	LR	01 16 30.7	
	comp=Z,116nm,21.9s,baz=135,slow=29						
LPIG	**La Paz**	**68.58**	**337**	LR	LR	01 21 02.9	
	comp=Z,37nm,19.6s,baz=66,slow=30						
MAW	**Mawson**	**69.05**	**168**	LR	LR	01 25 07.2	
	comp=Z,157nm,19.5s,baz=191,slow=34						
URZ	**Urewera**	**69.90**	**236**	LR	LR	01 20 42.9	
	comp=Z,223nm,20.0s,baz=290,slow=30						
RPZ	**Rata Peaks**	**70.19**	**229**	LR	LR	01 19 59.4	
	comp=Z,345nm,20.3s,baz=134,slow=29						
HKT	**Hockley**	**71.35**	**352**	P	**P**	**00 57 33.0**	**+1.5**
HKT				IAmb	IAmb	00 57 37.8	
	comp=Z,7.5nm,1.2s						
HNDO	**Hondo**	**71.38**	**349**	P	**P**	**00 57 32.8**	**+1.0**
HNDO				IAmb	IAmb	00 57 42.7	
	comp

TORD	**Torodi Ar. Bea**	**97.52**	**79**	LR	LR	01 41 49.3		
	comp=Z,48nm,18.4s,baz=210,slow=34							
LSZ	**Lusaka**	**97.85**	**118**	LR	LR	01 37 59.8		
	comp=Z,120nm,20.8s,baz=233,slow=32							
MJAR	**Matsushiro Arr**	**144.86**	**277**	PKP	**PKPbc**	**01 05 48.3**	**+0.3**	
	comp=Z,3.0nm,0.7s,baz=187,slow=3.0,SNR=5.3							
KURBB	**Kurchatov Arra**	**166.26**	**42**	PKP	**PKPdf**	**01 06 16.1**	**-0.4**	
	comp=Z,0.5nm,0.3s,baz=268,slow=0.9,SNR=4.2							
KURBB				PKPab	**PKPab**	**01 07 17.5**	**-0.2**	
	comp=Z,1.0nm,0.2s,baz=305,slow=4.8,SNR=5.0							

RSNC 26 00:55:26.0±0.0, 6°N±3°×7°4W±°, h0km±6km, mb4.2, ML1.7, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPBC	**San Pablo de B**	**0.31**	**265**	P	Pg	00 55 29.8	-2.2
SPBC				S	Sg	00 55 34.4	-1.6
RUSC	**La Rusia**	**0.71**	**73**	P	Pg	00 55 37.4	-2.2
RUSC				S	Sg	00 55 47.5	-1.2
BARC	**Barichara**	**1.07**	**32**	P	Pg	00 55 44.8	-1.8
BARC				S	Sg	00 56 00.7	+0.2
PTBC	**PUERTO BERRIO,**	**1.10**	**321**	P	Pg	00 55 45.9	-1.2
PTBC				S	Sg	00 56 01.7	+0.3
NORC	**Norcasia**	**1.11**	**264**	P	Pg	00 55 44.7	-2.6
NORC				S	Sg	00 55 59.8	-1.9
CVER	**Cruz Verde, Cu**	**1.19**	**195**	P	Pg	00 55 46.0	-2.9
VILC	**Villavicencio,**	**1.56**	**178**	P	Pn	00 55 52.8	-2.3
VILC				S	Sn	00 56 15.6	-0.5
GUY2C	**Guyana, Caldas**	**1.66**	**254**	P	Pn	00 55 54.5	-2.3
GUY2C				S	Sn	00 56 15.6	-3.5
HELC	**Santa Helena**	**1.83**	**286**	P	Pn	00 55 56.8	-2.3
HELC				S	Sn	00 56 21.7	-1.5
PAMC	**Pamplona, Colo**	**1.96**	**33**	P	Pn	00 56 00.9	0.0
PAMC				S	Sb	00 56 27.3	-0.7
CBOC	**Ciudad Bolivar**	**2.25**	**275**	P	Pn	00 56 04.0	-0.7
CBOC				S	Sn	00 56 33.9	+0.7
ORTC	**Ortega, Tolima**	**2.30**	**220**	P	Pn	00 56 03.6	-1.6
ORTC				S	Sn	00 56 34.0	-0.3
CRJC	**Cerrejon, Guaj**	**5.38**	**9**	P	Pn	00 56 47.4	-0.2

KRSC 26 01:52:25.6±1.2, 49°21N×156°19E, h17km±13km, MI3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.48**	**358**	*e*P	Pn	01 52 51.8	+0.5
SKR				*e*S	Sb	01 53 10.7	-0.3
KDTR	**Khodutka, Kamc**	**2.87**	**24**	*e*P	Pn	01 53 12.6	+2.2
KDTR				*e*S	Sn	01 53 46.6	+2.1
ASAK	**Asacha**	**3.35**	**18**	*e*P	Pn	01 53 20.3	+3.0
MTVR	**Mutnovka**	**3.51**	**20**	*e*P	Pn	01 53 22.7	+3.3
MTVR				*e*S	Sb	01 54 05.7	-4.0
AVH	**Avacha**	**4.36**	**21**	*e*P	Pn	01 53 35.7	+4.6
KOK	**Koryaka**	**4.37**	**20**	*e*P	Pn	01 53 35.9	+4.7
SMAR	**Somma**	**4.38**	**21**	*e*P	Pn	01 53 36.0	+4.6
KRX	**Arik**	**4.43**	**19**	*e*P	Pn	01 53 36.0	+4.0

NEIC ***26*** *01:54:33.0±0.4, 36°482N±0°008×97°76W±0°01, h5km±3km, Error ellipse: s-maj=1.4km s-min=1.2km az=84.0*

TUL 26 01:54:33.2±0.4, 36°484N±0°008×97°76W±0°01, h6km±3km, ML2.5, mb_Lg2.1/13(NEIC), **ML2.5**/62(NEIC), **Error ellipse: s-maj=1.3km s-min=1.2km az=114.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.18**	**276**	Pg	Pg	01 54 37.5	+0.6
CROK				Sg	Sg	01 54 40.2	+0.9
CROK				IAML		01 54 42.7	
	comp=E,1μm,0.3s						
GC02	**Grant County #**	**0.38**	**347**	Pg	Pg	01 54 40.8	+0.3
GC02				Sg	Sg	01 54 46.3	+0.8
OK032	**Salt Plains WL**	**0.48**	**311**	Pg	Pg	01 54 42.6	+0.1
OK032				Sg	Sg	01 54 49.5	+0.6
OK032				IAML		01 54 49.9	
	comp=E,306nm,0.2s						
OK032				IAML		01 54 52.6	
	comp=E,297nm,0.2s						
KAN14	**Manchester OK**	**0.50**	**341**	Pg	Pg	01 54 42.9	+0.1
KAN14				Sg	Sg	01 54 50.2	+0.8
KAN14				IAML		01 54 50.4	
	comp=N,400nm,0.2s						
BLOK	**Blackwell**	**0.52**	**58**	Pg	Pg	01 54 43.3	+0.2
BLOK				Sg	Sg	01 54 50.5	+0.6
BLOK				IAML		01 54 53.0	
	comp=E,376nm,0.2s						
KAN17	**Caldwell West**	**0.56**	**359**	Pg	Pg	01 54 44.1	+0.2
KAN17				Sg	Sg	01 54 50.9	-0.4
KAN17				IAML		01 54 57.9	
	comp=E,273nm,0.2s						
KAN17				IAML		01 55 01.6	
	comp=N,264nm,0.2s						
KAN13	**South Haven SW**	**0.57**	**23**	Pg	Pg	01 54 44.0	-0.2
KAN13				Sg	Sg	01 54 52.2	+0.5
KAN05	**Bluff City Nor**	**0.63**	**352**	Pg	Pg	01 54 45.6	+0.2
KAN05				Sg	Sg	01 54 54.4	+0.8
KAN05				IAML		01 54 56.4	
	comp=E,261nm,0.2s						
KAN05				IAML		01 54 57.8	
	comp=N,282nm,0.2s						
OK048	**Pawnee Station**	**0.66**	**96**	Pg	Pg	01 54 45.7	-0.1
OK048				Sg	Sg	01 54 54.9	+0.4
OK048				IAML		01 54 55.2	
	comp=N,207nm,0.7s						
KAN09	**Caldwell North**	**0.66**	**10**	Pg	Pg	01 54 46.0	+0.1
KAN09				Sg	Sg	01 54 55.1	+0.6
KAN01	**Argonia South**	**0.67**	**360**	Pg	Pg	01 54 45.3	-0.7
KAN01				Sg	Sg	01 54 55.2	+0.4
KAN01				IAML		01 54 58.4	
	comp=E,168nm,0.1s						
KAN10	**Anthony SW Sta**	**0.69**	**337**	Pg	Pg	01 54 46.5	0.0
KAN10				IAML		01 54 58.4	
	comp=E,175nm,0.2s						
OK029	**Liberty Lake**	**0.73**	**160**	Pg	Pg	01 54 46.9	-0.3
OK029				Sg	Sg	01 54 56.7	+0.1
OK033	**Mehan**	**0.79**	**123**	Pg	Pg	01 54 48.2	-0.2
OK033				IAML		01 54 59.3	
	comp=E,123nm,0.3s						
OK033				IAML		01 54 59.3	
	comp=E,238nm,0.3s						
ADOK	**Arcadia Dam**	**0.89**	**159**	Pg	Pg	01 54 48.1	-2.1
QUOK	**Quay**	**0.90**	**110**	Pg	Pg	01 54 50.3	-0.2
QUOK				IAML		01 55 05.4	
	comp=N,185nm,0.2s						
QUOK				IAML		01 55 05.9	
	comp=E,142nm,0.2s						
OK052	**Battle Ridge R**	**0.91**	**122**	Pg	Pg	01 54 50.5	-0.2
OK052				IAML		01 55 08.2	
	comp=E,157nm,0.2s						
OK052				IAML		01 55 08.3	
	comp=E,189nm,0.2s						
U32A	**Winter Ranch,**	**1.01**	**264**	Pg	Pg	01 54 52.1	-0.5
U32A				IAML		01 55 06.3	
	comp=N,114nm,0.5s						
U32A				IAML		01 55 07.2	
	comp=E,111nm,0.1s						
T35A	**Sooner Cattle**	**1.09**	**66**	Pg	Pg	01 54 53.7	-0.4
T35A				IAmb_Lg		01 55 09.2	
	comp=Z,9.4nm,0.9s						
T35A				IAML		01 55 11.4	
	comp=E,86nm,0.4s						
OKCSW	**OKLAHOMA CITY**	**1.11**	**166**	Pg	Pg	01 54 54.0	-0.4
CSTR	**Hydro, Custer**	**1.13**	**222**	Pg	Pg	01 54 54.3	-0.5
DEOK	**Depew**	**1.20**	**122**	Pg	Pg	01 54 55.4	-0.9
FNO	**Franklin**	**1.26**	**167**	Pg	Pg	01 54 56.5	-0.8
FNO				IAML		01 55 17.9	
	comp=E,73nm,0.2s						
FNO				IAML		01 55 19.3	
	comp=N,70nm,0.2s						
W35A	**Tecumseh**	**1.51**	**151**		Pn	01 55 00.4	-0.4
TUL3	**Leonard**	**1.69**	**109**		Pn	01 55 03.2	-0.1
TUL3				IAmb_Lg		01 55 28.8	
	comp=Z,10nm,1.0s						
R32A	**Long Quarter,**	**2.08**	**339**	IAmb_Lg		01 55 43.2	
	comp=Z,5.4nm,0.7s						
X37A	**Clayton**	**2.71**	**133**	Pn	Pn	01 55 17.2	-0.2
U38A	**Gravette**	**2.72**	**90**	IAmb_Lg		01 56 00.9	
	comp=Z,6.2nm,0.7s						
S39A	**Bolivar**	**3.75**	**70**	Pn	Pn	01 55 30.0	-1.6
S39A				IAmb_Lg		01 56 42.7	
	comp=Z,3.9nm,0.7s						

RTBA	**Rita Blanca**	**4.01**	**271**	Pn	Pn	01 55 33.3	-2.1	
FW14	**Alvarado**	**4.10**	**173**	IAmb_Lg		01 56 49.4		
	comp=Z,6.5nm,0.9s							
MGMO	**Mountain Grove**	**4.45**	**80**	Pn	Pn	01 55 41.4	0.0	
P38A	**Dawn**	**4.58**	**45**	Pn	Pn	01 55 42.3	-0.7	
T25A	**Trinidad**	**5.38**	**279**	Pn	Pn	01 55 54.2	0.0	
CCM	**Cathedral Cave**	**5.43**	**71**	Pn	Pn	01 55 52.8	-1.9	
JCT	**Junction City**	**6.23**	**196**	IAmb_Lg		01 57 57.6		
	comp=Z,8.6nm,1.2s							

IDC 26 02:03:35.9±1.9, 41°78S×84°79E, h0km, mb4.1/4, mbtmp4.1/4, MS3.5/15, Error ellipse: s-maj=56.6km s-min=32.5km az=125.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**23.94**	**83**	T	T	02 33 40.4	
	baz=244,slow=74,SNR=8.9						
H01W3	**Cape Leeuwin H**	**23.95**	**83**	T	T	02 33 41.0	
	baz=244,slow=74,SNR=8.6						
H04S1	**CROZET ISLANDS**	**23.96**	**247**	T	T	02 33 31.8	
	baz=90,slow=76,SNR=7.4						
H01W1	**Cape Leeuwin H**	**23.96**	**83**	T	T	02 33 41.7	
	baz=244,slow=74,SNR=6.8						
H04S2	**CROZET ISLANDS**	**23.97**	**247**	T	T	02 33 40.9	
	baz=90,slow=76,SNR=15						
H04S3	**CROZET ISLANDS**	**23.97**	**247**	T	T	02 33 54.1	
	baz=90,slow=76,SNR=14						
H04N2	**CROZET ISLANDS**	**24.04**	**248**	T	T	02 33 42.7	
	baz=91,slow=75,SNR=96						
H04N3	**CROZET ISLANDS**	**24.05**	**248**	T	T	02 33 41.7	
	baz=91,slow=75,SNR=96						
H04N1	**CROZET ISLANDS**	**24.06**	**248**	T	T	02 34 09.2	
	baz=91,slow=75,SNR=53						
MAW	**Mawson**	**28.48**	**197**	P	P	02 09 32.3	0.0
	5.2nm,1.1s,baz=20,slow=8.3,SNR=2.0						
MAW				LR	LR	02 17 27.2	
	comp=Z,135nm,20.8s,baz=64,slow=29 5.2nm,1.1s						
H08S2	**Diego Garcia H**	**35.70**	**339**	T	T	02 48 17.9	
	baz=164,slow=76,SNR=80						
H08S1	**Diego Carcia H**	**35.70**	**339**	T	T	02 48 18.2	
	baz=164,slow=76,SNR=80						
H08S3	**Diego Garcia H**	**35.72**	**339**	T	T	02 48 19.3	
	baz=164,slow=76,SNR=90						
ASAR	**Alice Springs**	**44.45**	**82**	P	P	02 11 48.8	-0.1
	0.6nm,0.8s,baz=224,slow=6.5,SNR=5.6						
ASAR				LR	LR	02 28 17.3	
	comp=Z,78nm,21.0s,baz=215,slow=33 0.6nm,0.8s						
STKA	**Stephens Creek**	**45.80**	**97**	LR	LR	02 27 02.7	
	comp=Z,67nm,20.0s,baz=204,slow=31						
VNDA	**Vanda**	**46.82**	**163**	LR	LR	02 30 03.4	
	comp=Z,108nm,18.1s,baz=270,slow=34						
WRA	**Warramunga Arr**	**47.03**	**78**	P	P	02 12 09.0	-0.2
	1.4nm,0.8s,baz=234,slow=8.7,SNR=8.4 1.4nm,0.8s						
QSPA	**South Pole Qui**	**48.38**	**180**	LR	LR	02 30 21.2	
	comp=Z,108nm,19.7s,baz=238,slow=33						
PALK	**Pallekele**	**48.95**	**355**	LR	LR	02 28 06.5	
	comp=Z,87nm,21.3s,baz=260,slow=30						
BOSA	**Boshof**	**49.48**	**265**	LR	LR	02 29 38.5	
	comp=Z,66nm,18.2s,baz=187,slow=32						
SUR	**Sutherland**	**50.85**	**259**	LR	LR	02 28 31.0	
	comp=Z,33nm,21.0s,baz=145,slow=29						
LBTB	**Lobatse**	**51.20**	**270**	LR	LR	02 31 03.8	
	comp=Z,23nm,19.7s,baz=148,slow=32						
LSZ	**Lusaka**	**55.17**	**281**	LR	LR	02 31 42.2	
	comp=Z,44nm,19.2s,baz=164,slow=31						
TSUM	**Tsumeb**	**60.60**	**270**	LR	LR	02 35 43.1	
	comp=Z,28nm,19.8s,baz=150,slow=32						
CMAR	**Chiang Mai Arr**	**61.34**	**15**	P	P	02 13 53.4	0.0
	1.6nm,0.2s,baz=201,slow=6.6,SNR=1.8						
CMAR				LR	LR	02 37 19.3	
	comp=Z,15nm,18.9s,baz=315,slow=33 1.6nm,0.2s						
AAK	**Ala-Archa**	**84.54**	**352**	LR	LR	02 50 35.4	
	comp=Z,30nm,19.8s,baz=194,slow=33						
MKAR	**Makanchi Array**	**88.21**	**358**	LR	LR	02 53 46.1	
	comp=Z,22nm,19.4s,baz=255,slow=34						
TORD	**Torodi Ar. Bea**	**93.58**	**284**	LR	LR	02 55 42.0	
	comp=Z,27nm,19.4s,baz=135,slow=33						

NEIC ***26*** *02:08:30.3±0.7, 36°490N±0°009×97°75W±0°01, h6km±3km, Error ellipse: s-maj=1.4km s-min=1.2km az=68.0*

TUL 26 02:08:30.4±0.6, 36°482N±0°009×97°756W±0°008, h8km±4km, ML2.6, mb_Lg2.2/12(NEIC), **ML2.6**/72(NEIC), **Error ellipse: s-maj=1.2km s-min=0.9km az=175.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.18**	**277**		Pg	02 08 34.5	+0.3
CROK				Sg	Sg	02 08 37.3	+0.5
CROK				IAML		02 08 39.8	
	comp=E,2μm,0.3s						
GC02	**Grant County #**	**0.38**	**347**	Pg	Pg	02 08 37.9	+0.1
GC02				Sg	Sg	02 08 43.3	+0.5
OK032	**Salt Plains WL**	**0.49**	**311**	Pg	Pg	02 08 39.8	0.0
OK032				Sg	Sg	02 08 46.6	+0.3
OK032				IAML		02 08 47.0	
	comp=E,539nm,0.2s						
KAN14	**Manchester OK**	**0.50**	**341**	Pg	Pg	02 08 40.1	-0.1
KAN14				Sg	Sg	02 08 47.1	+0.4
KAN14				IAML		02 08 47.5	
	comp=N,447nm,0.2s						
KAN14				IAML		02 08 47.6	
	comp=E,396nm,0.1s						
BLOK	**Blackwell**	**0.52**	**57**	Pg	Pg	02 08 40.5	0.0
BLOK				Sg	Sg	02 08 46.7	-0.5
BLOK				IAML		02 08 58.6	
	comp=E,540nm,0.2s						
KAN17	**Caldwell West**	**0.56**	**359**	Pg	Pg	02 08 41.0	-0.2
KAN17				Sg	Sg	02 08 49.3	+0.6
KAN17				IAML		02 08 55.0	
	comp=E,388nm,0.2s						
KAN17				IAML		02 08 58.7	
	comp=N,396nm,0.3s						
KAN13	**South Haven SW**	**0.57**	**23**	Pg	Pg	02 08 41.4	-0.2
KAN13				Sg	Sg	02 08 49.1	+0.1
KAN05	**Bluff City Nor**	**0.63**	**352**	Pg	Pg	02 08 42.5	-0.1
KAN05				IAML		02 08 53.5	
	comp=E,273nm,0.2s						
KAN05				IAML		02 08 54.9	
	comp=N,331nm,0.2s						
OK048	**Pawnee Station**	**0.66**	**95**	Pg	Pg	02 08 43.0	-0.1
OK048				Sg	Sg	02 08 51.7	+0.1
OK048				IAML		02 08 52.3	
	comp=N,245nm,0.5s						
KAN09	**Caldwell North**	**0.66**	**10**	Pg	Pg	02 08 43.2	0.0
KAN09				Sg	Sg	02 08 52.1	+0.2
KAN01	**Argonia South**	**0.67**	**360**	Pg	Pg	02 08 43.3	0.0
KAN01				Sg	Sg	02 08 52.4	+0.3
KAN01				IAML		02 08 52.6	
	comp=N,217nm,0.2s						
KAN01				IAmb_Lg		02 08 52.7	
	comp=Z,24nm,0.8s						
KAN10	**Anthony SW Sta**	**0.70**	**337**	Pg	Pg	02 08 43.7	-0.1
OK029	**Liberty Lake**	**0.73**	**160**	Pg	Pg	02 08 44.1	-0.3
KAN08	**Anthony NE Sta**	**0.76**	**347**	Pg	Pg	02 08 44.5	-0.6
KAN08				IAML		02 08 58.7	
	comp=N,177nm,0.1s						
KAN06	**Argonia West S**	**0.77**	**354**	Pg	Pg	02 08 44.4	-0.8
KAN06				IAML		02 08 59.5	
	comp=N,207nm,0.1s						
KAN06				IAML		02 09 00.4	
	comp=E,181nm,0.1s						
OK038	**West end E0370**	**0.80**	**270**	Pg	Pg	02 08 45.4	-0.3
OK038				Sg	Sg	02 08 56.4	+0.3
OK035	**E0210 Rd and N**	**0.80**	**287**	Pg	Pg	02 08 45.3	-0.5
OK035				Sg	Sg	02 08 56.6	+0.4
OK035				IAML		02 08 57.1	
	comp=E,299nm,0.3s						
KS21	**Milan North St**	**0.81**	**5**	IAML		02 08 57.1	
	comp=E,305nm,0.1s						
KS21	**Milan North St**	**0.81**	**5**	Pg	Pg	02 08 45.8	-0.2
KS21				Sg	Sg	02 08 56.7	+0.3
KAN12	**Harper NE Stat**	**0.84**	**347**	Pg	Pg	02 08 46.4	-0.1
KAN12				Sg	Sg	02 08 57.3	-0.1
KAN12				IAML		02 09 06.5	
	comp=E,302nm,0.3s						
KAN12				IAML		02 09 07.2	
	comp=N,300nm,0.3s						
QUOK	**Quay**	**0.90**	**110**	Pg	Pg	02 08 47.3	-0.4
QUOK				Sg	Sg	02 08 58.8	-0.6
QUOK				IAML		02 09 02.5	
	comp=N,282nm,0.2s						
QUOK				IAML		02 09 02.9	
	comp=E,183nm,0.2s						
OK052	**Battle Ridge R**	**0.91**	**122**	Pg	Pg	02 08 47.7	-0.3
OK052				Sg	Sg	02 08 59.9	+0.1
OK052				IAML		02 09 05.3	
	comp=E,214nm,0.2s						
OK052				IAML		02 09 05.4	
	comp=E,251nm,0.3s						
U32A	**Winter Ranch,**	**1.01**	**265**	Pg	Pg	02 08 49.3	-0.5
U32A				Sg	Sg	02 09 03.0	+0.1
U32A				IAML		02 09 03.4	
	comp=N,119nm,0.4s						
T35A	**Sooner Cattle**	**1.09**	**66**	Pg	Pg	02 08 50.8	-0.5
T35A				Sg	Sg	02 09 04.9	-0.5
OKCSW	**OKLAHOMA CITY**	**1.10**	**166**	Pg	Pg	02 08 51.0	-0.6
OKCSW				Sg	Sg	02 09 05.6	-0.4
CSTR	**Hydro, Custer**	**1.13**	**222**	Pg	Pg	02 08 51.5	-0.5
CSTR				Sg	Sb	02 09 06.9	-0.1
DEOK	**Depew**	**1.20**	**122**	Pg	Pb	02 08 52.5	-0.9
DEOK				Sg	Sg	02 09 08.5	-0.5
FNO	**Franklin**	**1.26**	**167**	Pg	Pn	02 08 53.5	-0.8
FNO				IAML		02 09 16.0	
	comp=E,102nm,0.2s						
FNO				IAML		02 09 18.3	
	comp=N,90nm,0.2s						
ELIS	**Ellis County**	**1.41**	**253**		Pb	02 08 56.8	-0.2
W35A	**Tecumseh**	**1.51**	**151**		Pn	02 08 57.7	0.0
W35A				IAmb_Lg		02 09 19.2	
	comp=Z,15nm,1.2s						
TUL3	**Leonard**	**1.69**	**109**		Pn	02 09 00.8	+0.6
TUL3				IAmb_Lg		02 09 27.0	
	comp=Z,16nm,0.8s						
WMOK	**Wichita Mounta**	**1.93**	**206**	Pn	Pn	02 09 04.2	+0.6
RLO	**Rose Lookout**	**2.23**	**97**	Pn	Pn	02 09 08.1	+0.4
SMWD	**Samnorwood**	**2.44**	**237**	Pn	Pn	02 09 10.8	+0.2
X37A	**Clayton**	**2.71**	**133**	Pn	Pn	02 09 14.9	+0.7
HHAR	**Hobbs**	**3.08**	**93**	Pn	Pn	02 09 20.0	+0.6
HHAR				IAmb_Lg		02 10 14.6	
	comp=Z,9.9nm,0.9s						
S39A	**Bolivar**	**3.74**	**70**	Pn	Pn	02 09 28.8	+0.3
MIAR	**Mount Ida**	**3.92**	**118**	Pn	Pn	02 09 27.3	-3.6
RTBA	**Rita Blanca**	**4.02**	**271**	Pn	Pn	02 09 32.2	-0.1
MGMO	**Mountain Grove**	**4.45**	**80**	Pn	Pn	02 09 39.0	+0.7
X40A	**Basin Creek Fa**	**4.48**	**115**	Pn	Pn	02 09 36.8	-1.8
R40A	**Maddies Statio**	**4.73**	**66**	Pn	Pn	02 09 40.4	-1.6
BGNE	**Belgrade**	**4.93**	**357**	Pn	Pn	02 09 44.2	-0.6
P40A	**Paris**	**5.44**	**54**	IAmb_Lg		02 11 24.9	
	comp=Z,3.7nm,0.8s						
JCT	**Junction City**	**6.23**	**197**	IAmb_Lg		02 11 53.9	
	comp=Z,5.0nm,0.8s						

IDC ***26*** *02:11:36.1±0.7, 21°06S×67°67W, h151km±10km, mb3.4/2, mbtmp3.8/6, MS3.2/1, Error ellipse: s-maj=19.5km s-min=9.9km az=113.0*

SCB ***26*** *02:11:37.7±0.7, 21°07S×67°90W, h142km±7km, ML3.5/5, MW3.9, Error ellipse: s-maj=2.7km s-min=1.7km az=0.0*

ISC 26 02:11:36.4±0.8, 21°02S±0°05×67°86W±0°05, h157km±8km, n34, σ1°847/51, 8C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**1.49**	**306**	*i*P	**Pn**	**02 12 08.2**	**+1.4**
PB08				*e*S	**Sn**	**02 12 31.1**	**+1.0**
PB08				IAML		02 12 32.6	
	comp=N,222nm,0.6s						
PB08	**IPOC Station P**	**1.49**	**306**	Pg	**Pn**	**02 12 07.6**	**+0.8**
PB09	**IPOC Station P**	**1.50**	**239**	*e*P	**Pn**	**02 12 07.6**	**+0.9**
PB09				*e*S	**Sn**	**02 12 30.4**	**+0.5**
PB09				IAML		02 12 31.8	
	comp=N,230nm,0.5s						
PB09	**IPOC Station P**	**1.50**	**239**	Pg	**Pn**	**02 12 07.0**	**+0.4**
PB09				Sg	**Sn**	**02 12 29.5**	**-0.4**
PB09				IAML		02 12 32.4	
	comp=N,196nm,0.4s						
PB01	**IPOC Station P**	**1.52**	**269**	*e*P	**Pn**	**02 12 06.9**	**+0.2**
PB01				*e*S	**Sn**	**02 12 29.5**	**-0.5**
PB01				IAML		02 12 32.6	
	comp=E,204nm,0.3s						
PB01	**IPOC Station P**	**1.52**	**269**	Pg	**Pn**	**02 12 07.1**	**+0.3**
PB01				Sg	**Sn**	**02 12 29.9**	**-0.2**
PB01				IAML		02 12 31.7	
	comp=E,162nm,0.5s						
GO01	**Chusmiza**	**1.84**	**317**	*e*P	**Pn**	**02 12 11.7**	**+1.1**
GO01				*e*S	**Sn**	**02 12 39.4**	**+2.5**
GO01				IAML		02 12 43.4	
	comp=N,165nm,0.1s						
GO01	**Chusmiza**	**1.84**	**317**	Pg	**Pn**	**02 12 11.7**	**+1.1**
LVC	**Limon Verde**	**1.86**	**211**	P	**Pn**	**02 12 11.4**	**+0.7**
	comp=N,15nm,0.5s,baz=25,slow=7.5,SNR=19						
LVC				S	**Sn**	**02 12 37.6**	**+0.4**
	comp=N,35nm,0.3s,baz=198,slow=12,SNR=32						
LVC	**Limon Verde**	**1.86**	**211**	*e*P	**Pn**	**02 12 11.3**	**+0.7**
LVC				*e*S	**Sn**	**02 12 36.8**	**-0.4**
LVC				IAML		02 12 39.6	
	comp=N,363nm,0.6s						
PB02	**IPOC Station P**	**1.92**	**261**	*i*P	**Pn**	**02 12 11.3**	**+0.1**
PB02				*e*S	**Sn**	**02 12 36.8**	**-1.1**
PB02	**IPOC Station P**	**1.92**	**261**	Pg	**Pn**	**02 12 11.6**	**+0.5**
PB02				Sg	**Sn**	**02 12 37.4**	**-0.5**
PB02				IAML		02 12 41.6	
	comp=N,497nm,0.3s						
PB07	**IPOC Station P**	**2.01**	**249**	*e*P	**Pn**	**02 12 12.3**	**0.0**
PB07				*e*S	**Sn**	**02 12 38.4**	**-1.5**
PB07				IAML		02 12 41.3	
	comp=N,496nm,0.3s						
MOCB	**Mochara**	**2.09**	**97**	Pg	**Pn**	**02 12 15.1**	**+1.7**
MOCB				Sg	**Sn**	**02 12 43.1**	**+1.2**
MOCB				IAML		02 12 51.7	
	comp=N,126nm,0.4s						
PB11	**IPOC Station P**	**2.10**	**306**	*i*P	**Pn**	**02 12 13.8**	**+0.5**
PB11				*e*S	**Sn**	**02 12 41.1**	**-0.5**
PB11				IAML		02 12 43.3	
	comp=E,394nm,0.2s						
PB11	**IPOC Station P**	**2.10**	**306**	Pg	**Pn**	**02 12 13.9**	**+0.7**
TA01	**Diego Aracena**	**2.21**	**281**	*i*P	**Pn**	**02 12 14.2**	**-0.3

*SNET **26** 02:16:10.6±1.0, 13.°62N×90.°86W, h18km±9km, ML3.3*
*GCG **26** 02:16:13.6±0.8, 13.°83N×90.°90W, h54km±37km, MD3.6*

ISC 26 02:16:10.3±2.2, 13°69N±0.°07×90°84W±0.°04, h13km±14km, n31, σ0s71/41, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCG	**Pacaya**	**0.73**	**18**	*eP*	**Pn**	**02 16 27.3**	**+0.6**
FUG	**Fuego 3**	**0.75**	**0**	*eP*	**Pn**	**02 16 27.4**	**+0.5**
SULM	**Suchitepequez,**	**0.93**	**311**	*eP*	**Pn**	**02 16 30.7**	**+1.6**
NBG	**Las Nubes**	**1.01**	**28**	*eP*	**Pn**	**02 16 30.9**	**+0.4**
NBG				*eS*	**Sn**	**02 16 45.5**	**+0.6**
GUNB	**GUNB**	**1.02**	**28**	*i* P	**Pb**	**02 16 29.3**	**-0.8**
GUNB				*i* S	**Sb**	**02 16 43.3**	**-0.2**
GUNB				IAML		02 16 46.1	
	comp=Z,420nm,1.0s						
NUBE	**Las Nubes**	**1.05**	**78**	*eP*	**Pb**	**02 16 30.3**	**-0.2**
NUBE				*eS*	**Sg**	**02 16 44.8**	**+0.4**
NUBE	**Las Nubes**	**1.05**	**78**	*i* P	**Pb**	**02 16 30.1**	**-0.5**
NUBE				*i* S	**Sb**	**02 16 44.6**	**+0.2**
NUBE				IAML		02 16 46.1	
	comp=Z,490nm,1.0s						
LOAL	**Lomas de Alarc**	**1.08**	**73**	*eP*	**Pb**	**02 16 30.9**	**0.0**
LOAL	**Lomas de Alarc**	**1.08**	**73**	*i* P	**Pb**	**02 16 30.4**	**-0.5**
LOAL				*i* S	**Sg**	**02 16 45.8**	**+0.7**
LOAL				IAML		02 16 48.2	
	comp=Z,2μm,1.0s						
RTAL	**Retalhuleu**	**1.17**	**315**	*eP*	**Pn**	**02 16 31.9**	**-0.6**
RTAL				*eS*	**Sn**	**02 16 48.5**	**+0.1**
RTAL	**Retalhuleu**	**1.17**	**315**	*i* P	Pn	02 16 25.6	-6.9
RTAL				*i* S	**Sb**	**02 16 46.4**	**-1.2**
RTAL				IAML		02 17 03.1	
	comp=Z,220nm,1.0s						
RTR	**El Retiro**	**1.18**	**80**	*eP*	**Pn**	**02 16 32.5**	**-0.2**
CEVE	**Cerro Verde**	**1.19**	**83**	*eP*	**Pn**	**02 16 32.6**	**-0.4**
CEVE				IAML		02 16 50.3	
	comp=Z,595nm,0.4s						
CEVE				*eS*	**Sn**	**02 16 50.5**	**+1.3**
CEVE	**Cerro Verde**	**1.19**	**83**	*i* P	**Pn**	**02 16 32.6**	**-0.4**
CEVE				*i* S	**Sn**	**02 16 49.5**	**+0.3**
CEVE				IAML		02 16 52.2	
	comp=Z,580nm,1.0s						
SBLS	**San Blas**	**1.19**	**83**	*eP*	**Pn**	**02 16 32.6**	**-0.4**
STG3	**Santiaguito 3,**	**1.23**	**325**	*eP*	**Pn**	**02 16 33.7**	**+0.2**
STG3				*eS*	**Sb**	**02 16 48.5**	**-1.1**
UNIC	**Universidad Ca**	**1.29**	**77**	*i* P	**Pn**	**02 16 33.2**	**-1.0**
UNIC				IAML		02 16 33.6	
	comp=Z,280nm,1.0s						
JAYA	**Jayaque - finc**	**1.36**	**91**	*eP*	**Pn**	**02 16 34.4**	**-0.7**
JAYA				IAML		02 16 55.5	
	comp=Z,476nm,0.2s						
JAYA	**Jayaque - finc**	**1.36**	**91**	*i* P	**Pn**	**02 16 34.4**	**-0.7**
JAYA				IAML		02 16 55.5	
	comp=Z,1μm,1.0s						
PMON	**Piamonte**	**1.49**	**89**	*eP*	**Pn**	**02 16 36.3**	**-0.6**
PMON	**Piamonte**	**1.49**	**89**	*i* P	**Pn**	**02 16 35.9**	**-1.0**
PMON				IAML		02 17 01.0	
	comp=Z,420nm,1.0s						
SMSP	**San Marcos**	**1.56**	**325**	*i* P	**Pn**	**02 16 38.2**	**0.0**
SMSP				IAML		02 16 58.9	
	comp=Z,1μm,1.0s						
LOMA	**Loma Larga**	**1.63**	**91**	*eP*	**Pn**	**02 16 38.5**	**-0.3**
LOMA	**Loma Larga**	**1.63**	**91**	*i* P	**Pn**	**02 16 38.2**	**-0.7**
LOMA				IAML		02 17 02.8	
	comp=Z,410nm,1.0s						
SJTE	**Alcalda de S**	**1.79**	**92**	*eP*	**Pn**	**02 16 40.5**	**-0.5**
SJTE	**Alcalda de S**	**1.79**	**92**	*i* P	**Pn**	**02 16 40.1**	**-0.9**
SJTE				IAML		02 17 05.5	
	comp=Z,200nm,1.0s						
COEG	**Centro de Oper**	**1.91**	**92**	*eP*	**Pn**	**02 16 42.9**	**+0.2**
COEG	**Centro de Oper**	**1.91**	**92**	*i* P	**Pn**	**02 16 42.5**	**-0.2**
COEG				IAML		02 16 44.3	
	comp=Z,110nm,1.0s						
PACA	**Pacayal**	**2.46**	**95**	*eP*	**Pn**	**02 16 51.3**	**+0.9**
PACA	**Pacayal**	**2.46**	**95**	*i* P	**Pn**	**02 16 50.2**	**-0.1**
PACA				*i* S	**Sb**	**02 17 24.2**	**-0.7**
PACA				IAML		02 17 36.4	
	comp=Z,570nm,1.0s						
HZTE	**Horizontes, Gu**	**5.92**	**119**	*i* P	**Pn**	**02 17 39.0**	**+1.1**

*IDC **26** 02:16:23.4±7.1, 21.°66S×178.°68W, h413km±73km, mb3.2/8, mbtmp4.0/8, Error ellipse: s-maj=28.2km s-min=25.0km az=25.0*

ISC 26 02:16:31.6±0.8, 21°9S±0.°2×178°8W±0.°1, h500km, n19, σ1s44/16, mb3.7/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.69**	**266**	P	**P**	**02 19 28.5**	**+0.4**
	6.9nm,0.7s,baz=95,slow=19,SNR=7.0						
STKA	**Stephens Creek**	**36.54**	**246**	P	**P**	**02 22 52.9**	**-1.4**
	2.4nm,0.6s,baz=108,slow=11,SNR=5.3						
	2.4nm,0.6s						
ASAR	**Alice Springs**	**43.49**	**258**	P	**P**	**02 23 49.5**	**-0.9**
	3.2nm,0.6s,baz=91,slow=8.2,SNR=28						
	3.2nm,0.6s						
WRA	**Warramunga Arr**	**43.69**	**264**	P	**P**	**02 23 50.8**	**-1.1**
	0.8nm,0.4s,baz=96,slow=7.5,SNR=12						
	0.8nm,0.4s						
VNDA	**Vanda**	**56.51**	**185**	P	**P**	**02 25 25.9**	**+0.7**
	0.4nm,0.4s,baz=351,slow=5.7,SNR=8.6						
	0.4nm,0.4s						
MJAR	**Matsushiro Arr**	**70.85**	**324**	P	**P**	**02 26 58.2**	**+0.7**
	0.8nm,0.3s,baz=114,slow=3.1,SNR=1.8						
	0.8nm,0.3s						
NVAR	**Mina Array Bea**	**82.51**	**44**	P	**P**	**02 28 00.6**	**-1.2**
	0.7nm,0.7s,baz=221,slow=10,SNR=4.9						
	0.7nm,0.7s						
TXAR	**Lajitas Array**	**88.41**	**58**	P	**P**	**02 28 29.0**	**-1.3**
	0.3nm,0.7s,baz=210,slow=5.2,SNR=3.9						
	0.3nm,0.7s						
PDAR	**Pinedale Array**	**90.45**	**44**	P	**P**	**02 28 38.2**	**-1.5**
	0.7nm,0.7s,baz=202,slow=4.5,SNR=8.2						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**114.52**	**317**	PKP	PKPdf	02 34 14.6	+0.5
	0.1nm,0.3s,baz=88,slow=2.2,SNR=1.8						
ARCES	**ARCESS Array B**	**130.10**	**349**	PKP	**PKPdf**	**02 34 44.0**	**+0.4**
	2.5nm,0.8s,baz=43,slow=2.3,SNR=4.3						
FINES	**FINESS Array B**	**136.84**	**343**	PKP	**PKPdf**	**02 34 56.2**	**-0.2**
	2.0nm,0.9s,baz=48,slow=2.1,SNR=2.2						
NOA	**NORSAR Array B**	**140.22**	**352**	PKP	**PKPdf**	**02 35 03.6**	**+1.0**
	0.2nm,0.6s,baz=14,slow=3.7,SNR=1.4						
HFS	**Hagfors**	**140.74**	**350**	PKhKP	PKPpre	02 34 58.1	
	0.7nm,0.4s,baz=31,slow=3.5,SNR=6.2						
AKASG	**Malin Array Be**	**143.81**	**330**	PKP	PKPab	02 35 07.8	-0.3
	0.7nm,0.3s,baz=44,slow=4.1,SNR=7.6						
EKA	**Eskdalemuir Ar**	**146.40**	**4**	PKPbc	**PKPdf**	**02 35 15.4**	**+1.9**
	1.0nm,0.6s,baz=348,slow=3.0,SNR=7.4						
BRTR	**Keskin Array B**	**147.16**	**310**	PKPbc	**PKPdf**	**02 35 18.8**	**+3.3**
	0.3nm,0.5s,baz=132,slow=5.1,SNR=5.3						
MMAI	**Mount Meron Ar**	**147.80**	**298**	PKPbc	**PKPbc**	**02 35 21.1**	**+0.8**
	0.7nm,0.4s,baz=67,slow=6.4,SNR=1.6						
GERES	**GERESS Array B**	**151.27**	**343**	PKPbc	**PKPbc**	**02 35 27.5**	**-0.7**
	0.3nm,0.4s,baz=357,slow=9.4,SNR=2.7						

KRSC 26 03:14:38.0±0.6, 52°57N×158°74E, h101km±5km, MI3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.19**	**225**	*eP*	Pn	03 14 53.2	+0.9
RUS				*eS*	Sn	03 15 03.8	+0.9
MTVR	**Mutnovka**	**0.35**	**256**	*eP*	Pn	03 14 54.1	+1.0
MTVR				*eS*	Sn	03 15 05.8	+1.4
KRMR	**Karymshinskiy**	**0.45**	**305**	*eP*	Pn	03 14 54.1	+0.6
KRMR				*eS*	Sn	03 15 05.8	+0.6
PET	**Petropavlovsk**	**0.46**	**354**	*eP*	Pn	03 14 54.5	+0.9
PET				*eS*	Sn	03 15 05.7	+0.5
DALK	**Dalny**	**0.46**	**1**	*eP*	Pn	03 14 54.7	+1.1
DALK				*eS*	Sn	03 15 06.3	+1.0
ASAK	**Asacha**	**0.55**	**250**	*eP*	Pn	03 14 55.5	+1.2
ASAK				*eS*	Sn	03 15 07.6	+1.1
SMAR	**Somma**	**0.70**	**3**	*eP*	Pn	03 14 56.8	+1.1
SMAR				*eS*	Sn	03 15 10.3	+1.3
AVH	**Avacha**	**0.70**	**360**	*eP*	Pn	03 14 57.2	+1.6
AVH				*eS*	Sn	03 15 10.5	+1.8
NLC	**Nalytchevo**	**0.71**	**31**	*eP*	Pn	03 14 56.2	+0.7
NLC				*eS*	Sn	03 15 09.2	+0.5
SDLR	**Sedlovina**	**0.72**	**7**	*eP*	Pn	03 14 57.6	+1.8
KOK	**Koryaka**	**0.73**	**355**	*eP*	Pn	03 14 57.3	+1.4
KOK				*eS*	Sn	03 15 11.0	+1.8
KRER	**Koryakskii**	**0.74**	**0**	*eP*	Pn	03 14 57.5	+1.5
KRER				*eS*	Sn	03 15 11.3	+1.7
KRX	**Arik**	**0.79**	**356**	*eP*	Pn	03 14 57.7	+1.2
KRX				*eS*	Sn	03 15 11.7	+1.3
KDTR	**Khodutka, Kamc**	**0.86**	**208**	*eP*	Pn	03 14 58.1	+1.1
KDTR				*eS*	Sn	03 15 12.2	+0.9
SPN	**Mys Shipunski**	**0.94**	**55**	*eP*	Pn	03 14 59.4	+1.6
SPN				*eS*	Sn	03 15 13.9	+1.1
APC	**Apacha**	**1.02**	**291**	*eP*	Pn	03 15 00.1	+1.4
APC				*eS*	Sn	03 15 16.3	+2.0
GNL	**Ganaly**	**1.23**	**337**	*eP*	Pn	03 15 01.9	+0.8
GNL				*eS*	Sn	03 15 19.0	+0.4
KII	**Karymskiy**	**1.53**	**16**	*eP*	Pn	03 15 06.9	+2.1
PAU	**Pauzhetka**	**1.62**	**228**	*eP*	Pn	03 15 08.4	+2.6
SKR	**Severo-Kuril's**	**2.50**	**222**	*eP*	Pn	03 15 19.3	+2.3
SKR				*eS*	Sn	03 15 49.2	+2.2
TUMD	**Tumrok D**	**2.82**	**20**	*eP*	Pn	03 15 23.5	+2.2
TUMD				*eS*	Sn	03 15 55.9	+1.3
TUMR	**Tumrok**	**2.84**	**16**	*eP*	Pn	03 15 24.7	+3.0
KBG	**Krutoberegovo**	**4.36**	**31**	*eP*	Pn	03 15 43.6	+1.7
BKI	**Bering**	**5.03**	**55**	*eP*	Pn	03 15 52.1	+1.1

TEH 26 03:21:00.2, 28°98N×58°31E, h10km±23km, ML3.5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBAM	**BAM**	**0.20**	**39**	Pg	Pg	03 21 05.2	+0.7
CHMN	**Cheshme madani**	**1.11**	**323**	Pg	Pb	03 21 21.8	+0.1
KHNJ	**Kahnooj**	**1.16**	**207**	Pg	Pb	03 21 22.1	-0.3
NGRK	**Negar Kerman**	**1.53**	**296**	Pg	Pg	03 21 29.6	0.0
TVBK	**TV Kerman**	**1.68**	**307**	Pg	Pg	03 21 32.3	-0.2
KRM1	**Kerman Provinc**	**1.77**	**330**	Pg	Pg	03 21 33.6	-0.5
ZHDN	**Zahedan**	**2.23**	**79**	Pn	Pb	03 21 39.1	-1.6
GENO	**Geno**	**2.46**	**231**	Pn	Pb	03 21 43.3	-1.2
NHDN	**Nehbandan**	**2.84**	**32**	Pn	Pn	03 21 48.1	+2.2
BSRN	**Basiran**	**3.06**	**13**	Pn	Pn	03 21 50.3	+1.5
JASK	**Jask - Hormozg**	**3.12**	**187**	Pn	Pn	03 21 51.4	+1.8
IKOO	**Kooshah**	**3.49**	**10**	Pn	Pn	03 21 56.6	+1.8
ITEG	**Tejag**	**3.92**	**5**	Pn	Pn	03 22 03.2	+2.4
IDAH	**Dahanechah**	**3.98**	**19**	Pn	Pn	03 22 03.1	+1.5
TPRV	**Parvadeh(Tabas**	**4.27**	**341**	Pn	Pn	03 22 08.0	+2.6
AFRZ	**Afriz**	**4.47**	**8**	Pn	Pn	03 22 10.1	+1.8
TKDS	**Koohdasht(Taba**	**4.73**	**348**	Pn	Pn	03 22 13.9	+2.1

*IDC **26** 03:21:36.3±3.7, 6.°48S×148.°28E, h75km±35km, mb3.5/6, mbtmp3.8/8, ML3.8/1, MS2.9/4, Error ellipse: s-maj=58.7km s-min=24.5km az=108.0*

ISC 26 03:21:34.0±1.2, 6°3S±0.°1×148°2E±0.°4, h50km, n12, σ1s17/10, mb3.8/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.24**	**199**	P	**Pn**	**03 22 23.7**	**+1.4**
	176nm,0.6s,baz=14,slow=9.1,SNR=36						
PMG				S	**Sn**	**03 22 59.9**	**+0.3**
	54nm,0.3s,baz=33,slow=23,SNR=8.9						
PMG				LR	LR	03 23 29.5	
	comp=Z,101nm,21.9s,baz=56,slow=36						
CTA	**Charters Tower**	**13.82**	**188**	LR	LR	03 29 36.3	
	comp=Z,78nm,18.2s,baz=0.0,slow=35						
WRA	**Warramunga Arr**	**19.10**	**224**	P	**P**	**03 25 51.4**	**-1.4**
	0.3nm,0.3s,baz=52,slow=11,SNR=11						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**22.06**	**217**	P	**P**	**03 26 24.4**	**-0.4**
	2.8nm,0.7s,baz=51,slow=9.2,SNR=26						
	2.8nm,0.7s						
STKA	**Stephens Creek**	**26.17**	**193**	P	**P**	**03 27 02.5**	**-1.3**
	1.9nm,0.5s,baz=15,slow=13,SNR=5.7						
	1.9nm,0.5s						
JOW	**Kunigami**	**38.20**	**330**	LR	LR	03 42 27.2	
	comp=Z,36nm,20.6s,baz=128,slow=33						
KSRS	**Korea Array**	**47.48**	**338**	LR	LR	03 49 55.8	
	comp=Z,7.2nm,18.3s,baz=135,slow=36						
PETK	**Petropavlovsk-**	**59.75**	**7**	P	**P**	**03 31 35.0**	**+1.4**
	1.4nm,0.7s,baz=157,slow=7.9,SNR=4.0						
	1.4nm,0.7s						
SONM	**Songino Array**	**65.27**	**330**	P	**P**	**03 32 11.2**	**+0.5**
	0.2nm,0.4s,baz=143,slow=5.2,SNR=2.1						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**79.92**	**328**	P	**P**	**03 33 37.2**	**-0.2**
	0.4nm,0.4s,baz=126,slow=7.3,SNR=1.9						
	0.4nm,0.4s						
ILAR	**Eielson Array**	**85.30**	**23**	P	**P**	**03 34 04.0**	**-1.2**
	0.3nm,0.7s,baz=248,slow=4.8,SNR=4.2						
	0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**146.33**	**284**	PKPbc	**PKPbc**	**03 41 10.2**	**-0.2**
	2.4nm,0.7s,baz=49,slow=4.4,SNR=16						

*IDC **26** 03:31:19.1±0.9, 0.°05N×121.°79E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=181.3km s-min=17.4km az=62.0*
*DJA **26** 03:31:37.5±0.5, 0.°N±6.°×12.°2E±.°, h151km±6km, M4.0/9, mb4.3/2, mB5.2/2, MLv3.9/9, Mw(mB)4.6/2*

ISC 26 03:31:36.7±0.8, 0.°18N±0.°07×122.°47E±0.°06, h150km, n15, σ2s92/18, mb3.6/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.71**	**50**	P	**Pn**	**03 32 01.1**	**+1.8**
GTOI				S	**Sn**	**03 32 18.7**	**+2.3**
LUWI	**Luwuk**	**1.25**	**166**	P	**Pn**	**03 32 05.7**	**+2.0**
KMSI	**Cibinong**	**1.56**	**75**	P	**Pn**	**03 32 08.3**	**+1.4**
KMSI				S	**Sn**	**03 32 33.8**	**+3.8**
MPSI	**Mapaga**	**2.58**	**274**	P	**Pn**	**03 32 19.3**	**+0.5**
TTSI	**Tana Toraja**	**4.15**	**220**	P	**Pn**	**03 32 41.5**	**+2.5**
SANI	**Sanana**	**4.16**	**122**	P	**Pn**	**03 32 38.8**	**-0.2**
SANI				S	**Sn**	**03 33 24.0**	**-3.5**
LBMI	**Labuha**	**5.10**	**99**	P	**Pn**	**03 32 51.9**	**+0.5**
NLAI	**Namlea**	**5.74**	**126**	P	**Pn**	**03 33 02.4**	**+2.4**
	14nm,0.5s,8μm0.5nm						
WRA	**Warramunga Arr**	**23.13**	**150**	P	**P**	**03 36 29.4**	**-0.5**
	2.6nm,0.9s,baz=324,slow=11,SNR=15						
	2.6nm,0.9s						
ASAR	**Alice Springs**	**26.17**	**156**	P	**P**	**03 36 57.2**	**-0.2**
	0.5nm,0.5s,baz=324,slow=7.2,SNR=5.7						
	0.5nm,0.5s						
STKA	**Stephens Creek**	**36.66**	**152**	P	**P**	**03 38 29.6**	**+0.6**
	1.9nm,0.7s,baz=315,slow=17,SNR=1.9						
	1.9nm,0.7s						
SONM	**Songino Array**	**49.48**	**346**	P	**P**	**03 40 10.7**	**-1.2**
	0.4nm,0.6s,baz=157,slow=7.7,SNR=2.8						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**58.19**	**329**	P	**P**	**03 41 13.9**	**-1.1**
	0.6nm,0.5s,baz=127,slow=8.1,SNR=11						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**62.55**	**330**	P	**P**	**03 41 42.6**	**-1.9**
	0.3nm,0.4s,baz=129,slow=5.8,SNR=5.5						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**68.06**	**329**	P	**P**	**03 42 18.8**	**-1.2**
	0.8nm,0.9s,baz=106,slow=3.1,SNR=2.4						
	0.8nm,0.9s						

*IDC **26** 03:42:02.1±0.7, 5.°59S×118.°22E, h0km, mb4.0/14, mbtmp4.0/14, MS3.2/16, Error ellipse: s-maj=34.2km s-min=14.3km az=64.0*
*NEIC **26** 03:42:05.0±1.2, 5.°55S±0.°09×118.°26E±0.°06, h15km±5km, mb4.3/13, Error ellipse: s-maj=14.9km s-min=3.6km az=150.0*
*DJA **26** 03:42:05.4±1.7, 6.°S±2.°×11.°8E±.°, h15km±14km, M4.8/22, mB5.6/5, mb4.8/12, MLv4.6/22, Mw(mB)5.1/5*

ISC 26 03:42:04.4±0.5, 5.°63S±0.°06×118.°27E±0.°07, h10km, n71, σ1s10/59, mb4.2/18, MS3.2/16, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**1.60**	**68**		**Pn**	**03 42 32.1**	**-0.7**
BKSI	**Bulukumba**	**1.87**	**81**	P	**Pn**	**03 42 36.1**	**-0.4**
TTSI	**Tana Toraja**	**3.00**	**31**	P	**Pn**	**03 42 52.9**	**+0.9**
PLAI	**Plampang**	**3.21**	**189**	P	**Pn**	**03 42 54.9**	**-0.1**
TWSI	**Taliwang, Sumb**	**3.38**	**204**	P	**Pn**	**03 42 56.7**	**-0.5**
SRBI	**Singaraja**	**3.89**	**231**	P	**Pn**	**03 43 04.0**	**-0.3**
IGBI	**Denpasar**	**4.43**	**224**	P	**Pn**	**03 43 12.6**	**+0.9**
ABJI	**Asem Bagus**	**4.55**	**242**	P	**Pn**	**03 43 15.0**	**+1.7**
BKB	**Balikpapan**	**4.55**	**342**	P	**Pn**	**03 43 16.2**	**+2.9**
EDFI	**Ende, Flores**	**4.60**	**133**	P	**Pn**	**03 43 14.7**	**+0.6**
JAGI	**Jajag, Banyuwa**	**4.96**	**235**	Pn	**Pn**	**03 43 18.3**	**-0.7**
JAGI	**Jajag, Banyuwa**	**4.96**	**235**	P	**Pn**	**03 43 18.6**	**-0.4**
BLJI	**Banyuglugur**	**5.09**	**245**	P	**Pn**	**03 43 22.1**	**+1.3**
	59nm,0.4s,3μm0.7nm						
BASI	**Baing, Sumba**	**5.10**	**153**	P	**Pn**	**03 43 21.9**	**+1.0**
	187nm,1.6s,0.8nm						
SMKI	**Samarinda**	**5.26**	**348**	P	**Pn**	**03 43 22.8**	**-0.3**
	180nm,0.5s,9μm1.3nm						
GMJI	**Gumukmas**	**5.46**	**241**	P	**Pn**	**03 43 26.5**	**+0.7**
	37nm,0.5s						
BWJI	**Bawean**	**5.58**	**267**	P	**Pn**	**03 43 28.2**	**+0.6**
	378nm,1.0s,7μm2.3nm						
MTKI	**Muara Teweh, K**	**5.74**	**324**	P	**Pn**	**03 43 31.4**	**+1.6**
	90nm,0.7s,12μm1.0nm						
GRJI	**Gresik**	**5.89**	**257**	P	**Pn**	**03 43 32.5**	**+0.7**
	180nm,0.8s,1.3nm						
MPSI	**Mapaga**	**6.15**	**15**	P	**Pn**	**03 43 36.0**	**+0.7**
PWJI	**Pagerwojo**	**6.84**	**249**	P	**Pn**	**03 43 45.6**	**+0.7**
	25nm,0.6s,0.2nm						
MRSI	**Marisa**	**7.09**	**31**	P	**Pn**	**03 43 49.4**	**+1.1**
	37nm,0.9s,2μm0.1nm						
SOEI	**Soe**	**7.22**	**125**	P	**Pn**	**03 43 51.5**	**+1.3**
	54nm,0.9s,0.2nm						
GTOI	**Gorontalo**	**7.82**	**37**	P	**Pn**	**03 44 00.7**	**+2.4**
	6.9nm,1.3s,0.0nm						
UGM	**Wanagama**	**8.02**	**253**	P	**Pn**	**03 44 03.3**	**+2.3**
	148nm,1.8s						
KPJI	**Karang Pucung**	**9.43**	**259**	P	**Pn**	**03 44 21.6**	**+1.2**
FITZ	**Fitzroy Crossi**	**14.33**	**150**	Pn	**Pn**	**03 45 28.1**	**+0.6**
MTN	**Manton Dam**	**14.58**	**120**	Pn	**Pn**	**03 45 30.4**	**-0.5**
MBWA	**Marble Bar**	**15.50**	**175**	Pn	**Pn**	**03 45 43.1**	**-0.1**
MBWA				IAmb	IAmb	03 45 53.4	
	comp=Z,22nm,1.3s						
PSA00	**Pilbara Seismi**	**15.92**	**175**	Pn	**Pn**	**03 45 49.0**	**+0.3**
WB0	**Warramunga Arr**	**21.06**	**133**	P	**P**	**03 46 49.0**	**+0.2**
WB0				IAmb	IAmb	03 47 02.2	
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**21.14**	**134**	P	**P**	**03 46 49.2**	**-0.5**
WRA	**Warramunga Arr**	**21.14**	**134**	P	**P**	**03 46 49.7**	**0.0**
	comp=Z,6.6nm,0.9s,baz=306,slow=12,SNR=40						
WRA				LR	LR	03 55 27.9	
	comp=Z,158nm,21.8s,baz=234,slow=38						
	comp=Z,6.6nm,0.9s						
WB2	**Warramunga Arr**	**21.14**	**134**	P	**P**	**03 46 49.3**	**-0.5**
WR0	**Warramunga Arr**	**21.29**	**133**	P	**P**	**03 46 51.5**	**+0.2**
WR0				IAmb	IAmb	03 46 55.0	
	comp=Z,14nm,0.8s						
MORW	**Morawa**	**23.41**	**185**	P	**P**	**03 47 14.9**	**+1.3**
MORW				IAmb	IAmb	03 47 23.1	
	comp=Z,17nm,1.4s						
AS31	**Alice Springs**	**23.42**	**142**	P	**P**	**03 47 13.7**	**-0.2**
ASAR	**Alice Springs**	**23.42**	**142**	P	**P**	**03 47 13.4**	**-0.4**
ASAR	**Alice Springs**	**23.42**	**142**	P	**P**	**03 47 13.8**	**0.0**
	comp=Z,2.8nm,0.6s,baz=316,slow=8.6,SNR=29						
ASAR				PcP	**PcP**	**03 50 58.7**	**-1.7**
	comp=Z,0.5nm,0.6s,baz=338,slow=2.0,SNR=3.0						
	comp=Z,2.8nm,0.6s						
COEN	**Coen**	**25.88**	**110**	P	**P**	**03 47 36.3**	**-0.4**
NWAO	**Narrogin (SRO)**	**27.18**	**182**	LR	LR	03 59 08.1	
	comp=Z,66nm,20.6s,baz=27,slow=38						
CMAR	**Chiang Mai Arr**	**30.59**	**322**	P	**P**	**03 48 19.2**	**+0.5**
	comp=Z,1.6nm,0.4s,baz=144,slow=7.7,SNR=13						
CMAR				LR	LR	04 01 59.5	
	comp=Z,34nm,20.4s,baz=140,slow=39						
	comp=Z,1.6nm,0.4s						
CTA	**Charters Tower**	**30.76**	**120**	LR	LR	04 00 14.7	
	comp=Z,55nm,20.3s,baz=0.0,slow=35						
BBOO	**Buckleboo**	**31.73**	**151**	P	**P**	**03 48 28.6**	**0.0**
JOW	**Kunigami**	**33.69**	**16**	LR	LR	04 03 28.5	
	comp=Z,38nm,19.9s,baz=192,slow=38						
STKA	**Stephens Creek**	**34.03**	**143**	P	**P**	**03 48 49.3**	**+0.5**
STKA				IAmb	IAmb	03 49 14.4	
	comp=Z,3.6nm,1.4s						
STKA	**Stephens Creek**	**34.03**	**143**	P	**P**	**03 48 48.6**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=315,slow=9.0,SNR=5.2						
STKA				LR	LR	04 05 54.5	
	comp=Z,57nm,20.2s,baz=37,slow=42						
	comp=Z,2.4nm,0.6s						
JNU	**Nakatsue**	**40.35**	**16**	LR	LR	04 07 02.3	
	comp=Z,20nm,20.3s,baz=176,slow=37						
KSRS	**Korea Array**	**43.80**	**11**	P	**P**	**03 50 09.4**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=190,slow=8.8,SNR=

0.2nm,0.3s
AKTO ⇓S Sn 04 22 44.1 -1.0
1.3nm,0.8s
ZALV Zalesovo Beam 18.89 25 P P 04 20 16.9 -2.7
0.9nm,0.4s,baz=235,slow=9.0,SNR=6.2
FINES FINESS Array B 36.82 325 P P 04 23 08.4 +3.1
1.1nm,0.8s,baz=109,slow=7.8,SNR=1.2
1.1nm,0.8s
NOA NORSAR Array B 43.76 322 P P 04 24 02.7 +0.2
0.6nm,0.8s,baz=99,slow=7.7,SNR=1.2
0.6nm,0.8s
SPITS Spitsbergen Ar 46.59 347 P P 04 24 22.1 -2.5
8.9nm,0.9s,baz=111,slow=6.3,SNR=2.6
8.9nm,0.9s
ILAR Eielson Array 73.74 16 P P 04 27 27.0 -3.0
0.3nm,0.9s,baz=334,slow=6.1,SNR=2.8
0.3nm,0.9s
YKA Yellowknife Ar 80.23 3 P P 04 28 05.3 -1.1
0.2nm,0.5s,baz=350,slow=5.6,SNR=4.9
0.2nm,0.5s

IDC 26 04:19:35.2±12.0, 7°.55S×129°.17E, h341km±147km, mb3.1/1, mbtmp3.4/3, Error ellipse: s-maj=169.5km s-min=51.6km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.30**	**158**	P	P	04 22 31.5	0.0
	0.2nm,0.4s,baz=334,slow=13,SNR=5.7						
WRA				S	S	04 24 56.1	-1.6
	0.4nm,0.6s,baz=338,slow=22,SNR=2.4						
ASAR	**Alice Springs**	**16.65**	**165**	P	P	04 23 09.1	+0.9
	0.5nm,0.6s,baz=340,slow=9.4,SNR=6.0						
MKAR	**Makanchi Array**	**68.24**	**327**	P	P	04 29 59.8	-0.1
	0.4nm,0.4s,baz=118,slow=7.9,SNR=8.3						
	0.4nm,0.4s						

IDC 26 04:21:37.8±11.0, 7°.26S×130°.20E, h412km±161km, mb3.0/1, mbtmp3.5/3, Error ellipse: s-maj=100.0km s-min=73.7km az=66.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.23**	**163**	P	P	04 24 29.9	-0.8
	0.4nm,0.3s,baz=342,slow=11,SNR=7.3						
WRA				S	S	04 26 54.6	+0.9
	0.5nm,0.7s,baz=342,slow=20,SNR=4.7						
ASAR	**Alice Springs**	**16.69**	**168**	P	P	04 25 08.8	+0.7
	0.5nm,0.5s,baz=343,slow=9.2,SNR=5.9						
MKAR	**Makanchi Array**	**68.56**	**327**	P	P	04 31 57.8	+0.1
	0.4nm,0.4s,baz=118,slow=7.9,SNR=6.4						
	0.4nm,0.4s						

IDC 26 04:44:05.8±2.2, 25°.26N×98°.68E, h0km, mb3.5/2, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=73.7km s-min=25.8km az=80.0, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**6.78**	**178**	Pn	Pn	04 45 47.0	+0.3
	0.4nm,0.3s,baz=355,slow=18,SNR=11						
CMAR				Sn	Sn	04 47 04.8	+0.3
	0.6nm,0.3s,baz=353,slow=29,SNR=12						
	1.7nm,0.4s						
MKAR	**Makanchi Array**	**25.15**	**333**	P	P	04 49 32.7	0.0
	0.5nm,0.9s,baz=148,slow=8.5,SNR=2.9						
	0.5nm,0.9s						
ZALV	**Zalesovo Beam**	**30.46**	**344**	P	P	04 50 20.0	-0.1
	0.5nm,0.3s,baz=171,slow=9.9,SNR=1.8						
	0.5nm,0.3s						

*DJA **26** 04:44:43.5±0.5, 7°.5S×113°.0E±°, h214km±10km, M4.2/7, mb3.8/7, mB4.8/1, MLv4.3/7, Mw(mB)4.0/1*
*IDC **26** 04:44:46.7±5.0, 6°.73S×129°.71E, h188km±47km, mb3.1/1, mbtmp3.7/4, Error ellipse: s-maj=46.7km s-min=22.6km az=60.0*
ISC 26 04:44:45.2±1.0, 6°.65S±0°.09×129°.83E±0°.07, h200km, n8, σ1§95/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.96**	**132**	P	**Pn**	**04 45 22.6**	**-0.7**
SAUI				S	**Sn**	**04 45 52.3**	**-0.8**
FAKI	**Fak Fak**	**4.42**	**33**	P	**Pn**	**04 45 50.5**	**-1.8**
SOEI	**Soe**	**6.31**	**240**	P	**Pn**	**04 46 16.3**	**-0.4**
BATI	**Baumata**	**7.05**	**240**	P	**Pn**	**04 46 27.1**	**+1.0**
	21nm,0.3s,baz=63,slow=4.5,SNR=2.2						
BATI				S	**Sn**	**04 47 42.8**	**-3.6**
	25nm,0.3s,baz=90,slow=20,SNR=2.2						
BATI	**Baumata**	**7.05**	**240**	P	**Pn**	**04 46 26.4**	**+0.2**
	27nm,0.8s,0.2nm						
WRA	**Warramunga Arr**	**13.92**	**162**	P	**P**	**04 47 56.0**	**-0.2**
	0.6nm,0.5s,baz=347,slow=13,SNR=9.8						
WRA				S	S	04 50 17.9	-11
	0.6nm,0.4s,baz=334,slow=22,SNR=8.1						
ASAR	**Alice Springs**	**17.36**	**167**	P	**Pn**	**04 48 36.3**	**+0.4**
	0.4nm,0.4s,baz=339,slow=10,SNR=6.0						
ASAR				S	**S**	**04 51 46.7**	**+2.2**
	0.1nm,0.3s,baz=356,slow=22,SNR=1.1						
MKAR	**Makanchi Array**	**67.85**	**327**	P	**P**	**04 55 24.6**	**+2.7**
	0.2nm,0.3s,baz=132,slow=7.9,SNR=2.3						
	0.2nm,0.3s						

*CATAC **26** 05:25:52.5±0.5, 8°.57N×83°.55W, h7km±2km, ML3.3*
*UCR **26** 05:25:53.4±1.1, 8°.61N×83°.53W, h19km±6km, MW3.8*
*UPA **26** 05:25:55.1±1.0, 8°.64N×83°.37W, h8km±5km, MW3.4*
ISC 26 05:25:52.6±1.0, 8°.59N±0°.04×83°.57W±0°.03, h23km±7km, n62, σ1§06/79, 1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAN	**Los Planes de**	**0.14**	**306**	*i* P	**Pb**	**05 25 57.0**	**-0.3**
PLAN				*i* S	**Sb**	**05 26 00.5**	**0.0**
PLAN				IAML		05 26 02.5	
	comp=Z,16μm,1.0s						
JIME	**Puerto Jimenez**	**0.24**	**102**	*e*P	**Pb**	**05 25 58.4**	**-0.2**
JIME				*e*S	**Sb**	**05 26 03.7**	**+1.0**
PTJ1	**Puerto Jimnez**	**0.27**	**101**	*e*P	**Pb**	**05 25 58.6**	**-0.3**
PTJ1				*e*S	**Sb**	**05 26 03.8**	**+0.6**
PIRO	**Carate, Puerto**	**0.29**	**129**	*e*P	**Pb**	**05 25 59.6**	**+0.3**
EDPN	**Palmar Norte**	**0.39**	**16**	*e*P	**Pb**	**05 26 00.2**	**-0.6**
EDAD	**Golfito**	**0.40**	**81**	*e*P	**Pb**	**05 25 60.0**	**-1.2**
FITO	**Golfito**	**0.41**	**85**	*e*P	**Pb**	**05 26 00.0**	**-1.2**
FITO				*e*S	**Sb**	**05 26 06.3**	**-0.8**
OCHAL	**Ojochal**	**0.51**	**351**	*i* P	**Pb**	**05 26 02.6**	**-0.4**
OCHAL				IAML		05 26 03.3	
	comp=Z,2μm,1.0s						
OCHAL				*i* S	**Sb**	**05 26 10.4**	**+0.4**
EDP2	**Potrero Grande**	**0.57**	**42**	*e*P	**Pb**	**05 26 03.6**	**-0.4**
BURE	**Buenos Aires**	**0.62**	**21**	*e*P	**Pb**	**05 26 04.7**	**-0.2**
VITO	**San Vito**	**0.63**	**69**	*e*P	**Pb**	**05 26 04.8**	**-0.3**
EDBA	**Buenos Aires**	**0.64**	**27**	*e*P	**Pb**	**05 26 04.6**	**-0.6**
POTG	**Potrero Grande**	**0.64**	**44**	*e*P	**Pb**	**05 26 04.5**	**-0.7**
POTG	**Potrero Grande**	**0.64**	**44**	*i* P	**Pb**	**05 26 04.6**	**-0.6**
POTG				IAML		05 26 19.6	
	comp=Z,3μm,1.0s						
CDITO	**Canoas**	**0.69**	**91**	*e*P	**Pb**	**05 26 05.2**	**-0.7**
DRK0	**Durika**	**0.74**	**25**	*e*P	**Pb**	**05 26 06.3**	**-0.6**
MLIR3	**Monte Lirio, C**	**0.76**	**74**	*e*P	**Pb**	**05 26 07.2**	**-0.1**
PTPM	**Petroterminale**	**0.78**	**119**	*e*P	**Pn**	**05 26 08.3**	**+0.1**
PTPM				*e*S	**Sn**	**05 26 21.9**	**+2.6**
PEZE	**Perez Zeledon,**	**0.80**	**352**	*e*P	**Pb**	**05 26 07.5**	**-0.4**
PEZE	**Perez Zeledon,**	**0.80**	**352**	*i* P	**Pb**	**05 26 07.5**	**-0.4**
PEZE				IAML		05 26 21.2	
	comp=Z,810nm,1.0s						
BRU2	**Volcan**	**0.89**	**77**	⇓*i* P	**Pn**	**05 26 08.9**	**-1.0**
BRU2				*e*S	**Sb**	**05 26 19.7**	**-1.3**
BRU2	**Volcan**	**0.89**	**77**	*e*P	**Pn**	**05 26 08.9**	**-1.0**
BRU2	**Volcan**	**0.89**	**77**	*i* P	**Pn**	**05 26 08.9**	**-1.0**
BRU2				IAML		05 26 27.6	
	comp=Z,820nm,1.0s						
BC3P	**Paso Ancho**	**0.97**	**76**	*e*P	**Pn**	**05 26 10.9**	**-0.2**
CDM	**Cerro de Muert**	**0.98**	**349**	*e*P	**Pn**	**05 26 10.8**	**-0.7**
CDM	**Cerro de Muert**	**0.98**	**349**	*i* P	**Pn**	**05 26 10.9**	**-0.5**
CDM				*i* S	**Sn**	**05 26 25.3**	**+0.5**
CDM				IAML		05 26 30.6	
	comp=Z,450nm,1.0s						
BCO2	**Palmira**	**1.03**	**83**	*e*P	**Pn**	**05 26 11.3**	**-0.6**
BCO2				*e*S	**Sn**	**05 26 24.2**	**-1.5**
DVD	**David**	**1.11**	**98**	*e*P	**Pb**	**05 26 13.2**	**0.0**
DVD				*e*S	**Sn**	**05 26 26.1**	**-1.4**
LNBQ3	**Los Naranjos,**	**1.13**	**80**	*e*P	**Pn**	**05 26 13.1**	**-0.2**
RIMA	**Rio Macho**	**1.21**	**346**	*i* P	**Pb**	**05 26 14.5**	**-0.4**
RIMA				IAML		05 26 14.8	
	comp=Z,280nm,1.0s						
LCR2	**La Lucha 2**	**1.23**	**339**	*e*P	**Pb**	**05 26 14.7**	**-0.6**
LCR2	**La Lucha 2**	**1.23**	**339**	*i* P	**Pb**	**05 26 14.7**	**-0.6**
LCR2				*i* S	**Sb**	**05 26 33.2**	**+2.5**
LCR2				IAML		05 26 34.9	
	comp=Z,370nm,1.0s						
REPA	**Paraso**	**1.27**	**346**	*e*P	**Pb**	**05 26 16.7**	**+0.8**
PCAYA	**Pacayas**	**1.34**	**350**	*e*P	**Pb**	**05 26 17.2**	**-0.1**
OCM	**Ochomogo**	**1.35**	**343**	*i* P	**Pb**	**05 26 17.3**	**-0.2**
OCM				IAML		05 26 19.9	
	comp=Z,400nm,1.0s						
CNI2	**El Empalme, Bo**	**1.36**	**52**	*e*P	**Pn**	**05 26 16.4**	**+0.1**
CNI2				*e*S	**Sn**	**05 26 32.5**	**-1.2**
RAFA	**San Farael, Vo**	**1.38**	**350**	*e*P	**Pb**	**05 26 17.9**	**-0.1**
VTCV	**VTCV, Calle Va**	**1.40**	**353**	*e*P	**Pb**	**05 26 17.8**	**-0.3**
VTCV	**VTCV, Calle Va**	**1.40**	**353**	*i* P	**Pb**	**05 26 18.2**	**+0.1**
VTCV				*i* S	**Sb**	**05 26 37.7**	**+2.1**
VTCV				IAML		05 26 40.3	
	comp=Z,1μm,1.0s						
ICR3	**Volcano Irazu**	**1.41**	**349**	*e*P	**Pb**	**05 26 18.3**	**-0.1**
VICA	**Volcano Irazu**	**1.41**	**349**	*e*P	**Pb**	**05 26 18.4**	**-0.2**
VTLA	**Turrialba Volc**	**1.42**	**352**	*e*P	**Pb**	**05 26 18.6**	**-0.1**
VTR0	**Volcan Turrial**	**1.43**	**352**	*e*P	**Pb**	**05 26 19.1**	**+0.2**
CHGR2	**Aguacate**	**1.45**	**76**	*e*P	**Pn**	**05 26 17.8**	**+0.4**
CHGR2				*e*S	**Sn**	**05 26 34.9**	**-0.9**
IRES	**Siquirres**	**1.50**	**2**	*e*P	**Pb**	**05 26 19.9**	**+0.1**
HDC3	**Heredia 3**	**1.50**	**339**	*i* P	**Pb**	**05 26 20.0**	**0.0**
HDC3				*i* S	**Sb**	**05 26 41.0**	**+2.3**
HDC3				IAML		05 26 46.8	
	comp=Z,520nm,1.0s						
BATAN	**Batan**	**1.51**	**7**	*e*P	**Pb**	**05 26 20.1**	**+0.1**
BATAN	**Batan**	**1.51**	**7**	*i* P	**Pb**	**05 26 19.8**	**-0.2**
BATAN				IAML		05 26 20.3	
	comp=Z,810nm,1.0s						
BATAN				*i* S	**Sb**	**05 26 41.1**	**+2.3**
JACO	**JACO, Garabito**	**1.52**	**315**	*e*P	**Pb**	**05 26 18.8**	**-1.3**
JACO	**JACO, Garabito**	**1.52**	**315**	*i* P	**Pb**	**05 26 18.9**	**-1.2**
JACO				IAML		05 26 23.6	
	comp=Z,240nm,1.0s						
TCS1	**Tacares**	**1.62**	**333**	*e*P	**Pb**	**05 26 21.5**	**-0.3**
TCS1	**Tacares**	**1.62**	**333**	*i* P	**Pb**	**05 26 21.7**	**-0.1**
TCS1				IAML		05 26 49.4	
	comp=Z,4μm,1.0s						
RIFO	**Rio Frio, Sara**	**1.75**	**348**	*i* P	**Pb**	**05 26 23.7**	**-0.4**
RIFO				IAML		05 26 57.3	
	comp=Z,330nm,1.0s						
LAFE	**Finca La Fe, P**	**1.80**	**312**	*i* P	**Pb**	**05 26 25.4**	**+0.5**
LAFE				IAML		05 27 00.4	
	comp=Z,1.1nm,1.0s						
CPMI	**Catarata Coope**	**1.86**	**335**	*i* P	**Pb**	**05 26 25.9**	**-0.3**
CPMI				IAML		05 26 56.8	
	comp=Z,200nm,1.0s						
JTS	**Las Juntas de**	**2.17**	**321**	*e*P	**Pb**	**05 26 32.2**	**+0.9**
COVE	**Coope Vega, Sa**	**2.27**	**339**	*i* P	**Pb**	**05 26 32.7**	**-0.3**
COVE				IAML		05 27 25.0	
	comp=Z,210nm,1.0s						
GMAL	**Guarumal, Vera**	**2.45**	**109**	*e*P	**Pn**	**05 26 32.9**	**+1.6**
ORTG	**Ortega, Santa**	**2.57**	**313**	*i* P	**Pb**	**05 26 36.6**	**-1.5**
ORTG				IAML		05 27 24.2	
	comp=Z,65nm,1.0s						
SAJU	**San Juanillo,**	**2.58**	**305**	*i* P	**Pb**	**05 26 34.4**	**-3.8**
SAJU				IAML		05 26 45.2	
	comp=Z,60nm,1.0s						
SAJU				*i* S	**Sn**	**05 27 03.4**	**-0.2**
HZTE	**Horizontes, Gu**	**2.91**	**317**	*i* P	**Pb**	**05 26 41.4**	**-2.4**
HZTE				IAML		05 27 47.9	
	comp=Z,110nm,1.0s						
CACAO	**El Cacao, Vera**	**2.95**	**115**	*e*P	**Pn**	**05 26 39.8**	**+1.7**

IDC 26 05:37:08.0±2.2, 6°.74S×129°.32E, h0km, mb3.9/1, mbtmp3.4/3, ML3.1/2, Error ellipse: s-maj=147.8km s-min=32.5km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.57**	**238**	Sn	Sb	05 40 20.4	-2.1
	3.0nm,0.3s,baz=333,slow=11,SNR=1.2						
WRA	**Warramunga Arr**	**14.00**	**160**	Pn	Pn	05 40 26.9	-0.9
	0.1nm,0.3s,baz=339,slow=13,SNR=2.4						
WRA				Sn	Sn	05 42 50.7	-13
	0.4nm,0.3s,baz=340,slow=20,SNR=7.7						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**17.40**	**166**	P	P	05 41 13.1	-0.6
	0.1nm,0.3s,baz=344,slow=13,SNR=3.0						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**67.64**	**327**	P	P	05 48 06.8	0.0
	0.7nm,0.5s,baz=126,slow=7.6,SNR=7.3						
	0.7nm,0.5s						

*NEIC **26** 05:40:19.3±2.5, 36°.09N±0°.01×99°.04W±0°.02, h5km±1km, Error ellipse: s-maj=3.3km s-min=2.4km az=303.0*
TUL 26 05:40:20.2±1.9, 36°.10N±0°.01×99°.09W±0°.02, h7km±5km, ML2.4, mb_Lg2.5/17(NEIC), ML2.5/18(NEIC), Error ellipse: s-maj=2.2km s-min=1.8km az=127.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELIS	**Ellis County**	**0.27**	**263**	Sg	Sb	05 40 31.7	-0.6
U32A	**Winter Ranch,**	**0.29**	**13**	Pg	Pg	05 40 26.1	+0.2
U32A				Sg	Sb	05 40 32.2	-0.7
U32A				IAML		05 40 33.6	
	comp=E,271nm,0.1s						
U32A				IAML		05 40 34.7	
	comp=N,319nm,0.3s						
OK038	**West end E0370**	**0.47**	**36**	Pg	Pg	05 40 29.4	+0.1
OK038				Sg	Sg	05 40 35.9	+0.5
OK038				IAML		05 40 44.6	
	comp=N,635nm,0.2s						
OK038				IAML		05 40 45.3	
	comp=N,690nm,0.3s						
CSTR	**Hydro, Custer**	**0.55**	**144**	Pg	Pg	05 40 31.1	+0.2
CSTR				Sg	Sg	05 40 38.8	+0.6
OK035	**E0210 Rd and N**	**0.68**	**26**	Pg	Pg	05 40 33.0	-0.3
OK035				IAML		05 40 52.3	
	comp=N,258nm,0.3s						
OK035				IAML		05 40 54.4	
	comp=N,327nm,0.3s						
CROK	**Carrier**	**0.98**	**65**	Pg	Pg	05 40 38.5	-0.5
CROK				IAML		05 40 59.5	
	comp=E,225nm,0.3s						
OK032	**Salt Plains WL**	**1.00**	**45**	Pg	Pg	05 40 38.5	-0.9
GC02	**Grant County #**	**1.24**	**52**		Pb	05 40 43.3	-0.7
KAN14	**Manchester OK**	**1.25**	**46**		Pb	05 40 43.0	-1.1
KAN10	**Anthony SW Sta**	**1.30**	**38**		Pn	05 40 43.9	-0.9
OK029	**Liberty Lake**	**1.36**	**102**		Pn	05 40 44.8	-0.8
SMWD	**Samnorwood**	**1.37**	**224**		Pn	05 40 45.2	-0.6
WMOK	**Wichita Mounta**	**1.38**	**170**		Pn	05 40 44.8	-1.1
KAN05	**Bluff City Nor**	**1.40**	**44**		Pn	05 40 44.7	-1.5
KAN08	**Anthony NE Sta**	**1.44**	**38**		Pn	05 40 45.2	-1.5
ADOK	**Arcadia Dam**	**1.46**	**107**		Pn	05 40 46.8	-0.2
KAN01	**Argonia South**	**1.50**	**45**		Pn	05 40 47.1	-0.4
OKCSW	**OKLAHOMA CITY**	**1.51**	**117**		Pn	05 40 47.6	-0.1
KAN09	**Caldwell North**	**1.57**	**48**	IAmb_Lg		05 41 10.2	
	comp=Z,51nm,1.2s						
KAN13	**South Haven SW**	**1.58**	**54**		Pn	05 40 47.7	-1.0
FNO	**Franklin**	**1.61**	**121**		Pn	05 40 48.5	-0.5
BLOK	**Blackwell**	**1.65**	**66**		Pn	05 40 49.2	-0.4
OK048	**Pawnee Station**	**1.76**	**79**	Pn	Pn	05 40 50.1	-1.0
OK052	**Battle Ridge R**	**1.85**	**93**		Pn	05 40 51.8	-0.6
QUOK	**Quay**	**1.93**	**87**		Pn	05 40 53.6	+0.2
W35A	**Tecumseh**	**2.03**	**117**	Pn	Pn	05 40 54.1	-0.8
DEOK	**Depew**	**2.11**	**96**	Pn	Pn	05 40 54.6	-1.4
T35A	**Sooner Cattle**	**2.23**	**68**	Pn	Pn	05 40 56.6	-0.9
T35A				IAmb_Lg		05 41 29.6	
	comp=Z,11nm,1.0s						
R32A	**Long Quarter,**	**2.34**	**7**	Pn	Pn	05 40 57.9	-1.2
AMTX	**Amarillo**	**2.44**	**241**	Pn	Pn	05 40 59.1	-1.4
AMTX				IAmb_Lg		05 41 40.3	
	comp=Z,15nm,0.8s						
TUL3	**Leonard**	**2.68**	**93**	Pn	Pn	05 41 03.5	-0.3
APMT	**Aspermont**	**2.90**	**197**	Pn	Pn	05 41 06.0	-0.8
RTBA	**Rita Blanca**	**2.97**	**278**	Pn	Pn	05 41 07.7	-0.1
Z35A	**Perchaven, San**	**3.15**	**151**	Pn	Pn	05 41 08.6	-1.6
X37A	**Clayton**	**3.39**	**115**	Pn	Pn	05 41 13.7	+0.2
KSCO	**Kaye Shedlock'**	**4.05**	**317**	IAmb_Lg		05 42 38.0	
	comp=Z,8.0nm,0.7s						
HHAR	**Hobbs**	**4.17**	**86**	IAmb_Lg		05 42 35.8	
	comp=Z,7.9nm,1.0s						
T25A	**Trinidad**	**4.41**	**285**	IAmb_Lg		05 42 46.8	
	comp=Z,13nm,0.8s						
OZNA	**Ozona**	**5.44**	**199**	IAmb_Lg		05 43 13.9	
	comp=Z,5.1nm,1.1s						
435B	**Jarrell**	**5.45**	**166**	IAmb_Lg		05 43 17.0	
	comp=Z,8.9nm,0.9s						
BRIGG	**Briggsdale**	**6.08**	**319**	IAmb_Lg		05 43 36.7	
	comp=Z,9.7nm,0.9s						

*IDC **26** 05:47:18.3±4.1, 7°.74S×128°.44E, h198km±43km, mb3.3/6, mbtmp3.8/8, Error ellipse: s-maj=44.0km s-min=20.6km az=48.0*
ISC 26 05:47:14.0±0.9, 7°.62S±0°.08×128°.7E±0°.1, h151km, n9, σ1§55/12, mb3.6/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.63**	**242**	P	**Pn**	**05 48 36.9**	**+1.0**
	102nm,0.4s,baz=114,slow=3.2,SNR=14						
BATI				S	**Sn**	**05 49 39.0**	**-0.8**
	29nm,0.4s,baz=156,slow=20,SNR=1.7						
WRA	**Warramunga Arr**	**13.40**	**157**	P	**Pn**	**05 50 19.4**	**+1.1**
	0.4nm,0.5s,baz=343,slow=13,SNR=12						
WRA				S	**Sn**	**05 52 44.8**	**-2.0**
	2.7nm,0.6s,baz=335,slow=22,SNR=9.6						
ASAR	**Alice Springs**	**16.71**	**163**	P	**Pn**	**05 51 01.9**	**+2.6**
	1.1nm,0.6s,baz=333,slow=9.9,SNR=14						
ASAR				S	**S**	**05 54 04.5**	**-0.6**
	0.9nm,0.5s,baz=319,slow=16,SNR=6.0						
SONM	**Songino Array**	**58.64**	**343**	P	**P**	**05 56 55.9**	**+0.5**
	0.5nm,0.8s,baz=167,slow=7.2,SNR=3.3						
	0.5nm,0.8s						
PETK	**Petropavlovsk-**	**65.31**	**19**	P	**P**	**05 57 40.3**	**+0.7**
	1.5nm,0.7s,baz=222,slow=5.8,SNR=3.0						
	1.5nm,0.7s						
MKAR	**Makanchi Array**	**68.06**	**328**	P	**P**	**05 57 56.0**	**-1.2**
	0.3nm,0.3s,baz=114,slow=7.4,SNR=7.7						
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**71.59**	**334**	P	**P**	**05 58 16.9**	**-1.8**
	0.9nm,0.6s,baz=121,slow=5.7,SNR=3.6						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**72.39**	**329**	P	**P**	**05 58 22.2**	**-1.2**
	0.8nm,0.6s,baz=126,slow=4.9,SNR=8.5						
	0.8nm,0.6s						
BVAR	**Borovoye Array**	**77.92**	**328**	P	**P**	**05 58 54.1**	**-1.0**
	0.3nm,0.4s,baz=126,slow=7.3,SNR=2.1						
	0.3nm,0.4s						

*VAO **26** 06:01:45.3±0.5, 24°.61S×69°.35W, h10km, mb4.5*
*SJA **26** 06:01:48.5±0.7, 24°.70S×69°.55W, h88km, ML4.4, MW4.3*
*GUC **26** 06:01:49.0±0.6, 24°.73S×69°.49W, h88km±3km, ML4.6*
*IDC **26** 06:01:49.6±0.6, 24°.75S×69°.34W, h86km±5km, mb4.0/12, mbtmp4.3/16, MS3.0/4, Error ellipse: s-maj=19.2km s-min=8.5km az=94.0*
*NEIC **26** 06:01:49.8±2.8, 24°.74S±0°.04×69°.50W±0°.06, h78km±5km, mb4.5/114, Mwr4.3/13, Error ellipse: s-maj=8.5km s-min=5.9km az=106.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-2.84; $M_{\theta\theta}$0.30; $M_{\phi\phi}$2.54; $M_{r\theta}$-0.88; $M_{\theta\phi}$-0.51; $M_{\phi r}$-2.17; Fault plane solution: $M_0$3.61000×10^{15} NP1:ϕ_s154.13000°, δ28.91000°, λ-120.03000°. NP2:ϕ_s7.57000°, δ65.26000°, λ-74.55000°. Principal axes: T 3.3128, Plg19.0000°, Azm86.0000°; N 0.5323, Plg14.0000°, Azm181.0000°; P -3.8451, Plg66.0000°, Azm305.0000°;*
*NEIC **26** 06:01:50, 24°.72S×69°.52W, h79km*
ISC 26 06:01:48.8±0.4, 24°.72S±0°.02×69°.47W±0°.04, h77km±4km, h77km:pP-P, n284, σ1§48/322, mb4.5/56, 1C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO02	**Mina Guanaco**	**0.45**	**195**	Pn	**Pn**	**06 02 03.4**	**+1.1**
GO02				Sn	**Sn**	**06 02 13.9**	**+1.7**
GO02	**Mina Guanaco**	**0.45**	**195**	*e*P	**Pn**	**06 02 03.6**	**+1.2**
GO02				*e*S	**Sn**	**06 02 14.1**	**+1.9**
GO02	**Mina Guanaco**	**0.45**	**195**	*e*P	**Pn**	**06 02 03.2**	**+0.9**
GO02				*e*S	**Sn**	**06 02 13.9**	**+1.7**
GO02				IAML		06 02 14.3	
	comp=N,33μm,0.2s						
PB14	**IPOC Station P**	**0.86**	**276**	Pn	**Pn**	**06 02 07.0**	**+0.6**
PB14				Sn	**Sn**	**06 02 20.7**	**+1.2**
PB14	**IPOC Station P**	**0.86**	**276**	*e*P	**Pn**	**06 02 06.8**	**+0.4**
PB14				*e*S	**Sn**	**06 02 20.9**	**+1.4**
PB14				IAML		06 02 25.0	
	comp=Z,7μm,0.5s						
PB14	**IPOC Station P**	**0.86**	**276**	⇑*i* P	**Pn**	**06 02 07.2**	**+0.8**
PB14				*e*S	**Sn**	**06 02 20.6**	**+1.1**
PB15	**IPOC Station P**	**1.51**	**360**	Pn	**Pn**	**06 02 15.1**	**+0.7**
PB15				Sn	**Sn**	**06 02 35.2**	**+1.5**
PB15	**IPOC Station P**	**1.51**	**360**	*e*P	**Pn**	**06 02 15.7**	**+1.3**
PB15				*e*S	**Sn**	**06 02 35.5**	**+1.9**
PB15				IAML		06 02 38.9	
	comp=Z,11μm,0.2s						
PB15	**IPOC Station P**	**1.51**	**360**	*e*P	**Pn**	**06 02 15.5**	**+1.1**
PB15				*e*S	**Sn**	**06 02 35.1**	**+1.5**
PB15				IAML		06 02 42.9	
	comp=E,19μm,0.2s						
PB10	**IPOC Station P**	**1.56**	**320**	Pn	**Pn**	**06 02 15.5**	**+0.6**
AC01	**Pan de Azucar**

AC06 IAML 06 03 15.8
comp=E,2µm,0.3s
PB09 IPOC Station P 2.92 4 Pn **Pn 06 02 34.8 +1.5**
PB09 IPOC Station P 2.92 4 *eP* **Pn 06 02 34.5 +1.2**
PB09 IAML 06 03 19.9
comp=Z,1µm,0.6s
PB09 IPOC Station P 2.92 4 *eP* **Pn 06 02 35.1 +1.8**
PB09 *eS* **Sn 06 03 10.7 +3.3**
PB09 IAML 06 03 19.9
comp=N,1µm,0.4s
GO03 Copiap 2.94 193 Pn 06 02 33.5 +0.1
GO03 Copiap 2.94 193 *eP* **Pn 06 02 33.6 +0.2**
GO03 Copiap 2.94 193 *eP* **Pn 06 02 34.0 +0.6**
GO03 *eS* **Sn 06 03 08.6 +0.9**
GO03 IAML 06 03 16.6
comp=N,2µm,0.6s
PB07 IPOC Station P 3.01 353 Pn 06 02 34.4 -0.1
PB07 IPOC Station P 3.01 353 *eP* **Pn 06 02 34.5 0.0**
PB07 IAML 06 03 25.5
comp=Z,988nm,0.7s
PB07 IPOC Station P 3.01 353 *eP* **Pn 06 02 34.8 +0.3**
PB07 *eS* **Sn 06 03 08.1 -1.4**
PB07 IAML 06 03 33.3
comp=E,1µm,0.1s
PB02 IPOC Station P 3.41 353 Pn 06 02 39.4 -0.4
PB02 IPOC Station P 3.41 353 *eP* **Pn 06 02 39.5 -0.4**
PB02 *eS* **Sn 06 03 19.5 +0.2**
PB02 IAML 06 03 36.1
comp=Z,820nm,0.2s
PB02 IPOC Station P 3.41 353 *eP* **Pn 06 02 39.6 -0.2**
PB02 *eS* **Sn 06 03 18.2 -1.0**
SLA San Lorenzo 3.60 91 *eP* **Pn 06 02 45.2 +2.7**
PB01 IPOC Station P 3.66 360 Pn 06 02 43.3 0.0
PB01 IPOC Station P 3.66 360 *eP* **Pn 06 02 43.4 +0.1**
PB01 IAML 06 03 35.3
comp=Z,586nm,0.8s
PB01 IPOC Station P 3.66 360 *eP* **Pn 06 02 44.3 +1.0**
PB01 *eS* **Sn 06 03 29.1 +3.7**
AC04 Llanos de Chal 3.76 202 Pn 06 02 42.9 -1.5
AC04 Llanos de Chal 3.76 202 *eP* **Pn 06 02 42.7 -1.7**
AC04 IAML 06 03 48.3
comp=Z,1µm,0.5s
VCA Vinchina 4.15 165 *eP* **Pn 06 02 52.9 +2.9**
VCA IAML 06 03 52.3
comp=Z,518nm,1.0s
AC05 El Transito 4.16 190 Pn Pn 06 02 50.2 +0.1
AC05 El Transito 4.16 190 *eP* **Pn 06 02 49.9 -0.2**
AC05 IAML 06 03 57.4
comp=Z,787nm,0.8s
TA01 Diego Aracena 4.19 351 Pn 06 02 48.7 -1.6
TA01 Diego Aracena 4.19 351 *eP* **Pn 06 02 48.9 -1.5**
TA01 IAML 06 03 54.7
comp=Z,308nm,1.1s
TA01 Diego Aracena 4.19 351 *eP* **Pn 06 02 48.8 -1.6**
TA01 *i* S **Sn 06 03 44.8 +6.7**
LCO Las Campanas 4.41 194 Pn 06 02 52.4 -1.2
LCO Las Campanas 4.41 194 *eP* **Pn 06 02 52.3 -1.2**
YJA Yavi 4.42 56 *eP* **Pn 06 02 56.7 +2.8**
YJA *eS* **Sn 06 03 47.3 +2.8**
TA02 Huaiquique 4.47 352 Pn 06 02 52.5 -1.7
PB08 IPOC Station P 4.57 4 Pn 06 02 56.4 +0.5
PB08 IPOC Station P 4.57 4 *eP* **Pn 06 02 56.0 +0.1**
AGUA GUANDACOL 4.83 170 *eP* **Pn 06 03 00.8 +1.7**
AGUA IAML 06 04 05.7
comp=Z,1µm,0.6s
PB11 IPOC Station P 4.94 358 Pn Pn 06 02 59.0 -1.7
CYA Choya 4.95 139 *eP* **Pn 06 03 02.6 +1.9**
CYA *eS* **Sn 06 03 57.6 +1.0**
GO01 Chusmiza 5.04 3 Pn 06 03 02.1 -0.2
GO01 Chusmiza 5.04 3 *eP* **Pn 06 03 01.4 -1.0**
CO01 Juntas del Tor 5.26 186 Pn 06 03 05.2 0.0
CO01 Juntas del Tor 5.26 186 *eP* **Pn 06 03 05.9 +0.6**
CO01 IAML 06 04 43.1
comp=Z,178nm,0.5s
CO05 La Serena 5.41 197 Pn Pn 06 03 07.9 +0.9
GO04 Tololo Observa 5.56 192 Pn Pn 06 03 09.7 +0.5
PB12 IPOC Station P 6.13 352 Pn 06 03 14.9 -2.1
CO03 El Pedregal 6.19 190 Pn Pn 06 03 15.9 -1.8
CO06 Fray Jorge 6.23 197 Pn Pn 06 03 14.7 -3.5
PB16 IPOC Station P 6.36 360 Pn Pn 06 03 19.5 -1.0
CO02 Combarbal 6.60 192 Pn Pn 06 03 21.1 -2.2
VA06 Catapilco 7.97 191 Pn Pn 06 03 38.9 -3.0
VA03 San Esteban 8.07 187 Pn Pn 06 03 41.2 -2.2
TICA Tres Isletas 8.37 103 *eP* **Pn 06 03 46.1 -1.2**
PEL Peldehue 8.46 187 Pn Pn 06 03 47.9 -0.7
LPAZ La Paz 8.48 9 Pn Pn 06 03 49.8 +0.2
LPAZ La Paz 8.48 9 P Pn 06 03 49.2 -0.4
comp=Z,3.0nm,0.4s,baz=190,slow=6.2,SNR=21
LPAZ LR LR 06 07 30.6
comp=Z,120nm,21.6s,baz=189,slow=40
MT02 Curacav 8.63 189 Pn Pn 06 03 46.9 -4.1
MT05 Renca 8.71 187 Pn Pn 06 03 51.5 -0.6
MT16 CCHEN 8.72 186 Pn Pn 06 03 51.7 -0.6
MT03 Universidad Ad 8.79 186 Pn Pn 06 03 52.7 -0.5
VA05 Santo Domingo 9.10 191 Pn Pn 06 03 56.1 -1.3
LMEL Las Melosas 9.12 184 Pn Pn 06 03 54.7 -3.1
MT09 Talagante 9.12 188 Pn Pn 06 03 52.8 -5.0
MT01 Popeta 9.24 189 Pn Pn 06 03 55.3 -4.0
BO04 La Punta 9.29 186 Pn Pn 06 03 57.2 -2.7
BO01 Tunca 9.74 188 Pn Pn 06 04 03.5 -2.6
BO02 Sierra Bellavi 10.10 186 Pn Pn 06 04 08.3 -2.7
GO05 Huala 10.47 191 Pn Pn 06 04 14.6 -1.5
CPUP Villa Florida 11.08 101 Pn Pn 06 04 22.7 -1.6
CPUP Villa Florida 11.08 101 P Pn 06 04 21.9 -2.5
comp=Z,2.2nm,0.8s,baz=289,slow=9.3,SNR=8.5
CPUP LR LR 06 08 06.9
comp=Z,51nm,20.0s,baz=221,slow=34
BBSD Serra de San D 11.16 49 *eP* **Pn 06 04 23.0 -2.6**
MURT Porto Murtinho 11.32 77 *eP* **Pn 06 04 25.9 -1.8**
SIV San Ignacio 11.72 44 P **Pn 06 04 29.7 -3.5**
comp=Z,50nm,0.6s,baz=247,slow=8.1,SNR=56
SIV S **Sn 06 06 34.4 -7.8**
comp=Z,10nm,1.1s,baz=187,slow=10.0,SNR=3.2
PSAL Palomas, Salto 12.25 124 *eP* **Pn 06 04 38.8 -1.5**
ITQB Itaqui 12.44 116 Pn Pn 06 04 42.5 -0.5
ITQB Itaqui 12.44 116 *eP* **Pn 06 04 42.9 -0.1**
BDQN Bodoquena, MS 12.49 73 *eP* **Pn 06 04 41.2 -2.5**
ANTJ Antonio Joao (12.66 80 *eP* **Pn 06 04 44.0 -1.9**
AMBA Amambai (Brazi 13.37 85 *eP* **Pn 06 04 53.5 -1.9**
PTLB Pontes e Lacer 13.38 48 Pn Pn 06 04 53.9 -1.7
PTLB Pontes e Lacer 13.38 48 *eP* **Pn 06 04 54.7 -0.9**
AQDB Aquidauana 13.40 74 Pn Pn 06 04 56.4 +0.6
UNIS Unistalda (Bra 13.55 112 *eP* **Pn 06 04 55.8 -1.9**
TBOT Tacuaremb 13.79 123 *eP* **Pn 06 04 59.9 -1.0**
NNA Nana 14.47 330 LR LR 06 09 42.8
comp=Z,35nm,21.6s,baz=165,slow=32
VILB Vilhena 14.62 38 Pn Pn 06 05 09.5 -2.3
VILB Vilhena 14.62 38 *eP* **Pn 06 05 09.4 -2.3**
RVDE Rio Verde (Bra 14.62 70 *eP* **Pn 06 05 10.7 -1.1**
GO06 Curarrehue 14.91 186 Pn Pn 06 05 13.7 -1.8
ETMB Extrema 15.14 12 Pn Pn 06 05 14.4 -4.1
ALGR Alto Alegre (B 15.23 109 *eP* **Pn 06 05 19.7 0.0**
CPSB Cacapava Do Su 15.29 115 *eP* **Pn 06 05 20.1 -0.2**
TRCB Terra Rica 15.53 86 Pn Pn 06 05 22.7 -0.7
TRCB IAmb IAmb 06 05 47.0
comp=Z,32nm,0.8s
TRCB Terra Rica 15.53 86 *eP* **Pn 06 05 22.4 -1.1**
SALV Santo Antonio 15.61 58 *eP* **Pn 06 05 21.6 -2.8**
LR05 Currie 15.61 187 Pn Pn 06 05 22.3 -1.9
LR05 IAmb IAmb 06 05 28.5
comp=Z,34nm,0.7s
PLTB Pedras Altas 15.63 120 Pn Pn 06 05 23.8 -0.8
ITAB Concordia 15.79 103 Pn Pn 06 05 25.5 -1.1
ITAB IAmb IAmb 06 05 58.2
comp=Z,51nm,1.4s
ITAB Concordia 15.79 103 *eP* **Pn 06 05 26.4 -0.2**
PTGB Pitanga 15.81 94 *eP* **Pn 06 05 27.7 +0.7**
PLCA Paso Flores 15.99 183 Pn 06 05 28.1 -1.1
PLCA Paso Flores 15.99 183 P **Pn 06 05 31.0 +1.9**
comp=Z,4.5nm,0.8s,baz=1.3,slow=13,SNR=11
PLCA Paso Flores 15.99 183 *eP* **P 06 05 31.9 +0.7**
SAML Samuel 16.79 22 Pn Pn 06 05 38.6 -0.6
SAML Samuel 16.79 22 *eP* **Pn 06 05 40.1 +0.9**
LDASE Londrina, Braz 16.81 89 *eP* **Pn 06 05 40.1 +0.6**
LL05 Los Muermos 16.97 190 Pn 06 05 41.2 0.0
PCMB Pacaembu 17.02 83 *eP* **Pn 06 05 43.5 +1.5**
CZSB Cruzeiro do Su 17.18 349 Pn 06 05 43.6 -0.4
CZSB IAmb IAmb 06 06 14.8
comp=Z,28nm,1.0s
CNLB Canela 17.20 110 *eP* **Pn 06 05 44.8 +0.6**
PDRB Porto dos Gac 17.77 45 *eP* **P 06 05 50.9 -0.1**
LL01 San Ignacio de 17.78 187 P 06 05 50.8 -0.1
LL06 Loncomilla 17.78 190 P 06 05 49.6 -1.3
FRTB Fartura 18.23 90 *eP* **P 06 05 56.7 +0.6**
LL07 Hotel Espejo d 18.36 189 P **P 06 05 56.5 -0.7**
ITRB Iturama 18.38 78 *eP* **P 06 05 56.9 -0.8**
ARAG Araguaiana, MT 18.82 65 *eP* **P 06 06 02.7 +0.2**
AY01 Puyuhuapi 19.82 187 P **P 06 06 13.2 0.0**
AY01 IAmb IAmb 06 06 14.3
comp=Z,15nm,0.7s
RCLB Rio Claro- Sao 20.23 88 *eP* **P 06 06 19.3 +1.3**
TBTG Tabatinga, AM 20.42 359 P **P 06 06 20.1 +0.2**
TBTG Tabatinga, AM 20.42 359 *eP* **P 06 06 21.1 +1.2**
COYC Coyhaique 20.91 185 P **P 06 06 24.8 -0.1**
COYC IAmb IAmb 06 06 57.1
comp=Z,18nm,1.1s
TEFE Tefe 21.60 13 *eP* **P 06 06 33.9 +1.4**
PARB Paraibuna 21.82 91 *eP* **P 06 06 38.2 +3.3**
BDFB Brasilia 22.04 70 P **P 06 06 36.4 -1.0**
BDFB IAmb IAmb 06 06 37.8
comp=Z,9.6nm,0.7s
BDFB Brasilia 22.04 70 P **P 06 06 35.3 -2.1**
comp=Z,6.2nm,0.5s,baz=243,slow=12,SNR=27
BDFB LR LR 06 17 03.8
comp=Z,96nm,21.2s,baz=12,slow=42
comp=Z,6.2nm,0.5s
PMNB Patos De Minas 22.26 78 *eP* **P 06 06 40.1 +0.4**
MCRA Macar, Loja 22.61 332 P **P 06 06 43.5 0.0**
MACA Manacapuru-AM 23.05 23 P **P 06 06 46.8 -1.0**
MACA IAmb IAmb 06 07 07.5
comp=Z,24nm,0.8s
MACA Manacapuru-AM 23.05 23 *eP* **P 06 06 48.6 +0.8**
ARNL Arenillas 23.40 332 P **P 06 06 50.8 -0.4**
GO08 Villa O'Higgin 23.82 185 P **P 06 06 54.4 -0.3**
GO08 IAmb IAmb 06 06 57.0
comp=Z,32nm,1.4s
COHC Cohancay 24.06 335 P **P 06 06 57.3 +0.3**
CHSH Refugio Sur-Vo 24.82 337 P **P 06 07 02.4 -2.3**
SDBA SAO DESIDERIO 26.25 67 *eP* **P 06 07 18.8 +1.7**
BOAV Boa Vista 28.32 19 P **P 06 07 35.3 -0.2**
SRBA San Rafael, Bu 36.37 336 P **P 06 08 45.8 -0.1**
SRBA IAmb IAmb 06 09 29.4
comp=Z,12nm,1.3s
OBIP Obispado Ponce 42.60 4 P **P 06 09 34.9 -2.6**
OBIP **PP 06 11 18.2 +0.5**
CELP Cerrillos 42.63 4 P **P 06 09 35.8 -1.9**
SNAA Sanae 59.42 160 P **P 06 11 42.2 -0.8**
comp=Z,2.0nm,0.8s,baz=236,slow=14,SNR=1.3
comp=Z,2.0nm,0.8s
833A Chaparral WMA, 60.10 330 P **P 06 11 48.4 +0.3**
TROLL Troll, Antarti 61.14 160 P **P 06 11 54.7 -0.1**
comp=Z,290nm,1.1s
SAND Sanderson 62.75 328 P **P 06 12 07.3 +1.2**
SAND IAmb IAmb 06 12 07.8
comp=Z,5.7nm,0.9s
QSPA South Pole Qui 65.48 180 P **P 06 12 24.2 +0.6**
QSPA pP **pP 06 12 45.3 +0.7**
QSPA South Pole Qui 65.48 180 P **P 06 12 23.7 +0.1**
comp=Z,3.8nm,0.5s,baz=114,slow=2.4,SNR=52
QSPA pP **pP 06 12 45.4 +0.8**
comp=Z,5.0nm,0.6s,baz=213,slow=2.3,SNR=7.1
comp=Z,3.8nm,0.5s
S39A Bolivar 66.01 339 P **P 06 12 27.0 -0.2**
ANMO Albuquerque 68.93 328 P **P 06 12 47.0 +1.1**
ANMO IAmb IAmb 06 12 48.1
comp=Z,5.6nm,0.9s
TUC Tucson 69.08 323 P **P 06 12 47.6 +0.9**
TUC IAmb IAmb 06 12 49.3
comp=Z,6.2nm,1.3s
L40A Anamosa 69.43 343 P **P 06 12 48.1 -0.4**
T25A Trinidad 69.78 331 P **P 06 12 50.2 -0.9**
T25A IAmb IAmb 06 12 58.0
comp=Z,5.8nm,1.2s
X18A Snowflake 70.34 325 P **P 06 12 55.4 +0.9**
KSCO Kaye Shedlock' 70.59 333 P **P 06 12 56.8 +0.9**
KSCO IAmb IAmb 06 12 57.2
comp=Z,5.8nm,0.7s
BGNE Belgrade 70.97 338 P **P 06 12 58.4 +0.4**
G45A Suttons Bay 70.98 348 P **P 06 12 58.5 +0.6**
I40A Norwalk 70.98 344 P **P 06 12 57.6 -0.4**
X16A Lo Mia Camp, P 71.04 324 P **P 06 13 00.5 +1.7**
X16A IAmb IAmb 06 13 01.4
comp=Z,5.3nm,1.1s
Q24A Divide 71.62 331 P **P 06 13 03.7 +1.4**
Q24A IAmb IAmb 06 13 04.3
comp=Z,6.5nm,0.8s
MVCO Mesa Verde 71.73 328 P **P 06 13 04.0 +1.1**
MVCO IAmb IAmb 06 13 05.2
comp=Z,5.7nm,0.9s
WUAZ Wupatki 71.85 325 P **P 06 13 05.2 +1.6**
WUAZ IAmb IAmb 06 13 06.3
comp=Z,7.4nm,0.9s
ECSD EROS Data Cent 72.54 340 P **P 06 13 07.4 +0.1**
ECSD IAmb IAmb 06 13 33.4
comp=Z,5.6nm,1.1s
K30B Basset 72.60 337 P **P 06 13 08.2 +0.4**
PV02 Paradox Valley 72.64 329 P **P 06 13 08.9 +0.6**
PV02 IAmb IAmb 06 13 10.8
comp=Z,6.5nm,1.3s
PV12 Saucer Basin, 72.75 329 P **P 06 13 10.3 +1.3**
PV12 IAmb IAmb 06 13 10.8
comp=Z,5.3nm,1.1s
SPMN Marine on St. 72.79 343 P **P 06 13 08.3 -0.5**
PV22 Blue Mesa, Par 72.92 329 P **P 06 13 10.9 +0.9**
PV22 IAmb IAmb 06 13 11.7
comp=Z,4.4nm,0.9s
PV23 Carpenter Ridg 72.96 328 P **P 06 13 10.5 +0.2**
PV23 IAmb IAmb 06 13 11.9
comp=Z,6.2nm,1.1s
U15A North Rim 73.02 325 P **P 06 13 12.3 +1.6**
VNDA Vanda 73.60 190 P **P 06 13 13.9 +0.7**
comp=Z,1.6nm,0.9s,baz=137,slow=3.7,SNR=5.6
comp=Z,1.6nm,0.9s
PHWY Pilot Hill 73.69 333 P **P 06 13 14.9 +0.3**
PHWY IAmb IAmb 06 13 16.3
comp=Z,4.2nm,0.9s
KNB Kanab 73.75 325 P **P 06 13 16.8 +2.0**
V12A Nelson 73.86 323 P **P 06 13 16.9 +1.4**
SUSD Miller 73.93 338 P **P 06 13 15.6 +0.1**
O20A White River Ci 73.95 330 P **P 06 13 17.5 +1.5**
O20A IAmb IAmb 06 13 18.2
comp=Z,8.5nm,0.8s
LCMT Little Creek M 73.96 325 P **P 06 13 17.3 +1.2**
MTPU Mount Pierson 74.20 326 P **P 06 13 18.7 +1.0**
SRU San Rafael Swe 74.21 328 P **P 06 13 18.3 +0.8**
SRU IAmb IAmb 06 13 19.4
comp=Z,5.7nm,0.7s
SZCU Shurtz Canyon 74.32 325 P **P 06 13 19.9 +1.7**
F33A 5 Mile Ranch, 74.34 341 P **P 06 13 17.8 -0.1**
F33A IAmb IAmb 06 13 40.1
comp=Z,6.4nm,1.4s
CCUT Cedar City 74.43 325 P **P 06 13 21.2 +2.3**
CCUT IAmb IAmb 06 13 22.0
comp=Z,8.5nm,0.9s
P18A Preston Nutter 74.48 328 P **P 06 13 20.7 +1.5**
P18A IAmb IAmb 06 13 21.5
comp=Z,4.8nm,0.8s
MSU Marysvale 74.56 326 P **P 06 13 21.3 +1.7**
SHPR Sheep Range 74.61 323 P **P 06 13 21.8 +2.0**
EYMN Ely 75.00 345 P **P 06 13 21.1 -0.5**
EYMN IAmb IAmb 06 14 00.5
comp=Z,8.7nm,1.2s
GWY Greenwater Val 75.21 322 P **P 06 13 25.0 +1.7**
GWY IAmb IAmb 06 13 25.4
comp=Z,3.6nm,0.8s
PRN Pahroc Range 75.21 324 P **P 06 13 25.6 +2.3**
PRN IAmb IAmb 06 13 26.2
comp=Z,7.2nm,1.0s
PSUT Pine Spring 75.43 325 P **P 06 13 26.3 +1.7**
PSUT IAmb IAmb 06 13 27.1
comp=Z,4.5nm,0.9s
BSUT Blindstream Ca 75.44 329 P **P 06 13 26.4 +1.6**
BSUT IAmb IAmb 06 13 27.1
comp=Z,7.3nm,1.0s
RSSD Black Hills 75.48 335 P **P 06 13 24.8 +0.1**
RSSD IAmb IAmb 06 13 26.3
comp=Z,3.2nm,0.8s
D32A Dogwood Acres, 75.73 341 P **P 06 13 25.5 -0.3**
SPR3 Spring Creek 3 76.02 325 P **P 06 13 29.4 +1.3**
R11B Troy Canyon, C 76.19 324 P **P 06 13 30.5 +1.6**
TCUT Toone Canyon 76.20 329 P **P 06 13 30.4 +1.4**
TCUT IAmb IAmb 06 13 31.8
comp=Z,4.8nm,0.8s
E28A Huff 76.39 338 P **P 06 13 30.4 +0.8**
AGMN Agassiz Nation 76.45 342 P **P 06 13 29.7 -0.2**
AGMN IAmb IAmb 06 13 30.4
comp=Z,4.9nm,0.8s
PDAR Pinedale Array 76.65 331 P **P 06 13 31.6 +0.2**
comp=Z,0.5nm,0.5s,baz=131,slow=7.3,SNR=8.1
comp=Z,0.5nm,0.5s
HWUT Hardware Ranch 76.65 329 P **P 06 13 32.3 +0.9**
HWUT IAmb IAmb 06 13 34.1
comp=Z,4.9nm,0.7s
TPH Tonopah 76.88 323 P **P 06 13 34.2 +1.4**
MDND Maddock 77.15 340 P **P 06 13 34.6 +0.7**
AHID Auburn Hatcher 77.34 330 P **P 06 13 35.6 +0.3**
AHID IAmb IAmb 06 13 37.0
comp=Z,10nm,1.1s
HVU Hansel Valley 77.36 328 P **P 06 13 36.3 +0.9**
HVU IAmb IAmb 06 13 47.6
comp=Z,5.0nm,1.0s
NVAR Mina Array Bea 77.72 323 P **P 06 13 38.7 +1.1**
NVAR Mina Array Bea 77.72 323 P **P 06 13 38.4 +0.8**
comp=Z,1.3nm,0.8s,baz=156,slow=6.5,SNR=9.4
comp=Z,1.3nm,0.8s
SNOW Snow King Moun 77.73 331 P **P 06 13 38.8 +1.2**
SNOW IAmb IAmb 06 13 39.4
comp=Z,4.2nm,0.8s
LOHW Long Hollow 77.78 331 P **P 06 13 39.1 +1.3**
ELK Elko 77.79 326 P **P 06 13 38.7 +0.8**
MOOW Moose Ponds 77.95 331 P **P 06 13 39.5 +0.7**
FXWY Fox Creek 77.99 330 P **P 06 13 39.8 +0.8**
KVN Kaiserville 78.05 323 P **P 06 13 40.3 +0.9**
IMW Indian Meadow 78.16 331 P **P 06 13 40.9 +0.9**
IMW IAmb IAmb 06 13 42.0
comp=Z,5.0nm,1.1s
FLWY Flagg Ranch 78.20 331 P **P 06 13 41.4 +1.3**
FLWY IAmb IAmb 06 13 42.4
comp=Z,7.8nm,0.8s
ULM Lac du Bonnet 78.23 343 P **P 06 13 39.5 -0.3**
ULM IAmb IAmb 06 13 39.7
comp=Z,5.7nm,0.8s
ULM Lac du Bonnet 78.23 343 P **P 06 13 39.2 -0.6**
comp=Z,4.5nm,0.6s,baz=160,slow=7.1,SNR=12
comp=Z,4.5nm,0.6s
RLMT Red Lodge 78.41 332 P **P 06 13 41.6 +0.4**
RLMT IAmb IAmb 06 13 44.5
comp=Z,3.7nm,0.8s
YERR Yerington 78.63 323 P **P 06 13 44.1 +1.6**
YERR IAmb IAmb 06 13 44.9
comp=Z,3.1nm,0.7s
YHH Holmes Hill 78.82 331 P **P 06 13 45.5 +1.9**
PNTR Pine Nut 78.90 323 P **P 06 13 46.1 +2.0**
TOA0 Torodi Ar. Sit 78.93 70 P **P 06 13 43.8 -0.6**
TOA0 pP **pP 06 14 06.5 +0.4**
TORD Torodi Ar. Bea 78.93 70 pP pP 06 14 06.6 +0.5
TORD Torodi Ar. Bea 78.93 70 P **P 06 13 43.8 -0.6**
comp=Z,6.0nm,0.6s,baz=262,slow=5.1,SNR=49
TORD pP **pP 06 14 06.7 +0.6**
comp=Z,7.4nm,0.8s,baz=266,slow=4.4,SNR=11
comp=Z,6.0nm,0.6s
EMB Emerald Bay 79.10 322 P **P 06 13 44.7 -0.5**
EMB pP **pP 06 14 06.5 +0.1**
GCMT Greycliff 79.11 333 P **P 06 13 45.4 +0.5**
DGMT Dagmar 79.22 337 P **P 06 13 46.2 +0.8**
HLID Hailey 79.50 329 P **P 06 13 48.1 +0.9**
HLID IAmb IAmb 06 13 49.6
comp=Z,8.0nm,1.0s
MCMT McKenzie Canyo 79.74 330 P **P 06 13 50.3 +1.8**
MFID Camas Ranch 80.07 328 P **P 06 13 51.3 +1.1**
ORV Oroville 80.29 322 P **P 06 13 52.6 +1.3**
ORV IAmb IAmb 06 13 53.6
comp=Z,6.7nm,0.9s
BPMT Black Pine Rid 81.25 331 P **P 06 13 57.9 +1.3**
PLID Pearl Lake 81.40 329 P **P 06 13 58.1 +0.7**
PLID IAmb IAmb 06 13 59.1
comp=Z,7.4nm,0.8s
MAW Mawson 81.40 163 P **P 06 13 56.7 -0.2**
comp=Z,4.5nm,0.8s,baz=264,slow=13,SNR=4.4
comp=Z,4.5nm,0.8s
OVMT Ovando 81.54 332 P **P 06 13 58.8 +0.9**
BMO Blue Mountains 81.85 328 P **P 06 14 00.3 +0.8**
BOSA Boshof 82.39 118 P **P 06 14 02.0 -1.0**
comp=Z,4.2nm,1.0s,baz=230,slow=7.9,SNR=3.1
comp=Z,4.2nm,1.0s
PINE Pine Mountain 82.91 325 P **P 06 14 06.8 +1.6**
PINE IAmb IAmb 06 14 07.0
comp=Z,5.2nm,0.8s
I05D Terrebonne, OR 83.50 325 P **P 06 14 09.6 +1.5**
I05D IAmb IAmb 06 14 10.1
comp=Z,5.4nm,0.7s
EDM Edmonton 86.46 335 P **P 06 14 21.8 -0.9**
ESDC Sonseca Array 88.48 45 P **P 06 14 31.4 -1.3**
comp=Z,0.8nm,0.9s,baz=236,slow=3.9,SNR=3.1
comp=Z,0.8nm,0.9s
LTZ Lake Taylor 92.04 220 P **P 06 14 50.4 +0.9**
YKAB2 New Yellowknif 93.99 341 P **P 06 14 58.0 +0.3**
GRNB Grenville Isla 93.99 329 P **P 06 14 58.4 +0.5**
YKA Yellowknife Ar 94.04 341 P **P 06 14 57.6 -0.3**
YKA Yellowknife Ar 94.04 341 P **P 06 14 57.5 -0.4**
comp=Z,0.9nm,0.7s,baz=137,slow=4.4,SNR=21
YKA pP **pP 06 15 19.9 +0.3**
comp=Z,0.1nm,0.7s,baz=153,slow=10.0,SNR=1.5
comp=Z,0.9nm,0.7s
ASAR Alice Springs 126.83 207 PKP **PKPdf 06 20 43.2 -1.1**
comp=Z,1.7nm,0.7s,baz=136,slow=2.0,SNR=19
ASAR pPKP **pPKPdf 06 21 05.9 -1.1**
comp=Z,0.8nm,0.8s,baz=120,slow=1.8,SNR=3.9
WRA Warramunga Arr 129.92 210 PKP **PKPdf 06 20 49.5 -0.8**
comp=Z,0.9nm,0.6s,baz=155,slow=1.6,SNR=13
WRA pPKP **pPKPdf 06 21 13.7 +0.7**
comp=Z,1.1nm,1.0s,baz=152,slow=1.7,SNR=3.3
BVAR Borovoye Array 138.71 36 PKP **PKPdf 06 21 05.0 -0.6**
comp=Z,0.7nm,0.7s,baz=299,slow=3.0,SNR=4.9
KURBB Kurchatov Arra 144.28 35 PKP **PKPab 06 21 14.2 +0.4**
comp=Z,1.9nm,0.7s,baz=302,slow=3.6,SNR=13
ZAA0 Zalesovo Array 145.06 27 PKPbc 06 21 17.1 +0.6
ZALV Zalesovo Beam 145.06 27 PKPbc 06 21 17.2 +0.7
ZALV Zalesovo Beam 145.06 27 PKPbc **PKPbc 06 21 16.7 +0.2**
comp=Z,10.0nm,0.5s,baz=313,slow=4.2,SNR=52
AAK Ala-Archa 145.42 50 PKPbc **PKPdf 06 21 19.5 +1.4**
BOOM Boomskoye usch 146.47 49 PKPbc **PKPdf 06 21 22.0 +2.0**
NRN Naryn 146.88 51 PKPbc **PKPdf 06 21 22.3 +1.4**
MAKZ Makanchi 148.31 39 PKPbc **PKPbc 06 21 26.5 +0.3**
MK31 Makanchi Array 148.50 38 PKPbc 06 21 26.9 +0.3
MKAR Makanchi Array 148.50 38 PKPbc **PKPbc 06 21 26.9 +0.2**
MKAR Makanchi Array 148.50 38 PKPbc **PKPbc 06 21 26.6 -0.1**
comp=Z,3.6nm,0.6s,baz=312,slow=2.8,SNR=32
KLR Kul'dur 150.44 331 PKPbc **PKPdf 06 21 29.6 +3.6**
comp=Z,1.0nm,0.5s,baz=27,slow=4.2,SNR=7.0
SONM Songino Array 156.70 7 PKPdf **PKPdf 06 21 35.2 +0.1**
SONM PKPab **PKPab 06 22 05.8 +1.2**
SONM Songino Array 156.70 7 PKPab **PKPab 06 22 03.5 -1.2**
comp=Z,1.2nm,0.7s,baz=345,slow=4.5,SNR=7.4

IDC 26 06:05:24.1±2.6, 54°15N×86°54E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=21.1km s-min=12.9km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**260**	I	I		06 10 40.0	
	baz=81,slow=336,SNR=7.9							
ZALV	**Zalesovo Beam**	**1.04**	**260**	Pg	Pg		06 05 42.6	-1.3
	1.3nm,0.3s,baz=78,slow=18,SNR=13							
ZALV				Lg	Lg		06 05 59.1	
	2.1nm,0.3s,baz=76,slow=29,SNR=13							
KURBB	**Kurchatov Arra**	**6.04**	**237**	Pn	Pn		06 06 55.5	+0.9
	0.1nm,0.3s,baz=53,slow=13,SNR=4.9							
KURBB				Lg	Lg		06 08 36.8	
	baz=48,slow=28,SNR=1.3							
	0.3nm,0.3s							
MKAR	**Makanchi Array**	**7.84**	**202**	Pn	Pn		06 07 20.6	+1.1
	0.1nm,0.3s,baz=26,slow=14,SNR=10							
MKAR				Lg	Lg		06 09 32.3	
	baz=18,slow=32,SNR=1.8							
	0.2nm,0.3s							

TAP 26 06:18:13.9, 23°29N×120°54E, h10km, ML1.9, 2C-5D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWK	**Hsinying**	**0.05**	**249**	⇓ *i* P		Pg	06 18 16.2	+0.2
	baz=242							
TWK				*i* S		Sg	06 18 18.1	+0.5
	baz=242							
WTP	**Ta-pu**	**0.08**	**121**	⇓ *i* P		Pg	06 18 16.9	+0.6
	baz=119							
WTP				S		Sg	06 18 19.3	+1.3

	baz=119									
SNST	**Tainan City**	**0.08**	**213**	⇓	*e*	P		Pg	06 18 15.8	-0.4
	baz=212									
SNST					*e*	S		Sg	06 18 18.4	+0.4
	baz=212									
CHN4	**Tsaushan**	**0.08**	**35**	⇑	*i*	P		Pg	06 18 16.8	+0.5
	baz=35									
CHN4						S		Sg	06 18 19.2	+1.2
	baz=35									
TPUB	**Ta-pu**	**0.08**	**80**	⇓	*e*	P		Pg	06 18 16.7	+0.4
	baz=79									
TPUB					*i*	S		Sg	06 18 18.9	+0.8
	baz=79									
CHN1	**Nanshi**	**0.10**	**188**	⇓	*i*	P		Pg	06 18 17.1	+0.6
	baz=187									
CHN1					*i*	S		Sg	06 18 19.6	+1.1
	baz=187									
WCKO	**Fanlu**	**0.16**	**20**	⇑		P		Pg	06 18 18.1	+0.6
	baz=20									
WCKO						S		Sg	06 18 21.3	+1.3
	baz=20									
SGST	**Jiashian**	**0.21**	**170**			P		Pg	06 18 18.4	+0.2
	baz=167									
SGST					*e*	S		Sg	06 18 22.3	+1.2
	baz=167									
STYH	**Taoyuan**	**0.24**	**118**			P		Pg	06 18 19.6	+0.7
	baz=115									
STYH					*e*	S		Sg	06 18 23.2	+0.9
	baz=115									
ICHU	**Yijhu**	**0.25**	**287**		*i*	P		Pb	06 18 19.9	-0.7
	baz=287									
ICHU					*i*	S		Sb	06 18 24.5	-0.6
	baz=287									
SSHA	**Shanhua**	**0.28**	**238**		*i*	P		Pb	06 18 20.6	-0.4
	baz=237									
SSHA					*e*	S		Sb	06 18 26.7	+1.0
	baz=237									
SLGT	**Liugui**	**0.31**	**162**			P		Pb	06 18 21.2	-0.3
	baz=161									
SLGT					*e*	S		Sb	06 18 26.7	+0.1
	baz=161									
SHHT	**Tainan City**	**0.32**	**214**		*e*	P		Pb	06 18 22.1	+0.4
	baz=214									
SHHT					*i*	S		Sb	06 18 26.7	-0.2
	baz=214									
ALS	**Alishan**	**0.33**	**47**		*e*	P		Pg	06 18 20.8	+0.2
	baz=48									
ALS						S		Sb	06 18 27.4	-0.1
	baz=48									
CHN5	**Tsauling**	**0.33**	**22**			P		Pb	06 18 21.4	-0.6
	baz=21									
CHN5					*i*	S		Sb	06 18 27.1	-0.3
	baz=21									
SCST	**Cishan**	**0.40**	**186**			P		Pb	06 18 22.9	-0.2
	baz=186									
SCST					*e*	S		Sb	06 18 28.4	-0.9
	baz=186									
WDLH	**Douliu**	**0.40**	**359**			P		Pb	06 18 23.0	-0.1
	baz=359									
WDLH					*e*	S		Sb	06 18 29.7	+0.4
	baz=359									
TSCK	**Chigu Township**	**0.44**	**252**		*e*	P		Pg	06 18 23.2	+0.6
	baz=251									
TSCK						S		Sb	06 18 30.6	+0.2
	baz=251									
WHYT	**Xinyi Township**	**0.50**	**35**			P		Pb	06 18 24.3	-0.5
	baz=34									
WHYT						S		Sb	06 18 32.2	0.0
	baz=34									
SGLT	**Jiouru**	**0.56**	**185**		*e*	S		Sb	06 18 33.8	-0.1
	baz=184									
SNJT	**Kaohsiung City**	**0.56**	**200**		*e*	P		Pb	06 18 26.6	+0.7
	baz=199									
SNJT						S		Sb	06 18 34.6	+0.6
	baz=199									
TSMG	**Majia**	**0.58**	**171**		*i*	P		Pb	06 18 26.1	-0.2
	baz=170									
TSMG					*e*	S		Sb	06 18 35.2	+0.6
	baz=170									
EHD	**Haiduan**	**0.62**	**102**			P		Pb	06 18 26.5	-0.4
	baz=102									
EHD					*e*	S		Sb	06 18 35.7	0.0
	baz=102									
SSLB	**Suanglung**	**0.63**	**37**		*i*	P		Pb	06 18 26.9	-0.1
	baz=37									
SSLB						S		Sb	06 18 35.9	+0.1
	baz=37									
SSLB	**Suanglung**	**0.63**	**37**		*e*	P		Sb	06 18 36.4	+0.6
	baz=37									
LONT	**Longtian**	**0.66**	**125**			P		Pb	06 18 27.2	-0.3
	baz=124									
LONT						S		Sb	06 18 37.4	+0.7
	baz=124									
MASBT	**Mashibuluo**	**0.68**	**173**			P		Pb	06 18 28.1	+0.3
	baz=172									
MASBT					*e*	S		Sb	06 18 38.5	+1.3
	baz=172									
MASBT	**Mashibuluo**	**0.68**	**173**		*e*	P		Sn	06 18 38.5	-1.6
	baz=172									
SMLT	**Sun Moon Lake**	**0.68**	**29**		*e*	P		Pb	06 18 28.7	+0.7
	baz=29									
SMLT					*i*	S		Sb	06 18 38.0	+0.6
	baz=29									
TYC	**Yuchr**	**0.68**	**25**			P		Pb	06 18 28.2	+0.4
	baz=25									
TYC					*e*	S		Sb	06 18 38.7	+1.4
	baz=25									
TWF1	**Yuli**	**0.70**	**84**		*e*	P		Pb	06 18 28.9	+0.8
	baz=84									
TWF1					*e*	S		Sb	06 18 39.2	+1.4
	baz=84									
TWF1	**Yuli**	**0.70**	**84**		*i*	P		Sn	06 18 39.2	-1.5
	baz=84									
YULB	**Yu-li**	**0.70**	**81**			P		Pb	06 18 28.0	-0.2
	baz=81									
YULB					*e*	S		Sb	06 18 38.3	+0.3
	baz=81									
YULB	**Yu-li**	**0.70**	**81**		*e*	P		Sb	06 18 38.7	+0.8
	baz=81									
VWDT	**VWDT**	**0.72**	**50**		*e*	P		Pb	06 18 28.9	+0.3
	baz=49									
VWDT					*e*	S		Sb	06 18 39.4	+1.0
	baz=49									
EHY	**Hungye**	**0.75**	**73**		*i*	P		Pb	06 18 29.2	+0.1
	baz=73									
EHY					*e*	S		Sb	06 18 39.5	+0.2
	baz=73									
ECL	**Taimali**	**0.78**	**151**		*e*	P		Pb	06 18 30.2	+0.6
	baz=150									
ECL					*e*	S		Sb	06 18 40.9	+0.6
	baz=150									
WDGT	**Dungji**	**0.81**	**268**		*e*	P		Pg	06 18 29.5	-0.1
	baz=267									
WDGT					*e*	S		Sb	06 18 40.7	-0.4
	baz=267									
HGSD	**Ruisui**	**0.83**	**76**			P		Pb	06 18 30.8	+0.3
	baz=75									
HGSD						S		Sb	06 18 42.9	+1.1
	baz=75									
WUSB	**Renai**	**0.88**	**37**			P		Pb	06 18 31.5	+0.1
	baz=36									
WUSB					*e*	S		Sb	06 18 43.2	0.0
	baz=36									
WARBT	**Fenglin Townsh**	**0.89**	**61**			P		Pb	06 18 31.2	-0.2
	baz=60									
WARBT					*e*	S		Sb	06 18 43.3	0.0
	baz=60									
PHUB	**P'eng-hu**	**0.92**	**284**		*e*	S		Sb	06 18 44.3	0.0
	baz=284									
VCHM	**Qimei**	**1.03**	**266**			P		Pg	06 18 33.6	-0.1
	baz=265									
VCHM					*e*	S		Sb	06 18 47.6	+0.3
	baz=265									
WHP	**Taichung City**	**1.05**	**20**		*e*	P		Pb	06 18 34.3	0.0
	baz=20									
WHP					*i*	S		Sn	06 18 49.4	-0.2
	baz=20									
LXIB	**Xiulin Townshi**	**1.08**	**47**		*i*	P		Pg	06 18 34.8	0.0
	baz=47									
LXIB						S		Sn	06 18 50.5	+0.1
	baz=47									

TAP 26 06:18:25.0, 23.29N×120.54E, h11km, ML2.1, 2C-3D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWK	**Hsinying**	**0.05**	**250**	*i* P	Pg	06 18 27.5	+0.3
	baz=242						
TWK				S	Sg	06 18 29.2	+0.4
	baz=242						
SNST	**Tainan City**	**0.08**	**212**	P	Pg	06 18 27.7	+0.3
	baz=212						
SNST				S	Sg	06 18 29.9	+0.7
	baz=212						
WTP	**Ta-pu**	**0.08**	**120**	⇓ *i* P	Pg	06 18 28.1	+0.6
	baz=119						
WTP				S	Sg	06 18 30.6	+1.3
	baz=119						
CHN4	**Tsaushan**	**0.08**	**36**	⇑ *i* P	Pg	06 18 28.0	+0.6
	baz=35						
CHN4				S	Sg	06 18 30.5	+1.2
	baz=35						
TPUB	**Ta-pu**	**0.08**	**79**	⇓ *i* P	Pg	06 18 27.9	+0.4
	baz=79						
TPUB				S	Sg	06 18 30.0	+0.7
	baz=79						
CHN1	**Nanshi**	**0.10**	**187**	⇓ *i* P	Pg	06 18 28.3	+0.6
	baz=187						
CHN1				S	Sg	06 18 30.8	+1.1
	baz=187						
WCKO	**Fanlu**	**0.16**	**21**	⇑ *i* P	Pg	06 18 29.4	+0.7
	baz=20						
WCKO				S	Sg	06 18 32.8	+1.6
	baz=20						
SGST	**Jiashian**	**0.21**	**169**	*e* P	Pg	06 18 29.5	+0.1
	baz=167						
SGST				S	Sg	06 18 33.8	+1.4
	baz=167						
STYH	**Taoyuan**	**0.24**	**118**	P	Pb	06 18 31.1	-0.4
	baz=115						
STYH				*e* S	Sg	06 18 35.4	+1.9
	baz=115						
ICHU	**Yijhu**	**0.25**	**287**	*e* P	Pg	06 18 30.2	0.0
	baz=287						
ICHU				*e* S	Sb	06 18 35.3	-0.7
	baz=287						
SSHA	**Shanhua**	**0.28**	**238**	*e* P	Pg	06 18 31.1	+0.5
	baz=237						
SSHA				*e* S	Sb	06 18 38.3	+1.6
	baz=237						
SLGT	**Liugui**	**0.31**	**162**	*e* P	Pb	06 18 31.9	-0.6
	baz=161						
SLGT				*i* S	Sb	06 18 37.3	-0.2
	baz=161						
CHN8	**Yiju**	**0.31**	**281**	*e* P	Pb	06 18 33.6	+1.0
	baz=281						
CHN8				*e* S	Sb	06 18 38.2	+0.5
	baz=281						
SHHT	**Tainan City**	**0.32**	**214**	*e* P	Pb	06 18 33.7	+1.0
	baz=214						
ALS	**Alishan**	**0.33**	**47**	*e* P	Pb	06 18 33.0	-0.1
	baz=48						
ALS				S	Sb	06 18 38.0	-0.6
	baz=48						
CHN5	**Tsauling**	**0.34**	**22**	*e* P	Pb	06 18 33.0	-0.1
	baz=21						
CHN5				*e* S	Sb	06 18 38.5	+0.1
	baz=21						
WDLH	**Douliu**	**0.40**	**359**	*i* P	Pb	06 18 33.8	-0.4
	baz=359						
WDLH				*e* S	Sb	06 18 40.7	+0.4
	baz=359						
WTK	**Tuku**	**0.42**	**341**	P	Pb	06 18 34.1	-0.5
	baz=340						
WTK				*e* S	Sb	06 18 40.9	-0.1
	baz=340						
TSCK	**Chigu Township**	**0.44**	**252**	S	Sb	06 18 41.7	+0.3
	baz=251						
WHYT	**Xinyi Township**	**0.50**	**35**	*i* P	Pb	06 18 35.7	-0.1
	baz=34						
WHYT				*e* S	Sb	06 18 43.2	+0.1
	baz=34						
TSMG	**Majia**	**0.58**	**171**	*e* P	Pb	06 18 37.4	+0.2
	baz=170						
TSMG				S	Sb	06 18 46.3	+0.7
	baz=170						
SSLB	**Suanglung**	**0.63**	**37**	*e* S	Sb	06 18 47.0	+0.1
	baz=37						
LONT	**Longtian**	**0.66**	**125**	*e* S	Sb	06 18 48.5	+0.8
	baz=124						
MASBT	**Mashibuluo**	**0.68**	**173**	*e* S	Sb	06 18 48.7	+0.5
	baz=172						
TWF1	**Yuli**	**0.70**	**84**	S	Sb	06 18 49.4	+0.6
	baz=84						
YULB	**Yu-li**	**0.70**	**81**	*i* S	Sb	06 18 49.6	+0.6
	baz=81						
EHY	**Hungye**	**0.75**	**73**	*i* P	Pb	06 18 40.3	+0.2
	baz=73						
EHY				*e* S	Sb	06 18 50.7	+0.4
	baz=73						
HGSD	**Ruisui**	**0.84**	**76**	*e* S	Sn	06 18 54.1	-0.9
	baz=75						

IDC 26 06:29:17.7±2.3, 6.39S×128.98E, h0km, mb3.3/1, mbtmp3.2/3, ML3.1/2, MS3.0/1, Error ellipse: s-maj=120.1km s-min=33.9km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.44**	**159**	Pn	Pn	06 32 43.6	0.0
	0.1nm,0.3s,baz=338,slow=14,SNR=1.8						
WRA				Sn	Sn	06 35 09.9	-15
	0.4nm,0.3s,baz=333,slow=23,SNR=8.7						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**17.82**	**165**	P	Pn	06 33 27.3	0.0
	0.1nm,0.3s,baz=345,slow=12,SNR=3.3						
ASAR				S	Sn	06 36 31.4	-15
	0.2nm,0.8s,baz=314,slow=16,SNR=1.4						
	0.2nm,0.4s						
USRK	**Ussuriysk Ar.**	**50.43**	**3**	LR	LR	07 00 58.4	
	comp=Z,14nm,19.1s,baz=172,slow=38						
MKAR	**Makanchi Array**	**67.17**	**327**	P	P	06 40 13.6	0.0
	0.2nm,0.6s,baz=119,slow=5.4,SNR=0.9						
	0.2nm,0.6s						

IDC 26 06:34:12.8±3.9, 6.40S×148.15E, h0km, mb3.2/1, mbtmp3.2/2, ML3.5/1, MS3.4/1, Error ellipse: s-maj=139.9km s-min=48.2km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.00**	**224**	P	P	06 38 36.0	-0.3
	0.1nm,0.3s,baz=50,slow=11,SNR=2.3						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**21.96**	**217**	P	P	06 39 08.7	+0.2
	0.7nm,0.6s,baz=49,slow=9.0,SNR=11						
	0.7nm,0.6s						
URZ	**Urewera**	**41.16**	**145**	LR	LR	06 57 06.6	
	comp=Z,47nm,20.5s,baz=115,slow=33						
TORD	**Torodi Ar. Bea**	**146.30**	**284**	PKPbc	PKPdf	06 53 55.7	+0.2
	0.5nm,0.5s,baz=65,slow=4.8,SNR=4.4						

*JMA **26** 06:39:25.8±0.9, 46.4N×15.0E±, h30km, MV4.6/11, KURILE ISLANDS REGION*
*SKHL **26** 06:39:26.4±0.4, 45.60N×150.50E, h120km±5km, mb5.2/4, msha5.9/3*
*MOS **26** 06:39:26.1±0.9, 45.68N×150.43E, h130km, mb3.8/11, Error ellipse: s-maj=11.7km s-min=8.7km az=49.9*
*IDC **26** 06:39:26.2±4.1, 45.78N×150.35E, h114km±34km, mb3.4/13, mbtmp3.8/15, MS3.3/2, Error ellipse: s-maj=26.8km s-min=15.8km az=177.0*
*NEIC **26** 06:39:29.3±1.2, 45.8N±0.2×150.4E±0.1, h131km±10km, mb4.1/76, Error ellipse: s-maj=24.6km s-min=13.9km az=167.0*
ISC 26 06:39:24.2±0.5, 45.49N±0.07×150.64E±0.06, h100km, n161, σ1§72/166, mb4.1/55, 1C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.97**	**264**	*i* PN	**Pn**	**06 39 58.9**	**+2.6**
KUR	**Kuril'sk**	**1.97**	**264**	*e* P	**Pn**	**06 39 59.2**	**+2.9**
KUR				AMB	AMB	06 40 00.2	
	820nm,0.3s						
KUR				*e* S	**Sn**	**06 40 24.1**	**+3.2**
KUR				A	A	06 40 25.3	
	2μm,0.4s						
KUR				A	A	06 40 25.3	
	3μm,0.4s						
SHO	**Shikotan**	**3.16**	**241**	*e* PN	**Pn**	**06 40 13.6**	**+1.6**
SHO				*e* S	**Sn**	**06 40 48.4**	**-0.5**
SHO				pmax	pmax		
	comp=N,10.0nm,0.1s						
SHO				pmax	pmax		
	comp=Z,25nm,0.1s						
SHO				smax	smax		
	comp=N,74nm,0.2s						
SHO				smax	smax		
	comp=E,315nm,0.2s						
SHO	**Shikotan**	**3.16**	**241**	*e* P	**Pn**	**06 40 13.8**	**+1.8**
SHO				AMB	AMB	06 40 14.3	
	comp=E,30nm,0.3s						
SHO				*i* S	**Sn**	**06 40 49.0**	**+0.1**
SHO				A	A	06 40 50.4	
	comp=E,220nm,0.3s						
SHO				A	A	06 40 50.4	
	comp=E,350nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.70**	**249**	*d i* PN	**Pn**	**06 40 22.1**	**+2.9**
YUK				*i* S	**Sn**	**06 41 03.8**	**+1.9**
YUK				pmax	pmax		
	comp=Z,199nm,0.2s						
YUK				pmax	pmax		
	comp=E,31nm,0.1s						
YUK				smax	smax		
	comp=E,266nm,0.1s						
YUK				smax	smax		
	comp=N,449nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.70**	**249**	*i* P	**Pn**	**06 40 22.3**	**+3.1**
YUK				AMB	AMB	06 40 22.5	
	comp=N,240nm,0.4s						
YUK				*i* S	**Sn**	**06 41 04.0**	**+2.1**
YUK				A	A	06 41 07.7	
	comp=N,420nm,0.4s						
YUK				A	A	06 41 07.7	
	comp=N,490nm,0.4s						
RUSJ	**Misakicho**	**4.08**	**252**	*e* PN	**Pn**	**06 40 29.0**	**+4.6**
RUSJ				*e* S	**Sn**	**06 41 16.5**	**+5.5**
NEM2	**Nemuro 2**	**4.10**	**241**	P	**Pn**	**06 40 26.1**	**+1.5**
NEM2				S	**Sn**	**06 41 10.5**	**-1.0**
NMR	**Nemuro--Hokkai**	**4.10**	**241**	⇓ *i* PN	**Pn**	**06 40 26.1**	**+1.4**
NMR				*i* S	**Sn**	**06 41 10.7**	**-1.0**
NMR	**Nemuro--Hokkai**	**4.10**	**241**	*i* P	**Pn**	**06 40 26.6**	**+1.9**
NMR				*i* S	**Sn**	**06 41 11.9**	**+0.2**
JNK	**Nakash**	**4.64**	**248**	P	**Pn**	**06 40 34.8**	**+2.8**
JNK				S	**Sn**	**06 41 26.0**	**+1.4**
AKK	**Akkeshi**	**4.84**	**241**	*e* P	**Pn**	**06 40 38.0**	**+3.3**
JAK	**Akkeshi**	**4.94**	**242**	S	**Sn**	**06 41 30.7**	**-1.2**
JTKR	**Abashiri--Toko**	**5.03**	**255**	*e* P	**Pn**	**06 40 40.1**	**+2.9**
JAR	**Ashorobuto**	**5.38**	**248**	*e* P	**Pn**	**06 40 45.5**	**+3.4**
JOB	**Onbets**	**5.53**	**245**	S	**Sn**	**06 41 46.0**	**-0.3**
YSS	**Yuzh-Sakhalins**	**5.66**	**288**		**Pn**	**06 40 48.3**	**+2.5**
YSS	**Yuzh-Sakhalins**	**5.66**	**288**	⇑ *e* PN	**Pn**	**06 40 47.6**	**+1.8**
YSS				*e* S	**Sn**	**06 41 51.0**	**+1.5**
YSS				pmax	pmax		
	comp=Z,30nm,0.6s						
YSS				smax	smax		
	comp=N,20nm,0.6s						
YSS				smax	smax		
	comp=E,30nm,0.7s						
YSS	**Yuzh-Sakhalins**	**5.66**	**288**	*e* P	**Pn**	**06 40 48.3**	**+2.5**
YSS				AMB	AMB	06 40 49.5	
	comp=E,40nm,0.4s						
YSS				*e* S	**Sn**	**06 41 49.0**	**-0.5**
YSS				A	A	06 41 54.6	
	comp=E,20nm,0.6s						
YSS				A	A	06 41 54.6	
	comp=E,20nm,0.6s						
JKK2	**Kamakawa 2**	**5.85**	**257**	*e* P	**Pn**	**06 40 51.6**	**+3.2**
JKA	**Kamikawa-asahi**	**5.88**	**259**	Pn	**Pn**	**06 40 52.4**	**+3.6**
JKA	**Kamikawa-asahi**	**5.88**	**259**	*e* P	**Pn**	**06 40 52.4**	**+3.6**
ASAJ	**Asahikawa**	**5.88**	**259**	PN	**Pn**	**06 40 52.4**	**+3.6**
JCH	**Churui**	**5.98**	**244**	P	**Pn**	**06 40 52.3**	**+2.2**
JCH				S	**Sn**	**06 41 55.3**	**-1.9**
SKR	**Severo-Kuril's**	**6.37**	**33**	*e* P	**Pn**	**06 40 56.9**	**+1.6**
SKR				AMB	AMB	06 41 00.5	
	comp=E,40nm,0.4s						
ERM	**Erimo**	**6.43**	**240**	Pn	**Pn**	**06 41 00.3**	**+4.0**
ERM	**Erimo**	**6.43**	**240**	*i* PN	**Pn**	**06 40 59.6**	**+3.3**
PAU	**Pauzhetka**	**7.25**	**32**	*e* P	**Pn**	**06 41 10.0**	**+2.6**
PAU				AMB	AMB	06 41 11.3	
	comp=E,20nm,0.4s						
PAU				*e* S	**Sn**	**06 42 25.7**	**-2.4**
PAU				A	A	06 42 27.7	
	comp=E,10.0nm,0.2s						
PAU				A	A	06 42 27.7	
	comp=E,20nm,0.2s						
TYV	**Tymovskoe**	**7.58**	**318**	*e* PN	**Pn**	**06 41 12.4**	**+0.6**
TYV				pmax	pmax		
	comp=Z,100nm,4.3s						
TYV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TYV	**Tymovskoe**	**7.58**	**318**	*e* P	**Pn**	**06 41 12.4**	**+0.6**
TYV				AMB	AMB	06 41 12.7	
	comp=Z,100nm,4.3s						
TYV				AMB	AMB	06 41 12.7	
	comp=Z,10.0nm,1.0s						
JANG	**Nango**	**8.42**	**236**	*e* S	**Sn**	**06 42 50.4**	**-6.2**
PEA0B	**Petropavlovsk-**	**8.91**	**29**	Pn	**Pn**	**06 41 30.5**	**+0.6**
PEA0B	**Petropavlovsk-**	**8.91**	**29**	PN	**Pn**	**06 41 30.5**	**+0.6**
PETK	**Petropavlovsk-**	**8.91**	**29**	Pn	**Pn**	**06 41 30.7**	**+0.7**
PETK	**Petropavlovsk-**	**8.91**	**29**	PN	**Pn**	**06 41 30.7**	**+0.7**
PETK	**Petropavlovsk-**	**8.91**	**29**	P	**Pn**	**06 41 29.3**	**-0.7**
	comp=Z,1.2nm,0.4s,baz=207,slow=12,SNR=2.4						
KLR	**Kul'dur**	**13.34**	**293**	*i* PN	**Pn**	**06 42 29.3**	**0.0**
KLR	**Kul'dur**	**13.34**	**293**	P	**Pn**	**06 42 28.6**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=90,slow=13,SNR=5.1						
KLR	**Kul'dur**	**13.34**	**293**	*i* P	**Pn**	**06 42 29.3**	**0.0**
H11N2	**WAKE ISLAND Hy**	**28.99**	**147**	T	T	07 16 13.3	
	baz=336,slow=75,SNR=142						
H11N1	**WAKE ISLAND Hy**	**29.00**	**147**	T	T	07 16 18.6	
	baz=336,slow=75,SNR=122						
H11N3	**WAKE ISLAND Hy**	**29.01**	**147**	T	T	07 16 17.1	
	baz=336,slow=75,SNR=101						
H11S1	**WAKE ISLAND Hy**	**30.03**	**148**	T	T	07 17 35.9	
	baz=337,slow=76,SNR=117						
H11S3	**WAKE ISLAND Hy**	**30.04**	**148**	T	T	07 17 38.8	
	baz=337,slow=76,SNR=74						
H11S2	**WAKE ISLAND Hy**	**30.05**	**148**	T	T	07 17 37.3	
	baz=337,slow=76,SNR=64						
C16K	**Lisburne Hills**	**32.01**	**29**	P	**P**	**06 45 39.5**	**-1.1**
GUMO	**Guam**	**32.17**	**191**	LR	LR	06 57 03.5	
	comp=Z,46nm,21.5s,baz=85,slow=33						
J16K	**Anvik River**	**32.48**	**39**	P	**P**	**06 45 45.5**	**+0.8**
F17K	**Baldwin Pennin**	**32.91**	**33**	P	**P**	**06 45 49.0**	**+0.6**
F17K				IAmb	IAmb	06 46 03.5	
	comp=Z,5.3nm,1.2s						
M16K	**Timber Creek**	**32.95**	**44**	P	**P**	**06 45 49.1**	**+0.2**
K17K	**Iditarod**	**33.44**	**41**	P	**P**	**06 45 53.9**	**+0.8**
C18K	**Utukok River**	**33.58**	**30**	P	**P**	**06 45 54.1**	**-0.2**
C18K				IAmb	IAmb	06 46 25.2	
	comp=Z,3.6nm,1.3s						
H18K	**Honhosa River**	**33.78**	**36**	P	**P**	**06 45 56.4**	**+0.4**
H18K				IAmb	IAmb	06 46 17.9	
	comp=Z,6.2nm,1.4s						
J18K	**Innoko River**	**34.24**	**39**	P	**P**	**06 46 00.1**	**0.0**
C19K	**Lookout Ridge**	**34.27**	**29**	P	**P**	**06 46 00.8**	**+0.5**
TTA	**Tatalina**	**34.51**	**40**	P	**P**	**06 46 03.1**	**+0.8**
TTA	**Tatalina**	**34.51**	**40**	P	**P**	**06 46 03.2**	**+0.8**
TTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
D19K	**Kuna River**	**34.61**	**30**	P	**P**	**06 46 03.3**	**+0.1**
D19K				IAmb	IAmb	06 46 12.0	
	comp=Z,3.6nm,1.5s						
H19K	**Roundabout Mou**	**34.63**	**36**	P	**P**	**06 46 04.3**	**+0.9**
H19K				IAmb	IAmb	06 46 19.7	
	comp=Z,8.1nm,1.4s						
E19K	**Redstone River**	**34.69**	**32**	P	**P**	**06 46 04.5**	**+0.6**
J19K	**Poorman**	**34.78**	**39**	P	**P**	**06 46 04.3**	**-0.4**
J19K				IAmb	IAmb	06 46 25.9	
	comp=Z,6.4nm,1.5s						
B20K	**Meade River**	**35.35**	**28**	P	**P**	**06 46 09.7**	**+0.2**
J20K	**Nowinta River**	**35.44**	**38**	P	**P**	**06 46 11.1**	**+0.8**
IMAR	**Indian

C23K	**Itkillik River**	**37.52**	**29**	P	**P**	**06 46 28.3**	**+0.4**
C23K				IAmb	IAmb	06 46 38.6	
	comp=Z,4.2nm,1.4s						
TOLK	**Toolik Lake Re**	**37.72**	**31**	P	**P**	**06 46 30.1**	**+0.4**
TOLK				IAmb	IAmb	06 46 35.4	
	comp=Z,3.7nm,1.2s						
MDM	**Murphy Dome**	**38.03**	**37**	P	**P**	**06 46 33.5**	**+1.2**
MDM				IAmb	IAmb	06 47 14.5	
	comp=Z,5.9nm,1.3s						
SML	**Sawmill**	**38.07**	**42**	P	**P**	**06 46 34.2**	**+1.5**
H24K	**Noodor Dome**	**38.19**	**36**	P	**P**	**06 46 34.6**	**+1.0**
H24K				IAmb	IAmb	06 46 44.9	
	comp=Z,4.6nm,1.4s						
F24K	**Squaw Lake**	**38.26**	**33**	P	**P**	**06 46 34.3**	**+0.1**
DHY	**Denali Highway**	**38.45**	**40**	P	**P**	**06 46 36.2**	**+0.3**
D25K	**Kavik River**	**38.94**	**30**	P	**P**	**06 46 39.8**	**0.0**
D25K				IAmb	IAmb	06 47 20.8	
	comp=Z,8.2nm,1.5s						
E25K	**Arctic Village**	**39.16**	**32**	P	**P**	**06 46 42.6**	**+0.9**
KLU	**Klutina**	**39.24**	**43**	P	**P**	**06 46 43.4**	**+0.9**
BMAR	**Burnt Mountain**	**39.53**	**33**	P	**P**	**06 46 46.4**	**+1.6**
VRDI	**Verde Repeater**	**40.45**	**43**	P	**P**	**06 46 53.4**	**+0.7**
M26K	**Nabesna, AK**	**40.51**	**41**	P	**P**	**06 46 54.5**	**+1.4**
M26K				IAmb	IAmb	06 46 55.6	
	comp=Z,4.6nm,1.2s						
D27M	**Malcolm River**	**40.86**	**30**	P	**P**	**06 46 56.5**	**+0.7**
D27M				IAmb	IAmb	06 47 11.7	
	comp=Z,3.6nm,1.5s						
WAX	**Waxell Ridge**	**40.87**	**44**	P	**P**	**06 46 57.6**	**+1.6**
L27K	**Beaver Creek,**	**40.96**	**40**	P	**P**	**06 46 58.1**	**+1.4**
L27K				IAmb	IAmb	06 47 35.1	
	comp=Z,3.5nm,1.3s						
BCAR	**Beaver Creek A**	**40.98**	**40**	P	**P**	**06 46 58.3**	**+1.4**
M27K	**Edge Creek, AK**	**41.03**	**41**	P	**P**	**06 46 58.7**	**+1.3**
M27K				IAmb	IAmb	06 47 23.4	
	comp=Z,2.8nm,1.1s						
ISLE	**Juniper Island**	**41.09**	**44**	P	**P**	**06 46 58.8**	**+1.0**
F28M	**Old Crow**	**41.33**	**33**	P	**P**	**06 47 00.9**	**+1.3**
BARN	**Barnard Glacie**	**41.34**	**43**	P	**P**	**06 47 01.4**	**+1.5**
BARN				IAmb	IAmb	06 47 12.7	
	comp=Z,7.1nm,1.2s						
I28M	**Miner Creek**	**41.50**	**36**	P	**P**	**06 47 01.8**	**+0.7**
I28M				IAmb	IAmb	06 47 04.2	
	comp=Z,5.9nm,1.5s						
CTGM	**Chitina Glacie**	**41.51**	**43**	P	**P**	**06 47 02.6**	**+1.3**
E29M	**Blow River**	**42.01**	**32**	P	**P**	**06 47 07.2**	**+2.1**
H29M	**Whitestone**	**42.05**	**35**	P	**P**	**06 47 06.7**	**+1.2**
H29M				IAmb	IAmb	06 47 29.4	
	comp=Z,5.1nm,1.4s						
M29M	**Somme Creek**	**42.59**	**40**	P	**P**	**06 47 11.4**	**+1.4**
M29M				IAmb	IAmb	06 47 46.8	
	comp=Z,4.4nm,1.4s						
L29M	**L29M**	**42.62**	**39**	P	**P**	**06 47 11.7**	**+1.5**
L29M				IAmb	IAmb	06 47 55.4	
	comp=Z,7.1nm,1.4s						
G30M	**tAoh Zraii Nji**	**42.80**	**34**	P	**P**	**06 47 12.2**	**+0.6**
I30M	**Mount Dempster**	**43.01**	**36**	P	**P**	**06 47 14.2**	**+0.9**
I30M				IAmb	IAmb	06 47 14.8	
	comp=Z,2.6nm,0.8s						
J30M	**Hart River**	**43.14**	**37**	P	**P**	**06 47 15.4**	**+1.0**
G31M	**Satah River**	**43.57**	**34**	P	**P**	**06 47 18.1**	**+0.4**
INK	**Inuvik**	**43.63**	**31**	P	**P**	**06 47 18.8**	**+0.6**
INK				IAmb	IAmb	06 48 02.4	
	comp=Z,4.0nm,1.4s						
INK	**Inuvik**	**43.63**	**31**	P	**P**	**06 47 18.8**	**+0.6**
INK				pmax	pmax		
	comp=Z,4.0nm,1.5s						
H31M	**Peel River**	**43.74**	**35**	P	**P**	**06 47 20.3**	**+1.2**
A36M	**Sachs Harbour**	**45.74**	**26**	P	**P**	**06 47 36.0**	**+1.1**
A36M				IAmb	IAmb	06 47 39.6	
	comp=Z,5.0nm,1.5s						
MK31	**Makanchi Array**	**45.99**	**297**	P	**P**	**06 47 34.9**	**-2.3**
MK31	**Makanchi Array**	**45.99**	**297**	P	**P**	**06 47 34.9**	**-2.3**
MK31				pmax	pmax		
	comp=Z,2.0nm,1.3s						
MKAR	**Makanchi Array**	**45.99**	**297**	P	**P**	**06 47 35.4**	**-1.8**
MKAR	**Makanchi Array**	**45.99**	**297**	P	**P**	**06 47 35.4**	**-1.8**
MKAR	**Makanchi Array**	**45.99**	**297**	P	**P**	**06 47 35.2**	**-2.1**
	comp=Z,0.6nm,0.6s,baz=45,slow=5.6,SNR=6.3						
	comp=Z,0.6nm,0.6s						
KURK	**Kurchatov**	**46.63**	**304**	*i* P	**P**	**06 47 39.4**	**-2.7**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**46.72**	**304**	P	**P**	**06 47 40.0**	**-2.8**
	comp=Z,0.8nm,0.3s,baz=70,slow=8.5,SNR=4.8						
	comp=Z,0.8nm,0.3s						
BVAR	**Borovoye Array**	**50.33**	**309**	P	**P**	**06 48 08.0**	**-2.5**
BVAR	**Borovoye Array**	**50.33**	**309**	P	**P**	**06 48 08.0**	**-2.5**
	comp=Z,0.3nm,0.5s,baz=70,slow=9.2,SNR=2.2						
	comp=Z,0.3nm,0.5s						
BOOM	**Boomskoye usch**	**52.00**	**295**	P	**P**	**06 48 22.8**	**-0.5**
BOOM	**Boomskoye usch**	**52.00**	**295**	P	**P**	**06 48 22.8**	**-0.5**
BOOM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**52.96**	**35**	P	**P**	**06 48 29.4**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=295,slow=6.8,SNR=5.8						
	comp=Z,0.5nm,0.8s						
ARU	**Arti**	**54.77**	**317**	LR	LR	07 13 11.7	
	comp=Z,37nm,19.5s,baz=185,slow=37						
ABKAR	**Akbulak array**	**57.91**	**309**	P	**P**	**06 49 04.0**	**-1.4**
ABKAR				IAmb	IAmb	06 49 04.3	
	comp=Z,2.6nm,1.2s						
SIMJ	**Simiganj**	**58.51**	**295**	P	**P**	**06 49 09.4**	**-0.7**
PINE	**Pine Mountain**	**59.73**	**57**	P	**P**	**06 49 20.1**	**+1.6**
PINE				IAmb	IAmb	06 49 24.6	
	comp=Z,2.3nm,1.1s						
L04D	**Klamath Falls**	**59.83**	**59**	P	**P**	**06 49 21.2**	**+2.1**
K05A	**Summer Lake**	**60.38**	**58**	P	**P**	**06 49 24.9**	**+2.0**
PLID	**Pearl Lake**	**61.81**	**53**	P	**P**	**06 49 33.6**	**+1.0**
PLID				IAmb	IAmb	06 49 34.7	
	comp=Z,2.1nm,0.9s						
BPMT	**Black Pine Rid**	**62.41**	**51**	P	**P**	**06 49 37.5**	**+0.9**
FCC	**Fort Churchill**	**63.26**	**32**	P	**P**	**06 49 41.4**	**-0.2**
FCC				IAmb	IAmb	06 50 12.7	
	comp=Z,5.7nm,1.4s						
FCC	**Fort Churchill**	**63.26**	**32**	P	**P**	**06 49 41.4**	**-0.2**
FCC				pmax	pmax		
	comp=Z,6.0nm,1.5s						
BOZ	**Bozeman (W)**	**63.92**	**51**	P	**P**	**06 49 47.3**	**+0.8**
BOZ				IAmb	IAmb	06 49 48.0	
	comp=Z,1.2nm,0.8s						
BOZ	**Bozeman (W)**	**63.92**	**51**	P	**P**	**06 49 47.3**	**+0.8**
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KVN	**Kaiserville**	**64.29**	**60**	P	**P**	**06 49 50.5**	**+1.5**
KVN				IAmb	IAmb	06 49 51.1	
	comp=Z,2.3nm,1.1s						
KVN	**Kaiserville**	**64.29**	**60**	P	**P**	**06 49 50.5**	**+1.5**
KVN				pmax	pmax		
	comp=Z,2.0nm,1.1s						
NVAR	**Mina Array Bea**	**64.55**	**60**	P	**P**	**06 49 51.8**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=296,slow=7.0,SNR=5.9						
	comp=Z,0.5nm,0.5s						
RLMT	**Red Lodge**	**65.50**	**50**	P	**P**	**06 49 58.2**	**+1.3**
RLMT				IAmb	IAmb	06 49 59.3	
	comp=Z,2.2nm,1.2s						
MOOW	**Moose Ponds**	**65.59**	**52**	P	**P**	**06 49 59.3**	**+1.9**
GEYT	**Alibeck**	**65.76**	**300**	P	**P**	**06 49 57.6**	**-0.8**
	comp=Z,2.2nm,0.6s,baz=48,slow=2.2,SNR=4.8						
	comp=Z,2.2nm,0.6s						
REDW	**Red Top Meadow**	**65.78**	**52**	P	**P**	**06 50 00.2**	**+1.6**
R11B	**Troy Canyon, C**	**66.25**	**59**	P	**P**	**06 50 02.9**	**+1.2**
WRA	**Warramunga Arr**	**66.78**	**197**	P	**P**	**06 50 06.3**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=15,slow=6.9,SNR=4.6						
	comp=Z,0.4nm,0.6s						
PDAR	**Pinedale Array**	**66.88**	**52**	P	**P**	**06 50 06.7**	**+0.9**
PDAR	**Pinedale Array**	**66.88**	**52**	P	**P**	**06 50 06.2**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=258,slow=1.8,SNR=8.4						
	comp=Z,0.6nm,0.7s						
NOA	**NORSAR Array B**	**68.85**	**340**	P	**P**	**06 50 15.3**	**-2.2**
	comp=Z,0.7nm,0.6s,baz=28,slow=6.6,SNR=5.2						
	comp=Z,0.7nm,0.6s						
AKT	**Akhty**	**69.46**	**309**	*e*P	P	06 50 28.1	+6.4
PV03	**Paradox Valley**	**70.30**	**55**	P	**P**	**06 50 28.6**	**+1.6**
PV03				IAmb	IAmb	06 50 50.1	
	comp=Z,2.1nm,1.1s						
KBZ	**Khabaz**	**70.48**	**313**	*i* P	**P**	**06 50 27.7**	**0.0**
KBZ				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KBZ	**Khabaz**	**70.48**	**313**	P	**P**	**06 50 26.9**	**-0.7**
	comp=Z,2.0nm,0.9s,baz=111,slow=3.0,SNR=4.9						
	comp=Z,2.0nm,0.9s						
KBZ	**Khabaz**	**70.48**	**313**	*i* P	**P**	**06 50 27.7**	**0.0**
PV01	**Paradox Valley**	**70.54**	**55**	P	**P**	**06 50 29.6**	**+1.1**
PV01				IAmb	IAmb	06 50 47.1	
	comp=Z,2.3nm,1.3s						
AKASG	**Malin Array Be**	**71.62**	**325**	P	**P**	**06 50 32.2**	**-2.3**
	comp=Z,0.9nm,0.5s,baz=33,slow=6.3,SNR=5.0						
	comp=Z,0.9nm,0.5s						
BUR08	**Bucovina Ar. S**	**75.65**	**325**	P	**P**	**06 50 57.2**	**-1.1**
BUR08				IAmb	IAmb	06 51 00.5	
	comp=Z,6.5nm,1.5s						
BURAR	**Bucovina Array**	**75.67**	**325**	P	**P**	**06 50 57.8**	**-0.6**
EKA	**Eskdalemuir Ar**	**77.14**	**345**	P	**P**	**06 51 05.1**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=12,slow=4.7,SNR=4.1						
	comp=Z,0.2nm,0.3s						
TX31	**Lajitas Ar. Si**	**79.62**	**59**	P	**P**	**06 51 21.5**	**+0.9**
TX31				IAmb	IAmb	06 51 21.6	
	comp=Z,5.2nm,1.5s						
TXAR	**Lajitas Array**	**79.62**	**59**	P	**P**	**06 51 21.5**	**+0.9**
TXAR	**Lajitas Array**	**79.62**	**59**	P	**P**	**06 51 21.5**	**+0.9**
TXAR	**Lajitas Array**	**79.62**	**59**	P	**P**	**06 51 21.0**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=298,slow=4.8,SNR=10						
	comp=Z,0.4nm,0.7s						
FCAR	**Ozark Folk Cen**	**81.18**	**47**	P	**P**	**06 51 28.6**	**-0.2**
MIAR	**Mount Ida**	**81.46**	**49**	P	**P**	**06 51 30.7**	**+0.5**
MIAR				IAmb	IAmb	06 52 00.2	
	comp=Z,9.1nm,1.5s						
MIAR	**Mount Ida**	**81.46**	**49**	P	**P**	**06 51 30.7**	**+0.5**
MIAR				pmax	pmax		
	comp=Z,9.0nm,1.5s						
WHAR	**Wooly Hollow**	**81.56**	**47**	P	**P**	**06 51 30.8**	**0.0**
WHAR				IAmb	IAmb	06 52 09.9	
	comp=Z,6.8nm,1.2s						
PLCA	**Paso Flores**	**149.80**	**96**	PKPbc	**PKPbc**	**06 59 02.9**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=301,slow=5.3,SNR=4.8						

*IDC **26** 07:04:36.9±2.9, **54°25N×86°58E, h0km, mbtmp3.1**/3, **ML2.5**/3, **Error ellipse: s-maj=24.9km s-min=14.7km az=58.0, Southwestern Siberia*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.08**	**254**	I	I	07 11 00.0	
	baz=71,slow=340,SNR=9.5						
ZALV	**Zalesovo Beam**	**1.08**	**254**	Pg	Pg	07 04 56.0	-1.5
	1.4nm,0.3s,baz=72,slow=15,SNR=13						
ZALV				Lg	Lg	07 05 13.3	
	1.1nm,0.3s,baz=73,slow=27,SNR=5.4						
KURBB	**Kurchatov Arra**	**6.12**	**237**	Pn	Pn	07 06 08.7	+0.2
	0.1nm,0.3s,baz=54,slow=14,SNR=5.2						
	0.8nm,0.2s						
MKAR	**Makanchi Array**	**7.95**	**202**	Pn	Pn	07 06 34.5	+0.9
	0.1nm,0.3s,baz=22,slow=11,SNR=4.7						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**9.70**	**269**	Pn	Pn	07 06 57.6	+0.1
	baz=82,slow=14,SNR=3.4						
	0.4nm,0.4s						

*IDC **26** 07:11:47.7±3.1, 14°39N×94°26W, h0km, mb3.8/4, mbtmp3.8/5, ML3.3/2, MS3.4/2, Error ellipse: s-maj=76.5km s-min=31.9km az=31.0*
*NEIC **26** 07:11:49.4±2.9, 14°59N±0°06×94°20W±0°04, h10km±2km, mb4.2/13, Md4.2/35(MEX), Error ellipse: s-maj=10.4km s-min=6.4km az=201.0*
*MEX **26** 07:11:51.8±0.8, 14°58N×94°24W, h12km±10km, MD4.2*
ISC 26 07:11:48.5±1.8, 14°71N±0°05×94°16W±0°03, h1km±11km, n53, σ1°§34/70, mb4.1/10, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.34**	**42**		**Pn**	**07 12 14.5**	**0.0**
PCIG					**Sn**	**07 12 32.9**	**-0.1**
PCIG		**1.34**	**42**	*e*P	**Pn**	**07 12 14.5**	**0.0**
PCIG				*e*S	**Sn**	**07 12 32.9**	**-0.1**
CARR	**Arriaga**	**1.55**	**9**	*i* P	**Pg**	**07 12 18.6**	**+0.4**
CARR				*i* S	**Sg**	**07 12 39.1**	**+0.7**
THIG		**1.84**	**83**		**Pn**	**07 12 21.1**	**-0.1**
THIG					**Sn**	**07 12 43.8**	**-1.5**
THIG		**1.84**	**83**	*e*P	**Pn**	**07 12 21.1**	**-0.1**
THIG				*e*S	**Sn**	**07 12 43.8**	**-1.5**
NILT	**Santiago Nilte**	**1.90**	**347**	*i* P	**Pg**	**07 12 25.8**	**+0.8**
NILT				*i* S	**Sg**	**07 12 48.8**	**-0.9**
PATR	**El Naranjo**	**1.91**	**77**	*e*P	**Pn**	**07 12 21.9**	**-0.5**
PATR				*i* S	**Sn**	**07 12 45.7**	**-1.4**
PAVE	**Pavencul**	**1.98**	**76**	*e*P	**Pn**	**07 12 23.2**	**-0.1**
PAVE				*i* S	**Sn**	**07 12 47.8**	**-1.2**
CHUJ	**Union Juarez**	**2.02**	**79**	*e*P	**Pn**	**07 12 24.3**	**+0.3**
CHUJ				*i* S	**Sn**	**07 12 49.6**	**-0.4**
HUIG	**Huatulco**	**2.16**	**300**		**Pb**	**07 12 28.2**	**-0.3**
HUIG					**Sn**	**07 12 50.1**	**-3.0**
HUIG	**Huatulco**	**2.16**	**300**	*i* P	**Pb**	**07 12 28.2**	**-0.3**
HUIG				*e*S	**Sn**	**07 12 50.1**	**-3.0**
TGIG		**2.29**	**26**		**Pb**	**07 12 30.3**	**-0.4**
TGIG					**Sb**	**07 12 57.8**	**-1.8**
TGIG		**2.29**	**26**	*e*P	**Pb**	**07 12 30.3**	**-0.4**
TGIG				*e*S	**Sb**	**07 12 57.8**	**-1.8**
RTAL	**Retalhuleu**	**2.39**	**94**	Pn	**Pn**	**07 12 29.9**	**+1.0**
CMIG	**Matias Romero**	**2.47**	**344**		**Pb**	**07 12 31.8**	**-2.0**
CMIG					**Sn**	**07 13 01.3**	**+0.4**
CMIG	**Matias Romero**	**2.47**	**344**	Pn	**Pb**	**07 12 32.1**	**-1.7**
	20nm,0.3s,baz=165,slow=11,SNR=47						
CMIG				Sn	**Sn**	**07 13 00.9**	**0.0**
	20nm,0.3s,baz=160,slow=9.7,SNR=6.9						
	40nm,0.3s						
CMIG	**Matias Romero**	**2.47**	**344**	*e*P	**Pb**	**07 12 31.8**	**-2.0**
CMIG				*e*S	**Sn**	**07 13 01.3**	**+0.4**
CCIG	**Comitan**	**2.50**	**51**		**Pb**	**07 12 33.7**	**-1.0**
CCIG	**Comitan**	**2.50**	**51**	*e*P	**Pb**	**07 12 33.7**	**-0.7**
CCIG				*e*S	**Sb**	**07 13 05.4**	**-1.4**
UXUV	**UXUV**	**2.60**	**0**	*e*P	**Pb**	**07 12 35.2**	**-0.7**
UXUV				*e*S	**Sb**	**07 13 06.7**	**-1.7**
HUEH	**Huehuetenango**	**2.64**	**76**	Pn	**Pn**	**07 12 34.5**	**+2.0**
APG	**El Apazote**	**3.58**	**85**	Pn	**Pn**	**07 12 47.5**	**+2.0**
	0.6nm,0.3s,baz=157,slow=9.1,SNR=24						
APG				Sn	**Sb**	**07 13 35.1**	**-2.0**
	0.8nm,0.3s,baz=62,slow=23,SNR=4.0						
YOIG	**Yosondua**	**3.90**	**304**		**Pn**	**07 12 50.8**	**+0.9**
YOIG	**Yosondua**	**3.90**	**304**	*e*P	**Pn**	**07 12 50.8**	**+0.9**
MTO3	**Montecristo**	**4.66**	**93**	Pn	**Pn**	**07 13 02.1**	**+1.9**
ESQI	**Esquipulas**	**4.67**	**91**	Pn	**Pn**	**07 13 00.8**	**+0.6**
PETF	**Flores**	**4.68**	**61**	Pn	**Pn**	**07 13 02.6**	**+2.3**
TLIG	**Tlapa**	**5.10**	**304**		**Pn**	**07 13 05.3**	**-1.0**
CRIN	**San Cristobal**	**7.19**	**105**	Pn	**Pn**	**07 13 35.0**	**0.0**
TEIG	**Tepich**	**7.85**	**45**		**Pn**	**07 13 44.3**	**+0.3**
TEIG	**Tepich**	**7.85**	**45**	LR	LR	07 17 05.7	
	comp=Z,954nm,20.6s,slow=39						
LCR2	**La Lucha 2**	**11.08**	**115**	Pn	**Pn**	**07 14 28.4**	**-0.1**
RIMA	**Rio Macho**	**11.19**	**115**	Pn	**Pn**	**07 14 29.8**	**-0.2**
DRK0	**Durika**	**11.97**	**116**	Pn	**Pn**	**07 14 41.0**	**+0.4**
TXAR	**Lajitas Array**	**17.00**	**330**	P	**P**	**07 15 54.5**	**+4.6**
	0.6nm,0.8s,baz=148,slow=14,SNR=6.5						
ALPN	**Alpine**	**17.87**	**332**		**Pn**	**07 15 58.2**	**-0.5**
MIAR	**Mount Ida**	**19.76**	**1**	P	**P**	**07 16 20.0**	**-0.1**
X37A	**Clayton**	**19.83**	**357**	P	**P**	**07 16 20.2**	**-0.5**
MSTX	**Muleshoe**	**20.70**	**339**	P	**P**	**07 16 29.4**	**-1.0**
MSTX				IAmb	IAmb	07 16 44.5	
	comp=Z,6.5nm,0.9s						
WVT	**Waverly**	**22.07**	**14**	P	**P**	**07 16 46.1**	**+1.1**
WVT				IAmb	IAmb	07 17 01.0	
	comp=Z,13nm,1.4s						
KAN14	**Manchester OK**	**22.42**	**352**	P	**P**	**07 16 47.9**	**-0.8**
KAN14				IAmb	IAmb	07 16 52.2	
	comp=Z,15nm,0.7s						
KAN10	**Anthony SW Sta**	**22.60**	**352**	P	**P**	**07 16 49.1**	**-1.6**
KAN08	**Anthony NE Sta**	**22.69**	**352**	P	**P**	**07 16 50.9**	**-0.7**
GRTK	**Grand Turk**	**22.89**	**69**	P	**P**	**07 16 52.6**	**-1.2**
S39A	**Bolivar**	**22.91**	**2**	P	**P**	**07 16 55.8**	**+1.9**
S39A				IAmb	IAmb	07 16 56.0	
	comp=Z,4.2nm,0.6s						
Y57A	**Sumter**	**22.91**	**31**	P	**P**	**07 16 54.6**	**+0.7**
Y57A				IAmb	IAmb	07 17 14.7	
	comp=Z,29nm,1.4s						
CCM	**Cathedral Cave**	**23.40**	**6**	P	**P**	**07 16 59.2**	**+0.2**
CCM				IAmb	IAmb	07 17 24.1	
	comp=Z,7.2nm,1.2s						
R40A	**Maddies Statio**	**23.55**	**4**	P	**P**	**07 17 00.4**	**-0.1**
R40A				IAmb	IAmb	07 17 21.2	
	comp=Z,5.1nm,1.1s						
PCRV	**Puerto La Cruz**	**29.16**	**95**	LR	LR	07 29 28.2	
	comp=Z,19nm,18.8s,slow=36						
YKA	**Yellowknife Ar**	**49.88**	**348**	P	**P**	**07 20 45.0**	**+1.7**
	comp=Z,0.7nm,0.9s,baz=154,slow=7.1,SNR=8.0						
	comp=Z,0.7nm,0.9s						
ILAR	**Eielson Array**	**61.38**	**337**	P	**P**	**07 22 07.2**	**+1.3**
	comp=Z,0.4nm,0.9s,baz=160,slow=5.6,SNR=5.2						
	comp=Z,0.4nm,0.9s						
ARCES	**ARCESS Array B**	**86.12**	**18**	P	**P**	**07 24 32.5**	**+1.5**
	comp=Z,5.1nm,1.0s,baz=321,slow=6.9,SNR=3.8						
	comp=Z,5.1nm,1.0s						
TORD	**Torodi Ar. Bea**	**92.24**	**76**	P	**P**	**07 24 59.9**	**-1.1**
	comp=Z,0.1nm,0.5s,baz=288,slow=5.9,SNR=1.7						
	comp=Z,0.1nm,0.5s						

*IDC **26** 07:15:21.3±1.4, 6°52S×143°09E, h0km, mb4.0/3, mbtmp4.0/6, ML3.8/2, MS3.1/2, Error ellipse: s-maj=40.5km s-min=25.9km az=87.0*
ISC 26 07:15:26.2±1.1, 6°8S±0°1×143°07E±0°10, h35km, n6, σ1°§29/9, mb3.8/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.83**	**123**	Pn	**Pn**	**07 16 36.5**	**0.0**
	12nm,0.4s,baz=235,slow=4.2,SNR=5.2						
PMG				Sn	**Sn**	**07 17 31.0**	**-0.3**
	4.0nm,0.3s,baz=204,slow=22,SNR=6.9						
PMG				LR	LR	07 19 12.0	
	comp=Z,100nm,19.2s,baz=198,slow=47						
WRA	**Warramunga Arr**	**15.61**	**212**	Pn	**Pn**	**07 19 03.8**	**0.0**
	0.6nm,0.3s,baz=36,slow=14,SNR=28						
WRA				Sn	**Sn**	**07 21 54.1**	**-1.7**
	0.2nm,0.3s,baz=24,slow=23,SNR=3.2						
WRA				Lg	Lg	07 23 42.4	
	0.1nm,0.3s,baz=35,slow=26,SNR=2.4						
	3.5nm,0.8s						
ASAR	**Alice Springs**	**18.98**	**207**	P	**Pn**	**07 19 48.1**	**+2.4**
	0.1nm,0.3s,baz=32,slow=11,SNR=4.0						
ASAR				S	**S**	**07 23 18.9**	**+0.2**
	0.5nm,0.6s,baz=17,slow=28,SNR=2.7						
ASAR				Lg	Lg	07 25 28.1	
	baz=45,slow=19						
ASAR				LR	LR	07 27 35.2	
	comp=Z,110nm,18.9s,baz=9.0,slow=38						
	6.3nm,0.7s						
MKAR	**Makanchi Array**	**75.62**	**322**	P	**P**	**07 27 06.7**	**-1.0**
	0.9nm,0.8s,baz=116,slow=7.3,SNR=8.7						
	0.9nm,0.8s						
KURBB	**Kurchatov Arra**	**79.52**	**324**	P	**P**	**07 27 29.0**	**-0.3**
	0.5nm,0.7s,baz=110,slow=4.9,SNR=4.1						
	0.5nm,0.7s						
BVAR	**Borovoye Array**	**85.09**	**325**	P	**P**	**07 27 59.0**	**+0.5**
	1.8nm,0.8s,baz=110,slow=8.2,SNR=8.0						
	1.8nm,0.8s						

*KRNET **26** 07:34:16.7±0.1, 41°05N×77°30E, h17km, mb2.7*
*SOME **26** 07:34:17.3, 41°07N×77°30E, h5km*
*NNC **26** 07:34:18.8±1.7, 41°05N×77°45E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=11.7km s-min=8.3km az=175.0*
*KNET **26** 07:34:19.0±0.6, 41°07N×77°08E, h0km, ml2.4, Error ellipse: s-maj=7.1km s-min=3.2km az=76.0*
ISC 26 07:34:17.6±1.7, 41°10N±0°07×77°24E±0°03, h10km±11km, n51, σ1°§47/87, 24C-20D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.76**	**34**	⇑*e*P	**Pg**	**07 34 31.5**	**-0.8**
	baz=29						
TARG				⇑*i*S	**Sg**	**07 34 42.1**	**-0.1**
	baz=29						
NRN	**Naryn**	**0.99**	**290**	⇑*e*P	**Pn**	**07 34 37.0**	**-0.9**
	baz=91						
NRN				⇑*i*S	**Sn**	**07 34 51.9**	**-0.2**
	baz=91						
KDJ	**Kajisay**	**1.03**	**357**	⇓*i*P	**Pn**	**07 34 37.3**	**-1.0**
	baz=56						
KDJ				⇓*i*S	**Sn**	**07 34 52.2**	**-0.7**
	baz=56						
ULHL	**Ulahol**	**1.37**	**327**	⇓P	**Pg**	**07 34 44.5**	**+0.6**
	11nm,0.2s,SNR=28						
ULHL				⇑S	**Sg**	**07 35 04.2**	**+2.6**
	38nm,0.3s						
ULHL	**Ulahol**	**1.37**	**327**	⇓*i*P	**Pb**	**07 34 43.4**	**0.0**
	baz=27						
ULHL				⇓*i*S	**Sg**	**07 35 02.8**	**+1.2**
	baz=27						
PRZ	**Przheval'sk**	**1.63**	**32**	⇑*i*P	**Pb**	**07 34 47.4**	**-0.5**
	baz=29						
PRZ				⇑*i*S	**Sg**	**07 35 10.0**	**-0.1**
	baz=29						
BOOM	**Boomskoye usch**	**1.69**	**325**	⇑*i*P	**Pb**	**07 34 49.2**	**+0.2**
	baz=25						
BOOM				⇑*i*S	**Sg**	**07 35 12.9**	**+0.8**
	baz=25						

ZHN				*e*S		**Sg**	**07 35 29.8**	**0.0**
	94nm,0.2s								
ZHN	**Zhinishke**	**2.25**	**23**	Pg		**Pg**	**07 34 59.6**	**-1.1**
	3.6nm,0.1s								
ZHN				Lg		Lg	07 35 29.8		
	94nm,0.2s								
KBK	**Karagaybulak**	**2.31**	**313**	⇑P		**Pg**	**07 35 01.1**	**-0.8**
	8.2nm,0.1s,SNR=19								
KBK				⇓S		**Sg**	**07 35 33.0**	**+1.1**
	30nm,0.4s								
KBK	**Karagaybulak**	**2.31**	**313**	⇓*i*P		**Pb**	**07 34 58.4**	**-1.1**
	baz=13								
KBK				⇓*i*S		**Sb**	**07 35 28.9**	**+0.7**
	baz=13								
ARLS	**Aral**	**2.32**	**290**	⇑*i*P		**Pb**	**07 34 58.1**	**-1.5**
	baz=91								
ARLS				⇑*i*S		**Sb**	**07 35 28.5**	**+0.1**
	baz=91								
UCH	**Uchtor**	**2.33**	**300**	⇑P		**Pb**	**07 35 00.5**	**+0.5**
	4.7nm,0.2s,SNR=13								
UCH				⇓S		**Sg**	**07 35 33.5**	**+0.9**
	23nm,0.4s								
UCH	**Uchtor**	**2.33**	**300**	⇓*i*P		**Pb**	**07 34 58.9**	**-1.1**
	baz=0.0								
UCH				⇓*i*S		**Sb**	**07 35 29.5**	**+0.5**
	baz=0.0								
UZB	**Uzynbulak**	**2.44**	**32**	*e*P		**Pg**	**07 35 02.6**	**-1.6**
	8.5nm,0.3s								
UZB				*e*S		**Sg**	**07 35 35.0**	**-0.8**
	23nm,0.3s								
UZB	**Uzynbulak**	**2.44**	**32**	Pg		**Pg**	**07 35 02.6**	**-1.6**
	8.5nm,0.3s								
UZB				Lg		Lg	07 35 35.0		
	23nm,0.3s								
KURS	**Kuram**	**2.48**	**16**	*e*P		**Pg**	**07 35 03.6**	**-1.6**
	7.4nm,0.6s								
KURS				*e*S		**Sg**	**07 35 37.0**	**-0.4**
	20nm,0.7s								
KURS	**Kuram**	**2.48**	**16**	Pg		**Pg**	**07 35 03.6**	**-1.6**
	7.4nm,0.6s								
KURS				Lg		Lg	07 35 37.0		
	20nm,0.7s								
AAK	**Ala-Archa**	**2.56**	**308**	⇑*i*P		**Pb**	**07 35 01.8**	**-1.9**
	baz=8.0								
AAK				⇑*i*S		**Sb**	**07 35 34.7**	**-0.7**
	baz=8.0								
SHLS	**Shalkode**	**2.64**	**38**	*e*P		**Pg**	**07 35 09.9**	**+1.8**
	3.7nm,0.2s								
SHLS				*e*S		**Sg**	**07 35 47.5**	**+5.3**
	9.0nm,0.2s								
SHLS	**Shalkode**	**2.64**	**38**	Pg		**Pg**	**07 35 09.9**	**+1.8**
	3.7nm,0.2s								
SHLS				Lg		Lg	07 35 47.5		
	9.0nm,0.2s								
KTBS	**Karatobe**	**2.64**	**351**	*e*P		**Pg**	**07 35 06.9**	**-1.3**
	17nm,0.2s								
KTBS				*e*S		**Sg**	**07 35 42.9**	**+0.4**
	90nm,0.3s								
KTBS	**Karatobe**	**2.64**	**351**	Pg		**Pg**	**07 35 06.9**	**-1.3**
	17nm,0.2s								
KTBS				Lg		Lg	07 35 42.9		
	90nm,0.3s								
PDGK	**Podgornoye**	**2.78**	**36**	Pg		**Pb**	**07 35 06.7**	**-0.8**
	1.1nm,0.3s								
PDGK				Lg		Lg	07 35 42.1		
	9.9nm,0.5s								
PDGK	**Podgornoye**	**2.78**	**36**	⇓Pg		**Pb**	**07 35 08.0**	**+0.5**
	1.7nm,0.5s								
PDGK				⇑Lg		Lg	07 35 43.7		
	32nm,1.1s								
KRBS	**Karabastau**	**2.84**	**336**	*e*P		**Pg**	**07 35 10.6**	**-1.5**
	6.7nm,0.2s								
KRBS				*e*S		**Sg**	**07 35 49.3**	**+0.5**
	23nm,0.7s								
KRBS	**Karabastau**	**2.84**	**336**	Pg		**Pg**	**07 35 10.5**	**-1.5**
	6.7nm,0.2s								
KRBS				Lg		Lg	07 35 49.3		
	23nm,0.7s								
USP	**Ospenovka**	**2.97**	**318**	⇓*i*P		**Pb**	**07 35 07.6**	**-3.0**
	baz=18								
USP				⇓*i*S		**Sb**	**07 35 44.5**	**-2.5**
	baz=18								
EKS2	**Erkin-Say**	**3.02**	**302**	⇓*i*P		**Pb**	**07 35 08.0**	**-3.5**
	baz=3.0								
EKS2				⇓*i*S		**Sb**	**07 35 45.8**	**-2.7**
	baz=3.0								
MRKS	**Merke**	**3.42**	**300**	*e*P		**Pg**	**07 35 21.5**	**-1.5**
	3.5nm,0.7s								
MRKS				*e*S		**Sg**	**07 36 07.5**	**+0.3**
	5.1nm,0.5s								
MRKS	**Merke**	**3.42**	**300**	Pg		**Pg**	**07 35 21.5**	**-1.5**
	3.5nm,0.7s								
MRKS				Lg		Lg	07 36 07.5		
	5.1nm,0.5s								
MNAS	**Manas**	**3.80**	**293**	⇑*i*P		**Pn**	**07 35 19.1**	**+2.8**
	baz=93								
MNAS				⇑*i*S		**Sn**	**07 36 04.5**	**+3.3**
	baz=93								
KK31	**Karatay Array**	**5.39**	**294**	⇑Pg		**Pg**	**07 36 01.7**	**+1.0**
	0.3nm,0.3s,baz=99,slow=16,SNR=5.5								
KK31				⇓Lg		Lg	07 37 19.8		
	2.0nm,0.8s,baz=100,slow=26,SNR=3.7								

IDC 26 07:40:08.0±8.8, 3°.92S×147°.24E, h0km, mb3.6/3, mbtmp3.7/3, MS3.3/9, Error ellipse: s-maj=289.0km s-min=36.1km az=100.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.45**	**181**	LR	LR	07 43 15.6	
	comp=Z,59nm,21.3s,baz=16,slow=34						
HNR	**Honiara**	**13.75**	**114**	LR	LR	07 49 33.3	
	comp=Z,975nm,18.4s,baz=320,slow=41						
CTA	**Charters Tower**	**16.10**	**183**	LR	LR	07 49 45.8	
	comp=Z,54nm,18.2s,baz=180,slow=36						
WRA	**Warramunga Arr**	**20.30**	**217**	P	P	07 44 45.0	**-0.6**
	7.1nm,1.2s,baz=39,slow=12,SNR=7.5						
	7.1nm,1.2s						
ASAR	**Alice Springs**	**23.48**	**212**	P	P	07 45 19.9	**+0.3**
	1.6nm,0.9s,baz=42,slow=8.1,SNR=7.9						
	1.6nm,0.9s						
JOW	**Kunigami**	**35.65**	**330**	LR	LR	07 58 25.8	
	comp=Z,56nm,20.2s,baz=104,slow=31						
JNU	**Nakatsue**	**39.97**	**338**	LR	LR	08 00 24.2	
	comp=Z,36nm,21.5s,baz=51,slow=30						
NWAO	**Narrogin (SRO)**	**40.24**	**221**	LR	LR	08 04 26.9	
	comp=Z,83nm,18.3s,baz=40,slow=36						
KSRS	**Korea Array**	**44.91**	**338**	LR	LR	08 03 28.6	
	comp=Z,18nm,21.9s,baz=150,slow=31						
PALK	**Pallekele**	**67.32**	**280**	LR	LR	08 21 02.5	
	comp=Z,12nm,18.1s,baz=212,slow=36						
MKAR	**Makanchi Array**	**76.06**	**320**	P	P	07 51 57.7	**+0.1**
	0.3nm,0.8s,baz=95,slow=7.2,SNR=2.0						
	0.3nm,0.8s						
DLBC	**Dease Lake**	**89.50**	**31**	LR	LR	08 35 17.9	
	comp=Z,20nm,18.2s,baz=3.0,slow=37						

*IDC **26** 07:47:54.5±1.0, 6°.20S×143°.15E, h0km, mb4.0/6, mbtmp4.0/8, ML1.9/1, Error ellipse: s-maj=39.6km s-min=22.4km az=85.0*

ISC 26 07:47:58.6±0.8, 6°.58S±0°.08×142°.97E±0°.10, h35km, n9, σ2s74/12, mb3.9/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.01**	**124**	Pn	**Pn**	**07 49 11.2**	**-0.3**
	2.9nm,0.3s,baz=241,slow=19,SNR=2.4						
PMG				Sn	**Sn**	**07 50 07.4**	**-0.8**
	6.5nm,0.3s,baz=245,slow=19,SNR=3.2						
	7.8nm,0.3s						
WRA	**Warramunga Arr**	**15.71**	**211**	Pn	**P**	**07 51 38.1**	**-2.9**
	0.8nm,0.3s,baz=30,slow=13,SNR=32						
WRA				Sn	**Sn**	**07 54 27.4**	**-3.0**
	0.5nm,0.3s,baz=29,slow=24,SNR=3.4						
WRA				Lg	Lg	07 56 23.5	
	0.2nm,0.3s,baz=32,slow=28,SNR=2.8						
ASAR	**Alice Springs**	**19.09**	**206**	P	**Pn**	**07 52 23.5**	**+4.0**
	5.6nm,0.7s,baz=30,slow=10,SNR=49						
ASAR				S	**S**	**07 55 51.4**	**-1.9**
	0.8nm,0.5s,baz=18,slow=27,SNR=3.6						
ASAR				Lg	Lg	07 58 10.7	
	0.1nm,0.3s,baz=13,slow=29,SNR=1.8						
STKA	**Stephens Creek**	**25.20**	**183**	P	**P**	**07 53 26.1**	**+5.0**
	4.0nm,1.0s,baz=28,slow=16,SNR=2.1						
	4.0nm,1.0s						
PETK	**Petropavlovsk-**	**60.76**	**10**	P	**P**	**07 58 06.2**	**-0.5**
	2.7nm,0.8s,baz=174,slow=6.0,SNR=6.6						
	2.7nm,0.8s						
MKAR	**Makanchi Array**	**75.42**	**322**	P	**P**	**07 59 39.6**	**+0.6**
	1.0nm,0.7s,baz=101,slow=7.3,SNR=8.3						
	1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**79.32**	**324**	P	**P**	**08 00 00.8**	**+0.2**
	0.4nm,0.6s,baz=121,slow=4.2,SNR=4.8						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**84.89**	**325**	P	**P**	**08 00 30.2**	**+0.3**
	1.6nm,0.7s,baz=108,slow=4.8,SNR=6.6						
	1.6nm,0.7s						
ILAR	**Eielson Array**	**87.61**	**24**	P	**P**	**08 00 41.0**	**-1.9**
	0.4nm,0.8s,baz=252,slow=5.0,SNR=4.9						
	0.4nm,0.8s						

VIE 26 07:50:18.4±0.2, 47°.55N×14°.93E, h0km, ml1.0/3, Error ellipse: s-maj=2.9km s-min=1.3km az=53.0, Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSA	**Arzberg**	**0.51**	**126**	*e*Pg	Pg	07 50 27.8	-0.3
	0.3nm,0.1s						
ARSA				*e*Sg	Sg	07 50 34.4	-0.3
	0.8nm,0.1s						
MOA	**Molln**	**0.54**	**304**	*e*Pg	Pg	07 50 29.1	+0.4
	0.7nm,0.2s						
CONA	**Conrad Observa**	**0.73**	**59**	*e*Pg	Pg	07 50 32.9	+0.3
	0.4nm,0.2s						
CONA				Sg	Sg	07 50 43.4	+1.3
	2.7nm,0.4s						

KRSZO 26 07:51:14.5±1.1, 48°.65N×20°.70E, h0km, M1.5/6, Error ellipse: s-maj=6.7km s-min=4.2km az=158.0, Explosion. description : known quarry blast locality : Dvorniky-Vcelare Slovakia, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KECS	**Kecovo**	**0.22**	**222**	Pg	Pg	07 51 19.0	+0.4
KECS				Lg	Lg	07 51 21.6	
KECS				Lg	Lg	07 51 22.9	
KECS	**Kecovo**	**0.22**	**222**	*e*PG	Pg	07 51 19.0	+0.4
KECS				*e*SG	Sg	07 51 23.1	+1.7
ABAH	**Abaujker**	**0.50**	**134**	Pg	Pb	07 51 26.0	-0.1
ABAH				Lg	Lg	07 51 31.5	
CRVS	**Cervenica-Dubn**	**0.56**	**62**	Pg	Pg	07 51 25.9	+0.6
CRVS				Lg	Lg	07 51 32.7	
CRVS	**Cervenica-Dubn**	**0.56**	**62**	*e*PG	Pg	07 51 25.8	+0.5
CRVS				*e*SG	Sg	07 51 32.7	+0.1
PSZ	**Piszkesteto**	**0.91**	**217**	Pg	Pb	07 51 33.5	+0.5
PSZ				Pn	Pn	07 51 33.8	-0.7
PSZ				Lg	Lg	07 51 46.5	
LANS	**Liptovska Anna**	**0.96**	**302**	Pn	Pn	07 51 34.7	-0.5
VYHS	**Vyhne**	**1.25**	**264**	Pg	Pn	07 51 39.6	+0.4
VYHS				Lg	Lg	07 51 57.2	
VYHS	**Vyhne**	**1.25**	**264**	*e*PG	Pn	07 51 39.5	+0.3
VYHS				*e*SG	Sn	07 51 57.2	+0.5
A331A	**Zubak**	**1.71**	**288**	Sn	Sg	07 52 09.5	0.0

IDC 26 07:59:00.9±3.9, 8°.23S×123°.02E, h158km±51km, mb3.5/2, mbtmp3.7/4, Error ellipse: s-maj=176.4km s-min=29.6km az=53.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.06**	**162**	P	Pn	07 59 38.8	+1.5
	339nm,0.3s,baz=281,slow=2.6,SNR=44						
BATI				S	Sn	08 00 05.5	+0.1
	171nm,0.3s,baz=291,slow=23,SNR=10						
WRA	**Warramunga Arr**	**15.99**	**138**	P	Pn	08 02 36.6	-0.6
	0.5nm,0.4s,baz=316,slow=15,SNR=35						
WRA				S	S	08 05 25.7	-9.4
	0.6nm,0.5s,baz=302,slow=23,SNR=4.8						
ASAR	**Alice Springs**	**18.55**	**147**	P	P	08 03 06.6	+0.7
	0.3nm,0.3s,baz=327,slow=12,SNR=6.0						
ASAR				S	S	08 06 21.4	-7.8
	0.5nm,0.8s,baz=315,slow=18,SNR=2.6						
MKAR	**Makanchi Array**	**65.67**	**331**	P	P	08 09 28.5	+0.1
	0.8nm,0.5s,baz=143,slow=6.7,SNR=10						
	0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**69.81**	**337**	P	P	08 09 53.6	-0.5
	0.5nm,0.3s,baz=122,slow=1.9,SNR=4.3						
	0.5nm,0.3s						

IDC 26 08:06:28.3±2.7, 53°.75N×86°.88E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=24.9km s-min=13.0km az=71.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.24**	**280**	I	I	08 15 40.0	
	baz=99,slow=333,SNR=6.3						
ZALV	**Zalesovo Beam**	**1.24**	**280**	Pg	Pg	08 06 51.0	-1.0
	1.7nm,0.3s,baz=98,slow=15,SNR=14						
ZALV				Lg	Lg	08 07 08.1	
	1.1nm,0.3s,baz=100,slow=29,SNR=9.0						
KURBB	**Kurchatov Arra**	**6.02**	**242**	Pn	Pn	08 07 59.6	+1.1
	0.1nm,0.3s,baz=58,slow=14,SNR=6.3						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.56**	**205**	Pn	Pn	08 08 20.9	+1.1
	0.2nm,0.3s,baz=26,slow=12,SNR=8.6						
MKAR				Sn	Sn	08 09 46.3	+0.2
	baz=27,slow=27,SNR=2.9						
MKAR				Lg	Lg	08 10 26.9	
	baz=21,slow=14,SNR=2.4						
	0.2nm,0.3s						

*NEIC **26** 08:14:30.9±1.9, 24°.36S±0°.09×177°.4W±0°.1, h163km±9km, mb4.4/14, Error ellipse: s-maj=19.9km s-min=12.4km az=103.0*

*IDC **26** 08:14:31.8±8.6, 24°.67S×177°.50W, h146km±75km, mb3.5/5, mbtmp3.9/6, MS4.4/1, Error ellipse: s-maj=36.3km s-min=30.9km az=91.0*

ISC 26 08:14:30.7±0.6, 24°.39S±0°.09×177°.6W±0°.1, h153km, n27, σ1s67/25, mb4.3/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.85**	**184**	Pn	**Pn**	**08 15 44.9**	**+2.8**
MSVF	**Nonsavu**	**7.78**	**328**	Pn	Pn	08 16 32.6	+11
NIUE	**Niue**	**8.86**	**55**	Pn	**Pn**	**08 16 32.9**	**-2.6**
AFI	**Afiamalu**	**11.78**	**29**	Pn	**Pn**	**08 17 12.2**	**-1.9**
URZ	**Urewera**	**14.54**	**197**	P	**Pn**	**08 17 47.3**	**-1.9**
	2.5nm,0.3s,baz=2.1,slow=5.1,SNR=7.7						
URZ				S	Sn	08 20 07.8	-23
	3.7nm,0.5s,baz=152,slow=21,SNR=6.5						
HIZ	**Hauiti**	**15.48**	**203**	P	**P**	**08 18 01.8**	**-0.2**
HIZ				IAmb	IAmb	08 18 23.6	
	comp=Z,23nm,1.3s						
THZ	**Tophouse**	**19.05**	**202**	P	**Pn**	**08 18 42.2**	**-1.3**
THZ				IAmb	IAmb	08 18 50.7	
	comp=Z,30nm,1.4s						
GVZ	**Greta Valley S**	**20.08**	**200**	P	**P**	**08 18 51.6**	**-0.6**
HNR	**Honiara**	**26.09**	**301**	LR	LR	08 30 20.8	
	comp=Z,739nm,18.5s,baz=332,slow=36						
CTAO	**Charters Tower**	**33.69**	**270**	P	**P**	**08 20 56.7**	**-0.8**
CTAO				IAmb	IAmb	08 21 00.3	
	comp=Z,15nm,1.2s						
STKA	**Stephens Creek**	**36.60**	**249**	P	**P**	**08 21 21.1**	**-1.2**
COEN	**Coen**	**38.38**	**278**	P	**P**	**08 21 37.4**	**0.0**
ASAR	**Alice Springs**	**44.14**	**261**	P	**P**	**08 22 26.2**	**+1.9**
	comp=Z,0.7nm,0.4s,baz=91,slow=6.9,SNR=13						
	comp=Z,0.7nm,0.4s						
WB0	**Warramunga Arr**	**44.58**	**266**	P	**P**	**08 22 26.8**	**-1.0**
WB0				IAmb	IAmb	08 22 42.0	
	comp=Z,21nm,1.1s						
WRA	**Warramunga Arr**	**44.58**	**266**	P	**P**	**08 22 27.1**	**-0.8**
SBA	**Scott Base**	**54.03**	**184**	P	**P**	**08 23 40.0**	**+1.4**
SBA				IAmb	IAmb	08 23 40.9	
	comp=Z,8.3nm,0.9s						
VNDA	**Vanda**	**54.09**	**185**	P	**P**	**08 23 37.4**	**-1.6**
VNDA				IAmb	IAmb	08 23 44.3	
	comp=Z,4.3nm,1.5s						
VNDA	**Vanda**	**54.09**	**185**	P	**P**	**08 23 39.2**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=31,slow=5.4,SNR=5.6						
	comp=Z,0.6nm,0.7s						
QSPA	**South Pole Qui**	**65.69**	**180**	P	**P**	**08 24 58.2**	**-0.4**
QSPA				IAmb	IAmb	08 25 00.4	
	comp=Z,5.0nm,1.2s						
BELA	**Belgrano 2**	**75.67**	**172**	P	**P**	**08 25 57.1**	**-1.4**
BELA				IAmb	IAmb	08 26 11.4	
	comp=Z,21nm,1.5s						
MAW	**Mawson**	**78.05**	**200**	P	**P**	**08 26 13.1**	**+1.1**
MAW	**Mawson**	**78.05**	**200**	P	**P**	**08 26 12.6**	**+0.6**
	comp=Z,3.7nm,0.6s,baz=136,slow=7.4,SNR=8.4						
	comp=Z,3.7nm,0.6s						
NVAR	**Mina Array Bea**	**83.59**	**43**	P	**P**	**08 26 44.6**	**+2.6**
	comp=Z,0.3nm,0.6s,baz=217,slow=8.9,SNR=3.1						
	comp=Z,0.3nm,0.6s						
SNAA	**Sanae**	**84.13**	**178**	P	**P**	**08 26 43.4**	**-0.8**
ILAR	**Eielson Array**	**92.01**	**13**	P	**P**	**08 27 25.3**	**+3.8**
	comp=Z,0.3nm,0.8s,baz=209,slow=7.2,SNR=1.7						
	comp=Z,0.3nm,0.8s						
HFS	**Hagfors**	**143.43**	**351**	PKP	**PKPdf**	**08 33 46.0**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=126,slow=2.5,SNR=8.6						
AKASG	**Malin Array Be**	**146.56**	**329**	PKPbc	**PKiKP**	**08 33 56.0**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=41,slow=4.5,SNR=8.4						

IDC 26 08:14:51.8±6.3, 5°.73S×142°.10E, h0km, mb3.8/2, mbtmp3.6/4, ML3.1/2, Error ellipse: s-maj=239.4km s-min=33.2km az=95.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.02**	**207**	Pn	Pn	08 18 36.5	-2.1
	0.1nm,0.3s,baz=29,slow=13,SNR=1.8						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**19.51**	**203**	P	Pn	08 19 21.6	-0.3
	0.1nm,0.3s,baz=33,slow=11,SNR=13						
	1.4nm,0.7s						
MKAR	**Makanchi Array**	**74.23**	**322**	P	P	08 26 31.1	+0.4
	0.5nm,0.8s,baz=114,slow=6.5,SNR=3.5						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	**83.71**	**325**	P	P	08 27 22.0	-0.5
	0.6nm,0.5s,baz=120,slow=8.7,SNR=2.6						
	0.6nm,0.5s						

*IDC **26** 08:18:15.1±1.0, 5°.43S×142°.96E, h0km, mb4.1/11, mbtmp4.2/11, MS3.2/5, Error ellipse: s-maj=44.7km s-min=19.7km az=82.0*

*NEIC **26** 08:18:19.1±1.1, 5°.85±0°.1×142°.1E±0°.1, h10km±1km, mb4.3/13, Error ellipse: s-maj=21.1km s-min=11.8km az=43.0*

ISC 26 08:18:21.1±0.6, 5°.76S±0°.06×142°.26E±0°.07, h35km, n41, σ1s84/41, mb4.2/12, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**1.14**	**295**	P	**Pn**	**08 18 39.6**	**-1.0**
GENI	**Genyem**	**3.77**	**326**	P	**Pn**	**08 19 18.2**	**+1.4**
PMG	**Port Moresby**	**6.06**	**127**	Pn	**Pn**	**08 19 48.3**	**+0.1**
PMG	**Port Moresby**	**6.06**	**127**	Pn	**Pn**	**08 19 47.7**	**-0.5**
	4.9nm,0.3s,baz=294,slow=20,SNR=7.6						
PMG				Sn	**Sn**	**08 20 54.6**	**-1.8**
	0.7nm,0.3s,baz=158,slow=12,SNR=3.6						
PMG				LR	LR	08 22 43.5	
	comp=Z,316nm,18.3s,baz=320,slow=47						
COEN	**Coen**	**8.20**	**174**	P	**Pn**	**08 20 17.5**	**-0.1**
FAKI	**Fak Fak**	**10.37**	**285**	P	**Pn**	**08 20 47.1**	**-0.4**
FAKI	**Fak Fak**	**10.37**	**285**	Pn	**Pn**	**08 20 44.2**	**-3.3**
KDU	**Kakadu**	**11.86**	**234**	P	**Pn**	**08 21 09.8**	**+2.0**
MTN	**Manton Dam**	**13.04**	**237**	P	**Pn**	**08 21 24.6**	**+0.7**
MTN	**Manton Dam**	**13.04**	**237**	Pn	**Pn**	**08 21 20.0**	**-4.0**
QIS	**Mount Isa**	**14.94**	**190**	P	**P**	**08 21 58.1**	**+3.2**
WB0	**Warramunga Arr**	**15.89**	**208**	Pn	**Pn**	**08 22 01.1**	**-1.1**
WB0				IAmb	IAmb	08 22 18.9	
	comp=Z,16nm,0.9s						
WR0	**Warramunga Arr**	**15.99**	**207**	Pn	**Pn**	**08 22 02.8**	**-0.6**
WR0				IAmb	IAmb	08 22 19.7	
	comp=Z,13nm,0.7s						
WB2	**Warramunga Arr**	**16.06**	**208**		**Pn**	**08 22 04.6**	**+0.2**
WB2				IAmb	IAmb	08 22 19.8	
	comp=Z,12nm,0.7s						
WRA	**Warramunga Arr**	**16.07**	**208**		**Pn**	**08 22 02.6**	**-1.8**
WRA	**Warramunga Arr**	**16.07**	**208**	Pn	**Pn**	**08 22 04.4**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=29,slow=13,SNR=17						
WRA				Sn	**Sn**	**08 25 00.4**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=26,slow=20,SNR=3.7						
WRA				Lg	Lg	08 26 58.4	
	comp=Z,0.6nm,0.3s,baz=25,slow=29,SNR=3.5						
KNRA	**Kununurra**	**16.51**	**232**	P	**P**	**08 22 10.9**	**-1.5**
KNRA	**Kununurra**	**16.51**	**232**	Pn	**Pn**	**08 22 07.4**	**-2.7**
GUMO	**Guam**	**19.40**	**8**	LR	LR	08 29 22.7	
	comp=Z,34nm,20.5s,baz=100,slow=35						
AS31	**Alice Springs**	**19.54**	**203**	P	**P**	**08 22 45.1**	**-0.7**
AS31				IAmb	IAmb	08 22 56.2	
	comp=Z,5.5nm,0.7s						
ASAR	**Alice Springs**	**19.54**	**203**	P	**P**	**08 22 45.1**	**-0.7**
ASAR	**Alice Springs**	**19.54**	**203**	P	**Pn**	**08 22 48.8**	**+1.5**
	comp=Z,16nm,0.8s,baz=32,slow=10,SNR=34						
ASAR				S	**S**	**08 26 23.7**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=23,slow=24,SNR=4.2						
ASAR				Lg	Lg	08 28 44.3	
	comp=Z,0.1nm,0.3s,baz=20,slow=30,SNR=2.4						
ASAR				LR	LR	08 29 49.2	
	comp=Z,141nm,20.5s,baz=32,slow=34						
	comp=Z,16nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.34**	**232**	P	**P**	**08 22 52.7**	**-1.8**
TOLI2	**Tolitoli**	**22.51**	**287**	P	**P**	**08 23 14.9**	**-3.0**
TOLI2				IAmb	IAmb	08 23 23.0	
	comp=Z,17nm,0.9s						
STKA	**Stephens Creek**	**25.99**	**181**	P	**P**	**08 23 50.9**	**+0.2**
STKA	**Stephens Creek**	**25.99**	**181**	P	**P**	**08 23 52.8**	**+2.1**
	comp=Z,1.8nm,0.9s,baz=331,slow=10,SNR=1.5						
	comp=Z,1.8nm,0.9s						
PSA00	**Pilbara Seismi**	**26.80**	**232**		**P**	**08 23 57.1**	**-1.0**
PSA00				IAmb	IAmb	08 24 24.2	
	comp=Z,14nm,1.2s						
NWAO	**Narrogin (SRO)**	**35.69**	**218**	LR	LR	08 39 43.7	
	comp=Z,73nm,19.5s,baz=76,slow=35						
CMAR	**Chiang Mai Arr**	**49.02**	**300**	P	**P**	**08 27 08.2**	**+3.3**
	comp=Z,1.2nm,0.4s,baz=120,slow=5.4,SNR=7.7						
	comp=Z,1.2nm,0.4s						
SONM	**Songino Array**	**61.99**	**333**	P	**P**	**08 28 38.8**	**+1.0**
SONM				IAmb	IAmb	08 28 40.2	
	comp=Z,3.0nm,1.2s						
SONM	**Songino Array**	**61.99**	**

PAMC Pamplona, Colo 0.67 35 P Pn 08 23 18.2 +0.8
PAMC S Sn 08 23 35.2 +0.3
PAMC S 08 23 35.3
RUSC La Rusia 0.90 180 P Pn 08 23 19.3 +0.3
RUSC S Sn 08 23 37.2 -0.6
PTBC PUERTO BERRIO, 1.38 260 P Pn 08 23 22.2 -0.6
PTBC S Sn 08 23 42.6 -2.0
OCAC Ocana 1.45 351 P Pn 08 23 23.6 -0.1
OCAC S Sn 08 23 45.4 -0.8
SPBC San Pablo de B 1.50 221 P Pn 08 23 24.3 +0.2
SPBC S Sn 08 23 45.8 -1.1
NORC Norcasia 2.15 235 P Pn 08 23 31.2 -0.2
NORC S Sn 08 23 58.9 -1.0
CVER Cruz Verde, Cu 2.46 204 P Pn 08 23 49.9 +1.3
CVER S Sn 08 24 05.5 -1.8
HELC Santa Helena 2.50 256 P Pn 08 23 35.7 -0.2
HELC S Sn 08 24 07.2 -0.6
VILC Villavicencio, 2.73 193 P Pn 08 23 38.7 +0.1
VILC S Sn 08 24 12.7 0.0
PTGC Puerto Gaitan, 2.75 160 P Pn 08 23 38.5 -0.2
PTGC S Sn 08 24 12.0 -0.9
PTGC S Sn 08 24 12.0 -0.9
GUY2C Guyana, Caldas 2.75 236 P Pn 08 23 40.2 +1.1
GUY2C S Sn 08 24 13.6 0.0
RECRC Villamaria, Ca 2.90 231 P Pn 08 23 42.9 +1.9
RECRC S Sn 08 24 16.3 -0.7
NIZA Niza - Manizal 2.93 234 P Pn 08 23 45.0 +3.8
NIZA S Sn 08 24 19.5 +2.1
DBBC Dabeiba 3.11 274 P Pn 08 23 43.3 +0.1
DBBC S Sn 08 24 18.7 -2.3
SDV Santo Domingo 3.20 49 P Pn 08 23 45.2 +0.7
158nm,0.4s,baz=231,slow=9.8,SNR=127
SDV S Sn 08 24 20.3 -3.0
570nm,0.6s,baz=82,slow=22,SNR=31
SDV Santo Domingo 3.20 49 eP Pn 08 23 45.1 +0.7
ANIL Santa Ana 3.25 225 P Pn 08 23 47.1 +1.9
ANIL S Sn 08 24 25.6 +1.0
ARGC Ariguani, Magd 3.25 339 P Pn 08 23 45.7 +0.7
ARGC S Sn 08 24 23.6 -0.7
ORTC Ortega, Tolima 3.58 217 P Pn 08 23 49.4 +0.1
ORTC S Sn 08 24 31.9 0.0
APAC Apartado, Choc 3.63 288 P Pn 08 23 49.7 -0.2
APAC S Sn 08 24 32.6 -0.4
APAC S Sn 08 24 32.6 -0.4
PLMC San Jos del P 3.69 240 P Pn 08 23 51.5 +0.8
PLMC S Sn 08 24 33.3 -1.2
SJCC San Jacinto, C 3.71 326 P Pn 08 23 49.7 -1.3
SJCC S Sn 08 24 30.1 -4.9
LCBC Los crdobas, 3.84 302 P Pn 08 23 51.8 -0.8
LCBC S Sn 08 24 33.7 -4.1
CRJC Cerrejon, Guaj 4.20 3 P Pn 08 23 55.9 -1.5
CRJC S Sn 08 24 43.0 -3.5
YOTC Yotoco, Valle 4.28 229 P Pn 08 23 58.2 -0.2
YOTC P Pn 08 23 58.3 -0.2
YOTC P Pn 08 23 58.3 -0.2
YOTC S Sn 08 24 48.1 -0.2
SOLC Bahia Solano 4.33 263 P Pn 08 24 01.7 +2.7
SOLC P 08 24 01.9
SMRC Santa Marta, M 4.48 346 P Pn 08 24 00.4 -0.6
SMRC S Sn 08 24 48.6 -4.4
CAPC Capurgana 4.60 294 P Pn 08 24 01.6 -1.0
CAPC S Sn 08 24 49.0 -6.7
PIZC Pizarro, Choco 4.62 247 P Pn 08 24 04.3 +1.5
PIZC S Sn 08 24 56.3 +0.1
MACC Macarena, Meta 4.68 189 P Pn 08 24 02.7 -1.0
MACC P 08 24 02.8
MACC S Sn 08 24 52.5 -5.2
PTAC Punta Ardita, 4.70 275 P Pn 08 24 02.4 -1.4
PTAC S Sn 08 24 52.2 -5.8
BETC Betania 4.71 210 P Pn 08 24 04.1 0.0
BETC S Sn 08 24 51.3 -7.1
JAMC Jamundi, Valle 5.04 225 P Pn 08 24 08.4 -0.2
98nm,0.7s,4µm
JAMC P Pn 08 24 08.4 -0.2
98nm,0.7s,4µm
JAMC P 08 24 09.8
98nm,0.7s,4µm
JAMC S Sn 08 25 03.7 -2.7
98nm,0.7s,4µm
MALC Bahia Malaga 5.05 237 P Pn 08 24 09.9 +1.4
MALC P 08 24 10.7
MALC P 08 24 11.3
MALC S Sn 08 25 05.1 -1.3
GARC Garzon, Huila 5.17 208 P Pn 08 24 09.7 -0.6
GARC P 08 24 09.9
GARC P 08 24 10.1
GARC S Sn 08 25 05.5 -4.0
UPD2 Meteti 5.18 290 P Pn 08 24 09.0 -1.3
91nm,0.8s
UPD2 S Sn 08 25 05.9 -3.6
91nm,0.8s
BAUV El Baul 5.44 67 Pn Pn 08 24 11.6 -2.0
POPC Popayan, Colom 5.54 220 P Pn 08 24 15.1 -0.1
50nm,0.8s,674nm
POPC P P 08 24 15.7 +0.5
50nm,0.8s,674nm
POPC P P 08 24 15.7 +0.5
50nm,0.8s,674nm
POPC S Sn 08 25 14.8 -3.5
50nm,0.8s,674nm
FLOC Florencia 5.77 206 P Pn 08 24 18.2 0.0
124nm,1.1s,1µm
FLOC P 08 24 18.3
124nm,1.1s,1µm
FLOC P 08 24 18.7
124nm,1.1s,1µm
FLOC S Sn 08 25 21.1 -2.6
124nm,1.1s,1µm
BBAC Balboa, Cauca 6.30 221 P Pn 08 24 25.7 +0.4
BBAC P 08 24 25.9
BBAC P 08 24 26.0
BBAC S Sn 08 25 33.7 -2.8
GR1C Gorgona, Isla 6.31 234 P Pn 08 24 23.8 -1.4
GR1C S Sn 08 25 31.0 -5.4
AUA1 Aruba 6.43 28 Pn Pn 08 24 26.7 -0.2
CRUC La Cruz 6.46 217 P Pn 08 24 30.5 +2.8
GCUF Volcan Galeras 6.97 218 P Pn 08 24 35.9 +1.3
49nm,0.5s,922nm
GCUF S Sn 08 25 48.6 -4.5
49nm,0.5s,922nm
BCIP Isla Barro Col 7.09 290 Pn Pn 08 24 34.0 -1.6
BCIP Isla Barro Col 7.09 290 P Pn 08 24 34.4 -1.2
BCIP S Sn 08 25 51.5 -5.6
TULM Tulcn-Chalpat 7.64 218 Pn Pn 08 24 44.5 +0.9
IMBA Imbabura, San 8.24 218 Pn 08 24 52.9 +1.4
PCRV Puerto La Cruz 9.01 68 P Pn 08 25 01.1 -0.2
12nm,0.5s,baz=284,slow=2.6,SNR=23
PCRV S Sn 08 26 38.7 -2.7
15nm,0.6s,baz=236,slow=18,SNR=1.7
SLOR San Lorenzo - 9.22 216 Pn Pn 08 25 06.4 +1.9
CHSH Refugio Sur-Vo 10.05 215 Pn Pn 08 25 17.1 +1.4
DRK0 Durika 10.35 284 Pn Pn 08 25 20.7 +1.4
SRBA San Rafael, Bu 10.46 284 Pn Pn 08 25 21.4 +0.8
PEZE Perez Zeledon, 10.79 284 Pn Pn 08 25 25.0 0.0
RIMA Rio Macho 11.06 286 Pn Pn 08 25 29.6 +0.9
COHC Cochancay 11.07 214 Pn Pn 08 25 28.2 -0.3
TBTG Tabatinga, AM 11.36 164 Pn Pn 08 25 32.1 -0.3
TBTG Tabatinga, AM 11.36 164 eP Pn 08 25 31.9 -0.5
JTS Las Juntas de 12.23 287 Pn Pn 08 25 45.0 +1.2
JTS Las Juntas de 12.23 287 P Pn 08 25 45.1 +1.2
11nm,1.1s,baz=74,slow=4.4,SNR=2.8
SDDR Presa de Saban 12.24 8 Pn Pn 08 25 44.6 +0.8
ORTG Ortega, Santa 12.73 287 Pn Pn 08 25 52.4 +2.1
CELP Cerrillos 12.88 29 Pn Pn 08 25 50.5 -1.6
IGPR InterUniversit 13.03 31 Pn Pn 08 25 52.2 -1.7
AOPR Arecibo Observ 13.04 28 Pn Pn 08 25 50.6 -3.4
BOAV Boa Vista 13.26 109 Pn Pn 08 25 56.2 -0.8
TEFE Tefe 13.27 140 eP Pn 08 25 56.5 -0.5
HUMP Col San Antoni 13.30 31 Pn Pn 08 25 56.5 -1.0
CZSB Cruzeiro do Su 14.43 178 Pn Pn 08 26 11.5 -0.3
CZSB Cruzeiro do Su 14.43 178 eP Pn 08 26 11.1 -0.7
ETMB Extrema 17.87 157 P 08 26 51.9 -0.3
ETMB IAmb IAmb 08 26 53.1
comp=Z,11nm,0.7s
ETMB Extrema 17.87 157 eP P 08 26 51.9 -0.3
SAML Samuel 18.50 148 P P 08 26 59.1 0.0
SAML IAmb IAmb 08 26 59.9
comp=Z,10nm,0.8s
SAML Samuel 18.50 148 eP P 08 26 58.6 -0.5
PAYG Puerto Ayora 18.70 247 P P 08 27 04.0 +2.6
ITTB Itaituba 20.57 122 eP P 08 27 22.0 +0.6
NPGB Novo Progresso 22.40 128 eP P 08 27 40.5 -0.1

VILB Vilhena 23.43 147 P P 08 27 50.4 +0.2
VILB Vilhena 23.43 147 eP P 08 27 50.2 +0.1
LPAZ La Paz 23.45 168 P P 08 27 50.8 -0.2
LPAZ La Paz 23.45 168 P P 08 27 50.1 -0.9
comp=Z,2.4nm,0.8s,baz=336,slow=9.6,SNR=8.1
comp=Z,2.4nm,0.8s
LPAZ La Paz 23.45 168 eP P 08 27 51.1 +0.1
PDRB Porto dos Gac 24.48 138 eP P 08 27 59.5 -0.2
GO01 Chusmiza 26.57 172 P P 08 28 17.7 -1.4
GO01 IAmb IAmb 08 28 20.2
comp=Z,11nm,1.4s
BBSD Serra de San D 26.83 153 eP P 08 28 19.7 -1.2
ARAG Araguaiana, MT 30.72 137 eP P 08 28 55.0 -0.3
V48A Smith Brothers 31.45 338 P P 08 29 03.5 +2.0
V48A IAmb IAmb 08 29 23.4
comp=Z,4.9nm,1.1s
HBVL Hebbronville 31.58 313 P P 08 29 03.9 +1.1
WVT Waverly 32.17 337 P P 08 29 09.0 +1.2
T47A Sharon Grove 32.66 339 P P 08 29 13.5 +1.4
833A Chaparral WMA, 32.83 314 P P 08 29 14.0 +0.3
833A IAmb IAmb 08 29 14.2
comp=Z,10nm,1.5s
WHAR Wooly Hollow 33.41 331 P P 08 29 19.1 +0.5
WHAR IAmb IAmb 08 29 35.6
comp=Z,6.1nm,1.3s
LCAR Lake Charles 33.51 333 P P 08 29 20.4 +1.0
LCAR IAmb IAmb 08 29 21.8
comp=Z,5.8nm,1.3s
P52A Corning 33.69 347 P P 08 29 22.1 +1.1
FCAR Ozark Folk Cen 33.81 332 P P 08 29 22.5 +0.4
FCAR IAmb IAmb 08 29 42.9
comp=Z,6.7nm,1.3s
CGM3 Cape Girardeau 33.91 336 P P 08 29 23.5 +0.6
CGM3 IAmb IAmb 08 29 34.5
comp=Z,9.1nm,1.4s
BRDY Brady 34.36 318 P P 08 29 27.1 +0.1
BRDY IAmb IAmb 08 29 28.0
comp=Z,7.8nm,1.4s
P46A Rosedale 35.06 341 P P 08 29 34.4 +1.6
CCM Cathedral Cave 35.21 335 P P 08 29 34.9 +0.8
CCM IAmb IAmb 08 29 36.4
comp=Z,5.6nm,0.7s
AC05 El Transito 35.53 176 P P 08 29 35.1 -2.0
SFIN Lafayette 35.72 342 P P 08 29 38.9 +0.5
R40A Maddies Statio 35.85 334 P P 08 29 40.1 +0.6
R40A IAmb IAmb 08 29 45.7
comp=Z,4.9nm,1.1s
OK052 Battle Ridge R 36.28 327 P P 08 29 43.6 +0.3
TXAR Lajitas Array 36.50 312 P P 08 29 46.0 +0.6
TXAR Lajitas Array 36.50 312 P P 08 29 46.0 +0.6
comp=Z,1.2nm,0.6s,baz=130,slow=9.3,SNR=17
comp=Z,1.2nm,0.6s
TX31 Lajitas Ar. Si 36.50 312 P P 08 29 46.2 +0.8
P38A Dawn 37.50 334 P P 08 29 53.9 +0.4
P38A IAmb IAmb 08 30 04.4
comp=Z,5.1nm,0.8s
VHRN Van Horn 38.24 313 P P 08 30 00.9 +0.8
VHRN IAmb IAmb 08 30 01.3
comp=Z,4.6nm,1.1s
D62A Allapoint, All 40.29 4 P P 08 30 18.2 +1.6
D62A IAmb IAmb 08 30 18.6
comp=Z,5.0nm,0.8s
ANMO Albuquerque 41.55 317 P P 08 30 28.2 +0.8
ECSD EROS Data Cent 42.19 334 P P 08 30 32.5 +0.3
ECSD IAmb IAmb 08 30 52.1
comp=Z,4.6nm,1.3s
SDCO Great Sand Dun 42.59 321 P P 08 30 36.1 +0.2
K30B Basset 42.72 331 P P 08 30 36.9 +0.3
F36A Milaca 42.75 339 P P 08 30 36.7 0.0
SUSD Miller 43.77 333 P P 08 30 45.0 0.0
EYMN Ely 43.91 342 P P 08 30 46.2 +0.3
X16A Lo Mia Camp, P 44.77 313 P P 08 30 54.4 +1.1
N23A Red Feather La 44.84 324 P P 08 30 54.0 +0.2
N23A IAmb IAmb 08 30 56.6
comp=Z,4.8nm,1.1s
B35A Bob, Littlefor 44.98 341 P P 08 30 54.4 0.0
B35A IAmb IAmb 08 31 17.1
comp=Z,8.8nm,1.4s
WUAZ Wupatki 45.26 315 P P 08 30 58.8 +1.7
WUAZ IAmb IAmb 08 30 59.9
comp=Z,8.7nm,1.1s
AGMN Agassiz Nation 45.66 339 P P 08 31 00.1 +0.3
Y14A Wickenburg 45.69 312 P P 08 31 01.8 +1.4
HMU Henry Mountain 46.08 318 P P 08 31 04.6 +0.9
HMU IAmb IAmb 08 31 06.4
comp=Z,7.7nm,1.1s
U15A North Rim 46.36 315 P P 08 31 07.3 +1.5
U15A IAmb IAmb 08 31 08.2
comp=Z,3.9nm,1.1s
Q16A Castle Valley 46.90 319 P P 08 31 09.0 -0.9
Q16A IAmb IAmb 08 31 12.3
comp=Z,3.5nm,0.7s
P17A Butcher Ranch, 46.92 320 P P 08 31 10.9 +0.9
KNB Kanab 47.02 316 P P 08 31 12.3 +1.5
KNB IAmb IAmb 08 31 13.2
comp=Z,4.7nm,1.0s
MTPU Mount Pierson 47.10 317 P P 08 31 11.6 -0.1
LCMT Little Creek M 47.31 315 P P 08 31 12.1 -0.9
LCMT IAmb IAmb 08 31 15.8
comp=Z,3.6nm,1.0s
ULM Lac du Bonnet 47.32 340 P P 08 31 12.5 -0.2
ULM IAmb IAmb 08 31 13.1
comp=Z,2.0nm,0.5s
ULM Lac du Bonnet 47.32 340 P P 08 31 11.2 -1.5
comp=Z,1.7nm,0.4s,baz=149,slow=6.4,SNR=8.9
comp=Z,1.7nm,0.4s
MSU Marysvale 47.35 318 P P 08 31 15.1 +1.7
SZCU Shurtz Canyon 47.49 316 P P 08 31 15.3 +0.8
SZCU IAmb IAmb 08 31 15.6
comp=Z,1.8nm,0.5s
BSUT Blindstream Ca 47.53 321 P P 08 31 16.0 +1.0
BSUT IAmb IAmb 08 31 26.4
comp=Z,4.1nm,1.4s
TCRU Three Creeks R 47.58 318 P P 08 31 16.4 +1.2
CCX Cicese 47.63 307 P P 08 31 15.8 +0.3
NLU North Lily Min 48.05 319 P P 08 31 17.7 -1.1
NLU IAmb IAmb 08 31 20.1
comp=Z,4.6nm,1.4s
PD31 Pinedale Array 48.12 324 P P 08 31 19.8 +0.5
PDAR Pinedale Array 48.12 324 P P 08 31 18.6 -0.7
PDAR Pinedale Array 48.12 324 P P 08 31 19.2 0.0
comp=Z,0.7nm,0.6s,baz=125,slow=9.2,SNR=8.6
comp=Z,0.7nm,0.6s
SCHQ Schefferville 48.16 5 P P 08 31 19.8 +0.7
SCHQ IAmb IAmb 08 31 20.6
comp=Z,7.0nm,0.9s
SCHQ Schefferville 48.16 5 P P 08 31 19.8 +0.7
comp=Z,3.7nm,0.8s,baz=200,slow=6.4,SNR=6.6
comp=Z,3.7nm,0.8s
CTU Camp Tracy 48.24 320 P P 08 31 19.9 -0.4
CTU IAmb IAmb 08 31 21.2
comp=Z,2.1nm,0.7s
TCUT Toone Canyon 48.27 321 P P 08 31 21.0 +0.5
SPR3 Spring Creek 3 49.04 317 P P 08 31 27.1 +0.6
BGU Big Grassy Mou 49.18 320 P P 08 31 28.0 +0.6
BGU IAmb IAmb 08 31 28.6
comp=Z,2.7nm,0.6s
DGMT Dagmar 49.19 333 P P 08 31 28.1 +1.0
REDW Red Top Meadow 49.23 324 P P 08 31 28.4 +0.6
SNOW Snow King Moun 49.24 324 P P 08 31 28.7 +0.9
SNOW IAmb IAmb 08 31 29.9
comp=Z,3.2nm,1.0s
TPAW Teton Pass 49.37 324 P P 08 31 28.8 -0.1
GWY Greenwater Val 49.38 313 P P 08 31 29.3 +0.4
GWY IAmb IAmb 08 31 54.4
comp=Z,4.5nm,1.2s
MOOW Moose Ponds 49.40 324 P P 08 31 29.3 +0.2
R11B Troy Canyon, C 49.58 316 P P 08 31 30.1 -0.4
IMW Indian Meadow 49.60 324 P P 08 31 30.5 -0.2
BOZ Bozeman (W) 51.02 326 P P 08 31 42.0 +0.9
BOZ IAmb IAmb 08 31 44.0
comp=Z,4.1nm,1.4s
MCMT McKenzie Canyo 51.26 324 P P 08 31 44.9 +1.8
NVAR Mina Array Bea 51.52 315 P P 08 31 46.0 +0.9
comp=Z,0.6nm,0.6s,baz=125,slow=6.1,SNR=5.7
comp=Z,0.6nm,0.6s
LRM Limekiln Ridge 51.62 326 P P 08 31 46.6 +1.0
KVN Kaiserville 51.65 315 P P 08 31 46.4 +0.4
KVN IAmb IAmb 08 31 47.9
comp=Z,3.4nm,1.2s
MDPB Devils Postpil 51.74 313 P P 08 31 47.7 +1.0
MDPB IAmb IAmb 08 32 16.8
comp=Z,4.6nm,1.0s
MFID Camas Ranch 52.27 321 P P 08 31 51.1 +0.7
MFID IAmb IAmb 08 31 52.6
comp=Z,2.1nm,0.7s
WAKR Walker 52.36 314 P P 08 31 51.6 +0.4
YERR Yerington 52.42 315 P P 08 31 53.0 +1.3
YERR IAmb IAmb 08 31 53.4
comp=Z,6.1nm,1.4s
BPMT Black Pine Rid 52.54 326 P P 08 31 53.2 +0.7
PLID Pearl Lake 53.26 323 P P 08 31 57.3 -0.5
PLID IAmb IAmb 08 31 58.6
comp=Z,2.1nm,0.9s
WVOR Wild Horse Val 53.57 319 P P 08 32 00.2 +0.3
WVOR IAmb IAmb 08 32 02.7
comp=Z,2.1nm,0.8s
F10A Beach Ranch, E 54.46 323 P P 08 32 06.6 +0.3
I07A Izee 54.91 320 P P 08 32 10.2 +0.6
I07A IAmb IAmb 08 32 11.5
comp=Z,3.3nm,1.1s
G08A Pilot Rock 55.16 322 P P 08 32 12.0 +0.7
J05D Fort Rock, OR 55.66 319 P P 08 32 16.0 +1.0
J05D IAmb IAmb 08 32 16.6
comp=Z,4.4nm,1.2s
PINE Pine Mountain 55.69 319 P P 08 32 15.5 +0.2
PINE IAmb IAmb 08 32 17.2
comp=Z,3.8nm,0.8s
YBH Yreka Blue Hor 55.98 317 P P 08 32 16.9 -0.4
YBH IAmb IAmb 08 32 46.0
comp=Z,4.2nm,1.3s
EDM Edmonton 56.66 332 P P 08 32 21.8 0.0
KSXB Camp Six Broad 56.82 316 P P 08 32 24.2 +1.0
H04A Detroit Lake 56.89 320 P P 08 32 24.2 +0.7
K02D Willamette Mer 57.02 317 P P 08 32 25.3 +0.7
LTY Liberty 57.16 323 P P 08 32 26.0 +0.6
LTY IAmb IAmb 08 32 41.8
comp=Z,2.7nm,0.9s
KBO Bosley Butte 57.21 317 P P 08 32 27.4 +1.4
I03D Drain, OR 57.22 318 P P 08 32 26.5 +0.7
YKAB2 New Yellowknif 63.25 340 P P 08 33 06.9 +0.4
YKA Yellowknife Ar 63.30 340 P P 08 33 06.8 0.0
YKA Yellowknife Ar 63.30 340 P P 08 33 06.7 -0.1
comp=Z,1.0nm,0.6s,baz=131,slow=6.2,SNR=25
comp=Z,1.0nm,0.6s
DLBC Dease Lake 67.36 331 P P 08 33 34.5 +1.3
DLBC IAmb IAmb 08 34 01.9
comp=Z,6.4nm,1.4s
S34M Telegraph Cree 67.67 331 P P 08 33 36.8 +1.8
FARO Faro, Yukon 70.45 334 P P 08 33 52.5 +0.4
FARO IAmb IAmb 08 33 52.6
comp=Z,3.6nm,1.4s
C36M Paulatuk 70.63 343 P P 08 33 54.3 +1.3
M31M Drury Creek, Y 70.89 334 P P 08 33 56.0 +1.2
M31M IAmb IAmb 08 34 11.1
comp=Z,4.6nm,1.3s
M30M Minto, Yukon 72.07 334 P P 08 34 03.0 +1.1
M30M IAmb IAmb 08 34 13.9
comp=Z,5.0nm,1.4s
H31M Peel River 72.31 338 P P 08 34 03.7 +0.5
H31M IAmb IAmb 08 34 05.0
comp=Z,4.0nm,1.4s
I30M Mount Dempster 72.86 337 P P 08 34 07.4 +0.8
EPYK Eagle Plains 73.42 338 P P 08 34 10.6 +0.9
CTGM Chitina Glacie 73.61 332 P P 08 34 12.9 +1.8
H29M Whitestone 73.99 337 P P 08 34 13.7 +0.7
G29M Pine Creek 74.10 338 P P 08 34 14.1 +0.4
I28M Miner Creek 74.34 336 P P 08 34 16.0 +0.8
I28M IAmb IAmb 08 34 26.9
comp=Z,4.1nm,1.4s
E29M Blow River 74.59 340 P P 08 34 17.0 +0.6
F28M Old Crow 75.02 339 P P 08 34 19.2 +0.2
F28M IAmb IAmb 08 34 23.6
comp=Z,4.0nm,1.4s
E28M Babbage River 75.23 340 P P 08 34 20.4 +0.3
J26L Joseph Creek 75.55 335 P P 08 34 22.4 +0.3
J26L IAmb IAmb 08 34 49.7
comp=Z,5.6nm,1.4s
E27K Coleen River 75.82 339 P P 08 34 23.7 +0.2
KLU Klutina 75.89 332 P P 08 34 26.1 +2.0
KLU IAmb IAmb 08 34 55.4
comp=Z,4.1nm,1.0s
J25K Salcha River, 76.33 335 P P 08 34 27.8 +1.3
BMAR Burnt Mountain 76.70 338 P P 08 34 29.6 +1.0
ILAR Eielson Array 77.00 335 P P 08 34 30.5 +0.3
comp=Z,0.2nm,0.6s,baz=86,slow=4.5,SNR=3.2
comp=Z,0.2nm,0.6s
RND Reindeer 77.59 333 P P 08 34 34.9 +1.3
RND IAmb IAmb 08 34 54.1
comp=Z,6.9nm,1.4s
SUA Susitna One 78.17 331 P P 08 34 37.8 +0.9
PPLA Purkeypile 79.02 333 P P 08 34 41.8 +0.2
M20K Styx River 79.35 332 P P 08 34 43.8 +0.5
J20K Nowinta River 80.02 334 P P 08 34 47.2 +0.5
L19K White Mountain 80.18 332 P P 08 34 47.8 +0.1
L19K IAmb IAmb 08 34 48.5
comp=Z,8.2nm,1.4s
B21K Ikpikpuk River 80.71 339 P P 08 34 51.1 +0.8
B21K IAmb IAmb 08 34 54.3
comp=Z,3.9nm,1.4s
E19K Redstone River 81.52 337 P P 08 34 55.5 +0.8
B20K Meade River 81.63 340 P P 08 34 56.2 +1.1
D19K Kuna River 81.89 338 P P 08 34 57.8 +1.1
C19K Lookout Ridge 82.45 339 P P 08 35 00.4 +0.9
F15K North Star Dit 84.50 335 P P 08 35 11.6 +1.6
F15K IAmb IAmb 08 35 29.5
comp=Z,5.6nm,1.4s
C16K Lisburne Hills 84.58 338 P P 08 35 11.4 +1.1
ASAR Alice Springs 149.12 234 PKPbc PKPbc 08 42 24.7 -1.1
comp=Z,1.2nm,0.7s,baz=118,slow=3.4,SNR=14
WRA Warramunga Arr 150.35 241 PKPbc PKPbc 08 42 27.9 -0.9
comp=Z,1.2nm,0.6s,baz=108,slow=2.8,SNR=23

*CATAC **26** 08:25:52.8±0.3, 13°.16N×89°.62W, h40km±7km, ML5.0*
*SNET **26** 08:25:52.7±0.9, 13°.26N×89°.61W, h67km, ML4.8*
*IDC **26** 08:25:54.9±1.8, 13°.68N×89°.14W, h96km±15km, mb3.8/12, mbtmp4.2/14, MS3.2/19, Error ellipse: s-maj=30.9km s-min=13.2km az=48.0*
*NEIC **26** 08:25:54.5±2.4, 13°.35N±0°.06×89°.51W±0°.07, h85km±8km, mb4.4/13, Error ellipse: s-maj=11.5km s-min=7.7km az=52.0*
*GCG **26** 08:25:57.4±0.5, 13°.58N×89°.75W, h75km±25km, MD4.2*
ISC 26 08:25:52.2±0.6, 13°.30N±0°.05×89°.58W±0°.04, h81km±4km, n261, σ1°22/267, mb4.4/47, 1C-5D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.32	53	eP		Pn	08 26 04.1	-0.5
LALI				eS		Sn	08 26 13.3	-0.6
LALI	Alcalda de L	0.32	53	iP		Pn	08 26 04.3	-0.4
LALI				IAML			08 26 04.5	
	comp=Z,7µm,1.0s							
LALI				iS		Sn	08 26 12.4	-1.5
JAYA	Jayaque - finc	0.38	20	iP		Pn	08 26 04.8	-0.5
JAYA				eS		Sn	08 26 14.1	-0.8
ITCA	Escuela Especi	0.48	38	iP		Pn	08 26 05.9	-0.1
ITCA				iS		Sn	08 26 16.1	0.0
ITCA				IAML			08 26 23.1	
	comp=Z,69µm,1.0s							
PMON	Piamonte	0.49	32	eP		Pn	08 26 06.0	-0.1
PANCS	Alcalda de	0.50	51	iP		Pn	08 26 05.9	-0.2
PANCS				IAML			08 26 16.8	
	comp=Z,90µm,1.0s							
SNET	Serv Nac Est T	0.52	41			Pn	08 26 06.2	-0.1
SNET	Serv Nac Est T	0.52	41	eP		Pn	08 26 06.2	-0.1
SNET	Serv Nac Est T	0.52	41	iP		Pn	08 26 06.3	0.0
SNET				iS		Sn	08 26 16.5	-0.2
SNET				IAML			08 26 17.9	
	comp=Z,65µm,1.0s							
BOQS	Boqueron	0.53	34	iP		Pn	08 26 06.6	+0.1
BOQS				eS		Sn	08 26 16.8	-0.2
LOMA	Loma Larga	0.53	49	eP		Pn	08 26 06.6	+0.1
LOMA	Loma Larga	0.53	49	iP		Pn	08 26 06.5	+0.1
LOMA				IAML			08 26 17.7	
	comp=Z,72µm,1.0s							
CEVE	Cerro Verde	0.53	356	eP		Pn	08 26 06.4	-0.2
CEVE				eS		Sn	08 26 18.6	+1.5
SEMO	Seminario San	0.53	41	iP		Pn	08 26 06.5	+0.1
SEMO				iS		Sn	08 26 17.0	+0.1
SEMO				IAML			08 26 18.9	
	comp=Z,55µm,1.0s							
CEDA	San Andres	0.54	20	eP		Pn	08 26 06.1	-0.3
CEDA	San Andres	0.54	20	iP		Pn	08 26 06.3	-0.1
CEDA				iS		Sn	08 26 17.6	+0.7
CEDA				IAML			08 26 23.9	
	comp=Z,44µm,1.0s							

SBLS San Blas 0.54 356 ||| iP Pn 08 26 06.5 -0.2
PIC2 El Picacho 0.55 35 ||| iP Pn 08 26 06.9 +0.2
UTEC Universidad Te 0.55 43 i P Pn 08 26 06.8 +0.3
UTEC i S Sn 08 26 17.0 -0.1
UTEC IAML 08 26 22.0
comp=Z,37µm,1.0s
SNJE San Jose 0.57 358 i P Pn 08 26 06.8 -0.1
IGN Direccin Gen 0.58 44 eP Pn 08 26 07.2 +0.4
IGN Direccin Gen 0.58 44 i P Pn 08 26 07.0 +0.2
IGN IAML 08 26 20.3
comp=Z,98µm,1.0s
UDBS Universidad Do 0.59 45 i P Pn 08 26 07.1 +0.2
UDBS i S Sn 08 26 18.3 +0.5
UDBS IAML 08 26 21.0
comp=Z,39µm,1.0s
RTR El Retiro 0.60 354 eP Pn 08 26 07.2 +0.1
QUEZ Alcaldia de Qu 0.61 29 i P Pn 08 26 07.2 +0.1
QUEZ IAML 08 26 21.0
comp=Z,54µm,1.0s
NUBE Las Nubes 0.63 342 ||| iP Pn 08 26 07.2 -0.2
NUBE Las Nubes 0.63 342 i P Pn 08 26 07.1 -0.3
NUBE IAML 08 26 19.7
comp=Z,36µm,1.0s
LFU La Fuente 0.64 45 eP Pn 08 26 07.9 +0.5
SJTE Alcalda de S 0.64 60 eP Pn 08 26 07.9 +0.4
LOAL Lomas de Alarc 0.72 345 i P Pn 08 26 08.2 -0.1
LOAL IAML 08 26 08.6
comp=Z,27µm,1.0s
SLOZ Alcaldia de Sa 0.75 345 eP Pn 08 26 08.4 -0.1
PAVA Las Pavas 0.75 56 eP Pn 08 26 09.0 +0.4
PAVA Las Pavas 0.75 56 i P Pn 08 26 09.0 +0.4
PAVA IAML 08 26 26.3
comp=Z,37µm,1.0s
COEG Centro de Oper 0.76 65 eP Pn 08 26 08.9 +0.3
COEG eS Sn 08 26 21.3 +0.5
SNVI San Vicente 0.79 66 eP Pn 08 26 09.6 +0.5
TECO Alcaldia de Te 0.82 73 eP Pn 08 26 09.2 0.0
TECO Alcaldia de Te 0.82 73 i P Pn 08 26 09.2 0.0
TECO IAML 08 26 22.2
comp=Z,10µm,1.0s
UESV Universidad de 0.84 66 i P Pn 08 26 09.8 +0.3
UESV i S Sn 08 26 23.4 +1.0
UESV IAML 08 26 27.6
comp=Z,10µm,1.0s
SCLA Alcaldia de Sa 0.92 64 eP Pn 08 26 10.8 +0.4
JUAM Asuncion Mita 1.04 353 i P Pn 08 26 11.9 +0.1
JUAM IAML 08 26 12.3
comp=Z,17µm,1.0s
JUAM i S Sn 08 26 26.9 +0.4
PQSS Presa 15 de Se 1.05 72 eP Pn 08 26 12.3 +0.4
PQSS Presa 15 de Se 1.05 72 i P Pn 08 26 12.3 +0.4
PQSS IAML 08 26 28.2
comp=Z,11µm,1.0s
LLGN La Laguna 1.06 36 i P Pn 08 26 12.5 +0.3
LLGN IAML 08 26 29.0
comp=Z,17µm,1.0s
MTO3 Montecristo 1.12 11 Pn 08 26 13.2 +0.2
MTO3 Sn Sn 08 26 28.7 +0.3
MTO3 Montecristo 1.12 11 ||| iP Pn 08 26 13.2 +0.2
PACA Pacayal 1.24 82 eP Pn 08 26 15.7 +1.4
PACA Pacayal 1.24 82 i P Pn 08 26 15.6 +1.3
PACA i S Sn 08 26 33.2 +2.2
PACA IAML 08 26 35.0
comp=Z,63µm,1.0s
LCY Lacayo 1.26 84 eP Pn 08 26 15.4 +0.8
RANC El Ranchito 1.27 84 i P Pn 08 26 15.4 +0.7
RANC IAML 08 26 35.0
comp=Z,9µm,1.0s
ESQI Esquipulas 1.28 11 Pn 08 26 15.6 +0.7
ESQI Sn Sn 08 26 32.5 +0.7
BLLM Bellamira 1.32 84 eP Pn 08 26 15.9 +0.6
CNRM Centro Naciona 1.39 82 i P Pn 08 26 16.8 +0.7
CNRM IAML 08 26 55.9
comp=Z,31µm,1.0s
PCG Pacaya 1.48 318 eP Pn 08 26 18.9 +1.4
NBG Las Nubes 1.48 330 eP Pn 08 26 19.3 +1.7
GCG4 OSOP 1.58 324 i P Pn 08 26 19.4 +0.6
GCG4 IAML 08 26 19.8
comp=Z,6µm,1.0s
LCND La Caada 1.65 89 ||| iP Pn 08 26 20.4 +0.8
LCND La Caada 1.65 89 i P Pn 08 26 20.3 +0.8
LCND IAML 08 26 45.1
comp=Z,8µm,1.0s
GUMI Mixco 1.66 323 i P Pn 08 26 20.0 +0.1
GUMI IAML 08 26 21.1
comp=Z,7µm,1.0s
FUG Fuego 3 1.68 313 eP Pn 08 26 21.4 +1.3
CNCH Conchagua 1.70 90 i P Pn 08 26 21.1 +0.8
CNCH Conchagua 1.70 90 i P Pn 08 26 21.0 +0.7
CNCH IAML 08 26 48.4
comp=Z,15µm,1.0s
MRL Marmol 1.78 357 eP Pn 08 26 23.3 +1.9
AMPH Amapala 1.87 90 i P Pn 08 26 23.2 +0.7
AMPH eS Sn 08 26 47.2 +1.8
APG El Apazote 1.90 333 P Pn 08 26 23.9 +0.9
comp=Z,54nm,0.6s,baz=151,slow=9.9,SNR=169
APG S Sn 08 26 50.0 +3.6
comp=Z,24nm,0.5s,baz=60,slow=24,SNR=9.3
APG LR LR 08 27 16.3
comp=Z,30nm,19.8s,baz=235,slow=44
SULM Suchitepequez, 2.17 298 eP Pn 08 26 28.2 +1.8
AVCB Coban 2.30 340 i P Pn 08 26 30.2 +1.9
AVCB IAML 08 26 30.9
comp=Z,3µm,1.0s
TGUH Tegucigalpa,Un 2.37 71 Pn 08 26 30.1 +0.9
RTAL Retalhuleu 2.39 301 Pn Pn 08 26 29.9 +0.6
STG3 Santiaguito 3, 2.39 306 eP Pn 08 26 31.1 +1.6
STG3 eS Sn 08 26 57.7 -0.3
QUIS Sacapulas 2.46 324 i P Pn 08 26 32.2 +1.7
QUIS IAML 08 26 32.7
comp=Z,2µm,1.0s
CRIN San Cristobal 2.54 103 Pn 08 26 32.9 +1.5
CRIN San Cristobal 2.54 103 i P Pn 08 26 33.2 +1.8
CRIN i S Sn 08 27 02.7 +1.2
CRIN IAML 08 27 11.8
comp=Z,14µm,1.0s
PKGN Cerro Pekin 2.62 103 i P Pn 08 26 33.3 +0.9
PKGN i S Sn 08 27 03.2 0.0
PKGN IAML 08 27 09.2
comp=Z,14µm,1.0s
HUEH Huehuetenango 2.74 317 Pn Pn 08 26 36.0 +1.7
HERN Volcan Telica 2.77 104 i P Pn 08 26 35.3 +0.8
HERN IAML 08 27 10.6
comp=Z,9µm,1.0s
PLRN Geotermica Pol 2.83 104 i P Pn 08 26 36.3 +1.0
PLRN IAML 08 27 11.0
comp=Z,4µm,1.0s
CNGN Cerro Negro 2.92 105 Pn 08 26 36.3 -0.3
CNGN Cerro Negro 2.92 105 i P Pn 08 26 36.4 -0.2
CNGN i S Sn 08 27 10.2 -0.5
CNGN IAML 08 27 19.9
comp=Z,5µm,1.0s
MACN El Madrono 2.95 106 i P Pn 08 26 37.9 +0.9
MACN IAML 08 27 18.1
comp=Z,2µm,1.0s
LEVN Ruinas Leon Vi 3.03 107 i P Pn 08 26 39.1 +1.2
LEVN i S Sn 08 27 12.4 -0.8
LEVN IAML 08 27 14.7
comp=Z,4µm,1.0s
MOMN Momotombo 3.10 106 i P Pn 08 26 39.7 +0.8
MOMN IAML 08 27 17.3
comp=Z,110nm,1.0s
MOM2 El Cardon 3.14 105 i P Pn 08 26 41.3 +1.8
MOM2 i S Sn 08 27 15.4 -0.5
MOM2 IAML 08 27 21.7
comp=Z,2µm,1.0s
LIMN Finca el Limon 3.14 94 i P Pn 08 26 40.1 +0.5
LIMN IAML 08 26 40.9
comp=Z,1µm,1.0s
BRAN Las Pilas 3.20 100 i P Pn 08 26 43.3 +3.0
BRAN IAML 08 27 23.2
comp=Z,4µm,1.0s
RE6B4 Centro civico 3.41 110 i P Pn 08 26 43.9 +0.7
RE6B4 IAML 08 27 25.3
comp=Z,3µm,1.0s
TISN Laguna Tiscapa 3.43 109 i P Pn 08 26 38.3 -5.1
TISN IAML 08 27 17.2
comp=Z,330nm,1.0s
R4DEC Barrio San Lui 3.45 109 i P Pn 08 26 44.0 +0.4
R4DEC IAML 08 27 25.9
comp=Z,3µm,1.0s
R8CCA La Lomita 3.46 110 i P Pn 08 26 44.8 +1.0
R8CCA i S Sn 08 27 21.8 -1.9
R8CCA IAML 08 27 31.4
comp=Z,3µm,1.0s
R0529 La Mascota 3.47 109 i P Pn 08 26 44.5 +0.6
R0529 IAML 08 27 29.9
comp=Z,2µm,1.0s
MAS3 Al N del Volca 3.56 110 i P Pn 08 26 45.8 +0.6
MAS3 i S Sn 08 27 24.3 -1.9
MAS3 IAML 08 27 26.0
comp=Z,4µm,1.0s
RB213 Mirador 2 Volc 3.58 111 i P Pn 08 26 44.3 -1.2
RB213 IAML 08 27 25.9
comp=Z,3µm,1.0s
PETF Flores 3.61 356 Pn Pn 08 26 48.2 +2.3
CCIG Comitan 3.86 321 Pn Pn 08 26 51.7 +2.3
BOAB BOACO BROADBAN 3.91 102 Pn Pn 08 26 50.2 +0.3
ACON Acoyapa 4.50 107 Pn 08 26 58.4 +0.4
HZTE Horizontes, Gu 4.67 123 Pn 08 27 02.7 +2.4
ORTG Ortega, Santa 4.98 125 Pn Pn 08 27 06.8 +2.2
ESPN Las Esperanzas 5.27 101 Pn 08 27 08.5 0.0
JTS Las Juntas de 5.43 123 Pn Pn 08 27 12.2 +1.5
JTS Las Juntas de 5.43 123 P Pn 08 27 12.3 +1.6
comp=Z,29nm,0.3s,baz=296,slow=22,SNR=91
JTS S Sn 08 28 08.6 -3.2
comp=Z,44nm,0.3s,baz=252,slow=20,SNR=4.1
ARE1 Arenal 1 5.53 120 Pn 08 27 14.9 +2.8
SOCE Pocosol 5.66 120 Pn 08 27 16.0 +2.1
JACO JACO, Garabito 6.03 126 Pn 08 27 21.2 +2.4
HDC Heredia 6.28 121 Pn Pn 08 27 23.8 +1.4
CMIG Matias Romero 6.36 307 P Pn 08 27 24.1 +0.8
comp=Z,12nm,0.6s,baz=128,slow=11,SNR=17
CMIG S Sn 08 28 35.5 +0.9
comp=Z,34nm,0.4s,baz=86,slow=18,SNR=7.0
LCR2 La Lucha 2 6.51 122 Pn Pn 08 27 28.0 +2.4
RIMA Rio Macho 6.61 121 Pn 08 27 29.2 +2.2
PEZE Perez Zeledon, 6.97 123 Pn 08 27 35.1 +3.2
TEIG Tepich 7.00 10 Pn Pn 08 27 34.7 +2.5
TEIG Tepich 7.00 10 LR LR 08 30 45.3
comp=Z,1µm,21.2s,slow=44
SRBA San Rafael, Bu 7.32 123 Pn 08 27 39.1 +2.6
DRK0 Durika 7.40 122 Pn Pn 08 27 40.3 +2.6
CDITO Canoas 8.09 125 Pn Pn 08 27 49.9 +2.9
BRU2 Volcan 8.11 123 Pn Pn 08 27 48.9 +1.4
TLIG Tlapa 9.64 297 Pn Pn 08 28 10.4 +2.0
SOR Soroa 11.32 33 Pn Pn 08 28 33.0 +1.9
ZAIG Zacatecas 15.52 309 Pn P 08 29 28.6 -0.9
TULM Tulcn-Chalpat 17.11 136 Pn 08 29 47.6 +0.7
TULM IAmb IAmb 08 29 54.5
comp=Z,17nm,1.1s
IMBA Imbabura, San 17.16 138 Pn 08 29 46.8 -0.6
IMBA IAmb IAmb 08 29 58.3
comp=Z,27nm,0.7s
833A Chaparral WMA, 17.52 330 P Pn 08 29 52.8 +1.5
HKT Hockley 17.55 342 Pn 08 29 53.3 +1.7
441A DeRidder 17.69 350 Pn 08 29 53.2 0.0
SLOR San Lorenzo - 17.75 141 P P 08 29 53.9 -0.5
346A Big Creek Wild 18.01 0 P Pn 08 29 57.0 -0.2
346A IAmb IAmb 08 30 09.1
comp=Z,24nm,0.8s
CHSH Refugio Sur-Vo 18.13 143 P P 08 29 59.1 +0.4
HNVL Huntsville, TX 18.20 344 P Pn 08 30 00.9 +1.4
HNVL IAmb IAmb 08 30 04.6
comp=Z,26nm,0.9s
SDDR Presa de Saban 18.45 70 P Pn 08 30 03.6 +0.9
SDDR IAmb IAmb 08 30 09.3
comp=Z,32nm,1.4s
HNDO Hondo 18.49 332 P Pn 08 30 03.3 +0.3
COHC Cochancay 18.72 146 P Pn 08 30 06.9 +1.1
VBMS Vicksburg 18.85 358 P Pn 08 30 07.6 +0.4
VBMS IAmb IAmb 08 30 28.4
comp=Z,23nm,0.7s
TIGA Tifton 18.88 16 P Pn 08 30 08.5 +0.9
TIGA IAmb IAmb 08 30 09.4
comp=Z,27nm,0.7s
435B Jarrell 18.90 338 P Pn 08 30 08.2 +0.3
435B IAmb IAmb 08 30 17.4
comp=Z,24nm,1.2s
NATX Nacogdoches 18.96 347 P Pn 08 30 08.7 +0.2
NATX IAmb IAmb 08 30 19.7
comp=Z,35nm,1.0s
DRIO Del Rio 19.04 329 P Pn 08 30 09.8 +0.3
SDV Santo Domingo 19.10 101 P P 08 30 09.3 +0.4
SDV Santo Domingo 19.10 101 P P 08 30 07.9 -1.0
comp=Z,31nm,0.6s,baz=287,slow=5.0,SNR=8.3
SDV LR LR 08 37 46.4
comp=Z,49nm,20.7s,baz=84,slow=38
JCT Junction City 19.53 333 P Pn 08 30 14.6 -0.8
LRAL Lakeview Retre 19.79 6 P Pn 08 30 17.6 -0.7
BRDY Brady 19.89 336 P Pn 08 30 18.1 -1.4
BRDY IAmb IAmb 08 30 19.1
comp=Z,10nm,0.7s
WHTX Lake Whitney, 19.96 340 P Pn 08 30 19.2 -1.1
MCRA Macar, Loja 19.99 151 P Pn 08 30 20.9 0.0
Z41A Richland Creek 20.09 352 P Pn 08 30 20.9 -0.8
Z41A IAmb IAmb 08 30 47.9
comp=Z,18nm,1.0s
SAND Sanderson 20.24 327 P Pn 08 30 22.6 -1.0
SAND IAmb IAmb 08 30 42.5
comp=Z,18nm,1.4s
TREL Terrell 20.24 344 P Pn 08 30 23.1 -0.5
TREL IAmb IAmb 08 30 45.2
comp=Z,16nm,0.7s
OZNA Ozona 20.52 331 P P 08 30 24.5 +0.5
OZNA IAmb IAmb 08 30 36.6
comp=Z,22nm,1.4s
WLAR White Oak Lake 20.55 352 P Pn 08 30 25.3 -1.9
WLAR IAmb IAmb 08 30 40.3
comp=Z,47nm,1.4s
TX31 Lajitas Ar. Si 20.63 323 P Pn 08 30 27.8 -0.4
TXAR Lajitas Array 20.63 323 P Pn 08 30 27.7 -0.6
TXAR Lajitas Array 20.63 323 P Pn 08 30 27.9 -0.4
comp=Z,1.4nm,0.4s,baz=141,slow=10,SNR=33
TXAR PcP PcP 08 34 35.1 +2.1
comp=Z,0.9nm,0.8s,baz=141,slow=4.2,SNR=6.6
comp=Z,1.4nm,0.4s
Y49A Blount Mountai 20.67 7 P Pn 08 30 27.2 -1.5
Y49A IAmb IAmb 08 30 28.2
comp=Z,14nm,0.8s
GOGA Godfrey 20.79 15 P Pn 08 30 29.0 -1.0
GOGA IAmb IAmb 08 30 42.9
comp=Z,14nm,1.2s
PLPT Palo Pinto 21.00 339 P P 08 30 29.9 +0.7
PLPT IAmb IAmb 08 30 56.7
comp=Z,25nm,0.9s
Y52A Lilburn 21.08 13 P P 08 30 31.1 +1.1
OXF Oxford 21.12 0 P P 08 30 33.5 +3.1
X48A Hartselle 21.19 6 P P 08 30 33.0 +1.9
FPAL Fort Paine 21.45 9 P P 08 30 35.0 +1.0
FPAL IAmb IAmb 08 30 44.3
comp=Z,18nm,1.1s
MIAR Mount Ida 21.46 351 P P 08 30 35.9 +1.8
MIAR IAmb IAmb 08 30 54.9
comp=Z,14nm,1.0s
UALR University of 21.53 354 P P 08 30 35.8 +1.0
UALR IAmb IAmb 08 30 39.1
comp=Z,10nm,0.8s
PLAL Pickwick Lake 21.63 3 P P 08 30 37.5 +1.6
MNHN Monahans 21.67 328 P P 08 30 37.7 +1.4
WHAR Wooly Hollow 22.03 354 P P 08 30 42.0 +1.8
SWET Sewanee 22.07 8 P P 08 30 41.5 +0.8
SWET IAmb IAmb 08 30 58.5
comp=Z,26nm,1.5s
APMT Aspermont 22.13 336 P P 08 30 41.0 -0.3
APMT IAmb IAmb 08 31 05.5
comp=Z,31nm,1.4s
W50A Signal Mountai 22.15 9 P P 08 30 43.1 +1.6
W50A IAmb IAmb 08 30 45.3
comp=Z,20nm,1.2s
Y57A Sumter 22.25 21 P P 08 30 43.4 +0.8
LPIG La Paz 22.35 302 LR LR 08 39 21.2
comp=Z,35nm,21.7s,baz=172,slow=36
V48A Smith Brothers 22.48 6 P P 08 30 45.4 +0.4
V48A IAmb IAmb 08 30 46.5
comp=Z,9.9nm,1.0s
FCAR Ozark Folk Cen 22.61 355 P P 08 30 47.2 +0.9
LNXT Lenox 22.71 0 P P 08 30 48.6 +1.3
LCAR Lake Charles 22.72 357 P P 08 30 48.5 +1.0
LCAR IAmb IAmb 08 30 49.5
comp=Z,19nm,1.3s
PEBM Pemiscott Bayo 22.72 359 P P 08 30 49.4 +2.0
WVT Waverly 22.79 4 P P 08 30 49.1 +0.9
WVT IAmb IAmb 08 30 53.6
comp=Z,17nm,1.4s
TKL Tuckaleechee C 22.87 12 P P 08 30 49.7 +0.6
TKL IAmb IAmb 08 30 51.2
comp=Z,13nm,1.1s
TKL Tuckaleechee C 22.87 12 LR LR 08 39 50.9
comp=Z,59nm,22.0s,baz=192,slow=37
CLTN Cedars of Leba 22.89 7 P P 08 30 50.0 +0.9
CLTN IAmb IAmb 08 30 50.9
comp=Z,13nm,1.0s
WMOK Wichita Mounta 22.92 340 P P 08 30 48.8 -0.7
FNO Franklin 22.98 343 P P 08 30 49.7 -0.4
FNO IAmb IAmb 08 30 52.0
comp=Z,16nm,0.6s
KMSC Kings Mountain 22.99 18 P P 08 30 50.8 +0.6
KMSC IAmb IAmb 08 30 51.7
comp=Z,14nm,0.7s
HICK Hickman 23.15 1 P P 08 30 53.2 +1.5
PARMO Parma 23.27 360 P P 08 30 54.3 +1.5
U49A Red Boiling Sp 23.37 8 P P 08 30 53.9 +0.2
U49A IAmb IAmb 08 30 55.3
comp=Z,31nm,1.4s
PBMO Poplar Bluff 23.40 358 P P 08 30 54.6 +0.7
PBMO IAmb IAmb 08 30 56.4
comp=Z,19nm,0.8s
OK029 Liberty Lake 23.50 344 P P 08 30 54.5 -0.5
OK029 IAmb IAmb 08 31 20.8
comp=Z,16nm,1.1s
SMWD Samnorwood 23.76 338 P P 08 30 57.2 -0.1
SMWD IAmb IAmb 08 30 58.5
comp=Z,12nm,0.8s
CGM3 Cape Girardeau 23.90 360 P P 08 30 59.0 +0.5
CGM3 IAmb IAmb 08 31 00.8
comp=Z,19nm,1.1s
S44A Carbondale 24.30 1 P P 08 31 02.9 +0.8
SIUC Southern Illin 24.32 1 P P 08 31 03.1 +0.8
SIUC IAmb IAmb 08 31 03.9
comp=Z,18nm,0.8s
FVM French Village 24.60 358 P P 08 31 07.1 +2.2
CCM Cathedral Cave 24.70 357 P P 08 31 06.7 +0.9
CCM IAmb IAmb 08 31 07.8
comp=Z,12nm,0.7s
WCI Wyandotte Cave 25.00 6 P P 08 31 08.2 -0.4
WCI IAmb IAmb 08 31 10.0
comp=Z,13nm,0.9s
SLM Saint Louis 25.25 359 P P 08 31 12.7 +2.0
OLIL Olney 25.37 3 P P 08 31 13.8 +2.0
OLIL IAmb IAmb 08 31 16.8
comp=Z,17nm,1.1s
Q44A Meyer Farm, Va 25.51 1 P P 08 31 13.7 +0.6
T59A Double "B" Far 25.92 22 P P 08 31 16.8 0.0
T59A IAmb IAmb 08 31 17.8
comp=Z,12nm,0.8s
P40A Paris 26.22 356 P P 08 31 20.3 +0.8
P40A IAmb IAmb 08 31 40.7
comp=Z,9.4nm,0.9s
Q54A Coxs Mills 26.73 15 P P 08 31 24.7 +0.5
Q54A IAmb IAmb 08 31 27.5
comp=Z,22nm,1.2s
NNA Nana 28.12 153 LR LR 08 41 25.6
comp=Z,25nm,19.2s,baz=278,slow=33
N33A J Bar K, Exete 28.19 347 P P 08 31 38.1 +0.9
I42A Draeger Farm, 30.49 1 P P 08 31 57.5 0.0
PAL Palisades 30.82 24 P P 08 32 00.7 +0.3
G45A Suttons Bay 31.81 5 P P 08 32 08.8 -0.3
J56A Wolcott 31.82 18 P P 08 32 08.7 -0.5
SADO Sadowa 32.61 14 P P 08 32 15.4 -0.6
SADO Sadowa 32.61 14 LR LR 08 46 51.0
comp=Z,32nm,18.2s,baz=99,slow=39
PDAR Pinedale Array 34.07 333 P P 08 32 29.1 0.0
comp=Z,0.2nm,0.4s,baz=132,slow=12,SNR=4.6
PDAR LR LR 08 48 48.8
comp=Z,36nm,19.0s,baz=143,slow=40
comp=Z,0.2nm,0.4s
SAML Samuel 34.29 129 P P 08 32 31.8 +0.7
REDW Red Top Meadow 35.11 333 P P 08 32 39.6 +1.5
SNOW Snow King Moun 35.15 333 P P 08 32 40.2 +1.7
LOHW Long Hollow 35.20 333 P P 08 32 41.0 +2.1
TPAW Teton Pass 35.26 333 P P 08 32 39.9 +0.5
TPAW IAmb IAmb 08 33 00.7
comp=Z,5.1nm,1.4s
ELK Elko 35.38 325 LR LR 08 50 42.1
comp=Z,25nm,20.9s,baz=156,slow=42
MDND Maddock 35.45 348 P P 08 32 41.0 +0.3
NVAR Mina Array Bea 35.71 320 PcP PcP 08 35 11.2 +1.2
comp=Z,1.8nm,0.7s,baz=129,slow=4.3,SNR=12
NVAR ScP ScP 08 38 51.1 +2.1
comp=Z,0.8nm,0.8s,baz=132,slow=2.7,SNR=4.8
LPAZ La Paz 36.25 144 LR LR 08 47 13.0
comp=Z,44nm,21.9s,baz=258,slow=35
DGMT Dagmar 37.11 344 P P 08 32 56.0 +1.1
ULM Lac du Bonnet 37.21 353 P P 08 32 56.4 -1.0
comp=Z,3.8nm,0.6s,baz=177,slow=8.8,SNR=7.4
comp=Z,3.8nm,0.6s
NEW Newport 41.69 332 LR LR 08 52 47.6
comp=Z,20nm,20.7s,baz=145,slow=39
GO03 Copiap 44.77 155 P P 08 33 57.9 -0.1
GO03 IAmb IAmb 08 34 26.8
comp=Z,14nm,1.2s
SCHQ Schefferville 45.10 18 P P 08 33 58.9 -1.4
SCHQ Schefferville 45.10 18 P P 08 33 59.1 -1.2
comp=Z,16nm,0.6s,baz=216,slow=6.4,SNR=50
SCHQ PcP PcP 08 35 38.4 -1.3
comp=Z,1.2nm,0.3s,baz=218,slow=1.6,SNR=5.3
SCHQ LR LR 08 51 31.7
comp=Z,46nm,21.9s,baz=206,slow=34
comp=Z,16nm,0.6s
FCC Fort Churchill 45.51 357 P P 08 34 02.5 -0.8
FCC IAmb IAmb 08 34 03.1
comp=Z,4.3nm,0.6s
BDFB Brasilia 50.17 124 P P 08 34 40.2 +0.1
comp=Z,1.9nm,0.5s,baz=304,slow=7.3,SNR=4.0
comp=Z,1.9nm,0.5s
CPUP Villa Florida 50.35 142 P P 08 34 43.3 +2.0
comp=Z,1.7nm,0.6s,baz=326,slow=7.3,SNR=3.9
comp=Z,1.7nm,0.6s
YKA Yellowknife Ar 52.27 346 P P 08 34 55.0 -0.1
YKA Yellowknife Ar 52.27 346 P P 08 34 54.6 -0.4
comp=Z,2.6nm,0.8s,baz=143,slow=7.3,SNR=20
comp=Z,2.6nm,0.8s
FRB Frobisher Bay 52.50 12 LR LR 08 57 44.6
comp=Z,45nm,18.1s,baz=207,slow=37
SFJD Kangerlussuaq 59.49 17 LR LR 09 01 27.4
comp=Z,16nm,18.3s,baz=184,slow=36
RES Resolute Bay 61.45 358 P P 08 35 58.9 -0.9
RES IAmb IAmb 08 35 59.5
comp=Z,2.3nm,0.7s
RES Resolute Bay 61.45 358 LR LR 09 05 02.2
comp=Z,19nm,18.2s,baz=348,slow=38
INK Inuvik 61.79 343 P P 08 36 01.6 -0.5
INK IAmb IAmb 08 36 24.6
comp=Z,3.5nm,0.9s
INK Inuvik 61.79 343 LR LR 09 05 18.7
comp=Z,25nm,20.0s,baz=354,slow=38
A36M Sachs Harbour 62.40 348 P P 08 36 05.6 -0.6
A36M IAmb IAmb 08 36 05.8
comp=Z,3.9nm,0.8s
F28M Old Crow 63.30 341 P P 08 36 13.6 +1.4
F28M IAmb IAmb 08 36 35.4
comp=Z,4.4nm,0.9s
J25K Salcha River, 63.76 337 P P 08 36 16.2 +0.8
ILAR Eielson Array 64.41 336 P P 08 36 19.8 +0.1
ILAR Eielson Array 64.41 336 P P 08 36 19.4 -0.3
comp=Z,0.7nm,1.0s,baz=166,slow=3.8,SNR=9.1
comp=Z,0.7nm,1.0s
D27M Malcolm River 64.53 342 P P 08 36 21.0 +0.6
KDAK Kodiak Island 64.55 328 LR LR 09 05 38.4
comp=Z,24nm,18.2s,baz=150,slow=37
BMAR Burnt Mountain 64.76 340 P P 08 36 22.4 +0.5
TOLK Toolik Lake Re 66.98 340 P P 08 36 36.4 +0.3
TOLK IAmb IAmb 08 37 01.6
comp=Z,6.2nm,1.4s
E22K Anaktuvuk Pass 67.56 339 P P 08 36 40.2 +0.5
E22K IAmb IAmb 08 37 07.6
comp=Z,4.1nm,1.4s
G21K Allakaket 67.61 337 P P 08 36 40.5 +0.4
F21K Alatna River 67.84 338 P P 08 36 42.5 +1.0
D19K Kuna River 69.89 339 P P 08 36 54.9 +0.7
D19K IAmb IAmb 08 37 17.7
comp=Z,5.7nm,1.4s
B20K Meade River 69.98 340 P P 08 36 55.3 +0.6
C19K Lookout Ridge 70.56 339 P P 08 37 00.6 +2.2
JMIC Jan Mayen 74.61 20 LR LR 09 11 58.7
comp=Z,10.0nm,18.4s,baz=280,slow=37
EKA Eskdalemuir Ar 77.16 36 P P 08 37 33.7 -3.3
comp=Z,1.5nm,0.7s,baz=272,slow=5.8,SNR=5.9
comp=Z,1.5nm,0.7s
ESDC Sonseca Array 78.31 52 P P 08 37 41.2 -2.6
comp=Z,0.8nm,0.7s,baz=284,slow=5.7,SNR=4.3
comp=Z,0.8nm,0.7s

NOA	**NORSAR Array B**	**83.63**	**29**	LR	LR	09 13 04.9		
	comp=E,4.9nm,21.7s,baz=305,slow=34							
ARCES	**ARCESS Array B**	**86.06**	**19**	P	**P**	**08 38 21.6**	**-2.1**	
	comp=E,3.5nm,0.9s,baz=306,slow=4.6,SNR=7.3							
	comp=E,3.5nm,0.9s							
CLL	**Collm**	**87.44**	**38**	*e*pP	pP	08 38 54.0	+1.5	
TORD	**Torodi Ar. Bea**	**88.25**	**77**	P	**P**	**08 38 32.4**	**-3.0**	
	comp=Z,0.5nm,0.5s,baz=303,slow=5.7,SNR=5.3							
	comp=Z,0.5nm,0.5s							
FINES	**FINESS Array B**	**90.12**	**26**	LR	LR	09 18 07.1		
	comp=Z,6.9nm,18.7s,baz=32,slow=35							
KURBB	**Kurchatov Arra**	**115.51**	**8**	PKP	**PKiKP**	**08 44 24.0**	**-0.9**	
	comp=Z,0.1nm,0.3s,baz=346,slow=2.4,SNR=5.1							
SONM	**Songino Array**	**117.50**	**348**	PKP	**PKiKP**	**08 44 28.9**	**-0.1**	
	comp=Z,0.6nm,0.7s,baz=350,slow=2.3,SNR=2.6							
KSRS	**Korea Array**	**118.44**	**327**	PKP	**PKiKP**	**08 44 31.8**	**+0.8**	
	comp=Z,1.0nm,0.8s,baz=18,slow=1.2,SNR=4.7							
MKAR	**Makanchi Array**	**119.74**	**6**	PKP	**PKPdf**	**08 44 31.2**	**-2.0**	
	comp=Z,0.2nm,0.4s,baz=347,slow=4.6,SNR=2.7							
WRA	**Warramunga Arr**	**137.49**	**255**	PKP	**PKiKP**	**08 45 09.5**	**0.0**	
	comp=Z,0.5nm,0.5s,baz=87,slow=2.2,SNR=7.4							
WRA				SKPab	**SKiKP**	**08 48 39.3**	**+0.6**	
	comp=Z,0.5nm,0.9s,baz=90,slow=1.5,SNR=4.8							
ASAR	**Alice Springs**	**137.63**	**249**	PKhKP	PKPpre	08 45 01.5		
	comp=Z,0.3nm,0.7s,baz=102,slow=3.3,SNR=1.6							
ASAR				PKP	**PKiKP**	**08 45 11.1**	**+1.4**	
	comp=Z,0.3nm,0.5s,baz=88,slow=2.1,SNR=4.3							
ASAR				SKPab	**SKPab**	**08 48 40.8**	**-1.3**	
	comp=Z,1.0nm,1.0s,baz=83,slow=4.0,SNR=5.1							
CMAR	**Chiang Mai Arr**	**147.35**	**345**	PKPbc	**PKPbc**	**08 45 26.4**	**-1.1**	
	comp=Z,2.2nm,0.4s,baz=340,slow=3.9,SNR=15							

*TEH **26** 08:46:34.1, 27.°53N×56.°77E, h18km±28km, ML3.4*
*OMAN **26** 08:46:36.2±0.6, 27.°44N×56.°91E, h10km, mb4.4/3, ml3.1/19, Error ellipse: s-maj=5.2km s-min=4.0km az=157.0*

ISC 26 08:46:34.7±1.2, 27.°53N±0.°06×56.°82E±0.°05, h10km, n40, σ0°93/58, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.26**	**252**	Pg	**Pg**	**08 46 39.6**	**-0.3**
GENO	**Geno**	**0.59**	**258**	Pg	**Pg**	**08 46 45.5**	**-0.7**
KHNJ	**Kahnooj**	**0.89**	**62**	Pg	Pg	08 46 51.2	-0.8
SHME	**Shamm**	**1.59**	**202**	P	**Pn**	**08 47 03.6**	**+0.6**
	SNR=20						
SHME				S	**Sn**	**08 47 25.8**	**+2.3**
BANOM	**Banah**	**1.66**	**196**	P	**Pn**	**08 47 04.3**	**+0.3**
BANOM				S	**Sn**	**08 47 26.7**	**+1.3**
JASK	**Jask - Hormozg**	**1.90**	**150**	Pn	**Pn**	**08 47 07.8**	**+0.5**
JASK	**Jask - Hormozg**	**1.90**	**150**	P	**Pn**	**08 47 08.1**	**+0.8**
NGRK	**Negar Kerman**	**2.11**	**358**	Pn	**Pn**	**08 47 10.2**	**-0.3**
KBAM	**BAM**	**2.16**	**42**	Pn	**Pn**	**08 47 11.9**	**+1.1**
MASF	**Masafi**	**2.23**	**195**	P	**Pn**	**08 47 12.4**	**+0.7**
MDH	**Madha**	**2.27**	**192**	P	**Pn**	**08 47 11.8**	**-0.5**
MDH				S	**Sn**	**08 47 39.8**	**-0.5**
CHMN	**Cheshme madani**	**2.41**	**15**	Pn	**Pn**	**08 47 15.3**	**+0.7**
TVBK	**TV Kerman**	**2.45**	**359**	Pn	**Pn**	**08 47 15.3**	**+0.2**
UOSS	**Minazif**	**2.63**	**192**	P	**Pn**	**08 47 17.7**	**+0.4**
HATD	**Hatta, Dubai**	**2.76**	**193**	P	**Pn**	**08 47 20.3**	**+1.2**
HATD				S	**Sn**	**08 47 52.9**	**+0.4**
ASHO	**Ashiyiah**	**2.91**	**194**	P	**Pn**	**08 47 21.7**	**+0.5**
	SNR=12						
FAQ	**Al Faqa, Dubai**	**2.98**	**202**	P	**Pn**	**08 47 22.8**	**+0.7**
	SNR=28						
ASUD	**Al Ashush, Dub**	**3.18**	**205**	P	**Pn**	**08 47 25.8**	**+1.0**
	SNR=11						
ASUD				S	**Sn**	**08 48 03.5**	**+0.6**
AJN	**Ajban**	**3.38**	**210**	P	**Pn**	**08 47 28.6**	**+1.0**
AJN				S	**Sn**	**08 48 09.4**	**+1.6**
SOHO	**SOHO**	**3.39**	**184**	P	**Pn**	**08 47 28.5**	**+0.8**
ALNE	**Al Ain**	**3.59**	**196**	P	**Pn**	**08 47 31.2**	**+0.7**
ALNE				S	**Sn**	**08 48 13.8**	**+0.8**
HOQ	**Hoqain**	**3.95**	**173**	P	**Pn**	**08 47 36.1**	**+0.6**
HOQ				S	**Sn**	**08 48 21.2**	**-0.7**
ZHDN	**Zahedan**	**3.98**	**61**	Pn	**Pn**	**08 47 37.6**	**+1.6**
BIDO	**Bidbid**	**4.16**	**163**	P	**Pn**	**08 47 37.8**	**-0.5**
BIDO				S	**Sn**	**08 48 26.4**	**-0.7**
ARQ	**Araqi**	**4.18**	**184**	P	**Pn**	**08 47 39.5**	**+0.8**
ARQ				S	**Sn**	**08 48 28.0**	**+0.4**
NGCH	**Negor - Chabah**	**4.43**	**118**	Pn	**Pn**	**08 47 43.2**	**+1.1**
NGCH	**Negor - Chabah**	**4.43**	**118**	P	**Pn**	**08 47 43.3**	**+1.2**
NGCH				S	**Sn**	**08 48 34.0**	**+0.2**
SMDO	**Samad**	**4.59**	**166**	P	**Pn**	**08 47 44.8**	**+0.5**
SMDO				S	**Sn**	**08 48 37.6**	**-0.2**
BSY	**Bisya**	**4.78**	**176**	P	**Pn**	**08 47 47.6**	**+0.8**
BSY				S	**Sn**	**08 48 44.0**	**+1.7**
UMZA	**Um Al Zommool**	**5.02**	**198**	P	**Pn**	**08 47 49.5**	**-0.7**
UMZA				S	**Sn**	**08 48 47.9**	**-0.4**
JMDO	**Jabal Madar**	**5.27**	**167**	P	**Pn**	**08 47 54.3**	**+0.8**
JMDO				S	**Sn**	**08 48 54.3**	**0.0**
WBK	**Wadi Bani Khal**	**5.27**	**158**	Pn	**Pn**	**08 47 53.7**	**0.0**
WBK	**Wadi Bani Khal**	**5.27**	**158**	P	**Pn**	**08 47 54.1**	**+0.4**
	SNR=6.8						
WBK				S	**Sn**	**08 48 53.0**	**-1.5**
SHMA	**Al-Shehemyia**	**5.49**	**254**	P	**Pn**	**08 47 57.1**	**+0.5**
	SNR=9.3						
SHMA				S	**Sn**	**08 48 58.6**	**-1.3**
KLNJ	**Kolanjah**	**5.73**	**308**	Pn	**Pn**	**08 47 59.4**	**-0.8**
JLN	**Jalan Bani Buh**	**5.85**	**156**	P	**Pn**	**08 48 01.8**	**+0.2**
	SNR=5.3						
JLN				S	**Sn**	**08 49 06.2**	**-2.5**
	SNR=7.7						
SMRA	**Abu-Samra**	**6.06**	**244**	P	**Pn**	**08 48 04.5**	**+0.1**
MHTO	**MHTO**	**6.60**	**171**	P	**Pn**	**08 48 12.6**	**+0.7**
	SNR=7.2						
MHTO				S	**Sn**	**08 49 26.4**	**-0.7**
WHFO	**Wadi Hawf**	**9.97**	**197**	P	**Pn**	**08 48 57.2**	**-1.0**
ABTO	**Aybut**	**10.63**	**199**	P	**Pn**	**08 49 06.5**	**-0.7**

*SCB **26** 08:50:24.8±1.1, 21.°79S×67.°25W, h174km±11km, ML3.1/5, MW2.7, Error ellipse: s-maj=5.2km s-min=2.6km az=0.0*

ISC 26 08:50:23.5±2.6, 21.°85S±0.°07×67.°23W±0.°04, h188km±23km, n18, σ1°15/30, 1C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.59**	**68**	Pg	**Pn**	**08 50 50.0**	**+1.4**
MOCB				Sg	**Sn**	**08 51 23.1**	**-0.7**
MOCB				IAML		08 51 24.9	
	45nm,0.4s						
YJA	**Yavi**	**1.62**	**102**	*e*P	**Pn**	**08 50 58.8**	**+1.0**
YJA				*e*S	**Sn**	**08 51 22.2**	**-2.1**
PB09	**IPOC Station P**	**1.87**	**271**	Pg	**Pn**	**08 51 00.8**	**+0.8**
PB01	**IPOC Station P**	**2.25**	**290**	*e*P	**Pn**	**08 51 04.5**	**+0.5**
PB01				*i* S	**Sn**	**08 51 35.0**	**-0.3**
PB01				IAML		08 51 36.1	
	comp=N,118nm,0.3s						
PB01	**IPOC Station P**	**2.25**	**290**	Pg	**Pn**	**08 51 04.5**	**+0.5**
PB01				Sg	**Sn**	**08 51 35.1**	**-0.3**
PB01				IAML		08 51 36.5	
	comp=N,65nm,0.2s						
PB06	**IPOC Station P**	**2.33**	**248**	*e*P	**Pn**	**08 51 05.2**	**+0.2**
PB06				*e*S	**Sn**	**08 51 36.3**	**-0.8**
PB06				IAML		08 51 38.0	
	comp=N,69nm,0.1s						
PB07	**IPOC Station P**	**2.47**	**272**	*e*P	**Pn**	**08 51 07.0**	**+0.5**
PB07				*i* S	**Sn**	**08 51 38.3**	**-1.7**
PB07				IAML		08 51 39.0	
	comp=N,135nm,0.1s						
PB08	**IPOC Station P**	**2.48**	**313**	*i* P	**Pn**	**08 51 08.4**	**+1.6**
PB08				*e*S	**Sn**	**08 51 42.3**	**+1.9**
PB08	**IPOC Station P**	**2.48**	**313**	Pg	**Pn**	**08 51 07.6**	**+0.8**
PB15	**IPOC Station P**	**2.48**	**236**	*i* S	**Sn**	**08 51 40.0**	**-0.3**
PB15	**IPOC Station P**	**2.48**	**236**	Pg	**Pn**	**08 51 07.8**	**+1.2**
PB15				Sg	**Sn**	**08 51 39.9**	**-0.3**
PB15				IAML		08 51 42.0	
	comp=N,280nm,0.3s						
PB02	**IPOC Station P**	**2.54**	**281**	*e*P	**Pn**	**08 51 07.6**	**+0.4**
PB02				*e*S	**Sn**	**08 51 39.5**	**-1.7**
PB02				IAML		08 51 40.2	
	comp=N,155nm,0.2s						
PB02	**IPOC Station P**	**2.54**	**281**	Pg	**Pn**	**08 51 07.9**	**+0.7**
PB02				Sg	**Sn**	**08 51 39.8**	**-1.4**
PB02				IAML		08 51 41.4	
	comp=N,126nm,0.2s						
GO01	**Chusmiza**	**2.84**	**319**	Pg	**Pn**	**08 51 12.1**	**+0.9**
PB11	**IPOC Station P**	**3.08**	**312**	*e*P	**Pn**	**08 51 13.9**	**+0.2**
PB11				*e*S	**Sn**	**08 51 51.6**	**-1.2**
PB11				IAML		08 51 54.5	
	comp=E,24nm,0.1s						
PB11	**IPOC Station P**	**3.08**	**312**	Pg	**Pn**	**08 51 14.1**	**+0.4**
PB16	**IPOC Station P**	**4.10**	**328**	Pg	**Pn**	**08 51 27.3**	**+0.5**
AOEA	**Aiquile**	**4.10**	**28**	Pg	**Pn**	**08 51 27.3**	**+0.8**
AOEA				Sg	**Sn**	**08 52 13.9**	**-2.0**
AOEA				IAML		08 52 17.1	
	comp=E,6.7nm,0.3s						

*MEX **26** 09:08:35.4±0.9, 14.°25N×93.°21W, h20km, MD4.1*
*GCG **26** 09:08:36.2±0.3, 14.°61N×92.°83W, h99km±17km, MD4.1*
*IDC **26** 09:08:42.2±1.7, 15.°98N×92.°19W, h0km, mb3.6/3, mbtmp3.5/6, ML3.2/3, MS3.2/1, Error ellipse: s-maj=64.2km s-min=18.8km az=35.0*

ISC 26 09:08:31.3±1.9, 14.°35N±0.°07×93.°19W±0.°04, h2km±11km, n21, σ2°05/33, mb3.8/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.05**	**58**	*e*P	**Pg**	**09 08 52.4**	**+1.0**
THIG				*e*S	**Sg**	**09 09 05.6**	**+0.6**
PATR	**El Naranjo**	**1.20**	**50**	*e*P	**Pn**	**09 08 54.8**	**-0.5**
PATR				*e*S	**Sn**	**09 09 11.1**	**-1.2**
CHUJ	**Union Juarez**	**1.28**	**55**	*e*P	**Pn**	**09 08 55.7**	**-0.8**
CHUJ				*i* S	**Sb**	**09 09 09.0**	**-4.3**
PAVE	**Pavencul**	**1.29**	**49**	*e*P	**Pb**	**09 08 56.3**	**-0.1**
PAVE				*e*S	**Sb**	**09 09 12.4**	**-1.1**
PAVE				*i* S	**Sn**	**09 09 15.0**	**+0.5**
PCIG		**1.35**	**359**	*e*P	**Pg**	**09 08 58.1**	**+1.0**
PCIG				*e*S	**Sg**	**09 09 13.8**	**-0.7**
SULM	**Suchitepequez,**	**1.57**	**91**	*e*P	**Pn**	**09 08 59.5**	**-0.7**
STG3	**Santiaguito 3,**	**1.61**	**77**	*e*P	**Pn**	**09 08 59.8**	**-1.1**
CARR	**Arriaga**	**2.01**	**340**	*i* P	**Pg**	**09 09 11.2**	**+1.4**
CARR				*i* S	**Sg**	**09 09 38.1**	**+2.1**
FUG	**Fuego 3**	**2.27**	**87**	*e*P	**Pn**	**09 09 08.6**	**-1.5**
FUG				*e*S	**Sn**	**09 09 33.9**	**-5.0**
TGIG		**2.41**	**1**	*e*P	**Pb**	**09 09 15.9**	**+0.4**
TGIG				*e*S	**Sg**	**09 09 46.7**	**-2.2**
NILT	**Santiago Nilte**	**2.60**	**328**	*i* P	**Pg**	**09 09 21.0**	**-0.1**
NILT				*i* S	**Sg**	**09 09 53.8**	**-1.0**
APG	**El Apazote**	**2.71**	**76**	Pn	**Pn**	**09 09 16.4**	**+0.2**
	0.8nm,0.3s,baz=180,slow=11,SNR=34						
APG				Sn	**Sn**	**09 09 50.0**	**+0.3**
	1.3nm,0.3s,baz=166,slow=10,SNR=7.8						
UXUV	**UXUV**	**3.09**	**343**	*e*P	**Pb**	**09 09 27.1**	**+0.1**
UXUV				*e*S	**Sb**	**09 10 01.1**	**-4.1**
HUIG	**Huatulco**	**3.15**	**297**	*e*P	**Pb**	**09 09 25.7**	**-2.4**
CMIG	**Matias Romero**	**3.18**	**329**	Pn	**Pb**	**09 09 27.6**	**-0.9**
	3.2nm,0.3s,baz=172,slow=14,SNR=41						
CMIG				Sn	**Sb**	**09 10 05.5**	**-2.2**
	8.3nm,0.3s,baz=96,slow=14,SNR=8.2						
	6.5nm,0.3s						
CMIG	**Matias Romero**	**3.18**	**329**	*e*P	**Pb**	**09 09 27.4**	**-1.1**
CMIG				*e*S	**Sb**	**09 10 05.7**	**-2.0**
JTS	**Las Juntas de**	**9.00**	**116**	Pn	Pn	09 10 55.1	+13
	0.4nm,0.3s,baz=310,slow=18,SNR=2.4						
JTS				Sn	Sn	09 12 44.7	+20
	0.3nm,0.3s,baz=110,slow=18,SNR=2.3						
	7.0nm,0.9s						
TXAR	**Lajitas Array**	**17.79**	**329**	Pn	**P**	**09 12 44.6**	**+3.5**
	baz=142,slow=12,SNR=2.1						
	0.1nm,0.6s						
NVAR	**Mina Array Bea**	**32.68**	**322**	P	P	09 15 10.9	+5.6
	0.9nm,0.8s,baz=135,slow=10,SNR=7.0						
NVAR				LR	LR	09 30 19.0	
	comp=Z,44nm,21.1s,baz=20,slow=41						
	0.9nm,0.8s						
YKA	**Yellowknife Ar**	**50.43**	**347**	P	**P**	**09 17 31.1**	**+1.0**
	1.0nm,0.8s,baz=150,slow=7.2,SNR=15						
	1.0nm,0.8s						
ILAR	**Eielson Array**	**62.07**	**337**	P	**P**	**09 18 56.1**	**+2.9**
	0.3nm,0.9s,baz=120,slow=5.3,SNR=3.1						
	0.3nm,0.9s						

*IDC **26** 09:23:08.2±0.6, 1.°41N×95.°33E, h31km±3km, mb3.8/15, mbtmp4.0/16, ML4.6/1, MS3.1/3, Error ellipse: s-maj=30.7km s-min=11.3km az=52.0*
*DJA **26** 09:23:08.6±0.7, 2.°N±3.°×9.°6E±.°, h10km, M4.7/13, mb5.1/6, mB5.9/1, MLv4.4/13, Mw(mB)5.5/1*
*NEIC **26** 09:23:08.7±1.3, 1.°53N±0.°08×95.°6E±0.°1, h29km±5km, mb4.3/12, Error ellipse: s-maj=15.9km s-min=11.5km az=69.0*

ISC 26 09:23:09.1±0.5, 1.°54N±0.°06×95.°56E±0.°07, h35km, n59, σ0°89/64, mb4.2/21, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**1.16**	**41**	P	**Pn**	**09 23 28.1**	**-0.7**
SNSI				S	**Sn**	**09 23 42.7**	**-0.7**
GSI	**Gunungsitoli**	**2.03**	**96**	P	**Pn**	**09 23 41.0**	**+0.3**
GSI	**Gunungsitoli**	**2.03**	**96**	P	**Pn**	**09 23 41.0**	**+0.3**
GSI				S	**Sn**	**09 24 04.6**	**-0.3**
MLSI	**Meulaboh, Aceh**	**2.84**	**17**	P	**Pn**	**09 23 53.1**	**+1.1**
KCSI	**Kotacane, Aceh**	**2.96**	**48**	P	**Pn**	**09 23 54.6**	**+1.0**
KCSI				S	**Sn**	**09 24 29.4**	**+1.4**
PBSI	**Pulau Batu**	**3.14**	**120**	P	**Pn**	**09 23 56.4**	**+0.3**
LHMI	**Lhok Sumawe**	**3.92**	**21**	Pn	**Pn**	**09 24 06.9**	**+0.1**
SISI	**Saibi**	**4.53**	**129**	P	**Pn**	**09 24 15.6**	**+0.4**
PDSI	**Padang**	**5.47**	**116**	P	**Pn**	**09 24 29.6**	**+1.4**
BKNI	**Bangkinang**	**5.61**	**102**	Pn	**Pn**	**09 24 29.9**	**-0.2**
PPSI	**Pulau Pagai**	**6.17**	**134**	P	**Pn**	**09 24 37.7**	**0.0**
	239nm,1.0s,1.0nm						
IPM	**Ipoh**	**6.19**	**62**		**Pn**	**09 24 38.8**	**+0.7**
KULM	**Kulim**	**6.30**	**54**		**Pn**	**09 24 39.1**	**-0.5**
KRJI	**Kerinci**	**6.91**	**121**	P	**Pn**	**09 24 48.5**	**+0.5**
	202nm,0.6s,1.1nn						
SRIT	**Nanonsritamara**	**8.09**	**30**	Pn	**Pn**	**09 25 03.2**	**-0.8**
MNAI	**Manna**	**9.43**	**128**	Pn	**Pn**	**09 25 22.6**	**+0.1**
MNAI	**Manna**	**9.43**	**128**	P	**Pn**	**09 25 22.8**	**+0.3**
PALK	**Pallekele**	**15.87**	**291**	Pn	**P**	**09 26 53.8**	**+0.4**
	0.4nm,0.3s,baz=14,slow=4.2,SNR=3.2						
PALK				LR	LR	09 31 58.1	
	comp=Z,68nm,19.0s,baz=214,slow=34						
CMAR	**Chiang Mai Arr**	**17.14**	**11**		**Pn**	**09 27 06.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**17.14**	**11**	P	**P**	**09 27 08.0**	**+0.6**
	0.8nm,0.3s,baz=204,slow=11,SNR=11						
CMAR				LR	LR	09 34 12.3	
	comp=Z,46nm,18.4s,baz=195,slow=38						
	1.0nm,0.3s						
CRAI	**Chiangrai**	**19.17**	**14**	P	**P**	**09 27 28.6**	**-1.1**
SLVN	**Son La**	**21.29**	**22**	P	**P**	**09 27 53.9**	**+1.0**
SLVN				IAmb	IAmb	09 28 04.7	
	comp=Z,9.1nm,1.0s						
H08S2	**Diego Garcia H**	**24.75**	**248**	T	T	09 55 20.3	
	baz=67,slow=75,SNR=50						
H08S3	**Diego Garcia H**	**24.75**	**248**	T	T	09 55 26.7	
	baz=67,slow=75,SNR=37						
H08S1	**Diego Carcia H**	**24.77**	**248**	T	T	09 55 17.4	
	baz=67,slow=75,SNR=22						
KAPI	**Kappang**	**25.03**	**105**	P	**P**	**09 28 29.3**	**-0.8**
KAPI				IAmb	IAmb	09 28 44.9	
	comp=Z,12nm,1.0s						
BATI	**Baumata**	**30.31**	**113**	LR	LR	09 44 11.1	
	comp=Z,33nm,18.8s,baz=330,slow=41						
WRA	**Warramunga Arr**	**43.60**	**121**	P	**P**	**09 31 10.7**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=298,slow=8.7,SNR=28						
WRA				pP	**pP**	**09 31 20.4**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=298,slow=9.0,SNR=3.8						
	comp=Z,0.9nm,0.5s						
ASAR	**Alice Springs**	**44.91**	**126**	P	**P**	**09 31 20.8**	**0.0**
	comp=Z,0.6nm,0.4s,baz=296,slow=7.8,SNR=16						
ASAR				pP	**pP**	**09 31 31.1**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=295,slow=7.8,SNR=3.0						
ASAR				PcP	**PcP**	**09 33 02.0**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=290,slow=2.8,SNR=5.7						
ASAR				pPcP		09 33 12.4	
	comp=Z,0.5nm,0.7s,baz=268,slow=3.0,SNR=3.1						
	comp=Z,0.6nm,0.4s						
MK31	**Makanchi Array**	**46.54**	**347**	P	**P**	**09 31 33.1**	**-0.1**
MK31				IAmb	IAmb	09 31 44.1	
	comp=Z,2.6nm,0.8s						
MKAR	**Makanchi Array**	**46.54**	**347**	P	**P**	**09 31 33.1**	**-0.2**
MKAR	**Makanchi Array**	**46.54**	**347**	P	**P**	**09 31 33.7**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=164,slow=8.9,SNR=19						
MKAR				pP	**pP**	**09 31 43.2**	**+1.1**
	comp=Z,2.2nm,0.5s,baz=164,slow=8.4,SNR=12						
	comp=Z,1.2nm,0.5s						
MAKZ	**Makanchi**	**46.62**	**347**	P	**P**	**09 31 32.5**	**-1.4**
MAKZ				IAmb	IAmb	09 31 44.6	
	comp=Z,2.8nm,0.7s						
SONM	**Songino Array**	**47.06**	**10**	P	**P**	**09 31 37.8**	**+0.3**
SONM	**Songino Array**	**47.06**	**10**	P	**P**	**09 31 38.2**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=189,slow=8.3,SNR=5.0						
SONM				pP	**pP**	**09 31 48.3**	**+2.0**
	comp=Z,2.0nm,0.7s,baz=192,slow=9.0,SNR=6.1						
SONM				PcP	**PcP**	**09 33 09.5**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=192,slow=4.9,SNR=1.8						
	comp=Z,0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**51.00**	**346**	P	**P**	**09 32 07.9**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=167,slow=6.8,SNR=8.5						
KURBB				pP	**pP**	**09 32 17.4**	**+1.1**
	comp=Z,1.8nm,0.6s,baz=170,slow=6.8,SNR=7.2						
	comp=Z,0.5nm,0.4s						
KURK	**Kurchatov**	**51.06**	**346**	P	**P**	**09 32 08.9**	**+1.1**
INU	**Inuyama**	**51.11**	**44**	P	**P**	09 32 02.7	-5.8
JGF	**Kuroka**	**51.48**	**44**	P	**P**	**09 32 07.4**	**-3.9**
ZALV	**Zalesovo Beam**	**52.99**	**352**	P	**P**	**09 32 22.4**	**+0.3**
ZALV	**Zalesovo Beam**	**52.99**	**352**	P	**P**	**09 32 22.0**	**-0.1**
	comp=Z,1.8nm,0.5s,baz=185,slow=6.8,SNR=7.5						
ZALV				pP	**pP**	**09 32 31.5**	**+0.4**
	comp=Z,3.4nm,0.6s,baz=179,slow=6.5,SNR=6.8						
	comp=Z,1.8nm,0.5s						
STKA	**Stephens Creek**	**54.80**	**131**	P	**P**	**09 32 36.2**	**+0.5**
	comp=Z,2.7nm,0.9s,baz=300,slow=6.0,SNR=3.8						
STKA				pP	**pP**	**09 32 45.5**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=324,slow=5.3,SNR=1.9						
	comp=Z,2.7nm,0.9s						
BVAR	**Borovoye Array**	**55.41**	**342**	P	**P**	**09 32 39.2**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=148,slow=9.6,SNR=7.1						
BVAR				pP	**pP**	**09 32 48.6**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=134,slow=8.5,SNR=7.9						
	comp=Z,1.3nm,0.6s						
ABKAR	**Akbulak array**	**56.46**	**333**		**P**	**09 32 46.9**	**-0.5**
ABKAR				IAmb	IAmb	09 32 57.1	
	comp=Z,4.0nm,0.9s						
H04N2	**CROZET ISLANDS**	**61.14**	**213**	T	T	10 40 53.6	
	baz=52,slow=75,SNR=54						
H04N1	**CROZET ISLANDS**	**61.15**	**213**	T	T	10 40 52.5	
	baz=52,slow=75,SNR=20						
H04N3	**CROZET ISLANDS**	**61.16**	**213**	T	T	10 40 53.6	
	baz=52,slow=75,SNR=48						
H04S1	**CROZET ISLANDS**	**61.50**	**213**	T	T	10 41 20.5	
	baz=50						
H04S3	**CROZET ISLANDS**	**61.51**	**213**	T	T	10 41 33.1	
	baz=50						
H04S2	**CROZET ISLANDS**	**61.52**	**213**	T	T	10 41 23.4	
	baz=50						
KBZ	**Khabaz**	**62.75**	**320**	P	**P**	**09 33 30.2**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=135,slow=11,SNR=4.0						
KBZ				pP	**pP**	**09 33 39.9**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=128,slow=7.9,SNR=4.0						
	comp=Z,1.1nm,0.7s						
BRTR	**Keskin Array B**	**67.68**	**313**	P	**P**	**09 34 02.1**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=129,slow=8.3,SNR=7.1						
BRTR				pP	**pP**	**09 34 11.6**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=132,slow=8.5,SNR=7.1						
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**74.00**	**323**	pP	pP	09 34 49.9	-0.5
	comp=Z,0.6nm,0.4s,baz=92,slow=4.9,SNR=3.4						
FINES	**FINESS Array B**	**78.95**	**333**	P	**P**	**09 35 08.2**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=120,slow=6.8,SNR=4.8						
FINES				pP	**PcP**	**09 35 17.7**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=106,slow=6.8,SNR=2.6						
	comp=Z,1.4nm,0.6s						
ARCES	**ARCESS Array B**	**81.67**	**340**	P	**P**	**09 35 23.2**	**-0.2**
	comp=Z,2.7nm,0.9s,baz=108,slow=2.9,SNR=1.3						
ARCES				pP	**pP**	**09 35 33.3**	**+0.4**
	comp=Z,6.7nm,0.9s,baz=101,slow=4.7,SNR=3.5						
	comp=Z,2.7nm,0.9s						
GERES	**GERESS Array B**	**83.48**	**319**	P	**P**	**09 35 32.6**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=105,slow=7.2,SNR=2.3						
GERES				pP	**pP**	**09 35 43.7**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=63,slow=6.6,SNR=2.5						
	comp=Z,0.8nm,0.7s						
HFS	**Hagfors**	**84.62**

	0.7nm,0.7s								
ASAR	**Alice Springs**	**53.98**	**178**	P		**P**		**09 39 52.9**	**+1.4**
	0.5nm,0.6s,baz=11,slow=12,SNR=7.0								
	0.5nm,0.6s								
ILAR	**Eielson Array**	**59.00**	**30**	P		**P**		**09 40 27.4**	**+0.6**
	0.6nm,0.8s,baz=275,slow=5.4,SNR=8.6								
	0.6nm,0.8s								
STKA	**Stephens Creek**	**62.79**	**171**	P		**P**		**09 40 53.2**	**+0.4**
	1.7nm,0.6s,baz=328,slow=9.5,SNR=3.4								
	1.7nm,0.6s								
FINES	**FINESS Array B**	**70.72**	**331**	P		**P**		**09 41 43.1**	**0.0**
	1.2nm,0.5s,baz=94,slow=5.7,SNR=7.4								
	1.2nm,0.5s								
YKA	**Yellowknife Ar**	**73.14**	**26**	P		**P**		**09 41 58.6**	**+0.9**
	0.4nm,0.8s,baz=301,slow=6.1,SNR=6.3								
	0.4nm,0.8s								
BRTR	**Keskin Array B**	**76.99**	**308**	P		**P**		**09 42 21.6**	**+1.1**
	0.8nm,0.8s,baz=42,slow=4.5,SNR=4.3								
	0.8nm,0.8s								
NVAR	**Mina Array Bea**	**85.07**	**48**	P		**P**		**09 43 05.6**	**+1.9**
	0.4nm,0.8s,baz=303,slow=5.3,SNR=2.6								
	0.4nm,0.8s								
PDAR	**Pinedale Array**	**87.66**	**40**	P		**P**		**09 43 17.8**	**+1.4**
	0.2nm,0.7s,baz=234,slow=2.9,SNR=2.5								
	0.2nm,0.7s								

*NIED **26** 09:44:35.9, 36°.12N × 139°.85E, h53 km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=3.68; Mθθ=2.77; Mϕϕ=0.91; Mrθ=-0.49; Mθϕ=-1.57; Mϕr=2.99; Fault plane solution: Mo=4.69000×10¹⁴ NP1: ϕs=146.00000°, δ=64.00000°, λ=-67.00000°. NP2: ϕs=281.00000°, δ=34.00000°, λ=-129.00000°.*

*NEIC **26** 09:44:35.9± 1.9, 36°.09N ± 0°.06 × 139°.87E ± 0°.08, h65 km ± 9 km, mb4.3/18 Error ellipse: s-maj=9.9km s-min=7.6km az=130.0*

*JMA **26** 09:44:35.9 ± 0.1, 36°.1N ± 0°.3 × 139°.9E ± 0°.3, h53 km, MD3.9/35, MV4.1/35, SW IBARAKI PREF*

JMA Felt III J1 at SW IBARAKI PREF .

*IDC **26** 09:44:35.1 ± 1.7, 36°.04N × 139°.93E, h54 km ± 18 km, mb3.4/7, mbtmp3.7/9, ML3.6/2, Error ellipse: s-maj=18.9km s-min=7.8km az=65.0*

ISC 26 09:44:35.0 ± 0.7, 36°.08N ± 0°.04 × 139°.88E ± 0°.04, h57 km ± 7 km, n72, σ1 1°.06/72, mb4.1/18, 6D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.29**	**60**	⇓*i* P		**Pn**		**09 44 45.4**	**+0.5**
JYT				⇓S		**Sn**		**09 44 52.2**	**+0.3**
JYT	**Yasato**	**0.29**	**60**	A		A		09 44 45.4	
	comp=E,54nm,0.3s,comp=N,61nm,0.3s								
TOK	**Tokyo**	**0.40**	**194**	A		A		09 44 46.6	
	comp=E,24nm,0.3s,comp=N,20nm,0.4s								
JAG	**Ashikaga**	**0.49**	**315**	⇓*i* P		**Pn**		**09 44 46.8**	**+0.1**
JAG				⇓S		**Sn**		**09 44 54.4**	**-0.7**
JAG	**Ashikaga**	**0.49**	**315**	A		A		09 44 46.8	
	comp=E,5.0nm,0.2s,comp=N,11nm,0.3s								
JIHU	**Itakohorinouch**	**0.54**	**102**	A		A		09 44 48.2	
	comp=E,12nm,0.3s,comp=N,12nm,0.4s								
JHYU	**Hitachinakayam**	**0.63**	**65**	A		A		09 44 49.0	
	comp=E,10.0nm,0.3s,comp=N,14nm,0.2s								
JRY	**Ryogami san**	**0.80**	**266**	⇓*i* P		**Pn**		**09 44 50.8**	**+0.4**
JRY				⇓S		**Sn**		**09 45 01.9**	**+0.3**
JKT	**Katashina**	**0.85**	**324**	S		**Sn**		**09 45 02.5**	**-0.6**
JSB	**Shiboa**	**0.89**	**2**	A		A		09 44 51.9	
	comp=E,11nm,0.4s,comp=N,15nm,0.4s								
JOD2	**Odawara 2**	**1.04**	**219**	*i* P		**Pn**		**09 44 54.4**	**+0.9**
JOD2				*e*S		**Sn**		**09 45 08.3**	**+1.1**
JYN	**Shimob**	**1.23**	**242**	*e*P		**Pn**		**09 44 57.5**	**+1.3**
JFY	**Yanaizu**	**1.33**	**354**	P		**Pn**		**09 44 58.0**	**+0.5**
JFY				*e*S		**Sn**		**09 45 14.6**	**+0.4**
MJAR	**Matsushiro Arr**	**1.43**	**289**	P		**Pn**		**09 44 59.1**	**+0.4**
	comp=N,54nm,0.3s,baz=14,slow=27,SNR=200								
MJAR				S		**Sn**		**09 45 16.9**	**+0.4**
	comp=N,36nm,0.3s,baz=147,slow=16,SNR=6.4								
MJAR				LR		LR		09 45 50.8	
	comp=N,87nm,20.8s,baz=153,slow=51								
MAJO	**Matsushiro**	**1.43**	**289**	P		**Pn**		**09 44 59.6**	**+0.9**
MAJO	**Matsushiro**	**1.43**	**289**	Pn		**Pn**		**09 44 59.1**	**+0.4**
MJB9	**Matsu-Tunnel**	**1.43**	**289**	Pn		**Pn**		**09 44 59.7**	**+0.9**
JMM	**Marumori**	**1.93**	**22**	P		**Pn**		**09 45 06.4**	**+0.9**
JMM	**Marumori**	**1.93**	**22**	Pn		**Pn**		**09 45 05.7**	**+0.2**
JSG	**Sagara**	**1.97**	**225**	P		**Pn**		**09 45 08.6**	**+2.6**
JSG	**Sagara**	**1.97**	**225**	Pn		**Pn**		**09 45 07.0**	**+1.0**
JGF	**Kuroka**	**2.10**	**258**	P		**Pn**		**09 45 10.5**	**+2.6**
JGF	**Kuroka**	**2.10**	**258**	Pn		**Pn**		**09 45 09.4**	**+1.4**
JSD	**Sado**	**2.34**	**327**	P		**Pn**		**09 45 12.0**	**+0.8**
JSD	**Sado**	**2.34**	**327**	Pn		**Pn**		**09 45 11.3**	**+0.1**
INU	**Inuyama**	**2.44**	**253**	P		**Pn**		**09 45 14.8**	**+2.3**
INU	**Inuyama**	**2.44**	**253**	Pn		**Pn**		**09 45 13.1**	**+0.6**
JHJ	**Hachijo jima 2**	**2.95**	**182**	P		**Pn**		**09 45 20.3**	**+0.8**
	comp=N,58nm,0.3s,baz=331,slow=23,SNR=55								
JHJ				S		**Sn**		**09 45 53.0**	**-0.7**
	comp=N,268nm,0.3s,baz=58,slow=22,SNR=15								
	comp=N,101nm,0.3s								
JHJ2	**Mitsune**	**2.96**	**181**	P		**Pn**		**09 45 20.3**	**+0.7**
JHJ2	**Mitsune**	**2.96**	**181**	Pn		**Pn**		**09 45 20.1**	**+0.6**
JTM	**Tenmabayashi**	**4.79**	**11**	P		**Pn**		**09 45 47.5**	**+2.9**
JTM	**Tenmabayashi**	**4.79**	**11**	Pn		**Pn**		**09 45 45.4**	**+0.8**
JMN	**Monobe**	**5.46**	**246**	P		**Pn**		**09 45 55.7**	**+1.8**
JMN	**Monobe**	**5.46**	**246**	Pn		**Pn**		**09 45 54.5**	**+0.6**
ERM	**Erimo**	**6.45**	**22**	Pn		**Pn**		**09 46 06.8**	**-0.5**
ASAJ	**Asahikawa**	**8.29**	**14**	P		**Pn**		**09 46 32.1**	**-0.5**
	comp=N,0.5nm,0.3s,baz=226,slow=13,SNR=6.7								
	comp=N,1.3nm,0.3s								
JKA	**Kamikawa-asahi**	**8.29**	**14**	Pn		**Pn**		**09 46 32.2**	**-0.4**
JCJ	**Chichijima**	**9.17**	**167**	Pn		**Pn**		**09 46 42.9**	**-1.7**
JCJ	**Chichijima**	**9.17**	**167**	P		Pn		09 46 37.6	-7.0
	comp=N,44nm,0.6s,baz=354,slow=21,SNR=7.3								
USA0B	**Ussuriysk Arra**	**10.11**	**326**	Pn		**Pn**		**09 46 56.2**	**-1.2**
MDJ	**Mudanjiang**	**11.58**	**321**	P		**Pn**		**09 47 18.3**	**+0.8**
MDJ				pmax		pmax			
	comp=Z,3.0nm,0.6s								
MDJ				pmax		pmax			
	comp=Z,73nm,3.9s								
HHC	**Hu-ho-hao-te**	**22.63**	**291**	*e*P		**P**		**09 49 30.0**	**-1.2**
HHC				pmax		pmax			
	comp=Z,8.0nm,0.9s								
HHC				pmax		pmax			
	comp=Z,48nm,6.7s								
MA2	**Magadan**	**24.55**	**13**	P		**P**		**09 49 49.4**	**+0.3**
MA2	**Magadan**	**24.55**	**13**	P		**P**		**09 49 48.8**	**-0.3**
	comp=Z,2.8nm,0.6s,baz=187,slow=14,SNR=6.0								
	comp=Z,2.8nm,0.6s								
KURBB	**Kurchatov Arra**	**45.62**	**309**	P		**P**		**09 52 48.5**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=82,slow=7.7,SNR=1.6								
	comp=Z,0.4nm,0.3s								
C18K	**Utukok River**	**45.68**	**26**	P		**P**		**09 52 50.3**	**+0.5**
C18K				IAmb		IAmb		09 53 02.1	
	comp=Z,4.0nm,1.2s								
D19K	**Kuna River**	**46.75**	**27**	P		**P**		**09 52 59.0**	**+0.9**
D19K				IAmb		IAmb		09 53 00.4	
	comp=Z,4.4nm,1.4s								
E19K	**Redstone River**	**46.90**	**28**	P		**P**		**09 52 59.8**	**+0.5**
E19K				IAmb		IAmb		09 53 23.1	
	comp=Z,6.0nm,1.4s								
J19K	**Poorman**	**47.16**	**33**	P		**P**		**09 53 02.1**	**+0.8**
J19K				IAmb		IAmb		09 53 36.6	
	comp=Z,9.3nm,1.5s								
B20K	**Meade River**	**47.37**	**25**	P		**P**		**09 53 03.8**	**+0.8**
B20K				IAmb		IAmb		09 53 45.3	
	comp=Z,6.1nm,1.5s								
B21K	**Ikpikpuk River**	**48.18**	**25**	P		**P**		**09 53 10.3**	**+1.1**
D22K	**Ayikyak River**	**48.77**	**26**	P		**P**		**09 53 14.1**	**+0.4**
E22K	**Anaktuvuk Pass**	**49.02**	**27**	P		**P**		**09 53 15.5**	**-0.2**
E22K				IAmb		IAmb		09 53 32.0	
	comp=Z,1.5nm,1.1s								
HNR	**Honiara**	**49.06**	**153**	P		**P**		**09 53 15.8**	**-0.7**
ILAR	**Eielson Array**	**50.96**	**32**	P		**P**		**09 53 30.6**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=271,slow=5.9,SNR=5.1								
	comp=Z,0.3nm,0.8s								
BMAR	**Burnt Mountain**	**51.76**	**28**	P		**P**		**09 53 35.3**	**-1.1**
BCAR	**Beaver Creek A**	**53.38**	**34**	P		**P**		**09 53 49.6**	**+1.2**
EGAK	**Eagle**	**53.40**	**32**	P		**P**		**09 53 47.4**	**-1.1**
EGAK				IAmb		IAmb		09 54 26.8	
	comp=Z,4.0nm,1.3s								
I28M	**Miner Creek**	**53.82**	**31**	P		**P**		**09 53 52.9**	**+1.2**
I28M				IAmb		IAmb		09 54 31.7	
	comp=Z,4.0nm,1.4s								
EPYK	**Eagle Plains**	**54.96**	**29**	P		**P**		**09 54 01.2**	**+1.3**
G30M	**tAoh Zraii Nji**	**55.05**	**28**	P		**P**		**09 54 01.8**	**+1.3**
I30M	**Mount Dempster**	**55.33**	**31**	P		**P**		**09 54 03.1**	**+0.5**
I30M				IAmb		IAmb		09 54 06.5	
	comp=Z,2.0nm,1.1s								

WB2	**Warramunga Arr**	**55.96**	**186**	P		**P**		**09 54 07.0**	**-0.5**
WR0	**Warramunga Arr**	**55.96**	**186**	P		**P**		**09 54 06.4**	**-1.1**
WR0				IAmb		IAmb		09 54 13.3	
	comp=Z,6.4nm,1.4s								
WRA	**Warramunga Arr**	**55.96**	**186**	P		**P**		**09 54 06.4**	**-1.1**
WRA	**Warramunga Arr**	**55.96**	**186**	P		**P**		**09 54 07.3**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=0.8,slow=7.6,SNR=30								
	comp=Z,0.6nm,0.3s								
P29M	**Windy Craggy**	**55.98**	**37**	P		**P**		**09 54 08.2**	**+0.9**
ABKAR	**Akbulak array**	**57.61**	**310**	P		**P**		**09 54 18.2**	**-0.7**
ASAR	**Alice Springs**	**59.69**	**186**	P		**P**		**09 54 34.2**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=22,slow=13,SNR=6.8								
	comp=Z,0.4nm,0.7s								
FINES	**FINESS Array B**	**69.08**	**332**	P		**P**		**09 55 34.0**	**-0.5**
NVAR	**Mina Array Bea**	**76.55**	**52**	P		**P**		**09 56 21.2**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=281,slow=6.2,SNR=2.9								
	comp=Z,0.4nm,0.7s								
TXAR	**Lajitas Array**	**91.68**	**51**	P		**P**		**09 57 37.3**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=271,slow=2.3,SNR=4.5								
	comp=Z,0.3nm,0.8s								

*MOS **26** 09:50:59.2 ± 1.1, 5°.29S × 151°.28E, h49 km, mb6.2/52, MS6.5/50, Error ellipse: s-maj=8.1km s-min=5.1km az=107.4*

*BJI **26** 09:50:59.8 ± 0.0, 5°.46S × 151°.36E, h50 km, mb6.0/96, mB6.5/83, Ms6.6/99, Ms7 6.6/97*

*IPGP **26** 09:51:00.0, 5°.46S × 151°.40E, h54 km, Mw6.7, Fault plane solution: NP1:ϕs89.00000°, δ53.00000°, λ104.00000°. NP2:ϕs246.00000°, δ39.00000°, λ72.00000°.*

*NEIC **26** 09:51:00.4 ± 2.4, 5°.50S ± 0°.06 × 151°.40E ± 0°.06, h40 km, mb6.1/563, Ms_20 6.6/1119, Mwb6.7/55, Mwc6.7/102, Mww6.7/40, Error ellipse: s-maj=11.0km s-min=8.9km az=139.0, Moment Tensor Solution: Moment tensor: Scale 10¹⁹Nm; Mrr=1.29; Mθθ=1.10; Mϕϕ=0.19; Mrθ=0.41; Mθϕ=0.35; Mϕr=0.10; Fault plane solution: Mo=1.32000×10¹⁹ NP1:ϕs80.15000°, δ53.54000°, λ100.63000°. NP2: ϕs242.62000°, δ37.77000°, λ75.98000°. Principal axes: T 1.3715, Plg78.0000°, Azm30.0000°; N -0.1001, Plg9.0000°, Azm254.0000°; P -1.2714, Plg8.0000°, Azm163.0000°;*

*NEIC **26** 09:51:00.6, 5°.59S × 151°.34E, h50 km, Moment Tensor Solution. Duration: 10s8 Moment tensor: Scale 10¹⁹Nm; Mrr=1.27; Mθθ=1.30; Mϕϕ=0.02; Mrθ=0.20; Mϕθ=-0.45; Mϕr=0.20; Fault plane solution: Mo=1.39000×10¹⁹ NP1:ϕs84.64000°, δ49.02000°, λ105.90000°. NP2:ϕs241.17000°, δ43.44000°, λ72.50000°. Principal axes: T 1.3336, Plg78.0000°, Azm60.0000°; N 0.1071, Plg12.0000°, Azm254.0000°; P -1.4407, Plg3.0000°, Azm163.0000°;*

*IDC **26** 09:51:00.1 ± 1.1, 5°.42S × 151°.36E, h51 km ± 8 km, mb5.5/26, mbtmp5.7/29, MS6.4/56 Error ellipse: s-maj=11.2km s-min=8.0km az=106.0*

*NEIC **26** 09:51:00.4, 5°.46S × 151°.43E, h38 km*

*DJA **26** 09:51:00.9 ± 0.2, 5°.5S × 2°.1E × 1, h58 km ± 2 km, M6.5/98, mb6.1/98, mB6.6/95, MLv7.0/1, Mw6.6/52, Mw(mB)6.4/95, MwMwp6.5/87, Mwp6.4/87*

*NEIC **26** 09:51:00.4, 5°.46S × 151°.43E, h38 km*

*NEIC **26** 09:51:00.6, 5°.49S × 151°.44E, h50 km*

*GCMT **26** 09:51:06.4 ± 0.0, 5°.69S × 151°.37E, h50 km, MW6.7/182, Moment Tensor Solution. s182, c474; s171, c792; Duration: 5s4 Moment tensor: Scale 10¹⁹Nm; Mrr=1.24 ± .01; Mθθ=-1.23 ± .00; Mϕϕ=0.00 ± .00; Mrθ=0.30 ± .01; Mθϕ=-0.43 ± .00; Mϕr=-0.18 ± .00; Best double couple: Mo=1.35400×10¹⁹ NP1:ϕs85.00000°, δ51.00000°, λ106.00000°. NP2:ϕs240.00000°, δ41.00000°, λ71.00000°. Principal axes: T 1.3200, Plg76.0000°, Azm51.0000°; N 0.0690, Plg12.0000°, Azm254.0000°; P -1.3880, Plg5.0000°, Azm163.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=125s. Triangular moment-rate function*

*NEIC **26** 09:51:20.3, 5°.33S × 151°.10E, h47 km, Moment Tensor Solution. Duration: 12s4 Moment tensor: Scale 10¹⁹Nm; Mrr=1.38; Mθθ=1.32; Mϕϕ=0.07; Mrθ=0.00; Mϕθ=0.37; Mϕr=0.17; Fault plane solution: Mo=1.41000×10¹⁹ NP1: ϕs247.77000°, δ46.44000°, λ80.42000°. NP2:ϕs81.53000°, δ44.40000°, λ99.92000°. Principal axes: T 1.4043, Plg83.0000°, Azm83.0000°; N 0.0161, Plg7.0000°, Azm254.0000°; P -1.4204, Plg1.0000°, Azm345.0000°;*

ISC 26 09:51:01.0 ± 0.2, 5°.48S ± 0°.02 × 151°.38E ± 0°.03, h55 km ± 1 km, h55 km:pP-P, n2642, σ1 9s/85/2604, mb6.0/401, MS6.5/695, 186C-64D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BULU	**Kimbe**	**1.06**	**267**	P		**Pn**		**09 51 19.6**	**0.0**
I40PG	**Keravat**	**1.34**	**28**	P		**Pn**		**09 51 24.5**	**+1.1**
	baz=196,slow=23,SNR=4.9								
I40PG				S		**Sn**		**09 51 42.2**	**+2.1**
	baz=87,slow=105,SNR=0.6								
I40PG				I		I		09 57 30.0	
	baz=209,slow=306,SNR=0.9								
RABL	**Rabaul**	**1.50**	**31**			**Pn**		**09 51 27.0**	**+1.4**
ALOT	**Alotau**	**4.87**	**191**	P		**Pn**		**09 52 12.5**	**+0.8**
MANU	**Manus Island**	**5.26**	**310**	P		**Pn**		**09 52 20.7**	**+3.6**
MANU	**Manus Island**	**5.26**	**310**	Pn		**Pn**		**09 52 19.3**	**+2.2**
MANU	**Manus Island**	**5.26**	**310**	⇓P		**Pn**		**09 52 19.9**	**+2.8**
PMG	**Port Moresby**	**5.71**	**227**			**Pn**		**09 52 24.7**	**+1.3**
PMG	**Port Moresby**	**5.71**	**227**	P		**Pn**		**09 52 23.9**	**+0.6**
	1μm,0.6s,baz=36,slow=5.4,SNR=152								
PMG				S		**Sn**		**09 53 30.4**	**+2.8**
	15μm,0.4s,baz=271,slow=24,SNR=32								
PMG				LR		LR		09 54 16.3	
	comp=Z,133μm,18.7s,baz=9.5,slow=34								
HNR	**Honiara**	**9.36**	**115**			**Pn**		**09 53 12.5**	**-0.8**
HNR	**Honiara**	**9.36**	**115**	⇓P		**Pn**		**09 53 13.1**	**-0.2**
HNR	**Honiara**	**9.36**	**115**	P		**Pn**		**09 53 11.5**	**-1.8**
	6μm,0.8s,baz=223,slow=2.9,SNR=34								
HNR				S		**Sn**		**09 54 56.9**	**-0.2**
	17μm,0.9s,baz=196,slow=20,SNR=1.4								
HNR				LR		LR		09 57 01.6	
	comp=Z,2195μm,21.4s,baz=284,slow=38								
TABU	**Tabubil**	**10.11**	**271**	P		**Pn**		**09 53 25.8**	**+2.2**
JAY	**Jayapura**	**11.04**	**285**	P		**Pn**		**09 53 39.4**	**+3.0**
MMPI	**Meyauke**	**11.31**	**254**	P		**Pn**		**09 53 38.0**	**-1.9**
	818nm,1.5s,26μm143μm								
GENI	**Genyem**	**11.54**	**284**	P		**Pn**		**09 53 45.6**	**+2.5**
GENI	**Genyem**	**11.54**	**284**	⇑P		**Pn**		**09 53 47.4**	**+4.3**
GENI	**Genyem**	**11.54**	**284**	P		**Pn**		**09 53 42.1**	**-1.0**
	4μm,2.4s,164μm232μm								
COEN	**Coen**	**11.67**	**223**	P		**Pn**		**09 53 45.3**	**+0.5**
	baz=12,SNR=25								
COEN	**Coen**	**11.67**	**223**	P		**Pn**		**09 53 45.7**	**+0.8**
COEN	**Coen**	**11.67**	**223**	Pn		**Pn**		**09 53 45.5**	**+0.7**
COEN	**Coen**	**11.67**	**223**	⇑P		**Pn**		**09 53 45.4**	**+0.5**
PATS	**Pohnpei**	**14.06**	**30**	P		**Pn**		**09 54 16.1**	**-1.3**
	baz=14,SNR=6.4								
PATS	**Pohnpei**	**14.06**	**30**	P		**Pn**		**09 54 18.3**	**+0.9**
PATS	**Pohnpei**	**14.06**	**30**			**Pn**		**09 54 17.4**	**-0.1**
MTSU	**Mount Surprise**	**14.34**	**208**	P		**Pn**		**09 54 20.5**	**-0.7**
	baz=14								
TV1H	**Townsville Har**	**14.40**	**198**	P		**Pn**		**09 54 24.3**	**+2.4**
AUAYR	**Ayr State High**	**14.53**	**195**	P		**Pn**		**09 54 24.4**	**+0.8**
CTA	**Charters Tower**	**15.35**	**198**	P		**P**		**09 54 36.9**	**-1.1**
CTA	**Charters Tower**	**15.35**	**198**	P		**Pn**		**09 54 33.6**	**-0.7**
	52nm,1.1s,baz=90,slow=2.1,SNR=20								
CTA				LR		LR		09 59 56.2	
	comp=Z,208μm,21.2s,baz=89,slow=35								
CTAO	**Charters Tower**	**15.35**	**198**	P		**Pn**		**09 54 35.1**	**+0.9**
CTAO	**Charters Tower**	**15.35**	**198**	Pn		**Pn**		**09 54 32.8**	**-1.4**
CTAO	**Charters Tower**	**15.35**	**198**	⇓P		**Pn**		**09 54 33.5**	**-0.7**
CTAO	**Charters Tower**	**15.35**	**198**	P		**Pn**		**09 54 32.8**	**-1.4**
CTAO				pmax		pmax			
	comp=Z,268nm,1.3s								
RK1H	**Rockhampton Ha**	**17.82**	**183**	P		**P**		**09 55 06.7**	**+1.4**
GD1S	**Gladstone Soft**	**18.25**	**181**	P		**Pn**		**09 55 12.5**	**+2.1**
QIS	**Mount Isa**	**18.85**	**216**	P		**Pn**		**09 55 17.4**	**-0.2**
	baz=19,SNR=223								
QIS	**Mount Isa**	**18.85**	**216**	P		**Pn**		**09 55 18.4**	**+0.7**
FAKI	**Fak Fak**	**19.24**	**277**	P		**Pn**		**09 55 23.6**	**+1.1**
FAKI	**Fak Fak**	**19.24**	**277**	P		**P**		**09 55 21.1**	**0.0**
FAKI	**Fak Fak**	**19.24**	**277**	⇑P		**P**		**09 55 19.5**	**-1.6**
FAKI	**Fak Fak**	**19.24**	**277**	P		**P**		**09 55 19.6**	**-1.4**
	comp=Z,337nm,1.2s,comp=Z,30μmcomp=Z,137μm								
KOUNC	**Koumac, New Ca**	**19.53**	**141**	P		**Pn**		**09 55 28.0**	**+2.2**
KOUNC	**Koumac, New Ca**	**19.53**	**141**	P		**Pn**		**09 55 25.5**	**-0.3**
KOUNC	**Koumac, New Ca**	**19.53**	**141**	⇓P		**Pn**		**09 55 25.8**	**0.0**

EIDS	**Eidsvold**	**19.77**	**181**	P		**Pn**		**09 55 28.3**	**-0.3**
	baz=20,SNR=76								
EIDS	**Eidsvold**	**19.77**	**181**	P		**P**		**09 55 27.3**	**+0.5**
EIDS	**Eidsvold**	**19.77**	**181**	P		**P**		**09 55 27.2**	**+0.5**
EIDS	**Eidsvold**	**19.77**	**181**	⇓P		**P**		**09 55 27.1**	**+0.3**
KDU	**Kakadu**	**19.98**	**248**	P		**P**		**09 55 28.9**	**-0.1**
	baz=20,SNR=209								
KDU	**Kakadu**	**19.98**	**248**	P		**P**		**09 55 29.3**	**+0.3**
GUMO	**Guam**	**20.02**	**341**	P		Pn		09 55 32.2	+0.6
GUMO	**Guam**	**20.02**	**341**	P		**P**		**09 55 29.8**	**+0.4**
GUMO	**Guam**	**20.02**	**341**	⇑P		Pn		09 55 32.1	+0.5
GUMO	**Guam**	**20.02**	**341**	P		**P**		**09 55 29.8**	**+0.4**
GUMO				pmax		pmax			
	comp=Z,7μm,1.3s								
GUMO				MLR		MLR			
	comp=Z,75μm,20.0s								
GUMO	**Guam**	**20.02**	**341**	P		Pn		09 55 32.4	+0.8
	comp=Z,1μm,0.7s,baz=157,slow=9.2,SNR=24								
GUMO				LR		LR		10 04 06.3	
	comp=Z,59μm,18.7s,baz=168,slow=39								
SAUI	**Saumlaki**	**20.09**	**262**	P		**P**		09 55 32.2	-0.3
SAUI	**Saumlaki**	**20.09**	**262**	P		**Pn**		**09 55 31.2**	**+0.9**
SAUI				IAmb		IAmb		09 55 47.5	
	comp=Z,1μm,0.8s								
SAUI				IAMs_20		IAMs_20		10 04 04.7	
	comp=Z,179μm,19.0s								
SAUI	**Saumlaki**	**20.09**	**262**	⇑P		**P**		**09 55 31.1**	**+0.9**
SAUI	**Saumlaki**	**20.09**	**262**	P		**P**		**09 55 29.4**	**-0.9**
	comp=Z,2μm,0.8s,comp=Z,42μmcomp=Z,205μm								
SWI	**Sorong**	**20.60**	**282**	P		**P**		**09 55 35.2**	**-0.5**
	comp=Z,1μm,2.1s,comp=Z,48μmcomp=Z,145μm								
RMQ	**Roma**	**21.03**	**187**	P		**P**		**09 55 42.1**	**+1.7**
	baz=21,SNR=18								
RMQ	**Roma**	**21.03**	**187**	P		**P**		**09 55 42.9**	**+2.6**
MTN	**Manton Dam**	**21.27**	**248**	P		**P**		**09 55 42.1**	**-0.9**
	baz=21,SNR=78								
MTN	**Manton Dam**	**21.27**	**248**	P		**P**		**09 55 43.7**	**+0.8**
MTN	**Manton Dam**	**21.27**	**248**	P		**P**		**09 55 42.6**	**-0.3**
MTN	**Manton Dam**	**21.27**	**248**	⇑P		**P**		**09 55 42.5**	**-0.5**
DRS	**Darwin Rock St**	**21.36**	**250**	P		**P**		**09 55 45.2**	**+1.3**
BNDI	**Bandanaira**	**21.41**	**272**	P		**P**		**09 55 43.2**	**-1.3**
	comp=Z,666nm,1.0s,comp=Z,35μmcomp=Z,145μm								
LIFNC	**LIFOU**	**21.64**	**136**	P		**P**		**09 55 51.7**	**+4.9**
LIFNC	**LIFOU**	**21.64**	**136**	P		**P**		**09 55 47.3**	**+0.4**
WB0	**Warramunga Arr**	**21.79**	**228**	P		**P**		**09 55 48.5**	**0.0**
WR0	**Warramunga Arr**	**21.80**	**227**	P		**P**		**09 55 50.0**	**+1.4**
AUWSH	**Wavell State H**	**21.85**	**176**	P		**P**		**09 55 49.9**	**+0.8**
WRAB	**Tennant Creek**	**21.92**	**228**	P		**P**		**09 55 49.8**	**-0.2**
WRAB	**Tennant Creek**	**21.92**	**228**	*i* P		**P**		**09 55 50.4**	**+0.5**
WRAB				pmax		pmax			
	comp=Z,642nm,0.7s								
WRAB				MLR		MLR			
	comp=Z,102μm,23.0s								
WRA	**Warramunga Arr**	**21.93**	**228**	P		**P**		**09 55 50.8**	**+0.7**
WRA	**Warramunga Arr**	**21.93**	**228**	P		**P**		**09 55 50.8**	**+0.7**
WRA				pmax		pmax			
	comp=Z,235nm,1.0s								
WRA	**Warramunga Arr**	**21.93**	**228**	P		**P**		**09 55 49.5**	**-0.6**
	comp=Z

STKA Stephens Creek 27.81 198 P P 09 56 45.6 +0.5
STKA Stephens Creek 27.81 198 *i* P P 09 56 46.6 +1.5
STKA Stephens Creek 27.81 198 P P 09 56 45.0 -0.1
comp=Z,32nm,0.7s,baz=354,slow=9.1,SNR=28
STKA S S 10 01 21.6 -2.7
comp=Z,42nm,1.1s,baz=212,slow=12,SNR=1.7
STKA LR LR 10 07 58.3
comp=Z,89μm,19.7s,baz=15,slow=36
comp=Z,32nm,0.7s
BATI Baumata 27.84 259 LR LR 10 10 17.2
comp=Z,138μm,21.4s,baz=113,slow=42
BATI Baumata 27.84 259 P P 09 56 45.6 0.0
comp=Z,849nm,0.9s,comp=Z,17μmcomp=Z,70μm
YSA Yasawairara 27.98 116 P P 09 56 50.6 +3.8
KMSI Cibinong 28.01 282 P P 09 56 46.4 -0.7
comp=Z,554nm,0.7s,comp=Z,13μmcomp=Z,71μm
FITZ Fitzroy Crossi 28.09 241 P P 09 56 47.3 -0.4
baz=28,SNR=450
FITZ Fitzroy Crossi 28.09 241 P P 09 56 47.7 0.0
SYDH Sydney Hard Ro 28.14 181 P P 09 56 50.3 +2.3
DAV Davao City (W) 28.61 296 P P 09 56 52.5 +0.1
DAV Davao City (W) 28.61 296 LR LR 10 08 07.2
comp=Z,41μm,19.6s,baz=111,slow=36
DAV Davao City (W) 28.61 296 P P 09 56 52.8 +0.5
BBSI Bau Bau 28.67 269 P P 09 56 52.0 -1.0
comp=Z,116nm,0.8s,comp=Z,6μmcomp=Z,51μm
MSVF Nonsavu 28.77 117 P P 09 56 57.9 +4.0
MSVF Nonsavu 28.77 117 P P 09 56 54.4 +0.5
MSVF Nonsavu 28.77 117 ⇑P P 09 56 55.1 +1.2
MSVF Nonsavu 28.77 117 *i* P P 09 56 55.4 +1.5
MSVF pmax pmax
comp=Z,100nm,1.0s
MSVF MLR MLR
comp=Z,69μm,20.0s
WOLH Wollongong Har 28.78 181 P P 09 56 55.8 +2.1
YNG Young 28.80 185 P P 09 56 56.0 +2.1
baz=29,SNR=10
YNG Young 28.80 185 P P 09 56 55.8 +1.9
LUWI Luwuk 28.89 278 P P 09 56 55.7 +0.8
LUWI Luwuk 28.89 278 IAmb IAmb 09 57 56.2
comp=Z,489nm,1.1s
LUWI Luwuk 28.89 278 P P 09 56 52.7 -2.2
LUWI Luwuk 28.89 278 ⇑P P 09 56 53.4 -1.5
LUWI Luwuk 28.89 278 P P 09 56 53.1 -1.8
comp=Z,244nm,1.3s,comp=Z,5μmcomp=Z,59μm
MMRI Maumere 29.08 262 P P 09 56 57.8 +1.2
MMRI Maumere 29.08 262 ⇑P P 09 56 54.6 -2.0
MMRI Maumere 29.08 262 P P 09 56 54.1 -2.5
comp=Z,503nm,0.7s,comp=Z,9μmcomp=Z,48μm
WRKA Warakurna 29.46 226 P P 09 56 59.4 -0.5
baz=30,SNR=455
WRKA Warakurna 29.46 226 P P 09 56 59.7 -0.2
WRKA Warakurna 29.46 226 ⇑P P 09 56 59.4 -0.5
MULG Mulgathing 29.57 211 P P 09 57 01.4 +0.6
EDFI Ende, Flores 29.63 262 P P 09 56 58.9 -2.7
comp=Z,265nm,1.0s,comp=Z,7μmcomp=Z,46μm
AUUHS Ulladulla High 29.74 181 P P 09 57 05.0 +2.8
CNB Canberra Magne 29.74 183 P P 09 57 04.5 +2.1
baz=30,SNR=4.7
CNB Canberra Magne 29.74 183 P P 09 57 04.4 +2.1
CAN Canberra 29.77 184 P P 09 57 04.9 +2.4
CAN Canberra 29.77 184 ⇑P P 09 57 04.7 +2.1
DGTI Dogotuki 29.81 113 P P 09 57 04.0 +1.0
MRSI Marisa 29.98 280 P P 09 57 02.6 -2.0
comp=Z,114nm,0.9s,comp=Z,4μmcomp=Z,47μm
HTT Hallett 30.12 201 P P 09 57 06.5 +0.8
baz=30,SNR=66
HTT Hallett 30.12 201 P P 09 57 07.1 +1.4
HTT Hallett 30.12 201 ⇑P P 09 57 05.8 +0.1
TAVE Taveuni 30.26 114 P P 09 57 08.8 +1.8
WHYH Whyalla 30.28 203 P P 09 57 08.1 +1.2
BBOO Buckleboo 30.71 206 P P 09 57 10.7 -0.1
baz=31,SNR=32
BBOO Buckleboo 30.71 206 P P 09 57 11.9 +1.1
BBOO Buckleboo 30.71 206 P P 09 57 10.6 -0.2
BBOO IAMs_20 IAMs_20 10 09 41.9
comp=Z,121μm,20.0s
BASI Baing, Sumba 30.86 259 P P 09 57 11.6 -0.7
comp=Z,1μm,0.8s,comp=Z,25μmcomp=Z,53μm
AUMAG Moama Anglican 31.07 190 P P 09 57 15.5 +1.6
BKSI Bulukumba 31.11 269 P P 09 57 14.0 -0.6
comp=Z,80nm,1.0s,comp=Z,3μmcomp=Z,43μm
TOLI2 Tolitoli 31.25 281 P P 09 57 18.2 +2.4
TOLI2 Tolitoli 31.25 281 P P 09 57 14.7 -1.1
MILA Mila 31.49 183 P P 09 57 18.2 +0.5
baz=32,SNR=3.8
MILA Mila 31.49 183 P P 09 57 20.1 +2.4
KAPI Kappang 31.49 269 P P 09 57 19.3 +1.4
KAPI Kappang 31.49 269 P P 09 57 18.2 +0.3
KAPI Kappang 31.49 269 ⇑P P 09 57 16.4 -1.5
KAPI Kappang 31.49 269 P P 09 57 18.3 +0.3
KAPI pmax pmax
comp=Z,158nm,1.1s
KAPI Kappang 31.49 269 P P 09 57 18.8 +0.8
KAPI Kappang 31.49 269 P P 09 57 19.0 +1.1
KAPI ScP ScP 10 03 48.4 -0.5
TTSI Tana Toraja 31.56 273 P P 09 57 18.4 -0.1
comp=Z,83nm,1.3s,comp=Z,3μmcomp=Z,40μm
GHSS Government Hou 31.58 200 P P 09 57 20.3 +1.9
MPSI Mapaga 31.96 279 P P 09 57 20.9 -1.1
comp=Z,111nm,1.1s,comp=Z,4μmcomp=Z,48μm
ARPS Mount Arapiles 32.34 194 P P 09 57 26.6 +1.6
baz=32,SNR=24
ARPS Mount Arapiles 32.34 194 P P 09 57 27.6 +2.5
TOO Toolangi 32.39 189 P P 09 57 28.2 +2.7
baz=33,SNR=5.8
TOO Toolangi 32.39 189 P P 09 57 27.9 +2.4
TOO Toolangi 32.39 189 P P 09 57 24.6 -1.0
TOO IAmb IAmb 09 57 41.1
comp=Z,586nm,1.2s
TOO Toolangi 32.39 189 ⇑P P 09 57 28.3 +2.7
TOO Toolangi 32.39 189 P P 09 57 24.6 -1.0
TOO pmax pmax
comp=Z,586nm,1.2s
TOO MLR MLR
comp=Z,83μm,20.0s
BRAT Ballarat 32.63 191 P P 09 57 29.9 +2.3
AUSSC Sale College, 32.70 186 P P 09 57 29.9 +1.7
MLBS Spotswood, Mel 32.73 190 P P 09 57 31.2 +2.7
GEXS Deakin Univers 33.20 190 P P 09 57 35.1 +2.6
FORT Forrest 33.37 218 P P 09 57 33.5 -0.7
baz=34,SNR=94
FORT Forrest 33.37 218 P P 09 57 35.8 +1.6
FORT Forrest 33.37 218 ⇑P P 09 57 33.4 -0.7
PLAI Plampang 33.49 262 P P 09 57 36.6 +1.1
PLAI Plampang 33.49 262 P P 09 57 33.5 -2.0
comp=Z,356nm,0.8s,comp=Z,5μmcomp=Z,36μm
JCJ Chichijima 33.59 345 P P 09 57 39.4 +3.4
JCJ Chichijima 33.59 345 P P 09 57 34.3 -1.7
JCJ Chichijima 33.59 345 ⇑P P 09 57 33.2 -2.8
TWSI Taliwang, Sumb 34.37 263 P P 09 57 41.1 -2.0
comp=Z,155nm,0.9s,comp=Z,4μmcomp=Z,32μm
PSAD2 Pilbara Seismi 34.38 239 IAMs_20 IAMs_20 10 12 40.9
comp=Z,94μm,20.0s
MBWA Marble Bar 34.40 240 P P 09 57 45.0 +1.7
MBWA Marble Bar 34.40 240 P P 09 57 42.6 -0.6
MBWA Marble Bar 34.40 240 ⇑P P 09 57 42.5 -0.8
MBWA Marble Bar 34.40 240 P P 09 57 43.1 -0.1
MBWA Marble Bar 34.40 240 P P 09 57 43.0 -0.3
MBWA pP pP 09 57 57.0 -0.7
PSAC2 Pilbara Seismi 34.41 239 IAMs_20 IAMs_20 10 12 42.7
comp=Z,90μm,20.0s
PSAD1 Pilbara Seismi 34.43 240 IAMs_20 IAMs_20 10 12 43.2
comp=Z,87μm,20.0s
PSAB2 Pilbara Seismi 34.44 239 IAMs_20 IAMs_20 10 12 43.6
comp=Z,88μm,20.0s
PSAA3 Pilbara Seismi 34.46 239 IAMs_20 IAMs_20 10 12 33.9
comp=Z,86μm,20.0s
PSAA2 Pilbara Seismi 34.46 239 IAMs_20 IAMs_20 10 12 44.0
comp=Z,86μm,20.0s
PSA00 Pilbara Seismi 34.46 239 P P 09 57 45.4 +1.6
PSA00 Pilbara Seismi 34.46 239 P P 09 57 42.8 -1.0
PSA00 IAmb IAmb 09 57 59.7
comp=Z,375nm,1.2s
PSA00 Pilbara Seismi 34.46 239 IAMs_20 IAMs_20 10 12 44.1
comp=Z,85μm,20.0s
PSAB3 Pilbara Seismi 34.46 239 IAMs_20 IAMs_20 10 12 34.1
comp=Z,86μm,20.0s
PSAA1 Pilbara Seismi 34.47 239 IAMs_20 IAMs_20 10 12 44.4
comp=Z,85μm,20.0s
PSAC1 Pilbara Seismi 34.48 239 IAMs_20 IAMs_20 10 12 44.5
comp=Z,88μm,20.0s
PSAD3 Pilbara Seismi 34.55 239 IAMs_20 IAMs_20 10 12 37.3
comp=Z,89μm,20.0s
GLAD Gladstone 35.48 184 P P 09 57 54.6 +2.4

AULHS Lilydale High 35.81 185 P P 09 57 57.1 +2.1
TGY Tagaytay City 35.93 303 LR LR 10 10 39.4
comp=Z,41μm,21.3s,baz=118,slow=33
SRBI Singaraja 35.99 264 P P 09 57 56.0 -1.0
comp=Z,172nm,1.7s,comp=Z,4μmcomp=Z,33μm
OUZ Omahuta 36.00 148 ⇑P P 09 57 57.9 +1.2
CORO Coronation Par 36.01 185 P P 09 57 59.4 +2.6
JMZ Minamidaito 2 36.76 329 P P 09 58 03.3 0.0
JMZ Minamidaito 2 36.76 329 ⇓P P 09 58 04.5 +1.2
KKM Kota Kinabalu 36.92 288 P P 09 58 07.7 +2.6
KKM Kota Kinabalu 36.92 288 P P 09 58 04.7 -0.4
KKM Kota Kinabalu 36.92 288 ⇑P P 09 58 02.7 -2.4
WCZ Waipu Caves 36.94 148 PP PP 09 59 31.9 +2.0
MOO Moorlands 36.99 185 P P 09 58 07.4 +2.3
baz=37,SNR=8.4
MOO Moorlands 36.99 185 P P 09 58 07.4 +2.3
JAGI Jajag, Banyuwa 37.06 263 P P 09 58 07.3 +1.2
JAGI Jajag, Banyuwa 37.06 263 ⇑P P 09 58 03.0 -3.2
JAGI Jajag, Banyuwa 37.06 263 P P 09 58 03.7 -2.4
comp=Z,724nm,1.2s,comp=Z,6μmcomp=Z,30μm
AFI Afiamalu 37.23 106 P P 09 58 11.6 +4.0
AFI Afiamalu 37.23 106 P P 09 58 07.8 +0.2
AFI IAmb IAmb 09 58 17.0
comp=Z,191nm,1.1s
AFI Afiamalu 37.23 106 ⇑P P 09 58 09.4 +1.8
AFI Afiamalu 37.23 106 P P 09 58 07.8 +0.2
AFI pmax pmax
comp=Z,191nm,1.1s
AFI Afiamalu 37.23 106 P P 09 58 08.0 +0.4
RAO Raoul Island 37.43 133 IAMs_20 IAMs_20 10 11 10.9
comp=Z,81μm,21.0s
TAU Tasmania Unive 37.44 185 P P 09 58 12.2 +3.2
TAU Tasmania Unive 37.44 185 P P 09 58 10.7 +1.8
TAU Tasmania Unive 37.44 185 ⇑P P 09 58 11.0 +2.0
TAU Tasmania Unive 37.44 185 P P 09 58 10.7 +1.8
TAU pmax pmax
comp=Z,792nm,1.3s
AUTAR Taroona High S 37.47 185 P P 09 58 11.2 +2.0
MEEK Meekatharra 37.66 232 P P 09 58 10.8 -0.4
baz=38,SNR=112
MEEK Meekatharra 37.66 232 P P 09 58 11.3 +0.1
GMJI Gumukmas 37.75 264 P P 09 58 10.4 -1.6
KMBL Kambalda 37.78 223 P P 09 58 11.4 -0.7
baz=38,SNR=62
KMBL Kambalda 37.78 223 P P 09 58 12.4 +0.4
SZP Santa 38.16 307 P P 09 58 18.8 +3.5
TOZ Tahuroa Road 38.90 149 IAmb IAmb 09 58 53.7
comp=Z,364nm,1.4s
TOZ Tahuroa Road 38.90 149 P P 09 58 18.1 -3.2
TOZ PP PnPn 09 59 57.0 +2.9
JOW Kunigami 39.14 326 P P 09 58 25.2 +1.7
JOW Kunigami 39.14 326 IAMs_20 IAMs_20 10 11 13.2
comp=Z,106μm,22.0s
JOW Kunigami 39.14 326 ⇑P P 09 58 25.0 +1.6
JOW Kunigami 39.14 326 P P 09 58 25.1 +1.6
JOW Kunigami 39.14 326 P P 09 58 25.1 +1.6
comp=Z,419nm,0.8s,baz=158,slow=9.9,SNR=102
JOW LR LR 10 11 45.7
comp=Z,82μm,20.6s,baz=138,slow=32
HIZ Hauiti 39.18 150 P P 09 58 26.6 +3.0
HIZ PP PnPn 10 00 00.0 +2.6
PWJI Pagerwojo 39.37 264 P P 09 58 23.4 -2.2
comp=Z,257nm,1.0s,comp=Z,4μm
JMJ Miyako jima 2 39.39 321 P P 09 58 27.4 +1.9
GIRL Giralia 39.70 241 P P 09 58 28.7 +0.5
baz=40,SNR=84
GIRL Giralia 39.70 241 P P 09 58 29.0 +0.8
GIRL Giralia 39.70 241 IAMs_20 IAMs_20 10 17 30.5
comp=Z,72μm,19.0s
GIRL Giralia 39.70 241 ⇑P P 09 58 28.8 +0.6
JAM Amami Oshima 39.70 329 *eP* P 09 58 30.6 +2.5
JHJ2 Mitsune 39.92 345 P P 09 58 30.6 +0.8
JHJ2 Mitsune 39.92 345 P P 09 58 30.3 +0.5
JHJ2 IAMs_20 IAMs_20 10 11 51.4
comp=Z,70μm,21.0s
JHJ2 Mitsune 39.92 345 ⇑P P 09 58 27.2 -2.6
JHJ Hachijo jima 2 39.94 345 LR LR 10 12 13.7
comp=Z,62μm,21.2s,baz=184,slow=32
QRZ Quartz Range 39.97 155 IAMs_20 IAMs_20 10 12 31.6
comp=Z,101μm,21.0s
NNVZ North Ngauruho 40.03 150 P P 09 58 34.3 +3.4
NGZ Ngauruhoe 40.06 150 P P 09 58 33.1 +1.9
OTVZ Oturere 40.08 150 P P 09 58 29.9 -1.5
OTVZ PP PnPn 10 00 06.7 -1.6
ETVZ East Tongariro 40.08 150 P P 09 58 31.2 -0.2
ETVZ PP PP 10 00 06.4 +2.0
SNVZ South Ngauruho 40.09 150 P P 09 58 33.4 +1.9
HAZ Te Kaha 40.13 147 P P 09 58 32.9 +1.4
URZ Urewera 40.14 148 ⇑P P 09 58 31.8 +0.2
URZ Urewera 40.14 148 LR LR 10 13 15.6
comp=Z,75μm,20.6s,baz=51,slow=33
URZ Urewera 40.14 148 P P 09 58 32.8 +1.2
RUGZ Raukumara Rang 40.23 147 P P 09 58 35.1 +2.6
RTZ Ruatahuna 40.34 148 IAmb IAmb 09 58 54.4
comp=Z,180nm,0.9s
RTZ IAMs_20 IAMs_20 10 12 45.2
comp=Z,79nm,20.0s
MWZ Matawai 40.41 148 P P 09 58 31.6 -2.4
MWZ PP PP 10 00 09.5 +1.6
BKZ Black Stump Fm 40.50 149 P P 09 58 37.0 +2.3
BKZ Black Stump Fm 40.50 149 P P 09 58 37.4 +2.7
TWGZ Tauwhareparae 40.54 147 P P 09 58 36.4 +1.3
YOJ Yonaguni jima 40.61 318 P P 09 58 37.1 +1.4
YOJ Yonaguni jima 40.61 318 ⇑P P 09 58 37.0 +1.4
UGM Wanagama 40.63 264 P P 09 58 37.5 +1.4
UGM Wanagama 40.63 264 P P 09 58 36.6 +0.5
UGM Wanagama 40.63 264 P P 09 58 34.9 -1.2
comp=Z,260nm,0.9s,comp=Z,9μmcomp=Z,38μm
TKGZ Te Karaka 40.66 148 P P 09 58 37.0 +1.0
SMRI Semarang 40.71 266 P P 09 58 35.4 -1.3
comp=Z,193nm,0.9s,comp=Z,10μmcomp=Z,45μm
KLBR Kellerberrin 40.81 226 P P 09 58 36.2 -1.1
baz=41,SNR=23
KLBR Kellerberrin 40.81 226 P P 09 58 37.7 +0.4
MORW Morawa 40.82 231 P P 09 58 36.6 -0.8
baz=41,SNR=192
MORW Morawa 40.82 231 P P 09 58 38.6 +1.2
MORW Morawa 40.82 231 P P 09 58 37.2 -0.2
MORW Morawa 40.82 231 ⇑P P 09 58 36.6 -0.8
TWGBT Beinan 40.85 315 P P 09 58 39.1 +1.4
YOGI Yogyakarta 40.86 264 P P 09 58 36.8 -1.1
comp=Z,395nm,1.2s,comp=Z,8μmcomp=Z,22μm
THZ Tophouse 40.91 155 P P 09 58 39.5 +1.6
YULB Yu-li 41.06 315 P P 09 58 42.3 +2.8
BLDU Ballidu 41.06 228 P P 09 58 38.4 -1.0
baz=41,SNR=57
BLDU Ballidu 41.06 228 P P 09 58 40.3 +0.9
INZ Inchbonnie 41.13 157 IAmb IAmb 09 59 12.3
comp=Z,295nm,1.2s
MRZ Mangatainoka R 41.20 152 P P 09 58 41.6 +1.2
FOZ Fox Glacier 41.24 160 IAMs_20 IAMs_20 10 15 22.2
comp=Z,66μm,20.0s
NACB Ninganchiao 41.37 317 P P 09 58 42.8 +0.9
JCZ Jackson Bay 41.37 161 P P 09 58 44.6 +2.8
BHW Baring Head 41.47 153 IAmb IAmb 09 59 03.1
comp=Z,424nm,1.6s
BHW IAMs_20 IAMs_20 10 13 40.3
comp=Z,84μm,21.0s
TPUB Ta-pu 41.47 315 P P 09 58 44.1 +1.3
TPUB Ta-pu 41.47 315 IAmb IAmb 09 58 47.7
comp=Z,302nm,0.7s
TPUB IAMs_20 IAMs_20 10 12 60.0
comp=Z,64μm,20.0s
LTZ Lake Taylor 41.50 157 IAmb IAmb 09 59 01.1
comp=Z,642nm,1.4s
BFZ Birch Farm 41.54 151 P P 09 58 46.9 +3.8
SSLB Suanglung 41.56 316 P P 09 58 45.4 +1.9
SSLB Suanglung 41.56 316 IAmb IAmb 09 58 56.6
comp=Z,288nm,0.8s
KHZ Kahutara 41.71 155 IAmb IAmb 09 59 01.2
comp=Z,625nm,1.6s
KHZ IAMs_20 IAMs_20 10 13 49.7
comp=Z,100μm,21.0s
JSG Sagara 41.84 344 P P 09 58 46.9 +1.3
JSG Sagara 41.84 344 IAmb IAmb 09 59 01.3
comp=Z,751nm,1.2s
JSG IAMs_20 IAMs_20 10 15 14.1
comp=Z,52μm,18.0s
RPZ Rata Peaks 41.84 159 IAmb IAmb 09 59 04.4
comp=Z,670nm,1.4s
RPZ Rata Peaks 41.84 159 LR LR 10 14 27.5
comp=Z,135μm,19.8s,baz=311,slow=34
YHNB Yeheng 41.85 317 P P 09 58 48.7 +2.8
JSU Suzuyama 41.85 333 *eP* P 09 58 46.0 +0.2

OXZ Oxford 41.87 157 IAmb IAmb 09 59 03.0
comp=Z,316nm,1.1s
NWAO Narrogin (SRO) 41.90 225 P P 09 58 46.3 0.0
baz=42,SNR=12
NWAO P P 09 58 46.3 0.0
baz=42,SNR=12
NWAO Narrogin (SRO) 41.90 225 P P 09 58 47.8 +1.6
NWAO Narrogin (SRO) 41.90 225 P P 09 58 48.1 +1.9
NWAO Narrogin (SRO) 41.90 225 P P 09 58 46.5 +0.3
NWAO Narrogin (SRO) 41.90 225 P P 09 58 46.5 +0.3
NWAO pmax pmax
comp=Z,2μm,1.5s
NWAO Narrogin (SRO) 41.90 225 LR LR 10 16 33.5
comp=Z,80μm,20.2s,baz=47,slow=37
NWAO Narrogin (SRO) 41.90 225 P P 09 58 48.4 +2.2
NWAO Narrogin (SRO) 41.90 225 P P 09 58 45.8 -0.4
NWAO pP pP 09 58 59.1 -1.7
NWAO PcP PcP 10 00 42.6 +1.5
GVZ Greta Valley S 41.96 156 IAmb IAmb 09 59 17.7
comp=Z,892nm,1.6s
TATO Taipei 41.97 317 P P 09 58 48.3 +1.4
TATO Taipei 41.97 317 P P 09 58 47.9 +1.0
TATO Taipei 41.97 317 P P 09 58 48.7 +1.9
TATO Taipei 41.97 317 P P 09 58 48.1 +1.2
TATO pP pP 09 59 02.0 +0.6
TATO PcP PcP 10 00 42.4 +0.9
JIE Ise 42.01 342 P P 09 58 45.6 -1.4
LBZ Lake Benmore 42.11 160 IAmb IAmb 09 59 03.6
comp=Z,352nm,1.3s
LBZ IAMs_20 IAMs_20 10 16 09.4
comp=Z,89μm,20.0s
DCZ Deep Cove 42.13 163 P P 09 58 48.6 +0.8
DCZ IAmb IAmb 09 59 03.7
comp=Z,562nm,1.1s
MUN Mundaring 42.13 227 P P 09 58 47.6 -0.5
baz=42,SNR=56
MUN Mundaring 42.13 227 P P 09 58 49.2 +1.1
KPJI Karang Pucung 42.21 265 P P 09 58 48.7 -0.3
comp=Z,357nm,0.7s,comp=Z,9μm
MLZ Mavora Lakes 42.32 162 P P 09 58 50.2 +0.7
JMN Monobe 42.37 338 P P 09 58 50.7 +0.7
JMN Monobe 42.37 338 ⇑P P 09 58 50.1 +0.1
JMN Monobe 42.37 338 P P 09 58 50.2 +0.1
MTKN Mount Kenneth 42.42 227 P P 09 58 51.6 +1.1
MQZ McQueen's Vall 42.43 157 IAmb IAmb 09 59 07.6
comp=Z,785nm,1.4s
AUALB St Joseph's Co 42.62 222 P P 09 58 55.6 +3.6
PYZ Puysegur Point 42.65 164 P P 09 58 53.6 +1.6
CMJI Cimerak 42.69 264 P P 09 58 50.7 -2.2
comp=Z,447nm,0.8s,comp=Z,7μmcomp=Z,34μm
WHZ Wether Hill Ro 42.75 163 P P 09 58 53.2 +0.3
WHZ IAmb IAmb 09 59 09.7
comp=Z,225nm,0.9s
JYT Yasato 42.80 347 *e*P P 09 58 53.2 -0.1
INU Inuyama 42.80 343 P P 09 58 53.1 -0.3
INU Inuyama 42.80 343 ⇑P P 09 58 52.0 -1.5
INU Inuyama 42.80 343 P P 09 58 52.0 -1.5
ODZ Otahua Downs 42.85 160 ⇑P P 09 58 58.1 +4.4
JRY Ryogami san 42.91 345 P P 09 58 52.5 -1.8
JGF Kuroka 42.94 343 P P 09 58 55.5 +0.9
JGF Kuroka 42.94 343 ⇑P P 09 58 53.0 -1.6
RKGY Rocky Gully 43.01 223 P P 09 58 55.2 -0.1
baz=43,SNR=46
RKGY Rocky Gully 43.01 223 P P 09 58 56.5 +1.3
JNU Nakatsue 43.04 334 P P 09 58 56.5 +1.0
JNU Nakatsue 43.04 334 ⇑P P 09 58 55.6 +0.2
JNU Nakatsue 43.04 334 P P 09 58 55.6 +0.2
JNU Nakatsue 43.04 334 LR LR 10 15 17.7
comp=Z,33μm,21.2s,baz=173,slow=34
JAD Aida 43.36 339 P P 09 58 57.7 -0.3
BBJI Bungbulang 43.48 265 P P 09 58 58.7 -0.7
LEM Lembang 43.52 266 LR LR 10 20 41.7
comp=Z,1μm,21.2s,baz=102,slow=41
LEM Lembang 43.52 266 P P 09 58 58.5 -1.3
comp=Z,237nm,0.9s,comp=Z,8μmcomp=Z,38μm
JGN Niukaw 43.53 343 P P 09 58 57.8 -1.6
MJAR Matsushiro Arr 43.59 345 P P 09 58 57.5 -2.3
comp=Z,65nm,0.9s,baz=168,slow=8.6,SNR=56
MJAR PcP PcP 10 00 46.0 -0.6
comp=Z,40nm,0.7s,baz=166,slow=3.1,SNR=12
MJAR ScP ScP 10 04 32.1 -1.6
comp=Z,6.9nm,1.0s,baz=128,slow=3.4,SNR=5.3
MJAR LR LR 10 16 01.9
comp=Z,45μm,19.9s,baz=166,slow=34
MJAR PKPPKP P'P'df 10 30 33.3 -15
comp=Z,0.9nm,0.6s,baz=340,slow=6.5,SNR=4.3
comp=Z,65nm,0.9s
MAJO Matsushiro 43.59 345 P P 09 58 58.7 -1.1
MAJO Matsushiro 43.59 345 P P 09 58 58.5 -1.3
MAJO Matsushiro 43.59 345 ⇑P P 09 58 57.8 -2.0
MAJO Matsushiro 43.59 345 *i* P P 09 58 57.6 -2.2
MAJO MLR MLR
comp=Z,40μm,17.0s
MAJO Matsushiro 43.59 345 P P 09 58 57.7 -2.0
MAJO PcP PcP 10 00 46.9 +0.3
MAJO ScP ScP 10 04 32.3 -1.4
MAT Matsushiro 43.59 345 P P 09 58 57.8 -2.0
JFU Fukue jima 2 43.60 332 P P 09 59 00.2 +0.3
SYZ Scrubby Hill 43.69 162 P P 09 59 02.3 +1.9
JHS Saijyo 43.79 338 P P 09 59 01.3 -0.1
QZH Quanzhou 43.95 315 ⇓ *i*P P 09 59 03.5 +0.7
QZH pP pP 09 59 18.0 +0.5
QZH sP sP 09 59 22.8 -1.2
QZH PcS PcS 10 04 42.0 +0.8
QZH S S 10 05 31.5 +0.7
QZH pmax pmax
comp=Z,300nm,1.0s
QZH pmax pmax
comp=Z,11μm,8.1s
QZH LR LR
comp=Z,32μm,20.6s
QZH LR LR
comp=Z,44μm,20.9s
QZH LR LR
comp=Z,72μm,22.5s
JMM Marumori 44.24 348 P P 09 59 06.9 +2.0
JMM Marumori 44.24 348 ⇑P P 09 59 03.5 -1.5
JMM Marumori 44.24 348 P P 09 59 03.7 -1.3
JOHN Johnston Islan 44.51 60 P P 09 59 08.7 +1.3
JOHN Johnston Islan 44.51 60 P P 09 59 08.0 +0.5
JOHN Johnston Islan 44.51 60 IAMs_20 IAMs_20 10 14 42.6
comp=Z,57μm,22.0s
JOHN Johnston Islan 44.51 60 ⇑P P 09 59 07.9 +0.5
JOHN Johnston Islan 44.51 60 P P 09 59 08.1 +0.5
SKJI Sukabumi 44.57 266 P P 09 59 06.8 -1.2
comp=Z,644nm,0.7s,comp=Z,11μmcomp=Z,37μm
JTU Tsushima 44.88 334 P P 09 59 12.0 +1.9
JTU Tsushima 44.88 334 IAmb IAmb 09 59 27.8
comp=Z,212nm,1.1s
JTU Tsushima 44.88 334 ⇑P P 09 59 10.4 +0.3
JTU Tsushima 44.88 334 P P 09 59 11.1 +1.0
JSD Sado 44.98 345 P P 09 59 13.0 +2.1
JSD Sado 44.98 345 IAmb IAmb 09 59 14.2
comp=Z,347nm,1.2s
JSD Sado 44.98 345 ⇑P P 09 59 09.8 -1.1
JYA Atsumi 45.17 347 P P 09 59 12.0 -0.4
XMI Christmas Isla 45.48 261 P P 09 59 17.3 +2.0
XMI Christmas Isla 45.48 261 ⇑P P 09 59 15.3 +0.1
XMIS Christmas Isla 45.52 261 P P 09 59 17.5 +1.9
XMIS Christmas Isla 45.52 261 P P 09 59 15.8 +0.2
JOM Ohasama 45.69 349 P P 09 59 15.3 -1.2
HKC Hong Kong Obse 45.69 309 ⇑P P 09 59 19.0 +2.2
HKPS Hong Kong Po S 45.71 308 P P 09 59 20.3 +3.4
HKPS Hong Kong Po S 45.71 308 P P 09 59 17.5 +0.6
HKPS IAMs_20 IAMs_20 10 15 05.2
comp=Z,58μm,21.0s
DLV T Lat 46.03 292 P P 09 59 21.4 +1.6
DLV T Lat 46.03 292 IAmb IAmb 09 59 52.4
comp=Z,327nm,1.1s
DLV T Lat 46.03 292 ⇑P P 09 59 19.8 0.0
MCO Taipa Grande 46.08 308 P P 09 59 21.0 +1.2
SSE Sheshan 46.42 323 P P 09 59 23.8 +1.4
SSE S S 10 06 09.3 +2.9
SSE pmax pmax
comp=Z,62nm,1.8s
SSE pmax pmax
comp=Z,4μm,6.2s
KASI Kota Agung 46.65 268 P P 09 59 21.8 -2.7
comp=Z,305nm,1.0s,comp=Z,4μmcomp=Z,35μm
GZH Guangzhou 46.76 309 P P 09 59 27.3 +2.1
GZH sP sP 09 59 43.0 -3.1
GZH PP PP 10 01 18.3 +2.4
GZH S S 10 06 15.8 +4.3

GZH pmax pmax
comp=Z,140nm,1.0s
GZH LR LR
comp=Z,6µm,15.7s
GZH LR LR
comp=Z,8µm,18.7s
DSRI Dabo 46.98 274 P **P** **09 59 26.0 -1.1**
comp=Z,100nm,0.8s,comp=Z,4µmcomp=Z,44µm
JTM Tenmabayashi 47.01 349 P **P** **09 59 27.8 +1.0**
JTM Tenmabayashi 47.01 349 ⇑P **P** **09 59 25.6 -1.1**
JTM Tenmabayashi 47.01 349 P **P** **09 59 25.5 -1.2**
TJN Taejon 47.33 333 P **P** **09 59 30.5 +1.2**
TJN Taejon 47.33 333 *ce*P **P** **09 59 29.5 +0.2**
CTZ Chatham Island 47.37 149 P **P** **09 59 31.5 +1.9**
QIZ Qiongzhong 47.61 302 P **P** **09 59 33.0 +1.2**
QIZ sP **pP** **09 59 46.8 +0.3**
QIZ PP **PP** **10 01 25.3 +1.4**
QIZ S **S** **10 06 28.5 +4.8**
QIZ pmax pmax
comp=Z,180nm,0.9s
QIZ pmax pmax
comp=Z,6µm,5.9s
QIZ LR LR
comp=Z,29µm,21.9s
QIZ LR LR
comp=Z,46µm,23.5s
QIZ LR LR
comp=Z,112µm,26.9s
QIZ Qiongzhong 47.61 302 IAmb IAmb 09 59 35.8
comp=Z,172nm,1.0s
QIZ Qiongzhong 47.61 302 IAMs_20 IAMs_20 10 16 11.5
comp=Z,79µm,22.0s
QIZ Qiongzhong 47.61 302 P **P** **09 59 33.1 +1.2**
QIZ pP **pP** **09 59 47.1 +0.5**
ERM Erimo 47.86 352 *i*P **P** **09 59 33.9 +0.5**
ERM MLR MLR
comp=Z,41µm,20.0s
JEM Erimo 47.86 352 IAMs_20 IAMs_20 10 18 23.0
comp=Z,44µm,20.0s
KSRS Korea Array 47.99 335 P **P** **09 59 34.6 +0.2**
comp=Z,53nm,0.8s,baz=150,slow=7.6,SNR=76
KSRS PcP **PcP** **10 01 02.0 +0.2**
comp=Z,20nm,0.7s,baz=149,slow=4.2,SNR=1.2
KSRS LR LR 10 18 23.4
comp=Z,27µm,21.3s,baz=145,slow=34
KSRS PKPPKP P'P'df 10 30 21.9 -21
comp=Z,1.3nm,0.8s,baz=349,slow=1.9,SNR=6.2
comp=Z,53nm,0.8s
KSAR Wonju Array Be 47.99 335 P **P** **09 59 34.3 -0.2**
KSAR Wonju Array Be 47.99 335 P **P** **09 59 34.3 -0.2**
KS19 Wonju Array Si 48.05 335 IAmb IAmb 09 59 52.4
comp=Z,305nm,1.2s
NJ2 Nanjing 48.50 322 *e*P **P** **09 59 39.8 +1.3**
NJ2 pP **pP** **09 59 53.5 +0.2**
NJ2 sP **sP** **09 59 57.5 -2.2**
NJ2 ScP **ScP** **10 04 53.5 -0.7**
NJ2 S **S** **10 06 41.0 +5.1**
NJ2 sS **sS** **10 07 00.3 -0.8**
NJ2 pmax pmax
comp=Z,140nm,1.0s
NJ2 pmax pmax
comp=Z,8µm,6.5s
NJ2 LR LR
comp=Z,53µm,24.5s
NJ2 LR LR
comp=Z,34µm,21.8s
NJ2 LR LR
comp=Z,59µm,23.7s
INCN Inchon 48.57 334 P **P** **09 59 40.3 +1.3**
INCN Inchon 48.57 334 P **P** **09 59 39.6 +0.6**
INCN Inchon 48.57 334 ⇑P **P** **09 59 39.6 +0.6**
INCN Inchon 48.57 334 P **P** **09 59 39.6 +0.6**
INCN pmax pmax
comp=Z,2µm,1.3s
INCN Inchon 48.57 334 P **P** **09 59 40.3 +1.3**
INCN Inchon 48.57 334 P **P** **09 59 39.7 +0.6**
INCN pP **pP** **09 59 54.6 +0.9**
JEW Eniwo 48.93 350 P **P** **09 59 41.1 -0.5**
JSH Shimam 48.99 349 P **P** **09 59 41.2 -0.9**
MCQ Macquarie Isla 49.25 174 P **P** **09 59 46.8 +2.9**
baz=50,SNR=6.9
MCQ Macquarie Isla 49.25 174 P **P** **09 59 47.0 +3.1**
HJU Haeju 49.44 333 P **P** **09 59 46.0 +0.5**
HJU sP **sP** **10 00 08.9 +2.2**
HJU S **S** **10 06 51.4 +2.5**
HJU AmB
comp=Z,4µm,3.0s
HJU AMS AMS
comp=Z,76µm,25.2s
YUK Yuzh-Kuril'sk 49.54 355 *d*i P **P** **09 59 43.4 -2.8**
YUK *i* 10 01 37.3
YUK *i* PPP PPP 10 02 35.5
YUK *i* S **S** **10 06 48.1 -2.0**
YUK *i* SSS SSS 10 11 36.8
YUK pmax pmax
comp=Z,281nm,1.0s
YUK pmax pmax
comp=E,139nm,0.6s
YUK pmax pmax
comp=Z,609nm,8.9s
JMP Maruseppu 49.79 352 P **P** **09 59 47.1 -1.1**
RAR Rarotonga 49.81 113 P **P** **09 59 51.8 +3.1**
RAR Rarotonga 49.81 113 ⇓P P 09 59 55.0 +6.3
RAR Rarotonga 49.81 113 LR LR 10 18 30.9
comp=Z,8µm,21.8s,baz=279,slow=33
RAR Rarotonga 49.81 113 P **P** **09 59 51.1 +2.3**
RAR PcP **PcP** **10 01 07.5 -1.4**
CNSH ChangSha 49.93 314 ⇑P **P** **09 59 51.3 +1.8**
CNSH S **S** **10 07 00.8 +4.6**
CNSH pmax pmax
comp=Z,110nm,1.7s
CNSH LR LR
comp=Z,24µm,21.5s
CNSH LR LR
comp=Z,34µm,22.4s
CNSH LR LR
comp=Z,71µm,29.8s
UBPT Khong Chiam 49.94 295 P **P** **09 59 51.5 +1.8**
UBPT Khong Chiam 49.94 295 P **P** **09 59 50.6 +0.9**
UBPT IAmb IAmb 10 01 21.8
comp=Z,194nm,1.6s
UBPT IAMs_20 IAMs_20 10 17 32.4
comp=Z,54µm,22.0s
JKA Kamikawa-asahi 50.00 352 IAmb IAmb 10 00 20.8
comp=Z,260nm,1.2s
ASAJ Asahikawa 50.00 352 P **P** **09 59 49.3 -0.4**
ASAJ Asahikawa 50.00 352 LR LR 10 18 50.5
comp=Z,24µm,21.4s,baz=199,slow=34
GULI GuiLin 50.23 309 ⇑P **P** **09 59 54.0 +2.1**
GULI S **S** **10 07 03.8 +3.4**
GULI pmax pmax
comp=Z,370nm,1.0s
GULI LR LR
comp=Z,19µm,19.0s
GULI LR LR
comp=Z,42µm,20.1s
GULI LR LR
comp=Z,59µm,21.7s
HHU Hamhung 50.25 336 P **P** **09 59 51.8 +0.2**
HHU S **S** **10 07 02.8 +2.7**
HHU AmB
comp=Z,2µm,3.0s
PYAG Pyongyang 50.26 334 P **P** **09 59 52.2 +0.5**
PYAG S **S** **10 07 03.4 +3.2**
PYAG AmB
comp=Z,1µm,2.7s
WHN Wuhan 50.38 318 ⇑*i*P **P** **09 59 54.3 +1.4**
WHN pP **pP** **10 00 09.5 +1.8**
WHN sP **sP** **10 00 16.5 +2.3**
WHN S **S** **10 07 03.3 +1.0**
WHN SS **SS** **10 10 33.5 -3.4**
WHN pmax pmax
comp=Z,590nm,1.1s
WHN pmax pmax
comp=Z,18µm,8.3s
WHN LR LR
comp=Z,92µm,24.4s
WHN LR LR
comp=Z,98µm,19.4s
WHN LR LR
comp=Z,230µm,29.6s
KUR Kuril'sk 50.59 357 *c*i P **P** **09 59 53.9 -0.2**
KUR *i* S **S** **10 07 04.5 -0.1**
KUR *e*SS **SS** **10 10 33.6 -6.0**
KUR *e*SSS SSS 10 12 06.2
KUR pmax pmax
comp=Z,779nm,1.1s
KUR pmax pmax
comp=Z,8µm,12.9s
BKNI Bangkinang 50.59 275 P **P** **09 59 56.3 +1.5**
BKNI Bangkinang 50.59 275 P **P** **09 59 51.0 -3.8**
PDSI Padang 51.02 273 P **P** **09 59 56.0 -2.0**
comp=Z,101nm,0.8s,comp=Z,8µmcomp=Z,40µm
MSHR Mys Shultsa 51.25 341 *i*P **P** **09 59 57.5 -1.7**
MSHR pmax pmax
comp=Z,49nm,1.2s
IPM Ipoh 51.25 280 P **P** **10 00 00.5 +0.7**
XMAS Kiritimati 51.66 83 P **P** **10 00 05.1 +2.3**
XMAS Kiritimati 51.66 83 P **P** **10 00 04.4 +1.6**
XMAS Kiritimati 51.66 83 IAMs_20 IAMs_20 10 17 42.9
comp=Z,50µm,22.0s
XMAS Kiritimati 51.66 83 ⇑P **P** **10 00 03.0 +0.2**
XMAS Kiritimati 51.66 83 P **P** **10 00 04.4 +1.6**
TEY Ternei 52.01 347 ⇓*e*P **P** **10 00 04.7 -0.1**
TEY *e* 10 00 25.8
TEY 10 07 24.1
TEY pmax pmax
comp=E,100nm,10.3s
DL2 Dalian 52.05 331 ⇑*i*P **P** **10 00 05.3 +0.1**
DL2 sP **pP** **10 00 20.8 +0.7**
DL2 PP **PP** **10 02 09.5 +5.5**
DL2 S **S** **10 07 22.3 -2.7**
DL2 SS **SS** **10 10 59.8 -3.2**
DL2 pmax pmax
comp=E,240nm,0.9s
DL2 pmax pmax
comp=E,9µm,10.2s
DL2 LR LR
comp=E,34µm,22.1s
DL2 LR LR
comp=E,30µm,22.8s
DL2 LR LR
comp=E,76µm,25.5s
SISI Saibi 52.34 273 P **P** **10 00 06.1 -1.8**
comp=E,280nm,1.3s,comp=E,5µmcomp=E,39µm
TIA Tai'an 52.44 325 P **P** **10 00 08.0 -0.2**
TIA S **S** **10 07 33.0 +2.5**
TIA pmax pmax
comp=E,4µm,8.2s
TIA LR LR
comp=E,14µm,19.0s
TIA LR LR
comp=E,14µm,19.0s
TIA LR LR
comp=E,32µm,24.0s
USA0B Ussuriysk Arra 52.45 342 *c*i P **P** **10 00 07.7 -0.4**
USRK Ussuriysk Ar. 52.45 342 P **P** **10 00 08.9 +0.8**
USRK Ussuriysk Ar. 52.45 342 P **P** **10 00 08.9 +0.8**
USRK Ussuriysk Ar. 52.45 342 P **P** **10 00 07.7 -0.4**
comp=E,24nm,0.5s,baz=175,slow=7.6,SNR=63
USRK LR LR 10 21 03.1
comp=E,32µm,20.4s,baz=163,slow=34
USRK PKPPKP P'P'df 10 30 25.7 -11
comp=E,1.1nm,0.8s,baz=48,slow=4.3,SNR=4.4
comp=E,24nm,0.5s
YSS Yuzh-Sakhalins 52.77 353 P **P** **10 00 10.5 +0.1**
YSS Yuzh-Sakhalins 52.77 353 P **P** **10 00 10.7 +0.4**
YSS Yuzh-Sakhalins 52.77 353 ⇑P **P** **10 00 09.0 -1.4**
YSS Yuzh-Sakhalins 52.77 353 *ce*P **P** **10 00 08.8 -1.6**
YSS *e**PP **pP** **10 00 25.3 +0.1**
YSS *e* 10 01 19.3
YSS *e* 10 02 07.1
YSS *e*PPP PPP 10 03 21.4
YSS *e*S **S** **10 07 29.8 -4.7**
YSS *e* 10 09 53.1
YSS pmax pmax
comp=Z,4µm,11.0s
YSS pmax pmax
comp=N,2µm,11.9s
YSS pmax pmax
comp=Z,110nm,0.9s
YSS smax smax
comp=E,2µm,15.7s
YSS Yuzh-Sakhalins 52.77 353 P **P** **10 00 09.2 -1.2**
NAYO Nakonayok 53.40 292 P **P** **10 00 17.2 +1.6**
SNY Shenyang 53.48 334 ⇑P **P** **10 00 15.5 -0.2**
SNY S **S** **10 07 46.0 +1.5**
SNY pmax pmax
comp=E,6µm,14.5s
SNY LR LR
comp=E,16µm,27.0s
SNY LR LR
comp=E,19µm,26.5s
SNY LR LR
comp=E,54µm,27.9s
SRIT Nakonsritamara 53.48 285 P **P** **10 00 17.4 +1.1**
MDJ Mudanjiang 53.58 341 P **P** **10 00 16.3 -0.1**
MDJ S **S** **10 07 50.8 +5.1**
MDJ pmax pmax
comp=E,87nm,1.0s
MDJ pmax pmax
comp=E,8µm,10.2s
MDJ LR LR
comp=E,25µm,24.0s
MDJ LR LR
comp=E,21µm,24.1s
MDJ LR LR
comp=E,64µm,24.4s
MDJ Mudanjiang 53.58 341 P **P** **10 00 15.8 -0.6**
MDJ pP **pP** **10 00 29.8 -1.5**
MDJ PcP **PcP** **10 01 24.1 +1.7**
SURA Surathani 53.59 286 P **P** **10 00 18.3 +1.3**
ENH Enshi 53.59 314 P **P** **10 00 17.0 +0.1**
ENH pP **pP** **10 00 32.7 +0.9**
ENH PcP **PcP** **10 01 23.7 +0.8**
SLVN Son La 53.63 301 IAmb IAmb 10 00 35.7
comp=Z,381nm,1.4s
SLVN IAMs_20 IAMs_20 10 19 58.9
comp=Z,58µm,22.0s
GYA Guiyang 53.69 308 ⇓*i*P **P** **10 00 19.3 +1.5**
GYA sP pP 10 00 35.0 +2.2
GYA S **S** **10 07 52.0 +3.9**
GYA sS sS 10 08 10.0 -1.9
GYA pmax pmax
comp=Z,140nm,1.0s
GYA pmax pmax
comp=Z,7µm,11.3s
GYA LR LR
comp=Z,22µm,20.6s
GYA LR LR
comp=Z,26µm,19.0s
GYA LR LR
comp=Z,54µm,19.9s
LYN LuoYang 54.14 320 ⇑*i*P **P** **10 00 21.0 +0.3**
LYN sP pP 10 00 36.3 +0.6
LYN S **S** **10 07 48.8 -4.9**
LYN pmax pmax
comp=Z,170nm,1.0s
LYN pmax pmax
comp=Z,9µm,10.0s
LYN LR LR
comp=Z,56µm,22.4s
LYN LR LR
comp=Z,57µm,22.0s
LYN LR LR
comp=Z,126µm,23.6s
GSI Gunungsitoli 54.15 276 P **P** **10 00 21.7 +0.5**
GSI Gunungsitoli 54.15 276 P **P** **10 00 19.8 -1.4**
GSI IAmb IAmb 10 00 21.7
comp=Z,128nm,0.8s
GSI Gunungsitoli 54.15 276 ⇑P **P** **10 00 19.5 -1.7**
GSI Gunungsitoli 54.15 276 P **P** **10 00 18.6 -2.6**
comp=Z,178nm,0.7s,comp=Z,14µmcomp=Z,41µm
COCO West Island 54.23 259 P **P** **10 00 24.5 +2.8**
COCO West Island 54.23 259 P **P** **10 00 22.9 +1.2**
KCSI Kotacane, Aceh 54.28 278 P **P** **10 00 18.7 -3.5**
comp=Z,71nm,1.5s,comp=Z,3µmcomp=Z,32µm
CN2 Changchun 54.35 337 P **P** **10 00 21.8 -0.3**
CN2 pP pP 10 00 37.5 +0.5
CN2 PcP **PcP** **10 01 25.5 +0.1**
CN2 S **S** **10 07 54.8 -1.4**
CN2 pmax pmax
comp=Z,60nm,0.8s
CN2 pmax pmax
comp=Z,4µm,9.0s
CN2 LR LR
comp=Z,5µm,21.0s
CN2 LR LR
comp=Z,5µm,21.0s
CN2 LR LR
comp=Z,16µm,22.0s
HNS HongShan 54.66 324 ⇑P **P** **10 00 24.5 +0.1**
HNS PP **PP** **10 02 30.5 +3.0**
HNS S **S** **10 07 55.3 -5.2**
HNS pmax pmax
comp=Z,260nm,1.1s
HNS pmax pmax
comp=Z,7µm,10.5s
HNS LR LR
comp=Z,25µm,20.0s
HNS LR LR
comp=Z,39µm,20.8s
HNS LR LR
comp=Z,60µm,22.2s
KEKH Kekaha 55.12 59 P **P** **10 00 29.2 +1.2**
KEKH IAMs_20 IAMs_20 10 20 03.6
comp=Z,42µm,21.0s
BNX BinXian 55.30 340 ⇑P **P** **10 00 27.8 -1.1**
BNX pP **pP** **10 00 44.3 +0.4**
BNX sP **sP** **10 00 50.5 +0.3**
BNX S **S** **10 08 06.5 -2.3**
BNX pmax pmax
comp=Z,210nm,1.0s
BNX pmax pmax
comp=Z,6µm,11.8s
BNX LR LR
comp=Z,16µm,22.9s
BNX LR LR
comp=Z,14µm,20.5s
BNX LR LR
comp=Z,26µm,21.5s
LHMI Lhok Sumawe 55.38 280 P **P** **10 00 31.4 +1.3**
LHMI Lhok Sumawe 55.38 280 IAmb IAmb 10 00 33.5
comp=Z,188nm,0.6s
SRDT SRDT 55.44 291 P **P** **10 00 32.8 +2.3**
BJT Baijiatuau 55.68 328 P **P** **10 00 31.8 +0.1**
BJT pP **pP** **10 00 47.5 +0.7**
BJI Beijing 55.69 328 P **P** **10 00 31.5 -0.3**
BJI S **S** **10 08 07.0 -7.2**
BJI pmax pmax
comp=Z,26nm,1.0s
BJI pmax pmax
comp=Z,3µm,10.5s
BJI LR LR
comp=Z,17µm,21.8s
BJI LR LR
comp=Z,9µm,22.0s
BJI LR LR
comp=Z,27µm,21.0s
MLSI Meulaboh, Aceh 55.75 279 P **P** **10 00 31.2 -1.5**
comp=Z,144nm,0.7s
SKR Severo-Kuril's 56.09 4 *e*P **P** **10 00 30.6 -3.8**
SKR *e* 10 01 26.4
SKR *e*PPP PPP 10 02 47.0
SKR *e*S **S** **10 08 20.1 +1.0**
SKR pmax pmax
comp=Z,41nm,0.8s
SKR pmax pmax
comp=Z,4µm,11.1s
SKR smax smax
comp=E,7µm,14.1s
SKR smax smax
comp=N,11µm,14.5s
XAN Xi'an 56.15 318 ⇑P **P** **10 00 35.0 -0.3**
XAN pP pP 10 00 49.8 -0.6
XAN sP sP 10 00 56.3 -0.4
XAN PcP **PcP** **10 01 32.5 -0.2**
XAN PP **PP** **10 02 40.0 -1.0**
XAN S **S** **10 08 20.3 -0.4**
XAN sS sS 10 08 47.0 +2.3
XAN SS **SS** **10 12 05.0 -3.1**
XAN pmax pmax
comp=N,190nm,0.8s
XAN pmax pmax
comp=N,9µm,9.4s
XAN LR LR
comp=N,38µm,21.1s
XAN LR LR
comp=N,30µm,22.7s
XAN LR LR
comp=N,69µm,21.8s
XAN Xi'an 56.15 318 P **P** **10 00 34.9 -0.4**
XAN pP **pP** **10 00 50.0 -0.4**
XAN PcP **PcP** **10 01 32.3 -0.4**
KMI Kunming 56.20 305 ⇑P **P** **10 00 37.3 +1.3**
KMI sP pP 10 00 51.5 +0.1
KMI PP **PP** **10 02 41.5 -0.3**
KMI S **S** **10 08 20.3 -1.8**
KMI sS sS 10 08 42.5 -3.6
KMI pmax pmax
comp=N,190nm,1.2s
KMI pmax pmax
comp=N,5µm,11.5s
KMI LR LR
comp=N,13µm,34.8s
KMI LR LR
comp=N,30µm,28.4s
KMI LR LR
comp=N,76µm,31.9s
KMI Kunming 56.20 305 P **P** **10 00 36.6 +0.5**
KMI pP **pP** **10 00 51.8 +0.4**
TIY Taiyuan 56.20 323 *e*P **P** **10 00 35.8 +0.2**
TIY PP **PP** **10 02 47.8 +6.3**
TIY S **S** **10 08 13.3 -8.1**
TIY pmax pmax
comp=N,55nm,1.0s
TIY pmax pmax
comp=N,5µm,9.8s
TIY LR LR
comp=N,36µm,23.4s
TIY LR LR
comp=N,26µm,24.1s
TIY LR LR
comp=N,66µm,22.0s
KIP Kipapa 56.35 60 P **P** **10 00 38.8 +2.0**
KIP Kipapa 56.35 60 P **P** **10 00 39.0 +2.2**
KIP Kipapa 56.35 60 P **P** **10 00 37.7 +0.8**
KIP Kipapa 56.35 60 *ce*P **P** **10 00 37.6 +0.8**
KIP pmax pmax
comp=Z,696nm,1.7s
KIP MLR MLR
comp=Z,11µm,18.0s
KIP Kipapa 56.35 60 P **P** **10 00 37.5 +0.7**
TYV Tymovskoe 56.62 353 *e*P **P** **10 00 37.4 -0.8**
TYV *e*S **S** **10 08 26.2 0.0**
TYV pmax pmax
comp=Z,59nm,1.0s
TYV pmax pmax
comp=Z,2µm,9.1s
TYV smax smax
comp=N,10µm,12.9s
TYV smax smax
comp=E,3µm,12.9s
CMAR Chiang Mai Arr 56.89 296 P **P** **10 00 42.1 +1.3**
CMAR Chiang Mai Arr 56.89 296 *i*P **P** **10 00 41.9 +1.1**
CMAR pmax pmax
comp=Z,61nm,0.9s
CMAR Chiang Mai Arr 56.89 296 P **P** **10 00 41.4 +0.6**
comp=Z,65nm,0.9s,baz=120,slow=5.3,SNR=142
CMAR PKiKP **PKiKP** **10 08 04.5 +1.0**
comp=Z,1.1nm,0.4s,baz=211,slow=1.6,SNR=4.4
CMAR LR LR 10 23 42.3
comp=Z,9µm,20.9s,baz=120,slow=34
CMAR PKPPKP P'P'df 10 30 16.9 -17
comp=Z,1.5nm,0.6s,baz=282,slow=3.4,SNR=5.5
comp=Z,65nm,0.9s
CM31 Chiang Mai Arr 56.89 296 IAmb IAmb 10 00 46.8
comp=Z,122nm,1.0s
KLR Kul'dur 57.11 345 *ce*P **P** **10 00 41.0 -0.8**
KLR pmax pmax
comp=Z,86nm,0.8s
KLR MLR MLR
comp=Z,27µm,19.0s
KLR Kul'dur 57.11 345 P **P** **10 00 41.2 -0.6**
comp=Z,87nm,0.7s,baz=162,slow=4.6,SNR=92
KLR LR LR 10 22 24.8
comp=Z,33µm,20.5s,baz=166,slow=33
comp=Z,87nm,0.7s
GRNR Gornyy 57.49 349 ⇑*i*P **P** **10 00 43.6 -0.8**
GRNR pmax pmax
comp=Z,30nm,0.8s
KHLH Kahului Airpor 57.53 61 IAMs_20 IAMs_20 10 20 38.5
comp=Z,38µm,22.0s
PZH PanZhiHua 57.61 306 P **P** **10 00 46.3 +0.4**
PZH sP **pP** **10 01 01.5 +0.2**
PZH PP **PP** **10 02 54.0 -0.3**

PZH ScP **ScP** **10 05 35.0 +0.8**
PZH S **S** **10 08 39.0 -1.4**
PZH pmax pmax
comp=Z,110nm,1.3s
PZH pmax pmax
comp=Z,5µm,11.8s
PZH LR LR
comp=Z,20µm,21.2s
PZH LR LR
comp=Z,21µm,22.5s
PZH LR LR
comp=Z,51µm,26.5s
HLK Haleakala 57.64 61 IAMs_20 IAMs_20 10 21 36.3
comp=Z,34µm,20.0s
POHA Pohakuloa 57.92 63 P **P** **10 00 50.8 +2.5**
POHA Pohakuloa 57.92 63 P **P** **10 00 48.6 +0.4**
POHA Pohakuloa 57.92 63 P **P** **10 00 49.2 +1.0**
PUH Pauahi 58.07 63 IAmb IAmb 10 00 56.5
comp=Z,233nm,1.0s
CD2 Chengdu 58.12 312 P **P** **10 00 49.5 +0.3**
CD2 pP pP 10 01 04.0 -0.4
CD2 PP **PP** **10 02 57.8 -0.8**
CD2 S **S** **10 08 46.8 +0.1**
CD2 SS **SS** **10 12 43.5 +4.4**
CD2 pmax pmax
comp=Z,90nm,0.5s
CD2 pmax pmax
comp=Z,8µm,8.6s
CD2 LR LR
comp=Z,8µm,21.6s
CD2 LR LR
comp=Z,11µm,19.6s
CD2 LR LR
comp=Z,66µm,21.3s
XLT XiLinHaoTe 58.55 331 *e*P **P** **10 00 52.3 +0.2**
XLT pP pP 10 01 08.0 +0.7
XLT S **S** **10 08 52.5 +0.5**
XLT SS **SS** **10 12 46.5 +0.9**
XLT pmax pmax
comp=Z,220nm,1.2s
XLT pmax pmax
comp=Z,6µm,10.7s
XLT LR LR
comp=Z,36µm,22.2s
XLT LR LR
comp=Z,50µm,22.7s
PET Petropavlovsk 58.61 5 P **P** **10 00 53.9 +1.8**
PET Petropavlovsk 58.61 5 P **P** **10 00 51.5 -0.6**
PET Petropavlovsk 58.61 5 ǁ *i*P P 10 00 45.4 -6.7
PET *e* 10 01 41.4
PET *i* S S 10 08 41.3 -11
PET *e* 10 10 33.8
PET pmax pmax
comp=Z,4µm,12.0s
PET pmax pmax
comp=Z,5µm,11.3s
PET pmax pmax
comp=Z,65nm,0.6s
PET smax smax
comp=N,6µm,21.4s
PET smax smax
comp=E,3µm,18.1s
PET MLR MLR
comp=Z,20µm,19.0s
PET Petropavlovsk 58.61 5 P **P** **10 00 51.0 -1.2**
PET PcP **PcP** **10 01 42.0 +0.2**
PEA0B Petropavlovsk- 58.62 4 P **P** **10 00 51.3 -0.9**
PEA0B IAmb IAmb 10 02 09.3
comp=Z,200nm,1.2s
PEA0B IAMs_20 IAMs_20 10 22 11.1
comp=Z,40µm,21.0s
PEA0B Petropavlovsk- 58.62 4 *ce*P **P** **10 00 51.4 -0.8**
PETK Petropavlovsk- 58.62 4 P **P** **10 00 51.6 -0.6**
PETK Petropavlovsk- 58.62 4 P **P** **10 00 51.6 -0.6**
PETK Petropavlovsk- 58.62 4 P **P** **10 00 50.8 -1.4**
comp=Z,23nm,0.3s,baz=156,slow=6.6,SNR=197
PETK LR LR 10 22 33.1
comp=Z,39µm,21.3s,baz=190,slow=32
PETK PKPPKP **P'P'df** **10 30 29.0 +1.6**
comp=Z,2.9nm,1.0s,baz=32,slow=3.6,SNR=2.8
comp=Z,23nm,0.3s
HHC Hu-ho-hao-te 58.79 325 *e*P **P** **10 00 54.0 +0.2**
HHC pP pP 10 01 09.8 +0.9
HHC S **S** **10 08 51.0 -4.2**
HHC sS sS 10 09 22.0 +2.1
HHC SS **SS** **10 12 46.8 -2.6**
HHC pmax pmax
comp=Z,160nm,1.0s
HHC pmax pmax
comp=Z,6µm,6.0s
HHC LR LR
comp=Z,24µm,21.0s
HHC LR LR
comp=Z,34µm,20.6s
HHC LR LR
comp=Z,66µm,20.8s
PPT Papeete 58.88 107 P **P** **10 00 58.3 +3.6**
comp=Z,93nm,0.9s,baz=85,slow=2.7,SNR=12
PPTF Pamatai, Papee 58.89 107 P **P** **10 00 58.2 +3.3**
PPTF Pamatai, Papee 58.89 107 P **P** **10 00 54.0 -0.9**
PPTF Pamatai, Papee 58.89 107 P **P** **10 00 59.2 +4.3**
HEH HeiHe 59.26 342 *e*P **P** **10 00 55.5 -1.2**
HEH S **S** **10 08 55.5 -5.2**
HEH pmax pmax
comp=Z,170nm,0.8s
HEH pmax pmax
comp=Z,7µm,10.6s
HEH LR LR
comp=Z,33µm,23.6s
HEH LR LR
comp=Z,20µm,24.0s
HEH LR LR
comp=Z,61µm,24.4s
BTO Baotou 59.51 324 *e*P **P** **10 01 00.3 +1.5**
BTO pP **pP** **10 01 16.0 +2.0**
BTO sP **sP** **10 01 23.5 +3.2**
BTO PP **PP** **10 03 14.5 +3.7**
BTO S **S** **10 09 08.0 +3.4**
BTO SS **SS** **10 13 05.0 +4.2**
BTO pmax pmax
comp=Z,170nm,1.0s
BTO pmax pmax
comp=Z,15µm,10.0s
BTO LR LR
comp=Z,89µm,24.6s
BTO LR LR
comp=Z,75µm,21.2s
BTO LR LR
comp=Z,129µm,22.2s
TNCH TengChong 59.65 303 ⇑P **P** **10 01 00.8 +0.7**
TNCH sP pP 10 01 16.5 +0.9
TNCH PcS **PcS** **10 05 50.0 +0.6**
TNCH S **S** **10 09 07.8 +0.8**
TNCH sS pS 10 09 26.5 +2.5
TNCH SS **SS** **10 13 00.0 -3.6**
TNCH pmax pmax
comp=Z,350nm,1.5s
TNCH pmax pmax
comp=Z,4µm,7.2s
TNCH LR LR
comp=Z,6µm,27.4s
TNCH LR LR
comp=Z,10µm,20.9s
TNCH LR LR
comp=Z,36µm,23.7s
MND Mandalay 60.59 299 P **P** **10 01 08.1 +1.7**
LZH Lanzhou 60.74 317 ⇑ *i*P **P** **10 01 08.0 +0.6**
LZH pP pP 10 01 23.3 +0.7
LZH S **S** **10 09 12.0 -8.7**
LZH sS pS 10 09 39.5 +1.8
LZH SS **SS** **10 13 25.0 +4.6**
LZH pmax pmax
comp=Z,250nm,1.3s
LZH pmax pmax
comp=Z,7µm,7.2s
LZH LR LR
comp=Z,25µm,18.8s
LZH LR LR
comp=Z,25µm,19.0s
LZH LR LR
comp=Z,44µm,19.2s
PBA Port Blair 60.75 287 *e*P **P** **10 01 07.1 -0.6**
DGPR DIGLIPUR 60.93 288 *e*P **P** **10 01 10.1 +1.3**
HIA Hailar 61.09 337 P **P** **10 01 09.3 0.0**
HIA pP **pP** **10 01 25.3 +0.7**

SHEM Shemya Is, Ala 61.12 16 LR LR 10 22 53.0
comp=Z,45µm,22.0s,baz=202,slow=31
ZEA Zeya 62.40 344 *e*P **P** **10 01 17.3 -0.7**
ZEA *e*S **S** **10 09 42.4 +1.8**
ZEA *e* 10 13 41.1
ZEA pmax pmax
comp=E,700nm,8.9s
ZEA pmax pmax
comp=N,1µm,11.0s
ZEA pmax pmax
comp=Z,3µm,11.0s
ZEA pmax pmax
comp=E,30nm,0.4s
ZEA pmax pmax
comp=N,70nm,1.1s
ZEA pmax pmax
comp=Z,120nm,0.6s
ZEA smax smax
comp=N,5µm,15.1s
LKP Lekhapani 62.75 304 *e*P **P** **10 01 18.8 -2.1**
IMP Imphal 63.43 301 ⇑ *i*P **P** **10 01 23.6 -1.9**
MOKO MOKOCHONG 63.48 303 ⇑ *i*P **P** **10 01 24.3 -1.6**
SAIH SAIHA 63.48 298 ⇑ *i*P **P** **10 01 25.7 -0.3**
DIBR DIBRUGARH 63.57 304 ⇑ *i*P **P** **10 01 26.1 -0.2**
KOHI KOHIMA 63.60 302 *e*P **P** **10 01 25.7 -1.1**
SILR SILCHAR 64.39 301 *e*P **P** **10 01 32.4 +0.6**
ITAN ITANAGAR 64.44 303 ⇑ *i*P **P** **10 01 32.3 +0.3**
ITAN IAMs_20 IAMs_20 10 19 43.7
comp=Z,19µm,25.2s
ZIRO ZIRO 64.47 304 ⇑ *i*P **P** **10 01 32.3 -0.2**
ATKA Atka Island 64.50 23 IAMs_20 IAMs_20 10 24 42.4
comp=Z,29µm,21.0s
MA2 Magadan 64.86 360 P **P** **10 01 32.6 -1.5**
MA2 IAmb IAmb 10 01 38.6
comp=Z,109nm,0.7s
MA2 IAMs_20 IAMs_20 10 25 23.2
comp=Z,41µm,22.0s
MA2 Magadan 64.86 360 *ce*P **P** **10 01 31.9 -2.2**
MA2 pmax pmax
comp=Z,113nm,0.7s
MA2 MLR MLR
comp=Z,30µm,19.0s
MA2 Magadan 64.86 360 LR LR 10 26 18.5
comp=Z,32µm,21.8s,baz=186,slow=33
MA2 Magadan 64.86 360 P **P** **10 01 32.5 -1.6**
BELO BELONIA 65.07 299 *e*P **P** **10 01 36.8 +0.6**
GTA Gaotai 65.20 318 P **P** **10 01 37.0 +0.1**
GTA pP pP 10 01 51.5 -0.8
GTA sP sP 10 02 00.0 +1.5
GTA PP **PP** **10 04 03.8 +2.8**
GTA S **S** **10 10 16.5 +0.2**
GTA sS sS 10 10 37.3 -4.3
GTA SS **SS** **10 14 31.3 +1.3**
GTA pmax pmax
comp=Z,73nm,1.0s
GTA pmax pmax
comp=Z,6µm,10.9s
GTA LR LR
comp=Z,14µm,20.4s
GTA LR LR
comp=Z,20µm,21.8s
GTA LR LR
comp=Z,30µm,22.5s
SHL Shillong 65.44 301 *e*P **P** **10 01 40.6 +1.8**
SHL IAMs_20 IAMs_20 10 27 59.4
comp=Z,26µm,21.1s
AGT Agartala 65.44 299 ⇑ *i*P **P** **10 01 38.0 -0.5**
CIT Chita 65.72 335 *e*P **P** **10 01 39.9 0.0**
CIT *e* 10 01 55.7
CIT *e* 10 02 08.3
CIT *e* 10 05 35.7
CIT *e* 10 10 28.3
ULN Ulaanbaatar 65.83 329 P **P** **10 01 41.7 +0.8**
ULN IAmb IAmb 10 01 44.6
comp=Z,158nm,0.9s
ULN Ulaanbaatar 65.83 329 IAMs_20 IAMs_20 10 28 50.5
comp=Z,42µm,20.0s
ULN Ulaanbaatar 65.83 329 *ce*P **P** **10 01 41.3 +0.4**
ULN pmax pmax
comp=Z,175nm,0.9s
ULN MLR MLR
comp=Z,26µm,20.0s
ULN Ulaanbaatar 65.83 329 P **P** **10 01 41.8 +0.9**
ULN Ulaanbaatar 65.83 329 P **P** **10 01 41.6 +0.8**
ULN pP **pP** **10 01 57.5 +1.2**
SONM Songino Array 66.16 329 P **P** **10 01 43.7 +0.8**
SONM IAmb IAmb 10 01 46.0
comp=Z,164nm,0.8s
SONM Songino Array 66.16 329 P **P** **10 01 43.7 +0.8**
SONM pmax pmax
comp=Z,164nm,0.8s
SONM Songino Array 66.16 329 P **P** **10 01 43.3 +0.4**
comp=Z,136nm,0.6s,baz=137,slow=6.3,SNR=189
SONM PKPPKP P'P'df 10 30 02.7 -14
comp=Z,1.1nm,0.8s,baz=233,slow=1.6,SNR=3.5
SONM LR LR 10 30 28.1
comp=Z,39µm,19.9s,baz=243,slow=36
comp=Z,136nm,0.6s
CASY Casey 66.95 197 IAMs_20 IAMs_20 10 27 36.9
comp=Z,40µm,21.0s
GOMU GeErMu 67.18 313 P **P** **10 01 50.3 +0.3**
GOMU pmax pmax
comp=Z,30nm,0.9s
GOMU LR LR
comp=Z,18µm,20.4s
GOMU LR LR
comp=Z,31µm,20.7s
GOMU LR LR
comp=Z,63µm,20.2s
NIKH Nikolski High 67.22 25 P **P** **10 01 48.3 -1.1**
baz=224
LSA Lhasa 67.46 305 IAmb IAmb 10 02 08.9
comp=Z,196nm,1.0s
LSA Lhasa 67.46 305 P **P** **10 01 52.3 +0.3**
LSA Lhasa 67.46 305 P **P** **10 01 52.8 +0.8**
LSA Lhasa 67.46 305 P **P** **10 01 52.3 +0.3**
TAOE Nuku Hiva Isla 67.95 97 P **P** **10 01 57.3 +2.4**
TAOE Nuku Hiva Isla 67.95 97 P **P** **10 01 54.8 -0.1**
SEY Seymchan 68.23 0 *ce*P **P** **10 01 54.1 -1.4**
SEY pmax pmax
comp=Z,96nm,2.5s
SEY MLR MLR
comp=Z,26µm,20.0s
SEY Seymchan 68.23 0 LR LR 10 26 21.9
comp=Z,23µm,22.0s,baz=186,slow=31
GTK Tadong 68.78 302 *e*P **P** **10 01 58.7 -1.2**
UNV Unalaska Valle 68.83 25 P **P** **10 02 01.2 +1.7**
UNV Unalaska Valle 68.83 25 P **P** **10 01 59.4 -0.1**
baz=226,SNR=6.2
UNV S **S** **10 10 55.9 -3.2**
baz=226
ZAK Zakamensk 69.34 329 *e*P **P** **10 02 02.4 -0.5**
ZAK pmax pmax
comp=Z,226nm,1.0s
AKUT Akutan 69.35 25 IAmb IAmb 10 02 58.6
comp=Z,304nm,1.2s
YAK Yakutsk 69.37 349 P **P** **10 02 01.8 -0.8**
YAK Yakutsk 69.37 349 *c i*P **P** **10 02 01.5 -1.1**
YAK *e**PP **pP** **10 02 17.3 -0.9**
YAK *e* 10 02 24.7
YAK *e* 10 04 35.4
YAK *e*PPP PPP 10 06 18.8
YAK *e*S **S** **10 11 02.6 -2.5**
YAK *e**SS **SKiKP** **10 11 42.3 -4.9**
YAK *e*SS **SS** **10 15 32.9 -0.4**
YAK pmax pmax
comp=Z,330nm,1.0s
YAK pmax pmax
comp=N,69nm,1.1s
YAK pmax pmax
comp=E,20nm,1.1s
YAK pmax pmax
comp=Z,2µm,8.5s
YAK pmax pmax
comp=N,683nm,4.3s
YAK pmax pmax
comp=E,330nm,4.7s
YAK smax smax
comp=N,8µm,12.6s
YAK smax smax
comp=E,2µm,11.6s
YAK Yakutsk 69.37 349 LR LR 10 30 43.3
comp=E,19µm,21.5s,baz=144,slow=34
YAK Yakutsk 69.37 349 P **P** **10 02 01.5 -1.1**
YAK pP **pP** **10 02 17.7 -0.5**

P08K Saint George I 69.62 22 P **P** **10 02 05.3 +1.1**
baz=222
SPIA Saint Paul Isl 69.79 21 P **P** **10 02 06.5 +1.2**
baz=221
BOD Bodaibo 69.93 340 *e*P **P** **10 02 04.8 -1.4**
BOD pmax pmax
comp=Z,248nm,1.4s
IRK Irkutsk 70.02 331 *e*P **P** **10 02 06.4 -0.5**
IRK pmax pmax
comp=Z,350nm,2.4s
BOK Bokaro 70.11 298 *e*P **P** **10 02 09.7 +1.7**
BOK IAmb IAmb 10 02 24.8
BOK IAMs_20 IAMs_20 10 27 40.2
comp=Z,44µm,29.2s
FALS False Pass 70.85 26 P **P** **10 02 14.9 +3.1**
FALS False Pass 70.85 26 P **P** **10 02 12.4 +0.6**
baz=228,SNR=8.3
VIS Vishakhapatnam 70.97 291 *e*P **P** **10 02 15.0 +1.7**
VIS IAMs_20 IAMs_20 10 27 28.0
comp=Z,37µm,32.4s
RAGD RAYAGADA 71.19 292 *e*P **P** **10 02 14.7 0.0**
MOY Mondy 71.27 330 *e*P **P** **10 02 14.8 +0.1**
MOY pmax pmax
comp=Z,218nm,1.4s
JHSG JHARSUGUGA 71.48 295 *e*P **P** **10 02 15.7 -0.7**
JHSG IAmb IAmb 10 02 18.7
comp=Z,559nm,1.1s
PALK Pallekele 71.64 279 P **P** **10 02 17.6 0.0**
PALK Pallekele 71.64 279 P **P** **10 02 17.6 0.0**
PALK pmax pmax
comp=Z,54nm,1.0s
PALK MLR MLR
comp=Z,9µm,22.0s
PALK Pallekele 71.64 279 LR LR 10 38 57.8
comp=Z,6µm,19.5s,baz=215,slow=40
PALK Pallekele 71.64 279 P **P** **10 02 18.3 +0.7**
PALK Pallekele 71.64 279 P **P** **10 02 17.0 -0.6**
PALK pP **pP** **10 02 32.7 -0.8**
MALK Mahakanadarawa 71.97 281 P **P** **10 02 17.8 -1.7**
S12K Black Hills 71.99 26 P **P** **10 02 19.5 +0.7**
baz=229
S12K S **S** **10 11 33.2 -2.8**
baz=229
VNDA Vanda 72.21 178 P **P** **10 02 20.3 +0.6**
VNDA Vanda 72.21 178 P **P** **10 02 20.3 +0.6**
VNDA pmax pmax
comp=Z,517nm,1.1s
VNDA Vanda 72.21 178 P **P** **10 02 20.0 +0.3**
comp=Z,16nm,0.8s,baz=334,slow=6.9,SNR=60
VNDA S **S** **10 11 35.9 -1.9**
comp=Z,1.6nm,1.0s,baz=222,slow=15,SNR=1.6
comp=Z,16nm,0.8s
SDPT Sand Point 72.46 26 P **P** **10 02 22.6 +1.1**
SDPT Sand Point 72.46 26 P **P** **10 02 21.0 -0.5**
SDPT IAmb IAmb 10 02 53.8
comp=Z,396nm,1.3s
SDPT Sand Point 72.46 26 P **P** **10 02 21.5 +0.1**
baz=231,SNR=10.0
CHNA Chernabura Isl 72.53 27 P **P** **10 02 21.1 -0.8**
baz=232
CHNA S **S** **10 11 41.9 -0.2**
baz=232
SBA Scott Base 72.78 177 P **P** **10 02 24.6 +1.5**
SBA Scott Base 72.78 177 P **P** **10 02 24.6 +1.5**
SBA pmax pmax
comp=Z,635nm,1.2s
MDRS Chennai 73.00 285 *e*P **P** **10 02 26.5 +1.0**
MDRS IAMs_20 IAMs_20 10 31 15.1
comp=Z,27µm,42.2s
VJD Vijayawada 73.24 289 ⇑ *i*P **P** **10 02 26.0 -0.9**
S14K Fog Glacier 73.45 26 P **P** **10 02 27.2 -0.3**
baz=232
S14K S **S** **10 11 51.8 -0.9**
baz=232
M11K Mekoryuk 73.58 20 P **P** **10 02 28.0 0.0**
baz=224
M11K S **S** **10 11 56.2 +2.3**
baz=224
AIS Amsterdam Isla 73.87 232 P **P** **10 02 31.1 +0.9**
AIS IAMs_20 IAMs_20 10 32 01.0
comp=Z,26µm,19.0s
CHGN Chignik 73.96 26 P **P** **10 02 29.3 -1.1**
baz=233
CHGN S **SKiKP** **10 11 55.8 +1.6**
baz=233
ALBI Allahabad 74.09 298 ⇑ *i*P **P** **10 02 30.4 -1.4**
ALBI IAmb IAmb 10 02 36.5
comp=Z,184nm,0.9s
BILL Bilibino 74.10 6 P **P** **10 02 30.1 -0.9**
BILL Bilibino 74.10 6 *i*P **P** **10 02 29.8 -1.2**
GAMB Gambell 74.42 16 P **P** **10 02 32.7 -0.1**
baz=218,SNR=7.3
GAMB S **S** **10 12 04.6 +1.5**
baz=218
M13K Dall Lake 74.62 21 IAmb IAmb 10 02 38.7
comp=Z,145nm,0.8s
M13K IAMs_20 IAMs_20 10 31 35.9
comp=Z,26µm,21.0s
M13K Dall Lake 74.62 21 P **P** **10 02 34.7 +0.7**
baz=227
O14K Tigyukauivet M 74.63 23 IAMs_20 IAMs_20 10 30 44.2
comp=Z,28µm,22.0s
O14K Tigyukauivet M 74.63 23 P **P** **10 02 34.0 -0.2**
baz=229
O14K S **S** **10 12 06.2 +0.6**
baz=229
N14K Kuskokwak Cree 74.91 22 P **P** **10 02 37.0 +1.2**
baz=229
N14K S **S** **10 12 08.3 -0.4**
baz=229
CHIR Chirikof Islan 74.95 28 P **P** **10 02 36.3 +0.2**
baz=235
R16K Pilot Point 75.09 26 P **P** **10 02 36.6 -0.3**
baz=233
O15K Ungalikthiuk R 75.15 24 P **P** **10 02 36.8 -0.4**
baz=231
O15K S **S** **10 12 12.7 +1.2**
baz=231
KOD Kodaikanal 75.24 282 *e*P **P** **10 02 37.4 -1.6**
WMQ Urumqi 75.29 318 ⇑ *i*P **P** **10 02 38.0 -0.4**
WMQ pP pP 10 02 52.8 -1.4
WMQ S **S** **10 12 17.5 +3.7**
WMQ pmax pmax
comp=Z,110nm,1.5s
WMQ pmax pmax
comp=Z,5µm,8.5s
WMQ LR LR
comp=Z,15µm,20.3s
WMQ LR LR
comp=Z,13µm,21.5s
WMQ LR LR
comp=Z,22µm,23.9s
M14K Bethel 75.36 22 IAmb IAmb 10 02 43.3
comp=Z,115nm,0.7s
M14K IAMs_20 IAMs_20 10 30 13.5
comp=Z,27µm,22.0s
M14K Bethel 75.36 22 P **P** **10 02 37.6 -0.7**
baz=228,SNR=26
M14K S **S** **10 12 13.4 -0.2**
baz=228
HYB Hyderabad 75.38 289 *e*P **P** **10 02 39.4 0.0**
HYB IVmB_BB 10 02 40.4
comp=Z,3µm,5.1s
HYB *e* 10 12 11.3
HYB IVMs_BB IVMs_BB 10 29 10.1
comp=Z,6µm,36.5s
HYB Hyderabad 75.38 289 *e*P **P** **10 02 40.5 +1.1**
HYB IAMs_20 IAMs_20 10 30 06.6
comp=Z,33µm,33.1s
TRD Trivandrum 75.49 280 *e*P **P** **10 02 41.5 +1.4**
TRD IAMs_20 IAMs_20 10 31 58.7
comp=Z,36µm,33.1s
L14K Kuka Creek 75.49 21 IAmb IAmb 10 02 44.9
comp=Z,194nm,0.8s
L14K IAMs_20 IAMs_20 10 32 23.2
comp=Z,28µm,21.0s
L14K Kuka Creek 75.49 21 P **P** **10 02 38.8 -0.3**
baz=228,SNR=66
L14K S **S** **10 12 14.7 -0.4**
baz=228
N15K Kwethluk River 75.68 23 IAmb IAmb 10 02 44.6
comp=Z,101nm,0.8s
N15K Kwethluk River 75.68 23 P **P** **10 02 40.5 +0.3**
baz=230
N15K S **S** **10 12 17.7 +0.4**
baz=230

M15K	**Kasigluk River**	**75.79**	**22**	P	**P**	**10 02 40.4**	**-0.4**
	baz=230							
M15K				S	**S**	**10 12 17.9**	**-0.6**
	baz=230							
P16K	**Nushagak River**	**75.80**	**24**	P	**P**	**10 02 40.0**	**-0.9**
	baz=232							
SII	**Sitkinak Islan**	**76.03**	**28**	P	**P**	**10 02 44.6**	**+2.3**
SII	**Sitkinak Islan**	**76.03**	**28**	IAmb	IAmb	10 02 46.1		
	comp=Z,168nm,0.8s							
SII	**Sitkinak Islan**	**76.03**	**28**	P	**P**	**10 02 41.8**	**-0.5**
	baz=236							
O16K	**Kokwok River B**	**76.11**	**24**	IAMs_20	IAMs_20	10 32 18.4		
	comp=Z,35µm,21.0s							
O16K	**Kokwok River B**	**76.11**	**24**	P	**P**	**10 02 42.2**	**-0.5**
	baz=232,SNR=10							
O16K				S	**S**	**10 12 22.1**	**+0.2**
	baz=232							
L15K	**Ungalak Mounta**	**76.14**	**21**	P	**P**	**10 02 42.4**	**-0.4**
	baz=229							
L15K				S	**S**	**10 12 21.9**	**-0.4**
	baz=229							
Q16K	**King Salmon**	**76.15**	**25**	P	**P**	**10 02 40.9**	**-2.0**
	baz=234							
Q16K				S	**S**	**10 12 17.9**	**-4.5**
	baz=234							
J14K	**Nanvaranak Lak**	**76.15**	**20**	IAmb	IAmb	10 03 26.5		
	comp=Z,191nm,1.1s							
J14K				IAMs_20	IAMs_20	10 31 44.3		
	comp=Z,34µm,22.0s							
J14K	**Nanvaranak Lak**	**76.15**	**20**	P	**P**	**10 02 43.0**	**+0.2**
	baz=226							
J14K				S	**S**	**10 12 23.5**	**+1.1**
	baz=226							
Q17K	**Contact Creek**	**76.23**	**26**	P	**P**	**10 02 42.5**	**-1.0**
	baz=235							
Q17K				S	**S**	**10 12 20.8**	**-2.8**
	baz=235							
N16K	**Nishlik Lake**	**76.38**	**23**	P	**P**	**10 02 44.6**	**+0.4**
	baz=232							
N16K				S	**S**	**10 12 26.2**	**+1.1**
	baz=232							
PTH	**Pithoragarh**	**76.49**	**302**	⇑ *i* P	**P**	**10 02 44.3**	**-1.5**
PTH				⇑ *i* P	**P**	**10 02 45.0**	**-0.8**
K15K	**Wolf Creek Mou**	**76.54**	**21**	IAmb	IAmb	10 02 50.6		
	comp=Z,250nm,0.8s							
K15K				IAMs_20	IAMs_20	10 31 34.5		
	comp=Z,32µm,22.0s							
K15K	**Wolf Creek Mou**	**76.54**	**21**	P	**P**	**10 02 44.2**	**-0.9**
	baz=228							
K15K				S	**S**	**10 12 27.1**	**+0.5**
	baz=228							
P17K	**Kvichak River**	**76.54**	**25**	P	**P**	**10 02 44.4**	**-0.7**
	baz=234							
P17K				S	**S**	**10 12 24.1**	**-2.6**
	baz=234							
O17K	**Koliganek Bris**	**76.62**	**24**	P	**P**	**10 02 44.8**	**-0.7**
	baz=233,SNR=12							
O17K				S	**S**	**10 12 24.0**	**-3.5**
	baz=233							
M16K	**Timber Creek**	**76.65**	**22**	IAmb	IAmb	10 02 53.3		
	comp=Z,178nm,0.8s							
M16K				IAMs_20	IAMs_20	10 33 49.8		
	comp=Z,23µm,20.0s							
M16K	**Timber Creek**	**76.65**	**22**	P	**P**	**10 02 45.5**	**-0.3**
	baz=231,SNR=34							
M16K				S	**S**	**10 12 28.8**	**+0.8**
	baz=231							
OHAK	**Old Harbor**	**76.80**	**27**	P	**P**	**10 02 49.1**	**+2.5**
OHAK	**Old Harbor**	**76.80**	**27**	P	**P**	**10 02 46.5**	**-0.1**
OHAK	**Old Harbor**	**76.80**	**27**	P	**P**	**10 02 46.5**	**-0.1**
	baz=237							
OHAK				S	**S**	**10 12 27.0**	**-2.6**
	baz=237							
TNA	**Tin City**	**76.84**	**16**	P	**P**	**10 02 45.8**	**-0.9**
	baz=222,SNR=20							
TNA				S	**S**	**10 12 30.9**	**+1.1**
	baz=222							
ANM	**Nome**	**76.85**	**18**	P	**P**	**10 02 46.5**	**-0.3**
	baz=224,SNR=30							
ANM				S	**S**	**10 12 31.9**	**+1.9**
	baz=224							
L16K	**Owhat River**	**76.89**	**22**	IAMs_20	IAMs_20	10 31 22.2		
	comp=Z,24µm,22.0s							
L16K	**Owhat River**	**76.89**	**22**	P	**P**	**10 02 47.0**	**-0.1**
	baz=231,SNR=29							
L16K				S	**S**	**10 12 30.1**	**-0.4**
	baz=231							
JHNI	**Jhansi**	**77.00**	**298**	*e*P	**P**	**10 02 46.1**	**-2.3**
N17K	**Nushagak Hills**	**77.03**	**23**	P	**P**	**10 02 48.3**	**+0.4**
	baz=233							
N17K				S	**S**	**10 12 32.4**	**+0.3**
	baz=233							
P18K	**Big Mountain,**	**77.16**	**25**	P	**P**	**10 02 48.1**	**-0.6**
	baz=235							
P18K				S	**S**	**10 12 28.6**	**-5.1**
	baz=235							
F14K	**Arctic Creek**	**77.23**	**17**	P	**P**	**10 02 48.9**	**0.0**
	baz=223,SNR=15							
F14K				S	**S**	**10 12 35.0**	**+1.0**
	baz=223							
AKL	**Akola**	**77.42**	**293**	*e*P	**P**	**10 02 50.3**	**-0.6**
AKL				IAmb	IAmb	10 02 53.1		
	comp=Z,242nm,0.8s							
KDAK	**Kodiak Island**	**77.42**	**27**	P	**P**	**10 02 50.7**	**+0.6**
KDAK				IAmb	IAmb	10 03 12.0		
	comp=Z,130nm,1.1s							
KDAK	**Kodiak Island**	**77.42**	**27**	P	**P**	**10 02 49.9**	**-0.2**
	baz=238							
KDAK				S	**S**	**10 12 35.0**	**-1.4**
	baz=238							
KDAK	**Kodiak Island**	**77.42**	**27**	*i* P	**P**	**10 02 50.1**	**0.0**
KDAK				pmax	pmax			
	comp=Z,425nm,3.0s							
KDAK				MLR	MLR			
	comp=Z,11µm,19.0s							
KDAK	**Kodiak Island**	**77.42**	**27**	LR	LR	10 33 35.9		
	comp=Z,8µm,20.4s,baz=256,slow=33							
O18K	**Koktuh Hills**	**77.44**	**25**	P	**P**	**10 02 49.9**	**-0.3**
	baz=235							
O18K				S	**S**	**10 12 34.6**	**-2.0**
	baz=235							
M17K	**Holitna River**	**77.47**	**23**	IAMs_20	IAMs_20	10 34 35.4		
	comp=Z,27µm,21.0s							
M17K	**Holitna River**	**77.47**	**23**	P	**P**	**10 02 50.6**	**+0.3**
	baz=233							
M17K				S	**S**	**10 12 38.8**	**+2.0**
	baz=233							
J16K	**Anvik River**	**77.51**	**20**	IAmb	IAmb	10 03 34.5		
	comp=Z,183nm,1.3s							
J16K				IAMs_20	IAMs_20	10 32 36.8		
	comp=Z,29µm,21.0s							
J16K	**Anvik River**	**77.51**	**20**	P	**P**	**10 02 50.8**	**+0.3**
	baz=229,SNR=23							
J16K				S	**S**	**10 12 41.6**	**+4.4**
	baz=229							
G15K	**Niukluk**	**77.56**	**18**	P	**P**	**10 02 50.2**	**-0.5**
	baz=226,SNR=16							
G15K				S	**S**	**10 12 38.4**	**+0.7**
	baz=226							
Q19K	**Cape Douglas,**	**77.58**	**26**	P	**P**	**10 02 49.8**	**-1.2**
	baz=236,SNR=7.4							
Q19K				S	**S**	**10 12 38.9**	**+0.7**
	baz=236							
L17K	**Donlin**	**77.60**	**22**	P	**P**	**10 02 51.1**	**+0.1**
	baz=232							
L17K				S	**S**	**10 12 40.5**	**+2.4**
	baz=232							
N18K	**Kilae Creek**	**77.64**	**24**	IAmb	IAmb	10 03 25.4		
	comp=Z,161nm,1.2s							
N18K	**Kilae Creek**	**77.64**	**24**	P	**P**	**10 02 51.2**	**-0.1**
	baz=234,SNR=12							
N18K				S	**S**	**10 12 39.8**	**+1.0**
	baz=234							
H16K	**Elim**	**77.87**	**19**	P	**P**	**10 02 51.9**	**-0.5**
	baz=227,SNR=40							
H16K				S	**S**	**10 12 41.6**	**+0.6**
	baz=227							
I17K	**Unalakleet**	**77.88**	**20**	IAmb	IAmb	10 02 56.2		
	comp=Z,121nm,0.9s							
I17K				IAMs_20	IAMs_20	10 32 48.0		
	comp=Z,33µm,22.0s							
I17K	**Unalakleet**	**77.88**	**20**	P	**P**	**10 02 53.0**	**+0.5**
	baz=229,SNR=33							
I17K				S	**S**	**10 12 43.6**	**+2.6**
	baz=229							
F15K	**North Star Dit**	**77.88**	**17**	P	**P**	**10 02 51.9**	**-0.6**
	baz=225							
F15K				S	**S**	**10 12 42.7**	**+1.5**
	baz=225							
Q20K	**Shuyak Island**	**77.95**	**26**	P	**P**	**10 02 51.8**	**-1.3**
	baz=238							
Q20K				S	**S**	**10 12 41.5**	**-0.6**
	baz=238							
SYI	**Shuyak Island**	**77.95**	**26**	IAmb	IAmb	10 03 26.1		
	comp=Z,167nm,1.1s							
SYI				IAMs_20	IAMs_20	10 32 18.2		
	comp=Z,29µm,22.0s							
K17K	**Iditarod**	**77.96**	**21**	IAmb	IAmb	10 03 00.7		
	comp=Z,150nm,0.9s							
K17K				IAMs_20	IAMs_20	10 31 21.4		
	comp=Z,23µm,22.0s							
K17K	**Iditarod**	**77.96**	**21**	P	**P**	**10 02 53.1**	**+0.1**
	baz=232,SNR=40							
K17K				S	**S**	**10 12 43.5**	**+1.5**
	baz=232							
O19K	**Port Alsworth**	**78.00**	**25**	P	**P**	**10 02 52.2**	**-1.1**
	baz=236,SNR=15							
O19K				S	**S**	**10 12 41.7**	**-0.8**
	baz=236							
SVW2	**Sparrevohn**	**78.01**	**23**	P	**P**	**10 02 54.9**	**+1.6**
M18K	**Stony River**	**78.14**	**23**	P	**P**	**10 02 54.4**	**+0.4**
	baz=234							
M18K				S	**S**	**10 12 46.1**	**+2.0**
	baz=234							
P19K	**Oil Pt**	**78.15**	**25**	P	**P**	**10 02 53.3**	**-0.8**
	baz=237,SNR=20							
P19K				S	**S**	**10 12 42.1**	**-2.3**
	baz=237							
L18K	**Granite Mounta**	**78.25**	**22**	IAmb	IAmb	10 02 58.4		
	comp=Z,109nm,0.8s							
L18K				IAMs_20	IAMs_20	10 33 20.0		
	comp=Z,26µm,21.0s							
L18K	**Granite Mounta**	**78.25**	**22**	P	**P**	**10 02 55.0**	**+0.4**
	baz=233							
L18K				S	**S**	**10 12 45.1**	**0.0**
	baz=233							
N19K	**Bonanza Creek**	**78.28**	**24**	IAMs_20	IAMs_20	10 34 54.7		
	comp=Z,30µm,20.0s							
N19K	**Bonanza Creek**	**78.28**	**24**	P	**P**	**10 02 54.6**	**-0.3**
	baz=235							
N19K				S	**S**	**10 12 45.8**	**0.0**
	baz=235							
G16K	**Koyuk River**	**78.35**	**18**	P	**P**	**10 02 54.8**	**-0.3**
	baz=227							
G16K				S	**S**	**10 12 45.7**	**-0.4**
	baz=227							
DGAR	**Diego Garcia**	**78.36**	**264**	P	**P**	**10 02 57.2**	**+1.0**
DGAR	**Diego Garcia**	**78.36**	**264**	*ce*P	**P**	**10 02 57.3**	**+1.0**
DGAR				pmax	pmax			
	comp=Z,606nm,1.7s							
DGAR				MLR	MLR			
	comp=Z,11µm,21.0s							
DGAR	**Diego Garcia**	**78.36**	**264**	P	**P**	**10 02 57.6**	**+1.4**
TIXI	**Tiksi**	**78.39**	**353**	*ce*P	**P**	**10 02 53.1**	**-2.1**
TIXI				pmax	pmax			
	comp=Z,86nm,1.0s							
TIXI				MLR	MLR			
	comp=Z,16µm,20.0s							
TIXI	**Tiksi**	**78.39**	**353**	LR	LR	10 34 46.1		
	comp=Z,13µm,21.8s,baz=168,slow=34							
KAAM	**Kaadhehdhoo**	**78.48**	**272**	IAmb	IAmb	10 03 29.1		
	comp=Z,290nm,1.2s							
KAAM	**Kaadhehdhoo**	**78.48**	**272**	P	**P**	**10 02 57.1**	**+0.2**
ZSN	**Zaisan**	**78.49**	**321**	*e*P	**P**	**10 02 55.6**	**-0.8**
	baz=321							
ZSN				*e*S	**S**	**10 12 47.1**	**-1.3**
	baz=321							
ZSN	**Zaisan**	**78.49**	**321**	*e*P	**P**	**10 02 55.5**	**-0.8**
ZSN				*e*S	**S**	**10 12 47.1**	**-1.3**
DDI	**Dehra Dun**	**78.50**	**302**	*e*P	**P**	**10 02 58.2**	**+1.4**
DDI				IAMs_20	IAMs_20	10 34 52.7		
	comp=Z,18µm,26.0s							
O20K	**Slope Mountain**	**78.64**	**25**	P	**P**	**10 02 56.7**	**-0.2**
	baz=237,SNR=11							
O20K				S	**S**	**10 12 46.3**	**-3.4**
	baz=237							
H17K	**Granite Mounta**	**78.82**	**19**	IAmb	IAmb	10 03 02.8		
	comp=Z,166nm,0.9s							
H17K				IAMs_20	IAMs_20	10 32 46.4		
	comp=Z,31µm,22.0s							
H17K	**Granite Mounta**	**78.82**	**19**	P	**P**	**10 02 57.8**	**+0.1**
	baz=230,SNR=53							
H17K				S	**S**	**10 12 48.3**	**-2.9**
	baz=230							
HOM	**Homer**	**78.84**	**26**	P	**P**	**10 02 57.7**	**-0.1**
	baz=238,SNR=16							
HOM				S	**S**	**10 12 49.8**	**-1.7**
	baz=238							
NDI	**New Delhi**	**78.85**	**301**	*e*P	**P**	**10 02 56.1**	**-2.5**
L19K	**White Mountain**	**78.92**	**23**	IAmb	IAmb	10 03 01.7		
	comp=Z,121nm,0.7s							
L19K				IAMs_20	IAMs_20	10 33 18.6		
	comp=Z,35µm,22.0s							
L19K	**White Mountain**	**78.92**	**23**	P	**P**	**10 02 58.0**	**-0.3**
	baz=235							
L19K				S	**S**	**10 12 54.3**	**+1.9**
	baz=235							
TTA	**Tatalina**	**78.92**	**22**	P	**P**	**10 03 00.2**	**+1.8**
TTA	**Tatalina**	**78.92**	**22**	P	**P**	**10 02 58.3**	**-0.2**
	baz=234,SNR=33							
TTA				S	**S**	**10 12 53.3**	**+0.8**
	baz=234							
M19K	**Big River Lodg**	**78.94**	**23**	IAMs_20	IAMs_20	10 33 28.3		
	comp=Z,32µm,21.0s							
M19K	**Big River Lodg**	**78.94**	**23**	P	**P**	**10 02 58.2**	**-0.2**
	baz=235							
M19K				S	**S**	**10 12 53.4**	**+0.8**
	baz=235							
CNPM	**China Poot**	**78.94**	**26**	IAMs_20	IAMs_20	10 34 23.4		
	comp=Z,20µm,20.0s							
G17K	**Kiwalik Mounta**	**78.95**	**18**	P	**P**	**10 02 58.6**	**+0.1**
	baz=229							
G17K				S	**S**	**10 12 53.5**	**+0.9**
	baz=229							
HMDM	**Hanimaadhoo**	**78.98**	**278**	P	**P**	**10 03 00.4**	**+0.7**
HMDM				IAmb	IAmb	10 03 21.1		
	comp=Z,182nm,1.2s							
HMDM	**Hanimaadhoo**	**78.98**	**278**	P	**P**	**10 03 00.7**	**+1.0**
J18K	**Innoko River**	**78.99**	**21**	IAMs_20	IAMs_20	10 37 07.3		
	comp=Z,20µm,20.0s							
J18K	**Innoko River**	**78.99**	**21**	P	**P**	**10 02 58.6**	**-0.1**
	baz=233,SNR=78							
J18K				S	**S**	**10 12 54.2**	**+1.1**
	baz=233							
BRLK	**Bradley Lake**	**79.22**	**26**	IAmb	IAmb	10 03 03.8		
	comp=Z,140nm,0.7s							
BRLK				IAMs_20	IAMs_20	10 34 53.3		
	comp=Z,21µm,21.0s							
BRSE	**Bradley Lake S**	**79.27**	**26**	P	**P**	**10 02 59.0**	**-1.3**
	baz=239,SNR=15							
BRSE				S	**S**	**10 12 54.7**	**-1.5**
	baz=239							
MNCY	**Minicoy**	**79.31**	**279**	IAMs_20	IAMs_20	10 32 33.4		
	comp=Z,18µm,27.1s							
KUDL	**Kundal**	**79.36**	**300**	⇑ *i* P	**P**	**10 02 59.2**	**-2.2**
F17K	**Baldwin Pennin**	**79.39**	**18**	IAmb	IAmb	10 03 04.0		
	comp=Z,205nm,0.8s							
F17K	**Baldwin Pennin**	**79.39**	**18**	P	**P**	**10 03 00.6**	**-0.1**
	baz=228							
F17K				S	**S**	**10 12 56.9**	**-0.2**
	baz=228							
N20K	**Mount Spurr**	**79.42**	**24**	P	**P**	**10 02 59.6**	**-1.6**
	baz=238,SNR=14							
N20K				S	**S**	**10 12 54.5**	**-3.4**
	baz=238							
M20K	**Styx River**	**79.42**	**23**	IAMs_20	IAMs_20	10 37 08.2		
	comp=Z,32µm,20.0s							
M20K	**Styx River**	**79.42**	**23**	P	**P**	**10 03 00.5**	**-0.7**
	baz=236							
M20K				S	**S**	**10 12 58.5**	**+0.6**
	baz=236							
SMLA	**Simla**	**79.43**	**303**	*e*P	**P**	**10 03 02.6**	**+0.8**
SMLA				IAMs_20	IAMs_20	10 37 04.3		
	comp=Z,26µm,24.1s							
H18K	**Honhosa River**	**79.46**	**19**	IAMs_20	IAMs_20	10 33 07.2		
	comp=Z,31µm,22.0s							
H18K	**Honhosa River**	**79.46**	**19**	P	**P**	**10 03 00.5**	**-0.7**
	baz=231							
H18K				S	**S**	**10 12 59.3**	**+1.2**
	baz=231							
L20K	**Farewell, AK**	**79.46**	**23**	P	**P**	**10 03 01.2**	**-0.1**
	baz=236,SNR=28							
L20K				S	**S**	**10 12 59.8**	**+1.6**
	baz=236							
KAD	**Karad**	**79.47**	**289**	*e*P	**P**	**10 03 00.7**	**-1.6**
KAD				IAmb	IAmb	10 03 03.6		
	comp=Z,319nm,0.8s							
C16K	**Lisburne Hills**	**79.53**	**15**	P	**P**	**10 03 00.7**	**-0.8**
	baz=224,SNR=52							
C16K				S	**S**	**10 12 59.2**	**+0.6**
	baz=224							
GOA	**Goa**	**79.53**	**287**	*e*P	**P**	**10 03 01.3**	**-1.3**
GOA				IAmb	IAmb	10 03 18.3		
	comp=Z,944nm,7.9s							
GOA				IAMs_20	IAMs_20	10 35 22.0		
	comp=Z,26µm,30.1s							
CAPN	**Captain Cook N**	**79.63**	**25**	P	**P**	**10 03 00.6**	**-1.6**
	baz=238							
E17K	**Hotham Inlet**	**79.66**	**17**	P	**P**	**10 03 02.1**	**-0.1**
	baz=228,SNR=183							
E17K				S	**S**	**10 13 00.4**	**+0.4**
	baz=228							
J19K	**Poorman**	**79.69**	**21**	P	**P**	**10 03 02.7**	**+0.2**
	baz=234							
J19K				S	**S**	**10 13 02.5**	**+2.0**
	baz=234							
GCSA	**Galena City Sc**	**79.71**	**20**	P	**P**	**10 03 02.1**	**-0.4**
	baz=233,SNR=15							
GCSA				S	**S**	**10 13 00.6**	**+0.1**
	baz=233							
D17K	**Noatak River**	**79.73**	**16**	P	**P**	**10 03 02.4**	**-0.2**
	baz=226,SNR=48							
D17K				S	**S**	**10 13 00.7**	**+0.1**
	baz=226							
G18K	**Tagagawik**	**79.84**	**19**	IAMs_20	IAMs_20	10 35 01.2		
	comp=Z,29µm,20.0s							
G18K	**Tagagawik**	**79.84**	**19**	P	**P**	**10 03 02.6**	**-0.7**
	baz=231,SNR=44							
G18K				S	**S**	**10 13 01.3**	**-0.7**
	baz=231							
K20K	**Telida**	**79.89**	**22**	IAMs_20	IAMs_20	10 35 21.4		
	comp=Z,23µm,20.0s							
K20K	**Telida**	**79.89**	**22**	P	**P**	**10 03 03.6**	**0.0**
	baz=235							
K20K				S	**S**	**10 13 03.6**	**+0.9**
	baz=235							
MK31	**Makanchi Array**	**79.91**	**319**	P	**P**	**10 03 03.9**	**-0.2**
MK31	**Makanchi Array**	**79.91**	**319**	*i* P	**P**	**10 03 02.9**	**-1.2**
MK31				pmax	pmax			
	comp=Z,61nm,0.7s							
MKAR	**Makanchi Array**	**79.91**	**319**	P	**P**	**10 03 04.1**	**0.0**
MKAR	**Makanchi Array**	**79.91**	**319**	P	**P**	**10 03 03.5**	**-0.7**
	comp=Z,36nm,0.6s,baz=98,slow=7.8,SNR=160							
MKAR				S	**S**	**10 13 01.1**	**-2.5**
	comp=Z,0.9nm,0.8s,baz=157,slow=7.8,SNR=2.1							
MKAR				PKKPbc	**PKKPbc**	**10 21 49.6**	**-2.0**
	comp=Z,4.8nm,0.8s,baz=290,slow=1.4,SNR=12							
MKAR				PKPPKP	P'P'df	10 29 44.0	-9.2	
	comp=Z,0.9nm,0.9s,baz=45,slow=3.6,SNR=4.1							
MKAR				LR	LR	10 36 36.8		
	comp=Z,22µm,21.6s,baz=112,slow=34							
	comp=Z,36nm,0.6s							
POO	**Poona**	**79.98**	**290**	*e*P	**P**	**10 03 06.0**	**+0.9**
F18K	**Selawik**	**79.98**	**18**	P	**P**	**10 03 03.4**	**-0.6**
	baz=230,SNR=56							
F18K				S	**S**	**10 13 01.6**	**-1.8**
	baz=230							
SEW	**Seward**	**80.02**	**26**	P	**P**	**10 03 03.7**	**-0.6**
	baz=240,SNR=26							
SEW				S	**S**	**10 13 01.7**	**-2.2**
	baz=240							
RDOG	**Red Dog Mine**	**80.02**	**16**	IAmb	IAmb	10 03 07.3		
	comp=Z,131nm,0.7s							
RDOG	**Red Dog Mine**	**80.02**	**16**	P	**P**	**10 03 03.9**	**-0.3**
	baz=226,SNR=72							
RDOG				S	**S**	**10 13 02.8**	**-1.0**
	baz=226							
O22K	**Cooper Landing**	**80.09**	**25**	IAMs_20	IAMs_20	10 36 40.7		
	comp=Z,22µm,21.0s							
O22K	**Cooper Landing**	**80.09**	**25**	P	**P**	**10 03 04.1**	**-0.6**
	baz=240,SNR=12							
O22K				S	**S**	**10 13 02.6**	**-2.1**
	baz=240							
SKT	**Skwentna**	**80.11**	**24**	IAMs_20	IAMs_20	10 37 29.3		
	comp=Z,24µm,20.0s							
SKT	**Skwentna**	**80.11**	**24**	P	**P**	**10 03 04.1**	**-0.7**
	baz=238,SNR=20							
SKT				S	**S**	**10 13 00.8**	**-4.3**
	baz=238							
BHK	**Bhakra**	**80.12**	**303**	⇑ *i* P	**P**	**10 03 03.1**	**-2.4**
BHK				IAmb	IAmb	10 03 10.5		
	comp=Z,84nm,0.9s							
MAKZ	**Makanchi**	**80.12**	**319**	P	**P**	**10 03 05.0**	**-0.2**
MAKZ	**Makanchi**	**80.12**	**319**	P	**P**	**10 03 05.0**	**-0.2**
MAKZ				pmax	pmax			
	comp=Z,96nm,0.9s							
SUA	**Susitna One**	**80.16**	**24**	P	**P**	**10 03 03.9**	**-1.3**
	baz=239,SNR=24							
SUA				S	**S**	**10 13 02.5**	**-3.3**
	baz=239							
E18K	**Tukpahlearik C**	**80.24**	**17**	IAMs_20	IAMs_20	10 32 57.7		
	comp=Z,36µm,22.0s							
E18K	**Tukpahlearik C**	**80.24**	**17**	P	**P**	**10 03 04.8**	**-0.5**
	baz=229							
E18K				S	**S**	**10 13 07.0**	**+0.9**
	baz=229							
C17K	**DeLong Mountai**	**80.24**	**15**	P	**P**	**10 03 05.2**	**-0.2**
	baz=226							
C17K				S	**S**	**10 13 05.0**	**-1.2**
	baz=226							
H19K	**Roundabout Mou**	**80.33**	**19**	IAmb	IAmb	10 03 10.8		
	comp=Z,132nm,0.9s							
H19K				IAMs_20	IAMs_20	10 33 21.1		
	comp=Z,35µm,22.0s							
H19K	**Roundabout Mou**	**80.33**	**19**	P	**P**	**10 03 05.6**	**-0.2**
	baz=233							
H19K				S	**S**	**10 13 07.5**	**+0.4**
	baz=233							
J20K	**Nowinta River**	**80.33**	**21**	IAMs_20	IAMs_20	10 37 37.0		
	comp=Z,19µm,20.0s							
J20K	**Nowinta River**	**80.33**	**21**	P	**P**	**10 03 05.5**	**-0.4**
	baz=235							
J20K				S	**S**	**10 13 07.4**	**+0.3**
	baz=235							
PPLA	**Purkeypile**	**80.34**	**23**	P	**P**	**10 03 05.6**	**-0.6**
	baz=237,SNR=14							
PPLA				S	**S**	**10 13 05.5**	**-2.2**
	baz=237							
RC01	**Rabbit Creek A**	**80.39**	**25**	P	**P**	**10 03 05.6**	**-0.7**
RC01				IAmb	IAmb	10 03 25.4		
	comp=Z,129nm,0.9s							
RC01				IAMs_20	IAMs_20	10 35 07.6		
	comp=Z,29µm,21.0s							
RC01	**Rabbit Creek A**	**80.39**	**25**	P	**P**	**10 03 05.9**	**-0.4**
	baz=240,SNR=26							
RC01				S	**S**	**10 13 06.2**	**-1.7**
	baz=240							
DHRM	**DHARAMSHALA**	**80.40**	**304**	*e*P	**P**	**10 03 07.4**	**+0.1**
DHRM				IAMs_20	IAMs_20	10 35 29.5		
	comp=Z,37µm,33.1s							
G19K	**Purcell Mounta**	**80.50**	**19**	IAmb	IAmb	10 03 11.8		
	comp=Z,114nm,0.8s							
G19K	**Purcell Mounta**	**80.50**	**19**	P	**P**	**10 03 06.5**	**-0.3**
	baz=232,SNR=141							
G19K				S	**S**	**10 13 09.4**	**+0.5**
	baz=232							
M22K	**Willow**	**80.56**	**24**	IAmb	IAmb	10 03 26.2		
	comp=Z,209nm,0.9s							
M22K	**Willow**	**80.56**	**24**	P	**P**	**10 03 05.6**	**-1.6**
	baz=239,SNR=18							
M22K				S	**S**	**10 13 06.7**	**-3.0**
	baz=239							
I20K	**Naaghedeneel**	**80.57**	**21**	IAmb	IAmb	10 03 55.9		
	comp=Z,132nm,0.9s							
I20K				IAMs_20	IAMs_20	10 33 47.6		
	comp=Z,26µm,22.0s							
I20K	**Naaghedeneel**

	baz=315								
SHLS	**Shalkode**	**80.71**	**315**	*e*P		**P**		**10 03 06.1**	**-2.5**
PDGK	**Podgornoye**	**80.74**	**315**	P		**P**		**10 03 07.1**	**-1.7**
H20K	**Anoteneega Mo**	**80.83**	**20**	P		**P**		**10 03 08.4**	**-0.2**
	baz=234								
H20K				S		**S**		**10 13 10.1**	**-2.3**
	baz=234								
CHUM	**Lake Minchumin**	**80.83**	**22**	P		**P**		**10 03 08.1**	**-0.5**
	baz=237,SNR=92								
CHUM				S		**S**		**10 13 10.1**	**-2.3**
	baz=237								
CUT	**Chulitna**	**80.84**	**24**	IAmb		IAmb		10 03 10.9	
	comp=Z,111nm,0.8s								
CUT				IAMs_20		IAMs_20		10 34 06.6	
	comp=Z,20µm,21.0s								
CUT	**Chulitna**	**80.84**	**24**	P		**P**		**10 03 07.4**	**-1.3**
	baz=239,SNR=21								
CUT				S		**S**		**10 13 08.7**	**-3.9**
	baz=239								
P23K	**Montague Islan**	**80.86**	**26**	P		**P**		**10 03 08.0**	**-0.9**
	baz=242								
P23K				S		**S**		**10 13 11.8**	**-1.2**
	baz=242								
C18K	**Utukok River**	**80.89**	**16**	P		**P**		**10 03 08.2**	**-0.7**
	baz=228								
C18K				S		**S**		**10 13 10.5**	**-2.6**
	baz=228								
PMR	**Palmer**	**80.89**	**25**	P		**P**		**10 03 10.7**	**+1.7**
PMR	**Palmer**	**80.89**	**25**	P		**P**		**10 03 07.9**	**-1.0**
	baz=240,SNR=21								
PMR				S		**S**		**10 13 10.9**	**-2.2**
	baz=240								
THN	**Thein Dam**	**80.92**	**304**	*e*P		**P**		**10 03 08.6**	**-1.1**
THN				IAmb		IAmb		10 03 13.8	
	comp=Z,243nm,1.0s								
THN				*i* x		x		10 03 23.9	
ZAA0	**Zalesovo Array**	**80.94**	**327**	P		**P**		**10 03 08.0**	**-1.4**
ZAA0				IAmb		IAmb		10 03 10.7	
	comp=Z,141nm,0.9s								
ZALV	**Zalesovo Beam**	**80.94**	**327**	P		**P**		**10 03 08.2**	**-1.2**
ZALV	**Zalesovo Beam**	**80.94**	**327**	P		**P**		**10 03 08.2**	**-1.2**
ZALV	**Zalesovo Beam**	**80.94**	**327**	P		**P**		**10 03 07.8**	**-1.6**
	comp=Z,109nm,0.6s,baz=111,slow=5.1,SNR=113								
ZALV				PKKPbc		**PKKPbc**		**10 21 48.2**	**-1.3**
	comp=Z,5.7nm,0.9s,baz=285,slow=2.4,SNR=7.8								
ZALV				PKPPKP		**P'P'df**		**10 29 46.8**	**-3.9**
	comp=Z,1.5nm,0.7s,baz=127,slow=0.7,SNR=3.9								
ZALV				LR		LR		10 38 22.7	
	comp=Z,21µm,20.1s,baz=107,slow=35								
	comp=Z,109nm,0.6s								
UZB	**Uzynbulak**	**81.02**	**315**	*e*P		**P**		**10 03 09.4**	**-0.9**
	baz=315								
UZB	**Uzynbulak**	**81.02**	**315**	*e*P		**P**		**10 03 09.4**	**-0.9**
GHO	**Glory Hole Cre**	**81.07**	**25**	IAmb		IAmb		10 03 15.6	
	comp=Z,130nm,0.9s								
Q23K	**Middleton Isla**	**81.08**	**27**	P		**P**		**10 03 09.9**	**-0.1**
	baz=243								
Q23K				S		**S**		**10 13 12.4**	**-2.7**
	baz=243								
KNK	**Knik Glacier**	**81.08**	**25**	IAMs_20		IAMs_20		10 35 27.1	
	comp=Z,33µm,22.0s								
KNK	**Knik Glacier**	**81.08**	**25**	P		**P**		**10 03 09.7**	**-0.3**
	baz=241,SNR=22								
KNK				S		**S**		**10 13 13.4**	**-1.8**
	baz=241								
KTH	**Kantishna Hill**	**81.18**	**23**	IAMs_20		IAMs_20		10 35 00.5	
	comp=Z,33µm,21.0s								
B18K	**Kokolik River**	**81.22**	**15**	P		**P**		**10 03 10.4**	**-0.2**
	baz=227								
B18K				S		**S**		**10 13 14.2**	**-2.1**
	baz=227								
E19K	**Redstone River**	**81.26**	**18**	IAmb		IAmb		10 03 15.9	
	comp=Z,288nm,0.8s								
E19K	**Redstone River**	**81.26**	**18**	P		**P**		**10 03 10.9**	**+0.1**
	baz=232								
E19K				S		**S**		**10 13 14.4**	**-2.4**
	baz=232								
SML	**Sawmill**	**81.33**	**25**	P		**P**		**10 03 11.0**	**-0.4**
SML				IAmb		IAmb		10 03 15.3	
	comp=Z,251nm,0.7s								
SML	**Sawmill**	**81.33**	**25**	P		**P**		**10 03 10.7**	**-0.7**
	baz=241,SNR=82								
SML				S		**S**		**10 13 13.7**	**-4.1**
	baz=241								
TRF	**Thorofare Moun**	**81.37**	**23**	IAMs_20		IAMs_20		10 35 06.5	
	comp=Z,32µm,21.0s								
TRF	**Thorofare Moun**	**81.37**	**23**	P		**P**		**10 03 10.1**	**-1.6**
	baz=239,SNR=39								
TRF				S		**S**		**10 13 15.0**	**-3.5**
	baz=239								
SATY	**Saty**	**81.42**	**315**	*e*P		**P**		**10 03 11.4**	**-1.0**
	baz=315								
SATY				*e*S		**S**		**10 13 18.0**	**-1.8**
	baz=315								
SATY	**Saty**	**81.42**	**315**	*e*P		**P**		**10 03 11.4**	**-1.0**
SATY				*e*S		**S**		**10 13 18.0**	**-1.8**
ZHN	**Zhinishke**	**81.43**	**315**	*e*P		**P**		**10 03 11.6**	**-0.9**
	baz=315								
ZHN				*e*S		**S**		**10 13 18.0**	**-1.8**
	baz=315								
ZHN	**Zhinishke**	**81.43**	**315**	*e*P		**P**		**10 03 11.6**	**-0.9**
ZHN				*e*S		**S**		**10 13 18.0**	**-1.8**
BPAW	**Bear Paw Mtn.**	**81.45**	**22**	IAMs_20		IAMs_20		10 33 17.5	
	comp=Z,25µm,22.0s								
BPAW	**Bear Paw Mtn.**	**81.45**	**22**	P		**P**		**10 03 10.6**	**-1.3**
	baz=238,SNR=17								
BPAW				S		**S**		**10 13 14.4**	**-4.6**
	baz=238								
HIN	**Hinchinbrook I**	**81.45**	**26**	IAmb		IAmb		10 03 31.9	
	comp=Z,162nm,1.0s								
F20K	**Avaraart Lake**	**81.48**	**18**	P		**P**		**10 03 12.1**	**+0.1**
	baz=233								
F20K				S		**S**		**10 13 17.1**	**-2.0**
	baz=233								
IMAR	**Indian Mountai**	**81.50**	**20**	P		**P**		**10 03 11.6**	**-0.5**
M23K	**Glacier View**	**81.58**	**25**	P		**P**		**10 03 11.9**	**-0.8**
	baz=242,SNR=41								
M23K				S		**S**		**10 13 15.5**	**-4.8**
	baz=242								
C19K	**Lookout Ridge**	**81.63**	**16**	IAmb		IAmb		10 03 16.0	
	comp=Z,139nm,0.8s								
C19K	**Lookout Ridge**	**81.63**	**16**	P		**P**		**10 03 12.6**	**-0.3**
	baz=229								
C19K				S		**S**		**10 13 18.4**	**-2.3**
	baz=229								
H21K	**Melozitna Rive**	**81.64**	**20**	IAMs_20		IAMs_20		10 35 03.6	
	comp=Z,25µm,22.0s								
H21K	**Melozitna Rive**	**81.64**	**20**	P		**P**		**10 03 12.3**	**-0.6**
	baz=236								
H21K				S		**S**		**10 13 19.9**	**-0.9**
	baz=236								
D19K	**Kuna River**	**81.65**	**17**	IAmb		IAmb		10 03 15.6	
	comp=Z,92nm,0.7s								
D19K	**Kuna River**	**81.65**	**17**	P		**P**		**10 03 12.1**	**-0.9**
	baz=231								
D19K				S		**S**		**10 13 18.0**	**-2.9**
	baz=231								
JMU	**Jammu**	**81.65**	**304**	*e*P		**P**		**10 03 13.5**	**-0.1**
I21K	**Tanana**	**81.66**	**21**	P		**P**		**10 03 12.8**	**-0.2**
	baz=237								
I21K				S		**S**		**10 13 19.5**	**-1.5**
	baz=237								
WAT1	**Susitna Watana**	**81.74**	**24**	P		**P**		**10 03 12.4**	**-1.1**
	baz=241								
WAT1				S		**S**		**10 13 18.9**	**-3.1**
	baz=241								
SCM	**Sheep Creek Mo**	**81.76**	**25**	IAmb		IAmb		10 03 18.3	
	comp=Z,206nm,0.9s								
SCM				IAMs_20		IAMs_20		10 34 48.9	
	comp=Z,23µm,22.0s								
SCM	**Sheep Creek Mo**	**81.76**	**25**	P		**P**		**10 03 12.9**	**-0.8**
	baz=242,SNR=43								
SCM				S		**S**		**10 13 19.0**	**-3.4**
	baz=242								
EYAK	**Cordova Ski Ar**	**81.85**	**26**	P		**P**		**10 03 16.3**	**+2.3**
EYAK	**Cordova Ski Ar**	**81.85**	**26**	P		**P**		**10 03 13.6**	**-0.4**
	baz=244,SNR=11								
EYAK				S		**S**		**10 13 21.9**	**-1.1**
	baz=244								
G21K	**Allakaket**	**81.88**	**19**	P		**P**		**10 03 13.6**	**-0.5**
	baz=236								
G21K				S		**S**		**10 13 21.7**	**-1.6**
	baz=236								
RND	**Reindeer**	**81.91**	**23**	IAmb		IAmb		10 03 16.2	
	comp=Z,169nm,0.9s								
RND				IAMs_20		IAMs_20		10 35 11.6	
	comp=Z,34µm,22.0s								
WAT6	**Susitna Watana**	**81.95**	**24**	P		**P**		**10 03 13.6**	**-1.2**
	baz=241,SNR=30								
WAT6				S		**S**		**10 13 21.5**	**-2.9**
	baz=241								
TDK	**Taldyqorghan**	**81.96**	**317**	*e*P		**P**		**10 03 14.2**	**-0.8**
	comp=Z,67nm,0.7s,baz=317								
TDK				LR		LR		10 35 21.5	
	comp=Z,10µm,21.1s,baz=317								
TDK	**Taldyqorghan**	**81.96**	**317**	*e*P		**P**		**10 03 14.2**	**-0.8**
TDK				pmax		pmax			
	comp=Z,67nm,0.7s								
TDK				MLR		MLR			
	comp=Z,10µm,21.0s								
A19K	**Wainwright**	**81.97**	**15**	P		**P**		**10 03 14.1**	**-0.4**
	baz=228								
A19K				S		**S**		**10 13 21.7**	**-2.3**
	baz=228								
MLY	**Manley**	**82.03**	**21**	IAmb		IAmb		10 03 18.8	
	comp=Z,113nm,0.5s								
MLY	**Manley**	**82.03**	**21**	P		**P**		**10 03 14.2**	**-0.8**
	baz=238,SNR=80								
MLY				S		**S**		**10 13 22.4**	**-2.5**
	baz=238								
MCK	**McKinley**	**82.04**	**23**	P		**P**		**10 03 13.4**	**-1.6**
	baz=240,SNR=128								
MCK				S		**S**		**10 13 19.9**	**-5.1**
	baz=240								
BWN	**Browne**	**82.06**	**22**	IAMs_20		IAMs_20		10 35 17.3	
	comp=Z,27µm,21.0s								
E20K	**Nigu River**	**82.07**	**17**	P		**P**		**10 03 15.1**	**0.0**
	baz=233								
E20K				S		**S**		**10 13 21.6**	**-3.6**
	baz=233								
ARXS	**Arharly**	**82.14**	**316**	*e*P		**P**		**10 03 13.7**	**-2.4**
KAIM	**Kayak Island**	**82.17**	**27**	IAmb		IAmb		10 03 20.5	
	comp=Z,163nm,0.8s								
KAIM	**Kayak Island**	**82.17**	**27**	P		**P**		**10 03 15.8**	**0.0**
	baz=245,SNR=6.7								
KAIM				S		**S**		**10 13 24.6**	**-1.8**
	baz=245								
KLU	**Klutina**	**82.20**	**25**	IAmb		IAmb		10 03 21.0	
	comp=Z,150nm,0.8s								
KLU	**Klutina**	**82.20**	**25**	P		**P**		**10 03 15.6**	**-0.4**
	baz=243,SNR=94								
KLU				S		**S**		**10 13 23.8**	**-3.1**
	baz=243								
D20K	**Etivluk River**	**82.22**	**17**	P		**P**		**10 03 15.3**	**-0.6**
	baz=232								
D20K				S		**S**		**10 13 23.9**	**-2.8**
	baz=232								
RAGM	**Ragged Mountai**	**82.26**	**27**	IAmb		IAmb		10 03 36.0	
	comp=Z,156nm,1.0s								
RAGM				IAMs_20		IAMs_20		10 34 43.1	
	comp=Z,23µm,22.0s								
H22K	**Ishtalitna Cre**	**82.26**	**20**	P		**P**		**10 03 15.7**	**-0.5**
	baz=238,SNR=38								
H22K				S		**S**		**10 13 26.6**	**-0.6**
	baz=238								
F21K	**Alatna River**	**82.29**	**19**	P		**P**		**10 03 15.6**	**-0.8**
	baz=236,SNR=37								
F21K				S		**S**		**10 13 26.3**	**-1.2**
	baz=236								
KSH	**Kashi**	**82.31**	**311**	P		**P**		**10 03 18.3**	**+1.2**
KSH				pP		pP		10 03 32.5	-0.6
KSH				PP		**PP**		**10 06 29.0**	**+2.5**
KSH				S		**S**		**10 13 27.0**	**-2.0**
KSH				SS		**SS**		**10 18 55.8**	**+5.3**
KSH				pmax		pmax			
	comp=Z,86nm,1.3s								
KSH				pmax		pmax			
	comp=Z,12µm,10.4s								
KSH				LR		LR			
	comp=Z,31µm,22.0s								
KSH				LR		LR			
	comp=Z,31µm,23.4s								
KSH				LR		LR			
	comp=Z,52µm,26.9s								
DHY	**Denali Highway**	**82.33**	**24**	P		**P**		**10 03 16.4**	**-0.3**
DHY				IAMs_20		IAMs_20		10 38 28.9	
	comp=Z,22µm,20.0s								
DHY	**Denali Highway**	**82.33**	**24**	P		**P**		**10 03 15.8**	**-1.0**
	baz=242,SNR=51								
DHY				S		**S**		**10 13 25.0**	**-3.3**
	baz=242								
SEM	**Semipalatinsk**	**82.35**	**322**	*e*P		**P**		**10 03 16.4**	**-0.9**
	baz=322								
SEM				LR		LR		10 36 36.5	
	comp=Z,9µm,18.4s,baz=322								
SEM	**Semipalatinsk**	**82.35**	**322**	*e*P		**P**		**10 03 16.3**	**-0.9**
SEM				MLR		MLR			
	comp=Z,9µm,18.0s								
M24K	**Tolsona, Glenn**	**82.37**	**25**	IAmb		IAmb		10 03 41.6	
	comp=Z,169nm,1.0s								
M24K	**Tolsona, Glenn**	**82.37**	**25**	P		**P**		**10 03 16.0**	**-0.9**
	baz=243,SNR=23								
MDOK	**Medeo**	**82.41**	**315**	*e*P		**P**		**10 03 16.6**	**-1.1**
	baz=315								
MDOK				*e*S		**S**		**10 13 28.3**	**-1.7**
	baz=315								
MDOK				LR		LR		10 37 33.7	
	comp=Z,7µm,22.2s,baz=315								
MDOK	**Medeo**	**82.41**	**315**	*e*P		**P**		**10 03 16.5**	**-1.1**
MDOK				*e*S		**S**		**10 13 28.2**	**-1.7**
MDOK				MLR		MLR			
	comp=Z,7µm,22.0s								
NEA2	**Nenana**	**82.42**	**22**	IAMs_20		IAMs_20		10 35 45.2	
	comp=Z,21µm,21.0s								
NEA2	**Nenana**	**82.42**	**22**	P		**P**		**10 03 15.4**	**-1.6**
	baz=240,SNR=35								
HMT	**Hamilton**	**82.42**	**27**	IAmb		IAmb		10 03 20.7	
	comp=Z,144nm,0.8s								
TNSS	**Tian-Shan**	**82.45**	**315**	*e*P		**P**		**10 03 17.1**	**-1.1**
	baz=315								
TNSS	**Tian-Shan**	**82.45**	**315**	*e*P		**P**		**10 03 17.0**	**-1.1**
AAA	**Alma-Ata**	**82.52**	**315**	*e*P		**P**		**10 03 17.3**	**-0.9**
	comp=Z,74nm,0.9s,baz=315								
AAA				LR		LR		10 38 02.3	
	comp=Z,21µm,21.1s,baz=315								
AAA	**Alma-Ata**	**82.52**	**315**	*e*P		**P**		**10 03 17.2**	**-0.9**
AAA				pmax		pmax			
	comp=Z,74nm,0.9s								
AAA				MLR		MLR			
	comp=Z,21µm,21.0s								
SUCK	**Suckling Hills**	**82.53**	**27**	IAmb		IAmb		10 04 08.7	
	comp=Z,137nm,1.1s								
BMRM	**Bremner River**	**82.54**	**26**	P		**P**		**10 03 17.0**	**-0.8**
	baz=244,SNR=26								
I23K	**Minto, Yukon-K**	**82.59**	**21**	P		**P**		**10 03 16.6**	**-1.3**
	baz=240,SNR=60								
CHKK	**Chushkaly**	**82.63**	**315**	*e*P		**P**		**10 03 17.8**	**-0.9**
	baz=315								
CHKK	**Chushkaly**	**82.63**	**315**	*e*P		**P**		**10 03 17.7**	**-0.9**
BERG	**Berg Lake**	**82.70**	**27**	P		**P**		**10 03 19.5**	**+1.0**
BERG				IAmb		IAmb		10 03 22.2	
	comp=Z,233nm,0.9s								
WRH	**Wood River Hil**	**82.72**	**22**	IAmb		IAmb		10 03 20.7	
	comp=Z,130nm,0.9s								
WRH				IAMs_20		IAMs_20		10 39 17.3	
	comp=Z,26µm,20.0s								
ULHL	**Ulahol**	**82.76**	**314**	P		**P**		**10 03 19.1**	**-0.4**
	SNR=40								
BGLC	**Bering Glacier**	**82.77**	**27**	P		**P**		**10 03 19.1**	**+0.2**
	baz=246								
N25K	**Chitina, Valde**	**82.82**	**26**	P		**P**		**10 03 19.2**	**0.0**
	baz=244,SNR=18								
E21K	**Killik River**	**82.84**	**18**	IAMs_20		IAMs_20		10 35 35.5	
	comp=Z,33µm,22.0s								
E21K	**Killik River**	**82.84**	**18**	P		**P**		**10 03 18.8**	**-0.3**
	baz=235								
B20K	**Meade River**	**82.87**	**16**	P		**P**		**10 03 18.8**	**-0.3**
	baz=232								
H23K	**Yukon River**	**82.87**	**21**	P		**P**		**10 03 18.9**	**-0.4**
	baz=239								
F22K	**John River**	**82.87**	**19**	P		**P**		**10 03 18.9**	**-0.5**
	baz=237								
CCB	**Clear Creek Bu**	**82.92**	**22**	IAmb		IAmb		10 03 22.2	
	comp=Z,82nm,0.6s								
CCB				IAMs_20		IAMs_20		10 39 22.4	
	comp=Z,29µm,20.0s								
HARP	**HAARP**	**82.93**	**25**	P		**P**		**10 03 19.6**	**-0.2**
	baz=244,SNR=34								
SNH	**Sunshine Point**	**83.00**	**27**	IAmb		IAmb		10 03 24.1	
	comp=Z,162nm,0.8s								
COLA	**College**	**83.01**	**22**	P		**P**		**10 03 20.1**	**+0.1**
COLA	**College**	**83.01**	**22**	IAMs_20		IAMs_20		10 39 23.8	
	comp=Z,18µm,20.0s								
COLA	**College**	**83.01**	**22**	P		**P**		**10 03 18.5**	**-1.5**
	baz=241								
COLA	**College**	**83.01**	**22**	*i* P		**P**		**10 03 18.2**	**-1.8**
COLA				pmax		pmax			
	comp=Z,147nm,0.8s								
COLA				MLR		MLR			
	comp=Z,13µm,19.0s								
C21K	**Knifeblade Rid**	**83.02**	**17**	P		**P**		**10 03 20.2**	**+0.2**
	baz=234								
PAX	**Paxson**	**83.05**	**24**	P		**P**		**10 03 19.4**	**-1.0**
	baz=243,SNR=33								
GLB	**Gilahina Butte**	**83.09**	**26**	IAmb		IAmb		10 03 54.3	
	comp=Z,237nm,1.4s								
WAX	**Waxell Ridge**	**83.11**	**27**	IAmb		IAmb		10 03 27.0	
	comp=Z,170nm,0.9s								
HDA	**Harding Lake**	**83.13**	**23**	P		**P**		**10 03 19.4**	**-1.3**
	baz=242,SNR=65								
VRDI	**Verde Repeater**	**83.16**	**26**	P		**P**		**10 03 21.5**	**+0.4**
G23K	**Bananza Creek**	**83.16**	**20**	IAMs_20		IAMs_20		10 34 57.9	
	comp=Z,32µm,22.0s								
G23K	**Bananza Creek**	**83.16**	**20**	P		**P**		**10 03 20.5**	**-0.3**
	baz=239								
NIL	**Nilore**	**83.19**	**305**	P		**P**		**10 03 20.8**	**-0.9**
NIL	**Nilore**	**83.19**	**305**	IAMs_20		IAMs_20		10 39 54.8	
	comp=Z,30µm,22.0s								
NIL	**Nilore**	**83.19**	**305**	P		**P**		**10 03 20.8**	**-0.9**
NIL				pmax		pmax			
	comp=Z,568nm,1.1s								
NIL				MLR		MLR			
	comp=Z,30µm,22.0s								
NIL	**Nilore**	**83.19**	**305**	P		**P**		**10 03 21.8**	**0.0**
POKR	**Poker Plat Res**	**83.28**	**22**	P		**P**		**10 03 20.0**	**-1.4**
	baz=241,SNR=33								
K24K	**Donnelly Dome**	**83.31**	**23**	P		**P**		**10 03 20.8**	**-0.8**
	baz=243,SNR=70								
ILAR	**Eielson Array**	**83.32**	**22**	P		**P**		**10 03 19.2**	**-2.4**
	comp=Z,104nm,0.8s,baz=251,slow=4.7,SNR=210								
ILAR				PKiKP		**PKiKP**		**10 08 38.2**	**-1.0**
	comp=Z,1.9nm,0.8s,baz=273,slow=2.8,SNR=7.8								
ILAR				PKKPbc		**PKKPbc**		**10 21 41.7**	**-2.8**
	comp=Z,2.0nm,0.7s,baz=342,slow=1.1,SNR=14								
ILAR				PKPPKP		P'P'df		10 29 36.0	-10
	comp=Z,1.5nm,1.0s,baz=349,slow=2.8,SNR=5.2								
ILAR				LR		LR		10 38 27.9	
	comp=Z,23µm,19.7s,baz=252,slow=34								
	comp=Z,104nm,0.8s								
E22K	**Anaktuvuk Pass**	**83.33**	**18**	P		**P**		**10 03 21.2**	**-0.5**
	baz=237								
B21K	**Ikpikpuk River**	**83.34**	**17**	P		**P**		**10 03 21.6**	**0.0**
	baz=234								
COLD	**Coldfoot**	**83.37**	**20**	P		**P**		**10 03 21.7**	**-0.2**
	baz=239,SNR=48								
TKM2	**Tokmak 2**	**83.38**	**314**	P		**P**		**10 03 22.3**	**-0.5**
	SNR=64								
TKM2	**Tokmak 2**	**83.38**	**314**	*i* P		**P**		**10 03 21.1**	**-1.7**
TKM2				pmax		pmax			
	comp=Z,43nm,0.7s								
ISLE	**Juniper Island**	**83.40**	**27**	IAmb		IAmb		10 03 26.4	
	comp=Z,96nm,0.9s								
MESA	**MESA**	**83.41**	**28**	IAMs_20		IAMs_20		10 42 36.6	
	comp=Z,22µm,20.0s								
MESA	**MESA**	**83.41**	**28**	P		**P**		**10 03 22.5**	**0.0**
	baz=247,SNR=15								
MCARA	**McCarthy VSAT**	**83.41**	**26**	IAmb		IAmb		10 03 36.4	
	comp=Z,132nm,0.8s								
MCARA	**McCarthy VSAT**	**83.41**	**26**	P		**P**		**10 03 21.6**	**-0.6**
	baz=246								
KURK	**Kurchatov**	**83.44**	**322**	P		**P**		**10 03 21.7**	**-0.8**
KURK				IAmb		IAmb		10 03 24.1	
	comp=Z,236nm,1.1s								
KURK	**Kurchatov**	**83.44**	**322**	*c i* P		**P**		**10 03 21.3**	**-1.2**
KURK				pmax		pmax			
	comp=Z,280nm,1.3s								
KURK				MLR		MLR			
	comp=Z,30µm,20.0s								
KURK	**Kurchatov**	**83.44**	**322**	P		**P**		**10 03 21.9**	**-0.6**
KURBB	**Kurchatov Arra**	**83.46**	**322**	P		**P**		**10 03 21.5**	**-1.1**
	comp=Z,71nm,0.8s,baz=112,slow=4.4,SNR=145								
KURBB				PKiKP		**PKiKP**		**10 08 39.3**	**-0.5**
	comp=Z,5.9nm,0.8s,baz=108,slow=1.4,SNR=6.5								
KURBB				PKKPbc		**PKKPbc**		**10 21 42.1**	**-1.4**
	comp=Z,4.7nm,0.9s,baz=289,slow=2.8,SNR=12								
KURBB				PKPPKP		**P'P'df**		**10 29 40.2**	**-6.2**
	comp=Z,2.3nm,1.1s,baz=271,slow=3.0,SNR=4.4								
KURBB				LR		LR		10 41 17.5	
	comp=Z,26µm,19.9s,baz=98,slow=36								
	comp=Z,71nm,0.8s								
H24K	**Noodor Dome**	**83.47**	**21**	IAMs_20		IAMs_20		10 35 49.2	
	comp=Z,30µm,22.0s								
H24K	**Noodor Dome**	**83.47**	**21**	P		**P**		**10 03 21.9**	**-0.6**
	baz=241,SNR=52								
D22K	**Ayikyak River**	**83.48**	**18**	IAmb		IAmb		10 03 27.2	
	comp=Z,92nm,0.8s								
D22K	**Ayikyak River**	**83.48**	**18**	P		**P**		**10 03 22.3**	**-0.1**
	baz=236								
RIDG	**Independent Ri**	**83.65**	**24**	IAmb		IAmb		10 03 44.7	
	comp=Z,88nm,0.8s								
RIDG				IAMs_20		IAMs_20		10 39 18.8	
	comp=Z,24µm,21.0s								
RIDG	**Independent Ri**	**83.65**	**24**	P		**P**		**10 03 22.5**	**-0.9**
	baz=244,SNR=46								
MENT	**Mentasta**	**83.76**	**25**	P		**P**		**10 03 25.7**	**+1.7**
MENT	**Mentasta**	**83.76**	**25**	IAmb		IAmb		10 03 32.0	
	comp=Z,87nm,0.8s								
KBK	**Karagaybulak**	**83.79**	**314**	P		**P**		**10 03 24.7**	**-0.1**
	SNR=20								
A21K	**Barrow**	**83.83**	**15**	P		**P**		**10 03 23.2**	**-0.9**
	baz=232								
J25K	**Salcha River,**	**83.83**	**23**	IAmb		IAmb		10 03 26.6	
	comp=Z,205nm,0.8s								
J25K	**Salcha River,**	**83.83**	**23**	P		**P**		**10 03 23.3**	**-1.1**
	baz=243								
M26K	**Nabesna, AK**	**83.84**	**25**	P		**P**		**10 03 24.1**	**-0.4**
	baz=246								
TABL	**Table Mountain**	**83.88**	**27**	P		**P**		**10 03 24.9**	**0.0**
TABL				IAmb		IAmb		10 03 29.1	
	comp=Z,117nm,0.8s								

baz=243,SNR=16
SGDS Sogindy 84.19 315 *e*P P 10 03 25.8 -1.0
baz=315
SGDS *e*S **SKSac** 10 13 43.7 -2.1
baz=315
SGDS Sogindy 84.19 315 *e*P P 10 03 25.7 -1.0
SGDS *e*S **SKSac** 10 13 43.7 -2.1
USP Ospenovka 84.25 314 P P 10 03 26.7 -0.3
SNR=131
F24K Squaw Lake 84.29 20 IAmb IAmb 10 03 29.9
comp=Z,101nm,0.8s
F24K Squaw Lake 84.29 20 P P 10 03 26.6 -0.1
baz=241,SNR=157
M27K Edge Creek, AK 84.30 26 IAmb IAmb 10 03 30.8
comp=Z,190nm,0.8s
M27K IAMs_20 IAMs_20 10 37 12.3
comp=Z,22µm,21.0s
M27K Edge Creek, AK 84.30 26 P P 10 03 26.8 -0.1
baz=247
TOLK Toolik Lake Re 84.31 18 P P 10 03 26.2 -0.4
baz=239,SNR=74
MAW Mawson 84.40 203 P P 10 03 28.5 +1.4
baz=84
MAW Mawson 84.40 203 IAmb IAmb 10 03 43.7
comp=Z,371nm,1.6s
MAW Mawson 84.40 203 P P 10 03 27.0 -0.1
MAW Mawson 84.40 203 P P 10 03 27.0 -0.1
comp=Z,82nm,1.1s,baz=101,slow=6.7,SNR=45
MAW S **SKSac** 10 13 41.5 -4.5
comp=Z,1.1nm,0.7s,baz=243,slow=3.3,SNR=1.4
MAW PKKPbc **PKKPbc** 10 21 38.9 -2.6
comp=Z,3.6nm,0.6s,baz=270,slow=5.8,SNR=6.3
MAW LR LR 10 38 01.1
comp=Z,38µm,21.9s,baz=87,slow=33
comp=Z,82nm,1.1s
BCPM Bancas Point 84.40 28 IAmb IAmb 10 03 35.1
comp=Z,115nm,1.0s
PNL Peninsula 84.41 28 P P 10 03 31.2 +3.8
PNL Peninsula 84.41 28 P P 10 03 27.3 -0.1
baz=249,SNR=19
H25L Birch Creek 84.42 21 P P 10 03 27.1 0.0
baz=243,SNR=30
O28M Mount Upton 84.44 27 P P 10 03 27.4 -0.4
baz=248,SNR=68
QSPA South Pole Qui 84.48 180 P P 10 03 27.8 +0.1
QSPA South Pole Qui 84.48 180 P P 10 03 27.4 -0.4
comp=Z,50nm,0.7s,baz=310,slow=1.2,SNR=83
QSPA S **SKSac** 10 13 43.4 -3.5
comp=Z,3.4nm,1.1s,baz=314,slow=16,SNR=1.6
QSPA PKKPbc **PKKPbc** 10 21 38.4 -3.8
comp=Z,8.1nm,0.8s,baz=220,slow=1.1,SNR=17
QSPA PKPPKP P'P'df 10 29 34.6 -11
comp=Z,1.9nm,0.8s,baz=258,slow=4.5,SNR=3.5
QSPA LR LR 10 39 57.4
comp=Z,11µm,19.4s,baz=8.5,slow=35
comp=Z,50nm,0.7s
J26L Joseph Creek 84.48 23 P P 10 03 26.9 -0.8
baz=245,SNR=124
G25K Bearman Lake 84.54 21 P P 10 03 27.4 -0.4
baz=242
BHUJ Bhuj 84.57 294 *e*P P 10 03 29.1 +0.2
BHUJ IAMs_20 IAMs_20 10 36 21.5
comp=Z,23µm,32.1s
L27K Beaver Creek, 84.60 25 IAmb IAmb 10 03 32.0
comp=Z,94nm,0.9s
L27K IAMs_20 IAMs_20 10 36 03.1
comp=Z,20µm,22.0s
L27K Beaver Creek, 84.60 25 P P 10 03 27.9 -0.3
baz=247,SNR=110
C23K Itkillik River 84.62 17 IAmb IAmb 10 03 33.3
comp=Z,126nm,0.9s
C23K Itkillik River 84.62 17 P P 10 03 28.2 0.0
baz=238
BCAR Beaver Creek A 84.62 25 P P 10 03 28.3 -0.1
EKS2 Erkin-Say 84.63 314 P P 10 03 29.0 0.0
SNR=125
YUK3 Moose Creek 84.69 26 P P 10 03 28.7 -0.3
baz=248,SNR=112
BVCY Beaver Creek 84.76 26 P P 10 03 29.3 +0.2
baz=248,SNR=57
FYU Fort Yukon 84.76 21 IAmb IAmb 10 03 32.4
comp=Z,133nm,1.2s
D24K Happy Valley 84.80 18 IAmb IAmb 10 03 33.6
comp=Z,68nm,0.7s
D24K Happy Valley 84.80 18 P P 10 03 29.0 -0.1
baz=240
K27K Chicken 84.88 24 IAmb IAmb 10 03 35.1
comp=Z,106nm,0.9s
K27K IAMs_20 IAMs_20 10 36 59.7
comp=Z,23µm,21.0s
K27K Chicken 84.88 24 P P 10 03 29.5 -0.2
baz=246
I26K Coal Creek Min 84.98 23 P P 10 03 29.4 -0.7
baz=245
O29M Mount Kennedy 85.02 28 IAmb IAmb 10 03 35.5
comp=Z,91nm,0.8s
O29M Mount Kennedy 85.02 28 P P 10 03 31.0 +0.5
baz=250
F25K Christian Rive 85.08 20 P P 10 03 30.9 +0.3
baz=243
C24K Franklin Bluff 85.13 18 P P 10 03 30.7 0.0
baz=240
P29M Windy Craggy 85.19 29 IAmb IAmb 10 04 49.5
comp=Z,214nm,1.5s
P29M Windy Craggy 85.19 29 P P 10 03 31.5 +0.2
baz=251,SNR=15
YUK6 Outpost Mounta 85.34 27 P P 10 03 32.5 +0.2
baz=250,SNR=19
YUK4 Talbot Arm 85.35 27 P P 10 03 32.6 +0.4
baz=250,SNR=96
E25K Arctic Village 85.35 20 IAMs_20 IAMs_20 10 37 20.6
comp=Z,23µm,21.0s
E25K Arctic Village 85.35 20 P P 10 03 31.7 -0.2
baz=243,SNR=42
BMAR Burnt Mountain 85.38 20 P P 10 03 32.4 +0.3
S31K Pelican 85.40 31 IAmb IAmb 10 04 39.7
comp=Z,161nm,1.3s
S31K Pelican 85.40 31 P P 10 03 32.7 +0.4
baz=252
G26K Porcupine Rive 85.45 21 P P 10 03 32.5 +0.2
baz=245,SNR=244
EGAK Eagle 85.54 23 IAmb IAmb 10 03 37.8
comp=Z,191nm,0.9s
EGAK IAMs_20 IAMs_20 10 37 34.7
comp=Z,27µm,22.0s
EGAK Eagle 85.54 23 P P 10 03 32.4 -0.5
baz=247,SNR=209
SIT Sitka 85.60 32 P P 10 03 34.4 +1.1
SIT Sitka 85.60 32 P P 10 03 33.6 +0.4
baz=253
F26K Sheenjek River 85.64 20 P P 10 03 33.2 -0.2
baz=244
D25K Kavik River 85.65 18 IAmb IAmb 10 03 37.4
comp=Z,120nm,0.9s
D25K Kavik River 85.65 18 P P 10 03 32.7 -0.7
baz=242
I27K Kandik River 85.69 23 P P 10 03 33.2 -0.5
baz=247
HYT Haines Junctio 85.69 28 P P 10 03 34.2 +0.3
baz=251,SNR=177
P30M Million Dollar 85.72 28 P P 10 03 34.3 +0.3
baz=251
R31K City Hall, Gus 85.79 30 P P 10 03 34.1 -0.1
baz=252
R31K S S 10 14 01.4 -1.2
baz=252
PLBC Pleasant Camp 85.80 29 P P 10 03 34.2 0.0
baz=252,SNR=18
PLBC S S 10 14 02.5 -0.3
baz=252
M29M Somme Creek 85.81 26 IAmb IAmb 10 03 38.4
comp=Z,92nm,0.9s
M29M Somme Creek 85.81 26 P P 10 03 34.3 -0.2
baz=250
M29M S S 10 14 02.6 -0.5
baz=250
H27K Steamboat Moun 85.97 22 P P 10 03 35.4 +0.4
baz=247
H27K S S 10 14 03.9 -0.5
baz=247
DAWY Dawson 85.99 24 P P 10 03 35.9 +0.7
DAWY IAmb IAmb 10 04 08.8
comp=Z,152nm,1.2s
DAWY Dawson 85.99 24 P P 10 03 35.1 -0.1
baz=249,SNR=58
DAWY S S 10 14 03.5 -1.2
baz=249
N30M Aishikik Lake 86.09 27 P P 10 03 35.5 -0.3
baz=251
N30M Aishikik Lake 86.09 27 P P 10 03 35.9 +0.1
baz=251
N30M S S 10 14 05.0 -0.9
baz=251
S32K Killisnoo 86.10 31 IAmb IAmb 10 03 41.5
comp=Z,73nm,0.9s
S32K Killisnoo 86.10 31 P P 10 03 36.1 +0.4
baz=254,SNR=9.3
S32K S S 10 14 07.0 +1.2
baz=254
DIB Dawson Inlet, 86.13 36 IAmb IAmb 10 04 02.3
comp=Z,131nm,1.2s
NRIK Noril'sk 86.15 341 IAmb IAmb 10 03 39.2
comp=Z,80nm,0.8s
NRIK IAMs_20 IAMs_20 10 41 39.1
comp=Z,23µm,22.0s
NRIK Noril'sk 86.15 341 *c*eP P 10 03 34.2 -1.6
NRIK pmax pmax
comp=Z,76nm,0.7s
NRIK MLR MLR
comp=Z,22µm,21.0s
NRIK Noril'sk 86.15 341 P P 10 03 34.3 -1.5
comp=Z,70nm,0.7s,baz=114,slow=3.9,SNR=52
NRIK S **SKSac** 10 13 53.2 -3.7
comp=Z,1.2nm,0.3s,baz=360,slow=21,SNR=6.4
NRIK LR LR 10 42 00.1
comp=Z,18µm,21.1s,baz=120,slow=36
comp=Z,70nm,0.7s
G27K Doyon Strip 86.15 21 P P 10 03 36.2 +0.3
baz=247
G27K S S 10 14 03.8 -2.4
baz=247
L29M L29M 86.18 25 IAmb IAmb 10 03 41.6
comp=Z,154nm,1.0s
L29M IAMs_20 IAMs_20 10 37 06.1
comp=Z,20µm,22.0s
L29M L29M 86.18 25 P P 10 03 36.3 +0.1
baz=250,SNR=157
L29M S S 10 14 04.9 -1.7
baz=250
I28M Miner Creek 86.28 23 IAmb IAmb 10 03 39.5
comp=Z,75nm,0.7s
I28M Miner Creek 86.28 23 P P 10 03 36.2 -0.5
baz=248,SNR=120
I28M S **SKSac** 10 14 03.9 +5.8
baz=248
SKAG Skagway 86.30 29 P P 10 03 37.4 +0.7
SKAG Skagway 86.30 29 IAmb IAmb 10 03 42.5
comp=Z,95nm,1.2s
SKAG Skagway 86.30 29 P P 10 03 36.9 +0.2
baz=253,SNR=12
SKAG S S 10 14 06.5 -1.2
baz=253
O30N Mendenhall 86.33 28 IAmb IAmb 10 04 01.2
comp=Z,102nm,1.1s
O30N Mendenhall 86.33 28 P P 10 03 37.0 +0.1
baz=252,SNR=23
O30N S S 10 14 06.1 -2.0
baz=252
CRAG Craig 86.34 34 P P 10 03 39.9 +2.9
CRAG Craig 86.34 34 P P 10 03 37.4 +0.4
baz=255,SNR=6.2
CRAG S S 10 14 07.6 -0.6
baz=255
R32K Eaglecrest 86.36 31 P P 10 03 37.6 +0.5
baz=254
R32K S S 10 14 07.3 -1.2
baz=254
C26K Camden Bay 86.38 18 P P 10 03 37.2 +0.3
baz=243
C26K S S 10 14 06.4 -1.7
baz=243
JIS Juneau Island 86.43 31 P P 10 03 38.1 +0.7
DZA Taraz 86.44 314 *e*P P 10 03 37.2 -0.7
comp=Z,71nm,0.7s,baz=314
DZA Taraz 86.44 314 *e*P P 10 03 37.1 -0.7
DZA pmax pmax
comp=Z,71nm,0.7s
U33K Whale Pass 86.51 33 IAmb IAmb 10 03 42.3
comp=Z,115nm,1.1s
U33K IAMs_20 IAMs_20 10 38 15.7
comp=Z,25µm,20.0s
U33K Whale Pass 86.51 33 P P 10 03 38.2 +0.4
baz=255,SNR=11
U33K S S 10 14 08.0 -1.8
baz=255
M30M Minto, Yukon 86.58 26 IAmb IAmb 10 04 11.0
comp=Z,138nm,1.3s
M30M Minto, Yukon 86.58 26 P P 10 03 38.1 0.0
baz=251,SNR=55
M30M S S 10 14 08.9 -1.6
baz=251
J29N Klondike Camp 86.61 24 IAmb IAmb 10 03 42.7
comp=Z,122nm,0.9s
J29N Klondike Camp 86.61 24 P P 10 03 38.6 +0.4
baz=250,SNR=41
J29N S S 10 14 08.0 -2.7
baz=250
K29M Barlow Dome 86.69 25 IAMs_20 IAMs_20 10 41 18.9
comp=Z,19µm,21.0s
K29M Barlow Dome 86.69 25 P P 10 03 38.9 +0.2
baz=251
K29M S S 10 14 10.4 -1.2
baz=251
N31M Braeburn, Yuko 86.70 27 IAmb IAmb 10 04 23.6
comp=Z,159nm,1.1s
N31M Braeburn, Yuko 86.70 27 P P 10 03 39.0 +0.3
baz=252
N31M S S 10 14 12.4 +0.8
baz=252
E27K Coleen River 86.72 20 IAmb IAmb 10 03 42.1
comp=Z,111nm,0.7s
E27K IAMs_20 IAMs_20 10 37 29.8
comp=Z,28µm,22.0s
E27K Coleen River 86.72 20 P P 10 03 38.9 +0.2
baz=247
E27K S S 10 14 13.1 +1.4
baz=247
T33K Petersburg 86.78 32 P P 10 03 39.6 +0.5
baz=255
T33K S S 10 14 13.3 +0.9
baz=255
KBL Kabul 86.79 305 P P 10 03 38.3 -1.7
KBL IAmb IAmb 10 03 54.8
comp=Z,111nm,1.1s
KBL Kabul 86.79 305 P P 10 03 38.3 -1.7
KBL pmax pmax
comp=Z,111nm,1.2s
KBL Kabul 86.79 305 P P 10 03 39.0 -1.0
SNR=38
WHY Whitehorse 86.87 28 IAmb IAmb 10 04 24.2
comp=Z,237nm,1.7s
WHY Whitehorse 86.87 28 P P 10 03 39.7 +0.1
baz=253,SNR=33
WHY S S 10 14 14.2 +0.8
baz=253
WRAK Wrangell Islan 87.00 33 IAmb IAmb 10 04 03.4
comp=Z,201nm,1.2s
WRAK Wrangell Islan 87.00 33 IAMs_20 IAMs_20 10 36 58.5
comp=Z,24µm,20.0s
WRAK Wrangell Islan 87.00 33 P P 10 03 40.4 +0.2
baz=256,SNR=8.9
WRAK S S 10 14 17.9 +3.3
baz=256
KK31 Karatay Array 87.07 314 *i* P P 10 03 39.6 -1.3
F28M Old Crow 87.11 21 IAmb IAmb 10 03 43.8
comp=Z,122nm,0.8s
F28M IAMs_20 IAMs_20 10 38 32.9
comp=Z,18µm,21.0s
F28M Old Crow 87.11 21 P P 10 03 40.2 -0.3
baz=248,SNR=186
F28M S S 10 14 15.9 +0.6
baz=248
P32M Atlin 87.13 29 IAMs_20 IAMs_20 10 38 49.7
comp=Z,24µm,21.0s
P32M Atlin 87.13 29 P P 10 03 41.0 +0.1
baz=254,SNR=25
P32M S S 10 14 17.0 +1.1
baz=254
V35K Ketchikan 87.14 34 IAmb IAmb 10 04 03.0
comp=Z,215nm,1.2s
V35K IAMs_20 IAMs_20 10 37 38.0
comp=Z,21µm,20.0s
V35K Ketchikan 87.14 34 P P 10 03 41.4 +0.5
baz=256,SNR=9.1
V35K S S 10 14 17.5 +1.6
baz=256
H29M Whitestone 87.16 22 IAmb IAmb 10 04 18.1
comp=Z,99nm,1.2s
H29M Whitestone 87.16 22 P P 10 03 40.8 0.0
baz=250
H29M S S 10 14 16.2 +0.3
baz=250
IUG Iuzhnay 87.25 313 *e*P P 10 03 41.1 -0.9
comp=Z,60nm,0.8s,baz=313
IUG *e*S **SKSac** 10 14 03.2 -1.9
baz=313
IUG Iuzhnay 87.25 313 *e*P P 10 03 41.0 -0.9
IUG *e*S **SKSac** 10 14 03.2 -1.9
IUG pmax pmax
comp=Z,60nm,0.8s
MAYO Mayo, Yukon 87.29 25 P P 10 03 41.8 +0.3
baz=252,SNR=96
MAYO S S 10 14 17.3 +0.1
baz=252
D27M Malcolm River 87.35 19 IAmb IAmb 10 03 45.2
comp=Z,116nm,0.8s
D27M Malcolm River 87.35 19 P P 10 03 42.0 +0.2
baz=247
D27M S S 10 14 18.1 +0.4
baz=247
J30M Hart River 87.42 24 P P 10 03 42.3 0.0
baz=252
J30M S S 10 14 18.4 -0.3
baz=252
SIMJ Simiganj 87.45 309 P P 10 03 42.8 -0.2
SIMJ IAmb IAmb 10 04 03.0
comp=Z,250nm,1.3s
G29M Pine Creek 87.53 22 IAmb IAmb 10 04 15.3
comp=Z,184nm,1.2s
G29M IAMs_20 IAMs_20 10 42 27.6
comp=Z,24µm,20.0s
G29M Pine Creek 87.53 22 P P 10 03 42.4 -0.2
baz=250
G29M S S 10 14 20.4 +1.0
baz=250
M31M Drury Creek, Y 87.54 27 IAmb IAmb 10 04 31.0
comp=Z,181nm,1.4s
M31M Drury Creek, Y 87.54 27 P P 10 03 42.3 -0.5
baz=254,SNR=81
M31M S S 10 14 20.5 +0.8
baz=254
BRLS Borolday 87.54 313 *i*P P 10 03 42.5 -0.8
baz=313
BRLS *e*S **SKSac** 10 14 05.1 -1.6
baz=313
BRLS Borolday 87.54 313 *c i*P P 10 03 42.4 -0.8
BRLS *e*S **SKSac** 10 14 05.1 -1.6
E28M Babbage River 87.59 20 IAmb IAmb 10 03 46.1
comp=Z,61nm,0.7s
E28M IAMs_20 IAMs_20 10 38 17.2
comp=Z,26µm,22.0s
E28M Babbage River 87.59 20 P P 10 03 42.8 -0.1
baz=248
E28M S S 10 14 20.7 +0.8
baz=248
CHM Chimkent 87.59 313 *e*P P 10 03 42.9 -0.6
comp=Z,50nm,0.8s,baz=313
CHM LR LR 10 39 38.8
baz=313
CHM Chimkent 87.59 313 *e*P P 10 03 42.8 -0.7
CHM pmax pmax
comp=Z,50nm,0.8s
I30M Mount Dempster 87.60 24 IAmb IAmb 10 04 15.5
comp=Z,149nm,1.2s
I30M IAMs_20 IAMs_20 10 39 00.6
comp=Z,28µm,20.0s
I30M Mount Dempster 87.60 24 P P 10 03 42.8 -0.3
baz=252
I30M S S 10 14 20.8 +0.4
baz=252
Q32M Nakina River 87.68 30 IAMs_20 IAMs_20 10 35 32.8
comp=Z,30µm,22.0s
Q32M Nakina River 87.68 30 P P 10 03 44.1 +0.4
baz=256
Q32M S S 10 14 22.1 +0.6
baz=256
P33M Teslin, Yukon 87.73 29 IAMs_20 IAMs_20 10 40 00.6
comp=Z,21µm,20.0s
P33M Teslin, Yukon 87.73 29 P P 10 03 43.6 -0.2
baz=255,SNR=35
P33M S S 10 14 22.9 +1.2
baz=255
GRNB Grenville Isla 87.74 36 IAmb IAmb 10 03 48.6
comp=Z,129nm,1.0s
GRNB IAMs_20 IAMs_20 10 36 28.1
comp=Z,21µm,20.0s
EPYK Eagle Plains 87.84 23 IAmb IAmb 10 03 46.4
comp=Z,129nm,0.9s
EPYK IAMs_20 IAMs_20 10 39 57.2
comp=Z,25µm,20.0s
EPYK Eagle Plains 87.84 23 P P 10 03 43.7 -0.4
baz=251,SNR=103
EPYK S S 10 14 23.4 +1.0
baz=251
N32M Quiet Lake 87.85 28 IAmb IAmb 10 03 47.1
comp=Z,138nm,0.9s
N32M IAMs_20 IAMs_20 10 39 42.7
comp=Z,19µm,22.0s
N32M Quiet Lake 87.85 28 P P 10 03 44.4 +0.1
baz=255
N32M S S 10 14 24.4 +1.7
baz=255
S34M Telegraph Cree 88.01 31 IAmb IAmb 10 03 51.1
comp=Z,135nm,0.9s
S34M Telegraph Cree 88.01 31 P P 10 03 45.7 +0.7
baz=256,SNR=64
S34M S S 10 14 26.7 +2.4
baz=256
FARO Faro, Yukon 88.02 27 IAmb IAmb 10 04 18.0
comp=Z,116nm,1.2s
FARO Faro, Yukon 88.02 27 P P 10 03 44.8 -0.2
baz=254,SNR=98
FARO S S 10 14 25.2 +1.0
baz=254
E29M Blow River 88.08 20 IAMs_20 IAMs_20 10 37 26.9
comp=Z,28µm,22.0s
E29M Blow River 88.08 20 P P 10 03 44.5 -0.6
baz=250
E29M S S 10 14 24.5 0.0
baz=250
D28M Stokes Point 88.12 19 P P 10 03 45.1 -0.2
baz=249
D28M S S 10 14 25.7 +0.9
baz=249
U35K Hyder 88.15 34 IAmb IAmb 10 04 30.3
comp=Z,118nm,0.9s
U35K IAMs_20 IAMs_20 10 37 40.8
comp=Z,27µm,20.0s
U35K Hyder 88.15 34 P P 10 03 45.8 +0.1
baz=258
U35K S S 10 14 29.3 +3.8
baz=258
G30M tAoh Zraii Nji 88.22 22 IAmb IAmb 10 03 49.1
comp=Z,85nm,1.1s
G30M tAoh Zraii Nji 88.22 22 P P 10 03 45.0 -0.9
baz=252,SNR=51
G30M S S 10 14 26.2 +0.2
baz=252
T35M Bob Quinn 88.26 32 IAmb IAmb 10 04 16.4
comp=Z,73nm,1.0s
T35M Bob Quinn 88.26 32 P P 10 03 47.0 +0.7
baz=257,SNR=21
T35M S S 10 14 29.9 +3.1
baz=257
R33M Jennings River 88.44 30 IAmb IAmb 10 03 53.0
comp=Z,82nm,1.1s
R33M IAMs_20 IAMs_20 10 40 23.8
comp=Z,25µm,20.0s
R33M Jennings River 88.44 30 P P 10 03 47.6 +0.4
baz=257
R33M S S 10 14 30.7 +2.1
baz=257
BBB Bella Bella 88.50 37 LR LR 10 36 11.0
comp=Z,22µm,21.8s,baz=262,slow=31
F30M Barrier River 88.58 21 P P 10 03 47.4 -0.1
baz=252
F30M S S 10 14 28.4 -0.9
baz=252
H31M Peel River 88.59 23 IAmb IAmb 10 03 50.4
comp=Z,77nm,0.8s
H31M IAMs_20 IAMs_20 10 40 01.5
comp=Z,19µm,21.0s
H31M Peel River 88.59 23 P P 10 03 47.1 -0.5
baz=253
DLBC Dease Lake 88.69 31 IAmb IAmb 10 03 54.3

comp=Z,117nm,1.2s
DLBC Dease Lake 88.69 31 P **P** **10 03 48.8 +0.4**
baz=257,SNR=35
DLBC S **S** **10 14 33.4 +2.5**
baz=257
DLBC Dease Lake 88.69 31 LR LR 10 37 06.8
comp=Z,38µm,20.9s,baz=266,slow=31
G31M Satah River 88.94 22 IAmb IAmb 10 03 52.4
comp=Z,120nm,0.9s
G31M IAMs_20 IAMs_20 10 38 58.2
comp=Z,26µm,22.0s
G31M Satah River 88.94 22 P **P** **10 03 48.5 -0.6**
baz=254,SNR=82
G31M S **S** **10 14 32.1 -0.5**
baz=254
BVAO Borovoye Array 88.94 323 *i* P **P** **10 03 45.9 -3.7**
BVAR Borovoye Array 88.94 323 P **P** **10 03 47.5 -2.1**
comp=Z,94nm,0.7s,baz=110,slow=6.2,SNR=128
BVAR PKiKP **PKiKP** **10 08 48.3 -0.4**
comp=Z,3.7nm,0.6s,baz=222,slow=0.7,SNR=4.8
BVAR PKKPbc **PKKPbc** **10 21 31.9 +1.4**
comp=Z,2.3nm,0.7s,baz=306,slow=5.0,SNR=5.7
BVAR LR LR 10 45 52.9
comp=Z,15µm,19.3s,baz=85,slow=37
comp=Z,94nm,0.7s
BRVK Borovoye 89.01 323 P **P** **10 03 48.8 -1.1**
BRVK IAmb IAmb 10 03 50.5
comp=Z,71nm,0.9s
BRVK Borovoye 89.01 323 IAMs_20 IAMs_20 10 45 32.4
comp=Z,21µm,20.0s
BRVK Borovoye 89.01 323 *c i* P **P** **10 03 47.8 -2.1**
BRVK pmax pmax
comp=Z,79nm,0.9s
BRVK MLR MLR
comp=Z,21µm,20.0s
BRVK Borovoye 89.01 323 P **P** **10 03 48.4 -1.5**
F31M Tsiigehtchic 89.28 22 IAmb IAmb 10 04 23.5
comp=Z,127nm,1.2s
F31M Tsiigehtchic 89.28 22 P **P** **10 03 49.8 -1.0**
baz=254,SNR=38
F31M S **S** **10 14 35.7 -0.1**
baz=254
KBO Bosley Butte 89.50 48 IAmb IAmb 10 03 59.5
comp=Z,184nm,1.0s
KBO IAMs_20 IAMs_20 10 38 33.3
comp=Z,21µm,20.0s
KRPM Rodgers 89.51 49 IAmb IAmb 10 04 00.5
comp=Z,142nm,1.0s
OZB Mount Ozzard 89.59 41 IAmb IAmb 10 03 58.2
comp=Z,91nm,0.9s
INK Inuvik 89.60 21 IAmb IAmb 10 04 50.2
comp=Z,106nm,1.2s
INK Inuvik 89.60 21 P **P** **10 03 51.1 -1.1**
baz=254,SNR=42
INK S **S** **10 14 36.6 -2.1**
baz=254
INK Inuvik 89.60 21 LR LR 10 44 07.1
comp=Z,9µm,18.7s,baz=256,slow=36
KMRM Mail Ridge 89.63 50 IAmb IAmb 10 03 59.5
comp=Z,114nm,1.0s
KMRM IAMs_20 IAMs_20 10 42 25.6
comp=Z,17µm,20.0s
KCPM Cahto Peak 89.66 50 IAmb IAmb 10 03 58.1
comp=Z,120nm,1.0s
WTLY Watson Lake, Y 89.66 30 IAmb IAmb 10 04 25.7
comp=Z,152nm,1.3s
WTLY IAMs_20 IAMs_20 10 36 53.7
comp=E,21µm,22.0s
WTLY Watson Lake, Y 89.66 30 P **P** **10 03 53.1 +0.3**
baz=258,SNR=50
WTLY S **S** **10 14 41.9 +2.1**
baz=258
KHMM Horse Mountain 89.70 49 IAmb IAmb 10 04 01.3
comp=Z,111nm,1.0s
KSXB Camp Six Broad 89.71 48 IAmb IAmb 10 04 02.5
comp=Z,81nm,0.9s
CBB Campbell River 89.84 40 IAmb IAmb 10 03 57.8
comp=Z,117nm,1.0s
J01E Myrtle Point 89.85 47 IAMs_20 IAMs_20 10 40 45.3
comp=Z,16µm,20.0s
HOPS Hopland Field 89.96 51 IAmb IAmb 10 04 00.6
comp=Z,89nm,1.1s
HOPS IAMs_20 IAMs_20 10 41 17.5
comp=Z,18µm,20.0s
L02F Cave Junction 89.98 48 IAmb IAmb 10 04 00.8
comp=Z,109nm,0.9s
K02D Willamette Mer 89.98 47 IAMs_20 IAMs_20 10 41 53.8
comp=Z,19µm,18.0s
MCCM Marconi Confer 90.01 52 IAMs_20 IAMs_20 10 35 49.8
comp=Z,19µm,22.0s
GDXM Geysers 90.15 51 IAmb IAmb 10 04 00.5
comp=Z,70nm,0.9s
GDXM IAMs_20 IAMs_20 10 42 27.6
comp=Z,23µm,18.0s
TGTN Hyland Airport 90.19 28 P **P** **10 03 55.5 +0.2**
baz=259,SNR=58
TGTN S **S** **10 14 45.4 +0.7**
baz=259
HEBO Mount Hebo 90.24 45 IAMs_20 IAMs_20 10 40 11.6
comp=Z,21µm,20.0s
DBO Dodson Butte 90.34 47 IAmb IAmb 10 04 21.5
comp=Z,86nm,0.9s
DBO IAMs_20 IAMs_20 10 36 50.4
comp=Z,24µm,22.0s
NLWA Neilton Lookou 90.45 43 IAmb IAmb 10 04 03.1
comp=Z,142nm,0.9s
CLRS Cowichan Lake 90.46 41 IAmb IAmb 10 04 03.5
comp=Z,72nm,0.9s
F03A Seaside 90.47 44 IAMs_20 IAMs_20 10 38 52.7
comp=Z,24µm,20.0s
WISH Wishkah 90.48 43 IAMs_20 IAMs_20 10 39 16.8
comp=Z,20µm,20.0s
COR Corvallis 90.48 45 P **P** **10 03 57.0 +0.1**
COR IAmb IAmb 10 04 02.8
comp=Z,116nm,1.1s
COR Corvallis 90.48 45 IAMs_20 IAMs_20 10 36 45.0
comp=Z,24µm,22.0s
COR Corvallis 90.48 45 P **P** **10 03 57.1 +0.1**
COR pmax pmax
comp=Z,116nm,1.1s
HUMO Hull Mountain 90.49 47 IAMs_20 IAMs_20 10 40 49.3
comp=Z,23µm,20.0s
YBH Yreka Blue Hor 90.56 48 IAmb IAmb 10 04 04.3
comp=Z,153nm,1.0s
YBH IAMs_20 IAMs_20 10 39 08.4
comp=Z,20µm,20.0s
G03D McMinnville, O 90.59 45 IAmb IAmb 10 04 17.8
comp=Z,125nm,1.0s
G03D IAMs_20 IAMs_20 10 36 59.8
comp=Z,25µm,21.0s
BUCK Buck Mountain 90.66 46 IAMs_20 IAMs_20 10 36 51.7
comp=Z,18µm,22.0s
B04A Port Angeles 90.78 42 IAMs_20 IAMs_20 10 39 07.7
comp=Z,20µm,21.0s
F04D Rainier, OR 90.87 44 IAmb IAmb 10 04 04.4
comp=Z,96nm,0.9s
F04D IAMs_20 IAMs_20 10 39 06.2
comp=Z,24µm,20.0s
H04D Lebanon 90.87 46 IAmb IAmb 10 04 13.7
comp=Z,112nm,0.9s
H04D IAMs_20 IAMs_20 10 37 08.4
comp=Z,21µm,22.0s
PGC Sidney 90.89 41 IAmb IAmb 10 04 01.9
comp=Z,47nm,0.8s
L04D Klamath Falls 90.92 48 IAMs_20 IAMs_20 10 40 44.8
comp=Z,21µm,20.0s
SAO San Andreas Ge 90.99 53 IAMs_20 IAMs_20 10 37 00.7
comp=Z,22µm,21.0s
I04A Tendick Farm, 91.02 46 IAmb IAmb 10 04 04.9
comp=Z,125nm,0.9s
GNW Green Mountain 91.17 42 IAMs_20 IAMs_20 10 36 55.2
comp=Z,25µm,22.0s
TOAD Toad River Com 91.23 31 P **P** **10 03 59.8 -0.4**
baz=262,SNR=27
TOAD S **S** **10 14 53.2 -1.1**
baz=262
ORV Oroville 91.24 51 P **P** **10 04 00.6 0.0**
ORV IAmb IAmb 10 04 02.3
comp=Z,262nm,1.9s
ORV Oroville 91.24 51 P **P** **10 04 00.6 0.0**
ORV pmax pmax
comp=Z,262nm,1.9s
F04A Amboy 91.26 44 IAmb IAmb 10 04 06.4
comp=Z,117nm,0.9s
F04A IAMs_20 IAMs_20 10 39 17.6
comp=Z,17µm,20.0s
H04A Detroit Lake 91.28 45 IAmb IAmb 10 04 02.2
comp=Z,204nm,1.6s
H04A IAMs_20 IAMs_20 10 37 21.3
comp=Z,21µm,22.0s
BBGB Big Mountain B 91.29 54 IAMs_20 IAMs_20 10 37 21.9
comp=Z,24µm,21.0s
K04D Chiloquin, OR 91.37 47 IAMs_20 IAMs_20 10 41 18.7
comp=Z,18µm,20.0s
PMPB Monarch Peak 91.45 54 IAmb IAmb 10 04 27.9
comp=Z,121nm,1.2s
AFDM Forest Hills D 91.58 51 P **P** **10 04 02.2 -0.1**
AFDM IAmb IAmb 10 04 09.3
comp=Z,105nm,1.0s
AFDM IAMs_20 IAMs_20 10 36 50.5
comp=Z,20µm,22.0s
D05A Enumclaw 91.69 43 IAMs_20 IAMs_20 10 41 12.0
comp=Z,18µm,20.0s
HOOD Mount Hood Mea 91.73 45 IAMs_20 IAMs_20 10 37 35.0
comp=Z,19µm,21.0s
LON Longmire 91.77 43 IAMs_20 IAMs_20 10 39 56.0
comp=Z,20µm,20.0s
J05D Fort Rock, OR 91.82 47 IAMs_20 IAMs_20 10 43 04.5
comp=Z,19µm,19.0s
I05D Terrebonne, OR 91.85 46 IAMs_20 IAMs_20 10 37 30.2
comp=Z,17µm,21.0s
CMB Columbia Colle 91.95 52 IAmb IAmb 10 04 22.3
comp=Z,60nm,0.9s
CMB IAMs_20 IAMs_20 10 42 56.3
comp=Z,18µm,19.0s
G05A Wamic 91.96 45 IAmb IAmb 10 04 12.2
comp=Z,114nm,0.9s
G05A IAMs_20 IAMs_20 10 37 43.0
comp=Z,22µm,22.0s
KOTAN Kotaneelee Air 92.01 30 P **P** **10 04 03.6 -0.1**
baz=263,SNR=40
K05A Summer Lake 92.01 47 IAMs_20 IAMs_20 10 41 58.7
comp=Z,22µm,19.0s
SMMC Simmler 92.01 55 P **P** **10 04 05.4 +1.0**
baz=265,SNR=13
PINE Pine Mountain 92.08 46 P **P** **10 04 05.4 +0.8**
PINE IAMs_20 IAMs_20 10 37 58.4
comp=Z,19µm,22.0s
PKM Mcpherson Peak 92.12 55 P **P** **10 04 06.0 +0.9**
baz=265,SNR=16
SBC Santa Barbara 92.17 56 P **P** **10 04 05.9 +0.9**
baz=265
SCZ2 Santa Cruz Isl 92.19 56 P **P** **10 04 05.5 +0.3**
baz=265
SNCC San Nicolas Is 92.22 57 IAMs_20 IAMs_20 10 37 46.5
comp=Z,25µm,21.0s
SNCC San Nicolas Is 92.22 57 P **P** **10 04 05.3 0.0**
baz=265
EMB Emerald Bay 92.26 51 IAMs_20 IAMs_20 10 37 11.4
comp=Z,23µm,22.0s
FLDN Fort Liard 92.31 30 IAmb IAmb 10 04 10.6
comp=Z,84nm,1.0s
FLDN IAMs_20 IAMs_20 10 39 13.6
comp=Z,23µm,21.0s
FLDN Fort Liard 92.31 30 P **P** **10 04 05.4 +0.4**
baz=263,SNR=28
HRA Herat 92.34 304 IAmb IAmb 10 04 20.8
comp=Z,129nm,1.1s
MPK Martis Peak 92.35 51 IAMs_20 IAMs_20 10 37 14.5
comp=Z,23µm,22.0s
G06A Carlson Farm, 92.44 45 IAmb IAmb 10 04 11.3
comp=Z,87nm,1.4s
G06A IAMs_20 IAMs_20 10 38 07.7
comp=Z,22µm,22.0s
BCW Bitter Crk WRg 92.46 55 IAMs_20 IAMs_20 10 39 54.8
comp=Z,20µm,20.0s
NGCH Negor - Chabah 92.53 295 P **P** **10 04 06.1 -0.8**
SNR=12
LTY Liberty 92.60 43 IAmb IAmb 10 04 11.7
comp=Z,39nm,0.8s
LTY IAMs_20 IAMs_20 10 43 02.9
comp=Z,19µm,20.0s
VOG Valley Oaks Go 92.60 54 P **P** **10 04 07.3 +0.3**
baz=265,SNR=8.0
PNTR Pine Nut 92.66 51 IAMs_20 IAMs_20 10 37 25.0
comp=Z,21µm,22.0s
WRGLY Wrigley 92.67 27 IAmb IAmb 10 04 55.8
comp=Z,51nm,1.1s
WRGLY IAMs_20 IAMs_20 10 43 10.2
comp=Z,20µm,20.0s
WRGLY Wrigley 92.67 27 P **P** **10 04 06.8 +0.1**
baz=263,SNR=21
WAKR Walker 92.74 52 IAmb IAmb 10 04 11.5
comp=Z,97nm,0.9s
WAKR IAMs_20 IAMs_20 10 37 27.0
comp=Z,28µm,22.0s
MXC Moxie City 92.79 44 IAmb IAmb 10 04 25.8
comp=Z,47nm,1.0s
MXC IAMs_20 IAMs_20 10 40 29.0
comp=Z,23µm,21.0s
VES Vestal, Richgr 92.80 54 P **P** **10 04 08.1 +0.2**
baz=265,SNR=20
PAHR Pah Rah Range 92.88 51 IAmb IAmb 10 04 11.6
comp=Z,91nm,0.9s
PAHR IAMs_20 IAMs_20 10 37 44.7
comp=Z,16µm,21.0s
YERR Yerington 92.93 51 IAmb IAmb 10 04 15.2
comp=Z,118nm,1.0s
YERR IAMs_20 IAMs_20 10 37 33.1
comp=Z,18µm,22.0s
ARVC Arvin 92.95 55 P **P** **10 04 09.5 +0.8**
baz=265,SNR=20
MDPB Devils Postpil 92.95 53 IAMs_20 IAMs_20 10 37 19.7
comp=Z,24µm,22.0s
F07A Phinny Hill Vi 92.99 44 IAMs_20 IAMs_20 10 41 58.3
comp=Z,19µm,20.0s
OSI Osito Audit: C 93.00 56 P **P** **10 04 09.8 +0.9**
baz=265
SCI2 San Clemente I 93.01 57 P **P** **10 04 09.1 +0.1**
baz=265
E07A Sunnyside 93.09 44 IAmb IAmb 10 04 15.2
comp=Z,92nm,1.0s
A36M Sachs Harbour 93.12 18 P **P** **10 04 08.0 -0.6**
baz=262,SNR=172
I07A Izee 93.14 46 IAmb IAmb 10 04 15.8
comp=Z,142nm,1.1s
I07A IAMs_20 IAMs_20 10 38 33.8
comp=Z,22µm,22.0s
MLAC Mammoth, Mammo 93.14 53 P **P** **10 04 10.3 +0.6**
baz=266
CIS Catalina Islan 93.16 57 P **P** **10 04 10.2 +0.5**
baz=266
C36M Paulatuk 93.17 21 IAmb IAmb 10 04 10.7
comp=Z,52nm,0.7s
C36M IAMs_20 IAMs_20 10 42 03.1
comp=Z,23µm,22.0s
C36M Paulatuk 93.17 21 P **P** **10 04 07.6 -1.2**
baz=263
RER Riviere de l'E 93.27 248 P **P** **10 04 09.4 -1.2**
FMP Fort Macarthur 93.28 57 P **P** **10 04 09.4 -0.8**
baz=266
ISA Isabella, Lake 93.28 55 IAmb IAmb 10 04 17.4
comp=Z,64nm,1.0s
ISA Isabella, Lake 93.28 55 P **P** **10 04 10.9 +0.6**
baz=266,SNR=29
DECC Greenverdugo 93.29 56 P **P** **10 04 10.9 +0.6**
baz=266,SNR=5.6
HAWA Hanford 93.30 44 IAmb IAmb 10 04 16.1
comp=Z,77nm,1.0s
HAWA IAMs_20 IAMs_20 10 41 51.0
comp=Z,19µm,20.0s
PASC Pasadena Art C 93.41 56 IAMs_20 IAMs_20 10 38 22.9
comp=Z,21µm,21.0s
LHV Little Huntoon 93.45 52 IAMs_20 IAMs_20 10 41 39.9
comp=Z,20µm,20.0s
RYN Ryan 93.46 52 IAMs_20 IAMs_20 10 38 01.2
comp=Z,20µm,21.0s
TIN Tinemaha, Big 93.58 53 P **P** **10 04 12.7 +1.1**
baz=266,SNR=24
EDW2 Edwards Air Fo 93.61 55 P **P** **10 04 12.7 +0.9**
baz=266,SNR=34
CCAC Calif City Air 93.62 55 IAmb IAmb 10 04 14.5
comp=Z,134nm,1.4s
G08A Pilot Rock 93.62 45 IAmb IAmb 10 04 13.4
comp=Z,203nm,1.7s
G08A IAMs_20 IAMs_20 10 38 45.0
comp=Z,20µm,21.0s
NVAR Mina Array Bea 93.62 52 P **P** **10 04 12.7 +0.8**
NVAR Mina Array Bea 93.62 52 P **P** **10 04 11.7 -0.2**
comp=Z,131nm,0.8s,baz=253,slow=5.6,SNR=290
NVAR PKKPbc **PKKPbc** **10 21 23.4 +5.2**
comp=Z,2.7nm,0.8s,baz=85,slow=2.8,SNR=6.9
NVAR PKPPKP **P'P'df** **10 29 23.0 -5.9**
comp=Z,1.0nm,0.8s,baz=82,slow=5.9,SNR=3.9
NVAR LR LR 10 38 32.0
comp=Z,20µm,21.9s,baz=266,slow=30
comp=Z,131nm,0.8s
E08A Dider Farm, El 93.64 44 IAmb IAmb 10 04 17.8
comp=Z,90nm,1.0s
E08A IAMs_20 IAMs_20 10 41 03.4
comp=Z,23µm,20.0s
WVOR Wild Horse Val 93.65 48 IAmb IAmb 10 04 18.4
comp=Z,97nm,1.1s
WVOR IAMs_20 IAMs_20 10 43 38.5
comp=Z,20µm,19.0s
CWC Cottonwood Cre 93.66 54 P **P** **10 04 12.6 +0.5**
baz=266
NV11 Mina Array Sit 93.74 52 P **P** **10 04 13.3 +0.9**
NV11 IAMs_20 IAMs_20 10 37 57.5
comp=Z,24µm,22.0s
D08A Wollman Farm, 93.77 43 IAmb IAmb 10 04 17.5
comp=Z,76nm,1.1s
D08A IAMs_20 IAMs_20 10 40 58.9
comp=Z,19µm,20.0s
DSP Deep Springs 93.81 53 IAMs_20 IAMs_20 10 38 09.4
comp=Z,23µm,21.0s
KVN Kaiserville 93.82 51 IAmb IAmb 10 04 30.7
comp=Z,95nm,1.0s
KVN IAMs_20 IAMs_20 10 38 12.7
comp=Z,18µm,22.0s
J08A Circle Bar Ran 93.83 47 IAmb IAmb 10 04 17.0
comp=Z,92nm,0.9s
J08A IAMs_20 IAMs_20 10 39 36.8
comp=Z,17µm,22.0s
BFSC Mount Baldy Ra 93.85 56 P **P** **10 04 13.8 +0.8**
baz=266,SNR=22
JLN Jalan Bani Buh 93.86 292 P **P** **10 04 12.7 -0.4**
SNR=14
LRMC Laurel Mtn Rad 93.91 55 P **P** **10 04 14.5 +1.2**
baz=266,SNR=25
ELS Elsinore Mount 94.00 57 IAmb IAmb 10 04 32.0
comp=Z,56nm,1.1s
ELS IAMs_20 IAMs_20 10 39 00.7
comp=Z,23µm,21.0s
LCH Last Change Ra 94.06 53 IAmb IAmb 10 04 17.0
comp=Z,51nm,0.9s
LCH IAMs_20 IAMs_20 10 38 05.1
comp=Z,26µm,22.0s
MPMC Manual Prospec 94.11 54 P **P** **10 04 15.0 +0.8**
baz=266,SNR=54
MURC Murrieta 94.19 57 P **P** **10 04 15.2 +0.8**
baz=266,SNR=16
109C Camp Elliot, M 94.22 57 IAmb IAmb 10 04 33.3
comp=Z,168nm,1.2s
109C IAMs_20 IAMs_20 10 38 25.5
comp=Z,18µm,21.0s
109C Camp Elliot, M 94.22 57 P **P** **10 04 15.7 +1.2**
baz=266,SNR=11
C09A Chrisman Ranch 94.26 43 IAmb IAmb 10 04 34.8
comp=Z,51nm,1.1s
C09A IAMs_20 IAMs_20 10 40 55.7
comp=Z,21µm,21.0s
GRAC Grapevine Rang 94.27 53 P **P** **10 04 15.4 +0.6**
GRAC IAmb IAmb 10 04 18.2
comp=Z,113nm,0.9s
GRAC IAMs_20 IAMs_20 10 38 22.6
comp=Z,22µm,21.0s
GRAC Grapevine Rang 94.27 53 P **P** **10 04 15.5 +0.8**
baz=266,SNR=37
E09A Wood Farm, Sta 94.27 44 IAmb IAmb 10 04 17.1
comp=Z,83nm,1.0s
E09A IAMs_20 IAMs_20 10 41 22.1
comp=Z,18µm,20.0s
MZP Montezuma Peak 94.30 53 IAmb IAmb 10 04 18.9
comp=Z,89nm,0.8s
WBK Wadi Bani Khal 94.30 292 P **P** **10 04 14.4 -0.7**
SNR=20
GMN Gold Mountain 94.37 53 IAmb IAmb 10 04 18.5
comp=Z,47nm,0.9s
RRX Edison Barstow 94.43 56 P **P** **10 04 16.7 +1.2**
baz=266
BBRC Big Bear Solar 94.46 56 P **P** **10 04 17.0 +1.1**
baz=266
Q09A Carvers 94.52 52 IAMs_20 IAMs_20 10 38 36.3
comp=Z,21µm,22.0s
CBX Cerro Bola 94.55 58 IAmb IAmb 10 04 33.9
comp=Z,177nm,1.6s
CBX IAMs_20 IAMs_20 10 42 01.4
comp=Z,16µm,20.0s
BAR Barrett 94.57 58 IAMs_20 IAMs_20 10 38 02.8
comp=Z,22µm,22.0s
QSM Queen of Sheba 94.60 54 IAmb IAmb 10 04 34.3
comp=Z,117nm,0.9s
QSM IAMs_20 IAMs_20 10 40 07.5
comp=Z,22µm,20.0s
TKX Tecate 94.61 58 IAmb IAmb 10 04 25.6
comp=Z,57nm,1.0s
TKX IAMs_20 IAMs_20 10 38 39.0
comp=Z,18µm,22.0s
GSC Goldstone, Bar 94.61 55 IAmb IAmb 10 04 34.6
comp=Z,101nm,1.1s
GSC IAMs_20 IAMs_20 10 38 42.9
comp=Z,24µm,22.0s
GSC Goldstone, Bar 94.61 55 P **P** **10 04 17.1 +0.7**
baz=267,SNR=33
FURC Furnace Creek, 94.64 54 P **P** **10 04 17.0 +0.7**
baz=267,SNR=78
BMO Blue Mountains 94.76 46 IAmb IAmb 10 04 22.7
comp=Z,102nm,1.1s
BMO IAMs_20 IAMs_20 10 39 21.8
comp=Z,23µm,22.0s
GWY Greenwater Val 94.78 54 IAmb IAmb 10 04 20.4
comp=Z,105nm,1.1s
GWY IAMs_20 IAMs_20 10 39 53.1
comp=Z,22µm,22.0s
MONP2 Monument Peak 94.79 58 P **P** **10 04 18.3 +0.9**
baz=267,SNR=37
PFO Pinyon Flats O 94.80 57 P **P** **10 04 17.9 +0.5**
PFO IAmb IAmb 10 04 37.2
comp=Z,125nm,1.1s
PFO Pinyon Flats O 94.80 57 IAMs_20 IAMs_20 10 39 23.0
comp=Z,26µm,21.0s
PFO Pinyon Flats O 94.80 57 P **P** **10 04 17.9 +0.5**
baz=267,SNR=27
PFO Pinyon Flats O 94.80 57 *i* P **P** **10 04 16.9 -0.4**
PFO pmax pmax
PFO comp=Z,120nm,1.0s MLR MLR
comp=Z,11µm,18.0s
PFO Pinyon Flats O 94.80 57 LR LR 10 39 36.0
comp=Z,27µm,21.5s,baz=274,slow=31
TPFO Pinon Flats 94.80 57 P **P** **10 04 18.2 +0.8**
baz=267,SNR=22
WCT Wildcat Mounta 94.85 54 IAMs_20 IAMs_20 10 39 14.9
comp=Z,22µm,21.0s
PMD Palm Desert 94.87 57 IAmb IAmb 10 04 35.9
comp=Z,94nm,1.0s
F10A Beach Ranch, E 94.87 44 IAmb IAmb 10 04 22.3
comp=Z,105nm,1.1s
F10A IAMs_20 IAMs_20 10 39 34.2
comp=Z,20µm,22.0s
SVE Sverdlovsk 94.95 327 *e* P **P** **10 04 16.5 -0.8**
SVE *e* 10 08 04.3
SVE *eS* **SKSac** **10 14 47.0 -1.2**
SVE *e* 10 22 05.7
SVE pmax pmax
comp=Z,57nm,1.4s
SVE MLR MLR
comp=E,42µm,24.0s
SVE MLR MLR
comp=Z,49µm,24.0s
HEC Hector,Ludlow 94.97 56 P **P** **10 04 18.8 +0.8**
baz=267,SNR=37
IKP In-Ko-Pah, Jac 95.04 58 P **P** **10 04 19.4 +1.0**
baz=267,SNR=14
AB31 Akbulak array 95.05 319 *i* P **P** **10 04 14.5 -3.4**
ABKAR Akbulak array 95.05 319 P **P** **10 04 16.2 -1.7**
ABKAR Akbulak array 95.05 319 IAmb IAmb 10 04 17.6
comp=Z,21nm,1.1s
NEW Newport 95.05 42 IAmb IAmb 10 04 21.9
comp=Z,57nm,1.1s
NEW Newport 95.05 42 IAMs_20 IAMs_20 10 41 51.2
comp=Z,18µm,20.0s
NEW Newport 95.05 42 P **P** **10 04 17.6 -0.4**
baz=268,SNR=39
NEW Newport 95.05 42 LR LR 10 43 28.2
comp=Z,16µm,18.7s,baz=277,slow=33
RMX La Rumorosa 95.06 58 IAMs_20 IAMs_20 10 38 17.9
comp=Z,20µm,22.0s
JMDO Jabal Madar 95.08 292 P **P** **10 04 17.8 -0.9**
SNR=10
SHOC Shoshone, Teco 95.08 55 P **P** **10 04 19.1 +0.6**
baz=267,SNR=14
MHTO MHTO 95.11 291 P **P** **10 04 17.5 -1.3**

SNR=12
BRLDA **Berland Lookou** 95.12 36 IAMs_20 IAMs_20 10 39 35.2
comp=Z,17µm,22.0s
BIDO **Bidbid** 95.13 293 P **P** 10 04 18.4 -0.5
SNR=30
ESJX **Sierra Juarez** 95.14 58 IAmb IAmb 10 04 23.6
comp=Z,66nm,1.0s
ESJX IAMs_20 IAMs_20 10 42 19.9
comp=Z,15µm,19.0s
SMDO **Samad** 95.17 293 P **P** 10 04 18.4 -0.8
SNR=14
YUH **Yuha Desert** 95.19 58 IAmb IAmb 10 04 23.0
comp=Z,102nm,1.1s
YUH IAMs_20 IAMs_20 10 38 20.4
comp=Z,19µm,22.0s
BELC **Belle Mtn. Jos** 95.21 56 P **P** 10 04 20.2 +1.0
baz=267,SNR=32
VTX **Valle De La Tr** 95.24 59 IAmb IAmb 10 04 38.7
comp=Z,83nm,1.0s
SWSC **Sam W. Stewart** 95.31 58 P **P** 10 04 20.9 +1.3
baz=267,SNR=9.2
TUQ **Turquoise Moun** 95.34 55 P **P** 10 04 20.5 +0.7
baz=267,SNR=66
MSEY **Mahe Island** 95.41 265 P **P** 10 04 19.9 -0.5
MSEY IAmb IAmb 10 04 35.6
comp=Z,70nm,1.6s
MSEY **Mahe Island** 95.41 265 P **P** 10 04 19.5 -0.9
MSEY **Mahe Island** 95.41 265 P **P** 10 04 19.9 -0.5
MSEY pmax pmax
comp=Z,70nm,1.6s
MSEY **Mahe Island** 95.41 265 P **P** 10 04 18.6 -1.8
MSEY P **PcP** 10 04 18.8 -1.8
DQM **DQM** 95.44 289 P **P** 10 04 20.5 +0.1
JASK **Jask - Hormozg** 95.51 295 P **P** 10 04 20.9 +0.3
SNR=14
GMRC **Granite Mounta** 95.53 56 P **P** 10 04 21.4 +0.8
baz=267,SNR=61
S11A **Rachel** 95.59 53 IAMs_20 IAMs_20 10 39 18.6
comp=Z,19µm,21.0s
BC3 **Big Chuckawall** 95.64 57 P **P** 10 04 22.3 +1.2
baz=267,SNR=33
PLID **Pearl Lake** 95.70 45 IAmb IAmb 10 04 25.9
comp=Z,38nm,0.9s
PLID IAMs_20 IAMs_20 10 43 35.1
comp=Z,14µm,20.0s
R11B **Troy Canyon, C** 95.75 52 IAmb IAmb 10 04 23.8
comp=Z,71nm,1.3s
R11B IAMs_20 IAMs_20 10 39 13.7
comp=Z,23µm,22.0s
R11B **Troy Canyon, C** 95.75 52 P **P** 10 04 21.9 +0.2
baz=268,SNR=75
RPN **Rapa Nui** 95.75 118 LR LR 10 39 24.3
comp=Z,11µm,22.0s,baz=272,slow=30
MFID **Camas Ranch** 95.76 47 IAmb IAmb 10 04 27.9
comp=Z,57nm,1.1s
MFID IAMs_20 IAMs_20 10 40 58.3
comp=Z,15µm,21.0s
ELIB **Princess Elisa** 95.80 194 *d*P **P** 10 04 20.5 -0.6
comp=Z,114nm,1.2s
ELIB *d*PP **PP** 10 08 20.4 +7.4
HOQ **Hoqain** 95.88 293 P **P** 10 04 21.7 -0.6
SNR=14
GEYT **Alibeck** 95.90 307 P **P** 10 04 21.4 -0.7
GEYT IAmb IAmb 10 04 37.5
comp=Z,107nm,1.4s
GEYT **Alibeck** 95.90 307 P **P** 10 04 21.5 -0.7
GEYT pmax pmax
comp=Z,107nm,1.4s
GEYT **Alibeck** 95.90 307 P **P** 10 04 20.4 -1.8
comp=Z,11nm,0.8s,baz=287,slow=2.5,SNR=13
GEYT LR LR 10 49 29.4
comp=Z,16µm,21.3s,baz=88,slow=37
comp=Z,11nm,0.8s
GYA0B **ALIBECK ARRAY** 95.90 307 IAmb IAmb 10 04 39.6
comp=Z,45nm,1.0s
IRM **Iron Mountain** 95.92 56 P **P** 10 04 23.5 +1.2
baz=267,SNR=12
BSY **Bisya** 95.94 292 P **P** 10 04 21.6 -1.0
SNR=12
SHPR **Sheep Range** 96.01 54 IAmb IAmb 10 04 26.7
comp=Z,49nm,1.0s
SFX **San Felipe** 96.02 59 IAmb IAmb 10 04 34.1
comp=Z,40nm,0.9s
SFX IAMs_20 IAMs_20 10 41 14.4
comp=Z,14µm,20.0s
ARU **Arti** 96.09 326 *c i*P **P** 10 04 19.6 -2.9
ARU 10 08 11.2
ARU S **SKSac** 10 14 50.9 -3.3
ARU SP **SP** 10 16 49.3 -6.6
ARU pmax pmax
comp=Z,28nm,0.7s
ARU MLR MLR
comp=Z,55µm,23.0s
ARU **Arti** 96.09 326 P **P** 10 04 19.8 -2.7
comp=Z,18nm,0.6s,baz=103,slow=2.2,SNR=26
ARU PKKP **PKKPdf** 10 21 14.4 +1.6
comp=Z,4.1nm,0.4s,baz=272,slow=2.9,SNR=4.7
ARU LR LR 10 47 20.5
comp=Z,50µm,21.5s,baz=90,slow=35
comp=Z,18nm,0.6s
ELK **Elko** 96.11 50 IAmb IAmb 10 04 27.6
comp=Z,45nm,0.9s
ELK IAMs_20 IAMs_20 10 46 55.6
comp=Z,14µm,19.0s
ELK **Elko** 96.11 50 LR LR 10 40 23.8
comp=Z,9µm,21.9s,baz=262,slow=31
PRN **Pahroc Range** 96.13 53 IAmb IAmb 10 04 41.7
comp=Z,117nm,1.1s
PRN IAMs_20 IAMs_20 10 39 55.0
comp=Z,20µm,21.0s
GLA **Glamis** 96.14 57 IAMs_20 IAMs_20 10 39 54.3
comp=Z,16µm,20.0s
GLA **Glamis** 96.14 57 P **P** 10 04 24.9 +1.5
baz=268,SNR=15
V12A **Nelson** 96.23 55 IAmb IAmb 10 04 26.4
comp=Z,111nm,1.2s
AKTO **Aktyubinsk** 96.33 320 P **P** 10 04 21.0 -2.7
comp=Z,13nm,0.8s,baz=73,slow=4.2,SNR=19
AKTO LR LR 10 48 37.3
comp=Z,27µm,20.5s,baz=80,slow=36
comp=Z,13nm,0.8s
Q12A **Willow Creek R** 96.36 51 IAmb IAmb 10 04 47.8
comp=Z,99nm,1.0s
Q12A IAMs_20 IAMs_20 10 40 18.0
comp=Z,20µm,22.0s
NEE2 **Needles Airpor** 96.38 56 P **P** 10 04 25.8 +1.5
baz=268,SNR=15
BLYC **Blythe** 96.42 57 IAmb IAmb 10 04 32.6
comp=Z,65nm,0.9s
BLYC IAMs_20 IAMs_20 10 40 36.8
comp=Z,17µm,21.0s
ARQ **Araqi** 96.59 293 P **P** 10 04 24.9 -0.7
SNR=13
SOHO **SOHO** 96.62 294 *i* P **P** 10 04 23.1 -2.5
SNR=25
SOHO **SOHO** 96.62 294 P **P** 10 04 24.4 -1.2
YKAW3 **Yellowknife Wh** 96.69 28 IAMs_20 IAMs_20 10 44 34.3
comp=Z,21µm,21.0s
YKA **Yellowknife Ar** 96.69 28 P **P** 10 04 24.4 -0.6
YKA **Yellowknife Ar** 96.69 28 *i* P **P** 10 04 24.2 -0.8
YKA pmax pmax
comp=Z,19nm,0.9s
YKA **Yellowknife Ar** 96.69 28 P **P** 10 04 24.3 -0.8
comp=Z,12nm,0.8s,baz=273,slow=4.7,SNR=72
YKA PKKPbc **PKKPbc** 10 21 06.4 -4.2
comp=Z,1.0nm,0.7s,baz=90,slow=2.1,SNR=3.6
YKA PKPPKP **P'P'df** 10 29 20.6 -0.5
comp=Z,2.0nm,1.1s,baz=68,slow=2.1,SNR=6.0
YKA LR LR 10 42 40.2
comp=Z,17µm,21.8s,baz=288,slow=32
comp=Z,12nm,0.8s
BELA **Belgrano 2** 96.69 179 P **P** 10 04 25.9 +1.0
BELA IAmb IAmb 10 04 40.6
comp=Z,103nm,1.1s
YKAW1 **Yellowknife Wh** 96.75 28 IAMs_20 IAMs_20 10 44 25.9
comp=Z,18µm,21.0s
SPR3 **Spring Creek 3** 96.75 51 IAmb IAmb 10 04 34.7
comp=Z,86nm,1.0s
SPR3 IAMs_20 IAMs_20 10 39 45.3
comp=Z,20µm,22.0s
PDMCI **Parker Dam,Lak** 96.76 56 P **P** 10 04 27.1 +1.0
baz=268,SNR=36
HLID **Hailey** 96.80 47 IAmb IAmb 10 04 31.7
comp=Z,40nm,1.0s
HLID IAMs_20 IAMs_20 10 41 30.7
comp=Z,18µm,21.0s
HLID **Hailey** 96.80 47 P **P** 10 04 26.3 +0.1
baz=269,SNR=73

MDH **Madha** 96.90 295 *i* P **P** 10 04 24.0 -2.9
SNR=13
MDH **Madha** 96.90 295 P **P** 10 04 25.4 -1.5
SNR=9.4
UOSS **Minazif** 96.97 294 P **P** 10 04 24.8 -2.4
UOSS IAmb IAmb 10 04 41.4
comp=Z,55nm,1.0s
UOSS **Minazif** 96.97 294 *i* P **P** 10 04 24.5 -2.8
UOSS **Minazif** 96.97 294 P **P** 10 04 25.9 -1.4
W13A **Hualapai Mount** 97.00 55 IAmb IAmb 10 04 30.1
comp=Z,113nm,1.4s
W13A IAMs_20 IAMs_20 10 40 05.9
comp=Z,21µm,22.0s
113A **Mohawk Valley,** 97.02 58 IAmb IAmb 10 04 32.5
comp=Z,39nm,1.0s
HATD **Hatta, Dubai** 97.03 294 *i* P **P** 10 04 26.0 -1.5
SNR=19
HATD **Hatta, Dubai** 97.03 294 P **P** 10 04 26.8 -0.7
SNR=22
SHME **Shamm** 97.08 295 *i* P **P** 10 04 25.7 -2.0
SNR=12
SHME **Shamm** 97.08 295 P **P** 10 04 27.1 -0.6
SNR=12
ASHO **Ashiyiah** 97.08 294 *i* P **P** 10 04 26.1 -1.8
SNR=21
ASHO **Ashiyiah** 97.08 294 P **P** 10 04 27.2 -0.6
SNR=21
PSUT **Pine Spring** 97.11 52 IAmb IAmb 10 04 34.3
comp=Z,45nm,0.9s
PSUT IAMs_20 IAMs_20 10 40 07.8
comp=Z,23µm,22.0s
SHAO **Shalim** 97.13 287 P **P** 10 04 25.5 -2.6
SHAO **Shalim** 97.13 287 P **P** 10 04 27.1 -1.0
MSO **Missoula** 97.17 44 IAMs_20 IAMs_20 10 44 18.9
comp=Z,19µm,20.0s
NAZ **Nazwa, Dubai** 97.46 294 *i* P **P** 10 04 27.2 -2.2
SNR=8.4
NAZ **Nazwa, Dubai** 97.46 294 P **P** 10 04 28.6 -0.8
SNR=19
CCUT **Cedar City** 97.48 53 IAmb IAmb 10 04 33.9
comp=Z,33nm,0.8s
CCUT IAMs_20 IAMs_20 10 41 02.6
comp=Z,23µm,22.0s
FAQ **Al Faqa, Dubai** 97.51 294 *i* P **P** 10 04 27.5 -2.2
SNR=10
FAQ **Al Faqa, Dubai** 97.51 294 P **P** 10 04 28.6 -1.1
SNR=19
EDM **Edmonton** 97.52 37 IAMs_20 IAMs_20 10 41 56.8
comp=Z,24µm,21.0s
LCMT **Little Creek M** 97.56 54 IAmb IAmb 10 04 56.0
comp=Z,45nm,0.9s
LCMT IAMs_20 IAMs_20 10 41 54.9
comp=Z,19µm,21.0s
Y14A **Wickenburg** 97.69 57 IAMs_20 IAMs_20 10 41 24.4
comp=Z,15µm,20.0s
SZCU **Shurtz Canyon** 97.70 53 IAmb IAmb 10 04 34.1
comp=Z,40nm,1.0s
SZCU IAMs_20 IAMs_20 10 41 19.4
comp=Z,24µm,22.0s
ASUD **Al Ashush, Dub** 97.75 294 *i* P **P** 10 04 28.7 -2.0
SNR=35
ASUD **Al Ashush, Dub** 97.75 294 P **P** 10 04 29.8 -0.9
SNR=28
DMTO **DMTO** 97.76 287 P **P** 10 04 27.8 -3.1
214A **Organ Pipe Nat** 97.80 59 IAmb IAmb 10 04 36.1
comp=Z,41nm,1.0s
214A IAMs_20 IAMs_20 10 45 11.4
comp=Z,14µm,19.0s
214A **Organ Pipe Nat** 97.80 59 P Pdif 10 04 32.5 +1.6
baz=268,SNR=23
KNB **Kanab** 97.90 54 IAmb IAmb 10 04 50.1
comp=Z,78nm,1.0s
KNB IAMs_20 IAMs_20 10 42 04.8
comp=Z,18µm,21.0s
DUG **Dugway, Tooele** 97.94 50 P Pdif 10 04 31.6 +0.1
baz=270,SNR=17
HVU **Hansel Valley** 97.98 49 IAmb IAmb 10 04 37.3
comp=Z,70nm,0.9s
AJN **Ajban** 98.06 294 *i* P **P** 10 04 29.9 -2.2
SNR=8.2
AJN **Ajban** 98.06 294 P **P** 10 04 30.9 -1.2
SNR=8.3
TCRU **Three Creeks R** 98.22 52 IAMs_20 IAMs_20 10 40 55.1
comp=Z,24µm,22.0s
SPUT **South Promonto** 98.23 49 IAmb IAmb 10 04 38.2
comp=Z,42nm,0.9s
PKCU **Pink Cliffs** 98.31 53 IAmb IAmb 10 04 49.6
comp=Z,64nm,1.0s
PKCU IAMs_20 IAMs_20 10 41 59.7
comp=Z,24µm,22.0s
U15A **North Rim** 98.32 54 IAmb IAmb 10 04 40.8
comp=Z,98nm,1.4s
U15A IAMs_20 IAMs_20 10 40 28.9
comp=Z,22µm,22.0s
MVU **Marysvale** 98.40 52 IAmb IAmb 10 05 08.0
comp=Z,75nm,1.0s
MTPU **Mount Pierson** 98.42 52 IAmb IAmb 10 04 38.0
comp=Z,53nm,1.0s
MTPU IAMs_20 IAMs_20 10 41 22.5
comp=Z,22µm,22.0s
RBK **Rabkut** 98.45 287 P **P** 10 04 33.2 -0.9
DOK **Doka** 98.58 288 P **P** 10 04 33.3 -1.3
BOZ **Bozeman (W)** 98.78 45 IAmb IAmb 10 04 40.5
comp=Z,39nm,0.9s
BOZ IAMs_20 IAMs_20 10 45 24.1
comp=Z,14µm,20.0s
BOZ **Bozeman (W)** 98.78 45 Pdiff Pdif 10 04 35.2 0.0
baz=271
MPU **Maple Canyon** 98.85 50 IAMs_20 IAMs_20 10 47 10.8
comp=Z,14µm,20.0s
WHFO **Wadi Hawf** 98.89 287 P **P** 10 04 34.5 -1.5
HWUT **Hardware Ranch** 98.89 49 IAmb IAmb 10 04 40.8
comp=Z,32nm,0.8s
HWUT IAMs_20 IAMs_20 10 44 28.2
comp=Z,14µm,20.0s
X16A **Lo Mia Camp, P** 98.99 56 IAMs_20 IAMs_20 10 42 06.9
comp=Z,18µm,21.0s
TCUT **Toone Canyon** 99.01 49 IAmb IAmb 10 05 17.1
comp=Z,41nm,1.0s
MZWR **Madinat Zayed** 99.03 293 P **Pdif** 10 04 35.4 -1.1
WUAZ **Wupatki** 99.06 55 IAmb IAmb 10 04 39.6
comp=Z,52nm,1.1s
WUAZ **Wupatki** 99.06 55 Pdiff **Pdif** 10 04 37.9 +1.3
baz=270
Q16A **Castle Valley** 99.21 52 IAmb IAmb 10 04 55.7
comp=Z,43nm,0.9s
NVL **N'lazarevskaya** 99.29 193 *e*P **Pdif** 10 04 32.3 -4.4
NVL *e**PP **pP** 10 04 48.2 -4.5
NVL *e*S **SKSac** 10 15 05.7 -4.4
NVL *e*SP **SP** 10 17 27.3 -2.4
NVL pmax pmax
comp=Z,33nm,1.4s
NVL smax smax
comp=N,3µm,12.4s
ABTO **Aybut** 99.31 287 P **Pdif** 10 04 37.2 -0.7
IMW **Indian Meadow** 99.31 47 IAMs_20 IAMs_20 10 43 15.7
comp=Z,20µm,21.0s
TPAW **Teton Pass** 99.31 47 P **Pdif** 10 04 37.6 -0.1
TPAW IAMs_20 IAMs_20 10 43 13.7
comp=Z,24µm,21.0s
YFT **Old Faithful** 99.37 46 IAmb IAmb 10 05 00.1
comp=Z,38nm,0.9s
MOOW **Moose Ponds** 99.46 47 IAMs_20 IAMs_20 10 43 08.6
comp=Z,23µm,21.0s
SNOW **Snow King Moun** 99.46 47 IAMs_20 IAMs_20 10 43 29.6
comp=Z,22µm,21.0s
YNM **Yellowstone No** 99.46 46 IAMs_20 IAMs_20 10 42 15.6
comp=Z,25µm,22.0s
YNR **Norris Junctio** 99.48 46 IAMs_20 IAMs_20 10 42 39.1
comp=Z,24µm,22.0s
FLWY **Flagg Ranch** 99.48 46 IAMs_20 IAMs_20 10 43 00.2
comp=Z,22µm,21.0s
TUC **Tucson** 99.53 58 P **Pdif** 10 04 39.4 +0.7
TUC **Tucson** 99.53 58 Pdiff **Pdif** 10 04 40.1 +1.4
baz=270
TUC **Tucson** 99.53 58 P **Pdif** 10 04 39.4 +0.7
TUC pmax pmax
comp=Z,13nm,0.9s
P17A **Butcher Ranch,** 99.54 51 IAMs_20 IAMs_20 10 47 36.5
comp=Z,14µm,20.0s
HMU **Henry Mountain** 99.56 53 IAMs_20 IAMs_20 10 42 41.7
comp=Z,18µm,21.0s
H17A **Grant Village** 99.56 46 Pdiff **Pdif** 10 04 40.0 +1.2
baz=272
LOHW **Long Hollow** 99.56 47 IAMs_20 IAMs_20 10 43 33.4
comp=Z,24µm,21.0s

SRU **San Rafael Swe** 99.72 51 IAMs_20 IAMs_20 10 41 43.8
comp=Z,15µm,22.0s
LPIG **La Paz** 99.80 67 LR LR 10 42 30.4
comp=Z,23µm,20.7s,baz=275,slow=31
YMP **Mirror Lake Pl** 99.85 46 IAMs_20 IAMs_20 10 42 40.9
comp=Z,24µm,22.0s
P18A **Preston Nutter** 99.92 51 IAMs_20 IAMs_20 10 47 58.2
comp=Z,14µm,19.0s
GHWR **Ruwais** 99.96 293 P **Pdif** 10 04 39.6 -1.0
EGMT **Eagleton** 99.98 42 IAMs_20 IAMs_20 10 44 44.8
comp=Z,17µm,20.0s
EGMT **Eagleton** 99.98 42 Pdiff **Pdif** 10 04 40.4 0.0
baz=273
JRN **Qarnain Island** 100.01 294 P **Pdif** 10 04 39.5 -1.3
SNR=7.1
TROLL **Troll, Antarti** 100.05 189 ⇑PKKPbc **PKKPbc** 10 20 56.9 -4.6
comp=Z,254nm,0.8s
TROLL ⇓Pdiff **Pdif** 10 04 39.6 -0.6
comp=Z,0.2nm,0.1s
TROLL ⇓pPdiff **pPdif** 10 04 55.7 -0.6
comp=Z,2µm,0.8s
TROLL ⇑SKSac **SKSac** 10 15 12.0 -2.2
comp=Z,109µm,5.5s
X18A **Snowflake** 100.22 56 IAMs_20 IAMs_20 10 42 56.5
comp=Z,16µm,21.0s
BW06 **Boulder Array** 100.35 48 Pdiff **Pdif** 10 04 42.0 -0.3
baz=272
PDAR **Pinedale Array** 100.36 48 P **Pdif** 10 04 41.2 -1.1
comp=Z,32nm,0.9s,baz=232,slow=1.4,SNR=121
PDAR PKiKP **PKiKP** 10 09 09.9 +0.7
comp=Z,4.0nm,0.8s,baz=225,slow=1.1,SNR=6.7
PDAR PKKPbc **PKKPbc** 10 20 59.6 -0.4
comp=Z,1.6nm,0.8s,baz=105,slow=6.6,SNR=4.1
PDAR PKPPKP **P'P'df** 10 29 17.1 +1.2
comp=Z,0.8nm,0.8s,baz=111,slow=3.3,SNR=3.9
W18A **Petrified Fore** 100.40 55 IAMs_20 IAMs_20 10 42 03.0
comp=Z,21µm,22.0s
W18A **Petrified Fore** 100.40 55 Pdiff **Pdif** 10 04 43.8 +1.2
baz=271
RLMT **Red Lodge** 100.47 45 IAMs_20 IAMs_20 10 46 37.6
comp=Z,14µm,20.0s
RLMT **Red Lodge** 100.47 45 Pdiff **Pdif** 10 04 43.3 +0.6
baz=273
FOMA **Nahampoana Res** 100.65 243 IAMs_20 IAMs_20 10 47 16.5
comp=Z,14µm,20.0s
FOMA **Nahampoana Res** 100.65 243 P **Pdif** 10 04 43.2 -0.5
319A **Douglas** 100.80 59 IAMs_20 IAMs_20 10 45 36.0
comp=Z,15µm,20.0s
KIRV **Kirov** 100.89 329 P **Pdif** 10 04 41.5 -2.5
comp=Z,26nm,0.6s,baz=43,slow=4.6,SNR=7.9
SLWR **Sila** 101.05 293 P **Pdif** 10 04 44.3 -1.1
SNAA **Sanae** 101.16 188 ⇓PKKPbc **PKKPbc** 10 20 54.1 -4.1
comp=Z,127nm,1.0s
SNAA ⇓Pdiff **Pdif** 10 04 46.1 +1.0
comp=Z,84nm,0.7s
SNAA ⇓pPdiff **pPdif** 10 05 00.4 -0.7
comp=Z,467nm,1.1s
SNAA ⇑SKSac **SKSac** 10 15 14.8 -4.7
comp=Z,9µm,3.8s
SNAA **Sanae** 101.16 188 P **Pdif** 10 04 43.4 -1.7
comp=Z,6.5nm,1.1s,baz=212,slow=15,SNR=2.5
SNAA PKKPbc **PKKPbc** 10 20 54.1 -4.1
comp=Z,4.7nm,0.7s,baz=186,slow=3.9,SNR=5.1
MVCO **Mesa Verde** 101.36 53 IAMs_20 IAMs_20 10 43 54.9
comp=Z,17µm,21.0s
MVCO **Mesa Verde** 101.36 53 Pdiff **Pdif** 10 04 47.6 +0.7
baz=272
VOI **Vohitsoka** 101.39 246 P **Pdif** 10 04 49.2 +2.0
O20A **White River Ci** 101.45 50 Pdiff **Pdif** 10 04 47.3 +0.1
baz=272
TRNA **Turayna** 101.49 294 P **Pdif** 10 04 46.5 -0.9
SNR=7.9
SHMA **Al-Shehemyia** 101.73 295 P **Pdif** 10 04 47.9 -0.6
SMRA **Abu-Samra** 101.84 294 P **Pdif** 10 04 48.3 -0.7
SNR=11
121A **Cookes Peak, D** 102.06 58 Pdiff **Pdif** 10 04 50.3 +0.2
baz=271
121A **Cookes Peak, D** 102.06 58 P **Pdif** 10 04 53.2 +3.1
baz=271
VNA3 **Neumayer Olymp** 102.40 186 ⇓PKKPbc **PKKPbc** 10 20 49.9 -4.7
comp=Z,8.1nm,0.7s
VNA3 Pdiff **Pdif** 10 04 55.5 +5.0
comp=Z,16nm,0.9s
VNA3 ⇓pPdiff **pPdif** 10 05 04.6 -2.0
comp=Z,16nm,0.9s
VNA3 ⇓SKSac **SKSac** 10 15 24.0 -1.3
comp=Z,16nm,1.2s
VNA2 **Neumayer--Watz** 102.44 187 ⇑PKKPbc **PKKPbc** 10 20 47.2 -7.2
comp=Z,7.0nm,0.7s,baz=329,slow=16
VNA2 ⇓Pdiff **Pdif** 10 04 56.6 +5.9
comp=Z,14nm,0.7s,baz=286,slow=31
VNA2 ⇑SKSac **SKSac** 10 15 25.7 +0.3
comp=Z,0.9nm,0.1s,baz=357,slow=9.0
SMCO **Snowmass** 102.47 51 IAMs_20 IAMs_20 10 49 22.7
comp=Z,15µm,20.0s
LAO **LASA Array** 102.48 44 IAMs_20 IAMs_20 10 46 05.6
comp=Z,14µm,21.0s
LAO **LASA Array** 102.48 44 Pdiff **Pdif** 10 04 51.7 +0.3
baz=275
LAO **LASA Array** 102.48 44 P **Pdif** 10 04 52.7 +1.3
baz=275
K22A **Casper** 102.59 48 Pdiff **Pdif** 10 04 52.2 -0.1
baz=274
K22A **Casper** 102.59 48 P **Pdif** 10 04 52.1 -0.1
baz=274
Y22A **Socorro** 102.71 57 P **Pdif** 10 04 54.5 +1.6
baz=272
BELG **Belogornoye** 102.71 322 *i* P **Pdif** 10 04 50.3 -1.9
BELG pmax pmax
comp=Z,6.0nm,1.0s
BELG **Belogornoye** 102.71 322 PKiKP **PKiKP** 10 09 12.1 -0.6
comp=Z,24nm,0.8s,baz=243,slow=1.9,SNR=3.8
BELG PKKPbc **PKKPbc** 10 20 54.5 +1.4
comp=Z,16nm,0.9s,baz=168,slow=3.1,SNR=4.4
Y22D **IRIS PASSCAL I** 102.74 56 Pdiff **Pdif** 10 04 54.0 +1.0
baz=272
Y22F **Passcal Instru** 102.74 56 Pdiff **Pdif** 10 04 54.1 +1.1
baz=272
ANMO **Albuquerque** 103.09 56 Pdiff **Pdif** 10 04 55.3 +0.7
baz=272
ANMO **Albuquerque** 103.09 56 P **Pdif** 10 04 56.0 +1.4
baz=272
N23A **Red Feather La** 103.15 49 Pdiff **Pdif** 10 04 55.2 +0.4
baz=274
HOPEN **Hopen** 103.35 349 *e*P **Pdif** 10 04 55.1 +0.5
HOPEN IVmB_BB 10 04 58.2
comp=Z,1µm,2.8s
HOPEN *e*PP **PP** 10 09 10.3 0.0
HOPEN *e*SKSac **SKSac** 10 15 31.4 +2.1
HOPEN *e*SP **SP** 10 18 19.5 +6.7
HOPEN IVMs_BB IVMs_BB 10 49 02.7
comp=Z,11µm,23.9s
ISCO **Idaho Springs** 103.48 51 IAMs_20 IAMs_20 10 48 45.9
comp=Z,13µm,20.0s
ISCO **Idaho Springs** 103.48 51 Pdiff **Pdif** 10 04 56.0 -0.4
baz=274
ISCO **Idaho Springs** 103.48 51 P **Pdif** 10 04 56.6 +0.2
baz=274
PHWY **Pilot Hill** 103.49 49 IAMs_20 IAMs_20 10 49 34.5
comp=Z,15µm,20.0s
DGMT **Dagmar** 103.65 42 IAMs_20 IAMs_20 10 49 23.5
comp=Z,14µm,20.0s
DGMT **Dagmar** 103.65 42 Pdiff **Pdif** 10 04 56.6 0.0
baz=277
DGMT **Dagmar** 103.65 42 P **Pdif** 10 04 56.7 +0.2
baz=277
SDCO **Great Sand Dun** 103.71 53 IAMs_20 IAMs_20 10 44 14.1
comp=Z,23µm,22.0s
SDCO **Great Sand Dun** 103.71 53 Pdiff **Pdif** 10 04 57.2 -0.2
baz=274
SDCO **Great Sand Dun** 103.71 53 P **Pdif** 10 04 58.3 +0.9
baz=274
SPA0 **Spitsbergen Ar** 103.77 351 *e*P **Pdif** 10 04 56.7 +0.2
SPA0 IVmBBB 10 04 57.1
comp=Z,2µm,3.4s
SPA0 *e*PP **PP** 10 09 14.7 +1.3
SPA0 *e*SKSac **SKSac** 10 15 35.7 +4.3
SPA0 *e*SP **SP** 10 18 17.8 +0.5
SPA0 *e*SS **SS** 10 24 03.0 +7.7
SPA0 IVMs_BB IVMs_BB 10 48 20.9
comp=Z,7µm,24.4s
SPITS **Spitsbergen Ar** 103.77 351 Pdiff **Pdif** 10 04 53.4 -3.1
comp=Z,7.1nm,0.9s,baz=61,slow=16,SNR=8.3
SPITS PKiKP **PKiKP** 10 09 13.8 -0.3
comp=Z,6.7nm,0.6s,baz=104,slow=3.5,SNR=13
SPITS PKKPbc **PKKPbc** 10 20 46.1 -4.6
comp=Z,2.7nm,0.6s,baz=166,slow=5.1,SNR=6.2
KBS **Kingsbay** 103.85 353 *e*P **Pdif** 10 04 58.1 +1.4

KBS					IVmB_BB			10 05 13.6	
	comp=Z,717nm,3.0s								
KBS					*e*PP		**PKiKP**	**10 09 15.8**	**+1.6**
KBS					*e*SKSac		**SKSac**	**10 15 30.8**	**-0.8**
KBS					*e*PS		**PS**	**10 18 29.0**	**+3.3**
KBS					*e*SS		**SS**	**10 23 59.7**	**+3.5**
KBS					IVMs_BB	IVMs_BB		10 45 28.0	
	comp=Z,7μm,32.3s								
MAK	**Makhachkala**	**103.87**	**313**	*i*	P		**Pdif**	**10 04 56.1**	**-1.5**
MAK				*i*				10 09 13.9	
MAK					*e*PPP		PPP	10 11 25.7	
MAK					*e*			10 15 29.7	
MAK					*e*PS		**PS**	**10 18 24.3**	**-2.9**
MAK					*e*SS		SS	10 23 55.4	-3.0
MAK					*e*SSS		SSS	10 27 55.4	
MAK					pmax		pmax		
	comp=Z,107nm,0.9s								
Q24A	**Divide**	**103.90**	**51**		IAMs_20	IAMs_20		10 45 06.6	
	comp=Z,20μm,22.0s								
Q24A	**Divide**	**103.90**	**51**		Pdiff		**Pdif**	**10 04 58.3**	**0.0**
	baz=274								
MNTX	**Cornudas Mount**	**104.12**	**59**		Pdiff		**Pdif**	**10 04 59.2**	**+0.2**
	baz=272								
MNTX	**Cornudas Mount**	**104.12**	**59**		P		**Pdif**	**10 05 00.0**	**+1.0**
	baz=272								
RSSD	**Black Hills**	**104.27**	**46**		Pdiff		**Pdif**	**10 04 59.2**	**-0.4**
	baz=276								
RSSD	**Black Hills**	**104.27**	**46**		P		**Pdif**	**10 04 59.4**	**-0.2**
	baz=276								
BRIGG	**Briggsdale**	**104.41**	**50**		IAMs_20	IAMs_20		10 47 17.9	
	comp=Z,15μm,20.0s								
KBD	**Kabd**	**104.59**	**299**		P		**Pdif**	**10 05 00.2**	**-0.9**
T25A	**Trinidad**	**104.62**	**53**		Pdiff		**Pdif**	**10 05 01.5**	**+0.1**
	baz=274								
KLMR	**Klimovskoe**	**105.32**	**332**	*e*P			**Pdif**	**10 05 00.1**	**-3.5**
KLMR								10 09 23.3	
KLMR					PS		**PS**	**10 18 42.3**	**+0.7**
KLMR					pmax		pmax		
	comp=Z,34nm,1.6s								
KLMR					MLR		MLR		
	comp=Z,22μm,22.0s								
APA	**Apatity**	**105.48**	**339**	⇓*i*	P		**Pdif**	**10 04 59.7**	**-4.5**
APA				*i*				10 15 36.0	
APA					*i*PS		**PS**	**10 18 38.0**	**-5.0**
APA					pmax		pmax		
	comp=Z,13nm,1.0s								
VADS	**Vadso**	**105.65**	**342**	*e*P			**Pdif**	**10 05 08.1**	**+3.2**
VADS					IVmB_BB			10 05 17.6	
	comp=Z,3μm,4.3s								
VADS					*e*PP		**PP**	**10 09 29.0**	**+1.6**
VADS					*e*SKSac		**SKSac**	**10 15 40.0**	**0.0**
VADS					*e*SP		**SP**	**10 18 41.3**	**+4.3**
VADS					*e*SS		**SKKPbc**	**10 24 25.2**	**+1.5**
VADS					IVMs_BB	IVMs_BB		10 54 34.4	
	comp=Z,9μm,26.6s								
TX31	**Lajitas Ar. Si**	**105.70**	**61**		P		**PKiKP**	**10 09 20.4**	**+1.3**
	baz=272								
TXAR	**Lajitas Array**	**105.70**	**61**		Pdiff		**Pdif**	**10 05 07.4**	**+1.2**
	comp=Z,4.5nm,0.9s,baz=258,slow=3.4,SNR=27								
TXAR					PKiKP		**PKiKP**	**10 09 19.4**	**+0.3**
	comp=Z,3.7nm,0.8s,baz=195,slow=0.8,SNR=12								
TXAR					PKKPbc		**PKKPbc**	**10 20 44.2**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=122,slow=4.7,SNR=5.4								
TXAR					PKKPab		**PKKPab**	**10 21 02.3**	**+2.5**
	comp=Z,5.9nm,0.9s,baz=102,slow=4.5,SNR=8.9								
TXAR					PKPPKP		**P'P'df**	**10 29 09.4**	**+2.9**
	comp=Z,1.0nm,0.9s,baz=138,slow=3.5,SNR=6.3								
BJO1	**Bjornoya**	**105.77**	**348**	*e*P			**Pdif**	**10 05 04.7**	**-0.7**
BJO1					IVmB_BB			10 05 04.7	
	comp=Z,2μm,3.5s								
BJO1					*e*PP		**PP**	**10 09 27.3**	**-0.9**
BJO1					*e*SKSac		**SKSac**	**10 15 41.7**	**+1.3**
BJO1					*e*SP		**SP**	**10 18 44.7**	**+6.6**
BJO1					*e*SS		**SKKPbc**	**10 24 25.2**	**+1.7**
BJO1					IVMs_BB	IVMs_BB		10 50 25.1	
	comp=Z,10μm,24.7s								
KSCO	**Kaye Shedlock'**	**105.86**	**51**		IAMs_20	IAMs_20		10 46 53.6	
	comp=Z,19μm,21.0s								
KSCO	**Kaye Shedlock'**	**105.86**	**51**		PKiKP		**PKiKP**	**10 09 20.1**	**+1.0**
	baz=276								
OGNE	**Ogallala**	**106.10**	**49**		IAMs_20	IAMs_20		10 47 12.9	
	comp=Z,17μm,22.0s								
OGNE	**Ogallala**	**106.10**	**49**		PKiKP		**PKiKP**	**10 09 20.0**	**+0.5**
	baz=277								
MSTX	**Muleshoe**	**106.19**	**56**		IAMs_20	IAMs_20		10 46 35.7	
	comp=Z,14μm,22.0s								
MSTX	**Muleshoe**	**106.19**	**56**		PKiKP		**PKiKP**	**10 09 20.5**	**+0.6**
	baz=274								
E28A	**Huff**	**106.27**	**43**		IAMs_20	IAMs_20		10 48 45.0	
	comp=Z,19μm,21.0s								
KEV	**Kevo**	**106.53**	**343**		IAMs_20	IAMs_20		10 57 33.4	
	comp=Z,14μm,21.0s								
MDND	**Maddock**	**106.78**	**42**		IAMs_20	IAMs_20		10 52 24.4	
	comp=Z,18μm,21.0s								
MDND	**Maddock**	**106.78**	**42**		PKiKP		**PKiKP**	**10 09 21.2**	**+0.7**
	baz=281								
ONI	**Oni**	**106.87**	**313**		IAMs_20	IAMs_20		10 58 46.2	
	comp=Z,13μm,20.0s								
ZAIG	**Zacatecas**	**106.90**	**68**		IAMs_20	IAMs_20		10 46 21.2	
	comp=Z,16μm,21.0s								
HAMF	**Hammerfest**	**107.00**	**344**	*e*P			**Pdif**	**10 05 11.4**	**+0.5**
HAMF					IVmB_BB			10 05 43.4	
	comp=Z,3μm,3.8s								
HAMF					*e*PP		**PP**	**10 09 39.2**	**+1.8**
HAMF					*e*SKSac		**SKSac**	**10 15 48.5**	**+2.5**
HAMF					*e*SP		**SP**	**10 18 54.9**	**+3.9**
HAMF					*e*SS		**SS**	**10 24 42.2**	**+2.7**
HAMF					IVMs_BB	IVMs_BB		10 54 57.3	
	comp=Z,8μm,27.2s								
AMTX	**Amarillo**	**107.01**	**55**		IAMs_20	IAMs_20		10 46 06.5	
	comp=Z,12μm,21.0s								
AMTX	**Amarillo**	**107.01**	**55**		PKiKP		**PKiKP**	**10 09 22.4**	**+1.0**
	baz=275								
NEEM	**North Greenlan**	**107.09**	**5**	*i*	P		**PKiKP**	**10 09 21.4**	**+0.8**
NEEM					IAMs_20	IAMs_20		10 47 49.0	
	comp=Z,23μm,25.0s								
ARA0	**ARCESS Array S**	**107.10**	**343**	*e*P			**Pdif**	**10 05 13.2**	**+1.8**
ARA0					IVmB_BB			10 05 17.8	
	comp=Z,3μm,3.7s								
ARA0					*e*PP		**PP**	**10 09 35.8**	**-2.4**
ARA0					*e*SKSac		**SKSac**	**10 15 45.1**	**-1.4**
ARA0					*e*SP		**SP**	**10 18 54.9**	**+2.9**
ARA0					*e*SS		**SS**	**10 24 43.9**	**+3.0**
ARA0					IVMs_BB	IVMs_BB		10 55 14.2	
	comp=Z,9μm,26.3s								
ARCES	**ARCESS Array B**	**107.10**	**343**		Pdiff		**Pdif**	**10 05 11.3**	**-0.1**
	comp=Z,4.9nm,0.8s,baz=68,slow=6.9,SNR=11								
ARCES					PKiKP		**PKiKP**	**10 09 19.7**	**-0.7**
	comp=Z,11nm,0.5s,baz=81,slow=1.7,SNR=39								
ARCES					PKKPbc		**PKKPbc**	**10 20 34.4**	**-5.9**
	comp=Z,2.6nm,0.8s,baz=329,slow=1.1,SNR=1.3								
KBZ	**Khabaz**	**107.11**	**314**		Pdiff		**Pdif**	**10 05 12.7**	**+0.8**
	comp=Z,2.1nm,0.9s,baz=199,slow=5.7,SNR=5.6								
KBZ					PKiKP		**PKiKP**	**10 09 22.9**	**+1.8**
	comp=Z,5.0nm,0.8s,baz=88,slow=3.9,SNR=5.6								
KBZ					PKKPbc		**PKKPbc**	**10 20 39.6**	**+0.1**
	comp=Z,2.7nm,0.9s,baz=282,slow=5.4,SNR=3.7								
KIV	**Kislovodsk**	**107.22**	**314**	*e*P			**Pdif**	**10 05 08.9**	**-3.7**
KIV				*e*				10 09 36.1	
KIV					*e*PPP		PPP	10 11 51.8	
KIV				*e*				10 15 44.3	
KIV					*e*PS		**PS**	**10 18 58.4**	**-3.8**
KIV					*e*SS		SS	10 24 40.1	-4.2
KIV					*e*SSS		SSS	10 28 42.7	
KIV					pmax		pmax		
	comp=Z,14nm,1.1s								
KIV					MLR		MLR		
	comp=Z,6μm,21.0s								
MOS	**Moscow**	**107.76**	**327**	*e*P			**Pdif**	**10 05 10.1**	**-4.5**
MOS				*e*				10 09 38.6	
MOS				*e*				10 15 51.8	
MOS					*e*PS		**PS**	**10 19 09.8**	**+2.8**
MOS					*e*SS		SS	10 24 49.4	-1.1
MOS					MLR		MLR		
	comp=E,31μm,21.0s								
MOS					MLR		MLR		
	comp=Z,38μm,21.0s								
SUSD	**Miller**	**107.83**	**45**		IAMs_20	IAMs_20		10 52 03.5	
	comp=Z,13μm,19.0s								
SUSD	**Miller**	**107.83**	**45**		PKiKP		**PKiKP**	**10 09 23.7**	**+1.2**
	baz=280								
KTK1	**Kautokeino**	**108.06**	**343**	*e*P			**Pdif**	**10 05 15.7**	**0.0**
KTK1					IVmBBB			10 05 19.8	
	comp=Z,1μm,2.6s								
KTK1					*e*PP		**PP**	**10 09 42.6**	**-2.6**
KTK1					*e*SKSac		**SKSac**	**10 15 50.5**	**-0.2**
KTK1					*e*SP		**SP**	**10 19 05.2**	**+3.3**
KTK1					*e*SS		**SS**	**10 25 01.4**	**+7.5**
KTK1					IVMs_BB	IVMs_BB		10 53 28.3	
	comp=Z,5μm,25.4s								
CBKS	**Cedar Bluff**	**108.12**	**51**		PKiKP		**PKiKP**	**10 09 24.3**	**+1.1**
	baz=278								
JOF	**Joensuu**	**108.22**	**335**	*e*P			**PKiKP**	**10 09 23.4**	**+0.8**
BCA	**Borcka**	**108.39**	**312**	⇑P			**PKiKP**	**10 09 24.5**	**+0.8**
ERBR	**Yeremizino-Bor**	**108.45**	**316**	*e*P			**Pdif**	**10 05 16.4**	**-1.5**
ERBR				*e*				10 09 44.5	
ERBR				*e*				10 15 53.4	
ERBR					*e*SP		SP	10 19 08.1	+1.0
ERBR					*e*SS		SS	10 25 16.0	+15
ERBR					pmax		pmax		
	comp=Z,8.0nm,0.5s								
ERBR					MLR		MLR		
	comp=N,29μm,24.0s								
ERBR					MLR		MLR		
	comp=Z,37μm,24.0s								
ERBR					MLR		MLR		
	comp=E,27μm,20.0s								
LABN	**Labinsk**	**108.49**	**315**	*e*P			**Pdif**	**10 05 17.0**	**-1.1**
LABN				*e*				10 09 48.4	
LABN					*e*SP		SP	10 19 08.1	+0.5
LABN					*e*SS		**SS**	**10 25 02.5**	**+1.3**
LABN					pmax		pmax		
	comp=Z,19nm,0.4s								
LABN					MLR		MLR		
	comp=Z,30μm,22.0s								
LABN					MLR		MLR		
	comp=N,26μm,22.0s								
LABN					MLR		MLR		
	comp=E,36μm,21.0s								
DAG	**Danmarks Havn**	**108.55**	**358**	*i*	P		**PKiKP**	**10 09 23.6**	**+0.7**
DAG					IAMs_20	IAMs_20		10 49 28.8	
	comp=Z,19μm,24.6s								
JETT	**Jettan, Norway**	**108.55**	**344**	*e*P			**Pdif**	**10 05 18.8**	**+0.8**
JETT					IVmBBB			10 05 34.7	
	comp=Z,1μm,3.2s								
JETT					*e*PP		**PP**	**10 09 51.0**	**+2.3**
JETT					*e*SKSac		**SKSac**	**10 15 52.6**	**-0.2**
JETT					*e*SP		**SP**	**10 19 09.5**	**+2.7**
JETT					IVMs_BB	IVMs_BB		10 54 37.0	
	comp=Z,8μm,24.6s								
D32A	**Dogwood Acres,**	**108.64**	**42**		IAMs_20	IAMs_20		10 52 37.6	
	comp=Z,18μm,20.0s								
ULM	**Lac du Bonnet**	**108.66**	**39**		IAMs_20	IAMs_20		10 49 22.8	
	comp=Z,14μm,20.0s								
ULM	**Lac du Bonnet**	**108.66**	**39**		Pdiff		**Pdif**	**10 05 18.9**	**+0.2**
	comp=Z,9.2nm,0.9s,baz=298,slow=5.7,SNR=12								
ULM					PKiKP		**PKiKP**	**10 09 23.0**	**-0.9**
	comp=Z,6.5nm,0.8s,baz=351,slow=2.7,SNR=6.8								
ULM					PKKP		**PKKPab**	**10 20 47.4**	**+1.2**
	comp=Z,9.1nm,1.1s,baz=92,slow=3.3,SNR=6.4								
ELIS	**Ellis County**	**108.72**	**54**		IAMs_20	IAMs_20		10 49 09.7	
	comp=Z,18μm,20.0s								
TRO	**Tromso**	**108.91**	**344**	*e*P			**Pdif**	**10 05 20.3**	**+0.9**
TRO					IVmB_BB			10 05 36.7	
	comp=Z,2μm,3.5s								
TRO					*e*PP		**PP**	**10 09 54.4**	**+3.1**
TRO					*e*SKSac		**SKSac**	**10 15 53.9**	**-0.3**
TRO					*e*SP		**SP**	**10 19 13.9**	**+3.5**
TRO					*e*SS		**SS**	**10 25 09.9**	**+4.7**
TRO					IVMs_BB	IVMs_BB		10 53 23.7	
	comp=Z,8μm,22.6s								
ABTX	**Abilene, Hawle**	**108.92**	**58**		PKiKP		**PKiKP**	**10 09 25.3**	**+0.4**
	baz=276								
BGNE	**Belgrade**	**108.93**	**48**		IAMs_20	IAMs_20		10 50 54.8	
	comp=Z,12μm,20.0s								
BGNE	**Belgrade**	**108.93**	**48**		PKiKP		**PKiKP**	**10 09 25.6**	**+0.9**
	baz=280								
R32A	**Long Quarter,**	**108.97**	**51**		IAMs_20	IAMs_20		10 47 46.0	
	comp=Z,21μm,22.0s								
JCT	**Junction City**	**108.98**	**60**		PKiKP		**PKiKP**	**10 09 24.9**	**-0.2**
	baz=275								
JCT	**Junction City**	**108.98**	**60**		P		**PKiKP**	**10 09 24.8**	**-0.3**
	baz=275								
KULLO	**Kullorsuaq**	**108.98**	**8**	*i*	P		**PKiKP**	**10 09 23.9**	**+0.1**
KULLO					IAMs_20	IAMs_20		10 49 43.1	
	comp=Z,37μm,23.3s								
U32A	**Winter Ranch,**	**109.02**	**54**		IAMs_20	IAMs_20		10 48 19.4	
	comp=Z,16μm,21.0s								
AGMN	**Agassiz Nation**	**109.14**	**41**		IAMs_20	IAMs_20		10 48 00.7	
	comp=Z,16μm,21.0s								
AGMN	**Agassiz Nation**	**109.14**	**41**		PKiKP		**PKiKP**	**10 09 25.8**	**+0.9**
	baz=284								
ATD	**Arta Tunnel**	**109.20**	**280**	*e*Pdif			**Pdif**	**10 05 25.7**	**+3.7**
ATD				*e*SKSac			**SKSac**	**10 16 03.8**	**+6.0**
ATD	**Arta Tunnel**	**109.20**	**280**	*e*P			**Pdif**	**10 05 20.1**	**-1.9**
OK038	**West end E0370**	**109.21**	**53**		IAMs_20	IAMs_20		10 48 47.6	
	comp=Z,16μm,21.0s								
WMOK	**Wichita Mounta**	**109.40**	**55**		PKiKP		**PKiKP**	**10 09 26.4**	**+0.6**
	baz=277								
WMOK	**Wichita Mounta**	**109.40**	**55**		P		**PKiKP**	**10 09 26.1**	**+0.4**
	baz=277								
SOC	**Sochi**	**109.40**	**314**	*e*P			**Pdif**	**10 05 18.5**	**-3.7**
SOC				*e*				10 09 51.1	
SOC				*e*PS			**PS**	**10 19 15.1**	**-9.1**
SOC				pmax			pmax		
	comp=Z,5.0nm,0.4s								
SOC				MLR			MLR		
	comp=Z,12μm,17.0s								
F33A	**5 Mile Ranch,**	**109.41**	**43**		IAMs_20	IAMs_20		10 52 34.0	
	comp=Z,16μm,20.0s								
833A	**Chaparral WMA,**	**109.50**	**62**		PKiKP		**PKiKP**	**10 09 27.1**	**+1.0**
	baz=274								
N33A	**J Bar K, Exete**	**109.57**	**49**		IAMs_20	IAMs_20		10 50 36.7	
	comp=Z,12μm,21.0s								
OK032	**Salt Plains WL**	**109.59**	**53**		IAMs_20	IAMs_20		10 50 11.6	
	comp=Z,15μm,20.0s								
ECSD	**EROS Data Cent**	**109.62**	**46**		IAMs_20	IAMs_20		10 55 03.9	
	comp=Z,13μm,21.0s								
CROK	**Carrier**	**109.81**	**53**		IAMs_20	IAMs_20		10 49 26.5	
	comp=Z,14μm,20.0s								
OK029	**Liberty Lake**	**110.34**	**54**		IAMs_20	IAMs_20		10 48 28.4	
	comp=Z,16μm,22.0s								
BLOK	**Blackwell**	**110.39**	**53**		IAMs_20	IAMs_20		10 48 23.7	
	comp=Z,15μm,20.0s								
FNO	**Franklin**	**110.46**	**55**		IAMs_20	IAMs_20		10 49 02.6	
	comp=Z,17μm,21.0s								
KSU1	**Kansas State U**	**110.49**	**50**		IAMs_20	IAMs_20		10 48 45.1	
	comp=Z,21μm,22.0s								
KSU1	**Kansas State U**	**110.49**	**50**		PKiKP		**PKiKP**	**10 09 28.2**	**+0.6**
	baz=280								
FW06	**Azle**	**110.62**	**57**		IAMs_20	IAMs_20		11 04 12.2	
	comp=Z,12μm,20.0s								
OK048	**Pawnee Station**	**110.66**	**53**		IAMs_20	IAMs_20		10 50 51.8	
	comp=Z,14μm,21.0s								
UPNV	**Upernavik**	**110.70**	**8**	*i*	P		**PKiKP**	**10 09 28.8**	**+1.7**
UPNV					IAMs_20	IAMs_20		10 49 06.0	
	comp=Z,32μm,27.0s								
OK033	**Mehan**	**110.72**	**54**		IAMs_20	IAMs_20		10 49 21.4	
	comp=Z,14μm,21.0s								
ANN	**Anapa**	**110.75**	**316**	*i*	PKiKP		**PKiKP**	**10 09 27.6**	**-0.3**
ANN				*e*				10 10 03.1	
ANN				*e*				10 16 04.6	
ANN					*e*SP		SP	10 19 28.6	-1.1
ANN					*e*SS		**SS**	**10 25 29.8**	**-1.6**
ANN					pmax		pmax		
	comp=E,8.0nm,0.6s								
ANN					pmax		pmax		
	comp=N,25nm,1.3s								
ANN					pmax		pmax		
	comp=Z,23nm,1.1s								
ANN					MLR		MLR		
	comp=N,16μm,22.0s								
ANN					MLR		MLR		
	comp=Z,23μm,23.0s								
ANN					MLR		MLR		
	comp=E,16μm,21.0s								
LOOK	**Love County**	**110.81**	**56**		IAMs_20	IAMs_20		10 49 23.0	
	comp=Z,14μm,22.0s								
WHTX	**Lake Whitney,**	**110.82**	**58**		IAMs_20	IAMs_20		10 51 46.6	
	comp=Z,14μm,20.0s								
WHTX	**Lake Whitney,**	**110.82**	**58**		PKiKP		**PKiKP**	**10 09 28.6**	**+0.2**
	baz=277								
OK052	**Battle Ridge R**	**110.83**	**54**		IAMs_20	IAMs_20		10 49 25.5	
	comp=Z,16μm,22.0s								
435B	**Jarrell**	**110.85**	**59**		PKiKP		**PKiKP**	**10 09 28.6**	**0.0**
	baz=276								
QUOK	**Quay**	**110.88**	**53**		IAMs_20	IAMs_20		10 54 08.8	
	comp=Z,13μm,22.0s								
N35A	**Tabor**	**110.89**	**48**		IAMs_20	IAMs_20		10 51 16.8	
	comp=Z,16μm,20.0s								
W35A	**Tecumseh**	**110.90**	**55**		IAMs_20	IAMs_20		10 49 04.3	
	comp=Z,16μm,21.0s								
T35A	**Sooner Cattle**	**110.92**	**53**		IAMs_20	IAMs_20		10 49 44.8	
	comp=Z,17μm,20.0s								
STEI	**Steigen**	**111.05**	**344**	*e*P			**Pdif**	**10 05 24.4**	**-4.5**
STEI					IVmB_BB			10 06 10.1	
	comp=Z,2μm,4.8s								
STEI					*e*PP		**PP**	**10 10 02.7**	**-4.0**
STEI					*e*SKSac		**SKSac**	**10 16 05.4**	**+2.2**
STEI					*e*SP		**SP**	**10 19 31.6**	**+0.6**
STEI					*e*SS		**SS**	**10 25 38.0**	**+4.3**
DBG	**Daneborg**	**111.06**	**358**	*i*	P		**PKiKP**	**10 09 28.6**	**+0.9**
DBG					IAMs_20	IAMs_20		10 49 46.7	
	comp=Z,20μm,26.5s								
FINES	**FINESS Array B**	**111.08**	**335**		Pdiff		**Pdif**	**10 05 26.6**	**-2.6**
	comp=Z,12nm,0.7s,baz=64,slow=4.9,SNR=32								
FINES					PKiKP		**PKiKP**	**10 09 27.4**	**-0.6**
	comp=Z,24nm,0.7s,baz=104,slow=3.9,SNR=23								
FINES					PKKPab		**PKKPab**	**10 20 35.0**	**-0.2**
	comp=Z,4.1nm,0.9s,baz=165,slow=7.9,SNR=5.1								
DEOK	**Depew**	**111.10**	**54**		IAMs_20	IAMs_20		10 54 05.6	
	comp=Z,17μm,22.0s								
KEF	**Keuruu**	**111.21**	**336**	*e*P			**PKiKP**	**10 09 28.5**	**+0.3**
F36A	**Milaca**	**111.28**	**43**		IAMs_20	IAMs_20		10 53 59.6	
	comp=Z,15μm,20.0s								
F36A	**Milaca**	**111.28**	**43**		P		**PKiKP**	**10 09 28.1**	**-0.8**
	baz=285								
LOF	**Lofoten**	**111.37**	**344**	*e*P			**Pdif**	**10 05 30.3**	**-0.1**
LOF					IVmBBB			10 05 34.5	
	comp=Z,2μm,5.9s								
LOF					*e*PP		**PP**	**10 10 12.4**	**+3.4**
LOF					*e*SP		SP	10 19 36.3	+2.3
LOF					*e*SS		**SS**	**10 25 43.0**	**+4.9**
LOF					IVMs_BB	IVMs_BB		10 55 08.9	
	comp=Z,6μm,27.9s								
FAUS	**Fauske**	**111.40**	**343**	*e*P			**Pdif**	**10 05 23.9**	**-6.7**
FAUS					*e*PP		**PP**	**10 10 07.6**	**-1.7**
FAUS					*e*SKSac		**SKSac**	**10 16 05.0**	**+0.4**
FAUS					*e*SP		**SP**	**10 19 36.5**	**+2.2**
FAUS					*e*SS		**SS**	**10 25 38.0**	**-0.6**
FAUS					IVMs_BB	IVMs_BB		10 53 18.2	
	comp=Z,9μm,26.6s								
MG04	**Isla Riesco**	**111.49**	**154**		IAMs_20	IAMs_20		10 46 46.2	
	comp=Z,20μm,22.0s								
VAF	**Vlistaro**	**111.60**	**338**	*e*P			**PKiKP**	**10 09 29.8**	**+0.8**
TUL3	**Leonard**	**111.66**	**54**		IAMs_20	IAMs_20		10 48 26.3	
	comp=Z,13μm,22.0s								
TUL3	**Leonard**	**111.66**	**54**		PKiKP		**PKiKP**	**10 09 30.9**	**+0.9**
	baz=279								
I37A	**Lemond, Waseca**	**111.83**	**45**		IAMs_20	IAMs_20		10 51 35.2	
	comp=Z,15μm,22.0s								
MG05	**Puerto Natales**	**111.87**	**152**		IAMs_20	IAMs_20		10 46 24.2	
	comp=Z,16μm,21.0s								
SPMN	**Marine on St.**	**111.94**	**43**		IAMs_20	IAMs_20		10 52 08.9	
	comp=Z,15μm,20.0s								
SPMN	**Marine on St.**	**111.94**	**43**		PKiKP		**PKiKP**	**10 09 30.7**	**+0.5**
	baz=285								
EYMN	**Ely**	**112.05**	**40**		PKiKP		**PKiKP**	**10 09 31.4**	**+1.0**
	baz=287								
X37A	**Clayton**	**112.20**	**55**		P		**PKiKP**	**10 09 30.8**	**-0.2**
	baz=279								
237A	**Washetta, Mont**	**112.21**	**58**		IAMs_20	IAMs_20		10 52 31.4	
	comp=Z,11μm,20.0s								
GO09	**Cerro Castillo**	**112.22**	**152**		IAMs_20	IAMs_20		10 50 38.5	
	comp=Z,14μm,19.0s								
RLO	**Rose Lookout**	**112.23**	**53**		IAMs_20	IAMs_20		10 48 21.3	
	comp=Z,16μm,22.0s								
NUUG	**Nuugaatsiaq**	**112.23**	**8**	*i*	P		**PKiKP**	**10 09 30.6**	**+0.6**
NUUG					IAMs_20	IAMs_20		10 50 14.8	
	comp=Z,35μm,26.7s								
DESE	**Dese**	**112.34**	**280**	*e*Pdif			**Pdif**	**10 05 39.7**	**+3.4**
DESE	**Dese**	**112.34**	**280**	*e*P			**Pdif**	**10 05 38.9**	**+2.6**
E38A	**The Farm, Brul**	**112.40**	**42**		IAMs_20	IAMs_20		10 53 20.1	
	comp=Z,20μm,22.0s								
MEF	**Metsahovi**	**112.41**	**334**	*e*P			**PKiKP**	**10 09 31.8**	**+1.2**
SCIA	**State Center**	**112.46**	**47**		IAMs_20	IAMs_20		10 50 40.0	
	comp=Z,19μm,22.0s								
SCIA	**State Center**	**112.46**	**47**		PKiKP		**PKiKP**	**10 09 31.7**	**+0.4**
	baz=283								
MOR8	**Moi Rana**	**112.47**	**343**	*e*P			**Pdif**	**10 05 26.2**	**-9.1**
MOR8					IVmB_BB			10 05 44.

GO08 **Villa O'Higgin** 113.97 150 IAms_20 IAms_20 10 49 45.1
comp=Z,111µm,20.0s
R40A **Maddies Statio** 113.97 51 P **PKiKP** **10 09 34.5 +0.2**
baz=283,SNR=7.9
COWI **Conover** 114.15 42 P **PKiKP** **10 09 34.5 +0.1**
baz=288
WLAR **White Oak Lake** 114.20 56 IAms_20 IAms_20 10 53 39.8
comp=Z,12µm,21.0s
AKASG **Malin Array Be** 114.21 324 PKP PKPdf 10 09 32.6 -1.7
comp=Z,20nm,0.8s,baz=62,slow=2.2,SNR=42
AKASG PKKPbc **PKKPbc** **10 20 13.3 -3.2**
comp=Z,0.7nm,0.3s,baz=260,slow=3.8,SNR=9.4
D41A **Chassel** 114.22 40 P **PKiKP** **10 09 34.6 +0.1**
baz=289
KIEV **Kiev** 114.23 324 ⇑P PKPdf 10 09 33.6 -0.8
KIEV **Kiev** 114.23 324 IAms_20 IAms_20 10 59 40.2
comp=Z,20µm,22.0s
KIEV **Kiev** 114.23 324 *i* P **PKiKP** **10 09 35.3 +1.0**
SNR=15
KIEV **Kiev** 114.23 324 ⇑PKIKP PKPdf 10 09 33.6 -0.8
AAL **Aland** 114.28 336 *e*P **PKiKP** **10 09 35.0 +0.8**
JFWS **Jewell Farm** 114.33 45 PKiKP **PKiKP** **10 09 34.9 +0.1**
baz=286
NSS **Namsos** 114.36 342 *e*PKPdf PKPdf 10 09 35.8 +1.6
NSS *e*PS **PS** **10 20 09.7 +0.6**
NSS *e*SS SS 10 26 17.1 -0.7
NSS IVMs_BB IVMs_BB 10 56 55.0
comp=Z,8µm,23.4s
Z41A **Richland Creek** 114.53 56 IAms_20 IAms_20 10 55 26.5
comp=Z,14µm,21.0s
WHAR **Wooly Hollow** 114.57 54 IAms_20 IAms_20 10 54 52.6
comp=Z,12µm,20.0s
FCAR **Ozark Folk Cen** 114.59 53 IAms_20 IAms_20 10 51 02.9
comp=Z,15µm,22.0s
441A **DeRidder** 114.61 59 IAms_20 IAms_20 10 50 23.8
comp=Z,18µm,22.0s
UALR **University of** 114.63 54 IAms_20 IAms_20 10 51 31.1
comp=Z,13µm,20.0s
BRTR **Keskin Array B** 114.69 311 PKP PKPdf 10 09 34.1 -1.7
comp=Z,18nm,0.8s,baz=136,slow=2.7,SNR=29
BRTR PP **PP** **10 10 33.0 -0.9**
comp=Z,8.9nm,0.9s,baz=95,slow=4.8,SNR=3.9
BRTR PKKPbc **PKKPbc** **10 20 15.6 +0.8**
comp=Z,2.7nm,0.8s,baz=204,slow=3.1,SNR=7.4
MMAI **Mount Meron Ar** 114.69 304 PKP **PKiKP** **10 09 36.3 +0.4**
comp=Z,7.3nm,0.6s,baz=79,slow=4.4,SNR=8.0
CCM **Cathedral Cave** 114.81 51 PKiKP PKPdf 10 09 36.2 +0.3
baz=283
CCM **Cathedral Cave** 114.81 51 P **PKiKP** **10 09 35.0 -0.9**
baz=283,SNR=9.9
SCO **Scoresbysund** 114.94 358 *i* P PKPdf 10 09 37.5 +2.3
SCO IAMs_20 IAMs_20 10 50 24.4
comp=Z,19µm,30.3s
PABE **Paberze** 114.97 330 *e*P PKPdf 10 09 36.7 +1.0
I42A **Draeger Farm,** 114.98 44 P **PKiKP** **10 09 35.8 -0.3**
baz=288
L42A **Oliver, Polo** 114.99 46 IAms_20 IAms_20 10 55 47.0
comp=Z,13µm,20.0s
L42A **Oliver, Polo** 114.99 46 P **PKiKP** **10 09 35.5 -0.6**
baz=286
CCAR **Cane Creek** 115.25 55 IAms_20 IAms_20 10 55 34.7
comp=Z,12µm,20.0s
ANTO **Ankara** 115.29 312 ⇓P **PKiKP** **10 09 36.7 -0.2**
ANTO **Ankara** 115.29 312 **PKiKP** **10 09 36.5 -0.4**
ANTO **Ankara** 115.29 312 PKiKP **PKiKP** **10 09 36.5 -0.4**
BR231 **Keskin MP Arra** 115.31 312 **PKPdf** **10 09 37.2 +0.3**
LCAR **Lake Charles** 115.32 53 IAms_20 IAms_20 10 51 46.3
comp=Z,16µm,22.0s
PURM **Purcari** 115.33 319 ⇑P **PKiKP** **10 09 36.3 -0.3**
UPP **Uppsala** 115.43 336 *e*P **PKiKP** **10 09 30.9 -5.5**
SLM **Saint Louis** 115.45 50 IAMs_20 IAMs_20 10 54 26.4
comp=Z,12µm,21.0s
FVM **French Village** 115.46 50 P **PKiKP** **10 09 36.3 -0.9**
baz=284,SNR=6.5
E43A **Lone Tree Farm** 115.46 41 IAMs_20 IAMs_20 10 54 29.1
comp=Z,13µm,20.0s
H43A **Windswept, Lux** 115.58 43 IAMs_20 IAMs_20 10 56 23.4
comp=Z,16µm,22.0s
EIL **Elat** 115.61 300 PKKPbc PKKPbc 10 20 09.2 -1.9
comp=Z,4.7nm,0.8s,baz=235,slow=12,SNR=2.3
HDIL **Hopedale** 115.66 47 IAMs_20 IAMs_20 10 53 50.8
comp=Z,14µm,21.0s
HDIL **Hopedale** 115.66 47 PKiKP **PKiKP** **10 09 37.0 -0.4**
baz=286
HDIL **Hopedale** 115.66 47 P **PKPdf** **10 09 37.6 +0.1**
baz=286
SORM **Soroca** 115.72 321 ⇑P **PKiKP** **10 09 36.6 -0.7**
SORM **Soroca** 115.72 321 ⇑PKIKP **PKiKP** **10 09 36.6 -0.7**
P43A **Skaggs, Pawnee** 115.73 48 IAMs_20 IAMs_20 10 53 36.8
comp=Z,18µm,21.0s
P43A **Skaggs, Pawnee** 115.73 48 P **PKiKP** **10 09 37.0 -0.6**
baz=285,SNR=9.1
K43A **Burlington** 115.74 45 IAMs_20 IAMs_20 10 57 22.7
comp=Z,15µm,21.0s
143A **Socs Landing,** 115.78 56 P **PKPdf** **10 09 37.9 0.0**
baz=281,SNR=7.9
TBLU **Trondheim** 115.80 342 *e*PKPdf **PKPdf** **10 09 39.5 +2.4**
TBLU *e*PP **PP** **10 10 36.8 -3.7**
TBLU *e*SP SP 10 20 16.5 +1.8
TBLU *e*SS **SS** **10 26 32.8 -4.0**
TBLU IVMs_BB IVMs_BB 10 57 20.7
comp=Z,8µm,25.0s
KIS **Kishinev** 115.84 320 ⇑*i*P **Pdif** **10 05 49.0 -1.7**
KIS **Kishinev** 115.84 320 *e*PP PP 10 10 41.0 -0.5
comp=Z,1µm,6.5s
KIS **Kishinev** 115.84 320 *e*PS **SP** **10 20 12.0 -4.2**
KIS *e*L L 10 50 11.0
comp=Z,3µm,24.0s
KIS LQM 10 54 45.0
comp=Z,2µm,19.5s
KIS LRM MLR 11 00 43.0
comp=Z,3µm,21.5s
KIS **Kishinev** 115.84 320 *i* P **Pdif** **10 05 49.0 -1.7**
KIS *e* 10 10 41.0
KIS *e*PS **SP** **10 20 12.0 -4.2**
KIS *e* 10 20 21.0
KIS pmax pmax
comp=Z,1µm,6.5s
MILM **Milestii Mici** 115.87 320 ⇓P **PKiKP** **10 09 36.8 -0.9**
MILM **Milestii Mici** 115.87 320 ⇑*i*P **Pdif** **10 05 49.6 -1.3**
comp=Z,520nm,18.6s
MILM **Milestii Mici** 115.87 320 *e*PKP **PKiKP** **10 09 36.0 -1.7**
MILM **Milestii Mici** 115.87 320 *e*PP PP 10 10 42.0 +0.3
comp=Z,2µm,18.0s
MILM *e*SKS SKSac 10 16 08.0 -15
MILM **Milestii Mici** 115.87 320 *c i*P **Pdif** **10 05 49.6 -1.3**
MILM *e* 10 09 36.0
MILM *e* 10 10 42.0
MILM *e*PS **PKKPbc** **10 20 12.0 +1.3**
MILM *e*PPS PPS 10 21 45.0
ICESG **Greenland Ices** 116.06 4 *i* P **PKPdf** **10 09 39.5 +1.6**
ICESG IAMs_20 IAMs_20 10 52 31.4
comp=Z,16µm,24.4s
SUW **Suwalki** 116.10 329 *e*PKP **PKPdf** **10 09 38.3 +0.4**
SUW *e*SKSdf **SKSdf** **10 16 51.3 +6.0**
SUW *e*SP **SP** **10 20 21.5 +3.5**
SUW **Suwalki** 116.10 329 *e*P **PKPdf** **10 09 39.5 +1.6**
COYC **Coyhaique** 116.10 147 IAMs_20 IAMs_20 10 52 27.6
comp=Z,14µm,20.0s
L44A **Lake County Fo** 116.19 45 IAMs_20 IAMs_20 10 54 30.8
comp=Z,15µm,20.0s
L44A **Lake County Fo** 116.19 45 PKiKP **PKPdf** **10 09 38.3 -0.2**
baz=288
LODK **Lodwar** 116.20 271 *e*Pdif **Pdif** **10 05 53.7 +0.6**
LODK *e*SKSac **SKSac** **10 16 33.3 +7.5**
LODK **Lodwar** 116.20 271 *e*P **Pdif** **10 05 46.4 -6.7**
Q44A **Meyer Farm, Va** 116.30 49 IAMs_20 IAMs_20 10 54 56.0
comp=Z,17µm,20.0s
PEBM **Pemiscott Bayo** 116.33 52 IAMs_20 IAMs_20 10 51 58.0
comp=Z,13µm,21.0s
M44A **Midewin, Midew** 116.33 46 IAMs_20 IAMs_20 10 59 11.6
comp=Z,15µm,19.0s
HQIL **Hanson Quary C** 116.35 46 IAMs_20 IAMs_20 10 57 11.9
comp=Z,15µm,20.0s
O44A **Mansfield** 116.38 48 IAMs_20 IAMs_20 10 53 32.8
comp=Z,14µm,21.0s
O44A **Mansfield** 116.38 48 P **PKPdf** **10 09 38.4 -0.4**
baz=286,SNR=7.7
LEOM **Leova** 116.40 320 ⇑P **PKiKP** **10 09 40.2 +1.5**
LEOM **Leova** 116.40 320 ⇑PKIKP **PKiKP** **10 09 40.2 +1.5**
TLCR 116.49 318 ⇑P **PKPdf** **10 09 37.9 -1.0**
TLCR 116.49 318 ⇑PKIKP **PKPdf** **10 09 37.9 -1.0**
MET **Memphis--Engin** 116.50 53 IAMs_20 IAMs_20 10 53 11.5
comp=Z,12µm,22.0s
VBMS **Vicksburg** 116.61 57 IAMs_20 IAMs_20 10 55 38.7
comp=Z,15µm,21.0s
VBMS **Vicksburg** 116.61 57 PKiKP **PKiKP** **10 09 39.7 +0.1**
baz=281
VBMS **Vicksburg** 116.61 57 P **PKPdf** **10 09 39.2 -0.3**
baz=281
LNXT **Lenox** 116.63 52 IAMs_20 IAMs_20 10 58 03.8
comp=Z,11µm,20.0s
VIKU **Vikbolandet** 116.63 335 *e*P **PKiKP** **10 09 39.5 +0.7**
HICK **Hickman** 116.73 52 IAMs_20 IAMs_20 10 52 44.5
comp=Z,18µm,21.0s
VLDR **Vladesti** 116.74 319 ⇓P **PKPdf** **10 09 38.8 -0.5**
SFJD **Kangerlussuaq** 116.75 9 **PKPdf** **10 09 38.4 -0.4**
SFJD **Kangerlussuaq** 116.75 9 IAMs_20 IAMs_20 11 00 15.3
comp=Z,13µm,20.0s
SFJD **Kangerlussuaq** 116.75 9 PKiKP **PKPdf** **10 09 38.4 -0.4**
SFJD MLR MLR
comp=Z,13µm,20.0s
SFJD **Kangerlussuaq** 116.75 9 *i* P **PKiKP** **10 09 39.6 +0.9**
SFJD IAMs_20 IAMs_20 10 52 26.8
comp=Z,21µm,26.0s
GLAT **Glass** 116.75 52 IAMs_20 IAMs_20 10 57 09.0
comp=Z,13µm,20.0s
HFS **Hagfors** 116.78 338 PKP **PKPdf** **10 09 37.6 -1.4**
comp=Z,13nm,0.6s,baz=113,slow=3.4,SNR=26
HALT **Halls** 116.79 52 **PKiKP** **10 09 39.8 0.0**
HALT IAMs_20 IAMs_20 10 59 41.1
comp=Z,13µm,20.0s
SCTR **Scanteiesti** 116.85 319 ⇑P **PKiKP** **10 09 41.7 +2.1**
TPGR **Topolog** 116.87 318 ⇑P **PKiKP** **10 09 40.6 +0.9**
CCIG **Comitan** 116.93 75 IAMs_20 IAMs_20 10 50 11.3
comp=Z,16µm,22.0s
CFR **Carcaliu** 116.94 318 ⇑P **PKPdf** **10 09 39.6 -0.2**
CFR **Carcaliu** 116.94 318 ⇑PKIKP **PKPdf** **10 09 39.6 -0.2**
TIRR **Tirgusor** 117.01 318 ⇑P **PKiKP** **10 09 41.3 +1.4**
TIRR **Tirgusor** 117.01 318 ⇑PKIKP **PKiKP** **10 09 41.3 +1.4**
OLIL **Olney** 117.04 49 IAMs_20 IAMs_20 10 54 30.5
comp=Z,18µm,21.0s
OLIL **Olney** 117.04 49 P **PKPdf** **10 09 39.7 -0.5**
baz=286,SNR=12
OXF **Oxford** 117.05 54 IAMs_20 IAMs_20 10 52 25.2
comp=Z,12µm,22.0s
OXF **Oxford** 117.05 54 PKiKP **PKPdf** **10 09 39.6 -0.7**
baz=283
OXF **Oxford** 117.05 54 P **PKiKP** **10 09 40.7 +0.4**
baz=283
NB2 **NORSAR Subarra** 117.06 340 P **Pdif** **10 06 00.0 +4.1**
comp=Z,0.5nm,0.6s,baz=56,slow=6.2
NB2 PKPdf **PKPdf** **10 09 38.6 -1.0**
comp=Z,8.6nm,0.7s,baz=44,slow=1.9
NB2 PKKP **PKKPbc** **10 20 06.1 -1.0**
comp=Z,55nm,2.0s,baz=224,slow=4.0
NB2 **NORSAR Subarra** 117.06 340 PKPdf **PKPdf** **10 09 38.6 -1.0**
baz=44,slow=1.9
NOA **NORSAR Array B** 117.06 340 PKP **PKPdf** **10 09 38.2 -1.4**
comp=Z,29nm,0.8s,baz=47,slow=1.9,SNR=50
NOA PKKPbc **PKKPbc** **10 20 04.4 -2.6**
comp=Z,4.1nm,1.0s,baz=42,slow=3.5,SNR=6.7
UTMT **University of** 117.06 52 IAMs_20 IAMs_20 10 57 18.3
comp=Z,14µm,20.0s
DOMB **Dombas** 117.06 341 *e*P **Pdif** **10 05 57.8 +1.9**
DOMB *e*PKPdf **PKiKP** **10 09 39.7 +0.1**
DOMB *e*PP **PP** **10 10 48.7 -0.7**
DOMB *e*SKSac **SKSac** **10 16 28.1 +1.2**
DOMB *e*SP **SP** **10 20 29.1 +2.9**
DOMB *e*SS **SS** **10 26 56.6 +3.3**
DOMB IVMs_BB IVMs_BB 11 00 22.6
comp=Z,12µm,23.4s
Y45A **Yeager Farm, C** 117.08 55 IAMs_20 IAMs_20 10 56 33.0
comp=Z,15µm,22.0s
Y45A **Yeager Farm, C** 117.08 55 P **PKiKP** **10 09 40.7 +0.3**
baz=282,SNR=7.5
GHRR 117.09 320 ⇓P **PKiKP** **10 09 42.5 +2.4**
TUDR 117.10 319 ⇑P **PKiKP** **10 09 42.0 +2.0**
MFTR **Murfatlar** 117.10 317 ⇑P **PKPdf** **10 09 39.7 -0.4**
MANR **Mangalia** 117.11 317 ⇑P **PKiKP** **10 09 40.2 +0.1**
MOL **Molde** 117.15 342 *e*PKPdf **PKiKP** **10 09 42.3 +2.6**
MOL *e*SP SP 10 20 29.6 +2.7
MOL *e*SS **SS** **10 26 56.6 +2.5**
MOL IVMs_BB IVMs_BB 10 57 10.5
comp=Z,6µm,24.9s
NC602 **NORSAR Array S** 117.16 339 **PKPdf** **10 09 38.8 -0.9**
NC602 **NORSAR Array S** 117.16 339 *e*P **Pdif** **10 05 56.2 -0.1**
NC602 *e*PKPdf **PKiKP** **10 09 42.7 +2.9**
NC602 *e*PP **PP** **10 10 50.3 +0.3**
NC602 *e*SKSac **SKSac** **10 16 30.1 +2.9**
NC602 *e*SP **SP** **10 20 27.5 +0.4**
NC602 *e*SS **SS** **10 26 59.5 +5.0**
NC602 IVMs_BB IVMs_BB 10 57 08.0
comp=Z,7µm,26.5s
E46A **Sault Ste Mari** 117.20 40 P **PKPdf** **10 09 39.6 -0.6**
baz=292
HARR **Harsova** 117.25 318 ⇓P **PKPdf** **10 09 39.5 -0.9**
HARR **Harsova** 117.25 318 ⇓PKIKP **PKPdf** **10 09 39.5 -0.9**
SFIN **Lafayette** 117.32 47 PKiKP **PKPdf** **10 09 40.3 -0.4**
baz=287
SFIN **Lafayette** 117.32 47 P **PKiKP** **10 09 40.6 0.0**
baz=287,SNR=7.0
PRAR **RASCA** 117.34 321 ⇓P **PKPdf** **10 09 40.5 0.0**
L46A **Eue Claire** 117.39 45 P **PKiKP** **10 09 41.2 +0.4**
baz=289
L46A P **PKiKP** **10 09 41.2 +0.4**
baz=289
TESR **Tescani** 117.41 320 ⇑P **PKPdf** **10 09 40.3 -0.4**
ODBI **Odobesti** 117.43 319 ⇑P **PKiKP** **10 09 41.7 +1.0**
P46A **Rosedale** 117.46 48 IAMs_20 IAMs_20 10 54 07.5
comp=Z,17µm,21.0s
P46A **Rosedale** 117.46 48 P **PKPdf** **10 09 40.5 -0.4**
baz=287,SNR=12
ISP **Isparta** 117.53 310 IAMs_20 IAMs_20 11 03 08.8
comp=Z,16µm,22.0s
GLMI **Grayling** 117.58 42 PKiKP **PKPdf** **10 09 40.7 -0.4**
baz=292
USIN **University of** 117.58 50 IAMs_20 IAMs_20 10 55 11.7
comp=Z,17µm,21.0s
VRI **Vrincioaia** 117.61 320 ⇑P **PKiKP** **10 09 41.2 +0.1**
VRI **Vrincioaia** 117.61 320 ⇑PKIKP **PKiKP** **10 09 41.2 +0.1**
LVV **L'vov** 117.61 324 *e*PKIKP **PKiKP** **10 09 41.7 +0.7**
LVV *e* 10 10 56.4
LVV *e*SS SS 10 27 09.0 +7.7
LVV MLR MLR
comp=Z,10µm,23.0s
AKN **Aaknes** 117.61 342 *e*P **Pdif** **10 05 59.7 +1.4**
AKN *e*PKPdf **PKiKP** **10 09 40.8 +0.2**
AKN *e*PP **PP** **10 10 56.3 +3.1**
AKN *e*SS SS 10 27 06.1 +5.8
AKN *e* 10 28 57.5
AKN IVMs_BB IVMs_BB 10 57 37.7
comp=Z,6µm,30.0s
346A **Big Creek Wild** 117.65 57 IAMs_20 IAMs_20 10 56 34.2
comp=Z,12µm,21.0s
346A **Big Creek Wild** 117.65 57 P **PKPdf** **10 09 41.4 -0.2**
baz=281,SNR=5.9
PLOR **Plostina** 117.66 320 ⇑P **PKPdf** **10 09 40.5 -0.8**
146A **Union** 117.74 56 IAMs_20 IAMs_20 10 55 19.5
comp=Z,13µm,22.0s
146A **Union** 117.74 56 P **PKiKP** **10 09 42.0 +0.3**
baz=282,SNR=5.5
BISRR **Bisoca** 117.74 319 ⇑P **PKPdf** **10 09 40.9 -0.6**
LL02 **Futaleuf** 117.76 146 IAMs_20 IAMs_20 10 53 08.6
comp=Z,10µm,20.0s
BUR08 **Bucovina Ar. S** 117.86 322 **PKiKP** **10 09 41.8 +0.2**
BURAR **Bucovina Array** 117.86 322 ⇑P **PKiKP** **10 09 42.4 +0.7**
BURAR **Bucovina Array** 117.86 322 **PKiKP** **10 09 41.9 +0.2**
BURAR **Bucovina Array** 117.86 322 ⇑PKIKP **PKiKP** **10 09 42.4 +0.7**
DY2G **Dye2** 117.89 8 *i* P **PKiKP** **10 09 41.7 +0.3**
DY2G IAMs_20 IAMs_20 10 53 15.2
comp=Z,28µm,25.8s
WVT **Waverly** 117.92 52 **PKPdf** **10 09 39.6 -2.4**
WVT **Waverly** 117.92 52 IAMs_20 IAMs_20 10 52 37.1
comp=Z,16µm,22.0s
WVT **Waverly** 117.92 52 PKiKP **PKiKP** **10 09 42.3 +0.3**
baz=285
WVT **Waverly** 117.92 52 P **PKPdf** **10 09 41.7 -0.3**
baz=285
WVT **Waverly** 117.92 52 PKIKP **PKPdf** **10 09 39.6 -2.4**
LL01 **San Ignacio de** 117.95 145 **PKPdf** **10 09 41.7 -0.1**
TURR **Turia** 117.99 320 ⇑P **PKPdf** **10 09 41.4 -0.5**
J47A **Sunmer** 118.00 43 P **PKPdf** **10 09 41.6 -0.3**
baz=290
J47A P **PKPdf** **10 09 41.6 -0.3**
baz=290
ISR **Istrita** 118.01 319 ⇑P **PKiKP** **10 09 42.0 0.0**
ISR **Istrita** 118.01 319 ⇑PKIKP **PKiKP** **10 09 42.0 0.0**
NEHR **Nehoiu** 118.05 319 ⇑P **PKPdf** **10 09 41.0 -1.0**
BOSA **Boshof** 118.08 234 **PKiKP** **10 09 42.9 +0.2**
BOSA **Boshof** 118.08 234 PKP **PKiKP** **10 09 42.9 +0.2**
comp=Z,24nm,0.7s,baz=104,slow=1.3,SNR=34
BOSA SKP 10 13 13.2
comp=Z,5.7nm,0.8s,baz=158,slow=2.3,SNR=2.5
BOSA PKKPbc **PKKPbc** **10 20 01.5 -1.1**
comp=Z,20nm,0.8s,baz=300,slow=1.9,SNR=21
BLO **Bloomington** 118.10 48 IAMs_20 IAMs_20 10 55 40.4
comp=Z,15µm,21.0s
PRD **Provadia** 118.14 317 *i* P **PKiKP** **10 09 44.0 +1.8**
N47A **Urbana** 118.18 46 IAMs_20 IAMs_20 11 00 52.4
comp=Z,17µm,20.0s
N47A **Urbana** 118.18 46 P **PKPdf** **10 09 42.0 -0.3**
baz=289,SNR=6.6
N47A P **PKPdf** **10 09 42.0 -0.3**
baz=289,SNR=6.6
T47A **Sharon Grove** 118.27 51 P **PKPdf** **10 09 42.1 -0.5**
baz=286,SNR=21
SKAR **Skarslia** 118.31 340 *e*P **Pdif** **10 06 04.0 +2.5**
SKAR IVmB_BB 10 06 20.6
comp=Z,2µm,3.7s
SKAR *e*PKPdf **PKiKP** **10 09 42.8 +0.7**
SKAR *e*PP **PP** **10 10 57.7 -0.4**
SKAR *e*SKSac **SKSac** **10 16 32.3 +0.8**
SKAR *e*SP **SP** **10 20 42.6 +5.0**
SKAR *e*SS **SS** **10 27 13.5 +3.9**
SKAR IVMs_BB IVMs_BB 10 56 00.1
comp=Z,5µm,28.9s
DOPR **Dopca** 118.43 320 ⇑P **PKiKP** **10 09 43.7 +1.0**
Z47A **Carrollton** 118.43 55 IAMs_20 IAMs_20 10 57 22.7
comp=Z,13µm,22.0s
KWP **Kalwaria Pacla** 118.46 325 *e*PKP **PKiKP** **10 09 43.4 +0.7**
KWP *e*SP **PS** **10 20 58.3 +11**
STRU **Stroemstad** 118.47 338 *e*P **PKiKP** **10 09 43.3 +1.0**
WCI **Wyandotte Cave** 118.54 49 **PKPdf** **10 09 42.1 -1.0**
WCI **Wyandotte Cave** 118.54 49 PKiKP **PKPdf** **10 09 42.5 -0.6**
baz=287
WCI **Wyandotte Cave** 118.54 49 P **PKPdf** **10 09 42.4 -0.7**
baz=287,SNR=17
WCI **Wyandotte Cave** 118.54 49 PKIKP **PKPdf** **10 09 42.1 -1.0**
RAZG **Razgrad** 118.61 317 ⇑P **PKPdf** **10 09 42.7 -0.4**
KONO **Kongsberg** 118.62 339 IAMs_20 IAMs_20 11 03 19.0
comp=Z,16µm,20.0s
KONO **Kongsberg** 118.62 339 *e*P **Pdif** **10 06 04.1 +1.3**
KONO IVmB_BB 10 06 16.4
comp=Z,2µm,4.0s
KONO *e*PKPdf **PKPdf** **10 09 41.0 -1.5**
KONO *e*PP **PP** **10 10 59.8 -0.3**
KONO *e*SP SP 10 20 41.9 +1.7
KONO *e*SS **SS** **10 27 18.8 +5.4**
KONO IVMs_BB IVMs_BB 10 58 52.0
comp=Z,5µm,21.2s
HYA **Hoyanger** 118.64 342 *e*P **Pdif** **10 06 05.3 +2.5**
HYA *e*PKPdf **PKPdf** **10 09 42.3 -0.2**
HYA *e*PP **PP** **10 11 00.2 0.0**
HYA *e*SKSac **SKSac** **10 16 31.2 -1.3**
HYA *e*SP **SP** **10 20 41.5 +1.2**
HYA *e*SS **SS** **10 27 18.0 +4.5**
HYA IVMs_BB IVMs_BB 11 03 05.1
comp=Z,8µm,19.2s
FOO **Floro** 118.65 342 *e*P **Pdif** **10 06 03.3 +0.4**
FOO *e*PKPdf **PKPdf** **10 09 41.9 -0.7**
FOO *e*PP **PP** **10 11 00.6 +0.3**
FOO *e*SP SP 10 20 42.4 +1.9
FOO *e*SS **SS** **10 27 19.2 +5.5**
FOO IVMs_BB IVMs_BB 11 01 06.8
comp=Z,7µm,26.8s
L48A **N Adams** 118.72 45 P **PKPdf** **10 09 42.7 -0.6**
baz=290
L48A P **PKPdf** **10 09 42.7 -0.6**
baz=290
O48B **Farmland** 118.77 47 IAMs_20 IAMs_20 11 02 55.0
comp=Z,15µm,19.0s
O48B **Farmland** 118.77 47 PKiKP **PKPdf** **10 09 43.3 -0.2**
baz=289
O48B **Farmland** 118.77 47 P **PKPdf** **10 09 42.9 -0.6**
baz=289,SNR=16
V48A **Smith Brothers** 118.82 52 IAMs_20 IAMs_20 10 54 37.7
comp=Z,15µm,22.0s
V48A **Smith Brothers** 118.82 52 P **PKPdf** **10 09 42.4 -1.3**
baz=285
P48A **Milroy** 118.82 48 IAMs_20 IAMs_20 10 54 38.5
comp=Z,17µm,22.0s
P48A **Milroy** 118.82 48 P **PKPdf** **10 09 42.8 -0.8**
baz=288,SNR=7.7
P48A P **PKPdf** **10 09 42.8 -0.8**
baz=288,SNR=7.7
VOIR 118.86 320 ⇑P **PKiKP** **10 09 45.6 +2.0**
VOIR 118.86 320 ⇑PKIKP **PKiKP** **10 09 45.6 +2.0**
BMR **Baia Mare** 118.89 322 ⇓P **PKiKP** **10 09 45.1 +1.6**
BMR **Baia Mare** 118.89 322 ⇓PKIKP **PKiKP** **10 09 45.1 +1.6**
X48A **Hartselle** 118.96 54 IAMs_20 IAMs_20 11 01 03.8
comp=Z,11µm,20.0s
X48A **Hartselle** 118.96 54 P **PKPdf** **10 09 42.6 -1.4**
baz=284,SNR=5.4
SZH **Strazhitsa** 119.08 317 *i* P **PKiKP** **10 09 44.8 +0.8**
DEL **Delary** 119.10 335 *e*P **PKiKP** **10 09 45.2 +1.6**
I49A **Point Hope** 119.10 42 IAMs_20 IAMs_20 10 57 35.3
comp=Z,18µm,22.0s
NUUK **Nuuk** 119.10 11 *i* P **PKiKP** **10 09 45.2 +1.8**
NUUK IAMs_20 IAMs_20 10 58 51.0
comp=Z,20µm,20.4s
AAM **Ann Arbor** 119.14 44 PKiKP **PKiKP** **10 09 44.3 +0.2**
baz=291
AAM **Ann Arbor** 119.14 44 P **PKPdf** **10 09 43.5 -0.6**
baz=291
ARR **Arges** 119.15 320 ⇓P **PKiKP** **10 09 46.0 +1.8**
SUE **Sulen** 119.16 342 *e*P **Pdif** **10 06 08.5 +3.4**
SUE *e*PKPdf **PKPdf** **10 09 43.5 -0.1**
SUE *e*PP **PP** **10 11 05.3 +1.5**
SUE *e*SP SP 10 20 47.4 +2.4
SUE *e*SS **SS** **10 27 25.7 +5.5**
SUE IVMs_BB IVMs_BB 11 01 55.1
comp=Z,6µm,27.2s
LBTB **Lobatse** 119.22 237 IAMs_20 IAMs_20 10 57 35.7
comp=Z,16µm,21.0s
CJR **Cluj-Napoca** 119.24 321 ⇑P **PKiKP** **10 09 44.3 0.0**
CJR **Cluj-Napoca** 119.24 321 ⇑PKIKP **PKiKP** **10 09 44.3 0.0**
N49A **Columbus Grove** 119.25 46 IAMs_20 IAMs_20 11 01 17.6
comp=Z,15µm,20.0s
N49A **Columbus Grove** 119.25 46 P **PKPdf** **10 09 43.6 -0.8**
baz=290,SNR=20
N49A P **PKPdf** **10 09 43.6 -0.8**
baz=290,SNR=20
CBBR **Cluj-Babes-Bol** 119.25 322 ⇓P **PKPdf** **10 09 41.7 -2.5**
COPA **Copaceanca** 119.26 318 ⇓P **PKPdf** **10 09 43.6 -0.7**
HUMR **Humele** 119.26 319 ⇑P **PKPdf** **10 09 43.1 -1.1**
ELND **Elena** 119.28 317 ⇑P **PKiKP** **10 09 44.5 +0.1**
P49A **Miami Univ. Ec** 119.32 47 IAMs_20 IAMs_20 11 02 38.6
comp=Z,12µm,19.0s
P49A **Miami Univ. Ec** 119.32 47 PKiKP **PKPdf** **10 09 44.5 -0.1**
baz=289
P49A **Miami Univ. Ec** 119.32 47 P **PKPdf** **10 09 44.5 -0.1**
baz=289,SNR=6.2
LRAL **Lakeview Retre** 119.34 55 IAMs_20 IAMs_20 10 58 18.9
comp=Z,18µm,22.0s
LRAL **Lakeview Retre** 119.34 55 PKiKP **PKPdf** **10 09 44.5 -0.2**
baz=284
LRAL **Lakeview Retre** 119.34 55 P **PKPdf** **10 09 44.0 -0.8**
baz=284,SNR=18
R49A **Shelbyville** 119.37 49 P **PKPdf** **10 09 43.7 -1.0**
baz=288,SNR=8.7
R49A P **PKPdf** **10 09 43.7 -1.0**
baz=288,SNR=8.7
O49A **Covington** 119.38 47 IAMs_20 IAMs_20 10 55 48.3
comp=Z,13µm,22.0s
O49A **Covington** 119.38 47 P **PKPdf** **10 09 44.0 -0.7**
baz=289,SNR=18
O49A P **PKPdf** **10 09 44.0 -0.7**
baz=289,SNR=18
U49A **Red Boiling Sp** 119.42 51 P **PKPdf** **10 09 43.8 -1.0**
baz=286
ODD1 **Odda** 119.45 340 *e*P **Pdif** **10 06 08.3 +1.7**
ODD1 IVmBBB 10 06 14.4
comp=Z,1µm,2.6s
ODD1 *e*PKPdf **PKiKP** **10 09 45.4 +1.1**
ODD1 *e*PP **PP** **10 11 07.2 +1.4**
ODD1 *e*SP SP 10 20 48.9 +1.2
ODD1 *e*SS **SS** **10 27 27.2 +3.1**
ODD1 IVMs_BB IVMs_BB 11 02 10.8
comp=Z,7µm,24.0s
ASK **Askoy** 119.47 342 *e*PKPdf **PKiKP** **10 09 44.6 +0.3**
BSD **Bornholm Skovb** 119.49 333 *i* P **PKiKP** **10 09 45.2 +0.7**
BSD IAMs_20 IAMs_20 11 03 35.5
comp=Z,18µm,20.2s
BSD **Bornholm Skovb** 119.49 333 *e*P **PKiKP** **10 09 45.6 +1.2**
BER **Bergen** 119.51 341 *e*P **Pdif** **10 06 08.5 +1.8**

BER					*e*PKPdf	**PKiKP**	**10 09 45.5**	**+1.3**		
BER					*e*PP	**PP**	**10 11 07.3**	**+1.2**		
BER					*e*SP	SP	10 20 50.6	+2.5		
BER					*e*SS	**SS**	**10 27 28.1**	**+3.4**		
BER					IVMs_BB	IVMs_BB	11 01 44.8			
	comp=Z,7µm,23.4s									
CRVS	**Cervenica-Dubn**	**119.53**	**324**		*e*PKiKP	**PKiKP**	**10 09 45.6**	**+0.9**		
CRVS	**Cervenica-Dubn**	**119.53**	**324**		*e*PKP	**PKiKP**	**10 09 45.6**	**+0.9**		
MARR	**Marisel-Cluj**	**119.56**	**322**	⇑	P	**PKPdf**	**10 09 43.5**	**-1.4**		
Y49A	**Blount Mountai**	**119.62**	**54**		IAMs_20	IAMs_20	10 57 36.2			
	comp=Z,14µm,22.0s									
ANGG	**Ammassalik, Gr**	**119.64**	**4**	*i*	P	**PKPdf**	**10 09 44.0**	**-0.3**		
ANGG					IAMs_20	IAMs_20	10 51 07.1			
	comp=Z,13µm,26.8s									
SWET	**Sewanee**	**119.65**	**52**		IAMs_20	IAMs_20	10 54 51.0			
	comp=Z,13µm,22.0s									
LOT	**Lotru**	**119.67**	**320**	⇑	P	**PKPdf**	**10 09 43.8**	**-1.4**		
LR03	**Panguipulli**	**119.69**	**142**		IAMs_20	IAMs_20	10 53 11.0			
	comp=Z,12µm,20.0s									
DRGR		**119.76**	**322**	⇑	P	**PKiKP**	**10 09 46.0**	**+0.6**		
DRGR		**119.76**	**322**	⇑	PKiKP	**PKiKP**	**10 09 46.0**	**+0.6**		
BLS5	**Blasjo**	**119.87**	**340**	*e*	P	**Pdif**	**10 06 11.2**	**+2.8**		
BLS5					IVmB_BB		10 06 11.9			
	comp=Z,800nm,3.2s									
BLS5					*e*PKPdf	**PKPdf**	**10 09 44.8**	**-0.2**		
BLS5					*e*PP	**PP**	**10 11 08.3**	**-0.5**		
BLS5					*e*SKSac	**SKSac**	**10 16 36.1**	**-0.9**		
BLS5					*e*SP	**SP**	**10 20 51.2**	**-0.3**		
BLS5					*e*SS	**SS**	**10 27 31.6**	**+2.0**		
BLS5					IVMs_BB	IVMs_BB	11 02 02.6			
	comp=Z,6µm,20.8s									
M50A	**Fremont**	**119.89**	**45**		P	**PKPdf**	**10 09 44.9**	**-0.7**		
	baz=291,SNR=6.5									
M50A					P	**PKPdf**	**10 09 44.9**	**-0.7**		
	baz=291,SNR=6.5									
NIE	**Niedzica**	**119.94**	**325**	*e*	PKP	**PKiKP**	**10 09 47.4**	**+1.8**		
NIE				*e*	SP	SP	10 20 56.3	+3.4		
T50A	**Nancy**	**120.00**	**50**		P	**PKPdf**	**10 09 45.3**	**-0.6**		
	baz=287									
T50A					P	**PKPdf**	**10 09 45.3**	**-0.6**		
	baz=287									
R50A	**Paris**	**120.00**	**49**		P	**PKPdf**	**10 09 45.1**	**-0.8**		
	baz=288,SNR=10									
R50A					P	**PKPdf**	**10 09 45.1**	**-0.8**		
	baz=288,SNR=10									
HOMB	**Homborsund**	**120.00**	**338**	*e*	P	**Pdif**	**10 06 08.9**	**0.0**		
HOMB					*e*PKPdf	**PKiKP**	**10 09 46.3**	**+1.0**		
HOMB					*e*PP	**PP**	**10 11 07.6**	**-2.0**		
HOMB					*e*SP	SP	10 20 55.6	+2.9		
HOMB					IVMs_BB	IVMs_BB	11 00 55.3			
	comp=Z,7µm,24.8s									
DEV	**Deva**	**120.04**	**321**	⇑	P	**PKPdf**	**10 09 45.0**	**-0.7**		
DEV	**Deva**	**120.04**	**321**	⇑	PKiKP	**PKPdf**	**10 09 45.0**	**-0.7**		
LSZ	**Lusaka**	**120.07**	**249**			**PKPdf**	**10 09 46.4**	**-0.4**		
LSZ	**Lusaka**	**120.07**	**249**		PKiKP	**PKPdf**	**10 09 46.4**	**-0.4**		
PLCA	**Paso Flores**	**120.07**	**144**		PKP	**PKPdf**	**10 09 44.8**	**-1.4**		
	comp=Z,8.7nm,0.8s,baz=263,slow=2.7,SNR=23									
PLCA					PKKPbc	**PKKPbc**	**10 19 53.2**	**-2.4**		
	comp=Z,7.8nm,1.0s,baz=91,slow=3.8,SNR=17									
FPAL	**Fort Paine**	**120.09**	**53**		IAMs_20	IAMs_20	10 57 39.5			
	comp=Z,14µm,21.0s									
W50A	**Signal Mountai**	**120.15**	**52**		P	**PKPdf**	**10 09 45.4**	**-0.9**		
	baz=286,SNR=26									
RDO	**Rodhopi**	**120.16**	**315**		P	**PKPdf**	**10 09 44.7**	**-1.4**		
RDO	**Rodhopi**	**120.16**	**315**			**PKPdf**	**10 09 44.5**	**-1.6**		
250A	**Grady**	**120.19**	**56**		IAMs_20	IAMs_20	10 56 49.4			
	comp=Z,15µm,22.0s									
250A	**Grady**	**120.19**	**56**		P	**PKPdf**	**10 09 46.0**	**-0.4**		
	baz=284									
COP	**Copenhagen**	**120.22**	**335**	*i*	P	**PKiKP**	**10 09 47.0**	**+1.2**		
COP					IAMs_20	IAMs_20	10 58 52.8			
	comp=Z,28µm,23.8s									
TEIG	**Tepich**	**120.33**	**70**			**PKPdf**	**10 09 46.8**	**-0.2**		
GZR	**Gura Zlata**	**120.33**	**320**	⇑	P	**PKPdf**	**10 09 44.9**	**-1.5**		
GZR	**Gura Zlata**	**120.33**	**320**	⇑	PKiKP	**PKPdf**	**10 09 44.9**	**-1.5**		
ACSO	**Alum Creek Sta**	**120.34**	**46**		IAMs_20	IAMs_20	11 00 41.6			
	comp=Z,12µm,20.0s									
ACSO	**Alum Creek Sta**	**120.34**	**46**		PKiKP	**PKPdf**	**10 09 46.2**	**-0.3**		
	baz=290									
ACSO	**Alum Creek Sta**	**120.34**	**46**		P	**PKPdf**	**10 09 45.6**	**-0.9**		
	baz=290,SNR=16									
SRE	**Strehaia**	**120.37**	**319**	⇓	P	**PKPdf**	**10 09 46.4**	**0.0**		
SRE	**Strehaia**	**120.37**	**319**	⇓	PKiKP	**PKPdf**	**10 09 46.4**	**0.0**		
MBAR	**Mbarara**	**120.42**	**266**	*e*	Pdif	**Pdif**	**10 06 10.8**	**-1.2**		
MBAR				*e*	SKSac	**SKSac**	**10 16 50.4**	**+9.2**		
MBAR	**Mbarara**	**120.42**	**266**	*e*	P	**Pdif**	**10 06 15.7**	**+3.7**		
SNART	**Snartemo**	**120.42**	**339**	*e*	PKPdf	**PKiKP**	**10 09 47.6**	**+1.5**		
SNART				*e*	PP	**PP**	**10 11 12.4**	**-0.1**		
KMY	**Karmoy**	**120.44**	**341**	*e*	PKPdf	**PKiKP**	**10 09 47.0**	**+0.8**		
KMY				*e*	PP	**PP**	**10 11 13.3**	**+0.7**		
KMY				*e*	SP	SP	10 20 57.8	+1.3		
KMY					IVMs_BB	IVMs_BB	11 01 53.6			
	comp=Z,6µm,21.0s									
Q51A	**Peebles**	**120.49**	**48**		IAMs_20	IAMs_20	11 03 59.6			
	comp=Z,12µm,19.0s									
Q51A	**Peebles**	**120.49**	**48**		P	**PKPdf**	**10 09 45.5**	**-1.3**		
	baz=290,SNR=13									
Q51A					P	**PKPdf**	**10 09 45.5**	**-1.3**		
	baz=290,SNR=13									
RZN	**Rozhen**	**120.52**	**316**	*i*	P	**PKPdf**	**10 09 47.0**	**0.0**		
N51A	**Ashland**	**120.53**	**45**		IAMs_20	IAMs_20	10 58 58.5			
	comp=Z,17µm,21.0s									
N51A	**Ashland**	**120.53**	**45**		P	**PKPdf**	**10 09 46.2**	**-0.6**		
	baz=291,SNR=12									
N51A					P	**PKPdf**	**10 09 46.2**	**-0.6**		
	baz=291,SNR=12									
LANS	**Liptovska Anna**	**120.54**	**325**	*e*	PKiKP	**PKPdf**	**10 09 45.9**	**-0.8**		
LANS	**Liptovska Anna**	**120.54**	**325**	*e*	PKP	**PKPdf**	**10 09 45.9**	**-0.8**		
P51A	**Williamsport**	**120.54**	**47**		IAMs_20	IAMs_20	10 55 31.0			
	comp=Z,14µm,22.0s									
P51A	**Williamsport**	**120.54**	**47**		P	**PKPdf**	**10 09 45.6**	**-1.3**		
	baz=290,SNR=12									
P51A					P	**PKPdf**	**10 09 45.6**	**-1.3**		
	baz=290,SNR=12									
MPEP	**Malo Peshtene**	**120.55**	**318**	*i*	P	**PKiKP**	**10 09 47.2**	**+0.3**		
RGN	**Rugen**	**120.57**	**333**	*e*	PKPdf	**PKPdf**	**10 09 46.2**	**-0.3**		
	baz=51,slow=1.9									
SURR	**Surduc**	**120.58**	**321**	⇓	P	**PKPdf**	**10 09 45.0**	**-1.7**		
VLDQ	**Val d'Or**	**120.64**	**36**		IAMs_20	IAMs_20	10 59 39.9			
	comp=Z,16µm,21.0s									
SIRR	**Siria**	**120.64**	**322**	⇑	P	**PKiKP**	**10 09 47.0**	**0.0**		
X51A	**Calhoun**	**120.68**	**53**		IAMs_20	IAMs_20	10 59 41.1			
	comp=Z,15µm,20.0s									
CPCT	**Cooper Cave**	**120.70**	**52**		IAMs_20	IAMs_20	10 54 36.5			
	comp=Z,17µm,21.0s									
PUNG	**Punghina**	**120.70**	**319**	⇑	P	**PKPdf**	**10 09 46.8**	**-0.2**		
S51A	**Beattyville**	**120.75**	**49**		P	**PKPdf**	**10 09 47.1**	**-0.3**		
	baz=288									
S51A					P	**PKPdf**	**10 09 47.1**	**-0.3**		
	baz=288									
HERR	**Herculane**	**120.78**	**320**	⇑	P	**PKPdf**	**10 09 46.1**	**-1.1**		
PSZ	**Piszkesteto**	**120.92**	**324**	⇑	P	**PKPdf**	**10 09 47.3**	**-0.2**		
PSZ	**Piszkesteto**	**120.92**	**324**	⇑	PKiKP	**PKPdf**	**10 09 47.3**	**-0.2**		
OKC	**Ostrava-Krasne**	**120.92**	**327**	*e*	PP	**PP**	**10 11 20.1**	**+3.8**		
OKC				*e*	PS	**PS**	**10 21 08.0**	**-1.0**		
OKC				*e*	SS	SS	10 27 51.5	+7.8		
OKC					AMS	AMS	11 00 40.0			
	comp=Z,20µm,24.8s									
451A	**Vernon**	**120.93**	**58**		IAMs_20	IAMs_20	11 01 16.2			
	comp=Z,13µm,20.0s									
KAVA	**Kavala**	**120.94**	**315**		P	**PKPdf**	**10 09 46.7**	**-0.9**		
BZS	**Buzias**	**120.96**	**321**	⇑	P	**PKPdf**	**10 09 47.0**	**-0.5**		
BZS	**Buzias**	**120.96**	**321**	⇑	PKiKP	**PKPdf**	**10 09 47.0**	**-0.5**		
M52A	**Chesterland**	**121.01**	**44**		P	**PKPdf**	**10 09 47.8**	**0.0**		
	baz=292,SNR=5.9									
M52A					P	**PKPdf**	**10 09 47.8**	**0.0**		
	baz=292,SNR=5.9									
MUD	**Monsted U'grnd**	**121.04**	**337**	*i*	P	**PKiKP**	**10 09 47.9**	**+0.5**		
MUD					IAMs_20	IAMs_20	11 01 59.5			
	comp=Z,13µm,22.2s									
TZTN	**Tazewell**	**121.13**	**50**		PKiKP	**PKPdf**	**10 09 47.7**	**-0.5**		
	baz=288									
P52A	**Corning**	**121.16**	**47**		IAMs_20	IAMs_20	10 59 54.4			
	comp=Z,13µm,22.0s									
P52A	**Corning**	**121.16**	**47**		PKiKP	**PKPdf**	**10 09 47.3**	**-0.8**		
	baz=291									
SADO	**Sadowa**	**121.17**	**40**		IAMs_20	IAMs_20	11 01 53.8			
	comp=Z,15µm,20.0s									
VTS	**Vitosha**	**121.19**	**317**	*i*	P	**PKiKP**	**10 09 48.7**	**+0.3**		
O52A	**Adamsville**	**121.20**	**46**		IAMs_20	IAMs_20	11 00 12.4			
	comp=Z,18µm,22.0s									
O52A	**Adamsville**	**121.20**	**46**		P	**PKiKP**	**10 09 48.3**	**0.0**		
	baz=291,SNR=7.2									
O52A					P	**PKiKP**	**10 09 48.3**	**0.0**		
	baz=291,SNR=7.2									
TKL	**Tuckaleechee C**	**121.22**	**51**		P	**PKPdf**	**10 09 47.6**	**-0.8**		
	baz=287,SNR=14									
VYHS	**Vyhne**	**121.24**	**325**	*e*	PKiKP	**PKPdf**	**10 09 47.0**	**-1.0**		
VYHS	**Vyhne**	**121.24**	**325**	*e*	PKP	**PKPdf**	**10 09 47.0**	**-1.0**		
VYHS				*e*			10 19 52.5			
VYHS				*e*			10 20 06.9			
NVR	**Nevrokopi**	**121.26**	**316**		P	**PKPdf**	**10 09 47.2**	**-1.1**		
MMB	**Musomishta**	**121.26**	**316**	*i*	P	**PKPdf**	**10 09 48.2**	**-0.1**		
W52A	**Murphy**	**121.27**	**52**		IAMs_20	IAMs_20	11 00 54.6			
	comp=Z,15µm,20.0s									
W52A	**Murphy**	**121.27**	**52**		P	**PKPdf**	**10 09 48.2**	**-0.3**		
	baz=287,SNR=13									
MDVR	**Moldovita**	**121.28**	**320**	⇑	P	**PKPdf**	**10 09 47.0**	**-1.2**		
MORC	**Moravsky Berou**	**121.28**	**327**	⇑	P	**PKPdf**	**10 09 47.7**	**-0.3**		
MORC	**Moravsky Berou**	**121.28**	**327**			**PKPdf**	**10 09 47.0**	**-1.1**		
MORC	**Moravsky Berou**	**121.28**	**327**	*e*	PKP	**PKPdf**	**10 09 47.6**	**-0.5**		
MORC				*e*			10 09 49.2			
MORC				*e*			10 10 03.2			
MORC				*e*	PKKP	**PKKPab**	**10 19 48.1**	**-2.5**		
MORC	**Moravsky Berou**	**121.28**	**327**		PKiKP	**PKPdf**	**10 09 47.0**	**-1.1**		
MORC					MLR	MLR				
	comp=Z,26µm,22.0s									
152A	**Waverly Hall**	**121.29**	**55**		IAMs_20	IAMs_20	10 58 09.5			
	comp=Z,13µm,22.0s									
152A	**Waverly Hall**	**121.29**	**55**		P	**PKiKP**	**10 09 48.8**	**+0.1**		
	baz=285									
Q52A	**Bidwell**	**121.30**	**47**		IAMs_20	IAMs_20	10 56 14.1			
	comp=Z,12µm,21.0s									
Q52A	**Bidwell**	**121.30**	**47**		P	**PKPdf**	**10 09 47.6**	**-0.8**		
	baz=290,SNR=8.5									
Q52A					P	**PKPdf**	**10 09 47.6**	**-0.8**		
	baz=290,SNR=8.5									
V52A	**Sevierville**	**121.31**	**51**		P	**PKPdf**	**10 09 48.4**	**-0.1**		
	baz=288,SNR=12									
KOKK	**Kokkinochori,**	**121.36**	**315**		P	**PKPdf**	**10 09 45.7**	**-2.7**		
BANR	**Banloc**	**121.37**	**321**	⇓	P	**PKiKP**	**10 09 48.7**	**+0.3**		
352A	**Blakely**	**121.41**	**56**		IAMs_20	IAMs_20	10 56 45.9			
	comp=Z,11µm,22.0s									
352A	**Blakely**	**121.41**	**56**		P	**PKPdf**	**10 09 48.6**	**-0.2**		
	baz=284									
Y52A	**Lilburn**	**121.50**	**53**		IAMs_20	IAMs_20	11 02 55.0			
	comp=Z,11µm,19.0s									
Y52A	**Lilburn**	**121.50**	**53**		P	**PKiKP**	**10 09 49.2**	**+0.1**		
	baz=286,SNR=20									
Y52A					P	**PKiKP**	**10 09 49.2**	**+0.1**		
	baz=286,SNR=20									
M53A	**WI Miller and**	**121.53**	**44**		PKiKP	**PKPdf**	**10 09 48.3**	**-0.4**		
	baz=293									
KRLC	**Kraliky**	**121.53**	**327**	*e*	PKPDF	**PKPdf**	**10 09 48.3**	**-0.2**		
KRLC				*ex*		x	10 09 50.6			
KRLC				*e*	PP	**PP**	**10 11 25.3**	**+4.8**		
KRLC				*e*	PS	**PS**	**10 21 05.5**	**-9.0**		
KRLC				*e*	SS	SS	10 27 41.5	-10		
KRLC					AMS	AMS	11 02 00.0			
	comp=Z,24µm,22.7s									
KRLC	**Kraliky**	**121.53**	**327**	*e*	PKiKP	**PKPdf**	**10 09 48.3**	**-0.2**		
KRLC				*e*			10 11 25.3			
KRLC				*e*	PS	**PS**	**10 21 05.5**	**-9.0**		
KRLC					MLR	MLR				
	comp=Z,24µm,22.7s									
SSRD	**Sdr. Stenderup**	**121.54**	**336**	*i*	P	**PKiKP**	**10 09 50.0**	**+1.6**		
SSRD					IAMs_20	IAMs_20	11 03 09.6			
	comp=Z,34µm,22.8s									
OSTC	**Ostas**	**121.56**	**328**	*e*	PKPDF	**PKiKP**	**10 09 48.8**	**+0.1**		
OSTC				*ex*		x	10 09 50.7			
OSTC				*e*	PP	**PP**	**10 11 25.6**	**+4.9**		
OSTC				*e*	PS	**PS**	**10 21 13.1**	**-1.6**		
OSTC				*e*	SS	SS	10 28 31.2	+39		
OSTC					AMS	AMS	11 01 50.0			
	comp=Z,31µm,23.0s									
OSTC	**Ostas**	**121.56**	**328**	*e*	PKiKP	**PKiKP**	**10 09 48.8**	**+0.1**		
OSTC				*e*			10 11 25.6			
OSTC				*e*	PS	**PS**	**10 21 13.1**	**-1.6**		
OSTC					MLR	MLR				
	comp=Z,31µm,23.0s									
KKB	**Krupnik**	**121.57**	**316**	*i*	P	**PKiKP**	**10 09 48.9**	**-0.1**		
O53A	**New Philadelph**	**121.60**	**46**		IAMs_20	IAMs_20	10 59 41.9			
	comp=Z,16µm,22.0s									
O53A	**New Philadelph**	**121.60**	**46**		PKiKP	**PKPdf**	**10 09 48.6**	**-0.3**		
	baz=292									
DPC	**Dobruska-Polom**	**121.62**	**328**	*e*	PKPDF	**PKiKP**	**10 09 50.8**	**+1.9**		
DPC				*e*	PP	**PP**	**10 11 26.5**	**+5.4**		
DPC				*e*	PS	**PS**	**10 21 14.4**	**-0.9**		
DPC				*e*	SS	SS	10 28 26.9	+34		
DPC					AMS	AMS	11 02 50.0			
	comp=Z,25µm,22.2s									
DPC	**Dobruska-Polom**	**121.62**	**328**	*e*	PKiKP	**PKiKP**	**10 09 50.8**	**+1.9**		
DPC				*e*			10 11 26.5			
DPC				*e*	PS	**PS**	**10 21 14.4**	**-0.9**		
DPC					MLR	MLR				
	comp=Z,25µm,22.2s									
LRW	**Lerwick**	**121.62**	**344**	*e*	P	**PKPdf**	**10 09 47.5**	**-0.9**		
CHVC	**Chvalec**	**121.62**	**328**	*e*	PKPDF	**PKiKP**	**10 09 50.7**	**+1.9**		
CHVC				*e*	PP	**PP**	**10 11 25.9**	**+4.8**		
CHVC				*e*	PS	**PS**	**10 21 11.8**	**-3.5**		
CHVC				*e*	SS	SS	10 28 15.5	+23		
CHVC					AMS	AMS	11 01 50.0			
	comp=Z,33µm,23.4s									
CHVC	**Chvalec**	**121.62**	**328**	*e*	PKiKP	**PKiKP**	**10 09 50.7**	**+1.9**		
CHVC				*e*			10 11 25.9			
CHVC				*e*	PS	**PS**	**10 21 11.8**	**-3.5**		
CHVC				*e*	SS	SS	10 28 15.5	+23		
CHVC					MLR	MLR				
	comp=Z,33µm,23.4s									
RUE	**Ruedersdorf**	**121.65**	**331**	*e*	P	**PKiKP**	**10 09 50.4**	**+1.6**		
RUE	**Ruedersdorf**	**121.65**	**331**	*e*	PKPdf	**PKPdf**	**10 09 48.1**	**-0.4**		
	baz=51,slow=1.9									
N53A	**Lisbon**	**121.66**	**45**		P	**PKPdf**	**10 09 48.8**	**-0.2**		
	baz=292,SNR=34									
N53A					P	**PKPdf**	**10 09 48.8**	**-0.2**		
	baz=292,SNR=34									
UPC	**Upice**	**121.69**	**328**	*e*	PKPDF	**PKiKP**	**10 09 50.9**	**+2.0**		
UPC				*e*	PP	**PP**	**10 11 26.2**	**+4.6**		
UPC				*e*	PS	**PS**	**10 21 12.7**	**-3.2**		
UPC				*e*	SS	SS	10 28 34.3	+41		
UPC					AMS	AMS	11 02 00.0			
	comp=Z,34µm,23.1s									
UPC	**Upice**	**121.69**	**328**	*e*	PKiKP	**PKiKP**	**10 09 50.9**	**+2.0**		
UPC				*e*			10 11 26.2			
UPC				*e*	PS	**PS**	**10 21 12.7**	**-3.2**		
UPC					MLR	MLR				
	comp=Z,34µm,23.1s									
JAVC	**Velka Javorina**	**121.70**	**326**	*e*	PKP	**PKiKP**	**10 09 49.0**	**-0.1**		
JAVC				*e*			10 09 50.9			
JAVC				*e*	PKKP	**PKKPbc**	**10 19 49.9**	**+0.2**		
JAVC				*e*			10 20 04.4			
TGUH	**Tegucigalpa,Un**	**121.70**	**77**		IAMs_20	IAMs_20	10 50 39.9			
	comp=Z,13µm,22.0s									
P53A	**Whipple**	**121.75**	**46**		IAMs_20	IAMs_20	11 06 54.0			
	comp=Z,14µm,20.0s									
P53A	**Whipple**	**121.75**	**46**		P	**PKPdf**	**10 09 48.8**	**-0.4**		
	baz=291,SNR=15									
P53A					P	**PKPdf**	**10 09 48.8**	**-0.4**		
	baz=291,SNR=15									
BOVS	**Bovan**	**121.78**	**319**	⇑	P	**PKPdf**	**10 09 48.4**	**-0.8**		
SRO	**Srobarova**	**121.89**	**325**	*e*	PKiKP	**PKiKP**	**10 09 50.1**	**+0.7**		
SRO	**Srobarova**	**121.89**	**325**	*e*	PKP	**PKiKP**	**10 09 50.1**	**+0.7**		
CRIN	**San Cristobal**	**121.96**	**79**		IAMs_20	IAMs_20	10 50 52.9			
	comp=Z,15µm,22.0s									
V53A	**Saluda**	**121.96**	**51**		P	**PKPdf**	**10 09 49.7**	**-0.1**		
	baz=288,SNR=12									
V53A					P	**PKPdf**	**10 09 49.7**	**-0.1**		
	baz=288,SNR=12									
KNT	**Kendrikon**	**122.00**	**316**		P	**PKPdf**	**10 09 47.6**	**-2.1**		
SCHQ	**Schefferville**	**122.00**	**25**		PKP	**PKPdf**	**10 09 48.4**	**-0.8**		
	comp=Z,15nm,0.8s,baz=323,slow=3.3,SNR=10									
SCHQ					PKKPbc	**PKKPab**	**10 19 47.0**	**-0.3**		
	comp=Z,7.0nm,0.9s,baz=159,slow=3.5,SNR=8.6									
SMOL	**Smolenice**	**122.02**	**326**	*e*	PKiKP	**PKiKP**	**10 09 50.8**	**+1.1**		
VRAC	**Vranov**	**122.06**	**327**	⇓	P	**PKPdf**	**10 09 47.8**	**-1.7**		
VRAC	**Vranov**	**122.06**	**327**	*e*	PKP	**PKPdf**	**10 09 48.7**	**-0.8**		
VRAC				*e*			10 09 50.5			
VRAC				*e*			10 10 04.5			
VRAC				*e*			10 20 01.9			
VRAC	**Vranov**	**122.06**	**327**		PKP	**PKPdf**	**10 09 48.9**	**-0.6**		
	comp=Z,29nm,0.9s,baz=45,slow=1.2,SNR=23									
BG3	**Lake Jocassee**	**122.08**	**52**		IAMs_20	IAMs_20	10 55 41.0			
	comp=Z,17µm,21.0s									
CASEE	**Lake Jocassee**	**122.08**	**52**		P	**PKPdf**	**10 09 49.7**	**-0.4**		
	baz=288,SNR=13									
GOGA	**Godfrey**	**122.11**	**54**		IAMs_20	IAMs_20	10 58 01.0			
	comp=Z,13µm,21.0s									
GOGA	**Godfrey**	**122.11**	**54**		PKiKP	**PKPdf**	**10 09 49.8**	**-0.3**		
	baz=286									
GOGA	**Godfrey**	**122.11**	**54**		P	**PKPdf**	**10 09 49.8**	**-0.3**		
	baz=286									
PAMR	**Moraine State**	**122.12**	**44**		P	**PKPdf**	**10 09 49.5**	**-0.4**		
	baz=293									
553A	**Crawfordville**	**122.13**	**58**		IAMs_20	IAMs_20	11 03 03.0			
	comp=Z,11µm,20.0s									
VAY	**Valandovo**	**122.16**	**316**	*i*	P	**PKPdf**	**10 09 48.7**	**-1.2**		
PAOC	**Oil Creek Stat**	**122.18**	**44**		P	**PKPdf**	**10 09 49.5**	**-0.5**		
	baz=294									
MODS	**Modra-Piesok**	**122.19**	**326**	*e*	PKiKP	**PKiKP**	**10 09 49.9**	**-0.1**		
MODS	**Modra-Piesok**	**122.19**	**326**	*e*	PKP	**PKiKP**	**10 09 49.9**	**-0.1**		
O54A	**Avella**	**122.22**	**45**		IAMs_20	IAMs_20	11 00 09.2			
	comp=Z,18µm,22.0s									
O54A	**Avella**	**122.22**	**45**		P	**PKPdf**	**10 09 49.9**	**-0.2**		
	baz=293,SNR=22									
O54A					P	**PKPdf**	**10 09 49.9**	**-0.2**		
	baz=293,SNR=22									
DELO	**Deloro Mine**	**122.25**	**40**		IAMs_20	IAMs_20	10 57 06.5			
	comp=Z,12µm,22.0s									
STIP	**Stip**	**122.28**	**317**	*i*	P	**PKPdf**	**10 09 46.9**	**-3.2**		
KRUC	**Moravsky**	**122.30**	**327**	*e*	PKP	**PKPdf**	**10 09 49.3**	**-0.7**		
KRUC				*e*			10 09 50.9			
KRUC				*e*			10 10 05.1			
KRUC				*e*	PKKP	**PKKPab**	**10 19 46.2**	**+0.1**		
KRUC				*e*			10 20 01.1			
BSEG	**Bad Segeberg**	**122.30**	**334**	*e*	PKPdf	**PKPdf**	**10 09 49.6**	**-0.2**		
	baz=51,slow=1.9									
BSEG				*e*	pPKPdf	**pPKPdf**	**10 10 05.1**	**-1.4**		
FRGS	**Fruska Gora**	**122.30**	**321**	⇑	P	**PKPdf**	**10 09 50.1**	**-0.1**		
FRGS	**Fruska Gora**	**122.30**	**321**	⇑	P	**PKPdf**	**10 09 49.1**	**-1.1**		
CNGN	**Cerro Negro**	**122.31**	**79**		IAMs_20	IAMs_20	10 51 10.1			
	comp=Z,15µm,22.0s									
MEDO	**Medina**	**122.31**	**41**		IAMs_20	IAMs_20	10 56 37.4			
	comp=Z,11µm,22.0s									
Q54A	**Coxs Mills**	**122.34**	**47**		IAMs_20	IAMs_20	11 12 18.5			
	comp=Z,14µm,20.0s									
Q54A	**Coxs Mills**	**122.34**	**47**		P	**PKPdf**	**10 09 50.0**	**-0.4**		
	baz=292,SNR=24									
Q54A					P	**PKPdf**	**10 09 50.0**	**-0.4**		
	baz=292,SNR=24									
UPAO	**U. Pittsburgh**	**122.35**	**45**		P	**PKP

PRU AMS AMS 11 02 50.0
comp=Z,30µm,21.9s
PRU Pruhonice 122.76 328 *e*PKIKP **PKPdf 10 09 50.5 -0.3**
PRU *e* 10 11 32.9
PRU *e*PS **PS 10 21 22.5 -2.9**
PRU *e*SS SS 10 28 00.3 -6.8
PRU MLR MLR
comp=Z,30µm,21.9s
TEKS Tekeris 122.77 321⇑ *i*P **PKPdf 10 09 49.8 -1.3**
PRA Prague 122.77 328 *e*PKPDF **PKiKP 10 09 52.9 +1.9**
PRA *e*PP **PP 10 11 33.5 +4.6**
PRA *e*PS **PS 10 21 24.2 -1.2**
PRA *e*SS SS 10 27 56.5 -11
PRA AMS AMS 11 03 00.0
comp=Z,28µm,21.1s
PRA Prague 122.77 328 *e*PKIKP **PKiKP 10 09 52.9 +1.9**
PRA *e* 10 11 33.5
PRA *e*PS **PS 10 21 24.2 -1.2**
PRA MLR MLR
comp=Z,28µm,21.1s
MCWV Mont Chateau 122.80 46 IAMs_20 IAMs_20 11 06 53.5
comp=Z,13µm,20.0s
MCWV Mont Chateau 122.80 46 PKiKP **PKiKP 10 09 51.9 +0.4**
baz=293
MCWV Mont Chateau 122.80 46 P **PKPdf 10 09 50.9 -0.4**
baz=293,SNR=8.7
M55A Ridgway 122.83 43 P **PKPdf 10 09 50.8 -0.5**
baz=295,SNR=14
M55A P **PKPdf 10 09 50.8 -0.5**
baz=295,SNR=14
HODGE Hodges 122.83 53 IAMs_20 IAMs_20 11 01 51.2
comp=Z,12µm,20.0s
HODGE Hodges 122.83 53 P **PKPdf 10 09 51.4 -0.1**
baz=288
FLTG Flechtingen 122.95 332 *e*PKPdf **PKPdf 10 09 50.4 -0.7**
baz=51,slow=1.9
HSKC Hora Svate Kat 122.97 329 *e*PKPDF **PKPdf 10 09 51.0 -0.3**
HSKC *ex* x 10 09 53.0
HSKC *e*PP **PP 10 11 34.8 +4.6**
HSKC *e*PS **PS 10 21 23.9 -3.3**
HSKC *e*SS SS 10 28 07.7 -2.0
HSKC AMS AMS 11 01 00.0
comp=Z,32µm,28.1s
PSDB Penn State Uni 122.98 44 P **PKiKP 10 09 52.1 +0.4**
baz=294
PAULI Pauline 123.00 52 IAMs_20 IAMs_20 10 56 20.6
comp=Z,16µm,21.0s
PAULI Pauline 123.00 52 P **PKPdf 10 09 51.6 -0.2**
baz=288,SNR=12
NRS Narsarsuaq 123.03 10 IAMs_20 IAMs_20 11 02 02.5
comp=Z,14µm,21.0s
NRS Narsarsuaq 123.03 10 *i*P **PKiKP 10 09 51.5 +0.3**
NRS IAMs_20 IAMs_20 10 53 13.9
comp=Z,22µm,29.5s
SJES Sjenica 123.08 319⇑ *i*P **PKPdf 10 09 50.9 -0.9**
AXAR Agios Charalam 123.09 313 P **PKPdf 10 09 49.2 -2.6**
RONA Rosalia, Austr 123.10 325 *e*PKP **PKPdf 10 09 50.7 -0.9**
comp=Z,74nm,1.0s,SNR=31
R55A Marlinton 123.11 47 IAMs_20 IAMs_20 11 03 40.1
comp=Z,14µm,21.0s
R55A Marlinton 123.11 47 P **PKPdf 10 09 51.7 -0.3**
baz=292,SNR=23
R55A P **PKPdf 10 09 51.7 -0.3**
baz=292,SNR=23
V55A Taylorsville 123.14 50 P **PKiKP 10 09 52.5 +0.2**
baz=289,SNR=7.6
V55A P **PKiKP 10 09 52.5 +0.2**
baz=289,SNR=7.6
BBLS Lazi&#263i 123.17 320⇑ *i*P **PKPdf 10 09 51.2 -0.7**
HLG Helgoland 123.17 335 *e*PKPdf **PKPdf 10 09 51.3 -0.1**
baz=51,slow=1.9
FNA Florina 123.21 316 P **PKPdf 10 09 49.3 -2.8**
CONA Conrad Observa 123.22 326 *e*PKP **PKPdf 10 09 51.0 -1.0**
comp=Z,51nm,0.9s,SNR=18
AGG Agios Georgios 123.23 314 P **PKPdf 10 09 52.1 0.0**
IMMV Iera Moni Meta 123.25 309 P **PKPdf 10 09 52.1 -0.1**
ZVC Zvikov 123.27 328 *e*PKPDF **PKPdf 10 09 51.9 +0.1**
ZVC *ex* x 10 09 53.9
ZVC *e*PP **PP 10 11 36.9 +4.6**
ZVC *e*PS **PS 10 21 30.0 +0.1**
ZVC *e*SS SS 10 28 32.2 +19
ZVC AMS AMS 11 03 10.0
comp=Z,34µm,21.9s
BLA Blacksburg 123.28 49 PKiKP **PKPdf 10 09 52.4 +0.1**
baz=291
BLA Blacksburg 123.28 49 P **PKPdf 10 09 52.1 -0.2**
baz=291,SNR=13
KMSC Kings Mountain 123.28 51 PKiKP **PKPdf 10 09 51.8 -0.5**
baz=289
KMSC Kings Mountain 123.28 51 P **PKPdf 10 09 52.0 -0.3**
baz=289,SNR=8.9
TRQ Mont Tremblant 123.30 37 IAMs_20 IAMs_20 11 05 32.2
comp=Z,14µm,21.0s
RUDO Rudo 123.30 320 *e*P **PKPdf 10 09 50.6 -1.5**
J56A Wolcott 123.31 41 P **PKPdf 10 09 51.0 -1.0**
baz=297,SNR=8.9
J56A P **PKPdf 10 09 51.0 -1.0**
baz=297,SNR=8.9
255A Hazlehurst 123.32 55 P **PKiKP 10 09 52.6 -0.1**
baz=286
BOAB BOACO BROADBAN 123.32 79 PP **PP 10 11 32.5 -1.6**
BOAB PKP **PKiKP 10 09 53.7 +0.6**
ASSE Asse, Remlinge 123.34 332 *e*PKPdf **PKPdf 10 09 51.5 -0.3**
baz=51,slow=1.9
ASSE *ep*PKPdf **pPKPdf 10 10 07.2 -1.3**
HAPS Han Pijesak,Bl 123.35 320⇑ *i*P **PKPdf 10 09 51.6 -0.7**
L56A Greenwood 123.36 42 P **PKPdf 10 09 51.3 -1.0**
baz=296,SNR=17
L56A P **PKPdf 10 09 51.3 -1.0**
baz=296,SNR=17
NRDL Niedersach Rie 123.36 333 *e*PKPdf **PKPdf 10 09 51.7 -0.1**
baz=51,slow=1.9
MAKR Makrakomi, Fth 123.38 314 P **PKPdf 10 09 51.7 -0.7**
NEUB Neuenburg 123.41 331 *e*PKPdf **PKPdf 10 09 51.5 -0.6**
baz=51,slow=1.9
HZTE Horizontes, Gu 123.42 81 IAMs_20 IAMs_20 10 52 18.6
comp=Z,16µm,22.0s
PABK Blue Knob Stat 123.45 45 P **PKPdf 10 09 52.3 -0.2**
baz=294
OHR Ohrid 123.47 317 *i*P **PKiKP 10 09 53.2 +0.4**
RETH Rethem/Aller, 123.53 333 *e*PKPdf **PKPdf 10 09 52.0 -0.1**
baz=51,slow=1.9
KPRO Kipourio 123.55 315 P **PKPdf 10 09 52.4 -0.4**
CKRC Cesky Krumlov 123.57 327 *e*PKPDF **PKPdf 10 09 52.2 -0.3**
CKRC *ex* x 10 09 54.5
CKRC *e*PP **PP 10 11 38.4 +4.1**
CKRC *e*PS **PS 10 21 31.9 -0.7**
CKRC *e*SS SS 10 28 04.5 -13
CKRC AMS AMS 11 05 40.0
comp=Z,27µm,20.5s
CKRC Cesky Krumlov 123.57 327 *e*PKIKP **PKPdf 10 09 52.2 -0.3**
CKRC *e* 10 11 38.4
CKRC *e*PS **PS 10 21 31.9 -0.7**
CKRC MLR MLR
comp=Z,27µm,20.5s
TANN Tannenbergstha 123.57 330 *e*PKPdf **PKPdf 10 09 51.9 -0.6**
baz=51,slow=1.9
NEST Nestorio 123.59 316 P **PKPdf 10 09 52.1 -0.8**
JSC Jenkinsville 123.61 52 IAMs_20 IAMs_20 11 00 54.6
comp=Z,12µm,20.0s
U56A King 123.61 50 P **PKiKP 10 09 53.1 -0.1**
baz=290
U56A P **PKiKP 10 09 53.1 -0.1**
baz=290
GUR Goura 123.63 312 P **PKPdf 10 09 51.6 -1.4**
BO01 Tunca 123.64 138 IAMs_20 IAMs_20 10 55 04.9
comp=Z,11µm,21.0s
EVR Evrytania 123.65 314 P **PKiKP 10 09 54.2 +0.9**
CLZ Clausthal 123.67 332 *e*PKPdf **PKPdf 10 09 52.4 -0.2**
baz=51,slow=1.9
CLZ *ep*PKPdf **pPKPdf 10 10 08.2 -1.1**
PUK Puka 123.68 318 IAMs_20 IAMs_20 11 09 43.5
comp=Z,11µm,21.0s
PLN Plauen 123.68 330 *e*PKPdf **PKPdf 10 09 52.1 -0.5**
baz=51,slow=1.9
ANX Ano Chora 123.69 313 P **PKPdf 10 09 52.4 -0.7**
NKC Novy Kostel 123.69 330 *e*PKPDF **PKPdf 10 09 52.7 0.0**
NKC *ex* x 10 09 54.7
NKC *e*PP **PP 10 11 35.4 +0.3**
NKC *e*PS **PS 10 21 31.9 -1.7**
NKC *e*SS SS 10 28 16.8 -2.1
NKC AMS AMS 11 01 40.0
comp=Z,28µm,24.3s
NKC Novy Kostel 123.69 330 *e*PKIKP **PKPdf 10 09 52.7 0.0**
NKC *e* 10 11 35.4
NKC *e*PS **PS 10 21 31.9 -1.7**
NKC *e*SS SS 10 28 16.8 -2.1
NKC MLR MLR
comp=Z,28µm,24.3s
KLV Kalavryta, Ach 123.73 313 P **PKPdf 10 09 52.9 -0.3**
WCNY West Carthage 123.75 39 P **PKPdf 10 09 51.9 -1.0**
baz=299,SNR=8.7
BIGH Upper Bighouse 123.76 345 *e*P **PKPdf 10 09 51.5 -1.0**
KHC Kasperske Hory 123.78 328 *e*PKPDF **PKPdf 10 09 52.6 -0.3**
KHC *ex* x 10 09 54.9
KHC *e*PP **PP 10 11 40.9 +5.2**
KHC *e*PKKP **PKKPab 10 19 40.0 +0.1**
KHC *e*PS **PS 10 21 35.5 +1.1**
KHC *e*SS SS 10 28 20.4 +0.3
KHC AMS AMS 11 03 30.0
comp=Z,33µm,21.6s
KHC Kasperske Hory 123.78 328 *e*PKIKP **PKPdf 10 09 52.6 -0.3**
KHC *e* 10 11 40.9
KHC *e*PS **PS 10 21 35.5 +1.1**
KHC *e*SS SS 10 28 20.4 +0.3
KHC MLR MLR
comp=Z,33µm,21.6s
SSPA Standing Stone 123.78 44 **PKPdf 10 09 52.5 -0.6**
SSPA Standing Stone 123.78 44 PKiKP **PKPdf 10 09 53.1 0.0**
baz=295
SSPA Standing Stone 123.78 44 P **PKPdf 10 09 52.5 -0.6**
baz=295,SNR=13
K57A Scipio Center 123.78 41 P **PKPdf 10 09 52.1 -1.0**
baz=297,SNR=13
ARSA Arzberg 123.79 325 *e*PKP **PKPdf 10 09 51.5 -1.4**
comp=Z,29nm,1.0s,SNR=12
UPM Unac-Piva 123.80 320⇑ *i*P **PKiKP 10 09 55.8 +2.2**
J57A Williamstown 123.80 40 IAMs_20 IAMs_20 10 58 16.6
comp=Z,15µm,22.0s
J57A Williamstown 123.80 40 P **PKPdf 10 09 52.5 -0.5**
baz=298,SNR=11
J57A P **PKPdf 10 09 52.5 -0.5**
baz=298,SNR=11
MOX Moxa 123.85 330 *e*PKPdf **PKPdf 10 09 52.4 -0.6**
baz=51,slow=1.9
MOX *ep*PKPdf **pPKPdf 10 10 08.0 -1.7**
MOX *e*L L 11 07 14.2
comp=Z,18µm,21.1s
KALN Kalnik 123.85 324 *i*P **PKPdf 10 09 51.9 -1.2**
GEC2 GERESS Array S 123.88 328 *e*PKPdf **PKPdf 10 09 52.4 -0.8**
baz=51,slow=1.9
GERES GERESS Array B 123.88 328 **PKPdf 10 09 52.6 -0.6**
GERES GERESS Array B 123.88 328 PKIKP **PKPdf 10 09 52.6 -0.6**
GERES GERESS Array B 123.88 328 PKP **PKPdf 10 09 52.2 -0.9**
comp=Z,60nm,0.8s,baz=42,slow=4.2,SNR=92
GERES PKKPbc **PKKPbc 10 19 42.4 +1.2**
comp=Z,1.8nm,0.7s,baz=298,slow=2.9,SNR=5.3
656A Willston 123.93 58 IAMs_20 IAMs_20 11 01 48.7
comp=Z,13µm,21.0s
MOSL Moslavina 123.95 323 *i*P **PKPdf 10 09 52.4 -0.9**
M57A Sunshine Farm, 124.00 43 P **PKPdf 10 09 53.3 -0.2**
baz=296,SNR=13
M57A P **PKPdf 10 09 53.3 -0.2**
baz=296,SNR=13
TIR Tirane 124.00 317⇑ P **PKPdf 10 09 53.4 -0.1**
TIR Tirane 124.00 317⇑ PKIKP **PKPdf 10 09 53.4 -0.1**
LSK Leskovik 124.01 316 P **PKPdf 10 09 53.4 -0.3**
456A Hilliard 124.01 57 IAMs_20 IAMs_20 11 02 58.8
comp=Z,9µm,20.0s
MANZ Manzenberg 124.02 329 *e*PKPdf **PKPdf 10 09 52.9 -0.4**
baz=51,slow=1.9
MANZ *ep*PKPdf **pPKPdf 10 10 08.6 -1.5**
JTS Las Juntas de 124.06 81 **PKiKP 10 09 54.8 +0.1**
JTS Las Juntas de 124.06 81 PKIKP **PKiKP 10 09 54.8 +0.1**
GTTG Gottingen 124.06 332 *e*PKPdf **PKPdf 10 09 53.1 -0.2**
baz=51,slow=1.9
GTTG *ep*PKPdf **pPKPdf 10 10 08.7 -1.4**
DRME Dracevica, Mon 124.08 318⇑ *i*P **PKPdf 10 09 52.7 -0.9**
DRO Drossia 124.09 313 P **PKiKP 10 09 54.2 +0.1**
LONY Lake Ozonia 124.10 38 PKiKP **PKiKP 10 09 53.8 -0.1**
baz=300
ROTZ Rotzenmuhle 124.10 329 *e*PKPdf **PKPdf 10 09 52.8 -0.6**
baz=51,slow=1.9
BIRD Birdtown, Kers 124.11 52 P **PKiKP 10 09 54.0 -0.2**
baz=289
BLY Banja Luka 124.13 322⇑ *i*P **PKPdf 10 09 52.8 -0.8**
WET Wettzell 124.14 328 *e*PKPdf **PKPdf 10 09 53.1 -0.5**
baz=51,slow=1.9
MOA Molln 124.15 326 *i* PKP **PKPdf 10 09 52.5 -1.1**
comp=Z,25nm,0.9s
S57A Dark Hollow, R 124.16 48 IAMs_20 IAMs_20 11 04 21.9
comp=Z,15µm,20.0s
A051A Mrakovica 124.16 322⇑ *i*P **PKPdf 10 09 52.6 -1.2**
P57A Homestead Farm 124.17 45 P **PKPdf 10 09 53.5 -0.3**
baz=294,SNR=12
P57A P **PKPdf 10 09 53.5 -0.3**
baz=294,SNR=12
BRY Bratogost 124.18 319⇑ *i*P **PKPdf 10 09 52.0 -2.0**
T57A Hurt 124.22 48 P **PKiKP 10 09 54.4 +0.1**
baz=292,SNR=7.4
T57A P **PKiKP 10 09 54.4 +0.1**
baz=292,SNR=7.4
RLS Riolos of Patr 124.22 313 P **PKiKP 10 09 59.3 +5.0**
MNTQ Montreal, Queb 124.23 37 IAMs_20 IAMs_20 11 03 14.8
comp=Z,12µm,20.0s
MT02 Curacav 124.26 137 IAMs_20 IAMs_20 10 54 50.6
comp=Z,12µm,20.0s
NEVS Nevesinje 124.27 320 *e*P **PKPdf 10 09 52.5 -1.5**
J58A Remsen 124.28 40 IAMs_20 IAMs_20 11 04 58.3
comp=Z,15µm,21.0s
J58A Remsen 124.28 40 P **PKPdf 10 09 53.4 -0.6**
baz=299,SNR=17
J58A P **PKPdf 10 09 53.4 -0.6**
baz=299,SNR=17
ARE1 Arenal 1 124.29 81 IAMs_20 IAMs_20 10 52 23.5
comp=Z,16µm,22.0s
W57A Gilead 124.31 51 P **PKPdf 10 09 54.3 0.0**
baz=290
W57A P **PKPdf 10 09 54.3 0.0**
baz=290
JACO JACO, Garabito 124.35 82 IAMs_20 IAMs_20 10 56 58.1
comp=Z,12µm,20.0s
MGRS Mrkonjic Grad 124.36 322 *e*P **PKPdf 10 09 53.8 -0.3**
MCD Coleburn Disti 124.37 344 *e*P **PKPdf 10 09 52.5 -1.2**
Y57A Sumter 124.37 52 IAMs_20 IAMs_20 11 07 49.9
comp=Z,11µm,20.0s
BINY Binghamton 124.37 41 PKiKP **PKPdf 10 09 54.2 0.0**
baz=298
BINY Binghamton 124.37 41 P **PKPdf 10 09 53.7 -0.5**
baz=298,SNR=7.2
SOKA Soboth 124.38 325 *e*PKP **PKPdf 10 09 52.9 -1.3**
comp=Z,70nm,1.0s,SNR=39
TREB Trebinje 124.39 319 *e*P **PKPdf 10 09 53.0 -1.2**
LINV Loch Inver, As 124.39 345 *e*P **PKPdf 10 09 52.8 -0.9**
HCY Herceg Novi 124.42 319⇑ *i*P **PKPdf 10 09 53.3 -1.0**
GCIS Gornji Cirnik 124.48 324 *i* PKPdf **PKPdf 10 09 53.7 -0.6**
257A Skidaway Islan 124.49 55 IAMs_20 IAMs_20 11 01 30.1
comp=Z,14µm,20.0s
N58A Sunbury 124.50 43 P **PKPdf 10 09 53.9 -0.5**
baz=296,SNR=15
N58A P **PKPdf 10 09 53.9 -0.5**
baz=296,SNR=15
UBBA Unterbreizbach 124.52 331 *e*PKPdf **PKPdf 10 09 53.8 -0.2**
baz=51,slow=1.9
NYDR Nydri-Lefkada 124.52 314 P **PKPdf 10 09 53.7 -0.8**
DBRK Dubrovnik 124.54 319 *i*P **PKPdf 10 09 53.1 -1.4**
IBBN Ibbenburen 124.54 334 *e*PKPdf **PKPdf 10 09 53.9 -0.3**
baz=51,slow=1.9
IBBN *ep*PKPdf **pPKPdf 10 10 09.7 -1.2**
BIOA Bad Ischl, Aus 124.59 327 *e*PKP **PKPdf 10 09 53.7 -0.7**
comp=Z,47nm,1.0s,SNR=14
FRNY Flat Rock 124.60 38 P **PKPdf 10 09 53.0 -1.6**
baz=301,SNR=11
VLO Vlora 124.64 316 IAMs_20 IAMs_20 11 08 44.1
comp=Z,12µm,22.0s
PEL Peldehue 124.64 137 IAMs_20 IAMs_20 10 56 00.7
comp=Z,10µm,20.0s
GRF Grafenberg Arr 124.65 330 *e*PKPdf **PKPdf 10 09 53.9 -0.6**
baz=51,slow=1.9
GRF *e*L L 11 04 25.4
comp=Z,20µm,21.4s
GRFO Grafenberg 124.65 330 **PKiKP 10 09 54.7 -0.1**
GRFO Grafenberg 124.65 330 PKIKP **PKiKP 10 09 54.7 -0.1**
GRFO MLR MLR
comp=Z,21µm,21.0s
NCB Newcomb 124.65 39 P **PKPdf 10 09 54.4 -0.3**
baz=300,SNR=12
A050A Klekovaca 124.67 322⇑ *i*P **PKPdf 10 09 53.1 -1.7**
DRUM Mains of Drumt 124.72 343 *e*P **PKPdf 10 09 54.0 -0.4**
J59A Piesco 124.73 39 IAMs_20 IAMs_20 11 00 05.0
comp=Z,16µm,22.0s
J59A Piesco 124.73 39 P **PKPdf 10 09 54.4 -0.5**
baz=300
J59A P **PKPdf 10 09 54.4 -0.5**
baz=300
STON Ston 124.73 320 *i*P **PKPdf 10 09 52.6 -2.2**
STON Ston 124.73 320⇑ *i*P **PKPdf 10 09 53.1 -1.7**
OBKA Obir 124.75 325 *e*PKP **PKPdf 10 09 53.8 -1.1**
comp=Z,36nm,1.0s,SNR=10
OBKA Obir 124.75 325⇑ *i*P **PKPdf 10 09 53.2 -1.7**
RICI Ricice 124.79 321 *i*P **PKPdf 10 09 53.2 -1.7**
LEWI Lewis, Hebride 124.81 346 *e*P **PKPdf 10 09 54.0 -0.5**
KSPA Keystone Colle 124.81 42 P **PKPdf 10 09 54.5 -0.5**
baz=297,SNR=7.1
SOR Soroa 124.86 66 IAMs_20 IAMs_20 11 00 04.9
comp=Z,12µm,21.0s
R58B Mineral 124.87 47 P **PKPdf 10 09 54.6 -0.7**
baz=293,SNR=7.8
R58B P **PKPdf 10 09 54.6 -0.7**
baz=293,SNR=7.8
HDC Heredia 124.88 82 IAMs_20 IAMs_20 10 52 17.4
comp=Z,14µm,22.0s
BOJS Bojanci 124.90 324 *i* PKPdf **PKPdf 10 09 54.4 -0.7**
BOJS Bojanci 124.90 324⇑ *i*P **PKPdf 10 09 54.2 -0.9**
MAKA Makarska 124.96 320 *i*P **PKPdf 10 09 54.2 -1.1**
Y58A Scranton 124.98 52 IAMs_20 IAMs_20 11 02 49.9
comp=Z,11µm,20.0s
KIJV Kijevo 124.99 321 *i*P **PKPdf 10 09 54.0 -1.4**
LCR2 La Lucha 2 124.99 82 IAMs_20 IAMs_20 10 52 33.2
comp=Z,11µm,22.0s
L59A Walton 125.00 41 P **PKPdf 10 09 55.0 -0.5**
baz=298,SNR=7.6
L59A P **PKPdf 10 09 55.0 -0.5**
baz=298,SNR=7.6
KASTN Kahler Asten 125.01 332 *e*PKPdf **PKPdf 10 09 54.8 -0.3**
baz=51,slow=1.9
KASTN *ep*PKPdf **pPKPdf 10 10 10.6 -1.3**
PLIT Plitvice 125.01 323 *i*P **PKPdf 10 09 55.4 +0.1**
X58A Rowland 125.02 51 P **PKPdf 10 09 55.3 -0.3**
baz=290
X58A P **PKPdf 10 09 55.3 -0.3**
baz=290
SDMD Soldier's Deli 125.02 45 IAMs_20 IAMs_20 11 01 57.4
comp=Z,10µm,21.0s
SDMD Soldier's Deli 125.02 45 P **PKPdf 10 09 55.3 -0.2**
baz=295,SNR=10
RJOB Jochberg 125.03 327 *e*PKPdf **PKPdf 10 09 54.2 -1.2**
baz=51,slow=1.9
LJU Ljubljana 125.03 324 *i* pPKPdf pPKPdf 10 10 10.4 -1.6
KBA Koelnbreinsper 125.11 326 *e*PKP **PKPdf 10 09 53.8 -1.9**
comp=Z,46nm,0.9s,SNR=21
UDBI Udbina 125.11 322 *i*P **PKPdf 10 09 55.1 -0.5**
RIMA Rio Macho 125.13 82 IAMs_20 IAMs_20 10 52 47.9
comp=Z,9µm,21.0s
CBN Corbin Frederi 125.14 46 IAMs_20 IAMs_20 11 06 46.6
comp=Z,14µm,21.0s
CBN Corbin Frederi 125.14 46 PKiKP **PKPdf 10 09 55.5 -0.2**
baz=294
CBN Corbin Frederi 125.14 46 P **PKiKP 10 09 56.0 -0.1**
baz=294,SNR=5.3
CRNS Crni Vrh 125.16 325 *e*Pdiff **Pdif 10 06 32.7 +0.4**
CRNS *e*PKPdf **PKPdf 10 09 54.2 -1.5**
CRNS *i* pPKPdf **pPKPdf 10 10 10.4 -2.0**
CRNS *e*PP **PP 10 11 43.9 -1.2**
CRNS *e* 10 23 13.8
CRNS *e* 10 24 22.3
CRNS *e* 10 34 08.9
HCNY Howe Caverns 125.17 40 P **PKPdf 10 09 55.5 -0.2**
baz=299,SNR=8.5
DWPF Disney Wildern 125.17 59 **PKiKP 10 09 56.6 +0.1**
DWPF Disney Wildern 125.17 59 PKiKP **PKPdf 10 09 56.1 0.0**
baz=284
MYKA Terra Mystica 125.20 325 *e*PKP **PKPdf 10 09 54.1 -1.6**
comp=Z,33nm,0.8s,SNR=14
KPL Plockton 125.22 345 *e*P **PKPdf 10 09 54.6 -0.7**
CEY Cerknica 125.25 324⇑ *i*P **PKPdf 10 09 54.8 -1.0**
LESA Schwarzleotal 125.28 327 *e*PKP **PKPdf 10 09 54.3 -1.6**
comp=Z,96nm,0.9s
PEZE Perez Zeledon, 125.31 82 IAMs_20 IAMs_20 10 56 58.8
comp=Z,10µm,20.0s
BUG Bochum--Univer 125.36 333 *e*PKPdf **PKPdf 10 09 55.3 -0.5**
baz=51,slow=1.9
CO06 Fray Jorge 125.38 134 IAMs_20 IAMs_20 10 52 59.4
comp=Z,15µm,22.0s
MCVT Middlebury Col 125.42 38 P **PKPdf 10 09 55.7 -0.4**
baz=301,SNR=6.8
MORI Morici 125.49 322 *i*P **PKPdf 10 09 55.0 -1.2**
T59A Double "B" Far 125.50 48 P **PKPdf 10 09 56.4 -0.1**
baz=293
T59A P **PKPdf 10 09 56.4 -0.1**
baz=293
W59A Clinton 125.50 50 IAMs_20 IAMs_20 10 58 10.4
comp=Z,16µm,21.0s
W59A Clinton 125.50 50 P **PKPdf 10 09 56.5 0.0**
baz=291
CO02 Combarbal 125.53 135 IAMs_20 IAMs_20 10 54 59.5
comp=Z,11µm,21.0s
FUR Furstenfeldbru 125.58 328 *e*PKPdf **PKPdf 10 09 55.8 -0.6**
baz=51,slow=1.9
FUR *ep*PKPdf **pPKPdf 10 10 11.4 -1.7**
INVG Invergeldie, C 125.58 343 *e*P **PKPdf 10 09 55.4 -0.6**
RABC Rab 125.59 323 *i*P **PKPdf 10 09 55.5 -0.8**
SABO M.te Sabotino 125.60 325 IAMs_20 IAMs_20 11 06 32.6
comp=Z,20µm,22.0s
BATAN Batan 125.61 82 IAMs_20 IAMs_20 10 53 02.6
comp=Z,14µm,22.0s
SRBA San Rafael, Bu 125.63 83 IAMs_20 IAMs_20 10 57 09.1
comp=Z,12µm,20.0s
ZIRJ Zirje 125.64 321 *i*P **PKPdf 10 09 55.5 -1.0**
WUPA West Chester U 125.66 44 IAMs_20 IAMs_20 11 03 58.0
comp=Z,10µm,20.0s
TNS Taunus Mts 125.66 332 *e*PKPdf **PKPdf 10 09 56.0 -0.5**
baz=51,slow=1.9
VIRC Vir 125.67 322 *i*P **PKPdf 10 09 55.0 -1.5**
GEDE Greenville 125.69 44 P **PKPdf 10 09 56.4 -0.3**
baz=296,SNR=12
PSUB Penn St. - Bra 125.76 44 P **PKPdf 10 09 55.1 -1.8**
baz=297
ABTA Abfaltersbach 125.77 326 *e*PKP **PKPdf 10 09 55.1 -1.7**
comp=Z,94nm,0.9s,SNR=34
NPNY Mohonk Preserv 125.79 41 P **PKPdf 10 09 56.7 -0.2**
baz=299,SNR=7.6
SMRN Sveta Marina 125.80 324 *i*P **PKPdf 10 09 56.0 -0.8**
ODNJ Ogdensburg 125.81 42 P **PKPdf 10 09 56.6 -0.3**
baz=298,SNR=8.2
DUGI Dugi Otok 125.83 322 *i*P **PKPdf 10 09 55.6 -1.3**
CNNC Cliffs of the 125.89 50 PKiKP **PKiKP 10 09 57.7 0.0**
baz=292
LBNH Lisbon 125.92 37 PKiKP **PKPdf 10 09 57.1 0.0**
baz=303
LBNH Lisbon 125.92 37 P **PKPdf 10 09 56.4 -0.7**
baz=303,SNR=7.5
WATA Walderalm 125.93 327 *e*PKP **PKPdf 10 09 55.9 -1.3**
comp=Z,89nm,1.0s,SNR=24
WTTA Wattenberg 125.94 327 *e*PKP **PKPdf 10 09 56.4 -0.9**
comp=Z,162nm,0.9s,SNR=44
D62A Allapoint, All 125.96 33 P **PKPdf 10 09 56.7 -0.4**
baz=307,SNR=8.3
D62A P **PKPdf 10 09 56.7 -0.4**
baz=307,SNR=8.3
E62A Clayton Lake 125.97 34 P **PKPdf 10 09 57.2 +0.1**
baz=306,SNR=6.5
E62A P **PKPdf 10 09 57.2 +0.1**
baz=306,SNR=6.5
J61A Chester 126.01 39 P **PKiKP 10 09 58.0 +0.3**
baz=302,SNR=9.7
J61A P **PKiKP 10 09 58.0 +0.3**
baz=302,SNR=9.7
BRNJ Basking Ridge 126.02 43 P **PKiKP 10 09 57.9 +0.1**
baz=298,SNR=6.8
AHRW Bad Neuenahr-A 126.08 333 *e*PKPdf **PKPdf 10 09 56.9 -0.2**
baz=51,slow=1.9
CO05 La Serena 126.08 133 IAMs_20 IAMs_20 10 53 42.1
comp=Z,13µm,22.0s
LAWE Loch Awe, Argy 126.10 344 *e*P **PKPdf 10 09 56.1 -0.9**
CDITO Canoas 126.11 83 IAMs_20 IAMs_20 10 54 38.8
comp=Z,10µm,22.0s
F62A Pittston Farm, 126.15 35 P **PKPdf 10 09 57.6 +0.1**
baz=306,SNR=7.2
F62A P **PKPdf 10 09 57.6 +0.1**
baz=306,SNR=7.2
MOTA Moosalm 126.17 327 *e*PKP **PKPdf 10 09 56.3 -1.4**
comp=Z,123nm,0.9s,SNR=50
SQTA Sankt Quirin 126.19 327 *e*PKP **PKPdf 10 09 56.7 -0.9**
comp=Z,108nm,0.9s,SNR=37
PGBU Glenifferbraes 126.24 343 *e*P **PKPdf 10 09 57.5 +0.1**
STU Stuttgart 126.26 330 *e*PKPdf **PKPdf 10 09 57.1 -0.5**
baz=51,slow=1.9

STU ep PKPdf **pPKPdf** **10 10 12.8 -1.6**
EKA Eskdalemuir Ar 126.26 342 PKhKP PKPpre 10 09 46.1
comp=Z,0.8nm,0.4s,baz=30,slow=2.2,SNR=7.0
EKA PKP **PKPdf** **10 09 57.2 -0.1**
comp=Z,52nm,0.8s,baz=23,slow=3.4,SNR=40
RETA Reutte 126.27 328 ePKP **PKPdf** **10 09 56.5 -1.2**
comp=Z,33nm,1.0s,SNR=14
GDLE Glaisdale, N Y 126.27 340 eP **PKPdf** **10 09 57.6 +0.2**
ESK Eskdalemuir 126.29 342 **PKiKP** **10 09 58.0 +0.1**
ESK Eskdalemuir 126.29 342 PKiKP **PKiKP** **10 09 58.0 +0.1**
CAMR Camarioca 126.30 65 IAMs_20 IAMs_20 10 59 44.0
comp=Z,11µm,21.0s
PAL Palisades 126.31 42 PKiKP **PKiKP** **10 09 58.3 0.0**
baz=299
PAL Palisades 126.31 42 P **PKPdf** **10 09 57.5 -0.4**
baz=299,SNR=7.6
EDMD Edmundbyers 126.31 341 eP **PKPdf** **10 09 57.2 -0.3**
060A Indiantown 126.36 60 IAMs_20 IAMs_20 11 01 52.1
comp=Z,13µm,21.0s
L61B Northampton 126.39 40 PKiKP **PKiKP** **10 09 58.9 +0.4**
baz=301
L61B Northampton 126.39 40 P **PKPdf** **10 09 58.2 +0.1**
baz=301,SNR=7.5
MATE Matera 126.45 318 ⇑P **PKiKP** **10 09 59.1 +0.5**
BTNL Ternell 126.48 333 dPKP **PKPdf** **10 09 57.3 -0.7**
BTNL dpPKP **pPKPdf** **10 10 12.9 -1.8**
UBR Ueberruh 126.49 328 ePKPdf **PKPdf** **10 09 57.3 -0.9**
baz=51,slow=1.9
MEM Membach 126.52 333 dPKP **PKPdf** **10 09 57.2 -0.8**
MEM dpPKP **pPKPdf** **10 10 12.9 -1.8**
BEBN Eben Emael 126.53 334 dPKP **PKiKP** **10 09 58.4 0.0**
BEBN dpPKP **pPKPdf** **10 10 13.2 -1.6**
SGRT San Giovanni R 126.54 319 IAMs_20 IAMs_20 11 07 39.0
comp=Z,14µm,21.0s
FETA Feichten 126.58 327 ePKP **PKPdf** **10 09 57.2 -1.3**
comp=Z,112nm,1.0s,SNR=41
S61A Accomac 126.58 46 IAMs_20 IAMs_20 10 58 58.6
comp=Z,15µm,22.0s
BHOU Houvegnez 126.70 333 dPKP **PKPdf** **10 09 58.5 +0.1**
BHOU dpPKP **pPKPdf** **10 10 13.8 -1.4**
BSTI Sart Tilman 126.73 333 dPKP **PKiKP** **10 09 58.9 0.0**
BSTI dpPKP **pPKPdf** **10 10 13.9 -1.3**
NEWG New Galloway 126.77 343 eP **PKPdf** **10 09 57.9 -0.4**
NEWG IAMs_20 IAMs_20 11 05 43.8
comp=Z,19µm,23.3s
DAVA Damuels 126.86 328 ePKP **PKPdf** **10 09 58.0 -1.0**
comp=Z,68nm,0.8s,SNR=28
KESW Keswick, Cumbr 126.88 342 eP **PKPdf** **10 09 58.6 0.0**
KESW IAMs_20 IAMs_20 10 59 54.2
comp=Z,16µm,25.2s
PKME Peaks-Kenny Pk 126.90 35 PKiKP **PKiKP** **10 09 60.0 +0.6**
baz=306
HPK Haverah Park 126.92 340 eP **PKPdf** **10 09 58.6 -0.1**
HPK IAMs_20 IAMs_20 10 57 05.2
comp=Z,19µm,29.1s
BCLA Clavier 126.97 333 dPKP **PKPdf** **10 09 58.2 -0.7**
BCLA dpPKP **pPKPdf** **10 10 14.3 -1.4**
LCO Las Campanas 126.97 133 **PKPdf** **10 09 57.2 -2.7**
LCO Las Campanas 126.97 133 PKiKP **PKPdf** **10 09 57.2 -2.7**
BFO Black Forest 126.98 330 **PKPdf** **10 09 57.2 -1.8**
BFO Black Forest 126.98 330 PKiKP **PKPdf** **10 09 57.2 -1.8**
BFO Black Forest 126.98 330 ePKPdf **PKPdf** **10 09 58.0 -1.0**
baz=51,slow=1.9
UCCT U. Connecticut 127.02 40 IAMs_20 IAMs_20 11 05 49.8
comp=Z,12µm,21.0s
HRV Adam Dziewonsk 127.07 39 IAMs_20 IAMs_20 11 02 05.1
comp=Z,12µm,21.0s
HRV Adam Dziewonsk 127.07 39 PKiKP **PKiKP** **10 09 60.0 +0.1**
baz=302
F64A Sherman 127.08 34 P **PKPdf** **10 09 58.6 -0.7**
baz=307,SNR=6.0
F64A P **PKPdf** **10 09 58.6 -0.7**
baz=307,SNR=6.0
BGES Gesves 127.09 334 dPKP **PKPdf** **10 09 58.9 -0.2**
BGES dpPKP **pPKPdf** **10 10 13.9 -2.0**
WLF Walferdange 127.12 332 dPKP **PKiKP** **10 09 59.6 -0.1**
WLF dPKiKP **pPKPdf** **10 10 13.9 -2.1**
WLF Walferdange 127.12 332 PP **PP** **10 11 59.2 +1.4**
WLF PKP **PKPdf** **10 09 59.4 +0.2**
WLF Walferdange 127.12 332 ePKPdf **PKiKP** **10 09 59.5 -0.2**
baz=51,slow=1.9
WLF epPKPdf **pPKPdf** **10 10 15.3 -0.6**
WACR West Acre 127.13 338 eP **PKPdf** **10 09 58.8 -0.2**
WACR IAMs_20 IAMs_20 11 04 05.7
comp=Z,30µm,25.6s
DAVOX Davos/Dischmat 127.18 328 PKhKP PKPpre 10 09 45.1
comp=Z,4.1nm,0.6s,baz=219,slow=6.2,SNR=6.5
DAVOX PKP **PKPdf** **10 09 59.3 -0.4**
comp=Z,77nm,0.9s,baz=304,slow=0.7,SNR=56
RCHB Rochefort 127.19 333 dPKP **PKPdf** **10 09 59.2 -0.1**
RCHB dpPKP **pPKPdf** **10 10 14.7 -1.3**
BMRD Maredsous 127.29 334 dPKP **PKPdf** **10 09 59.4 -0.1**
BMRD dpPKP **pPKPdf** **10 10 14.6 -1.6**
CLGH Cloghs, Cushen 127.33 344 eP **PKPdf** **10 09 59.1 -0.3**
CLGH IAMs_20 IAMs_20 11 02 43.7
comp=Z,23µm,24.9s
CUC Castrocucco 127.36 317 IAMs_20 IAMs_20 11 07 53.8
comp=Z,12µm,21.0s
GUMA Gualdo di Mace 127.38 322 IAMs_20 IAMs_20 11 11 30.8
comp=Z,15µm,22.0s
LBWR Ladybower, Pea 127.42 340 eP **PKPdf** **10 09 58.4 -1.2**
LBWR IAMs_20 IAMs_20 10 57 34.2
comp=Z,22µm,34.6s
ELMS Elmsett, Ipswi 127.49 337 eP **PKPdf** **10 09 59.5 -0.3**
ELMS IAMs_20 IAMs_20 11 05 55.6
comp=Z,21µm,23.3s
DOU Dourbes 127.52 334 dPKP **PKPdf** **10 09 59.8 -0.2**
DOU dpPKP **pPKPdf** **10 10 15.1 -1.6**
IOMK Kirk Michael 127.60 342 eP **PKPdf** **10 09 58.6 -1.4**
IOMK IAMs_20 IAMs_20 11 05 44.9
comp=Z,44µm,25.4s
WIM Isle of Man 127.73 342 eP **PKPdf** **10 09 59.4 -0.9**
CWF Charnwood Fore 127.82 339 eP **PKPdf** **10 10 00.2 -0.3**
CWF IAMs_20 IAMs_20 11 06 04.1
comp=Z,31µm,24.2s
GO03 Copiap 128.09 132 IAMs_20 IAMs_20 10 57 36.0
comp=Z,9µm,20.0s
CESX Cesi 128.09 322 IAMs_20 IAMs_20 11 12 12.7
comp=Z,12µm,22.0s
AC06 Mina Casimiro 128.12 131 IAMs_20 IAMs_20 10 57 17.0
comp=Z,9µm,21.0s
M65A Busby, Falmout 128.15 40 PKiKP **PKiKP** **10 10 01.9 -0.1**
baz=302
ELSH Elham, Standar 128.18 337 eP **PKiKP** **10 10 02.2 +0.5**
ELSH IAMs_20 IAMs_20 11 08 09.4
comp=Z,19µm,22.1s
TSUM Tsumeb 128.32 240 **PKPdf** **10 10 02.3 -0.3**
WPS Cemaes, Angles 128.32 342 eP **PKiKP** **10 10 01.9 0.0**
ILTH Belurgan, Co L 128.32 343 PKP **PKiKP** **10 10 02.4 +0.5**
FOEL Foel Wylfa 128.34 341 eP **PKPdf** **10 10 00.9 -0.6**
FOEL IAMs_20 IAMs_20 11 02 42.4
comp=Z,15µm,24.4s
GGN Saint George 128.37 34 IAMs_20 IAMs_20 11 08 28.9
comp=Z,12µm,20.0s
WLF1 Llynfaes 128.38 342 eP **PKPdf** **10 10 00.7 -0.7**
WLF1 IAMs_20 IAMs_20 11 00 47.8
comp=Z,36µm,28.5s
YLL Llanberis 128.44 341 eP **PKPdf** **10 10 01.6 0.0**
VLC Villacollemand 128.51 325 PP **PP** **10 12 09.1 +1.9**
VLC PKP **PKPdf** **10 10 01.1 -1.0**
LLW Llanuwychllyn 128.52 341 eP **PKPdf** **10 10 01.8 0.0**
HLM1 Long Mynd 128.54 340 eP **PKPdf** **10 10 01.9 0.0**
HLM1 IAMs_20 IAMs_20 10 57 49.0
comp=Z,25µm,34.9s
ATAH Atahualpa 128.78 104 PKP **PKiKP** **10 10 04.7 +0.1**
comp=Z,45nm,0.9s,baz=285,slow=2.0,SNR=26
ATAH SKPab **SKiKP** **10 13 26.4 -10**
comp=Z,20nm,0.9s,baz=302,slow=4.3,SNR=4.1
SWN1 Swindon 129.00 339 eP **PKPdf** **10 10 02.0 -0.7**
NNA Nana 129.01 110 PKP **PKPdf** **10 10 04.0 +0.2**
comp=Z,38nm,0.9s,baz=262,slow=4.9,SNR=12
DSB Dublin 129.02 343 PKP **PKiKP** **10 10 03.4 0.0**
DSB Dublin 129.02 343 IAMs_20 IAMs_20 11 07 08.9
comp=Z,10µm,22.0s
CASP Castiglione de 129.03 323 IAMs_20 IAMs_20 11 08 53.5
comp=Z,12µm,22.0s
AC02 Maricunga 129.32 131 IAMs_20 IAMs_20 10 57 25.7
comp=Z,9µm,20.0s
RSBS Rosebush, Pemb 129.64 341 eP **PKPdf** **10 10 03.6 -0.3**
RSBS IAMs_20 IAMs_20 11 07 04.5
comp=Z,17µm,27.4s
IGLA Glengowla, Co 129.69 345 PKP **PKPdf** **10 10 03.4 -0.5**
IWEX Carrickbyrne, 129.90 343 PKP **PKiKP** **10 10 04.9 -0.3**
PB10 IPOC Station P 129.95 127 IAMs_20 IAMs_20 10 56 43.9
comp=Z,12µm,22.0s

HTL Hartland 130.37 340 eP **PKPdf** **10 10 05.7 +0.4**
HTL IAMs_20 IAMs_20 11 07 22.4
comp=Z,16µm,24.7s
PB05 IPOC Station P 130.56 126 IAMs_20 IAMs_20 10 56 40.1
comp=Z,16µm,22.0s
SBD Saint Breward 130.80 340 eP **PKiKP** **10 10 07.2 +0.1**
PB04 IPOC Station P 130.86 126 IAMs_20 IAMs_20 10 58 36.0
comp=Z,12µm,21.0s
PB06 IPOC Station P 131.14 127 IAMs_20 IAMs_20 10 57 07.4
comp=Z,14µm,22.0s
VAL Valentia 131.25 345 PKP **PKiKP** **10 10 08.0 +0.1**
VAL Valentia 131.25 345 PKP **PKPdf** **10 10 06.5 -0.5**
CCA1 Carnmenellis 131.30 340 eP **PKiKP** **10 10 07.8 -0.3**
CCA1 IAMs_20 IAMs_20 10 59 55.3
comp=Z,18µm,33.2s
PB07 IPOC Station P 131.36 125 IAMs_20 IAMs_20 10 58 30.5
comp=Z,13µm,20.0s
PB07 IPOC Station P 131.36 125 PKP **PKPdf** **10 10 08.8 +0.4**
PB02 IPOC Station P 131.55 125 IAMs_20 IAMs_20 10 57 45.5
comp=Z,10µm,21.0s
LVC Limon Verde 131.72 127 IAMs_20 IAMs_20 10 57 35.5
comp=Z,15µm,22.0s
LVC Limon Verde 131.72 127 PKP **PKiKP** **10 10 10.3 0.0**
comp=Z,47nm,1.2s,baz=256,slow=4.9,SNR=7.9
LVC SKPab **SKPab** **10 13 33.3 +2.2**
comp=Z,7.3nm,0.9s,baz=258,slow=6.5,SNR=2.8
VSL Villasalto 131.84 320 IAMs_20 IAMs_20 11 10 04.3
comp=Z,12µm,22.0s
PB09 IPOC Station P 131.85 126 IAMs_20 IAMs_20 10 59 15.4
comp=Z,14µm,21.0s
PB01 IPOC Station P 132.02 125 IAMs_20 IAMs_20 10 58 53.9
comp=Z,11µm,21.0s
PB12 IPOC Station P 132.43 121 IAMs_20 IAMs_20 10 56 41.2
comp=Z,14µm,21.0s
GTBY Guantanamo Bay 132.61 68 IAMs_20 IAMs_20 11 00 37.7
comp=Z,10µm,22.0s
PB16 IPOC Station P 133.25 121 IAMs_20 IAMs_20 10 56 56.9
comp=Z,11µm,21.0s
EJON La Jonquera 133.79 328 PP **PP** **10 12 41.5 +0.3**
EJON PKP **PKPdf** **10 10 11.3 -0.8**
KEST Kesra 133.92 316 IAMs_20 IAMs_20 11 12 37.9
comp=Z,12µm,22.0s
KEST Kesra 133.92 316 PKhKP PKPpre 10 10 04.6
comp=Z,3.5nm,0.7s,baz=329,slow=10.0,SNR=4.1
KEST PKP **PKiKP** **10 10 13.8 -0.1**
comp=Z,66nm,0.9s,baz=298,slow=3.2,SNR=34
KEST SKPbc **SKPbc** **10 13 37.6 +0.3**
comp=Z,8.0nm,0.8s,baz=312,slow=5.8,SNR=4.9
CEST Esterri de Car 134.54 329 IAMs_20 IAMs_20 11 12 05.4
comp=Z,20µm,22.0s
MAHO Mahon 134.73 324 PP PP 10 12 49.5 +2.2
CMAH Djebel Manchou 134.74 318 P **PKiKP** **10 10 15.1 -0.5**
TRIS Tristan da Cun 135.01 199 IAMs_20 IAMs_20 11 06 41.6
comp=Z,12µm,19.0s
LPAZ La Paz 135.33 120 PKhKP PKPpre 10 10 04.1
comp=Z,6.2nm,0.8s,baz=236,slow=1.5,SNR=9.6
LPAZ PKP **PKPdf** **10 10 16.9 +0.5**
comp=Z,20nm,0.7s,baz=209,slow=3.5,SNR=20
LPAZ SKP 10 13 46.0
comp=Z,9.2nm,0.9s,baz=3.1,slow=1.7,SNR=2.2
LPAZ PKKP **PKKPdf** **10 19 59.4 +0.5**
comp=Z,3.7nm,0.9s,baz=238,slow=2.3,SNR=3.6
CKFL Kef-Lekhel 135.33 318 P **PKiKP** **10 10 18.1 +1.2**
ETOS Mallorca 135.65 325 PKP **PKPdf** **10 10 16.4 +0.7**
DFRA Djebel Bou Aff 135.80 319 P **PKiKP** **10 10 18.4 +0.6**
GRTK Grand Turk 135.89 65 IAMs_20 IAMs_20 11 13 35.1
comp=Z,10µm,21.0s
SDDR Presa de Saban 136.34 68 IAMs_20 IAMs_20 11 22 39.4
comp=Z,10µm,20.0s
EIBI Ibiza 136.99 325 PP PP 10 13 01.7 +0.2
ECHE Chera 137.87 328 PP **PP** **10 13 07.9 +1.0**
ECHE PKP **PKPdf** **10 10 19.8 0.0**
CPUP Villa Florida 137.88 140 PKhKP PKPpre 10 10 10.8
comp=Z,3.4nm,0.8s,baz=228,slow=3.1,SNR=5.1
CPUP PKP **PKPdf** **10 10 20.8 +0.6**
comp=Z,44nm,0.9s,baz=252,slow=2.7,SNR=11
CPUP SKPbc **SKPbc** **10 13 49.4 -0.3**
comp=Z,7.8nm,0.9s,baz=231,slow=6.5,SNR=2.8
SDV Santo Domingo 138.20 83 PKhKP PKPpre 10 10 11.6
comp=Z,50nm,0.8s,baz=212,slow=5.1,SNR=17
SDV PKP **PKPdf** **10 10 22.2 +0.9**
comp=Z,190nm,0.8s,baz=223,slow=2.5,SNR=39
UCM Universidad Co 138.50 330 PKP **PKPdf** **10 10 19.8 -1.1**
ECAL Calabor 138.80 335 PKP **PKPdf** **10 10 19.5 -2.0**
PBRG Braganca 138.91 335 ePKP PKPdf 10 10 12.1 -10
PBRG Braganca 138.91 335 ePP **PP** **10 13 15.3 +2.2**
PBRG *i* LQ LQ 10 13 53.1
PCDR Punta Cana, DR 139.12 68 IAMs_20 IAMs_20 11 06 13.7
comp=Z,9µm,22.0s
CART Cartagena 139.32 326 IAMs_20 IAMs_20 11 14 23.4
comp=Z,13µm,22.0s
ESBB Sonseca Array 139.34 330 IAMs_20 IAMs_20 11 14 38.3
comp=Z,14µm,22.0s
ESDC Sonseca Array 139.34 330 PKhKP PKPpre 10 10 13.1
comp=Z,2.1nm,0.7s,baz=21,slow=2.6,SNR=12
ESDC PKP **PKiKP** **10 10 23.8 -1.1**
comp=Z,11nm,0.8s,baz=11,slow=3.1,SNR=14
ESDC PP **PP** **10 13 16.5 +0.6**
comp=Z,16nm,1.0s,baz=27,slow=6.8,SNR=9.4
PGAV Gavieira, Arco 139.40 337 ePKP PKPdf 10 10 14.6 -8.0
PGAV Gavieira, Arco 139.40 337 ePP **PP** **10 13 17.4 +1.3**
PGAV *i* LQ LQ 10 13 53.7
PGAV Gavieira, Arco 139.40 337 eSS SS 10 31 56.5 +26
PGAV Gavieira, Arco 139.40 337 eLR LR 10 58 50.8
comp=Z,12µm,22.0s
MVO Moncorvo 139.56 335 ePKP **PKPdf** **10 10 15.5 -7.4**
MVO Moncorvo 139.56 335 ePP **PP** **10 13 18.1 +1.0**
MVO *i* LQ LQ 10 13 54.5
MVO Moncorvo 139.56 335 eSS SS 10 32 31.2 +59
MVO Moncorvo 139.56 335 eLR LR 10 57 55.6
comp=Z,9µm,22.0s
ETMB Extrema 139.58 112 IAMs_20 IAMs_20 11 01 48.6
comp=Z,10µm,22.0s
PAB San Pablo 139.63 331 **PKPdf** **10 10 22.9 -0.2**
PAB San Pablo 139.63 331 PKiKP **PKPdf** **10 10 22.9 -0.2**
HATO Hato, Curacao 139.63 78 IAMs_20 IAMs_20 11 02 45.7
comp=Z,8µm,21.0s
PVRL Vila Real 139.76 335 ePKP **PKPdf** **10 10 18.4 -4.8**
PVRL *i* LQ LQ 10 13 54.8
PVIS Viseu 140.30 335 ePKP **PKPdf** **10 10 16.7 -7.5**
PVIS Viseu 140.30 335 ePP **PP** **10 13 24.7 +3.1**
PVIS *i* LQ LQ 10 13 56.8
MTE Manteigas 140.41 334 ePKP **PKPdf** **10 10 18.4 -6.1**
MTE Manteigas 140.41 334 ePP **PP** **10 13 24.1 +1.7**
MTE *i* LQ LQ 10 13 56.6
MTE Manteigas 140.41 334 eSS SS 10 32 33.1 +51
MTE Manteigas 140.41 334 eLR LR 10 58 57.8
comp=Z,14µm,24.0s
MLPR Magueyes Islan 140.49 68 PKPdf **PKPdf** **10 10 25.8 +0.7**
PCBR Castelo Branco 140.84 334 ePKP **PKPdf** **10 10 19.6 -5.6**
PCBR *i* LQ LQ 10 13 56.9
COI Coimbra 140.94 335 ePKP **PKPdf** **10 10 22.8 -2.5**
COI Coimbra 140.94 335 ePP **PP** **10 13 26.3 +0.8**
COI Coimbra 140.94 335 IAMs_20 IAMs_20 11 16 19.0
comp=Z,9µm,20.0s
PCAS Casmilo, Conde 141.10 335 ePKP **PKPdf** **10 10 18.4 -7.3**
PCAS Casmilo, Conde 141.10 335 ePP **PP** **10 13 31.4 +4.9**
PMRV Marv??o 141.14 333 ePKP PKPdf 10 10 17.6 -8.2
PMRV Marv??o 141.14 333 ePP **PP** **10 13 30.1 +3.3**
PMRV *i* LQ LQ 10 14 00.3
PMRV Marv??o 141.14 333 eSS SS 10 32 06.4 +16
PMRV Marv??o 141.14 333 eLR LR 10 58 20.3
comp=Z,9µm,22.0s
PSBE So Bento 141.68 335 ePKP **PKPdf** **10 10 23.9 -2.8**
PESTR Estremoz 141.69 333 ePKP **PKPdf** **10 10 19.8 -7.0**
PESTR Estremoz 141.69 333 ePP **PP** **10 13 29.3 -0.8**
PESTR Estremoz 141.69 333 IAMs_20 IAMs_20 11 15 15.2
comp=Z,13µm,22.0s
PMTG Montargil 141.81 334 ePKP PKPdf 10 10 10.5 -16
PBAR Barrancos 142.00 332 ePKP PKPdf 10 10 19.4 -7.9
PBAR Barrancos 142.00 332 ePP **PP** **10 13 34.0 +2.0**
EVO Evora 142.16 333 ePKP PKPdf 10 10 19.7 -7.9
EVO Evora 142.16 333 ePP **PP** **10 13 34.0 +1.1**
PMAFR Mafra 142.35 335 ePKP **PKPdf** **10 10 21.5 -6.4**
LIS Lisbon 142.50 335 ePKP **PKPdf** **10 10 24.9 -3.3**
LIS Lisbon 142.50 335 ePKPdf **PKPdf** **10 10 24.0 -4.2**
LIS ePP **PP** **10 13 32.3 -2.6**
LIS IAMs_20 IAMs_20 11 16 05.2
comp=Z,27µm,29.5s
LIS Lisbon 142.50 335 ePKIKP **PKPdf** **10 10 23.9 -4.2**
LIS *e* 10 13 32.3
PBEJ Beja 142.50 333 ePKP **PKPdf** **10 10 25.0 -3.2**
PBEJ Beja 142.50 333 ePP **PP** **10 13 37.0 +1.9**
PBEJ *i* LQ LQ 10 13 50.9

SAML Samuel 142.68 112 **PKPdf** **10 10 25.1 -4.0**
SAML Samuel 142.68 112 PKHKP PKPpre 10 10 25.1
PNCL Nicolau / Gran 142.73 333 ePKP **PKPdf** **10 10 23.8 -4.8**
PNCL Nicolau / Gran 142.73 333 ePP **PP** **10 13 37.3 +0.9**
PNCL *i* LQ LQ 10 14 03.3
MESJ Messejana 142.81 333 ePKP **PKPdf** **10 10 22.1 -6.7**
MESJ Messejana 142.81 333 ePP **PP** **10 13 36.9 0.0**
MESJ Messejana 142.81 333 ePKPdf **PKPdf** **10 10 24.9 -3.9**
MESJ ePP **PP** **10 13 34.5 -2.5**
MESJ IAMs_20 IAMs_20 11 13 41.0
comp=Z,15µm,21.6s
MESJ Messejana 142.81 333 ePKIKP **PKPdf** **10 10 24.8 -3.9**
MESJ *e* 10 13 34.4
PCVE Castro Verde 142.90 332 ePKP **PKPdf** **10 10 25.2 -3.7**
PCVE Castro Verde 142.90 332 ePP **PP** **10 13 38.1 +0.6**
PVAQ Vaqueiros 142.94 332 ePKP **PKPdf** **10 10 21.9 -7.1**
PVAQ Vaqueiros 142.94 332 ePP **PP** **10 13 36.9 -0.8**
PVAQ Vaqueiros 142.94 332 eSS SS 10 32 43.2 +32
PVAQ Vaqueiros 142.94 332 eLR LR 10 59 16.2
comp=Z,11µm,20.0s
PVAQ Vaqueiros 142.94 332 IAMs_20 IAMs_20 11 18 33.3
comp=Z,10µm,21.0s
AQDB Aquidauana 142.94 135 **PKPdf** **10 10 25.4 -4.1**
PBDV Barranco-do-Ve 143.17 332 ePKP PKPab 10 10 24.4 -0.7
PBDV Barranco-do-Ve 143.17 332 ePP **PP** **10 13 41.3 +2.2**
PTEO Sao Teotonio 143.28 333 ePKP PKPbc 10 10 27.0 +0.3
MORF Marmelete 143.45 333 ePKP PKPab 10 10 25.6 -0.6
MORF Marmelete 143.45 333 ePP **PP** **10 13 39.1 -1.7**
MORF *i* LQ LQ 10 13 57.6
MORF Marmelete 143.45 333 ePKPdf PKPab 10 10 25.8 -0.4
MORF ePP **PP** **10 13 38.1 -2.7**
MORF IAMs_20 IAMs_20 11 05 10.2
comp=N,30µm,36.9s
MORF Marmelete 143.45 333 ePKIKP PKPab 10 10 25.8 -0.4
MORF *e* 10 13 38.1
PFVI Vila Bisbo 143.67 333 ePKP PKPab 10 10 26.1 -0.9
PFVI Vila Bisbo 143.67 333 ePP **PP** **10 13 44.7 +2.6**
PFVI Vila Bisbo 143.67 333 IAMs_20 IAMs_20 11 16 21.6
comp=Z,12µm,22.0s
VILB Vilhena 143.67 120 IAMs_20 IAMs_20 11 27 47.1
comp=Z,9µm,20.0s
PCRV Puerto La Cruz 144.04 80 PKhKP PKPpre 10 10 27.9
comp=Z,135nm,0.7s,baz=178,slow=0.8,SNR=51
PCRV Puerto La Cruz 144.04 80 eP **PKPab** **10 10 21.9 -7.2**
SABA Saba 144.08 67 IAMs_20 IAMs_20 11 10 42.0
comp=Z,10µm,20.0s
SMRT St. Maarten 144.12 67 IAMs_20 IAMs_20 11 19 21.9
comp=Z,10µm,21.0s
SEUS St. Eustatius 144.35 68 IAMs_20 IAMs_20 11 11 00.3
comp=Z,12µm,21.0s
MDT Midelt 144.78 324 PKP **PKPab** **10 10 30.4 -1.0**
comp=Z,22nm,0.6s,baz=314,slow=2.4,SNR=23
MBFL Flemmings, Mon 145.26 68 eP **PKPbc** **10 10 31.1 -2.3**
CRUV Carupano 145.36 79 eP **PKPbc** **10 10 29.0 -4.8**
ANDO Antigua, Disas 145.52 68 eP **PKPdf** **10 10 32.2 -1.7**
ANBD Bethesda, Anti 145.59 68 eP **PKPdf** **10 10 32.1 -2.0**
SPB Sao Paulo 145.76 148 IAMs_20 IAMs_20 11 07 50.4
comp=Z,11µm,22.0s
H07N1 FLORES T-PHASE 145.87 3 ePKP **PKPdf** **10 10 33.4 -0.7**
CBE Ff, Capester 145.99 69 IAMs_20 IAMs_20 11 12 09.7
comp=Z,12µm,22.0s
CBE Ff, Capester 145.99 69 eP **PKPdf** **10 10 33.7 -1.1**
ABD La Joyeuse, An 146.00 69 IAMs_20 IAMs_20 11 12 11.9
comp=Z,8µm,20.0s
ABD La Joyeuse, An 146.00 69 eP **PKPdf** **10 10 32.4 -2.4**
AVE Averroes 146.01 327 IAMs_20 IAMs_20 11 17 25.3
comp=Z,7µm,20.0s
H07S1 FLORES T-PHASE 146.18 4 ePKP **PKPdf** **10 10 34.9 +0.3**
MAGL Barre de l'ile 146.32 69 IAMs_20 IAMs_20 11 09 45.6
comp=Z,10µm,22.0s
GDSD La Dsirade Is 146.43 69 IAMs_20 IAMs_20 11 22 51.4
comp=Z,13µm,22.0s
SRBC Serra Branca 146.59 359 ePKP **PKPbc** **10 10 36.4 -0.4**
PGRA Graciosa 146.60 359 ePKP **PKiKP** **10 10 42.5 +2.8**
GRFF Grenada Fort F 146.65 76 eP **PKPdf** **10 10 35.2 -0.9**
GRW Mount Saint Ca 146.71 76 eP **PKPdf** **10 10 33.3 -2.9**
GRHS Sauteurs 146.72 76 eP PKPdf 10 10 27.9 -8.3
GRGR Grenville 146.72 76 eP **PKPdf** **10 10 29.5 -6.6**
FDF Fort de France 146.73 71 IAMs_20 IAMs_20 11 18 12.6
comp=Z,10µm,22.0s
PAGU Agualva, Azore 146.84 358 ePKP **PKPbc** **10 10 37.3 -0.2**
MACA Manacapuru-AM 146.85 104 IAMs_20 IAMs_20 11 12 36.6
comp=Z,8µm,21.0s
PSBA Serra de Santa 146.85 358 ePKP **PKPdf** **10 10 34.5 -1.2**
BIM Bigot 146.85 72 IAMs_20 IAMs_20 11 13 32.8
comp=Z,9µm,22.0s
BIM Bigot 146.85 72 eP **PKPdf** **10 10 34.2 -2.1**
GCMP Grenada, Carri 146.89 76 eP **PKPdf** **10 10 29.4 -7.0**
PSCM Serra do Cume 146.91 358 ePKP **PKPdf** **10 10 36.0 +0.2**
ROSA Rosais 146.91 359 ePKP **PKPdf** **10 10 35.5 -0.3**
SVB Belmont 146.92 74 eP **PKPdf** **10 10 32.6 -3.9**
SVT Saint Vincent 146.95 74 eP **PKPdf** **10 10 37.3 +0.8**
SVOC Richmond Hill, 146.97 74 eP **PKPdf** **10 10 35.6 -0.9**
ILAM Ilet Lapin Mar 146.98 71 eP **PKPdf** **10 10 32.1 -4.4**
PMAN Manadas 147.00 359 ePKP **PKPdf** **10 10 34.9 -1.1**
PCED Cedros 147.01 0 ePKP **PKPdf** **10 10 35.2 -0.8**
SLBI Saint Lucia, B 147.04 73 eP **PKPdf** **10 10 35.9 -0.7**
CALA Caldeira 147.05 0 ePKP **PKPdf** **10 10 35.5 -0.7**
MPOM Morne Pois Mar 147.07 72 IAMs_20 IAMs_20 11 13 00.4
comp=Z,13µm,22.0s
MPOM Morne Pois Mar 147.07 72 eP **PKPbc** **10 10 37.8 -1.0**
PICO Pico 147.13 360 ePKP **PKPdf** **10 10 36.7 +0.4**
TPP Pointe-a-Pierr 147.15 80 eP **PKPbc** **10 10 39.1 0.0**
TRN Trinidad (W) 147.16 79 eP **PKPdf** **10 10 36.6 -0.2**
PPNO Prainha do Nor 147.16 359 ePKP **PKPdf** **10 10 36.4 +0.1**
PCAN Candelaria 147.17 360 ePKP **PKPdf** **10 10 36.3 0.0**
PID Ribeirinha 147.19 359 ePKP **PKPdf** **10 10 35.6 -0.7**
TBH Brigand Hill 147.50 79 eP **PKPbc** **10 10 40.6 +0.5**
BART Pico Bartolome 147.70 355 ePKP **PKPdf** **10 10 36.9 -0.4**
PSET Sete Cidades 147.70 356 ePKP **PKPdf** **10 10 36.5 -0.7**
PCALD Caldeiras da R 147.71 355 ePKP **PKPdf** **10 10 36.4 -0.8**
CMLA Cha da Macela 147.75 355 **PKPbc** **10 10 40.4 +0.3**
CMLA Cha da Macela 147.75 355 PKP2 **PKPbc** **10 10 40.4 +0.3**
PSMN Pico do Norte, 148.46 355 ePKP **PKPdf** **10 10 36.2 -2.2**
BBGH Gun Hill 148.57 74 eP **PKPdf** **10 10 38.3 -0.9**
TOA0 Torodi Ar. Sit 149.15 286 **PKPdf** **10 10 39.1 -1.1**
TORD Torodi Ar. Bea 149.15 286 **PKPdf** **10 10 38.9 -1.2**
TORD IAMs_20 IAMs_20 11 28 31.3
comp=Z,8µm,21.0s
TORD Torodi Ar. Bea 149.15 286 PKP **PKPdf** **10 10 38.9 -1.2**
comp=Z,31nm,0.5s,baz=47,slow=3.6,SNR=44
TORD PKPbc **PKPbc** **10 10 43.7 -0.6**
comp=Z,170nm,0.7s,baz=60,slow=3.8,SNR=100
TORD PP **PP** **10 14 17.6 +1.3**
comp=Z,16nm,0.9s,baz=52,slow=7.5,SNR=4.4
PMPST Porto Santo, M 150.25 339 ePKP **PKPdf** **10 10 36.6 -4.8**
PMPST Porto Santo, M 150.25 339 ePP **PP** **10 14 20.9 +0.3**
PMPS Porto Santo 150.27 339 ePKP **PKPdf** **10 10 41.5 +0.1**
PMAR Madeira 150.78 339 ePKP **PKPdf** **10 10 42.0 -0.5**
PMAR Madeira 150.78 339 ePP **PP** **10 14 23.7 -0.1**
PMOZ Porto Moniz, M 150.78 340 ePKP **PKPdf** **10 10 42.6 +0.2**
PMOZ Porto Moniz, M 150.78 340 eSS SS 10 34 19.5 +39
PMOZ Porto Moniz, M 150.78 340 eLR LR 11 04 08.7
comp=Z,8µm,20.0s
FUL Funchal 150.84 339 ePKP **PKiKP** **10 10 48.8 +0.2**
BDFB Brasilia 151.55 138 IAMs_20 IAMs_20 11 18 33.1
comp=Z,10µm,21.0s
BDFB Brasilia 151.55 138 PKP **PKPdf** **10 10 43.4 -0.6**
comp=Z,46nm,1.0s,baz=50,slow=0.5,SNR=21
BDFB PKPbc **PKPbc** **10 10 49.7 -0.5**
comp=Z,135nm,0.8s,baz=202,slow=3.9,SNR=22
MACI Morro de la Ar 154.60 334 IAMs_20 IAMs_20 11 28 48.9
comp=Z,10µm,20.0s
MDP Montagnes des 156.08 90 PKP **PKPdf** **10 10 51.0 +0.6**
comp=Z,25nm,0.9s,baz=268,slow=1.0,SNR=3.4
KIC Kosan Boka 156.23 273 eP **PKPdf** **10 10 48.5 -2.1**
comp=Z,135nm,1.0s
DBIC Dimbokro 156.34 274 **PKPdf** **10 10 49.5 -1.2**
DBIC Dimbokro 156.34 274 PKiKP **PKPdf** **10 10 49.5 -1.2**
DBIC Dimbokro 156.34 274 PKP **PKPdf** **10 10 50.2 -0.5**
comp=Z,78nm,1.0s,baz=55,slow=1.9,SNR=33
TIC Toumodi 156.50 274 eP **PKPdf** **10 10 50.6 -0.3**
comp=Z,97nm,1.0s
LIC Lamto 156.51 273 eP **PKPdf** **10 10 50.6 -0.3**
comp=Z,161nm,1.

s-min=56.5km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.65**	**229**	P	Pn	10 07 02.2	-0.8
	3.8nm,0.3s,baz=49,slow=19,SNR=3.1						
PMG				S	Sn	10 08 07.8	+1.3
	23nm,0.3s,baz=336,slow=23,SNR=7.9						
	9.6nm,0.4s						
WRA	**Warramunga Arr**	**21.87**	**228**	P	P	10 10 27.5	-0.7
	4.5nm,0.5s,baz=52,slow=9.9,SNR=18						
	4.5nm,0.5s						
ASAR	**Alice Springs**	**24.60**	**222**	P	P	10 10 55.5	+0.6
	1.7nm,0.6s,baz=57,slow=9.0,SNR=28						
	1.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**149.31**	**286**	PKPbc	PKPbc	10 25 22.1	-0.6
	0.6nm,0.6s,baz=96,slow=3.5,SNR=9.4						

IDC 26 10:06:27.8±9.3, 5.65S×151.29E, h94km±65km, mb3.6/2, mbtmp4.0/3, ML1.9/1, Error ellipse: s-maj=114.1km s-min=59.3km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.54**	**227**	P	Pn	10 07 48.0	+0.1
	2.2nm,0.3s,baz=30,slow=20,SNR=1.9						
PMG				S	Sn	10 08 51.1	+0.8
	29nm,0.5s,baz=66,slow=20,SNR=1.9						
	17nm,0.7s						
WRA	**Warramunga Arr**	**21.76**	**228**	P	P	10 11 11.7	-0.3
	4.0nm,0.5s,baz=52,slow=9.8,SNR=7.6						
	4.0nm,0.5s						
ASAR	**Alice Springs**	**24.52**	**221**	P	P	10 11 39.0	+0.2
	1.7nm,0.7s,baz=57,slow=8.8,SNR=8.6						
	1.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**149.12**	**286**	PKPbc	PKPbc	10 26 05.8	-0.5
	0.6nm,0.5s,baz=58,slow=2.4,SNR=6.4						

SDD 26 10:09:21.6±3.1, 16.84N×69.15W, h18km±15km, MD3.7, ML3.0, MW4.5, 2C, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATOM	**Hato Mayor del**	**1.95**	**353**	*e*Sg	Sb	10 10 21.5	+0.9
HATOM				IAML		10 10 42.2	
	comp=N,60nm,1.1s						
MIDR	**Miches**	**2.13**	**2**	*e*Sg	Sb	10 10 25.8	0.0
MIDR				IAML		10 10 26.6	
	comp=E,24nm,2.1s						
MIDR				IAML		10 10 30.1	
	comp=N,43nm,4.0s						
CRPR	**Cabo Rojo, PR**	**2.26**	**59**	*i* S	Sn	10 10 22.8	-2.8
CRPR				IAML		10 10 31.8	
	comp=E,90nm,0.7s						
CRPR				IAML		10 10 41.5	
	comp=N,165nm,0.8s						
MLPR	**Magueyes Islan**	**2.30**	**61**	*e*Pg	Pb	10 10 01.4	-1.2
MLPR			↑	*e*Sg	Sb	10 10 30.1	-0.5
MLPR				IAML		10 10 31.9	
	comp=E,42nm,0.8s						
MLPR				IAML		10 10 47.2	
	comp=N,92nm,1.1s						
ABDR	**Alto Bandera**	**2.41**	**324**	↑*e*Pg	Pb	10 10 05.0	+0.2
ABDR				*i* S	Sn	10 10 26.5	-3.3
ABDR				IAML		10 10 28.6	
	comp=E,52nm,0.9s						
ABDR				IAML		10 10 39.7	
	comp=N,89nm,2.5s						
NADR	**Nagua**	**2.59**	**345**	*e*Pg	Pb	10 10 06.8	-0.6
NADR				*e*Sg	Sb	10 10 36.8	-2.2
NADR				IAML		10 10 48.7	
	comp=N,222nm,1.5s						
NEDR	**Neiba UASD**	**2.71**	**307**	*e*Pg	Pb	10 10 09.5	-0.2
NEDR				*e*Sg	Sb	10 10 41.6	-1.0
NEDR				IAML		10 10 42.5	
	comp=N,74nm,1.7s						
AOPR	**Arecibo Observ**	**2.73**	**56**	*e*Pg	Pb	10 10 07.6	-2.4
AOPR				IAML		10 10 44.2	
	comp=E,131nm,0.6s						
AOPR				IAML		10 10 56.4	
	comp=N,92nm,1.1s						
AOPR	**Arecibo Observ**	**2.73**	**56**	*e*P	Pg	10 10 17.2	+3.3
CELP	**Cerrillos**	**2.74**	**63**	*e*Pg	Pn	10 10 06.9	+2.2
CELP				IAML		10 10 56.5	
	comp=N,69nm,1.4s						
REDR	**Restauracion**	**3.15**	**318**	*e*Pg	Pg	10 10 20.9	-1.1
REDR				*e*Sg	Sg	10 11 02.4	-0.4
REDR				IAML		10 11 31.3	
	comp=N,22nm,1.7s						

*SNET **26** 10:10:44.8±0.9, 13.78N×90.91W, h25km±481km, ML2.9*
*GCG **26** 10:10:46.5±0.7, 13.84N×90.99W, h50km±35km, MD3.4*

ISC 26 10:10:44.4±4.0, 13.7N±0.1×90.97W±0.09, h30km±25km, n11, σ0°44/17, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.80**	**9**	*e*P	**Pn**	**10 11 00.0**	**+0.2**
PCG	**Pacaya**	**0.81**	**26**	*e*P	**Pn**	**10 11 00.5**	**+0.4**
NBG	**Las Nubes**	**1.11**	**33**	*e*P	**Pn**	**10 11 04.5**	**+0.3**
NBG				*e*S	**Sb**	**10 11 19.3**	**-0.1**
NUBE	**Las Nubes**	**1.19**	**78**	*e*P	**Pn**	**10 11 04.8**	**-0.3**
NUBE				*e*S	**Sn**	**10 11 20.0**	**-0.3**
STG3	**Santiaguito 3,**	**1.20**	**331**	*e*P	**Pn**	**10 11 05.8**	**+0.4**
STG3				*e*S	**Sn**	**10 11 19.8**	**-0.9**
SLOZ	**Alcaldia de Sa**	**1.21**	**72**	*e*P	**Pn**	**10 11 05.0**	**-0.3**
SLOZ				*e*S	**Sn**	**10 11 20.6**	**-0.2**
CEVE	**Cerro Verde**	**1.32**	**82**	*e*P	**Pn**	**10 11 07.1**	**+0.1**
CEVE				*e*S	**Sn**	**10 11 24.5**	**+0.7**
CEVE				IAML		10 11 34.3	
	comp=Z,238nm,0.3s						
SBLS	**San Blas**	**1.32**	**82**	*e*P	**Pn**	**10 11 07.0**	**-0.1**
JAYA	**Jayaque - finc**	**1.48**	**90**	*e*P	**Pn**	**10 11 09.4**	**+0.2**
JAYA				*e*S	**Sn**	**10 11 27.9**	**+0.3**
PMON	**Piamonte**	**1.61**	**88**	*e*P	**Pn**	**10 11 10.7**	**-0.3**
COEG	**Centro de Oper**	**2.04**	**91**	*e*P	**Pn**	**10 11 17.0**	**+0.3**

IDC 26 10:22:54.2±6.4, 4.76S×150.61E, h53km±59km, mb3.5/3, mbtmp3.8/4, ML1.9/1, Error ellipse: s-maj=136.2km s-min=34.4km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.75**	**216**	P	Pn	10 24 18.0	+1.0
	2.0nm,0.3s,baz=205,slow=19,SNR=4.3						
PMG				S	Sn	10 25 21.2	-0.3
	7.0nm,0.4s,baz=156,slow=20,SNR=2.2						
	13nm,0.4s						
WRA	**Warramunga Arr**	**21.88**	**225**	P	P	10 27 43.2	+0.4
	1.1nm,0.5s,baz=50,slow=10,SNR=12						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**24.75**	**219**	P	P	10 28 11.2	+0.2
	1.4nm,0.6s,baz=60,slow=8.5,SNR=12						
	1.4nm,0.6s						
ILAR	**Eielson Array**	**82.95**	**23**	P	P	10 35 12.8	-0.3
	0.4nm,0.6s,baz=251,slow=4.8,SNR=8.4						
	0.4nm,0.6s						

*NNC **26** 10:24:57.8±8.8, 35.49N×67.80E, h198km±202km, mb3.3, mpv4.3, Error ellipse: s-maj=81.7km s-min=30.9km az=178.0*
*IDC **26** 10:25:26.2±3.7, 37.44N×70.05E, h0km, mb3.6/1, mbtmp3.7/8, ML3.5/6, Error ellipse: s-maj=56.4km s-min=18.6km az=158.0*

ISC 26 10:25:30.6±1.8, 37.9N±0.1×69.8E±0.1, h12km, n18, σ2°42/19, 3C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**4.24**	**2**	Pg	**Pn**	**10 26 38.1**	**+3.0**
	38nm,0.2s						
IUG				Lg	Lg	10 27 28.5	
	190nm,0.6s						
BRLS	**Borolday**	**5.12**	**0**	Pg	**Pn**	**10 26 46.1**	**-0.9**
	2.4nm,0.2s						
BRLS				Lg	Lg	10 27 42.6	
	12nm,0.3s						
KK31	**Karatay Array**	**5.22**	**6**	↑P	**Pn**	**10 26 51.1**	**+2.6**
	1.1nm,0.3s,baz=197,slow=14,SNR=48						
KK31			↑	S	**Sg**	**10 28 18.3**	**+0.3**
	38nm,0.8s,baz=196,slow=28,SNR=8.8						
MRKS	**Merke**	**5.49**	**27**	P	**Pn**	**10 26 54.9**	**+2.6**
AAK	**Ala-Archa**	**5.92**	**36**	Pn	**Pn**	**10 27 01.5**	**+3.2**
	4.9nm,0.3s,baz=199,slow=4.4,SNR=35						
AAK				Lg	Lg	10 28 40.3	
	baz=164,slow=20						
	10nm,0.4s						
TKM2	**Tokmak 2**	**6.67**	**40**	↑P	**Pn**	**10 27 10.7**	**+2.1**
	1.1nm,0.3s						
TKM2				S	**Sg**	**10 29 00.5**	**-4.2**
	6.3nm,0.7s						
DGS	**Degeres**	**6.99**	**39**	P	**Pn**	**10 27 15.2**	**+2.2**
IZV	**Izvestkoviy**	**7.28**	**43**	P	**Pn**	**10 27 20.0**	**+3.1**
KRBS	**Karabastau**	**7.29**	**36**	P	**Pn**	**10 27 18.7**	**+1.8**
TNSS	**Tian-Shan**	**7.47**	**44**	P	**Pn**	**10 27 22.9**	**+3.2**
KOTS	**Kotyrbulak**	**7.69**	**44**	P	**Pn**	**10 27 24.6**	**+2.1**
GEYT	**Alibeck**	**9.24**	**274**	Pn	**Pn**	**10 27 42.2**	**-1.5**
	1.0nm,0.3s,baz=155,slow=8.2,SNR=5.2						
	1.7nm,0.3s						
MKAR	**Makanchi Array**	**12.79**	**42**	Pn	**Pn**	**10 28 33.1**	**+0.9**
	0.1nm,0.3s,baz=232,slow=14,SNR=11						
	1.6nm,0.8s						
KURBB	**Kurchatov Arra**	**14.15**	**23**	Pn	**Pn**	**10 28 49.7**	**-0.9**
	0.2nm,0.4s,baz=213,slow=12,SNR=4.9						
AKTO	**Aktyubinsk**	**15.09**	**330**	Pn	**Pn**	**10 29 02.8**	**-0.7**
	0.2nm,0.3s,baz=141,slow=13,SNR=2.1						
	0.6nm,0.4s						
BVAR	**Borovoye Array**	**15.12**	**1**	Pn	**Pn**	**10 29 04.6**	**+0.7**
	baz=171,slow=11,SNR=4.9						
	1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**19.07**	**28**	P	**P**	**10 29 52.2**	**-0.5**
	0.8nm,0.3s,baz=232,slow=7.1,SNR=6.7						
	1.3nm,0.3s						
KBZ	**Khabaz**	**21.13**	**294**	P		10 30 17.2	
	2.1nm,0.7s,baz=120,slow=9.0,SNR=7.5						
	2.1nm,0.7s						

ROM 26 10:25:41.6±0.1, 46.151N±0.009×11.17E±0.01, h0km, ML1.0/6, Error ellipse: s-maj=1.0km s-min=0.9km az=314.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANI	**Panarotta**	**0.15**	**132**	P	Pg	10 25 45.2	+0.7
PANI				AML	AML		
	comp=E,63μm,0.3s						
PANI				AML	AML		
	comp=N,108μm,0.5s						
PANI				AML	AML		
	comp=N,108μm,0.5s						
PANI				AML	AML		
	comp=N,108μm,1.5s						
PANI				AML	AML		
	comp=E,64μm,0.3s						
GAGG	**Gaggia**	**0.16**	**246**	P	Pg	10 25 45.8	+1.0
GAGG				AML	AML		
	comp=E,86μm,1.1s						
GAGG				AML	AML		
	comp=N,59μm,0.7s						
GAGG				AML	AML		
	comp=N,59μm,1.3s						
LUSI	**Trento, Gardas**	**0.25**	**220**	P	Pg	10 25 47.2	+0.9
LUSI				AML	AML		
	comp=N,116μm,0.2s						
LUSI				AML	AML		
	comp=E,66μm,0.4s						
OZOL	**Ozolo**	**0.27**	**342**	P	Pb	10 25 48.1	-1.3
DOSS	**Dosso del Somm**	**0.27**	**177**	P	Pg	10 25 47.4	+0.7
ZIAN	**Ziano**	**0.30**	**65**	P	Pg	10 25 48.2	+0.9
VARA	**Varagna**	**0.38**	**211**	P	Pg	10 25 49.7	+0.9
CARE	**Lago del Cares**	**0.43**	**310**	P	Pg	10 25 51.0	+1.1
MABI	**Malga Bissina**	**0.47**	**258**	P	Pg	10 25 51.5	+1.0
BRES	**Bressanone**	**0.67**	**35**	P	Pb	10 25 55.4	-0.9
EUCT	**Pavia**	**1.71**	**237**	AML	AML		
	comp=N,1635μm,1.5s						
EUCT				AML	AML		
	comp=E,1115μm,0.1s						
EUCT				AML	AML		
	comp=N,1635μm,0.5s						

JMA 26 10:32:09.3±0.1, 24.2N±0.3×123.8E±0.2, h17km±1km, MV1.3/9, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.14**	**314**	*e*P	Pg	10 32 13.3	0.0
JKRS	**Kuro-shima**	**0.15**	**90**	P	Pg	10 32 13.5	0.0
JKRS				*e*S	Sb	10 32 16.6	-0.1
HATJ	**Hateruma jima**	**0.18**	**190**	P	Pg	10 32 13.8	-0.2
HATJ				*e*S	Sg	10 32 17.1	+0.1
IIJ	**Ishigaki jima**	**0.30**	**66**	*e*P	Pg	10 32 15.8	-0.1
IIJ				*e*S	Sg	10 32 20.2	-0.2
JISG	**Ishigakijimahi**	**0.55**	**51**	*e*P	Pg	10 32 19.9	-0.5
JYNG	**Yonagunijimaku**	**0.84**	**285**	*e*S	Sg	10 32 37.6	+0.7
JTJ	**Tarama**	**0.88**	**63**	*e*S	Sg	10 32 38.6	+0.4

TAP 26 10:32:39.1, 24.44N×121.82E, h12km, ML1.5, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.04**	**285**	*i* P	Pg	10 32 42.0	+0.7
	baz=284						
EWUT				S	Sg	10 32 43.6	+0.8
	baz=284						
ENA	**Nanau**	**0.07**	**263**	P	Pg	10 32 42.3	+0.7
	baz=260						
ENA				S	Sg	10 32 44.0	+0.6
	baz=260						
EAHA	**Aohua**	**0.13**	**213**	P	Pg	10 32 42.8	+0.5
	baz=213						
EAHA				*e*S	Sg	10 32 45.2	+0.6
	baz=213						
ESAO	**Su ao**	**0.14**	**10**	*e*P	Pb	10 32 43.2	-0.6
	baz=10.0						
ESAO				S	Sg	10 32 45.4	+0.5
	baz=10.0						
TWC	**Suao**	**0.17**	**10**	P	Pb	10 32 43.8	-0.5
	baz=12						
TWC				S	Sg	10 32 46.5	+0.7
	baz=12						
NDS	**Dongshan**	**0.22**	**335**	P	Pb	10 32 44.9	-0.1
	baz=335						
NDS				S	Sg	10 32 48.3	+1.4
	baz=335						
LATG	**Datong**	**0.28**	**291**	P	Pb	10 32 46.1	-0.1
	baz=290						
LATG				*e*S	Sb	10 32 50.3	-0.7
	baz=290						
NDT	**Datong Townshi**	**0.32**	**301**	P	Pb	10 32 47.0	+0.1
	baz=300						
NDT				S	Sb	10 32 51.6	-0.5
	baz=300						
ETL	**Fush Village**	**0.33**	**213**	*e*P	Pg	10 32 46.3	+0.5
	baz=212						
NACB	**Ninganchiao**	**0.33**	**218**	P	Pg	10 32 46.2	+0.5
	baz=217						
NACB				*e*S	Sg	10 32 50.8	+0.6
	baz=217						
EOS2	**EOS2**	**0.38**	**92**	*e*P	Pb	10 32 47.5	-0.2
	baz=92						
EOS2				*e*S	Sb	10 32 53.7	+0.2
	baz=92						
FUSB	**Fushanzhiwuyua**	**0.38**	**327**	P	Pb	10 32 47.9	0.0
	baz=327						
FUSB				*e*S	Sb	10 32 53.0	-0.8
	baz=327						
NNSB	**Datong**	**0.40**	**269**	P	Pb	10 32 47.9	-0.2
	baz=268						
NNSB				*e*S	Sb	10 32 53.6	-0.6
	baz=268						
NWLT	**Wulai**	**0.44**	**320**	*e*P	Pb	10 32 49.1	+0.2
	baz=319						
NWLT				*e*S	Sb	10 32 55.8	+0.2
	baz=319						
YHNB	**Yeheng**	**0.46**	**300**	P	Pb	10 32 49.6	+0.3
	baz=300						
YHNB				*e*S	Sb	10 32 56.1	-0.1
	baz=300						
EOS3	**EOS3**	**0.48**	**108**	*e*P	Pb	10 32 49.5	+0.1
	baz=108						
EOS3				*e*S	Sb	10 32 56.7	+0.2
	baz=108						
NSK	**Sanguang**	**0.48**	**300**	P	Pb	10 32 49.8	+0.2
	baz=299						
NSK				*e*S	Sb	10 32 56.2	-0.4
	baz=299						

IDC 26 10:33:22.0±874.0, 48.69N×49.57E, h0km, Error ellipse: s-maj=284.7km s-min=129.0km az=72.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**5.77**	**69**	I	I	11 08 10.0	
	baz=256,slow=313,SNR=1.6						
I46RU	**ZALESOVO INFRA**	**22.49**	**63**	I	I	12 49 20.0	
	baz=271,slow=322,SNR=1.1						
I34MN	**SONGINO INFRAS**	**37.11**	**69**	I	I	14 20 20.0	
	baz=293,slow=314,SNR=0.6						

*NNC **26** 10:50:51.4±3.2, 53.75N×90.77E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=24.1km s-min=18.3km az=57.0, Suspected Mining explosion.*
*IDC **26** 10:50:53.4±2.9, 53.66N×90.83E, h0km, mbtmp3.5/4, ML2.9/4, Error ellipse: s-maj=25.5km s-min=20.8km az=71.0*

ISC 26 10:50:53.8±3.9, 53.7N±0.1×90.6E±0.2, h0km, n12, σ1°20/15, 8C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.45**	**276**	I	I	11 15 40.0	
	baz=89,slow=344,SNR=2.0						
ZAA0	**Zalesovo Array**	**3.45**	**276**	⇓Pg	**Pb**	**10 51 53.8**	**-1.8**
	1.4nm,0.6s						
ZAA0				⇓Lg	Lg	10 52 47.2	
	7.1nm,1.0s						
ZALV	**Zalesovo Beam**	**3.45**	**276**	Pn	**Pn**	**10 51 50.6**	**+1.9**
	1.5nm,0.3s,baz=97,slow=16,SNR=20						
ZALV				Lg	Lg	10 52 46.2	
	2.1nm,0.3s,baz=90,slow=29,SNR=3.6						
	6.5nm,0.5s						
KURK	**Kurchatov**	**7.96**	**253**	↑Pn	**Pn**	**10 52 51.4**	**+0.8**
	0.4nm,0.3s						
KURK				↑Sn	**Sn**	**10 54 23.0**	**+1.8**
	1.4nm,0.5s						
KURK				↑Lg	Lg	10 55 09.1	
	13nm,0.8s						
KURBB	**Kurchatov Arra**	**8.05**	**252**	Pn	**Pn**	**10 52 52.5**	**+0.7**
	0.3nm,0.3s,baz=66,slow=15,SNR=27						
KURBB				Sn	**Sn**	**10 54 23.9**	**+0.4**
	0.1nm,0.3s,baz=68,slow=23,SNR=7.0						
KURBB				Lg	Lg	10 55 12.3	
	0.1nm,0.3s,baz=63,slow=30,SNR=4.1						
	3.1nm,0.5s						
KURBB	**Kurchatov Arra**	**8.05**	**252**	↑Pn	**Pn**	**10 52 51.4**	**-0.5**
	3.3nm,0.4s						
KURBB				⇓Sn	**Sn**	**10 54 23.1**	**-0.4**
	7.4nm,0.6s						
KURBB				⇓Lg	Lg	10 55 09.5	
	28nm,0.8s						
MK31	**Makanchi Array**	**8.73**	**221**	↑Pn	**Pn**	**10 53 01.5**	**+0.2**
	0.3nm,0.3s,baz=35,slow=12,SNR=17						
MK31				↑Sn	**Sn**	**10 54 41.5**	**+1.1**
	0.8nm,0.5s,baz=111,slow=20,SNR=4.2						
MK31				⇓Lg	Lg	10 55 34.6	
	6.1nm,1.0s,baz=36,slow=27,SNR=3.6						
MKAR	**Makanchi Array**	**8.73**	**221**	Pn	**Pn**	**10 53 02.1**	**+0.9**
	0.4nm,0.3s,baz=41,slow=14,SNR=19						
MKAR				Sn	**Sn**	**10 54 40.6**	**+0.2**
	0.2nm,0.3s,baz=37,slow=22,SNR=2.4						
MKAR				Lg	Lg	10 55 31.4	
	0.1nm,0.3s,baz=28,slow=28,SNR=5.8						
	1.7nm,0.6s						
MAKZ	**Makanchi**	**8.85**	**222**	↑Pn	**Pn**	**10 53 01.0**	**-1.8**
	0.9nm,0.4s						
MAKZ				⇓Sn	**Sn**	**10 54 43.2**	**0.0**
	1.2nm,0.5s						
MAKZ				↑Lg	Lg	10 55 32.8	
	5.3nm,0.9s						
SONM	**Songino Array**	**11.58**	**114**	Lg	Lg	10 56 45.7	
	0.1nm,0.3s,baz=302,slow=30,SNR=8.6						
I34MN	**SONGINO INFRAS**	**11.61**	**114**	I	I	11 56 40.0	
	baz=308,slow=319,SNR=0.8						
BVAR	**Borovoye Array**	**12.10**	**275**	Pn	**Pn**	**10 53 47.6**	**+0.3**
	baz=77,slow=19,SNR=2.4						
	0.4nm,0.5s						

*TUL **26** 10:52:34.5±0.4, 36.76N±0.01×97.59W±0.01, h7km±5km, ML2.6, mb_Lg2.6/3(NEIC), ML2.6/46(NEIC), Error ellipse: s-maj=2.0km s-min=1.2km az=211.0*
*ANF **26** 10:52:34.0±0.3, 36.76N×97.60W, h1km±3km, ML2.7/7, Error ellipse: s-maj=3.6km s-min=1.7km az=170.0*
*NEIC **26** 10:52:34.5±0.5, 36.76N±0.01×97.60W±0.01, h7km±4km, Error ellipse: s-maj=2.2km s-min=1.3km az=219.0*

ISC 26 10:52:34.7±0.8, 36.74N±0.03×97.60W±0.03, h10km, n33, σ0°65/35, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.24**	**299**	Pg	**Pg**	**10 52 39.6**	**-0.1**
KAN13	**South Haven SW**	**0.29**	**20**		**Pg**	**10 52 40.4**	**-0.2**
KAN13				IAML		10 52 44.9	
	comp=E,853nm,0.2s						
KAN17	**Caldwell West**	**0.33**	**337**	Pg	**Pg**	**10 52 41.4**	**0.0**
KAN17				IAML		10 52 46.1	
	comp=E,1μm,0.2s						
KAN17				IAML		10 52 46.1	
	comp=N,1μm,0.3s						
KAN14	**Manchester OK**	**0.36**	**307**	Pg	**Pg**	**10 52 41.9**	**-0.1**
CROK	**Carrier**	**0.39**	**233**	Pg	**Pg**	**10 52 42.5**	**+0.1**
KAN09	**Caldwell North**	**0.40**	**358**	Pg	**Pg**	**10 52 42.4**	**-0.2**
KAN09				IAML		10 52 53.5	
	comp=N,882nm,0.2s						
KAN05	**Bluff City Nor**	**0.43**	**330**	Pg	**Pg**	**10 52 42.9**	**-0.3**
KAN05				IAML		10 52 51.5	
	comp=E,526nm,0.2s						
KAN05				IAML		10 52 57.2	
	comp=N,429nm,0.2s						
KAN01	**Argonia South**	**0.43**	**343**	Pg	**Pg**	**10 52 43.0**	**-0.3**
KAN01				Sg	**Sg**	**10 52 47.4**	**-1.7**
KAN01				IAML		10 52 49.2	
	comp=E,495nm,0.2s						
OK032	**Salt Plains WL**	**0.49**	**278**	Pg	**Pg**	**10 52 44.3**	**-0.1**
KAN08	**Anthony NE Sta**	**0.57**	**329**	Pg	**Pg**	**10 52 45.6**	**-0.2**
KAN08				IAML		10 52 55.4	
	comp=E,420nm,0.4s						
KAN08				IAML		10 52 56.0	
	comp=N,302nm,0.1s						
OK033	**Mehan**	**0.87**	**142**	Pg	**Pg**	**10 52 51.3**	**-0.3**
OK033				IAML		10 53 05.2	
	comp=N,217nm,0.2s						
OK033				IAML		10 53 06.9	
	comp=N,147nm,0.2s						
T35A	**Sooner Cattle**	**0.89**	**78**		**Pg**	**10 52 51.4**	**-0.5**
T35B	**Sooner Cattle**	**0.89**	**78**	P	**Pg**	**10 52 51.3**	**-0.6**
	baz=260						
T35B				S	**Sg**	**10 53 03.1**	**-0.4**
	baz=260						
QUOK	**Quay**	**0.92**	**128**	Pg	**Pg**	**10 52 51.9**	**-0.4**
QUOK				IAML		10 53 06.0	
	comp=E,131nm,0.2s						
QUOK				IAML		10 53 12.4	
	comp=N,142nm,0.2s						
OK052	**Battle Ridge R**	**0.98**	**139**	Pg	**Pg**	**10 52 53.1**	**-0.6**
OK052				IAML		10 53 08.2	
	comp=N,174nm,0.2s						
OK052				IAML		10 53 11.6	
	comp=N,206nm,0.2s						
U32A	**Winter Ranch,**	**1.18**	**253**	Pg	**Pb**	**10 52 56.8**	**-0.6**
U32A				IAML		10 53 14.5	
	comp=E,104nm,0.1s						
U32A				IAML		10 53 15.5	
	comp=N,150nm,0.4s						
U32A	**Winter Ranch,**	**1.18**	**253**	P	**Pb**	**10 52 56.7**	**-0.6**
	baz=71						
U32A				S	**Sb**	**10 53 13.0**	**+0.3**
	baz=71						
DEOK	**Depew**	**1.26**	**135**	IAML		10 53 18.6	
	comp=N,152nm,0.3s						
DEOK				IAML		10 53 21.1	
	comp=E,165nm,0.2s						
OKCSW	**OKLAHOMA CITY**	**1.34**	**174**		**Pn**	**10 52 59.4**	**-0.1**
CSTR	**Hydro, Custer**	**1.40**	**219**	Pg	**Pn**	**10 53 00.8**	**+0.4**
FNO	**Franklin**	**1.49**	**174**		**Pn**	**10 53 02.1**	**+0.5**
TUL3	**Leonard**	**1.68**	**119**		**Pn**	**10 53 04.6**	**+0.5**
T

TUL3				S		Sb	10 53 27.4 +0.5
	baz=301						
W35A	**Tecumseh**	**1.69**	**159**			**Pn**	**10 53 04.9 +0.6**
R32A	**Long Quarter,**	**1.90**	**333**	S		**Sb**	**10 53 33.4 0.0**
	baz=152						
WMOK	**Wichita Mounta**	**2.21**	**206**	Pn		**Pn**	**10 53 12.5 +0.9**
WMOK				lAmb_Lg			10 53 43.9
	comp=Z,9.0nm,0.8s						
WMOK	**Wichita Mounta**	**2.21**	**206**	P		**Pn**	**10 53 12.3 +0.7**
	baz=25						
KSU1	**Kansas State U**	**2.48**	**18**	Pn		**Pn**	**10 53 16.3 +1.0**
KSU1	**Kansas State U**	**2.48**	**18**	S		**Sn**	**10 53 46.3 +0.6**
	baz=198						
U38A	**Gravette**	**2.60**	**96**			**Pn**	**10 53 18.0 +1.1**
X37A	**Clayton**	**2.81**	**139**	P		**Pn**	**10 53 20.9 +1.2**
	baz=321						
HHAR	**Hobbs**	**2.98**	**98**	Pn		**Pn**	**10 53 23.3 +1.1**
545A	**Edgard**	**8.94**	**136**	lAmb_Lg			10 57 31.6
	comp=Z,321nm,0.7s						

*IDC **26** 11:17:38.4±3.3, 13°.88N×92°.98W, h0km, mb3.5/3, mbtmp3.4/6, ML3.1/3, Error ellipse: s-maj=67.4km s-min=26.8km az=4.0*
*MEX **26** 11:17:40.9±0.9, 14°.06N×93°.09W, h81km±47km, MD4.1*
*GCG **26** 11:17:43.6±0.3, 14°.54N×92°.95W, h84km±14km, MD3.9*
ISC 26 11:17:40.8±2.1, 14°.22N±0°.07×92°.98W±0°.04, h4km±11km, n22, σ1§51/36, mb3.6/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.98**	**45**	***e*P**	**Pg**	**11 17 60.0**	**+0.4**
THIG				*e*S	**Sn**	**11 18 15.6**	**-0.1**
PATR	**El Naranjo**	**1.15**	**39**	***e*P**	**Pg**	**11 18 02.9**	**-0.1**
PATR				*i* S	**Sn**	**11 18 19.8**	**-0.6**
CHUJ	**Union Juarez**	**1.22**	**44**	***e*P**	**Pb**	**11 18 03.7**	**-0.9**
CHUJ				*i* S	**Sn**	**11 18 22.0**	**+0.1**
PAVE	**Pavencul**	**1.25**	**39**	***e*P**	**Pb**	**11 18 04.3**	**-0.8**
PAVE				*i* S	**Sn**	**11 18 23.2**	**+0.6**
SULM	**Suchitepequez,**	**1.38**	**86**	***e*P**	**Pn**	**11 18 07.4**	**+0.5**
STG3	**Santiaguito 3,**	**1.45**	**70**	***e*P**	**Pn**	**11 18 07.9**	**-0.1**
STG3				*e*S	**Sg**	**11 18 26.9**	**-0.7**
PCIG		**1.50**	**351**	***e*P**	**Pn**	**11 18 07.5**	**-1.0**
PCIG				*e*S	**Sb**	**11 18 27.6**	**-1.1**
FUG	**Fuego 3**	**2.09**	**83**	***e*P**	**Pn**	**11 18 17.0**	**+0.2**
FUG				*e*S	**Sn**	**11 18 43.1**	**-0.2**
CARR	**Arriaga**	**2.21**	**336**	*i* P	**Pn**	**11 18 20.4**	**+2.1**
CARR				*i* S	**Sn**	**11 18 46.9**	**+0.8**
CCIG	**Comitan**	**2.21**	**22**	***e*P**	**Pb**	**11 18 21.2**	**-0.2**
CCIG				*e*S	**Sg**	**11 18 51.5**	**-0.4**
TGIG		**2.55**	**357**	***e*P**	**Pn**	**11 18 24.5**	**+1.4**
TGIG				*e*S	**Sn**	**11 18 52.8**	**-1.9**
APG	**El Apazote**	**2.56**	**72**	Pn	**Pn**	**11 18 23.9**	**+0.5**
	1.1nm,0.3s,baz=346,slow=13,SNR=31						
APG				Sn	**Sb**	**11 18 57.9**	**-1.6**
	1.2nm,0.3s,baz=199,slow=13,SNR=9.2						
	3.3nm,0.4s						
NBG	**Las Nubes**	**2.58**	**81**	***e*P**	**Pn**	**11 18 25.7**	**+2.0**
NILT	**Santiago Nilte**	**2.82**	**326**	*i* P	**Pn**	**11 18 29.6**	**+2.9**
NILT				*i* S	**Sn**	**11 19 01.0**	**-0.1**
HUIG	**Huatulco**	**3.39**	**297**	*i* S	**Sn**	**11 19 10.3**	**-5.0**
CMIG	**Matias Romero**	**3.40**	**328**	Pn	**Pn**	**11 18 34.7**	**+0.1**
	2.8nm,0.3s,baz=144,slow=13,SNR=13						
CMIG				Sn	**Sn**	**11 19 14.9**	**-0.5**
	9.4nm,0.3s,baz=88,slow=15,SNR=7.5						
	5.9nm,0.3s						
CMIG	**Matias Romero**	**3.40**	**328**	***e*P**	**Pn**	**11 18 34.9**	**+0.3**
CMIG				*e*S	**Sn**	**11 19 14.3**	**-1.1**
TXAR	**Lajitas Array**	**18.00**	**328**	P	**P**	**11 21 55.0**	**+2.3**
	baz=142,slow=12,SNR=5.6						
	0.6nm,1.1s						
NVAR	**Mina Array Bea**	**32.91**	**322**	P	**P**	**11 24 18.2**	**+1.7**
	0.6nm,0.7s,baz=124,slow=8.1,SNR=5.1						
	0.6nm,0.7s						
YKA	**Yellowknife Ar**	**50.60**	**347**	P	**P**	**11 26 40.6**	**0.0**
	0.7nm,0.8s,baz=151,slow=7.1,SNR=13						
	0.7nm,0.8s						
ILAR	**Eielson Array**	**62.27**	**337**	P	**P**	**11 28 04.2**	**+0.4**
	0.2nm,0.8s,baz=124,slow=4.8,SNR=2.9						
	0.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**145.47**	**340**	PKPbc	**PKPbc**	**11 37 18.4**	**-2.7**
	0.6nm,0.3s,baz=348,slow=3.9,SNR=4.1						

*KRSC **26** 11:19:26.6±1.3, 54°.36N×159°.56E, h174km±12km, Ml3.7*
*IDC **26** 11:19:28.2±1.0, 54°.56N×158°.95E, h165km±10km, mb3.3/13, mbtmp3.7/13, Error ellipse: s-maj=15.8km s-min=14.0km az=163.0*
ISC 26 11:19:28.1±0.7, 54°.40N±0°.04×159°.39E±0°.06, h171km±5km, n47, σ1§17/71, mb3.4/13, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KII	**Karymskiy**	**0.36**	**175**	***e*P**	**Pn**	**11 19 51.1**	**-0.3**
TUMR	**Tumrok**	**0.99**	**26**	***e*P**	**Pn**	**11 19 55.1**	**+0.3**
TUMR				*e*S	**Sn**	**11 20 15.5**	**0.0**
TUMD	**Tumrok D**	**0.99**	**36**	***e*P**	**Pn**	**11 19 54.4**	**-0.4**
TUMD				*e*S	**Sn**	**11 20 14.5**	**-0.9**
GNL	**Ganaly**	**1.11**	**231**	***e*P**	**Pn**	**11 19 55.8**	**-0.1**
GNL				*e*S	**Sn**	**11 20 17.3**	**+0.1**
KRX	**Arik**	**1.13**	**203**	***e*P**	**Pn**	**11 19 56.3**	**+0.3**
KRX				*e*S	**Sn**	**11 20 18.6**	**+1.1**
KRER	**Koryakskii**	**1.16**	**199**	***e*P**	**Pn**	**11 19 56.8**	**+0.4**
KRER				*e*S	**Sn**	**11 20 18.9**	**+0.8**
SMAR	**Somma**	**1.19**	**197**	***e*P**	**Pn**	**11 19 56.9**	**+0.2**
SMAR				*e*S	**Sn**	**11 20 19.0**	**+0.4**
KOK	**Koryaka**	**1.20**	**202**	***e*P**	**Pn**	**11 19 56.8**	**+0.3**
KOK				*e*S	**Sn**	**11 20 19.3**	**+0.9**
AVH	**Avacha**	**1.20**	**199**	***e*P**	**Pn**	**11 19 57.1**	**+0.5**
NLC	**Nalytchevo**	**1.23**	**181**	***e*P**	**Pn**	**11 19 56.3**	**-0.4**
NLC				*e*S	**Sn**	**11 20 18.1**	**-0.6**
SPN	**Mys Shipunski**	**1.36**	**164**	***e*P**	**Pn**	**11 19 56.7**	**-1.1**
SPN				*e*S	**Sn**	**11 20 18.0**	**-2.8**
DALK	**Dalny**	**1.42**	**196**	***e*P**	**Pn**	**11 19 58.4**	**-0.1**
DALK				*e*S	**Sn**	**11 20 21.4**	**-0.4**
KMNR	**Kamenistaya**	**1.44**	**19**	***e*P**	**Pn**	**11 19 58.8**	**0.0**
KMNR				*e*S	**Sn**	**11 20 22.7**	**+0.1**
PET	**Petropavlovsk**	**1.45**	**198**	***e*P**	**Pn**	**11 19 58.7**	**0.0**
PET				*e*S	**Sn**	**11 20 22.2**	**-0.1**
ESO	**Esso**	**1.58**	**346**	***e*P**	**Pn**	**11 19 59.6**	**-0.4**
ESO				*e*S	**Sn**	**11 20 23.7**	**-1.0**
PETK	**Petropavlovsk-**	**1.64**	**219**	P	**Pn**	**11 19 59.8**	**-0.8**
	11nm,0.5s,baz=60,slow=14,SNR=85						
PETK				S	**Sn**	**11 20 25.0**	**-0.8**
	7.2nm,0.5s,baz=68,slow=19,SNR=4.0						
KPT	**Kopyto**	**1.64**	**17**	***e*P**	**Pn**	**11 20 00.9**	**+0.2**
KIRR	**Kirishev**	**1.65**	**19**	***e*P**	**Pn**	**11 20 01.3**	**+0.5**
KIRR				*e*S	**Sn**	**11 20 25.1**	**-0.2**
BZP	**Bezymyannyi-Pe**	**1.65**	**23**	***e*P**	**Pn**	**11 20 00.9**	**+0.1**
BZMR	**Bezymyannaya**	**1.66**	**22**	***e*P**	**Pn**	**11 20 01.6**	**+0.6**
BZWR	**Bezymyannyi-We**	**1.69**	**22**	***e*P**	**Pn**	**11 20 01.9**	**+0.6**
KRMR	**Karymshinskiy**	**1.74**	**206**	***e*P**	**Pn**	**11 20 01.6**	**0.0**
KRMR				*e*S	**Sn**	**11 20 27.6**	**0.0**
SRDR	**Sredinnyy**	**1.93**	**5**	***e*P**	**Pn**	**11 20 03.6**	**-0.2**
KRSR	**Krestovskiy**	**1.94**	**20**	***e*P**	**Pn**	**11 20 04.5**	**+0.6**
APC	**Apacha**	**1.99**	**223**	***e*P**	**Pn**	**11 20 05.3**	**+1.1**
APC				*e*S	**Sn**	**11 20 34.6**	**+2.3**
RUS	**Russkaya**	**2.04**	**195**	***e*P**	**Pn**	**11 20 04.3**	**-0.6**
RUS				*e*S	**Sn**	**11 20 31.9**	**-1.4**
KLY	**Klyuchi**	**2.05**	**20**	***e*P**	**Pn**	**11 20 05.9**	**+1.0**
KLY				*e*S	**Sn**	**11 20 35.8**	**+2.2**
MTVR	**Mutnovka**	**2.05**	**201**	***e*P**	**Pn**	**11 20 05.8**	**+0.6**
MTVR				*e*S	**Sn**	**11 20 35.6**	**+1.7**
ASAK	**Asacha**	**2.21**	**204**	***e*P**	**Pn**	**11 20 07.5**	**+0.6**
ASAK				*e*S	**Sn**	**11 20 38.0**	**+1.1**
KBG	**Krutoberegovo**	**2.65**	**44**	***e*P**	**Pn**	**11 20 11.3**	**-0.6**
KBG				*e*S	**Sn**	**11 20 44.7**	**-1.4**
KDTR	**Khodutka, Kamc**	**2.71**	**198**	***e*P**	**Pn**	**11 20 11.7**	**-1.0**
KDTR				*e*S	**Sn**	**11 20 44.8**	**-2.6**
SEY	**Seymchan**	**9.30**	**340**	P	**Pn**	**11 21 39.5**	**+1.3**
	1.6nm,0.2s,baz=146,slow=11,SNR=3.8						
ASAJ	**Asahikawa**	**14.99**	**234**	P	**P**	**11 22 54.6**	**+2.0**
	2.8nm,0.6s,baz=69,slow=8.6,SNR=6.6						
KLR	**Kul'dur**	**17.79**	**264**	P	**P**	**11 23 23.8**	**+0.4**
	1.0nm,0.6s,baz=48,slow=11,SNR=6.1						
TIXI	**Tiksi**	**21.72**	**334**	P	**P**	**11 24 04.9**	**-0.3**
	4.0nm,0.3s,baz=120,slow=8.3,SNR=4.9						
	4.0nm,0.3s						
ILAR	**Eielson Array**	**28.21**	**47**	P	**P**	**11 25 04.9**	**+0.6**
	0.2nm,0.4s,baz=258,slow=7.5,SNR=9.6						
	0.2nm,0.4s						
SONM	**Songino Array**	**33.22**	**281**	P	**P**	**11 25 48.2**	**-0.5**
	0.3nm,0.5s,baz=58,slow=11,SNR=1.7						
	0.3nm,0.5s						
SPITS	**Spitsbergen Ar**	**45.77**	**350**	P	**P**	**11 27 30.4**	**-1.3**
	7.5nm,1.0s,baz=64,slow=9.8,SNR=16						
	7.5nm,1.0s						
KURBB	**Kurchatov Arra**	**46.80**	**300**	P	**P**	**11 27 37.8**	**-2.3**
	0.6nm,0.4s,baz=58,slow=7.5,SNR=9.4						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**47.23**	**294**	P	**P**	**11 27 41.5**	**-1.9**
	0.3nm,0.4s,baz=56,slow=7.9,SNR=4.8						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**49.26**	**307**	P	**P**	**11 27 56.4**	**-2.5**
	0.7nm,0.4s,baz=48,slow=8.2,SNR=4.8						
BVAR				PcP	**PcP**	**11 29 17.1**	**-1.9**
	0.5nm,0.5s,baz=106,slow=2.1,SNR=2.4						
	0.7nm,0.4s						
NVAR	**Mina Array Bea**	**55.69**	**70**	P	**P**	**11 28 49.1**	**+2.5**
	0.3nm,0.5s,baz=294,slow=8.1,SNR=3.3						
	0.3nm,0.5s						
PDAR	**Pinedale Array**	**57.25**	**61**	P	**P**	**11 28 59.6**	**+2.0**
	0.4nm,0.5s,baz=354,slow=3.4,SNR=7.3						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**58.75**	**336**	P	**P**	**11 29 06.3**	**-1.1**
	0.3nm,0.5s,baz=21,slow=8.9,SNR=1.3						
	0.3nm,0.5s						
TXAR	**Lajitas Array**	**70.51**	**67**	P	**P**	**11 30 26.1**	**+2.0**
	0.4nm,0.4s,baz=296,slow=5.2,SNR=12						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**77.10**	**204**	P	**P**	**11 31 03.1**	**+0.9**
	0.4nm,0.5s,baz=18,slow=6.1,SNR=8.1						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**80.78**	**204**	P	**P**	**11 31 23.6**	**+1.4**
	0.5nm,0.6s,baz=18,slow=5.7,SNR=7.6						
	0.5nm,0.6s						

*IDC **26** 11:21:17.3±0.9, 16°.65S×175°.79E, h0km, mb4.0/7, mbtmp4.0/7, Error ellipse: s-maj=39.4km s-min=23.9km az=151.0*
*NEIC **26** 11:21:18.1±1.5, 16°.4S±0°.2×175°.89E±0°.10, h16km±9km, mb4.6/15, Error ellipse: s-maj=35.3km s-min=12.7km az=188.0*
ISC 26 11:21:18.5±0.7, 16°.7S±0°.1×175°.80E±0°.10, h10km, n32, σ1§06/27, mb4.3/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.39**	**116**	Pn	**Pn**	**11 21 56.5**	**-1.4**
OUENC	**Ouen Island, N**	**10.20**	**235**	Pn	**Pn**	**11 23 45.0**	**0.0**
HNR	**Honiara**	**17.03**	**293**		**Pn**	**11 25 15.8**	**-1.1**
HNR				lAmb	lAmb	11 25 34.1	
	comp=Z,45nm,0.9s						
THZ	**Tophouse**	**25.13**	**185**	P	**P**	**11 26 44.4**	**+0.7**
THZ				lAmb	lAmb	11 26 58.8	
	comp=Z,35nm,1.5s						
LTZ	**Lake Taylor**	**26.20**	**186**	P	**P**	**11 26 54.3**	**+0.9**
LTZ				lAmb	lAmb	11 27 00.3	
	comp=Z,21nm,1.2s						
INZ	**Inchbonnie**	**26.23**	**187**	P	**P**	**11 26 54.6**	**+1.0**
LBZ	**Lake Benmore**	**28.03**	**189**	P	**P**	**11 27 09.7**	**-0.1**
LBZ				lAmb	lAmb	11 27 26.3	
	comp=Z,56nm,1.5s						
ODZ	**Otahua Downs**	**28.61**	**188**	P	**P**	**11 27 15.3**	**+0.4**
ODZ				lAmb	lAmb	11 27 59.9	
	comp=Z,15nm,1.2s						
H11S2	**WAKE ISLAND Hy**	**36.07**	**345**	T	T	12 06 21.2	
	baz=166,slow=76,SNR=56						
H11S3	**WAKE ISLAND Hy**	**36.08**	**345**	T	T	12 06 22.0	
	baz=166,slow=76,SNR=39						
H11S1	**WAKE ISLAND Hy**	**36.09**	**345**	T	T	12 06 22.7	
	baz=166,slow=76,SNR=41						
H11N1	**WAKE ISLAND Hy**	**37.20**	**346**	T	T	12 07 43.3	
	baz=165,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**37.20**	**346**	T	T	12 07 42.9	
	baz=165,slow=76,SNR=17						
H11N2	**WAKE ISLAND Hy**	**37.22**	**346**	T	T	12 07 43.8	
	baz=165,slow=76,SNR=7.7						
WR0	**Wawamunga Arr**	**39.24**	**259**	P	**P**	**11 28 46.3**	**-1.1**
WB0	**Warramunga Arr**	**39.39**	**259**	P	**P**	**11 28 46.9**	**-1.8**
WB0				lAmb	lAmb	11 28 52.1	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**39.42**	**259**	P	**P**	**11 28 48.3**	**-0.7**
WRA	**Warramunga Arr**	**39.43**	**259**	P	**P**	**11 28 48.3**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=91,slow=9.0,SNR=9.1						
	comp=Z,1.0nm,0.7s						
AS31	**Alice Springs**	**39.83**	**253**	P	**P**	**11 28 51.7**	**-0.7**
ASAR	**Alice Springs**	**39.83**	**253**	P	**P**	**11 28 50.9**	**-1.5**
ASAR	**Alice Springs**	**39.83**	**253**	P	**P**	**11 28 53.0**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=84,slow=9.1,SNR=26						
ASAR				PcP	**PcP**	**11 30 58.8**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=83,slow=3.7,SNR=7.0						
	comp=Z,2.4nm,0.8s						
FORT	**Forrest**	**45.58**	**243**	P	**P**	**11 29 39.3**	**+0.4**
VNDA	**Vanda**	**61.27**	**183**	P	**P**	**11 31 33.4**	**0.0**
VNDA				lAmb	lAmb	11 31 43.2	
	comp=Z,3.3nm,1.4s						
SBA	**Scott Base**	**61.37**	**182**	P	**P**	**11 31 35.6**	**+1.5**
SBA				lAmb	lAmb	11 31 36.7	
	comp=Z,9.1nm,1.1s						
QSPA	**South Pole Qui**	**73.37**	**180**	P	**P**	**11 32 50.8**	**+0.3**
QSPA				lAmb	lAmb	11 32 55.3	
	comp=Z,2.4nm,0.8s						
QSPA	**South Pole Qui**	**73.37**	**180**	P	**P**	**11 32 51.0**	**+0.5**
	comp=Z,3.8nm,1.0s,baz=350,slow=1.5,SNR=8.7						
	comp=Z,3.8nm,1.0s						
NVAR	**Mina Array Bea**	**82.47**	**46**	P	**P**	**11 33 42.5**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=231,slow=9.4,SNR=4.8						
	comp=Z,0.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**83.28**	**291**	P	**P**	**11 33 47.7**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=123,slow=3.2,SNR=9.0						
	comp=Z,0.7nm,0.3s						
ILAR	**Eielson Array**	**86.04**	**15**	P	**P**	**11 33 57.8**	**-1.1**
	comp=Z,0.6nm,0.9s,baz=236,slow=5.9,SNR=6.2						
	comp=Z,0.6nm,0.9s						
TXAR	**Lajitas Array**	**90.07**	**59**	P	**P**	**11 34 20.6**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=130,slow=2.0,SNR=3.5						
	comp=Z,0.2nm,0.6s						
SNAA	**Sanae**	**91.87**	**180**	P	**P**	**11 34 25.2**	**-1.5**
GERES	**GERESS Array B**	**144.75**	**339**	PKP	**PKPdf**	**11 40 54.7**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=14,slow=5.9,SNR=3.9						

IDC 26 11:27:20.8±2.0, 16°.67S×178°.11W, h0km, mb3.8/5, mbtmp3.8/5, MS4.6/1, Error ellipse: s-maj=134.4km s-min=25.7km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**28.48**	**197**	LR	LR	11 45 04.3	
	comp=Z,1μm,18.1s,baz=232,slow=37						
WRA	**Warramunga Arr**	**45.15**	**258**	P	P	11 35 39.6	0.0
	0.6nm,0.4s,baz=97,slow=7.3,SNR=43						
	0.6nm,0.4s						
ASAR	**AliceSprings**	**45.41**	**253**	P	P	11 35 41.5	-0.2
	3.8nm,0.5s,baz=86,slow=8.8,SNR=89						
	3.8nm,0.5s						
ILAR	**Eielson Array**	**84.62**	**13**	P	P	11 39 55.1	-0.6
	0.3nm,0.9s,baz=225,slow=8.9,SNR=2.4						
	0.3nm,0.9s						
TXAR	**Lajitas Array**	**85.09**	**58**	P	P	11 40 00.1	+1.0
	0.3nm,0.7s,baz=230,slow=7.0,SNR=3.9						
	0.3nm,0.7s						
PDAR	**Pinedale Array**	**86.26**	**43**	P	P	11 40 04.0	-0.7
	0.2nm,0.6s,baz=190,slow=4.6,SNR=2.4						
	0.2nm,0.6s						

*TRN **26** 11:33:17.4, 10°.09N×62°.16W, h35km, MD3.5, Gulf of Paria.*
*FUNV **26** 11:33:18.7, 10°.24N×62°.11W, h9km, MW3.3*
ISC 26 11:33:17.8±1.7, 10°.17N±0°.04×62°.15W±0°.04, h24km±17km, n15, σ1§33/25, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TCE	**Chacachacare**	**0.66**	**36**	***e*P**	**Pb**	**11 33 30.4**	**-0.2**
TPP	**Pointe-a-Pierr**	**0.70**	**78**	***e*P**	**Pb**	**11 33 31.2**	**-0.2**
TPP				*e*S	**Sn**	**11 33 41.9**	**-0.4**
TRN	**Trinidad (W)**	**0.88**	**57**	***e*P**	**Pn**	**11 33 33.6**	**-1.0**
TRN				*e*S	**Sn**	**11 33 46.2**	**-0.4**
CRUV	**Carupano**	**1.18**	**295**	***e*P**	**Pn**	**11 33 39.0**	**+0.1**
CRUV				*e*S	**Sn**	**11 33 54.2**	**0.0**
CRUV	**Carupano**	**1.18**	**295**	***e*P**	**Pn**	**11 33 38.7**	**-0.2**
CRUV				*e*S	**Sn**	**11 33 52.7**	**-1.5**
GRFF	**Grenada Fort F**	**1.92**	**12**	*e*S	**Sn**	**11 34 11.8**	**-0.5**
GRGR	**Grenville**	**2.01**	**14**	***e*P**	**Pn**	**11 33 50.4**	**+0.1**
GRGR				*e*S	**Sn**	**11 34 14.3**	**-0.4**
GRW	**Mount Saint Ca**	**2.04**	**14**	***e*P**	**Pn**	**11 33 51.6**	**+0.9**
GRW				*e*S	**Sn**	**11 34 15.6**	**+0.1**
GCMP	**Grenada, Carri**	**2.41**	**17**	***e*P**	**Pn**	**11 33 57.1**	**+1.3**
GCMP				*e*S	**Sn**	**11 34 24.4**	**-0.2**
PCRV	**Puerto La Cruz**	**2.45**	**270**	***e*P**	**Pn**	**11 33 57.8**	**+1.5**
LUEV	**Luepa**	**4.35**	**171**	***e*P**	**Pn**	**11 34 24.3**	**+1.7**
LUEV				*e*S	**Sn**	**11 35 12.9**	**+0.3**
TACV	**Tcata**	**4.80**	**270**	***e*P**	**Pn**	**11 34 30.3**	**+1.5**
TACV				*e*S	**Sn**	**11 35 22.8**	**-0.9**
CACV	**CAICARA DEL OR**	**5.05**	**240**	***e*P**	**Pn**	**11 34 28.5**	**-3.5**
CACV				*e*S	Sn	11 35 19.8	-10
BENV	**Beln**	**5.37**	**268**	***e*P**	**Pn**	**11 34 38.9**	**+2.4**
BAUV	**El Baul**	**5.94**	**259**	***e*P**	**Pn**	**11 34 45.8**	**+1.5**
BAUV				*e*S	**Sn**	**11 35 50.4**	**-1.2**

*IDC **26** 11:38:06.1±0.8, 6°.00S×151°.01E, h0km, mb4.0/14, mbtmp4.0/15, ML1.7/1, Error ellipse: s-maj=33.6km s-min=16.7km az=108.0*
ISC 26 11:38:12.6±0.7, 6°.1S±0°.1×150°.9E±0°.2, h43km, n16, σ0§83/17, mb3.9/14, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.99**	**228**	Pn	**Pn**	**11 39 25.5**	**+0.4**
	1.9nm,0.3s,baz=24,slow=12,SNR=2.1						
PMG				Sn	**Sn**	**11 40 21.2**	**-0.4**
	1.5nm,0.3s,baz=307,slow=20,SNR=1.5						
	4.9nm,0.3s						
WRA	**Warramunga Arr**	**21.21**	**228**	P	**P**	**11 42 55.2**	**+0.3**
	9.0nm,0.7s,baz=53,slow=11,SNR=40						
	9.0nm,0.7s						
ASAR	**Alice Springs**	**23.97**	**221**	P	**P**	**11 43 23.5**	**+0.3**
	6.7nm,0.8s,baz=58,slow=8.9,SNR=90						
	6.7nm,0.8s						
STKA	**Stephens Creek**	**27.14**	**198**	P	**P**	**11 43 50.9**	**-0.8**
	2.3nm,0.8s,baz=345,slow=16,SNR=2.9						
	2.3nm,0.8s						
PETK	**Petropavlovsk-**	**59.21**	**5**	P	**P**	**11 48 08.2**	**-1.0**
	0.5nm,0.6s,baz=164,slow=6.6,SNR=5.6						
	0.5nm,0.6s						
SONM	**Songino Array**	**66.39**	**329**	P	**P**	**11 48 58.3**	**+1.0**
	0.6nm,0.6s,baz=131,slow=5.4,SNR=3.8						
	0.6nm,0.6s						
VNDA	**Vanda**	**71.67**	**178**	P	**P**	**11 49 29.6**	**+0.3**
	0.5nm,0.7s,baz=288,slow=4.9,SNR=4.0						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**80.03**	**319**	P	**P**	**11 50 16.6**	**-1.1**
	0.9nm,0.9s,baz=101,slow=6.3,SNR=5.8						
	0.9nm,0.9s						
ZALV	**Zalesovo Beam**	**81.15**	**327**	P	**P**	**11 50 23.1**	**-0.4**
	0.3nm,0.3s,baz=107,slow=7.8,SNR=1.6						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**83.62**	**322**	P	**P**	**11 50 36.5**	**+0.1**
	0.9nm,0.2s,baz=108,slow=5.9,SNR=4.4						
	0.9nm,0.2s						
QSPA	**South Pole Qui**	**83.92**	**180**	P	**P**	**11 50 37.4**	**-0.5**
	2.0nm,0.9s,baz=225,slow=1.4,SNR=5.2						
	2.0nm,0.9s						
ILAR	**Eielson Array**	**84.02**	**22**	P	**P**	**11 50 36.7**	**-1.5**
	1.1nm,0.8s,baz=245,slow=4.9,SNR=16						
	1.1nm,0.8s						
BVAR	**Borovoye Array**	**89.11**	**323**	P	**P**	**11 51 03.2**	**-0.1**
	0.6nm,0.7s,baz=85,slow=1.6,SNR=2.5						
	0.6nm,0.7s						
NVAR	**Mina Array Bea**	**94.33**	**52**	P	**P**	**11 51 29.3**	**+1.1**
	0.7nm,1.0s,baz=267,slow=8.9,SNR=3.6						
	0.7nm,1.0s						
YKA	**Yellowknife Ar**	**97.40**	**28**	P	**P**	**11 51 42.4**	**+1.1**
	0.2nm,0.7s,baz=269,slow=4.8,SNR=4.1						
	0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**148.86**	**285**	PKPbc	**PKPbc**	**11 57 56.8**	**+0.2**
	1.3nm,0.7s,baz=36,slow=3.8,SNR=12						

IDC 26 11:43:54.2±2.0, 5°.85S×142°.18E, h0km, mb3.8/2, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=104.4km s-min=32.3km az=108.0, New Guinea

| Code | Station Name | Δ° |

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.31**	**353**		Pg	12 12 01.2	-0.2
HLP	**Hilina Pali**	**0.37**	**8**		Pg	12 12 02.5	0.0
HLP					Sb	12 12 08.7	-0.8
KHU	**Kahuku**	**0.40**	**323**		Pg	12 12 02.6	-0.5
KHU					Sg	12 12 08.7	+0.3
KHU	**Kahuku**	**0.40**	**323**	IAML		12 12 12.2	
	comp=E,1μm,0.5s						
KHU				IAML		12 12 16.7	
	comp=N,1μm,0.7s						
SDHHI	**Sand Hill**	**0.46**	**8**		Pg	12 12 03.6	-0.7
PUH	**Pauahi**	**0.46**	**17**		Pg	12 12 03.6	-0.6
PUH	**Pauahi**	**0.46**	**17**	IAML		12 12 20.9	
	comp=N,855nm,0.6s						
RIM	**Rim**	**0.47**	**10**	Pg	Pg	12 12 03.8	-0.6
RIM				Sg	Sg	12 12 10.9	+0.2
RIM				IAML		12 12 21.0	
	comp=E,1μm,0.7s						
KKO	**Keanakako`i**	**0.47**	**11**		Pg	12 12 03.7	-0.7
KKO					Sg	12 12 10.9	+0.1
KKO	**Keanakako`i**	**0.47**	**11**	IAML		12 12 16.6	
	comp=E,1μm,0.9s						
WRMHI	**West Rim**	**0.48**	**7**		Pg	12 12 04.0	-0.5
KNHH	**Kane Nui o Ham**	**0.48**	**22**		Pg	12 12 03.9	-0.7
NPH	**North Pit**	**0.49**	**9**	Pg	Pg	12 12 04.1	-0.6
BYL	**Byron's Ledge**	**0.49**	**11**		Pg	12 12 03.6	-1.1
BYL	**Byron's Ledge**	**0.49**	**11**	IAML		12 12 19.1	
	comp=E,890nm,0.4s						
BYL				IAML		12 12 22.4	
	comp=N,1μm,0.6s						
OBL	**Observatory Le**	**0.49**	**8**	Pg	Pg	12 12 04.4	-0.3
UWE	**Uwekahuna**	**0.49**	**7**		Pg	12 12 04.2	-0.7
UWE	**Uwekahuna**	**0.49**	**7**	IAML		12 12 20.1	
	comp=N,1μm,0.6s						
UWB	**Uwekahuna B**	**0.50**	**9**		Pg	12 12 04.2	-0.7
UWB	**Uwekahuna B**	**0.50**	**9**	IAML		12 12 12.1	
	comp=N,490nm,1.4s						
UWB				IAML		12 12 18.9	
	comp=E,459nm,1.3s						
HATHI	**Halema'uma'u T**	**0.50**	**11**		Pg	12 12 04.1	-0.8
HATHI	**Halema'uma'u T**	**0.50**	**11**	IAML		12 12 17.5	
	comp=E,1μm,0.8s						
HATHI				IAML		12 12 20.6	
	comp=N,1μm,0.7s						
SBLHI	**Steaming Bluff**	**0.50**	**10**		Pg	12 12 04.2	-0.8
SBLHI	**Steaming Bluff**	**0.50**	**10**	IAML		12 12 21.1	
	comp=N,918nm,0.7s						
SBLHI				IAML		12 12 21.1	
	comp=E,907nm,1.0s						
STCH	**Steam Cracks**	**0.51**	**26**		Pg	12 12 04.1	-0.9
STCH	**Steam Cracks**	**0.51**	**26**	IAML		12 12 17.8	
	comp=N,855nm,0.8s						
JCUZ	**Jacuzzi**	**0.51**	**28**	Pg	Pg	12 12 04.7	-0.5
NPOC	**North of Pu'u**	**0.52**	**27**		Sg	12 12 11.8	-0.4
NPOC	**North of Pu'u**	**0.52**	**27**	Pg	Pg	12 12 03.9	-1.4
NPOC	**North of Pu'u**	**0.52**	**27**	IAML		12 12 18.7	
	comp=N,614nm,1.2s						
NPOC				IAML		12 12 22.7	
	comp=E,605nm,0.7s						
RSD	**Rainshed**	**0.54**	**8**		Pg	12 12 04.6	-1.1
MLH	**Mauna Loa**	**0.56**	**357**		Pg	12 12 05.2	-1.0
MLH					Sg	12 12 13.8	+0.2
MLH	**Mauna Loa**	**0.56**	**357**	IAML		12 12 20.3	
	comp=N,688nm,0.5s						
MLH				IAML		12 12 20.6	
	comp=E,591nm,0.4s						
MWH	**Moku'aweowe**	**0.60**	**338**		Pg	12 12 05.8	-1.1
MWH				IAML		12 12 25.7	
	comp=N,599nm,0.7s						
MWH				IAML		12 12 26.8	
	comp=E,634nm,0.8s						
JOKA	**Jonika Flow**	**0.60**	**34**		Pg	12 12 05.4	-1.5
MLOA	**Mauna Loa Obse**	**0.64**	**341**		Pg	12 12 07.0	-0.6
MLOA				IAML		12 12 26.3	
	comp=N,600nm,1.9s						
HMH	**Humu'ula Sheep**	**0.68**	**350**		Pg	12 12 07.0	-1.4
HMH	**Humu'ula Sheep**	**0.68**	**350**	IAML		12 12 24.9	
	comp=N,525nm,0.3s						
HMH				IAML		12 12 25.7	
	comp=E,511nm,0.6s						
KHLU	**Kahalu`u**	**0.83**	**323**		Pg	12 12 09.8	-1.4
KHLU				IAML		12 12 26.9	
	comp=E,358nm,0.5s						
KHLU				IAML		12 12 32.3	
	comp=N,520nm,0.6s						
POHA	**Pohakuloa**	**0.84**	**349**		Pg	12 12 11.6	+0.2
POHA				IAML		12 12 29.3	
	comp=N,541nm,0.6s						
POHA				IAML		12 12 36.7	
	comp=N,405nm,0.4s						
HUH	**Hualalai**	**0.88**	**329**		Pg	12 12 11.5	-0.6
HPAH	**Hawaii Prepara**	**1.14**	**344**		Pb	12 12 14.7	-2.2

*CATAC **26** 12:15:48.3±0.5,9.°31N×84.°62W, h7km±3km, ML3.9*
*UCR **26** 12:15:50.1±0.8,9.°40N×84.°59W, h19km±5km, MW4.2*
ISC 26 12:15:49.0±1.1,9.°34N±0.°05×84.°62W±0.°03, h18km, n53, σ0.°70/57, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACO	**JACO, Garabito**	**0.32**	**353**	*e*P	**Pg**	**12 15 56.0**	**+0.1**
JACO				*e*S	**Sg**	**12 16 00.7**	**0.0**
JACO	**JACO, Garabito**	**0.32**	**353**	*i* P	**Pg**	**12 15 56.0**	**+0.1**
JACO				*i* S	**Sg**	**12 16 00.7**	**0.0**
JACO				IAML		12 16 04.3	
	comp=Z,10μm,1.0s						
RITA	**Parrita**	**0.34**	**58**	*e*P	**Pg**	**12 15 56.5**	**+0.3**
RITA				*e*S	**Sb**	**12 16 01.9**	**+0.2**
SVQ2	**Quepos**	**0.46**	**78**	*e*P	**Pg**	**12 15 58.5**	**+0.2**
LLNJ	**Naranjito**	**0.53**	**75**	*e*P	**Pg**	**12 15 59.7**	**+0.1**
LAFE	**Finca La Fe, P**	**0.55**	**329**	*e*P	**Pg**	**12 16 00.5**	**+0.6**
LAFE	**Finca La Fe, P**	**0.55**	**329**	*i* P	**Pg**	**12 16 00.5**	**+0.6**
LAFE				*i* S	**Sn**	**12 16 09.9**	**-0.6**
LAFE				IAML		12 16 10.5	
	comp=Z,28nm,1.0s						
TRB2	**Turrubares**	**0.60**	**17**	*e*P	**Pg**	**12 16 00.1**	**-0.7**
ACOS	**Acosta**	**0.64**	**45**	*e*P	**Pg**	**12 16 01.0**	**-0.7**
ABE2	**San Pablo**	**0.67**	**57**	*e*P	**Pg**	**12 16 01.7**	**-0.5**
LCR2	**La Lucha 2**	**0.73**	**57**	*e*P	**Pb**	**12 16 02.5**	**-0.7**
LCR2	**La Lucha 2**	**0.73**	**57**	*i* P	**Pb**	**12 16 02.6**	**-0.7**
LCR2				IAML		12 16 13.9	
	comp=Z,5μm,1.0s						
SANTA	**Santa Ana**	**0.73**	**36**	*e*P	**Pb**	**12 16 02.4**	**-0.8**
SRA1	**San Ramn**	**0.76**	**11**	*e*P	**Pb**	**12 16 02.9**	**-0.8**
RAMO	**San Ramon**	**0.76**	**12**	*e*P	**Pb**	**12 16 04.2**	**+0.4**
BELE	**Belen**	**0.76**	**34**	*e*P	**Pb**	**12 16 03.0**	**-0.8**
LUJA	**Lujan**	**0.80**	**43**	*e*P	**Pb**	**12 16 04.7**	**+0.3**
SJS	**Escuela Geolog**	**0.82**	**43**	*e*P	**Pb**	**12 16 04.0**	**-0.7**
HDC3	**Heredia 3**	**0.83**	**37**	*e*P	**Pb**	**12 16 04.4**	**-0.6**
HDC3	**Heredia 3**	**0.83**	**37**	*i* P	**Pb**	**12 16 04.3**	**-0.6**
HDC3				IAML		12 16 18.8	
	comp=Z,3μm,1.0s						
OCM	**Ochomogo**	**0.85**	**50**	*e*P	**Pb**	**12 16 04.3**	**-1.1**
OCM	**Ochomogo**	**0.85**	**50**	*i* P	**Pb**	**12 16 04.4**	**-1.0**
OCM				IAML		12 16 19.0	
	comp=Z,2μm,1.0s						
RIMA	**Rio Macho**	**0.86**	**60**	*e*P	**Pb**	**12 16 04.8**	**-0.8**
RIMA	**Rio Macho**	**0.86**	**60**	*i* P	**Pb**	**12 16 04.7**	**-0.8**
RIMA				IAML		12 16 18.7	
	comp=Z,3μm,1.0s						
CDM	**Cerro de Muert**	**0.87**	**76**	*e*P	**Pb**	**12 16 05.4**	**-0.5**
CDM	**Cerro de Muert**	**0.87**	**76**	*i* P	**Pb**	**12 16 05.4**	**-0.5**
CDM				IAML		12 16 20.2	
	comp=Z,7μm,1.0s						
PEZE	**Perez Zeledon,**	**0.93**	**87**	*i* P	**Pb**	**12 16 06.1**	**-0.6**
PEZE				IAML		12 16 22.2	
	comp=Z,2μm,1.0s						
CPMI	**Catarata Coope**	**0.97**	**14**	*e*P	**Pb**	**12 16 06.8**	**-0.5**
CPMI	**Catarata Coope**	**0.97**	**14**	*i* P	**Pb**	**12 16 06.8**	**-0.5**
CPMI				IAML		12 16 20.6	
	comp=Z,3μm,1.0s						
OCHAL	**Ojochal**	**0.99**	**104**	*i* P	**Pb**	**12 16 07.6**	**-0.1**
OCHAL				IAML		12 16 24.3	
	comp=Z,2μm,1.0s						
JTS	**Las Juntas de**	**1.00**	**341**	*e*P	**Pb**	**12 16 06.9**	**-0.9**
ICR3	**Volcano Irazu**	**1.00**	**51**	*e*P	**Pb**	**12 16 07.3**	**-0.8**
INDI	**Punta indio, G**	**1.01**	**301**	*i* P	**Pb**	**12 16 07.5**	**-0.5**
INDI				IAML		12 16 29.5	
	comp=Z,2μm,1.0s						
SOCE	**Pocosol**	**1.04**	**0**	*e*P	**Pb**	**12 16 08.2**	**-0.2**
SOCE	**Pocosol**	**1.04**	**0**	*i* P	**Pb**	**12 16 08.3**	**-0.2**
SOCE				IAML		12 16 24.8	
	comp=Z,6μm,1.0s						
VTUN	**Crater Central**	**1.08**	**51**	*i* P	**Pb**	**12 16 09.5**	**0.0**
VTUN				IAML		12 16 28.8	
	comp=Z,3μm,1.0s						
CVTR	**Volcan Turrial**	**1.09**	**51**	*e*P	**Pb**	**12 16 09.0**	**-0.5**
VTCV	**VTCV, Calle Va**	**1.09**	**54**	*i* P	**Pb**	**12 16 09.0**	**-0.4**
VTCV				IAML		12 16 26.2	
	comp=Z,4μm,1.0s						
RIFO	**Rio Frio, Sara**	**1.19**	**35**	*i* P	**Pn**	**12 16 10.6**	**-0.2**
RIFO				IAML		12 16 11.7	
	comp=Z,4μm,1.0s						
EDPN	**Palmar Norte**	**1.21**	**108**	*e*P	**Pn**	**12 16 11.2**	**+0.3**
SRBA	**San Rafael, Bu**	**1.25**	**95**	*i* P	**Pn**	**12 16 12.0**	**+0.3**
SRBA				IAML		12 16 33.7	
	comp=Z,1μm,1.0s						
SAJU	**San Juanillo,**	**1.29**	**304**	*i* P	**Pn**	**12 16 11.4**	**-0.8**
SAJU				IAML		12 16 41.6	
	comp=Z,910nm,1.0s						
ORTG	**Ortega, Santa**	**1.31**	**321**	*i* P	**Pn**	**12 16 12.2**	**-0.3**
ORTG				IAML		12 16 37.4	
	comp=Z,1μm,1.0s						
COVE	**Coope Vega, Sa**	**1.39**	**9**	*i* P	**Pn**	**12 16 13.4**	**-0.1**
COVE				IAML		12 16 40.3	
	comp=Z,3μm,1.0s						
BATAN	**Batan**	**1.44**	**58**	*e*P	**Pn**	**12 16 15.1**	**+0.9**
BATAN	**Batan**	**1.44**	**58**	*i* P	**Pn**	**12 16 15.1**	**+0.9**
BATAN				IAML		12 16 38.4	
	comp=Z,6μm,1.0s						
EDP2	**Potrero Grande**	**1.46**	**103**	*e*P	**Pn**	**12 16 15.3**	**+0.8**
POTG	**Potrero Grande**	**1.51**	**101**	*i* P	**Pn**	**12 16 15.9**	**+0.7**
POTG				IAML		12 16 40.5	
	comp=Z,3μm,1.0s						
HZTE	**Horizontes, Gu**	**1.67**	**325**	*i* P	**Pn**	**12 16 18.1**	**+0.8**
HZTE				IAML		12 16 22.4	
	comp=Z,1μm,1.0s						
CDITO	**Canoas**	**1.89**	**114**	*i* P	**Pn**	**12 16 20.6**	**+0.3**
CDITO				IAML		12 17 12.1	
	comp=Z,880nm,1.0s						
ACON	**Acoyapa**	**2.67**	**348**	*i* P	**Pn**	**12 16 33.0**	**+1.9**
ACON				IAML		12 17 28.3	
	comp=Z,420nm,1.0s						
BLUN	**Bluefields**	**2.78**	**17**	*i* P	**Pn**	**12 16 34.6**	**+2.0**
BLUN				IAML		12 17 22.7	
	comp=Z,550nm,1.0s						
BOAB	**BOACO BROADBAN**	**3.26**	**342**	*i* P	**Pn**	**12 16 39.7**	**+0.5**
BOAB				IAML		12 17 38.7	
	comp=Z,150nm,1.0s						

TAP 26 12:16:13.7,24.°53N×121.°83E, h2km±1km, ML1.5, 2C-4D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESAO	**Su ao**	**0.04**	**16**	⇑*i*P	Pg	12 16 14.5	-0.1
ESAO	baz=15			*i* S	Sg	12 16 15.4	+0.1
TWC	**Suao**	**0.08**	**12**	P	Pg	12 16 14.9	-0.3
TWC	baz=19			S	Sg	12 16 16.2	-0.1
EWUT	**Wuta**	**0.10**	**209**	⇑P	Pg	12 16 15.6	-0.1
EWUT	baz=208			S	Sg	12 16 17.3	+0.3
ENA	**Nanau**	**0.13**	**218**	⇓*i*P	Pg	12 16 16.2	-0.1
ENA	baz=214			S	Sg	12 16 18.3	+0.2
NDS	**Dongshan**	**0.14**	**313**	*e*P	Pg	12 16 17.2	+0.7
NDS	baz=313			*e*S	Sg	12 16 18.8	+0.4
EAHA	**Aohua**	**0.22**	**202**	*e*P	Pg	12 16 18.5	+0.6
EAHA	baz=202			S	Sg	12 16 20.8	0.0
TWE	**Neicheng**	**0.24**	**321**	P	Pg	12 16 18.4	+0.1
TWE	baz=323			*i* S	Sg	12 16 21.3	-0.1
LATG	**Datong**	**0.28**	**270**	⇓P	Pg	12 16 18.9	-0.1
LATG	baz=270			*e*S	Sg	12 16 23.5	+0.9
NDT	**Datong Townshi**	**0.30**	**283**	*i* P	Pg	12 16 19.5	+0.1
NDT	baz=283			S	Sg	12 16 23.7	+0.4
FUSB	**Fushanzhiwuyua**	**0.32**	**315**	*e*P	Pg	12 16 20.5	+0.7
FUSB	baz=315			*i* S	Sg	12 16 24.1	+0.2
EGS	baz=18	**0.32**	**17**	*e*P	Pb	12 16 21.5	-0.6
EOS2	**EOS2**	**0.38**	**107**	*i* P	Pg	12 16 20.9	-0.1
EOS2	baz=107			*e*S	Sg	12 16 26.9	+1.0
NWLT	**Wulai**	**0.39**	**309**	*e*P	Pg	12 16 21.4	+0.3
NWLT	baz=308			*e*S	Sg	12 16 26.9	+0.8
NACB	**Ninganchiao**	**0.42**	**211**	*e*P	Pg	12 16 22.0	+0.3
NACB	baz=211			*e*S	Sg	12 16 26.8	-0.3
ETL	**Fush Village**	**0.42**	**207**	P	Pg	12 16 21.9	+0.1
ETL	baz=206			*i* S	Sg	12 16 27.6	+0.5
NNSB	**Datong**	**0.42**	**256**	⇓P	Pg	12 16 21.4	-0.4
NNSB	baz=255			*e*S	Sb	12 16 29.2	-1.6
NNS	**Nan Shan**	**0.43**	**257**	*e*P	Pg	12 16 21.2	-0.7
NNS	baz=256			*e*S	Sg	12 16 29.1	+1.6
TIPB	**Shuangxi**	**0.44**	**359**	P	Pg	12 16 22.4	+0.4
TIPB	baz=359			*e*S	Sg	12 16 27.6	-0.2
YHNB	**Yeheng**	**0.44**	**288**	⇓P	Pg	12 16 22.3	+0.2
YHNB	baz=288			*e*S	Sg	12 16 27.0	-0.7
NSK	**Sanguang**	**0.45**	**288**	P	Pg	12 16 22.6	+0.2
NSK	baz=288			*e*S	Sg	12 16 28.0	-0.3
ETLH	**Xiulin Townshi**	**0.46**	**224**	P	Pg	12 16 22.3	-0.2
ETLH	baz=224			*e*S	Sg	12 16 27.6	-0.7
TWB1	**Santiao Chiao**	**0.49**	**17**	P	Pg	12 16 22.8	-0.3
TWB1	baz=17			S	Sg	12 16 29.2	-0.4
TWD	**Chiawan**	**0.50**	**205**	*e*P	Pg	12 16 22.2	-1.0
TWD	baz=204			S	Sg	12 16 29.7	0.0
EOS3	**EOS3**	**0.51**	**119**	*e*P	Pg	12 16 23.8	+0.4
EOS3	baz=119			S	Sg	12 16 30.7	+0.7
SXI1	**Grass Mountain**	**0.56**	**4**	P	Pg	12 16 24.5	+0.1
SXI1	baz=4.0			*e*S	Sg	12 16 32.8	+1.1
HWA	**Hwalien**	**0.59**	**200**	*e*S	Sb	12 16 34.5	-1.0
EOS4	**EOS4**	**0.60**	**133**	*e*S	Sb	12 16 35.1	-0.4
FUSS	baz=132 **Fushou**	**0.61**	**242**	P	Pg	12 16 25.1	-0.2
FUSS	baz=241			S	Sg	12 16 34.0	+0.7
LXIB	**Xiulin Townshi**	**0.64**	**217**	P	Pg	12 16 26.0	+0.1
LXIB	baz=216			*i* S	Sg	12 16 34.9	+0.7
WHF	**Hehuan Shan**	**0.65**	**233**	*e*P	Pg	12 16 25.5	-0.6
WHF	baz=232			*e*S	Sg	12 16 34.1	-0.4
NFF	**Wufeng Townshi**	**0.66**	**279**	*i* P	Pg	12 16 26.4	+0.1
NFF	baz=278			*e*S	Sg	12 16 35.0	+0.1
CHGB	**Renai**	**0.76**	**232**	*i* P	Pg	12 16 28.1	-0.2
CHGB	baz=231			*e*S	Sb	12 16 39.8	-0.9
WHP	**Taichung City**	**0.85**	**253**	*e*P	Pb	12 16 30.9	-0.2
WHP	baz=252			*e*S	Sb	12 16 43.6	+0.6
WUSB	**Renai**	**0.85**	**230**	*i* P	Pg	12 16 29.9	0.0
WUSB	baz=230			S	Sg	12 16 41.5	+0.6
WARBT	**Fenglin Townsh**	**0.91**	**207**	*i* P	Pg	12 16 31.1	0.0
WARBT	baz=206			*e*S	Sg	12 16 42.6	-0.2
VWDT	**VWDT**	**1.00**	**219**	P	Pg	12 16 32.9	+0.1
VWDT	baz=219			*e*S	Sb	12 16 46.7	-0.6
SSLB	**Suanglung**	**1.09**	**227**	P	Pg	12 16 34.1	-0.5
SSLB	baz=227			*e*S	Sg	12 16 48.1	-0.7
HGSD	**Ruisui**	**1.10**	**200**	*e*P	Pg	12 16 35.0	+0.2
YULB	baz=199 **Yu-li**	**1.24**	**203**	P	Pg	12 16 37.0	-0.4
YULB	baz=203			*e*S	Sb	12 16 54.3	+0.2

JMA 26 12:16:53.5±0.4,24.°2N±0.°9×12.°4E±.°, h21km±1km, MV0.5/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.13**	**144**		S	12 17 00.2	-3.5
IRIF	**Iriomote-Funau**	**0.17**	**3**		S	12 17 01.6	-1.8
JKRS	**Kuro-shima**	**0.27**	**74**		P	12 16 59.8	0.0
JKRS					S	12 17 04.3	+0.1
JIJ	**Ishigaki jima**	**0.43**	**63**		P	12 17 02.1	-0.2
JIJ					S	12 17 08.0	-0.4
JISG	**Ishigakijimahi**	**0.68**	**52**	*e*P	Pb	12 17 06.4	-0.3
JISG					S	12 17 16.1	+0.3

*KRNET **26** 12:22:50.6±0.1,41.°01N×69.°75E, h16km, mb2.9*
*SOME **26** 12:22:50.1,40.°95N×69.°82E, h0km*
*NNC **26** 12:22:53.4±1.6,41.°01N×69.°88E, h0km, mb3.6, mpv3.4,*
Error ellipse: s-maj=11.8km s-min=7.1km az=43.0
ISC 26 12:22:51.6±1.2,41.°00N±0.°04×69.°83E±0.°05, h10km, n34, σ2.°49/59, 23C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**1.12**	**61**	⇑*e*P	**Pg**	**12 23 12.8**	**-0.3**
TRKS	baz=67			⇑*i*S	**Sn**	**12 23 29.0**	**0.0**
IUG	**luzhnay**	**1.16**	**7**	*e*P	**Pg**	**12 23 13.5**	**-0.3**
IUG	280nm,0.3s 290nm,0.6s			*e*S	**Sn**	**12 23 30.5**	**+0.6**
IUG	**luzhnay**	**1.16**	**7**	P	**Pg**	**12 23 13.5**	**-0.3**
IUG	280nm,0.3s 290nm,0.6s			S	**Sn**	**12 23 30.5**	**+0.6**
BTK	**Batken**	**1.20**	**141**	⇑*i*P	**Pg**	**12 23 14.4**	**-0.3**
BTK	baz=39			⇑*i*S	**Sn**	**12 23 31.8**	**+0.8**
CHM	**Chimkent**	**1.33**	**353**	*e*P	**Pg**	**12 23 17.6**	**+0.5**
CHM	101nm,0.2s 436nm,0.4s			*e*S	**Sg**	**12 23 37.1**	**+2.7**
ARK	**Arkit**	**1.79**	**63**	⇑*i*P	**Pg**	**12 23 25.1**	**-0.8**
ARK	baz=64			⇑*i*S	**Sg**	**12 23 50.0**	**+0.8**
BRLS	**Borolday**	**2.03**	**0**	*e*P	**Pn**	**12 23 24.7**	**-1.2**
BRLS	19nm,0.2s 82nm,0.4s			*e*S	**Sn**	**12 23 50.0**	**-1.3**
BRLS	**Borolday**	**2.03**	**0**	P	**Pn**	**12 23 24.7**	**-1.2**
BRLS	19nm,0.2s 82nm,0.4s			S	**Sn**	**12 23 50.0**	**-1.3**
KK31	**Karatay Array**	**2.16**	**13**	⇑Pn	**Pg**	**12 23 31.7**	**-1.4**
KK31	2.5nm,0.3s,baz=201,slow=19,SNR=87 19nm,0.6s,baz=202,slow=26,SNR=19			⇑Lg	Lg	12 24 01.7	
KKAR	**Karatay Array**	**2.16**	**13**	⇓*i*P	**Pb**	**12 23 29.9**	**-1.0**
KKAR	baz=15			⇓*i*S	**Sb**	**12 23 58.6**	**+0.9**
DZA	**Taraz**	**2.20**	**30**	*e*P	**Pg**	**12 23 33.4**	**-0.3**
DZA	42nm,0.2s 181nm,0.3s			*e*S	**Sg**	**12 24 04.2**	**+2.0**
DZA	**Taraz**	**2.20**	**30**	Pg	**Pg**	**12 23 34.3**	**+0.6**
DZA	55nm,0.1s 181nm,0.4s			Lg	Lg	12 24 06.0	
ARSB	**Arslanbob**	**2.40**	**81**	⇑*i*P	**Pb**	**12 23 34.2**	**-0.8**
ARSB	baz=82			⇑*i*S	**Sb**	**12 24 05.9**	**+1.2**
MNAS	**Manas**	**2.49**	**52**	⇑*i*P	**Pb**	**12 23 35.1**	**-1.4**
MNAS	baz=53			⇑*i*S	**Sb**	**12 24 07.5**	**+0.2**
SFK	**Sufi-Kurgan**	**2.97**	**108**	⇑*i*P	**Pb**	**12 23 41.8**	**-2.9**
SFK	baz=8.0			⇑*i*S	**Sb**	**12 24 19.5**	**-1.5**
MRKS	**Merke**	**3.08**	**54**	*e*P	**Pg**	**12 23 48.9**	**-1.6**
MRKS	4.9nm,0.5s 12nm,0.5s			*e*S	**Sg**	**12 24 31.3**	**+0.9**
MRKS	**Merke**	**3.08**	**54**	Pg	**Pg**	**12 23 48.9**	**-1.6**
MRKS	4.9nm,0.5s 12nm,0.5s			Lg	Lg	12 24 31.3	
EKS2	**Erkin-Say**	**3.38**	**59**	⇓*i*P	**Pb**	**12 23 47.5**	**-4.2**
EKS2	baz=60			⇓*i*S	**Sb**	**12 24 29.0**	**-3.9**
UCH	**Uchtor**	**3.72**	**69**	⇑*i*P	**Pn**	**12 23 52.6**	**+3.1**
UCH	baz=70			⇑*i*S	**Sn**	**12 24 37.6**	**+4.1**
AAK	**Ala-Archa**	**3.85**	**63**	⇓*i*P	**Pn**	**12 23 54.2**	**+3.2**
AAK	baz=64			⇓*i*S	**Sn**	**12 24 40.4**	**+4.0**
USP	**Ospenovka**	**4.14**	**55**	⇑*e*P	**Pn**	**12 23 58.0**	**+3.0**
USP	baz=56			⇑*i*S	**Sn**	**12 24 47.4**	**+3.9**
TKM2	**Tokmak 2**	**4.71**	**64**	⇑Pg	**Pb**	**12 24 16.8**	**+2.5**
TKM2	0.7nm,0.3s 3.0nm,0.7s			⇓Lg	Lg	12 25 20.7	
TKM2	**Tokmak 2**	**4.71**	**64**	⇑*i*P	**Pn**	**12 24 06.2**	**+3.4**
TKM2	baz=64			⇑*i*S	**Sn**	**12 25 01.1**	**+3.5**
BOOM	**Boomskoye usch**	**4.80**	**70**	⇑*e*P	**Pn**	**12 24 07.5**	**+3.3**
BOOM	baz=70			⇑*i*S	**Sn**	**12 25 03.5**	**+3.5**
DGS	**Degeres**	**4.95**	**61**	*e*P	**Pg**	**12 24 23.5**	**-3.0**
DGS	3.8nm,0.8s 6.1nm,0.5s			*e*S	**Sg**	**12 25 30.7**	**+0.1**
DGS	**Degeres**	**4.95**	**61**	Pg	**Pg**	**12 24 23.5**	**-3.0**
DGS	3.8nm,0.8s 6.1nm,0.5s			Lg	Lg	12 25 30.7	
KST	**Kastek**	**5.00**	**64**	*e*P	**Pg**	**12 24 23.9**	**-3.5**
	4.9nm,0.9s						

KST					*e*S		**Sg**	**12 25 30.8**	**-1.3**
	8.5nm,0.6s								
KST	**Kastek**	**5.00**	**64**	Pg		**Pg**	**Pg**	**12 24 23.9**	**-3.5**
	4.9nm,0.9s								
KST					Lg		Lg	12 25 30.8	
	8.5nm,0.6s								
KRBS	**Karabastau**	**5.10**	**56**	*e*P		**Pg**	**Pg**	**12 24 25.1**	**-4.2**
	2.5nm,0.7s								
KRBS					*e*S		**Sg**	**12 25 33.1**	**-2.1**
	2.9nm,0.5s								
KRBS	**Karabastau**	**5.10**	**56**	Pg		**Pg**	**Pg**	**12 24 25.1**	**-4.2**
	2.5nm,0.7s								
KRBS					Lg		Lg	12 25 33.1	
	2.9nm,0.5s								
MTBS	**Maitube**	**5.35**	**64**	*e*P		**Pg**	**Pg**	**12 24 31.3**	**-2.8**
	1.5nm,0.6s								
MTBS					*e*S		**Sg**	**12 25 43.5**	**+0.2**
	5.3nm,0.6s								
MTBS	**Maitube**	**5.35**	**64**	Pg		**Pg**	**Pg**	**12 24 31.3**	**-2.8**
	1.5nm,0.6s								
MTBS					Lg		Lg	12 25 43.5	
	5.3nm,0.6s								
KTBS	**Karatobe**	**5.75**	**60**	*e*P		**Pg**	**Pg**	**12 24 37.4**	**-4.3**
	1.4nm,0.9s								
KTBS					*e*S		**Sg**	**12 25 54.6**	**-1.6**
	3.6nm,0.8s								
KTBS	**Karatobe**	**5.75**	**60**	Pg		**Pg**	**Pg**	**12 24 37.4**	**-4.3**
	1.4nm,0.9s								
KTBS					Lg		Lg	12 25 54.6	
	3.6nm,0.8s								

*ISK **26** 12:26:48.8, 41°.12N×34°.34E, h5km, ML2.7/17*
*AFAD **26** 12:26:49.8±0.0, 41°.12N×34°.35E, h11km, ML2.5*
ISC 26 12:26:49.7±0.9, **41°.12N**±0°.03×**34°.35E**±0°.02, **h12**km±6km, **n39**, σ0**976**/52, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAGI	**orum-Kargı**	**0.10**	**78**	P		**Pg**	**12 26 52.5**	**0.0**
KAGI				S		**Sg**	**12 26 54.7**	**+0.1**
KAGI				*i* AML		AML	12 26 55.0	
	comp=E,3μm,0.4s							
KAGI				*i* AML		AML	12 26 55.0	
	comp=N,5μm,0.3s							
TOS	**Tosya**	**0.26**	**252**	Pg		**Pg**	**12 26 54.9**	**-0.3**
BOYA	**Sinop/Boyabat-**	**0.48**	**31**	P		**Pb**	**12 26 59.5**	**-0.7**
BOYA				S		**Sg**	**12 27 05.9**	**+0.3**
ILGA	**Ilgaz**	**0.49**	**262**	P		**Pg**	**12 26 59.1**	**-0.1**
ILGA				*i* AML		AML	12 27 07.0	
	comp=E,558nm,0.4s							
ILGA				*i* AML		AML	12 27 16.0	
	comp=N,210nm,0.6s							
KMON	**Kastamonu**	**0.50**	**301**	Pg		**Pb**	**12 26 59.6**	**-0.9**
CTAK	**Corum_Osmancik**	**0.57**	**145**	P		**Pg**	**12 27 01.2**	**+0.2**
CTAK				*i* AML		AML	12 27 13.0	
	comp=N,167nm,0.7s							
YENC	**ankr-Yen**	**0.58**	**222**	P		**Pb**	**12 27 01.7**	**-0.2**
YENC				S		**Sb**	**12 27 10.6**	**+0.4**
YENC				*i* AML		AML	12 27 11.0	
	comp=N,275nm,0.1s							
YENC				*i* AML		AML	12 27 12.0	
	comp=E,221nm,0.3s							
PELI	**Kastamonı-Ara**	**0.81**	**283**	P		**Pb**	**12 27 05.2**	**-0.6**
PELI				*i* AML		AML	12 27 16.0	
	comp=N,293nm,0.3s							
PELI				*i* AML		AML	12 27 17.0	
	comp=E,296nm,0.3s							
DIKM	**Dikmen**	**0.86**	**52**	Pg		**Pb**	**12 27 06.6**	**0.0**
DIKM				Sg		**Sn**	**12 27 19.7**	**-0.5**
SUNG	**orum-Sungurl**	**0.93**	**185**	P		**Pb**	**12 27 07.9**	**+0.1**
ELDT	**Eldivan**	**0.94**	**229**	P		**Pb**	**12 27 07.9**	**-0.2**
ELDT				S		**Sb**	**12 27 20.3**	**-0.3**
ELDT				*i* AML		AML	12 27 27.0	
	comp=E,146nm,0.3s							
ELDT				*i* AML		AML	12 27 28.0	
	comp=N,129nm,0.4s							
CORM	**Corum**	**0.96**	**167**	Pg		**Pb**	**12 27 08.6**	**+0.2**
CORM				Sg		**Sn**	**12 27 23.1**	**+0.3**
COAL	**Corum-Alaca**	**0.99**	**151**	P		**Pg**	**12 27 08.5**	**-0.2**
COAL				S		**Sn**	**12 27 23.0**	**-0.4**
HAVZ	**Havza**	**1.03**	**92**	P		**Pb**	**12 27 09.8**	**+0.3**
HAVZ				*i* AML		AML	12 27 26.0	
	comp=N,271nm,0.6s							
HAVZ				*i* AML		AML	12 27 28.0	
	comp=E,207nm,0.4s							
YARM	**Yarimca-Ladik(**	**1.13**	**99**	Pn		**Pn**	**12 27 11.8**	**+0.4**
DELI	**KIRIKKALE**	**1.17**	**197**	P		**Pg**	**12 27 11.0**	**-1.2**
KIZO	**Buyukkizoglu-L**	**1.22**	**100**	Pn		**Pn**	**12 27 12.8**	**+0.2**
AMSY	**Amasya-Merkez**	**1.22**	**113**	P		Pg	12 27 17.8	+4.6
KBUK	**KARABUK-Merkez**	**1.31**	**276**	P		**Pg**	**12 27 14.8**	**-0.1**
KBUK				S		**Sn**	**12 27 31.8**	**+0.5**
KBUK				*i* AML		AML	12 27 36.0	
	comp=N,62nm,0.4s							
KBUK				*i* AML		AML	12 27 41.0	
	comp=E,57nm,0.7s							
CKRK	**Yozgat, Cekere**	**1.36**	**140**	P		**Pb**	**12 27 15.2**	**0.0**
CKRK				*i* AML		AML	12 27 38.0	
	comp=E,67nm,0.5s							
CKRK				*i* AML		AML	12 27 38.0	
	comp=N,71nm,0.4s							
YOZG	**Bozok Univ. Me**	**1.38**	**166**	P		**Pb**	**12 27 15.4**	**-0.1**
YOZG				S		**Sb**	**12 27 32.1**	**-1.0**
YOZG				*i* AML		AML	12 27 37.0	
	comp=N,84nm,0.7s							
KURC	**Kurucasile-Bar**	**1.41**	**302**	Pn		**Pg**	**12 27 16.7**	**-0.1**
CDAG	**Cicekdag**	**1.49**	**179**	P		**Pb**	**12 27 17.3**	**-0.2**
CDAG				S		**Sb**	**12 27 36.7**	**+0.3**
CDAG				*i* AML		AML	12 27 40.0	
	comp=N,64nm,0.6s							
CDAG				*i* AML		AML	12 27 41.0	
	comp=E,113nm,1.0s							
BR131	**Keskin Array S**	**1.50**	**202**	Pn		**Pb**	**12 27 17.4**	**-0.1**
KESK	**Krkkale-Ke**	**1.59**	**202**	P		**Pb**	**12 27 18.5**	**-0.6**
KESK				S		**Sb**	**12 27 39.7**	**+0.4**
KESK				*i* AML		AML	12 27 44.0	
	comp=E,68nm,0.4s							
KESK				*i* AML		AML	12 27 46.0	
	comp=N,84nm,0.5s							
AKPI	**Kirsehir/Akpin**	**1.64**	**190**	P		**Pb**	**12 27 20.0**	**+0.1**
AKPI				S		**Sb**	**12 27 40.5**	**0.0**
HACI	**Hacifakili, Ak**	**1.76**	**143**	P		**Pg**	**12 27 22.6**	**-0.9**
KAMT	**Kaman**	**1.81**	**196**	Pn		**Pb**	**12 27 22.6**	**-0.3**
TOKT	**Tokat**	**1.85**	**115**	Pn		**Pb**	**12 27 23.1**	**-0.3**
SIRC	**Yozgat**	**1.88**	**161**	P		**Pg**	**12 27 24.8**	**-1.0**
AFSR	**Afar-Bala (An**	**1.94**	**211**	Pn		**Pb**	**12 27 24.1**	**-0.9**
MCUR	**KIREHR**	**1.96**	**176**	P		**Pb**	**12 27 25.0**	**-0.3**
MCUR				S		**Sb**	**12 27 49.1**	**-0.7**
KIRS	**Kirsehir-Merke**	**2.01**	**190**	P		**Pb**	**12 27 25.6**	**-0.6**
KIRS				S		**Sg**	**12 27 53.8**	**-0.5**
YUVA	**Yuva-Kibriscik**	**2.15**	**251**	Pn		**Pb**	**12 27 27.2**	**-1.5**
YAYX	**Yaylak**	**2.22**	**191**	Pn		**Pb**	**12 27 28.5**	**-1.3**
SERE	**Sereflikochisa**	**2.25**	**196**	Pn		**Pb**	**12 27 29.1**	**-1.3**
KULU	**Kulu**	**2.32**	**207**	Pn		**Pb**	**12 27 29.6**	**+1.8**
SVSK	**Karacayir**	**2.35**	**120**	Pn		**Pb**	**12 27 30.1**	**-1.8**
SARI	**SarD1z-Kayseri**	**3.14**	**149**	Pn		**Pn**	**12 27 41.5**	**+2.3**

*NORS **26** 12:27:29.6, 41°.38N×43°.96E, h6km, MPVA3.6*
*TIF **26** 12:27:29.6, 41°.41N×44°.08E, h14km*
*AZER **26** 12:27:30.4, 41°.26N×44°.12E, h11km, ml2.3*
ISC 26 12:27:29.8±0.9, **41°.39N**±0°.03×**44°.07E**±0°.02, **h14**km±5km, **n26**, σ0**959**/47, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DMNI	**Dmanisi**	**0.11**	**123**	P		**Pg**	**12 27 33.5**	**+0.3**
DMNI				S		**Sg**	**12 27 35.6**	**+0.2**
TRLG	**Trialeti**	**0.15**	**10**	P		**Pg**	**12 27 33.6**	**-0.1**
TRLG				S		**Sg**	**12 27 35.9**	**-0.6**
KZRT	**Kazreti**	**0.25**	**90**	P		**Pb**	**12 27 35.4**	**-0.7**
KZRT				S		**Sg**	**12 27 38.6**	**-0.2**
BRNG	**Burnasheti**	**0.30**	**322**	P		**Pb**	**12 27 36.7**	**-0.3**
BRNG				S		**Sb**	**12 27 41.5**	**-0.4**
BGD	**Bogdanovka**	**0.38**	**251**	P		**Pb**	**12 27 38.3**	**-0.1**
BGD				S		**Sg**	**12 27 43.1**	**+0.5**
AKH	**Akhalkalaki**	**0.43**	**273**	P		**Pb**	**12 27 39.0**	**-0.3**
AKH				S		**Sb**	**12 27 45.4**	**-0.4**
ALIG	**Mtskhetisjvari**	**0.78**	**336**	P		**Pg**	**12 27 44.7**	**-0.3**
ALIG				S		**Sg**	**12 27 55.0**	**-0.2**
DGRG	**David-gareji**	**0.98**	**86**	P		**Pb**	**12 27 48.8**	**+0.1**
DGRG				S		**Sn**	**12 28 03.6**	**+0.6**
ABS	**Abastumani**	**1.01**	**292**	P		**Pg**	**12 27 48.9**	**-0.4**
QZX	**Qazax, Azerbai**	**1.04**	**108**	P		**Pg**	**12 27 49.2**	**-0.6**
QZX				S		**Sg**	**12 28 02.7**	**-0.7**
GUDG	**Gudauri**	**1.12**	**16**	P		**Pb**	**12 27 51.0**	**0.0**
GUDG	**Gudauri**	**1.12**	**16**	*e*Pg		**Pb**	**12 27 51.1**	**0.0**
GUDG				*e*Sg		**Sn**	**12 28 07.6**	**+1.0**
CHRG	**Chargali**	**1.14**	**34**	P		**Pb**	**12 27 51.0**	**-0.3**
CHRG				S		**Sb**	**12 28 06.1**	**+0.1**
TKB	**Tkibuli**	**1.25**	**321**	P		**Pn**	**12 27 53.4**	**+0.5**
TKB				S		**Sn**	**12 28 10.3**	**+0.7**
ONI	**Oni**	**1.28**	**339**	P		**Pn**	**12 27 53.5**	**+0.1**
ONI	**Oni**	**1.28**	**339**	*e*Pg		**Pn**	**12 27 53.7**	**+0.3**
ONI				*e*Sg		**Sb**	**12 28 11.0**	**+0.7**
MTEO	**Meteo**	**1.34**	**15**	P		**Pb**	**12 27 55.0**	**+0.1**
MTEO				S		**Sg**	**12 28 13.2**	**+0.2**
GDB	**GEDABAY**	**1.44**	**117**	P		**Pn**	**12 27 55.7**	**+0.1**
GDB				S		**Sn**	**12 28 14.3**	**-0.1**
LACR	**Lac**	**1.45**	**7**	*e*Pg		**Pb**	**12 27 57.0**	**+0.3**
LACR				*e*Sg		**Sn**	**12 28 12.8**	**-1.7**
SHTL	**Shatili**	**1.50**	**32**	P		**Pb**	**12 27 57.6**	**0.0**
DIGR	**Digorskoe uzhe**	**1.55**	**347**	*e*Pg		**Pg**	**12 27 59.4**	**-0.2**
DIGR				*e*Sg		**Sg**	**12 28 19.8**	**-0.1**
KORR	**Kora**	**1.70**	**360**	*e*Pg		**Pg**	**12 28 01.8**	**-0.5**
KORR				*e*Sg		**Sg**	**12 28 24.6**	**+0.2**
VSHL	**Vashlovani**	**1.76**	**94**	P		**Pb**	**12 28 02.2**	**+0.3**
VSHL				S		**Sg**	**12 28 27.6**	**+1.1**
GANJ	**Ganja**	**1.86**	**113**	P		**Pb**	**12 28 03.0**	**-0.5**
GANJ				S		**Sb**	**12 28 27.0**	**+0.3**
ZKTA	**Zakatala**	**1.93**	**82**	S		**Sg**	**12 28 31.4**	**-0.6**
SEKA	**Sheki**	**2.37**	**93**	P		**Pb**	**12 28 11.0**	**-1.2**
SEKA				S		**Sb**	**12 28 42.8**	**+1.5**

*IDC **26** 12:31:47.9±0.9, 3°.77N×126°.41E, h0km, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=52.4km s-min=16.7km az=67.0*
ISC 26 12:31:54.2±0.9, **3°.8N**±0°.2×**126°.4E**±0°.3, **h45**km, **n8**, σ1**9**05/8, **mb3.8**/8, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.82**	**162**	P		**P**	**12 37 11.0**	**-1.3**
	0.9nm,0.4s,baz=343,slow=9.8,SNR=27							
	0.9nm,0.4s							
ASAR	**Alice Springs**	**28.23**	**165**	P		**P**	**12 37 42.6**	**-0.4**
	0.1nm,0.3s,baz=345,slow=6.9,SNR=9.5							
	0.1nm,0.3s							
CMAR	**Chiang Mai Arr**	**30.58**	**301**	P		**P**	**12 38 04.4**	**+0.4**
	0.3nm,0.4s,baz=106,slow=9.8,SNR=2.0							
	0.3nm,0.4s							
STKA	**Stephens Creek**	**38.28**	**159**	P		**P**	**12 39 11.1**	**+0.8**
	1.9nm,0.6s,baz=339,slow=11,SNR=5.6							
	1.9nm,0.6s							
SONM	**Songino Array**	**47.16**	**342**	P		**P**	**12 40 21.4**	**-1.0**
	0.2nm,0.3s,baz=145,slow=11,SNR=1.6							
	0.2nm,0.3s							
PETK	**Petropavlovsk-**	**55.52**	**22**	P		**P**	**12 41 25.1**	**+0.4**
	1.2nm,0.8s,baz=220,slow=11,SNR=2.6							
	1.2nm,0.8s							
MKAR	**Makanchi Array**	**57.34**	**325**	P		**P**	**12 41 37.1**	**-0.7**
	0.5nm,0.6s,baz=119,slow=7.5,SNR=14							
	0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**61.54**	**327**	P		**P**	**12 42 07.7**	**+1.1**
	0.5nm,0.2s,baz=120,slow=5.6,SNR=1.9							
	0.5nm,0.2s							

*IDC **26** 12:41:28.7±0.6, 56°.76S×24°.86W, h0km, mb4.5/10, mbtmp4.5/11, ML4.2/1, MS4.2/1, Error ellipse: s-maj=25.8km s-min=16.1km az=64.0*
*NEIC **26** 12:41:30.5±1.6, 56°.84S±0°.09×24°.9W±0°.1, h10km±1km, mb4.9/26, Error ellipse: s-maj=17.5km s-min=7.3km az=144.0*
ISC 26 12:41:32.0±0.4, **56°.84S**±0°.09×**24°.87W**±0°.10, **h22**km, **n91**, σ1**912**/83, **mb4.7**/20, **6C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**7.07**	**286**			**Pn**	**12 43 15.8**	**+1.7**
VNA1	**Neumayer--Stat**	**15.59**	**159**	⇑P		**Pn**	**12 45 10.1**	**+0.1**
	comp=Z,24nm,0.6s							
VNA3	**Neumayer Olymp**	**15.83**	**162**	⇑P		**Pn**	**12 45 12.6**	**-0.5**
	comp=Z,21nm,0.7s							
VNA2	**Neumayer--Watz**	**15.98**	**159**	⇑P		**Pn**	**12 45 14.2**	**-0.9**
	comp=Z,5.4nm,0.4s,baz=330,slow=15							
SNAA	**Sanae**	**17.50**	**157**	P		**Pn**	**12 45 34.2**	**-0.1**
SNAA	**Sanae**	**17.50**	**157**	⇑P		**P**	**12 45 34.8**	**-0.5**
	comp=Z,434nm,1.0s							
SNAA	**Sanae**	**17.50**	**157**	P		**P**	**12 45 34.8**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=305,slow=19,SNR=15							
	comp=Z,14nm,0.9s							
TROLL	**Troll, Antarti**	**18.96**	**154**	⇑P		**Pn**	**12 45 52.2**	**0.0**
	comp=Z,244nm,0.9s							
EFI	**East Falkland**	**19.93**	**271**	P		**P**	**12 46 01.1**	**-1.0**
BELA	**Belgrano 2**	**21.40**	**186**	P		**P**	**12 46 17.2**	**-0.5**
MG02	**Cerro Sombrero**	**25.53**	**260**	P		**P**	**12 46 58.4**	**-0.3**
GO09	**Cerro Castillo**	**27.94**	**261**	P		**P**	**12 47 18.8**	**-1.6**
PLTB	**Pedras Altas**	**31.99**	**309**	P		**P**	**12 47 55.8**	**-0.7**
PLTB				IAmb		IAmb	12 48 34.8	
	comp=Z,21nm,1.3s							
PLTB	**Pedras Altas**	**31.99**	**309**	*e*P		**P**	**12 47 57.3**	**+0.9**
AY01	**Puyuhuapi**	**32.07**	**272**	P		**P**	**12 47 55.9**	**-1.1**
AY01				IAmb		IAmb	12 48 49.1	
	comp=Z,17nm,1.3s							
TBOT	**Tacuaremb**	**33.07**	**306**	*e*P		**P**	**12 48 06.7**	**+0.9**
PLCA	**Paso Flores**	**33.40**	**279**	P		**P**	**12 48 07.2**	**-1.5**
	comp=Z,1.2nm,0.7s,baz=159,slow=8.6,SNR=4.5							
	comp=Z,1.2nm,0.7s							
QSPA	**South Pole Qui**	**33.41**	**180**	P		**P**	**12 48 09.5**	**+0.8**
QSPA				IAmb		IAmb	12 48 29.5	
	comp=Z,22nm,1.5s							
QSPA	**South Pole Qui**	**33.41**	**180**	P		**P**	**12 48 09.2**	**+0.5**
	comp=Z,4.6nm,0.6s,baz=238,slow=0.7,SNR=41							
	comp=Z,4.6nm,0.6s							
ITAB	**Concordia**	**35.39**	**315**	*e*P		P	12 48 30.9	+5.0
CPUP	**Villa Florida**	**38.31**	**309**	P		**P**	**12 48 50.4**	**-0.4**
	comp=Z,6.6nm,0.8s,baz=142,slow=7.9,SNR=8.8							
	comp=Z,6.6nm,0.8s							
MAW	**Mawson**	**38.74**	**142**	P		**P**	**12 48 54.9**	**+0.9**
	comp=Z,5.0nm,0.7s,baz=234,slow=9.3,SNR=7.0							
	comp=Z,5.0nm,0.7s							
MT02	**Curacav**	**39.25**	**287**	P		**P**	**12 48 57.5**	**-1.2**
SUR	**Sutherland**	**39.63**	**72**	LR		LR	13 00 39.7	
	comp=Z,290nm,19.6s,baz=222,slow=29							
CO01	**Juntas del Tor**	**41.31**	**291**	P		**P**	**12 49 15.2**	**-0.8**
CO01				IAmb		IAmb	12 50 45.4	
	comp=Z,51nm,1.9s							
AQDB	**Aquidauana**	**42.86**	**315**	*e*P		**P**	**12 49 29.7**	**+1.3**
AC02	**Maricunga**	**43.38**	**295**	P		**P**	**12 49 33.0**	**-0.2**
AC02				IAmb		IAmb	12 49 34.4	
	comp=Z,17nm,1.1s							
VNDA	**Vanda**	**45.84**	**182**	P		**P**	**12 49 52.4**	**+0.8**
VNDA	**Vanda**	**45.84**	**182**	P		**P**	**12 49 52.5**	**+0.9**
	comp=Z,2.7nm,0.8s,baz=180,slow=6.9,SNR=19							
	comp=Z,2.7nm,0.8s							
LVC	**Limon Verde**	**46.81**	**298**	P		**P**	**12 50 00.2**	**-0.2**
SALV	**Santo Antonio**	**47.03**	**318**	*e*P		**P**	**12 50 03.0**	**+1.3**
PB09	**IPOC Station P**	**47.66**	**298**	P		**P**	**12 50 07.5**	**+0.7**
BBSD	**Serra de San D**	**47.80**	**311**	*e*P		**P**	**12 50 07.5**	**-0.1**
H10S2	**ASCENSION HYDR**	**48.43**	**14**	T		T	13 42 40.6	
H10S3	**ASCENSION HYDR**	**48.43**	**14**	T		T	13 42 36.4	
	SNR=6.4							
PTLB	**Pontes e Lacer**	**48.77**	**314**	P		**P**	**12 50 15.1**	**0.0**
PTLB				IAmb		IAmb	12 50 16.7	
	comp=Z,21nm,1.5s							
PTLB	**Pontes e Lacer**	**48.77**	**314**	*e*P		**P**	**12 50 15.6**	**+0.5**
SNDB	**Serra Nova Dou**	**49.17**	**325**	*e*P		**P**	**12 50 20.2**	**+1.9**
GO01	**Chusmiza**	**49.46**	**300**	P		**P**	**12 50 20.8**	**-0.2**
GO01				IAmb		IAmb	12 50 26.9	
	comp=Z,18nm,0.7s							
H10N1	**ASCENSION HYDR**	**49.55**	**14**	T		T	13 44 04.1	
	baz=186							
H10N3	**ASCENSION HYDR**	**49.55**	**14**	T		T	13 43 58.9	
	baz=186,slow=74,SNR=7.4							
H10N2	**ASCENSION HYDR**	**49.56**	**14**	T		T	13 43 58.9	
	baz=186,slow=74,SNR=3.8							
PB16	**IPOC Station P**	**50.75**	**300**	P		**P**	**12 50 31.1**	**+0.2**
PB16				IAmb		IAmb	12 50 42.2	
	comp=Z,22nm,1.5s							
PDRB	**Porto dos Gac**	**51.36**	**319**	*e*P		**P**	**12 50 35.3**	**+0.5**
LPAZ	**La Paz**	**51.89**	**303**	P		**P**	**12 50 39.9**	**+0.4**
LPAZ				IAmb		IAmb	12 50 41.1	
	comp=Z,26nm,1.0s							
LPAZ	**La Paz**	**51.89**	**303**	P		**P**	**12 50 40.5**	**+1.0**
	comp=Z,15nm,0.6s,baz=154,slow=5.3,SNR=56							
	comp=Z,15nm,0.6s							
NPGB	**Novo Progresso**	**55.12**	**322**	*e*P		**P**	**12 51 03.3**	**+0.8**
SAML	**Samuel**	**56.28**	**313**	P		**P**	**12 51 10.3**	**-0.5**
SAML				IAmb		IAmb	12 51 14.1	
	comp=Z,7.3nm,0.8s							
SAML	**Samuel**	**56.28**	**313**	*e*P		**P**	**12 51 10.8**	**+0.1**
ETMB	**Extrema**	**56.76**	**309**	P		**P**	**12 51 14.6**	**+0.4**
ETMB				IAmb		IAmb	12 51 16.4	
	comp=Z,7.4nm,0.9s							
ETMB	**Extrema**	**56.76**	**309**	*e*P		**P**	**12 51 14.3**	**+0.1**
ITTB	**Itaituba**	**57.75**	**323**	*e*P		**P**	**12 51 21.5**	**+0.3**
MALB	**Monte Alegre**	**59.64**	**325**	*e*P		**P**	**12 51 35.1**	**+0.8**
MCPB	**Macapa, AP**	**60.39**	**328**	*e*P		**P**	**12 51 41.8**	**+2.3**
CZSB	**Cruzeiro do Su**	**61.50**	**303**	*e*P		**P**	**12 51 45.9**	**-1.1**
TEFE	**Tefe**	**61.81**	**314**	*e*P		**P**	**12 51 49.3**	**+0.2**
DBIC	**Dimbokro**	**65.39**	**22**	P		**P**	**12 52 10.7**	**-2.0**
	comp=Z,1.7nm,0.8s,baz=200,slow=9.4,SNR=3.2							
	comp=Z,1.7nm,0.8s							
BOAV	**Boa Vista**	**65.70**	**320**	P		**P**	**12 52 14.9**	**+0.1**
BOAV				IAmb		IAmb	12 52 15.8	
	comp=Z,13nm,1.0s							
MCRA	**Macar, Loja**	**67.86**	**298**	P		**P**	**12 52 27.9**	**-0.7**
TOA0	**Torodi Ar. Sit**	**73.14**	**27**	P		**P**	**12 53 00.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**73.14**	**27**	P		**P**	**12 53 01.3**	**+0.7**
TORD				IAmb		IAmb	12 53 04.3	
	comp=Z,12nm,0.8s							
TORD	**Torodi Ar. Bea**	**73.14**	**27**	P		**P**	**12 53 00.9**	**+0.3**
	comp=Z,3.4nm,0.8s,baz=203,slow=5.1,SNR=22							
	comp=Z,3.4nm,0.8s							
BAUV	**El Baul**	**74.52**	**315**	P		**P**	**12 53 08.0**	**-0.7**
SDV	**Santo Domingo**	**75.48**	**313**	P		**P**	**12 53 14.3**	**-0.2**
SDV				IAmb		IAmb	12 53 16.6	
	comp=Z,11nm,1.0s							
STKA	**Stephens Creek**	**90.89**	**169**	P		**P**	**12 54 33.8**	**+0.1**
	comp=Z,3.5nm,1.0s,baz=219,slow=12,SNR=3.3							
	comp=Z,3.5nm,1.0s							
ASAR	**Alice Springs**	**97.83**	**160**	P		Pdif	12 55 06.2	+0.5
	comp=Z,1.4nm,0.9s,baz=184,slow=3.6,SNR=9.2							
	comp=Z,1.4nm,0.9s							
KIEV	**Kiev**	**116.08**	**35**	PKPdf		**PKPdf**	**13 00 10.2**	**-1.8**
AKBB	**Malin Array Si**	**116.09**	**35**	PKPdf		**PKPdf**	**13 00 10.2**	**-1.9**
SPR3	**Spring Creek 3**	**121.31**	**294**	PKPdf		**PKPdf**	**13 00 20.5**	**-2.5**
PDAR	**Pinedale Array**	**121.86**	**300**	PKP		**PKPdf**	**13 00 22.8**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=132,slow=5.6,SNR=3.8							
NVAR	**Mina Array Bea**	**122.89**	**291**	PKP		**PKiKP**	**13 00 26.1**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=145,slow=2.2,SNR=3.7							
MOOW	**Moose Ponds**	**123.16**	**300**			**PKiKP**	**13 00 26.3**	**-0.1**
FXWY	**Fox Creek**	**123.22**	**300**			**PKiKP**	**13 00 27.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**123.59**	**109**	PKPdf		**PKPdf**	**13 00 27.4**	**-0.1**
CMAR	**Chiang Mai Arr**	**123.59**	**109**	PKP		**PKiKP**	**13 00 28.0**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=240,slow=3.6,SNR=14							
BMO	**Blue Mountains**	**127.15**	**297**			**PKiKP**	**13 00 34.6**	**+0.4**
KSH	**Kashi**	**127.55**	**73**	PKP		**PKiKP**	**13 00 40.5**	**+5.3**
GYA	**Guiyang**	**134.18**	**111**	*e*P		**PKPdf**	**13 00 47.8**	**+0.2**
YKA	**Yellowknife Ar**	**137.63**	**316**	PKPdf		**PKPdf**	**13 00 52.6**	**0.0**
YKA	**Yellowknife Ar**	**137.63**	**316**	PKP		**PKPdf**	**13 00 53.1**	**+0.5**
	comp=Z,2.5nm,0.9s,baz=121,slow=2.0,SNR=22							
LYN	**LuoYang**	**143.63**	**109**	*e*PKP		**PKPdf**	**13 01 05.5**	**+1.1**
NJ2	**Nanjing**	**144.83**	**119**	*e*P		**PKPdf**	**13 01 07.0**	**+0.4**
M30M	**Minto, Yukon**	**146.67**	**309**	PKPdf		**PKPbc**	**13 01 10.8**	**+0.2**
BTO	**Baotou**	**146.82**	**100**	*e*PKPbc		**PKPdf**	**13 01 07.5**	**-2.4**
HNS	**HongShan**	**146.98**	**109**	⇑PKPbc		**PKPab**	**13 01 12.8**	**-0.8**
TIA	**Tai'an**	**147.31**	**113**	P		**PKPbc**	**13 01 13.8**	**+0.7**
HHC	**Hu-ho-

MDOK ⇑S Sb 12 54 09.5 0.0
9µm,0.6s
MDOK Medeo 0.61 201 *e*P **Pb 12 54 01.2 +0.1**
baz=1.0
MDOK *e*S **Sb 12 54 09.4 0.0**
baz=1.0
AAA Alma-Ata 0.62 211 *e*P **Pb 12 54 01.6 +0.6**
baz=209
AAA Alma-Ata 0.62 211 *e*P **Pb 12 54 01.6 +0.6**
8µm,0.3s
AAA *e*S **Sb 12 54 10.3 +0.9**
53µm,0.5s
AAA Alma-Ata 0.62 211 *e*PG **Pb 12 54 01.5 +0.6**
AAA Alma-Ata 0.62 211 P **Pb 12 54 01.6 +0.6**
8µm,0.3s
AAA S **Sb 12 54 10.3 +0.9**
53µm,0.5s
AAA Alma-Ata 0.62 211 *e*P **Pb 12 54 01.6 +0.6**
baz=11
AAA *e*S **Sb 12 54 10.2 +0.9**
baz=11
KURS Kuram 0.65 112 *e*P **Pb 12 54 02.1 +0.6**
KURS *e*S **Sb 12 54 10.6 +0.3**
18µm,0.5s
KURS Kuram 0.65 112 P **Pb 12 54 02.1 +0.6**
KURS S **Sb 12 54 10.6 +0.3**
18µm,0.5s
KASK Kaskelen 0.73 225 ⇑P **Pb 12 54 03.6 +0.6**
KASK ⇑S **Sb 12 54 13.8 +1.1**
TNSS Tian-Shan 0.76 203 *e*P **Pb 12 54 03.8 +0.2**
baz=202
TNSS Tian-Shan 0.76 203 *e*P **Pb 12 54 03.9 +0.2**
7µm,0.3s
TNSS *e*S **Sb 12 54 13.9 0.0**
13µm,0.2s
TNSS Tian-Shan 0.76 203 *e*PG **Pb 12 54 03.7 +0.2**
TNSS Tian-Shan 0.76 203 P **Pb 12 54 03.9 +0.2**
7µm,0.3s
TNSS S **Sb 12 54 13.9 0.0**
13µm,0.2s
TNSS Tian-Shan 0.76 203 *e*P **Pb 12 54 03.9 +0.3**
baz=3.0
TNSS *e*S **Sb 12 54 13.9 0.0**
baz=3.0
BLB Baldybastay 0.89 66 P **Pn 12 54 06.5 -0.1**
4µm,0.6s
BLB S **Sn 12 54 18.6 -0.6**
21µm,0.4s
MTBS Maitube 0.90 228 *e*P **Pg 12 54 06.3 +0.1**
5µm,0.2s
MTBS *e*S **Sg 12 54 17.9 -0.2**
148µm,0.3s
MTBS Maitube 0.90 228 P **Pg 12 54 06.3 +0.1**
5µm,0.2s
MTBS Maitube 0.90 228 *e*P **Pg 12 54 06.3 +0.1**
baz=29
MTBS *e*S **Sg 12 54 17.9 -0.2**
baz=29
ZHN Zhinishke 0.98 125 *e*P **Pb 12 54 07.3 +0.1**
baz=130
ZHN Zhinishke 0.98 125 *e*P **Pn 12 54 07.6 -0.1**
1µm,0.3s
ZHN *e*S **Sg 12 54 20.4 0.0**
27µm,0.2s
ZHN Zhinishke 0.98 125 *e*PG **Pb 12 54 07.2 +0.1**
ZHN Zhinishke 0.98 125 P **Pn 12 54 07.6 -0.1**
1µm,0.3s
ZHN S **Sg 12 54 20.4 0.0**
27µm,0.2s
ZHN Zhinishke 0.98 125 *e*P **Pn 12 54 07.6 -0.1**
baz=24
ZHN *e*S **Sg 12 54 20.4 0.0**
baz=24
ANVS Anan'yevo 0.98 166 *i* PG **Pb 12 54 07.4 +0.1**
ANVS *i* S **Sg 12 54 20.4 -0.2**
ANVS Anan'yevo 0.98 166 ⇓*i*P **Pb 12 54 07.4 +0.1**
baz=65
ANVS ⇓*i*S **Sg 12 54 20.4 -0.2**
baz=65
SATY Saty 1.03 131 *e*P **Pn 12 54 08.4 +0.1**
baz=135
SATY *e*S **Sn 12 54 22.3 -0.3**
baz=135
SATY Saty 1.03 131 *e*P **Pn 12 54 08.6 +0.1**
9µm,0.2s
SATY *e*S **Sg 12 54 22.0 0.0**
71µm,0.2s
SATY Saty 1.03 131 *e*PG **Pn 12 54 08.4 +0.1**
SATY *e*S **Sn 12 54 22.2 -0.3**
SATY Saty 1.03 131 P **Pn 12 54 08.5 +0.1**
9µm,0.2s
SATY S **Sg 12 54 22.0 0.0**
71µm,0.2s
SATY Saty 1.03 131 *e*P **Pn 12 54 08.6 +0.2**
baz=30
SATY *e*S **Sg 12 54 22.1 0.0**
baz=30
KRBS Karabastau 1.21 269 *e*P **Pb 12 54 11.4 +0.2**
1µm,0.3s
KRBS *e*S **Sn 12 54 27.1 +0.1**
6µm,0.3s
KRBS Karabastau 1.21 269 P **Pb 12 54 11.4 +0.2**
1µm,0.3s
KRBS S **Sn 12 54 27.1 +0.1**
6µm,0.3s
KRBS Karabastau 1.21 269 *e*P **Pb 12 54 11.4 +0.2**
baz=70
KRBS *e*S **Sn 12 54 27.1 +0.1**
baz=70
KST Kastek 1.23 236 *e*P **Pb 12 54 11.6 +0.1**
2µm,0.2s
KST *e*S **Sn 12 54 27.6 +0.2**
19µm,0.3s
KST Kastek 1.23 236 P **Pb 12 54 11.6 +0.1**
2µm,0.2s
KST S **Sn 12 54 27.6 +0.2**
19µm,0.3s
KST Kastek 1.23 236 *e*P **Pb 12 54 11.6 +0.1**
baz=36
KST *e*S **Sn 12 54 27.7 +0.2**
baz=36
DGS Degeres 1.25 247 *e*P **Pb 12 54 11.9 +0.1**
3µm,0.3s
DGS *e*S **Sn 12 54 28.1 +0.1**
27µm,0.6s
DGS Degeres 1.25 247 P **Pb 12 54 11.9 +0.1**
3µm,0.3s
DGS S **Sn 12 54 28.1 +0.1**
27µm,0.6s
DGS Degeres 1.25 247 *e*P **Pb 12 54 11.9 +0.1**
baz=48
DGS *e*S **Sn 12 54 28.1 +0.1**
baz=48
UZB Uzynbulak 1.36 115 *e*P **Pb 12 54 13.7 0.0**
baz=119
UZB *e*S **Sb 12 54 30.9 +0.1**
baz=119
UZB Uzynbulak 1.36 115 *e*P **Pg 12 54 14.2 -0.6**
5µm,0.3s
UZB *e*S **Sg 12 54 31.5 -0.9**
9µm,0.2s
UZB Uzynbulak 1.36 115 *e*PG **Pb 12 54 13.7 0.0**
UZB *e*S **Sb 12 54 30.9 +0.1**
UZB Uzynbulak 1.36 115 P **Pg 12 54 14.2 -0.6**
5µm,0.3s
UZB S **Sg 12 54 31.5 -0.9**
9µm,0.2s
UZB Uzynbulak 1.36 115 *e*P **Pg 12 54 14.2 -0.6**
baz=14
UZB *e*S **Sg 12 54 31.6 -0.9**
baz=14
KNOS Konyrlen 1.46 64 P **Pg 12 54 16.1 -0.7**
4µm,0.2s
KNOS S **Sg 12 54 35.0 -0.8**
14µm,0.5s
PRZ Przheval'sk 1.47 148 Pn **Pg 12 54 17.4 +0.4**
PRZ Przheval'sk 1.47 148 *i* PN **Pg 12 54 16.3 -0.7**
PRZ *i* S **Sg 12 54 35.5 -0.7**
PRZ Przheval'sk 1.47 148 ⇓*i*P **Pg 12 54 16.3 -0.7**
baz=47
PRZ ⇓*i*S **Sg 12 54 35.5 -0.7**
baz=47
TDK Taldyqorghan 1.47 31 *e*P **Pg 12 54 16.4 -0.6**
4µm,0.3s
TDK *e*S **Sg 12 54 35.6 -0.5**
19nm,0.5s
TDK Taldyqorghan 1.47 31 P **Pg 12 54 16.4 -0.6**
4µm,0.3s
TDK S **Sg 12 54 35.6 -0.5**
19nm,0.5s
TKM2 Tokmak 2 1.52 238 ⇑P **Pn 12 54 15.1 -0.2**
1µm,0.2s,SNR=353
TKM2 ⇑S **Sb 12 54 36.0 +0.5**
10µm,0.1s
TKM2 Tokmak 2 1.52 238 *i* PN **Pb 12 54 16.5 +0.1**
TKM2 pmax pmax
comp=Z,409nm,0.2s
TKM2 Tokmak 2 1.52 238 ⇑P **Pb 12 54 16.4 -0.1**
comp=Z,409nm,0.2s
TKM2 ⇓S **Sg 12 54 36.7 -0.9**
comp=Z,4µm,0.3s
TKM2 Tokmak 2 1.52 238 ⇑*i*P **Pb 12 54 16.5 +0.1**
baz=38
TKM2 ⇑*i*S **Sg 12 54 36.7 -0.9**
baz=38
KDJ Kajisay 1.61 184 *i* PN **Pb 12 54 18.5 +0.4**
KDJ *i* S **Sb 12 54 39.3 +1.1**
KDJ Kajisay 1.61 184 ⇑*i*P **Pb 12 54 18.5 +0.4**
baz=84
KDJ ⇑*i*S **Sb 12 54 39.3 +1.1**
baz=84
PDGK Podgornoye 1.61 104 PN **Pb 12 54 17.5 -0.5**
PDGK S **Sb 12 54 39.0 +0.9**
PDGK Podgornoye 1.61 104 P **Pg 12 54 19.0 -0.6**
comp=Z,927nm,0.2s
PDGK S **Sg 12 54 39.7 -0.9**
comp=Z,2µm,0.6s
PDGK Podgornoye 1.61 104 ⇑P **Pb 12 54 17.5 -0.5**
comp=Z,3µm,0.5s
PDGK ⇑S **Sb 12 54 39.1 +0.9**
comp=Z,4µm,0.7s
SHLS Shalkode 1.65 110 *e*P **Pg 12 54 22.3 +2.0**
baz=109
SHLS Shalkode 1.65 110 *e*P **Pg 12 54 24.4 +4.1**
comp=Z,1µm,0.5s
SHLS *e*S **Sg 12 54 49.0 +7.3**
comp=Z,4µm,0.6s
SHLS Shalkode 1.65 110 *e*PN **Pg 12 54 22.3 +2.0**
SHLS Shalkode 1.65 110 P **Pg 12 54 24.4 +4.1**
comp=Z,1µm,0.5s
SHLS S **Sg 12 54 49.0 +7.3**
comp=Z,4µm,0.6s
ULHL Ulahol 1.70 209 P **Pb 12 54 20.0 +0.4**
comp=Z,2µm,0.2s,SNR=1575
ULHL ⇓S **Sg 12 54 42.3 -1.0**
comp=Z,16µm,0.5s
ULHL Ulahol 1.70 209 *i* PN **Pb 12 54 19.5 0.0**
ULHL *i* S **Sb 12 54 41.5 +0.8**
ULHL Ulahol 1.70 209 ⇑*i*P **Pb 12 54 19.5 0.0**
baz=9.0
ULHL ⇑*i*S **Sb 12 54 41.5 +0.8**
baz=9.0
DJR Jarkent 1.86 71 *e*P **Pb 12 54 22.8 +0.6**
comp=Z,1µm,0.2s
DJR *e*S **Sb 12 54 46.6 +1.4**
comp=Z,6µm,0.4s
DJR Jarkent 1.86 71 P **Pb 12 54 22.8 +0.6**
comp=Z,1µm,0.2s
DJR S **Sb 12 54 46.6 +1.4**
comp=Z,6µm,0.4s
SGDS Sogindy 1.99 263 *e*P **Pn 12 54 23.1 +1.5**
baz=260
SGDS Sogindy 1.99 263 *e*PN **Pn 12 54 23.1 +1.5**
SGDS Sogindy 1.99 263 P **Pb 12 54 25.3 +0.8**
comp=Z,876nm,0.4s
SGDS S **Sb 12 54 50.2 +1.1**
comp=Z,3µm,0.3s
CHMS Chumysh 2.03 250 ⇑P **Pn 12 54 23.7 +1.5**
comp=Z,509nm,0.2s,SNR=298
CHMS ⇓S **Sb 12 54 49.7 -0.4**
comp=Z,8µm,0.2s
CHMS Chumysh 2.03 250 *i* PN **Pb 12 54 23.9 -1.2**
CHMS *i* S **Sb 12 54 49.9 -0.2**
CHMS Chumysh 2.03 250 ⇑*i*P **Pb 12 54 23.9 -1.2**
baz=50
CHMS ⇑*i*S **Sb 12 54 49.2 -0.9**
baz=50
TARG Taragay, Kyrgy 2.04 170 **Pb 12 54 26.1 +0.7**
TARG Taragay, Kyrgy 2.04 170 PN **Pb 12 54 26.1 +0.7**
KBK Karagaybulak 2.06 239 ⇑P **Pb 12 54 25.2 -0.5**
comp=Z,2µm,0.3s,SNR=81
KBK ⇓S **Sb 12 54 52.5 +1.4**
comp=Z,19µm,0.3s
KBK Karagaybulak 2.06 239 *i* PN **Pb 12 54 25.0 -0.7**
KBK *i* S **Sb 12 54 50.8 -0.3**
KBK Karagaybulak 2.06 239 ⇑*i*P **Pb 12 54 25.0 -0.7**
baz=40
KBK ⇑*i*S **Sb 12 54 50.2 -0.9**
baz=40
KAPS Kapalarasan 2.11 42 *e*P **Pb 12 54 27.3 +0.8**
comp=Z,257nm,0.3s
KAPS *e*S **Sg 12 54 54.6 -1.9**
comp=Z,17µm,0.6s
KAPS Kapalarasan 2.11 42 Pg **Pb 12 54 27.3 +0.8**
comp=Z,257nm,0.3s
KAPS Lg Lg 12 54 54.6
comp=Z,17µm,0.6s
USP Ospenovka 2.12 258 ⇑P **Pn 12 54 25.0 +1.5**
comp=Z,1µm,0.3s,SNR=541
USP ⇑S **Sb 12 54 52.8 0.0**
comp=Z,2µm,0.2s
USP Ospenovka 2.12 258 *i* PN **Pn 12 54 25.1 +1.7**
USP *i* S **Sb 12 54 52.1 -0.7**
USP Ospenovka 2.12 258 ⇑*i*P **Pn 12 54 25.1 +1.7**
baz=59
USP ⇑*i*S **Sb 12 54 51.8 -1.0**
baz=59
FRU1 Bishkek 2.19 246 **Pb 12 54 27.2 -0.7**
FRU1 Bishkek 2.19 246 *i* PN **Pn 12 54 26.1 +1.7**
FRU1 *i* S **Sb 12 54 53.5 -1.2**
FRU1 Bishkek 2.19 246 ⇓*i*P **Pb 12 54 26.6 -1.2**
baz=46
FRU1 ⇓*i*S **Sb 12 54 53.5 -1.2**
baz=46
AAK Ala-Archa 2.36 243 ⇑P **Pb 12 54 28.9 -1.9**
comp=Z,1µm,0.4s,SNR=215
AAK ⇓S **Sb 12 54 59.9 +0.3**
comp=Z,3µm,0.4s
AAK Ala-Archa 2.36 243 Pn **Pb 12 54 28.9 -1.9**
AAK Ala-Archa 2.36 243 Pn **Pb 12 54 29.4 -1.4**
comp=Z,122nm,0.3s,baz=103,slow=7.1,SNR=296
AAK Sn **Sb 12 55 00.9 +1.2**
comp=Z,492nm,0.3s,baz=11,slow=23,SNR=28
comp=Z,656nm,0.4s
AAK Ala-Archa 2.36 243 ⇑*i*P **Pb 12 54 28.8 -1.9**
baz=44
AAK ⇑*i*S **Sn 12 54 57.2 +1.8**
baz=44
NRN Naryn 2.51 204 Pn **Pb 12 54 33.4 -0.1**
NRN Naryn 2.51 204 PN **Pb 12 54 33.4 -0.1**
NRN Naryn 2.51 204 ⇑*i*P **Pb 12 54 31.5 -1.9**
baz=4.0
NRN ⇑*i*S **Sn 12 55 01.2 +1.9**
baz=4.0
UCH Uchtor 2.57 235 ⇑P **Pb 12 54 32.8 -1.7**
comp=Z,534nm,0.3s,SNR=341
UCH ⇓S **Sb 12 55 05.4 -0.6**
comp=Z,2µm,0.3s
UCH Uchtor 2.57 235 *i* PN **Pn 12 54 32.2 +2.3**
UCH *i* S **Sn 12 55 03.2 +2.2**
UCH Uchtor 2.57 235 ⇓*i*P **Pn 12 54 32.2 +2.3**
baz=35
UCH ⇓*i*S **Sn 12 55 02.6 +1.6**
baz=35
EKS2 Erkin-Say 2.82 249 ⇑P **Pn 12 54 35.2 +2.1**
comp=Z,610nm,0.4s,SNR=53
EKS2 Erkin-Say 2.82 249 *i* PN **Pn 12 54 35.2 +2.1**
EKS2 *i* S **Sn 12 55 09.2 +2.4**
EKS2 Erkin-Say 2.82 249 ⇑*i*P **Pn 12 54 35.2 +2.1**
baz=49
EKS2 ⇑*i*S **Sn 12 55 08.4 +1.6**
baz=49
ARLS Aral 2.91 231 ⇑*e*P **Pn 12 54 36.8 +2.5**
baz=31
ARLS ⇑*e*S **Sn 12 55 10.4 +1.4**
baz=31
MRKS Merke 3.17 253 *e*P **Pb 12 54 45.6 +1.0**
comp=Z,720nm,0.6s
MRKS *e*S **Sb 12 55 25.4 +2.4**
comp=Z,1µm,0.4s
MRKS Merke 3.17 253 Pg **Pb 12 54 45.6 +1.0**
comp=Z,720nm,0.6s
MRKS Lg Lg 12 55 25.4
comp=Z,1µm,0.4s
MNAS Manas 3.76 252 *i* PN **Pn 12 54 48.2 +2.2**
MNAS *i* S **Sn 12 55 31.3 +1.4**
MNAS Manas 3.76 252 ⇓*i*P **Pn 12 54 48.2 +2.2**
baz=53
MNAS ⇓*i*S **Sn 12 55 30.9 +1.0**
baz=53
ARSB Arslanbob 4.03 235 Pn **Pn 12 54 52.9 +3.2**
ARSB Arslanbob 4.03 235 *i* PN **Pn 12 54 52.2 +2.5**
ARSB *i* S **Sn 12 55 37.8 +1.2**
ARSB Arslanbob 4.03 235 ⇑*i*P **Pn 12 54 52.2 +2.5**
baz=35
ARSB ⇑*i*S **Sn 12 55 37.3 +0.7**
baz=35
KSH Kashi 4.34 194 Pg **Pg 12 55 10.0 -1.8**
KSH Sg Sg 12 56 19.0 +11
KSH smax smax
comp=Z,460nm,0.8s
KSH smax smax
comp=Z,480nm,0.9s
ARK Arkit 4.41 246 *i* PN **Pn 12 54 57.4 +2.5**
ARK *i* S **Sn 12 55 46.9 +0.9**
ARK Arkit 4.41 246 ⇑*i*P **Pn 12 54 57.4 +2.5**
baz=46
ARK ⇑*i*S **Sn 12 55 46.5 +0.5**
baz=46
DZA Taraz 4.47 261 *e*P **Pn 12 54 57.3 +1.6**
baz=260
DZA Taraz 4.47 261 *e*P **Pb 12 55 09.9 +3.2**
comp=Z,367nm,0.3s
DZA *e*S **Sg 12 56 07.6 -4.5**
comp=Z,2µm,0.4s
DZA Taraz 4.47 261 *e*PN **Pn 12 54 57.2 +1.6**
DZA Taraz 4.47 261 Pg **Pb 12 55 09.9 +3.2**
comp=Z,367nm,0.3s
DZA Lg Lg 12 56 07.6
comp=Z,2µm,0.4s
MAKZ Makanchi 4.48 45 **Pn 12 54 57.7 +1.9**
MAKZ Makanchi 4.48 45 PN **Pn 12 54 57.7 +1.9**
MAKZ Makanchi 4.48 45 ⇓Pn **Pn 12 54 57.1 +1.3**
comp=Z,106nm,0.8s
MAKZ ⇑Lg Lg 12 56 07.4
comp=Z,527nm,0.5s
MK31 Makanchi Array 4.64 47 Pn **Pn 12 55 00.1 +2.1**
MK31 Makanchi Array 4.64 47 *ce*PN **Pn 12 54 59.9 +2.0**
MK31 Makanchi Array 4.64 47 ⇑Pn **Pn 12 54 59.6 +1.7**
comp=Z,73nm,0.6s,baz=219,slow=13,SNR=924
MK31 ⇓Lg Lg 12 56 11.8
comp=Z,280nm,0.5s,baz=234,slow=28,SNR=7.0
MKAR Makanchi Array 4.64 47 Pn **Pn 12 54 59.7 +1.8**
MKAR Makanchi Array 4.64 47 Pn **Pn 12 55 00.1 +2.2**
comp=Z,21nm,0.3s,baz=222,slow=14,SNR=557
MKAR Sn **Sn 12 55 54.2 +2.8**
comp=Z,42nm,0.3s,baz=220,slow=24,SNR=13
MKAR Lg Lg 12 56 08.1
comp=Z,39nm,0.3s,baz=225,slow=26,SNR=7.0
comp=Z,66nm,0.5s
OHH Osh 4.67 228 *i* PN **Pn 12 55 01.0 +2.5**
OHH Osh 4.67 228 ⇑*i*P **Pn 12 55 01.0 +2.5**
baz=28
OHH ⇑*i*S **Sn 12 55 52.7 +0.4**
baz=28
SFK Sufi-Kurgan 4.70 219 *i* PN **Pn 12 55 01.5 +2.5**
SFK Sufi-Kurgan 4.70 219 ⇑*i*P **Pn 12 55 01.5 +2.5**
baz=19
SFK ⇑*i*S **Sn 12 55 53.3 0.0**
baz=19
KK31 Karatay Array 5.02 265 Pn **Pn 12 55 04.3 +1.1**
KK31 Karatay Array 5.02 265 PN **Pn 12 55 04.3 +1.1**
KK31 Karatay Array 5.02 265 ⇓Pn **Pn 12 55 04.4 +1.3**
comp=Z,1.3nm,0.4s,baz=86,slow=13,SNR=225
KK31 ⇓Pg **Pb 12 55 19.4 +3.4**
comp=Z,43nm,0.4s,baz=73,slow=15,SNR=52
KK31 ⇓Lg Lg 12 56 29.2
comp=Z,577nm,0.7s,baz=80,slow=27,SNR=14
KKAR Karatay Array 5.02 265 Pn **Pn 12 55 04.7 +1.5**
KKAR Karatay Array 5.02 265 PN **Pn 12 55 04.7 +1.5**
KKAR Karatay Array 5.02 265 ⇑*i*P **Pn 12 55 05.9 +2.7**
baz=65
KKAR ⇑*i*S **Sn 12 56 01.3 +0.5**
baz=65
TRKS Terek-Say 5.08 246 *i* PN **Pn 12 55 06.9 +2.7**
TRKS *i* S **Sn 12 56 03.3 +0.7**
TRKS Terek-Say 5.08 246 ⇑*i*P **Pn 12 55 06.9 +2.7**
baz=46
TRKS ⇑*i*S **Sn 12 56 02.7 +0.1**
baz=46
BRLS Boroldaу 5.52 265 *e*Pn **Pn 12 55 14.1 +4.0**
baz=262
BRLS Boroldaу 5.52 265 *e*P **Pg 12 55 34.6 +0.3**
comp=Z,81nm,0.6s
BRLS *e*S **Sg 12 56 49.5 +3.8**
comp=Z,460nm,1.5s
BRLS Boroldaу 5.52 265 *e*PN **Pn 12 55 14.0 +4.0**
BRLS Boroldaу 5.52 265 Pg **Pg 12 55 34.6 +0.3**
comp=Z,81nm,0.6s
BRLS Lg Lg 12 56 49.5
comp=Z,460nm,1.5s
IUG Iuzhnay 5.60 256 *e*P **Pn 12 55 13.9 +2.7**
baz=255
IUG Iuzhnay 5.60 256 *e*P **Pg 12 55 33.5 -2.3**
comp=Z,491nm,0.7s
IUG *e*S **Sg 12 56 47.5 -0.8**
IUG Iuzhnay 5.60 256 *e*PN **Pn 12 55 13.9 +2.7**
IUG Iuzhnay 5.60 256 Pg **Pg 12 55 33.5 -2.3**
comp=Z,491nm,0.7s
IUG Lg Lg 12 56 47.5
OTUK Ortayu 5.70 324 Pg **Pg 12 55 35.8 -1.9**
comp=Z,39nm,0.3s
OTUK Lg Lg 12 56 52.0
comp=Z,441nm,0.5s
CHM Chimkent 5.85 259 *e*P **Pg 12 55 38.1 -2.4**
comp=Z,196nm,0.3s
CHM *e*S **Sg 12 56 55.9 -0.4**
comp=Z,1µm,0.7s
DRK Karamyk 5.95 226 Pn **Pn 12 55 17.4 +1.2**
DRK Karamyk 5.95 226 ⇑*i*P **Pn 12 55 18.5 +2.3**
baz=26
DRK ⇑*i*S **Sn 12 56 23.0 -1.1**
baz=26
BTK Batken 6.10 235 **Pn 12 55 19.2 +1.1**
BTK Batken 6.10 235 PN **Pn 12 55 19.2 +1.1**
BTK Batken 6.10 235 ⇑*i*P **Pn 12 55 20.6 +2.5**
baz=35
BTK ⇑*i*S **Sn 12 56 26.8 -0.8**
baz=35
ZSN Zaisan 6.45 52 *e*Pn **Pn 12 55 23.3 +0.5**
baz=53
ZSN Zaisan 6.45 52 *e*P **Pb 12 55 45.0 +4.7**
comp=Z,58nm,0.6s
ZSN *e*S **Sg 12 57 07.7 -7.7**
comp=Z,289nm,0.8s
ZSN Zaisan 6.45 52 *e*PN **Pn 12 55 23.3 +0.5**
ZSN Zaisan 6.45 52 Pg **Pb 12 55 45.0 +4.7**
comp=Z,58nm,0.6s
ZSN Lg Lg 12 57 07.7
comp=Z,289nm,0.8s
KURBB Kurchatov Arra 6.93 6 Pn **Pn 12 55 30.6 +1.2**
comp=Z,3.0nm,0.3s,baz=248,slow=21,SNR=59
KURBB Sn **Sn 12 56 47.7 -0.1**
comp=Z,6.7nm,0.3s,baz=195,slow=21,SNR=3.1
KURBB Lg Lg 12 57 27.9
comp=Z,12nm,0.3s,baz=193,slow=28,SNR=9.2
comp=Z,8.4nm,0.3s
KURBB Kurchatov Arra 6.93 6 ⇑Pn **Pn 12 55 29.8 +0.4**
comp=Z,14nm,0.3s
KURBB ⇑Lg Lg 12 57 30.1
comp=Z,2µm,0.8s
SEM Semipalatinsk 6.96 16 *e*Pn **Pn 12 55 30.1 0.0**
baz=16
SEM Semipalatinsk 6.96 16 *e*P **Pg 12 55 59.3 -2.5**
comp=Z,48nm,0.3s
SEM *e*S **Sg 12 57 32.3 +0.5**
comp=Z,502nm,0.6s
SEM Semipalatinsk 6.96 16 *e*PN **Pn 12 55 30.0 0.0**
SEM Semipalatinsk 6.96 16 Pg **Pg 12 55 59.3 -2.5**
comp=Z,48nm,0.3s
SEM Lg Lg 12 57 32.3
comp=Z,502nm,0.6s
KURK Kurchatov 7.03 7 Pn **Pn 12 55 31.2 +0.4**
KURK Kurchatov 7.03 7 *ce*PN **Pn 12 55 31.7 +0.9**
KURK pmax pmax
comp=Z,15nm,0.7s
KURK Kurchatov 7.03 7 ⇑Pn **Pn 12 55 31.8 +1.1**
comp=Z,11nm,0.4s
KURK ⇑Lg Lg 12 57 29.4
comp=Z,471nm,0.7s
WMQ Urumqi 7.49 86 *e*Pn **Pn 12 55 41.8 +4.6**
WMQ Sn Sb 12 57 15.3 -12

WMQ smax smax
comp=N,190nm,0.9s
WMQ smax smax
comp=E,150nm,1.1s
SIMJ Simiganj 8.08 234 Pn **Pn** **12 55 46.8 +1.5**
BVA0 Borovoye Array 10.38 336 P **Pn** **12 56 15.9 -0.7**
BVA0 SN **Sn** **12 58 19.7 +7.3**
BVA0 Borovoye Array 10.38 336 ⇓Pn **Pn** **12 56 15.9 -0.7**
comp=E,4.8nm,0.3s,baz=141,slow=12,SNR=134
BVA0 Sn **Sn** **12 58 19.7 +7.3**
comp=E,14nm,0.4s,baz=127,slow=19,SNR=7.4
BVA0 ⇓Lg Lg 12 59 19.9
comp=E,151nm,0.8s,baz=151,slow=26,SNR=7.5
BVAR Borovoye Array 10.38 336 Pn **Pn** **12 56 16.3 -0.2**
comp=E,1.4nm,0.3s,baz=148,slow=12,SNR=152
BVAR Sn **Sn** **12 58 06.8 -5.6**
comp=E,1.6nm,0.3s,baz=144,slow=25,SNR=5.2
BVAR Lg Lg 12 59 13.3
comp=E,1.8nm,0.3s,baz=150,slow=23,SNR=5.4
comp=E,13nm,0.3s
BRVK Borovoye 10.44 336 Pn **Pn** **12 56 17.1 -0.3**
BRVK Borovoye 10.44 336 P **Pn** **12 56 17.1 -0.3**
BRVK Borovoye 10.44 336 ⇑Pn **Pn** **12 56 16.7 -0.7**
comp=E,9.3nm,0.3s
BRVK ⇑Sn **Sn** **12 58 18.4 +4.5**
comp=E,28nm,0.4s
BRVK ⇓Lg Lg 12 59 23.0
comp=E,214nm,0.9s
ZAA0 Zalesovo Array 11.33 23 Pn **Pn** **12 56 30.1 +0.4**
ZAA0 Zalesovo Array 11.33 23 ⇓Pn **Pn** **12 56 30.3 +0.7**
comp=E,1.4nm,0.4s
ZAA0 ⇑Sn **Sn** **12 58 39.3 +3.5**
comp=E,4.7nm,0.5s
ZAA0 ⇑Lg Lg 12 59 50.2
comp=E,24nm,0.9s
ZALV Zalesovo Beam 11.33 23 Pn **Pn** **12 56 29.6 -0.1**
ZALV Zalesovo Beam 11.33 23 *i* P **Pn** **12 56 30.0 +0.3**
ZALV pmax pmax
comp=Z,9.0nm,0.3s
ZALV Zalesovo Beam 11.33 23 Pn **Pn** **12 56 29.4 -0.2**
comp=Z,2.9nm,0.3s,baz=209,slow=14,SNR=22
ZALV Sn **Sn** **12 58 34.2 -1.6**
comp=Z,6.3nm,0.3s,baz=212,slow=15,SNR=2.4
ZALV Lg Lg 12 59 48.1
comp=Z,3.4nm,0.3s,baz=202,slow=24,SNR=5.2
comp=Z,9.3nm,0.3s
AB31 Akbulak array 13.19 301 P **Pn** **12 56 59.4 +4.4**
AB31 Akbulak array 13.19 301 Pn **Pn** **12 56 59.0 +4.0**
comp=Z,2.9nm,0.3s,baz=107,slow=13,SNR=147
AB31 ⇓Lg Lg 13 00 45.9
comp=Z,24nm,0.7s,baz=108,slow=29,SNR=4.0
ABKAR Akbulak array 13.19 301 Pn **Pn** **12 56 53.5 -1.5**
ABKAR Akbulak array 13.19 301 Pn **Pn** **12 56 53.9 -1.1**
AKTO Aktyubinsk 14.75 304 Pn **Pn** **12 57 14.9 -1.5**
comp=Z,0.9nm,0.3s,baz=90,slow=13,SNR=12
AKTO Lg Lg 13 01 29.7
comp=Z,0.6nm,0.3s,baz=257,slow=5.2,SNR=3.7
comp=Z,3.2nm,0.4s
AKTO Aktyubinsk 14.75 304 ⇓Pn **Pn** **12 57 17.8 +1.4**
comp=Z,2.1nm,0.4s
AKTO ⇑Lg Lg 13 01 36.3
comp=Z,22nm,1.0s
GOMU GeErMu 15.35 113 P **Pn** **12 57 22.3 -2.5**
GEYT Alibeck 15.66 255 **Pn** **12 57 28.1 -0.4**
GEYT Alibeck 15.66 255 P **Pn** **12 57 28.1 -0.4**
GEYT pmax pmax
comp=Z,6.0nm,0.9s
GEYT Alibeck 15.66 255 Pn **Pn** **12 57 29.4 +0.9**
comp=Z,0.4nm,0.3s,baz=55,slow=12,SNR=3.2
comp=Z,1.2nm,0.5s
GYA0B ALIBECK ARRAY 15.66 255 Pn **Pn** **12 57 27.8 -0.7**
GTA Gaotai 17.34 97 P **Pn** **12 57 48.5 -1.5**
GTA pP P 12 57 53.3 +2.0
GTA pmax pmax
comp=Z,4.0nm,1.2s
ARU Arti 17.43 323 P **Pn** **12 57 48.8 -2.0**
ARU IAmb IAmb 12 58 00.7
comp=Z,27nm,0.8s
ARU Arti 17.43 323*c i*P **P** **12 57 54.0 +2.0**
ARU S **S** **13 01 10.8 -1.7**
ARU pmax pmax
comp=Z,7.0nm,0.6s
ARU Arti 17.43 323 P **Pn** **12 57 50.7 -0.1**
comp=Z,2.1nm,0.3s,baz=106,slow=8.0,SNR=5.2
ARU S **Sn** **13 00 53.8 -11**
comp=Z,4.0nm,0.4s,baz=90,slow=20,SNR=1.7
ARU Lg Lg 13 03 02.9
comp=Z,1.5nm,0.3s,baz=347,slow=18,SNR=4.8
comp=Z,8.0nm,0.4s
MOY Mondy 17.73 55 *e*P **P** **12 57 56.0 +0.6**
MOY *e* 13 01 17.1
MOY pmax pmax
comp=Z,13nm,2.0s
ZAK Zakamensk 18.82 60 *e*P **Pn** **12 58 08.1 +0.1**
ZAK pmax pmax
comp=Z,7.0nm,1.0s
SONM Songino Array 20.61 68 P **P** **12 58 27.3 +0.3**
SONM Songino Array 20.61 68 P **P** **12 58 27.3 +0.3**
SONM pmax pmax
comp=Z,11nm,1.0s
SONM Songino Array 20.61 68 P **P** **12 58 28.0 +1.0**
comp=Z,7.0nm,0.9s,baz=274,slow=11,SNR=34
comp=Z,7.0nm,0.9s
ULN Ulaanbaatar 21.05 68 P **P** **12 58 31.4 -0.4**
ULN Ulaanbaatar 21.05 68*ce*P **P** **12 58 32.6 +0.8**
ULN pmax pmax
comp=Z,10.0nm,0.8s
BELG Belogornoye 21.54 304 P **P** **12 58 41.2 +4.4**
comp=Z,20nm,1.0s,baz=63,slow=6.8,SNR=3.1
LZH Lanzhou 21.65 102 *e*P **P** **12 58 36.8 -1.6**
LZH pP sP 12 58 48.8 +3.3
LZH pmax pmax
comp=Z,17nm,1.0s
MAK Makhachkala 21.66 278 *e*P **P** **12 58 35.2 -3.0**
MAK *e*S **S** **13 02 34.0 -3.4**
MAK pmax pmax
comp=Z,137nm,1.0s
MAK MLR MLR
comp=Z,143nm,14.0s
KIRV Kirov 22.73 321*ce*P **P** **12 58 51.9 +2.4**
GNI Garni 24.43 273 *i* P **P** **12 59 12.4 +5.9**
GNI pmax pmax
comp=Z,19nm,0.9s
ONI Oni 24.65 279 P **P** **12 59 10.7 +2.3**
ONI IAmb IAmb 12 59 18.5
comp=Z,15nm,0.9s
ONI Oni 24.65 279 P **P** **12 59 10.7 +2.3**
ONI pmax pmax
comp=Z,15nm,0.9s
KBZ Khabaz 24.79 282 *i* P **P** **12 59 11.2 +1.7**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KBZ Khabaz 24.79 282 P **P** **12 59 10.6 +1.1**
comp=Z,2.1nm,0.9s,baz=90,slow=8.8,SNR=4.1
KBZ pP **sP** **12 59 17.4 +0.6**
comp=Z,5.1nm,0.8s,baz=90,slow=5.4,SNR=10.0
comp=Z,2.1nm,0.9s
KIV Kislovodsk 24.89 283 *e*P **P** **12 59 11.4 +0.8**
KIV pmax pmax
comp=Z,8.0nm,1.0s
HHC Hu-ho-hao-te 25.37 85 *e*P **P** **12 59 14.5 -0.4**
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,110nm,6.7s
PZH PanZhiHua 26.19 123 P **P** **12 59 24.5 +2.0**
PZH pmax pmax
comp=Z,10.0nm,1.1s
NRIK Noril'sk 26.20 8 P **P** **12 59 22.8 +0.7**
NRIK IAmb IAmb 12 59 48.2
comp=Z,7.6nm,0.8s
NRIK Noril'sk 26.20 8*ce*P **P** **12 59 23.1 +1.1**
NRIK pmax pmax
comp=Z,5.0nm,0.8s
NRIK Noril'sk 26.20 8 P **P** **12 59 23.5 +1.5**
comp=Z,1.9nm,0.3s,baz=168,slow=2.8,SNR=8.3
comp=Z,1.9nm,0.3s
XAN Xi'an 26.28 101 P **P** **12 59 23.5 +0.3**
XAN pmax pmax
comp=Z,12nm,0.8s
BOD Bodaibo 26.73 45 *e*P **P** **12 59 27.7 +0.8**
BOD pmax pmax
comp=Z,18nm,0.9s
OBN Obninsk 28.45 308 *i* P **P** **12 59 44.7 +2.4**
OBN *i* 13 00 34.8
OBN pmax pmax
comp=Z,9.0nm,0.8s
CM31 Chiang Mai Arr 31.07 137 P **P** **13 00 05.3 -0.6**
CMAR Chiang Mai Arr 31.07 137 *i* P **P** **13 00 06.3 +0.4**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CMAR Chiang Mai Arr 31.07 137 P **P** **13 00 06.0 0.0**
comp=Z,2.2nm,0.7s,baz=317,slow=8.9,SNR=22
comp=Z,2.2nm,0.7s
SLVN Son La 31.39 127 P **P** **13 00 06.4 -2.4**
PHRA Phrae 31.68 135 P **P** **13 00 11.2 -0.1**
BR131 Keskin Array S 32.58 278 P **P** **13 00 18.3 -0.9**
BR131 IAmb IAmb 13 00 29.5
comp=Z,6.1nm,0.9s
BR131 Keskin Array S 32.58 278 *i* P **P** **13 00 20.6 +1.4**
BRTR Keskin Array B 32.58 278 P **P** **13 00 18.7 -0.5**
BRTR Keskin Array B 32.58 278 *i* P **P** **13 00 20.7 +1.5**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 32.58 278 P **P** **13 00 21.4 +2.2**
comp=Z,0.8nm,0.6s,baz=69,slow=7.9,SNR=4.1
BRTR pP **sP** **13 00 28.1 +1.6**
comp=Z,4.3nm,0.8s,baz=98,slow=9.0,SNR=12
comp=Z,0.8nm,0.6s
AKASG Malin Array Be 32.92 299 pP pP 13 00 28.9 +1.8
comp=Z,2.8nm,0.6s,baz=70,slow=8.9,SNR=6.2
MNK Minsk 33.45 306 *i* P **P** **13 00 23.8 -2.6**
comp=E,6.0nm,0.8s
MNK *i* P **P** **13 00 23.8 -2.6**
comp=N,18nm,0.9s
MNK *i* P **P** **13 00 23.8 -2.6**
comp=Z,6.0nm,0.8s,baz=88
MNK *i* PP **PnPn** **13 01 34.7 -2.7**
MNK *i* S **S** **13 05 46.0 -1.0**
MNK *i* SS **SnSn** **13 07 48.7 0.0**
MNK *i* LQ LQ 13 11 26.9
MNK *i* LR LR 13 13 59.5
MNK Minsk 33.45 306 *i* P **P** **13 00 23.7 -2.6**
MNK *i* 13 01 34.6
MNK *i* S **S** **13 05 45.9 -1.0**
MNK *i* SS **SnSn** **13 07 48.7 0.0**
MNK pmax pmax
comp=N,18nm,0.9s
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK pmax pmax
comp=Z,6.0nm,0.9s
ZEA Zeya 33.74 55 *e*P **P** **13 00 31.0 +2.0**
HEH HeiHe 34.22 61 *e*P **P** **13 00 34.0 +0.9**
HEH pmax pmax
comp=Z,5.0nm,0.9s
FIA1 FINESS Array S 34.70 319 P **P** **13 00 37.0 -0.2**
FIA1 IAmb IAmb 13 01 07.7
comp=Z,17nm,1.2s
FINES FINESS Array B 34.70 319 P **P** **13 00 36.6 -0.6**
FINES FINESS Array B 34.70 319 P **P** **13 00 38.2 +1.0**
comp=Z,1.5nm,0.7s,baz=86,slow=7.8,SNR=7.3
FINES pP **sP** **13 00 45.0 +0.4**
comp=Z,3.9nm,0.7s,baz=95,slow=9.6,SNR=6.6
comp=Z,1.5nm,0.7s
YAK Yakutsk 35.28 40 P **P** **13 00 42.0 -0.1**
YAK Yakutsk 35.28 40 *e*P **P** **13 00 41.9 -0.2**
YAK *e**PP **pP** **13 00 47.7 +0.3**
YAK *e* 13 01 57.5
YAK *e*PPP PPP 13 02 15.7
YAK *e*S **S** **13 06 16.1 +1.2**
YAK *e**SS **sS** **13 06 23.7 +0.1**
YAK pmax pmax
comp=Z,57nm,0.9s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK pmax pmax
comp=Z,128nm,7.9s
YAK pmax pmax
comp=E,72nm,5.1s
YAK pmax pmax
comp=N,80nm,5.6s
YAK smax smax
comp=E,48nm,2.8s
YAK smax smax
comp=N,12nm,3.0s
BUR08 Bucovina Ar. S 36.07 295 P **P** **13 00 48.7 -0.6**
KEV Kevo 36.21 333 P **P** **13 00 49.9 -0.1**
KEV Kevo 36.21 333 P **P** **13 00 49.9 -0.1**
KEV pmax pmax
comp=Z,68nm,1.5s
ARCES ARCESS Array B 36.64 332 P **P** **13 00 52.7 -1.1**
ARCES ARCESS Array B 36.64 332 P **P** **13 00 52.7 -1.1**
ARCES pmax pmax
comp=Z,18nm,1.0s
ARCES ARCESS Array B 36.64 332 P **P** **13 00 54.9 +1.1**
comp=Z,2.6nm,0.6s,baz=82,slow=8.9,SNR=6.0
ARCES pP **sP** **13 01 01.3 +0.1**
comp=Z,7.1nm,0.6s,baz=97,slow=8.3,SNR=5.8
comp=Z,2.6nm,0.6s
MDJ Mudanjiang 36.95 70 P **P** **13 00 58.0 +1.3**
MDJ pmax pmax
comp=Z,4.0nm,1.0s
MDJ pmax pmax
comp=Z,300nm,10.1s
KLR Kul'dur 37.17 62*ce*P **P** **13 01 00.2 +1.7**
KLR pmax pmax
comp=Z,9.0nm,2.5s
TIXI Tiksi 37.22 24 P **P** **13 00 58.1 -0.6**
TIXI IAmb IAmb 13 01 11.0
comp=Z,9.1nm,1.1s
TIXI Tiksi 37.22 24*ce*P **P** **13 00 59.3 +0.7**
TIXI pmax pmax
comp=Z,7.0nm,1.7s
KSAR Wonju Array Be 38.40 82 P **P** **13 01 09.0 0.0**
KSAR Wonju Array Be 38.40 82 P **P** **13 01 09.0 0.0**
KSRS Korea Array 38.42 82 P **P** **13 01 09.2 0.0**
comp=Z,1.6nm,0.8s,baz=287,slow=8.1,SNR=9.0
comp=Z,1.6nm,0.8s
USRK Ussuriysk Ar. 38.71 70 P **P** **13 01 11.6 +0.1**
USRK Ussuriysk Ar. 38.71 70 P **P** **13 01 13.4 +1.9**
comp=Z,3.3nm,0.9s,baz=293,slow=9.2,SNR=6.2
comp=Z,3.3nm,0.9s
MORC Moravsky Berou 40.46 300 *e*P P 13 01 33.8 +7.7
JAVC Velka Javorina 40.62 299 *e*P P 13 01 32.9 +5.4
HFS Hagfors 40.76 317 P **P** **13 01 30.8 +2.4**
comp=Z,3.5nm,0.8s,baz=116,slow=6.6,SNR=2.3
HFS pP **sP** **13 01 36.4 +0.6**
comp=Z,4.5nm,0.6s,baz=93,slow=2.9,SNR=6.7
comp=Z,3.5nm,0.8s
SPB2 Spitsbergen Ar 41.70 344 P **P** **13 01 34.9 -1.0**
SPITS Spitsbergen Ar 41.70 344 P **P** **13 01 35.6 -0.3**
SPITS pmax pmax
comp=Z,36nm,1.2s
NB2 NORSAR Subarra 41.88 318 P P 13 01 44.7 +7.1
comp=Z,11nm,1.0s,baz=84,slow=8.6
NOA NORSAR Array B 41.88 318 pP pP 13 01 44.7 +1.8
comp=Z,3.6nm,0.8s,baz=84,slow=8.1,SNR=11
NC204 NORSAR Array S 42.07 319 P **P** **13 01 39.2 0.0**
NC204 IAmb IAmb 13 02 19.0
comp=Z,27nm,1.4s
CLL Collm 42.84 304 *i* P P 13 01 52.9 +7.4
CLL pmax pmax
comp=Z,8.0nm,0.5s
CLL Collm 42.84 304 *i* pP pP 13 01 52.9 +2.1
comp=Z,8.0nm,0.5s
GEC2 GERESS Array S 43.13 300 P **P** **13 01 47.9 -0.2**
GERES GERESS Array B 43.13 300 pP pP 13 01 55.7 +2.3
comp=Z,1.4nm,0.5s,baz=49,slow=11,SNR=5.4
KULM Kulim 43.45 145 P **P** **13 01 50.8 +0.1**
KULM IAmb IAmb 13 02 13.9
comp=Z,21nm,1.3s
MA2 Magadan 45.71 43 P **P** **13 02 07.3 -1.0**
MA2 IAmb IAmb 13 02 09.8
comp=Z,4.9nm,0.9s
MA2 Magadan 45.71 43*ce*P **P** **13 02 09.4 +1.0**
MA2 pmax pmax
comp=Z,3.0nm,0.6s
MJAR Matsushiro Ar 46.16 77 P **P** **13 02 12.6 +0.3**
comp=Z,4.4nm,1.1s,baz=299,slow=7.1,SNR=7.0
comp=Z,4.4nm,1.1s
SENIN Lac Senin/Sane 48.06 299 P **P** **13 02 28.0 +0.8**
EKA Eskdalemuir Ar 50.67 313 P **P** **13 02 49.0 +2.2**
comp=Z,0.3nm,0.5s,baz=58,slow=9.3,SNR=1.3
EKA pP **sP** **13 02 54.4 +0.1**
comp=Z,2.3nm,0.7s,baz=71,slow=8.7,SNR=5.0
comp=Z,0.3nm,0.5s
PETK Petropavlovsk- 51.47 49 P **P** **13 02 52.1 -0.7**
PETK Petropavlovsk- 51.47 49 P **P** **13 02 52.1 -0.7**
BORG Borgarnes 54.87 329 P **P** **13 03 14.8 -2.8**
BORG Borgarnes 54.87 329 P **P** **13 03 14.8 -2.8**
SUMG Summit 55.81 341 P **P** **13 03 23.1 -1.7**
SUMG Summit 55.81 341 P **P** **13 03 23.1 -1.7**
SUMG pmax pmax
comp=Z,2.0nm,0.8s
ESDC Sonseca Array 58.49 297 P **P** **13 03 44.4 +0.6**
comp=Z,0.7nm,0.8s,baz=44,slow=6.8,SNR=5.2
ESDC pP **sP** **13 03 50.9 -0.5**
comp=Z,1.8nm,0.9s,baz=48,slow=6.1,SNR=6.4
comp=Z,0.7nm,0.8s
D19K Kuna River 60.73 20 P **P** **13 03 58.7 -0.1**
D19K IAmb IAmb 13 04 00.4
comp=Z,4.4nm,0.9s
B21K Ikpikpuk River 60.74 18 P **P** **13 03 59.4 +0.7**
B21K IAmb IAmb 13 04 00.2
comp=Z,3.8nm,0.8s
ANM Nome 61.45 26 P **P** **13 04 04.0 +0.3**
ANM IAmb IAmb 13 04 14.5
comp=Z,8.9nm,1.4s
ANM Nome 61.45 26 P **P** **13 04 04.0 +0.3**
ANM pmax pmax
comp=Z,9.0nm,1.4s
G16K Koyuk River 61.80 24 P **P** **13 04 05.8 -0.2**
G16K IAmb IAmb 13 04 14.7
comp=Z,9.3nm,1.4s
E22K Anaktuvuk Pass 62.53 19 P **P** **13 04 10.1 -0.9**
E22K IAmb IAmb 13 04 45.3
comp=Z,4.5nm,1.4s
F21K Alatna River 62.85 20 P **P** **13 04 13.0 0.0**
F21K IAmb IAmb 13 04 14.3
comp=Z,2.8nm,1.1s
IMAR Indian Mountai 63.75 21 P **P** **13 04 18.8 -0.2**
J16K Anvik River 63.85 25 P **P** **13 04 19.9 +0.2**
K15K Wolf Creek Mou 64.28 26 P **P** **13 04 23.0 +0.4**
K15K IAmb IAmb 13 04 33.1
comp=Z,5.0nm,1.1s
E28M Babbage River 64.65 14 P **P** **13 04 25.5 +0.6**
BMAR Burnt Mountain 64.70 17 P **P** **13 04 25.0 -0.3**
E29M Blow River 65.12 14 P **P** **13 04 28.2 +0.2**
E29M IAmb IAmb 13 05 09.0
comp=Z,2.0nm,0.8s
L18K Granite Mounta 65.85 25 P **P** **13 04 32.9 +0.2**
L18K IAmb IAmb 13 04 41.3
comp=Z,8.3nm,1.4s
M16K Timber Creek 66.05 26 P **P** **13 04 33.4 -0.7**
M16K IAmb IAmb 13 04 43.9
comp=Z,13nm,1.4s
C36M Paulatuk 66.12 8 P **P** **13 04 33.2 -1.1**
C36M IAmb IAmb 13 05 03.9
comp=Z,6.1nm,1.2s
CAST Castle Rocks 66.22 22 P **P** **13 04 35.1 -0.1**
CAST IAmb IAmb 13 05 15.1
comp=Z,4.4nm,1.3s
KTH Kantishna Hill 66.42 21 P **P** **13 04 36.4 -0.1**
ILAR Eielson Array 66.43 19 P **P** **13 04 36.2 -0.2**
ILAR Eielson Array 66.43 19 P **P** **13 04 36.2 -0.2**
ILAR Eielson Array 66.43 19 P **P** **13 04 36.0 -0.5**
comp=Z,1.8nm,0.8s,baz=320,slow=5.4,SNR=15
ILAR pP **pP** **13 04 42.4 +0.4**
comp=Z,1.4nm,0.8s,baz=320,slow=5.7,SNR=8.4
comp=Z,1.8nm,0.8s
H29M Whitestone 66.98 15 P **P** **13 04 39.9 0.0**
H29M IAmb IAmb 13 05 10.9
comp=Z,7.4nm,1.1s
I28M Miner Creek 67.36 16 P **P** **13 04 41.9 -0.6**
I28M IAmb IAmb 13 04 50.3
comp=Z,3.3nm,1.0s
SKT Skwentna 67.53 23 P **P** **13 04 42.6 -0.9**
SKT IAmb IAmb 13 04 43.9
comp=Z,6.2nm,1.0s
BCAR Beaver Creek A 69.06 18 P **P** **13 04 53.0 -0.1**
TOA0 Torodi Ar. Sit 70.69 270 P **P** **13 05 03.9 +0.1**
TORD Torodi Ar. Bea 70.69 270 P **P** **13 05 03.5 -0.2**
comp=Z,1.7nm,0.7s,baz=40,slow=6.3,SNR=13
TORD pP **sP** **13 05 10.8 -0.7**
comp=Z,7.8nm,0.7s,baz=42,slow=6.7,SNR=31
comp=Z,1.7nm,0.7s
YKA Yellowknife Ar 73.68 6 P **P** **13 05 20.7 -0.2**
comp=Z,1.8nm,0.8s,baz=348,slow=6.3,SNR=28
YKA pP **sP** **13 05 28.3 -0.3**
comp=Z,0.3nm,0.4s,baz=9.5,slow=9.0,SNR=7.6
comp=Z,1.8nm,0.8s
DBIC Dimbokro 79.80 269 P **P** **13 05 56.4 +0.2**
comp=Z,1.5nm,0.6s,baz=55,slow=11,SNR=1.8
DBIC pP **sP** **13 06 03.2 -0.7**
comp=Z,3.2nm,0.7s,baz=55,slow=5.6,SNR=3.9
comp=Z,1.5nm,0.6s
WRA Warramunga Arr 82.08 127 P **P** **13 06 07.5 -0.7**
comp=Z,2.1nm,0.7s,baz=337,slow=5.0,SNR=19
WRA pP **sP** **13 06 15.7 -0.2**
comp=Z,2.2nm,0.8s,baz=326,slow=5.0,SNR=9.3
comp=Z,2.1nm,0.7s
ASAR Alice Springs 84.76 130 P **P** **13 06 20.5 -1.4**
comp=Z,1.1nm,0.9s,baz=321,slow=5.2,SNR=10
ASAR pP **sP** **13 06 28.8 -0.9**
comp=Z,1.2nm,0.9s,baz=319,slow=4.4,SNR=6.7
comp=Z,1.1nm,0.9s
PDAR Pinedale Array 93.66 5 P **P** **13 07 03.5 -0.9**
comp=Z,0.2nm,0.6s,baz=54,slow=4.6,SNR=2.5
PDAR pP **sP** **13 07 11.3 -0.8**
comp=Z,0.3nm,0.6s,baz=22,slow=3.4,SNR=3.6
comp=Z,0.2nm,0.6s

*TEH **26** 13:54:36.7, 33°.84N×45°.81E, h10km, ML2.6*
*ISN **26** 13:54:36.6±0.8, 33°.84N×45°.83E, h18km±9km, ML2.6*
ISC 26 13:54:37.3±1.2, **33°.81N**±0°.05×**45°.84E**±0°.08, **h10km**, **n6**, **σ0s84/8**, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.36**	**121**	Pg	**Pg**	**13 54 44.8**	**+0.4**
IBDR	**Badra**	**0.70**	**174**	*e*Pg	**Pg**	**13 54 50.0**	**-0.9**
	baz=353						
IBDR				*e*Sg	**Sb**	**13 55 01.0**	**-0.3**
IBDR				AML	AML	13 55 09.1	
	comp=E,99nm,0.3s						
IBDR				AML	AML	13 55 13.5	
	comp=N,90nm,0.4s						
IGHG	**Ghaleghazi**	**0.80**	**49**	Pg	**Pg**	**13 54 52.9**	**+0.2**
IDHR	**Dehrash**	**0.99**	**27**	Pg	**Pg**	**13 54 55.7**	**-0.8**
KCHF	**Cheshme Sefid,**	**1.10**	**65**	Pg	**Pg**	**13 54 57.9**	**-0.6**
BHD	**Baghdad**	**1.33**	**247**	*e*Pn	**Pn**	**13 55 02.0**	**0.0**
BHD				*e*Sn	**Sn**	**13 55 21.0**	**+1.2**

*IDC **26** 13:59:28.0±8.3, 32°.34N×45°.82E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=177.1km s-min=43.3km az=13.0*
*ISN **26** 13:59:36.8±0.8, 33°.89N×45°.92E, h14km±5km, ML3.3*
*TEH **26** 13:59:37.8, 33°.88N×45°.97E, h8km±19km, ML3.5*
*DSN **26** 13:59:50.6±2.3, 32°.82N×46°.56E, h15km, Error ellipse: s-maj=29.2km s-min=14.9km az=2.0*
ISC 26 13:59:37.5±1.2, **33°.82N**±0°.04×**45°.94E**±0°.04, **h8km**±10km, **n31**, **σ1s41/35**, **mb3.7/3**, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.29**	**130**	Pg	**Pb**	**13 59 44.2**	**-0.9**
ILBA				Sg	**Sg**	**13 59 49.6**	**+2.4**
IBDR	**Badra**	**0.70**	**181**	*e*Pg	**Pb**	**13 59 52.0**	**0.0**
IBDR				*e*Sg	**Sb**	**14 00 02.0**	**+0.2**
IBDR				AML	AML	14 00 08.7	
	comp=E,1μm,0.5s						
IBDR				AML	AML	14 00 09.0	
	comp=N,837nm,0.6s						
IGHG	**Ghaleghazi**	**0.73**	**45**	Pg	**Pg**	**13 59 51.1**	**-0.5**
IGHG				Sg	**Sg**	**14 00 00.8**	**-0.4**
KGS1	**Ghasr-e-Shirin**	**0.75**	**337**	Pg	**Pg**	**13 59 51.5**	**-0.3**
IDHR	**Dehrash**	**0.96**	**23**	Pg	**Pg**	**13 59 54.9**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.02**	**63**	Pg	**Pg**	**13 59 56.4**	**-0.7**
ILIN	**Lien**	**1.39**	**37**	Pg	**Pn**	**14 00 03.5**	**+0.1**
BHD	**Baghdad**	**1.41**	**248**	*e*Pn	**Pn**	**14 00 04.0**	**+0.6**
BHD				*e*Sn	**Sg**	**14 00 24.0**	**+1.2**
BHD				AML	AML	14 00 29.0	
	comp=E,927nm,0.5s						
IKFM	**Kafar-mosalman**	**1.62**	**100**	Pg	**Pg**	**14 00 08.6**	**+0.1**
IBZA	**Bozab**	**1.72**	**67**	Pg	**Pb**	**14 00 10.1**	**+0.5**
IDOB	**Doab**	**1.86**	**90**	Pn	**Pb**	**14 00 11.7**	**-0.2**
RAFI	**Al-Rafai**	**2.09**	**176**	*e*Pn	**Pb**	**14 00 14.0**	**-1.7**
RAFI				*e*Sn	**Sb**	**14 00 42.0**	**+0.2**
HSAM	**Samen**	**2.25**	**79**	Pn	**Pb**	**14 00 16.8**	**-1.7**
SDS1	**Sardasht. Az.**	**2.36**	**351**	Pn	**Pn**	**14 00 18.0**	**+1.3**
IQOM	**Qom**	**4.37**	**75**	Pn	**Pn**	**14 00 45.4**	**+1.0**

ZNGN	**Zangian**	**4.47**	**111**	Pn	**Pn**	14 00 46.7	**+1.0**		
QAMS	**Qamsar**	**4.55**	**89**	Pn	**Pn**	14 00 48.9	**+2.1**		
IVRN	**Varamin**	**4.93**	**75**	Pn	**Pn**	14 00 53.2	**+1.2**		
ISFB	**Sefidab**	**5.26**	**82**	Pn	**Pn**	14 00 57.6	**+1.2**		
IDMV	**Damavand**	**5.32**	**69**	Pn	**Pn**	14 00 58.4	**+1.0**		
IRAM	**Ramesheh**	**5.78**	**108**	Pn	**Pn**	14 01 05.5	**+1.7**		
RAYN	**Ar Rayn**	**10.26**	**182**	P	**Pn**	14 02 04.5	**-0.6**		
SHME	**Shamm**	**11.75**	**129**	P	**Pn**	14 02 23.2	**-2.2**		
MSFE	**Esma-Masafi**	**12.25**	**131**	P	**Pn**	14 02 31.4	**-0.8**		
UOSS	**Minazif**	**12.57**	**132**	P	**Pn**	14 02 32.9	**-3.8**		
UOSS				S	Sn	14 04 44.4	-13		
HATD	**Hatta, Dubai**	**12.62**	**133**	P	**Pn**	14 02 36.6	**-0.7**		
ASHO	**Ashiyiah**	**12.68**	**133**	P	**Pn**	14 02 35.9	**-2.2**		
AKASG	**Malin Array Be**	**20.84**	**329**	P	Pn	14 04 24.2	+2.3		
	comp=E,0.3nm,0.4s,baz=140,slow=9.7,SNR=2.4								
	comp=E,0.3nm,0.4s								
MKAR	**Makanchi Array**	**30.32**	**54**	P	**P**	14 05 49.5	**+0.1**		
	comp=E,1.3nm,0.6s,baz=251,slow=9.0,SNR=17								
	comp=E,1.3nm,0.6s								
ZALV	**Zalesovo Beam**	**33.91**	**42**	P	**P**	14 06 22.9	**+2.2**		
	comp=E,0.4nm,0.4s,baz=238,slow=8.3,SNR=2.0								
	comp=E,0.4nm,0.4s								
ILAR	**Eielson Array**	**81.22**	**6**	P	**P**	14 11 53.3	**-0.3**		
	comp=E,0.4nm,0.9s,baz=352,slow=5.5,SNR=4.1								
	comp=E,0.4nm,0.9s								

IDC 26 14:16:32.4±2.8, 6°.90S×127°.95E, h0km, mb3.3/1, mbtmp3.1/3, ML2.8/2, Error ellipse: s-maj=311.0km s-min=33.7km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.38**	**155**	Pn	Pn	14 19 59.0	+1.6
	baz=333,slow=13,SNR=1.8						
WRA				Sn	Sn	14 22 22.5	-15
	baz=317,slow=32,SNR=2.0						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**17.63**	**162**	P	Pn	14 20 38.5	-1.2
	baz=347,slow=11,SNR=4.7						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**67.04**	**328**	P	P	14 27 27.5	+0.1
	0.1nm,0.3s,baz=135,slow=7.3,SNR=2.1						
	0.1nm,0.3s						

*IDC **26** 14:24:00.2±6.9, 6°.00S×151°.73E, h58km±56km, mb3.2/4, mbtmp3.5/5, ML1.6/1, Error ellipse: s-maj=75.0km s-min=34.9km az=122.0*

ISC 26 14:23:58.7±1.9, 6°.1S±0°.4×151°.9E±0°.4, h50km, n6, σ1§50/7, mb3.4/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.77**	**235**	P	**Pn**	**14 25 23.6**	**+1.8**
	1.2nm,0.3s,baz=14,slow=14,SNR=2.2						
PMG				S	**Sn**	**14 26 24.7**	**-2.0**
	9.1nm,0.8s,baz=17,slow=19,SNR=2.1						
	5.1nm,0.4s						
WRA	**Warramunga Arr**	**21.96**	**229**	P	**P**	**14 28 48.0**	**-0.4**
	0.6nm,0.6s,baz=54,slow=10,SNR=10						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**24.63**	**223**	P	**P**	**14 29 15.0**	**+0.2**
	1.3nm,0.7s,baz=55,slow=8.9,SNR=17						
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**80.71**	**319**	P	**P**	**14 36 07.2**	**+0.5**
	0.3nm,0.8s,baz=90,slow=4.3,SNR=2.3						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**83.66**	**22**	P	**P**	**14 36 21.1**	**-0.6**
	0.5nm,1.0s,baz=236,slow=5.6,SNR=4.4						
	0.5nm,1.0s						
TORD	**Torodi Ar. Bea**	**149.84**	**286**	PKPbc	**PKiKP**	**14 43 44.3**	**-1.0**
	0.3nm,0.6s,baz=103,slow=2.1,SNR=2.6						

*IDC **26** 14:29:15.4±2.3, 6°.22S×129°.30E, h0km, mb3.3/1, mbtmp3.4/3, ML3.7/2, Error ellipse: s-maj=152.1km s-min=31.8km az=68.0*

ISC 26 14:29:34.4±4.1, 6°.5S±0°.3×131°.3E±0°.4, h150km, n9, σ1§16/9, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.46**	**178**	P	**Pn**	**14 30 02.6**	**-0.9**
BNDI	**Bandanaira**	**2.39**	**326**	P	Pn	14 29 52.3	-22
DRS	**Darwin Rock St**	**5.89**	**183**	P	**Pn**	**14 31 00.6**	**+1.0**
KDU	**Kakadu**	**6.25**	**169**	P	**Pn**	**14 31 04.5**	**+0.1**
MTN	**Manton Dam**	**6.29**	**181**	P	**Pn**	**14 31 06.0**	**+1.0**
KNRA	**Kununurra**	**9.42**	**195**	P	**Pn**	**14 31 46.7**	**-0.1**
WRA	**Warramunga Arr**	**13.68**	**168**	Pn	**Pn**	**14 32 40.2**	**-2.1**
	0.3nm,0.3s,baz=342,slow=13,SNR=18						
WRA				Sn	**Sn**	**14 35 14.2**	**+0.2**
	0.4nm,0.3s,baz=12,slow=22,SNR=7.4						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**17.24**	**172**	P	**Pn**	**14 33 27.0**	**+0.7**
	0.3nm,0.3s,baz=351,slow=10,SNR=14						
ASAR				S	**Sn**	**14 36 39.1**	**-0.3**
	0.3nm,0.6s,baz=355,slow=27,SNR=1.7						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**68.51**	**326**	P	P	14 40 11.5	-9.1
	0.1nm,0.4s,baz=117,slow=5.0,SNR=4.2						
	0.1nm,0.4s						

*TIF **26** 14:34:39.8, 41°.41N×44°.09E, h14km*
*ISK **26** 14:34:40.1, 41°.47N×44°.07E, h4km, ML2.1/5*
*NORS **26** 14:34:40.0, 41°.47N×43°.99E, h10km, MPVA3.7*
*AFAD **26** 14:34:41.2±0.0, 41°.43N×43°.92E, h7km±2km, ML2.1*

ISC 26 14:34:39.8±0.8, 41°.40N±0°.02×44°.05E±0°.02, h15km±6km, n31, σ0§67/58, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DMNI	**Dmanisi**	**0.12**	**124**	P	**Pg**	**14 34 43.7**	**+0.2**
DMNI				S	**Sg**	**14 34 45.7**	**-0.2**
TRLG	**Trialeti**	**0.15**	**14**	P	**Pb**	**14 34 43.8**	**-0.5**
TRLG				S	**Sb**	**14 34 46.2**	**-1.2**
KZRT	**Kazreti**	**0.26**	**92**	P	**Pg**	**14 34 45.5**	**+0.1**
KZRT				S	**Sg**	**14 34 48.9**	**-0.3**
BRNG	**Burnasheti**	**0.28**	**323**	P	**Pb**	**14 34 46.8**	**+0.1**
BRNG				S	**Sb**	**14 34 51.6**	**+0.3**
BGD	**Bogdanovka**	**0.37**	**249**	P	**Pb**	**14 34 48.4**	**+0.3**
BGD				S	**Sb**	**14 34 54.4**	**+0.6**
AKH	**Akhalkalaki**	**0.42**	**272**	Pg	**Pb**	**14 34 49.2**	**+0.2**
AKH	**Akhalkalaki**	**0.42**	**272**	P	**Pb**	**14 34 49.3**	**+0.2**
AKH				S	**Sb**	**14 34 55.6**	**+0.3**
SEAG	**Tbilisi Sea**	**0.67**	**57**	P	**Pb**	**14 34 53.0**	**-0.2**
SEAG				S	**Sb**	**14 35 02.3**	**-0.1**
ALIG	**Mtskhetisjvari**	**0.77**	**337**	P	**Pb**	**14 34 54.9**	**0.0**
ALIG				S	**Sb**	**14 35 05.5**	**+0.3**
EAK	**Akyaka**	**0.79**	**206**	P	**Pg**	**14 34 53.3**	**-1.8**
EAK				S	**Sg**	**14 35 06.3**	**+0.8**
EAK				*i* AML	AML	14 35 07.0	
	comp=E,107nm,0.4s						
EAK				*i* AML	AML	14 35 12.0	
	comp=N,64nm,0.3s						
DGRG	**David-gareji**	**0.99**	**87**	P	**Pg**	**14 34 59.2**	**+0.2**
DGRG				S	**Sn**	**14 35 13.1**	**+0.1**
ABS	**Abastumani**	**1.00**	**291**	P	**Pn**	**14 34 59.1**	**-0.2**
ABS				S	**Sn**	**14 35 13.3**	**0.0**
EPOS	**Posof**	**1.00**	**276**	P	**Pb**	**14 34 59.0**	**+0.1**
EPOS				S	**Sb**	**14 35 12.0**	**0.0**
EPOS				*i* AML	AML	14 35 20.0	
	comp=N,35nm,0.8s						
GUDG	**Gudauri**	**1.11**	**16**	*e*Pg	**Pn**	**14 35 01.2**	**+0.2**
GUDG				*e*Sg	**Sn**	**14 35 16.6**	**+0.4**
CHRG	**Chargali**	**1.14**	**35**	P	**Pg**	**14 35 01.3**	**-0.4**
CHRG				S	**Sn**	**14 35 16.5**	**-0.2**
BOZK	**Kars-Merkez-Bo**	**1.15**	**226**	P	**Pb**	**14 34 59.8**	**-1.6**
BOZK				S	**Sn**	**14 35 18.5**	**+1.5**
GOLE	**Ardahan-G¶le**	**1.23**	**243**	P	**Pb**	**14 35 03.1**	**+0.1**
GOLE				S	**Sg**	**14 35 20.1**	**+0.4**
GOLE				*i* AML	AML	14 35 22.0	
	comp=N,65nm,0.4s						
GOLE				*i* AML	AML	14 35 22.0	
	comp=E,66nm,0.4s						
TKB	**Tkibuli**	**1.24**	**321**	P	**Pg**	**14 35 03.6**	**-0.1**
TKB				S	**Sn**	**14 35 20.9**	**+1.9**
ONI	**Oni**	**1.27**	**340**	Pn	**Pg**	**14 35 03.8**	**-0.5**
ONI				Sn	**Sg**	**14 35 21.1**	**+0.2**
ONI	**Oni**	**1.27**	**340**	P	**Pg**	**14 35 03.8**	**-0.5**
ONI				S	**Sg**	**14 35 21.3**	**+0.4**
ONI	**Oni**	**1.27**	**340**	*e*Pg	**Pg**	**14 35 03.7**	**-0.5**
ONI				*e*Sg	**Sg**	**14 35 21.1**	**+0.2**
MTEO	**Meteo**	**1.33**	**15**	P	**Pg**	**14 35 05.4**	**-0.1**
MTEO				S	**Sg**	**14 35 23.2**	**+0.4**
LACR	**Lac**	**1.44**	**7**	*e*Pg	**Pg**	**14 35 07.0**	**-0.5**
LACR				*e*Sg	**Sg**	**14 35 26.9**	**+0.7**
SHTL	**Shatili**	**1.50**	**33**	P	**Pg**	**14 35 07.9**	**-0.7**
SHTL				S	**Sg**	**14 35 27.5**	**-0.7**
SENK	**Senkaya-Erzuru**	**1.54**	**238**	Pn	**Pg**	**14 35 09.6**	**+0.3**
DIGR	**Digorskoe uzhe**	**1.54**	**347**	*e*Pg	**Pg**	**14 35 08.3**	**-1.2**
DIGR				*e*Sg	**Sg**	**14 35 29.7**	**+0.2**
LGD	**Lagodekhi**	**1.70**	**74**	P	**Pb**	**14 35 11.1**	**+0.4**
LGD				S	**Sg**	**14 35 34.4**	**-0.1**
VSHL	**Vashlovani**	**1.77**	**95**	P	**Pb**	**14 35 12.9**	**+0.8**
VSHL				S	**Sg**	**14 35 36.3**	**-0.7**
BATM	**Batumi**	**1.78**	**277**	Pn	**Pb**	**14 35 12.6**	**+0.4**
BATM	**Batumi**	**1.78**	**277**	P	**Pg**	**14 35 13.0**	**-1.1**
BATM				S	**Sg**	**14 35 36.5**	**-0.7**
BCA	**Borcka**	**1.83**	**272**	Pn	**Pg**	**14 35 13.9**	**-1.0**

*HEL **26** 14:35:26.9±0.3, 67°.16N×20°.58E, h0km, ML1.6, Suspected explosion*
*UPP **26** 14:35:27.1±0.0, 67°.18N×20°.64E, h0km, ML2.1, Confirmed Induced event*
*IDC **26** 14:35:27.7±1.1, 67°.09N×21°.10E, h0km, mbtmp2.7/4, ML2.0/4, Error ellipse: s-maj=19.5km s-min=9.1km az=105.0*

ISC 26 14:35:27.0±0.7, 67°.17N±0°.02×20°.70E±0°.02, h0km, n40, σ1§38/63, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.07**	**225**	P	**Pg**	**14 35 28.6**	**+0.3**
DUNU				S	**Sg**	**14 35 29.5**	**+0.3**
MASU	**Masugnsbyn**	**0.58**	**60**	P	**Pg**	**14 35 38.6**	**+0.5**
MASU				S	**Sg**	**14 35 46.4**	**+0.8**
RATU	**Laukkuluspa**	**0.78**	**327**	P	**Pg**	**14 35 41.5**	**-0.5**
KUA	**Kurravaara**	**0.80**	**350**	P	**Pg**	**14 35 41.9**	**-0.4**
SALU	**Saltoluokta**	**0.88**	**285**	P	**Pg**	**14 35 43.2**	**-0.6**
PAJU	**Pajala**	**0.96**	**98**	P	**Pg**	**14 35 45.2**	**-0.1**
PAJU	**Pajala**	**0.96**	**98**	PG	**Pg**	**14 35 44.9**	**-0.4**
	baz=283						
PAJU				SB	**Sg**	**14 35 58.1**	**+0.4**
LANU	**Lannavaara**	**1.01**	**29**	P	**Pg**	**14 35 46.1**	**-0.2**
LANU	**Lannavaara**	**1.01**	**29**	PG	**Pg**	**14 35 45.9**	**-0.4**
LANU				SB	**Sg**	**14 36 00.2**	**+0.8**
HARU	**Harads**	**1.02**	**174**	P	**Pg**	**14 35 45.7**	**-0.8**
KOVU	**Salmi**	**1.08**	**349**	P	**Pg**	**14 35 47.0**	**-0.6**
KLF	**Kolari**	**1.27**	**86**	PG	**Pg**	**14 35 50.7**	**-0.7**
KLF				MSG		14 36 06.8	
	comp=Z,3.9nm,0.2s						
KLF				SG	**Sg**	**14 36 08.0**	**+0.2**
HEF	**Hetta**	**1.68**	**41**	*e*P	**Pn**	**14 35 56.9**	**-0.6**
HEF	**Hetta**	**1.68**	**41**	PG	**Pn**	**14 35 57.4**	**-0.1**
	baz=228						
HEF				MSG		14 36 18.2	
	comp=Z,6.2nm,0.2s						
HEF				SG	**Sn**	**14 36 19.4**	**-0.3**
KALU	**Kalix**	**1.69**	**140**	P	**Pn**	**14 35 58.0**	**+0.3**
TOF	**Tornio**	**1.81**	**125**	PG	**Pn**	**14 35 59.9**	**+0.5**
TOF				MSG		14 36 21.8	
	comp=Z,4.8nm,0.2s						
TOF				SG	**Sb**	**14 36 24.5**	**+0.2**
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*P	**Pb**	**14 36 00.8**	**-0.7**
KIF	**Kilpisjarvi**	**1.84**	**1**	PG	**Pn**	**14 36 00.6**	**+0.8**
KIF				MSG		14 36 23.4	
	comp=Z,6.8nm,0.2s						
KIF				SG	**Sg**	**14 36 26.7**	**+0.6**
KTK1	**Kautokeino**	**2.08**	**26**	PG	**Pb**	**14 36 04.6**	**-0.9**
KTK1				SG	**Sb**	**14 36 31.5**	**-0.4**
RNF	**Rovaniemi**	**2.17**	**103**	PG	**Pn**	**14 36 05.5**	**+1.2**
RNF				SG	**Sb**	**14 36 35.2**	**+0.7**
SGF	**Sodankyl**	**2.28**	**80**	PB	**Pn**	**14 36 07.2**	**+1.4**
SGF				SG	**Sb**	**14 36 38.0**	**+0.4**
TRO	**Tromso**	**2.56**	**346**	PG	**Pb**	**14 36 13.1**	**-0.6**
TRO				SG	**Sb**	**14 36 44.8**	**-0.9**
BURU	**Burvik**	**2.61**	**174**	PN	**Pn**	**14 36 11.2**	**+0.8**
BURU				SG	**Sb**	**14 36 49.1**	**+1.8**
RANF	**Ranua**	**2.69**	**113**	PB	**Pb**	**14 36 14.7**	**-1.3**
RANF				SG	**Sb**	**14 36 49.7**	**+0.1**
ARCES	**ARCESS Array B**	**2.97**	**35**	Pn	**Pn**	**14 36 15.9**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=215,slow=13,SNR=15						
ARCES				Sn	**Sn**	**14 36 52.2**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=217,slow=21,SNR=8.7						
	comp=Z,0.6nm,0.3s						
OBF4	**Vikkela, Lumij**	**2.97**	**141**	PG	**Pb**	**14 36 21.4**	**+0.6**
	baz=324						
OBF4				MSG		14 36 55.0	
	comp=Z,1.0nm,0.2s						
OUL	**Oulu**	**2.98**	**132**	PG	**Pb**	**14 36 20.1**	**-0.7**
OUL				SG	**Sb**	**14 36 58.8**	**+1.2**
KMNF	**Kaamanen**	**3.08**	**47**	PN	**Pn**	**14 36 17.4**	**+0.6**
KMNF				SN	**Sn**	**14 36 55.1**	**+0.8**
RAJF	**Raja-Jooseppi**	**3.17**	**62**	PN	**Pn**	**14 36 19.0**	**+1.0**
RAJF				SG	**Sb**	**14 37 04.7**	**+1.5**
OUF	**Merijarvi**	**3.27**	**148**	PG	**Pb**	**14 36 26.5**	**+0.7**
	baz=327						
OUF				SG	**Sb**	**14 37 09.3**	**+3.2**
VRF	**Varrio**	**3.48**	**76**	SG	**Sb**	**14 37 13.4**	**+1.3**
KEV	**Kevo**	**3.48**	**39**	PG	**Pb**	**14 36 30.4**	**+0.9**
KEV				SN	**Sn**	**14 37 04.5**	**+0.3**
OLKF	**Oulanka, Finla**	**3.56**	**100**	PN	**Pn**	**14 36 24.5**	**+1.1**
MSF	**Maaselka**	**3.57**	**107**	PG	**Pb**	**14 36 32.2**	**+1.3**
MSF				SG	**Sg**	**14 37 19.4**	**-2.0**
KU6	**Riekki**	**3.84**	**103**	PN	**Pn**	**14 36 28.0**	**+0.7**
KU6				SG	**Sg**	**14 37 27.4**	**-2.9**
VAF	**Ylistaro**	**4.23**	**168**	SG	**Sg**	**14 37 40.0**	**-2.7**
HEMU	**Hemsoen**	**4.65**	**195**	SG	**Sb**	**14 37 51.1**	**+5.2**
FINES	**FINESS Array B**	**6.21**	**155**	Pn	**Pn**	**14 37 00.0**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=343,slow=12,SNR=4.4						
FINES				Sn	**Sn**	**14 38 06.4**	**-4.8**
	comp=Z,0.1nm,0.3s,baz=348,slow=26,SNR=2.1						
FINES				Lg	Lg	14 38 38.8	
	comp=Z,0.2nm,0.3s,baz=339,slow=25,SNR=1.7						
	comp=Z,1.5nm,0.8s						
NOA	**NORSAR Array B**	**7.42**	**218**	Pn	**Pn**	**14 37 16.1**	**-0.3**
	baz=42,slow=14,SNR=1.8						
	comp=Z,0.3nm,0.7s						
HFS	**Hagfors**	**7.72**	**207**	Pn	**Pn**	**14 37 19.0**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=27,slow=13,SNR=1.3						
	comp=Z,0.3nm,0.3s						

*IDC **26** 14:40:14.3±1.0, 6°.12S×143°.40E, h0km, mb3.8/8, mbtmp3.8/10, ML1.6/1, Error ellipse: s-maj=41.4km s-min=21.3km az=82.0*

ISC 26 14:40:18.1±0.8, 6°.44S±0°.08×143°.12E±0°.10, h35km, n11, σ2§62/14, mb3.7/8, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.97**	**127**	Pn	**Pn**	**14 41 30.9**	**+0.6**
	1.6nm,0.3s,baz=354,slow=9.6,SNR=5.8						
PMG				Sn	**Sn**	**14 42 24.9**	**-1.7**
	0.2nm,0.3s,baz=251,slow=23,SNR=1.2						
	7.9nm,0.5s						
WRA	**Warramunga Arr**	**15.90**	**212**	Pn	**P**	**14 43 59.1**	**-3.6**
	0.1nm,0.3s,baz=34,slow=12,SNR=5.8						
WRA				Sn	**Sn**	**14 46 52.0**	**-2.7**
	0.1nm,0.3s,baz=28,slow=24,SNR=1.0						
WRA				Lg	Lg	14 48 49.3	
	baz=93,slow=40,SNR=1.8						
ASAR	**Alice Springs**	**19.28**	**206**	P	**Pn**	**14 44 45.5**	**+4.3**
	2.4nm,0.6s,baz=33,slow=9.8,SNR=42						
ASAR				S	**S**	**14 48 15.3**	**-1.3**
	0.5nm,0.9s,baz=19,slow=30,SNR=1.5						
ASAR				Lg	Lg	14 50 37.5	
	baz=46,slow=35,SNR=1.8						
STKA	**Stephens Creek**	**25.34**	**183**	P	**P**	**14 45 45.3**	**+3.4**
	2.3nm,0.9s,baz=3.8,slow=15,SNR=2.3						
	2.3nm,0.9s						
KSRS	**Korea Array**	**45.92**	**343**	P	**P**	**14 48 35.4**	**-2.1**
	0.4nm,0.5s,baz=169,slow=5.5,SNR=1.7						
	0.4nm,0.5s						
PETK	**Petropavlovsk-**	**60.60**	**10**	P	**P**	**14 50 25.3**	**+0.1**
	1.6nm,1.0s,baz=160,slow=4.6,SNR=2.4						
	1.6nm,1.0s						
MKAR	**Makanchi Array**	**75.42**	**322**	P	**P**	**14 51 60.0**	**+1.5**
	0.3nm,0.6s,baz=115,slow=6.5,SNR=2.8						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**77.36**	**329**	P	**P**	**14 52 08.4**	**-0.9**
	0.4nm,0.4s,baz=134,slow=8.3,SNR=1.9						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**79.30**	**324**	P	**P**	**14 52 22.6**	**+2.5**
	0.2nm,0.4s,baz=116,slow=4.6,SNR=7.0						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**84.87**	**325**	P	**P**	**14 52 51.7**	**+2.4**
	1.7nm,0.9s,baz=102,slow=6.2,SNR=6.4						
	1.7nm,0.9s						
ILAR	**Eielson Array**	**87.42**	**24**	P	**P**	**14 53 00.2**	**-1.4**
	0.5nm,1.0s,baz=248,slow=4.8,SNR=3.1						
	0.5nm,1.0s						

ISK 26 14:42:45.5, 36°.15N×33°.57E, h0km, ML1.4/3, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKKU	**Akkuyu-Mersin**	**0.02**	**308**	Pg	Pg	14 42 46.2	+0.3
AKKU				Sg	Sg	14 42 46.9	+0.7
AKK1	**Akkuyu-Mersin**	**0.03**	**266**	Pg	Pg	14 42 46.4	+0.4
AKK1				Sg	Sg	14 42 47.0	+0.7
YESI	**Yesilovacik-Me**	**0.08**	**49**	Pg	Pg	14 42 47.5	+0.5
TISA	**Tisan-Mersin**	**0.09**	**79**	Pg	Pg	14 42 47.7	+0.5
IKL	**Isikli**	**0.13**	**45**	Pg	Pg	14 42 48.7	+0.7

NIC 26 14:43:32.2, 34°.89N×32°.61E, h36km±1km, Ml1.2/3, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NATA	**Nata**	**0.11**	**198**	P	Pn	14 43 38.3	-6.6
NATA				S	Sn	14 43 43.7	-14
TROD	**Troodos**	**0.22**	**74**	P	Pn	14 43 39.4	-1.8
TROD				S	Sn	14 43 45.0	-4.9
TROD				AML	AML	14 43 48.1	
	0.1nm,0.4s						
TROD				AML	AML	14 43 51.1	
	0.1nm,0.3s						
AKMS	**Akamas**	**0.26**	**300**	⇑P	Pn	14 43 39.9	-0.6
AKMS				S	Sn	14 43 46.0	-2.0
AKMS				AML	AML	14 43 46.3	
	0.1nm,0.2s						
AKMS				AML	AML	14 43 47.7	
	0.1nm,0.2s						
ALFC	**Alefka**	**0.27**	**358**	⇑P	Pn	14 43 39.9	-0.7
ALFC				S	Sn	14 43 45.8	-2.1
ALFC				AML	AML	14 43 47.2	
	0.1nm,0.2s						
ALFC				AML	AML	14 43 51.0	
	0.1nm,0.2s						
ASGA	**Asgata**	**0.53**	**101**	P	Pn	14 43 43.1	-0.3
ASGA				S	Sn	14 43 52.1	+1.0
CSS	**Mathiatis**	**0.59**	**83**	P	Pn	14 43 44.2	-0.1
CSS				S	Sn	14 43 52.5	-0.2
MVOU	**Mavrovouni**	**0.85**	**81**	P	Pn	14 43 48.1	+0.5
MVOU				S	Sn	14 43 58.7	-0.1

*IDC **26** 14:56:03.3±1.7, 5°.14S×151°.54E, h132km±13km, mb3.8/21, mbtmp4.2/22, Error ellipse: s-maj=21.4km s-min=8.6km az=115.0*
*NEIC **26** 14:56:05.1±1.2, 5°.14S±0°.08×151°.5E±0°.1, h142km±4km, mb4.3/54, Error ellipse: s-maj=16.4km s-min=10.5km az=69.0*

ISC 26 14:56:03.0±0.4, 5°.16S±0°.06×151°.57E±0°.08, h129km, n102, σ0§88/110, mb4.2/49, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BULU	**Kimbe**	**1.30**	**253**	P	**Pn**	**14 56 29.6**	**+0.7**
MANU	**Manus Island**	**5.22**	**306**		**Pn**	**14 57 19.8**	**+0.8**
PMG	**Port Moresby**	**6.08**	**226**		**Pn**	**14 57 28.9**	**-1.7**
PMG	**Port Moresby**	**6.08**	**226**	P	**Pn**	**14 57 31.8**	**+1.2**
	18nm,0.5s,baz=60,slow=5.9,SNR=13						
PMG				S	**Sn**	**14 58 39.3**	**+0.4**
	151nm,0.6s,baz=53,slow=20,SNR=15						
HNR	**Honiara**	**9.33**	**118**	Pn	**Pn**	**14 58 13.2**	**-1.2**
KDU	**Kakadu**	**20.28**	**247**	P	**P**	**15 00 28.2**	**-0.5**
MTN	**Manton Dam**	**21.57**	**248**	P	**P**	**15 00 43.7**	**+1.2**
MTN	**Manton Dam**	**21.57**	**248**	P	**P**	**15 00 42.5**	**0.0**
MTN				IAmb	IAmb	15 00 51.5	
	comp=Z,31nm,1.4s						
DZM	**Mont Dzumac**	**22.13**	**141**	P	**P**	**15 00 50.6**	**+2.2**
DZM				IAmb	IAmb	15 00 52.7	
	comp=Z,13nm,1.0s						
WB0	**Warramunga Arr**	**22.15**	**228**	P	**P**	**15 00 48.1**	**-0.4**
WB0				IAmb	IAmb	15 00 50.1	
	comp=Z,17nm,1.1s						
WR0	**Warramunga Arr**	**22.16**	**227**	P	**P**	**15 00 47.8**	**-0.8**
WR0				IAmb	IAmb	15 00 49.9	
	comp=Z,8.8nm,0.8s						
WB2	**Warramunga Arr**	**22.29**	**227**	P	**P**	**15 00 49.3**	**-0.7**
WB2				IAmb	IAmb	15 00 51.4	
	comp=Z,11nm,0.7s						
WRA	**Warramunga Arr**	**22.30**	**227**	P	**P**	**15 00 49.4**	**-0.6**
	comp=Z,12nm,0.8s,baz=52,slow=9.6,SNR=60						
WRA				PcP	**PcP**	**15 04 41.8**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=44,slow=2.0,SNR=4.7						
WRA				S	**S**	**15 04 44.9**	**-1.4**
	comp=Z,1.1nm,0.7s,baz=49,slow=16,SNR=5.4						
WRA				ScP	**ScP**	**15 08 07.1**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=55,slow=2.7,SNR=7.4						
	comp=Z,12nm,0.8s						
INKA	**Innaminka**	**24.71**	**203

SONM	**Songino Array**	**65.98**	**328**	P		**P**	**15 06 36.5**	**+0.8**
	comp=Z,2.4nm,0.6s,baz=147,slow=5.1,SNR=17							
	comp=Z,2.4nm,0.6s							
SEY	**Seymchan**	**67.91**	**0**	P		**P**	**15 06 47.1**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=220,slow=12,SNR=7.6							
	comp=Z,0.3nm,0.4s							
BILL	**Bilibino**	**73.76**	**6**	P		**P**	**15 07 22.6**	**-0.1**
BILL				IAmb		IAmb	15 07 24.4	
	comp=Z,2.4nm,0.5s							
M14K	**Bethel**	**74.98**	**22**	P		**P**	**15 07 30.6**	**+0.8**
L14K	**Kuka Creek**	**75.12**	**21**	P		**P**	**15 07 31.5**	**+0.9**
K15K	**Wolf Creek Mou**	**76.17**	**21**	P		**P**	**15 07 37.5**	**+0.9**
J16K	**Anvik River**	**77.14**	**20**	P		**P**	**15 07 42.9**	**+0.9**
J16K				IAmb		IAmb	15 08 04.2	
	comp=Z,12nm,1.5s							
SVW2	**Sparrevohn**	**77.64**	**23**	P		**P**	**15 07 45.9**	**+1.0**
SVW2				IAmb		IAmb	15 07 55.8	
	comp=Z,17nm,1.5s							
J17K	**VABM Dome**	**77.74**	**20**	P		**P**	**15 07 46.5**	**+1.1**
J17K				IAmb		IAmb	15 08 16.9	
	comp=Z,5.4nm,1.2s							
L18K	**Granite Mounta**	**77.88**	**22**	P		**P**	**15 07 47.2**	**+1.1**
L18K				IAmb		IAmb	15 08 09.1	
	comp=Z,10nm,1.4s							
G16K	**Koyuk River**	**77.98**	**18**	P		**P**	**15 07 47.4**	**+0.7**
G16K				IAmb		IAmb	15 07 48.6	
	comp=Z,5.5nm,1.2s							
TTA	**Tatalina**	**78.55**	**22**	P		**P**	**15 07 50.4**	**+0.5**
CNPM	**China Poot**	**78.57**	**26**	P		**P**	**15 07 50.8**	**+0.8**
MK31	**Makanchi Array**	**79.80**	**319**			**P**	**15 07 55.6**	**-1.4**
MKAR	**Makanchi Array**	**79.80**	**319**	P		**P**	**15 07 55.4**	**-1.6**
MKAR	**Makanchi Array**	**79.80**	**319**	P		**P**	**15 07 56.9**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=101,slow=7.6,SNR=16							
	comp=Z,1.1nm,0.6s							
MAKZ	**Makanchi**	**80.00**	**319**	P		**P**	**15 07 57.8**	**-0.4**
CAST	**Castle Rocks**	**80.30**	**22**	P		**P**	**15 07 59.3**	**-0.1**
CAST				IAmb		IAmb	15 08 37.5	
	comp=Z,6.3nm,1.3s							
C18K	**Utukok River**	**80.53**	**16**	P		**P**	**15 08 00.9**	**+0.4**
ZALV	**Zalesovo Beam**	**80.78**	**327**	P		**P**	**15 08 01.2**	**-0.8**
ZALV	**Zalesovo Beam**	**80.78**	**327**	P		**P**	**15 08 01.1**	**-0.9**
	comp=Z,1.9nm,0.4s,baz=114,slow=4.9,SNR=10							
	comp=Z,1.9nm,0.4s							
E19K	**Redstone River**	**80.90**	**18**			**P**	**15 08 03.1**	**+0.6**
E19K				IAmb		IAmb	15 08 04.5	
	comp=Z,2.9nm,0.7s							
SML	**Sawmill**	**80.96**	**25**	P		**P**	**15 08 03.2**	**+0.3**
F20K	**Avaraart Lake**	**81.11**	**18**	P		**P**	**15 08 04.1**	**+0.5**
IMAR	**Indian Mountai**	**81.13**	**20**	P		**P**	**15 08 04.4**	**+0.7**
H21K	**Melozitna Rive**	**81.27**	**20**	P		**P**	**15 08 05.1**	**+0.6**
H21K				IAmb		IAmb	15 08 16.1	
	comp=Z,6.6nm,1.5s							
C19K	**Lookout Ridge**	**81.27**	**16**	P		**P**	**15 08 05.2**	**+0.7**
C19K				IAmb		IAmb	15 08 06.3	
	comp=Z,2.7nm,0.6s							
D19K	**Kuna River**	**81.29**	**17**	P		**P**	**15 08 05.1**	**+0.6**
RAGM	**Ragged Mountai**	**81.88**	**27**	P		**P**	**15 08 07.5**	**-0.3**
I23K	**Minto, Yukon-K**	**82.22**	**21**	P		**P**	**15 08 09.6**	**+0.2**
CCB	**Clear Creek Bu**	**82.55**	**22**	P		**P**	**15 08 10.3**	**-0.8**
CCB				IAmb		IAmb	15 08 31.8	
	comp=Z,5.8nm,1.4s							
POKR	**Poker Plat Res**	**82.91**	**22**	P		**P**	**15 08 12.7**	**-0.4**
POKR				IAmb		IAmb	15 08 43.0	
	comp=Z,5.7nm,1.5s							
BOOM	**Boomskoye usch**	**82.95**	**314**	P		**P**	**15 08 14.6**	**+0.6**
BOOM				IAmb		IAmb	15 08 15.2	
	comp=Z,5.1nm,0.6s							
IL31		**82.95**	**22**	P		**P**	**15 08 12.5**	**-0.6**
IL31				IAmb		IAmb	15 08 56.3	
	comp=Z,5.7nm,1.4s							
ILAR	**Eielson Array**	**82.95**	**22**	P		**P**	**15 08 12.7**	**-0.5**
ILAR	**Eielson Array**	**82.95**	**22**	P		**P**	**15 08 12.3**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=248,slow=5.1,SNR=39							
	comp=Z,1.6nm,0.6s							
KURK	**Kurchatov**	**83.30**	**322**	P		**P**	**15 08 14.7**	**-0.6**
KURK				IAmb		IAmb	15 08 16.4	
	comp=Z,4.7nm,1.1s							
KURBB	**Kurchatov Arra**	**83.33**	**322**	P		**P**	**15 08 14.6**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=108,slow=4.1,SNR=12							
	comp=Z,0.8nm,0.5s							
J25K	**Salcha River,**	**83.46**	**23**	P		**P**	**15 08 16.2**	**+0.3**
J25K				IAmb		IAmb	15 08 16.6	
	comp=Z,4.2nm,0.6s							
TOLK	**Toolik Lake Re**	**83.94**	**18**	P		**P**	**15 08 19.2**	**+0.9**
FYU	**Fort Yukon**	**84.39**	**21**	P		**P**	**15 08 21.5**	**+1.0**
MAW	**Mawson**	**84.77**	**203**	P		**P**	**15 08 22.2**	**-0.2**
	comp=Z,3.6nm,1.0s,baz=3.8,slow=15,SNR=2.5							
	comp=Z,3.6nm,1.0s							
QSPA	**South Pole Qui**	**84.80**	**180**	P		**P**	**15 08 23.8**	**+0.9**
QSPA				IAmb		IAmb	15 08 25.7	
	comp=Z,7.1nm,1.4s							
QSPA	**South Pole Qui**	**84.80**	**180**	P		**P**	**15 08 23.7**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=300,slow=1.6,SNR=7.6							
	comp=Z,1.2nm,0.8s							
BMAR	**Burnt Mountain**	**85.01**	**20**	P		**P**	**15 08 24.9**	**+1.2**
G27K	**Doyon Strip**	**85.78**	**21**	P		**P**	**15 08 28.4**	**+0.9**
H29M	**Whitestone**	**86.78**	**22**	P		**P**	**15 08 33.1**	**+0.7**
H29M				IAmb		IAmb	15 08 51.3	
	comp=Z,8.6nm,1.4s							
H31M	**Peel River**	**88.22**	**23**	P		**P**	**15 08 39.8**	**+0.5**
H31M				IAmb		IAmb	15 09 11.3	
	comp=Z,6.7nm,1.4s							
BVAR	**Borovoye Array**	**88.80**	**323**	P		**P**	**15 08 41.0**	**-1.2**
	comp=Z,1.6nm,0.5s,baz=106,slow=7.0,SNR=12							
	comp=Z,1.6nm,0.5s							
INK	**Inuvik**	**89.23**	**21**	P		**P**	**15 08 44.0**	**+0.1**
INK				IAmb		IAmb	15 09 04.0	
	comp=Z,4.5nm,1.4s							
NVAR	**Mina Array Bea**	**93.27**	**52**	P		**P**	**15 09 04.6**	**+1.0**
	comp=Z,1.4nm,0.9s,baz=260,slow=7.0,SNR=6.6							
	comp=Z,1.4nm,0.9s							
YKA	**Yellowknife Ar**	**96.31**	**28**	P		**P**	**15 09 16.9**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=277,slow=4.9,SNR=2.6							
	comp=Z,0.2nm,0.7s							
NOA	**NORSAR Array B**	**116.83**	**340**	PKP		**PKPdf**	**15 14 29.8**	**-2.2**
	comp=Z,0.4nm,0.7s,baz=51,slow=2.0,SNR=2.5							
GERES	**GERESS Array B**	**123.71**	**328**	PKP		**PKPdf**	**15 14 44.2**	**-1.6**
	comp=Z,0.7nm,0.4s,baz=5.7,slow=1.3,SNR=4.2							
EKA	**Eskdalemuir Ar**	**126.01**	**342**	PKP		**PKPdf**	**15 14 49.5**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=6.8,slow=3.8,SNR=4.9							
LPAZ	**La Paz**	**135.32**	**119**	PKP		**PKiKP**	**15 15 10.8**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=15,slow=9.8,SNR=2.5							
TORD	**Torodi Ar. Bea**	**149.25**	**287**	PKPbc		**PKPbc**	**15 15 36.2**	**-1.3**
	comp=Z,5.3nm,0.7s,baz=60,slow=3.7,SNR=32							

*SJA **26** 15:15:22.7±0.7,24°.07S×66°.80W,h234km±5km, ML3.6, MW3.5*
*GUC **26** 15:15:26.8±0.6,24°.00S×67°.25W,h234km±7km, ML3.6*
ISC 26 15:15:23.3±1.9,24.05S±0.04×66.90W±0.06,
h226km±17km,n34,σ1°57/64,1C,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.44**	**118**	*eP*	**Pn**	**15 15 59.0**	**-0.1**
FSA	**Cafayete**	**2.22**	**158**	*eP*	**Pn**	**15 16 05.9**	**-0.2**
YJA	**Yavi**	**2.26**	**35**	*eP*	**Pn**	**15 16 07.8**	**+0.8**
YJA				*eS*	**Sn**	**15 16 40.4**	**-0.6**
LVC	**Limon Verde**	**2.34**	**307**	*eP*	**Pn**	**15 16 09.0**	**+1.4**
LVC				*eS*	**Sn**	**15 16 43.4**	**+1.2**
LVC	**Limon Verde**	**2.34**	**307**	*eP*	**Pn**	**15 16 08.6**	**+1.0**
LVC				*i* S	**Sn**	**15 16 40.4**	**-1.8**
GO02	**Mina Guanaco**	**2.69**	**245**	*eP*	**Pn**	**15 16 12.8**	**+1.6**
GO02				*eS*	**Sn**	**15 16 49.4**	**+0.7**
GO02	**Mina Guanaco**	**2.69**	**245**	*eP*	**Pn**	**15 16 12.6**	**+1.5**
GO02				*eS*	**Sn**	**15 16 47.6**	**-1.1**
PB06	**IPOC Station P**	**2.79**	**298**	*eP*	**Pn**	**15 16 13.8**	**+1.5**
PB06				*eS*	**Sn**	**15 16 51.6**	**+1.0**
PB06				IAML		15 16 55.3	
	comp=Z,85nm,0.2s						
PB06	**IPOC Station P**	**2.79**	**298**	*eP*	**Pn**	**15 16 12.9**	**+0.6**
PB06				*eS*	**Sn**	**15 16 48.0**	**-2.6**
PB06				IAML		15 16 53.6	
	comp=E,193nm,0.2s						
PB09	**IPOC Station P**	**3.11**	**316**	*eP*	**Pn**	**15 16 17.7**	**+1.9**
PB09				*eS*	**Sn**	**15 16 57.6**	**+0.5**
PB09				IAML		15 16 57.8	
	comp=Z,71nm,0.7s						
PB09	**IPOC Station P**	**3.11**	**316**	*eP*	**Pn**	**15 16 17.6**	**+1.7**
PB09				*i* S	**Sn**	**15 16 56.0**	**-1.1**
PB09				IAML		15 17 01.8	
	comp=N,54nm,0.2s						
PB14	**IPOC Station P**	**3.24**	**259**	*eP*	**Pn**	**15 16 18.6**	**+1.2**
PB14				*eS*	**Sn**	**15 16 59.2**	**-0.8**
PB14				IAML		15 17 01.3	
	comp=Z,135nm,0.5s						
PB14	**IPOC Station P**	**3.24**	**259**	*eP*	**Pn**	**15 16 18.6**	**+1.2**
PB14				*i* S	**Sn**	**15 16 58.0**	**-2.0**
PB05	**IPOC Station P**	**3.26**	**291**	*eP*	**Pn**	**15 16 18.8**	**+1.4**
PB05				*eS*	**Sn**	**15 17 00.1**	**+0.1**
PB05				IAML		15 17 03.3	
	comp=Z,41nm,0.2s						
PB05	**IPOC Station P**	**3.26**	**291**	*eP*	**Pn**	**15 16 18.4**	**+1.0**
PB05				*i* S	**Sn**	**15 16 56.2**	**-3.7**
PB10	**IPOC Station P**	**3.39**	**278**	*eP*	**Pn**	**15 16 20.3**	**+1.5**
PB10				*eS*	**Sn**	**15 17 02.3**	**-0.1**
PB10				IAML		15 17 04.1	
	comp=Z,91nm,0.2s						
PB10	**IPOC Station P**	**3.39**	**278**	*i* P	**Pn**	**15 16 19.0**	**+0.2**
PB10				*eS*	**Sn**	**15 16 59.1**	**-3.3**
AC02	**Maricunga**	**3.43**	**216**	*eP*	**Pn**	**15 16 22.1**	**+2.4**
AC02				*i* S	**Sn**	**15 17 05.0**	**+0.8**
PB04	**IPOC Station P**	**3.44**	**299**	*eP*	**Pn**	**15 16 21.2**	**+1.6**
PB04				*eS*	**Sn**	**15 17 03.9**	**0.0**
PB04				IAML		15 17 05.8	
	comp=Z,165nm,0.2s						
PB04	**IPOC Station P**	**3.44**	**299**	*eP*	**Pn**	**15 16 20.7**	**+1.1**
PB04				*eS*	**Sn**	**15 17 01.0**	**-2.9**
PB07	**IPOC Station P**	**3.59**	**309**	*eP*	**Pn**	**15 16 22.5**	**+1.1**
PB07				*eS*	**Sn**	**15 17 06.2**	**-1.0**
PB07				IAML		15 17 08.8	
	comp=Z,100nm,0.2s						
PB07	**IPOC Station P**	**3.59**	**309**	*eP*	**Pn**	**15 16 22.5**	**+1.1**
PB07				*eS*	**Sn**	**15 17 04.1**	**-3.1**
PB01	**IPOC Station P**	**3.83**	**321**	*eP*	**Pn**	**15 16 25.2**	**+1.1**
PB01				*eS*	**Sn**	**15 17 11.7**	**-0.4**
PB01				IAML		15 17 15.2	
	comp=Z,60nm,0.3s						
PB01	**IPOC Station P**	**3.83**	**321**	*eP*	**Pn**	**15 16 25.2**	**+1.1**
PB01				*i* S	**Sn**	**15 17 10.1**	**-2.1**
PB02	**IPOC Station P**	**3.88**	**314**	*eP*	**Pn**	**15 16 25.5**	**+0.8**
PB02				*i* S	**Sn**	**15 17 10.5**	**-2.6**
AC01	**Pan de Azucar**	**3.95**	**237**	*eP*	**Pn**	**15 16 25.9**	**+0.5**
AC01				*eS*	**Sn**	**15 17 13.1**	**-1.5**
AC01				IAML		15 17 15.1	
	comp=Z,70nm,0.2s						
AC01	**Pan de Azucar**	**3.95**	**237**	*eP*	**Pn**	**15 16 25.9**	**+0.5**
AC01				*i* S	**Sn**	**15 17 12.3**	**-2.2**
PB08	**IPOC Station P**	**4.42**	**331**	*eP*	**Pn**	**15 16 33.2**	**+1.6**
PB08				*eS*	**Sn**	**15 17 25.5**	**0.0**
PB08				IAML		15 17 28.6	
	comp=Z,30nm,0.3s						
PB08	**IPOC Station P**	**4.42**	**331**	*eP*	**Pn**	**15 16 33.1**	**+1.5**
PB08				*i* S	**Sn**	**15 17 25.0**	**-0.5**
TA01	**Diego Aracena**	**4.61**	**318**	*eP*	**Pn**	**15 16 35.6**	**+2.1**
TA01				*eS*	**Sn**	**15 17 27.7**	**-1.4**
TA01				IAML		15 17 27.9	
	comp=Z,17nm,1.2s						
GO03	**Copiap**	**4.63**	**220**	*eP*	**Pn**	**15 16 34.6**	**+0.7**
GO03				*eS*	**Sn**	**15 17 28.1**	**-1.6**
GO01	**Chusmiza**	**4.85**	**334**	*eS*	**Sn**	**15 17 35.3**	**-0.1**
PB11	**IPOC Station P**	**4.97**	**329**	*eP*	**Pn**	**15 16 38.7**	**+0.4**
PB11				*eS*	**Sn**	**15 17 35.4**	**-2.3**
PB11				IAML		15 17 38.2	
	comp=Z,44nm,0.6s						
ACLC	**CERRO LA CRUZ**	**5.35**	**180**	*eP*	**Pn**	**15 16 44.6**	**+1.7**
ACLC				IAML		15 17 57.1	
	comp=Z,8.7nm,4.0s						

*IDC **26** 15:21:40.0±1.1,13°.98N×92°.95W,h0km, mb4.0/6, mbtmp4.0/9, ML3.7/4, MS3.6/10, Error ellipse: s-maj=32.8km s-min=15.7km az=45.0*
*MEX **26** 15:21:41.8±1.1,14°.00N×93°.11W,h9km±22km, MD4.5*
*NEIC **26** 15:21:43.6±1.3,14°.21N±0°.04×92°.96W±0°.03,h15km±6km, mb4.5/22, Md4.5/61(MEX), Error ellipse: s-maj=6.1km s-min=4.1km az=175.0*
*CATAC **26** 15:21:47.1±1.7,14°.24N×92°.58W,h3km±9km, ML4.4*
*GCG **26** 15:21:56.7±0.6,14°.56N×92°.05W,h50km±164km, MD4.1*
ISC 26 15:21:39.2±1.3,14°.11N±0°.04×93°.10W±0°.03,h3km±8km, n121,σ2°30/150,mb4.5/17,MS3.6/7,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.14**	**45**		**Pb**	**15 22 01.3**	**-0.2**
THIG					**Sg**	**15 22 14.3**	**-1.4**
THIG		**1.14**	**45**	*eP*	**Pb**	**15 22 01.3**	**-0.2**
THIG				*eS*	**Sb**	**15 22 16.1**	**-0.6**
PATR	**El Naranjo**	**1.31**	**40**	*eP*	**Pg**	**15 22 03.5**	**-0.9**
PATR				*eS*	**Sg**	**15 22 19.8**	**-1.6**
CHUJ	**Union Juarez**	**1.37**	**44**	*eP*	**Pg**	**15 22 04.2**	**-1.4**
CHUJ				*eS*	**Sg**	**15 22 22.3**	**-1.1**
PAVE	**Pavencul**	**1.40**	**39**	*eP*	**Pg**	**15 22 04.8**	**-1.4**
PAVE				*eS*	**Sg**	**15 22 23.1**	**-1.3**
RTAL	**Retalhuleu**	**1.42**	**73**		**Pn**	**15 22 04.7**	**-1.3**
RTAL	**Retalhuleu**	**1.42**	**73**	*eP*	**Pn**	**15 22 03.4**	**-0.6**
RTAL				*eS*	**Sg**	**15 22 22.2**	**-2.8**
RTAL	**Retalhuleu**	**1.42**	**73**	*i* P	**Pg**	**15 22 05.9**	**-0.7**
RTAL				IAML		15 22 14.5	
	comp=Z,3μm,1.0s						
SULM	**Suchitepequez,**	**1.50**	**82**	*eP*	**Pg**	**15 22 08.3**	**+0.2**
SMSP	**San Marcos**	**1.54**	**56**	*eP*	**Pn**	**15 22 07.9**	**+0.1**
SMSP				*eS*	**Sg**	**15 22 24.0**	**-4.8**
SMSP	**San Marcos**	**1.54**	**56**	*i* P	**Pn**	**15 22 08.0**	**+0.1**
SMSP				IAML		15 22 32.3	
	comp=Z,11μm,1.0s						
PCIG		**1.59**	**356**		**Pn**	**15 22 08.5**	**+0.2**
PCIG					**Sn**	**15 22 29.1**	**-0.4**
PCIG		**1.59**	**356**	*eP*	**Pn**	**15 22 08.5**	**+0.2**
PCIG				*eS*	**Sn**	**15 22 29.1**	**-0.4**
STG3	**Santiaguito 3,**	**1.60**	**68**	*eP*	**Pn**	**15 22 08.4**	**-0.1**
HUEH	**Huehuetenango**	**1.96**	**52**		**Pn**	**15 22 13.7**	**+0.1**
HUEH	**Huehuetenango**	**1.96**	**52**	*eP*	**Pn**	**15 22 13.6**	**+0.1**
HUEH				*eS*	**Sn**	**15 22 36.7**	**-2.0**
HUEH	**Huehuetenango**	**1.96**	**52**	*i* P	**Pb**	**15 22 15.0**	**-0.7**
HUEH				*i* S	Sn	15 22 29.7	-9.1
FUG	**Fuego 3**	**2.21**	**81**	*eP*	**Pn**	**15 22 17.3**	**+0.3**
CARR	**Arriaga**	**2.27**	**340**	*eP*	**Pn**	**15 22 19.9**	**+2.3**
CARR				*eS*	**Sn**	**15 22 47.7**	**+1.6**
QUIS	**Sacapulas**	**2.27**	**58**	*i* P	**Pb**	**15 22 19.7**	**-1.3**
QUIS				IAML		15 22 21.1	
	comp=Z,4μm,1.0s						
QUIS				*i* S	**Sn**	**15 22 45.1**	**-1.2**
CCIG	**Comitan**	**2.35**	**23**		**Pn**	**15 22 19.6**	**+0.6**
CCIG	**Comitan**	**2.35**	**23**	*eP*	**Pb**	**15 22 22.1**	**-0.3**
CCIG				*eS*	**Sb**	**15 22 50.8**	**-1.2**
PCG	**Pacaya**	**2.43**	**83**	*eP*	**Pn**	**15 22 20.8**	**+0.7**
GUMI	**Mixco**	**2.46**	**77**	*i* P	**Pn**	**15 22 21.6**	**+1.1**
GUMI				IAML		15 22 57.6	
	comp=Z,4μm,1.0s						
GCG4	**OSOP**	**2.53**	**79**	*i* P	**Pn**	**15 22 21.8**	**+0.4**
GCG4				IAML		15 23 09.0	
	comp=Z,2μm,1.0s						
TGIG		**2.66**	**360**		**Pn**	**15 22 25.2**	**+2.2**
TGIG					**Sn**	**15 22 56.5**	**+0.7**
TGIG		**2.66**	**360**	*eP*	**Pn**	**15 22 25.2**	**+2.2**
TGIG				*eS*	**Sn**	**15 22 56.5**	**+0.7**
APG	**El Apazote**	**2.70**	**70**	Pn	**Pn**	**15 22 24.9**	**+1.1**
	comp=Z,3.0nm,0.3s,baz=190,slow=12,SNR=50						
APG				Sn	**Sn**	**15 22 56.9**	**-0.3**
	comp=Z,3.5nm,0.3s,baz=93,slow=15,SNR=9.7						
NBG	**Las Nubes**	**2.71**	**79**	*eP*	**Pn**	**15 22 25.2**	**+1.3**
GUNB	**GUNB**	**2.71**	**79**	*i* P	**Pn**	**15 22 25.1**	**+1.1**
GUNB				IAML		15 23 06.0	
	comp=Z,790nm,1.0s						
NILT	**Santiago Nilte**	**2.85**	**329**	*eP*	**Pn**	**15 22 27.5**	**+1.9**
NILT				*eS*	**Sn**	**15 23 00.9**	**+0.5**
AVCB	**Coban**	**2.94**	**62**	*i* P	**Pn**	**15 22 26.1**	**-0.8**
AVCB				IAML		15 23 35.5	
	comp=Z,13μm,1.0s						
NUBE	**Las Nubes**	**3.23**	**93**	*i* P	**Pn**	**15 22 31.5**	**+0.6**
NUBE				IAML		15 23 18.9	
	comp=Z,460nm,1.0s						
HUIG	**Huatulco**	**3.35**	**300**		**Pn**	**15 22 33.0**	**+0.5**
HUIG					**Sn**	**15 23 06.7**	**-6.0**
HUIG	**Huatulco**	**3.35**	**300**	*eP*	**Pn**	**15 22 31.9**	**-0.5**
HUIG				*eS*	**Sn**	**15 23 06.7**	**-6.0**
UXUV	**UXUV**	**3.35**	**343**	*eP*	**Pn**	**15 22 34.8**	**+2.3**
UXUV				*eS*	**Sn**	**15 23 14.9**	**+2.2**
CMIG	**Matias Romero**	**3.43**	**330**		**Pn**	**15 22 35.3**	**+1.7**
CMIG					**Sn**	**15 23 14.6**	**-0.2**
CMIG	**Matias Romero**	**3.43**	**330**	Pn	**Pn**	**15 22 36.4**	**+2.8**
	comp=Z,11nm,0.3s,baz=160,slow=13,SNR=41						
CMIG				Sn	**Sn**	**15 23 20.6**	**+5.8**
	comp=Z,54nm,0.3s,baz=56,slow=23,SNR=8.7						
	comp=Z,34nm,0.4s						
CMIG	**Matias Romero**	**3.43**	**330**	*eP*	**Pn**	**15 22 35.3**	**+1.7**
CMIG				*eS*	**Sn**	**15 23 14.6**	**-0.2**
JAYA	**Jayaque - finc**	**3.57**	**97**	*i* P	**Pn**	**15 22 36.0**	**+0.3**
JAYA				IAML		15 23 33.9	
	comp=Z,850nm,1.0s						
MTO3	**Montecristo**	**3.64**	**85**		**Pn**	**15 22 36.4**	**-0.2**
ESQI	**Esquipulas**	**3.67**	**82**	*i* P	**Pn**	**15 22 34.5**	**-2.5**
ESQI				IAML		15 24 11.4	
	comp=Z,640nm,1.0s						
PMON	**Piamonte**	**3.69**	**96**	*i* P	**Pn**	**15 22 38.2**	**+0.9**
PMON				IAML		15 23 39.1	
	comp=Z,640nm,1.0s						
TUIG	**Tuzandepetl**	**4.11**	**342**	*eP*	**Pn**	**15 22 44.7**	**+1.8**
TUIG				*eS*	**Sn**	**15 23 32.2**	**+0.7**
PETF	**Flores**	**4.18**	**48**		**Pn**	**15 22 43.4**	**-0.6**
PETF	**Flores**	**4.18**	**48**	*eP*	**Pn**	**15 22 45.6**	**+1.6**
PETF				*eS*	**Sn**	**15 23 33.0**	**-0.4**
PETF	**Flores**	**4.18**	**48**	*i* P	**Pn**	**15 22 46.2**	**+2.2**
PETF				IAML		15 23 51.6	
	comp=Z,380nm,1.0s						
PEIG	**Puerto Escondi**	**4.34**	**296**		**Pn**	**15 22 49.1**	**+3.0**
PEIG					**Sn**	**15 23 32.6**	**-4.6**
PEIG	**Puerto Escondi**	**4.34**	**296**	*eP*	**Pn**	**15 22 49.1**	**+3.0**
PEIG				*eS*	**Sn**	**15 23 32.6**	**-4.6**
NEUV	**Arroyo Zacate**	**4.43**	**324**	*eP*	**Pn**	**15 22 49.2**	**+1.9**
NEUV				*eS*	**Sn**	**15 23 40.5**	**+1.1**
VHO	**Vista Hermosa**	**4.58**	**311**	*eP*	**Pn**	**15 22 50.2**	**+0.6**
VHO				*eS*	**Sn**	**15 23 41.8**	**-1.6**
PMUV	**Sontecomapan**	**4.82**	**337**	*eP*	Pn	15 22 49.1	-3.7
PMUV				*eS*	**Sn**	**15 23 48.2**	**-1.1**
YOIG	**Yosondua**	**5.08**	**303**		Pn	15 23 01.8	+5.2
YOIG					**Sn**	**15 23 51.7**	**-4.3**
YOIG	**Yosondua**	**5.08**	**303**	*eP*	Pn	15 23 01.8	+5.2
YOIG				*eS*	**Sn**	**15 23 51.7**	**-4.3**
SCIG	**Sabancuy**	**5.17**	**21**	*eP*	**Pn**	**15 22 56.6**	**-0.9**
SCIG				*eS*	**Sn**	**15 23 54.5**	**-3.2**
PNIG	**Pinotepa**	**5.36**	**296**		**Pn**	**15 23 03.1**	**+3.0**
PNIG					**Sn**	**15 23 56.9**	**-5.5**
PNIG	**Pinotepa**	**5.36**	**296**	*eP*	**Pn**	**15 23 03.1**	**+3.0**
PNIG				*eS*	**Sn**	**15 23 56.9**	**-5.5**
TXIG	**Tlaxiaco**	**5.48**	**305**		Pn	15 23 07.5	+5.5
TXIG					**Sn**	**15 24 06.3**	**+0.6**
TXIG	**Tlaxiaco**	**5.48**	**305**	*eP*	Pn	15 23 07.5	+5.5
TXIG				*eS*	**Sn**	**15 24 06.3**	**+0.6**
TOIG	**Toxpalan**	**5.50**	**317**		**Pn**	**15 23 06.7**	**+4.5**
TOIG					**Sn**	**15 24 07.7**	**+1.6**
TOIG	**Toxpalan**	**5.50**	**317**	*eP*	**Pn**	**15 23 06.7**	**+4.5**
TOIG				*eS*	**Sn**	**15 24 07.7**	**+1.6**
HLIG	**Huajuapan de L**	**5.85**	**310**		Pn	15 23 13.2	+6.2
HLIG					**Sn**	**15 24 15.2**	**+0.5**
HLIG	**Huajuapan de L**	**5.85**	**310**	*eP*	Pn	15 23 13.2	+6.2
HLIG				*eS*	**Sn**	**15 24 15.2**	**+0.5**
TPIG	**Tehuac#an**	**5.93**	**317**	*eP*	**Pn**	**15 23 09.0**	**+0.9**
TPIG				*eS*	**Sn**	**15 24 15.4**	**-1.3**
CRIN	**San Cristobal**	**6.05**	**103**		**Sb**	**15 24 38.0**	**-0.2**
FTIG	**Fresnillo de T**	**6.14**	**309**		**Pn**	**15 23 15.3**	**+4.3**
FTIG					**Sn**	**15 24 20.3**	**-1.6**
FTIG	**Fresnillo de T**	**6.14**	**309**	*eP*	**Pn**	**15 23 15.3**	**+4.3**
FTIG				*eS*	**Sn**	**15 24 20.3**	**-1.6**
TLIG	**Tlapa**	**6.29**	**304**	*eP*	Pn	15 23 19.0	+6.0
TLIG				*eS*	**Sn**	**15 24 29.6**	**+4.2**
JAUV	**Jalcomulco**	**6.32**	**326**	*eP*	**Pn**	**15 23 14.9**	**+1.5**

MDT	**Midelt**	**81.25**	**58**	LR	LR	16 05 42.7	
	comp=Z,24nm,18.4s,baz=359,slow=32						
ARCES	**ARCESS Array B**	**86.37**	**18**	LR	LR	16 13 26.4	
	comp=Z,24nm,18.0s,baz=307,slow=36						
VRAC	**Vranov**	**91.77**	**38**	LR	LR	16 17 40.3	
	comp=Z,16nm,18.2s,baz=300,slow=37						
CMAR	**Chiang Mai Arr**	**145.53**	**340**	PKPbc	**PKPbc**	**15 41 20.9**	**+1.1**
	comp=Z,2.1nm,0.8s,baz=343,slow=4.5,SNR=13						

TAP 26 15:28:51.2,24°34′N×121°75′E,h3km,ML1.2,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EAHA	**Aohua**	**0.01**	**240**	*i* P	Pg	15 28 51.8	-0.1
	baz=240						
EAHA				*e*S	Sg	15 28 52.3	0.0
	baz=240						
ENA	**Nanau**	**0.09**	**355**	*i* P	Pg	15 28 53.0	-0.1
	baz=359						
ENA				S	Sg	15 28 54.5	+0.1
	baz=359						
EWUT	**Wuta**	**0.11**	**13**	*e*S	Sg	15 28 54.9	-0.1
	baz=13						
ETL	**Fush Village**	**0.21**	**214**	*e*P	Pg	15 28 55.3	+0.1
	baz=213						
NNSB	**Datong**	**0.35**	**286**	*e*S	Sg	15 29 02.7	+0.2
	baz=285						

JMA 26 15:28:54.2±0.1,24°3′N±0′.3×123°8′E±0′.3,h15km±1km, MV0.8/10,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.12**	**317**	*e*P	Pg	15 28 57.7	0.0
IRIF				*e*S	Sg	15 29 00.2	+0.1
JKRS	**Kuro-shima**	**0.17**	**94**	*i* P	Pg	15 28 58.5	0.0
JKRS				*e*S	Sg	15 29 01.9	+0.5
HATJ	**Hateruma jima**	**0.19**	**184**	*i* P	Pg	15 28 58.6	-0.2
HATJ				*e*S	Sg	15 29 02.1	+0.3
JIJ	**Ishigaki jima**	**0.32**	**69**	P	Pg	15 29 00.6	-0.2
JIJ				*e*S	Sg	15 29 05.1	-0.2
JISG	**Ishigakijimahi**	**0.56**	**53**	*e*P	Pg	15 29 05.3	0.0
JISG				*e*S	Sb	15 29 13.4	-0.2
YOJ	**Yonaguni jima**	**0.77**	**286**	S	Sg	15 29 18.7	-0.7
JYNG	**Yonagunijimaku**	**0.82**	**284**	*e*S	Sn	15 29 22.5	-0.6
JTJ	**Tarama**	**0.89**	**64**	*e*S	Sg	15 29 24.1	+0.7

*NOU **26** 15:30:27.5,17°.47S×178°.34W,h560km,mb5.0/45,Fiji Islands Region*
*NEIC **26** 15:30:29.4±2.2,17°.8S±0°.1×178°.7W±0°.1,h540km±7km, mb4.4/134,Error ellipse: s-maj=17.4km s-min=15.0km az=122.0*
*IDC **26** 15:30:30.9±1.6,17°.68S×178°.83W,h558km±16km, mb3.9/20,mbtmp4.8/21,Error ellipse: s-maj=12.0km s-min=9.5km az=143.0*
ISC 26 15:30:29.3±0.3,17°.71S±0°.06×178°.67W±0°.06,h547km, n259,σ1s20/216,mb4.5/109,7D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.13**	**269**	P	**P**	**15 31 48.0**	**+2.9**
AFI	**Afiamalu**	**7.63**	**61**	P	**P**	**15 32 21.8**	**-1.7**
NIUE	**Niue**	**8.41**	**101**	P	**P**	**15 32 31.9**	**+0.8**
FUNA	**Funafuti**	**9.36**	**347**	P	**P**	**15 32 40.3**	**-0.5**
MARNC	**Mare, Loyalty**	**13.09**	**251**	P	**P**	**15 33 1.1**	**-1.0**
LIFNC	**LIFOU**	**13.66**	**255**	P	**P**	**15 33 23.6**	**-1.4**
PINNC	**Pines Island,**	**13.92**	**247**	P	**P**	**15 33 27.4**	**-0.3**
OUENC	**Ouen Island, N**	**14.40**	**249**	P	**P**	**15 33 32.0**	**-0.7**
DZM	**Mont Dzumac**	**14.66**	**250**	P	**P**	**15 33 34.7**	**-0.9**
DZM	**Mont Dzumac**	**14.66**	**250**	P	**P**	**15 33 34.3**	**-1.2**
	32nm,0.6s,baz=313,slow=21,SNR=17						
DZM				S	**S**	**15 36 13.4**	**+4.4**
	15nm,1.0s,baz=332,slow=15,SNR=3.5						
KOUNC	**Koumac, New Ca**	**16.36**	**257**	P	**P**	**15 33 51.4**	**-1.0**
WMGZ	**Waiomatatini S**	**20.20**	**187**	P	**P**	**15 34 26.8**	**-0.4**
HAZ	**Te Kaha**	**20.22**	**188**	P	**P**	**15 34 26.1**	**-1.2**
PKGZ	**Pakihiroa**	**20.31**	**187**	P	**P**	**15 34 27.6**	**-0.7**
RUGZ	**Raukumara Rang**	**20.44**	**188**	P	**P**	**15 34 28.2**	**-1.3**
TGRZ	**Tauranga**	**20.44**	**192**	P	**P**	**15 34 30.7**	**+1.3**
PUZ	**Puketiti**	**20.47**	**187**	P	**P**	**15 34 29.2**	**-0.5**
TOZ	**Tahuroa Road**	**20.60**	**193**	P	**P**	**15 34 32.2**	**+1.4**
TWGZ	**Tauwhareparae**	**20.61**	**188**	P	**P**	**15 34 29.7**	**-1.2**
KMRZ	**Kaimai**	**20.62**	**192**	P	**P**	**15 34 32.3**	**+1.3**
TARA	**Tarawa**	**20.67**	**336**	P	**P**	**15 34 31.4**	**-0.4**
URZ	**Urewera**	**20.81**	**189**	P	**P**	**15 34 29.6**	**-3.1**
	8.6nm,0.3s,baz=341,slow=2.1,SNR=23						
URZ				S	**S**	**15 37 49.4**	**-0.2**
	7.0nm,0.9s,baz=223,slow=17,SNR=3.6						
URZ	**Urewera**	**20.81**	**189**	P	**P**	**15 34 30.2**	**-2.5**
MWZ	**Matawai**	**20.82**	**188**	P	**P**	**15 34 30.5**	**-2.3**
CNGZ	**Carnagh Statio**	**20.88**	**187**	P	**P**	**15 34 33.6**	**+0.3**
RIGZ	**Rimuhau**	**21.16**	**188**	P	**P**	**15 34 34.8**	**-1.1**
RTZ	**Ruatahuna**	**21.18**	**189**	P	**P**	**15 34 33.2**	**-3.0**
RTZ				IAmb	IAmb	15 34 35.2	
	comp=Z,15nm,0.8s						
RTZ	**Ruatahuna**	**21.18**	**189**	P	**P**	**15 34 34.4**	**-1.7**
SNGZ	**Shannon Statio**	**21.29**	**189**	P	P	15 34 27.3	-10
MTHZ	**Maungataniwha**	**21.43**	**190**	P	**P**	**15 34 37.4**	**-1.0**
BKZ	**Black Stump Fm**	**21.80**	**190**	P	**P**	**15 34 39.0**	**-2.7**
BKZ				IAmb	IAmb	15 34 47.9	
	comp=Z,17nm,1.3s						
BKZ	**Black Stump Fm**	**21.80**	**190**	P	**P**	**15 34 40.0**	**-1.7**
ETVZ	**East Tongariro**	**21.91**	**192**	P	**P**	**15 34 41.7**	**-1.0**
MCHZ	**McNeill Hill**	**22.03**	**190**	P	**P**	**15 34 42.0**	**-1.7**
KWHZ	**Kaweka Forest**	**22.06**	**190**	P	**P**	**15 34 41.9**	**-2.1**
WNVZ	**Wahianoa**	**22.11**	**192**	P	**P**	**15 34 43.9**	**-0.7**
BHHZ	**Black Hill Sta**	**22.18**	**191**	P	**P**	**15 34 43.1**	**-2.1**
KAHZ	**Kahuranaki**	**22.35**	**189**	P	**P**	**15 34 44.6**	**-2.0**
PXZ	**Pawanui**	**22.58**	**189**	P	**P**	**15 34 46.6**	**-2.0**
QRZ	**Quartz Range**	**24.26**	**196**	P	**P**	**15 35 03.5**	**0.0**
QRZ	**Quartz Range**	**24.26**	**196**	P	**P**	**15 35 03.0**	**-0.5**
TKNZ	**Takaka Hill**	**24.34**	**196**	P	**P**	**15 35 02.8**	**-1.4**
TUWZ	**Tuamarina**	**24.48**	**194**	P	**P**	**15 35 03.2**	**-2.2**
THZ	**Tophouse**	**25.04**	**195**	P	**P**	**15 35 08.8**	**-1.7**
THZ				IAmb	IAmb	15 35 13.1	
	comp=Z,23nm,1.0s						
KHZ	**Kahutara**	**25.51**	**193**	P	**P**	**15 35 12.4**	**-2.1**
LTZ	**Lake Taylor**	**26.16**	**195**	P	**P**	**15 35 18.3**	**-2.1**
INZ	**Inchbonnie**	**26.32**	**197**	P	**P**	**15 35 20.0**	**-1.7**
OXZ	**Oxford**	**26.73**	**195**	P	**P**	**15 35 23.4**	**-1.9**
FOZ	**Fox Glacier**	**27.53**	**198**	P	**P**	**15 35 30.7**	**-1.6**
AUWSH	**Wavell State H**	**27.80**	**245**	P	**P**	**15 35 35.6**	**+0.7**
JCZ	**Jackson Bay**	**28.34**	**199**	P	**P**	**15 35 39.0**	**-0.5**
WKZ	**Wanaka**	**28.95**	**198**	P	**P**	**15 35 43.1**	**-1.6**
EIDS	**Eidsvold**	**29.11**	**250**	P	**P**	**15 35 46.0**	**-0.4**
EIDS	**Eidsvold**	**29.11**	**250**	P	**P**	**15 35 45.8**	**-0.5**
RK1H	**Rockhampton Ha**	**29.39**	**254**	P	**P**	**15 35 48.8**	**0.0**
MLZ	**Mavora Lakes**	**29.71**	**199**	P	**P**	**15 35 50.8**	**-0.5**
ARMA	**Armidale**	**29.83**	**239**	P	**P**	**15 35 53.4**	**+0.7**
ARMA	**Armidale**	**29.83**	**239**	P	**P**	**15 35 53.3**	**+0.6**
WHZ	**Wether Hill Ro**	**30.23**	**199**	P	**P**	**15 35 55.3**	**-0.5**
AUPHS	**Peel High Scho**	**30.65**	**238**	P	**P**	**15 36 00.5**	**+0.9**
MGCD	**Mangrove Creek**	**31.21**	**235**	P	**P**	**15 36 05.3**	**+0.9**
SYDH	**Sydney Hard Ro**	**31.70**	**234**	P	**P**	**15 36 09.4**	**+0.9**
AULRC	**Lightning Ridg**	**32.61**	**243**	P	**P**	**15 36 16.3**	**0.0**
	comp=Z,67nm,1.0s						
AUDCS	**Dubbo College**	**32.84**	**238**	P	**P**	**15 36 19.1**	**+0.9**
CTA	**Charters Tower**	**33.24**	**260**	P	**P**	**15 36 20.9**	**-0.9**
	comp=Z,20nm,0.7s,baz=90,slow=4.2,SNR=20						
	comp=Z,20nm,0.7s						
CTAO	**Charters Tower**	**33.24**	**260**	P	**P**	**15 36 21.5**	**-0.3**
CTAO	**Charters Tower**	**33.24**	**260**	P	**P**	**15 36 21.2**	**-0.5**
CNB	**Canberra Magne**	**33.36**	**232**	P	**P**	**15 36 23.2**	**+0.6**
CAN	**Canberra**	**33.63**	**232**	P	**P**	**15 36 25.5**	**+0.6**
CAN	**Canberra**	**33.63**	**232**	P	**P**	**15 36 25.1**	**+0.1**
CAN				IAmb	IAmb	15 36 25.7	
	comp=Z,18nm,0.7s						
YNG	**Young**	**33.71**	**234**	P	**P**	**15 36 26.2**	**+0.6**
PMG	**Port Moresby**	**34.19**	**279**	P	**P**	**15 36 29.8**	**+0.1**
	comp=Z,24nm,0.9s,baz=56,slow=9.2,SNR=6.8						
	comp=Z,24nm,0.9s						
AUSMG	**Snowy Mountain**	**34.36**	**231**	P	**P**	**15 36 31.7**	**+0.6**
CMSA	**Cobar Meteorol**	**35.04**	**240**	P	**P**	**15 36 36.6**	**-0.1**
QLP	**Quilpie**	**35.38**	**249**	P	**P**	**15 36 39.5**	**-0.1**
COEN	**Coen**	**36.86**	**270**	P	**P**	**15 36 52.3**	**+0.3**
TOO	**Toolangi**	**37.11**	**230**	P	**P**	**15 36 54.2**	**+0.4**
TOO	**Toolangi**	**37.11**	**230**	P	**P**	**15 36 54.1**	**+0.3**
AUMAG	**Moama Anglican**	**37.14**	**233**	P	**P**	**15 36 54.5**	**+0.6**
CORO	**Coronation Par**	**37.62**	**224**	P	**P**	**15 36 58.9**	**+1.1**
BRAT	**Ballarat**	**38.26**	**231**	P	**P**	**15 37 04.1**	**+1.1**
STKA	**Stephens Creek**	**38.51**	**241**	P	**P**	**15 37 05.7**	**+0.5**
STKA	**Stephens Creek**	**38.51**	**241**	P	**P**	**15 37 05.7**	**+0.5**
STKA				IAmb	IAmb	15 37 06.8	
	comp=Z,18nm,1.1s						
STKA	**Stephens Creek**	**38.51**	**241**	P	**P**	**15 37 05.8**	**+0.5**
	comp=Z,28nm,0.5s,baz=87,slow=9.7,SNR=168						
	comp=Z,28nm,0.5s						
INKA	**Innaminka**	**38.60**	**248**	P	**P**	**15 37 06.6**	**+0.7**
ARPS	**Mount Arapiles**	**39.58**	**233**	P	**P**	**15 37 13.9**	**+0.2**
HTT	**Hallett**	**41.04**	**239**	P	**P**	**15 37 25.9**	**+0.4**
LCRK	**Leigh Creek**	**41.12**	**244**	P	**P**	**15 37 26.1**	**-0.1**
GHSS	**Government Hou**	**41.62**	**237**	P	**P**	**15 37 30.4**	**+0.4**
	comp=Z,130nm,0.8s						
WHYH	**Whyalla**	**42.07**	**240**	P	**P**	**15 37 34.0**	**+0.4**
OOD	**Oodnadatta**	**43.07**	**248**	P	**P**	**15 37 41.9**	**+0.4**
BBOO	**Buckleboo**	**43.29**	**241**	P	**P**	**15 37 43.1**	**-0.1**
BBOO	**Buckleboo**	**43.29**	**241**	P	**P**	**15 37 43.0**	**-0.2**
WB0	**Warramunga Arr**	**44.40**	**260**	IAmb	IAmb	15 37 51.8	
	comp=Z,18nm,0.8s						
WRAB	**Tennant Creek**	**44.42**	**259**	P	**P**	**15 37 50.8**	**-1.3**
WRAB				IAmb	IAmb	15 37 51.9	
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**44.43**	**259**	P	**P**	**15 37 50.9**	**-1.3**
	comp=Z,17nm,0.7s,baz=97,slow=7.2,SNR=298						
WRA				PcP	**PcP**	**15 39 24.0**	**0.0**
	comp=Z,4.4nm,0.7s,baz=90,slow=3.5,SNR=7.9						
WRA				S	**S**	**15 43 43.9**	**-3.7**
	comp=Z,1.0nm,0.8s,baz=94,slow=12,SNR=1.7						
	comp=Z,17nm,0.7s						
AS01	**Alice Springs**	**44.57**	**254**	P	**P**	**15 37 52.8**	**-0.4**
AS31	**Alice Springs**	**44.61**	**254**	P	**P**	**15 37 53.2**	**-0.4**
ASAR	**Alice Springs**	**44.61**	**254**	P	**P**	**15 37 53.2**	**-0.4**
	comp=Z,136nm,0.5s,baz=89,slow=7.8,SNR=3711						
ASAR				PcP	**PcP**	**15 39 24.4**	**-0.2**
	comp=Z,5.0nm,0.4s,baz=102,slow=3.8,SNR=6.7						
ASAR				S	**S**	**15 43 47.2**	**-3.0**
	comp=Z,3.4nm,0.9s,baz=90,slow=16,SNR=15						
MULG	**Mulgathing**	**44.68**	**245**	P	**P**	**15 37 53.5**	**-0.4**
MTN	**Manton Dam**	**48.56**	**268**	P	**P**	**15 38 23.1**	**-0.4**
MTN	**Manton Dam**	**48.56**	**268**	IAmb	IAmb	15 38 23.0	
	comp=Z,20nm,0.8s						
WRKA	**Wakurnna**	**49.67**	**252**	P	**P**	**15 38 31.4**	**-0.2**
FORT	**Forrest**	**49.87**	**244**	P	**P**	**15 38 32.1**	**-0.8**
KNRA	**Kununurra**	**50.27**	**264**	P	**P**	**15 38 35.5**	**-0.5**
FAKI	**Fak Fak**	**50.30**	**281**	P	**P**	**15 38 35.9**	**-0.4**
	comp=Z,34nm,1.3s						
FITZ	**Fitzroy Crossi**	**52.82**	**260**	P	**P**	**15 38 54.5**	**+0.1**
NLAI	**Namlea**	**55.03**	**279**	P	**P**	**15 39 10.0**	**0.0**
	comp=Z,16nm,0.7s						
SOEI	**Soe**	**55.83**	**270**	P	**P**	**15 39 16.8**	**+1.0**
	comp=Z,92nm,0.8s						
BATI	**Baumata**	**56.29**	**269**	P	**P**	**15 39 19.9**	**+1.0**
	comp=Z,14nm,0.5s,baz=200,slow=4.7,SNR=4.0						
	comp=Z,14nm,0.5s						
SANI	**Sanana**	**56.47**	**280**	P	**P**	**15 39 19.7**	**-0.3**
PSA00	**Pilbara Seismi**	**57.72**	**255**	P	**P**	**15 39 28.0**	**-0.5**
MBWA	**Marble Bar**	**57.89**	**256**	P	**P**	**15 39 29.0**	**-0.6**
MBWA	**Marble Bar**	**57.89**	**256**	P	**P**	**15 39 28.9**	**-0.8**
MBWA				IAmb	IAmb	15 39 29.3	
	comp=Z,22nm,0.8s						
MEEK	**Meekatharra**	**58.28**	**249**	P	**P**	**15 39 31.3**	**-0.9**
EDFI	**Ende, Flores**	**58.54**	**270**	P	**P**	**15 39 33.3**	**-1.0**
	comp=Z,22nm,0.8s						
KLBR	**Kelberberin**	**58.70**	**243**	P	**P**	**15 39 34.2**	**-0.8**
NWAO	**Narrogin (SRO)**	**59.09**	**242**	P	**P**	**15 39 36.7**	**-0.9**
	comp=Z,11nm,0.7s,baz=131,slow=5.6,SNR=7.0						
	comp=Z,11nm,0.7s						
SBA	**Scott Base**	**60.61**	**184**	P	**P**	**15 39 48.4**	**+1.6**
SBA				IAmb	IAmb	15 39 49.8	
	comp=Z,18nm,1.0s						
VNDA	**Vanda**	**60.63**	**185**	P	**P**	**15 39 47.8**	**+0.8**
VNDA	**Vanda**	**60.63**	**185**	P	**P**	**15 39 48.0**	**+1.1**
	comp=Z,4.4nm,0.6s,baz=353,slow=7.9,SNR=45						
	comp=Z,4.4nm,0.6s						
PLAI	**Plampang**	**62.25**	**269**	P	**P**	**15 39 57.9**	**-0.8**
	comp=Z,50nm,0.9s						
TWSI	**Taliwang, Sumb**	**63.13**	**269**	P	**P**	**15 40 03.7**	**-0.6**
	comp=Z,65nm,1.0s						
SRBI	**Singaraja**	**64.89**	**269**	P	**P**	**15 40 14.6**	**-0.9**
	comp=Z,25nm,1.1s						
JAGI	**Jajag, Banyuwa**	**65.80**	**269**	P	**P**	**15 40 19.6**	**-1.7**
JAGI	**Jajag, Banyuwa**	**65.80**	**269**	P	**P**	**15 40 19.6**	**-1.7**
	comp=Z,50nm,0.8s						
GMJI	**Gumukmas**	**66.53**	**269**	P	**P**	**15 40 24.8**	**-0.9**
MJAR	**Matsushiro Arr**	**67.60**	**323**	P	**P**	**15 40 31.6**	**-0.3**
	comp=Z,6.3nm,0.7s,baz=162,slow=6.0,SNR=19						
	comp=Z,6.3nm,0.7s						
MAJO	**Matsushiro**	**67.60**	**323**	P	**P**	**15 40 30.5**	**-1.3**
MAJO				IAmb	IAmb	15 40 32.6	
	comp=Z,10nm,0.8s						
MJB9	**Matsu-Tunnel**	**67.61**	**323**	P	**P**	**15 40 32.6**	**+0.7**
MJB9				IAmb	IAmb	15 40 33.5	
	comp=Z,10nm,0.8s						
UGM	**Wanagama**	**69.41**	**268**	P	**P**	**15 40 42.8**	**-0.5**
	comp=Z,84nm,0.7s						
KPJI	**Karang Pucung**	**71.08**	**268**	P	**P**	**15 40 52.8**	**-0.4**
	comp=Z,34nm,0.9s						
QSPA	**South Pole Qui**	**72.35**	**180**	P	**P**	**15 41 00.4**	**+0.6**
	comp=Z,37nm,0.8s,baz=257,slow=0.4,SNR=224						
	comp=Z,37nm,0.8s						
KSM	**Kuching**	**72.42**	**277**	P	**P**	**15 41 01.5**	**+0.5**
KSM				IAmb	IAmb	15 41 02.4	
	comp=Z,24nm,0.8s						
PEA0B	**Petropavlovsk-**	**73.42**	**345**	IAmb	IAmb	15 41 06.9	
	comp=Z,22nm,1.0s						
PETK	**Petropavlovsk-**	**73.42**	**345**	P	**P**	**15 41 05.9**	**+0.1**
	comp=Z,11nm,0.8s,baz=125,slow=7.0,SNR=30						
	comp=Z,11nm,0.8s						
KSRS	**Korea Array**	**74.39**	**318**	P	**P**	**15 41 12.7**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=128,slow=6.0,SNR=5.5						
NJ2	**Nanjing**	**77.62**	**310**	*e*P	**P**	**15 41 31.5**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MDJ	**Mudanjiang**	**77.88**	**325**	P	**P**	**15 41 32.0**	**+1.3**
MDJ				PP	**PP**	**15 44 38.0**	**+1.1**
MDJ				S	**SKSac**	**15 50 48.8**	**-3.6**
MDJ				ScS	**ScS**	**15 51 05.3**	**+5.7**
AFDM	**Forest Hills D**	**77.99**	**42**	P	**P**	**15 41 32.1**	**+0.5**
MDPB	**Devils Postpil**	**78.50**	**44**	IAmb	IAmb	15 41 36.7	
	comp=Z,12nm,1.0s						
YBH	**Yreka Blue Hor**	**78.52**	**39**	P	**P**	**15 41 35.5**	**+1.2**
HUMO	**Hull Mountain**	**78.89**	**38**	P	**P**	**15 41 37.3**	**+1.0**
PNTR	**Pine Nut**	**78.96**	**43**	P	**P**	**15 41 37.3**	**+0.4**
PNTR				IAmb	IAmb	15 41 39.1	
	comp=Z,12nm,0.8s						
YERR	**Yerington**	**79.13**	**43**	IAmb	IAmb	15 41 39.9	
	comp=Z,11nm,1.0s						
LHV	**Little Huntoon**	**79.22**	**44**	IAmb	IAmb	15 41 40.7	
	comp=Z,11nm,1.0s						
NVAR	**Mina Array Bea**	**79.45**	**44**	P	**P**	**15 41 40.6**	**+1.1**
	comp=Z,4.6nm,0.8s,baz=224,slow=9.4,SNR=24						
	comp=Z,4.6nm,0.8s						
CN2	**Changchun**	**79.71**	**322**	P	**P**	**15 41 41.3**	**+0.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BNX	**BinXian**	**79.79**	**325**	⇓P	**P**	**15 41 41.5**	**+0.7**
BNX				pmax	pmax		
	comp=Z,11nm,0.8s						
BNX				pmax	pmax		
	comp=Z,93nm,3.8s						
KVN	**Kaiserville**	**79.92**	**44**	P	**P**	**15 41 42.7**	**+0.8**
TPH	**Tonopah**	**79.98**	**45**	IAmb	IAmb	15 41 43.9	
	comp=Z,24nm,1.0s						
O19K	**Port Alsworth**	**80.10**	**12**	IAmb	IAmb	15 41 42.7	
	comp=Z,35nm,0.9s						
K05A	**Summer Lake**	**80.20**	**39**	IAmb	IAmb	15 41 45.7	
	comp=Z,19nm,1.1s						
J05D	**Fort Rock, OR**	**80.32**	**39**	P	**P**	**15 41 45.1**	**+1.2**
J05D				IAmb	IAmb	15 41 46.2	
	comp=Z,16nm,0.9s						
PINE	**Pine Mountain**	**80.78**	**38**	IAmb	IAmb	15 41 48.7	
	comp=Z,19nm,1.1s						
MA2	**Magadan**	**80.94**	**345**	P	**P**	**15 41 45.4**	**-1.1**
BMN	**Battle Mountai**	**81.22**	**43**	IAmb	IAmb	15 41 50.8	
	comp=Z,9.2nm,1.0s						
WVOR	**Wild Horse Val**	**81.41**	**40**	IAmb	IAmb	15 41 51.7	
	comp=Z,13nm,1.1s						
I07A	**Izee**	**81.80**	**39**	IAmb	IAmb	15 41 53.6	
	comp=Z,7.8nm,0.9s						
J08A	**Circle Bar Ran**	**82.02**	**40**	IAmb	IAmb	15 41 54.7	
	comp=Z,12nm,1.1s						
IPM	**Ipoh**	**82.15**	**277**	P	**P**	**15 41 53.9**	**+0.1**
IPM				IAmb	IAmb	15 41 55.1	
	comp=Z,20nm,0.9s						
X16A	**Lo Mia Camp, P**	**82.24**	**50**	IAmb	IAmb	15 41 56.8	
	comp=Z,9.1nm,1.0s						
BELA	**Belgrano 2**	**82.40**	**173**	P	**P**	**15 41 53.3**	**-0.6**
SZCU	**Shurtz Canyon**	**82.56**	**47**	IAmb	IAmb	15 41 58.1	
	comp=Z,12nm,1.4s						
U15A	**North Rim**	**82.56**	**48**	IAmb	IAmb	15 41 58.4	
	comp=Z,11nm,1.0s						
GHO	**Glory Hole Cre**	**82.67**	**14**	IAmb	IAmb	15 41 56.0	
	comp=Z,20nm,0.8s						
J18K	**Innoko River**	**82.70**	**10**	IAmb	IAmb	15 41 56.2	
	comp=Z,9.8nm,0.8s						
WUAZ	**Wupatki**	**82.80**	**49**	IAmb	IAmb	15 41 59.4	
	comp=Z,9.8nm,1.1s						
CAST	**Castle Rocks**	**83.48**	**12**	IAmb	IAmb	15 41 58.9	
	comp=Z,13nm,0.8s						
MVU	**Marysvale**	**83.61**	**46**	IAmb	IAmb	15 42 03.7	
	comp=Z,25nm,1.2s						
MFID	**Camas Ranch**	**83.68**	**41**	IAmb	IAmb	15 42 02.9	
	comp=Z,12nm,1.2s						
J20K	**Nowinta River**	**83.79**	**11**	IAmb	IAmb	15 42 01.9	
	comp=Z,9.8nm,1.0s						
KTH	**Kantishna Hill**	**83.83**	**12**	IAmb	IAmb	15 42 00.9	
	comp=Z,9.6nm,0.9s						
TRF	**Thorofare Moun**	**83.86**	**12**	IAmb	IAmb	15 42 01.5	
	comp=Z,16nm,0.8s						
MAW	**Mawson**	**83.97**	**200**	P	**P**	**15 42 02.0**	**+0.2**
	comp=Z,12nm,0.7s,baz=134,slow=5.1,SNR=24						
	comp=Z,12nm,0.7s						
RND	**Reindeer**	**84.13**	**13**	IAmb	IAmb	15 42 03.2	
	comp=Z,20nm,0.8s						
F10A	**Beach Ranch, E**	**84.19**	**38**	IAmb	IAmb	15 42 04.8	
	comp=Z,9.3nm,0.9s						
GSI	**Gunungsitoli**	**84.45**	**273**	P	**P**	**15 42 06.1**	**+0.9**
M26K	**Nabesna, AK**	**84.65**	**16**	IAmb	IAmb	15 42 06.4	
	comp=Z,12nm,0.9s						
M27K	**Edge Creek, AK**	**84.91**	**16**	IAmb	IAmb	15 42 08.0	
	comp=Z,13nm,1.1s						
WRH	**Wood River Hil**	**85.23**	**13**	IAmb	IAmb	15 42 08.2	
	comp=Z,25nm,1.4s						
HDA	**Harding Lake**	**85.42**	**13**	IAmb	IAmb	15 42 09.2	
	comp=Z,5.5nm,0.8s						
CCB	**Clear Creek Bu**	**85.44**	**13**	IAmb	IAmb	15 42 10.6	
	comp=Z,6.7nm,1.0s						
MDM	**Murphy Dome**	**85.63**	**12**	IAmb	IAmb	15 42 09.9	
	comp=Z,8.0nm,1.1s						
IL31		**85.75**	**13**	IAmb	IAmb	15 42 10.4	
	comp=Z,8.6nm,1.2s						
ILAR	**Eielson Array**	**85.75**	**13**	P	**P**	**15 42 09.4**	**-0.9**
	comp=Z,1.6nm,0.4s,baz=223,slow=5.3,SNR=38						
ILAR				PKKP	**PKKPdf**	**16 00 06.0**	**+1.8**
	comp=Z,0.2nm,0.6s,baz=323,slow=3.0,SNR=4.1						
	comp=Z,1.6nm,0.4s						
J25K	**Salcha River,**	**85.94**	**14**	IAmb	IAmb	15 42 11.6	
	comp=Z,3.5nm,0.7s						
TX31	**Lajitas Ar. Si**	**86.09**	**58**	IAmb	IAmb	15 42 16.1	
	comp=Z,6.8nm,1.1s						
TXAR	**Lajitas Array**	**86.09**	**58**	P	**P**	**15 42 14.9**	**+2.0**
	comp=Z,3.5nm,1.0s,baz=226,slow=5.0,SNR=18						
	comp=Z,3.5nm,1.0s						
ANMO	**Albuquerque**	**86.16**	**52**	P	**P**	**15 42 13.7**	**+0.4**
BILL	**Bilibino**	**86.21**	**354**	P	**P**	**15 42 12.0**	**-0.4**
BILL				IAmb	IAmb	15 42 13.4	
	comp=Z,10nm,1.0s						
J26L	**Joseph Creek**	**86.27**	**14**	IAmb	IAmb	15 42 13.8	
	comp=Z,5.2nm,0.8s						
E19K	**Redstone River**	**86.38**	**8**	IAmb	IAmb	15 42 14.1	
	comp=Z,5.1nm,0.9s						
L29M	**L29M**	**86.55**	**17**	IAmb	IAmb	15 42 15.9	
	comp=Z,6.0nm

BRG				Amp			15 49 09.7	
	comp=Z,4.4nm,0.9s							
MORC	**Moravsky Berou**	**145.44**	**341**	*e*PKP	**PKPbc**	**15 49 06.1**	**-0.4**	
MMAI	**Mount Meron Ar**	**145.83**	**303**	PKPbc	**PKPbc**	**15 49 08.3**	**+0.1**	
	comp=Z,4.2nm,0.6s,baz=64,slow=6.6,SNR=6.7							
VRAC	**Vranov**	**146.14**	**342**	*e*PKP	**PKPab**	**15 49 10.3**	**-0.3**	
JAVC	**Velka Javorina**	**146.21**	**340**	*e*PKP	**PKPab**	**15 49 10.8**	**-0.1**	
KRUC	**Moravsky**	**146.42**	**342**	*e*PKP	**PKPbc**	**15 49 10.1**	**+0.9**	
MODS	**Modra-Piesok**	**146.76**	**340**	*e*PKP	**PKiKP**	**15 49 11.3**	**-0.9**	
EIL	**Elat**	**147.11**	**297**	PKPbc	**PKPbc**	**15 49 10.6**	**-1.1**	
	comp=Z,3.1nm,0.8s,baz=279,slow=5.5,SNR=4.4							
KHC	**Kasperske Hory**	**147.12**	**345**		**PKPab**	**15 49 14.8**	**+0.3**	
GERES	**GERESS Array B**	**147.35**	**345**	PKPbc	**PKPbc**	**15 49 11.5**	**-0.3**	
	comp=Z,0.8nm,0.4s,baz=23,slow=4.7,SNR=4.8							
CONA	**Conrad Observa**	**147.59**	**342**	*i* PKP	**PKiKP**	**15 49 13.5**	**-0.5**	
	comp=Z,1.2nm,0.4s							
RONA	**Rosalia, Austr**	**147.67**	**341**	*e*PKiKP	**PKiKP**	**15 49 13.9**	**-0.2**	
	comp=Z,0.8nm,0.3s							
LESA	**Schwarzleotal**	**148.93**	**345**	*e*PKP	**PKPbc**	**15 49 16.2**	**+0.4**	
	comp=Z,1.7nm,0.2s							
KBA	**Koelnbreinsper**	**149.08**	**344**	*i* PKP	**PKPbc**	**15 49 15.7**	**-0.6**	
	comp=Z,1.4nm,0.4s							
WTTA	**Wattenberg**	**149.33**	**346**	*e*PKP	**PKPbc**	**15 49 17.1**	**+0.2**	
	comp=Z,2.3nm,0.3s							
MOTA	**Moosalm**	**149.37**	**347**	*i* PKP	**PKPbc**	**15 49 17.0**	**0.0**	
	comp=Z,1.2nm,0.3s							
SQTA	**Sankt Quirin**	**149.46**	**347**	*e*PKP	**PKPbc**	**15 49 17.4**	**+0.2**	
	comp=Z,1.7nm,0.3s							
ABTA	**Abfaltersbach**	**149.60**	**345**	*i* PKP	**PKPbc**	**15 49 17.6**	**+0.1**	
	comp=Z,0.7nm,0.3s							
FUORN	**Ofenpass-Fuorn**	**150.23**	**348**		**PKPbc**	**15 49 19.4**	**+0.2**	
ESDC	**Sonseca Array**	**157.63**	**11**	PKPab	**PKPab**	**15 49 57.4**	**-1.9**	
	comp=Z,1.4nm,1.1s,baz=330,slow=1.7,SNR=4.8							
TORD	**Torodi Ar. Bea**	**175.46**	**184**	PKP	**PKPdf**	**15 49 36.2**	**-1.4**	
	comp=Z,1.4nm,0.8s,baz=356,slow=1.4,SNR=7.8							
TORD				PKPab	**PKPab**	**15 51 18.6**	**+0.3**	
	comp=Z,1.6nm,0.7s,baz=170,slow=3.4,SNR=8.7							
TORD				PP	**PP**	**15 55 09.7**	**-0.2**	
	comp=Z,0.7nm,1.0s,baz=148,slow=4.1,SNR=4.0							

IDC 26 15:45:13.2±16.0, 11°34S×166°25E, h250km±195km, mb3.2/4, mbtmp3.8/5, Error ellipse: s-maj=155.9km s-min=47.2km az=151.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.68**	**179**	P		Pn		15 47 40.4	+0.1
	1.8nm,0.3s,baz=47,slow=5.5,SNR=13								
WRA	**Warramunga Arr**	**31.85**	**250**	P		P		15 51 15.1	-0.1
	1.0nm,0.5s,baz=83,slow=9.3,SNR=20								
	1.0nm,0.5s								
ASAR	**Alice Springs**	**33.10**	**244**	P		P		15 51 26.1	0.0
	1.0nm,0.9s,baz=68,slow=9.7,SNR=10								
	1.0nm,0.9s								
CMAR	**Chiang Mai Arr**	**72.68**	**293**	P		P		15 56 14.7	+0.3
	0.4nm,0.6s,baz=123,slow=5.6,SNR=4.8								
	0.4nm,0.6s								
MKAR	**Makanchi Array**	**94.07**	**317**	P		P		15 58 02.6	-0.6
	0.3nm,0.6s,baz=98,slow=7.1,SNR=3.8								
	0.3nm,0.6s								

*SCB **26** 16:01:53.1±1.1,21°.18S×67°.27W,h188km±10km,ML3.4/4, MW3.5, Error ellipse: s-maj=6.9km s-min=3.8km az=0.0*
*GUC **26** 16:01:53.4±0.7,21°.215×67°.40W,h216km±13km,ML3.3*
ISC 26 16:01:51.8±2.2, 21°.22S±0°.06×67°.28W±0°.05, h206km±19km, n27, σ0°.84/37, 5C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.53**	**92**			Pg	**Pn**	**16 02 27.4**	**+0.6**
MOCB						Sg	**S**	**16 02 52.3**	**-1.3**
MOCB						IAML		16 02 57.8	
	175nm,0.7s								
PB09	**IPOC Station P**	**1.92**	**252**	↑ *i*	P		**Pn**	**16 02 31.3**	**+1.1**
PB09	**IPOC Station P**	**1.92**	**252**		Pg		**Pn**	**16 02 30.8**	**+0.6**
LVC	**Limon Verde**	**2.06**	**227**	*e*	P		**Pn**	**16 02 32.6**	**+0.8**
LVC						IAML		16 03 05.5	
	123nm,0.4s								
PB08	**IPOC Station P**	**2.06**	**301**	↑ *i*	P		**Pn**	**16 02 32.9**	**+1.1**
PB08					*e*S		**S**	**16 03 03.0**	**+0.6**
PB08						IAML		16 03 06.2	
	comp=E,69nm,0.2s								
PB08	**IPOC Station P**	**2.06**	**301**		Pg		**Pn**	**16 02 32.8**	**+1.0**
PB01	**IPOC Station P**	**2.07**	**274**	*e*	P		**Pn**	**16 02 31.9**	**+0.3**
PB01						IAML		16 03 04.3	
	comp=N,124nm,0.2s								
PB01	**IPOC Station P**	**2.07**	**274**		Pg		**Pn**	**16 02 32.2**	**+0.6**
PB01					Sg		**S**	**16 03 01.9**	**-0.2**
PB01						IAML		16 03 04.6	
	comp=N,102nm,0.3s								
PX03	**IPOC Station P**	**2.35**	**290**	*i*	P		**Pn**	**16 02 34.4**	**-0.2**
PX03					*e*S		**S**	**16 03 06.8**	**-0.5**
GO01	**Chusmiza**	**2.37**	**310**	*i*	P		**Pn**	**16 02 35.8**	**+0.6**
GO01	**Chusmiza**	**2.37**	**310**		Pg		**Pn**	**16 02 36.1**	**+0.9**
PB02	**IPOC Station P**	**2.45**	**267**	*i*	P		**Pn**	**16 02 36.0**	**+0.4**
PB02					*e*S		**S**	**16 03 08.0**	**-1.2**
PB02						IAML		16 03 10.8	
	comp=E,108nm,0.2s								
PB02	**IPOC Station P**	**2.45**	**267**		Pg		**Pn**	**16 02 36.3**	**+0.7**
PB02					Sg		**S**	**16 03 08.3**	**-0.9**
PB02						IAML		16 03 09.7	
	comp=E,81nm,0.3s								
PB07	**IPOC Station P**	**2.48**	**258**	*i*	P		**Pn**	**16 02 36.5**	**+0.4**
PB07					*e*S		**S**	**16 03 08.9**	**-1.2**
PB07						IAML		16 03 09.6	
	comp=N,58nm,0.2s								
PB06	**IPOC Station P**	**2.60**	**235**	*i*	P		**Pn**	**16 02 38.0**	**+0.7**
PB06					*e*S		**S**	**16 03 12.4**	**0.0**
PB06						IAML		16 03 13.6	
	comp=E,83nm,0.3s								
PB11	**IPOC Station P**	**2.66**	**303**	↑ *i*	P		**Pn**	**16 02 38.4**	**+0.3**
PB11					*e*S		**S**	**16 03 12.8**	**-0.8**
PB11	**IPOC Station P**	**2.66**	**303**		Pg		**Pn**	**16 02 38.6**	**+0.5**
PB11					Sg		**S**	**16 03 12.6**	**-1.0**
PB11						IAML		16 03 14.6	
	comp=E,275nm,0.2s								
TA01	**Diego Aracena**	**2.79**	**283**	*e*	P		**Pn**	**16 02 39.1**	**-0.3**
PB04	**IPOC Station P**	**2.89**	**247**	*e*	P		**Pn**	**16 02 41.1**	**+0.4**
PB05	**IPOC Station P**	**3.17**	**238**	↑ *i*	P		**Pn**	**16 02 44.5**	**+0.7**
SOET	**ToroToro**	**3.38**	**24**	Pg			**Pn**	**16 02 47.2**	**+0.5**
PB16	**IPOC Station P**	**3.55**	**323**	↑ *i*	P		**Pn**	**16 02 50.6**	**+1.6**
PB16	**IPOC Station P**	**3.55**	**323**		Pg		**Pn**	**16 02 50.4**	**+1.4**
AOEA	**Aiquile**	**3.58**	**33**		Pg		**Pn**	**16 02 49.4**	**+0.4**
SOTI	**Planta Incahua**	**3.66**	**68**		Pg		**Pn**	**16 02 50.2**	**+0.4**
PB12	**IPOC Station P**	**3.87**	**311**	*e*	P		**Pn**	**16 02 51.3**	**-1.0**
LPAZ	**La Paz**	**4.97**	**350**		Pg		**Pn**	**16 03 07.2**	**+0.6**

*IDC **26** 16:19:59.2±1.0,0°.52N×121°.50E,h0km,mb3.7/8, mbtmp3.7/8, Error ellipse: s-maj=76.2km s-min=18.0km az=65.0*
*DJA **26** 16:20:13.2±0.4,0°.N±4°×12°.1E±°,h77km±6km,M4.0/12, mb4.2/7,MLv3.9/12*
ISC 26 16:20:12.4±0.8, 0°.52N±0°.09×121°.52E±0°.08, h113km, n20, σ1°13/21, mb3.7/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.42**	**96**	P		P	**Pn**	**16 20 27.5**	**-1.6**
MRSI				S		S	**Sn**	**16 20 39.2**	**-2.5**
GTOI	**Gorontalo**	**1.50**	**86**	P		P	**Pn**	**16 20 37.8**	**-1.5**
MPSI	**Mapaga**	**1.63**	**263**	P		P	**Pn**	**16 20 40.1**	**-0.8**
LUWI	**Luwuk**	**2.00**	**141**	P		P	**Pn**	**16 20 45.7**	**+0.2**
KMSI	**Cibinong**	**2.46**	**89**	P		P	**Pn**	**16 20 52.4**	**+1.0**
TTSI	**Tana Toraja**	**3.93**	**206**	P		P	**Pn**	**16 21 10.7**	**-0.2**
BKSI	**Bulukumba**	**5.97**	**193**	P		P	**Pn**	**16 21 38.7**	**+0.3**
	12nm,1.1s,0.0nm								
BBSI	**Bau Bau**	**6.06**	**170**	P		P	**Pn**	**16 21 40.1**	**+0.4**
	24nm,0.7s,0.1nm								
LBMI	**Labuha**	**6.09**	**101**	P		P	**Pn**	**16 21 39.5**	**-0.6**
	37nm,0.9s,0.2nm								
NLAI	**Namlea**	**6.71**	**124**	P		P	**Pn**	**16 21 49.4**	**+0.9**
	12nm,0.8s,0.1nm								
EDFI	**Ende, Flores**	**9.21**	**179**	P		P	**Pn**	**16 22 23.0**	**+0.5**
	13nm,1.4s								
SWI	**Sorong**	**9.84**	**98**	P		P	**Pn**	**16 22 33.1**	**+2.3**
WRA	**Warramunga Arr**	**23.91**	**149**	P		P	**P**	**16 25 15.3**	**-0.7**
	2.9nm,0.9s,baz=325,slow=10,SNR=23								
	2.9nm,0.9s								
ASAR	**Alice Springs**	**26.89**	**154**	P			**P**	**16 25 42.0**	**-0.9**
	0.3nm,0.6s,baz=342,slow=14,SNR=8.4								
	0.3nm,0.6s								
USRK	**Ussuriysk Ar.**	**44.48**	**11**	P			**P**	**16 28 12.0**	**-0.3**
	0.5nm,0.6s,baz=188,slow=7.1,SNR=4.0								
	0.5nm,0.6s								
SONM	**Songino Array**	**48.92**	**347**	P			**P**	**16 28 48.0**	**+0.9**
	0.6nm,0.5s,baz=165,slow=7.4,SNR=4.5								
	0.6nm,0.5s								
MKAR	**Makanchi Array**	**57.40**	**329**	P			**P**	**16 29 50.2**	**+1.0**
	0.7nm,0.4s,baz=128,slow=8.5,SNR=15								
	0.7nm,0.4s								
ZALV	**Zalesovo Beam**	**61.23**	**336**	P			**P**	**16 30 14.9**	**-0.4**
	0.7nm,0.5s,baz=148,slow=8.5,SNR=4.8								
	0.7nm,0.5s								
KURBB	**Kurchatov Arra**	**61.78**	**330**	P			**P**	**16 30 19.6**	**+0.5**
	0.4nm,0.5s,baz=116,slow=6.1,SNR=6.5								
	0.4nm,0.5s								
BVAR	**Borovoye Array**	**67.28**	**329**	P			**P**	**16 30 55.2**	**+0.4**
	0.4nm,0.6s,baz=125,slow=7.4,SNR=2.7								
	0.4nm,0.6s								

*IDC **26** 16:25:60.0±1.1,5°.86S×142°.47E,h0km,mb3.8/4, mbtmp3.7/6,ML1.5/1,MS4.0/1,Error ellipse: s-maj=36.1km s-min=24.6km az=69.0*
ISC 26 16:26:03.9±0.9, 6°.0S±0°.1×142°.3E±0°.1, h28km, n8, σ1°60/9, mb3.7/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.85**	**125**	P		Pn	**Pn**	**16 27 28.7**	**0.0**
	0.8nm,0.3s,baz=309,slow=6.5,SNR=1.3								
PMG						Sn	**Sn**	**16 28 35.3**	**+0.4**
	0.3nm,0.3s,baz=279,slow=19,SNR=1.8								
	4.3nm,0.6s								
WRA	**Warramunga Arr**	**15.87**	**209**	Pn			**Pn**	**16 29 42.8**	**-2.7**
	0.4nm,0.3s,baz=26,slow=11,SNR=13								
WRA						Sn	**Sn**	**16 32 41.7**	**+1.1**
	0.1nm,0.3s,baz=30,slow=23,SNR=3.0								
WRA						Lg	Lg	16 34 30.1	
	0.1nm,0.3s,baz=25,slow=26,SNR=2.7								
ASAR	**Alice Springs**	**19.32**	**204**	P			**P**	**16 30 28.5**	**+1.4**
	1.7nm,0.6s,baz=33,slow=11,SNR=32								
ASAR						Lg	Lg	16 36 23.1	
	baz=25,slow=29,SNR=2.3								
RPZ	**Rata Peaks**	**45.23**	**151**	LR		LR		16 54 10.9	
	comp=Z,182nm,18.9s,baz=174,slow=37								
MKAR	**Makanchi Array**	**74.60**	**322**	P			**P**	**16 37 41.9**	**+1.3**
	0.5nm,0.6s,baz=116,slow=6.9,SNR=6.6								
	0.5nm,0.6s								
KURBB	**Kurchatov Arra**	**78.50**	**324**	P			**P**	**16 38 01.2**	**-1.3**
	0.3nm,0.7s,baz=123,slow=4.6,SNR=4.3								
	0.3nm,0.7s								
BVAR	**Borovoye Array**	**84.08**	**325**	P			**P**	**16 38 33.0**	**+1.0**
	1.4nm,0.8s,baz=116,slow=6.6,SNR=8.1								
	1.4nm,0.8s								
ILAR	**Eielson Array**	**87.36**	**24**	P			**P**	**16 38 47.3**	**-0.8**
	0.4nm,0.8s,baz=249,slow=4.7,SNR=5.3								
	0.4nm,0.8s								

IDC 26 16:39:47.8±2.4, 56°.40S×146°.32E, h0km, mb3.7/4, mbtmp3.7/4, MS3.6/2, Error ellipse: s-maj=206.3km s-min=24.9km az=82.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**24.74**	**350**	P		P	P	16 45 11.9	+1.3
	2.6nm,0.8s,baz=158,slow=18,SNR=2.9								
	2.6nm,0.8s								
H01W1	**Cape Leeuwin H**	**30.66**	**301**	T		T	T	17 19 02.4	
	baz=143,slow=75								
H01W2	**Cape Leeuwin H**	**30.66**	**301**	T		T	T	17 19 07.8	
	baz=143,slow=75								
H01W3	**Cape Leeuwin H**	**30.67**	**301**	T		T	T	17 19 05.1	
	baz=143,slow=75								
QSPA	**South Pole Qui**	**33.71**	**180**	P		P	P	16 46 30.3	0.0
	0.9nm,0.8s,baz=194,slow=0.5,SNR=6.3								
	0.9nm,0.8s								
ASAR	**Alice Springs**	**33.94**	**339**	P		P	P	16 46 32.5	-0.1
	0.5nm,0.9s,baz=162,slow=9.1,SNR=4.7								
	0.5nm,0.9s								
CTA	**Charters Tower**	**36.26**	**360**	LR		LR	LR	16 59 54.9	
	comp=Z,70nm,20.3s,baz=0.0,slow=33								
WRA	**Warramunga Arr**	**37.49**	**341**	P		P	P	16 47 02.1	-0.9
	0.8nm,0.8s,baz=165,slow=7.8,SNR=6.9								
	0.8nm,0.8s								
H04S1	**CROZET ISLANDS**	**54.89**	**237**	T		T	T	17 49 39.9	
	baz=140,slow=75								
H04S2	**CROZET ISLANDS**	**54.89**	**237**	T		T	T	17 49 45.2	
	baz=140,slow=75								
H04S3	**CROZET ISLANDS**	**54.91**	**237**	T		T	T	17 49 45.8	
	baz=140,slow=75								
H08S2	**Diego Garcia H**	**74.73**	**279**	T		T	T	18 14 11.7	
	baz=147,slow=76								
H08S1	**Diego Carcia H**	**74.74**	**279**	T		T	T	18 14 16.6	
	baz=147,slow=76								
H08S3	**Diego Garcia H**	**74.75**	**279**	T		T	T	18 14 14.3	
	baz=147,slow=76								
JCJ	**Chichijima**	**83.24**	**356**	LR		LR	LR	17 28 19.5	
	comp=Z,44nm,21.4s,baz=97,slow=35								

*IDC **26** 17:05:32.9±0.9,67°.15N×21°.04E,h0km,mbtmp2.8/4, ML2.3/4, Error ellipse: s-maj=15.8km s-min=6.3km az=114.0*
*UPP **26** 17:05:32.8±0.0,67°.18N×20°.64E,h0km,ML2.5,Confirmed Induced event*
*HEL **26** 17:05:33.1±0.2,67°.18N×20°.59E,h0km,ML1.8,Explosion*
*BER **26** 17:05:35.2±1.9,67°.16N×20°.85E,h1km,ML1.9,Confirmed Induced event*
ISC 26 17:05:32.4±0.7, 67°.19N±0°.02×20°.64E±0°.02, h0km, n52, σ1°36/84, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**204**	P		P	**Pg**	**17 05 34.3**	**+0.6**
DUNU				S		S	**Sg**	**17 05 35.3**	**+0.6**
MASU	**Masugnsbyn**	**0.59**	**62**	P		P	**Pg**	**17 05 44.2**	**+0.5**
MASU				S		S	**Sg**	**17 05 52.1**	**+0.8**
RATU	**Laukkuluspa**	**0.76**	**328**	P		P	**Pg**	**17 05 47.2**	**+0.3**
RATU				S		S	**Sg**	**17 05 57.8**	**+1.1**
KUA	**Kurravaara**	**0.78**	**351**	P		P	**Pg**	**17 05 47.5**	**+0.1**
SALU	**Saltoluokta**	**0.85**	**284**	P		P	**Pg**	**17 05 48.9**	**+0.2**
PAJU	**Pajala**	**0.98**	**98**	P		P	**Pg**	**17 05 50.8**	**-0.3**
PAJU	**Pajala**	**0.98**	**98**	PG		P	**Pg**	**17 05 50.7**	**-0.5**
	baz=281								
PAJU						SB	**Sg**	**17 06 05.0**	**+1.1**
LANU	**Lannavaara**	**1.01**	**30**	P		P	**Pg**	**17 05 51.5**	**-0.2**
LANU	**Lannavaara**	**1.01**	**30**	PG		P	**Pg**	**17 05 51.5**	**-0.2**
LANU				SB		S	**Sb**	**17 06 06.1**	**-0.4**
HARU	**Harads**	**1.04**	**173**	P		P	**Pg**	**17 05 51.3**	**-0.9**
KOVU	**Salmi**	**1.06**	**350**	P		P	**Pg**	**17 05 52.4**	**-0.2**
KLF	**Kolari**	**1.29**	**86**	PG		P	**Pg**	**17 05 56.2**	**-1.0**
	baz=271								
KLF				MSG				17 06 12.8	
	comp=Z,6.4nm,0.2s								
KLF				SB		S	**Sg**	**17 06 14.0**	**0.0**
HEF	**Hetta**	**1.68**	**42**	*e*P		P	**Pn**	**17 06 03.2**	**+0.1**
HEF				*e*S		S	**Sn**	**17 06 24.6**	**-0.6**
HEF	**Hetta**	**1.68**	**42**	PG		P	**Pn**	**17 06 03.1**	**+0.1**
	baz=227								
HEF				MSG				17 06 23.9	
	comp=Z,7.9nm,0.2s								
HEF				SG		S	**Sn**	**17 06 25.1**	**-0.1**
KALU	**Kalix**	**1.72**	**140**	P		P	**Pn**	**17 06 03.6**	**+0.1**
KALU	**Kalix**	**1.72**	**140**	PG		P	**Pn**	**17 06 03.7**	**+0.1**
	baz=326								
KALU				SN		S	**Sg**	**17 06 28.0**	**+0.4**
SJUU	**Sjulsmark**	**1.73**	**167**	P		P	**Pn**	**17 06 03.8**	**+0.1**
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P		P	**Pb**	**17 06 06.2**	**-0.5**
KIF				*e*S		S	**Sg**	**17 06 31.4**	**+0.3**
KIF	**Kilpisjarvi**	**1.83**	**2**	PG		P	**Pb**	**17 06 06.3**	**-0.3**
	baz=182								
KIF				MSG				17 06 29.1	
	comp=Z,12nm,0.2s								
KIF				SG		S	**Sg**	**17 06 32.8**	**+1.7**
TOF	**Tornio**	**1.84**	**125**	PG		P	**Pn**	**17 06 05.7**	**+0.5**
TOF				MSG				17 06 28.3	
	comp=Z,7.7nm,0.2s								
TOF				SG		S	**Sn**	**17 06 30.2**	**+1.0**
KTK1	**Kautokeino**	**2.08**	**27**	*e*P		P	**Pb**	**17 06 10.0**	**-0.9**
KTK1				*e*S		S	**Sn**	**17 06 32.2**	**-2.8**
KTK1				IAML				17 06 39.0	
	comp=Z,25nm,0.3s								
KTK1	**Kautokeino**	**2.08**	**27**	PG		P	**Pb**	**17 06 10.2**	**-0.8**
KTK1				SG		S	**Sb**	**17 06 38.2**	**+1.0**
FAUS	**Fauske**	**2.09**	**278**	*e*P		P	**Pb**	**17 06 10.3**	**-0.8**
FAUS				IAML				17 06 41.5	
	comp=Z,21nm,0.6s								
RNF	**Rovaniemi**	**2.20**	**103**	PG		P	**Pn**	**17 06 11.3**	**+1.2**
RNF				SG		S	**Sb**	**17 06 41.1**	**+0.5**
STEI	**Steigen**	**2.20**	**292**	*e*P		P	**Pn**	**17 06 11.3**	**+1.2**
SGF	**Sodankyl**	**2.29**	**81**	PB		P	**Pn**	**17 06 12.6**	**+1.2**
SGF				SG		S	**Sb**	**17 06 44.2**	**+0.7**
JETT	**Jettan, Norway**	**2.38**	**358**	*e*P		P	**Pn**	**17 06 13.9**	**+1.2**
JETT				IAML				17 06 49.4	
	comp=Z,20nm,0.4s								
TRO	**Tromso**	**2.54**	**346**	PG		P	**Pb**	**17 06 18.8**	**0.0**
TRO				SG		Sg	**Sg**	**17 06 52.9**	**-0.9**
BURU	**Burvik**	**2.63**	**173**	PN		P	**Pn**	**17 06 16.9**	**+0.8**
BURU				SG		Sb	**Sb**	**17 06 54.4**	**+1.2**
MOR8	**Moi Rana**	**2.67**	**250**	*e*P		P	**Pn**	**17 06 16.7**	**+0.1**
RANF	**Ranua**	**2.72**	**113**	PN		P	**Pn**	**17 06 17.8**	**+0.5**
	baz=298								
RANF				SG		S	**Sb**	**17 06 55.5**	**-0.2**
ARA0	**ARCESS Array S**	**2.97**	**35**	*e*P		P	**Pn**	**17 06 21.3**	**+0.6**
ARA0				IAML				17 07 03.5	
	comp=Z,3.6nm,0.4s								
ARA0	**ARCESS Array S**	**2.97**	**35**	PN		P	**Pn**	**17 06 21.6**	**+0.9**
ARA0				SG		S	**Sb**	**17 07 02.2**	**-0.7**
ARCES	**ARCESS Array B**	**2.97**	**35**	PN		P	**Pn**	**17 06 21.7**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=214,slow=13,SNR=30								
ARCES				Sn		S	**Sn**	**17 06 57.1**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=211,slow=22,SNR=2.8								
ARCES				Lg		Lg		17 07 02.5	
	comp=Z,1.0nm,0.3s,baz=218,slow=29,SNR=13								
	comp=Z,0.9nm,0.3s								
OBF4	**Vikkela, Lumij**	**3.00**	**141**	PG		P	**Pb**	**17 06 27.0**	**+0.4**
	baz=322								
OBF4				MSG				17 07 01.5	
	comp=Z,1.9nm,0.2s								
OUL	**Oulu**	**3.00**	**132**	PB		P	**Pb**	**17 06 25.3**	**-1.4**
OUL				SG		Sb	**Sb**	**17 07 04.8**	**+1.0**
OBF0	**Syolatti, Pyha**	**3.08**	**150**	PG		P	**Pb**	**17 06 29.9**	**+1.9**
OBF0				MSG				17 07 03.5	
	comp=Z,2.8nm,0.2s								
KMNF	**Kaamanen**	**3.08**	**47**	PN		P	**Pn**	**17 06 23.0**	**+0.7**
KMNF				SN		S	**Sn**	**17 07 00.8**	**+1.0**
RAJF	**Raja-Jooseppi**	**3.18**	**62**	PN		P	**Pn**	**17 06 24.8**	**+1.1**
OUF	**Merijarvi**	**3.29**	**147**	PG		P	**Pb**	**17 06 31.5**	**-0.2**
OUF				SG		Sb	**Sb**	**17 07 15.2**	**+2.9**
UMAU	**Umeaa**	**3.32**	**180**	PN		P	**Pn**	**17 06 26.1**	**+0.6**
	baz=360								
UMAU				SG		Sg	**Sg**	**17 07 17.0**	**-1.9**
KEV	**Kevo**	**3.49**	**39**	PN		P	**Pn**	**17 06 28.5**	**+0.7**
KEV				SN		S	**Sn**	**17 07 10.2**	**+0.5**
VRF	**Varrio**	**3.50**	**77**	PN		P	**Pn**	**17 06 28.6**	**+0.6**
OLKF	**Oulanka, Finla**	**3.58**	**100**	PN		P	**Pn**	**17 06 30.1**	**+1.0**
MSF	**Maaselka**	**3.59**	**107**	PN		P	**Pn**	**17 06 30.0**	**+0.7**
MSF				SG		Sb	**Sb**	**17 07 24.3**	**+3.5**
KU6	**Riekki**	**3.87**	**103**	PN		P	**Pn**	**17 06 33.7**	**+0.6**
	baz=294								
KU6				SN		S	**Sn**	**17 07 20.3**	**+1.1**
HUSU	**Husum**	**3.91**	**189**	PN		P	**Pn**	**17 06 34.5**	**+0.9**
VAF	**Ylistaro**	**4.25**	**167**	PN		P	**Pn**	**17 06 39.4**	**+1.1**
VAF				SG		Sg	**Sg**	**17 07 45.4**	**-3.4**
HEMU	**Hemsoen**	**4.66**	**195**	PN		P	**Pn**	**17 06 44.4**	**+0.4**
HEMU				SG		Sb	**Sb**	**17 07 57.0**	**+5.5**
FINES	**FINESS Array B**	**6.23**	**155**	Pn		P	**Pn**	**17 07 06.2**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=345,slow=12,SNR=12								
FINES				Sn		S	**Sn**	**17 08 13.2**	**-4.0**
	comp=Z,0.3nm,0.3s,baz=345,slow=23,SNR=6.3								
FINES				Lg		Lg		17 08 44.0	
	comp=Z,0.6nm,0.3s,baz=342,slow=25,SNR=6.3								
	comp=Z,0.5nm,0.3s								
NOA	**NORSAR Array B**	**7.42**	**218**	Pn		P	**Pn**	**17 07 20.7**	**-1.1**
	baz=27,slow=13,SNR=4.5						

PET pmax pmax
comp=Z,50nm,1.3s
PET Petropavlovsk 6.24 262 *e*P **Pn 17 14 10.2 +0.4**
TILK Tilichiki 6.34 347 PN **Pn 17 14 12.1 +0.9**
TILK Tilichiki 6.34 347 *e*P **Pn 17 14 12.1 +0.9**
GNL Ganaly 6.51 269 PN **Pn 17 14 14.9 +1.3**
GNL Ganaly 6.51 269 *e*P **Pn 17 14 14.9 +1.3**
RUS Russkaya 6.51 258 PN **Pn 17 14 13.1 -0.4**
RUS Russkaya 6.51 258 *e*P **Pn 17 14 13.1 -0.4**
KRMR Karymshinskiy 6.60 261 PN **Pn 17 14 15.1 +0.3**
KRMR Karymshinskiy 6.60 261 *e*P **Pn 17 14 15.1 +0.3**
MTVR Mutnovka 6.68 259 PN **Pn 17 14 16.3 +0.3**
MTVR Mutnovka 6.68 259 *e*P **Pn 17 14 16.3 +0.3**
TIGL Tigil 6.71 305 *e*P **Pn 17 14 19.1 +2.8**
PEA0B Petropavlovsk- 6.78 264 Pn **Pn 17 14 16.8 -0.4**
PEA0B Petropavlovsk- 6.78 264 *i* PN **Pn 17 14 18.6 +1.4**
PETK Petropavlovsk- 6.78 264 Pn **Pn 17 14 17.5 +0.3**
PETK Petropavlovsk- 6.78 264 PN **Pn 17 14 17.5 +0.3**
PETK Petropavlovsk- 6.78 264 Pn **Pn 17 14 18.0 +0.8**
comp=Z,3.0nm,0.3s,baz=90,slow=18,SNR=286
PETK Sn **Sn 17 15 34.5 +0.8**
comp=Z,3.4nm,0.3s,baz=70,slow=31,SNR=7.9
PETK LR LR 17 16 58.9
comp=Z,352nm,19.6s,baz=77,slow=38
comp=Z,20nm,0.7s
ASAK Asacha 6.88 258 PN **Pn 17 14 19.2 +0.6**
ASAK Asacha 6.88 258 *e*P **Pn 17 14 19.2 +0.6**
PALN Palana 6.88 318 PN **Pn 17 14 21.0 +2.4**
PALN Palana 6.88 318 *e*P **Pn 17 14 21.0 +2.4**
AMKA Amchitka 6.93 111 Pn **Pn 17 14 18.8 -0.5**
KDTR Khodutka, Kamc 7.00 254 PN **Pn 17 14 19.8 -0.4**
KDTR Khodutka, Kamc 7.00 254 *e*P **Pn 17 14 19.8 -0.4**
APC Apacha 7.14 264 PN **Pn 17 14 23.2 +1.1**
APC Apacha 7.14 264 *e*P **Pn 17 14 23.2 +1.1**
KMSK Kamenskaya 8.31 351 PN **Pn 17 14 38.0 -0.2**
KMSK Kamenskaya 8.31 351 *e*P **Pn 17 14 38.0 -0.2**
SKR Severo-Kuril's 8.62 250 *e*PN **Pn 17 14 41.7 -0.7**
SKR pmax pmax
comp=Z,71nm,1.0s
SKR MLR MLR
comp=Z,300nm,14.0s
ATKA Atka Island 10.33 95 Pn **Pn 17 15 05.0 -0.8**
MA2 Magadan 11.22 305 Pn **Pn 17 15 16.0 -2.0**
MA2 Magadan 11.22 305 *i* Pn **Pn 17 15 20.2 +2.2**
MA2 Magadan 11.22 305 Pn **Pn 17 15 19.1 +1.1**
comp=Z,0.2nm,0.3s,baz=126,slow=12,SNR=6.5
MA2 LR LR 17 19 23.0
comp=Z,240nm,21.9s,baz=104,slow=37
comp=Z,1.0nm,0.2s
SEY Seymchan 12.18 322 *ce*PN **Pn 17 15 33.8 +2.7**
SEY pmax pmax
comp=Z,9.0nm,1.7s
SEY Seymchan 12.18 322 Pn **Pn 17 15 33.6 +2.5**
comp=Z,0.1nm,0.3s,baz=132,slow=16,SNR=25
SEY LR LR 17 20 00.5
comp=Z,264nm,18.5s,baz=309,slow=37
BILL Bilibino 13.84 356 Pn **Pn 17 15 54.6 +0.8**
BILL Bilibino 13.84 356 *e*P **Pn 17 15 55.6 +1.8**
OKH Okha 15.31 278 *de*P Pn 17 16 06.0 -7.6
OKH *e*S **Sn 17 18 54.5 -7.8**
OKH MLR MLR
comp=N,600nm,13.0s
OKH MLR MLR
comp=E,500nm,13.0s
OKH MLR MLR
comp=Z,200nm,14.0s
TYV Tymovskoe 16.30 269 *e*P **P 17 16 28.3 -1.0**
TYV pmax pmax
comp=Z,100nm,4.1s
TYV pmax pmax
comp=Z,5.0nm,1.3s
ANM Nome 16.49 41 **Pn 17 16 28.9 +0.1**
ANM Nome 16.49 41 P **Pn 17 16 28.9 +0.1**
ANM pmax pmax
comp=Z,21nm,1.2s
L14K Kuka Creek 16.58 53 Pn **P 17 16 31.3 -0.9**
L14K IAmb IAmb 17 16 35.2
comp=Z,42nm,1.2s
M14K Bethel 16.81 56 **P 17 16 35.5 +0.6**
F15K North Star Dit 17.30 38 **P 17 16 42.3 +2.1**
K15K Wolf Creek Mou 17.33 51 **P 17 16 40.7 +0.1**
K15K IAmb IAmb 17 17 22.7
comp=Z,42nm,1.5s
YSS Yuzh-Sakhalins 18.09 257 P **Pn 17 16 46.8 -1.9**
YSS Yuzh-Sakhalins 18.09 257 *e*P **P 17 16 52.2 +3.1**
YSS pmax pmax
comp=Z,10.0nm,1.1s
L16K Owhat River 18.16 53 P **P 17 16 51.1 +1.3**
C16K Lisburne Hills 18.46 31 P **Pn 17 16 54.7 +1.6**
J17K VABM Dome 18.69 48 P **Pn 17 16 58.1 +2.1**
J17K IAmb IAmb 17 17 00.9
comp=Z,37nm,1.4s
H17K Granite Mounta 18.79 43 P **Pn 17 16 57.8 +0.5**
K17K Iditarod 18.88 50 P **Pn 17 16 59.6 +1.2**
K17K IAmb IAmb 17 17 02.9
comp=Z,32nm,1.3s
N17K Nushagak Hills 19.12 57 P **Pn 17 17 01.6 +0.3**
N17K IAmb IAmb 17 17 05.0
comp=Z,27nm,1.2s
H18K Honhosa River 19.48 43 P **Pn 17 17 08.4 +2.8**
H18K IAmb IAmb 17 17 11.6
comp=Z,21nm,1.2s
L18K Granite Mounta 19.54 52 P **Pn 17 17 07.7 +1.5**
L18K IAmb IAmb 17 17 11.3
comp=Z,26nm,1.4s
G18K Tagagawik 19.62 41 P **Pn 17 17 07.4 +0.2**
J18K Innoko River 19.74 49 P **Pn 17 17 09.1 +0.4**
J18K IAmb IAmb 17 17 10.5
comp=Z,20nm,1.0s
ASAJ Asahikawa 19.88 250 P **Pn 17 17 10.8 +0.4**
comp=Z,0.1nm,0.3s,baz=31,slow=6.6,SNR=4.8
ASAJ LR LR 17 26 08.0
comp=Z,118nm,18.0s,baz=294,slow=41
comp=Z,6.0nm,0.9s
C18K Utukok River 19.94 32 P **Pn 17 17 11.4 +0.3**
TTA Tatalina 19.96 50 P **Pn 17 17 11.3 0.0**
TTA IAmb IAmb 17 17 12.8
comp=Z,26nm,1.3s
TTA Tatalina 19.96 50 P **Pn 17 17 11.3 0.0**
TTA pmax pmax
comp=Z,26nm,1.3s
GRNR Gornyy 19.98 273 ⇑ *i*P **Pn 17 17 12.3 +0.6**
GRNR pmax pmax
comp=E,3.0nm,0.9s
GRNR pmax pmax
comp=N,3.0nm,0.8s
GRNR pmax pmax
comp=Z,7.0nm,1.0s
GRNR MLR MLR
comp=N,170nm,13.0s
F19K Shaleruckik Mo 20.29 39 P Pn 17 17 15.4 +0.3
G19K Purcell Mounta 20.31 41 Pn Pn 17 17 16.0 +0.7
J19K Poorman 20.32 47 P **P 17 17 14.4 +1.0**
J19K IAmb IAmb 17 17 39.7
comp=Z,32nm,1.5s
H19K Roundabout Mou 20.36 43 P **P 17 17 14.7 +0.9**
H19K IAmb IAmb 17 17 33.8
comp=Z,18nm,1.1s
L19K White Mountain 20.39 53 P Pn 17 17 15.6 -0.7
N19K Bonanza Creek 20.46 57 P **P 17 17 16.2 +1.1**
N19K IAmb IAmb 17 17 17.9
comp=Z,26nm,1.2s
O19K Port Alsworth 20.53 58 P **P 17 17 16.8 +1.1**
M19K Big River Lodg 20.57 54 P Pn 17 17 18.1 -0.4
C19K Lookout Ridge 20.67 32 P Pn 17 17 19.5 -0.1
C19K IAmb IAmb 17 17 52.9
comp=Z,23nm,1.2s
E19K Redstone River 20.73 37 P Pn 17 17 19.5 -0.7
E19K IAmb IAmb 17 17 37.5
comp=Z,19nm,1.3s
D19K Kuna River 20.86 34 P Pn 17 17 21.0 -0.8
K20K Telida 20.89 50 P **P 17 17 20.9 +1.2**
J20K Nowinta River 21.00 47 P **P 17 17 20.9 +0.2**
F20K Avaraart Lake 21.12 39 P **P 17 17 22.5 +0.4**
RSO Redoubt South 21.31 58 P **P 17 17 25.3 +1.0**
IMAR Indian Mountai 21.56 42 P **P 17 17 27.3 +0.5**
CAST Castle Rocks 21.79 50 P **P 17 17 30.8 +1.6**
CAST IAmb IAmb 17 17 32.9
comp=Z,18nm,1.5s
YAK Yakutsk 21.79 307 P **P 17 17 27.2 -2.0**
YAK Yakutsk 21.79 307 *e*P **P 17 17 28.4 -0.9**
YAK *e**PP **sP 17 17 35.3 -1.0**
YAK *e*PPP PPP 17 17 59.0
YAK *e*S **S 17 21 30.0 +0.9**
YAK *e*SS **SnSn 17 21 56.5 +2.6**
YAK pmax pmax
comp=Z,32nm,1.3s
YAK pmax pmax
comp=N,3.0nm,1.4s
YAK pmax pmax
comp=E,15nm,1.2s
YAK pmax pmax
comp=Z,19nm,1.0s
YAK pmax pmax
comp=N,11nm,1.7s
YAK pmax pmax
comp=E,33nm,1.6s
YAK smax smax
comp=N,140nm,4.1s
YAK smax smax
comp=E,100nm,4.7s
YAK MLR MLR
comp=Z,121nm,17.0s
YAK MLR MLR
comp=N,180nm,18.0s
YAK MLR MLR
comp=E,69nm,15.0s
YAK Yakutsk 21.79 307 P **P 17 17 28.2 -1.1**
comp=E,12nm,0.8s,baz=84,slow=15,SNR=10
YAK LR LR 17 26 11.5
comp=E,114nm,18.4s,baz=94,slow=38
comp=E,12nm,0.8s
G21K Allakaket 21.80 41 P **P 17 17 29.8 +0.4**
H21K Melozitna Rive 21.86 44 P **P 17 17 30.7 +0.7**
B20K Meade River 21.86 31 P **P 17 17 30.7 +0.8**
F21K Alatna River 22.01 39 P **P 17 17 32.7 +1.1**
B21K Ikpikpuk River 22.48 33 P **P 17 17 38.5 +2.0**
B21K IAmb IAmb 17 17 51.2
comp=Z,16nm,1.1s
TRF Thorofare Moun 22.59 50 P **P 17 17 39.1 +1.1**
TRF IAmb IAmb 17 18 11.3
comp=Z,20nm,1.3s
D22K Ayikyak River 22.83 35 P **P 17 17 42.0 +1.6**
E22K Anaktuvuk Pass 22.89 38 IAmb IAmb 17 17 57.0
comp=Z,13nm,1.3s
B22K Teshekpuk Lake 23.15 32 IAmb IAmb 17 17 59.8
comp=Z,14nm,1.1s
H23K Yukon River 23.21 44 IAmb IAmb 17 18 23.1
comp=Z,13nm,1.2s
KLR Kul'dur 23.37 273 *i* P **P 17 17 46.5 +0.5**
KLR pmax pmax
comp=Z,4.0nm,1.2s
KLR Kul'dur 23.37 273 P **P 17 17 46.4 +0.5**
comp=Z,1.0nm,0.5s,baz=60,slow=12,SNR=6.6
KLR LR LR 17 26 58.1
comp=Z,93nm,19.3s,baz=44,slow=37
comp=Z,1.0nm,0.5s
MDM Murphy Dome 23.64 46 P **P 17 17 48.9 +0.4**
WRH Wood River Hil 23.65 47 P **P 17 17 49.4 +0.8**
WRH IAmb IAmb 17 18 07.2
comp=Z,12nm,1.0s
COLA College 23.79 46 *i* P **P 17 17 50.1 +0.2**
COLA pmax pmax
comp=Z,16nm,1.6s
TOLK Toolik Lake Re 23.83 37 P **P 17 17 52.1 +1.7**
TOLK IAmb IAmb 17 18 09.3
comp=Z,9.7nm,0.8s
C23K Itkillik River 23.85 34 IAmb IAmb 17 18 18.3
comp=Z,12nm,1.2s
H24K Noodor Dome 23.89 44 IAmb IAmb 17 18 08.1
comp=Z,15nm,1.4s
HDA Harding Lake 24.14 48 P **P 17 17 54.0 +0.7**
IL31 24.19 47 IAmb IAmb 17 18 20.6
comp=Z,11nm,1.3s
ILAR Eielson Array 24.19 47 *e*P **P 17 17 53.2 -0.5**
ILAR pmax pmax
comp=Z,7.0nm,1.1s
ILAR Eielson Array 24.19 47 P **P 17 17 53.2 -0.5**
comp=Z,5.6nm,1.1s,baz=250,slow=8.3,SNR=18
comp=Z,5.6nm,1.1s
ZEA Zeya 24.24 286 *e*P **P 17 17 54.3 +0.1**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA MLR MLR
comp=Z,100nm,15.0s
TIXI Tiksi 24.41 330 P **P 17 17 54.7 -0.9**
TIXI Tiksi 24.41 330 *ce*P **P 17 17 55.7 +0.1**
TIXI pmax pmax
comp=Z,29nm,1.3s
M24K Tolsona, Glenn 24.45 53 P **P 17 17 57.0 +0.8**
D25K Kavik River 25.12 36 IAmb IAmb 17 18 14.4
comp=Z,8.6nm,0.9s
E25K Arctic Village 25.16 39 P **P 17 18 03.4 +1.0**
E25K IAmb IAmb 17 18 22.7
comp=Z,9.7nm,1.1s
BMAR Burnt Mountain 25.42 41 P **P 17 18 08.3 +3.5**
HEH HeiHe 25.45 278 *e*P **P 17 18 03.3 -1.9**
HEH pP **pP 17 18 06.0 -4.8**
HEH S S 17 22 44.3 +13
HEH SS SnSn 17 23 44.5 +21
HEH pmax pmax
comp=Z,21nm,0.9s
HEH pmax pmax
comp=Z,90nm,3.9s
HEH LR LR
comp=N,560nm,15.5s
HEH LR LR
comp=E,270nm,14.1s
HEH LR LR
comp=Z,230nm,16.6s
J26L Joseph Creek 25.61 48 IAmb IAmb 17 18 27.9
comp=Z,6.0nm,0.9s
USRK Ussuriysk Ar. 25.86 262 LR LR 17 28 52.7
comp=Z,123nm,19.3s,baz=64,slow=38
K27K Chicken 26.26 49 IAmb IAmb 17 18 16.4
comp=Z,15nm,1.4s
L27K Beaver Creek, 26.42 51 IAmb IAmb 17 18 31.6
comp=Z,6.4nm,1.1s
EGAK Eagle 26.64 47 IAmb IAmb 17 18 55.5
comp=Z,10nm,1.1s
F28M Old Crow 27.24 41 P **P 17 18 22.6 +1.4**
F28M IAmb IAmb 17 18 31.9
comp=Z,7.7nm,1.3s
DAWY Dawson 27.44 48 P **P 17 18 22.7 -0.4**
DAWY IAmb IAmb 17 18 45.7
comp=Z,8.9nm,1.0s
MJAR Matsushiro Arr 27.61 243 P **P 17 18 27.0 +2.1**
MJAR Matsushiro Arr 27.61 243 P **P 17 18 27.0 +2.1**
comp=Z,2.4nm,0.9s,baz=26,slow=8.8,SNR=5.7
comp=Z,2.4nm,0.9s
MJB9 27.61 243 P **P 17 18 24.7 -0.1**
MJB9 IAmb IAmb 17 18 29.4
comp=Z,10nm,1.0s
MAJO Matsushiro 27.61 243 P **P 17 18 23.8 -1.0**
MAJO IAmb IAmb 17 18 28.4
comp=Z,10nm,1.0s
MAJO Matsushiro 27.61 243 *i* P **P 17 18 26.8 +2.0**
MAJO pmax pmax
comp=Z,8.0nm,1.1s
G29M Pine Creek 27.93 42 IAmb IAmb 17 18 56.9
comp=Z,10.0nm,1.1s
K29M Barlow Dome 28.28 49 IAmb IAmb 17 18 43.8
comp=Z,12nm,1.2s
EPYK Eagle Plains 28.46 43 IAmb IAmb 17 18 47.9
comp=Z,5.4nm,1.0s
M31M Drury Creek, Y 29.93 52 IAmb IAmb 17 18 57.5
comp=Z,4.0nm,0.7s
A36M Sachs Harbour 32.36 32 IAmb IAmb 17 19 12.0
comp=Z,4.0nm,0.9s
KSRS Korea Array 32.58 256 *e*P **P 17 19 12.0 +3.3**
KSRS pmax pmax
comp=Z,1.0nm,0.8s
KSRS Korea Array 32.58 256 P **P 17 19 10.6 +1.9**
comp=Z,1.4nm,0.9s,baz=48,slow=8.7,SNR=5.8
KSRS LR LR 17 31 48.9
comp=Z,47nm,19.9s,baz=30,slow=35
comp=Z,1.4nm,0.9s
DLBC Dease Lake 33.03 58 P **P 17 19 12.3 -0.3**
comp=Z,2.4nm,0.8s,baz=298,slow=4.0,SNR=3.5
comp=Z,2.4nm,0.8s
JNU Nakatsue 34.11 247 LR LR 17 32 25.0
comp=Z,42nm,20.0s,baz=58,slow=35
H11N2 WAKE ISLAND Hy 34.54 183 T T 17 55 49.6
baz=2.1,slow=76,SNR=2610
H11N3 WAKE ISLAND Hy 34.56 183 T T 17 56 02.4
baz=2.1,slow=76,SNR=3121
H11N1 WAKE ISLAND Hy 34.56 183 T T 17 55 50.5
baz=2.1,slow=76,SNR=2434
H11S1 WAKE ISLAND Hy 35.77 184 T T 17 57 20.0
baz=2.4,slow=76,SNR=1972
H11S3 WAKE ISLAND Hy 35.78 184 T T 17 57 21.3
baz=2.4,slow=76,SNR=830
H11S2 WAKE ISLAND Hy 35.78 184 T T 17 57 21.4
baz=2.4,slow=76,SNR=1809
BBB Bella Bella 36.63 67 LR LR 17 34 00.5
comp=Z,62nm,19.9s,baz=254,slow=35
NRIK Noril'sk 37.94 325 P **P 17 19 53.6 -0.9**
NRIK IAmb IAmb 17 19 55.7
comp=Z,13nm,1.5s
NRIK Noril'sk 37.94 325 P **P 17 19 53.6 -0.9**
NRIK pmax pmax
comp=Z,13nm,1.5s
NRIK Noril'sk 37.94 325 P **P 17 19 54.2 -0.2**
comp=Z,1.1nm,0.6s,baz=68,slow=6.8,SNR=5.7
NRIK LR LR 17 36 29.1
comp=Z,135nm,18.1s,baz=80,slow=38
comp=Z,1.1nm,0.6s
ULN Ulaanbaatar 38.27 287 *ce*P **P 17 19 58.4 +0.6**
ULN pmax pmax
comp=Z,3.0nm,1.0s
YKA Yellowknife Ar 38.62 46 *e*P **P 17 20 00.4 +0.1**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 38.62 46 P **P 17 19 59.7 -0.6**
comp=Z,0.2nm,0.5s,baz=300,slow=9.0,SNR=5.4
comp=Z,0.2nm,0.5s
SONM Songino Array 38.66 287 P **P 17 20 02.0 +1.0**
comp=Z,1.0nm,0.7s,baz=64,slow=8.1,SNR=10.0
SONM LR LR 17 37 17.2
comp=Z,109nm,18.8s,baz=354,slow=38
comp=Z,1.0nm,0.7s
JOW Kunigami 40.44 244 LR LR 17 39 28.6
comp=Z,22nm,18.4s,baz=275,slow=40
NEW Newport 44.68 66 LR LR 17 39 05.3
comp=Z,38nm,18.5s,baz=298,slow=36
ZALV Zalesovo Beam 46.44 306 LR LR 17 41 00.3
comp=Z,91nm,18.0s,baz=8.5,slow=37
SPITS Spitsbergen Ar 46.72 352 P **P 17 21 04.3 -1.5**
comp=Z,8.2nm,1.0s,baz=32,slow=8.5,SNR=2.1
SPITS LR LR 17 41 27.0
comp=Z,53nm,18.8s,baz=332,slow=37
comp=Z,8.2nm,1.0s
GTA Gaotai 47.61 281 P **P 17 21 14.0 +0.6**
GTA pP sP 17 21 26.0 +4.3
GTA pmax pmax
comp=Z,2.0nm,1.2s
FCC Fort Churchill 49.13 43 P **P 17 21 24.9 +0.3**
FCC Fort Churchill 49.13 43 P **P 17 21 24.9 +0.3**
FCC pmax pmax
comp=Z,11nm,1.3s
PNTR Pine Nut 49.17 77 P **P 17 21 24.4 -1.2**
WAKR Walker 49.67 78 P **P 17 21 29.3 0.0**
WAKR IAmb IAmb 17 21 54.5
comp=Z,7.9nm,1.4s
QLMT Earthquake Lak 49.89 66 P **P 17 21 29.1 -1.9**
YHH Holmes Hill 50.23 66 P **P 17 21 31.8 -1.8**
NVAR Mina Array Bea 50.37 77 P **P 17 21 34.8 +0.2**
comp=Z,0.7nm,0.7s,baz=298,slow=7.9,SNR=5.2
comp=Z,0.7nm,0.7s
ELK Elko 50.52 73 P **P 17 21 36.8 +0.9**
comp=Z,0.8nm,0.6s,baz=315,slow=7.1,SNR=3.6
ELK LR LR 17 40 26.0
comp=Z,66nm,20.6s,baz=298,slow=33
comp=Z,0.8nm,0.6s
KURK Kurchatov 51.43 306 P **P 17 21 41.8 -0.5**
KURK Kurchatov 51.43 306 *ce*P **P 17 21 42.0 -0.2**
KURK pmax pmax
comp=Z,12nm,1.3s
KURBB Kurchatov Arra 51.54 306 P **P 17 21 42.5 -0.5**
comp=Z,3.6nm,0.9s,baz=51,slow=7.5,SNR=42
comp=Z,3.6nm,0.9s
HWUT Hardware Ranch 51.97 69 P **P 17 21 46.3 -0.4**
HWUT IAmb IAmb 17 21 48.1
comp=Z,5.0nm,1.2s
MK31 Makanchi Array 52.24 300 P **P 17 21 46.8 -1.6**
MK31 Makanchi Array 52.24 300 P **P 17 21 46.8 -1.6**
MK31 pmax pmax
comp=Z,2.0nm,1.0s
MKAR Makanchi Array 52.24 300 *e*P **P 17 21 46.8 -1.6**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 52.24 300 P **P 17 21 47.4 -1.0**
comp=Z,1.3nm,0.8s,baz=54,slow=6.1,SNR=14
comp=Z,1.3nm,0.8s
PD31 Pinedale Array 52.28 67 P **P 17 21 47.7 -1.2**
PDAR Pinedale Array 52.28 67 P **P 17 21 47.2 -1.8**
PDAR Pinedale Array 52.28 67 P **P 17 21 48.8 -0.2**
comp=Z,0.4nm,0.3s,baz=321,slow=3.8,SNR=7.7
comp=Z,0.4nm,0.3s
MAKZ Makanchi 52.39 300 P **P 17 21 48.3 -1.2**
MAKZ IAmb IAmb 17 21 49.4
comp=Z,3.5nm,0.9s
MAKZ Makanchi 52.39 300 P **P 17 21 48.3 -1.2**
MAKZ pmax pmax
comp=Z,4.0nm,1.0s
BVAR Borovoye Array 53.62 312 P **P 17 21 58.1 -0.3**
comp=Z,5.5nm,0.7s,baz=50,slow=7.9,SNR=35
BVAR LR LR 17 44 58.0
comp=Z,98nm,21.0s,baz=51,slow=36
comp=Z,5.5nm,0.7s
ARCES ARCESS Array B 53.63 345 P **P 17 21 56.6 -1.7**
comp=Z,2.3nm,0.8s,baz=34,slow=5.7,SNR=10.0
comp=Z,2.3nm,0.8s
BRVK Borovoye 53.64 312 P **P 17 21 58.1 -0.4**
BRVK Borovoye 53.64 312 *ce*P **P 17 21 58.4 -0.2**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
MSU Marysvale 53.77 73 P **P 17 22 00.9 +0.9**
MSU Marysvale 53.77 73 P **P 17 22 00.9 +0.9**
RDMU Red Mountain 53.78 69 P **P 17 21 59.2 -0.8**
SZCU Shurtz Canyon 53.90 74 P **P 17 21 59.7 -1.2**
ULM Lac du Bonnet 54.05 52 LR LR 17 46 51.9
comp=Z,106nm,18.9s,baz=300,slow=38
FRB Frobisher Bay 54.16 28 LR LR 17 47 42.0
comp=Z,59nm,19.9s,baz=318,slow=39
SRU San Rafael Swe 54.27 71 P **P 17 22 04.5 +0.9**
SRU San Rafael Swe 54.27 71 P **P 17 22 04.5 +0.9**
SRU pmax pmax
comp=Z,6.0nm,0.8s
PFO Pinyon Flats O 54.81 80 LR LR 17 41 20.5
comp=Z,72nm,21.8s,baz=315,slow=32
HMU Henry Mountain 54.98 72 P **P 17 22 09.4 +0.5**
SFJD Kangerlussuaq 55.43 18 LR LR 17 49 12.1
comp=Z,22nm,18.1s,baz=337,slow=40
PZH PanZhiHua 55.72 269 P **P 17 22 15.0 +0.9**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,110nm,5.3s
ARU Arti 55.92 321 P **P 17 22 14.7 -0.3**
ARU Arti 55.92 321 *d i* P **P 17 22 14.5 -0.5**
ARU 17 23 13.7
ARU S **S 17 30 00.5 -0.7**
ARU SS **SS 17 33 41.8 -4.5**
ARU pmax pmax
comp=Z,7.0nm,1.1s
ARU Arti 55.92 321 P **P 17 22 14.2 -0.8**
comp=Z,3.2nm,0.7s,baz=80,slow=12,SNR=5.7
ARU LR LR 17 48 09.6
comp=Z,76nm,18.0s,baz=141,slow=38
comp=Z,3.2nm,0.7s
KIRV Kirov 57.39 327 *ce*P **P 17 22 25.6 +0.3**
KIRV Kirov 57.39 327 LR LR 17 48 28.7
comp=Z,60nm,20.7s,baz=51,slow=38
KLMR Klimovskoe 58.38 334 *e*P **P 17 22 30.8 -1.5**
KLMR pmax pmax
comp=Z,19nm,1.3s
AAK Ala-Archa 59.11 301 LR LR 17 50 39.3
comp=Z,68nm,18.8s,baz=38,slow=39
ANMO Albuquerque 59.52 72 LR LR 17 46 09.3
comp=Z,39nm,20.8s,baz=56,slow=34
KSH Kashi 60.65 298 P **P 17 22 51.5 +3.0**
KSH pmax pmax
comp=Z,4.0nm,1.1s
KSH LR LR
comp=N,190nm,12.4s
KSH LR LR
comp=E,250nm,15.7s
AKTO Aktyubinsk 60.72 317 LR LR 17 51 39.4
comp=E,65nm,19.0s,baz=46,slow=39
ABKAR Akbulak array 60.85 315 P **P 17 22 47.8 -1.7**
ABKAR IAmb IAmb 17 22 50.2
comp=Z,2.8nm,1.0s
FINES FINESS Array B 60.92 341 P **P 17 22 49.6 -0.1**
comp=Z,0.8nm,0.7s,baz=20,slow=9.5,SNR=3.6
FINES LR LR 17 55 25.0
comp=Z,28nm,18.3s,baz=48,slow=42
comp=Z,0.8nm,0.7s

CRAI	**Chiangrai**	**61.33**	**265**	P	**P**	**17 22 54.1**	**+0.9**
CRAI				IAmb	IAmb	17 23 04.2	
	comp=Z,5.3nm,1.4s						
BELG	**Belogornoye**	**63.02**	**324**	LR	LR	17 53 01.3	
	comp=Z,91nm,18.7s,baz=189,slow=39						
CMAR	**Chiang Mai Arr**	**63.55**	**265**	P	**P**	**17 23 09.4**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=26,slow=8.0,SNR=10						
CMAR				LR	LR	17 53 00.5	
	comp=Z,44nm,18.1s,baz=25,slow=38						
	comp=Z,0.8nm,0.6s						
NB2	**NORSAR Subarra**	**63.65**	**348**	P	**P**	**17 23 08.3**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=15,slow=6.9						
NOA	**NORSAR Array B**	**63.65**	**348**	P	**P**	**17 23 08.2**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=16,slow=6.7,SNR=5.8						
NOA				LR	LR	17 54 32.1	
	comp=Z,14nm,18.2s,baz=35,slow=40						
	comp=Z,1.2nm,0.6s						
OBN	**Obninsk**	**64.14**	**332**	*i* P	**P**	**17 23 12.1**	**+0.8**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
OBN	**Obninsk**	**64.14**	**332**	LR	LR	17 52 48.7	
	comp=Z,62nm,21.3s,baz=180,slow=38						
HFS	**Hagfors**	**64.21**	**347**	P	**P**	**17 23 11.6**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=46,slow=6.2,SNR=4.8						
HFS				LR	LR	17 53 59.2	
	comp=Z,18nm,18.2s,baz=3.0,slow=39						
	comp=Z,1.7nm,0.7s						
TXAR	**Lajitas Array**	**65.29**	**74**	P	**P**	**17 23 20.4**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=303,slow=4.7,SNR=12						
	comp=Z,1.0nm,0.5s						
LPIG	**La Paz**	**65.48**	**82**	LR	LR	17 50 41.8	
	comp=Z,18nm,18.1s,baz=280,slow=35						
SADO	**Sadowa**	**65.62**	**47**	LR	LR	17 53 14.1	
	comp=Z,72nm,19.2s,baz=344,slow=37						
AKASG	**Malin Array Be**	**70.06**	**334**	P	**P**	**17 23 49.1**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=28,slow=6.3,SNR=4.7						
	comp=Z,0.8nm,0.6s						
EKA	**Eskdalemuir Ar**	**70.53**	**355**	P	**P**	**17 23 52.0**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=13,slow=6.9,SNR=2.5						
	comp=Z,0.9nm,0.7s						
GEYT	**Alibeck**	**70.65**	**308**	P	**P**	**17 23 53.6**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=35,slow=11,SNR=2.3						
GEYT				LR	LR	17 56 24.6	
	comp=Z,92nm,18.6s,baz=32,slow=37						
	comp=Z,0.9nm,0.5s						
KBZ	**Khabaz**	**72.05**	**322**	*i* P	**P**	**17 24 01.8**	**+0.6**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KBZ	**Khabaz**	**72.05**	**322**	P	**P**	**17 24 02.1**	**+1.0**
	comp=Z,1.6nm,0.9s,baz=24,slow=7.6,SNR=3.5						
KBZ				LR	LR	17 59 53.2	
	comp=Z,50nm,18.6s,baz=68,slow=40						
	comp=Z,1.6nm,0.9s						
VRAC	**Vranov**	**74.17**	**342**	LR	LR	18 02 12.2	
	comp=Z,39nm,18.5s,baz=13,slow=40						
GNI	**Garni**	**74.46**	**319**	LR	LR	18 00 30.6	
	comp=Z,65nm,19.3s,baz=24,slow=39						
KHC	**Kasperske Hory**	**74.87**	**344**	*ce*P	**P**	**17 24 19.6**	**+1.8**
KHC				pmax	pmax		
	comp=Z,17nm,2.5s						
DAVOX	**Davos/Dischmat**	**77.74**	**345**	LR	LR	18 02 14.0	
	comp=Z,22nm,18.4s,baz=70,slow=38						
BRTR	**Keskin Array B**	**78.78**	**326**	P	**P**	**17 24 40.0**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=353,slow=7.3,SNR=2.8						
BRTR				LR	LR	18 05 01.9	
	comp=Z,32nm,18.3s,baz=62,slow=40						
	comp=Z,0.9nm,0.9s						
WRA	**Warramunga Arr**	**79.68**	**213**	P	**P**	**17 24 45.9**	**+1.0**
	comp=Z,1.0nm,0.9s,baz=28,slow=6.3,SNR=3.3						
	comp=Z,1.0nm,0.9s						
CMIG	**Matias Romero**	**79.85**	**75**	LR	LR	17 58 02.9	
	comp=Z,38nm,21.0s,baz=333,slow=34						
PPT	**Papeete**	**79.88**	**140**	LR	LR	17 54 08.2	
	comp=Z,76nm,19.7s,baz=328,slow=31						
ASAR	**Alice Springs**	**83.30**	**212**	P	**P**	**17 25 06.2**	**+2.1**
	comp=Z,1.3nm,1.1s,baz=25,slow=5.0,SNR=5.0						
	comp=Z,1.3nm,1.1s						
MMAI	**Mount Meron Ar**	**84.25**	**322**	LR	LR	18 08 32.2	
	comp=Z,32nm,18.1s,baz=0.0,slow=40						
ASF	**Jabal al Asfar**	**84.46**	**321**	LR	LR	18 08 30.3	
	comp=Z,39nm,18.3s,baz=236,slow=40						
EIL	**Elat**	**87.43**	**321**	LR	LR	18 10 42.6	
	comp=Z,42nm,18.2s,baz=64,slow=40						

NEIC ***26*** *17:14:58.0±1.0,36.09N±0.03×99.11W±0.04,h19km±2km, Error ellipse: s-maj=5.2km s-min=4.5km az=72.0*

TUL 26 17:14:58.7±1.6,36.10N±0.02×99.10W±0.03,h5km±6km, ML2.6,mb_Lg2.4/35(NEIC),ML2.5/14(NEIC),Error ellipse: s-maj=3.5km s-min=2.8km az=128.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELIS	**Ellis County**	**0.26**	**263**	Pg	Pg	17 15 04.1	+0.3
ELIS				IAML		17 15 13.1	
	comp=N,906nm,0.5s						
ELIS				IAML		17 15 13.3	
	comp=E,633nm,0.5s						
U32A	**Winter Ranch,**	**0.29**	**15**		Pg	17 15 04.8	+0.3
U32A				IAML		17 15 11.2	
	comp=N,558nm,0.1s						
U32A				IAML		17 15 14.6	
	comp=E,405nm,0.1s						
OK038	**West end E0370**	**0.47**	**37**	Pg	Pg	17 15 07.9	0.0
CSTR	**Hydro, Custer**	**0.56**	**144**		Pg	17 15 08.8	-0.7
OK035	**E0210 Rd and N**	**0.68**	**27**	Pg	Pg	17 15 11.2	-0.7
OK035				IAML		17 15 33.3	
	comp=E,344nm,0.2s						
CROK	**Carrier**	**0.99**	**65**	Pg	Pg	17 15 16.2	-1.5
OK032	**Salt Plains WL**	**1.00**	**45**		Pg	17 15 16.9	-1.0
GC02	**Grant County #**	**1.25**	**53**		Pg	17 15 21.2	-1.4
KAN14	**Manchester OK**	**1.25**	**46**		Pg	17 15 21.5	-1.2
KAN10	**Anthony SW Sta**	**1.30**	**38**		Pn	17 15 22.6	-0.9
SMWD	**Samnorwood**	**1.36**	**224**		Pn	17 15 23.6	-0.8
OK029	**Liberty Lake**	**1.36**	**102**		Pn	17 15 23.4	-1.0
WMOK	**Wichita Mounta**	**1.38**	**169**	Pg	Pn	17 15 23.1	-1.5
KAN05	**Bluff City Nor**	**1.41**	**44**		Pn	17 15 24.2	-0.8
KAN08	**Anthony NE Sta**	**1.45**	**38**		Pn	17 15 25.0	-0.6
KAN12	**Harper NE Stat**	**1.49**	**36**		Pn	17 15 26.0	-0.1
KAN01	**Argonia South**	**1.50**	**45**		Pn	17 15 26.2	-0.1
KAN06	**Argonia West S**	**1.52**	**41**		Pn	17 15 25.3	-1.3
KAN13	**South Haven SW**	**1.59**	**54**		Pn	17 15 25.8	-1.7
FNO	**Franklin**	**1.61**	**121**		Pn	17 15 27.5	-0.3
BLOK	**Blackwell**	**1.66**	**66**		Pn	17 15 28.3	-0.1
OK033	**Mehan**	**1.75**	**91**		Pn	17 15 29.5	-0.2
OK048	**Pawnee Station**	**1.77**	**79**		Pn	17 15 29.1	-0.9
W35A	**Tecumseh**	**2.04**	**117**		Pn	17 15 32.9	-0.8
DEOK	**Depew**	**2.12**	**96**	Pn	Pn	17 15 33.8	-1.0
DEOK				lAmb_Lg		17 16 06.9	
	comp=Z,12nm,0.8s						
T35A	**Sooner Cattle**	**2.24**	**68**	Pn	Pn	17 15 36.4	0.0
R32A	**Long Quarter,**	**2.34**	**7**		Pn	17 15 37.0	-0.8
WTFS	**Witchita Falls**	**2.38**	**167**	lAmb_Lg		17 16 17.4	
	comp=Z,12nm,0.9s						
AMTX	**Amarillo**	**2.43**	**241**	Pn	Pn	17 15 39.3	+0.1
LOOK	**Love County**	**2.62**	**143**	lAmb_Lg		17 16 23.4	
	comp=Z,18nm,1.1s						
TUL3	**Leonard**	**2.69**	**93**	lAmb_Lg		17 16 29.1	
	comp=Z,13nm,0.9s						
CBKS	**Cedar Bluff**	**2.76**	**350**	Pn	Pn	17 15 42.2	-1.4
DKNS	**Dickens**	**2.85**	**212**	lAmb_Lg		17 16 33.4	
	comp=Z,10.0nm,1.0s						
APMT	**Aspermont**	**2.89**	**197**	Pn	Pn	17 15 43.7	-1.7
APMT				lAmb_Lg		17 16 36.4	
	comp=Z,8.7nm,0.8s						
RTBA	**Rita Blanca**	**2.96**	**278**		Pn	17 15 45.0	-1.5
PLPT	**Palo Pinto**	**3.34**	**169**	Pn	Pn	17 15 51.1	-0.5
PLPT				lAmb_Lg		17 16 43.8	
	comp=Z,8.2nm,0.7s						
X37A	**Clayton**	**3.40**	**115**		Pn	17 15 50.8	-1.6
ABTX	**Abilene, Hawle**	**3.49**	**188**		Pn	17 15 52.8	-0.9
SN05	**Snyder 5**	**3.54**	**205**	lAmb_Lg		17 16 60.0	
	comp=Z,10nm,0.8s						
KSU1	**Kansas State U**	**3.59**	**33**	lAmb_Lg		17 16 58.0	
	comp=Z,7.1nm,0.7s						
MSTX	**Muleshoe**	**3.69**	**236**	lAmb_Lg		17 17 05.4	
	comp=Z,11nm,0.8s						
U38A	**Gravette**	**3.82**	**83**		Pn	17 15 57.0	-1.2
U38A				lAmb_Lg		17 17 01.2	
	comp=Z,7.1nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.04**	**317**	lAmb_Lg		17 17 16.6	
	comp=Z,14nm,0.8s						
BRDY	**Brady**	**4.80**	**179**	lAmb_Lg		17 17 41.1	
	comp=Z,8.8nm,0.8s						
OZNA	**Ozona**	**5.43**	**199**	lAmb_Lg		17 18 02.9	
	comp=Z,6.3nm,0.9s						

MGMO	**Mountain Grove**	**5.59**	**77**	lAmb_Lg		17 18 00.1	
	comp=Z,11nm,0.8s						
MNHN	**Monahans**	**5.64**	**214**	lAmb_Lg		17 18 00.4	
	comp=Z,5.4nm,1.0s						
FCAR	**Ozark Folk Cen**	**5.66**	**90**	lAmb_Lg		17 17 59.6	
	comp=Z,11nm,1.0s						
LCAR	**Lake Charles**	**6.43**	**88**	lAmb_Lg		17 18 32.8	
	comp=Z,7.1nm,1.0s						
PHWY	**Pilot Hill**	**7.19**	**318**	lAmb_Lg		17 18 51.3	
	comp=Z,10.0nm,1.1s						

IDC ***26*** *17:23:45.2±4.0,47.86N×92.06W,h0km,mbtmp2.7/2, ML0.7/1,Error ellipse: s-maj=75.7km s-min=25.9km az=42.0*

NEIC ***26*** *17:23:45.8±1.2,47.57N±0.04×92.57W±0.09,h0km±1km, mb_Lg2.7/12,ML2.6/6,Error ellipse: s-maj=11.8km s-min=4.0km az=233.0*

ISC 26 17:23:41.7±0.9,47.63N±0.05×92.35W±0.04,h0km,n18, σ1s58/14,Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	**Ely**	**0.66**	**60**		**Pn**	**17 24 00.1**	**+1.8**
EYMN				IAML		17 24 13.8	
	285nm,0.8s						
EYMN				IAML		17 24 15.9	
	287nm,1.1s						
E38A	**The Farm, Brul**	**1.15**	**152**		**Pn**	**17 24 07.3**	**+2.3**
E38A				IAML		17 24 45.0	
	comp=N,80nm,1.1s						
B35A	**Bob, Littlefor**	**1.18**	**309**		**Pn**	**17 24 06.4**	**+0.9**
B35A				IAML		17 24 27.4	
	comp=E,97nm,1.4s						
F36A	**Milaca**	**1.94**	**205**		**Pg**	**17 24 18.1**	**-0.7**
F36A				lAmb_Lg		17 24 48.8	
	comp=Z,29nm,0.9s						
SPMN	**Marine on St.**	**2.42**	**188**	lAmb_Lg		17 25 01.7	
	comp=Z,28nm,0.8s						
AGMN	**Agassiz Nation**	**2.46**	**287**		**Pn**	**17 24 24.4**	**+1.4**
D41A	**Chassel**	**2.63**	**101**	Pn	**Pg**	**17 24 31.4**	**-0.7**
COWI	**Conover**	**2.68**	**124**	Pn	**Pb**	**17 24 30.1**	**-0.3**
G40A	**Rib Lake**	**2.79**	**147**		**Pb**	**17 24 31.2**	**-1.1**
D32A	**Dogwood Acres,**	**3.21**	**263**	lAmb_Lg		17 25 26.8	
	comp=Z,18nm,0.8s						
F33A	**5 Mile Ranch,**	**3.25**	**238**		**Pn**	**17 24 35.2**	**+1.4**
F33A				lAmb_Lg		17 25 28.7	
	comp=Z,24nm,0.9s						
ULM	**Lac du Bonnet**	**3.51**	**320**		**Pg**	**17 24 47.8**	**-1.1**
ULM	**Lac du Bonnet**	**3.51**	**320**	Pn	**Pn**	**17 24 40.2**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=138,slow=14,SNR=1.6						
ULM				Sn	**Sn**	**17 25 19.7**	**0.0**
	comp=Z,0.3nm,0.3s,baz=168,slow=20,SNR=1.9						
ULM				Lg	Lg	17 25 32.2	
	comp=Z,1.4nm,0.3s,baz=45,slow=16,SNR=9.8						
	comp=Z,0.7nm,0.5s						
I10CA	**LAC DU BONNET**	**3.54**	**318**	I	I	17 47 00.0	
	baz=132,slow=322,SNR=4.0						
I37A	**Lemond, Waseca**	**3.69**	**192**	lAmb_Lg		17 25 45.5	
	comp=Z,14nm,0.8s						
E43A	**Lone Tree Farm**	**3.87**	**107**	Pn	**Pb**	**17 24 48.9**	**-1.9**
L34A	**Svendsen Farm,**	**6.34**	**208**	lAmb_Lg		17 27 16.8	
	comp=Z,17nm,0.8s						
YKA	**Yellowknife Ar**	**19.45**	**328**	P	**Pn**	**17 28 10.4**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=125,slow=13,SNR=3.0						

IDC ***26*** *17:26:02.0±2.4,6.53S×129.15E,h0km,mb3.2/1, mbtmp3.4/3,ML3.3/2,Error ellipse: s-maj=144.4km s-min=32.9km az=68.0*

ISC 26 17:26:20.9±1.5,7.25S±0.1×129.8E±0.1,h200km,n9, σ2s83/10,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.71**	**117**	P	**Pn**	**17 26 54.9**	**-1.6**
DRS	**Darwin Rock St**	**5.32**	**168**	P	**Pn**	**17 27 41.5**	**+2.1**
SOEI	**Soe**	**6.00**	**245**	P	**Pn**	**17 27 46.9**	**-1.4**
KDU	**Kakadu**	**6.07**	**154**	P	**Pn**	**17 27 50.6**	**+1.5**
KNRA	**Kununurra**	**8.48**	**187**	P	**Pn**	**17 28 21.6**	**+1.2**
LUWI	**Luwuk**	**9.27**	**311**	P	Pn	17 28 19.8	-11
WRA	**Warramunga Arr**	**13.42**	**161**	Pn	**Pn**	**17 29 24.3**	**+0.6**
	0.1nm,0.3s,baz=342,slow=13,SNR=7.7						
WRA				Sn	**S**	**17 31 48.9**	**-4.5**
	0.4nm,0.3s,baz=332,slow=22,SNR=8.5						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**16.85**	**167**	P	**Pn**	**17 30 10.1**	**+4.6**
	0.2nm,0.3s,baz=348,slow=11,SNR=20						
ASAR				S	**Sn**	**17 33 15.8**	**+0.6**
	0.5nm,0.7s,baz=358,slow=26,SNR=4.4						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**68.27**	**327**	P	**P**	**17 36 59.2**	**-1.0**
	0.1nm,0.5s,baz=111,slow=8.0,SNR=2.2						
	0.1nm,0.5s						

IDC ***26*** *17:28:57.4±2.9,14.00N×92.98W,h0km,mb3.6/2, mbtmp3.6/4,ML3.1/3,Error ellipse: s-maj=55.5km s-min=25.3km az=12.0*

MEX ***26*** *17:29:01.0±1.0,14.18N×93.08W,h6km±33km,MD3.9*

ISC 26 17:29:00.3±2.7,14.36N±0.09×92.92W±0.05,h4km±15km, n18,σ1s59/31,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.83**	**49**	*e*P	**Pn**	**17 29 18.5**	**-0.3**
THIG				*e*S	**Sn**	**17 29 31.3**	**-0.2**
PATR	**El Naranjo**	**1.00**	**41**	*e*P	**Pn**	**17 29 21.1**	**-0.3**
PATR				*e*S	**Sn**	**17 29 36.2**	**+0.2**
CHUJ	**Union Juarez**	**1.07**	**47**	*e*P	**Pb**	**17 29 21.8**	**+0.3**
CHUJ				*e*S	**Sn**	**17 29 39.4**	**+1.7**
PAVE	**Pavencul**	**1.09**	**41**	*e*P	**Pb**	**17 29 22.4**	**+0.4**
PAVE				*e*S	**Sn**	**17 29 40.2**	**+1.9**
RTAL	**Retalhuleu**	**1.20**	**82**	*e*P	**Pb**	**17 29 22.6**	**-0.9**
RTAL				*e*S	**Sn**	**17 29 40.7**	**+0.2**
SMSP	**San Marcos**	**1.26**	**61**	*e*S	**Sg**	**17 29 40.8**	**0.0**
PCIG		**1.36**	**348**	*e*P	**Pn**	**17 29 25.5**	**-0.6**
PCIG				*e*S	**Sb**	**17 29 40.0**	**-4.2**
HUEH	**Huehuetenango**	**1.67**	**55**	*e*P	**Pn**	**17 29 30.6**	**+0.1**
HUEH				*e*S	**Sg**	**17 29 54.1**	**+0.2**
CARR	**Arriaga**	**2.10**	**333**	*e*P	**Pn**	**17 29 37.6**	**+1.3**
CARR				*e*S	**Sn**	**17 30 04.2**	**+1.3**
TGIG		**2.41**	**355**	*e*P	**Pn**	**17 29 42.2**	**+1.7**
TGIG				*e*S	**Sn**	**17 30 10.3**	**-0.3**
APG	**El Apazote**	**2.46**	**75**	Pn	**Pn**	**17 29 42.1**	**+0.7**
	0.6nm,0.3s,baz=210,slow=15,SNR=31						
APG				Sn	**Sb**	**17 30 16.0**	**0.0**
	1.5nm,0.3s,baz=235,slow=22,SNR=7.7						
UXUV	**UXUV**	**3.17**	**338**	*e*P	**Pn**	**17 29 53.0**	**+2.1**
UXUV				*e*S	**Sn**	**17 30 32.4**	**+3.2**
CMIG	**Matias Romero**	**3.31**	**325**	Pn	**Pn**	**17 29 53.6**	**+0.8**
	2.6nm,0.3s,baz=145,slow=13,SNR=14						
CMIG				Sn	**Sb**	**17 30 38.0**	**-2.2**
	5.3nm,0.3s,baz=141,slow=11,SNR=9.2						
	5.3nm,0.3s						
CMIG	**Matias Romero**	**3.31**	**325**	*e*P	**Pn**	**17 29 53.2**	**+0.3**
CMIG				*e*S	**Sn**	**17 30 30.8**	**-1.9**
TXAR	**Lajitas Array**	**17.91**	**328**	P	**P**	**17 33 13.3**	**+2.2**
	baz=160,slow=11,SNR=6.0						
	1.2nm,1.1s						
NVAR	**Mina Array Bea**	**32.83**	**322**	P	**P**	**17 35 36.4**	**+1.1**
	0.6nm,0.7s,baz=131,slow=9.7,SNR=4.3						
	0.6nm,0.7s						
YKA	**Yellowknife Ar**	**50.47**	**347**	P	**P**	**17 37 58.0**	**-1.0**
	0.8nm,0.8s,baz=150,slow=7.0,SNR=11						
	0.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**145.35**	**340**	PKPbc	**PKPbc**	**17 48 38.0**	**-2.2**
	1.3nm,1.2s,baz=349,slow=4.1,SNR=5.8						

NORS ***26*** *17:37:18.8,43.39N×42.61E,h7km,MPVA4.0*

MOS 26 17:37:19.0,43.41N×42.70E,h6km,MPVA4.2,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHA1	**Shidzhatmaz**	**0.33**	**355**	*i* Pg	Pg	17 37 26.2	+0.6
SHA1				*i* Sg	Sg	17 37 30.5	+0.5
KBZ	**Khabaz**	**0.35**	**25**	*i* Pg	Pg	17 37 26.2	+0.3
KBZ				*i* Sg	Sg	17 37 30.4	-0.1
KIV	**Kislovodsk**	**0.55**	**359**	*i* Pg	Pg	17 37 29.9	+0.3
KIV				*i* Sg	Sg	17 37 37.1	+0.4
KIV0	**Kislovodsk Arr**	**0.55**	**0**	*i* Pg	Pg	17 37 29.9	+0.3
KIV0				*e*Sg	Sg	17 37 37.1	+0.4
BEYR	**Belyy Ugol+**	**0.61**	**8**	*i* Pg	Pg	17 37 30.9	+0.1
BEYR				*e*Sg	Sg	17 37 38.9	+0.1
KBTC	**Kuba-Taba**	**0.66**	**52**	*i* Pg	Pb	17 37 32.4	-0.5
KBTC				*e*Sg	Sb	17 37 41.5	-1.0
NCK	**Nalchik**	**0.66**	**82**	*e*Pg	Pg	17 37 32.1	+0.4
NCK				*e*Sg	Sg	17 37 40.7	+0.3
PYA1	**Pyatigorsk**	**0.72**	**24**	*i* Pg	Pg	17 37 32.9	+0.2
PYA1				*i* Sg	Sg	17 37 42.0	-0.1
DOMR	**Dombai**	**0.79**	**262**	*i* Pg	Pg	17 37 34.4	+0.3
DOMR				*i* Sg	Sg	17 37 44.9	+0.5
DIGR	**Digorskoe uzhe**	**0.82**	**128**	*i* Pg	Pg	17 37 34.5	-0.4
DIGR				*i* Sg	Sg	17 37 44.7	-0.9
LSNR	**Lesken**	**0.83**	**99**	*i* Pg	Pg	17 37 35.1	+0.1
LSNR				*e*Sg	Sg	17 37 46.3	+0.4
ONI	**Oni**	**0.99**	**146**	*e*Pg	Pb	17 37 38.3	-0.3
ONI				*e*Sg	Sg	17 37 51.2	+0.5
STDR	**Stavd-Durt**	**1.00**	**92**	*e*Pg	Pn	17 37 39.4	-0.1
STDR				*e*Sg	Sn	17 37 53.4	-0.6
ARXR	**Arkhyz**	**1.04**	**279**	*i* Pg	Pg	17 37 39.3	+0.2
ARXR				*e*Sg	Sb	17 37 53.1	-0.4
KORR	**Kora**	**1.05**	**107**	*e*Pg	Pg	17 37 39.4	+0.2
KORR				*e*Sg	Sb	17 37 54.0	+0.3
ARNR	**Ardon**	**1.18**	**101**	*e*Pg	Pn	17 37 42.7	+0.6
ARNR				*e*Sg	Sn	17 37 59.1	+0.6
LACR	**Lac**	**1.31**	**116**	*e*Pg	Pn	17 37 43.4	-0.6
LACR				*e*Sg	Sg	17 37 59.8	-1.2
NVNR	**Nevinnomyssk**	**1.32**	**337**	*i* Pg	Pg	17 37 44.2	0.0
NVNR				*i* Sg	Sn	17 38 01.8	-0.1
BTKR	**Batakoyurt**	**1.35**	**91**	*e*Pg	Pg	17 37 46.1	+1.3
BTKR				*e*Sg	Sn	17 38 06.3	+3.7
GRYR	**Gornoye**	**1.36**	**302**	*e*Pg	Pn	17 37 44.1	-0.5
GRYR				*e*Sg	Sb	17 38 02.4	-0.1
ALER	**Alexandrovskoy**	**1.36**	**7**	*e*Pg	Pg	17 37 45.3	+0.1
ALER				*e*Sg	Sn	17 38 04.1	+1.1
VLKR	**Vladikavkaz**	**1.49**	**103**	*e*Pg	Pg	17 37 49.0	+1.3
VLKR				*e*Sg	Sg	17 38 07.6	+0.6
TRKR	**Terskaya**	**1.51**	**77**	*e*Pg	Pn	17 37 46.4	-0.3
TRKR				*e*Sg	Sb	17 38 07.2	+0.3
GUDG	**Gudauri**	**1.61**	**125**	*e*Pg	Pb	17 37 49.3	0.0
GUDG				*e*Sg	Sb	17 38 10.2	+0.2
KMGR	**Komgaron**	**1.62**	**102**	*e*Pg	Pg	17 37 50.9	+0.7
KMGR				*e*Sg	Sg	17 38 13.0	+1.8
GOF	**Gofitskoye**	**1.67**	**9**	*e*Pg	Pg	17 37 51.4	+0.5
GOF				*e*Sg	Sg	17 38 14.0	+1.4
RPOR	**Krasnaya Polya**	**1.79**	**280**	*e*Pg	Pb	17 37 51.5	-0.7
RPOR				*e*Sg	Sb	17 38 14.9	0.0
LABN	**Labinsk**	**1.88**	**312**	*e*Pg	Pb	17 37 54.0	+0.2
LABN				*e*Sg	Sg	17 38 18.7	-0.7
GUZR	**Guzeripl'**	**1.96**	**288**	*e*Pg	Pn	17 37 53.8	+0.9
GUZR				*e*Sg	Sb	17 38 20.4	+0.5
SOC	**Sochi**	**2.17**	**276**	*e*Pg	Pb	17 37 58.7	0.0
SOC				*e*Sg	Sb	17 38 26.7	+0.8
MRNR	**Maryino**	**2.39**	**284**	*e*Pn	Pg	17 38 04.3	-0.5
MRNR				*e*Sn	Sg	17 38 34.6	-1.2
GOYR	**Goytkh**	**2.54**	**290**	*e*Pn	Pn	17 38 01.5	+0.7
GOYR				*e*Sn	Sn	17 38 34.3	+2.2
DVE	**Vedeno**	**2.55**	**99**	*e*Pn	Pn	17 38 02.8	+1.8
DVE				*e*Sn	Sn	17 38 33.9	+1.6
ERBR	**Yeremizino-Bor**	**2.80**	**326**	*e*Pn	Pn	17 38 05.8	+1.6
ERBR				*e*Sn	Sn	17 38 38.6	+0.3
XNZR	**Khunzakh**	**3.07**	**105**	*e*Pn	Pn	17 38 10.9	+2.7
XNZR				*e*Sn	Sn	17 38 46.0	+0.7
UNCR	**Uncukul**	**3.08**	**102**	*e*Pn	Pb	17 38 11.8	-2.5
UNCR				*e*Sn	Sn	17 38 47.2	+1.7

NEIC ***26*** *17:41:16.9±1.3,56.05S±0.1×27.77W±0.2,h99km±7km, mb4.6/26,Error ellipse: s-maj=22.2km s-min=14.2km az=47.0*

IDC ***26*** *17:41:19.9±1.4,55.99S×27.72W,h126km±10km,mb4.3/11, mbtmp4.7/12,MS3.4/5,Error ellipse: s-maj=17.3km s-min=10.4km az=64.0*

ISC 26 17:41:16.7±0.3,56.00S±0.07×27.76W±0.08,h100km, n232,σ1s13/247,mb4.6/22,5C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.29**	**285**	Pn	**Pn**	**17 42 33.7**	**+0.5**
HOPE					**Sn**	**17 43 28.2**	**-4.7**
VNA1	**Neumayer--Stat**	**16.97**	**158**	⇑P	**P**	**17 45 09.0**	**+1.3**
	comp=Z,64nm,1.2s						
VNA3	**Neumayer Olymp**	**17.15**	**160**	⇑P	**Pn**	**17 45 10.0**	**+0.3**
	comp=Z,45nm,0.6s						
VNA2	**Neumayer--Watz**	**17.36**	**157**

PTLB	Pontes e Lacer	47.04 317	P	P	17 49 38.1	+0.1	
PB08	IPOC Station P	47.22 302	P	P	17 49 40.1	+0.3	
PB08			IAmb	IAmb	17 50 12.6		
	comp=Z,8.8nm,1.0s						
GO01	Chusmiza	47.65 302	P	P	17 49 43.6	+0.3	
GO01			IAmb	IAmb	17 49 45.0		
	comp=Z,6.9nm,0.8s						
PB11	IPOC Station P	47.79 302	P	P	17 49 45.0	+1.1	
PB11			IAmb	IAmb	17 49 49.5		
	comp=Z,20nm,1.4s						
LPAZ	La Paz	50.09 306	P	P	17 50 02.8	+0.7	
LPAZ			IAmb	IAmb	17 50 26.4		
	comp=Z,5.5nm,0.8s						
LPAZ	La Paz	50.09 306	P	P	17 50 03.0	+0.9	
	comp=Z,3.7nm,0.4s,baz=116,slow=5.5,SNR=15						
	comp=Z,3.7nm,0.4s						
SAML	Samuel	54.54 315	P	P	17 50 34.1	-0.1	
SAML			IAmb	IAmb	17 50 57.7		
	comp=Z,5.8nm,0.9s						
DBIC	Dimbokro	65.25 25	P	P	17 51 47.6	+0.1	
	comp=Z,3.7nm,0.7s,baz=212,slow=6.2,SNR=4.6						
	comp=Z,3.7nm,0.7s						
MCRA	Macar, Loja	66.05 300	P	P	17 51 52.0	-0.8	
COHC	Cochancay	67.37 302		P	17 52 01.5	+0.5	
TOA0	Torodi Ar. Sit	73.17 30		P	17 52 36.4	+0.2	
TOA0			IAmb	IAmb	17 52 37.6		
	comp=Z,4.8nm,0.7s						
TORD	Torodi Ar. Bea	73.17 30		P	17 52 36.2	-0.1	
TORD	Torodi Ar. Bea	73.17 30	P	P	17 52 36.2	-0.1	
	comp=Z,3.4nm,0.4s,baz=201,slow=6.1,SNR=26						
	comp=Z,3.4nm,0.4s						
SDV	Santo Domingo	73.75 316	P	P	17 52 39.8	-0.2	
SDV			IAmb	IAmb	17 53 07.9		
	comp=Z,14nm,1.4s						
TKNZ	Takaka Hill	81.75 196	P	P	17 53 23.5	-0.4	
MTO3	Montecristo	86.88 301	P	P	17 53 50.0	-0.2	
MTO3			IAmb	IAmb	17 54 17.2		
	comp=Z,6.0nm,0.8s						
TEIG	Tepich	91.41 305	P	P	17 54 12.1	+0.9	
TEIG	Tepich	91.41 305	LR	LR	18 40 47.5		
	comp=Z,1µm,18.2s,slow=39						
STKA	Stephens Creek	92.01 171	P	P	17 54 13.6	-0.5	
STKA	Stephens Creek	92.01 171	P	P	17 54 13.2	-0.9	
	comp=Z,3.9nm,0.8s,baz=154,slow=6.0,SNR=6.9						
	comp=Z,3.9nm,0.8s						
ASAR	Alice Springs	99.14 163	P	Pdif	17 54 45.9	-0.8	
	comp=Z,2.9nm,0.7s,baz=185,slow=3.7,SNR=72						
ASAR			PP	PP	17 58 45.7	-3.5	
	comp=Z,2.4nm,0.9s,baz=193,slow=6.3,SNR=13						
ASAR			PKiKP	PKiKP	17 59 15.4	-0.9	
	comp=Z,0.4nm,0.5s,baz=182,slow=1.8,SNR=6.3						
	comp=Z,2.9nm,0.7s						
AS31	Alice Springs	99.14 163		Pdif	17 54 45.9	-0.8	
AS31			IAmb	IAmb	17 54 46.5		
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	102.85 163	P	Pdif	17 55 02.0	-1.2	
	comp=Z,0.7nm,0.4s,baz=198,slow=4.4,SNR=27						
WRA			PP	PP	17 59 13.8	-3.4	
	comp=Z,1.3nm,0.9s,baz=195,slow=6.1,SNR=5.1						
WRA			PKKPbc	PKKPbc	18 10 59.6	+1.7	
	comp=Z,1.9nm,1.0s,baz=355,slow=2.8,SNR=5.3						
TPFO	Pinon Flats	116.43 291	P	PKiKP	17 59 49.5	+1.3	
	baz=141						
PFO	Pinyon Flats O	116.44 291	P	PKiKP	17 59 49.7	+1.5	
	baz=141						
EYMN	Ely	116.44 318	P	PKiKP	17 59 49.4	+1.9	
	baz=146						
ULM	Lac du Bonnet	119.99 317	PKP	PKPdf	17 59 52.8	-1.5	
	comp=Z,1.8nm,0.5s,baz=141,slow=4.2,SNR=5.8						
PDAR	Pinedale Array	120.05 303	PKP	PKPdf	17 59 53.5	-1.5	
	comp=Z,0.4nm,0.4s,baz=131,slow=4.1,SNR=4.2						
NVAR	Mina Array Bea	121.08 294	PKP	PKPdf	17 59 57.2	+0.2	
	comp=Z,0.5nm,0.5s,baz=127,slow=2.4,SNR=4.6						
NVAR			PKKP	PKKPdf	18 10 29.8	-2.9	
	comp=Z,0.4nm,0.2s,baz=356,slow=3.6,SNR=5.2						
FINES	FINESS Array B	124.48 28	PKP	PKPdf	18 00 01.9	-0.6	
	comp=Z,2.9nm,0.7s,baz=240,slow=2.7,SNR=9.7						
CMAR	Chiang Mai Arr	125.38 111	PKP	PKPdf	18 00 05.6	0.0	
	comp=Z,2.3nm,0.8s,baz=229,slow=3.9,SNR=19						
AKTO	Aktyubinsk	127.55 54	PKP	PKPdf	18 00 09.0	+0.2	
	comp=Z,1.0nm,0.7s,baz=252,slow=2.5,SNR=5.1						
ARCES	ARCESS Array B	131.01 22	PKP	PKPdf	18 00 14.2	-0.6	
	comp=Z,8.6nm,1.1s,baz=222,slow=1.2,SNR=9.1						
BVAR	Borovoye Array	135.02 58	PKP	PKPdf	18 00 22.7	-0.2	
	comp=Z,2.3nm,0.9s,baz=237,slow=5.0,SNR=8.9						
BVAR			SKPbc	SKPbc	18 03 41.0	-3.0	
	comp=Z,0.6nm,0.6s,baz=236,slow=1.0,SNR=3.8						
YKA	Yellowknife Ar	135.92 318	PKP	PKPdf	18 00 23.9	-0.2	
	comp=Z,2.3nm,0.6s,baz=125,slow=2.1,SNR=28						
YKA			SKPbc	SKPbc	18 03 42.8	-3.7	
	comp=Z,1.4nm,0.9s,baz=130,slow=2.2,SNR=9.2						
MKAR	Makanchi Array	137.17 72	PKP	PKPdf	18 00 27.6	+0.6	
	comp=Z,0.5nm,0.6s,baz=227,slow=1.4,SNR=5.4						
MKAR			SKPbc	SKPbc	18 03 47.3	-3.5	
	comp=Z,1.0nm,0.9s,baz=248,slow=3.0,SNR=6.3						
KURBB	Kurchatov Arra	137.57 65	PKP	PKPdf	18 00 27.2	-0.4	
	comp=Z,0.3nm,0.3s,baz=250,slow=2.3,SNR=4.2						
KURBB			SKPbc	SKPbc	18 03 48.8	-3.0	
	comp=Z,0.8nm,0.5s,baz=230,slow=3.0,SNR=6.3						
TGTN	Hyland Airport	140.82 312	P	PKiKP	18 00 36.3	+0.3	
	baz=119						
ZALV	Zalesovo Beam	142.63 64	PKP	PKPdf	18 00 35.3	-1.4	
	comp=Z,1.4nm,0.5s,baz=286,slow=1.0,SNR=6.9						
HYT	Haines Junctio	144.50 307	P	PKPab	18 00 39.6	+0.9	
	baz=114						
N30M	Aishikik Lake	144.58 309	P	PKPab	18 00 39.9	+1.0	
	baz=114						
M30M	Minto, Yukon	144.89 310	P	PKPbc	18 00 40.1	+0.1	
	baz=112						
H31M	Peel River	145.07 316	P	PKPbc	18 00 40.6	+0.2	
	baz=110						
YUK4	Talbot Arm	145.22 308	P	PKPbc	18 00 42.1	+0.9	
	baz=113						
F31M	Tsiigehtchic	145.38 319	P	PKPdf	18 00 41.2	+0.1	
	baz=108,SNR=12						
G31M	Satah River	145.41 318	P	PKPdf	18 00 41.2	+0.1	
	baz=108,SNR=15						
J30M	Hart River	145.43 314	P	PKPdf	18 00 42.1	+0.7	
	baz=110						
INK	Inuvik	145.56 321	P	PKPdf	18 00 42.0	+0.7	
	baz=107,SNR=20						
INK	Inuvik	145.56 321	PKPbc	PKPdf	18 00 41.8	+0.4	
	comp=Z,13nm,0.5s,baz=55,slow=1.0,SNR=44						
M29M	Somme Creek	145.56 310	P	PKPdf	18 00 42.5	+0.8	
	baz=112						
L29M	L29M	145.66 311	P	PKPdf	18 00 43.0	+1.2	
	baz=111						
K29M	Barlow Dome	145.67 312	P	PKPdf	18 00 42.6	+0.8	
	baz=110,SNR=11						
I30M	Mount Dempster	145.67 315	P	PKPdf	18 00 42.4	+0.6	
	baz=109						
O28M	Mount Upton	145.69 306	P	PKPdf	18 00 43.1	+1.0	
	baz=113						
JOW	Kunigami	146.11 139	PKPbc	PKPdf	18 00 44.7	+1.0	
	comp=Z,18nm,0.7s,baz=219,slow=6.5,SNR=9.7						
G30M	tAoh Zraii Nji	146.16 318	P	PKPdf	18 00 44.2	+1.7	
	baz=107						
J29N	Klondike Camp	146.16 313	P	PKPdf	18 00 44.0	+1.4	
	baz=109						
EPYK	Eagle Plains	146.17 317	P	PKPdf	18 00 43.6	+1.1	
	baz=107,SNR=18						
F30M	Barrier River	146.18 319	P	PKPdf	18 00 43.9	+1.5	
	baz=106						
DAWY	Dawson	146.52 312	P	PKPdf	18 00 44.8	+1.6	
	baz=109,SNR=11						
H29M	Whitestone	146.76 316	P	PKPdf	18 00 45.6	+2.2	
	baz=106						
G29M	Pine Creek	146.82 317	P	PKPbc	18 00 46.0	+0.4	
	baz=106						
M27K	Edge Creek, AK	147.02 309	P	PKPdf	18 00 46.4	+2.2	
	baz=110						
E29M	Blow River	147.15 320	P	PKPbc	18 00 46.5	+0.1	
	baz=104						
I28M	Miner Creek	147.16 314	P	PKPbc	18 00 46.7	0.0	
	baz=106						
L27K	Beaver Creek,	147.23 310	P	PKPdf	18 00 46.8	+2.4	
	baz=109						
EGAK	Eagle	147.47 313	P	PKPdf	18 00 46.8	+2.1	
	baz=106						
K27K	Chicken	147.63 311	P	PKPbc	18 00 48.6	+0.7	
	baz=107						
D28M	Stokes Point	147.65 322	P	PKPbc	18 00 48.7	+0.9	
	baz=101						
F28M	Old Crow	147.69 318	P	PKPbc	18 00 48.0	+0.1	
	baz=103,SNR=34						
E28M	Babbage River	147.78 320	P	PKPbc	18 00 47.9	-0.3	
	baz=102						
L26K	Log Cabin Wild	147.88 309	P	PKPbc	18 00 48.6	0.0	
	baz=108						
I27K	Kandik River	147.88 314	P	PKPbc	18 00 48.7	+0.2	
	baz=105						
N25K	Chitina, Valde	147.98 306	P	PKPbc	18 00 50.4	+1.4	
	baz=109						
H27K	Steamboat Moun	148.00 316	P	PKPbc	18 00 49.4	+0.5	
	baz=104						
G27K	Donjek Strip	148.19 317	P	PKPbc	18 00 49.4	+0.1	
	baz=103						
J26L	Joseph Creek	148.39 312	P	PKPbc	18 00 50.5	+0.6	
	baz=105						
D27M	Malcolm River	148.41 321	P	PKPbc	18 00 50.7	+0.8	
	baz=100						
I26K	Coal Creek Min	148.42 314	P	PKPbc	18 00 50.1	+0.2	
	baz=104						
SCRK	Sand Creek	148.43 311	P	PKPbc	18 00 50.5	+0.4	
	baz=106,SNR=6.6						
E27K	Coleen River	148.45 319	P	PKPbc	18 00 50.3	+0.4	
	baz=101						
HARP	HAARP	148.48 308	P	PKPbc	18 00 50.4	+0.2	
	baz=107						
KLU	Klutina	148.55 306	P	PKPbc	18 00 51.6	+1.2	
	baz=108						
RIDG	Independent Ri	148.73 310	P	PKPbc	18 00 51.6	+0.7	
	baz=106,SNR=14						
PAX	Paxson	148.79 309	P	PKPbc	18 00 51.4	+0.3	
	baz=106						
M24K	Tolsona, Glenn	148.85 307	P	PKPbc	18 00 52.3	+1.1	
	baz=107						
G26K	Porcupine Rive	149.04 317	P	PKPbc	18 00 51.8	+0.4	
	baz=101						
K24K	Donnelly Dome	149.14 310	P	PKPbc	18 00 51.8	0.0	
	baz=105						
NRIK	Noril'sk	149.17 39	PKPbc	PKPbc	18 00 51.7	0.0	
	comp=Z,1.3nm,0.6s,baz=18,slow=3.2,SNR=5.3						
J25K	Salcha River,	149.17 312	P	PKPbc	18 00 52.4	+0.4	
	baz=104						
SCM	Sheep Creek Mo	149.29 306	P	PKPbc	18 00 53.0	+0.7	
	baz=107						
F26K	Sheenjek River	149.31 318	P	PKPbc	18 00 53.0	+0.8	
	baz=100						
PRP	Porcupine Dome	149.44 314	P	PKPbc	18 00 52.8	+0.2	
	baz=102,SNR=8.9						
M23K	Glacier View	149.46 306	P	PKPbc	18 00 52.8	+0.1	
	baz=107						
DHY	Denali Highway	149.65 308	P	PKPbc	18 00 53.8	+0.6	
	baz=105,SNR=6.0						
KNK	Knik Glacier	149.68 305	P	PKPbc	18 00 53.1	-0.1	
	baz=107						
WAT6	Susitna Watana	149.68 307	P	PKPbc	18 00 53.7	+0.4	
	baz=105,SNR=15						
H25L	Birch Creek	149.71 315	P	PKPbc	18 00 53.6	+0.6	
	baz=101						
SML	Sawmill	149.74 306	P	PKPbc	18 00 53.4	0.0	
	baz=106						
SEW	Seward	149.75 302	P	PKPbc	18 00 53.2	-0.1	
	baz=108						
HDA	Harding Lake	149.79 311	P	PKPbc	18 00 53.3	0.0	
	baz=103						
ILAR	Eielson Array	149.84 312	PKPbc	PKPbc	18 00 53.2	-0.3	
	comp=Z,17nm,0.7s,baz=132,slow=2.7,SNR=182						
F25K	Christian Rive	149.86 318	P	PKPbc	18 00 54.3	+0.8	
	baz=98						
C26K	Camden Bay	149.87 322	P	PKPbc	18 00 54.0	+0.7	
	baz=95,SNR=6.8						
G25K	Bearman Lake	149.90 316	P	PKPbc	18 00 54.7	+1.2	
	baz=100						
E25K	Arctic Village	149.91 319	P	PKPbc	18 00 54.4	+0.9	
	baz=98						
PMR	Palmer	150.04 305	P	PKPbc	18 00 54.0	+0.1	
	baz=106						
WAT1	Susitna Watana	150.11 308	P	PKPbc	18 00 54.5	+0.3	
	baz=104						
POKR	Poker Plat Res	150.14 312	P	PKPbc	18 00 53.9	-0.3	
	baz=101						
RC01	Rabbit Creek A	150.18 304	P	PKPbc	18 00 54.1	-0.3	
	baz=107						
BRSE	Bradley Lake S	150.25 301	P	PKPbc	18 00 54.8	+0.1	
	baz=108						
COLA	College	150.27 312	P	PKPbc	18 00 54.0	-0.4	
	baz=101						
D25K	Kavik River	150.33 321	P	PKPbc	18 00 54.7	+0.1	
	baz=95,SNR=5.8						
G24K	Hadweenzic Riv	150.43 316	P	PKPbc	18 00 55.1	+0.3	
	baz=98						
H24K	Noodor Dome	150.46 314	P	PKPbc	18 00 54.9	-0.1	
	baz=100						
MCK	McKinley	150.49 309	P	PKPbc	18 00 55.3	+0.2	
	baz=103,SNR=13						
M22K	Willow	150.54 305	P	PKPbc	18 00 55.7	+0.5	
	baz=105,SNR=5.6						
F24K	Squaw Lake	150.70 317	P	PKPbc	18 00 56.1	+0.6	
	baz=93						
NEA2	Nenana	150.72 311	P	PKPbc	18 00 55.3	-0.2	
	baz=101						
SUA	Susitna One	150.75 304	P	PKPbc	18 00 56.4	+0.5	
	baz=105						
CUT	Chulitna	150.78 306	P	PKPbc	18 00 55.9	+0.2	
	baz=104						
I23K	Minto, Yukon-K	150.95 312	P	PKPbc	18 00 55.6	-0.4	
	baz=100,SNR=7.6						
TRF	Thorofare Moun	151.02 309	P	PKPbc	18 00 56.6	+0.1	
	baz=102,SNR=8.9						
SONM	Songino Array	151.04 87	PKPbc	PKPbc	18 00 56.7	-0.3	
	comp=Z,12nm,0.7s,baz=221,slow=3.5,SNR=72						
H23K	Yukon River	151.13 314	P	PKPbc	18 00 56.9	+0.4	
	baz=98						
C24K	Franklin Bluff	151.17 322	P	PKPbc	18 00 56.8	+0.4	
	baz=92						
D24K	Happy Valley	151.19 320	P	PKPbc	18 00 56.5	0.0	
	baz=93						
SKT	Skwentna	151.25 305	P	PKPbc	18 00 57.1	+0.2	
	baz=104,SNR=10						
O20K	Slope Mountain	151.26 301	P	PKPbc	18 00 58.0	+1.0	
	baz=106						
N20K	Mount Spurr	151.37 304	P	PKPbc	18 00 57.1	-0.1	
	baz=105						
E23K	Chanadalar	151.41 318	P	PKPbc	18 00 57.2	0.0	
	baz=94						
P19K	Oil Pt	151.43 300	P	PKPbc	18 00 56.8	-0.6	
	baz=107						
TOLK	Toolik Lake Re	151.43 319	P	PKPbc	18 00 57.4	+0.2	
	baz=93,SNR=34						
G23K	Bananza Creek	151.44 315	P	PKPbc	18 00 57.8	+0.6	
	baz=96						
BPAW	Bear Paw Mtn.	151.45 310	P	PKPbc	18 00 57.5	+0.2	
	baz=100,SNR=9.9						
MLY	Manley	151.50 312	P	PKPbc	18 00 57.6	+0.1	
	baz=99						
COLD	Coldfoot	151.56 316	P	PKPbc	18 00 58.5	+1.0	
	baz=95,SNR=11						
PPLA	Purkeypile	151.75 307	P	PKPbc	18 00 58.5	+0.3	
	baz=102,SNR=7.3						
CAST	Castle Rocks	151.81 308	P	PKPbc	18 00 57.6	-0.6	
	baz=101,SNR=9.6						
C23K	Itkillik River	151.84 322	P	PKPbc	18 00 58.5	+0.6	
	baz=90						
D23K	Nanushuk River	151.85 320	P	PKPbc	18 00 58.5	+0.5	
	baz=92						
H22K	Ishtalitna Cre	151.89 313	P	PKPbc	18 00 58.4	+0.1	
	baz=97						
M20K	Styx River	151.96 305	P	PKPbc	18 00 58.2	-0.4	
	baz=103,SNR=6.2						
CHUM	Lake Minchumin	151.99 309	P	PKPbc	18 00 58.3	-0.2	
	baz=100,SNR=11						
I21K	Tanana	152.05 312	P	PKPbc	18 00 58.5	-0.1	
	baz=98						
O19K	Port Alsworth	152.11 301	P	PKPbc	18 00 58.3	-0.5	
	baz=105						
E22K	Anaktuvuk Pass	152.24 318	P	PKPbc	18 00 59.4	+0.4	
	baz=92,SNR=8.0						
Q17K	Contact Creek	152.33 296	P	PKPbc	18 00 59.5	-0.1	
	baz=108						
P18K	Big Mountain,	152.33 299	P	PKPbc	18 00 58.8	-0.6	
	baz=106						
N19K	Bonanza Creek	152.34 302	P	PKPbc	18 00 58.6	-0.9	
	baz=104						
F22K	John River	152.35 317	P	PKPbc	18 01 00.1	+0.9	
	baz=93						
L20K	Farewell, AK	152.43 306	P	PKPbc	18 00 59.5	-0.1	
	baz=101						
H21K	Melozitna Rive	152.45 313	P	PKPbc	18 00 59.8	+0.3	
	baz=96						
O18K	Koktuh Hills	152.45 300	P	PKPbc	18 00 59.3	-0.4	
	baz=105						
M19K	Big River Lodg	152.55 305	P	PKPbc	18 00 59.4	-0.5	
	baz=102						
D22K	Ayikyak River	152.57 320	P	PKPbc	18 01 00.6	+0.9	
	baz=90						
K20K	Telida	152.67 308	P	PKPbc	18 00 59.7	-0.4	
	baz=100						
JNU	Nakatsue	152.75 138	PKPbc	PKPbc	18 01 00.4	-0.8	
	comp=Z,6.5nm,0.8s,baz=121,slow=3.2,SNR=5.6						
B22K	Teshekpuk Lake	152.78 323	P	PKPbc	18 01 00.4	+0.3	
	baz=86						
G21K	Allakaket	152.81 315	P	PKPbc	18 01 00.8	+0.5	
	baz=94						
J20K	Nowinta River	152.83 309	P	PKPbc	18 01 00.5	+0.1	
	baz=98						
F21K	Alatna River	152.84 316	P	PKPbc	18 01 00.9	+0.6	
	baz=92						
CHGN	Chignik	152.98 291	P	PKiKP	18 01 02.8	+1.8	
	baz=110						
B21K	Ikpikpuk River	153.24 322	P	PKPbc	18 01 01.6	+0.6	
	baz=87						
A22K	Sinclair Lake	153.24 325	P	PKPbc	18 01 01.3	+0.3	
	baz=84						
H20K	Anotleneega Mo	153.29 312	P	PKPbc	18 01 02.1	+0.8	
	baz=95						
C21K	Knifeblade Rid	153.32 320	P	PKPbc	18 01 02.2	+0.8	
	baz=87						
O17K	Koliganek Bris	153.35 299	P	PKPbc	18 01 01.2	-0.4	
	baz=104						
J19K	Poorman	153.45 309	P	PKPbc	18 01 02.2	+0.5	
	baz=97						
TTA	Tatalina	153.48 306	P	PKPbc	18 01 02.4	+0.5	
	baz=99						
N17K	Nushagak Hills	153.57 301	P	PKPbc	18 01 02.9	+0.8	
	baz=103						
S14K	Fog Glacier	153.57 291	P	PKiKP	18 01 04.4	+1.9	
	baz=110						
L18K	Granite Mounta	153.67 305	P	PKPbc	18 01 02.9	+0.6	
	baz=100						
J18K	Innoko River	153.87 308	P	PKPbc	18 01 03.4	+0.7	
	baz=97						
E20K	Nigu River	153.87 318	P	PKPbc	18 01 03.4	+0.8	
	baz=88						
M17K	Holitna River	153.87 303	P	PKPbc	18 01 03.8	+1.1	
	baz=101						
H19K	Roundabout Mou	153.94 312	P	PKPbc	18 01 02.7	0.0	
	baz=93						
D20K	Etivluk River	154.01 320	P	PKPbc	18 01 03.6	+0.8	
	baz=86						
B20K	Meade River	154.09 323	P	PKPbc	18 01 03.2	+0.3	
	baz=83						
G19K	Purcell Mounta	154.23 314	P	PKPbc	18 01 04.3	+0.9	
	baz=91						
L17K	Donlin	154.40 304	P	PKPbc	18 01 05.0	+1.1	
	baz=99						
K17K	Iditarod	154.49 306	P	PKPbc	18 01 04.2	+0.3	
	baz=98						
D19K	Kuna River	154.57 319	P	PKPbc	18 01 05.0	+0.9	
	baz=86						
H18K	Honhosa River	154.73 311	P	PKPbc	18 01 04.2	-0.2	
	baz=92						
J17K	VABM Dome	154.92 307	P	PKPbc	18 01 05.3	+0.4	
	baz=96						
C19K	Lookout Ridge	155.04 321	P	PKPdf	18 01 05.1	+8.9	
	baz=83						
F18K	Selawik	155.26 315	P	PKPab	18 01 23.2	+1.0	
	baz=88						
KSRS	Korea Array	155.28 128	PKPab	PKPab	18 01 23.2	+0.2	
	comp=Z,1.3nm,0.7s,baz=229,slow=3.6,SNR=6.5						
A19K	Wainwright	155.38 323	P	PKPab	18 01 23.5	+0.9	
	baz=79						
H17K	Granite Mounta	155.38 311	P	PKPab	18 01 24.3	+1.5	
	baz=92						
E18K	Tukpahlearik C	155.59 317	P	PKPab	18 01 24.8	+1.2	
	baz=85						
N14K	Kuskokwak Cree	155.64 298	P	PKPab	18 01 25.1	+1.1	
	baz=101						
C18K	Utukok River	155.68 320	P	PKPab	18 01 25.3	+1.3	
	baz=82						
B18K	Kokolik River	155.78 322	P	PKPab	18 01 26.4	+2.0	
	baz=80						
L15K	Ungalak Mounta	155.83 303	P	PKPab	18 01 26.6	+1.8	
	baz=97						
F17K	Baldwin Pennin	155.91 314	P	PKPab	18 01 25.9	+0.9	
	baz=87						
E17K	Hotham Inlet	156.09 316	P	PKPab	18 01 26.9	+1.1	
	baz=85						
H16K	Elim	156.37 310	P	PKPab	18 01 28.2	+1.2	
	baz=90						
G16K	Koyuk River	156.41 312	P	PKPab	18 01 29.0	+1.9	
	baz=88						
D17K	Noatak River	156.51 318	P	PKPab	18 01 29.2	+1.6	
	baz=82						
G15K	Niukluk	157.13 311	P	PKPab	18 01 31.9	+1.6	
	baz=88						
F15K	North Star Dit	157.34 313	P	PKPab	18 01 34.0	+2.8	
	baz=85						
MJAR	Matsushiro Arr	158.34 148	PKPab	PKPab	18 01 36.3	+0.1	
	comp=Z,0.7nm,0.5s,baz=184,slow=3.5,SNR=6.6						
KLR	Kul'dur	165.86 110	PKPab	PKPab	18 02 07.9	-1.0	
	comp=Z,0.7nm,0.5s,baz=225,slow=2.3,SNR=6.3						
PETK	Petropavlovsk-	175.70 230	PKPab	PKPab	18 02 51.7	-0.8	
	comp=Z,0.5nm,0.6s,baz=120,slow=9.2,SNR=5.0						

IDC ***26*** *18:01:05.7±0.6,56.42N×148.42W,h0km,mb4.3/29, mbtmp4.3/35,ML4.1/6,MS4.4/74,Error ellipse: s-maj=16.7km s-min=10.3km az=16.0*

NEIC ***26*** *18:01:05.8,56.37N×148.41W,h12km*

NEIC ***26*** *18:01:05.8,56.37N×148.41W,h12km,Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10^16Nm; Mrr-0.53; Mθθ-0.15; Mϕϕ0.68; Mrθ-0.12; Mθϕ5.15; Mϕr-0.97; Fault plane solution: M05.25000×10^16 NP1: ϕs177.76000°,δ89.95000°,λ169.41000°. NP2: ϕs267.77000°,δ79.41000°,λ0.05000°. Principal axes: T 5.5348, Plg8.0000°, Azm132.0000°; N -0.5646, Plg79.0000°, Azm358.0000°; P -4.9702, Plg7.0000°, Azm223.0000°;*

BJI ***26*** *18:01:06.0±0.0,56.37N×148.97W,h12km,mb4.6/48, mB5.0/26,Ms5.1/38,Ms7 4.9/38*

NEIC ***26*** *18:01:06.1±1.8,56.40N±0.07×148.38W±0.06,h10km±1km, mb4.7/69,ML4.7/62,Mww5.1/60,ML4.5(AEIC),Error ellipse: s-maj=12.3km s-min=5.7km az=171.0*

MOS ***26*** *18:01:06.8±1.2,56.48N×148.44W,h10km,mb5.1/38, MS4.4/10,Error ellipse: s-maj=16.0km s-min=5.7km az=98.3*

GCMT ***26*** *18:01:09.1±0.2,56.37N±0.01×148.38W±0.02,h12km, MW5.1/127,Moment Tensor Solution. s55,c70; s127,c227; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.21±.11; Mθθ-0.79±.11; Mϕϕ0.99±.10; Mrθ1.23±.28; Mθϕ5.29±.08; Mϕr0.68±.29; Best double couple: M05.53500×10^16 NP1:ϕs86.00000°,δ85.00000°, λ13.00000°. NP2:ϕs355.00000°,δ77.00000°,λ175.00000°. Principal axes: T 5.7580, Plg12.0000°, Azm311.0000°; N -0.4460, Plg76.0000°, Azm105.0000°; P -5.3110, Plg6.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular mo

SII	Sitkinak Islan	3.23	277		IAML			18 02 34.0	
	comp=E,2µm,1.1s								
SII					IAML			18 02 37.9	
	comp=N,2µm,0.9s								
SII	Sitkinak Islan	3.23	277		P		Pn	18 01 55.1	-2.2
	baz=90								
MID	Middleton Isla	3.29	19		P		Pn	18 01 56.3	-2.0
MID	Middleton Isla	3.29	19				Sn	18 02 32.7	-4.8
MID	Middleton Isla	3.29	19		Pn		Pn	18 01 56.2	-2.1
MID	Middleton Isla	3.29	19		IAML			18 02 36.0	
	comp=N,1µm,0.8s								
MID					IAML			18 02 39.1	
	comp=E,1µm,1.0s								
Q23K	Middleton Isla	3.29	18		Pn		Pn	18 01 56.1	-2.2
Q23K					IAML			18 02 35.6	
	comp=E,1µm,0.6s								
Q23K					IAML			18 02 36.0	
	comp=N,1µm,0.6s								
Q23K	Middleton Isla	3.29	18		P		Pn	18 01 56.1	-2.2
	baz=201								
CNPM	China Poot	3.55	336				Sn	18 02 40.0	-3.7
CNPM	China Poot	3.55	336		Pn		Pn	18 01 59.7	-2.1
CNPM	China Poot	3.55	336		IAML			18 02 47.3	
	comp=N,934nm,0.7s								
CNPM					IAML			18 02 48.0	
	comp=E,640nm,0.7s								
BRSE	Bradley Lake S	3.64	341				Pn	18 02 00.8	-2.4
BRSE	Bradley Lake S	3.64	341		P		Pn	18 02 01.1	-2.0
	baz=156,SNR=30								
BRLK	Bradley Lake	3.69	340				Pn	18 02 01.5	-2.3
P23K	Montague Islan	3.72	8				Pn	18 02 02.1	-2.0
P23K							Sn	18 02 43.5	-4.4
P23K	Montague Islan	3.72	8		P		Pn	18 02 02.3	-1.8
	baz=189,SNR=10								
HOM	Homer	3.76	334				Pn	18 02 03.5	-1.2
HOM					IAML			18 02 59.2	
	comp=N,2µm,0.7s								
HOM					IAML			18 02 59.3	
	comp=E,2µm,0.9s								
HOM	Homer	3.76	334		P		Pn	18 02 03.3	-1.4
	baz=151,SNR=11								
SEW	Seward	3.83	352				Pn	18 02 03.1	-2.5
SEW	Seward	3.83	352		P		Pn	18 02 03.3	-2.3
	baz=171,SNR=7.8								
Q19K	Cape Douglas,	3.84	315		Pn		Pn	18 02 04.9	-1.0
Q19K					IAML			18 02 57.9	
	comp=N,2µm,0.7s								
Q19K	Cape Douglas,	3.84	315		P		Pn	18 02 04.4	-1.5
	baz=130,SNR=14								
AUCH	Augustine Cone	4.07	320				Pn	18 02 07.9	-1.1
CHIR	Chirikof Islan	4.09	266		Pn		Pn	18 02 07.4	-1.7
CHIR					IAML			18 02 55.1	
	comp=N,585nm,1.3s								
CHIR					IAML			18 02 58.1	
	comp=E,626nm,1.3s								
CHIR	Chirikof Islan	4.09	266		P		Pn	18 02 07.2	-1.9
	baz=79								
KAKN	Katmai Knife C	4.12	301				Pn	18 02 08.5	-1.3
KCE	Katmai Mt Cerb	4.16	300				Pn	18 02 09.2	-1.0
KAIM	Kayak Island	4.18	29		Pn		Pn	18 02 09.0	-1.5
KAIM					IAML			18 03 01.7	
	comp=N,1µm,0.6s								
KAIM					IAML			18 03 04.1	
	comp=E,1µm,0.7s								
KAIM	Kayak Island	4.18	29		P		Pn	18 02 09.1	-1.3
	baz=212								
HIN	Hinchinbrook I	4.20	13				Pn	18 02 09.1	-1.6
HIN					IAML			18 02 58.5	
	comp=N,2µm,0.7s								
P19K	Oil Pt	4.21	324		Pn		Pn	18 02 09.9	-1.1
P19K					IAML			18 03 06.6	
	comp=E,1µm,0.5s								
P19K					IAML			18 03 06.6	
	comp=N,1µm,0.5s								
P19K	Oil Pt	4.21	324		P		Pn	18 02 09.3	-1.7
	baz=140,SNR=13								
O22K	Cooper Landing	4.22	351				Pn	18 02 08.8	-2.2
O22K	Cooper Landing	4.22	351		P		Pn	18 02 09.0	-2.0
	baz=170,SNR=22								
KAHC	Katmai Hardscr	4.26	306				Pn	18 02 10.1	-1.6
SLKM	Skilak Lake	4.30	348				Pn	18 02 09.9	-2.3
O20K	Slope Mountain	4.38	331				Pn	18 02 10.1	-3.2
O20K	Slope Mountain	4.38	331		P		Pn	18 02 11.2	-2.0
	baz=147								
IVE	Iliamna Volcan	4.44	328				Pn	18 02 11.3	-2.8
EYAK	Cordova Ski Ar	4.45	17		P		Pn	18 02 12.7	-1.4
EYAK	Cordova Ski Ar	4.45	17		P		Pn	18 02 12.8	-1.4
	baz=200,SNR=40								
SUCK	Suckling Hills	4.48	31				Pn	18 02 13.2	-1.3
SUCK					IAML			18 03 05.0	
	comp=E,714nm,0.6s								
SUCK					IAML			18 03 05.1	
	comp=N,1µm,0.6s								
CNTC	Contact Creek	4.50	299				Pn	18 02 13.8	-1.2
Q17K	Contact Creek	4.51	299		P		Pn	18 02 13.7	-1.3
	baz=112,SNR=49								
RAGM	Ragged Mountai	4.51	24				Pn	18 02 13.5	-1.6
PLK3	Peulik 3	4.52	291				Pn	18 02 13.2	-1.9
HMT	Hamilton	4.57	27				Pn	18 02 14.3	-1.5
BGLC	Bering Glacier	4.66	33				Pn	18 02 15.8	-1.3
BGLC	Bering Glacier	4.66	33		P		Pn	18 02 16.3	-0.7
	baz=218								
CAPN	Captain Cook N	4.68	343		Pn		Pn	18 02 15.1	-2.2
CAPN	Captain Cook N	4.68	343		P		Pn	18 02 16.2	-1.1
	baz=160								
RED	Redoubt Volcan	4.71	332				Pn	18 02 15.0	-2.8
PLK1	Peulik 1	4.72	292				Pn	18 02 15.6	-2.2
RSO	Redoubt South	4.74	333				Pn	18 02 15.9	-2.4
BERG	Berg Lake	4.76	29				Pn	18 02 16.8	-1.7
P18K	Big Mountain,	4.77	313		Pn		Pn	18 02 16.3	-2.3
P18K	Big Mountain,	4.77	313		P		Pn	18 02 16.4	-2.3
	baz=126,SNR=23								
GRIN	Grindle Hills	4.78	32				Pn	18 02 17.3	-1.4
RC01	Rabbit Creek A	4.83	352				Pn	18 02 17.6	-1.8
RC01					IAML			18 03 14.7	
	comp=E,570nm,0.6s								
RC01					IAML			18 03 17.1	
	comp=N,388nm,0.5s								
RC01	Rabbit Creek A	4.83	352		P		Pn	18 02 17.9	-1.4
	baz=171,SNR=12								
SNH	Sunshine Point	4.85	35				Pn	18 02 18.4	-1.3
SNH					IAML			18 03 14.2	
	comp=N,620nm,0.4s								
SNH					IAML			18 03 19.2	
	comp=E,616nm,0.7s								
RDJH	Redoubt Jeurge	4.86	333				Pn	18 02 17.4	-2.6
CYK	Cape Yakataga	4.89	37				Pn	18 02 18.5	-1.7
O19K	Port Alsworth	4.98	324		P		Pn	18 02 19.9	-1.6
	baz=138,SNR=30								
Q16K	King Salmon	5.04	301				Pn	18 02 20.7	-1.5
Q16K	King Salmon	5.04	301		P		Pn	18 02 20.7	-1.5
	baz=114,SNR=34								
BMRM	Bremner River	5.05	21				Pn	18 02 20.7	-1.8
BMRM	Bremner River	5.05	21		P		Pn	18 02 20.9	-1.6
	baz=205,SNR=22								
WAX	Waxell Ridge	5.05	33				Pn	18 02 20.9	-1.7
O18K	Koktuh Hills	5.06	317		Pn		Pn	18 02 20.2	-2.3
O18K	Koktuh Hills	5.06	317		P		Pn	18 02 20.6	-1.9
	baz=131,SNR=20								
KNK	Knik Glacier	5.10	360				Pn	18 02 21.7	-1.4
KNK	Knik Glacier	5.10	360		IAML			18 03 23.1	
	comp=N,342nm,0.7s								
KNK					IAML			18 03 30.7	
	comp=E,382nm,0.7s								
KNK	Knik Glacier	5.10	360		P		Pn	18 02 21.9	-1.2
	baz=180								
MESA	MESA	5.14	39				Pn	18 02 22.6	-1.3
MESA					IAML			18 03 24.5	
	comp=E,456nm,0.6s								
MESA					IAML			18 03 24.8	
	comp=N,533nm,0.6s								
MESA	MESA	5.14	39		P		Pn	18 02 22.8	-1.0
	baz=225,SNR=14								
P17K	Kvichak River	5.18	307				Pn	18 02 22.7	-1.4
P17K	Kvichak River	5.18	307		P		Pn	18 02 23.1	-1.1
	baz=120,SNR=64								
N20K	Mount Spurr	5.27	339		P		Pn	18 02 23.7	-1.9
	baz=156,SNR=25								
SPCR	Spurr Chakacha	5.28	339				Pn	18 02 23.4	-2.2
SPCN	Chakachatna No	5.29	340				Pn	18 02 24.4	-1.4
PMR	Palmer	5.29	356		P		Pn	18 02 24.1	-1.6
PMR	Palmer	5.29	356				Pn	18 02 23.7	-2.0
PMR	Palmer	5.29	356		IAML			18 03 23.4	
	comp=N,316nm,0.7s								
PMR					IAML			18 03 23.5	
	comp=E,351nm,0.8s								
PMR	Palmer	5.29	356		P		Pn	18 02 23.7	-2.0
SUA	Susitna One	5.29	348				Pn	18 02 23.7	-2.1
SUA	Susitna One	5.29	348		P		Pn	18 02 24.0	-1.9
	baz=165								
SPCG	Spurr Capps Gl	5.32	341				Pn	18 02 24.7	-1.6
SPCP	Crater Peak Br	5.32	340				Pn	18 02 24.7	-1.6
ISLE	Juniper Island	5.33	34		IAML			18 03 27.8	
	comp=E,425nm,0.9s								
ISLE					IAML			18 03 29.3	
	comp=N,502nm,0.8s								
KLU	Klutina	5.33	13		IAML			18 03 26.9	
	comp=E,782nm,0.8s								
KLU	Klutina	5.33	13		P		Pn	18 02 25.3	-1.1
	baz=195,SNR=38								
ANNE	Aniakchak Nort	5.37	280				Pn	18 02 25.6	-1.3
ANNW	Aniakchak Nort	5.46	281				Pn	18 02 27.7	-0.4
GHO	Glory Hole Cre	5.47	357				Pn	18 02 26.6	-1.6
M23K	Glacier View	5.49	3				Pn	18 02 27.6	-0.9
M23K	Glacier View	5.49	3		P		Pn	18 02 27.5	-1.0
	baz=184,SNR=31								
SML	Sawmill	5.50	0		P		Pn	18 02 27.5	-1.1
	baz=180,SNR=18								
N19K	Bonanza Creek	5.51	327		P		Pn	18 02 27.1	-1.8
	baz=142,SNR=20								
M22K	Willow	5.51	351				Pn	18 02 27.1	-1.7
M22K	Willow	5.51	351		P		Pn	18 02 28.0	-0.7
	baz=170								
SAMH	Samovar Hills	5.54	43				Pn	18 02 28.5	-0.7
VRDI	Verde Repeater	5.54	26				Pn	18 02 27.8	-1.5
SCM	Sheep Creek Mo	5.55	5				Pn	18 02 28.3	-1.0
SCM	Sheep Creek Mo	5.55	5		P		Pn	18 02 28.4	-0.9
	baz=186,SNR=13								
SCM	Sheep Creek Mo	5.55	5		P		Pn	18 02 28.3	-1.0
CHGN	Chignik	5.58	274				Pn	18 02 28.4	-1.2
CHGN	Chignik	5.58	274		P		Pn	18 02 29.8	+0.1
	baz=85,SNR=6.9								
TABL	Table Mountain	5.61	40				Pn	18 02 29.1	-1.2
YKU2	Yakutat	5.64	52		P		Pn	18 02 30.9	+0.5
N25K	Chitina, Valde	5.64	19		P		Pn	18 02 29.2	-1.4
	baz=202,SNR=63								
GLB	Gilahina Butte	5.65	23				Pn	18 02 28.9	-1.8
PTPK	Patty Peak	5.76	30				Pn	18 02 31.1	-1.3
O17K	Koliganek Bris	5.77	310				Pn	18 02 30.2	-2.0
O17K	Koliganek Bris	5.77	310		P		Pn	18 02 30.5	-1.7
	baz=122,SNR=17								
MCARA	McCarthy VSAT	5.78	27		P		Pn	18 02 31.2	-1.3
	baz=211								
P16K	Nushagak River	5.82	302				Pn	18 02 31.6	-1.3
P16K	Nushagak River	5.82	302		P		Pn	18 02 31.9	-1.0
	baz=113,SNR=16								
PNL	Peninsula	5.84	51		P		Pn	18 02 32.7	-0.5
PNL	Peninsula	5.84	51		P		Pn	18 02 32.5	-0.8
	baz=239,SNR=46								
N18K	Kilae Creek	5.87	321				Pn	18 02 31.3	-2.4
N18K	Kilae Creek	5.87	321		P		Pn	18 02 31.5	-2.2
	baz=134,SNR=19								
BCPM	Bancas Point	5.89	48				Pn	18 02 33.2	-0.7
SKT	Skwentna	5.89	345				Pn	18 02 32.5	-1.5
SKT	Skwentna	5.89	345		P		Pn	18 02 33.2	-0.8
	baz=162,SNR=16								
M24K	Tolsona, Glenn	5.91	10				Pn	18 02 33.2	-1.0
M24K	Tolsona, Glenn	5.91	10		P		Pn	18 02 34.1	-0.1
	baz=192,SNR=28								
CTG	Chitna Glacier	5.93	35		P		Pn	18 02 32.5	-2.0
	baz=222								
WASW	Wrangell South	6.02	19				Pn	18 02 34.8	-1.2
WACK	Wrangell Chich	6.05	19				Pn	18 02 34.5	-1.8
SVW2	Sparrevohn	6.07	325		P		Pn	18 02 34.3	-2.2
SVW2	Sparrevohn	6.07	325				Pn	18 02 33.7	-2.8
M20K	Styx River	6.08	338		P		Pn	18 02 35.0	-1.6
	baz=154,SNR=12								
O16K	Kokwok River B	6.11	306				Pn	18 02 35.2	-1.7
O16K	Kokwok River B	6.11	306		P		Pn	18 02 35.3	-1.7
	baz=118,SNR=45								
O28M	Mount Upton	6.18	41		P		Pn	18 02 37.0	-1.2
	baz=294,SNR=65								
VNFG	Fog Glacier, M	6.22	274				Pn	18 02 37.9	-0.6
N17K	Nushagak Hills	6.25	316				Pn	18 02 36.7	-2.1
N17K	Nushagak Hills	6.25	316		P		Pn	18 02 36.8	-2.1
	baz=128								
WAT6	Susitna Watana	6.28	3		P		Pn	18 02 38.1	-1.3
	baz=183,SNR=40								
HARP	HAARP	6.31	14				Pn	18 02 39.1	-0.6
HARP	HAARP	6.31	14		P		Pn	18 02 39.0	-0.7
	baz=197,SNR=25								
M19K	Big River Lodg	6.39	334				Pn	18 02 38.1	-2.7
M19K	Big River Lodg	6.39	334		P		Pn	18 02 38.1	-2.7
	baz=148								
M18K	Stony River	6.45	326				Pn	18 02 38.8	-2.8
M18K	Stony River	6.45	326		P		Pn	18 02 39.1	-2.5
	baz=140,SNR=32								
WAT1	Susitna Watana	6.52	359				Pn	18 02 41.1	-1.5
WAT1	Susitna Watana	6.52	359		P		Pn	18 02 41.4	-1.3
	baz=179								
O29M	Mount Kennedy	6.53	48		P		Pn	18 02 42.1	-0.7
	baz=237,SNR=60								
CHNA	Chernabura Isl	6.53	261		P		Pn	18 02 40.7	-1.9
	baz=72,SNR=5.5								
CNBA	Chernabura Isl	6.53	261		Pn		Pn	18 02 40.7	-2.0
WAT7	Susitna Watana	6.53	358				Pn	18 02 41.4	-1.4
P29M	Windy Craggy	6.56	55		P		Pn	18 02 42.1	-1.1
	baz=245,SNR=108								
M26K	Nabesna, AK	6.68	22				Pn	18 02 43.6	-1.2
M26K	Nabesna, AK	6.68	22		P		Pn	18 02 43.8	-1.1
	baz=207,SNR=11								
YUK2	White River	6.71	32				Pn	18 02 44.7	-0.6
L19K	White Mountain	6.74	333				Pn	18 02 42.8	-2.8
L19K	White Mountain	6.74	333		P		Pn	18 02 43.0	-2.6
	baz=47								
O15K	Ungalikthiuk R	6.75	300				Pn	18 02 44.6	-1.1
O15K	Ungalikthiuk R	6.75	300		P		Pn	18 02 44.6	-1.1
	baz=110,SNR=45								
L20K	Farewell, AK	6.77	338				Pn	18 02 43.7	-2.4
L20K	Farewell, AK	6.77	338		P		Pn	18 02 43.9	-2.2
	baz=153								
DHY	Denali Highway	6.79	4				Pn	18 02 45.6	-0.8
DHY	Denali Highway	6.79	4		P		Pn	18 02 45.4	-1.0
	baz=185,SNR=28								
S31K	Pelican	6.82	71				Pn	18 02 43.7	-2.9
S31K	Pelican	6.82	71		P		Pn	18 02 44.6	-2.0
	baz=262,SNR=13								
YUK3	Moose Creek	6.82	34				Pn	18 02 46.3	-0.5
YUK3	Moose Creek	6.82	34		P		Pn	18 02 46.4	-0.5
	baz=221,SNR=26								
PAX	Paxson	6.82	11		P		Pn	18 02 46.2	-0.6
	baz=194,SNR=16								
N16K	Nishlik Lake	6.86	312				Pn	18 02 45.6	-1.5
N16K	Nishlik Lake	6.86	312		P		Pn	18 02 45.5	-1.7
	baz=122,SNR=33								
PPLA	Purkeypile	6.86	345				Pn	18 02 45.5	-1.9
PPLA	Purkeypile	6.86	345		P		Pn	18 02 47.3	-0.1
	baz=162								
SDPT	Sand Point	6.88	267		P		Pn	18 02 46.1	-1.4
SDPT	Sand Point	6.88	267				Pn	18 02 45.6	-1.9
SDPT	Sand Point	6.88	267		P		Pn	18 02 45.3	-2.1
	baz=76,SNR=6.4								
M27K	Edge Creek, AK	6.90	26				Pn	18 02 46.7	-1.2
M27K	Edge Creek, AK	6.90	26		P		Pn	18 02 46.4	-1.6
	baz=212,SNR=9.2								
M17K	Holitna River	6.92	321				Pn	18 02 46.0	-2.0
M17K	Holitna River	6.92	321		P		Pn	18 02 46.0	-2.0
	baz=133								
YUK6	Outpost Mounta	6.98	44		P		Pn	18 02 49.3	+0.2
	baz=233,SNR=89								
MENT	Mentasta	7.04	18		P		Pn	18 02 50.3	+0.6
RND	Reindeer	7.11	358				Pn	18 02 49.6	-1.1
RND	Reindeer	7.11	358		P		Pn	18 02 49.6	-1.1
YUK4	Talbot Arm	7.13	41		P		Pn	18 02 52.5	+1.4
	baz=230,SNR=68								
P30M	Million Dollar	7.13	53				Pn	18 02 50.5	-0.5
P30M	Million Dollar	7.13	53		P		Pn	18 02 50.4	-0.6
	baz=243								
PLBC	Pleasant Camp	7.13	59				Pn	18 02 50.1	-0.9
PLBC	Pleasant Camp	7.13	59		P		Pn	18 02 50.7	-0.3
	baz=250,SNR=71								
R31K	City Hall, Gus	7.15	68				Pn	18 02 50.3	-0.9
R31K	City Hall, Gus	7.15	68		P		Pn	18 02 50.4	-0.8
	baz=259								
L26K	Log Cabin Wild	7.18	19		P		Pn	18 02 52.3	+0.6
	baz=203,SNR=15								
TRF	Thorofare Moun	7.21	353		P		Pn	18 02 51.3	-0.8
	baz=172								
BVCY	Beaver Creek	7.21	29		P		Pn	18 02 51.2	-0.9
	baz=216								
SIT	Sitka	7.23	79		P		Pn	18 02 48.4	-3.9
SIT	Sitka	7.23	79				Pn	18 02 48.9	-3.4
SIT	Sitka	7.23	79		P		Pn	18 02 49.6	-2.7
	baz=270								
SIT	Sitka	7.23	79		P		Pn	18 02 48.9	-3.4
M16K	Timber Creek	7.24	315				Pn	18 02 50.7	-1.8
M16K	Timber Creek	7.24	315		P		Pn	18 02 50.5	-1.9
	baz=126,SNR=16								
HYT	Haines Junctio	7.25	47				Pn	18 02 52.0	-0.8
HYT	Haines Junctio	7.25	47		P		Pn	18 02 51.8	-0.9
	baz=237,SNR=22								
L18K	Granite Mounta	7.27	328				Pn	18 02 50.6	-2.3
L18K	Granite Mounta	7.27	328		P		Pn	18 02 51.4	-1.5
	baz=140,SNR=10								
N15K	Kwethluk River	7.27	307				Pn	18 02 51.6	-1.3
N15K	Kwethluk River	7.27	307		P		Pn	18 02 52.0	-0.9
	baz=116,SNR=20								
CAST	Castle Rocks	7.35	347		P		Pn	18 02 53.0	-0.9
	baz=164,SNR=13								
KTH	Kantishna Hill	7.36	351				Pn	18 02 52.3	-1.8
MCK	McKinley	7.43	358		P		Pn	18 02 54.4	-0.7
	baz=178,SNR=10								
O14K	Tigyukauivet M	7.48	298				Pn	18 02 54.8	-0.9
O14K	Tigyukauivet M	7.48	298		P		Pn	18 02 54.1	-1.6
	baz=107								
L27K	Beaver Creek,	7.52	23		P		Pn	18 02 55.5	-0.8
	baz=209								
PS1A	Pavlof South-1	7.57	269				Pn	18 02 55.5	-1.4
PVV	Pavlof Volcano	7.61	268				Pn	18 02 55.8	-1.6
K20K	Telida	7.61	340				Pn	18 02 55.8	-1.6
K20K	Telida	7.61	340		P		Pn	18 02 56.2	-1.3
	baz=155,SNR=8.8								
K24K	Donnelly Dome	7.61	9		P		Pn	18 02 56.8	-0.8
	baz=191,SNR=13								
SKAG	Skagway	7.63	60		P		Pn	18 02 58.0	+0.2
SKAG	Skagway	7.63	60				Pn	18 02 57.8	0.0
SKAG	Skagway	7.63	60		P		Pn	18 02 56.9	-0.9
	baz=252,SNR=6.7								
RIDG	Independent Ri	7.64	12				Pn	18 02 57.9	-0.2
RIDG	Independent Ri	7.64	12		P		Pn	18 02 57.5	-0.5
	baz=195,SNR=19								
S32K	Killisnoo	7.65	76				Pn	18 02 56.1	-1.9
S32K	Killisnoo	7.65	76		P		Pn	18 02 56.7	-1.3
	baz=268								
TTA	Tatalina	7.66	333		P		Pn	18 02 56.2	-2.1
TTA	Tatalina	7.66	333		P		Pn	18 02 56.1	-2.2
	baz=146,SNR=7.8								
S12K	Black Hills	7.69	271				Pn	18 02 57.1	-1.5
S12K	Black Hills	7.69	271		P		Pn	18 02 57.2	-1.5
	baz=79								
PN7A	Pavlof North-7	7.71	269				Pn	18 02 56.7	-2.3
L17K	Donlin	7.72	323				Pn	18 02 56.5	-2.5
L17K	Donlin	7.72	323		P		Pn	18 02 56.8	-2.2
	baz=134								
R32K	Eaglecrest	7.76	70		P		Pn	18 02 59.0	-0.6
	baz=262								
M15K	Kasigluk River	7.78	309				Pn	18 02 58.0	-1.8
M15K	Kasigluk River	7.78	309		P		Pn	18 02 58.2	-1.7
	baz=118								
N30M	Aishikik Lake	7.79	44				Pn	18 02 59.3	-0.7
N30M	Aishikik Lake	7.79	44		P		Pn	18 02 59.4	-0.5
	baz=234								
O30N	Mendenhall	7.82	50				Pn	18 02 59.3	-1.1
O30N	Mendenhall	7.82	50		P		Pn	18 02 59.8	-0.6
	baz=241,SNR=12								
CHUM	Lake Minchumin	7.83	347		P		Pn	18 02 59.5	-1.0
	baz=164,SNR=26								
JIS	Juneau Island	7.83	70		P		Pn	18 02 59.5	-1.0
JIS	Juneau Island	7.83	70				Pn	18 02 59.1	-1.4
L16K	Owhat River	7.86	318				Pn	18 02 58.8	-2.1
L16K	Owhat River	7.86	318		P		Pn	18 02 59.0	-1.9
	baz=128,SNR=16								
BPAW	Bear Paw Mtn.	7.90	352				Pn	18 02 59.8	-1.8
BPAW	Bear Paw Mtn.	7.90	352		P		Pn	18 02 60.0	-1.6
	baz=169,SNR=8.5								
N14K	Kuskokwak Cree	7.90	303		P		Pn	18 03 00.5	-1.0
	baz=111,SNR=6.8								
M29M	Somme Creek	7.95	35				Pn	18 03 01.6	-0.7
M29M	Somme Creek	7.95	35		P		Pn	18 03 01.8	-0.5
	baz=224,SNR=48								
SCRK	Sand Creek	7.98	14		P		Pn	18 03 02.2	-0.5
	baz=198								
HDA	Harding Lake	8.14	4		P		Pn	18 03 04.6	-0.1
	baz=186,SNR=8.6								
K17K	Iditarod	8.14	326				Pn	18 03 02.4	-2.4
K17K	Iditarod	8.14	326		P		Pn	18 03 02.5	-2.2
	baz=137,SNR=19								
WRH	Wood River Hil	8.17	1				Pn	18 03 04.0	-1.1
J18K	Innoko River	8.29	333		P		Pn	18 03 05.3	-1.5
	baz=146,SNR=16								
WHY	Whitehorse	8.29	53		P		Pn	18 03 06.4	-0.6

WRAK **Wrangell Islan** 8.90 83 P Pn 18 03 14.5 -0.7
baz=277
L14K **Kuka Creek** 8.95 310 P Pn 18 03 15.1 -0.7
baz=118
DAWY **Dawson** 8.95 26 P Pn 18 03 14.7 -1.2
baz=214,SNR=7.4
K15K **Wolf Creek Mou** 8.98 317 P Pn 18 03 15.4 -0.9
baz=126
I20K **Naaghedeneel** 9.00 343 P Pn 18 03 16.4 -0.2
baz=158
Q32M **Nakina River** 9.04 66 Pn 18 03 16.6 -0.6
Q32M **Nakina River** 9.04 66 P Pn 18 03 16.6 -0.6
baz=260
I21K **Tanana** 9.05 350 P Pn 18 03 16.4 -0.8
baz=167
P33M **Teslin, Yukon** 9.07 58 P Pn 18 03 16.9 -0.7
baz=252,SNR=28
EGAK **Eagle** 9.19 20 P Pn 18 03 20.1 +1.1
baz=206,SNR=12
M31M **Drury Creek, Y** 9.26 45 P Pn 18 03 20.5 +0.3
baz=237,SNR=41
K29M **Barlow Dome** 9.28 31 Pn 18 03 19.0 -1.4
K29M **Barlow Dome** 9.28 31 P Pn 18 03 19.9 -0.5
baz=221,SNR=11
J16K **Anvik River** 9.29 324 Pn 18 03 17.6 -2.9
J16K **Anvik River** 9.29 324 P Pn 18 03 18.5 -1.9
baz=133,SNR=9.2
N32M **Quiet Lake** 9.30 52 Pn 18 03 20.1 -0.6
N32M **Quiet Lake** 9.30 52 P Pn 18 03 20.7 0.0
baz=246
PRP **Porcupine Dome** 9.32 7 P Pn 18 03 19.7 -1.4
baz=190
I26K **Coal Creek Min** 9.36 14 P Pn 18 03 21.9 +0.4
baz=198,SNR=8.7
WESE **West Dahl East** 9.40 265 Pn 18 03 20.3 -1.9
WECS **Westdahl Cape** 9.49 266 Pn 18 03 21.1 -2.2
V35K **Ketchikan** 9.49 89 Pn 18 03 21.8 -1.5
S34M **Telegraph Cree** 9.52 73 P Pn 18 03 23.4 -0.3
baz=268
H23K **Yukon River** 9.55 357 P Pn 18 03 23.9 -0.2
baz=176
H24K **Noodor Dome** 9.55 1 P Pn 18 03 24.2 +0.1
baz=182
MAYO **Mayo, Yukon** 9.59 35 P Pn 18 03 25.2 +0.5
baz=226
H21K **Melozitna Rive** 9.60 349 Pn 18 03 22.6 -2.2
H21K **Melozitna Rive** 9.60 349 P Pn 18 03 23.5 -1.3
baz=165
FARO **Faro, Yukon** 9.69 46 P Pn 18 03 26.2 +0.1
baz=239,SNR=23
H22K **Ishtalitna Cre** 9.71 353 P Pn 18 03 25.2 -1.0
baz=170
H20K **Anotleneega Mo** 9.72 344 P Pn 18 03 25.7 -0.6
baz=158
I17K **Unalakleet** 9.74 326 P Pn 18 03 25.2 -1.4
baz=135
R33M **Jennings River** 9.77 64 P Pn 18 03 26.8 -0.5
baz=260,SNR=15
I27K **Kandik River** 9.86 17 P Pn 18 03 28.6 +0.2
baz=203,SNR=9.5
T35M **Bob Quinn** 10.01 79 P Pn 18 03 30.6 +0.2
baz=274
H19K **Roundabout Mou** 10.02 340 P Pn 18 03 30.2 -0.2
baz=153
J14K **Nanvaranak Lak** 10.02 316 Pn 18 03 29.0 -1.4
J14K **Nanvaranak Lak** 10.02 316 P Pn 18 03 29.9 -0.5
baz=123
I28M **Miner Creek** 10.02 21 P Pn 18 03 31.0 +0.4
baz=208
H25L **Birch Creek** 10.05 6 P Pn 18 03 31.1 +0.2
baz=188
H18K **Honhosa River** 10.09 335 P Pn 18 03 29.6 -1.9
baz=146
DLBC **Dease Lake** 10.13 70 Pn Pn 18 03 31.7 -0.4
DLBC **Dease Lake** 10.13 70 P Pn 18 03 31.9 -0.3
baz=266,SNR=6.3
DLBC **Dease Lake** 10.13 70 Pn Pn 18 03 32.3 +0.2
comp=E,1.9nm,0.3s,baz=256,slow=11,SNR=16
DLBC Sn Sn 18 05 22.0 -3.8
comp=E,1.7nm,0.3s,baz=199,slow=18,SNR=1.8
comp=E,5.3nm,0.3s
AKUT **Akutan** 10.17 265 P Pn 18 03 30.8 -1.7
J30M **Hart River** 10.17 31 P Pn 18 03 33.0 +0.2
baz=221,SNR=12
M11K **Mekoryuk** 10.19 301 P Pn 18 03 32.5 -0.4
baz=105
H17K **Granite Mounta** 10.30 332 Pn Pn 18 03 31.6 -2.8
H17K **Granite Mounta** 10.30 332 P Pn 18 03 33.1 -1.3
baz=141
FYU **Fort Yukon** 10.38 7 Pn Pn 18 03 34.5 -1.0
G24K **Hadweenzic Riv** 10.42 2 P Pn 18 03 35.9 0.0
baz=183
G23K **Bananza Creek** 10.45 356 P Pn 18 03 36.6 +0.2
baz=175
H27K **Steamboat Moun** 10.46 15 P Pn 18 03 36.6 0.0
baz=202
G21K **Allakaket** 10.51 349 P Pn 18 03 36.1 -1.0
baz=164
G25K **Bearman Lake** 10.53 5 P Pn 18 03 37.5 0.0
baz=187
I30M **Mount Dempster** 10.66 28 P Pn 18 03 39.7 +0.4
baz=219
UNV **Unalaska Valle** 10.67 264 P Pn 18 03 37.0 -2.5
UNV **Unalaska Valle** 10.67 264 P Pn 18 03 38.2 -1.3
baz=69
G19K **Purcell Mounta** 10.69 341 P Pn 18 03 39.9 +0.2
baz=153
MMPY **Sheldon Lake,** 10.73 47 P Pn 18 03 40.6 +0.3
baz=242,SNR=24
H16K **Elim** 10.75 326 P Pn 18 03 40.0 -0.4
baz=134,SNR=7.2
G18K **Tagagawik** 10.79 337 P Pn 18 03 40.8 -0.2
baz=148
G26K **Porcupine Rive** 10.88 10 P Pn 18 03 42.5 +0.3
baz=194
G17K **Kiwalik Mounta** 10.94 332 P Pn 18 03 42.3 -0.8
baz=141
COLD **Coldfoot** 10.97 356 P Pn 18 03 43.3 -0.2
baz=175
G27K **Doyon Strip** 10.99 14 P Pn 18 03 43.6 -0.1
baz=200
WTLY **Watson Lake, Y** 10.99 62 Pn 18 03 41.0 -2.9
H29M **Whitestone** 11.01 22 P Pn 18 03 45.3 +1.2
baz=211
F21K **Alatna River** 11.19 350 Pn Pn 18 03 45.4 -1.1
F21K **Alatna River** 11.19 350 P Pn 18 03 45.3 -1.2
baz=165,SNR=16
F24K **Squaw Lake** 11.23 1 P Pn 18 03 46.1 -1.0
baz=181
BMAR **Burnt Mountain** 11.28 8 Pn Pn 18 03 46.2 -1.6
F20K **Avaraart Lake** 11.29 345 P Pn 18 03 46.7 -1.2
baz=159
G16K **Koyuk River** 11.32 329 P Pn 18 03 46.5 -1.8
baz=137
F22K **John River** 11.36 353 P Pn 18 03 48.5 -0.3
baz=169
F25K **Christian Rive** 11.38 5 P Pn 18 03 48.2 -0.9
baz=188
F19K **Shaleruckik Mo** 11.43 341 P Pn 18 03 49.1 -0.7
baz=153
EPYK **Eagle Plains** 11.50 24 P Pn 18 03 50.2 -0.5
baz=214
G15K **Niukluk** 11.56 325 P Pn 18 03 50.8 -0.7
baz=131
F26K **Sheenjek River** 11.58 8 P Pn 18 03 51.3 -0.5
baz=192
TGTN **Hyland Airport** 11.60 55 P Pn 18 03 52.1 -0.1
baz=253,SNR=20
F18K **Selawik** 11.60 337 P Pn 18 03 51.2 -0.8
baz=147
H31M **Peel River** 11.65 30 P Pn 18 03 52.7 -0.1
baz=222
G29M **Pine Creek** 11.68 21 P Pn 18 03 53.3 0.0
baz=210,SNR=8.9
ANM **Nome** 11.73 322 Pn Pn 18 03 50.3 -3.5
ANM **Nome** 11.73 322 P Pn 18 03 53.1 -0.7
baz=127,SNR=6.6
ANM **Nome** 11.73 322 P Pn 18 03 50.3 -3.5
E23K **Chandalar** 11.79 358 P Pn 18 03 54.6 -0.2
baz=177
F17K **Baldwin Pennin** 11.84 334 P Pn 18 03 53.5 -1.8
baz=143,SNR=8.3
E19K **Redstone River** 11.90 343 P Pn 18 03 55.1 -1.1
baz=155
E25K **Arctic Village** 11.91 5 Pn Pn 18 03 56.1 -0.2
E25K **Arctic Village** 11.91 5 P Pn 18 03 56.1 -0.2
baz=188

E22K **Anaktuvuk Pass** 11.95 354 P Pn 18 03 56.7 -0.3
baz=171
F28M **Old Crow** 11.99 16 P Pn 18 03 56.3 -1.2
baz=203
G30M **tAoh Zraii Nji** 12.12 23 P Pn 18 03 58.9 -0.3
baz=214,SNR=13
F15K **North Star Dit** 12.23 327 P Pn 18 03 59.4 -1.3
baz=132
E27K **Coleen River** 12.30 12 P Pn 18 04 01.8 +0.1
baz=198
NIKH **Nikolski High** 12.31 263 P Pn 18 04 00.7 -1.1
baz=66
TOLK **Toolik Lake Re** 12.37 358 Pn Pn 18 04 03.0 +0.4
TOLK **Toolik Lake Re** 12.37 358 P Pn 18 04 03.2 +0.5
baz=177
E21K **Killik River** 12.42 350 P Pn 18 04 02.8 -0.6
baz=165
E17K **Hotham Inlet** 12.49 335 P Pn 18 04 03.8 -0.4
baz=143,SNR=10
E20K **Nigu River** 12.49 346 P Pn 18 04 03.7 -0.6
baz=160
E18K **Tukpahlearik C** 12.50 338 P Pn 18 04 03.7 -0.6
baz=147
G31M **Satah River** 12.53 26 P Pn 18 04 05.3 +0.6
baz=219,SNR=10
BBB **Bella Bella** 12.54 101 Pn Pn 18 04 05.0 -0.1
comp=E,0.6nm,0.3s,baz=335,slow=19,SNR=1.7
BBB Sn Sn 18 06 17.1 -7.5
comp=E,0.5nm,0.3s,baz=19,slow=21,SNR=1.2
BBB LR LR 18 07 49.1
comp=E,3µm,19.3s,baz=311,slow=32
comp=E,30nm,1.1s
F14K **Arctic Creek** 12.61 324 P Pn 18 04 04.5 -1.3
baz=128
TOAD **Toad River Com** 12.66 69 P Pn 18 04 06.9 +0.3
baz=269
D23K **Nanushuk River** 12.73 356 P Pn 18 04 08.0 +0.5
baz=174
F30M **Barrier River** 12.74 22 P Pn 18 04 07.2 -0.4
baz=214
D22K **Ayikyak River** 12.75 353 P Pn 18 04 07.9 +0.1
baz=169
D24K **Happy Valley** 12.88 359 P Pn 18 04 09.1 -0.4
baz=179
E28M **Babbage River** 12.96 15 P Pn 18 04 10.1 -0.6
baz=202
D20K **Etivluk River** 12.98 347 P Pn 18 04 10.0 -0.9
baz=159
D19K **Kuna River** 12.99 344 P Pn 18 04 09.6 -1.5
baz=155
E29M **Blow River** 13.02 17 P Pn 18 04 11.2 -0.2
baz=207,SNR=6.8
F31M **Tsiigehtchic** 13.06 26 P Pn 18 04 10.3 -1.7
baz=219
D25K **Kavik River** 13.07 3 P Pn 18 04 10.5 -1.7
baz=185
TNA **Tin City** 13.19 322 P Pn 18 04 13.5 -0.2
baz=125
C21K **Knifeblade Rid** 13.19 350 P Pn 18 04 12.8 -1.0
baz=164
D17K **Noatak River** 13.28 335 P Pn 18 04 13.7 -1.2
baz=142
KOTAN **Kotaneelee Air** 13.34 63 P Pn 18 04 16.7 +0.8
baz=264,SNR=17
D27M **Malcolm River** 13.38 11 P Pn 18 04 16.6 +0.1
baz=198
C24K **Franklin Bluff** 13.45 360 P Pn 18 04 17.6 +0.4
baz=179
RDOG **Red Dog Mine** 13.52 336 P Pn 18 04 17.2 -1.1
baz=143
C23K **Itkillik River** 13.60 357 P Pn 18 04 19.3 0.0
baz=175
B21K **Ikpikpuk River** 13.63 351 P Pn 18 04 19.1 -0.6
baz=165
FLDN **Fort Liard** 13.64 63 P Pn 18 04 20.2 +0.3
baz=264
C18K **Utukok River** 13.66 340 P Pn 18 04 19.3 -0.9
baz=148
C26K **Camden Bay** 13.73 5 P Pn 18 04 21.5 +0.4
baz=188
GAMB **Gambell** 13.76 312 P Pn 18 04 20.8 -0.7
baz=112
C19K **Lookout Ridge** 13.77 343 P Pn 18 04 20.9 -0.8
baz=153
INK **Inuvik** 13.80 24 P Pn 18 04 22.7 +0.6
baz=217,SNR=19
INK **Inuvik** 13.80 24 Pn Pn 18 04 21.8 -0.2
comp=E,0.3nm,0.3s,baz=202,slow=14,SNR=21
INK LR LR 18 10 00.4
comp=E,3µm,18.0s,baz=188,slow=39
comp=E,29nm,1.0s
C17K **DeLong Mountai** 13.92 337 P Pn 18 04 22.6 -1.1
baz=144
B22K **Teshekpuk Lake** 14.24 353 P Pn 18 04 28.1 +0.1
baz=168,SNR=12
WRGLY **Wrigley** 14.26 51 P Pn 18 04 30.9 +2.5
baz=253,SNR=6.0
B20K **Meade River** 14.26 348 P Pn 18 04 27.0 -1.4
baz=160
C16K **Lisburne Hills** 14.27 334 P Pn 18 04 28.2 -0.2
baz=139
B18K **Kokolik River** 14.39 341 P Pn 18 04 29.4 -0.7
baz=149
A19K **Wainwright** 14.99 343 P Pn 18 04 37.3 -1.0
baz=152
A22K **Sinclair Lake** 15.00 352 P Pn 18 04 36.9 -1.5
baz=166
A21K **Barrow** 15.46 350 P Pn 18 04 42.5 -1.9
baz=163
C36M **Paulatuk** 16.95 30 Pn 18 05 01.1 -2.5
C36M IAmb IAmb 18 05 09.3
comp=Z,39nm,0.9s
C36M **Paulatuk** 16.95 30 P Pn 18 05 01.9 -1.7
baz=232,SNR=24
YKA **Yellowknife Ar** 18.10 56 Pn 18 05 17.0 -0.9
YKA **Yellowknife Ar** 18.10 56 P Pn 18 05 17.0 -0.9
YKA **Yellowknife Ar** 18.10 56 P Pn 18 05 15.8 -2.1
comp=Z,0.5nm,0.3s,baz=265,slow=10,SNR=62
YKA S Sn 18 08 32.7 -6.9
comp=Z,0.3nm,0.6s,baz=266,slow=16,SNR=1.4
YKA LR LR 18 12 05.5
comp=Z,2µm,19.2s,baz=272,slow=36
comp=Z,20nm,1.1s
A36M **Sachs Harbour** 18.44 23 Pn 18 05 20.5 -1.5
A36M IAmb IAmb 18 05 31.4
comp=Z,54nm,0.8s
A36M **Sachs Harbour** 18.44 23 P Pn 18 05 21.2 -0.8
baz=224,SNR=56
MXC **Moxie City** 19.91 107 P P 18 05 37.5 -0.8
E07A **Sunnyside** 20.15 107 P P 18 05 40.4 -0.5
E07A IAmb IAmb 18 05 54.9
comp=Z,47nm,1.1s
HAWA **Hanford** 20.43 107 P P 18 05 44.5 +0.6
NEW **Newport** 20.61 100 P P 18 05 45.7 -0.1
baz=305
NEW **Newport** 20.61 100 P P 18 05 47.9 +2.1
comp=Z,12nm,1.0s,baz=299,slow=6.3,SNR=9.8
NEW LR LR 18 12 42.3
comp=Z,1µm,18.4s,baz=302,slow=34
comp=Z,12nm,1.0s
KBO **Bosley Butte** 21.01 122 P P 18 05 50.3 -0.1
HUMO **Hull Mountain** 21.32 119 IAmb IAmb 18 06 10.8
comp=Z,37nm,1.1s
PINE **Pine Mountain** 21.46 114 IAmb IAmb 18 06 02.9
comp=Z,54nm,1.2s
KSXB **Camp Six Broad** 21.48 122 P P 18 05 56.1 +0.8
KSXB IAmb IAmb 18 06 12.1
comp=Z,36nm,1.1s
J05D **Fort Rock, OR** 21.67 116 IAmb IAmb 18 06 08.2
comp=Z,23nm,0.8s
KRMB **Red Mountain** 21.70 123 IAmb IAmb 18 06 07.9
comp=Z,30nm,1.1s
SHEM **Shemya Is, Ala** 21.88 276 LR LR 18 14 27.4
comp=Z,617nm,19.4s,baz=64,slow=37
K04D **Chiloquin, OR** 21.90 117 IAmb IAmb 18 06 14.7
comp=Z,39nm,1.1s
L04D **Klamath Falls** 21.93 119 IAmb IAmb 18 06 18.8
comp=Z,37nm,1.1s
I07A **Izee** 21.99 112 IAmb IAmb 18 06 12.3
comp=Z,21nm,1.0s
YBH **Yreka Blue Hor** 22.11 120 P P 18 06 01.0 -1.0
YBH IAmb IAmb 18 06 12.4
comp=Z,31nm,0.9s
YBH **Yreka Blue Hor** 22.11 120 P P 18 06 01.0 -1.0
YBH pmax pmax
comp=Z,31nm,1.0s
K05A **Summer Lake** 22.25 116 IAmb IAmb 18 06 14.5
comp=Z,30nm,0.9s

PLID **Pearl Lake** 23.16 105 P P 18 06 12.9 -0.5
BILL **Bilibino** 23.54 318 P P 18 06 16.1 -0.6
BILL **Bilibino** 23.54 318 eP P 18 06 15.7 -1.0
WVOR **Wild Horse Val** 23.61 113 IAmb IAmb 18 06 37.6
comp=Z,34nm,1.4s
EGMT **Eagleton** 24.82 93 P P 18 06 29.3 +0.4
baz=304
HLID **Hailey** 25.03 106 P P 18 06 30.7 -0.2
baz=313,SNR=7.3
BOZ **Bozeman (W)** 25.22 100 P P 18 06 33.0 +0.4
baz=309
PAHR **Pah Rah Range** 25.28 119 P P 18 06 30.1 -3.0
PAHR IAmb IAmb 18 06 53.0
comp=Z,17nm,1.0s
KVN **Kaiserville** 26.41 118 IAmb IAmb 18 06 56.0
comp=Z,11nm,1.0s
H17A **Grant Village** 26.56 101 P P 18 06 45.4 +0.5
baz=310
ELK **Elko** 26.58 112 LR LR 18 15 34.0
comp=Z,1µm,20.1s,baz=314,slow=33
NVAR **Mina Array Bea** 26.80 119 P P 18 06 47.6 +0.6
comp=Z,4.2nm,0.9s,baz=308,slow=8.0,SNR=16
NVAR PcP PcP 18 10 11.4 +1.8
comp=Z,0.2nm,0.3s,baz=27,slow=0.4,SNR=1.3
NVAR LR LR 18 15 36.5
comp=Z,2µm,18.2s,baz=308,slow=32
comp=Z,4.2nm,0.9s
RLMT **Red Lodge** 26.81 98 P P 18 06 47.1 0.0
baz=309
LHV **Little Huntoon** 26.84 120 IAmb IAmb 18 07 07.6
comp=Z,24nm,1.3s
NV11 **Mina Array Sit** 26.87 119 IAmb IAmb 18 07 00.3
comp=Z,12nm,1.0s
RES **Resolute Bay** 27.29 28 P P 18 06 47.4 -3.4
RES **Resolute Bay** 27.29 28 P P 18 06 47.4 -3.4
RES pmax pmax
comp=Z,8.0nm,0.9s
RES **Resolute Bay** 27.29 28 LR LR 18 18 13.2
comp=Z,2µm,19.0s,baz=231,slow=38
LAO **LASA Array** 27.55 92 P P 18 06 54.3 +0.8
baz=306
BW06 **Boulder Array** 28.19 102 P P 18 06 59.5 0.0
baz=313
PDAR **Pinedale Array** 28.19 102 P P 18 06 58.7 -0.7
comp=Z,1.1nm,0.9s,baz=313,slow=6.6,SNR=5.6
PDAR LR LR 18 17 32.2
comp=Z,367nm,18.4s,baz=314,slow=35
comp=Z,1.1nm,0.9s
R11B **Troy Canyon, C** 28.20 116 P P 18 07 01.0 +1.5
baz=321,SNR=9.2
DUG **Dugway, Tooele** 28.25 110 P P 18 07 01.6 +1.7
baz=317
CWC **Cottonwood Cre** 28.49 121 P P 18 07 02.6 +0.5
baz=324
VES **Vestal, Richgr** 28.50 124 P P 18 07 02.7 +0.8
baz=325
SMMC **Simmler** 28.52 125 P P 18 07 03.8 +1.7
baz=327
ISA **Isabella, Lake** 28.93 123 P P 18 07 07.6 +1.7
baz=325
PKM **Mcpherson Peak** 28.95 126 P P 18 07 08.5 +2.3
baz=327
FURC **Furnace Creek,** 29.05 120 P P 18 07 09.5 +2.7
baz=323
MPMC **Manual Prospec** 29.08 121 P P 18 07 09.8 +2.5
baz=324
BSUT **Blindstream Ca** 29.09 107 IAmb IAmb 18 07 45.7
comp=Z,16nm,1.6s
GWY **Greenwater Val** 29.37 120 IAmb IAmb 18 07 29.3
comp=Z,11nm,1.1s
SEY **Seymchan** 29.67 307 ceP P 18 07 11.5 -0.6
SEY pmax pmax
comp=Z,3.0nm,0.4s
SEY **Seymchan** 29.67 307 LR LR 18 20 16.0
comp=Z,2µm,18.6s,baz=125,slow=39
GSC **Goldstone, Bar** 30.01 121 P P 18 07 16.9 +1.4
baz=325
PET **Petropavlovsk** 30.17 286 eP P 18 07 18.2 +1.6
PET eS S 18 12 10.4 -4.9
PET pmax pmax
comp=Z,15nm,1.3s
PET pmax pmax
comp=Z,100nm,12.8s
PET MLR MLR
comp=Z,500nm,13.0s
PET MLR MLR
comp=Z,500nm,17.0s
RRX **Edison Barstow** 30.27 122 P P 18 07 19.2 +1.5
baz=325
RSSD **Black Hills** 30.34 95 P P 18 07 18.4 -0.1
RSSD IAmb IAmb 18 07 55.1
comp=Z,15nm,1.5s
RSSD **Black Hills** 30.34 95 P P 18 07 19.6 +1.1
baz=310
RSSD **Black Hills** 30.34 95 P P 18 07 18.4 -0.1
RSSD pmax pmax
comp=Z,15nm,1.5s
BFSC **Mount Baldy Ra** 30.48 123 P P 18 07 21.8 +2.1
baz=326
PKCU **Pink Cliffs** 30.56 113 IAmb IAmb 18 08 06.8
comp=Z,18nm,1.4s
V12A **Nelson** 30.62 118 IAmb IAmb 18 07 25.7
comp=Z,8.6nm,0.9s
HEC **Hector,Ludlow** 30.62 121 P P 18 07 22.7 +1.8
baz=325
PETK **Petropavlovsk-** 30.64 287 P P 18 07 19.7 -1.1
comp=Z,1.8nm,0.5s,baz=69,slow=12,SNR=23
PETK LR LR 18 20 00.3
comp=Z,457nm,20.8s,baz=79,slow=37
comp=Z,1.8nm,0.5s
O20A **White River Ci** 30.72 105 P P 18 07 22.9 +1.0
baz=316
CIS **Catalina Islan** 30.83 125 P P 18 07 25.3 +2.6
baz=327
GMRC **Granite Mounta** 30.98 120 P P 18 07 24.1 0.0
baz=324
HMU **Henry Mountain** 31.00 110 IAmb IAmb 18 07 36.6
comp=Z,9.2nm,0.9s
ULM **Lac du Bonnet** 31.31 79 iP P 18 07 27.0 +0.3
ULM **Lac du Bonnet** 31.31 79 P P 18 07 27.4 +0.7
comp=Z,1.5nm,0.9s,baz=291,slow=12,SNR=3.0
comp=Z,1.5nm,0.9s
MA2 **Magadan** 31.46 302 ceP P 18 07 29.2 +1.3
MA2 pmax pmax
comp=Z,13nm,1.3s
MA2 **Magadan** 31.46 302 LR LR 18 20 30.2
comp=Z,1µm,21.9s,baz=83,slow=37
PFO **Pinyon Flats O** 31.56 123 P P 18 07 31.2 +2.0
baz=326
PFO **Pinyon Flats O** 31.56 123 LR LR 18 17 57.1
comp=Z,1µm,20.1s,baz=358,slow=32
IRM **Iron Mountain** 31.74 120 P P 18 07 33.2 +2.5
baz=325
PDMCI **Parker Dam,Lak** 32.11 119 P P 18 07 36.8 +2.9
baz=324
MONP2 **Monument Peak** 32.17 123 P P 18 07 36.6 +2.0
baz=327
SWSC **Sam W. Stewart** 32.42 122 P P 18 07 38.5 +1.9
baz=326
IKP **In-Ko-Pah, Jac** 32.52 123 P P 18 07 39.9 +2.4
baz=327
WUAZ **Wupatki** 32.52 114 IAmb IAmb 18 07 41.2
comp=Z,14nm,1.2s
WUAZ **Wupatki** 32.52 114 P P 18 07 39.5 +1.8
baz=322,SNR=5.5
MVCO **Mesa Verde** 32.72 109 IAmb IAmb 18 07 41.9
comp=Z,7.9nm,1.1s
MVCO **Mesa Verde** 32.72 109 P P 18 07 41.7 +2.1
baz=319
GLA **Glamis** 32.79 121 P P 18 07 42.6 +2.6
baz=326
Y14A **Wickenburg** 32.96 118 IAmb IAmb 18 07 45.3
comp=Z,8.1nm,0.9s
X16A **Lo Mia Camp, P** 33.35 115 IAmb IAmb 18 07 49.4
comp=Z,7.1nm,1.0s
W18A **Petrified Fore** 33.67 113 P P 18 07 50.3 +2.6
baz=321
SDCO **Great Sand Dun** 33.92 105 P P 18 07 52.1 +2.0
baz=318
X18A **Snowflake** 34.02 113 IAmb IAmb 18 07 54.8
comp=Z,7.8nm,0.9s
KSCO **Kaye Shedlock'** 34.57 100 P P 18 07 58.0 +2.5
baz=316
214A **Organ Pipe Nat** 34.66 120 P P 18 07 58.2 +2.1
baz=326
T25A **Trinidad** 34.96 104 IAmb IAmb 18 08 28.7
comp=Z,8.7nm,1.1s
T25A **Trinidad** 34.96 104 P P 18 08 00.6 +1.7

baz=318
EYMN Ely 34.98 79 P **P** **18 07 59.3 +0.5**
EYMN Ely 34.98 79 P **P** **18 08 00.1 +1.3**
baz=306,SNR=5.2
TUC Tucson 35.37 117 P **P** **18 08 04.7 +2.3**
baz=324
BGNE Belgrade 35.39 93 P **P** **18 08 04.6 +2.2**
baz=313
ANMO Albuquerque 35.51 109 P **P** **18 08 05.4 +1.7**
baz=320
ANMO Albuquerque 35.51 109 *ce*P **P** **18 08 04.4 +0.7**
ANMO pmax pmax
comp=Z,3.0nm,1.1s
ANMO Albuquerque 35.51 109 LR LR 18 21 42.7
comp=Z,525nm,19.0s,baz=48,slow=35
TIXI Tiksi 35.90 328 P **P** **18 08 06.0 -0.4**
TIXI lAmb lAmb 18 08 08.8
comp=Z,16nm,1.5s
TIXI Tiksi 35.90 328 *ce*P **P** **18 08 07.1 +0.7**
TIXI pmax pmax
comp=Z,14nm,1.8s
TIXI Tiksi 35.90 328 LR LR 18 24 50.5
comp=Z,386nm,18.9s,baz=69,slow=40
121A Cookes Peak, D 36.70 113 P **P** **18 08 16.6 +2.7**
baz=323
KULLO Kullorsuaq 37.14 26 *i* P **P** **18 08 17.6 +0.7**
KULLO lAmb lAmb 18 08 27.8
comp=Z,24nm,0.8s
NEEM North Greenlan 37.36 21 *i* P **P** **18 08 19.4 +0.3**
NEEM lAmb lAmb 18 08 27.8
comp=Z,10.0nm,0.8s
FRB Frobisher Bay 38.04 45 LR LR 18 24 15.2
comp=Z,2µm,18.3s,baz=309,slow=37
UPNV Upernavik 38.16 29 *i* P **P** **18 08 27.5 +2.0**
UPNV lAmb lAmb 18 08 35.8
comp=Z,13nm,0.8s
MNTX Cornudas Mount 38.60 111 P **P** **18 08 31.9 +2.1**
baz=323
YAK Yakutsk 39.71 313 P **P** **18 08 37.5 -1.1**
YAK Yakutsk 39.71 313 *ce*P **P** **18 08 38.6 0.0**
YAK pmax pmax
comp=Z,24nm,0.6s
YAK Yakutsk 39.71 313 LR LR 18 25 11.1
comp=Z,770nm,22.0s,baz=70,slow=36
WMOK Wichita Mounta 39.79 101 P **P** **18 08 40.9 +1.2**
baz=319,SNR=8.0
TXAR Lajitas Array 41.38 112 P **P** **18 08 54.1 +1.1**
comp=Z,2.6nm,1.0s,baz=335,slow=5.5,SNR=15
TXAR LR LR 18 25 14.8
comp=Z,445nm,18.9s,baz=332,slow=35
comp=Z,2.6nm,1.0s
OZNA Ozona 41.45 108 P **P** **18 08 52.6 -0.8**
YSS Yuzh-Sakhalins 42.04 287 *e*P P 18 08 48.4 -10
YSS pmax pmax
comp=Z,10.0nm,1.3s
LPIG La Paz 42.45 123 LR LR 18 24 24.1
comp=Z,542nm,19.2s,baz=322,slow=33
JCT Junction City 42.50 107 P **P** **18 09 04.1 +2.0**
baz=322
SUMG Summit 42.72 25 *i* P **P** **18 09 04.0 +0.3**
SUMG lAmb lAmb 18 09 14.2
comp=Z,39nm,0.9s
SFJD Kangerlussuaq 42.77 35 P **P** **18 09 03.0 -0.7**
SFJD Kangerlussuaq 42.77 35 P **P** **18 09 03.0 -0.7**
SFJD pmax pmax
comp=Z,52nm,1.2s
SFJD Kangerlussuaq 42.77 35 *i* P **P** **18 09 05.4 +1.7**
SFJD lAmb lAmb 18 09 14.2
comp=Z,17nm,1.1s
SFJD Kangerlussuaq 42.77 35 LR LR 18 26 38.8
comp=Z,910nm,21.4s,baz=324,slow=36
GRNR Gornyy 42.95 296 ⇓ *i* P **P** **18 09 06.1 +0.7**
GRNR pmax pmax
comp=N,2.0nm,1.0s
GRNR pmax pmax
comp=Z,3.0nm,1.0s
DAG Danmarks Havn 43.43 15 *i* P **P** **18 09 08.0 -1.0**
DAG lAmb lAmb 18 09 18.7
comp=Z,14nm,0.8s
SCHQ Schefferville 43.55 56 P **P** **18 09 09.7 -0.5**
SCHQ lAmb lAmb 18 09 20.3
comp=Z,19nm,1.0s
SCHQ Schefferville 43.55 56 P **P** **18 09 11.9 +1.7**
comp=Z,7.3nm,0.9s,baz=322,slow=9.3,SNR=8.4
SCHQ LR LR 18 27 17.0
comp=Z,1µm,18.8s,baz=280,slow=36
comp=Z,7.3nm,0.9s
JKA Kamikawa-asahi 43.96 284 P **P** **18 09 12.7 -1.0**
JKA lAmb lAmb 18 09 24.3
comp=Z,13nm,0.9s
ASAJ Asahikawa 43.96 284 P **P** **18 09 12.7 -0.9**
ASAJ pmax pmax
comp=Z,13nm,0.9s
ASAJ Asahikawa 43.96 284 P **P** **18 09 14.1 +0.5**
comp=Z,5.2nm,0.7s,baz=44,slow=7.5,SNR=10
ASAJ LR LR 18 28 45.5
comp=Z,280nm,20.2s,baz=73,slow=38
comp=Z,5.2nm,0.7s
DY2G Dye2 44.46 34 *i* P **P** **18 09 19.4 +1.7**
DY2G lAmb lAmb 18 09 26.5
comp=Z,8.2nm,0.9s
ICESG Greenland Ices 44.69 29 *i* P **P** **18 09 20.4 +0.8**
ICESG lAmb lAmb 18 09 29.1
comp=Z,21nm,0.9s
DBG Daneborg 45.13 18 *i* P **P** **18 09 22.4 -0.2**
DBG lAmb lAmb 18 09 32.3
comp=Z,12nm,0.9s
SPITS Spitsbergen Ar 45.42 4 P **P** **18 09 25.3 +0.4**
comp=Z,13nm,1.1s,baz=10,slow=8.8,SNR=2.5
SPITS LR LR 18 26 48.7
comp=Z,276nm,22.0s,baz=322,slow=34
comp=Z,13nm,1.1s
ZEA Zeya 45.53 304 *e*P **P** **18 09 26.2 +0.2**
ZEA pmax pmax
comp=Z,10.0nm,1.4s
ZEA MLR MLR
comp=N,300nm,13.0s
KLR Kul'dur 46.26 297 *ce*P **P** **18 09 32.9 +1.1**
KLR pmax pmax
comp=Z,19nm,1.3s
KLR Kul'dur 46.26 297 P **P** **18 09 31.9 +0.2**
comp=Z,7.7nm,0.9s,baz=63,slow=7.8,SNR=23
KLR LR LR 18 31 14.4
comp=Z,331nm,19.0s,baz=54,slow=39
comp=Z,7.7nm,0.9s
TKL Tuckaleechee C 47.43 87 LR LR 18 29 44.4
comp=Z,1µm,18.9s,baz=322,slow=36
HEH HeiHe 47.70 300 *e*P **P** **18 09 40.8 -2.3**
HEH pmax pmax
comp=Z,18nm,1.2s
HEH pmax pmax
comp=Z,140nm,3.9s
HEH LR LR
comp=Z,470nm,13.5s
HEH LR LR
comp=Z,600nm,13.1s
HEH LR LR
comp=Z,870nm,18.5s
NRIK Noril'sk 48.26 337 P **P** **18 09 46.4 -0.8**
NRIK Noril'sk 48.26 337 *ce*P **P** **18 09 47.8 +0.7**
NRIK pmax pmax
comp=Z,24nm,1.5s
NRIK Noril'sk 48.26 337 P **P** **18 09 47.0 -0.1**
comp=Z,3.0nm,0.4s,baz=61,slow=6.5,SNR=12
NRIK LR LR 18 33 48.1
comp=Z,1µm,19.6s,baz=44,slow=41
comp=Z,3.0nm,0.4s
BOD Bodaibo 48.54 315 *e*P **P** **18 09 49.5 +0.1**
BOD pmax pmax
comp=Z,13nm,1.4s
H11N2 WAKE ISLAND Hy 49.34 241 T T 19 03 06.7
baz=31,slow=76,SNR=62
H11N3 WAKE ISLAND Hy 49.34 241 T T 19 03 08.3
baz=31,slow=76,SNR=67
H11N1 WAKE ISLAND Hy 49.36 241 T T 19 03 11.5
baz=31,slow=76,SNR=68
USRK Ussuriysk Ar. 49.52 292 LR LR 18 33 02.7
comp=Z,373nm,19.0s,baz=56,slow=39
JMIC Jan Mayen 49.83 16 LR LR 18 32 14.1
comp=Z,316nm,20.6s,baz=316,slow=38
MDJ Mudanjiang 50.47 294 P **P** **18 10 02.0 -2.3**
MDJ pP pwP 18 10 14.5 +2.9
MDJ PP **PP** **18 11 59.5 -0.1**
MDJ PcS **PcS** **18 15 12.8 -6.6**
MDJ S **S** **18 17 20.5 +2.8**
MDJ ScS **ScS** **18 19 47.5 -7.5**
MDJ pmax pmax
comp=Z,4.0nm,1.7s
MDJ pmax pmax
comp=Z,150nm,6.5s
MDJ LR LR
comp=Z,680nm,22.1s
MDJ LR LR
comp=Z,380nm,22.5s
MDJ LR LR
comp=Z,630nm,19.6s
H11S1 WAKE ISLAND Hy 50.48 240 T T 19 05 24.6
baz=29,slow=75
H11S2 WAKE ISLAND Hy 50.49 240 T T 19 05 15.6
baz=29
H11S3 WAKE ISLAND Hy 50.50 240 T T 19 05 04.6
baz=29,slow=75
BNX BinXian 50.79 296 ⇑ P **P** **18 10 07.8 +1.1**
BNX pmax pmax
comp=Z,9.0nm,1.2s
MJAR Matsushiro Arr 51.65 280 P **P** **18 10 13.7 +0.4**
comp=Z,2.0nm,0.8s,baz=25,slow=6.9,SNR=5.8
MJAR LR LR 18 32 26.0
comp=Z,207nm,20.8s,baz=54,slow=36
comp=Z,2.0nm,0.8s
BORG Borgarnes 52.68 25 LR LR 18 33 34.9
comp=Z,487nm,18.7s,baz=328,slow=37
CIT Chita 52.79 310 *e*P **P** **18 10 23.8 +2.1**
CIT *e* 18 10 31.0
CN2 Changchun 53.14 295 P **P** **18 10 24.8 +0.5**
CN2 S **S** **18 17 53.5 -1.0**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 LR LR
comp=Z,200nm,12.0s
CN2 LR LR
comp=Z,200nm,12.0s
CN2 LR LR
comp=Z,300nm,19.0s
JHJ Hachijo jima 2 53.31 276 LR LR 18 32 52.6
comp=Z,53nm,19.6s,baz=64,slow=36
ARCES ARCESS Array B 54.36 3 P **P** **18 10 31.2 -1.7**
comp=Z,6.6nm,0.9s,baz=2.3,slow=6.1,SNR=6.7
comp=Z,6.6nm,0.9s
APA Apatity 56.41 359 ⇓ *i* P P 18 11 00.1 +12
APA *i* 18 11 49.1
APA pmax pmax
comp=Z,8.0nm,1.0s
KSRS Korea Array 56.52 288 P **P** **18 10 50.5 +1.7**
comp=Z,1.5nm,0.8s,baz=37,slow=4.8,SNR=7.3
KSRS LR LR 18 34 18.5
comp=Z,87nm,21.5s,baz=45,slow=35
comp=Z,1.5nm,0.8s
JCJ Chichijima 56.58 269 LR LR 18 32 04.8
comp=Z,184nm,21.6s,baz=76,slow=33
TJN Taejon 57.62 288 *ce*P **P** **18 10 58.9 +2.3**
MOY Mondy 58.16 317 *e*P **P** **18 11 02.4 +2.1**
JNU Nakatsue 58.20 283 LR LR 18 37 49.5
comp=Z,127nm,20.0s,baz=60,slow=38
ZAK Zakamensk 58.27 314 *e*P **P** **18 11 02.1 +0.9**
ULN Ulaanbaatar 58.69 310 P **P** **18 11 04.5 +0.4**
ULN Ulaanbaatar 58.69 310 *ce*P **P** **18 11 05.0 +0.9**
ULN pmax pmax
comp=Z,7.0nm,1.0s
SONM Songino Array 58.99 311 P **P** **18 11 07.0 +0.8**
SONM Songino Array 58.99 311 P **P** **18 11 07.0 +0.8**
SONM pmax pmax
comp=Z,13nm,0.9s
SONM Songino Array 58.99 311 P **P** **18 11 06.8 +0.6**
comp=Z,7.1nm,0.8s,baz=45,slow=3.9,SNR=42
comp=Z,7.1nm,0.9s
APG El Apazote 60.03 109 LR LR 18 36 31.9
comp=Z,27nm,21.5s,baz=18,slow=35
BJI Beijing 60.55 299 P P 18 11 24.5 +7.6
BJI S **S** **18 19 30.5 -1.9**
BJI pmax pmax
comp=Z,4.0nm,0.8s
BJI pmax pmax
comp=Z,24nm,4.5s
BJI LR LR
comp=N,130nm,18.4s
BJI LR LR
comp=E,120nm,13.3s
BJI LR LR
comp=Z,100nm,15.8s
ZALV Zalesovo Beam 61.79 328 P **P** **18 11 24.8 -0.3**
comp=Z,2.8nm,0.5s,baz=34,slow=6.5,SNR=16
ZALV LR LR 18 41 52.4
comp=Z,393nm,18.6s,baz=10,slow=40
comp=Z,2.8nm,0.5s
NB2 NORSAR Subarra 61.87 11 P **P** **18 11 25.7 +0.1**
comp=Z,11nm,1.1s,baz=348,slow=6.9
NOA NORSAR Array B 61.87 11 P **P** **18 11 25.4 -0.3**
comp=Z,1.6nm,1.0s,baz=348,slow=6.7,SNR=3.5
NOA LR LR 18 40 15.4
comp=Z,166nm,19.3s,baz=340,slow=38
comp=Z,1.6nm,1.0s
HHC Hu-ho-hao-te 62.13 302 *e*P **P** **18 11 28.3 +0.5**
HHC sP pwP 18 11 34.5 -0.6
HHC S **S** **18 19 54.0 +1.2**
HHC pmax pmax
comp=Z,20nm,1.0s
HHC pmax pmax
comp=Z,100nm,4.0s
HHC LR LR
comp=Z,410nm,14.5s
HHC LR LR
comp=Z,260nm,14.3s
HHC LR LR
comp=Z,460nm,15.3s
FINES FINESS Array B 62.49 3 P **P** **18 11 29.2 -0.5**
comp=Z,1.6nm,0.7s,baz=353,slow=9.6,SNR=9.0
comp=Z,1.6nm,0.7s
KLMR Klimovskoe 62.99 356 *e*P **P** **18 11 31.1 -1.9**
KLMR pmax pmax
comp=Z,27nm,1.4s
KLMR MLR MLR
comp=Z,354nm,16.0s
HFS Hagfors 63.02 10 P **P** **18 11 32.8 -0.4**
comp=Z,0.8nm,0.6s,baz=335,slow=5.4,SNR=1.5
HFS LR LR 18 40 18.9
comp=Z,209nm,20.3s,baz=344,slow=37
comp=Z,0.8nm,0.6s
BTO Baotou 63.05 303 *e*P **P** **18 11 33.5 -0.4**
BTO pP **sP** **18 11 38.3 +1.8**
BTO sP **pwP** **18 11 40.8 -0.4**
BTO PP **PP** **18 13 52.8 +0.8**
BTO S **S** **18 20 04.8 +0.5**
BTO sS **sS** **18 20 10.3 +2.9**
BTO SS **SS** **18 24 07.3 -1.8**
BTO pmax pmax
comp=Z,16nm,1.1s
BTO pmax pmax
comp=Z,150nm,6.7s
BTO LR LR
comp=Z,2µm,15.9s
BTO LR LR
comp=Z,1µm,16.7s
BTO LR LR
comp=Z,2µm,15.7s
HNS HongShan 63.32 298 ⇓ P **P** **18 11 37.5 +2.0**
HNS S **S** **18 20 11.5 +4.0**
HNS pmax pmax
comp=Z,22nm,1.0s
HNS LR LR
comp=Z,640nm,18.9s
HNS LR LR
comp=Z,450nm,21.6s
JOW Kunigami 64.49 280 LR LR 18 44 01.9
comp=Z,50nm,18.2s,baz=20,slow=40
KIRV Kirov 64.55 350 LR LR 18 44 47.4
comp=Z,143nm,18.5s,baz=22,slow=41
SVE Sverdlovsk 64.79 343 *e*P **P** **18 11 45.8 +0.9**
SVE pmax pmax
comp=Z,20nm,0.9s
EKA Eskdalemuir Ar 65.16 21 P **P** **18 11 47.2 -0.1**
comp=Z,0.7nm,0.7s,baz=1.9,slow=4.3,SNR=3.7
comp=Z,0.7nm,0.7s
NJ2 Nanjing 65.43 291 *e*P **P** **18 11 47.0 -2.4**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
ARU Arti 65.50 344 P **P** **18 11 48.8 -0.7**
ARU Arti 65.50 344 *c i*P **P** **18 11 50.0 +0.5**
ARU 18 12 21.5
ARU 18 14 11.0
ARU S **S** **18 20 36.9 +3.0**
ARU SS **SS** **18 24 47.0 +0.8**
ARU pmax pmax
comp=Z,19nm,1.3s
ARU Arti 65.50 344 LR LR 18 42 37.6
comp=Z,262nm,21.3s,baz=1.5,slow=38
GUMO Guam 65.94 258 LR LR 18 36 07.2
comp=Z,85nm,20.5s,baz=74,slow=32
BRVK Borovoye 66.44 336 P **P** **18 11 54.6 -1.0**
BRVK Borovoye 66.44 336 *ce*P **P** **18 11 56.0 +0.4**
BRVK pmax pmax
comp=Z,10.0nm,1.3s
KURK Kurchatov 66.44 330 P **P** **18 11 54.3 -1.3**
KURK lAmb lAmb 18 12 05.1
comp=Z,4.2nm,0.8s
KURK Kurchatov 66.44 330 *ce*P **P** **18 11 57.0 +1.3**
KURK pmax pmax
comp=Z,4.0nm,1.3s
BVAR Borovoye Array 66.45 336 P **P** **18 11 55.4 -0.3**
comp=Z,3.0nm,0.4s,baz=30,slow=6.8,SNR=22
BVAR LR LR 18 46 00.1
comp=Z,469nm,18.8s,baz=24,slow=41
comp=Z,3.0nm,0.4s
KURBB Kurchatov Arra 66.55 330 P **P** **18 11 55.9 -0.5**
comp=Z,1.6nm,0.4s,baz=23,slow=5.7,SNR=11
KURBB LR LR 18 43 53.3
comp=Z,417nm,18.2s,baz=172,slow=39
comp=Z,1.6nm,0.4s
LYN LuoYang 66.68 297 ⇓ P **P** **18 11 59.5 +2.0**
LYN pmax pmax
comp=Z,31nm,0.6s
LYN pmax pmax
comp=Z,170nm,5.7s
LYN LR LR
comp=Z,460nm,21.2s
LYN LR LR
comp=Z,480nm,20.5s
LYN LR LR
comp=Z,680nm,19.2s
JTS Las Juntas de 66.89 107 LR LR 18 44 32.6
comp=Z,205nm,18.4s,baz=297,slow=39
GTA Gaotai 68.60 309 P **P** **18 12 10.5 +0.8**
GTA pP pwP 18 12 18.8 +1.8
GTA sP PcP 18 12 25.0 -10
GTA S **S** **18 21 12.0 -0.1**
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA LR LR
comp=Z,550nm,15.6s
GTA LR LR
comp=Z,690nm,16.4s
GTA LR LR
comp=Z,1µm,16.4s
MK31 Makanchi Array 68.84 325 *ce*P **P** **18 12 12.1 +1.2**
MKAR Makanchi Array 68.84 325 P **P** **18 12 10.2 -0.7**
comp=Z,1.1nm,0.5s,baz=29,slow=5.7,SNR=25
MKAR LR LR 18 46 00.7
comp=Z,365nm,18.1s,baz=34,slow=39
comp=Z,1.1nm,0.5s
OBN Obninsk 68.84 357 *i* P **P** **18 12 12.5 +1.8**
OBN *i* 18 12 17.7
OBN *i* 18 12 38.8
OBN pmax pmax
comp=Z,16nm,0.6s
OBN MLR MLR
comp=Z,125nm,18.0s
OBN Obninsk 68.84 357 LR LR 18 44 31.7
comp=Z,108nm,20.6s,baz=354,slow=38
MAKZ Makanchi 68.93 325 ⇓ P **P** **18 12 12.7 +1.2**
NACGM Naroch 69.06 3 *e*P **P** **18 12 15.3 +3.2**
comp=Z,24nm,0.9s,baz=357
MNK Minsk 69.49 2 *i* P **P** **18 12 15.8 +1.1**
MNK *i* 18 14 49.0
MNK *i* PPP PPP 18 16 29.6
MNK *i* S **S** **18 21 26.2 +4.4**
MNK *i* SS **SS** **18 25 51.7 +3.8**
MNK pmax pmax
comp=Z,23nm,0.9s
MNK pmax pmax
comp=E,4.0nm,0.8s
MNK pmax pmax
comp=N,17nm,0.9s
MNK MLR MLR
comp=E,62nm,16.0s
MNK MLR MLR
comp=Z,171nm,21.0s
MNK MLR MLR
comp=N,152nm,21.0s
LZH Lanzhou 69.55 305 *e*P P 18 12 23.3 +7.6
LZH sP pwP 18 12 27.5 +4.4
LZH pmax pmax
comp=Z,14nm,1.1s
LZH LR LR
comp=N,1µm,15.5s
LZH LR LR
comp=E,1µm,17.5s
LZH LR LR
comp=Z,2µm,16.8s
WMQ Urumqi 69.63 320 *e*P **P** **18 12 17.5 +1.6**
WMQ LR LR
comp=Z,490nm,16.9s
WMQ LR LR
comp=Z,490nm,18.3s
WMQ LR LR
comp=Z,340nm,18.5s
BELG Belogornoye 70.84 350 *i* P **P** **18 12 23.2 +0.2**
BELG pmax pmax
comp=Z,12nm,0.9s
BELG Belogornoye 70.84 350 LR LR 18 47 40.8
comp=Z,220nm,20.3s,baz=6.9,slow=40
LPSR Galich'ya Gora 71.27 355 *e*P **P** **18 12 28.1 +2.5**
LPSR pmax pmax
comp=Z,20nm,0.8s
AKTO Aktyubinsk 71.37 343 LR LR 18 48 14.2
comp=Z,135nm,19.1s,baz=70,slow=40
CLL Collm 71.63 12 *e*P **P** **18 12 30.0 +2.1**
CLL *e* 18 12 35.0
CLL *e*S **S** **18 21 48.0 +1.1**
CLL Collm 71.63 12 *e*Px Px 18 12 30.0
CLL *ex* x 18 12 35.0
CLL *e*S **S** **18 21 48.0 +1.1**
CLL *e*SS **SS** **18 26 28.0 +7.1**
CLL *e*(SSS) 18 30 18.0
BRG Berggiesshubel 72.17 12 *e*P P 18 12 39.2 +8.1
BRG 18 12 45.5
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG MLR MLR
comp=Z,181nm,13.8s
BRG Berggiesshubel 72.17 12 *e*P P 18 12 39.2 +8.1
BRG Amp 18 12 40.8
comp=Z,4.7nm,1.0s
VRH Novokhopyorsk 72.51 353 *e*P **P** **18 12 34.9 +1.8**
VRH pmax pmax
comp=Z,9.0nm,0.6s
VSR Storozhevoye 72.64 355 *e*P **P** **18 12 35.6 +1.7**
VSR pmax pmax
comp=Z,10.0nm,0.7s
VORD Divnogorie 72.88 355 *e*P **P** **18 12 37.0 +1.7**
VORD pmax pmax
comp=Z,20nm,0.8s
DPC Dobruska-Polom 72.93 10 *e*P P 18 12 44.7 +8.9
DPC Dobruska-Polom 72.93 10 *e*P P 18 12 44.7 +8.9
KRLC Kraliky 73.25 10 *e*P P 18 12 45.6 +8.0
KRLC Kraliky 73.25 10 *e*P P 18 12 45.6 +8.0
AKASG Malin Array Be 73.32 2 P **P** **18 12 37.9 -0.1**
comp=Z,5.6nm,0.9s,baz=358,slow=5.9,SNR=15
AKASG LR LR 18 47 09.6
comp=Z,153nm,19.0s,baz=14,slow=38
comp=Z,5.6nm,0.9s
AKBB Malin Array Si 73.32 2 *ce*P **P** **18 12 40.4 +2.5**
AKBB pmax pmax
comp=Z,20nm,1.0s
GOMU GeErMu 73.43 311 P **P** **18 12 41.0 +1.7**
GOMU S **S** **18 22 06.8 -1.9**
GOMU LR LR
comp=Z,400nm,19.1s
GOMU LR LR
comp=Z,410nm,19.5s
GOMU LR LR
comp=Z,1µm,20.8s
ZVC Zvikov 73.61 12 *e*P P 18 12 47.8 +8.1
MORC Moravsky Berou 73.62 9 ⇑ P P 18 12 47.3 +7.5
MORC Moravsky Berou 73.62 9 *e*P **P** **18 12 41.5 +1.7**
MORC *e* 18 12 46.5
MORC Moravsky Berou 73.62 9 ⇑ P P 18 12 47.3 +7.5
PPT2 Papeete2 73.64 181 *e*LR LR 18 34 54.2
comp=Z,212nm,23.0s
PPT2 *e*LR LR 18 35 02.6
comp=Z,185nm,23.0s

KHC	**Kasperske Hory**	**73.84**	**12**	*e*P	P	18 12 49.3 +8.2
KHC	**Kasperske Hory**	**73.84**	**12**	*ce*P	**P**	**18 12 44.5 +3.4**
KHC	comp=Z,19nm,2.5s			pmax	pmax	
VRAC	**Vranov**	**73.99**	**10**	⇑P	P	18 12 49.2 +7.3
VRAC	**Vranov**	**73.99**	**10**	*e*P	**P**	**18 12 44.1 +2.1**
VRAC				*e*		18 12 49.5
VRAC	**Vranov**	**73.99**	**10**	⇑P	P	18 12 49.2 +7.2
VRAC	**Vranov**	**73.99**	**10**	LR	LR	18 47 58.3
	comp=Z,87nm,19.2s,baz=350,slow=38					
LVV	**L'vov**	**74.03**	**5**	*e*P	P	18 12 52.5 +10
GERES	**GERESS Array B**	**74.14**	**12**	P	**P**	**18 12 43.1 +0.2**
	comp=Z,1.1nm,0.8s,baz=12,slow=5.0,SNR=5.0					
GERES				LR	LR	18 48 09.7
	comp=Z,100nm,19.1s,baz=350,slow=38					
	comp=Z,1.1nm,0.8s					
KRUC	**Moravsky**	**74.22**	**10**	*e*P	**P**	**18 12 45.1 +1.9**
KRUC				*e*		18 12 50.7
STHS	**Stebnicka Huta**	**74.27**	**7**	*e*P	**P**	**18 12 46.6 +3.0**
STHS				*e*		18 12 49.6
STHS				pmax	pmax	
	comp=Z,10.0nm,0.8s					
STHS	**Stebnicka Huta**	**74.27**	**7**	*e*P	**P**	**18 12 46.6 +3.0**
STHS				*e*		18 12 49.6
LANS	**Liptovska Anna**	**74.40**	**8**	*e*P	**P**	**18 12 48.6 +4.2**
LANS				*e*		18 12 53.3
LANS	**Liptovska Anna**	**74.40**	**8**	*e*P	**P**	**18 12 48.6 +4.2**
LANS				*e*		18 12 53.3
JAVC	**Velka Javorina**	**74.54**	**10**	*e*P	**P**	**18 12 48.7 +3.5**
JAVC				*e*		18 12 53.5
AAK	**Ala-Archa**	**74.97**	**329**	*ce*P	**P**	**18 12 49.3 +1.3**
AAK				pmax	pmax	
	comp=Z,9.0nm,1.7s					
AAK	**Ala-Archa**	**74.97**	**329**	LR	LR	18 49 18.0
	comp=Z,584nm,18.1s,baz=22,slow=39					
MODS	**Modra-Piesok**	**74.98**	**10**	*e*P	**P**	**18 12 50.0 +2.3**
MODS				*e*		18 12 55.6
MODS	**Modra-Piesok**	**74.98**	**10**	*e*P	**P**	**18 12 50.0 +2.3**
MODS				*e*		18 12 55.6
VYHS	**Vyhne**	**75.00**	**9**	*e*P	**P**	**18 12 50.8 +2.9**
VYHS				*e*		18 12 55.9
VYHS				pmax	pmax	
	comp=Z,12nm,1.1s					
VYHS	**Vyhne**	**75.00**	**9**	*e*P	**P**	**18 12 50.8 +2.9**
VYHS				*e*		18 12 55.9
ZST	**Bratislava**	**75.14**	**10**	*e*P	**P**	**18 12 49.3 +0.7**
ZST	**Bratislava**	**75.14**	**10**	*e*P	**P**	**18 12 49.3 +0.7**
CONA	**Conrad Observa**	**75.28**	**11**	*i* pP	pP	18 12 52.9 +1.4
	comp=Z,5.1nm,1.1s					
WATA	**Walderalm**	**75.35**	**14**	*i* pP	pP	18 12 52.7 +0.7
	comp=Z,8.7nm,1.4s					
LESA	**Schwarzleotal**	**75.41**	**13**	*e*pP	**P**	**18 12 51.2 +0.9**
	comp=Z,6.1nm,1.5s					
SQTA	**Sankt Quirin**	**75.42**	**14**	*i* pP	pP	18 12 53.5 +1.2
	comp=Z,7.0nm,1.0s					
WTTA	**Wattenberg**	**75.43**	**14**	*i* pP	pP	18 12 53.5 +1.1
	comp=Z,8.9nm,1.1s					
FETA	**Feichten**	**75.54**	**15**	*e*pP	pP	18 12 54.7 +1.6
	comp=Z,6.2nm,1.0s					
RONA	**Rosalia, Austr**	**75.55**	**11**	*e*pP	pP	18 12 52.5 -0.5
	comp=Z,1.6nm,0.8s					
SRO	**Srobarova**	**75.63**	**9**	*e*P	P	18 12 59.7 +8.3
DAVOX	**Davos/Dischmat**	**75.66**	**15**	LR	LR	18 47 00.6
	comp=Z,75nm,21.9s,baz=342,slow=36					
PSZ	**Piszkesteto**	**75.66**	**8**	⇓P	**P**	**18 12 54.0 +2.3**
PSZ	**Piszkesteto**	**75.66**	**8**	⇓P	**P**	**18 12 54.0 +2.3**
KBA	**Koelnbreinsper**	**75.83**	**13**	*i* pP	pP	18 12 56.2 +1.4
	comp=Z,8.3nm,1.1s					
SDV	**Santo Domingo**	**75.87**	**95**	LR	LR	18 47 47.6
	comp=Z,157nm,18.7s,baz=352,slow=37					
SORM	**Soroca**	**75.87**	**2**	⇓P	**P**	**18 12 53.3 +0.5**
SORM	**Soroca**	**75.87**	**2**	⇓P	**P**	**18 12 53.3 +0.5**
ABTA	**Abfaltersbach**	**76.05**	**13**	*e*P	**P**	**18 12 52.1 -1.9**
	comp=Z,3.2nm,1.1s					
GYA	**Guiyang**	**76.16**	**297**	*e*P	**P**	**18 12 56.0 +1.1**
GYA				pmax	pmax	
	comp=Z,8.0nm,1.0s					
BURAR	**Bucovina Array**	**76.29**	**4**	⇑P	**P**	**18 12 54.8 -0.6**
BURAR	**Bucovina Array**	**76.29**	**4**	⇑P	**P**	**18 12 54.8 -0.6**
SOKA	**Soboth**	**76.43**	**12**	*e*pP	pP	18 12 59.1 +1.1
	comp=Z,6.5nm,1.2s					
MILM	**Milestii Mici**	**77.10**	**2**	⇑P	**P**	**18 13 02.5 +2.7**
MILM	**Milestii Mici**	**77.10**	**2**	⇑P	**P**	**18 13 02.5 +2.7**
MARR	**Marisel-Cluj**	**77.12**	**6**	⇓P	P	18 13 07.5 +7.4
MORH	**Mrgy, Hungar**	**77.25**	**9**	⇑P	P	18 13 08.6 +7.9
KSH	**Kashi**	**77.39**	**326**	P	P	**18 13 05.5 +3.8**
KSH				sP	PcP	18 13 12.5 +0.3
KSH				pmax	pmax	
	comp=Z,5.0nm,1.3s					
KSH				LR	LR	
	comp=Z,550nm,14.9s					
KSH				LR	LR	
	comp=Z,380nm,15.3s					
KSH				LR	LR	
	comp=Z,750nm,13.9s					
SIRR	**Siria**	**77.43**	**7**	⇓P	P	18 13 09.7 +7.9
OZUR		**77.83**	**4**	⇑P	**P**	**18 13 06.6 +2.6**
RAR	**Rarotonga**	**77.83**	**191**	LR	LR	18 40 08.7
	comp=Z,206nm,19.1s,baz=341,slow=30					
TURR	**Turia**	**77.88**	**4**	⇑P	P	18 13 09.5 +5.3
GHRR		**77.92**	**3**	⇓P	P	18 13 12.8 +8.4
DOPR	**Dopca**	**77.94**	**4**	⇑P	**P**	**18 13 08.8 +4.2**
SURR	**Surduc**	**77.97**	**7**	⇓P	**P**	**18 13 06.3 +1.6**
ERBR	**Yeremizino-Bor**	**78.05**	**354**	*e*P	P	18 13 13.1 +8.0
ERBR				pmax	pmax	
	comp=Z,36nm,1.3s					
BZS	**Buzias**	**78.08**	**7**	⇑P	**P**	**18 13 06.2 +0.9**
BZS	**Buzias**	**78.08**	**7**	⇑P	**P**	**18 13 06.2 +0.9**
VRI	**Vrincioaia**	**78.09**	**3**	⇓P	P	18 13 12.8 +7.4
VRI	**Vrincioaia**	**78.09**	**3**	⇓P	P	18 13 12.8 +7.4
PLOR	**Plostina**	**78.11**	**4**	⇓P	**P**	**18 13 08.2 +2.7**
PLOR	**Plostina**	**78.11**	**4**	⇓P	**P**	**18 13 08.2 +2.7**
HNR	**Honiara**	**78.13**	**232**	LR	LR	18 41 16.0
	comp=Z,4μm,19.9s,baz=31,slow=31					
PCRV	**Puerto La Cruz**	**78.14**	**89**	LR	LR	18 48 49.5
	comp=Z,145nm,18.3s,slow=37					
GZR	**Gura Zlata**	**78.38**	**6**	⇓P	P	18 13 15.0 +8.0
GZR	**Gura Zlata**	**78.38**	**6**	⇑P	P	18 13 15.0 +8.0
LOT	**Lotru**	**78.38**	**6**	⇑P	P	18 13 14.5 +7.4
FRGS	**Fruska Gora**	**78.40**	**8**	⇑P	P	18 13 14.6 +7.5
MLR	**Muntele Rosu**	**78.44**	**4**	⇑P	**P**	**18 13 11.7 +4.2**
MLR	**Muntele Rosu**	**78.44**	**4**	⇑P	**P**	**18 13 11.7 +4.2**
VOIR		**78.45**	**5**	⇑P	P	18 13 15.8 +8.4
VOIR		**78.45**	**5**	⇑P	P	18 13 15.8 +8.3
ARR	**Arges**	**78.50**	**5**	⇓P	**P**	**18 13 09.4 +1.6**
PZH	**PanZhiHua**	**78.52**	**301**	P	**P**	**18 13 08.8 +0.6**
PZH				pmax	pmax	
	comp=Z,10.0nm,1.0s					
PZH				pmax	pmax	
	comp=Z,110nm,5.6s					
CFR	**Carcaliu**	**78.82**	**3**	⇑P	P	18 13 15.9 +6.5
CFR	**Carcaliu**	**78.82**	**3**	⇑P	P	18 13 15.9 +6.5
ISR	**Istrita**	**78.83**	**4**	⇑P	P	18 13 14.6 +5.1
ISR	**Istrita**	**78.83**	**4**	⇑P	P	18 13 14.6 +5.1
HERR	**Herculane**	**78.86**	**7**	⇓P	**P**	**18 13 13.3 +3.7**
MDVR	**Moldovita**	**78.92**	**7**	⇑P	P	18 13 17.4 +7.5
LABN	**Labinsk**	**79.11**	**353**	*e*P	**P**	**18 13 13.7 +2.7**
LABN				pmax	pmax	
	comp=Z,21nm,0.6s					
ANN	**Anapa**	**79.12**	**356**	*e*P	**P**	**18 13 15.2 +4.2**
ANN				pmax	pmax	
	comp=Z,17nm,0.7s					
TPGR	**Topolog**	**79.15**	**2**	⇑P	P	18 13 17.1 +5.9
HARR	**Harsova**	**79.30**	**3**	⇓P	**P**	**18 13 16.0 +4.0**
HARR	**Harsova**	**79.30**	**3**	⇓P	**P**	**18 13 16.0 +4.0**
TBI	**Tubuai**	**79.36**	**181**	*e*LR	LR	18 37 13.0
	comp=Z,805nm,24.8s					
KIV	**Kislovodsk**	**79.65**	**352**	⇓P	P	18 13 22.1 +8.1
KIV	**Kislovodsk**	**79.65**	**352**	⇓P	P	18 13 22.1 +8.0
ESDC	**Sonseca Array**	**79.72**	**27**	P	**P**	**18 13 14.9 +0.4**
	comp=Z,2.3nm,0.8s,baz=334,slow=7.5,SNR=12					
ESDC				LR	LR	18 48 41.8
	comp=Z,315nm,18.3s,baz=333,slow=36					
	comp=Z,2.3nm,0.8s					
KBZ	**Khabaz**	**79.86**	**352**	*i* P	**P**	**18 13 16.8 +1.8**
KBZ				pmax	pmax	
	comp=Z,15nm,1.0s					
KBZ	**Khabaz**	**79.86**	**352**	LR	LR	18 54 09.7
	comp=Z,80nm,18.7s,baz=21,slow=40					
NCK	**Nalchik**	**80.03**	**351**	*i* P	**P**	**18 13 17.7 +1.6**
NCK				pmax	pmax	
	comp=Z,31nm,1.0s					
BLKB	**Belogradchik**	**80.13**	**7**	⇑P	P	18 13 11.3 -5.3
MAK	**Makhachkala**	**80.17**	**348**	*e*P	P	18 13 10.4 -6.3
MAK				*e*		18 16 15.4
MAK				*e*S	S	18 23 11.9 -9.4
MAK				*e*SSS	SSS	18 31 50.8
SIMJ	**Simiganj**	**80.20**	**331**	P	**P**	**18 13 16.8 -0.4**
SOC	**Sochi**	**80.22**	**354**	*e*P	**P**	**18 13 17.4 +0.4**
SOC				*e*		18 16 26.3
SOC				*e*PPP	PPP	18 18 06.9
SOC				*e*S	**S**	**18 23 22.8 +1.0**
SOC				*e*SS	**SS**	**18 28 33.6 +2.5**
SOC				MLR	MLR	
	comp=Z,100nm,18.0s					
QIZ	**Qiongzhong**	**80.69**	**290**	P	**P**	**18 13 17.3 -2.6**
QIZ				S	**S**	**18 23 24.3 -3.2**
QIZ				LR	LR	
	comp=Z,190nm,10.2s					
QIZ				LR	LR	
	comp=Z,240nm,12.4s					
QIZ				LR	LR	
	comp=Z,220nm,12.8s					
ZKTA	**Zakatala**	**81.58**	**349**	P	**P**	**18 13 25.2 +0.8**
SEKA	**Sheki**	**81.94**	**348**	P	**P**	**18 13 27.0 +0.7**
DAV	**Davao City (W)**	**81.96**	**271**	LR	LR	18 43 25.8
	comp=Z,194nm,21.4s,baz=45,slow=31					
MNGR	**Mingechevir, A**	**82.38**	**348**	P	**P**	**18 13 29.4 +0.9**
GNI	**Garni**	**83.25**	**350**	*ce*P	**P**	**18 13 36.8 +3.5**
GNI				pmax	pmax	
	comp=Z,14nm,1.3s					
GNI	**Garni**	**83.25**	**350**	LR	LR	18 56 19.7
	comp=Z,95nm,18.3s,baz=14,slow=40					
GEYT	**Alibeck**	**83.44**	**339**	P	**P**	**18 13 35.3 +1.2**
	comp=Z,2.6nm,0.7s,baz=37,slow=7.4,SNR=8.3					
GEYT				LR	LR	18 56 59.2
	comp=Z,272nm,18.6s,baz=33,slow=40					
	comp=Z,2.6nm,0.7s					
PMG	**Port Moresby**	**84.14**	**244**	LR	LR	18 45 53.9
	comp=Z,196nm,20.5s,baz=44,slow=32					
NAX	**Nakhchivan**	**84.14**	**349**	P	**P**	**18 13 38.6 +0.9**
LKRN	**Lenkeran, Azer**	**84.21**	**347**	P	**P**	**18 13 38.9 +0.9**
BR131	**Keskin Array S**	**84.30**	**358**	*i* P	**P**	**18 13 39.4 +0.7**
BRTR	**Keskin Array B**	**84.30**	**358**	*i* P	**P**	**18 13 40.5 +1.9**
BRTR				pmax	pmax	
	comp=Z,3.0nm,1.0s					
BRTR	**Keskin Array B**	**84.30**	**358**	P	**P**	**18 13 39.3 +0.7**
	comp=Z,2.7nm,1.0s,baz=0.0,slow=3.7,SNR=11					
	comp=Z,2.7nm,1.0s					
CRAI	**Chiangrai**	**84.49**	**298**	P	**P**	**18 13 38.9 -0.8**
MDT	**Midelt**	**86.01**	**30**	LR	LR	18 52 21.8
	comp=Z,346nm,18.1s,baz=355,slow=36					
KEST	**Kesra**	**86.36**	**18**	LR	LR	18 54 46.3
	comp=Z,72nm,19.5s,baz=272,slow=37					
CMAR	**Chiang Mai Arr**	**86.70**	**299**	P	**P**	**18 13 46.9 -3.8**
CMAR	**Chiang Mai Arr**	**86.70**	**299**	P	**P**	**18 13 46.9 -3.8**
CMAR	**Chiang Mai Arr**	**86.70**	**299**	P	**P**	**18 13 51.4 +0.6**
	comp=Z,3.6nm,1.0s,baz=12,slow=5.1,SNR=23					
CMAR				LR	LR	18 57 16.6
	comp=Z,258nm,18.4s,baz=0.0,slow=39					
	comp=Z,3.6nm,1.0s					
DZM	**Mont Dzumac**	**86.90**	**221**	LR	LR	18 45 08.1
	comp=Z,247nm,21.6s,baz=23,slow=30					
MDP	**Montagnes des**	**88.98**	**82**	LR	LR	18 53 24.6
	comp=Z,100nm,20.5s,baz=302,slow=35					
RPN	**Rapa Nui**	**89.49**	**146**	LR	LR	18 46 20.9
	comp=Z,215nm,18.2s,baz=16,slow=30					
NNA	**Nana**	**89.94**	**112**	LR	LR	18 52 07.0
	comp=Z,83nm,20.2s,baz=341,slow=34					
CTA	**Charters Tower**	**93.74**	**239**	LR	LR	18 51 06.2
	comp=Z,123nm,20.0s,baz=0.0,slow=32					
LPAZ	**La Paz**	**98.10**	**107**	LR	LR	19 02 17.8
	comp=Z,83nm,19.2s,baz=330,slow=37					
URZ	**Urewera**	**98.67**	**207**	LR	LR	18 52 52.6
	comp=Z,237nm,20.1s,baz=121,slow=32					
WRA	**Warramunga Arr**	**99.56**	**249**	LR	LR	18 55 38.9
	comp=Z,192nm,19.7s,baz=24,slow=33					
VNDA	**Vanda**	**137.08**	**194**	PKP	**PKPdf**	**18 20 28.9 +0.9**
	comp=Z,0.4nm,0.6s,baz=0.0,slow=1.0,SNR=5.8					
QSPA	**South Pole Qui**	**146.12**	**180**	PKPbc	**PKPdf**	**18 20 45.3 +0.8**
	comp=Z,7.3nm,0.7s,baz=132,slow=1.4,SNR=34					
BOSA	**Boshof**	**151.93**	**12**	PKPbc	**PKPbc**	**18 21 01.4 -0.3**
	comp=Z,1.7nm,0.5s,baz=340,slow=6.7,SNR=4.8					

*IDC **26** 18:01:24.1±0.9,6°.06S×142°.99E, h0km, mb4.2/9, mbtmp4.1/12, ML3.6/1, MS3.2/5, Error ellipse: s-maj=27.8km s-min=17.5km az=87.0*
ISC 26 18:01:26.5±0.7,**5°.99S**±0°.09×**143°.08E**±0°.08,**h10**km,**n23,** σ1**87/18, mb4.2/9, New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.98**	**291**	P	**Pn**	**18 01 59.4**	**-0.8**
GENI	**Genyem**	**4.45**	**319**	P	**Pn**	**18 02 36.1**	**+2.0**
PMG	**Port Moresby**	**5.28**	**130**	Pn	**Pn**	**18 02 44.0**	**-1.5**
	6.3nm,0.7s,baz=324,slow=18,SNR=2.7						
PMG				Sn	**Sn**	**18 03 48.9**	**+2.5**
	0.4nm,0.3s,baz=270,slow=19,SNR=1.6						
KDU	**Kakadu**	**12.40**	**237**	P	**Pn**	**18 04 25.3**	**+2.1**
	21nm,1.8s						
CTA	**Charters Tower**	**14.35**	**168**	LR	LR	18 09 30.7	
	comp=Z,40nm,21.9s,baz=358,slow=34						
WRA	**Warramunga Arr**	**16.27**	**211**	Pn	**Pn**	**18 05 11.0**	**-4.3**
	0.2nm,0.3s,baz=32,slow=13,SNR=13						
WRA				Sn	Sn	18 08 00.9	-15
	0.1nm,0.3s,baz=28,slow=24,SNR=2.3						
WRA				Lg	Lg	18 09 55.9	
	0.1nm,0.3s,baz=29,slow=26,SNR=3.3						
	1.3nm,0.7s						
AS01	**Alice Springs**	**19.65**	**206**	P	**P**	**18 05 57.9**	**+2.2**
BATI	**Baumata**	**19.67**	**256**	LR	LR	18 15 19.0	
	comp=Z,148nm,18.6s,baz=89,slow=43						
ASAR	**Alice Springs**	**19.67**	**206**	P	**P**	**18 05 55.7**	**-0.2**
	4.4nm,0.7s,baz=32,slow=11,SNR=46						
ASAR				S	S	18 09 27.7	-10
	0.7nm,0.6s,baz=19,slow=26,SNR=4.3						
ASAR				Lg	Lg	18 11 44.9	
	baz=26,slow=32,SNR=3.3						
ASAR				LR	LR	18 13 21.1	
	comp=Z,98nm,20.9s,baz=35,slow=37						
QLP	**Quilpie**	**20.51**	**177**	P	Pn	18 06 11.5	+4.4
INKA	**Innaminka**	**21.75**	**186**	P	**P**	**18 06 20.8**	**+2.5**
DAV	**Davao City (W)**	**21.75**	**306**	LR	LR	18 16 12.6	
	comp=Z,29nm,18.4s,baz=215,slow=41						
OOD	**Oodnadatta**	**22.80**	**197**	P	**P**	**18 06 30.6**	**+1.1**
NWAO	**Narrogin (SRO)**	**36.02**	**219**	LR	LR	18 23 58.7	
	comp=Z,96nm,20.2s,baz=244,slow=38						
KSRS	**Korea Array**	**45.47**	**343**	P	**P**	**18 09 45.2**	**-0.7**
	2.7nm,1.1s,baz=163,slow=9.5,SNR=7.7						
	2.7nm,1.1s						
CMAR	**Chiang Mai Arr**	**49.84**	**300**	P	P	18 10 18.6	-1.6
	0.5nm,0.3s,baz=119,slow=6.1,SNR=6.0						
	0.5nm,0.3s						
USRK	**Uesuriysk Ar.**	**50.95**	**350**	P	**P**	**18 10 27.9**	**-0.2**
	3.4nm,0.8s,baz=177,slow=8.2,SNR=2.1						
	3.4nm,0.9s						
PETK	**Petropavlovsk-**	**60.16**	**10**	P	**P**	**18 11 34.6**	**+0.3**
	2.6nm,1.0s,baz=163,slow=5.4,SNR=3.6						
	2.6nm,1.0s						
VNDA	**Vanda**	**72.18**	**176**	P	**P**	**18 12 49.6**	**-1.5**
	0.4nm,0.6s,baz=288,slow=6.4,SNR=2.3						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**75.03**	**322**	P	**P**	**18 13 07.8**	**-0.7**
	1.8nm,0.8s,baz=102,slow=11,SNR=4.0						
	1.8nm,0.8s						
KURBB	**Kurchatov Arra**	**78.91**	**324**	P	**P**	**18 13 29.5**	**-0.6**
	1.6nm,0.2s,baz=109,slow=6.0,SNR=2.1						
	1.6nm,0.2s						
BVAR	**Borovoye Array**	**84.48**	**325**	P	**P**	**18 13 59.2**	**-0.3**
	5.3nm,0.8s,baz=110,slow=7.1,SNR=7.3						
	5.3nm,0.8s						
ILAR	**Eielson Array**	**87.02**	**24**	P	**P**	**18 14 11.2**	**-0.7**
	1.2nm,0.7s,baz=257,slow=5.3,SNR=12						
	1.2nm,0.7s						

*IDC **26** 18:05:27.9±1.7,36°.78S×177°.16E, h253km±14km, mb3.8/6, mbtmp4.4/6, Error ellipse: s-maj=31.2km s-min=17.3km az=45.0*
*NOU **26** 18:05:27.0,37°.23S×177°.07E, h293km, MLv4.1/10, Off E. Coast of N. Island, N.Z.*
*NEIC **26** 18:05:30.0±1.2,37°.2S±0°.1×176°.9E±0°.1, h261km±8km, mb4.3/12, Error ellipse: s-maj=19.0km s-min=14.0km az=164.0*
*WEL **26** 18:05:32.4±0.9,37°.5S±°.1×17°.7E±°, h238km±8km, M3.6/72, ML3.5/8, MLv3.6/72, Error ellipse: s-maj=0.0km s-min=0.0km az=54.3*
ISC 26 18:05:29.8±0.7,**37°.34S**±0°.06×**176°.83E**±0°.06,**h265**km±5km,

n224, σ1**15/233, mb4.1/11, North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.34**	**123**	P	**Pn**	**18 06 04.0**	**0.0**
MYRZ	**Mayor Island**	**0.47**	**277**	P	**Pn**	**18 06 04.7**	**+0.4**
WHRZ	**Whale Island**	**0.53**	**167**	P	**Pn**	**18 06 05.4**	**+1.0**
OPRZ	**Ohinepanea**	**0.55**	**203**	P	**Pn**	**18 06 04.6**	**+0.1**
TGRZ	**Tauranga**	**0.59**	**229**	P	**Pn**	**18 06 05.1**	**+0.5**
MARZ	**Manawahe**	**0.65**	**191**	P	**Pn**	**18 06 05.3**	**+0.5**
LIRZ	**Lichensteins R**	**0.75**	**208**	P	**Pn**	**18 06 05.8**	**+0.6**
EDRZ	**Edgecumbe**	**0.77**	**185**	P	**Pn**	**18 06 06.2**	**+0.8**
KARZ	**Kaharoa**	**0.82**	**214**	P	**Pn**	**18 06 06.2**	**+0.6**
OMRZ	**Omania**	**0.84**	**205**	P	**Pn**	**18 06 06.3**	**+0.7**
MKRZ	**Makatiti**	**0.84**	**200**	P	**Pn**	**18 06 07.2**	**+1.4**
HAZ	**Te Kaha**	**0.86**	**119**	P	**Pn**	**18 06 05.2**	**-0.5**
HAZ				S	S	18 06 31.0	-2.4
KMRZ	**Kaimai**	**0.86**	**234**	P	**Pn**	**18 06 06.5**	**+0.8**
NGRZ	**Ngongotaha**	**0.91**	**214**	P	**Pn**	**18 06 07.1**	**+1.1**
RUGZ	**Raukumara Rang**	**0.92**	**133**	P	**Pn**	**18 06 05.3**	**-0.8**
RUGZ				S	S	18 06 31.4	-3.4
TARZ	**Mount Tarawera**	**0.93**	**196**	P	**Pn**	**18 06 07.2**	**+1.0**
URZ	**Urewera**	**0.94**	**166**	P	**Pn**	**18 06 06.1**	**0.0**
URZ	**Urewera**	**0.94**	**166**	P	**Pn**	**18 06 05.8**	**-0.3**
	1μm,0.3s,baz=337,slow=3.4,SNR=2052						
URZ				S	**S**	**18 06 32.7**	**-2.0**
	368nm,0.4s,baz=143,slow=19,SNR=18						
URZ	**Urewera**	**0.94**	**166**	P	**Pn**	**18 06 06.1**	**0.0**
URZ				S	**S**	**18 06 32.9**	**-1.9**
UTU	**Utuhina**	**0.97**	**211**	P	**Pn**	**18 06 07.5**	**+1.2**
HLRZ	**Highlands Stat**	**0.98**	**202**	P	**Pn**	**18 06 07.2**	**+0.9**
RRRZ	**Republican Roa**	**1.02**	**194**	P	**Pn**	**18 06 07.4**	**+0.8**
HSRZ	**Hossack Road**	**1.07**	**205**	P	**Pn**	**18 06 07.9**	**+1.1**
TOZ	**Tahuroa Road**	**1.12**	**249**		**Pn**	**18 06 07.7**	**+0.7**
TOZ	**Tahuroa Road**	**1.12**	**249**	P	**Pn**	**18 06 08.0**	**+0.9**
HRRZ	**Handcock Road**	**1.13**	**202**	P	**Pn**	**18 06 07.8**	**+0.6**
PKGZ	**Pakihiroa**	**1.13**	**119**	P	**Pn**	**18 06 07.4**	**+0.2**
MUGZ	**Murupara**	**1.13**	**182**	P	**Pn**	**18 06 07.5**	**+0.4**
MWZ	**Matawai**	**1.13**	**151**	P	**Pn**	**18 06 07.4**	**+0.2**
MWZ				S	**S**	**18 06 35.1**	**-1.6**
GRRZ	**Galatos Road**	**1.16**	**209**	P	**Pn**	**18 06 08.4**	**+1.1**
MXZ	**Matakaoa Point**	**1.20**	**101**	P	**Pn**	**18 06 07.3**	**-0.2**
MXZ	**Matakaoa Point**	**1.20**	**101**		**Pn**	**18 06 07.1**	**-0.4**
MXZ	**Matakaoa Point**	**1.20**	**101**	P	**Pn**	**18 06 07.2**	**-0.3**
MXZ				S	**S**	**18 06 35.2**	**-2.1**
PRRZ	**Plateau Road**	**1.21**	**197**	P	**Pn**	**18 06 08.3**	**+0.8**
TWGZ	**Tauwhareparae**	**1.23**	**133**	P	**Pn**	**18 06 08.6**	**+0.8**
RAGZ	**Rawiri**	**1.24**	**158**	P	**Pn**	**18 06 08.4**	**+0.5**
RTZ	**Ruatahuna**	**1.28**	**175**		**Pn**	**18 06 08.3**	**+0.3**
RTZ				Sn	**Sn**	**18 06 37.5**	**+0.8**
RTZ	**Ruatahuna**	**1.28**	**175**	P	**Pn**	**18 06 08.5**	**+0.4**
ALRZ	**Allen Road**	**1.28**	**197**	P	**Pn**	**18 06 08.9**	**+0.9**
WPRZ	**Whakapapatarin**	**1.29**	**204**	P	**Pn**	**18 06 09.1**	**+1.0**
PUZ	**Puketiti**	**1.35**	**123**	P	**Pn**	**18 06 08.7**	**+0.2**
WMGZ	**Waiomatatini S**	**1.35**	**111**	P	**Pn**	**18 06 08.8**	**+0.4**
MKAZ	**Moumakai**	**1.35**	**280**	P	**Pn**	**18 06 08.8**	**+0.3**
TKGZ	**Te Karaka**	**1.36**	**144**	P	**Pn**	**18 06 09.2**	**+0.7**
KUTZ	**Kaahu Road**	**1.39**	**214**	P	**Pn**	**18 06 10.1**	**+1.4**
ARAZ	**Aratiatia Land**	**1.40**	**203**	P	**Pn**	**18 06 10.0**	**+1.2**
TLZ	**Tolley Road**	**1.42**	**226**	P	**Pn**	**18 06 10.3**	**+1.3**
POIZ	**Poihipi**	**1.43**	**206**	P	**Pn**	**18 06 10.6**	**+1.5**
WIAZ	**Waiheke Island**	**1.46**	**292**	P	**Pn**	**18 06 09.3**	**0.0**
WHTZ	**Whakaora**	**1.49**	**207**	P	**Pn**	**18 06 10.9**	**+1.4**
SNGZ	**Shannon Statio**	**1.49**	**164**	P	**Pn**	**18 06 10.4**	**+0.9**
MTHZ	**Maungataniwha**	**1.51**	**180**	P	**Pn**	**18 06 10.2**	**+0.6**
MRHZ	**Matea Rd**	**1.52**	**192**	P	**Pn**	**18 06 10.4**	**+0.7**
RIGZ	**Rimuhau**	**1.55**	**152**	P	**Pn**	**18 06 10.9**	**+1.0**
GRZ	**Great Barrier**	**1.55**	**314**	P	**Pn**	**18 06 09.2**	**-0.8**
ETAZ	**East Tamaki Re**	**1.57**	**284**	P	**Pn**	**18 06 10.5**	**+0.4**
KBAZ	**Karaka Road Bo**	**1.57**	**278**	P	**Pn**	**18 06 10.7**	**+0.7**
CNGZ	**Carnagh

BHW	Baring Head	4.33 200	Pn	Pn	18 06 37.5	-0.6		
BHW	Baring Head	4.33 200	P	Pn	18 06 37.8	-0.2		
TCW	Tory Channel	4.34 206		Pn	18 06 37.2	-0.9		
TCW			Sn	S	18 07 30.0	-2.7		
TCW	Tory Channel	4.34 206	P	Pn	18 06 37.4	-0.7		
PLWZ	Palliser	4.39 196		Pn	18 06 38.3	-0.5		
PLWZ	Palliser	4.39 196	P	Pn	18 06 38.4	-0.5		
TUWZ	Tuamarina	4.65 208		Pn	18 06 40.6	-1.2		
TUWZ	Tuamarina	4.65 208	P	Pn	18 06 40.9	-0.9		
NNZ	Nelson	4.70 214	Pn	Pn	18 06 41.8	-0.7		
NNZ	Nelson	4.70 214	P	Pn	18 06 41.5	-0.9		
TKNZ	Takaka Hill	4.75 218		Pn	18 06 42.0	-1.1		
TKNZ	Takaka Hill	4.75 218	P	Pn	18 06 42.4	-0.6		
QRZ	Quartz Range	4.83 223	P	Pn	18 06 43.5	-0.4		
QRZ	Quartz Range	4.83 223	Pn	Pn	18 06 42.3	-1.6		
QRZ	Quartz Range	4.83 223	P	Pn	18 06 42.5	-1.4		
CMWZ	Cape Campbell	4.84 204	Pn	Pn	18 06 43.4	-0.7		
BSWZ	Blackbirch Sta	4.93 207		Pn	18 06 44.0	-1.1		
BSWZ	Blackbirch Sta	4.93 207	P	Pn	18 06 44.7	-0.4		
MRNZ	Matariki Terra	5.13 217		Pn	18 06 46.7	-0.9		
MRNZ	Matariki Terra	5.13 217	P	Pn	18 06 46.5	-1.1		
THZ	Tophouse	5.36 213	Pn	Pn	18 06 49.6	-0.7		
THZ	Tophouse	5.36 213	P	Pn	18 06 49.3	-1.0		
KHZ	Kahutara	5.66 206	P	Pn	18 06 53.8	-0.2		
KHZ	Kahutara	5.66 206		Pn	18 06 53.6	-0.3		
KHZ	Kahutara	5.66 206	P	Pn	18 06 53.7	-0.2		
DSZ	Denniston Nort	5.87 220	Pn	Pn	18 06 55.0	-1.6		
DSZ	Denniston Nort	5.87 220	P	Pn	18 06 56.4	-0.2		
GVZ	Greta Valley S	6.32 206	Pn	Pn	18 07 01.4	-0.7		
GVZ	Greta Valley S	6.32 206	P	Pn	18 07 01.6	-0.5		
LTZ	Lake Taylor	6.46 211	Pn	Pn	18 07 01.7	-2.2		
LTZ	Lake Taylor	6.46 211	P	Pn	18 07 03.2	-0.7		
AMCZ	Amberley	6.64 207	Pn	Pn	18 07 04.9	-1.2		
AMCZ	Amberley	6.64 207	P	Pn	18 07 05.5	-0.6		
INZ	Inchbonnie	6.78 216	Pn	Pn	18 07 06.6	-1.2		
INZ	Inchbonnie	6.78 216	P	Pn	18 07 07.0	-0.8		
OXZ	Oxford	7.01 210	Pn	Pn	18 07 08.2	-2.5		
OXZ	Oxford	7.01 210	P	Pn	18 07 09.9	-0.8		
MQZ	McQueen's Vall	7.11 205	Pn	Pn	18 07 10.6	-1.3		
MQZ	McQueen's Vall	7.11 205	P	Pn	18 07 10.7	-1.1		
AKCZ	Akaroa Harbour	7.17 203	P	Pn	18 07 12.4	-0.3		
RACZ	Rakaia	7.31 208	P	Pn	18 07 13.1	-1.2		
WACZ	Wakanui South	7.61 208	P	Pn	18 07 17.6	-0.5		
RPZ	Rata Peaks	7.73 213	Pn	Pn	18 07 15.8	-3.9		
GCSZ	Gaunt Creek Bo	7.76 218	P	Pn	18 07 19.5	-0.6		
ARCZ	Arundel	7.87 211	P	Pn	18 07 20.6	-0.9		
CTZ	Chatham Island	8.10 144	Pn	Pn	18 07 20.7	-3.6		
FOZ	Fox Glacier	8.17 219	P	Pn	18 07 24.2	-0.9		
TMZ	Timaru	8.30 210	P	Pn	18 07 26.0	-0.8		
LBZ	Lake Benmore	8.65 213	Pn	Pn	18 07 29.4	-1.8		
LBZ	Lake Benmore	8.65 213	P	Pn	18 07 30.9	-0.3		
ODZ	Otahua Downs	8.99 209	P	Pn	18 07 35.5	+0.1		
ODZ	Otahua Downs	8.99 209	Pn	Pn	18 07 34.9	-0.6		
ODZ	Otahua Downs	8.99 209	P	Pn	18 07 35.6	+0.1		
WKZ	Wanaka	9.52 216	Pn	Pn	18 07 40.9	-1.2		
STKA	Stephens Creek	29.39 270	P	P	18 11 08.5	-0.3		
STKA	Stephens Creek 2.3nm,1.0s,baz=96,slow=9.3,SNR=2.9 2.3nm,1.0s	29.39 270	P	P	18 11 10.2	+1.3		
CTA	Charters Tower 9.6nm,1.1s,baz=50,slow=0.1,SNR=1.7 9.6nm,1.1s	31.66 294	P	P	18 11 29.7	+0.9		
CTAO	Charters Tower	31.66 294	P	P	18 11 29.6	+0.9		
COEN	Coen	37.92 299	P	P	18 12 21.8	-0.4		
AS31	Alice Springs	39.09 278	P	P	18 12 32.2	+0.3		
ASAR	Alice Springs	39.09 278	P	P	18 12 32.0	+0.1		
ASAR	Alice Springs 2.4nm,0.5s,baz=117,slow=6.8,SNR=34	39.09 278	P	P	18 12 31.9	+0.1		
ASAR			PcP	PcP	18 14 34.0	-1.9		
	0.9nm,1.1s,baz=126,slow=3.5,SNR=1.7 2.4nm,0.5s							
WR0	Warramunga Arr	40.58 283	P	P	18 12 43.8	-0.3		
WR0			IAmb	IAmb	18 12 53.0			
	comp=Z,10nm,1.3s							
WB2	Warramunga Arr	40.73 283	P	P	18 12 45.3	-0.1		
WB2			IAmb	IAmb	18 12 47.9			
	comp=Z,20nm,1.5s							
WRA	Warramunga Arr	40.74 283	P	P	18 12 44.8	-0.6		
WRA	Warramunga Arr comp=Z,2.9nm,0.3s,baz=127,slow=6.4,SNR=100 comp=Z,2.9nm,0.3s	40.74 283	P	P	18 12 45.4	-0.1		
WB0	Warramunga Arr	40.80 283	P	P	18 12 45.4	-0.5		
WB0			IAmb	IAmb	18 13 08.9			
	comp=Z,18nm,1.4s							
KNRA	Kununurra	47.53 284	P	P	18 13 39.3	+0.3		
KNRA			IAmb	IAmb	18 13 42.0			
	comp=Z,30nm,1.4s							
QSPA	South Pole Qui	52.78 180	P	P	18 14 21.9	+4.1		
QSPA			IAmb	IAmb	18 14 22.6			
	comp=Z,4.3nm,0.7s							
QSPA	South Pole Qui comp=Z,3.6nm,0.4s,baz=55,slow=16,SNR=54 comp=Z,3.6nm,0.4s	52.78 180	P	P	18 14 21.6	+3.8		
KKM	Kota Kinabalu	70.99 294	P	P	18 16 19.2	-0.1		
KKM			IAmb	IAmb	18 16 41.9			
	comp=Z,16nm,1.3s							
SNAA	Sanae	71.29 180	P	P	18 16 21.5	+1.4		
PETK	Petropavlovsk- comp=Z,1.1nm,0.9s,baz=110,slow=6.8,SNR=6.2 comp=Z,1.1nm,0.9s	91.60 349	P	P	18 18 04.6	-1.6		
ARCES	ARCESS Array B	144.23 343	PKP	PKPab	18 24 30.4	-1.3		
	comp=Z,5.8nm,0.9s,baz=27,slow=5.9,SNR=8.3							
FINES	FINESS Array B comp=Z,0.4nm,0.3s,baz=29,slow=4.4,SNR=7.0	149.75 332	PKPbc	PKPdf	18 24 45.5	+3.2		
NOA	NORSAR Array B	154.60 344	PKPbc	PKPbc	18 24 55.2	-3.1		
	comp=Z,0.5nm,0.7s,baz=83,slow=0.9,SNR=2.2							
TORD	Torodi Ar. Bea comp=Z,0.3nm,0.5s,baz=162,slow=2.4,SNR=2.5	155.52 192	PKPab	PKPab	18 25 19.4	+0.1		

DJA 26 18:09:25.3±0.7, 9˚S±6˚×12˚4E±˚, h64km±13km, M3.4/8, mb4.2/3, mbB4.9/1, MLv3.0/8, Mw(mB)4.2/1, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	0.76	176	P	Pn	18 09 41.5	+0.8
SOEI				S	Sn	18 09 54.6	+2.6
BATI	Baumata	1.32	204	P	Pn	18 09 47.6	-0.2
MMRI	Maumere	1.98	280	P	Pn	18 09 57.1	+0.5
EDFI	Ende, Flores	2.50	275	P	Pn	18 10 03.5	-0.3
PLAI	Plampang 12nm,0.4s,0.1nm	6.36	271	P	Pn	18 10 55.4	-1.1
TWSI	Taliwang, Sumb	7.25	271	P	Pn	18 11 08.8	+0.2

*NEIC **26** 18:35:48.3±2.2,2.˚89N×0.˚09×128.˚9E±0.˚1, h185km±6km, mb4.3/28, Error ellipse: s-maj=16.1km s-min=12.6km az=60.0*

*DJA **26** 18:35:52.9±0.8, 3.˚N±7.˚×12.˚8E±˚, h217km±5km, M4.2/10, mb4.1/10, mB4.7/2, MLv4.3/10, Mw(mB)4.0/2*

*IDC **26** 18:35:52.2±2.2,2.˚92N×128.˚83E, h229km±20km, mb3.5/13, mbtmp4.1/14, Error ellipse: s-maj=28.2km s-min=9.5km az=69.0*

ISC 26 18:35:49.1±0.6, 2.˚86N±0.˚06×128.˚79E±0.˚08, h200km, n76, σ1♀33/80, mb4.1/22, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.52	214	P	Pn	18 36 36.4	+3.2
TNTI	Ternate	2.52	214	Pn	Pn	18 36 31.7	-1.5
TNTI	Ternate	2.52	214	P	Pn	18 36 36.1	+2.9
TNTI				S	Sn	18 37 10.1	+2.4
SGSI	Sangihe	3.35	284	P	Pn	18 36 44.3	+1.3
LBMI	Labuha	3.71	200	P	Pn	18 36 50.3	+3.0
KMSI	Cibinong	5.31	245	P	Pn	18 37 07.7	+0.1
SANI	Sanana	5.62	210	P	Pn	18 37 11.6	0.0
SANI	Sanana 68nm,0.7s,1μm0.4nm	5.62	210	P	Pn	18 37 11.4	-0.2
GTOI	Gorontalo 8.9nm,0.5s,0.1nm	6.18	249	P	Pn	18 37 19.8	+1.0
FAKI	Fak Fak	6.71	149	Pn	Pn	18 37 21.4	-4.3
LUWI	Luwuk	7.16	237	P	Pn	18 37 32.1	+0.7
LUWI	Luwuk	7.16	237	Pn	Pn	18 37 29.7	-1.7
LUWI				Sn	Sn	18 38 51.9	-0.8
LUWI	Luwuk 61nm,0.6s,1μm0.2nm	7.16	237	P	Pn	18 37 30.0	-1.4
MRSI	Marisa 9.1nm,0.5s,0.1nm	7.24	251	P	Pn	18 37 32.8	+0.3
TOLI2	Tolitoli	8.19	258	Pn	Pn	18 37 44.8	-0.1
KKM	Kota Kinabalu	12.92	285	Pn	Pn	18 38 45.7	-0.2
SOEI	Soe	13.32	200		P	18 38 53.2	-0.4
SOEI	Soe 26nm,1.0s	13.32	200	P	P	18 38 53.2	-0.4
BATI	Baumata 10nm,0.5s,baz=357,slow=18,SNR=5.5	13.95	201	P	P	18 38 59.5	-1.0
DRS	Darwin Rock St	15.34	172	P	P	18 39 16.6	+0.7
BASI	Baing, Sumba 66nm,0.9s	15.35	212	P	Pn	18 39 15.7	-0.1
MTN	Manton Dam	15.78	172	P	Pn	18 39 21.4	+0.5
MTN	Manton Dam	15.78	172	P	Pn	18 39 21.0	+0.1
MTN				IAmb	IAmb	18 40 04.5	
	comp=Z,22nm,1.2s						
KDU	Kakadu	15.88	167	P	Pn	18 39 23.0	+0.9
PLAI	Plampang	15.98	223	P	Pn	18 39 24.2	+0.9
PLAI	Plampang comp=Z,25nm,1.6s	15.98	223	P	Pn	18 39 24.7	+1.4
TWSI	Taliwang, Sumb comp=Z,14nm,0.8s	16.54	226	P	Pn	18 39 29.7	-0.4
KNRA	Kununurra	18.42	180	P	Pn	18 39 51.2	-1.0
KNRA	Kununurra	18.42	180	P	Pn	18 39 50.8	-1.4
KNRA				IAmb	IAmb	18 39 51.8	
	comp=Z,18nm,0.6s						
KSM	Kuching	18.52	266	P	P	18 39 51.2	+0.4
KSM				IAmb	IAmb	18 40 09.5	
	comp=Z,16nm,1.3s						
FITZ	Fitzroy Crossi	21.06	188	P	P	18 40 17.2	-0.6
WB0	Warramunga Arr	23.16	166	P	P	18 40 38.5	+0.5
WB0				IAmb	IAmb	18 41 12.9	
	comp=Z,18nm,1.4s						
LEM	Lembang comp=Z,12nm,0.6s,baz=332,slow=15,SNR=3.9 comp=Z,12nm,0.6s	23.22	245	P	P	18 40 40.8	+1.9
WRA	Warramunga Arr	23.31	167	P	P	18 40 39.2	-0.2
WRA	Warramunga Arr comp=Z,1.8nm,0.3s,baz=342,slow=10,SNR=43	23.31	167	P	P	18 40 40.0	+0.6
WRA				ScP	ScP	18 47 35.6	-4.4
	comp=Z,0.4nm,0.9s,baz=336,slow=2.5,SNR=1.7 comp=Z,1.8nm,0.3s						
WB2	Warramunga Arr	23.31	167	P	P	18 40 40.0	+0.6
WB2				IAmb	IAmb	18 40 42.9	
	comp=Z,6.3nm,0.8s						
WB1	Warramunga Ar.	23.33	167	P	P	18 40 40.7	+1.1
WR0	Warramunga Arr	23.38	166	P	P	18 40 39.7	-0.2
QIS	Mount Isa	25.58	156	P	P	18 41 01.2	+1.2
UBPT	Khong Chiam	26.08	300	P	P	18 41 04.6	+0.1
UBPT				IAmb	IAmb	18 41 15.7	
	comp=Z,13nm,1.5s						
AS31	Alice Springs	26.84	170	P	P	18 41 11.9	+0.6
AS31				IAmb	IAmb	18 41 14.1	
	comp=Z,2.1nm,0.3s						
ASAR	Alice Springs	26.84	170	P	P	18 41 12.1	+0.8
ASAR	Alice Springs comp=Z,2.2nm,0.4s,baz=352,slow=7.7,SNR=74	26.84	170	P	P	18 41 11.9	+0.6
ASAR				PcP	PcP	18 44 28.7	0.0
	comp=Z,0.4nm,0.4s,baz=349,slow=1.9,SNR=4.8						
ASAR				ScP	ScP	18 47 46.3	-3.7
	comp=Z,0.3nm,0.8s,baz=6.1,slow=3.3,SNR=4.4 comp=Z,2.2nm,0.4s						
AS01	Alice Springs	26.84	169	P	P	18 41 12.1	+0.8
WRKA	Warakurna	27.74	181	P	P	18 41 19.7	+0.4
MEEK	Meekatharra	30.93	198	P	P	18 41 47.5	+0.1
PHRA	Phrae	31.99	301	P	P	18 41 57.0	+0.2
CM31	Chiang Mai Arr	33.08	300	P	P	18 42 07.3	+1.0
CM31				IAmb	IAmb	18 42 07.9	
	comp=Z,3.4nm,0.5s						
CMAR	Chiang Mai Arr	33.08	300	P	P	18 42 07.5	+1.2
CMAR	Chiang Mai Arr comp=Z,1.4nm,0.6s,baz=118,slow=7.5,SNR=12 comp=Z,1.4nm,0.6s	33.08	300	P	P	18 42 07.2	+0.9
FORT	Forrest	33.46	181	P	P	18 42 09.7	+0.4
MORW	Morawa	34.02	200	P	P	18 42 13.3	-1.0
MORW				IAmb	IAmb	18 42 50.3	
	comp=Z,19nm,1.2s						
KSRS	Korea Array comp=Z,0.6nm,0.4s,baz=179,slow=9.8,SNR=4.7 comp=Z,0.6nm,0.4s	34.43	359	P	P	18 42 18.6	+1.0
BBOO	Buckleboo	36.14	170	P	P	18 42 32.4	+0.1
STKA	Stephens Creek	36.63	162	P	P	18 42 35.9	-0.5
STKA	Stephens Creek comp=Z,2.4nm,0.5s,baz=335,slow=8.9,SNR=22 comp=Z,2.4nm,0.5s	36.63	162	P	P	18 42 37.4	+0.9
NWAO	Narrogin (SRO)	37.24	196	P	P	18 42 41.3	-0.3
SONM	Songino Array comp=Z,0.5nm,0.7s,baz=152,slow=6.7,SNR=4.2 comp=Z,0.5nm,0.7s	48.79	340	P	P	18 44 13.1	-0.9
MK31	Makanchi Array	59.44	325	P	P	18 45 28.4	-2.5
MKAR	Makanchi Array	59.44	325	P	P	18 45 29.6	-1.2
MKAR	Makanchi Array comp=Z,0.8nm,0.4s,baz=117,slow=8.2,SNR=22 comp=Z,0.8nm,0.4s	59.44	325	P	P	18 45 30.7	-0.2
MAKZ	Makanchi	59.63	325		P	18 45 31.4	-0.7
LBZ	Lake Benmore	59.83	147	P	P	18 45 33.4	-0.1
RTZ	Ruatahuna	60.61	138	P	P	18 45 40.4	+1.3
ZALV	Zalesovo Beam comp=Z,0.6nm,0.4s,baz=145,slow=8.1,SNR=2.1 comp=Z,0.6nm,0.4s	62.29	332	P	P	18 45 49.0	-0.9
KURK	Kurchatov	63.57	327	P	P	18 45 57.8	-0.6
KURK				IAmb	IAmb	18 45 59.1	
	comp=Z,2.4nm,0.7s						
KURBB	Kurchatov Arra comp=Z,1.2nm,0.4s,baz=127,slow=5.9,SNR=10 comp=Z,1.2nm,0.4s	63.58	327	P	P	18 45 58.0	-0.4
TIXI	Tiksi	68.69	0	P	P	18 46 31.1	+0.5
TIXI				IAmb	IAmb	18 47 13.2	
	comp=Z,4.5nm,1.4s						
BVAR	Borovoye Array comp=Z,0.8nm,0.4s,baz=134,slow=8.5,SNR=7.6 comp=Z,0.8nm,0.4s	69.16	327	P	P	18 46 33.6	-0.3
BRVK	Borovoye	69.23	327		P	18 46 33.6	-0.6
ABKAR	Akbulak array	74.12	321	P	P	18 47 02.2	-1.3
VNDA	Vanda	82.32	173	P	P	18 47 48.4	+0.5
VNDA	Vanda comp=Z,0.9nm,1.0s,baz=333,slow=7.2,SNR=5.2 comp=Z,0.9nm,1.0s	82.32	173	P	P	18 47 48.1	+0.2
QSPA	South Pole Qui	92.78	180	P	P	18 48 39.0	+0.4
QSPA				IAmb	IAmb	18 49 20.0	
	comp=Z,6.0nm,1.4s						
QSPA	South Pole Qui comp=Z,0.4nm,0.4s,baz=326,slow=2.2,SNR=9.6 comp=Z,0.4nm,0.4s	92.78	180	P	P	18 48 38.7	+0.1
BURAR	Bucovina Array	97.01	318	P	Pdif	18 48 57.8	-0.5
BURAR				IAmb	IAmb	18 49 13.8	
	comp=Z,1.0nm,1.1s						

*IDC **26** 18:40:16.0±2.1,56.˚18N×148.˚25W, h0km, mb3.6/4, mbtmp3.5/9, ML3.3/4, Error ellipse: s-maj=37.7km s-min=24.0km az=166.0*

*NEIC **26** 18:40:17.5±1.2,56.˚36N±0.˚08×148.˚5W±0.˚1, h10km±2km, ML3.5/54, ML3.2(AEIC), Error ellipse: s-maj=14.0km s-min=9.2km az=163.0*

*AEIC **26** 18:40:23.4±1.6,56.˚44N±0.˚07×148.˚6W±0.˚1, h6km±7km, Error ellipse: s-maj=12.0km s-min=5.4km az=142.0*

ISC 26 18:40:18.4±1.2, 56.˚44N±0.˚09×148.˚55W±0.˚05, h10km, n178, σ0♀90/172, mb4.0/4, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.58	303		Pn	18 41 00.1	-0.1
KDAK	Kodiak Island	2.58	303		Sn	18 41 29.1	-2.5
KDAK	Kodiak Island 42nm,1.3s	2.58	303	IAML		18 41 20.0	
KDAK	Kodiak Island baz=121	2.58	303	S	Sn	18 41 29.1	-2.5
KDAK	Kodiak Island 4.4nm,0.3s,baz=129,slow=8.0,SNR=41	2.58	303	Pn	Pn	18 40 59.9	-0.3
KDAK				Sn	Sn	18 41 30.8	-0.8
	5.0nm,0.3s,baz=271,slow=24,SNR=8.1 11nm,0.3s						
OHAK	Old Harbor	2.72	289		Pn	18 41 01.2	-0.9
OHAK					Sn	18 41 32.0	-3.0
OHAK	Old Harbor baz=106	2.72	289	P	Pn	18 41 01.2	-0.9
OHAK				S	Sn	18 41 32.0	-3.0
	baz=106						
SYI	Shuyak Island	3.01	318		Pn	18 41 06.3	+0.2
Q20K	Shuyak Island baz=136	3.01	318	P	Pn	18 41 06.3	+0.2
SII	Sitkinak Islan	3.13	275		Pn	18 41 07.5	-0.3
SII					Sn	18 41 42.6	-2.5
SII	Sitkinak Islan comp=E,89nm,1.4s	3.13	275	IAML		18 41 45.5	
SII				IAML		18 41 48.5	
	comp=N,80nm,1.3s						
SII	Sitkinak Islan baz=91	3.13	275	P	Pn	18 41 07.5	-0.3
SII				S	Sn	18 41 42.6	-2.5
	baz=91						
CNPM	China Poot	3.41	336	Pn	Pn	18 41 11.5	-0.1
CNPM	China Poot	3.41	336		Sn	18 41 51.7	-0.3
BRSE	Bradley Lake S	3.51	342		Pn	18 41 13.5	+0.5
BRSE					Sn	18 41 53.7	-0.9
BRSE	Bradley Lake S baz=160	3.51	342	P	Pn	18 41 13.5	+0.5
BRSE				S	Sn	18 41 53.7	-0.9
	baz=160						
BRLK	Bradley Lake	3.56	341		Pn	18 41 13.7	0.0
BRLK	Bradley Lake comp=E,42nm,0.9s	3.56	341	IAML		18 42 01.0	
P23K	Montague Islan	3.62	9		Pn	18 41 14.3	-0.2
P23K					Sn	18 41 55.6	-1.6
P23K	Montague Islan baz=190	3.62	9	P	Pn	18 41 14.3	-0.2
P23K				S	Sn	18 41 55.6	-1.6
	baz=190						
HOM	Homer	3.62	334	Pn	Pn	18 41 14.6	+0.1
Q19K	Cape Douglas,	3.70	314		Pn	18 41 16.4	+0.7
Q19K	Cape Douglas, baz=131	3.70	314	P	Pn	18 41 16.4	+0.7
P19K	Oil Pt	4.07	324		Pn	18 41 21.4	+0.7
P19K	Oil Pt comp=N,73nm,0.8s	4.07	324	IAML		18 42 18.9	
P19K				IAML		18 42 19.1	
	comp=E,88nm,0.6s						
P19K	Oil Pt baz=141	4.07	324	P	Pn	18 41 21.4	+0.7
O22K	Cooper Landing	4.10	352		Pn	18 41 21.5	+0.5
O22K	Cooper Landing baz=171	4.10	352	P	Pn	18 41 21.5	+0.5
HIN	Hinchinbrook I	4.11	14		Pn	18 41 21.1	-0.1
HIN	Hinchinbrook I comp=N,102nm,1.0s	4.11	14	IAML		18 42 09.2	
HIN				IAML		18 42 25.8	
	comp=E,107nm,1.4s						
KAIM	Kayak Island	4.12	30		Pn	18 41 21.8	+0.4
KAIM	Kayak Island comp=E,104nm,1.4s	4.12	30	IAML		18 42 13.0	
KAIM	Kayak Island baz=213	4.12	30	P	Pn	18 41 21.8	+0.4
EYAK	Cordova Ski Ar	4.37	18		Pn	18 41 24.8	0.0
EYAK	Cordova Ski Ar baz=200	4.37	18	P	Pn	18 41 24.8	0.0
CNTC	Contact Creek	4.38	298		Pn	18 41 26.2	+1.3
Q17K	Contact Creek baz=112	4.38	298	P	Pn	18 41 26.2	+1.3
SUCK	Suckling Hills	4.43	33	Pn	Pn	18 41 25.1	-0.5
SUCK				IAML		18 42 17.7	
	comp=N,86nm,1.1s						
SUCK				IAML		18 44 03.2	
	comp=E,76nm,1.5s						
RAGM	Ragged Mountai	4.45	26	Pn	Pn	18 41 25.5	-0.5
NICHA	Nichawak Mount	4.51	30		Pn	18 41 26.6	0.0
HMT	Hamilton	4.51	28	Pn	Pn	18 41 25.8	-0.9
RDSO	Redoubt South	4.59	333		Pn	18 41 28.1	+0.2
RSO	Redoubt South	4.60	333		Pn	18 41 27.6	-0.5
RDT	Redoubt	4.61	336		Pn	18 41 28.3	+0.1
P18K	Big Mountain,	4.63	312		Pn	18 41 28.7	+0.3
P18K	Big Mountain, baz=128	4.63	312	P	Pn	18 41 28.7	+0.3
RC01	Rabbit Creek A	4.71	353	Pn	Pn	18 41 29.5	+0.1
RC01				IAML		18 42 24.3	
	comp=N,33nm,0.6s						
RC01				IAML		18 42 24.8	
	comp=E,37nm,0.6s						
BERG	Berg Lake	4.71	31		Pn	18 41 29.3	-0.2
BERG	Berg Lake comp=N,64nm,0.6s	4.71	31	IAML		18 42 26.6	
NCT	North Crescent	4.73	333		Pn	18 41 30.1	+0.2
GRIN	Grindle Hills	4.73	33		Pn	18 41 30.0	+0.2
SNH	Sunshine Point	4.81	36	Pn	Pn	18 41 30.0	-0.8
SNH				IAML		18 42 26.8	
	comp=N,64nm,1.1s						
SNH				IAML		18 42 27.8	
	comp=E,48nm,0.9s						
KHIT	Khitrov Hills	4.88	33		Pn	18 41 31.7	-0.3
O18K	Koktuh Hills	4.92	317	Pn	Pn	18 41 32.5	+0.2
O18K				IAML		18 42 39.3	
	comp=N,16nm,0.8s						
BMRM	Bremner River	4.98	23		Pn	18 41 32.9	-0.4
BMRM	Bremner River	4.98	23	Sn	Sn	18 42 27.6	-3.3
BMRM	Bremner River baz=206	4.98	23	P	Pn	18 41 32.9	-0.4
KNK	Knik Glacier	4.99	0	Pn	Pn	18 41 32.9	-0.4
KNK				IAML		18 42 39.7	
	comp=E,20nm,1.1s						
KNK				IAML		18 42 40.0	
	comp=N,19nm,1.0s						
WAX	Waxell Ridge	5.01	34		Sn	18 42 28.1	-3.5
WAX				IAML		18 42 37.1	
	comp=E,54nm,0.7s						
BARK	Barkley Ridge	5.09	36		Pn	18 41 34.5	-0.3
MESA	MESA	5.11	40	Pn	Pn	18 41 34.6	-0.5
MESA				IAML		18 42 36.5	
	comp=N,47nm,1.5s						
MESA				IAML		18 42 39.5	
	comp=E,41nm,1.3s						
SUA	Susitna One	5.17	348	Pn	Pn	18 41 35.7	-0.1
SUA				IAML		18 42 52.2	
	comp=N,14nm,1.3s						
PMR	Palmer	5.18	357		Pn	18 41 36.5	+0.7
PMR	Palmer comp=E,18nm,1.4s	5.18	357	IAML		18 42 39.0	
PMR				IAML		18 42 40.6	
	comp=N,18nm,0.7s						
PMR	Palmer baz=176	5.18	357	P	Pn	18 41 36.5	+0.7
KLU	Klutina	5.25	14		Pn	18 41 37.4	+0.5
KLU				IAML		18 42 39.4	
	comp=N,34nm,0.8s						
KLU				IAML		18 42 39.0	
	comp=E,32nm,0.9s						
KLU	Klutina baz=196	5.25	14	P	Pn	18 41 37.5	+0.6
ISLE	Juniper Island	5.29	35	Pn	Pn	18 41 35.7	-1.8
ISLE				IAML		18 42 41.5	
	comp=E,24nm,0.8s						
ISLE				IAML		18 42 47.1	
	comp=N,28nm,

P29M	**Windy Craggy** baz=245	**6.57**	**56**	P		**Pn**	**18 41 54.7**	**-0.3**
L19K	**White Mountain**	**6.60**	**333**			**Pn**	**18 41 55.2**	**-0.2**
M26K	**Nabesna, AK**	**6.61**	**23**	Pn		**Pn**	**18 41 55.0**	**-0.7**
O15K	**Ungalikthiuk R**	**6.62**	**299**			**Pn**	**18 41 56.6**	**+0.9**
O15K	**Ungalikthiuk R** baz=110	**6.62**	**299**	P		**Pn**	**18 41 56.6**	**+0.9**
DHY	**Denali Highway**	**6.68**	**5**	Pn		**Pn**	**18 41 57.3**	**+0.6**
N16K	**Nishlik Lake**	**6.71**	**311**			**Pn**	**18 41 57.9**	**+0.9**
N16K	**Nishlik Lake** baz=123	**6.71**	**311**	P		**Pn**	**18 41 57.9**	**+0.9**
M17K	**Holitna River**	**6.77**	**321**			**Pn**	**18 41 58.4**	**+0.7**
M27K	**Edge Creek, AK**	**6.84**	**27**	Pn		**Pn**	**18 41 58.4**	**-0.4**
RND	**Reindeer**	**6.99**	**359**	Pn		**Pn**	**18 42 01.8**	**+1.0**
TRF	**Thorofare Moun**	**7.09**	**354**	Pn		**Pn**	**18 42 03.4**	**+1.2**
M16K	**Timber Creek**	**7.10**	**315**	Pn		**Pn**	**18 42 02.7**	**+0.5**
YUK4	**Talbot Arm** baz=230	**7.10**	**42**	P		**Pn**	**18 42 05.1**	**+2.6**
L18K	**Granite Mounta**	**7.13**	**328**	Pn		**Pn**	**18 42 02.0**	**-0.6**
P30M	**Million Dollar**	**7.13**	**54**			**Pn**	**18 42 03.0**	**+0.2**
P30M	**Million Dollar** baz=243	**7.13**	**54**	P		**Pn**	**18 42 03.0**	**+0.2**
N15K	**Kwethluk River**	**7.14**	**306**	Pn		**Pn**	**18 42 04.4**	**+1.6**
PLBC	**Pleasant Camp**	**7.15**	**60**			**Pn**	**18 42 03.0**	**0.0**
PLBC	**Pleasant Camp** baz=250	**7.15**	**60**	P		**Pn**	**18 42 03.0**	**0.0**
CAST	**Castle Rocks**	**7.22**	**347**			**Pn**	**18 42 03.7**	**-0.3**
KTH	**Kantishna Hill**	**7.24**	**352**	Pn		**Pn**	**18 42 04.7**	**+0.5**
HYT	**Haines Junctio**	**7.25**	**48**	Pn		**Pn**	**18 42 03.7**	**-0.6**
O14K	**Tigyukauivet M**	**7.35**	**298**	Pn		**Pn**	**18 42 05.9**	**+0.3**
L27K	**Beaver Creek,**	**7.46**	**24**	Pn		**Pn**	**18 42 07.3**	**+0.2**
BCAR	**Beaver Creek A**	**7.47**	**24**	Pn		**Pn**	**18 42 08.1**	**+0.7**
K20K	**Telida**	**7.47**	**341**	Pn		**Pn**	**18 42 06.8**	**-0.5**
TTA	**Tatalina**	**7.52**	**333**	Pn		**Pn**	**18 42 07.7**	**-0.4**
SKAG	**Skagway**	**7.65**	**61**	Pn		**Pn**	**18 42 09.6**	**-0.2**
L16K	**Owhat River**	**7.72**	**318**	Pn		**Pn**	**18 42 10.5**	**-0.2**
N30M	**Aishikik Lake**	**7.77**	**45**	Pn		**Pn**	**18 42 11.5**	**+0.1**
M29M	**Somme Creek**	**7.91**	**36**			**Pn**	**18 42 14.2**	**+0.8**
K17K	**Iditarod**	**8.00**	**326**			**Pn**	**18 42 15.0**	**+0.4**
J18K	**Innoko River**	**8.15**	**333**	Pn		**Pn**	**18 42 16.2**	**-0.3**
J20K	**Nowinta River**	**8.24**	**343**	Pn		**Pn**	**18 42 19.4**	**+1.5**
CCB	**Clear Creek Bu**	**8.24**	**2**	Pn		**Pn**	**18 42 19.0**	**+1.1**
K27K	**Chicken**	**8.26**	**20**	Pn		**Pn**	**18 42 18.0**	**-0.1**
WHY	**Whitehorse**	**8.30**	**54**	Pn		**Pn**	**18 42 18.6**	**-0.2**
J25K	**Salcha River,**	**8.35**	**9**	Pn		**Pn**	**18 42 19.9**	**+0.5**
J19K	**Poorman**	**8.35**	**338**	Pn		**Pn**	**18 42 19.4**	**+0.1**
ILAR	**Eielson Array**	**8.40**	**5**	Pn		**Pn**	**18 42 19.4**	**-0.6**
ILAR	**Eielson Array** comp=N,0.2nm,0.3s,baz=186,slow=14,SNR=7.9	**8.40**	**5**	Pn		**Pn**	**18 42 20.2**	**+0.2**
ILAR	comp=N,0.3nm,0.3s,baz=186,slow=22,SNR=6.6 comp=N,0.4nm,0.3s			Sn		**Sn**	**18 43 53.4**	**-1.4**
P32M	**Atlin**	**8.48**	**62**	Pn		**Pn**	**18 42 20.1**	**-1.1**
L29M	**L29M**	**8.50**	**34**	Pn		**Pn**	**18 42 21.2**	**-0.2**
M30M	**Minto, Yukon**	**8.57**	**39**	Pn		**Pn**	**18 42 21.6**	**-0.8**
J17K	**VABM Dome**	**8.74**	**327**	Pn		**Pn**	**18 42 24.4**	**-0.4**
L14K	**Kuka Creek**	**8.81**	**310**	Pn		**Pn**	**18 42 25.2**	**-0.3**
K15K	**Wolf Creek Mou**	**8.84**	**317**	Pn		**Pn**	**18 42 25.8**	**-0.3**
Q32M	**Nakina River**	**9.07**	**67**	Pn		**Pn**	**18 42 28.7**	**-0.7**
J16K	**Anvik River**	**9.14**	**324**	Pn		**Pn**	**18 42 29.7**	**-0.5**
K29M	**Barlow Dome**	**9.23**	**32**	Pn		**Pn**	**18 42 31.6**	**+0.1**
I26K	**Coal Creek Min**	**9.27**	**14**	Pn		**Pn**	**18 42 32.5**	**+0.5**
H24K	**Noodor Dome**	**9.44**	**2**	Pn		**Pn**	**18 42 35.0**	**+0.8**
H21K	**Melozitna Rive** baz=166	**9.47**	**349**	P		**Pn**	**18 42 35.8**	**+1.0**
R33M	**Jennings River**	**9.80**	**65**	Pn		**Pn**	**18 42 38.8**	**-0.6**
J14K	**Nanvaranak Lak**	**9.88**	**316**	Pn		**Pn**	**18 42 40.3**	**+0.1**
IMAR	**Indian Mountai**	**9.89**	**348**	Pn		**Pn**	**18 42 40.4**	**-0.1**
H18K	**Honhosa River**	**9.96**	**335**	Pn		**Pn**	**18 42 41.2**	**-0.2**
J30M	**Hart River**	**10.12**	**31**	Pn		**Pn**	**18 42 44.2**	**+0.5**
DLBC	**Dease Lake** comp=N,0.2nm,0.3s,baz=260,slow=12,SNR=1.7 comp=N,1.6nm,0.9s	**10.18**	**71**	Pn		Pn	18 42 42.1	-2.4
F20K	**Avaraart Lake**	**11.16**	**345**	Pn		**Pn**	**18 42 57.8**	**0.0**
E19K	**Redstone River**	**11.77**	**343**	Pn		**Pn**	**18 43 06.5**	**+0.4**
INK	**Inuvik** comp=N,2.2nm,1.0s,baz=220,slow=11,SNR=4.1	**13.73**	**24**	Pn		**Pn**	**18 43 33.8**	**+0.9**
YKA	**Yellowknife Ar** comp=N,0.1nm,0.3s,baz=265,slow=11,SNR=7.9 comp=N,1.0nm,0.9s	**18.11**	**56**	P		**Pn**	**18 44 28.4**	**-1.4**
H11N2	**WAKE ISLAND Hy** baz=31,slow=76,SNR=7.0	**49.32**	**241**	T		T	19 42 18.8	
H11N3	**WAKE ISLAND Hy** baz=31,slow=76,SNR=6.8	**49.32**	**241**	T		T	19 42 18.0	
H11N1	**WAKE ISLAND Hy** baz=31,slow=76,SNR=6.3	**49.34**	**241**	T		T	19 42 20.7	
H11S1	**WAKE ISLAND Hy** baz=30,slow=76,SNR=4.8	**50.46**	**240**	T		T	19 43 42.9	
H11S2	**WAKE ISLAND Hy** baz=30,slow=76,SNR=5.2	**50.47**	**240**	T		T	19 43 46.5	
H11S3	**WAKE ISLAND Hy** baz=30,slow=76,SNR=6.2	**50.48**	**240**	T		T	19 43 45.8	
SONM	**Songino Array** comp=N,0.9nm,0.8s,baz=56,slow=5.3,SNR=6.4 comp=N,0.9nm,0.8s	**58.85**	**311**	P		**P**	**18 50 18.7**	**+1.7**
ZALV	**Zalesovo Beam** comp=N,0.5nm,0.3s,baz=21,slow=8.5,SNR=2.2 comp=N,0.5nm,0.3s	**61.65**	**327**	P		**P**	**18 50 37.2**	**+1.3**
BVAR	**Borovoye Array** comp=N,0.6nm,0.6s,baz=40,slow=5.6,SNR=3.7 comp=N,0.6nm,0.6s	**66.31**	**336**	P		**P**	**18 51 07.6**	**+1.1**
MKAR	**Makanchi Array** comp=N,0.1nm,0.5s,baz=38,slow=7.3,SNR=1.9 comp=N,0.1nm,0.5s	**68.70**	**325**	P		**P**	**18 51 22.8**	**+1.0**

IDC 26 18:45:30.8±4.8, 20°.87S×179°.86E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=201.6km s-min=40.3km az=142.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 0.4nm,0.3s,baz=23,slow=7.7,SNR=1.1 0.4nm,0.3s	**35.82**	**244**	P	P	18 52 30.7	-1.4
ASAR	**Alice Springs** 0.4nm,0.8s,baz=78,slow=8.6,SNR=4.4 0.4nm,0.8s	**42.48**	**257**	P	P	18 53 28.9	+0.9
WRA	**Warramunga Arr** 0.7nm,1.1s,baz=97,slow=7.6,SNR=4.6 0.7nm,1.1s	**42.56**	**263**	P	P	18 53 28.7	0.0
ILAR	**Eielson Array** 0.2nm,0.6s,baz=215,slow=6.4,SNR=2.0 0.2nm,0.6s	**89.13**	**14**	P	P	18 58 27.6	-0.1

*IDC **26** 18:53:05.6±1.7, 5°.91S×153°.71E, h0km, mb3.6/8, mbtmp3.6/8, MS2.8/1, Error ellipse: s-maj=67.9km s-min=26.1km az=113.0*

ISC 26 18:53:10.6±1.7, 6°.0S±0°.3×153°.8E±0°.4, h35km, n10, σ1$56/11, mb3.7/8, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** comp=Z,66nm,20.0s,baz=317,slow=40	**7.40**	**242**	LR	LR	18 57 59.2	
WRA	**Warramunga Arr** 0.4nm,0.9s,baz=69,slow=9.9,SNR=2.1	**23.46**	**232**	P	**P**	**18 58 16.0**	**-1.1**
WRA	0.2nm,0.6s,baz=58,slow=2.7,SNR=1.4 0.4nm,0.9s			PcP	**PcP**	**19 02 04.8**	**+2.0**
ASAR	**Alice Springs** 0.2nm,0.5s,baz=56,slow=9.0,SNR=10	**26.00**	**225**	P	**P**	**18 58 39.3**	**-1.2**
ASAR	0.3nm,0.9s,baz=48,slow=3.0,SNR=1.9 0.2nm,0.5s			PcP	**PcP**	**19 02 11.0**	**+2.7**
SONM	**Songino Array** 0.4nm,0.6s,baz=140,slow=3.9,SNR=2.9 0.4nm,0.6s	**67.81**	**328**	P	**P**	**19 04 05.8**	**+0.6**
MKAR	**Makanchi Array** 0.6nm,0.7s,baz=108,slow=5.5,SNR=7.8 0.6nm,0.7s	**81.83**	**319**	P	**P**	**19 05 27.3**	**+1.1**
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=126,slow=7.4,SNR=2.9 0.5nm,0.4s	**82.64**	**326**	P	**P**	**19 05 29.8**	**-0.4**
ILAR	**Eielson Array** 0.2nm,0.8s,baz=273,slow=6.0,SNR=1.7 0.2nm,0.8s	**82.86**	**22**	P	**P**	**19 05 29.8**	**-1.3**
KURBB	**Kurchatov Arra** 0.4nm,0.5s,baz=106,slow=3.6,SNR=2.1 0.4nm,0.5s	**85.30**	**322**	P	**P**	**19 05 44.6**	**+0.7**
BVAR	**Borovoye Array** 0.5nm,0.5s,baz=95,slow=3.5,SNR=2.7 0.5nm,0.5s	**90.74**	**323**	P	**P**	**19 06 08.6**	**-1.3**
TORD	**Torodi Ar. Bea** 0.8nm,0.9s,baz=94,slow=1.3,SNR=3.7	**151.58**	**287**	PKPbc	**PKPbc**	**19 13 01.9**	**-0.3**

*NNC **26** 19:03:38.4±5.8, 38°.26N×70°.41E, h185km±74km, mb2.9, mpv4.1, Error ellipse: s-maj=58.2km s-min=27.2km az=22.0*

*IDC **26** 19:03:43.1±3.4, 38°.91N×70°.77E, h0km, mb3.9/1, mbtmp3.5/7, ML2.9/6, Error ellipse: s-maj=56.1km s-min=19.5km az=153.0*

*SOME **26** 19:03:44.2, 39°.27N×71°.33E, h15km*

*KRNET **26** 19:03:46.8±0.1, 39°.26N×70°.61E, mb3.5*

ISC 26 19:03:45.8±1.6, 39°.24N±0°.06×70°.65E±0°.04, h5km±9km, n50, σ2$36/81, 22C-22D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken** baz=11	**0.83**	**9**	⇑*i*P	**Pg**	**19 04 02.4**	**+0.7**
BTK				⇑*i*S	**Sg**	**19 04 13.4**	**+0.9**
DRK	**Karamyk** baz=76	**0.92**	**74**	⇓*i*P	**Pg**	**19 04 04.5**	**+1.0**
DRK				⇓*i*S	**Sg**	**19 04 17.6**	**+2.1**
OHH	**Osh** baz=52	**2.09**	**51**	⇑*i*P	**Pn**	**19 04 22.8**	**+1.3**
OHH				⇑*i*S	**Sn**	**19 04 49.1**	**+1.1**
TRKS	**Terek-Say** baz=11	**2.32**	**9**	⇑*i*P	**Pn**	**19 04 25.3**	**+0.5**
TRKS				⇑*i*S	**Sn**	**19 04 53.2**	**-0.7**
SFK	**Sufi-Kurgan** baz=70	**2.34**	**70**	⇓*i*P	**Pn**	**19 04 26.5**	**+1.4**
SFK				⇓*i*S	**Sn**	**19 04 55.9**	**+1.6**
ARSB	**Arslanbob** baz=41	**2.74**	**40**	⇑*i*P	**Pn**	**19 04 32.1**	**+1.5**
ARSB				⇑*i*S	**Sn**	**19 05 05.2**	**+0.9**
ARK	**Arkit** baz=22	**2.75**	**21**	⇑*i*P	**Pn**	**19 04 32.3**	**+1.6**
ARK				⇑*i*S	**Sn**	**19 05 05.1**	**+0.8**
IUG	**Iuzhnay** 86nm,0.4s	**2.94**	**351**	*e*P	**Pb**	**19 04 39.2**	**+0.3**
IUG	426nm,0.3s			*e*S	**Sg**	**19 05 19.0**	**-1.4**
CHM	**Chimkent** 51nm,0.2s	**3.18**	**346**	*e*P	**Pb**	**19 04 44.5**	**+1.8**
CHM	230nm,0.6s			*e*S	**Sg**	**19 05 28.1**	**+0.2**
MNAS	**Manas** baz=23	**3.54**	**23**	⇓*e*P	**Pn**	**19 04 43.0**	**+1.4**
MNAS				⇓*e*S	**Sn**	**19 05 23.9**	**0.0**
DZA	**Taraz** 38nm,0.1s	**3.69**	**8**	*e*P	**Pb**	**19 04 49.1**	**-2.3**
DZA	50nm,0.3s			*e*S	**Sb**	**19 05 36.3**	**-0.2**
ARLS	**Aral** baz=46	**3.83**	**46**	⇑*i*P	**Pn**	**19 04 47.5**	**+1.9**
ARLS				⇑*i*S	**Sn**	**19 05 31.5**	**+0.3**
BRLS	**Borolday** 4.4nm,0.2s	**3.84**	**351**	*e*P	**Pb**	**19 04 50.9**	**-3.1**
BRLS	21nm,0.2s			*e*S	**Sb**	**19 05 39.1**	**-1.7**
KK31	**Karatay Array** 7.8nm,0.3s,baz=184,slow=13,SNR=268	**3.87**	**358**	P	**Pn**	**19 04 49.0**	**+3.1**
KK31	22nm,0.5s,baz=186,slow=29,SNR=13			⇓S	**Sg**	**19 05 48.4**	**-1.5**
KKAR	**Karatay Array** baz=59	**3.87**	**358**	⇑*i*P	**Pn**	**19 04 47.3**	**+1.4**
KKAR				⇑*i*S	**Sn**	**19 05 31.4**	**-0.3**
MRKS	**Merke** 6.8nm,0.3s	**4.01**	**28**	*e*P	**Pn**	**19 04 51.6**	**+3.6**
MRKS	19nm,0.5s			*e*S	**Sn**	**19 05 40.7**	**+5.2**
EKS2	**Erkin-Say** SNR=12	**4.16**	**34**	P	Pn	19 04 55.2	+5.1
EKS2	**Erkin-Say** baz=34	**4.16**	**34**	⇓*i*P	**Pn**	**19 04 51.6**	**+1.5**
EKS2				⇓*i*S	**Sn**	**19 05 39.1**	**-0.1**
UCH	**Uchtor** SNR=27	**4.19**	**43**	P	**Pn**	**19 04 55.0**	**+4.2**
UCH	**Uchtor** baz=44	**4.19**	**43**	⇑*i*P	**Pn**	**19 04 52.3**	**+1.5**
UCH				⇑*i*S	**Sn**	**19 05 40.2**	**-0.1**
AAK	**Ala-Archa** SNR=8.9	**4.47**	**39**	P	**Pn**	**19 04 58.9**	**+4.5**
AAK	**Ala-Archa** 3.1nm,0.3s,baz=227,slow=8.5,SNR=27	**4.47**	**39**	Pn	**Pn**	**19 04 57.9**	**+3.5**
AAK	0.8nm,0.3s,baz=193,slow=16,SNR=1.0 12nm,0.4s			Sn	**Sn**	**19 05 54.4**	**+7.5**
AAK	**Ala-Archa** baz=40	**4.47**	**39**	⇓*i*P	**Pn**	**19 04 56.1**	**+1.7**
AAK				⇓*i*S	**Sn**	**19 05 46.7**	**-0.3**
NRN	**Naryn** baz=60	**4.64**	**60**	⇓*i*P	**Pn**	**19 04 58.3**	**+1.4**
NRN				⇓*i*S	**Sn**	**19 05 50.5**	**-0.8**
KBK	**Karagaybulak** SNR=33	**4.72**	**42**	P	Pn	19 05 02.8	+5.0
KBK	**Karagaybulak** baz=43	**4.72**	**42**	⇑*i*P	**Pn**	**19 04 59.7**	**+1.9**
KBK				⇑*i*S	**Sn**	**19 05 52.8**	**-0.2**
CHMS	**Chumysh** SNR=9.8	**4.87**	**38**	P	**Pn**	**19 05 03.8**	**+4.1**
CHMS	**Chumysh** baz=39	**4.87**	**38**	⇓*i*P	**Pn**	**19 05 01.5**	**+1.8**
CHMS				⇓*i*S	**Sn**	**19 05 56.0**	**-0.5**
USP	**Ospenovka** SNR=17	**4.96**	**35**	P	**Pn**	**19 05 04.8**	**+3.8**
USP	**Ospenovka** baz=35	**4.96**	**35**	⇓*i*P	**Pn**	**19 05 02.6**	**+1.6**
USP				⇓*i*S	**Sn**	**19 05 57.9**	**-0.9**
ULHL	**Ulahol** SNR=8.1	**5.20**	**53**	P	Pn	19 05 10.2	+5.7
ULHL	**Ulahol** baz=53	**5.20**	**53**	⇓*i*P	**Pn**	**19 05 06.3**	**+1.8**
ULHL				⇓*i*S	**Sn**	**19 06 04.5**	**-0.5**
TKM2	**Tokmak 2** SNR=31	**5.25**	**44**	P	**Pn**	**19 05 09.1**	**+4.1**
TKM2	**Tokmak 2** 9.7nm,0.5s	**5.25**	**44**	⇑P	**Pn**	**19 05 09.0**	**+4.0**
TKM2	3.4nm,0.7s			⇑S	**Sb**	**19 06 15.8**	**-5.6**
TKM2	**Tokmak 2** baz=44	**5.25**	**44**	⇑*i*P	**Pn**	**19 05 06.6**	**+1.5**
TKM2				⇑*i*S	**Sn**	**19 06 05.4**	**-0.6**
KST	**Kastek** 2.7nm,0.2s	**5.53**	**45**	*e*P	Pb	19 05 18.3	-4.6
KST	5.2nm,0.2s			*e*S	**Sb**	**19 06 25.8**	**-3.7**
DGS	**Degeres** 0.9nm,0.2s	**5.56**	**42**	*e*P	**Pb**	**19 05 20.3**	**-3.1**
DGS	7.4nm,0.6s			*e*S	**Sb**	**19 06 29.4**	**-1.0**
KRBS	**Karabastau** 1.7nm,0.2s	**5.84**	**39**	*e*P	**Pb**	**19 05 26.0**	**-2.1**
KRBS	2.7nm,0.5s			*e*S	**Sb**	**19 06 39.2**	**+0.9**
MTBS	**Maitube** 1.7nm,0.2s	**5.84**	**46**	*e*P	**Pb**	**19 05 24.6**	**-3.6**
MTBS	2.7nm,0.1s			*e*S	**Sb**	**19 06 36.3**	**-2.2**
TNSS	**Tian-Shan** 1.7nm,0.3s	**6.08**	**49**	*e*P	**Pb**	**19 05 29.3**	**-3.2**
TNSS	2.7nm,0.7s			*e*S	**Sb**	**19 06 44.5**	**-1.3**
KOTS	**Kotyrbulak** 2.2nm,0.5s	**6.30**	**49**	*e*P	**Pb**	**19 05 33.1**	**-2.9**
KOTS	4.1nm,0.4s			*e*S	**Sb**	**19 06 51.3**	**-0.4**
KTBS	**Karatobe** 1.7nm,0.5s	**6.36**	**43**	*e*P	**Pb**	**19 05 35.6**	**-1.4**
KTBS	3.9nm,0.6s			*e*S	**Sb**	**19 06 56.5**	**+3.1**
GEYT	**Alibeck** 0.2nm,0.3s,baz=81,slow=9.2,SNR=1.8	**9.90**	**266**	Pn	**Pn**	**19 06 08.1**	**-0.7**
GEYT	0.4nm,0.3s,baz=108,slow=36,SNR=2.0 0.5nm,0.5s			Sn	**Sn**	**19 07 58.1**	**-2.3**
MKAR	**Makanchi Array** baz=231,slow=14,SNR=2.1 0.2nm,0.4s	**11.38**	**45**	Pn	**Pn**	**19 06 31.1**	**+2.1**
AB31	**Akbulak array** 0.8nm,0.5s,baz=150,slow=11,SNR=35	**12.61**	**326**	⇓P	Pn	19 06 40.8	-4.9
AB31	1.5nm,0.6s,baz=155,slow=24,SNR=7.0			S	**Sn**	**19 09 05.9**	**-0.5**
KURBB	**Kurchatov Arra** baz=215,slow=13,SNR=2.5 0.3nm,0.2s	**12.67**	**23**	Pn	**Pn**	**19 06 45.5**	**-1.1**
BVAR	**Borovoye Array** baz=172,slow=12,SNR=4.4 0.4nm,0.4s	**13.79**	**359**	Pn	**Pn**	**19 07 01.4**	**-0.5**
AKTO	**Aktyubinsk** 0.3nm,0.5s	**14.32**	**326**	⇓P	Pn	19 07 01.3	-7.8
AKTO	0.9nm,0.8s			⇓S	**Sn**	**19 09 50.7**	**+2.5**
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=221,slow=12,SNR=2.9 0.4nm,0.3s	**17.59**	**29**	P	**P**	**19 07 53.7**	**+1.0**
HFS	**Hagfors** 1.1nm,0.6s,baz=88,slow=7.5,SNR=1.7 1.1nm,0.6s	**40.77**	**320**	P	**P**	**19 11 27.9**	**+0.3**

*ISK **26** 19:05:56.0, 38°.71N×43°.46E, h2km, ML2.6/11*

*AFAD **26** 19:05:56.4±0.0, 38°.74N×43°.51E, h7km±4km, ML2.4*

ISC 26 19:05:57.2±1.0, 38°.73N±0°.03×43°.47E±0°.04, h12km±8km, n21, σ1$07/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**206**	Pg	**Pg**	**19 06 01.2**	**+0.3**
TVAN	**Van**	**0.21**	**194**	P	**Pg**	**19 06 01.2**	**-0.6**
TVAN				S	**Sg**	**19 06 05.8**	**+0.8**
TVAN	comp=E,1μm,0.3s			*i* AML	AML	19 06 06.0	
VMUR	**Van-Muradiye**	**0.27**	**17**	P	**Pg**	**19 06 02.4**	**-0.5**
VMUR				S	**Sg**	**19 06 06.8**	**0.0**
VMUR	comp=N,767nm,0.4s			*i* AML	AML	19 06 09.0	
ERCV	**ERCIS-VAN**	**0.31**	**340**	Pg	**Pb**	**19 06 03.5**	**-1.4**
ERCV				Sg	**Sb**	**19 06 08.7**	**-1.3**
OZAP	**Van, Ozalp-Mer**	**0.41**	**99**	P	**Pg**	**19 06 04.8**	**-0.8**
GEVA	**Gevas**	**0.53**	**218**	P	**Pg**	**19 06 05.8**	**-1.8**
AKDM	**Akdamar-Van**	**0.56**	**224**	Pg	**Pg**	**19 06 07.6**	**-0.5**
AKDM				Sg	**Sb**	**19 06 15.9**	**-1.2**
ADCV	**BITLIS_Adilcev**	**0.59**	**278**	P	**Pg**	**19 06 08.4**	**-0.4**
ADCV				S	**Sb**	**19 06 18.4**	**+0.4**
ADCV	comp=E,190nm,0.4s			*i* AML	AML	19 06 24.0	
MLAZ	**Malazgirt-MUS**	**0.83**	**300**	Pg	**Pb**	**19 06 12.9**	**-0.8**
MLAZ				Sg	**Sb**	**19 06 25.6**	**+0.7**
DYDN	**Diyadin**	**0.83**	**12**	P	**Pg**	**19 06 12.0**	**-1.4**
DORK	**Agr/Tutak/Do**	**0.85**	**321**	P	**Pg**	**19 06 12.8**	**-0.9**
DORK				S	**Sb**	**19 06 24.8**	**-0.7**
DORK	comp=E,112nm,0.4s			*i* AML	AML	19 06 32.0	
AGRB	**Hanur-Agry**	**0.92**	**336**	Pg	**Pb**	**19 06 14.9**	**-0.5**
AGRB				Sg	**Sb**	**19 06 28.5**	**+0.8**
BLIS	**Bitlis-Merkez**	**1.11**	**254**	P	**Pg**	**19 06 17.2**	**-1.4**
GURO	**Guroymak-BITLI**	**1.14**	**261**	Pn	**Pg**	**19 06 18.3**	**-0.9**
GURO				Sn	**Sn**	**19 06 34.9**	**0.0**
EATA	**Eleskirt**	**1.36**	**326**	P	**Pg**	**19 06 22.5**	**-1.0**
EATA				S	**Sn**	**19 06 43.3**	**+2.7**
EATA	comp=E,87nm,0.6s			*i* AML	AML	19 06 45.0	
TASB	**TASBURUN-IGDIR**	**1.39**	**25**	Pn	**Pg**	**19 06 23.3**	**-0.6**
CUKT	**Cukurca**	**1.48**	**176**	Pn	**Pb**	**19 06 24.4**	**-0.5**
VRTB	**Varto-Mus**	**1.63**	**286**	Pn	**Pb**	**19 06 27.1**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.88**	**253**	Pn	**Pb**	**19 06 30.6**	**-0.9**
SENK	**Senkaya-Erzuru**	**2.02**	**335**	Pn	**Pn**	**19 06 32.5**	**+1.1**
BNGB	**Bingl**	**2.20**	**278**	Pn	**Pn**	**19 06 34.7**	**+1.0**

*NEIC **26** 19:29:53.6±1.6, 17°.22N±0°.08×68°.25W±0°.02, h35km±2km, ML2.4/12, Md3.3/4(RSPR), Error ellipse: s-maj=14.2km s-min=3.1km az=350.0*

*RSPR **26** 19:29:54.0, 17°.29N×68°.35W, h47km±5km, MD3.3/4*

*SDD **26** 19:29:56.8±1.6, 17°.80N×68°.48W, h17km±13km, MD3.0, ML2.4, MW3.0*

ISC 26 19:29:52.5±1.2, 17°.2N±0°.1×68°.35W±0°.05, h35km, n23, σ1$76/23, 3C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**1.27**	**358**	*e*Pg	Pn	19 30 10.2	-3.6
PCDR				*e*S	Sn	19 30 19.6	-10
PCDR	comp=N,751nm,1.9s			IAML		19 30 19.7	
CRPR	**Cabo Rojo, PR**	**1.41**	**57**	⇑*e*P	**Pn**	**19 30 15.8**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.41**	**57**	*e*S	**Sn**	**19 30 32.9**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.41**	**57**		**Pn**	**19 30 15.8**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.41**	**57**		**Sn**	**19 30 32.9**	**-0.1**
MLPR	**Magueyes Islan**	**1.44**	**59**	⇑*e*P	**Pn**	**19 30 16.2**	**0.0**
MLPR	**Magueyes Islan**	**1.44**	**59**	*e*S	**Sn**	**19 30 33.4**	**-0.5**
MLPR	**Magueyes Islan**	**1.44**	**59**		**Pn**	**19 30 16.2**	**0.0**
MLPR					**Sn**	**19 30 33.4**	**-0.5**
MLPR	**Magueyes Islan** comp=N,33nm,2.9s	**1.44**	**59**	IAML		19 31 00.7	
MLPR	**Magueyes Islan**	**1.44**	**59**	*e*P	**Pn**	**19 30 19.9**	**+3.7**
MLPR				*e*S	**Sn**	**19 30 36.5**	**+2.6**
MLPR				IAML		19 31 00.3	
MIDR	**Miches** comp=N,32nm,2.1s	**1.87**	**339**	*e*Pg	Pn	19 30 18.4	-3.6
MIDR				*e*Sg	Sn	19 30 36.1	-8.2
MIDR				IAML		19 31 10.6	
AOPR	**Arecibo Observ** comp=N,28nm,3.1s	**1.88**	**54**	⇓*e*P	**Pn**	**19 30 20.0**	**-2.2**
AOPR				*e*S	**Sn**	**19 30 46.5**	**+1.8**
AOPR	**Arecibo Observ**	**1.88**	**54**		**Pn**	**19 30 20.0**	**-2.2**
AOPR	**Arecibo Observ** comp=E,46nm,0.4s	**1.88**	**54**	IAML		19 30 48.1	
AOPR	comp=N,39nm,1.5s			IAML		19 30 48.6	
AOPR	**Arecibo Observ**	**1.88**	**54**	*e*Pg	Pn	19 30 27.6	+5.4
AOPR				*e*Sg	**Sn**	**19 30 47.9**	**+3.2**
AOPR	comp=N,35nm,0.8s			IAML		19 30 48.2	
CELP	**Cerrillos**	**1.88**	**63**	⇑*e*P	**Pn**	**19 30 22.4**	**+0.2**
CELP	**Cerrillos**	**1.88**	**63**	*e*S	**Sn**	**19 30 45.0**	**+0.2**
CELP	**Cerrillos**	**1.88**	**63**		**Pn**	**19 30 22.4**	**+0.2**
CELP					**Sn**	**19 30 45.0**	**+0.2**
CELP	**Cerrillos** comp=N,25nm,2.6s	**1.88**	**63**	IAML		19 30 47.7	
CELP	comp=E,20nm,0.8s			IAML		19 30 48.5	
EMPR	**Esperanza - Ma**	**2.13**	**54**	Pn	**Pn**	**19 30 22.9**	**-2.6**
HUMP	**Col San Antoni**	**2.55**	**69**	Sn	**Sn**	**19 30 59.0**	**-2.1**
**SDD

XMIS	Christmas Isla	3.82	145	P		Pn	19 43 59.9	-5.8
XMIS	Christmas Isla	3.82	145			Pn	19 44 00.2	-5.4
BBJI	Bungbulang	4.22	92	P		Pn	19 44 10.0	-1.1
LEM	Lembang	4.22	83	Pn		Pn	19 44 12.3	+1.0
	16nm,0.3s,baz=181,slow=3.8,SNR=21							
LEM					Sn	Sn	19 45 00.6	-0.1
	10nm,0.3s,baz=101,slow=21,SNR=4.5							
LEM					LR	LR	19 46 22.6	
	comp=Z,152nm,21.1s,baz=288,slow=44							
	47nm,0.4s							
LEM	Lembang	4.22	83	P		Pn	19 44 11.8	+0.6
CMJI	Cimerak	5.02	95	P		Pn	19 44 20.5	-1.7
	125nm,0.7s,3µm0.7nm							
KPJI	Karang Pucung	5.49	90	P		Pn	19 44 28.8	+0.3
	33nm,0.6s,0.2nm							
KRJI	Kerinci	5.57	340	P		Pn	19 44 28.9	-0.9
	197nm,0.7s,3µm1.0nm							
PPSI	Pulau Pagai	5.67	323	P		Pn	19 44 29.4	-1.7
	118nm,1.2s,0.5nm							
PPBI	Pangkal Pinang	5.83	28	P		Pn	19 44 32.2	-1.1
	13nm,2.0s,0.5nm							
SMRI	Semarang	6.99	88	Pn		Pn	19 44 48.6	-0.6
PDSI	Padang	7.04	335	P		Pn	19 44 47.4	-2.5
	60nm,0.7s,1µm0.3nm							
UGM	Wanagama	7.08	95	P		Pn	19 44 49.9	-0.6
UGM	Wanagama	7.08	95	Pn		Pn	19 44 49.4	-1.1
UGM	Wanagama	7.08	95	P		Pn	19 44 49.0	-1.5
	69nm,1.1s,0.5nm							
PWJI	Pagerwojo	8.36	95	P		Pn	19 45 06.9	-1.1
	63nm,0.9s							
PBSI	Pulau Batu	8.87	325	P		Pn	19 45 13.0	-2.0
	108nm,1.2s							
GMJI	Gumukmas	9.99	96	P		Pn	19 45 29.2	-1.2
	18nm,1.3s							
GSI	Gunungsitoli	10.38	326	P		Pn	19 45 33.1	-2.6
GSI	Gunungsitoli	10.38	326	Pn		Pn	19 45 33.8	-1.9
GSI	Gunungsitoli	10.38	326	P		Pn	19 45 33.6	-2.1
	26nm,1.6s							
JAGI	Jajag, Banyuwa	10.71	97	P		Pn	19 45 39.7	-0.6
JAGI	Jajag, Banyuwa	10.71	97	Pn		Pn	19 45 39.5	-0.7
JAGI	Jajag, Banyuwa	10.71	97	P		Pn	19 45 39.3	-1.0
	26nm,1.0s							
SRBI	Singaraja	11.73	94	P		Pn	19 45 53.3	-0.9
	23nm,0.7s							
SNSI	Sinabang, Aceh	11.99	324	P		Pn	19 45 56.6	-1.2
	60nm,1.2s							
TWSI	Taliwang, Sumb	13.42	97	P		Pn	19 46 14.3	-3.1
	18nm,1.2s							
PLAI	Plampang	14.31	97	P		Pn	19 46 27.9	-1.6
	23nm,1.3s							
TOLI2	Tolitoli	19.27	65	P		P	19 47 31.8	+0.1
TOLI2	Tolitoli	19.27	65	P		P	19 47 31.6	-0.1
BATI	Baumata	20.23	100	P		P	19 47 42.1	-0.1
	18nm,0.7s,baz=291,slow=8.6,SNR=6.0							
	18nm,0.7s							
BATI	Baumata	20.23	100	P		P	19 47 40.6	-1.6
	26nm,0.9s							
SOEI	Soe	20.77	98	P		P	19 47 46.6	-1.6
SOEI					IAmb	IAmb	19 48 17.6	
	comp=Z,40nm,1.1s							
CM31	Chiang Mai Arr	26.02	350	P		P	19 48 40.6	+0.4
CM31					IAmb	IAmb	19 48 42.9	
	comp=Z,4.9nm,0.8s							
CMAR	Chiang Mai Arr	26.02	350	P		P	19 48 40.3	+0.1
	comp=Z,3.4nm,0.9s,baz=185,slow=8.5,SNR=27							
	comp=Z,3.4nm,0.9s							
H08S2	Diego Garcia H	30.64	267	T		T	20 21 38.0	
	baz=90,slow=74,SNR=9.2							
H08S3	Diego Garcia H	30.65	267	T		T	20 21 42.3	
	baz=90,slow=74,SNR=7.8							
H08S1	Diego Carcia H	30.66	267	T		T	20 21 50.6	
	baz=90,slow=74,SNR=5.8							
WRA	Warramunga Arr	32.49	116	P		P	19 49 39.4	+1.6
	comp=Z,0.4nm,0.8s,baz=286,slow=11,SNR=2.4							
	comp=Z,0.4nm,0.8s							
ASAR	Alice Springs	33.46	122	P		P	19 49 46.6	+0.3
	comp=Z,0.3nm,0.7s,baz=306,slow=7.9,SNR=2.8							
	comp=Z,0.3nm,0.7s							
STKA	Stephens Creek	43.11	130	P		P	19 51 07.5	+0.1
	comp=Z,2.0nm,1.0s,baz=292,slow=14,SNR=1.9							
	comp=Z,2.0nm,1.0s							
JMN	Monobe	50.05	33			S	19 59 11.1	-2.0
KSRS	Korea Array	50.12	25	P		P	19 52 05.2	+3.0
	comp=Z,0.7nm,0.6s,baz=220,slow=8.0,SNR=5.1							
	comp=Z,0.7nm,0.6s							
SONM	Songino Array	55.01	2	P		P	19 52 38.8	+0.4
	comp=Z,0.6nm,0.6s,baz=204,slow=3.2,SNR=2.9							
	comp=Z,0.6nm,0.6s							
MK31	Makanchi Array	57.09	343	P		P	19 52 53.3	+0.2
MKAR	Makanchi Array	57.09	343	P		P	19 52 52.8	-0.4
MKAR	Makanchi Array	57.09	343	P		P	19 52 52.9	-0.2
	comp=Z,0.9nm,0.6s,baz=145,slow=8.2,SNR=12							
	comp=Z,0.9nm,0.6s							
USRK	Ussuriysk Ar.	57.45	24	P		P	19 52 58.4	+2.7
	comp=Z,0.9nm,0.6s,baz=202,slow=7.4,SNR=2.0							
	comp=Z,0.9nm,0.6s							
H04N2	CROZET ISLANDS	58.69	220	T		T	20 57 57.0	
	baz=64,slow=74							
H04N1	CROZET ISLANDS	58.70	220	T		T	20 57 50.9	
	baz=64							
H04N3	CROZET ISLANDS	58.71	220	T		T	20 57 17.0	
	baz=64,slow=74							
KURBB	Kurchatov Arra	61.63	342	P		P	19 53 24.2	-0.2
	comp=Z,0.7nm,0.8s,baz=162,slow=6.0,SNR=7.6							
	comp=Z,0.7nm,0.8s							
ZALV	Zalesovo Beam	63.05	348	P		P	19 53 33.5	-0.4
	comp=Z,1.0nm,0.4s,baz=157,slow=7.9,SNR=7.2							
	comp=Z,1.0nm,0.4s							
BVAR	Borovoye Array	66.35	339	P		P	19 53 54.4	-1.2
	comp=Z,0.6nm,0.8s,baz=124,slow=8.9,SNR=3.0							
	comp=Z,0.6nm,0.8s							
ABKAR	Akbulak array	67.93	331	P		P	19 54 05.7	+0.1
MMAI	Mount Meron Ar	75.92	307	LR		LR	20 26 02.8	
	comp=Z,70nm,21.9s,baz=210,slow=34							
BRTR	Keskin Array B	79.41	313	P		P	19 55 12.1	-1.5
BRTR	Keskin Array B	79.41	313	P		P	19 55 12.4	-1.1
	comp=Z,0.6nm,0.6s,baz=130,slow=7.8,SNR=4.3							
	comp=Z,0.6nm,0.6s							
BURAR	Bucovina Array	87.49	318			P	19 55 56.2	+1.3
BURAR					IAmb	IAmb	19 55 57.3	
	comp=Z,1.2nm,0.8s							
BUR08	Bucovina Ar. S	87.51	319	P		P	19 55 56.1	+1.2
BUR08					IAmb	IAmb	19 56 13.2	
	comp=Z,4.9nm,1.4s							
FINES	FINESS Array B	90.39	332	P		P	19 56 08.1	0.0
	comp=Z,0.7nm,0.7s,baz=114,slow=14,SNR=3.4							
	comp=Z,0.7nm,0.7s							

*MDD **26** 19:49:24.5±0.7,36°.99N×10°.66W,h24km±16km, mb_Lg3.2/15,Error ellipse: s-maj=18.3km s-min=4.0km az=49.0*
*IGIL **26** 19:49:25.3,36°.92N×10°.67W,h32km,ML2.3*
*INMG **26** 19:49:25.4±1.4,36°.93N×10°.67W,h30km±13km,ML2.4, Error ellipse: s-maj=8.8km s-min=3.4km az=66.0*
*CNRM **26** 19:49:26.5,36°.51N×10°.17W,h30km,ML2.4*
ISC 26 19:49:21.8±2.1,36°.90N±0°.06×10°.7W±0°.1,h35km,n78, σ2s05/128,2C-1D,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PFVI	Vila Bisbo	1.52	81	⇑iP		Pn	19 49 48.6	+2.2
PFVI				eS		Sn	19 50 05.5	+0.6
PFVI				A		A	19 50 07.4	
	32nm,0.3s							
PFVI	Vila Bisbo	1.52	81	Pn		Pn	19 49 48.6	+2.2
PFVI				Sn		Sn	19 50 05.5	+0.6
PFVI	Vila Bisbo	1.52	81	P		Pn	19 49 46.9	+0.5
PFVI	Vila Bisbo	1.52	81	S		Sn	19 50 04.0	-0.9
PLAGO	Lagos	1.62	83	eS		Sn	19 50 09.3	+1.8
MORF	Marmelete	1.69	76	⇓eP		Pn	19 49 51.0	+2.2
MORF				eS		Sn	19 50 09.6	+0.5
MORF				A		A	19 50 11.9	
	29nm,0.1s							
MORF	Marmelete	1.69	76	eP		Pn	19 49 51.0	+2.2
MORF				eS		Sn	19 50 09.7	+0.5
MORF				IAML			19 50 11.9	
	comp=N,50nm,0.3s							
PTEO	Sao Teotonio	1.70	67	⇓eP		Pn	19 49 51.3	+2.3
PTEO				eS		Sn	19 50 09.9	+0.4
PTEO				A		A	19 50 10.9	
	comp=N,13nm,0.1s							
PSINE	Sines	1.80	54	eS		Sn	19 50 12.8	+0.8
PNCL	Nicolau / Gran	2.11	54	eP		Pn	19 49 56.7	+2.2
PNCL				eS		Sn	19 50 19.8	+0.3
PNCL				A		A	19 50 21.3	
	comp=N,17nm,0.1s							
PNCL	Nicolau / Gran	2.11	54	Pn		Pn	19 49 56.9	+2.4
PNCL				Sn		Sn	19 50 19.7	+0.3
MESJ	Messejana	2.19	64	eP		Pn	19 49 57.8	+2.2
MESJ				eS		Sn	19 50 21.8	+0.3
MESJ				A		A	19 50 32.0	
	comp=N,7.1nm,0.2s							
MESJ	Messejana	2.19	64	eP		Pn	19 49 57.8	+2.2
MESJ				eS		Sn	19 50 21.5	0.0
MESJ				IAML			19 50 23.5	
	comp=E,9.6nm,0.1s							
PBDV	Barranco-do-Ve	2.24	80	eP		Pn	19 49 58.9	+2.5
PBDV				eS		Sn	19 50 23.2	+0.4
PBDV				A		A	19 50 25.8	
	comp=E,6.7nm,0.2s							
PBDV	Barranco-do-Ve	2.24	80	Pn		Pn	19 49 58.9	+2.5
PBDV				Sn		Sn	19 50 23.2	+0.4
PCVE	Castro Verde	2.24	70	eP		Pn	19 49 58.7	+2.3
PCVE				eS		Sn	19 50 23.3	+0.4
PCVE				A		A	19 50 24.4	
	comp=E,9.2nm,0.3s							
PCVE	Castro Verde	2.24	70	Pn		Pn	19 49 58.7	+2.3
PCVE				Sn		Sn	19 50 22.2	-0.7
PMAFR	Mafra	2.34	28	eP		Pn	19 49 59.2	+1.5
PMAFR				eS		Sn	19 50 25.2	0.0
PMAFR				A		A	19 50 26.5	
	comp=E,35nm,0.2s							
PACT	Alcochete	2.38	38	eP		Pn	19 50 00.5	+2.3
PACT				eS		Sn	19 50 27.1	+0.9
PACT				A		A	19 50 34.7	
	comp=E,30nm,0.7s							
PVAQ	Vaqueiros	2.44	77	eP		Pn	19 50 01.6	+2.6
PVAQ				eS		Sn	19 50 27.9	+0.3
PVAQ				A		A	19 50 30.6	
	comp=E,9.1nm,0.1s							
PVAQ	Vaqueiros	2.44	77	Pn		Pn	19 50 01.6	+2.6
PVAQ				Sn		Sn	19 50 27.8	+0.2
PVAQ	Vaqueiros	2.44	77	P		Pn	19 50 01.2	+2.2
PVAQ	Vaqueiros	2.44	77	S		Sn	19 50 27.0	-0.6
PBEJ	Beja	2.52	63	eS		Sn	19 50 29.2	-0.5
PBEJ				A		A	19 50 31.1	
	comp=E,11nm,0.2s							
EVO	Evora	2.68	52	eP		Pn	19 50 04.6	+2.2
EVO				eS		Sn	19 50 33.5	-0.2
EVO				A		A	19 50 34.9	
	comp=E,34nm,0.1s							
EVO	Evora	2.68	52	Pn		Pn	19 50 05.0	+2.6
EVO				Sn		Sn	19 50 33.3	-0.4
PMTG	Montargil	2.92	41	eP		Pn	19 50 07.1	+1.4
PMTG				eS		Sn	19 50 38.7	-0.8
PMTG				A		A	19 50 43.0	
	comp=E,7.0nm,0.1s							
PSBE	So Bento	3.01	29	eP		Pn	19 50 08.6	+1.6
PSBE				eS		Sn	19 50 42.0	+0.2
PSBE				A		A	19 50 44.0	
	comp=E,8.5nm,0.4s							
PESTR	Estremoz	3.15	50	eP		Pn	19 50 11.6	+2.8
PESTR				eS		Sn	19 50 44.5	-0.7
PESTR				A		A	19 50 46.4	
	comp=E,5.3nm,0.4s							
PESTR	Estremoz	3.15	50	Pn		Pn	19 50 11.6	+2.8
PESTR				Sn		Sn	19 50 44.4	-0.7
PESTR	Estremoz	3.15	50	P		Pn	19 50 10.8	+2.0
PBAR	Barrancos	3.17	65	eP		Pn	19 50 11.5	+2.3
PBAR				eS		Sn	19 50 45.3	-0.6
PBAR				A		A	19 50 48.6	
	comp=E,3.8nm,0.2s							
PBAR	Barrancos	3.17	65	Pn		Pn	19 50 12.1	+2.9
PBAR				Sn		Sn	19 50 44.7	-1.2
EMIN	Mina Concepcio	3.32	74	Pn		Pn	19 50 13.3	+2.1
EMIN				Sn		Sn	19 50 48.1	-1.5
EMIN	Mina Concepcio	3.32	74	Pn		Pn	19 50 13.1	+1.9
EMIN				Sn		Sn	19 50 48.8	-0.7
EMIN				i	Vmb_Lg		19 50 52.6	
EBAD	Badajoz	3.46	56	Pn		Pn	19 50 15.0	+1.9
EBAD				Sn		Sn	19 50 50.8	-2.0
EBAD	Badajoz	3.46	56	Pn		Pn	19 50 14.9	+1.8
EBAD				Sn		Sn	19 50 52.0	-0.8
EBAD				i	Vmb_Lg		19 50 54.1	
PCAS	Casmilo, Conde	3.59	28	eP		Pn	19 50 16.5	+1.6
PCAS				eS		Sn	19 50 55.6	-0.5
PCAS				A		A	19 50 56.7	
	comp=E,5.8nm,0.8s							
PMRV	Marv??o	3.63	45	eP		Pn	19 50 16.9	+1.4
PMRV				eS		Sn	19 50 55.0	-2.0
PMRV				A		A	19 50 58.4	
	comp=E,6.2nm,0.3s							
PCBR	Castelo Branco	3.88	40	eP		Pn	19 50 20.8	+2.0
PCBR				eS		Sn	19 51 01.9	-1.2
PCBR				A		A	19 51 03.6	
	comp=E,4.1nm,0.6s							
ESPR	Espera	3.88	89	Pn		Pn	19 50 21.1	+2.1
ESPR				Sn		Sn	19 51 04.5	+1.2
ESPR				i	Vmb_Lg		19 51 05.5	
MTE	Manteigas	4.28	34	eP		Pn	19 50 26.0	+1.6
MTE				eS		Sn	19 51 12.1	-1.0
MTE				A		A	19 51 15.5	
	comp=E,4.7nm,0.1s							
ECAB	El Cabril	4.36	73	Pn		Pn	19 50 27.6	+2.1
ECAB				Sn		Sn	19 51 13.0	-2.2
ECAB	El Cabril	4.36	73	Pn		Pn	19 50 27.6	+2.1
ECAB				Sn		Sn	19 51 13.4	-1.7
ECAB				i	Vmb_Lg		19 51 16.2	
PVIS	Viseu	4.39	29	eP		Pn	19 50 27.5	+1.8
PVIS				eS		Sn	19 51 14.5	-1.5
PVIS				A		A	19 51 16.3	
	comp=E,7.6nm,0.1s							
AVE	Averroes	4.49	142	Sn		Sn	19 51 16.3	-2.1
EPLA	Plasencia	4.81	48	Pn		Pn	19 50 33.2	+1.5
EPLA				Sn		Sn	19 51 24.2	-1.9
EPLA				i	Vmb_Lg		19 51 26.7	
EADA	Adamuz	5.03	74	Pn		Pn	19 50 37.1	+2.3
EADA				Sn		Sn	19 51 29.7	-1.9
EADA	Adamuz	5.03	74	Pn		Pn	19 50 36.8	+2.1
EADA				Sn		Sn	19 51 30.1	-1.5
EADA				i	Vmb_Lg		19 51 33.6	
MVO	Moncorvo	5.13	33	eP		Pn	19 50 37.4	+1.3
MVO				eS		Sn	19 51 31.4	-2.7
MVO				A		A	19 51 33.0	
	comp=E,2.8nm,0.3s							
PCAB	Cabril	5.23	23	eP		Pn	19 50 38.7	+1.2
PCAB				eS		Sn	19 51 34.8	-1.8
ELOB	Lobios	5.36	22	Pn		Pn	19 50 40.4	+1.1
ELOB				Sn		Sn	19 51 36.9	-3.1
ELOB				i	Vmb_Lg		19 51 40.5	
PGAV	Gavieira, Arco	5.39	20	eP		Pn	19 50 41.2	+1.4
PGAV				eS		Sn	19 51 38.3	-2.4
PGAV				A		A	19 51 39.5	
	comp=E,6.1nm,0.4s							
EZAM	Zamans	5.46	16	Pn		Pn	19 50 42.0	+1.3
EZAM				Sn		Sn	19 51 39.5	-2.8
EZAM				i	Vmb_Lg		19 51 43.1	
PAB	San Pablo	5.65	60	Pn		Pn	19 50 45.1	+1.8
PAB				Sn		Sn	19 51 43.8	-3.3
PAB				i	Vmb_Lg		19 51 55.3	
IFR	Ifrane	5.67	125	Pn		Pn	19 50 44.9	+1.1
IFR				Sn		Sn	19 51 44.2	-3.5
PBRG	Braganca	5.78	31	eS		Sn	19 51 47.5	-2.6
PBRG				A		A	19 51 49.9	
	comp=E,1.9nm,0.2s							
PSIM	Granatula de C	5.82	69	Pn		Pn	19 50 47.6	+2.1
PSIM				Sn		Sn	19 51 48.9	-2.2
ECAL	Calabor	5.89	30	Pn		Pn	19 50 46.9	+0.2
ECAL				Sn		Sn	19 51 50.0	-3.0
AKLM	AKL	6.05	111	P		Pn	19 50 45.4	-3.4
AKLM	AKL	6.05	111	S		Sn	19 51 46.9	-10
EQES	Quesada	6.14	79	Pn		Pn	19 50 51.9	+1.8
EQES				Sn		Sn	19 51 57.5	-1.7
EQES				i	Vmb_Lg		19 52 02.4	
EMAZ	Mazaricos	6.18	12	Pn		Pn	19 50 51.3	+0.8
EMAZ				Sn		Sn	19 51 55.6	-4.4
EMAZ				i	Vmb_Lg		19 52 00.6	
EAGO	Agolada(Pontev	6.23	18	Pn		Pn	19 50 52.1	+0.9
EAGO				Sn		Sn	19 51 57.7	-3.4
EAGO				i	Vmb_Lg		19 52 01.2	
TISM	Timmit	6.25	144	P		Pn	19 50 50.3	-1.2
TISM	Timmit	6.25	144	S		Sn	19 51 50.9	-11
MD31	MD31	6.33	128	P		Pn	19 50 53.0	+0.3
MD31	MD31	6.33	128	S		Sn	19 51 54.9	-8.8
MDT	Midelt	6.46	127	P		Pn	19 50 55.0	+0.6
MDT	Midelt	6.46	127	S		Sn	19 51 59.8	-7.2
TIO	Tiouine	6.61	153	Pn		Pn	19 50 58.7	+2.2
TIO	Tiouine	6.61	153	P		Pn	19 50 54.8	-1.7
TIO	Tiouine	6.61	153	S		Sn	19 52 01.4	-9.3
TTIG	Tnine Tigouga,	6.61	163	P		Pn	19 50 53.5	-3.0
OUZM	OUZ	6.81	150	P		Pn	19 50 59.2	-0.2
OUZM	OUZ	6.81	150	S		Sn	19 52 12.0	-3.8
EPON	Pontenova	6.97	22	Pn		Pn	19 51 02.4	+1.0
EPON				Sn		Sn	19 52 15.8	-3.6
EPON				i	Vmb_Lg		19 52 35.9	
ETOR	Torete	7.79	57	Pn		Pn	19 51 15.2	+2.5
ETOR				Sn		Sn	19 52 34.6	-5.2

HEL 26 19:57:29.8±0.4,67°.92N×20°.00E,h0km,ML1.0, Suspected explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LANU	Lannavaara	0.77	79	P		Pg	19 57 44.5	+0.1
LANU				SG		Sg	19 57 53.6	-0.7
KIF	Kilpisjarvi	1.13	15	MSG			19 58 05.3	
	comp=Z,1.4nm,0.2s							
KIF				SN		Sn	19 58 09.6	+0.6
HEF	Hetta	1.46	69	PN		Pn	19 57 57.4	+0.1
HEF				MSG			19 58 13.6	
	comp=Z,0.8nm,0.2s							
HEF				SN		Sg	19 58 15.9	-0.6
PAJU	Pajala	1.50	125	PG		Pn	19 57 56.5	-1.4
	baz=313							
PAJU				SG		Sg	19 58 15.3	-2.6
KLF	Kolari	1.67	112	PN		Pg	19 58 01.8	0.0
KLF				MSG			19 58 19.8	
	comp=Z,0.7nm,0.2s							
KLF				SG		Sn	19 58 21.6	-0.7
KALU	Kalix	2.46	146	PB		Pn	19 58 12.3	+1.3
KALU				SB		Sb	19 58 43.7	-1.8
TOF	Tornio	2.51	135	PB		Pn	19 58 13.3	+1.6
TOF				MSG			19 58 43.9	
	comp=Z,0.6nm,0.2s							
TOF				SG		Sb	19 58 46.9	-0.1
SGF	Sodankyl	2.54	98	SG		Sg	19 58 49.8	-1.4
ARA0	ARCESS Array S	2.58	49	SG		Sb	19 58 49.8	+0.6
RNF	Rovaniemi	2.68	117	PB		Pb	19 58 16.8	-1.8
RNF				SB		Sb	19 58 50.6	-1.4
KMNF	Kaamanen	2.86	61	SG		Sb	19 58 56.8	-0.2
KEV	Kevo	3.14	51	MSG			19 59 02.0	
	comp=Z,0.4nm,0.2s							
KEV				SB		Sb	19 59 02.7	-2.5

*IDC **26** 19:58:50.3±0.8,34°.15N×134°.99E,h0km,mb3.5/8, mbtmp3.5/12,ML3.1/4,MS2.5/2,Error ellipse: s-maj=18.3km s-min=17.5km az=3.0*
*NIED **26** 19:58:51.6,34°.18N×135°.09E,h9km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr3.31; Mθθ0.49; Mϕϕ -3.80; Mrθ-1.97; Mϕθ-0.38; Mϕr-0.82; Fault plane solution: M₀4.17000×10¹⁴ NP1: ϕs210.00000°,δ58.00000°,λ120.00000°. NP2: ϕs342.00000°,δ43.00000°,λ51.00000°.*
*JMA **26** 19:58:51.6±0.1,34°.2N±0°.2×135°.1E±0°.2,h9km±1km, MV3.7/20,NW WAKAYAMA PREF*
JMA Felt II J1 at NW WAKAYAMA PREF .
ISC 26 19:58:51.5±1.1,34°.16N±0°.03×135°.05E±0°.03,h7km±8km, n28,σ0s95/33,mb3.4/8,17D,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JAWN	Awajishima-nag	0.35	339	⇓iP		Pg	19 58 58.7	+0.4
JAWN				⇓S		Sg	19 59 03.6	+0.6
JWM	Minabe	0.40	141	⇓iP		Pg	19 58 59.6	+0.4
JWM				⇓S		Sg	19 59 04.9	+0.4
JWY	Kouya	0.45	82	⇓iP		Pg	19 58 59.4	-0.8
JTNC	Tanabenakahech	0.57	126	⇓iP		Pg	19 59 02.8	+0.3
JTNC				⇓eS		Sg	19 59 10.3	+0.2
JAI	Aioi	0.62	234	⇓iP		Pb	19 59 04.0	-0.6
JAI				⇓eS		Sb	19 59 13.7	+0.1
JHE	Heguri	0.72	46	⇓iP		Pg	19 59 04.7	-0.6
JHE				⇓S		Sg	19 59 13.8	-0.9
JKS	Kasai	0.84	348	⇓iP		Pg	19 59 07.4	-0.2
JKS				⇓S		Sg	19 59 18.5	-0.1
JJS	Sakaide	0.95	283	⇓iP		Pg	19 59 09.5	-0.3
JJS				⇓S		Sb	19 59 23.1	-0.1
JKN2	Miekihoku	1.01	85	⇓iP		Pg	19 59 10.1	-0.9
JKN2				⇓S		Sg	19 59 23.6	-0.5
MJAR	Matsushiro Arr	3.51	46	Pn		Pn	19 59 47.1	+0.7
	0.2nm,0.3s,baz=1.6,slow=11,SNR=12							
MJAR				Sn		Sn	20 00 30.3	+2.1
	0.1nm,0.3s,baz=207,slow=16,SNR=2.1							
	1.7nm,0.4s							
JNU	Nakatsue	3.63	255	Pn		Pn	19 59 49.0	+0.8
	3.7nm,0.3s,baz=36,slow=5.1,SNR=34							
JNU				Sn		Sn	20 00 30.1	-1.2
	0.8nm,0.3s,baz=199,slow=8.6,SNR=1.4							
	7.5nm,0.3s							
JHJ	Hachijo jima 2	4.08	103	Pn		Pn	19 59 55.2	+0.9
	4.5nm,0.3s,baz=108,slow=22,SNR=7.1							
JHJ				Sn		Sn	20 00 42.3	0.0
	2.8nm,0.3s,baz=47,slow=20,SNR=1.9							
	18nm,0.4s							
KSRS	Korea Array	6.66	302	Pn		Pn	20 00 30.9	+1.2
	0.8nm,0.3s,baz=119,slow=14,SNR=24							
KSRS				Sn		Sn	20 01 46.8	+1.0
	0.7nm,0.3s,baz=117,slow=24,SNR=9.4							
KSRS				LR		LR	20 03 11.9	
	comp=Z,26nm,18.5s,baz=115,slow=39							
	4.3nm,0.6s

KEV	**Kevo**	**2.73**	**308**	MSG		20 00 17.0	
	comp=Z,1.6nm,0.2s						
KEV				SB	Sn	20 00 17.2	+1.9
ARA0	**ARCESS Array S**	**3.09**	**300**	PN	Pn	19 59 46.5	-0.2
ARA0				SN	Sn	20 00 24.1	-0.2
RNF	**Rovaniemi**	**3.18**	**244**	SN	Sn	20 00 26.3	-0.1
HEF	**Hetta**	**3.54**	**278**	SN	Sn	20 00 34.2	-1.1
KLF	**Kolari**	**3.63**	**259**	SG	Sb	20 00 49.2	+3.0
KTK1	**Kautokeino**	**3.73**	**288**	SG	Sb	20 00 51.4	+2.2
LANU	**Lannavaara**	**4.18**	**273**	PG	Pb	20 00 11.3	+0.2

NEIC ***26*** *20:18:33.8±2.4, 35°.04N±0°.05×27°.74E±0°.05, h10km±5km, mb4.1/16, Error ellipse: s-maj=8.4km s-min=5.3km az=209.0*

IDC ***26*** *20:18:33.2±0.8, 35°.02N×27°.72E, h0km, mb4.0/14, mbtmp3.9/22, ML3.4/8, MS3.1/16, Error ellipse: s-maj=17.4km s-min=14.1km az=176.0*

NIC ***26*** *20:18:34.5, 34°.90N×27°.70E, h17km±6km, Ml3.5/8*

NAO ***26*** *20:18:34.8, 34°.80N×27°.75E, h33km, mb3.8*

ISK ***26*** *20:18:35.9, 35°.15N×27°.83E, h3km, ML3.3/11*

GII ***26*** *20:18:38.0±0.5, 34°.909N±0°.004×27°.918E±0°.002, h30km, Mws3.7, confirmed*

ATH ***26*** *20:18:39.3, 35°.21N×27°.76E, h11km±2km, ML3.2/3, Error ellipse: s-maj=4.8km s-min=1.5km az=323.0*

THE ***26*** *20:18:40.3, 35°.30N×27°.63E, h0km±1km, ML3.2/4, Error ellipse: s-maj=6.1km s-min=1.4km az=142.0*

AFAD ***26*** *20:18:41.7±0.0, 35°.43N×28°.24E, h25km±4km, ML3.0*

ISC 26 20:18:34.1±1.3, 34°.99N±0°.03×27°.88E±0°.03, h6km±8km, n149, σ1°83/149, mb4.1/21, MS3.2/10, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.81**	**314**	Pg		**Pg**	**20 18 49.6**	**-0.1**
KARP	**Karpathos**	**0.81**	**314**	P		**Pg**	**20 18 49.3**	**-0.4**
KARP				S		**Sg**	**20 18 58.4**	**-1.9**
	5μm,1.0s							
KARP	**Karpathos**	**0.81**	**314**	Pg		**Pg**	**20 18 47.5**	**-2.2**
KARP	**Karpathos**	**0.81**	**314**	P		**Pg**	**20 18 49.1**	**-0.6**
KARP				S		**Sb**	**20 19 01.3**	**-0.6**
KARP				AML	AML		20 19 11.6	
	11nm,0.9s							
KARP				AML	AML		20 19 19.3	
	7.6nm,0.7s							
KARP	**Karpathos**	**0.81**	**314**	P		**Pb**	**20 18 51.7**	**+1.1**
KARP	**Karpathos**	**0.81**	**314**	P		**Pg**	**20 18 50.2**	**+0.5**
KARP				S		**Sg**	**20 18 58.9**	**-1.3**
KARP				AML	AML		20 19 12.0	
	comp=E,11172μm,0.9s							
KARP				AML	AML		20 19 14.2	
	comp=N,7322μm,1.1s							
ARG	**Arkhangelos**	**1.24**	**9**	Pn		**Pb**	**20 18 57.8**	**-0.1**
ARG				Sn		**Sb**	**20 19 13.4**	**-0.8**
ARG	**Arkhangelos**	**1.24**	**9**	P		**Pb**	**20 18 58.5**	**+0.6**
ARG				S		**Sn**	**20 19 15.7**	**+0.7**
	comp=N,1μm,0.8s							
ARG	**Arkhangelos**	**1.24**	**9**			**Pb**	**20 18 55.9**	**-2.0**
ARG	**Arkhangelos**	**1.24**	**9**	P		**Pb**	**20 18 58.5**	**+0.6**
ARG				S		**Sn**	**20 19 17.1**	**+2.1**
ARG				AML	AML		20 19 31.6	
	comp=N,2.7nm,0.9s							
ARG				AML	AML		20 19 35.5	
	comp=N,2.3nm,0.8s							
ARG	**Arkhangelos**	**1.24**	**9**	P		**Pb**	**20 18 58.0**	**+0.1**
ARG				S		**Sb**	**20 19 13.0**	**-1.1**
ARG				AML	AML		20 19 31.9	
	comp=E,2702μm,0.9s							
ARG				AML	AML		20 19 35.7	
	comp=N,2247μm,0.8s							
ZKR	**Zakros**	**1.37**	**276**	Pn		**Pb**	**20 19 01.9**	**+1.8**
ZKR				Sn		**Sg**	**20 19 21.1**	**+2.9**
ZKR	**Zakros**	**1.37**	**276**	P		**Pg**	**20 19 02.5**	**+2.1**
ZKR				S		**Sg**	**20 19 19.6**	**+1.4**
	comp=N,1μm,0.8s							
ZKR	**Zakros**	**1.37**	**276**	P		**Pg**	**20 19 02.4**	**+2.0**
ZKR				S		**Sb**	**20 19 18.0**	**+0.1**
ZKR				AML	AML		20 19 37.2	
	comp=E,1628μm,0.9s							
ZKR				AML	AML		20 19 37.6	
	comp=N,959μm,0.9s							
YAZI	**Mula-Datşa-**	**1.73**	**348**	P		**Pn**	**20 19 03.2**	**-1.4**
YAZI				S		**Sg**	**20 19 27.4**	**-2.2**
DAT	**Datca**	**1.76**	**352**	Pn		**Pn**	**20 19 05.9**	**+0.8**
DAT	**Datca**	**1.76**	**352**	P		**Pb**	**20 19 06.9**	**+0.1**
DAT				S		**Sg**	**20 19 32.1**	**+1.6**
DAT				*i* AML	AML		20 19 42.0	
	comp=N,265nm,0.6s							
FRMA	**Ierapetra Chan**	**1.77**	**271**	P		**Pn**	**20 19 06.7**	**+1.6**
FRMA				S		**Sn**	**20 19 27.2**	**-0.7**
	comp=N,380nm,0.8s							
TURN	**Turunc**	**1.81**	**9**	Pn		**Pn**	**20 19 07.0**	**+1.3**
AKAS	**Kas**	**1.87**	**48**	Pn		**Pn**	**20 19 08.6**	**+1.8**
FETY	**Fethiye**	**1.91**	**30**	Pn		**Pn**	**20 19 08.7**	**+1.5**
FETY	**Fethiye**	**1.91**	**30**	P		**Pn**	**20 19 07.9**	**+0.8**
DALY	**Dalyan (Mula)**	**1.93**	**19**	Pn		**Pn**	**20 19 08.8**	**+1.4**
BODT	**Bodrum**	**2.12**	**348**	Pn		**Pn**	**20 19 11.6**	**+1.5**
CAME	**Cameli-Denizli**	**2.27**	**30**	Pn		**Pn**	**20 19 13.9**	**+1.7**
MULA	**Mugla, Merkez-**	**2.29**	**9**	P		**Pn**	**20 19 13.8**	**+1.4**
MULA				*i* AML	AML		20 19 37.0	
	comp=N,112nm,1.5s							
MLSB	**Milas**	**2.31**	**358**	Pn		**Pn**	**20 19 13.7**	**+1.1**
KNIK	**Mula-Seydike**	**2.31**	**36**	P		**Pn**	**20 19 13.8**	**+1.1**
KSTL	**Kastelli Herak**	**2.33**	**279**	P		**Pn**	**20 19 12.2**	**-0.6**
AKUM	**Antalya-Kumluc**	**2.41**	**56**	P		**Pn**	**20 19 14.7**	**+0.7**
ELL	**Elmali**	**2.41**	**43**	Pn		**Pn**	**20 19 14.3**	**+0.2**
ELL	**Elmali**	**2.41**	**43**	P		**Pn**	**20 19 16.0**	**+2.0**
ELL				S		**Sn**	**20 19 47.5**	**+3.5**
ELL				AML	AML		20 20 09.0	
	comp=N,1.0nm,1.1s							
ELL				AML	AML		20 20 24.1	
	comp=N,0.8nm,1.1s							
CAEL	**Denizli, Camel**	**2.43**	**28**	P		**Pn**	**20 19 15.1**	**+0.7**
CAEL				*i* AML	AML		20 19 44.0	
	comp=N,158nm,0.9s							
DNZT	**Denizli-Tavas-**	**2.47**	**22**	P		**Pn**	**20 19 16.9**	**+2.0**
THR3	**Thira Island,**	**2.47**	**306**	P		**Pn**	**20 19 15.8**	**+1.0**
SNT5	**Nea Kammeni, S**	**2.47**	**306**	P		**Pn**	**20 19 17.1**	**+2.3**
IDI	**Anoyia**	**2.47**	**278**	Pn		**Pn**	**20 19 17.5**	**+2.6**
IDI	**Anoyia**	**2.47**	**278**	P		**Pn**	**20 19 18.2**	**+3.3**
IDI	**Anoyia**	**2.47**	**278**			**Pn**	**20 19 12.2**	**-2.8**
IDI	**Anoyia**	**2.47**	**278**	Pn		**Pn**	**20 19 18.0**	**+3.0**
	comp=N,0.1nm,0.3s,baz=86,slow=15,SNR=34							
IDI				Sn		**Sg**	**20 19 51.9**	**-1.6**
	comp=N,0.1nm,0.3s,baz=198,slow=22,SNR=3.2							
IDI	**Anoyia**	**2.47**	**278**	P		**Pn**	**20 19 18.4**	**+3.5**
TAVA	**DENİZLİ_Tavas**	**2.61**	**18**	P		**Pn**	**20 19 19.2**	**+2.3**
TAVA				*i* AML	AML		20 20 12.0	
	comp=N,98nm,1.1s							
DNIZ	**Denizli-Tavas-**	**2.79**	**19**	P		**Pn**	**20 19 20.4**	**+1.0**
DNIZ				*i* AML	AML		20 20 19.0	
	comp=N,89nm,1.2s							
APE	**Apeiranthos**	**2.82**	**318**	Pn		**Pn**	**20 19 21.3**	**+1.6**
APE	**Apeiranthos**	**2.82**	**318**	P		**Pn**	**20 19 21.3**	**+1.6**
APE	**Apeiranthos**	**2.82**	**318**	P		**Pn**	**20 19 21.5**	**+1.8**
ESEN	**Aydn-Nazilli**	**2.83**	**7**	P		**Pn**	**20 19 21.2**	**+1.4**
SMG	**Samos**	**2.84**	**343**	P		**Pn**	**20 19 21.4**	**+1.4**
INCE	**Denizli-Bozkur**	**3.04**	**26**	P		**Pn**	**20 19 25.7**	**+2.9**
BRDR	**BURDUR-Merkez**	**3.22**	**32**	P		**Pn**	**20 19 29.4**	**+4.1**
IMMV	**Iera Moni Meta**	**3.23**	**280**	P		**Pn**	**20 19 28.8**	**+3.5**
IMMV	**Iera Moni Meta**	**3.23**	**280**	P		**Pn**	**20 19 29.1**	**+3.8**
KIRA	**zmir-Kiraz**	**3.23**	**7**	P		**Pn**	**20 19 25.7**	**+0.3**
KIRA				*i* AML	AML		20 20 46.0	
	comp=N,67nm,1.3s							
AKMS	**Akamas**	**3.65**	**88**	P		**Pn**	**20 19 32.6**	**+1.5**
AKMS				AML	AML		20 20 24.6	
	comp=N,0.2nm,0.8s							
AKMS				AML	AML		20 20 25.4	
	comp=N,0.2nm,0.7s							
USAK	**Uak-Merkez**	**3.83**	**13**	P		**Pn**	**20 19 31.9**	**-1.7**
ANKY	**Antikythira Is**	**3.84**	**285**	P		**Pn**	**20 19 36.1**	**+2.4**
NATA	**Nata**	**3.86**	**92**	P		**Pn**	**20 19 36.1**	**+2.2**
NATA				S		**Sn**	**20 20 23.6**	**+4.1**
NATA				AML	AML		20 20 27.6	
	comp=N,0.3nm,1.0s							
NATA				AML	AML		20 20 35.4	
	comp=N,0.4nm,0.9s							
ALFC	**Alefka**	**3.87**	**86**	P		**Pn**	**20 19 35.6**	**+1.5**
ALFC				AML	AML		20 20 26.3	
	comp=N,0.2nm,0.6s							
ALFC				AML	AML		20 20 37.1	
	comp=N,0.2nm,0.5s							
TROD	**Troodos**	**4.09**	**89**	S		**Sn**	**20 20 28.9**	**+3.2**
LEF	**Lefka**	**4.11**	**87**	P		Pn	20 19 42.9	+5.6
ASGA	**Asgata**	**4.41**	**91**	P		**Pn**	**20 19 43.3**	**+1.7**
ASGA				AML	AML		20 20 42.0	
	comp=N,0.3nm,0.7s							
ASGA				AML	AML		20 20 52.6	
	comp=N,0.1nm,1.3s							
CSS	**Mathiatis**	**4.47**	**89**	Pn		**Pn**	**20 19 43.1**	**+0.7**
CSS	**Mathiatis**	**4.47**	**89**	P		**Pn**	**20 19 44.5**	**+2.1**
CSS				AML	AML		20 20 54.6	
	comp=N,0.1nm,0.7s							
CSS				AML	AML		20 21 01.0	
	comp=N,0.1nm,0.8s							
CSS	**Mathiatis**	**4.47**	**89**	P		**Pn**	**20 19 44.3**	**+1.9**
MVOU	**Mavrovouni**	**4.72**	**88**	P		**Pn**	**20 19 48.5**	**+2.7**
AGG	**Agios Georgios**	**6.00**	**314**	Pn		**Pn**	**20 20 06.4**	**+3.0**
MMAI	**Mount Meron Ar**	**6.55**	**105**	Pn		Pn	20 20 10.9	0.0
	comp=N,1.2nm,0.3s,baz=299,slow=15,SNR=7.0							
MMAI				Sn		**Sn**	**20 21 27.9**	**+1.9**
	comp=N,0.5nm,0.3s,baz=279,slow=30,SNR=2.0							
	comp=N,3.0nm,0.7s							
BRTR	**Keskin Array B**	**6.58**	**42**	Pn		**Pn**	**20 20 12.5**	**+1.0**
	comp=N,0.3nm,0.3s,baz=222,slow=14,SNR=7.5							
BRTR				Sn		**Sn**	**20 21 28.4**	**+1.5**
	baz=213,slow=23							
	comp=N,1.0nm,0.6s							
KZIT	**Kziot**	**6.82**	**125**	P		**Pn**	**20 20 16.2**	**+1.6**
KZIT	**Kziot**	**6.82**	**125**	S		**Sn**	**20 21 31.7**	**-0.9**
KZIT	**Kziot**	**6.82**	**125**	P		Pn	20 20 15.0	+0.3
QRNJ	**Al-Qirein**	**6.94**	**110**	P		**Pn**	**20 20 17.9**	**+1.7**
YTIR	**Yattir**	**7.06**	**119**	P		Pn	20 20 18.6	+0.6
YTIR	**Yattir**	**7.06**	**119**	S		**Sn**	**20 21 36.9**	**-1.6**
DSI	**Dead Sea**	**7.14**	**116**	P		**Pn**	**20 20 20.8**	**+1.8**
DSI	**Dead Sea**	**7.14**	**116**	P		**Pn**	**20 20 20.1**	**+1.0**
DSI	**Dead Sea**	**7.14**	**116**	S		**Sn**	**20 21 38.9**	**-1.6**
MSBI	**Mazada**	**7.26**	**118**	P		**Pn**	**20 20 22.0**	**+1.4**
LISJ	**El Lisan**	**7.39**	**118**	P		**Pn**	**20 20 25.3**	**+3.0**
GHAJ	**Ghor Haditha**	**7.42**	**118**	Pn		**Pn**	**20 20 24.7**	**+1.9**
GHAJ	**Ghor Haditha**	**7.42**	**118**	P		**Pn**	**20 20 27.0**	**+4.2**
GHAJ	**Ghor Haditha**	**7.42**	**118**	P		**Pn**	**20 20 24.6**	**+1.9**
PRNI	**Paran**	**7.58**	**126**	P		Pn	20 20 25.5	+0.5
HRFI	**Mount Harif**	**7.80**	**127**	S		Sn	20 21 54.7	-2.0
HRFI	**Mount Harif**	**7.80**	**127**	P		**Pn**	**20 20 29.3**	**+1.1**
MBRI	**Mt Berech**	**7.88**	**129**	P		**Pn**	**20 20 32.1**	**+2.8**
EIL	**Elat**	**7.99**	**130**	Pn		Pn	20 20 31.3	+0.6
	comp=N,0.7nm,0.3s,baz=336,slow=13,SNR=7.3							
EIL				Sn		**Sn**	**20 22 00.4**	**-1.0**
	comp=N,0.8nm,0.3s,baz=32,slow=7.1,SNR=5.4							
	comp=N,3.1nm,0.5s							
EIL	**Elat**	**7.99**	**130**	S		**Sn**	**20 22 00.5**	**-1.0**
EIL	**Elat**	**7.99**	**130**	P		**Pn**	**20 20 31.8**	**+1.1**
ASF	**Jabal al Asfar**	**8.03**	**108**	Pn		**Pn**	**20 20 33.0**	**+1.8**
	comp=N,0.1nm,0.3s,baz=19,slow=0.4,SNR=6.8							
ASF				LR		LR	20 25 12.7	
	comp=N,104nm,22.0s,baz=333,slow=49							
	comp=N,4.7nm,0.8s							
TIP	**Timpagrande**	**9.82**	**298**			**Pn**	**20 20 54.8**	**-1.1**
CUC	**Castrocucco**	**10.81**	**301**	Pn		**Pn**	**20 21 06.3**	**-3.0**
KIV	**Kislovodsk**	**14.50**	**47**			**Pn**	**20 21 58.4**	**-1.5**
KVAR	**Kislovodsk Arr**	**14.51**	**47**	Pn		**P**	**20 22 07.1**	**+0.3**
	baz=253,slow=19							
	comp=N,1.2nm,0.6s							
KBZ	**Khabaz**	**14.51**	**49**	Pn		**P**	**20 22 10.6**	**+3.9**
	comp=N,0.1nm,0.3s,baz=222,slow=9.8,SNR=10							
KBZ				LR		LR	20 27 52.4	
	comp=N,52nm,21.5s,baz=250,slow=38							
KEST	**Kesra**	**15.15**	**278**	Pn		**Pn**	**20 22 05.9**	**-2.7**
	comp=N,0.1nm,0.3s,baz=347,slow=6.2,SNR=2.2							
	comp=N,8.2nm,1.1s							
LANS	**Liptovska Anna**	**15.46**	**339**	*e*PN		**Pn**	**20 22 13.6**	**+1.0**
AKASG	**Malin Array Be**	**15.74**	**3**	Pn		**Pn**	**20 22 16.3**	**+0.2**
	comp=N,0.2nm,0.3s,baz=197,slow=10,SNR=2.0							
AKASG				LR		LR	20 28 35.7	
	comp=N,20nm,21.4s,baz=198,slow=38							
	comp=N,0.3nm,0.5s							
KBA	**Koelnbreinsper**	**16.28**	**322**	*e*Pn		**P**	**20 22 27.4**	**+0.9**
	comp=N,0.6nm,0.4s							
KBA				Sn		**S**	**20 25 36.8**	**-0.6**
	comp=N,2.2nm,0.9s							
ABTA	**Abfaltersbach**	**16.49**	**320**	*e*Pn		**P**	**20 22 28.6**	**-0.1**
	comp=N,1.9nm,0.6s							
ABTA				*e*Sn		**Sn**	**20 25 34.1**	**+4.8**
	comp=N,2.9nm,0.8s							
VRAC	**Vranov**	**16.55**	**333**	LR		LR	20 29 58.6	
	comp=N,94nm,20.5s,baz=158,slow=42							
BIOA	**Bad Ischl, Aus**	**16.56**	**324**	*e*Pn		**Pn**	**20 22 28.1**	**+1.3**
	comp=N,1.0nm,0.5s							
LESA	**Schwarzleotal**	**16.85**	**322**	*i* Pn		**Pn**	**20 22 31.5**	**+0.9**
	comp=N,2.4nm,0.7s							
WATA	**Walderalm**	**17.36**	**320**	*e*Pn		**P**	**20 22 40.1**	**+1.6**
	comp=N,3.5nm,0.9s							
GERES	**GERESS Array B**	**17.37**	**327**	P		**Pn**	**20 22 37.2**	**+0.2**
	comp=N,0.1nm,0.3s,baz=124,slow=14,SNR=5.1							
GERES				LR		LR	20 30 41.5	
	comp=N,64nm,18.3s,baz=146,slow=42							
	comp=N,1.1nm,0.8s							
MOTA	**Moosalm**	**17.62**	**320**	*e*Pn		**Pn**	**20 22 40.8**	**+0.6**
	comp=N,6.1nm,1.7s							
FETA	**Feichten**	**17.62**	**318**	*e*Pn		**Pn**	**20 22 41.8**	**+1.5**
	comp=N,5.4nm,1.0s							
KHC	**Kasperske Hory**	**17.64**	**328**	Pn		**Pn**	**20 22 37.5**	**-2.8**
DAVOX	**Davos/Dischmat**	**17.95**	**316**	LR		LR	20 31 14.0	
	comp=N,75nm,19.0s,baz=118,slow=43							
SENIN	**Lac Senin/Sane**	**19.25**	**312**	P		**P**	**20 22 59.2**	**-0.1**
CLL	**Collm**	**19.53**	**331**	*e*Px		Px	20 23 02.0	
CLL				*e*S		**S**	**20 26 42.0**	**-0.9**
CLL				AMS	AMS		20 30 00.0	
	comp=N,100nm,18.1s							
CLL				AMS	AMS		20 30 00.0	
	comp=E,100nm,19.3s							
TAM	**Tamanrasset**	**22.98**	**244**	P		**P**	**20 23 36.4**	**-3.3**
ESDC	**Sonseca Array**	**25.68**	**290**	P		**P**	**20 24 04.1**	**-0.7**
	comp=E,0.5nm,0.5s,baz=79,slow=8.9,SNR=6.3							
	comp=E,0.5nm,0.5s							
FINES	**FINESS Array B**	**26.50**	**358**	P		**P**	**20 24 10.4**	**-1.5**
	comp=E,1.7nm,0.8s,baz=165,slow=12,SNR=4.2							
	comp=E,1.7nm,0.8s							
HFS	**Hagfors**	**26.80**	**344**	P		**P**	**20 24 13.5**	**-1.1**
	comp=E,2.8nm,0.7s,baz=152,slow=6.5,SNR=4.2							
	comp=E,2.8nm,0.7s							
ABKAR	**Akbulak array**	**27.48**	**49**	P		**P**	**20 24 20.2**	**-0.7**
NB2	**NORSAR Subarra**	**28.18**	**343**	P		**P**	**20 24 25.5**	**-1.6**
	comp=Z,1.0nm,0.8s,baz=150,slow=9.3							
NOA	**NORSAR Array B**	**28.18**	**343**	P		**P**	**20 24 25.4**	**-1.6**
	comp=Z,0.6nm,0.7s,baz=157,slow=10,SNR=3.9							
	comp=Z,0.6nm,0.7s							
EKA	**Eskdalemuir Ar**	**29.49**	**323**	P		**P**	**20 24 38.3**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=125,slow=10,SNR=3.4							
	comp=Z,0.6nm,0.6s							
ARU	**Arti**	**29.90**	**35**	LR		LR	20 40 07.6	
	comp=Z,24nm,18.7s,baz=205,slow=43							
TOA0	**Torodi Ar. Sit**	**32.14**	**234**	P		P	20 25 00.3	-2.2
TOA0				IAmb	IAmb		20 25 04.6	
	comp=Z,3.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**32.14**	**234**	P		**P**	**20 25 01.0**	**-1.5**
TORD				IAmb	IAmb		20 25 04.6	
	comp=Z,2.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**32.14**	**234**	P		**P**	**20 25 01.3**	**-1.2**
	comp=Z,3.2nm,0.7s,baz=31,slow=10,SNR=26							
	comp=Z,3.2nm,0.7s							
KK31	**Karatay Array**	**33.79**	**63**			P	20 25 13.8	-2.9
KK31				IAmb	IAmb		20 25 48.7	
	comp=Z,3.3nm,1.4s							
KKAR	**Karatay Array**	**33.79**	**63**	P		P	20 25 13.8	-2.9
KKAR				IAmb	IAmb		20 25 48.7	
	comp=Z,3.3nm,1.4s							
ARCES	**ARCESS Array B**	**34.63**	**359**	P		**P**	**20 25 23.6**	**0.0**
	comp=Z,2.4nm,0.9s,baz=161,slow=6.6,SNR=1.4							
	comp=Z,2.4nm,0.9s							
BVAR	**Borovoye Array**	**34.86**	**46**	LR		LR	20 43 30.1	
	comp=Z,48nm,20.4s,baz=269,slow=43							
AAK	**Ala-Archa**	**36.73**	**64**	LR		LR	20 44 11.9	
	comp=Z,46nm,19.8s,baz=269,slow=42							
TARG	**Taragay, Kyrgy**	**39.27**	**65**	P		P	20 26 01.1	-2.8
TARG				IAmb	IAmb		20 26 11.7	
	comp=Z,4.4nm,1.0s							
KURBB	**Kurchatov Arra**	**39.50**	**51**	P		**P**	**20 26 05.7**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=274,slow=9.1,SNR=8.5							
KURBB				PcP		**PcP**	**20 28 13.1**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=272,slow=4.6,SNR=3.0							
	comp=Z,0.6nm,0.7s							
KURK	**Kurchatov**	**39.56**	**51**	P		P	20 26 03.0	-2.7
KURK				IAmb	IAmb		20 26 06.7	
	comp=Z,4.1nm,1.4s							
DBIC	**Dimbokro**	**41.25**	**235**	P		**P**	**20 26 20.2**	**+0.1**
	comp=Z,5.0nm,1.0s,baz=50,slow=6.1,SNR=3.4							
DBIC				LR		LR	20 47 07.2	
	comp=Z,66nm,19.6s,baz=29,slow=42							
	comp=Z,5.0nm,1.0s							
MK31	**Makanchi Array**	**42.00**	**57**	P		P	20 26 23.8	-2.2
MKAR	**Makanchi Array**	**42.00**	**57**	P		**P**	**20 26 25.2**	**-0.9**
MKAR	**Makanchi Array**	**42.00**	**57**	P		**P**	**20 26 28.0**	**+1.9**
	comp=Z,0.5nm,0.7s,baz=277,slow=6.1,SNR=8.7							
MKAR				LR		LR	20 46 26.7	
	comp=Z,26nm,19.0s,baz=244,slow=40							
	comp=Z,0.5nm,0.7s							
ZALV	**Zalesovo Beam**	**43.51**	**46**	LR		LR	20 49 17.4	
	comp=Z,17nm,18.6s,baz=90,slow=42							
SPITS	**Spitsbergen Ar**	**43.58**	**357**	P		**P**	**20 26 37.9**	**-0.4**
	comp=Z,6.6nm,0.9s,baz=146,slow=12,SNR=8.5							
	comp=Z,6.6nm,0.9s							
SONM	**Songino Array**	**57.86**	**51**	P		**P**	**20 28 27.8**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=292,slow=4.5,SNR=3.8							
SONM				LR		LR	20 55 41.7	
	comp=Z,29nm,21.9s,baz=225,slow=38							
	comp=Z,0.7nm,0.8s							
ULN	**Ulaanbaatar**	**58.27**	**51**	P		**P**	**20 28 29.3**	**-0.2**
ULN				IAmb	IAmb		20 28 35.3	
	comp=Z,1.6nm,0.6s							
CMAR	**Chiang Mai Arr**	**64.37**	**85**	P		**P**	**20 29 12.7**	**+1.6**
	comp=Z,0.6nm,0.3s,baz=281,slow=7.2,SNR=2.3							
CMAR				LR		LR	21 01 08.8	
	comp=Z,13nm,21.1s,baz=295,slow=40							
	comp=Z,0.6nm,0.3s							
SCHQ	**Schefferville**	**64.75**	**320**	P		**P**	**20 29 12.3**	**-0.7**
	comp=Z,3.2nm,0.7s,baz=49,slow=20,SNR=6.5							
	comp=Z,3.2nm,0.7s							
ENH	**Enshi**	**67.04**	**68**	P		**P**	**20 29 27.8**	**-0.5**
KLR	**Kul'dur**	**72.42**	**42**	LR		LR	21 07 39.6	
	comp=Z,14nm,19.2s,baz=314,slow=41							
KSRS	**Korea Array**	**76.60**	**54**	LR		LR	21 07 55.8	
	comp=Z,17nm,20.4s,baz=290,slow=39							
E19K	**Redstone River**	**77.80**	**2**	P		**P**	**20 30 31.8**	**0.0**
E19K				IAmb	IAmb		20 30 34.9	
	comp=Z,2.6nm,1.0s							
R61A	**Willards**	**78.18**	**309**	P		P	20 30 31.3	-3.1
CELP	**Cerrillos**	**83.38**	**287**	P		**P**	**20 31 00.9**	**-1.6**

IDC ***26*** *20:26:03.9±1.4, 6°.27S×151°.92E, h0km, mb3.5/6, mbtmp3.5/7, ML1.6/1, Error ellipse: s-maj=46.6km s-min=18.3km az=113.0*

ISC 26 20:26:09.5±1.2, 6°.3S±0°.1×151°.9E±0°.2, h37km, n9, σ0°74/11, mb3.4/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.94**	**3**	Pn		**Pn**	**20 26 39.9**	**0.0**
	2μm,0.3s,baz=274,slow=0.1,SNR=6.0							
KRVT				Sn		**Sn**	**20 27 03.1**	**+0.1**
	610nm,0.3s,baz=298,slow=0.1,SNR=8.4							
PMG	**Port Moresby**	**5.66**	**236**	Pn		**Pn**	**20 27 30.5**	**-0.6**
	1.1nm,0.3s,baz=21,slow=19,SNR=2.0							
PMG				Sn		**Sn**	**20 28 36.0**	**+1.2**
	1.7nm,0.3s,baz=58,slow=9.5,SNR=1.4							
	7.4nm,0.8s							
WRA	**Warramunga Arr**	**21.83**	**230**	P		**P**	**20 30 58.1**	**-0.7**
	0.6nm,0.6s,baz=55,slow=9.9,SNR=2.8							
	0.6nm,0.6s							
ASAR	**Alice Springs**	**24.49**	**223**	P		**P**	**20 31 24.8**	**-0.7**
	0.3nm,0.5s,baz=56,slow=8.7,SNR=6.7							
	0.3nm,0.5s							
MKAR	**Makanchi Array**	**80.84**	**319**	P		**P**	**20 38 20.3**	**+0.7**
	0.1nm,0.4s,baz=105,slow=3.9,SNR=2.1							
	0.1nm,0.4s							

AGPR			*e*S	Sb	20 41 45.8	+0.4
AGPR			IAML		20 41 47.8	
	comp=Z,489nm,0.1s					
PRSN	**Puerto Rico Se**	**0.83 155**	*e*S	Sb	**20 41 51.3**	**+0.2**
PRSN	**Puerto Rico Se**	**0.83 155**		Sb	**20 41 51.3**	**+0.2**
PRSN	**Puerto Rico Se**	**0.83 155**	Pg	Pb	**20 41 40.8**	**+1.1**
PRSN	**Puerto Rico Se**	**0.83 155**	IAML		20 41 54.8	
	comp=N,516nm,0.2s					
PRSN			IAML		20 41 55.1	
	comp=E,428nm,0.2s					
PRSN	**Puerto Rico Se**	**0.83 155**	IAML		20 41 54.7	
	comp=N,491nm,0.2s					
PRSN			IAML		20 41 55.0	
	comp=E,408nm,0.1s					
LSP	**Las Mesas**	**0.89 153**⇑	*e*P	Pb	**20 41 41.1**	**+0.3**
LSP	**Las Mesas**	**0.89 153**	*e*S	Sb	**20 41 54.3**	**+1.4**
LSP	**Las Mesas**	**0.89 153**		Pb	**20 41 41.1**	**+0.3**
LSP				Sb	**20 41 54.3**	**+1.4**
PCDR	**Punta Cana, DR**	**0.94 241**⇑	*e*P	Pb	**20 41 42.0**	**+0.4**
PCDR	**Punta Cana, DR**	**0.94 241**	IAML		20 41 55.9	
	comp=N,326nm,0.3s					
PCDR	**Punta Cana, DR**	**0.94 241**		Pb	**20 41 42.0**	**+0.4**
PCDR			*e*S	Sg	**20 41 53.3**	**0.0**
PCDR			IAML		20 41 55.6	
	comp=Z,253nm,0.2s					
PCDR	**Punta Cana, DR**	**0.94 241**⇑	*e*Pg	Pb	**20 41 42.0**	**+0.4**
PCDR		⇑	*e*Sg	Sg	**20 41 52.9**	**-0.4**
PCDR			IAML		20 41 54.4	
	comp=N,241nm,0.5s					
PCDR			IAML		20 41 55.8	
	comp=E,109nm,0.5s					
PCDR	**Punta Cana, DR**	**0.94 241**	*i* P	Pb	**20 41 41.9**	**+0.2**
PCDR			*e*S	Sg	**20 41 53.0**	**-0.2**
PCDR			IAML		20 41 55.6	
	comp=Z,253nm,0.2s					
AOPR	**Arecibo Observ**	**0.95 131**⇑	*e*P	Pb	**20 41 42.3**	**+0.5**
AOPR	**Arecibo Observ**	**0.95 131**	*e*S	Sb	**20 41 54.8**	**0.0**
AOPR	**Arecibo Observ**	**0.95 131**		Pb	**20 41 42.3**	**+0.5**
AOPR				Sb	**20 41 54.8**	**0.0**
AOPR	**Arecibo Observ**	**0.95 131**	IAML		20 41 57.1	
	comp=N,324nm,0.3s					
AOPR	**Arecibo Observ**	**0.95 131**⇑	*e*Pg	Pb	**20 41 42.1**	**+0.2**
AOPR		⇑	*e*Sg	Sb	**20 41 54.7**	**0.0**
AOPR			IAML		20 41 57.0	
	comp=N,317nm,0.2s					
AOPR			IAML		20 42 02.5	
	comp=E,412nm,0.3s					
CRPR	**Cabo Rojo, PR**	**1.03 158**⇑	*e*P	Pn	**20 41 44.0**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.03 158**	*e*S	Sg	**20 41 56.5**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.03 158**		Pn	**20 41 44.0**	**+0.1**
CRPR				Sg	**20 41 56.5**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.03 158**⇑	*e*Pg	Pb	**20 41 43.6**	**+0.3**
CRPR		⇑	*e*Sg	Sg	**20 41 56.7**	**+0.4**
CRPR			IAML		20 42 01.4	
	comp=E,149nm,0.2s					
CRPR			IAML		20 42 02.2	
	comp=N,128nm,0.1s					
CRPR	**Cabo Rojo, PR**	**1.03 158**	*i* P	Pn	**20 41 44.0**	**+0.1**
CRPR			*e*S	Sb	**20 41 57.5**	**+0.5**
CRPR			IAML		20 42 01.6	
	comp=Z,186nm,0.1s					
UUPR	**Utuado, UPR, P**	**1.04 133**⇑	*e*P	Pb	**20 41 43.8**	**+0.5**
UUPR	**Utuado, UPR, P**	**1.04 133**	*e*S	Sb	**20 41 57.3**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.04 133**		Pb	**20 41 43.8**	**+0.5**
UUPR				Sb	**20 41 57.3**	**+0.1**
EMPR	**Esperanza - Ma**	**1.05 118**⇑	*e*P	Pb	**20 41 44.5**	**+0.8**
EMPR	**Esperanza - Ma**	**1.05 118**	*e*S	Sb	**20 41 58.7**	**+1.1**
EMPR	**Esperanza - Ma**	**1.05 118**		Pb	**20 41 44.5**	**+0.8**
EMPR				Sb	**20 41 58.7**	**+1.1**
EMPR	**Esperanza - Ma**	**1.05 118**	IAML		20 41 59.5	
	comp=E,208nm,0.5s					
EMPR			IAML		20 41 59.6	
	comp=N,265nm,1.1s					
MLPR	**Magueyes Islan**	**1.09 156**⇑	*e*P	Pb	**20 41 44.6**	**+0.3**
MLPR	**Magueyes Islan**	**1.09 156**	*e*S	Sb	**20 41 58.7**	**0.0**
MLPR	**Magueyes Islan**	**1.09 156**		Pb	**20 41 44.6**	**+0.3**
MLPR				Sb	**20 41 58.7**	**0.0**
MLPR	**Magueyes Islan**	**1.09 156**	IAML		20 42 02.3	
	comp=N,126nm,0.4s					
MLPR			IAML		20 42 06.2	
	comp=E,128nm,0.4s					
MLPR	**Magueyes Islan**	**1.09 156**⇓	*e*Pg	Pb	**20 41 44.7**	**+0.5**
MLPR		⇑	*e*Sg	Sb	**20 41 58.8**	**+0.1**
MLPR			IAML		20 42 02.2	
	comp=N,116nm,0.3s					
MLPR			IAML		20 42 02.5	
	comp=E,104nm,0.1s					
GBPR	**Guanica, Bosqu**	**1.16 149**⇓	*e*P	Pn	**20 41 46.0**	**+0.3**
GBPR	**Guanica, Bosqu**	**1.16 149**	*e*S	Sb	**20 42 00.9**	**+0.3**
GBPR	**Guanica, Bosqu**	**1.16 149**		Pn	**20 41 46.0**	**+0.3**
GBPR				Sb	**20 42 00.9**	**+0.3**
CELP	**Cerrillos**	**1.26 135**⇑	*e*P	Pg	**20 41 47.3**	**+0.1**
CELP	**Cerrillos**	**1.26 135**	*e*S	Sg	**20 42 03.1**	**-0.4**
CELP	**Cerrillos**	**1.26 135**		Pg	**20 41 47.3**	**+0.1**
CELP				Sg	**20 42 03.1**	**-0.4**
CELP	**Cerrillos**	**1.26 135**	IAML		20 42 05.6	
	comp=E,92nm,0.4s					
CELP			IAML		20 42 07.1	
	comp=N,93nm,0.2s					
CELP	**Cerrillos**	**1.26 135**⇑	*e*Pg	Pg	**20 41 47.3**	**+0.1**
CELP		⇑	*e*Sg	Sb	**20 42 04.2**	**+0.7**
CELP			IAML		20 42 06.1	
	comp=N,90nm,0.5s					
OBIP	**Obispado Ponce**	**1.26 137**⇑	*e*P	Pg	**20 41 46.1**	**-1.2**
OBIP	**Obispado Ponce**	**1.26 137**	*e*S	Sg	**20 42 01.8**	**-1.9**
OBIP	**Obispado Ponce**	**1.26 137**		Sg	**20 42 01.8**	**-1.9**
OBIP	**Obispado Ponce**	**1.26 137**		Pn	**20 41 47.8**	**+0.7**
OBIP	**Obispado Ponce**	**1.26 137**	IAML		20 42 06.4	
	comp=N,87nm,0.3s					
OBIP			IAML		20 42 10.5	
	comp=E,86nm,0.4s					
SADR	**Isla Saona**	**1.43 237**⇑	*e*Pg	Pn	**20 41 50.0**	**+0.6**
SADR		⇑	*e*Pg	Pg	**20 41 50.5**	**0.0**
SADR		⇑	*e*Sg	Sb	**20 42 08.5**	**+0.2**
SADR		⇑	*e*Sg	Sg	**20 42 09.5**	**+0.6**
SADR			IAML		20 42 15.5	
	comp=E,148nm,0.5s					
SADR			IAML		20 42 15.7	
	comp=N,171nm,0.5s					
MIDR	**Miches**	**1.45 271**⇑	*e*Pg	Pn	**20 41 50.2**	**+0.5**
MIDR			IAML		20 42 15.2	
	comp=E,54nm,0.1s					
MIDR			IAML		20 42 16.1	
	comp=N,34nm,0.6s					
GCPR	**Guaynabo City**	**1.51 116**⇑	*e*P	Pn	**20 41 50.9**	**+0.4**
GCPR	**Guaynabo City**	**1.51 116**	*e*S	Sn	**20 42 09.7**	**-0.7**
GCPR	**Guaynabo City**	**1.51 116**		Pn	**20 41 50.9**	**+0.4**
GCPR				Sn	**20 42 09.7**	**-0.7**
SMDR	**Samana, DR**	**1.61 282**⇑	*e*Pg	Pb	**20 41 53.5**	**+0.4**
SMDR		⇑	*e*Sg	Sg	**20 42 15.2**	**+0.2**
SMDR			IAML		20 42 20.3	
	comp=E,62nm,0.7s					
SMDR			IAML		20 42 26.0	
	comp=N,74nm,0.8s					
IGPR	**InterUniversit**	**1.67 127**⇑	*e*P	Pn	**20 41 53.4**	**+0.7**
IGPR	**InterUniversit**	**1.67 127**	*e*S	Sn	**20 42 13.2**	**-1.1**
IGPR	**InterUniversit**	**1.67 127**	IAML		20 42 23.0	
	comp=E,139nm,0.3s					
IGPR	**InterUniversit**	**1.67 127**		Pn	**20 41 53.4**	**+0.7**
IGPR				Sn	**20 42 13.2**	**-1.1**
HUMP	**Col San Antoni**	**1.78 117**⇑	*e*P	Pn	**20 41 55.1**	**+0.9**
HUMP	**Col San Antoni**	**1.78 117**	*e*S	Sn	**20 42 15.6**	**-1.6**
HUMP	**Col San Antoni**	**1.78 117**		Pn	**20 41 55.1**	**+0.9**
HUMP				Sn	**20 42 15.6**	**-1.6**
HUMP	**Col San Antoni**	**1.78 117**	IAML		20 42 26.6	
	comp=N,55nm,0.3s					
HUMP			IAML		20 42 29.3	
	comp=E,74nm,0.3s					
BANI	**BANI**	**2.76 258**⇓	*e*Pg	Pb	**20 42 11.4**	**-1.3**
BANI			IAML		20 42 57.0	
	comp=N,62nm,0.7s					
BANI			IAML		20 42 59.9	
	comp=E,60nm,1.1s					
SDDR	**Presa de Saban**	**3.57 271**		Pn	**20 42 21.4**	**+2.4**
SDDR			IAML		20 43 18.1	
	comp=E,19nm,0.8s					
SDDR			IAML		20 43 27.6	
	comp=E,21nm,0.8s					
SDDR	**Presa de Saban**	**3.57 271**⇑	*e*Pg	Pb	**20 42 23.4**	**-3.1**
SDDR			IAML		20 43 26.7	
	comp=E,19nm,1.1s					
SDDR			IAML		20 43 29.3	
	comp=N,21nm,2.4s					
SDDR	**Presa de Saban**	**3.57 271**	*i* P	Pn	**20 42 21.4**	**+2.4**
SDDR			IAML		20 43 20.4	
	comp=Z,21nm,1.3s					

*DJA **26** 20:57:07.6±1.0, 1°S±7°×13°2E±°, h10km, M4.2/10, mb4.2/4, MLv4.2/10*
*IDC **26** 20:57:07.3±1.9, 0°79S×131°21E, h0km, mb3.4/6, mbtmp3.4/7, ML3.6/1, MS2.8/3, Error ellipse: s-maj=106.5km s-min=21.6km az=71.0*
ISC 26 20:57:10.7±1.2, 0.78S±0.10×131.6E±0.2, h35km, n22, σ2.5 44/16, mb3.5/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**0.35**	**257**	P	**Pn**	**20 57 16.5**	**-2.8**
FAKI	**Fak Fak**	**2.22**	**163**	P	**Pn**	**20 57 46.5**	**+1.4**
BNDI	**Bandanaira**	**4.08**	**204**	P	**Pn**	**20 58 12.7**	**+2.0**
LBMI	**Labuha**	**4.10**	**272**	P	**Pn**	**20 58 11.3**	**+0.3**
TNTI	**Ternate**	**4.50**	**290**	P	**Pn**	**20 58 15.9**	**-0.6**
NLAI	**Namlea** 19nm,0.5s,0.1nm	**5.12**	**241**	P	**Pn**	**20 58 26.9**	**+2.0**
SANI	**Sanana** 15nm,0.9s,0.1nm	**5.75**	**257**	P	**Pn**	**20 58 34.5**	**+0.9**
GTOI	**Gorontalo** 10nm,1.0s	**8.70**	**279**	P	**Pn**	**20 59 16.7**	**+2.5**
PMG	**Port Moresby** comp=Z,45nm,19.3s,baz=283,slow=42	**17.70**	**119**	LR	LR	21 09 40.4	
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=353,slow=11,SNR=3.9	**19.23**	**172**	P	**Pn**	**21 01 32.6**	**-0.6**
WRA				S	**Sn**	**21 05 01.7**	**-6.2**
	1.0nm,0.9s,baz=341,slow=26,SNR=3.3 0.5nm,0.4s						
GUMO	**Guam** comp=Z,32nm,18.2s,baz=86,slow=40	**19.41**	**42**	LR	LR	21 10 08.9	
ASAR	**Alice Springs** 0.6nm,0.5s,baz=352,slow=12,SNR=12 0.6nm,0.5s	**22.86**	**175**	P	**P**	**21 02 13.6**	**+2.3**
HNR	**Honiara** comp=Z,403nm,21.5s,baz=114,slow=34	**29.49**	**108**	LR	LR	21 13 57.2	
CMAR	**Chiang Mai Arr** 0.3nm,0.8s,baz=115,slow=6.4,SNR=2.4 0.3nm,0.8s	**37.36**	**302**	P	**P**	**21 04 19.1**	**-1.2**
KSRS	**Korea Array** comp=Z,8.5nm,21.5s,baz=150,slow=33	**38.20**	**355**	LR	LR	21 17 59.4	
H11N1	**WAKE ISLAND Hy** baz=245,slow=75,SNR=6.7	**40.15**	**58**	T	T	21 47 36.4	
H11N2	**WAKE ISLAND Hy** baz=245,slow=75,SNR=5.4	**40.16**	**58**	T	T	21 47 43.0	
H11N3	**WAKE ISLAND Hy** baz=245,slow=75,SNR=9.2	**40.17**	**58**	T	T	21 47 41.7	
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=114,slow=7.9,SNR=1.7 0.3nm,0.5s	**64.02**	**325**	P	**P**	**21 07 41.3**	**+0.4**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=136,slow=6.4,SNR=1.8 0.3nm,0.3s	**66.81**	**332**	P	**P**	**21 08 01.0**	**+2.2**
KURBB	**Kurchatov Arra** 0.3nm,0.6s,baz=125,slow=5.7,SNR=4.0 0.3nm,0.6s	**68.15**	**327**	P	**P**	**21 08 06.7**	**-0.6**
BVAR	**Borovoye Array** 0.2nm,0.5s,baz=133,slow=6.3,SNR=1.5 0.2nm,0.5s	**73.74**	**327**	P	**P**	**21 08 42.1**	**+0.9**

IDC 26 20:59:44.9±4.4, 0.62S×131.10E, h0km, mb3.3/3, mbtmp3.4/4, ML3.6/1, Error ellipse: s-maj=324.4km s-min=26.0km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=351,slow=11,SNR=4.3 0.9nm,0.6s	**19.46**	**171**	P	P	21 04 12.2	-1.1
ASAR	**Alice Springs** 1.1nm,0.8s,baz=355,slow=11,SNR=3.3 1.1nm,0.8s	**23.07**	**173**	P	P	21 04 53.1	+0.9
H11N1	**WAKE ISLAND Hy** baz=245	**40.49**	**58**	T	T	21 50 17.9	
H11N2	**WAKE ISLAND Hy** baz=245	**40.50**	**58**	T	T	21 50 14.7	
H11N3	**WAKE ISLAND Hy** baz=245	**40.50**	**58**	T	T	21 50 14.9	
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=111,slow=7.9,SNR=2.1 0.2nm,0.5s	**63.60**	**325**	P	P	21 10 17.2	-0.5
KURBB	**Kurchatov Arra** 0.3nm,0.8s,baz=121,slow=4.9,SNR=2.7 0.3nm,0.8s	**67.74**	**327**	P	P	21 10 44.8	+0.5

*IDC **26** 21:09:04.9±2.1, 7.84S×126.92E, h0km, mb3.4/1, mbtmp3.4/3, ML3.6/2, Error ellipse: s-maj=264.6km s-min=32.0km az=62.0*
*DJA **26** 21:09:19.5±0.4, 8°S±4°×12°9E±°, h173km±14km, M4.2/6, mB6.5/1, mb4.1/6, MLv4.3/6, Mw(mB)6.2/1*
ISC 26 21:09:18.1±1.0, 7.76S±0.08×128.8E±0.1, h150km, n10, σ2.5 25/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**4.88**	**246**	P	**Pn**	**21 10 31.1**	**+1.1**
BATI	**Baumata** 38nm,0.5s,0.2nm	**5.61**	**244**	P	**Pn**	**21 10 40.4**	**+0.8**
FAKI	**Fak Fak** 25nm,0.9s,0.2nm	**5.92**	**36**	P	**Pn**	**21 10 44.2**	**+0.4**
EDFI	**Ende, Flores** 12nm,1.7s,0.1nm	**7.09**	**262**	P	**Pn**	**21 10 59.8**	**+0.4**
BASI	**Baing, Sumba** 100nm,1.8s	**8.46**	**253**	P	**Pn**	**21 11 17.3**	**-0.4**
PLAI	**Plampang** 23nm,1.2s	**10.94**	**264**	P	**Pn**	**21 11 48.4**	**-2.2**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=324,slow=14,SNR=13	**13.25**	**157**	Pn	**P**	**21 12 23.6**	**-1.3**
WRA				Sn	**Sn**	**21 14 44.0**	**-3.3**
	1.1nm,0.3s,baz=335,slow=23,SNR=9.6 0.4nm,0.4s						
DNP	**Denpasar**	**13.46**	**265**	P	**Pn**	**21 12 23.5**	**+0.2**
ASAR	**Alice Springs** 0.2nm,0.3s,baz=345,slow=11,SNR=13	**16.56**	**163**	P	**Pn**	**21 13 06.8**	**+5.0**
ASAR				S	**S**	**21 16 06.0**	**+0.2**
	0.5nm,0.4s,baz=320,slow=21,SNR=6.2 0.7nm,0.5s						
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=123,slow=5.3,SNR=5.3 0.2nm,0.5s	**68.21**	**328**	P	**P**	**21 20 01.6**	**-0.8**

*DJA **26** 21:32:34.9±0.3, 6°S±3°×10°3E±°, h47km±6km, M4.7/25, mB5.1/7, mb4.9/25, MLv4.9/19, Mw(mB)4.5/7*
*NEIC **26** 21:32:34.0±1.1, 5.94S±0.05×102.67E±0.06, h19km±4km, mb4.7/56, Error ellipse: s-maj=9.5km s-min=6.0km az=124.0*
*IDC **26** 21:32:35.8±0.5, 5.84S×102.80E, h27km±3km, mb4.4/23, mbtmp4.5/24, ML4.5/1, MS3.9/40, Error ellipse: s-maj=16.0km s-min=10.5km az=58.0*
ISC 26 21:32:34.3±0.4, 5.99S±0.05×102.70E±0.05, h21km, n195, σ1.9 35/165, mb4.7/65, MS4.0/51, 1C, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**1.63**	**9**	P	**Pn**	**21 33 02.4**	**+0.5**
MNAI	**Manna**	**1.63**	**9**	Pn	**Pn**	**21 33 01.4**	**-0.5**
MNAI	**Manna**	**1.63**	**9**	P	**Pn**	**21 33 01.6**	**-0.3**
LWLI	**Liwa**	**1.66**	**55**	P	**Pn**	**21 33 02.1**	**-0.2**
KASI	**Kota Agung**	**1.84**	**76**	P	**Pn**	**21 33 04.3**	**-0.4**
PMBI	**Palembang**	**3.67**	**34**	Pn	**Pn**	**21 33 30.3**	**+0.4**
PMBI	**Palembang**	**3.67**	**34**	P	**Pn**	**21 33 30.4**	**+0.4**
SKJI	**Sukabumi**	**3.96**	**105**	P	**Pn**	**21 33 33.8**	**-0.1**
DBJI	**Dramaga**	**4.06**	**98**	P	**Pn**	**21 33 36.0**	**+0.7**
KRJI	**Kerinci**	**4.06**	**342**	P	**Pn**	**21 33 35.5**	**+0.1**
CBJI	**Citeko**	**4.14**	**96**	P	**Pn**	**21 33 38.9**	**+2.5**
PPSI	**Pulau Pagai**	**4.18**	**320**	P	**Pn**	**21 33 37.2**	**+0.3**
JMBI	**JAMBI**	**4.42**	**12**	P	**Pn**	**21 33 41.7**	**+1.5**
LEM	**Lembang** 18nm,0.3s,baz=268,slow=9.8,SNR=17	**4.96**	**100**	Pn	**Pn**	**21 33 49.5**	**+1.8**
LEM				Sn	**Sn**	**21 34 47.0**	**+2.4**
	7.9nm,0.3s,baz=346,slow=12,SNR=4.8 77nm,0.5s						
LEM	**Lembang** 114nm,0.8s,2μm0.7nm	**4.96**	**100**	P	**Pn**	**21 33 49.2**	**+1.5**
PPBI	**Pangkal Pinang** 62nm,0.9s,1μm0.6nm	**5.11**	**42**	P	**Pn**	**21 33 50.4**	**+0.6**
BBJI	**Bungbulang**	**5.13**	**107**	P	**Pn**	**21 33 49.7**	**-0.3**
XMIS	**Christmas Isla**	**5.33**	**147**	Pn	Pn	21 33 47.4	-5.4
PDSI	**Padang** 178nm,0.5s,3μm1.4nm	**5.51**	**336**	P	**Pn**	**21 33 54.8**	**-0.5**
DSRI	**Dabo** 73nm,1.0s,1μm0.3nm	**5.78**	**19**	P	**Pn**	**21 34 00.1**	**+1.2**
SISI	**Saibi**	**5.87**	**322**	P	**Pn**	**21 33 59.4**	**-0.7**
	246nm,0.8s,0.9nm						
CMJI	**Cimerak** 110nm,0.7s,0.5nm	**5.98**	**108**	P	**Pn**	**21 34 01.1**	**-0.5**
KPJI	**Karang Pucung** 55nm,0.8s,0.2nm	**6.33**	**103**	P	**Pn**	**21 34 07.8**	**+1.3**
BKNI	**Bangkinang**	**6.49**	**345**	Pn	**Pn**	**21 34 07.9**	**-0.7**
TPRI	**Tanjung Pinang** 35nm,1.0s,1μm0.3nm	**7.09**	**15**	P	**Pn**	**21 34 18.2**	**+1.2**
PBSI	**Pulau Batu** 240nm,1.1s,0.9nm	**7.36**	**323**	P	**Pn**	**21 34 19.6**	**-1.1**
UGM	**Wanagama**	**8.00**	**104**	P	**Pn**	**21 34 28.9**	**-0.5**
UGM	**Wanagama**	**8.00**	**104**	Pn	**Pn**	**21 34 29.4**	**0.0**
UGM	**Wanagama** 114nm,1.0s	**8.00**	**104**	P	**Pn**	**21 34 29.4**	**0.0**
COCO	**West Island**	**8.46**	**223**	Pn	**Pn**	**21 34 35.7**	**0.0**
GSI	**Gunungsitoli**	**8.87**	**325**	P	**Pn**	**21 34 40.3**	**-1.0**
GSI	**Gunungsitoli**	**8.87**	**325**	Pn	**Pn**	**21 34 40.0**	**-1.4**
GSI	**Gunungsitoli** 77nm,0.7s	**8.87**	**325**	P	**Pn**	**21 34 39.7**	**-1.6**
PWJI	**Pagerwojo** 66nm,0.9s	**9.26**	**103**	P	**Pn**	**21 34 46.6**	**-0.1**
GRJI	**Gresik** 102nm,0.9s	**9.76**	**96**	P	**Pn**	**21 34 55.2**	**+1.6**
SNSI	**Sinabang, Aceh** 143nm,0.8s	**10.49**	**322**	P	**Pn**	**21 35 02.0**	**-1.6**
IPM	**Ipoh**	**10.53**	**351**	Pn	**Pn**	**21 35 04.2**	**+0.1**
KCSI	**Kotacane, Aceh** 19nm,0.7s	**10.65**	**332**	P	**Pn**	**21 35 05.2**	**-0.6**
GMJI	**Gumukmas** 25nm,1.2s	**10.90**	**103**	P	**Pn**	**21 35 09.2**	**0.0**
KULM	**Kulim**	**11.39**	**350**	Pn	**Pn**	**21 35 15.1**	**-0.8**
ABJI	**Asem Bagus** 87nm,0.9s	**11.59**	**100**	P	**Pn**	**21 35 18.9**	**+0.3**
JAGI	**Jajag, Banyuwa**	**11.62**	**103**	P	**Pn**	**21 35 19.6**	**+0.5**
JAGI	**Jajag, Banyuwa**	**11.62**	**103**	Pn	**Pn**	**21 35 18.2**	**-0.9**
JAGI	**Jajag, Banyuwa** 32nm,0.9s	**11.62**	**103**	P	**Pn**	**21 35 19.1**	**0.0**
SRIT	**Nakonsritamara**	**14.81**	**348**	Pn	**Pn**	**21 36 00.1**	**-2.6**
PLAI	**Plampang**	**15.21**	**102**	P	**Pn**	**21 36 06.1**	**-1.9**
PLAI	**Plampang** 43nm,0.7s	**15.21**	**102**	P	**Pn**	**21 36 04.2**	**-3.8**
KKM	**Kota Kinabalu**	**18.02**	**49**		**Pn**	**21 36 42.3**	**-1.5**
EDFI	**Ende, Flores** 18nm,1.3s	**19.03**	**99**	P	**P**	**21 36 53.3**	**-2.0**
TOLI2	**Tolitoli**	**19.38**	**69**	P	**P**	**21 36 59.0**	**0.0**
TOLI2	**Tolitoli**	**19.38**	**69**	P	**P**	**21 36 57.6**	**-1.4**
LUWI	**Luwuk**	**20.62**	**77**	P	**P**	**21 37 11.9**	**-0.6**
LUWI				IAmb	IAmb	21 37 14.2	
	comp=Z,34nm,1.0s						
BATI	**Baumata** comp=Z,43nm,0.4s,baz=28,slow=2.7,SNR=12 comp=Z,43nm,0.4s	**21.17**	**103**	P	**P**	**21 37 18.4**	**-0.1**
BATI	**Baumata** comp=Z,80nm,0.9s	**21.17**	**103**	P	**P**	**21 37 18.4**	**-0.1**
UBPT	**Khong Chiam**	**21.30**	**7**	P	**P**	**21 37 18.1**	**-1.7**
UBPT				IAmb	IAmb	21 37 19.1	
	comp=Z,30nm,0.8s						
GTOI	**Gorontalo** comp=Z,8.0nm,0.8s	**21.31**	**73**	P	**P**	**21 37 18.6**	**-1.4**
SOEI	**Soe**	**21.68**	**101**	P	**P**	**21 37 22.7**	**-1.4**
SOEI				IAmb	IAmb	21 37 41.5	
	comp=Z,56nm,1.0s						
SOEI	**Soe** comp=Z,86nm,0.8s,comp=Z,1μm	**21.68**	**101**	P	**P**	**21 37 23.0**	**-1.1**
MBWA	**Marble Bar**	**22.36**	**134**	P	**P**	**21 37 31.3**	**+0.2**
MBWA				IAmb	IAmb	21 37 32.5	
	comp=Z,27nm,1.1s						
PSA00	**Pilbara Seismi**	**22.70**	**135**	P	**P**	**21 37 34.3**	**-0.5**
PSA00				IAmb	IAmb	21 37 36.2	
	comp=Z,32nm,1.1s						
PHRA	**Phrae**	**24.45**	**354**	P	**P**	**21 37 50.5**	**-1.4**
CM31	**Chiang Mai Arr**	**24.57**	**351**	P	**P**	**21 37 51.6**	**-1.4**
CMAR	**Chiang Mai Arr**	**24.57**	**351**	P	**P**	**21 37 51.0**	**-2.0**
CMAR	**Chiang Mai Arr** comp=Z,24nm,0.7s,baz=182,slow=9.0,SNR=153	**24.57**	**351**	P	**P**	**21 37 52.2**	**-0.8**
CMAR				LR	LR	21 49 15.1	
	comp=Z,194nm,18.3s,baz=175,slow=41 comp=Z,24nm,0.7s						
FITZ	**Fitzroy Crossi**	**25.42**	**120**	P	**P**	**21 38 00.0**	**-0.7**
PALK	**Pallekele** comp=Z,234nm,18.9s,baz=222,slow=36	**25.60**	**301**	LR	LR	21 47 45.1	
QIZ	**Qiongzhong**	**25.83**	**16**	P	**P**	**21 38 06.5**	**+2.1**
QIZ				S	**S**	**21 42 38.0**	**+4.9**
QIZ				LR	LR		
	comp=Z,200nm,12.7s						
QIZ				LR	LR		
	comp=Z,220nm,14.9s						
QIZ				LR	LR		
	comp=Z,290nm,14.3s						
CRAI	**Chiangrai**	**26.15**	**355**	P	**P**	**21 38 05.9**	**-1.4**
CRAI				IAmb	IAmb	21 38 09.8	
	comp=Z,9.4nm,0.8s						
SLVN	**Son La**	**27.18**	**2**	P	**P**	**21 38 14.7**	**-1.9**
NWAO	**Narrogin (SRO)** comp=Z,436nm,19.7s,baz=328,slow=35	**30.03**	**155**	LR	LR	21 50 07.2	
H08S2	**Diego Garcia H** baz=88,slow=75,SNR=206	**30.04**	**265**	T	T	22 10 09.3	
H08S3	**Diego Garcia H** baz=88,slow=75,SNR=343	**30.05**	**265**	T	T	22 10 11.6	
H08S1	**Diego Carcia H** baz=88,slow=75,SNR=313	**30.06**	**265**	T	T	22 10 05.5	
H01W3	**Cape Leeuwin H** baz=339,slow=76,SNR=15	**30.63**	**161**	T	T	22 11 32.3	
H01W2	**Cape Leeuwin H** baz=339,slow=76,SNR=18	**30.65**	**161**	T	T	22 11 33.7	
H01W1	**Cape Leeuwin H** baz=339,slow=76,SNR=15	**30.65**	**161**	T	T	22 11 22.6	
TNCH	**TengChong**	**31.09**	**353**	*e*P	**P**	**21 38 55.8**	**+4.3**
TNCH				S	**S**	**21 44 01.5**	**+5.3**
TNCH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
TNCH				pmax	pmax		
	comp=Z,100nm,4.8s						
TNCH				LR	LR		
	comp=Z,290nm,12.6s						
TNCH				LR	LR		
	comp=Z,210nm,13.9s						
TNCH				LR	LR		
	comp=Z,430nm,15.4s						
PZH	**PanZhiHua**	**32.31**	**358**	P	**P**	**21 39 02.3**	**+0.2**
PZH				S	**S**	**21 44 12.3**	**-2.7**
PZH	

XAN pmax pmax
comp=Z,15nm,0.8s
XAN LR LR
comp=Z,270nm,17.0s
XAN LR LR
comp=Z,440nm,16.1s
XAN LR LR
comp=Z,440nm,17.0s
COEN Coen 40.59 104 P **P** **21 40 12.1 -0.8**
NJ2 Nanjing 40.84 21 *e*P **P** **21 40 16.5 +1.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
JOW Kunigami 40.96 36 LR LR 21 57 47.3
comp=Z,54nm,20.1s,baz=248,slow=37
LZH Lanzhou 41.86 1 *e*P **P** **21 40 23.5 +0.3**
LZH pP pP 21 40 29.5 0.0
LZH pmax pmax
comp=Z,13nm,1.1s
LZH LR LR
comp=Z,330nm,14.8s
LZH LR LR
comp=Z,280nm,19.9s
LZH LR LR
comp=Z,420nm,16.8s
STKA Stephens Creek 44.52 130 P **P** **21 40 44.1 -0.6**
STKA Stephens Creek 44.52 130 P **P** **21 40 45.5 +0.9**
comp=Z,12nm,0.7s,baz=303,slow=8.6,SNR=22
STKA LR LR 22 00 36.8
comp=Z,218nm,19.5s,baz=295,slow=38
comp=Z,12nm,0.7s
CTA Charters Tower 44.53 113 LR LR 22 00 21.8
comp=Z,166nm,20.7s,baz=90,slow=37
GTA Gaotai 45.25 357 P **P** **21 40 50.5 +0.1**
GTA pP sP 21 40 59.5 +0.3
GTA sP pP 21 41 03.0 +6.2
GTA pmax pmax
comp=Z,9.0nm,0.9s
GTA LR LR
comp=Z,400nm,17.5s
GTA LR LR
comp=Z,260nm,17.8s
GTA LR LR
comp=Z,610nm,17.4s
BTO Baotou 46.85 8 *e*P **P** **21 41 06.5 +3.5**
BTO PP **PP** **21 42 57.3 +3.8**
BTO pmax pmax
comp=Z,10.0nm,0.8s
BTO pmax pmax
comp=Z,88nm,3.6s
BTO LR LR
comp=Z,360nm,17.0s
BTO LR LR
comp=Z,750nm,16.4s
BTO LR LR
comp=Z,480nm,14.3s
JNU Nakatsue 47.20 33 P **P** **21 41 04.8 -1.0**
HHC Hu-ho-hao-te 47.31 9 *e*P **P** **21 41 07.5 +0.9**
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,69nm,4.8s
HHC LR LR
comp=Z,290nm,16.8s
HHC LR LR
comp=Z,120nm,17.6s
HHC LR LR
comp=Z,310nm,18.3s
BJI Beijing 47.45 14 P P 21 41 16.0 +8.5
BJI pmax pmax
comp=Z,3.0nm,1.1s
BJI pmax pmax
comp=Z,60nm,5.2s
BJI LR LR
comp=N,88nm,19.2s
BJI LR LR
comp=E,89nm,16.8s
BJI LR LR
comp=Z,130nm,15.6s
KSRS Korea Array 49.20 27 P **P** **21 41 20.5 -0.6**
comp=Z,2.9nm,0.7s,baz=228,slow=7.6,SNR=16
comp=Z,2.9nm,0.7s
KS19 Wonju Array Si 49.22 27 P **P** **21 41 20.1 -1.1**
KS19 IAmb IAmb 21 42 13.6
comp=Z,22nm,1.5s
JMN Monobe 49.31 35 P **P** **21 41 20.6 -1.5**
JMN IAmb IAmb 21 41 26.8
comp=Z,8.7nm,0.8s
XLT XiLinHaoTe 51.10 12 *e*P **P** **21 41 35.5 0.0**
XLT pmax pmax
comp=Z,13nm,0.9s
WMQ Urumqi 51.40 346 *e*P **P** **21 41 38.5 +0.8**
WMQ sP sP 21 41 47.5 +0.8
WMQ pmax pmax
comp=Z,24nm,1.1s
WMQ pmax pmax
comp=Z,68nm,4.3s
KSH Kashi 51.57 334 P **P** **21 41 38.3 -0.9**
KSH sP pP 21 41 46.8 +1.2
KSH pmax pmax
comp=Z,6.0nm,1.0s
JHJ Hachijo jima 2 52.44 40 LR LR 22 04 18.1
comp=Z,26nm,20.9s,baz=94,slow=36
NRN Naryn 53.14 335 P **P** **21 41 50.5 -0.6**
NRN IAmb IAmb 21 42 04.2
comp=Z,7.4nm,1.0s
DRK Karamyk 53.49 330 P **P** **21 41 52.7 -1.0**
DRK IAmb IAmb 21 42 04.6
comp=Z,14nm,1.2s
CN2 Changchun 53.65 20 P **P** **21 41 52.5 -1.8**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
SONM Songino Array 53.69 3 P **P** **21 41 54.2 -0.5**
SONM Songino Array 53.69 3 P **P** **21 41 54.8 +0.1**
comp=Z,13nm,0.7s,baz=181,slow=7.0,SNR=12
comp=Z,13nm,0.7s
ULN Ulaanbaatar 53.76 4 P **P** **21 41 54.5 -0.8**
ULN IAmb IAmb 21 41 56.2
comp=Z,8.0nm,0.9s
MJAR Matsushiro Arr 53.80 35 P **P** **21 41 53.4 -2.2**
comp=Z,1.3nm,0.6s,baz=216,slow=7.2,SNR=6.9
MJAR LR LR 22 05 40.7
comp=Z,48nm,20.2s,baz=235,slow=37
comp=Z,1.3nm,0.6s
SIMJ Simiganj 54.31 328 P **P** **21 41 57.7 -1.7**
SIMJ IAmb IAmb 21 43 16.2
comp=Z,7.4nm,1.1s
ARSB Arslanbob 54.38 333 P **P** **21 41 59.0 -0.9**
BTK Batken 54.42 330 P **P** **21 41 59.4 -0.8**
BTK IAmb IAmb 21 42 45.0
comp=Z,4.4nm,0.8s
AAK Ala-Archa 54.77 335 LR LR 22 08 45.4
comp=Z,88nm,21.4s,baz=143,slow=40
FRU1 Bishkek 54.85 335 P **P** **21 42 02.7 -0.5**
FRU1 IAmb IAmb 21 42 22.2
comp=Z,9.2nm,1.0s
MK31 Makanchi Array 55.58 343 P **P** **21 42 07.4 -1.0**
MK31 IAmb IAmb 21 42 08.9
comp=Z,5.3nm,0.7s
MKAR Makanchi Array 55.58 343 P **P** **21 42 07.2 -1.2**
MKAR Makanchi Array 55.58 343 P **P** **21 42 08.3 0.0**
comp=Z,7.3nm,0.6s,baz=148,slow=7.8,SNR=102
MKAR LR LR 22 10 28.9
comp=Z,63nm,18.9s,baz=149,slow=41
comp=Z,7.3nm,0.6s
MAKZ Makanchi 55.69 343 P **P** **21 42 07.8 -1.3**
BNX BinXian 56.02 21 ⇑P **P** **21 42 10.0 -1.5**
BNX pmax pmax
comp=Z,19nm,0.9s
BNX pmax pmax
comp=Z,49nm,6.0s
USA0B Ussuriysk Arra 56.50 25 P **P** **21 42 13.7 -1.2**
USA0B IAmb IAmb 21 42 14.8
comp=Z,9.6nm,0.8s
USRK Ussuriysk Ar. 56.50 25 P **P** **21 42 13.7 -1.2**
comp=Z,8.5nm,0.7s,baz=222,slow=6.0,SNR=11
comp=Z,8.5nm,0.7s
KK31 Karatay Array 56.91 332 P **P** **21 42 16.9 -1.0**
KKAR Karatay Array 56.91 332 P **P** **21 42 16.9 -1.0**
H04N2 CROZET ISLANDS 59.31 219 T T 22 46 58.2
baz=63,slow=75,SNR=2003
H04N1 CROZET ISLANDS 59.32 219 T T 22 46 58.2
baz=63,slow=75,SNR=1930
H04N3 CROZET ISLANDS 59.33 219 T T 22 46 55.9
baz=63,slow=75,SNR=1948
H04S1 CROZET ISLANDS 59.54 218 T T 22 47 15.4
baz=62,slow=75,SNR=239
H04S3 CROZET ISLANDS 59.55 218 T T 22 47 15.9
baz=62,slow=75,SNR=1034
H04S2 CROZET ISLANDS 59.56 218 T T 22 47 13.1
baz=62,slow=75,SNR=528
HEH HeiHe 59.96 18 *e*P **P** **21 42 37.5 -1.5**
HEH pmax pmax
comp=Z,8.0nm,0.9s
HEH LR LR
comp=Z,110nm,14.6s
HEH LR LR
comp=Z,94nm,14.4s
HEH LR LR
comp=Z,170nm,13.6s
KURBB Kurchatov Arra 60.12 342 P **P** **21 42 39.8 -0.3**
comp=Z,4.2nm,0.7s,baz=160,slow=6.5,SNR=39
KURBB pP **sP** **21 42 48.7 -0.5**
comp=Z,6.3nm,0.9s,baz=159,slow=6.0,SNR=16
KURBB LR LR 22 13 43.6
comp=Z,148nm,18.5s,baz=168,slow=41
comp=Z,4.2nm,0.7s
KURK Kurchatov 60.18 343 P **P** **21 42 38.9 -1.6**
KURK IAmb IAmb 21 42 51.2
comp=Z,9.3nm,0.8s
GEYT Alibeck 60.22 320 P **P** **21 42 40.2 -0.8**
GEYT IAmb IAmb 21 42 52.4
comp=Z,6.6nm,0.9s
GEYT Alibeck 60.22 320 P **P** **21 42 41.7 +0.6**
comp=Z,2.9nm,0.6s,baz=159,slow=5.7,SNR=7.4
GEYT pP **sP** **21 42 50.6 +0.7**
comp=Z,4.7nm,0.8s,baz=133,slow=10,SNR=7.5
comp=Z,2.9nm,0.6s
KLR Kul'dur 60.54 21 LR LR 22 09 23.1
comp=Z,60nm,20.5s,baz=220,slow=37
ZAA0 Zalesovo Array 61.58 348 P **P** **21 42 49.2 -0.7**
ZALV Zalesovo Beam 61.58 348 P **P** **21 42 48.8 -1.1**
ZALV Zalesovo Beam 61.58 348 P **P** **21 42 49.3 -0.7**
comp=Z,12nm,0.8s,baz=160,slow=4.6,SNR=42
ZALV LR LR 22 12 53.1
comp=Z,173nm,18.8s,baz=142,slow=39
comp=Z,12nm,0.8s
DZM Mont Dzumac 63.46 112 LR LR 22 11 17.6
comp=Z,94nm,20.8s,baz=222,slow=37
BVAR Borovoye Array 64.84 339 P **P** **21 43 11.1 -0.6**
comp=Z,5.1nm,0.5s,baz=146,slow=8.7,SNR=47
BVAR pP **pP** **21 43 19.0 +0.9**
comp=Z,7.3nm,0.7s,baz=139,slow=8.0,SNR=17
BVAR LR LR 22 16 06.0
comp=Z,66nm,19.0s,baz=162,slow=40
comp=Z,5.1nm,0.5s
BRVK Borovoye 64.90 339 P **P** **21 43 10.9 -1.1**
BRVK IAmb IAmb 21 43 22.0
comp=Z,6.1nm,0.8s
ABKAR Akbulak array 66.41 331 P **P** **21 43 21.3 -0.5**
MAW Mawson 67.15 195 P **P** **21 43 27.9 +1.6**
comp=Z,4.1nm,0.9s,baz=97,slow=14,SNR=3.4
MAW LR LR 22 09 16.0
comp=Z,136nm,18.8s,baz=43,slow=33
comp=Z,4.1nm,0.9s
AKTO Aktyubinsk 68.12 331 P **P** **21 43 32.2 -0.5**
comp=Z,1.0nm,0.5s,baz=91,slow=18,SNR=5.7
comp=Z,1.0nm,0.5s
YAK Yakutsk 70.94 13 LR LR 22 18 46.3
comp=Z,94nm,18.3s,baz=203,slow=39
GURO Guroymak-BITLI 71.47 314 P **P** **21 43 54.8 +1.0**
ARU Arti 71.92 336 P **P** **21 43 54.6 -1.3**
ARU IAmb IAmb 21 44 06.4
comp=Z,8.2nm,1.0s
ARU Arti 71.92 336 LR LR 22 19 23.5
comp=Z,52nm,18.8s,baz=158,slow=39
KBZ Khabaz 73.06 319 P **P** **21 44 03.8 +0.8**
comp=Z,2.0nm,0.8s,baz=104,slow=7.2,SNR=6.1
KBZ pP **sP** **21 44 12.7 +0.8**
comp=Z,4.9nm,0.8s,baz=126,slow=6.3,SNR=11
comp=Z,2.0nm,0.8s
ASF Jabal al Asfar 73.09 306 LR LR 22 17 27.0
comp=Z,75nm,18.5s,baz=320,slow=37
LSZ Lusaka 73.54 256 LR LR 22 14 24.9
comp=Z,72nm,18.2s,baz=131,slow=34
EIL Elat 73.94 303 LR LR 22 17 29.1
comp=Z,75nm,18.4s,baz=67,slow=36
URZ Urewera 74.08 128 LR LR 22 18 42.0
comp=Z,124nm,18.9s,baz=302,slow=37
MMAI Mount Meron Ar 74.56 306 LR LR 22 18 25.9
comp=Z,76nm,19.2s,baz=76,slow=37
PETK Petropavlovsk- 74.85 31 LR LR 22 19 18.9
comp=Z,28nm,19.4s,baz=193,slow=38
LBTB Lobatse 75.82 246 LR LR 22 10 50.7
comp=Z,69nm,19.2s,baz=102,slow=30
NRIK Noril'sk 75.88 355 P **P** **21 44 17.8 -1.0**
NRIK IAmb IAmb 21 44 28.6
comp=Z,8.2nm,1.2s
NRIK Noril'sk 75.88 355 LR LR 22 21 17.8
comp=Z,60nm,18.8s,baz=135,slow=39
BOSA Boshof 76.15 242 P **P** **21 44 20.8 -0.7**
BOSA Boshof 76.15 242 P **P** **21 44 22.7 +1.3**
comp=Z,3.2nm,0.7s,baz=87,slow=5.0,SNR=6.4
BOSA pP **pwP** **21 44 31.5 +1.2**
comp=Z,4.0nm,1.0s,baz=131,slow=3.8,SNR=3.5
BOSA LR LR 22 12 08.5
comp=Z,49nm,19.9s,baz=174,slow=31
comp=Z,3.2nm,0.7s
VNDA Vanda 77.76 169 P **P** **21 44 30.4 +1.0**
comp=Z,2.6nm,1.0s,baz=291,slow=5.7,SNR=9.2
VNDA LR LR 22 14 03.2
comp=Z,98nm,19.2s,baz=301,slow=32
comp=Z,2.6nm,1.0s
BRTR Keskin Array B 77.99 313 P **P** **21 44 30.4 -1.1**
BRTR Keskin Array B 77.99 313 P **P** **21 44 31.6 0.0**
comp=Z,0.9nm,0.6s,baz=132,slow=7.7,SNR=6.5
BRTR pP **sP** **21 44 40.5 0.0**
comp=Z,2.7nm,0.8s,baz=129,slow=6.2,SNR=10
BRTR LR LR 22 22 00.7
comp=Z,53nm,18.4s,baz=130,slow=38
comp=Z,0.9nm,0.6s
TIXI Tiksi 79.37 8 P **P** **21 44 37.6 -0.6**
TIXI Tiksi 79.37 8 LR LR 22 24 58.3
comp=Z,134nm,18.3s,baz=210,slow=40
SUR Sutherland 79.98 238 LR LR 22 16 44.8
comp=Z,57nm,18.6s,baz=135,slow=33
TSUM Tsumeb 83.46 251 LR LR 22 18 04.7
comp=Z,75nm,20.1s,baz=150,slow=33
IDI Anoyia 83.56 306 P **P** **21 45 01.2 -0.1**
IDI Anoyia 83.56 306 P **P** **21 45 02.7 +1.3**
comp=Z,0.1nm,1.0s,baz=73,slow=9.8,SNR=6.2
QSPA South Pole Qui 84.00 180 P **P** **21 45 03.7 +0.7**
comp=Z,3.0nm,0.8s,baz=280,slow=0.3,SNR=11
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 84.27 322 P **P** **21 45 04.5 +0.1**
comp=Z,0.9nm,0.6s,baz=85,slow=4.6,SNR=6.0
AKASG pP **sP** **21 45 13.3 -0.2**
comp=Z,4.2nm,0.9s,baz=87,slow=4.9,SNR=7.2
AKASG LR LR 22 28 28.4
comp=Z,25nm,18.4s,baz=83,slow=40
comp=Z,0.9nm,0.6s
MLR Muntele Rosu 85.03 317 P **P** **21 45 09.4 +0.7**
MLR Muntele Rosu 85.03 317 LR LR 22 27 37.1
comp=Z,27nm,19.7s,baz=48,slow=39
BUR08 Bucovina Ar. S 86.03 319 P **P** **21 45 12.2 -1.4**
BUR08 IAmb IAmb 21 45 26.3
comp=Z,6.5nm,1.0s
NACGM Naroch 86.84 326 *e*P **P** **21 45 18.2 +1.0**
comp=Z,13nm,0.9s,baz=105
FINES FINESS Array B 88.87 332 P **P** **21 45 27.4 +0.7**
comp=Z,1.6nm,0.5s,baz=105,slow=4.3,SNR=21
FINES LR LR 22 30 26.0
comp=Z,49nm,18.7s,baz=94,slow=39
comp=Z,1.6nm,0.5s
SNAA Sanae 89.20 198 LR LR 22 19 25.8
comp=Z,65nm,19.3s,baz=44,slow=31
ARCES ARCESS Array B 91.11 340 LR LR 22 31 21.2
comp=Z,86nm,19.1s,baz=104,slow=39
HFS Hagfors 94.65 330 LR LR 22 34 42.9
comp=Z,20nm,18.5s,baz=81,slow=39
SPITS Spitsbergen Ar 95.06 348 LR LR 22 35 51.8
comp=Z,90nm,19.9s,baz=70,slow=40
NOA NORSAR Array B 95.92 331 LR LR 22 34 36.6
comp=Z,30nm,20.2s,baz=75,slow=39
TBI Tubuai 103.84 116 *e*LR LR 22 20 26.3
comp=Z,472nm,34.5s
PPT2 Papeete2 104.93 110 *e*LR LR 22 20 47.5
comp=Z,87nm,24.8s
PPT2 *e*LR LR 22 20 49.4
comp=Z,112nm,25.2s
YKA Yellowknife Ar 117.33 18 pPKP pPKPdf 21 51 27.9 +3.1
comp=Z,0.7nm,0.9s,baz=315,slow=2.6,SNR=5.2
NVAR Mina Array Bea 130.81 43 SKPbc **SKPbc** **21 55 06.5 -1.4**
comp=Z,1.9nm,0.9s,baz=287,slow=4.1,SNR=8.1
ULM Lac du Bonnet 133.21 16 PKP **PKPdf** **21 51 47.4 -1.3**
comp=Z,2.2nm,0.8s,baz=36,slow=2.4,SNR=4.5
ULM pPKP **sPKPdf** **21 51 59.1 +1.3**
comp=Z,2.7nm,0.8s,baz=300,slow=4.6,SNR=4.4
TXAR Lajitas Array 145.96 44 PKPbc **PKPab** **21 52 14.0 +0.3**
comp=Z,3.2nm,0.7s,baz=302,slow=2.4,SNR=13
TXAR pPKPbc sPKPab 21 52 24.1 +1.4
comp=Z,7.1nm,0.8s,baz=180,slow=0.3,SNR=12
LPAZ La Paz 156.08 202 PKPab **PKPab** **21 52 58.0 +1.8**
comp=Z,0.9nm,0.5s,baz=205,slow=5.6,SNR=6.1

NEIC ***26*** *21:39:07.9±1.8, 16°.64S±0°.08×174°.44W±0°.09, h171km±7km, mb4.7/227, Error ellipse: s-maj=12.9km s-min=11.7km az=125.0*
IDC ***26*** *21:39:08.4±5.6, 16°.57S×174°.60W, h170km±49km, mb4.3/17, mbtmp4.8/18, Error ellipse: s-maj=16.7km s-min=13.2km az=111.0*
NOU ***26*** *21:39:10.3, 16°.71S×174°.29W, h198km, mb5.0/35, Tonga Islands*
BGR ***26*** *21:39:12.4, 16°.05S×174°.87W, h178km*
ISC 26 21:39:11.0±0.3, 16°.66S±0°.07×174°.45W±0°.06, h200km, n702, σ1s00/629, mb4.6/142, 54C-52D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.76**	**44**	P	**Pn**	**21 40 06.4**	**-3.5**
AFI	**Afiamalu**	**3.76**	**44**		**Pn**	**21 40 06.2**	**-3.7**
LKBA	**Tubou, Lakemba**	**4.45**	**249**	P	**Pn**	**21 40 19.5**	**+1.1**
NIUE	**Niue**	**4.93**	**120**	P	**Pn**	**21 40 23.1**	**-1.4**
NIUE	**Niue**	**4.93**	**120**	Pn	**Pn**	**21 40 22.1**	**-2.4**
TAVE	**Taveuni**	**5.23**	**269**	P	**Pn**	**21 40 30.0**	**+1.7**
DGTI	**Dogotuki**	**5.59**	**273**	P	**Pn**	**21 40 33.9**	**+1.0**
MSVF	**Nonsavu**	**7.25**	**260**	P	**Pn**	**21 40 56.6**	**+2.1**
MSVF	**Nonsvu**	**7.25**	**260**	Pn	**Pn**	**21 40 56.1**	**+1.6**
YSA	**Yasawairara**	**7.64**	**269**	P	**Pn**	**21 41 00.5**	**+1.0**
FUNA	**Funafuti** 299nm,1.1s	**10.18**	**322**	P	**Pn**	**21 41 34.2**	**+1.5**
FUNA	**Funafuti**	**10.18**	**322**	Pn	**Pn**	**21 41 33.1**	**+0.4**
MARNC	**Mare, Loyalty**	**17.23**	**251**	P	**Pn**	**21 43 01.0**	**+0.9**
MARNC	**Mare, Loyalty**	**17.23**	**251**	Pn	**P**	**21 42 58.6**	**+0.1**
DZM	**Mont Dzumac**	**18.80**	**250**	P	**P**	**21 43 15.3**	**-0.4**
DZM	comp=Z,65nm,1.5s			IAmb	IAmb	21 43 21.4	
DZM	**Mont Dzumac**	**18.80**	**250**	P	**P**	**21 43 15.2**	**-0.4**
	comp=Z,5.5nm,0.5s,baz=315,slow=23,SNR=6.2						
KOUNC	**Koumac, New Ca**	**20.52**	**256**	P	**P**	**21 43 33.5**	**-0.5**
MXZ	**Matakaoa Point**	**21.78**	**196**	P	**P**	**21 43 45.6**	**-1.4**
MXZ	comp=Z,34nm,0.9s			IAmb	IAmb	21 43 48.7	
TOZ	**Tahuroa Road**	**22.78**	**201**	P	**P**	**21 43 57.1**	**+0.8**
RTZ	**Ruatahuna**	**23.13**	**197**	P	**P**	**21 43 59.1**	**-0.4**
RTZ	comp=Z,16nm,0.6s			IAmb	IAmb	21 44 02.0	
HIZ	**Hauiti**	**23.71**	**201**	P	**P**	**21 44 04.7**	**0.0**
BKZ	**Black Stump Fm**	**23.78**	**198**	P	**P**	**21 44 03.3**	**-2.1**
BKZ	comp=Z,21nm,1.2s			IAmb	IAmb	21 44 08.4	
MRZ	**Mangatainoka R**	**25.43**	**198**	P	**P**	**21 44 20.0**	**-0.2**
MRZ	comp=Z,22nm,1.2s			IAmb	IAmb	21 45 03.7	
TCW	**Tory Channel**	**26.33**	**199**	P	**P**	**21 44 27.5**	**-0.8**
QRZ	**Quartz Range**	**26.59**	**202**	P	**P**	**21 44 29.4**	**-1.2**
TKNZ	**Takaka Hill**	**26.61**	**202**	P	**P**	**21 44 30.5**	**-0.4**
NNZ	**Nelson**	**26.63**	**201**	P	**P**	**21 44 30.0**	**-1.0**
TUWZ	**Tuamarina**	**26.63**	**200**	P	**P**	**21 44 30.1**	**-0.9**
THZ	**Tophouse**	**27.28**	**201**	P	**P**	**21 44 35.9**	**-1.0**
THZ	comp=Z,16nm,0.9s			IAmb	IAmb	21 44 37.1	
KHZ	**Kahutara**	**27.65**	**199**	P	**P**	**21 44 38.9**	**-1.2**
EIDS	**Eidsvold**	**33.24**	**249**	P	**P**	**21 45 27.5**	**-2.0**
EIDS	comp=Z,29nm,1.5s			IAmb	IAmb	21 45 29.4	
ARMA	**Armidale**	**33.83**	**240**	P	**P**	**21 45 33.5**	**-1.2**
ARMA	comp=Z,24nm,1.4s			IAmb	IAmb	21 45 42.0	
CTAO	**Charters Tower**	**37.39**	**259**	P	**P**	**21 46 03.0**	**-1.9**
CTAO	comp=Z,20nm,1.3s			IAmb	IAmb	21 46 40.9	
CMSA	**Cobar Meteorol**	**39.05**	**240**	P	**P**	**21 46 17.6**	**-1.0**
WAKE	**Wake Island**	**40.26**	**332**	P	**P**	**21 46 27.6**	**-1.0**
COEN	**Coen**	**40.90**	**268**	P	**P**	**21 46 33.0**	**-1.0**
COEN	comp=Z,15nm,0.8s			IAmb	IAmb	21 46 34.9	
STKA	**Stephens Creek**	**42.54**	**241**	P	**P**	**21 46 46.4**	**-0.6**
STKA	**Stephens Creek**	**42.54**	**241**	P	**P**	**21 46 46.0**	**-1.0**
STKA	**Stephens Creek**	**42.54**	**241**	P	**P**	**21 46 46.5**	**-0.6**
	comp=Z,11nm,0.7s,baz=89,slow=9.4,SNR=16						
	comp=Z,11nm,0.7s						
TABU	**Tabubil**	**44.86**	**279**	P	**P**	**21 47 07.0**	**+1.1**
LCRK	**Leigh Creek**	**45.20**	**244**	P	**P**	**21 47 07.4**	**-0.8**
BBOO	**Buckleboo**	**47.31**	**241**	P	**P**	**21 47 23.2**	**-1.5**
BBOO	comp=Z,35nm,1.4s			IAmb	IAmb	21 48 03.6	
WR0	**Warramunga Arr**	**48.39**	**258**	P	**P**	**21 47 32.0**	**-1.2**
WB0	**Warramunga Arr**	**48.55**	**258**	P	**P**	**21 47 32.3**	**-2.0**
WB2	**Warramunga Arr**	**48.57**	**258**	P	**P**	**21 47 32.1**	**-2.4**
WRA	**Warramunga Arr**	**48.58**	**258**	P	**P**	**21 47 31.9**	**-2.7**
WRA	**Warramunga Arr**	**48.58**	**258**	P	**P**	**21 47 32.4**	**-2.2**
	comp=Z,3.6nm,0.6s,baz=92,slow=7.0,SNR=99						
WRA				PcP	**PcP**	**21 48 57.3**	**+0.1**
	comp=Z,3.6nm,0.6s,baz=88,slow=3.7,SNR=8.5						
	comp=Z,3.6nm,0.6s						
AS01	**Alice Springs**	**48.73**	**253**	P	**P**	**21 47 34.3**	**-1.4**
AS31	**Alice Springs**	**48.77**	**253**	P	**P**	**21 47 34.3**	**-1.7**
AS31	comp=Z,9.2nm,0.7s			IAmb	IAmb	21 47 35.5	
ASAR	**Alice Springs**	**48.77**	**253**	P	**P**	**21 47 34.2**	**-1.9**
ASAR	**Alice Springs**	**48.77**	**253**	P	**P**	**21 47 34.5**	**-1.5**
	comp=Z,36nm,0.7s,baz=88,slow=8.2,SNR=388						
ASAR				PcP	**PcP**	**21 48 58.0**	**+0.2**
	comp=Z,4.1nm,0.7s,baz=92,slow=5.7,SNR=7.4						
	comp=Z,36nm,0.7s						
MTN	**Manton Dam**	**52.63**	**266**	P	**P**	**21 48 03.5**	**-1.5**
MTN	comp=Z,18nm,0.9s			IAmb	IAmb	21 48 05.0	
WRKA	**Warakurna**	**53.82**	**251**	P	**P**	**21 48 12.8**	**-0.8**
FORT	**Forrest**	**53.95**	**244**	P	**P**	**21 48 13.2**	**-1.1**
KNRA	**Kununurra**	**54.39**	**262**	P	**P**	**21 48 16.3**	**-1.4**
KNRA	comp=Z,13nm,0.8s			IAmb	IAmb	21 48 18.2	
FITZ	**Fitzroy Crossi**	**56.97**	**259**	P	**P**	**21 48 35.6**	**-0.4**
SOEI	**Soe**	**59.87**	**268**	P	**P**	**21 48 57.2**	**+0.9**
SOEI	**Soe**	**59.87**	**268**	P	**P**	**21 48 57.3**	**+1.0**
BATI	**Baumata**	**60.34**	**268**	P	**P**	**21 49 00.7**	**+1.3**
	comp=Z,37nm,0.6s,baz=143,slow=2.7,SNR=7.2						
	comp=Z,37nm,0.6s						
PSA00	**Pilbara Seismi**	**61.88**	**254**	P	**P**	**21 49 08.1**	**-1.5**
PSA00	comp=Z,25nm,1.5s			IAmb	IAmb	21 49 09.7	
SBA	**Scott Base**	**61.92**	**184**	P	**P**	**21 49 09.4**	**+0.5**
SBA	comp=Z,14nm,1.1s			IAmb	IAmb	21 49 24.4	
VNDA	**Vanda**	**62.03**	**186**	P	**P**	**21 49 09.9**	**+0.3**
VNDA	**Vanda**	**62.03**	**186**	P	**P**	**21 49 11.4**	**+1.8**
	comp=Z,1.9nm,0.8s,baz=20,slow=7.4,SNR=9.2						
	comp=Z,1.9nm,0.8s						
MBWA	**Marble Bar**	**62.05**	**255**	P	**P**	**21 49 08.9**	**-1.8**
JHJ2	**Mitsune**	**66.00**	**319**	P	**P**	**21 49 35.8**	**-0.3**
GIRL	**Giralia**	**66.87**	**252**	P	**P**	**21 49 42.1**	**+0.2**
JMM	**Marumori**	**68.62**	**323**	P	**P**	**21 49 51.4**	**-1.1**
JGF	**Kuroka**	**69.17**	**319**	P	**P**	**21 49 55.8**	**-0.2**
INU	**Inuyama**	**69.22**	**319**	P	**P**	**21 49 55.5**	**-0.8**
MJAR	**Matsushiro Arr**	**69.25**	**321**	P	**P**	**21 49 56.1**	**-0.4**
	comp=Z,8.8nm,0.8s,baz=154,slow=5.5,SNR=29						
	comp=Z,8.8nm,0.8s						
MAJO	**Matsushiro**	**69.26**	**321**	P	**P**	**21 49 56.2**	**-0.3**
MAJO	**Matsushiro**	**69.26**	**321**	P	**P**	**21 49 54.8**	**-1.7**
MJB9	**Matsu-Tunnel**	**69.26**	**321**	P	**P**	**21 49 55.5**	**-1.0**
JAGI	**Jajag, Banyuwa**	**69.87**	**267**	P	**P**	**21 49 59.4**	**-1.3**
JMN	**Monobe**	**70.25**	**316**	P	**P**	**21 50 03.5**	**+0.9**
JMN	**Monobe**	**70.25**	**316**	P	**P**	**21 50 02.4**	**-0.2**
JNU	**Nakatsue**	**71.93**	**314**	P	**P**	**21 50 12.5**	**-0.2**
JKA	**Kamikawa-asahi**	**72.08**	**329**	P	**P**	**21 50 13.2**	**-0.1**
JKA	comp=Z,14nm,1.0s			IAmb	IAmb	21 50 15.3	
KKM	**Kota Kinabalu**	**72.14**	**282**	P	**P**	**21 50 14.5**	**0.0**
KKM	**Kota Kinabalu**	**72.14**	**282**	IAmb	IAmb	21 50 15.5	
	comp=Z,17nm,0.8s						
SDPT	**Sand Point**	**72.70**	**8**	P	**P**	**21 50 16.2**	**-0.5**
SDPT	**Sand Point** baz=194	**72.70**	**8**	P	**P**	**21 50 16.5**	**-0.1**
S12K	**Black Hills** baz=192	**72.84**	**7**	P	**P**	**21 50 17.6**	**0.0**
QSPA	**South Pole Qui**	**73.39**	**180**	P	**P**	**21 50 21.5**	**+0.6**

QSPA **South Pole Qui** 73.39 180 P P 21 50 22.1 +1.2
comp=Z,5,6nm,1.0s,baz=55,slow=1.8,SNR=16
comp=Z,5,6nm,1.0s
UGM **Wanagama** 73.48 267 P P
PEA0B **Petropavlovsk-** 73.52 343 P P 21 50 21.4 -0.8
PETK **Petropavlovsk-** 73.52 343 P P 21 50 21.4 -0.2
comp=Z,26nm,0.7s,baz=109,slow=8.7,SNR=72
comp=Z,26nm,0.7s
S14K **Fog Glacier** 73.74 9 P P 21 50 20.8 -0.8
baz=195
CHGN **Chignik** 73.92 9 P P 21 50 22.8 -0.1
CHGN IAmb IAmb 21 50 23.4 -0.4
comp=Z,20nm,0.8s
CHGN **Chignik** 73.92 9 P P 21 50 23.4 -0.4
baz=196
BFSC **Mount Baldy Ra** 74.02 46 P P 21 50 25.8 +0.7
baz=236
EDW2 **Edwards Air Fo** 74.14 45 P P 21 50 27.0 +1.3
baz=236,SNR=5.3
MONP2 **Monument Peak** 74.16 48 P P 21 50 26.7 +0.7
baz=238
IKP **In-Ko-Pah, Jac** 74.25 48 P P 21 50 27.4 +1.0
baz=238
ISA **Isabella, Lake** 74.25 45 P P 21 50 27.3 +1.0
baz=236
YULB **Yu-li** 74.33 301 P P 21 50 26.2 -0.8
YULB IAmb IAmb 21 51 02.9
comp=Z,36nm,1.5s
NACB **Ninganchiao** 74.43 302 P P 21 50 27.3 -0.2
NACB **Ninganchiao** 74.43 302 P P 21 50 26.3 -1.2
PFO **Pinyon Flats O** 74.51 47 P P 21 50 28.9 +0.9
baz=237
TPFO **Pinon Flats** 74.52 47 P P 21 50 28.3 +0.4
baz=237
AFDM **Forest Hills D** 74.55 41 P P 21 50 26.6 -1.3
SSLB **Suanglung** 74.78 301 P P 21 50 28.2 -1.3
TPUB **Ta-pu** 74.84 300 P P 21 50 29.0 -0.9
SII **Sitkinak Islan** 74.89 11 P P 21 50 29.1 -0.4
CWC **Cottonwood Cre** 74.96 44 P P 21 50 31.7 +1.2
baz=236
BELC **Belle Mtn. Jos** 75.05 47 P P 21 50 32.2 +1.2
baz=238
MPMC **Manual Prospec** 75.14 45 P P 21 50 33.1 +1.5
baz=236
GSC **Goldstone, Bar** 75.19 46 P P 21 50 32.9 +1.2
baz=237
YBH **Yreka Blue Hor** 75.21 37 P P 21 50 32.4 +0.7
YBH IAmb IAmb 21 50 34.0
comp=Z,12nm,0.9s
WAKR **Walker** 75.25 42 IAmb IAmb 21 50 34.3
comp=Z,11nm,0.7s
HEC **Hector,Ludlow** 75.25 46 P P 21 50 33.1 +1.0
baz=237,SNR=5.1
PNTR **Pine Nut** 75.49 41 P P 21 50 34.1 +0.6
PNTR IAmb IAmb 21 50 35.6
comp=Z,17nm,0.8s
DSP **Deep Springs** 75.55 43 IAmb IAmb 21 50 36.0
comp=Z,12nm,1.2s
HUMO **Hull Mountain** 75.62 37 P P 21 50 35.0 +1.1
YERR **Yerington** 75.66 41 IAmb IAmb 21 50 36.3
comp=Z,12nm,0.7s
GMRC **Granite Mounta** 75.70 47 P P 21 50 35.6 +0.8
baz=238
LHV **Little Huntoon** 75.70 42 IAmb IAmb 21 50 36.9
comp=Z,10nm,0.9s
IRM **Iron Mountain** 75.73 47 P P 21 50 36.3 +1.5
baz=238
L04D **Klamath Falls** 75.75 37 IAmb IAmb 21 50 36.8
comp=Z,15nm,1.1s
NVAR **Mina Array Bea** 75.94 42 P P 21 50 36.5 +0.5
NVAR **Mina Array Bea** 75.94 42 P P 21 50 37.3 +1.2
comp=Z,7.9nm,0.7s,baz=225,slow=9.2,SNR=42
comp=Z,7.9nm,0.7s
PAHR **Pah Rah Range** 75.99 41 IAmb IAmb 21 50 38.2
comp=Z,7.7nm,0.9s
NV11 **Mina Array Sit** 76.03 42 IAmb IAmb 21 50 38.5
comp=Z,9.7nm,0.9s
Q17K **Contact Creek** 76.21 10 P P 21 50 37.0 0.0
baz=198
KSM **Kuching** 76.30 276 P P 21 50 39.3 +0.9
KSM **Kuching** 76.30 276 P P 21 50 38.5 +0.1
KDAK **Kodiak Island** 76.35 12 P P 21 50 38.4 +0.7
baz=202
KSRS **Korea Array** 76.35 316 P P 21 50 38.8 +0.7
comp=Z,9.7nm,1.1s,baz=126,slow=6.6,SNR=28
comp=Z,9.7nm,1.1s
KVN **Kaiserville** 76.42 42 IAmb IAmb 21 50 40.1
comp=Z,6.3nm,0.7s
O15K **Ungalikthiuk R** 76.50 8 P P 21 50 38.2 -0.3
baz=194
P16K **Nushagak River** 76.61 9 P P 21 50 39.2 +0.1
baz=196
K05A **Summer Lake** 76.88 37 IAmb IAmb 21 50 43.5
comp=Z,8.9nm,0.8s
WTNK **Soaring Height** 76.90 46 P P 21 50 42.1 +0.8
P17K **Kvichak River** 77.01 9 P P 21 50 41.3 +0.1
baz=198
N14K **Kuskokwak Cree** 77.01 7 P P 21 50 41.6 +0.3
baz=192
J05D **Fort Rock, OR** 77.03 37 P P 21 50 42.5 +0.6
J05D IAmb IAmb 21 50 44.1
comp=Z,12nm,0.8s
M11K **Mekoryuk** 77.06 4 P P 21 50 42.6 +1.0
baz=188
O16K **Kokwok River B** 77.14 8 P P 21 50 41.3 -0.7
baz=196
S11A **Rachel** 77.18 44 IAmb IAmb 21 50 44.9
comp=Z,11nm,0.9s
INCN **Inchon** 77.23 316 P P 21 50 44.6 +1.5
INCN **Inchon** 77.23 316 P P 21 50 43.8 +0.7
M13K **Dall Lake** 77.33 6 P P 21 50 43.7 +0.7
baz=191
P18K **Big Mountain,** 77.39 10 P P 21 50 43.5 +0.1
baz=199
N15K **Kwethluk River** 77.44 7 P P 21 50 44.2 +0.5
baz=194
O17K **Koliganek Bris** 77.46 9 P P 21 50 44.5 +0.7
baz=197
PINE **Pine Mountain** 77.51 37 IAmb IAmb 21 50 46.9
comp=Z,13nm,0.8s
R11B **Troy Canyon, C** 77.67 44 P P 21 50 46.5 +0.8
baz=237,SNR=8.5
BMN **Battle Mountai** 77.76 41 P P 21 50 45.5 -0.6
BMN IAmb IAmb 21 50 48.0
comp=Z,11nm,0.7s
M14K **Bethel** 77.80 6 P P 21 50 46.5 +0.9
baz=192,SNR=5.7
O18K **Koktuh Hills** 77.83 10 P P 21 50 46.4 +0.6
baz=199
M15K **Kasigluk River** 77.88 7 P P 21 50 46.7 +0.6
baz=194
N16K **Nishlik Lake** 77.90 8 P P 21 50 46.7 +0.4
baz=195
TUC **Tucson** 77.97 51 P P 21 50 47.6 +0.3
TUC **Tucson** 77.97 51 P P 21 50 49.1 +1.8
baz=241
O19K **Port Alsworth** 78.30 10 IAmb IAmb 21 50 48.7
comp=Z,18nm,0.8s
O19K **Port Alsworth** 78.30 10 P P 21 50 48.4 0.0
baz=200
L14K **Kuka Creek** 78.30 6 P P 21 50 49.4 +1.0
baz=192
M16K **Timber Creek** 78.41 8 P P 21 50 50.4 +1.4
baz=195
I07A **Izee** 78.51 37 P P 21 50 50.1 0.0
Q12A **Willow Creek R** 78.53 43 IAmb IAmb 21 50 52.3
comp=Z,9.4nm,0.8s
J08A **Circle Bar Ran** 78.68 38 IAmb IAmb 21 50 52.8
comp=Z,15nm,1.2s
CCUT **Cedar City** 78.73 45 P P 21 50 52.0 +0.3
L15K **Ungalak Mounta** 78.75 6 P P 21 50 51.1 +0.3
baz=193
N19K **Bonanza Creek** 78.86 10 P P 21 50 51.3 -0.2
baz=199
M17K **Holitna River** 78.97 8 P P 21 50 53.0 +0.9
baz=197
L16K **Owhat River** 79.01 7 P P 21 50 53.7 +1.4
baz=195
WUAZ **Wupatki** 79.09 48 IAmb IAmb 21 50 56.7
comp=Z,18nm,1.5s
WUAZ **Wupatki** 79.09 48 P P 21 50 55.7 +2.1
baz=240
M18K **Stony River** 79.29 9 P P 21 50 54.6 +0.8
baz=198
K15K **Wolf Creek Mou** 79.35 6 P P 21 50 55.6 +1.5
baz=193
MDJ **Mudanjiang** 79.41 323 P P 21 50 55.5 +0.7
MDJ pmax pmax
comp=Z,11nm,1.1s
MDJ pmax pmax
comp=Z,100nm,5.9s
MDJ **Mudanjiang** 79.41 323 P P 21 50 56.1 +1.3
MDJ **Mudanjiang** 79.41 323 IAmb IAmb 21 50 56.7
comp=Z,12nm,1.1s
L17K **Donlin** 79.57 8 P P 21 50 57.0 +1.7
baz=196
J14K **Nanvaranak Lak** 79.61 5 P P 21 50 56.0 +0.5
baz=191
E07A **Sunnyside** 79.81 35 P P 21 50 57.1 +0.2
E07A IAmb IAmb 21 50 58.7
comp=Z,8.7nm,0.9s
L18K **Granite Mounta** 79.86 8 P P 21 50 57.7 +0.8
baz=197
M19K **Big River Lodg** 79.90 9 P P 21 50 57.0 -0.2
baz=200
RC01 **Rabbit Creek A** 79.97 12 P P 21 50 58.5 +1.0
baz=204
M20K **Styx River** 80.09 10 P P 21 50 59.0 +0.8
baz=201
L19K **White Mountain** 80.09 9 P P 21 50 59.0 +0.8
baz=199
SUA **Susitna One** 80.12 11 P P 21 50 58.9 +0.5
baz=203
K17K **Iditarod** 80.13 7 P P 21 50 59.4 +1.1
baz=196
GAMB **Gambell** 80.20 1 P P 21 50 59.7 +1.1
baz=183
BMO **Blue Mountains** 80.23 37 P P 21 50 57.5 -1.9
121A **Cookes Peak, D** 80.32 52 P P 21 50 60.0 -0.2
121A **Cookes Peak, D** 80.32 52 P P 21 51 02.1 +1.8
baz=243
EYAK **Cordova Ski Ar** 80.34 14 P P 21 50 59.9 +0.5
baz=208
SIT **Sitka** 80.35 20 P P 21 51 01.0 +1.5
baz=218
U33K **Whale Pass** 80.38 22 P P 21 51 00.9 +1.2
baz=220
J16K **Anvik River** 80.42 6 P P 21 51 01.0 +1.3
baz=193
SKT **Skwentna** 80.46 11 P P 21 51 01.1 +1.1
baz=202
DUG **Dugway, Tooele** 80.47 43 P P 21 51 01.8 +1.0
baz=239
KNK **Knik Glacier** 80.53 12 P P 21 51 00.4 -0.1
baz=205
L20K **Farewell, AK** 80.53 10 P P 21 50 59.9 -0.5
baz=200
PMR **Palmer** 80.55 12 P P 21 51 00.6 +0.1
baz=204
D08A **Wollman Farm,** 80.62 35 IAmb IAmb 21 51 02.9
comp=Z,7.9nm,0.9s
TTA **Tatalina** 80.64 8 P P 21 51 01.9 +0.8
baz=198
J17K **VABM Dome** 80.69 7 IAmb IAmb 21 51 02.8
comp=Z,11nm,0.6s
J17K **VABM Dome** 80.69 7 P P 21 51 02.4 +1.1
baz=195
SML **Sawmill** 80.91 12 P P 21 51 02.8 +0.3
baz=205
F10A **Beach Ranch, E** 80.93 36 IAmb IAmb 21 51 04.2
comp=Z,11nm,0.9s
BMRM **Bremner River** 80.98 14 P P 21 51 02.7 -0.2
baz=209
I17K **Unalakleet** 80.99 6 P P 21 51 03.1 +0.3
baz=193
J18K **Innoko River** 81.05 8 IAmb IAmb 21 51 06.1
comp=Z,10nm,0.8s
J18K **Innoko River** 81.05 8 P P 21 51 04.1 +0.9
baz=197
MA2 **Magadan** 81.06 343 P P 21 51 03.0 -0.3
MA2 **Magadan** 81.06 343 P P 21 51 01.8 -1.5
CUT **Chulitna** 81.08 11 P P 21 51 03.3 0.0
baz=203
SCM **Sheep Creek Mo** 81.14 13 P P 21 51 04.2 +0.4
baz=206
HLID **Hailey** 81.24 40 P P 21 51 06.0 +1.1
baz=237,SNR=14
ANM **Nome** 81.27 4 P P 21 51 05.1 +0.8
baz=189
HVU **Hansel Valley** 81.31 42 P P 21 51 05.5 +0.3
BNX **BinXian** 81.32 323 ⇑P P 21 51 05.5 +0.5
BNX pmax pmax
comp=Z,24nm,0.9s
BNX pmax pmax
comp=Z,120nm,4.0s
K20K **Telida** 81.33 9 P P 21 51 05.3 +0.6
baz=200
CN2 **Changchun** 81.40 321 P P 21 51 06.0 +0.5
CN2 pmax pmax
comp=Z,10.0nm,0.9s
SRU **San Rafael Swe** 81.45 45 P P 21 51 06.4 +0.3
N25K **Chitina, Valde** 81.54 14 P P 21 51 06.2 +0.4
baz=209
H16K **Elim** 81.58 5 P P 21 51 06.8 +0.9
baz=192,SNR=7.6
M24K **Tolsona, Glenn** 81.63 13 P P 21 51 06.9 +0.6
baz=207
P29M **Windy Craggy** 81.66 18 P P 21 51 07.7 +1.2
baz=215
CAST **Castle Rocks** 81.70 10 P P 21 51 06.9 +0.2
baz=202
J19K **Pedro** 81.71 8 P P 21 51 07.7 +1.1
baz=198
MCARA **McCarthy VSAT** 81.72 15 P P 21 51 09.1 +2.4
baz=210
WAT6 **Susitna Watana** 81.73 12 P P 21 51 07.6 +0.6
baz=206
CTG **Chitna Glacier** 81.78 16 P P 21 51 07.7 +0.5
baz=212
MNTX **Cornudas Mount** 81.78 54 P P 21 51 09.1 +1.3
baz=245
G15K **Niukluk** 81.79 4 P P 21 51 07.8 +0.8
baz=190
WAT1 **Susitna Watana** 81.80 12 P P 21 51 07.3 +0.2
baz=205
O28M **Mount Upton** 81.92 16 P P 21 51 08.5 +0.4
baz=213
PLBC **Pleasant Camp** 81.93 19 P P 21 51 08.7 +0.9
baz=217
MVCO **Mesa Verde** 81.94 47 P P 21 51 09.6 +0.9
baz=242
O29M **Mount Kennedy** 81.97 17 P P 21 51 09.0 +0.8
baz=214
BSUT **Blindstream Ca** 81.99 44 P P 21 51 09.4 +0.3
BSUT IAmb IAmb 21 51 49.2
comp=Z,9.2nm,0.8s
TRF **Thorofare Moun** 82.04 11 P P 21 51 07.5 -1.0
TRF IAmb IAmb 21 51 09.7
comp=Z,17nm,0.8s
TRF **Thorofare Moun** 82.04 11 P P 21 51 08.4 -0.2
baz=203,SNR=7.7
J20K **Nowinta River** 82.09 9 IAmb IAmb 21 51 09.4
comp=Z,7.4nm,0.6s
J20K **Nowinta River** 82.09 9 P P 21 51 09.0 +0.4
baz=200
CHUM **Lake Minchumin** 82.10 10 P P 21 51 08.6 0.0
baz=201
H17K **Granite Mounta** 82.10 6 P P 21 51 09.3 +0.6
baz=194
HARP **HAARP** 82.11 13 P P 21 51 09.1 +0.3
baz=208
F14K **Arctic Creek** 82.11 3 P P 21 51 09.5 +0.8
baz=188
TNA **Tin City** 82.12 3 P P 21 51 09.4 +0.7
baz=186,SNR=6.5
TXAR **Lajitas Array** 82.15 56 P P 21 51 11.6 +1.7
comp=Z,0.9nm,0.7s,baz=218,slow=9.5,SNR=4.9
comp=Z,0.9nm,0.7s
DHY **Denali Highway** 82.25 12 P P 21 51 09.5 -0.2
baz=206
RND **Reindeer** 82.26 11 IAmb IAmb 21 51 10.5
comp=Z,16nm,0.8s
P30M **Million Dollar** 82.29 18 P P 21 51 10.7 +0.9
baz=216
NEW **Newport** 82.31 35 P P 21 51 10.6 +0.4
baz=234
G16K **Koyuk River** 82.32 5 IAmb IAmb 21 51 11.6
comp=Z,7.7nm,0.8s
G16K **Koyuk River** 82.32 5 P P 21 51 10.6 +0.8
baz=192,SNR=5.3
ANMO **Albuquerque** 82.38 50 P P 21 51 10.6 -0.5
ANMO IAmb IAmb 21 51 13.4
comp=Z,12nm,1.3s
ANMO **Albuquerque** 82.38 50 P P 21 51 12.3 +1.3
baz=244
F15K **North Star Dit** 82.45 4 IAmb IAmb 21 51 12.6
comp=Z,12nm,1.3s
F15K **North Star Dit** 82.45 4 P P 21 51 11.5 +1.1
baz=190
S34M **Telegraph Cree** 82.45 22 P P 21 51 13.7 +3.1
baz=222
YUK8 **Steele Glacier** 82.46 16 P P 21 51 11.5 +0.5
baz=213
H18K **Honhosa River** 82.48 7 P P 21 51 10.9 +0.3
baz=196
BPAW **Bear Paw Mtn.** 82.52 10 P P 21 51 10.6 -0.2
baz=203
MCK **McKinley** 82.55 11 P P 21 51 11.0 0.0
baz=205,SNR=11
PAX **Paxson** 82.55 13 P P 21 51 10.4 -0.7
baz=208
G17K **Kiwalik Mounta** 82.58 6 P P 21 51 12.4 +1.4
baz=193,SNR=5.8
M26K **Nabesna, AK** 82.61 14 IAmb IAmb 21 51 12.7
comp=Z,26nm,1.4s
M26K **Nabesna, AK** 82.61 14 P P 21 51 11.9 +0.5
baz=210
YUK3 **Moose Creek** 82.69 16 P P 21 51 12.5 +0.5
baz=213
HYT **Haines Junctio** 82.70 17 P P 21 51 13.5 +1.5
baz=216
RDMU **Red Mountain** 82.80 44 IAmb IAmb 21 51 54.1
comp=Z,15nm,0.7s
YUK4 **Talbot Arm** 82.81 17 P P 21 51 13.3 +0.7
baz=214
M27K **Edge Creek, AK** 82.84 15 P P 21 51 13.4 +0.7
baz=211
Q32M **Nakina River** 82.86 21 P P 21 51 13.1 +0.2
baz=220
P32M **Atlin** 82.87 20 P P 21 51 13.4 +0.6
baz=219
H19K **Roundabout Mou** 83.07 7 IAmb IAmb 21 51 15.5
comp=Z,16nm,1.3s
H19K **Roundabout Mou** 83.07 7 P P 21 51 14.8 +1.2
baz=197
L26K **Log Cabin Wild** 83.07 14 P P 21 51 14.0 +0.3
baz=210
O30N **Mendenhall** 83.07 18 IAmb IAmb 21 51 15.1
comp=Z,7.2nm,0.9s
O30N **Mendenhall** 83.07 18 P P 21 51 14.9 +1.1
baz=217
G18K **Tagagawik** 83.16 6 IAmb IAmb 21 51 15.3
comp=Z,9.3nm,1.1s
G18K **Tagagawik** 83.16 6 P P 21 51 14.4 +0.3
baz=195,SNR=5.3
K24K **Donnelly Dome** 83.23 12 P P 21 51 15.1 +0.6
baz=208
H20K **Anotleneega Mo** 83.23 8 P P 21 51 15.3 +0.9
baz=199,SNR=5.8
DLBC **Dease Lake** 83.24 22 P P 21 51 15.3 +0.5
baz=222
TIA **Tai'an** 83.25 311 P P 21 51 16.0 +0.8
TIA pmax pmax
comp=Z,6.0nm,0.9s
TIA LR LR
comp=N,81nm,11.2s
TIA LR LR
comp=E,140nm,15.0s
TIA LR LR
comp=Z,150nm,10.3s
NEA2 **Nenana** 83.31 11 IAmb IAmb 21 51 17.4
comp=Z,6.0nm,0.7s
NEA2 **Nenana** 83.31 11 P P 21 51 15.5 +0.7
baz=204
WHY **Whitehorse** 83.34 18 P P 21 51 15.6 +0.3
baz=218
TPAW **Teton Pass** 83.35 41 IAmb IAmb 21 51 16.7
comp=Z,12nm,0.7s
I21K **Tanana** 83.36 9 P P 21 51 15.6 +0.5
baz=202
RIDG **Independent Ri** 83.36 13 P P 21 51 15.5 +0.2
baz=208
BPMT **Black Pine Rid** 83.37 38 P P 21 51 14.8 -1.1
MLY **Manley** 83.42 10 P P 21 51 15.0 -0.5
baz=203
F17K **Baldwin Pennin** 83.44 5 P P 21 51 16.2 +0.8
baz=193
L27K **Beaver Creek,** 83.45 14 P P 21 51 16.2 +0.5
baz=211
SNOW **Snow King Moun** 83.45 41 P P 21 51 16.4 -0.1
SNOW IAmb IAmb 21 51 18.3
comp=Z,15nm,0.8s
O20A **White River Ci** 83.48 45 IAmb IAmb 21 51 18.2
comp=Z,10nm,0.7s
O20A **White River Ci** 83.48 45 P P 21 51 17.5 +0.9
baz=242,SNR=8.1
HDA **Harding Lake** 83.53 12 IAmb IAmb 21 51 16.3
comp=Z,9.4nm,0.6s
HDA **Harding Lake** 83.53 12 P P 21 51 16.2 +0.2
baz=206,SNR=8.1
IMW **Indian Meadow** 83.56 41 IAmb IAmb 21 51 18.8
comp=Z,13nm,0.7s
G19K **Purcell Mounta** 83.58 7 IAmb IAmb 21 51 17.7
comp=Z,10nm,0.8s
G19K **Purcell Mounta** 83.58 7 P P 21 51 17.4 +1.2
baz=197
R33M **Jennings River** 83.62 21 IAmb IAmb 21 51 18.8
comp=Z,11nm,1.0s
R33M **Jennings River** 83.62 21 P P 21 51 18.1 +1.4
baz=222
LOHW **Long Hollow** 83.63 41 P P 21 51 17.1 -0.1
LOHW IAmb IAmb 21 52 01.2
comp=Z,7.1nm,0.8s
P33M **Teslin, Yukon** 83.64 19 P P 21 51 17.7 +1.0
baz=220
H21K **Melozitna Rive** 83.68 9 IAmb IAmb 21 51 22.6
comp=Z,11nm,1.4s
H21K **Melozitna Rive** 83.68 9 P P 21 51 17.3 +0.6
baz=201
F18K **Selawik** 83.75 6 P P 21 51 17.0 0.0
baz=194,SNR=8.6
SCRK **Sand Creek** 83.76 13 IAmb IAmb 21 51 18.3
comp=Z,8.9nm,0.6s
SCRK **Sand Creek** 83.76 13 P P 21 51 17.7 +0.4
baz=209,SNR=7.0
I23K **Minto, Yukon-K** 83.76 10 IAmb IAmb 21 51 17.9
comp=Z,11nm,1.2s
I23K **Minto, Yukon-K** 83.76 10 P P 21 51 17.3 +0.2
baz=204
M29M **Somme Creek** 83.77 16 P P 21 51 17.8 +0.4
baz=214
COLA **College** 83.78 11 P P 21 51 17.1 -0.1
COLA **College** 83.78 11 P P 21 51 16.6 -0.6
COLA **College** 83.78 11 P P 21 51 17.6 +0.4
baz=206
MDM **Murphy Dome** 83.79 11 IAmb IAmb 21 51 17.4
comp=Z,6.7nm,0.7s
FLWY **Flagg Ranch** 83.80 41 IAmb IAmb 21 51 20.3
comp=Z,12nm,0.8s
IL31 83.87 12 IAmb IAmb 21 51 18.6
comp=Z,28nm,1.4s
ILAR **Eielson Array** 83.87 12 P P 21 51 17.0 -0.8
ILAR **Eielson Array** 83.87 12 P P 21 51 17.6 -0.2
comp=Z,3.9nm,0.5s,baz=231,slow=5.8,SNR=111
comp=Z,3.9nm,0.5s
BW06 **Boulder Array** 83.87 42 P P 21 51 18.5 0.0
baz=241
PD31 **Pinedale Array** 83.87 42 IAmb IAmb 21 51 19.6
comp=Z,8.7nm,0.7s
PDAR **Pinedale Array** 83.87 42 P P 21 51 18.9 +0.4
comp=Z,7.9nm,0.6s,baz=209,slow=3.5,SNR=88
comp=Z,7.9nm,0.6s
HEH **HeiHe** 83.89 327 eP P 21 51 17.3 -0.8
HEH pmax pmax
comp=Z,5.0nm,0.6s
BOZ **Bozeman (W)** 84.00 39 P P 21 51 19.9 +0.9
baz=239,SNR=9.4
E17K **Hotham Inlet** 84.02 5 P P 21 51 19.1 +0.7
baz=192,SNR=17
J25K **Salcha River,** 84.03 12 IAmb IAmb 21 51 19.6
comp=Z,9.7nm,0.7s
J25K **Salcha River,** 84.03 12 P P 21 51 18.9 +0.3
baz=208
H17A **Grant Village** 84.03 40 P P 21 51 21.3 +1.9
baz=240,SNR=7.7
POKR **Poker Plat Res** 84.08 11 P P 21 51 18.0 -0.8
POKR **Poker Plat Res** 84.08 11 P P 21 51 18.6 -0.2
baz=206,SNR=12
H22K **Ishtalitna Cre** 84.12 9 P P 21 51 19.4 +0.4
baz=202
F19K **Shaleruckik Mo** 84.17 7 P P 21 51 19.3 +0.2
baz=196
K27K **Chicken** 84.22 14 P P 21 51 20.8 +1.3

baz=211
J26L Joseph Creek 84.31 13 P P 21 51 20.5 +0.5
J26L IAmb IAmb 21 51 21.8
comp=Z,10nm,0.7s
J26L Joseph Creek 84.31 13 P P 21 51 20.8 +0.8
baz=210,SNR=14
M30M Minto, Yukon 84.33 17 P P 21 51 20.8 +0.7
baz=216,SNR=5.3
H23K Yukon River 84.35 10 P P 21 51 20.2 +0.1
baz=204
G21K Allakaket 84.39 8 IAmb IAmb 21 51 21.8
comp=Z,13nm,0.8s
G21K Allakaket 84.39 8 P P 21 51 21.1 +0.8
baz=200
L29M L29M 84.41 16 IAmb IAmb 21 51 22.3
comp=Z,16nm,0.8s
L29M L29M 84.41 16 P P 21 51 21.4 +0.9
baz=215
E18K Tukpahlearik C 84.46 5 P P 21 51 21.3 +0.7
baz=193
D17K Noatak River 84.53 4 P P 21 51 21.5 +0.6
baz=191,SNR=11
F20K Avaraart Lake 84.61 7 IAmb IAmb 21 51 22.8
comp=Z,7.2nm,0.8s
F20K Avaraart Lake 84.61 7 P P 21 51 22.0 +0.6
baz=198
H24K Noodor Dome 84.65 11 P P 21 51 21.1 -0.5
baz=206
M31M Drury Creek, Y 84.71 18 P P 21 51 22.1 +0.1
baz=218
MSTX Muleshoe 84.72 52 P P 21 51 23.4 +0.5
baz=246
PRP Porcupine Dome 84.80 12 IAmb IAmb 21 51 23.5
comp=Z,15nm,0.8s
PRP Porcupine Dome 84.80 12 P P 21 51 23.1 +0.5
baz=208,SNR=8.1
E19K Redstone River 84.83 7 P P 21 51 23.5 +1.0
baz=196
DAWY Dawson 84.89 15 P P 21 51 22.4 -0.5
DAWY Dawson 84.89 15 P P 21 51 23.9 +1.0
baz=214,SNR=10.0
RDOG Red Dog Mine 84.89 4 P P 21 51 23.5 +0.7
baz=191
C16K Lisburne Hills 84.95 3 P P 21 51 23.9 +0.9
baz=189
FARO Faro, Yukon 85.03 18 P P 21 51 24.0 +0.4
baz=219
F21K Alatna River 85.06 8 IAmb IAmb 21 51 24.8
comp=Z,6.7nm,0.6s
F21K Alatna River 85.06 8 P P 21 51 24.1 +0.4
baz=200
EGAK Eagle 85.07 14 IAmb IAmb 21 51 25.1
comp=Z,10nm,0.7s
EGAK Eagle 85.07 14 P P 21 51 24.5 +0.7
baz=212,SNR=6.9
G23K Bananza Creek 85.09 10 IAmb IAmb 21 51 25.2
comp=Z,9.6nm,0.8s
G23K Bananza Creek 85.09 10 P P 21 51 24.4 +0.6
baz=203
I26K Coal Creek Min 85.09 13 IAmb IAmb 21 51 25.3
comp=Z,9.1nm,0.8s
I26K Coal Creek Min 85.09 13 P P 21 51 24.7 +0.9
baz=210
ISCO Idaho Springs 85.13 46 P P 21 51 25.1 +0.1
baz=244
K29M Barlow Dome 85.17 16 IAmb IAmb 21 51 26.1
comp=Z,11nm,0.9s
K29M Barlow Dome 85.17 16 P P 21 51 25.3 +0.9
baz=215
RLMT Red Lodge 85.20 40 P P 21 51 25.6 +0.5
baz=241
C17K DeLong Mountai 85.29 4 P P 21 51 25.2 +0.4
baz=191
TOAD Toad River Com 85.29 23 P P 21 51 25.6 +0.6
baz=227,SNR=9.4
N23A Red Feather La 85.39 45 P P 21 51 26.7 +0.5
baz=243
H25L Birch Creek 85.41 11 P P 21 51 25.6 +0.2
baz=207
J29N Klondike Camp 85.50 15 P P 21 51 27.2 +1.3
baz=215,SNR=13
F22K John River 85.51 8 P P 21 51 26.8 +1.0
baz=201
COLD Coldfoot 85.54 9 P P 21 51 27.0 +1.0
baz=203
BRLDA Berland Lookou 85.59 30 IAmb IAmb 21 51 28.6
comp=Z,17nm,0.9s
BJT Baijiatuau 85.60 314 P P 21 51 27.9 +1.0
BJT Baijiatuau 85.60 314 IAmb IAmb 21 51 28.9
comp=Z,19nm,1.2s
BJI Beijing 85.60 314 P P 21 51 27.5 +0.6
BJI pmax pmax
comp=Z,7.0nm,1.2s
BJI pmax pmax
comp=Z,45nm,4.2s
C18K Utukok River 85.61 5 P P 21 51 26.8 +0.4
baz=193
BILL Bilibino 85.62 353 P P 21 51 25.9 -0.5
BILL IAmb IAmb 21 51 27.4
comp=Z,20nm,1.0s
I27K Kandik River 85.68 13 P P 21 51 27.2 +0.4
baz=211
E20K Nigu River 85.71 7 P P 21 51 27.7 +0.8
baz=198
D19K Kuna River 85.74 6 IAmb IAmb 21 51 28.1
comp=Z,10nm,0.8s
D19K Kuna River 85.74 6 P P 21 51 28.0 +1.0
baz=196
K22A Casper 85.79 43 P P 21 51 27.6 -0.4
baz=243
I28M Miner Creek 85.92 14 IAmb IAmb 21 51 28.9
comp=Z,9.5nm,0.6s
I28M Miner Creek 85.92 14 P P 21 51 28.3 +0.2
baz=213
MMPY Sheldon Lake, 85.96 18 IAmb IAmb 21 51 29.6
comp=Z,8.5nm,1.0s
MMPY Sheldon Lake, 85.96 18 P P 21 51 29.4 +1.2
baz=221,SNR=5.2
LYN LuoYang 86.02 308 eP P 21 51 30.3 +1.2
LYN pmax pmax
comp=Z,42nm,0.7s
IPM Ipoh 86.04 276 P P 21 51 29.9 +0.1
J30M Hart River 86.07 15 IAmb IAmb 21 51 30.6
comp=Z,6.0nm,0.8s
J30M Hart River 86.07 15 P P 21 51 29.6 +0.7
baz=216
TGTN Hyland Airport 86.10 20 P P 21 51 29.7 +0.8
baz=224,SNR=5.1
D20K Etivluk River 86.10 6 P P 21 51 29.3 +0.5
baz=197
E22K Anaktuvuk Pass 86.14 8 IAmb IAmb 21 51 30.4
comp=Z,11nm,0.9s
E22K Anaktuvuk Pass 86.14 8 P P 21 51 29.8 +0.8
baz=202
E21K Killik River 86.15 7 P P 21 51 30.0 +0.9
baz=200
F24K Squaw Lake 86.17 10 P P 21 51 29.9 +0.7
baz=205
C19K Lookout Ridge 86.19 5 IAmb IAmb 21 51 30.1
comp=Z,26nm,1.4s
C19K Lookout Ridge 86.19 5 P P 21 51 30.1 +0.8
baz=194
H27K Steamboat Moun 86.23 13 P P 21 51 30.5 +1.0
baz=211,SNR=7.2
B18K Kokolik River 86.26 4 P P 21 51 30.5 +1.0
baz=192
MAW Mawson 86.28 199 P P 21 51 30.5 +0.7
comp=Z,5.7nm,0.7s,baz=152,slow=6.0,SNR=10
comp=Z,5.7nm,0.7s
EGMT Eagleton 86.34 37 P P 21 51 30.8 +0.3
baz=240
E23K Chandalar 86.39 9 P P 21 51 30.8 +0.5
baz=204
G26K Porcupine Rive 86.40 12 P P 21 51 31.6 +1.4
baz=209
I30M Mount Dempster 86.58 15 IAmb IAmb 21 51 32.0
comp=Z,8.2nm,0.7s
I30M Mount Dempster 86.58 15 P P 21 51 31.6 +0.3
baz=216,SNR=12
KOTAN Kotaneelee Air 86.61 23 P P 21 51 32.0 +0.7
baz=228
ABTX Abilene, Hawle 86.61 55 IAmb IAmb 21 51 33.9
comp=Z,8.4nm,0.8s
ABTX Abilene, Hawle 86.61 55 P P 21 51 32.8 +0.7
baz=248
F25K Christian Rive 86.63 11 P P 21 51 32.3 +0.9
baz=208
BMAR Burnt Mountain 86.67 11 P P 21 51 31.9 +0.3
G27K Doyon Strip 86.70 12 P P 21 51 32.8 +1.0
baz=211
D22K Ayikyak River 86.73 8 IAmb IAmb 21 51 32.9
comp=Z,7.6nm,0.6s
D22K Ayikyak River 86.73 8 P P 21 51 32.8 +0.9
baz=201
C21K Knifeblade Rid 86.73 7 P P 21 51 32.2 +0.4
baz=199
ENH Enshi 86.74 303 P P 21 51 33.6 +0.8
H29M Whitestone 86.92 14 IAmb IAmb 21 51 33.6
comp=Z,8.0nm,0.7s
H29M Whitestone 86.92 14 P P 21 51 33.3 +0.5
baz=214
TOLK Toolik Lake Re 86.94 9 P P 21 51 33.3 +0.4
baz=204
F26K Sheenjek River 86.99 11 P P 21 51 33.9 +0.8
baz=209
D23K Nanushuk River 87.08 8 P P 21 51 34.0 +0.5
baz=203
EDM Edmonton 87.08 32 IAmb IAmb 21 51 34.9
comp=Z,16nm,1.1s
E25K Arctic Village 87.11 10 IAmb IAmb 21 51 35.9
comp=Z,6.3nm,0.8s
E25K Arctic Village 87.11 10 P P 21 51 34.8 +1.1
baz=208,SNR=8.6
A19K Wainwright 87.14 5 P P 21 51 34.2 +0.5
baz=193
B21K Ikpikpuk River 87.19 7 P P 21 51 34.3 +0.3
baz=199
TIY Taiyuan 87.29 311 eP P 21 51 36.8 +1.5
B20K Meade River 87.29 6 IAmb IAmb 21 51 35.5
comp=Z,8.1nm,0.7s
B20K Meade River 87.29 6 P P 21 51 34.6 +0.2
baz=197
EPYK Eagle Plains 87.43 14 P P 21 51 35.4 +0.1
baz=216
D24K Happy Valley 87.52 9 IAmb IAmb 21 51 36.7
comp=Z,4.9nm,0.7s
D24K Happy Valley 87.52 9 P P 21 51 36.1 +0.6
baz=204
H31M Peel River 87.56 15 P P 21 51 36.3 +0.5
baz=218
G29M Pine Creek 87.57 14 IAmb IAmb 21 51 40.2
comp=Z,13nm,1.4s
G29M Pine Creek 87.57 14 P P 21 51 36.6 +0.7
baz=215
GYA Guiyang 87.74 298 ⇓P P 21 51 39.0 +1.2
GYA pP pP 21 52 23.8 -2.4
GYA pmax pmax
comp=Z,19nm,1.1s
GYA pmax pmax
comp=Z,170nm,4.3s
F28M Old Crow 87.76 13 P P 21 51 36.6 -0.1
F28M IAmb IAmb 21 51 38.4
comp=Z,4.4nm,0.7s
F28M Old Crow 87.76 13 P P 21 51 37.3 +0.6
baz=213,SNR=7.8
LAO LASA Array 87.82 40 IAmb IAmb 21 51 39.6
comp=Z,8.5nm,0.8s
LAO LASA Array 87.82 40 P P 21 51 38.7 +1.1
baz=243
C23K Itkillik River 87.89 8 IAmb IAmb 21 51 38.5
comp=Z,9.5nm,0.8s
C23K Itkillik River 87.89 8 P P 21 51 38.0 +0.7
baz=203,SNR=9.2
E27K Colleen River 87.90 12 P P 21 51 37.6 +0.2
baz=211
B22K Teshekpuk Lake 88.01 7 IAmb IAmb 21 51 39.4
comp=Z,11nm,1.1s
B22K Teshekpuk Lake 88.01 7 P P 21 51 38.5 +0.6
baz=200
G30M tAoh Zraii Nji 88.04 14 P P 21 51 38.0 -0.1
baz=216
D25K Kavik River 88.05 10 P P 21 51 37.8 -0.3
baz=207
C24K Franklin Bluff 88.05 9 P P 21 51 38.7 +0.6
baz=205
RSSD Black Hills 88.07 43 P P 21 51 38.4 -0.6
RSSD IAmb IAmb 21 51 40.6
comp=Z,5.1nm,0.9s
RSSD Black Hills 88.07 43 P P 21 51 38.8 -0.2
baz=245
NONG Nongkai 88.12 289 P P 21 51 40.7 +1.2
G31M Satah River 88.46 15 P P 21 51 40.3 +0.3
baz=218,SNR=5.5
A22K Sinclair Lake 88.47 6 P P 21 51 40.3 +0.3
baz=199
XAN Xi'an 88.55 306 P P 21 52 42.0 +0.7
XAN pmax pmax
comp=Z,23nm,1.1s
SRIT Nakonsritamara 88.58 279 P P 21 51 43.0 +1.2
A21K Barrow 88.61 6 P P 21 51 40.8 +0.2
baz=197
E28M Babbage River 88.66 12 P P 21 51 41.8 +0.9
baz=213
SURA Surathani 88.72 280 P P 21 51 44.3 +1.8
C26K Camden Bay 88.81 10 P P 21 51 42.9 +1.3
baz=208,SNR=9.0
E29M Blow River 88.82 13 P P 21 51 41.5 -0.1
baz=215
WRGLY Wrigley 88.90 21 P P 21 51 43.5 +1.4
baz=228
D27M Malcolm River 88.92 11 P P 21 51 43.3 +1.0
baz=212
F31M Tsiigehtchic 89.00 15 IAmb IAmb 21 51 44.7
comp=Z,6.0nm,0.7s
F31M Tsiigehtchic 89.00 15 P P 21 51 43.1 +0.6
baz=219
HHC Hu-ho-hao-te 89.14 313 eP P 21 51 45.3 +1.3
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,44nm,3.7s
INK Inuvik 89.73 14 P P 21 51 45.7 -0.2
INK IAmb IAmb 21 51 50.1
comp=Z,8.4nm,1.4s
INK Inuvik 89.73 14 P P 21 51 46.4 +0.6
baz=219
DGMT Dagmar 89.84 39 P P 21 51 47.9 +0.9
baz=244
BTO Baotou 90.13 313 eP P 21 51 50.5 +1.9
BTO pP pP 21 52 34.8 -2.6
BTO sP sP 21 52 52.8 -5.2
BTO PP PP 21 55 29.8 +4.5
BTO pmax pmax
comp=Z,19nm,0.9s
BTO pmax pmax
comp=Z,260nm,5.0s
KMI Kunming 90.66 296 ⇓P P 21 51 53.5 +1.9
KMI pmax pmax
comp=Z,20nm,0.8s
ELIB Princess Elisa 90.79 185 dP P 21 51 50.9 -0.3
comp=Z,4.6nm,1.0s
CRAI Chiangrai 91.27 291 IAmb IAmb 21 51 56.5
comp=Z,6.3nm,0.9s
YKA Yellowknife Ar 91.65 24 P P 21 51 55.3 +0.4
comp=Z,1.8nm,0.8s,baz=243,slow=4.1,SNR=19
comp=Z,1.8nm,0.8s
CMAR Chiang Mai Arr 92.05 289 P P 21 51 58.7 +0.8
CMAR Chiang Mai Arr 92.05 289 P P 21 51 59.3 +1.4
comp=Z,5.7nm,0.9s,baz=94,slow=2.6,SNR=43
comp=Z,5.7nm,0.9s
MDND Maddock 92.40 41 P P 21 51 59.0 +0.2
baz=248
LZH Lanzhou 93.16 307 eP P 21 52 03.8 +1.0
LZH pP PcP 21 52 18.8 +16
LZH pmax pmax
comp=Z,15nm,1.2s
MGMO Mountain Grove 93.85 52 IAmb IAmb 21 52 31.9
comp=Z,6.5nm,0.9s
A36M Sachs Harbour 94.36 14 P P 21 52 08.4 +1.2
baz=227
ULN Ulaanbaatar 94.70 319 P P 21 52 08.4 -1.1
ULN IAmb IAmb 21 52 13.8
comp=Z,7.7nm,1.1s
CCM Cathedral Cave 94.90 52 P P 21 52 10.1 -0.5
CCM Cathedral Cave 94.90 52 P P 21 52 11.3 +0.8
baz=253
SONM Songino Array 95.11 318 P P 21 52 12.3 +0.9
comp=Z,1.1nm,0.5s,baz=108,slow=4.7,SNR=2.3
comp=Z,1.1nm,0.5s
TIXI Tiksi 95.94 345 P P 21 52 13.2 -1.2
TIXI IAmb IAmb 21 52 14.6
comp=Z,2.8nm,0.8s
WVT Waverly 96.98 55 P P 21 52 19.2 -0.8
WVT Waverly 96.98 55 P P 21 52 20.0 0.0
baz=254
GTA Gaotai 97.18 309 P Pdif 21 52 21.5 +0.4
GTA pmax pmax
comp=Z,2.0nm,1.7s
TZTN Tazewell 100.43 55 P Pdif 21 52 36.0 +0.5
baz=257
ZALV Zalesovo Beam 109.59 322 PKiKP PKiKP 21 57 16.9 -0.7
comp=Z,1.3nm,0.4s,baz=153,slow=0.6,SNR=10.0
MKAR Makanchi Array 110.98 314 Pdiff Pdif 21 53 21.3 -0.9
comp=Z,0.1nm,0.5s,baz=81,slow=4.8,SNR=1.7
MKAR PKiKP PKiKP 21 57 19.9 -0.6
comp=Z,1.8nm,0.5s,baz=180,slow=0.6,SNR=25
KURBB Kurchatov Arra 113.47 318 PKiKP PKiKP 21 57 24.3 -0.8
comp=Z,1.7nm,0.5s,baz=90,slow=1.8,SNR=22
KURBB PP PP 21 58 13.4 -6.3
comp=Z,2.7nm,1.2s,baz=92,slow=7.1,SNR=6.5
BVAR Borovoye Array 118.24 322 PKP PKPdf 21 57 33.8 -0.4
comp=Z,6.2nm,0.5s,baz=101,slow=1.3,SNR=31
ARCES ARCESS Array B 125.70 351 PKP PKPdf 21 57 47.6 -0.4
comp=Z,5.6nm,0.7s,baz=15,slow=0.6,SNR=15
FINES FINESS Array B 132.94 347 PKhKP PKPpre 21 57 54.7
comp=Z,0.7nm,0.5s,baz=116,slow=4.4,SNR=5.6
FINES PKP PKPdf 21 58 02.8 +0.8
comp=Z,2.2nm,0.5s,baz=45,slow=2.6,SNR=4.7
NOA NORSAR Array B 135.49 356 PKP PKiKP 21 58 08.7 +0.2
comp=Z,0.8nm,0.8s,baz=13,slow=4.1,SNR=3.3
HFS Hagfors 136.19 354 PKhKP PKPpre 21 57 55.9
comp=Z,0.6nm,0.4s,baz=76,slow=6.1,SNR=1.3
HFS PKP PKPdf 21 58 07.8 -0.3
comp=Z,1.6nm,0.6s,baz=48,slow=2.1,SNR=3.9
NACGM Naroch 138.47 342 ePKP PKPdf 21 58 10.2 -2.3
comp=Z,9.0nm,0.9s,baz=31
EKA Eskdalemuir Ar 140.82 8 PKhKP PKPpre 21 58 09.6
comp=Z,0.7nm,0.7s,baz=335,slow=3.1,SNR=1.6
AKASG Malin Array Be 141.09 336 PKhKP PKPpre 21 58 10.2
comp=Z,0.9nm,0.4s,baz=41,slow=3.8,SNR=9.0
BSEG Bad Segeberg 142.62 355 ePKPbc PKPdf 21 58 16.9 -3.1
baz=10,slow=3.1
SORM Soroca 143.46 334 ⇑P PKPab 21 58 18.4 0.0
NRDL Niedersach Rie 144.06 355 ePKPbc PKPbc 21 58 22.0 +1.0
baz=10,slow=3.1
DRBR Darabani 144.11 336 ⇑P PKPab 21 58 20.4 -0.4
FLTG Flechtingen 144.12 354 ePKPbc PKPab 21 58 20.9 +0.1
baz=10,slow=3.1
MILM Milestii Mici 144.20 332 ⇓P PKPab 21 58 21.7 +0.4
KWP Kalwaria Pacla 144.29 341 ePKP PKPab 21 58 22.1 +0.6
ASSE Asse, Remlinge 144.38 355 ePKPbc PKPab 21 58 22.1 +0.4
baz=10,slow=3.1
IBBN Ibbenburen 144.39 358 ePKPbc PKPbc 21 58 22.8 +0.7
baz=10,slow=3.1
OJC Ojcow 144.60 344 ePKP PKPab 21 58 22.9 +0.3
CLZ Clausthal 144.69 355 ePKPbc PKPbc 21 58 23.7 +0.6
baz=10,slow=3.1
LEOM Leova 144.79 332 ⇓P PKPbc 21 58 23.7 +0.2
VASR Vaslui 144.86 333 ⇓P PKPab 21 58 24.2 +0.4
CLL Collm 144.92 352 ⇓/PKPbc PKPbc 21 58 23.8 +0.1
comp=Z,20nm,0.7s
CLL ePKiKP PKiKP 21 58 28.0 +0.1
CLL Collm 144.92 352 ePKPbc PKPbc 21 58 24.0 +0.2
baz=10,slow=3.1
STHS Stebnicka Huta 144.93 342 ePKP PKPbc 21 58 23.8 -0.1
PRAR RASCA 144.95 335 ⇑P PKPbc 21 58 24.1 +0.1
GTTG Gottingen 145.02 355 ePKPbc PKPdf 21 58 24.8 +0.6
baz=10,slow=3.1
OSTC Ostas 145.11 348⇑ePKP PKPab 21 58 25.4 +0.8
CHVC Chvalec 145.12 348⇑ePKP PKPab 21 58 25.2 +0.6
BURAR Bucovina Array 145.13 337 ⇑P PKPab 21 58 25.3 +0.4
NEUB Neuenburg 145.18 353 ePKPbc PKPbc 21 58 25.0 +0.5
baz=10,slow=3.1
NIE Niedzica 145.20 343 ePKP PKPab 21 58 26.1 +1.1
UPC Upice 145.20 348⇑ePKP PKPab 21 58 25.6 +0.7
BRG Berggiesshubel 145.21 351 / PKP PKPbc 21 58 25.2 +0.5
BRG Amp 21 58 26.6
comp=Z,9.9nm,0.7s
BRG Berggiesshubel 145.21 351 ePKPbc PKPbc 21 58 25.2 +0.5
baz=10,slow=3.1
BIR Birlad 145.23 333 ⇑P PKPab 21 58 25.9 +0.8
BUG Bochum--Univer 145.27 358 ePKPbc PKPbc 21 58 25.3 +0.5
baz=10,slow=3.1
DPC Dobruska-Polom 145.29 348⇑ePKP PKPab 21 58 26.1 +0.8
CRVS Cervenica-Dubn 145.32 341 ePKP PKPab 21 58 25.8 +0.3
VLDR Vladesti 145.35 332 ⇓P PKPab 21 58 26.0 +0.4
VARL Varlezi 145.41 332 ⇓P PKPab 21 58 26.1 +0.3
PVCC Panska Ves 145.44 350⇑ePKP PKPab 21 58 26.4 +0.6
KRLC Kraliky 145.45 347⇑ePKP PKPab 21 58 26.3 +0.3
TESR Tescani 145.45 334 ⇓P PKPdf 21 58 25.8 +0.6
KASTN Kahler Asten 145.46 357 ePKPbc PKPbc 21 58 26.1 +0.6
baz=10,slow=3.1
GHRR 145.48 333 ⇑P PKPab 21 58 26.9 +0.8
TLCR 145.51 330 ⇑P PKPab 21 58 26.5 +0.3
SCTR Scanteiesti 145.52 332 ⇑P PKPab 21 58 27.0 +0.7
HSKC Hora Svate Kat 145.55 351⇑ePKP PKPbc 21 58 26.4 +0.7
TATR Tatarca 145.55 332 ⇑P PKPbc 21 58 26.5 +0.6
MORC Moravsky Berou 145.57 346 ⇓P PKPbc 21 58 26.6 +0.7
MORC Moravsky Berou 145.57 346 ePKP PKPbc 21 58 26.3 +0.4
LANS Liptovska Anna 145.67 344 ePKP PKPab 21 58 27.3 +0.5
NEGRR Negrea 145.68 332 ⇓P PKPab 21 58 27.1 +0.3
SLCR Slobozia Conac 145.68 332 ⇓P PKPab 21 58 27.3 +0.5
BMR Baia Mare 145.72 338 ⇓P PKPab 21 58 26.8 +0.5
IZVR Izvoarele 145.72 332 ⇓P PKPab 21 58 27.3 +0.3
SCHL Schela 145.72 332 ⇓P PKPab 21 58 27.8 +0.8
TUDR 145.73 332 ⇑P PKPab 21 58 27.6 +0.5
UBBA Unterbreizbach 145.74 355 ePKPbc PKPbc 21 58 26.7 +0.6
baz=10,slow=3.1
PANC Panciu 145.74 333 ⇓P PKPab 21 58 27.5 +0.4
MOX Moxa 145.75 353 ePKPbc PKPbc 21 58 27.0 +0.6
baz=10,slow=3.1
SCHLR Schela 145.75 332 ⇑P PKPab 21 58 27.3 +0.2
CFR Carcaliu 145.83 331 ⇓P PKPbc 21 58 27.1 +0.4
ODBI Odobesti 145.87 333 ⇑P PKPab 21 58 28.4 +0.8
TANN Tannenbergstha 145.87 352 ePKPbc PKPbc 21 58 27.5 +0.7
baz=10,slow=3.1
ARCR ARCALIA 145.90 337 ⇑P PKPab 21 58 28.0 +0.3
PRA Prague 145.91 350⇑ePKP PKPab 21 58 27.7 +0.1
VRI Vrincioaia 145.93 333 ⇑P PKPbc 21 58 27.7 +0.6
TPGR Topolog 145.94 330 ⇑P PKPab 21 58 28.2 +0.2
PRU Pruhonice 145.97 350⇑ePKP PKPbc 21 58 27.8 +0.8
PRU ePKPAB PKPab 21 58 29.4 +1.6
PLOR Plostina 145.98 333 ⇑P PKPbc 21 58 27.6 +0.4
GOPC GO Pecny, Ondr 146.00 349⇑ePKP PKPbc 21 58 28.0 +0.9
NKC Novy Kostel 146.05 352⇑ePKP PKPbc 21 58 28.2 +0.9
TURR Turia 146.08 334 ⇑P PKPbc 21 58 28.4 +0.9
MEM Membach 146.13 359 dPKP PKPbc 21 58 27.6 +0.2
OZUR 146.15 334 ⇓P PKPbc 21 58 28.4 +0.6
BTNL Ternell 146.15 359 dPcP PKPbc 21 58 27.8 +0.2
BSTI Sart Tilman 146.16 360 dPKP PKPbc 21 58 27.9 +0.3
BISRR Bisoca 146.19 333 ⇑P PKPab 21 58 29.2 +0.2
GRER 146.20 332 ⇑P PKPab 21 58 29.6 +0.7
BOSR Bodos 146.22 335 ⇑P PKPbc 21 58 29.2 +0.2
VRAC Vranov 146.22 347 ⇑P PKPbc 21 58 28.0 +0.2
VRAC Vranov 146.22 347 ePKP PKPbc 21 58 28.4 +0.6
TIRR Tirgusor 146.24 330 ⇓P PKPbc 21 58 28.7 +0.7
HARR Harsova 146.29 331 ⇓P PKPbc 21 58 29.0 +0.9
BCLA Clavier 146.32 0 dPKiKP PKPbc 21 58 29.0 +1.0
MANZ Manzenberg 146.34 352 ePKPbc PKPdf 21 58 27.3 +0.7
baz=10,slow=3.1
BGES Gesves 146.36 1 dPKiKP PKPbc 21 58 29.1 +1.0
BHOU Houvegnez 146.39 359 dPKiKP PKPbc 21 58 29.3 +1.1
JAVC Velka Javorina 146.40 345 ePKP PKPab 21 58 29.8 +0.2
DOPR Dopca 146.41 335 ⇓P PKPab 21 58 29.7 -0.1
BMRD Maredsous 146.44 1 dPKP PKPbc 21 58 28.5 +0.1
VYHS Vyhne 146.44 344 ePKP PKPbc 21 58 29.3 +0.8
TNS Taunus Mts 146.44 357 ePKPbc PKPbc 21 58 29.1 +0.7
baz=10,slow=3.1
TREC Trest 146.46 348⇑ePKP PKPbc 21 58 29.2 +0.7
BRTR Keskin Array B 146.46 319 PKPbc PKPbc 21 58 29.4 +0.5
comp=Z,11nm,0.7s,baz=118,slow=2.1,SNR=42
CBBR Cluj-Babes-Bol 146.47 337 ⇓P PKPdf 21 58 26.3 -0.6
KRUC Moravsky 146.49 347 ePKP PKPbc 21 58 28.8 +0.2
CJR Cluj-Napoca 146.50 337 ⇑P PKPbc 21 58 29.3 +0.6
LTVH Ltavrtes, Hu 146.52 340 ⇑P PKPbc 21 58 29.8 +1.1
ROTZ Rotzenmuhle 146.54 352 ePKPbc PKPbc 21 58 29.7 +1.0
baz=10,slow=3.1
ZVC Zvikov 146.56 350⇑ePKP PKPbc 21 58 29.8 +1.0
MLR Muntele Rosu 146.56 334 ⇑P PKPbc 21 58 29.5 +0.4
PGOR Pogoanele 146.56 332 ⇓P PKiKP 21 58 37.4 +5.9
RCHB Rochefort 146.59 0 dPKP PKPbc 21 58 28.6 -0.1
ISR Istrita 146.60 333 ⇓P PKPbc 21 58 29.9 +0.8
AMRR Amara 146.63 331 ⇓P PKPab 21 58 30.7 +0.1
DOU Dourbes 146.64 1 dPKiKP PKPbc 21 58 29.3 +0.4
PSZ Piszkesteto 146.67 342 ⇑P PKPbc 21 58 29.9 +0.7
MARR Marisel-Cluj 146.70 338 ⇑P PKPbc 21 58 30.0 +0.6
GRF Grafenberg Arr 146.73 353 ePKPbc PKPbc 21 58 30.3 +1.0
baz=10,slow=3.1

DRGR		146.75	338	⇓P	PKPbc	21 58 29.6	+0.1	
ICOR	Ion Corvin	146.79	330	⇓P	PKiKP	21 58 32.2	+0.2	
ANTO	Ankara	146.91	320	⇑P	PKPbc	21 58 30.1	-0.1	
MODS	Modra-Piesok	146.94	346	*e*PKP	PKPbc	21 58 31.2	+1.3	
KHC	Kasperske Hory	146.96	350	*e*PKPDF	PKPdf	21 58 29.0	+1.3	
KHC				⇑*e*PKP	PKPbc	21 58 30.9	+1.0	
KHC				*e*PKPAB	PKiKP	21 58 33.1	+0.8	
LEHL	Lehliu	146.97	332	⇑P	PKPbc	21 58 30.9	+0.9	
VOIR		146.98	334	⇑P	PKPbc	21 58 31.4	+1.2	
WLF	Walferdange	147.08	359	*d*PKiKP	PKPbc	21 58 31.1	+0.9	
WLF	Walferdange baz=10,slow=3.1	147.08	359	*e*PKPbc	PKPbc	21 58 31.6	+1.4	
CKRC	Cesky Krumlov	147.14	349	*e*PKPDF	PKPdf	21 58 29.4	+1.4	
CKRC				⇑*e*PKP	PKPbc	21 58 31.3	+0.9	
CKRC				*e*PKPAB	PKiKP	21 58 33.1	+0.5	
ARR	Arges	147.21	335	⇑P	PKPab	21 58 32.4	-0.6	
GEC2	GERESS Array S baz=10,slow=3.1	147.22	350	*e*PKPbc	PKPbc	21 58 31.5	+0.7	
GERES	GERESS Array B comp=Z,5.7nm,0.7s,baz=21,slow=5.7,SNR=26	147.22	350	PKPbc	PKPbc	21 58 31.2	+0.4	
DEV	Deva	147.46	337	⇑P	PKPbc	21 58 32.1	+0.7	
LOT	Lotru	147.49	336	⇓P	PKPbc	21 58 32.0	+0.4	
SIRR	Siria	147.57	339	⇓P	PKPbc	21 58 32.3	+0.6	
CONA	Conrad Observa comp=Z,13nm,0.6s,SNR=14	147.68	347	*i* PKiKP	PKPbc	21 58 32.8	+0.8	
PRD	Provadia	147.69	329	P	PKPab	21 58 35.7	+0.9	
HUMR	Humele	147.74	334	⇑P	PKPbc	21 58 32.5	+0.4	
RONA	Rosalia, Austr comp=Z,17nm,0.9s,SNR=8.6	147.80	346	*i* PKiKP	PKPbc	21 58 33.1	+0.8	
AMBH	Ambrzfalva	147.81	340	⇑P	PKiKP	21 58 33.7	-0.3	
RAZG	Razgrad	147.81	331	⇑P	PKPbc	21 58 33.1	+0.7	
SURR	Surduc	147.85	338	⇓P	PKPbc	21 58 32.8	+0.4	
GZR	Gura Zlata	147.92	337	⇑P	PKPbc	21 58 33.0	+0.3	
MOA	Molln comp=Z,13nm,1.1s,SNR=5.9	148.08	349	*i* PKiKP	PKPbc	21 58 33.5	+0.6	
BZS	Buzias	148.15	338	⇑P	PKPbc	21 58 33.8	+0.6	
FUR	Furstenfeldbru baz=10,slow=3.1	148.23	353	*e*PKPbc	PKPbc	21 58 34.2	+0.8	
SZH	Strazhitsa	148.29	331	P	PKPbc	21 58 33.9	+0.3	
BFO	Black Forest baz=10,slow=3.1	148.33	356	*e*PKPbc	PKPbc	21 58 34.4	+0.8	
BIOA	Bad Ischl, Aus comp=Z,3.4nm,0.5s	148.34	350	*e*PKP	PKPbc	21 58 33.8	+0.2	
SRE	Strehaia	148.37	336	⇑P	PKPbc	21 58 34.8	+1.0	
ARSA	Arzberg comp=Z,6.8nm,1.0s	148.40	347	*e*PKP	PKPbc	21 58 33.9	+0.1	
HERR	Herculane	148.49	337	⇓P	PKPbc	21 58 34.4	+0.4	
BANR	Banloc	148.52	339	⇑P	PKiKP	21 58 35.3	-0.2	
MMAI	Mount Meron Ar comp=Z,8.8nm,0.5s,baz=69,slow=5.4,SNR=26	148.54	307	PKPbc	PKPbc	21 58 35.7	+1.0	
MORH	Mrgy, Hungar	148.57	342	⇓P	PKPbc	21 58 34.6	+0.3	
ELND	Elena	148.60	331	⇓P	PKPbc	21 58 34.8	+0.4	
LESA	Schwarzleotal comp=Z,4.8nm,0.5s	148.76	351	*e*PKiKP	PKPbc	21 58 35.2	+0.4	
MDVR	Moldovita	148.83	337	⇑P	PKPbc	21 58 35.6	+0.5	
UBR	Ueberruh baz=10,slow=3.1	148.84	354	*e*PKPbc	PKPbc	21 58 35.6	+0.6	
RETA	Reutte comp=Z,9.6nm,0.9s	148.96	353	*e*PKiKP	PKPbc	21 58 35.8	+0.5	
KBA	Koelnbreinsper comp=Z,6.5nm,0.5s,SNR=6.4	148.99	350	*i* PKP	PKPbc	21 58 35.3	-0.2	
WATA	Walderalm comp=Z,5.9nm,0.5s,SNR=5.6	149.01	352	*i* PKiKP	PKPbc	21 58 35.8	+0.3	
SOKA	Soboth comp=Z,12nm,0.9s,SNR=6.4	149.05	347	*i* PKP	PKPbc	21 58 35.5	-0.1	
MOTA	Moosalm comp=Z,24nm,1.2s,SNR=6.5	149.06	353	*i* PKiKP	PKPbc	21 58 35.9	+0.2	
WTTA	Wattenberg comp=Z,20nm,0.6s,SNR=10	149.07	352	*i* PKiKP	PKPbc	21 58 36.2	+0.5	
PERS	Pernice	149.07	347	*i* PKPbc	PKPbc	21 58 35.3	-0.3	
VALD	Valchedram	149.07	334	P	PKPbc	21 58 36.1	+0.5	
FRGS	Fruska Gora	149.16	340	⇓P	PKPbc	21 58 36.3	+0.5	
FRGS	Fruska Gora	149.16	340	⇓*i*P	PKPbc	21 58 35.9	+0.1	
SQTA	Sankt Quirin comp=Z,14nm,0.9s,SNR=5.7	149.17	352	*i* PKiKP	PKPbc	21 58 36.3	+0.4	
MPEP	Malo Peshtene	149.22	334	P	PKPbc	21 58 36.6	+0.6	
KALN	Kalnik	149.24	345	*i* P	PKPbc	21 58 35.7	-0.2	
DAVA	Damuels comp=Z,16nm,0.7s,SNR=8.9	149.25	354	*i* PKiKP	PKPbc	21 58 36.9	+0.7	
LOBO	Lobor	149.31	346	*i* P	PKPbc	21 58 35.7	-0.4	
OBKA	Obir comp=Z,5.1nm,0.8s	149.31	348	*e*PKP	PKPbc	21 58 36.2	-0.1	
OBKA	Obir	149.31	348	*e*P	PKPbc	21 58 35.3	-0.9	
MYKA	Terra Mystica comp=Z,10nm,0.6s,SNR=6.0	149.37	349	*i* PKP	PKPbc	21 58 36.0	-0.3	
FETA	Feichten comp=Z,2.9nm,0.9s	149.42	353	*e*PKP	PKPdf	21 58 32.4	+0.4	
FETA	comp=Z,18nm,0.9s,SNR=7.9			*i* PKiKP	PKPbc	21 58 37.1	+0.5	
ABTA	Abfaltersbach comp=Z,2.2nm,0.7s	149.45	351	*e*PKP	PKPdf	21 58 31.7	-0.2	
ABTA	comp=Z,19nm,0.7s,SNR=11			*i* PKP	PKPbc	21 58 36.4	-0.1	
PTJ	Puntijarka	149.57	346	P	PKPbc	21 58 36.7	-0.1	
MOSL	Moslavina	149.65	344	*i* P	PKPbc	21 58 37.2	+0.3	
VNDS	Vrh nad Dolski	149.67	347	*i* PKPbc	PKPbc	21 58 37.0	0.0	
CRNS	Crni Vrh	149.78	348	*i* PKPbc	PKPbc	21 58 37.1	-0.2	
TEKS	Tekeris	149.80	340	*e*P	PKPdf	21 58 35.3	+2.9	
VTS	Vitosha	150.03	333	P	PKPbc	21 58 38.6	+0.4	
CEY	Cerknica	150.07	347	⇓*i*P	PKPbc	21 58 37.9	-0.1	
RZN	Rozhen	150.09	330	P	PKPbc	21 58 38.4	0.0	
BOJS	Bojanci	150.11	346	⇓*i*P	PKPbc	21 58 37.9	-0.2	
A051A	Mrakovica	150.16	344	⇓*i*P	PKPbc	21 58 38.4	+0.1	
A251A	Rujevac	150.22	345	*i* P	PKPbc	21 58 38.6	+0.3	
BLY	Banja Luka	150.33	343	*e*P	PKPbc	21 58 38.6	0.0	
HAPS	Han Pijesak,Bl	150.40	340	⇓*i*P	PKPbc	21 58 39.6	+0.7	
BBLS	Lazi&#263i	150.44	339	*e*P	PKPbc	21 58 38.3	-0.7	
PLIT	Plitvice	150.62	345	*i* P	PKPbc	21 58 38.6	-0.7	
MGRS	Mrkonjic Grad	150.66	343	*e*P	PKPbc	21 58 40.1	+0.6	
MMB	Musomishta	150.66	331	P	PKPbc	21 58 39.5	-0.1	
RUDO	Rudo	150.68	339	*e*P	PKPbc	21 58 39.0	-0.5	
KKB	Krupnik	150.71	333	P	PKPbc	21 58 39.9	+0.3	
A050A	Klekovaca	150.75	344	⇓*i*P	PKPbc	21 58 39.1	-0.6	
SJES	Sjenica	150.78	338	*e*P	PKPbc	21 58 39.2	-0.7	
SMRN	Sveta Marina	150.80	347	*i* P	PKPbc	21 58 39.0	-0.6	
UDBI	Udbina	150.91	345	*i* P	PKPbc	21 58 40.1	+0.1	
RABC	Rab	150.93	346	*i* P	PKPbc	21 58 39.7	-0.2	
BRJN	Brijuni	151.01	348	*i* P	PKPbc	21 58 39.9	-0.2	
NVLJ	Novalja	151.09	346	*i* P	PKPbc	21 58 39.8	-0.5	
KIJV	Kijevo	151.23	344	*i* P	PKPbc	21 58 40.9	+0.2	
VIRC	Vir	151.31	346	*i* P	PKPbc	21 58 39.0	-1.8	
RICI	Ricice	151.50	342	*i* P	PKPbc	21 58 40.9	-0.4	
MORI	Morici	151.54	344	*i* P	PKPbc	21 58 41.2	-0.2	
BRY	Bratogost	151.59	340	*e*P	PKPbc	21 58 40.9	-0.9	
MAKA	Makarska	151.72	342	*i* P	PKPbc	21 58 40.1	-1.7	
DRME	Dracevica, Mon	152.00	338	*e*P	PKPbc	21 58 40.3	-2.3	
ESDC	Sonseca Array comp=Z,3.7nm,0.8s,baz=334,slow=4.1,SNR=21	155.62	18	PKPab	PKPab	21 59 08.8	+0.7	
TORD	Torodi Ar. Bea comp=Z,1.3nm,0.8s,baz=353,slow=3.5,SNR=7.5	174.90	133	PKP	PKPdf	21 58 57.0	-0.7	
TORD	comp=Z,0.5nm,1.0s,baz=228,slow=3.1,SNR=1.9			PKPab	PKPab	22 00 35.2	+1.8	

NEIC ***26*** *21:50:02.1±1.4,56°.4N±0°.1×148°.7W±0°.1,h20km±10km, ML3.4/40,ML3.2(AEIC),Error ellipse: s-maj=16.5km s-min=8.7km az=171.0*

AEIC 26 21:50:06.4±1.2,56°.5N±0°.1×148°.7W±0°.1,h9km±7km,Error ellipse: s-maj=15.2km s-min=8.9km az=175.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.52	303		Pn	21 50 42.5	-5.0
KDAK					Sn	21 51 10.9	-7.5
OHAK	Old Harbor	2.66	289	Pn	Pn	21 50 43.5	-5.9
OHAK				Sn	Sn	21 51 12.8	-9.0
CNPM	China Poot	3.37	337	Pn	Pn	21 50 53.7	-5.6
CNPM				Sn	Sn	21 51 30.0	-9.3
BRSE	Bradley Lake S	3.48	342		Pn	21 50 55.7	-4.9
BRSE					Sn	21 51 34.7	-7.1
BRLK	Bradley Lake	3.52	341	Pn	Pn	21 50 55.9	-5.4
BRLK				Sn	Sn	21 51 34.9	-8.1
P23K	Montague Islan	3.61	10		Pn	21 50 57.4	-5.0
P23K					Sn	21 51 37.3	-7.9
Q19K	Cape Douglas,	3.65	315	Pn	Pn	21 50 58.3	-4.8
KAKN	Katmai Knife C	3.93	301		Pn	21 51 03.3	-3.7
P19K	Oil Pt	4.02	325	Pn	Pn	21 51 03.2	-4.9
HIN	Hinchinbrook I comp=N,39nm,1.1s	4.11	15	Pn IAML	Pn	21 51 04.3 21 51 51.2	-5.0
HIN	comp=E,28nm,1.1s			IAML		21 53 43.2	
KAIM	Kayak Island	4.13	31	Pn	Pn	21 51 04.1	-5.6
KAIM	comp=E,51nm,1.1s			IAML		21 53 12.8	
SLKM	Skilak Lake	4.14	349		Pn	21 51 04.9	-5.0
IVE	Iliamna Volcan	4.25	329		Pn	21 51 06.2	-5.1
ILSW	Iliamna Southw	4.26	328	Pn	Pn	21 51 05.9	-5.6
ILSW	comp=E,40nm,0.5s			IAML		21 53 12.4	
CNTC	Contact Creek	4.32	298		Pn	21 51 08.6	-3.7
EYAK	Cordova Ski Ar	4.37	19	Pn	Pn	21 51 07.1	-5.8
RAGM	Ragged Mountai	4.46	26	Pn	Pn	21 51 08.9	-5.2
RAGM	comp=E,35nm,1.1s			IAML		21 52 05.8	
NICHA	Nichawak Mount	4.52	31		Pn	21 51 10.6	-4.4
RED	Redoubt Volcan	4.53	333		Pn	21 51 10.0	-5.1
RSO	Redoubt South	4.56	333	Pn	Pn	21 51 10.7	-5.0
RDT	Redoubt	4.57	336		Pn	21 51 10.8	-5.0
P18K	Big Mountain,	4.58	313	Pn	Pn	21 51 11.4	-4.4
GOAT	Goat Mountain	4.62	25		Pn	21 51 11.9	-4.4
RC01	Rabbit Creek A	4.68	353	Pn	Pn	21 51 12.4	-4.7
RC01	comp=E,27nm,1.1s			IAML		21 53 44.6	
GRIN	Grindle Hills	4.75	34		Pn	21 51 13.7	-4.5
SNH	Sunshine Point	4.83	37	Pn	Pn	21 51 14.1	-5.1
SNH	comp=N,41nm,1.2s			IAML		21 52 59.5	
SNH	comp=E,30nm,1.1s			IAML		21 54 26.6	
O18K	Koktuh Hills	4.87	317	Pn	Pn	21 51 14.5	-5.2
KHIT	Khitrov Hills	4.90	33		Pn	21 51 15.4	-4.8
KNK	Knik Glacier	4.97	1	Pn	Pn	21 51 16.5	-4.7
KNK	comp=N,14nm,0.7s			IAML		21 54 02.4	
WAX	Waxell Ridge	5.03	35	Pn	Pn	21 51 16.7	-5.3
WAX	comp=E,19nm,1.2s			IAML		21 53 02.0	
WAX	comp=N,20nm,1.0s			IAML		21 54 35.9	
KLU	Klutina	5.24	14	Pn	Pn	21 51 19.9	-5.0
BAGL	Bagley Icefiel	5.31	38		Pn	21 51 21.1	-4.6
ISLE	Juniper Island	5.31	36	Pn	Pn	21 51 20.6	-5.3
ISLE	comp=N,28nm,1.2s			IAML		21 52 04.3	
ISLE	comp=E,9.7nm,1.1s			IAML		21 54 06.5	
N19K	Bonanza Creek	5.33	328	Pn	Pn	21 51 21.1	-5.0
N19K	comp=E,10nm,0.9s			IAML		21 53 39.8	
GHO	Glory Hole Cre	5.33	359	Pn	Pn	21 51 21.8	-4.4
GHO	comp=E,21nm,0.8s			IAML		21 54 03.8	
GHO	comp=N,19nm,1.1s			IAML		21 54 04.5	
SML	Sawmill	5.37	2	Pn	Pn	21 51 22.0	-4.7
SCM	Sheep Creek Mo	5.43	7	Pn	Pn	21 51 24.1	-3.5
VRDI	Verde Repeater	5.49	27	Pn	Pn	21 51 22.6	-5.9
KIAG	Kiagna River	5.55	34		Pn	21 51 24.5	-4.7
N25K	Chitina, Valde	5.57	20	Pn	Pn	21 51 25.1	-4.4
GLB	Gilahina Butte	5.59	25	Pn	Pn	21 51 24.6	-5.1
TABL	Table Mountain	5.61	41	Pn	Pn	21 51 24.9	-5.1
N18K	Kilae Creek	5.68	321	Pn	Pn	21 51 25.3	-5.6
MCARA	McCarthy VSAT	5.73	28	Pn	Pn	21 51 27.0	-4.6
SKT	Skwentna	5.73	346	Pn	Pn	21 51 26.9	-4.7
M24K	Tolsona, Glenn	5.81	12	Pn	Pn	21 51 28.9	-3.8
PNL	Peninsula	5.87	53		Pn	21 51 28.8	-4.7
BARN	Barnard Glacie	5.87	35	Pn	Pn	21 51 28.3	-5.4
CTGM	Chitina Glacie	5.91	37	Pn	Pn	21 51 28.8	-5.4
BCPM	Bancas Point	5.91	50	Pn	Pn	21 51 29.6	-4.4
LOGN	Logan Glacier	5.92	39	Pn	Pn	21 51 29.1	-5.2
O16K	Kokwok River B	5.92	306	Pn	Pn	21 51 30.6	-3.6
N17K	Nushagak Hills	6.06	316	Pn	Pn	21 51 31.6	-4.4
M19K	Big River Lodg	6.21	334	Pn	Pn	21 51 32.6	-5.5
M18K	Stony River	6.26	327		Pn	21 51 34.1	-4.7
O29M	Mount Kennedy	6.55	50	Pn	Pn	21 51 38.2	-4.7
L19K	White Mountain	6.56	334	Pn	Pn	21 51 36.9	-6.0
P29M	Windy Craggy	6.61	57	Pn	Pn	21 51 38.3	-5.3
DHY	Denali Highway	6.67	5	Pn	Pn	21 51 40.1	-4.5
M17K	Holitna River	6.72	321	Pn	Pn	21 51 39.1	-6.1
M27K	Edge Creek, AK	6.85	27	Pn	Pn	21 51 40.8	-6.2
S31K	Pelican	6.91	72	Pn	Pn	21 51 41.0	-6.8
RND	Reindeer	6.97	359	Pn	Pn	21 51 44.4	-4.3
TRF	Thorofare Moun	7.06	354	Pn	Pn	21 51 45.8	-4.2
KTH	Kantishna Hill	7.21	352	Pn	Pn	21 51 48.5	-3.4
M29M	Somme Creek	7.93	37	Pn	Pn	21 51 57.9	-3.9
P32M	Atlin	8.52	62	Pn	Pn	21 52 05.0	-4.9
R33M	Jennings River	9.85	65	Pn	Pn	21 52 23.9	-4.3

DJA 26 21:51:57.1±0.6,1°N±10°×11°8E±°,h10km,M4.2/6,mb4.7/1, MLv3.9/6,Borneo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMKI	Samarinda	1.67	214	P	Pn	21 52 26.7	+0.3
MPSI	Mapaga	1.87	109	P	Pn	21 52 29.3	+0.1
BKB	Balikpapan	2.52	209	P	Pn	21 52 35.4	-2.7
MRSI	Marisa	3.84	97	P	Pn	21 52 56.4	+0.1
STKI	Sintang	6.71	263	P	Pn	21 53 35.8	0.0

IDC 26 21:53:33.4±2.0,1.73S×129°.11E,h0km,mb3.4/2, mbtmp3.4/3,ML3.7/1,Error ellipse: s-maj=125.5km s-min=25.2km az=69.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.2nm,0.3s,baz=344,slow=12,SNR=13 0.7nm,0.5s	18.81	165	P	P	21 57 53.3	-1.5
ASAR	Alice Springs 0.9nm,0.5s,baz=344,slow=9.7,SNR=12 0.9nm,0.5s	22.30	168	P	P	21 58 33.3	+0.7
MKAR	Makanchi Array 0.3nm,1.0s,baz=111,slow=7.9,SNR=2.2 0.3nm,1.0s	63.37	326	P	P	22 04 04.8	+0.1

TRN ***26*** *22:07:13.4,10°.39N×62°.36W,h0km,MD3.6,Gulf of Paria. FUNV* ***26*** *22:07:15.2,10°.38N×62°.23W,h5km,MW3.6*

ISC 26 22:07:13.3±1.4,10°.34N±0°.04×62°.31W±0°.02,h4km±11km, n27,σ1°.27/44,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	Chacachacare	0.66	57	*e*P	Pb	22 07 27.2	-0.1
TCE				*e*S	Sb	22 07 35.5	-1.3
TPP	Pointe-a-Pierr	0.85	92	*e*P	Pb	22 07 30.8	+0.2
TRN	Trinidad (W)	0.95	71	*e*P	Pg	22 07 31.3	-0.2
TRN				*e*S	Sb	22 07 45.3	+0.2
CRUV	Carupano	0.97	290	*e*P	Pg	22 07 31.6	-0.2
CRUV				*e*S	Sb	22 07 45.7	0.0
CRUV	Carupano	0.97	290	*e*P	Pg	22 07 31.6	-0.2
CRUV				*e*S	Sg	22 07 43.7	-0.7
TBH	Brigand Hill	1.23	83	*e*P	Pn	22 07 38.0	+0.7
TBH				*e*S	Sn	22 07 57.4	+3.0
GRFF	Grenada Fort F	1.79	18	*e*	Pn	22 07 41.9	-3.1
GRFF				*e*S	Sb	22 08 08.9	-0.5
CUMV	Cumana_UDO	1.85	273	*e*P	Pb	22 07 48.4	+0.6
CUMV				*e*S	Sg	22 08 13.2	+0.3
GRGR	Grenville	1.89	20	*e*P	Pn	22 07 45.7	-0.7
GRGR				*e*S	Sb	22 08 11.8	-0.7
GRW	Mount Saint Ca	1.92	19	*e*S	Sb	22 08 12.5	-0.8
GRHS	Sauteurs	1.98	19	*e*S	Sn	22 08 13.8	+0.8
PCRV	Puerto La Cruz	2.29	266	*e*P	Pn	22 07 53.3	+1.4
PCRV				*e*S	Sn	22 08 22.5	+1.8
PCRV	Puerto La Cruz	2.29	266	*e*P	Pn	22 07 53.6	+1.6
PCRV				*e*S	Sb	22 08 22.8	-1.2
GCMP	Grenada, Carri	2.30	22	*e*P	Pn	22 07 52.2	+0.2
GCMP				*e*S	Sn	22 08 21.3	+0.5
SVB	Belmont	3.09	20	*e*	Sn	22 08 09.2	+0.3
SLCP	Castries, St.	3.87	19	*e*P	Pn	22 08 14.7	+1.2
SLCP	Castries, St.	3.87	19	*e*P	Pn	22 08 14.7	+1.2
SLBI	Saint Lucia, B	3.89	20	*e*P	Pn	22 08 15.7	+1.9
SLBI				*e*S	Sn	22 09 00.1	+0.1
MPOM	Morne Pois Mar	4.32	19	*e*P	Pn	22 08 21.5	+1.7
MPOM				*e*S	Sn	22 09 09.8	-0.9
BIM	Bigot	4.32	16	*e*P	Pn	22 08 21.1	+1.2
LUEV	Luepa	4.55	169	*e*P	Pn	22 08 22.9	-0.2
LUEV				*e*S	Sn	22 09 14.7	-1.9
SVN	Savane Anatole	4.61	14	*e*S	Sn	22 09 17.0	-0.9
CACV	CAICARA DEL OR	5.00	237	*e*P	Pn	22 08 24.3	-4.9
CACV				*e*S	Sn	22 09 17.3	-10
BENV	Beln	5.22	266	*e*P	Pn	22 08 34.5	+2.3
BENV				*e*S	Sn	22 09 31.8	-1.2
TURV	Turiamo	5.44	272	*e*P	Pn	22 08 35.9	+0.7
TURV				*e*S	Sn	22 09 36.8	-1.5
BAUV	El Baul	5.82	257	*e*P	Pn	22 08 41.2	+0.8
BAUV				*e*S	Sn	22 09 46.2	-1.4
BAUV	El Baul	5.82	257	*e*P	Pn	22 08 40.7	+0.3
BAUV				*e*S	Sn	22 09 45.7	-1.9

SJA ***26*** *22:12:09.1±0.8,29°.84S×71°.64W,h10km±3km,ML3.6, MW3.3*
GUC ***26*** *22:12:13.0±0.7,29°.85S×71°.31W,h52km±3km,ML3.7*

ISC 26 22:12:11.4±1.5,29°.83S±0°.02×71°.62W±0°.04,h6km±10km, n61,σ1°.99/102,1C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	La Serena	0.34	105	⇑*i*P	Pb	22 12 21.6	+1.6
CO05				*i* S	Sb	22 12 26.6	+0.9
CO05	comp=E,14μm,0.3s			IAML		22 12 27.2	
GO04	Tololo Observa	0.79	116	*e*P	Pg	22 12 24.3	-2.4
GO04				*e*P		22 12 26.0	
GO04	comp=Z,4μm,0.6s			IAML		22 12 37.5	
GO04	Tololo Observa	0.79	116	⇓*i*P	Pg	22 12 26.8	+0.1
GO04				*i* S	Sg	22 12 35.6	-1.3
GO04	comp=E,12μm,0.3s			IAML		22 12 36.5	
CO06	Fray Jorge	0.84	181	*e*P	Pb	22 12 29.0	+0.6
CO06				*i* S	Sg	22 12 40.7	+2.1
LCO	Las Campanas	1.14	45	*e*P	Pn	22 12 27.8	-6.4
LCO				*e*P		22 12 32.4	
LCO				*e*P		22 12 33.0	
LCO				*e*S	Sb	22 12 47.3	-1.7
LCO				*e*S		22 12 47.7	
LCO	comp=Z,818nm,0.3s			IAML		22 12 48.1	
LCO	Las Campanas	1.14	45	*e*P	Pn	22 12 32.5	-1.7
LCO				*i* S	Sb	22 12 47.3	-1.7
LCO	comp=Z,6μm,0.3s			IAML		22 12 47.9	
CO03	El Pedregal	1.29	142	*e*P	Pn	22 12 33.9	-2.2
CO03				*e*S	Sb	22 12 49.8	-3.2
CO03	comp=Z,527nm,0.8s			IAML		22 12 50.2	
CO03	El Pedregal	1.29	142	⇓*i*P	Pn	22 12 33.9	-2.2
CO03				*i* S	Sb	22 12 47.1	-5.9
CO03	comp=N,848nm,0.3s			IAML		22 12 49.7	
CO01	Juntas del Tor	1.33	97	*e*P	Pn	22 12 35.0	-1.8
CO01	comp=Z,792nm,0.2s			IAML		22 12 50.2	
CO01				*e*S	Sn	22 12 50.4	-4.6
CO01	Juntas del Tor	1.33	97	⇓*i*P	Pn	22 12 35.0	-1.8
CO01				*i* S	Sn	22 12 49.4	-5.7
CO02	Combarbal	1.47	159	*e*P	Pn	22 12 36.5	-2.1
CO02				*e*S	Sn	22 12 57.1	-1.2
CO02	comp=Z,725nm,0.5s			IAML		22 12 59.4	
CO02	Combarbal	1.47	159	*e*P	Pn	22 12 37.2	-1.4
CO02				*i* S	Sn	22 12 54.6	-3.7
CO02	comp=N,4μm,0.2s			IAML		22 12 59.5	
AC05	El Transito	1.54	50	*e*P	Pn	22 12 39.0	-0.5
AC05				*e*S	Sn	22 12 44.3	-16
AC05	comp=Z,507nm,0.4s			IAML		22 12 57.6	
AC05	El Transito	1.54	50	⇓*i*P	Pn	22 12 39.0	-0.5
AC05				*e*S	Sn	22 12 56.5	-3.4
AC05	comp=N,747nm,0.3s			IAML		22 12 57.9	
AC04	Llanos de Chal	1.69	17	*e*P	Pn	22 12 41.2	-0.2
AC04				*e*S	Sn	22 13 04.3	+0.9
AC04	comp=Z,303nm,0.4s			IAML		22 13 09.3	
AC04	Llanos de Chal	1.69	17	*e*P	Pn	22 12 41.8	+0.3
AC04				*i* S	Sn	22 13 03.2	-0.2
AC04	comp=E,514nm,0.4s			IAML		22 13 09.7	
AROD	Rodeo	1.89	101	*e*P	Pn	22 12 44.6	0.0
AROD				*e*S	Sn	22 13 08.1	-0.8
ACCO	Cerro Coronel	2.34	110	*e*P	Pn	22 12 51.8	+1.1
ACCO				*e*S	Sb	22 13 24.3	+0.8
DOCA	Reserva Natura	2.46	118	*e*P	Pn	22 12 53.1	+0.7
DOCA				*e*S	Sg	22 13 33.0	+2.5
GO03	Copiap	2.54	29	*e*P	Pn	22 12 53.9	+0.6
GO03				*e*P		22 12 54.3	
GO03				*e*S	Sn	22 13 24.3	-0.2
GO03				*e*S		22 13 31.5	
GO03	comp=Z,209nm,0.6s			IAML		22

AC01				*e*S		**Sb**	**22 14 02.8**	**-1.8**	
AC01				IAML			22 14 16.7		
	comp=Z,51nm,0.8s								
ARCO	**CERRO ARCO**	**3.78**	**143**	*e*P		**Pn**	**22 13 12.3**	**+1.8**	
ARCO				*e*S		**Sn**	**22 13 57.3**	**+1.9**	
ARCO				*e*S			22 14 01.8		
ARCO				IAML			22 14 08.2		
	comp=Z,92nm,0.6s								
MT04	**Ro Olivares**	**3.78**	**161**	*e*P		**Pn**	**22 13 11.8**	**+1.3**	
VA05	**Santo Domingo**	**3.82**	**180**	*e*P		**Pn**	**22 13 09.6**	**-1.1**	
MT08	**Bocatoma Ro**	**3.86**	**160**	*e*P		**Pn**	**22 13 13.3**	**+1.8**	
MT15	**Las Vizcachas**	**3.88**	**166**	*e*P		**Pn**	**22 13 09.1**	**-2.6**	
MT09	**Talagante**	**3.97**	**172**	*e*P		**Pn**	**22 13 12.7**	**-0.3**	
MT12	**Pirque**	**4.00**	**167**	*e*P		**Pn**	**22 13 13.4**	**+0.1**	
AAGR	**Agrelo**	**4.03**	**144**	*e*P		**Pn**	**22 13 16.3**	**+2.5**	
AAGR				IAML			22 14 25.8		
	comp=Z,58nm,0.4s								
MT01	**Popeta**	**4.04**	**176**	*e*P		**Pn**	**22 13 13.5**	**-0.3**	
MT01				*e*S		**Sn**	**22 14 01.8**	**+0.4**	
MT01				IAML			22 14 15.7		
	comp=Z,101nm,0.6s								
MT01	**Popeta**	**4.04**	**176**	*e*P		**Pn**	**22 13 13.5**	**-0.3**	
ACLC	**CERRO LA CRUZ**	**4.08**	**86**	*e*P		**Pn**	**22 13 14.5**	**-0.1**	
ACLC				*e*S		**Sn**	**22 14 02.8**	**-0.1**	
ACLC				*e*S			22 14 06.8		
ACLC				IAML			22 14 08.5		
	comp=Z,134nm,0.4s								
LMEL	**Las Melosas**	**4.18**	**164**	*e*P		**Pn**	**22 13 17.2**	**+1.2**	
LMEL				*e*S		**Sn**	**22 14 03.1**	**-2.2**	
APLL	**PUNTA DE LOS L**	**4.45**	**99**	*e*P		**Pn**	**22 13 19.3**	**-0.2**	
APLL				*e*S		**Sn**	**22 14 13.0**	**+1.3**	
ACHE	**Chepes**	**4.48**	**108**	*e*P		**Pn**	**22 13 19.8**	**-0.2**	
ACHE				*e*S		**Sn**	**22 14 10.8**	**-1.8**	
BO01	**Tunca**	**4.57**	**174**	*e*P		**Pn**	**22 13 21.2**	**0.0**	
BO01				*e*S		**Sn**	**22 14 19.8**	**+5.2**	
BO01				IAML			22 14 30.9		
	comp=Z,44nm,0.9s								
BO02	**Sierra Bellavi**	**5.00**	**172**	*e*P		**Pn**	**22 13 27.4**	**+0.3**	
BO02				*e*S		**Sn**	**22 14 31.5**	**+6.2**	
BO02				*e*S			22 14 34.3		
BO02				IAML			22 14 44.5		
	comp=Z,89nm,0.8s								
GO05	**Huala**	**5.17**	**183**	*e*P		**Pn**	**22 13 27.8**	**-1.6**	
GO05				*e*S		**Sb**	**22 14 44.8**	**0.0**	
GO05				IAML			22 14 53.5		
	comp=Z,36nm,0.8s								
CYA	**Choya**	**5.27**	**76**	*e*P		**Pn**	**22 13 30.4**	**-0.4**	
CYA				*e*S		**Sn**	**22 14 34.3**	**+2.3**	
CYA				IAML			22 14 41.6		
	comp=Z,33nm,0.9s								

IDC 26 22:18:21.7±2.3, 8°52S×127°71E, h0km, mb3.3/1, mbtmp3.3/3, ML3.6/2, MS2.6/2, Error ellipse: s-maj=273.3km s-min=33.9km az=63.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.04**	**151**	Pn	Pn	22 21 27.8	-0.6
	0.4nm,0.3s,baz=330,slow=13,SNR=27						
WRA				Sn	Sn	22 23 44.3	-10
	0.2nm,0.3s,baz=324,slow=25,SNR=2.0						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**16.18**	**159**	Pn	Pn	22 22 11.5	+0.8
	0.1nm,0.3s,baz=330,slow=9.4,SNR=2.0						
ASAR				Sn	Sn	22 25 06.7	-4.3
	0.1nm,0.3s,baz=317,slow=19,SNR=2.2						
ASAR				LR	LR	22 29 35.6	
	comp=Z,28nm,18.8s,baz=210,slow=42						
	0.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**39.04**	**314**	LR	LR	22 43 01.4	
	comp=Z,5.1nm,19.0s,baz=175,slow=38						
MKAR	**Makanchi Array**	**68.28**	**328**	P	P	22 29 24.6	0.0
	0.2nm,0.5s,baz=123,slow=7.1,SNR=2.0						
	0.2nm,0.5s						

*IDC **26** 22:23:39.8±1.5, 4°06N×126°43E, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=172.3km s-min=18.0km az=66.0*

*NEIC **26** 22:23:53.5±1.1, 3°63N±0°07×125°8E±0°1, h107km±7km, mb4.1/13, Error ellipse: s-maj=16.3km s-min=9.7km az=79.0*

*DJA **26** 22:23:58.8±1.1, 3°N±13°×12°6E±°, h29km±24km, M4.2/11, mb4.3/5, mB5.4/2, MLv4.1/11, Mw(mB)4.8/2*

ISC 26 22:23:53.9±0.7, 3°55N±0°07×125°90E±0°07, h116km, n33, σ1§23/38, mb4.1/11, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.40**	**290**	P	**Pn**	**22 24 11.5**	**+0.7**
TNTI	**Ternate**	**3.13**	**152**	Pn	**Pn**	**22 24 42.6**	**+0.9**
TNTI	**Ternate**	**3.13**	**152**	P	**Pn**	**22 24 42.5**	**+0.8**
GTOI	**Gorontalo**	**4.09**	**225**	P	**Pn**	**22 24 55.3**	**+0.7**
GTOI				S	**Sn**	**22 25 39.0**	**-2.7**
LBMI	**Labuha**	**4.46**	**159**	P	**Pn**	**22 24 59.3**	**-0.2**
MRSI	**Marisa**	**5.00**	**232**	P	**Pn**	**22 25 09.7**	**+2.9**
LUWI	**Luwuk**	**5.53**	**214**	Pn	**Pn**	**22 25 12.5**	**-1.5**
LUWI	**Luwuk**	**5.53**	**214**	P	**Pn**	**22 25 14.1**	**+0.1**
	28nm,0.9s,0.2nm						
SANI	**Sanana**	**5.57**	**179**	P	**Pn**	**22 25 13.9**	**-0.6**
TOLI2	**Tolitoli**	**5.66**	**245**	Pn	**Pn**	**22 25 16.4**	**+0.6**
MPSI	**Mapaga**	**6.80**	**242**	P	**Pn**	**22 25 33.3**	**+2.2**
NLAI	**Namlea**	**6.85**	**170**	P	**Pn**	**22 25 31.3**	**-0.6**
	15nm,0.5s,6µm0.2nm						
MTN	**Manton Dam**	**17.10**	**162**		**P**	**22 27 45.1**	**-0.7**
KNRA	**Kununurra**	**19.32**	**172**	Pn	**Pn**	**22 28 12.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**21.52**	**181**	P	**P**	**22 28 33.9**	**+0.2**
UBPT	**Khong Chiam**	**23.25**	**301**	P	**P**	**22 28 49.9**	**-1.3**
UBPT				IAmb	IAmb	22 29 26.2	
	comp=Z,12nm,1.3s						
WB0	**Warramunga Arr**	**24.63**	**161**	P	**P**	**22 29 04.5**	**+0.8**
WB0				IAmb	IAmb	22 29 16.0	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	**24.78**	**161**	P	**P**	**22 29 04.5**	**-0.6**
WRA				PcP	**PcP**	**22 32 40.8**	**+1.9**
WRA	**Warramunga Arr**	**24.78**	**161**	P	**P**	**22 29 06.2**	**+1.1**
	comp=Z,4.1nm,0.8s,baz=342,slow=9.8,SNR=17						
	comp=Z,4.1nm,0.8s						
WB2	**Warramunga Arr**	**24.78**	**161**	P	**P**	**22 29 05.6**	**+0.5**
WB2				IAmb	IAmb	22 29 08.3	
	comp=Z,12nm,1.1s						
WR0	**Warramunga Arr**	**24.86**	**160**	P	**P**	**22 29 06.5**	**+0.7**
WR0				IAmb	IAmb	22 29 18.2	
	comp=Z,14nm,1.5s						
ASAR	**Alice Springs**	**28.16**	**164**	P	**P**	**22 29 36.3**	**+0.9**
ASAR	**Alice Springs**	**28.16**	**164**	P	**P**	**22 29 36.7**	**+1.3**
	comp=Z,0.6nm,0.4s,baz=343,slow=7.8,SNR=11						
	comp=Z,0.6nm,0.4s						
BBOO	**Buckleboo**	**37.42**	**166**	P	**P**	**22 30 57.1**	**+1.2**
STKA	**Stephens Creek**	**38.27**	**158**	P	**P**	**22 31 04.5**	**+1.5**
STKA				IAmb	IAmb	22 31 27.0	
	comp=Z,3.9nm,1.4s						
STKA	**Stephens Creek**	**38.27**	**158**	P	**P**	**22 31 04.8**	**+1.9**
	comp=Z,1.5nm,0.4s,baz=351,slow=7.4,SNR=5.7						
	comp=Z,1.5nm,0.4s						
MKAR	**Makanchi Array**	**57.23**	**326**	P	**P**	**22 33 27.9**	**-1.3**
MKAR				PcP	**PcP**	**22 34 21.5**	**-0.7**
MKAR	**Makanchi Array**	**57.23**	**326**	P	**P**	**22 33 28.6**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=119,slow=7.3,SNR=11						
MKAR				PcP	**PcP**	**22 34 22.2**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=118,slow=4.2,SNR=10						
	comp=Z,0.5nm,0.3s						
MAKZ	**Makanchi**	**57.42**	**326**	P	**P**	**22 33 30.0**	**-0.4**
MAKZ				PcP	**PcP**	**22 34 22.3**	**-0.7**
KURBB	**Kurchatov Arra**	**61.44**	**328**	P	**P**	**22 33 56.8**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=128,slow=6.5,SNR=8.6						
	comp=Z,0.6nm,0.6s						
KURK	**Kurchatov**	**61.45**	**328**	P	**P**	**22 33 57.2**	**-0.8**
KURK				IAmb	IAmb	22 33 59.5	
	comp=Z,1.6nm,0.8s						
TIXI	**Tiksi**	**68.03**	**1**	P	**P**	**22 34 40.5**	**+0.2**
TIXI				IAmb	IAmb	22 34 41.8	
	comp=Z,3.6nm,1.1s						
ABKAR	**Akbulak array**	**71.77**	**321**	P	**P**	**22 35 02.0**	**-1.6**

*IDC **26** 22:34:50.0±2.0, 15°89N×95°06W, h0km, mb3.3/3, mbtmp3.4/6, ML3.6/3, MS2.9/2, Error ellipse: s-maj=35.5km s-min=23.3km az=49.0*

*MEX **26** 22:34:55.4±0.5, 15°77N×94°93W, h42km±31km, MD4.3*

ISC 26 22:34:48.9±1.4, 15°82N±0°04×94°97W±0°02, h5km±10km, n40, σ2§32/71, mb3.3/3, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.81**	**25**	*e*P	**Pn**	**22 35 08.6**	**+1.5**
NILT				*i* S	**Sn**	**22 35 19.4**	**-0.2**
HUIG	**Huatulco**	**1.09**	**267**	*i* P	**Pn**	**22 35 13.1**	**+2.1**
HUIG				*i* S	**Sn**	**22 35 27.0**	**+0.5**
CARR	**Arriaga**	**1.10**	**67**	*e*P	**Pn**	**22 35 11.5**	**+0.5**
CARR				*e*S	**Sg**	**22 35 23.9**	**-0.5**
CMIG	**Matias Romero**	**1.27**	**4**	Pn	**Pn**	**22 35 15.3**	**+2.0**
	74nm,0.3s,baz=186,slow=10,SNR=468						
CMIG				LR	LR	22 35 15.5	
	comp=Z,28nm,18.3s,baz=177,slow=21						
CMIG				Sn	**Sn**	**22 35 30.9**	**+0.2**
	261nm,0.3s,baz=114,slow=20,SNR=13						
CMIG	**Matias Romero**	**1.27**	**4**	*i* P	**Pn**	**22 35 15.3**	**+2.0**
CMIG				*e*S	**Sb**	**22 35 30.3**	**+0.4**
UXUV	**UXUV**	**1.69**	**28**	*e*P	**Pg**	**22 35 21.5**	**+0.3**
UXUV				*e*S	**Sn**	**22 35 41.5**	**+0.3**
PCIG		**1.69**	**94**	*e*P	**Pb**	**22 35 20.2**	**-0.3**
PCIG				*i* S	**Sn**	**22 35 39.7**	**-1.6**
TGIG		**2.02**	**62**	*e*P	**Pb**	**22 35 25.1**	**-1.0**
TGIG				*e*S	**Sn**	**22 35 48.6**	**-0.7**
NEUV	**Arroyo Zacate**	**2.04**	**337**	*e*P	**Pb**	**22 35 26.7**	**+0.1**
NEUV				*i* S	**Sn**	**22 35 48.0**	**-1.9**
OXLC	**Oaxaca**	**2.07**	**307**	*i* P	**Pg**	**22 35 29.1**	**+0.5**
OXLC				*e*S	**Sb**	**22 35 53.0**	**-0.4**
VHO	**Vista Hermosa**	**2.10**	**307**	*e*P	**Pg**	**22 35 29.3**	**+0.1**
VHO				*i* S	**Sb**	**22 35 53.6**	**-0.5**
PEIG	**Puerto Escondi**	**2.10**	**275**	*i* P	**Pb**	**22 35 26.9**	**-0.7**
PEIG				*e*S	**Sn**	**22 35 50.0**	**-1.3**
TUIG	**Tuzandepetl**	**2.26**	**13**	*e*P	**Pb**	**22 35 29.1**	**-1.1**
TUIG				*i* S	**Sn**	**22 35 53.3**	**-2.0**
YOIG	**Yosondua**	**2.68**	**293**	*e*P	**Pb**	**22 35 36.8**	**-0.7**
YOIG				*e*S	**Sn**	**22 36 03.2**	**-2.8**
PMUV	**Sontecomapan**	**2.71**	**357**	*e*P	**Pn**	**22 35 32.1**	**-1.2**
PMUV				*i* S	**Sn**	**22 35 57.9**	**-8.7**
PATR	**El Naranjo**	**2.73**	**104**	*e*P	**Pn**	**22 35 35.0**	**+1.4**
PATR				*e*S	**Sn**	**22 36 04.2**	**-3.0**
CCIG	**Comitan**	**2.76**	**80**	*e*P	**Pn**	**22 35 35.8**	**+1.7**
CCIG				*e*S	**Sn**	**22 36 07.8**	**-0.2**
THIG		**2.77**	**109**	*e*P	**Pn**	**22 35 34.9**	**+1.0**
THIG				*e*S	**Sn**	**22 36 04.4**	**-3.4**
PAVE	**Pavencul**	**2.77**	**103**	*e*P	**Pn**	**22 35 36.0**	**+1.9**
PAVE				*e*S	**Sn**	**22 36 05.8**	**-2.3**
CHUJ	**Union Juarez**	**2.85**	**104**	*e*P	**Pn**	**22 35 36.9**	**+1.5**
CHUJ				*e*S	**Sn**	**22 36 07.3**	**-3.0**
TOIG	**Toxpalan**	**3.02**	**319**	*e*P	**Pb**	**22 35 42.7**	**-0.6**
TOIG				*i* S	**Sn**	**22 36 16.5**	**+2.3**
TXIG	**Tlaxiaco**	**3.04**	**298**	*e*P	**Pb**	**22 35 42.4**	**-1.3**
TXIG				*i* S	**Sn**	**22 36 12.4**	**-2.4**
PNIG	**Pinotepa**	**3.08**	**281**	*e*P	**Pb**	**22 35 41.0**	**-3.3**
PNIG				*e*S	**Sn**	**22 36 13.2**	**-2.5**
SMSP	**San Marcos**	**3.19**	**105**	*i* P	**Pn**	**22 35 42.8**	**+2.7**
SMSP				*i* S	**Sn**	**22 36 15.9**	**-2.8**
HLIG	**Huajuapan de L**	**3.37**	**307**	*e*P	**Pb**	**22 35 47.3**	**-2.0**
HLIG				*e*S	**Sn**	**22 36 21.1**	**-1.9**
HUEH	**Huehuetenango**	**3.38**	**98**	*e*P	**Pn**	**22 35 43.0**	**+0.4**
HUEH				*e*S	**Sn**	**22 36 24.5**	**+1.2**
RTAL	**Retalhuleu**	**3.42**	**112**	*e*P	**Pn**	**22 35 44.5**	**+1.5**
RTAL				*i* S	**Sn**	**22 36 17.6**	**-6.3**
TPIG	**Tehuac#an**	**3.45**	**319**	*e*P	**Pb**	**22 35 48.7**	**-1.9**
TPIG				*e*S	**Sn**	**22 36 25.6**	**+0.7**
FTIG	**Fresnillo de T**	**3.67**	**305**	*e*P	**Pb**	**22 35 51.7**	**-2.7**
FTIG				*e*S	**Sn**	**22 36 29.4**	**-0.9**
JAUV	**Jalcomulco**	**3.93**	**334**	*e*P	**Pn**	**22 35 51.5**	**+1.5**
JAUV				*e*S	**Sn**	**22 36 34.2**	**-2.5**
APG	**El Apazote**	**4.42**	**100**	Pn	**Pn**	**22 35 59.5**	**+2.5**
	1.1nm,0.3s,baz=207,slow=14,SNR=31						
APG				Sn	**Sn**	**22 36 49.6**	**+0.6**
	1.8nm,0.3s,baz=239,slow=23,SNR=9.4						
	2.5nm,0.3s						
PPM	**Popocatepetl**	**4.75**	**313**	*e*P	**Pb**	**22 36 08.6**	**-4.5**
PPM				*i* S	**Sn**	**22 37 01.6**	**+4.1**
PETF	**Flores**	**5.02**	**77**	*e*P	**Pn**	**22 36 07.1**	**+2.2**
PETF				*e*S	**Sn**	**22 37 01.6**	**-1.8**
TEIG	**Tepich**	**7.73**	**54**	LR	LR	22 40 42.2	
	comp=Z,116nm,18.6s,slow=45						
JTS	**Las Juntas de**	**11.20**	**118**	Pn	**Pn**	**22 37 34.2**	**+4.3**
	2.3nm,0.3s,baz=325,slow=18,SNR=2.4						
	5.0nm,0.3s						
TXAR	**Lajitas Array**	**15.65**	**331**	Pn	**P**	**22 38 33.7**	**-1.0**
	baz=135,slow=15,SNR=4.5						
	0.1nm,0.6s						
LPIG	**La Paz**	**16.59**	**302**	LR	LR	22 44 14.5	
	comp=Z,25nm,20.9s,baz=170,slow=34						
NVAR	**Mina Array Bea**	**30.47**	**322**	P	**P**	**22 41 05.8**	**+2.8**
	0.6nm,0.8s,baz=146,slow=12,SNR=2.9						
	0.6nm,0.8s						
YKA	**Yellowknife Ar**	**48.63**	**348**	P	**P**	**22 43 33.3**	**-0.2**
	0.2nm,0.7s,baz=155,slow=6.9,SNR=2.7						
	0.2nm,0.7s						
ILAR	**Eielson Array**	**60.05**	**337**	P	**P**	**22 44 56.4**	**-0.2**
	0.1nm,0.5s,baz=134,slow=7.7,SNR=1.8						
	0.1nm,0.5s						

*LDG **26** 22:43:07.0±0.1, 43°05N×12°88E, h8km, Ml3.0/21, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*

*ROM **26** 22:43:07.6±0.0, 43°047N±0°001×12°880E±0°003, h7km, ML3.3/283, Mw3.2, Error ellipse: s-maj=0.1km s-min=0.1km az=64.0, Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}=5.21; $M_{\theta\theta}$=4.08; $M_{\phi\phi}$=1.14; $M_{r\theta}$=2.54; $M_{r\phi}$=-3.66; $M_{\theta r}$=1.59; Fault plane solution: M_o=6.70009×10^{13} NP1:ϕ_s=328.00000°, δ45.00000°, λ=-51.00000°. NP2:ϕ_s=100.00000°, δ57.00000°, λ=-122.00000°.*

*IDC **26** 22:43:09.5±1.9, 43°16N×13°20E, h0km, mb3.4/1, mbtmp3.5/5, ML3.2/4, MS2.6/4 Error ellipse: s-maj=42.2km s-min=19.4km az=89.0*

ISC 26 22:43:08.1±0.8, 43°04N±0°01×12°87E±0°02, h7km±5km, n198, σ1§44/267, 28C-18D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESI	**CESI - Serrava**	**0.04**	**145**	⇓P	**Pg**	**22 43 09.6**	**-0.2**
CESI				S	**Sg**	**22 43 10.5**	**-0.3**
CESI				AML	AML		
CESI				AML	AML		
CESI				AML	AML		
CESI				AML	AML		
SEF1	**Sefro**	**0.12**	**27**	⇑P	**Pg**	**22 43 10.7**	**-0.2**
SEF1				S	**Sg**	**22 43 12.3**	**-0.3**
SEF1				AML	AML		
	comp=E,90600µm,0.5s						
SEF1				AML	AML		
	comp=E,90600µm,0.4s						
SEF1				AML	AML		
SEF1				AML	AML		
SEF1				AML	AML		
	comp=E,83990µm,0.3s						
FEMA	**Monte Fema**	**0.15**	**121**	⇓P	**Pg**	**22 43 11.6**	**+0.2**
FEMA				S	**Sg**	**22 43 14.2**	**+0.6**
FEMA				AML	AML		
	comp=E,84650µm,0.2s						
FEMA				AML	AML		
	comp=N,58150µm,0.5s						
FEMA				AML	AML		
	comp=E,84655µm,0.2s						
FEMA				AML	AML		
	comp=N,58153µm,0.5s						
FIU1	**Fiuminata**	**0.15**	**16**	⇑P	**Pg**	**22 43 11.3**	**-0.1**
FIU1				S	**Sg**	**22 43 13.7**	**+0.1**
PIO1	**Pioraco**	**0.16**	**31**	⇑P	**Pg**	**22 43 11.4**	**-0.1**
PIO1				S	**Sg**	**22 43 13.7**	**-0.1**
T1221	**Campello sul C**	**0.18**	**186**	AML	AML		
	comp=N,21050µm,0.3s						
T1221				AML	AML		
	comp=E,23050µm,0.6s						
T1221				AML	AML		
	comp=N,21000µm,0.3s						
T1221				AML	AML		
	comp=N,22500µm,0.3s						
T1221				AML	AML		
	comp=E,23250µm,0.6s						
T1221				AML	AML		
	comp=N,22461µm,0.3s						
T1221				AML	AML		
	comp=E,23065µm,0.6s						
T1221				AML	AML		
	comp=N,21024µm,0.3s						
T1221				AML	AML		
	comp=E,23255µm,0.6s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNTG	**Esanatoglia**	**0.22**	**13**	⇑P	**Pg**	**22 43 12.5**	**-0.1**
SNTG				S	**Sg**	**22 43 16.1**	**+0.5**
SNTG				AML	AML		
	comp=E,21600µm,0.6s						
SNTG				AML	AML		
	comp=E,20500µm,0.6s						
SNTG				AML	AML		
	comp=N,17850µm,0.5s						
SNTG				AML	AML		
	comp=N,18750µm,0.5s						
SNTG				AML	AML		
	comp=N,14751µm,0.3s						
SNTG				AML	AML		
	comp=N,13792µm,0.3s						
SNTG				AML	AML		
	comp=E,20617µm,0.4s						
SNTG				AML	AML		
	comp=E,19881µm,0.4s						
ATCC	**AVT- Casa Cast**	**0.22**	**311**	⇓P	**Pg**	**22 43 13.0**	**+0.4**
ATCC				S	**Sg**	**22 43 16.9**	**+1.2**
ATCC				AML	AML		
	comp=N,32000µm,0.3s						
ATCC				AML	AML		
	comp=E,31600µm,0.3s						
ATCC				AML	AML		
	comp=N,32011µm,0.3s						
ATCC				AML	AML		
	comp=E,31601µm,0.3s						
MTL1	**Matelica**	**0.24**	**25**	⇑P	**Pg**	**22 43 13.0**	**+0.1**
MTL1				S	**Sg**	**22 43 16.9**	**+0.8**
MTL1				AML	AML		
	comp=E,85550µm,0.3s						
MTL1				AML	AML		
	comp=N,77050µm,0.3s						
MTL1				AML	AML		
	comp=N,77050µm,0.2s						
MTL1				AML	AML		
	comp=N,77055µm,0.2s						
MTL1				AML	AML		
	comp=E,85552µm,0.3s						
GAG1	**Gagliole**	**0.24**	**36**	⇑P	**Pg**	**22 43 13.2**	**+0.2**
GAG1				S	**Sg**	**22 43 16.8**	**+0.5**
GAG1				AML	AML		
GAG1				AML	AML		
GAG1				AML	AML		
	comp=E,97981µm,0.2s						
GAG1				AML	AML		
CSP1	**Cessapalombo**	**0.25**	**78**	⇑P	**Pg**	**22 43 13.2**	**+0.1**
CSP1				S	**Sg**	**22 43 17.1**	**+0.6**
CSP1				AML	AML		
	comp=E,27800µm,0.2s						
CSP1				AML	AML		
	comp=N,9155µm,1.4s						
CSP1				AML	AML		
	comp=N,9150µm,1.4s						
CSP1				AML	AML		
	comp=N,9150µm,0.6s						
CSP1				AML	AML		
	comp=E,27801µm,0.2s						
CSP1				AML	AML		
	comp=N,6954µm,0.3s						
MDAR	**Monte D'Aria**	**0.25**	**52**	⇑P	**Pg**	**22 43 13.1**	**0.0**
MDAR				S	**Sg**	**22 43 17.2**	**+0.7**
MDAR				AML	AML		
	comp=E,26850µm,0.4s						
MDAR				AML	AML		
	comp=N,26150µm,0.2s						
MDAR				AML	AML		
	comp=E,26800µm,0.4s						
MDAR				AML	AML		
	comp=N,26150µm,0.2s						
MDAR				AML	AML		
	comp=E,26800µm,1.6s						
MDAR				AML	AML		
	comp=E,26814µm,0.4s						
MDAR				AML	AML		
	comp=N,26147µm,0.2s						
PF6	**Pievefavera**	**0.26**	**65**	⇑P	**Pg**	**22 43 13.2**	**-0.1**
PF6				S	**Sg**	**22 43 17.3**	**+0.5**
PF6				AML	AML		
	comp=E,16950µm,0.5s						
PF6				AML	AML		
	comp=N,8445µm,0.5s						
PF6				AML	AML		
	comp=N,8445µm,1.5s						
PF6				AML	AML		
	comp=E,16936µm,0.5s						
PF6				AML	AML		
	comp=N,8446µm,0.5s						
MC2	**Monte Cornacci**	**0.27**	**118**	⇑P	**Pg**	**22 43 13.7**	**+0.2**
FOSV	**Fossato di Vic**	**0.27**	**342**	⇓P	**Pg**	**22 43 13.5**	**+0.1**
FOSV				S	**Sg**	**22 43 18.0**	**+1.0**
FOSV				AML	AML		
	comp=N,22950µm,0.4s						
FOSV				AML	AML		
	comp=E,13400µm,0.7s						
FOSV				AML	AML		
	comp=N,22950µm,1.6s						
FOSV				AML	AML		
	comp=E,10332µm,0.3s						
FOSV				AML	AML		
	comp=N,22948µm,0.4s						
NRCA	**Norcia**	**0.27**	**139**	⇑P	**Pg**	**22 43 13.7**	**+0.2**
NRCA				S	**Sg**	**22 43 18.4**	**+1.2**
NRCA				AML	AML		
	comp=E,40700µm,0.1s						
NRCA				AML	AML		
	comp=N,52200µm,0.8s						
NRCA				AML	AML		
	comp=N,50450µm,0.8s						
NRCA				AML	AML		
	comp=E,43650µm,0.1s						
NRCA				AML	AML		
	comp=N,50450µm,1.2s						
NRCA				AML	AML		
	comp=N,52200µm,1.2s						
NRCA				AML	AML		
	comp=N,47736µm,0.2s						
NRCA				AML	AML		
	comp=E,40695µm,0.1s						
NRCA				AML	AML		
	comp=N,49422µm,0.2s						
SSM1	**San Severino M**	**0.29**	**50**	⇑P	**Pg**	**22 43 13.9**	**0.0**
SSM1				S	**Sg**	**22 43 18.5**	**+0.7**
MOMA	**Monte Martano**	**0.32**	**223**	⇑P	**Pg**	**22 43 14.9**	**+0.4**
MOMA				S	**Sg**	**22 43 20.7**	**+1.9**
MOMA				AML	AML		
	comp=E,9990µm,1.5s						
MOMA				AML	AML		
	comp=N,7880µm,1.5s						
MOMA				AML	AML		
	comp=E,10595µm,1.5s						
MOMA				AML	AML		
	comp=N,7895µm,1.5s						
MOMA				AML	AML		
	comp=N,7880µm,1.5s						
MOMA				AML	AML		
	comp=E,9990µm,0.5s						
MOMA				AML	AML		
	comp=E,10595µm,0.5s						
MOMA				AML	AML		
	comp=N,7895µm,0.5s						
MOMA				AML	AML		
	comp=N,7880µm,0.5s						
MOMA				AML	AML		
	comp=N,7231µm,0.3s						
MOMA				AML	AML		

comp=E,43195µm,0.3s
MURB AML AML
comp=N,25781µm,0.3s
GUMA Gualdo di Mace 0.34 86 ⇑P Pg 22 43 15.2 +0.4
GUMA S Sb 22 43 21.0 -1.2
GUMA AML AML
comp=E,40900µm,0.3s
GUMA AML AML
comp=N,37950µm,0.4s
GUMA AML AML
comp=E,54100µm,0.2s
GUMA AML AML
comp=N,37950µm,1.6s
GUMA AML AML
comp=N,42600µm,0.3s
GUMA AML AML
comp=N,37958µm,0.4s
GUMA AML AML
comp=E,40917µm,0.3s
GUMA AML AML
comp=E,54109µm,0.2s
GUMA AML AML
comp=N,42603µm,0.3s
GAVE Gavelli 0.35 177 AML AML
comp=E,32161µm,0.2s
GAVE AML AML
comp=E,32150µm,0.2s
GAVE AML AML
comp=N,8260µm,0.2s
GAVE AML AML
comp=N,25250µm,0.2s
GAVE AML AML
comp=E,32700µm,0.2s
GAVE AML AML
comp=N,25228µm,0.2s
GAVE AML AML
comp=E,32674µm,0.2s
GAVE AML AML
comp=N,8257µm,0.2s
MMO1 Montemonaco 0.36 113 ⇑P Pg 22 43 15.2 0.0
MMO1 S Sg 22 43 21.2 +1.2
T1214 Arquata del Tr 0.37 138 AML AML
comp=E,14450µm,0.8s
T1214 AML AML
comp=E,14450µm,1.2s
T1214 AML AML
comp=N,15150µm,0.4s
T1214 AML AML
comp=E,10609µm,0.3s
T1214 AML AML
comp=N,11933µm,0.2s
SSFR Montelago di S 0.40 351 ⇑P Pg 22 43 15.9 -0.1
SSFR S Sg 22 43 22.3 +1.0
SSFR AML AML
comp=N,30300µm,0.3s
SSFR AML AML
comp=E,26750µm,1.1s
SSFR AML AML
comp=N,33400µm,0.2s
SSFR AML AML
comp=E,27850µm,1.1s
SSFR AML AML
comp=N,33414µm,0.2s
SSFR AML AML
comp=E,26248µm,0.2s
SSFR AML AML
comp=E,27326µm,0.2s
SSFR AML AML
comp=N,30297µm,0.3s
CING Cingoli 0.41 35 ⇑P Pg 22 43 16.1 -0.1
CING S Sb 22 43 22.7 -1.6
CING AML AML
comp=N,36450µm,0.4s
CING AML AML
comp=N,36376µm,0.2s
CING AML AML
comp=E,18700µm,0.3s
MMUR Monte Murano 0.41 13 P Pg 22 43 16.1 -0.1
MMUR S Sg 22 43 22.5 +0.9
MMUR AML AML
comp=E,14100µm,1.0s
MMUR AML AML
comp=N,15350µm,0.3s
MMUR AML AML
comp=E,14100µm,1.0s
MMUR AML AML
comp=N,15350µm,1.7s
MMUR AML AML
comp=N,15382µm,0.3s
MMUR AML AML
comp=E,13476µm,0.2s
MF5 Montefalcone A 0.43 97 ⇑P Pg 22 43 17.0 +0.4
MF5 S Sb 22 43 23.9 -1.0
MF5 AML AML
comp=E,11110µm,1.0s
MF5 AML AML
comp=N,7720µm,0.4s
MF5 AML AML
comp=N,7710µm,0.4s
MF5 AML AML
comp=E,11105µm,1.0s
MF5 AML AML
comp=N,7724µm,0.4s
MF5 AML AML
comp=E,10380µm,0.5s
MNTP Montappone 0.45 77 P Pg 22 43 17.2 +0.4
LNSS Leonessa 0.45 164 ⇑P Pg 22 43 17.1 +0.1
LNSS S Sg 22 43 24.5 +1.6
LNSS AML AML
comp=N,22700µm,0.3s
LNSS AML AML
comp=E,26550µm,0.2s
LNSS AML AML
comp=N,19865µm,0.1s
LNSS AML AML
comp=E,26544µm,0.2s
ARVD Arcevia 0.46 6 ⇓P Pg 22 43 16.8 -0.3
ARVD S Sb 22 43 24.2 -1.4
ARVD AML AML
comp=E,5125µm,0.2s
ARVD AML AML
comp=N,4120µm,1.5s
ARVD AML AML
comp=E,5126µm,0.2s
ARVD AML AML
comp=N,3953µm,0.1s
ARRO Arrone 0.47 190 ⇑P Pg 22 43 17.4 +0.2
ARRO S Sg 22 43 25.3 +2.0
ARRO AML AML
comp=E,4040µm,0.2s
ARRO AML AML
comp=N,5605µm,0.5s
ARRO AML AML
comp=E,4042µm,0.2s
ARRO AML AML
comp=N,4334µm,0.2s
MTRA Matera 0.48 126 ⇑P Pg 22 43 17.3 -0.1
MTRA S Sg 22 43 24.9 +1.2
MTRA AML AML
comp=N,14700µm,0.4s
MTRA AML AML
comp=E,9270µm,0.5s
MTRA AML AML
comp=E,9276µm,0.5s
MTRA AML AML
comp=N,14740µm,0.4s
CESX Cesi 0.48 207 ⇑P Pg 22 43 17.5 +0.1
CESX S Sg 22 43 25.7 +2.0
CESX AML AML
comp=E,6540µm,0.5s
CESX AML AML
comp=N,5095µm,0.4s
CESX AML AML
comp=E,6539µm,0.5s
CESX AML AML
comp=N,5095µm,0.4s
ATVO AVT- Monte Val 0.48 315 ⇓P Pg 22 43 17.5 0.0
ATVO S Sg 22 43 25.4 +1.6
ATVO AML AML
comp=N,6330µm,0.4s
ATVO AML AML
comp=E,9310µm,0.8s
ATVO AML AML
comp=E,9173µm,0.4s
ATVO AML AML
comp=N,6333µm,0.4s
FRON Frontone 0.49 347 ⇓P Pg 22 43 17.3 -0.4
FRON S Sg 22 43 25.3 +1.2
FRON AML AML
comp=E,5060µm,0.8s
FRON AML AML
comp=N,7155µm,0.6s
FRON AML AML
comp=E,5060µm,1.2s
FRON AML AML
comp=E,3946µm,0.3s
FRON AML AML
comp=N,6461µm,0.4s
ATVA AVT- Monte Val 0.49 299 ⇓P Pg 22 43 17.6 0.0
ATMI Monte Miggiano 0.53 304 ⇓P Pg 22 43 18.4 0.0
ATMI AML AML
comp=E,2875µm,0.4s
ATMI AML AML
comp=N,3620µm,1.5s
ATMI AML AML
comp=N,3570µm,1.5s
ATMI AML AML
comp=E,2800µm,0.4s
ATMI AML AML
comp=E,2800µm,0.4s
ATMI AML AML
comp=N,3146µm,0.3s
SMA1 SAN MARTINO 0.53 140 ⇑P Pg 22 43 18.3 -0.1
SMA1 S Sb 22 43 27.1 -0.7
SMA1 AML AML
comp=E,9935µm,1.5s
SMA1 AML AML
comp=N,8710µm,1.5s
SMA1 AML AML
comp=N,8710µm,0.5s
SMA1 AML AML
comp=E,9935µm,0.5s
SMA1 AML AML
comp=N,7499µm,0.3s
SMA1 AML AML
comp=E,8686µm,0.4s
ATPI Pietralunga - 0.54 320 ⇓P Pg 22 43 18.5 0.0
ATPI S Sg 22 43 27.1 +1.6
ATPI AML AML
comp=E,5195µm,1.1s
ATPI AML AML
comp=E,5155µm,1.1s
ATPI AML AML
comp=N,6490µm,0.3s
ATPI AML AML
comp=E,5155µm,0.9s
ATPI AML AML
comp=E,5018µm,0.3s
PIEI Pieia 0.55 334 ⇓P Pg 22 43 18.5 -0.3
PIEI S Sg 22 43 27.5 +1.4
PIEI AML AML
comp=N,3580µm,0.2s
PIEI AML AML
comp=E,6555µm,0.9s
PIEI AML AML
comp=N,3583µm,0.2s
PIEI AML AML
comp=E,6000µm,0.1s
MGAB Montegabbione 0.57 257 ⇓P Pg 22 43 19.3 +0.2
MGAB AML AML
comp=E,4900µm,0.3s
MGAB AML AML
comp=N,7745µm,0.3s
MGAB AML AML
comp=N,7735µm,0.4s
MGAB AML AML
comp=E,5445µm,0.3s
MGAB AML AML
comp=N,7745µm,0.3s
MGAB AML AML
comp=E,4899µm,0.3s
MGAB AML AML
comp=N,7733µm,0.4s
MGAB AML AML
comp=E,5446µm,0.3s
MPAG Monte Paganucc 0.59 352 P Pg 22 43 19.3 -0.3
MPAG S Sb 22 43 28.6 -1.0
MPAG AML AML
comp=E,3205µm,1.3s
MPAG AML AML
comp=N,2985µm,1.6s
MPAG AML AML
comp=E,3220µm,0.4s
MPAG AML AML
comp=N,3045µm,1.6s
MPAG AML AML
comp=N,2990µm,1.6s
MPAG AML AML
comp=E,3205µm,0.7s
MPAG AML AML
comp=N,2976µm,0.4s
MPAG AML AML
comp=E,3220µm,0.4s
MPAG AML AML
comp=E,3197µm,0.4s
MPAG AML AML
comp=N,2860µm,0.4s
COR1 Corinaldo 0.60 9 P Pg 22 43 20.1 +0.4
COR1 S Sb 22 43 30.4 +0.8
COR1 AML AML
comp=N,9600µm,0.4s
COR1 AML AML
comp=N,9595µm,0.4s
COR1 AML AML
comp=E,6535µm,0.8s
COR1 AML AML
comp=N,9588µm,0.4s
COR1 AML AML
comp=E,6535µm,0.8s
OFFI Offida 0.61 100 P Pb 22 43 20.6 -0.4
OFFI AML AML
comp=E,6285µm,0.7s
OFFI AML AML
comp=N,8005µm,0.5s
OFFI AML AML
comp=N,8006µm,0.5s
OFFI AML AML
comp=E,6285µm,0.7s
NARO Abbazia di Nar 0.61 340 ⇓P Pg 22 43 19.4 -0.5
NARO S Sg 22 43 28.9 +1.0
NARO AML AML
comp=N,1580µm,1.0s
NARO AML AML
comp=E,2245µm,0.2s
NARO AML AML
comp=N,1580µm,1.0s
NARO AML AML
comp=E,2246µm,0.1s
NARO AML AML
comp=N,1537µm,0.1s
APEC Apecchio 0.61 328 ⇓P Pg 22 43 19.9 -0.1
APEC S Sb 22 43 30.0 -0.1
APEC AML AML
comp=E,4165µm,1.2s
APEC AML AML
comp=N,4945µm,0.5s
APEC AML AML
comp=E,3910µm,0.4s
APEC AML AML
comp=E,4170µm,1.2s
APEC AML AML
comp=N,4950µm,0.5s
APEC AML AML
comp=N,5220µm,0.5s
APEC AML AML
comp=N,4950µm,1.5s
APEC AML AML
comp=N,5220µm,1.5s
APEC AML AML
comp=N,4946µm,0.5s
APEC AML AML
comp=E,3913µm,0.4s
APEC AML AML
comp=N,5219µm,0.5s
APEC AML AML
comp=E,3607µm,0.7s
PP3 Marolino 0.64 58 P Pb 22 43 21.1 -0.5
PP3 S Sn 22 43 33.1 -0.8
PP3 AML AML
comp=E,16550µm,0.4s
PP3 AML AML
comp=N,22100µm,0.3s
PP3 AML AML
comp=N,22100µm,0.3s
PP3 AML AML
comp=E,16800µm,0.4s
PP3 AML AML
comp=N,22400µm,0.3s
PP3 AML AML
comp=N,22400µm,1.7s
PP3 AML AML
comp=N,22100µm,1.7s
PP3 AML AML
comp=E,16550µm,0.4s
PP3 AML AML
comp=N,22415µm,0.3s
PP3 AML AML
comp=E,16557µm,0.4s
PP3 AML AML
comp=N,22095µm,0.3s
PP3 AML AML
comp=E,16816µm,0.4s
CAMP Campotosto 0.64 142 ⇑P Pg 22 43 20.1 -0.4
CAMP S Sg 22 43 29.8 +1.0
CAMP AML AML
comp=E,2425µm,0.7s
CAMP AML AML
comp=E,2425µm,1.3s
CAMP AML AML
comp=N,2230µm,0.6s
CAMP AML AML
comp=E,2429µm,0.7s
CIMA Civitanova Mar 0.64 65 P Pb 22 43 21.9 +0.3
CIMA AML AML
comp=E,4390µm,1.1s
CIMA AML AML
comp=N,4570µm,1.4s
CIMA AML AML
comp=E,4390µm,0.9s
CIMA AML AML
comp=E,4281µm,0.5s
CIMA AML AML
comp=N,3936µm,0.4s
BADI Badiali 0.66 316 ⇓P Pg 22 43 20.6 -0.1
BADI AML AML
comp=N,3960µm,0.4s
BADI AML AML
comp=E,3030µm,0.2s
BADI AML AML
comp=N,3955µm,0.4s
BADI AML AML
comp=E,3026µm,0.1s
BADI AML AML
comp=N,3959µm,0.4s
TERO Teramo 0.68 127 ⇑P Pg 22 43 20.7 -0.6
TERO S Sg 22 43 31.2 +1.1
TERO AML AML
comp=E,1640µm,0.2s
TERO AML AML
comp=N,1545µm,0.4s
TERO AML AML
comp=E,1640µm,0.2s
TERO AML AML
comp=N,1550µm,0.4s
TERO AML AML
comp=E,3150µm,0.4s
TERO AML AML
comp=N,3005µm,1.1s
TERO AML AML
comp=N,1547µm,0.4s
TERO AML AML
comp=E,1637µm,0.2s
TERO AML AML
comp=N,2977µm,0.3s
TERO AML AML
comp=E,3154µm,0.4s
SENI Senigallia 0.71 21 P Pb 22 43 22.6 -0.4
SENI AML AML
comp=N,10500µm,1.2s
SENI AML AML
comp=N,2110µm,0.7s
SENI AML AML
comp=E,2845µm,1.1s
SENI AML AML
comp=N,2105µm,0.7s
SENI AML AML
comp=N,2105µm,1.3s
SENI AML AML
comp=E,2845µm,0.9s
SENI AML AML
comp=E,2459µm,0.2s
SENI AML AML
comp=E,14200µm,0.4s
SENI AML AML
comp=N,9580µm,0.2s
SENI AML AML
comp=N,2032µm,0.5s
CAFI Castiglion Fio 0.72 294 ⇓P Pg 22 43 22.0 -0.1
CAFI AML AML
comp=E,2250µm,0.7s
CAFI AML AML
comp=N,2605µm,0.5s
CAFI AML AML
comp=E,2330µm,0.8s
CAFI AML AML
comp=N,2715µm,0.5s
CAFI AML AML
comp=N,2715µm,1.5s
CAFI AML AML
comp=N,2605µm,1.5s
CAFI AML AML
comp=N,2607µm,0.5s
CAFI AML AML
comp=E,1985µm,0.7s
CAFI AML AML
comp=E,2022µm,0.7s
CAFI AML AML
comp=N,2714µm,0.5s
SACS San Casciano d 0.73 255 P Pg 22 43 22.2 0.0
SACS AML AML
comp=E,2360µm,0.4s
SACS AML AML
comp=N,2395µm,0.5s
SACS AML AML
comp=E,2335µm,0.4s
SACS AML AML
comp=N,2350µm,0.5s
SACS AML AML
comp=E,2363µm,0.4s
SACS AML AML
comp=N,2352µm,0.5s
SACS AML AML
comp=N,2396µm,0.5s
SACS AML AML
comp=E,2334µm,0.4s
AOI Ancona 0.74 46 P Pg 22 43 22.1 -0.3
AOI AML AML
comp=E,2940µm,0.2s
AOI AML AML
comp=N,2800µm,0.4s
AOI AML AML
comp=N,2800µm,1.6s
AOI AML AML
comp=E,2939µm,0.2s
AOI AML AML
comp=N,2802µm,0.4s
SSP9 Sansepolcro 0.76 315 P Pg 22 43 22.7 0.0
SSP9 AML AML
comp=E,1350µm,1.2s
SSP9 AML AML
comp=E,1345µm,1.2s
SSP9 AML AML
comp=N,1540µm,0.4s
SSP9 AML AML
comp=N,1540µm,1.6s
SSP9 AML AML
comp=E,1345µm,0.8s
SSP9 AML AML
comp=N,1540µm,0.4s
SSP9 AML AML
comp=E,1228µm,0.6s
PARC Parchiule 0.76 323 ⇓P Pg 22 43 22.6 -0.2
PARC S Sb 22 43 35.3 +0.9
PARC AML AML
comp=E,2935µm,0.4s
PARC AML AML
comp=N,2120µm,0.4s
PARC AML AML
comp=N,2117µm,0.4s
PARC AML AML
comp=E,2934µm,0.4s
GIGS Gran Sasso 0.78 139 P Pg 22 43 22.2 -1.0

GIGS AML AML
comp=E,746µm,1.4s
GIGS AML AML
comp=E,746µm,0.6s
GIGS AML AML
comp=N,1234µm,0.4s
GIGS AML AML
comp=E,676µm,0.4s
GIGS AML AML
comp=N,1234µm,0.4s
FIAM Fiamignano 0.79 167 ⇑P **Pg 22 43 22.6 -0.7**
FIAM S **Sg 22 43 35.2 +1.5**
FIAM AML AML
comp=E,3280µm,0.2s
FIAM AML AML
comp=N,3510µm,0.2s
FIAM AML AML
comp=E,3282µm,0.2s
FIAM AML AML
comp=N,3510µm,0.2s
TRTR Tortoreto Alta 0.80 106 P **Pb 22 43 24.4 0.0**
TRTR AML AML
comp=N,6730µm,0.4s
TRTR AML AML
comp=N,6730µm,1.6s
TRTR AML AML
comp=E,6185µm,0.4s
TRTR AML AML
comp=E,6187µm,0.4s
TRTR AML AML
comp=N,6734µm,0.4s
SRES S.Oreste - Sor 0.84 199 ⇑P **Pg 22 43 23.9 -0.5**
SRES AML AML
comp=E,1195µm,1.0s
SRES AML AML
comp=N,1315µm,0.8s
SRES AML AML
comp=N,1314µm,0.8s
SRES AML AML
comp=E,973µm,0.5s
CPGN Carpegna, Ital 0.86 332 P **Pg 22 43 24.9 +0.2**
CPGN AML AML
comp=E,2440µm,0.4s
CPGN AML AML
comp=N,2705µm,1.1s
CPGN AML AML
comp=E,2310µm,1.1s
CPGN AML AML
comp=E,2310µm,0.9s
CPGN AML AML
comp=N,2175µm,1.1s
CPGN AML AML
comp=N,2700µm,1.1s
CPGN AML AML
comp=E,2439µm,0.4s
CPGN AML AML
comp=N,2137µm,0.8s
CPGN AML AML
comp=N,2165µm,0.4s
CPGN AML AML
comp=E,2074µm,0.4s
T0110 Collepietro 1.05 140 AML AML
comp=E,3635µm,0.4s
T0110 AML AML
comp=N,3195µm,0.4s
T0110 AML AML
comp=N,3193µm,0.4s
T0110 AML AML
comp=E,3634µm,0.4s
RUFI Rufina 1.27 309 P **Pn 22 43 31.6 -0.8**
OSSC Osservatorio P 1.28 293 P **Pn 22 43 31.9 -0.6**
RIBO Ribolla Roccas 1.34 267 AML AML
comp=E,375µm,0.9s
MTCR Monte La Croce 1.68 307 P **Pn 22 43 37.0 -1.1**
POPM Popiglio 1.84 304 P **Pn 22 43 39.2 -0.9**
PII Pisa 1.84 293 P **Pn 22 43 39.9 -0.2**
DUGI Dugi Otok 1.85 58 *e*Pn **Pn 22 43 40.9 +0.6**
MAIM Mastiano 1.94 298 P **Pn 22 43 40.9 -0.6**
BDI Bagni Di Lucca 1.94 302 P **Pn 22 43 40.4 -1.2**
BRJN Brijuni 1.97 18 *e*Pn **Pn 22 43 41.5 -0.4**
CARD Cardoso 2.00 300 P **Pn 22 43 41.7 -0.7**
VIRC Vir 2.02 51 *e*Pn **Pn 22 43 42.5 -0.1**
NVLJ Novalja 2.10 43 *e*Pn **Pn 22 43 43.4 -0.3**
NVLJ Sn **Sn 22 44 10.1 0.0**
ZIRJ Zirje 2.11 72 *i* Pn **Pn 22 43 44.2 +0.3**
ZIRJ Sn **Sn 22 44 10.9 +0.6**
VLC Villacollemand 2.12 303 P **Pn 22 43 43.0 -1.1**
SARO Sassorosso 2.13 303 P **Pn 22 43 43.0 -1.2**
RABC Rab 2.20 38 *e*Pn **Pn 22 43 45.0 0.0**
SMRN Sveta Marina 2.20 24 *e*Pn **Pn 22 43 44.5 -0.5**
MORI Morici 2.22 67 *e*Pn **Pn 22 43 45.6 +0.2**
EQUI Equi 2.27 301 P **Pn 22 43 45.4 -0.7**
PLMA Palmaria, Port 2.42 296 P **Pn 22 43 47.4 -0.6**
RIY Rijeka 2.56 26 *e*Pn **Pn 22 43 50.3 +0.3**
UDBI Udbina 2.57 54 *e*Pn **Pn 22 43 51.2 +1.0**
HVAR Hvar 2.62 86 *e*Pn **Pn 22 43 50.9 +0.1**
SKDS Skadanscina 2.64 18 *i* Pn **Pn 22 43 50.5 -0.6**
PLIT Plitvice 2.71 46 *e*Pn **Pn 22 43 52.4 +0.3**
KNDS Knezji Dol 2.71 23 *i* Pn **Pn 22 43 52.2 0.0**
KNDS *i* Sn **Sn 22 44 26.6 +1.3**
KNDS IAML 22 44 27.4
comp=Z,49nm,0.3s
KIJV Kijevo 2.75 68 *e*Pn **Pn 22 43 53.2 +0.6**
PGF Pioggiola 2.89 262 *e*Pn **Pn 22 43 54.9 +0.2**
PGF *e*Sn **Sn 22 44 28.4 -1.4**
comp=Z,4.6nm,0.3s
CEY Cerknica 2.92 22 *e*Pn **Pn 22 43 54.7 -0.3**
CGRP Cima Grappa 2.94 345 AML AML
comp=N,301µm,0.6s
CGRP AML AML
comp=E,308µm,0.7s
CGRP AML AML
comp=E,268µm,1.3s
CGRP AML AML
comp=E,268µm,0.7s
CGRP AML AML
comp=N,298µm,1.1s
CGRP AML AML
comp=N,297µm,1.0s
CGRP AML AML
comp=E,308µm,0.7s
CGRP AML AML
comp=E,264µm,0.5s
CGRP AML AML
comp=N,301µm,0.6s
LSTV Lastovo 2.97 94 *e*Pn **Pn 22 43 55.6 +0.1**
SABO M.te Sabotino 2.99 10 AML AML
comp=E,1225µm,0.6s
SABO AML AML
comp=E,283µm,0.8s
SABO AML AML
comp=N,314µm,0.7s
SABO AML AML
comp=N,1220µm,0.7s
SABO AML AML
comp=E,283µm,0.8s
SABO AML AML
comp=N,1217µm,0.7s
SABO AML AML
comp=N,315µm,0.7s
SABO AML AML
comp=E,1227µm,0.6s
POLC Polcenigo 3.00 355 AML AML
comp=E,324µm,0.5s
POLC AML AML
comp=N,397µm,0.4s
POLC AML AML
comp=E,324µm,0.5s
POLC AML AML
comp=N,397µm,1.6s
POLC AML AML
comp=N,397µm,0.4s
BOJS Bojanci 3.00 34 *e*Pn **Pn 22 43 56.4 +0.3**
A050A Klekovaca 3.02 60 *e*Pn **Pn 22 43 58.3 +1.9**
MAKA Makarska 3.04 84 *e*Pn **Pn 22 43 57.5 +0.9**
LEOD Capriano del C 3.12 322 AML AML
comp=N,230µm,0.6s
LEOD AML AML
comp=E,228µm,0.5s
RICI Ricice 3.15 80 *e*Pn **Pn 22 43 59.0 +0.9**
OZLJ Ozalj 3.18 35 *e*Pn **Pn 22 43 58.8 +0.3**
CRNS Crni Vrh 3.20 18 *i* Pn **Pn 22 43 59.0 +0.1**
MPRI Monte Prat 3.20 1 AML AML
comp=E,230µm,0.6s
MPRI AML AML
comp=N,355µm,0.5s
MPRI AML AML
comp=N,287µm,0.5s
MPRI AML AML
comp=N,355µm,0.5s
MPRI AML AML
comp=E,230µm,0.6s
MPRI AML AML
comp=E,189µm,0.6s
A251A Rujevac 3.22 48 *e*Pn **Pn 22 43 59.6 +0.5**
LJU Ljubljana 3.23 21 *i* Pn **Pn 22 43 60.0 +0.8**
LJU *e*Sn **Sn 22 44 39.2 +1.3**
LJU IAML 22 44 40.7
comp=Z,26nm,0.3s
ROBS Robic 3.24 8 *i* Pn **Pn 22 43 59.0 -0.3**
CADS Cadrg 3.25 11 *i* Pn **Pn 22 43 59.2 -0.3**
CIMO Cimolais 3.28 355 AML AML
comp=E,62µm,1.1s
CIMO AML AML
comp=N,50µm,0.5s
CIMO AML AML
comp=E,77µm,0.7s
CIMO AML AML
comp=N,52µm,0.6s
CIMO AML AML
comp=E,63µm,0.7s
CIMO AML AML
comp=N,50µm,0.5s
MGRS Mrkonjic Grad 3.35 64 *e*Pn **Pn 22 44 03.2 +2.3**
CLUD Cludinico 3.42 0 AML AML
comp=N,108µm,1.4s
CLUD AML AML
comp=E,136µm,1.5s
CLUD AML AML
comp=N,108µm,0.6s
CLUD AML AML
comp=E,132µm,0.8s
CLUD AML AML
comp=E,135µm,0.8s
CLUD AML AML
comp=N,108µm,0.6s
CLUD AML AML
comp=N,115µm,0.7s
A051A Mrakovica 3.52 54 *e*Pn **Pn 22 44 04.3 +1.1**
ZOU Zoufplan 3.52 1 AML AML
comp=N,121µm,0.6s
ZOU AML AML
comp=E,160µm,1.6s
ZOU AML AML
comp=N,166µm,1.4s
ZOU AML AML
comp=N,121µm,1.4s
ZOU AML AML
comp=N,166µm,0.6s
ZOU AML AML
comp=E,146µm,1.5s
ZOU AML AML
comp=E,160µm,0.4s
ZOU AML AML
comp=N,105µm,1.6s
ZOU AML AML
comp=N,104µm,0.8s
ZOU AML AML
comp=E,141µm,1.2s
ZOU AML AML
comp=E,141µm,0.9s
STON Ston 3.55 91 *e*Pn **Pn 22 44 03.8 +0.2**
STON Ston 3.55 91 AML AML
comp=E,63µm,0.3s
STON AML AML
comp=N,54µm,1.5s
STON AML AML
comp=E,63µm,0.3s
STON AML AML
comp=N,54µm,0.5s
STON AML AML
comp=N,53µm,0.6s
STON Ston 3.55 91 *e*Pn **Pn 22 44 03.8 +0.2**
BLY Banja Luka 3.55 60 *e*Pn **Pn 22 44 05.9 +2.2**
MYKA Terra Mystica 3.63 8 *i* Pn **Pn 22 44 05.6 +0.7**
comp=N,1.4nm,0.2s,SNR=6.9
MYKA *e*Sn **Sn 22 44 48.8 +0.9**
comp=N,15nm,0.4s
OBKA Obir 3.67 18 *i* Pn **Pn 22 44 05.5 +0.1**
comp=N,1.7nm,0.2s,SNR=15
OBKA *e*Sn **Sn 22 44 47.4 -1.5**
comp=N,21nm,0.4s
OBKA Obir 3.67 18 *e*Pn **Pn 22 44 05.5 +0.1**
ABTA Abfaltersbach 3.72 356 *i* Pn **Pn 22 44 06.9 +0.9**
comp=N,20nm,0.4s,SNR=18
ABTA *i* Sn **Sn 22 44 50.0 0.0**
comp=N,22nm,0.6s
LOBO Lobor 3.86 35 *e*Pn **Pn 22 44 07.6 -0.3**
DBRK Dubrovnik 3.90 94 *e*Pn **Pn 22 44 09.2 +0.8**
SOKA Soboth 3.95 22 *i* Pn **Pn 22 44 09.5 +0.3**
comp=N,1.2nm,0.2s,SNR=5.9
SOKA *e*Sn **Sn 22 44 55.1 -0.7**
comp=N,11nm,0.3s
KALN Kalnik 4.01 38 *e*Pn **Pn 22 44 09.4 -0.6**
TREB Trebinje 4.04 93 *e*Pn **Pn 22 44 11.0 +0.6**
SBF Sospel 4.04 284 *e*Pn **Pn 22 44 10.7 +0.2**
KBA Koelnbreinsper 4.05 5 *i* Pn **Pn 22 44 11.6 +0.8**
comp=N,4.8nm,0.3s,SNR=19
KBA *e*Sn **Sn 22 44 59.2 +0.7**
comp=N,6.5nm,0.3s
BRY Bratogost 4.16 90 *e*Pn **Pn 22 44 12.9 +0.7**
HCY Herceg Novi 4.18 96 *e*Pn **Pn 22 44 14.2 +1.9**
FETA Feichten 4.26 340 *i* Pn **Pn 22 44 15.4 +1.9**
comp=N,12nm,0.8s,SNR=20
DAVOX Davos/Dischmat 4.30 331 Pn **Pn 22 44 17.1 +3.0**
comp=N,4.9nm,0.3s,baz=136,slow=6.8,SNR=71
DAVOX LR LR 22 46 39.3
comp=N,30nm,20.2s,baz=102,slow=49
comp=N,16nm,0.5s
WTTA Wattenberg 4.31 349 *i* Pn **Pn 22 44 16.1 +1.8**
comp=N,3.6nm,0.2s,SNR=17
WTTA *i* Sn **Sn 22 45 07.1 +2.1**
comp=N,18nm,0.4s
SQTA Sankt Quirin 4.34 345 *i* Pn **Pn 22 44 17.2 +2.6**
comp=N,7.8nm,0.2s,SNR=5.5
LESA Schwarzleotal 4.39 358 *i* Pn **Pn 22 44 16.1 +0.9**
comp=N,6.5nm,0.3s
LESA *e*Sn **Sn 22 45 06.9 +0.3**
comp=N,5.9nm,0.4s
WATA Walderalm 4.39 348 *i* Pn **Pn 22 44 17.4 +2.0**
comp=N,6.1nm,0.2s,SNR=23
WATA *i* Sn **Sn 22 45 11.0 +4.2**
comp=N,8.6nm,0.3s
MOTA Moosalm 4.48 344 *i* Pn **Pn 22 44 18.7 +2.1**
comp=N,3.1nm,0.3s,SNR=13
MOTA *i* Sn **Sn 22 45 11.7 +2.7**
comp=N,6.0nm,0.3s
HAPS Han Pijesak,Bl 4.54 75 *e*Pn **Pn 22 44 18.0 +0.7**
ARSA Arzberg 4.61 23 *i* Pn **Pn 22 44 18.1 -0.1**
comp=N,3.2nm,0.3s,SNR=10
ARSA *i* Sn **Sn 22 45 10.1 -1.9**
comp=N,6.0nm,0.4s
ARSA Arzberg 4.61 23 AML AML
comp=E,35µm,0.4s
ARSA AML AML
comp=N,21µm,1.1s
ARSA AML AML
comp=E,35µm,0.4s
ARSA AML AML
comp=N,21µm,0.5s
LMR La Mourre 4.66 276 *e*Pn **Pn 22 44 18.4 -0.5**
LMR *e*Sn **Sn 22 45 11.5 -1.7**
comp=N,1.7nm,0.5s
BIOA Bad Ischl, Aus 4.68 6 *i* Pn **Pn 22 44 20.4 +1.2**
comp=N,4.5nm,0.3s,SNR=11
BIOA *i* Sn **Sn 22 45 16.2 +2.4**
comp=N,16nm,0.6s
RETA Reutte 4.69 342 *i* Pn **Pn 22 44 21.8 +2.4**
comp=N,8.2nm,0.4s
RETA *i* Sn **Sn 22 45 14.6 +0.5**
comp=N,7.2nm,0.4s
MBDF Montbardon 4.72 293 *e*Pn **Pn 22 44 19.3 -0.6**
MBDF *e*Sn **Sn 22 45 13.0 -1.9**
comp=N,9.2nm,0.7s
DRME Dracevica, Mon 4.74 98 *e*Pn **Pn 22 44 21.0 +1.1**
DAVA Damuels 4.74 335 *e*Pn **Pn 22 44 19.1 -1.1**
comp=N,0.6nm,0.3s,SNR=8.7
DAVA *i* Sn **Sn 22 45 19.2 +3.7**
comp=N,12nm,0.5s
RUDO Rudo 4.78 81 *e*Pn **Pn 22 44 21.4 +0.9**
BBLS Lazi&#263i 4.83 78 *e*Pn **Pn 22 44 22.3 +1.0**
MOA Molln 4.91 11 *i* Pn **Pn 22 44 23.0 +0.6**
comp=N,2.4nm,0.3s,SNR=12
MOA *i* Sn **Sn 22 45 20.4 +1.0**
comp=N,8.7nm,0.3s
LPG La Plagne 5.04 301 *e*Pn **Pn 22 44 25.6 +1.3**
LPG *e*Sn **Sn 22 45 21.3 -1.6**
comp=N,10nm,0.6s
TEKS Tekeris 5.05 70 *e*Pn Pn 22 44 15.0 -9.3
LPL La Plagne 5.06 301 *e*Pn **Pn 22 44 25.5 +1.0**
LPL *e*Sn **Sn 22 45 21.4 -1.9**
comp=N,3.9nm,0.4s
SJES Sjenica 5.20 85 *e*Pn **Pn 22 44 28.2 +1.8**
RONA Rosalia, Austr 5.25 26 *i* Pn **Pn 22 44 27.3 +0.3**
comp=N,2.1nm,0.3s,SNR=6.3
CONA Conrad Observa 5.32 22 *i* Pn **Pn 22 44 28.0 0.0**
comp=N,3.3nm,0.3s,SNR=12
CONA *i* Sn **Sn 22 45 28.5 -1.1**
comp=N,14nm,0.7s
ORIF Oris-en-Rattie 5.38 293 *e*Pn **Pn 22 44 30.5 +1.6**
ORIF *e*Sn **Sn 22 45 28.3 -2.9**
comp=N,5.6nm,0.6s
SMRF Simiane la Rot 5.39 282 *e*Pn **Pn 22 44 30.2 +1.2**
SMRF *e*Sn **Sn 22 45 26.5 -4.7**
comp=N,1.7nm,0.4s
FRGS Fruska Gora 5.43 65 *e*Pn **Pn 22 44 29.7 +0.3**
GERES GERESS Array B 5.83 5 Pn **Pn 22 44 34.8 -0.3**
comp=N,0.6nm,0.3s,baz=178,slow=11,SNR=12
GERES Sn **Sn 22 45 42.6 +0.3**
comp=N,2.4nm,0.3s,baz=172,slow=22,SNR=9.4
comp=N,0.9nm,0.3s
CKRC Cesky Krumlov 5.87 9 *e*PN **Pn 22 44 35.3 -0.2**
CKRC *e*SN **Sn 22 45 41.6 -1.4**
CABF La Chapelle 6.00 309 *e*Pn **Pn 22 44 38.1 +0.7**
CABF *e*Sn **Sn 22 45 45.7 -0.7**
comp=N,3.3nm,0.4s
KHC Kasperske Hory 6.11 4 *e*PN **Pn 22 44 38.9 0.0**
KHC *e*SN **Sn 22 45 47.9 -1.1**
MODS Modra-Piesok 6.16 29 *e*PN **Pn 22 44 40.8 +1.3**
MODS *e*SN **Sn 22 45 47.0 -3.2**
VIVF Saint-Julien-l 6.19 290 *e*Pn **Pn 22 44 40.7 +0.7**
HINF Hinteralfeld 6.38 321 *e*Pn **Pn 22 44 42.3 -0.3**
HINF *e*Sn **Sn 22 45 53.6 -2.1**
comp=N,11nm,0.5s
ZVC Zvikov 6.47 8 *e*PN **Pn 22 44 43.7 0.0**
ZVC *e*SN **Sn 22 45 56.5 -1.2**
KRUC Moravsky 6.50 21 *e*PN **Pn 22 44 40.4 -3.8**
KRUC *e*SN **Sn 22 45 55.6 -3.0**
TREC Trest 6.51 15 *e*PN **Pn 22 44 43.8 -0.6**
TREC *e*SN **Sn 22 45 56.4 -2.5**
LASF Ste Croix 6.63 282 *e*Pn **Pn 22 44 45.8 -0.2**
CDF Champ du Feu 6.65 326 *e*Pn **Pn 22 44 46.0 -0.3**
CDF *e*Sn **Sn 22 45 59.2 -3.1**
comp=N,3.3nm,0.5s
HAU Haudompre 6.75 320 *e*Pn **Pn 22 44 47.8 +0.1**
HAU *e*Sn **Sn 22 46 01.8 -3.0**
comp=N,8.2nm,0.4s
VRAC Vranov 6.78 21 LR LR 22 47 51.2
comp=N,49nm,18.0s,baz=262,slow=43
VYHS Vyhne 6.87 35 *e*PN **Pn 22 44 50.7 +1.5**
VYHS *e*SN **Sn 22 46 04.9 -2.6**
PRU Pruhonice 7.04 9 *e*SN **Sn 22 46 09.4 -2.5**
NKC Novy Kostel 7.20 358 *e*SN **Sn 22 46 11.1 -4.7**
SMF Signal de Mont 7.36 302 *e*Pn **Pn 22 44 55.8 -0.2**
SMF *e*Sn **Sn 22 46 17.1 -2.6**
comp=N,2.2nm,0.4s
PAGF Fort de Pagny 7.44 320 *e*Pn **Pn 22 44 58.1 +1.1**
baz=132
PAGF *e*Sn **Sn 22 46 18.6 -3.0**
comp=N,7.1nm,0.6s
SFTF Sexfontaines 7.54 316 *e*Pn **Pn 22 44 59.5 +1.1**
baz=130
SFTF *e*Sn **Sn 22 46 20.3 -3.7**
comp=N,0.6nm,0.2s
LOR Lormes 7.64 307 *e*Pn **Pn 22 44 59.9 0.0**
baz=126
LOR *e*Sn **Sn 22 46 25.5 -1.2**
comp=N,1.6nm,0.3s
AVF Avril sur Loir 7.73 302 *e*Pn **Pn 22 45 01.1 +0.1**
AVF *e*Sn **Sn 22 46 26.3 -2.4**
comp=N,1.3nm,0.5s
MEZF Maizieres J'vi 7.73 318 *e*Pn **Pn 22 45 01.1 +0.1**
baz=133
SSF Saint Saulge 7.75 304 *e*Pn **Pn 22 45 00.9 -0.5**
SSF *e*Sn **Sn 22 46 24.7 -4.7**
comp=N,1.4nm,0.4s
SAVF Savonnieres en 7.77 319 *e*P Pn 22 45 07.9 +6.4
SAVF *e*Sn **Sn 22 46 25.2 -4.5**
comp=N,5.1nm,0.4s
KEST Kesra 7.79 202 Pn Pn 22 45 07.6 +5.6
comp=N,0.2nm,0.3s,baz=160,slow=12,SNR=2.1
comp=N,3.1nm,0.8s
MTLF Montolieu 7.79 276 *e*Pn **Pn 22 45 01.8 -0.1**
BRG Berggiesshubel 7.87 5 *e*Pn Pn 22 45 12.5 +10
BRG Amp 22 45 16.4
comp=Z,2.4nm,1.0s
BRG S **Sn 22 46 28.1 -4.2**
BRG Amp 22 46 29.4
comp=Z,2.2nm,0.6s
BRG r 22 47 34.5
BRG Amp 22 47 44.2
comp=Z,4.0nm,1.1s
BGF Bois d'Agland 7.95 300 *e*Pn **Pn 22 45 05.5 +1.4**
BGF *e*Sn **Sn 22 46 29.2 -5.0**
comp=Z,2.1nm,0.4s
CAF Calviac 8.02 287 *e*Pn **Pn 22 45 05.9 +0.9**
CLL Collm 8.27 1 *e*Pn **Pn 22 45 07.0 -1.4**
CLL *ex* x 22 46 40.0
CLL *e*Sb Sb 22 46 59.0 -11
CLL *e*(Sg) **Sg 22 47 39.0 +5.5**
comp=Z,8.0nm,1.1s
LFF La Frestale 8.95 286 *e*Pn **Pn 22 45 19.6 +1.8**
BAIF Baives 9.21 323 *e*Pn **Pn 22 45 17.9 -3.4**
SGMF Saint Gilles 11.98 301 *e*Pn **Pn 22 45 59.0 -0.3**
AKASG Malin Array Be 13.54 50 LR LR 22 52 05.4
comp=Z,24nm,20.7s,baz=274,slow=40
HFS Hagfors 17.13 1 LR LR 22 54 50.4
comp=Z,34nm,18.0s,baz=268,slow=41
FINES FINESS Array B 20.05 19 P **P 22 47 41.8 +0.2**
comp=Z,0.1nm,0.3s,baz=190,slow=9.7,SNR=4.2
comp=Z,1.5nm,0.8s
MKAR Makanchi Array 47.84 60 P **P 22 51 47.1 +0.8**
comp=Z,0.4nm,0.7s,baz=285,slow=7.0,SNR=6.0
comp=Z,0.4nm,0.7s

KRSC 26 22:57:38.6±1.0, 56°.01N×163°.89E, h15km±10km, MI3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**0.71**	**291**	*e*P		Pg		22 57 51.2	-1.1
KBG				*e*S		Sg		22 58 01.6	-0.1
BKI	**Bering**	**1.43**	**123**	*e*P		Pb		22 58 04.7	-0.2
BKI				*e*S		Sg		22 58 24.2	-0.4
BDR	**Baidarnaya**	**1.60**	**292**	*e*P		Pn		22 58 06.8	+0.5
BDR				*e*S		Sb		22 58 27.7	-0.1
SRKR	**Sorokina**	**1.65**	**294**	*e*S		Sn		22 58 28.2	+0.3
ZLN	**Zelenaya**	**1.73**	**272**	*e*P		Pb		22 58 09.4	-0.7
CIRR	**Tsirk**	**1.77**	**275**	*e*P		Pb		22 58 09.9	-0.8
BZGR	**Bezymyannyi-Gr**	**1.79**	**269**	*e*P		Pb		22 58 10.6	-0.6
LGNR	**Loginova**	**1.80**	**274**	*e*P		Pb		22 58 10.9	-0.4
KLY	**Klyuchi**	**1.84**	**281**	*e*P		Pn		22 58 08.9	-0.7
KLY				*e*S		Sn		22 58 31.4	-1.0
KRSR	**Krestovskiy**	**1.87**	**278**	*e*P		Pn		22 58 10.7	+0.6
KRSR				*e*S		Sb		22 58 36.1	+0.4
BZP	**Bezymyannyi-Pe**	**1.89**	**269**	*e*P		Pb		22 58 11.8	-1.0
BZWR	**Bezymyannyi-We**	**1.91**	**270**	*e*P		Pb		22 58 12.2	-0.9
BZMR	**Bezymyannaya**	**1.91**	**269**	*e*P		Pb		22 58 12.4	-0.8
KIRR	**Kirishev**	**1.99**	**270**	*e*P		Pn		22 58 13.0	+1.2
KPT	**Kopyto**	**2.06**	**270**	*e*P		Pb		22 58 14.7	-1.0
KMNR	**Kamenistaya**	**2.07**	**265**	*e*P		Pb		22 58 14.9	-1.0
TUMR	**Tumrok**	**2.24**	**253**	*e*P		Pb		22 58 18.0	-0.8
KOZ	**Kozyrevsk**	**2.25**	**273**	*e*P		Pb		22 58 17.8	-1.1
SRDR	**Sredinnyy**	**2.35**	**279**	*e*P		Pn		22 58 18.4	+1.7
SRDR				*e*S		Sb		22 58 47.7	-1.9
KRX	**Arik**	**4.03**	**231**	*e*P		Pb		22 58 44.7	-4.7
AVH	**Avacha**	**4.06**	**230**	*e*P		Pn		22 58 44.8	+4.7
GNL	**Ganaly**	**4.14**	**238**	*e*P		Pn		22 58 45.0	+3.7
RUS	**Russkaya**	**4.77**	**224**	*e*P		Pn		22 58 53.0	+3.2
ASAK	**Asacha**	**5.05**	**227**	*e*P		Pn		22 58 57.7	+3.9
KDTR	**Khodutka, Kamc**	**5.43**	**222**	*e*P		Pn		22 59 01.6	+2.8

*NEIC **26** 23:04:15.6±0.9, 59°.3S±0°.1×26°.5W±0°.2, h86km±9km, mb4.6/32, Error ellipse: s-maj=21.9km s-min=16.8km az=211.0*

*IDC **26** 23:04:17.3±0.8,59°17'S×26°44'W,h106km±7km,mb3.9/8, mbtmp4.2/9,Error ellipse: s-maj=19.6km s-min=16.4km az=69.0*

ISC 26 23:04:18.0±0.5,59°24'S±0'09×26°5'W±0'1,h116km,n61, σ0:85/55,mb4.3/20,8C-2D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.72**	**154**	⇑P	**Pn**	**23 07 26.1**	**-1.1**
	comp=Z,4.5nm,0.2s						
VNA1				⇑S	Sn	23 09 44.5	-14
	comp=Z,0.6nm,0.2s						
VNA3	**Neumayer Olymp**	**13.87**	**157**	⇑P	**Pn**	**23 07 27.6**	**-1.6**
	comp=Z,10nm,0.2s						
VNA3				⇑S	Sn	23 09 47.6	-14
	comp=Z,1.5nm,0.2s						
VNA2	**Neumayer--Watz**	**14.12**	**154**	⇓P	**Pn**	**23 07 31.3**	**-1.1**
	comp=Z,2.6nm,0.2s,baz=318,slow=16						
VNA2				⇓S	Sn	23 09 51.4	-16
	comp=Z,0.5nm,0.2s,baz=349,slow=22						
SNAA	**Sanae**	**15.70**	**152**	P	**Pn**	**23 07 52.0**	**-0.4**
SNAA	**Sanae**	**15.70**	**152**	⇑P	**Pn**	**23 07 52.5**	**+0.2**
	comp=Z,32nm,0.2s						
SNAA				⇑S	Sn	23 10 28.8	-17
	comp=Z,6.7nm,0.2s						
SNAA	**Sanae**	**15.70**	**152**	P	**Pn**	**23 07 52.6**	**+0.2**
	comp=Z,4.0nm,0.4s,baz=44,slow=11,SNR=73						
SNAA				S	Sn	23 10 28.3	-18
	comp=Z,1.6nm,0.5s,baz=319,slow=20,SNR=1.4						
TROLL	**Troll, Antarti**	**17.25**	**149**	⇑P	**Pn**	**23 08 13.4**	**+1.9**
	comp=Z,32nm,0.2s						
TROLL				⇑S	Sn	23 11 07.4	-16
	comp=Z,25nm,0.2s						
EFI	**East Falkland**	**19.29**	**279**	P	**P**	**23 08 33.1**	**-0.2**
EFI				IAmb	IAmb	23 08 35.7	
	comp=Z,54nm,1.0s						
MG02	**Cerro Sombrero**	**24.39**	**266**	P	**P**	**23 09 24.0**	**-1.1**
MG05	**Puerto Nuñes**	**26.68**	**266**	P	**P**	**23 09 43.8**	**-2.0**
QSPA	**South Pole Qui**	**31.00**	**180**	P	**P**	**23 10 24.3**	**+0.2**
PLCA	**Paso Flores**	**33.04**	**284**	P	**P**	**23 10 42.4**	**+0.3**
PLCA	**Paso Flores**	**33.04**	**284**	P	**P**	**23 10 42.2**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=139,slow=9.0,SNR=6.8						
	comp=Z,1.0nm,0.5s						
GO06	**Curarrehue**	**34.37**	**285**	P	**P**	**23 10 53.6**	**-0.1**
MAW	**Mawson**	**37.39**	**141**	P	**P**	**23 11 18.8**	**-0.1**
MAW	**Mawson**	**37.39**	**141**	P	**P**	**23 11 18.3**	**-0.5**
	comp=Z,3.2nm,0.9s,baz=257,slow=7.6,SNR=3.5						
	comp=Z,3.2nm,0.9s						
BO02	**Sierra Bellavi**	**37.81**	**290**	P	**P**	**23 11 23.8**	**+0.8**
BO02				IAmb	IAmb	23 11 30.8	
	comp=Z,8.0nm,0.9s						
GO05	**Huala**	**38.19**	**289**	P	**P**	**23 11 26.2**	**+0.2**
BO01	**Tunca**	**38.28**	**290**	P	**P**	**23 11 27.1**	**+0.3**
BO04	**La Punta**	**38.38**	**291**	P	**P**	**23 11 28.1**	**+0.4**
BO04				IAmb	IAmb	23 11 43.2	
	comp=Z,8.0nm,1.1s						
MT09	**Talagante**	**38.73**	**291**	P	**P**	**23 11 31.1**	**+0.3**
MT01	**Popeta**	**38.79**	**291**	P	**P**	**23 11 31.4**	**+0.3**
MT01				IAmb	IAmb	23 11 32.0	
	comp=Z,12nm,0.9s						
PEL	**Peldehue**	**39.11**	**292**	P	**P**	**23 11 34.1**	**+0.4**
PEL				IAmb	IAmb	23 11 42.3	
	comp=Z,12nm,1.0s						
MT02	**Curacav**	**39.23**	**291**	P	**P**	**23 11 35.2**	**+0.5**
CO02	**Combarbal**	**40.86**	**293**	P	**P**	**23 11 48.8**	**+0.5**
CO02				IAmb	IAmb	23 12 06.1	
	comp=Z,9.0nm,0.9s						
CO01	**Juntas del Tor**	**41.46**	**295**	P	**P**	**23 11 54.8**	**+1.4**
CO06	**Fray Jorge**	**41.60**	**293**	P	**P**	**23 11 55.2**	**+0.9**
CO06				IAmb	IAmb	23 11 59.3	
	comp=Z,13nm,0.9s						
AC05	**El Transito**	**42.51**	**296**	P	**P**	**23 12 02.9**	**+1.1**
VNDA	**Vanda**	**43.39**	**183**	P	**P**	**23 12 09.2**	**+1.1**
VNDA	**Vanda**	**43.39**	**183**	P	**P**	**23 12 09.7**	**+1.5**
	comp=Z,1.2nm,0.6s,baz=190,slow=6.4,SNR=10.0						
VNDA				pP	**pP**	**23 12 33.9**	**0.0**
	comp=Z,1.7nm,0.7s,baz=182,slow=6.8,SNR=5.6						
	comp=Z,1.2nm,0.6s						
AC04	**Llanos de Chal**	**43.41**	**296**	P	**P**	**23 12 09.8**	**+0.8**
H04S2	**CROZET ISLANDS**	**45.98**	**111**	T	T	00 02 56.8	
	baz=225,slow=75,SNR=83						
H04S3	**CROZET ISLANDS**	**45.99**	**111**	T	T	00 02 55.4	
	baz=225,slow=75,SNR=73						
H04S1	**CROZET ISLANDS**	**46.00**	**111**	T	T	00 02 58.0	
	baz=225,slow=75,SNR=79						
BOSA	**Boshof**	**46.49**	**72**	P	**P**	**23 12 33.0**	**-0.4**
BOSA				IAmb	IAmb	23 12 33.4	
	comp=Z,3.3nm,0.6s						
BOSA	**Boshof**	**46.49**	**72**	P	**P**	**23 12 33.1**	**-0.4**
	comp=Z,3.6nm,0.6s,baz=214,slow=8.0,SNR=15						
	comp=Z,3.6nm,0.6s						
PB05	**IPOC Station P**	**47.63**	**300**	P	**P**	**23 12 42.8**	**+0.5**
PB05				IAmb	IAmb	23 12 50.9	
	comp=Z,13nm,1.1s						
PB07	**IPOC Station P**	**48.47**	**301**	P	**P**	**23 12 49.9**	**+1.0**
PB07				IAmb	IAmb	23 13 07.3	
	comp=Z,2.8nm,0.9s						
PB01	**IPOC Station P**	**48.90**	**302**	P	**P**	**23 12 52.7**	**+0.6**
PB01				IAmb	IAmb	23 13 01.1	
	comp=Z,4.6nm,1.0s						
LBTB	**Lobatse**	**49.67**	**70**	P	**P**	**23 12 57.4**	**-0.4**
GO01	**Chusmiza**	**49.99**	**303**	P	**P**	**23 13 01.7**	**+1.0**
GO01				IAmb	IAmb	23 13 18.7	
	comp=Z,3.3nm,1.1s						
H10S2	**ASCENSION HYDR**	**50.98**	**15**	T	T	00 08 21.8	
	baz=188,slow=74,SNR=7.1						
H10S3	**ASCENSION HYDR**	**50.98**	**15**	T	T	00 08 22.0	
	baz=32,slow=74,SNR=14						
PB16	**IPOC Station P**	**51.31**	**304**	P	**P**	**23 13 11.4**	**+0.7**
PB16				IAmb	IAmb	23 13 29.7	
	comp=Z,3.2nm,1.0s						
H10N1	**ASCENSION HYDR**	**52.09**	**15**	T	T	00 09 47.1	
	baz=186						
H10N3	**ASCENSION HYDR**	**52.10**	**15**	T	T	00 09 45.8	
	baz=186,slow=74,SNR=10.0						
H10N2	**ASCENSION HYDR**	**52.11**	**15**	T	T	00 09 48.2	
	baz=186,slow=74,SNR=5.7						
LPAZ	**La Paz**	**52.56**	**307**	P	**P**	**23 13 20.7**	**+0.7**
LPAZ	**La Paz**	**52.56**	**307**	P	**P**	**23 13 20.5**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=60,slow=5.5,SNR=5.0						
LPAZ				pP	**pP**	**23 13 45.0**	**-1.6**
	comp=Z,0.7nm,0.4s,baz=87,slow=4.7,SNR=2.9						
	comp=Z,0.9nm,0.3s						
SAML	**Samuel**	**57.34**	**315**	P	**P**	**23 13 53.2**	**-0.5**
DBIC	**Dimbokro**	**67.94**	**23**	P	**P**	**23 15 04.4**	**+0.3**
	comp=Z,2.6nm,0.7s,baz=168,slow=8.7,SNR=2.5						
	comp=Z,2.6nm,0.7s						
TOA0	**Torodi Ar. Sit**	**75.68**	**28**	P	**P**	**23 15 51.1**	**+0.9**
TOA0				IAmb	IAmb	23 15 51.8	
	comp=Z,6.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**75.68**	**28**	P	**P**	**23 15 51.0**	**+0.8**
TORD				IAmb	IAmb	23 15 51.8	
	comp=Z,4.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**75.68**	**28**	P	**P**	**23 15 51.0**	**+0.8**
	comp=Z,4.9nm,0.5s,baz=200,slow=6.0,SNR=87						
TORD				pP	**pP**	**23 16 17.4**	**-1.6**
	comp=Z,1.3nm,0.4s,baz=202,slow=5.9,SNR=3.5						
	comp=Z,4.9nm,0.5s						
ASAR	**Alice Springs**	**95.83**	**162**	P	**P**	**23 17 32.1**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=192,slow=4.1,SNR=4.3						
	comp=Z,0.5nm,0.7s						
FINES	**FINESS Array B**	**127.03**	**29**	PKP	**PKPdf**	**23 23 06.0**	**-0.7**
	comp=Z,3.7nm,1.2s,baz=236,slow=6.2,SNR=3.6						
ARCES	**ARCESS Array B**	**133.77**	**23**	PKP	**PKPdf**	**23 23 19.0**	**-0.3**
	comp=Z,5.0nm,1.0s,baz=212,slow=3.2,SNR=2.1						
YKA	**Yellowknife Ar**	**138.75**	**315**	PKP	**PKPdf**	**23 23 28.9**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=136,slow=2.6,SNR=3.1						
ZALV	**Zalesovo Beam**	**143.35**	**67**	PKhKP	PKPpre	23 23 33.8	
	comp=Z,0.8nm,0.3s,baz=219,slow=4.4,SNR=5.0						
SONM	**Songino Array**	**150.41**	**92**	PKPbc	**PKPbc**	**23 23 54.7**	**0.0**
	comp=Z,4.3nm,1.0s,baz=224,slow=3.7,SNR=14						
ILAR	**Eielson Array**	**152.44**	**307**	PKPbc	**PKPbc**	**23 23 58.3**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=138,slow=0.4,SNR=7.8						

*MEX **26** 23:21:18.5±0.7,14°29N×93°40W,h10km,MD4.4*
*SNET **26** 23:21:21.3±1.0,14°23N×93°19W,h56km±52km,ML4.7*
*NEIC **26** 23:21:22.5±1.8,14°48N±0°06×93°26W±0°03,h35km±1km, mb4.5/214,Md4.4/79(MEX),Error ellipse: s-maj=10.3km s-min=3.9km az=195.0*
*IDC **26** 23:21:25.5±3.0,14°53N×92°90W,h75km±25km,mb3.9/16, mbtmp4.2/18,MS3.6/32,Error ellipse: s-maj=29.9km s-min=14.2km az=51.0*
*GCG **26** 23:21:35.1±1.2,14°61N×92°21W,h50km±80km,MD4.3*

ISC 26 23:21:21.1±1.0,14°37N±0°05×93°32W±0°03,h42km±9km, n594,σ1°40/607,mb4.5/88,MS3.6/29,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.15**	**62**		**Pn**	**23 21 38.9**	**-1.9**
THIG					Sn	23 21 55.1	-0.3
THIG		**1.15**	**62**	*e*P	**Pn**	23 21 38.9	-1.9
THIG				*e*S	Sn	23 21 55.1	-0.3
PATR	**El Naranjo**	**1.29**	**54**	*e*P	**Pn**	23 21 40.4	-2.5
PATR				*i* S	Sn	23 21 57.7	-1.3
PCIG		**1.33**	**4**		**Pn**	23 21 40.5	-2.8
PCIG					Sn	23 21 58.4	-1.4
PCIG		**1.33**	**4**	*e*P	**Pn**	23 21 40.5	-2.8
PCIG				*i* S	Sn	23 21 58.4	-1.4
CHUJ	**Union Juarez**	**1.38**	**58**	*e*P	**Pn**	23 21 41.9	-2.2
CHUJ				*i* S	Sn	23 21 59.6	-1.7
PAVE	**Pavencul**	**1.38**	**53**	*e*P	**Pn**	23 21 42.0	-2.2
PAVE				*i* S	Sn	23 21 59.6	-1.7
RTAL	**Retalhuleu**	**1.58**	**84**		**Pn**	23 21 45.4	-1.3
RTAL	**Retalhuleu**	**1.58**	**84**	*e*P	**Pn**	23 21 45.2	-1.5
RTAL				*i* S	Sn	23 22 01.6	-4.4
RTAL	**Retalhuleu**	**1.58**	**84**	*e*P	**Pn**	23 21 45.3	-1.3
RTAL				*e*S	Sn	23 22 04.9	-1.0
SMSP	**San Marcos**	**1.61**	**68**	*e*P	**Pn**	23 21 45.5	-1.8
SMSP				*e*S	Sn	23 22 05.8	-1.2
SULM	**Suchitepequez,**	**1.70**	**92**	*e*P	**Pn**	23 21 48.8	+0.5
STG3	**Santiaguito 3,**	**1.73**	**78**	*e*P	**Pn**	23 21 47.8	-1.1
CARR	**Arriaga**	**1.96**	**343**	*e*P	**Pn**	23 21 50.2	-1.7
CARR				*e*S	Sn	23 22 14.4	-0.8
HUEH	**Huehuetenango**	**2.00**	**61**		**Pn**	23 21 51.9	-0.6
HUEH	**Huehuetenango**	**2.00**	**61**	*i* P	**Pn**	23 21 52.5	-0.1
HUEH				*e*S	Sn	23 22 18.8	+2.3
HUEH	**Huehuetenango**	**2.00**	**61**	*e*P	**Pn**	23 21 52.5	-0.1
HUEH				*e*S	Sn	23 22 18.1	+1.7
CCIG	**Comitan**	**2.22**	**31**		**Pn**	23 21 56.0	+0.3
CCIG	**Comitan**	**2.22**	**31**	*e*P	**Pn**	23 21 56.1	+0.5
CCIG				*i* S	Sn	23 22 19.8	-2.2
FUG	**Fuego 3**	**2.40**	**88**	*e*P	**Pn**	23 21 57.5	-0.6
TGIG		**2.41**	**4**		**Pn**	23 21 58.0	-0.1
TGIG					Sn	23 22 26.8	+0.4
TGIG		**2.41**	**4**	*i* P	**Pn**	23 21 58.0	-0.1
TGIG				*e*S	Sn	23 22 26.8	+0.4
NILT	**Santiago Nilte**	**2.52**	**330**	*e*P	**Pn**	23 21 57.5	-2.1
NILT				*e*S	Sn	23 22 28.3	-0.8
PCG	**Pacaya**	**2.63**	**89**	*e*P	**Pn**	23 22 01.6	+0.3
APG	**El Apazote**	**2.83**	**77**	P	**Pn**	23 22 04.0	-0.1
	13nm,0.4s,baz=67,slow=20,SNR=57						
NBG	**Las Nubes**	**2.89**	**85**	*e*P	**Pn**	**23 22 07.3**	**+2.4**
HUIG	**Huatulco**	**3.04**	**298**		**Pn**	23 22 04.4	-2.3
HUIG					Sn	23 22 35.1	-6.7
HUIG	**Huatulco**	**3.04**	**298**	*e*P	**Pn**	23 22 04.4	-2.3
HUIG				*i* S	Sn	23 22 35.1	-6.7
UXUV	**UXUV**	**3.04**	**345**	*e*P	**Pn**	**23 22 06.8**	**+0.1**
UXUV				*e*S	Sn	23 22 42.4	+0.4
CMIG	**Matias Romero**	**3.10**	**331**		**Pn**	23 22 05.7	-1.9
CMIG					Sn	23 22 40.5	-3.0
CMIG	**Matias Romero**	**3.10**	**331**	P	**Pn**	23 22 06.7	-0.9
	156nm,0.6s,baz=153,slow=9.5,SNR=192						
CMIG				S	Sn	23 22 43.1	-0.4
	500nm,0.4s,baz=115,slow=22,SNR=11						
CMIG				LR	LR	23 22 59.9	
	comp=Z,208nm,19.2s,baz=87,slow=30						
CMIG	**Matias Romero**	**3.10**	**331**	*e*P	**Pn**	**23 22 05.7**	**-1.9**
CMIG				*e*S	Sn	23 22 40.5	-3.0
NUBE	**Las Nubes**	**3.46**	**97**	*e*P	**Pn**	23 22 11.6	-1.1
NUBE				*e*S	Sn	23 22 49.2	-3.3
MRL	**Marmol**	**3.59**	**78**	*e*P	**Pn**	23 22 14.8	+0.3
CEVE	**Cerro Verde**	**3.62**	**98**	*e*P	**Pn**	23 22 14.1	-0.9
CEVE				IAML		23 23 21.6	
	comp=Z,2μm,0.4s						
SNJE	**San Jose**	**3.63**	**97**	*e*P	**Pn**	23 22 14.0	-1.1
TUIG	**Tuzandepetl**	**3.80**	**344**	*e*P	**Pn**	23 22 15.0	-2.2
TUIG				*e*S	Sn	23 23 02.1	+1.4
MTO3	**Montecristo**	**3.83**	**89**		**Pn**	23 22 16.8	-1.1
MTO3	**Montecristo**	**3.83**	**89**	*e*P	**Pn**	23 22 17.6	-0.3
ESQI	**Esquipulas**	**3.86**	**87**		**Pn**	23 22 17.0	-1.0
PMON	**Piamonte**	**3.94**	**99**	*e*P	**Pn**	23 22 18.6	-0.6
SNET	**Serv Nac Est T**	**4.02**	**99**	Pn	**Pn**	23 22 19.9	-0.4
PEIG	**Puerto Escondi**	**4.04**	**294**		**Pn**	23 22 18.8	-1.7
PEIG					Sn	23 22 58.6	-8.0
PEIG	**Puerto Escondi**	**4.04**	**294**	*e*P	**Pn**	23 22 18.8	-1.7
PEIG				*e*S	Sn	23 22 58.6	-8.0
NEUV	**Arroyo Zacate**	**4.10**	**325**	*e*P	**Pn**	23 22 19.2	-2.1
NEUV				*i* S	Sn	23 23 02.4	-5.5
PETF	**Flores**	**4.18**	**52**		**Pn**	23 22 22.1	-0.4
PETF	**Flores**	**4.18**	**52**	*e*P	**Pn**	23 22 22.6	+0.2
PETF				*e*S	Sn	23 23 15.7	+5.6
PETF	**Flores**	**4.18**	**52**	*e*P	**Pn**	23 22 22.8	+0.4
OXIG	**Oaxaca**	**4.25**	**310**		**Pn**	23 22 24.1	+0.6
OXIG					Sn	23 23 10.2	-1.9
VHO	**Vista Hermosa**	**4.25**	**310**	*e*P	**Pn**	23 22 24.1	+0.6
VHO				*e*S	Sn	23 23 10.2	-1.9
YOIG	**Yosondua**	**4.77**	**302**		**Pn**	23 22 30.9	+0.2
YOIG					Sn	23 23 22.0	-2.9
YOIG	**Yosondua**	**4.77**	**302**	*e*P	**Pn**	23 22 30.9	+0.2
YOIG				*e*S	Sn	23 23 22.0	-2.9
SCIG	**Sabancuy**	**5.01**	**24**	*e*P	**Pn**	23 22 33.3	-0.5
SCIG				*i* S	Sn	23 23 26.4	-4.1
PNIG	**Pinotepa**	**5.06**	**294**		**Pn**	23 22 33.5	-1.0
PNIG					Sn	23 23 24.2	-7.6
PNIG	**Pinotepa**	**5.06**	**294**	*e*P	**Pn**	23 22 33.5	-1.0
PNIG				*e*S	Sn	23 23 24.2	-7.6
TXIG	**Tlaxiaco**	**5.16**	**304**		**Pn**	23 22 33.9	-2.2
TXIG					Sn	23 23 28.0	-6.5
TXIG	**Tlaxiaco**	**5.16**	**304**	*e*P	**Pn**	23 22 33.9	-2.2
TXIG				*e*S	Sn	23 23 28.0	-6.5
TOIG	**Toxpalan**	**5.17**	**316**		**Pn**	23 22 35.6	-0.5
TOIG					Sn	23 23 37.4	+2.8
TOIG	**Toxpalan**	**5.17**	**316**	*e*P	**Pn**	23 22 35.6	-0.5
TOIG				*e*S	Sn	23 23 37.4	+2.8
CNCH	**Conchagua**	**5.44**	**101**	*e*P	**Pn**	23 22 39.1	-0.7
HLIG	**Huajuapan de L**	**5.52**	**309**		**Pn**	23 22 39.4	-1.6
HLIG					Sn	23 23 44.0	+0.6
HLIG	**Huajuapan de L**	**5.52**	**309**	*e*P	**Pn**	23 22 39.4	-1.6
HLIG				*e*S	Sn	23 23 44.0	+0.6
FTIG	**Fresnillo de T**	**5.81**	**308**		**Pn**	23 22 41.6	-3.4
FTIG					Sn	23 23 48.3	-2.2
FTIG	**Fresnillo de T**	**5.81**	**308**	*e*P	**Pn**	23 22 41.6	-3.4
FTIG				*e*S	Sn	23 23 48.3	-2.2
MGIG	**Malinaltepec**	**5.86**	**300**		**Pn**	23 22 46.6	+1.0
MGIG					Sn	23 23 48.2	-3.5
MGIG	**Malinaltepec**	**5.86**	**300**	*e*P	**Pn**	23 22 46.6	+1.0
MGIG				*e*S	Sn	23 23 48.2	-3.5
TGUH	**Tegucigalpa,Un**	**5.87**	**92**	Pn	**Pn**	23 22 45.1	-0.7
TLIG	**Tlapa**	**5.97**	**303**	Pn	**Pn**	23 22 48.6	+1.6
JAUV	**Jalcomulco**	**5.99**	**327**	*e*P	**Pn**	23 22 44.5	-2.8
JAUV				*e*S	Sn	23 23 53.5	-1.2
CRIG	**Cruz Grande**	**6.08**	**294**		**Pn**	23 22 48.4	-0.1
CRIG	**Cruz Grande**	**6.08**	**294**	*e*P	**Pn**	23 22 48.4	-0.1
CRIN	**San Cristobal**	**6.32**	**104**		**Pn**	23 22 53.3	+1.5
DAIG	**Los Arroyos**	**6.65**	**294**		**Pn**	23 22 55.9	-0.5
DAIG	**Los Arroyos**	**6.65**	**294**	*e*P	**Pn**	23 22 55.9	-0.5
CNGN	**Cerro Negro**	**6.70**	**105**		**Pn**	23 22 57.1	0.0
PPMI	**Popocatepetl**	**6.91**	**313**	*e*P	**Pn**	23 23 04.9	+4.5
PPMI				*i* S	Sn	23 24 14.4	-3.6
PPIG	**Popocatepetl**	**6.91**	**313**		**Pn**	23 23 04.9	+4.5
PPIG					Sn	23 24 14.4	-3.6
MEIG	**Mezcala**	**7.01**	**301**		**Pn**	23 23 02.9	+1.5
MEIG	**Mezcala**	**7.01**	**301**	*e*P	**Pn**	23 23 02.9	+1.5
PLIG	**Platanillo**	**7.16**	**305**		**Pn**	23 23 04.3	+0.8
PLIG					Sn	23 24 28.0	+4.5
PLIG	**Platanillo**	**7.16**	**305**	*e*P	**Pn**	23 23 04.3	+0.8
PLIG				*i* S	Sn	23 24 28.0	+4.5
CAIG	**El Cayaco**	**7.20**	**293**		**Pn**	23 23 04.5	+0.5
CAIG	**El Cayaco**	**7.20**	**293**	*e*P	**Pn**	23 23 04.5	+0.5
AOVM	**Tlapan**	**7.54**	**311**	*e*P	**Pn**	23 23 07.6	-1.4
AOVM				*e*S	Sn	23 24 31.9	-1.5
TEIG	**Tepich**	**7.56**	**39**	Pn	**Pn**	23 23 07.6	-1.2
BOAB	**BOACO BROADBAN**	**7.69**	**103**	Pn	**Pn**	23 23 11.8	+1.3
ARIG	**Puente Sto Nin**	**7.79**	**301**		**Pn**	23 23 13.5	+1.5
ARIG					Sn	23 24 39.2	+0.2
ARIG	**Puente Sto Nin**	**7.79**	**301**	*e*P	**Pn**	23 23 13.5	+1.5
ARIG				*e*S	Sn	23 24 39.2	+0.2
ACON	**Acoyapa**	**8.28**	**106**		**Pn**	23 23 21.3	+2.5
ZIIG	**Zihuatanejo**	**8.47**	**293**		**Pn**	23 23 22.4	+1.1
ZIIG	**Zihuatanejo**	**8.47**	**293**	*e*P	**Pn**	23 23 22.4	+1.1
ORTG	**Ortega, Santa**	**8.65**	**117**		**Pn**	23 23 24.1	+0.2
ESPN	**Las Esperanzas**	**9.04**	**103**	Pn	**Pn**	23 23 28.5	-0.7
JTS	**Las Juntas de**	**9.12**	**115**	Pn	**Pn**	**23 23 30.1**	**-0.2**
JTS	**Las Juntas de**	**9.12**	**115**	P	**Pn**	**23 23 34.6**	**+4.3**
	comp=Z,6.5nm,0.7s,baz=319,slow=19,SNR=1.8						
JTS				S	Sn	23 25 26.0	+14
	comp=Z,9.9nm,0.8s,baz=143,slow=20,SNR=1.6						
MOIG	**Morelia**	**9.20**	**306**	Pn	**Pn**	**23 23 34.2**	**+2.7**
ARE1	**Arenal 1**	**9.25**	**114**	Pn	**Pn**	**23 23 32.3**	**+0.2**
JRQG	**Juriquilla Cam**	**9.27**	**314**	Pn	**Pn**	**23 23 30.8**	**-1.8**
SOCE	**Pocosol**	**9.37**	**114**	Pn	**Pn**	**23 23 33.5**	**-0.3**
COVE	**Coope Vega, Sa**	**9.43**	**112**	Pn	**Pn**	**23 23 35.3**	**+0.8**
PEZE	**Perez Zeledon,**	**10.65**	**117**		**Pn**	**23 23 52.9**	**+1.6**
SRBA	**San Rafael, Bu**	**11.00**	**117**		**Pn**	**23 23 57.1**	**+0.9**
CDITO	**Canoas**	**11.74**	**118**	Pn	**Pn**	**23 24 08.0**	**+1.8**
BRU2	**Volcan**	**11.79**	**117**	Pn	**Pn**	**23 24 07.6**	**+0.7**
SOR	**Soroa**	**12.87**	**48**		**Pn**	**23 24 21.1**	**-0.4**
833A	**Chaparral WMA,**	**14.99**	**339**	Pn	**Pn**	**23 24 51.0**	**+0.7**
833A	**Chaparral WMA,**	**14.99**	**339**	P	**Pn**	**23 24 50.9**	**+0.7**
	baz=156,SNR=10						
735A	**Kenedy**	**15.01**	**345**	Pn	**Pn**	**23 24 52.7**	**+2.2**
EF01	**Eagle Ford 01**	**15.42**	**343**	Pn	**Pn**	**23 24 55.9**	**0.0**
HKT	**Hockley**	**15.68**	**352**		**Pn**	**23 24 59.4**	**+0.3**
HNDO	**Hondo**	**16.07**	**341**		**Pn**	**23 25 04.0**	**-0.1**
HNDO				IAmb	IAmb	23 25 22.5	
	comp=Z,29nm,0.8s						
DRIO	**Del Rio**	**16.44**	**337**		**Pn**	**23 25 08.8**	**-0.1**
435B	**Jarrell**	**16.80**	**347**		**Pn**	**23 25 13.0**	**-0.5**
435B				IAmb	IAmb	23 25 33.8	
	comp=Z,25nm,0.8s						
435B	**Jarrell**	**16.80**	**347**	P	**P**	**23 25 14.7**	**-0.4**
	baz=165						
HPIG		**17.01**	**319**		**Pn**	**23 25 17.2**	**+0.9**
JCT	**Junction City**	**17.11**	**341**	P	**Pn**	**23 25 17.7**	**+0.4**
JCT	**Junction City**	**17.11**	**341**	P	**P**	**23 25 20.5**	**+1.9**
	baz=158,SNR=6.4						
NATX	**Nacogdoches**	**17.36**	**356**	P	**P**	**23 25 21.0**	**-0.3**
	baz=175						
H06E1	**SOCORRO T-PHAS**	**17.44**	**287**	T	T	23 43 09.7	
	SNR=11						
SAND	**Sanderson**	**17.51**	**334**	P	**P**	**23 25 23.7**	**+0.6**
SAND				IAmb	IAmb	23 25 30.3	
	comp=Z,34nm,1.1s						
DWPF	**Disney Wildern**	**17.58**	**37**	Pn	**Pn**	**23 25 21.1**	**-1.9**
BRDY	**Brady**	**17.63**	**344**		**P**	**23 25 24.7**	**+0.4**
TXAR	**Lajitas Array**	**17.71**	**329**	P	**P**	**23 25 26.8**	**+1.5**
TXAR	**Lajitas Array**	**17.71**	**329**	P	**P**	**23 25 26.9**	**+1.7**
	comp=Z,3.7nm,0.6s,baz=151,slow=14,SNR=28						
TXAR				LR	LR	23 32 57.2	
	comp=Z,66nm,19.4s,baz=132,slow=39						
TX31	**Lajitas Ar. Si**	**17.71**	**329**	P	**P**	**23 25 26.8**	**+1.5**
WHTX	**Lake Whitney,**	**17.95**	**349**	P	**P**	**23 25 28.4**	**+0.6**
	baz=166						
OZNA	**Ozona**	**17.97**	**338**		**P**	**23 25 28.9**	**+0.7**
OZNA				IAmb	IAmb	23 25 35.7	
	comp=Z,27nm,0.9s						
ALPN	**Alpine**	**18.55**	**331**		**Pn**	**23 25 36.3**	**+1.1**
352A	**Blakely**	**18.69**	**23**	P	**P**	**23 25 34.4**	**-1.6**
LPIG	**La Pa

OK029 Liberty Lake 21.66 351 P **P** **23 26 08.7 +0.5**
OK029 IAmb IAmb 23 26 11.7
comp=Z,24nm,0.9s
LCAR Lake Charles 21.70 5 P **P** **23 26 09.0 +0.4**
OK052 Battle Ridge R 21.76 352 **P** **23 26 09.9 +0.6**
OK052 IAmb IAmb 23 26 11.4
comp=Z,21nm,0.7s
AMTX Amarillo 21.78 341 P **P** **23 26 09.3 -0.2**
AMTX Amarillo 21.78 341 P **P** **23 26 11.1 +1.5**
baz=157
OK033 Mehan 21.83 352 **P** **23 26 10.7 +0.7**
OK033 IAmb IAmb 23 26 20.1
comp=Z,20nm,0.9s
HHAR Hobbs 21.83 359 P **P** **23 26 09.4 -0.6**
HSIG 21.89 315 P **P** **23 26 11.6 +1.0**
QUOK Quay 21.93 353 **P** **23 26 10.7 -0.3**
U38A Gravette 22.00 358 P **P** **23 26 11.6 -0.3**
U38A IAmb IAmb 23 26 22.0
comp=Z,30nm,1.4s
OK048 Pawnee Station 22.20 352 **P** **23 26 14.3 +0.4**
OK048 IAmb IAmb 23 26 15.7
comp=Z,27nm,0.9s
WVT Waverly 22.23 12 P **P** **23 26 12.9 -1.3**
ELIS Ellis County 22.29 347 P **P** **23 26 16.1 +1.1**
ELIS IAmb IAmb 23 26 17.6
comp=Z,30nm,1.2s
319A Douglas 22.38 322 P **P** **23 26 17.7 +1.7**
319A IAmb IAmb 23 26 33.6
comp=Z,20nm,1.1s
121A Cookes Peak, D 22.39 326 P **P** **23 26 17.9 +1.7**
121A Cookes Peak, D 22.39 326 P **P** **23 26 18.1 +1.9**
baz=140,SNR=19
PBMO Poplar Bluff 22.47 6 P **P** **23 26 15.8 -1.0**
PBMO IAmb IAmb 23 26 18.1
comp=Z,15nm,0.8s
T35A Sooner Cattle 22.64 353 P **P** **23 26 15.7 -2.9**
T35A IAmb IAmb 23 26 47.6
comp=Z,14nm,0.9s
MGMO Mountain Grove 22.72 2 P **P** **23 26 18.1 -1.3**
MGMO IAmb IAmb 23 26 50.1
comp=Z,24nm,1.2s
KAN13 South Haven SW 22.86 351 P **P** **23 26 20.4 -0.5**
KAN13 IAmb IAmb 23 26 21.9
comp=Z,15nm,0.8s
SDV Santo Domingo 22.87 101 P **P** **23 26 20.7 -0.7**
SDV IAmb IAmb 23 26 22.9
comp=Z,13nm,0.8s
TKL Tuckaleechee C 22.87 20 LR LR 23 36 35.4
comp=Z,104nm,19.6s,baz=202,slow=40
KAN17 Caldwell West 22.93 351 P **P** **23 26 21.5 -0.2**
KAN17 IAmb IAmb 23 26 22.5
comp=Z,21nm,0.8s
KAN05 Bluff City Nor 23.01 351 P **P** **23 26 22.4 -0.2**
KAN01 Argonia South 23.04 351 P **P** **23 26 22.2 -0.6**
DUN6 Lazy B Ranch 23.12 324 P **P** **23 26 24.9 +1.0**
KAN08 Anthony NE Sta 23.14 351 P **P** **23 26 22.6 -1.2**
KAN06 Argonia West S 23.15 351 P **P** **23 26 23.5 -0.4**
KAN06 IAmb IAmb 23 26 24.3
comp=Z,16nm,0.8s
T47A Sharon Grove 23.20 13 P **P** **23 26 23.3 -1.1**
T47A IAmb IAmb 23 26 58.4
comp=Z,20nm,1.1s
S39A Bolivar 23.23 360 IAmb IAmb 23 26 24.9
comp=Z,9.5nm,0.7s
KMSC Kings Mountain 23.34 25 P **P** **23 26 24.7 -1.1**
KMSC IAmb IAmb 23 26 42.5
comp=Z,18nm,1.1s
S44A Carbondale 23.51 8 P **P** **23 26 27.5 +0.1**
S44A IAmb IAmb 23 26 56.1
comp=Z,21nm,1.0s
RTBA Rita Blanca 23.54 341 P **P** **23 26 28.0 +0.1**
CCM Cathedral Cave 23.67 4 P **P** **23 26 27.1 -1.8**
CCM IAmb IAmb 23 26 28.6
comp=Z,22nm,1.1s
CCM Cathedral Cave 23.67 4 P **P** **23 26 27.4 -1.5**
baz=185
ANMO Albuquerque 23.67 332 P **P** **23 26 29.7 +0.6**
ANMO Albuquerque 23.67 332 P **P** **23 26 30.6 +1.4**
baz=146
ANMO Albuquerque 23.67 332 LR LR 23 36 44.5
comp=Z,68nm,20.2s,baz=227,slow=39
R40A Maddies Station 23.85 2 IAmb IAmb 23 27 06.3
comp=Z,17nm,1.2s
TUC Tucson 23.94 321 P **P** **23 26 33.3 +1.7**
TUC IAmb IAmb 23 26 35.5
comp=Z,14nm,1.0s
TUC Tucson 23.94 321 P **P** **23 26 33.6 +2.0**
baz=134
R32A Long Quarter, 24.43 350 IAmb IAmb 23 26 37.6
comp=Z,14nm,0.8s
WCI Wyandotte Cave 24.57 13 P **P** **23 26 35.8 -1.4**
WCI IAmb IAmb 23 27 01.9
comp=Z,14nm,0.8s
WCI Wyandotte Cave 24.57 13 P **P** **23 26 36.3 -0.9**
baz=196
T25A Trinidad 24.74 338 P **P** **23 26 40.0 +0.9**
T25A IAmb IAmb 23 26 45.3
comp=Z,19nm,1.1s
T25A Trinidad 24.74 338 P **P** **23 26 40.6 +1.6**
baz=153,SNR=10
KSU1 Kansas State U 24.81 354 P **P** **23 26 38.0 -1.4**
KSU1 IAmb IAmb 23 26 39.8
comp=Z,18nm,1.1s
KSU1 Kansas State U 24.81 354 P **P** **23 26 38.9 -0.4**
baz=172
V58A Windy Hill, Pi 24.86 28 P **P** **23 26 39.8 0.0**
V58A IAmb IAmb 23 27 20.6
comp=Z,24nm,1.2s
214A Organ Pipe Nat 24.98 318 P **P** **23 26 43.2 +2.1**
baz=130
CBKS Cedar Bluff 25.00 348 P **P** **23 26 40.6 -0.6**
CBKS IAmb IAmb 23 26 43.5
comp=Z,16nm,0.9s
CBKS Cedar Bluff 25.00 348 P **P** **23 26 42.2 +1.0**
baz=165
X18A Snowflake 25.07 326 P **P** **23 26 43.2 +1.1**
X18A IAmb IAmb 23 26 54.9
comp=Z,10nm,1.0s
P40A Paris 25.09 2 IAmb IAmb 23 26 41.2
comp=Z,9.8nm,0.8s
P38A Dawn 25.16 360 P **P** **23 26 42.0 -0.6**
P38A IAmb IAmb 23 26 43.4
comp=Z,6.9nm,0.5s
BAUV El Baul 25.32 99 P **P** **23 26 42.2 -2.1**
BLA Blacksburg 25.49 24 P **P** **23 26 45.1 -0.5**
baz=210
SDCO Great Sand Dun 25.68 337 P **P** **23 26 48.5 +0.9**
SDCO IAmb IAmb 23 26 50.5
comp=Z,12nm,1.1s
SDCO Great Sand Dun 25.68 337 P **P** **23 26 47.9 +0.3**
baz=152
X16A Lo Mia Camp, P 25.82 324 P **P** **23 26 49.7 +0.9**
KSCO Kaye Shedlock' 25.89 343 P **P** **23 26 48.4 -0.9**
KSCO IAmb IAmb 23 26 53.6
comp=Z,24nm,1.2s
KSCO Kaye Shedlock' 25.89 343 P **P** **23 26 50.3 +1.0**
baz=159
ATAH Atahualpa 25.99 144 LR LR 23 34 33.4
comp=Z,65nm,21.0s,baz=320,slow=30
Y14A Wickenburg 26.41 321 P **P** **23 26 55.4 +1.4**
MVCO Mesa Verde 26.47 332 P **P** **23 26 55.0 +0.3**
MVCO Mesa Verde 26.47 332 P **P** **23 26 55.6 +0.9**
baz=145,SNR=7.2
WUAZ Wupatki 26.59 326 P **P** **23 26 56.4 +0.7**
WUAZ IAmb IAmb 23 26 58.9
comp=Z,8.6nm,0.8s
WUAZ Wupatki 26.59 326 P **P** **23 26 57.3 +1.6**
baz=138,SNR=6.4
Q24A Divide 26.63 339 P **P** **23 26 57.8 +1.5**
baz=153
PDMCI Parker Dam,Lak 27.36 320 P **P** **23 27 03.1 +0.7**
baz=131
SCIA State Center 27.44 0 P **P** **23 27 03.3 +0.2**
baz=180
SMCO Snowmass 27.49 337 P **P** **23 27 04.8 +0.8**
ISCO Idaho Springs 27.54 339 P **P** **23 27 05.5 +1.1**
baz=153
OGNE Ogallala 27.55 346 P **P** **23 27 04.4 +0.2**
OGNE IAmb IAmb 23 27 23.3
comp=Z,9.8nm,0.7s
OGNE Ogallala 27.55 346 P **P** **23 27 05.0 +0.8**
baz=161
SWSC Sam W. Stewart 27.57 316 P **P** **23 27 07.0 +2.6**
baz=126
CBN Corbin Frederi 27.63 28 P **P** **23 27 03.9 -0.9**
baz=215

W13A Hualapai Mount 27.73 322 P **P** **23 27 06.1 +0.1**
U15A North Rim 27.76 326 P **P** **23 27 07.3 +1.0**
BC3 Big Chuckawall 27.78 318 P **P** **23 27 08.9 +2.5**
baz=128
IRM Iron Mountain 27.89 319 P **P** **23 27 09.7 +2.4**
baz=129
HMU Henry Mountain 28.11 330 P **P** **23 27 10.6 +1.2**
PCRV Puerto La Cruz 28.32 95 LR LR 23 39 19.4
comp=Z,102nm,20.9s,slow=38
PFO Pinyon Flats O 28.41 316 LR LR 23 37 48.9
comp=Z,46nm,19.5s,baz=97,slow=34
KNB Kanab 28.48 326 P **P** **23 27 14.0 +1.4**
V12A Nelson 28.74 322 P **P** **23 27 16.2 +1.3**
V12A IAmb IAmb 23 27 18.2
comp=Z,11nm,1.2s
O20A White River Ci 28.81 336 P **P** **23 27 16.5 +0.9**
O20A White River Ci 28.81 336 P **P** **23 27 17.6 +2.1**
baz=148
MTPU Mount Pierson 28.91 328 P **P** **23 27 17.5 +0.8**
SRU San Rafael Swe 28.94 332 P **P** **23 27 17.9 +1.2**
SZCU Shurtz Canyon 29.05 326 P **P** **23 27 19.4 +1.6**
M53A WI Miller and 29.13 20 P **P** **23 27 18.3 +0.2**
CCUT Cedar City 29.16 326 P **P** **23 27 20.0 +1.2**
MVU Marysvale 29.28 329 P **P** **23 27 21.0 +1.2**
ECSD EROS Data Cent 29.41 355 IAmb IAmb 23 27 22.8
comp=Z,7.1nm,0.9s
GSC Goldstone, Bar 29.68 319 P **P** **23 27 22.8 -0.4**
baz=128
RWWY Rawlins 29.77 339 P **P** **23 27 24.1 -0.1**
RWWY IAmb IAmb 23 27 30.9
comp=Z,7.3nm,0.9s
PSUT Pine Spring 30.15 327 P **P** **23 27 28.1 +0.6**
BSUT Blindstream Ca 30.20 333 P **P** **23 27 28.7 +0.6**
K22A Casper 30.40 341 P **P** **23 27 29.8 +0.2**
baz=154
S11A Rachel 30.57 323 P **P** **23 27 32.3 +1.2**
S11A IAmb IAmb 23 27 35.2
comp=Z,7.8nm,0.7s
MPMC Manual Prospec 30.58 319 P **P** **23 27 31.3 0.0**
baz=128
SPR3 Spring Creek 3 30.74 327 P **P** **23 27 33.7 +0.9**
SPMN Marine on St. 30.76 1 IAmb IAmb 23 27 35.9
comp=Z,13nm,1.1s
SPMN Marine on St. 30.76 1 P **P** **23 27 32.3 -0.2**
baz=181
NNA Nana 30.86 147 LR LR 23 37 24.1
comp=Z,115nm,19.4s,baz=320,slow=31
TCUT Toone Canyon 30.96 333 P **P** **23 27 35.1 +0.5**
TCUT IAmb IAmb 23 27 37.9
comp=Z,9.7nm,0.8s
R11B Troy Canyon, C 30.96 325 P **P** **23 27 35.8 +1.1**
R11B Troy Canyon, C 30.96 325 P **P** **23 27 35.2 +0.6**
baz=134
RSSD Black Hills 31.04 345 P **P** **23 27 35.4 +0.1**
RSSD IAmb IAmb 23 27 36.8
comp=Z,5.0nm,0.8s
RSSD Black Hills 31.04 345 P **P** **23 27 36.1 +0.8**
baz=159
CWC Cottonwood Cre 31.19 319 P **P** **23 27 36.7 0.0**
baz=128
PKM Mcpherson Peak 31.42 315 P **P** **23 27 38.4 -0.3**
baz=124
BGU Big Grassy Mou 31.55 331 P **P** **23 27 40.2 +0.5**
PD31 Pinedale Array 31.57 337 P **P** **23 27 39.8 -0.2**
PDAR Pinedale Array 31.57 337 P **P** **23 27 39.7 -0.3**
PDAR Pinedale Array 31.57 337 P **P** **23 27 41.4 +1.3**
comp=Z,1.2nm,0.7s,baz=135,slow=8.1,SNR=8.5
PDAR PcP **PcP** **23 30 31.8 -0.1**
comp=Z,0.3nm,0.4s,baz=171,slow=6.4,SNR=2.6
PDAR LR LR 23 43 41.6
comp=Z,62nm,18.1s,baz=154,slow=42
comp=Z,1.2nm,0.7s
DSP Deep Springs 31.71 321 P **P** **23 27 42.5 +1.5**
HVU Hansel Valley 32.10 332 P **P** **23 27 46.1 +1.5**
HVU IAmb IAmb 23 27 47.6
comp=Z,6.3nm,0.8s
AHID Auburn Hatcher 32.18 335 P **P** **23 27 46.6 +1.3**
AHID IAmb IAmb 23 27 53.1
comp=Z,5.7nm,0.8s
ELK Elko 32.50 328 P **P** **23 27 49.1 +0.9**
ELK Elko 32.50 328 LR LR 23 42 40.6
comp=Z,138nm,19.9s,baz=154,slow=39
NV11 Mina Array Sit 32.51 322 P **P** **23 27 49.9 +1.7**
NV11 IAmb IAmb 23 27 52.0
comp=Z,7.7nm,0.9s
REDW Red Top Meadow 32.58 336 P **P** **23 27 50.1 +1.3**
NVAR Mina Array Bea 32.59 322 P **P** **23 27 50.7 +1.7**
NVAR Mina Array Bea 32.59 322 P **P** **23 27 51.8 +2.8**
comp=Z,6.2nm,0.8s,baz=139,slow=9.0,SNR=34
NVAR PcP **PcP** **23 30 36.2 +1.5**
comp=Z,1.4nm,0.8s,baz=127,slow=3.9,SNR=5.9
NVAR LR LR 23 42 50.3
comp=Z,233nm,18.5s,baz=192,slow=39
comp=Z,6.2nm,0.8s
SADO Sadowa 32.61 19 LR LR 23 42 29.5
comp=Z,100nm,19.7s,baz=238,slow=39
SNOW Snow King Moun 32.63 336 P **P** **23 27 49.8 +0.5**
LOHW Long Hollow 32.69 336 P **P** **23 27 50.8 +1.0**
LOHW IAmb IAmb 23 27 52.4
comp=Z,6.4nm,0.8s
TPAW Teton Pass 32.73 336 P **P** **23 27 50.9 +0.7**
RYN Ryan 32.85 322 P **P** **23 27 51.0 -0.2**
RYN IAmb IAmb 23 27 57.6
comp=Z,5.4nm,1.1s
MOOW Moose Ponds 32.86 336 P **P** **23 27 52.1 +0.8**
FXWY Fox Creek 32.88 336 P **P** **23 27 52.7 +1.2**
KVN Kaiserville 32.88 323 P **P** **23 27 53.0 +1.5**
IMW Indian Meadow 33.06 336 P **P** **23 27 53.5 +0.4**
IMW IAmb IAmb 23 27 56.4
comp=Z,4.6nm,0.8s
FLWY Flagg Ranch 33.13 337 P **P** **23 27 54.3 +0.7**
FLWY IAmb IAmb 23 28 04.1
comp=Z,5.2nm,0.8s
BMN Battle Mountai 33.32 326 P **P** **23 27 56.8 +1.5**
BMN IAmb IAmb 23 27 58.7
comp=Z,6.0nm,0.9s
WAKR Walker 33.32 321 P **P** **23 27 56.6 +1.2**
WAKR IAmb IAmb 23 27 59.6
comp=Z,11nm,1.5s
H17A Grant Village 33.35 337 P **P** **23 27 56.4 +0.9**
H17A Grant Village 33.35 337 P **P** **23 27 55.7 +0.1**
baz=148
RLMT Red Lodge 33.51 339 P **P** **23 27 57.4 +0.5**
RLMT IAmb IAmb 23 28 23.5
comp=Z,5.8nm,1.1s
RLMT Red Lodge 33.51 339 P **P** **23 27 57.7 +0.8**
baz=151
EYMN Ely 33.52 2 P **P** **23 27 57.3 +0.6**
baz=183
MDND Maddock 33.79 352 P **P** **23 27 58.8 -0.2**
baz=169
PNTR Pine Nut 33.79 322 P **P** **23 27 59.8 +0.3**
PNTR IAmb IAmb 23 28 03.1
comp=Z,6.0nm,0.8s
B35A Bob, Littlefor 33.90 360 IAmb IAmb 23 28 10.6
comp=Z,7.4nm,1.3s
AGMN Agassiz Nation 33.90 357 IAmb IAmb 23 28 01.3
comp=Z,5.3nm,0.8s
AGMN Agassiz Nation 33.90 357 P **P** **23 28 00.8 +0.9**
baz=175
LAO LASA Array 33.99 344 P **P** **23 28 00.6 -0.3**
LAO IAmb IAmb 23 28 02.3
comp=Z,6.0nm,0.8s
LAO LASA Array 33.99 344 P **P** **23 28 02.7 +1.8**
baz=157
HLID Hailey 34.25 332 P **P** **23 28 04.7 +1.4**
HLID IAmb IAmb 23 28 06.2
comp=Z,4.2nm,0.8s
HLID Hailey 34.25 332 P **P** **23 28 05.5 +2.2**
baz=142,SNR=7.6
BOAV Boa Vista 34.49 107 P **P** **23 28 04.5 -1.1**
BOAV IAmb IAmb 23 28 05.5
comp=Z,5.0nm,0.9s
BOZ Bozeman (W) 34.76 337 P **P** **23 28 08.6 +0.9**
BOZ IAmb IAmb 23 28 12.8
comp=Z,3.7nm,0.8s
BOZ Bozeman (W) 34.76 337 P **P** **23 28 09.6 +1.9**
baz=148
ULM Lac du Bonnet 35.85 357 P **P** **23 28 15.5 -1.2**
ULM IAmb IAmb 23 28 17.3
comp=Z,5.1nm,0.9s
ULM Lac du Bonnet 35.85 357 P **P** **23 28 14.9 -1.8**
comp=Z,4.3nm,0.9s,baz=186,slow=8.5,SNR=9.2
ULM LR LR 23 44 56.3
comp=Z,73nm,20.2s,baz=186,slow=40
comp=Z,4.3nm,0.9s

ETMB Extrema 36.05 130 P **P** **23 28 18.4 -0.5**
ETMB IAmb IAmb 23 28 19.3
comp=Z,10nm,1.5s
J08A Circle Bar Ran 36.05 328 P **P** **23 28 20.3 +1.5**
PLID Pearl Lake 36.15 332 P **P** **23 28 20.1 +0.3**
PLID IAmb IAmb 23 28 22.0
comp=Z,7.9nm,0.8s
BPMT Black Pine Rid 36.16 336 P **P** **23 28 20.5 +0.7**
LYMT Lyon Mountain 36.17 338 P **P** **23 28 20.6 +0.7**
EGMT Eagleton 36.22 341 P **P** **23 28 19.9 -0.2**
EGMT IAmb IAmb 23 28 22.3
comp=Z,10nm,1.1s
EGMT Eagleton 36.22 341 P **P** **23 28 21.5 +1.4**
baz=152
OVMT Ovando 36.51 337 P **P** **23 28 23.4 +0.7**
BMO Blue Mountains 36.57 331 P **P** **23 28 23.6 +0.4**
PKME Peaks-Kenny Pk 36.90 29 P **P** **23 28 26.3 +0.4**
baz=221
F10A Beach Ranch, E 37.39 332 P **P** **23 28 30.6 +0.5**
H04A Detroit Lake 38.90 327 P **P** **23 28 43.5 +0.7**
HOOD Mount Hood Mea 39.05 328 P **P** **23 28 45.5 +1.3**
NEW Newport 39.11 335 P **P** **23 28 45.9 +1.4**
NEW IAmb IAmb 23 29 15.2
comp=Z,5.0nm,0.7s
NEW Newport 39.11 335 P **P** **23 28 46.7 +2.1**
baz=142
NEW Newport 39.11 335 LR LR 23 47 27.4
comp=Z,88nm,18.3s,baz=134,slow=40
LPAZ La Paz 39.33 140 P **P** **23 28 46.4 -0.9**
comp=Z,1.2nm,0.9s,baz=298,slow=11,SNR=3.0
LPAZ LR LR 23 43 54.7
comp=Z,87nm,20.8s,baz=292,slow=34
comp=Z,1.2nm,0.9s
LON Longmire 40.12 329 P **P** **23 28 54.1 +1.2**
FFC Flin Flon 40.84 352 P **P** **23 28 58.3 -0.3**
MDP Montagnes des 41.07 99 LR LR 23 46 38.4
comp=Z,87nm,20.6s,baz=298,slow=37
EDM Edmonton 41.89 342 P **P** **23 29 07.6 +0.3**
LVC Limon Verde 43.84 147 LR LR 23 45 32.4
comp=Z,62nm,19.2s,baz=288,slow=33
RPN Rapa Nui 44.08 201 LR LR 23 44 19.0
comp=Z,81nm,19.9s,baz=92,slow=31
FCC Fort Churchill 44.32 359 P **P** **23 29 26.1 -0.7**
FCC IAmb IAmb 23 29 27.5
comp=Z,3.4nm,0.6s
SCHQ Schefferville 45.34 21 PcP **PcP** **23 31 14.1 0.0**
comp=Z,3.0nm,0.6s,baz=254,slow=1.7,SNR=11
SCHQ LR LR 23 49 43.5
comp=Z,160nm,19.6s,baz=248,slow=38
TOAD Toad River Com 50.34 339 P **P** **23 30 14.7 +1.0**
baz=138
YKA Yellowknife Ar 50.39 347 P **P** **23 30 13.6 -0.4**
YKA Yellowknife Ar 50.39 347 P **P** **23 30 14.6 +0.7**
comp=Z,9.0nm,0.8s,baz=152,slow=7.0,SNR=120
YKA LR LR 23 53 58.2
comp=Z,37nm,21.3s,baz=332,slow=39
comp=Z,9.0nm,0.8s
KOTAN Kotaneelee Air 50.92 341 P **P** **23 30 19.1 +1.0**
baz=140
CRAG Craig 51.20 332 P **P** **23 30 21.4 +1.2**
baz=127
DLBC Dease Lake 51.80 336 P **P** **23 30 27.1 +2.3**
baz=132
DLBC Dease Lake 51.80 336 P **P** **23 30 25.2 +0.4**
comp=Z,4.6nm,0.9s,baz=124,slow=5.3,SNR=5.0
comp=Z,4.6nm,0.9s
FRB Frobisher Bay 52.25 14 LR LR 23 54 04.1
comp=Z,36nm,20.5s,baz=191,slow=38
WTLY Watson Lake, Y 52.51 339 P **P** **23 30 32.1 +2.1**
baz=135
R33M Jennings River 52.81 337 P **P** **23 30 34.2 +1.9**
baz=132
Q32M Nakina River 53.03 336 P **P** **23 30 36.1 +2.0**
baz=130
SIT Sitka 53.13 333 P **P** **23 30 36.4 +1.9**
baz=126
WRGLY Wrigley 53.18 343 P **P** **23 30 35.5 +0.8**
WRGLY IAmb IAmb 23 30 46.8
comp=Z,8.0nm,1.0s
WRGLY Wrigley 53.18 343 P **P** **23 30 35.8 +1.0**
baz=142
TGTN Hyland Airport 53.34 340 P **P** **23 30 38.5 +2.4**
baz=136
BDFB Brasilia 53.80 122 P **P** **23 30 39.6 -0.5**
comp=Z,3.3nm,0.8s,baz=294,slow=7.3,SNR=4.8
comp=Z,3.3nm,0.8s
P32M Atlin 54.01 336 P **P** **23 30 42.6 +1.6**
baz=129
P33M Teslin, Yukon 54.06 337 P **P** **23 30 42.7 +1.4**
baz=130
PLBC Pleasant Camp 54.99 335 P **P** **23 30 49.7 +1.6**
baz=126
MMPY Sheldon Lake, 55.11 340 P **P** **23 30 49.7 +0.8**
MMPY IAmb IAmb 23 30 52.1
comp=Z,5.6nm,0.9s
MMPY Sheldon Lake, 55.11 340 P **P** **23 30 50.5 +1.5**
baz=133
WHY Whitehorse 55.13 337 P **P** **23 30 50.4 +1.2**
baz=128
FARO Faro, Yukon 55.57 339 P **P** **23 30 53.4 +1.2**
baz=131
P30M Million Dollar 55.63 335 P **P** **23 30 53.9 +1.1**
baz=126
P29M Windy Craggy 55.66 334 P **P** **23 30 54.9 +2.0**
baz=125
M31M Drury Creek, Y 55.92 338 P **P** **23 30 56.4 +1.6**
baz=130
N30M Aishikik Lake 56.47 337 P **P** **23 31 00.2 +1.5**
baz=126
YUK6 Outpost Mounta 56.67 336 P **P** **23 31 01.3 +0.9**
baz=125
YUK4 Talbot Arm 57.01 336 P **P** **23 31 03.8 +1.0**
baz=125
M30M Minto, Yukon 57.03 338 P **P** **23 31 03.8 +1.1**
baz=127
M29M Somme Creek 57.58 337 P **P** **23 31 07.9 +1.3**
M29M Somme Creek 57.58 337 P **P** **23 31 08.2 +1.6**
baz=125
L29M L29M 57.84 338 P **P** **23 31 09.4 +1.0**
baz=126
K29M Barlow Dome 58.07 339 P **P** **23 31 11.8 +1.7**
baz=127
J30M Hart River 58.11 340 P **P** **23 31 11.6 +1.2**
baz=129
C36M Paulatuk 58.27 348 P **P** **23 31 11.2 +0.1**
baz=144
H31M Peel River 58.27 341 P **P** **23 31 12.8 +1.5**
baz=131
CRQE Cirque 58.53 334 P **P** **23 31 14.9 +1.6**
baz=120
I30M Mount Dempster 58.53 340 P **P** **23 31 14.4 +1.1**
baz=129
PLCA Paso Flores 58.75 160 P **P** **23 31 15.1 +0.1**
comp=Z,1.3nm,0.9s,baz=339,slow=8.6,SNR=3.3
comp=Z,1.3nm,0.9s
MCARA McCarthy VSAT 58.81 335 P **P** **23 31 17.3 +2.2**
baz=120
DAWY Dawson 58.87 338 P **P** **23 31 16.5 +1.0**
baz=125
G31M Satah River 58.99 342 P **P** **23 31 16.2 0.0**
G31M Satah River 58.99 342 P **P** **23 31 17.3 +1.0**
baz=132,SNR=6.1
BCAR Beaver Creek A 59.20 337 P **P** **23 31 18.6 +0.8**
F31M Tsiigehtchic 59.20 343 P **P** **23 31 18.5 +0.9**
baz=133
L27K Beaver Creek, 59.21 337 P **P** **23 31 18.8 +0.9**
baz=122
BMRM Bremner River 59.28 334 P **P** **23 31 19.5 +1.1**
baz=118
M26K Nabesna, AK 59.32 336 P **P** **23 31 19.6 +0.9**
baz=121
Q23K Middleton Isla 59.35 332 P **P** **23 31 19.6 +0.8**
baz=116
EPYK Eagle Plains 59.37 341 P **P** **23 31 20.3 +1.3**
baz=129
N25K Chitina, Valde 59.58 334 P **P** **23 31 21.8 +1.3**
baz=119
INK Inuvik 59.73 344 P **P** **23 31 21.9 +0.6**
INK Inuvik 59.73 344 P **P** **23 31 22.1 +0.8**
baz=133,SNR=7.1
INK Inuvik 59.73 344 LR LR 00 00 48.7
comp=Z,53nm,18.4s,baz=198,slow=40
L26K Log Cabin Wild 59.78 336 P **P** **23 31 22.7 +0.9**
baz=121
H29M Whitestone 59.80 341 P **P** **23 31 22.9 +1.0**
baz=127
K27K Chicken 59.82 337 P **P** **23 31 23.8 +1.7**

	baz=122					
I28M	**Miner Creek**	59.86 339	P	P	23 31 23.8	+1.4
	baz=125					
F30M	**Barrier River**	59.90 343	P	P	23 31 23.9	+1.4
	baz=131					
EGAK	**Eagle**	59.90 338	P	P	23 31 23.3	+0.7
	baz=124					
KLU	**Klutina**	60.09 334	P	P	23 31 25.1	+1.1
	baz=117					
G29M	**Pine Creek**	60.12 341	P	P	23 31 24.7	+0.6
G29M	**Pine Creek**	60.12 341	P	P	23 31 25.0	+0.9
	baz=128					
HARP	**HAARP**	60.19 335	P	P	23 31 26.5	+1.8
	baz=118					
RES	**Resolute Bay**	60.32 360	P	P	23 31 24.8	-0.5
RES	**Resolute Bay**	60.32 360	LR	LR	00 00 45.9	
	comp=Z,46nm,18.6s,baz=16,slow=39					
SCRK	**Sand Creek**	60.51 337	P	P	23 31 28.8	+1.8
	baz=120					
I27K	**Kandik River**	60.52 339	P	P	23 31 28.7	+1.8
	baz=124					
PAX	**Paxson**	60.59 336	P	P	23 31 28.6	+1.2
	baz=118					
J26L	**Joseph Creek**	60.63 338	P	P	23 31 28.7	+1.0
	baz=121					
A36M	**Sachs Harbour**	60.65 349	P	P	23 31 27.0	-0.5
A36M	**Sachs Harbour**	60.65 349	P	P	23 31 27.6	+0.1
	baz=144,SNR=6.4					
RIDG	**Independent Ri**	60.73 336	P	P	23 31 28.9	+0.6
RIDG	**Independent Ri**	60.73 336	P	P	23 31 29.6	+1.3
	baz=119					
SCM	**Sheep Creek Mo**	60.84 334	P	P	23 31 29.5	+0.4
	baz=116					
H27K	**Steamboat Moun**	60.85 340	P	P	23 31 30.4	+1.3
	baz=124					
I26K	**Coal Creek Min**	60.90 338	P	P	23 31 29.8	+0.4
	baz=122					
M23K	**Glacier View**	60.99 334	P	P	23 31 30.6	+0.5
	baz=116					
E29M	**Blow River**	61.01 343	P	P	23 31 31.2	+1.2
	baz=129					
F28M	**Old Crow**	61.12 341	P	P	23 31 32.1	+1.2
	baz=126,SNR=14					
K24K	**Donnelly Dome**	61.12 336	P	P	23 31 32.3	+1.3
	baz=118					
KNK	**Knik Glacier**	61.15 333	P	P	23 31 30.9	-0.2
	baz=115					
G27K	**Doyon Strip**	61.22 340	P	P	23 31 32.5	+1.0
	baz=124					
O22K	**Cooper Landing**	61.33 332	P	P	23 31 33.0	+0.6
	baz=113					
WAT6	**Susitna Watana**	61.34 335	P	P	23 31 33.6	+1.0
	baz=116					
J25K	**Salcha River,**	61.36 337	P	P	23 31 33.6	+1.1
	baz=119					
PMR	**Palmer**	61.52 333	P	P	23 31 34.3	+0.8
	baz=114					
BRSE	**Bradley Lake S**	61.52 331	P	P	23 31 33.8	+0.1
	baz=112					
E28M	**Babbage River**	61.62 342	P	P	23 31 35.2	+1.0
	baz=127					
WAT1	**Susitna Watana**	61.79 335	P	P	23 31 36.8	+1.3
	baz=115					
D28M	**Stokes Point**	61.83 343	P	P	23 31 36.8	+1.2
	baz=128					
HDA	**Harding Lake**	61.86 337	P	P	23 31 36.6	+0.7
HDA	**Harding Lake**	61.86 337	P	P	23 31 36.6	+0.7
	baz=118					
PRP	**Porcupine Dome**	61.86 338	P	P	23 31 36.5	+0.4
PRP	**Porcupine Dome**	61.86 338	P	P	23 31 37.0	+1.0
	baz=120					
Q20K	**Shuyak Island**	61.92 329	P	P	23 31 37.4	+1.1
	baz=109					
E27K	**Coleen River**	61.98 342	P	P	23 31 37.7	+1.0
	baz=125					
G26K	**Porcupine Rive**	62.00 340	P	P	23 31 37.8	+1.1
	baz=122					
IL31		62.00 337	P	P	23 31 37.3	+0.5
ILAR	**Eielson Array**	62.00 337	P	P	23 31 37.5	+0.6
	comp=Z,3.1nm,0.9s,baz=153,slow=4.6,SNR=4.5					
ILAR			LR	LR	00 00 57.9	
	comp=Z,61nm,19.4s,baz=109,slow=38					
	comp=Z,3.1nm,0.9s					
M22K	**Willow**	62.01 333	P	P	23 31 37.4	+0.5
M22K	**Willow**	62.01 333	P	P	23 31 38.2	+1.3
	baz=113					
CAPN	**Captain Cook N**	62.09 332	P	P	23 31 39.6	+2.1
	baz=112					
RND	**Reindeer**	62.16 335	P	P	23 31 39.0	+0.9
SUA	**Susitna One**	62.17 333	P	P	23 31 39.0	+0.8
	baz=112					
MCK	**McKinley**	62.34 336	P	P	23 31 39.9	+0.8
	baz=115					
CUT	**Chulitna**	62.34 334	P	P	23 31 39.9	+0.8
	baz=113					
D27M	**Malcolm River**	62.41 343	P	P	23 31 40.7	+1.0
	baz=126					
F26K	**Sheenjek River**	62.51 341	P	P	23 31 41.1	+0.9
	baz=122					
O20K	**Slope Mountain**	62.53 331	P	P	23 31 41.6	+1.1
	baz=110					
G25K	**Bearman Lake**	62.69 339	P	P	23 31 42.5	+1.2
	baz=120					
SKT	**Skwentna**	62.72 333	P	P	23 31 42.8	+1.1
	baz=112					
N20K	**Mount Spurr**	62.73 332	P	P	23 31 42.6	+0.7
	baz=111					
TRF	**Thorofare Moun**	62.77 335	P	P	23 31 43.3	+1.2
	baz=114					
H24K	**Noodor Dome**	62.87 338	P	P	23 31 43.8	+1.1
	baz=117					
F25K	**Christian Rive**	62.95 340	P	P	23 31 44.1	+0.9
	baz=120					
I23K	**Minto, Yukon-K**	63.11 337	P	P	23 31 45.4	+1.2
	baz=116					
G24K	**Hadweenzic Riv**	63.13 339	P	P	23 31 45.0	+0.7
	baz=118					
E25K	**Arctic Village**	63.20 341	P	P	23 31 45.6	+0.9
	baz=121					
BPAW	**Bear Paw Mtn.**	63.31 335	P	P	23 31 46.3	+0.6
	baz=113					
PPLA	**Purkeypile**	63.34 334	P	P	23 31 46.5	+0.5
	baz=112					
O19K	**Port Alsworth**	63.37 331	P	P	23 31 46.8	+0.8
	baz=108					
M20K	**Styx River**	63.39 333	P	P	23 31 47.1	+0.9
	baz=110					
CAST	**Castle Rocks**	63.50 335	P	P	23 31 47.3	+0.4
	baz=112					
P18K	**Big Mountain,**	63.56 330	P	P	23 31 48.3	+1.0
	baz=107					
MLY	**Manley**	63.59 336	P	P	23 31 47.6	+0.1
MLY			IAmb	IAmb	23 31 49.2	
	comp=Z,6.1nm,0.9s					
MLY	**Manley**	63.59 336	P	P	23 31 48.4	+0.9
	baz=114,SNR=6.3					
N19K	**Bonanza Creek**	63.64 331	P	P	23 31 48.7	+0.8
	baz=108					
F24K	**Squaw Lake**	63.66 340	P	P	23 31 48.7	+0.8
	baz=118					
L20K	**Farewell, AK**	63.92 333	P	P	23 31 50.3	+0.6
	baz=110					
C26K	**Camden Bay**	63.94 342	P	P	23 31 51.0	+1.4
	baz=122					
M19K	**Big River Lodg**	63.95 333	P	P	23 31 50.5	+0.7
	baz=109					
G23K	**Bananza Creek**	64.04 338	P	P	23 31 51.0	+0.6
	baz=116					
D25K	**Kavik River**	64.06 342	P	P	23 31 51.8	+1.3
	baz=120					
I21K	**Tanana**	64.14 336	P	P	23 31 52.0	+1.0
	baz=113					
H22K	**Ishtalitna Cre**	64.19 337	P	P	23 31 52.0	+0.6
	baz=114					
K20K	**Telida**	64.31 334	P	P	23 31 52.8	+0.6
	baz=110					
COLD	**Coldfoot**	64.33 339	P	P	23 31 53.6	+1.4
	baz=116					
CHGN	**Chignik**	64.39 326	P	P	23 31 53.9	+1.1
	baz=103					
M18K	**Stony River**	64.47 332	P	P	23 31 54.4	+1.1
	baz=108					
E23K	**Chandalar**	64.50 340	P	P	23 31 55.0	+1.6
	baz=116					
O17K	**Koliganek Bris**	64.58 330	P	P	23 31 54.5	+0.6
	baz=106					
J20K	**Nowinta River**	64.63 335	P	P	23 31 55.1	+0.9
	baz=110					
H21K	**Melozitna Rive**	64.64 337	P	P	23 31 54.5	+0.2
	baz=112					
D24K	**Happy Valley**	64.74 341	P	P	23 31 55.7	+0.8
	baz=118					
TOLK	**Toolik Lake Re**	64.75 340	P	P	23 31 56.3	+1.3
TOLK			IAmb	IAmb	23 31 56.8	
	comp=Z,3.6nm,0.7s					
TOLK	**Toolik Lake Re**	64.75 340	P	P	23 31 56.0	+1.0
	baz=117					
C24K	**Franklin Bluff**	64.97 342	P	P	23 31 57.9	+1.5
	baz=118,SNR=6.1					
I20K	**Naaghedeneel**	64.98 336	P	P	23 31 57.5	+1.1
	baz=110					
TTA	**Tatalina**	65.00 333	P	P	23 31 57.0	+0.2
	baz=108					
O16K	**Kokwok River B**	65.02 329	P	P	23 31 57.5	+0.7
	baz=104					
L18K	**Granite Mounta**	65.08 332	P	P	23 31 58.1	+0.9
	baz=107					
F22K	**John River**	65.14 339	P	P	23 31 59.0	+1.4
	baz=114					
J19K	**Poorman**	65.17 335	P	P	23 31 58.2	+0.4
	baz=109					
M17K	**Holitna River**	65.19 332	P	P	23 31 58.6	+0.7
	baz=106					
G21K	**Allakaket**	65.23 337	P	P	23 31 59.3	+1.2
	baz=112					
D23K	**Nanushuk River**	65.25 340	P	P	23 31 60.0	+1.8
	baz=116					
E22K	**Anaktuvuk Pass**	65.27 339	P	P	23 31 59.9	+1.5
	baz=114					
H20K	**Anotleneega Mo**	65.38 336	P	P	23 31 59.6	+0.5
	baz=110					
J18K	**Innoko River**	65.47 334	P	P	23 32 00.8	+1.1
	baz=108					
F21K	**Alatna River**	65.49 338	P	P	23 32 01.6	+1.8
	baz=112					
C23K	**Itkillik River**	65.62 341	P	P	23 32 01.8	+1.2
	baz=116					
EUNU	**Eureka**	65.79 1	P	P	23 32 01.9	+0.2
D22K	**Ayikyak River**	65.87 340	P	P	23 32 03.8	+1.5
	baz=114					
H19K	**Roundabout Mou**	66.01 336	P	P	23 32 03.5	+0.3
	baz=109					
E21K	**Killik River**	66.13 339	P	P	23 32 04.2	+0.2
	baz=112					
L16K	**Owhat River**	66.21 332	P	P	23 32 05.6	+1.1
	baz=104					
F20K	**Avaraart Lake**	66.25 338	P	P	23 32 05.7	+1.1
F20K	**Avaraart Lake**	66.25 338	P	P	23 32 05.9	+1.3
	baz=110,SNR=11					
G19K	**Purcell Mounta**	66.46 337	P	P	23 32 07.1	+1.1
	baz=108					
H18K	**Honhosa River**	66.66 335	P	P	23 32 08.3	+1.0
	baz=107					
C21K	**Knifeblade Rid**	66.68 340	P	P	23 32 08.6	+1.2
	baz=112					
B22K	**Teshekpuk Lake**	66.70 341	P	P	23 32 08.7	+1.2
	baz=114					
B21K	**Ikpikpuk River**	66.80 340	P	P	23 32 09.3	+1.2
	baz=112					
E20K	**Nigu River**	66.83 339	P	P	23 32 09.6	+1.1
	baz=110					
N14K	**Kuskokwak Cree**	66.86 329	P	P	23 32 10.1	+1.5
	baz=101					
E19K	**Redstone River**	66.93 338	P	P	23 32 09.7	+0.6
	baz=109					
F19K	**Shaleruckik Mo**	66.94 337	P	P	23 32 10.2	+1.2
	baz=108					
G18K	**Tagagawik**	66.99 336	P	P	23 32 11.0	+1.5
	baz=107					
J16K	**Anvik River**	67.10 333	P	P	23 32 11.4	+1.2
	baz=104					
D20K	**Etivluk River**	67.14 339	P	P	23 32 11.7	+1.4
	baz=110					
M14K	**Bethel**	67.16 330	P	P	23 32 11.7	+1.1
	baz=102					
H17K	**Granite Mounta**	67.23 335	P	P	23 32 12.8	+1.9
	baz=105					
K15K	**Wolf Creek Mou**	67.29 332	P	P	23 32 12.8	+1.4
	baz=102					
I17K	**Unalakleet**	67.29 334	P	P	23 32 13.0	+1.7
	baz=104					
A22K	**Sinclair Lake**	67.44 342	P	P	23 32 13.5	+1.3
	baz=112					
F18K	**Selawik**	67.58 337	P	P	23 32 14.3	+1.2
	baz=106					
D19K	**Kuna River**	67.58 339	P	P	23 32 14.0	+0.8
	baz=108					
L14K	**Kuka Creek**	67.63 331	P	P	23 32 14.6	+1.1
	baz=101					
G17K	**Kiwalik Mounta**	67.68 335	P	P	23 32 15.0	+1.2
	baz=105					
B20K	**Meade River**	67.76 341	P	P	23 32 15.4	+1.2
	baz=110					
M13K	**Dall Lake**	67.77 330	P	P	23 32 15.6	+1.3
	baz=100					
A21K	**Barrow**	68.06 342	P	P	23 32 16.5	+0.5
	baz=111					
H16K	**Elim**	68.12 334	P	P	23 32 17.9	+1.3
	baz=103					
E18K	**Tuqpahlearik C**	68.17 337	P	P	23 32 17.5	+0.7
	baz=105					
C19K	**Lookout Ridge**	68.28 339	P	P	23 32 18.9	+1.3
	baz=107					
J14K	**Nanvaranak Lak**	68.30 332	P	P	23 32 19.4	+1.7
	baz=101					
G16K	**Koyuk River**	68.34 335	P	P	23 32 19.2	+1.3
	baz=103					
E17K	**Hotham Inlet**	68.54 337	P	P	23 32 20.5	+1.4
	baz=104,SNR=6.7					
UNV	**Unalaska Valle**	68.61 322	P	P	23 32 21.3	+1.6
	baz=95					
C18K	**Utukok River**	68.71 339	P	P	23 32 21.0	+0.7
	baz=105					
A19K	**Wainwright**	69.10 340	P	P	23 32 23.4	+0.9
	baz=106					
B18K	**Kokolik River**	69.11 339	P	P	23 32 23.9	+1.3
	baz=105					
D17K	**Nuiqsut River**	69.16 337	P	P	23 32 24.1	+1.2
	baz=103					
F15K	**North Star Dit**	69.34 335	P	P	23 32 25.3	+1.2
	baz=101					
C17K	**DeLong Mountai**	69.37 338	P	P	23 32 24.9	+0.6
	baz=103					
BORG	**Borgarnes**	69.44 26	LR	LR	00 02 08.6	
	comp=Z,91nm,18.3s,baz=150,slow=35					
F14K	**Arctic Creek**	69.99 335	P	P	23 32 29.2	+1.1
	baz=99					
C16K	**Lisburne Hills**	70.11 338	P	P	23 32 29.8	+1.0
	baz=101					
TNA	**Tin City**	70.66 335	P	P	23 32 33.0	+0.9
	baz=98					
JMIC	**Jan Mayen**	74.83 20	LR	LR	00 06 11.2	
	comp=Z,73nm,19.9s,baz=208,slow=36					
EKA	**Eskdalemuir Ar**	78.42 36	P	P	23 33 14.9	-2.6
	comp=Z,1.6nm,0.8s,baz=278,slow=6.4,SNR=4.3					
	comp=Z,1.6nm,0.8s					
ESDC	**Sonseca Array**	80.49 51	P	P	23 33 26.6	-2.5
	comp=Z,1.6nm,0.7s,baz=291,slow=5.9,SNR=13					
	comp=Z,1.6nm,0.7s					
BILL	**Bilibino**	80.64 338	P	P	23 33 30.6	+1.2
BILL			IAmb	IAmb	23 33 31.5	
	comp=Z,7.2nm,0.9s					
NB2	**NORSAR Subarra**	84.43 28	P	P	23 33 49.0	-0.2
	comp=Z,0.8nm,0.8s,baz=291,slow=5.3					
NOA	**NORSAR Array B**	84.43 28	P	P	23 33 49.2	-0.1
	comp=Z,0.8nm,0.7s,baz=292,slow=5.1,SNR=4.6					
NOA			LR	LR	00 09 54.8	
	comp=Z,40nm,20.9s,baz=275,slow=35					
	comp=Z,0.8nm,0.7s					
HFS	**Hagfors**	85.90 29	P	P	23 33 55.8	-0.8
	comp=Z,2.5nm,0.9s,baz=248,slow=2.7,SNR=2.5					
HFS			LR	LR	00 10 16.3	
	comp=Z,49nm,21.4s,baz=254,slow=34					
	comp=Z,2.5nm,0.9s					
ARCES	**ARCESS Array B**	86.19 18	P	P	23 33 57.8	-0.1
	comp=Z,4.4nm,0.8s,baz=357,slow=6.1,SNR=4.8					
	comp=Z,4.4nm,0.8s					
DAVOX	**Davos/Dischmat**	88.45 42	LR	LR	00 07 49.6	
	comp=Z,38nm,20.8s,baz=276,slow=32					
GERES	**GERESS Array B**	90.13 39	LR	LR	00 10 53.6	
	comp=Z,34nm,20.0s,baz=290,slow=33					
FINES	**FINESS Array B**	90.71 25	P	P	23 34 19.7	+0.3
	comp=Z,2.5nm,0.9s,baz=224,slow=9.7,SNR=3.4					
	comp=Z,2.5nm,0.9s					
TORD	**Torodi Ar. Bea**	91.53 76	P	P	23 34 22.6	-1.6
	comp=Z,0.5nm,0.7s,baz=299,slow=5.7,SNR=5.8					
	comp=Z,0.5nm,0.7s					
VRAC	**Vranov**	91.70 38	LR	LR	00 17 04.9	
	comp=Z,30nm,18.5s,baz=333,slow=37					
MDJ	**Mudanjiang**	109.53 329	P	Pdif	23 35 46.3	+1.8
MDJ			pmax	pmax		
	comp=Z,6.0nm,0.6s					
MDJ			pmax	pmax		
	comp=Z,120nm,4.1s					
KURBB	**Kurchatov Arra**	114.90 6	PKP	PKPdf	23 39 57.9	+0.4
	comp=Z,0.5nm,0.5s,baz=348,slow=1.9,SNR=5.9					
MKAR	**Makanchi Array**	119.00 3	PKP	**PKPdf**	**23 40 04.3**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=340,slow=1.4,SNR=5.4					
WRA	**Warramunga Arr**	134.24 256	PKP	**PKPdf**	**23 40 35.4**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=82,slow=1.9,SNR=9.4					
ASAR	**Alice Springs**	134.58 251	PKP	**PKPdf**	**23 40 36.7**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=45,slow=1.4,SNR=4.4					
CMAR	**Chiang Mai Arr**	145.22 339		**PKPdf**	**23 40 55.3**	**+0.1**
CMAR	**Chiang Mai Arr**	145.22 339	PKPbc	**PKPab**	**23 40 55.1**	**+0.2**
	comp=Z,5.4nm,0.8s,baz=340,slow=4.0,SNR=33					
MYKOM	**Kota Tinggi**	156.62 312	PKPdf	**PKPdf**	**23 41 12.8**	**0.0**

IDC ***26*** *23:24:06.4±0.8, 35°.14N×27°.78E, h0km, mb4.0/15, mbtmp3.9/20, ML3.6/5, MS3.5/23, Error ellipse: s-maj=17.7km s-min=14.4km az=170.0*
NIC ***26*** *23:24:07.2, 34°.92N×27°.87E, h6km±3km, Ml3.6/10*
NAO ***26*** *23:24:07.2, 34°.80N×27°.75E, h33km, mb4.4*
NEIC ***26*** *23:24:08.5±1.8, 35°.01N±0°.06×27°.81E±0°.06, h10km±1km, mb4.0/42, Error ellipse: s-maj=10.5km s-min=7.2km az=207.0*
ISK ***26*** *23:24:08.3, 35°.01N×27°.93E, h9km, ML4.0/1*
GII ***26*** *23:24:08.4±0.6, 34°.776N±0°.004×27°.724E±0°.001, h20km, Mws3.8, confirmed*
THE ***26*** *23:24:12.2, 35°.29N×27°.67E, h0km±2km, ML3.3/3, Error ellipse: s-maj=6.3km s-min=1.9km az=151.0*
ATH ***26*** *23:24:12.9, 35°.32N×27°.70E, h12km±3km, ML3.4/5, Manual Solution by M.Kolligri This location: 2020/04/29 00:14:29 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 5 km*
ISC 26 23:24:06.4±1.3, 34°.96N±0°.03×27°.81E±0°.02, h3km±8km, n196, σ1§45/201, mb4.0/27, MS3.5/17, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.79**	**318**	Pg	**Pn**	**23 24 24.9**	**+0.3**
KARP	**Karpathos**	**0.79**	**318**	P	**Pg**	**23 24 21.7**	**0.0**
KARP				S	**Sg**	**23 24 31.9**	**-0.1**
KARP	**Karpathos**	**0.79**	**318**	Pg	**Pb**	**23 24 23.1**	**+0.2**
KARP	**Karpathos**	**0.79**	**318**	P	**Pg**	**23 24 22.1**	**+0.5**
KARP				S	**Sn**	**23 24 36.6**	**-0.4**
KARP				AML	AML	23 24 46.9	
	15nm,0.7s						
KARP				AML	AML	23 24 53.2	
	5.9nm,0.7s						
KARP	**Karpathos**	**0.79**	**318**	P	**Pb**	**23 24 23.1**	**+0.2**
KARP	**Karpathos**	**0.79**	**318**	P	**Pg**	**23 24 21.9**	**+0.2**
KARP				S	**Sg**	**23 24 29.5**	**-2.5**
ARG	**Arkhangelos**	**1.28**	**11**	Pn	**Pg**	**23 24 31.7**	**+0.6**
ARG				Sn	**Sn**	**23 24 49.4**	**+0.4**
ARG	**Arkhangelos**	**1.28**	**11**	P	**Pn**	**23 24 31.1**	**-0.2**
ARG				S	**Sb**	**23 24 46.0**	**-2.2**
	2μm,0.9s						
ARG	**Arkhangelos**	**1.28**	**11**		**Pg**	**23 24 31.6**	**+0.6**
ARG	**Arkhangelos**	**1.28**	**11**	P	**Pn**	**23 24 30.6**	**-0.7**
ARG				S	**Sn**	**23 24 51.7**	**+2.6**
ARG				AML	AML	23 25 10.2	
	4.7nm,1.1s						
ARG				AML	AML	23 25 15.2	
	2.1nm,0.7s						
ARG	**Arkhangelos**	**1.28**	**11**	P	**Pb**	**23 24 31.4**	**+0.1**
ARG				S	**Sb**	**23 24 44.0**	**-4.2**
ZKR	**Zakros**	**1.32**	**277**	Pn	**Pg**	**23 24 34.7**	**+3.0**
ZKR	**Zakros**	**1.32**	**277**	P	**Pg**	**23 24 33.2**	**+1.5**
ZKR				S	**Sn**	**23 24 52.5**	**+2.6**
	1μm,0.6s						
ZKR	**Zakros**	**1.32**	**277**	P	**Pg**	**23 24 33.4**	**+1.6**
ZKR				S	**Sn**	**23 24 51.9**	**+2.0**
ZKR				AML	AML	23 25 14.5	
	1.2nm,0.7s						
ZKR				AML	AML	23 25 16.3	
	2.7nm,0.6s						
FRMA	**Ierapetra Chan**	**1.71**	**273**	P	**Pg**	**23 24 39.7**	**+0.5**
DAT	**Datca**	**1.78**	**354**	Pn	**Pb**	**23 24 39.3**	**-0.5**
DAT	**Datca**	**1.78**	**354**	P	**Pb**	**23 24 39.3**	**-0.5**
DATC	**Datca-Mugla**	**1.80**	**356**	Pn	**Pb**	**23 24 39.7**	**-0.4**
DATC				Sn	**Sb**	**23 25 02.8**	**-0.3**
TURN	**Turunc**	**1.85**	**11**	Pn	**Pb**	**23 24 39.9**	**-1.0**
KSL	**Kastellorizon**	**1.87**	**50**	P	**Pg**	**23 24 42.6**	**+0.3**
KSL				S	**Sg**	**23 25 07.1**	**+0.5**
	645nm,2.2s						
AKAS	**Kas**	**1.94**	**48**	Pn	**Pn**	**23 24 40.9**	**+0.5**
FETY	**Fethiye**	**1.97**	**31**	Pn	**Pn**	**23 24 41.5**	**+0.8**
DALY	**Dalyan (Mula)**	**1.98**	**20**	Pn	**Pn**	**23 24 41.7**	**+0.9**
BODT	**Bodrum**	**2.14**	**349**	Pn	**Pb**	**23 24 44.7**	**-1.2**
CAME	**Cameli-Denizli**	**2.32**	**31**	Pn	**Pn**	**23 24 46.6**	**+0.9**
MLSB	**Milas**	**2.33**	**359**	Pn	**Pn**	**23 24 46.9**	**+1.1**
IDI	**Anoyia**	**2.42**	**279**	Pn	**Pb**	**23 24 50.5**	**-0.1**
IDI	**Anoyia**	**2.42**	**279**		**Pb**	**23 24 48.7**	**-1.9**
IDI	**Anoyia**	**2.42**	**279**	Pn	**Pb**	**23 24 50.5**	**-0.1**
	0.1nm,0.3s,baz=99,slow=15,SNR=35						
IDI				LR	LR	23 25 18.5	
	comp=Z,8.1nm,20.1s,baz=86,slow=30						
IDI	**Anoyia**	**2.42**	**279**	P	**Pb**	**23 24 50.3**	**-0.3**
ELL	**Elmali**	**2.47**	**43**	Pn	**Pn**	**23 24 48.6**	**+0.9**
ELL	**Elmali**	**2.47**	**43**	Pn	**Pn**	**23 24 48.8**	**+1.1**
ELL	**Elmali**	**2.47**	**43**	P	**Pn**	**23 24 48.2**	**+0.5**
ELL				S	**Sn**	**23 25 19.5**	**+1.0**
ELL				AML	AML	23 26 10.8	
	1.6nm,1.3s						
ELL				AML	AML	23 26 11.4	
	1.4nm,1.7s						
GCAM	**G?zelcaml?**	**2.78**	**350**	Pn	**Pb**	**23 24 54.1**	**-2.6**
APMY	**Acipayam-Deniz**	**2.79**	**25**	Pn	**Pn**	**23 24 52.9**	**+0.9**
APE	**Apeiranthos**	**2.80**	**319**	Pn	**Pb**	**23 24 54.9**	**-2.3**
APE	**Apeiranthos**	**2.80**	**319**	P	**Pn**	**23 24 53.3**	**+1.1**
APE	**Apeiranthos**	**2.80**	**319**	P	**Pn**	**23 24 53.0**	**+0.7**
SMG	**Samos**	**2.86**	**344**	P	**Pn**	**23 24 53.3**	**+0.3**
GVD	**Gavdhos**	**3.06**	**269**	Pn	**Pb**	**23 25 00.2**	**-1.4**
CHAN	**Chania**	**3.14**	**281**	P	**Pb**	**23 25 00.7**	**-2.1**
IMMV	**Iera Moni Meta**	**3.18**	**280**	Pn	**Pb**	**23 25 01.2**	**-2.3**
IMMV	**Iera Moni Meta**	**3.18**	**280**	P	**Pb**	**23 25 00.9**	**-2.7**
RODP	**Rodopos**	**3.37**	**281**	Pn	**Pb**	**23 25 04.0**	**-2.9**
BLCB	**Balcova**	**3.48**	**350**	Pn	**Pn**	**23 25 03.7**	**+2.2**
URLA	**Izmir**	**3.54**	**344**	Pn	**Pn**	**23 25 04.2**	**+1.9**
ISP	**Isparta**	**3.60**	**37**	Pn	**Pn**	**23 25 03.9**	**+0.6**
AKMS	**Akamas**	**3.71**	**88**	P	**Pn**	**23 25 04.5**	**-0.3**
AKMS				AML	AML	23 25 54.6	
	0.3nm,0.5s						
AKMS				AML	AML	23 26 00.7	
	0.2nm,0.5s						
ANKY	**Antikythira Is**	**3.79**	**285**	P	**Pb**	**23 25 09.8**	**-4.3**
NATA	**Nata**	**3.92**	**91**	P	**Pn**	**23 25 07.6**	**+0.1**
NATA				S	**Sn**	**23 25 54.0**	**0.0**
NATA				AML	AML	23 26 00.9	
	0.5nm,0.6s						
NATA				AML	AML	23 26 03.9	
	0.7nm,1.1s						
ALFC	**Alefka**	**3.93**	**86**	P	**Pn**	**23 25 07.2**	**-0.5**
ALFC				AML	AML	23 26 03.7	
	0.2nm,0.6s						
ALFC				AML	AML	23 26 05.1	
	0.2nm,0.5s						
TROD	**Troodos**	**4.15**	**89**	P	**Pn**	**23 25 11.9**	**+1.0**
TROD				S	**Sn**	**23 26 01.4**	**+1.3**
TROD				AML	AML	23 26 13.2	

CSS	Mathiatis	4.53	88	P		Pn	23 25 16.6	+0.6
MVOU	Mavrovouni	4.78	88	P		Pn	23 25 19.9	+0.6
AGG	Agios Georgios	5.97	314	Pn		Pn	23 25 36.5	+0.6
RDO	Rodhopi	6.43	344			Pn	23 25 42.7	+0.7
MMAI	Mount Meron Ar	6.60	105	Pn		Pn	23 25 43.6	-0.7
	2.7nm,0.3s,baz=300,slow=12,SNR=24							
MMAI				Sn		Sn	23 26 55.7	-4.5
	2.1nm,0.3s,baz=308,slow=24,SNR=6.0							
	3.2nm,0.4s							
BR131	Keskin Array S	6.65	43	Pn		Pn	23 25 46.8	+1.6
BRTR	Keskin Array B	6.65	43	Pn		Pn	23 25 46.6	+1.5
BRTR	Keskin Array B	6.65	43	Pn		Pn	23 25 46.0	+0.8
	0.3nm,0.3s,baz=218,slow=15,SNR=8.8							
BRTR				Sn		Sn	23 26 59.9	-1.6
	baz=210,slow=18							
	0.8nm,0.5s							
GEM	Giv'at Ha'Em	6.74	103	P		Pn	23 25 46.5	+0.2
GEM	Giv'at Ha'Em	6.74	103	S		Sn	23 27 04.7	+1.0
KZIT	Kziot	6.85	124	P		Pn	23 25 46.9	-0.9
KZIT	Kziot	6.85	124	S		Sn	23 27 03.7	-2.7
KZIT	Kziot	6.85	124	P		Pn	23 25 47.1	-0.7
AMAZ	Amatzia	6.86	118	P		Pn	23 25 47.3	-0.7
AMAZ	Amatzia	6.86	118	P		Pn	23 25 48.3	+0.3
QRNJ	Al-Qirein	6.98	110	P		Pn	23 25 50.2	+0.6
UJAP	Al Uja	7.06	113	P		Pn	23 25 51.0	+0.4
YTIR	Yattir	7.09	118	P		Pn	23 25 51.1	-0.1
YTIR	Yattir	7.09	118	S		Sn	23 27 11.2	-1.3
DSI	Dead Sea	7.18	116	P		Pn	23 25 50.8	-1.6
DSI	Dead Sea	7.18	116	P		Pn	23 25 51.8	-0.5
DSI	Dead Sea	7.18	116	S		Sn	23 27 13.9	-0.5
MSBI	Mazada	7.30	118	P		Pn	23 25 53.7	-0.2
LISJ	El Lisan	7.42	118	P		Pn	23 25 54.3	-1.3
GHAJ	Ghor Haditha	7.45	117	Pn		Pn	23 25 56.5	+0.4
GHAJ	Ghor Haditha	7.45	117	P		Pn	23 25 55.0	-1.1
GHAJ	Ghor Haditha	7.45	117	P		Pn	23 25 57.3	+1.2
BNN	Bunyan	7.52	57	Pn		Pn	23 25 58.5	+1.4
KRMI	Paran Flat	7.57	128	P		Pn	23 25 57.5	-0.3
PRNI	Paran	7.61	125	P		Pn	23 25 56.2	-2.0
PRNI	Paran	7.61	125	P		Pn	23 25 58.2	0.0
FNA	Florina	7.73	321			Pn	23 26 01.1	+1.2
HRFI	Mount Harif	7.83	127	S		Sn	23 27 28.9	-1.5
HRFI	Mount Harif	7.83	127	P		Pn	23 26 01.3	0.0
GAZ	Gaziantep	7.93	71	Pn		Pn	23 26 05.4	+2.7
EIL	Elat	8.02	129	Pn		Pn	23 26 04.2	+0.3
	1.0nm,0.3s,baz=353,slow=7.2,SNR=8.3							
EIL				Sn		Sn	23 27 29.2	-5.8
	0.6nm,0.3s,baz=357,slow=19,SNR=2.5							
	3.9nm,0.5s							
EIL	Elat	8.02	129	P		Pn	23 26 02.0	-1.8
EIL	Elat	8.02	129	P		Pn	23 26 04.2	+0.3
EIL	Elat	8.02	129	S		Sn	23 27 32.7	-2.3
AQBJ	Aqaba	8.04	128	P		Pn	23 26 02.6	-1.6
ASF	Jabal al Asfar	8.07	108	Pn		Pn	23 26 04.5	-0.3
	0.5nm,0.3s,baz=101,slow=0.2,SNR=5.2							
ASF				LR		LR	23 30 20.8	
	comp=Z,234nm,21.7s,baz=334,slow=46							
	1.8nm,0.5s							
TIP	Timpagrande	9.79	299			Pn	23 26 27.7	-0.4
MLR	Muntele Rosu	10.62	353	LR		LR	23 31 37.7	
	comp=Z,289nm,18.8s,baz=177,slow=43							
CUC	Castrocucco	10.77	301	Pn		Pn	23 26 42.7	+1.0
ONI	Oni	14.37	53	Pn		Pn	23 27 32.8	+2.0
KIV	Kislovodsk	14.57	47	Pn		Pn	23 27 33.5	0.0
KBZ	Khabaz	14.58	49	Pn		P	23 27 41.7	+1.5
	0.1nm,0.3s,baz=239,slow=11,SNR=5.6							
KBZ				LR		LR	23 34 12.6	
	comp=Z,78nm,18.1s,baz=250,slow=42							
VYHS	Vyhne	15.08	336	*e*P		P	23 27 46.8	+1.0
KEST	Kesra	15.09	278	Pn		P	23 27 44.2	-1.9
	0.1nm,0.3s,baz=54,slow=19,SNR=1.9							
OBKA	Obir	15.28	323	*e*Pn		Pn	23 27 44.0	+0.9
	11nm,1.3s							
OSSC	Osservatorio P	15.40	309	Pn		Pn	23 27 44.4	-0.3
LANS	Liptovska Anna	15.46	339	*e*P		P	23 27 55.6	+5.5
AKASG	Malin Array Be	15.77	3	Pn		P	23 27 51.8	-1.6
	0.4nm,0.3s,baz=194,slow=11,SNR=11							
AKASG				LR		LR	23 35 17.2	
	comp=Z,62nm,18.4s,baz=189,slow=43							
AKBB	Malin Array Si	15.77	3	Pn		Pn	23 27 51.0	+1.6
AKBB				IAmb		IAmb	23 28 00.9	
	comp=Z,7.5nm,1.1s							
STAL	STALIGIAL	16.06	319	Pn		Pn	23 27 54.0	+0.7
TEOL	Teolo	16.10	315	Pn		Pn	23 27 51.5	-2.2
TEOL				IAmb		IAmb	23 28 01.1	
	comp=Z,5.6nm,0.7s							
KBA	Koelnbreinsper	16.27	322	*i* Pn		Pn	23 27 56.2	+0.1
	comp=Z,0.2nm,0.2s							
OJC	Ojcow	16.34	341	Pn		Pn	23 27 57.2	+0.5
OJC				IAmb		IAmb	23 28 03.4	
	comp=Z,11nm,1.2s							
KRUC	Moravsky	16.42	333	*e*PN		Pn	23 27 58.4	+0.6
ABTA	Abfaltersbach	16.48	320	*e*Pn		Pn	23 27 57.8	-0.8
	comp=Z,2.5nm,0.8s							
CTI	Castel Tesino	16.51	317			Pn	23 27 58.5	-0.6
CTI				IAmb		IAmb	23 28 10.2	
	comp=Z,5.2nm,0.7s							
VRAC	Vranov	16.55	333	LR		LR	23 35 31.1	
	comp=Z,190nm,20.1s,baz=156,slow=42							
MORC	Moravsky Berou	16.62	336	Pn		Pn	23 27 59.5	-0.8
MORC	Moravsky Berou	16.62	336	*e*PN		P	23 28 01.2	-1.7
LESA	Schwarzleotal	16.84	322	*e*Pn		P	23 28 04.7	-0.7
	comp=Z,2.3nm,0.6s							
SALO	Salr	16.92	314	Pn		Pn	23 28 03.0	-1.2
SALO				IAmb		IAmb	23 28 05.8	
	comp=Z,6.4nm,0.7s							
GEC2	GERESS Array S	17.36	327	Pn		P	23 28 10.1	-1.1
GERES	GERESS Array B	17.36	327	Pn		Pn	23 28 09.8	+0.1
GERES	GERESS Array B	17.36	327	P		Pn	23 28 08.5	-1.3
	comp=Z,0.1nm,0.3s,baz=119,slow=12,SNR=10							
	comp=Z,1.3nm,0.6s							
SQTA	Sankt Quirin	17.47	320	*e*Pn		P	23 28 11.5	-0.9
	comp=Z,0.4nm,0.2s							
MOTA	Moosalm	17.60	320	*i* Pn		P	23 28 15.5	+1.6
	comp=Z,1.0nm,0.3s							
FETA	Feichten	17.61	318	*i* Pn		P	23 28 15.5	+1.5
	comp=Z,4.5nm,1.0s,SNR=5.9							
FUORN	Ofenpass-Fuorn	17.63	317	Pn		Pn	23 28 12.8	-0.5
KHC	Kasperske Hory	17.63	328	Pn		Pn	23 28 12.9	-0.2
KHC	Kasperske Hory	17.63	328	*e*P		P	23 28 13.5	-0.6
RETA	Reutte	17.87	320	*i* Pn		P	23 28 16.4	-0.4
	comp=Z,0.4nm,0.3s							
DAVOX	Davos/Dischmat	17.94	317	LR		LR	23 36 47.2	
	comp=Z,167nm,19.3s,baz=120,slow=43							
DAVA	Damuels	18.23	318	*i* Pn		P	23 28 20.6	-0.3
	comp=Z,1.1nm,0.5s							
BRG	Berggiesshubel	18.82	332	*e*P		Pn	23 28 30.8	+3.2
BRG				Amp			23 28 32.6	
	comp=Z,5.0nm,1.2s							
GRFO	Grafenberg	19.10	325	P		P	23 28 29.9	-0.4
GRFO				IAmb		IAmb	23 28 35.0	
	comp=Z,13nm,1.2s							
GRA1	Grafenberg Arr	19.10	325	P		P	23 28 30.0	-0.2
GRA1				IAmb		IAmb	23 28 35.0	
	comp=Z,12nm,1.1s							
SENIN	Lac Senin/Sane	19.23	313	P		Pn	23 28 31.9	-0.8
SUW	Suwalki	19.33	352	P		P	23 28 32.6	-0.1
STU	Stuttgart	19.49	321	P		P	23 28 34.2	-0.4
STU				IAmb		IAmb	23 28 49.3	
	comp=Z,8.7nm,0.7s							
CLL	Collm	19.53	331	P		Pn	23 28 35.4	-0.8
CLL	Collm	19.53	331	*e*P		P	23 28 35.0	+0.1
CLL				*i* x		x	23 28 36.7	
	comp=Z,5.0nm,0.9s							
CLL				*i* x		x	23 28 39.7	
CLL				*e*S		Sn	23 32 13.0	-2.6
BELG	Belogornoye	22.44	33	LR		LR	23 39 05.5	
	comp=Z,61nm,21.5s,baz=20,slow=40							
TAM	Tamanrasset	22.92	244	P		P	23 29 13.3	+1.5
TAM				IAmb		IAmb	23 29 18.2	
	comp=Z,3.8nm,1.0s							
ESDC	Sonseca Array	25.63	290	P		P	23 29 37.5	+0.2
	comp=Z,1.2nm,1.0s,baz=78,slow=9.2,SNR=9.0							
ESDC				LR		LR	23 41 22.7	
	comp=Z,73nm,18.4s,baz=100,slow=41							
	comp=Z,1.2nm,1.0s							
PAB	San Pablo	25.93	290	P		P	23 29 40.4	+0.4
PAB				IAmb		IAmb	23 29 54.9	
	comp=Z,2.8nm,1.1s							
FINES	FINESS Array B	26.53	358	P		P	23 29 43.7	-1.4
	comp=Z,4.7nm,1.0s,baz=156,slow=12,SNR=8.3							
FINES				PcP		PcP	23 33 09.4	-0.1
	comp=Z,1.3nm,0.8s,baz=188,slow=5.1,SNR=3.6							
	comp=Z,4.7nm,1.0s							
HFS	Hagfors	26.81	344	P		P	23 29 45.7	-1.9
	comp=Z,4.5nm,0.8s,baz=130,slow=8.3,SNR=6.2							
HFS				LR		LR	23 42 26.7	
	comp=Z,117nm,18.8s,baz=164,slow=41							
	comp=Z,4.5nm,0.8s							
ABKAR	Akbulak array	27.55	49	P		P	23 29 55.8	+1.5
NB2	NORSAR Subarra	28.19	343	P		P	23 29 57.8	-2.3
	comp=Z,8.8nm,1.7s,baz=150,slow=9.3							
NOA	NORSAR Array B	28.19	343	P		P	23 29 57.4	-2.7
	comp=Z,1.1nm,0.8s,baz=148,slow=10,SNR=5.7							
NOA				LR		LR	23 42 27.0	
	comp=Z,116nm,18.1s,baz=165,slow=39							
	comp=Z,1.1nm,0.8s							
EKA	Eskdalemuir Ar	29.48	323	P		P	23 30 11.0	-0.6
	comp=Z,0.6nm,0.6s,baz=127,slow=9.9,SNR=3.7							
	comp=Z,0.6nm,0.6s							
ARU	Arti	29.95	35	LR		LR	23 45 42.5	
	comp=Z,47nm,19.2s,baz=186,slow=44							
TOA0	Torodi Ar. Sit	32.08	234	P		P	23 30 35.1	+0.3
TORD	Torodi Ar. Bea	32.08	234	P		P	23 30 35.8	+1.0
	comp=Z,3.9nm,0.8s,baz=18,slow=9.5,SNR=28							
	comp=Z,3.9nm,0.8s							
KBL	Kabul	33.71	79	P		P	23 30 49.1	-0.1
KK31	Karatay Array	33.85	63	P		P	23 30 50.9	+0.8
KK31				IAmb		IAmb	23 30 55.8	
	comp=Z,1.5nm,0.9s							
KKAR	Karatay Array	33.85	63	P		P	23 30 51.6	+1.5
KKAR				IAmb		IAmb	23 30 55.8	
	comp=Z,1.5nm,0.9s							
ARCES	ARCESS Array B	34.66	359	P		P	23 30 54.2	-2.6
	comp=Z,5.1nm,1.1s,baz=171,slow=6.4,SNR=4.5							
	comp=Z,5.1nm,1.1s							
BVAR	Borovoye Array	34.92	46	LR		LR	23 49 03.6	
	comp=Z,76nm,21.1s,baz=264,slow=43							
MBAR	Mbarara	35.48	175	P		P	23 31 05.8	+1.3
MBAR				IAmb		IAmb	23 31 21.8	
	comp=Z,3.0nm,1.1s							
AAK	Ala-Archa	36.80	64	LR		LR	23 49 44.3	
	comp=Z,69nm,20.3s,baz=276,slow=42							
NIL	Nilore	37.31	79	P		P	23 31 21.1	+1.1
NIL				IAmb		IAmb	23 31 29.0	
	comp=Z,3.1nm,0.7s							
NRN	Naryn	38.02	65	P		P	23 31 26.2	-0.1
NRN				IAmb		IAmb	23 31 34.2	
	comp=Z,2.6nm,1.1s							
KURBB	Kurchatov Arra	39.56	51	P		P	23 31 38.0	-0.6
	comp=Z,0.6nm,0.5s,baz=275,slow=8.8,SNR=15							
	comp=Z,0.6nm,0.5s							
DBIC	Dimbokro	41.18	235	P		P	23 31 52.7	+0.3
DBIC				IAmb		IAmb	23 31 54.7	
	comp=Z,5.4nm,0.9s							
DBIC	Dimbokro	41.18	235	P		P	23 31 54.4	+2.0
	comp=Z,3.1nm,0.7s,baz=54,slow=9.4,SNR=4.0							
DBIC				LR		LR	23 53 33.8	
	comp=Z,131nm,18.4s,baz=40,slow=43							
	comp=Z,3.1nm,0.7s							
MK31	Makanchi Array	42.07	57	P		P	23 32 00.1	+0.6
MKAR	Makanchi Array	42.07	57	P		P	23 31 59.7	+0.2
MKAR	Makanchi Array	42.07	57	P		P	23 32 00.2	+0.7
	comp=Z,0.7nm,0.5s,baz=274,slow=6.7,SNR=13							
MKAR				LR		LR	23 51 35.3	
	comp=Z,45nm,20.9s,baz=254,slow=39							
	comp=Z,0.7nm,0.5s							
ZAA0	Zalesovo Array	43.58	46	P		P	23 32 11.6	0.0
ZALV	Zalesovo Beam	43.58	46	P		P	23 32 11.7	+0.2
ZALV	Zalesovo Beam	43.58	46	LR		LR	23 54 38.9	
	comp=Z,43nm,20.2s,baz=349,slow=42							
SPITS	Spitsbergen Ar	43.60	357	P		P	23 32 11.2	-0.3
	comp=Z,4.9nm,0.8s,baz=156,slow=11,SNR=6.7							
	comp=Z,4.9nm,0.8s							
KBS	Kingsbay	44.57	356	P		P	23 32 18.6	-0.6
MBO	M'Bour	45.09	254	P		P	23 32 24.8	+0.8
NRIK	Noril'sk	47.15	25	P		P	23 32 40.8	+1.2
NRIK				IAmb		IAmb	23 32 44.2	
	comp=Z,1.9nm,1.1s							
SONM	Songino Array	57.93	51	P		P	23 34 01.1	+1.0
SONM				IAmb		IAmb	23 34 05.2	
	comp=Z,1.5nm,1.1s							
SONM	Songino Array	57.93	51	P		P	23 34 01.6	+1.6
	comp=Z,0.8nm,0.5s,baz=289,slow=7.3,SNR=9.1							
	comp=Z,0.8nm,0.5s							
ULN	Ulaanbaatar	58.34	51	P		P	23 34 03.2	+0.3
ULN				IAmb		IAmb	23 34 17.2	
	comp=Z,1.8nm,1.1s							
LZH	Lanzhou	60.33	65	*e*P		P	23 34 18.0	+1.1
LZH				pP		pwP	23 34 26.8	+6.5
LZH				pmax		pmax		
	comp=Z,17nm,1.0s							
HHC	Hu-ho-hao-te	63.93	57	*e*P		P	23 34 42.5	+1.5
HHC				pmax		pmax		
	comp=Z,7.0nm,0.7s							
HHC				pmax		pmax		
	comp=Z,71nm,5.1s							
SCHQ	Schefferville	64.74	320	P		P	23 34 45.4	-0.5
SCHQ	Schefferville	64.74	320	P		P	23 34 44.4	-1.5
	comp=Z,5.4nm,0.7s,baz=57,slow=6.9,SNR=13							
	comp=Z,5.4nm,0.7s							
KLR	Kul'dur	72.48	42	LR		LR	00 13 42.7	
	comp=Z,40nm,18.5s,baz=306,slow=41							
HNH	Hanover	73.25	312	P		P	23 35 39.3	+0.4
J61A	Chester	73.60	312	P		P	23 35 40.1	-0.9
C36M	Paulatuk	73.96	350	P		P	23 35 42.6	0.0
KSRS	Korea Array	76.67	54	P		P	23 36 01.0	+2.2
	comp=Z,0.6nm,0.4s,baz=311,slow=5.2,SNR=4.2							
KSRS				LR		LR	00 13 29.0	
	comp=Z,33nm,20.4s,baz=280,slow=39							
SADO	Sadowa	76.72	316	LR		LR	00 11 49.3	
	comp=Z,24nm,18.3s,baz=320,slow=37							
YKA	Yellowknife Ar	78.29	343	P		P	23 36 07.0	-0.4
	comp=Z,0.3nm,0.6s,baz=32,slow=5.1,SNR=4.4							
	comp=Z,0.3nm,0.6s							
ILAR	Eielson Array	80.51	358	P		P	23 36 18.6	-1.0
	comp=Z,0.3nm,0.8s,baz=347,slow=3.7,SNR=2.5							
	comp=Z,0.3nm,0.8s							
JOW	Kunigami	82.95	62	LR		LR	00 19 49.6	
	comp=Z,137nm,18.7s,baz=192,slow=40							
TKL	Tuktaleschee C	85.13	311	LR		LR	00 16 54.7	
	comp=Z,32nm,18.2s,baz=24,slow=37							
NEW	Newport	91.42	337	LR		LR	00 20 07.2	
	comp=Z,46nm,18.0s,baz=30,slow=37							
PDAR	Pinedale Array	93.39	330	LR		LR	00 20 36.0	
	comp=Z,18nm,19.5s,baz=42,slow=36							

GII ***26*** *23:32:29.7±0.7, 35°.460N±0°.005×27°.861E±0°.002, h60km, Mws3.2, confirmed*
ATH ***26*** *23:32:30.8, 35°.89N×27°.79E, h61km±4km, ML3.1/2, Error ellipse: s-maj=6.6km s-min=1.5km az=129.0*
ISK ***26*** *23:32:30.1, 35°.88N×27°.81E, h26km, ML2.8/18*
THE ***26*** *23:32:31.5, 35°.85N×27°.86E, h56km±4km, ML2.9/4, Error ellipse: s-maj=4.8km s-min=1.1km az=341.0*
HLW ***26*** *23:32:33.5, 35°.27N×27°.98E, h10km±12km, Md4.0, Ml3.8*
AFAD ***26*** *23:32:33.6±0.0.0, 36°.14N×27°.99E, h7km±2km, ML2.0*

ISC 26 23:32:29.2±1.1, **35°.73N**±0°.04×**27°.93E**±0°.04, **h57**km±15km, **n97**, σ1§**39**/119, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	Arkhangelos	0.51	18	Pg	Pn	23 32 41.6	+0.6
ARG	Arkhangelos	0.51	18	P	Pn	23 32 41.9	+0.9
ARG				S	Sn	23 32 50.3	+0.6
	1µm,0.2s						
ARG	Arkhangelos	0.51	18	P	Pn	23 32 41.8	+0.7
ARG				S	Sn	23 32 50.2	+0.6
ARG				AML	AML	23 32 50.8	
	comp=N,2525µm,0.3s						
ARG				AML	AML	23 32 51.4	
	comp=E,2606µm,0.2s						
KARP	Karpathos	0.65	254	Pg	Pn	23 32 43.6	+0.9
KARP				Sg	Sn	23 32 52.9	+0.4
KARP	Karpathos	0.65	254	P	Pn	23 32 43.8	+1.1
KARP				S	Sn	23 32 53.4	+0.9
	comp=E,2µm,0.3s						
KARP	Karpathos	0.65	254	P	Pn	23 32 43.8	+1.1
KARP				S	Sn	23 32 53.4	+0.9
KARP				AML	AML	23 32 54.0	
	comp=N,5008µm,0.3s						
KARP				AML	AML	23 32 54.2	
	comp=E,4163µm,0.3s						
YAZI	Mula-Dat§a-	1.02	338	P	Pn	23 32 46.8	-0.7
YAZI				S	Sn	23 32 59.0	-1.9
YAZI				*i* AML	AML	23 32 59.0	
	comp=E,154nm,0.2s						
YAZI				*i* AML	AML	23 32 59.0	
	comp=E,167nm,0.4s						
DAT	Datca	1.04	344	Pg	Pn	23 32 47.2	-0.5
DAT				Sg	Sn	23 32 59.4	-2.0
DAT	Datca	1.04	344	P	Pn	23 32 47.3	-0.5
DAT				S	Sn	23 32 59.8	-1.6
DAT	Datca	1.04	344	P	Pn	23 32 47.2	-0.5
DAT				S	Sn	23 32 59.9	-1.6
DAT				*i* AML	AML	23 33 00.0	
	comp=E,262nm,0.6s						
DAT				*i* AML	AML	23 33 01.0	
	comp=E,307nm,0.4s						
DATC	Datca-Mugla	1.05	348	Pg	Pn	23 32 47.4	-0.4
DATC				Sg	Sn	23 32 59.8	-1.7
TURN	Turunc	1.07	14	Pg	Pn	23 32 48.5	+0.4
TURN	Turunc	1.07	14	P	Pn	23 32 49.1	+1.0
TURN				S	Sn	23 33 02.0	-0.1
DALY	Dalyan (Mula)	1.23	28	Pn	Pn	23 32 51.3	+1.1
DALY				Sn	Sn	23 33 06.5	+0.6
FETY	Fethiye	1.30	46	Pn	Pn	23 32 52.6	+1.5
FETY				Sn	Sn	23 33 09.3	+1.7
SABU	Mula-Dalaman	1.38	37	P	Pn	23 32 53.3	+1.2
SABU				*i* AML	AML	23 33 10.0	
	comp=E,60nm,0.5s						
SABU				*i* AML	AML	23 33 10.0	
	comp=E,45nm,0.5s						
SABU				S	Sn	23 33 10.6	+1.1
BDRM	Kayabasi	1.39	344	P	Pn	23 32 51.6	-0.7
BDRM				S	Sn	23 33 07.5	-2.1
KSL	Kastellorizon	1.41	72	P	Pn	23 32 54.7	+2.2
KSL				S	Sn	23 33 12.2	+2.1
	comp=E,288nm,0.3s						
BODT	Bodrum	1.42	340	Pn	Pn	23 32 51.9	-0.8
BODT				Sn	Sn	23 33 08.3	-2.1
KLNA	Kalymnos	1.45	328	P	Pn	23 32 52.1	-1.0
AKAS	Kas	1.45	69	Pn	Pn	23 32 55.3	+2.0
ZKR	Zakros	1.53	247	Pn	Pn	23 32 56.1	+1.9
ZKR	Zakros	1.53	247	P	Pn	23 32 56.5	+2.3
ZKR				S	Sn	23 33 15.4	+2.4
	comp=E,130nm,0.9s						
ZKR	Zakros	1.53	247	P	Pn	23 32 56.2	+2.0
MULA	Mugla, Merkez-	1.56	12	P	Pn	23 32 56.9	+2.2
MLSB	Milas	1.57	356	Pn	Pn	23 32 54.8	+0.1
CAME	Cameli-Denizli	1.64	42	Pn	Pn	23 32 57.5	+1.6
DEMR	Demre-Antalya	1.68	72	Pn	Pn	23 32 59.3	+3.0
DNZT	Denizli-Tavas-	1.78	29	P	Pn	23 32 59.1	+1.4
DNZT				*i* AML	AML	23 33 30.0	
	comp=E,8.8nm,0.4s						
DNZT				*i* AML	AML	23 33 34.0	
	comp=E,8.5nm,1.0s						
ELL	Elmali	1.90	57	Pn	Pn	23 33 01.8	+2.5
TAVA	DENIZLI_Tavas	1.91	24	P	Pn	23 33 00.3	+0.9
TAVA				S	Sn	23 33 23.3	+1.0
GCAM	G?zelcaml?	2.04	344	Pn	Pn	23 33 01.5	+0.3
GCAM	G?zelcaml?	2.04	344	P	Pn	23 33 01.5	+0.3
APMY	Acipayam-Deniz	2.06	32	Pn	Pn	23 33 02.6	+1.1
ESEN	Aydn-Nazilli	2.09	9	P	Pn	23 33 03.1	+1.2
ESEN				S	Sn	23 33 26.9	+0.2
SNT5	Nea Kammeni, S	2.16	289	P	Pn	23 33 02.5	-0.3
SMG	Samos	2.16	336	P	Pn	23 33 02.0	-0.8
KORT	Korkueli	2.33	56	Pn	Pn	23 33 07.9	+2.7
APE	Apeiranthos	2.35	305	P	Pn	23 33 05.1	-0.4
APE	Apeiranthos	2.35	305	P	Pn	23 33 04.8	-0.7
IZMR	zmir-demi	2.40	0	P	Pn	23 33 06.2	+0.1
IZMR				S	Sn	23 33 32.3	-2.0
ANTB	Antalya	2.49	61	Pn	Pn	23 33 10.4	+3.1
IDI	Anoyia	2.52	261	P	Pn	23 33 08.1	+0.4
BASM	Basmaki-Afyon	2.77	37	Pn	Pn	23 33 13.2	+2.0
IMMV	Iera Moni Meta	3.23	266	P	Pn	23 33 19.2	+1.8
ATHU	Athens Univers	4.00	305	P	Pn	23 33 28.6	+0.6
CSS	Mathiatis	4.48	98	P	Pn	23 33 35.6	+1.0
DB3	El Dabaa	4.71	173	P	Pn	23 33 39.1	+1.4
	baz=173						
SLUM	Salum	4.80	209	P	Pn	23 33 40.0	+1.1
	baz=213						
SLUM				S	Sn	23 34 28.8	-4.3
	baz=213						
MMA0B	Mount Meron ar	6.75	112	P	Pn	23 34 05.4	-0.2
MMA0B	Mount Meron ar	6.75	112	S	Sn	23 35 21.2	0.0
MMB1	Mount Meron ar	6.75	111	P	Pn	23 34 05.8	0.0
SWA2		6.80	199	P	Pn	23 34 07.9	+1.6
	baz=201						
GEM	Giv'at Ha'Em	6.87	109	P	Pn	23 34 07.7	+0.5
GEM	Giv'at Ha'Em	6.87	109	S	Sn	23 35 23.4	-0.5
GEM	Giv'at Ha'Em	6.87	109	P	Pn	23 34 07.8	+0.6
NATI	Neve Ativ	6.90	109	P	Pn	23 34 07.4	-0.3
NATI				S	Sn	23 35 07.1	-18
RYAN	Fayoum	6.92	163	P	Pn	23 34

baz=84,slow=74,SNR=3792
H04S1 CROZET ISLANDS 20.36 242 T T 23 58 12.4
baz=49,slow=71,SNR=7.5
H04S2 CROZET ISLANDS 20.37 242 T T 23 58 17.5
baz=49,slow=71,SNR=5.0
H04S3 CROZET ISLANDS 20.37 242 T T 23 58 07.7
baz=49,slow=71,SNR=6.4
H01W2 Cape Leeuwin H 28.59 91 T T 00 08 26.9
baz=248,slow=74,SNR=33
H01W3 Cape Leeuwin H 28.60 91 T T 00 08 18.5
baz=248,slow=74,SNR=31
H01W1 Cape Leeuwin H 28.61 91 T T 00 08 22.1
baz=248,slow=74,SNR=38
MAW Mawson 28.79 192 P **P** **23 38 28.2 -0.5**
MAW Mawson 28.79 192 P **P** **23 38 29.1 +0.4**
3.8nm,0.7s,baz=2.7,slow=7.4,SNR=5.5
MAW LR LR 23 47 53.1
comp=Z,338nm,18.0s,baz=14,slow=32
3.8nm,0.7s
NWAO Narrogin (SRO) 31.73 89 LR LR 23 48 57.5
comp=Z,425nm,19.0s,baz=236,slow=31
H08S2 Diego Garcia H 32.86 349 T T 00 13 48.2
baz=172,slow=76,SNR=4.1
H08S1 Diego Garcia H 32.86 349 T T 00 13 46.5
baz=172,slow=76,SNR=3.0
H08S3 Diego Garcia H 32.88 349 T T 00 13 45.5
baz=172,slow=76,SNR=3.6
GRHM Grahamstown, E 41.86 262 P **P** **23 40 21.5 0.0**
GRHM IAmb IAmb 23 40 50.5
comp=Z,30nm,1.2s
LEM Lembang 42.21 46 LR LR 23 53 28.3
comp=Z,102nm,21.8s,baz=205,slow=30
BOSA Boshof 44.85 268 P **P** **23 40 46.6 +1.0**
comp=Z,4.1nm,1.0s,baz=102,slow=5.5,SNR=4.3
BOSA LR LR 23 56 05.2
comp=Z,314nm,18.3s,baz=150,slow=32
comp=Z,4.1nm,1.0s
BBOO Buckleboo 46.13 100 P **P** **23 40 54.4 -1.2**
LBTB Lobatse 46.43 272 LR LR 23 57 13.6
comp=Z,261nm,18.4s,baz=130,slow=32
SUR Sutherland 46.47 261 LR LR 23 56 28.5
comp=Z,209nm,19.3s,baz=117,slow=31
ASAR Alice Springs 49.03 88 P **P** **23 41 17.8 -0.5**
ASAR Alice Springs 49.03 88 P **P** **23 41 20.1 +1.8**
comp=Z,1.6nm,0.9s,baz=230,slow=7.1,SNR=10
ASAR LR LR 23 59 42.9
comp=Z,542nm,19.0s,baz=250,slow=33
comp=Z,1.6nm,0.9s
VNDA Vanda 49.70 164 P **P** **23 41 23.1 +0.4**
VNDA IAmb IAmb 23 41 39.3
comp=Z,8.2nm,1.3s
VNDA Vanda 49.70 164 P **P** **23 41 23.6 +0.9**
comp=Z,2.4nm,0.8s,baz=269,slow=6.7,SNR=12
VNDA LR LR 00 01 07.3
comp=Z,355nm,18.1s,baz=266,slow=35
comp=Z,2.4nm,0.8s
BATI Baumata 49.82 66 LR LR 00 01 47.6
comp=Z,87nm,18.3s,baz=243,slow=35
QSPA South Pole Qui 49.97 180 P **P** **23 41 25.0 -0.1**
QSPA IAmb IAmb 23 41 27.8
comp=Z,13nm,1.2s
QSPA South Pole Qui 49.97 180 P **P** **23 41 25.8 +0.8**
comp=Z,8.1nm,1.0s,baz=286,slow=2.5,SNR=17
QSPA LR LR 00 01 12.4
comp=Z,610nm,18.2s,baz=290,slow=34
comp=Z,8.1nm,1.0s
STKA Stephens Creek 50.72 102 P **P** **23 41 32.5 +1.4**
comp=Z,3.6nm,0.7s,baz=3.4,slow=6.0,SNR=5.0
STKA LR LR 23 58 36.0
comp=Z,188nm,21.9s,baz=210,slow=31
comp=Z,3.6nm,0.7s
WRA Warramunga Arr 51.47 84 P **P** **23 41 38.4 +1.5**
comp=Z,1.1nm,0.8s,baz=232,slow=7.5,SNR=4.9
comp=Z,1.1nm,0.8s
TSUM Tsumeb 55.83 273 LR LR 00 02 50.8
comp=Z,215nm,18.6s,baz=136,slow=33
CTA Charters Tower 60.50 92 LR LR 00 07 43.8
comp=Z,134nm,18.3s,baz=90,slow=35
CMAR Chiang Mai Arr 61.37 22 LR LR 00 06 46.0
comp=Z,26nm,18.8s,baz=235,slow=33
WKZ Wanaka 63.45 127 P **P** **23 43 00.1 -0.9**
WKZ IAmb IAmb 23 43 24.6
comp=Z,64nm,1.2s
DAV Davao City (W) 63.93 54 LR LR 00 12 16.9
comp=Z,34nm,18.0s,baz=351,slow=37
MQZ McQueen's Vall 66.25 128 P **P** **23 43 18.3 -0.9**
PMG Port Moresby 67.68 83 LR LR 00 12 20.2
comp=Z,130nm,18.3s,baz=256,slow=35
PMSA Palmer Station 71.33 196 LR LR 00 13 32.1
comp=Z,161nm,19.8s,baz=314,slow=34
DZM Mont Dzumac 74.57 106 LR LR 00 11 59.7
comp=Z,152nm,19.9s,baz=222,slow=32
HNR Honiara 77.44 92 LR LR 00 16 44.3
comp=Z,2µm,18.6s,baz=270,slow=34
GEYT Alibeck 79.97 344 LR LR 00 15 21.9
comp=Z,60nm,19.5s,baz=161,slow=32
EIL Elat 80.42 323 LR LR 00 15 55.2
comp=Z,44nm,18.3s,baz=250,slow=32
ASF Jabal al Asfar 81.67 325 LR LR 00 16 18.8
comp=Z,36nm,20.6s,baz=55,slow=32
AAK Ala-Archa 82.53 357 LR LR 00 17 36.6
comp=Z,202nm,21.7s,baz=188,slow=33
MMAI Mount Meron Ar 83.04 325 LR LR 00 18 25.5
comp=Z,49nm,18.1s,baz=126,slow=33
GNI Garni 85.69 335 LR LR 00 20 48.3
comp=Z,41nm,19.1s,baz=158,slow=34
MKAR Makanchi Array 86.67 3 P **P** **23 45 16.1 +1.6**
comp=Z,0.9nm,0.8s,baz=166,slow=6.9,SNR=11
MKAR LR LR 00 21 18.2
comp=Z,153nm,20.4s,baz=236,slow=34
comp=Z,0.9nm,0.8s
JNU Nakatsue 87.53 42 LR LR 00 21 10.6
comp=Z,25nm,21.1s,baz=224,slow=33
TORD Torodi Ar. Bea 88.59 288 LR LR 00 23 25.9
comp=Z,102nm,18.6s,baz=150,slow=34
KBZ Khabaz 89.51 335 LR LR 00 21 04.2
comp=Z,78nm,21.8s,baz=170,slow=32
KSRS Korea Array 89.57 37 LR LR 00 24 04.1
comp=Z,13nm,18.5s,baz=260,slow=34
KVAR Kislovodsk Arr 89.78 335 LR LR 00 22 02.4
comp=Z,48nm,20.4s,baz=64,slow=33
KURBB Kurchatov Arra 90.44 360 P **P** **23 45 34.2 +2.0**
comp=Z,0.2nm,0.5s,baz=188,slow=3.6,SNR=5.0
comp=Z,0.2nm,0.5s
SONM Songino Array 91.08 18 P **P** **23 45 37.3 +1.9**
comp=Z,0.4nm,0.6s,baz=210,slow=5.1,SNR=2.1
comp=Z,0.4nm,0.6s
AKTO Aktyubinsk 92.03 347 LR LR 00 25 32.0
comp=Z,38nm,18.9s,baz=84,slow=34
BVAR Borovoye Array 93.11 355 LR LR 00 26 17.7
comp=Z,66nm,18.3s,baz=167,slow=35
ZALV Zalesovo Beam 93.92 4 LR LR 00 25 09.5
comp=Z,118nm,21.9s,baz=160,slow=34
MDPB Devils Postpil 166.05 95 **PKPdf** **23 52 31.7 -4.8**
MDPB **PKPab** **23 53 34.5 -2.4**
F10A Beach Ranch, E 167.12 58 **PKPdf** **23 52 34.0 -2.7**

*BUL **26** 23:37:59.4±4.9, 17°.55S×35°.10E, h10km, MD4.3*
ISC 26 23:37:56.0±4.0, **17°.1S**±0°.1×**34°.9E**±0°.2, **h10**km**, n10, σ1s29/19, Mozambique**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHIPN	**CHIPINGE**	**3.77**	**214**	*i* P	**Pn**	**23 38 55.5**	**+1.2**
CHIPN				*i* S	**Sn**	**23 39 38.0**	**-0.9**
CHIPN	**CHIPINGE**	**3.77**	**214**	*i* P	**Pn**	**23 38 55.5**	**+1.2**
CHIPN				*i* S	**Sn**	**23 39 38.0**	**-0.9**
KRI	**Karoi**	**5.05**	**272**	*i* P	**Pn**	**23 39 12.3**	**+0.3**
KRI				*i* S	**Sn**	**23 40 09.4**	**-1.0**
KRI	**Karoi**	**5.05**	**272**	*i* P	**Pn**	**23 39 12.3**	**+0.3**
KRI				*i* S	**Sn**	**23 40 09.4**	**-1.0**
MUSN	**Musina, Limpop**	**7.00**	**222**	*i* P	**Pn**	**23 39 40.4**	**+1.7**
MUSN				*i* S	**Sn**	**23 40 59.8**	**+1.3**
MUSN	**Musina, Limpop**	**7.00**	**222**	*i* P	**Pn**	**23 39 40.4**	**+1.7**
MUSN				*i* S	**Sn**	**23 40 59.8**	**+1.3**
MOPA	**Mopani**	**7.18**	**207**	*i* P	**Pn**	**23 39 41.0**	**0.0**
MOPA				*i* S	**Sn**	**23 41 00.5**	**-2.2**
MOPA	**Mopani**	**7.18**	**207**	*i* P	**Pn**	**23 39 41.0**	**0.0**
MOPA				*i* S	**Sn**	**23 41 00.5**	**-2.2**
LBTB	**Lobatse**	**11.71**	**226**	*i* P	**Pn**	**23 40 43.8**	**+0.5**
LBTB				*i* S	**Sn**	**23 42 53.2**	**-1.0**
BOSA	**Boshof**	**14.49**	**216**	*i* P	**Pn**	**23 41 21.2**	**-0.1**

*IDC **26** 23:40:05.7±0.9, 17°.81S×64°.86E, h0km, mb3.9/10, mbtmp3.9/11, ML3.6/1, Error ellipse: s-maj=29.0km s-min=22.0km az=60.0*
*NEIC **26** 23:40:06.9±2.1, 17°.9S±0°.1×64°.71E±0°.07, h10km±1km, mb4.0/7, Error ellipse: s-maj=17.8km s-min=10.8km az=158.0*
ISC 26 23:40:06.7±0.6, **17°.96S**±0°.09×**64°.7E**±0°.1, **h10**km**, n31, σ1s14/23, mb4.0/12, Mauritius-Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROCAM	**Rodrigues Isla**	**2.20**	**216**		**Pn**	**23 40 42.8**	**-0.5**
ROCAM				Sn	**Sn**	**23 41 08.4**	**-2.3**
RER	**Riviere de l'E**	**9.05**	**248**	Pn	**Pn**	**23 42 17.3**	**-0.2**
H08S1	**Diego Carcia H**	**12.73**	**37**	T	T	23 55 55.7	
	baz=214,slow=75,SNR=23						
H08S2	**Diego Garcia H**	**12.74**	**37**	T	T	23 55 55.5	
	baz=214,slow=75,SNR=34						
H08S3	**Diego Garcia H**	**12.75**	**37**	T	T	23 55 57.3	
	baz=214,slow=75,SNR=24						
MSEY	**Mahe Island**	**16.01**	**324**	P	**P**	**23 43 54.8**	**-0.8**
MSEY				IAmb	IAmb	23 44 23.4	
	comp=Z,11nm,1.1s						
ABPO	**Ambohimpanom**	**16.64**	**264**	P	**P**	**23 44 05.2**	**+2.4**
ABPO				IAmb	IAmb	23 44 13.1	
	comp=Z,5.9nm,0.6s						
OPO	**Ambohidratompo**	**16.67**	**265**	Pn	**P**	**23 44 03.9**	**+0.8**
	baz=49,slow=20,SNR=1.5						
	comp=Z,2.0nm,0.3s						
FOMA	**Nahampoana Res**	**17.93**	**244**		**Pn**	**23 44 15.9**	**-0.2**
FOMA				IAmb	IAmb	23 44 28.1	
	comp=Z,45nm,1.3s						
H04N2	**CROZET ISLANDS**	**30.10**	**198**	T	T	00 18 07.5	
	baz=26,slow=75,SNR=69						
H04N1	**CROZET ISLANDS**	**30.10**	**198**	T	T	00 18 15.4	
	baz=26,slow=75,SNR=63						
H04N3	**CROZET ISLANDS**	**30.12**	**198**	T	T	00 18 12.9	
	baz=26,slow=75,SNR=68						
H01W2	**Cape Leeuwin H**	**46.87**	**121**	T	T	00 38 27.2	
	baz=278,slow=75,SNR=28						
H01W3	**Cape Leeuwin H**	**46.87**	**121**	T	T	00 38 27.2	
	baz=278,slow=75,SNR=26						
H01W1	**Cape Leeuwin H**	**46.88**	**121**	T	T	00 38 28.4	
	baz=278,slow=75,SNR=32						
CMAR	**Chiang Mai Arr**	**49.40**	**45**	P	**P**	**23 48 57.1**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=233,slow=6.7,SNR=6.0						
	comp=Z,0.6nm,0.3s						
MAW	**Mawson**	**49.64**	**181**	P	**P**	**23 48 58.9**	**+0.9**
MAW				IAmb	IAmb	23 49 04.3	
	comp=Z,1.2nm,1.1s						
BRTR	**Keskin Array B**	**64.31**	**334**	P	**P**	**23 50 41.8**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=155,slow=4.8,SNR=3.1						
	comp=Z,0.5nm,0.8s						
ASAR	**Alice Springs**	**64.37**	**108**	P	**P**	**23 50 43.0**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=270,slow=5.7,SNR=12						
	comp=Z,1.2nm,0.6s						
WRA	**Warramunga Arr**	**65.42**	**104**	P	**P**	**23 50 50.1**	**0.0**
WRA	**Warramunga Arr**	**65.42**	**104**	P	**P**	**23 50 50.3**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=263,slow=5.2,SNR=13						
	comp=Z,2.8nm,0.9s						
WB2	**Warramunga Arr**	**65.43**	**104**	P	**P**	**23 50 49.6**	**-0.7**
WB0	**Warramunga Arr**	**65.51**	**104**	P	**P**	**23 50 48.6**	**-2.1**
WB0				IAmb	IAmb	23 51 01.8	
	comp=Z,1.7nm,0.8s						
MKAR	**Makanchi Array**	**66.37**	**13**	P	**P**	**23 50 54.5**	**-1.1**
MKAR	**Makanchi Array**	**66.37**	**13**	P	**P**	**23 50 55.0**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=205,slow=8.0,SNR=6.0						
	comp=Z,0.5nm,0.8s						
ABKAR	**Akbulak array**	**67.05**	**357**	P	**P**	**23 50 59.6**	**-0.2**
KURBB	**Kurchatov Arra**	**69.36**	**9**	P	**P**	**23 51 13.9**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=208,slow=6.8,SNR=6.6						
	comp=Z,0.6nm,0.7s						
QSPA	**South Pole Qui**	**72.14**	**180**	P	**P**	**23 51 33.1**	**+1.7**
	comp=Z,2.7nm,1.0s,baz=293,slow=1.4,SNR=5.1						
	comp=Z,2.7nm,1.0s						
ZALV	**Zalesovo Beam**	**73.67**	**12**	P	**P**	**23 51 39.2**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=253,slow=1.5,SNR=4.2						
	comp=Z,0.5nm,0.4s						
SONM	**Songino Array**	**75.37**	**28**	P	**P**	**23 51 50.4**	**0.0**
	comp=Z,1.2nm,0.8s,baz=220,slow=5.7,SNR=10						
	comp=Z,1.2nm,0.8s						
ESDC	**Sonseca Array**	**85.87**	**314**	P	**P**	**23 52 48.0**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=77,slow=2.9,SNR=4.1						
	comp=Z,0.5nm,0.8s						

*IDC **26** 23:41:35.2±6.1, 31°.01S×179°.69W, h284km±48km, mb3.2/3, mbtmp4.0/4, Error ellipse: s-maj=61.9km s-min=24.2km az=46.0*
ISC 26 23:41:40.6±1.7, **31°.28S**±0°.10×**179°.6E**±0°.2, **h300**km**, n50, σ2s64/49, mb3.2/3, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**6.63**	**192**	P	**S**	**23 44 37.0**	**+1.5**
PKGZ	**Pakihiroa**	**6.71**	**190**	P	**Pn**	**23 43 21.6**	**+3.2**
PKGZ	**Pakihiroa**	**6.71**	**190**	P	**S**	**23 44 36.6**	**-0.7**
RUGZ	**Raukumara Rang**	**6.85**	**193**	P	**S**	**23 44 37.0**	**-3.6**
PUZ	**Puketiti**	**6.86**	**189**	P	**Pn**	**23 43 22.3**	**+3.4**
WHRZ	**Whale Island**	**6.90**	**197**	P	Pn	23 43 27.2	+6.5
TWGZ	**Tauwhareparae**	**7.01**	**190**	P	**S**	**23 44 43.1**	**-0.9**
MWZ	**Matawai**	**7.24**	**193**	P	**Pn**	**23 43 27.9**	**+3.1**
MWZ	**Matawai**	**7.24**	**193**	P	**S**	**23 44 47.5**	**-1.5**
URZ	**Urewera**	**7.25**	**196**	P	**Pn**	**23 43 24.9**	**0.0**
	14nm,0.3s,baz=352,slow=4.5,SNR=47						
URZ				S	**S**	**23 44 46.2**	**-3.2**
	18nm,0.3s,baz=323,slow=23,SNR=16						
URZ	**Urewera**	**7.25**	**196**	P	**Pn**	**23 43 26.8**	**+1.8**
URZ	**Urewera**	**7.25**	**196**	P	**S**	**23 44 48.2**	**-1.2**
TOZ	**Tahuroa Road**	**7.26**	**207**	P	Pn	23 43 32.7	+7.7
TKGZ	**Te Karaka**	**7.28**	**191**	P	**Pn**	**23 43 28.3**	**+3.0**
TKGZ	**Te Karaka**	**7.28**	**191**	P	**S**	**23 44 48.3**	**-1.7**
RAGZ	**Rawiri**	**7.42**	**193**	P	**Pn**	**23 43 29.0**	**+4.5**
RAGZ	**Rawiri**	**7.42**	**193**	P	**S**	**23 44 52.7**	**-0.4**
MUGZ	**Murupara**	**7.54**	**197**	P	**Pn**	**23 43 32.2**	**+3.7**
RIGZ	**Rimuhau**	**7.56**	**191**	P	**Pn**	**23 43 31.5**	**+2.8**
RIGZ	**Rimuhau**	**7.56**	**191**	P	**S**	**23 44 50.9**	**-5.4**
RTZ	**Ruatahuna**	**7.62**	**196**	P	**S**	**23 44 57.2**	**-0.6**
SNGZ	**Shannon Statio**	**7.71**	**193**	P	**Pn**	**23 43 33.0**	**+2.5**
SNGZ	**Shannon Statio**	**7.71**	**193**	P	**S**	**23 44 57.4**	**-2.2**
PRGZ	**Paritu Road**	**7.75**	**190**	P	**Pn**	**23 43 34.0**	**+3.0**
TLZ	**Tolley Road**	**7.78**	**204**	P	**Pn**	**23 43 28.0**	**-3.4**
MTHZ	**Maungataniwha**	**7.88**	**196**	P	**Pn**	**23 43 34.9**	**+2.2**
MTHZ	**Maungataniwha**	**7.88**	**196**	P	**S**	**23 44 57.6**	**-5.9**
RAHZ	**Arahi**	**7.89**	**194**	P	**Pn**	**23 43 35.3**	**+2.6**
RAHZ	**Arahi**	**7.89**	**194**	P	**S**	**23 45 01.4**	**-2.2**
MHGZ	**Mahia Peninsul**	**7.97**	**189**	P	**Pn**	**23 43 36.6**	**+2.9**
NMHZ	**Naumai**	**8.12**	**195**	P	**Pn**	**23 43 37.9**	**+2.2**
HIZ	**Hauiti**	**8.19**	**207**	P	**Pn**	**23 43 40.3**	**+3.9**
ARHZ	**Aropaoanui**	**8.24**	**194**	P	**Pn**	**23 43 39.5**	**+2.5**
NTVZ	**North Tongarir**	**8.43**	**201**	P	**Pn**	**23 43 42.2**	**+2.7**
TMVZ	**Te Maari**	**8.44**	**201**	P	**Pn**	**23 43 42.3**	**+2.8**
ETVZ	**East Tongariro**	**8.45**	**201**	P	**Pn**	**23 43 42.4**	**+2.6**
NNVZ	**North Ngauruho**	**8.48**	**201**	P	**Pn**	**23 43 42.8**	**+2.7**
TWVZ	**Taurewa**	**8.48**	**202**	P	**P**	**23 43 43.1**	**+3.0**
SNVZ	**South Ngauruho**	**8.52**	**201**	P	**Pn**	**23 43 43.2**	**+2.6**
KWHZ	**Kaweka Forest**	**8.53**	**197**	P	**Pn**	**23 43 41.8**	**+1.2**
CKHZ	**Cape Kidnapper**	**8.61**	**193**	P	**Pn**	**23 43 41.9**	**+0.4**
WNVZ	**Wahianoa**	**8.66**	**201**	P	**Pn**	**23 43 42.3**	**-0.1**
MOVZ	**Moawhango**	**8.69**	**200**	P	**Pn**	**23 43 44.1**	**+1.5**
KRHZ	**Kereru**	**8.75**	**197**	P	**Pn**	**23 43 43.4**	**+0.2**
KAHZ	**Kahuranaki**	**8.78**	**194**	P	**Pn**	**23 43 44.5**	**+0.9**
PXZ	**Pawanui**	**9.01**	**193**	P	**Pn**	**23 43 46.7**	**+0.3**
ASAR	**Alice Springs**	**41.00**	**269**	P	**P**	**23 48 55.9**	**+0.7**
	0.3nm,0.5s,baz=111,slow=7.5,SNR=4.1						
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**42.07**	**274**	P	**P**	**23 49 04.9**	**+1.0**
	0.5nm,0.3s,baz=112,slow=7.9,SNR=10						
	0.5nm,0.3s						
QSPA	**South Pole Qui**	**58.83**	**180**	P	**P**	**23 51 05.8**	**-2.1**
	3.7nm,1.1s,baz=234,slow=0.9,SNR=11						
	3.7nm,1.1s						
FINES	**FINESS Array B**	**145.22**	**338**	PKPbc	**PKPdf**	**00 00 38.0**	**-3.8**
	1.1nm,0.7s,baz=48,slow=8.5,SNR=4.8						

*CATAC **27** 00:00:15.0±0.6, 11°.97N×89°.00W, h20km±7km, ML3.7*
*SNET **27** 00:00:15.9±0.8, 11°.96N×89°.04W, h35km±56km, ML3.6*
ISC 27 00:00:12.9±3.6, **11°.96N**±0°.09×**89°.01W**±0°.06, **h6**km±18km**, n42, σ0s68/68, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JUCU	**Jucuarįn**	**1.48**	**30**	*e*P	**Pn**	**00 00 40.7**	**+0.5**
JUCU				*e*S	**Sg**	**00 01 00.3**	**-0.4**
JUCU				IAML		00 01 04.1	
	comp=Z,617nm,0.3s						
JUCU	**Jucuarįn**	**1.48**	**30**	*i* P	**Pn**	**00 00 39.5**	**-0.7**
JUCU				IAML		00 01 03.8	
	comp=Z,560nm,1.0s						
LALI	**Alcalda de L**	**1.55**	**349**	*i* P	**Pn**	**00 00 41.3**	**+0.3**
LALI				*i* S	**Sn**	**00 01 00.8**	**-0.6**
LALI				IAML		00 01 02.7	
	comp=Z,320nm,1.0s						
TECO	**Alcaldia de Te**	**1.58**	**8**	*i* P	**Pn**	**00 00 41.6**	**+0.1**
TECO				IAML		00 00 41.9	
	comp=Z,440nm,1.0s						
TECO				*i* S	**Sn**	**00 01 00.4**	**-1.9**
TECA	**Tecapa**	**1.60**	**18**	*e*P	**Pn**	**00 00 42.2**	**+0.3**
TECA				*e*S	**Sb**	**00 01 03.7**	**+0.1**
LCY	**Lacayo**	**1.61**	**26**	*e*P	**Pn**	**00 00 42.4**	**+0.4**
PACA	**Pacayal**	**1.64**	**24**	*e*P	**Pn**	**00 00 43.0**	**+0.6**
PACA				*e*S	**Sn**	**00 01 04.4**	**+0.5**
PACA	**Pacayal**	**1.64**	**24**	*i* P	**Pn**	**00 00 43.2**	**+0.8**
PACA				*i* S	**Sn**	**00 01 04.1**	**+0.2**
PACA				IAML		00 01 08.5	
	comp=Z,6µm,1.0s						
SJTE	**Alcalda de S**	**1.64**	**0**	*i* P	**Pn**	**00 00 42.4**	**0.0**
SJTE				*i* S	**Sn**	**00 01 03.8**	**-0.1**
SJTE				IAML		00 01 05.0	
	comp=Z,540nm,1.0s						
PANCS	**Alcalda de**	**1.65**	**354**	*i* P	**Pn**	**00 00 42.9**	**+0.4**
PANCS				IAML		00 00 52.3	
	comp=Z,2µm,1.0s						
PANCS				*i* S	**Sn**	**00 01 03.0**	**-1.0**
BLLM	**Bellamira**	**1.65**	**27**	*e*P	**Pn**	**00 00 43.0**	**+0.4**
COEG	**Centro de Oper**	**1.65**	**4**	*e*P	**Pn**	**00 00 43.0**	**+0.4**
COEG				IAML		00 01 12.6	
	comp=Z,331nm,0.3s						
COEG	**Centro de Oper**	**1.65**	**4**	*i* P	**Pn**	**00 00 42.7**	**+0.2**
COEG				IAML		00 01 12.3	
	comp=Z,310nm,1.0s						
UESV	**Universidad de**	**1.68**	**7**	*i* P	**Pn**	**00 00 42.9**	**0.0**
UESV				IAML		00 00 43.5	
	comp=Z,620nm,1.0s						
UESV				*i* S	**Sn**	**00 01 05.0**	**+0.3**
LOMA	**Loma Larga**	**1.68**	**355**	*i* P	**Pn**	**00 00 43.3**	**+0.3**
LOMA				*i* S	**Sn**	**00 01 03.9**	**-1.0**
LOMA				IAML		00 01 07.4	
	comp=Z,920nm,1.0s						
PQSS	**Presa 15 de Se**	**1.71**	**15**	*i* P	**Pn**	**00 00 43.4**	**+0.2**
PQSS				*i* S	**Sb**	**00 01 06.5**	**0.0**
PQSS				IAML		00 01 07.5	
	comp=Z,640nm,1.0s						
CNRM	**Centro Naciona**	**1.71**	**28**	*i* P	**Pn**	**00 00 43.3**	**0.0**
CNRM				*i* S	**Sn**	**00 01 05.9**	**+0.4**
CNRM				IAML		00 01 09.9	
	comp=Z,3µm,1.0s						
SNET	**Serv Nac Est T**	**1.73**	**353**	*i* P	**Pn**	**00 00 43.8**	**+0.2**
SNET				IAML		00 01 09.4	
	comp=Z,2µm,1.0s						
JAYA	**Jayaque - finc**	**1.74**	**346**	*e*P	**Pn**	**00 00 44.1**	**+0.3**
JAYA				*e*S	**Sn**	**00 01 04.8**	**-1.5**
JAYA				IAML		00 01 09.1	
	comp=Z,2µm,0.2s						
JAYA	**Jayaque - finc**	**1.74**	**346**	*i* P	**Pn**	**00 00 44.0**	**+0.3**
JAYA				*i* S	**Sn**	**00 01 05.2**	**-1.1**
JAYA				IAML		00 01 09.0	
	comp=Z,4µm,1.0s						
CNCH	**Conchagua**	**1.74**	**41**	*e*P	**Pn**	**00 00 43.9**	**+0.2**
CNCH	**Conchagua**	**1.74**	**41**	*i* P	**Pn**	**00 00 44.1**	**+0.3**
CNCH				IAML		00 01 17.3	
	comp=Z,1µm,1.0s						
PAVA	**Las Pavas**	**1.74**	**2**	*i* P	**Pn**	**00 00 43.8**	**0.0**
PAVA				*i* S	**Sn**	**00 01 06.0**	**-0.4**
PAVA				IAML		00 01 12.5	
	comp=Z,880nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.75**	**9**	*i* P	**Pn**	**00 00 44.6**	**+0.7**
SCLA				*i* S	**Sn**	**00 01 06.9**	**+0.4**
SCLA				IAML		00 01 09.4	
	comp=Z,270nm,1.0s						
PMON	**Piamonte**	**1.77**	**350**	*i* P	**Pn**	**00 00 44.5**	**+0.4**
PMON				*i* S	**Sn**	**00 01 07.5**	**+0.5**
PMON				IAML		00 01 13.1	
	comp=Z,1µm,1.0s						
BOQS	**Boqueron**	**1.78**	**351**	*e*P	**Pn**	**00 00 45.2**	**+0.8**
CEDA	**San Andres**	**1.87**	**348**	*i* P	**Pn**	**00 00 46.9**	**+1.4**
CEDA				*i* S	**Sn**	**00 01 09.3**	**-0.1**
CEDA				IAML		00 01 11.5	
	comp=Z,2µm,1.0s						
CEVE	**Cerro Verde**	**1.95**	**342**	*i* P	**Pn**	**00 00 47.6**	**+0.8**
CEVE				*i* S	**Sn**	**00 01 11.2**	**-0.5**
CEVE				IAML		00 01 20.7	
	comp=Z,1µm,1.0s						
SBLS	**San Blas**	**1.96**	**342**	*e*P	**Pn**	**00 00 47.6**	**+0.6**
RTR	**El Retiro**	**2.02**	**342**	*e*P	**Pn**	**00 00 48.5**	**+0.8**
RTR				*e*S	**Sn**	**00 01 13.0**	**-0.4**
CRIN	**San Cristobal**	**2.05**	**69**	*i* P	**Pn**	**00 00 48.3**	**+0.3**
CRIN				*i* S	**Sn**	**00 01 15.1**	**+1.2**
CRIN				IAML		00 01 44.4	
	comp=Z,750nm,1.0s						
NUBE	**Las Nubes**	**2.07**	**339**	*i* P	**Pn**	**00 00 48.6**	**+0.2**
NUBE				*i* S	**Sn**	**00 01 13.1**	**-1.5**
NUBE				IAML		00 01 14.7	
	comp=Z,2µm,1.0s						
UNIC	**Universidad Ca**	**2.08**	**345**	*i* P	**Pn**	**00 00 49.4**	**+1.0**
UNIC				*i* S	**Sn**	**00 01 14.3**	**-0.3**
UNIC				IAML		00 01 18.5	
	comp=Z,280nm,1.0s						
LLGN	**La Laguna**	**2.19**	**2**	*i* P	**Pn**	**00 00 50.6**	**+0.7**
LLGN				IAML		00 01 04.1	
	comp=Z,210nm,1.0s						
LLGN				*i* S	**Sn**	**00 01 18.1**	**+0.7**
CNGA	**Al SSO del Vol**	**2.32**	**77**	*i* P	**Pn**	**00 00 51.6**	**0.0**
CNGA				IAML		00 01 56.7	
	comp=Z,480nm,1.0s						
MACN	**El Madrono**	**2.33**	**77**	*i* P	**Pn**	**00 00 51.6**	**-0.3**
MACN				*i* S	**Sn**	**00 01 20.6**	**-0.3**
MACN				IAML		00 01 31.4	
	comp=Z,160nm,1.0s						
COPN	**Copaltepe**	**2.37**	**84**	*i* P	**Pn**	**00 00 52.2**	**-0.2**
COPN				IAML		00 00 53.0	
	comp=Z,180nm,1.0s					

KLY eS Sn 00 21 10.0 -1.3
BZWR Bezymyannyi-We 3.92 287 PN Pn 00 20 26.9 +0.8
BZWR Bezymyannyi-We 3.92 287 eP Pn 00 20 26.9 +0.8
KRSR Krestovskiy 3.94 290 PN Pn 00 20 25.9 -0.4
KRSR S Sn 00 21 12.8 +0.8
KRSR Krestovskiy 3.94 290 eP Pn 00 20 25.9 -0.4
KRSR eS Sn 00 21 12.8 +0.8
KIRR Kirishev 4.01 286 PN Pn 00 20 28.5 +1.4
KIRR Kirishev 4.01 286 eP Pn 00 20 28.5 +1.4
KMNR Kamenistaya 4.03 283 PN Pn 00 20 29.5 +2.0
KMNR Kamenistaya 4.03 283 eP Pn 00 20 29.5 +2.0
TUMR Tumrok 4.05 276 PN Pn 00 20 26.1 -1.6
TUMR Tumrok 4.05 276 eP Pn 00 20 29.5 +1.8
KPT Kopyto 4.07 286 PN Pn 00 20 30.1 +2.0
KPT Kopyto 4.07 286 eP Pn 00 20 30.1 +2.0
KOZ Kozyrevsk 4.28 287 PN Pn 00 20 32.1 +1.3
KOZ Kozyrevsk 4.28 287 eP Pn 00 20 32.1 +1.3
SRDR Sredinnyy 4.42 290 PN Pn 00 20 35.1 +2.3
SRDR Sredinnyy 4.42 290 eP Pn 00 20 35.1 +2.3
SPN Mys Shipunski 4.64 248 PN Pn 00 20 35.3 -0.5
SPN Mys Shipunski 4.64 248 eP Pn 00 20 35.3 -0.5
SPN eS Sn 00 21 26.5 -2.6
SHEM Shemya Is, Ala 4.69 117 Pn Pn 00 20 35.2 -1.2
6.2nm,0.3s,baz=288,slow=20,SNR=1.9
SHEM Sn Sn 00 21 28.1 -2.2
5.1nm,0.3s,baz=281,slow=19,SNR=7.2
14nm,0.3s
ESO Esso 4.91 284 PN Pn 00 20 41.2 +1.7
ESO Esso 4.91 284 eP Pn 00 20 41.2 +1.7
NLC Nalytchevo 4.98 251 PN Pn 00 20 40.7 +0.3
NLC Nalytchevo 4.98 251 eP Pn 00 20 40.7 +0.3
NLC eS Sn 00 21 36.0 -1.3
SMAR Somma 5.24 254 PN Pn 00 20 44.9 +0.7
SMAR Somma 5.24 254 eP Pn 00 20 44.9 +0.7
KRER Koryakskii 5.25 254 PN Pn 00 20 45.7 +1.3
KRER Koryakskii 5.25 254 eP Pn 00 20 45.7 +1.3
KRER eS Sn 00 21 43.6 -0.8
AVH Avacha 5.27 254 PN Pn 00 20 45.4 +0.9
AVH Avacha 5.27 254 eP Pn 00 20 45.4 +0.9
KRX Arik 5.29 255 PN Pn 00 20 45.4 +0.6
KRX Arik 5.29 255 eP Pn 00 20 45.4 +0.6
KRX eS Sn 00 21 43.9 -1.3
KOK Koryaka 5.32 254 PN Pn 00 20 46.0 +0.8
KOK Koryaka 5.32 254 eP Pn 00 20 46.0 +0.8
PET Petropavlovsk 5.42 252 Pn Pn 00 20 46.6 +0.2
PET Sn Sn 00 21 46.4 -1.8
PET Petropavlovsk 5.42 252 ePN Pn 00 20 46.6 +0.2
PET pmax pmax
comp=Z,58nm,0.6s
PET MLR MLR
comp=Z,100nm,18.0s
PET MLR MLR
comp=Z,300nm,15.0s
PET Petropavlovsk 5.42 252 eP Pn 00 20 46.7 +0.3
PET eS Sn 00 21 45.5 -2.7
TILK Tilichiki 5.46 355 PN Pn 00 20 46.0 -1.0
TILK Tilichiki 5.46 355 eP Pn 00 20 46.0 -1.0
GNL Ganaly 5.57 260 PN Pn 00 20 50.0 +1.4
GNL Ganaly 5.57 260 eP Pn 00 20 50.0 +1.4
RUS Russkaya 5.77 247 PN Pn 00 20 51.1 -0.2
RUS Russkaya 5.77 247 eP Pn 00 20 51.1 -0.2
RUS eS Sn 00 21 54.9 -1.9
KRMR Karymshinskiy 5.79 251 PN Pn 00 20 52.2 +0.7
KRMR Karymshinskiy 5.79 251 eP Pn 00 20 52.2 +0.7
KRMR eS Sn 00 21 55.6 -1.7
PEA0B Petropavlovsk- 5.91 255 Pn Pn 00 20 53.4 +0.2
PEA0B Sn Sn 00 22 01.4 +1.1
PEA0B Petropavlovsk- 5.91 255 ePN Pn 00 20 56.5 +3.3
PETK Petropavlovsk- 5.91 255 Pn Pn 00 20 54.3 +1.1
comp=Z,4.1nm,0.3s,baz=78,slow=17,SNR=7.2
PETK Sn Sn 00 22 01.3 +0.9
comp=Z,1.8nm,0.3s,baz=32,slow=26,SNR=1.3
comp=Z,8.0nm,0.4s
MTVR Mutnovka 5.92 248 PN Pn 00 20 54.1 +0.6
MTVR Mutnovka 5.92 248 eP Pn 00 20 54.1 +0.6
MTVR eS Sn 00 21 58.7 -2.1
ASAK Asacha 6.12 248 PN Pn 00 20 57.2 +1.0
ASAK Asacha 6.12 248 eP Pn 00 20 57.2 +1.0
ASAK eS Sn 00 22 04.6 -1.0
APC Apacha 6.28 255 PN Pn 00 21 00.7 +2.4
APC Apacha 6.28 255 eP Pn 00 21 00.7 +2.4
KDTR Khodutka, Kamc 6.33 243 PN Pn 00 20 58.8 -0.1
KDTR Khodutka, Kamc 6.33 243 eP Pn 00 20 58.8 -0.1
KDTR eS Sn 00 22 05.9 -4.7
KMSK Kamenskaya 7.48 356 PN Pn 00 21 14.0 -0.6
KMSK Kamenskaya 7.48 356 eP Pn 00 21 14.0 -0.6
MA2 Magadan 9.98 304 LR LR 00 25 36.0
comp=Z,63nm,19.7s,baz=91,slow=37
SEY Seymchan 10.98 322 Pn Pn 00 22 01.6 -1.0
comp=Z,0.5nm,0.3s,baz=163,slow=19,SNR=2.2
comp=Z,2.1nm,0.2s
C19K Lookout Ridge 20.61 34 P P 00 24 05.2 +0.8
C19K IAmb IAmb 00 24 14.5
comp=Z,5.5nm,0.7s
L19K White Mountain 20.76 54 P Pn 00 24 07.6 -1.0
E19K Redstone River 20.78 39 Pn 00 24 10.2 +1.5
D19K Kuna River 20.84 36 Pn Pn 00 24 14.4 +0.9
D19K IAmb IAmb 00 24 16.8
comp=Z,6.7nm,1.1s
B20K Meade River 21.77 33 P P 00 24 17.6 +0.8
B20K IAmb IAmb 00 24 25.9
comp=Z,12nm,1.4s
KDAK Kodiak Island 22.20 66 LR LR 00 32 43.3
comp=Z,45nm,18.7s,baz=330,slow=36
KLR Kul'dur 22.34 270 *i* P P 00 24 23.1 -0.1
KLR Kul'dur 22.34 270 LR LR 00 33 21.0
comp=Z,65nm,20.2s,baz=62,slow=37
TIXI Tiksi 23.28 330 P P 00 24 32.2 -0.5
TIXI IAmb IAmb 00 24 32.9
comp=Z,2.8nm,0.7s
TIXI Tiksi 23.28 330 P P 00 24 32.2 -0.5
TIXI pmax pmax
comp=Z,3.0nm,0.7s
ILAR Eielson Array 24.44 48 eP P 00 24 42.7 -1.2
ILAR pmax pmax
comp=Z,2.0nm,1.0s
ILAR Eielson Array 24.44 48 P P 00 24 42.2 -1.6
comp=Z,2.1nm,1.0s,baz=262,slow=8.5,SNR=12
ILAR LR LR 00 34 40.3
comp=Z,30nm,18.7s,baz=252,slow=38
comp=Z,2.1nm,1.0s
USRK Ussuriysk Ar. 24.98 259 LR LR 00 34 15.8
comp=Z,48nm,20.9s,baz=114,slow=36
L27K Beaver Creek, 26.75 52 P P 00 25 04.5 -0.3
L27K IAmb IAmb 00 25 06.2
comp=Z,7.1nm,1.1s
D27M Malcolm River 27.04 38 P P 00 25 07.2 -0.2
MAJO Matsushiro 27.09 239 *i* P P 00 25 10.1 +2.1
MAJO pmax pmax
comp=Z,6.0nm,0.8s
MJAR Matsushiro Arr 27.09 239 P P 00 25 09.7 +1.6
comp=Z,1.9nm,0.6s,baz=30,slow=7.8,SNR=5.6
comp=Z,1.9nm,0.6s
KSRS Korea Array 31.81 253 P P 00 25 53.2 +3.4
comp=Z,0.5nm,0.3s,baz=43,slow=11,SNR=2.4
KSRS LR LR 00 38 04.8
comp=Z,17nm,19.7s,baz=40,slow=35
comp=Z,0.5nm,0.3s
SONM Songino Array 37.49 285 P P 00 26 39.7 +0.6
comp=Z,0.7nm,0.6s,baz=51,slow=9.4,SNR=5.4
comp=Z,0.7nm,0.6s
YKA Yellowknife Ar 38.85 46 eP P 00 26 51.7 +1.6
YKA Yellowknife Ar 38.85 46 P P 00 26 49.1 -1.0
comp=Z,0.4nm,0.7s,baz=297,slow=8.3,SNR=5.9
comp=Z,0.4nm,0.7s
SPITS Spitsbergen Ar 45.86 352 P P 00 27 45.9 -1.1
comp=Z,4.5nm,0.9s,baz=20,slow=4.6,SNR=1.7
comp=Z,4.5nm,0.9s
KURK Kurchatov 50.19 304 P P 00 28 20.2 -0.5
KURK Kurchatov 50.19 304 eP P 00 28 20.6 -0.1
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURBB Kurchatov Arra 50.29 304 P P 00 28 21.1 -0.4
comp=Z,1.5nm,0.8s,baz=53,slow=7.7,SNR=15
comp=Z,1.5nm,0.8s
MK31 Makanchi Array 51.01 298 *i* P P 00 28 27.5 +0.5
MKAR Makanchi Array 51.01 298 P P 00 28 26.1 -0.9
comp=Z,0.6nm,0.5s,baz=53,slow=6.0,SNR=11
comp=Z,0.6nm,0.5s
BVAR Borovoye Array 52.38 311 P P 00 28 36.9 -0.3
comp=Z,1.6nm,0.6s,baz=50,slow=8.7,SNR=3.6
comp=Z,1.6nm,0.6s
BRVK Borovoye 52.40 311 *i* P P 00 28 37.0 -0.3
BRVK pmax pmax
comp=Z,1.0nm,0.6s
PDAR Pinedale Array 52.91 66 P P 00 28 41.9 +0.3
comp=Z,0.2nm,0.6s,baz=343,slow=2.8,SNR=1.8
comp=Z,0.2nm,0.6s
SCHQ Schefferville 61.89 32 LR LR 00 57 05.0
comp=Z,95nm,21.6s,baz=91,slow=37
CMAR Chiang Mai Arr 62.62 263 P P 00 29 51.4 +1.6
comp=Z,0.3nm,0.3s,baz=29,slow=6.5,SNR=1.3
comp=Z,0.3nm,0.3s
TXAR Lajitas Array 66.04 73 P P 00 30 12.1 -0.1
comp=Z,0.2nm,0.5s,baz=307,slow=4.8,SNR=8.6
comp=Z,0.2nm,0.5s
BRTR Keskin Array B 77.61 325 P P 00 31 21.2 -0.3
comp=Z,0.3nm,0.6s,baz=43,slow=2.6,SNR=2.0
comp=Z,0.3nm,0.6s
LEM Lembang 78.87 241 LR LR 01 09 47.7
comp=Z,20nm,19.6s,baz=180,slow=38
WRA Warramunga Arr 79.76 211 P P 00 31 33.7 +0.4
comp=Z,0.2nm,0.4s,baz=23,slow=6.1,SNR=2.0
comp=Z,0.2nm,0.4s
ASAR Alice Springs 83.40 210 P P 00 31 55.3 +2.8
comp=Z,0.3nm,0.7s,baz=24,slow=7.1,SNR=1.8
comp=Z,0.3nm,0.7s
ESDC Sonseca Array 85.36 353 P P 00 32 02.2 -0.3
comp=Z,0.6nm,1.0s,baz=350,slow=4.6,SNR=2.2
comp=Z,0.6nm,1.0s
QSPA South Pole Qui 144.78 180 PKP PKPab 00 38 58.7 -1.0
comp=Z,0.8nm,0.7s,baz=52,slow=0.6,SNR=2.0

*IDC **27** 00:21:14.7±4.5, 36°.25N×71°.52E, h66km±30km, mb3.5/11, mbtmp3.8/18, ML3.5/7, Error ellipse: s-maj=50.3km s-min=20.1km az=142.0*
*NNC **27** 00:21:21.9±3.6, 36°.76N×70°.88E, h96km±74km, mb3.6, mpv4.4, Error ellipse: s-maj=34.0km s-min=22.8km az=148.0*
ISC 27 00:21:22.7±1.2, 36°.83N±0°.10×70°.96E±0°.08, h100km, n35, σ1s72/42, mb3.7/10, 4C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**5.36**	**353**	Pg	**Pn**	**00 22 42.7**	**+2.3**
	13nm,0.2s						
IUG				Lg	Lg	00 23 44.2	
	198nm,0.3s						
UCH	**Uchtor**	**6.05**	**26**	P	**Pn**	**00 22 49.5**	**-0.6**
	SNR=6.9						
DZA	**Taraz**	**6.06**	**3**	Pg	**Pn**	**00 22 51.9**	**+2.0**
	93nm,0.2s						
DZA				Lg	Lg	00 24 00.2	
	110nm,0.3s						
MRKS	**Merke**	**6.16**	**16**	Pg	**Pn**	**00 22 51.7**	**+0.4**
	20nm,0.4s						
MRKS				Lg	Lg	00 23 59.8	
	29nm,0.6s						
EKS2	**Erkin-Say**	**6.22**	**20**	P	**Pn**	**00 22 52.5**	**+0.5**
	SNR=14						
BRLS	**Borolday**	**6.26**	**352**	Pg	**Pn**	**00 22 50.9**	**-1.6**
	3.1nm,0.2s						
BRLS				Lg	Lg	00 23 58.5	
	19nm,0.2s						
KK31	**Karatay Array**	**6.28**	**357**	⇑P	**Pn**	**00 22 54.3**	**+1.5**
	9.1nm,0.5s,baz=176,slow=12,SNR=123						
KK31				⇑S	**Sn**	**00 24 05.4**	**+2.3**
	9.1nm,0.5s,baz=181,slow=24,SNR=8.8						
AAK	**Ala-Archa**	**6.41**	**24**	P	**Pn**	**00 22 54.7**	**+0.1**
	SNR=20						
AAK	**Ala-Archa**	**6.41**	**24**	P	**Pn**	**00 22 53.6**	**-1.1**
	4.6nm,0.3s,baz=167,slow=6.2,SNR=62						
AAK				S	**Sn**	**00 24 06.0**	**-0.5**
	5.8nm,0.3s,baz=162,slow=20,SNR=9.1						
	8.2nm,0.3s						
CHMS	**Chumysh**	**6.82**	**24**	P	**Pn**	**00 22 59.7**	**-0.4**
	SNR=7.9						
USP	**Ospenovka**	**6.98**	**22**	P	**Pn**	**00 23 01.7**	**-0.6**
	SNR=8.1						
DGS	**Degeres**	**7.39**	**28**	P	**Pn**	**00 23 07.1**	**-0.9**
	3.1nm,0.3s						
KRBS	**Karabastau**	**7.75**	**26**	P	**Pn**	**00 23 11.4**	**-1.4**
	1.7nm,0.4s						
GEYT	**Alibeck**	**10.28**	**280**	P	**Pn**	**00 23 46.1**	**-1.2**
	1.6nm,0.3s,baz=124,slow=10,SNR=21						
GEYT				S	**Sn**	**00 25 39.3**	**-1.3**
	5.3nm,0.4s,baz=90,slow=27,SNR=5.0						
	2.0nm,0.3s						
GYA0B	**ALIBECK ARRAY**	**10.28**	**280**	⇑P	**Pn**	**00 23 45.6**	**-1.7**
GYA0B				⇑S	**Sn**	**00 25 39.4**	**-1.2**
MKAR	**Makanchi Array**	**13.05**	**37**	P	**Pn**	**00 24 21.1**	**-3.1**
	baz=228,slow=14,SNR=2.9						
	0.3nm,0.7s						
AB31	**Akbulak array**	**14.78**	**331**	P	**Pn**	**00 24 47.5**	**+1.0**
	0.6nm,0.3s,baz=132,slow=14,SNR=84						
AB31				S	**Sn**	**00 27 24.3**	**-5.2**
	5.1nm,0.9s,baz=149,slow=23,SNR=16						
KURBB	**Kurchatov Arra**	**14.82**	**19**	P	**Pn**	**00 24 46.2**	**-0.8**
	baz=206,slow=10,SNR=7.1						
	0.6nm,0.7s						
BVA0	**Borovoye Array**	**16.20**	**359**	P	**P**	**00 25 05.8**	**+0.2**
	4.0nm,1.3s,baz=166,slow=10,SNR=8.7						
BVAR	**Borovoye Array**	**16.20**	**359**	P	**P**	**00 25 04.9**	**-0.7**
	0.1nm,0.3s,baz=165,slow=12,SNR=9.2						
	1.3nm,0.6s						
AKTO	**Aktyubinsk**	**16.48**	**330**	P	**P**	**00 25 10.0**	**+1.3**
	1.2nm,0.3s,baz=126,slow=5.9,SNR=13						
AKTO				S	**Sn**	**00 28 09.1**	**-1.3**
	3.9nm,0.8s,baz=131,slow=20,SNR=6.7						
	2.6nm,0.3s						
AKTO	**Aktyubinsk**	**16.48**	**330**	⇓P	**P**	**00 25 09.0**	**+0.3**
	1.5nm,0.6s						
AKTO				⇓S	**Sn**	**00 28 08.2**	**-2.2**
	3.3nm,0.8s						
ZALV	**Zalesovo Beam**	**19.63**	**25**	P	**P**	**00 25 41.4**	**-1.7**
	0.8nm,0.3s,baz=210,slow=10,SNR=12						
	2.8nm,0.4s						
GNI	**Garni**	**20.77**	**287**	P	**P**	**00 25 57.9**	**+2.2**
	3.1nm,0.7s,baz=33,slow=3.2,SNR=5.7						
	3.1nm,0.7s						
ARU	**Arti**	**21.31**	**341**	P	**P**	**00 26 02.5**	**+1.3**
	0.9nm,0.3s,baz=120,slow=9.2,SNR=3.9						
	0.9nm,0.3s						
KBZ	**Khabaz**	**22.43**	**297**	P	**P**	**00 26 14.7**	**+1.7**
	1.0nm,0.8s,baz=120,slow=8.1,SNR=2.6						
	1.0nm,0.8s						
AKASG	**Malin Array Be**	**32.72**	**308**	P	**P**	**00 27 47.4**	**+1.9**
	0.4nm,0.5s,baz=78,slow=8.9,SNR=2.7						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**37.20**	**326**	P	**P**	**00 28 25.7**	**+1.9**
	0.6nm,0.3s,baz=121,slow=8.6,SNR=16						
	0.6nm,0.3s						
VRAC	**Vranov**	**40.78**	**305**	P	**P**	**00 28 55.4**	**+1.4**
	0.9nm,0.4s,baz=94,slow=3.9,SNR=4.6						
	0.9nm,0.4s						
ARCES	**ARCESS Array B**	**40.83**	**337**	P	**P**	**00 28 55.4**	**+1.3**
	2.0nm,0.7s,baz=99,slow=7.5,SNR=4.8						
	2.0nm,0.7s						
HFS	**Hagfors**	**42.79**	**322**	P	**P**	**00 29 11.6**	**+1.5**
	2.7nm,0.5s,baz=97,slow=12,SNR=19						
	2.7nm,0.5s						
NB2	**NORSAR Subarra**	**44.10**	**323**	P	**P**	**00 29 22.0**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.10**	**323**	P	**P**	**00 29 21.8**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=101,slow=7.3,SNR=9.1						
	comp=Z,0.7nm,0.5s						
ESDC	**Sonseca Array**	**57.28**	**298**	P	**P**	**00 31 00.2**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=50,slow=7.3,SNR=1.8						
	comp=Z,0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**65.69**	**268**	P	**P**	**00 31 54.1**	**-2.8**
	comp=Z,0.3nm,0.5s,baz=45,slow=6.6,SNR=5.3						
	comp=Z,0.3nm,0.5s						

*SDD **27** 00:42:13.7±1.4, 18°.79N×65°.39W, h15km±527km, MD3.5, ML2.4, MW2.6*
*RSPR **27** 00:42:17.0, 19°.28N×65°.84W, h35km±13km, MD3.2/8*
*NEIC **27** 00:42:16.4±0.9, 19°.25N±0°.08×65°.89W±0°.06, h35km±2km, ML2.3/18, Md3.2/8(RSPR), Error ellipse: s-maj=13.6km s-min=9.1km az=14.0*
ISC 27 00:42:16.0±3.6, 19°.2N±0°.2×65°.86W±0°.09, h28km, n43, σ0s67/46, 11C-5D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GCPR	**Guaynabo City**	**0.94**	**193**	⇑eP	**Pn**	**00 42 33.3**	**-0.1**
GCPR	**Guaynabo City**	**0.94**	**193**	eS	**Sn**	**00 42 46.0**	**+0.2**
GCPR	**Guaynabo City**	**0.94**	**193**		**Pn**	**00 42 33.0**	**-0.3**
GCPR					**Pb**	**00 42 33.6**	**-0.1**
EMPR	**Esperanza - Ma**	**0.98**	**220**	⇓eP	**Pn**	**00 42 33.5**	**-0.4**
EMPR	**Esperanza - Ma**	**0.98**	**220**	eS	**Sn**	**00 42 46.9**	**0.0**
EMPR	**Esperanza - Ma**	**0.98**	**220**		**Pn**	**00 42 33.2**	**-0.7**
EMPR	**Esperanza - Ma**	**0.98**	**220**		**Sn**	**00 42 46.9**	**0.0**
EMPR	**Esperanza - Ma**	**0.98**	**220**	IAML		00 42 48.8	
	comp=N,143nm,1.9s						
EMPR				IAML		00 42 53.4	
	comp=E,160nm,1.1s						
HUMP	**Col San Antoni**	**1.08**	**180**	⇓eP	**Pn**	**00 42 35.5**	**+0.2**
HUMP	**Col San Antoni**	**1.08**	**180**	eS	**Sn**	**00 42 49.1**	**-0.2**
HUMP	**Col San Antoni**	**1.08**	**180**		**Pn**	**00 42 35.5**	**+0.2**
HUMP					**Sn**	**00 42 49.1**	**-0.2**
HUMP	**Col San Antoni**	**1.08**	**180**	IAML		00 42 54.4	
	comp=E,40nm,0.2s						
AOPR	**Arecibo Observ**	**1.22**	**224**	⇑eP	**Pn**	**00 42 36.9**	**-0.4**
AOPR	**Arecibo Observ**	**1.22**	**224**	eS	**Sn**	**00 42 52.4**	**-0.5**
AOPR	**Arecibo Observ**	**1.22**	**224**		**Sn**	**00 42 52.4**	**-0.5**
AOPR	**Arecibo Observ**	**1.22**	**224**		**Pn**	**00 42 36.8**	**-0.4**
AOPR	**Arecibo Observ**	**1.22**	**224**	IAML		00 42 55.4	
	comp=N,98nm,0.3s						
AOPR				IAML		00 43 03.3	
	comp=E,161nm,0.3s						
AOPR	**Arecibo Observ**	**1.22**	**224**	⇑ePg	**Pn**	**00 42 36.8**	**-0.4**
AOPR				⇑eSg	**Sb**	**00 42 54.9**	**+1.1**
AOPR				IAML		00 42 55.4	
	comp=N,96nm,0.2s						
AOPR				IAML		00 42 57.1	
	comp=E,135nm,0.3s						
UUPR	**Utuado, UPR, P**	**1.27**	**220**	⇓eP	**Pn**	**00 42 37.4**	**-0.5**
UUPR	**Utuado, UPR, P**	**1.27**	**220**	eS	**Sn**	**00 42 53.8**	**-0.2**
UUPR	**Utuado, UPR, P**	**1.27**	**220**		**Pn**	**00 42 37.4**	**-0.5**
UUPR					**Sn**	**00 42 53.8**	**-0.2**
IGPR	**InterUniversit**	**1.28**	**191**	⇑eP	**Pn**	**00 42 38.4**	**+0.4**
IGPR	**InterUniversit**	**1.28**	**191**	eS	**Sn**	**00 42 53.8**	**-0.4**
IGPR	**InterUniversit**	**1.28**	**191**		**Pn**	**00 42 38.4**	**+0.4**
IGPR					**Sn**	**00 42 53.8**	**-0.4**
IGPR	**InterUniversit**	**1.28**	**191**	IAML		00 42 58.3	
	comp=N,78nm,0.3s						
IGPR				IAML		00 43 01.5	
	comp=E,88nm,0.3s						
OBIP	**Obispado Ponce**	**1.38**	**211**	⇓eP	**Pn**	**00 42 38.7**	**-0.7**
OBIP	**Obispado Ponce**	**1.38**	**211**	eS	**Sn**	**00 42 54.5**	**-2.1**
OBIP	**Obispado Ponce**	**1.38**	**211**		**Pn**	**00 42 38.7**	**-0.7**
OBIP					**Sn**	**00 42 54.5**	**-2.1**
OBIP	**Obispado Ponce**	**1.38**	**211**	IAML		00 43 09.4	
	comp=N,29nm,3.2s						
LSP	**Las Mesas**	**1.56**	**228**	⇑eP	**Pn**	**00 42 41.6**	**-0.4**
LSP	**Las Mesas**	**1.56**	**228**	eS	**Sn**	**00 43 01.6**	**+0.2**
LSP	**Las Mesas**	**1.56**	**228**		**Pn**	**00 42 41.6**	**-0.4**
LSP					**Sn**	**00 43 01.6**	**+0.2**
MLPR	**Magueyes Islan**	**1.68**	**222**	⇓eP	**Pn**	**00 42 43.6**	**0.0**
MLPR	**Magueyes Islan**	**1.68**	**222**	eS	**Sn**	**00 43 04.2**	**0.0**
MLPR	**Magueyes Islan**	**1.68**	**222**		**Pn**	**00 42 43.6**	**0.0**
MLPR					**Sn**	**00 43 04.2**	**0.0**
MLPR	**Magueyes Islan**	**1.68**	**222**	IAML		00 43 30.9	
	comp=N,25nm,2.2s						
MLPR				IAML		00 43 49.8	
	comp=E,28nm,2.2s						
MLPR	**Magueyes Islan**	**1.68**	**222**	⇑ePg	**Pn**	**00 42 44.0**	**+0.4**
MLPR				⇑eSg	**Sn**	**00 43 05.8**	**+1.6**
MLPR				IAML		00 43 08.0	
	comp=E,25nm,2.7s						
MLPR				IAML		00 43 30.3	
	comp=N,23nm,2.2s						
CRPR	**Cabo Rojo, PR**	**1.70**	**225**	⇑eP	**Pn**	**00 42 44.0**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.70**	**225**	eS	**Sn**	**00 43 04.8**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.70**	**225**		**Pn**	**00 42 44.0**	**+0.2**
CRPR				IAML		00 43 42.8	
	comp=N,25nm,2.7s						
CRPR	**Cabo Rojo, PR**	**1.70**	**225**	IAML		00 42 57.5	
	comp=E,32nm,2.4s						
CRPR	**Cabo Rojo, PR**	**1.70**	**225**		**Sn**	**00 43 04.8**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.70**	**225**	⇑ePg	**Pn**	**00 42 45.1**	**+1.3**
CRPR				⇑eSg	**Sb**	**00 43 08.0**	**+0.4**
CRPR				IAML		00 43 12.5	
	comp=E,32nm,2.9s						
CRPR				IAML		00 43 42.2	
	comp=N,36nm,3.5s						

*IDC **27** 00:54:20.7±1.0, 12°.20N×81°.62W, h0km, mb3.5/6, mbtmp3.6/8, ML3.3/2, MS3.4/3, Error ellipse: s-maj=26.1km s-min=22.5km az=51.0*
*UPA **27** 00:54:20.4±1.8, 12°.24N×81°.57W, h0km±7km, MW4.2*
*RSNC **27** 00:54:22.5±0.0, 12°N±5°×8°1W±°, h11km±12km, M3.4, mb4.2, ML3.4*
*CATAC **27** 00:54:23.5±0.7, 12°.14N×81°.46W, h27km±7km, ML4.5*
ISC 27 00:54:19.9±1.5, 12°.16N±0°.03×81°.54W±0°.03, h2km±10km, n62, σ1s74/88, mb3.4/7, 1D, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRVC	**Isla de Provid**	**1.22**	**8**	*e*P	**Pb**	**00 54 43.5**	**-0.1**
PRVC				*e*S	**Sg**	**00 54 58.7**	**-0.4**
PRVC	**Isla de Provid**	**1.22**	**8**	P	**Pg**	**00 54 43.4**	**+0.2**
PRVC				S	**Sb**	**00 54 59.5**	**-0.4**
PRVC	**Isla de Provid**	**1.22**	**8**	*i* P	**Pn**	**00 54 44.5**	**+0.5**
PRVC				*i* S	**Sn**	**00 55 00.5**	**-0.5**
PRVC				IAML		00 55 06.6	
	comp=Z,640nm,1.0s						
BLUN	**Bluefields**	**2.19**	**266**	*i* P	**Pn**	**00 54 59.0**	**+1.6**
BLUN				*i* S	**Sn**	**00 55 25.7**	**+0.6**
BLUN				IAML		00 55 26.7	
	comp=Z,4μm,1.0s						
ESPN	**Las Esperanzas**	**2.70**	**271**	*i* P	**Pb**	**00 55 07.0**	**-2.0**
ESPN				*i* S	**Sn**	**00 55 39.9**	**+2.2**
ESPN				IAML		00 55 40.3	
	comp=Z,2μm,1.0s						
BATAN	**Batan**	**2.73**	**222**	*e*P	**Pn**	**00 55 05.1**	**+0.3**
RIFO	**Rio Frio, Sara**	**2.97**	**232**	*i* P	**Pn**	**00 55 08.6**	**+0.5**
RIFO				*i* S	**Sn**	**00 55 43.4**	**-1.0**
RIFO				IAML		00 55 52.0	
	comp=Z,1μm,1.0s						
VTCV	**VTCV, Calle Va**	**3.05**	**225**	*i* P	**Pn**	**00 55 09.7**	**+0.3**
VTCV				IAML		00 55 52.9	
	comp=Z,620nm,1.0s						
OCM	**Ochomogo**	**3.28**	**227**	*i* P	**Pn**	**00 55 13.5**	**+1.0**
OCM				*i* S	**Sn**	**00 55 52.4**	**+0.2**
OCM				IAML		00 55 57.7	
	comp=Z,350nm,1.0s						
HDC3	**Heredia 3**	**3.32**	**230**	*i* P	**Pn**	**00 55 14.0**	**+1.0**
HDC3				IAML		00 55 14.9	
	comp=Z,1μm,1.0s						
HDC3				*i* S	**Sn**	**00 55 54.3**	**+1.2**
CPMI	**Catarata Coope**	**3.36**	**236**	*i* P	**Pn**	**00 55 14.3**	**+0.7**
CPMI				*i* S	**Sn**	**00 55 54.4**	**+0.2**
CPMI				IAML		00 56 04.0	
	comp=Z,720nm,1.0s						
CDM	**Cerro de Muert**	**3.39**	**220**	*i* P	**Pn**	**00 55 14.7**	**+0.4**
CDM				*i* S	**Sn**	**00 55 54.4**	**-1.0**
CDM				IAML		00 55 59.1	
	comp=Z,340nm,1.0s						
BCIP	**Isla Barro Col**	**3.41**	**151**	*e*P	**Pn**	**00 55 14.3**	**+0.1**
BCIP				*e*S	**Sn**	**00 55 58.6**	**+3.3**
BCIP	**Isla Barro Col**	**3.41**	**151**	P	**Pn**	**00 55 14.2**	**+0.1**
BCIP				S	**Sn**	**00 55 53.2**	**-2.1**
BCIP	**Isla Barro Col**	**3.41**	**151**	*i* P	**Pn**	**00 55 14.6**	**+0.4**
BCIP				*i* S	**Sn**	**00 55 54.6**	**-0.7**
BCIP

OCHAL	**Ojochal**	**3.68**	214	*i* P		**Pn**	**00 55 20.2**	**+2.3**
OCHAL				IAML			00 55 20.6	
	comp=Z,700nm,1.0s							
OCHAL				*i* S		**Sn**	**00 56 04.1**	**+2.1**
CDITO	**Canoas**	**3.80**	200	*e*P		**Pn**	**00 55 21.1**	**+1.6**
JTS	**Las Juntas de**	**3.83**	241	⇓*i*P		**Pn**	**00 55 20.8**	**+0.8**
JTS	**Las Juntas de**	**3.83**	241	Pn		**Pn**	**00 55 21.0**	**+1.0**
	comp=Z,18nm,0.3s,baz=87,slow=17,SNR=36							
JTS				Sn		**Sn**	**00 56 05.2**	**-0.5**
	comp=Z,22nm,0.3s,baz=108,slow=20,SNR=20							
	comp=Z,37nm,0.4s							
JTS	**Las Juntas de**	**3.83**	241	P		**Pn**	**00 55 20.7**	**+0.8**
JTS				P		**Pn**	**00 55 20.8**	**+0.8**
JTS				S		**Sn**	**00 56 05.1**	**-0.5**
JTS				S		**Sn**	**00 56 05.3**	**-0.4**
JACO	**JACO, Garabito**	**3.95**	231	*i* P		**Pn**	**00 55 23.6**	**+2.1**
JACO				IAML			00 55 26.7	
	comp=Z,250nm,1.0s							
JACO				*i* S		**Sn**	**00 56 09.0**	**+0.6**
BOAB	**BOACO BROADBAN**	**4.05**	274	*i* P		**Pn**	**00 55 24.3**	**+1.4**
BOAB				IAML			00 56 36.3	
	comp=Z,640nm,1.0s							
CONN	**Concepcion**	**4.05**	262	*i* P		**Pg**	**00 55 37.7**	**+0.2**
LAFE	**Finca La Fe, P**	**4.06**	235	*i* P		**Pn**	**00 55 25.0**	**+2.0**
LAFE				IAML			00 56 17.8	
	comp=Z,1.7nm,1.0s							
PLAN	**Los Planes de**	**4.06**	211	*i* P		**Pn**	**00 55 25.3**	**+2.2**
PLAN				IAML			00 55 32.6	
	comp=Z,360nm,1.0s							
PLAN				*i* S		**Sn**	**00 56 13.2**	**+2.0**
JAPN	**Al SSO del Vol**	**4.10**	262	*i* P		**Pn**	**00 55 25.7**	**+2.0**
JAPN				IAML			00 56 32.9	
	comp=Z,280nm,1.0s							
ORTG	**Ortega, Santa**	**4.24**	245	*i* P		**Pn**	**00 55 27.2**	**+1.5**
ORTG				IAML			00 56 18.5	
	comp=Z,110nm,1.0s							
CHIT3	**Chitre**	**4.32**	165	*e*P		**Pn**	**00 55 27.2**	**+0.5**
GMAL	**Guarumal, Vera**	**4.38**	176	*e*P		**Pn**	**00 55 29.3**	**+1.8**
GMAL	**Guarumal, Vera**	**4.38**	176	P		**Pn**	**00 55 28.6**	**+1.1**
GMAL				S		**Sn**	**00 56 16.5**	**-2.7**
INDI	**Punta indio, G**	**4.51**	240	*i* P		**Pn**	**00 55 31.3**	**+2.0**
INDI				IAML			00 55 41.5	
	comp=Z,120nm,1.0s							
AZU	**Azuero**	**4.52**	164	*e*P		**Pn**	**00 55 30.0**	**+0.6**
AZU	**Azuero**	**4.52**	164	P		**Pn**	**00 55 28.6**	**-0.8**
AZU				S		**Sn**	**00 56 19.0**	**-3.5**
RCPN	**Sur Rio San Ju**	**4.65**	287	*i* P		**Pn**	**00 55 31.2**	**-0.1**
LIMN	**Finca el Limon**	**4.80**	281	*i* P		**Pn**	**00 55 34.8**	**+1.5**
LIMN				IAML			00 56 56.4	
	comp=Z,580nm,1.0s							
CACAO	**El Cacao, Vera**	**4.83**	172	*e*P		**Pn**	**00 55 35.8**	**+2.0**
CACAO	**El Cacao, Vera**	**4.83**	172	P		**Pn**	**00 55 35.6**	**+1.9**
CNGN	**Cerro Negro**	**5.05**	274	P		**Pb**	**00 55 49.2**	**0.0**
CNGN				S		**Sb**	**00 56 46.1**	**-4.3**
ROCN	**Rota Cerro Neg**	**5.10**	275	*i* P		**Pb**	**00 55 46.1**	**-3.8**
TGUH	**Tegucigalpa,Un**	**5.90**	289	P		Pb	00 55 57.4	-6.2
SJCC	**San Jacinto, C**	**6.63**	109	P		**Pn**	**00 55 57.7**	**-0.9**
SJCC				S		**Sn**	**00 57 11.1**	**-3.8**
TEIG	**Tepich**	**10.30**	322	LR	LR		01 00 46.3	
	comp=Z,712nm,18.7s,slow=38							
SDV	**Santo Domingo**	**11.20**	106	Pn		**Pn**	**00 57 04.1**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=274,slow=4.3,SNR=2.0							
SDV				Sn		**Sn**	**00 59 03.7**	**-3.8**
	comp=Z,2.0nm,0.3s,baz=73,slow=22,SNR=12							
SDV				LR	LR		01 01 43.8	
	comp=Z,76nm,20.2s,baz=290,slow=39							
	comp=Z,2.1nm,0.7s							
CMIG	**Matias Romero**	**13.81**	292	LR	LR		01 03 23.9	
	comp=Z,81nm,18.2s,baz=173,slow=40							
TXAR	**Lajitas Array**	**26.75**	313	P		**P**	**01 00 02.1**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=137,slow=9.3,SNR=7.5							
	comp=Z,0.6nm,0.8s							
PDAR	**Pinedale Array**	**38.99**	327	P		**P**	**01 01 48.8**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=126,slow=9.1,SNR=2.9							
	comp=Z,0.3nm,0.6s							
NVAR	**Mina Array Bea**	**41.86**	315	P		**P**	**01 02 13.1**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=136,slow=12,SNR=2.7							
	comp=Z,0.5nm,0.7s							
PLCA	**Paso Flores**	**53.60**	170	P		**P**	**01 03 44.6**	**+2.0**
	comp=Z,1.6nm,0.8s,baz=8.1,slow=7.4,SNR=5.5							
	comp=Z,1.6nm,0.8s							
YKA	**Yellowknife Ar**	**55.54**	342	P		**P**	**01 03 56.1**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=133,slow=8.2,SNR=5.8							
	comp=Z,0.3nm,0.8s							
ILAR	**Eielson Array**	**68.66**	335	P		**P**	**01 05 21.7**	**-2.8**
	comp=Z,0.3nm,0.8s,baz=108,slow=5.8,SNR=2.5							
ESDC	**Sonseca Array**	**72.81**	52	P		**P**	**01 05 52.1**	**+1.7**
	comp=Z,0.6nm,0.9s,baz=270,slow=6.4,SNR=2.5							
	comp=Z,0.6nm,0.9s							
ASAR	**Alice Springs**	**144.49**	246	PKP	PKPbc		01 13 57.7	+0.3
	comp=Z,1.0nm,0.6s,baz=103,slow=3.3,SNR=8.0							
WRA	**Warramunga Arr**	**144.72**	253	PKP	PKPbc		01 13 58.6	+0.4
	comp=Z,1.3nm,0.7s,baz=97,slow=3.1,SNR=12							

IDC 27 00:55:18.8±3.0, 2°.17S×152°.26E, h0km, mb3.9/2, mbtmp3.9/2, Error ellipse: s-maj=150.9km s-min=48.4km az=117.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.88**	223	P	P	01 00 43.8	+0.3
	1.6nm,0.3s,baz=46,slow=9.6,SNR=42						
WRA				PcP	PcP	01 04 17.2	-2.5
	1.1nm,1.2s,baz=56,slow=1.9,SNR=2.1						
	1.6nm,0.3s						
ASAR	**Alice Springs**	**27.80**	218	P	P	01 01 09.5	-0.3
	0.3nm,0.4s,baz=49,slow=8.2,SNR=2.5						
	0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**148.91**	292	PKPbc	PKiKP	01 15 10.4	-0.6
	0.3nm,0.4s,baz=46,slow=2.8,SNR=5.7						

ISK 27 01:17:38.6,34.°78N×32.°67E,h38km±1km, ML3.2/21
IDC 27 01:17:39.5±1.4,34.°75N×32.°55E,h60km±33km,mb3.6/1, mbtmp3.3/8, ML3.5/4, MS3.8/1, Error ellipse: s-maj=21.4km s-min=10.5km az=29.0
NIC 27 01:17:40.6,34.°92N×32.°75E,h38km±2km, Ml2.8/9
AFAD 27 01:17:41.4±0.0,35.°10N×32.°76E,h37km, ML2.9
GRAL 27 01:17:41.5±1.0,34.°73N×33.°07E,h0km±247km,MD3.4
GII 27 01:17:41.6±0.5,34.°624N±0.°001×32.°871E±0.°001,h9km, Md2.7/5,Mws2.9/12, confirmed

ISC 27 01:17:39.9±0.9, 34°.84N±0.°02×32°.72E±0.°03, h41km±6km, n134, σ1°31/160, 6D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NATA	**Nata**	**0.14**	244	⇑P	**Pn**	**01 17 47.4**	**+0.5**
NATA				S	**Sn**	**01 17 53.8**	**+1.9**
NATA				AML	AML	01 17 55.4	
	19nm,0.2s						
NATA				AML	AML	01 17 56.0	
	13nm,0.4s						
TROD	**Troodos**	**0.16**	48	⇓P	**Pn**	**01 17 47.3**	**0.0**
TROD				S	**Sn**	**01 17 51.7**	**-0.7**
TROD				AML	AML	01 17 55.5	
	8.7nm,0.2s						
TROD				AML	AML	01 17 57.6	
	9.3nm,0.5s						
LEF	**Lefka**	**0.31**	26	Pg	**Pn**	**01 17 47.8**	**-0.6**
LEF				Sg	**Sn**	**01 17 54.6**	**+0.3**
LEF	**Lefka**	**0.31**	26	P	**Pn**	**01 17 47.7**	**-0.7**
ALFC	**Alefka**	**0.33**	342	⇑P	**Pn**	**01 17 48.3**	**-0.4**
ALFC				S	**Sn**	**01 17 53.9**	**-0.9**
ALFC				AML	AML	01 17 57.6	
	5.1nm,0.3s						
ALFC				AML	AML	01 17 57.7	
	6.8nm,0.2s						
AKMS	**Akamas**	**0.36**	299	⇓P	**Pn**	**01 17 49.1**	**+0.1**
AKMS				S	**Sn**	**01 17 56.7**	**+1.2**
AKMS				AML	AML	01 17 58.3	
	3.4nm,0.2s						
AKMS				AML	AML	01 17 59.1	
	4.0nm,0.2s						
ASGA	**Asgata**	**0.43**	97	⇓P	**Pn**	**01 17 49.9**	**0.0**
ASGA				S	**Sn**	**01 17 57.6**	**+0.7**
ASGA				AML	AML	01 17 59.3	
	5.9nm,0.5s						
ASGA				AML	AML	01 18 00.9	
	3.3nm,0.3s						
AKDN	**Akdeniz- Kıbrı**	**0.50**	24	Pg	**Pn**	**01 17 50.9**	**+0.2**
AKDN				Sg	**Sn**	**01 17 59.5**	**+1.2**
CSS	**Mathiatis**	**0.51**	76	Pg	**Pn**	**01 17 50.7**	**-0.2**
CSS				Sg	**Sn**	**01 17 59.5**	**+0.8**
CSS	**Mathiatis**	**0.51**	76	⇓P	**Pn**	**01 17 50.8**	**-0.2**
CSS				S	**Sn**	**01 17 59.3**	**+0.6**
CSS				AML	AML	01 18 01.3	
	1.8nm,0.3s						
CSS				AML	AML	01 18 02.6	
	1.2nm,0.4s						
CSS	**Mathiatis**	**0.51**	76	P	**Pn**	**01 17 50.6**	**-0.3**
ATHAL	**Athalassa**	**0.63**	61	⇓P	**Pn**	**01 17 52.8**	**+0.4**
ATHAL				S	**Sn**	**01 18 01.7**	**+0.4**
ATHAL				AML	AML	01 18 09.1	
	2.1nm,0.4s						
ATHAL				AML	AML	01 18 11.2	
	2.2nm,0.5s						
AKIN	**Akıncılar- Kıb**	**0.64**	74	Pg	**Pn**	**01 17 52.4**	**-0.1**
MVOU	**Mavrovouni**	**0.77**	77	⇓P	**Pn**	**01 17 54.2**	**0.0**
MVOU				S	**Sn**	**01 18 05.3**	**+0.7**
MVOU				AML	AML	01 18 09.3	
	0.5nm,0.3s						
MVOU				AML	AML	01 18 12.0	
	0.6nm,0.4s						
LFK	**Lefkose**	**0.80**	56	Pg	**Pn**	**01 17 54.9**	**+0.2**
PARAL	**Paralimni**	**1.09**	82	P	**Pn**	**01 18 00.2**	**+1.5**
PARAL				S	**Sn**	**01 18 14.9**	**+2.3**
PARAL				AML	AML	01 18 26.5	
	0.5nm,0.6s						
PARAL				AML	AML	01 18 29.9	
	0.5nm,0.9s						
BOZY	**Bozyazi-Mersin**	**1.28**	9	Pn	**Pn**	**01 18 01.8**	**+0.5**
TEKE	**Tekeli-Mersin**	**1.34**	14	Pn	**Pn**	**01 18 02.5**	**+0.4**
EREN	**Erenkoy**	**1.37**	59	Pn	**Pn**	**01 18 03.1**	**+0.6**
EREN	**Erenkoy**	**1.37**	59	P	**Pn**	**01 18 04.6**	**+2.1**
GAZI	**Gazipasa**	**1.43**	347	Pn	**Pn**	**01 18 03.5**	**+0.1**
AKK2	**Akkuyu-Mersin**	**1.46**	27	Pn	**Pn**	**01 18 04.2**	**+0.5**
AKK1	**Akkuyu-Mersin**	**1.46**	27	Pn	**Pn**	**01 18 04.6**	**+0.8**
AKKU	**Akkuyu-Mersin**	**1.48**	27	Pn	**Pn**	**01 18 04.5**	**+0.5**
OREN	**Orenkoy-Mersin**	**1.49**	24	Pn	**Pn**	**01 18 04.8**	**+0.6**
GULN	**MERSIN_Gulnar**	**1.50**	26	P	**Pn**	**01 18 04.3**	**0.0**
GULN				S	**Sn**	**01 18 22.3**	**-0.3**
TISA	**Tisan-Mersin**	**1.53**	30	Pn	**Pn**	**01 18 05.2**	**+0.5**
TEPK	**Tepekoy-MERSIN**	**1.54**	26	Pn	**Pn**	**01 18 05.4**	**+0.6**
YESI	**Yesilovacik-Me**	**1.55**	29	Pn	**Pn**	**01 18 05.6**	**+0.7**
KARG	**Kargicak-Mersi**	**1.58**	30	Pn	**Pn**	**01 18 06.0**	**+0.6**
IKL	**Isikli**	**1.60**	29	Pn	**Pn**	**01 18 06.4**	**+0.7**
TEVE	**Tevekalti-Mers**	**1.70**	20	Pn	**Pn**	**01 18 07.8**	**+0.7**
ALAN	**Alanya-ANTALYA**	**1.80**	342	Pn	**Pn**	**01 18 08.7**	**+0.2**
SILI	**Silifke-Mersin**	**1.81**	32	Pn	**Pn**	**01 18 09.3**	**+0.7**
SLFK	**Silifke-Mersin**	**1.84**	32	Pn	**Pn**	**01 18 09.8**	**+0.8**
KIZK	**Mersin**	**2.00**	35	Pn	**Pn**	**01 18 12.2**	**+1.0**
HDMB	**Hadim**	**2.13**	355	Pn	**Pn**	**01 18 13.7**	**+0.6**
KKBE	**Karaman, Kazim**	**2.38**	4	P	**Pn**	**01 18 17.5**	**+1.0**
KKBE				S	**Sn**	**01 18 46.2**	**+1.6**
BHL	**Bhannes**	**2.60**	110	*e*P	**Pn**	**01 18 18.4**	**-1.1**
DQRL	**Deir Qamar**	**2.62**	115	*e*P	**Pn**	**01 18 18.9**	**-0.8**
DQRL				*e*S	**Sn**	**01 18 47.6**	**-2.7**
HNTI	**Hanita**	**2.69**	130	P	**Pn**	**01 18 21.0**	**+0.4**
HNTI	**Hanita**	**2.69**	130	S	**Sn**	**01 18 51.3**	**-0.6**
HNTI	**Hanita**	**2.69**	130	P	**Pn**	**01 18 20.7**	**0.0**
DED	**Mersin**	**2.71**	38	P	**Pn**	**01 18 21.9**	**+1.0**
DED				S	**Sn**	**01 18 52.2**	**-0.2**
HWQ	**Hawqa**	**2.72**	101	*e*P	**Pn**	**01 18 21.1**	**-0.1**
SEDI	**Konya, Seydise**	**2.72**	344	P	**Pn**	**01 18 22.5**	**+1.3**
QRWL	**Qaraoun**	**2.77**	117	*e*P	**Pn**	**01 18 22.1**	**+0.2**
ZAHL	**Zahle**	**2.79**	110	*e*P	**Pn**	**01 18 22.0**	**-0.2**
ZAHL				*e*S	**Sn**	**01 18 52.0**	**-2.7**
MMC7	**Mount Meron ar**	**2.87**	128	P	**Pn**	**01 18 23.5**	**+0.4**
BEIL	**Beino**	**2.87**	95	*e*P	**Pn**	**01 18 23.2**	**+0.1**
BEIL				*e*S	**Sn**	**01 18 53.9**	**-2.5**
MMC1	**Mount Meron ar**	**2.87**	128	P	**Pn**	**01 18 23.6**	**+0.4**
MMA0B	**Mount Meron ar**	**2.88**	128	S	**Sn**	**01 18 56.3**	**-0.4**
MMA0B	**Mount Meron ar**	**2.88**	128	P	**Pn**	**01 18 23.7**	**+0.4**
MMAI	**Mount Meron Ar**	**2.88**	128	P	**Pn**	**01 18 23.8**	**+0.5**
	35nm,0.3s,baz=308,slow=13,SNR=337						
MMAI				S	**Sn**	**01 18 56.8**	**+0.1**
	17nm,0.3s,baz=311,slow=26,SNR=25						
MMB1	**Mount Meron ar**	**2.88**	128	P	**Pn**	**01 18 23.7**	**+0.3**
ASUZ	**Hatay-Arsuz**	**2.89**	59	P	**Pn**	**01 18 25.5**	**+2.2**
ASUZ				S	**Sn**	**01 18 58.8**	**+2.0**
ASUZ				*i* AML	AML	01 19 13.0	
	comp=N,45nm,1.1s						
OFRI	**`Ofer**	**2.91**	139	P	**Pn**	**01 18 23.9**	**+0.2**
OFRI	**`Ofer**	**2.91**	139	S	**Sn**	**01 18 56.6**	**-0.8**
OFRI	**`Ofer**	**2.91**	139	P	**Pn**	**01 18 23.9**	**+0.2**
RCY	**Rachaya**	**2.91**	117	*e*P	**Pn**	**01 18 24.2**	**+0.4**
SHBL	**Chebaa**	**2.92**	120	*e*P	**Pn**	**01 18 23.7**	**-0.2**
GEM	**Giv'at Ha'Em**	**2.93**	123	P	**Pn**	**01 18 24.4**	**+0.4**
GEM	**Giv'at Ha'Em**	**2.93**	123	S	**Sn**	**01 18 57.6**	**-0.4**
GEM	**Giv'at Ha'Em**	**2.93**	123	P	**Pn**	**01 18 24.3**	**+0.3**
BLGI	**Bet Lehem HaGe**	**2.94**	135	S	**Sn**	**01 18 57.6**	**-0.5**
BLGI	**Bet Lehem HaGe**	**2.94**	135	P	**Pn**	**01 18 24.7**	**+0.6**
GULE	**Gulek**	**2.95**	34	P	**Pn**	**01 18 26.4**	**+2.0**
GULE				S	**Sn**	**01 19 00.0**	**+1.3**
GULE				*i* AML	AML	01 19 06.0	
	comp=E,58nm,0.3s						
NATI	**Neve Ativ**	**2.96**	121	S	**Sn**	**01 18 58.8**	**+0.3**
NATI	**Neve Ativ**	**2.96**	121	P	**Pn**	**01 18 25.0**	**+0.8**
KONT	**Konya--Tatoy**	**3.11**	355	P	**Pn**	**01 18 29.1**	**+2.6**
KSHT	**Keshet**	**3.17**	125	S	**Sn**	**01 19 03.5**	**-0.3**
KSHT	**Keshet**	**3.17**	125	P	**Pn**	**01 18 28.1**	**+0.9**
SLTI	**Sal'it**	**3.23**	143	P	**Pn**	**01 18 28.4**	**+1.2**
SLTI	**Sal'it**	**3.23**	143	P	**Pn**	**01 18 29.3**	**+1.1**
SLTI	**Sal'it**	**3.23**	143	S	**Sn**	**01 19 04.9**	**-0.6**
KNIK	**Mula-Seydike**	**3.25**	309	P	**Pn**	**01 18 28.6**	**+0.1**
MMLI	**Mount Malkishu**	**3.29**	136	P	**Pn**	**01 18 29.4**	**+0.5**
MMLI	**Mount Malkishu**	**3.29**	136	S	**Sn**	**01 19 06.4**	**-0.4**
AKO	**Adana**	**3.42**	39	P	**Pn**	**01 18 30.8**	**+0.1**
AKO				S	**Sn**	**01 19 09.2**	**-0.8**
QRNJ	**Al-Qirein**	**3.45**	136	P	**Pn**	**01 18 32.2**	**+1.1**
FETY	**Fethiye**	**3.46**	302	P	**Pn**	**01 18 32.5**	**+1.3**
RHAN	**Hatay/Reyhanl**	**3.47**	65	P	**Pn**	**01 18 31.2**	**-0.1**
RHAN				S	**Sn**	**01 19 06.6**	**-4.5**
RHAN				*i* AML	AML	01 19 12.0	
	comp=N,32nm,0.5s						
HMDT	**Nahal Hemdat**	**3.48**	137	P	**Pn**	**01 18 32.5**	**+0.9**
HMDT	**Nahal Hemdat**	**3.48**	137	S	**Sn**	**01 19 12.2**	**+0.6**
HMDT	**Nahal Hemdat**	**3.48**	137	P	**Pn**	**01 18 32.2**	**+0.7**
NIDE	**Nigde/Merkez-G**	**3.56**	27	P	**Pn**	**01 18 35.0**	**+2.3**
BRDR	**BURDUR-Merkez**	**3.57**	324	P	**Pn**	**01 18 34.4**	**+1.6**
CAEL	**Denizli, Camel**	**3.58**	311	P	**Pn**	**01 18 34.6**	**+1.6**
CAEL				S	**Sn**	**01 19 12.6**	**-1.4**
CAEL				*i* AML	AML	01 19 18.0	
	comp=N,70nm,1.6s						
HASA	**Hatay-Hassa-Ha**	**3.60**	57	P	**Pn**	**01 18 34.3**	**+1.0**
UJAP	**Al Uja**	**3.68**	141	P	**Pn**	**01 18 34.8**	**+0.6**
UJAP	**Al Uja**	**3.68**	141	S	**Sn**	**01 19 15.9**	**-0.4**
AMAZ	**Amatzia**	**3.78**	150	P	**Pn**	**01 18 36.2**	**+0.6**
AMAZ	**Amatzia**	**3.78**	150	S	**Sn**	**01 19 18.4**	**-0.4**
INCE	**Denizli-Bozkur**	**3.83**	319	P	**Pn**	**01 18 36.5**	**+0.1**
INCE				S	**Sn**	**01 19 18.3**	**-1.9**
DSI	**Dead Sea**	**3.95**	145	P	**Pn**	**01 18 39.1**	**+1.1**
DSI	**Dead Sea**	**3.95**	145	S	**Sn**	**01 19 22.5**	**-0.5**
DSI	**Dead Sea**	**3.95**	145	P	**Pn**	**01 18 38.8**	**+0.8**
HSUJ	**Al Zarqa**	**3.98**	132	P	**Pn**	**01 18 40.4**	**+2.0**
YTIR	**Yattir**	**4.01**	149	P	**Pn**	**01 18 40.2**	**+1.4**
YTIR	**Yattir**	**4.01**	149	S	**Sn**	**01 19 24.6**	**0.0**
YTIR	**Yattir**	**4.01**	149	P	**Pn**	**01 18 39.6**	**+0.7**
MDBI	**Mazsada**	**4.16**	147	P	**Pn**	**01 18 42.1**	**+1.4**
MSBI	**Mazada**	**4.16**	147	P	**Pn**	**01 18 42.1**	**+1.3**
MSBI	**Mazada**	**4.16**	147	S	**Sn**	**01 19 28.6**	**+0.5**
KZIT	**Kziot**	**4.17**	160	S	**Sn**	**01 19 28.1**	**-0.3**
KZIT	**Kziot**	**4.17**	160	P	**Pn**	**01 18 41.6**	**+0.7**
GHAJ	**Ghor Haditha**	**4.26**	145	P	**Pn**	**01 18 44.7**	**+2.5**
GHAJ	**Ghor Haditha**	**4.26**	145	P	**Pn**	**01 18 43.8**	**+1.6**
GHAJ	**Ghor Haditha**	**4.26**	145	S	**Sn**	**01 19 30.2**	**-0.4**
LISJ	**El Lisan**	**4.27**	146	P	**Pn**	**01 18 47.1**	**+4.8**
ASF	**Jabal al Asfar**	**4.39**	126	P	**Pn**	**01 18 45.3**	**+1.3**
	1.6nm,0.3s,baz=223,slow=0.1,SNR=14						
ASF				S	**Sn**	**01 19 39.6**	**+5.6**
	9.3nm,0.3s,baz=57,slow=0.0,SNR=9.6						
	3.0nm,0.3s						
ASF	**Jabal al Asfar**	**4.39**	126	P	**Pn**	**01 18 45.8**	**+1.8**
KARJ	**KARJ**	**4.45**	146	P	Pn	01 18 36.0	-8.9
ZFRI	**Zfri**	**4.75**	153	P	**Pn**	**01 18 49.5**	**+0.6**
ZFRI	**Zfri**	**4.75**	153	S	**Sn**	**01 19 42.0**	**-0.7**
PRNI	**Paran**	**4.87**	156	P	**Pn**	**01 18 51.5**	**+0.8**
PRNI	**Paran**	**4.87**	156	S	**Sn**	**01 19 45.3**	**-0.6**
PRNI	**Paran**	**4.87**	156	P	**Pn**	**01 18 51.2**	**+0.6**
BRTR	**Keskin Array B**	**4.93**	8	P	**Pn**	**01 18 52.8**	**+1.2**
	0.4nm,0.5s,baz=183,slow=15,SNR=4.2						
KRMI	**Paran Flat**	**5.00**	160	P	**Pn**	**01 18 54.4**	**+1.9**
KRMI	**Paran Flat**	**5.00**	160	P	**Pn**	**01 18 52.9**	**+0.4**
KRMI	**Paran Flat**	**5.00**	160	S	**Sn**	**01 19 48.9**	**-0.2**
HRFI	**Mount Harif**	**5.17**	157	P	**Pn**	**01 18 55.7**	**+0.9**
HRFI	**Mount Harif**	**5.17**	157	S	**Sn**	**01 19 51.7**	**-1.5**
MBRI	**Mt Berech**	**5.36**	159	P	**Pn**	**01 19 00.2**	**+2.7**
EIL	**Elat**	**5.49**	159	P	**Pn**	**01 18 59.8**	**+0.7**
	0.7nm,0.3s,baz=339,slow=2.6,SNR=14						
EIL				S	**Sn**	**01 19 59.5**	**-1.5**
	6.8nm,0.4s,baz=110,slow=22,SNR=8.1						
	1.8nm,0.3s						
EIL	**Elat**	**5.49**	159	S	**Sn**	**01 19 59.8**	**-1.2**
EIL	**Elat**	**5.49**	159	P	**Pn**	**01 18 59.9**	**+0.7**
IDI	**Anoyia**	**6.44**	276	P	**Pn**	**01 19 10.7**	**-1.5**
	0.2nm,0.3s,baz=136,slow=11,SNR=89						
IDI				S	**Sn**	**01 20 20.2**	**-4.3**
	0.1nm,0.3s,baz=9.9,slow=22,SNR=6.6						
AKASG	**Malin Array Be**	**16.06**	352	P	**Pn**	**01 21 24.1**	**+1.5**
	0.7nm,0.3s,baz=174,slow=10,SNR=8.1						
	0.3nm,0.4s						
GERES	**GERESS Array B**	**19.84**	321	P	**P**	**01 22 06.3**	**-0.8**
	0.1nm,0.3s,baz=129,slow=10,SNR=1.9						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**26.96**	353	P	**P**	**01 23 14.8**	**-2.4**
	1.1nm,0.7s,baz=161,slow=12,SNR=5.7						
	1.1nm,0.7s						
OPO	**Ambohidratompo**	**54.87**	163	LR	LR	01 47 43.9	
	comp=Z,79nm,19.4s,baz=353,slow=33						

IDC 27 01:39:18.9±4.2,6°.85N×73°.03W,h156km±39km,mb3.1/5, mbtmp3.7/7, MS2.9/1, Error ellipse: s-maj=45.4km s-min=30.4km az=64.0
RSNC 27 01:39:21.9±0.0,7°.N±2°×7°.3W±°,h135km±3km,mb3.9, mB5.6,ML3.1,Mw(mB)5.1

ISC 27 01:39:18.4±0.8, 6°.85N±0°.03×73°.07W±0°.04, h150km±6km, n39, σ1°56/66, mb3.5/5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.28**	205	P	**Pn**	**01 39 39.5**	**+0.3**
BARC				S	**Sn**	**01 39 54.3**	**-0.7**
PAMC	**Pamplona, Colo**	**0.61**	37	P	**Pn**	**01 39 42.3**	**+1.3**
PAMC				S	**Sn**	**01 39 59.1**	**+1.0**
RUSC	**La Rusia**	**0.95**	181	P	**Pn**	**01 39 43.5**	**+0.1**
RUSC				S	**Sn**	**01 40 01.6**	**-0.7**
OCAC	**Ocana**	**1.41**	350	P	**Pn**	**01 39 47.8**	**+0.6**
OCAC				S	**Sn**	**01 40 09.5**	**+0.2**
PTBC	**PUERTO BERRIO,**	**1.41**	258	P	**Pn**	**01 39 46.0**	**-1.1**
PTBC				S	**Sn**	**01 40 06.9**	**-2.1**
SPBC	**San Pablo de B**	**1.55**	220	P	**Pn**	**01 39 48.5**	**-0.1**
SPBC				S	**Sn**	**01 40 10.2**	**-1.6**
NORC	**Norcasia**	**2.20**	235	P	**Pn**	**01 39 55.5**	**-0.5**
NORC				S	**Sn**	**01 40 22.9**	**-1.9**
CVER	**Cruz Verde, Cu**	**2.52**	204	P	**Pn**	**01 40 01.1**	**+0.8**
HELC	**Santa Helena**	**2.53**	255	P	**Pn**	**01 40

VNA3	**Neumayer Olymp**	**14.94**	**160**	⇑P		**Pn**	**01 59 08.3**	**-1.1**
	comp=Z,0.6nm,0.2s							
VNA2	**Neumayer--Watz**	**15.14**	**157**	⇑P		**Pn**	**01 59 10.3**	**-1.7**
	baz=319,slow=1.2							
SNAA	**Sanae**	**16.69**	**154**	⇑P		**Pn**	**01 59 31.8**	**0.0**
	comp=Z,570μm,0.1s							
SNAA	**Sanae**	**16.69**	**154**	P		**Pn**	**01 59 32.5**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=14,slow=10,SNR=12							
	comp=Z,2.3nm,0.8s							
TROLL	**Troll, Antarti**	**18.20**	**152**	⇑P		**Pn**	**01 59 52.7**	**+2.2**
	comp=Z,14nm,0.1s							
QSPA	**South Pole Qui**	**32.28**	**180**	P		**P**	**02 02 05.7**	**+0.3**
	comp=Z,1.9nm,1.0s,baz=243,slow=2.9,SNR=2.9							
	comp=Z,1.9nm,1.0s							
VNDA	**Vanda**	**44.69**	**182**	P		**P**	**02 03 49.6**	**+0.7**
	comp=Z,1.1nm,0.9s,baz=195,slow=6.4,SNR=5.8							
	comp=Z,1.1nm,0.9s							
BDFB	**Brasilia**	**45.39**	**329**	P		**P**	**02 03 55.8**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=110,slow=7.9,SNR=3.2							
	comp=Z,2.0nm,0.7s							
H04S2	**CROZET ISLANDS**	**46.13**	**112**	T		T	02 54 30.7	
	baz=225,slow=75,SNR=12							
H04S3	**CROZET ISLANDS**	**46.14**	**111**	T		T	02 54 32.1	
	baz=225,slow=75,SNR=19							
H04S1	**CROZET ISLANDS**	**46.15**	**112**	T		T	02 54 32.0	
	baz=225,slow=75,SNR=16							
SIV	**San Ignacio**	**49.42**	**313**	P		**P**	**02 04 25.7**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=157,slow=17,SNR=2.2							
	comp=Z,0.4nm,0.4s							
TORD	**Torodi Ar. Bea**	**74.39**	**28**	P		**P**	**02 07 13.5**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=199,slow=6.1,SNR=11							
	comp=Z,1.2nm,0.8s							
YKA	**Yellowknife Ar**	**138.07**	**316**	PKP		**PKPdf**	**02 14 58.3**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=120,slow=2.2,SNR=6.9							
INK	**Inuvik**	**147.74**	**318**	PKPbc		**PKPdf**	**02 15 18.3**	**+2.1**
	comp=Z,3.1nm,0.8s,baz=71,slow=4.5,SNR=12							
ILAR	**Eielson Array**	**151.91**	**309**	PKPbc		**PKPbc**	**02 15 29.1**	**-0.4**
	comp=Z,3.1nm,0.8s,baz=142,slow=5.1,SNR=24							

*IDC **27** 01:55:44.2±1.6, 12°.79S×72°.86W, h0km, mb3.6/3, mbtmp3.8/6, ML4.1/3, MS2.6/1, Error ellipse: s-maj=62.4km s-min=21.2km az=23.0*

ISC 27 01:55:45.8±1.0, 12°.9S±0°.3×72°.9W±0°.1, h10km, n6, σ1§13/7, mb3.7/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NNA	**Nana**	**3.94**	**283**	Pn		**Pn**	**01 56 46.6**	**+0.1**
	26nm,0.3s,baz=157,slow=9.8,SNR=18							
NNA				Sn		**Sn**	**01 57 32.9**	**+0.2**
	22nm,0.3s,baz=235,slow=21,SNR=9.5							
	33nm,0.3s							
LPAZ	**La Paz**	**5.74**	**127**	Pn		**Pn**	**01 57 11.7**	**+0.1**
	3.3nm,0.3s,baz=322,slow=8.4,SNR=93							
LPAZ				LR		LR	01 59 26.4	
	comp=Z,60nm,20.8s,baz=228,slow=39							
	8.0nm,0.3s							
SIV	**San Ignacio**	**11.88**	**106**	Pn		**Pn**	**01 58 36.9**	**+1.4**
	0.1nm,0.3s,baz=290,slow=8.6,SNR=15							
	2.4nm,0.5s							
TXAR	**Lajitas Array**	**51.41**	**325**	P		**P**	**02 04 52.0**	**+0.7**
	0.2nm,0.5s,baz=153,slow=7.4,SNR=4.3							
	0.2nm,0.5s							
TORD	**Torodi Ar. Bea**	**78.34**	**74**	P		**P**	**02 07 45.5**	**-1.5**
	0.4nm,0.5s,baz=270,slow=5.5,SNR=4.0							
	0.4nm,0.5s							
YKA	**Yellowknife Ar**	**81.84**	**342**	P		**P**	**02 08 04.4**	**-0.5**
	0.9nm,0.9s,baz=138,slow=4.9,SNR=12							
	0.9nm,0.9s							

IDC 27 02:28:06.4±1.4, 5°.92S×142°.41E, h0km, mb3.6/2, mbtmp3.7/5, ML3.5/2, Error ellipse: s-maj=43.3km s-min=30.4km az=88.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.85**	**127**	Pn		Pn	02 29 35.5	+1.1
	8.6nm,0.4s,baz=278,slow=19,SNR=1.6							
WRA	**Warramunga Arr**	**15.99**	**209**	Pn		Pn	02 31 52.4	-0.6
	0.1nm,0.3s,baz=28,slow=11,SNR=7.5							
	1.0nm,0.7s							
ASAR	**Alice Springs**	**19.45**	**204**	P		P	02 32 34.4	-0.4
	0.3nm,0.3s,baz=31,slow=10,SNR=10							
	1.4nm,0.7s							
MKAR	**Makanchi Array**	**74.57**	**322**	P		P	02 39 48.1	+0.9
	0.4nm,0.7s,baz=124,slow=6.0,SNR=5.2							
	0.4nm,0.7s							
ILAR	**Eielson Array**	**87.23**	**24**	P		P	02 40 53.3	-1.2
	0.4nm,0.9s,baz=251,slow=5.6,SNR=3.1							
	0.4nm,0.9s							

IDC 27 02:43:01.1±1.9, 6°.28S×142°.75E, h0km, mb3.8/2, mbtmp3.7/4, ML3.7/2, MS2.9/1, Error ellipse: s-maj=98.1km s-min=31.4km az=111.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.85**	**210**	Pn		Pn	02 46 44.1	-1.7
	0.2nm,0.3s,baz=28,slow=14,SNR=9.9							
	0.2nm,0.3s							
ASAR	**Alice Springs**	**19.27**	**205**	P		Pn	02 47 27.9	-0.5
	0.5nm,0.3s,baz=34,slow=9.6,SNR=24							
	1.2nm,0.4s							
USRK	**Ussuriysk Ar.**	**51.18**	**350**	LR		LR	03 12 23.1	
	comp=Z,14nm,19.9s,baz=181,slow=34							
BVAR	**Borovoye Array**	**84.53**	**325**	P		P	02 55 36.6	+0.6
	0.7nm,0.7s,baz=114,slow=6.8,SNR=3.8							
	0.7nm,0.7s							
ILAR	**Eielson Array**	**87.42**	**24**	P		P	02 55 49.6	-0.4
	0.7nm,0.9s,baz=235,slow=5.9,SNR=6.1							
	0.7nm,0.9s							

*IDC **27** 02:57:12.3±2.4, 1°.97S×133°.31E, h0km, mb3.4/3, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=125.8km s-min=25.5km az=76.0*

*DJA **27** 02:57:26.4±0.5, 2°.5±7°×13°.2E±1°.0, h10km, M3.4/4, mb4.4/1, MLv2.9/4*

ISC 27 02:57:18.8±1.5, 2°.16S±0°.07×133°.0E±0°.2, h35km, n7, σ1§91/9, mb3.5/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FAKI	**Fak Fak**	**1.05**	**224**	P		**Pn**	**02 57 39.1**	**+2.0**
FAKI				S		**Sn**	**02 57 49.7**	**-0.9**
SWI	**Sorong**	**2.15**	**307**	P		**Pn**	**02 57 55.8**	**+3.6**
SWI				S		**Sn**	**02 58 17.3**	**-0.4**
TNTI	**Ternate**	**6.32**	**297**	P		**Pn**	**02 58 48.1**	**-1.5**
WRA	**Warramunga Arr**	**17.73**	**176**	P		**Pn**	**03 01 22.6**	**-0.4**
	0.1nm,0.3s,baz=356,slow=12,SNR=8.4							
	0.2nm,0.3s							
ASAR	**Alice Springs**	**21.40**	**178**	P		**P**	**03 02 03.8**	**+0.1**
	0.7nm,0.5s,baz=4.7,slow=12,SNR=8.4							
	0.7nm,0.5s							
MKAR	**Makanchi Array**	**65.94**	**324**	P		**P**	**03 08 00.4**	**-1.1**
	0.4nm,0.7s,baz=119,slow=7.3,SNR=5.0							
	0.4nm,0.7s							
KURBB	**Kurchatov Arra**	**70.05**	**327**	P		**P**	**03 08 26.5**	**-0.7**
	0.3nm,0.7s,baz=125,slow=5.7,SNR=4.2							
	0.3nm,0.7s							

*MDD **27** 03:00:28.3±0.5, 35°.92N×10°.13W, h30km, mb_Lg3.4/34, Error ellipse: s-maj=4.1km s-min=3.0km az=81.0*

*SFS **27** 03:00:28.3, 35°.96N×9°.71W, h0km, ML3.5/21, ML3.6/17, MLv3.3/21*

*LDG **27** 03:00:28.7±0.7, 35°.79N×9°.79W, h30km, Ml3.6/5, Error ellipse: s-maj=14.0km s-min=10.5km az=69.0*

*INMG **27** 03:00:30.8±1.1, 36°.05N×9°.91W, h18km±15km, ML2.8, Error ellipse: s-maj=13.7km s-min=2.9km az=48.0*

*IGIL **27** 03:00:31.0, 36°.11N×9°.84W, h8km, ML2.9*

ISC 27 03:00:28.4±4.6, 36°.00N±0°.06×9°.96W±0°.06, h36km±8km, n93, σ1§60/167, 2C-5D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSVI	**Cabo S. Vicent**	**1.29**	**37**	*e*P		**Pn**	**03 00 51.6**	**+1.8**
PSVI				*e*S		**Sn**	**03 01 07.4**	**+1.6**
PFVI	**Vila Bisbo**	**1.46**	**39**	*i*P		**Pn**	**03 00 53.7**	**+1.5**
PFVI				*e*S		**Sn**	**03 01 10.9**	**+0.9**
PFVI				A		A	03 01 12.3	
	160nm,0.2s							
PPOR	**Portimao**	**1.61**	**45**	*e*P		**Pn**	**03 00 56.0**	**+1.7**
PPOR				*e*S		**Sn**	**03 01 14.7**	**+0.8**
PPOR				A		A	03 01 16.6	
	240nm,0.3s							
PALJ	**Aljezur**	**1.62**	**35**	*e*S		**Sn**	**03 01 14.8**	**+0.8**
MORF	**Marmelete**	**1.68**	**39**	*i*P		**Pn**	**03 00 56.8**	**+1.5**
MORF				*e*S		**Sn**	**03 01 16.1**	**+0.6**
MORF				A		A	03 01 17.0	
	160nm,0.1s							
MORF	**Marmelete**	**1.68**	**39**	*e*P		**Pn**	**03 00 56.8**	**+1.5**
MORF				*e*S		**Sn**	**03 01 15.6**	**0.0**
MORF				IAML			03 01 16.9	
	comp=E,335nm,0.2s							
PALBU	**Albufeira**	**1.76**	**51**	*e*S		**Sn**	**03 01 18.0**	**+0.4**
PALBU				A		A	03 01 23.5	
	comp=E,295nm,0.6s							
PTEO	**Sao Teotonio**	**1.84**	**32**	*i*P		**Pn**	**03 00 58.9**	**+1.5**
PTEO				*e*S		**Sn**	**03 01 20.1**	**+0.7**
PTEO				A		A	03 01 21.2	
	comp=E,63nm,0.1s							
PFARO	**Faro**	**1.94**	**57**	*e*S		**Sn**	**03 01 22.9**	**+1.0**
PBDV	**Barranco-do-Ve**	**2.05**	**52**	*i*P		**Pn**	**03 01 02.1**	**+1.7**
PBDV				*e*S		**Sn**	**03 01 25.1**	**+0.3**
PBDV				A		A	03 01 30.6	
	comp=E,34nm,0.1s							
PBDV	**Barranco-do-Ve**	**2.05**	**52**	Pn		**Pn**	**03 01 02.1**	**+1.7**
PBDV				Sn		**Sn**	**03 01 24.4**	**-0.4**
PSINE	**Sines**	**2.15**	**24**	*e*P		**Pn**	**03 01 03.2**	**+1.5**
PSINE				*e*S		**Sn**	**03 01 27.2**	**+0.2**
PCVE	**Castro Verde**	**2.25**	**43**	*i*P		**Pn**	**03 01 04.8**	**+1.7**
PCVE				*e*S		**Sn**	**03 01 30.4**	**+0.9**
PCVE				A		A	03 01 31.1	
	comp=E,50nm,0.2s							
PCVE	**Castro Verde**	**2.25**	**43**	Pn		**Pn**	**03 01 04.8**	**+1.7**
PCVE				Sn		**Sn**	**03 01 29.7**	**+0.2**
PVAQ	**Vaqueiros**	**2.29**	**51**	*e*P		**Pn**	**03 01 05.2**	**+1.6**
PVAQ				*e*S		**Sn**	**03 01 30.5**	**0.0**
PVAQ				A		A	03 01 32.3	
	comp=E,74nm,0.1s							
PVAQ	**Vaqueiros**	**2.29**	**51**	Pn		**Pn**	**03 01 05.2**	**+1.6**
PVAQ				Sn		**Sn**	**03 01 30.2**	**-0.3**
MESJ	**Messejana**	**2.31**	**37**	*e*P		**Pn**	**03 01 05.4**	**+1.5**
MESJ				*e*S		**Sn**	**03 01 31.6**	**+0.5**
MESJ				A		A	03 01 33.7	
	comp=E,50nm,0.1s							
MESJ	**Messejana**	**2.31**	**37**	*e*P		**Pn**	**03 01 05.5**	**+1.5**
MESJ				*e*S		**Sn**	**03 01 30.7**	**-0.4**
MESJ				IAML			03 01 32.5	
	comp=N,38nm,0.3s							
PNCL	**Nicolau / Gran**	**2.40**	**28**	*e*P		**Pn**	**03 01 06.4**	**+1.2**
PNCL				*e*S		**Sn**	**03 01 33.7**	**+0.3**
PNCL				A		A	03 01 35.5	
	comp=N,28nm,0.1s							
PNCL	**Nicolau / Gran**	**2.40**	**28**	Pn		**Pn**	**03 01 06.4**	**+1.2**
PNCL				Sn		**Sn**	**03 01 33.6**	**+0.3**
PBEJ	**Beja**	**2.63**	**39**	*e*P		**Pn**	**03 01 09.7**	**+1.4**
PBEJ				*e*S		**Sn**	**03 01 39.3**	**+0.3**
PBEJ				A		A	03 01 40.4	
	comp=N,27nm,0.3s							
LIS	**Lisbon**	**2.79**	**13**	*e*P		**Pn**	**03 01 12.1**	**+1.6**
LIS				*e*S		**Sn**	**03 01 43.0**	**0.0**
LIS				A		A	03 01 44.4	
	comp=N,38nm,0.4s							
LIS	**Lisbon**	**2.79**	**13**	*e*S		**Sn**	**03 01 42.6**	**-0.3**
LIS				IAML			03 01 44.2	
	comp=N,41nm,0.3s							
ARNO	**Arenosillo**	**2.82**	**66**	Pn		**Pn**	**03 01 12.6**	**+1.7**
ARNO				Sn		**Sn**	**03 01 43.5**	**-0.2**
PACT	**Alcochete**	**2.91**	**18**	*e*P		**Pn**	**03 01 14.0**	**+1.9**
PACT				*e*S		**Sn**	**03 01 46.1**	**+0.3**
PACT				A		A	03 01 52.4	
	comp=N,30nm,0.5s							
EVO	**Evora**	**2.97**	**31**	*e*P		**Pn**	**03 01 14.2**	**+1.2**
EVO				*e*S		**Sn**	**03 01 46.8**	**-0.6**
EVO				A		A	03 01 48.4	
	comp=N,79nm,0.1s							
EVO	**Evora**	**2.97**	**31**	Pn		**Pn**	**03 01 14.1**	**+1.2**
EVO				Sn		**Sn**	**03 01 46.5**	**-0.9**
PMAFR	**Mafra**	**3.00**	**10**	*e*P		**Pn**	**03 01 14.8**	**+1.3**
PMAFR				*e*S		**Sn**	**03 01 48.3**	**+0.1**
PMAFR				A		A	03 01 51.8	
	comp=N,41nm,0.2s							
PMAFR	**Mafra**	**3.00**	**10**	Pn		**Pn**	**03 01 14.8**	**+1.3**
EMIN	**Mina Concepcio**	**3.17**	**55**	Pn		**Pn**	**03 01 17.5**	**+1.7**
EMIN				Sn		**Sn**	**03 01 51.1**	**-1.3**
EMIN	**Mina Concepcio**	**3.17**	**55**	P		**Pn**	**03 01 17.4**	**+1.6**
EMIN				S		**Sn**	**03 01 51.7**	**-0.7**
EMIN				*i* Vmb_Lg			03 01 53.3	
PBAR	**Barrancos**	**3.19**	**46**	*e*P		**Pn**	**03 01 17.2**	**+1.2**
PBAR				*e*S		**Sn**	**03 01 52.1**	**-0.8**
PBAR				A		A	03 01 55.3	
	comp=N,23nm,0.2s							
PBAR	**Barrancos**	**3.19**	**46**	Pn		**Pn**	**03 01 17.2**	**+1.2**
PBAR				Sn		**Sn**	**03 01 52.1**	**-0.8**
PMTG	**Montargil**	**3.36**	**24**	*e*P		**Pn**	**03 01 19.6**	**+1.2**
PMTG				*e*S		**Sn**	**03 01 56.7**	**-0.4**
PMTG				A		A	03 01 58.5	
	comp=N,21nm,0.2s							
AVE	**Averroes**	**3.42**	**141**	Pn		**Pn**	**03 01 19.8**	**+0.7**
ESPR	**Espera**	**3.42**	**74**	Pn		**Pn**	**03 01 20.5**	**+1.2**
ESPR				Sn		**Sn**	**03 01 56.6**	**-1.9**
ESPR	**Espera**	**3.42**	**74**	P		**Pn**	**03 01 20.5**	**+1.2**
ESPR				S		**Sn**	**03 01 57.7**	**-0.9**
ESPR				*i* Vmb_Lg			03 01 59.7	
PESTR	**Estremoz**	**3.43**	**33**	*e*P		**Pn**	**03 01 20.2**	**+0.8**
PESTR				*e*S		**Sn**	**03 01 57.8**	**-1.0**
PESTR				A		A	03 01 59.3	
	comp=N,13nm,0.1s							
PESTR	**Estremoz**	**3.43**	**33**	Pn		**Pn**	**03 01 20.2**	**+0.8**
PESTR				Sn		**Sn**	**03 01 57.6**	**-1.2**
EBAD	**Badajoz**	**3.62**	**40**	Pn		**Pn**	**03 01 23.0**	**+1.0**
EBAD	**Badajoz**	**3.62**	**40**	P		**Pn**	**03 01 22.9**	**+1.0**
EBAD				S		**Sn**	**03 02 03.8**	**+0.4**
EBAD				*i* Vmb_Lg			03 02 04.9	
EJIF	**Jimena Fronter**	**3.66**	**82**	P		**Pn**	**03 01 24.3**	**+1.8**
EJIF				S		**Sn**	**03 02 05.4**	**+0.9**
ECEU	**Ceuta**	**3.72**	**90**	P		**Pn**	**03 01 24.5**	**+1.2**
ECEU				*i* Vmb_Lg			03 01 26.4	
CEU	**Ceuta**	**3.72**	**90**	Pn		**Pn**	**03 01 25.4**	**+2.1**
PMRV	**Marv??o**	**3.99**	**30**	*i*P		**Pn**	**03 01 28.1**	**+1.1**
PMRV				*e*S		**Sn**	**03 02 11.1**	**-1.4**
PMRV				A		A	03 02 14.2	
	comp=N,15nm,0.2s							
ECAB	**El Cabril**	**4.18**	**59**	Pn		**Pn**	**03 01 30.9**	**+1.2**
ECAB	**El Cabril**	**4.18**	**59**	P		**Pn**	**03 01 31.0**	**+1.2**
ECAB				S		**Sn**	**03 02 15.3**	**-2.1**
ECAB				*i* Vmb_Lg			03 02 18.2	
PCAS	**Casmilo, Conde**	**4.21**	**15**	*e*P		**Pn**	**03 01 31.2**	**+1.1**
PCAS				*e*S		**Sn**	**03 02 17.4**	**-0.6**
PCAS				A		A	03 02 21.2	
	comp=N,5.0nm,0.2s							
EMIJ	**Mijas**	**4.23**	**81**	Pn		**Pn**	**03 01 30.6**	**+0.2**
EMIJ	**Mijas**	**4.23**	**81**	P		**Pn**	**03 01 31.0**	**+0.7**
EMIJ				S		**Sn**	**03 02 17.7**	**-0.8**
EMIJ				*i* Vmb_Lg			03 02 21.2	
PCBR	**Castelo Branco**	**4.31**	**26**	*e*P		**Pn**	**03 01 32.8**	**+1.4**
PCBR				*e*S		**Sn**	**03 02 19.1**	**-1.3**
PCBR				A		A	03 02 23.5	
	comp=N,13nm,0.3s							
COI	**Coimbra**	**4.38**	**16**	*e*P		**Pn**	**03 01 33.5**	**+1.2**
COI				*e*S		**Sn**	**03 02 21.5**	**-0.6**
COI				A		A	03 02 25.4	
	comp=N,8.7nm,0.2s							
IFR	**Ifrane**	**4.69**	**120**	Pn		**Pn**	**03 01 36.3**	**-0.5**
IFR				Sn		**Sn**	**03 02 23.7**	**-6.3**
MTE	**Manteigas**	**4.79**	**23**	*e*P		**Pn**	**03 01 39.2**	**+1.1**
MTE				*e*S		**Sn**	**03 02 30.4**	**-2.0**
MTE				A		A	03 02 34.5	
	comp=N,7.4nm,0.2s							
EADA	**Adamuz**	**4.82**	**62**	Pn		**Pn**	**03 01 39.6**	**+1.1**
EADA	**Adamuz**	**4.82**	**62**	P		**Pn**	**03 01 39.7**	**+1.3**
EADA				S		**Sn**	**03 02 31.2**	**-1.9**
EADA				*i* Vmb_Lg			03 02 34.3	
EGOR	**Sierra Gorda,**	**4.84**	**75**	Pn		**Pn**	**03 01 40.5**	**+1.7**
EGOR	**Sierra Gorda,**	**4.84**	**75**	P		**Pn**	**03 01 40.9**	**+2.0**
EGOR				S		**Sn**	**03 02 33.3**	**-0.4**
EGOR				*i* Vmb_Lg			03 02 36.3	
PVIS	**Viseu**	**4.98**	**18**	*e*P		**Pn**	**03 01 41.5**	**+0.8**
PVIS				*e*S		**Sn**	**03 02 34.9**	**-2.2**
PVIS				A		A	03 02 39.0	
	comp=N,8.4nm,0.1s							
EPLA	**Plasencia**	**5.09**	**36**	P		**Pn**	**03 01 42.8**	**+0.7**
EPLA				S		**Sn**	**03 02 39.0**	**-0.6**
EPLA				*i* Vmb_Lg			03 02 40.2	
ELGU	**Los Guajares,**	**5.18**	**78**	P		**Pn**	**03 01 44.5**	**+1.0**
ELGU				S		**Sn**	**03 02 41.9**	**-0.1**
ELGU				*i* Vmb_Lg			03 02 47.7	
PTO	**Porto**	**5.24**	**11**	*e*P		**Pn**	**03 01 45.3**	**+1.1**
PTO				*e*S		**Sn**	**03 02 40.8**	**-2.6**
TIO	**Tiouine**	**5.54**	**155**	Pn		**Pn**	**03 01 48.7**	**+0.2**
TIO				Sn		**Sn**	**03 02 46.3**	**-4.6**
PVRL	**Vila Real**	**5.56**	**18**	*e*P		**Pn**	**03 01 49.5**	**+0.9**
PVRL				*e*S		**Sn**	**03 02 48.4**	**-2.8**
PVRL				A		A	03 02 52.1	
	comp=N,19nm,0.6s							
MVO	**Moncorvo**	**5.65**	**23**	*e*P		**Pn**	**03 01 50.9**	**+1.0**
MVO				*e*S		**Sn**	**03 02 51.3**	**-2.2**
MVO				A		A	03 02 56.1	
	comp=N,6.4nm,0.5s							
PAB	**San Pablo**	**5.69**	**50**	P		**Pn**	**03 01 51.2**	**+0.8**
PAB				S		**Sn**	**03 02 52.4**	**-2.1**
PAB				*i* Vmb_Lg			03 02 54.4	
PSIM	**Granatula de C**	**5.69**	**58**	P		**Pn**	**03 01 51.9**	**+1.5**
PSIM				S		**Sn**	**03 02 53.6**	**-0.9**
EBER	**Berja**	**5.77**	**79**	P		**Pn**	**03 01 52.7**	**+1.0**
EBER				S		**Sn**	**03 02 56.4**	**-0.4**
EQES	**Quesada**	**5.81**	**70**	P		**Pn**	**03 01 53.1**	**+1.0**
EQES				S		**Sn**	**03 02 58.1**	**+0.6**
EQES				*i* Vmb_Lg			03 02 59.1	
PCAB	**Cabril**	**5.90**	**14**	*e*P		**Pn**	**03 01 54.5**	**+1.2**
PCAB				*e*S		**Sn**	**03 02 56.8**	**-2.9**
PCAB				A		A	03 03 01.0	
	comp=N,6.6nm,0.2s							
ESDC	**Sonseca Array**	**6.00**	**50**	P		**Pn**	**03 01 56.0**	**+1.3**
ESDC				S		**Sn**	**03 03 00.2**	**-2.0**
ESDC				*i* Vmb_Lg			03 03 02.5	
PMPST	**Porto Santo, M**	**6.01**	**243**	*e*S		**Sn**	**03 02 57.3**	**-5.1**
ELOB	**Lobios**	**6.05**	**14**	P		**Pn**	**03 01 56.1**	**+0.8**
ELOB				S		**Sn**	**03 03 02.0**	**-1.3**
ELOB				*i* Vmb_Lg			03 03 03.9	
PGAV	**Gavieira, Arco**	**6.10**	**12**	*e*P		**Pn**	**03 01 57.1**	**+0.9**
PGAV				*e*S		**Sn**	**03 03 01.5**	**-3.3**
PGAV				A		A	03 03 05.5	
	comp=N,4.3nm,0.5s							
EZAM	**Zamans**	**6.22**	**9**	P		**Pn**	**03 01 58.5**	**+0.8**
EZAM				S		**Sn**	**03 03 06.5**	**-1.1**
PBRG	**Braganca**	**6.32**	**22**	*e*P		**Pn**	**03 02 00.6**	**+1.5**
PBRG				*e*S		**Sn**	**03 03 06.9**	**-3.1**
PBRG				A		A	03 03 08.3	
	comp=N,3.3nm,0.4s							
ECAL	**Calabor**	**6.45**	**22**	P		**Pn**	**03 02 01.4**	**+0.5**
GUD	**Guadarrama**	**6.51**	**43**	P		**Pn**	**03 02 02.6**	**+0.9**
GUD				S		**Sn**	**03 03 13.3**	**-1.4**
GUD				*i* Vmb_Lg			03 03 14.3	
UCM	**Universidad Co**	**6.82**	**49**	Pn		**Pn**	**03 02 07.3**	**+1.3**
UCM				Sn		**Sn**	**03 03 19.4**	**-2.9**
EZAR	**Zarzadilla de**	**6.88**	**72**	P		**Pn**	**03 02 07.8**	**+1.0**
EZAR				S		**Sn**	**03 03 22.1**	**-1.9**
EZAR				*i* Vmb_Lg			03 03 24.5	
EAGO	**Agolada(Pontev**	**6.95**	**11**	P		**Pn**	**03 02 08.1**	**+0.4**
EAGO				S		**Sn**	**03 03 23.4**	**-2.0**
EAGO				*i* Vmb_Lg			03 03 27.9	
EMAZ	**Mazaricos**	**6.99**	**6**	P		**Pn**	**03 02 08.3**	**+0.1**
EMAZ				*i* Vmb_Lg			03 03 23.8	
EMAZ				S		**Sn**	**03 03 24.2**	**-2.2**
ETOB	**Tobarra**	**7.21**	**66**	P		**Pn**	**03 02 11.7**	**+0.4**
ETOB				S		**Sn**	**03 03 29.7**	**-2.2**
ETOB				*i* Vmb_Lg			03 03 30.8	
EPON	**Pontenova**	**7.63**	**16**	P		**Pn**	**03 02 17.4**	**+0.3**
EPON				S		**Sn**	**03 03 41.9**	**-0.4**
ETOR	**Torete**	**7.85**	**50**	P		**Pn**	**03 02 21.0**	**+0.8**
ETOR				S		**Sn**	**03 03 46.6**	**-1.2**
ETOR				*i* Vmb_Lg			03 03 48.2	
EARI	**Arriondas**	**8.16**	**25**	P		**Pn**	**03 02 25.7**	**+1.4**
EARI				S		**Sn**	**03 03 54.4**	**-0.9**
EMOS	**Mosqueruela**	**8.65**	**57**	P		**Pn**	**03 02 32.7**	**+1.6**
EMOS				S		**Sn**	**03 04 06.1**	**-1.4**
EMOS				*i* Vmb_Lg			03 04 09.5	
SJPF	**Ste Jean**	**9.79**	**41**	*e*Pn		**Pn**	**03 02 47.8**	**+1.1**
SJPF				*e*Sn		**Sn**	**03 04 29.0**	**-6.3**
	comp=N,0.9nm,0.2s							
ETSF	**Etsaut**	**10.01**	**44**	*e*Pn		**Pn**	**03 02 51.1**	**+1.4**
ETSF				*e*Sn		Sn	03 04 34.4	-6.4
	comp=N,3.8nm,0.4s							
EPF	**Esparros**	**10.61**	**45**	*e*Pn		**Pn**	**03 02 59.1**	**+1.2**
EPF				*e*Sn		**Sn**	**03 04 50.7**	**-4.7**
	comp=N,3.4nm,0.4s							
MTLF	**Montolieu**	**11.90**	**48**	*e*P

MTN	**Manton Dam**	**9.06**	**121**	P		**Pn**	**03 15 56.2**	**+1.1**
MTN	**Manton Dam**	**9.06**	**121**			**Pn**	**03 15 52.6**	**-2.4**
KNRA	**Kununurra**	**9.19**	**144**			**Pn**	**03 15 56.6**	**0.0**
TOLI2	**Tolitoli**	**9.60**	**346**	P		Pn	03 15 48.9	-13
GMJI	**Gumukmas**	**9.62**	**269**	P		**Pn**	**03 16 00.3**	**-2.1**
FITZ	**Fitzroy Crossi**	**10.08**	**166**			**Pn**	**03 16 07.2**	**-1.0**
FAKI	**Fak Fak**	**10.47**	**60**	Pn		**Pn**	**03 16 14.2**	**+0.8**
FAKI	**Fak Fak** 39nm,1.4s	**10.47**	**60**	P		**Pn**	**03 16 13.3**	**-0.1**
PWJI	**Pagerwojo** 16nm,0.4s	**11.25**	**270**	P		**Pn**	**03 16 22.2**	**-1.2**
UGM	**Wanagama**	**12.53**	**271**	P		**Pn**	**03 16 38.0**	**-1.6**
UGM	**Wanagama**	**12.53**	**271**	Pn		**Pn**	**03 16 38.0**	**-1.6**
UGM	**Wanagama** 87nm,1.5s	**12.53**	**271**	P		**Pn**	**03 16 38.2**	**-1.4**
MBWA	**Marble Bar**	**13.26**	**194**	P		**P**	**03 16 54.2**	**+2.7**
MBWA	**Marble Bar**	**13.26**	**194**			**P**	**03 16 50.5**	**-1.0**
CMJI	**Cimerak** 33nm,0.7s	**14.59**	**271**	P		**Pn**	**03 17 03.4**	**-1.8**
WB0	**Warramunga Arr**	**15.79**	**138**			**Pn**	**03 17 20.3**	**+0.5**
WB0	comp=Z,34nm,1.5s				IAmb	IAmb	03 17 33.7	
WRA	**Warramunga Arr**	**15.88**	**138**			**Pn**	**03 17 21.4**	**+0.5**
WRA	**Warramunga Arr**	**15.88**	**138**	P		**Pn**	**03 17 22.0**	**+1.1**
WRA	comp=Z,1.2nm,0.5s,baz=320,slow=13,SNR=11				S	**S**	**03 20 10.4**	**-6.6**
WRAB	**Tennant Creek**	**15.88**	**138**			**P**	**03 17 20.2**	**-0.5**
WRAB	comp=Z,7.8nm,0.8s				IAmb	IAmb	03 17 38.6	
WB2	**Warramunga Arr**	**15.88**	**138**			**Pn**	**03 17 21.5**	**+0.5**
WB2	comp=Z,8.1nm,1.1s				IAmb	IAmb	03 17 22.7	
WR0	**Warramunga Arr**	**16.02**	**138**			**Pn**	**03 17 22.6**	**0.0**
WR0	comp=Z,17nm,0.6s				IAmb	IAmb	03 17 23.3	
AS31	**Alice Springs**	**18.46**	**147**	P		**Pn**	**03 17 51.3**	**-0.1**
AS31	comp=Z,1.8nm,0.7s				IAmb	IAmb	03 18 14.3	
ASAR	**Alice Springs**	**18.46**	**147**	P		**P**	**03 17 50.2**	**+1.3**
ASAR	**Alice Springs**	**18.46**	**147**	P		**Pn**	**03 17 51.2**	**-0.2**
ASAR	comp=Z,1.9nm,0.4s,baz=328,slow=12,SNR=15				S	**S**	**03 21 10.7**	**+1.6**
COEN	**Coen**	**20.43**	**108**	P		**P**	**03 18 10.7**	**+0.7**
FORT	**Forrest**	**22.87**	**169**	P		**P**	**03 18 35.1**	**+1.0**
PINNC	**Pines Island,**	**44.82**	**114**	P		**P**	**03 21 41.7**	**-0.7**
USRK	**Ussuriysk Ar.**	**52.81**	**8**	P		**P**	**03 22 42.6**	**0.0**
SONM	comp=Z,1.2nm,0.4s,baz=198,slow=7.5,SNR=8.3 **Songino Array**	**57.78**	**347**	P		**P**	**03 23 19.6**	**+1.3**
MK31	comp=Z,1.2nm,0.4s **Makanchi Array**	**65.76**	**330**	P		**P**	**03 24 11.6**	**+0.1**
MKAR	**Makanchi Array**	**65.76**	**330**	P		**P**	**03 24 11.7**	**+0.3**
MKAR	**Makanchi Array**	**65.76**	**330**	P		**P**	**03 24 12.6**	**+1.2**
PETK	comp=Z,0.4nm,0.4s,baz=135,slow=7.2,SNR=9.2 **Petropavlovsk-**	**67.80**	**22**	P		**P**	**03 24 24.9**	**+0.8**
PETK	**Petropavlovsk-**	**67.80**	**22**	P		**P**	**03 24 25.4**	**+1.3**
ZAA0	comp=Z,1.8nm,0.8s,baz=243,slow=6.3,SNR=3.5 **Zalesovo Array**	**69.89**	**337**	P		**P**	**03 24 36.8**	**-0.2**
ZAA0	comp=Z,4.5nm,1.5s				IAmb	IAmb	03 24 40.8	
ZALV	**Zalesovo Beam**	**69.89**	**337**	P		**P**	**03 24 36.6**	**-0.4**
ZALV	**Zalesovo Beam**	**69.89**	**337**	P		**P**	**03 24 37.0**	**+0.1**
KURBB	comp=Z,0.9nm,0.3s,baz=134,slow=4.4,SNR=3.9 **Kurchatov Arra**	**70.20**	**332**	P		**P**	**03 24 39.8**	**+0.8**
ABKAR	comp=Z,0.3nm,0.4s,baz=141,slow=5.2,SNR=5.7 **Akbulak array**	**79.37**	**323**	P		**P**	**03 25 31.4**	**-0.2**
ABKAR	**Akbulak array**	**79.37**	**323**	P		**P**	**03 25 31.2**	**-0.4**
ABKAR	comp=Z,1.6nm,1.3s				IAmb	IAmb	03 25 31.6	

SJA 27 03:18:21.8±0.6,31°41'S×68°62'W,h108km±2km, ML3.2, MW3.5,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJA	**San Juan**	**0.12**	**155**	*eP*	Pn	03 18 37.5	+0.6
SJA	comp=Z,373nm,0.2s			IAML		03 18 49.9	
RTCV	**Cerro Valdivia**	**0.45**	**171**	*eP*	Pn	03 18 38.9	+0.6
RTCV				*eS*	Sn	03 18 51.6	+1.0
DOCA	**Reserva Natura**	**0.61**	**320**	*eP*	Pn	03 18 40.2	+0.5
DOCA				*eS*	Sn	03 18 54.0	+0.9
RTLS	**Leoncito**	**0.69**	**236**	*eP*	Pn	03 18 41.1	+0.8
ASAL	**Salagasta**	**1.19**	**189**	*eP*	Pn	03 18 46.1	+1.1
ASAL				*eS*	Sn	03 19 05.0	+2.5
ASAL	comp=Z,323nm,1.0s			IAML		03 19 05.2	
AVFE	**Valle Fertil**	**1.25**	**53**	*eP*	Pn	03 18 46.7	+1.0
AVFE				*eS*	Sn	03 19 05.1	+1.3
AVFE	comp=Z,260nm,0.6s			IAML		03 19 05.5	
ACDV	**Cuesta del Vie**	**1.31**	**341**	*eP*	Pn	03 18 47.7	+1.2
ACDV	comp=Z,144nm,0.4s			IAML		03 19 07.6	
AROD	**Rodeo**	**1.44**	**329**	*eP*	Pn	03 18 49.5	+1.3
AROD				*eS*	Sn	03 19 09.5	+1.3
ARCO	**CERRO ARCO**	**1.45**	**190**	*eP*	Pn	03 18 48.9	+0.8
ARCO				*eS*	Sn	03 19 10.6	+2.6
ARCO	comp=Z,451nm,0.2s			IAML		03 19 10.7	
AAGR	**Agrelo**	**1.68**	**186**	*eP*	Pn	03 18 52.0	+1.2
AAGR				*eS*	Sn	03 19 12.8	0.0
AAGR	comp=Z,573nm,0.5s			IAML		03 19 15.2	
ACHE	**Chepes**	**1.70**	**82**	*eP*	Pn	03 18 51.6	+0.5
ACHE				*eP*		03 18 52.4	
CO03	**El Pedregal**	**1.86**	**287**	*eP*	Pn	03 18 54.2	+1.1
CO03	comp=Z,145nm,0.3s			IAML		03 19 21.9	
CO01	**Juntas del Tor**	**1.91**	**318**	*eP*	Pn	03 18 55.7	+1.9
AGUA	**GUANDACOL**	**1.92**	**3**	*eP*	Pn	03 18 55.2	+1.3
AGUA	comp=Z,107nm,0.6s			IAML		03 19 26.1	
CO02	**Combarbal**	**2.04**	**275**	*eP*	Pn	03 18 56.3	+0.9
CO02				*eS*	Sn	03 19 22.3	+1.2
CO02	comp=Z,281nm,0.7s			IAML		03 19 23.9	
AVIZ	**Vizcacheras**	**2.06**	**178**	*eP*	Pn	03 18 57.0	+1.4
APLL	**PUNTA DE LOS L**	**2.07**	**61**	*eP*	Pn	03 18 56.9	+1.2
VA03	**San Esteban**	**2.12**	**230**	*eP*	Pn	03 18 57.6	+1.3
VA03	comp=Z,171nm,0.5s			IAML		03 19 33.6	
ACLC	**CERRO LA CRUZ**	**2.45**	**36**	*eP*	Pn	03 19 01.8	+1.0
ACLC	comp=Z,173nm,0.9s			IAML		03 20 02.0	
PEL	**Peldehue**	**2.46**	**225**	*eP*	Pn	03 19 01.5	+0.9
ROC1	**El Roble**	**2.56**	**232**	*eP*	Pn	03 19 02.0	-0.2
MT03	**Universidad Ad**	**2.62**	**217**	*eP*	Pn	03 19 03.9	+1.1
MT03				*eS*	Sn	03 19 37.1	+2.8
MT03	comp=Z,104nm,0.2s			IAML		03 19 37.8	
MT05	**Renca**	**2.66**	**222**	*eP*	Pn	03 19 04.4	+1.1
MT05				*eS*	Sn	03 19 37.2	+1.9
MT05	comp=Z,119nm,0.3s			IAML		03 19 37.8	
VCA	**Vinchina**	**2.69**	**8**	*eP*	Pn	03 19 05.4	+1.5
VCA				*eS*	Sn	03 19 37.8	+1.6
VCA	comp=Z,122nm,0.5s			IAML		03 19 45.2	
MT02	**Curacav**	**2.81**	**229**	*eP*	Pn	03 19 05.1	-0.2
MT02	comp=Z,43nm,1.4s			IAML		03 19 48.9	
AC05	**El Transito**	**2.94**	**330**	*eP*	Pn	03 19 08.9	+1.8
AC05	comp=Z,32nm,0.3s			IAML		03 19 47.9	
LCO	**Las Campanas**	**3.00**	**323**	*eP*	Pn	03 19 08.8	+0.9
LCO	comp=Z,164nm,2.4s			IAML		03 20 28.7	
VA01	**Torpederas**	**3.02**	**237**	*eP*	Pn	03 19 06.9	-1.1
VA01	comp=Z,36nm,0.7s			IAML		03 19 51.2	
MT01	**Popeta**	**3.30**	**222**	*eP*	Pn	03 19 10.7	-1.0
RFA	**San Rafael** comp=Z,53nm,0.5s	**3.35**	**178**	IAML		03 20 17.8	
TCA	**Tanti** comp=Z,65nm,0.7s	**3.45**	**90**	IAML		03 20 11.2	
BO01	**Tunca**	**3.62**	**214**	*eP*	Pn	03 19 15.2	-0.8
BO02	**Sierra Bellavi** comp=Z,24nm,0.5s	**3.83**	**208**	IAML		03 20 11.3	
AC04	**Llanos de Chal**	**3.84**	**326**	*eP*	Pn	03 19 19.0	-0.1
AC04	comp=Z,29nm,2.1s			IAML		03 20 39.3	
AC04	comp=Z,29nm,2.1s			IAML		03 20 39.3	
CYA	**Choya**	**3.84**	**40**	*eP*	Pn	03 19 19.1	0.0
CYA				*eS*	Sn	03 20 03.3	-0.2
AC02	**Maricunga**	**4.58**	**354**	*eP*	Pn	03 19 31.0	+1.5

IDC 27 03:35:07.8±1.5,56°.52N×148°.92W,h0km,mb3.9/10, mbtmp3.9/14,ML3.6/4,MS2.9/8,Error ellipse: s-maj=36.5km s-min=18.2km az=1.0
NEIC 27 03:35:10.8±1.3,56°.58N±0°.06×149°.04W±0°.08,h10km±1km, mb4.5/12,ML4.1/78,ML3.9(AEIC),Error ellipse: s-maj=11.1km s-min=7.5km az=161.0
AEIC 27 03:35:15.2±1.4,56°.55N±0°.07×148°.98W±0°.09,h12km±4km, Error ellipse: s-maj=10.4km s-min=6.6km az=163.0
ISC 27 03:35:09.7±0.6,56°.58N±0°.06×148°.98W±0°.04,h10km, n389,σ1§28/389,mb4.2/15,MS3.0/3,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.30**	**303**		**Pn**	**03 35 48.2**	**+0.6**
KDAK	**Kodiak Island**	**2.30**	**303**		**Sn**	**03 36 14.1**	**-1.9**
KDAK	**Kodiak Island** 11nm,0.3s,baz=125,slow=6.0,SNR=250	**2.30**	**303**	Pn	**Pn**	**03 35 48.2**	**+0.6**
KDAK	54nm,0.3s,baz=292,slow=19,SNR=9.6				**Sn**	**03 36 14.3**	**-1.6**
KDAK	comp=Z,114nm,21.4s,baz=136,slow=43 25nm,0.3s			LR	LR	03 36 48.7	
OHAK	**Old Harbor**	**2.45**	**287**	P	**Pn**	**03 35 49.5**	**-0.1**
OHAK	**Old Harbor**	**2.45**	**287**		**Pn**	**03 35 49.5**	**-0.1**
OHAK					**Sn**	**03 36 16.8**	**-2.8**
OHAK	**Old Harbor** baz=104	**2.45**	**287**	P	**Pn**	**03 35 49.5**	**-0.1**
OHAK	baz=104			S	**Sn**	**03 36 16.8**	**-2.8**
SYI	**Shuyak Island**	**2.74**	**319**		**Pn**	**03 35 54.6**	**+0.9**
SYI					**Sn**	**03 36 26.1**	**-0.6**
SYI	**Shuyak Island** comp=N,594nm,0.5s	**2.74**	**319**	IAML		03 36 27.9	
SYI	comp=E,455nm,0.5s			IAML		03 36 28.1	
Q20K	**Shuyak Island** baz=137	**2.74**	**319**	P	**Pn**	**03 35 54.6**	**+0.9**
Q20K	baz=137			S	**Sn**	**03 36 26.1**	**-0.6**
SII	**Sitkinak Islan**	**2.88**	**272**	P	**Pn**	**03 35 55.4**	**-0.2**
SII	**Sitkinak Islan**	**2.88**	**272**		**Pn**	**03 35 55.1**	**-0.5**
SII					**Sn**	**03 36 27.5**	**-2.8**
SII	**Sitkinak Islan** baz=88	**2.88**	**272**	P	**Pn**	**03 35 55.1**	**-0.5**
SII	baz=88			S	**Sn**	**03 36 27.5**	**-2.8**
Q23K	**Middleton Isla**	**3.18**	**25**		**Pn**	**03 36 00.1**	**+0.4**
Q23K					**Sn**	**03 36 36.0**	**-1.6**
Q23K	**Middleton Isla** comp=N,228nm,0.6s	**3.18**	**25**	IAML		03 36 37.0	
Q23K	comp=E,354nm,0.6s			IAML		03 36 39.2	
Q23K	**Middleton Isla** baz=207	**3.18**	**25**	P	**Pn**	**03 36 00.1**	**+0.4**
Q23K	baz=207			S	**Sn**	**03 36 36.0**	**-1.6**
MID	**Middleton Isla**	**3.18**	**25**	P	**Pn**	**03 36 00.3**	**+0.6**
MID	**Middleton Isla**	**3.18**	**25**		**Pn**	**03 35 59.9**	**+0.2**
MID					**Sn**	**03 36 35.9**	**-1.8**
MID	**Middleton Isla** comp=N,285nm,0.6s	**3.18**	**25**	IAML		03 36 36.9	
MID	comp=E,353nm,0.6s			IAML		03 36 39.2	
CNPM	**China Poot**	**3.18**	**339**	Pn	**Pn**	**03 36 00.5**	**+0.7**
CNPM	**China Poot**	**3.18**	**339**		**Sn**	**03 36 37.2**	**-0.7**
BRSE	**Bradley Lake S**	**3.30**	**344**		**Pn**	**03 36 01.8**	**+0.4**
BRSE					**Sn**	**03 36 39.6**	**-1.1**
BRSE	**Bradley Lake S** baz=163	**3.30**	**344**	P	**Pn**	**03 36 01.8**	**+0.4**
BRSE	baz=163			S	**Sn**	**03 36 39.6**	**-1.1**
BRLK	**Bradley Lake**	**3.34**	**343**		**Pn**	**03 36 02.4**	**+0.4**
BRLK	**Bradley Lake**	**3.34**	**343**		**Sn**	**03 36 40.5**	**-1.4**
HOM	**Homer**	**3.39**	**337**		**Pn**	**03 36 03.8**	**+1.2**
HOM	**Homer** comp=N,506nm,0.8s	**3.39**	**337**	IAML		03 36 46.5	
HOM	comp=E,319nm,0.4s			IAML		03 36 48.1	
HOM	**Homer** baz=154	**3.39**	**337**	P	**Pn**	**03 36 03.8**	**+1.2**
Q19K	**Cape Douglas,**	**3.43**	**315**	Pn	**Pn**	**03 36 04.5**	**+1.3**
Q19K	comp=N,651nm,0.7s			IAML		03 36 47.8	
Q19K	**Cape Douglas,** baz=132	**3.43**	**315**	P	**Pn**	**03 36 05.1**	**+1.9**
P23K	**Montague Islan**	**3.52**	**13**		**Pn**	**03 36 05.1**	**+0.6**
P23K	**Montague Islan** baz=194	**3.52**	**13**	P	**Pn**	**03 36 05.1**	**+0.6**
SEW	**Seward**	**3.54**	**356**		**Pn**	**03 36 05.0**	**+0.3**
SEW	**Seward** baz=176	**3.54**	**356**	P	**Pn**	**03 36 04.9**	**+0.3**
AU22	**Augustine Moun**	**3.64**	**322**		**Pn**	**03 36 07.5**	**+1.5**
AUCH	**Augustine Cone**	**3.66**	**321**		**Pn**	**03 36 08.1**	**+1.6**
AUL	**Augustine Lava**	**3.67**	**322**		**Pn**	**03 36 08.2**	**+1.7**
KAKN	**Katmai Knife C**	**3.71**	**300**		**Pn**	**03 36 08.6**	**+1.5**
KCE	**Katmai Mt Cerb**	**3.74**	**299**		**Pn**	**03 36 09.7**	**+2.2**
ACHA	**Angle Creek He**	**3.80**	**298**		**Pn**	**03 36 10.1**	**+1.7**
P19K	**Oil Pt**	**3.81**	**326**	Pn	**Pn**	**03 36 09.6**	**+1.1**
P19K	comp=N,478nm,0.4s			IAML		03 36 57.4	
P19K	**Oil Pt** baz=142	**3.81**	**326**	P	**Pn**	**03 36 09.6**	**+1.1**
KAHC	**Katmai Hardscr**	**3.85**	**305**		**Pn**	**03 36 10.5**	**+1.5**
KAHC	**Katmai Hardscr** baz=120	**3.85**	**305**	P	**Pn**	**03 36 10.5**	**+1.5**
KVTA	**Katmai Vly 10**	**3.85**	**300**		**Pn**	**03 36 10.8**	**+1.7**
O22K	**Cooper Landing**	**3.93**	**355**		**Pn**	**03 36 10.5**	**+0.5**
O22K	**Cooper Landing** baz=174	**3.93**	**355**	P	**Pn**	**03 36 10.7**	**+0.7**
SLKM	**Skilak Lake**	**3.99**	**351**		**Pn**	**03 36 11.2**	**+0.3**
O20K	**Slope Mountain**	**4.00**	**333**		**Pn**	**03 36 11.7**	**+0.7**
O20K	**Slope Mountain** baz=150	**4.00**	**333**	P	**Pn**	**03 36 11.7**	**+0.7**
HIN	**Hinchinbrook I**	**4.04**	**18**		**Pn**	**03 36 12.3**	**+0.7**
HIN	comp=N,430nm,0.3s			IAML		03 36 57.7	
HIN	comp=E,372nm,0.4s			IAML		03 36 59.1	
IVE	**Iliamna Volcan**	**4.05**	**330**		**Pn**	**03 36 12.2**	**+0.4**
ILSW	**Iliamna Southw**	**4.05**	**329**		**Pn**	**03 36 12.5**	**+0.6**
ILSW	comp=N,181nm,0.7s			IAML		03 37 01.9	
ILSW	comp=E,216nm,0.6s			IAML		03 37 02.1	
KELA	**Mount Kelaz**	**4.09**	**300**		**Pn**	**03 36 14.1**	**+1.7**
KAIM	**Kayak Island**	**4.13**	**34**		**Pn**	**03 36 13.9**	**+1.1**
KAIM	**Kayak Island** baz=217	**4.13**	**34**	P	**Pn**	**03 36 13.9**	**+1.1**
EYAK	**Cordova Ski Ar**	**4.32**	**22**	P	**Pn**	**03 36 16.2**	**+0.8**
EYAK	**Cordova Ski Ar**	**4.32**	**22**		**Pn**	**03 36 16.5**	**+1.1**
EYAK	**Cordova Ski Ar** baz=204	**4.32**	**22**	P	**Pn**	**03 36 16.5**	**+1.1**
RED	**Redoubt Volcan**	**4.33**	**334**		**Pn**	**03 36 15.6**	**0.0**
CAPN	**Captain Cook N**	**4.35**	**346**		**Pn**	**03 36 17.5**	**+1.7**
CAPN	**Captain Cook N** comp=N,332nm,0.9s	**4.35**	**346**	IAML		03 37 10.1	
CAPN	**Captain Cook N** baz=164	**4.35**	**346**	P	**Pn**	**03 36 17.5**	**+1.7**
RDSO	**Redoubt South**	**4.35**	**335**		**Pn**	**03 36 16.0**	**0.0**
P18K	**Big Mountain,**	**4.36**	**313**	Pn	**Pn**	**03 36 16.6**	**+0.7**
P18K	**Big Mountain,** baz=128	**4.36**	**313**	P	**Pn**	**03 36 16.4**	**+0.4**
RSO	**Redoubt South**	**4.36**	**335**		**Pn**	**03 36 16.5**	**+0.3**
RDT	**Redoubt**	**4.38**	**337**		**Pn**	**03 36 16.4**	**0.0**
RDWB	**Redoubt West**	**4.41**	**334**		**Pn**	**03 36 16.7**	**0.0**
RAGM	**Ragged Mountai**	**4.43**	**29**		**Pn**	**03 36 18.2**	**+1.2**
SUCK	**Suckling Hills**	**4.45**	**36**		**Pn**	**03 36 18.5**	**+1.3**
SUCK	comp=N,229nm,0.8s			IAML		03 37 10.6	
SUCK	comp=E,304nm,0.5s			IAML		03 37 10.8	
DFR	**Drift River**	**4.46**	**336**		**Pn**	**03 36 17.8**	**+0.4**
RDJH	**Redoubt Jeurge**	**4.49**	**335**		**Pn**	**03 36 18.0**	**+0.2**
NCT	**North Crescent**	**4.49**	**334**		**Pn**	**03 36 17.9**	**+0.1**
HMT	**Hamilton**	**4.51**	**31**		**Pn**	**03 36 19.4**	**+1.4**
NICHA	**Nichawak Mount**	**4.51**	**34**		**Pn**	**03 36 19.4**	**+1.4**
RC01	**Rabbit Creek A**	**4.54**	**355**		**Pn**	**03 36 19.0**	**+0.7**
RC01	comp=N,168nm,0.5s			IAML		03 37 10.6	
RC01	comp=E,164nm,0.5s			IAML		03 37 11.7	
RC01	**Rabbit Creek A** baz=175	**4.54**	**355**	P	**Pn**	**03 36 19.1**	**+0.7**
O19K	**Port Alsworth**	**4.58**	**324**	Pn	**Pn**	**03 36 19.5**	**+0.5**
O19K	**Port Alsworth** baz=140	**4.58**	**324**	P	**Pn**	**03 36 19.4**	**+0.5**
GOAT	**Goat Mountain**	**4.58**	**27**		**Pn**	**03 36 20.3**	**+1.2**
FIS	**Fire Island**	**4.62**	**353**		**Pn**	**03 36 21.0**	**+1.6**
FIS	**Fire Island** comp=E,251nm,0.7s	**4.62**	**353**	IAML		03 37 16.1	
FIS	comp=N,192nm,0.6s			IAML		03 37 20.0	
Q16K	**King Salmon**	**4.63**	**300**		**Pn**	**03 36 21.1**	**+1.5**
Q16K	**King Salmon** baz=114	**4.63**	**300**	P	**Pn**	**03 36 21.1**	**+1.5**
BGLC	**Bering Glacier**	**4.64**	**38**		**Pn**	**03 36 21.4**	**+1.6**
BGLC	**Bering Glacier** baz=222	**4.64**	**38**	P	**Pn**	**03 36 21.4**	**+1.6**
O18K	**Koktuh Hills**	**4.65**	**317**	Pn	**Pn**	**03 36 20.6**	**+0.7**
O18K	comp=N,96nm,1.0s			IAML		03 37 26.5	
O18K	**Koktuh Hills** baz=132	**4.65**	**317**	P	**Pn**	**03 36 20.4**	**+0.5**
BERG	**Berg Lake**	**4.72**	**34**		**Pn**	**03 36 21.9**	**+1.1**
GRIN	**Grindle Hills**	**4.75**	**36**		**Pn**	**03 36 22.9**	**+1.5**
P17K	**Kvichak River**	**4.76**	**306**		**Pn**	**03 36 22.9**	**+1.5**
P17K	**Kvichak River** baz=120	**4.76**	**306**	P	**Pn**	**03 36 22.9**	**+1.5**
SNH	**Sunshine Point**	**4.84**	**39**		**Pn**	**03 36 23.9**	**+1.3**
SNH	**Sunshine Point** comp=E,146nm,0.7s	**4.84**	**39**	IAML		03 37 18.0	
SNH	comp=N,148nm,0.4s			IAML		03 37 21.7	
KNK	**Knik Glacier**	**4.85**	**3**		**Pn**	**03 36 23.5**	**+0.7**
KNK	comp=E,90nm,0.6s			IAML		03 37 25.1	
KNK	**Knik Glacier** baz=183	**4.85**	**3**	P	**Pn**	**03 36 23.6**	**+0.9**
DIV	**Divide**	**4.85**	**19**		**Pn**	**03 36 23.8**	**+1.0**
KHIT	**Khitrov Hills**	**4.90**	**35**		**Pn**	**03 36 24.5**	**+1.0**
CYK	**Cape Yakataga**	**4.90**	**42**		**Pn**	**03 36 24.6**	**+1.3**
N20K	**Mount Spurr** baz=159	**4.92**	**341**	P	**Pn**	**03 36 24.1**	**+0.4**
SPCR	**Spurr Chakacha**	**4.92**	**341**		**Pn**	**03 36 24.1**	**+0.4**
SPCN	**Chakachatna No**	**4.94**	**342**		**Pn**	**03 36 24.8**	**+0.8**
BMRM	**Bremner River**	**4.95**	**26**		**Pn**	**03 36 25.1**	**+1.0**
BMRM	**Bremner River** baz=209	**4.95**	**26**	P	**Pn**	**03 36 25.1**	**+1.0**
SPCP	**Crater Peak Br**	**4.97**	**342**		**Pn**	**03 36 25.3**	**+0.7**
CRP	**Crater Peak**	**4.98**	**342**		**Pn**	**03 36 25.4**	**+0.8**
SPCG	**Spurr Capps Gl**	**4.98**	**343**		**Pn**	**03 36 25.6**	**+1.0**
SUA	**Susitna One**	**4.98**	**350**		**Pn**	**03 36 24.9**	**+0.3**
SUA	**Susitna One** baz=169	**4.98**	**350**	P	**Pn**	**03 36 24.9**	**+0.3**
SPBG	**Spurr Blockage**	**5.01**	**341**		**Pn**	**03 36 25.5**	**+0.6**
PMR	**Palmer**	**5.03**	**359**	Pn	**Pn**	**03 36 26.0**	**+1.0**
PMR	comp=E,107nm,0.6s			IAML		03 37 21.8	
PMR	**Palmer** baz=179	**5.03**	**359**	P	**Pn**	**03 36 26.1**	**+1.0**
WAX	**Waxell Ridge**	**5.03**	**37**		**Pn**	**03 36 26.3**	**+1.1**
N19K	**Bonanza Creek**	**5.12**	**328**		**Pn**	**03 36 26.8**	**+0.4**
N19K	**Bonanza Creek** baz=144	**5.12**	**328**	P	**Pn**	**03 36 26.8**	**+0.4**
BARK	**Barkley Ridge**	**5.12**	**39**		**Pn**	**03 36 27.8**	**+1.3**
STLK	**Strandline Lak**	**5.14**	**345**		**Pn**	**03 36 27.6**	**+0.8**
SPNN	**North Nagishla**	**5.17**	**340**		**Pn**	**03 36 28.0**	**+0.8**
KLU	**Klutina**	**5.17**	**17**		**Pn**	**03 36 28.4**	**+1.2**
KLU	comp=N,191nm,0.3s			IAML		03 37 25.7	
KLU	comp=E,121nm,0.3s			IAML		03 37 26.1	
KLU	**Klutina** baz=199	**5.17**	**17**	P	**Pn**	**03 36 28.5**	**+1.3**
CRQM	**Cirque**	**5.18**	**34**		**Pn**	**03 36 28.4**	**+1.0**
CRQM	**Cirque** comp=E,176nm,0.5s	**5.18**	**34**	IAML		03 37 26.2	
CRQM	comp=N,137nm,0.8s			IAML		03 37 29.7	
CRQE	**Cirque** baz=219	**5.19**	**34**	P	**Pn**	**03 36 28.4**	**+0.9**
GHO	**Glory Hole Cre**	**5.21**	**0**		**Pn**	**03 36 28.9**	**+1.3**
M22K	**Willow**	**5.22**	**354**		**Pn**	**03 36 28.9**	**+1.2**
M22K	**Willow** comp=N,93nm,0.8s	**5.22**	**354**	IAML		03 37 33.9	
M22K	comp=E,98nm,0.6s			IAML		03 37 49.6	
M22K	**Willow** baz=173	**5.22**	**354**	P	**Pn**	**03 36 28.9**	**+1.2**
CHGN	**Chignik**	**5.24**	**271**		**Pn**	**03 36 29.1**	**+1.0**
CHGN	**Chignik** comp=E,90nm,0.5s	**5.24**	**271**	IAML		03 37 30.4	
CHGN	comp=N,78nm,1.1s			IAML		03 37 30.5	
CHGN	**Chignik** baz=83	**5.24**	**271**	P	**Pn**	**03 36 29.1**	**+1.0**
SML	**Sawmill**	**5.25**	**3**	Pn	**Pn**	**03 36 29.6**	**+1.4**
SML	comp=E,95nm,0.4s			IAML		03 37 30.7	
SML	comp=N,98nm,0.7s			IAML		03 37 31.5	
SML	**Sawmill** baz=184	**5.25**	**3**	P	**Pn**	**03 36 29.6**	**+1.4**
M23K	**Glacier View**	**5.26**	**7**		**Pn**	**03 36 29.9**	**+1.5**
M23K	**Glacier View** baz=188	**5.26**	**7**	P	**Pn**	**03 36 29.9**	**+1.5**
ISLE	**Juniper Island**	**5.32**	**38**		**Pn**	**03 36 30.4**	**+1.1**
ISLE	comp=N,143nm,1.0s			IAML		03 37 30.3	
ISLE	comp=E,127nm,0.4s			IAML		03 37 32.3	
BAGL	**Bagley Icefiel**	**5.33**	**40**		**Pn**	**03 36 30.5**	**+1.3**
SCM	**Sheep Creek Mo**	**5.33**	**8**	Pn	**Pn**	**03 36 30.9**	**+1.5**
SCM	comp=E,118nm,1.1s			IAML		03 37 31.9	
SCM	comp=N,111nm,0.6s			IAML		03 37 32.7	
SCM	**Sheep Creek Mo** baz=190	**5.33**	**8**	P	**Pn**	**03 36 31.0**	**+1.6**
O17K	**Koliganek Bris**	**5.35**	**310**		**Pn**	**03 36 30.3**	**+0.8**
O17K	**Koliganek Bris** baz=124	**5.35**	**310**	P	**Pn**	**03 36 30.3**	**+0.8**
P16K	**Nushagak River**	**5.41**	**301**		**Pn**	**03 36 31.9**	**+1.6**
P16K	**Nushagak River** baz=114	**5.41**	**301**	P	**Pn**	**03 36 31.9**	**+1.6**
N18K

VNFG	Fog Glacier, M	5.87	271			Pn	03 36 38.0	+1.2
CUT	Chulitna	5.88	354			Pn	03 36 38.7	+2.0
CUT	Chulitna	5.88	354	P		Pn	03 36 38.7	+2.0
	baz=173							
BARN	Barnard Glacie	5.88	37			Pn	03 36 38.4	+1.4
WACK	Wrangell Chich	5.92	22			Pn	03 36 39.4	+1.8
CTG	Chitna Glacier	5.92	39	P		Pn	03 36 38.7	+1.2
	baz=225							
CTGM	Chitina Glacie	5.92	39			Pn	03 36 38.7	+1.1
PNL	Peninsula	5.94	55	P		Pn	03 36 39.3	+1.6
PNL	Peninsula	5.94	55			Pn	03 36 39.1	+1.4
PNL	Peninsula	5.94	55	P		Pn	03 36 39.1	+1.4
	baz=242							
LOGN	Logan Glacier	5.95	41			Pn	03 36 39.2	+1.4
BCPM	Bancas Point	5.98	52			Pn	03 36 39.7	+1.6
M19K	Big River Lodg	6.01	335			Pn	03 36 38.8	+0.2
WAT6	Susitna Watana	6.05	5			Pn	03 36 40.4	+1.1
WAT6	Susitna Watana	6.05	5	P		Pn	03 36 40.4	+1.1
	baz=186							
HARP	HAARP	6.15	17			Pn	03 36 42.5	+2.0
HARP	HAARP	6.15	17	P		Pn	03 36 42.5	+2.0
	baz=200							
O28M	Mount Upton	6.21	44			Pn	03 36 43.1	+1.5
O28M	Mount Upton	6.21	44	P		Pn	03 36 43.1	+1.5
	baz=231							
WAT1	Susitna Watana	6.27	2			Pn	03 36 44.0	+1.8
WAT1	Susitna Watana	6.27	2	P		Pn	03 36 44.0	+1.8
	baz=182							
WAT7	Susitna Watana	6.27	1			Pn	03 36 43.9	+1.6
O15K	Ungalikthiuk R	6.34	299			Pn	03 36 44.6	+1.5
O15K	Ungalikthiuk R	6.34	299	P		Pn	03 36 44.6	+1.5
	baz=110							
L19K	White Mountain	6.36	334	Pn		Pn	03 36 43.3	-0.1
L20K	Farewell, AK	6.42	339			Pn	03 36 44.2	+0.1
L20K	Farewell, AK	6.42	339	P		Pn	03 36 44.2	+0.1
	baz=155							
N16K	Nishlik Lake	6.44	311			Pn	03 36 45.6	+1.1
N16K	Nishlik Lake	6.44	311	P		Pn	03 36 45.6	+1.1
	baz=123							
M17K	Holitna River	6.51	321			Pn	03 36 46.2	+0.7
M17K	Holitna River	6.51	321	P		Pn	03 36 46.1	+0.7
	baz=134							
PPLA	Purkeypile	6.54	347			Pn	03 36 47.6	+1.7
PPLA	Purkeypile	6.54	347	P		Pn	03 36 47.6	+1.7
	baz=164							
DHY	Denali Highway	6.56	6	Pn		Pn	03 36 47.9	+1.6
DHY	Denali Highway	6.56	6	P		Pn	03 36 47.6	+1.3
	baz=188							
SDPT	Sand Point	6.57	264	P		Pn	03 36 47.1	+0.7
SDPT	Sand Point	6.57	264			Pn	03 36 47.0	+0.7
SDPT	Sand Point	6.57	264	P		Pn	03 36 47.0	+0.7
	baz=75							
M26K	Nabesna, AK	6.58	25			Pn	03 36 47.9	+1.5
M26K	Nabesna, AK	6.58	25	P		Pn	03 36 47.9	+1.5
	baz=210							
O29M	Mount Kennedy	6.61	51			Pn	03 36 48.7	+1.8
PAX	Paxson	6.65	14			Pn	03 36 49.0	+1.6
PAX	Paxson	6.65	14	P		Pn	03 36 49.0	+1.6
	baz=197							
YUK2	White River	6.68	35			Pn	03 36 49.4	+1.5
P29M	Windy Craggy	6.69	58			Pn	03 36 49.3	+1.3
YUK3	Moose Creek	6.80	37			Pn	03 36 51.8	+2.2
YUK3	Moose Creek	6.80	37	P		Pn	03 36 51.8	+2.2
	baz=224							
M27K	Edge Creek, AK	6.83	29			Pn	03 36 51.7	+1.8
M27K	Edge Creek, AK	6.83	29	P		Pn	03 36 51.7	+1.8
	baz=215							
M16K	Timber Creek	6.83	315	Pn		Pn	03 36 50.7	+0.9
M16K	Timber Creek	6.83	315	P		Pn	03 36 50.9	+1.0
	baz=126							
RND	Reindeer	6.84	0	Pn		Pn	03 36 51.5	+1.3
N15K	Kwethluk River	6.86	306			Pn	03 36 52.0	+1.8
N15K	Kwethluk River	6.86	306	P		Pn	03 36 52.0	+1.8
	baz=117							
L18K	Granite Mounta	6.88	328			Pn	03 36 50.6	+0.1
YUK7	Dusty Glacier	6.91	51			Pn	03 36 53.4	+2.2
TRF	Thorofare Moun	6.92	355			Pn	03 36 52.4	+1.1
TRF	Thorofare Moun	6.92	355	P		Pn	03 36 52.4	+1.1
	baz=174							
CAST	Castle Rocks	7.03	349	Pn		Pn	03 36 53.3	+0.7
CAST	Castle Rocks	7.03	349	P		Pn	03 36 53.5	+0.9
	baz=166							
YUK6	Outpost Mounta	7.04	47			Pn	03 36 55.2	+2.3
YUK6	Outpost Mounta	7.04	47	P		Pn	03 36 55.2	+2.3
	baz=236							
S31K	Pelican	7.05	73			Pn	03 36 51.5	-1.3
KTH	Kantishna Hill	7.06	353			Pn	03 36 54.4	+1.3
YUK4	Talbot Arm	7.16	44	P		Pn	03 36 57.8	+3.3
	baz=232							
MCK	McKinley	7.17	0			Pn	03 36 56.1	+1.6
MCK	McKinley	7.17	0	P		Pn	03 36 56.1	+1.6
	baz=180							
P30M	Million Dollar	7.25	56			Pn	03 36 57.6	+1.9
P30M	Million Dollar	7.25	56	P		Pn	03 36 57.6	+1.9
	baz=246							
PS1A	Pavlof South-1	7.25	266			Pn	03 36 56.3	+0.7
K20K	Telida	7.26	342			Pn	03 36 55.7	0.0
TTA	Tatalina	7.29	334			Pn	03 36 56.1	0.0
TTA	Tatalina	7.29	334	P		Pn	03 36 56.1	0.0
	baz=148							
PLBC	Pleasant Camp	7.29	62			Pn	03 36 57.5	+1.3
PLBC	Pleasant Camp	7.29	62	P		Pn	03 36 57.5	+1.3
	baz=252							
L17K	Donlin	7.32	323			Pn	03 36 57.2	+0.7
L17K	Donlin	7.32	323	P		Pn	03 36 57.2	+0.7
	baz=136							
HYT	Haines Junctio	7.33	50			Pn	03 36 58.5	+1.7
HYT	Haines Junctio	7.33	50	P		Pn	03 36 58.5	+1.7
	baz=239							
M15K	Kasigluk River	7.37	309			Pn	03 36 58.6	+1.4
M15K	Kasigluk River	7.37	309	P		Pn	03 36 58.6	+1.4
	baz=119							
PN7A	Pavlof North-7	7.39	266			Pn	03 36 58.2	+0.7
K24K	Donnelly Dome	7.42	11			Pn	03 37 00.1	+2.2
K24K	Donnelly Dome	7.42	11	P		Pn	03 37 00.1	+2.2
	baz=194							
L27K	Beaver Creek,	7.43	26			Pn	03 36 59.1	+1.1
L16K	Owhat River	7.45	318	Pn		Pn	03 36 59.1	+0.8
L16K	Owhat River	7.45	318	P		Pn	03 36 59.3	+1.1
	baz=129							
RIDG	Independent Ri	7.47	14			Pn	03 37 00.2	+1.6
RIDG	Independent Ri	7.47	14	P		Pn	03 37 00.2	+1.6
	baz=198							
BPAW	Bear Paw Mtn.	7.61	353			Pn	03 37 00.8	+0.4
BPAW	Bear Paw Mtn.	7.61	353	P		Pn	03 37 00.9	+0.4
	baz=172							
BWN	Browne	7.62	358			Pn	03 37 01.4	+0.8
K17K	Iditarod	7.75	326	Pn		Pn	03 37 02.4	+0.1
SKAG	Skagway	7.80	63			Pn	03 37 04.6	+1.5
N30M	Aishikik Lake	7.84	47			Pn	03 37 05.2	+1.5
BESE	Bessie Mountai	7.85	69			Pn	03 37 04.9	+1.0
J18K	Innoko River	7.91	334	Pn		Pn	03 37 05.0	+0.3
HDA	Harding Lake	7.92	6			Pn	03 37 06.4	+1.7
HDA	Harding Lake	7.92	6	P		Pn	03 37 06.4	+1.7
	baz=188							
O30N	Mendenhall	7.92	53			Pn	03 37 06.5	+1.8
WRH	Wood River Hil	7.93	3			Pn	03 37 06.3	+1.5
M29M	Somme Creek	7.94	38			Pn	03 37 06.8	+1.7
M29M	Somme Creek	7.94	38	P		Pn	03 37 06.8	+1.7
	baz=227							
R32K	Eaglecrest	7.99	72	Pn		Pn	03 37 06.2	+0.5
J20K	Nowinta River	8.03	344			Pn	03 37 07.2	+0.9
J20K	Nowinta River	8.03	344	P		Pn	03 37 07.2	+0.9
	baz=159							
NEA2	Nenana	8.04	360			Pn	03 37 07.1	+0.7
NEA2	Nenana	8.04	360	P		Pn	03 37 07.3	+0.9
	baz=180							
JIS	Juneau Island	8.06	72			Pn	03 37 06.9	+0.2
CCB	Clear Creek Bu	8.11	4			Pn	03 37 08.6	+1.2
J19K	Poorman	8.13	339			Pn	03 37 07.7	+0.1
L15K	Ungalak Mounta	8.21	314			Pn	03 37 09.6	+1.0
L15K	Ungalak Mounta	8.21	314	P		Pn	03 37 09.6	+1.0
	baz=123							
K27K	Chicken	8.21	22			Pn	03 37 10.4	+1.7
K27K	Chicken	8.21	22	P		Pn	03 37 10.4	+1.7
	baz=208							
J25K	Salcha River,	8.25	11			Pn	03 37 10.0	+0.7
J25K	Salcha River,	8.25	11	P		Pn	03 37 10.0	+0.7
	baz=194							
IL31		8.28	6			Pn	03 37 10.5	+0.9
ILAR	Eielson Array	8.28	6	Pn		Pn	03 37 10.6	+0.9
	comp=N,1.5nm,0.3s,baz=188,slow=14,SNR=54							
ILAR				Sn		Sn	03 38 39.0	-4.1
	comp=N,0.3nm,0.3s,baz=211,slow=16,SNR=4.7							
ILAR				LR		LR	03 40 29.2	
	comp=N,63nm,21.7s,baz=260,slow=38							
FALS	False Pass	8.33	264			Pn	03 37 10.9	+0.5
FALS	False Pass	8.33	264	P		Pn	03 37 10.9	+0.5
	baz=72							
COLA	College	8.34	3	Pn		Pn	03 37 11.8	+1.4
J26L	Joseph Creek	8.38	16			Pn	03 37 12.4	+1.3
J26L	Joseph Creek	8.38	16	P		Pn	03 37 12.4	+1.3
	baz=201							
WHY	Whitehorse	8.41	55	Pn		Pn	03 37 13.4	+1.8
MDM	Murphy Dome	8.41	2			Pn	03 37 12.6	+1.1
L29M	L29M	8.51	35			Pn	03 37 14.8	+1.8
L29M	L29M	8.51	35	P		Pn	03 37 14.8	+1.8
	baz=224							
MLY	Manley	8.52	355	Pn		Pn	03 37 14.1	+1.0
MLY	Manley	8.52	355	P		Pn	03 37 14.2	+1.2
	baz=173							
L14K	Kuka Creek	8.53	310	Pn		Pn	03 37 14.3	+1.3
ISLZ	Isanotski Laza	8.54	264			Pn	03 37 13.7	+0.4
K15K	Wolf Creek Mou	8.57	317			Pn	03 37 15.1	+1.3
K15K	Wolf Creek Mou	8.57	317	P		Pn	03 37 15.0	+1.3
	baz=126							
I23K	Minto, Yukon-K	8.60	359			Pn	03 37 15.5	+1.5
I23K	Minto, Yukon-K	8.60	359	P		Pn	03 37 15.6	+1.6
	baz=179							
POKR	Poker Plat Res	8.60	4			Pn	03 37 16.1	+2.0
POKR	Poker Plat Res	8.60	4	P		Pn	03 37 16.1	+2.0
	baz=186							
M30M	Minto, Yukon	8.61	41			Pn	03 37 15.7	+1.4
M30M	Minto, Yukon	8.61	41	P		Pn	03 37 15.7	+1.4
	baz=231							
P32M	Atlin	8.63	63			Pn	03 37 15.4	+0.9
P32M	Atlin	8.63	63	P		Pn	03 37 15.4	+0.9
	baz=256							
SSLS	Shishaldin Sou	8.70	264			Pn	03 37 16.2	+0.6
SSLW	Shishaldin Wes	8.75	264			Pn	03 37 17.4	+1.2
I21K	Tanana	8.75	352			Pn	03 37 17.3	+1.3
I21K	Tanana	8.75	352	P		Pn	03 37 17.3	+1.3
	baz=169							
DAWY	Dawson	8.87	28	Pn		Pn	03 37 19.3	+1.4
J16K	Anvik River	8.89	324			Pn	03 37 18.1	+0.1
J16K	Anvik River	8.89	324	P		Pn	03 37 18.1	+0.1
	baz=134							
EGAK	Eagle	9.06	22			Pn	03 37 22.9	+2.5
PRP	Porcupine Dome	9.12	9			Pn	03 37 22.9	+1.6
PRP	Porcupine Dome	9.12	9	P		Pn	03 37 22.9	+1.6
	baz=192							
I26K	Coal Creek Min	9.19	15			Pn	03 37 23.9	+1.7
P33M	Teslin, Yukon	9.23	60	Pn		Pn	03 37 23.9	+1.1
K29M	Barlow Dome	9.23	33	Pn		Pn	03 37 24.5	+1.6
H23K	Yukon River	9.28	359			Pn	03 37 24.6	+1.2
H21K	Melozitna Rive	9.29	350			Pn	03 37 23.6	+0.1
H24K	Noodor Dome	9.30	3			Pn	03 37 25.4	+1.6
M31M	Drury Creek, Y	9.32	47			Pn	03 37 26.3	+2.4
J29N	Klondike Camp	9.50	29	Pn		Pn	03 37 28.6	+2.2
IMAR	Indian Mountai	9.70	348			Pn	03 37 29.1	-0.1
H18K	Honhosa River	9.72	336			Pn	03 37 29.6	+0.1
FARO	Faro, Yukon	9.76	48			Pn	03 37 32.0	+2.0
I28M	Miner Creek	9.90	22			Pn	03 37 34.0	+2.0
R33M	Jennings River	9.96	66	Pn		Pn	03 37 33.9	+1.0
J30M	Hart River	10.13	33	Pn		Pn	03 37 35.7	+2.4
G23K	Hozatzad Creek	10.18	358			Pn	03 37 37.1	+1.4
G21K	Allakaket	10.19	350			Pn	03 37 36.5	+0.6
DLBC	Dease Lake	10.36	72	Pn		Pn	03 37 39.1	+0.8
	comp=N,0.9nm,0.3s,baz=272,slow=6.8,SNR=54							
DLBC				Sn		Sn	03 39 30.1	-4.2
	comp=N,0.8nm,0.3s,baz=174,slow=24,SNR=9.5							
DLBC				LR		LR	03 41 14.1	
	comp=N,54nm,19.1s,baz=280,slow=35							
	comp=N,2.4nm,0.2s							
MMPY	Sheldon Lake,	10.80	49			Pn	03 37 45.6	+1.3
F21K	Alatna River	10.88	351	Pn		Pn	03 37 46.1	+0.8
F20K	Avaraart Lake	10.96	346			Pn	03 37 47.1	+0.7
F24K	Squaw Lake	10.99	2	Pn		Pn	03 37 48.5	+1.7
ANM	Nome	11.32	322			Pn	03 37 52.1	+0.8
F17K	Baldwin Pennin	11.46	335	Pn		Pn	03 37 54.7	+1.4
E19K	Redstone River	11.56	344			Pn	03 37 55.9	+1.3
E25K	Arctic Village	11.69	6			Pn	03 37 57.7	+1.4
TOLK	Toolik Lake Re	12.11	359	Pn		Pn	03 38 03.2	+1.2
D22K	Ayikyak River	12.46	354			Pn	03 38 08.0	+1.2
D24K	Happy Valley	12.62	0			Pn	03 38 09.6	+0.6
E28M	Babbage River	12.80	16	Pn		Pn	03 38 13.4	+2.0
D25K	Kavik River	12.84	4			Pn	03 38 13.7	+1.6
E29M	Blow River	12.87	19	Pn		Pn	03 38 14.6	+2.1
BBB	Bella Bella	12.92	101	LR		LR	03 41 57.6	
	comp=N,42nm,19.8s,baz=24,slow=32							
B21K	Ikpikpuk River	13.32	351			Pn	03 38 18.7	+0.1
C23K	Itkillik River	13.32	358			Pn	03 38 20.1	+1.5
INK	Inuvik	13.70	25	Pn		Pn	03 38 25.1	+1.4
	comp=N,0.1nm,0.3s,baz=207,slow=15,SNR=12							
INK				LR		LR	03 43 57.8	
	comp=N,42nm,19.4s,baz=182,slow=39							
	comp=N,5.2nm,0.9s							
C16K	Lisburne Hills	13.89	334	Pn		Pn	03 38 27.7	+1.4
B20K	Meade River	13.95	348			Pn	03 38 27.3	+0.3
B22K	Teshekpuk Lake	13.95	354			Pn	03 38 28.5	+1.5
C36M	Paulatuk	16.90	31	Pn		Pn	03 39 05.9	0.0
YKA	Yellowknife Ar	18.23	57			Pn	03 39 23.1	+0.6
YKA	Yellowknife Ar	18.23	57	P		Pn	03 39 23.8	+1.3
	comp=N,1.1nm,0.3s,baz=269,slow=11,SNR=19							
	comp=N,1.8nm,0.8s							
A36M	Sachs Harbour	18.34	23			Pn	03 39 24.8	+1.1
PDAR	Pinedale Array	28.56	102	P		P	03 41 05.1	-0.7
PETK	Petropavlovsk-	30.25	286	P		P	03 41 20.9	+0.6
FRB	Frobisher Bay	38.10	45	LR		LR	03 59 50.6	
	comp=N,23nm,18.5s,baz=336,slow=39							
ELIS	Ellis County	38.83	100	P		P	03 42 34.1	-0.6
HHAR	Hobbs	41.67	95	P		P	03 42 59.0	+0.7
SFJD	Kangerlussuaq	42.75	35	LR		LR	04 01 17.2	
	comp=N,15nm,19.1s,baz=76,slow=37							
DAG	Danmarks Havn	43.27	15	*i* P		P	03 43 10.0	-0.7
E62A	Clayton Lake	47.68	66	P		P	03 43 46.0	0.0
TKL	Tuckaleechee C	47.75	87	LR		LR	04 04 01.5	
	comp=N,30nm,18.7s,baz=332,slow=36							
BG3	Lake Jocassee	48.70	87	P		P	03 43 54.5	+0.4
BG3				IAmb		IAmb	03 44 01.7	
	comp=Z,6.1nm,1.1s							
BATG	Bathurst New B	48.97	64	P		P	03 43 55.8	-0.2
BATG				IAmb		IAmb	03 43 56.5	
	comp=Z,6.9nm,0.9s							
HODGE	Hodges	49.64	87	P		P	03 44 01.6	+0.5
HODGE				IAmb		IAmb	03 44 06.3	
	comp=Z,17nm,1.4s							
ARCES	ARCESS Array B	54.12	2	P		P	03 44 33.0	-1.1
ARCES	ARCESS Array B	54.12	2	P		P	03 44 33.7	-0.5
	comp=Z,4.5nm,1.0s,baz=359,slow=8.1,SNR=4.4							
	comp=Z,4.5nm,1.0s							
KS19	Wonju Array Si	56.12	288	P		P	03 44 48.7	-0.3
KS19				IAmb		IAmb	03 44 52.3	
	comp=Z,7.1nm,1.2s							
SONM	Songino Array	58.57	310	P		P	03 45 05.2	-1.2
SONM				IAmb		IAmb	03 45 08.1	
	comp=Z,1.6nm,1.0s							
SONM	Songino Array	58.57	310	P		P	03 45 07.3	+1.0
	comp=Z,1.0nm,0.7s,baz=38,slow=7.3,SNR=6.7							
	comp=Z,1.0nm,0.7s							
ZALV	Zalesovo Beam	61.40	327	P		P	03 45 25.4	0.0
	comp=Z,0.7nm,0.4s,baz=33,slow=8.9,SNR=3.7							
	comp=Z,0.7nm,0.4s							
NC405	NORSAR Array S	61.66	11	P		P	03 45 27.5	+0.3
FINES	FINESS Array B	62.25	3	P		P	03 45 31.1	0.0
	comp=Z,2.4nm,1.0s,baz=101,slow=1.9,SNR=4.9							
	comp=Z,2.4nm,1.0s							
KURBB	Kurchatov Arra	66.17	329	P		P	03 45 56.9	0.0
	comp=Z,0.3nm,0.5s,baz=29,slow=6.5,SNR=3.3							
	comp=Z,0.3nm,0.5s							
MKAR	Makanchi Array	68.44	325	P		P	03 46 11.2	-0.3
	comp=Z,0.2nm,0.5s,baz=61,slow=5.5,SNR=3.4							
	comp=Z,0.2nm,0.5s							
ABKAR	Akbulak array	71.82	341	P		P	03 46 32.2	+0.2
ABKAR	Akbulak array	71.82	341	P		P	03 46 32.2	+0.2
ABKAR				IAmb		IAmb	03 46 40.2	
	comp=Z,1.2nm,0.8s							
AKASG	Malin Array Be	73.07	1	P		P	03 46 39.0	-0.5
	comp=Z,1.5nm,0.6s,baz=359,slow=5.8,SNR=6.3							
	comp=Z,1.5nm,0.6s							
GERES	GERESS Array B	73.95	12	P		P	03 46 44.9	+0.1
	comp=Z,0.5nm,0.6s,baz=358,slow=8.1,SNR=3.3							
	comp=Z,0.5nm,0.6s							
ESDC	Sonseca Array	79.64	27	P		P	03 47 16.9	-0.1
	comp=Z,1.1nm,0.8s,baz=334,slow=4.9,SNR=7.5							
	comp=Z,1.1nm,0.8s							
BRTR	Keskin Array B	84.03	358	P		P	03 47 40.2	-0.1
	comp=Z,0.8nm,0.8s,baz=22,slow=4.3,SNR=4.8							
	comp=Z,0.8nm,0.8s							
QSPA	South Pole Qui	146.38	180	PKPbc		PKPdf	03 54 48.1	+0.2
	comp=Z,2.3nm,1.0s,baz=227,slow=2.1,SNR=3.8							

*IDC **27** 03:45:11.5±0.6,5.°95S×143.°31E,h0km,mb4.4/19, mbtmp4.4/21,ML2.2/1,MS4.1/36,Error ellipse: s-maj=28.7km s-min=13.0km az=79.0*
*NEIC **27** 03:45:13±1.8,6.°11S±0.°07×143.°06E±0.°08,h10km±1km, mb5.0/73,Error ellipse: s-maj=13.9km s-min=10.3km az=127.0*
*GCMT **27** 03:45:14.0±0.3,5.°99S±0.°02×143.°07E±0.°02,h15km±1km, MW4.8/88,Moment Tensor Solution. s26,c30; s88,c122; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.12±.13; $M_{\theta\theta}$0.06±.09; $M_{\phi\phi}$1.06±.10; $M_{r\theta}$0.49±.32; $M_{r\phi}$1.89±.07; $M_{\theta\phi}$0.10±.26; Best double couple: M_o2.08900×10^{16} NP1:ϕ_s256.00000°,δ71.00000°,λ-30.00000°. NP2: ϕ_s357.00000°,δ61.00000°,λ-158.00000°. Principal axes: T 2.5540, Plg6.0000°, Azm308.0000°; N -0.9280, Plg54.0000°, Azm46.0000°; P -1.6240, Plg35.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **27** 03:45:16.2±0.3,6.°5S±3.°×14.°3E±.°,h10km,M5.0/16, mb4.7/16,mB5.5/9,MLv5.3/5,Mw(mB)5.0/9,MwMwp6.2/1, Mwp6.2/1*

ISC 27 03:45:13.5±0.4,6.°15S±0.°04×143.°10E±0.°06,h10km,n178, σ2s17/157,mb4.9/67,MS4.1/41,1C-1D,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	Tabubil	2.06	295	P	Pb	03 45 49.8	-1.3
MMPI	Merauke	3.55	229	P	Pn	03 46 11.0	+2.3
JAY	Jayapura	4.33	326	P	Pn	03 46 19.7	+0.3
JAY				S	Sn	03 47 13.0	+3.0
GENI	Genyem	4.58	320	P	Pn	03 46 26.5	+3.6
GENI	Genyem	4.58	320	P	Pn	03 46 25.5	+2.6
PMG	Port Moresby	5.16	129		Pn	03 46 30.4	-0.5
PMG	Port Moresby	5.16	129	Pn	Pn	03 46 30.7	-0.2
	5.5nm,0.3s,baz=313,slow=4.3,SNR=10						
PMG				Sn	Sn	03 47 29.4	-1.2
	3.0nm,0.3s,baz=217,slow=15,SNR=1.7						
	43nm,0.6s						
MANU	Manus Island	5.89	46		Pn	03 46 42.5	+1.6
COEN	Coen	7.76	179	Pn	Pn	03 47 08.9	+2.2
FAKI	Fak Fak	11.28	286	Pn	Pn	03 47 54.4	-0.5
KDU	Kakadu	12.33	237	P	Pn	03 48 10.1	+0.8
MTN	Manton Dam	13.55	240	P	Pn	03 48 26.7	+0.8
QIS	Mount Isa	14.72	193	P	P	03 48 45.4	-2.8
WB0	Warramunga Arr	15.97	211		Pn	03 48 58.2	-0.3
WR0	Warramunga Arr	16.05	210	Pn	Pn	03 48 58.5	-1.1
WRAB	Tennant Creek	16.13	211	Pn	Pn	03 48 59.2	-1.2
WB2	Warramunga Arr	16.14	211	Pn	Pn	03 48 59.4	-1.2
WRA	Warramunga Arr	16.14	211	Pn	Pn	03 48 59.9	-0.8
WRA	Warramunga Arr	16.14	211	Pn	Pn	03 48 59.7	-1.0
	1.9nm,0.3s,baz=31,slow=14,SNR=73						
WRA				Sn	Sn	03 51 52.8	-7.2
	0.3nm,0.3s,baz=39,slow=21,SNR=2.5						
WRA				Lg	Lg	03 53 53.5	
	0.1nm,0.3s,baz=34,slow=28,SNR=5.1						
KNRA	Kununurra	16.95	235	P	P	03 49 11.6	-1.3
KNRA	Kununurra	16.95	235	Pn	Pn	03 49 10.1	-0.9
KNRA				IAmb	IAmb	03 49 17.2	
	comp=Z,92nm,1.0s						
SOEI	Soe	18.99	258	P	Pn	03 49 37.1	+0.8
SOEI	Soe	18.99	258	Pn	Pn	03 49 35.5	-0.8
SOEI				IAmb	IAmb	03 49 46.3	
	comp=Z,72nm,1.1s						
SOEI	Soe	18.99	258	P	Pn	03 49 37.4	+1.1
	comp=Z,76nm,1.0s,comp=Z,2μm						
AS01	Alice Springs	19.52	206	P	Pn	03 49 44.7	+2.3
	comp=Z,155nm,0.9s						
ASAR	Alice Springs	19.54	206	P	Pn	03 49 44.4	+1.6
	comp=Z,87nm,0.8s,baz=33,slow=9.6,SNR=257						
ASAR				S	Sn	03 53 14.7	-7.5
	comp=Z,0.6nm,0.5s,baz=20,slow=26,SNR=1.6						
ASAR				Lg	Lg	03 55 32.5	
	comp=Z,0.1nm,0.3s,baz=18,slow=28,SNR=2.0						
ASAR				LR	LR	03 58 07.6	
	comp=Z,1μm,

HNS	**HongShan**	**50.78**	**331**	⇓P		**P**	**03 54 15.0**	**+1.0**
HNS				pmax		pmax		
	comp=Z,15nm,1.0s							
USA0B	**Ussuriysk Arra**	**51.11**	**350**	P		**P**	**03 54 16.1**	**-0.2**
USRK	**Ussuriysk Ar.**	**51.11**	**350**	P		**P**	**03 54 14.7**	**-1.6**
USRK	**Ussuriysk Ar.**	**51.11**	**350**	P		**P**	**03 54 14.8**	**-1.5**
	comp=Z,4.1nm,0.7s,baz=180,slow=5.8,SNR=11							
USRK				LR		LR	04 12 39.9	
	comp=Z,161nm,21.5s,baz=169,slow=32							
	comp=Z,4.1nm,0.7s							
XAN	**Xi'an**	**51.40**	**323**	P		**P**	**03 54 17.5**	**-1.3**
XAN				pP		pP	03 54 22.3	-0.2
XAN				S		**S**	**04 01 37.3**	**-1.4**
XAN				pmax		pmax		
	comp=Z,23nm,1.2s							
XAN				LR		LR		
	comp=N,310nm,17.2s							
XAN				LR		LR		
	comp=E,140nm,15.5s							
XAN				LR		LR		
	comp=Z,200nm,17.0s							
XAN	**Xi'an**	**51.40**	**323**	P		**P**	**03 54 16.7**	**-2.2**
XAN				IAmb		IAmb	03 54 24.3	
	comp=Z,18nm,1.1s							
PZH	**PanZhiHua**	**51.57**	**311**	P		**P**	**03 54 23.0**	**+2.7**
PZH				S		**S**	**04 01 42.5**	**+1.1**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,110nm,8.8s							
PZH				LR		LR		
	comp=N,150nm,19.2s							
PZH				LR		LR		
	comp=E,150nm,19.4s							
PZH				LR		LR		
	comp=Z,140nm,21.6s							
MDJ	**Mudanjiang**	**51.97**	**348**	P		**P**	**03 54 22.5**	**-0.3**
MDJ				pP		sP	03 54 35.3	+7.3
MDJ				sP		pP	03 54 41.0	+14
MDJ				PcP		PcP	03 55 12.0	-23
MDJ				PP		PP	03 56 33.3	+12
MDJ				ScP		ScP	03 59 07.3	-25
MDJ				PcS		PcS	03 59 14.0	-19
MDJ				S		S	04 02 23.5	+37
MDJ				ScS		**ScS**	**04 04 08.5**	**-4.7**
CN2	**Changchun**	**52.21**	**344**	P		**P**	**03 54 23.5**	**-1.1**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
BJT	**Baijiatuan**	**52.22**	**334**	P		**P**	**03 54 22.6**	**-2.1**
BJT				IAmb		IAmb	03 54 57.3	
	comp=Z,30nm,1.7s							
BJI	**Beijing**	**52.23**	**334**	P		**P**	**03 54 25.3**	**+0.5**
BJI				pP		**sP**	**03 54 29.5**	**-0.6**
BJI				S		**S**	**04 01 53.3**	**+3.6**
BJI				pmax		pmax		
	comp=Z,4.0nm,0.7s							
BJI				pmax		pmax		
	comp=Z,61nm,4.1s							
BJI				LR		LR		
	comp=N,81nm,18.7s							
BJI				LR		LR		
	comp=E,54nm,19.6s							
BJI				LR		LR		
	comp=Z,130nm,17.9s							
BNX	**BinXian**	**53.52**	**346**	⇑P		**P**	**03 54 33.0**	**-1.3**
BNX				pmax		pmax		
	comp=Z,9.0nm,1.0s							
BNX				pmax		pmax		
	comp=Z,190nm,5.7s							
HHC	**Hu-ho-hao-te**	**55.00**	**331**	*e*P		**P**	**03 54 48.0**	**+2.7**
HHC				S		**S**	**04 02 34.0**	**+6.4**
HHC	**Hu-ho-hao-te**	**55.00**	**331**	SS		**SS**	**04 06 12.5**	**+1.0**
HHC				pmax		pmax		
	comp=Z,11nm,0.7s							
HHC				pmax		pmax		
	comp=Z,120nm,5.3s							
HHC				LR		LR		
	comp=N,180nm,17.6s							
HHC				LR		LR		
	comp=E,99nm,17.1s							
HHC				LR		LR		
	comp=Z,220nm,17.6s							
LZH	**Lanzhou**	**55.85**	**322**	*e*P		P	03 54 56.8	+5.2
LZH				sP		sP	03 55 04.0	+7.4
LZH				pmax		pmax		
	comp=Z,15nm,1.4s							
LZH				LR		LR		
	comp=N,120nm,11.7s							
LZH				LR		LR		
	comp=E,170nm,12.4s							
LZH				LR		LR		
	comp=Z,160nm,13.1s							
KLR	**Kul'dur**	**56.03**	**351**	P		**P**	**03 54 50.4**	**-2.0**
	comp=Z,2.4nm,0.6s,baz=218,slow=1.6,SNR=9.4							
KLR				LR		LR	04 15 46.0	
	comp=Z,122nm,21.0s,baz=199,slow=33							
	comp=Z,2.4nm,0.6s							
RAR	**Rarotonga**	**57.19**	**111**	LR		LR	04 18 55.6	
	comp=Z,89nm,18.2s,baz=262,slow=36							
HEH	**HeiHe**	**57.79**	**348**	*e*P		**P**	**03 55 07.3**	**+2.4**
HEH				pmax		pmax		
	comp=Z,5.0nm,0.9s							
HIA	**Hailar**	**58.83**	**342**	P		**P**	**03 55 10.9**	**-1.2**
HIA				IAmb		IAmb	03 56 55.3	
	comp=Z,7.7nm,0.8s							
PETK	**Petropavlovsk-**	**60.31**	**10**	P		**P**	**03 55 20.9**	**-1.4**
	comp=Z,3.7nm,0.8s,baz=168,slow=7.6,SNR=6.0							
PETK				LR		LR	04 20 46.7	
	comp=Z,105nm,19.9s,baz=187,slow=36							
	comp=Z,3.7nm,0.8s							
GTA	**Gaotai**	**60.43**	**322**	P		P	03 55 28.8	+5.2
GTA				pP		sP	03 55 34.8	+6.2
GTA				pmax		pmax		
	comp=Z,7.0nm,1.3s							
LSA	**Lhasa**	**61.26**	**309**	P		**P**	**03 55 28.9**	**-1.0**
LSA				IAmb		IAmb	03 55 42.8	
	comp=Z,9.0nm,1.1s							
SONM	**Songino Array**	**62.71**	**333**	P		**P**	**03 55 37.3**	**-1.5**
SONM	**Songino Array**	**62.71**	**333**	P		**P**	**03 55 38.6**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=149,slow=9.8,SNR=10							
SONM				LR		LR	04 24 45.5	
	comp=Z,146nm,18.7s,baz=138,slow=38							
	comp=Z,0.9nm,0.7s							
PALK	**Palekele**	**63.66**	**281**	LR		LR	04 26 44.0	
	comp=Z,88nm,19.6s,baz=212,slow=39							
SHEM	**Shemya Is, Ala**	**64.28**	**20**	LR		LR	04 19 30.6	
	comp=Z,257nm,20.1s,baz=176,slow=32							
PPT	**Papeete**	**66.57**	**106**	LR		LR	04 21 25.1	
	comp=Z,114nm,21.5s,baz=288,slow=33							
PPT2	**Papeete2**	**66.57**	**106**	*e*LR		LR	04 16 16.1	
PPT2	comp=Z,438nm,25.0s							
	comp=Z,371nm,27.5s			*e*LR		LR	04 16 29.5	
YAK	**Yakutsk**	**68.77**	**353**	LR		LR	04 26 21.1	
	comp=Z,57nm,20.3s,baz=190,slow=36							
SEY	**Seymchan**	**69.25**	**5**	P		**P**	**03 56 18.5**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=17,slow=20,SNR=2.2							
	comp=Z,0.7nm,0.3s							
WMQ	**Urumqi**	**70.41**	**321**	*e*P		**P**	**03 56 27.0**	**-1.1**
WMQ				pmax		pmax		
	comp=Z,14nm,0.7s							
WMQ				LR		LR		
	comp=Z,69nm,17.3s							
WMQ	**Urumqi**	**70.41**	**321**	P		**P**	**03 56 26.6**	**-1.5**
WMQ				IAmb		IAmb	03 56 33.4	
	comp=Z,9.7nm,0.7s							
VNDA	**Vanda**	**72.02**	**176**	P		**P**	**03 56 36.4**	**-0.8**
VNDA	**Vanda**	**72.02**	**176**	P		**P**	**03 56 38.0**	**+0.8**
	comp=Z,2.7nm,1.1s,baz=320,slow=8.7,SNR=9.7							
VNDA				LR		LR	04 27 16.3	
	comp=Z,142nm,18.4s,baz=350,slow=35							
	comp=Z,2.7nm,1.1s							
MK31	**Makanchi Array**	**75.17**	**322**	P		**P**	**03 56 55.0**	**-1.2**
MKAR	**Makanchi Array**	**75.17**	**322**	P		**P**	**03 56 55.2**	**-1.1**
MKAR	**Makanchi Array**	**75.17**	**322**	P		**P**	**03 56 55.4**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=100,slow=7.7,SNR=18							
MKAR				LR		LR	04 33 29.2	
	comp=Z,29nm,18.2s,baz=77,slow=39							
	comp=Z,2.3nm,0.8s							
FALS	**False Pass**	**75.20**	**29**	P		**P**	**03 56 53.0**	**-3.2**
MAKZ	**Makanchi**	**75.37**	**322**	P		**P**	**03 56 56.6**	**-0.8**
TARG	**Taragay, Kyrgy**	**76.08**	**316**	P		**P**	**03 56 59.8**	**-2.3**
TARG				IAmb		IAmb	03 57 05.6	
	comp=Z,23nm,1.9s							
KSH	**Kashi**	**76.61**	**313**	P		**P**	**03 57 08.0**	**+3.2**
KSH				pmax		pmax		

	comp=Z,16nm,0.8s							
ZAA0	**Zalesovo Array**	**77.10**	**329**	P		**P**	**03 57 04.6**	**-2.4**
ZALV	**Zalesovo Beam**	**77.10**	**329**	P		**P**	**03 57 05.8**	**-1.2**
ZALV	**Zalesovo Beam**	**77.10**	**329**	P		**P**	**03 57 06.2**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=110,slow=6.4,SNR=6.1							
ZALV				LR		LR	04 30 18.0	
	comp=Z,75nm,21.1s,baz=114,slow=35							
	comp=Z,1.1nm,0.5s							
TIXI	**Tiksi**	**78.20**	**355**	P		**P**	**03 57 11.4**	**-1.4**
	comp=Z,5.3nm,0.5s,baz=118,slow=1.4,SNR=5.9							
	comp=Z,5.3nm,0.5s							
AAK	**Ala-Archa**	**78.70**	**316**	LR		LR	04 32 50.9	
	comp=Z,72nm,21.9s,baz=109,slow=36							
KURK	**Kurchatov**	**79.03**	**324**	P		**P**	**03 57 16.6**	**-1.2**
KURBB	**Kurchatov Arra**	**79.05**	**324**	P		**P**	**03 57 17.3**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=113,slow=4.3,SNR=7.8							
	comp=Z,0.8nm,0.7s							
L14K	**Kuka Creek**	**79.22**	**23**	P		**P**	**03 57 18.7**	**+0.1**
I17K	**Unalakleet**	**81.41**	**22**	P		**P**	**03 57 31.0**	**+0.7**
I17K				IAmb		IAmb	03 57 35.1	
	comp=Z,17nm,1.1s							
G16K	**Koyuk River**	**81.67**	**20**	P		**P**	**03 57 31.5**	**-0.2**
K17K	**Iditarod**	**81.70**	**23**	P		**P**	**03 57 31.0**	**-0.9**
J17K	**VABM Dome**	**81.75**	**23**	P		**P**	**03 57 31.5**	**-0.6**
J17K				IAmb		IAmb	03 57 35.9	
	comp=Z,20nm,1.2s							
KDAK	**Kodiak Island**	**81.89**	**29**	LR		LR	04 31 16.9	
	comp=Z,130nm,19.4s,baz=261,slow=34							
N19K	**Bonanza Creek**	**82.36**	**26**	P		**P**	**03 57 33.9**	**-1.7**
N19K				IAmb		IAmb	03 57 39.5	
	comp=Z,15nm,1.1s							
E18K	**Tukpahlearik C**	**83.40**	**19**	P		**P**	**03 57 40.8**	**+0.1**
H19K	**Roundabout Mou**	**83.82**	**21**	P		**P**	**03 57 43.6**	**+0.7**
H19K				IAmb		IAmb	03 57 46.6	
	comp=Z,10nm,1.0s							
QSPA	**South Pole Qui**	**83.82**	**180**	P		**P**	**03 57 43.2**	**0.0**
QSPA				IAmb		IAmb	03 57 46.3	
	comp=Z,13nm,1.1s							
QSPA	**South Pole Qui**	**83.82**	**180**	P		**P**	**03 57 43.1**	**0.0**
	comp=Z,7.6nm,0.9s,baz=316,slow=0.9,SNR=24							
QSPA				LR		LR	04 35 25.1	
	comp=Z,305nm,19.1s,baz=15,slow=36							
	comp=Z,7.6nm,0.9s							
C18K	**Utukok River**	**83.90**	**18**	P		**P**	**03 57 43.3**	**0.0**
C18K				IAmb		IAmb	03 58 00.8	
	comp=Z,19nm,1.6s							
G19K	**Purcell Mounta**	**83.90**	**21**	P		**P**	**03 57 43.7**	**+0.4**
G19K				IAmb		IAmb	03 57 47.1	
	comp=Z,8.7nm,1.1s							
J20K	**Nowinta River**	**84.04**	**23**	P		**P**	**03 57 43.6**	**-0.4**
J20K				IAmb		IAmb	03 58 02.8	
	comp=Z,9.0nm,1.1s							
NRIK	**Noril'sk**	**84.25**	**343**	P		**P**	**03 57 43.9**	**-1.1**
NRIK				IAmb		IAmb	03 57 48.1	
	comp=Z,10nm,1.1s							
NRIK	**Noril'sk**	**84.25**	**343**	P		**P**	**03 57 43.8**	**-1.2**
	comp=Z,5.2nm,0.9s,baz=138,slow=5.7,SNR=8.4							
NRIK				LR		LR	04 33 28.5	
	comp=Z,86nm,21.9s,baz=130,slow=34							
	comp=Z,5.2nm,0.9s							
E19K	**Redstone River**	**84.52**	**20**	P		**P**	**03 57 49.0**	**+2.5**
E19K				IAmb		IAmb	03 57 50.7	
	comp=Z,9.5nm,1.0s							
BVAR	**Borovoye Array**	**84.62**	**325**	P		**P**	**03 57 46.4**	**-0.8**
	comp=Z,8.8nm,0.8s,baz=114,slow=6.6,SNR=18							
BVAR				LR		LR	04 39 03.2	
	comp=Z,24nm,18.2s,baz=93,slow=38							
	comp=Z,8.8nm,0.8s							
C19K	**Lookout Ridge**	**84.64**	**18**	P		**P**	**03 57 46.7**	**-0.4**
C19K				IAmb		IAmb	03 58 05.7	
	comp=Z,9.2nm,1.0s							
BRVK	**Borovoye**	**84.69**	**325**	P		**P**	**03 57 47.4**	**-0.2**
BRVK				IAmb		IAmb	03 58 02.7	
	comp=Z,11nm,1.1s							
D19K	**Kuna River**	**84.77**	**18**	P		**P**	**03 57 46.6**	**-1.1**
D19K				IAmb		IAmb	03 57 52.5	
	comp=Z,16nm,1.4s							
F20K	**Avaraart Lake**	**84.83**	**20**	P		**P**	**03 57 48.4**	**+0.5**
F20K				IAmb		IAmb	03 58 13.8	
	comp=Z,12nm,1.5s							
SML	**Sawmill**	**85.47**	**26**	P		**P**	**03 57 49.5**	**-1.9**
MLY	**Manley**	**85.74**	**23**	P		**P**	**03 57 52.3**	**-0.4**
MLY				IAmb		IAmb	03 57 56.5	
	comp=Z,10nm,1.3s							
RND	**Reindeer**	**85.85**	**25**	P		**P**	**03 57 50.6**	**-2.7**
RND				IAmb		IAmb	03 57 56.6	
	comp=Z,14nm,1.0s							
B21K	**Ikpikpuk River**	**86.42**	**18**	P		**P**	**03 57 54.5**	**-1.4**
D22K	**Ayikyak River**	**86.70**	**19**	P		**P**	**03 57 56.5**	**-0.7**
D22K				IAmb		IAmb	03 58 18.6	
	comp=Z,6.1nm,0.9s							
CCB	**Clear Creek Bu**	**86.75**	**24**	P		**P**	**03 57 55.6**	**-1.9**
CCB				IAmb		IAmb	03 58 13.6	
	comp=Z,6.7nm,1.0s							
B22K	**Teshekpuk Lake**	**87.12**	**18**	P		**P**	**03 57 57.9**	**-1.4**
H24K	**Noodor Dome**	**87.16**	**23**	P		**P**	**03 57 57.7**	**-1.9**
H24K				IAmb		IAmb	03 59 36.6	
	comp=Z,21nm,1.8s							
IL31		**87.16**	**24**	P		**P**	**03 57 57.8**	**-1.7**
ILAR	**Eielson Array**	**87.16**	**24**	P		**P**	**03 57 56.5**	**-3.0**
ILAR	**Eielson Array**	**87.16**	**24**	P		**P**	**03 57 56.7**	**-2.9**
	comp=Z,3.7nm,1.0s,baz=259,slow=4.9,SNR=14							
ILAR				LR		LR	04 34 54.9	
	comp=Z,143nm,19.5s,baz=244,slow=34							
	comp=Z,3.7nm,1.0s							
IL03	**Eielson Array**	**87.17**	**24**	P		**P**	**03 57 56.9**	**-2.7**
VRDI	**Verde Repeater**	**87.48**	**28**	P		**P**	**03 57 59.3**	**-2.2**
TOLK	**Toolik Lake Re**	**87.62**	**20**	P		**P**	**03 58 01.8**	**0.0**
RIDG	**Independent Ri**	**87.65**	**25**	P		**P**	**03 58 01.5**	**-0.6**
J25K	**Salcha River,**	**87.72**	**24**	P		**P**	**03 58 00.6**	**-1.8**
J25K				IAmb		IAmb	03 58 19.1	
	comp=Z,12nm,1.2s							
C23K	**Itkillik River**	**87.77**	**19**	P		**P**	**03 58 01.2**	**-1.2**
F24K	**Squaw Lake**	**87.78**	**21**	P		**P**	**03 58 01.8**	**-0.7**
F24K				IAmb		IAmb	03 58 06.8	
	comp=Z,6.8nm,1.0s							
D24K	**Happy Valley**	**88.08**	**19**	P		**P**	**03 58 03.1**	**-0.8**
BARN	**Barnard Glacie**	**88.26**	**28**	P		**P**	**03 58 03.8**	**-1.4**
CTGM	**Chitina Glacie**	**88.39**	**28**	P		**P**	**03 58 04.2**	**-1.6**
FYU	**Fort Yukon**	**88.42**	**22**	P		**P**	**03 58 05.7**	**+0.2**
J26L	**Joseph Creek**	**88.42**	**25**	P		**P**	**03 58 04.5**	**-1.3**
J26L				IAmb		IAmb	03 59 16.1	
	comp=Z,12nm,1.6s							
M27K	**Edge Creek, AK**	**88.52**	**27**	P		**P**	**03 58 05.4**	**-1.0**
BCAR	**Beaver Creek A**	**88.76**	**26**	P		**P**	**03 58 06.2**	**-1.1**
E25K	**Arctic Village**	**88.81**	**21**	P		**P**	**03 58 07.4**	**0.0**
E25K				IAmb		IAmb	03 58 12.4	
	comp=Z,7.3nm,1.2s							
K27K	**Chicken**	**88.90**	**25**	P		**P**	**03 58 07.2**	**-0.7**
BMAR	**Burnt Mountain**	**88.94**	**22**	P		**P**	**03 58 06.5**	**-1.6**
GEYT	**Alibeck**	**89.79**	**308**	LR		LR	04 41 10.6	
	comp=Z,90nm,21.2s,baz=123,slow=37							
DAWY	**Dawson**	**90.05**	**25**	P		**P**	**03 58 13.3**	**0.0**
DAWY				IAmb		IAmb	03 58 17.7	
	comp=Z,20nm,1.6s							
ABKAR	**Akbulak array**	**90.16**	**319**	P		**P**	**03 58 12.3**	**-1.8**
ABKAR				IAmb		IAmb	03 59 28.4	
	comp=Z,12nm,1.9s							
I28M	**Miner Creek**	**90.17**	**24**	P		**P**	**03 58 12.6**	**-1.3**
I28M				IAmb		IAmb	03 58 48.5	
	comp=Z,20nm,1.7s							
K29M	**Barlow Dome**	**90.81**	**26**	P		**P**	**03 58 17.2**	**+0.3**
K29M				IAmb		IAmb	03 58 35.0	
	comp=Z,7.7nm,1.1s							
INK	**Inuvik**	**93.21**	**22**	LR		LR	04 35 03.6	
	comp=Z,112nm,21.7s,baz=182,slow=32							
DLBC	**Dease Lake**	**93.55**	**32**	LR		LR	04 34 05.3	
	comp=Z,103nm,20.7s,baz=284,slow=32							
BBB	**Bella Bella**	**94.06**	**38**	LR		LR	04 34 54.9	
	comp=Z,89nm,20.0s,baz=324,slow=32							
KIRV	**Kirov**	**97.13**	**328**	LR		LR	04 46 26.1	
	comp=Z,98nm,19.1s,baz=91,slow=38							
SNAA	**Sanae**	**99.19**	**190**	LR		LR	04 46 58.9	
	comp=Z,231nm,18.0s,baz=136,slow=37							
PLCA	**Paso Flores**	**124.05**	**149**	PKP		**PKiKP**	**04 04 13.8**	**+0.8**
	comp=Z,1.3nm,0.9s,baz=310,slow=5.0,SNR=2.9							
TORD	**Torodi Ar. Bea**	**141.36**	**283**	PKhKP		PKPpre	04 04 41.6	
	comp=Z,0.7nm,0.9s,baz=48,slow=4.3,SNR=3.5							
DBIC	**Dimbokro**	**148.16**	**273**	PKPbc		**PKiKP**	**04 05 01.3**	**-1.2**
	comp=Z,6.7nm,0.8s,baz=131,slow=1.5,SNR=6.1							

WEL 27 03:47:16.0±1.1, 35.5°S±12.1°×17.9°E±1.3°, h185km±27km, M3.7/11, ML4.0/8, MLv3.7/11, Error ellipse: s-maj=0.0km s-min=0.0km az=51.9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.64**	**194**	P	Pn	03 48 00.5	0.0
MXZ				S	Sn	03 48 33.4	-2.0
HAZ	**Te Kaha**	**2.95**	**201**	P	Pn	03 48 04.8	+0.7
HAZ				S	Sn	03 48 43.0	+1.0
PKGZ	**Pakihiroa**	**3.00**	**196**	P	Pn	03 48 05.1	+0.2
PKGZ				S	Sn	03 48 44.7	+1.5
PUZ	**Puketiti**	**3.14**	**192**	P	Pn	03 48 06.3	-0.2
PUZ				S	Sn	03 48 46.2	0.0
RUGZ	**Raukumara Rang**	**3.18**	**201**	P	Pn	03 48 06.9	-0.2
RUGZ				S	Sn	03 48 47.2	+0.1
TWGZ	**Tauwhareparae**	**3.30**	**196**	P	Pn	03 48 08.4	-0.1
TWGZ				S	Sn	03 48 51.9	+2.2
OPRZ	**Ohinepanea**	**3.51**	**215**	P	Pn	03 48 12.0	+1.1
CNGZ	**Carnagh Statio**	**3.55**	**191**	P	Pn	03 48 11.7	+0.2
MWZ	**Matawai**	**3.56**	**200**	P	Pn	03 48 11.9	+0.2
MWZ				S	Sn	03 48 55.2	-0.3
TKGZ	**Te Karaka**	**3.58**	**196**	P	Pn	03 48 11.8	0.0
TKGZ				S	Sn	03 48 54.8	-1.0
URZ	**Urewera**	**3.63**	**206**	P	Pn	03 48 12.2	-0.3
URZ				S	Sn	03 48 57.6	+0.8
RAGZ	**Rawiri**	**3.75**	**201**	P	Pn	03 48 14.1	+0.1
RAGZ				S	Sn	03 48 59.4	-0.2
MKAZ	**Moumakai**	**3.83**	**236**	P	Pn	03 48 16.0	+1.1
RIGZ	**Rimuhau**	**3.85**	**196**	P	Pn	03 48 14.9	-0.4
RIGZ				S	Sn	03 49 02.1	+0.1
RTZ	**Ruatahuna**	**3.99**	**205**	P	Pn	03 48 16.4	-0.8
WCZ	**Waipu Caves**	**4.00**	**255**	P	Pn	03 48 16.6	-0.5
SNGZ	**Shannon Statio**	**4.03**	**200**	P	Pn	03 48 17.4	-0.2
SNGZ				S	Sn	03 49 06.4	+0.4
QUZ	**Omahuta**	**4.52**	**266**	P	Pn	03 48 23.4	-0.4
WAZ	**Wanganui**	**5.77**	**213**	P	Pn	03 48 39.3	-0.7

KRSC 27 03:48:34.5±1.7, 53.92N×168.60E, h16km±29km, MI4.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.00**	**311**	*e*P	Pn	03 49 07.1	-0.5
BKI				*e*S	Sn	03 49 32.2	0.0
TUMD	**Tumrok D**	**4.94**	**288**	*e*S	Sn	03 50 48.6	+3.8
TUMR	**Tumrok**	**5.10**	**289**	*e*S	Sn	03 50 53.5	+4.6
KMNR	**Kamenistaya**	**5.17**	**294**	*e*S	Sn	03 50 56.1	+5.5
SPN	**Mys Shipunski**	**5.18**	**264**	*e*P	Pn	03 49 55.7	+4.4
KPT	**Kopyto**	**5.25**	**296**	*e*S	Sn	03 50 58.3	+5.9
NLC	**Nalytchevo**	**5.57**	**266**	*e*P	Pn	03 50 01.1	+4.5
NLC				*e*S	Sn	03 51 03.8	+3.6
UGLR	**Uglovaya**	**5.87**	**267**	*e*P	Pn	03 50 05.7	+4.8
UGLR				*e*S	Sn	03 51 12.9	+5.1
SMAR	**Somma**	**5.87**	**268**	*e*P	Pn	03 50 05.7	+4.7
KRER	**Koryakskii**	**5.89**	**268**	*e*P	Pn	03 50 06.2	+4.8
KRER				*e*S	Sn	03 51 13.3	+4.8
AVH	**Avacha**	**5.91**	**268**	*e*P	Pn	03 50 06.5	+5.1
KRX	**Arik**	**5.94**	**269**	*e*P	Pn	03 50 06.4	+4.5
KRX				*e*S	Sn	03 51 14.4	+4.7
KOK	**Koryaka**	**5.96**	**268**	*e*P	Pn	03 50 07.2	+5.0
RUS	**Russkaya**	**6.24**	**260**	*e*P	Pn	03 50 10.0	+4.2
GNL	**Ganaly**	**6.32**	**272**	*e*P	Pn	03 50 12.4	+5.4
KRMR	**Karymshinskiy**	**6.36**	**264**	*e*P	Pn	03 50 12.4	+4.9
MTVR	**Mutnovka**	**6.42**	**261**	*e*P	Pn	03 50 13.3	+4.8
MTVR				*e*S	Sn	03 51 26.3	+4.9
ASAK	**Asacha**	**6.62**	**261**	*e*P	Pn	03 50 16.2	+5.1
ASAK				*e*S	Sn	03 51 31.2	+5.0
KDTR	**Khodutka, Kamc**	**6.71**	**256**	*e*P	Pn	03 50 16.5	+4.2
KDTR				*e*S	Sn	03 51 31.7	+3.3

NNC 27 03:54:57.6±11.0, 36.54N×71.22E, h143km±204km, mb3.1, mpv3.8, Error ellipse: s-maj=166.7km s-min=68.5km az=48.0

ISC 27 03:54:59.6±4.0, 36.7N±0.3°×71.2E±0.2, h188km, n8, σ0°72/9, 3C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**6.12**	**24**	P	**Pn**	**03 56 27.9**	**-0.6**
	SNR=7.7						
EKS2	**Erkin-Say**	**6.31**	**17**	P	**Pn**	**03 56 31.9**	**+1.1**
	SNR=9.2						
KK31	**Karatay Array**	**6.46**	**355**	⇑P	**Pn**	**03 56 31.8**	**-0.8**
	2.7nm,0.3s,baz=173,slow=12,SNR=105						
KK31				S	**Sn**	**03 57 46.2**	**0.0**
	2.7nm,0.5s,baz=191,slow=23,SNR=6.3						
AAK	**Ala-Archa**	**6.49**	**22**	P	**Pn**	**03 56 33.3**	**+0.2**
	SNR=14						
USP	**Ospenovka**	**7.07**	**20**	P	**Pn**	**03 56 40.5**	**-0.1**
	SNR=7.6						
TKM2	**Tokmak 2**	**7.11**	**27**	P	**Pn**	**03 56 41.0**	**-0.3**
	SNR=8.2						
TKM2	**Tokmak 2**	**7.11**	**27**	⇑P	**Pn**	**03 56 40.5**	**-0.7**
	3.4nm,0.6s						
AB31	**Akbulak array**	**15.03**	**330**	⇑P	**P**	**03 58 23.8**	**+0.5**
	0.5nm,0.3s,baz=157,slow=11,SNR=33						

NOU 27 04:09:02.3, 12.52S×166.68E, h0km, mb4.7/7, Santa Cruz Islands
*IDC 27 04:09:29.8±4.6, 14.39S×166.80E, h44km±42km, mb3.9/11, mbtmp4.1/12, ML3.7/1, MS3.7/5, Error ellipse: s-maj=28.8km s-min=22.

	comp=Z,6.0nm,1.1s							
PETK	**Petropavlovsk-**	**67.72**	**354**	P	**P**	**04 20 23.2**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=153,slow=8.2,SNR=4.0							
	comp=Z,1.7nm,0.8s							
CMAR	**Chiang Mai Arr**	**74.33**	**294**	P	**P**	**04 21 04.8**	**+1.6**
	comp=Z,2.0nm,0.3s,baz=124,slow=4.8,SNR=4.8							
	comp=Z,2.0nm,0.3s							
QSPA	**South Pole Qui**	**75.58**	**180**	P	**P**	**04 21 10.1**	**+0.3**
QSPA				IAmb	IAmb	04 21 19.5		
	comp=Z,7.2nm,1.2s							
QSPA	**South Pole Qui**	**75.58**	**180**	P	**P**	**04 21 09.7**	**-0.1**
	comp=Z,3.8nm,1.1s,baz=300,slow=1.5,SNR=7.2							
	comp=Z,3.8nm,1.1s							
K15K	**Wolf Creek Mou**	**80.45**	**14**	P	**P**	**04 21 36.7**	**+0.2**
K15K				IAmb	IAmb	04 22 18.2		
	comp=Z,5.7nm,1.1s							
J16K	**Anvik River**	**81.53**	**14**	P	**P**	**04 21 42.5**	**+0.2**
J18K	**Innoko River**	**82.65**	**16**	P	**P**	**04 21 47.9**	**-0.3**
G16K	**Koyuk River**	**82.95**	**13**	P	**P**	**04 21 49.1**	**-0.5**
CAST	**Castle Rocks**	**83.89**	**17**	P	**P**	**04 21 52.4**	**-2.1**
CAST				IAmb	IAmb	04 22 08.7		
	comp=Z,6.7nm,1.3s							
J20K	**Nowinta River**	**83.91**	**16**	P	**P**	**04 21 55.0**	**+0.4**
J20K				IAmb	IAmb	04 22 05.1		
	comp=Z,6.7nm,1.5s							
F17K	**Baldwin Pennin**	**84.08**	**12**	P	**P**	**04 21 55.9**	**+0.5**
F17K				IAmb	IAmb	04 21 58.0		
	comp=Z,7.1nm,1.3s							
KTH	**Kantishna Hill**	**84.33**	**18**	P	**P**	**04 21 55.5**	**-1.4**
TRF	**Thorofare Moun**	**84.44**	**18**	P	**P**	**04 21 56.4**	**-1.1**
ILAR	**Eielson Array**	**86.43**	**18**	P	**P**	**04 22 05.7**	**-1.5**
	comp=Z,1.6nm,0.7s,baz=238,slow=5.3,SNR=22							
ILAR				LR	LR	04 55 28.8		
	comp=Z,39nm,18.9s,baz=278,slow=32							
	comp=Z,1.6nm,0.7s							
MKAR	**Makanchi Array**	**96.62**	**316**	P	**P**	**04 22 55.6**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=96,slow=8.3,SNR=7.0							
	comp=Z,0.7nm,0.8s							
YKA	**Yellowknife Ar**	**97.55**	**27**	P	**P**	**04 22 57.5**	**-1.4**
	comp=Z,0.4nm,0.9s,baz=265,slow=4.6,SNR=5.3							
	comp=Z,0.4nm,0.9s							
ARCES	**ARCESS Array B**	**119.84**	**345**	PKP	**PKPdf**	**04 28 14.1**	**-0.5**	
	comp=Z,4.2nm,0.9s,baz=90,slow=1.2,SNR=6.3							
AKASG	**Malin Array Be**	**130.19**	**326**	PKP	**PKPdf**	**04 28 35.4**	**+0.5**	
	comp=Z,0.6nm,0.5s,baz=33,slow=0.7,SNR=2.3							

IDC 27 04:26:13.5±1.7, 11°52S×167°57E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=113.7km s-min=23.8km az=139.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**31.36**	**226**	P	P	04 32 36.9	+0.9
	1.9nm,0.6s,baz=106,slow=10,SNR=3.1						
	1.9nm,0.6s						
WRA	**Warramunga Arr**	**33.01**	**251**	P	P	04 32 50.8	+0.1
	0.5nm,0.9s,baz=84,slow=8.8,SNR=2.5						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**34.19**	**245**	P	P	04 33 00.0	-1.0
	0.3nm,0.6s,baz=71,slow=9.2,SNR=4.3						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**83.40**	**18**	P	P	04 38 43.2	+0.9
	1.7nm,0.7s,baz=246,slow=5.3,SNR=28						
	1.7nm,0.7s						
NVAR	**Mina Array Bea**	**84.97**	**49**	P	P	04 38 50.9	-0.3
	0.5nm,0.8s,baz=232,slow=8.7,SNR=3.6						
	0.5nm,0.8s						
YKA	**Yellowknife Ar**	**94.57**	**27**	P	P	04 39 34.4	-1.4
	0.1nm,0.4s,baz=264,slow=9.5,SNR=3.7						
	0.1nm,0.4s						

*OTT **27** 04:52:45.0±0.0, 45°60N×67°34W, h1km, MN2.6/25*
OTT 2km west from McAdam, Nb. Felt Northern Appalachians Seismic Zone. Felt in McAdam, Nb.
*NEIC **27** 04:52:45.5±1.0, 45°57N±0°02×67°33W±0°02, h9km±6km, ML2.2/14, mb_Lg2.6(OTT), Error ellipse: s-maj=2.7km s-min=1.5km az=179.0*

ISC 27 04:52:44.3±0.9, 45°59N±0°02×67°35W±0°02, h4km±6km, n103, σ0°62/133, 1D, Maine

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCNB	**McAdam**	**0.02**	**73**	⇓PG	**Pg**	**04 52 45.1**	**0.0**
MCNB				SG	**Sg**	**04 52 45.3**	**-0.4**
MCNB				Trac		04 52 45.4	
	comp=Z,6μm,0.0s						
G65A	**Princeton**	**0.42**	**201**	Pg	**Pg**	**04 52 52.5**	**+0.2**
G65A				Sg	**Sg**	**04 52 57.7**	**0.0**
G65A				IAML		04 53 00.8	
	comp=N,223nm,0.8s						
G65A				IAML		04 53 01.4	
	comp=E,251nm,0.7s						
GGN	**Saint George**	**0.59**	**142**	Pg	**Pg**	**04 52 56.0**	**+0.4**
GGN				Sg	**Sg**	**04 53 03.7**	**+0.5**
GGN	**Saint George**	**0.59**	**142**	PG	**Pg**	**04 52 56.2**	**+0.6**
GGN				SG	**Sg**	**04 53 03.8**	**+0.5**
GGN				Trac		04 53 10.2	
	comp=E,31nm,0.1s						
F64A	**Sherman**	**0.75**	**292**	Pg	**Pg**	**04 52 59.1**	**+0.4**
F64A				Sg	**Sg**	**04 53 09.2**	**+0.8**
F64A				IAML		04 53 13.7	
	comp=N,72nm,0.2s						
EMMW	**East Machias**	**0.88**	**185**	Pg	**Pg**	**04 53 01.2**	**0.0**
EMMW				Sg	**Sg**	**04 53 12.5**	**-0.1**
EMMW				IAML		04 53 17.2	
	comp=N,65nm,0.3s						
EMMW				IAML		04 53 17.5	
	comp=N,128nm,0.1s						
PQI	**Presque Isle**	**1.18**	**337**	Pg	**Pb**	**04 53 07.5**	**+0.4**
PQI				Sg	**Sb**	**04 53 23.3**	**+0.6**
SRNB	**Snider Mountai**	**1.23**	**78**	Pg	**Pg**	**04 53 07.2**	**-0.5**
SRNB				Sg	**Sg**	**04 53 22.8**	**-0.8**
SRNB	**Snider Mountai**	**1.23**	**78**	PG	**Pg**	**04 53 07.2**	**-0.5**
SRNB				SG	**Sg**	**04 53 22.8**	**-0.8**
SRNB				Trac		04 53 26.4	
	comp=N,41nm,0.1s						
F63A	**Nahmakanta, Br**	**1.23**	**276**	Pg	**Pg**	**04 53 07.7**	**-0.2**
F63A				Sg	**Sb**	**04 53 24.6**	**+0.2**
F63A				IAML		04 53 26.8	
	comp=E,65nm,0.2s						
PKME	**Peaks-Kenny Pk**	**1.40**	**257**		**Pn**	**04 53 10.3**	**-0.3**
PKME					**Sg**	**04 53 28.4**	**-1.0**
PKME	**Peaks-Kenny Pk**	**1.40**	**257**	PG	**Pn**	**04 53 10.6**	**0.0**
PKME				SG	**Sg**	**04 53 29.1**	**-0.2**
PKME				Trac		04 53 31.1	
	comp=E,35nm,0.2s						
HKNB	**Havelock Quarr**	**1.43**	**74**	Pg	**Pn**	**04 53 11.0**	**0.0**
HKNB				Sg	**Sg**	**04 53 30.0**	**-0.3**
HKNB	**Havelock Quarr**	**1.43**	**74**	PG	**Pn**	**04 53 11.0**	**0.0**
HKNB				SG	**Sg**	**04 53 30.0**	**-0.3**
HKNB				Trac		04 53 33.0	
	comp=E,83nm,0.2s						
ELNB	**Elgin, New Bru**	**1.56**	**79**		**Pn**	**04 53 13.0**	**+0.2**
ELNB				Sg	**Sn**	**04 53 33.3**	**-0.2**
ELNB	**Elgin, New Bru**	**1.56**	**79**	PN	**Pn**	**04 53 13.0**	**+0.2**
ELNB				SG	**Sn**	**04 53 33.3**	**-0.2**
ELNB				Trac		04 53 35.4	
	comp=E,4.3nm,0.1s						
LMN	**Caledonia Moun**	**1.80**	**81**	Pn	**Pn**	**04 53 16.0**	**-0.1**
LMN					**Sn**	**04 53 40.1**	**+0.7**
LMN	**Caledonia Moun**	**1.80**	**81**	PN	**Pn**	**04 53 16.0**	**-0.1**
LMN				SN	**Sn**	**04 53 40.1**	**+0.7**
LMN				Trac		04 53 42.7	
	comp=E,11nm,0.1s						
SVNB	**Stilesville Qu**	**1.82**	**71**	Pn	**Pn**	**04 53 16.8**	**+0.4**
SVNB					**Sn**	**04 53 40.5**	**+0.6**
SVNB	**Stilesville Qu**	**1.82**	**71**	PN	**Pn**	**04 53 16.8**	**+0.4**
SVNB				SN	**Sn**	**04 53 40.5**	**+0.6**
SVNB				Trac		04 53 43.1	
	comp=E,34nm,0.1s						
E62A	**Clayton Lake**	**1.83**	**305**	Pn	**Pn**	**04 53 16.2**	**-0.3**
F62A	**Pittston Farm,**	**1.86**	**280**	Pn	**Pn**	**04 53 17.4**	**+0.5**
D62A	**Allapoint, All**	**1.90**	**322**	Pn	**Pn**	**04 53 17.7**	**+0.2**
BATG	**Bathurst New B**	**1.91**	**27**	Pn	**Pb**	**04 53 19.8**	**+0.2**
HSNB	**Heath Steele M**	**1.91**	**27**	PN	**Pb**	**04 53 19.5**	**-0.1**
HSNB				SN	**Sb**	**04 53 44.2**	**+0.4**
HSNB				Trac		04 53 46.1	
	comp=E,16nm,0.1s						
G62A	**West of Eustis**	**2.27**	**262**	Pn	**Pn**	**04 53 22.7**	**+0.2**
A11	**Saint Roch-des**	**2.57**	**311**	Pn	**Pn**	**04 53 27.2**	**+0.5**
A11					**Sn**	**04 53 58.2**	**-0.1**
A11	**Saint Roch-des**	**2.57**	**311**	PN	**Pn**	**04 53 27.2**	**+0.5**
A11				SN	**Sn**	**04 53 58.2**	**-0.1**
A11	**Saint Roch-des**	**2.57**	**311**	Trac		04 54 09.3	
	comp=E,14nm,0.4s						
A16	**Riviere Ouelle**	**2.63**	**317**	Pn	**Pn**	**04 53 27.9**	**+0.5**
A16					**Sn**	**04 53 59.9**	**+0.2**
A16	**Riviere Ouelle**	**2.63**	**317**	PN	**Pn**	**04 53 27.9**	**+0.5**
A16				SN	**Sn**	**04 53 59.9**	**+0.2**
A16	**Riviere Ouelle**	**2.63**	**317**	Trac		04 54 21.7	
	comp=E,23nm,0.5s						
A21	**Saint Andre**	**2.66**	**324**	Pn	**Pn**	**04 53 28.4**	**+0.6**
A21					**Sn**	**04 54 00.8**	**+0.3**
A21	**Saint Andre**	**2.66**	**324**	PN	**Pn**	**04 53 28.4**	**+0.6**
A21	**Saint Andre**	**2.66**	**324**	SN	**Sn**	**04 54 00.8**	**+0.3**
A21				Trac		04 54 16.4	
	comp=E,17nm,0.4s						
I63A	**Otisfield**	**2.77**	**237**	Pn	**Pn**	**04 53 29.4**	**+0.1**
A54	**Misere**	**2.82**	**313**	Pn	**Pn**	**04 53 30.3**	**+0.2**
A54					**Sn**	**04 54 04.5**	**0.0**
A54	**Misere**	**2.82**	**313**	PN	**Pn**	**04 53 30.3**	**+0.2**
A54	**Misere**	**2.82**	**313**	SN	**Sn**	**04 54 04.5**	**0.0**
A54				Trac		04 54 22.6	
	comp=E,5.5nm,0.3s						
A61	**Sainte Mathild**	**2.83**	**319**	Pn	**Pn**	**04 53 30.4**	**+0.2**
A61					**Sn**	**04 54 04.7**	**+0.1**
A61	**Sainte Mathild**	**2.83**	**319**	PN	**Pn**	**04 53 30.4**	**+0.2**
A61	**Sainte Mathild**	**2.83**	**319**	SN	**Sn**	**04 54 04.7**	**+0.1**
A61				Trac		04 54 27.6	
	comp=E,9.5nm,0.5s						
HAL	**Halifax**	**2.83**	**108**		**Sn**	**04 54 04.7**	**+0.1**
HAL	**Halifax**	**2.83**	**108**	SN	**Sn**	**04 54 04.1**	**-0.5**
HAL				SN	**Sn**	**04 54 04.7**	**+0.1**
HAL				LG	Lg	04 54 13.5	
HAL				Trac		04 54 16.7	
	comp=E,2.9nm,0.0s						
LMQ	**La Malbaie**	**2.84**	**315**	Pn	**Pn**	**04 53 30.6**	**+0.2**
LMQ					**Sn**	**04 54 05.5**	**+0.5**
LMQ	**La Malbaie**	**2.84**	**315**	PN	**Pn**	**04 53 30.6**	**+0.2**
LMQ	**La Malbaie**	**2.84**	**315**	SN	**Sn**	**04 54 05.5**	**+0.5**
LMQ				LG	Lg	04 54 14.3	
LMQ				Trac		04 54 18.5	
	comp=E,6.5nm,0.2s						
A64	**Saint Simeon**	**2.84**	**323**	Pn	**Pn**	**04 53 30.5**	**+0.1**
A64					**Sn**	**04 54 05.4**	**+0.4**
A64	**Saint Simeon**	**2.84**	**323**	PN	**Pn**	**04 53 30.5**	**+0.1**
A64	**Saint Simeon**	**2.84**	**323**	SN	**Sn**	**04 54 05.4**	**+0.4**
A64				Trac		04 54 34.3	
	comp=E,71nm,1.2s						
H62A	**Milan**	**2.88**	**251**	Pn	**Pn**	**04 53 31.1**	**+0.2**
BCLQ	**Boischatel**	**2.97**	**298**	Pn	**Pn**	**04 53 32.7**	**+0.6**
BCLQ					**Sn**	**04 54 08.2**	**0.0**
BCLQ	**Boischatel**	**2.97**	**298**	PN	**Pn**	**04 53 32.7**	**+0.6**
BCLQ	**Boischatel**	**2.97**	**298**	SN	**Sn**	**04 54 08.2**	**0.0**
BCLQ				LG	Lg	04 54 18.3	
BCLQ				Trac		04 54 21.0	
	comp=E,3.5nm,0.2s						
BSCQ	**Baie-Sainte-Ca**	**3.01**	**328**	Pn	**Pn**	**04 53 33.3**	**+0.7**
BSCQ					**Sn**	**04 54 08.2**	**-0.9**
BSCQ	**Baie-Sainte-Ca**	**3.01**	**328**	PN	**Pn**	**04 53 33.3**	**+0.7**
BSCQ	**Baie-Sainte-Ca**	**3.01**	**328**	SN	**Sn**	**04 54 08.2**	**-0.9**
BSCQ				LG	Lg	04 54 19.2	
BSCQ				Trac		04 54 27.0	
	comp=E,3.1nm,0.2s						
LESQ	**Les-Escoumins**	**3.08**	**333**	Pn	**Pn**	**04 53 34.5**	**+1.0**
LESQ					**Sn**	**04 54 10.7**	**-0.1**
LESQ	**Les-Escoumins**	**3.08**	**333**	PN	**Pn**	**04 53 34.5**	**+1.0**
LESQ	**Les-Escoumins**	**3.08**	**333**	SN	**Sn**	**04 54 10.7**	**-0.1**
LESQ				Trac		04 54 36.1	
	comp=E,2.0nm,0.2s						
I62A	**Tamworth**	**3.32**	**240**	Pn	**Pn**	**04 53 37.4**	**+0.5**
GSQ	**Grosses Roches**	**3.33**	**3**	Pn	**Pn**	**04 53 38.2**	**+1.1**
GSQ					**Sn**	**04 54 16.3**	**-0.7**
GSQ	**Grosses Roches**	**3.33**	**3**	PN	**Pn**	**04 53 38.2**	**+1.1**
GSQ	**Grosses Roches**	**3.33**	**3**	SN	**Sn**	**04 54 16.3**	**-0.7**
GSQ				Trac		04 54 31.4	
	comp=E,1.0nm,0.1s						
FORQ	**Forestville**	**3.39**	**340**	Pn	**Pn**	**04 53 38.0**	**+0.2**
FORQ	**Forestville**	**3.39**	**340**	PN	**Pn**	**04 53 38.0**	**+0.2**
FORQ	**Forestville**	**3.39**	**340**	SN	**Sn**	**04 54 16.0**	**-2.4**
FORQ				Trac		04 54 37.5	
	comp=E,1.2nm,0.1s						
LBNH	**Lisbon**	**3.52**	**249**	Pn	**Pn**	**04 53 39.7**	**0.0**
LBNH	**Lisbon**	**3.52**	**249**	PN	**Pn**	**04 53 40.2**	**+0.6**
LBNH	**Lisbon**	**3.52**	**249**	SN	**Sn**	**04 54 21.2**	**-0.5**
LBNH				LG	Lg	04 54 34.7	
LBNH				Trac		04 54 36.1	
	comp=E,26nm,0.7s						
LDAQ	**Lac Daran**	**3.58**	**313**	Pn	**Pn**	**04 53 40.0**	**-0.6**
LDAQ	**Lac Daran**	**3.58**	**313**	PN	**Pn**	**04 53 41.5**	**+0.9**
LDAQ	**Lac Daran**	**3.58**	**313**	SN	**Sn**	**04 54 22.6**	**-0.7**
LDAQ				LG	Lg	04 54 37.3	
LDAQ				Trac		04 54 40.6	
	comp=E,4.7nm,0.2s						
BACQ	**Baie-Comeau**	**3.75**	**352**	Pn	**Pn**	**04 53 43.5**	**+0.7**
BACQ	**Baie-Comeau**	**3.75**	**352**	PN	**Pn**	**04 53 43.5**	**+0.7**
BACQ	**Baie-Comeau**	**3.75**	**352**	SN	**Sn**	**04 54 26.5**	**-0.8**
BACQ				Trac		04 54 44.6	
	comp=E,17nm,0.5s						
CNQ	**Baie Comeau**	**3.75**	**353**	Pn	**Pn**	**04 53 43.1**	**+0.3**
CNQ	**Baie Comeau**	**3.75**	**353**	PN	**Pn**	**04 53 43.1**	**+0.3**
CNQ	**Baie Comeau**	**3.75**	**353**	SN	**Sn**	**04 54 26.0**	**-1.3**
CNQ				Trac		04 54 49.4	
	comp=E,1.7nm,0.2s						
DPQ	**Saint Jean**	**3.93**	**288**	Pn	**Pn**	**04 53 45.7**	**+0.4**
DPQ	**Saint Jean**	**3.93**	**288**	PN	**Pn**	**04 53 45.7**	**+0.4**
DPQ	**Saint Jean**	**3.93**	**288**	SN	**Sn**	**04 54 30.8**	**-1.0**
DPQ				Trac		04 54 47.1	
	comp=E,4.5nm,0.3s						
FLET	**Fletcher**	**4.05**	**260**	Pn	**Pn**	**04 53 47.5**	**+0.4**
FLET	**Fletcher**	**4.05**	**260**	PN	**Pn**	**04 53 47.5**	**+0.4**
FLET	**Fletcher**	**4.05**	**260**	SN	**Sn**	**04 54 34.2**	**-0.8**
FLET				LG	Lg	04 54 52.3	
GBN	**Guysborough**	**4.11**	**90**	Pn	**Pn**	**04 53 48.2**	**+0.4**
GBN	**Guysborough**	**4.11**	**90**	Pn	**Pn**	**04 53 48.5**	**+0.7**
GBN	**Guysborough**	**4.11**	**90**	PN	**Pn**	**04 53 48.5**	**+0.7**
GBN	**Guysborough**	**4.11**	**90**	SN	**Sn**	**04 54 34.8**	**-1.5**
GBN				LG	Lg	04 54 54.2	
GBN	**Guysborough**	**4.11**	**90**	Trac		04 55 11.1	
	comp=E,240nm,2.0s						
WES	**Weston**	**4.30**	**223**	Pn	**Pn**	**04 53 50.3**	**0.0**
FRNY	**Flat Rock**	**4.47**	**263**	Pn	**Pn**	**04 53 51.8**	**-1.0**
FRNY	**Flat Rock**	**4.47**	**263**	PN	**Pn**	**04 53 51.8**	**-1.0**
FRNY	**Flat Rock**	**4.47**	**263**	SN	**Sn**	**04 54 44.8**	**-0.4**
FRNY	**Flat Rock**	**4.47**	**263**	Trac		04 55 24.8	
	comp=E,56nm,1.5s						
SMQ	**Clarke City**	**4.66**	**5**	Pn	**Pn**	**04 53 56.0**	**+0.7**
SMQ	**Clarke City**	**4.66**	**5**	PN	**Pn**	**04 53 56.0**	**+0.7**
SMQ	**Clarke City**	**4.66**	**5**	SN	**Sn**	**04 54 47.6**	**-2.2**
SMQ	**Clarke City**	**4.66**	**5**	Trac		04 55 17.4	
	comp=E,1.4nm,0.2s						
L61B	**Northampton**	**4.96**	**233**	Pn	**Pn**	**04 53 58.5**	**-1.0**
NCB	**Newcomb**	**5.15**	**254**	Pn	**Pn**	**04 54 00.9**	**-1.3**
LONY	**Lake Ozonia**	**5.21**	**262**	SN	**Sn**	**04 55 02.5**	**-1.0**
LONY				Trac		04 55 40.7	
	comp=E,120nm,2.1s						
WBO	**Williamsburg**	**5.62**	**267**	Pn	**Pn**	**04 54 08.8**	**+0.3**

IDC 27 04:53:53.0±15.0, 5°83S×128°31E, h228km±175km, mb3.0/2, mbtmp3.7/4, MS2.5/1, Error ellipse: s-maj=117.0km s-min=59.9km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**13.10**	**348**	LR	LR	05 01 42.6	
	comp=Z,20nm,21.0s,baz=161,slow=36						
WRA	**Warramunga Arr**	**15.21**	**158**	P	P	04 57 15.9	-0.6
	0.9nm,0.3s,baz=339,slow=12,SNR=24						
WRA				S	S	05 00 06.9	+2.2
	0.6nm,0.9s,baz=328,slow=22,SNR=2.8						
ASAR	**Alice Springs**	**18.54**	**164**	P	P	04 57 53.0	+0.1
	1.0nm,0.3s,baz=344,slow=11,SNR=14						
MKAR	**Makanchi Array**	**66.34**	**327**	P	P	05 04 18.4	+1.1
	0.1nm,0.4s,baz=116,slow=9.8,SNR=2.2						
	0.1nm,0.4s						
ZALV	**Zalesovo Beam**	**69.80**	**334**	P	P	05 04 37.6	-1.0
	0.3nm,0.3s,baz=126,slow=7.3,SNR=1.2						
	0.3nm,0.3s						

*JMA **27** 05:15:46.1±0.1, 24°.5N±0°.6×122°.2E±0°.2, h75km±1km, MV2.0/9, TAIWAN REGION*
*TAP **27** 05:15:46.4, 24°.55N×122°.11E, h74km±1km, ML2.7, B*
ISC 27 05:15:45.9±1.5, 24°58N±0°05×122°15E±0°03, h78km±8km, n47, σ0°61/79, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS2	**EOS2**	**0.18**	**155**	*e*P	**Pn**	**05 15 57.7**	**+0.5**
	baz=140						
EOS2				S	**Sn**	**05 16 06.6**	**+1.1**
	baz=140						
TWC	**Suao**	**0.28**	**276**	*e*P	**Pn**	**05 15 58.1**	**+0.2**
	baz=283						
TWC				*e*S	**Sn**	**05 16 05.7**	**-0.9**
	baz=283						
EOS3	**EOS3**	**0.33**	**153**	*e*P	**Pn**	**05 15 58.6**	**+0.6**
	baz=144						
EOS3				*e*S	**Sn**	**05 16 07.9**	**+1.0**
	baz=144						
EWUT	**Wuta**	**0.36**	**249**	*e*P	**Pn**	**05 15 58.3**	**-0.1**
	baz=250						
EWUT				S	**Sn**	**05 16 06.9**	**-0.7**
	baz=250						
ENA	**Nanau**	**0.40**	**248**	*e*P	**Pn**	**05 15 58.6**	**-0.1**
	baz=249						
ENA				*e*S	**Sn**	**05 16 07.7**	**-0.4**
	baz=249						
EAHA	**Aohua**	**0.45**	**237**	*e*P	**Pn**	**05 15 59.0**	**0.0**
	baz=236						
EOS4	**EOS4**	**0.48**	**162**	*e*P	**Pn**	**05 15 59.9**	**+1.0**
	baz=156						
EOS4				*e*S	**Sn**	**05 16 08.3**	**-0.1**
	baz=156						
TIPB	**Shuangxi**	**0.49**	**323**	*e*S	**Sn**	**05 16 08.3**	**-1.1**
	baz=328						
ENTT	**Nioudou**	**0.54**	**277**	*e*P	**Pn**	**05 16 00.7**	**+0.9**
	baz=279						
FUSB	**Fushanzhiwuyua**	**0.54**	**289**	*i* P	**Pn**	**05 16 00.4**	**+0.5**
	baz=293						
FUSB				*e*S	**Sn**	**05 16 10.1**	**-0.2**
	baz=293						
SXI1	**Grass Mountain**	**0.57**	**334**	*e*P	**Pn**	**05 15 59.9**	**-0.3**
	baz=338						
SXI1				S	**Sn**	**05 16 10.5**	**-0.3**
	baz=338						
LATG	**Datong**	**0.57**	**266**	*e*P	**Pn**	**05 16 00.6**	**+0.3**
	baz=268						
LATG				S	**Sn**	**05 16 11.1**	**+0.3**
	baz=268						
NDT	**Datong Townshi**	**0.58**	**272**	*e*P	**Pn**	**05 16 01.0**	**+0.8**
	baz=275						
NDT				S	**Sn**	**05 16 11.0**	**+0.1**
	baz=275						
NWLT	**Wulai**	**0.62**	**289**	*e*P	**Pn**	**05 16 01.1**	**+0.4**
	baz=291						
NWLT				S	**Sn**	**05 16 11.7**	**+0.1**
	baz=291						
NACB	**Ninganchiao**	**0.65**	**232**	*e*P	**Pn**	**05 16 00.6**	**-0.3**
	baz=231						
NACB				*i* S	**Sn**	**05 16 11.1**	**-0.9**
	baz=231						
YHNB	**Yeheng**	**0.71**	**277**	P	**Pn**	**05 16 01.8**	**+0.2**
	baz=279						
YHNB				*e*S	**Sn**	**05 16 13.1**	**-0.2**
	baz=279						
ETLH	**Xiulin Townshi**	**0.71**	**239**	*e*P	**Pn**	**05 16 01.5**	**-0.2**
	baz=238						
ETLH				*e*S	**Sn**	**05 16 12.4**	**-1.0**
	baz=238						
NNSB	**Datong**	**0.72**	**258**	*e*P	**Pn**	**05 16 01.9**	**+0.2**
	baz=259						
NNSB				*e*S	**Sn**	**05 16 13.2**	**-0.2**
	baz=259						
NNS	**Nan Shan**	**0.72**	**259**	*e*P	**Pn**	**05 16 02.1**	**+0.3**
	baz=260						
NNS				*e*S	**Sn**	**05 16 13.2**	**-0.4**
	baz=260						
NSK	**Sanguang**	**0.73**	**278**	*e*P	**Pn**	**05 16 02.0**	**+0.2**
	baz=280						
NSK				*e*S	**Sn**	**05 16 13.4**	**-0.1**
	baz=280						
JYNG	**Yonagunijimaku**	**0.73**	**100**	P	**Pn**	**05 16 01.7**	**-0.1**
JYNG				*e*S	**Sn**	**05 16 13.1**	**-0.4**
YM01	**YM01**	**0.77**	**317**	*e*S	**Sn**	**05 16 13.4**	**-1.0**
	baz=320						
YOJ	**Yonaguni jima**	**0.79**	**98**	*e*P	**Pn**	**05 16 02.3**	**-0.1**
	baz=95						
YOJ	**Yonaguni jima**	**0.79**	**98**	P	**Pn**	**05 16 02.3**	**-0.1**
YOJ				*e*S	**Sn**	**05 16 14.1**	**-0.5**
ETM	**Tongmen**	**0.86**	**225**	*e*P	**Pn**	**05 16 02.6**	**-0.6**
	baz=223						
ETM				*e*S	**Sn**	**05 16 14.8**	**-1.2**
	baz=223						
LXIB	**Xiulin Townshi**	**0.87**	**231**	*e*P	**Pn**	**05 16 02.9**	**-0.6**
	baz=230						
LXIB				*e*S	**Sn**	**05 16 15.6**	**-1.0**
	baz=230						
FUSS	**Fushou**	**0.89**	**248**	*e*P	**Pn**	**05 16 04.6**	**+0.8**
	baz=248						
FUSS				*e*S	**Sn**	**05 16 16.9**	**-0.2**
	baz=248						
WHF	**Hehuan Shan**	**0.92**	**242**	*e*P	**Pn**	**05 16 04.3**	**0.0**
	baz=241						
WHF				*e*S	**Sn**	**05 16 17.6**	**-0.3**
	baz=241						
NFF	**Wufeng Townshi**	**0.94**	**273**	*e*P	**Pn**	**05 16 04.6**	**+0.4**
	baz=274						
NFF				S	**Sn**	**05 16 17.8**	**0.0**
	baz=274						
TWT	**Tachien**	**0

0.2nm,0.6s,baz=220,slow=6.8,SNR=5.6
0.2nm,0.6s

IDC 27 05:51:20.2±1.9, 5.64S×151.88E, h0km, mb3.8/3, mbtmp4.0/4, ML2.3/1, MS3.4/5, Error ellipse: s-maj=128.5km s-min=22.8km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.99**	**231**	Pn	Pn	05 52 51.6	+1.4
	5.2nm,0.3s,baz=63,slow=3.3,SNR=5.1						
PMG				Sn	Sn	05 53 58.2	-1.3
	3.6nm,0.3s,baz=97,slow=19,SNR=5.6						
	17nm,0.4s						
HNR	**Honiara**	**8.84**	**116**	LR	LR	05 56 24.5	
	comp=Z,1μm,19.6s,baz=206,slow=34						
DZM	**Mont Dzumac**	**21.57**	**141**	LR	LR	06 03 02.0	
	comp=Z,69nm,19.1s,baz=68,slow=32						
WRA	**Warramunga Arr**	**22.20**	**229**	P	P	05 56 18.6	+0.2
	1.5nm,0.7s,baz=54,slow=10.0,SNR=21						
	1.5nm,0.7s						
ASAR	**Alice Springs**	**24.91**	**222**	P	P	05 56 45.0	-0.2
	2.9nm,0.8s,baz=54,slow=8.7,SNR=16						
	2.9nm,0.8s						
RPZ	**Rata Peaks**	**41.51**	**159**	LR	LR	06 14 28.5	
	comp=Z,90nm,20.3s,baz=140,slow=33						
JNU	**Nakatsue**	**43.39**	**334**	LR	LR	06 15 39.4	
	comp=Z,33nm,20.1s,baz=155,slow=34						
MJAR	**Matsushiro Arr**	**43.87**	**344**	LR	LR	06 17 05.6	
	comp=Z,16nm,18.2s,baz=193,slow=35						
ILAR	**Eielson Array**	**83.28**	**22**	P	P	06 03 48.6	+0.1
	0.9nm,0.7s,baz=241,slow=5.9,SNR=14						
	0.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**149.68**	**286**	PKPbc	PKPbc	06 11 12.2	-0.8
	0.7nm,0.5s,baz=58,slow=4.8,SNR=5.8						

*OSPL **27** 05:59:44.6±0.6, 18.23N×72.24W, h28km±2km, ML1.9*
*SDD **27** 05:59:45.1±2.1, 18.39N×72.19W, h22km±23km, MD2.7, ML2.0, MW2.6*

ISC 27 05:59:44.9±1.4, 18.36N±0.06×72.13W±0.06, h29km±8km, n14, σ1s27/27, 16C-5D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAPH	**Port-au-Prince**	**0.22**	**315**	*i* P		**Pb**	**05 59 51.2**	**0.0**
PAPH				*e*S		**Sb**	**05 59 56.6**	**+1.0**
PAPH				IAML			05 59 57.6	
	comp=Z,251nm,0.1s							
JIDR	**Jimani**	**0.30**	**65**	⇓*e*Pg		**Pb**	**05 59 51.8**	**-0.3**
JIDR				⇑*e*Sg		**Sb**	**05 59 57.7**	**+0.6**
JIDR				IAML			05 59 58.3	
	comp=E,293nm,0.4s							
JIDR				IAML			05 59 58.7	
	comp=N,269nm,0.2s							
JIDR	**Jimani**	**0.30**	**65**	⇓*e*Pg		**Pb**	**05 59 51.9**	**-0.3**
JIDR				⇑*e*Sg		**Sb**	**05 59 56.4**	**-0.7**
JIDR				IAML			05 59 58.2	
	comp=E,311nm,0.5s							
JIDR				IAML			05 59 58.7	
	comp=N,269nm,0.2s							
LOPE2	**Hotel El Peder**	**0.50**	**132**	*i* P		**Pb**	**05 59 54.0**	**-1.2**
LOPE2				*e*S		**Sb**	**06 00 01.4**	**-0.8**
LOPE2				IAML			06 00 01.6	
	comp=Z,104nm,0.5s							
NEDR	**Neiba UASD**	**0.69**	**80**	⇑*e*Pg		**Pb**	**05 59 58.3**	**-0.1**
NEDR				⇑*e*			05 59 58.4	
NEDR				⇑*e*Sg		**Sb**	**06 00 07.2**	**-0.4**
NEDR				IAML			06 00 12.3	
	comp=E,104nm,0.3s							
NEDR				IAML			06 00 15.9	
	comp=N,58nm,0.6s							
NEDR	**Neiba UASD**	**0.69**	**80**	⇑*e*Pg		**Pb**	**05 59 58.3**	**-0.1**
NEDR				⇑*e*Sg		**Sb**	**06 00 07.2**	**-0.4**
NEDR				IAML			06 00 12.3	
	comp=E,104nm,0.3s							
NEDR				IAML			06 00 15.8	
	comp=N,58nm,0.6s							
PODR	**Polo**	**0.83**	**103**	*i* P		**Pb**	**06 00 00.6**	**-0.3**
PODR				*e*S		**Sb**	**06 00 12.2**	**+0.3**
SDDR	**Presa de Saban**	**1.01**	**52**	⇑*e*Pg		**Pn**	**06 00 01.6**	**-1.6**
SDDR				⇑*e*Sg		**Sn**	**06 00 15.8**	**-0.7**
SDDR				IAML			06 00 26.6	
	comp=N,25nm,1.9s							
SDDR				IAML			06 00 27.0	
	comp=E,14nm,1.9s							
SDDR	**Presa de Saban**	**1.01**	**52**	⇓*e*Pg		**Pn**	**06 00 01.7**	**-1.6**
SDDR				⇓*e*Sg		**Sn**	**06 00 15.2**	**-1.3**
SDDR				IAML			06 00 26.6	
	comp=N,25nm,1.9s							
SDDR				IAML			06 00 27.0	
	comp=E,14nm,1.9s							
SDDR	**Presa de Saban**	**1.01**	**52**	*i* P		**Pn**	**06 00 03.6**	**+0.4**
SDDR				*e*S		**Sn**	**06 00 18.0**	**+1.4**
SDDR				IAML			06 00 24.3	
	comp=Z,14nm,1.6s							
REDR	**Restauracion**	**1.06**	**41**	⇑*e*Pg		**Pn**	**06 00 03.5**	**-0.3**
REDR				⇑*e*Sg		**Sn**	**06 00 16.4**	**-1.3**
REDR				IAML			06 00 24.3	
	comp=E,33nm,0.2s							
REDR	**Restauracion**	**1.06**	**41**	⇑*e*Pg		**Pn**	**06 00 02.4**	**-1.5**
REDR				⇑*e*Sg		Sn	06 00 10.2	-7.5
REDR				IAML			06 00 24.3	
	comp=E,33nm,0.2s							
REDR				IAML			06 00 55.9	
	comp=N,40nm,2.6s							
ABDR	**Alto Bandera**	**1.50**	**72**	⇑*e*Pg		**Pn**	**06 00 11.6**	**+1.4**
ABDR				⇑*e*Sg		**Sn**	**06 00 32.1**	**+3.1**
ABDR				IAML			06 00 33.2	
	comp=N,20nm,1.4s							
ABDR				IAML			06 00 40.0	
	comp=E,22nm,0.5s							
ABDR	**Alto Bandera**	**1.50**	**72**	⇓*e*Pg		**Pn**	**06 00 11.8**	**+1.6**
ABDR				⇑*e*Sg		**Sn**	**06 00 31.1**	**+2.1**
ABDR				IAML			06 00 33.9	
	comp=N,19nm,0.8s							
ABDR				IAML			06 00 40.0	
	comp=E,22nm,0.5s							

*NEIC **27** 06:13:19.1±1.4, 55.91N±0.09×150.2W±0.1, h7km±8km, ML3.6/44, ML3.5(AEIC), Error ellipse: s-maj=13.4km s-min=8.8km az=161.0*
*AEIC **27** 06:13:24.3±1.2, 55.93N±0.10×150.2W±0.1, h11km±8km, Error ellipse: s-maj=15.0km s-min=9.5km az=156.0*

ISC 27 06:13:18.4±2.0, 55.9N±0.1×150.19W±0.06, h10km, n172, σ1s34/172, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.16**	**309**		**Sn**	**06 14 19.6**	**-1.4**
OHAK	**Old Harbor**	**2.16**	**309**		**Pn**	**06 13 55.0**	**+0.6**
OHAK	**Old Harbor**	**2.16**	**309**	P	**Pn**	**06 13 55.0**	**+0.6**
	baz=126						
OHAK				S	**Sn**	**06 14 19.1**	**-2.0**
	baz=126						
KDAK	**Kodiak Island**	**2.29**	**326**		**Pn**	**06 13 57.0**	**+0.9**
KDAK	**Kodiak Island**	**2.29**	**326**		**Sn**	**06 14 22.6**	**-1.7**
KDAK	**Kodiak Island**	**2.29**	**326**	S	**Sn**	**06 14 22.6**	**-1.7**
	baz=144						
SII	**Sitkinak Islan**	**2.32**	**288**		**Pn**	**06 13 57.1**	**+0.5**
SII					**Sn**	**06 14 23.5**	**-1.7**
SII	**Sitkinak Islan**	**2.32**	**288**	IAML		06 14 31.8	
	comp=E,208nm,0.7s						
SII				IAML		06 14 34.7	
	comp=N,192nm,0.6s						
SII	**Sitkinak Islan**	**2.32**	**288**	P	**Pn**	**06 13 57.1**	**+0.5**
	baz=104						
SII				S	**Sn**	**06 14 23.5**	**-1.7**
	baz=104						
Q20K	**Shuyak Island**	**2.95**	**337**	P	**Pn**	**06 14 06.3**	**+1.1**
	baz=155						
Q20K				S	**Sn**	**06 14 39.6**	**-1.1**
	baz=155						
SYI	**Shuyak Island**	**2.95**	**337**		**Pn**	**06 14 06.3**	**+1.1**
SYI					**Sn**	**06 14 39.6**	**-1.1**
CHIR	**Chirikof Islan**	**3.06**	**270**	Pn	**Pn**	**06 14 07.5**	**+0.7**
Q19K	**Cape Douglas,**	**3.55**	**330**		**Pn**	**06 14 15.6**	**+2.1**
Q19K					**Sn**	**06 14 54.1**	**-1.4**
Q19K	**Cape Douglas,**	**3.55**	**330**	P	**Pn**	**06 14 15.6**	**+2.1**
	baz=147						
Q19K				S	**Sn**	**06 14 54.1**	**-1.4**
	baz=147						

KAKN	**Katmai Knife C**	**3.57**	**314**		**Pn**	**06 14 15.7**	**+1.8**
ACHA	**Angle Creek He**	**3.62**	**311**		**Pn**	**06 14 16.5**	**+1.9**
CNPM	**China Poot**	**3.66**	**352**		**Pn**	**06 14 15.3**	**+0.3**
CNPM	**China Poot**	**3.66**	**352**	IAML		06 14 58.5	
	comp=E,72nm,0.7s						
CNPM				IAML		06 14 59.0	
	comp=N,68nm,1.5s						
ANCK	**Angle Creek**	**3.69**	**310**		**Pn**	**06 14 17.4**	**+1.9**
KAHC	**Katmai Hardscr**	**3.79**	**318**		**Pn**	**06 14 19.0**	**+2.1**
KAHC	**Katmai Hardscr**	**3.79**	**318**	P	**Pn**	**06 14 19.0**	**+2.1**
	baz=134						
HOM	**Homer**	**3.83**	**349**	Pn	**Pn**	**06 14 17.9**	**+0.6**
HOM				IAML		06 15 03.0	
	comp=E,197nm,1.4s						
HOM				IAML		06 15 07.6	
	comp=N,174nm,1.4s						
BRSE	**Bradley Lake S**	**3.84**	**356**		**Pn**	**06 14 17.5**	**-0.1**
BRSE	**Bradley Lake S**	**3.84**	**356**	P	**Pn**	**06 14 17.5**	**-0.1**
	baz=175						
AUCH	**Augustine Cone**	**3.87**	**334**		**Pn**	**06 14 19.9**	**+2.0**
BRLK	**Bradley Lake**	**3.87**	**355**		**Pn**	**06 14 18.1**	**+0.1**
BRLK				IAML		06 15 04.9	
	comp=N,58nm,1.4s						
Q17K	**Contact Creek**	**3.90**	**309**	P	**Pn**	**06 14 20.0**	**+1.6**
	baz=125						
P19K	**Oil Pt**	**4.08**	**338**		**Pn**	**06 14 22.6**	**+1.8**
P19K	**Oil Pt**	**4.08**	**338**	P	**Pn**	**06 14 22.6**	**+1.8**
	baz=155						
SEW	**Seward**	**4.21**	**5**		**Pn**	**06 14 22.4**	**-0.2**
SEW	**Seward**	**4.21**	**5**	P	**Pn**	**06 14 22.4**	**-0.2**
	baz=186						
P23K	**Montague Islan**	**4.35**	**19**		**Pn**	**06 14 24.8**	**+0.3**
P23K	**Montague Islan**	**4.35**	**19**	P	**Pn**	**06 14 24.8**	**+0.3**
	baz=201						
ILSW	**Iliamna Southw**	**4.37**	**340**		**Pn**	**06 14 25.7**	**+0.9**
ILSW	**Iliamna Southw**	**4.37**	**340**	IAML		06 15 18.2	
	comp=N,64nm,0.7s						
ILSW				IAML		06 15 24.0	
	comp=E,49nm,0.8s						
O20K	**Slope Mountain**	**4.37**	**344**		**Pn**	**06 14 25.6**	**+0.8**
O20K	**Slope Mountain**	**4.37**	**344**	P	**Pn**	**06 14 25.6**	**+0.8**
	baz=162						
IVE	**Iliamna Volcan**	**4.38**	**341**		**Pn**	**06 14 25.7**	**+0.7**
P18K	**Big Mountain,**	**4.41**	**324**		**Pn**	**06 14 27.0**	**+1.6**
P18K				IAML		06 15 17.4	
	comp=N,35nm,0.4s						
P18K				IAML		06 15 17.4	
	comp=E,37nm,1.2s						
P18K	**Big Mountain,**	**4.41**	**324**	P	**Pn**	**06 14 26.6**	**+1.3**
	baz=140						
Q16K	**King Salmon**	**4.47**	**311**		**Pn**	**06 14 27.8**	**+1.7**
Q16K	**King Salmon**	**4.47**	**311**	P	**Pn**	**06 14 27.8**	**+1.7**
	baz=125						
O22K	**Cooper Landing**	**4.58**	**3**		**Pn**	**06 14 27.9**	**+0.2**
O22K				IAML		06 15 25.3	
	comp=N,98nm,1.0s						
O22K				IAML		06 15 33.5	
	comp=E,122nm,0.9s						
SLKM	**Skilak Lake**	**4.60**	**360**		**Pn**	**06 14 27.9**	**0.0**
CHGN	**Chignik**	**4.62**	**278**		**Pn**	**06 14 30.5**	**+2.3**
CHGN	**Chignik**	**4.62**	**278**	IAML		06 17 15.5	
	comp=E,38nm,1.5s						
CHGN	**Chignik**	**4.62**	**278**	P	**Pn**	**06 14 30.5**	**+2.3**
	baz=91						
P17K	**Kvichak River**	**4.70**	**317**	P	**Pn**	**06 14 31.3**	**+2.0**
	baz=132						
RED	**Redoubt Volcan**	**4.71**	**344**		**Pn**	**06 14 29.5**	**0.0**
RDSO	**Redoubt South**	**4.74**	**345**		**Pn**	**06 14 29.6**	**-0.4**
O18K	**Koktuh Hills**	**4.77**	**328**		**Pn**	**06 14 31.5**	**+1.3**
O18K				IAML		06 15 28.0	
	comp=E,57nm,0.7s						
O18K				IAML		06 15 30.1	
	comp=N,29nm,0.6s						
O18K	**Koktuh Hills**	**4.77**	**328**	P	**Pn**	**06 14 31.6**	**+1.3**
	baz=144						
RDT	**Redoubt**	**4.81**	**347**		**Pn**	**06 14 30.5**	**-0.4**
O19K	**Port Alsworth**	**4.82**	**335**		**Pn**	**06 14 32.1**	**+1.3**
O19K	**Port Alsworth**	**4.82**	**335**	P	**Pn**	**06 14 32.1**	**+1.3**
	baz=151						
NCT	**North Crescent**	**4.88**	**344**		**Pn**	**06 14 32.7**	**+0.9**
CAPN	**Captain Cook N**	**4.89**	**354**		**Pn**	**06 14 33.3**	**+1.4**
CAPN	**Captain Cook N**	**4.89**	**354**	P	**Pn**	**06 14 33.3**	**+1.4**
	baz=174						
HIN	**Hinchinbrook I**	**4.89**	**22**		**Pn**	**06 14 32.7**	**+0.8**
HIN	**Hinchinbrook I**	**4.89**	**22**	IAML		06 15 26.3	
	comp=E,79nm,1.4s						
HIN				IAML		06 15 42.5	
	comp=N,61nm,1.5s						
KAIM	**Kayak Island**	**5.06**	**35**		**Pn**	**06 14 35.0**	**+0.8**
KAIM	**Kayak Island**	**5.06**	**35**	P	**Pn**	**06 14 35.0**	**+0.8**
	baz=220						
RC01	**Rabbit Creek A**	**5.19**	**2**		**Pn**	**06 14 36.2**	**+0.2**
RC01	**Rabbit Creek A**	**5.19**	**2**	IAML		06 15 37.8	
	comp=E,32nm,1.4s						
RC01	**Rabbit Creek A**	**5.19**	**2**	P	**Pn**	**06 14 36.2**	**+0.2**
	baz=183						
EYAK	**Cordova Ski Ar**	**5.20**	**25**	P	**Pn**	**06 14 36.9**	**+0.8**
	baz=209						
P16K	**Nushagak River**	**5.24**	**310**	P	**Pn**	**06 14 38.5**	**+1.9**
	baz=123						
O17K	**Koliganek Bris**	**5.34**	**319**		**Pn**	**06 14 39.6**	**+1.5**
O17K	**Koliganek Bris**	**5.34**	**319**	P	**Pn**	**06 14 39.6**	**+1.5**
	baz=133						
RAGM	**Ragged Mountai**	**5.34**	**31**		**Pn**	**06 14 39.1**	**+0.9**
RAGM	**Ragged Mountai**	**5.34**	**31**	IAML		06 15 48.1	
	comp=E,60nm,0.7s						
SUCK	**Suckling Hills**	**5.38**	**37**		**Pn**	**06 14 40.0**	**+1.4**
SUCK				IAML		06 16 34.4	
	comp=E,62nm,1.3s						
SUCK				IAML		06 17 42.5	
	comp=N,62nm,1.4s						
N19K	**Bonanza Creek**	**5.40**	**337**		**Pn**	**06 14 39.9**	**+0.9**
N19K	**Bonanza Creek**	**5.40**	**337**	P	**Pn**	**06 14 39.9**	**+0.9**
	baz=153						
HMT	**Hamilton**	**5.43**	**33**		**Pn**	**06 14 40.5**	**+1.2**
GOAT	**Goat Mountain**	**5.49**	**29**		**Pn**	**06 14 41.3**	**+1.1**
SUA	**Susitna One**	**5.57**	**357**	Pn	**Pn**	**06 14 41.0**	**-0.3**
KNK	**Knik Glacier**	**5.58**	**9**	Pn	**Pn**	**06 14 41.5**	**0.0**
O16K	**Kokwok River B**	**5.61**	**314**		**Pn**	**06 14 43.2**	**+1.5**
O16K	**Kokwok River B**	**5.61**	**314**	P	**Pn**	**06 14 43.2**	**+1.5**
	baz=128						
N18K	**Kilae Creek**	**5.64**	**330**		**Pn**	**06 14 43.2**	**+1.0**
N18K	**Kilae Creek**	**5.64**	**330**	P	**Pn**	**06 14 43.2**	**+1.0**
	baz=145						
BERG	**Berg Lake**	**5.65**	**35**		**Pn**	**06 14 43.0**	**+0.7**
STLK	**Strandline Lak**	**5.66**	**352**		**Pn**	**06 14 42.8**	**+0.3**
GRIN	**Grindle Hills**	**5.69**	**37**		**Pn**	**06 14 44.2**	**+1.3**
DIV	**Divide**	**5.71**	**22**		**Pn**	**06 14 44.1**	**+0.9**
PMR	**Palmer**	**5.72**	**5**	Pn	**Pn**	**06 14 43.6**	**+0.4**
SNH	**Sunshine Point**	**5.78**	**39**		**Pn**	**06 14 45.2**	**+1.0**
BMRM	**Bremner River**	**5.85**	**28**		**Pn**	**06 14 45.9**	**+0.8**
BMRM	**Bremner River**	**5.85**	**28**	P	**Pn**	**06 14 45.9**	**+0.8**
	baz=212						
SDPT	**Sand Point**	**5.86**	**269**	Pn	**Pn**	**06 14 46.2**	**+1.0**
GHO	**Glory Hole Cre**	**5.91**	**6**		**Pn**	**06 14 47.0**	**+1.0**
SVW2	**Sparrevohn**	**5.91**	**334**	Pn	**Pn**	**06 14 47.2**	**+1.3**
N17K	**Nushagak Hills**	**5.92**	**324**	Pn	**Pn**	**06 14 47.4**	**+1.5**
WAX	**Waxell Ridge**	**5.97**	**37**		**Pn**	**06 14 48.0**	**+1.2**
SML	**Sawmill**	**5.98**	**8**		**Pn**	**06 14 48.1**	**+1.2**
SML	**Sawmill**	**5.98**	**8**	P	**Pn**	**06 14 47.9**	**+1.0**
	baz=190						
KLU	**Klutina**	**6.01**	**20**		**Pn**	**06 14 49.1**	**+1.7**
M23K	**Glacier View**	**6.03**	**11**		**Pn**	**06 14 48.6**	**+1.1**
M23K	**Glacier View**	**6.03**	**11**	P	**Pn**	**06 14 48.6**	**+1.1**
	baz=193						
CRQM	**Cirque**	**6.11**	**35**		**Pn**	**06 14 50.1**	**+1.4**
MESA	**MESA**	**6.11**	**42**		**Pn**	**06 14 49.9**	**+1.1**
MESA	**MESA**	**6.11**	**42**	P	**Pn**	**06 14 49.9**	**+1.1**
	baz=229						
SCM	**Sheep Creek Mo**	**6.11**	**13**		**Pn**	**06 14 50.1**	**+1.3**
SCM	**Sheep Creek Mo**	**6.11**	**13**	P	**Pn**	**06 14 50.1**	**+1.3**
	baz=195						
CRQE	**Cirque**	**6.12**	**35**	P	**Pn**	**06 14 49.9**	**+1.0**
	baz=221						
SKT	**Skwentna**	**6.12**	**354**		**Pn**	**06 14 49.2**	**+0.5**
SKT	**Skwentna**	**6.12**	**354**	P	**Pn**	**06 14 49.2**	**+0.5**
	baz=173						
O15K	**Ungalikthiuk R**	**6.13**	**306**	P	**Pn**	**06 14 50.6**	**+1.8**
	baz=118						
M20K	**Styx River**	**6.17**	**347**		**Pn**	**06 14 50.3**	**+0.8**
M20K	**Styx River**	**6.17**	**347**	P	**Pn**	**06 14 50.3**	**+0.8**
	baz=164						
ISLE	**Juniper Island**	**6.26**	**38**		**Pn**	**06 14 51.6**	**+0.8**
M18K	**Stony River**	**6.31**	**335**		**Pn**	**06 14 51.8**	**+0.5**
M18K	**Stony River**	**6.31**	**335**	P	**Pn**	**06 14 51.8**	**+0.5**
	baz=150						
M19K	**Big River Lodg**	**6.38**	**342**	Pn	**Pn**	**06 14 52.5**	**+0.1**
N25K	**Chitina, Valde**	**6.40**	**25**		**Pn**	**06 14 54.1**	**+1.4**
N25K	**Chitina, Valde**	**6.40**	**25**	P	**Pn**	**06 14 53.9**	**+1.2**
	baz=209						
GLB	**Gilahina Butte**	**6.46**	**28**		**Pn**	**06 14 54.4**	**+0.9**
SAMH	**Samovar Hills**	**6.54**	**46**		**Pn**	**06 14 55.9**	**+1.3**
TABL	**Table Mountain**	**6.59**	**43**		**Pn**	**06 14 56.5**	**+1.2**
MCARA	**McCarthy VSAT**	**6.63**	**31**		**Pn**	**06 14 57.2**	**+1.4**
MCARA	**McCarthy VSAT**	**6.63**	**31**	P	**Pn**	**06 14 56.9**	**+1.2**
	baz=217						
M17K	**Holitna River**	**6.67**	**328**		**Pn**	**06 14 57.6**	**+1.4**
M17K	**Holitna River**	**6.67**	**328**	P	**Pn**	**06 14 57.6**	**+1.4**
	baz=142						
PN7A	**Pavlof North-7**	**6.70**	**271**		**Pn**	**06 14 58.4**	**+1.6**
N15K	**Kwethluk River**	**6.76**	**313**		**Pn**	**06 15 00.1**	**+2.4**
WASW	**Wrangell South**	**6.78**	**25**		**Pn**	**06 14 59.1**	**+1.1**
WACK	**Wrangell Chich**	**6.79**	**24**		**Pn**	**06 14 59.5**	**+1.3**
WAT6	**Susitna Watana**	**6.80**	**10**		**Pn**	**06 14 59.1**	**+0.9**
WAT6	**Susitna Watana**	**6.80**	**10**	P	**Pn**	**06 14 59.1**	**+0.9**
	baz=192						
BARN	**Barnard Glacie**	**6.82**	**37**		**Pn**	**06 14 59.8**	**+1.3**
CTG	**Chitna Glacier**	**6.86**	**39**	P	**Pn**	**06 15 00.2**	**+1.1**
	baz=226						
PNL	**Peninsula**	**6.88**	**52**	P	**Pn**	**06 15 00.8**	**+1.6**
	baz=242						
LOGN	**Logan Glacier**	**6.89**	**41**		**Pn**	**06 15 00.5**	**+1.0**
BCPM	**Bancas Point**	**6.92**	**50**		**Pn**	**06 15 01.5**	**+1.8**
WAT1	**Susitna Watana**	**6.98**	**6**		**Pn**	**06 15 02.0**	**+1.4**
WAT1	**Susitna Watana**	**6.98**	**6**	P	**Pn**	**06 15 02.0**	**+1.4**
	baz=188						
HARP	**HAARP**	**6.99**	**20**		**Pn**	**06 15 02.4**	**+1.7**
HARP	**HAARP**	**6.99**	**20**	P	**Pn**	**06 15 02.4**	**+1.7**
	baz=204						
L18K	**Granite Mounta**	**7.15**	**335**		**Pn**	**06 15 03.9**	**+1.0**
L18K	**Granite Mounta**	**7.15**	**335**	P	**Pn**	**06 15 03.9**	**+1.0**
	baz=149						
O28M	**Mount Upton**	**7.16**	**43**		**Pn**	**06 15 04.7**	**+1.4**
O28M	**Mount Upton**	**7.16**	**43**	P	**Pn**	**06 15 04.7**	**+1.4**
	baz=232						
DHY	**Denali Highway**	**7.32**	**10**		**Pn**	**06 15 06.9**	**+1.6**
DHY	**Denali Highway**	**7.32**	**10**	P	**Pn**	**06 15 06.9**	**+1.6**
	baz=192						
L17K	**Donlin**	**7.50**	**329**		**Pn**	**06 15 09.1**	**+1.4**
L17K	**Donlin**	**7.50**	**329**	P	**Pn**	**06 15 09.1**	**+1.4**
	baz=142						
L16K	**Owhat River**	**7.54**	**324**		**Pn**	**06 15 10.2**	**+1.9**
L16K	**Owhat River**	**7.54**	**324**	P	**Pn**	**06 15 10.2**	**+1.9**
	baz=136						
RND	**Reindeer**	**7.54**	**5**	Pn	**Pn**	**06 15 09.4**	**+1.1**
O29M	**Mount Kennedy**	**7.55**	**50**		**Pn**	**06 15 09.9**	**+1.4**
O29M	**Mount Kennedy**	**7.55**	**50**	P	**Pn**	**06 15 09.9**	**+1.4**
	baz=240						
TRF	**Thorofare Moun**	**7.55**	**360**	Pn	**Pn**	**06 15 10.1**	**+1.5**
YUK2	**White River**	**7.62**	**36**		**Pn**	**06 15 10.4**	**+1.0**
P29M	**Windy Craggy**	**7.62**	**56**		**Pn**	**06 15 10.7**	**+1.4**
P29M	**Windy Craggy**	**7.62**	**56**	P	**Pn**	**06 15 10.8**	**+1.4**
	baz=246						
KTH	**Kantishna Hill**	**7.67**	**358**	Pn	**Pn**	**06 15 11.6**	**+1.6**
YUK3	**Moose Creek**	**7.74**	**37**		**Pn**	**06 15 13.2**	**+2.0**
YUK3	**Moose Creek**	**7.74**	**37**	P	**Pn**	**06 15 13.1**	**+2.0**
	baz=225						
M27K	**Edge Creek, AK**	**7.74**	**30**		**Pn**	**06 15 13.0**	**+2.0**
M27K	**Edge Creek, AK**	**7.74**	**30**	P	**Pn**	**06 15 13.0**	**+2.0**
	baz=217						
MENT	**Mentasta**	**7.77**	**22**	Pn	**Pn**	**06 15 13.6**	**+2.2**
M14K	**Bethel**	**7.86**	**313**		**Pn**	**06 15 14.3**	**+1.7**
M14K	**Bethel**	**7.86**	**313**	P	**Pn**	**06 15 14.3**	**+1.7**
	baz=123						
L15K	**Ungalak Mounta**	**8.22**	**319**		**Pn**	**06 15 19.2**	**+1.7**
L15K	**Ungalak Mounta**	**8.22**	**319**	P	**Pn**	**06 15 19.2**	**+1.7**
	baz=130						
J18K	**Innoko River**	**8.25**	**339**	Pn	**Pn**	**06 15 19.6**	**+1.6**
RIDG	**Independent Ri**	**8.29**	**17**	Pn	**Pn**	**06 15 19.3**	**+0.7**
L14K	**Kuka Creek**	**8.48**	**315**		**Pn**	**06 15 23.4**	**+2.4**
IL31		**9.03**	**9**	Pn	**Pn**	**06 15 30.3**	**+1.7**
ILAR	**Eielson Array**	**9.03**	**9**	Pn	**Pn**	**06 15 30.2**	**+1.6**
WHY	**Whitehorse**	**9.35**	**53**	Pn	**Pn**	**06 15 34.4**	**+1.3**

IDC 27 06:17:27.5±21.0, 5.94S×129.76E, h212km±244km, mb3.0/1, mbtmp3.3/3, ML3.1/2, Error ellipse: s-maj=148.0km s-min=94.8km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.62**	**163**	P	Pn	06 20 44.7	0.0
	0.1nm,0.3s,baz=343,slow=11,SNR=2.6						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**18.07**	**168**	P	P	06 21 23.4	0.0
	0.1nm,0.3s,baz=343,slow=10.0,SNR=5.0						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**67.21**	**327**	P	P	06 27 59.0	0.0
	0.2nm,0.4s,baz=132,slow=7.7,SNR=3.7						
	0.2nm,0.4s						

*BJI **27** 06:39:06.7±0.0, 23.

JHJ LR LR 06 45 34.2
comp=N,2µm,18.3s,baz=178,slow=38
comp=N,51nm,0.4s
JMKN Mikurajimanish 10.81 344 *e*P **Pn 06 41 40.9 -1.7**
JMZ Minamidaito 2 11.12 284 P Pn 06 41 53.9 +6.9
JMZ Minamidaito 2 11.12 284 **Pn 06 41 50.6 +3.7**
JMZ **Sn 06 43 56.5 +6.5**
JMZ Minamidaito 2 11.12 284 *e*P **Pn 06 41 50.4 +3.4**
BSO1 Boso 1 11.26 351 *e*P **Pn 06 41 48.3 -0.1**
BSO1 *e*S **Sn 06 43 47.2 -5.4**
JTNC Tanabenakahech 12.23 329 *e*P **Pn 06 42 03.3 +1.3**
JOD2 Odawara 2 12.24 344 *e*P **Pn 06 42 00.3 -1.9**
JOD2 *e*S **Sn 06 44 10.1 -7.1**
INU Inuyama 12.96 337 P **Pn 06 42 12.2 +0.2**
INU Inuyama 12.96 337 Pn **Pn 06 42 11.6 -0.4**
JRY Ryogami san 13.00 344 *e*P **Pn 06 42 10.3 -2.3**
JRY *e*S **Sn 06 44 28.6 -7.3**
JMN Monobe 13.05 323 P **Pn 06 42 15.5 +2.3**
JMN Monobe 13.05 323 Pn **Pn 06 42 14.9 +1.6**
JTO Tosashimizu 13.05 318 *e*P **Pn 06 42 15.6 +2.3**
JGF Kuroka 13.06 338 P **Pn 06 42 12.7 -0.8**
JGF Kuroka 13.06 338 Pn **Pn 06 42 12.4 -1.1**
JAMN Amaminishikomi 13.46 293 *e*P **Pn 06 42 21.6 +2.7**
MJAR Matsushiro Arr 13.68 343 P **Pn 06 42 18.9 -2.9**
comp=N,15nm,0.6s,baz=165,slow=11,SNR=33
MJAR S **Sn 06 44 46.4 -5.9**
comp=N,13nm,0.7s,baz=123,slow=12,SNR=5.1
MJAR LR LR 06 47 36.2
comp=N,3µm,19.3s,baz=144,slow=37
MAJO Matsushiro 13.68 343 P **Pn 06 42 21.2 -0.6**
MAJO Matsushiro 13.68 343 Pn **Pn 06 42 20.0 -1.9**
MAJO Matsushiro 13.68 343 *i*P **Pn 06 42 19.6 -2.2**
MJB9 Matsu-Tunnel 13.68 343 Pn **Pn 06 42 20.2 -1.7**
JOW Kunigami 13.90 287 P **P 06 42 28.9 -3.4**
JOW Kunigami 13.90 287 **Pn 06 42 27.7 +2.7**
JOW Kunigami 13.90 287 *e*P **P 06 42 28.1 -4.3**
JOW Kunigami 13.90 287 P **Pn 06 42 27.4 +2.4**
comp=N,27nm,0.6s,baz=126,slow=13,SNR=7.5
JOW LR LR 06 46 58.6
comp=N,4µm,21.3s,baz=114,slow=34
JHS Saijyo 14.42 325 *e*P **Pn 06 42 32.8 +0.9**
JSJ Shimokoshiki 14.44 307 *e*P **P 06 42 38.3 0.0**
JMM Marumori 14.45 352 P **Pn 06 42 29.8 -2.5**
JMM Marumori 14.45 352 **Pn 06 42 30.0 -2.3**
JNU Nakatsue 14.45 314 P **P 06 42 34.9 -3.5**
JNU Nakatsue 14.45 314 Pn **Pn 06 42 33.8 +1.4**
JNU Nakatsue 14.45 314 P **Pn 06 42 33.7 +1.3**
comp=N,21nm,0.9s,baz=138,slow=6.2,SNR=11
JNU LR LR 06 47 19.0
comp=N,1µm,21.8s,baz=126,slow=34
JSD Sado 15.08 345 P **Pn 06 42 39.9 -0.7**
JSD Sado 15.08 345 **Pn 06 42 35.3 -5.3**
JTM Tenmabayashi 17.31 355 P **Pn 06 43 07.0 -2.0**
JTM Tenmabayashi 17.31 355 Pn **Pn 06 43 04.4 -4.6**
JTM IAmb IAmb 06 43 17.2
comp=Z,246nm,1.2s
ERM Erimo 18.45 360 P **P 06 43 20.2 -2.3**
ERM Erimo 18.45 360 **P 06 43 17.1 -5.4**
ERM Erimo 18.45 360 *i*P **Pn 06 43 24.8 +1.9**
JEM Erimo 18.45 360 P **P 06 43 20.4 -2.1**
YOJ Yonaguni jima 18.47 277 P **Pn 06 43 24.8 +1.5**
YOJ Yonaguni jima 18.47 277 P **Pn 06 43 23.8 +0.5**
YOJ Yonaguni jima 18.47 277 P **Pn 06 43 23.8 +0.5**
YOJ pmax pmax
comp=Z,313nm,0.8s
TJN Taejon 18.74 317 P **Pn 06 43 25.5 -1.0**
comp=Z,161nm,1.0s
TJN Taejon 18.74 317 IAmb IAmb 06 43 27.1
comp=Z,148nm,0.9s
TJN Taejon 18.74 317 *ce*P **P 06 43 24.8 -1.0**
KSRS Korea Array 19.10 320 P **P 06 43 29.0 -0.7**
comp=Z,1.1nm,0.3s,baz=138,slow=11,SNR=40
KSRS LR LR 06 50 04.8
comp=Z,1µm,21.2s,baz=130,slow=34
KSRS ScP **ScP 06 51 25.1 -0.5**
comp=Z,1.5nm,0.8s,baz=134,slow=2.5,SNR=5.5
comp=Z,13nm,0.7s
KSAR Wonju Array Be 19.11 320 P **P 06 43 28.9 -1.0**
KSAR Wonju Array Be 19.11 320 P **P 06 43 28.9 -1.0**
NACB Ninganchiao 19.77 276 P **Pn 06 43 38.3 -0.6**
NACB Ninganchiao 19.77 276 P **P 06 43 37.1 0.0**
INCN Inchon 19.89 318 P **P 06 43 38.3 -0.1**
YHNB Yeheng 19.95 278 P **Pn 06 43 40.4 -0.8**
YHNB Yeheng 19.95 278 P **Pn 06 43 39.8 -1.3**
YHNB IAmb IAmb 06 43 55.5
comp=Z,95nm,1.1s
YULB Yu-li 20.09 274 P Pn 06 43 43.9 +1.2
YULB Yu-li 20.09 274 P Pn 06 43 41.4 -1.3
YULB IAmb IAmb 06 43 47.7
comp=Z,77nm,1.0s
TWGBT Beinan 20.34 272 P Pn 06 43 46.2 +0.5
comp=Z,74nm,1.1s
TWG Pinlang 20.35 272 IAmb IAmb 06 44 00.9
comp=Z,68nm,0.9s
SSLB Suanglung 20.37 275 P Pn 06 43 46.8 +0.7
SSLB Suanglung 20.37 275 P Pn 06 43 46.0 -0.1
SSLB IAmb IAmb 06 43 50.8
comp=Z,86nm,0.7s
JKA Kamikawa-asahi 20.55 359 **P 06 43 41.6 -3.9**
ASAJ Asahikawa 20.55 359 P **P 06 43 41.6 -3.9**
ASAJ pmax pmax
comp=Z,44nm,0.9s
ASAJ Asahikawa 20.55 359 P Pn 06 43 48.9 +1.0
comp=Z,35nm,0.9s,baz=224,slow=11,SNR=13
ASAJ LR LR 06 51 53.2
comp=Z,820nm,21.6s,baz=194,slow=37
TPUB Ta-pu 20.71 274 P Pn 06 43 50.5 +0.5
TPUB Ta-pu 20.71 274 IAmb IAmb 06 44 01.0
comp=Z,145nm,1.3s
SSE Sheshan 20.94 296 P **P 06 43 50.0 +0.2**
SSE S **S 06 47 39.0 -1.9**
SSE pmax pmax
comp=Z,57nm,0.8s
SSE pmax pmax
comp=Z,140nm,3.7s
SSE LR LR
comp=Z,350nm,19.5s
SSE LR LR
comp=Z,290nm,19.9s
MSHR Mys Shultsa 21.48 335 *ce*P **P 06 43 55.2 -0.3**
MSHR pmax pmax
comp=Z,36nm,1.3s
TEY Ternei 22.13 348 *e*P **P 06 44 02.9 +0.5**
TEY 06 48 03.7
H11N1 WAKE ISLAND Hy 22.35 95 T T 07 08 07.3
baz=282,slow=74,SNR=169
H11N2 WAKE ISLAND Hy 22.35 95 T T 07 08 06.5
baz=282,slow=74,SNR=123
H11N3 WAKE ISLAND Hy 22.36 95 T T 07 08 09.9
baz=282,slow=74,SNR=137
QZH Quanzhou 22.47 279⇑ *i*P **P 06 44 05.0 -1.3**
QZH pP **pP 06 44 13.5 -2.1**
QZH S **S 06 48 03.8 -6.6**
QZH pmax pmax
comp=Z,340nm,6.1s
QZH LR LR
comp=Z,2µm,19.9s
QZH LR LR
comp=Z,2µm,22.3s
H11S3 WAKE ISLAND Hy 22.48 98 T T 07 08 01.5
baz=284,slow=75,SNR=45
H11S1 WAKE ISLAND Hy 22.49 98 T T 07 08 06.3
baz=284,slow=75,SNR=33
H11S2 WAKE ISLAND Hy 22.50 98 T T 07 08 03.0
baz=284,slow=75,SNR=36
USA0B Ussuriysk Arra 22.59 339 P **P 06 44 05.5 -1.8**
USA0B Ussuriysk Arra 22.59 339 *i*P **P 06 44 05.3 -2.1**
USRK Ussuriysk Ar. 22.59 339 P **P 06 44 05.9 -1.4**
USRK Ussuriysk Ar. 22.59 339 P **P 06 44 06.2 -1.2**
comp=Z,57nm,1.1s,baz=154,slow=10.0,SNR=18
USRK LR LR 06 52 06.7
comp=Z,736nm,21.4s,baz=143,slow=34
comp=Z,57nm,1.1s
TGY Tagaytay City 23.03 250 LR LR 06 51 49.8
comp=Z,1µm,20.4s,baz=74,slow=33
NJ2 Nanjing 23.11 297⇓ P **P 06 44 12.5 -0.4**
NJ2 S **S 06 48 20.3 -1.0**
NJ2 sS **sS 06 48 35.5 -2.2**
NJ2 pmax pmax
comp=Z,140nm,0.9s
NJ2 pmax pmax
comp=Z,240nm,4.5s
NJ2 LR LR
comp=Z,770nm,20.8s
NJ2 LR LR
comp=Z,550nm,18.0s
NJ2 LR LR
comp=Z,1µm,18.9s
YSS Yuzh-Sakhalins 23.39 359 P **P 06 44 12.2 -3.2**
YSS Yuzh-Sakhalins 23.39 359 P **P 06 44 12.7 -2.7**
YSS IAmb IAmb 06 44 38.5
comp=Z,57nm,0.9s
YSS Yuzh-Sakhalins 23.39 359 *e*P **P 06 44 16.8 +1.4**
YSS *e*S **S 06 48 32.0 +6.5**
YSS pmax pmax
comp=Z,300nm,5.0s
YSS pmax pmax
comp=Z,60nm,1.2s
YSS smax smax
comp=N,300nm,3.6s
DAV Davao City (W) 23.53 229 LR LR 06 51 35.9
comp=N,1µm,21.2s,baz=8.0,slow=32
MDJ Mudanjiang 23.81 335 P **P 06 44 18.8 -0.7**
MDJ pP pP 06 44 30.5 +1.3
MDJ PP **PnPn 06 44 50.5 +1.9**
MDJ S **S 06 48 35.0 +2.7**
MDJ SS **SnSn 06 49 22.5 +8.9**
MDJ ScP **ScP 06 51 31.8 -5.4**
MDJ PcS **PcS 06 51 39.3 -2.1**
MDJ ScS **ScS 06 55 20.5 -3.4**
MDJ pmax pmax
comp=N,17nm,1.1s
MDJ pmax pmax
comp=N,440nm,7.3s
MDJ LR LR
comp=N,320nm,23.8s
MDJ LR LR
comp=N,900nm,19.9s
MDJ LR LR
comp=N,1µm,18.0s
MDJ Mudanjiang 23.81 335 P **P 06 44 17.1 -2.4**
DL2 Dalian 23.90 315 P **P 06 44 20.5 +0.1**
DL2 S **S 06 48 35.3 +1.4**
DL2 pmax pmax
comp=N,65nm,0.9s
DL2 LR LR
comp=N,380nm,16.9s
DL2 LR LR
comp=N,800nm,16.1s
DL2 LR LR
comp=N,880nm,16.3s
SNY Shenyang 24.52 323⇓ P **P 06 44 25.0 -1.0**
SNY S **S 06 48 43.5 -0.2**
SNY pmax pmax
comp=N,29nm,0.9s
SNY pmax pmax
comp=N,250nm,4.3s
SNY LR LR
comp=N,450nm,17.3s
SNY LR LR
comp=N,540nm,20.0s
SNY LR LR
comp=N,850nm,19.2s
CN2 Changchun 24.95 328 P **P 06 44 30.8 +0.9**
CN2 pmax pmax
comp=N,20nm,0.8s
CN2 LR LR
comp=N,500nm,13.0s
CN2 LR LR
comp=N,200nm,13.0s
CN2 LR LR
comp=N,500nm,18.0s
UGL Uglegorsk 25.53 358 *e*P P 06 44 42.2 +7.2
UGL pmax pmax
comp=Z,120nm,0.8s
BNX BinXian 25.60 334⇑ P **P 06 44 35.5 -0.3**
BNX pP **pP 06 44 43.0 -2.6**
BNX sP **sP 06 44 47.0 -3.0**
BNX S **S 06 49 01.3 +0.3**
BNX sS **sS 06 49 16.0 -1.5**
BNX pmax pmax
comp=Z,18nm,1.4s
BNX pmax pmax
comp=Z,300nm,6.8s
BNX LR LR
comp=Z,440nm,19.9s
BNX LR LR
comp=Z,790nm,16.4s
BNX LR LR
comp=Z,1µm,17.6s
TIA Tai'an 25.82 305⇑ P **P 06 44 36.8 -1.1**
TIA S **S 06 49 08.0 +3.4**
TIA pmax pmax
comp=Z,49nm,0.8s
TIA pmax pmax
comp=Z,140nm,7.8s
TIA LR LR
comp=Z,150nm,14.2s
TIA LR LR
comp=Z,440nm,16.7s
TIA LR LR
comp=Z,420nm,15.7s
WHN Wuhan 26.58 292 P **P 06 44 45.0 +0.2**
WHN *e*S **S 06 49 16.5 -0.3**
WHN pmax pmax
comp=Z,460nm,1.5s
WHN LR LR
comp=Z,2µm,17.0s
WHN LR LR
comp=Z,1µm,11.2s
WHN LR LR
comp=Z,3µm,19.9s
KLR Kul'dur 27.20 343 *ce*P **P 06 44 51.3 +1.1**
KLR pmax pmax
comp=Z,65nm,1.3s
KLR Kul'dur 27.20 343 LR LR 06 55 07.4
comp=Z,955nm,21.3s,baz=155,slow=35
TYV Tymovskoe 27.30 359 *e*P P 06 45 04.3 +13
TYV pmax pmax
comp=Z,100nm,4.0s
TYV pmax pmax
comp=Z,9.0nm,0.7s
CNSH ChangSha 27.59 286⇑ P **P 06 44 54.0 +0.1**
CNSH S **S 06 49 32.5 -0.2**
CNSH pmax pmax
comp=Z,22nm,0.7s
CNSH LR LR
comp=Z,800nm,18.9s
CNSH LR LR
comp=Z,1µm,20.1s
CNSH LR LR
comp=Z,1µm,18.9s
GRNR Gornyy 27.71 351⇑ *i*P **P 06 44 56.3 +1.6**
GRNR pmax pmax
comp=Z,10.0nm,1.1s
GRNR MLR MLR
comp=Z,350nm,15.0s
HNS HongShan 28.06 306⇑ P **P 06 44 56.5 -1.5**
HNS pmax pmax
comp=Z,65nm,0.9s
HNS LR LR
comp=Z,1µm,17.7s
HNS LR LR
comp=Z,290nm,18.6s
HNS LR LR
comp=Z,620nm,18.8s
BJT Baijiatuau 28.11 312 P **P 06 44 57.0 -1.4**
BJT Baijiatuau 28.11 312 P **P 06 44 57.9 -0.5**
BJT Baijiatuau 28.11 312 P **P 06 44 57.9 -0.5**
BJT pmax pmax
comp=Z,15nm,0.8s
BJI Beijing 28.11 312 P **P 06 44 58.5 +0.1**
BJI pP **pP 06 45 08.3 +0.2**
BJI S **S 06 49 38.5 -2.2**
BJI pmax pmax
comp=Z,7.0nm,1.0s
BJI LR LR
comp=Z,250nm,21.8s
BJI LR LR
comp=Z,220nm,22.8s
BJI LR LR
comp=Z,460nm,23.9s
LYN LuoYang 28.92 299⇓ P **P 06 45 04.0 -1.7**
LYN sP pP 06 45 17.8 +2.0
LYN S **S 06 49 52.0 -1.6**
LYN sS sS 06 50 09.8 -0.3
LYN pmax pmax
comp=Z,62nm,1.0s
LYN pmax pmax
comp=Z,220nm,4.5s
LYN LR LR
comp=Z,460nm,21.6s
LYN LR LR
comp=Z,1µm,19.2s
LYN LR LR
comp=Z,1µm,18.9s
SKR Severo-Kuril's 28.92 17 *e*P P 06 45 16.0 +11
SKR *e*S S 06 50 03.1 +10
SKR pmax pmax
comp=Z,106nm,1.2s
SKR pmax pmax
comp=Z,400nm,5.5s
SKR MLR MLR
comp=Z,500nm,15.0s
HEH HeiHe 29.39 339 *e*P **P 06 45 10.0 +0.3**
HEH pP **pP 06 45 20.0 +0.5**
HEH S **S 06 50 02.0 +1.3**
HEH SS **SnSn 06 51 30.8 +1.0**
HEH pmax pmax
comp=Z,52nm,1.1s
HEH pmax pmax
comp=Z,290nm,3.9s
HEH LR LR
comp=Z,750nm,21.5s
HEH LR LR
comp=Z,1µm,21.4s
HEH LR LR
comp=Z,1µm,20.7s
GULI GuiLin 29.91 280⇑ P **P 06 45 15.8 +1.2**
GULI S **S 06 50 16.3 +7.0**
GULI pmax pmax
comp=Z,10.0nm,0.6s
GULI LR LR
comp=Z,190nm,18.4s
GULI LR LR
comp=Z,590nm,22.9s
GULI LR LR
comp=Z,810nm,22.6s
ENH Enshi 30.73 290 P **P 06 45 21.2 -0.6**
MRSI Marisa 30.82 225 P **P 06 45 19.2 -3.5**
comp=Z,56nm,1.0s,comp=Z,793nm
QIZ Qiongzhong 31.35 268 P **P 06 45 28.3 +0.9**
QIZ sP **pwP 06 45 40.5 -1.6**
QIZ S **S 06 50 33.8 +1.8**
QIZ sS **sS 06 50 49.3 +0.7**
QIZ LR LR
comp=Z,340nm,16.2s
QIZ LR LR
comp=Z,530nm,20.1s
QIZ LR LR
comp=Z,870nm,24.5s
PETK Petropavlovsk- 31.54 17 P **P 06 45 29.0 +0.4**
comp=Z,1.6nm,0.8s,baz=242,slow=3.1,SNR=2.8
PETK LR LR 06 57 21.0
comp=Z,423nm,21.3s,baz=198,slow=34
comp=Z,1.6nm,0.8s
HHC Hu-ho-hao-te 31.63 311 *e*P **P 06 45 28.8 -1.0**
HHC pP pP 06 45 39.0 -0.8
HHC PP **PnPn 06 46 35.0 +0.6**
HHC S **S 06 50 34.5 -1.7**
HHC sS sS 06 50 50.5 -2.3
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,150nm,5.5s
HHC LR LR
comp=Z,440nm,15.3s
HHC LR LR
comp=Z,340nm,15.7s
HHC LR LR
comp=Z,710nm,16.5s
XAN Xi'an 31.68 297⇑ P **P 06 45 29.5 -0.7**
XAN pP pP 06 45 38.3 -2.0
XAN PP **PnPn 06 46 34.5 -0.5**
XAN S **S 06 50 37.3 +0.3**
XAN sS sS 06 50 53.0 -0.6
XAN SS **SnSn 06 52 29.5 +3.6**
XAN pmax pmax
comp=Z,25nm,0.7s
XAN pmax pmax
comp=Z,270nm,4.6s
XAN LR LR
comp=Z,830nm,17.7s
XAN LR LR
comp=Z,880nm,20.1s
XAN LR LR
comp=Z,1µm,19.6s
ZEA Zeya 32.49 342 *e*P **P 06 45 37.9 +0.9**
ZEA pmax pmax
comp=N,100nm,1.3s
ZEA pmax pmax
comp=Z,100nm,1.3s
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=N,50nm,0.9s
ZEA pmax pmax
comp=Z,90nm,0.9s
ZEA MLR MLR
comp=N,400nm,14.0s
BTO Baotou 32.62 309 *e*P **P 06 45 40.8 +2.3**
BTO pP **pP 06 45 50.3 +1.8**
BTO sP **pwP 06 45 54.3 +0.6**
BTO PP **PP 06 46 51.3 -1.3**
BTO S **S 06 50 58.5 +6.8**
BTO sS **sS 06 51 10.5 +2.2**
BTO pmax pmax
comp=N,26nm,1.3s
BTO pmax pmax
comp=N,270nm,5.2s
BTO LR LR
comp=N,2µm,17.7s
BTO LR LR
comp=N,980nm,18.7s
BTO LR LR
comp=N,2µm,19.0s
GYA Guiyang 33.17 283⇑ P **P 06 45 45.5 +2.1**
GYA pP sP 06 45 56.0 -2.2
GYA S **S 06 51 05.0 +4.5**
GYA pmax pmax
comp=N,22nm,0.8s
GYA pmax pmax
comp=N,170nm,6.1s
GYA LR LR
comp=N,490nm,19.2s
GYA LR LR
comp=N,990nm,23.0s
GYA LR LR
comp=N,2µm,21.5s
CD2 Chengdu 35.69 291 P **P 06 46 04.5 -0.6**
CD2 pmax pmax
comp=N,60nm,0.8s
CD2 pmax pmax
comp=N,70nm,4.1s
CD2 LR LR
comp=N,220nm,11.8s
CD2 LR LR
comp=N,350nm,14.5s
CD2 LR LR
comp=N,880nm,21.4s
LZH Lanzhou 36.13 299 *e*P **P 06 46 07.5 -1.5**
LZH sP pP 06 46 20.5 +1.3
LZH PP **PP 06 47 35.5 +3.9**
LZH pmax pmax
comp=N,20nm,1.4s
LZH LR LR
comp=N,820nm,16.1s
LZH LR LR
comp=N,430nm,15.5s
LZH LR LR
comp=N,820nm,16.5s
SLVN Son La 36.31 274 IAmb IAmb 06 46 12.2
comp=Z,20nm,1.1s
MA2 Magadan 36.43 6 P **P 06 46 12.4 +1.4**
MA2 Magadan 36.43 6 *ce*P **P 06 46 13.4 +2.5**
MA2 pmax pmax
comp=Z,20nm,2.5s
KAPI Kappang 36.43 222 P **P 06 46 10.6 -0.9**
KAPI IAmb IAmb 06 46 28.1
comp=Z,20nm,0.8s
KAPI Kappang 36.43 222 *i*P **P 06 46 08.9 -2.6**
KAPI pmax pmax
comp=Z,37nm,1.3s
KMI Kunming 36.80 281⇑ P **P 06 46 15.3 +0.4**
KMI S **S 06 52 01.5 +4.9**
KMI pmax pmax

comp=Z,19nm,1.0s
KMI LR LR
comp=Z,290nm,16.9s
KMI LR LR
comp=Z,380nm,26.5s
KMI LR LR
comp=Z,630nm,25.9s
COEN Coen 37.24 180 P **P** **06 46 19.2 +0.9**
SHEM Shemya Is, Ala 37.45 31 LR LR 06 59 18.0
comp=Z,604nm,21.8s,baz=242,slow=32
PZH PanZhiHua 37.57 283 P **P** **06 46 21.5 +0.3**
PZH PP **PnPn** **06 47 52.5 +3.9**
PZH S **S** **06 52 11.8 +3.8**
PZH pmax pmax
comp=Z,110nm,0.7s
PZH pmax pmax
comp=Z,180nm,4.9s
PZH LR LR
comp=Z,250nm,18.0s
PZH LR LR
comp=Z,690nm,18.3s
PZH LR LR
comp=Z,1μm,24.5s
ULN Ulaanbaatar 37.58 319 P **P** **06 46 20.2 -0.9**
ULN IAmb IAmb 06 46 21.5
comp=Z,49nm,1.8s
ULN Ulaanbaatar 37.58 319 P **P** **06 46 20.2 -0.9**
ULN pmax pmax
comp=Z,49nm,1.8s
ULN Ulaanbaatar 37.58 319 P **P** **06 46 20.2 -0.9**
ULN pP **pP** **06 46 33.3 +2.2**
NONG Nongkai 37.74 269 P **P** **06 46 23.5 +0.9**
SONM Songino Array 37.96 319 P **P** **06 46 23.7 -0.6**
SONM Songino Array 37.96 319 P **P** **06 46 23.7 -0.6**
SONM pmax pmax
comp=Z,6.0nm,0.7s
SONM Songino Array 37.96 319 P **P** **06 46 22.8 -1.5**
comp=Z,3.6nm,0.6s,baz=128,slow=7.9,SNR=25
SONM ScP **ScP** **06 52 23.0 -0.9**
comp=Z,0.8nm,0.8s,baz=152,slow=3.5,SNR=3.8
SONM LR LR 07 02 26.3
comp=Z,755nm,19.6s,baz=154,slow=37
comp=Z,3.6nm,0.6s
MTN Manton Dam 38.02 199 P **P** **06 46 24.2 -0.6**
MTN IAmb IAmb 06 46 40.7
comp=Z,34nm,0.9s
EDFI Ende, Flores 38.35 216 P **P** **06 46 25.2 -2.6**
comp=Z,45nm,0.9s
YAK Yakutsk 39.59 350 P **P** **06 46 35.0 -2.5**
YAK Yakutsk 39.59 350 *eP* **P** **06 46 37.8 +0.3**
YAK e 06 48 43.4
YAK eS **S** **06 52 38.1 +0.9**
YAK eSSS SSS 06 56 01.3
YAK pmax pmax
comp=Z,33nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.4s
YAK pmax pmax
comp=Z,16nm,0.5s
YAK pmax pmax
comp=N,4.0nm,0.4s
YAK smax smax
comp=E,42nm,1.6s
YAK smax smax
comp=N,9.0nm,0.6s
YAK MLR MLR
comp=Z,925nm,19.0s
YAK MLR MLR
comp=N,543nm,18.0s
YAK MLR MLR
comp=E,196nm,15.0s
YAK Yakutsk 39.59 350 LR LR 07 03 09.8
comp=E,946nm,19.9s,baz=156,slow=36
CRAI Chiangrai 39.77 274 P **P** **06 46 40.0 +0.4**
CRAI IAmb IAmb 06 46 41.5
comp=Z,50nm,1.1s
GTA Gaotai 39.85 304 P **P** **06 46 39.0 -1.2**
GTA pP pP 06 46 47.0 -3.4
GTA sP sP 06 46 51.5 -3.3
GTA pmax pmax
comp=Z,9.0nm,0.9s
GTA LR LR
comp=Z,470nm,17.1s
GTA LR LR
comp=Z,400nm,17.4s
SEY Seymchan 39.88 7*ceP* **P** **06 46 43.6 +3.6**
SEY pmax pmax
comp=Z,15nm,1.7s
BOD Bodaibo 40.18 336 *eP* **P** **06 46 42.3 -0.2**
BOD pmax pmax
comp=Z,21nm,1.4s
PHRA Phrae 40.31 271 P **P** **06 46 44.1 0.0**
NAYO Nakonayok 40.53 265 P **P** **06 46 46.3 +0.3**
TNCH TengChong 40.61 282 *eP* **P** **06 46 47.5 +0.7**
TNCH S **S** **06 52 55.0 +1.0**
TNCH pmax pmax
comp=Z,65nm,0.5s
TNCH pmax pmax
comp=Z,150nm,3.6s
TNCH LR LR
comp=Z,330nm,15.2s
TNCH LR LR
comp=Z,360nm,14.7s
TNCH LR LR
comp=Z,420nm,25.7s
ZAK Zakamensk 40.93 321 *eP* **P** **06 46 47.4 -1.5**
ZAK pmax pmax
comp=Z,9.0nm,1.1s
KNRA Kununurra 41.43 201 P **P** **06 46 52.7 -0.5**
KNRA Kununurra 41.43 201 P **P** **06 46 52.3 -0.9**
CM31 Chiang Mai Arr 41.50 272 IAmb IAmb 06 46 55.3
comp=Z,19nm,0.7s
CMAR Chiang Mai Arr 41.50 272 P **P** **06 46 53.6 -0.3**
CMAR Chiang Mai Arr 41.50 272 P **P** **06 46 53.7 -0.3**
CMAR Chiang Mai Arr 41.50 272 P **P** **06 46 54.4 +0.4**
comp=Z,15nm,0.8s,baz=60,slow=7.9,SNR=67
CMAR LR LR 07 02 34.1
comp=Z,627nm,21.8s,baz=80,slow=34
comp=Z,15nm,0.8s
BLJI Banyuglugur 42.45 226 P **P** **06 46 59.3 -2.3**
comp=Z,98nm,1.0s,comp=Z,4μm
MOY Mondy 42.78 322 *eP* **P** **06 47 03.1 -1.0**
MOY pmax pmax
comp=Z,13nm,1.6s
MND Mandalay 43.29 278 P **P** **06 47 08.3 -0.1**
GOMU GeErMu 43.41 298 P **P** **06 47 10.8 +1.1**
GOMU PcP **PcP** **06 49 02.0 +4.3**
GOMU S **S** **06 53 31.8 -3.6**
GOMU pmax pmax
comp=Z,23nm,1.2s
GOMU LR LR
comp=Z,360nm,17.2s
GOMU LR LR
comp=Z,230nm,17.2s
GOMU LR LR
comp=Z,440nm,18.5s
CTA Charters Tower 43.44 176 LR LR 07 06 43.2
comp=Z,162nm,18.5s,baz=0.0,slow=38
CTAO Charters Tower 43.44 176 P **P** **06 47 10.1 +0.5**
CTAO pP **sP** **06 47 23.5 -0.7**
CTAO sP **pwP** **06 47 29.1 +4.0**
PWJI Pagerwojo 43.86 228 P **P** **06 47 09.9 -3.1**
comp=Z,30nm,0.7s
WB0 Warramunga Arr 43.87 192 IAmb IAmb 06 47 29.7
comp=Z,28nm,0.6s
WR0 Warramunga Arr 44.03 192 IAmb IAmb 06 47 31.9
comp=Z,28nm,1.0s
WRAB Tennant Creek 44.04 192 P **P** **06 47 13.7 -0.7**
WRAB IAmb IAmb 06 47 30.7
comp=Z,41nm,0.7s
WRAB Tennant Creek 44.04 192 *i* P **P** **06 47 13.3 -1.1**
WRAB pmax pmax
comp=Z,37nm,0.6s
WRA Warramunga Arr 44.05 192 P **P** **06 47 13.6 -0.9**
WRA Warramunga Arr 44.05 192 *i* P **P** **06 47 12.6 -1.9**
WRA pmax pmax
comp=Z,6.0nm,0.4s
WRA Warramunga Arr 44.05 192 P **P** **06 47 13.8 -0.6**
comp=Z,5.3nm,0.4s,baz=17,slow=9.0,SNR=137
WRA PcP **PcP** **06 49 00.3 +0.9**
comp=Z,4.1nm,0.6s,baz=4.7,slow=3.6,SNR=6.1
WRA ScP **ScP** **06 52 46.6 -1.4**
comp=Z,4.5nm,1.0s,baz=4.6,slow=4.2,SNR=7.5
comp=Z,5.3nm,0.4s

LEM Lembang 46.01 233 LR LR 07 08 22.9
comp=Z,119nm,18.8s,baz=42,slow=38
NIKH Nikolski High 46.55 38 P **P** **06 47 33.1 -0.8**
baz=250
LSA Lhasa 46.62 289 IAmb IAmb 06 47 38.1
comp=Z,42nm,1.0s
LSA Lhasa 46.62 289 P **P** **06 47 37.0 +1.6**
BILL Bilibino 46.74 12 P **P** **06 47 36.8 +1.6**
BILL IAmb IAmb 06 48 04.9
comp=Z,27nm,1.3s
BILL Bilibino 46.74 12 *eP* **P** **06 47 37.9 +2.7**
BILL Bilibino 46.74 12 P **P** **06 47 37.0 +1.8**
SPIA Saint Paul Isl 47.43 32 P **P** **06 47 41.0 +0.3**
baz=245
P08K Saint George I 47.54 33 P **P** **06 47 41.3 -0.3**
baz=246
AS01 Alice Springs 47.75 191 P **P** **06 47 43.3 -0.3**
AS31 Alice Springs 47.76 192 P **P** **06 47 43.2 -0.5**
ASAR Alice Springs 47.76 192 P **P** **06 47 43.1 -0.5**
comp=Z,2.5nm,0.4s,baz=14,slow=8.7,SNR=43
ASAR ScP **ScP** **06 53 01.9 -1.6**
comp=Z,1.1nm,0.8s,baz=16,slow=4.7,SNR=4.7
ASAR S **S** **06 54 32.3 -5.2**
comp=Z,2.2nm,1.2s,baz=15,slow=18,SNR=4.3
ASAR LR LR 07 06 10.0
comp=Z,251nm,21.2s,baz=10,slow=34
comp=Z,2.5nm,0.4s
TIXI Tiksi 48.85 354 P **P** **06 47 51.2 -0.2**
TIXI IAmb IAmb 06 48 13.9
comp=Z,10nm,0.7s
TIXI Tiksi 48.85 354*ceP* **P** **06 47 52.8 +1.3**
TIXI pmax pmax
comp=Z,14nm,1.3s
TIXI Tiksi 48.85 354 LR LR 07 10 34.8
comp=Z,244nm,19.7s,baz=191,slow=39
WMQ Urumqi 49.45 308 *eP* **P** **06 47 57.3 +0.7**
WMQ pP pP 06 48 08.0 +0.9
WMQ pmax pmax
comp=Z,34nm,1.1s
WMQ pmax pmax
comp=Z,130nm,3.9s
WMQ LR LR
comp=Z,500nm,14.3s
WMQ LR LR
comp=Z,530nm,21.3s
WMQ LR LR
comp=Z,530nm,21.3s
MBWA Marble Bar 49.94 209 P **P** **06 47 59.5 -0.9**
MBWA Marble Bar 49.94 209 P **P** **06 47 58.2 -2.2**
MBWA IAmb IAmb 06 48 17.5
comp=Z,18nm,0.9s
MBWA Marble Bar 49.94 209 P **P** **06 48 00.2 -0.2**
FALS False Pass 50.19 37 P **P** **06 48 02.6 +0.7**
baz=254
PSA00 Pilbara Seismi 50.25 209 P **P** **06 48 02.5 -0.3**
PSA00 Pilbara Seismi 50.25 209 IAmb IAmb 06 48 25.1
comp=Z,18nm,0.9s
WRKA Warakurna 50.38 198 P **P** **06 48 03.4 -0.3**
DZM Mont Dzumac 50.65 152 LR LR 07 07 15.8
comp=Z,675nm,22.0s,baz=3.5,slow=33
M11K Mekoryuk 50.68 30 P **P** **06 48 06.1 +0.7**
baz=246
INKA Innaminka 51.01 183 P **P** **06 48 07.6 -0.8**
S12K Black Hills 51.17 36 P **P** **06 48 09.0 -0.3**
baz=254
ZSN Zaisan 51.79 313 *eP* **P** **06 48 13.5 -0.7**
baz=313
ZSN Zaisan 51.79 313 *eP* **P** **06 48 13.5 -0.7**
SDPT Sand Point 51.95 37 P **P** **06 48 14.5 -0.6**
baz=256
M13K Dall Lake 52.00 30 P **P** **06 48 15.6 +0.2**
baz=249
TNA Tin City 52.27 23 P **P** **06 48 18.0 +0.6**
baz=241
CHNA Chernabura Isl 52.33 38 P **P** **06 48 17.8 -0.1**
baz=257
O14K Tigyukauivet M 52.61 32 P **P** **06 48 20.8 +0.9**
baz=252
N14K Kuskokwak Cree 52.62 31 P **P** **06 48 20.9 +0.9**
baz=251
L14K Kuka Creek 52.63 29 P **P** **06 48 21.5 +1.4**
baz=249
S14K Fog Glacier 52.68 36 P **P** **06 48 21.5 +0.8**
baz=256
M14K Bethel 52.76 30 P **P** **06 48 21.5 +0.5**
baz=250
J14K Nanvaranak Lak 52.77 28 P **P** **06 48 21.3 +0.2**
baz=248
ANM Nome 52.77 25 IAmb IAmb 06 48 40.5
comp=Z,23nm,1.1s
ANM Nome 52.77 25 P **P** **06 48 22.3 +1.2**
baz=244,SNR=6.6
ZAA0 Zalesovo Array 52.80 321 P **P** **06 48 20.6 -0.9**
ZALV Zalesovo Beam 52.80 321 P **P** **06 48 19.9 -1.6**
ZALV Zalesovo Beam 52.80 321 P **P** **06 48 20.8 -0.8**
comp=Z,6.2nm,0.5s,baz=101,slow=7.2,SNR=27
ZALV PcP **PcP** **06 49 31.9 +1.4**
comp=Z,5.3nm,0.7s,baz=104,slow=4.0,SNR=4.1
ZALV LR LR 07 12 39.9
comp=Z,454nm,19.4s,baz=98,slow=38
comp=Z,6.2nm,0.5s
F14K Arctic Creek 52.82 24 P **P** **06 48 22.3 +0.9**
baz=243
AULRC Lightning Ridg 52.84 175 P **P** **06 48 20.6 -1.4**
L15K Ungalak Mounta 53.29 29 P **P** **06 48 26.1 +1.2**
baz=250
O15K Ungalikthiuk R 53.30 33 P **P** **06 48 25.1 +0.1**
baz=254
CHGN Chignik 53.30 36 P **P** **06 48 25.7 +0.6**
baz=257
M15K Kasigluk River 53.33 31 P **P** **06 48 25.9 +0.6**
baz=252
N15K Kwethluk River 53.45 31 P **P** **06 48 27.0 +0.7**
baz=253
G15K Niukluk 53.47 25 P **P** **06 48 26.7 +0.4**
baz=245
K15K Wolf Creek Mou 53.48 29 P **P** **06 48 25.9 -0.4**
baz=250
MK31 Makanchi Array 53.49 312 IAmb IAmb 06 48 28.2
comp=Z,21nm,0.8s
MK31 Makanchi Array 53.49 312 *i* P **P** **06 48 26.7 0.0**
MK31 pmax pmax
comp=Z,17nm,0.6s
MKAR Makanchi Array 53.49 312*ceP* **P** **06 48 26.3 -0.4**
MKAR pmax pmax
comp=Z,25nm,0.7s
MKAR Makanchi Array 53.49 312 P **P** **06 48 26.4 -0.3**
comp=Z,25nm,0.7s,baz=92,slow=8.8,SNR=166
MKAR LR LR 07 13 05.2
comp=Z,331nm,18.9s,baz=98,slow=38
comp=Z,25nm,0.7s
F15K North Star Dit 53.55 24 P **P** **06 48 26.3 -0.5**
baz=244
MAKZ Makanchi 53.70 312 P **P** **06 48 28.2 -0.1**
MAKZ Makanchi 53.70 312 P **P** **06 48 28.2 -0.1**
MAKZ pmax pmax
comp=Z,38nm,1.0s
MAKZ Makanchi 53.70 312 ⇑P **P** **06 48 28.0 -0.3**
LCRK Leigh Creek 53.87 185 P **P** **06 48 29.3 -0.2**
H16K Elim 54.04 26 P **P** **06 48 31.1 +0.7**
baz=248,SNR=6.1
R16K Pilot Point 54.04 35 P **P** **06 48 31.1 +0.6**
baz=257
P16K Nushagak River 54.17 33 P **P** **06 48 31.1 -0.4**
baz=256
N16K Nishlik Lake 54.17 31 P **P** **06 48 31.4 -0.1**
baz=254
L16K Owhat River 54.20 30 P **P** **06 48 32.3 +0.7**
baz=252
J16K Anvik River 54.22 28 P **P** **06 48 32.0 +0.2**
baz=250
M16K Timber Creek 54.24 31 P **P** **06 48 32.2 +0.3**
baz=253
O16K Kokwok River B 54.26 32 P **P** **06 48 32.7 +0.6**
baz=255
G16K Koyuk River 54.28 25 P **P** **06 48 32.5 +0.3**
baz=247
I17K Unalakleet 54.39 27 P **P** **06 48 33.2 +0.3**
baz=250
C16K Lisburne Hills 54.47 21 P **P** **06 48 33.8 +0.4**
baz=242
CHIR Chirikof Islan 54.74 37 P **P** **06 48 35.3 -0.4**
baz=260
Q16K King Salmon 54.76 34 P **P** **06 48 34.4 -1.3**
baz=257
CMSA Cobar Meteorol 54.80 177 P **P** **06 48 35.0 -1.2**
O17K Koliganek Bris 54.80 32 P **P** **06 48 34.7 -1.3**
baz=256
L17K Donlin 54.86 29 P **P** **06 48 35.3 -1.2**
baz=253
J17K VABM Dome 54.91 28 P **P** **06 48 36.6 -0.1**
baz=252
N17K Nushagak Hills 54.94 31 P **P** **06 48 37.1 +0.1**
baz=255
D17K Noatak River 54.97 22 P **P** **06 48 36.9 -0.2**
baz=245,SNR=10.0
G17K Kiwalik Mounta 54.98 25 P **P** **06 48 37.1 -0.2**
baz=249
P17K Kvichak River 54.99 33 P **P** **06 48 36.6 -0.7**
baz=257
K17K Iditarod 55.03 29 P **P** **06 48 37.6 0.0**
baz=253
M17K Holitna River 55.05 30 P **P** **06 48 37.7 -0.2**
baz=254
Q17K Contact Creek 55.07 34 P **P** **06 48 38.3 +0.2**
baz=258
H17K Granite Mounta 55.07 26 P **P** **06 48 38.7 +0.8**
baz=250
STKA Stephens Creek 55.10 182 P **P** **06 48 38.0 -0.5**
STKA Stephens Creek 55.10 182 *i* P **P** **06 48 36.1 -2.4**
STKA Stephens Creek 55.10 182 P **P** **06 48 38.3 -0.2**
comp=Z,12nm,0.7s,baz=350,slow=8.1,SNR=28
STKA LR LR 07 13 07.9
comp=Z,156nm,21.1s,baz=9.2,slow=37
comp=Z,12nm,0.7s
SEM Semipalatinsk 55.10 316 *eP* **P** **06 48 36.8 -1.9**
comp=Z,9.4nm,0.6s,baz=316
SEM Semipalatinsk 55.10 316 *eP* **P** **06 48 36.7 -1.9**
SEM pmax pmax
comp=Z,9.0nm,0.6s
F17K Baldwin Pennin 55.11 24 IAmb IAmb 06 49 09.6
comp=Z,13nm,0.9s
F17K Baldwin Pennin 55.11 24 P **P** **06 48 37.3 -0.8**
baz=247
E17K Hotham Inlet 55.16 23 P **P** **06 48 38.2 -0.3**
baz=246,SNR=7.3
RDOG Red Dog Mine 55.18 22 P **P** **06 48 39.3 +0.6**
baz=245
C17K DeLong Mountai 55.27 21 P **P** **06 48 40.3 +1.0**
baz=244,SNR=11
PDGK Podgornoye 55.39 307 P **P** **06 48 40.3 -0.4**
SHLS Shalkode 55.41 307 *eP* **P** **06 48 37.3 -3.6**
comp=Z,8.9nm,0.6s,baz=307
SHLS Shalkode 55.41 307 *eP* **P** **06 48 37.3 -3.6**
SHLS pmax pmax
comp=Z,9.0nm,0.6s
N18K Kilae Creek 55.60 31 P **P** **06 48 42.4 +0.6**
baz=256
L18K Granite Mounta 55.61 29 P **P** **06 48 42.5 +0.6**
baz=255
P18K Big Mountain, 55.64 33 P **P** **06 48 42.1 0.0**
baz=258
WUS Wushi 55.65 305 P **P** **06 48 43.8 +1.1**
SII Sitkinak Islan 55.66 37 P **P** **06 48 42.9 +0.6**
baz=261
E18K Tukpahlearik C 55.73 23 IAmb IAmb 06 49 08.3
comp=Z,13nm,0.9s
E18K Tukpahlearik C 55.73 23 P **P** **06 48 42.1 -0.5**
baz=247
UZB Uzynbulak 55.73 307 *eP* **P** **06 48 42.3 -1.0**
baz=307
UZB Uzynbulak 55.73 307 *eP* **P** **06 48 42.2 -1.0**
O18K Koktuh Hills 55.74 32 IAmb IAmb 06 49 04.2
comp=Z,26nm,0.8s
O18K Koktuh Hills 55.74 32 P **P** **06 48 43.1 +0.2**
baz=258,SNR=5.1
F18K Selawik 55.77 24 P **P** **06 48 42.7 -0.1**
baz=249,SNR=7.8
H18K Honhosa River 55.77 26 P **P** **06 48 43.0 +0.1**
baz=251
M18K Stony River 55.82 30 P **P** **06 48 42.7 -0.6**
baz=256
G18K Tagagawik 55.90 25 P **P** **06 48 43.2 -0.7**
baz=250
J18K Innoko River 55.94 28 P **P** **06 48 44.7 +0.5**
baz=254
C18K Utukok River 56.01 21 IAmb IAmb 06 49 06.3
comp=Z,35nm,1.6s
C18K Utukok River 56.01 21 P **P** **06 48 45.5 +0.8**
baz=246
TTA Tatalina 56.10 29 IAmb IAmb 06 49 27.9
comp=Z,52nm,2.0s
TTA Tatalina 56.10 29 P **P** **06 48 45.0 -0.5**
baz=255,SNR=5.6
B18K Kokolik River 56.11 20 P **P** **06 48 44.6 -0.7**
baz=245
TDK Taldyqorghan 56.15 309 *eP* **P** **06 48 45.5 -0.6**
comp=Z,13nm,0.6s,baz=310
TDK Taldyqorghan 56.15 309 *eP* **P** **06 48 45.4 -0.6**
TDK pmax pmax
comp=Z,13nm,0.6s
ZHN Zhinishke 56.16 307 *eP* **P** **06 48 45.6 -0.7**
baz=307
ZHN Zhinishke 56.16 307 *eP* **P** **06 48 45.5 -0.7**
KURK Kurchatov 56.16 316 P **P** **06 48 45.2 -0.7**
KURK IAmb IAmb 06 48 46.7
comp=Z,21nm,0.7s
KURK Kurchatov 56.16 316*ceP* **P** **06 48 45.6 -0.4**
KURK pmax pmax
comp=Z,25nm,0.8s
KURK Kurchatov 56.16 316 P **P** **06 48 45.4 -0.5**
SATY Saty 56.19 307 *eP* **P** **06 48 45.3 -1.1**
baz=307
SATY Saty 56.19 307 *eP* **P** **06 48 45.3 -1.1**
KURBB Kurchatov Arra 56.22 316 P **P** **06 48 45.5 -0.8**
KURBB Kurchatov Arra 56.22 316 P **P** **06 48 45.8 -0.6**
comp=Z,23nm,0.7s,baz=92,slow=8.0,SNR=168
KURBB LR LR 07 14 43.8
comp=Z,596nm,18.0s,baz=171,slow=38
comp=Z,23nm,0.7s
OHAK Old Harbor 56.25 36 P **P** **06 48 46.2 -0.2**
baz=261
O19K Port Alsworth 56.25 32 P **P** **06 48 46.1 -0.3**
baz=258
N19K Bonanza Creek 56.30 31 P **P** **06 48 47.5 +0.6**
baz=258
NRIK Noril'sk 56.30 339*ceP* **P** **06 48 47.4 +0.8**
NRIK pmax pmax
comp=Z,73nm,1.0s
NRIK Noril'sk 56.30 339 P **P** **06 48 47.5 +0.9**
comp=Z,43nm,0.8s,baz=114,slow=8.5,SNR=57
NRIK LR LR 07 14 51.7
comp=Z,557nm,18.5s,baz=116,slow=38
comp=Z,43nm,0.8s
L19K White Mountain 56.44 30 IAmb IAmb 06 49 11.1
comp=Z,14nm,1.0s
L19K White Mountain 56.44 30 P **P** **06 48 48.8 +1.0**
baz=256
F19K Shaleruckik Mo 56.55 24 IAmb IAmb 06 49 57.7
comp=Z,25nm,1.9s
F19K Shaleruckik Mo 56.55 24 P **P** **06 48 49.5 +1.1**
baz=251
J19K Poorman 56.55 28 P **P** **06 48 48.8 +0.3**
baz=255
ARXS Arharly 56.57 308 *eP* **P** **06 48 49.2 +0.1**
G19K Purcell Mounta 56.58 25 P **P** **06 48 47.9 -0.8**
baz=252
H19K Roundabout Mou 56.65 26 P **P** **06 48 49.1 -0.1**
baz=253
P19K Oil Pt 56.69 33 P **P** **06 48 49.3 -0.3**
baz=260
A19K Wainwright 56.70 20 P **P** **06 48 49.9 +0.5**
baz=245,SNR=20
KDAK Kodiak Island 56.71 35 P **P** **06 48 49.3 -0.5**
baz=261
KDAK Kodiak Island 56.71 35 LR LR 07 10 08.1
comp=Z,526nm,21.9s,baz=271,slow=33
C19K Lookout Ridge 56.73 21 IAmb IAmb 06 49 06.8
comp=Z,22nm,0.7s
C19K Lookout Ridge 56.73 21 P **P** **06 48 49.6 -0.1**
baz=247
Q20K Shuyak Island 56.94 34 P **P** **06 48 51.2 -0.1**
baz=261
L20K Farewell, AK 56.95 30 P **P** **06 48 50.6 -0.8**
baz=257
E19K Redstone River 56.95 23 IAmb IAmb 06 49 04.4
comp=Z,17nm,1.1s
E19K Redstone River 56.95 23 P **P** **06 48 51.0 -0.3**
baz=251
D19K Kuna River 57.00 22 IAmb IAmb 06 49 32.4
comp=Z,46nm,1.5s
D19K Kuna River 57.00 22 P **P** **06 48 51.0 -0.7**
baz=249,SNR=11
K20K Telida 57.06 29 P **P** **06 48 51.1 -1.1**
baz=256

O20K	Slope Mountain	57.06	33	P		P	06 48 51.2	-1.1
	baz=260							
M20K	Styx River	57.16	30	P		P	06 48 52.0	-1.0
	baz=258							
MDOK	Medeo	57.17	307	eP		P	06 48 52.9	-0.7
	baz=307							
MDOK	Medeo	57.17	307	eP		P	06 48 52.8	-0.7
CHKK	Chushkaly	57.19	308	eP		P	06 48 52.8	-0.6
	baz=308							
CHKK	Chushkaly	57.19	308	eP		P	06 48 52.8	-0.6
J20K	Nowinta River	57.23	28	P		P	06 48 53.5	+0.2
	baz=256							
I20K	Naaghedeneel	57.24	27	P		P	06 48 53.2	-0.2
	baz=255							
TNSS	Tian-Shan	57.25	307	eP		P	06 48 53.4	-1.0
	baz=307							
TNSS	Tian-Shan	57.25	307	eP		P	06 48 53.3	-1.0
H20K	Anotleneega Mo	57.26	26	P		P	06 48 54.0	+0.4
	baz=254,SNR=9.1							
F20K	Avaraart Lake	57.38	24	P		P	06 48 54.9	+0.6
	baz=252							
N20K	Mount Spurr	57.47	31	P		P	06 48 53.7	-1.4
	baz=260							
HOM	Homer	57.48	33	P		P	06 48 54.2	-0.9
	baz=261							
E20K	Nigu River	57.59	23	P		P	06 48 55.0	-0.8
	baz=251							
D20K	Etituk River	57.59	22	P		P	06 48 54.8	-1.0
	baz=251							
PPLA	Purkeypile	57.80	29	P		P	06 48 57.6	+0.1
	baz=258							
ULHL	Ulahol	57.82	306	P		P	06 48 58.8	+0.7
	SNR=23							
B20K	Meade River	57.85	21	P		P	06 48 57.5	-0.1
	baz=249,SNR=35							
CAPN	Captain Cook N	57.90	32	P		P	06 48 57.5	-0.5
	baz=261							
SKT	Skwentna	57.92	30	IAmb		IAmb	06 49 01.9	
	comp=Z,24nm,1.1s							
SKT	Skwentna	57.92	30	P		P	06 48 57.8	-0.5
	baz=260,SNR=5.3							
CHUM	Lake Minchumin	57.94	28	P		P	06 48 58.2	-0.1
	baz=258,SNR=6.0							
BRSE	Bradley Lake S	57.95	33	P		P	06 48 57.5	-1.0
	baz=262							
CAST	Castle Rocks	57.95	29	IAmb		IAmb	06 49 19.6	
	comp=Z,20nm,0.9s							
CAST	Castle Rocks	57.95	29	P		P	06 48 57.4	-1.0
	baz=258,SNR=9.6							
NRN	Naryn	58.05	305	IAmb		IAmb	06 49 02.0	
	comp=Z,9.4nm,0.6s							
G21K	Allakaket	58.08	25	P		P	06 48 59.1	-0.1
	baz=255							
H21K	Melozitna Rive	58.14	26	P		P	06 48 59.8	+0.1
	baz=256,SNR=8.1							
SUA	Susitna One	58.20	31	P		P	06 49 00.8	+0.4
	baz=261							
KSH	Kashi	58.24	303	P		P	06 49 04.3	+3.3
KSH				pP		pP	06 49 13.0	+1.4
KSH				pmax		pmax		
	comp=Z,33nm,0.8s							
KSH				LR		LR		
	comp=Z,490nm,19.2s							
KSH				LR		LR		
	comp=Z,690nm,17.5s							
KSH				LR		LR		
	comp=Z,500nm,16.7s							
TKM2	Tokmak 2	58.25	307	P		P	06 49 01.5	+0.4
	SNR=40							
TKM2	Tokmak 2	58.25	307	*i* P		P	06 49 01.5	+0.4
TKM2				pmax		pmax		
	comp=Z,16nm,0.7s							
F21K	Alatna River	58.27	24	P		P	06 48 59.1	-1.5
	baz=255							
C21K	Knifeblade Rid	58.36	22	P		P	06 49 00.6	-0.5
	baz=252							
I21K	Tanana	58.37	27	P		P	06 49 01.5	+0.2
	baz=257							
MORW	Morawa	58.45	208	P		P	06 49 02.0	-0.3
MORW				IAmb		IAmb	06 49 19.5	
	comp=Z,24nm,0.9s							
A21K	Barrow	58.49	19	P		P	06 49 03.4	+1.4
	baz=249,SNR=10							
M22K	Willow	58.55	31	P		P	06 49 01.8	-0.7
	baz=261							
O22K	Cooper Landing	58.55	32	P		P	06 49 02.5	-0.1
	baz=262							
B21K	Ikpikpuk River	58.56	21	P		P	06 49 03.6	+1.1
	baz=252							
BPAW	Bear Paw Mtn.	58.56	28	IAmb		IAmb	06 49 23.3	
	comp=Z,18nm,0.9s							
BPAW	Bear Paw Mtn.	58.56	28	P		P	06 49 03.2	+0.5
	baz=259,SNR=8.6							
CUT	Chulitna	58.58	30	P		P	06 49 03.2	+0.4
	baz=261							
RC01	Rabbit Creek A	58.63	32	P		P	06 49 03.6	+0.4
	baz=262							
SEW	Seward	58.64	33	P		P	06 49 02.8	-0.4
	baz=263							
KBK	Karagaybulak	58.74	307	P		P	06 49 05.3	+0.8
	SNR=9.8							
TRF	Thorofare Moun	58.75	29	P		P	06 49 04.5	+0.3
	baz=260,SNR=6.2							
H22K	Ishtalitna Cre	58.77	26	P		P	06 49 05.2	+1.1
	baz=258							
F22K	John River	58.83	24	P		P	06 49 04.9	+0.4
	baz=256							
MLY	Manley	58.85	27	IAmb		IAmb	06 49 09.4	
	comp=Z,26nm,1.4s							
MLY	Manley	58.85	27	P		P	06 49 04.1	-0.6
	baz=259,SNR=6.8							
CHMS	Chumysh	58.86	307	P		P	06 49 06.3	+1.1
	SNR=6.3							
A22K	Sinclair Lake	58.88	20	P		P	06 49 04.5	-0.2
	baz=251							
PMR	Palmer	58.99	31	P		P	06 49 06.0	+0.4
PMR	Palmer	58.99	31	P		P	06 49 06.6	+1.0
	baz=262,SNR=5.2							
PMR	Palmer	58.99	31	P		P	06 49 06.1	+0.4
PMR				pmax		pmax		
	comp=Z,41nm,1.3s							
D22K	Ayikyak River	59.00	22	P		P	06 49 06.0	+0.3
	baz=254							
USP	Ospenovka	59.03	307	P		P	06 49 07.2	+0.9
	SNR=11							
AAK	Ala-Archa	59.08	307	P		P	06 49 07.9	+1.0
	SNR=14							
AAK	Ala-Archa	59.08	307	P		P	06 49 06.9	0.0
AAK				IAmb		IAmb	06 49 08.8	
	comp=Z,22nm,1.2s							
AAK	Ala-Archa	59.08	307	*ce* P		P	06 49 07.8	+1.0
AAK				pmax		pmax		
	comp=Z,26nm,1.7s							
AAK	Ala-Archa	59.08	307	LR		LR	07 17 00.1	
	comp=Z,444nm,18.5s,baz=88,slow=38							
AAK	Ala-Archa	59.08	307	P		P	06 49 07.3	+0.5
UCH	Uchtor	59.10	306	P		P	06 49 09.2	+1.8
	SNR=38							
B22K	Teshekpuk Lake	59.17	21	IAmb		IAmb	06 49 11.4	
	comp=Z,25nm,0.9s							
B22K	Teshekpuk Lake	59.17	21	P		P	06 49 06.8	+0.1
	baz=253							
BTLS	Baital	59.24	310	eP		P	06 49 07.2	-0.6
	comp=Z,11nm,0.6s,baz=310							
BTLS	Baital	59.24	310	eP		P	06 49 07.1	-0.6
BTLS				pmax		pmax		
	comp=Z,11nm,0.6s							
KNK	Knik Glacier	59.29	31	P		P	06 49 07.5	-0.3
	baz=263							
RND	Reindeer	59.38	29	P		P	06 49 09.1	+0.7
RND				IAmb		IAmb	06 49 28.9	
	comp=Z,15nm,0.8s							
RND	Reindeer	59.38	29	P		P	06 49 09.1	+0.7
RND				pmax		pmax		
	comp=Z,15nm,0.8s							
MCK	McKinley	59.39	29	P		P	06 49 08.7	+0.2
	baz=261,SNR=7.4							
SML	Sawmill	59.40	31	P		P	06 49 09.2	+0.6
	baz=263,SNR=7.1							
WAT1	Susitna Watana	59.43	30	P		P	06 49 08.6	-0.1
	baz=262							
I23K	Minto, Yukon-K	59.44	27	IAmb		IAmb	06 49 29.4	
	comp=Z,11nm,0.8s							
I23K	Minto, Yukon-K	59.44	27	P		P	06 49 08.6	-0.1
	baz=260							
NEA2	Nenana	59.47	28	P		P	06 49 09.5	+0.5
	baz=260							
G23K	Bananza Creek	59.47	25	P		P	06 49 09.5	+0.5
	baz=258							
H23K	Yukon River	59.49	26	P		P	06 49 09.3	+0.1
	baz=259,SNR=6.9							
COLD	Coldfoot	59.51	24	P		P	06 49 09.4	+0.2
	baz=258,SNR=5.4							
EKS2	Erkin-Say	59.60	307	P		P	06 49 11.4	+1.0
	SNR=11							
M23K	Glacier View	59.68	31	P		P	06 49 10.9	+0.4
	baz=263							
D23K	Nanushuk River	59.73	22	P		P	06 49 11.3	+0.7
	baz=256,SNR=13							
WAT6	Susitna Watana	59.77	30	P		P	06 49 11.6	+0.4
	baz=263,SNR=7.5							
WRH	Wood River Hil	59.87	28	IAmb		IAmb	06 49 32.0	
	comp=Z,16nm,1.1s							
SCM	Sheep Creek Mo	59.87	31	P		P	06 49 13.4	+1.5
SCM	Sheep Creek Mo	59.87	31	P		P	06 49 12.5	+0.7
	baz=264,SNR=5.3							
SCM	Sheep Creek Mo	59.87	31	P		P	06 49 13.4	+1.5
SCM				pmax		pmax		
	comp=Z,34nm,1.0s							
MDM	Murphy Dome	59.89	27	IAmb		IAmb	06 49 40.4	
	comp=Z,48nm,1.8s							
E23K	Chandalar	59.91	24	P		P	06 49 12.6	+0.6
	baz=258							
C23K	Itkillik River	59.96	21	P		P	06 49 12.8	+0.6
	baz=256,SNR=30							
ARPS	Mount Arapiles	59.98	181	P		P	06 49 11.5	-1.2
DHY	Denali Highway	59.99	29	P		P	06 49 12.9	+0.2
	baz=263							
CCB	Clear Creek Bu	60.02	28	IAmb		IAmb	06 49 32.3	
	comp=Z,46nm,1.9s							
COLA	College	60.03	27	*i* P		P	06 49 15.7	+2.9
COLA				pmax		pmax		
	comp=Z,8.0nm,0.8s							
TOLK	Toolik Lake Re	60.05	23	IAmb		IAmb	06 49 35.6	
	comp=Z,21nm,1.2s							
TOLK	Toolik Lake Rc	60.05	23	P		P	06 49 14.1	+1.2
	baz=258,SNR=7.0							
Q23K	Middleton Isla	60.13	34	P		P	06 49 14.3	+0.7
	baz=266							
H24K	Noodor Dome	60.17	26	P		P	06 49 15.0	+1.2
	baz=261							
OTUK	Ortayu	60.24	313	P		P	06 49 14.9	+0.3
POKR	Poker Plat Res	60.24	27	IAmb		IAmb	06 49 34.7	
	comp=Z,17nm,1.2s							
POKR	Poke Plat Res	60.24	27	P		P	06 49 15.2	+0.9
	baz=262							
ARSB	Arslanbob	60.33	305	IAmb		IAmb	06 49 17.7	
	comp=Z,13nm,0.8s							
HDA	Harding Lake	60.35	28	P		P	06 49 16.9	+1.8
	baz=263							
D24K	Happy Valley	60.42	22	P		P	06 49 16.5	+1.1
	baz=258							
IL31		60.43	28	IAmb		IAmb	06 49 36.6	
	comp=Z,14nm,0.9s							
ILAR	Eielson Array	60.43	28	P		P	06 49 16.4	+0.9
ILAR	Eielson Array	60.43	28	P		P	06 49 17.0	+1.5
	comp=Z,8.2nm,0.9s,baz=259,slow=5.2,SNR=60							
ILAR				LR		LR	07 12 23.7	
	comp=Z,177nm,21.6s,baz=248,slow=33 comp=Z,8.2nm,0.9s							
HYB	Hyderabad	60.44	277	eP		P	06 49 16.9	+0.5
M24K	Tolsona, Glenn	60.44	31	P		P	06 49 17.4	+1.6
	baz=265							
F24K	Squaw Lake	60.45	24	P		P	06 49 17.9	+2.2
	baz=260							
G24K	Hadweenzic Riv	60.47	25	IAmb		IAmb	06 49 30.4	
	comp=Z,15nm,1.1s							
G24K	Hadweenzic Riv	60.47	25	P		P	06 49 17.9	+2.1
	baz=261							
KLU	Klutina	60.51	31	P		P	06 49 18.2	+2.0
	baz=265							
EYAK	Cordova Ski Ar	60.52	32	P		P	06 49 16.9	+0.8
	baz=266							
C24K	Franklin Bluff	60.58	22	P		P	06 49 18.0	+1.5
	baz=258							
K24K	Donnelly Dome	60.79	29	P		P	06 49 19.2	+1.1
	baz=264							
PAX	Paxson	60.85	30	P		P	06 49 19.5	+1.0
	baz=265							
HARP	HAARP	60.94	30	P		P	06 49 21.0	+1.9
	baz=265							
G25K	Beaman Lake	61.02	25	P		P	06 49 22.0	+2.5
	baz=262							
J25K	Salcha River,	61.05	28	P		P	06 49 21.4	+1.5
	baz=264,SNR=5.7							
H25L	Birch Creek	61.06	26	P		P	06 49 21.8	+2.0
	baz=263,SNR=6.2							
PRP	Porcupine Dome	61.09	27	P		P	06 49 21.9	+1.7
	baz=263							
BMRM	Bremner River	61.10	32	P		P	06 49 22.0	+1.7
	baz=267							
KAIM	Kayak Island	61.14	33	P		P	06 49 22.4	+2.0
	baz=267							
N25K	Chitina, Valde	61.15	31	P		P	06 49 22.7	+2.1
	baz=266							
RIDG	Independent Ri	61.20	29	P		P	06 49 22.7	+1.8
RIDG				IAmb		IAmb	06 49 42.2	
	comp=Z,21nm,0.9s							
RIDG	Independent Ri	61.20	29	P		P	06 49 23.0	+2.1
	baz=265,SNR=5.8							
NIL	Nilore	61.22	297	P		P	06 49 22.3	+0.8
NIL	Nilore	61.22	297	P		P	06 49 22.3	+0.8
NIL				pmax		pmax		
	comp=Z,71nm,0.8s							
NIL	Nilore	61.22	297	P		P	06 49 22.6	+1.1
BVA0	Borovoye Array	61.31	319	P		P	06 49 21.3	-0.4
BVAR	Borovoye Array	61.31	319	P		P	06 49 21.8	+0.1
	comp=Z,37nm,0.7s,baz=89,slow=7.7,SNR=134							
BVAR				LR		LR	07 17 26.8	
	comp=Z,470nm,19.7s,baz=86,slow=38 comp=Z,37nm,0.7s							
D25K	Kavik River	61.31	22	P		P	06 49 23.8	+2.3
	baz=260							
F25K	Christian Rive	61.31	24	P		P	06 49 24.0	+2.5
	baz=262							
FYU	Fort Yukon	61.34	26	IAmb		IAmb	06 49 47.3	
	comp=Z,21nm,1.0s							
BRVK	Borovoye	61.37	319	P		P	06 49 22.4	+0.3
BRVK	Borovoye	61.37	319	*i* P		P	06 49 21.7	-0.4
BRVK				pmax		pmax		
	comp=Z,48nm,1.0s							
BRVK	Borovoye	61.37	319	P		P	06 49 22.3	+0.3
DZA	Taraz	61.38	307	eP		P	06 49 21.7	-0.7
	comp=Z,9.9nm,0.7s,baz=307							
DZA	Taraz	61.38	307	eP		P	06 49 21.7	-0.7
DZA				pmax		pmax		
	comp=Z,10.0nm,0.7s							
E25K	Arctic Village	61.41	24	IAmb		IAmb	06 49 42.3	
	comp=Z,19nm,1.1s							
E25K	Arctic Village	61.41	24	P		P	06 49 24.5	+2.3
	baz=262,SNR=13							
SCRK	Sand Creek	61.60	29	P		P	06 49 24.9	+1.3
SCRK	Sand Creek	61.60	29	P		P	06 49 24.7	+1.1
	baz=266,SNR=13							
BMAR	Burnt Mountain	61.69	25	P		P	06 49 27.3	+3.2
BMAR						pP	06 49 34.6	-0.1
BGLC	Bering Glacier	61.72	33	P		P	06 49 25.1	+0.8
	baz=268							
L26K	Log Cabin Wild	61.82	30	P		P	06 49 26.9	+1.9
	baz=267							
J26L	Joseph Creek	61.82	28	IAmb		IAmb	06 49 46.2	
	comp=Z,19nm,0.8s							
J26L	Joseph Creek	61.82	28	P		P	06 49 26.3	+1.3
	baz=266,SNR=17							
CRQE	Cirque	61.83	32	P		P	06 49 25.3	0.0
	baz=268							
MCARA	McCarthy VSAT	61.89	32	P		P	06 49 27.3	+1.8
	baz=268							
F26K	Sheenjek River	61.89	24	P		P	06 49 27.5	+2.1
	baz=263							
C26K	Camden Bay	61.91	22	P		P	06 49 28.0	+2.5
	baz=262							
PALK	Pallekele	61.93	266	LR		LR	07 16 31.8	
	comp=Z,197nm,19.4s,baz=166,slow=36							
M26K	Nabesna, AK	61.95	30	P		P	06 49 27.6	+1.7
	baz=267							
KK31	Karatay Array	61.95	308	*i* P		P	06 49 26.8	+0.6
G26K	Porcupine Rive	61.95	25	P		P	06 49 28.1	+2.4
	baz=264							
I26K	Coal Creek Min	62.06	27	P		P	06 49 28.6	+2.1
	baz=266							
MESA	MESA	62.39	33	P		P	06 49 30.5	+1.4
	baz=269							
IUG	luzhnay	62.42	307	eP		P	06 49 29.0	-0.6
	comp=Z,13nm,0.7s,baz=307							
IUG	luzhnay	62.42	307	eP		P	06 49 28.9	-0.6
IUG				pmax		pmax		
	comp=Z,13nm,0.7s							
K27K	Chicken	62.44	29	P		P	06 49 30.9	+1.8
	baz=267							
BRLS	Boroldaу	62.45	308	eP		P	06 49 30.2	+0.6
	baz=307							
BRLS	Boroldaу	62.45	308	eP		P	06 49 30.1	+0.6
M27K	Edge Creek, AK	62.47	31	P		P	06 49 31.0	+1.5
	baz=268							
L27K	Beaver Creek,	62.51	30	P		P	06 49 31.1	+1.4
	baz=268							
BCAR	Beaver Creek A	62.53	30	P		P	06 49 31.2	+1.3
BARN	Barnard Glacie	62.54	32	P		P	06 49 32.6	+2.5
BARN				IAmb		IAmb	06 49 48.0	
	comp=Z,40nm,1.6s							
CTG	Chitna Glacier	62.70	32	P		P	06 49 32.0	+0.9
	baz=270							
I27K	Kandik River	62.72	27	P		P	06 49 32.7	+1.6
	baz=267							
G27K	Doyon Strip	62.78	26	P		P	06 49 33.3	+1.9
	baz=266							
H27K	Steamboat Moun	62.79	26	P		P	06 49 33.4	+1.9
	baz=267,SNR=15							
EGAK	Eagle	62.87	28	P		P	06 49 32.2	+0.2
	baz=268							
E27K	Coleen River	62.90	24	P		P	06 49 33.1	+0.9
	baz=266,SNR=5.5							
BVCY	Beaver Creek	62.94	30	P		P	06 49 33.1	+0.6
	baz=269							
YUK3	Moose Creek	63.12	31	P		P	06 49 34.6	+0.6
	baz=270							
D27M	Malcolm River	63.21	23	P		P	06 49 35.8	+1.6
	baz=266							
O28M	Mount Upton	63.26	32	P		P	06 49 36.3	+1.3
	baz=271							
I28M	Miner Creek	63.41	27	P		P	06 49 37.3	+1.6
	baz=268							
F28M	Old Crow	63.51	25	IAmb		IAmb	06 49 58.1	
	comp=Z,45nm,1.6s							
F28M	Old Crow	63.51	25	P		P	06 49 38.1	+1.8
	baz=268,SNR=8.8							
DAWY	Dawson	63.62	29	P		P	06 49 39.1	+2.1
	baz=270							
PNL	Peninsula	63.68	34	P		P	06 49 39.4	+1.9
	baz=272							
E28M	Babbage River	63.69	24	IAmb		IAmb	06 49 58.8	
	comp=Z,22nm,1.0s							
E28M	Babbage River	63.69	24	P		P	06 49 39.3	+2.0
	baz=267							
SIMJ	Simiganj	63.72	303	P		P	06 49 39.0	+0.7
SIMJ	Simiganj	63.72	303	P		P	06 49 38.9	+0.6
YUK4	Talbot Arm	64.00	32	P		P	06 49 42.0	+2.3
	baz=272							
D28M	Stokes Point	64.01	23	P		P	06 49 41.3	+1.9
	baz=268							
M29M	Somme Creek	64.06	30	P		P	06 49 41.9	+1.9
	baz=271							
H29M	Whitestone	64.07	26	P		P	06 49 41.8	+1.9
	baz=270							
J29N	Klondike Camp	64.14	28	IAmb		IAmb	06 50 09.2	
	comp=Z,11nm,0.7s							
J29N	Klondike Camp	64.14	28	P		P	06 49 42.2	+1.8
	baz=271,SNR=5.1							
YUK6	Outpost Mounta	64.15	32	P		P	06 49 40.6	-0.1
	baz=272							
L29M	L29M	64.19	30	P		P	06 49 42.2	+1.4
	baz=271							
G29M	Pine Creek	64.21	25	P		P	06 49 41.7	+0.9
	baz=270							
E29M	Blow River	64.28	24	P		P	06 49 42.6	+1.4
	baz=269							
K29M	Barlow Dome	64.45	29	P		P	06 49 43.9	+1.3
	baz=272							
KBL	Kabul	64.47	298	P		P	06 49 43.8	+0.4
KBL	Kabul	64.47	298	P		P	06 49 43.8	+0.4
KBL				pmax		pmax		
	comp=Z,106nm,0.8s							
P29M	Windy Craggy	64.52	34	P		P	06 49 44.1	+1.1
	baz=273							
HYT	Haines Junctio	64.57	32	P		P	06 49 43.9	+0.4
	baz=273							
EPYK	Eagle Plains	64.74	26	P		P	06 49 46.2	+1.9
	baz=271,SNR=9.7							
N30M	Aishikik Lake	64.74	32	P		P	06 49 45.4	+1.0
	baz=273							
M30M	Minto, Yukon	64.83	30	IAmb		IAmb	06 49 55.8	
	comp=Z,32nm,1.6s							
M30M	Minto, Yukon	64.83	30	P		P	06 49 45.4	+0.5
	baz=273							
P30M	Million Dollar	64.88	33	P		P	06 49 47.0	+1.7
	baz=274							
I30M	Mount Dempster	64.91	27	P		P	06 49 46.1	+0.6
	baz=272							
G30M	tAoh Zraii Nji	64.92	25	P		P	06 49 46.9	+1.4
	baz=271							
J30M	Hart River	64.95	28	P		P	06 49 46.5	+0.7
	baz=272							
F30M	Barrier River	65.08	25	P		P	06 49 47.9	+1.5
	baz=271							
MAYO	Mayo, Yukon	65.18	29	P		P	06 49 48.4	+1.2
	baz=273							
PLBC	Pleasant Camp	65.23	34	P		P	06 49 47.8	+0.3
	baz=275							
O30N	Mendenhall	65.27	32	P		P	06 49 48.4	+0.5
	baz=274							
S31K	Pelican	65.43	35	P		P	06 49 49.2	+0.4
	baz=275							
R31K	City Hall, Gus	65.65	35	P		P	06 49 51.2	+1.0
	baz=276							
G31M	Satah River	65.69	25	IAmb		IAmb	06 50 10.7	
	comp=Z,22nm,0.8s							
G31M	Satah River	65.69	25	P		P	06 49 51.1	+0.7
	baz=273,SNR=12							
H31M	Peel River	65.72	27	P		P	06 49 51.5	+0.9
	baz=273							
SKAG	Skagway	65.76	34	P		P	06 49 50.2	-0.7
	baz=275							
F31M	Tsiigehtchic	65.87	25	P		P	06 49 51.8	+0.3
	baz=273							
WHY	Whitehorse	65.87	32	P		P	06 49 51.3	-0.5
	baz=275							
INK	Inuvik	65.91	24	P		P	06 49 51.3	-0.4
INK	Inuvik	65.91	24	P		P	06 49 52.2	+0.5
	baz=273,SNR=10							
INK	Inuvik	65.91	24	P		P	06 49 51.3	-0.4
INK				pmax		pmax		
	comp=Z,9.0nm,1.0s							
M31M	Drury Creek, Y	65.97	31	P		P	06 49 52.1	-0.2
	baz=275							
SIT	Sitka	66.01	36	P		P	06 49 52.8	+0.3
	baz=276							
R32K	Eaglecrest	66.30	35	P		P	06 49 54.1	-0.4
	baz=277							
S32K	Killisnoo	66.36	36	P		P	06 49 54.9	0.0
	baz=277							
FARO	Faro, Yukon	66.45	31	P		P	06 49 55.4	0.0
	baz=276							
P32M	Atlin	66.56	33	P		P	06 49 56.3	+0.1
	baz=277							
SVE	Sverdlovsk	66.62	324	*di* P		P	06 49 57.2	+0.7
SVE				pmax		pmax		
	comp=Z,103nm,0.9s							
N32M	Quiet Lake	66.69	32	P		P	06 49 56.8	-0.2
	baz=277							
P33M	Teslin, Yukon	66.94	33	P		P	06 49 58.6	0.0
	baz=277							
T33K	Petersburg	67.33	36	P		P	06 50 00.7	-0.3
	baz=278							
U33K	Whale Pass	67.34	37	P		P	06 50 01.4	+0.4
	baz=279							
Q32M	Nakina River	67.38	34	P		P	06 50 01.0	-0.6
	baz=278							
CRAG	Craig	67.44	38	P		P	06 50 01.1	-0.6
	baz=279							
WRAK	Wrangell Islan	67.72	37	P		P	06 50 03.0	-0.5
	baz=279							
ARU	Arti	67.81	323	P		P	06 50 04.5	+0.4
ARU	Arti	67.81

ARU LR LR 07 22 52.9
comp=Z,357nm,18.9s,baz=125,slow=39
ARU Arti 67.81 323 ⇑P P 06 50 04.3 +0.2
R33M Jennings River 67.98 33 P P 06 50 04.8 -0.4
baz=279
S34M Telegraph Cree 68.13 35 P P 06 50 06.4 +0.3
baz=280
AB31 Akbulak array 68.26 316 *i* **P P 06 50 06.4 -0.6**
ABKAR Akbulak array 68.26 316 P P 06 50 07.1 +0.1
ABKAR Akbulak array 68.26 316 IAmb IAmb 06 50 08.1
comp=Z,51nm,0.8s
V35K Ketchikan 68.31 38 P P 06 50 07.3 +0.1
baz=280
A36M Sachs Harbour 68.33 20 IAmb IAmb 06 50 31.8
comp=Z,16nm,0.9s
A36M Sachs Harbour 68.33 20 P P 06 50 07.4 +0.3
baz=279,SNR=15
DLBC Dease Lake 68.62 34 P P 06 50 09.6 +0.3
baz=280
DLBC Dease Lake 68.62 34 LR LR 07 16 46.7
comp=Z,125nm,21.6s,baz=282,slow=33
T35M Bob Quinn 68.77 36 P P 06 50 09.8 -0.3
baz=281
TGTN Hyland Airport 68.93 31 P P 06 50 10.8 -0.3
baz=280,SNR=8.5
WTLY Watson Lake, Y 68.94 32 P P 06 50 11.5 +0.4
baz=281
C36M Paulatuk 69.18 22 IAmb IAmb 06 50 32.1
comp=Z,15nm,0.9s
C36M Paulatuk 69.18 22 P P 06 50 13.4 +1.1
baz=281,SNR=7.5
URZ Urewera 69.21 152 LR LR 07 20 12.4
comp=Z,126nm,18.6s,baz=116,slow=36
AKTO Aktyubinsk 69.24 317 P P 06 50 12.9 -0.3
comp=Z,17nm,0.8s,baz=88,slow=6.2,SNR=59
AKTO LR LR 07 22 53.4
comp=Z,482nm,18.8s,baz=72,slow=38
comp=Z,17nm,0.8s
RTZ Ruatahuna 69.45 152 P P 06 50 14.5 0.0
HRA Herat 69.97 300 IAmb IAmb 06 50 20.2
comp=Z,30nm,0.8s
WRGLY Wrigley 70.76 29 P P 06 50 23.9 +1.8
baz=284,SNR=5.6
TOAD Toad River Com 70.98 33 P P 06 50 25.1 +1.4
baz=284
BBB Bella Bella 71.00 41 LR LR 07 17 32.8
comp=Z,100nm,19.8s,baz=292,slow=32
RAR Rarotonga 71.14 124 LR LR 07 13 04.8
comp=Z,522nm,20.7s,baz=298,slow=28
KOTAN Kotaneelee Air 71.25 32 P P 06 50 26.1 +0.9
baz=284
FLDN Fort Liard 71.50 32 P P 06 50 27.5 +0.8
baz=285
KIRV Kirov 72.16 327 *ce* **P P 06 50 31.5 +0.8**
KIRV Kirov 72.16 327 P P 06 50 31.8 +1.1
comp=Z,68nm,0.7s,baz=82,slow=2.9,SNR=26
KIRV LR LR 07 25 14.4
comp=Z,651nm,19.4s,baz=67,slow=38
comp=Z,68nm,0.7s
GEYT Alibeck 72.23 304 P P 06 50 32.7 +1.1
GEYT Alibeck 72.23 304 P P 06 50 32.7 +1.1
GEYT pmax pmax
comp=Z,83nm,1.0s
GEYT Alibeck 72.23 304 P P 06 50 32.6 +1.1
comp=Z,44nm,0.8s,baz=72,slow=4.8,SNR=82
GEYT LR LR 07 27 06.7
comp=Z,329nm,18.1s,baz=99,slow=40
comp=Z,44nm,0.8s
HOPEN Hopen 73.51 348 *e* **P P 06 50 40.4 +2.0**
HOPEN IAmb IAmb 06 50 40.9
comp=Z,30nm,0.7s
SPA0 Spitsbergen Ar 74.05 350 *e* **P P 06 50 43.3 +1.6**
SPA0 IAmb IAmb 06 50 45.4
comp=Z,32nm,1.1s
SPITS Spitsbergen Ar 74.05 350 P P 06 50 43.2 +1.6
comp=Z,5.7nm,0.7s,baz=93,slow=6.7,SNR=16
SPITS LR LR 07 25 26.8
comp=Z,230nm,18.8s,baz=8.5,slow=38
comp=Z,5.7nm,0.7s
KBS Kingsbay 74.20 351 *e* **P P 06 50 44.0 +1.6**
KBS IAmb IAmb 06 50 44.9
comp=Z,26nm,0.9s
NOR Nord 74.59 357 *i* **P P 06 50 43.5 -1.2**
NOR IAmb IAmb 06 50 49.0
comp=Z,2.2nm,0.6s
YKA Yellowknife Ar 74.85 28 P P 06 50 48.4 +2.0
YKA Yellowknife Ar 74.85 28 P P 06 50 48.3 +1.8
comp=Z,3.4nm,0.7s,baz=295,slow=5.9,SNR=46
YKA LR LR 07 23 17.3
comp=Z,264nm,20.8s,baz=294,slow=35
comp=Z,3.4nm,0.7s
HSPB Hornsund (broa 74.96 349 *e* **P P 06 50 48.6 +1.7**
BELG Belogornoye 74.99 321 *c i* **P P 06 50 47.9 +0.5**
BELG pmax pmax
comp=Z,14nm,1.0s
BELG Belogornoye 74.99 321 P P 06 50 47.8 +0.3
comp=Z,61nm,0.9s,baz=108,slow=0.3,SNR=26
BELG LR LR 07 26 54.5
comp=Z,282nm,18.3s,baz=132,slow=38
comp=Z,61nm,0.9s
RES Resolute Bay 75.31 13 LR LR 07 28 48.7
comp=Z,64nm,19.2s,baz=2.5,slow=40
APA Apatity 75.69 338 ⇓ *i* **P P 06 50 53.3 +2.1**
APA *i* 06 51 04.9
APA *i* 06 51 04.9
APA pmax pmax
comp=Z,12nm,1.1s
VADS Vadso 75.76 341 *e* **P P 06 50 52.8 +1.3**
VADS IAmb IAmb 06 50 58.7
comp=Z,196nm,1.8s
BJO1 Bjornoya 75.91 347 *e* **P P 06 50 52.3 0.0**
KLMR Klimovskoe 76.13 331 *e* **P P 06 50 52.8 -1.0**
KLMR pmax pmax
comp=Z,47nm,2.1s
KLMR MLR MLR
comp=Z,567nm,18.0s
WSAR Wadi Sarin 76.37 290 LR LR 07 29 55.9
comp=Z,49nm,18.4s,baz=80,slow=40
H04A Detroit Lake 76.98 47 IAmb IAmb 06 51 29.8
comp=Z,18nm,1.1s
HAMF Hammerfest 77.10 343 *e* **P P 06 50 59.6 +0.5**
ARA0 ARCESS Array S 77.21 341 *e* **P P 06 51 00.3 +0.5**
ARCES ARCESS Array B 77.21 341 P P 06 51 01.2 +1.4
comp=Z,5.5nm,0.5s,baz=71,slow=8.2,SNR=29
ARCES LR LR 07 29 33.4
comp=Z,310nm,19.8s,baz=76,slow=39
comp=Z,5.5nm,0.5s
PPT Papeete 77.30 116 LR LR 07 19 06.4
comp=Z,144nm,18.7s,baz=308,slow=31
PPT2 Papeete2 77.31 116 *e* **P P 06 51 02.1 +0.9**
comp=Z,24nm,22.5s
PPT2 *e* **S S 07 00 50.5 +1.8**
comp=Z,200nm,40.5s
PPT2 Papeete2 77.31 116 *e* LR LR 07 14 29.2
comp=Z,402nm,24.2s
PPT2 *e* LR LR 07 14 39.3
comp=Z,460nm,36.0s
J05D Fort Rock, OR 78.11 48 IAmb IAmb 06 51 35.1
comp=Z,51nm,1.7s
PINE Pine Mountain 78.13 47 IAmb IAmb 06 51 24.9
comp=Z,16nm,0.8s
KTK1 Kautokeino 78.17 341 *e* **P P 06 51 06.1 +0.9**
KTK1 IAmb IAmb 06 51 07.9
comp=Z,15nm,0.9s
MAK Makhachkala 78.31 312 *e* **P P 06 51 03.9 -2.5**
MAK *e* **S S 07 00 56.1 -2.6**
MAK pmax pmax
comp=Z,48nm,0.4s
MAK MLR MLR
comp=Z,351nm,13.0s
K05A Summer Lake 78.55 48 IAmb IAmb 06 51 36.9
comp=Z,42nm,1.5s
JETT Jettan, Norway 78.65 342 *e* **P P 06 51 09.1 +1.3**
VRH Novokhopyorsk 78.84 321 *e* **P P 06 51 07.8 -1.3**
VRH pmax pmax
comp=Z,10.0nm,0.6s
NEEM North Greenlan 78.90 3 *i* **P P 06 51 09.6 +0.2**
NEEM IAmb IAmb 06 51 29.6
comp=Z,26nm,0.9s
NEW Newport 78.93 42 P P 06 51 10.3 +0.5
baz=293
NEW Newport 78.93 42 LR LR 07 19 33.9
comp=Z,156nm,21.9s,baz=292,slow=31
TRO Tromso 79.00 343 *e* **P P 06 51 10.3 +0.6**
TRO IAmb IAmb 06 51 12.1
comp=Z,44nm,1.1s
MOS Moscow 79.17 326 *e* **P** P 06 51 26.5 +16
MOS MLR MLR
comp=Z,500nm,18.0s
DAG Danmarks Havn 79.33 356 *i* **P P 06 51 11.0 -0.3**
DAG IAmb IAmb 06 51 28.8
comp=Z,5.2nm,0.8s
VALR Valaam 79.64 333 *i* **P P 06 51 13.2 -0.1**
VALR pmax pmax
comp=Z,25nm,0.9s
LPSR Galich'ya Gora 79.84 323 *e* **P P 06 51 13.7 -0.8**
LPSR pmax pmax
comp=Z,20nm,0.8s
OBN Obninsk 79.99 326 ⇓ *e* **P P 06 51 16.2 +0.9**
OBN *e* 06 51 21.9
OBN 06 54 22.0
OBN *e* S S 07 01 35.0 +19
OBN *e* SS **SS 07 06 23.2 -2.5**
OBN pmax pmax
comp=Z,16nm,0.4s
OBN MLR MLR
comp=Z,451nm,18.0s
OBN Obninsk 79.99 326 LR LR 07 29 58.5
comp=Z,484nm,18.9s,baz=16,slow=38
VORR Voronezh 80.08 322 *e* **P P 06 51 14.9 -1.0**
VORR pmax pmax
comp=Z,16nm,1.2s
TBI Tubuai 80.30 121 *e* **S S 07 01 27.0 +6.7**
comp=Z,361nm,28.5s
TBI Tubuai 80.30 121 *e* LR LR 07 15 58.6
comp=Z,3μm,31.8s
VSR Storozhevoye 80.30 322 *e* **P P 06 51 16.2 -0.9**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VORD Divnogorie 80.33 321 *e* **P P 06 51 16.8 -0.4**
VORD pmax pmax
comp=Z,10.0nm,0.6s
PLID Pearl Lake 80.90 45 P P 06 51 22.2 +1.4
KBZ Khabaz 81.12 314 *ce* **P P 06 51 22.3 +0.7**
KBZ pmax pmax
comp=Z,30nm,0.7s
KBZ Khabaz 81.12 314 P P 06 51 22.6 +1.0
comp=Z,39nm,0.9s,baz=84,slow=4.4,SNR=50
KBZ LR LR 07 30 17.0
comp=Z,275nm,20.2s,baz=66,slow=38
comp=Z,39nm,0.9s
STEI Steigen 81.14 342 *e* **P P 06 51 21.9 +0.7**
STEI IAmb IAmb 06 51 24.8
comp=Z,24nm,0.9s
KIV Kislovodsk 81.17 314 P P 06 51 22.7 +0.7
KIV IAmb IAmb 06 51 42.0
comp=Z,25nm,0.8s
KIV Kislovodsk 81.17 314 *e* **P P 06 51 23.0 +1.0**
KIV *e* **S S 07 01 31.2 +2.0**
KIV pmax pmax
comp=Z,24nm,1.1s
KIV MLR MLR
comp=Z,216nm,19.0s
ONI Oni 81.21 313 IAmb IAmb 06 51 26.0
comp=Z,29nm,1.1s
KULLO Kullorsuaq 81.25 5 *i* **P P 06 51 20.4 -1.4**
KULLO IAmb IAmb 06 51 23.7
comp=Z,9.3nm,0.6s
GNI Garni 81.29 310 *ce* **P P 06 51 19.7 -3.1**
GNI pmax pmax
comp=Z,28nm,1.7s
GNI Garni 81.29 310 LR LR 07 31 36.9
comp=Z,210nm,19.5s,baz=67,slow=39
FAUS Fauske 81.50 342 *e* **P P 06 51 24.2 +1.1**
FAUS IAmb IAmb 06 51 24.4
comp=Z,21nm,0.9s
FINES FINESS Array B 81.55 334 P P 06 51 22.7 -0.9
FINES FINESS Array B 81.55 334 *i* **P P 06 51 23.6 +0.1**
FINES pmax pmax
comp=Z,8.0nm,0.4s
FINES FINESS Array B 81.55 334 P P 06 51 23.2 -0.3
comp=Z,8.3nm,0.5s,baz=64,slow=4.6,SNR=59
FINES LR LR 07 30 45.6
comp=Z,132nm,19.4s,baz=48,slow=38
comp=Z,8.3nm,0.5s
MDPB Devils Postpil 81.76 53 P P 06 51 25.2 -0.3
RYN Ryan 81.77 52 P P 06 51 26.4 +1.0
SMMC Simmler 81.99 55 P P 06 51 26.0 -0.5
baz=293
NVAR Mina Array Bea 82.01 52 P P 06 51 29.1 +2.3
NVAR Mina Array Bea 82.01 52 P P 06 51 29.5 +2.7
comp=Z,5.3nm,1.1s,baz=271,slow=5.2,SNR=17
NVAR LR LR 07 21 10.8
comp=Z,339nm,21.4s,baz=284,slow=31
comp=Z,5.3nm,1.1s
NV11 Mina Array Sit 82.12 52 P P 06 51 28.1 +0.8
VES Vestal, Richgr 82.47 54 P P 06 51 27.6 -1.3
baz=294
SBC Santa Barbara 82.55 56 P P 06 51 30.8 +1.5
baz=293
HLID Hailey 82.57 46 P P 06 51 30.2 +0.6
baz=295
MOR8 Moi Rana 82.58 341 *e* **P P 06 51 29.3 +0.4**
STOK Stokkvaagen 82.88 342 *e* **P P 06 51 32.0 +1.6**
ARVC Arvin 82.94 55 P P 06 51 32.1 +0.7
baz=294
VSU Vasula 82.96 332 *ce* **P P 06 51 31.5 +0.6**
VSU pmax pmax
comp=Z,19nm,1.0s
CWC Cottonwood Cre 82.97 53 P P 06 51 32.7 +1.0
baz=294
ISA Isabella, Lake 83.00 54 P P 06 51 32.4 +0.7
baz=294
SNCC San Nicolas Is 83.17 57 P P 06 51 33.2 +0.7
baz=294
ELK Elko 83.22 49 P P 06 51 34.4 +1.4
ELK Elko 83.22 49 P P 06 51 34.4 +1.4
ELK pmax pmax
comp=Z,11nm,1.2s
ELK Elko 83.22 49 LR LR 07 24 13.4
comp=Z,156nm,19.8s,baz=283,slow=32
GRAC Grapevine Rang 83.27 53 P P 06 51 33.5 +0.3
baz=294
SOC Sochi 83.27 315 *e* **P P 06 51 31.1 -1.8**
SOC *e* **S S 07 01 49.8 -0.8**
SOC *e* SS **SS 07 07 14.3 -0.9**
SOC MLR MLR
comp=Z,371nm,18.0s
BOZ Bozeman (W) 83.47 43 P P 06 51 35.7 +1.6
baz=297
EGMT Eagleton 83.49 40 P P 06 51 36.1 +2.0
baz=298
MPMC Manual Prospec 83.56 54 P P 06 51 36.2 +1.4
baz=294
EDW2 Edwards Air Fo 83.67 55 P P 06 51 35.7 +0.4
baz=294
FMP Fort Macarthur 83.92 56 P P 06 51 38.6 +2.1
baz=294
CIS Catalina Islan 83.95 56 P P 06 51 38.5 +1.9
baz=294
R11B Troy Canyon, C 83.99 51 P P 06 51 38.9 +2.0
baz=295
SCI2 San Clemente I 84.02 57 P P 06 51 38.0 +1.0
baz=294
SUMG Summit 84.15 0 IAmb IAmb 06 51 42.1
comp=Z,47nm,1.7s
SUMG Summit 84.15 0 *i* **P P 06 51 38.0 +0.6**
SUMG IAmb IAmb 06 51 55.6
comp=Z,5.3nm,0.6s
FFC Flin Flon 84.28 32 P P 06 51 39.3 +1.4
FFC IAmb IAmb 06 51 58.0
comp=Z,18nm,0.9s
FFC Flin Flon 84.28 32 P P 06 51 39.3 +1.4
FFC pmax pmax
comp=Z,18nm,0.9s
YHH Holmes Hill 84.33 43 P P 06 51 40.1 +1.5
GSC Goldstone, Bar 84.38 54 P P 06 51 40.0 +1.1
baz=295
NSS Namsos 84.48 341 *e* **P P 06 51 39.2 +0.6**
NUUG Nuugaatsiaq 84.52 5 *i* **P P 06 51 38.3 -0.4**
NUUG IAmb IAmb 06 51 45.2
comp=Z,6.6nm,0.6s
MNK Minsk 84.64 328 *i* **P P 06 51 39.3 -0.3**
comp=E,4.0nm,0.8s
MNK *i* **P P 06 51 39.3 -0.3**
comp=N,14nm,0.9s
MNK *i* **P P 06 51 39.3 -0.3**
comp=Z,12nm,0.7s,baz=56
MNK *i* PP **PP 06 54 54.4 -0.8**
MNK *i* PPP PPP 06 56 25.3
MNK *i* S **SKSac 07 02 00.5 +0.1**
MNK *i* SS SS 07 07 56.5 +22
MNK *i* LQ LQ 07 23 51.3
MNK *i* LR LR 07 29 02.8
MNK *i* LRM MLR 07 30 52.1
comp=N,208nm,18.9s
MNK *i* LRM MLR 07 31 19.5
comp=E,130nm,18.8s
MNK *i* LRM MLR 07 31 24.9
comp=Z,241nm,17.2s
MNK Minsk 84.64 328 *c i* **P P 06 51 39.3 -0.3**
H17A Grant Village 84.68 44 P P 06 51 42.8 +2.3
baz=298
FLWY Flagg Ranch 84.75 44 IAmb IAmb 06 52 02.4
comp=Z,10nm,0.9s
MURC Murrieta 84.80 56 P P 06 51 42.6 +1.6
baz=295
HEC Hector,Ludlow 84.93 54 P P 06 51 44.5 +2.8
baz=295
DUG Dugway, Tooele 85.12 48 P P 06 51 44.7 +2.1
baz=297
PSUT Pine Spring 85.14 50 IAmb IAmb 06 52 02.6
comp=Z,10.0nm,1.0s
RLMT Red Lodge 85.16 43 IAmb IAmb 06 52 09.0
comp=Z,10nm,0.7s
RLMT Red Lodge 85.16 43 P P 06 51 44.8 +2.0
baz=299
HWUT Hardware Ranch 85.33 47 IAmb IAmb 06 52 04.3
comp=Z,12nm,1.1s
PFO Pinyon Flats O 85.35 55 P P 06 51 46.0 +2.1
baz=295
PFO Pinyon Flats O 85.35 55 LR LR 07 22 21.4
comp=Z,348nm,21.4s,baz=276,slow=30
TPFO Pinon Flats 85.36 55 P P 06 51 45.8 +1.9
baz=295
FCC Fort Churchill 85.41 26 IAmb IAmb 06 52 20.8
comp=Z,26nm,1.8s
GMRC Granite Mounta 85.45 54 P P 06 51 46.8 +2.4
baz=296
BELC Belle Mtn. Jos 85.54 55 P P 06 51 47.0 +2.3
baz=295
CTU Camp Tracy 85.62 47 IAmb IAmb 06 52 05.1
comp=Z,9.5nm,1.0s
MONP2 Monument Peak 85.69 56 P P 06 51 46.9 +1.3
baz=295
PABE Paberze 85.91 330 P P 06 51 45.7 -0.2
IKP In-Ko-Pah, Jac 86.03 56 P P 06 51 47.9 +0.7
baz=295
AKASG Malin Array Be 86.04 324 P P 06 51 45.9 -0.8
comp=Z,2.4nm,0.4s,baz=52,slow=5.1,SNR=27
AKASG LR LR 07 33 22.6
comp=Z,416nm,19.6s,baz=48,slow=38
comp=Z,2.4nm,0.4s
AKBB Malin Array Si 86.04 324 IAmb IAmb 06 51 49.0
comp=Z,18nm,1.1s
AKBB Malin Array Si 86.04 324 *ce* **P P 06 51 46.2 -0.5**
AKBB pmax pmax
comp=Z,8.0nm,0.9s
BC3 Big Chuckawall 86.09 55 P P 06 51 49.0 +1.5
baz=296
BW06 Boulder Array 86.10 45 P P 06 51 48.0 +0.5
baz=299
PDAR Pinedale Array 86.10 45 P P 06 51 49.2 +1.7
comp=Z,1.1nm,0.8s,baz=305,slow=5.2,SNR=6.5
PDAR LR LR 07 24 22.8
comp=Z,301nm,21.4s,baz=313,slow=31
comp=Z,1.1nm,0.8s
IRM Iron Mountain 86.11 54 P P 06 51 48.3 +0.8
baz=296
SWSC Sam W. Stewart 86.14 56 P P 06 51 48.7 +1.1
baz=296
ARPR Arapgir-MALATY 86.21 311 IAmb IAmb 06 52 10.0
comp=Z,13nm,0.9s
NEE2 Needles Airpor 86.23 54 P P 06 51 49.5 +1.5
baz=296
LAO LASA Array 86.24 40 IAmb IAmb 06 52 08.3
comp=Z,21nm,1.0s
LAO LASA Array 86.24 40 P P 06 51 49.4 +1.5
baz=301
DGMT Dagmar 86.49 38 P P 06 51 50.5 +1.5
baz=302
PDMCI Parker Dam,Lak 86.79 54 P P 06 51 52.1 +1.3
baz=296
GLA Glamis 86.83 55 P P 06 51 52.6 +1.6
baz=296
NC405 NORSAR Array S 87.04 339 P P 06 51 50.5 -1.0
HFS Hagfors 87.06 337 P P 06 51 50.9 -0.7
comp=Z,3.4nm,0.7s,baz=81,slow=4.7,SNR=8.9
HFS LR LR 07 33 07.3
comp=Z,271nm,22.0s,baz=44,slow=37
comp=Z,3.4nm,0.7s
SRU San Rafael Swe 87.19 48 IAmb IAmb 06 52 10.8
comp=Z,8.1nm,0.8s
DOMB Dombas 87.21 340 *e* **P P 06 51 54.0 +1.8**
NB2 NORSAR Subarra 87.26 339 P P 06 51 51.7 -0.9
comp=Z,15nm,1.2s,baz=44,slow=5.1
NB2 NORSAR Subarra 87.26 339 P P 06 51 51.7 -0.9
baz=44,slow=5.1
NOA NORSAR Array B 87.26 339 P P 06 51 52.0 -0.6
NOA NORSAR Array B 87.26 339 P P 06 51 52.0 -0.6
comp=Z,2.4nm,0.8s,baz=48,slow=4.6,SNR=9.1
NOA LR LR 07 34 32.0
comp=Z,160nm,21.0s,baz=45,slow=38
comp=Z,2.4nm,0.8s
RAYN Ar Rayn 87.44 294 P P 06 51 53.5 -0.6
RAYN Ar Rayn 87.44 294 P P 06 51 53.6 -0.6
RAYN pmax pmax
comp=Z,20nm,0.9s
ICESG Greenland Ices 87.64 1 *i* **P P 06 51 56.2 +1.6**
ICESG IAmb IAmb 06 52 15.4
comp=Z,11nm,0.8s
113A Mohawk Valley, 87.75 55 P P 06 51 56.7 +1.3
113A pP **pP 06 52 08.4 +2.0**
Y14A Wickenburg 87.80 54 IAmb IAmb 06 52 22.5
comp=Z,8.7nm,0.8s
K22A Casper 88.10 44 P P 06 51 57.6 +0.5
baz=301
O20A White River Ci 88.24 47 P P 06 51 59.2 +1.3
baz=300
WUAZ Wupatki 88.27 52 P P 06 51 58.5 +0.4
WUAZ pP **pP 06 52 06.5 -2.5**
WUAZ IAmb IAmb 06 52 19.1
comp=Z,8.4nm,0.9s
WUAZ Wupatki 88.27 52 P P 06 51 59.3 +1.3
baz=298
X16A Lo Mia Camp, P 88.73 53 P P 06 52 01.1 +0.9
X16A pP **pP 06 52 12.6 +1.3**
FOO Floro 88.77 341 *e* **P P 06 51 59.4 -0.2**
214A Organ Pipe Nat 88.84 56 P P 06 52 01.6 +1.0
baz=297
RSSD Black Hills 88.89 42 P P 06 52 02.1 +1.2
baz=302
BR131 Keskin Array S 89.10 313 *i* **P P 06 52 00.9 -1.0**
BRTR Keskin Array B 89.10 313 P P 06 52 00.1 -1.8
BRTR Keskin Array B 89.10 313 *ce* **P P 06 52 01.2 -0.7**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 89.10 313 P P 06 52 01.2 -0.7
comp=Z,3.4nm,0.8s,baz=96,slow=5.0,SNR=10
BRTR LR LR 07 37 11.8
comp=Z,129nm,19.4s,baz=58,slow=39
comp=Z,3.4nm,0.8s
SFJD Kangerlussuaq 89.17 5 LR LR 07 35 27.2
comp=Z,32nm,19.6s,baz=352,slow=38
N23A Red Feather La 89.37 45 P P 06 52 04.3 +1.0
baz=301
MDND Maddock 89.39 37 P P 06 52 04.3 +1.4
baz=305
MVCO Mesa Verde 89.50 49 P P 06 52 04.6 +0.6
baz=300
FRB Frobisher Bay 89.53 14 LR LR 07 37 47.2
comp=Z,49nm,18.9s,baz=288,slow=39
W18A Petrified Fore 89.64 52 P P 06 52 04.9 +0.3
baz=299
ULM Lac du Bonnet 89.93 33 P P 06 52 06.2 +0.8
comp=Z,0.8nm,0.4s,baz=227,slow=4.0,SNR=2.9
comp=Z,0.8nm,0.4s
BURAR Bucovina Array 89.95 323 P P 06 52 05.2 -0.5
ISCO Idaho Springs 90.15 46 P P 06 52 06.8 -0.2
baz=301
TUC Tucson 90.20 54 P P 06 52 08.0 +0.9
baz=298
ASF Jabal al Asfar 90.47 306 P P 06 52 08.2 -0.1
comp=Z,4.5nm,0.9s,baz=54,slow=0.2,SNR=3.9
ASF LR LR 07 38 31.4
comp=Z,98nm,19.1s,baz=65,slow=39
comp=Z,4.5nm,0.9s
MLR Muntele Rosu 90.78 321 LR LR 07 35 35.6
comp=Z,305nm,21.6s,baz=54,slow=37
Q24A Divide 90.89 46 P P 06 52 10.4 -0.1
baz=302

AGMN	**Agassiz Nation**	**91.14**	**35**	P		**P**	**06 52 10.5**	**-0.5**
	baz=308							
CRVS	**Cervenica-Dubn**	**91.17**	**326**	*e*P		**P**	**06 52 10.9**	**-0.3**
CRVS				pmax		pmax		
	comp=Z,24nm,1.4s							
CRVS	**Cervenica-Dubn**	**91.17**	**326**	*e*P		**P**	**06 52 10.9**	**-0.3**
MMAI	**Mount Meron Ar**	**91.17**	**307**	P		**P**	**06 52 11.9**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=347,slow=3.3,SNR=4.4							
	comp=Z,0.6nm,0.3s							
SDCO	**Great Sand Dun**	**91.29**	**48**	P		**P**	**06 52 11.0**	**-1.3**
	baz=301							
DUN6	**Lazy B Ranch**	**91.34**	**54**	P		**P**	**06 52 14.6**	**+2.2**
DUN6						**pP**	**06 52 25.4**	**+1.9**
SUSD	**Miller**	**91.74**	**39**	P		**P**	**06 52 13.2**	**-0.7**
	baz=306							
OGNE	**Ogallala**	**91.85**	**43**	P		**P**	**06 52 14.1**	**-0.6**
	baz=304							
ANMO	**Albuquerque**	**92.06**	**50**	P		**P**	**06 52 16.4**	**+0.6**
ANMO				pP		**sP**	**06 52 31.9**	**+0.9**
ANMO				IAmb		IAmb	06 52 34.9	
	comp=Z,6.0nm,1.1s							
ANMO	**Albuquerque**	**92.06**	**50**	P		**P**	**06 52 15.6**	**-0.2**
	baz=301							
ANMO	**Albuquerque**	**92.06**	**50**	*ce*P		**P**	**06 52 19.1**	**+3.3**
ANMO				pmax		pmax		
	comp=Z,6.0nm,1.3s							
ANMO	**Albuquerque**	**92.06**	**50**	LR		LR	07 29 12.2	
	comp=Z,211nm,19.0s,baz=23,slow=32							
Y22D	**IRIS PASSCAL I**	**92.17**	**51**	P		**P**	**06 52 15.1**	**-1.2**
	baz=300							
Y22F	**Passcal Instru**	**92.17**	**51**	P		**P**	**06 52 15.5**	**-0.8**
	baz=300							
121A	**Cookes Peak, D**	**92.31**	**53**	P		**P**	**06 52 15.9**	**-1.1**
	baz=300							
T25A	**Trinidad**	**92.35**	**48**	P		**P**	**06 52 15.7**	**-1.4**
	baz=302							
VYHS	**Vyhne**	**92.77**	**327**	*e*P		**P**	**06 52 20.8**	**+2.2**
VYHS	**Vyhne**	**92.77**	**327**	*e*P		**P**	**06 52 20.8**	**+2.2**
EIL	**Elat**	**93.13**	**304**	LR		LR	07 40 21.5	
	comp=Z,71nm,19.4s,baz=66,slow=40							
VRAC	**Vranov**	**93.34**	**328**	LR		LR	07 37 48.3	
	comp=Z,298nm,19.7s,baz=40,slow=38							
ECSD	**EROS Data Cent**	**93.52**	**39**	P		**P**	**06 52 22.5**	**+0.4**
ECSD						**pP**	**06 52 34.0**	**+0.9**
ECSD				IAmb		IAmb	06 52 41.9	
	comp=Z,8.2nm,1.0s							
CLL	**Collm**	**93.61**	**331**	*i* P		**P**	**06 52 21.7**	**-0.6**
CLL				*e*S		**ScS**	**07 03 31.0**	**+1.5**
CLL				MLR		MLR		
	comp=Z,300nm,21.1s							
CLL	**Collm**	**93.61**	**331**	*i* P		**P**	**06 52 21.7**	**-0.6**
CLL				*e*PP		**PP**	**06 56 08.0**	**+1.3**
CLL				*e*SKSac		**SKSac**	**07 03 01.0**	**+7.4**
CLL				*e*S		**ScS**	**07 03 31.0**	**+1.5**
CLL				*e*PS		**PS**	**07 05 00.0**	**+14**
CLL				*e*SS		**SS**	**07 09 47.0**	**+2.2**
CLL				AMS		AMS	07 37 00.0	
	comp=N,200nm,21.8s							
CLL				AMS		AMS	07 37 00.0	
	comp=E,200nm,21.7s							
CLL				AMS		AMS	07 37 00.0	
	comp=Z,300nm,21.1s							
EYMN	**Ely**	**93.61**	**33**	P		**P**	**06 52 22.0**	**-0.5**
	baz=312							
BGNE	**Belgrade**	**94.00**	**41**	P		**P**	**06 52 24.0**	**-0.4**
	baz=306							
LPIG	**La Paz**	**94.42**	**62**	LR		LR	07 28 06.1	
	comp=Z,103nm,20.1s,baz=256,slow=31							
MNTX	**Cornudas Mount**	**94.49**	**53**	P		**P**	**06 52 25.6**	**-1.3**
	baz=301							
CBKS	**Cedar Bluff**	**94.51**	**44**	P		**P**	**06 52 25.9**	**-0.9**
	baz=305							
SPMN	**Marine on St.**	**94.71**	**36**	P		**P**	**06 52 26.8**	**-0.7**
	baz=310							
KHC	**Kasperske Hory**	**94.89**	**329**	*i* P		**P**	**06 52 28.3**	**0.0**
GERES	**GERESS Array B**	**95.03**	**329**	P		**P**	**06 52 28.1**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=46,slow=7.0,SNR=2.3							
GERES				LR		LR	07 38 58.8	
	comp=Z,188nm,18.5s,baz=42,slow=38							
	comp=Z,0.5nm,0.5s							
TXAR	**Lajitas Array**	**96.98**	**54**	PKKP			07 09 18.7	
	comp=Z,0.3nm,0.6s,baz=134,slow=3.9,SNR=5.1							
TXAR				LR		LR	07 29 52.4	
	comp=Z,179nm,21.9s,baz=301,slow=31							
WMOK	**Wichita Mounta**	**97.48**	**47**	P		**P**	**06 52 39.6**	**-0.7**
	baz=305							
JFWS	**Jewell Farm**	**97.61**	**37**	P		**P**	**06 52 40.0**	**-0.8**
	baz=312							
SCHQ	**Schefferville**	**97.83**	**17**	LR		LR	07 39 58.0	
	comp=Z,81nm,21.2s,baz=310,slow=37							
ABTX	**Abilene, Hawle**	**98.09**	**49**	P		**P**	**06 52 41.5**	**-1.7**
	baz=305							
DAVOX	**Davos/Dischmat**	**98.31**	**330**	LR		LR	07 40 27.1	
	comp=Z,160nm,20.6s,baz=48,slow=37							
TUL3	**Leonard**	**98.76**	**45**	P		**P**	**06 52 45.3**	**-0.8**
	baz=307							
GLMI	**Grayling**	**99.20**	**32**	P		**Pdif**	**06 52 46.6**	**-1.2**
	baz=317							
L44A	**Lake County Fo**	**99.38**	**36**	P		**Pdif**	**06 52 47.0**	**-1.7**
	baz=314							
HDIL	**Hopedale**	**99.72**	**38**	P		**Pdif**	**06 52 48.7**	**-1.6**
	baz=312							
WHTX	**Lake Whitney,**	**99.97**	**49**	P		**Pdif**	**06 52 51.0**	**-0.6**
	baz=306							
CCM	**Cathedral Cave**	**100.25**	**41**	P		**Pdif**	**06 52 51.6**	**-1.1**
	baz=311							
435B	**Jarrell**	**100.58**	**50**	P		**Pdif**	**06 52 53.4**	**-0.9**
	baz=306							
833A	**Chaparral WMA,**	**100.68**	**53**	P		**Pdif**	**06 52 53.8**	**-1.0**
	baz=304							
MIAR	**Mount Ida**	**101.03**	**45**	P		**Pdif**	**06 52 54.6**	**-1.6**
	baz=309							
SFIN	**Lafayette**	**101.07**	**37**	P		**Pdif**	**06 52 55.0**	**-1.3**
	baz=314							
O48B	**Farmland**	**102.21**	**36**	P		**Pdif**	**06 53 00.5**	**-0.8**
	baz=316							
P49A	**Miami Univ. Ec**	**102.96**	**36**	P		**Pdif**	**06 53 04.3**	**-0.4**
	baz=316							
WVT	**Waverly**	**103.56**	**40**	P		**Pdif**	**06 53 06.6**	**-0.8**
	baz=313							
M53A	**WI Miller and**	**103.65**	**32**	P		**Pdif**	**06 53 06.4**	**-1.3**
	baz=319							
OXF	**Oxford**	**103.69**	**42**	P		**Pdif**	**06 53 06.9**	**-1.1**
	baz=312							
P52A	**Corning**	**104.26**	**35**	P		**Pdif**	**06 53 09.8**	**-0.6**
	baz=316							
O53A	**New Philadelph**	**104.27**	**34**	P		**Pdif**	**06 53 09.4**	**-1.1**
	baz=319							
VBMS	**Vicksburg**	**104.48**	**45**	P		**Pdif**	**06 53 10.6**	**-1.0**
	baz=310							
BINY	**Binghamton**	**105.26**	**29**	P		**Pdif**	**06 53 13.9**	**-1.0**
	baz=323							
LBNH	**Lisbon**	**105.30**	**25**	P		**Pdif**	**06 53 13.9**	**-1.1**
	baz=327							
MCWV	**Mont Chateau**	**105.41**	**33**	P		**PKiKP**	**06 57 29.2**	**+0.1**
	baz=320							
PKME	**Peaks-Kenny Pk**	**105.42**	**23**	P		**PKiKP**	**06 57 29.0**	**0.0**
	baz=329							
SSPA	**Standing Stone**	**105.61**	**31**	P		**PKiKP**	**06 57 28.5**	**-1.0**
	baz=321							
LRAL	**Lakeview Retre**	**106.16**	**42**	P		**PKiKP**	**06 57 30.6**	**-0.1**
	baz=313							
L61B	**Northampton**	**106.48**	**27**	P		**PKiKP**	**06 57 31.3**	**+0.3**
	baz=326							
HRV	**Adam Dziewonsk**	**106.89**	**26**	P		**PKiKP**	**06 57 31.4**	**-0.4**
	baz=327							
BLA	**Blacksburg**	**106.96**	**35**	P		**PKiKP**	**06 57 31.3**	**-0.9**
	baz=319							
PAL	**Palisades**	**107.14**	**29**	P		**PKiKP**	**06 57 31.9**	**-0.4**
	baz=325							
CBN	**Corbin Frederi**	**107.76**	**33**	P		**PKiKP**	**06 57 33.6**	**0.0**
	baz=321							
KMSC	**Kings Mountain**	**108.00**	**37**	P		**PKiKP**	**06 57 34.2**	**+0.1**
	baz=318							
GOGA	**Godfrey**	**108.03**	**40**	P		**PKiKP**	**06 57 33.7**	**-0.5**
	baz=316							
M65A	**Busby, Falmout**	**108.06**	**26**	P		**PKiKP**	**06 57 33.6**	**-0.4**
	baz=328							
TIGA	**Tifton**	**109.35**	**41**	P		**PKiKP**	**06 57 36.2**	**-0.5**
	baz=315							
CNNC	**Cliffs of the**	**109.78**	**35**	P		**PKiKP**	**06 57 35.4**	**-2.1**
	baz=320							
DWPF	**Disney Wildern**	**113.02**	**42**	P		**PKiKP**	**06 57 41.9**	**-1.8**
	baz=316							
ELIB	**Princess Elisa**	**121.29**	**198**	*d*PKPdf		**PKiKP**	**06 57 58.5**	**-0.1**
TROLL	**Troll, Antarti**	**126.71**	**194**	⇑PKPdf		**PKiKP**	**06 58 09.7**	**+0.4**
	comp=Z,201nm,0.6s							
TROLL				⇓sPKPdf		**sPKPdf**	**06 58 23.6**	**-0.8**
	comp=Z,326nm,0.6s							
TORD	**Torodi Ar. Bea**	**127.60**	**310**	PKPdf		**PKPdf**	**06 58 11.7**	**-0.3**
TORD	**Torodi Ar. Bea**	**127.60**	**310**	PKP		**PKiKP**	**06 58 12.4**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=81,slow=0.8,SNR=6.3							
TORD				PP		**PP**	**07 00 07.8**	**-4.8**
	comp=Z,3.0nm,1.0s,baz=42,slow=7.9,SNR=5.9							
SNAA	**Sanae**	**128.12**	**193**	⇑PKPdf		**PKPdf**	**06 58 09.0**	**-2.5**
	comp=Z,76nm,0.9s							
SNAA				⇓sPKPdf		**pPKPdf**	**06 58 25.7**	**+2.7**
	comp=Z,68nm,0.6s							
VNA2	**Neumayer--Watz**	**129.61**	**192**	⇑PKPdf		**PKiKP**	**06 58 15.0**	**+0.1**
	comp=Z,3.8nm,0.4s,baz=122,slow=1.2							
VNA2				⇓sPKPdf		**pPKPdf**	**06 58 28.2**	**+2.4**
	comp=Z,20nm,0.6s,baz=110,slow=1.1							
DBIC	**Dimbokro**	**136.71**	**310**	PP		**PP**	**07 01 06.7**	**-4.4**
	comp=Z,7.9nm,1.2s,baz=224,slow=1.7,SNR=3.3							
LL02	**Futaleuf**	**145.11**	**133**			**PKPdf**	**06 58 43.7**	**+0.2**
BOAV	**Boa Vista**	**145.41**	**45**	PKPbc		**PKPab**	**06 58 45.1**	**+0.1**
LR05	**Currie**	**146.05**	**128**	PKPdf		**PKPab**	**06 58 47.7**	**+1.0**
PLCA	**Paso Flores**	**146.92**	**129**	PKPbc		**PKPab**	**06 58 50.2**	**0.0**
	comp=Z,9.1nm,0.7s,baz=240,slow=3.3,SNR=71							
ETMB	**Extrema**	**148.79**	**69**	PKPdf		**PKPdf**	**06 58 51.5**	**+1.0**
ETMB				PKPbc		**PKPbc**	**06 58 54.5**	**+0.1**
PB16	**IPOC Station P**	**149.07**	**87**	PKPab		**PKiKP**	**06 58 57.5**	**+0.6**
MACA	**Manacapuru-AM**	**149.30**	**52**			**PKiKP**	**06 58 56.4**	**-0.5**
LPAZ	**La Paz**	**149.73**	**82**			**PKPbc**	**06 58 54.8**	**-2.6**
LPAZ	**La Paz**	**149.73**	**82**	PKP		**PKPdf**	**06 58 54.0**	**+1.4**
	comp=Z,2.3nm,0.9s,baz=198,slow=3.2,SNR=10							
LPAZ				PKPbc		**PKiKP**	**06 58 58.9**	**+0.4**
	comp=Z,7.9nm,0.7s,baz=317,slow=2.2,SNR=36							
AC02	**Maricunga**	**150.60**	**103**			**PKiKP**	**06 58 59.5**	**-0.4**
SAML	**Samuel**	**150.90**	**65**			**PKPbc**	**06 58 58.7**	**-0.9**
SAML	**Samuel**	**150.90**	**65**	PKIKP		**PKPbc**	**06 58 58.7**	**-0.9**

IDC 27 06:55:38.9±44.0, 15°.55S×171°.59W, h0km, mb4.3/3, mbtmp4.3/3, Error ellipse: s-maj=865.6km s-min=179.9km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**45.47**	**240**	P	P		P	07 04 00.7	+0.6
	1.5nm,0.4s,baz=96,slow=13,SNR=5.7								
	1.5nm,0.4s								
WRA	**Warramunga Arr**	**51.51**	**257**	P	P		P	07 04 46.0	-0.8
	1.0nm,0.6s,baz=97,slow=7.0,SNR=25								
	1.0nm,0.6s								
ASAR	**Alice Springs**	**51.72**	**252**	P	P		P	07 04 48.4	0.0
	9.2nm,0.5s,baz=88,slow=8.1,SNR=155								
	9.2nm,0.5s								

*NEIC **27** 07:06:10.2±2.3, 72°.31N±0°.05×53°.3W±0°.2, h16km±6km, mb4.1/6, ML4.3(OTT), Error ellipse: s-maj=9.6km s-min=6.6km az=84.0*
*OTT **27** 07:06:11.2±0.2, 72°.34N×53°.15W, h18km, ML4.3/5, Western Greenland. 587km northeast from Clyde River, Nu Eastern Arctic Background Seismic Zone.*
*DNK **27** 07:06:11.3±4.2, 72°.34N×53°.27W, h13km±12km, ML3.1*

ISC 27 07:06:07.1±0.6, 72°.26N±0°.04×53°.38W±0°.04, h10km, n52, σ3$45/74, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NUUG	**Nuugaatsiaq**	**0.73**	**176**	*i* P			**Pn**	**07 06 25.9**	**+2.6**
NUUG				*i* S			**Sn**	**07 06 36.0**	**+1.6**
NUUG				IAML				07 06 37.3	
	comp=Z,2μm,0.2s								
UPNV	**Upernavik**	**0.99**	**304**	*i* P			**Pn**	**07 06 28.4**	**+1.5**
UPNV				*i* S			**Sn**	**07 06 41.2**	**+0.4**
UPNV				IAML				07 06 46.9	
	comp=Z,504nm,0.1s								
UMMG	**Uummannaq**	**1.64**	**165**	*i* P			**Pg**	**07 06 41.2**	**+2.8**
UMMG				*i* S			**Sg**	**07 07 02.5**	**+2.8**
UMMG				IAML				07 07 06.0	
	comp=Z,1μm,0.5s								
KULLO	**Kullorsuaq**	**2.58**	**337**	Pn			**Pb**	**07 06 51.5**	**-1.8**
KULLO				Sn			**Sn**	**07 07 20.5**	**+0.3**
KULLO	**Kullorsuaq**	**2.58**	**337**	*i* P			**Pb**	**07 06 51.7**	**-1.6**
KULLO				*i* S			**Sn**	**07 07 21.4**	**+1.3**
KULLO				IAML				07 07 27.5	
	comp=Z,836nm,0.4s								
KULLO	**Kullorsuaq**	**2.58**	**337**	PN			**Pb**	**07 06 51.5**	**-1.8**
KULLO				SN			**Sn**	**07 07 20.5**	**+0.3**
KULLO				Trac				07 07 27.6	
	comp=Z,794nm,0.4s								
SUMG	**Summit**	**4.53**	**79**				**Pn**	**07 07 18.8**	**+2.9**
SUMG	**Summit**	**4.53**	**79**	*i* P			**Pn**	**07 07 19.0**	**+3.0**
SUMG				*i* S			**Sn**	**07 08 09.0**	**+0.1**
SUMG				IAML				07 08 31.8	
	comp=Z,135nm,0.4s								
CLRN	**Clyde River**	**5.19**	**257**	Pn			**Pn**	**07 07 28.5**	**+3.9**
CLRN				Sn			**Sn**	**07 08 25.0**	**+0.6**
CLRN	**Clyde River**	**5.19**	**257**	PN			**Pn**	**07 07 28.5**	**+3.9**
CLRN	**Clyde River**	**5.19**	**257**	SN			**Sn**	**07 08 25.0**	**+0.6**
CLRN				Trac				07 08 27.1	
	comp=Z,54nm,0.2s								
NEEM	**North Greenlan**	**5.25**	**6**	*i* P			**Pn**	**07 07 28.5**	**+2.8**
NEEM				*i* S			**Sn**	**07 08 24.3**	**-2.0**
NEEM				IAML				07 08 28.9	
	comp=Z,65nm,0.8s								
SFJD	**Kangerlussuaq**	**5.38**	**168**	Pn			**Pn**	**07 07 30.1**	**+3.0**
SFJD				Sn			**Sn**	**07 08 29.9**	**+0.9**
SFJD	**Kangerlussuaq**	**5.38**	**168**	Pn			**Pn**	**07 07 30.9**	**+3.8**
SFJD	**Kangerlussuaq**	**5.38**	**168**	*i* P			**Pn**	**07 07 30.3**	**+3.1**
SFJD				*e*S			**Sn**	**07 08 28.6**	**-0.4**
SFJD				IAML				07 09 04.2	
	comp=Z,56nm,0.6s								
SFJD	**Kangerlussuaq**	**5.38**	**168**	PN			**Pn**	**07 07 30.1**	**+3.0**
ICESG	**Greenland Ices**	**5.55**	**118**	*i* P			**Pn**	**07 07 33.0**	**+3.1**
ICESG				*i* S			**Sn**	**07 08 32.5**	**-1.3**
ICESG				IAML				07 09 07.6	
	comp=Z,65nm,0.5s								
TULEG	**Thule**	**5.96**	**323**	Pn			**Pn**	**07 07 37.5**	**+2.3**
TULEG	**Thule**	**5.96**	**323**	*i* P			**Pn**	**07 07 37.2**	**+2.0**
TULEG				*i* S			**Sn**	**07 08 39.7**	**-3.7**
TULEG				IAML				07 09 26.7	
	comp=Z,36nm,0.6s								
DY2G	**Dye2**	**6.33**	**153**	*i* P			Pn	07 07 46.1	+5.7
DY2G				*e*S			**Sn**	**07 08 51.9**	**-0.9**
DY2G				IAML				07 09 28.6	
	comp=Z,55nm,0.7s								
NUUK	**Nuuk**	**8.14**	**175**	*i* P			**Pn**	**07 08 06.7**	**+1.6**
NUUK				*i* S			**Sn**	**07 09 33.0**	**-3.9**
NUUK				IAML				07 10 39.5	
	comp=Z,19nm,1.0s								
SOEG	**Soedalen**	**8.46**	**108**	*i* P			**Pn**	**07 08 10.6**	**+1.3**
SOEG				*i* S			**Sn**	**07 09 38.6**	**-6.1**
SOEG				IAML				07 10 44.1	
	comp=Z,45nm,0.6s								
ISOG	**Isortoq, Green**	**8.48**	**135**	*i* P			**Pn**	**07 08 11.2**	**+1.5**
ISOG				*e*S			**Sn**	**07 09 38.9**	**-6.4**
ISOG				IAML				07 10 38.2	
	comp=Z,42nm,0.9s								
ANGG	**Ammassalik, Gr**	**8.72**	**132**	Pn			**Pn**	**07 08 15.2**	**+2.2**
ANGG	**Ammassalik, Gr**	**8.72**	**132**	*i* P			**Pn**	**07 08 14.3**	**+1.4**
ANGG				*e*S			**Sn**	**07 09 44.1**	**-7.0**
ANGG				IAML				07 10 46.7	
	comp=Z,40nm,0.5s								
DBG	**Daneborg**	**9.68**	**62**	*i* P			**Pn**	**07 08 27.3**	**+1.2**
DBG				*i* S			**Sn**	**07 10 07.7**	**-7.0**
DBG				IAML				07 11 24.4	
	comp=Z,18nm,0.7s								
ILON	**Igloolik, Nuna**	**9.74**	**267**	Pn			**Pn**	**07 08 29.9**	**+3.1**
ILON				Sn			**Sn**	**07 10 13.0**	**-3.1**
ILON	**Igloolik, Nuna**	**9.74**	**267**	PN			**Pn**	**07 08 29.9**	**+3.1**
ILON	**Igloolik, Nuna**	**9.74**	**267**	SN			**Sn**	**07 10 13.0**	**-3.1**
ILON				Trac				07 10 15.7	
	comp=Z,8.6nm,0.3s								
SCO	**Scoresbysund**	**10.13**	**85**	Pn			**Pn**	**07 08 33.7**	**+1.4**
SCO	**Scoresbysund**	**10.13**	**85**	*i* P			**Pn**	**07 08 31.8**	**-0.5**
SCO				*i* S			Sn	07 10 15.3	-10
SCO				IAML				07 11 26.1	
	comp=Z,15nm,1.0s								
DAG	**Danmarks Havn**	**10.17**	**48**	*i* P			**Pn**	**07 08 33.3**	**+0.6**
DAG				*i* S			Sn	07 10 15.8	-11
DAG				IAML				07 10 26.8	
	comp=Z,23nm,0.6s								
FRB	**Frobisher Bay**	**10.22**	**221**	Pn			**Pn**	**07 08 37.8**	**+4.2**
FRB				Sn			**Sn**	**07 10 25.8**	**-2.2**
FRB	**Frobisher Bay**	**10.22**	**221**	PN			**Pn**	**07 08 37.8**	**+4.2**
FRB	**Frobisher Bay**	**10.22**	**221**	SN			**Sn**	**07 10 25.8**	**-2.2**
FRB				Trac				07 10 59.6	
	comp=Z,74nm,1.6s								
IVI	**Ivigtut**	**11.29**	**167**	*i* P			**Pn**	**07 08 50.6**	**+2.6**
IVI				*i* S			**Sn**	**07 10 51.5**	**-2.5**
NRS	**Narsarsuaq**	**11.57**	**160**	*e*P			**Pn**	**07 08 55.8**	**+3.9**
NRS				*i* S			**Sn**	**07 10 53.8**	**-7.2**
RES	**Resolute Bay**	**11.87**	**301**	Pn			**Pn**	**07 08 58.1**	**+2.1**
RES				Sn			**Sn**	**07 11 02.8**	**-5.5**
RES	**Resolute Bay**	**11.87**	**301**	PN			**Pn**	**07 08 58.1**	**+2.1**
RES	**Resolute Bay**	**11.87**	**301**	SN			**Sn**	**07 11 02.8**	**-5.5**
RES				Trac				07 11 28.4	
	comp=Z,27nm,1.3s								
BLKN	**Baker Lake**	**17.25**	**264**	SN			**Sn**	**07 13 10.5**	**-8.6**
SPB2	**Spitsbergen Ar**	**17.59**	**40**	P			**P**	**07 10 13.7**	**+0.9**
SPB2				IAmb			IAmb	07 10 19.8	
	comp=Z,38nm,1.2s								
SCHQ	**Schefferville**	**18.40**	**205**				**Pn**	**07 10 25.4**	**+3.5**
SCHQ	**Schefferville**	**18.40**	**205**	Sn			**Sn**	**07 13 40.5**	**-6.7**
SCHQ	**Schefferville**	**18.40**	**205**	IAmb			IAmb	07 11 07.7	
	comp=Z,14nm,1.4s								
SCHQ	**Schefferville**	**18.40**	**205**	PN			**Pn**	**07 10 25.4**	**+3.5**
SCHQ	**Schefferville**	**18.40**	**205**	SN			**Sn**	**07 13 40.5**	**-6.7**
SCHQ				Trac				07 14 03.7	
	comp=Z,741nm,5.8s								
INK	**Inuvik**	**25.43**	**301**	P			**P**	**07 11 36.7**	**+2.4**
INK				IAmb			IAmb	07 11 44.5	
	comp=Z,2.4nm,1.2s								
H31M	**Peel River**	**27.49**	**298**	P			**P**	**07 11 57.6**	**+4.7**
H31M				IAmb			IAmb	07 12 03.8	
	comp=Z,10nm,1.5s								
I30M	**Mount Dempster**	**28.48**	**299**	P			**P**	**07 12 05.4**	**+3.5**
HDA	**Harding Lake**	**31.89**	**305**	P			**P**	**07 12 32.4**	**+0.5**
CAST	**Castle Rocks**	**33.98**	**307**	P			**P**	**07 12 50.7**	**+0.5**

*NOU **27** 07:10:29.2, 40°.85S×176°.25E, h54km, MLv3.8/10, North Island, New Zealand*
*WEL **27** 07:10:31.5±0.2, 41°.5±2°×17°.6E±°, h21km±2km, M3.8/34, ML4.1/33, MLv3.8/34, Error ellipse: s-maj=0.0km s-min=0.0km az=123.3*

ISC 27 07:10:31.2±1.0, 40°.69S±0°.03×175°.99E±0°.03, h32km±7km, n125, σ1$10/132, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TIWZ	**Tintock**	**0.12**	**221**	P			**Pn**	**07 10 37.7**	**+0.8**
TIWZ				S			**Sb**	**07 10 41.9**	**+0.7**
PRWZ	**Pori Road**	**0.13**	**354**	P			**Pn**	**07 10 37.1**	**+0.1**
PRWZ				S			**Sb**	**07 10 41.2**	**0.0**
BFZ	**Birch Farm**	**0.20**	**89**	P			**Pn**	**07 10 38.9**	**+1.0**
BFZ	**Birch Farm**	**0.20**	**89**	P			**Pn**	**07 10 39.1**	**+1.2**
BFZ				S			**Sb**	**07 10 44.6**	**+2.5**
CPWZ	**Castlepoint**	**0.28**	**144**	P			**Pn**	**07 10 41.3**	**+2.3**
CPWZ				S			**Sb**	**07 10 49.8**	**+6.2**
MRZ	**Mangatainoka R**	**0.31**	**275**	P			**Pn**	**07 10 38.4**	**-0.6**
MRZ				S			**Sb**	**07 10 43.0**	**-1.4**
POWZ	**Post Office Ro**	**0.34**	**330**	P			**Pn**	**07 10 38.5**	**-0.9**
DVHZ	**Dannevirke**	**0.41**	**19**	P			**Pn**	**07 10 40.3**	**-0.6**
DVHZ				S			**Sb**	**07 10 46.4**	**-0.4**
HOWZ	**Holdsworth Sta**	**0.42**	**239**	P			**Pn**	**07 10 40.9**	**-0.1**
HOWZ				S			**Sb**	**07 10 47.1**	**+0.2**
TMWZ	**Te Maipa**	**0.43**	**190**	P			**Pn**	**07 10 42.5**	**+1.3**
TMWZ				S			**Sn**	**07 10 51.0**	**+3.1**
ANWZ	**Angora Road**	**0.43**	**59**	P			**Pn**	**07 10 42.2**	**+1.0**
MTW	**Mount Morrison**	**0.60**	**218**	P			**Pn**	**07 10 44.0**	**+0.5**
TSZ	**Takapari Road**	**0.63**	**358**	P			**Pb**	**07 10 43.2**	**-0.6**
OGWZ	**Otaki Gorge**	**0.64**	**258**	P			**Pb**	**07 10 43.7**	**-0.2**
PRHZ	**Porangahau**	**0.65**	**50**	P			**Pn**	**07 10 45.0**	**+0.9**
OHWZ	**Ohakea**	**0.70**	**313**	P			**Pb**	**07 10 44.8**	**-0.2**
WPHZ	**Waipukurau**	**0.71**	**29**	P			**Pn**	**07 10 45.8**	**+0.8**
TRWZ	**Traveller**	**0.75**	**198**	P			**Pn**	**07 10 46.3**	**+0.8**
PNHZ	**Pukenui**	**0.79**	**12**	P			**Pn**	**07 10 46.2**	**+0.1**
PAWZ	**Paruwai Farm**	**0.81**	**211**	P			**Pn**	**07 10 47.0**	**+0.6**
CAW	**Cannon Point**	**0.82**	**239**	P			**Pb**	**07 10 46.8**	**-0.2**
KIW	**Kapiti Island**	**0.84**	**258**	P			**Pn**	**07 10 47.0**	**+0.3**
PXZ	**Pawanui

TOZ	**Tahuroa Road**	**2.98**	**353**	P	**Pn**	**07 11 16.5**	**+0.4**
RUGZ	**Raukumara Rang**	**3.02**	**26**	P	**Pn**	**07 11 15.6**	**-1.2**
PUZ	**Puketiti**	**3.15**	**35**	P	**Pn**	**07 11 17.0**	**-1.6**
GVZ	**Greta Valley S**	**3.17**	**223**	P	**Pn**	**07 11 17.4**	**-1.5**
HAZ	**Te Kaha**	**3.24**	**26**	P	**Pn**	**07 11 18.9**	**-0.8**
WMGZ	**Waiomatatini S**	**3.43**	**34**	P	**Pn**	**07 11 21.1**	**-1.2**
LTZ	**Lake Taylor**	**3.48**	**232**	P	**Pn**	**07 11 22.4**	**-0.8**
MKAZ	**Moumakai**	**3.63**	**350**	P	**Pn**	**07 11 25.7**	**+0.5**
MQZ	**McQueen's Vall**	**3.90**	**218**	P	**Pn**	**07 11 26.5**	**-2.4**
WTAZ	**Waiatarua**	**3.91**	**343**	P	**Pn**	**07 11 30.6**	**+1.6**
AKCZ	**Akaroa Harbour**	**3.92**	**215**	P	**Pn**	**07 11 27.1**	**-2.0**
WIAZ	**Waiheke Island**	**3.94**	**350**	P	**Pn**	**07 11 29.6**	**+0.2**
RVAZ	**Riverhead Bore**	**4.06**	**344**	P	**Pn**	**07 11 32.1**	**+1.0**
TMZ	**Timaru**	**5.21**	**223**	P	**Pn**	**07 11 45.3**	**-1.6**
OUZ	**Omahuta**	**5.78**	**340**	P	**Pn**	**07 11 55.2**	**+0.6**
ODZ	**Otahua Downs**	**5.86**	**220**	P	**Pn**	**07 11 53.8**	**-2.0**
ODZ	**Otahua Downs**	**5.86**	**220**	P	**Pn**	**07 11 53.8**	**-2.0**
CTZ	**Chatham Island**	**6.28**	**121**	P	**Pn**	**07 12 02.5**	**+1.0**

IDC 27 07:27:16.0±32.0, 17°50'S×179°09'W, h682km±470km, mb3.0/7, mbtmp4.0/7, Error ellipse: s-maj=170.0km s-min=73.3km az=21.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.27**	**241**	P	P	07 33 41.9	-0.3
	2.1nm,0.5s,baz=100,slow=13,SNR=6.5						
	2.1nm,0.5s						
WRA	**Warramunga Arr**	**44.07**	**259**	P	P	07 34 27.6	-0.1
	1.3nm,0.4s,baz=96,slow=7.3,SNR=42						
	1.3nm,0.4s						
ASAR	**Alice Springs**	**44.28**	**254**	P	P	07 34 29.5	+0.2
	12nm,0.6s,baz=88,slow=8.4,SNR=196						
	12nm,0.6s						
NVAR	**Mina Array Bea**	**79.58**	**44**	P	P	07 38 16.0	+0.4
	0.4nm,0.6s,baz=225,slow=8.7,SNR=3.2						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**85.64**	**13**	P	P	07 38 44.7	-0.1
	0.2nm,0.4s,baz=224,slow=5.9,SNR=2.8						
	0.2nm,0.4s						
TXAR	**Lajitas Array**	**86.32**	**58**	P	P	07 38 49.2	+0.2
	0.6nm,0.7s,baz=210,slow=6.4,SNR=7.7						
	0.6nm,0.7s						
PDAR	**Pinedale Array**	**87.50**	**44**	P	P	07 38 53.9	-0.5
	0.4nm,0.6s,baz=253,slow=2.7,SNR=4.2						
	0.4nm,0.6s						

NERS 27 07:37:20.9, 62.88N×163.46E, h5km
KRSC 27 07:37:21.9±0.5, 62.97N×163.32E, h46km±9km, Ml4.2
ISC 27 07:37:21.2±1.1, 62.83N±0.08×163.28E±0.04, h10km, n11, σ2s44/22, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSK	**Kamenskaya**	**1.40**	**104**	*e*P	**Pb**	**07 37 47.0**	**-0.3**
KMSK				*e*S	**Sn**	**07 38 04.7**	**-0.5**
EVEN	**Evensk**	**2.10**	**246**	*e*P	**Pb**	**07 37 58.1**	**-1.2**
EVEN				Pmax		07 37 59.6	
	10.0nm,0.2s						
EVEN				*e*Pg	**Pg**	**07 38 00.8**	**-0.6**
EVEN				Pgmax		07 38 02.5	
	170nm,0.2s						
EVEN				*e*Sg	**Sg**	**07 38 30.1**	**+1.5**
EVEN				Sgmax		07 38 33.0	
	230nm,0.3s						
EVEN				Sgmax		07 38 33.0	
	1μm,0.3s						
TILK	**Tilichiki**	**2.75**	**149**	*e*P	**Pb**	**07 38 08.0**	**-2.4**
TILK				*e*S	**Sb**	**07 38 42.5**	**-1.6**
OMS	**Omsukchan**	**3.48**	**268**	*e*Pg	**Pg**	**07 38 26.5**	**-1.2**
OMS				Pgmax		07 38 27.6	
	200nm,0.3s						
OMS				*e*Sg	**Sg**	**07 39 12.1**	**-0.6**
OMS				Sgmax		07 39 20.1	
	310nm,0.4s						
OMS				Sgmax		07 39 20.1	
	180nm,0.4s						
OSSR	**Ossora**	**3.59**	**182**	*e*P	**Pn**	**07 38 20.8**	**+3.9**
SEY	**Seymchan**	**4.99**	**276**	*e*P	**Pn**	**07 38 39.2**	**+3.2**
SEY				*e*Pg	**Pg**	**07 38 54.3**	**-2.3**
SEY				Pgmax		07 38 57.3	
	10.0nm,0.3s						
SEY				*e*Sg	**Sg**	**07 40 01.7**	**+0.5**
SEY				Sgmax		07 40 09.2	
	70nm,0.2s						
SEY				Sgmax		07 40 09.2	
	30nm,0.2s						
TLAR	**Talaya**	**5.41**	**256**	*e*P	**Pn**	**07 38 45.7**	**+3.9**
TLAR				Pmax		07 38 46.3	
	10.0nm,0.3s						
TLAR				*e*Pg	**Pg**	**07 39 02.4**	**-2.2**
TLAR				Pgmax		07 39 04.5	
	20nm,0.3s						
TLAR				*e*Sg	**Sg**	**07 40 15.3**	**+0.7**
TLAR				Sgmax		07 40 25.6	
	110nm,0.4s						
GADL	**Gadlja**	**6.58**	**247**	*e*Sg	**Sg**	**07 40 52.2**	**0.0**
GADL				Sgmax		07 40 56.8	
	50nm,0.4s						
MA2	**Magadan**	**6.87**	**247**	*e*P	**Pn**	**07 39 04.8**	**+3.0**
MA2				*e*Sg	**Sg**	**07 41 02.0**	**+0.7**
MA2				Sgmax		07 41 12.7	
	10.0nm,0.5s						
SUUS	**Susuman**	**6.93**	**276**	*e*P	**Pn**	**07 39 06.7**	**+4.0**
SUUS				*e*		07 39 33.6	
SUUS				*e*Sg	**Sg**	**07 41 02.2**	**-1.1**
SUUS				Sgmax		07 41 13.6	
	50nm,0.6s						
OCHR	**Omchak**	**7.29**	**268**	*e*	Pg	07 39 35.3	-5.3
OCHR				*e*S	**Sg**	**07 41 10.5**	**-4.4**
OCHR				Sgmax		07 41 21.4	
	30nm,0.7s						

SSNC 27 07:54:21.1±2.1, 18.68N×74.05W, h1km±14km, MD2.9, ML2.6
OSPL 27 07:54:22.1±1.9, 18.82N±0.08×74.02W±0.05, h14km±15km, n14, σ0s95/25, 2D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**1.36**	**352**	⇓*e*P	**Pb**	**07 54 45.3**	**-0.3**
MASC				*e*S	**Sb**	**07 55 02.8**	**0.0**
MASC	**Masc**	**1.36**	**352**	*i* P	**Pb**	**07 54 45.6**	**0.0**
MASC				*e*S	**Sn**	**07 55 02.6**	**-0.2**
MASC				IAML		07 55 11.2	
	comp=Z,31nm,1.7s						
GTBY	**Guantanamo Bay**	**1.50**	**317**	*e*P	**Pb**	**07 54 47.9**	**-0.2**
GTBY				*e*S	**Sg**	**07 55 08.6**	**-0.2**
GTBY	**Guantanamo Bay**	**1.50**	**317**	*i* P	**Pb**	**07 54 48.0**	**0.0**
GTBY				*e*S	**Sg**	**07 55 08.7**	**-0.2**
GTBY				IAML		07 55 11.3	
	comp=Z,20nm,3.6s						
PAPH	**Port-au-Prince**	**1.66**	**100**	*e*P	**Pn**	**07 54 48.2**	**-0.8**
PAPH				*e*S	**Sn**	**07 55 09.5**	**-0.6**
PAPH				IAML		07 55 11.7	
	comp=E,64nm,0.3s						
PAPH				IAML		07 55 12.0	
	comp=N,66nm,0.3s						
PAPH	**Port-au-Prince**	**1.66**	**100**	*i* P	**Pn**	**07 54 48.4**	**-0.6**
PAPH				*e*S	**Sb**	**07 55 10.6**	**-0.9**
PAPH				IAML		07 55 11.7	
	comp=Z,41nm,0.3s						
SABCS	**La Quijada**	**1.96**	**322**	*e*P	**Pn**	**07 54 53.3**	**+0.1**
RCC	**Rio Carpintero**	**1.96**	**307**	*e*P	**Pn**	**07 54 53.9**	**+0.7**
RCC				*e*S	**Sb**	**07 55 20.8**	**+0.5**
MOAC	**Moa**	**2.03**	**334**	*e*P	**Pb**	**07 54 57.1**	**0.0**
MARVS	**Santiago de Cu**	**2.12**	**304**	*e*P	**Pn**	**07 54 57.2**	**+1.8**
MARVS				*e*S	**Sb**	**07 55 26.1**	**+1.3**
LOPE2	**Hotel El Peder**	**2.30**	**110**	*i* P	**Pn**	**07 54 58.7**	**+0.9**
LOPE2				*e*S	**Sn**	**07 55 27.3**	**+1.4**
LOPE2				IAML		07 55 32.8	
	comp=Z,41nm,1.1s						
CHIV	**Chivirico**	**2.53**	**297**	*e*P	**Pn**	**07 55 00.5**	**-0.5**
CHIV				*e*S	**Sn**	**07 55 29.2**	**-2.5**
SDDR	**Presa de Saban**	**2.59**	**86**	*i* P	**Pn**	**07 55 03.2**	**+1.3**
SDDR				IAML		07 55 44.7	
	comp=Z,13nm,1.9s						
YAR	**Yar**	**2.69**	**305**	*e*P	**Pn**	**07 55 03.1**	**-0.1**
YAR				⇓*e*S	**Sn**	**07 55 35.5**	**-0.1**

IDC 27 07:57:51.4±999.0, 53°29N×3°19E, h0km, Error ellipse: s-maj=473.3km s-min=162.8km az=108.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**7.98**	**120**	I	I	08 44 25.1	
	0.1nm,1.7s,baz=308,slow=319,SNR=7.9						
I43RU	**DUBNA INFRASON**	**19.69**	**66**	I	I	09 56 30.0	
	baz=273,slow=330,SNR=2.5						
I31KZ	**AKTYUBINSK INF**	**33.30**	**72**	I	I	11 22 10.0	
	baz=302,slow=319,SNR=1.2						

DJA 27 07:59:34.3±0.8, 2°N±6°×12°8E±°, h188km±12km, M4.4/9, mb4.3/4, mB5.1/3, MLv4.4/9, Mw(mB)4.4/3
NEIC 27 07:59:34.2±1.4, 2.50N±0.10×128.3E±0.1, h199km±8km, mb4.5/35, Error ellipse: s-maj=16.6km s-min=12.9km az=61.0
IDC 27 07:59:35.7±4.5, 2.53N×128.52E, h216km±45km, mb3.9/17, mbtmp4.4/17, Error ellipse: s-maj=24.1km s-min=9.0km az=75.0
ISC 27 07:59:33.8±0.4, 2.47N±0.06×128.27E±0.06, h200km, n67, σ0s95/71, mb4.4/34, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.92**	**208**		**Pn**	**08 00 12.3**	**+0.8**
TNTI	**Ternate**	**1.92**	**208**	P	**Pn**	**08 00 11.4**	**-0.2**
SGSI	**Sangihe**	**2.99**	**294**	P	**Pn**	**08 00 22.6**	**-0.8**
SGSI				S	**Sn**	**08 01 01.2**	**-1.0**
LBMI	**Labuha**	**3.19**	**194**	P	**Pn**	**08 00 26.1**	**+0.4**
SWI	**Sorong**	**4.46**	**138**	P	**Pn**	**08 00 42.9**	**+1.5**
KMSI	**Cibinong**	**4.69**	**246**	P	**Pn**	**08 00 44.1**	**-0.2**
KMSI				S	**Sn**	**08 01 39.3**	**-0.4**
SANI	**Sanana**	**5.04**	**207**	P	**Pn**	**08 00 47.3**	**-1.5**
	203nm,0.7s,3μm0.8nm						
GTOI	**Gorontalo**	**5.57**	**251**	P	**Pn**	**08 00 57.9**	**+2.3**
	7.5nm,0.8s,0.1nm						
NLAI	**Namlea**	**5.79**	**192**	P	**Pn**	**08 00 58.4**	**-0.1**
	37nm,0.5s,6μm0.2nm						
LUWI	**Luwuk**	**6.51**	**238**		**Pn**	**08 01 08.2**	**+0.4**
LUWI	**Luwuk**	**6.51**	**238**	P	**Pn**	**08 01 07.8**	**0.0**
FAKI	**Fak Fak**	**6.67**	**143**	Pn	**Pn**	**08 01 08.8**	**-1.1**
KNRA	**Kununurra**	**18.04**	**178**	P	P	**08 03 30.8**	**+0.6**
KNRA				IAmb	IAmb	08 03 33.0	
	comp=Z,16nm,0.8s						
TPUB	**Ta-pu**	**21.99**	**341**	P	P	**08 04 10.0**	**-2.0**
TPUB				IAmb	IAmb	08 04 27.4	
	comp=Z,28nm,1.1s						
COEN	**Coen**	**22.02**	**138**	P	P	**08 04 10.4**	**-2.0**
COEN				IAmb	IAmb	08 04 51.9	
	comp=Z,16nm,1.4s						
WB0	**Warramunga Arr**	**22.90**	**165**	P	P	**08 04 20.3**	**-0.2**
YHNB	**Yeheng**	**23.05**	**344**	P	P	**08 04 21.6**	**-0.2**
WRAB	**Tennant Creek**	**23.05**	**165**	P	P	**08 04 21.5**	**-0.3**
WRA	**Warramunga Arr**	**23.06**	**165**	P	P	**08 04 20.6**	**-1.3**
WRA	**Warramunga Arr**	**23.06**	**165**	P	P	**08 04 21.9**	**0.0**
	comp=Z,17nm,0.6s,baz=344,slow=10.0,SNR=105						
	comp=Z,17nm,0.6s						
WB2	**Warramunga Arr**	**23.06**	**165**	P	P	**08 04 22.0**	**+0.2**
WR0	**Warramunga Arr**	**23.13**	**165**	P	P	**08 04 22.6**	**+0.1**
WR0				IAmb	IAmb	08 04 23.6	
	comp=Z,15nm,0.6s						
PSA00	**Pilbara Seismi**	**25.28**	**199**	P	P	**08 04 42.3**	**+0.3**
PSA00				IAmb	IAmb	08 04 54.6	
	comp=Z,7.7nm,1.2s						
UBPT	**Khong Chiam**	**25.83**	**301**	P	P	**08 04 49.2**	**+2.2**
UBPT				IAmb	IAmb	08 04 51.5	
	comp=Z,5.0nm,0.6s						
AS31	**Alice Springs**	**26.55**	**168**	P	P	**08 04 53.7**	**+0.2**
ASAR	**Alice Springs**	**26.55**	**168**	P	P	**08 04 53.1**	**-0.4**
ASAR	**Alice Springs**	**26.55**	**168**	P	P	**08 04 53.7**	**+0.2**
	comp=Z,2.2nm,0.4s,baz=355,slow=8.3,SNR=40						
ASAR				PcP	**PcP**	**08 08 13.2**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=354,slow=2.3,SNR=5.9						
	comp=Z,2.2nm,0.4s						
GIRL	**Giralia**	**28.48**	**208**	P	P	**08 05 11.6**	**+1.1**
JNU	**Nakatsue**	**30.59**	**4**	P	P	**08 05 28.1**	**-1.0**
JNU				IAmb	IAmb	08 05 29.7	
	comp=Z,22nm,1.4s						
CMAR	**Chiang Mai Arr**	**32.83**	**301**	P	P	**08 05 51.5**	**+2.6**
	comp=Z,1.5nm,0.4s,baz=116,slow=6.7,SNR=11						
	comp=Z,1.5nm,0.4s						
FORT	**Forrest**	**33.07**	**180**	P	P	**08 05 50.0**	**-0.6**
MORW	**Morawa**	**33.48**	**200**	P	P	**08 05 51.6**	**-2.7**
MORW				IAmb	IAmb	08 06 21.6	
	comp=Z,13nm,1.2s						
KSRS	**Korea Array**	**34.81**	**360**	P	P	**08 06 06.0**	**+0.4**
	comp=Z,2.5nm,0.5s,baz=176,slow=9.6,SNR=12						
	comp=Z,2.5nm,0.5s						
MJAR	**Matsushiro Arr**	**35.12**	**14**	P	P	**08 06 06.7**	**-1.6**
	comp=Z,4.6nm,0.8s,baz=187,slow=9.4,SNR=11						
	comp=Z,4.6nm,0.8s						
EIDS	**Eidsvold**	**35.42**	**143**	P	P	**08 06 09.5**	**-1.5**
EIDS				IAmb	IAmb	08 06 14.0	
	comp=Z,18nm,1.2s						
BBOO	**Buckleboo**	**35.86**	**169**	P	P	**08 06 14.6**	**0.0**
STKA	**Stephens Creek**	**36.43**	**161**	P	P	**08 06 19.3**	**-0.2**
STKA	**Stephens Creek**	**36.43**	**161**	P	P	**08 06 19.8**	**+0.3**
	comp=Z,7.7nm,0.4s,baz=342,slow=7.4,SNR=29						
	comp=Z,7.7nm,0.4s						
BJT	**Baijiatuau**	**38.95**	**345**	P	P	**08 06 39.8**	**-0.7**
BJT				IAmb	IAmb	08 06 41.6	
	comp=Z,7.7nm,0.6s						
ARMA	**Armidale**	**39.58**	**147**	P	P	**08 06 45.4**	**-0.6**
ARMA				IAmb	IAmb	08 07 08.4	
	comp=Z,24nm,1.4s						
USRK	**Ussuriysk Ar.**	**41.68**	**4**	P	P	**08 07 03.2**	**+0.4**
	comp=Z,3.5nm,0.7s,baz=171,slow=4.8,SNR=4.1						
	comp=Z,3.5nm,0.7s						
TOO	**Toolangi**	**42.93**	**160**	P	P	**08 07 13.9**	**+0.9**
TOO				IAmb	IAmb	08 07 27.8	
	comp=Z,18nm,1.4s						
ULN	**Ulaanbaatar**	**48.79**	**341**	P	P	**08 07 58.3**	**-0.6**
SONM	**Songino Array**	**48.98**	**341**	P	P	**08 08 00.8**	**+0.5**
SONM	**Songino Array**	**48.98**	**341**	P	P	**08 08 01.3**	**+1.0**
	comp=Z,1.9nm,0.5s,baz=149,slow=8.2,SNR=9.3						
	comp=Z,1.9nm,0.5s						
MSVF	**Nonsavu**	**52.99**	**114**	P	P	**08 08 31.7**	**+1.1**
MSVF				IAmb	IAmb	08 09 00.6	
	comp=Z,25nm,1.4s						
PEA0B	**Petropavlovsk-**	**56.03**	**21**	P	P	**08 08 52.2**	**+0.6**
PEA0B				IAmb	IAmb	08 08 52.6	
	comp=Z,15nm,1.2s						
PETK	**Petropavlovsk-**	**56.03**	**21**	P	P	**08 08 51.4**	**-0.3**
PETK	**Petropavlovsk-**	**56.03**	**21**	P	P	**08 08 51.7**	**0.0**
	comp=Z,1.1nm,0.6s,baz=186,slow=5.5,SNR=2.6						
	comp=Z,1.1nm,0.6s						
MK31	**Makanchi Array**	**59.46**	**325**	P	P	**08 09 16.5**	**+0.7**
MK31				IAmb	IAmb	08 09 16.9	
	comp=Z,3.0nm,0.5s						
MKAR	**Makanchi Array**	**59.46**	**325**	P	P	**08 09 16.4**	**+0.6**
MKAR	**Makanchi Array**	**59.46**	**325**	P	P	**08 09 16.5**	**+0.8**
	comp=Z,3.8nm,0.4s,baz=115,slow=8.2,SNR=76						
MKAR				PcP	**PcP**	**08 10 01.6**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=123,slow=6.3,SNR=3.9						
	comp=Z,3.8nm,0.4s						
MAKZ	**Makanchi**	**59.65**	**325**	P	P	**08 09 17.0**	**-0.1**
MAKZ				IAmb	IAmb	08 09 18.1	
	comp=Z,4.9nm,0.5s						
ZALV	**Zalesovo Beam**	**62.40**	**333**	P	P	**08 09 34.7**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=161,slow=9.4,SNR=4.0						
	comp=Z,0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**63.62**	**327**	P	P	**08 09 44.1**	**+0.6**
	comp=Z,6.6nm,0.6s,baz=127,slow=6.1,SNR=68						
	comp=Z,6.6nm,0.6s						
KURK	**Kurchatov**	**63.62**	**327**	P	P	**08 09 43.8**	**+0.3**
KURK				IAmb	IAmb	08 09 44.6	
	comp=Z,7.8nm,0.8s						
KK31	**Karatay Array**	**65.20**	**317**	P	P	**08 09 54.0**	**+0.1**
KKAR	**Karatay Array**	**65.20**	**317**	P	P	**08 09 53.6**	**-0.3**
BVAR	**Borovoye Array**	**69.21**	**327**	P	P	**08 10 19.3**	**+0.4**
	comp=Z,2.3nm,0.4s,baz=129,slow=8.2,SNR=18						
	comp=Z,2.3nm,0.4s						
BRVK	**Borovoye**	**69.28**	**327**	P	P	**08 10 19.1**	**-0.2**
NRIK	**Noril'sk**	**72.01**	**346**	P	P	**08 10 35.8**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=104,slow=3.0,SNR=5.0						
	comp=Z,1.2nm,0.4s						
ABKAR	**Akbulak array**	**74.09**	**321**	P	P	**08 10 47.6**	**-0.4**
AKTO	**Aktyubinsk**	**75.59**	**322**	P	P	**08 10 57.0**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=66,slow=8.3,SNR=3.6						
	comp=Z,1.1nm,0.6s						
VNDA	**Vanda**	**82.00**	**173**	P	P	**08 11 31.2**	**+0.3**
VNDA	**Vanda**	**82.00**	**173**	P	P	**08 11 31.6**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=318,slow=6.2,SNR=12						
	comp=Z,0.7nm,0.4s						
ARCES	**ARCESS Array B**	**92.15**	**340**	P	P	**08 12 19.6**	**-0.6**
	comp=Z,6.2nm,1.1s,baz=87,slow=5.5,SNR=5.1						
	comp=Z,6.2nm,1.1s						
QSPA	**South Pole Qui**	**92.39**	**180**	P	P	**08 12 22.1**	**+0.6**
QSPA				IAmb	IAmb	08 12 49.3	
	comp=Z,5.6nm,1.4s						

CATAC 27 08:10:39.6±0.3, 9.48N×84.39W, h12km±3km, ML3.3
UCR 27 08:10:40.8±0.9, 9.50N×84.37W, h32km±2km, MW3.5
ISC 27 08:10:40.6±1.0, 9.49N±0.04×84.39W±0.03, h32km±8km, n45, σ0s77/52, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RITA	**Parrita**	**0.06**	**59**	*e*P	**Pb**	**08 10 46.4**	**+0.4**
LLNJ	**Naranjito**	**0.28**	**93**	*e*P	**Pb**	**08 10 47.8**	**-0.2**
JACO	**JACO, Garabito**	**0.32**	**303**	*e*P	**Pn**	**08 10 48.7**	**-0.4**
JACO	**JACO, Garabito**	**0.32**	**303**	*i* P	**Pb**	**08 10 47.0**	**-1.5**
JACO				IAML		08 10 00.8	
	comp=Z,4μm,1.0s						
ABE2	**San Pablo**	**0.39**	**57**	*e*P	**Pb**	**08 10 49.2**	**-0.5**
SANTA	**Santa Ana**	**0.48**	**24**	*e*P	**Pb**	**08 10 50.5**	**-0.5**
AMPA	**Desamparados**	**0.52**	**38**	*e*P	**Pb**	**08 10 50.7**	**-0.8**
SJS3	**Mercedes San J**	**0.56**	**36**	*e*P	**Pb**	**08 10 51.7**	**-0.4**
ARZA	**Esparza**	**0.57**	**331**	*e*P	**Pn**	**08 10 52.9**	**+0.4**
OCM	**Ochomogo**	**0.58**	**46**	*i* P	**Pb**	**08 10 51.5**	**-1.1**
OCM				IAML		08 11 00.8	
	comp=Z,2μm,1.0s						
RIMA	**Rio Macho**	**0.59**	**62**	*e*P	**Pb**	**08 10 51.7**	**-0.9**
RIMA	**Rio Macho**	**0.59**	**62**	*i* P	**Pb**	**08 10 51.9**	**-0.8**
RIMA				*i* S	**Sb**	**08 11 00.3**	**-0.6**
RIMA				IAML		08 11 00.7	
	comp=Z,2μm,1.0s						
LAFE	**Finca La Fe, P**	**0.61**	**302**	*e*P	**Pn**	**08 10 53.1**	**+0.1**
LAFE	**Finca La Fe, P**	**0.61**	**302**	*i* P	**Pb**	**08 10 52.3**	**-0.6**
LAFE				IAML		08 10 53.7	
	comp=Z,12nm,1.0s						
REPA	**Paraso**	**0.61**	**56**	*e*P	**Pn**	**08 10 53.2**	**0.0**
CORON	**Coronado**	**0.61**	**38**	*e*P	**Pb**	**08 10 52.8**	**-0.3**
CDM	**Cerro de Muert**	**0.62**	**84**	*i* P	**Pb**	**08 10 52.0**	**-1.4**
CDM				IAML		08 11 02.9	
	comp=Z,4μm,1.0s						
PEZE	**Perez Zeledon,**	**0.71**	**98**	*e*P	**Pb**	**08 10 53.6**	**-1.0**
PEZE	**Perez Zeledon,**	**0.71**	**98**	*i* P	**Pb**	**08 10 53.8**	**-0.8**
PEZE				IAML		08 10 54.6	
	comp=Z,2μm,1.0s						
PEZE				*i* S	**Sb**	**08 11 04.1**	**0.0**
VICA	**Volcano Irazu**	**0.73**	**47**	*e*P	**Pb**	**08 10 54.4**	**-0.8**
RAFA	**San Farael, Vo**	**0.73**	**50**	*e*P	**Pb**	**08 10 54.5**	**-0.7**
CPMI	**Catarata Coope**	**0.79**	**0**	*i* P	**Pb**	**08 10 55.3**	**-0.8**
CPMI				IAML		08 10 55.5	
	comp=Z,590nm,1.0s						
CPMI				*i* S	**Sn**	**08 11 06.5**	**-0.1**
VTR0	**Volcan Turrial**	**0.81**	**50**	*e*P	**Pb**	**08 10 56.1**	**-0.5**
VTUN	**Crater Central**	**0.81**	**49**	*i* P	**Pb**	**08 10 55.8**	**-0.8**
VTUN				IAML		08 11 10.9	
	comp=Z,610nm,1.0s						
VTCV	**VTCV, Calle Va**	**0.82**	**53**	*i* P	**Pb**	**08 10 55.7**	**-0.8**
VTCV				*i* S	**Sn**	**08 11 07.4**	**+0.2**
VTCV				IAML		08 11 13.0	
	comp=Z,2μm,1.0s						
VERB	**Verbena**	**0.82**	**56**	*e*P	**Pb**	**08 10 55.8**	**-0.7**
OCHAL	**Ojochal**	**0.83**	**118**	*i* P	**Pb**	**08 10 55.8**	**-0.8**
OCHAL				*i* S	**Sn**	**08 11 07.3**	**+0.1**
OCHAL				IAML		08 11 09.1	
	comp=Z,490nm,1.0s						
SOCE	**Pocosol**	**0.92**	**346**	*e*P	**Pn**	**08 10 57.8**	**+0.4**
SOCE	**Pocosol**	**0.92**	**346**	*i* P	**Pn**	**08 10 57.7**	**+0.4**
SOCE				IAML		08 11 14.3	
	comp=Z,1μm,1.0s						
RIFO	**Rio Frio, Sara**	**0.94**	**29**	*i* P	**Pb**	**08 10 57.6**	**-0.9**
RIFO				IAML		08 11 18.8	
	comp=Z,550nm,1.0s						
JTS	**Las Juntas de**	**0.97**	**325**	*e*P	**Pb**	**08 10 58.2**	**-0.8**
LCOCO	**El Coco**	**1.01**	**54**	*e*P	**Pb**	**08 10 58.9**	**-0.7**
EDPN	**Palmar Norte**	**1.06**	**120**	*e*P	**Pn**	**08 10 59.3**	**+0.1**
PLAN	**Los Planes de**	**1.07**	**139**	*i* P	**Pn**	**08 10 59.9**	**+0.5**
PLAN				IAML		08 11 19.3	
	comp=Z,2μm,1.0s						
INDI	**Punta indio, G**	**1.16**	**289**	*e*P	**Pn**	**08 10 59.7**	**-0.9**
INDI	**Punta indio, G**	**1.16**	**289**	*i* P	**Pn**	**08 11 01.4**	**+0.7**
INDI				*i* S	**Sn**	**08 11 17.2**	**+1.7**
INDI				IAML		08 11 27.2	
	comp=Z,110nm,1.0s						
BATAN	**Batan**	**1.17**	**59**	*i* P	**Pn**	**08 11 01.3**	**+0.6**
BATAN				*i* S	**Sn**	**08 11 17.5**	**+1.9**
BATAN				IAML		08 11 19.4	
	comp=Z,2μm,1.0s						
COVE	**Coope Vega, Sa**	**1.22**	**359**	*e*P	**Pn**	**08 11 02.1**	**+0.6**
COVE	**Coope Vega, Sa**	**1.22**	**359**	*i* P	**Pn**	**08 11 02.1**	**+0.6**
COVE				IAML		08 11 29.8	
	comp=Z,360nm,1.0s						
POTG	**Potrero Grande**	**1.32**	**109**	*i* P	**Pn**	**08 11 03.2**	**+0.2**
POTG				IAML		08 11 23.1	
	comp=Z,810nm,

baz=182
LKD2 Lefkada island 0.55 184 P **Pb** 08 12 06.7 -0.3
LKD2 S **Sn** 08 12 16.1 -0.8
LKD2 Lefkada island 0.55 184 P **Pb** 08 12 06.1 -0.9
LKD2 AML AML 08 12 19.6
comp=E,32616µm,0.6s
LKD2 AML AML 08 12 21.0
comp=N,19427µm,0.4s
NYDR Nydri-Lefkada 0.62 181 P **Pb** 08 12 08.4 +0.2
NYDR S **Sn** 08 12 18.7 0.0
comp=N,9µm,0.4s
NYDR Nydri-Lefkada 0.62 181 P **Pb** 08 12 07.1 -1.1
NYDR S **Sb** 08 12 16.0 -0.5
DRAG Dragano-Lefkad 0.66 189 P **Pb** 08 12 09.3 +0.4
DRAG S **Sn** 08 12 19.8 +0.1
DRAG Dragano-Lefkad 0.66 189 P **Pb** 08 12 08.0 -0.8
EVGI Lefkada island 0.72 184 P **Pb** 08 12 10.0 +0.2
EVGI S **Sn** 08 12 21.7 +0.7
EVGI Lefkada island 0.72 184 P **Pb** 08 12 08.7 -1.1
EVGI S **Sb** 08 12 18.7 -0.5
KASA Kassiopi 0.73 304 P **Pb** 08 12 09.9 0.0
SRN Sarande 0.77 315 P **Pb** 08 12 10.3 -0.4
baz=320
SRN S **Sn** 08 12 23.5 +1.1
baz=320
SRN AMP
comp=E,6.8nm,0.4s,baz=320
SRN Sarande 0.77 315 P **Pb** 08 12 10.7 0.0
KPRO Kipourio 0.80 39 P **Pb** 08 12 10.1 -1.1
KPRO S **Sb** 08 12 22.2 +0.7
KEK Kerkira 0.80 298 P **Pb** 08 12 10.4 -0.8
KEK S **Sn** 08 12 23.7 +0.6
KEK Kerkira 0.80 298 **Pb** 08 12 07.8 -3.4
KEK **Sn** 08 12 23.9 +0.8
LSK Leskovik 0.82 354 P **Pb** 08 12 10.9 -0.6
baz=357
LSK S **Sn** 08 12 24.8 +1.2
baz=357
LSK AMP
comp=N,39nm,0.5s,baz=357
LSK Leskovik 0.82 354 P **Pn** 08 12 12.2 0.0
LSK S **Sn** 08 12 23.3 -0.3
AST1 Astakos 0.85 160 P **Pn** 08 12 12.3 -0.2
PENT Pentalofos 0.92 21 P **Pb** 08 12 12.7 -0.6
PENT S **Sn** 08 12 27.1 +0.9
EVR Evrytania 0.95 116 P **Pb** 08 12 13.9 +0.1
EVR S **Sn** 08 12 27.8 +0.9
EVR Evrytania 0.95 116 P **Pb** 08 12 12.6 -1.2
EVR S **Sb** 08 12 26.4 +0.4
EVR AML AML 08 12 31.4
comp=N,12263µm,0.7s
EVR AML AML 08 12 34.2
comp=E,15101µm,0.8s
PVO Paravola 0.96 138 P **Pn** 08 12 14.6 +0.5
PVO S **Sn** 08 12 28.8 +1.8
THL Klokotos Trika 1.03 77 P **Pn** 08 12 15.7 +0.6
THL S **Sn** 08 12 31.0 +2.2
NEST Nestorio 1.11 13 P **Pb** 08 12 17.3 +0.8
NEST S **Sn** 08 12 33.1 +2.3
DMLN Damoulianata-K 1.13 194 P **Pb** 08 12 18.0 +1.2
DMLN S **Sn** 08 12 35.4 +4.2
DMLN Damoulianata-K 1.13 194 P **Pb** 08 12 16.9 +0.1
DMLN S **Sn** 08 12 31.3 +0.3
MAKR Makrakomi, Fth 1.15 106 P **Pb** 08 12 17.3 +0.1
LXRA Lixouri, Kepha 1.16 191 P **Pn** 08 12 16.7 0.0
VLS Valsamata 1.16 185 P **Pb** 08 12 18.3 +0.9
VLS S **Sn** 08 12 35.8 +3.7
VLS Valsamata 1.16 185 P **Pn** 08 12 16.6 -0.3
VLS AML AML 08 12 38.5
comp=E,5129µm,0.5s
VLS AML AML 08 12 41.8
comp=N,9236µm,0.8s
KEF3 Kipouria, Keph 1.17 194 P **Pb** 08 12 18.4 +0.9
KEF3 S **Sn** 08 12 36.4 +4.3
ANX Ano Chora 1.20 128 P **Pb** 08 12 19.0 +0.9
ANX S **Sn** 08 12 36.2 +3.1
ANX Ano Chora 1.20 128 P **Pn** 08 12 16.7 -0.8
ANX AML AML 08 12 38.8
comp=N,18042µm,0.9s
ANX AML AML 08 12 41.6
comp=E,11610µm,0.5s
PSDA Pessada-Kefalo 1.23 185 P **Pb** 08 12 19.2 +0.8
PSDA S **Sn** 08 12 38.1 +4.5
PSDA Pessada-Kefalo 1.23 185 P **Pn** 08 12 17.8 0.0
KBN Korca 1.28 3 P **Pb** 08 12 20.4 +0.9
baz=3.0
KBN S **Sb** 08 12 40.1 +4.5
baz=3.0
KBN Korca 1.28 3 P **Pb** 08 12 21.0 +1.5
KBN Korca 1.28 3 **Pb** 08 12 20.1 +0.6
KBN Sn **Sb** 08 12 40.4 +4.7
AGG Agios Georgios 1.30 104 P **Pb** 08 12 19.9 +0.2
AGG S **Sb** 08 12 39.3 +3.4
AGG Agios Georgios 1.30 104 Pn **Pn** 08 12 17.8 -0.9
AGG Sn **Sb** 08 12 37.2 +1.3
EFP Efpalio 1.30 134 P **Pb** 08 12 20.7 +1.0
EFP S **Sb** 08 12 39.7 +3.7
EFP Efpalio 1.30 134 P **Pn** 08 12 18.8 +0.1
EFP AML AML 08 12 41.9
comp=N,14670µm,0.9s
EFP AML AML 08 12 43.3
comp=E,14509µm,0.6s
UPR University Cam 1.35 141 P **Pb** 08 12 22.3 +1.8
RLS Riolos of Patr 1.41 155 P **Pb** 08 12 22.4 +0.9
RLS Riolos of Patr 1.41 155 P **Pn** 08 12 20.2 0.0
RLS AML AML 08 12 49.4
comp=E,3343µm,0.6s
RLS AML AML 08 12 52.7
comp=N,3750µm,0.5s
VLO Vlora 1.47 321 Pn **Pb** 08 12 25.8 +3.3
FNA Florina 1.53 19 P **Pb** 08 12 22.9 -0.7
baz=19
FNA S **Sb** 08 12 47.0 +4.3
baz=19
FNA AMP
comp=E,4.2nm,0.8s,baz=19
FNA Florina 1.53 19 P **Pb** 08 12 23.6 -0.1
FNA S **Sb** 08 12 45.3 +2.6
FNA Florina 1.53 19 **Pb** 08 12 23.2 -0.5
FNA Florina 1.53 19 P **Pb** 08 12 23.0 -0.7
FNA AML AML 08 12 51.1
comp=N,3916µm,0.5s
FNA AML AML 08 12 55.1
comp=E,5390µm,0.8s
ALIK Aliki, Aigiali 1.53 134 P **Pb** 08 12 25.0 +1.3
LIT Litokhoron 1.57 60 P **Pb** 08 12 24.4 +0.1
LIT S **Sb** 08 12 46.7 +3.0
LIT Litokhoron 1.57 60 **Pn** 08 12 23.2 +0.7
LIT **Sb** 08 12 44.8 +1.1
DRO Drossia 1.59 150 P **Pb** 08 12 24.5 -0.2
DRO S **Sb** 08 12 47.5 +3.2
DRO Drossia 1.59 150 P **Pn** 08 12 23.2 +0.4
DRO AML AML 08 12 54.1
comp=E,9648µm,0.5s
DRO AML AML 08 13 01.6
comp=N,7576µm,0.7s
AXAR Agios Charalam 1.62 110 P **Pb** 08 12 24.9 -0.3
AXAR S **Sb** 08 12 48.1 +2.9
LTHK Lithakia 1.63 177 P **Pb** 08 12 26.5 +1.2
LTHK Lithakia 1.63 177 P **Pb** 08 12 24.4 -0.9
DLFA Delphi 1.64 121 P **Pb** 08 12 24.7 -0.7
KLV Kalavryta, Ach 1.71 139 P **Pb** 08 12 27.0 +0.2
KLV Kalavryta, Ach 1.71 139 P **Pn** 08 12 25.7 +1.2
OHR Ohrid 1.77 2 *i* Pn **Pb** 08 12 29.7 +1.9
SCTE Santa Cesarea 1.88 294 P **Pb** 08 12 28.8 -0.8
baz=296
SCTE S **Sb** 08 12 53.7 +1.0
baz=296
SCTE AMP
comp=E,1.1nm,0.5s,baz=296
SCTE Santa Cesarea 1.88 294 **Pb** 08 12 28.6 -1.0
GUR Goura 1.89 137 P **Pb** 08 12 29.5 -0.4
GUR S **Sb** 08 12 54.9 +1.7
GUR Goura 1.89 137 P **Pn** 08 12 28.4 +1.4
GUR AML AML 08 13 03.7
comp=E,4630µm,0.7s
GUR AML AML 08 13 05.4
comp=N,7741µm,0.6s
XOR Xorichti 1.92 88 P **Pb** 08 12 29.2 -1.1
XOR S **Sb** 08 12 55.7 +1.8
comp=N,3µm,0.9s
XOR Xorichti 1.92 88 P **Pn** 08 12 28.4 +1.1
XOR AML AML 08 13 01.8
comp=N,9485µm,1.0s
XOR AML AML 08 13 04.9
comp=E,3743µm,0.6s
THAL Thalero 2.00 130 P **Pb** 08 12 30.8 -0.9
GRG Griva 2.07 38 P **Pb** 08 12 31.4 -1.5
GRG Griva 2.07 38 P **Pb** 08 12 31.2 -1.7
GRG AML AML 08 13 05.4
comp=E,1439µm,0.7s
GRG AML AML 08 13 08.0
comp=N,2455µm,1.0s
TIR Tirane 2.11 342 P **Pb** 08 12 33.2 -0.3
baz=344
TIR Tirane 2.11 342 P **Pb** 08 12 32.5 -1.0
TIR Tirane 2.11 342 **Pn** 08 12 31.7 +1.8
THE Thessaloniki 2.16 53 P **Pb** 08 12 33.3 -1.1
HORT Hortiatis 2.22 55 P **Pn** 08 12 33.4 +1.9
HORT S **Sb** 08 13 03.4 +0.7
HORT Hortiatis 2.22 55 P **Pn** 08 12 33.0 +1.4
LOUT Loutraki 2.23 127 P **Pb** 08 12 33.7 -1.8
VILL Villia 2.35 119 P **Pb** 08 12 35.6 -2.0
VAY Valandovo 2.44 35 *i* Pn **Pn** 08 12 36.6 +2.3
KNT Kendrikon 2.47 42 P **Pn** 08 12 36.8 +1.9
KNT Kendrikon 2.47 42 P **Pn** 08 12 36.5 +1.6
KNT AML AML 08 13 09.9
comp=E,603µm,0.6s
KNT AML AML 08 13 11.1
comp=N,544µm,0.9s
SOH Sokhos 2.51 53 P **Pn** 08 12 37.8 +2.4
SOH S **Sb** 08 13 10.2 -0.7
comp=N,872nm,0.7s
PYL PYLOS 2.57 161 P **Pn** 08 12 38.3 +2.1
PYL PYLOS 2.57 161 P **Pn** 08 12 37.2 +1.0
PYL AML AML 08 13 26.0
comp=E,1221µm,0.6s
PYL AML AML 08 13 36.1
comp=N,916µm,1.3s
STIP Stip 2.61 25 *i* Pn **Pb** 08 12 41.5 -0.5
SKO Skopje 2.69 12 *e*Pn **Pn** 08 12 38.4 +0.6
OUR Ouranopolis 2.71 67 P **Pn** 08 12 40.4 +2.3
OUR S **Sb** 08 13 14.5 -1.9
comp=N,870nm,0.4s
OUR Ouranopolis 2.71 67 P **Pn** 08 12 39.8 +1.7
OUR AML AML 08 13 14.8
comp=N,1802µm,0.4s
OUR AML AML 08 13 15.4
comp=E,1709µm,0.4s
ATH Athens Observa 2.72 119 P **Pn** 08 12 40.5 +2.3
ATH Athens Observa 2.72 119 P **Pn** 08 12 40.0 +1.7
ATH AML AML 08 13 14.9
comp=E,1914µm,0.5s
ATH AML AML 08 13 27.5
comp=N,2231µm,1.1s
KYMI Kymi, Euboea I 2.73 104 P **Pn** 08 12 40.3 +1.9
KYMI Kymi, Euboea I 2.73 104 P **Pn** 08 12 39.6 +1.2
KYMI AML AML 08 13 15.8
comp=E,1306µm,0.6s
KYMI AML AML 08 13 20.1
comp=N,974µm,1.0s
KRND KRANIDI 2.73 135 P **Pn** 08 12 40.3 +1.8
KRND KRANIDI 2.73 135 P **Pn** 08 12 39.4 +0.9
KRND AML AML 08 13 23.3
comp=N,1649µm,0.8s
KRND AML AML 08 13 28.0
comp=E,1858µm,0.6s
ATHU Athens Univers 2.77 119 P **Pn** 08 12 41.1 +2.2
PUK Puka 2.77 347 P **Pn** 08 12 42.0 +2.9
baz=349
PUK S **Sb** 08 13 16.7 -1.8
baz=349
PUK Puka 2.77 347 **Pn** 08 12 40.8 +1.8
PTL Penteli 2.78 117 P **Pn** 08 12 42.0 +2.8
PTL S **Sb** 08 13 16.8 -1.8
PTL Penteli 2.78 117 P **Pn** 08 12 41.1 +1.9
PTL AML AML 08 13 16.3
comp=N,1188µm,0.6s
PTL AML AML 08 13 33.8
comp=E,1500µm,1.0s
DION Dionisos Attik 2.82 116 P **Pn** 08 12 42.4 +2.8
DION S **Sb** 08 13 18.5 -1.1
SRS Serrai 2.83 50 P **Pn** 08 12 42.0 +2.2
SRS S **Sb** 08 13 17.7 -2.4
ULC Ulcinj 2.85 337 ⇓ *i* Pn **Pn** 08 12 41.4 +1.3
ULC *i* Sn **Sn** 08 13 16.4 +2.7
KOKK Kokkinochori, 2.92 59 P **Pn** 08 12 43.4 +2.3
KOKK S **Sb** 08 13 19.9 -2.8
KOKK Kokkinochori, 2.92 59 P **Pn** 08 12 42.4 +1.3
KOKK AML AML 08 13 20.0
comp=E,752µm,0.5s
KOKK AML AML 08 13 22.8
comp=N,973µm,0.5s
SKY Skiros Island 3.02 98 P **Pn** 08 12 44.8 +2.4
SKY S **Sb** 08 13 22.2 -3.3
BCI Bajram Curri 3.06 351 P **Pb** 08 12 46.6 -3.2
baz=352
BCI S **Sb** 08 13 25.6 -1.2
baz=352
DRME Dracevica, Mon 3.07 338 *e*Pn **Pn** 08 12 45.2 +2.1
DRME Dracevica, Mon 3.07 338 ⇓ *i* Pn **Pn** 08 12 44.6 +1.5
DRME *i* Sn **Sn** 08 13 21.8 +2.6
TIP Timpagrande 3.07 268 ⇓ P **Pn** 08 12 44.7 +1.5
TIP Timpagrande 3.07 268 **Pn** 08 12 44.3 +1.1
NVR Nevrokopi 3.13 49 P **Pn** 08 12 47.1 +3.1
NVR S **Sb** 08 13 25.7 -3.1
NVR Nevrokopi 3.13 49 P **Pn** 08 12 46.2 +2.1
NVR AML AML 08 13 28.7
comp=N,475µm,0.5s
NVR AML AML 08 13 29.3
comp=E,596µm,0.7s
VLI Veliai 3.15 145 P **Pn** 08 12 46.9 +2.7
VLI Veliai 3.15 145 P **Pn** 08 12 45.8 +1.6
BUM Brajici-Budva 3.27 336 ⇑ *i* Pn **Pn** 08 12 46.8 +1.0
BUM *i* Sn **Sn** 08 13 26.5 +2.5
PVY Plav 3.30 350 ⇑ *i* Pn **Pn** 08 12 48.5 +2.1
PVY *i* Sn **Sn** 08 13 27.4 +2.4
MATE Matera 3.35 294 ⇓ P **Pn** 08 12 49.4 +2.5
KAVA Kavala 3.35 59 P **Pn** 08 12 49.5 +2.6
CEME Cevo 3.48 338 ⇑ *i* Pn **Pn** 08 12 49.4 +0.6
CEME *i* Sn **Sn** 08 13 31.6 +2.2
LIA Limnos Island 3.50 79 P **Pn** 08 12 50.8 +1.9
HCY Herceg Novi 3.53 332 *e*Pn **Pn** 08 12 50.3 +0.9
HCY Herceg Novi 3.53 332 ⇑ *i* Pn **Pn** 08 12 50.0 +0.6
HCY *i* Sn **Sn** 08 13 32.8 +2.3
IVA Berane 3.58 350 ⇓ *i* Pn **Pn** 08 12 52.2 +2.0
IVA *i* Sn **Sn** 08 13 34.1 +2.2
KOME Kolasin 3.62 346 ⇑ *i* Pn **Pn** 08 12 53.5 +2.7
KOME *i* Sn **Sn** 08 13 34.8 +1.9
NKME Niksic 3.67 339 ⇑ *i* Pn **Pn** 08 12 52.5 +1.1
NKME *i* Sn **Sn** 08 13 36.0 +1.9
TREB Trebinje 3.82 333 *e*Pn **Pn** 08 12 54.2 +0.8
CUC Castrocucco 3.84 281 Pn **Pn** 08 12 54.7 +1.0
DBRK Dubrovnik 3.85 331 *e*Pn **Pn** 08 12 54.8 +0.9
DBRK Sn **Sn** 08 13 38.3 -0.1
CEL Celeste 3.92 256 **Pn** 08 12 54.6 -0.2
BRY Bratogost 3.92 336 *e*Pn **Pn** 08 12 55.9 +1.0
BRY Bratogost 3.92 336 ⇑ *i* Pn **Pn** 08 12 56.1 +1.2
BRY *i* Sn **Sn** 08 13 42.1 +1.8
SJES Sjenica 3.96 352 *e*Pn **Pn** 08 12 58.1 +2.7
ANKY Antikythira Is 4.03 149 P **Pn** 08 12 58.9 +2.6
ANKY Antikythira Is 4.03 149 P **Pn** 08 12 58.2 +2.0
UPM Unac-Piva 4.09 341 ⇑ *i* Pn **Pn** 08 12 59.0 +1.7
UPM *i* Sn **Sn** 08 13 46.7 +2.1
RDO Rodhopi 4.11 62 P **Pn** 08 13 00.3 +2.9
RDO Rodhopi 4.11 62 **Pn** 08 12 58.0 +0.6
PLE Pljevlja 4.11 346 ⇑ *i* Pn **Pn** 08 12 59.7 +2.2
PLE *i* Sn **Sn** 08 13 46.6 +1.7
STON Ston 4.20 328 *e*Pn **Pn** 08 12 59.0 +0.4
CHOS Chios island 4.28 101 P **Pn** 08 13 02.3 +2.6
CHOS Chios island 4.28 101 P **Pn** 08 13 01.4 +1.7
PRK Paraskevi 4.31 89 P **Pn** 08 13 03.2 +3.0
ALN Alexandroupoli 4.38 67 P **Pn** 08 13 04.2 +3.2
ALN Alexandroupoli 4.38 67 Pn **Pn** 08 13 01.1 +0.1
RUDO Rudo 4.39 347 *e*Pn **Pn** 08 12 59.1 -2.2
NEVS Nevesinje 4.42 334 *e*Pn **Pn** 08 13 04.7 +3.0
APE Apeiranthos 4.42 119 ⇑ P **Pn** 08 13 03.5 +1.9
APE Apeiranthos 4.42 119 P **Pn** 08 13 03.2 +1.5
LSTV Lastovo 4.48 321 *e*Pn **Pn** 08 13 02.8 +0.4
SGRT San Giovanni R 4.49 304 **Pn** 08 13 03.0 +0.3
BLKB Belogradchik 4.53 18 ⇑ P **Pn** 08 13 06.4 +3.2
BBLS Lazi&#263i 4.63 348 *e*Pn **Pn** 08 13 06.1 +1.5
IMMV Iera Moni Meta 4.66 145 P **Pn** 08 13 07.9 +2.9
IMMV Iera Moni Meta 4.66 145 P **Pn** 08 13 05.6 +0.6
MAKA Makarska 4.83 326 *e*Pn **Pn** 08 13 08.4 +1.2
HAPS Han Pijesak,Bl 4.92 345 *e*Pn **Pn** 08 13 10.1 +1.4
RICI Ricice 4.95 328 *e*Pn **Pn** 08 13 09.9 +1.0
PAOL Paolisi 5.00 292 **Pn** 08 13 11.8 +2.2
HVAR Hvar 5.00 321 *e*Pn **Pn** 08 13 10.4 +0.7
IDI Anoyia 5.24 139 **Pn** 08 13 11.6 -1.3
IDI Anoyia 5.24 139 Pn **Pn** 08 13 12.7 -0.2
baz=288,slow=12,SNR=12
IDI Sn **Sn** 08 14 10.3 -2.3
comp=E,0.1nm,0.3s,baz=352,slow=19,SNR=6.1
ELND Elena 5.30 46 ⇑ P **Pn** 08 13 17.2 +3.5
RAFF Raffo Rosso 5.42 249 Pn **Pn** 08 13 14.1 -1.4
MDVR Moldovita 5.49 7 ⇑ P **Pn** 08 13 20.1 +3.7
KIJV Kijevo 5.67 327 *i* Pn **Pn** 08 13 20.4 +1.6
HERR Herculane 5.68 12 ⇑ P **Pn** 08 13 22.3 +3.4
ZIRJ Zirje 5.75 320 *e*Pn **Pn** 08 13 20.5 +0.6
MGRS Mrkonjic Grad 5.75 333 *e*Pn **Pn** 08 13 21.7 +1.7
FRGS Fruska Gora 5.85 354 *e*Pn **Pn** 08 13 22.4 +1.0
MORI Morici 5.88 322 *e*Pn **Pn** 08 13 22.7 +1.0
BLY Banja Luka 6.01 335 *e*Pn **Pn** 08 13 24.6 +1.1
A050A Klekovaca 6.01 330 *e*Pn **Pn** 08 13 25.5 +1.9
GZR Gura Zlata 6.24 14 ⇑ P **Pn** 08 13 29.3 +2.6
DUGI Dugi Otok 6.29 320 *i* Pn **Pn** 08 13 28.8 +1.5
BZS Buzias 6.31 6 ⇑ P **Pn** 08 13 30.4 +2.8
A051A Mrakovica 6.33 335 *e*Pn **Pn** 08 13 29.1 +1.1
KARP Karpathos 6.37 124 Pn **Pn** 08 13 27.0 -1.6
CAMP Campotosto 6.39 302 **Pn** 08 13 30.5 +1.7
SURR Surduc 6.50 9 ⇓ P **Pn** 08 13 32.7 +2.6
VIRC Vir 6.51 321 *e*Pn **Pn** 08 13 31.9 +1.6
ARR Arges 6.69 24 ⇑ P **Pn** 08 13 35.7 +2.9
GUMA Gualdo di Mace 6.69 306 **Pn** 08 13 32.9 0.0
PLIT Plitvice 6.71 327 *e*Pn **Pn** 08 13 34.6 +1.6
NRCA Norcia 6.72 304 **Pn** 08 13 32.9 -0.3
NVLJ Novalja 6.80 322 *e*Pn **Pn** 08 13 35.5 +1.3
VOIR 6.89 26 ⇑ P **Pn** 08 13 39.3 +3.8
MOSL Moslavina 6.92 336 *e*Pn **Pn** 08 13 36.1 +0.1
MORH Mrgy, Hungar 7.04 348 ⇑ P **Pn** 08 13 39.9 +2.3
ISR Istrita 7.21 35 ⇓ P **Pn** 08 13 43.9 +3.9
MLR Muntele Rosu 7.26 30 ⇑ P **Pn** 08 13 45.3 +4.5
MLR Muntele Rosu 7.26 30 Pn **Pn** 08 13 44.5 +3.7
comp=E,1.0nm,0.3s,baz=259,slow=17,SNR=6.8
MLR LR LR 08 16 52.2
comp=E,174nm,20.5s,baz=218,slow=42
BOJS Bojanci 7.37 329 *e*Pn **Pn** 08 13 43.1 +1.0
OZLJ Ozalj 7.37 330 *e*Pn **Pn** 08 13 42.4 +0.3
PTJ Puntijarka 7.44 334 *e*Pn **Pn** 08 13 43.4 +0.3
BISRR Bisoca 7.62 34 ⇓ P **Pn** 08 13 49.7 +4.0
PLOR Plostina 7.84 32 ⇑ P **Pn** 08 13 53.1 +4.4
VRI Vrincioaia 7.89 32 ⇓ P **Pn** 08 13 53.3 +4.1
CEY Cerknica 7.90 326 *e*Pn **Pn** 08 13 50.4 +1.0
SOKA Soboth 8.43 332 *i* Pn **Pn** 08 13 57.4 +0.7
comp=E,2.2nm,0.3s
SOKA *e*Sn **Sn** 08 15 29.1 -2.1
comp=E,5.8nm,0.7s
SABO M.te Sabotino 8.45 324 **Pn** 08 13 56.9 -0.2
OBKA Obir 8.47 330 *e*Pn **Pn** 08 13 59.1 +1.7
comp=E,1.8nm,0.2s
OBKA *e*Sn **Sn** 08 15 31.8 -0.4
comp=E,11nm,0.5s
OBKA Obir 8.47 330 *e*Pn **Pn** 08 13 58.7 +1.4
PSZ Piszkesteto 8.60 356 Pn **Pn** 08 13 58.7 -0.3
PRED Cave del Predi 8.82 326 Pn **Pn** 08 14 02.0 -0.1
BURAR Bucovina Array 8.90 20 ⇑ P **Pn** 08 14 07.1 +4.0
TEOL Teolo 9.00 315 Pn **Pn** 08 14 04.4 0.0
KBA Koelnbreinsper 9.42 328 *e*Pn **Pn** 08 14 13.4 +3.0
comp=E,1.5nm,0.4s
CTI Castel Tesino 9.46 318 Pn **Pn** 08 14 10.3 -0.5
ABTA Abfaltersbach 9.53 324 *i* Pn **Pn** 08 14 14.0 +2.2
comp=E,3.5nm,0.5s
ABTA *e*Sn **Sn** 08 15 55.5 -2.6
comp=E,12nm,0.6s
KEST Kesra 9.72 252 LR LR 08 19 12.9
comp=E,64nm,18.4s,baz=164,slow=45
MSSA Maissana 9.72 304 Pn **Pn** 08 14 15.0 +0.5
LESA Schwarzleotal 9.97 327 *e*Pn **Pn** 08 14 21.4 +3.5
comp=E,3.2nm,0.4s
WTTA Wattenberg 10.31 323 *e*Pn **Pn** 08 14 25.5 +2.8
comp=E,1.8nm,0.2s
WTTA *e*Sn **Sn** 08 16 16.4 -1.2
comp=E,12nm,0.6s
VRAC Vranov 10.39 345 LR LR 08 18 46.6
comp=E,120nm,20.8s,baz=158,slow=40
WATA Walderalm 10.39 323 *i* Pn **Pn** 08 14 26.1 +2.4
comp=E,1.7nm,0.2s
SQTA Sankt Quirin 10.48 322 *i* Pn **Pn** 08 14 28.8 +3.8
comp=E,1.8nm,0.3s
FUORN Ofenpass-Fuorn 10.56 317 **Pn** 08 14 25.1 -0.9
FETA Feichten 10.58 320 *e*Sn **Sn** 08 16 23.0 -1.1
comp=E,3.1nm,0.6s
MOTA Moosalm 10.62 322 *i* Pn **Pn** 08 14 28.9 +2.1
comp=E,1.9nm,0.3s
MOTA *e*Sn **Sn** 08 16 23.6 -1.5
comp=E,14nm,0.6s
GERES GERESS Array B 10.75 334 Pn **Pn** 08 14 28.6 0.0
GERES GERESS Array B 10.75 334 LR LR 08 19 44.3
comp=E,363nm,18.9s,baz=134,slow=44
DAVOX Davos/Dischmat 10.86 317 LR LR 08 19 26.2
comp=E,101nm,18.1s,baz=88,slow=41
KHC Kasperske Hory 11.04 335 *e*SN **Sn** 08 16 32.0 -3.2
SENIN Lac Senin/Sane 12.08 310 Pn **Pn** 08 14 44.4 -2.4
AKASG Malin Array Be 12.85 25 LR LR 08 20 52.0
comp=E,151nm,21.0s,baz=212,slow=42
ASF Jabal al Asfar 14.95 114 LR LR 08 22 19.1
comp=E,121nm,18.7s,baz=159,slow=42
EIL Elat 15.18 125 Pn **Pn** 08 15 25.6 -3.3
comp=E,0.4nm,0.3s,baz=35,slow=18,SNR=2.4
comp=E,2.1nm,0.4s
ESDC Sonseca Array 19.03 279 P **Pn** 08 16 18.3 +1.1
comp=E,0.1nm,0.3s,baz=69,slow=11,SNR=11
ESDC LR LR 08 23 40.7
comp=E,71nm,20.1s,baz=80,slow=37
comp=E,2.1nm,0.9s
HFS Hagfors 21.28 350 P **P** 08 16 40.3 -0.3
comp=E,2.6nm,0.6s,baz=168,slow=15,SNR=8.6
HFS LR LR 08 27 20.9
comp=E,82nm,18.9s,baz=172,slow=44
comp=E,2.6nm,0.6s
MDT Midelt 21.44 260 P **P** 08 16 43.4 +0.8
comp=E,3.4nm,1.0s,baz=197,slow=19,SNR=2.0
comp=E,3.4nm,1.0s
NC602 NORSAR Array S 22.17 348 P **P** 08 16 48.9 -1.2
NC602 IAmb IAmb 08 17 23.5
comp=Z,8.8nm,1.1s
FINES FINESS Array B 22.38 7 P **P** 08 16 52.0 -0.3
comp=Z,3.2nm,0.8s,baz=179,slow=9.3,SNR=9.4
FINES LR LR 08 26 24.2
comp=Z,97nm,20.4s,baz=204,slow=39
comp=Z,3.2nm,0.8s
NC405 NORSAR Array S 22.50 349 P **P** 08 16 54.0 +0.2
NB2 NORSAR Subarra 22.51 348 P **P** 08 16 53.7 -0.2
comp=Z,7.5nm,1.2s,baz=164,slow=11
NOA NORSAR Array B 22.51 348 P **P** 08 16 54.4 +0.5
comp=Z,3.3nm,0.8s,baz=161,slow=11,SNR=8.7
NOA LR LR 08 26 43.6
comp=Z,60nm,19.5s,baz=155,slow=40
comp=Z,3.3nm,0.8s
EKA Eskdalemuir Ar 22.58 323 P **P** 08 16 54.8 +0.3
comp=Z,8.6nm,0.8s,baz=126,slow=10.0,SNR=17
comp=Z,8.6nm,0.8s
BELG Belogornoye 22.68 46 LR LR 08 25 11.5
comp=Z,37nm,18.4s,baz=102,slow=35
KIRV Kirov 25.61 34 LR LR 08 27 54.9
comp=Z,55nm,18.7s,baz=234,slow=36
AKTO Aktyubinsk 28.38 55 P **P** 08 17 47.7 -0.6
comp=Z,1.0nm,0.5s,baz=211,slow=2.8,SNR=4.2
comp=Z,1.0nm,0.5s
ABKAR Akbulak array 29.48 57 P **P** 08 17 57.5 -0.6
ARCES ARCESS Array B 30.37 3 P **P** 08 18 05.2 -0.5
ARCES ARCESS Array B 30.37 3 P **P** 08 18 04.9 -0.8
comp=Z,1.2nm,0.5s,baz=189,slow=11,SNR=10
ARCES LR LR 08 32 42.4
comp=Z,44nm,18.1s,baz=32,slow=41
comp=Z,1.2nm,0.5s
TOA0 Torodi Ar. Sit 31.03 218 P **P** 08 18 12.2 +0.2
TOA0 IAmb IAmb 08 18 21.2
comp=Z,4.6nm,1.5s
TORD Torodi Ar. Bea 31.03 218 P **P** 08 18 13.0 +0.9
comp=Z,1.2nm,0.8s,baz=28,slow=9.1,SNR=10
comp=Z,1.2nm,0.8s
BORG Borgarnes 35.18 330 LR LR 08 35 54.7
comp=Z,81nm,19.0s,baz=155,slow=41
WSAR Wadi Sarin 35.86 105 LR LR 08 35 45.3
comp=Z,38nm,20.2s,baz=270,slow=40
BVAR Borovoye Array 36.27 51 P **P** 08 18 57.1 -0.2
comp=Z,0.5nm,0.4s,baz=280,slow=8.9,SNR=4.7
comp=Z,0.5nm,0.4s
SIMJ Simiganj 37.18 75 P **P** 08 19 04.7 -0.8

SIMJ					IAmb	IAmb	08 19 06.8		
	comp=Z,2.7nm,0.8s								
KK31	**Karatay Array**	**37.20**	**68**	P	**P**		**08 19 05.2**	**-0.2**	
KKAR	**Karatay Array**	**37.20**	**68**	P	**P**		**08 19 05.4**	**0.0**	
SPITS	**Spitsbergen Ar**	**38.99**	**359**	P	**P**		**08 19 20.0**	**0.0**	
	comp=Z,10nm,1.1s,baz=135,slow=55,SNR=5.8								
	comp=Z,10nm,1.1s								
KURBB	**Kurchatov Arra**	**41.43**	**55**	P	**P**		**08 19 38.8**	**-1.7**	
	comp=Z,1.2nm,0.9s,baz=280,slow=9.2,SNR=8.1								
	comp=Z,1.2nm,0.9s								
KURK	**Kurchatov**	**41.47**	**54**	P	**P**		**08 19 40.3**	**-0.6**	
KURK					IAmb	IAmb	08 19 40.8		
	comp=Z,3.0nm,1.1s								
MK31	**Makanchi Array**	**44.58**	**59**	P	**P**		**08 20 05.0**	**-1.2**	
MKAR	**Makanchi Array**	**44.58**	**59**	P	**P**		**08 20 05.0**	**-1.1**	
	comp=Z,1.1nm,0.5s,baz=279,slow=7.1,SNR=16								
	comp=Z,1.1nm,0.5s								
ZAA0	**Zalesovo Array**	**44.81**	**49**	P	**P**		**08 20 06.8**	**-1.0**	
ZALV	**Zalesovo Beam**	**44.81**	**49**	P	**P**		**08 20 06.8**	**-1.0**	
ZALV	**Zalesovo Beam**	**44.81**	**49**	P	**P**		**08 20 06.7**	**-1.2**	
	comp=Z,2.4nm,0.3s,baz=273,slow=8.6,SNR=14								
	comp=Z,2.4nm,0.3s								
NRIK	**Noril'sk**	**45.70**	**27**	P	**P**		**08 20 15.0**	**+0.3**	
NRIK					IAmb	IAmb	08 20 17.5		
	comp=Z,3.4nm,1.0s								
SCHQ	**Schefferville**	**57.71**	**317**	P	**P**		**08 21 43.5**	**-1.1**	
SCHQ					IAmb	IAmb	08 21 51.1		
	comp=Z,6.0nm,1.2s								
SONM	**Songino Array**	**59.61**	**51**	P	**P**		**08 21 57.7**	**-0.4**	
	comp=Z,1.3nm,0.9s,baz=284,slow=7.7,SNR=5.3								
	comp=Z,1.3nm,0.9s								
FCC	**Fort Churchill**	**68.33**	**329**	P	**P**		**08 22 54.8**	**-0.1**	
FCC					IAmb	IAmb	08 22 56.9		
	comp=Z,1.9nm,0.9s								
C36M	**Paulatuk**	**68.56**	**347**	P	**P**		**08 22 56.9**	**+0.6**	
C36M					IAmb	IAmb	08 23 03.9		
	comp=Z,6.7nm,1.5s								
YKA	**Yellowknife Ar**	**72.35**	**340**	P	**P**		**08 23 20.2**	**+0.6**	
	comp=Z,0.4nm,0.7s,baz=35,slow=5.5,SNR=10								
	comp=Z,0.4nm,0.7s								
MA2	**Magadan**	**73.17**	**24**	LR	LR		09 00 14.6		
	comp=Z,27nm,18.8s,baz=356,slow=40								
ULM	**Lac du Bonnet**	**74.86**	**324**	P	**P**		**08 23 35.3**	**+0.8**	
	comp=Z,3.6nm,0.8s,baz=44,slow=5.5,SNR=8.4								
	comp=Z,3.6nm,0.8s								
ILAR	**Eielson Array**	**75.77**	**355**	P	**P**		**08 23 40.9**	**+1.4**	
	comp=Z,0.3nm,0.9s,baz=0.0,slow=9.0,SNR=4.3								
	comp=Z,0.3nm,0.9s								
ELK	**Elko**	**90.75**	**328**	LR	LR		09 08 51.6		
	comp=Z,32nm,19.7s,baz=70,slow=38								
ASAR	**Alice Springs**	**122.14**	**96**	PKP	**PKPdf**		**08 30 47.9**	**-1.2**	
	comp=Z,0.7nm,1.0s,baz=286,slow=1.6,SNR=3.3								

*ATH **27** 08:13:14.0, 39˚.33N×20˚.73E, h31km±9km, ML3.6/10, Manual Solution by M.Charalampakis This location: 2020/05/18 23:22:57 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 4 km*
*THE **27** 08:13:15.6, 39˚.36N×20˚.79E, h0km±1km, ML3.4/3, Error ellipse: s-maj=1.6km s-min=0.4km az=344.0*
ISC 27 08:13:15.0±1.0, 39˚.35N±0˚.02×20˚.77E±0˚.02, h15km±8km, n61, σ1§15/76, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.31**	**11**	P	**Pb**	**08 13 22.3**	**0.0**
JAN	**Janina**	**0.31**	**11**	P	**Pb**	**08 13 22.3**	**0.0**
JAN				S	**Sb**	**08 13 27.7**	**+0.4**
IGT	**Igoumenitsa**	**0.39**	**298**	P	**Pg**	**08 13 22.7**	**-0.2**
IGT	**Igoumenitsa**	**0.39**	**298**	P	**Pg**	**08 13 21.6**	**-1.3**
IGT				S	**Sg**	**08 13 28.3**	**0.0**
TSLK	**Tsoukalades, L**	**0.53**	**190**	P	**Pb**	**08 13 25.9**	**-0.1**
TSLK				S	**Sb**	**08 13 34.4**	**+1.0**
	5μm,0.5s						
TSLK	**Tsoukalades, L**	**0.53**	**190**	P	**Pg**	**08 13 25.1**	**-0.5**
LKD2	**Lefkada island**	**0.57**	**189**	P	**Pg**	**08 13 26.0**	**-0.2**
LKD2	**Lefkada island**	**0.57**	**189**	P	**Pg**	**08 13 24.3**	**-1.9**
NYDR	**Nydri-Lefkada**	**0.64**	**185**	P	**Pg**	**08 13 27.3**	**-0.2**
NYDR				S	**Sn**	**08 13 37.9**	**-1.3**
	4μm,0.5s						
NYDR	**Nydri-Lefkada**	**0.64**	**185**	P	**Pg**	**08 13 26.3**	**-1.2**
DRAG	**Dragano-Lefkad**	**0.68**	**193**	P	**Pn**	**08 13 29.1**	**-1.0**
DRAG				S	**Sb**	**08 13 38.7**	**+0.9**
DRAG	**Dragano-Lefkad**	**0.68**	**193**	P	**Pg**	**08 13 26.4**	**-1.9**
EVGI	**Lefkada island**	**0.73**	**187**	P	**Pb**	**08 13 29.1**	**-0.3**
EVGI				S	**Sn**	**08 13 41.1**	**-0.5**
EVGI	**Lefkada island**	**0.73**	**187**	P	**Pg**	**08 13 27.9**	**-1.4**
KPRO	**Kipourio**	**0.76**	**37**	P	**Pg**	**08 13 29.2**	**-0.6**
KPRO	**Kipourio**	**0.76**	**37**	P	**Pg**	**08 13 28.0**	**-1.8**
KASA	**Kassiopi**	**0.76**	**302**	P	**Pg**	**08 13 28.3**	**-1.5**
SRN	**Sarande**	**0.80**	**312**	P	**Pb**	**08 13 30.5**	**-0.1**
SRN				S	**Sn**	**08 13 42.6**	**-0.7**
LSK	**Leskovik**	**0.81**	**351**	P	**Pb**	**08 13 30.8**	**0.0**
LSK				S	**Sb**	**08 13 42.5**	**+0.9**
	4μm,0.6s						
PENT	**Pentalofos**	**0.89**	**18**	P	**Pb**	**08 13 31.4**	**-0.8**
PENT	**Pentalofos**	**0.89**	**18**	P	**Pb**	**08 13 30.5**	**-1.8**
PENT				S	**Sb**	**08 13 43.5**	**-0.5**
EVR	**Evrytania**	**0.91**	**118**	P	**Pb**	**08 13 32.3**	**-0.3**
EVR	**Evrytania**	**0.91**	**118**	P	**Pb**	**08 13 31.0**	**-1.6**
EVR				S	**Sb**	**08 13 42.9**	**-1.7**
PVO	**Paravola**	**0.94**	**141**	P	**Pb**	**08 13 32.8**	**-0.1**
PVO				S	**Sn**	**08 13 46.9**	**+0.2**
PVO	**Paravola**	**0.94**	**141**	P	**Pb**	**08 13 31.0**	**-1.9**
VSK1	**VASILIKIADES**	**0.95**	**190**	P	**Pb**	**08 13 32.9**	**-0.3**
THL	**Klokotos Trika**	**0.98**	**77**	P	**Pb**	**08 13 33.2**	**-0.5**
THL	**Klokotos Trika**	**0.98**	**77**	P	**Pb**	**08 13 31.5**	**-2.2**
NEST	**Nestorio**	**1.09**	**11**	P	**Pg**	**08 13 35.8**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.11**	**107**	P	**Pn**	**08 13 36.0**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.11**	**107**	P	**Pb**	**08 13 34.3**	**-1.5**
ANX	**Ano Chora**	**1.17**	**130**	P	**Pg**	**08 13 38.5**	**+0.9**
ANX				S	**Sg**	**08 13 54.9**	**+2.0**
ANX	**Ano Chora**	**1.17**	**130**	P	**Pn**	**08 13 35.7**	**-1.2**
VLS	**Valsamata**	**1.18**	**187**	P	**Pg**	**08 13 37.4**	**-0.3**
KEF3	**Kipouria, Keph**	**1.19**	**196**	P	**Pg**	**08 13 38.6**	**+0.6**
PSDA	**Pessada-Kefalo**	**1.24**	**187**	P	**Pg**	**08 13 38.8**	**-0.1**
PSDA				S	**Sg**	**08 13 58.1**	**+3.0**
AGG	**Agios Georgios**	**1.25**	**105**	P	**Pg**	**08 13 39.6**	**+0.4**
AGG	**Agios Georgios**	**1.25**	**105**	P	**Pn**	**08 13 36.2**	**-1.7**
KBN	**Korca**	**1.27**	**0**	P	**Pg**	**08 13 39.8**	**+0.2**
KBN				S	**Sg**	**08 13 57.6**	**+1.4**
EFP	**Efpalio**	**1.28**	**136**	P	**Pb**	**08 13 39.0**	**+0.3**
EFP	**Efpalio**	**1.28**	**136**	P	**Pn**	**08 13 37.0**	**-1.2**
UPR	**University Cam**	**1.32**	**143**	P	**Pg**	**08 13 40.3**	**-0.2**
RLS	**Riolos of Patr**	**1.40**	**157**	P	**Pg**	**08 13 41.3**	**-0.6**
KTI	**Kastanea**	**1.47**	**44**	P	**Pb**	**08 13 42.3**	**+0.2**
FNA	**Florina**	**1.51**	**18**	P	**Pb**	**08 13 42.6**	**-0.1**
ALIK	**Aliki, Aigiali**	**1.51**	**136**	P	**Pb**	**08 13 42.7**	**+0.1**
LIT	**Litokhoron**	**1.52**	**60**	P	**Pb**	**08 13 42.7**	**-0.2**
DRO	**Drossia**	**1.57**	**152**	P	**Pb**	**08 13 43.7**	**-0.1**
AXAR	**Agios Charalam**	**1.58**	**111**	P	**Pb**	**08 13 43.7**	**-0.2**
AXAR				S	**Sg**	**08 14 06.6**	**+0.7**
GUR	**Goura**	**1.87**	**138**	P	**Pb**	**08 13 48.1**	**-0.8**
XOR	**Xorichti**	**1.88**	**89**	P	**Pb**	**08 13 48.6**	**-0.3**
THAL	**Thalero**	**1.98**	**131**	P	**Pb**	**08 13 49.2**	**-1.4**
GRG	**Griva**	**2.03**	**37**	P	**Pn**	**08 13 49.7**	**+1.0**
HORT	**Hortiatis**	**2.18**	**54**	P	**Pb**	**08 13 52.5**	**-1.7**
LOUT	**Loutraki**	**2.19**	**128**	P	**Pb**	**08 13 52.9**	**-1.4**
VILL	**Villia**	**2.31**	**120**	P	**Pb**	**08 13 54.5**	**-1.9**
SOH	**Sokhos**	**2.47**	**53**	P	**Pb**	**08 13 57.1**	**-1.9**
OUR	**Ouranopolis**	**2.66**	**67**	P	**Pn**	**08 13 58.5**	**+1.3**
KRND	**KRANIDI**	**2.71**	**136**	P	**Pn**	**08 13 59.9**	**+2.0**
DION	**Dionisos Attik**	**2.78**	**116**	P	**Pn**	**08 14 00.6**	**+1.7**
KOKK	**Kokkinochori,**	**2.88**	**58**	P	**Pn**	**08 14 01.7**	**+1.4**

*SOME **27** 08:40:27.4, 39˚.53N×76˚.78E, h10km*
*KRNET **27** 08:40:29.4±0.1, 39˚.58N×76˚.67E, mb3.0*
*NNC **27** 08:40:29.3±1.1, 39˚.57N×76˚.81E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=7.6km s-min=5.9km az=158.0*
ISC 27 08:40:31.2±1.4, 39˚.59N±0˚.06×76˚.77E±0˚.04, h10km, n66, σ1§90/102, 24C-21D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**1.94**	**343**	⇓*eP*	**Pn**	**08 41 05.0**	**+0.5**
	baz=44						
NRN				⇓*eS*	**Sb**	**08 41 31.1**	**0.0**
	baz=44						
TARG	**Taragay, Kyrgy**	**2.28**	**20**	⇑*eP*	**Pb**	**08 41 11.0**	**-1.7**
	baz=22						
TARG				⇑*eS*	**Sb**	**08 41 41.5**	**+0.3**
	baz=22						
SFK	**Sufi-Kurgan**	**2.55**	**281**	⇓*eP*	**Pn**	**08 41 13.2**	**+0.4**
	baz=81						
SFK				⇓*eS*	**Sn**	**08 41 45.2**	**+1.1**
	baz=81						
KDJ	**Kajisay**	**2.56**	**7**	⇓*eP*	**Pn**	**08 41 14.4**	**+1.4**
	baz=9.0						
KDJ				⇓*eS*	**Sb**	**08 41 47.4**	**-1.6**
	baz=9.0						
ULHL	**Ulahol**	**2.69**	**352**	P	**Pb**	**08 41 17.7**	**-1.8**
	SNR=16						
ULHL	**Ulahol**	**2.69**	**352**	⇓*eP*	**Pn**	**08 41 16.1**	**+1.4**
	baz=53						
ULHL				⇓*eS*	**Sn**	**08 41 50.1**	**+2.7**
	baz=53						
ARLS	**Aral**	**2.94**	**322**	⇑*eP*	**Pn**	**08 41 18.7**	**+0.6**
	baz=23						
ARLS				⇑*eS*	**Sn**	**08 41 54.9**	**+1.4**
	baz=23						
BOOM	**Boomskoye usch**	**2.97**	**348**	⇓*eP*	**Pn**	**08 41 19.9**	**+1.4**
	baz=50						
BOOM				⇓*eS*	**Sn**	**08 41 56.7**	**+2.4**
	baz=50						
UCH	**Uchtor**	**3.14**	**328**	P	**Pb**	**08 41 28.8**	**+1.3**
	SNR=10.0						
UCH	**Uchtor**	**3.14**	**328**	⇓*eP*	**Pn**	**08 41 22.0**	**+0.8**
	baz=29						
UCH				⇓*eS*	**Sn**	**08 42 00.6**	**+1.6**
	baz=29						
PRZ	**Przheval'sk**	**3.15**	**23**	⇑*eP*	**Pn**	**08 41 23.0**	**+2.0**
	baz=24						
PRZ				⇑*eS*	**Sn**	**08 42 02.0**	**+3.3**
	baz=24						
OHH	**Osh**	**3.20**	**288**	⇓*eP*	**Pn**	**08 41 22.1**	**+0.5**
	baz=89						
OHH				⇓*eS*	**Sn**	**08 42 00.6**	**+0.8**
	baz=89						
KBK	**Karagaybulak**	**3.36**	**336**	P	**Pb**	**08 41 31.9**	**+0.9**
	SNR=7.2						
KBK	**Karagaybulak**	**3.36**	**336**	⇓*eP*	**Pn**	**08 41 25.1**	**+1.2**
	baz=38						
KBK				⇓*eS*	**Sn**	**08 42 05.8**	**+1.8**
	baz=38						
ARSB	**Arslanbob**	**3.37**	**302**	⇑*eP*	**Pn**	**08 41 24.8**	**+0.8**
	baz=3.0						
ARSB				⇑*eS*	**Sn**	**08 42 05.3**	**+1.1**
	baz=3.0						
TKM2	**Tokmak 2**	**3.45**	**346**	P	**Pn**	**08 41 28.0**	**+2.9**
	SNR=5.5						
TKM2	**Tokmak 2**	**3.45**	**346**	⇑Pg	**Pb**	**08 41 31.0**	**-1.5**
	3.0nm,0.3s						
TKM2				⇓Lg	Lg	08 42 20.3	
	17nm,0.8s						
TKM2	**Tokmak 2**	**3.45**	**346**	⇑*eP*	**Pn**	**08 41 26.4**	**+1.2**
	baz=47						
TKM2				⇑*eS*	**Sn**	**08 42 08.1**	**+1.9**
	baz=47						
TNSS	**Tian-Shan**	**3.45**	**2**	*eP*	**Pb**	**08 41 32.4**	**-0.2**
	7.9nm,0.4s						
TNSS				*eS*	**Sg**	**08 42 19.4**	**-2.7**
	14nm,0.8s						
TNSS	**Tian-Shan**	**3.45**	**2**	Pg	**Pb**	**08 41 32.4**	**-0.2**
	7.9nm,0.4s						
TNSS				Lg	Lg	08 42 19.4	
	14nm,0.8s						
AAK	**Ala-Archa**	**3.50**	**331**	P	**Pb**	**08 41 34.0**	**+0.7**
	SNR=5.9						
AAK	**Ala-Archa**	**3.50**	**331**	⇑*eP*	**Pn**	**08 41 26.9**	**+1.1**
	baz=32						
AAK				⇑*eS*	**Sn**	**08 42 08.9**	**+1.5**
	baz=32						
KST	**Kastek**	**3.51**	**350**	*eP*	**Pb**	**08 41 34.6**	**+1.2**
	4.8nm,0.5s						
KST				*eS*	**Sg**	**08 42 22.9**	**-1.0**
	19nm,0.6s						
KST	**Kastek**	**3.51**	**350**	Pg	**Pb**	**08 41 34.6**	**+1.2**
	4.8nm,0.5s						
KST				Lg	Lg	08 42 22.9	
	19nm,0.6s						
MTBS	**Maitube**	**3.55**	**356**	*eP*	**Pb**	**08 41 33.5**	**-0.6**
	9.9nm,0.5s						
MTBS				*eS*	**Sb**	**08 42 20.8**	**+3.5**
	13nm,0.4s						
MTBS	**Maitube**	**3.55**	**356**	Pg	**Pb**	**08 41 33.5**	**-0.6**
	9.9nm,0.5s						
MTBS				Lg	Lg	08 42 20.8	
	13nm,0.4s						
MDOK	**Medeo**	**3.58**	**3**	*eP*	**Pb**	**08 41 34.3**	**-0.4**
	9.0nm,0.4s						
MDOK				*eS*	**Sg**	**08 42 22.8**	**-3.4**
	17nm,0.6s						
MDOK	**Medeo**	**3.58**	**3**	Pg	**Pb**	**08 41 33.9**	**-0.8**
	5.8nm,0.5s						
MDOK				Pg	Pg	08 41 34.3	-5.5
	9.0nm,0.4s						
MDOK				Lg	Lg	08 42 22.8	
	17nm,0.6s						
MDOK				Lg	Lg	08 42 24.3	
	39nm,0.7s						
KOTS	**Kotyrbulak**	**3.66**	**4**	*eP*	**Pb**	**08 41 37.2**	**+1.2**
	7.8nm,0.4s						
KOTS				*eS*	**Sg**	**08 42 27.0**	**-1.6**
	44nm,0.6s						
KOTS	**Kotyrbulak**	**3.66**	**4**	Pg	**Pb**	**08 41 37.2**	**+1.2**
	7.8nm,0.4s						
KOTS				Lg	Lg	08 42 27.0	
	44nm,0.6s						
SATY	**Saty**	**3.68**	**19**	*eP*	**Pb**	**08 41 37.7**	**+1.2**
	3.2nm,0.3s						
SATY				*eS*	**Sg**	**08 42 27.9**	**-1.6**
	17nm,0.4s						
SATY	**Saty**	**3.68**	**19**	Pg	**Pb**	**08 41 37.7**	**+1.2**
	3.2nm,0.3s						
SATY				Lg	Lg	08 42 27.9	
	17nm,0.4s						
DGS	**Degeres**	**3.73**	**349**	*eP*	**Pb**	**08 41 38.5**	**+1.3**
	8.9nm,0.6s						
DGS				*eS*	**Sg**	**08 42 29.7**	**-1.2**
	21nm,0.4s						
DGS	**Degeres**	**3.73**	**349**	Pg	**Pb**	**08 41 38.5**	**+1.3**
	8.9nm,0.6s						
DGS				Lg	Lg	08 42 29.7	
	21nm,0.4s						
CHMS	**Chumysh**	**3.73**	**337**	⇓*eP*	**Pn**	**08 41 30.1**	**+1.2**
	baz=38						
CHMS				⇓*eS*	**Sn**	**08 42 14.5**	**+1.5**
	baz=38						
EKS2	**Erkin-Say**	**3.81**	**325**	⇑*eP*	**Pn**	**08 41 31.1**	**+1.0**
	baz=26						
EKS2				⇑*eS*	**Sn**	**08 42 16.2**	**+1.1**
	baz=26						
DRK	**Karamyk**	**3.84**	**270**	⇑*eP*	**Pn**	**08 41 31.3**	**+0.6**
	baz=70						
DRK				⇑*eS*	**Sn**	**08 42 16.1**	**+0.1**
	baz=70						
UZB	**Uzynbulak**	**3.94**	**25**	*eP*	**Pb**	**08 41 40.8**	**-0.1**
	9.5nm,0.5s						
UZB				*eS*	**Sb**	**08 42 33.3**	**+4.6**
	16nm,0.8s						
UZB	**Uzynbulak**	**3.94**	**25**	Pg	**Pb**	**08 41 40.8**	**-0.1**
	9.5nm,0.5s						
UZB				Lg	Lg	08 42 33.3	
	16nm,0.8s						
KURS	**Kuram**	**4.04**	**15**	*eP*	**Pb**	**08 41 44.0**	**+1.5**
	4.9nm,0.6s						
KURS				*eS*	**Sg**	**08 42 38.6**	**-2.2**
	7.5nm,0.8s						
KURS	**Kuram**	**4.04**	**15**	Pg	**Pb**	**08 41 43.9**	**+1.5**
	4.9nm,0.6s						
KURS				Lg	Lg	08 42 38.6	
	7.5nm,0.8s						
USP	**Ospenovka**	**4.05**	**336**	⇑*eP*	**Pn**	**08 41 34.5**	**+1.2**
	baz=37						
USP				⇑*eS*	**Sn**	**08 42 22.2**	**+1.3**
	baz=37						
KTBS	**Karatobe**	**4.12**	**359**	*eP*	**Pb**	**08 41 45.0**	**+1.1**
	6.1nm,0.6s						
KTBS				*eS*	**Sg**	**08 42 40.6**	**-3.0**
	21nm,0.8s						
KTBS	**Karatobe**	**4.12**	**359**	Pg	**Pb**	**08 41 45.0**	**+1.1**
	6.1nm,0.6s						
KTBS				Lg	Lg	08 42 40.6	
	21nm,0.8s						
MRKS	**Merke**	**4.14**	**321**	*eP*	**Pb**	**08 41 45.4**	**+1.3**
	5.2nm,0.3s						
MRKS				*eS*	**Sg**	**08 42 41.0**	**-3.0**
	31nm,0.5s						
MRKS	**Merke**	**4.14**	**321**	Pg	**Pb**	**08 41 45.4**	**+1.3**
	5.2nm,0.3s						
MRKS				Lg	Lg	08 42 41.1	
	31nm,0.5s						
KRBS	**Karabastau**	**4.19**	**349**	*eP*	**Pb**	**08 41 46.5**	**+1.5**
	4.6nm,0.4s						
KRBS				*eS*	**Sg**	**08 42 43.1**	**-2.6**
	14nm,0.7s						
KRBS	**Karabastau**	**4.19**	**349**	Pg	**Pb**	**08 41 46.5**	**+1.5**
	4.6nm,0.4s						
KRBS				Lg	Lg	08 42 43.1	
	14nm,0.7s						
PDGK	**Podgornoye**	**4.26**	**28**	Pg	**Pb**	**08 41 46.3**	**0.0**
	2.8nm,0.7s						
PDGK				Lg	Lg	08 42 42.8	
	6.4nm,0.6s						
PDGK	**Podgornoye**	**4.26**	**28**	⇑Pg	**Pb**	**08 41 45.5**	**-0.8**
	5.3nm,0.7s						
PDGK				⇑Lg	Lg	08 42 43.9	
	19nm,0.8s						
CHKK	**Chushkaly**	**4.27**	**2**	*eP*	**Pb**	**08 41 47.9**	**+1.5**
	4.0nm,0.2s						
CHKK				*eS*	**Sg**	**08 42 45.4**	**-2.8**
	12nm,0.6s						
CHKK	**Chushkaly**	**4.27**	**2**	Pg	**Pb**	**08 41 47.9**	**+1.5**
	4.0nm,0.2s						
CHKK				Lg	Lg	08 42 45.4	
	12nm,0.6s						
MNAS	**Manas**	**4.34**	**313**	⇑*eP*	**Pn**	**08 41 38.2**	**+0.9**
	baz=14						
MNAS				⇑*eS*	**Sn**	**08 42 28.1**	**+0.1**
	baz=14						
BTK	**Batken**	**4.61**	**278**	⇓*eP*	**Pn**	**08 41 41.8**	**+0.9**
	baz=78						
BTK				⇓*eS*	**Sn**	**08 42 34.2**	**-0.3**
	baz=78						
BLB	**Baldybastay**	**4.69**	**15**	Pg	**Pb**	**08 41 55.4**	**+1.9**
	7.9nm,0.1s						
BLB				Lg	Lg	08 42 58.6	
	9.3nm,0.5s						
ARXS	**Arharly**	**4.69**	**9**	*eP*	**Pb**	**08 41 55.5**	**+1.9**
	3.8nm,0.6s						
ARXS				*eS*	**Sg**	**08 42 58.6**	**-3.2**
	11nm,0.6s						
ARXS	**Arharly**	**4.69**	**9**	Pg	**Pb**	**08 41 55.5**	**+1.9**
	3.8nm,0.6s						
ARXS				Lg	Lg	08 42 58.6	
	11nm,0.6s						
KNOS	**Konyrlen**	**5.10**	**20**	Pg	**Pg**	**08 42 05.0**	**-3.8**
	5.9nm,0.5s						
KNOS				Lg	Lg	08 43 15.0	
	6.5nm,0.5s						
DJR	**Jarkent**	**5.25**	**24**	*eP*	**Pb**	**08 42 05.2**	**+2.1**
DJR				*eS*	**Sg**	**08 43 15.4**	**-4.3**
DJR	**Jarkent**	**5.25**	**24**	Pg	**Pb**	**08 42 05.2**	**+2.1**
DJR				Lg	Lg	08 43 15.4	
IUG	**Iuzhnay**	**5.71**	**299**	*eP*	**Pb**	**08 42 13.8**	**+2.8**
	3.7nm,0.2s						
IUG				*eS*	**Sg**	**08 43 30.6**	**-3.9**
	14nm,0.4s						
BTLS	**Baital**	**5.81**	**341**	*eP*	**Pb**	**08 42 15.7**	**+3.1**
	1.5nm,0.3s						
BTLS				*eS*	**Sg**	**08 43 33.4**	**-4.3**
	7.1nm,0.7s						
BTLS	**Baital**	**5.81**	**341**	Pg	**Pb**	**08 42 15.7**	**+3.1**
	1.5nm,0.3s						
BTLS				Lg	Lg	08 43 33.4	
	7.1nm,0.7s						
KK31	**Karatay Array**	**5.88**	**309**	⇑Pg	**Pb**	**08 42 16.6**	**+2.9**
	0.6nm,0.5s,baz=126,slow=18,SNR=5.3						
KK31				Lg	Lg	08 43 36.6	
	4.0nm,0.7s,baz=117,slow=29,SNR=9.5						
BRLS	**Boroldaу**	**6.25**	**306**	*eP*	Pb	08 42 24.9	+4.8
	1.0nm,0.3s						
BRLS				*eS*	**Sg**	**08 43 49.5**	**-2.3**
	3.0nm,0.7s						
BRLS	**Boroldaу**	**6.25**	**306**	Pg	Pb	08 42 24.9	+4.8
	1.0nm,0.3s						
BRLS				Lg	Lg	08 43 49.5	
	3.0nm,0.7s						

*IDC **27** 08:51:34.4±0.9, 5˚.89S×143˚.12E, h0km, mb4.2/8, mbtmp4.2/9, ML4.5/1, MS3.5/25, Error ellipse: s-maj=52.2km s-min=19.7km az=87.0*
*NEIC **27** 08:51:35.3±1.8, 5˚.95S±0˚.09×143˚.3E±0˚.1, h10km±1km, mb4.3/16, Error ellipse: s-maj=19.2km s-min=13.5km az=62.0*
ISC 27 08:51:38.8±0.6, 6˚.05S±0˚.08×143˚.12E±0˚.10, h35km, n54, σ1§19/35, mb4.3/13, MS3.5/22, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.21**	**130**		**Pn**	**08 52 53.6**	**-0.7**
PMG				Sn	**Sn**	**08 53 52.3**	**-0.8**
PMG	**Port Moresby**	**5.21**	**130**	LR	LR	08 56 02.3	
	comp=Z,2μm,18.1s,baz=314,slow=50						
COEN	**Coen**	**7.86**	**180**	Pn	**Pn**	**08 53 32.1**	**+1.4**
SAUI	**Saumlaki**	**11.89**	**260**	Pn	**Pn**	**08 54 26.0**	**0.0**
MTN	**Manton Dam**	**13.61**	**239**	Pn	**Pn**	**08 54 48.0**	**-1.6**
CTA	**Charters Tower**	**14.28**	**168**	LR	LR	09 00 08.9	
	comp=Z,259nm,21.4s,baz=1.0,slow=36						
WB0	**Warramunga Arr**	**16.06**	**211**	Pn	**Pn**	**08 55 22.6**	**+0.4**
WB0				IAmb	IAmb	08 55 47.6	
	comp=Z,40nm,1.5s						
WR0	**Warramunga Arr**	**16.15**	**210**		**Pn**	**08 55 21.8**	**-1.5**
WB2	**Warramunga Arr**	**16.23**	**211**		**Pn**	**08 55 22.7**	**-1.6**
WRA	**Warramunga Arr**

ULN				IAmb	IAmb	09 02 22.7	
	comp=Z,2.3nm,0.9s						
SONM	**Songino Array**	**62.64**	**333**	P	**P**	**09 01 59.9**	**0.0**
SONM				IAmb	IAmb	09 02 13.2	
	comp=Z,2.0nm,1.2s						
SONM	**Songino Array**	**62.64**	**333**	P	**P**	**09 01 59.9**	**0.0**
	comp=Z,0.6nm,0.9s,baz=170,slow=9.0,SNR=4.5						
SONM				LR	LR	09 31 36.6	
	comp=Z,47nm,18.2s,baz=182,slow=38						
	comp=Z,0.6nm,0.9s						
SHEM	**Shemya Is, Ala**	**64.19**	**20**	LR	LR	09 25 41.9	
	comp=Z,82nm,19.6s,baz=206,slow=32						
PPT	**Papeete**	**66.58**	**106**	LR	LR	09 30 15.0	
	comp=Z,35nm,18.5s,baz=302,slow=35						
YAK	**Yakutsk**	**68.67**	**353**	LR	LR	09 32 04.5	
	comp=Z,30nm,20.3s,baz=287,slow=36						
VNDA	**Vanda**	**72.12**	**176**	P	**P**	**09 03 01.6**	**+2.3**
	comp=Z,1.2nm,1.0s,baz=314,slow=7.7,SNR=3.7						
VNDA				LR	LR	09 33 21.0	
	comp=Z,74nm,18.1s,baz=342,slow=35						
	comp=Z,1.2nm,1.0s						
SBA	**Scott Base**	**72.82**	**175**	P	**P**	**09 03 04.0**	**+0.6**
SBA				IAmb	IAmb	09 03 20.2	
	comp=Z,5.8nm,1.3s						
MK31	**Makanchi Array**	**75.11**	**322**	P	**P**	**09 03 17.5**	**0.0**
MK31				IAmb	IAmb	09 03 34.7	
	comp=Z,3.7nm,1.4s						
MKAR	**Makanchi Array**	**75.11**	**322**	P	**P**	**09 03 17.7**	**+0.2**
MKAR	**Makanchi Array**	**75.11**	**322**	P	**P**	**09 03 18.0**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=105,slow=6.9,SNR=14						
MKAR				LR	LR	09 35 52.4	
	comp=Z,32nm,21.4s,baz=60,slow=35						
	comp=Z,1.3nm,0.8s						
MAKZ	**Makanchi**	**75.31**	**322**	P	**P**	**09 03 17.9**	**-0.7**
MAKZ				IAmb	IAmb	09 03 20.2	
	comp=Z,1.9nm,0.8s						
ZALV	**Zalesovo Beam**	**77.03**	**329**	LR	LR	09 36 30.4	
	comp=Z,35nm,21.4s,baz=62,slow=35						
AAK	**Ala-Archa**	**78.65**	**316**	LR	LR	09 41 14.6	
	comp=Z,13nm,19.5s,baz=114,slow=38						
QSPA	**South Pole Qui**	**83.92**	**180**	P	**P**	**09 04 06.0**	**+0.9**
QSPA	**South Pole Qui**	**83.92**	**180**	P	**P**	**09 04 06.6**	**+1.5**
	comp=Z,3.1nm,0.7s,baz=309,slow=1.1,SNR=18						
	comp=Z,3.1nm,0.7s						
NRIK	**Noril'sk**	**84.16**	**343**	P	**P**	**09 04 06.9**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=91,slow=5.5,SNR=1.6						
	comp=Z,0.9nm,0.3s						
BVAR	**Borovoye Array**	**84.56**	**325**	P	**P**	**09 04 08.2**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=110,slow=6.8,SNR=12						
	comp=Z,2.9nm,0.7s						
ILAR	**Eielson Array**	**87.06**	**24**	P	**P**	**09 04 20.1**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=259,slow=5.2,SNR=5.9						

ISC 27 08:53:47.5±1.1, 48°82N±0°07×18°25E±0°05, h10km, n4, σ0°62/8, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAVC	**Velka Javorina**	**0.39**	**277**	*e*PG	**Pg**	**08 53 55.1**	**0.0**
JAVC				*e*SG	**Sg**	**08 53 59.2**	**-1.0**
VYHS	**Vyhne**	**0.51**	**129**	*e*PG	**Pg**	**08 53 56.8**	**-0.5**
VYHS				*e*SG	**Sg**	**08 54 04.2**	**+0.2**
MODS	**Modra-Piesok**	**0.78**	**236**	*e*PG	**Pb**	**08 54 03.8**	**+0.6**
MODS				*e*SG	**Sg**	**08 54 12.5**	**-0.3**
MORC	**Moravsky Berou**	**1.07**	**335**	*e*PG	**Pn**	**08 54 08.5**	**-0.1**
MORC				*e*SG	**Sb**	**08 54 22.5**	**+0.4**

*NOU **27** 09:06:14.9, 25°.99S×178°.81E, h674km, mb5.0/73, South of Fiji Islands*
*IDC **27** 09:06:16.1±0.7, 25°.93S×178°.43E, h646km±7km, mb3.8/21, mbtmp4.8/24, Error ellipse: s-maj=12.1km s-min=10.0km az=64.0*
*NEIC **27** 09:06:16.5±2.0, 25°.93S±0°.10×178°.5E±0°.1, h645km±6km, mb4.7/104, Error ellipse: s-maj=14.6km s-min=14.1km az=97.0*

ISC 27 09:06:16.3±0.3, 26°.07S±0°.05×178°.48E±0°.05, h650km, n366, σ1§42/396, mb4.7/82, 5C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**4.49**	**136**	P	**P**	**09 07 49.5**	**+1.0**
RIZ				S	S	09 08 56.2	-7.8
RAO	**Raoul Island**	**4.50**	**136**	P	**P**	**09 07 49.5**	**+0.9**
RAO	**Raoul Island**	**4.50**	**136**	P	**P**	**09 07 49.3**	**+0.7**
	357nm,0.3s,baz=275,slow=23,SNR=4.9						
RAO				S	**S**	**09 09 05.1**	**+1.0**
	424nm,0.2s,baz=73,slow=19,SNR=2.8						
GLKZ	**Green Lake**	**4.50**	**136**	P	**P**	**09 07 48.2**	**-0.5**
GLKZ				S	**S**	**09 09 00.9**	**-3.3**
MSVF	**Nonsavu**	**8.30**	**357**	P	**P**	**09 08 18.4**	**-2.0**
MSVF	**Nonsavu**	**8.30**	**357**	P	**P**	**09 08 18.4**	**-2.0**
YSA	**Yasawairara**	**9.36**	**355**	P	**P**	**09 08 29.2**	**-0.9**
TAVE	**Taveuni**	**9.44**	**9**	P	**P**	**09 08 30.2**	**-0.6**
DGTI	**Dogotuki**	**9.79**	**7**	P	**P**	**09 08 32.9**	**-1.3**
NFK	**Norfolk Island**	**9.81**	**250**	P	**P**	**09 08 35.8**	**+1.6**
	baz=9.9,SNR=5.9						
OUZ	**Omahuta**	**10.04**	**204**	P	**P**	**09 08 39.1**	**+2.8**
OUZ	**Omahuta**	**10.04**	**204**	P	**P**	**09 08 39.0**	**+2.7**
WCZ	**Waipu Caves**	**10.46**	**199**	P	**P**	**09 08 42.8**	**+2.6**
GRZ	**Great Barrier**	**10.47**	**194**	P	**P**	**09 08 42.1**	**+1.7**
MARNC	**Mare, Loyalty**	**10.60**	**293**	P	**P**	**09 08 42.3**	**+0.3**
PINNC	**Pines Island,**	**10.63**	**287**	P	**P**	**09 08 42.6**	**+0.4**
ABAZ	**Army Bay**	**10.95**	**196**	P	**P**	**09 08 47.6**	**+2.6**
WIAZ	**Waiheke Island**	**11.07**	**194**	P	**P**	**09 08 48.2**	**+2.1**
MBAZ	**Motutapu North**	**11.10**	**195**	P	**P**	**09 08 48.6**	**+2.3**
RVAZ	**Riverhead Bore**	**11.18**	**196**	P	**P**	**09 08 49.2**	**+2.1**
HBAZ	**Herne Bay Bore**	**11.21**	**196**	P	**P**	**09 08 49.7**	**+2.3**
OUENC	**Ouen Island, N**	**11.22**	**286**	P	**P**	**09 08 49.2**	**+1.4**
EPAZ	**Eden Park BICE**	**11.23**	**196**	P	**P**	**09 08 50.1**	**+2.4**
ETAZ	**East Tamaki Re**	**11.27**	**195**	P	**P**	**09 08 50.1**	**+2.2**
WTAZ	**Waiatarua**	**11.33**	**196**	P	**P**	**09 08 50.5**	**+2.0**
MKAZ	**Moumakai**	**11.36**	**194**	P	**P**	**09 08 51.1**	**+2.3**
KBAZ	**Karaka Road Bo**	**11.41**	**195**	P	**P**	**09 08 51.8**	**+2.5**
AWAZ	**Awhitu Peninsu**	**11.44**	**196**	P	**P**	**09 08 51.6**	**+2.1**
MXZ	**Matakaoa Point**	**11.46**	**181**	P	**P**	**09 08 47.3**	**-2.5**
MXZ	**Matakaoa Point**	**11.46**	**181**	P	**P**	**09 08 47.2**	**-2.5**
MXZ				S	**S**	**09 10 49.4**	**-5.9**
LIFNC	**LIFOU**	**11.59**	**295**	P	**P**	**09 08 50.0**	**-1.2**
ONTNC	**Ouen Toro**	**11.60**	**286**	P	**P**	**09 08 51.9**	**+0.6**
HAZ	**Te Kaha**	**11.67**	**183**	P	**P**	**09 08 49.6**	**-2.1**
DZM	**Mont Dzumac**	**11.70**	**287**	P	**P**	**09 08 52.9**	**+0.6**
DZM	**Mont Dzumac**	**11.70**	**287**	P	**P**	**09 08 53.3**	**+1.0**
DZM	**Mont Dzumac**	**11.70**	**287**	P	**P**	**09 08 53.0**	**+0.7**
	59nm,0.8s,baz=145,slow=21,SNR=39						
DZM				S	**S**	**09 11 00.1**	**+0.2**
	34nm,1.1s,baz=338,slow=18,SNR=6.0						
WMGZ	**Waiomatatini S**	**11.72**	**180**	P	**P**	**09 08 50.1**	**-2.0**
PKGZ	**Pakihiroa**	**11.79**	**182**	P	**P**	**09 08 50.6**	**-2.2**
NOUC	**Port Laguerre**	**11.81**	**287**	P	**P**	**09 08 53.7**	**+0.5**
RUGZ	**Raukumara Rang**	**11.88**	**183**	P	**P**	**09 08 51.1**	**-2.7**
TWGZ	**Tauwhareparae**	**12.08**	**182**	P	**P**	**09 08 53.8**	**-1.7**
URZ	**Urewera**	**12.21**	**185**	P	**P**	**09 08 54.6**	**-2.0**
URZ	**Urewera**	**12.21**	**185**	P	**P**	**09 08 55.4**	**-1.2**
	94nm,0.3s,baz=13,slow=2.0,SNR=89						
URZ				S	**S**	**09 11 02.9**	**-4.8**
	57nm,0.5s,baz=151,slow=22,SNR=18						
TKGZ	**Te Karaka**	**12.35**	**182**	P	**P**	**09 08 55.9**	**-1.9**
CNGZ	**Carnagh Statio**	**12.38**	**181**	P	**P**	**09 08 56.7**	**-1.5**
RAGZ	**Rawiri**	**12.42**	**184**	P	**P**	**09 08 57.6**	**-1.1**
MUGZ	**Murupara**	**12.46**	**186**	P	**P**	**09 08 58.0**	**-0.9**
RIGZ	**Rimuhau**	**12.62**	**183**	P	**P**	**09 08 58.2**	**-2.2**
SNGZ	**Shannon Statio**	**12.71**	**184**	P	**P**	**09 08 59.0**	**-2.3**
NIUE	**Niue**	**12.76**	**59**	P	**P**	**09 09 02.5**	**+0.5**
	baz=13,SNR=4.7						
NIUE				S	S	09 11 26.0	+8.6
	baz=13						
NIUE	**Niue**	**12.76**	**59**	P	**P**	**09 09 02.8**	**+0.7**
HIZ	**Hauiti**	**12.78**	**193**	P	**P**	**09 09 04.4**	**+2.5**
PRGZ	**Paritu Road**	**12.83**	**182**	P	**P**	**09 09 00.3**	**-2.0**
MHGZ	**Mahia Peninsul**	**13.06**	**182**	P	**P**	**09 09 02.9**	**-1.6**
BKZ	**Black Stump Fm**	**13.17**	**187**	P	**P**	**09 09 04.4**	**-1.1**
NGZ	**Ngauruhoe**	**13.29**	**190**	P	**P**	**09 09 07.5**	**+0.7**
KHEZ	**Kahui Hut**	**13.71**	**195**	P	**P**	**09 09 10.2**	**-0.3**
WAZ	**Wanganui**	**13.96**	**191**	P	**P**	**09 09 13.2**	**+0.5**
KOUNC	**Koumac, New Ca**	**14.15**	**290**	P	**P**	**09 09 16.0**	**+1.2**
KOUNC	**Koumac, New Ca**	**14.15**	**290**	P	**P**	**09 09 16.1**	**+1.3**
BFZ	**Birch Farm**	**14.69**	**187**	P	**P**	**09 09 18.6**	**-0.9**
AFI	**Afiamalu**	**15.16**	**39**	P	**P**	**09 09 23.7**	**-0.5**
AFI				IAmb	IAmb	09 09 25.1	
	comp=Z,76nm,1.1s						
DUWZ	**D'Urville Isla**	**15.18**	**193**	P	**P**	**09 09 24.6**	**+0.7**
DUWZ				S	**S**	**09 11 56.3**	**-0.4**
WEL	**Wellington**	**15.48**	**191**	P	**P**	**09 09 27.1**	**+0.4**
TCW	**Tory Channel**	**15.50**	**192**	P	**P**	**09 09 27.9**	**+1.0**
TCW	**Tory Channel**	**15.50**	**192**	P	**P**	**09 09 26.3**	**-0.5**
TCW				S	**S**	**09 11 59.8**	**-2.1**
SNZO	**South Karori**	**15.52**	**191**	P	**P**	**09 09 27.3**	**+0.3**
SNZO	**South Karori**	**15.52**	**191**	P	**P**	**09 09 27.6**	**+0.6**
QRZ	**Quartz Range**	**15.53**	**197**	P	**P**	**09 09 29.7**	**+2.6**
QRZ	**Quartz Range**	**15.53**	**197**	P	**P**	**09 09 29.3**	**+2.2**
TKNZ	**Takaka Hill**	**15.61**	**196**	P	**P**	**09 09 29.1**	**+1.2**
TKNZ	**Takaka Hill**	**15.61**	**196**	P	**P**	**09 09 28.6**	**+0.7**
TKNZ				S	**S**	**09 12 04.7**	**+0.9**
NNZ	**Nelson**	**15.69**	**194**	P	**P**	**09 09 29.9**	**+1.3**
NNZ	**Nelson**	**15.69**	**194**	P	**P**	**09 09 29.0**	**+0.4**
NNZ				S	**S**	**09 12 01.2**	**-3.8**
TUWZ	**Tuamarina**	**15.78**	**193**	P	**P**	**09 09 27.8**	**-1.5**
TUWZ				S	**S**	**09 12 04.2**	**-2.2**
MRNZ	**Matariki Terra**	**16.01**	**196**	P	**P**	**09 09 32.9**	**+1.4**
MRNZ	**Matariki Terra**	**16.01**	**196**	P	**P**	**09 09 32.1**	**+0.6**
MRNZ				S	**S**	**09 12 08.2**	**-2.0**
CMWZ	**Cape Campbell**	**16.03**	**192**	P	**P**	**09 09 33.3**	**+1.6**
BSWZ	**Blackbirch Sta**	**16.06**	**193**	P	**P**	**09 09 32.9**	**+1.0**
BSWZ				S	**S**	**09 12 08.8**	**-2.3**
THZ	**Tophouse**	**16.32**	**195**	P	**P**	**09 09 36.2**	**+1.9**
THZ				IAmb	IAmb	09 09 40.0	
	comp=Z,76nm,1.0s						
THZ	**Tophouse**	**16.32**	**195**	P	**P**	**09 09 34.9**	**+0.5**
THZ				S	**S**	**09 12 10.4**	**-4.9**
DSZ	**Denniston Nort**	**16.58**	**198**	P	**P**	**09 09 37.6**	**+0.8**
KHZ	**Kahutara**	**16.81**	**193**	P	**P**	**09 09 37.9**	**-0.8**
KHZ				S	**S**	**09 12 19.1**	**-3.9**
LTZ	**Lake Taylor**	**17.43**	**195**	P	**P**	**09 09 44.2**	**-0.3**
LTZ				S	**S**	**09 12 26.1**	**-7.2**
GVZ	**Greta Valley S**	**17.44**	**193**	P	**P**	**09 09 43.6**	**-0.9**
GVZ				S	**S**	**09 12 27.5**	**-5.8**
FUNA	**Funafuti**	**17.46**	**2**	P	**P**	**09 09 44.2**	**-0.9**
FUNA	**Funafuti**	**17.46**	**2**	P	**P**	**09 09 44.5**	**-0.6**
INZ	**Inchbonnie**	**17.59**	**197**	P	**P**	**09 09 46.3**	**+0.5**
INZ	**Inchbonnie**	**17.59**	**197**	P	**P**	**09 09 46.1**	**+0.3**
AMCZ	**Amberley**	**17.72**	**194**	P	**P**	**09 09 48.1**	**+1.0**
OXZ	**Oxford**	**18.00**	**195**	P	**P**	**09 09 49.5**	**-0.1**
OXZ	**Oxford**	**18.00**	**195**	P	**P**	**09 09 49.3**	**-0.4**
WVZ	**Waitaha Valley**	**18.11**	**199**	P	**P**	**09 09 51.2**	**+0.7**
MQZ	**McQueen's Vall**	**18.23**	**194**	P	**P**	**09 09 51.6**	**0.0**
MHCZ	**Mount Hutt**	**18.31**	**196**	P	**P**	**09 09 52.9**	**+0.4**
AKCZ	**Akaroa Harbour**	**18.33**	**193**	P	**P**	**09 09 52.9**	**+0.3**
RACZ	**Rakaia**	**18.36**	**195**	P	**P**	**09 09 53.3**	**+0.5**
RPZ	**Rata Peaks**	**18.61**	**197**	P	**P**	**09 09 55.4**	**+0.2**
RPZ	**Rata Peaks**	**18.61**	**197**	P	**P**	**09 09 55.7**	**+0.6**
	comp=Z,22nm,0.4s,baz=359,slow=4.3,SNR=12						
WACZ	**Wakanui South**	**18.63**	**195**	P	**P**	**09 09 55.8**	**+0.5**
ODZ	**Otahua Downs**	**19.96**	**196**	P	**P**	**09 10 06.6**	**-0.6**
WHZ	**Wether Hill Ro**	**21.50**	**200**	P	**P**	**09 10 22.4**	**+1.4**
GC1S	**Gold Coast 1 S**	**22.32**	**259**	P	**P**	**09 10 28.8**	**+0.3**
ARMA	**Armidale**	**24.03**	**253**	P	**P**	**09 10 44.2**	**+0.4**
	baz=24,SNR=17						
ARMA	**Armidale**	**24.03**	**253**	P	**P**	**09 10 45.4**	**+1.7**
ARMA	**Armidale**	**24.03**	**253**	P	**P**	**09 10 45.5**	**+1.7**
EIDS	**Eidsvold**	**24.68**	**266**	P	**P**	**09 10 49.8**	**+0.4**
	baz=25,SNR=43						
EIDS	**Eidsvold**	**24.68**	**266**	P	**P**	**09 10 50.0**	**+0.6**
EIDS	**Eidsvold**	**24.68**	**266**	P	**P**	**09 10 50.1**	**+0.6**
MGCD	**Mangrove Creek**	**24.79**	**247**	P	**P**	**09 10 52.4**	**+2.1**
	baz=25,SNR=15						
MGCD	**Mangrove Creek**	**24.79**	**247**	P	**P**	**09 10 52.4**	**+2.1**
SYDH	**Sydney Hard Ro**	**25.19**	**246**	P	**P**	**09 10 55.6**	**+1.9**
WOLH	**Wollongong Har**	**25.20**	**244**	P	**P**	**09 10 54.9**	**+1.1**
RK1H	**Rockhampton Ha**	**25.54**	**270**	P	**P**	**09 10 58.1**	**+1.1**
AUUHS	**Ulladulla High**	**25.73**	**242**	P	**P**	**09 11 00.5**	**+2.0**
CNB	**Canberra Magne**	**26.61**	**243**	P	**P**	**09 11 08.1**	**+1.9**
	baz=27,SNR=18						
CNB	**Canberra Magne**	**26.61**	**243**	P	**P**	**09 11 07.8**	**+1.6**
AUDCS	**Dubbo College**	**26.73**	**250**	P	**P**	**09 11 08.0**	**+0.7**
CAN	**Canberra**	**26.90**	**243**	P	**P**	**09 11 10.3**	**+1.6**
CAN	**Canberra**	**26.90**	**243**	P	**P**	**09 11 10.4**	**+1.7**
CAN				IAmb	IAmb	09 11 10.6	
	comp=Z,34nm,0.9s						
AULRC	**Lightning Ridg**	**27.16**	**256**	P	**P**	**09 11 11.8**	**+0.7**
MILA	**Mila**	**27.18**	**239**	P	**P**	**09 11 12.7**	**+1.5**
	baz=27,SNR=11						
MILA	**Mila**	**27.18**	**239**	P	**P**	**09 11 13.0**	**+1.8**
YNG	**Young**	**27.20**	**245**	P	**P**	**09 11 12.9**	**+1.5**
	baz=27,SNR=18						
YNG	**Young**	**27.20**	**245**	P	**P**	**09 11 12.8**	**+1.5**
AUSMG	**Snowy Mountain**	**27.45**	**241**	P	**P**	**09 11 14.3**	**+0.8**
CMSA	**Cobar Meteorol**	**29.18**	**252**	P	**P**	**09 11 29.0**	**+0.6**
	baz=29,SNR=38						
CMSA	**Cobar Meteorol**	**29.18**	**252**	P	**P**	**09 11 29.0**	**+0.6**
GLAD	**Gladstone**	**29.26**	**232**	P	**P**	**09 11 30.3**	**+1.3**
AULHS	**Lilydale High**	**29.91**	**232**	P	**P**	**09 11 37.0**	**+2.5**
TV1H	**Townsville Har**	**29.96**	**276**	P	**P**	**09 11 35.9**	**+0.6**
CORO	**Coronation Par**	**30.04**	**231**	P	**P**	**09 11 37.9**	**+2.3**
TOO	**Toolangi**	**30.14**	**240**	P	**P**	**09 11 37.9**	**+1.3**
	baz=30,SNR=35						
TOO	**Toolangi**	**30.14**	**240**	P	**P**	**09 11 38.0**	**+1.4**
TOO	**Toolangi**	**30.14**	**240**	P	**P**	**09 11 37.9**	**+1.3**
CTA	**Charters Tower**	**30.19**	**275**	P	**P**	**09 11 37.8**	**+0.5**
CTAO	**Charters Tower**	**30.19**	**275**	P	**P**	**09 11 37.8**	**+0.5**
CTAO	**Charters Tower**	**30.19**	**275**	P	**P**	**09 11 37.8**	**+0.5**
MOO	**Moorlands**	**30.37**	**230**	P	**P**	**09 11 40.3**	**+1.8**
	baz=30,SNR=7.4						
TAU	**Tasmania Unive**	**30.46**	**229**	P	**P**	**09 11 40.7**	**+1.5**
QLP	**Quilpie**	**30.65**	**261**	P	**P**	**09 11 41.1**	**+0.1**
	baz=31,SNR=23						
QLP	**Quilpie**	**30.65**	**261**	P	**P**	**09 11 41.3**	**+0.2**
PPT	**Papeete**	**30.77**	**81**	P	**P**	**09 11 42.4**	**+0.2**
	comp=Z,20nm,0.5s,baz=72,slow=19,SNR=2.2						
	comp=Z,20nm,0.5s						
PPTF	**Pamatai, Papee**	**30.77**	**81**	P	**P**	**09 11 42.4**	**+0.1**
GEXS	**Deakin Univers**	**31.23**	**239**	P	**P**	**09 11 47.7**	**+2.1**
BRAT	**Ballarat**	**31.35**	**240**	P	**P**	**09 11 48.6**	**+1.8**
MCQ	**Macquarie Isla**	**31.84**	**202**	P	**P**	**09 11 51.5**	**+0.8**
	baz=32,SNR=3.6						
MTSU	**Mount Surprise**	**32.55**	**277**	P	**P**	**09 11 57.7**	**+0.5**
	baz=32,SNR=33						
MTSU	**Mount Surprise**	**32.55**	**277**	P	**P**	**09 11 57.8**	**+0.5**
STKA	**Stephens Creek**	**32.68**	**251**	P	**P**	**09 11 58.6**	**+0.5**
	baz=33,SNR=36						
STKA	**Stephens Creek**	**32.68**	**251**	P	**P**	**09 11 58.9**	**+0.8**
STKA	**Stephens Creek**	**32.68**	**251**	P	**P**	**09 11 59.0**	**+0.9**
STKA	**Stephens Creek**	**32.68**	**251**	P	**P**	**09 11 58.9**	**+0.9**
	comp=Z,28nm,0.6s,baz=94,slow=9.8,SNR=57						
STKA				ScP	**ScP**	**09 17 06.4**	**-0.6**
	comp=Z,2.4nm,0.9s,baz=0.0,slow=6.1,SNR=2.9						
	comp=Z,28nm,0.6s						
ARPS	**Mount Arapiles**	**32.86**	**242**	P	**P**	**09 12 00.5**	**+0.9**
	baz=33,SNR=16						
ARPS	**Mount Arapiles**	**32.86**	**242**	P	**P**	**09 12 00.4**	**+0.9**
INKA	**Innaminka**	**33.61**	**259**	P	**P**	**09 12 06.8**	**+0.9**
PMG	**Port Moresby**	**33.99**	**293**	P	**P**	**09 12 08.8**	**-0.5**
PMG				IAmb	IAmb	09 12 09.6	
	comp=Z,24nm,1.0s						
HTT	**Hallett**	**34.96**	**248**	P	**P**	**09 12 17.3**	**+0.2**
	baz=35,SNR=37						
HTT	**Hallett**	**34.96**	**248**	P	**P**	**09 12 17.4**	**+0.3**
COEN	**Coen**	**35.18**	**283**	P	**P**	**09 12 19.3**	**+0.2**
	baz=35,SNR=26						
COEN	**Coen**	**35.18**	**283**	P	**P**	**09 12 19.2**	**+0.2**
COEN	**Coen**	**35.18**	**283**	P	**P**	**09 12 19.3**	**+0.2**
COEN				IAmb	IAmb	09 12 20.2	
	comp=Z,32nm,0.8s						
LCRK	**Leigh Creek**	**35.60**	**253**	P	**P**	**09 12 22.6**	**+0.2**
QIS	**Mount Isa**	**36.03**	**270**	P	**P**	**09 12 25.5**	**-0.5**
	baz=36,SNR=22						
QIS	**Mount Isa**	**36.03**	**270**	P	**P**	**09 12 25.4**	**-0.6**
WHYH	**Whyalla**	**36.09**	**249**	P	**P**	**09 12 26.8**	**+0.6**
BBOO	**Buckleboo**	**37.36**	**249**	P	**P**	**09 12 36.1**	**-0.6**
	baz=37,SNR=32						
BBOO	**Buckleboo**	**37.36**	**249**	P	**P**	**09 12 36.0**	**-0.6**
BBOO	**Buckleboo**	**37.36**	**249**	P	**P**	**09 12 36.3**	**-0.3**
OOD	**Oodnadatta**	**38.05**	**258**	P	**P**	**09 12 42.9**	**+0.6**
PATS	**Pohnpei**	**38.13**	**326**	P	**P**	**09 12 42.0**	**-1.0**
MULG	**Mulgathing**	**39.20**	**253**	P	**P**	**09 12 51.1**	**-0.3**
AS01	**Alice Springs**	**40.33**	**263**	P	**P**	**09 13 00.5**	**0.0**
AS31	**Alice Springs**	**40.37**	**263**	P	**P**	**09 13 00.7**	**-0.2**
AS31				IAmb	IAmb	09 13 01.4	
	comp=Z,25nm,1.1s						
ASAR	**Alice Springs**	**40.37**	**263**	P	**P**	**09 13 00.5**	**-0.4**
	comp=Z,44nm,0.8s,baz=92,slow=7.0,SNR=400						
ASAR				S	**S**	**09 18 22.1**	**-2.6**
	comp=Z,3.1nm,1.0s,baz=98,slow=16,SNR=7.5						
	comp=Z,44nm,0.8s						
WR0	**Warramunga Arr**	**40.76**	**269**	P	**P**	**09 13 03.4**	**-0.5**
WR0				IAmb	IAmb	09 13 04.0	
	comp=Z,53nm,1.1s						
WB2	**Warramunga Arr**	**40.93**	**269**	P	**P**	**09 13 04.7**	**-0.5**
WB2				IAmb	IAmb	09 13 05.5	
	comp=Z,54nm,0.8s						
WRAB	**Tennant Creek**	**40.93**	**269**	P	**P**	**09 13 04.6**	**-0.7**
WRAB				IAmb	IAmb	09 13 05.4	
	comp=Z,48nm,0.8s						
WRA	**Warramunga Arr**	**40.94**	**269**	P	**P**	**09 13 04.4**	**-0.9**
WRA	**Warramunga Arr**	**40.94**	**269**	P	**P**	**09 13 04.5**	**-0.9**
	comp=Z,29nm,0.4s,baz=104,slow=7.9,SNR=366						
WRA				ScP	**ScP**	**09 17 40.1**	**+1.7**
	comp=Z,1.5nm,0.7s,baz=104,slow=3.8,SNR=5.5						
WRA				S	**S**	**09 18 28.3**	**-4.6**
	comp=Z,1.2nm,0.7s,baz=107,slow=13,SNR=4.1						
	comp=Z,29nm,0.4s						
WB0	**Warramunga Arr**	**40.94**	**269**	P	**P**	**09 13 04.8**	**-0.5**
FORT	**Forrest**	**44.30**	**252**	P	**P**	**09 13 30.4**	**-0.7**
	baz=44,SNR=35						
FORT	**Forrest**	**44.30**	**252**	P	**P**	**09 13 30.6**	**-0.5**
FORT	**Forrest**	**44.30**	**252**	P	**P**	**09 13 30.6**	**-0.5**
WRKA	**Warakurna**	**45.06**	**260**	P	**P**	**09 13 36.3**	**-0.8**
	baz=45,SNR=37						
WRKA	**Warakurna**	**45.06**	**260**	P	**P**	**09 13 36.2**	**-0.9**
KDU	**Kakadu**	**45.17**	**278**	P	**P**	**09 13 36.8**	**-1.2**
MTN	**Manton Dam**	**46.30**	**277**	P	**P**	**09 13 45.9**	**-0.6**
	baz=46,SNR=3.7						
MTN	**Manton Dam**	**46.30**	**277**	P	**P**	**09 13 45.8**	**-0.8**
MTN				IAmb	IAmb	09 13 51.8	
	comp=Z,44nm,1.3s						
KNRA	**Kununurra**	**47.35**	**272**	P	**P**	**09 13 54.0**	**-0.3**
	baz=47,SNR=28						
KNRA	**Kununurra**	**47.35**	**272**	P	**P**	**09 13 54.2**	**-0.1**
KNRA	**Kununurra**	**47.35**	**272**	P	**P**	**09 13 54.3**	**0.0**
FITZ	**Fitzroy Crossi**	**49.33**	**268**	P	**P**	**09 14 08.8**	**-0.1**
	baz=49,SNR=24						
FITZ	**Fitzroy Crossi**	**49.33**	**268**	P	**P**	**09 14 09.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**49.33**	**268**	P	**P**	**09 14 09.1**	**+0.2**
FITZ				IAmb	IAmb	09 14 09.8	
	comp=Z,17nm,1.1s						
KMBL	**Kambalda**	**49.47**	**250**	P	**P**	**09 14 09.6**	**-0.1**
	baz=49,SNR=6.7						
FAKI	**Fak Fak**	**49.95**	**290**	P	**P**	**09 14 12.1**	**-1.4**
FAKI				IAmb	IAmb	09 14 13.9	
	comp=Z,31nm,1.0s						
VNDA	**Vanda**	**52.12**	**185**	P	**P**	**09 14 29.6**	**+1.7**
VNDA	**Vanda**	**52.12**	**185**	P	**P**	**09 14 29.4**	**+1.4**
	comp=Z,3.8nm,0.6s,baz=3.5,slow=8.2,SNR=35						
VNDA				ScP	**ScP**	**09 18 24.9**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=353,slow=4.0,SNR=4.3						
	comp=Z,3.8nm,0.6s				

VNA3 Neumayer Olymp 82.79 177 ⇑P **P** **09 17 33.5 -0.3**
comp=Z,25nm,0.7s
VNA2 Neumayer--Watz 83.19 178 ⇑P **P** **09 17 36.2 +0.4**
comp=Z,13nm,0.6s,baz=179,slow=4.6
WHN Wuhan 83.25 309 P P 09 17 31.8 -4.9
MDJ Mudanjiang 83.31 327 P **P** **09 17 37.0 +0.3**
MDJ pmax pmax
comp=Z,14nm,1.7s
MDJ pmax pmax
comp=Z,89nm,4.6s
MDJ Mudanjiang 83.31 327 P **P** **09 17 37.1 +0.3**
MDJ IAmb IAmb 09 17 37.9
comp=Z,14nm,1.1s
CN2 Changchun 84.83 324 P **P** **09 17 44.0 -0.1**
CN2 pmax pmax
comp=Z,20nm,0.8s
BNX BinXian 85.20 327 ⇑P **P** **09 17 45.5 -0.3**
BNX pmax pmax
comp=Z,11nm,0.5s
BNX pmax pmax
comp=Z,120nm,4.6s
LL02 Futaleuf 85.60 136 P **P** **09 17 49.8 +1.7**
LL02 IAmb IAmb 09 17 50.2
comp=Z,18nm,0.7s
KLR Kul'dur 85.75 331 P **P** **09 17 49.0 +0.7**
comp=Z,3.4nm,0.7s,baz=104,slow=2.8,SNR=12
comp=Z,3.4nm,0.7s
ENH Enshi 86.58 306 P **P** **09 17 53.0 +0.2**
ENH IAmb IAmb 09 17 53.6
comp=Z,14nm,1.0s
GYA Guiyang 86.68 301 *e*P **P** **09 17 53.5 0.0**
GYA pmax pmax
comp=Z,23nm,0.7s
LYN LuoYang 86.85 311 *e*P **P** **09 17 55.5 +1.6**
LYN pmax pmax
comp=Z,18nm,0.5s
HUMO Hull Mountain 87.05 39 P **P** **09 17 55.1 +0.5**
L04D Klamath Falls 87.17 40 P **P** **09 17 56.8 +1.4**
NVAR Mina Array Bea 87.26 45 P **P** **09 17 56.7 +0.7**
NVAR Mina Array Bea 87.26 45 P **P** **09 17 56.9 +0.8**
comp=Z,0.7nm,0.7s,baz=223,slow=5.9,SNR=5.9
NVAR pP **pP** **09 20 14.8 +1.8**
comp=Z,0.8nm,0.9s,baz=243,slow=10.0,SNR=3.4
comp=Z,0.7nm,0.7s
M13K Dall Lake 87.44 9 P **P** **09 17 56.3 +0.3**
M13K IAmb IAmb 09 18 09.1
comp=Z,35nm,1.4s
I03D Drain, OR 87.53 38 P **P** **09 17 58.6 +1.8**
I03D IAmb IAmb 09 18 26.4
comp=Z,23nm,1.4s
BJI Beijing 87.66 317 P **P** **09 17 57.5 0.0**
BJI pmax pmax
comp=Z,3.0nm,0.9s
N15K Kwethluk River 87.70 11 P **P** **09 17 58.1 +0.9**
N15K IAmb IAmb 09 18 13.2
comp=Z,21nm,1.4s
PLCA Paso Flores 87.73 135 P **P** **09 18 00.1 +1.9**
PLCA Paso Flores 87.73 135 P **P** **09 17 59.6 +1.4**
comp=Z,1.4nm,0.5s,baz=251,slow=4.7,SNR=11
comp=Z,1.4nm,0.5s
Q19K Cape Douglas, 87.78 14 P **P** **09 17 57.2 -0.5**
P18K Big Mountain, 87.87 13 P **P** **09 17 57.5 -0.6**
P18K IAmb IAmb 09 18 00.9
comp=Z,12nm,1.4s
PHRA Phrae 87.94 292 P **P** **09 17 59.5 +0.2**
EFI East Falkland 88.09 149 P **P** **09 18 01.0 +1.5**
HEBO Mount Hebo 88.28 37 P **P** **09 18 01.0 +0.6**
O18K Koktuh Hills 88.30 13 P **P** **09 17 59.8 -0.3**
J05D Fort Rock, OR 88.45 39 P **P** **09 18 03.0 +1.6**
H04A Detroit Lake 88.80 38 P **P** **09 18 03.7 +0.9**
H04A IAmb IAmb 09 18 16.6
comp=Z,13nm,1.4s
F03A Seaside 88.85 36 P **P** **09 18 02.5 -0.5**
N18K Kilae Creek 88.93 12 P **P** **09 18 01.7 -1.3**
N18K IAmb IAmb 09 18 22.6
comp=Z,18nm,1.4s
CMAR Chiang Mai Arr 89.00 291 P **P** **09 18 04.6 +0.3**
comp=Z,0.9nm,0.3s,baz=137,slow=3.0,SNR=11
comp=Z,0.9nm,0.3s
XAN Xi'an 89.01 309 P **P** **09 18 04.0 -0.1**
XAN pmax pmax
comp=Z,12nm,0.9s
M17K Holitna River 89.31 11 P **P** **09 18 05.5 +0.7**
M17K IAmb IAmb 09 18 12.4
comp=Z,15nm,1.2s
SVW2 Sparrevohn 89.37 12 P **P** **09 18 04.7 -0.3**
SVW2 IAmb IAmb 09 18 09.1
comp=Z,9.1nm,1.4s
K15K Wolf Creek Mou 89.50 9 P **P** **09 18 05.3 -0.3**
K15K IAmb IAmb 09 18 33.3
comp=Z,18nm,1.4s
U15A North Rim 90.06 49 P **P** **09 18 10.3 +1.1**
U15A IAmb IAmb 09 18 11.3
comp=Z,4.1nm,0.7s
L18K Granite Mounta 90.21 11 P **P** **09 18 09.0 +0.1**
L18K IAmb IAmb 09 18 22.7
comp=Z,7.7nm,1.4s
L19K White Mountain 90.51 12 P **P** **09 18 10.4 +0.2**
PZH PanZhiHua 90.52 299 P **P** **09 18 12.0 +0.7**
PZH pmax pmax
comp=Z,10.0nm,0.3s
PZH pmax pmax
comp=Z,100nm,7.1s
J16K Anvik River 90.58 9 P **P** **09 18 10.9 +0.4**
SUA Susitna One 90.70 14 P **P** **09 18 11.1 -0.2**
SUA IAmb IAmb 09 18 38.6
comp=Z,12nm,1.3s
MT01 Popeta 90.96 129 P **P** **09 18 14.3 +1.1**
MT01 IAmb IAmb 09 18 15.0
comp=Z,12nm,0.8s
HHC Hu-ho-hao-te 90.99 316 *e*P **P** **09 18 15.5 +2.4**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,130nm,5.7s
MTPU Mount Pierson 91.01 48 P **P** **09 18 13.8 +0.2**
SEY Seymchan 91.10 348 P **P** **09 18 12.5 -0.4**
comp=Z,2.0nm,0.7s,baz=148,slow=5.9,SNR=14
comp=Z,2.0nm,0.7s
KNK Knik Glacier 91.18 15 P **P** **09 18 13.5 +0.1**
KNK IAmb IAmb 09 18 23.3
comp=Z,18nm,1.3s
PMR Palmer 91.18 15 P **P** **09 18 13.0 -0.3**
PMR IAmb IAmb 09 18 37.3
comp=Z,14nm,1.3s
J18K Innoko River 91.36 11 P **P** **09 18 14.3 +0.2**
GHO Glory Hole Cre 91.39 15 P **P** **09 18 14.0 -0.4**
GHO IAmb IAmb 09 18 27.2
comp=Z,6.9nm,1.0s
K20K Telida 91.73 12 P **P** **09 18 15.6 -0.3**
SCM Sheep Creek Mo 91.82 15 P **P** **09 18 15.9 -0.5**
BTO Baotou 91.83 315 *e*P **P** **09 18 19.0 +2.0**
BTO pP **pP** **09 20 30.5 -3.7**
BTO sP sP 09 21 28.3 -9.2
BTO PP **PP** **09 22 12.5 +3.7**
BTO pmax pmax
comp=Z,16nm,0.8s
BTO pmax pmax
comp=Z,190nm,4.6s
MESA MESA 91.83 19 P **P** **09 18 15.9 -0.7**
J19K Poorman 92.04 11 P **P** **09 18 17.3 +0.1**
CAST Castle Rocks 92.17 13 P **P** **09 18 16.9 -1.1**
F15K North Star Dit 92.40 7 P **P** **09 18 18.8 0.0**
F15K IAmb IAmb 09 18 38.7
comp=Z,8.2nm,1.5s
J20K Nowinta River 92.47 12 P **P** **09 18 18.9 -0.3**
TRF Thorofare Moun 92.57 13 P **P** **09 18 19.0 -0.9**
TRF IAmb IAmb 09 18 44.3
comp=Z,8.9nm,1.4s
BARN Barnard Glacie 92.64 18 P **P** **09 18 19.6 -0.7**
TXAR Lajitas Array 92.74 59 P **P** **09 18 21.0 -0.4**
TXAR Lajitas Array 92.74 59 P **P** **09 18 22.5 +1.1**
comp=Z,0.5nm,0.8s,baz=207,slow=8.0,SNR=6.5
TXAR pP **pP** **09 20 42.4 +2.7**
comp=Z,0.6nm,1.0s,baz=246,slow=6.5,SNR=4.8
comp=Z,0.5nm,0.8s
RND Reindeer 92.84 14 P **P** **09 18 20.5 -0.5**
RND IAmb IAmb 09 18 31.9
comp=Z,4.2nm,1.2s
BSUT Blindstream Ca 93.27 46 P **P** **09 18 24.1 +0.1**
BSUT IAmb IAmb 09 18 25.5
comp=Z,4.3nm,1.1s
IMAR Indian Mountai 94.19 11 P **P** **09 18 27.1 +0.1**
F19K Shaleruckik Mo 94.34 9 P **P** **09 18 27.5 -0.1**
J26L Joseph Creek 94.99 15 P **P** **09 18 31.1 +0.3**

E19K Redstone River 95.00 9 P **P** **09 18 30.7 0.0**
E19K IAmb IAmb 09 18 31.5
comp=Z,4.7nm,1.4s
PDAR Pinedale Array 95.20 45 P **P** **09 18 31.8 -0.6**
comp=Z,0.2nm,0.6s,baz=318,slow=1.2,SNR=2.6
comp=Z,0.2nm,0.6s
D22K Ayikyak River 97.00 10 P **P** **09 18 40.8 +1.2**
D25K Kavik River 98.47 12 Pdif **P** **09 18 46.7 +0.5**
D25K IAmb IAmb 09 18 47.0
comp=Z,2.6nm,0.6s
E28M Babbage River 99.28 14 Pdif **Pdif** **09 18 50.3 +0.5**
E28M IAmb IAmb 09 19 07.5
comp=Z,2.7nm,1.4s
GO01 Chusmiza 100.12 118 Pdif **Pdif** **09 18 54.4 -0.9**
MKAR Makanchi Array 112.60 312 PKiKP **PKiKP** **09 23 38.0 -2.4**
comp=Z,0.2nm,0.6s,baz=192,slow=1.7,SNR=3.4
MKAR SKP 09 26 15.2
comp=Z,0.7nm,0.8s,baz=101,slow=2.5,SNR=4.1
KURBB Kurchatov Arra 115.85 316 PKP **PKPdf** **09 23 45.1 -1.3**
comp=Z,0.8nm,0.7s,baz=104,slow=2.4,SNR=7.0
KURBB SKP 09 26 20.6
comp=Z,0.1nm,0.2s,baz=104,slow=1.8,SNR=7.6
BVAR Borovoye Array 121.14 318 PKP **PKPdf** **09 23 55.5 -1.1**
comp=Z,1.6nm,0.5s,baz=111,slow=1.3,SNR=12
BVAR SKP 09 26 31.5
comp=Z,1.2nm,0.6s,baz=101,slow=4.7,SNR=6.1
SPITS Spitsbergen Ar 127.17 355 PKP **PKPdf** **09 24 06.7 -0.8**
comp=Z,4.9nm,0.8s,baz=52,slow=4.6,SNR=6.5
GEYT Alibeck 128.84 299 PP **PP** **09 26 34.5 +4.7**
comp=Z,4.0nm,0.8s,baz=258,slow=4.3,SNR=6.5
ARCES ARCESS Array B 133.71 347 PKhKP PKPpre 09 24 10.4
comp=Z,4.3nm,0.9s,baz=55,slow=2.3,SNR=7.4
ARCES PKP **PKPdf** **09 24 20.7 +0.6**
comp=Z,12nm,1.3s,baz=66,slow=2.3,SNR=5.1
ARCES SKPbc **SKPbc** **09 26 50.5 +1.0**
comp=Z,5.5nm,0.8s,baz=46,slow=6.9,SNR=6.0
FINES FINESS Array B 140.03 340 PKhKP PKPpre 09 24 23.6
comp=Z,1.9nm,0.4s,baz=50,slow=4.9,SNR=31
FINES PKP **PKiKP** **09 24 33.6 -0.9**
comp=Z,1.0nm,0.3s,baz=98,slow=3.1,SNR=7.3
FINES SKPbc **SKPbc** **09 27 08.0 0.0**
comp=Z,3.8nm,0.8s,baz=54,slow=3.3,SNR=6.7
NC303 NORSAR Array S 143.78 349 PKPbc 09 24 37.3 -0.7
NC405 NORSAR Array S 143.83 349 PKPbc 09 24 37.4 -0.8
NB201 NORSAR Array S 143.96 349 PKPbc 09 24 38.0 -0.5
NB2 NORSAR Subarra 143.98 349 PKP PKPbc 09 24 37.6 -1.1
comp=Z,36nm,1.4s,baz=21,slow=4.1
NB2 SKPa 09 27 16.6
comp=Z,0.8nm,0.6s,baz=17,slow=2.6
NOA NORSAR Array B 143.98 349 PKP PKPbc 09 24 37.8 -0.9
comp=Z,8.7nm,1.0s,baz=25,slow=2.8,SNR=17
NOA SKPbc **SKPbc** **09 27 17.0 -0.8**
comp=Z,1.1nm,0.7s,baz=17,slow=4.2,SNR=5.1
HFS Hagfors 144.37 347 PKP **PKPdf** **09 24 38.7 -0.9**
comp=Z,7.1nm,0.4s,baz=72,slow=4.8,SNR=66
PABE Paberze 145.22 335 **PKPbc** **09 24 41.8 -0.7**
KONO Kongsberg 145.56 350 PKPbc **PKPbc** **09 24 43.1 -0.2**
AKASG Malin Array Be 145.99 324 **PKPbc** **09 24 44.4 -0.4**
AKASG Malin Array Be 145.99 324 PKPbc **PKPbc** **09 24 43.7 -1.1**
comp=Z,1.8nm,0.5s,baz=41,slow=3.7,SNR=22
AKASG SKPbc **SKiKP** **09 27 23.6 +0.7**
comp=Z,1.3nm,0.6s,baz=50,slow=1.9,SNR=5.3
AKBB Malin Array Si 145.99 324 **PKPbc** **09 24 44.0 -0.8**
BNN Bunyan 146.23 302 **PKPbc** **09 24 45.2 -0.9**
MMAI Mount Meron Ar 147.26 291 PKPbc **PKPbc** **09 24 49.4 +0.5**
comp=Z,6.1nm,0.6s,baz=75,slow=4.4,SNR=11
BRTR Keskin Array B 147.71 304 **PKPbc** **09 24 48.5 -1.4**
BRTR Keskin Array B 147.71 304 PKPbc **PKPbc** **09 24 49.4 -0.6**
comp=Z,3.5nm,0.9s,baz=104,slow=4.0,SNR=7.4
MDUB Mudunu 149.31 306 PKPbc **PKPbc** **09 24 53.1 -0.6**
BUR08 Bucovina Ar. S 149.91 323 **PKPbc** **09 24 55.1 +0.2**
BURAR Bucovina Array 149.92 323 PKPbc **PKPbc** **09 24 55.2 +0.2**
KWP Kalwaria Pacla 149.93 328 **PKiKP** **09 24 55.5 +0.1**
MLR Muntele Rosu 150.70 318 **PKPbc** **09 24 54.8 -2.0**
EKA Eskdalemuir Ar 150.74 2 PKPbc **PKPbc** **09 24 55.3 -1.1**
comp=Z,1.2nm,0.4s,baz=329,slow=2.7,SNR=13
OJC Ojcow 150.84 331 PKPbc **PKPbc** **09 24 56.8 0.0**
CRVS Červenica-Dubn 151.02 328 *e*PKP **PKPab** **09 25 08.0 -0.1**
MORC Moravsky Berou 152.12 333 *e*PKP **PKPbc** **09 24 59.1 -0.6**
PSZ Piszkesteto 152.46 328 PKPbc **PKPbc** **09 24 57.9 -2.7**
CLL Collm 152.47 340 PKPbc **PKPbc** **09 24 59.4 -1.0**
CLL Collm 152.47 340 *i* PKPbc **PKiKP** **09 25 00.4 -0.1**
comp=Z,8.0nm,1.0s
CLL *i* PKPab **PKPab** **09 25 13.6 -0.5**
VYHS Vyhne 152.53 330 *e*PKP **PKPab** **09 25 14.4 -0.1**
KHC Kasperske Hory 154.15 337 PKPdf **PKPdf** **09 24 54.3 -1.0**
KHC PKPab **PKPab** **09 25 21.4 0.0**
GEC2 GERESS Array S 154.35 336 PKPdf **PKPdf** **09 24 55.5 -0.1**
GEC2 PKPab **PKPab** **09 25 21.9 -0.5**
GERES GERESS Array B 154.35 336 PKPdf **PKPdf** **09 24 52.6 -3.0**
GERES PKPbc **PKiKP** **09 25 03.7 -0.9**
GERES PKPab **PKPab** **09 25 21.7 -0.7**
TORD Torodi Ar. Bea 166.80 194 PKPdf **PKPdf** **09 25 08.8 -0.9**
TORD PKPab **PKPab** **09 26 17.4 0.0**
TORD Torodi Ar. Bea 166.80 194 PKP **PKPdf** **09 25 09.2 -0.6**
comp=Z,0.9nm,0.9s,baz=46,slow=1.9,SNR=4.9

*IDC **27** 09:06:25.7±1.3, 17.05S×14.28W, h0km, mb4.1/10, mbtmp4.1/10, MS3.4/24, Error ellipse: s-maj=33.4km s-min=29.9km az=159.0*
*NEIC **27** 09:06:29.4±1.3, 16.7S±0.1×14.22W±0.10, h10km±1km, mb4.8/25, Error ellipse: s-maj=20.3km s-min=14.9km az=159.0*
ISC 27 09:06:28.7±0.5, **16.8S**±0.1×**14.26W**±0.08, **h10**km, **n63,**
σ1**s57**/39, **mb4.7**/23, **MS3.5**/24, **2C, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10S2	**ASCENSION HYDR**	**7.80**	**357**	T	T	09 16 18.0	
	baz=44,slow=74,SNR=10						
H10S3	**ASCENSION HYDR**	**7.81**	**357**	T	T	09 16 13.6	
	baz=176,slow=74,SNR=19						
SHEL	**Horse Pasture**	**8.22**	**85**	Pn	**Pn**	**09 08 28.3 +0.2**	
H10N1	**ASCENSION HYDR**	**8.90**	**359**	T	T	09 17 31.2	
	baz=180						
H10N3	**ASCENSION HYDR**	**8.90**	**358**	T	T	09 17 28.3	
	baz=180,SNR=10						
H10N2	**ASCENSION HYDR**	**8.92**	**359**	T	T	09 17 29.4	
	baz=180						
RCBR	**Riachuelo**	**23.82**	**295**	P	**P**	**09 11 41.6 -0.5**	
RCBR				IAmb	IAmb	09 11 53.8	
	comp=Z,33nm,1.5s						
RCBR	**Riachuelo**	**23.82**	**295**	LR	LR	09 19 09.0	
	comp=Z,42nm,21.7s,baz=212,slow=32						
LIC	**Lamto**	**24.63**	**23**	*e*P	**P**	**09 11 54.3 +4.8**	
	comp=Z,24nm,1.0s						
KIC	**Kosan Boka**	**24.86**	**23**⇑	*e*P	**P**	**09 11 54.3 +2.7**	
	comp=Z,27nm,0.5s						
TIC	**Toumodi**	**25.02**	**22**⇑	*e*P	**P**	**09 11 58.0 +4.9**	
	comp=Z,35nm,1.0s						
DBIC	**Dimbokro**	**25.10**	**22**	P	**P**	**09 11 52.5 -1.3**	
DBIC				IAmb	IAmb	09 12 00.7	
	comp=Z,18nm,1.0s						
DBIC	**Dimbokro**	**25.10**	**22**	P	**P**	**09 11 55.8 +2.0**	
	comp=Z,16nm,1.0s,baz=194,slow=10,SNR=8.7						
DBIC				LR	LR	09 18 41.6	
	comp=Z,42nm,20.2s,baz=205,slow=29						
	comp=Z,16nm,1.0s						
TSUM	**Tsumeb**	**30.36**	**99**	LR	LR	09 22 42.1	
	comp=Z,44nm,19.0s,baz=146,slow=32						
BDFB	**Brasilia**	**32.41**	**267**	P	**P**	**09 12 57.3 -1.9**	
	comp=Z,2.3nm,0.6s,baz=51,slow=7.1,SNR=4.2						
BDFB				LR	LR	09 23 22.4	
	comp=Z,97nm,20.8s,baz=15,slow=31						
	comp=Z,2.3nm,0.6s						
TOA0	**Torodi Ar. Sit**	**33.67**	**29**	P	**P**	**09 13 08.9 -1.1**	
TOA0				IAmb	IAmb	09 13 16.0	
	comp=Z,17nm,1.0s						
TORD	**Torodi Ar. Bea**	**33.67**	**29**	P	**P**	**09 13 08.7 -1.4**	
TORD				IAmb	IAmb	09 13 16.0	
	comp=Z,14nm,1.0s						
TORD	**Torodi Ar. Bea**	**33.67**	**29**	P	**P**	**09 13 08.7 -1.4**	
	comp=Z,2.1nm,0.7s,baz=211,slow=8.1,SNR=16						
TORD				LR	LR	09 24 55.5	
	comp=Z,54nm,19.2s,baz=168,slow=33						
	comp=Z,2.1nm,0.7s						
SUR	**Sutherland**	**35.28**	**123**	LR	LR	09 24 25.4	
	comp=Z,83nm,21.2s,baz=326,slow=31						
LBTB	**Lobatse**	**38.01**	**109**	P	**P**	**09 13 47.4 0.0**	
LBTB	**Lobatse**	**38.01**	**109**	LR	LR	09 27 22.1	
	comp=Z,61nm,18.3s,baz=252,slow=33						
BOSA	**Boshof**	**38.14**	**115**	P	**P**	**09 13 47.6 -0.9**	
BOSA	**Boshof**	**38.14**	**115**	P	**P**	**09 13 46.0 -2.5**	
	comp=Z,3.0nm,0.8s,baz=298,slow=5.7,SNR=5.5						
BOSA				LR	LR	09 26 59.0	
	comp=Z,58nm,18.7s,baz=218,slow=32						
	comp=Z,3.0nm,0.8s						
PLTB	**Pedras Altas**	**38.60**	**240**	P	**P**	**09 13 52.6 +0.4**	
LSZ	**Lusaka**	**40.77**	**94**	LR	LR	09 29 25.4	
	comp=Z,7.1nm,18.7s,baz=293,slow=34						
CPUP	**Villa Florida**	**41.00**	**249**	LR	LR	09 29 16.6	
	comp=Z,79nm,20.9s,baz=114,slow=34						
HOPE	**Hope Point**	**41.19**	**200**	P	**P**	**09 14 13.7 +0.5**	
MDP	**Montagnes des**	**43.73**	**297**	LR	LR	09 29 56.4	
	comp=Z,22nm,19.6s,baz=96,slow=32						
VILB	**Vilhena**	**44.49**	**268**	P	**P**	**09 14 41.0 +0.3**	
BOAV	**Boa Vista**	**49.48**	**288**	P	**P**	**09 15 19.9 +0.2**	
BOAV				IAmb	IAmb	09 15 21.9	
	comp=Z,10nm,1.4s						
MDT	**Midelt**	**50.19**	**11**	LR	LR	09 33 19.4	
	comp=Z,31nm,20.1s,baz=224,slow=32						
LPAZ	**La Paz**	**51.50**	**262**	LR	LR	09 36 03.4	
	comp=Z,41nm,19.7s,baz=95,slow=35						
VA03	**San Esteban**	**52.94**	**241**	P	**P**	**09 15 46.5 +0.9**	
VA03				IAmb	IAmb	09 15 58.7	
	comp=Z,15nm,0.8s						
AC04	**Llanos de Chal**	**53.29**	**247**	P	**P**	**09 15 48.1 0.0**	
PLCA	**Paso Flores**	**53.79**	**232**	LR	LR	09 36 05.5	
	comp=Z,94nm,19.1s,baz=150,slow=33						
ESDC	**Sonseca Array**	**56.99**	**9**	P	**P**	**09 16 14.6 +0.1**	
	comp=Z,0.3nm,0.4s,baz=187,slow=8.7,SNR=2.4						
	comp=Z,0.3nm,0.4s						
NNA	**Nana**	**60.60**	**266**	LR	LR	09 41 12.3	
	comp=Z,48nm,20.7s,baz=130,slow=34						
SDV	**Santo Domingo**	**61.31**	**290**	P	**P**	**09 16 45.2 +0.1**	
SDV				IAmb	IAmb	09 16 45.8	
	comp=Z,8.0nm,1.1s						
IDI	**Anoyia**	**63.74**	**35**	P	**P**	**09 17 00.9 +0.1**	
COHC	**Cochancay**	**65.36**	**275**	P	**P**	**09 17 11.7 -0.2**	
LIT	**Litokhoron**	**66.15**	**30**	P	**P**	**09 17 15.8 -0.6**	
EIL	**Elat**	**66.23**	**46**	LR	LR	09 44 37.6	
	comp=Z,20nm,18.4s,baz=246,slow=34						
MMAI	**Mount Meron Ar**	**68.58**	**43**	LR	LR	09 45 03.1	
	comp=Z,11nm,21.2s,baz=145,slow=34						
ASF	**Jabal al Asfar**	**69.07**	**45**	LR	LR	09 46 29.8	
	comp=Z,12nm,18.6s,baz=45,slow=35						
GERES	**GERESS Array B**	**69.92**	**19**	P	**P**	**09 17 40.4 +0.3**	
	comp=Z,0.4nm,0.3s,baz=232,slow=4.8,SNR=1.4						
	comp=Z,0.4nm,0.3s						
BR131	**Keskin Array S**	**71.80**	**37**	P	**P**	**09 17 51.5 -0.1**	
BR131				IAmb	IAmb	09 17 59.2	
	comp=Z,4.9nm,0.8s						
BRTR	**Keskin Array B**	**71.80**	**37**	P	**P**	**09 17 51.8 +0.1**	
BRTR	**Keskin Array B**	**71.80**	**37**	P	**P**	**09 17 52.6 +0.9**	
	comp=Z,2.0nm,0.7s,baz=198,slow=6.5,SNR=6.0						
BRTR				LR	LR	09 49 50.0	
	comp=Z,20nm,19.3s,baz=108,slow=36						
	comp=Z,2.0nm,0.7s						
MLR	**Muntele Rosu**	**71.92**	**29**	P	**P**	**09 17 50.5 -1.8**	
MLR				IAmb	IAmb	09 17 58.7	
	comp=Z,20nm,1.2s						
MORC	**Moravsky Berou**	**72.00**	**21**	P	**P**	**09 17 51.4 -1.2**	
QSPA	**South Pole Qui**	**73.38**	**180**	P	**P**	**09 18 00.2 -0.6**	
QSPA				IAmb	IAmb	09 18 14.7	
	comp=Z,8.2nm,1.2s						
ARPR	**Arapgir-MALATY**	**74.19**	**40**	P	**P**	**09 18 05.8 -0.1**	
ARPR				IAmb	IAmb	09 18 14.0	
	comp=Z,11nm,0.7s						
JACO	**JACO, Garabito**	**74.40**	**285**	P	**P**	**09 18 07.5 +0.1**	
JTS	**Las Juntas de**	**74.89**	**286**	LR	LR	09 49 50.8	
	comp=Z,42nm,21.6s,baz=117,slow=35						
AKASG	**Malin Array Be**	**77.28**	**27**	P	**P**	**09 18 22.2 -0.8**	
	comp=Z,0.5nm,0.5s,baz=220,slow=6.1,SNR=6.0						
	comp=Z,0.5nm,0.5s						
KBZ	**Khabaz**	**79.70**	**38**	P	**P**	**09 18 37.3 +0.6**	
	comp=Z,2.5nm,0.9s,baz=225,slow=6.2,SNR=4.2						
	comp=Z,2.5nm,0.9s						
UOSS	**Minazif**	**80.20**	**60**	P	**P**	**09 18 39.1 -0.6**	
UOSS				IAmb	IAmb	09 18 47.0	
	comp=Z,6.0nm,0.8s						
NB2	**NORSAR Subarra**	**80.21**	**12**	P	P	09 18 45.3 +6.2	
	comp=Z,2.0nm,0.8s,baz=206,slow=5.9						
TEIG	**Tepich**	**81.43**	**294**	LR	LR	09 56 48.8	
	comp=Z,146nm,18.7s,slow=37						
WSAR	**Wadi Sarin**	**81.58**	**63**	LR	LR	09 53 03.3	
	comp=Z,41nm,21.3s,baz=251,slow=34						
FINES	**FINESS Array B**	**84.32**	**18**	P	**P**	**09 19 00.3 -0.2**	
	comp=Z,2.0nm,0.9s,baz=307,slow=5.1,SNR=2.6						
FINES				LR	LR	09 56 39.9	
	comp=Z,38nm,19.8s,baz=18,slow=36						
	comp=Z,2.0nm,0.9s						
SBA	**Scott Base**	**85.54**	**180**	P	**P**	**09 19 08.6 +2.0**	
PALK	**Pallekele**	**96.80**	**84**	LR	LR	10 03 10.4	
	comp=Z,22nm,18.3s,baz=284,slow=35						

*NEIC **27** 09:21:18.7±1.8, 63.19N±0.06×172.7W±0.2, h17km±7km, mb_Lg3.3/6, ML3.6(AEIC), Error ellipse: s-maj=14.4km s-min=2.7km az=127.0*
*AEIC **27** 09:21:19.1±2.1, 63.21N±0.05×172.4W±0.2, h32km±9km, Error ellipse: s-maj=16.2km s-min=6.1km az=74.0*
ISC 27 09:21:19.6±3.2, **63.19N**±0.08×**172.8W**±0.2, **h35**km, **n78,**
σ0**s96**/85, **Bering Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAMB	**Gambell**	**0.75**	**38**		**Pn**	**09 21 32.6 -1.0**	
GAMB	**Gambell**	**0.75**	**38**		**Sn**	**09 21 42.7 -1.1**	
GAMB	**Gambell**	**0.75**	**38**	P	**Pn**	**09 21 32.7 -1.0**	
	baz=209						
GAMB				S	**Sn**	**09 21 42.7 -1.1**	
	baz=209						
TNA	**Tin City**	**3.17**	**39**		**Pn**	**09 22 07.1 +0.2**	
TNA	**Tin City**	**3.17**	**39**		**Sn**	**09 22 44.3 +0.9**	
TNA	**Tin City**	**3.17**	**39**	P	**Pn**	**09 22 07.0 +0.2**	
	baz=221						
TNA				S	**Sn**	**09 22 44.3 +0.9**	
	baz=221						
ANM	**Nome**	**3.54**	**64**		**Pn**	**09 22 12.5 +0.4**	
ANM				IAmb_Lg		09 23 13.6	
	comp=Z,142nm,1.0s						
ANM	**Nome**	**3.54**	**64**	P	**Pn**	**09 22 12.4 +0.4**	
	baz=249						
ANM				S	**Sn**	**09 22 51.2 -1.4**	
	baz=249						
F14K	**Arctic Creek**	**3.62**	**48**		**Pn**	**09 22 13.1 +0.1**	
F14K					**Sn**	**09 22 54.8 +0.4**	
F14K	**Arctic Creek**	**3.62**	**48**	P	**Pn**	**09 22 13.1 +0.1**	
	baz=232						
F14K				S	**Sn**	**09 22 54.8 +0.4**	
	baz=232						
M11K	**Mekoryuk**	**4.20**	**129**		**Pn**	**09 22 21.3 +0.4**	
M11K	**Mekoryuk**	**4.20**	**129**	P	**Pn**	**09 22 21.3 +0.4**	
	baz=316						
J14K	**Nanvaranak Lak**	**4.22**	**92**		**Pn**	**09 22 21.3 0.0**	
J14K	**Nanvaranak Lak**	**4.22**	**92**	P	**Pn**	**09 22 20.7 -0.7**	
	baz=280						
G15K	**Niukluk**	**4.23**	**61**		**Pn**	**09 22 20.8 -0.7**	
G15K					**Sn**	**09 23 09.8 +0.2**	
G15K	**Niukluk**	**4.23**	**61**	P	**Pn**	**09 22 21.7 +0.3**	
	baz=248						
G15K				S	**Sn**	**09 23 09.8 +0.2**	
	baz=248						
F15K	**North Star Dit**	**4.33**	**51**		**Pn**	**09 22 23.0 +0.3**	
F15K				IAmb_Lg		09 23 44.3	
	comp=Z,116nm,0.8s						
H16K	**Elim**	**4.87**	**68**		**Pn**	**09 22 30.6 +0.5**	
G16K	**Koyuk River**	**5.04**	**59**		**Pn**	**09 22 31.3 -1.2**	
L14K	**Kuka Creek**	**5.06**	**107**		**Pn**	**09 22 33.2 +0.5**	
L14K				IAmb_Lg		09 24 08.3	
	comp=Z,28nm,0.8s						
L14K	**Kuka Creek**	**5.06**	**107**	P	**Pn**	**09 22 31.9 -0.8**	
	baz=297						
K15K	**Wolf Creek Mou**	**5.24**	**95**		**Pn**	**09 22 36.6 +1.3**	
M13K	**Dall Lake**	**5.26**	**118**		**Pn**	**09 22 36.4 +0.9**	
M13K	**Dall Lake**	**5.26**	**118**	P	**Pn**	**09 22 36.3 +0.8**	
	baz=307						
I17K	**Unalakleet**	**5.44**	**77**		**Pn**	**09 22 38.4 +0.4**	
I17K	**Unalakleet**	**5.44**	**77**	P

C16K	**Lisburne Hills**	**5.95**	**28**			**Pn**	**09 22 46.1**	**+1.2**
C16K				IAmb_Lg			09 24 42.1	
	comp=Z,29nm,1.3s							
C16K	**Lisburne Hills**	**5.95**	**28**	P		**Pn**	**09 22 45.8**	**+0.9**
	baz=213							
M15K	**Kasigluk River**	**6.22**	**108**			**Pn**	**09 22 49.2**	**+0.5**
M15K	**Kasigluk River**	**6.22**	**108**	P		**Pn**	**09 22 49.2**	**+0.5**
	baz=300							
N14K	**Kuskokwak Cree**	**6.22**	**117**			**Pn**	**09 22 49.0**	**+0.2**
L16K	**Owhat River**	**6.34**	**98**			**Pn**	**09 22 50.6**	**+0.3**
L16K	**Owhat River**	**6.34**	**98**	P		**Pn**	**09 22 50.4**	**0.0**
	baz=290							
RDOG	**Red Dog Mine**	**6.36**	**36**	Pn		**Pn**	**09 22 50.2**	**-0.4**
H18K	**Honhosa River**	**6.59**	**66**	Pn		**Pn**	**09 22 54.4**	**+0.6**
K17K	**Iditarod**	**6.61**	**88**	Pn		**Pn**	**09 22 52.1**	**-1.9**
N15K	**Kwethluk River**	**6.74**	**111**			**Pn**	**09 22 56.5**	**+0.6**
L17K	**Donlin**	**6.74**	**93**			**Pn**	**09 22 57.0**	**+1.1**
O14K	**Tigyukauivet M**	**6.81**	**120**	Pn		**Pn**	**09 22 57.5**	**+0.7**
M16K	**Timber Creek**	**6.83**	**102**			**Pn**	**09 22 58.2**	**+1.2**
N16K	**Nishlik Lake**	**7.16**	**106**			**Pn**	**09 23 02.5**	**+0.9**
J18K	**Innoko River**	**7.23**	**81**	Pn		**Pn**	**09 23 03.3**	**+0.8**
C18K	**Utukok River**	**7.23**	**36**	Pn		**Pn**	**09 23 05.7**	**+3.1**
F19K	**Shaleruckik Mo**	**7.32**	**53**	Pn		**Pn**	**09 23 01.9**	**-1.8**
G19K	**Purcell Mounta**	**7.34**	**59**	Pn		**Pn**	**09 23 05.5**	**+1.5**
M17K	**Holitna River**	**7.36**	**97**			**Pn**	**09 23 05.2**	**+0.8**
H19K	**Roundabout Mou**	**7.45**	**64**	Pn		**Pn**	**09 23 05.1**	**-0.4**
L18K	**Granite Mounta**	**7.45**	**90**	Pn		**Pn**	**09 23 06.6**	**+1.0**
TTA	**Tatalina**	**7.61**	**84**	Pn		**Pn**	**09 23 09.3**	**+1.5**
J19K	**Poorman**	**7.68**	**76**	Pn		**Pn**	**09 23 09.7**	**+0.9**
E19K	**Redstone River**	**7.77**	**50**	Pn		**Pn**	**09 23 10.3**	**+0.4**
N17K	**Nushagak Hills**	**7.83**	**103**	Pn		**Pn**	**09 23 11.5**	**+0.7**
O16K	**Kokwok River B**	**7.90**	**111**	Pn		**Pn**	**09 23 11.2**	**-0.6**
D19K	**Kuna River**	**8.01**	**42**	Pn		**Pn**	**09 23 13.7**	**+0.5**
L19K	**White Mountain**	**8.29**	**89**	Pn		**Pn**	**09 23 15.5**	**-1.6**
SVW2	**Sparrevohn**	**8.31**	**97**	Pn		**Pn**	**09 23 18.4**	**+1.0**
J20K	**Nowinta River**	**8.32**	**75**	Pn		**Pn**	**09 23 17.4**	**-0.1**
N18K	**Kilae Creek**	**8.34**	**100**	Pn		**Pn**	**09 23 17.0**	**-0.8**
IMAR	**Indian Mountai**	**8.63**	**63**	Pn		**Pn**	**09 23 23.9**	**+2.2**
N19K	**Bonanza Creek**	**8.91**	**97**	Pn		**Pn**	**09 23 25.3**	**-0.4**
O18K	**Koktuh Hills**	**9.02**	**104**	Pn		**Pn**	**09 23 27.9**	**+0.8**
M20K	**Styx River**	**9.16**	**89**	Pn		**Pn**	**09 23 26.8**	**-2.2**
B20K	**Meade River**	**9.21**	**35**	Pn		**Pn**	**09 23 28.2**	**-1.4**
P18K	**Big Mountain,**	**9.24**	**106**	Pn		**Pn**	**09 23 31.6**	**+1.4**
D22K	**Ayikyak River**	**9.92**	**46**	Pn		**Pn**	**09 23 38.8**	**-0.6**
P19K	**Oil Pt**	**9.99**	**102**	Pn		**Pn**	**09 23 39.4**	**-1.0**
Q19K	**Cape Douglas,**	**10.18**	**106**	Pn		**Pn**	**09 23 41.9**	**-1.2**
BWN	**Browne**	**10.37**	**74**	Pn		**Pn**	**09 23 45.4**	**-0.2**
B22K	**Teshekpuk Lake**	**10.42**	**38**	Pn		**Pn**	**09 23 45.3**	**-0.9**
C23K	**Itkillik River**	**11.00**	**43**	Pn		**Pn**	**09 23 53.8**	**-0.4**
CCB	**Clear Creek Bu**	**11.05**	**71**	Pn		**Pn**	**09 23 55.6**	**+0.7**

CATAC ***27*** *09:24:24.7±0.5, 10°.39N×83°.32W, h7km±3km, ML3.9*
UCR ***27*** *09:24:24.8±1.1, 10°.41N×83°.33W, h6km±7km, MW3.9*
UPA ***27*** *09:24:25.8±0.9, 10°.38N×83°.28W, h12km±5km, MW4.0*

ISC 27 09:24:24.3±1.4, 10°.39N±0°.04×83°.29W±0°.04, h9km±10km, n72, σ0°.70/89, 2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATAN	**Batan**	**0.30**	**196**	**⇓iP**	**Pb**	**09 24 32.0**	**+0.1**
BATAN	**Batan**	**0.30**	**196**	*i* P	**Pg**	**09 24 30.6**	**+0.3**
BATAN				IAML		09 24 38.3	
	comp=Z,9μm,1.0s						
LCOCO	**El Coco**	**0.40**	**221**	*e*P	**Pb**	**09 24 33.4**	**-0.2**
VTCV	**VTCV, Calle Va**	**0.59**	**227**	*i* P	**Pg**	**09 24 36.4**	**+0.6**
VTCV				IAML		09 24 41.3	
	comp=Z,7μm,1.0s						
VTUN	**Crater Central**	**0.59**	**232**	*i* P	**Pg**	**09 24 36.3**	**+0.5**
VTUN				IAML		09 24 51.7	
	comp=Z,2μm,1.0s						
VTR0	**Volcan Turrial**	**0.59**	**232**	*e*P	**Pg**	**09 24 36.3**	**+0.4**
VERB	**Verbena**	**0.59**	**222**	*e*P	**Pg**	**09 24 36.5**	**+0.7**
RIFO	**Rio Frio, Sara**	**0.63**	**264**	*i* P	**Pg**	**09 24 36.5**	**+0.1**
RIFO				IAML		09 24 46.9	
	comp=Z,4μm,1.0s						
RAFA	**San Farael, Vo**	**0.67**	**230**	*e*P	**Pg**	**09 24 37.5**	**+0.3**
VICA	**Volcano Irazu**	**0.68**	**234**	*e*P	**Pg**	**09 24 37.6**	**+0.2**
REPA	**Paraso**	**0.80**	**226**	*e*P	**Pb**	**09 24 40.5**	**+0.1**
REPA				*e*S	**Sb**	**09 24 51.8**	**+0.4**
CORON	**Coronado**	**0.81**	**240**	*e*P	**Pg**	**09 24 40.0**	**0.0**
CORON				*e*S	**Sb**	**09 24 51.7**	**-0.2**
OCM	**Ochomogo**	**0.82**	**233**	*i* P	**Pg**	**09 24 40.1**	**-0.1**
OCM				IAML		09 24 56.6	
	comp=Z,1μm,1.0s						
RIMA	**Rio Macho**	**0.84**	**223**	*e*P	**Pg**	**09 24 40.0**	**-0.5**
RIMA				*e*S	**Sg**	**09 24 51.5**	**+0.1**
RIMA	**Rio Macho**	**0.84**	**223**	*i* P	**Pg**	**09 24 40.0**	**-0.5**
RIMA				IAML		09 24 52.5	
	comp=Z,910nm,1.0s						
SJS3	**Mercedes San J**	**0.87**	**239**	*e*P	**Pg**	**09 24 41.0**	**-0.2**
SJS3				*e*S	**Sg**	**09 24 53.0**	**+0.4**
AMPA	**Desamparados**	**0.90**	**237**	*e*P	**Pg**	**09 24 41.2**	**-0.5**
CDM	**Cerro de Muert**	**0.95**	**209**	*i* P	**Pg**	**09 24 42.1**	**-0.6**
CDM				IAML		09 24 56.6	
	comp=Z,1μm,1.0s						
ITAL	**Pital**	**0.97**	**274**	*e*P	**Pg**	**09 24 43.1**	**+0.2**
ITAL				*e*S	**Sb**	**09 24 56.0**	**-0.2**
SANTA	**Santa Ana**	**0.99**	**243**	*e*P	**Pg**	**09 24 42.7**	**-0.7**
SANTA				*e*S	**Sg**	**09 24 55.9**	**-0.4**
ABE2	**San Pablo**	**1.01**	**228**	*e*P	**Pg**	**09 24 43.5**	**-0.4**
PEZE	**Perez Zeledon,**	**1.07**	**201**	*e*P	**Pg**	**09 24 44.0**	**-0.8**
PEZE				*e*S	**Sg**	**09 24 58.6**	**-0.2**
PEZE	**Perez Zeledon,**	**1.07**	**201**	*i* P	**Pg**	**09 24 45.3**	**+0.4**
PEZE				IAML		09 24 59.1	
	comp=Z,4μm,1.0s						
CPMI	**Catarata Coope**	**1.08**	**264**	*i* P	**Pg**	**09 24 44.4**	**-0.7**
CPMI				IAML		09 25 07.6	
	comp=Z,2μm,1.0s						
COVE	**Coope Vega, Sa**	**1.14**	**287**	*e*P	**Pg**	**09 24 44.9**	**-1.3**
COVE	**Coope Vega, Sa**	**1.14**	**287**	*i* P	**Pg**	**09 24 46.2**	**0.0**
COVE				*i* S	**Sn**	**09 25 02.0**	**-0.3**
COVE				IAML		09 25 03.2	
	comp=Z,4μm,1.0s						
SRBA	**San Rafael, Bu**	**1.15**	**183**	*e*P	**Pg**	**09 24 45.5**	**-0.9**
SRBA				*e*S	**Sg**	**09 25 01.1**	**-0.3**
SRBA	**San Rafael, Bu**	**1.15**	**183**	*i* P	**Pg**	**09 24 46.9**	**+0.5**
SRBA				IAML		09 25 01.6	
	comp=Z,5μm,1.0s						
LLNJ	**Naranjito**	**1.21**	**221**	*e*P	**Pg**	**09 24 46.7**	**-0.8**
CNI2	**El Empalme, Bo**	**1.25**	**140**	*e*P	**Pn**	**09 24 47.5**	**-0.5**
CNI2				*e*S	**Sb**	**09 25 02.6**	**-1.8**
SOCE	**Pocosol**	**1.31**	**270**	*e*P	**Pn**	**09 24 48.0**	**-0.7**
SOCE	**Pocosol**	**1.31**	**270**	*i* P	**Pn**	**09 24 48.1**	**-0.7**
SOCE				IAML		09 25 08.0	
	comp=Z,5μm,1.0s						
OCHAL	**Ojochal**	**1.33**	**195**	*i* P	**Pn**	**09 24 49.5**	**+0.4**
OCHAL				IAML		09 25 13.3	
	comp=Z,2μm,1.0s						
POTG	**Potrero Grande**	**1.34**	**173**	*i* P	**Pn**	**09 24 49.1**	**-0.2**
POTG				IAML		09 25 09.3	
	comp=Z,4μm,1.0s						
RITA	**Parrita**	**1.34**	**230**	*e*P	**Pn**	**09 24 45.8**	**-3.4**
ARZA	**Esparza**	**1.41**	**254**	*e*P	**Pn**	**09 24 50.8**	**+0.6**
EDPN	**Palmar Norte**	**1.43**	**187**	*e*P	**Pb**	**09 24 51.5**	**+0.4**
JACO	**JACO, Garabito**	**1.53**	**242**	*e*P	**Pn**	**09 24 51.5**	**-0.3**
JACO	**JACO, Garabito**	**1.53**	**242**	*i* P	**Pn**	**09 24 51.5**	**-0.3**
JACO				IAML		09 25 16.6	
	comp=Z,2μm,1.0s						
JTS	**Las Juntas de**	**1.64**	**267**	**⇓iP**	**Pn**	**09 24 53.5**	**+0.2**
JTS	**Las Juntas de**	**1.64**	**267**	*e*P	**Pn**	**09 24 52.8**	**-0.6**
MLIR3	**Monte Lirio, C**	**1.65**	**164**	*e*P	**Pn**	**09 24 54.0**	**+0.4**
BLUN	**Bluefields**	**1.68**	**344**	*i* P	**Pn**	**09 24 54.4**	**+0.6**
BLUN				IAML		09 25 18.5	
	comp=Z,4μm,1.0s						
BRU2	**Volcan**	**1.69**	**160**	*e*P	**Pn**	**09 24 54.7**	**+0.5**
BRU2				*e*S	**Sn**	**09 25 16.3**	**+0.3**
BRU2	**Volcan**	**1.69**	**160**	*i* P	**Pn**	**09 24 54.7**	**+0.5**
BRU2				IAML		09 25 19.4	
	comp=Z,2μm,1.0s						
LAFE	**Finca La Fe, P**	**1.70**	**250**	*e*P	**Pn**	**09 24 55.1**	**+0.9**
LAFE	**Finca La Fe, P**	**1.70**	**250**	*i* P	**Pn**	**09 24 55.0**	**+0.9**
LAFE				IAML		09 25 22.1	
	comp=Z,5.5nm,1.0s						
BC3P	**Paso Ancho**	**1.70**	**157**	*e*P	**Pn**	**09 24 54.5**	**+0.1**
LNBQ3	**Los Naranjos,**	**1.79**	**152**	*e*P	**Pn**	**09 24 55.8**	**+0.2**
BCO2	**Palmira**	**1.82**	**156**	*e*P	**Pn**	**09 24 56.5**	**+0.5**
BCO2				*e*S	**Sn**	**09 25 20.3**	**+1.0**
CHGR2	**Aguacate**	**1.83**	**142**	*e*P	**Pn**	**09 24 56.4**	**+0.4**
CHGR2				*e*S	**Sn**	**09 25 18.6**	**-0.7**
VMAR	**Armenia, Volca**	**1.84**	**283**	*e*P	**Pn**	**09 24 55.6**	**-0.5**
CDITO	**Canoas**	**1.85**	**167**	*e*P	**Pn**	**09 24 56.1**	**-0.1**
CDITO	**Canoas**	**1.85**	**167**	*i* P	**Pn**	**09 24 56.9**	**+0.7**
CDITO				IAML		09 25 35.9	
	comp=Z,550nm,1.0s						
PTAR3	**Potrerillos Ar**	**1.86**	**155**	*e*P	**Pn**	**09 24 57.5**	**+1.1**
DVD	**David**	**2.11**	**157**	*e*P	**Pn**	**09 25 00.1**	**+0.3**
ORTG	**Ortega, Santa**	**2.13**	**269**	*e*P	**Pn**	**09 25 00.6**	**+0.3**
ORTG	**Ortega, Santa**	**2.13**	**269**	*i* P	**Pn**	**09 25 00.5**	**+0.3**
ORTG				IAML		09 25 32.4	
	comp=Z,450nm,1.0s						
PEDE3	**Pedregal, Chir**	**2.17**	**157**	*e*P	**Pn**	**09 25 00.9**	**+0.3**
PTPM	**Petroterminale**	**2.21**	**169**	*e*P	**Pn**	**09 25 02.1**	**+0.9**
PTPM				*e*S	**Sn**	**09 25 28.9**	**+0.3**
INDI	**Punta indio, G**	**2.24**	**257**	*e*P	**Pn**	**09 25 03.0**	**+1.4**
INDI	**Punta indio, G**	**2.24**	**257**	*i* P	**Pn**	**09 25 01.7**	**+0.1**
INDI				*i* S	**Sn**	**09 25 30.2**	**+0.8**
INDI				IAML		09 25 33.6	
	comp=Z,650nm,1.0s						
HZTE	**Horizontes, Gu**	**2.29**	**278**	*e*P	**Pn**	**09 25 02.2**	**0.0**
HZTE	**Horizontes, Gu**	**2.29**	**278**	*i* P	**Pn**	**09 25 02.3**	**0.0**
HZTE				*i* S	**Sn**	**09 25 31.3**	**+0.6**
HZTE				IAML		09 25 35.9	
	comp=Z,450nm,1.0s						
LCRUZ	**La Cruz**	**2.40**	**287**	*e*P	**Pn**	**09 25 05.4**	**+1.6**
SAJU	**San Juanillo,**	**2.40**	**263**	*i* P	**Pn**	**09 25 04.0**	**+0.1**
SAJU				IAML		09 25 38.7	
	comp=Z,380nm,1.0s						
ACON	**Acoyapa**	**2.43**	**311**	*i* P	**Pn**	**09 25 04.4**	**+0.2**
ACON				IAML		09 25 38.5	
	comp=Z,810nm,1.0s						
MORN	**Al O del Volca**	**2.59**	**297**	*i* P	**Pn**	**09 25 06.5**	**+0.1**
MORN				IAML		09 25 53.9	
	comp=Z,2μm,1.0s						
JAPN	**Al SSO del Vol**	**2.60**	**296**	*i* P	**Pn**	**09 25 07.2**	**+0.6**
JAPN				IAML		09 25 55.6	
	comp=Z,640nm,1.0s						
BOAB	**BOACO BROADBAN**	**3.10**	**312**	*i* P	**Pn**	**09 25 13.9**	**+0.4**
BOAB				*i* S	**Sn**	**09 25 51.9**	**+1.2**
BOAB				IAML		09 25 58.2	
	comp=Z,630nm,1.0s						
LIMN	**Finca el Limon**	**4.02**	**312**	*i* P	**Pn**	**09 25 25.6**	**-0.6**
LIMN				IAML		09 26 29.0	
	comp=Z,260nm,1.0s						
RCPN	**Sur Rio San Ju**	**4.15**	**319**	*i* P	**Pn**	**09 25 27.5**	**-0.6**
RCPN				IAML		09 26 31.7	
	comp=Z,1.8nm,1.0s						

JMA ***27*** *09:40:09.1±0.1, 36°.4N±0°.2×140°.7E±0°.5, h52km, MV3.6/40, NORTHERN IBARAKI PREF*
JMA Felt II J1 at NORTHERN IBARAKI PREF .

ISC 27 09:40:09.9±1.4, 36°.43N±0°.04×140°.71E±0°.06, h44km±8km, n18, σ0°.80/28, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHYU	**Hitachinakayam**	**0.13**	**228**	**⇓iP**	**Pn**	**09 40 17.2**	**0.0**
JHYU				⇓S	**Sn**	**09 40 22.7**	**+0.4**
JHO	**Hitachi**	**0.21**	**328**	**⇓iP**	**Pn**	**09 40 17.8**	**0.0**
JHO				⇓S	**Sn**	**09 40 23.7**	**+0.4**
JYT	**Yasato**	**0.46**	**244**	**⇓iP**	**Pn**	**09 40 19.7**	**-0.7**
JYT				⇓S	**Sn**	**09 40 25.8**	**-0.9**
JIHU	**Itakohorinouch**	**0.49**	**198**	*i* P	**Pn**	**09 40 20.3**	**-0.4**
JIHU				S	**Sn**	**09 40 28.8**	**+0.6**
ONAJ	**Iwakimizuishiy**	**0.67**	**6**	*i* P	**Pn**	**09 40 22.4**	**-0.7**
ONAJ				S	**Sn**	**09 40 31.9**	**-0.8**
JSMT	**Sammumatsuo**	**0.81**	**195**	P	**Pn**	**09 40 24.4**	**-0.6**
JSMT				S	**Sn**	**09 40 35.6**	**-0.3**
JFK	**Kawauchi**	**0.94**	**8**	*i* P	**Pn**	**09 40 25.7**	**-1.1**
JFK				S	**Sn**	**09 40 38.3**	**-0.9**
JAG	**Ashikaga**	**1.01**	**270**	**⇓iP**	**Pn**	**09 40 26.8**	**-0.8**
JAG				⇓S	**Sn**	**09 40 39.1**	**-1.7**
JOTO	**OTAMA OYAMA**	**1.17**	**345**	*i* P	**Pn**	**09 40 29.8**	**0.0**
JOTO				S	**Sn**	**09 40 45.0**	**+0.4**
JKT	**Katashina**	**1.22**	**286**	*i* P	**Pn**	**09 40 30.1**	**-0.5**
JKT				S	**Sn**	**09 40 45.8**	**-0.2**
JFY	**Yanaizu**	**1.26**	**321**	P	**Pn**	**09 40 30.9**	**-0.2**
JMM	**Marumori**	**1.43**	**3**	P	**Pn**	**09 40 33.4**	**0.0**
MAJO	**Matsushiro**	**2.02**	**274**	P	**Pn**	**09 40 41.7**	**+0.2**
JSD	**Sado**	**2.53**	**310**	P	**Pn**	**09 40 49.9**	**+1.5**
JGF	**Kuroka**	**2.84**	**254**	P	**Pn**	**09 40 54.3**	**+1.5**
JHJ2	**Mitsune**	**3.39**	**193**	P	**Pn**	**09 41 00.7**	**+0.4**
JTM	**Tenmabayashi**	**4.36**	**4**	P	**Pn**	**09 41 14.7**	**+1.1**
JEM	**Erimo**	**5.89**	**18**	P	**Pn**	**09 41 34.7**	**+0.1**

IDC ***27*** *09:42:21.9±6.8, 7°.60S×127°.75E, h166km±74km, mb3.3/3, mbtmp4.0/6, MS2.9/1, Error ellipse: s-maj=71.3km s-min=25.5km az=38.0*

ISC 27 09:42:21.7±0.9, 7°.48S±0°.10×127°.81E±0°.08, h142km, n21, σ2°.19/21, mb3.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**4.17**	**237**	P	**Pn**	**09 43 24.0**	**-0.1**
BATI	**Baumata**	**4.91**	**236**	P	**Pn**	**09 43 33.7**	**-0.2**
	86nm,0.3s,baz=130,slow=2.1,SNR=15						
BATI				S	**Sn**	**09 44 28.7**	**-1.4**
	47nm,0.3s,baz=204,slow=22,SNR=5.6						
DRS	**Darwin Rock St**	**5.79**	**149**	P	**Pn**	**09 43 44.7**	**-0.8**
MTN	**Manton Dam**	**6.26**	**149**	P	**Pn**	**09 43 50.8**	**-1.0**
KDU	**Kakadu**	**6.92**	**139**	P	**Pn**	**09 43 59.6**	**-1.1**
KNRA	**Kununurra**	**8.21**	**174**	P	**Pn**	**09 44 14.6**	**-3.3**
PLAI	**Plampang**	**10.02**	**262**	P	**Pn**	**09 44 44.2**	**+2.0**
WRA	**Warramunga Arr**	**13.92**	**154**	P	**Pn**	**09 45 29.7**	**-3.2**
	1.7nm,0.5s,baz=323,slow=14,SNR=28						
WRA				S	Sn	09 47 53.0	-14
	7.2nm,0.5s,baz=327,slow=23,SNR=14						
MBWA	**Marble Bar**	**15.69**	**209**	P	**Pn**	**09 45 54.9**	**-0.1**
COEN	**Coen**	**16.41**	**114**	P	**P**	**09 46 06.7**	**+2.5**
ASAR	**Alice Springs**	**17.13**	**161**	P	**P**	**09 46 10.6**	**-1.5**
	2.7nm,0.8s,baz=344,slow=13,SNR=31						
ASAR				S	S	09 49 11.3	-12
	3.0nm,0.6s,baz=326,slow=18,SNR=8.4						
UGM	**Wanagama**	**17.14**	**267**	P	**Pn**	**09 46 18.1**	**+5.3**
AS01	**Alice Springs**	**17.14**	**161**	P	**P**	**09 46 12.7**	**+0.5**
QIS	**Mount Isa**	**17.31**	**140**	P	**Pn**	**09 46 16.2**	**+1.4**
	12nm,2.5s						
MEEK	**Meekatharra**	**20.97**	**204**	P	**P**	**09 46 54.9**	**+1.2**
OOD	**Oodnadatta**	**21.54**	**161**	P	**P**	**09 47 01.4**	**+1.6**
INKA	**Innaminka**	**23.59**	**150**	P	**P**	**09 47 21.3**	**+1.7**
KLR	**Kul'dur**	**56.57**	**3**	LR	LR	10 18 37.5	
	comp=Z,9.4nm,18.5s,baz=332,slow=38						
SONM	**Songino Array**	**58.23**	**343**	P	**P**	**09 51 59.8**	**-1.4**
	0.5nm,0.7s,baz=162,slow=4.8,SNR=2.9						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**67.45**	**328**	P	**P**	**09 52 59.8**	**-2.3**
	0.7nm,0.6s,baz=129,slow=6.5,SNR=5.1						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**71.79**	**329**	P	**P**	**09 53 26.9**	**-1.7**
	1.0nm,0.6s,baz=140,slow=4.8,SNR=7.3						
	1.0nm,0.6s						

IDC 27 09:44:06.6±4.3, 54°.32N×87°.52E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=45.6km s-min=19.5km az=72.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.63**	**258**	I	I	09 54 15.1	
	0.1nm,0.8s,baz=78,slow=336,SNR=3.6						
ZALV	**Zalesovo Beam**	**1.63**	**258**	Pn	Pn	09 44 34.4	-2.1
	1.4nm,0.3s,baz=73,slow=15,SNR=8.4						
ZALV				Sn	Sg	09 44 59.6	+0.7
	1.4nm,0.3s,baz=76,slow=26,SNR=8.4						
KURBB	**Kurchatov Arra**	**6.62**	**240**	Pn	Pn	09 45 46.1	+1.1
	0.1nm,0.3s,baz=55,slow=14,SNR=5.1						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**8.23**	**206**	Pn	Pn	09 46 08.5	+1.3
	0.2nm,0.3s,baz=25,slow=13,SNR=6.8						
MKAR				Sn	Sn	09 47 40.3	-0.6
	baz=27,slow=26,SNR=3.5						
	0.2nm,0.3s						

IDC 27 09:46:13.5±3.3, 54°.29N×87°.25E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=28.5km s-min=17.4km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.47**	**257**	I	I	09 56 20.0	
	0.1nm,0.7s,baz=77,slow=340,SNR=2.8						
ZALV	**Zalesovo Beam**	**1.47**	**257**	Pg	Pn	09 46 38.8	-2.5
	2.2nm,0.3s,baz=72,slow=18,SNR=8.8						
ZALV				Lg	Lg	09 47 00.8	
	3.1nm,0.3s,baz=72,slow=24,SNR=9.7						
KURBB	**Kurchatov Arra**	**6.47**	**239**	Pn	Pn	09 47 50.9	+0.9
	0.1nm,0.3s,baz=57,slow=14,SNR=7.4						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**8.14**	**205**	Pn	Pn	09 48 14.7	+1.7
	0.1nm,0.3s,baz=27,slow=12,SNR=4.4						
MKAR				Sn	Sn	09 49 44.1	-1.5
	0.2nm,0.3s,baz=23,slow=26,SNR=6.3						
	0.2nm,0.4s						

IDC ***27*** *09:48:43.6±1.4, 56°.25N×148°.68W, h0km, mb3.8/8, mbtmp3.8/13, ML3.5/5, MS3.1/12, Error ellipse: s-maj=29.2km s-min=19.0km az=14.0*
NEIC ***27*** *09:48:43.6±1.9, 56°.23N±0°.09×148°.6W±0°.1, h16km±6km, mb3.9/2, ML4.0/60, ML3.7(AEIC), Error ellipse: s-maj=13.8km s-min=8.0km az=168.0*
AEIC ***27*** *09:48:48.2±1.7, 56°.28N±0°.09×148°.6W±0°.1, h12km±6km, Error ellipse: s-maj=12.8km s-min=7.9km az=166.0*

ISC 27 09:48:44.9±0.8, 56°.40N±0°.08×148°.59W±0°.05, h10km, n340, σ0°.97/342, mb4.0/8, MS3.0/9, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.58**	**304**	Pn	**Pn**	**09 49 25.8**	**-0.9**
KDAK	**Kodiak Island**	**2.58**	**304**		**Sn**	**09 49 55.7**	**-2.3**
KDAK	**Kodiak Island**	**2.58**	**304**	Pn	**Pn**	**09 49 25.7**	**-0.9**
	14nm,0.3s,baz=132,slow=5.1,SNR=271						
KDAK				Sn	**Sn**	**09 49 55.5**	**-2.5**
	17nm,0.3s,baz=143,slow=21,SNR=13						
KDAK				LR	LR	09 50 41.9	
	comp=Z,476nm,20.1s,baz=182,slow=45						
	31nm,0.3s						
OHAK	**Old Harbor**	**2.71**	**290**	P	**Pn**	**09 49 26.7**	**-1.7**
OHAK	**Old Harbor**	**2.71**	**290**	Pn	**Pn**	**09 49 26.7**	**-1.7**
OHAK					**Sn**	**09 49 57.3**	**-3.9**
OHAK	**Old Harbor**	**2.71**	**290**	P	**Pn**	**09 49 26.7**	**-1.7**
	baz=106						
OHAK				S	**Sn**	**09 49 57.2**	**-4.0**
	baz=106						
SYI	**Shuyak Island**	**3.02**	**319**		**Pn**	**09 49 32.4**	**-0.2**
SYI					**Sn**	**09 50 07.4**	**-1.4**
Q20K	**Shuyak Island**	**3.02**	**319**	P	**Pn**	**09 49 32.5**	**-0.1**
	baz=136						
Q20K				S	**Sn**	**09 50 07.4**	**-1.4**
	baz=136						
MID	**Middleton Isla**	**3.26**	**21**	P	**Pn**	**09 49 35.4**	**-0.6**
MID	**Middleton Isla**	**3.26**	**21**	Pn	**Pn**	**09 49 35.2**	**-0.8**
MID					**Sn**	**09 50 12.5**	**-2.4**
MID				IAML		09 50 16.2	
	comp=N,225nm,1.1s						
MID				IAML		09 50 31.6	
	comp=E,285nm,1.2s						
Q23K	**Middleton Isla**	**3.26**	**21**	Pn	**Pn**	**09 49 35.3**	**-0.8**
Q23K					**Sn**	**09 50 12.8**	**-2.1**
Q23K				IAML		09 50 31.7	
	comp=E,287nm,1.2s						
Q23K				IAML		09 50 49.7	
	comp=N,237nm,1.5s						
Q23K	**Middleton Isla**	**3.26**	**21**	P	**Pn**	**09 49 35.3**	**-0.8**
	baz=203						
Q23K				S	**Sn**	**09 50 12.7**	**-2.1**
	baz=203						
CNPM	**China Poot**	**3.43**	**337**	Pn	**Pn**	**09 49 38.0**	**-0.4**
CNPM					**Sn**	**09 50 17.9**	**-1.3**
CNPM				IAML		09 50 22.9	
	comp=N,151nm,0.5s

RDT Redoubt 4.64 336 Pn Pn 09 49 54.0 -1.0
P18K Big Mountain, 4.64 313 Pn Pn 09 49 54.2 -0.8
P18K Big Mountain, 4.64 313 P Pn 09 49 54.3 -0.8
baz=128
GOAT Goat Mountain 4.66 24 Pn 09 49 55.1 -0.1
RDWB Redoubt West 4.66 333 Pn 09 49 54.6 -0.9
DFR Drift River 4.72 335 Pn 09 49 55.6 -0.5
RC01 Rabbit Creek A 4.74 353 Pn 09 49 56.6 +0.2
RC01 IAML 09 50 52.2
comp=E,123nm,0.5s
RC01 IAML 09 50 56.6
comp=N,97nm,0.6s
RC01 Rabbit Creek A 4.74 353 P Pn 09 49 56.4 +0.1
baz=173
NCT North Crescent 4.75 333 Pn 09 49 55.8 -0.8
BERG Berg Lake 4.76 31 Pn 09 49 56.1 -0.5
GRIN Grindle Hills 4.78 33 Pn 09 49 57.0 +0.1
SNH Sunshine Point 4.85 36 Pn Pn 09 49 57.5 -0.4
SNH IAML 09 51 05.9
comp=E,112nm,1.4s
SNH IAML 09 51 34.0
comp=N,113nm,1.3s
O19K Port Alsworth 4.86 324 Pn Pn 09 49 57.3 -0.6
O19K Port Alsworth 4.86 324 P Pn 09 49 57.4 -0.6
baz=139
Q16K King Salmon 4.91 301 Pn 09 49 58.1 -0.4
Q16K King Salmon 4.91 301 P Pn 09 49 58.1 -0.4
baz=114
O18K Koktuh Hills 4.92 317 Pn Pn 09 49 57.9 -1.0
O18K Koktuh Hills 4.92 317 P Pn 09 49 58.5 -0.5
baz=132
KHIT Khitrov Hills 4.93 33 Pn 09 49 58.4 -0.7
DIV Divide 4.96 16 Pn 09 49 59.8 +0.3
KNK Knik Glacier 5.03 1 Pn 09 50 00.7 +0.4
KNK IAML 09 50 60.0
comp=E,82nm,0.6s
KNK IAML 09 51 01.0
comp=N,69nm,1.1s
KNK Knik Glacier 5.03 1 P Pn 09 50 00.3 0.0
baz=181
BMRM Bremner River 5.03 23 Pn 09 50 00.5 +0.1
BMRM Bremner River 5.03 23 P Pn 09 50 00.5 +0.1
baz=206
P17K Kvichak River 5.04 307 Pn 09 50 00.7 +0.2
P17K Kvichak River 5.04 307 P Pn 09 50 00.7 +0.2
baz=120
WAX Waxell Ridge 5.06 34 Pn 09 50 00.3 -0.5
WAX IAML 09 51 00.1
comp=E,156nm,1.0s
BARK Barkley Ridge 5.14 36 Pn 09 50 01.7 -0.2
MESA MESA 5.16 40 Pn Pn 09 50 02.8 +0.5
MESA IAML 09 51 05.3
comp=E,71nm,0.7s
MESA IAML 09 51 18.7
comp=N,98nm,0.9s
MESA MESA 5.16 40 P Pn 09 50 02.2 -0.1
baz=226
N20K Mount Spurr 5.17 340 P Pn 09 50 01.7 -0.6
baz=157
SPCR Spurr Chakacha 5.17 340 Pn 09 50 01.7 -0.6
SPCN Chakachatna No 5.18 340 Pn 09 50 02.8 +0.4
SUA Susitna One 5.20 349 Pn 09 50 02.6 -0.1
SUA Susitna One 5.20 349 P Pn 09 50 02.4 -0.3
baz=167
PMR Palmer 5.21 357 Pn Pn 09 50 02.7 0.0
PMR IAML 09 51 01.7
comp=E,55nm,0.8s
PMR IAML 09 51 11.4
comp=N,47nm,0.6s
PMR Palmer 5.21 357 P Pn 09 50 02.8 0.0
baz=177
CRQM Cirque 5.21 31 Pn 09 50 02.9 -0.2
CRQM IAML 09 51 02.4
comp=N,89nm,0.5s
CRQM IAML 09 51 04.4
comp=E,87nm,0.6s
SPCG Spurr Capps Gl 5.22 341 Pn 09 50 03.4 +0.5
SPCP Crater Peak Br 5.22 341 Pn 09 50 03.5 +0.5
CRP Crater Peak 5.22 341 Pn 09 50 03.9 +0.9
CRQE Cirque 5.22 31 P Pn 09 50 02.7 -0.4
baz=216
KLU Klutina 5.29 14 Pn 09 50 04.4 +0.5
KLU Klutina 5.29 14 P Pn 09 50 04.3 +0.3
baz=197
TGL Tana Glacier 5.30 32 Pn 09 50 03.8 -0.4
BAGL Bagley Icefiel 5.33 37 Pn 09 50 04.3 -0.1
ISLE Juniper Island 5.34 35 Pn 09 50 04.3 -0.4
STLK Strandline Lak 5.38 343 Pn 09 50 05.2 0.0
N19K Bonanza Creek 5.39 328 Pn 09 50 05.2 -0.1
N19K Bonanza Creek 5.39 328 P Pn 09 50 04.7 -0.7
baz=143
GHO Glory Hole Cre 5.39 358 Pn 09 50 06.1 +0.8
SPNN North Nagishla 5.41 339 Pn 09 50 05.9 +0.2
SML Sawmill 5.42 1 Pn Pn 09 50 05.1 -0.6
SML Sawmill 5.42 1 P Pn 09 50 06.3 +0.5
baz=182
M22K Willow 5.42 352 Pn Pn 09 50 04.8 -0.9
M23K Glacier View 5.42 4 Pn 09 50 06.5 +0.7
M23K Glacier View 5.42 4 P Pn 09 50 06.5 +0.7
baz=185
SCM Sheep Creek Mo 5.49 6 Pn Pn 09 50 06.1 -0.5
SCM Sheep Creek Mo 5.49 6 P Pn 09 50 07.3 +0.7
baz=188
VRDI Verde Repeater 5.53 27 Pn 09 50 05.8 -1.5
SAMH Samovar Hills 5.56 45 Pn 09 50 07.9 +0.1
KIAG Kiagna River 5.58 33 Pn 09 50 07.7 -0.3
N25K Chitina, Valde 5.61 20 Pn Pn 09 50 08.3 -0.1
N25K Chitina, Valde 5.61 20 P Pn 09 50 08.7 +0.3
baz=204
GRNC Granite Creek 5.62 37 Pn 09 50 08.2 -0.5
GLB Gilahina Butte 5.63 24 Pn 09 50 07.7 -0.8
TABL Table Mountain 5.63 41 Pn 09 50 08.3 -0.4
O17K Koliganek Bris 5.63 310 Pn 09 50 08.6 0.0
O17K Koliganek Bris 5.63 310 P Pn 09 50 08.6 0.0
baz=123
P16K Nushagak River 5.68 302 Pn 09 50 09.5 +0.3
P16K Nushagak River 5.68 302 P Pn 09 50 09.5 +0.3
baz=114
N18K Kilae Creek 5.74 321 Pn 09 50 09.3 -0.8
PTPK Patty Peak 5.76 31 Pn 09 50 10.5 0.0
MCARA McCarthy VSAT 5.77 28 Pn 09 50 11.3 +0.9
MCARA McCarthy VSAT 5.77 28 P Pn 09 50 10.9 +0.4
baz=213
SKT Skwentna 5.79 346 Pn 09 50 12.6 +1.7
SKT Skwentna 5.79 346 P Pn 09 50 11.3 +0.5
baz=164
M24K Tolsona, Glenn 5.85 11 Pn 09 50 12.2 +0.5
M24K Tolsona, Glenn 5.85 11 P Pn 09 50 12.6 +0.9
baz=194
PNL Peninsula 5.88 52 P Pn 09 50 11.8 -0.2
PNL Peninsula 5.88 52 Pn 09 50 11.9 -0.1
PNL Peninsula 5.88 52 P Pn 09 50 11.9 -0.1
baz=240
BARN Barnard Glacie 5.90 35 Pn 09 50 12.4 0.0
BCPM Bancas Point 5.93 49 Pn 09 50 12.8 +0.1
CTG Chitna Glacier 5.93 37 P Pn 09 50 12.7 -0.2
baz=223
CTGM Chitina Glacie 5.94 37 Pn 09 50 12.9 0.0
LOGN Logan Glacier 5.95 39 Pn 09 50 12.9 -0.1
SVW2 Sparrevohn 5.95 325 P Pn 09 50 11.9 -1.0
SVW2 Sparrevohn 5.95 325 Pn Pn 09 50 12.3 -0.6
M20K Styx River 5.97 339 Pn 09 50 13.2 -0.2
O16K Kokwok River B 5.98 306 Pn 09 50 13.6 +0.3
O16K Kokwok River B 5.98 306 P Pn 09 50 13.1 -0.2
baz=118
CUT Chulitna 6.08 353 Pn Pn 09 50 15.3 +0.6
N17K Nushagak Hills 6.12 316 Pn 09 50 14.6 -0.6
N17K Nushagak Hills 6.12 316 P Pn 09 50 14.7 -0.6
baz=129
WAT6 Susitna Watana 6.21 4 Pn 09 50 17.2 +0.5
WAT6 Susitna Watana 6.21 4 P Pn 09 50 17.2 +0.5
baz=185
HARP HAARP 6.26 15 Pn 09 50 18.2 +0.9
HARP HAARP 6.26 15 P Pn 09 50 18.2 +0.9
baz=198
WAT1 Susitna Watana 6.45 0 Pn 09 50 20.6 +0.8
WAT1 Susitna Watana 6.45 0 P Pn 09 50 20.6 +0.8
baz=180
WAT7 Susitna Watana 6.45 359 Pn 09 50 20.6 +0.7
O29M Mount Kennedy 6.56 49 Pn 09 50 22.0 +0.6
O29M Mount Kennedy 6.56 49 P Pn 09 50 21.7 +0.2
baz=238
P29M Windy Craggy 6.61 56 Pn 09 50 21.2 -0.9
P29M Windy Craggy 6.61 56 P Pn 09 50 21.8 -0.2
baz=246
O15K Ungalikthiuk R 6.62 299 Pn 09 50 21.9 -0.2
O15K Ungalikthiuk R 6.62 299 P Pn 09 50 21.9 -0.2
baz=110
L19K White Mountain 6.62 334 Pn Pn 09 50 21.8 -0.4
L19K White Mountain 6.62 334 P Pn 09 50 21.3 -0.9
baz=148
M26K Nabesna, AK 6.66 23 Pn 09 50 22.8 +0.1
M26K Nabesna, AK 6.66 23 P Pn 09 50 22.8 +0.1
baz=208
YUK2 White River 6.71 33 Pn 09 50 23.9 +0.4
DHY Denali Highway 6.72 5 Pn 09 50 24.9 +1.2
DHY Denali Highway 6.72 5 P Pn 09 50 24.6 +0.9
baz=186
SDPT Sand Point 6.77 266 P Pn 09 50 23.4 -0.8
SDPT Sand Point 6.77 266 Pn Pn 09 50 22.5 -1.6
PAX Paxson 6.77 12 Pn 09 50 25.4 +1.0
PAX Paxson 6.77 12 P Pn 09 50 25.2 +0.9
baz=195
M17K Holitna River 6.79 321 Pn 09 50 24.0 -0.4
YUK3 Moose Creek 6.82 34 Pn 09 50 25.5 +0.4
YUK3 Moose Creek 6.82 34 P Pn 09 50 25.5 +0.4
baz=222
M27K Edge Creek, AK 6.88 27 Pn 09 50 26.5 +0.6
S31K Pelican 6.90 72 Pn Pn 09 50 23.7 -2.3
MENT Mentasta 7.00 19 Pn 09 50 29.1 +1.6
RND Reindeer 7.03 359 Pn 09 50 28.4 +0.6
M16K Timber Creek 7.11 315 Pn 09 50 28.5 -0.3
TRF Thorofare Moun 7.12 354 P Pn 09 50 30.0 +0.9
baz=173
N15K Kwethluk River 7.14 307 Pn 09 50 28.7 -0.5
N15K Kwethluk River 7.14 307 P Pn 09 50 29.4 +0.1
baz=117
L18K Granite Mounta 7.15 328 Pn 09 50 29.3 -0.1
P30M Million Dollar 7.18 54 Pn 09 50 30.3 +0.5
P30M Million Dollar 7.18 54 P Pn 09 50 30.0 +0.1
baz=244
PLBC Pleasant Camp 7.19 60 Pn 09 50 29.3 -0.7
PLBC Pleasant Camp 7.19 60 P Pn 09 50 29.3 -0.7
baz=250
BVCY Beaver Creek 7.20 30 Pn 09 50 30.8 +0.7
BVCY Beaver Creek 7.20 30 P Pn 09 50 30.8 +0.7
baz=217
CAST Castle Rocks 7.25 347 Pn 09 50 31.1 +0.3
CAST Castle Rocks 7.25 347 P Pn 09 50 31.2 +0.3
baz=165
KTH Kantishna Hill 7.27 352 Pn 09 50 30.4 -0.7
HYT Haines Junctio 7.29 48 Pn Pn 09 50 31.7 +0.2
HYT Haines Junctio 7.29 48 P Pn 09 50 31.6 +0.2
baz=238
SIT Sitka 7.33 79 P Pn 09 50 29.8 -2.1
O14K Tigyukauivet M 7.34 298 Pn 09 50 31.1 -0.9
O14K Tigyukauivet M 7.34 298 P Pn 09 50 31.3 -0.7
baz=108
MCK McKinley 7.36 359 Pn 09 50 31.6 -0.6
MCK McKinley 7.36 359 P Pn 09 50 32.6 +0.3
baz=179
K20K Telida 7.50 341 Pn 09 50 34.5 +0.4
L27K Beaver Creek, 7.50 24 Pn 09 50 35.1 +0.8
BCAR Beaver Creek A 7.51 24 Pn Pn 09 50 34.8 +0.3
TTA Tatalina 7.54 333 Pn Pn 09 50 34.7 -0.2
K24K Donnelly Dome 7.56 10 Pn 09 50 35.7 +0.7
K24K Donnelly Dome 7.56 10 P Pn 09 50 35.7 +0.7
baz=192
RIDG Independent Ri 7.59 13 Pn 09 50 37.7 +2.2
RIDG Independent Ri 7.59 13 P Pn 09 50 36.5 +0.9
baz=196
SKAG Skagway 7.70 61 P Pn 09 50 37.8 +0.9
SKAG Skagway 7.70 61 Pn 09 50 37.7 +0.8
L16K Owhat River 7.72 318 Pn Pn 09 50 37.2 -0.1
L16K Owhat River 7.72 318 P Pn 09 50 36.9 -0.4
baz=129
N30M Aishikik Lake 7.81 45 Pn 09 50 38.9 +0.4
BPAW Bear Paw Mtn. 7.81 352 Pn Pn 09 50 38.7 +0.1
BPAW Bear Paw Mtn. 7.81 352 P Pn 09 50 38.6 +0.1
baz=170
O30N Mendenhall 7.86 51 Pn 09 50 38.1 -1.1
JIS Juneau Island 7.92 70 P Pn 09 50 39.3 -0.6
M29M Somme Creek 7.95 36 Pn 09 50 41.2 +0.6
K17K Iditarod 8.02 326 Pn 09 50 40.7 -0.6
K17K Iditarod 8.02 326 P Pn 09 50 40.4 -0.8
baz=138
HDA Harding Lake 8.07 5 Pn 09 50 41.1 -0.9
WRH Wood River Hil 8.10 2 Pn Pn 09 50 43.1 +0.7
J18K Innoko River 8.17 333 Pn Pn 09 50 43.4 0.0
M14K Bethel 8.23 308 Pn Pn 09 50 43.7 -0.5
J20K Nowinta River 8.27 343 Pn Pn 09 50 44.5 -0.3
CCB Clear Creek Bu 8.28 2 Pn 09 50 46.7 +1.8
K27K Chicken 8.30 20 Pn 09 50 46.1 +0.9
K27K Chicken 8.30 20 P Pn 09 50 45.4 +0.2
baz=206
WHY Whitehorse 8.34 54 Pn 09 50 46.4 +0.6
J19K Poorman 8.38 338 Pn 09 50 45.7 -0.4
J25K Salcha River, 8.39 10 Pn Pn 09 50 47.1 +0.7
IL31 8.44 5 Pn 09 50 46.5 -0.5
ILAR Eielson Array 8.44 5 Pn Pn 09 50 47.6 +0.5
comp=E,0.3nm,0.3s,baz=185,slow=13,SNR=20
ILAR Sn Sn 09 52 19.1 -3.2
comp=E,1.1nm,0.3s,baz=187,slow=22,SNR=12
ILAR LR LR 09 54 15.6
comp=E,67nm,19.8s,baz=252,slow=39
comp=E,1.2nm,0.6s
J26L Joseph Creek 8.49 15 Pn 09 50 47.6 -0.3
J26L Joseph Creek 8.49 15 P Pn 09 50 48.4 +0.5
baz=200
COLA College 8.51 2 Pn 09 50 49.8 +1.8
COLA College 8.51 2 Pn 09 50 48.3 +0.3
P32M Atlin 8.52 62 Pn Pn 09 50 47.6 -0.6
P32M Atlin 8.52 62 P Pn 09 50 48.0 -0.2
baz=255
L29M L29M 8.54 34 Pn 09 50 49.0 +0.4
MDM Murphy Dome 8.59 1 Pn 09 50 49.1 0.0
M30M Minto, Yukon 8.61 39 Pn Pn 09 50 50.2 +0.7
U33K Whale Pass 8.62 85 Pn Pn 09 50 46.4 -3.1
M13K Dall Lake 8.72 304 Pn Pn 09 50 49.2 -1.7
CRAG Craig 8.74 90 P Pn 09 50 49.7 -1.4
I23K Minto, Yukon-K 8.78 358 Pn 09 50 52.2 +0.4
I23K Minto, Yukon-K 8.78 358 P Pn 09 50 52.0 +0.3
baz=177
L14K Kuka Creek 8.81 310 Pn Pn 09 50 51.4 -0.7
K15K Wolf Creek Mou 8.85 317 Pn Pn 09 50 53.3 +0.6
DAWY Dawson 8.94 27 Pn Pn 09 50 54.6 +0.7
P33M Teslin, Yukon 9.13 59 Pn Pn 09 50 56.6 -0.1
P33M Teslin, Yukon 9.13 59 P Pn 09 50 56.5 -0.1
baz=252
EGAK Eagle 9.16 20 Pn Pn 09 50 58.9 +2.0
J16K Anvik River 9.16 324 Pn 09 50 56.1 -0.8
K29M Barlow Dome 9.27 32 Pn 09 50 59.3 +0.7
K29M Barlow Dome 9.27 32 P Pn 09 50 58.7 +0.1
baz=222
M31M Drury Creek, Y 9.29 45 Pn 09 50 59.9 +1.1
I26K Coal Creek Min 9.31 14 Pn 09 51 00.9 +1.9
N32M Quiet Lake 9.35 53 Pn 09 50 59.9 +0.3
N32M Quiet Lake 9.35 53 P Pn 09 50 59.0 -0.5
baz=246
H23K Yukon River 9.47 358 Pn 09 51 04.1 +3.0
H23K Yukon River 9.47 358 P Pn 09 51 01.8 +0.6
baz=177
H24K Noodor Dome 9.47 2 Pn 09 51 04.4 +3.1
H21K Melozitna Rive 9.51 349 Pn 09 51 01.3 -0.4
J29N Klondike Camp 9.55 28 Pn Pn 09 51 02.7 +0.3
FARO Faro, Yukon 9.72 47 Pn Pn 09 51 05.4 +0.7
R33M Jennings River 9.85 65 Pn Pn 09 51 06.2 -0.3
IMAR Indian Mountai 9.93 348 Pn 09 51 06.5 -0.9
H18K Honhosa River 9.98 336 Pn 09 51 07.4 -0.7
I28M Miner Creek 9.99 21 Pn 09 51 08.2 -0.3
J30M Hart River 10.17 31 Pn Pn 09 51 11.8 +1.0
DLBC Dease Lake 10.22 71 Pn Pn 09 51 11.3 -0.2
comp=E,0.7nm,0.3s,baz=247,slow=7.1,SNR=13
DLBC Sn Sn 09 53 01.8 -4.2
comp=E,0.3nm,0.3s,baz=41,slow=9.3,SNR=1.6
comp=E,1.2nm,0.3s
FYU Fort Yukon 10.32 8 Pn Pn 09 51 13.2 +0.4
G23K Bananza Creek 10.37 357 Pn Pn 09 51 15.4 +1.9
G21K Allakaket 10.41 349 Pn 09 51 15.2 +1.2
I30M Mount Dempster 10.65 29 Pn 09 51 19.7 +2.3
H29M Whitestone 10.99 22 Pn Pn 09 51 22.5 +0.6
F21K Alatna River 11.10 350 Pn Pn 09 51 23.6 +0.1
F24K Squaw Lake 11.16 1 Pn Pn 09 51 24.2 -0.1
F20K Avaraart Lake 11.19 345 Pn 09 51 25.9 +1.2
G16K Koyuk River 11.20 329 Pn Pn 09 51 24.9 +0.1
BMAR Burnt Mountain 11.22 8 Pn Pn 09 51 26.4 +1.3
F19K Shaleruckik Mo 11.32 341 Pn Pn 09 51 26.2 -0.3
ANM Nome 11.60 322 Pn Pn 09 51 30.8 +0.5
G29M Pine Creek 11.65 21 Pn 09 51 33.6 +2.6
F17K Baldwin Pennin 11.72 334 Pn 09 51 31.8 -0.1
E19K Redstone River 11.80 344 Pn 09 51 33.0 0.0
E25K Arctic Village 11.84 6 Pn 09 51 34.9 +1.3
G30M tAoh Zraii Nji 12.09 24 Pn 09 51 38.3 +1.2
F15K North Star Dit 12.10 327 Pn Pn 09 51 36.8 -0.4
G31M Satah River 12.51 27 Pn 09 51 41.2 -1.5
D22K Ayikyak River 12.66 353 Pn Pn 09 51 43.0 -1.8
D19K Kuna River 12.88 344 Pn Pn 09 51 47.2 -0.6
E28M Babbage River 12.92 15 Pn Pn 09 51 47.3 -1.0
E29M Blow River 12.98 18 Pn Pn 09 51 48.7 -0.4
F31M Tsiigehtchic 13.04 26 Pn Pn 09 51 49.7 -0.3
C23K Ikkillik River 13.52 357 Pn 09 51 57.9 +1.5
B21K Ikpikpuk River 13.54 351 Pn Pn 09 51 56.5 -0.2
INK Inuvik 13.78 24 Pn Pn 09 52 00.7 +0.8
INK Inuvik 13.78 24 Pn Pn 09 52 02.9 +2.9
comp=E,0.1nm,0.3s,baz=204,slow=14,SNR=17
INK LR LR 09 57 40.4
comp=E,58nm,18.9s,baz=186,slow=38
comp=E,4.9nm,0.9s
B22K Teshekpuk Lake 14.15 353 Pn 09 52 05.3 +0.3
B20K Meade River 14.17 348 Pn 09 52 04.4 -0.9
C36M Paulatuk 16.94 30 Pn 09 52 41.5 -0.2
C36M IAmb IAmb 09 52 46.7
comp=E,6.1nm,0.8s
YKA Yellowknife Ar 18.16 56 P P 09 52 58.0 +1.0
comp=E,0.1nm,0.3s,baz=264,slow=10,SNR=17
comp=E,1.1nm,0.9s
A36M Sachs Harbour 18.42 23 P Pn 09 53 00.6 +0.7
A36M IAmb IAmb 09 53 11.9
comp=E,11nm,0.8s
NEW Newport 20.73 100 LR LR 10 00 03.7
comp=E,44nm,22.0s,baz=285,slow=33
ELK Elko 26.71 112 LR LR 10 03 12.5
comp=E,24nm,21.9s,baz=290,slow=32
NVAR Mina Array Bea 26.93 119 LR LR 10 02 42.9
comp=E,60nm,21.6s,baz=282,slow=31
PDAR Pinedale Array 28.31 102 P P 09 54 40.0 +1.2
comp=E,0.1nm,0.4s,baz=293,slow=12,SNR=1.6
comp=E,0.1nm,0.4s
MA2 Magadan 31.32 301 LR LR 10 08 48.3
comp=E,28nm,18.8s,baz=82,slow=38
PFO Pinyon Flats O 31.70 122 LR LR 10 05 53.4
comp=E,48nm,18.8s,baz=354,slow=32
ANMO Albuquerque 35.65 109 LR LR 10 10 25.6
comp=E,26nm,19.6s,baz=22,slow=36
FRB Frobisher Bay 38.07 45 LR LR 10 11 54.1
comp=E,54nm,18.2s,baz=210,slow=36
SFJD Kangerlussuaq 42.77 35 LR LR 10 16 16.7
comp=E,20nm,19.4s,baz=343,slow=38
H11N2 WAKE ISLAND Hy 49.27 241 T T 10 50 35.5
baz=31,slow=76,SNR=19
H11N3 WAKE ISLAND Hy 49.28 241 T T 10 50 38.1
baz=31,slow=76,SNR=20
H11N1 WAKE ISLAND Hy 49.29 241 T T 10 50 38.8
baz=31,slow=76,SNR=17
H11S1 WAKE ISLAND Hy 50.42 240 T T 10 52 03.0
baz=30,slow=76,SNR=17
H11S2 WAKE ISLAND Hy 50.43 240 T T 10 52 07.9
baz=30,slow=76,SNR=19
H11S3 WAKE ISLAND Hy 50.43 240 T T 10 52 03.0
baz=30,slow=76,SNR=17
BORG Borgarnes 52.66 25 LR LR 10 20 41.8
comp=E,28nm,20.4s,baz=23,slow=36
SONM Songino Array 58.85 311 P P 09 58 45.0 +1.5
comp=E,1.0nm,0.7s,baz=43,slow=7.3,SNR=6.0
comp=E,1.0nm,0.7s
FINES FINESS Array B 62.42 3 P P 09 59 06.3 -1.0
FINES FINESS Array B 62.42 3 P P 09 59 08.4 +1.0
comp=E,4.1nm,1.1s,baz=316,slow=7.8,SNR=2.5
comp=E,4.1nm,1.1s
BVAR Borovoye Array 66.33 335 P P 09 59 34.4 +1.2
comp=E,0.6nm,0.6s,baz=31,slow=9.1,SNR=2.8
comp=E,0.6nm,0.6s
MKAR Makanchi Array 68.72 325 P P 09 59 48.9 +0.6
MKAR Makanchi Array 68.72 325 P P 09 59 48.1 -0.2
comp=E,0.2nm,0.5s,baz=19,slow=9.4,SNR=4.3
comp=E,0.2nm,0.5s
AKTO Aktyubinsk 71.27 342 P P 10 00 04.8 +0.9
comp=E,1.1nm,0.6s,baz=23,slow=5.1,SNR=5.0
comp=E,1.1nm,0.6s
ABKAR Akbulak array 72.06 341 P P 10 00 09.9 +1.2
AKASG Malin Array Be 73.25 1 P P 10 00 16.6 +0.9
comp=E,1.5nm,0.6s,baz=0.2,slow=5.9,SNR=5.4
comp=E,1.5nm,0.6s
ESDC Sonseca Array 79.71 27 P P 10 00 54.5 +1.9
comp=E,0.9nm,0.8s,baz=343,slow=9.3,SNR=4.5
comp=E,0.9nm,0.8s

SNET ***27*** *09:49:41.3₀0.8, 13°.52N₀90°.94W, h20*^{km}*.6*^{km}*, ML3.4*
CATAC ***27*** *09:49:42.6₀1.2, 13°.59N₀90°.98W, h11*^{km}*.9*^{km}*, ML3.4*
GCG ***27*** *09:49:47.3₀0.5, 14°.04N₀91°.14W, h59*^{km}*±17*^{km}*, MD3.1*
ISC 27 09:49:41.7±2.2, 13°.55N±0°.10•91°.05W±0°.07, h18^{km}**±7**^{km}**,**
n44, σ0°.62/51, 1C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	0.90	327	*e*P	Pb	09 49 59.1	+0.2
FUG	**Fuego 3**	0.92	13	*e*P	Pg	09 49 59.8	+0.1
PCG	**Pacaya**	0.94	27	*e*P	Pg	09 50 00.4	+0.3
GUMI	**Mixco**	1.16	21	*i* P	Pn	09 50 03.2	0.0
GUMI				IAML		09 50 03.8	
	comp=Z,2μm,1.0s						
NBG	**Las Nubes**	1.24	33	*e*P	Pg	09 50 05.5	-0.2
GUNB	**GUNB**	1.25	33	*i* P	Pn	09 50 04.1	-0.4
GUNB				IAML		09 50 25.7	
	comp=Z,480nm,1.0s						
STG3	**Santiaguito 3,**	1.26	337	*e*P	Pn	09 50 03.2	-1.4
NUBE	**Las Nubes**	1.29	74	*e*P	Pn	09 50 03.9	-1.0
NUBE				*e*S	Sn	09 50 21.0	-0.7
NUBE	**Las Nubes**	1.29	74	*i* P	Pn	09 50 05.2	-0.2
NUBE				*i* S	Sn	09 50 21.1	-0.7
NUBE				IAML		09 50 27.7	
	comp=Z,290nm,1.0s						
LOAL	**Lomas de Alarc**	1.31	70	*i* P	Pn	09 50 05.0	-0.2
LOAL				IAML		09 51 34.0	
	comp=Z,2μm,1.0s						
SLOZ	**Alcaldia de Sa**	1.32	69	*e*P	Pn	09 50 05.0	-0.2
SLOZ				*e*S	Sb	09 50 22.9	+0.2
RTR	**El Retiro**	1.41	75	*e*P	Pn	09 50 06.5	-0.1
CEVE	**Cerro Verde**	1.42	78	*e*P	Pn	09 50 06.0	-0.7
CEVE				IAML		09 50 36.4	
	comp=Z,905nm,0.3s						
CEVE	**Cerro Verde**	1.42	78	*i* P	Pb	09 50 07.4	-0.3
CEVE				*i* S	Sn	09 50 25.2	+0.1
CEVE				IAML		09 50 36.1	
	comp=Z,920nm,1.0s						
SNJE	**San Jose**	1.44	77↓	*e*P	Pn	09 50 06.5	-0.6
SNJE				*e*S	Sb	09 50 26.8	+0.5
UNIC	**Universidad Ca**	1.52	73	*i* P	Pn	09 50 08.6	+0.5
UNIC				IAML		09 50 32.9	
	comp=Z,150nm,1.0s						
JUAM	**Asuncion Mita**	1.52	59	*i* P	Pn	09 50 08.2	+0.1
JUAM				IAML		09 50 32.3	
	comp=Z,350nm,1.0s						
JAYA	**Jayaque - finc**	1.56	86↑	*e*P	Pn	09 50 08.0	-0.7
JAYA				IAML		09 50 34.1	
	comp=Z,532nm,0.2s						
JAYA	**Jayaque - finc**	1.56	86	*i* P	Pb	09 50 09.5	-0.7
JAYA				*i* S	Sn	09 50 29.1	+0.5
JAYA				IAML		09 50 35.4	
	comp=Z,1μm,1.0s						
CEDA	**San Andres**	1.63	81	*e*P	Pn	09 50 09.7	+0.2
PMON	**Piamonte**	1.70	84	*e*P	Pn	09 50 10.3	-0.2
PMON	**Piamonte**	1.70	84	*i* P	Pn	09 50 10.5	0.0
PMON				IAML		09 50 38.1	
	comp=Z,810nm,1.0s						
QUIS	**Sacapulas**	1.73	359	*i* P	Pn	09 50 12.2	+1.1
QUIS				IAML		09 50 13.0	
	comp=Z,650nm,1.0s						
PANCS	**Alcalda de**	1.82	88	*i* P	Pn	09 50 12.3	+0.1
PANCS				IAML		09 50 37.0	
	comp=Z,2μm,1.0s						
LOMA	**Loma Larga**	1.83	87	*e*P	Pn	09 50 12.9	+0.6
LOMA				IAML		09 50 45.6	
	comp=Z,353nm,0.4s						
LOMA	**Loma Larga**	1.83	87	*i* P	Pn	09 50 12.5	+0.1
LOMA				IAML		09 50 41.9	
	comp=Z,350nm,1.0s						
MTO3	**Montecristo**	1.85	62↓	*e*P	Pn	09 50 13.1	+0.5
MTO3	**Montecristo**	1.85	62	*i* P	Pn	09 50 13.2	+0.5
MTO3				IAML		09 50 14.7	
	comp=Z,160nm,1.0s						

UDBS	**Universidad Do**	**1.85**	**85**	*i* P		**Pb**	**09 50 13.9**	**-1.1**
UDBS				IAML			09 50 45.3	
	comp=Z,440nm,1.0s							
ESQI	**Esquipulas**	**1.94**	**59**	*e*P		**Pn**	**09 50 14.7**	**+0.9**
ESQI				*e*S		**Sb**	**09 50 40.9**	**+0.3**
ESQI	**Esquipulas**	**1.94**	**59**	*i* P		**Pn**	**09 50 14.8**	**+0.9**
ESQI				IAML			09 50 43.4	
	comp=Z,190nm,1.0s							
SJTE	**Alcalda de S**	**1.99**	**88**	*e*P		**Pn**	**09 50 14.8**	**+0.3**
SJTE	**Alcalda de S**	**1.99**	**88**	*i* P		**Pn**	**09 50 15.4**	**+0.9**
SJTE				IAML			09 50 47.2	
	comp=Z,230nm,1.0s							
PAVA	**Las Pavas**	**2.06**	**85**	*e*P		**Pn**	**09 50 16.0**	**+0.4**
PAVA	**Las Pavas**	**2.06**	**85**	*i* P		**Pn**	**09 50 16.0**	**+0.4**
PAVA				IAML			09 50 56.5	
	comp=Z,240nm,1.0s							
COEG	**Centro de Oper**	**2.11**	**88**	*e*P		**Pn**	**09 50 16.9**	**+0.7**
COEG	**Centro de Oper**	**2.11**	**88**	*i* P		**Pn**	**09 50 16.9**	**+0.7**
COEG				IAML			09 50 55.5	
	comp=Z,180nm,1.0s							
LLGN	**La Laguna**	**2.14**	**73**	*i* P		**Pn**	**09 50 16.9**	**+0.3**
LLGN				IAML			09 52 13.2	
	comp=Z,510nm,1.0s							
TECO	**Alcaldia de Te**	**2.21**	**90**	*e*P		**Pn**	**09 50 17.7**	**+0.2**
SCLA	**Alcaldia de Sa**	**2.27**	**86**	*e*P		**Pn**	**09 50 19.0**	**+0.7**
SCLA	**Alcaldia de Sa**	**2.27**	**86**	*i* P		**Pn**	**09 50 19.0**	**+0.7**
SCLA				IAML			09 51 05.1	
	comp=Z,64nm,1.0s							
PQSS	**Presa 15 de Se**	**2.42**	**88**	*i* P		**Pn**	**09 50 20.7**	**+0.3**
PQSS				IAML			09 50 56.7	
	comp=Z,63nm,1.0s							
PACA	**Pacayal**	**2.66**	**91**	*i* P		**Pn**	**09 50 24.8**	**+1.1**
PACA				IAML			09 51 08.8	
	comp=Z,740nm,1.0s							
LCND	**La Caada**	**3.08**	**94**	*i* P		**Pn**	**09 50 30.6**	**+1.1**
LCND				IAML			09 51 16.8	
	comp=Z,100nm,1.0s							

IDC 27 09:57:05.7±2.1,**2°29'N**×**125°42'E**,**h0**km,**mb3.6**/3,
mbtmp3.6/3,**Error ellipse: s-maj=187.8km**
s-min=26.5km az=65.0,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.76**	**159**	P	P	10 02 18.6	-1.5
	1.2nm,0.5s,baz=336,slow=10,SNR=21						
	1.2nm,0.5s						
ASAR	**Alice Springs**	**27.09**	**163**	P	P	10 02 51.6	+1.3
	0.4nm,0.3s,baz=348,slow=12,SNR=10						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**58.01**	**326**	P	P	10 07 00.3	-0.1
	0.4nm,0.9s,baz=126,slow=6.1,SNR=3.8						
	0.4nm,0.9s						

*IDC **27** 10:11:30.2±6.0,31°.90S×179°.71W,h309km±51km, mb3.4/3, mbtmp4.1/4, Error ellipse: s-maj=59.8km s-min=32.9km az=31.0*
ISC 27 10:11:30.8±1.7,**31°.96S**±0°.10×**179°.8W**±0°.2,**h300km**,**n54**, σ**2s70**/52,**mb3.7**/3,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUGZ	**Raukumara Rang**	**6.34**	**198**	P	**Pn**	**10 13 08.0**	**+3.8**
TWGZ	**Tauwhareparae**	**6.46**	**196**	P	Pn	10 13 10.9	+5.3
CNGZ	**Carnagh Statio**	**6.71**	**193**	P	**Pn**	**10 13 12.2**	**+3.6**
MWZ	**Matawai**	**6.72**	**198**	P	**Pn**	**10 13 11.0**	**+2.3**
TKGZ	**Te Karaka**	**6.75**	**196**	P	**Pn**	**10 13 11.2**	**+2.3**
URZ	**Urewera**	**6.77**	**201**	P	**Pn**	**10 13 11.0**	**+1.7**
	3.3nm,0.3s,baz=340,slow=4.1,SNR=25						
URZ				S	**S**	**10 14 29.3**	**+0.4**
	8.6nm,0.3s,baz=339,slow=23,SNR=17						
URZ	**Urewera**	**6.77**	**201**	P	**Pn**	**10 13 11.1**	**+1.7**
RIGZ	**Rimuhau**	**7.02**	**196**	P	**Pn**	**10 13 14.1**	**+1.8**
MUGZ	**Murupara**	**7.08**	**202**	P	**Pn**	**10 13 17.1**	**+4.0**
RTZ	**Ruatahuna**	**7.14**	**201**	P	**Pn**	**10 13 17.5**	**+3.6**
RTZ	**Ruatahuna**	**7.14**	**201**	P	**S**	**10 14 36.6**	**-0.6**
SNGZ	**Shannon Statio**	**7.20**	**198**	P	**Pn**	**10 13 16.5**	**+2.0**
SNGZ	**Shannon Statio**	**7.20**	**198**	P	**S**	**10 14 40.6**	**+2.2**
RAHZ	**Arahi**	**7.39**	**199**	P	**S**	**10 14 44.6**	**+1.9**
MTHZ	**Maungataniwha**	**7.40**	**201**	P	**Pn**	**10 13 21.2**	**+4.2**
MTHZ	**Maungataniwha**	**7.40**	**201**	P	**S**	**10 14 46.2**	**+3.3**
WHHZ	**Waihua**	**7.50**	**198**	P	**S**	**10 14 46.7**	**+1.6**
NMHZ	**Naumai**	**7.64**	**200**	P	**Pn**	**10 13 23.3**	**+3.4**
NMHZ	**Naumai**	**7.64**	**200**	P	**S**	**10 14 50.5**	**+2.2**
ARHZ	**Aropaoanui**	**7.74**	**199**	P	**S**	**10 14 51.5**	**+1.1**
BKZ	**Black Stump Fm**	**7.80**	**202**	P	**S**	**10 14 52.5**	**+0.7**
MCHZ	**McNeill Hill**	**7.99**	**200**	P	**S**	**10 14 51.8**	**-4.3**
KWHZ	**Kaweka Forest**	**8.05**	**201**	P	**Pn**	**10 13 28.0**	**+3.0**
KWHZ	**Kaweka Forest**	**8.05**	**201**	P	**S**	**10 14 57.5**	**-0.1**
OTVZ	**Oturere**	**8.08**	**206**	P	**Pn**	**10 13 29.2**	**+3.8**
TWVZ	**Taurewa**	**8.08**	**207**	P	Pn	10 13 38.6	+13
BHHZ	**Black Hill Sta**	**8.23**	**203**	P	**Pn**	**10 13 29.9**	**+2.8**
BHHZ	**Black Hill Sta**	**8.23**	**203**	P	**S**	**10 15 00.5**	**-1.0**
MOVZ	**Moawhango**	**8.26**	**205**	P	**S**	**10 15 00.9**	**-1.4**
KAHZ	**Kahuranaki**	**8.27**	**198**	P	**Pn**	**10 13 28.1**	**+0.5**
KAHZ	**Kahuranaki**	**8.27**	**198**	P	**S**	**10 14 58.8**	**-3.6**
KRHZ	**Kereru**	**8.27**	**201**	P	**Pn**	**10 13 30.0**	**+2.4**
KRHZ	**Kereru**	**8.27**	**201**	P	**S**	**10 15 01.8**	**-0.7**
PKVZ	**Pokaka**	**8.31**	**207**	P	**S**	**10 15 00.3**	**-3.1**
PXZ	**Pawanui**	**8.49**	**198**	P	**Pn**	**10 13 32.5**	**+2.2**
PXZ	**Pawanui**	**8.49**	**198**	P	**S**	**10 15 02.9**	**-4.5**
PNHZ	**Pukenui**	**8.57**	**201**	P	**Pn**	**10 13 33.4**	**+2.0**
PNHZ	**Pukenui**	**8.57**	**201**	P	**S**	**10 15 07.0**	**-2.2**
WPHZ	**Waipukurau**	**8.64**	**199**	P	**S**	**10 15 09.3**	**-1.4**
PRHZ	**Porangahau**	**8.78**	**198**	P	**Pn**	**10 13 35.9**	**+2.1**
PRHZ	**Porangahau**	**8.78**	**198**	P	**S**	**10 15 09.2**	**-4.6**
TSZ	**Takapari Road**	**8.78**	**202**	P	**Pn**	**10 13 34.8**	**+0.9**
TSZ	**Takapari Road**	**8.78**	**202**	P	**S**	**10 15 10.7**	**-3.1**
DVHZ	**Dannevirke**	**8.94**	**200**	P	**S**	**10 15 14.3**	**-3.1**
ANWZ	**Angora Road**	**9.00**	**198**	P	**S**	**10 15 15.9**	**-2.9**
PRWZ	**Pori Road**	**9.23**	**200**	P	**S**	**10 15 20.4**	**-3.6**
BFZ	**Birch Farm**	**9.27**	**199**	P	**Pn**	**10 13 42.3**	**+2.4**
BFZ	**Birch Farm**	**9.27**	**199**	P	**S**	**10 15 20.6**	**-4.3**
MRZ	**Mangatainoka R**	**9.45**	**202**	P	S	10 15 20.6	-8.4
STKA	**Stephens Creek**	**32.64**	**260**	P	**P**	**10 17 36.3**	**+1.0**
	1.2nm,0.5s,baz=95,slow=8.6,SNR=5.1						
	1.2nm,0.5s						
ASAR	**Alice Springs**	**41.51**	**270**	P	**P**	**10 18 47.9**	**-1.6**
	0.7nm,0.3s,baz=107,slow=7.0,SNR=17						
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**42.64**	**275**	P	**P**	**10 18 57.9**	**-0.8**
	1.5nm,0.3s,baz=112,slow=7.8,SNR=43						
	1.5nm,0.3s						
FINES	**FINESS Array B**	**146.03**	**338**	PKPbc	**PKPdf**	**10 30 32.4**	**-1.0**
	0.4nm,0.4s,baz=77,slow=6.0,SNR=1.6						
TORD	**Torodi Ar. Bea**	**161.23**	**185**	PKPab	**PKPab**	**10 31 39.4**	**-1.9**
	0.2nm,0.3s,baz=191,slow=2.8,SNR=2.5						

IDC 27 10:27:46.4±13.0,**36°.38S**×**78°.63E**,**h0**km,**mb3.7**/3,
mbtmp3.7/3,**Error ellipse: s-maj=434.3km**
s-min=47.7km az=35.0,**Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**22.31**	**236**	T	T	10 54 22.4	
	baz=75,slow=75,SNR=97						
H04N1	**CROZET ISLANDS**	**22.33**	**236**	T	T	10 54 22.5	
	baz=75,slow=75,SNR=25						
H04N3	**CROZET ISLANDS**	**22.33**	**236**	T	T	10 54 20.1	
	baz=75,slow=75,SNR=95						
ASAR	**Alice Springs**	**48.92**	**91**	P	P	10 36 34.1	-0.3
	0.5nm,0.8s,baz=225,slow=7.1,SNR=5.1						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**51.10**	**87**	P	P	10 36 51.1	+0.1
	1.1nm,0.8s,baz=239,slow=7.5,SNR=5.6						
	1.1nm,0.8s						
MKAR	**Makanchi Array**	**82.86**	**3**	P	P	10 40 12.3	0.0
	0.3nm,0.6s,baz=188,slow=2.9,SNR=4.8						
	0.3nm,0.6s						

*IDC **27** 10:30:45.9±4.9,37°.69S×77°.67E,h0km, mb4.0/4, mbtmp4.0/4, MS3.7/30, Error ellipse: s-maj=179.4km s-min=36.6km az=30.0*
*NEIC **27** 10:30:48.6±1.6,37°.9S±0°.2×77°.80E±0°.07,h10km±2km, mb4.4/9, Error ellipse: s-maj=31.4km s-min=4.6km az=15.0*
ISC 27 10:30:48.3±2.6,**37°.7S**±0°.2×**77°.8E**±0°.3,**h14**km±19km,**n54**,
σ**0s56**/16,**mb4.2**/9,**MS3.8**/31,**Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**0.18**	**237**	Pg	**Pg**	**10 30 52.5**	**0.0**
H04N2	**CROZET ISLANDS**	**21.02**	**238**	T	T	10 57 24.3	
	baz=75,slow=75,SNR=47						
H04N1	**CROZET ISLANDS**	**21.03**	**238**	T	T	10 57 25.6	
	baz=75,slow=75,SNR=68						
H04N3	**CROZET ISLANDS**	**21.03**	**238**	T	T	10 57 23.2	
	baz=75,slow=75,SNR=63						
H01W2	**Cape Leeuwin H**	**29.33**	**96**	T	T	11 07 20.1	
	baz=253,slow=74,SNR=59						
H01W3	**Cape Leeuwin H**	**29.34**	**96**	T	T	11 07 19.5	
	baz=253,slow=74,SNR=72						
H01W1	**Cape Leeuwin H**	**29.35**	**96**	T	T	11 07 20.9	
	baz=253,slow=74,SNR=74						
H08S2	**Diego Garcia H**	**30.29**	**350**	T	T	11 08 36.8	
	baz=172,slow=76,SNR=269						
H08S1	**Diego Garcia H**	**30.30**	**350**	T	T	11 08 37.0	
	baz=172,slow=76,SNR=207						
H08S3	**Diego Garcia H**	**30.31**	**350**	T	T	11 08 38.2	
	baz=172,slow=76,SNR=264						
MAW	**Mawson**	**31.11**	**191**	LR	LR	10 47 02.2	
	comp=Z,202nm,18.7s,baz=359,slow=31						
NWAO	**Narrogin (SRO)**	**32.39**	**94**	LR	LR	10 47 24.4	
	comp=Z,258nm,19.0s,baz=218,slow=31						
OPO	**Ambohidratompo**	**32.80**	**297**	LR	LR	10 47 33.5	
	comp=Z,61nm,21.1s,baz=0.5,slow=31						
LEM	**Lembang**	**40.97**	**49**	LR	LR	10 51 52.4	
	comp=Z,76nm,19.1s,baz=190,slow=31						
BOSA	**Boshof**	**44.39**	**266**	LR	LR	10 53 19.5	
	comp=Z,78nm,20.0s,baz=185,slow=30						
PALK	**Pallekele**	**44.82**	**4**	LR	LR	10 54 06.5	
	comp=Z,84nm,19.1s,baz=287,slow=31						
LBTB	**Lobatse**	**45.77**	**270**	LR	LR	10 54 42.1	
	comp=Z,149nm,18.6s,baz=118,slow=31						
SUR	**Sutherland**	**46.33**	**259**	LR	LR	10 54 05.4	
	comp=Z,105nm,21.7s,baz=160,slow=30						
LSZ	**Lusaka**	**49.01**	**283**	LR	LR	10 56 56.4	
	comp=Z,93nm,19.6s,baz=145,slow=32						
BATI	**Baumata**	**49.41**	**69**	LR	LR	10 59 37.2	
	comp=Z,37nm,18.4s,baz=234,slow=35						
ASAR	**Alice Springs**	**49.59**	**90**	P	**P**	**10 39 39.6**	**+0.4**
	2.2nm,1.0s,baz=229,slow=6.2,SNR=11						
ASAR				LR	LR	10 58 53.9	
	comp=Z,102nm,18.4s,baz=226,slow=34						
	2.2nm,1.0s						
AS31	**Alice Springs**	**49.59**	**90**	P	**P**	**10 39 39.1**	**-0.2**
SNAA	**Sanae**	**51.79**	**203**	LR	LR	10 59 39.6	
	comp=Z,88nm,18.6s,baz=357,slow=34						
STKA	**Stephens Creek**	**51.86**	**104**	LR	LR	10 57 53.1	
	comp=Z,92nm,20.0s,baz=207,slow=31						
WRA	**Warramunga Arr**	**51.87**	**87**	P	**P**	**10 39 56.5**	**0.0**
	2.8nm,0.8s,baz=238,slow=7.3,SNR=10						
	2.8nm,0.8s						
WB2	**Warramunga Arr**	**51.88**	**87**	P	**P**	**10 39 56.4**	**-0.1**
WRAB	**Tennant Creek**	**51.88**	**87**	P	**P**	**10 39 57.6**	**+1.1**
WRAB				IAmb	IAmb	10 40 27.7	
	comp=Z,9.2nm,1.4s						
TAU	**Tasmania Unive**	**51.93**	**119**	P	**P**	**10 39 55.7**	**-0.8**
WB0	**Warramunga Arr**	**52.00**	**86**	P	**P**	**10 39 57.9**	**+0.5**
WB0				IAmb	IAmb	10 39 58.7	
	comp=Z,6.0nm,1.0s						
WR0	**Warramunga Arr**	**52.02**	**87**	P	**P**	**10 39 58.2**	**+0.7**
WR0				IAmb	IAmb	10 39 58.8	
	comp=Z,5.2nm,1.1s						
VNDA	**Vanda**	**52.26**	**164**	P	**P**	**10 39 59.4**	**+0.9**
VNDA	**Vanda**	**52.26**	**164**	LR	LR	10 59 43.4	
	comp=Z,96nm,19.9s,baz=254,slow=33						
QSPA	**South Pole Qui**	**52.46**	**180**	P	**P**	**10 39 60.0**	**-0.4**
QSPA				IAmb	IAmb	10 40 03.8	
	comp=Z,12nm,1.4s						
QSPA	**South Pole Qui**	**52.46**	**180**	LR	LR	11 00 45.4	
	comp=Z,206nm,18.5s,baz=280,slow=34						
TSUM	**Tsumeb**	**55.12**	**272**	LR	LR	11 00 36.8	
	comp=Z,169nm,18.1s,baz=151,slow=32						
CMAR	**Chiang Mai Arr**	**59.30**	**24**	LR	LR	11 02 55.5	
	comp=Z,28nm,19.2s,baz=200,slow=32						
CTA	**Charters Tower**	**61.23**	**94**	LR	LR	11 05 39.8	
	comp=Z,123nm,18.2s,baz=1.0,slow=34						
PMG	**Port Moresby**	**68.02**	**85**	LR	LR	11 09 53.8	
	comp=Z,69nm,18.8s,baz=268,slow=34						
DZM	**Mont Dzumac**	**75.85**	**107**	LR	LR	11 10 45.7	
	comp=Z,54nm,19.2s,baz=218,slow=32						
HNR	**Honiara**	**78.14**	**93**	LR	LR	11 13 43.7	
	comp=Z,815nm,21.0s,baz=203,slow=33						
AAK	**Ala-Archa**	**80.01**	**358**	LR	LR	11 15 11.0	
	comp=Z,43nm,19.4s,baz=188,slow=33						
MK31	**Makanchi Array**	**84.21**	**3**	P	**P**	**10 43 18.9**	**+0.1**
MK31				IAmb	IAmb	10 43 20.5	
	comp=Z,1.6nm,1.1s						
MKAR	**Makanchi Array**	**84.21**	**3**	P	**P**	**10 43 18.8**	**-0.1**
MKAR	**Makanchi Array**	**84.21**	**3**	P	**P**	**10 43 18.6**	**-0.3**
	comp=Z,1.3nm,0.9s,baz=165,slow=6.0,SNR=7.1						
MKAR				LR	LR	11 17 51.5	
	comp=Z,38nm,21.7s,baz=230,slow=34						
	comp=Z,1.3nm,0.9s						
JNU	**Nakatsue**	**86.08**	**42**	LR	LR	11 16 27.2	
	comp=Z,14nm,19.5s,baz=208,slow=32						
TORD	**Torodi Ar. Bea**	**87.22**	**289**	LR	LR	11 21 07.0	
	comp=Z,102nm,18.4s,baz=171,slow=35						
KURBB	**Kurchatov Array**	**87.95**	**0**	P	**P**	**10 43 37.0**	**-0.1**
	comp=Z,0.7nm,1.1s,baz=193,slow=3.8,SNR=4.1						
	comp=Z,0.7nm,1.1s						
DBIC	**Dimbokro**	**88.22**	**280**	LR	LR	11 21 51.0	
	comp=Z,45nm,18.0s,baz=108,slow=35						
SONM	**Songino Array**	**88.90**	**19**	LR	LR	11 22 50.2	
	comp=Z,28nm,18.3s,baz=178,slow=35						
AKTO	**Aktyubinsk**	**89.47**	**348**	LR	LR	11 21 41.6	
	comp=Z,20nm,19.2s,baz=343,slow=34						
BVAR	**Borovoye Array**	**90.58**	**356**	LR	LR	11 22 52.9	
	comp=Z,19nm,19.3s,baz=172,slow=34						
MJAR	**Matsushiro Arr**	**92.63**	**45**	LR	LR	11 21 25.7	
	comp=Z,14nm,21.8s,baz=204,slow=33						
KLR	**Kul'dur**	**98.86**	**32**	LR	LR	11 28 26.0	
	comp=Z,23nm,19.6s,baz=202,slow=35						
YKA	**Yellowknife Ar**	**154.03**	**13**	PKPbc	**PKPbc**	**10 50 46.6**	**+0.1**
	comp=Z,0.5nm,1.0s,baz=332,slow=2.2,SNR=4.0						

*LVSN **27** 10:54:21.3±6.7,57°.26N×24°.31E,h0km±678km, ML2.2*
HEL 27 10:54:25.2±0.6,**60°.58N**×**29°.05E**,**h0**km,**ML1.3**,
Explosion,**Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.74**	**268**	PG	Pg	10 54 38.6	-0.8
VJF				MSG		10 54 48.3	
	comp=Z,7.4nm,0.2s						
VJF				SG	Sg	10 54 48.9	0.0
RUF	**Ruokolahti**	**0.85**	**357**	PG	Pg	10 54 40.9	-0.7
RUF				MSG		10 54 51.6	
	comp=Z,3.0nm,0.2s						
RUF				SB	Sg	10 54 52.0	-0.6
PVF	**Pernaja**	**1.57**	**270**	PG	Pn	10 54 52.9	-1.4
PVF				MSG		10 55 12.4	
	comp=Z,3.5nm,0.2s						
FIA0	**FINESS Array S**	**1.69**	**302**	PG	Pn	10 54 55.2	-0.7
	baz=122						
FIA0				MSG		10 55 15.7	
	comp=Z,2.0nm,0.2s						
FIA0				SN	Sn	10 55 18.2	0.0
ARBE	**Arbavere**	**1.92**	**235**	*e*P	Pn	10 54 59.6	+0.5
ARBE				*e*S	Sg	10 55 26.4	-0.3
ARBE				AML	AML	10 55 27.8	
	comp=E,60nm,0.7s						
ARBE				AML	AML	10 55 28.6	
	comp=N,80nm,0.5s						
ARBE				AML	AML	10 55 29.5	
	comp=Z,61nm,0.6s						
KAF	**Kangasniemi**	**2.03**	**321**	PG	Pn	10 55 01.4	+0.8
KAF				MSG		10 55 25.6	
	comp=Z,2.3nm,0.2s						
KAF				SG	Sb	10 55 28.3	-0.4
MEF	**Metsahovi**	**2.34**	**263**	*e*P	Pn	10 55 05.2	+0.4
MEF				*e*S	Sb	10 55 37.9	+0.3
MEF				AML	AML	10 55 43.8	
	comp=N,14nm,0.9s						
MEF				AML	AML	10 55 54.7	
	comp=Z,15nm,0.8s						
MEF				AML	AML	10 55 55.0	
	comp=E,11nm,0.8s						
SUF	**Sumiainen**	**2.56**	**329**	MSG		10 55 40.6	
	comp=Z,0.8nm,0.2s						
SUF				SG	Sb	10 55 44.8	+1.0
KEF	**Keuruu**	**2.57**	**310**	MSG		10 55 40.9	
	comp=Z,0.7nm,0.2s						
KEF				SG	Sb	10 55 44.5	+0.3

JOF	**Joensuu**	**2.58**	**24**	PB	Pn	10 55 10.3	+2.0	
JOF				SB	Sb	10 55 42.9	-1.7	
NIF	**Nilsia**	**2.88**	**349**	SG	Sb	10 55 52.7	-0.6	
RAF	**Rauma**	**3.60**	**280**	*e*S	Sn	10 56 06.5	+1.2	
RAF				AML	AML	10 56 24.8		
	comp=N,6.5nm,0.5s							
RAF				AML	AML	10 56 39.9		
	comp=Z,6.1nm,0.6s							
RAF				AML	AML	10 56 41.0		
	comp=E,3.7nm,0.6s							
OUF	**Merijarvi**	**4.30**	**334**	SG	Sg	10 56 39.8	-3.4	
OBF0	**Syolatti, Pyha**	**4.52**	**333**	PG	Pb	10 55 47.8	+2.4	
OBF0				SG	Sg	10 56 46.9	-3.4	
SLIT	**Slitere, Latvi**	**4.57**	**233**	SN	Sn	10 56 24.8	-4.4	

*NEIC **27** 10:56:21.2±1.7,63°.25N±0°.02×151°.49W±0°.03,h11km±8km, Error ellipse: s-maj=3.0km s-min=2.2km az=163.0*
AEIC 27 10:56:21.2±1.6,**63°.24N**±0°.02×**151°.51W**±0°.04,**h9**km±5km,
ML2.5,**ML2.7**/96(NEIC),**Error ellipse: s-maj=3.4km**
s-min=2.4km az=136.0,**Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAST	**Castle Rocks**	**0.32**	**305**		Pg	10 56 27.4	-0.1
CAST					Sg	10 56 31.6	-0.2
KTH	**Kantishna Hill**	**0.41**	**40**		Pg	10 56 29.5	+0.2
KTH					Sg	10 56 35.1	+0.4
PPLA	**Purkeypile**	**0.46**	**222**		Pg	10 56 29.7	-0.6
PPLA	**Purkeypile**	**0.46**	**222**		Sg	10 56 36.9	+0.5
TRF	**Thorofare Moun**	**0.59**	**69**		Pg	10 56 32.4	-0.3
TRF					Sg	10 56 41.0	+0.6
CHUM	**Lake Minchumin**	**0.74**	**331**		Pg	10 56 35.5	0.0
CHUM					Sg	10 56 45.5	+0.4
BPAW	**Bear Paw Mtn.**	**0.89**	**15**		Pg	10 56 38.0	-0.4
BPAW					Sg	10 56 49.6	-0.5
CUT	**Chulitna**	**1.01**	**145**		Pg	10 56 40.2	-0.5
CUT				IAML		10 57 14.8	
	comp=N,107nm,0.4s						
CUT				IAML		10 57 16.6	
	comp=E,135nm,0.5s						
K20K	**Telida**	**1.16**	**277**		Pb	10 56 42.5	-1.0
RND	**Reindeer**	**1.21**	**81**		Pb	10 56 43.4	-0.9
RND					Sg	10 57 00.2	+0.1
MCK	**McKinley**	**1.26**	**66**		Pn	10 56 44.3	-0.6
SKT	**Skwentna**	**1.27**	**180**		Pn	10 56 44.3	-0.8
WAT7	**Susitna Watana**	**1.28**	**107**		Pn	10 56 44.7	-0.6
WAT7					Sb	10 57 00.9	-1.1
BWN	**Browne**	**1.30**	**43**	Pn	Pb	10 56 45.8	-0.1
L20K	**Farewell, AK**	**1.33**	**236**		Pn	10 56 44.7	-1.2
WAT1	**Susitna Watana**	**1.41**	**106**		Pn	10 56 47.0	-0.1
J20K	**Nowinta River**	**1.50**	**310**		Pn	10 56 47.7	-0.6
J20K					Sb	10 57 08.8	+0.4
J20K				IAML		10 57 31.4	
	comp=E,49nm,0.5s						
J20K				IAML		10 57 32.4	
	comp=N,67nm,0.4s						
M20K	**Styx River**	**1.56**	**210**	Pn	Pn	10 56 48.9	-0.2
M22K	**Willow**	**1.63**	**156**		Pn	10 56 49.6	-0.4
STLK	**Strandline Lak**	**1.75**	**185**		Pn	10 56 52.0	+0.1
SUA	**Susitna One**	**1.82**	**168**		Pn	10 56 53.2	+0.4
WAT6	**Susitna Watana**	**1.85**	**109**		Pn	10 56 52.5	-0.7
L19K	**White Mountain**	**1.87**	**237**		Pn	10 56 54.0	+0.5
DHY	**Denali Highway**	**1.88**	**93**		Pn	10 56 53.6	-0.1
DHY				IAML		10 57 56.3	
	comp=E,151nm,0.4s						
GHO	**Glory Hole Cre**	**1.90**	**140**		Pn	10 56 53.9	+0.1
WRH	**Wood River Hil**	**1.96**	**49**	Pn	Pn	10 56 52.7	-1.8
SPNN	**North Nagishla**	**1.96**	**197**		Pn	10 56 55.6	+0.8
J19K	**Poorman**	**1.99**	**294**	Pn	Pn	10 56 54.2	-0.8
PMR	**Palmer**	**1.99**	**145**	Pn	Pn	10 56 55.2	+0.2
SML	**Sawmill**	**2.06**	**133**	Pn	Pn	10 56 55.7	-0.3
TTA	**Tatalina**	**2.07**	**263**	Pn	Pn	10 56 56.6	+0.4
TTA				IAML		10 58 11.5	
	comp=N,27nm,4.0s						
I23K	**Minto, Yukon-K**	**2.13**	**25**	Pn	Pn	10 56 55.8	-1.1
CCB	**Clear Creek Bu**	**2.16**	**48**	Pn	Pn	10 56 55.6	-1.7
MDM	**Murphy Dome**	**2.25**	**38**	Pn	Pn	10 56 57.1	-1.5
MDM				IAML		10 58 21.8	
	comp=E,23nm,4.2s						
KNK	**Knik Glacier**	**2.32**	**141**	Pn	Pn	10 57 01.0	+1.4
J18K	**Innoko River**	**2.36**	**278**	Pn	Pn	10 56 59.7	-0.3
J18K				IAML		10 57 45.2	
	comp=E,26nm,4.2s						
SCM	**Sheep Creek Mo**	**2.40**	**124**		Pb	10 57 02.6	-1.9
H21K	**Melozitna Rive**	**2.49**	**348**	Pn	Pn	10 57 02.6	+0.7
H21K				IAML	

comp=N,8.3nm,4.2s
F24K IAML 11 00 00.3
comp=E,8.4nm,3.3s
G16K Koyuk River 5.19 299 Pn Pn 10 57 39.0 +0.1
G16K IAML 11 00 02.4
comp=E,5.8nm,4.1s

TAP 27 11:02:04.7, 23°.69N×121°.91E, h30km±1km, ML1.4, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHUL	**Shoufeng**	**0.33**	**287**	*i* P	Pn	11 02 13.6	+0.1
	baz=286						
SHUL				*i* S	Sn	11 02 19.8	+0.6
	baz=286						
EGFH	**Guangfu**	**0.44**	**267**	P	Pn	11 02 14.7	-0.3
	baz=267						
ESL	**Shilin**	**0.45**	**286**	P	Pb	11 02 14.5	+0.2
	baz=285						
ETM	**Tongmen**	**0.47**	**306**	P	Pb	11 02 15.0	+0.4
	baz=305						
ETM				*e*S	Sn	11 02 22.1	-0.5
	baz=305						
WARBT	**Fenglin Townsh**	**0.48**	**273**	*i* P	Pb	11 02 14.9	+0.1
	baz=273						
WARBT				*i* S	Sn	11 02 22.7	-0.3
	baz=273						
HGSD	**Ruisui**	**0.49**	**246**	*i* P	Pb	11 02 15.1	+0.2
	baz=246						
HGSD				*i* S	Sn	11 02 22.6	-0.5
	baz=246						
LXIB	**Xiulin Townshi**	**0.56**	**306**	*e*P	Pb	11 02 16.5	+0.3
	baz=305						
LXIB				S	Sn	11 02 25.0	-0.2
	baz=305						
NACB	**Ninganchiao**	**0.56**	**329**	S	Sn	11 02 24.5	-0.5
	baz=329						
EHY	**Hungye**	**0.57**	**251**	*i* P	Pn	11 02 16.7	0.0
	baz=250						
EHY				S	Sn	11 02 25.1	-0.1
	baz=250						
EOS4	**EOS4**	**0.57**	**41**	S	Sn	11 02 24.6	0.0
	baz=41						
YULB	**Yu-li**	**0.64**	**242**	P	Pn	11 02 17.7	+0.1
	baz=242						
YULB				S	Sn	11 02 27.0	+0.2
	baz=242						
ETLH	**Xiulin Townshi**	**0.65**	**323**	S	Sn	11 02 27.1	0.0
	baz=322						
TWF1	**Yuli**	**0.66**	**239**	P	Pn	11 02 17.9	0.0
	baz=238						
EOS3	**EOS3**	**0.70**	**32**	S	Sn	11 02 28.9	+0.8
	baz=32						
VWDT	**VWDT**	**0.71**	**275**	*i* P	Pn	11 02 18.9	+0.3
	baz=275						
VWDT				S	Sn	11 02 28.4	-0.1
	baz=275						
OWD	**Renai**	**0.72**	**292**	*e*P	Pn	11 02 19.1	+0.1
	baz=291						
OWD				S	Sn	11 02 29.0	-0.1
	baz=291						
WHF	**Hehuan Shan**	**0.74**	**308**	P	Pn	11 02 19.7	+0.2
	baz=307						
WHF				S	Sn	11 02 30.2	+0.2
	baz=307						
FULB	**Fuli**	**0.75**	**229**	S	Sn	11 02 30.1	+0.6
	baz=229						
CHGB	**Renai**	**0.77**	**299**	P	Pn	11 02 20.1	+0.4
	baz=298						
CHGB				S	Sn	11 02 31.0	+0.7
	baz=298						
WUSB	**Renai**	**0.79**	**293**	P	Pb	11 02 20.2	+0.3
	baz=292						
WUSB				S	Sn	11 02 31.3	+0.7
	baz=292						
EHD	**Haiduan**	**0.84**	**230**	*e*S	Sn	11 02 31.9	+0.1
	baz=230						
NNSB	**Datong**	**0.88**	**327**	S	Sn	11 02 33.2	+0.2
	baz=326						
LATG	**Datong**	**0.91**	**338**	*e*P	Pb	11 02 22.2	+0.1
	baz=337						
LATG				S	Sb	11 02 34.5	+0.6
	baz=337						

JMA 27 11:02:54.4±0.1, 24°.2N±0°.4×123°.9E±0°.3, h16km±1km, MV0.8/9, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.15**	**314**	*e*P	Pg	11 02 58.2	-0.1
IRIF				S	Sb	11 03 01.4	-0.3
JKRS	**Kuro-shima**	**0.15**	**88**	*i* P	Pg	11 02 58.3	0.0
JKRS				*e*S	Sb	11 03 01.5	-0.3
HATJ	**Hateruma jima**	**0.18**	**192**	P	Pg	11 02 58.6	-0.1
JIJ	**Ishigaki jima**	**0.30**	**64**	P	Pg	11 03 00.5	-0.2
JIJ				*e*S	Sg	11 03 04.8	-0.3
JISG	**Ishigakijimahi**	**0.55**	**50**	P	Pg	11 03 05.2	-0.1
JISG				*e*S	Sb	11 03 13.1	-0.3
JYNG	**Yonagunijimaku**	**0.85**	**285**	*e*S	Sg	11 03 22.6	+0.6
JTJ	**Tarama**	**0.88**	**62**	*e*P	Pb	11 03 11.3	0.0

CATAC 27 11:17:46.4±0.7, 12°.77N×88°.62W, h26km±5km, ML3.4
SNET 27 11:17:47.0±0.5, 12°.77N×88°.67W, h28km±2km, ML3.5
ISC 27 11:17:45.9±1.7, 12°.73N±0°.07×88°.66W±0°.04, h27km±14km, n47, σ0°.27/54, 2C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JUCU	**Jucuarˌn**	**0.66**	**37**	⇓*i* P	**Pb**	**11 17 59.4**	**+0.4**
JUCU					IAML	11 17 59.8	
	comp=Z,2μm,0.2s						
JUCU				*e*S	**Sn**	**11 18 08.8**	**-0.4**
JUCU	**Jucuarˌn**	**0.66**	**37**	*i* P	**Pb**	**11 17 59.3**	**+0.4**
JUCU					IAML	11 17 59.7	
	comp=Z,2μm,1.0s						
LCY	**Lacayo**	**0.78**	**27**	*e*P	**Pn**	**11 18 01.3**	**+0.1**
TECA	**Tecapa**	**0.78**	**11**	*e*P	**Pb**	**11 18 01.2**	**+0.2**
RANC	**El Ranchito**	**0.79**	**27**	*i* P	**Pb**	**11 18 01.4**	**+0.3**
RANC					IAML	11 18 20.8	
	comp=Z,890nm,1.0s						
VSM	**San Miguel**	**0.79**	**28**	*e*P	**Pn**	**11 18 01.7**	**+0.1**
PACA	**Pacayal**	**0.81**	**24**	*e*P	**Pn**	**11 18 01.7**	**+0.1**
PACA	**Pacayal**	**0.81**	**24**	*i* P	**Pb**	**11 18 01.3**	**-0.1**
PACA				*i* S	**Sb**	**11 18 11.7**	**-0.3**
PACA					IAML	11 18 16.6	
	comp=Z,9μm,1.0s						
TECO	**Alcaldia de Te**	**0.81**	**352**	*e*P	**Pb**	**11 18 01.6**	**0.0**
TECO	**Alcaldia de Te**	**0.81**	**352**	*i* P	**Pb**	**11 18 01.5**	**0.0**
TECO					IAML	11 18 19.6	
	comp=Z,750nm,1.0s						
BLLM	**Bellamira**	**0.82**	**30**	⇓*e*P	**Pb**	**11 18 01.8**	**+0.2**
PQSS	**Presa 15 de Se**	**0.90**	**6**	⇓*e*P	**Pb**	**11 18 02.8**	**-0.1**
PQSS	**Presa 15 de Se**	**0.90**	**6**	*i* P	**Pb**	**11 18 02.8**	**-0.1**
PQSS					IAML	11 18 15.9	
	comp=Z,2μm,1.0s						
UESV	**Universidad de**	**0.91**	**352**	*i* P	**Pb**	**11 18 03.1**	**-0.1**
UESV					IAML	11 18 19.1	
	comp=Z,1μm,1.0s						
COEG	**Centro de Oper**	**0.91**	**346**	*e*P	**Pb**	**11 18 03.0**	**-0.3**
COEG				*e*S	**Sb**	**11 18 14.9**	**-0.1**
COEG					IAML	11 18 21.4	
	comp=Z,1μm,0.4s						
COEG	**Centro de Oper**	**0.91**	**346**	*i* P	**Pb**	**11 18 02.9**	**-0.3**
COEG					IAML	11 18 18.1	
	comp=Z,1μm,1.0s						
LCND	**La Caada**	**0.94**	**52**	⇓*e*P	**Pn**	**11 18 03.1**	**-0.4**
LCND				*e*S	**Sb**	**11 18 15.9**	**0.0**
LCND					IAML	11 18 20.7	
	comp=Z,1μm,0.3s						
LCND	**La Caada**	**0.94**	**52**	*i* P	**Pn**	**11 18 03.1**	**-0.4**
LCND					IAML	11 18 20.6	
	comp=Z,1μm,1.0s						
SJTE	**Alcalda de S**	**0.95**	**339**	*e*P	**Pn**	**11 18 03.3**	**-0.2**
SJTE	**Alcalda de S**	**0.95**	**339**	*i* P	**Pn**	**11 18 03.3**	**-0.2**
SJTE					IAML	11 18 21.4	
	comp=Z,690nm,1.0s						
CNCH	**Conchagua**	**0.97**	**56**	*e*P	**Pn**	**11 18 04.0**	**0.0**
CNCH	**Conchagua**	**0.97**	**56**	*i* P	**Pn**	**11 18 03.9**	**0.0**
CNCH					IAML	11 18 22.7	
	comp=Z,2μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.97**	**356**	*e*P	**Pb**	**11 18 04.2**	**+0.1**

PAVA	**Las Pavas**	**1.02**	**344**	*e*P	**Pn**	**11 18 04.5**	**0.0**
PAVA	**Las Pavas**	**1.02**	**344**	*i* P	**Pn**	**11 18 04.8**	**+0.2**
PAVA					IAML	11 18 19.0	
	comp=Z,2μm,1.0s						
LOMA	**Loma Larga**	**1.04**	**331**	*e*P	**Pn**	**11 18 05.0**	**+0.1**
LOMA	**Loma Larga**	**1.04**	**331**	*i* P	**Pn**	**11 18 05.0**	**+0.1**
LOMA					IAML	11 18 20.4	
	comp=Z,610nm,1.0s						
PMON	**Piamonte**	**1.17**	**327**	*i* P	**Pn**	**11 18 07.0**	**+0.3**
PMON				*i* S	**Sb**	**11 18 22.1**	**-0.3**
PMON					IAML	11 18 28.9	
	comp=Z,720nm,1.0s						
JAYA	**Jayaque - finc**	**1.20**	**320**	*e*P	**Pn**	**11 18 06.8**	**-0.3**
JAYA					IAML	11 18 22.5	
	comp=Z,780nm,0.2s						
JAYA	**Jayaque - finc**	**1.20**	**320**	*i* P	**Pn**	**11 18 06.9**	**-0.3**
JAYA					IAML	11 18 25.0	
	comp=Z,2μm,1.0s						
CEVE	**Cerro Verde**	**1.44**	**319**	*i* P	**Pn**	**11 18 10.9**	**+0.4**
CEVE					IAML	11 18 40.9	
	comp=Z,670nm,1.0s						
SNJE	**San Jose**	**1.46**	**321**	*e*P	**Pn**	**11 18 11.2**	**+0.4**
NUBE	**Las Nubes**	**1.60**	**317**	*e*P	**Pn**	**11 18 12.7**	**+0.1**
NUBE	**Las Nubes**	**1.60**	**317**	*i* P	**Pn**	**11 18 12.7**	**+0.1**
NUBE					IAML	11 18 34.4	
	comp=Z,550nm,1.0s						
PKGN	**Cerro Pekin**	**1.64**	**92**	*i* P	**Pn**	**11 18 13.0**	**0.0**
PKGN					IAML	11 18 38.5	
	comp=Z,2μm,1.0s						
HERN	**Volcan Telica**	**1.79**	**94**	*i* P	**Pn**	**11 18 14.9**	**-0.2**
HERN					IAML	11 19 57.1	
	comp=Z,1μm,1.0s						
MTO3	**Montecristo**	**1.80**	**338**	*e*P	**Pn**	**11 18 15.7**	**+0.3**
MTO3	**Montecristo**	**1.80**	**338**	*i* P	**Pn**	**11 18 15.4**	**0.0**
MTO3				*i* S	**Sn**	**11 18 37.6**	**+0.1**
MTO3					IAML	11 18 40.6	
	comp=Z,160nm,1.0s						
PACN	**Al O del Volca**	**1.83**	**97**	*i* P	**Pn**	**11 18 15.7**	**0.0**
PACN					IAML	11 18 42.2	
	comp=Z,430nm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.89**	**45**	*i* P	**Pn**	**11 18 16.8**	**+0.2**
TGUH					IAML	11 18 36.7	
	comp=Z,230nm,1.0s						
ESQI	**Esquipulas**	**1.94**	**340**	*i* P	**Pn**	**11 18 18.1**	**+0.8**
ESQI					IAML	11 18 47.8	
	comp=Z,190nm,1.0s						
MACN	**El Madrono**	**1.95**	**97**	*i* P	**Pn**	**11 18 17.6**	**+0.2**
MACN				*i* S	**Sn**	**11 18 41.3**	**+0.3**
MACN					IAML	11 18 48.7	
	comp=Z,250nm,1.0s						
COPN	**Copaltepe**	**2.09**	**105**	*i* P	**Pn**	**11 18 18.8**	**-0.4**
COPN					IAML	11 18 44.3	
	comp=Z,160nm,1.0s						
LIMN	**Finca el Limon**	**2.26**	**81**	*i* P	**Pn**	**11 18 21.4**	**-0.2**
LIMN					IAML	11 18 22.5	
	comp=Z,80nm,1.0s						
CRUN	**El Crucero**	**2.42**	**108**	*i* P	**Pn**	**11 18 24.1**	**+0.3**
CRUN					IAML	11 18 29.0	
	comp=Z,9μm,1.0s						
RCPN	**Sur Rio San Ju**	**2.62**	**72**	*i* P	**Pn**	**11 18 26.3**	**-0.3**
RCPN					IAML	11 20 45.1	
	comp=Z,0.4nm,1.0s						
BOAB	**BOACO BROADBAN**	**2.93**	**95**	*i* P	**Pn**	**11 18 30.7**	**-0.1**
BOAB					IAML	11 19 07.9	
	comp=Z,31nm,1.0s						

IDC 27 11:22:47.0±640.0, 56°.16N×0°.13W, h0km, Error ellipse: s-maj=274.7km s-min=177.9km az=87.0, North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**11.15**	**125**	I	I	12 26 36.3	
	0.1nm,1.4s,baz=320,slow=328,SNR=8.1						
I37NO	**I37NO**	**15.45**	**26**	I	I	12 57 30.0	
	baz=226,slow=327,SNR=0.9						
I43RU	**DUBNA INFRASON**	**20.49**	**73**	I	I	13 27 00.0	
	baz=283,slow=327,SNR=1.0						

IDC 27 11:27:30.0±1.3, 38°.00S×77°.72E, h0km, mb4.1/6, mbtmp4.1/6, MS4.1/17, Error ellipse: s-maj=41.4km s-min=31.7km az=71.0
NEIC 27 11:27:31.6±1.6, 38°.05S±0°.1×77°.7E±0°.2, h10km±2km, mb4.6/9, Error ellipse: s-maj=36.1km s-min=6.4km az=242.0
GCMT 27 11:27:34.6±0.4, 37°.58S±0°.03×77°.80E±0°.03, h29km±1km, MW4.9/64, Moment Tensor Solution. s22,c24; s64,c80; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.54±.16; Mθθ=2.42±.13; Mϕϕ 1.88±.12; Mrθ=0.67±.18; Mθϕ 1.14±.09; Mϕr=0.09±.16; Best double couple: M=2.51200×10¹⁶ NP1:ϕs149.00000°, δ76.00000°, λ-179.00000°. NP2: ϕs 2.2030, δ 9.0000°, λ-14.00000°. Principal axes: T Azm105.0000°; N 0.6160, Plg76.0000°, Azm234.0000°; P -2.8220, Plg11.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISC 27 11:27:31.7±2.4, 37°.9S±0°.2×77°.7E±0°.3, h12km±16km, n44, σ1°.28/18, mb4.4/10, MS4.2/18, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AIS	**Amsterdam Isla**	**0.17**	**329**		**Pg**	**11 27 35.4**	**0.0**
H04N2	**CROZET ISLANDS**	**20.83**	**239**	T	T	11 54 17.9	
	baz=75,slow=75,SNR=60						
H04N1	**CROZET ISLANDS**	**20.85**	**239**	T	T	11 54 13.9	
	baz=75,slow=75,SNR=60						
H04N3	**CROZET ISLANDS**	**20.85**	**239**	T	T	11 54 10.9	
	baz=75,slow=75,SNR=60						
H01W2	**Cape Leeuwin H**	**29.38**	**95**	T	T	12 04 02.0	
	baz=253,slow=75,SNR=88						
H01W3	**Cape Leeuwin H**	**29.38**	**95**	T	T	12 04 02.4	
	baz=253,slow=75,SNR=71						
H01W1	**Cape Leeuwin H**	**29.39**	**95**	T	T	12 04 03.9	
	baz=253,slow=75,SNR=84						
H08S2	**Diego Garcia H**	**30.52**	**350**	T	T	12 05 20.3	
	baz=172,slow=76,SNR=164						
H08S1	**Diego Garcia H**	**30.52**	**350**	T	T	12 05 20.6	
	baz=172,slow=76,SNR=150						
H08S3	**Diego Garcia H**	**30.54**	**350**	T	T	12 05 21.9	
	baz=172,slow=76,SNR=167						
MAW	**Mawson**	**30.86**	**191**	LR	LR	11 43 35.0	
	comp=Z,357nm,20.3s,baz=25,slow=31						
NWAO	**Narrogin (SRO)**	**32.45**	**93**	LR	LR	11 44 27.4	
	comp=Z,474nm,18.1s,baz=237,slow=31						
BOSA	**Boshof**	**44.30**	**266**	LR	LR	11 50 04.0	
	comp=Z,124nm,20.7s,baz=152,slow=30						
LBTB	**Lobatse**	**45.71**	**271**	LR	LR	11 52 13.6	
	comp=Z,246nm,18.3s,baz=108,slow=32						
SUR	**Sutherland**	**46.21**	**259**	LR	LR	11 51 20.0	
	comp=Z,150nm,20.0s,baz=154,slow=31						
ASAR	**Alice Springs**	**49.66**	**90**	P	**P**	**11 36 23.7**	**+0.3**
	2.2nm,1.1s,baz=224,slow=7.0,SNR=6.9						
	2.2nm,1.1s						
SNAA	**Sanae**			**51.54**	**203**	LR	LR	11 54 40.6
	comp=Z,137nm,20.5s,baz=70,slow=32						
STKA	**Stephens Creek**			**51.87**	**104**	LR	LR	11 54 27.2
	comp=Z,200nm,20.6s,baz=238,slow=31						
WRA	**Warramunga Arr**			**51.95**	**86**	P	**P**	**11 36 40.2**	**-0.5**
	2.1nm,1.0s,baz=238,slow=7.8,SNR=9.7						
	2.1nm,1.0s						
WB2	**Warramunga Arr**			**51.96**	**86**	P	**P**	**11 36 40.7**	**-0.1**
WB2						IAmb	IAmb	11 36 42.9	
	comp=Z,6.5nm,1.2s						
VNDA	**Vanda**			**52.05**	**164**	LR	LR	11 57 07.9	
	comp=Z,195nm,18.5s,baz=272,slow=34						
WB0	**Warramunga Arr**			**52.09**	**86**	P	**P**	**11 36 41.2**	**-0.5**
WB0						IAmb	IAmb	11 36 44.1	
	comp=Z,9.4nm,1.1s						
WR0	**Warramunga Arr**			**52.10**	**87**	P	**P**	**11 36 41.8**	**0.0**
QSPA	**South Pole Qui**			**52.22**	**180**	P	**P**	**11 36 42.6**	**+0.3**
QSPA						IAmb	IAmb	11 36 48.5	
	comp=Z,13nm,1.4s						
QSPA	**South Pole Qui**			**52.22**	**180**	P	**P**	**11 36 42.1**	**-0.2**
	comp=Z,2.7nm,1.2s,baz=236,slow=7.3,SNR=2.1						
QSPA						LR	LR	11 57 39.2	
	comp=Z,545nm,18.2s,baz=290,slow=35						
	comp=Z,2.7nm,1.2s						
TSUM	**Tsumeb**			**55.06**	**272**	LR	LR	11 56 51.9	
	comp=Z,319nm,21.2s,baz=154,slow=32						
CMAR	**Chiang Mai Arr**			**59.55**	**24**	P	**P**	**11 37 36.2**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=220,slow=7.6,SNR=4.7						
	comp=Z,0.9nm,0.3s						

CTA	**Charters Tower**	**61.28**	**94**	LR	LR	12 02 14.8	
	comp=Z,259nm,18.6s,baz=355,slow=34						
PMG	**Port Moresby**	**68.11**	**85**	LR	LR	12 06 27.9	
	comp=Z,113nm,19.9s,baz=251,slow=34						
DZM	**Mont Dzumac**	**75.85**	**107**	LR	LR	12 07 01.5	
	comp=Z,66nm,18.4s,baz=244,slow=31						
HNR	**Honiara**	**78.19**	**93**	LR	LR	12 10 27.7	
	comp=Z,2μm,21.3s,baz=230,slow=33						
MK31	**Makanchi Array**	**84.45**	**3**	P	**P**	**11 40 03.0**	**-0.8**
MKAR	**Makanchi Array**	**84.45**	**3**	P	**P**	**11 40 02.8**	**-1.0**
	comp=Z,1.3nm,0.9s,baz=177,slow=4.9,SNR=7.8						
	comp=Z,1.3nm,0.9s						
MAKZ	**Makanchi**	**84.45**	**3**	P	**P**	**11 40 02.7**	**-1.1**
MAKZ				IAmb	IAmb	11 40 05.1	
	comp=Z,2.6nm,1.1s						
JTU	**Tsushima**	**86.62**	**40**	P	**P**	**11 40 13.2**	**-1.5**
TORD	**Torodi Ar. Bea**	**87.24**	**289**	LR	LR	12 17 22.5	
	comp=Z,210nm,19.4s,baz=132,slow=34						
KURBB	**Kurchatov Arra**	**88.19**	**1**	P	**P**	**11 40 24.5**	**+2.5**
	comp=Z,0.6nm,0.2s,baz=186,slow=5.0,SNR=5.5						
	comp=Z,0.6nm,0.2s						
DBIC	**Dimbokro**	**88.20**	**280**	LR	LR	12 17 33.8	
	comp=Z,58nm,18.2s,baz=111,slow=34						
AKTO	**Aktyubinsk**	**89.69**	**348**	LR	LR	12 17 37.6	
	comp=Z,71nm,19.6s,baz=45,slow=34						
BVAR	**Borovoye Array**	**90.81**	**356**	LR	LR	12 16 45.8	
	comp=Z,97nm,21.7s,baz=160,slow=32						
MAJO	**Matsushiro**	**92.85**	**45**	P	**P**	**11 40 44.1**	**0.0**
MAJO				IAmb	IAmb	11 41 13.3	
	comp=Z,6.4nm,1.1s						
MJB9	**Matsu-Tunnel**	**92.85**	**45**	P	**P**	**11 40 44.6**	**+0.5**
FINES	**FINESS Array B**	**107.51**	**337**	Pdif	**Pdif**	**11 41 46.3**	**-3.0**
YKA	**Yellowknife Ar**	**154.28**	**13**	PKPbc	**PKPbc**	**11 47 30.6**	**-0.1**
	comp=Z,0.1nm,0.7s,baz=326,slow=3.0,SNR=5.6						

IDC 27 11:27:40.8±2.3, 82°.82N×81°.19E, h0km, mb3.3/3, mbtmp3.5/5, ML3.3/2, MS2.8/2, Error ellipse: s-maj=64.1km s-min=23.5km az=154.0
FCIAR 27 11:27:44.0, 79°.59N×78°.00E, h10km, station SVZ has station magnitude of 3.10 station OMEGA has station magnitude of 3.10
ISC 27 11:27:40.6±1.9, 82°.4N±0°.4×81°.9E±0°.1, h10km, n11, σ2°.18/10, mb3.3/3, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVZ	**Severnaya Zeml**	**4.41**	**124**	*e*P	**Pn**	**11 28 48.2**	**+0.8**
SVZ				*e*S	**Sn**	**11 29 35.6**	**-2.9**
	16nm,0.7s						
ZFI2	**Zemlya Franca-**	**5.19**	**270**	*e*P	**Pn**	**11 29 00.1**	**+2.1**
ZFI2				*e*S	**Sn**	**11 29 55.8**	**-2.0**
OMEGA	**Omega**	**5.19**	**270**	*e*P	**Pn**	**11 29 00.0**	**+1.9**
OMEGA				*e*S	**Sn**	**11 29 55.4**	**-2.6**
	12nm,1.8s						
SPA0	**Spitsbergen Ar**	**11.14**	**284**	*e*P	**Pn**	**11 30 18.3**	**-1.2**
SPA0				S	Sn	11 32 14.8	-9.2
SPITS	**Spitsbergen Ar**	**11.14**	**284**	Pn	**Pn**	**11 30 18.5**	**-1.1**
	baz=42,slow=12						
SPITS				Sn	Sn	11 32 15.9	-8.1
	baz=74,slow=18						
	2.0nm,0.6s						
ARCES	**ARCESS Array B**	**17.50**	**257**	P	**P**	**11 31 45.6**	**+0.3**
	0.1nm,0.3s,baz=23,slow=10.0,SNR=1.0						
	1.1nm,0.6s						
NOA	**NORSAR Array B**	**27.47**	**265**	LR	LR	11 45 40.2	
	comp=Z,6.3nm,18.6s,baz=215,slow=39						
ILAR	**Eielson Array**	**30.94**	**39**	P	P	11 33 57.1	+0.1
	0.3nm,0.7s,baz=347,slow=10,SNR=4.9						
	0.3nm,0.7s						
YKA	**Yellowknife Ar**	**35.09**	**13**	P	P	11 34 30.3	-2.8
	0.2nm,0.8s,baz=354,slow=8.9,SNR=5.1						
	0.2nm,0.8s						
KVAR	**Kislovodsk Arr**	**40.51**	**225**	LR	LR	11 53 50.9	
	comp=Z,48nm,21.9s,baz=133,slow=38						
TORD	**Torodi Ar. Bea**	**75.75**	**262**	P	**P**	**11 39 27.7**	**+1.6**
	0.2nm,0.4s,baz=4.5,slow=5.8,SNR=6.0						
	0.2nm,0.4s						

UCR 27 11:35:43.7±1.4, 11°.57N×86°.00W, h140km±19km, MW3.5
CATAC 27 11:35:45.4±0.4, 11°.72N×86°.03W, h101km±5km, ML3.4
ISC 27 11:35:44.5±1.5, 11°.72N±0°.05×86°.04W±0°.06, h121km±9km, n53, σ0°.88/62, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRUN	**El Crucero**	**0.36**	**316**	*i* P	**Pn**	**11 36 01.9**	**-0.1**
CRUN					IAML	11 36 04.8	
	comp=Z,16μm,1.0s						
JAPN	**Al SSO del Vol**	**0.40**	**119**	*i* P	**Pn**	**11 36 02.0**	**-0.1**
JAPN					IAML	11 36 26.8	
	comp=Z,630nm,1.0s						
CONN	**Concepcion**	**0.43**	**111**	*i* P	**Pn**	**11 36 02.1**	**-0.2**
CONN				*i* S	**Sn**	**11 36 13.9**	**-1.7**
CONN					IAML	11 36 23.6	
	comp=Z,5μm,1.0s						
UNAN	**Cigeo UNAN**	**0.45**	**330**	*i* P	**Pn**	**11 36 01.4**	**-1.0**
UNAN					IAML	11 36 27.5	
	comp=Z,3μm,1.0s						
TISN	**Laguna Tiscapa**	**0.47**	**332**	*i* P	**Pn**	**11 36 02.5**	**0.0**
TISN					IAML	11 36 03.5	
	comp=Z,49nm,1.0s						
MSHP	**Masachapa**	**0.50**	**283**	*i* P	**Pn**	**11 36 01.9**	**-0.7**
MSHP					IAML	11 36 20.0	
	comp=Z,610nm,1.0s						
APQ2	**Apoyeque**	**0.55**	**329**	*i* P	**Pn**	**11 36 02.9**	**0.0**
APQ2					IAML	11 36 25.7	
	comp=Z,500nm,1.0s						
COPN	**Copaltepe**	**0.71**	**310**	*i* P	**Pn**	**11 36 04.0**	**-0.1**
COPN					IAML	11 36 28.2	
	comp=Z,220nm,1.0s						
BOAB	**BOACO BROADBAN**	**0.81**	**27**	*i* P	**Pn**	**11 36 04.5**	**-0.4**
BOAB					IAML	11 36 06.7	
	comp=Z,620nm,1.0s						
ACON	**Acoyapa**	**0.88**	**74**	*e*P	**Pn**	**11 36 07.2**	**+1.6**
ACON	**Acoyapa**	**0.88**	**74**	*i* P	**Pn**	**11 36 05.3**	**-0.2**
ACON					IAML	11 36 07.4	
	comp=Z,910nm,1.0s						
MACN	**El Madrono**	**0.96**	**320**	*i* P	**Pn**	**11 36 06.7**	**+0.3**
MACN					IAML	11 36 27.7	
	comp=Z,350nm,1.0s						
CNGN	**Cerro Negro**	**1.01**	**320**	*e*P	**Sn**	**11 36 24.7**	**+1.0**
PACN	**Al O del Volca**	**1.07**	**317**	*i* P	**Pn**	**11 36 07.7**	**+0.3**
PACN					IAML	11 36 35.2	
	comp=Z,630nm,1.0s						
HZTE	**Horizontes, Gu**	**1.09**	**156**	*e*P	**Pn**	**11

SOCE	**Pocosol**	**1.93**	**133**	*i* P		**Pn**	**11 36 17.0**	**-0.2**
SOCE				IAML			11 36 54.9	
	comp=Z,240nm,1.0s							
CPMI	**Catarata Coope**	**2.17**	**131**	*e*P		**Pn**	**11 36 20.7**	**+0.3**
CPMI	**Catarata Coope**	**2.17**	**131**	*i* P		**Pn**	**11 36 19.8**	**-0.6**
CPMI				*i* S		**Sn**	**11 36 47.9**	**+0.1**
CPMI				IAML			11 36 53.9	
	comp=Z,260nm,1.0s							
LAFE	**Finca La Fe, P**	**2.20**	**150**	*e*P		**Pn**	**11 36 20.2**	**-0.4**
LAFE	**Finca La Fe, P**	**2.20**	**150**	*i* P		**Pn**	**11 36 19.9**	**-0.7**
LAFE				IAML			11 36 49.2	
	comp=Z,6.4nm,1.0s							
BLUN	**Bluefields**	**2.23**	**83**	*i* P		**Pn**	**11 36 20.8**	**-0.2**
BLUN				IAML			11 36 22.6	
	comp=Z,240nm,1.0s							
TRB2	**Turrubares**	**2.38**	**139**	*e*P		**Pn**	**11 36 22.7**	**-0.2**
JACO	**JACO, Garabito**	**2.46**	**146**	*e*P		**Pn**	**11 36 23.8**	**-0.1**
JACO	**JACO, Garabito**	**2.46**	**146**	*i* P		**Pn**	**11 36 23.5**	**-0.3**
JACO				IAML			11 36 58.7	
	comp=Z,180nm,1.0s							
PACA	**Pacayal**	**2.83**	**308**	*i* P		**Pn**	**11 36 29.4**	**+0.7**
PACA				IAML			11 37 05.2	
	comp=Z,1µm,1.0s							
RIMA	**Rio Macho**	**2.89**	**132**	*e*P		**Pn**	**11 36 29.9**	**+0.3**
RIMA	**Rio Macho**	**2.89**	**132**	*i* P		**Pn**	**11 36 30.0**	**+0.3**
RIMA				IAML			11 37 09.0	
	comp=Z,160nm,1.0s							
CDM	**Cerro de Muert**	**3.11**	**134**	*e*P		**Pn**	**11 36 33.3**	**+0.5**
CDM	**Cerro de Muert**	**3.11**	**134**	*i* P		**Pn**	**11 36 32.2**	**-0.5**
CDM				*i* S		**Sn**	**11 37 09.5**	**-0.3**
CDM				IAML			11 37 12.8	
	comp=Z,120nm,1.0s							
OCHAL	**Ojochal**	**3.51**	**138**	*i* P		**Pn**	**11 36 38.0**	**+0.3**
OCHAL				IAML			11 37 22.3	
	comp=Z,89nm,1.0s							
SRBA	**San Rafael, Bu**	**3.62**	**133**	*i* P		**Pn**	**11 36 39.4**	**+0.3**
SRBA				IAML			11 37 21.9	
	comp=Z,73nm,1.0s							
JAYA	**Jayaque - finc**	**3.84**	**300**	*i* P		**Pn**	**11 36 41.5**	**-0.7**
JAYA				IAML			11 37 27.1	
	comp=Z,240nm,1.0s							
NUBE	**Las Nubes**	**4.24**	**301**	*i* P		**Pn**	**11 36 47.0**	**-0.5**
NUBE				IAML			11 37 35.9	
	comp=Z,60nm,1.0s							

*IDC **27** 11:39:24.5±0.5,3˙.13S×87˙.00E,h0km,mb4.3/26, mbtmp4.3/27,ML4.9/1,MS3.9/37,Error ellipse: s-maj=17.8km s-min=12.5km az=64.0*

*NEIC **27** 11:39:26.9±2.3,3˙.10S±0˙.10×87˙.06E±0˙.08,h10km±1km, mb4.9/66,Error ellipse: s-maj=16.6km s-min=13.1km az=172.0*

*BJI **27** 11:39:27.1±0.0,2˙.93S×86˙.83E,h14km,mb4.6/48, mB5.1/24,Ms4.4/34,Ms7 4.2/35*

*GCMT **27** 11:39:27.0±0.3,3˙.13S±0˙.02×87˙.03E±0˙.02,h26km±1km, MW4.9/90,Moment Tensor Solution. s37,c48; s90,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.23±.11; $M_{\theta\theta}$-1.68±.09; $M_{\phi\phi}$1.44±.10; $M_{r\theta}$-0.73±.18; $M_{\theta\phi}$-2.06±.08; $M_{\phi r}$0.19±.19; Best double couple: M_o2.69200×10^{16} NP1:ϕ288.00000°,δ89.00000°,λ164.00000°. NP2: ϕ19.00000°,δ74.00000°,λ1.00000°. Principal axes: T 2.5710, Plg12.0000°, Azm242.0000°; N 0.2360, Plg74.0000°, Azm105.0000°; P -2.8140, Plg11.0000°, Azm335.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 11:39:27.8±0.6,**3˙.13S**±0˙.06×**87˙.04E**±0˙.05,**h20**km±2km, **h20**km:**pP-P,n176,**σ1?**87**/159,**mb4.8**/80,**MS4.0**/49,**2C-6D, South Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**10.79**	**59**	P	**Pn**	**11 41 58.6**	**-2.7**
	693nm,0.9s,7µm						
GSI	**Gunungsitoli**	**11.41**	**67**	Pn	**Pn**	**11 42 07.8**	**-2.1**
GSI	**Gunungsitoli**	**11.41**	**67**	P	**Pn**	**11 42 05.6**	**-4.2**
	107nm,0.7s,2µm						
PBSI	**Pulau Batu**	**11.64**	**75**	P	**Pn**	**11 42 08.8**	**-4.1**
	130nm,0.8s						
MLSI	**Meulaboh, Aceh**	**11.90**	**52**	P	**Pn**	**11 42 13.1**	**-3.3**
	111nm,1.0s						
PALK	**Pallekele**	**12.12**	**329**	Pn	**Pn**	**11 42 16.1**	**-3.5**
PALK	**Pallekele**	**12.12**	**329**	Pn	**Pn**	**11 42 16.3**	**-3.3**
	8.0nm,0.3s,baz=258,slow=14,SNR=59						
PALK				Sn	Sn	11 44 17.6	-17
	3.0nm,0.3s,baz=308,slow=12,SNR=2.6						
PALK				LR	LR	11 46 39.3	
	comp=Z,751nm,18.9s,baz=257,slow=36						
	54nm,0.6s						
SISI	**Saibi**	**12.17**	**82**	P	**Pn**	**11 42 17.4**	**-2.8**
	78nm,0.9s						
KCSI	**Kotacane, Aceh**	**12.60**	**58**	P	**Pn**	**11 42 22.3**	**-3.7**
	119nm,0.8s,1µm						
LHMI	**Lhok Sumawe**	**12.92**	**50**	Pn	**Pn**	**11 42 30.6**	**+0.1**
LHMI	**Lhok Sumawe**	**12.92**	**50**	P	**Pn**	**11 42 26.9**	**-3.5**
	214nm,0.7s,4µm						
PDSI	**Padang**	**13.59**	**81**	P	**Pn**	**11 42 37.1**	**-2.5**
	124nm,1.2s						
BKNI	**Bangkinang**	**14.40**	**76**	Pn	**Pn**	**11 42 49.4**	**-1.4**
KAAM	**Kaadhehdhoo**	**14.50**	**284**	Pn	**Pn**	**11 42 51.0**	**-1.1**
DGAR	**Diego Garcia**	**15.14**	**253**	Pn	**Pn**	**11 42 59.6**	**-1.0**
IPM	**Ipoh**	**15.89**	**62**		**Pn**	**11 43 07.4**	**-3.1**
KULM	**Kulim**	**15.96**	**58**		**Pn**	**11 43 10.4**	**-1.0**
KULM				IAmb	IAmb	11 43 15.9	
	comp=Z,55nm,0.9s						
LWLI	**Liwa**	**17.07**	**97**	P	**Pn**	**11 43 24.8**	**-0.9**
	comp=Z,183nm,1.0s						
SRIT	**Nakonsritamara**	**17.10**	**47**		**Pn**	**11 43 26.1**	**+0.1**
MYKOM	**Kota Tinggi**	**17.50**	**74**		**Pn**	**11 43 30.7**	**-0.2**
KASI	**Kota Agung**	**17.56**	**98**	P	**Pn**	**11 43 30.9**	**-0.7**
	comp=Z,45nm,1.9s						
DSRI	**Dabo**	**17.72**	**82**	P	**Pn**	**11 43 31.4**	**-2.2**
	comp=Z,64nm,1.6s						
PPBI	**Pangkal Pinang**	**19.10**	**88**	P	**P**	**11 43 48.2**	**-1.3**
LEM	**Lembang**	**20.82**	**101**	P	**P**	**11 44 08.8**	**+0.3**
	comp=Z,8.1nm,0.3s,baz=311,slow=19,SNR=1.6						
LEM				LR	LR	11 51 54.6	
	comp=Z,548nm,18.0s,baz=256,slow=36						
	comp=Z,8.1nm,0.3s						
CMJI	**Cimerak**	**21.80**	**103**	P	**P**	**11 44 18.5**	**-0.3**
	comp=Z,84nm,1.3s						
KPJI	**Karang Pucung**	**22.19**	**102**	P	**P**	**11 44 22.6**	**-0.4**
	comp=Z,43nm,0.8s						
SMRI	**Semarang**	**23.62**	**100**		**P**	**11 44 36.0**	**-1.9**
SMRI				IAmb	IAmb	11 44 58.2	
	comp=Z,81nm,1.1s						
KSM	**Kuching**	**23.70**	**79**	P	**P**	**11 44 38.9**	**+0.2**
KSM				IAmb	IAmb	11 44 58.0	
	comp=Z,132nm,1.9s						
UGM	**Wanagama**	**23.84**	**102**	P	**P**	**11 44 40.7**	**+0.7**
UGM	**Wanagama**	**23.84**	**102**	P	**P**	**11 44 39.6**	**-0.4**
	comp=Z,153nm,1.3s						
CM31	**Chiang Mai Arr**	**24.45**	**28**	P	**P**	**11 44 46.4**	**+0.9**
CM31				IAmb	IAmb	11 44 58.1	
	comp=Z,32nm,1.1s						
CMAR	**Chiang Mai Arr**	**24.45**	**28**	P	**P**	**11 44 46.1**	**+0.6**
CMAR	**Chiang Mai Arr**	**24.45**	**28**	P	**P**	**11 44 46.5**	**+0.9**
	comp=Z,5.4nm,0.8s,baz=221,slow=11,SNR=46						
CMAR				LR	LR	11 54 05.4	
	comp=Z,178nm,18.6s,baz=225,slow=36						
	comp=Z,5.4nm,0.8s						
STKI	**Sintang**	**24.63**	**83**	P	**P**	**11 44 45.8**	**-1.5**
	comp=Z,55nm,1.0s						
NGJI	**Ngawi**	**24.67**	**101**	P	**P**	**11 44 47.1**	**-0.5**
	comp=Z,42nm,0.9s						
PWJI	**Pagerwojo**	**25.11**	**102**	P	**P**	**11 44 51.1**	**-0.5**
	comp=Z,33nm,0.8s						
PHRA	**Phrae**	**25.11**	**31**	P	**P**	**11 44 52.5**	**+0.9**
UBPT	**Khong Chiam**	**25.84**	**44**	P	**P**	**11 44 58.2**	**+0.1**
UBPT				IAmb	IAmb	11 45 11.4	
	comp=Z,24nm,0.9s						
DLV	**T Lat**	**26.05**	**55**	P	**P**	**11 45 00.6**	**+0.3**
CRAI	**Chiangrai**	**26.65**	**29**	P	**P**	**11 45 08.1**	**+2.6**
QIZ	**Qiongzhong**	**31.44**	**45**	P	**P**	**11 45 48.3**	**+0.2**
QIZ				S	**S**	**11 50 56.8**	**+1.7**
QIZ				LR	LR		
	comp=Z,610nm,14.7s						
QIZ				LR	LR		
	comp=Z,240nm,14.7s						
QIZ				LR	LR		
	comp=Z,240nm,14.3s						
PZH	**PanZhiHua**	**32.71**	**25**	P	**P**	**11 45 59.8**	**+0.5**
PZH				pP	**sP**	**11 46 04.0**	**-1.8**
PZH				sP	**pwP**	**11 46 07.0**	**-3.1**
PZH				S	**S**	**11 51 18.5**	**+3.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PZH				pmax	pmax		
	comp=Z,100nm,4.2s						
PZH				LR	LR		
	comp=Z,170nm,15.3s						
PZH				LR	LR		
	comp=Z,280nm,16.3s						
PZH				LR	LR		
	comp=Z,260nm,19.6s						
LSA	**Lhasa**	**32.88**	**7**	P	**P**	**11 46 01.4**	**+0.2**
LSA				IAmb	IAmb	11 46 14.6	
	comp=Z,14nm,0.7s						
GYA	**Guiyang**	**35.01**	**32**	*e*P	**P**	**11 46 21.0**	**+1.7**
GYA				S	**S**	**11 51 54.5**	**+3.9**
GYA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
GYA				pmax	pmax		
	comp=Z,39nm,3.6s						
GYA				LR	LR		
	comp=Z,480nm,16.8s						
GYA				LR	LR		
	comp=Z,290nm,16.0s						
GYA				LR	LR		
	comp=Z,450nm,19.9s						
LUWI	**Luwuk**	**35.76**	**87**	P	**P**	**11 46 24.3**	**-1.6**
SOEI	**Soe**	**37.54**	**102**	P	**P**	**11 46 41.9**	**+0.7**
SOEI				IAmb	IAmb	11 47 11.7	
	comp=Z,36nm,1.1s						
NIL	**Nilore**	**38.84**	**342**	P	**P**	**11 46 51.3**	**-0.4**
ENH	**Enshi**	**39.54**	**31**	P	**P**	**11 46 58.1**	**+0.5**
ENH				IAmb	IAmb	11 47 17.5	
	comp=Z,39nm,0.8s						
GOMU	**GeErMu**	**39.80**	**10**	P	**P**	**11 47 04.8**	**+4.7**
GOMU				LR	LR		
	comp=Z,160nm,18.0s						
GOMU				LR	LR		
	comp=Z,140nm,17.8s						
GOMU				LR	LR		
	comp=Z,240nm,18.1s						
H01W3	**Cape Leeuwin H**	**40.38**	**145**	T	T	12 28 38.7	
	baz=316,SNR=2.4						
H01W2	**Cape Leeuwin H**	**40.39**	**145**	T	T	12 28 40.5	
	baz=316						
H01W1	**Cape Leeuwin H**	**40.40**	**145**	T	T	12 28 43.9	
	baz=316,SNR=3.0						
KNMB	**Chin-men Tao**	**40.99**	**46**	P	**P**	**11 47 08.2**	**-1.5**
OPO	**Ambohidratompo**	**41.90**	**246**	LR	LR	12 00 44.6	
	comp=Z,58nm,18.0s,baz=178,slow=31						
ABPO	**Ambohimpanom**	**41.99**	**245**	P	**P**	**11 47 18.1**	**-0.2**
ABPO				IAmb	IAmb	11 47 19.8	
	comp=Z,26nm,0.9s						
LZH	**Lanzhou**	**42.06**	**20**	⇓P	P	11 47 23.3	+4.8
LZH				sP	pwP	11 47 30.0	+0.6
LZH				pmax	pmax		
	comp=Z,17nm,1.4s						
LZH				LR	LR		
	comp=Z,280nm,17.0s						
LZH				LR	LR		
	comp=Z,200nm,15.3s						
LZH				LR	LR		
	comp=Z,300nm,19.8s						
XAN	**Xi'an**	**42.34**	**27**	P	**P**	**11 47 22.8**	**+2.2**
XAN				pmax	pmax		
	comp=Z,13nm,1.3s						
XAN				LR	LR		
	comp=Z,430nm,15.5s						
XAN				LR	LR		
	comp=Z,320nm,15.1s						
XAN				LR	LR		
	comp=Z,610nm,17.7s						
WHN	**Wuhan**	**42.44**	**36**	P	**P**	**11 47 25.5**	**+4.1**
WHN				sP	**pwP**	**11 47 32.8**	**+0.3**
YULB	**Yu-li**	**42.53**	**50**	P	**P**	**11 47 23.1**	**+0.7**
YULB				IAmb	IAmb	11 47 42.9	
	comp=Z,23nm,1.2s						
VOI	**Vohitsoka**	**43.29**	**241**	P	**P**	**11 47 28.6**	**-0.1**
KSH	**Kashi**	**43.65**	**348**	P	**P**	**11 47 29.3**	**-2.0**
KSH				pP	sP	11 47 36.5	-1.3
KSH				sP	pwP	11 47 39.0	-3.2
KSH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GTA	**Gaotai**	**43.94**	**14**	P	**P**	**11 47 34.0**	**+0.4**
GTA				pP	sP	11 47 38.8	-1.4
GTA				sP	pwP	11 47 43.8	-0.7
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				LR	LR		
	comp=Z,100nm,16.0s						
GTA				LR	LR		
	comp=Z,140nm,17.8s						
GTA				LR	LR		
	comp=Z,120nm,18.2s						
LYN	**LuoYang**	**44.46**	**30**	⇑P	P	11 47 42.8	+5.1
LYN				pmax	pmax		
	comp=Z,18nm,0.9s						
LYN				pmax	pmax		
	comp=Z,130nm,5.8s						
LYN				LR	LR		
	comp=Z,460nm,17.5s						
LYN				LR	LR		
	comp=Z,430nm,15.5s						
LYN				LR	LR		
	comp=Z,620nm,19.9s						
SIMJ	**Simiganj**	**44.80**	**340**	P	**P**	**11 47 39.9**	**-0.6**
SIMJ				IAmb	IAmb	11 47 40.7	
	comp=Z,17nm,0.9s						
NRN	**Naryn**	**45.48**	**348**	P	**P**	**11 47 44.9**	**-1.3**
BTK	**Batken**	**45.49**	**342**	P	**P**	**11 47 46.0**	**+0.1**
BTK				IAmb	IAmb	11 47 47.1	
	comp=Z,14nm,1.2s						
ARSB	**Arslanbob**	**46.07**	**345**	P	**P**	**11 47 51.3**	**+0.7**
NJ2	**Nanjing**	**46.22**	**38**	*e*P	**P**	**11 47 52.8**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,100nm,3.6s						
NJ2				LR	LR		
	comp=Z,240nm,16.1s						
NJ2				LR	LR		
	comp=Z,310nm,18.0s						
NJ2				LR	LR		
	comp=Z,670nm,24.6s						
ATD	**Arta Tunnel**	**46.30**	**289**	P	**P**	**11 47 54.0**	**+1.2**
WMQ	**Urumqi**	**46.74**	**1**	*e*P	**P**	**11 47 55.8**	**+0.1**
WMQ				pP	pwP	11 48 03.0	-3.7
WMQ				pmax	pmax		
	comp=Z,16nm,1.1s						
WMQ				LR	LR		
	comp=Z,100nm,24.0s						
WMQ	**Urumqi**	**46.74**	**1**	P	**P**	**11 47 56.5**	**+0.8**
AAK	**Ala-Archa**	**46.95**	**347**	P	**P**	**11 47 57.5**	**0.0**
AAK				IAmb	IAmb	11 48 06.1	
	comp=Z,9.8nm,1.1s						
BTO	**Baotou**	**48.34**	**23**	*e*P	**P**	**11 48 13.0**	**+4.8**
BTO				pP	**pwP**	**11 48 18.0**	**-1.2**
BTO				sP	**sP**	**11 48 20.3**	**+5.5**
BTO				PP	**PP**	**11 50 05.5**	**+4.5**
BTO				sS	sS	11 55 24.8	+9.4
BTO				pmax	pmax		
	comp=Z,38nm,1.0s						
BTO				pmax	pmax		
	comp=Z,290nm,5.5s						
BTO				LR	LR		
	comp=Z,360nm,17.0s						
BTO				LR	LR		
	comp=Z,410nm,17.4s						
BTO				LR	LR		
	comp=Z,220nm,15.0s						
RAYN	**Ar Rayn**	**48.36**	**305**	P	**P**	**11 48 07.9**	**-0.7**
RAYN				IAmb	IAmb	11 48 16.0	
	comp=Z,9.4nm,0.9s						
KK31	**Karatay Array**	**48.38**	**344**	P	**P**	**11 48 08.4**	**0.0**
KK31				IAmb	IAmb	11 48 16.8	
	comp=Z,7.5nm,0.9s						
KKAR	**Karatay Array**	**48.38**	**344**	P	**P**	**11 48 08.0**	**-0.4**
KKAR				IAmb	IAmb	11 48 16.8	
	comp=Z,7.4nm,0.9s						
GEYT	**Alibeck**	**48.86**	**329**	P	**P**	**11 48 12.7**	**+0.5**
GEYT	**Alibeck**	**48.86**	**329**	P	**P**	**11 48 13.1**	**+0.8**
	comp=Z,7.3nm,0.7s,baz=158,slow=9.6,SNR=11						
	comp=Z,7.3nm,0.7s						
GYA0B	**ALIBECK ARRAY**	**48.86**	**329**	P	**P**	**11 48 12.6**	**+0.3**
KIBK	**Kibwezi**	**48.95**	**270**	P	**P**	**11 48 13.7**	**+0.4**
KIBK				IAmb	IAmb	11 48 15.1	
	comp=Z,36nm,1.6s						
WRA	**Warramunga Arr**	**49.04**	**114**	P	**P**	**11 48 13.3**	**-0.6**
WRA	**Warramunga Arr**	**49.04**	**114**	P	**P**	**11 48 14.4**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=274,slow=8.9,SNR=20						
	comp=Z,2.0nm,0.8s						
WRAB	**Tennant Creek**	**49.05**	**114**	P	**P**	**11 48 13.9**	**0.0**
WRAB				IAmb	IAmb	11 48 35.6	
	comp=Z,20nm,1.1s						
WB0	**Warramunga Arr**	**49.05**	**113**	P	**P**	**11 48 14.4**	**+0.5**
WB0				IAmb	IAmb	11 48 35.6	
	comp=Z,17nm,1.1s						
WB2	**Warramunga Arr**	**49.05**	**114**	P	**P**	**11 48 13.7**	**-0.3**
WB2				IAmb	IAmb	11 48 37.3	
	comp=Z,15nm,1.1s						
HHC	**Hu-ho-hao-te**	**49.17**	**25**	*e*P	**P**	**11 48 15.3**	**+0.7**
HHC				S	**S**	**11 55 13.5**	**-5.8**
HHC				SS	**SS**	**11 58 41.3**	**-10**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,140nm,4.5s						
HHC				LR	LR		
	comp=Z,160nm,13.7s						
HHC				LR	LR		
	comp=Z,130nm,14.5s						
HHC				LR	LR		
	comp=Z,170nm,13.9s						
WR0	**Warramunga Arr**	**49.23**	**114**	P	**P**	**11 48 15.2**	**-0.2**
ASAR	**Alice Springs**	**49.63**	**119**	P	**P**	**11 48 17.8**	**-0.6**
ASAR	**Alice Springs**	**49.63**	**119**	P	**P**	**11 48 18.9**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=293,slow=8.0,SNR=16						
	comp=Z,0.8nm,0.6s						
AS31	**Alice Springs**	**49.63**	**119**	P	**P**	**11 48 16.8**	**-1.6**
MK31	**Makanchi Array**	**49.89**	**356**	P	**P**	**11 48 19.1**	**-0.8**
MKAR	**Makanchi Array**	**49.89**	**356**	P	**P**	**11 48 18.7**	**-1.2**
MKAR	**Makanchi Array**	**49.89**	**356**	P	**P**	**11 48 19.6**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=140,slow=9.6,SNR=12						
	comp=Z,0.6nm,0.6s						
MAKZ	**Makanchi**	**49.93**	**355**	P	**P**	**11 48 19.6**	**-0.6**
BJI	**Beijing**	**50.59**	**29**	P	**P**	**11 48 26.8**	**+1.5**
BJI				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BJI				LR	LR		
	comp=Z,74nm,16.2s						
BJI				LR	LR		
	comp=Z,67nm,18.0s						
BJI				LR	LR		
	comp=Z,110nm,19.3s						
LODK	**Lodwar**	**52.06**	**277**	P	**P**	**11 48 37.9**	**+1.0**
LODK				IAmb	IAmb	11 48 39.7	
	comp=Z,28nm,1.0s						
SONM	**Songino Array**	**53.51**	**16**	P	**P**	**11 48 46.6**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=190,slow=8.2,SNR=9.8						
	comp=Z,1.9nm,0.8s						
KURBB	**Kurchatov Arra**	**54.04**	**353**	P	**P**	**11 48 50.7**	**0.0**
	comp=Z,1.0nm,0.4s,baz=180,slow=6.9,SNR=26						
	comp=Z,1.0nm,0.4s						
KURK	**Kurchatov**	**54.12**	**353**	P	**P**	**11 48 50.4**	**-0.9**
KURK				IAmb	IAmb	11 49 14.8	
	comp=Z,9.8nm,1.0s						
JNU	**Nakatsue**	**54.91**	**45**	LR	LR	12 13 53.0	
	comp=Z,230nm,18.3s,baz=242,slow=38						
KSAR	**Wonju Array Be**	**55.36**	**39**	P	**P**	**11 49 00.8**	**+0.3**
KS19	**Wonju Array Si**	**55.39**	**39**	P	**P**	**11 49 00.9**	**+0.1**
KS19				IAmb	IAmb	11 49 23.1	
	comp=Z,42nm,1.8s						
KSRS	**Korea Array**	**55.39**	**39**	P	**P**	**11 49 00.1**	**-0.7**
	comp=Z,1.6nm,0.9s,baz=230,slow=8.4,SNR=5.2						
KSRS				LR	LR	12 13 37.1	
	comp=Z,135nm,20.1s,baz=225,slow=37						
	comp=Z,1.6nm,0.9s						
MBAR	**Mbarara**	**56.33**	**271**	P	**P**	**11 49 09.0**	**+0.8**
MBAR				IAmb	IAmb	11 49 10.0	
	comp=Z,11nm,0.8s						
ZAA0	**Zalesovo Array**	**56.91**	**358**	P	**P**	**11 49 10.6**	**-0.7**
ZAA0				IAmb	IAmb	11 49 24.3	
	comp=Z,10.0nm,0.9s						
ZALV	**Zalesovo Beam**	**56.91**	**358**	P	**P**	**11 49 10.6**	**-0.7**
	comp=Z,4.0nm,0.8s,baz=187,slow=6.0,SNR=14						
	comp=Z,4.0nm,0.8s						
ABKAR	**Akbulak array**	**57.22**	**339**	P	**P**	**11 49 13.2**	**-0.4**
ABKAR				IAmb	IAmb	11 49 14.3	
	comp=Z,11nm,1.2s						
BVAR	**Borovoye Array**	**57.68**	**348**	P	**P**	**11 49 16.1**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=165,slow=6.2,SNR=9.1						
	comp=Z,2.1nm,0.8s						
BRVK	**Borovoye**	**57.74**	**348**	P	**P**	**11 49 16.1**	**-1.1**
STKA	**Stephens Creek**	**58.59**	**126**	P	**P**	**11 49 23.6**	**0.0**
	comp=Z,1.8nm,0.6s,baz=300,slow=7.2,SNR=6.2						
STKA				LR	LR	12 12 42.9	
	comp=Z,72nm,21.2s,baz=242,slow=34						
	comp=Z,1.8nm,0.6s						
AKTO	**Aktyubinsk**	**58.90**	**339**	P	**P**	**11 49 25.0**	**-0.3**
	comp=Z,1.5nm,0.4s,baz=212,slow=2.2,SNR=6.7						
	comp=Z,1.5nm,0.4s						
LSZ	**Lusaka**	**59.16**	**254**	P	**P**	**11 49 27.8**	**-0.2**
LSZ				IAmb	IAmb	11 49 28.6	
	comp=Z,12nm,0.6s						
LSZ	**Lusaka**	**59.16**	**254**	LR	LR	12 11 57.5	
	comp=Z,162nm,18.8s,baz=109,slow=33						
GUMO	**Guam**	**59.71**	**72**	LR	LR	12 17 35.4	
	comp=Z,15nm,18.7s,baz=94,slow=38						
GHAJ	**Ghor Haditha**	**59.72**	**309**	P	**P**	**11 49 32.0**	**+0.6**
BNX	**BinXian**	**60.39**	**31**	⇑P	**P**	**11 49 37.5**	**+1.8**
BNX				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BNX				pmax	pmax		
	comp=Z,120nm,3.7s						
MMAI	**Mount Meron Ar**	**60.58**	**311**	LR	LR	12 15 38.3	
	comp=Z,121nm,18.0s,baz=88,slow=36						
MDJ	**Mudanjiang**	**60.83**	**34**	P	**P**	**11 49 40.5**	**+1.7**
MDJ				pmax	pmax		
	comp=Z,3.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,91nm,4.1s						
JCJ	**Chichijima**	**61.04**	**57**	LR	LR	12 14 43.9	
	comp=Z,58nm,19.8s,baz=104,slow=35						
KBZ	**Khabaz**	**61.18**	**325**	P	**P**	**11 49 42.2**	**+1.0**
	comp=Z,2.1nm,0.8s,baz=130,slow=7.4,SNR=2.8						
	comp=Z,2.1nm,0.8s						
JHJ	**Hachijo jima 2**	**61.46**	**49**	LR	LR	12 14 32.8	
	comp=Z,52nm,21.6s,baz=81,slow=34						
MJAR	**Matsushiro Arr**	**61.83**	**45**	P	**P**	**11 49 44.7**	**-1.0**
	comp=Z,1.8nm,1.0s,baz=72,slow=34,SNR=4.8						
	comp=Z,1.8nm,1.0s						
USRK	**Ussuriysk Ar.**	**61.93**	**35**	P	**P**	**11 49 49.6**	**+3.5**
	comp=Z,1.9nm,0.7s,baz=270,slow=2.9,SNR=3.3						
LBTB	**Lobatse**	**62.88**	**244**	P	**P**	**11 49 53.0**	**-0.1**
LBTB	**Lobatse**	**62.88**	**244**	LR	LR	12 12 39.3	
	comp=Z,201nm,20.5s,baz=84,slow=32						
HEH	**HeiHe**	**63.47**	**28**	*e*P	**P**	**11 49 59

MLR	**Muntele Rosu**	**72.49**	**320**	P		**P**	**11**	**50**	**54.0 +0.6**
	comp=Z,3.8nm,0.5s,baz=284,slow=1.7,SNR=5.3								
MLR				LR		LR	12	25	35.2
	comp=Z,57nm,18.0s,baz=141,slow=38								
	comp=Z,3.8nm,0.5s								
AGG	**Agios Georgios**	**72.65**	**312**	P		**P**	**11**	**50**	**53.4 -1.0**
AGG				IAmb		IAmb	11	51	01.4
	comp=Z,12nm,1.1s								
AKASG	**Malin Array Be**	**72.77**	**326**	P		**P**	**11**	**50**	**55.9 +1.2**
	comp=Z,0.2nm,0.3s,baz=95,slow=1.5,SNR=1.4								
AKASG				LR		LR	12	26	41.2
	comp=Z,36nm,20.4s,baz=100,slow=39								
	comp=Z,0.2nm,0.3s								
BURAR	**Bucovina Array**	**73.80**	**322**	P		**P**	**11**	**51**	**00.8 -0.2**
ELIB	**Princess Elisa**	**79.07**	**197**	*d*P		**P**	**11**	**51**	**30.5 -0.1**
	comp=Z,6.8nm,1.1s								
FINES	**FINESS Array B**	**79.33**	**335**	P		**P**	**11**	**51**	**31.0 -0.9**
	comp=Z,1.1nm,0.6s,baz=96,slow=5.7,SNR=6.9								
FINES				LR		LR	12	31	01.3
	comp=Z,47nm,18.4s,baz=242,slow=39								
	comp=Z,1.1nm,0.6s								
TIXI	**Tiksi**	**79.39**	**12**	P		**P**	**11**	**51**	**31.2 -0.8**
TIXI				IAmb		IAmb	11	51	43.5
	comp=Z,12nm,0.8s								
TIXI	**Tiksi**	**79.39**	**12**	LR		LR	12	31	10.5
	comp=Z,133nm,18.3s,baz=224,slow=39								
MA2	**Magadan**	**79.73**	**28**	LR		LR	12	30	22.4
	comp=Z,50nm,18.0s,baz=264,slow=38								
VRAC	**Vranov**	**79.77**	**321**	LR		LR	12	31	12.7
	comp=Z,34nm,18.0s,baz=100,slow=39								
PETK	**Petropavlovsk-**	**81.02**	**35**	LR		LR	12	28	56.0
	comp=Z,64nm,19.8s,baz=253,slow=37								
GERES	**GERESS Array B**	**81.47**	**320**	LR		LR	12	30	19.4
	comp=Z,33nm,19.0s,baz=102,slow=38								
KHC	**Kasperske Hory**	**81.62**	**320**	*e*P		P	11	51	51.0 +6.4
SEY	**Seymchan**	**81.82**	**25**	LR		LR	12	30	36.6
	comp=Z,98nm,19.2s,baz=162,slow=38								
ARCES	**ARCESS Array B**	**83.31**	**342**	P		**P**	**11**	**51**	**52.7 -0.2**
	comp=Z,2.8nm,0.8s,baz=124,slow=4.8,SNR=7.8								
ARCES				LR		LR	12	31	02.8
	comp=Z,71nm,19.4s,baz=94,slow=37								
	comp=Z,2.8nm,0.8s								
VNDA	**Vanda**	**83.69**	**168**	P		**P**	**11**	**51**	**54.8 0.0**
	comp=Z,1.2nm,1.0s,baz=289,slow=7.9,SNR=4.2								
VNDA				LR		LR	12	23	39.8
	comp=Z,160nm,18.4s,baz=294,slow=32								
	comp=Z,1.2nm,1.0s								
HFS	**Hagfors**	**84.48**	**331**	LR		LR	12	34	32.1
	comp=Z,45nm,18.0s,baz=94,slow=39								
NOA	**NORSAR Array B**	**85.90**	**332**	LR		LR	12	35	06.7
	comp=Z,40nm,18.5s,baz=105,slow=39								
TOA0	**Torodi Ar. Sit**	**86.18**	**283**	P		**P**	**11**	**52**	**06.5 -2.0**
QSPA	**South Pole Qui**	**86.85**	**180**	P		**P**	**11**	**52**	**11.2 +0.3**
QSPA				IAmb		IAmb	11	52	12.1
	comp=Z,9.3nm,0.9s								
QSPA	**South Pole Qui**	**86.85**	**180**	P		**P**	**11**	**52**	**10.9 0.0**
	comp=Z,7.8nm,0.9s,baz=297,slow=1.4,SNR=20								
QSPA				LR		LR	12	25	56.9
	comp=Z,139nm,19.6s,baz=282,slow=32								
	comp=Z,7.8nm,0.9s								
SNAA	**Sanae**	**87.01**	**198**	⇓P		**P**	**11**	**52**	**11.7 +0.1**
	comp=Z,110nm,0.9s								
SNAA	**Sanae**	**87.01**	**198**	P		**P**	**11**	**52**	**10.4 -1.2**
	comp=Z,3.5nm,0.8s,baz=333,slow=2.3,SNR=4.3								
	comp=Z,3.5nm,0.8s								
URZ	**Urewera**	**88.13**	**128**	LR		LR	12	33	37.7
	comp=Z,40nm,18.1s,baz=304,slow=37								
VNA2	**Neumayer--Watz**	**88.52**	**199**	⇓P		**P**	**11**	**52**	**18.6 0.0**
	comp=Z,14nm,0.7s,baz=88,slow=4.2								
VNA1	**Neumayer--Stat**	**88.83**	**199**	⇓P		**P**	**11**	**52**	**18.8 -1.3**
	comp=Z,32nm,1.0s								
SPITS	**Spitsbergen Ar**	**89.14**	**349**	P		**P**	**11**	**52**	**21.6 +0.2**
	comp=Z,4.5nm,0.9s,baz=107,slow=7.7,SNR=4.4								
SPITS				LR		LR	12	36	31.9
	comp=Z,50nm,18.1s,baz=85,slow=38								
	comp=Z,4.5nm,0.9s								
VNA3	**Neumayer Olymp**	**89.22**	**199**	⇓P		**P**	**11**	**52**	**22.5 +0.5**
	comp=Z,13nm,0.8s								
SHEM	**Shemya Is, Ala**	**90.68**	**37**	LR		LR	12	37	21.3
	comp=Z,13nm,19.0s,baz=260,slow=38								
ESDC	**Sonseca Array**	**92.75**	**309**	PP		**PP**	**11**	**56**	**23.8 +2.5**
	comp=Z,1.3nm,0.9s,baz=74,slow=6.9,SNR=7.4								
YKA	**Yellowknife Ar**	**118.62**	**11**	PKP		**PKPdf**	**11**	**58**	**13.5 -0.6**
	comp=Z,0.1nm,0.5s,baz=335,slow=2.7,SNR=3.7								
PDAR	**Pinedale Array**	**137.85**	**18**	PKP		**PKPdf**	**11**	**58**	**52.5 +1.0**
	comp=Z,0.2nm,0.6s,baz=318,slow=3.6,SNR=3.7								
NVAR	**Mina Array Bea**	**137.93**	**30**	PKP		**PKPdf**	**11**	**58**	**51.6 -0.2**
	comp=Z,0.5nm,0.7s,baz=149,slow=1.6,SNR=4.2								
LPAZ	**La Paz**	**148.78**	**231**	PKP		**PKPdf**	**11**	**59**	**12.2 +0.3**
	comp=Z,3.8nm,0.8s,baz=44,slow=3.2,SNR=11								
LPAZ				PKPbc		**pPKPdf**	**11**	**59**	**15.1 -2.0**
	comp=Z,6.4nm,0.7s,baz=112,slow=3.4,SNR=9.2								
TXAR	**Lajitas Array**	**152.03**	**20**	PKP		**PKPdf**	**11**	**59**	**16.1 +0.1**
	comp=Z,0.9nm,0.5s,baz=2.3,slow=4.5,SNR=3.7								
TXAR				PKPbc		**PKPbc**	**11**	**59**	**22.3 -0.3**
	comp=Z,2.5nm,0.6s,baz=116,slow=0.4,SNR=26								

IDC 27 11:49:44.0±366.0, 54.02N×42.71E, h0km, Error ellipse: s-maj=138.5km s-min=82.2km az=135.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.14**	**313**	I	I	12	13 00.0
	0.2nm,0.7s,baz=128,slow=334,SNR=7.6						
I31KZ	**AKTYUBINSK INF**	**10.08**	**105**	I	I	12	48 40.0
	0.1nm,0.6s,baz=298,slow=318,SNR=1.9						
I37NO	**I37NO**	**18.74**	**333**	I	I	13	51 50.0
	baz=136,slow=334,SNR=1.2						

*IDC **27** 12:20:38.2±3.4, 6.02S×103.25E, h0km, mb3.6/7, mbtmp3.6/7, MS3.5/1, Error ellipse: s-maj=150.6km s-min=21.3km az=53.0*
*DJA **27** 12:20:47.8±1.0, 6.S±6.°×10.°4E±.°, h27km±10km, M3.9/6, MLv3.9/6*
ISC 27 12:20:45.4±1.1, 5.8S±0.°1×103.85E±0.°07, h35km, n19, σ1°63/15, mb3.7/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.71**	**65**	P	Pn	12	21 00.4 +1.4
KASI				S	Sn	12	21 09.6 +0.8
LWLI	**Liwa**	**0.83**	**15**	P	Pn	12	21 02.1 +1.3
LWLI				S	Sn	12	21 12.6 +0.7
MNAI	**Manna**	**1.71**	**329**	P	Pn	12	21 14.5 +1.8
MNAI				S	Sn	12	21 34.8 +1.4
PPSI	**Pulau Pagai**	**4.89**	**308**	P	Pn	12	21 58.4 +1.9
CMAR	**Chiang Mai Arr**	**24.61**	**349**	P	P	12	26 00.7 -2.0
	0.7nm,0.3s,baz=180,slow=10.0,SNR=5.4						
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**32.78**	**118**	P	P	12	27 17.0 +1.4
	0.3nm,0.7s,baz=310,slow=8.9,SNR=2.0						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**33.92**	**125**	P	P	12	27 26.6 +1.1
	0.5nm,0.9s,baz=301,slow=8.2,SNR=3.7						
	0.5nm,0.9s						
GUMO	**Guam**	**45.06**	**64**	LR	LR	12	45 33.1
	comp=Z,58nm,22.0s,baz=90,slow=33						
SONM	**Songino Array**	**53.48**	**2**	P	P	12	30 02.4 0.0
	0.2nm,0.4s,baz=186,slow=11,SNR=2.0						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**55.78**	**342**	P	P	12	30 16.9 -2.0
	0.5nm,0.5s,baz=151,slow=8.3,SNR=7.2						
	0.5nm,0.5s						
H04N2	**CROZET ISLANDS**	**60.14**	**219**	T	T	13	36 54.9
	baz=64,slow=74,SNR=28						
H04N1	**CROZET ISLANDS**	**60.16**	**219**	T	T	13	36 55.8
	baz=64,slow=74,SNR=24						
H04N3	**CROZET ISLANDS**	**60.16**	**219**	T	T	13	36 54.8
	baz=64,slow=74,SNR=23						
H04S1	**CROZET ISLANDS**	**60.37**	**218**	T	T	13	37 06.4
	baz=64,slow=75,SNR=12						
H04S3	**CROZET ISLANDS**	**60.38**	**218**	T	T	13	37 11.2
	baz=64,slow=75,SNR=13						
H04S2	**CROZET ISLANDS**	**60.38**	**218**	T	T	13	37 11.7
	baz=64,slow=75,SNR=8.9						
ZALV	**Zalesovo Beam**	**61.67**	**347**	P	P	12	30 57.8 -1.9
	0.7nm,0.3s,baz=172,slow=5.2,SNR=2.5						
	0.7nm,0.3s						
BVAR	**Borovoye Array**	**65.11**	**338**	P	P	12	31 20.6 -1.9
	0.5nm,0.5s,baz=147,slow=10.0,SNR=1.9						
	0.5nm,0.5s						
TXAR	**Lajitas Array**	**145.05**	**45**	PKPbc	**PKPbc**	12	40 18.6 -0.7
	0.3nm,0.6s,baz=292,slow=0.5,SNR=4.2						

IDC 27 12:33:39.6±5.7, 7.40S×154.72E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=168.2km s-min=42.4km az=114.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.36**	**236**	P	P	12	38 49.6 -0.3
	0.7nm,0.6s,baz=58,slow=8.9,SNR=6.0						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**25.70**	**229**	P	P	12	39 11.2 -0.5
	0.7nm,1.1s,baz=55,slow=10,SNR=5.2						
	0.7nm,1.1s						
MKAR	**Makanchi Array**	**83.53**	**319**	P	P	12	46 10.3 +0.7
	0.5nm,0.8s,baz=127,slow=4.3,SNR=3.7						
	0.5nm,0.8s						

IDC 27 12:44:19.8±1.3, 12.29N×144.02E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=43.9km s-min=19.3km az=113.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.54**	**33**	Pn	Pb	12	44 49.1 -0.1
	54nm,0.3s,baz=172,slow=8.8,SNR=22						
GUMO				Sn	Sn	12	45 08.8 -0.3
	65nm,0.3s,baz=9.7,slow=22,SNR=21						
WRA	**Warramunga Arr**	**33.41**	**197**	P	P	12	51 00.1 -0.3
	0.4nm,0.9s,baz=19,slow=9.4,SNR=1.9						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**37.08**	**195**	P	P	12	51 32.0 +0.1
	0.2nm,0.8s,baz=21,slow=8.9,SNR=1.3						
	0.2nm,0.8s						
MKAR	**Makanchi Array**	**61.85**	**317**	P	P	12	54 41.3 +0.4
	0.3nm,0.6s,baz=89,slow=8.6,SNR=6.0						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**70.43**	**322**	P	P	12	55 35.3 -0.6
	0.4nm,0.3s,baz=106,slow=5.4,SNR=2.7						
	0.4nm,0.3s						

IDC 27 13:06:44.6±12.0, 37.44S×77.93E, h0km, mb3.5/3, mbtmp3.5/3, MS3.4/1, Error ellipse: s-maj=396.0km s-min=49.3km az=35.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**21.26**	**238**	T	T	13	33 17.3
	baz=75,slow=75,SNR=206						
H04N1	**CROZET ISLANDS**	**21.28**	**238**	T	T	13	33 20.2
	baz=75,slow=75,SNR=184						
H04N3	**CROZET ISLANDS**	**21.28**	**238**	T	T	13	33 17.3
	baz=75,slow=75,SNR=206						
H01W2	**Cape Leeuwin H**	**29.22**	**96**	T	T	13	43 14.8
	baz=253,slow=74,SNR=26						
H01W3	**Cape Leeuwin H**	**29.23**	**96**	T	T	13	43 15.3
	baz=253,slow=74,SNR=31						
H01W1	**Cape Leeuwin H**	**29.24**	**96**	T	T	13	43 16.1
	baz=253,slow=74,SNR=29						
H08S2	**Diego Garcia H**	**30.07**	**349**	T	T	13	44 32.6
	baz=172,slow=76,SNR=368						
H08S1	**Diego Carcia H**	**30.07**	**349**	T	T	13	44 32.9
	baz=172,slow=76,SNR=327						
H08S3	**Diego Garcia H**	**30.09**	**349**	T	T	13	44 34.1
	baz=172,slow=76,SNR=422						
LEM	**Lembang**	**40.70**	**49**	LR	LR	13	29 54.8
	comp=Z,52nm,19.1s,baz=216,slow=34						
ASAR	**Alice Springs**	**49.46**	**91**	P	P	13	15 36.8 0.0
	0.4nm,0.9s,baz=232,slow=5.4,SNR=5.1						
	0.4nm,0.9s						
WRA	**Warramunga Arr**	**51.72**	**87**	P	P	13	15 53.6 -0.2
	0.7nm,0.7s,baz=237,slow=7.6,SNR=4.7						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**83.95**	**3**	P	P	13	19 16.1 0.0
	0.3nm,0.6s,baz=177,slow=5.8,SNR=4.6						
	0.3nm,0.6s						

IDC 27 13:11:25.9±3.2, 16.02S×171.93W, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=185.7km s-min=28.7km az=147.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**51.08**	**257**	P	P	13	20 29.9 -0.8
	0.4nm,0.9s,baz=98,slow=5.9,SNR=5.0						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**51.27**	**252**	P	P	13	20 32.5 +0.5
	0.6nm,0.6s,baz=94,slow=7.6,SNR=11						
	0.6nm,0.6s						
PDAR	**Pinedale Array**	**81.79**	**41**	P	P	13	23 47.7 +0.6
	0.2nm,0.7s,baz=223,slow=6.2,SNR=2.7						
	0.2nm,0.7s						
ILAR	**Eielson Array**	**82.78**	**11**	P	P	13	23 50.5 -1.0
	0.7nm,1.1s,baz=212,slow=6.1,SNR=3.5						
	0.7nm,1.1s						

IDC 27 13:19:52.3±3.8, 10.98S×161.32E, h0km, mb3.5/3, mbtmp3.7/4, ML4.7/1, Error ellipse: s-maj=72.7km s-min=32.6km az=81.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.05**	**319**	Pn	Pn	13	20 28.9 +0.8
	254nm,0.3s,baz=78,slow=1.9,SNR=7.0						
HNR				Sn	Sn	13	20 53.9 -0.5
	495nm,0.3s,baz=234,slow=23,SNR=8.3						
	588nm,0.3s						
WRA	**Warramunga Arr**	**27.46**	**248**	P	P	13	25 40.5 +0.2
	0.7nm,0.8s,baz=77,slow=10,SNR=3.3						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**28.99**	**241**	P	P	13	25 53.8 -0.2
	0.6nm,1.0s,baz=67,slow=11,SNR=2.1						
	0.6nm,1.0s						
MKAR	**Makanchi Array**	**90.53**	**318**	P	P	13	32 56.0 -0.3
	0.1nm,0.5s,baz=97,slow=6.0,SNR=2.1						
	0.1nm,0.5s						

*EAF **27** 13:32:00.7±2.3, 25.64S×29.41E, h38km±32km, MD3.5*
BUL 27 13:32:00.4±2.0, 25.64S×29.36E, h10km±27km, MD3.6, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.81**	**42**	*i* P	Pn	13	32 40.6 -4.9
MOPA				*i* S	Sn	13	33 13.6 -5.9
MOPA	**Mopani**	**2.81**	**42**	*i* P	Pn	13	32 40.6 -4.9
MOPA				*i* S	Sn	13	33 13.6 -5.9
MUSN	**Musina, Limpop**	**3.37**	**8**	*i* P	Pn	13	32 51.9 -1.3
MUSN	**Musina, Limpop**	**3.37**	**8**	*i* P	Pn	13	32 51.9 -1.3
LBTB	**Lobatse**	**3.46**	**280**	*i* P	Pn	13	32 52.7 -1.8
LBTB				*i* S	Sn	13	33 29.4 -6.2
LBTB	**Lobatse**	**3.46**	**280**	*i* P	Pn	13	32 52.7 -1.8
LBTB				*i* S	Sn	13	33 29.4 -6.2
BOSA	**Boshof**	**4.70**	**230**	*i* P	Pn	13	33 09.8 -1.8
BOSA				*i* S	Sn	13	33 59.2 -7.0
BOSA	**Boshof**	**4.70**	**230**	*i* P	Pn	13	33 09.8 -1.8
BOSA				*i* S	Sn	13	33 59.2 -7.0

*TAP **27** 13:38:18.4, 22.04N×121.07E, h30km, ML3.1, C*
ISC 27 13:38:18.3±1.0, 22.04N±0.04×121.09E±0.03, h33km±6km, n87, σ0°97/113, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMST	**Manzhou Townsh**	**0.24**	**266**	P	**Pb**	**13**	**38 25.0 -0.2**
	baz=266						
SMST				*e*S	**Sb**	**13**	**38 29.7 -0.2**
	baz=266						
TWKBT	**Hengchun**	**0.28**	**250**	P	**Pb**	**13**	**38 25.6 -0.2**
	baz=247						
TWKBT				S	**Sb**	**13**	**38 30.4 -0.3**
	baz=247						
TWK1	**Hengchun**	**0.28**	**251**	P	**Pb**	**13**	**38 25.6 -0.2**
	baz=247						
TWK1				*i* S	**Sb**	**13**	**38 30.5 -0.4**
	baz=247						
SLIU	**Shizi**	**0.33**	**304**	*i* P	**Pb**	**13**	**38 26.3 -0.1**
	baz=312						
SLIU				*e*S	**Sn**	**13**	**38 32.1 -0.4**
	baz=312						
HEN	**Hengchun**	**0.33**	**265**	*e*P	**Pb**	**13**	**38 26.3 -0.1**
	baz=264						
HEN				S	**Sn**	**13**	**38 32.4 0.0**
	baz=264						
TAWH	**Dawu Township**	**0.36**	**328**	*i* P	**Pb**	**13**	**38 26.8 0.0**
	baz=341						
TAWH				*i* S	**Sb**	**13**	**38 32.6 0.0**
	baz=341						
TAW	**Tawu**	**0.37**	**331**	*i* P	**Pb**	**13**	**38 26.9 -0.1**
	baz=345						
TAW				S	**Sb**	**13**	**38 32.9 +0.1**
	baz=345						
EAST	**Anshuo**	**0.41**	**327⇑**	*i* P	**Pb**	**13**	**38 27.5 -0.1**
	baz=343						
EAST				S	**Sb**	**13**	**38 34.0 0.0**
	baz=343						
LAY	**Lan-yu**	**0.43**	**89**	*i* P	**Pb**	**13**	**38 28.0 +0.2**
	baz=90						
LAY				*e*S	**Sb**	**13**	**38 34.9 +0.6**
	baz=90						
LYUB	**Lan-yu**	**0.46**	**94**	P	**Pb**	**13**	**38 27.4 -0.9**
	baz=84						
LYUB				*e*S	**Sb**	**13**	**38 34.0 -1.0**
	baz=84						
SCZT	**Fangliau**	**0.55**	**308**	*i* P	**Pn**	**13**	**38 29.9 +0.1**
	baz=317						
SCZT				*e*S	**Sn**	**13**	**38 38.2 +0.2**
	baz=317						
ECL	**Taimali**	**0.57**	**347**	P	**Pb**	**13**	**38 29.3 -0.8**
	baz=2.0						
ECL				*e*S	**Sb**	**13**	**38 37.3 -0.9**
	baz=2.0						
MASBT	**Mashibuluo**	**0.71**	**324**	P	**Pb**	**13**	**38 32.2 -0.2**
	baz=335						
LDUT	**Ludao**	**0.72**	**29**	P	**Pb**	**13**	**38 31.7 -0.9**
	baz=42						
LDUT				*e*S	**Sb**	**13**	**38 42.2 -0.1**
	baz=42						
TWGBT	**Beinan**	**0.78**	**359**	P	**Pn**	**13**	**38 32.0 -1.0**
TWGBT	**Beinan**	**0.78**	**359**	*e*P	**Pn**	**13**	**38 32.0 -1.0**
	baz=3.0						
TWG	**Pinlang**	**0.78**	**359**	*e*P	**Pn**	**13**	**38 32.1 -1.0**
	baz=3.0						
TSMG	**Majia**	**0.78**	**328**	*e*P	**Pn**	**13**	**38 33.3 +0.1**
	baz=337						
LONT	**Longtian**	**0.87**	**2**	*e*P	**Pn**	**13**	**38 33.4 -0.8**
	baz=358						
WSSB	**Gushan**	**0.98**	**308**	*e*P	**Pb**	**13**	**38 36.9 +0.1**
	baz=312						
TWM1	**Shoushan**	**1.00**	**322**	*e*P	**Pb**	**13**	**38 38.9 +1.7**
	baz=326						
SCST	**Cishan**	**1.01**	**327**	*e*P	**Pb**	**13**	**38 38.4 +1.0**
	baz=331						
SLGT	**Liugui**	**1.04**	**337**	*e*P	**Pb**	**13**	**38 38.6 +0.8**
	baz=340						
ECS	**Chishang**	**1.06**	**6**	P	**Pn**	**13**	**38 36.8 -0.1**
	baz=12						
ECS				*e*S	**Sn**	**13**	**38 51.0 +0.3**
	baz=12						
CHKT	**Chengkung**	**1.09**	**13**	P	**Pn**	**13**	**38 37.1 -0.2**
	baz=19						
CHKT				*e*S	**Sn**	**13**	**38 51.1 -0.1**
	baz=19						
EHD	**Haiduan**	**1.11**	**5**	*e*P	**Pn**	**13**	**38 36.7 -1.0**
	baz=11						
EHD				*e*S	**Sn**	**13**	**38 50.6 -1.3**
	baz=11						
SGST	**Jiashian**	**1.14**	**336**	*e*P	**Pb**	**13**	**38 39.0 -0.6**
	baz=340						
STYH	**Taoyuan**	**1.17**	**346**	*e*P	**Pb**	**13**	**38 40.0 +0.1**
	baz=349						
FULB	**Fuli**	**1.17**	**9**	*e*P	**Pn**	**13**	**38 38.6 +0.1**
	baz=14						
FULB				*e*S	**Sn**	**13**	**38 54.1 +0.7**
	baz=14						
CHKH	**Chenggong**	**1.19**	**14**	P	**Pn**	**13**	**38 38.4 -0.2**
	baz=19						
CHKH				*e*S	**Sn**	**13**	**38 53.4 -0.2**
	baz=19						
SHHT	**Tainan City**	**1.20**	**325**	*e*P	**Pb**	**13**	**38 39.9 -0.6**
	baz=329						
CHN1	**Nanshi**	**1.26**	**336**	*e*P	**Pb**	**13**	**38 41.5 0.0**
	baz=339						
WTP	**Ta-pu**	**1.28**	**340**	*e*P	**Pb**	**13**	**38 43.0 +1.0**
	baz=344						
SNST	**Tainan City**	**1.30**	**335**	*e*P	**Pb**	**13**	**38 42.0 -0.2**
	baz=339						
EYUL	**Yuli**	**1.32**	**9**	*e*P	**Pn**	**13**	**38 41.0 +0.5**
	baz=13						
TWF1	**Yuli**	**1.32**	**8**	*e*P	**Pn**	**13**	**38 41.0 +0.4**
	baz=12						
TPUB	**Ta-pu**	**1.33**	**341**	P	**Pb**	**13**	**38 42.6 -0.1**
TPUB	**Ta-pu**	**1.33**	**341**	*e*P	**Pb**	**13**	**38 42.7 0.0**
	baz=344						
TWK	**Hsinying**	**1.35**	**336**	*e*P	**Pb**	**13**	**38 42.4 -0.6**
	baz=340						
YULB	**Yu-li**	**1.36**	**8**	P	**Pn**	**13**	**38 41.7 +0.6**
YULB	**Yu-li**	**1.36**	**8**	*e*P	**Pn**	**13**	**38 40.4 -0.7**
	baz=11						
CHN4	**Tsaushan**	**1.39**	**341**	*e*P	**Pb**	**13**	**38 43.3 -0.4**
	baz=344						
TSCK	**Chigu Township**	**1.45**	**320**	*e*P	**Pn**	**13**	**38 42.7 +0.5**
	baz=309						
TSCK				*e*S	**Sn**	**13**	**39 00.7 +0.7**
	baz=309						
WCKO	**Fanlu**	**1.47**	**342**	*e*P	**Pb**	**13**	**38 45.2 +0.1**
	baz=346						
EHY	**Hungye**	**1.48**	**8**	*e*P	**Pn**	**13**	**38 42.1 -0.6**
	baz=22						
HGSD	**Ruisui**	**1.48**	**12**	*e*P	**Pn**	**13**	**38 43.2 +0.5**
	baz=28						
HGSD				*e*S	**Sn**	**13**	**39 02.6 +1.6**
	baz=28						
ALS	**Alishan**	**1.49**	**350**	*e*P	**Pb**	**13**	**38 45.1 -0.5**
	baz=356						
ALS				*e*S	**Sb**	**13**	**39 04.8 +0.5**
	baz=356						
CHN5	**Tsauling**	**1.60**	**346**	*e*P	**Pb**	**13**	**38 46.7 -0.7**
	baz=337						
WHYT	**Xinyi Township**	**1.67**	**352**	*e*P	**Pb**	**13**	**38 47.9 -0.6**
	baz=340						
WARBT	**Fenglin Townsh**	**1.70**	**9**	*e*P	**Pn**	**13**	**38 45.5 -0.2**
	baz=23						
VWDT	**VWDT**	**1.71**	**2**	P	**Pn**	**13**	**38 47.1 +1.2**
	baz=7.0						
VWDT				*e*S

WHP	Taichung City baz=12	2.24	357	*e*P	Pn	13 38 55.1	+1.9
EOS4	EOS4 baz=22	2.36	28	*e*P	Pn	13 38 56.0	+1.5
NNSB	Datong baz=20	2.40	6	*e*P	Pn	13 38 56.5	+1.1
NNS	Nan Shan baz=20	2.41	6	*e*P	Pn	13 38 57.1	+1.5
EWUT	Wuta baz=18	2.48	15	*e*P	Pn	13 38 57.8	+1.4
EOS3	EOS3 baz=19	2.51	26	*e*P	Pn	13 38 58.3	+1.6
LATG	Datong baz=21	2.52	9	*e*P	Pn	13 38 58.2	+1.1
NDT	Datong Townshi baz=21	2.58	9	*e*P	Pn	13 38 59.4	+1.5
NFF	Wufeng Townshi baz=3.0	2.58	1	*e*P	Pn	13 38 59.4	+1.4
NSTT	Nanjuang baz=1.0	2.58	358	*e*P	Pn	13 38 59.4	+1.5
ENTT	Nioudou baz=22	2.63	9	*e*P	Pn	13 38 59.8	+1.3
YHNB	Yeheng	2.63	6	P	Pn	13 39 01.1	+2.4
YHNB	Yeheng baz=354	2.63	6	*e*P	Pn	13 39 00.7	+2.1
NSK	Sanguang baz=353	2.64	5	*e*P	Pn	13 39 00.3	+1.5
FUSB	Fushanzhiwuyua baz=20	2.75	9	*e*P	Pn	13 39 01.6	+1.4
NWLT	Wulai baz=20	2.75	8	*e*P	Pn	13 39 01.8	+1.5
PTMZ	Houxiangcun baz=343	3.50	329	*e*P	Pn	13 39 10.8	+0.4

JMA 27 13:38:23.3±0.0, 22.5N±0.1×121.4E±0.1, h0km, TAIWAN REGION, Taiwan region

IDC 27 13:46:47.2±1.6, 5.80S×142.50E, h0km, mb3.7/2, mbtmp3.6/5, ML3.4/2, MS3.7/1, Error ellipse: s-maj=48.9km s-min=29.9km az=77.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** 4.7nm,0.7s,baz=171,slow=19,SNR=1.5	5.85	128	Pn	Pn	13 48 14.6	-0.6
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=27,slow=13,SNR=10 0.3nm,0.3s	16.14	209	Pn	Pn	13 50 33.6	-2.0
ASAR	**Alice Springs** 0.1nm,0.3s,baz=33,slow=9.5,SNR=16 2.0nm,0.9s	19.59	204	P	Pn	13 51 18.1	-0.3
RPZ	**Rata Peaks** comp=Z,80nm,20.3s,baz=133,slow=36	45.34	151	LR	LR	14 14 00.3	
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=102,slow=8.6,SNR=3.7 0.3nm,0.6s	74.53	322	P	P	13 58 28.1	+0.2
BVAR	**Borovoye Array** 0.6nm,0.6s,baz=116,slow=6.6,SNR=3.6 0.6nm,0.6s	84.00	325	P	P	13 59 19.4	-0.1

SNET 27 13:56:51.8±1.1, 13.52N×90.35W, h33km, ML3.6
GCG 27 13:56:59.1±0.3, 13.95N×90.63W, h43km±10km, MD3.3
ISC 27 13:56:52.0±2.2, 13.4N±0.1×90.34W±0.07, h38km, n10, σ0s73/14, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NUBE	**Las Nubes**	0.74	48	*e*P	Pn	13 57 05.1	-1.0
NUBE				*e*S	Sn	13 57 15.9	-0.3
CEVE	**Cerro Verde**	0.82	59	*e*P	Pn	13 57 06.4	-0.9
CEVE				*e*S	Sn	13 57 18.7	+0.4
JAYA	**Jayaque - finc**	0.91	74	*e*P	Pn	13 57 07.7	-0.7
JAYA				*e*S	Sn	13 57 20.6	+0.3
PCG	**Pacaya**	1.02	345	*e*P	Pn	13 57 10.0	0.0
FUG	**Fuego 3**	1.15	335	*e*P	Pn	13 57 10.9	-0.8
LOMA	**Loma Larga**	1.17	78	*e*P	Pn	13 57 12.0	+0.1
LOMA				*e*S	Sn	13 57 27.7	+1.0
NBG	**Las Nubes**	1.18	360	*e*P	Pn	13 57 13.3	+1.1
SJTE	**Alcalda de S**	1.32	81	*e*P	Pn	13 57 14.2	+0.3
SULM	**Suchitepequez,**	1.49	307	*e*P	Pn	13 57 16.1	-0.1
STG3	**Santiaguito 3,**	1.76	318	*e*P	Pn	13 57 19.7	-0.5

IDC 27 14:13:13.2±38.0, 35.49N×24.81E, h0km, mb3.8/2, mbtmp3.7/3, ML3.9/1, Error ellipse: s-maj=772.8km s-min=44.4km az=28.0, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GERES	**GERESS Array B** 0.2nm,0.3s,baz=143,slow=9.9,SNR=4.6 1.3nm,0.8s	15.66	332	Pn	Pn	14 16 56.0	+0.9
MKAR	**Makanchi Array** 1.4nm,0.7s,baz=276,slow=6.9,SNR=18 1.4nm,0.7s	43.83	57	P	P	14 21 20.8	-0.2
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=275,slow=6.7,SNR=2.3 0.3nm,0.3s	44.98	46	P	P	14 21 29.9	-0.1

IDC 27 14:13:56.3±6.0, 5.86S×141.71E, h0km, mb3.8/3, mbtmp3.7/5, ML3.0/2, Error ellipse: s-maj=233.3km s-min=30.8km az=95.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=26,slow=13,SNR=1.4 0.2nm,0.4s	15.72	206	Pn	Pn	14 17 37.8	-1.6
ASAR	**Alice Springs** 0.1nm,0.3s,baz=31,slow=10,SNR=15 3.1nm,1.0s	19.23	202	P	P	14 18 22.7	+0.4
MKAR	**Makanchi Array** 0.8nm,0.8s,baz=111,slow=6.6,SNR=6.7 0.8nm,0.8s	74.10	322	P	P	14 25 34.8	+0.3
KURBB	**Kurchatov Arra** 0.5nm,0.8s,baz=104,slow=4.9,SNR=3.6 0.5nm,0.8s	78.01	324	P	P	14 25 56.9	+0.2
BVAR	**Borovoye Array** 1.5nm,0.9s,baz=123,slow=5.5,SNR=7.1 1.5nm,0.9s	83.59	325	P	P	14 26 26.2	-0.3

IDC 27 14:38:52.6±2.3, 6.57S×128.72E, h0km, mb3.3/1, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=124.5km s-min=33.1km az=67.0
ISC 27 14:39:08.3±0.9, 6.74S±0.09×129.9E±0.1, h150km, n12, σ2s21/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	4.47	32	P	Pn	14 40 14.5	-0.3
SOEI	**Soe**	6.31	241	P	Pn	14 40 41.3	+1.9
KDU	**Kakadu**	6.44	157	P	Pn	14 40 42.2	+1.3
KNRA	**Kununurra**	8.95	187	P	Pn	14 41 14.2	-0.2
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=337,slow=12,SNR=2.5	13.82	162	Pn	Pn	14 42 17.6	-0.4
WRA				Sn	Sn	14 44 40.1	-11
	0.1nm,0.3s,baz=343,slow=22,SNR=1.5 0.3nm,0.3s						
COEN	**Coen**	14.91	120	P	P	14 42 35.1	+1.5
ASAR	**Alice Springs** 0.2nm,0.3s,baz=346,slow=10,SNR=26	17.27	167	P	P	14 43 00.7	+1.0
ASAR				S	S	14 46 06.9	-5.2
	0.4nm,0.9s,baz=343,slow=27,SNR=2.3 0.5nm,0.4s						
AS01	**Alice Springs**	17.28	167	P	P	14 43 00.9	+1.1
WRKA	**Warakurna**	18.26	185	P	P	14 43 11.3	+0.8
TV1H	**Townsville Har**	20.62	129	P	P	14 43 38.0	+1.9
MULG	**Mulgathing**	23.75	171	P	P	14 44 08.1	+1.2
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=133,slow=7.7,SNR=2.6 0.2nm,0.5s	67.95	327	P	P	14 49 48.6	-2.4

IDC 27 15:01:15.8±1.2, 1.63N×126.77E, h0km, mb4.0/6, mbtmp4.1/6, Error ellipse: s-maj=136.4km s-min=16.4km az=67.0
DJA 27 15:01:26.4±0.5, 2.1N±4.4×127.7E±∗, h111km±8km, M3.9/10, mb4.0/3, mB5.0/2, MLv3.8/10, Mw(mB)4.3/2
NEIC 27 15:01:29.0±0.8, 1.6N±0.2×127.0E±0.6, h110km±12km, mb4.1/12, Error ellipse: s-maj=87.6km s-min=14.9km az=69.0
ISC 27 15:01:26.7±0.8, 1.89N±0.07×127.3E±0.1, h100km, n35, σ1s31/37, mb4.0/11, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	1.11	176	P	Pn	15 01 49.1	+0.7
TNTI	**Ternate**	1.11	176		Pn	15 01 49.0	+0.7
TNTI				Sn	Sn	15 02 06.3	+1.6
TNTI	**Ternate**	1.11	176	P	Pn	15 01 49.1	+0.7
TNTI				S	Sn	15 02 07.3	+2.6
SGSI	**Sangihe**	2.50	316	P	Pn	15 02 05.6	-0.3
SGSI				S	Sn	15 02 34.5	-1.5
LBMI	**Labuha**	2.52	175	P	Pn	15 02 07.2	+1.1
KMSI	**Cibinong**	3.55	248	P	Pn	15 02 20.7	+0.8
SANI	**Sanana**	4.12	198	P	Pn	15 02 26.5	-1.1
SANI	**Sanana**	4.12	198	P	Pn	15 02 26.5	-1.1
GTOI	**Gorontalo**	4.45	254	P	Pn	15 02 33.9	+1.9
NLAI	**Namlea** 14nm,0.5s,3µm0.1nm	5.10	182	P	Pn	15 02 39.8	-1.0
LUWI	**Luwuk** 22nm,1.3s,0.2nm	5.37	237	P	Pn	15 02 44.3	-0.2
MTN	**Manton Dam**	15.12	165	P	P	15 04 56.9	-1.0
TABU	**Tabubil**	15.63	117	P	Pn	15 04 53.7	-7.9
KNRA	**Kununurra**	17.51	175	P	P	15 05 23.7	-0.7
KNRA	**Kununurra**	17.51	175	P	P	15 05 23.6	-0.7
KNRA				IAmb	IAmb	15 05 33.2	
	comp=Z,16nm,1.1s						
FITZ	**Fitzroy Crossi**	19.93	185	P	P	15 05 49.0	-1.7
WB0	**Warramunga Arr** comp=Z,7.2nm,0.5s	22.62	162	P	P	15 06 18.1	-1.3
WB0				IAmb	IAmb	15 06 18.8	
WRAB	**Tennant Creek**	22.77	163	P	P	15 06 19.8	-1.1
WRA	**Warramunga Arr** comp=Z,5.0nm,0.4s,baz=340,slow=11,SNR=71 comp=Z,5.0nm,0.4s	22.77	163	P	P	15 06 19.7	-1.2
WB2	**Warramunga Arr** comp=Z,5.7nm,0.5s	22.78	163	P	P	15 06 19.7	-1.3
WB2				IAmb	IAmb	15 06 20.1	
WR0	**Warramunga Arr** comp=Z,4.4nm,0.8s	22.85	162	P	P	15 06 20.6	-1.1
WR0				IAmb	IAmb	15 06 21.1	
AS31	**Alice Springs**	26.20	166	P	P	15 06 51.2	-1.1
ASAR	**Alice Springs**	26.20	166	P	P	15 06 51.7	-0.6
ASAR	**Alice Springs** comp=Z,0.5nm,0.3s,baz=344,slow=8.1,SNR=42 comp=Z,0.5nm,0.3s	26.20	166	P	P	15 06 51.5	-0.8
WRKA	**Warakurna**	26.78	178	P	P	15 06 53.9	-3.6
BBOO	**Buckleboo**	35.49	167	P	P	15 08 13.1	-0.7
STKA	**Stephens Creek**	36.22	159	P	P	15 08 19.9	-0.2
STKA	**Stephens Creek** comp=Z,3.3nm,0.3s,baz=335,slow=7.7,SNR=19 comp=Z,3.3nm,0.3s	36.22	159	P	P	15 08 19.6	-0.5
SONM	**Songino Array** comp=Z,0.3nm,0.5s,baz=142,slow=7.3,SNR=3.0 comp=Z,0.3nm,0.5s	49.21	341	P	P	15 10 06.6	+1.6
MK31	**Makanchi Array**	59.38	326	P	P	15 11 19.6	+1.0
MK31				IAmb	IAmb	15 11 29.9	
	comp=Z,2.0nm,1.5s						
MKAR	**Makanchi Array**	59.38	326	P	P	15 11 19.6	+1.0
MKAR	**Makanchi Array** comp=Z,0.8nm,0.4s,baz=117,slow=7.8,SNR=29 comp=Z,0.8nm,0.4s	59.38	326	P	P	15 11 19.9	+1.3
MAKZ	**Makanchi**	59.56	326	P	P	15 11 21.1	+1.2
MAKZ				IAmb	IAmb	15 11 21.8	
	comp=Z,1.5nm,1.1s						
KURBB	**Kurchatov Arra** comp=Z,1.0nm,0.6s,baz=130,slow=6.4,SNR=19 comp=Z,1.0nm,0.6s	63.58	328	P	P	15 11 47.6	+0.8
KURK	**Kurchatov**	63.58	328	P	P	15 11 47.1	+0.3

NNC 27 15:15:21.4±3.5, 36.96N×70.68E, h180km±42km, mb2.6, mpv3.6, Error ellipse: s-maj=39.8km s-min=28.4km az=49.0
IDC 27 15:15:26.3±29.0, 37.16N×70.91E, h238km±170km, mb3.6/1, mbtmp3.5/4, MS3.0/1, Error ellipse: s-maj=354.8km s-min=110.4km az=171.0
ISC 27 15:15:15.6±2.7, 36.6N±0.2×70.7E±0.2, h150km, n9, σ1s36/9, 1C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array** 1.7nm,0.3s,baz=170,slow=28,SNR=47	6.49	359	⇓P	Pn	15 16 50.1	+1.3
KK31				S	Sn	15 18 00.7	-1.1
	14nm,0.6s,baz=168,slow=15,SNR=17						
MK31	**Makanchi Array** 0.4nm,0.7s,baz=206,slow=7.3,SNR=3.9	13.37	37	P	Pn	15 18 20.7	+1.2
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=224,slow=8.0,SNR=4.5	13.37	37	P	Pn	15 18 19.9	+0.4
AB31	**Akbulak array** 0.5nm,0.5s,baz=142,slow=12,SNR=23	14.85	332	P	Pn	15 18 39.4	+1.3
KURBB	**Kurchatov Arra** 0.2nm,0.5s,baz=211,slow=10,SNR=2.6	15.11	20	P	Pn	15 18 41.2	-0.1
AKTO	**Aktyubinsk** 1.6nm,0.8s	16.54	331	⇑P	Pn	15 18 58.8	0.0
ZALV	**Zalesovo Beam** 1.1nm,0.6s,baz=219,slow=11,SNR=5.3	19.94	25	P	P	15 19 33.9	-1.7
BRTR	**Keskin Array B** comp=Z,30nm,19.7s,baz=136,slow=43	29.13	288	LR	LR	15 36 22.7	
ARCES	**ARCESS Array B** 3.9nm,1.0s,baz=109,slow=9.9,SNR=2.1 3.9nm,1.0s	40.94	338	P	P	15 22 41.6	-1.3

IDC 27 15:24:25.4±17.0, 6.86S×129.79E, h241km±209km, mb3.1/1, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=145.0km s-min=84.8km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=344,slow=12,SNR=12	13.73	162	P	Pn	15 27 30.8	+0.2
WRA				S	S	15 29 53.4	-9.5
	0.2nm,0.7s,baz=352,slow=22,SNR=1.6 0.3nm,0.3s						
ASAR	**Alice Springs** 0.1nm,0.3s,baz=343,slow=9.5,SNR=16 0.3nm,0.4s	17.17	167	P	P	15 28 09.6	-0.1
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=122,slow=7.5,SNR=7.7 0.3nm,0.4s	68.00	327	P	P	15 34 58.6	0.0

IDC 27 15:35:59.5±2.2, 8.50S×129.74E, h0km, mb3.4/1, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=132.2km s-min=33.0km az=67.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=342,slow=13,SNR=12	12.22	159	Pn	Pn	15 38 55.8	+0.7
WRA				Sn	Sn	15 41 03.9	-8.2
	0.6nm,0.3s,baz=327,slow=23,SNR=13 0.5nm,0.6s						
ASAR	**Alice Springs** 0.1nm,0.3s,baz=339,slow=9.5,SNR=10	15.60	166	Pn	Pn	15 39 40.0	-1.0
ASAR				Sn	Sn	15 42 25.6	-9.2
	0.1nm,0.3s,baz=336,slow=20,SNR=4.5 0.2nm,0.7s						
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=131,slow=7.1,SNR=3.5 0.2nm,0.5s	69.33	327	P	P	15 47 09.0	0.0

IDC 27 15:36:58.8±1.2, 44.80N×106.61W, h0km, mbtmp3.5/2, ML3.2/2, Error ellipse: s-maj=59.1km s-min=9.2km az=138.0
NEIC 27 15:36:58.3±1.1, 45.05N±0.05×106.74W±0.04, h0km±1km, ML2.9/42, Error ellipse: s-maj=9.3km s-min=4.9km az=182.0
ISC 27 15:36:58.7±1.0, 45.08N±0.06×106.68W±0.07, h0km, n33, σ0s73/32, Montana

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAO	**LASA Array**	1.64	11		Pg	15 37 29.9	-0.2
LAO				IAML		15 38 01.7	
	184nm,0.9s						
LAO				IAML		15 38 04.1	
	163nm,0.8s						
RLMT	**Red Lodge**	1.83	272	Pn	Pn	15 37 31.5	-0.2
RLMT				IAML		15 38 02.8	
	73nm,0.9s						
RLMT				IAML		15 38 05.9	
	70nm,0.9s						
RSSD	**Black Hills**	2.12	116		Pb	15 37 37.0	-1.2
RSSD				IAML		15 38 12.9	
	104nm,0.6s						
RSSD				IAML		15 38 15.0	
	117nm,0.9s						
K22A	**Casper**	2.44	177		Pn	15 37 40.3	+0.4
YMP	**Mirror Lake Pl**	2.49	263		Pn	15 37 40.7	-0.2
H17A	**Grant Village**	2.86	257		Pn	15 37 46.7	+0.9
YNR	**Norris Junctio**	2.86	264		Pn	15 37 47.3	+1.4
YNR				IAML		15 38 30.2	
	comp=N,26nm,1.0s						
YNR				IAML		15 38 30.6	
	comp=E,36nm,0.5s						
YHH	**Holmes Hill**	2.98	266	Pn	Pn	15 37 48.6	+1.1
FLWY	**Flagg Ranch**	3.04	252	Pn	Pn	15 37 49.8	+1.6
FLWY				IAML		15 38 58.6	
	comp=E,54nm,1.8s						
FLWY				IAML		15 39 03.8	
	comp=E,36nm,1.5s						
PD31	**Pinedale Array**	3.11	223		Pn	15 37 50.3	+1.0
PDAR	**Pinedale Array**	3.11	223		Pn	15 37 49.8	+0.5
PDAR	**Pinedale Array** comp=E,3.6nm,0.3s,baz=51,slow=18,SNR=98	3.11	223	Pn	Pn	15 37 49.9	+0.6
PDAR				Lg	Lg	15 38 30.5	
	comp=E,2.7nm,0.3s,baz=53,slow=28,SNR=1.6 comp=E,4.9nm,0.3s						
LOHW	**Long Hollow**	3.17	244		Pn	15 37 50.3	+0.2
LOHW				IAML		15 38 51.2	
	comp=E,19nm,1.0s						
MOOW	**Moose Ponds**	3.20	247	Pn	Pn	15 37 50.1	-0.5
IMW	**Indian Meadow**	3.27	250	Pn	Pn	15 37 51.7	+0.2
IMW				IAML		15 38 47.2	
	comp=E,29nm,0.6s						
IMW				IAML		15 38 49.7	
	comp=E,33nm,0.7s						
RWWY	**Rawlins**	3.42	187	Pn	Pn	15 37 53.9	+0.4
RWWY				IAML		15 38 53.0	
	comp=E,33nm,0.6s						
RWWY				IAML		15 38 59.7	
	comp=E,28nm,0.7s						
FXWY	**Fox Creek**	3.44	247		Pn	15 37 53.7	0.0
TPAW	**Teton Pass**	3.46	244	Pn	Pn	15 37 53.6	-0.4
TPAW				IAML		15 39 51.8	
	comp=E,15nm,4.3s						
REDW	**Red Top Meadow**	3.46	242	Pn	Pn	15 37 54.3	+0.3
BOZ	**Bozeman (W)**	3.53	280		Pn	15 37 54.6	-0.3
BOZ				IAML		15 39 07.2	
	comp=E,15nm,1.0s						
EGMT	**Eagleton**	3.62	325	Pn	Pn	15 37 56.7	+0.5
DGMT	**Dagmar**	3.79	26	Pn	Pn	15 37 59.7	+1.2
N23A	**Red Feather La**	4.22	172		Pn	15 38 04.5	-0.1
OVMT	**Ovando**	4.82	296	Pn	Pn	15 38 12.6	-0.1
HWUT	**Hardware Ranch**	4.97	227	Pn	Pn	15 38 15.1	+0.2
HWUT				IAML		15 39 34.1	
	comp=E,13nm,0.8s						
OGNE	**Ogallala**	5.36	139	Pn	Pn	15 38 20.8	+0.8
P18A	**Preston Nutter**	6.06	207	Pn	Pn	15 38 30.1	+0.3
SRU	**San Rafael Swe**	6.62	207	Pn	Pn	15 38 37.6	+0.2
ECSD	**EROS Data Cent**	7.34	97	Pn	Pn	15 38 48.3	+1.2
HMU	**Henry Mountain**	7.76	204	Pn	Pn	15 38 53.0	-0.2
MVCO	**Mesa Verde**	7.99	190	Pn	Pn	15 38 57.0	+0.8
I10CA	**LAC DU BONNET**	8.83	51	I	I	16 30 00.0	
	comp=E,0.1nm,0.9s,baz=235,slow=323,SNR=7.3						
ULM	**Lac du Bonnet**	8.93	51	Pn	Pn	15 39 09.4	+0.5
	comp=E,0.4nm,0.3s,baz=244,slow=11,SNR=8.5						
ULM				Lg	Lg	15 41 36.4	
	comp=E,0.3nm,0.3s,baz=310,slow=16,SNR=2.6 comp=E,1.0nm,0.3s						

GCMT 27 16:08:33.0±0.3, 40.90S±0.04×16.78W±0.03, h15km±1km, MW4.8/101, Moment Tensor Solution. s14,c14; s101,c117; Duration: 0 Moment tensor: Scale 10^{16} Nm; M_{rr}-1.90±.15; $M_{\theta\theta}$0.14±.10; $M_{\phi\phi}$1.76±.11; $M_{r\theta}$-1.46±.27; $M_{r\phi}$-0.08±.06; $M_{\theta\phi}$0.54±.21; Best double couple: $M_0$2.30500×10^{16} NP1:ϕ_s147.00000°,δ62.00000°, λ-117.00000°. NP2:ϕ_s15.00000°,δ38.00000°, λ-49.00000°. Principal axes: T 1.9050, Plg13.0000°, Azm257.0000°; N 0.8010, Plg24.0000°, Azm161.0000°; P -2.7060, Plg62.0000°, Azm12.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Southern Mid-Atlantic Ridge

IDC 27 16:15:03.0±8.2, 17.18S×172.12W, h0km, mb3.4/3, mbtmp3.4/3 Error ellipse: s-maj=354.8km s-min=41.9km az=140.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=97,slow=7.5,SNR=7.3 0.2nm,0.3s	50.66	258	P	P	16 24 04.8	+0.2
ASAR	**Alice Springs** 0.2nm,0.5s,baz=87,slow=8.4,SNR=8.5 0.2nm,0.5s	50.76	253	P	P	16 24 05.0	-0.3
ILAR	**Eielson Array** 0.3nm,0.8s,baz=210,slow=7.1,SNR=2.3 0.3nm,0.8s	83.95	11	P	P	16 27 34.5	-0.1

NIED 27 16:21:00.9, 42.26N×142.52E, h73km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.19; $M_{\theta\theta}$-0.45; $M_{\phi\phi}$-2.74; $M_{r\theta}$1.29; $M_{r\phi}$-1.89; $M_{\theta\phi}$1.50; Fault plane solution: $M_0$4.02000×10^{14} NP1:ϕ_s36.00000°, δ60.00000°, λ97.00000°. NP2:ϕ_s201.00000°, δ31.00000°, λ77.00000°.
JMA 27 16:21:00.9±0.2, 42.3N±0.7×142.5E±0.8, h73km±1km, MV3.5/35, HIDAKA REGION
JMA Felt I J1 at HIDAKA REGION .
SKHL 27 16:21:01.6±0.1, 42.20N×142.50E, h70km±5km, mb4.7/3
NEIC 27 16:21:01.4±0.8, 42.24N±0.03×142.5E±0.1, h72km±8km, mb4.0/17, Error ellipse: s-maj=11.8km s-min=3.3km az=100.0
IDC 27 16:21:02.7±1.8, 42.29N×142.57E, h85km±13km, mb3.6/12, mbtmp3.8/14, MS3.6/7, Error ellipse: s-maj=21.8km s-min=14.2km az=100.0
ISC 27 16:21:01.2±0.7, 42.23N±0.04×142.51E±0.03, h72km±5km, n69, σ0s83/85, mb4.0/20, 12D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSHD	**Hidakashinhida**	0.18	350	*i* P	Pn	16 21 11.6	-0.3
JSHD				S	Sn	16 21 19.9	+0.1
JNBK	**Urakawa-nobuka**	0.19	74	*i* P	Pn	16 21 11.6	-0.4
JNBK				S	Sn	16 21 19.6	-0.2
ERM	**Erimo**	0.53	114		Pn	16 21 14.7	+0.3
ERM				Sn	Sn	16 21 23.6	-0.6
JEM	**Erimo**	0.53	114	*i* P	Pn	16 21 14.8	+0.4
JEM				S	Sn	16 21 26.1	+2.0
JBT2	**Biratori 2**	0.56	349	⇓*i*P	Pn	16 21 14.0	-0.7
JBT2				⇓S	Sn	16 21 23.8	-0.9
JIAM	**Iburiatsuma**	0.59	312	⇓*i*P	Pn	16 21 15.3	+0.3
JIAM				⇓S	Sn	16 21 26.3	+1.2
JCH	**Churui**	0.74	58	*i* P	Pn	16 21 16.6	-0.1
JCH				S	Sn	16 21 27.9	-0.2
JFR	**Furan**	0.94	4	*i* P	Pn	16 21 18.4	-0.6
JFR				S	Sn	16 21 31.6	-0.7
JEW	**Eniwo**	0.99	308	⇓*i*P	Pn	16 21 19.7	+0.1
JEW				⇓S	Sn	16 21 33.8	+0.3
JNB	**Noboribetsu**	1.12	283	⇓*i*P	Pn	16 21 20.2	-1.0
JNB				⇓S	Sn	16 21 34.9	-1.2
JKB	**Kayabe**	1.15	253	⇓*i*P	Pn	16 21 21.3	-0.3
JKB				⇓S	Sn	16 21 36.4	-0.5
JOB	**Onbets**	1.19	55	*i* P	Pn	16 21 22.6	+0.5
JOB				S	Sn	16 21 39.0	+1.2
JAB	**Ashibetsu**	1.29	351	*i* P	Pn	16 21 24.0	+0.5
JAB				S	Sn	16 21 41.8	+1.6
JISS	**Ishikarishitsu**	1.32	323	⇓*i*P	Pn	16 21 23.8	0.0
JISS				⇓S	Sn	16 21 40.9	+0.1
JOT	**Ohata**	1.38	233	P	Pn	16 21 24.6	0.0
JAR	**Ashorobuto**	1.42	41	*i* P	Pn	16 21 24.8	-0.3
JAR				S	Sn	16 21 43.2	+0.1
JTM	**Tenmabayashi**	1.80	217		Pn	16 21 30.6	+0.4
ASAJ	**Asahikawa** 51nm,0.3s,baz=220,slow=12,SNR=290	1.89	2	P	Pn	16 21 32.1	+0.7

JKA	**Kamikawa-asahi**	**1.89**	**2**		**Pn**		16 21 32.0	+0.7
AKK	**Akkeshi**	**1.89**	**65**	*e*P	**Pn**		16 21 31.1	-0.3
AKK				*e*S	**Sn**		16 21 53.3	-1.1
NMR	**Nemuro--Hokkai**	**2.63**	**63**	*e*P	**Pn**		16 21 40.9	-0.4
NMR				*e*S	**Sn**		16 22 10.5	-1.7
YUK	**Yuzh-Kuril'sk**	**3.05**	**53**	*e*P	**Pn**		16 21 48.0	+1.0
YUK				AMB	AMB		16 21 50.0	
	120nm,0.4s							
YUK				*e*S	**Sn**		16 22 22.9	+0.6
YUK				A	A		16 22 32.4	
	310nm,0.5s							
YUK				A	A		16 22 32.4	
	190nm,0.5s							
SHO	**Shikotan**	**3.57**	**61**	*e*P	**Pn**		16 21 53.9	-0.2
SHO				AMB	AMB		16 21 54.3	
	40nm,0.2s							
SHO				*e*S	**Sn**		16 22 32.9	-2.1
SHO				A	A		16 22 33.8	
	90nm,0.2s							
SHO				A	A		16 22 33.8	
	120nm,0.2s							
JMM	**Marumori**	**4.55**	**197**	Pn	**Pn**		16 22 07.7	+0.1
YSS	**Yuzh-Sakhalins**	**4.73**	**2**	Pn	**Pn**		16 22 10.2	+0.3
YSS	**Yuzh-Sakhalins**	**4.73**	**2**	*e*P	**Pn**		16 22 11.9	+2.0
YSS				AMB	AMB		16 22 12.4	
	10.0nm,0.3s							
KUR	**Kuril'sk**	**4.91**	**50**	*e*P	**Pn**		16 22 14.6	+2.2
KUR				*e*S	**Sn**		16 23 08.8	+1.0
KUR				A	A		16 23 17.0	
	50nm,0.3s							
KUR				A	A		16 23 17.0	
	60nm,0.3s							
JSD	**Sado**	**5.30**	**219**	Pn	**Pn**		16 22 18.8	+1.0
MJAR	**Matsushiro Arr**	**6.58**	**212**	P	**Pn**		16 22 38.5	+3.1
	0.6nm,0.4s,baz=6.0,slow=13,SNR=4.1							
PEA0B	**Petropavlovsk-**	**14.90**	**38**	Pn	**Pn**		16 24 27.4	-0.3
PETK	**Petropavlovsk-**	**14.90**	**38**	P	**Pn**		16 24 27.1	-0.6
	1.6nm,0.8s,baz=234,slow=11,SNR=1.5							
SONM	**Songino Array**	**25.96**	**295**	P	**P**		16 26 27.6	+0.6
	0.4nm,0.4s,baz=81,slow=9.7,SNR=2.5							
	0.4nm,0.4s							
C16K	**Lisburne Hills**	**37.71**	**29**	P	**P**		16 28 09.1	-0.1
ZALV	**Zalesovo Beam**	**39.22**	**308**	P	**P**		16 28 21.8	-0.3
ZALV	**Zalesovo Beam**	**39.22**	**308**	P	**P**		16 28 22.3	+0.2
	2.6nm,0.8s,baz=92,slow=6.7,SNR=11							
	2.6nm,0.8s							
E19K	**Redstone Air**	**40.55**	**31**	P	**P**		16 28 33.5	+0.5
E19K				IAmb	IAmb		16 28 35.9	
	comp=Z,3.1nm,1.1s							
B20K	**Meade River**	**40.96**	**27**	P	**P**		16 28 36.1	-0.1
B20K				IAmb	IAmb		16 28 37.2	
	comp=Z,2.1nm,0.9s							
IMAR	**Indian Mountai**	**41.80**	**33**	P	**P**		16 28 43.0	-0.3
MK31	**Makanchi Array**	**42.27**	**298**	P	**P**		16 28 47.4	0.0
MKAR	**Makanchi Array**	**42.27**	**298**	P	**P**		16 28 47.2	-0.1
	comp=Z,0.9nm,0.8s,baz=82,slow=9.4,SNR=8.4							
	comp=Z,0.9nm,0.8s							
D22K	**Ayikyak River**	**42.38**	**29**	P	**P**		16 28 48.0	+0.1
D22K				IAmb	IAmb		16 29 00.6	
	comp=Z,3.1nm,1.4s							
MAKZ	**Makanchi**	**42.47**	**298**	P	**P**		16 28 48.7	-0.3
MAKZ				IAmb	IAmb		16 28 50.8	
	comp=Z,2.3nm,1.0s							
E22K	**Anaktuvuk Pass**	**42.66**	**30**	P	**P**		16 28 49.8	-0.5
E22K				IAmb	IAmb		16 28 51.4	
	comp=Z,1.5nm,0.6s							
KURBB	**Kurchatov Arra**	**43.63**	**304**	P	**P**		16 28 58.3	0.0
	comp=Z,2.6nm,0.5s,baz=76,slow=8.7,SNR=16							
	comp=Z,2.6nm,0.5s							
ILAR	**Eielson Array**	**44.71**	**35**	P	**P**		16 29 06.7	0.0
	comp=Z,0.5nm,0.9s,baz=278,slow=6.9,SNR=6.2							
	comp=Z,0.5nm,0.9s							
K27K	**Chicken**	**46.88**	**36**	P	**P**		16 29 24.2	+0.4
BVAR	**Borovoye Array**	**47.83**	**309**	P	**P**		16 29 31.6	+0.3
	comp=Z,2.7nm,0.4s,baz=74,slow=9.0,SNR=24							
BVAR				LR	LR		16 53 15.0	
	comp=Z,24nm,19.1s,baz=20,slow=40							
	comp=Z,2.7nm,0.4s							
BRVK	**Borovoye**	**47.88**	**309**	P	**P**		16 29 32.0	+0.3
BRVK				IAmb	IAmb		16 29 32.8	
	comp=Z,1.5nm,0.7s							
AAK	**Ala-Archa**	**48.92**	**295**	P	**P**		16 29 39.7	-0.4
AAK				IAmb	IAmb		16 29 56.6	
	comp=Z,2.2nm,1.1s							
I30M	**Mount Dempster**	**49.03**	**33**	P	**P**		16 29 40.7	+0.1
ARSB	**Arslanbob**	**50.49**	**294**	P	**P**		16 29 52.5	+0.4
ABKAR	**Akbulak array**	**55.33**	**308**	P	**P**		16 30 27.3	0.0
RES	**Resolute Bay**	**57.37**	**15**	P	**P**		16 30 40.6	-0.8
RES				IAmb	IAmb		16 30 41.0	
	comp=Z,2.3nm,1.1s							
RES	**Resolute Bay**	**57.37**	**15**	P	**P**		16 30 41.0	-0.4
	comp=Z,1.2nm,0.5s,baz=293,slow=6.7,SNR=8.1							
	comp=Z,1.2nm,0.5s							
WB0	**Warramunga Arr**	**62.14**	**189**	P	**P**		16 31 14.9	+0.2
GEYT	**Alibeck**	**62.14**	**297**	P	**P**		16 31 14.6	-0.2
GEYT				IAmb	IAmb		16 31 15.5	
	comp=Z,1.6nm,0.8s							
WRA	**Warramunga Arr**	**62.32**	**189**	P	**P**		16 31 15.6	-0.3
	comp=Z,0.3nm,0.7s,baz=5.6,slow=6.9,SNR=5.5							
	comp=Z,0.3nm,0.7s							
PALK	**Pallekele**	**64.39**	**256**	LR	LR		17 02 47.0	
	comp=Z,65nm,18.0s,baz=338,slow=39							
FIA1	**FINESS Array S**	**64.63**	**332**	P	**P**		16 31 30.0	-0.7
FINES	**FINESS Array B**	**64.63**	**332**	P	**P**		16 31 30.0	-0.8
FINES	**FINESS Array B**	**64.63**	**332**	P	**P**		16 31 30.4	-0.3
	comp=Z,1.1nm,0.5s,baz=52,slow=6.6,SNR=10							
	comp=Z,1.1nm,0.5s							
ASAR	**Alice Springs**	**66.04**	**189**	P	**P**		16 31 41.3	+1.0
	comp=Z,0.2nm,0.7s,baz=7.8,slow=7.5,SNR=1.4							
	comp=Z,0.2nm,0.7s							
GNI	**Garni**	**69.32**	**306**	LR	LR		17 05 20.7	
	comp=Z,65nm,19.7s,baz=232,slow=38							
HFS	**Hagfors**	**69.71**	**335**	P	**P**		16 32 02.6	-0.3
	comp=Z,1.2nm,0.6s,baz=23,slow=8.0,SNR=5.8							
HFS				LR	LR		17 06 39.3	
	comp=Z,46nm,18.7s,baz=242,slow=39							
	comp=Z,1.2nm,0.6s							
NOA	**NORSAR Array B**	**69.73**	**337**	P	**P**		16 32 02.4	-0.7
	comp=Z,1.1nm,0.8s,baz=36,slow=6.1,SNR=3.6							
	comp=Z,1.1nm,0.8s							
SFJD	**Kangerlussuaq**	**70.64**	**5**	LR	LR		17 04 29.2	
	comp=Z,33nm,18.2s,baz=154,slow=37							
AKASG	**Malin Array Be**	**70.72**	**322**	LR	LR		17 07 45.7	
	comp=Z,46nm,18.1s,baz=224,slow=40							
BURAR	**Bucovina Array**	**74.77**	**321**	P	**P**		16 32 34.0	+0.5
TXAR	**Lajitas Array**	**86.31**	**53**	LR	LR		17 10 15.4	
	comp=Z,16nm,20.9s,baz=125,slow=34							

NIED ***27*** *16:36:13.6, 33˙05N×138˙07E, h346km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr0.24; Mθθ-0.27; Mφφ0.03; Mrθ-0.42; Mθφ-0.52; Mφr-1.08; Fault plane solution: M₀1.29000×10¹⁶ NP1: φs200.00000°, δ83.00000°, λ68.00000°. NP2:φs94.00000°, δ23.00000°, λ162.00000°.*

JMA ***27*** *16:36:13.6±0.3, 33˚N±1˚×13˚8E±˚, h346km±2km, MD4.4/39, MV4.4/39, FAR S OFF TOKAI DISTRICT*

IDC ***27*** *16:36:14.7±0.4, 33˙03N×137˙96E, h329km±3km, mb3.7/26, mbtmp4.4/32, Error ellipse: s-maj=8.6km s-min=7.7km az=64.0*

NEIC ***27*** *16:36:14.9±1.1, 32˙99N±0˙08×137˙86E±0˙09, h329km±6km, mb4.3/144, Error ellipse: s-maj=11.2km s-min=10.3km az=154.0*

MOS ***27*** *16:36:14.0±0.9, 33˙02N×137˙87E, h336km, mb4.2/29, Error ellipse: s-maj=8.2km s-min=5.0km az=103.2*

ISC 27 16:36:14.6±0.4, 33.00N±0.04×137.94E±0.04, h330km±3km, h331km; pP-P, n592, σ1930/626, mb4.2/120, 15C-7D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTO3	**TONANKAI O.B.S**	**0.98**	**332**	*e*P	**Pn**	**16 36 59.8**	**+1.9**
TTO3				S	S	**16 37 35.0**	**+2.5**
TTO3	**TONANKAI O.B.S**	**0.98**	**332**	A	A	16 36 59.8	
	comp=E,13nm,2.3s,comp=N,17nm,2.6s						
TTO2	**TONANKAI O.B.S**	**1.06**	**314**	P	**Pn**	**16 37 00.0**	**+2.0**
TTO4	**TONANKAI O.B.S**	**1.06**	**342**	P	**Pn**	**16 36 59.7**	**+1.6**
TTO4				S	**S**	**16 37 35.1**	**+2.1**
TTO1	**TONANKAI O.B.S**	**1.15**	**303**	P	**Pn**	**16 37 00.1**	**+1.6**
TTO5	**TONANKAI O.B.S**	**1.27**	**352**	*e*P	**Pn**	**16 37 00.7**	**+1.5**
TTO5				S	**S**	**16 37 37.0**	**+2.1**
JHJ	**Hachijo jima 2**	**1.55**	**85**	P	**Pn**	**16 37 01.7**	**+0.7**
	comp=N,306nm,0.4s,baz=114,slow=20,SNR=94						
JHJ				S	**S**	**16 37 36.6**	**-1.6**
	comp=N,195nm,0.3s,baz=241,slow=22,SNR=5.0						
JHJ2	**Mitsune**	**1.58**	**85**	P	**Pn**	**16 37 01.4**	**+0.2**
JHJ2	**Mitsune**	**1.58**	**85**	Pn	**Pn**	**16 37 01.1**	**-0.1**
JHJ2	**Mitsune**	**1.58**	**85**	P	**Pn**	**16 37 01.4**	**+0.2**
JAOM	**Aogashimamukai**	**1.62**	**109**	⇓*i*P	**Pn**	**16 37 02.6**	**+1.0**
JSG	**Sagara**	**1.69**	**7**	P	**Pn**	**16 37 03.0**	**+1.2**
JSG	**Sagara**	**1.69**	**7**	P	**Pn**	**16 37 03.4**	**+1.6**
JSG	**Sagara**	**1.69**	**7**	Pn	**Pn**	**16 37 02.4**	**+0.6**
JMYK	**Miyake Tsubota**	**1.71**	**51**	A	A	16 37 02.1	
	comp=E,7.0nm,2.1s,comp=N,5.0nm,1.5s						
JIE	**Ise**	**1.73**	**324**	*i* P	**Pn**	**16 37 03.2**	**+1.1**
JIE					S	**16 37 40.8**	**+0.6**
JKKS	**Kakegawashinom**	**1.75**	**1**	A	A	16 37 02.7	
	comp=E,6.0nm,3.8s,comp=N,4.0nm,1.9s						
JAA	**Atsumi**	**1.76**	**338**	A	A	16 37 03.1	
	comp=E,3.0nm,2.8s,comp=N,2.0nm,2.4s						
HMMJ	**Hamamatsu 2**	**1.86**	**354**	A	A	16 37 03.5	
	comp=E,3.0nm,3.0s,comp=N,2.0nm,3.1s						
JIZS	**Izushimoda**	**1.89**	**24**	A	A	16 37 03.3	
	comp=E,2.0nm,4.1s,comp=N,3.0nm,4.2s						
SHZ3	**Shizuoka 3**	**2.08**	**6**	A	A	16 37 04.8	
	comp=E,4.0nm,4.0s,comp=N,4.0nm,1.8s						
JTNC	**Tanabenakahech**	**2.12**	**293**	*i* P	**Pn**	**16 37 05.7**	**+0.8**
JTNC				S	**S**	**16 37 45.4**	**+0.2**
JWY	**Kouya**	**2.31**	**303**	*i* P	**Pn**	**16 37 07.7**	**+1.2**
JWY				S	**S**	**16 37 49.1**	**+1.0**
JOD2	**Odawara 2**	**2.46**	**22**	*i* P	**Pn**	**16 37 07.8**	**+0.2**
JOD2				S	**S**	**16 37 49.7**	**-0.4**
INU	**Inuyama**	**2.47**	**342**	P	**Pn**	**16 37 08.3**	**+0.6**
INU	**Inuyama**	**2.47**	**342**	Pn	**Pn**	**16 37 08.4**	**+0.8**
JYN	**Shimob**	**2.55**	**11**	P	**Pn**	**16 37 09.1**	**+0.7**
JGF	**Kuroka**	**2.64**	**350**	P	**Pn**	**16 37 09.7**	**+0.4**
JGF	**Kuroka**	**2.64**	**350**	P	**Pn**	**16 37 09.6**	**+0.4**
JGF	**Kuroka**	**2.64**	**350**	Pn	**Pn**	**16 37 09.7**	**+0.4**
JYTA	**Yamagatataniai**	**2.78**	**339**	*i* P	**Pn**	**16 37 11.2**	**+0.8**
JYTA				S	**S**	**16 37 56.0**	**+0.9**
BSO1	**Boso 1**	**3.02**	**56**	P	**Pn**	**16 37 10.4**	**-1.6**
BSO1				S	**S**	**16 37 54.9**	**-3.3**
JAI	**Aioi**	**3.02**	**286**	*i* P	**Pn**	**16 37 13.5**	**+0.9**
JAI				S	**S**	**16 37 59.2**	**0.0**
TOK	**Tokyo**	**3.08**	**29**	A	A	16 37 12.7	
	comp=E,6.0nm,0.3s,comp=N,8.0nm,0.3s						
JWT	**Wachi**	**3.10**	**318**	*i* P	**Pn**	**16 37 14.2**	**+0.8**
JWT				S	**S**	**16 38 01.0**	**+0.4**
JRY	**Ryogami san**	**3.12**	**14**	⇓P	**Pn**	**16 37 13.9**	**+0.4**
JRY				⇓S	**S**	**16 37 59.6**	**-1.3**
JMN	**Monobe**	**3.48**	**283**	P	**Pn**	**16 37 17.7**	**+0.7**
JMN	**Monobe**	**3.48**	**283**	P	**Pn**	**16 37 17.8**	**+0.7**
JMN	**Monobe**	**3.48**	**283**	Pn	**Pn**	**16 37 18.0**	**+0.9**
JMN	**Monobe**	**3.48**	**283**	*i* P	**Pn**	**16 37 18.1**	**+1.0**
JMN				S	**S**	**16 38 07.1**	**-0.2**
JKG	**Kaga**	**3.53**	**338**	P	**Pn**	**16 37 18.0**	**+0.5**
MJAR	**Matsushiro Arr**	**3.54**	**3**	P	**Pn**	**16 37 17.6**	**-0.1**
	comp=N,56nm,0.7s,baz=188,slow=9.9,SNR=103						
MJAR				S	**S**	**16 38 07.0**	**-1.5**
	comp=N,26nm,0.8s,baz=170,slow=16,SNR=7.2						
MAJO	**Matsushiro**	**3.55**	**3**	P	**Pn**	**16 37 17.7**	**0.0**
MAJO	**Matsushiro**	**3.55**	**3**	P	**Pn**	**16 37 17.8**	**0.0**
MAJO	**Matsushiro**	**3.55**	**3**	Pn	**Pn**	**16 37 17.6**	**0.0**
MAJO	**Matsushiro**	**3.55**	**3**	*c i* P	**Pn**	**16 37 17.8**	**0.0**
MAT	**Matsushiro**	**3.55**	**3**	P	**Pn**	**16 37 17.9**	**+0.2**
MAT				S	**S**	**16 38 06.7**	**-1.7**
MJB9	**Matsu-Tunnel**	**3.55**	**3**	Pn	**Pn**	**16 37 18.5**	**+0.8**
JAG	**Ashikaga**	**3.64**	**20**	P	**Pn**	**16 37 17.1**	**-1.5**
JAG				S	**S**	**16 38 06.3**	**-3.8**
JTO	**Tosashimizu**	**4.32**	**270**	P	**Pn**	**16 37 26.8**	**+0.9**
JHS	**Saijyo**	**4.48**	**298**	*i* P	**Pn**	**16 37 28.5**	**+0.9**
JHS				*e*S	**S**	**16 38 27.1**	**+0.8**
JSD	**Sado**	**5.04**	**3**	P	**Pn**	**16 37 33.1**	**-0.5**
JSD	**Sado**	**5.04**	**3**	P	**Pn**	**16 37 33.6**	**0.0**
JSD	**Sado**	**5.04**	**3**	Pn	**Pn**	**16 37 32.1**	**-1.5**
JMM	**Marumori**	**5.39**	**25**	P	**Pn**	**16 37 36.3**	**-1.3**
JMM	**Marumori**	**5.39**	**25**	P	**Pn**	**16 37 36.6**	**-1.0**
JMM	**Marumori**	**5.39**	**25**	Pn	**Pn**	**16 37 36.0**	**-1.6**
JNU	**Nakatsue**	**5.93**	**273**	P	**Pn**	**16 37 44.7**	**+0.7**
JNU	**Nakatsue**	**5.93**	**273**	P	**Pn**	**16 37 44.9**	**+0.9**
JNU	**Nakatsue**	**5.93**	**273**	Pn	**Pn**	**16 37 43.9**	**-0.1**
JNU	**Nakatsue**	**5.93**	**273**	P	**Pn**	**16 37 45.1**	**+1.1**
	comp=N,66nm,0.9s,baz=77,slow=7.0,SNR=48						
JNU				S	**S**	**16 38 55.4**	**-0.9**
	comp=N,59nm,1.2s,baz=26,slow=16,SNR=6.7						
JCJ	**Chichijima**	**6.93**	**147**	P	**Pn**	**16 37 53.2**	**-2.6**
JCJ	**Chichijima**	**6.93**	**147**	Pn	**Pn**	**16 37 51.1**	**-4.7**
JTM	**Tenmabayashi**	**8.17**	**17**	P	**Pn**	**16 38 11.2**	**+0.9**
KSRS	**Korea Array**	**9.32**	**301**	P	**Pn**	**16 38 25.6**	**+1.4**
	comp=N,20nm,0.6s,baz=111,slow=13,SNR=91						
TJN	**Taejon**	**9.34**	**294**	P	**Pn**	**16 38 25.5**	**+1.0**
TJN	**Taejon**	**9.34**	**294**	P	**P**	**16 38 26.1**	**-1.3**
TJN	**Taejon**	**9.34**	**294**	Pn	**Pn**	**16 38 24.8**	**+0.3**
TJN	**Taejon**	**9.34**	**294**	*ce*P	**Pn**	**16 38 25.5**	**+1.0**
KSAR	**Wonju Array Be**	**9.35**	**301**	Pn	**Pn**	**16 38 25.0**	**+0.4**
KSAR	**Wonju Array Be**	**9.35**	**301**	P	**Pn**	**16 38 25.0**	**+0.4**
KS19	**Wonju Array Si**	**9.38**	**301**		**Pn**	**16 38 24.5**	**-0.6**
ERM	**Erimo**	**9.91**	**23**	P	**Pn**	**16 38 32.2**	**+0.9**
ERM	**Erimo**	**9.91**	**23**	Pn	**Pn**	**16 38 30.8**	**-0.5**
ERM	**Erimo**	**9.91**	**23**	*i* P	**Pn**	**16 38 31.0**	**-1.2**
JEM	**Erimo**	**9.91**	**23**	P	**Pn**	**16 38 32.3**	**+1.0**
INCN	**Inchon**	**10.27**	**299**	P	**Pn**	**16 38 36.7**	**+0.9**
INCN	**Inchon**	**10.27**	**299**	P	**P**	**16 38 37.5**	**-0.3**
INCN	**Inchon**	**10.27**	**299**	P	**Pn**	**16 38 36.0**	**+0.2**
INCN	**Inchon**	**10.27**	**299**	P	**Pn**	**16 38 36.0**	**+0.2**
MSHR	**Mys Shultsa**	**10.97**	**333**	*ce*P	**Pn**	**16 38 43.5**	**-0.5**
MSHR				pmax	pmax		
	comp=Z,64nm,1.0s						
ASAJ	**Asahikawa**	**11.68**	**17**	P	**Pn**	**16 38 52.4**	**-0.3**
	comp=Z,2.5nm,0.3s,baz=219,slow=12,SNR=19						
ASAJ				S	**S**	**16 40 55.2**	**-7.8**
	comp=Z,6.1nm,0.5s,baz=333,slow=9.0,SNR=2.0						
JKA	**Kamikawa-asahi**	**11.68**	**17**	P	**Pn**	**16 38 51.6**	**-1.1**
NMR	**Nemuro--Hokkai**	**12.03**	**28**	*e*P	**P**	**16 38 57.2**	**+0.1**
NMR				*e*S	**S**	**16 41 06.4**	**-4.1**
TEY	**Ternei**	**12.07**	**355**	*e*P	**P**	**16 38 58.0**	**+0.4**
USA0B	**Ussuriysk Arra**	**12.11**	**339**		**Pn**	**16 38 57.2**	**-0.5**
USA0B	**Ussuriysk Arra**	**12.11**	**339**	*i* P	**Pn**	**16 38 57.5**	**-0.3**
USRK	**Ussuriysk Ar.**	**12.11**	**339**		**Pn**	**16 38 57.0**	**-0.8**
USRK	**Ussuriysk Ar.**	**12.11**	**339**	P	**Pn**	**16 38 57.5**	**-0.3**
	comp=Z,21nm,0.6s,baz=144,slow=9.9,SNR=84						
RUSJ	**Misakicho**	**12.47**	**25**	*e*P	**P**	**16 39 03.8**	**+1.7**
RUSJ				*e*S	**S**	**16 41 19.0**	**-1.1**
YUK	**Yuzh-Kuril'sk**	**12.64**	**27**	*e*P	**Pn**	**16 39 05.1**	**+1.1**
YUK				*e*S	**S**	**16 41 22.5**	**-1.1**
SHO	**Shikotan**	**12.89**	**30**	P	**Pn**	**16 39 08.9**	**+1.9**
SHO				*e*S	**S**	**16 41 27.5**	**-1.4**
MDJ	**Mudanjiang**	**13.29**	**333**	P	**P**	**16 39 14.0**	**-0.3**
MDJ	**Mudanjiang**	**13.29**	**333**	P	**Pn**	**16 39 13.9**	**+2.2**
MDJ	**Mudanjiang**	**13.29**	**333**	P	**P**	**16 39 11.1**	**-0.1**
YSS	**Yuzh-Sakhalins**	**14.42**	**13**	P	**Pn**	**16 39 26.5**	**+1.5**
YSS	**Yuzh-Sakhalins**	**14.42**	**13**	P	**P**	**16 39 23.3**	**-0.2**
YSS	**Yuzh-Sakhalins**	**14.42**	**13**	*e*P	**Pn**	**16 39 25.6**	**+0.6**
YSS				pmax	pmax		
	comp=Z,30nm,1.2s						
CN2	**Changchun**	**14.55**	**321**	P	**P**	**16 39 25.0**	**-0.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BNX	**BinXian**	**15.09**	**331**	⇓P	**P**	**16 39 30.0**	**-0.9**
BNX				pmax	pmax		
	comp=Z,21nm,1.0s						
BNX				pmax	pmax		
	comp=Z,60nm,6.9s						
YOJ	**Yonaguni jima**	**15.60**	**241**	P	**P**	**16 39 36.2**	**-0.6**
YOJ	**Yonaguni jima**	**15.60**	**241**	P	**P**	**16 39 36.2**	**-0.6**
YOJ				pmax	pmax		
	comp=Z,138nm,1.4s						
YHNB	**Yeheng**	**16.70**	**244**	P	**P**	**16 39 47.7**	**-1.1**
KLR	**Kul'dur**	**16.87**	**346**	*ce*P	**P**	**16 39 49.0**	**-1.2**
KLR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KLR	**Kul'dur**	**16.87**	**346**	P	**P**	**16 39 49.5**	**-0.6**
	comp=Z,6.2nm,0.6s,baz=173,slow=9.1,SNR=32						
TIA	**Tai'an**	**17.43**	**286**	P	**P**	**16 39 56.5**	**0.0**
TIA				pmax	pmax		
	comp=Z,11nm,1.6s						
YULB	**Yu-li**	**17.50**	**241**	P	**P**	**16 39 57.1**	**-0.2**
SSLB	**Suanglung**	**17.52**	**243**	P	**P**	**16 39 58.0**	**+0.5**
SSLB	**Suanglung**	**17.52**	**243**	P	**P**	**16 39 57.0**	**-0.6**
SSLB				IAmb	IAmb	16 40 22.5	
	comp=Z,35nm,1.5s						
TWGBT	**Beinan**	**18.00**	**240**	P	**P**	**16 40 03.2**	**+0.5**
TPUB	**Ta-pu**	**18.04**	**242**	P	**P**	**16 40 03.8**	**+0.7**
BJT	**Baijiatuao**	**18.83**	**298**	P	**P**	**16 40 10.9**	**-0.4**
BJT	**Baijiatuao**	**18.83**	**298**	P	**P**	**16 40 10.8**	**-0.5**
BJT	**Baijiatuao**	**18.83**	**298**	P	**P**	**16 40 10.8**	**-0.5**
BJT	**Baijiatuao**	**18.83**	**298**	P	**P**	**16 40 10.8**	**-0.5**
BJT				pmax	pmax		
	comp=Z,116nm,1.1s						
HEH	**HeiHe**	**18.92**	**339**	*e*P	**P**	**16 40 10.5**	**-1.6**
HEH				pmax	pmax		
	comp=Z,24nm,0.9s						
HEH				pmax	pmax		
	comp=Z,100nm,5.8s						
HNS	**HongShan**	**19.48**	**290**	⇓P	**P**	**16 40 16.0**	**-2.2**
HNS				pmax	pmax		
	comp=Z,24nm,1.1s						
WHN	**Wuhan**	**20.20**	**269**	⇑P	**P**	**16 40 25.8**	**+0.1**
XLT	**XiLinHaoTe**	**20.23**	**309**	*e*P	**P**	**16 40 22.5**	**-3.4**
XLT				pmax	pmax		
	comp=Z,11nm,1.0s						
XLT				pmax	pmax		
	comp=Z,83nm,6.2s						
HIA	**Hailar**	**21.18**	**326**	P	**P**	**16 40 33.5**	**-1.1**
LYN	**LuoYang**	**21.22**	**281**	⇑P	**P**	**16 40 34.5**	**-0.6**
LYN				pmax	pmax		
	comp=Z,46nm,1.3s						
TIY	**Taiyuan**	**21.30**	**290**	⇑P	**P**	**16 40 36.3**	**+0.4**
HHC	**Hu-ho-hao-te**	**22.44**	**298**	*e*P	**P**	**16 40 46.0**	**-0.3**
HHC				pmax	pmax		
	comp=Z,27nm,0.9s						
XAN	**Xi'an**	**24.19**	**281**	⇓P	**P**	**16 41 01.5**	**-0.6**
XAN				pmax	pmax		
	comp=Z,44nm,0.8s						
XAN				pmax	pmax		
	comp=Z,190nm,3.8s						
ENH	**Enshi**	**24.35**	**271**	P	**P**	**16 41 03.3**	**-0.3**
ENH	**Enshi**	**24.35**	**271**	P	**P**	**16 41 03.2**	**-0.3**
PETK	**Petropavlovsk-**	**24.60**	**29**	P	**P**	**16 41 05.9**	**+0.4**
	comp=Z,5.0nm,1.0s,baz=264,slow=7.5,SNR=6.9						
	comp=Z,5.0nm,1.0s						
ULN	**Ulaanbaatar**	**27.59**	**312**	P	**P**	**16 41 31.7**	**-0.7**
ULN				IAmb	IAmb	16 41 37.2	
	comp=Z,13nm,0.8s						
ULN	**Ulaanbaatar**	**27.59**	**312**	*ce*P	**P**	**16 41 32.7**	**+0.4**
ULN				pmax	pmax		
	comp=Z,33nm,1.7s						
SONM	**Songino Array**	**27.99**	**311**	P	**P**	**16 41 36.0**	**+0.1**
SONM				IAmb	IAmb	16 41 40.8	
	comp=Z,29nm,1.4s						
SONM	**Songino Array**	**27.99**	**311**	P	**P**	**16 41 36.0**	**+0.1**
SONM				pmax	pmax		
	comp=Z,29nm,1.4s						
SONM	**Songino Array**	**27.99**	**311**	P	**P**	**16 41 36.6**	**+0.7**
	comp=Z,7.8nm,0.6s,baz=118,slow=8.8,SNR=28						
SONM				pP	**pP**	**16 42 39.7**	**+1.9**
	comp=Z,8.3nm,1.0s,baz=116,slow=9.4,SNR=7.4						
	comp=Z,7.8nm,0.6s						
LZH	**Lanzhou**	**28.17**	**286**	*e*P	**P**	**16 41 37.8**	**+0.1**
LZH				pP	PP	16 42 49.5	+0.4
LZH				pmax	pmax		
	comp=Z,16nm,1.4s						
CD2	**Chengdu**	**29.01**	**275**	P	**P**	**16 41 44.0**	**-1.0**
CD2				pmax	pmax		
	comp=Z,40nm,0.5s						
YAK	**Yakutsk**	**29.53**	**352**	P	**P**	**16 41 48.6**	**-0.4**
YAK				IAmb	IAmb	16 41 49.9	
	comp=Z,9.4nm,0.6s						
YAK	**Yakutsk**	**29.53**	**352**	*ce*P	**P**	**16 41 47.

KURK pmax pmax
comp=Z,15nm,0.7s
KURBB **Kurchatov Arra** 46.35 311 P P 16 44 08.0 -0.4
comp=Z,9.3nm,0.5s,baz=91,slow=6.4,SNR=42
KURBB pP pP 16 45 15.8 0.0
comp=Z,3.0nm,1.0s,baz=90,slow=8.3,SNR=1.9
comp=Z,9.3nm,0.5s
F14K **Arctic Creek** 46.37 28 P P 16 44 10.2 +2.0
baz=254
ANM **Nome** 46.51 30 P P 16 44 11.3 +1.9
baz=256
S12K **Black Hills** 46.79 42 P P 16 44 13.4 +1.6
baz=267
J14K **Nanvaranak Lak** 46.90 33 P P 16 44 14.5 +2.1
baz=259
COEN **Coen** 46.95 173 P P 16 44 13.8 +0.4
COEN **Coen** 46.95 173 P P 16 44 13.3 -0.1
COEN IAmb IAmb 16 44 15.1
comp=Z,24nm,1.2s
L14K **Kuka Creek** 47.06 35 P P 16 44 15.6 +2.0
baz=261
F15K **North Star Dit** 47.10 28 P P 16 44 16.2 +2.2
baz=255
G15K **Niukluk** 47.17 29 P P 16 44 16.7 +2.2
baz=256
M14K **Bethel** 47.32 35 P P 16 44 17.8 +2.2
baz=262
C16K **Lisburne Hills** 47.57 25 P P 16 44 18.0 +0.6
C16K **Lisburne Hills** 47.57 25 P P 16 44 19.0 +1.6
baz=252
SDPT **Sand Point** 47.68 43 P P 16 44 18.7 +0.3
K15K **Wolf Creek Mou** 47.75 33 P P 16 44 20.7 +1.8
baz=261
H16K **Elim** 47.85 30 P P 16 44 21.5 +1.9
baz=259
M15K **Kasigluk River** 47.94 36 P P 16 44 21.7 +1.4
baz=264
G16K **Koyuk River** 47.96 29 P P 16 44 22.2 +1.8
baz=258
N15K **Kwethluk River** 48.17 36 P P 16 44 23.8 +1.6
baz=265
D17K **Noatak River** 48.22 26 P P 16 44 24.1 +1.7
baz=255
O15K **Ungalikthiuk R** 48.23 38 P P 16 44 24.3 +1.7
baz=266
I17K **Unalakleet** 48.37 31 P P 16 44 24.9 +1.3
baz=261
C17K **DeLong Mountai** 48.39 25 P P 16 44 25.5 +1.8
baz=254
E17K **Hotham Inlet** 48.54 27 P P 16 44 26.5 +1.7
baz=257
F17K **Baldwin Pennin** 48.62 28 P P 16 44 26.8 +1.3
F17K IAmb IAmb 16 44 28.1
comp=Z,9.1nm,0.6s
F17K **Baldwin Pennin** 48.62 28 P P 16 44 27.3 +1.9
baz=258
L16K **Owhat River** 48.63 34 P P 16 44 27.0 +1.4
baz=264
G17K **Kiwalik Mounta** 48.67 29 P P 16 44 27.6 +1.7
baz=259
M16K **Timber Creek** 48.81 35 P P 16 44 28.7 +1.7
baz=265
CHGN **Chignik** 48.86 42 P P 16 44 27.2 -0.1
CHGN IAmb IAmb 16 44 40.0
comp=Z,30nm,1.1s
N16K **Nishlik Lake** 48.86 36 P P 16 44 29.3 +1.9
baz=266
H17K **Granite Mounta** 48.88 30 P P 16 44 29.2 +1.7
baz=261
E18K **Tukpahlearik C** 49.08 27 P P 16 44 31.0 +2.1
baz=258
B18K **Kokolik River** 49.11 24 P P 16 44 31.1 +2.0
baz=255
NRN **Naryn** 49.12 299 P P 16 44 29.5 -0.5
NRN **Naryn** 49.12 299 P P 16 44 29.5 -0.5
NRN pmax pmax
comp=Z,7.0nm,1.4s
O16K **Kokwok River B** 49.14 37 P P 16 44 31.0 +1.6
baz=267
C18K **Utukok River** 49.14 25 P P 16 44 30.6 +1.2
C18K IAmb IAmb 16 44 31.4
comp=Z,5.0nm,0.6s
C18K **Utukok River** 49.14 25 P P 16 44 31.0 +1.5
baz=256
KNRA **Kununurra** 49.19 192 P P 16 44 30.7 +0.4
KNRA **Kununurra** 49.19 192 P P 16 44 29.8 -0.4
KNRA IAmb IAmb 16 44 44.8
comp=Z,33nm,1.5s
L17K **Donlin** 49.23 34 P P 16 44 32.0 +1.9
baz=264
GSI **Gunungsitoli** 49.28 239 P P 16 44 31.2 +0.1
GSI **Gunungsitoli** 49.28 239 P P 16 44 31.4 +0.3
GSI **Gunungsitoli** 49.28 239 P P 16 44 30.4 -0.7
F18K **Selawik** 49.28 28 P P 16 44 32.3 +1.9
baz=259
K17K **Iditarod** 49.29 33 P P 16 44 32.4 +1.9
baz=264
KSH **Kashi** 49.53 296 P P 16 44 36.5 +3.6
KSH pmax pmax
comp=Z,8.0nm,0.7s
G18K **Tagagawik** 49.56 29 P P 16 44 33.5 +0.9
G18K **Tagagawik** 49.56 29 P P 16 44 34.2 +1.7
baz=261
H18K **Honhosa River** 49.56 30 P P 16 44 34.2 +1.6
baz=262
M17K **Holitna River** 49.58 35 P P 16 44 34.3 +1.6
baz=266
A19K **Wainwright** 49.58 23 P P 16 44 34.7 +2.1
baz=255
N17K **Nushagak Hills** 49.64 36 P P 16 44 35.2 +1.9
baz=267
O17K **Koliganek Bris** 49.65 37 P P 16 44 35.1 +1.8
baz=268
C19K **Lookout Ridge** 49.81 25 P P 16 44 36.5 +2.1
baz=257
Q16K **King Salmon** 49.84 38 P P 16 44 36.4 +1.7
baz=269
AAK **Ala-Archa** 49.98 300 P P 16 44 35.9 -0.4
AAK **Ala-Archa** 49.98 300 *ceP* P 16 44 37.2 +0.9
AAK pmax pmax
comp=Z,10.0nm,2.5s
L18K **Granite Mounta** 49.99 34 P P 16 44 37.7 +1.9
baz=266
F19K **Shaleruckik Mo** 50.06 28 P P 16 44 37.8 +1.7
baz=261
J18K **Innoko River** 50.08 32 P P 16 44 38.0 +1.5
baz=265
D19K **Kuna River** 50.22 26 P P 16 44 39.1 +1.7
baz=259
G19K **Purcell Mounta** 50.23 29 P P 16 44 39.1 +1.6
baz=262
N18K **Kilae Creek** 50.29 36 P P 16 44 39.9 +1.8
baz=268
M18K **Stony River** 50.36 35 P P 16 44 40.3 +1.8
baz=267
E19K **Redstone River** 50.36 27 P P 16 44 40.4 +1.9
baz=261
H19K **Roundabout Mou** 50.41 29 P P 16 44 40.7 +1.9
baz=263
SVW2 **Sparrevohn** 50.46 35 P P 16 44 40.5 +1.2
SVW2 **Sparrevohn** 50.46 35 P P 16 44 40.5 +1.2
SVW2 IAmb IAmb 16 44 49.5
comp=Z,23nm,1.5s
P18K **Big Mountain,** 50.59 38 P P 16 44 41.4 +1.1
P18K IAmb IAmb 16 44 47.6
comp=Z,9.2nm,0.9s
P18K **Big Mountain,** 50.59 38 P P 16 44 42.0 +1.6
baz=270
O18K **Koktuh Hills** 50.61 37 P P 16 44 42.1 +1.7
O18K IAmb IAmb 16 44 49.4
comp=Z,31nm,1.5s
O18K **Koktuh Hills** 50.61 37 P P 16 44 42.9 +2.4
baz=269
J19K **Poorman** 50.61 32 P P 16 44 42.0 +1.7
baz=265
D20K **Etivluk River** 50.80 25 P P 16 44 43.4 +1.7
baz=261
B20K **Meade River** 50.84 24 P P 16 44 43.6 +1.7
baz=259
E20K **Nigu River** 50.88 26 P P 16 44 43.9 +1.6
baz=261
F20K **Avaraart Lake** 50.89 28 P P 16 44 43.7 +1.4
baz=263
N19K **Bonanza Creek** 50.98 36 P P 16 44 45.0 +1.7
baz=269
O19K **Port Alsworth** 51.06 36 P P 16 44 45.2 +1.5
baz=270

H20K **Anotleneega Mo** 51.06 30 P P 16 44 45.4 +1.8
baz=265
I20K **Naaghedeneel** 51.17 31 P P 16 44 46.6 +2.2
baz=266
K20K **Telida** 51.26 32 P P 16 44 47.3 +2.1
baz=267
BVAR **Borovoye Array** 51.26 314 P P 16 44 45.1 -0.2
comp=Z,8.1nm,0.5s,baz=98,slow=7.1,SNR=63
BVAR pP pP 16 45 54.4 0.0
comp=Z,2.4nm,0.9s,baz=100,slow=6.1,SNR=2.2
BVAR ScP ScP 16 49 18.4 -1.1
comp=Z,3.1nm,0.6s,baz=90,slow=6.5,SNR=7.1
comp=Z,8.1nm,0.5s
J20K **Nowinta River** 51.27 31 P P 16 44 47.3 +2.1
baz=267
A21K **Barrow** 51.27 22 P P 16 44 47.0 +1.9
baz=258
L20K **Farewell, AK** 51.31 34 P P 16 44 47.5 +1.9
baz=268
ARSB **Arslanbob** 51.36 299 P P 16 44 46.7 +0.2
ARSB **Arslanbob** 51.36 299 P P 16 44 46.7 +0.2
ARSB pmax pmax
comp=Z,4.0nm,1.2s
Q19K **Cape Douglas,** 51.41 38 P P 16 44 46.6 +0.3
C21K **Knifeblade Rid** 51.52 25 P P 16 44 49.1 +2.1
baz=262
IMAR **Indian Mountai** 51.56 29 P P 16 44 48.3 +0.9
P19K **Oil Pt** 51.61 37 P P 16 44 49.1 +1.3
baz=271
B21K **Ikpikpuk River** 51.64 24 P P 16 44 48.9 +1.1
B21K IAmb IAmb 16 44 50.6
comp=Z,12nm,1.3s
B21K **Ikpikpuk River** 51.64 24 P P 16 44 50.0 +2.1
baz=262
OHAK **Old Harbor** 51.66 40 P P 16 44 47.1 -1.1
OHAK **Old Harbor** 51.66 40 P P 16 44 48.6 +0.4
G21K **Allakaket** 51.70 28 P P 16 44 50.2 +1.8
baz=265
A22K **Sinclair Lake** 51.74 23 P P 16 44 50.7 +2.2
baz=260
F21K **Alatna River** 51.78 27 P P 16 44 50.7 +1.7
baz=265
O20K **Slope Mountain** 51.91 37 P P 16 44 51.6 +1.6
baz=271
H21K **Melozitna Rive** 51.93 29 P P 16 44 51.7 +1.6
baz=267
KDAK **Kodiak Island** 52.01 40 P P 16 44 51.3 +0.6
KDAK **Kodiak Island** 52.01 40 P P 16 44 51.5 +0.7
baz=273
KDAK **Kodiak Island** 52.01 40 P P 16 44 51.3 +0.6
KDAK pmax pmax
comp=Z,62nm,1.5s
CHUM **Lake Minchumin** 52.06 32 P P 16 44 53.3 +2.2
baz=268
SYI **Shuyak Island** 52.07 38 P P 16 44 51.3 +0.1
N20K **Mount Spurr** 52.09 35 P P 16 44 53.2 +1.7
baz=271
PPLA **Purkeypile** 52.10 33 P P 16 44 53.3 +1.8
baz=269
FITZ **Fitzroy Crossi** 52.15 195 P P 16 44 52.0 -0.2
CAST **Castle Rocks** 52.16 32 P P 16 44 53.0 +1.2
CAST **Castle Rocks** 52.16 32 P P 16 44 53.7 +1.9
baz=269
D22K **Ayikyak River** 52.23 25 P P 16 44 54.4 +2.2
baz=264
F22K **John River** 52.30 27 P P 16 44 54.7 +1.9
baz=266
SKT **Skwentna** 52.41 34 P P 16 44 54.4 +0.8
SKT IAmb IAmb 16 45 35.5
comp=Z,13nm,1.4s
SKT **Skwentna** 52.41 34 P P 16 44 55.2 +1.6
baz=271
E22K **Anaktuvuk Pass** 52.49 26 P P 16 44 56.1 +2.0
baz=266
H22K **Ishtalitna Cre** 52.53 29 P P 16 44 56.8 +2.3
baz=268
WB0 **Warramunga Arr** 52.57 184 P P 16 44 55.1 -0.2
WB0 IAmb IAmb 16 44 55.5
comp=Z,12nm,1.1s
CNPM **China Poot** 52.63 37 P P 16 44 54.9 -0.3
BPAW **Bear Paw Mtn.** 52.65 32 P P 16 44 57.8 +2.4
baz=270
WB2 **Warramunga Arr** 52.75 184 P P 16 44 56.3 -0.3
WB2 IAmb IAmb 16 44 57.2
comp=Z,15nm,1.1s
WRA **Warramunga Arr** 52.75 184 P P 16 44 55.6 -1.0
WRA **Warramunga Arr** 52.75 184 P P 16 44 56.3 -0.3
comp=Z,4.6nm,0.8s,baz=0.0,slow=7.5,SNR=66
WRA PcP PcP 16 46 01.3 +0.1
comp=Z,0.5nm,0.6s,baz=357,slow=4.1,SNR=5.2
WRA pP pwP 16 46 07.9 -2.2
comp=Z,1.8nm,0.8s,baz=6.2,slow=8.1,SNR=4.8
comp=Z,4.6nm,0.8s
KK31 **Karatay Array** 52.75 302 P P 16 44 56.3 -0.2
KK31 IAmb IAmb 16 44 58.0
comp=Z,7.2nm,0.8s
KK31 **Karatay Array** 52.75 302 P P 16 44 56.3 -0.2
KK31 pmax pmax
comp=Z,7.0nm,0.8s
KKAR **Karatay Array** 52.75 302 P P 16 44 56.6 +0.1
KKAR IAmb IAmb 16 44 58.0
comp=Z,7.2nm,0.8s
KKAR **Karatay Array** 52.75 302 P P 16 44 56.6 +0.1
KKAR pmax pmax
comp=Z,7.0nm,0.8s
WR0 **Warramunga Arr** 52.76 184 P P 16 44 55.9 -0.7
WR0 IAmb IAmb 16 44 58.2
comp=Z,14nm,1.3s
MLY **Manley** 52.77 30 P P 16 44 58.0 +1.8
baz=269
BRLK **Bradley Lake** 52.79 37 P P 16 44 56.4 0.0
BRLK IAmb IAmb 16 45 01.3
comp=Z,33nm,1.5s
SUA **Susitna One** 52.79 35 P P 16 44 56.9 +0.4
SUA **Susitna One** 52.79 35 P P 16 44 57.5 +1.0
baz=272
BRSE **Bradley Lake S** 52.87 37 P P 16 44 59.0 +2.0
baz=273
TRF **Thorofare Moun** 52.96 32 P P 16 44 58.3 +0.5
TRF **Thorofare Moun** 52.96 32 P P 16 44 59.5 +1.7
baz=271
D23K **Nanushuk River** 52.96 25 P P 16 44 59.5 +1.9
baz=266
CUT **Chulitna** 52.99 34 P P 16 44 57.8 0.0
COLD **Coldfoot** 53.05 28 P P 16 44 59.9 +1.7
baz=268
C23K **Itkillik River** 53.05 24 P P 16 44 59.9 +1.8
baz=266
G23K **Bananza Creek** 53.10 28 P P 16 45 00.5 +1.8
baz=268
NIL **Nilore** 53.23 290 P P 16 45 00.1 0.0
NIL IAmb IAmb 16 45 01.7
comp=Z,10nm,0.7s
NIL **Nilore** 53.23 290 P P 16 45 00.1 0.0
NIL pmax pmax
comp=Z,10.0nm,0.7s
QIS **Mount Isa** 53.27 178 P P 16 45 00.5 +0.1
QIS **Mount Isa** 53.27 178 P P 16 45 00.2 -0.2
comp=Z,11nm,1.2s
H23K **Yukon River** 53.28 29 P P 16 45 02.0 +2.1
baz=270
RC01 **Rabbit Creek A** 53.29 35 P P 16 45 00.8 +0.8
RC01 IAmb IAmb 16 45 08.9
comp=Z,19nm,1.3s
RC01 **Rabbit Creek A** 53.29 35 P P 16 45 01.9 +1.9
baz=273
E23K **Chandalar** 53.31 27 P P 16 45 02.2 +2.0
baz=268
BWN **Browne** 53.32 31 P P 16 45 01.6 +1.4
TOLK **Toolik Lake Re** 53.35 26 P P 16 45 01.3 +0.9
TOLK **Toolik Lake Re** 53.35 26 P P 16 45 02.1 +1.7
baz=267
I23K **Minto, Yukon-K** 53.36 30 P P 16 45 01.4 +1.0
I23K **Minto, Yukon-K** 53.36 30 P P 16 45 02.2 +1.8
baz=270
NEA2 **Nenana** 53.49 31 P P 16 45 03.0 +1.6
baz=271
SEW **Seward** 53.49 36 P P 16 45 02.3 +0.9
baz=274
MCK **McKinley** 53.56 32 P P 16 45 03.4 +1.4
baz=272
RND **Reindeer** 53.61 32 P P 16 45 03.0 +0.6
RND IAmb IAmb 16 45 03.5
comp=Z,6.9nm,0.6s
RND **Reindeer** 53.61 32 P P 16 45 03.0 +0.6
RND pmax pmax
comp=Z,7.0nm,0.6s

D24K **Happy Valley** 53.64 25 P P 16 45 04.0 +1.6
baz=268
GHO **Glory Hole Cre** 53.65 34 P P 16 45 03.4 +0.7
GHO IAmb IAmb 16 45 18.5
comp=Z,24nm,1.5s
C24K **Franklin Bluff** 53.71 24 P P 16 45 04.3 +1.4
baz=268
WAT1 **Susitna Watana** 53.77 33 P P 16 45 04.1 +0.6
baz=273
MDM **Murphy Dome** 53.84 30 P P 16 45 05.4 +1.4
MDM IAmb IAmb 16 45 06.0
comp=Z,7.9nm,0.8s
KNK **Knik Glacier** 53.89 35 P P 16 45 05.3 +0.9
KNK IAmb IAmb 16 45 05.7
comp=Z,7.6nm,0.7s
KNK **Knik Glacier** 53.89 35 P P 16 45 05.4 +1.1
baz=274
SML **Sawmill** 53.93 34 P P 16 45 05.6 +0.9
SML IAmb IAmb 16 45 11.4
comp=Z,16nm,1.2s
SML **Sawmill** 53.93 34 P P 16 45 05.6 +0.9
baz=274
F24K **Squaw Lake** 53.95 27 P P 16 45 06.3 +1.5
F24K **Squaw Lake** 53.95 27 P P 16 45 06.6 +1.8
baz=270
H24K **Noodor Dome** 53.97 29 P P 16 45 06.9 +2.0
baz=271
COLA **College** 54.00 31 P P 16 45 06.9 +1.9
baz=272
CCB **Clear Creek Bu** 54.03 31 P P 16 45 06.0 +0.7
G24K **Hadweenzic Riv** 54.12 28 P P 16 45 07.9 +2.0
baz=271
WAT6 **Susitna Watana** 54.16 33 P P 16 45 07.5 +1.1
baz=274
POKR **Poker Plat Res** 54.17 30 P P 16 45 08.1 +1.8
baz=272
M23K **Glacier View** 54.22 34 P P 16 45 07.2 +0.5
baz=274
DHY **Denali Highway** 54.29 33 P P 16 45 07.8 +0.4
DHY **Denali Highway** 54.29 33 P P 16 45 08.7 +1.3
baz=274
SCM **Sheep Creek Mo** 54.40 34 P P 16 45 09.1 +1.0
SCM IAmb IAmb 16 45 10.9
comp=Z,27nm,1.3s
SCM **Sheep Creek Mo** 54.40 34 P P 16 45 09.2 +1.2
baz=274
SCM **Sheep Creek Mo** 54.40 34 P P 16 45 09.1 +1.0
SCM pmax pmax
comp=Z,27nm,1.3s
HDA **Harding Lake** 54.41 31 P P 16 45 08.4 +0.4
HDA IAmb IAmb 16 45 08.8
comp=Z,4.6nm,0.6s
HDA **Harding Lake** 54.41 31 P P 16 45 08.3 +0.3
baz=273
IL31 54.42 31 P P 16 45 08.4 +0.4
ILAR **Eielson Array** 54.42 31 P P 16 45 08.3 +0.3
ILAR **Eielson Array** 54.42 31 P P 16 45 08.3 +0.3
ILAR **Eielson Array** 54.42 31 P P 16 45 08.7 +0.6
comp=Z,1.5nm,0.6s,baz=262,slow=4.8,SNR=42
comp=Z,1.5nm,0.6s
H25L **Birch Creek** 54.79 29 P P 16 45 12.7 +2.1
baz=273
F25K **Christian Rive** 54.81 27 P P 16 45 12.8 +1.9
baz=272
E25K **Arctic Village** 54.83 26 P P 16 45 12.8 +1.8
baz=272
M24K **Tolsona, Glenn** 54.92 34 P P 16 45 12.9 +1.2
M24K IAmb IAmb 16 45 20.3
comp=Z,14nm,1.2s
M24K **Tolsona, Glenn** 54.92 34 P P 16 45 13.7 +1.9
baz=275
PRP **Porcupine Dome** 54.95 30 P P 16 45 12.1 0.0
PRP **Porcupine Dome** 54.95 30 P P 16 45 12.3 +0.3
baz=273
K24K **Donnelly Dome** 54.96 32 P P 16 45 12.7 +0.7
baz=274
SIMJ **Simiganj** 54.99 297 P P 16 45 12.1 -0.6
SIMJ IAmb IAmb 16 45 14.3
comp=Z,9.6nm,0.7s
C26K **Camden Bay** 55.03 24 P P 16 45 14.4 +2.1
baz=271
J25K **Salcha River,** 55.08 31 P P 16 45 13.2 +0.3
J25K **Salcha River,** 55.08 31 P P 16 45 13.8 +0.9
baz=274
KLU **Klutina** 55.10 35 P P 16 45 13.5 +0.5
KLU IAmb IAmb 16 45 15.4
comp=Z,28nm,1.4s
KLU **Klutina** 55.10 35 P P 16 45 14.2 +1.2
baz=276
PAX **Paxson** 55.17 33 P P 16 45 14.7 +1.2
baz=275
BMAR **Burnt Mountain** 55.23 27 P P 16 45 15.9 +2.1
HARP **HAARP** 55.37 33 P P 16 45 16.2 +1.4
baz=276
RIDG **Independent Ri** 55.38 32 P P 16 45 15.5 +0.5
RIDG IAmb IAmb 16 45 16.3
comp=Z,5.1nm,0.5s
RIDG **Independent Ri** 55.38 32 P P 16 45 15.7 +0.7
baz=275
F26K **Sheenjek River** 55.38 27 P P 16 45 17.3 +2.4
baz=273
G26K **Porcupine Rive** 55.57 28 P P 16 45 18.6 +2.5
baz=274
N25K **Chitina, Valde** 55.72 34 P P 16 45 18.0 +0.6
N25K IAmb IAmb 16 45 56.6
comp=Z,18nm,1.4s
N25K **Chitina, Valde** 55.72 34 P P 16 45 18.7 +1.3
baz=277
SCRK **Sand Creek** 55.73 31 P P 16 45 18.2 +0.6
SCRK IAmb IAmb 16 45 18.8
comp=Z,6.6nm,0.9s
SCRK **Sand Creek** 55.73 31 P P 16 45 18.6 +1.0
baz=276,SNR=5.3
BMRM **Bremner River** 55.79 35 P P 16 45 19.3 +1.3
baz=277
J26L **Joseph Creek** 55.87 31 P P 16 45 18.8 +0.4
J26L IAmb IAmb 16 45 19.8
comp=Z,6.2nm,0.6s
J26L **Joseph Creek** 55.87 31 P P 16 45 19.2 +0.8
baz=276,SNR=12
MENT **Mentasta** 55.97 33 P P 16 45 20.3 +1.2
MENT IAmb IAmb 16 45 21.7
comp=Z,6.3nm,0.6s
L26K **Log Cabin Wild** 56.13 33 P P 16 45 21.9 +1.7
baz=277
E27K **Coleen River** 56.31 26 P P 16 45 23.3 +1.9
baz=275
BERG **Berg Lake** 56.31 36 P P 16 45 22.9 +1.3
M26K **Nabesna, AK** 56.37 33 P P 16 45 23.8 +1.9
baz=278
G27K **Doyon Strip** 56.42 28 P P 16 45 25.6 +3.4
baz=276
D27M **Malcolm River** 56.44 25 P P 16 45 24.2 +1.8
baz=275
AS01 **Alice Springs** 56.47 184 P P 16 45 22.8 -0.3
AS31 **Alice Springs** 56.48 184 P P 16 45 22.9 -0.2
ASAR **Alice Springs** 56.48 184 P P 16 45 22.9 -0.2
ASAR **Alice Springs** 56.48 184 P P 16 45 23.4 +0.3
comp=Z,1.5nm,0.5s,baz=18,slow=10.0,SNR=40
ASAR PcP PcP 16 46 16.6 +1.0
comp=Z,0.5nm,0.5s,baz=1.7,slow=3.7,SNR=5.6
comp=Z,1.5nm,0.5s
MCARA **McCarthy VSAT** 56.49 35 P P 16 45 24.3 +1.5
MCARA **McCarthy VSAT** 56.49 35 P P 16 45 24.3 +1.5
baz=278,SNR=8.5
H27K **Steamboat Moun** 56.53 29 P P 16 45 25.2 +2.2
baz=276
CRQE **Cirque** 56.56 35 P P 16 45 24.7 +1.3
baz=279
K27K **Chicken** 56.56 31 P P 16 45 24.1 +0.9
K27K **Chicken** 56.56 31 P P 16 45 24.7 +1.5
baz=278
I27K **Kandik River** 56.57 29 P P 16 45 25.1 +1.8
baz=277
MBWA **Marble Bar** 56.59 200 P P 16 45 24.2 +0.3
MBWA IAmb IAmb 16 45 56.6
comp=Z,8.5nm,1.1s
WAX **Waxell Ridge** 56.72 36 P P 16 45 25.2 +0.7
L27K **Beaver Creek,** 56.81 32 P P 16 45 26.6 +1.6
baz=278
BCAR **Beaver Creek A** 56.83 32 P P 16 45 26.7 +1.6
EGAK **Eagle** 56.86 30 P P 16 45 26.0 +0.7
EGAK **Eagle** 56.86 30 P P 16 45 26.1 +0.9
baz=278
M27K **Edge Creek, AK** 56.89 33 P P 16 45 27.0 +1.4
baz=279
ISLE **Juniper Island** 56.95 35 P P 16 45 27.0 +0.9

F28M	**Old Crow**	**57.02**	**27**	P		**P**		**16 45 28.4**	**+2.0**
	baz=277								
E28M	**Babbage River**	**57.02**	**26**	P		**P**		**16 45 28.3**	**+2.0**
	baz=277								
I28M	**Miner Creek**	**57.28**	**29**	P		**P**		**16 45 29.7**	**+1.4**
I28M				IAmb		IAmb		16 45 30.5	
	comp=Z,6.4nm,0.6s								
I28M	**Miner Creek**	**57.28**	**29**	P		**P**		**16 45 29.8**	**+1.6**
	baz=278								
ARU	**Arti**	**57.54**	**320**	P		**P**		**16 45 29.6**	**-0.5**
ARU				IAmb		IAmb		16 45 30.0	
	comp=Z,8.3nm,0.5s								
ARU	**Arti**	**57.54**	**320**	*d*	*i*	P		**P**	**16 45 29.3**	**-0.8**
ARU					*PP			**pP**	**16 46 38.9**	**-2.0**
ARU									16 47 37.8	
ARU					S			**S**	**16 53 00.1**	**-0.9**
ARU					SS			**SS**	**16 56 52.4**	**-4.0**
ARU					pmax		pmax			
	comp=Z,9.0nm,0.8s									
YUK3	**Moose Creek**	**57.64**	**34**	P		**P**		**16 45 32.2**	**+1.2**
	baz=280									
E29M	**Blow River**	**57.65**	**26**	P		**P**		**16 45 32.3**	**+1.6**
	baz=278									
DAWY	**Dawson**	**57.73**	**31**	P		**P**		**16 45 32.4**	**+1.0**
	baz=280									
H29M	**Whitestone**	**57.80**	**28**	P		**P**		**16 45 33.7**	**+1.9**
	baz=279									
G29M	**Pine Creek**	**57.83**	**28**	P		**P**		**16 45 33.8**	**+1.9**
	baz=279									
ABKAR	**Akbulak array**	**58.40**	**311**	P		**P**		**16 45 35.7**	**-0.4**
EPYK	**Eagle Plains**	**58.43**	**28**	P		**P**		**16 45 37.6**	**+1.5**
	baz=281									
WRKA	**Warakurna**	**58.44**	**190**	P		**P**		**16 45 36.4**	**-0.2**
	comp=Z,18nm,2.9s									
M29M	**Somme Creek**	**58.44**	**33**	P		**P**		**16 45 38.0**	**+1.7**
	baz=282									
L29M	**L29M**	**58.46**	**32**	P		**P**		**16 45 38.7**	**+2.4**
	baz=281									
G30M	**tAoh Zraii Nji**	**58.51**	**27**	P		**P**		**16 45 37.8**	**+1.1**
G30M				IAmb		IAmb		16 45 39.0		
	comp=Z,15nm,1.4s									
G30M	**tAoh Zraii Nji**	**58.51**	**27**	P		**P**		**16 45 38.0**	**+1.3**
	baz=281,SNR=15									
F30M	**Barrier River**	**58.56**	**27**	P		**P**		**16 45 38.8**	**+1.8**
	baz=281									
YUK4	**Talbot Arm**	**58.58**	**34**	P		**P**		**16 45 39.3**	**+1.9**
	baz=282									
K29M	**Barlow Dome**	**58.58**	**31**	P		**P**		**16 45 38.1**	**+0.8**
K29M	**Barlow Dome**	**58.58**	**31**	P		**P**		**16 45 38.8**	**+1.5**
	baz=282									
I30M	**Mount Dempster**	**58.79**	**29**	P		**P**		**16 45 40.0**	**+1.2**
I30M				IAmb		IAmb		16 45 41.4		
	comp=Z,7.3nm,0.7s									
I30M	**Mount Dempster**	**58.79**	**29**	P		**P**		**16 45 40.4**	**+1.7**
	baz=282									
YUK6	**Outpost Mounta**	**58.80**	**35**	P		**P**		**16 45 40.5**	**+1.5**
	baz=282									
O29M	**Mount Kennedy**	**58.83**	**35**	P		**P**		**16 45 40.7**	**+1.6**
	baz=283									
J30M	**Hart River**	**58.94**	**30**	P		**P**		**16 45 41.2**	**+1.5**
	baz=282									
M30M	**Minto, Yukon**	**59.17**	**33**	P		**P**		**16 45 43.1**	**+1.9**
	baz=283									
HYT	**Haines Junctio**	**59.23**	**35**	P		**P**		**16 45 42.9**	**+1.1**
	baz=283									
INK	**Inuvik**	**59.26**	**26**	P		**P**		**16 45 42.4**	**+0.8**
INK	**Inuvik**	**59.26**	**26**	P		**P**		**16 45 42.5**	**+0.8**
	baz=282									
INK	**Inuvik**	**59.26**	**26**	P		**P**		**16 45 42.4**	**+0.8**
INK				pmax		pmax				
	comp=Z,3.0nm,1.1s									
G31M	**Satah River**	**59.28**	**27**	P		**P**		**16 45 42.6**	**+0.8**
G31M	**Satah River**	**59.28**	**27**	P		**P**		**16 45 42.8**	**+1.0**
	baz=282,SNR=15									
N30M	**Aishikik Lake**	**59.28**	**34**	P		**P**		**16 45 43.4**	**+1.3**
	baz=283									
P29M	**Windy Craggy**	**59.40**	**36**	P		**P**		**16 45 44.1**	**+1.3**
	baz=284									
H31M	**Peel River**	**59.49**	**29**	P		**P**		**16 45 45.0**	**+1.6**
	baz=283									
P30M	**Million Dollar**	**59.66**	**35**	P		**P**		**16 45 46.1**	**+1.5**
	baz=284									
O30N	**Mendenhall**	**59.92**	**34**	P		**P**		**16 45 47.3**	**+1.0**
O30N				IAmb		IAmb		16 45 53.9		
	comp=Z,16nm,1.5s									
O30N	**Mendenhall**	**59.92**	**34**	P		**P**		**16 45 48.0**	**+1.6**
	baz=284									
PLBC	**Pleasant Camp**	**60.12**	**36**	P		**P**		**16 45 49.5**	**+1.9**
	baz=285,SNR=6.1									
M31M	**Drury Creek, Y**	**60.34**	**33**	P		**P**		**16 45 50.4**	**+1.2**
	baz=285									
INKA	**Innaminka**	**60.46**	**177**	P		**P**		**16 45 50.3**	**+0.1**
	comp=Z,21nm,2.8s									
OOD	**Oodnadatta**	**60.49**	**182**	P		**P**		**16 45 50.8**	**+0.3**
WHY	**Whitehorse**	**60.52**	**34**	P		**P**		**16 45 51.5**	**+1.0**
	baz=286									
MMPY	**Sheldon Lake,**	**61.63**	**32**	P		**P**		**16 45 59.4**	**+1.6**
MMPY				IAmb		IAmb		16 46 27.3		
	comp=Z,13nm,1.5s									
MMPY	**Sheldon Lake,**	**61.63**	**32**	P		**P**		**16 45 59.2**	**+1.4**
	baz=287									
P33M	**Teslin, Yukon**	**61.63**	**35**	P		**P**		**16 45 59.5**	**+1.6**
P33M				IAmb		IAmb		16 46 14.4		
	comp=Z,14nm,1.4s									
P33M	**Teslin, Yukon**	**61.63**	**35**	P		**P**		**16 45 59.1**	**+1.2**
	baz=287									
KIRV	**Kirov**	**61.77**	**324**	*ce*		P		**P**	**16 45 59.4**	**+0.8**
C36M	**Paulatuk**	**62.27**	**23**	P				**P**	**16 46 02.4**	**+0.6**
C36M				IAmb				IAmb	16 46 03.5	
	comp=Z,8.4nm,0.6s									
C36M	**Paulatuk**	**62.27**	**23**	P				**P**	**16 46 03.0**	**+1.3**
	baz=290									
LCRK	**Leigh Creek**	**63.10**	**180**	P				**P**	**16 46 08.2**	**+0.6**
TGTN	**Hyland Airport**	**63.31**	**32**	P				**P**	**16 46 10.8**	**+1.9**
	baz=290									
DLBC	**Dease Lake**	**63.56**	**36**	P				**P**	**16 46 11.8**	**+1.3**
	baz=290									
SPITS	**Spitsbergen Ar**	**63.92**	**349**	P				**P**	**16 46 12.2**	**-0.3**
	comp=Z,2.8nm,0.8s,baz=76,slow=6.1,SNR=4.4									
	comp=Z,2.8nm,0.8s									
ARMA	**Armidale**	**64.39**	**167**	P				**P**	**16 46 17.2**	**+1.0**
CMSA	**Cobar Meteorol**	**64.60**	**173**	P				**P**	**16 46 18.7**	**+1.3**
STKA	**Stephens Creek**	**64.62**	**177**	P				**P**	**16 46 18.2**	**+0.7**
	comp=Z,1.7nm,0.5s,baz=357,slow=11,SNR=2.9									
	comp=Z,1.7nm,0.5s									
BELG	**Belogornoye**	**64.82**	**317**	*i*	P			**P**	**16 46 17.9**	**-0.7**
BELG				pmax			pmax			
	comp=Z,5.0nm,1.7s									
BBOO	**Buckleboo**	**65.48**	**182**	P				**P**	**16 46 23.0**	**+0.1**
BBOO	**Buckleboo**	**65.48**	**182**	P				**P**	**16 46 23.0**	**+0.1**
KOTAN	**Kotaneelee Air**	**65.76**	**33**	P				**P**	**16 46 26.4**	**+2.0**
	baz=294									
KEV	**Kevo**	**66.20**	**339**	P				**P**	**16 46 27.5**	**+0.5**
KEV	**Kevo**	**66.20**	**339**	P				**P**	**16 46 27.5**	**+0.5**
KEV				pmax			pmax			
	comp=Z,62nm,1.5s									
ARCES	**ARCESS Array B**	**66.76**	**339**	P				**P**	**16 46 30.9**	**+0.3**
ARCES	**ARCESS Array B**	**66.76**	**339**	P				**P**	**16 46 30.9**	**+0.3**
ARCES				pmax			pmax			
	comp=Z,23nm,1.3s									
ARCES	**ARCESS Array B**	**66.76**	**339**	P				**P**	**16 46 30.7**	**+0.1**
	comp=Z,2.3nm,0.5s,baz=68,slow=8.4,SNR=24									
	comp=Z,2.3nm,0.5s									
RES	**Resolute Bay**	**67.19**	**13**	P				**P**	**16 46 34.1**	**+0.9**
RES				IAmb				IAmb	16 46 39.5	
	comp=Z,4.3nm,1.2s									
RES	**Resolute Bay**	**67.19**	**13**	P				**P**	**16 46 34.1**	**+0.9**
RES				pmax			pmax			
	comp=Z,4.0nm,1.2s									
YNG	**Young**	**67.66**	**171**	P				**P**	**16 46 37.2**	**+0.6**
YKA	**Yellowknife Ar**	**68.72**	**28**	P				**P**	**16 46 43.1**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=306,slow=6.9,SNR=15									
	comp=Z,0.8nm,0.6s									
CAN	**Canberra**	**68.75**	**170**	P				**P**	**16 46 43.0**	**-0.3**
YKAB2	**New Yellowknif**	**68.75**	**28**	P				**P**	**16 46 43.5**	**+0.5**
ARPS	**Mount Arapiles**	**69.50**	**177**	P				**P**	**16 46 47.8**	**0.0**
FIA1	**FINESS Array S**	**71.04**	**332**	P				**P**	**16 46 56.6**	**-0.2**
FINES	**FINESS Array B**	**71.04**	**332**	P				**P**	**16 46 56.7**	**-0.2**
	comp=Z,1.4nm,0.4s,baz=62,slow=5.9,SNR=20									
FINES					pP			**pP**	**16 48 10.9**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=58,slow=10,SNR=2.6									
	comp=Z,1.4nm,0.4s									
KBZ	**Khabaz**	**71.35**	**310**	*ce*	P			**P**	**16 46 58.1**	**-0.9**
KBZ					pmax		pmax			
	comp=Z,7.0nm,0.9s									
KBZ	**Khabaz**	**71.35**	**310**	P				**P**	**16 46 59.5**	**+0.4**
	comp=Z,4.6nm,0.8s,baz=93,slow=3.3,SNR=10									
	comp=Z,4.6nm,0.8s									
KIV	**Kislovodsk**	**71.38**	**311**	*e*	P			**P**	**16 46 59.3**	**-0.1**
KIV					pmax		pmax			
	comp=Z,13nm,1.1s									
GNI	**Garni**	**71.81**	**306**	*i*	P			**P**	**16 47 00.4**	**-1.7**
GNI					pmax		pmax			
	comp=Z,16nm,1.4s									
K02D	**Willamette Mer**	**73.99**	**49**	P				**P**	**16 47 16.1**	**+1.5**
K02D				IAmb			IAmb		16 47 54.2	
	comp=Z,12nm,1.4s									
DBO	**Dodson Butte**	**74.05**	**49**	P				**P**	**16 47 16.7**	**+1.7**
GURO	**Guroymak-BITLI**	**74.42**	**306**	P				**P**	**16 47 18.0**	**+0.7**
GURO				IAmb			IAmb		16 47 19.9	
	comp=Z,4.5nm,0.9s									
RAO	**Raoul Island**	**74.72**	**141**	P				**P**	**16 47 18.5**	**-0.2**
NEW	**Newport**	**75.02**	**42**	P				**P**	**16 47 20.7**	**+0.4**
NEW				IAmb			IAmb		16 47 21.8	
	comp=Z,7.8nm,1.4s									
NEW	**Newport**	**75.02**	**42**	P				**P**	**16 47 22.0**	**+1.6**
	baz=303									
NEW	**Newport**	**75.02**	**42**	P				**P**	**16 47 20.7**	**+0.4**
NEW				pmax			pmax			
	comp=Z,8.0nm,1.5s									
L04D	**Klamath Falls**	**75.10**	**49**	P				**P**	**16 47 21.8**	**+0.7**
PINE	**Pine Mountain**	**75.14**	**47**	P				**P**	**16 47 22.9**	**+1.5**
J05D	**Fort Rock, OR**	**75.22**	**48**	P				**P**	**16 47 23.3**	**+1.5**
J05D				IAmb			IAmb		16 47 24.2	
	comp=Z,4.4nm,0.7s									
PABE	**Paberze**	**75.44**	**328**	P				**P**	**16 47 22.8**	**+0.4**
PABE				IAmb			IAmb		16 48 01.0	
	comp=Z,6.6nm,0.8s									
AKASG	**Malin Array Be**	**75.71**	**322**	P				**P**	**16 47 24.0**	**-0.1**
AKASG				IAmb			IAmb		16 47 25.1	
	comp=Z,5.8nm,1.4s									
AKASG	**Malin Array Be**	**75.71**	**322**	P				**P**	**16 47 24.0**	**-0.1**
AKASG				pmax			pmax			
	comp=Z,6.0nm,1.4s									
AKASG	**Malin Array Be**	**75.71**	**322**	P				**P**	**16 47 23.6**	**-0.5**
	comp=Z,3.0nm,0.5s,baz=51,slow=5.5,SNR=30									
AKASG					pP			**pP**	**16 48 39.2**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=46,slow=7.2,SNR=2.3									
	comp=Z,3.0nm,0.5s									
AKBB	**Malin Array Si**	**75.71**	**322**	P				**P**	**16 47 23.4**	**-0.7**
AKBB				IAmb			IAmb		16 47 24.7	
	comp=Z,5.5nm,0.6s									
AKBB	**Malin Array Si**	**75.71**	**322**	P				**P**	**16 47 23.4**	**-0.7**
AKBB				pmax			pmax			
	comp=Z,6.0nm,0.6s									
K05A	**Summer Lake**	**75.73**	**48**	P				**P**	**16 47 26.2**	**+1.6**
K05A				IAmb			IAmb		16 47 27.2	
	comp=Z,9.2nm,1.1s									
AK05	**Malin Array Si**	**75.77**	**322**	P				**P**	**16 47 24.0**	**-0.5**
AK05				IAmb			IAmb		16 47 24.8	
	comp=Z,4.4nm,0.6s									
NC405	**NORSAR Array S**	**76.55**	**336**	P				**P**	**16 47 28.4**	**-0.2**
NC405				IAmb			IAmb		16 48 12.2	
	comp=Z,9.2nm,1.4s									
HFS	**Hagfors**	**76.55**	**335**	P				**P**	**16 47 28.2**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=77,slow=6.4,SNR=15									
	comp=Z,2.0nm,0.5s									
NB201	**NORSAR Array S**	**76.73**	**336**	P				**P**	**16 47 29.2**	**-0.5**
NC204	**NORSAR Array S**	**76.75**	**337**	P				**P**	**16 47 29.5**	**-0.3**
NB2	**NORSAR Subarra**	**76.77**	**336**	P				**P**	**16 47 29.6**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=43,slow=5.3									
NOA	**NORSAR Array B**	**76.77**	**336**	P				**P**	**16 47 29.5**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=55,slow=6.5,SNR=7.3									
	comp=Z,0.6nm,0.4s									
BMO	**Blue Mountains**	**76.78**	**45**	P				**P**	**16 47 31.5**	**+1.1**
BMO	**Blue Mountains**	**76.78**	**45**	P				**P**	**16 47 31.5**	**+1.1**
BMO				pmax			pmax			
	comp=Z,3.0nm,0.9s									
OVMT	**Ovando**	**78.00**	**41**	P				**P**	**16 47 37.6**	**+0.5**
HLID	**Hailey**	**79.22**	**45**	P				**P**	**16 47 45.4**	**+1.5**
	baz=306									
BRTR	**Keskin Array B**	**79.34**	**310**	P				**P**	**16 47 44.4**	**-0.1**
BRTR	**Keskin Array B**	**79.34**	**310**	P				**P**	**16 47 45.5**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=91,slow=5.8,SNR=8.6									
BRTR					pP			**pwP**	**16 49 01.6**	**-0.4**
	comp=Z,3.3nm,1.1s,baz=108,slow=4.0,SNR=3.5									
	comp=Z,2.0nm,0.6s									
RAYN	**Ar Rayn**	**79.50**	**291**	P				**P**	**16 47 45.5**	**0.0**
RAYN	**Ar Rayn**	**79.50**	**291**	P				**P**	**16 47 45.5**	**0.0**
RAYN				pmax			pmax			
	comp=Z,8.0nm,0.6s									
BUR08	**Bucovina Ar. S**	**79.65**	**321**	P				**P**	**16 47 46.3**	**+0.3**
BUR08				IAmb			IAmb		16 47 48.4	
	comp=Z,3.5nm,0.9s									
BURAR	**Bucovina Array**	**79.66**	**321**	P				**P**	**16 47 46.5**	**+0.5**
NVAR	**Mina Array Bea**	**79.72**	**51**	P				**P**	**16 47 47.9**	**+1.2**
	comp=Z,1.1nm,0.5s,baz=294,slow=5.6,SNR=12									
	comp=Z,1.1nm,0.5s									
RTZ	**Ruatahuna**	**79.95**	**150**	P				**P**	**16 47 47.9**	**+0.4**
TKNZ	**Takaka Hill**	**80.43**	**154**	P				**P**	**16 47 50.1**	**+0.3**
STHS	**Stebnicka Huta**	**80.57**	**324**	*eP*				**P**	**16 47 51.3**	**+0.6**
STHS	**Stebnicka Huta**	**80.57**	**324**	*eP*				**P**	**16 47 51.3**	**+0.6**
PKM	**Mcpherson Peak**	**80.67**	**55**	P				**P**	**16 47 53.6**	**+1.9**
	baz=304									
H17A	**Grant Village**	**80.95**	**42**	P				**P**	**16 47 56.2**	**+3.1**
	baz=308									
CWC	**Cottonwood Cre**	**80.98**	**52**	P				**P**	**16 47 55.0**	**+1.7**
	baz=304									
RLMT	**Red Lodge**	**81.24**	**41**	P				**P**	**16 47 55.4**	**+0.9**
RLMT				IAmb			IAmb		16 47 56.3	
	comp=Z,5.5nm,1.5s									
RLMT	**Red Lodge**	**81.24**	**41**	P				**P**	**16 47 55.9**	**+1.4**
	baz=308									
MOOW	**Moose Ponds**	**81.25**	**43**	P				**P**	**16 47 56.0**	**+1.3**
R11B	**Troy Canyon, C**	**81.52**	**50**	P				**P**	**16 47 57.0**	**+0.9**
R11B				IAmb			IAmb		16 47 57.7	
	comp=Z,2.3nm,0.6s									
R11B	**Troy Canyon, C**	**81.52**	**50**	P				**P**	**16 47 57.3**	**+1.2**
	baz=306									
MPMC	**Manual Prospec**	**81.59**	**52**	P				**P**	**16 47 57.7**	**+1.2**
	baz=305									
SNCC	**San Nicolas Is**	**81.78**	**56**	P				**P**	**16 47 58.8**	**+1.4**
	baz=304									
LAO	**LASA Array**	**81.89**	**39**	P				**P**	**16 47 58.8**	**+1.1**
	baz=310									
EDW2	**Edwards Air Fo**	**81.92**	**54**	P				**P**	**16 47 59.1**	**+1.0**
	baz=305									
MMAI	**Mount Meron Ar**	**81.92**	**304**	P				**P**	**16 47 58.2**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=76,slow=6.1,SNR=2.5									
	comp=Z,0.7nm,0.5s									
DECC	**Green Verdugo**	**82.04**	**54**	P				**P**	**16 47 59.5**	**+0.8**
	baz=305									
GWY	**Greenwater Val**	**82.06**	**52**	P				**P**	**16 47 59.0**	**+0.1**
GWY				IAmb			IAmb		16 48 00.2	
	comp=Z,8.7nm,1.4s									
DUG	**Dugway, Tooele**	**82.17**	**47**	P				**P**	**16 48 00.4**	**+1.0**
	baz=307									
CSS	**Mathiatis**	**82.24**	**307**	P				**P**	**16 47 59.6**	**0.0**
CSS				IAmb			IAmb		16 48 00.9	
	comp=Z,6.3nm,0.9s									
VYHS	**Vyhne**	**82.37**	**324**	*eP*				**P**	**16 48 01.3**	**+1.2**
VYHS	**Vyhne**	**82.37**	**324**	*eP*				**P**	**16 48 01.3**	**+1.2**
FMP	**Fort Macarthur**	**82.37**	**55**	P				**P**	**16 48 01.4**	**+1.1**
	baz=305									
CIS	**Catalina Islan**	**82.46**	**55**	P				**P**	**16 48 01.6**	**+0.7**
	baz=305									
GSC	**Goldstone, Bar**	**82.47**	**53**	P				**P**	**16 48 01.7**	**+0.7**
	baz=305									
BW06	**Boulder Array**	**82.54**	**43**	P				**P**	**16 48 02.2**	**+0.9**
	baz=309									
PDAR	**Pinedale Array**	**82.54**	**43**	P				**P**	**16 48 01.6**	**+0.2**
PDAR	**Pinedale Array**	**82.54**	**43**	P				**P**	**16 48 01.9**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=286,slow=3.1,SNR=9.7									
	comp=Z,0.7nm,0.6s									
CLL	**Collm**	**83.12**	**329**	*eP*				**P**	**16 48 04.0**	**+0.2**
CLL	**Collm**	**83.12**	**329**	*eP*				**P**	**16 48 04.0**	**+0.2**
MODS	**Modra-Piesok**	**83.21**	**325**	*eP*				**P**	**16 48 05.6**	**+1.2**
MODS	**Modra-Piesok**	**83.21**	**325**	*eP*				**P**	**16 48 05.6**	**+1.2**
ELL	**Elmali**	**83.46**	**310**	P				**P**	**16 48 06.7**	**+0.7**
ELL	**Elmali**	**83.46**	**310**	P				**P**	**16 48 06.7**	**+0.7**
GMRC	**Granite Mounta**	**83.54**	**53**	P				**P**	**16 48 06.8**	**+0.3**
	baz=306									
PFO	**Pinyon Flats O**	**83.68**	**54**	P				**P**	**16 48 07.8**	**+0.6**
PFO				IAmb			IAmb		16 48 09.5	
	comp=Z,5.8nm,1.2s									
PFO	**Pinyon Flats O**	**83.68**	**54**	P				**P**	**16 48 08.0**	**+0.8**
	baz=306									
PFO	**Pinyon Flats O**	**83.68**	**54**	P				**P**	**16 48 07.8**	**+0.6**
PFO				pmax			pmax			
	comp=Z,6.0nm,1.2s									
TPFO	**Pinon Flats**	**83.69**	**54**	P				**P**	**16 48 08.0**	**+0.8**
	baz=306									
PMD	**Palm Desert**	**83.72**	**54**	P				**P**	**16 48 07.8**	**+0.6**
PMD				IAmb			IAmb		16 48 22.0	
	comp=Z,10nm,1.4s									
BELC	**Belle Mtn. Jos**	**83.77**	**53**	P				**P**	**16 48 08.1**	**+0.4**
	baz=306									
MTPU	**Mount Pierson**	**83.86**	**48**	P				**P**	**16 48 08.4**	**+0.1**
MTPU				IAmb			IAmb		16 48 10.3	
	comp=Z,2.3nm,0.7s									
SRU	**San Rafael Swe**	**84.23**	**47**	P				**P**	**16 48 10.7**	**+0.8**
SRU	**San Rafael Swe**	**84.23**	**47**	P				**P**	**16 48 10.7**	**+0.8**
SRU				pmax			pmax			
	comp=Z,6.0nm,0.5s									
CBX	**Cerro Bola**	**84.30**	**55**	P				**P**	**16 48 11.0**	**+0.8**
GERES	**GERESS Array B**	**84.58**	**327**	P				**P**	**16 48 10.8**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=51,slow=7.8,SNR=4.0									
	comp=Z,0.8nm,0.6s									
RSSD	**Black Hills**	**84.74**	**40**	P				**P**	**16 48 13.5**	**+1.1**
	baz=312									
N23A	**Red Feather La**	**85.81**	**43**	P				**P**	**16 48 18.5**	**+0.7**
	baz=311									
ISCO	**Idaho Springs**	**86.72**	**44**	P				**P**	**16 48 23.0**	**+0.7**
	baz=311									
FUORN	**Ofenpass-Fuorn**	**87.79**	**327**	P				**P**	**16 48 26.7**	**-0.3**
FUORN				IAmb			IAmb		16 48 31.9	
	comp=Z,6.3nm,1.4s									
TXAR	**Lajitas Array**	**94.86**	**50**	P				**P**	**16 49 01.0**	**+1.1**
TXAR	**Lajitas Array**	**94.86**	**50**	P				**P**	**16 49 01.0**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=308,slow=3.1,SNR=10									
	comp=Z,0.8nm,0.5s									
QSPA	**South Pole Qui**	**122.75**	**180**	PKP				**PKPdf**	**16 54 30.4**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=274,slow=0.8,SNR=11									

IDC 27 16:59:15.6±258.0, 53.86N×43.12E, h0km, Error ellipse: s-maj=114.4km s-min=81.5km az=150.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**4.43**	**313**	I	I	17 24 30.0	
	0.1nm,0.7s,baz=128,slow=337,SNR=0.8						
I31KZ	**AKTYUBINSK INF**	**9.80**	**105**	I	I	17 56 30.0	
	baz=299,slow=308,SNR=1.6						
I37NO	**I37NO**	**19.00**	**333**	I	I	19 02 55.8	
	baz=132,slow=330,SNR=0.5						
I46RU	**ZALESOVO INFRA**	**24.32**	**73**	I	I	19 27 40.0	
	baz=289,slow=320,SNR=3.1						
I34MN	**SONGINO INFRAS**	**39.24**	**72**	I	I	20 59 20.0	
	baz=310,slow=323,SNR=0.6						

IDC 27 17:03:27.6±6.0, 17.95S×168.51E, h137km±45km, mb3.5/4, mbtmp4.0/5, Error ellipse: s-maj=49.5km s-min=29.3km az=40.0
NEIC 27 17:03:29.8±2.8, 18.1S±0.1×168.5E±0.1, h146km±13km, mb4.4/5, Error ellipse: s-maj=16.8km s-min=15.8km az=92.0

ISC 27 17:03:29.6±1.2, 18.12S±0.10×168.5E±0.1, h150km, n20, σ1°38/24, mb4.1/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**2.90**	**204**		**Pn**	**17 04 14.3**	**-1.4**
LIFNC				Sn	**Sn**	**17 04 48.8**	**-2.6**
MARNC	**Mare, Loyalty**	**3.38**	**187**		**Pn**	**17 04 20.3**	**-1.4**
MARNC				Sn	**Sn**	**17 04 59.3**	**-3.0**
DZM	**Mont Dzumac**	**4.38**	**206**		**Pn**	**17 04 35.5**	**+0.5**
DZM				Sn	**Sn**	**17 05 26.2**	**+0.4**
DZM	**Mont Dzumac**	**4.38**	**206**	P	**Pn**	**17 04 35.3**	**+0.3**
	29nm,0.3s,baz=133,slow=20,SNR=78						
DZM				S	**Sn**	**17 05 27.0**	**+1.1**
	37nm,0.4s,baz=308,slow=23,SNR=9.0						
OUENC	**Ouen Island, N**	**4.55**	**200**	Pn	**Pn**	**17 04 38.3**	**+1.2**
PINNC	**Pines Island,**

ILAR	**Eielson Array**	**87.33**	**24**	P		**P**	**17 23 51.7**	**-1.3**
	0.6nm,0.7s,baz=257,slow=5.1,SNR=8.5 0.6nm,0.7s							

*IDC **27** 17:30:47.4±1.4,54°.18N×169°.34E,h0km,mb3.5/8, mbtmp3.6/10,ML3.8/2,MS2.9/3,Error ellipse: s-maj=50.0km s-min=16.8km az=9.0*
*MOS **27** 17:30:47.7±0.5,53°.92N×169°.41E,h20km,mb4.3/3,Error ellipse: s-maj=10.6km s-min=6.6km az=15.3*
*KRSC **27** 17:30:49.1±1.9,53°.91N×169°.23E,h68km±44km,Ml4.3*
*NEIC **27** 17:30:51.5±2.2,53°.9N±0°.1×169°.34E±0°.07,h33km±6km, mb4.1/41,Error ellipse: s-maj=21.7km s-min=2.6km az=193.0*

ISC 27 17:30:48.9±0.6,**53°.84N**±0°.07×**169°.26E**±0°.04,**h17**km,**n134**, σ1s**68**/141,**mb4.1**/22,**Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BKI	**Bering**	**2.36**	**307**	PN		**Pn**	**17 31 25.2**	**-1.6**
BKI	**Bering**	**2.36**	**307**	*eP*		**Pn**	**17 31 25.2**	**-1.6**
BKI				*eS*		**Sn**	**17 31 51.9**	**-3.4**
SHEM	**Shemya Is, Ala**	**3.11**	**109**	Pn		**Pn**	**17 31 38.2**	**+1.1**
	14nm,0.3s,baz=263,slow=3.3,SNR=13							
SHEM				Sn		**Sn**	**17 32 15.6**	**+1.8**
	12nm,0.3s,baz=290,slow=20,SNR=3.5 41nm,0.4s							
TUMD	**Tumrok D**	**5.34**	**288**	*eP*		**Pn**	**17 32 09.0**	**+1.2**
TUMD				*eS*		**Sn**	**17 33 07.7**	**-1.2**
ZLN	**Zelenaya**	**5.34**	**298**	*eS*		**Sn**	**17 33 10.4**	**+1.4**
BZGR	**Bezymyannyi-Gr**	**5.38**	**297**	PN		**Pn**	**17 32 11.0**	**+2.7**
BZGR	**Bezymyannyi-Gr**	**5.38**	**297**	*eP*		**Pn**	**17 32 11.0**	**+2.7**
BZGR				*eS*		**Sn**	**17 33 10.1**	**+0.3**
BZWR	**Bezymyannyi-We**	**5.49**	**296**	PN		**Pn**	**17 32 12.6**	**+2.6**
BZWR	**Bezymyannyi-We**	**5.49**	**296**	*eP*		**Pn**	**17 32 12.6**	**+2.6**
TUMR	**Tumrok**	**5.50**	**289**	PN		**Pn**	**17 32 11.8**	**+1.7**
TUMR	**Tumrok**	**5.50**	**289**	*eP*		**Pn**	**17 32 11.8**	**+1.7**
TUMR				*eS*		**Sn**	**17 33 11.9**	**-1.0**
KRSR	**Krestovskiy**	**5.54**	**299**	PN		**Pn**	**17 32 12.1**	**+1.5**
KRSR	**Krestovskiy**	**5.54**	**299**	*eP*		**Pn**	**17 32 12.1**	**+1.5**
KMNR	**Kamenistaya**	**5.56**	**294**	PN		**Pn**	**17 32 12.5**	**+1.6**
KMNR	**Kamenistaya**	**5.56**	**294**	*eP*		**Pn**	**17 32 12.5**	**+1.6**
KMNR				*eS*		**Sn**	**17 33 14.5**	**0.0**
SPN	**Mys Shipunski**	**5.57**	**266**	PN		**Pn**	**17 32 12.5**	**+1.6**
SPN	**Mys Shipunski**	**5.57**	**266**	*eP*		**Pn**	**17 32 12.5**	**+1.6**
KPT	**Kopyto**	**5.64**	**296**	PN		**Pn**	**17 32 13.9**	**+2.0**
KPT	**Kopyto**	**5.64**	**296**	*eP*		**Pn**	**17 32 13.9**	**+2.0**
KOZ	**Kozyrevsk**	**5.85**	**296**	PN		**Pn**	**17 32 17.0**	**+2.2**
KOZ	**Kozyrevsk**	**5.85**	**296**	*eP*		**Pn**	**17 32 17.0**	**+2.2**
NLC	**Nalytchevo**	**5.96**	**268**	PN		**Pn**	**17 32 17.8**	**+1.6**
NLC	**Nalytchevo**	**5.96**	**268**	*eP*		**Pn**	**17 32 17.8**	**+1.6**
NLC				*eS*		**Sn**	**17 33 20.5**	**-3.5**
SRDR	**Sredinnyy**	**6.02**	**298**	*eS*		**Sn**	**17 33 26.0**	**+0.4**
UGLR	**Uglovaya**	**6.26**	**268**	PN		**Pn**	**17 32 22.5**	**+2.0**
UGLR	**Uglovaya**	**6.26**	**268**	*eP*		**Pn**	**17 32 22.5**	**+2.0**
SMAR	**Somma**	**6.26**	**269**	PN		**Pn**	**17 32 22.4**	**+1.7**
SMAR	**Somma**	**6.26**	**269**	*eP*		**Pn**	**17 32 22.4**	**+1.7**
KRER	**Koryakskii**	**6.29**	**269**	PN		**Pn**	**17 32 23.2**	**+2.2**
KRER	**Koryakskii**	**6.29**	**269**	*eP*		**Pn**	**17 32 23.2**	**+2.2**
AVH	**Avacha**	**6.30**	**269**	PN		**Pn**	**17 32 23.3**	**+2.3**
AVH	**Avacha**	**6.30**	**269**	*eP*		**Pn**	**17 32 23.3**	**+2.3**
DALK	**Dalny**	**6.33**	**267**	PN		**Pn**	**17 32 23.5**	**+2.1**
DALK	**Dalny**	**6.33**	**267**	*eP*		**Pn**	**17 32 23.5**	**+2.1**
KRX	**Arik**	**6.34**	**270**	PN		**Pn**	**17 32 23.5**	**+1.9**
KRX	**Arik**	**6.34**	**270**	*eP*		**Pn**	**17 32 23.5**	**+1.9**
KOK	**Koryaka**	**6.36**	**269**	PN		**Pn**	**17 32 23.9**	**+2.1**
KOK	**Koryaka**	**6.36**	**269**	*eP*		**Pn**	**17 32 23.9**	**+2.1**
PET	**Petropavlovsk**	**6.39**	**267**			**Pn**	**17 32 24.0**	**+1.7**
PET				Sn		**Sn**	**17 33 33.0**	**-1.8**
PET	**Petropavlovsk**	**6.39**	**267**	PN		**Pn**	**17 32 24.4**	**+2.2**
PET	**Petropavlovsk**	**6.39**	**267**	*eP*		**Pn**	**17 32 24.4**	**+2.2**
ESO	**Esso**	**6.45**	**293**	PN		**Pn**	**17 32 24.4**	**+1.4**
ESO	**Esso**	**6.45**	**293**	*eP*		**Pn**	**17 32 24.4**	**+1.4**
AMKA	**Amchitka**	**6.59**	**108**	Pn		**Pn**	**17 32 26.2**	**+1.3**
AMKA				Sn		**Sn**	**17 33 37.5**	**-2.2**
GNL	**Ganaly**	**6.72**	**273**	PN		**Pn**	**17 32 29.3**	**+2.5**
GNL	**Ganaly**	**6.72**	**273**	*eP*		**Pn**	**17 32 29.3**	**+2.5**
KRMR	**Karymshinskiy**	**6.75**	**266**	PN		**Pn**	**17 32 29.2**	**+2.2**
KRMR	**Karymshinskiy**	**6.75**	**266**	*eP*		**Pn**	**17 32 29.2**	**+2.2**
KRMR				*eS*		**Sn**	**17 33 42.9**	**-0.5**
MTVR	**Mutnovka**	**6.80**	**263**	PN		**Pn**	**17 32 30.2**	**+2.2**
MTVR	**Mutnovka**	**6.80**	**263**	*eP*		**Pn**	**17 32 30.2**	**+2.2**
MTVR				*eS*		**Sn**	**17 33 42.7**	**-2.3**
TILK	**Tilichiki**	**6.84**	**347**	PN		**Pn**	**17 32 27.1**	**-1.2**
TILK	**Tilichiki**	**6.84**	**347**	*eP*		**Pn**	**17 32 27.1**	**-1.2**
PEA0B	**Petropavlovsk-**	**6.94**	**269**	Pn		**Pn**	**17 32 32.3**	**+2.5**
PEA0B				Sn		**Sn**	**17 33 48.5**	**+0.2**
PETK	**Petropavlovsk-**	**6.94**	**269**			**Pn**	**17 32 31.9**	**+2.1**
PETK	**Petropavlovsk-**	**6.94**	**269**	PN		**Pn**	**17 32 31.9**	**+2.1**
PETK	**Petropavlovsk-**	**6.94**	**269**	Pn		**Pn**	**17 32 32.1**	**+2.3**
	5.9nm,0.3s,baz=92,slow=21,SNR=20							
PETK				Sn		**Sn**	**17 33 48.1**	**-0.3**
	1.1nm,0.3s,baz=86,slow=19,SNR=1.3							
PETK				LR		LR	17 35 05.5	
	comp=Z,42nm,21.6s,baz=83,slow=37 7.0nm,0.4s							
ASAK	**Asacha**	**7.00**	**263**	PN		**Pn**	**17 32 33.3**	**+2.7**
ASAK	**Asacha**	**7.00**	**263**	*eP*		**Pn**	**17 32 33.3**	**+2.7**
ASAK				*eS*		**Sn**	**17 33 49.6**	**-0.1**
KDTR	**Khodutka, Kamc**	**7.08**	**258**	PN		**Pn**	**17 32 33.5**	**+1.9**
KDTR	**Khodutka, Kamc**	**7.08**	**258**	*eP*		**Pn**	**17 32 33.5**	**+1.9**
KDTR				*eS*		**Sn**	**17 33 48.2**	**-3.4**
APC	**Apacha**	**7.30**	**268**	PN		**Pn**	**17 32 38.1**	**+3.5**
APC	**Apacha**	**7.30**	**268**	*eP*		**Pn**	**17 32 38.1**	**+3.5**
SKR	**Severo-Kuril's**	**8.66**	**254**	PN		**Pn**	**17 32 56.4**	**+3.1**
SKR	**Severo-Kuril's**	**8.66**	**254**	*eP*		**Pn**	**17 32 56.4**	**+3.1**
SKR				*eS*		**Sn**	**17 34 27.5**	**-3.0**
ADK	**Adak**	**8.73**	**97**	Pn		**Pn**	**17 32 54.1**	**-0.1**
ADK	**Adak**	**8.73**	**97**	PN		**Pn**	**17 32 54.1**	**-0.1**
ATKA	**Atka Island**	**10.10**	**93**	Pn		**Pn**	**17 33 13.5**	**+0.4**
BILL	**Bilibino**	**14.32**	**355**	Pn		**Pn**	**17 34 09.9**	**-0.7**
M13K	**Dall Lake**	**16.17**	**55**			**P**	**17 34 36.6**	**-1.6**
L14K	**Kuka Creek**	**16.70**	**52**			**Pn**	**17 34 42.8**	**+1.0**
L14K				IAmb		IAmb	17 34 59.9	
	comp=Z,10nm,1.2s							
M14K	**Bethel**	**16.91**	**54**			**P**	**17 34 46.0**	**-0.3**
M14K				IAmb		IAmb	17 35 18.8	
	comp=Z,41nm,1.5s							
K15K	**Wolf Creek Mou**	**17.47**	**49**			**P**	**17 34 53.6**	**+1.0**
K15K				IAmb		IAmb	17 35 25.1	
	comp=Z,18nm,1.5s							
F15K	**North Star Dit**	**17.54**	**37**	P		**P**	**17 34 55.2**	**+1.9**
J16K	**Anvik River**	**18.17**	**47**	P		**P**	**17 35 02.7**	**+2.5**
H17K	**Granite Mounta**	**19.00**	**42**	P		**P**	**17 35 09.2**	**-0.2**
K17K	**Iditarod**	**19.03**	**49**	P		**P**	**17 35 09.8**	**+0.1**
K17K				IAmb		IAmb	17 35 22.6	
	comp=Z,13nm,1.4s							
M17K	**Holitna River**	**19.19**	**53**	P		**Pn**	**17 35 12.7**	**+0.3**
M17K				IAmb		IAmb	17 35 53.5	
	comp=Z,25nm,1.5s							
H18K	**Honhosa River**	**19.69**	**42**	P		**Pn**	**17 35 17.5**	**-1.0**
J18K	**Innoko River**	**19.90**	**48**	P		**P**	**17 35 19.9**	**+0.6**
J18K				IAmb		IAmb	17 35 21.1	
	comp=Z,5.7nm,1.0s							
TTA	**Tatalina**	**20.10**	**49**	P		**P**	**17 35 22.1**	**+0.6**
TTA				IAmb		IAmb	17 35 22.7	
	comp=Z,8.1nm,1.2s							
TTA	**Tatalina**	**20.10**	**49**	P		**P**	**17 35 22.1**	**+0.6**
TTA				pmax		pmax		
	comp=Z,8.0nm,1.2s							
L19K	**White Mountain**	**20.51**	**52**	P		**P**	**17 35 26.7**	**+0.8**
L19K				IAmb		IAmb	17 35 38.0	
	comp=Z,11nm,1.0s							
E19K	**Redstone River**	**20.98**	**36**	P		Pn	17 35 32.2	-1.3
D19K	**Kuna River**	**21.13**	**33**	P		**P**	**17 35 32.0**	**-0.6**
J20K	**Nowinta River**	**21.17**	**46**	P		**P**	**17 35 33.4**	**+0.4**
J20K				IAmb		IAmb	17 36 06.9	
	comp=Z,6.8nm,1.3s							
B20K	**Meade River**	**22.16**	**30**	P		**P**	**17 35 42.3**	**-1.2**
CNPM	**China Poot**	**22.17**	**59**	P		**P**	**17 35 42.1**	**-1.7**
YAK	**Yakutsk**	**22.23**	**307**	P		**P**	**17 35 43.8**	**-0.5**
	comp=Z,3.5nm,0.3s,baz=175,slow=2.5,SNR=4.7 comp=Z,3.5nm,0.3s							
E22K	**Anaktuvuk Pass**	**23.14**	**37**	P		**P**	**17 35 53.8**	**-0.2**
B22K	**Teshekpuk Lake**	**23.44**	**31**			**P**	**17 35 55.0**	**-1.9**
B22K				IAmb		IAmb	17 36 26.3	
	comp=Z,7.4nm,1.2s							
SCM	**Sheep Creek Mo**	**24.03**	**53**	P		**P**	**17 36 01.4**	**-1.3**
SCM	**Sheep Creek Mo**	**24.03**	**53**	P		**P**	**17 36 01.4**	**-1.3**
SCM				pmax		pmax		
	comp=Z,16nm,1.4s							
TOLK	**Toolik Lake Re**	**24.09**	**36**	P		**P**	**17 36 02.1**	**-1.0**
TOLK				IAmb		IAmb	17 36 06.4	
	comp=Z,4.9nm,1.2s							
ILAR	**Eielson Array**	**24.37**	**46**	P		**P**	**17 36 04.2**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=246,slow=7.4,SNR=5.3 comp=Z,0.3nm,0.6s							
M24K	**Tolsona, Glenn**	**24.57**	**53**	P		**P**	**17 36 05.5**	**-2.1**
TIXI	**Tiksi**	**24.91**	**331**	P		**P**	**17 36 09.8**	**-0.7**
TIXI				IAmb		IAmb	17 36 11.8	
	comp=Z,3.8nm,1.1s							
TIXI	**Tiksi**	**24.91**	**331**	P		**P**	**17 36 09.8**	**-0.7**
TIXI				pmax		pmax		
	comp=Z,4.0nm,1.1s							
FYU	**Fort Yukon**	**25.26**	**42**	P		**P**	**17 36 13.4**	**-0.3**
FYU				IAmb		IAmb	17 36 21.7	
	comp=Z,12nm,1.2s							
BMAR	**Burnt Mountain**	**25.64**	**40**	P		**P**	**17 36 16.4**	**-0.8**
VRDI	**Verde Repeater**	**25.92**	**54**	P		**P**	**17 36 19.2**	**-0.8**
M27K	**Edge Creek, AK**	**26.57**	**52**	P		**P**	**17 36 26.2**	**+0.3**
M27K				IAmb		IAmb	17 37 09.7	
	comp=Z,6.5nm,1.2s							
MESA	**MESA**	**26.77**	**57**	P		**P**	**17 36 27.1**	**-0.6**
GRNC	**Granite Creek**	**26.79**	**55**	P		**P**	**17 36 27.3**	**-0.6**
BARN	**Barnard Glacie**	**26.80**	**55**	P		**P**	**17 36 26.9**	**-1.1**
LOGN	**Logan Glacier**	**27.15**	**55**	P		**P**	**17 36 29.7**	**-1.4**
MJAR	**Matsushiro Arr**	**27.58**	**244**	LR		LR	17 46 29.7	
	comp=Z,21nm,21.4s,baz=32,slow=34							
G29M	**Pine Creek**	**28.14**	**42**	P		**P**	**17 36 39.5**	**-0.3**
G29M				IAmb		IAmb	17 36 44.1	
	comp=Z,6.6nm,1.5s							
K29M	**Barlow Dome**	**28.44**	**48**	P		**P**	**17 36 41.9**	**-0.7**
K29M				IAmb		IAmb	17 36 54.3	
	comp=Z,7.3nm,1.4s							
HYT	**Haines Junctio**	**28.84**	**54**	P		**P**	**17 36 46.1**	**0.0**
HYT				IAmb		IAmb	17 37 14.2	
	comp=Z,9.9nm,1.2s							
JIS	**Juneau Island**	**30.98**	**59**	P		**P**	**17 37 04.9**	**0.0**
S32K	**Killisnoo**	**31.12**	**60**	P		**P**	**17 37 05.4**	**-0.7**
H11N2	**WAKE ISLAND Hy**	**34.09**	**184**	T		T	18 13 53.0	
	baz=2.5,slow=76,SNR=760							
H11N3	**WAKE ISLAND Hy**	**34.11**	**184**	T		T	18 13 53.9	
	baz=2.5,slow=76,SNR=514							
H11N1	**WAKE ISLAND Hy**	**34.11**	**184**	T		T	18 13 54.5	
	baz=2.5,slow=76,SNR=619							
H11S1	**WAKE ISLAND Hy**	**35.32**	**184**	T		T	18 15 26.7	
	baz=2.3,slow=76,SNR=276							
H11S3	**WAKE ISLAND Hy**	**35.33**	**184**	T		T	18 15 28.8	
	baz=2.3,slow=76,SNR=90							
H11S2	**WAKE ISLAND Hy**	**35.34**	**184**	T		T	18 15 28.4	
	baz=2.3,slow=76,SNR=220							
SONM	**Songino Array**	**38.99**	**288**	P		**P**	**17 38 14.8**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=68,slow=7.8,SNR=2.3 comp=Z,0.2nm,0.5s							
NVAR	**Mina Array Bea**	**50.28**	**77**	P		**P**	**17 39 44.6**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=308,slow=8.9,SNR=1.7 comp=Z,0.4nm,0.6s							
KURK	**Kurchatov**	**51.87**	**306**	P		**P**	**17 39 56.1**	**+0.2**
KURBB	**Kurchatov Arra**	**51.97**	**306**	P		**P**	**17 39 56.1**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=51,slow=7.5,SNR=4.0 comp=Z,0.4nm,0.8s							
MKAR	**Makanchi Array**	**52.65**	**300**	P		**P**	**17 40 00.9**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=51,slow=9.8,SNR=2.4 comp=Z,0.2nm,0.6s							
BVAR	**Borovoye Array**	**54.08**	**313**	P		**P**	**17 40 12.1**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=52,slow=9.6,SNR=8.5 comp=Z,1.3nm,0.7s							
BRVK	**Borovoye**	**54.10**	**313**	P		**P**	**17 40 11.6**	**-0.8**
BRVK				IAmb		IAmb	17 40 12.7	
	comp=Z,1.5nm,0.7s							
BRVK	**Borovoye**	**54.10**	**313**	P		**P**	**17 40 11.6**	**-0.8**
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.7s							
ABKAR	**Akbulak array**	**61.31**	**315**	P		**P**	**17 41 03.4**	**+0.3**
TX31	**Lajitas Ar. Si**	**65.22**	**74**	P		**P**	**17 41 29.3**	**-0.2**
TX31				IAmb		IAmb	17 41 55.4	
	comp=Z,4.1nm,1.5s							
TXAR	**Lajitas Array**	**65.23**	**74**	P		**P**	**17 41 29.9**	**+0.5**
TXAR	**Lajitas Array**	**65.23**	**74**	P		**P**	**17 41 30.2**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=294,slow=4.8,SNR=7.1 comp=Z,0.4nm,0.5s							
BUR08	**Bucovina Ar. S**	**74.40**	**336**	P		**P**	**17 42 26.4**	**+0.8**
BUR08				IAmb		IAmb	17 42 41.4	
	comp=Z,3.6nm,1.2s							
BURAR	**Bucovina Array**	**74.42**	**336**	P		**P**	**17 42 26.9**	**+1.2**
MLR	**Muntele Rosu**	**76.22**	**334**	P		**P**	**17 42 35.9**	**-0.3**
MLR				IAmb		IAmb	17 43 03.8	
	comp=Z,4.3nm,1.2s							
MLR	**Muntele Rosu**	**76.22**	**334**	P		**P**	**17 42 35.9**	**-0.3**
PALK	**Pallekele**	**83.34**	**273**	LR		LR	18 25 01.0	
	comp=Z,16nm,18.7s,baz=232,slow=39							

*IDC **27** 17:41:20.3±0.8,6°.27S×143°.68E,h0km,mb4.1/10, mbtmp4.1/12,ML1.9/1,MS3.3/1,Error ellipse: s-maj=32.4km s-min=19.0km az=69.0*

ISC 27 17:41:25.5±0.6,**6°.51S**±0°.06×**143°.41E**±0°.07,**h35**km,**n24**, σ2s**19**/28,**mb4.1**/10,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**4.70**	**128**	Pn		**Pn**	**17 42 33.9**	**0.0**
	4.1nm,0.3s,baz=351,slow=7.4,SNR=19							
PMG				Sn		**Sn**	**17 43 26.5**	**-0.8**
	5.8nm,0.3s,baz=343,slow=23,SNR=12 22nm,0.6s							
COEN	**Coen**	**7.41**	**182**	P		**Pn**	**17 43 14.8**	**+3.7**
	baz=7.2,SNR=3.8							
KDU	**Kakadu**	**12.41**	**240**	P		**Pn**	**17 44 20.2**	**+0.5**
	baz=12,SNR=26							
KDU				S		**Sn**	**17 46 34.3**	**-2.5**
	baz=12							
MTN	**Manton Dam**	**13.64**	**242**	P		**Pn**	**17 44 36.7**	**+0.2**
	baz=13,SNR=12							
MTN				S		**Sn**	**17 47 01.7**	**-5.2**
	baz=13							
CTA	**Charters Tower**	**13.78**	**169**	LR		LR	17 50 35.6	
	comp=Z,124nm,19.4s,baz=70,slow=40							
QIS	**Mount Isa**	**14.45**	**194**	P		**Pn**	**17 44 49.9**	**+2.3**
	baz=14,SNR=6.9							
QIS				S		**Sn**	**17 47 22.1**	**-4.5**
	baz=14							
WB2	**Warramunga Arr**	**15.99**	**213**	P		**Pn**	**17 45 08.8**	**+0.8**
	baz=16							
WB2				S		**Sn**	**17 48 01.3**	**-2.9**
	baz=16							
WRA	**Warramunga Arr**	**16.00**	**213**	Pn		**Pn**	**17 45 07.7**	**-0.4**
	0.5nm,0.3s,baz=31,slow=13,SNR=25							
WRA				Lg		Lg	17 49 52.2	
	0.1nm,0.3s,baz=30,slow=28,SNR=3.2							
KNRA	**Kununurra**	**17.01**	**236**	P		**Pn**	**17 45 21.7**	**+1.0**
	baz=17,SNR=12							
ASAR	**Alice Springs**	**19.36**	**207**	P		**Pn**	**17 45 52.2**	**+2.8**
	7.4nm,0.7s,baz=32,slow=9.7,SNR=109							
ASAR				Lg		Lg	17 51 37.8	
	baz=25,slow=29							
ASPA	**Alice Springs**	**19.36**	**207**	P		**Pn**	**17 45 52.5**	**+3.0**
	baz=19							
FITZ	**Fitzroy Crossi**	**20.81**	**235**	P		**P**	**17 46 06.6**	**+2.6**
	baz=21,SNR=4.4							
WRKA	**Warakurna**	**23.43**	**217**	P		**P**	**17 46 33.0**	**+1.3**
	baz=23,SNR=12							
KSRS	**Korea Array**	**46.06**	**343**	P		**P**	**17 49 46.0**	**+0.1**
	1.4nm,0.8s,baz=163,slow=9.2,SNR=5.5 1.4nm,0.8s							
CMAR	**Chiang Mai Arr**	**50.38**	**300**	P		**P**	**17 50 20.7**	**+1.0**
	0.9nm,0.7s,baz=125,slow=5.8,SNR=7.0 0.9nm,0.7s							
PETK	**Petropavlovsk-**	**60.61**	**10**	P		**P**	**17 51 31.5**	**-1.1**
	2.8nm,0.8s,baz=160,slow=4.6,SNR=2.8 2.8nm,0.8s							
SONM	**Songino Array**	**63.17**	**333**	P		**P**	**17 51 49.9**	**-0.2**
	0.8nm,0.8s,baz=166,slow=8.3,SNR=5.9 0.8nm,0.8s							
MKAR	**Makanchi Array**	**75.64**	**322**	P		**P**	**17 53 07.3**	**+0.2**
	0.7nm,0.6s,baz=104,slow=6.3,SNR=9.4 0.7nm,0.6s							
ZALV	**Zalesovo Beam**	**77.57**	**329**	P		**P**	**17 53 16.1**	**-1.7**
	0.6nm,0.5s,baz=108,slow=9.3,SNR=2.6 0.6nm,0.5s							
QSPA	**South Pole Qui**	**83.46**	**180**	P		**P**	**17 53 50.3**	**+0.9**
	1.3nm,0.6s,baz=359,slow=2.4,SNR=11 1.3nm,0.6s							
NRIK	**Noril'sk**	**84.68**	**343**	P		**P**	**17 53 54.8**	**-0.5**
	2.2nm,0.7s,baz=136,slow=4.5,SNR=8.8 2.2nm,0.7s							
BVAR	**Borovoye Array**	**85.09**	**325**	P		**P**	**17 53 58.0**	**+0.2**
	3.6nm,0.9s,baz=102,slow=6.5,SNR=13 3.6nm,0.9s							
ILAR	**Eielson Array**	**87.36**	**24**	P		**P**	**17 54 06.5**	**-2.1**
	1.3nm,0.9s,baz=251,slow=4.9,SNR=8.5 1.3nm,0.9s							
DBIC	**Dimbokro**	**148.48**	**272**	PKPbc		**PKPbc**	**18 01 10.3**	**+0.6**
	4.7nm,0.9s,baz=71,slow=2.7,SNR=3.8							

*IDC **27** 17:45:53.7±1.0,32°.26S×179°.01W,h0km,mb4.5/3, mbtmp4.6/4,ML5.0/1,MS3.4/3,Error ellipse: s-maj=34.1km s-min=28.0km az=75.0*
*NEIC **27** 17:45:56.9±1.1,32°.34S±0°.05×179°.2W±0°.2,h10km±1km, mb4.5/14,Error ellipse: s-maj=25.2km s-min=5.0km az=106.0*
*WEL **27** 17:45:57.3±0.6,33°.5S±5°×17°.8W±1°.2,h111km±22km, M4.6/24,mB5.1/24,ML5.2/18,MLv5.1/20,Mw(mB)4.5/24, Error ellipse: s-maj=0.0km s-min=0.0km az=111.5*

ISC 27 17:45:55.1±0.7,**32°.55S**±0°.05×**178°.8W**±0°.1,**h10**km,**n93**, σ2s**08**/106,**mb4.5**/11,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GLKZ	**Green Lake**	**3.36**	**13**	P		**Pn**	**17 46 48.0**	**+0.4**
GLKZ				S		**Sn**	**17 47 25.8**	**-1.7**
RAO	**Raoul Island**	**3.37**	**13**	Pn		**Pn**	**17 46 48.4**	**+0.6**
RIZ	**Raoul Island**	**3.37**	**12**	S		**Sn**	**17 47 28.3**	**+0.4**
MXZ	**Matakaoa Point**	**5.55**	**205**	Pn		**Pn**	**17 47 19.3**	**+1.6**
MXZ	**Matakaoa Point**	**5.55**	**205**	P		**Pn**	**17 47 18.9**	**+1.2**
MXZ				S		**Sn**	**17 48 23.2**	**+1.7**
WMGZ	**Waiomatatini S**	**5.74**	**203**	P		**Pn**	**17 47 22.6**	**+2.3**
WMGZ				S		**Sn**	**17 48 26.8**	**+0.5**
HAZ	**Te Kaha**	**5.91**	**208**	P		**Pn**	**17 47 25.4**	**+2.7**
HAZ				S		**Sn**	**17 48 32.6**	**+2.1**
PKGZ	**Pakihiroa**	**5.92**	**205**	P		**Pn**	**17 47 24.4**	**+1.5**
PKGZ				S		**Sn**	**17 48 31.9**	**+1.1**
PUZ	**Puketiti**	**6.02**	**203**	P		**Pn**	**17 47 25.5**	**+1.3**
PUZ				S		**Sn**	**17 48 33.4**	**+0.2**
RUGZ	**Raukumara Rang**	**6.14**	**207**	P		**Pn**	**17 47 27.5**	**+1.6**
RUGZ				S		**Sn**	**17 48 38.1**	**+1.9**
TWGZ	**Tauwhareparae**	**6.21**	**204**	P		**Pn**	**17 47 27.6**	**+0.8**
TWGZ				S		**Sn**	**17 48 37.2**	**-0.8**
WHRZ	**Whale Island**	**6.34**	**212**	P		Pn	17 47 34.5	+5.9
WHRZ				S		**Sn**	**17 48 44.6**	**+3.6**
CNGZ	**Carnagh Statio**	**6.41**	**202**	P		**Pn**	**17 47 31.2**	**+1.6**
CNGZ				S		**Sn**	**17 48 40.9**	**-2.0**
TKGZ	**Te Karaka**	**6.49**	**204**	P		**Pn**	**17 47 30.2**	**-0.4**
TKGZ				S		**Sn**	**17 48 44.9**	**+0.1**
MWZ	**Matawai**	**6.51**	**207**	P		**Pn**	**17 47 31.7**	**+0.7**
MWZ				S		**Sn**	**17 48 46.5**	**+1.1**
OPRZ	**Ohinepanea**	**6.53**	**215**	P		Pn	17 47 36.1	+5.0
MARZ	**Manawahe**	**6.58**	**213**	P		Pn	17 47 37.2	+5.3
URZ	**Urewera**	**6.62**	**209**	Pn		**Pn**	**17 47 33.7**	**+1.3**
	32nm,0.3s,baz=68,slow=3.0,SNR=188							
URZ				Sn		**Sn**	**17 48 45.4**	**-2.4**
	6.0nm,0.3s,baz=255,slow=16,SNR=1.9 73nm,0.3s							
URZ	**Urewera**	**6.62**	**209**	P		**Pn**	**17 47 33.7**	**+1.3**
URZ				S		**Sn**	**17 48 48.5**	**+0.7**
WCZ	**Waipu Caves**	**6.63**	**237**	P		Pn	17 47 38.7	+6.1
RAGZ	**Rawiri**	**6.70**	**207**	P		**Pn**	**17 47 37.8**	**+4.2**

comp=Z,4.9nm,0.7s,baz=70,slow=0.9,SNR=17
comp=Z,4.9nm,0.7s
JHJ Hachijo jima 2 76.11 325 LR LR 18 30 57.3
comp=Z,22nm,18.2s,baz=34,slow=36
FINES FINESS Array B 146.92 338 PKPbc **PKPdf 18 05 34.3 -0.8**
comp=Z,2.3nm,0.6s,baz=46,slow=3.6,SNR=22
NB2 NORSAR Subarra150.76 350 PKP **PKPbc 18 05 47.6 +0.6**
comp=Z,0.5nm,0.5s,baz=14,slow=2.5
NOA NORSAR Array B150.76 350 PKPbc **PKPbc 18 05 46.5 -0.4**
comp=Z,0.3nm,0.7s,baz=32,slow=1.7,SNR=3.9
HFS Hagfors 151.20 347 PKP **PKPdf 18 05 42.7 +0.7**
comp=Z,0.4nm,0.5s,baz=27,slow=3.9,SNR=1.1
HFS PKPbc **sPKPdf 18 05 48.0 +2.6**
comp=Z,0.6nm,0.4s,baz=5.4,slow=4.6,SNR=4.8
MMAI Mount Meron Ar 151.34 280 PKPbc **PKPbc 18 05 48.0 -1.3**
comp=Z,0.2nm,0.3s,baz=126,slow=2.5,SNR=4.2
TORD Torodi Ar. Bea 160.68 181 PKPab **PKPab 18 06 38.3 +0.8**
comp=Z,0.7nm,0.7s,baz=174,slow=2.9,SNR=5.1

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*IDC **27** 17:46:47.3±1.5, 12˚.49N×145˚.51E, h0km, mb3.6/5, mbtmp3.6/5, MS3.1/2, Error ellipse: s-maj=48.0km s-min=27.4km az=80.0*
ISC 27 17:46:52.7±1.4, 12˚.5N±0˚.1×145˚.4E±0˚.3, h35km, n8, σ1s16/7, mb3.6/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.15**	**336**	Pn	**Pn**	**17 47 11.7**	**-0.6**
	57nm,0.3s,baz=102,slow=2.6,SNR=57						
GUMO				Sn	**Sn**	**17 47 26.7**	**-0.2**
	185nm,0.3s,baz=351,slow=19,SNR=9.1						
GUMO				LR	LR	17 47 47.9	
	comp=Z,445nm,19.4s,baz=246,slow=48						
MJAR	**Matsushiro Arr**	**24.75**	**346**	LR	LR	18 01 27.2	
	comp=Z,30nm,18.4s,baz=187,slow=35						
WRA	**Warramunga Arr**	**34.05**	**199**	P	**P**	**17 53 33.2**	**-0.5**
	0.6nm,0.6s,baz=22,slow=9.7,SNR=2.8						
	0.6nm,0.6s						
YAK	**Yakutsk**	**50.70**	**351**	LR	LR	18 15 13.6	
	comp=Z,25nm,21.2s,baz=284,slow=34						
MKAR	**Makanchi Array**	**62.58**	**316**	P	**P**	**17 57 13.9**	**+0.6**
	0.3nm,0.7s,baz=92,slow=7.4,SNR=2.7						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**65.73**	**320**	P	**P**	**17 57 35.9**	**+2.0**
	0.3nm,0.6s,baz=103,slow=6.3,SNR=3.1						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**69.31**	**25**	P	**P**	**17 57 56.1**	**-0.1**
	0.2nm,0.4s,baz=249,slow=6.0,SNR=5.5						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**71.05**	**322**	P	**P**	**17 58 07.7**	**+0.6**
	0.4nm,0.4s,baz=91,slow=7.6,SNR=2.5						
	0.4nm,0.4s						

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*IDC **27** 18:04:26.5±1.9, 43˚.72N×105˚.40W, h0km, mb3.6/1, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=50.9km s-min=9.3km az=150.0*
*NEIC **27** 18:04:26.9±0.8, 43˚.76N±0˚.07×105˚.35W±0˚.07, h0km±1km, ML3.1/68, Error ellipse: s-maj=11.8km s-min=8.7km az=359.0*
ISC 27 18:04:26.8±1.0, 43˚.80N±0˚.07×105˚.32W±0˚.06, h0km, n40, σ1s09/38, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.98**	**70**		**Pb**	**18 04 46.7**	**0.0**
K22A	**Casper**	**1.45**	**218**		**Pn**	**18 04 53.6**	**-0.8**
K22A				IAML		18 05 18.8	
	comp=N,284nm,0.3s						
K22A				IAML		18 05 20.3	
	comp=E,259nm,0.3s						
PHWY	**Pilot Hill**	**2.50**	**182**		**Pn**	**18 05 09.9**	**+0.9**
PHWY				IAML		18 05 46.8	
	comp=E,83nm,0.3s						
PHWY				IAML		18 05 48.7	
	comp=E,100nm,0.4s						
RWWY	**Rawlins**	**2.53**	**214**		**Pn**	**18 05 10.6**	**+1.3**
RWWY				IAML		18 05 46.5	
	comp=E,104nm,0.7s						
N23A	**Red Feather La**	**2.94**	**189**		**Pn**	**18 05 16.5**	**+1.5**
N23A				IAML		18 06 00.8	
	comp=E,68nm,0.4s						
N23A				IAML		18 06 03.5	
	comp=N,81nm,0.4s						
RLMT	**Red Lodge**	**3.12**	**296**		**Pn**	**18 05 18.1**	**+0.7**
RLMT				IAML		18 06 15.2	
	comp=N,43nm,0.4s						
RLMT				IAML		18 06 21.1	
	comp=N,44nm,1.0s						
PD31	**Pinedale Array**	**3.26**	**253**		**Pn**	**18 05 20.5**	**+1.2**
PDAR	**Pinedale Array**	**3.26**	**253**	Pn	**Pn**	**18 05 20.9**	**+1.6**
	comp=N,6.9nm,0.3s,baz=74,slow=18,SNR=25						
PDAR				Lg	Lg	18 06 06.4	
	comp=N,9.1nm,0.3s,baz=73,slow=33,SNR=2.7						
	comp=N,3.5nm,0.3s						
YMP	**Mirror Lake Pl**	**3.60**	**287**		**Pn**	**18 05 26.4**	**+2.3**
LKWY	**Lake**	**3.73**	**284**		**Pn**	**18 05 27.2**	**+1.3**
LKWY				IAML		18 05 55.8	
	comp=N,24nm,1.9s						
OGNE	**Ogallala**	**3.75**	**138**		**Pn**	**18 05 27.9**	**+1.9**
H17A	**Grant Village**	**3.83**	**281**		**Pn**	**18 05 28.7**	**+1.5**
LOHW	**Long Hollow**	**3.84**	**269**		**Pn**	**18 05 28.5**	**+1.2**
FLWY	**Flagg Ranch**	**3.90**	**276**		**Pn**	**18 05 29.7**	**+1.7**
FLWY				IAML		18 06 36.4	
	comp=N,30nm,2.4s						
FLWY				IAML		18 06 41.6	
	comp=N,24nm,2.2s						
MOOW	**Moose Ponds**	**3.93**	**271**		**Pn**	**18 05 30.4**	**+1.9**
REDW	**Red Top Meadow**	**4.04**	**266**		**Pn**	**18 05 30.7**	**+0.6**
IMW	**Indian Meadow**	**4.07**	**273**		**Pn**	**18 05 31.1**	**+0.7**
IMW				IAML		18 06 42.0	
	comp=N,17nm,1.1s						
IMW				IAML		18 06 44.9	
	comp=N,25nm,0.7s						
YHH	**Holmes Hill**	**4.09**	**286**		**Pn**	**18 05 30.3**	**-0.5**
FXWY	**Fox Creek**	**4.14**	**270**		**Pn**	**18 05 30.9**	**-0.5**
O20A	**White River Ci**	**4.26**	**212**	IAML		18 07 03.7	
	comp=N,28nm,3.4s						
E28A	**Huff**	**4.29**	**48**		**Pn**	**18 05 34.1**	**+0.8**
K30B	**Basset**	**4.32**	**103**		**Pn**	**18 05 33.9**	**+0.2**
YHL	**Hebgen Lake**	**4.34**	**286**		**Pn**	**18 05 35.1**	**+0.9**
YHL				IAML		18 07 04.5	
	comp=E,21nm,0.9s						
YHL				IAML		18 07 07.1	
	comp=N,17nm,1.2s						
AHID	**Auburn Hatcher**	**4.34**	**258**		**Pn**	**18 05 34.3**	**+0.1**
AHID				IAML		18 06 59.5	
	comp=N,19nm,1.1s						
AHID				IAML		18 07 03.8	
	comp=N,20nm,0.9s						
SUSD	**Miller**	**4.63**	**80**		**Pn**	**18 05 38.7**	**+0.7**
DGMT	**Dagmar**	**4.74**	**9**		**Pn**	**18 05 39.4**	**-0.1**
Q24A	**Divide**	**4.83**	**178**		**Pn**	**18 05 40.9**	**-0.1**
BOZ	**Bozeman (W)**	**4.84**	**294**		**Pn**	**18 05 41.0**	**-0.1**
BOZ				IAML		18 07 00.5	
	comp=N,10nm,1.2s						
BOZ				IAML		18 07 39.2	
	comp=N,15nm,4.9s						
HWUT	**Hardware Ranch**	**5.10**	**247**		**Pn**	**18 05 45.1**	**+0.5**
BSUT	**Blindstream Ca**	**5.19**	**233**		**Pn**	**18 05 46.9**	**+0.9**
BSUT				IAML		18 07 26.7	
	comp=E,13nm,3.7s						
BSUT				IAML		18 07 28.1	
	comp=N,9.1nm,2.3s						
KSCO	**Kaye Shedlock'**	**5.19**	**156**	Pn	**Pn**	**18 05 45.5**	**-0.4**
TCUT	**Toone Canyon**	**5.24**	**241**		**Pn**	**18 05 46.4**	**-0.1**
P18A	**Preston Nutter**	**5.56**	**223**		**Pn**	**18 05 49.8**	**-1.3**
HVU	**Hansel Valley**	**5.84**	**252**		**Pn**	**18 05 55.5**	**+0.7**
P17A	**Butcher Ranch,**	**5.93**	**225**		**Pn**	**18 05 56.8**	**+0.8**
SRU	**San Rafael Swe**	**6.10**	**222**		**Pn**	**18 05 58.6**	**+0.3**
ECSD	**EROS Data Cent**	**6.30**	**88**	Pn	**Pn**	**18 05 59.9**	**-1.0**
I10CA	**LAC DU BONNET**	**9.01**	**41**	I	I	19 00 10.0	
	baz=224,slow=319,SNR=2.1						
ULM	**Lac du Bonnet**	**9.12**	**42**	Pn	**Pn**	**18 06 38.3**	**-1.2**
	comp=N,1.9nm,0.3s,baz=228,slow=11,SNR=18						
ULM				Lg	Lg	18 09 10.8	
	comp=N,0.5nm,0.3s,baz=139,slow=21,SNR=4.0						
	comp=N,3.1nm,0.3s						
MKAR	**Makanchi Array**	**89.54**	**355**	P	**P**	**18 17 26.2**	**+0.4**
	comp=N,0.2nm,0.5s,baz=25,slow=5.8,SNR=2.8						
	comp=N,0.2nm,0.5s						

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*IDC **27** 18:44:50.4±2.2, 3˚.04S×128˚.53E, h0km, mb3.3/2, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=139.7km s-min=28.8km az=68.0*
*DJA **27** 18:44:53.9±0.6, 4˚S±6˚×12˚8E±˚, h10km, M3.7/9, mb4.0/2, MLv3.5/9*
ISC 27 18:44:53.5±1.0, 3˚.63S±0˚.09×127˚.58E±0˚.08, h10km, n8, σ1s22/10, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.62**	**309**	P	**Pg**	**18 45 05.3**	**-0.2**
SANI	**Sanana**	**2.23**	**315**	P	**Pn**	**18 45 30.9**	**+0.3**
SANI				S	**Sn**	**18 45 56.2**	**-2.0**
LBMI	**Labuha**	**2.97**	**358**	P	**Pn**	**18 45 42.0**	**+1.2**
LBMI				S	**Sn**	**18 46 17.5**	**+1.0**
SWI	**Sorong**	**4.59**	**53**	P	**Pn**	**18 46 02.5**	**-0.5**
FAKI	**Fak Fak**	**4.71**	**82**	P	**Pn**	**18 46 04.1**	**-0.7**
WRA	**Warramunga Arr**	**17.50**	**158**	P	**Pn**	**18 48 58.3**	**+0.4**
	0.2nm,0.3s,baz=340,slow=12,SNR=9.6						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**20.84**	**164**	P	**P**	**18 49 37.0**	**+1.4**
	2.0nm,0.7s,baz=345,slow=11,SNR=24						
	2.0nm,0.7s						
MKAR	**Makanchi Array**	**64.11**	**327**	P	**P**	**18 55 27.2**	**-0.8**
	0.1nm,0.4s,baz=120,slow=5.3,SNR=1.6						
	0.1nm,0.4s						

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*BJI **27** 18:51:32.2±0.0, 7˚.81S×130˚.59E, h86km, mb4.7/24, mB5.0/7*
*NEIC **27** 18:51:39.7±1.5, 7˚.19S±0˚.07×130˚.13E±0˚.07, h83km±7km, mb4.7/78, Error ellipse: s-maj=10.3km s-min=9.2km az=51.0*
*DJA **27** 18:51:39.4±0.2, 7˚S±2˚×13˚0E±˚, h103km±2km, M4.9/55, mB5.4/19, mb4.9/55, MLv5.3/15, Mw(mB)4.8/19*
*IDC **27** 18:51:40.1±1.5, 7˚.22S×130˚.11E, h88km±12km, mb4.2/21, mbtmp4.5/22, MS3.1/9, Error ellipse: s-maj=17.4km s-min=10.4km az=77.0*
ISC 27 18:51:40.1±0.3, 7˚.31S±0˚.04×130˚.13E±0˚.04, h100km, n199, σ1s66/195, mb4.6/56, 1D, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.34**	**120**	P	**Pn**	**18 52 03.5**	**-1.0**
SAUI	**Saumlaki**	**1.34**	**120**		**Pn**	**18 52 03.4**	**-1.0**
SAUI	**Saumlaki**	**1.34**	**120**	P	**Pn**	**18 52 04.0**	**-0.5**
SAUI				S	**Sn**	**18 52 21.7**	**-1.2**
BNDI	**Bandanaira**	**2.78**	**355**	P	**Pn**	**18 52 23.4**	**+0.4**
BNDI	**Bandanaira**	**2.78**	**355**	P	**Pn**	**18 52 23.3**	**+0.3**
BNDI				S	**Sn**	**18 52 56.9**	**+0.9**
FAKI	**Fak Fak**	**4.85**	**26**	Pn	**Pn**	**18 52 48.0**	**-2.9**
FAKI	**Fak Fak**	**4.85**	**26**	P	**Pn**	**18 52 47.9**	**-2.9**
FAKI				S	**Sn**	**18 53 38.4**	**-7.5**
NLAI	**Namlea**	**5.05**	**323**	P	**Pn**	**18 52 55.2**	**+1.7**
	112nm,0.6s,0.5nm						
DRS	**Darwin Rock St**	**5.14**	**172**	P	**Pn**	**18 52 53.6**	**-1.2**
MTN	**Manton Dam**	**5.58**	**170**	P	**Pn**	**18 53 00.4**	**-0.5**
MTN	**Manton Dam**	**5.58**	**170**		**Pn**	**18 52 59.0**	**-1.8**
KDU	**Kakadu**	**5.82**	**157**	P	**Pn**	**18 53 02.5**	**-1.5**
SOEI	**Soe**	**6.28**	**247**	P	**Pn**	**18 53 11.0**	**+0.5**
SOEI	**Soe**	**6.28**	**247**		**Pn**	**18 53 10.6**	**+0.1**
SOEI				Sn	**Sn**	**18 54 18.2**	**-2.7**
SOEI	**Soe**	**6.28**	**247**	P	**Pn**	**18 53 11.0**	**+0.5**
	316nm,0.8s,5µm8.7nm						
SWI	**Sorong**	**6.50**	**10**	P	**Pn**	**18 53 10.1**	**-3.3**
	154nm,0.8s,4µm1.1nm						
SANI	**Sanana**	**6.66**	**322**	P	**Pn**	**18 53 17.8**	**+2.3**
SANI	**Sanana**	**6.66**	**322**	P	**Pn**	**18 53 18.3**	**+2.8**
	65nm,0.5s,860nm0.2nm						
BATI	**Baumata**	**7.01**	**245**	P	**Pn**	**18 53 20.5**	**+0.3**
	245nm,0.4s,baz=303,slow=2.4,SNR=104						
BATI				S	**Sn**	**18 54 35.8**	**-2.6**
	456nm,0.3s,baz=35,slow=12,SNR=12						
BATI	**Baumata**	**7.01**	**245**	P	**Pn**	**18 53 20.5**	**+0.3**
	268nm,0.5s,6µm5.5nm						
LBMI	**Labuha**	**7.13**	**338**	P	**Pn**	**18 53 23.7**	**+1.8**
	239nm,1.1s,2µm0.9nm						
BBSI	**Bau Bau**	**7.73**	**283**	P	**Pn**	**18 53 33.1**	**+3.1**
	172nm,1.2s,2µm0.5nm						
MMRI	**Maumere**	**7.92**	**260**	P	**Pn**	**18 53 33.6**	**+0.9**
MMRI	**Maumere**	**7.92**	**260**	Pn	**Pn**	**18 53 32.9**	**+0.2**
MMRI	**Maumere**	**7.92**	**260**	P	**Pn**	**18 53 33.6**	**+0.9**
	112nm,0.4s,3µm						
KNRA	**Kununurra**	**8.42**	**189**	P	**Pn**	**18 53 37.8**	**-1.6**
KNRA	**Kununurra**	**8.42**	**189**		**Pn**	**18 53 36.9**	**-2.5**
EDFI	**Ende, Flores**	**8.48**	**260**	P	**Pn**	**18 53 41.2**	**+0.9**
	59nm,0.6s,1µm						
TNTI	**Ternate**	**8.49**	**341**	P	**Pn**	**18 53 41.3**	**+0.9**
TNTI	**Ternate**	**8.49**	**341**	Pn	**Pn**	**18 53 36.7**	**-3.7**
TNTI	**Ternate**	**8.49**	**341**	P	**Pn**	**18 53 40.2**	**-0.2**
	56nm,1.3s						
LUWI	**Luwuk**	**9.62**	**310**	Pn	**Pn**	**18 53 55.7**	**-0.1**
LUWI	**Luwuk**	**9.62**	**310**	P	**Pn**	**18 53 58.4**	**+2.6**
	57nm,0.8s,701nm						
BASI	**Baing, Sumba**	**9.87**	**252**	P	**Pn**	**18 53 57.7**	**-1.5**
	274nm,0.5s,5µm						
BKSI	**Bulukumba**	**10.14**	**281**	P	**Pn**	**18 54 03.8**	**+1.0**
	39nm,1.0s						
MMPI	**Merauke**	**10.22**	**97**	P	**Pn**	**18 54 02.1**	**-1.9**
	280nm,0.7s						
KAPI	**Kappang**	**10.57**	**282**	Pn	**Pn**	**18 54 09.5**	**+0.9**
GTOI	**Gorontalo**	**10.62**	**318**	P	Pn	18 54 14.6	+5.3
	12nm,0.8s						
GENI	**Genyem**	**11.04**	**65**	P	**Pn**	**18 54 13.5**	**-1.6**
	67nm,1.1s						
TTSI	**Tana Toraja**	**11.11**	**292**	P	**Pn**	**18 54 18.6**	**+2.6**
	31nm,0.8s						
MRSI	**Marisa**	**11.25**	**313**	P	**Pn**	**18 54 21.3**	**+3.4**
	154nm,1.0s,1µm						
JAY	**Jayapura**	**11.56**	**66**	P	**Pn**	**18 54 18.3**	**-3.8**
	28nm,1.0s						
FITZ	**Fitzroy Crossi**	**11.58**	**202**	P	**Pn**	**18 54 18.9**	**-3.4**
FITZ	**Fitzroy Crossi**	**11.58**	**202**		Pn	18 54 17.4	-4.8
PLAI	**Plampang**	**12.32**	**262**	P	**Pn**	**18 54 30.8**	**-1.5**
PLAI	**Plampang**	**12.32**	**262**	P	**Pn**	**18 54 30.7**	**-1.5**
	86nm,0.5s,1µm						
TOLI2	**Tolitoli**	**12.53**	**312**	Pn	**Pn**	**18 54 33.2**	**-1.7**
WB0	**Warramunga Arr**	**13.05**	**162**		Pn	18 54 36.8	-5.1
TWSI	**Taliwang, Sumb**	**13.19**	**263**	P	**Pn**	**18 54 41.5**	**-2.2**
	32nm,0.6s						
WRAB	**Tennant Creek**	**13.20**	**162**	Pn	Pn	18 54 38.8	-4.9
WRA	**Warramunga Arr**	**13.20**	**162**	P	Pn	18 54 38.9	-4.9
	24nm,0.4s,baz=329,slow=14,SNR=226						
WRA				S	Sn	18 56 56.4	-13
	92nm,0.7s,baz=327,slow=23,SNR=14						
WB2	**Warramunga Arr**	**13.21**	**162**		Pn	18 54 39.0	-4.8
WR0	**Warramunga Arr**	**13.28**	**162**		Pn	18 54 39.8	-5.1
COEN	**Coen**	**14.42**	**118**	P	**Pn**	**18 54 55.5**	**-4.1**
SRBI	**Singaraja**	**14.80**	**266**	P	**Pn**	**18 55 02.9**	**-1.6**
	19nm,1.0s						
DAV	**Davao City (W)**	**14.99**	**342**	LR	LR	19 01 26.7	
	comp=Z,43nm,19.9s,baz=30,slow=39						
JAGI	**Jajag, Banyuwa**	**15.87**	**265**		**Pn**	**18 55 13.1**	**-4.9**
JAGI				IAmb	IAmb	18 55 22.8	
	comp=Z,30nm,0.5s						
JAGI	**Jajag, Banyuwa**	**15.87**	**265**	P	**Pn**	**18 55 14.8**	**-3.1**
	comp=Z,30nm,0.4s						
BLJI	**Banyuglugur**	**16.40**	**267**	P	**Pn**	**18 55 24.9**	**+0.4**
	comp=Z,58nm,0.5s						
GMJI	**Gumukmas**	**16.56**	**266**	P	**Pn**	**18 55 24.0**	**-2.5**
	comp=Z,17nm,0.8s						
AS31	**Alice Springs**	**16.66**	**168**	Pn	**Pn**	**18 55 24.2**	**-3.5**
AS31				IAmb	IAmb	18 55 39.1	
	comp=Z,20nm,0.4s						
ASAR	**Alice Springs**	**16.66**	**168**		**Pn**	**18 55 24.1**	**-3.7**
ASAR	**Alice Springs**	**16.66**	**168**	P	**Pn**	**18 55 25.0**	**-2.7**
	comp=Z,29nm,0.4s,baz=334,slow=9.0,SNR=433						
ASAR				S	Sn	18 58 18.9	-14
	comp=Z,30nm,0.7s,baz=349,slow=25,SNR=13						
ASAR				ScP	**ScP**	**19 03 38.8**	**+1.2**
	comp=Z,5.1nm,0.5s,baz=354,slow=1.6,SNR=6.0						
AS01	**Alice Springs**	**16.67**	**168**	P	**Pn**	**18 55 26.1**	**-1.7**
PMG	**Port Moresby**	**16.98**	**98**	P	**Pn**	**18 55 30.6**	**-1.0**
PMG	**Port Moresby**	**16.98**	**98**	P	**Pn**	**18 55 31.9**	**+0.3**
	comp=Z,11nm,0.4s,baz=339,slow=4.8,SNR=15						
PMG				S	Sn	18 58 26.2	-14
	comp=Z,5.0nm,0.4s,baz=197,slow=23,SNR=5.7						
PMG				LR	LR	19 03 59.2	
	comp=Z,72nm,18.3s,baz=270,slow=44						
MBWA	**Marble Bar**	**17.05**	**215**	P	**Pn**	**18 55 31.5**	**-0.9**
MBWA	**Marble Bar**	**17.05**	**215**	P	**Pn**	**18 55 29.6**	**-2.8**
MBWA				IAmb	IAmb	18 55 34.5	
	comp=Z,37nm,0.9s						
PSA00	**Pilbara Seismi**	**17.31**	**214**	P	**P**	**18 55 33.8**	**-1.7**
PSA00	**Pilbara Seismi**	**17.31**	**214**		**P**	**18 55 33.3**	**-2.2**
PSA00				IAmb	IAmb	18 55 49.2	
	comp=Z,30nm,0.7s						
PSA00	**Pilbara Seismi**	**17.31**	**214**	P	**P**	**18 55 33.6**	**-1.9**
PSA00				IAmb	IAmb	18 55 49.2	
	comp=Z,17nm,0.7s						
MTSU	**Mount Surprise**	**17.51**	**129**	P	**P**	**18 55 37.4**	**-0.4**
GRJI	**Gresik**	**17.52**	**270**	P	**Pn**	**18 55 38.6**	**+0.4**
	comp=Z,124nm,0.7s						
WRKA	**Warakurna**	**17.71**	**185**	P	**P**	**18 55 38.0**	**-2.0**
PWJI	**Pagerwoja**	**18.18**	**267**	P	**P**	**18 55 43.7**	**-1.4**
	comp=Z,66nm,0.7s						
KKM	**Kota Kinabalu**	**19.20**	**313**	P	**P**	**18 55 57.0**	**+0.6**
KKM	**Kota Kinabalu**	**19.20**	**313**	P	**P**	**18 55 56.7**	**+0.3**
KKM				IAmb	IAmb	18 56 06.7	
	comp=Z,25nm,0.8s						
UGM	**Wanagama**	**19.44**	**267**	P	**P**	**18 55 58.1**	**-0.9**
UGM				IAmb	IAmb	18 56 21.9	
	comp=Z,98nm,1.4s						
UGM	**Wanagama**	**19.44**	**267**	P	**P**	**18 55 58.5**	**-0.5**
	comp=Z,65nm,2.9s						
STKI	**Sintang**	**19.99**	**291**	P	**P**	**18 56 05.4**	**+0.5**
CTA	**Charters Tower**	**20.14**	**131**	P	Pn	18 56 08.8	-0.4
	comp=Z,7.4nm,0.7s,baz=119,slow=0.1,SNR=5.8						
	comp=Z,7.4nm,0.7s						
CTAO	**Charters Tower**	**20.14**	**131**	P	Pn	18 56 08.5	-0.7
KPJI	**Karang Pucung**	**21.02**	**269**	P	**P**	**18 56 14.7**	**-1.3**
	comp=Z,26nm,0.7s						
OOD	**Oodnadatta**	**21.04**	**166**	P	**P**	**18 56 17.1**	**+1.0**
CMJI	**Cimerak**	**21.50**	**267**	P	**P**	**18 56 19.0**	**-2.1**
	comp=Z,45nm,1.1s						
GIRL	**Giralia**	**21.60**	**223**	P	**P**	**18 56 23.8**	**+1.7**
KSM	**Kuching**	**21.61**	**293**	P	**P**	**18 56 24.4**	**+2.0**
KSM	**Kuching**	**21.61**	**293**	P	**P**	**18 56 21.4**	**-1.0**
KSM				IAmb	IAmb	18 56 27.5	
	comp=Z,40nm,1.4s						
RABL	**Rabaul**	**22.14**	**83**	P	**P**	**18 56 28.8**	**+0.8**
RABL				IAmb	IAmb	18 56 30.5	
	comp=Z,34nm,0.6s						
BBJI	**Bungbulang**	**22.29**	**268**	P	**P**	**18 56 29.3**	**-0.3**
LEM	**Lembang**	**22.34**	**270**	P	**P**	**18 56 29.6**	**-0.7**
	comp=Z,22nm,0.7s,baz=101,slow=5.1,SNR=5.3						
	comp=Z,22nm,0.7s						
LEM	**Lembang**	**22.34**	**270**	P	**P**	**18 56 28.3**	**-1.9**
	comp=Z,24nm,0.8s						
INKA	**Innaminka**	**22.67**	**155**	P	**P**	**18 56 35.2**	**+1.9**
MULG	**Mulgathing**	**23.15**	**171**	P	**P**	**18 56 39.1**	**+1.2**
QLP	**Quilpie**	**23.39**	**147**	P	**P**	**18 56 41.8**	**+1.6**
FORT	**Forrest**	**23.43**	**184**	P	**P**	**18 56 41.9**	**+1.4**
FORT	**Forrest**	**23.43**	**184**	P	**P**	**18 56 41.1**	**+0.7**
FORT				IAmb	IAmb	18 57 09.6	
	comp=Z,51nm,0.8s						
LCRK	**Leigh Creek**	**24.23**	**163**	P	**P**	**18 56 49.7**	**+2.0**
KMBL	**Kambalda**	**25.14**	**197**	P	**P**	**18 56 57.4**	**+1.4**
MORW	**Morawa**	**25.39**	**210**	P	**P**	**18 56 59.4**	**+1.0**
MORW				IAmb	IAmb	18 57 25.5	
	comp=Z,18nm,1.1s						
BBOO	**Buckleboo**	**25.96**	**169**	P	**P**	**18 57 04.0**	**+0.6**
BBOO				IAmb	IAmb	18 57 32.2	
	comp=Z,20nm,0.9s						
STKA	**Stephens Creek**	**26.68**	**158**	P	**P**	**18 57 11.0**	**+1.1**
STKA	**Stephens Creek**	**26.68**	**158**	P	**P**	**18 57 11.0**	**+1.1**
	comp=Z,6.3nm,0.7s,baz=327,slow=8.4,SNR=12						
STKA				LR	LR	19 08 48.0	
	comp=Z,52nm,20.1s,baz=25,slow=38						
	comp=Z,6.3nm,0.7s						
MYKOM	**Kota Tinggi**	**27.73**	**288**	P	**P**	**18 57 21.1**	**+1.5**
MYKOM				IAmb	IAmb	18 57 23.5	
	comp=Z,24nm,1.3s						
CMSA	**Cobar Meteorol**	**28.14**	**151**	P	**P**	**18 57 24.7**	**+1.7**
NWAO	**Narrogin (SRO)**	**28.16**	**203**	P	**P**	**18 57 24.1**	**+1.0**
NWAO				IAmb	IAmb	18 57 56.7	
	comp=Z,29nm,1.3s						
NWAO	**Narrogin (SRO)**	**28.16**	**203**	P	**P**	**18 57 24.6**	**+1.5**
	comp=Z,2.5nm,0.3s,baz=42,slow=6.2,SNR=7.9						
NWAO				LR	LR	19 09 15.9	
	comp=Z,50nm,18.6s,baz=220,slow=37						
	comp=Z,2.5nm,0.3s						
DLV	**T Lat**	**28.80**	**311**	P	**P**	**18 57 27.7**	**-1.5**
DLV				IAmb	IAmb	18 57 58.1	
	comp=Z,45nm,1.3s						
HNR	**Honiara**	**29.57**	**96**	LR	LR	19 09 25.8	
	comp=Z,513nm,18.6s,baz=61,slow=36						
PATS	**Pohnpei**	**31.43**	**64**	P	**P**	**18 57 52.5**	**+0.3**
KULM	**Kulim**	**31.97**	**292**	P	**P**	**18 57 55.4**	**-1.6**
KULM				IAmb	IAmb	18 58 01.5	
	comp=Z,6.6nm,0.8s						
CAN	**Canberra**	**32.82**	**151**	P	**P**	**18 58 06.4**	**+2.1**
CAN				IAmb	IAmb	18 58 24.2	
	comp=Z,26nm,1.5s						
JMZ	**Minamidaito 2**	**32.95**	**2**	P	**P**	**18 58 04.3**	**-1.0**
UBPT	**Khong Chiam**	**33.18**	**313**	P	**P**	**18 58 07.3**	**-0.2**
UBPT				IA

comp=Z,4.0nm,0.7s
MK31 Makanchi Array 68.56 327 P **P** **19 02 32.6 +0.4**
MKAR Makanchi Array 68.56 327 P **P** **19 02 32.6 +0.4**
MKAR Makanchi Array 68.56 327 P **P** **19 02 33.0 +0.9**
comp=Z,19nm,0.5s,baz=114,slow=8.7,SNR=336
comp=Z,19nm,0.5s
MAKZ Makanchi 68.73 327 P **P** **19 02 33.7 +0.4**
YAK Yakutsk 69.14 360 P **P** **19 02 35.6 +0.3**
NRN Naryn 69.28 319 P **P** **19 02 38.6 +1.5**
BOOM Boomskoye usch 69.86 320 P **P** **19 02 42.1 +1.6**
AAK Ala-Archa 70.86 320 P **P** **19 02 47.7 +1.2**
AAK IAmb IAmb 19 02 48.9
comp=Z,5.7nm,0.8s
DRK Karamyk 71.15 316 P **P** **19 02 48.9 +0.3**
DRK IAmb IAmb 19 02 50.5
comp=Z,6.5nm,0.6s
ARSB Arslanbob 71.21 318 P **P** **19 02 48.1 -0.5**
ZAA0 Zalesovo Array 71.92 334 P **P** **19 02 52.1 -0.3**
ZALV Zalesovo Beam 71.92 334 P **P** **19 02 52.4 0.0**
ZALV Zalesovo Beam 71.92 334 P **P** **19 02 52.9 +0.5**
comp=Z,2.2nm,0.6s,baz=135,slow=5.0,SNR=12
comp=Z,2.2nm,0.6s
BTK Batken 72.09 316 **P** **19 02 54.0 +0.1**
VNDA Vanda 72.12 173 P **P** **19 02 55.0 +1.7**
VNDA Vanda 72.12 173 P **P** **19 02 54.9 +1.5**
comp=Z,1.5nm,0.5s,baz=318,slow=6.9,SNR=11
comp=Z,1.5nm,0.5s
SIMJ Simiganj 72.76 314 P **P** **19 02 57.9 0.0**
SIMJ IAmb IAmb 19 02 59.8
comp=Z,10nm,0.8s
KURBB Kurchatov Arra 72.84 329 P **P** **19 02 58.8 +0.8**
comp=Z,3.8nm,0.5s,baz=128,slow=5.1,SNR=75
comp=Z,3.8nm,0.5s
KURK Kurchatov 72.85 329 P **P** **19 02 58.5 +0.4**
KURK IAmb IAmb 19 02 59.5
comp=Z,6.9nm,0.9s
SBA Scott Base 73.01 172 P **P** **19 03 01.4 +2.8**
KK31 Karatay Array 73.66 319 P **P** **19 03 03.0 0.0**
KK31 IAmb IAmb 19 03 04.8
comp=Z,8.2nm,1.2s
KKAR Karatay Array 73.66 319 P **P** **19 03 03.2 +0.2**
KKAR IAmb IAmb 19 03 04.8
comp=Z,8.2nm,1.2s
MAW Mawson 74.71 201 P **P** **19 03 10.4 +1.8**
MAW Mawson 74.71 201 P **P** **19 03 10.9 +2.3**
comp=Z,3.7nm,0.7s,baz=85,slow=6.4,SNR=6.2
comp=Z,3.7nm,0.7s
ATKA Atka Island 75.84 32 P **P** **19 03 15.9 +0.6**
BVAR Borovoye Array 78.39 328 P **P** **19 03 30.6 +0.9**
comp=Z,3.2nm,0.8s,baz=126,slow=7.5,SNR=16
comp=Z,3.2nm,0.8s
BRVK Borovoye 78.47 328 P **P** **19 03 30.2 +0.1**
TIXI Tiksi 78.80 360 P **P** **19 03 31.6 +0.2**
TIXI IAmb IAmb 19 03 32.7
comp=Z,4.5nm,0.6s
GEYT Alibeck 80.51 310 P **P** **19 03 41.7 +0.2**
GEYT Alibeck 80.51 310 P **P** **19 03 42.4 +0.9**
comp=Z,4.3nm,0.7s,baz=175,slow=5.4,SNR=7.2
comp=Z,4.3nm,0.7s
GYA0B ALIBECK ARRAY 80.51 310 P **P** **19 03 42.1 +0.6**
VOI Vohitsoka 81.15 249 P **P** **19 03 46.6 +1.2**
VOI IAmb IAmb 19 03 48.0
comp=Z,13nm,0.7s
NRIK Noril'sk 81.89 346 P **P** **19 03 48.7 +0.6**
comp=Z,0.9nm,0.2s,baz=97,slow=5.0,SNR=4.2
comp=Z,0.9nm,0.2s
QSPA South Pole Qui 82.67 180 P **P** **19 03 53.7 +1.3**
QSPA IAmb IAmb 19 03 54.3
comp=Z,5.3nm,0.8s
QSPA South Pole Qui 82.67 180 P **P** **19 03 53.6 +1.1**
comp=Z,4.9nm,0.7s,baz=302,slow=1.1,SNR=29
comp=Z,4.9nm,0.7s
ABKAR Akbulak array 82.83 322 P **P** **19 03 53.1 -0.3**
ABKAR Akbulak array 82.83 322 P **P** **19 03 53.5 +0.1**
ABKAR IAmb IAmb 19 03 55.0
comp=Z,5.1nm,1.4s
L14K Kuka Creek 85.72 26 P **P** **19 04 09.3 +1.6**
L14K IAmb IAmb 19 04 26.7
comp=Z,10.0nm,1.2s
M14K Bethel 85.81 27 P **P** **19 04 08.8 +0.6**
M14K IAmb IAmb 19 04 33.4
comp=Z,16nm,1.1s
J14K Nanvaranak Lak 85.92 25 P **P** **19 04 10.5 +1.8**
J14K IAmb IAmb 19 04 28.5
comp=Z,8.2nm,1.2s
K15K Wolf Creek Mou 86.60 26 P **P** **19 04 14.0 +1.9**
M16K Timber Creek 87.28 27 P **P** **19 04 16.7 +1.4**
M16K IAmb IAmb 19 04 19.8
comp=Z,16nm,1.3s
RAYN Ar Rayn 87.99 294 P **P** **19 04 20.4 +0.8**
RAYN IAmb IAmb 19 04 21.5
comp=Z,8.4nm,0.7s
ELIB Princess Elisa 88.23 197 *d*PcP **PcP** **19 04 22.6 +1.0**
comp=Z,6.2nm,0.6s
H17K Granite Mounta 88.26 24 P **P** **19 04 20.1 +0.1**
OHAK Old Harbor 88.91 32 P **P** **19 04 23.7 +0.6**
J20K Nowinta River 90.38 25 P **P** **19 04 31.1 +1.2**
ILAR Eielson Array 93.57 25 P **P** **19 04 44.2 -0.5**
comp=Z,0.5nm,0.7s,baz=252,slow=4.6,SNR=4.9
comp=Z,0.5nm,0.7s
SNAA Sanae 95.39 193 P **P** **19 04 55.0 +2.0**
comp=Z,2.5nm,0.6s,baz=196,slow=3.9,SNR=6.5
comp=Z,2.5nm,0.6s
MMAI Mount Meron Ar 97.89 302 LR LR 19 57 12.7
comp=Z,6.6nm,18.0s,baz=141,slow=40
EIL Elat 98.06 299 LR LR 19 56 22.8
comp=Z,10nm,18.0s,baz=233,slow=40
TORD Torodi Ar. Bea 128.99 281 PKP **PKiKP** **19 10 38.9 +0.8**
comp=Z,1.5nm,0.6s,baz=69,slow=3.2,SNR=16
TORD SKPab 19 13 50.1
comp=Z,1.2nm,0.7s,baz=59,slow=4.4,SNR=7.9
SCHQ Schefferville 130.70 13 SKPbc **SKPab** **19 13 55.7 +1.1**
comp=Z,11nm,0.9s,baz=0.1,slow=3.9,SNR=13
DBIC Dimbokro 135.33 272 PKP **PKiKP** **19 10 51.0 +0.1**
comp=Z,1.7nm,0.5s,baz=180,slow=1.0,SNR=4.4
DBIC SKPbc **SKPbc** **19 14 12.3 +0.8**
comp=Z,3.6nm,0.9s,baz=117,slow=6.2,SNR=4.2
CPUP Villa Florida 145.78 168 PKPbc **PKPab** **19 11 10.5 +1.6**
comp=Z,4.7nm,0.6s,baz=200,slow=1.6,SNR=9.8
CPUP SKPbc **SKiKP** **19 14 40.4 +1.1**
comp=Z,0.8nm,0.3s,baz=208,slow=4.3,SNR=3.4
LPAZ La Paz 150.40 142 PKPbc **PKiKP** **19 11 24.4 +1.9**
comp=Z,2.6nm,0.4s,baz=50,slow=2.2,SNR=12

*IDC **27** 18:58:07.9±3.3,32°.09N×139°.50E,h0km,mb3.7/4,*
mbtmp3.6/5,ML2.1/1,MS3.2/1,Error ellipse:
s-maj=114.9km s-min=27.0km az=77.0
*JMA **27** 18:58:13.1±0.2,32°.7N±0°.6×141°.1E±°,h58km,MV3.4/24,E*
OFF HACHIJOJIMA ISLAND
ISC 27 18:58:11.0±2.4,32°.5N±0°.1×140°.8E±0°.1,h54km±19km,**n16,**
σ1s23/22,mb3.8/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**1.04**	**306**	P	**Pn**	**18 58 29.9**	**+0.5**
JHCJ				*e*S	**Sn**	**18 58 42.5**	**-0.3**
JHJ2	**Mitsune**	**1.05**	**308**	*i* P	**Pn**	**18 58 30.2**	**+0.7**
JHJ2				*e*S	**Sn**	**18 58 41.2**	**-1.9**
JMKN	**Mikurajimanish**	**1.75**	**325**	P	**Pn**	**18 58 39.2**	**+0.2**
JMKN				*e*S	**Sn**	**18 58 58.5**	**-1.5**
JMYK	**Miyake Tsubota**	**1.91**	**327**	*e*P	**Pn**	**18 58 41.5**	**+0.4**
JMYK				*e*S	**Sn**	**18 59 03.8**	**-0.1**
BSO1	**Boso 1**	**2.19**	**4**	*e*P	**Pn**	**18 58 45.6**	**+1.1**
BSO1				*e*S	**Sn**	**18 59 09.3**	**-0.8**
BSO3	**Boso 3**	**2.34**	**354**	*e*P	**Pn**	**18 58 47.0**	**+0.1**
JIZS	**Izushimoda**	**2.76**	**325**	*e*P	**Pn**	**18 58 53.9**	**+1.1**
JOD2	**Odawara 2**	**3.13**	**333**	*e*P	**Pn**	**18 58 58.6**	**+0.6**
SHZ3	**Shizuoka 3**	**3.37**	**321**	*e*P	**Pn**	**18 59 03.4**	**+2.2**
JRY	**Ryogami san**	**3.88**	**337**	*e*P	**Pn**	**18 59 09.7**	**+1.6**
JIE	**Ise**	**3.92**	**300**	P	**Pn**	**18 59 10.3**	**+1.6**
MJAR	**Matsushiro Arr**	**4.59**	**333**	Pn	**Pn**	**18 59 18.5**	**+0.5**
	0.1nm,0.3s,baz=153,slow=12,SNR=2.5						
MJAR				Sn	**Sn**	**19 00 12.1**	**+2.1**
	0.1nm,0.3s,baz=201,slow=10,SNR=4.1						
	0.9nm,0.3s						
MKAR	**Makanchi Array**	**46.24**	**306**	P	**P**	**19 06 29.9**	**-1.0**
	0.7nm,0.6s,baz=89,slow=10,SNR=4.0						
MKAR				LR	LR	19 27 19.7	
	comp=Z,23nm,18.1s,baz=120,slow=38						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**48.52**	**311**	P	**P**	**19 06 47.5**	**-1.0**
	0.6nm,0.5s,baz=88,slow=6.7,SNR=9.0						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**52.48**	**188**	P	**P**	**19 07 18.8**	**+0.3**
	0.7nm,0.9s,baz=4.9,slow=7.6,SNR=1.3						
	0.7nm,0.9s						
BVAR	**Borovoye Array**	**53.35**	**315**	P	**P**	**19 07 25.1**	**+0.3**
	0.4nm,0.3s,baz=76,slow=6.1,SNR=4.8						
	0.4nm,0.3s						

*VAO **27** 18:58:53.0±1.5,19°.40S×71°.76W,h10km,mb4.3*
*GUC **27** 18:59:26.0±0.7,17°.84S×69°.99W,h110km±6km,ML3.5*
*IDC **27** 18:59:27.4±1.9,17°.82S×69°.69W,h129km±14km,mb3.5/6,*
mbtmp3.9/9,MS2.0/1,Error ellipse: s-maj=31.6km
s-min=15.6km az=110.0
ISC 27 18:59:25.2±0.9,17°.79S±0°.06×69°.95W±0°.10,h117km±6km,
n24,σ1s31/32,mb3.7/6,2C-2D,Peru-Bolivia border
region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB18	**Visviri**	**0.49**	**65**	⇓ *i* P	**Pn**	**18 59 43.8**	**+0.4**
PB18				*i* S	**Sn**	**18 59 58.2**	**+1.2**
PB16	**IPOC Station P**	**0.68**	**142**	⇑ *i* P	**Pn**	**18 59 45.1**	**+0.3**
PB16				*i* S	**Sn**	**18 59 59.7**	**+0.3**
PB16				IAML		19 00 00.8	
	comp=N,1μm,0.5s						
PB12	**IPOC Station P**	**0.89**	**204**	⇑ *i* P	**Pn**	**18 59 45.6**	**-0.5**
PB12				*i* S	**Sn**	**19 00 00.9**	**-0.9**
PB12				IAML		19 00 01.6	
	comp=N,2μm,0.3s						
PX02	**IPOC Station P**	**1.19**	**192**	*e*P	**Pn**	**18 59 47.8**	**-1.2**
PX02				*i* S	**Sn**	**19 00 05.5**	**-1.5**
PX02				IAML		19 00 06.8	
	comp=Z,716nm,0.4s						
PB11	**IPOC Station P**	**1.98**	**172**	*e*P	**Pn**	**18 59 58.7**	**+0.4**
PB11				*e*S	**Sn**	**19 00 22.4**	**-1.3**
PB11				IAML		19 00 26.0	
	comp=E,584nm,0.3s						
GO01	**Chusmiza**	**2.00**	**159**	*e*P	**Pn**	**19 00 00.4**	**+1.4**
GO01				*e*S	**Sn**	**19 00 27.6**	**+3.0**
GO01				IAML		19 00 31.4	
	comp=N,622nm,0.1s						
LPAZ	**La Paz**	**2.29**	**49**	P	**Pn**	**19 00 04.4**	**+1.6**
	comp=N,22nm,0.8s,baz=219,slow=6.2,SNR=62						
LPAZ				S	**Sn**	**19 00 31.8**	**+0.2**
	comp=N,14nm,0.6s,baz=345,slow=16,SNR=4.5						
LPAZ				LR	LR	19 00 37.1	
	comp=N,37nm,19.4s,baz=207,slow=33						
LPAZ	**La Paz**	**2.29**	**49**	*e*P	**Pn**	**19 00 03.1**	**+0.3**
PB08	**IPOC Station P**	**2.45**	**162**	⇓ *i* P	**Pn**	**19 00 05.9**	**+1.3**
PB08				*e*S	**Sn**	**19 00 34.5**	**-0.3**
PB08				IAML		19 00 37.6	
	comp=E,471nm,0.2s						
LVC	**Limon Verde**	**4.89**	**169**	P	**Pn**	**19 00 37.3**	**+0.3**
	comp=E,6.2nm,0.3s,baz=338,slow=10.0,SNR=26						
LVC				S	**Sn**	**19 01 30.3**	**-2.4**
	comp=E,38nm,0.3s,baz=220,slow=23,SNR=20						
SIV	**San Ignacio**	**8.68**	**79**	P	**Pn**	**19 01 25.8**	**-2.2**
	comp=E,26nm,0.6s,baz=262,slow=11,SNR=80						
BBSD	**Serra de San D**	**8.93**	**88**	*e*P	**Pn**	**19 01 28.9**	**-2.4**
PTLB	**Pontes e Lacer**	**10.62**	**79**	*e*P	**Pn**	**19 01 52.9**	**-1.2**
SNDB	**Serra Nova Dou**	**18.93**	**75**	*e*P	**P**	**19 03 36.4**	**-0.7**
BDFB	**Brasilia**	**21.11**	**87**	P	**P**	**19 04 00.3**	**-0.5**
	comp=E,2.0nm,0.4s,baz=245,slow=7.4,SNR=3.4						
	comp=E,2.0nm,0.4s						
BOAV	**Boa Vista**	**22.11**	**26**	*e*P	**P**	**19 04 11.8**	**+0.5**
PLCA	**Paso Flores**	**22.87**	**181**	P	**P**	**19 04 20.5**	**+1.8**
	comp=E,0.9nm,0.6s,baz=8.2,slow=9.2,SNR=5.0						
	comp=E,0.9nm,0.6s						
MCPB	**Macapa, AP**	**24.69**	**47**	*e*P	**P**	**19 04 34.7**	**-0.8**
DBIC	**Dimbokro**	**68.68**	**75**	P	**P**	**19 10 16.1**	**-0.5**
	comp=E,2.3nm,0.5s,baz=237,slow=4.0,SNR=5.9						
	comp=E,2.3nm,0.5s						
QSPA	**South Pole Qui**	**72.38**	**180**	P	**P**	**19 10 39.1**	**+0.8**
	comp=E,0.3nm,0.7s,baz=320,slow=2.6,SNR=0.9						
	comp=E,0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**77.08**	**72**	P	**P**	**19 11 05.3**	**-0.8**
	comp=E,0.9nm,0.5s,baz=258,slow=4.5,SNR=12						
	comp=E,0.9nm,0.5s						
YKA	**Yellowknife Ar**	**87.38**	**341**	P	**P**	**19 11 59.3**	**+0.5**
	comp=E,0.5nm,0.7s,baz=133,slow=5.0,SNR=10						
	comp=E,0.5nm,0.7s						
MKAR	**Makanchi Array**	**143.12**	**32**	PKhKP	PKPpre	19 18 41.3	
	comp=E,0.1nm,0.5s,baz=27,slow=3.6,SNR=1.5						
SONM	**Songino Array**	**149.89**	**5**	PKPbc	**PKiKP**	**19 19 03.1**	**+0.3**
	comp=E,0.4nm,0.4s,baz=302,slow=3.1,SNR=5.0						

*NEIC **27** 19:23:58.4±0.5,36°.925N±0°.008×97°.65W±0°.01,h9km±6km,*
Error ellipse: s-maj=1.6km s-min=0.9km az=130.0
TUL 27 19:23:58.5±0.5,36°.919N±0°.010×97°.65W±0°.01,h5km±1km,
ML2.6,mb_Lg2.2/7(NEIC),**ML2.6**/52(NEIC),**Error ellipse:**
s-maj=1.4km s-min=1.2km az=166.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAN17	**Caldwell West**	**0.16**	**323**	Pg	Pg	19 24 02.1	+0.4
KAN17				Sg	Sg	19 24 04.5	+0.7
KAN17				IAML		19 24 04.8	
	comp=E,2μm,0.2s						
KAN17				IAML		19 24 06.2	
	comp=N,1μm,0.2s						
KAN13	**South Haven SW**	**0.17**	**55**		Pg	19 24 02.3	+0.5
KAN13				Sg	Sg	19 24 05.0	+1.0
KAN13				IAML		19 24 07.0	
	comp=E,1μm,0.4s						
GC02	**Grant County #**	**0.18**	**249**	Pg	Pg	19 24 02.4	+0.2
GC02				Sg	Sg	19 24 05.5	+0.9
KAN09	**Caldwell North**	**0.22**	**6**		Pg	19 24 03.3	+0.4
KAN09				Sg	Sg	19 24 06.5	+0.8
KAN09				IAML		19 24 09.7	
	comp=N,1μm,0.2s						
KAN01	**Argonia South**	**0.25**	**339**	Pg	Pg	19 24 03.7	+0.3
KAN01				Sg	Sg	19 24 06.3	-0.4
KAN14	**Manchester OK**	**0.26**	**279**	Pg	Pg	19 24 03.8	+0.3
KAN14				Sg	Sg	19 24 07.6	+0.7
KAN14				IAML		19 24 07.9	
	comp=E,1μm,0.1s						
KAN05	**Bluff City Nor**	**0.26**	**317**		Pg	19 24 04.0	+0.3
KAN05				Sg	Sg	19 24 06.7	-0.4
KAN05				IAML		19 24 11.0	
	comp=N,995nm,0.2s						
KAN05				IAML		19 24 11.4	
	comp=E,1μm,0.2s						
KS21	**Milan North St**	**0.37**	**358**	IAML		19 24 13.1	
	comp=E,546nm,0.3s						
KS21	**Milan North St**	**0.37**	**358**		Pg	19 24 06.0	+0.3
KAN06	**Argonia West S**	**0.37**	**333**		Pg	19 24 06.1	+0.4
BLOK	**Blackwell**	**0.38**	**114**	Pg	Pg	19 24 06.0	+0.2
KAN08	**Anthony NE Sta**	**0.40**	**320**		Pg	19 24 06.5	+0.2
KAN08				Sg	Sg	19 24 12.3	+0.7
KAN08				IAML		19 24 14.2	
	comp=N,422nm,0.4s						
KAN08				IAML		19 24 14.2	
	comp=E,463nm,0.4s						
KAN10	**Anthony SW Sta**	**0.41**	**300**		Pg	19 24 06.8	+0.3
KAN10				Sg	Sg	19 24 12.5	+0.6
KAN10				IAML		19 24 14.4	
	comp=N,552nm,0.3s						
KAN10				IAML		19 24 14.4	
	comp=E,450nm,0.2s						
OK032	**Salt Plains WL**	**0.47**	**256**	Pg	Pg	19 24 07.7	+0.2
OK032				IAML		19 24 16.1	
	comp=E,412nm,0.2s						
OK032				IAML		19 24 17.7	
	comp=E,360nm,0.2s						
KAN12	**Harper NE Stat**	**0.47**	**324**		Pg	19 24 07.6	0.0
KAN12				IAML		19 24 22.3	
	comp=E,563nm,0.4s						
KAN12				IAML		19 24 22.7	
	comp=N,589nm,0.4s						
CROK	**Carrier**	**0.49**	**213**	Pg	Pg	19 24 08.0	0.0
OK048	**Pawnee Station**	**0.76**	**131**	Pg	Pg	19 24 13.0	0.0
OK035	**E0210 Rd and N**	**0.88**	**256**	Pg	Pg	19 24 15.2	-0.1
OK035				IAML		19 24 33.3	
	comp=N,161nm,0.3s						
OK035				IAML		19 24 34.6	
	comp=N,182nm,0.2s						
T35A	**Sooner Cattle**	**0.91**	**90**		Pg	19 24 15.8	-0.1
T35A				IAML		19 24 28.2	
	comp=E,137nm,0.1s						
T35A				IAML		19 24 28.4	
	comp=N,179nm,0.3s						
OK038	**West end E0370**	**0.98**	**244**		Pg	19 24 17.1	-0.3
OK033	**Mehan**	**1.04**	**147**	Pg	Pg	19 24 18.2	-0.3
QUOK	**Quay**	**1.06**	**134**		Pg	19 24 18.5	-0.4
OK052	**Battle Ridge R**	**1.15**	**143**		Pg	19 24 20.2	-0.3
OK052				IAML		19 24 42.2	
	comp=N,151nm,0.3s						
OK052				IAML		19 24 42.3	
	comp=N,127nm,0.2s						
U32A	**Winter Ranch,**	**1.22**	**244**		Pg	19 24 21.2	-0.6
DEOK	**Depew**	**1.42**	**139**		Pn	19 24 24.5	-0.4
ELIS	**Ellis County**	**1.66**	**240**		Pn	19 24 28.2	-0.1
FNO	**Franklin**	**1.67**	**173**		Pn	19 24 27.9	-0.4
TUL3	**Leonard**	**1.80**	**123**		Pn	19 24 29.7	-0.5
RLO	**Rose Lookout**	**2.24**	**109**	Pn	Pn	19 24 35.9	-0.4
WMOK	**Wichita Mounta**	**2.36**	**203**	Pn	Pn	19 24 37.6	-0.3
CBKS	**Cedar Bluff**	**2.51**	**319**	Pn	Pn	19 24 39.5	-0.5
CBKS				IAmb_Lg		19 25 24.2	
	comp=Z,11nm,0.8s						
U38A	**Gravette**	**2.67**	**99**	Pn	Pn	19 24 41.7	-0.4
SMWD	**Samnorwood**	**2.78**	**230**	Pn	Pn	19 24 43.1	-0.5
X37A	**Clayton**	**2.97**	**141**		Pn	19 24 44.9	-1.4
HHAR	**Hobbs**	**3.05**	**101**	Pn	Pn	19 24 46.2	-1.2
S39A	**Bolivar**	**3.53**	**76**	Pn	Pn	19 24 54.6	+0.6
MIAR	**Mount Ida**	**4.07**	**124**	Pn	Pn	19 25 00.5	-0.9
MIAR				IAmb_Lg		19 26 15.2	
	comp=Z,4.1nm,0.7s						
APMT	**Aspermont**	**4.12**	**210**	Pn	Pn	19 25 01.1	-1.0
RTBA	**Rita Blanca**	**4.12**	**265**	Pn	Pn	19 25 01.5	-0.7
DKNS	**Dickens**	**4.21**	**221**	Pn	Pn	19 25 02.9	-0.4
N35A	**Tabor**	**4.24**	**21**	Pn	Pn	19 25 03.3	-0.3
MGMO	**Mountain Grove**	**4.31**	**85**	Pn	Pn	19 25 06.0	+1.3
R40A	**Maddies Statio**	**4.49**	**71**	Pn	Pn	19 25 07.6	+0.5
FCAR	**Ozark Folk Cen**	**4.57**	**101**	Pn	Pn	19 25 09.5	+1.2
FCAR				IAmb_Lg		19 26 23.3	
	comp=Z,12nm,0.8s						
X40A	**Basin Creek Fa**	**4.61**	**120**	Pn	Pn	19 25 06.3	-2.4
WHAR	**Wooly Hollow**	**4.63**	**109**	Pn	Pn	19 25 07.1	-2.0
CCM	**Cathedral Cave**	**5.22**	**76**	Pn	Pn	19 25 14.7	-2.4
LCAR	**Lake Charles**	**5.30**	**97**	Pn	Pn	19 25 19.0	+0.7
LCAR				IAmb_Lg		19 26 56.0	
	comp=Z,1.9nm,0.8s						
T25A	**Trinidad**	**5.42**	**274**	Pn	Pn	19 25 18.5	-1.6
BRDY	**Brady**	**5.73**	**192**	Pn	Pn	19 25 21.5	-2.7
PBMO	**Poplar Bluff**	**5.79**	**89**	IAmb_Lg		19 27 00.7	
	comp=Z,5.1nm,0.8s						
Q24A	**Divide**	**6.27**	**291**	Pn	Pn	19 25 27.9	-4.0

*OMAN **27** 19:32:24.4±0.1,27°.89N×56°.95E,h10km,mb3.8/5,*
ml2.9/16,Error ellipse: s-maj=1.0km s-min=0.9km
az=351.0
*TEH **27** 19:32:24.1,27°.90N×56°.87E,h15km±3km,ML3.4*
ISC 27 19:32:24.2±1.6,27°.87N±0°.06×56°.92E±0°.04,h5km±13km,
n41,σ1s12/58,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBND	**Bandar-abas**	**0.54**	**218**	Pg	**Pg**	**19 32 35.1**	**+0.6**
KHNJ	**Kahnooj**	**0.70**	**84**	Pg	**Pg**	**19 32 38.0**	**+0.3**
GENO	**Geno**	**0.81**	**235**	Pg	**Pg**	**19 32 39.4**	**-0.4**
NGRK	**Negar Kerman**	**1.77**	**355**	Pg	**Pn**	**19 32 55.6**	**-0.2**
KBAM	**BAM**	**1.85**	**47**	Pn	**Pn**	**19 32 57.1**	**+0.5**
SHME	**Shamm**	**1.94**	**201**	P	**Pb**	**19 32 59.5**	**-0.6**
SHME				S	**Sb**	**19 33 25.2**	**+0.6**
BANOM	**Banah**	**2.02**	**196**	P	**Pn**	**19 33 00.3**	**+1.4**
BANOM				S	**Sb**	**19 33 26.1**	**-0.7**
CHMN	**Cheshme madani**	**2.05**	**15**	Pn	**Pn**	**19 33 00.3**	**+0.6**
JASK	**Jask - Hormozg**	**2.17**	**157**	Pn	**Pn**	**19 33 02.1**	**+1.1**
KHGB	**Koh Gabri**	**2.52**	**351**	Pn	**Pn**	**19 33 06.8**	**+0.7**
MASF	**Masafi**	**2.58**	**195**	P	**Pn**	**19 33 07.6**	**+0.9**
MASF				S	**Sn**	**19 33 40.0**	**+1.5**
MDH	**Madha**	**2.62**	**192**	P	**Pn**	**19 33 08.0**	**+0.8**
MDH				S	**Sn**	**19 33 41.4**	**+1.9**
UOSS	**Minazif**	**2.98**	**192**	P	**Pn**	**19 33 13.3**	**+1.0**
UOSS				S	**Sn**	**19 33 48.4**	**0.0**
ASHO	**Ashiyiah**	**3.27**	**194**	P	**Pn**	**19 33 17.4**	**+1.3**
	SNR=6.1						
ASHO				S	**Sn**	**19 33 56.3**	**+0.8**
FAQ	**Al Faqa, Dubai**	**3.33**	**201**	P	**Pn**	**19 33 17.3**	**+0.3**
	SNR=6.0						
FAQ				S	**Sn**	**19 33 58.5**	**+1.5**
ASUD	**Al Ashush, Dub**	**3.53**	**204**	P	**Pn**	**19 33 20.5**	**+0.8**
	SNR=14						
ASUD				S	**Sn**	**19 34 03.6**	**+1.6**
AJN	**Ajban**	**3.73**	**208**	P	**Pn**	**19 33 23.2**	**+0.8**
AJN				S	**Sn**	**19 34 07.8**	**+1.1**
SOHO	**SOHO**	**3.74**	**185**	P	**Pn**	**19 33 23.4**	**+0.8**
SOHO				S	**Sn**	**19 34 07.8**	**+0.8**
ZHDN	**Zahedan**	**3.75**	**65**	Pn	**Pn**	**19 33 24.1**	**+1.3**
IMEH	**Mehriz**	**4.04**	**331**	Pn	**Pn**	**19 33 26.5**	**-0.4**
HOQ	**Hoqain**	**4.29**	**175**	P	**Pn**	**19 33 30.6**	**+0.5**
HOQ				S	**Sn**	**19 34 18.8**	**-1.8**
BIDO	**Bidbid**	**4.47**	**166**	P	**Pn**	**19 33 32.2**	**-0.4**
BIDO				S	**Sn**	**19 34 24.7**	**-0.4**
ARQ	**Araqi**	**4.53**	**185**	P	**Pn**	**19 33 34.7**	**+1.2**
NGCH	**Negor - Chabah**	**4.53**	**123**	Pn	**Pn**	**19 33 34.0**	**+0.5**
NGCH	**Negor - Chabah**	**4.53**	**123**	P	**Pn**	**19 33 33.2**	**-0.3**
NGCH				S	**Sn**	**19 34 24.7**	**-1.9**
JRN	**Qarnain Island**	**4.67**	**232**	P	**Pn**	**19 33 35.5**	**+0.2**
SMDO	**Samad**	**4.90**	**168**	P	**Pn**	**19 33 39.4**	**+0.7**
SMDO				S	**Sn**	**19 34 35.7**	**-0.2**
MZWR	**Madinat Zayed**	**4.92**	**214**	P	**Pn**	**19 33 38.1**	**-0.8**
BSY	**Bisya**	**5.11**	**177**	P	**Pn**	**19 33 42.8**	**+1.3**
BSY				S	**Sn**	**19 34 41.3**	**+0.3**
UMZA	**Um Al Zommool**	**5.38**	**198**	P	**Pn**	**19 33 44.2**	**-0.9**
WBK	**Wadi Bani Khal**	**5.56**	**160**	P	**Pn**	**19 33 48.0**	**+0.3**
	SNR=8.9						
WBK				S	**Sn**	**19 34 49.7**	**-2.3**
JMDO	**Jabal Madar**	**5.58**	**169**	P	**Pn**	**19 33 46.0**	**-2.0**
JMDO				S	**Sn**	**19 34 53.4**	**+0.8**
SHMA	**Al-Shehemyia**	**5.68**	**251**	P	**Pn**	**19 33 48.8**	**-0.5**
	SNR=6.0						
SHMA				P	**Pn**	**19 33 49.0**	**-0.3**
	SNR=6.0						

GAEA Gareloi East 0.72 13 Pn 19 37 51.5 +0.2
GANO Gareloi North 0.75 9 Pn 19 37 51.6 -0.1
TASE Tanaga Southea 0.96 38 Pn 19 37 55.4 +0.7
TAFL Tanaga Flats 0.96 45 Pn 19 37 55.4 +0.8
TAFL Sn 19 38 08.2 +0.6
TANO Tanaga North 1.00 33 Pn 19 37 56.0 +0.9
TAFP Tanaga Falls P 1.03 38 Pn 19 37 56.3 +0.6
TAFP Sn 19 38 10.1 +0.7
AMKA Amchitka 1.11 286 Pn 19 37 55.2 -1.4
AMKA Amchitka 1.11 286 Sb 19 38 10.4 -0.6
CERB Semis' Cerberu 1.20 315 Pb 19 37 58.3 -0.4
CESW Semis' Southwe 1.21 313 Pn 19 37 58.0 -0.1
CEPE Semis' Perret 1.22 317 Pn 19 37 58.3 +0.1
CEAP Semis' Anvil P 1.28 317 Pb 19 37 59.4 -0.6
KIWB Kanaga Island 1.39 56 Pb 19 38 01.6 -0.3
KIWB Sb 19 38 18.9 -0.2
KICM Kanaga Island 1.40 53 Pb 19 38 01.8 -0.3
KIRH Kanaga Island 1.44 55 Pb 19 38 02.7 -0.1
ADK Adak 1.65 60 Pb 19 38 05.1 -1.2
ADK Sn 19 38 23.9 -0.7
LSSE Little Sitkin 1.74 300 Pn 19 38 05.7 +0.4
LSPA Little Sitkin 1.75 301 Pn 19 38 05.9 +0.5
LSPA Sb 19 38 29.2 -0.3
LSNW Little Sitkin 1.79 301 Pn 19 38 06.0 +0.1
GSCK Great Sitkin C 2.00 61 Pb 19 38 10.9 -1.4
GSTD Great Sitkin T 2.03 60 Pb 19 38 11.6 -1.2
GSTD Sb 19 38 37.5 -0.2
GSMY Great Sitkin M 2.07 61 Pb 19 38 11.9 -1.6
GSTR Great Sitkin T 2.10 60 Pb 19 38 12.8 -1.1
ATKA Atka Island 3.20 68 Pn 19 38 26.4 +1.1
KOKL Mount Kliuchef 3.23 66 Pn 19 38 28.2 +2.4
KOFP Korovin Flat P 3.28 67 Pn 19 38 29.1 +2.6
SHEM Shemya Is, Ala 4.58 294 P Pn 19 38 45.3 +1.0
14nm,0.3s,baz=123,slow=3.2,SNR=8.1
SHEM S Sn 19 39 39.2 +2.5
26nm,0.5s,baz=52,slow=19,SNR=1.2
SHEM LR LR 19 40 32.9
comp=Z,215nm,20.1s,baz=144,slow=38
16nm,0.3s
CLES Cleveland East 5.89 69 Pn Pn 19 39 01.9 -0.5
UNV Unalaska Valle 8.12 65 Pn Pn 19 39 34.8 +1.9
AKUT Akutan 8.61 64 Pn Pn 19 39 42.0 +2.4
SDPT Sand Point 11.89 62 Pn Pn 19 40 22.3 -2.1
CNBA Chernabura Isl 12.28 65 Pn Pn 19 40 28.2 -1.6
M13K Dall Lake 12.81 37 Pn Pn 19 40 39.2 +2.2
O14K Tigyukauivet M 12.99 44 Pn Pn 19 40 40.7 +1.2
CHGN Chignik 13.25 59 Pn Pn 19 40 44.1 +1.1
M14K Bethel 13.56 38 Pn Pn 19 40 46.9 -0.3
L14K Kuka Creek 13.66 35 Pn Pn 19 40 50.2 +1.6
N15K Kwethluk River 13.98 42 Pn Pn 19 40 53.8 +0.8
J14K Nanvaranak Lak 14.36 30 Pn 19 40 59.9 +1.8
PEA0B Petropavlovsk- 14.45 287 Pn Pn 19 41 01.3 +1.9
PETK Petropavlovsk- 14.45 287 Pn Pn 19 41 01.7 +2.2
PETK Petropavlovsk- 14.45 287 P Pn 19 41 01.3 +1.9
0.1nm,0.3s,baz=90,slow=33,SNR=9.0
PETK LR LR 19 46 41.7
comp=Z,42nm,20.6s,baz=85,slow=38
1.5nm,0.9s
K15K Wolf Creek Mou 14.71 34 P 19 41 08.4 -0.5
M16K Timber Creek 14.91 40 Pn P 19 41 08.8 -2.3
L16K Owhat River 15.10 38 Pn Pn 19 41 10.2 +2.1
N17K Nushagak Hills 15.41 44 P 19 41 16.3 -0.3
J16K Anvik River 15.69 32 P 19 41 19.9 +0.1
J16K IAmb IAmb 19 41 47.2
comp=Z,9.2nm,1.3s
M17K Holitna River 15.74 41 P 19 41 20.0 -0.2
O18K Koktuh Hills 16.01 48 P 19 41 24.5 +1.2
N18K Kilae Creek 16.05 44 P 19 41 24.9 +1.1
N18K IAmb IAmb 19 42 08.4
comp=Z,13nm,0.9s
K17K Iditarod 16.14 36 P 19 41 26.0 +1.3
K17K IAmb IAmb 19 41 43.2
comp=Z,11nm,1.1s
SVW2 Sparrevohn 16.37 43 P 19 41 26.7 -0.6
SVW2 IAmb IAmb 19 42 07.2
comp=Z,11nm,0.7s
F15K North Star Dit 16.41 21 P P 19 41 27.4 -0.3
F15K IAmb IAmb 19 41 44.0
comp=Z,11nm,1.4s
L18K Granite Mounta 16.47 39 P 19 41 29.1 +0.8
L18K IAmb IAmb 19 42 11.6
comp=Z,11nm,1.4s
G16K Koyuk River 16.72 25 P P 19 41 31.0 0.0
H17K Granite Mounta 17.06 28 Pn 19 41 33.7 +0.4
H17K IAmb IAmb 19 41 44.3
comp=Z,12nm,1.5s
TTA Tatalina 17.12 37 P P 19 41 36.1 +0.4
J18K Innoko River 17.16 35 P 19 41 36.6 +0.6
L19K White Mountain 17.19 40 P 19 41 36.5 +0.1
L19K IAmb IAmb 19 42 18.1
comp=Z,8.7nm,0.7s
H18K Honhosa River 17.69 29 P 19 41 43.0 +1.2
F17K Baldwin Pennin 17.82 24 P 19 41 44.2 +1.0
J19K Poorman 17.87 35 Pn 19 41 43.6 +0.3
K20K Telida 18.10 38 P 19 41 46.5 +0.2
K20K IAmb IAmb 19 42 30.5
comp=Z,4.4nm,0.6s
BILL Bilibino 18.47 342 P P 19 41 50.0 -0.4
C16K Lisburne Hills 18.48 16 P Pn 19 41 51.0 +0.3
J20K Nowinta River 18.51 35 P P 19 41 51.0 +0.2
H19K Roundabout Mou 18.54 30 P Pn 19 41 52.5 +1.2
PPLA Purkeypile 18.62 40 P Pn 19 41 53.1 +0.5
PPLA IAmb IAmb 19 42 25.0
comp=Z,11nm,1.0s
G19K Purcell Mounta 18.75 28 P Pn 19 41 54.2 +0.2
G19K IAmb IAmb 19 42 00.2
comp=Z,16nm,1.5s
FIS Fire Island 18.78 47 P Pn 19 41 55.7 +1.4
O22K Cooper Landing 18.80 49 P Pn 19 41 55.1 +0.4
SEW Seward 18.83 50 P Pn 19 41 56.0 +1.1
CAST Castle Rocks 18.91 39 Pn 19 41 56.4 +0.5
CAST IAmb IAmb 19 42 22.9
comp=Z,5.0nm,0.7s
MA2 Magadan 19.03 308 LR LR 19 48 26.3
comp=Z,36nm,18.8s,baz=88,slow=34
F19K Shaleruckik Mo 19.04 26 P P 19 41 56.6 0.0
KTH Kantishna Hill 19.43 39 P P 19 42 01.6 +0.6
C18K Utukok River 19.61 19 P P 19 42 01.3 -1.6
C18K IAmb IAmb 19 42 09.2
comp=Z,9.2nm,1.4s
E19K Redstone River 19.63 25 P P 19 42 03.3 +0.1
TRF Thorofare Moun 19.64 40 P P 19 42 04.0 +0.6
BPAW Bear Paw Mtn. 19.66 38 Pn 19 42 04.6 -0.4
BPAW IAmb IAmb 19 42 09.3
comp=Z,9.0nm,0.8s
IMAR Indian Mountai 19.69 31 P P 19 42 04.0 +0.2
F20K Avaraart Lake 19.77 27 P P 19 42 05.0 +0.4
F20K IAmb IAmb 19 42 11.0
comp=Z,9.7nm,1.4s
H21K Melozitna Rive 19.82 33 P Pn 19 42 06.6 -0.2
H21K IAmb IAmb 19 42 12.3
comp=Z,8.6nm,1.1s
G21K Allakaket 20.09 30 P Pn 19 42 09.3 -0.8
G21K IAmb IAmb 19 42 13.2
comp=Z,4.8nm,0.7s
D19K Kuna River 20.18 22 P P 19 42 10.0 +0.9
D19K IAmb IAmb 19 42 15.6
comp=Z,6.4nm,1.1s
MLY Manley 20.21 36 P 19 42 10.5 +1.1
MLY IAmb IAmb 19 42 52.0
comp=Z,4.7nm,0.7s
BWN Browne 20.29 39 P P 19 42 11.3 +1.1
C19K Lookout Ridge 20.32 20 P P 19 42 10.7 +0.1
C19K IAmb IAmb 19 42 18.7
comp=Z,6.6nm,1.2s
F21K Alatna River 20.54 29 P P 19 42 13.1 0.0
NEA2 Nenana 20.63 38 P P 19 42 13.5 -0.5
EYAK Cordova Ski Ar 20.72 50 P Pn 19 42 16.4 -1.0
I23K Minto, Yukon-K 20.77 36 P P 19 42 15.8 +0.3
I23K IAmb IAmb 19 42 35.0
comp=Z,10nm,1.2s
H23K Yukon River 21.04 34 P P 19 42 19.1 +0.7
H23K IAmb IAmb 19 42 50.5
comp=Z,5.3nm,1.0s
MDM Murphy Dome 21.11 37 P P 19 42 19.4 +0.2
MDM IAmb IAmb 19 42 34.4
comp=Z,7.5nm,1.0s
HMT Hamilton 21.41 51 P P 19 42 21.2 -1.2
ILAR Eielson Array 21.55 38
comp=Z,0.6nm,0.4s
B20K Meade River 21.56 20 P P 19 42 23.9 0.0
IL03 Eielson Array 21.57 38 P P 19 42 23.8 -0.2
COLD Coldfoot 21.57 31 P P 19 42 23.9 -0.1
COLD IAmb IAmb 19 42 33.5
comp=Z,5.3nm,1.2s
E22K Anaktuvuk Pass 21.62 28 P P 19 42 24.2 -0.4
H24K Noodor Dome 21.65 35 P P 19 42 24.6 -0.4
H24K IAmb IAmb 19 43 03.4
comp=Z,7.0nm,1.2s
BERG Berg Lake 21.69 51 P P 19 42 23.9 -1.5
D22K Ayikyak River 21.85 26 P P 19 42 26.2 -0.9
B21K Ikpikpuk River 21.86 23 P P 19 42 25.2 -2.0
B21K IAmb IAmb 19 42 42.1
comp=Z,5.1nm,0.7s
F24K Squaw Lake 22.48 31 P P 19 42 34.0 +0.1
F24K IAmb IAmb 19 42 36.5
comp=Z,6.1nm,0.9s
TOLK Toolik Lake Re 22.59 28 P P 19 42 34.3 -0.7
TOLK IAmb IAmb 19 42 44.1
comp=Z,5.2nm,1.2s
FYU Fort Yukon 22.94 35 P P 19 42 38.1 -0.4
C23K Itkillik River 23.03 25 P P 19 42 39.4 -0.2
C23K IAmb IAmb 19 42 42.7
comp=Z,7.2nm,1.0s
D24K Happy Valley 23.11 27 P P 19 42 38.6 -1.7
D24K IAmb IAmb 19 42 42.1
comp=Z,4.6nm,0.9s
E25K Arctic Village 23.55 31 P P 19 42 44.1 -0.7
E25K IAmb IAmb 19 42 46.9
comp=Z,6.1nm,1.4s
BMAR Burnt Mountain 23.55 33 P P 19 42 44.7 -0.1
F28M Old Crow 25.28 34 P 19 43 00.1 -0.6
F28M IAmb IAmb 19 43 01.3
comp=Z,3.9nm,1.0s
D27M Malcolm River 25.56 31 P P 19 43 02.3 -1.0
E29M Blow River 26.25 33 P P 19 43 09.6 +0.2
E29M IAmb IAmb 19 43 45.9
comp=Z,4.1nm,0.9s
INK Inuvik 27.77 35 P P 19 43 22.9 -0.2
comp=Z,0.6nm,0.3s,baz=251,slow=9.2,SNR=5.6
comp=Z,0.6nm,0.3s
TIXI Tiksi 30.83 331 LR LR 19 56 06.3
comp=Z,31nm,21.6s,baz=44,slow=36
A36M Sachs Harbour 31.40 29 P P 19 43 54.3 -0.9
H11N2 WAKE ISLAND Hy 33.21 205 T T 20 19 22.9
baz=16,slow=76,SNR=118
H11N3 WAKE ISLAND Hy 33.22 205 T T 20 19 27.6
baz=16,slow=76,SNR=103
H11N1 WAKE ISLAND Hy 33.23 205 T T 20 19 24.3
baz=16,slow=76,SNR=98
H11S1 WAKE ISLAND Hy 34.43 204 T T 20 21 00.4
baz=15,slow=73,SNR=100
H11S2 WAKE ISLAND Hy 34.45 204 T T 20 21 01.5
baz=15,slow=73,SNR=54
H11S3 WAKE ISLAND Hy 34.45 205 T T 20 21 02.6
baz=15,slow=73,SNR=62
YKA Yellowknife Ar 35.53 46 P P 19 44 31.1 0.0
comp=Z,0.9nm,0.8s,baz=284,slow=8.7,SNR=9.0
comp=Z,0.9nm,0.8s
JNU Nakatsue 40.41 263 LR LR 19 59 45.0
comp=Z,16nm,22.0s,baz=46,slow=33
NVAR Mina Array Bea 43.72 82 P P 19 45 38.6 -1.3
comp=Z,0.1nm,0.3s,baz=298,slow=5.7,SNR=2.3
comp=Z,0.1nm,0.3s
PDAR Pinedale Array 46.52 72 P P 19 46 02.9 +0.7
comp=Z,2.1nm,0.6s,baz=300,slow=3.7,SNR=25
comp=Z,2.1nm,0.6s
SONM Songino Array 46.66 297 P P 19 46 03.5 +0.4
comp=Z,1.2nm,0.7s,baz=59,slow=7.1,SNR=9.0
SONM LR LR 20 06 50.8
comp=Z,45nm,18.4s,baz=359,slow=38
comp=Z,1.2nm,0.7s
SPITS Spitsbergen Ar 50.66 356 P P 19 46 31.9 -1.3
comp=Z,3.5nm,0.6s,baz=46,slow=7.1,SNR=20
comp=Z,3.5nm,0.6s
ZALV Zalesovo Beam 54.14 314 P P 19 46 58.6 -0.7
comp=Z,0.3nm,0.4s,baz=74,slow=7.7,SNR=1.9
ZALV PcP PcP 19 48 03.7 0.0
comp=Z,0.4nm,0.5s,baz=86,slow=4.6,SNR=4.9
comp=Z,0.3nm,0.4s
ARCES ARCESS Array B 58.36 350 P P 19 47 27.7 -1.5
comp=Z,6.8nm,1.1s,baz=25,slow=7.6,SNR=7.6
comp=Z,6.8nm,1.1s
TXAR Lajitas Array 58.82 81 P P 19 47 36.9 +3.8
comp=Z,0.3nm,0.5s,baz=282,slow=10.0,SNR=3.3
MKAR Makanchi Array 60.12 308 P P 19 47 40.6 -1.1
comp=Z,0.8nm,0.4s,baz=52,slow=6.2,SNR=32
comp=Z,0.8nm,0.4s
BVAR Bovovye Array 61.03 320 P P 19 47 46.5 -1.3
comp=Z,0.7nm,0.3s,baz=53,slow=8.2,SNR=8.7
BVAR PcP PcP 19 48 30.4 -0.4
comp=Z,0.7nm,0.4s,baz=61,slow=2.9,SNR=7.6
comp=Z,0.7nm,0.3s
KIRV Kirov 63.78 334 LR LR 20 18 03.1
comp=Z,21nm,19.6s,baz=356,slow=38
FINES FINESS Array B 66.04 347 P P 19 48 19.0 -1.7
comp=Z,0.9nm,0.3s,baz=5.6,slow=6.9,SNR=21
comp=Z,0.9nm,0.3s
AKTO Aktyubinsk 67.85 325 LR LR 20 19 47.5
comp=Z,33nm,19.5s,baz=96,slow=37
NOA NORSAR Array B 67.93 355 P P 19 48 32.5 -0.3
comp=Z,0.3nm,0.4s,baz=1.9,slow=5.9,SNR=6.6
comp=Z,0.3nm,0.4s
HFS Hagfors 68.66 353 P P 19 48 35.5 -1.8
comp=Z,0.7nm,0.4s,baz=35,slow=6.3,SNR=7.6
comp=Z,0.7nm,0.4s
AKASG Malin Array Be 75.79 342 P P 19 49 19.2 -0.8
comp=Z,0.5nm,0.3s,baz=21,slow=5.8,SNR=6.6
comp=Z,0.5nm,0.3s
VRAC Vranov 79.10 350 LR LR 20 27 28.1
comp=Z,15nm,18.5s,baz=335,slow=38
ASAR Alice Springs 85.19 222 P P 19 50 09.8 -0.9
comp=Z,0.4nm,0.9s,baz=22,slow=5.4,SNR=2.2
comp=Z,0.4nm,0.9s
H03N2 Juan Fernandez 121.19 106 T T 22 09 32.2
baz=317,slow=77,SNR=24
H03N1 Juan Fernandez 121.20 106 T T 22 09 36.4
baz=317,slow=77,SNR=27
H03N3 Juan Fernandez 121.20 106 T T 22 09 30.0
baz=317,slow=77,SNR=28
VNDA Vanda 128.89 185 PKP PKiKP 19 56 42.2 +1.2
comp=Z,0.2nm,0.5s,baz=334,slow=6.4,SNR=1.8
BOSA Boshof 151.08 312 PKPbc PKPbc 19 57 27.4 -0.1
comp=Z,1.8nm,0.8s,baz=15,slow=5.4,SNR=3.8

*NEIC **27** 19:40:24.6±1.6,56°.50N±0°.07×148°.58W±0°.09,h10±2km, ML4.0/78,ML3.8(AEIC),Error ellipse: s-maj=12.0km s-min=8.7km az=169.0*
*IDC **27** 19:40:25.8±1.7,56°.66N×148°.68W,h0km,mb3.8/5, mbtmp3.8/9,ML3.8/4,MS3.1/16,Error ellipse: s-maj=40.1km s-min=21.0km az=3.0*
*AEIC **27** 19:40:30.3±1.5,56°.57N±0°.08×148°.6W±0°.1,h12km±7km, Error ellipse: s-maj=11.5km s-min=8.4km az=174.0*

ISC 27 19:40:25.1±0.8,56°.58N±0°.08×148°.60W±0°.05,h10km, n327,σ1§14/319,mb4.1/7,MS3.1/12,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	Kodiak Island	2.48	301	Pn	Pn	19 41 05.2	-0.3
KDAK	Kodiak Island	2.48	301		Sn	19 41 34.2	-1.6
KDAK	Kodiak Island	2.48	301	Pn	Pn	19 41 05.2	-0.3
	21nm,0.3s,baz=129,slow=4.4,SNR=139						
KDAK				Sn	Sn	19 41 33.1	-2.7
	18nm,0.3s,baz=72,slow=21,SNR=5.2						
KDAK				LR	LR	19 42 08.6	
	comp=Z,323nm,20.8s,baz=211,slow=43						
	45nm,0.3s						
OHAK	Old Harbor	2.65	286	P	Pn	19 41 06.9	-0.9
OHAK	Old Harbor	2.65	286		Pn	19 41 06.8	-0.9
OHAK	Old Harbor	2.65	286		Sn	19 41 36.4	-3.6
OHAK	Old Harbor	2.65	286	P	Pn	19 41 06.9	-0.9
	baz=104						
OHAK				S	Sn	19 41 36.8	-3.2
	baz=104						
SYI	Shuyak Island	2.88	316		Pn	19 41 10.7	-0.2
SYI	Shuyak Island	2.88	316		Sn	19 41 43.9	-1.8
Q20K	Shuyak Island	2.88	316	P	Pn	19 41 11.5	+0.5
	baz=134						
Q20K				S	Sn	19 41 44.6	-1.1
	baz=134						
MID	Middleton Isla	3.10	22	P	Pn	19 41 13.7	-0.2
MID	Middleton Isla	3.10	22	Pn	Pn	19 41 13.2	-0.8
MID				IAML		19 41 52.4	
	comp=N,261nm,1.4s						
MID				IAML		19 42 01.2	
	comp=E,306nm,1.4s						
MID	Middleton Isla	3.10	22		Sn	19 41 48.6	-2.3
Q23K	Middleton Isla	3.10	22	Pn	Pn	19 41 13.5	-0.4
Q23K				IAML		19 41 52.4	
	comp=N,303nm,1.4s						
Q23K				IAML		19 42 01.3	
	comp=E,345nm,1.4s						
Q23K	Middleton Isla	3.10	22		Sn	19 41 48.5	-2.4
Q23K	Middleton Isla	3.10	22	P	Pn	19 41 14.0	+0.1
	baz=203						
Q23K				S	Sn	19 41 49.5	-1.5
	baz=203						
CNPM	China Poot	3.27	336	Pn	Pn	19 41 16.4	+0.1
CNPM	China Poot	3.27	336		Sn	19 41 53.1	-2.1
BRSE	Bradley Lake S	3.36	341		Pn	19 41 17.7	+0.1
BRSE					Sn	19 41 55.1	-2.5
BRSE	Bradley Lake S	3.36	341	P	Pn	19 41 18.2	+0.5
	baz=160						
BRSE				S	Sn	19 41 56.0	-1.6
	baz=160						
BRLK	Bradley Lake	3.41	340		Pn	19 41 18.1	-0.3
BRLK	Bradley Lake	3.41	340		Sn	19 41 57.5	-1.3
HOM	Homer	3.48	334		Pn	19 41 19.8	+0.6
HOM				IAML		19 42 08.6	
	comp=E,323nm,0.7s						
HOM				IAML		19 42 08.6	
	comp=N,338nm,0.9s						
HOM	Homer	3.48	334	P	Pn	19 41 20.1	+0.9
	baz=152						
P23K	Montague Islan	3.48	10	P	Pn	19 41 19.4	+0.2
	baz=191						
Q19K	Cape Douglas,	3.58	313	Pn	Pn	19 41 21.6	+0.9
Q19K				IAML		19 42 16.7	
	comp=N,385nm,0.8s						
Q19K	Cape Douglas,	3.58	313	P	Pn	19 41 22.0	+1.3
	baz=130						
AU22	Augustine Moun	3.77	320		Pn	19 41 24.6	+1.3
AUCH	Augustine Cone	3.80	319		Pn	19 41 25.1	+1.4
AUL	Augustine Lava	3.81	319		Pn	19 41 25.1	+1.3
KAKN	Katmai Knife C	3.89	299		Pn	19 41 26.0	+1.0
KCE	Katmai Mt Cerb	3.93	298		Pn	19 41 27.3	+1.8
P19K	Oil Pt	3.94	323		Pn	19 41 26.1	+0.5
P19K				IAML		19 42 14.3	
	comp=E,329nm,0.5s						
P19K				IAML		19 42 14.6	
	comp=N,235nm,0.5s						
P19K	Oil Pt	3.94	323	P	Pn	19 41 26.6	+1.0
	baz=140						
O22K	Cooper Landing	3.95	352		Pn	19 41 25.6	-0.1
O22K	Cooper Landing	3.95	352	P	Pn	19 41 26.6	+0.8
	baz=171						
HIN	Hinchinbrook I	3.98	15		Pn	19 41 26.4	+0.3
HIN				IAML		19 42 13.7	
	comp=E,213nm,0.7s						
HIN				IAML		19 42 17.4	
	comp=N,261nm,1.0s						
ACHA	Angle Creek He	3.99	297		Pn	19 41 27.6	+1.3
KAIM	Kayak Island	4.01	32	Pn	Pn	19 41 27.0	+0.5
KAIM	Kayak Island	4.01	32	P	Pn	19 41 27.1	+0.5
	baz=214						
KAHC	Katmai Hardscr	4.02	304	P	Pn	19 41 28.0	+1.2
	baz=119						
KVTA	Katmai Vly 10	4.04	299		Pn	19 41 28.4	+1.5
ANCK	Angle Creek	4.07	296		Pn	19 41 29.1	+1.8
O20K	Slope Mountain	4.10	331		Pn	19 41 28.4	+0.6
O20K	Slope Mountain	4.10	331	P	Pn	19 41 28.4	+0.6
	baz=148						
ILSW	Iliamna Southw	4.17	327		Pn	19 41 28.5	-0.3
ILSW				IAML		19 42 21.6	
	comp=E,110nm,1.0s						
EYAK	Cordova Ski Ar	4.25	19	P	Pn	19 41 30.3	+0.5
EYAK	Cordova Ski Ar	4.25	19		Pn	19 41 30.2	+0.4
EYAK	Cordova Ski Ar	4.25	19	P	Pn	19 41 30.5	+0.7
	baz=201						
KELA	Mount Kelaz	4.28	299		Pn	19 41 31.2	+0.9
Q17K	Contact Creek	4.28	296	P	Pn	19 41 31.6	+1.2
	baz=111						
SUCK	Suckling Hills	4.32	34		Pn	19 41 31.5	+0.6
SUCK				IAML		19 42 30.4	
	comp=E,196nm,1.2s						
SUCK				IAML		19 42 35.7	
	comp=N,235nm,1.0s						
RAGM	Ragged Mountai	4.33	27		Pn	19 41 31.5	+0.5
HMT	Hamilton	4.40	29		Pn	19 41 32.6	+0.7
CAPN	Captain Cook N	4.40	343	Pn	Pn	19 41 33.5	+1.6
CAPN	Captain Cook N	4.40	343	P	Pn	19 41 33.5	+1.6
	baz=162						
RSO	Redoubt South	4.46	332		Pn	19 41 32.6	-0.2
P18K	Big Mountain,	4.51	311	Pn	Pn	19 41 33.3	-0.2
P18K	Big Mountain,	4.51	311	P	Pn	19 41 33.7	+0.2
	baz=126						
DFR	Drift River	4.55	334		Pn	19 41 33.9	-0.1
RC01	Rabbit Creek A	4.56	353		Pn	19 41 34.4	+0.4
RC01				IAML		19 42 28.1	
	comp=E,142nm,0.6s						
RC01				IAML		19 42 30.4	
	comp=N,118nm,0.6s						
RC01	Rabbit Creek A	4.56	353	P	Pn	19 41 34.9	+0.8
	baz=172						
BERG	Berg Lake	4.60	32		Pn	19 41 35.0	+0.3
FIS	Fire Island	4.65	350	Pn	Pn	19 41 35.3	0.0
FIS				IAML		19 42 36.2	
	comp=E,204nm,0.7s						
O19K	Port Alsworth	4.71	323		Pn	19 41 35.6	-0.5
O19K	Port Alsworth	4.71	323	P	Pn	19 41 36.6	+0.5
	baz=138						
SNH	Sunshine Point	4.71	38	Pn	Pn	19 41 36.8	+0.6
SNH				IAML		19 42 30.8	
	comp=N,115nm,1.2s						
SNH				IAML		19 42 41.4	
	comp=E,114nm,1.0s						
DIV	Divide	4.79	17		Pn	19 41 37.1	-0.2
O18K	Koktuh Hills	4.79	316		Pn	19 41 37.6	+0.3
O18K				IAML		19 42 37.5	
	comp=N,69nm,0.8s						
O18K	Koktuh Hills	4.79	316	P	Pn	19 41 37.8	+0.5
	baz=131						
KNK	Knik Glacier	4.84	1		Pn	19 41 38.5	+0.5
KNK				IAML		19 42 35.6	
	comp=E,71nm,0.7s						
KNK	Knik Glacier	4.84	1	P	Pn	19 41 39.1	+1.0
	baz=181						
BMRM	Bremner River	4.86	24		Pn	19 41 38.6	+0.3
BMRM	Bremner River	4.86	24	P	Pn	19 41 38.9	+0.6
	baz=206						
WAX	Waxell Ridge	4.91	35		Pn	19 41 39.3	+0.3
P17K	Kvichak River	4.93	305		Pn	19 41 39.9	+0.7
N20K	Mount Spurr	4.99	340	P	Pn	19 41 40.2	+0.1
	baz=157						
SPCN	Chakachatna No	5.01	340		Pn	19 41 40.5	+0.2
SUA	Susitna One	5.02	348		Pn	19 41 40.4	-0.1
SUA	Susitna One	5.02	348	P	Pn	19 41 40.7	+0.2
	baz=166						
MESA	MESA	5.02	41	Pn	Pn	19 41 41.1	+0.5
MESA				IAML		19 42 41.5	
	comp=N,106nm,1.1s						
MESA				IAML		19 42 46.3	
	comp=E,95nm,0.7s						
MESA	MESA	5.02	41	P	Pn	19 41 41.1	+0.5
	baz=226						
PMR	Palmer	5.03	357	P	Pn	19 41 42.0	+1.5
PMR	Palmer	5.03	357	Pn	Pn	19 41 40.8	+0.3
PMR				IAML		19 42 37.5	
	comp=N,60nm,0.7s						
PMR				IAML		19 42 39.0	
	comp=E,77nm,0.7s						
PMR	Palmer	5.03	357	P	Pn	19 41 41.1	+0.6
	baz=177						
SPCG	Spurr Capps Gl	5.04	341		Pn	19 41 41.6	+0.8
CRQM	Cirque	5.06	32	Pn	Pn	19 41 41.4	+0.2
CRQM				IAML		19 42 47.6	
	comp=N,91nm,0.6s						
CRQM				IAML		19 42 50.4	
	comp=E,85nm,1.2s						
CRQE	Cirque	5.07	32	P	Pn	19 41 41.7	+0.5
	baz=216						
KLU	Klutina	5.11	15		Pn	19 41 42.6	+0.8
KLU				IAML		19 42 44.0	
	comp=N,75nm,0.4s						
KLU				IAML		19 42 43.0	
	comp=E,69nm,0.4s						
KLU	Klutina	5.11	15	P	Pn	19 41 42.4	+0.7
	baz=196						
TGL	Tana Glacier	5.15	33	Pn	Pn	19 41 42.9	+0.5
TGL				IAML		19 42 40.8	
	comp=E,148nm,0.5s						
TGL				IAML		19 42 41.1	
	comp=N,112nm,0.5s						
ISLE	Juniper Island	5.19	36		Pn	19 41 43.1	+0.3

ISLE				IAML		19 42 44.8	
	comp=N,80nm,1.1s						
ISLE				IAML		19 42 46.1	
	comp=E,60nm,0.7s						
GHO	**Glory Hole Cre**	**5.21**	**358**		**Pn**	**19 41 43.9**	**+0.9**
GHO				IAML		19 42 44.9	
	comp=E,134nm,0.6s						
N19K	**Bonanza Creek**	**5.23**	**327**	Pn	**Pn**	**19 41 43.5**	**+0.1**
N19K	**Bonanza Creek**	**5.23**	**327**	P	**Pn**	**19 41 43.7**	**+0.2**
	baz=142						
SML	**Sawmill**	**5.24**	**1**	Pn	**Pn**	**19 41 44.5**	**+1.1**
SML				IAML		19 42 46.0	
	comp=N,112nm,0.7s						
SML				IAML		19 42 48.6	
	comp=E,74nm,0.5s						
SML	**Sawmill**	**5.24**	**1**	P	**Pn**	**19 41 44.6**	**+1.1**
	baz=182						
M22K	**Willow**	**5.24**	**352**	Pn	**Pn**	**19 41 43.0**	**-0.5**
M22K				IAML		19 42 54.6	
	comp=N,110nm,1.1s						
M22K				IAML		19 43 11.7	
	comp=E,108nm,0.6s						
M23K	**Glacier View**	**5.24**	**5**		**Pn**	**19 41 44.7**	**+1.2**
M23K	**Glacier View**	**5.24**	**5**	P	**Pn**	**19 41 44.7**	**+1.2**
	baz=185						
SCM	**Sheep Creek Mo**	**5.31**	**7**		**Pn**	**19 41 45.4**	**+1.0**
SCM	**Sheep Creek Mo**	**5.31**	**7**	IAML		19 42 50.3	
	comp=E,77nm,0.6s						
SCM				IAML		19 42 53.7	
	comp=N,69nm,0.8s						
SCM	**Sheep Creek Mo**	**5.31**	**7**	P	**Pn**	**19 41 45.4**	**+1.0**
	baz=187						
VRDI	**Verde Repeater**	**5.37**	**28**		**Pn**	**19 41 45.6**	**+0.2**
SAMH	**Samovar Hills**	**5.44**	**46**		**Pn**	**19 41 47.1**	**+0.8**
N25K	**Chitina, Valde**	**5.44**	**21**		**Pn**	**19 41 46.8**	**+0.5**
N25K	**Chitina, Valde**	**5.44**	**21**	P	**Pn**	**19 41 47.2**	**+0.9**
	baz=204						
CHGN	**Chignik**	**5.45**	**271**	Pn	**Pn**	**19 41 45.9**	**-0.4**
GLB	**Gilahina Butte**	**5.46**	**25**		**Pn**	**19 41 46.8**	**+0.2**
GRNC	**Granite Creek**	**5.48**	**38**		**Pn**	**19 41 47.7**	**+0.7**
TABL	**Table Mountain**	**5.50**	**42**		**Pn**	**19 41 47.8**	**+0.7**
O17K	**Koliganek Bris**	**5.51**	**309**		**Pn**	**19 41 47.5**	**+0.3**
O17K	**Koliganek Bris**	**5.51**	**309**	P	**Pn**	**19 41 47.5**	**+0.3**
	baz=122						
P16K	**Nushagak River**	**5.59**	**300**		**Pn**	**19 41 49.2**	**+1.0**
P16K	**Nushagak River**	**5.59**	**300**	P	**Pn**	**19 41 49.2**	**+1.0**
	baz=113						
N18K	**Kilae Creek**	**5.60**	**320**		**Pn**	**19 41 48.8**	**+0.5**
N18K	**Kilae Creek**	**5.60**	**320**	P	**Pn**	**19 41 48.8**	**+0.5**
	baz=134						
MCARA	**McCarthy VSAT**	**5.61**	**29**		**Pn**	**19 41 49.5**	**+1.0**
MCARA	**McCarthy VSAT**	**5.61**	**29**	P	**Pn**	**19 41 49.3**	**+0.8**
	baz=213						
SKT	**Skwentna**	**5.62**	**346**		**Pn**	**19 41 48.8**	**+0.2**
SKT	**Skwentna**	**5.62**	**346**	P	**Pn**	**19 41 49.4**	**+0.8**
	baz=163						
M24K	**Tolsona, Glenn**	**5.68**	**12**		**Pn**	**19 41 50.7**	**+1.2**
M24K	**Tolsona, Glenn**	**5.68**	**12**	P	**Pn**	**19 41 50.9**	**+1.4**
	baz=193						
BARN	**Barnard Glacie**	**5.75**	**36**		**Pn**	**19 41 51.3**	**+0.6**
PNL	**Peninsula**	**5.77**	**54**	P	**Pn**	**19 41 51.8**	**+1.1**
	baz=241						
CTG	**Chitna Glacier**	**5.79**	**38**	P	**Pn**	**19 41 51.8**	**+0.6**
	baz=223						
CTGM	**Chitina Glacie**	**5.79**	**38**		**Pn**	**19 41 51.7**	**+0.5**
SVW2	**Sparrevohn**	**5.80**	**324**	P	**Pn**	**19 41 50.9**	**-0.2**
SVW2	**Sparrevohn**	**5.80**	**324**	Pn	**Pn**	**19 41 50.0**	**-1.1**
M20K	**Styx River**	**5.80**	**338**		**Pn**	**19 41 51.1**	**-0.1**
LOGN	**Logan Glacier**	**5.81**	**40**		**Pn**	**19 41 51.8**	**+0.4**
BCPM	**Bancas Point**	**5.81**	**51**		**Pn**	**19 41 52.3**	**+1.0**
WASW	**Wrangell South**	**5.82**	**21**		**Pn**	**19 41 52.5**	**+0.9**
WACK	**Wrangell Chich**	**5.84**	**20**		**Pn**	**19 41 52.9**	**+1.0**
O16K	**Kokwok River B**	**5.87**	**305**		**Pn**	**19 41 52.5**	**+0.4**
O16K	**Kokwok River B**	**5.87**	**305**	P	**Pn**	**19 41 52.9**	**+0.9**
	baz=118						
CUT	**Chulitna**	**5.90**	**352**		**Pn**	**19 41 52.8**	**+0.3**
N17K	**Nushagak Hills**	**5.98**	**315**		**Pn**	**19 41 53.5**	**-0.1**
N17K	**Nushagak Hills**	**5.98**	**315**	P	**Pn**	**19 41 54.1**	**+0.5**
	baz=128						
WAT6	**Susitna Watana**	**6.03**	**4**	P	**Pn**	**19 41 55.4**	**+1.0**
	baz=184						
O28M	**Mount Upton**	**6.07**	**43**		**Pn**	**19 41 55.8**	**+0.7**
O28M	**Mount Upton**	**6.07**	**43**	P	**Pn**	**19 41 55.8**	**+0.7**
	baz=229						
HARP	**HAARP**	**6.09**	**15**		**Pn**	**19 41 56.5**	**+1.3**
HARP	**HAARP**	**6.09**	**15**	P	**Pn**	**19 41 56.4**	**+1.3**
	baz=198						
M18K	**Stony River**	**6.17**	**326**		**Pn**	**19 41 56.0**	**-0.2**
M18K	**Stony River**	**6.17**	**326**	P	**Pn**	**19 41 56.0**	**-0.2**
	baz=140						
WAT1	**Susitna Watana**	**6.27**	**0**		**Pn**	**19 41 58.5**	**+1.0**
WAT1	**Susitna Watana**	**6.27**	**0**	P	**Pn**	**19 41 58.5**	**+1.0**
	baz=180						
O29M	**Mount Kennedy**	**6.45**	**51**		**Pn**	**19 42 00.7**	**+0.6**
O29M	**Mount Kennedy**	**6.45**	**51**	P	**Pn**	**19 42 01.3**	**+1.2**
	baz=238						
L19K	**White Mountain**	**6.46**	**333**		**Pn**	**19 41 59.4**	**-0.7**
L19K	**White Mountain**	**6.46**	**333**	P	**Pn**	**19 41 60.0**	**-0.2**
	baz=149						
CNBA	**Chernabura Isl**	**6.46**	**259**	Pn	**Pn**	**19 41 59.7**	**-0.4**
M26K	**Nabesna, AK**	**6.49**	**24**		**Pn**	**19 42 01.3**	**+0.6**
M26K	**Nabesna, AK**	**6.49**	**24**	P	**Pn**	**19 42 01.5**	**+0.8**
	baz=208						
P29M	**Windy Craggy**	**6.51**	**58**		**Pn**	**19 42 00.9**	**-0.1**
P29M	**Windy Craggy**	**6.51**	**58**	P	**Pn**	**19 42 01.7**	**+0.8**
	baz=246						
O15K	**Ungalikthiuk R**	**6.53**	**298**		**Pn**	**19 42 02.2**	**+1.2**
O15K	**Ungalikthiuk R**	**6.53**	**298**	P	**Pn**	**19 42 02.3**	**+1.2**
	baz=109						
DHY	**Denali Highway**	**6.54**	**5**		**Pn**	**19 42 02.2**	**+0.8**
DHY	**Denali Highway**	**6.54**	**5**	P	**Pn**	**19 42 02.9**	**+1.5**
	baz=186						
YUK2	**White River**	**6.56**	**34**		**Pn**	**19 42 03.2**	**+1.5**
N16K	**Nishlik Lake**	**6.60**	**310**	P	**Pn**	**19 42 02.9**	**+0.8**
	baz=122						
PAX	**Paxson**	**6.60**	**13**		**Pn**	**19 42 03.8**	**+1.7**
PAX	**Paxson**	**6.60**	**13**	P	**Pn**	**19 42 03.8**	**+1.7**
	baz=195						
M17K	**Holitna River**	**6.64**	**320**		**Pn**	**19 42 03.0**	**+0.3**
YUK3	**Moose Creek**	**6.67**	**35**	P	**Pn**	**19 42 04.9**	**+1.6**
	baz=222						
M27K	**Edge Creek, AK**	**6.72**	**28**		**Pn**	**19 42 05.1**	**+1.2**
M27K	**Edge Creek, AK**	**6.72**	**28**	P	**Pn**	**19 42 05.1**	**+1.2**
	baz=213						
SDPT	**Sand Point**	**6.78**	**264**	P	**Pn**	**19 42 05.0**	**+0.4**
SDPT	**Sand Point**	**6.78**	**264**	Pn	**Pn**	**19 42 04.9**	**+0.4**
MENT	**Mentasta**	**6.83**	**19**		**Pn**	**19 42 05.0**	**-0.3**
RND	**Reindeer**	**6.85**	**359**		**Pn**	**19 42 05.5**	**0.0**
S31K	**Pelican**	**6.85**	**73**		**Pn**	**19 42 04.6**	**-0.9**
YUK6	**Outpost Mounta**	**6.88**	**46**		**Pn**	**19 42 07.8**	**+1.6**
YUK6	**Outpost Mounta**	**6.88**	**46**	P	**Pn**	**19 42 07.8**	**+1.6**
	baz=234						
TRF	**Thorofare Moun**	**6.94**	**354**		**Pn**	**19 42 09.0**	**+2.1**
TRF	**Thorofare Moun**	**6.94**	**354**	P	**Pn**	**19 42 08.4**	**+1.5**
	baz=172						
M16K	**Timber Creek**	**6.98**	**314**		**Pn**	**19 42 07.9**	**+0.6**
M16K	**Timber Creek**	**6.98**	**314**	P	**Pn**	**19 42 08.4**	**+1.1**
	baz=126						
L26K	**Log Cabin Wild**	**6.98**	**20**		**Pn**	**19 42 08.2**	**+0.9**
L18K	**Granite Mounta**	**7.00**	**327**		**Pn**	**19 42 07.6**	**+0.1**
YUK4	**Talbot Arm**	**7.01**	**43**	P	**Pn**	**19 42 11.1**	**+3.2**
	baz=231						
N15K	**Kwethluk River**	**7.03**	**306**		**Pn**	**19 42 09.2**	**+1.2**
N15K	**Kwethluk River**	**7.03**	**306**	P	**Pn**	**19 42 09.7**	**+1.8**
	baz=116						
BVCY	**Beaver Creek**	**7.05**	**31**	P	**Pn**	**19 42 09.8**	**+1.6**
	baz=217						
CAST	**Castle Rocks**	**7.08**	**347**	Pn	**Pn**	**19 42 09.6**	**+1.0**
P30M	**Million Dollar**	**7.08**	**55**		**Pn**	**19 42 09.8**	**+1.1**
P30M	**Million Dollar**	**7.08**	**55**	P	**Pn**	**19 42 10.0**	**+1.3**
	baz=244						
KTH	**Kantishna Hill**	**7.09**	**352**	Pn	**Pn**	**19 42 10.0**	**+1.1**
PLBC	**Pleasant Camp**	**7.11**	**61**	P	**Pn**	**19 42 10.2**	**+1.1**
	baz=251						
HYT	**Haines Junctio**	**7.17**	**49**		**Pn**	**19 42 11.1**	**+1.1**
HYT	**Haines Junctio**	**7.17**	**49**	P	**Pn**	**19 42 11.1**	**+1.1**
	baz=238						
MCK	**McKinley**	**7.17**	**359**		**Pn**	**19 42 11.0**	**+1.0**
MCK	**McKinley**	**7.17**	**359**	P	**Pn**	**19 42 11.4**	**+1.4**
	baz=178						
O14K	**Tigyukauivet M**	**7.25**	**297**	Pn	**Pn**	**19 42 12.4**	**+1.3**
SIT	**Sitka**	**7.30**	**81**	P	**Pn**	**19 42 09.8**	**-1.9**
SIT	**Sitka**	**7.30**	**81**	Pn	**Pn**	**19 42 09.3**	**-2.4**
K20K	**Telida**	**7.33**	**340**		**Pn**	**19 42 12.2**	**+0.2**
L27K	**Beaver Creek,**	**7.34**	**25**		**Pn**	**19 42 12.9**	**+0.7**
	baz=210						
BCAR	**Beaver Creek A**	**7.35**	**25**	Pn	**Pn**	**19 42 12.7**	**+0.3**
TTA	**Tatalina**	**7.38**	**333**	Pn	**Pn**	**19 42 12.5**	**-0.3**
RIDG	**Independent Ri**	**7.42**	**13**		**Pn**	**19 42 14.3**	**+0.9**
S12K	**Black Hills**	**7.57**	**269**	Pn	**Pn**	**19 42 15.9**	**+0.5**
L16K	**Owhat River**	**7.59**	**317**	Pn	**Pn**	**19 42 15.8**	**+0.2**
SKAG	**Skagway**	**7.61**	**62**		**Pn**	**19 42 15.7**	**-0.2**
BWN	**Browne**	**7.62**	**357**	Pn	**Pn**	**19 42 18.8**	**+2.6**
BPAW	**Bear Paw Mtn.**	**7.63**	**352**	Pn	**Pn**	**19 42 16.3**	**0.0**
N30M	**Aishikik Lake**	**7.69**	**46**		**Pn**	**19 42 17.7**	**+0.6**
S32K	**Killisnoo**	**7.71**	**78**	Pn	**Pn**	**19 42 16.2**	**-1.0**
O30N	**Mendenhall**	**7.75**	**52**		**Pn**	**19 42 18.4**	**+0.5**
SCRK	**Sand Creek**	**7.76**	**15**		**Pn**	**19 42 18.5**	**+0.4**
R32K	**Eaglecrest**	**7.79**	**72**	Pn	**Pn**	**19 42 17.7**	**-0.7**
M29M	**Somme Creek**	**7.81**	**37**		**Pn**	**19 42 19.0**	**+0.2**
JIS	**Juneau Island**	**7.86**	**72**	Pn	**Pn**	**19 42 20.0**	**+0.7**
K17K	**Iditarod**	**7.86**	**325**		**Pn**	**19 42 18.8**	**-0.6**
HDA	**Harding Lake**	**7.89**	**5**	Pn	**Pn**	**19 42 21.4**	**+1.5**
WRH	**Wood River Hil**	**7.92**	**2**		**Pn**	**19 42 18.0**	**-2.1**
J18K	**Innoko River**	**8.00**	**333**	Pn	**Pn**	**19 42 21.3**	**0.0**
NEA2	**Nenana**	**8.04**	**359**	Pn	**Pn**	**19 42 22.1**	**+0.3**
J20K	**Nowinta River**	**8.09**	**343**	Pn	**Pn**	**19 42 23.2**	**+0.7**
CCB	**Clear Creek Bu**	**8.10**	**2**		**Pn**	**19 42 20.2**	**-2.4**
M14K	**Bethel**	**8.12**	**306**	Pn	**Pn**	**19 42 23.7**	**+0.9**
K27K	**Chicken**	**8.14**	**21**		**Pn**	**19 42 23.7**	**+0.6**
J19K	**Poorman**	**8.21**	**338**		**Pn**	**19 42 23.8**	**-0.3**
J25K	**Salcha River,**	**8.21**	**10**		**Pn**	**19 42 24.5**	**+0.3**
N31M	**Braeburn, Yuko**	**8.23**	**48**	Pn	**Pn**	**19 42 25.9**	**+1.4**
WHY	**Whitehorse**	**8.24**	**55**		**Pn**	**19 42 24.5**	**-0.1**
IL31		**8.26**	**5**		**Pn**	**19 42 23.4**	**-1.3**
ILAR	**Eielson Array**	**8.26**	**5**	Pn	**Pn**	**19 42 23.7**	**-1.1**
ILAR	**Eielson Array**	**8.26**	**5**	Sn	**Sn**	**19 43 54.1**	**-3.9**
	comp=N,1.1nm,0.3s,baz=188,slow=23,SNR=4.2						
ILAR				LR	LR	19 45 29.9	
	comp=N,61nm,18.6s,baz=279,slow=37						
ILAR	**Eielson Array**	**8.26**	**5**	P	**Pn**	**19 42 23.6**	**-1.2**
	comp=N,0.6nm,0.4s,baz=244,slow=9.1,SNR=20						
J26L	**Joseph Creek**	**8.32**	**15**		**Pn**	**19 42 25.9**	**+0.2**
COLA	**College**	**8.33**	**2**	Pn	**Pn**	**19 42 26.1**	**+0.4**
L29M	**L29M**	**8.39**	**34**		**Pn**	**19 42 27.6**	**+0.9**
MDM	**Murphy Dome**	**8.41**	**1**	Pn	**Pn**	**19 42 28.5**	**+1.6**
P32M	**Atlin**	**8.44**	**63**		**Pn**	**19 42 27.6**	**+0.3**
M30M	**Minto, Yukon**	**8.47**	**40**		**Pn**	**19 42 28.3**	**+0.4**
MLY	**Manley**	**8.54**	**354**	Pn	**Pn**	**19 42 29.6**	**+0.8**
POKR	**Poker Plat Res**	**8.58**	**3**	Pn	**Pn**	**19 42 30.9**	**+1.7**
I23K	**Minto, Yukon-K**	**8.60**	**358**	Pn	**Pn**	**19 42 31.6**	**+2.1**
U33K	**Whale Pass**	**8.61**	**87**	Pn	**Pn**	**19 42 26.5**	**-3.2**
M13K	**Dall Lake**	**8.62**	**303**	Pn	**Pn**	**19 42 30.7**	**+0.9**
L14K	**Kuka Creek**	**8.69**	**309**		**Pn**	**19 42 30.9**	**+0.2**
K15K	**Wolf Creek Mou**	**8.72**	**316**	Pn	**Pn**	**19 42 32.0**	**+0.9**
CRAG	**Craig**	**8.74**	**91**	P	**Pn**	**19 42 29.8**	**-1.6**
CRAG	**Craig**	**8.74**	**91**	Pn	**Pn**	**19 42 28.9**	**-2.5**
DAWY	**Dawson**	**8.78**	**27**		**Pn**	**19 42 31.6**	**-0.3**
I21K	**Tanana**	**8.78**	**351**	Pn	**Pn**	**19 42 32.7**	**+0.8**
EGAK	**Eagle**	**8.99**	**21**		**Pn**	**19 42 35.8**	**+1.1**
WRAK	**Wrangell Islan**	**8.99**	**84**	Pn	**Pn**	**19 42 35.5**	**+0.6**
J16K	**Anvik River**	**9.01**	**323**	Pn	**Pn**	**19 42 34.2**	**-0.9**
P33M	**Teslin, Yukon**	**9.04**	**60**		**Pn**	**19 42 35.6**	**-0.1**
Q32M	**Nakina River**	**9.04**	**68**	Pn	**Pn**	**19 42 36.2**	**+0.5**
PRP	**Porcupine Dome**	**9.09**	**8**		**Pn**	**19 42 33.4**	**-2.9**
K29M	**Barlow Dome**	**9.12**	**33**		**Pn**	**19 42 38.0**	**+1.3**
M31M	**Drury Creek, Y**	**9.17**	**46**		**Pn**	**19 42 38.3**	**+1.1**
N32M	**Quiet Lake**	**9.24**	**54**	Pn	**Pn**	**19 42 39.0**	**+0.7**
H23K	**Yukon River**	**9.29**	**358**	Pn	**Pn**	**19 42 39.9**	**+1.0**
H24K	**Noodor Dome**	**9.29**	**2**	Pn	**Pn**	**19 42 40.6**	**+1.6**
H21K	**Melozitna Rive**	**9.33**	**349**		**Pn**	**19 42 39.6**	**+0.2**
J29N	**Klondike Camp**	**9.39**	**29**		**Pn**	**19 42 40.6**	**+0.2**
I17K	**Unalakleet**	**9.46**	**326**	Pn	**Pn**	**19 42 41.2**	**0.0**
S34M	**Telegraph Cree**	**9.56**	**75**	Pn	**Pn**	**19 42 41.7**	**-1.0**
FARO	**Faro, Yukon**	**9.60**	**48**	Pn	**Pn**	**19 42 44.6**	**+1.4**
V35K	**Ketchikan**	**9.61**	**90**	Pn	**Pn**	**19 42 41.9**	**-1.4**
H19K	**Roundabout Mou**	**9.74**	**340**	Pn	**Pn**	**19 42 45.8**	**+0.8**
IMAR	**Indian Mountai**	**9.75**	**347**	Pn	**Pn**	**19 42 45.4**	**+0.2**
J14K	**Nanvaranak Lak**	**9.75**	**315**	Pn	**Pn**	**19 42 46.3**	**+1.1**
R33M	**Jennings River**	**9.77**	**66**		**Pn**	**19 42 45.5**	**-0.2**
H18K	**Honhosa River**	**9.81**	**335**	Pn	**Pn**	**19 42 45.7**	**-0.4**
I28M	**Miner Creek**	**9.82**	**22**		**Pn**	**19 42 47.0**	**+0.6**
DIB	**Dawson Inlet,**	**9.88**	**103**	Pn	**Pn**	**19 42 45.9**	**-1.2**
J30M	**Hart River**	**10.01**	**32**		**Pn**	**19 42 49.5**	**+0.5**
H17K	**Granite Mounta**	**10.02**	**331**	Pn	**Pn**	**19 42 47.3**	**-1.6**
FYU	**Fort Yukon**	**10.14**	**8**	Pn	**Pn**	**19 42 50.9**	**+0.3**
DLBC	**Dease Lake**	**10.16**	**72**	Pn	**Pn**	**19 42 52.6**	**+1.7**
	comp=N,1.7nm,0.3s,baz=297,slow=4.8,SNR=6.1						
	comp=N,4.1nm,0.3s						
G24K	**Hadweenzic Riv**	**10.17**	**3**	Pn	**Pn**	**19 42 51.7**	**+0.7**
G23K	**Bananza Creek**	**10.19**	**357**	Pn	**Pn**	**19 42 50.7**	**-0.5**
G21K	**Allakaket**	**10.23**	**349**	Pn	**Pn**	**19 42 52.6**	**+0.8**
G19K	**Purcell Mounta**	**10.41**	**341**	Pn	**Pn**	**19 42 54.9**	**+0.7**
I30M	**Mount Dempster**	**10.49**	**29**		**Pn**	**19 42 56.7**	**+1.2**
MMMY	**Sheldon Lake,**	**10.64**	**48**	Pn	**Pn**	**19 42 58.9**	**+1.4**
H29M	**Whitestone**	**10.82**	**23**	Pn	**Pn**	**19 42 59.9**	**0.0**
F21K	**Alatna River**	**10.92**	**350**	Pn	**Pn**	**19 43 02.5**	**+1.3**
F20K	**Avaraart Lake**	**11.02**	**345**	Pn	**Pn**	**19 43 02.6**	**+0.1**
G16K	**Koyuk River**	**11.04**	**329**	Pn	**Pn**	**19 43 03.0**	**+0.1**
F19K	**Shaleruckik Mo**	**11.15**	**341**	Pn	**Pn**	**19 43 06.1**	**+1.8**
EPYK	**Eagle Plains**	**11.31**	**25**	Pn	**Pn**	**19 43 06.4**	**-0.2**
G29M	**Pine Creek**	**11.49**	**21**	Pn	**Pn**	**19 43 10.6**	**+1.6**
H31M	**Peel River**	**11.49**	**31**	Pn	**Pn**	**19 43 10.8**	**+1.8**
F17K	**Baldwin Pennin**	**11.56**	**334**	Pn	**Pn**	**19 43 08.9**	**-0.9**
E19K	**Redstone River**	**11.62**	**343**	Pn	**Pn**	**19 43 11.0**	**+0.2**
G30M	**tAoh Zraii Nji**	**11.93**	**24**	Pn	**Pn**	**19 43 14.4**	**-0.6**
F15K	**North Star Dit**	**11.95**	**326**	Pn	**Pn**	**19 43 15.2**	**0.0**
G31M	**Satah River**	**12.35**	**27**	Pn	**Pn**	**19 43 23.1**	**+2.4**
BBB	**Bella Bella**	**12.71**	**102**	LR	LR	19 46 51.4	
	comp=N,102nm,18.8s,baz=358,slow=30						
C23K	**Itkillik River**	**13.33**	**357**	Pn	**Pn**	**19 43 36.2**	**+2.1**
B21K	**Ikpikpuk River**	**13.36**	**351**	Pn	**Pn**	**19 43 33.8**	**-0.6**
INK	**Inuvik**	**13.61**	**24**		**Pn**	**19 43 38.6**	**+0.7**
INK	**Inuvik**	**13.61**	**24**	Pn	**Pn**	**19 43 40.9**	**+2.9**
	comp=N,0.2nm,0.3s,baz=239,slow=13,SNR=6.2						
INK				LR	LR	19 49 06.8	
	comp=N,64nm,18.5s,baz=176,slow=38						
	comp=N,2.5nm,0.9s						
B22K	**Teshekpuk Lake**	**13.97**	**353**	Pn	**Pn**	**19 43 44.6**	**+1.8**
C16K	**Lisburne Hills**	**13.98**	**334**	Pn	**Pn**	**19 43 44.8**	**+1.8**
B20K	**Meade River**	**13.99**	**348**	Pn	**Pn**	**19 43 42.8**	**-0.2**
YKA	**Yellowknife Ar**	**18.06**	**57**	P	**P**	**19 44 36.9**	**+0.7**
	comp=N,0.1nm,0.3s,baz=268,slow=11,SNR=8.2						
	comp=N,1.0nm,0.8s						
A36M	**Sachs Harbour**	**18.25**	**23**	P	**P**	**19 44 38.6**	**+0.3**
NEW	**Newport**	**20.77**	**100**	LR	LR	19 51 19.4	
	comp=N,80nm,20.0s,baz=323,slow=31						
ELK	**Elko**	**26.79**	**112**	LR	LR	19 54 47.1	
	comp=N,49nm,19.1s,baz=272,slow=32						
RES	**Resolute Bay**	**27.12**	**28**	LR	LR	19 56 21.0	
	comp=N,44nm,18.9s,baz=12,slow=35						
PETK	**Petropavlovsk-**	**30.45**	**287**	LR	LR	19 58 55.8	
	comp=N,120nm,18.0s,baz=95,slow=36						
MA2	**Magadan**	**31.23**	**301**	LR	LR	20 00 15.5	
	comp=N,55nm,19.4s,baz=86,slow=38						
PFO	**Pinyon Flats O**	**31.80**	**123**	LR	LR	19 57 10.3	
	comp=N,46nm,20.0s,baz=82,slow=32						
YAK	**Yakutsk**	**39.45**	**313**	LR	LR	20 06 09.4	
	comp=N,34nm,18.2s,baz=272,slow=39						
SFJD	**Kangerlussuaq**	**42.63**	**35**	LR	LR	20 05 22.6	
	comp=N,47nm,18.6s,baz=258,slow=35						
KLR	**Kul'dur**	**46.04**	**296**	LR	LR	20 08 51.6	
	comp=N,16nm,21.0s,baz=38,slow=37						
TKL	**Tuckaleechee C**	**47.54**	**87**	LR	LR	20 09 23.7	
	comp=N,58nm,18.1s,baz=176,slow=36						
SONM	**Songino Array**	**58.73**	**310**	P	**P**	**19 50 23.8**	**+0.9**
	comp=N,0.3nm,0.6s,baz=45,slow=6.5,SNR=4.3						
	comp=N,0.3nm,0.6s						
APG	**El Apazote**	**60.23**	**109**	LR	LR	20 18 20.0	
	comp=N,7.6nm,20.0s,baz=214,slow=38						
ZALV	**Zalesovo Beam**	**61.51**	**327**	P	**P**	**19 50 42.4**	**+0.8**
	comp=N,0.7nm,0.5s,baz=23,slow=9.4,SNR=1.9						
	comp=N,0.7nm,0.5s						
HHC	**Hu-ho-hao-te**	**61.90**	**302**	*eP*	**P**	**19 50 42.0**	**-2.6**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
FINES	**FINESS Array B**	**62.24**	**3**	P	**P**	**19 50 48.9**	**+2.6**
	comp=Z,2.4nm,0.9s,baz=358,slow=10,SNR=3.0						
	comp=Z,2.4nm,0.9s						
BVAR	**Bovoye Array**	**66.17**	**335**	P	**P**	**19 51 15.1**	**+2.7**
	comp=Z,1.0nm,0.7s,baz=27,slow=6.8,SNR=5.0						
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**68.56**	**325**	P	**P**	**19 51 29.1**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=36,slow=7.3,SNR=5.2						
	comp=Z,0.2nm,0.4s						
BELG	**Belogornoye**	**70.57**	**350**	LR	LR	20 26 19.1	
	comp=Z,14nm,18.1s,baz=287,slow=39						
PZH	**PanZhiHua**	**78.29**	**300**	P	**P**	**19 52 24.3**	**-1.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,110nm,5.9s						
QSPA	**South Pole Qui**	**146.38**	**180**	PKPbc	**PKiKP**	**20 00 07.1**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=160,slow=1.5,SNR=1.9						

*SDD **27** 19:47:00.3±2.1, 17°.84N×74°.56W, h22km±475km, MD3.7, ML3.3, MW3.6*
*SSNC **27** 19:47:06.8±1.2, 17°.94N×74°.61W, h17km±8km, MD3.4, ML2.9, MW3.2*

ISC 27 19:47:02.1±1.9, 18°.08N±0°.07×74°.61W±0°.04, h1km±12km, n21, σ1°31/33, 4C-2D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTBY	**Guantanamo Bay**	**1.90**	**346**	*eP*	**Pg**	**19 47 38.7**	**+0.2**
GTBY				*eSg*	**Sg**	**19 48 03.4**	**+0.3**
GTBY				IAML		19 48 03.7	
	comp=N,217nm,0.2s						
GTBY				IAML		19 48 05.6	
	comp=E,330nm,0.3s						
GTBY	**Guantanamo Bay**	**1.90**	**346**	*eP*	**Pg**	**19 47 38.7**	**+0.2**
GTBY				*eS*	**Sb**	**19 48 01.7**	**-0.1**
GTBY				IAML		19 48 05.6	
	comp=E,310nm,0.3s						
GTBY				IAML		19 48 06.8	
	comp=E,167nm,0.3s						
STH	**Stony Hill**	**2.09**	**270**	*eP*	**Pb**	**19 47 39.9**	**-0.9**
MASC	**Masc**	**2.12**	**10**	*eP*	**Pb**	**19 47 40.0**	**-1.2**
RCC	**Rio Carpintero**	**2.16**	**332**	*eP*	**Pb**	**19 47 41.8**	**-0.3**
RCC				*eS*	**Sn**	**19 48 07.4**	**+0.7**
RCC				*eSg*	**Sg**	**19 48 12.7**	**+1.0**
RCC				IAML		19 48 14.8	
	comp=E,63nm,0.2s						
RCC				IAML		19 48 15.1	
	comp=N,80nm,0.2s						
PAPH	**Port-au-Prince**	**2.24**	**78**	*eP*	**Pn**	**19 47 39.5**	**-0.9**
PAPH				*eSg*	**Sn**	**19 48 07.5**	**-1.3**
PAPH				IAML		19 48 11.9	
	comp=E,125nm,0.2s						
PAPH				IAML		19 48 24.8	
	comp=N,483nm,1.0s						
PAPH	**Port-au-Prince**	**2.24**	**78**	*eP*

THZ	**Tophouse**	**3.77**	**56**	P		Pn	19 48 41.1	-1.9
THZ				S		Sn	19 49 24.4	-3.4
MRNZ	**Matariki Terra**	**3.92**	**51**	P		Pn	19 48 42.4	-2.5
QRZ	**Quartz Range**	**4.21**	**43**	P		Pn	19 48 45.9	-3.0
TKNZ	**Takaka Hill**	**4.28**	**48**	P		Pn	19 48 47.7	-2.2
NNZ	**Nelson**	**4.39**	**53**	P		Pn	19 48 49.9	-1.5
NNZ				S		Sn	19 49 40.3	-2.5
TUWZ	**Tuamarina**	**4.60**	**58**	P		Pn	19 48 53.8	-0.5
TUWZ				S		Sn	19 49 46.0	-1.9
TCW	**Tory Channel**	**4.93**	**58**	P		Pn	19 48 58.0	-0.7
DUWZ	**D'Urville Isla**	**4.97**	**52**	P		Pn	19 48 58.1	-1.3
DUWZ				S		Sn	19 49 54.1	-3.2
OUZ	**Omahuta**	**9.50**	**25**	P		Pn	19 49 59.4	-2.1

*LDG **27** 19:50:18.7±0.1, 43.08N×0.36W, h10km, Md2.2/2, Ml2.5/16, Error ellipse: s-maj=1.9km s-min=1.8km az=132.0*
*MDD **27** 19:50:19.3±0.2, 43.05N×0.39W, h11km, mb_Lg2.4/11, Error ellipse: s-maj=1.7km s-min=1.4km az=1.0*
*STR **27** 19:50:19.3±0.3, 43°N×3°×±°, h5km, MLv1.8/7, Error ellipse: s-maj=0.0km s-min=0.0km az=23.1, preliminary*
ISC 27 19:50:17.7±0.9, 43.09N±0.02×0.35W±0.02, h18km±4km, n43, σ1§54/88, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYLO	**Lourdes**	**0.22**	**89**	Pg	**Pb**	**19 50 23.2**	**+0.2**
PYLO				Sg	**Sg**	**19 50 27.1**	**+0.6**
ETSF	**Etsaut**	**0.25**	**219**	*e*Pg	**Pg**	**19 50 23.3**	**-0.1**
ETSF				*e*Sg	**Sg**	**19 50 25.8**	**-1.5**
	58nm,0.2s						
ATE	**Arette**	**0.26**	**268**	Pg	**Pg**	**19 50 23.6**	**+0.1**
ATE				Sg	**Sg**	**19 50 27.2**	**-0.3**
VIEF	**Viey**	**0.34**	**127**	Pg	**Pb**	**19 50 25.2**	**-0.2**
VIEF				Sg	**Sb**	**19 50 29.6**	**-0.9**
CANF	**Canfranc**	**0.35**	**201**	Pg	**Pb**	**19 50 25.2**	**-0.3**
CANF				Sg	**Sg**	**19 50 29.3**	**-0.9**
URDF	**Urds**	**0.39**	**333**	Pg	**Pb**	**19 50 27.1**	**+1.0**
URDF				Sg	**Sb**	**19 50 33.5**	**+1.7**
EPF	**Esparros**	**0.51**	**97**	*e*Pg	**Pb**	**19 50 27.9**	**-0.2**
EPF	**Esparros**	**0.51**	**97**	*e*Pn	**Pn**	**19 50 29.9**	**-0.2**
EPF				*e*Sg	**Sg**	**19 50 34.7**	**-0.1**
	20nm,0.2s						
ECHI	**Chisagues Biel**	**0.58**	**137**	Pg	**Pb**	**19 50 29.6**	**+0.1**
ECHI				Sg	**Sg**	**19 50 36.6**	**-0.6**
ECHI				*i* Vmb_Lg		19 50 39.9	
ECHI	**Chisagues Biel**	**0.58**	**137**	Pg	**Pb**	**19 50 29.6**	**+0.1**
ECHI				Sg	**Sb**	**19 50 36.9**	**-0.6**
SJPF	**Ste Jean**	**0.64**	**272**	*e*Pg	**Pg**	**19 50 30.6**	**+0.2**
SJPF				*e*Sg	**Sg**	**19 50 38.6**	**-0.4**
	5.5nm,0.2s						
OSSF	**Osses**	**0.69**	**284**	Pg	**Pb**	**19 50 32.3**	**+1.1**
OSSF				Sg	**Sb**	**19 50 41.9**	**+1.5**
EORO	**Oroz-Betelu**	**0.73**	**254**	Pg	**Pb**	**19 50 32.3**	**+0.3**
EORO				Sg	**Sg**	**19 50 40.9**	**-0.9**
EORO				*i* Vmb_Lg		19 50 48.1	
TERF	**Tercis-les-Bai**	**0.81**	**317**	Pg	**Pn**	**19 50 35.3**	**+1.1**
TERF				Sg	**Sn**	**19 50 47.3**	**+1.5**
MLS	**Moulis**	**1.07**	**97**	Pg	**Pn**	**19 50 39.6**	**+1.8**
MLS				Sg	**Sn**	**19 50 54.3**	**+2.1**
SALF	**Salau**	**1.18**	**106**	Pg	**Pg**	**19 50 40.9**	**+0.4**
SALF				Sg	**Sn**	**19 50 57.2**	**+2.2**
ESAC	**San Caprasio**	**1.37**	**184**	Pg	**Pn**	**19 50 42.6**	**+0.6**
ESAC				Sg	**Sg**	**19 51 01.0**	**-1.1**
ESAC				*i* Vmb_Lg		19 51 03.9	
PAND	**Andorre**	**1.51**	**112**	Pn	**Pg**	**19 50 46.0**	**-0.7**
PAND				Sn	**Sg**	**19 51 06.7**	**+0.3**
DUNF	**Dun**	**1.58**	**92**	Pn	**Pg**	**19 50 48.0**	**-0.1**
DUNF				Sn	**Sg**	**19 51 09.6**	**+0.8**
MONQ	**Montcuq**	**1.69**	**41**	Pn	**Pb**	**19 50 49.3**	**+1.0**
MONQ				Sn	**Sg**	**19 51 12.1**	**-0.2**
MTLF	**Montolieu**	**1.89**	**82**	*e*Pg	**Pg**	**19 50 53.3**	**-0.7**
MTLF				*e*Sn	**Sn**	**19 51 13.2**	**+0.7**
MTLF				*e*Sg	**Sg**	**19 51 18.0**	**-0.6**
	5.8nm,0.2s						
LFF	**La Frestale**	**2.00**	**23**	*e*Pg	**Pg**	**19 50 55.8**	**-0.4**
LFF				*e*Sg	**Sg**	**19 51 21.8**	**-0.4**
	3.7nm,0.2s						
EPOB	**Poblet**	**2.04**	**148**	Pn	**Pn**	**19 50 52.4**	**+1.2**
EPOB				Pg	**Pg**	**19 50 55.6**	**-1.2**
EPOB				Sn	**Sn**	**19 51 15.4**	**-0.8**
EPOB				Sg	**Sg**	**19 51 23.1**	**-0.1**
EPOB				*i* Vmb_Lg		19 51 25.8	
ERTA	**Horta de San J**	**2.19**	**166**	Pn	**Pn**	**19 50 54.6**	**+1.3**
ERTA				Pg	**Pg**	**19 50 60.0**	**+0.2**
ERTA				Sn	**Sn**	**19 51 18.9**	**-1.1**
ERTA				Sg	**Sg**	**19 51 26.9**	**-1.4**
ERTA				*i* Vmb_Lg		19 51 29.7	
EJON	**La Jonquera**	**2.47**	**104**	Pn	**Pn**	**19 50 57.6**	**+0.5**
EJON				Sn	**Sn**	**19 51 28.1**	**+1.3**
EJON				Sg	**Sg**	**19 51 38.2**	**+1.1**
EJON				*i* Vmb_Lg		19 51 40.8	
CAF	**Calviac**	**2.53**	**43**	*e*Pn	**Pn**	**19 50 58.5**	**+0.6**
CAF	**Calviac**	**2.53**	**43**	*e*Pg	**Pg**	**19 51 05.5**	**-0.6**
CAF				*e*Sg	**Sg**	**19 51 38.3**	**-0.6**
	1.6nm,0.2s						
RJF	**Les Rejaudoux**	**2.58**	**31**	*e*Pg	**Pg**	**19 51 06.6**	**-0.7**
RJF				*e*Sg	**Sg**	**19 51 40.3**	**-0.5**
	4.5nm,0.2s						
ETOR	**Torete**	**2.60**	**210**	Pn	**Pn**	**19 50 59.6**	**+0.6**
ETOR				Sn	**Sn**	**19 51 29.0**	**-1.2**
ETOR				Sg	**Sg**	**19 51 40.1**	**-1.4**
EMOS	**Mosqueruela**	**2.73**	**182**	Pn	**Pn**	**19 51 01.1**	**+0.4**
EMOS				Sn	**Sn**	**19 51 32.4**	**-1.0**
EMOS				Sg	**Sg**	**19 51 44.0**	**-1.4**
EMOS				*i* Vmb_Lg		19 51 49.1	
LASF	**Ste Croix**	**3.21**	**71**	*e*P	**Pn**	**19 51 11.1**	**+3.9**
LASF	**Ste Croix**	**3.21**	**71**	*e*Pg	**Pg**	**19 51 17.8**	**-1.4**
LASF				*e*Sn	**Sn**	**19 51 44.7**	**-0.3**
LASF				*e*Sg	**Sg**	**19 51 59.3**	**-1.4**
MFF	**Saint Martin d**	**3.51**	**2**	*e*Pn	**Pn**	**19 51 11.6**	**+0.2**
MFF	**Saint Martin d**	**3.51**	**2**	*e*Pg	**Pg**	**19 51 22.9**	**-2.0**
MFF				*e*Sg	**Sg**	**19 52 08.2**	**-2.2**
	1.7nm,0.3s						
TCF	**Toulx Ste Croi**	**3.68**	**29**	*e*Pg	**Pg**	**19 51 26.8**	**-1.3**
TCF				*e*Sg	**Sg**	**19 52 14.5**	**-1.3**
VIVF	**Saint-Julien-l**	**4.03**	**62**	*e*P	**Pn**	**19 51 23.2**	**+4.7**
VIVF				*e*Sg	**Sg**	**19 52 24.5**	**-2.5**
	1.0nm,0.3s						
BGF	**Bois d'Agland**	**4.14**	**32**	*e*Sg	**Sg**	**19 52 28.1**	**-2.5**
	9.3nm,0.5s						
AVF	**Avril sur Loir**	**4.53**	**34**	*e*Pn	**Pn**	**19 51 25.1**	**-0.3**
AVF				*e*Sg	**Sg**	**19 52 40.2**	**-3.0**
	0.7nm,0.3s						
SMF	**Signal de Mont**	**4.63**	**39**	*e*Sg	**Sg**	**19 52 43.3**	**-3.1**
	2.4nm,0.5s						
HYF	**Humbligny**	**4.68**	**26**	*e*Pn	**Pn**	**19 51 27.3**	**-0.1**
HYF				*e*Sg	**Sg**	**19 52 44.7**	**-3.1**
	40nm,0.6s						
SSF	**Saint Saulge**	**4.81**	**33**	*e*Sg	**Sg**	**19 52 49.1**	**-3.1**
	0.9nm,0.3s						
LOR	**Lormes**	**5.12**	**34**	*e*Sg	**Sg**	**19 52 59.3**	**-2.8**
	1.7nm,0.5s						
QUIF	**Quistinic**	**5.21**	**339**	*e*P	**Pn**	**19 51 39.0**	**+4.3**
QUIF				*e*Sn	**Sn**	**19 52 32.6**	**-1.8**
QUIF				*e*Sg	**Sg**	**19 53 01.8**	**-3.1**
	0.7nm,0.2s						

*SJA **27** 20:06:04.0±1.8, 21.52S×70.13W, h87km±13km, ML3.9, MW3.7*
*GUC **27** 20:06:07.3±0.9, 21.52S×70.01W, h78km±3km, ML4.0*
ISC 27 20:06:05.8±1.4, 21.52S±0.03×70.15W±0.06, h79km±8km, n41, σ0§93/52, 4C-7D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB02	**IPOC Station P**	**0.31**	**49**	*i* P	**Pn**	**20 06 18.0**	**-0.1**
PB02				IAML		20 06 28.6	
	comp=Z,22μm,0.2s						
PB02	**IPOC Station P**	**0.31**	**49**	⇑*i* P	**Pn**	**20 06 18.8**	**+0.7**
PB02				*e*S	**Sn**	**20 06 27.1**	**-0.1**
PB02				IAML		20 06 27.3	
	comp=N,18μm,0.1s						
PB07	**IPOC Station P**	**0.32**	**130**	*i* P	**Pn**	**20 06 18.2**	**0.0**
PB07				IAML		20 06 27.9	
	comp=Z,7μm,0.1s						
PB07	**IPOC Station P**	**0.32**	**130**	⇑*e*P	**Pn**	**20 06 19.0**	**+0.7**
PB07				*e*S	**Sn**	**20 06 27.4**	**-0.1**
PB07				IAML		20 06 27.9	
	comp=N,13μm,0.2s						
PB01	**IPOC Station P**	**0.78**	**52**	*i* P	**Pn**	**20 06 19.8**	**-2.5**
PB01				IAML		20 06 34.4	
	comp=Z,10μm,0.1s						
PB01	**IPOC Station P**	**0.78**	**52**	⇑*i* P	**Pn**	**20 06 22.5**	**+0.2**
PB01				*e*S	**Sn**	**20 06 33.6**	**-0.9**
PB01				IAML		20 06 34.5	
	comp=N,16μm,0.2s						
PB04	**IPOC Station P**	**0.81**	**180**	*i* P	**Pn**	**20 06 23.1**	**+0.4**
PB04				IAML		20 06 38.1	
	comp=Z,5μm,0.1s						
PB04	**IPOC Station P**	**0.81**	**180**	⇓*i* P	**Pn**	**20 06 23.8**	**+1.1**
PB04				*e*S	**Sn**	**20 06 36.1**	**+0.8**
PB04				IAML		20 06 37.7	
	comp=N,6μm,0.1s						
PB09	**IPOC Station P**	**0.89**	**108**	*i* P	**Pn**	**20 06 23.4**	**-0.2**
PB09				IAML		20 06 38.3	
	comp=Z,3μm,0.1s						
PB09	**IPOC Station P**	**0.89**	**108**	⇑*i* P	**Pn**	**20 06 24.1**	**+0.5**
PB09				*e*S	**Sn**	**20 06 35.9**	**-0.9**
PB09				IAML		20 06 37.4	
	comp=E,4μm,0.2s						
TA01	**Diego Aracena**	**0.95**	**358**	*i* P	**Pn**	**20 06 24.2**	**0.0**
TA01				IAML		20 06 39.5	
	comp=Z,1μm,0.5s						
TA01	**Diego Aracena**	**0.95**	**358**	⇓*i* P	**Pn**	**20 06 24.9**	**+0.7**
TA01				*e*S	**Sn**	**20 06 38.3**	**+0.4**
PX03	**IPOC Station P**	**1.21**	**24**	*e*P	**Pn**	**20 06 27.3**	**-0.2**
TA02	**Huaiquique**	**1.25**	**1**	*i* P	**Pn**	**20 06 27.9**	**+0.1**
TA02				IAML		20 06 46.8	
	comp=Z,2μm,0.1s						
TA02	**Huaiquique**	**1.25**	**1**	*e*P	**Pn**	**20 06 28.5**	**+0.7**
PB06	**IPOC Station P**	**1.29**	**156**	*i* P	**Pn**	**20 06 28.2**	**-0.3**
PB06				IAML		20 06 48.4	
	comp=Z,2μm,0.3s						
PB06	**IPOC Station P**	**1.29**	**156**	⇓*i* P	**Pn**	**20 06 29.0**	**+0.4**
PB06				*e*S	**Sn**	**20 06 45.6**	**-0.1**
PB06				IAML		20 06 46.3	
	comp=N,3μm,0.3s						
LVC	**Limon Verde**	**1.58**	**134**	*i* P	**Pn**	**20 06 33.0**	**+0.6**
LVC				IAML		20 06 56.1	
	comp=Z,1μm,0.4s						
LVC	**Limon Verde**	**1.58**	**134**	*i* P	**Pn**	**20 06 33.0**	**+0.6**
LVC				*e*S	**Sn**	**20 06 52.8**	**+0.3**
PB08	**IPOC Station P**	**1.66**	**34**	*i* P	**Pn**	**20 06 33.6**	**+0.1**
PB08				IAML		20 06 56.1	
	comp=Z,1μm,0.1s						
PB08	**IPOC Station P**	**1.66**	**34**	⇓*e*P	**Pn**	**20 06 34.2**	**+0.7**
PB08				*e*S	**Sn**	**20 06 54.2**	**-0.2**
PB08				IAML		20 06 55.5	
	comp=E,2μm,0.3s						
PB15	**IPOC Station P**	**1.79**	**160**	*i* P	**Pn**	**20 06 35.0**	**-0.1**
PB15				IAML		20 07 02.6	
	comp=Z,3μm,0.3s						
PB15	**IPOC Station P**	**1.79**	**160**	*e*P	**Pn**	**20 06 35.5**	**+0.4**
PB11	**IPOC Station P**	**1.81**	**15**	⇓*i* P	**Pn**	**20 06 35.6**	**+0.2**
PB11				*e*S	**Sn**	**20 06 56.9**	**-0.8**
PB11				IAML		20 07 02.6	
	comp=N,1μm,0.2s						
PB10	**IPOC Station P**	**2.02**	**191**	*i* P	**Pn**	**20 06 37.8**	**-0.1**
PB10	**IPOC Station P**	**2.02**	**191**	⇓*i* P	**Pn**	**20 06 38.4**	**+0.5**
GO01	**Chusmiza**	**2.05**	**26**	*i* P	**Pn**	**20 06 38.7**	**-0.1**
GO01				IAML		20 07 08.9	
	comp=Z,592nm,0.8s						
GO01	**Chusmiza**	**2.05**	**26**	⇓*i* P	**Pn**	**20 06 39.4**	**+0.6**
GO01				*e*S	**Sn**	**20 07 03.4**	**-0.4**
GO01				IAML		20 07 04.9	
	comp=N,3μm,0.2s						
AF01	**San Pedro de A**	**2.31**	**128**	*e*P	**Pn**	**20 06 44.1**	**+1.9**
PX02	**IPOC Station P**	**2.54**	**359**	*e*P	**Pn**	**20 06 44.5**	**-0.6**
PB12	**IPOC Station P**	**2.90**	**357**	*i* P	**Pn**	**20 06 49.6**	**-0.3**
PB12				IAML		20 07 40.9	
	comp=Z,143nm,0.4s						
PB12	**IPOC Station P**	**2.90**	**357**	*i* P	**Pn**	**20 06 50.0**	**+0.2**
PB12				IAML		20 07 42.1	
	comp=E,976nm,0.1s						
PB14	**IPOC Station P**	**3.10**	**184**	*e*P	**Pn**	**20 06 52.5**	**-0.3**
PB16	**IPOC Station P**	**3.23**	**11**	*i* P	**Pn**	**20 06 55.2**	**+0.4**
PB16				IAML		20 07 54.9	
	comp=Z,72nm,0.5s						
PB16	**IPOC Station P**	**3.23**	**11**	*i* P	**Pn**	**20 06 55.7**	**+0.9**
GO02	**Mina Guanaco**	**3.66**	**172**	*i* P	**Pn**	**20 07 00.2**	**-0.1**
GO02				IAML		20 08 07.6	
	comp=Z,98nm,0.5s						
GO02	**Mina Guanaco**	**3.66**	**172**	*i* P	**Pn**	**20 07 00.8**	**+0.4**
PB18	**Visviri**	**3.96**	**9**	*e*P	**Pn**	**20 07 08.6**	**+3.9**
AC01	**Pan de Azucar**	**4.62**	**185**	*i* P	**Pn**	**20 07 11.3**	**-1.9**
AC01				IAML		20 08 05.6	
	comp=Z,32nm,0.3s						
AC01	**Pan de Azucar**	**4.62**	**185**	*e*P	**Pn**	**20 07 11.9**	**-1.3**
AC02	**Maricunga**	**5.37**	**170**	*i* P	**Pn**	**20 07 24.0**	**+0.2**
AC02				IAML		20 09 04.8	
	comp=Z,29nm,0.6s						

*IDC **27** 20:12:51.6±2.3, 0.77N×130.66E, h0km, mb3.9/6, mbtmp4.0/6, MS3.1/3, Error ellipse: s-maj=199.9km s-min=18.1km az=70.0*
*NEIC **27** 20:12:52.6±1.9, 0.9N±0.1×131.5E±0.1, h10km±2km, mb4.2/9, Error ellipse: s-maj=27.6km s-min=13.8km az=50.0*
*DJA **27** 20:12:56.2±4.0, 1°S±10°×12°9E±°, h23km±38km, M3.2/5, MLv3.2/5*
ISC 27 20:12:51.0±1.1, 1.06N±0.09×131.8E±0.1, h10km, n23, σ1§40/21, mb4.1/8, MS3.1/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**1.97**	**195**	P	**Pg**	**20 13 29.6**	**+0.7**
FAKI	**Fak Fak**	**3.98**	**173**	Pn	**Pn**	**20 13 54.6**	**+2.4**
FAKI				Sn	**Sn**	**20 14 36.9**	**-2.1**
FAKI	**Fak Fak**	**3.98**	**173**	P	**Pn**	**20 13 50.6**	**-1.6**
TNTI	**Ternate**	**4.40**	**266**	Pn	**Pn**	**20 13 57.2**	**-0.7**
KNRA	**Kununurra**	**16.89**	**190**	P	**Pn**	**20 16 47.7**	**0.0**
KNRA				IAmb	IAmb	20 17 05.7	
	comp=Z,25nm,1.4s						
COEN	**Coen**	**18.72**	**143**	P	**P**	**20 17 06.3**	**-3.7**
COEN				IAmb	IAmb	20 17 06.8	
	comp=Z,13nm,1.0s						
WB0	**Warramunga Arr**	**20.86**	**173**		**P**	**20 17 33.7**	**+0.4**
WB0				IAmb	IAmb	20 17 38.2	
	comp=Z,12nm,1.2s						
WRA	**Warramunga Arr**	**21.02**	**173**	P	**P**	**20 17 35.0**	**-0.1**
WRA	**Warramunga Arr**	**21.02**	**173**	P	**P**	**20 17 35.6**	**+0.5**
	comp=Z,2.4nm,0.5s,baz=354,slow=11,SNR=23						
	comp=Z,2.4nm,0.5s						
WR0	**Warramunga Arr**	**21.07**	**173**	P	**P**	**20 17 35.3**	**-0.2**
WR0				IAmb	IAmb	20 18 00.9	
	comp=Z,19nm,1.4s						
AS31	**Alice Springs**	**24.66**	**175**	P	**P**	**20 18 12.7**	**+0.5**
ASAR	**Alice Springs**	**24.66**	**175**	P	**P**	**20 18 12.7**	**+0.5**
ASAR	**Alice Springs**	**24.66**	**175**	P	**P**	**20 18 13.1**	**+0.9**
	comp=Z,1.9nm,0.5s,baz=356,slow=9.7,SNR=42						
	comp=Z,1.9nm,0.5s						
JOW	**Kunigami**	**25.84**	**353**	LR	LR	20 28 31.1	
	comp=Z,18nm,19.8s,baz=336,slow=36						
STKA	**Stephens Creek**	**34.06**	**165**	P	**P**	**20 19 37.8**	**+2.2**
	comp=Z,1.4nm,0.8s,baz=344,slow=15,SNR=1.9						
	comp=Z,1.4nm,0.8s						
DZM	**Mont Dzumac**	**40.91**	**126**	LR	LR	20 37 35.9	
	comp=Z,30nm,21.7s,baz=264,slow=36						
MK31	**Makanchi Array**	**62.63**	**324**		**P**	**20 23 16.5**	**+0.8**
MK31				IAmb	IAmb	20 23 18.1	
	comp=Z,1.4nm,0.9s						
MKAR	**Makanchi Array**	**62.63**	**324**	P	**P**	**20 23 15.6**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=115,slow=7.4,SNR=14						
	comp=Z,1.1nm,0.7s						
MAKZ	**Makanchi**	**62.82**	**324**	P	**P**	**20 23 17.3**	**+0.3**
KURK	**Kurchatov**	**66.71**	**326**	P	**P**	**20 23 42.9**	**+0.7**
KURBB	**Kurchatov Arra**	**66.71**	**326**	P	**P**	**20 23 41.8**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=120,slow=6.3,SNR=16						
	comp=Z,1.5nm,0.8s						
BVAR	**Borovoye Array**	**72.30**	**326**	P	**P**	**20 24 16.8**	**0.0**
	comp=Z,1.1nm,0.7s,baz=114,slow=9.9,SNR=7.5						
	comp=Z,1.1nm,0.7s						
ILAR	**Eielson Array**	**85.35**	**25**	LR	LR	21 02 46.5	
	comp=Z,16nm,18.4s,baz=258,slow=35						

*NEIC **27** 20:20:43.4±1.7, 63.19N±0.02×151.33W±0.06, h10km±6km, Error ellipse: s-maj=4.5km s-min=2.4km az=124.0*
AEIC 27 20:20:43.6±1.8, 63.22N±0.03×151.31W±0.05, h9km, ML2.8, ML3.1/220(NEIC), Error ellipse: s-maj=4.1km s-min=3.6km az=171.0, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTH	**Kantishna Hill**	**0.38**	**27**		Pg	**20 20 51.4**	**+0.3**
KTH	**Kantishna Hill**	**0.38**	**27**		Sg	**20 20 56.8**	**+0.6**
CAST	**Castle Rocks**	**0.40**	**301**		Pg	**20 20 51.3**	**-0.2**
CAST	**Castle Rocks**	**0.40**	**301**		Sg	**20 20 56.4**	**-0.4**
PPLA	**Purkeypile**	**0.51**	**232**		Pg	**20 20 53.0**	**-0.5**
PPLA					Sg	**20 21 00.1**	**-0.2**
TRF	**Thorofare Moun**	**0.52**	**63**		Pg	**20 20 53.8**	**+0.1**
TRF	**Thorofare Moun**	**0.52**	**63**		Sb	**20 21 01.7**	**-0.9**
CHUM	**Lake Minchumin**	**0.81**	**327**		Pb	**20 20 59.5**	**-0.3**
CHUM					Sb	**20 21 10.5**	**-0.2**
BPAW	**Bear Paw Mtn.**	**0.90**	**9**		Pg	**20 21 00.6**	**-0.2**
BPAW				IAML		20 21 16.1	
	comp=N,453nm,0.6s						
BPAW	**Bear Paw Mtn.**	**0.90**	**9**		Sg	**20 21 12.9**	**+0.3**
CUT	**Chulitna**	**0.94**	**149**		Pg	**20 21 01.4**	**-0.3**
CUT				IAML		20 21 14.2	
	comp=N,668nm,0.6s						
CUT				IAML		20 21 18.1	
	comp=E,399nm,0.3s						
RND	**Reindeer**	**1.13**	**79**		Pg	**20 21 04.3**	**-0.9**
MCK	**McKinley**	**1.19**	**63**		Pb	**20 21 05.7**	**-0.5**
MCK					Sb	**20 21 21.7**	**0.0**
WAT7	**Susitna Watana**	**1.19**	**108**		Pb	**20 21 05.5**	**-0.8**
SKT	**Skwentna**	**1.25**	**185**	Pn	Pn	**20 21 06.0**	**-1.1**
SKT				Sn	Sb	**20 21 21.6**	**-1.8**
K20K	**Telida**	**1.25**	**278**		Pn	**20 21 06.6**	**-0.7**
BWN	**Browne**	**1.26**	**40**		Pb	**20 21 07.6**	**+0.1**
WAT1	**Susitna Watana**	**1.32**	**106**		Pn	**20 21 07.9**	**-0.3**
L20K	**Farewell, AK**	**1.39**	**239**		Pn	**20 21 08.2**	**-1.0**
M22K	**Willow**	**1.57**	**159**		Pn	**20 21 11.4**	**-0.2**
M22K	**Willow**	**1.57**	**159**		Sn	**20 21 32.0**	**0.0**
M20K	**Styx River**	**1.58**	**213**		Pn	**20 21 11.4**	**-0.4**
M20K					Sn	**20 21 32.3**	**-0.1**
J20K	**Nowinta River**	**1.59**	**309**		Pn	**20 21 11.6**	**-0.2**
NEA2	**Nenana**	**1.70**	**35**		Pn	**20 21 12.3**	**-1.1**
NEA2	**Nenana**	**1.70**	**35**		Sg	**20 21 37.9**	**-0.3**
STLK	**Strandline Lak**	**1.74**	**188**		Pn	**20 21 14.4**	**+0.4**
WAT6	**Susitna Watana**	**1.75**	**110**		Pn	**20 21 13.6**	**-0.7**
SUA	**Susitna One**	**1.78**	**171**		Pn	**20 21 14.3**	**-0.2**
DHY	**Denali Highway**	**1.79**	**93**		Pn	**20 21 14.4**	**-0.4**
DHY				IAML		20 22 15.9	
	comp=E,171nm,0.4s						
DHY				IAML		20 22 16.6	
	comp=N,228nm,0.8s						
GHO	**Glory Hole Cre**	**1.82**	**142**		Pn	**20 21 15.2**	**+0.1**
MLY	**Manley**	**1.84**	**8**		Pn	**20 21 15.0**	**-0.3**
WRH	**Wood River Hil**	**1.91**	**47**	Pn	Pn	**20 21 15.3**	**-0.9**
PMR	**Palmer**	**1.92**	**147**		Pn	**20 21 16.2**	**-0.2**
L19K	**White Mountain**	**1.94**	**239**		Pn	**20 21 16.6**	**0.0**
L19K				IAML		20 22 19.3	
	comp=N,127nm,0.8s						
L19K				IAML		20 22 29.2	
	comp=E,106nm,0.7s						
SPCG	**Spurr Capps Gl**	**1.96**	**190**		Pn	**20 21 17.6**	**+0.5**
SPNN	**North Nagishla**	**1.97**	**200**		Pn	**20 21 18.0**	**+0.8**
SML	**Sawmill**	**1.98**	**134**		Pn	**20 21 17.1**	**-0.2**
SML				IAML		20 22 20.9	
	comp=E,272nm,0.8s						
I21K	**Tanana**	**1.99**	**352**		Pn	**20 21 17.3**	**-0.1**
I21K				IAML		20 22 26.0	
	comp=E,111nm,0.8s						
I21K				IAML		20 22 27.1	
	comp=N,187nm,0.8s						
SPCP	**Crater Peak Br**	**2.00**	**192**		Pn	**20 21 18.5**	**+0.9**
SPCN	**Chakachatna No**	**2.04**	**192**		Pn	**20 21 19.1**	**+1.0**
SPCR	**Spurr Chakacha**	**2.07**	**192**		Pn	**20 21 19.4**	**+0.9**
J19K	**Poorman**	**2.08**	**294**		Pn	**20 21 18.2**	**-0.4**
J19K				IAML		20 22 25.0	
	comp=N,109nm,0.4s						
J19K				IAML		20 22 33.7	
	comp=E,123nm,0.8s						
CCB	**Clear Creek Bu**	**2.11**	**46**		Pn	**20 21 18.1**	**-1.0**
CCB				IAML		20 22 26.4	
	comp=N,98nm,0.4s						
I20K	**Naaghedeneel**	**2.11**	**320**		Pn	**20 21 18.8**	**-0.2**
I23K	**Minto, Yukon-K**	**2.12**	**23**		Pn	**20 21 18.5**	**-0.6**
I23K				IAML		20 22 26.8	
	comp=N,121nm,0.7s						
I23K				IAML		20 22 33.6	
	comp=E,92nm,0.5s						
FIS	**Fire Island**	**2.14**	**166**	Pn	Pn	**20 21 18.8**	**-0.6**
TTA	**Tatalina**	**2.16**	**264**		Pn	**20 21 18.5**	**-1.2**
TTA				IAML		20 22 26.6	
	comp=N,182nm,0.4s						
TTA				IAML		20 22 31.3	
	comp=E,105nm,0.6s						
MDM	**Murphy Dome

PRP				IAML		20 23 12.8	
	comp=N,36nm,0.9s						
G21K	**Allakaket**	**3.44**	**345**		Pn	20 21 37.3	0.0
MENT	**Mentasta**	**3.46**	**91**		Pn	20 21 38.2	+0.6
BRLK	**Bradley Lake**	**3.47**	**176**	Pn	Pn	20 21 38.4	+0.6
BRLK				IAML		20 22 34.1	
	comp=E,48nm,4.4s						
N25K	**Chitina, Valde**	**3.52**	**114**	Pn	Pn	20 21 37.1	-1.3
G23K	**Bananza Creek**	**3.55**	**8**	Pn	Pn	20 21 37.6	-1.2
L26K	**Log Cabin Wild**	**3.62**	**89**		Pn	20 21 38.6	-1.2
L26K				IAML		20 23 24.9	
	comp=N,67nm,0.4s						
HIN	**Hinchinbrook I**	**3.63**	**139**	Pn	Pn	20 21 40.3	+0.4
H18K	**Honhosa River**	**3.65**	**305**		Pn	20 21 40.3	+0.2
J26L	**Joseph Creek**	**3.66**	**66**	Pn	Pn	20 21 40.4	-0.1
J26L				IAML		20 23 22.9	
	comp=N,27nm,0.6s						
P19K	**Oil Pt**	**3.69**	**195**	Pn	Pn	20 21 41.6	+0.8
CNPM	**China Poot**	**3.70**	**179**	Pn	Pn	20 21 41.1	+0.2
CNPM				IAML		20 23 15.5	
	comp=E,53nm,4.0s						
CNPM				IAML		20 23 37.2	
	comp=N,56nm,4.0s						
G19K	**Purcell Mounta**	**3.85**	**322**	Pn	Pn	20 21 41.2	-1.6
O18K	**Koktuh Hills**	**3.85**	**211**	Pn	Pn	20 21 40.3	-2.7
O18K				IAML		20 22 50.5	
	comp=E,25nm,4.1s						
O18K				IAML		20 23 36.5	
	comp=N,35nm,2.6s						
G24K	**Hadweenzic Riv**	**3.86**	**23**	Pn	Pn	20 21 39.7	-3.4
N17K	**Nushagak Hills**	**3.88**	**229**		Pn	20 21 41.4	-1.9
N17K				IAML		20 23 28.9	
	comp=N,22nm,2.2s						
N17K				IAML		20 23 29.4	
	comp=E,28nm,0.7s						
M26K	**Nabesna, AK**	**3.90**	**98**	Pn	Pn	20 21 45.1	+1.4
M26K				IAML		20 23 20.6	
	comp=E,38nm,0.4s						
M26K				IAML		20 23 23.1	
	comp=N,55nm,0.5s						
GLB	**Gilahina Butte**	**3.93**	**114**	Pn	Pn	20 21 45.6	+1.6
L16K	**Owhat River**	**4.08**	**252**	Pn	Pn	20 21 47.4	+1.4
L16K				IAML		20 23 43.9	
	comp=E,25nm,2.7s						
L16K				IAML		20 23 44.5	
	comp=N,26nm,4.9s						
F21K	**Alatna River**	**4.13**	**348**		Pn	20 21 47.5	+0.8
H17K	**Granite Mounta**	**4.15**	**298**	Pn	Pn	20 21 47.6	+0.6
G18K	**Tagagawik**	**4.16**	**314**	Pn	Pn	20 21 47.9	+0.8
VRDI	**Verde Repeater**	**4.18**	**115**	Pn	Pn	20 21 48.8	+1.1
VRDI				IAML		20 22 26.2	
	comp=N,30nm,3.2s						
J16K	**Anvik River**	**4.20**	**275**		Pn	20 21 48.0	+0.3
K27K	**Chicken**	**4.20**	**75**		Pn	20 21 47.7	0.0
K27K				IAML		20 23 33.4	
	comp=N,19nm,0.7s						
M16K	**Timber Creek**	**4.21**	**242**	Pn	Pn	20 21 48.0	+0.1
M16K				IAML		20 23 42.0	
	comp=N,26nm,3.4s						
RAGM	**Ragged Mountai**	**4.24**	**129**	Pn	Pn	20 21 48.6	+0.4
FYU	**Fort Yukon**	**4.25**	**35**	Pn	Pn	20 21 48.7	+0.4
FYU				IAML		20 24 04.3	
	comp=E,38nm,4.2s						
I17K	**Unalakleet**	**4.25**	**283**	Pn	Pn	20 21 48.9	+0.6
F20K	**Avaraart Lake**	**4.28**	**336**	Pn	Pn	20 21 49.5	+0.8
P18K	**Big Mountain,**	**4.28**	**208**	Pn	Pn	20 21 49.3	+0.5
MCARA	**McCarthy VSAT**	**4.28**	**112**	Pn	Pn	20 21 51.0	+2.1
L27K	**Beaver Creek,**	**4.31**	**88**	Pn	Pn	20 21 49.9	+0.7
BCAR	**Beaver Creek A**	**4.33**	**89**		Pn	20 21 50.4	+0.9
M27K	**Edge Creek, AK**	**4.42**	**97**		Pn	20 22 52.7	+1.9
HMT	**Hamilton**	**4.42**	**128**		Pn	20 21 52.3	+1.6
Q19K	**Cape Douglas,**	**4.45**	**196**	Pn	Pn	20 21 52.3	+1.2
F19K	**Shaleruckik Mo**	**4.55**	**326**		Pn	20 21 52.9	+0.4
F24K	**Squaw Lake**	**4.55**	**17**	Pn	Pn	20 21 52.6	0.0
CRQM	**Cirque**	**4.58**	**119**	Pn	Pn	20 21 52.7	-0.3
BERG	**Berg Lake**	**4.59**	**125**	Pn	Pn	20 21 53.7	+0.6
SYI	**Shuyak Island**	**4.65**	**187**	Pn	Pn	20 21 54.3	+0.4
TGL	**Tana Glacier**	**4.70**	**118**	Pn	Pn	20 21 55.5	+0.8
EGAK	**Eagle**	**4.74**	**66**	Pn	Pn	20 21 53.6	-1.4
EGAK				IAML		20 23 53.2	
	comp=E,21nm,2.2s						
EGAK				IAML		20 24 05.6	
	comp=E,27nm,1.0s						
K15K	**Wolf Creek Mou**	**4.79**	**263**	Pn	Pn	20 21 55.1	-0.6
K15K				IAML		20 22 50.8	
	comp=N,15nm,3.6s						
K15K				IAML		20 23 48.3	
	comp=E,20nm,3.4s						
WAX	**Waxell Ridge**	**4.88**	**121**	Pn	Pn	20 21 56.6	-0.5
O16K	**Kokwok River B**	**4.88**	**225**	Pn	Pn	20 21 56.4	-0.6
O16K				IAML		20 23 53.7	
	comp=E,17nm,4.4s						
O16K				IAML		20 24 49.7	
	comp=N,23nm,4.6s						
E19K	**Redstone River**	**4.93**	**332**	Pn	Pn	20 21 58.3	+0.7
E19K				IAML		20 24 01.6	
	comp=E,13nm,0.7s						
E19K				IAML		20 24 06.5	
	comp=N,11nm,0.8s						
E22K	**Anaktuvuk Pass**	**4.95**	**358**	Pn	Pn	20 21 56.6	-1.4
ISLE	**Juniper Island**	**4.99**	**118**		Pn	20 21 56.9	-1.7
BARN	**Barnard Glacie**	**5.02**	**111**	Pn	Pn	20 22 00.0	+0.9
BARN				IAML		20 22 54.1	
	comp=N,24nm,3.7s						
BARN				IAML		20 23 05.8	
	comp=E,19nm,4.0s						
BMAR	**Burnt Mountain**	**5.08**	**31**	Pn	Pn	20 21 59.8	-0.1
GRNC	**Granite Creek**	**5.15**	**115**	Pn	Pn	20 22 00.9	0.0
N15K	**Kwethluk River**	**5.18**	**238**	Pn	Pn	20 21 59.9	-1.2
CTGM	**Chitina Glacie**	**5.20**	**111**	Pn	Pn	20 22 00.8	-0.8
G16K	**Koyuk River**	**5.28**	**299**	Pn	Pn	20 22 02.8	+0.3
G16K				IAML		20 24 32.3	
	comp=N,10nm,2.1s						
F17K	**Baldwin Pennin**	**5.33**	**312**	Pn	Pn	20 22 03.6	+0.4
F17K				IAML		20 23 27.2	
	comp=E,14nm,4.5s						
F17K				IAML		20 24 26.1	
	comp=N,11nm,3.4s						
DAWY	**Dawson**	**5.38**	**76**	Pn	Pn	20 22 04.2	+0.2
MESA	**MESA**	**5.40**	**120**	Pn	Pn	20 22 04.4	+0.1
LOGN	**Logan Glacier**	**5.41**	**112**	Pn	Pn	20 22 05.5	+1.0
I28M	**Miner Creek**	**5.43**	**61**	Pn	Pn	20 22 06.2	+1.5
G27K	**Doyon Strip**	**5.45**	**44**	Pn	Pn	20 22 03.5	-1.5
E25K	**Arctic Village**	**5.47**	**23**	Pn	Pn	20 22 04.8	-0.3
KDAK	**Kodiak Island**	**5.49**	**187**	Pn	Pn	20 22 05.2	-0.1
TOLK	**Toolik Lake Re**	**5.50**	**7**	Pn	Pn	20 22 05.8	+0.3
TABL	**Table Mountain**	**5.56**	**115**	Pn	Pn	20 22 07.3	+0.7
M14K	**Bethel**	**5.59**	**249**	Pn	Pn	20 22 06.0	-0.8
J14K	**Nanvaranak Lak**	**5.60**	**271**	Pn	Pn	20 22 05.2	-1.8
L14K	**Kuka Creek**	**5.63**	**256**	Pn	Pn	20 22 06.0	-1.3
D22K	**Ayikyak River**	**5.72**	**355**	Pn	Pn	20 22 07.7	-0.9
E18K	**Tukpahlearik C**	**5.74**	**321**	Pn	Pn	20 22 06.7	-2.1
M29M	**Somme Creek**	**5.94**	**92**	Pn	Pn	20 22 10.0	-1.7
L29M	**L29M**	**5.97**	**85**	Pn	Pn	20 22 10.8	-1.3
D19K	**Kuna River**	**5.99**	**335**	Pn	Pn	20 22 11.5	-0.8
D24K	**Happy Valley**	**6.05**	**8**	Pn	Pn	20 22 11.3	-1.7
OHAK	**Old Harbor**	**6.09**	**190**	Pn	Pn	20 22 12.4	-1.3
K29M	**Barlow Dome**	**6.20**	**78**	Pn	Pn	20 22 13.8	-1.4
F15K	**North Star Dit**	**6.28**	**299**	Pn	Pn	20 22 16.4	+0.1
H29M	**Whitestone**	**6.31**	**56**	Pn	Pn	20 22 17.3	+0.7
F28M	**Old Crow**	**6.50**	**42**	Pn	Pn	20 22 18.6	-0.6
B21K	**Ikpikpuk River**	**6.57**	**350**	Pn	Pn	20 22 20.6	+0.4
C23K	**Itkillik River**	**6.66**	**2**	Pn	Pn	20 22 21.4	0.0
M30M	**Minto, Yukon**	**6.67**	**89**	Pn	Pn	20 22 21.1	-0.5
G29M	**Pine Creek**	**6.73**	**51**	Pn	Pn	20 22 20.8	-1.6
J30M	**Hart River**	**6.75**	**72**	Pn	Pn	20 22 23.3	+0.5
C18K	**Utukok River**	**6.78**	**328**	Pn	Pn	20 22 22.9	-0.2
C19K	**Lookout Ridge**	**6.79**	**334**	Pn	Pn	20 22 23.8	+0.5
I30M	**Mount Dempster**	**6.82**	**66**	Pn	Pn	20 22 23.2	-0.6
RDOG	**Red Dog Mine**	**6.82**	**320**	Pn	Pn	20 22 21.8	-1.8
N30M	**Aishikik Lake**	**6.85**	**99**	Pn	Pn	20 22 23.4	-0.7
HYT	**Haines Junctio**	**6.92**	**104**	Pn	Pn	20 22 24.6	-0.6
B20K	**Meade River**	**7.20**	**344**	Pn	Pn	20 22 29.3	+0.4
B22K	**Teshekpuk Lake**	**7.21**	**354**	Pn	Pn	20 22 29.6	+0.7
E28M	**Babbage River**	**7.23**	**36**	Pn	Pn	20 22 28.3	-1.0
D27M	**Malcolm River**	**7.34**	**30**	Pn	Pn	20 22 31.2	+0.3
G30M	**tAoh Zrail Nji**	**7.40**	**53**	Pn	Pn	20 22 33.1	+1.5
P29M	**Windy Craggy**	**7.43**	**113**	Pn	Pn	20 22 32.2	+0.1
E29M	**Blow River**	**7.56**	**41**	Pn	Pn	20 22 33.5	-0.3
O30N	**Mendenhall**	**7.57**	**102**	Pn	Pn	20 22 33.4	-0.6
C16K	**Lisburne Hills**	**7.68**	**317**	Pn	Pn	20 22 35.8	+0.4
H31M	**Peel River**	**7.76**	**63**	Pn	Pn	20 22 37.3	+0.7
M31M	**Drury Creek, Y**	**7.84**	**90**	Pn	Pn	20 22 36.2	-1.5
G31M	**Satah River**	**8.09**	**55**	Pn	Pn	20 22 38.4	-2.6

*AEIC **27** 20:21:18.8±1.4, 63°.21N±0°.03×151°.31W±0°.09, h14km±1km, ML2.8,ML3.1/106(NEIC), Error ellipse: s-maj=5.6km s-min=4.4km az=85.0*

NEIC 27 20:21:18.8±1.3, 63°.20N±0°.04×151°.33W±0°.07, h9km±9km, Error ellipse: s-maj=6.1km s-min=4.4km az=152.0, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.40**	**27**	Pg	Pg	20 21 26.9	+0.2
CAST	**Castle Rocks**	**0.41**	**304**	Pg	Pg	20 21 26.8	0.0
CAST				IAML		20 21 33.0	
	comp=E,2µm,0.4s						
PPLA	**Purkeypile**	**0.49**	**233**	Pg	Pg	20 21 28.3	0.0
TRF	**Thorofare Moun**	**0.54**	**61**	Pg	Pg	20 21 29.6	+0.5
BPAW	**Bear Paw Mtn.**	**0.92**	**9**	Pg	Pg	20 21 36.2	-0.2
BPAW				IAML		20 21 51.4	
	comp=E,481nm,0.3s						
BPAW				IAML		20 21 51.5	
	comp=N,859nm,0.6s						
CUT	**Chulitna**	**0.93**	**148**	Pg	Pg	20 21 36.7	+0.1
CUT				IAML		20 21 51.7	
	comp=E,897nm,0.4s						
RND	**Reindeer**	**1.14**	**78**		Pg	20 21 40.2	-0.4
RND				IAML		20 22 01.0	
	comp=N,410nm,0.5s						
RND				IAML		20 22 01.1	
	comp=E,309nm,0.3s						
MCK	**McKinley**	**1.20**	**62**	Pn	Pb	20 21 41.4	-0.3
SKT	**Skwentna**	**1.22**	**184**	Pn	Pn	20 21 41.5	-0.5
SKT				IAML		20 21 60.0	
	comp=E,431nm,0.4s						
SKT				IAML		20 22 00.1	
	comp=N,394nm,0.2s						
K20K	**Telida**	**1.25**	**279**	Pn	Pn	20 21 42.2	-0.1
K20K				IAML		20 21 59.8	
	comp=N,314nm,0.5s						
K20K				IAML		20 22 06.1	
	comp=E,275nm,0.7s						
M22K	**Willow**	**1.55**	**158**	Pn	Pg	20 21 48.4	-0.1
M20K	**Styx River**	**1.56**	**213**	Pn	Pb	20 21 47.3	-0.5
M20K				IAML		20 22 10.7	
	comp=E,178nm,0.4s						
M20K				IAML		20 22 10.9	
	comp=N,185nm,0.5s						
J20K	**Nowinta River**	**1.60**	**309**	Pn	Pn	20 21 46.9	-0.2
J20K				IAML		20 22 10.2	
	comp=E,210nm,0.5s						
J20K				IAML		20 22 10.9	
	comp=N,322nm,0.6s						
SUA	**Susitna One**	**1.76**	**171**	Pn	Pn	20 21 49.7	+0.3
SUA				IAML		20 22 15.7	
	comp=N,293nm,0.9s						
GHO	**Glory Hole Cre**	**1.81**	**141**	Pn	Pn	20 21 50.8	+0.6
PMR	**Palmer**	**1.91**	**147**	Pn	Pn	20 21 52.0	+0.7
PMR				IAML		20 22 20.6	
	comp=N,178nm,0.6s						
IL31		**2.52**	**49**	Pn	Pn	20 22 00.5	+0.8
ILAR	**Eielson Array**	**2.52**	**49**	Pn	Pn	20 21 59.3	-0.5
H21K	**Melozitna Rive**	**2.55**	**346**	Pn	Pn	20 22 01.1	+0.8
H21K				IAML		20 22 41.6	
	comp=E,58nm,1.1s						
RSO	**Redoubt South**	**2.82**	**194**	Pn	Pn	20 22 03.3	-0.9
SVW2	**Sparrevohn**	**2.90**	**225**	Pn	Pn	20 22 04.7	-0.3
SVW2				IAML		20 23 01.4	
	comp=N,46nm,0.6s						
IMAR	**Indian Mountai**	**2.99**	**341**		Pn	20 22 05.8	-0.4
J25K	**Salcha River,**	**3.00**	**59**	Pn	Pn	20 22 06.2	-0.1
J25K				IAML		20 22 54.5	
	comp=E,52nm,0.8s						
J25K				IAML		20 22 55.4	
	comp=N,44nm,0.5s						
H19K	**Roundabout Mou**	**3.23**	**319**	Pn	Pn	20 22 08.7	-0.9
H19K				IAML		20 23 04.4	
	comp=E,38nm,0.5s						
H19K				IAML		20 23 12.3	
	comp=N,41nm,0.8s						
N18K	**Kilae Creek**	**3.32**	**223**	Pn	Pn	20 22 09.1	-1.7
N18K				IAML		20 23 09.8	
	comp=N,35nm,0.6s						
O19K	**Port Alsworth**	**3.33**	**207**	Pn	Pn	20 22 10.4	-0.5
O19K				IAML		20 23 07.5	
	comp=N,68nm,0.4s						
ILSW	**Iliamna Southw**	**3.34**	**196**	Pn	Pn	20 22 09.1	-2.0
ILSW				IAML		20 23 34.5	
	comp=N,31nm,3.4s						
SCRK	**Sand Creek**	**3.38**	**73**	Pn	Pn	20 22 11.4	-0.3
BRLK	**Bradley Lake**	**3.45**	**176**	Pn	Pn	20 22 13.2	+0.6
BRLK				IAML		20 22 44.6	
	comp=E,42nm,3.9s						
BRLK				IAML		20 22 59.4	
	comp=N,44nm,3.8s						
G21K	**Allakaket**	**3.46**	**345**	Pn	Pn	20 22 12.4	-0.3
G21K				IAML		20 23 11.5	
	comp=E,33nm,0.7s						
G21K				IAML		20 23 16.5	
	comp=N,31nm,0.7s						
MENT	**Mentasta**	**3.47**	**91**	Pn	Pn	20 22 12.0	-0.9
MENT				IAML		20 23 09.9	
	comp=N,76nm,0.6s						
MENT				IAML		20 23 14.4	
	comp=E,73nm,1.0s						
N25K	**Chitina, Valde**	**3.52**	**114**	Pn	Pn	20 22 12.4	-1.2
N25K				IAML		20 23 09.9	
	comp=N,29nm,0.6s						
N25K				IAML		20 23 09.9	
	comp=E,27nm,0.7s						
HOM	**Homer**	**3.55**	**183**	Pn	Pn	20 22 12.0	-1.9
G23K	**Bananza Creek**	**3.58**	**8**	Pn	Pn	20 22 13.9	-0.4
G23K				IAML		20 23 11.1	
	comp=E,26nm,0.5s						
HIN	**Hinchinbrook I**	**3.62**	**139**	Pn	Pn	20 22 14.9	0.0
H18K	**Honhosa River**	**3.65**	**306**	Pn	Pn	20 22 16.0	+0.7
P19K	**Oil Pt**	**3.67**	**195**	Pn	Pn	20 22 16.4	+0.8
G19K	**Purcell Mounta**	**3.86**	**323**	Pn	Pn	20 22 19.1	+1.0
G19K				IAML		20 23 24.4	
	comp=N,21nm,0.7s						
G19K				IAML		20 23 30.3	
	comp=E,30nm,0.8s						
G24K	**Hadweenzic Riv**	**3.88**	**23**	Pn	Pn	20 22 17.9	-0.6
GLB	**Gilahina Butte**	**3.92**	**113**	Pn	Pn	20 22 19.4	+0.2
GLB				IAML		20 23 21.1	
	comp=E,27nm,1.2s						
GLB				IAML		20 23 25.7	
	comp=N,30nm,1.1s						
F21K	**Alatna River**	**4.14**	**348**	Pn	Pn	20 22 22.4	+0.3
F21K				IAML		20 23 35.8	
	comp=E,16nm,0.8s						
H17K	**Granite Mounta**	**4.16**	**299**	Pn	Pn	20 22 22.5	+0.3
H17K				IAML		20 23 39.2	
	comp=E,29nm,0.8s						
G18K	**Tagagawik**	**4.16**	**314**	Pn	Pn	20 22 22.0	-0.4
VRDI	**Verde Repeater**	**4.18**	**115**	Pn	Pn	20 22 23.0	+0.1
VRDI				IAML		20 23 00.3	
	comp=E,22nm,3.9s						
VRDI				IAML		20 23 27.3	
	comp=N,22nm,2.9s						
J16K	**Anvik River**	**4.19**	**275**	Pn	Pn	20 22 22.7	-0.1
J16K				IAML		20 23 35.8	
	comp=E,20nm,0.8s						
J16K				IAML		20 23 37.1	
	comp=N,31nm,0.8s						
M16K	**Timber Creek**	**4.19**	**242**	Pn	Pn	20 22 23.2	+0.4
M16K				IAML		20 23 51.2	
	comp=E,23nm,2.0s						
M16K				IAML		20 24 40.8	
	comp=N,30nm,4.2s						
I17K	**Unalakleet**	**4.25**	**284**	Pn	Pn	20 22 23.9	+0.4
I17K				IAML		20 23 42.2	
	comp=E,16nm,1.1s						
P18K	**Big Mountain,**	**4.25**	**208**	Pn	Pn	20 22 23.6	0.0
P18K				IAML		20 23 46.7	
	comp=N,27nm,3.7s						
P18K				IAML		20 24 35.9	
	comp=E,27nm,4.0s						
MCARA	**McCarthy VSAT**	**4.28**	**111**	Pn	Pn	20 22 23.7	-0.3
F20K	**Avaraart Lake**	**4.29**	**336**	Pn	Pn	20 22 24.6	+0.5
L27K	**Beaver Creek,**	**4.32**	**88**	Pn	Pn	20 22 24.9	+0.4
L27K				IAML		20 23 51.9	
	comp=N,14nm,4.8s						
HMT	**Hamilton**	**4.42**	**127**	Pn	Pn	20 22 26.6	+0.7
M27K	**Edge Creek, AK**	**4.42**	**97**	Pn	Pn	20 22 26.4	+0.3
M27K				IAML		20 23 36.7	
	comp=N,22nm,3.8s						
M27K				IAML		20 23 58.0	
	comp=E,21nm,2.0s						
F19K	**Shaleruckik Mo**	**4.56**	**326**	Pn	Pn	20 22 27.8	+0.1
F19K				IAML		20 23 49.8	
	comp=E,12nm,0.7s						
CRQM	**Cirque**	**4.57**	**119**	Pn	Pn	20 22 27.0	-1.2
F24K	**Squaw Lake**	**4.58**	**17**	Pn	Pn	20 22 27.9	-0.1
F24K				IAML		20 23 43.2	
	comp=E,12nm,0.7s						
BERG	**Berg Lake**	**4.58**	**124**	Pn	Pn	20 22 28.5	+0.4
SYI	**Shuyak Island**	**4.63**	**187**	Pn	Pn	20 22 27.8	-1.0
TGL	**Tana Glacier**	**4.70**	**118**	Pn	Pn	20 22 27.5	-2.3

*IDC **27** 20:22:03.8±2.9, 5°.65S×153°.99E, h0km, mb3.6/7, mbtmp3.6/8, ML1.8/1, MS3.6/1, Error ellipse: s-maj=86.7km s-min=26.8km az=113.0*

ISC 27 20:22:12.8±2.2, 5°.5S±0°.3×153°.5E±0°.3, h35km, n10, σ2s19/8, mb3.7/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.37**	**238**	Pn	**Pn**	**20 23 57.0**	**-1.0**
	0.8nm,0.3s,baz=309,slow=6.5,SNR=1.6						
PMG				Sn	**Sn**	**20 25 22.2**	**+1.8**
	1.4nm,0.3s,baz=336,slow=12,SNR=2.5 5.7nm,0.7s						
WRA	**Warramunga Arr**	**23.51**	**231**	P	**P**	**20 27 18.4**	**-1.5**
	0.5nm,0.8s,baz=55,slow=9.9,SNR=6.0 0.5nm,0.8s						
ASAR	**Alice Springs**	**26.11**	**224**	P	**P**	**20 27 42.3**	**-1.4**
	0.8nm,1.0s,baz=55,slow=11,SNR=5.2 0.8nm,1.0s						
URZ	**Urewera**	**39.08**	**150**	LR	LR	20 43 48.8	
	comp=Z,71nm,18.4s,baz=121,slow=34						
CMAR	**Chiang Mai Arr**	**58.76**	**295**	P	**P**	**20 32 08.3**	**+0.5**
	0.5nm,0.8s,baz=113,slow=6.3,SNR=4.4 0.5nm,0.8s						
SONM	**Songino Array**	**67.24**	**328**	P	**P**	**20 33 03.1**	**-0.7**
	0.2nm,0.4s,baz=130,slow=4.4,SNR=2.6 0.2nm,0.4s						
MKAR	**Makanchi Array**	**81.26**	**319**	P	**P**	**20 34 24.8**	**-0.7**
	0.7nm,0.7s,baz=93,slow=8.0,SNR=11 0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**84.73**	**322**	P	P	20 34 41.8	-1.5
	0.4nm,0.6s,baz=114,slow=3.4,SNR=4.3 0.4nm,0.6s						
BVAR	**Borovoye Array**	**90.17**	**323**	P	P	20 35 07.5	-2.0
	0.8nm,0.8s,baz=90,slow=4.3,SNR=5.8 0.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**151.13**	**287**	PKPbc	**PKPdf**	**20 42 01.4**	**+3.8**
	0.8nm,0.7s,baz=49,slow=5.4,SNR=5.4						

*WEL **27** 20:22:14.3±0.3, 43°.S±2°×17°.3E±°, h10km±2km, M3.5/17, ML3.7/17, MLv3.5/17, Error ellipse: s-maj=0.0km s-min=0.0km az=117.0*

*NOU **27** 20:22:14.2, 42°.76S×172°.93E, h13km, MLv3.7/8, South Island, New Zealand*

ISC 27 20:22:14.3±0.8, 42°.69S±0°.02×172°.89E±0°.03, h15km±6km, n88, σ1s31/106, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTMC	**Te Mara Farm W**	**0.14**	**60**	P	**Pg**	**20 22 18.2**	**+0.1**
WTMC				S	**Sg**	**20 22 21.2**	**+0.6**
HSES	**Hanmer Springs**	**0.17**	**346**	P	**Pg**	**20 22 17.8**	**-0.7**
HSES				S	**Sg**	**20 22 20.5**	**-0.8**
SCAC	**Scargill**	**0.25**	**174**	P	**Pb**	**20 22 20.0**	**-0.6**
SCAC				S	**Sg**	**20 22 25.1**	**+1.6**
GVZ	**Greta Valley S**	**0.30**	**159**	P	**Pb**	**20 22 22.2**	**+0.7**
GVZ				S	**Sb**	**20 22 27.6**	**+1.4**
WAKC	**Waikari**	**0.30**	**206**	P	**Pb**	**20 22 22.0**	**+0.5**
WAKC				S	**Sb**	**20 22 27.5**	**+1.2**
LSRC	**Lake Sumner Ro**	**0.31**	**234**	P	**Pg**	**20 22 21.1**	**+0.2**
LSRC				S	**Sb**	**20 22 26.7**	**+0.2**
CECS	**Cheviot Emerge**	**0.31**	**113**	P	**Pb**	**20 22 22.3**	**+0.7**
LTZ	**Lake Taylor**	**0.46**	**258**	P	**Pb**	**20 22 24.1**	**-0.1**
LTZ				S	**Sb**	**20 22 30.7**	**-0.2**
AMBC	**Amberley HDC**	**0.48**	**194**	P	**Pb**	**20 22 24.7**	**+0.2**
AMBC				S	**Sb**	**20 22 33.0**	**+1.6**
AMCZ	**Amberley**	**0.52**	**199**	P	**Pn**	**20 22 26.4**	**-0.8**
AMCZ				S	**Sb**	**20 22 34.5**	**+2.0**
KHZ	**Kahutara**	**0.56**	**61**	P	**Pb**	**20 22 26.0**	**+0.2**
KHZ	**Kahutara**	**0.56**	**61**	P	**Pg**	**20 22 25.6**	**+0.3**
KHZ				S	**Sg**	**20 22 33.3**	**+0.6**
OXZ	**Oxford**	**0.89**	**224**	P	**Pn**	**20 22 32.0**	**-0.3**
OXZ				S	**Sn**	**20 22 44.4**	**-0.6**
THZ	**Tophouse**	**0.93**	**1**	P	**Pg**	**20 22 31.4**	**-0.9**
MQZ	**McQueen's Vall**	**1.03**	**189**	P	**Pg**	**20 22 33.5**	**-0.7**
MQZ				S	**Sn**	**20 22 47.9**	**-0.5**
INZ	**Inchbonnie**	**1.06**	**268**	P	**Pb**	**20 22 34.8**	**+0.3**
RACZ	**Rakaia**	**1.17**	**208**	P	**Pb**	**20 22 35.9**	**-0.4**
RACZ				S	**Sb**	**20 22 51.2**	**-0.1**
AKCZ	**Akaroa Harbour**	**1.18**	**179**	P	**Pb**	**20 22 35.8**	**-0.7**
AKCZ				S	**Sg**	**20 22 51.6**	**-0.9**
BSWZ	**Blackbirch Sta**	**1.22**	**37**	P	**Pn**	**20 22 37.1**	**+0.2**
BSWZ				S	**Sg**	**20 22 54.7**	**+1.0**
DSZ	**Denniston Nort**	**1.24**	**319**	P	**Pn**	**20 22 37.6**	**+0.4**
DSZ				S	**Sb**	**20 22 54.1**	**+0.8**
MHCZ	**Mount Hutt**	**1.28**	**228**	P	**Pn**	**20 22 37.3**

NTVZ	North Tongarir	4.16	31	P	Pn	20 23 18.0 +0.5
MLZ	Mavora Lakes	4.36	230	P	Pn	20 23 19.1 -1.0
HIZ	Hauiti	4.43	20	P	Pn	20 23 22.3 +1.3
SYZ	Scrubby Hill	4.69	214	P	Pn	20 23 24.0 -0.4
SYZ	Scrubby Hill	4.69	214	P	Pn	20 23 24.1 -0.4
TLZ	Tolley Road	4.80	26	P	Pn	20 23 28.4 +2.3
TOZ	Tahuroa Road	5.34	23	P	Pn	20 23 36.4 +2.9
APZ	The Paps	5.41	218	P	Pn	20 23 33.5 -1.1
MKAZ	Moumakai	5.85	18	P	Pn	20 23 42.7 +2.3
WIAZ	Waiheke Island	6.14	17	P	Pn	20 23 46.7 +2.2

IDC ***27*** *20:26:56.0±2.4, 56˚.44N × 148˚.60W, h0km, mb3.6/2, mbtmp3.5/7, ML3.4/5, MS3.1/15, Error ellipse: s-maj=38.2km s-min=25.7km az=175.0*

NEIC ***27*** *20:26:56.1±1.2, 56˚.53N±0˚.07 × 148˚.63W±0˚.09, h10km±2km, ML3.7/76, ML3.5(AEIC), Error ellipse: s-maj=12.7km s-min=8.5km az=174.0*

AEIC ***27*** *20:27:00.8±1.2, 56˚.53N±0˚.09 × 148˚.6W±0˚.1, h12km±7km, Error ellipse: s-maj=13.1km s-min=8.3km az=177.0*

ISC 27 20:26:56.8±1.0, 56˚.61N±0˚.08 × 148˚.65W±0˚.05, h10km, n277, σ0.89/270, MS3.2/11, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.44**	**300**		**Pn**	**20 27 36.2**	**-0.4**
KDAK	**Kodiak Island**	**2.44**	**300**		**Sn**	**20 28 04.3**	**-2.2**
KDAK	**Kodiak Island** baz=120	**2.44**	**300**	S	**Sn**	**20 28 05.1**	**-1.5**
KDAK	**Kodiak Island** 9.2nm,0.3s,baz=123,slow=5.2,SNR=209	**2.44**	**300**	Pn	**Pn**	**20 27 36.3**	**-0.4**
KDAK	9.8nm,0.3s,baz=92,slow=21,SNR=17			Sn	**Sn**	**20 28 04.8**	**-1.7**
KDAK	comp=Z,118nm,21.5s,baz=205,slow=32 25nm,0.4s			LR	LR	20 28 19.0	
OHAK	**Old Harbor**	**2.62**	**286**	P	**Pn**	**20 27 37.7**	**-1.3**
OHAK	**Old Harbor**	**2.62**	**286**		**Pn**	**20 27 37.7**	**-1.3**
OHAK	**Old Harbor**	**2.62**	**286**		**Sn**	**20 28 07.8**	**-3.0**
OHAK	**Old Harbor** baz=105	**2.62**	**286**	P	**Pn**	**20 27 38.1**	**-0.9**
OHAK	baz=105			S	**Sn**	**20 28 08.2**	**-2.5**
SYI	**Shuyak Island**	**2.84**	**316**	Pn	**Pn**	**20 27 42.2**	**+0.1**
Q20K	**Shuyak Island** baz=135	**2.84**	**316**	P	**Pn**	**20 27 42.5**	**+0.4**
Q20K	baz=135			S	**Sn**	**20 28 15.7**	**-0.7**
Q23K	**Middleton Isla**	**3.08**	**22**	Pn	**Pn**	**20 27 44.8**	**-0.6**
Q23K	comp=E,315nm,1.5s			IAML		20 28 21.1	
Q23K	comp=N,209nm,1.5s			IAML		20 29 20.8	
Q23K	**Middleton Isla** baz=203	**3.08**	**22**	P	**Pn**	**20 27 44.9**	**-0.6**
MID	**Middleton Isla**	**3.08**	**23**	P	**Pn**	**20 27 45.0**	**-0.4**
MID	**Middleton Isla**	**3.08**	**23**	Pn	**Pn**	**20 27 45.0**	**-0.4**
MID	comp=E,260nm,1.5s			IAML		20 28 09.4	
MID	comp=N,208nm,1.5s			IAML		20 29 47.5	
MID	**Middleton Isla**	**3.08**	**23**		**Sn**	**20 28 19.7**	**-2.6**
CNPM	**China Poot**	**3.23**	**336**		**Pn**	**20 27 47.5**	**0.0**
CNPM	**China Poot**	**3.23**	**336**		**Sn**	**20 28 24.3**	**-1.8**
BRSE	**Bradley Lake S**	**3.33**	**341**		**Pn**	**20 27 48.8**	**-0.2**
BRSE					**Sn**	**20 28 26.9**	**-1.7**
BRSE	**Bradley Lake S** baz=160	**3.33**	**341**	P	**Pn**	**20 27 48.7**	**-0.2**
BRSE	baz=160			S	**Sn**	**20 28 26.8**	**-1.7**
BRLK	**Bradley Lake**	**3.38**	**340**		**Pn**	**20 27 49.1**	**-0.5**
HOM	**Homer**	**3.44**	**334**	Pn	**Pn**	**20 27 50.5**	**+0.1**
HOM	comp=E,194nm,1.0s			IAML		20 28 45.6	
HOM	comp=N,185nm,1.3s			IAML		20 28 50.8	
HOM	**Homer** baz=152	**3.44**	**334**	P	**Pn**	**20 27 50.9**	**+0.4**
HOM	baz=152			S	**Sn**	**20 28 31.3**	**0.0**
P23K	**Montague Islan**	**3.46**	**10**		**Pn**	**20 27 50.4**	**-0.3**
P23K	**Montague Islan** baz=191	**3.46**	**10**	P	**Pn**	**20 27 50.4**	**-0.3**
SEW	**Seward**	**3.53**	**353**		**Pn**	**20 27 51.2**	**-0.3**
SEW	**Seward** baz=173	**3.53**	**353**	P	**Pn**	**20 27 51.5**	**-0.1**
Q19K	**Cape Douglas,**	**3.54**	**313**		**Pn**	**20 27 51.8**	**0.0**
Q19K	comp=E,184nm,0.9s			IAML		20 28 40.1	
Q19K	comp=N,166nm,0.7s			IAML		20 28 40.2	
Q19K	**Cape Douglas,** baz=130	**3.54**	**313**	P	**Pn**	**20 27 52.7**	**+0.8**
AU22	**Augustine Moun**	**3.73**	**320**		**Pn**	**20 27 55.7**	**+1.3**
AUL	**Augustine Lava**	**3.77**	**320**		**Pn**	**20 27 55.9**	**+1.0**
KAKN	**Katmai Knife C**	**3.85**	**299**		**Pn**	**20 27 56.9**	**+0.7**
P19K	**Oil Pt**	**3.90**	**323**	Pn	**Pn**	**20 27 57.3**	**+0.5**
P19K	comp=N,131nm,0.6s			IAML		20 28 45.7	
P19K	comp=E,157nm,0.4s			IAML		20 28 49.3	
P19K	**Oil Pt** baz=141	**3.90**	**323**	P	**Pn**	**20 27 57.6**	**+0.9**
O22K	**Cooper Landing**	**3.92**	**352**		**Pn**	**20 27 56.8**	**-0.2**
O22K	**Cooper Landing** baz=172	**3.92**	**352**	P	**Pn**	**20 27 58.3**	**+1.3**
ACHA	**Angle Creek He**	**3.95**	**297**		**Pn**	**20 27 58.4**	**+0.9**
HIN	**Hinchinbrook I**	**3.96**	**16**		**Pn**	**20 27 57.4**	**-0.2**
HIN	comp=E,105nm,0.7s			IAML		20 28 44.8	
HIN	comp=N,130nm,1.2s			IAML		20 28 48.5	
KAHC	**Katmai Hardscr**	**3.98**	**304**		**Pn**	**20 27 59.2**	**+1.3**
KAHC	**Katmai Hardscr** baz=120	**3.98**	**304**	P	**Pn**	**20 27 59.2**	**+1.3**
SLKM	**Skilak Lake**	**4.00**	**349**		**Pn**	**20 27 58.1**	**0.0**
KVTA	**Katmai Vly 10**	**4.00**	**299**		**Pn**	**20 27 59.3**	**+1.2**
KAIM	**Kayak Island**	**4.01**	**32**	Pn	**Pn**	**20 27 58.1**	**0.0**
KAIM	**Kayak Island** baz=215	**4.01**	**32**	P	**Pn**	**20 27 58.2**	**0.0**
ANCK	**Angle Creek**	**4.03**	**296**		**Pn**	**20 27 59.4**	**+0.9**
O20K	**Slope Mountain**	**4.06**	**331**		**Pn**	**20 27 59.2**	**+0.2**
O20K	**Slope Mountain** baz=148	**4.06**	**331**	P	**Pn**	**20 27 59.5**	**+0.5**
IVE	**Iliamna Volcan**	**4.12**	**328**		**Pn**	**20 27 59.6**	**-0.2**
ILSW	**Iliamna Southw**	**4.13**	**327**		**Pn**	**20 28 00.1**	**+0.1**
ILSW	comp=N,63nm,0.4s			IAML		20 28 54.6	
EYAK	**Cordova Ski Ar**	**4.23**	**20**	P	**Pn**	**20 28 01.4**	**+0.2**
EYAK	**Cordova Ski Ar**	**4.23**	**20**		**Pn**	**20 28 01.3**	**+0.2**
EYAK	**Cordova Ski Ar** baz=202	**4.23**	**20**	P	**Pn**	**20 28 01.5**	**+0.2**
KELA	**Mount Kelaz**	**4.24**	**299**		**Pn**	**20 28 02.3**	**+0.9**
CNTC	**Contact Creek**	**4.25**	**296**		**Pn**	**20 28 02.4**	**+0.8**
Q17K	**Contact Creek** baz=112	**4.25**	**296**	P	**Pn**	**20 28 02.4**	**+0.8**
SUCK	**Suckling Hills**	**4.32**	**34**		**Pn**	**20 28 02.4**	**0.0**
SUCK	comp=N,110nm,1.1s			IAML		20 28 54.5	
SUCK	comp=E,80nm,1.2s			IAML		20 28 54.5	
RAGM	**Ragged Mountai**	**4.33**	**27**		**Pn**	**20 28 02.5**	**-0.1**
CAPN	**Captain Cook N**	**4.37**	**344**	Pn	**Pn**	**20 28 04.9**	**+1.8**
RED	**Redoubt Volcan**	**4.39**	**332**		**Pn**	**20 28 03.1**	**-0.4**
HMT	**Hamilton**	**4.39**	**30**		**Pn**	**20 28 03.4**	**-0.1**
NICHA	**Nichawak Mount**	**4.39**	**32**		**Pn**	**20 28 03.5**	**+0.1**
RDSO	**Redoubt South**	**4.41**	**333**		**Pn**	**20 28 03.6**	**-0.3**
RSO	**Redoubt South**	**4.42**	**333**		**Pn**	**20 28 03.9**	**-0.2**
RDT	**Redoubt**	**4.43**	**335**		**Pn**	**20 28 03.8**	**-0.3**
RDWB	**Redoubt West**	**4.47**	**332**		**Pn**	**20 28 04.3**	**-0.3**
P18K	**Big Mountain,**	**4.47**	**311**		**Pn**	**20 28 04.6**	**0.0**
P18K	**Big Mountain,** baz=127	**4.47**	**311**	P	**Pn**	**20 28 04.7**	**0.0**
GOAT	**Goat Mountain**	**4.48**	**26**		**Pn**	**20 28 05.0**	**+0.3**
DFR	**Drift River**	**4.52**	**334**		**Pn**	**20 28 05.1**	**-0.2**
RC01	**Rabbit Creek A**	**4.53**	**353**	Pn	**Pn**	**20 28 05.7**	**+0.4**
RC01	comp=N,63nm,0.4s			IAML		20 28 59.0	
RC01	comp=E,68nm,0.7s			IAML		20 28 59.2	
RC01	**Rabbit Creek A** baz=172	**4.53**	**353**	P	**Pn**	**20 28 05.9**	**+0.5**
NCT	**North Crescent**	**4.55**	**332**		**Pn**	**20 28 05.6**	**-0.2**
BERG	**Berg Lake**	**4.60**	**32**		**Pn**	**20 28 06.3**	**0.0**
FIS	**Fire Island**	**4.62**	**351**	Pn	**Pn**	**20 28 07.7**	**+1.1**
GRIN	**Grindle Hills**	**4.63**	**35**		**Pn**	**20 28 07.0**	**+0.3**
O19K	**Port Alsworth**	**4.67**	**323**		**Pn**	**20 28 07.7**	**+0.4**
SNH	**Sunshine Point**	**4.71**	**38**	Pn	**Pn**	**20 28 07.9**	**+0.1**
SNH	comp=E,102nm,1.5s			IAML		20 30 44.0	
SNH	comp=N,82nm,1.3s			IAML		20 31 17.9	
O18K	**Koktuh Hills**	**4.75**	**316**		**Pn**	**20 28 08.4**	**0.0**
O18K	**Koktuh Hills** baz=132	**4.75**	**316**	P	**Pn**	**20 28 08.5**	**+0.1**
DIV	**Divide**	**4.78**	**17**		**Pn**	**20 28 09.1**	**+0.3**
KHIT	**Khitrov Hills**	**4.78**	**34**		**Pn**	**20 28 08.6**	**-0.2**
KNK	**Knik Glacier**	**4.82**	**1**		**Sn**	**20 29 02.9**	**-2.3**
KNK	comp=N,31nm,0.7s			IAML		20 29 13.4	
KNK	comp=E,37nm,0.6s			IAML		20 29 15.0	
KNK	**Knik Glacier**	**4.82**	**1**		**Pn**	**20 28 09.9**	**+0.5**
KNK	**Knik Glacier** baz=181	**4.82**	**1**	P	**Pn**	**20 28 09.9**	**+0.5**
BMRM	**Bremner River**	**4.85**	**24**		**Pn**	**20 28 09.9**	**+0.1**
BMRM	**Bremner River** baz=207	**4.85**	**24**	P	**Pn**	**20 28 10.1**	**+0.3**
P17K	**Kvichak River**	**4.90**	**305**		**Pn**	**20 28 11.0**	**+0.6**
P17K	**Kvichak River** baz=120	**4.90**	**305**	P	**Pn**	**20 28 11.0**	**+0.6**
WAX	**Waxell Ridge**	**4.91**	**36**		**Pn**	**20 28 10.6**	**0.0**
WAX					**Sn**	**20 29 05.3**	**-2.0**
WAX	comp=E,92nm,0.3s			IAML		20 29 06.3	
N20K	**Mount Spurr** baz=157	**4.96**	**340**	P	**Pn**	**20 28 11.4**	**+0.1**
SPCR	**Spurr Chakacha**	**4.96**	**340**		**Pn**	**20 28 11.4**	**+0.1**
SUA	**Susitna One**	**4.99**	**348**		**Pn**	**20 28 11.9**	**+0.1**
SUA	**Susitna One** baz=167	**4.99**	**348**	P	**Pn**	**20 28 12.0**	**+0.2**
BARK	**Barkley Ridge**	**4.99**	**38**		**Pn**	**20 28 11.8**	**0.0**
PMR	**Palmer**	**5.01**	**357**	P	**Pn**	**20 28 13.1**	**+1.3**
PMR	**Palmer**	**5.01**	**357**		**Pn**	**20 28 12.7**	**+0.9**
PMR	comp=E,36nm,0.6s			IAML		20 29 10.1	
PMR	comp=N,27nm,0.3s			IAML		20 29 14.8	
PMR	**Palmer** baz=177	**5.01**	**357**	P	**Pn**	**20 28 12.4**	**+0.6**
SPCG	**Spurr Capps Gl**	**5.01**	**341**		**Pn**	**20 28 12.6**	**+0.6**
SPCP	**Crater Peak Br**	**5.01**	**340**		**Pn**	**20 28 12.6**	**+0.5**
MESA	**MESA**	**5.02**	**42**	Pn	**Pn**	**20 28 12.0**	**-0.2**
MESA	comp=N,57nm,1.4s			IAML		20 29 23.9	
MESA	comp=E,57nm,1.5s			IAML		20 29 47.3	
MESA	**MESA** baz=226	**5.02**	**42**	P	**Pn**	**20 28 12.1**	**-0.2**
CRQM	**Cirque**	**5.06**	**32**	Pn	**Pn**	**20 28 12.9**	**+0.2**
CRQM	comp=N,50nm,0.9s			IAML		20 29 09.6	
CRQM	comp=E,52nm,0.6s			IAML		20 29 12.7	
CRQE	**Cirque** baz=216	**5.07**	**33**	P	**Pn**	**20 28 12.6**	**-0.2**
KLU	**Klutina**	**5.10**	**15**		**Pn**	**20 28 13.7**	**+0.5**
KLU	comp=E,35nm,0.4s			IAML		20 29 14.0	
KLU	comp=N,44nm,0.5s			IAML		20 29 21.0	
KLU	**Klutina** baz=197	**5.10**	**15**	P	**Pn**	**20 28 13.6**	**+0.5**
TGL	**Tana Glacier**	**5.15**	**34**		**Pn**	**20 28 14.0**	**+0.1**
TGL	**Tana Glacier** comp=N,63nm,0.5s	**5.15**	**34**	IAML		20 29 12.2	
STLK	**Strandline Lak**	**5.17**	**343**		**Pn**	**20 28 14.9**	**+0.7**
GHO	**Glory Hole Cre**	**5.18**	**359**		**Pn**	**20 28 15.2**	**+0.8**
GHO	**Glory Hole Cre** comp=E,60nm,0.6s	**5.18**	**359**	IAML		20 29 16.3	
ISLE	**Juniper Island**	**5.19**	**37**		**Pn**	**20 28 14.2**	**-0.3**
ISLE	comp=E,32nm,1.3s			IAML		20 29 13.9	
ISLE	comp=N,28nm,1.0s			IAML		20 29 20.6	
BAGL	**Bagley Icefiel**	**5.19**	**39**		**Pn**	**20 28 14.3**	**0.0**
N19K	**Bonanza Creek**	**5.20**	**327**		**Pn**	**20 28 14.8**	**+0.2**
N19K	**Bonanza Creek** baz=142	**5.20**	**327**	P	**Pn**	**20 28 14.8**	**+0.2**
SPNN	**North Nagishla**	**5.21**	**338**		**Pn**	**20 28 15.8**	**+0.9**
SML	**Sawmill**	**5.22**	**2**		**Pn**	**20 28 15.8**	**+1.0**
SML	comp=N,50nm,0.6s			IAML		20 29 16.7	
SML	comp=E,39nm,0.4s			IAML		20 29 18.1	
SML	**Sawmill** baz=182	**5.22**	**2**	P	**Pn**	**20 28 15.7**	**+0.9**
SCM	**Sheep Creek Mo**	**5.29**	**7**		**Pn**	**20 28 16.6**	**+0.8**
SCM	**Sheep Creek Mo** comp=E,36nm,0.5s	**5.29**	**7**	IAML		20 29 21.4	
SCM	comp=N,40nm,0.6s			IAML		20 29 24.8	
SCM	**Sheep Creek Mo** baz=188	**5.29**	**7**	P	**Pn**	**20 28 16.6**	**+0.8**
VRDI	**Verde Repeater**	**5.36**	**28**		**Pn**	**20 28 16.6**	**-0.3**
KIAG	**Kiagna River**	**5.43**	**34**		**Pn**	**20 28 17.6**	**-0.2**
N25K	**Chitina, Valde**	**5.43**	**21**		**Pn**	**20 28 18.1**	**+0.3**
N25K	**Chitina, Valde** baz=204	**5.43**	**21**	P	**Pn**	**20 28 18.8**	**+1.0**
GLB	**Gilahina Butte**	**5.45**	**25**		**Pn**	**20 28 18.1**	**+0.1**
O17K	**Koliganek Bris**	**5.48**	**309**		**Pn**	**20 28 18.6**	**+0.3**
O17K	**Koliganek Bris** baz=123	**5.48**	**309**	P	**Pn**	**20 28 18.6**	**+0.3**
GRNC	**Granite Creek**	**5.48**	**38**		**Pn**	**20 28 18.6**	**0.0**
TABL	**Table Mountain**	**5.50**	**43**		**Pn**	**20 28 18.9**	**+0.1**
N18K	**Kilae Creek**	**5.56**	**320**		**Pn**	**20 28 19.4**	**-0.1**
N18K	**Kilae Creek** baz=135	**5.56**	**320**	P	**Pn**	**20 28 19.9**	**+0.4**
SKT	**Skwentna**	**5.59**	**346**		**Pn**	**20 28 20.4**	**+0.5**
SKT	**Skwentna** baz=164	**5.59**	**346**	P	**Pn**	**20 28 20.5**	**+0.7**
PTPK	**Patty Peak**	**5.60**	**32**		**Pn**	**20 28 20.5**	**+0.3**
MCARA	**McCarthy VSAT**	**5.60**	**29**		**Pn**	**20 28 20.2**	**+0.2**
MCARA	**McCarthy VSAT** baz=213	**5.60**	**29**	P	**Pn**	**20 28 20.3**	**+0.2**
M24K	**Tolsona, Glenn**	**5.66**	**12**		**Pn**	**20 28 21.4**	**+0.5**
M24K	**Tolsona, Glenn** baz=194	**5.66**	**12**	P	**Pn**	**20 28 22.1**	**+1.2**
BARN	**Barnard Glacie**	**5.75**	**36**		**Pn**	**20 28 22.3**	**0.0**
SVW2	**Sparrevohn**	**5.76**	**324**	P	**Pn**	**20 28 22.0**	**-0.2**
M20K	**Styx River**	**5.77**	**338**		**Pn**	**20 28 22.8**	**+0.4**
M20K	**Styx River** baz=155	**5.77**	**338**	P	**Pn**	**20 28 22.8**	**+0.4**
PNL	**Peninsula**	**5.78**	**54**		**Pn**	**20 28 22.6**	**0.0**
PNL	**Peninsula**	**5.78**	**54**		**Pn**	**20 28 22.7**	**+0.2**
PNL	**Peninsula** baz=241	**5.78**	**54**	P	**Pn**	**20 28 22.7**	**+0.2**
CTG	**Chitna Glacier** baz=223	**5.79**	**38**	P	**Pn**	**20 28 22.8**	**0.0**
CTGM	**Chitina Glacie**	**5.79**	**38**		**Pn**	**20 28 22.8**	**0.0**
LOGN	**Logan Glacier**	**5.81**	**40**		**Pn**	**20 28 22.8**	**-0.3**
WASW	**Wrangell South**	**5.81**	**21**		**Pn**	**20 28 23.6**	**+0.5**
BCPM	**Bancas Point**	**5.82**	**51**		**Pn**	**20 28 22.4**	**-0.6**
O16K	**Kokwok River B**	**5.83**	**305**		**Pn**	**20 28 23.8**	**+0.6**
O16K	**Kokwok River B** baz=118	**5.83**	**305**	P	**Pn**	**20 28 23.7**	**+0.6**
WAT6	**Susitna Watana**	**6.01**	**4**		**Pn**	**20 28 26.2**	**+0.4**
WAT6	**Susitna Watana** baz=185	**6.01**	**4**	P	**Pn**	**20 28 26.2**	**+0.4**
HARP	**HAARP**	**6.07**	**16**		**Pn**	**20 28 27.8**	**+1.2**
HARP	**HAARP** baz=198	**6.07**	**16**	P	**Pn**	**20 28 27.8**	**+1.2**
WAT1	**Susitna Watana**	**6.24**	**0**		**Pn**	**20 28 29.8**	**+0.9**
WAT1	**Susitna Watana** baz=180	**6.24**	**0**	P	**Pn**	**20 28 29.8**	**+0.9**
WAT7	**Susitna Watana**	**6.25**	**359**		**Pn**	**20 28 29.9**	**+0.9**
L19K	**White Mountain**	**6.42**	**333**		**Pn**	**20 28 30.8**	**-0.5**
O29M	**Mount Kennedy**	**6.45**	**51**		**Pn**	**20 28 31.8**	**-0.1**
O29M	**Mount Kennedy** baz=238	**6.45**	**51**	P	**Pn**	**20 28 32.1**	**+0.3**
M26K	**Nabesna, AK**	**6.48**	**24**		**Pn**	**20 28 32.4**	**+0.2**
O15K	**Ungalikthiuk R**	**6.49**	**298**		**Pn**	**20 28 32.8**	**+0.6**
O15K	**Ungalikthiuk R** baz=110	**6.49**	**298**	P	**Pn**	**20 28 32.8**	**+0.6**
DHY	**Denali Highway**	**6.52**	**5**		**Pn**	**20 28 33.2**	**+0.4**
DHY	**Denali Highway** baz=186	**6.52**	**5**	P	**Pn**	**20 28 34.0**	**+1.2**
P29M	**Windy Craggy**	**6.53**	**58**		**Pn**	**20 28 31.9**	**-0.8**
P29M	**Windy Craggy** baz=246	**6.53**	**58**	P	**Pn**	**20 28 32.5**	**-0.3**
N16K	**Nishlik Lake**	**6.56**	**310**		**Pn**	**20 28 33.9**	**+0.7**
N16K	**Nishlik Lake** baz=123	**6.56**	**310**	P	**Pn**	**20 28 33.9**	**+0.7**
PAX	**Paxson**	**6.58**	**13**		**Pn**	**20 28 33.1**	**-0.5**
PAX	**Paxson** baz=195	**6.58**	**13**	P	**Pn**	**20 28 34.8**	**+1.2**
M17K	**Holitna River**	**6.61**	**320**		**Pn**	**20 28 33.6**	**-0.2**
M27K	**Edge Creek, AK**	**6.72**	**28**		**Pn**	**20 28 35.3**	**-0.2**
M27K	**Edge Creek, AK** baz=213	**6.72**	**28**	P	**Pn**	**20 28 36.1**	**+0.7**
MENT	**Mentasta**	**6.82**	**19**		**Pn**	**20 28 36.3**	**-0.4**
RND	**Reindeer**	**6.82**	**359**		**Pn**	**20 28 36.6**	**-0.3**
S31K	**Pelican**	**6.87**	**73**		**Pn**	**20 28 35.6**	**-1.8**
TRF	**Thorofare Moun**	**6.91**	**354**		**Pn**	**20 28 38.9**	**+0.7**
TRF	**Thorofare Moun** baz=172	**6.91**	**354**	P	**Pn**	**20 28 39.4**	**+1.2**
M16K	**Timber Creek**	**6.94**	**314**		**Pn**	**20 28 39.1**	**+0.6**
M16K	**Timber Creek** baz=126	**6.94**	**314**	P	**Pn**	**20 28 39.1**	**+0.6**
CAST	**Castle Rocks**	**7.04**	**347**	Pn	**Pn**	**20 28 40.5**	**+0.7**
CAST	**Castle Rocks** baz=165	**7.04**	**347**	P	**Pn**	**20 28 40.5**	**+0.7**
KTH	**Kantishna Hill**	**7.06**	**352**		**Sn**	**20 30 00.8**	**+0.5**
KTH	**Kantishna Hill**	**7.06**	**352**		**Pn**	**20 28 41.0**	**+0.9**
P30M	**Million Dollar**	**7.08**	**55**		**Pn**	**20 28 40.5**	**0.0**
P30M	**Million Dollar** baz=244	**7.08**	**55**	P	**Pn**	**20 28 40.5**	**0.0**
HYT	**Haines Junctio**	**7.18**	**49**		**Pn**	**20 28 41.5**	**-0.3**
HYT	**Haines Junctio** baz=238	**7.18**	**49**	P	**Pn**	**20 28 42.2**	**+0.4**
L27K	**Beaver Creek,**	**7.33**	**25**		**Pn**	**20 28 43.5**	**-0.3**
SIT	**Sitka**	**7.33**	**81**	P	**Pn**	**20 28 40.8**	**-2.9**
RIDG	**Independent Ri**	**7.40**	**13**		**Pn**	**20 28 44.9**	**+0.1**
BPAW	**Bear Paw Mtn.**	**7.61**	**352**		**Pn**	**20 28 47.8**	**+0.2**
BPAW	**Bear Paw Mtn.** baz=170	**7.61**	**352**	P	**Pn**	**20 28 47.9**	**+0.3**
SKAG	**Skagway**	**7.63**	**62**	P	**Pn**	**20 28 48.9**	**+1.1**
BESE	**Bessie Mountai**	**7.67**	**69**		**Pn**	**20 28 47.1**	**-1.4**
M29M	**Somme Creek**	**7.81**	**37**		**Pn**	**20 28 50.9**	**+0.5**
HDA	**Harding Lake**	**7.87**	**5**		**Pn**	**20 28 51.6**	**+0.4**
JIS	**Juneau Island**	**7.88**	**72**	P	**Pn**	**20 28 51.2**	**0.0**
NEA2	**Nenana**	**8.02**	**359**	Pn	**Pn**	**20 28 53.8**	**+0.7**
K27K	**Chicken**	**8.12**	**21**		**Pn**	**20 28 54.6**	**0.0**
J25K	**Salcha River,**	**8.19**	**10**		**Pn**	**20 28 54.8**	**-0.8**
IL31		**8.24**	**5**		**Pn**	**20 28 56.5**	**+0.3**
ILAR	**Eielson Array** comp=N,0.3nm,0.3s,baz=186,slow=13,SNR=9.8	**8.24**	**5**	Pn	**Pn**	**20 28 57.0**	**+0.9**
ILAR	comp=N,0.5nm,0.3s,baz=190,slow=23,SNR=8.3			Sn	**Sn**	**20 30 25.7**	**-3.5**
ILAR	comp=N,63nm,19.8s,baz=268,slow=38 comp=N,0.3nm,0.3s			LR	LR	20 32 12.7	
WHY	**Whitehorse**	**8.25**	**55**		**Pn**	**20 28 55.7**	**-0.8**
COLA	**College**	**8.30**	**2**	P	**Pn**	**20 28 58.0**	**+1.0**
J26L	**Joseph Creek**	**8.30**	**15**		**Pn**	**20 28 57.4**	**+0.3**
MDM	**Murphy Dome**	**8.38**	**1**	Pn	**Pn**	**20 28 58.7**	**+0.5**
L29M	**L29M**	**8.39**	**35**		**Pn**	**20 28 57.9**	**-0.4**
I23K	**Minto, Yukon-K**	**8.58**	**358**		**Pn**	**20 29 00.5**	**-0.3**
L14K	**Kuka Creek**	**8.65**	**309**	Pn	**Pn**	**20 29 01.7**	**-0.1**
P33M	**Teslin, Yukon**	**9.06**	**60**		**Pn**	**20 29 06.5**	**-1.0**
PRP	**Porcupine Dome**	**9.07**	**8**	Pn	**Pn**	**20 29 07.9**	**+0.2**
K29M	**Barlow Dome**	**9.12**	**33**		**Pn**	**20 29 07.9**	**-0.4**
M31M	**Drury Creek, Y**	**9.17**	**46**	Pn	**Pn**	**20 29 10.0**	**+1.0**
N32M	**Quiet Lake**	**9.25**	**54**	Pn	**Pn**	**20 29 10.4**	**+0.3**
H23K	**Yukon River**	**9.26**	**358**	Pn	**Pn**	**20 29 11.2**	**+1.0**
H24K	**Noodor Dome**	**9.27**	**2**	Pn	**Pn**	**20 29 11.7**	**+1.3**
H21K	**Melozitna Rive**	**9.30**	**349**		**Pn**	**20 29 10.9**	**+0.2**
S34M	**Telegraph Cree**	**9.58**	**75**	Pn	**Pn**	**20 29 12.7**	**-1.9**
V35K	**Ketchikan**	**9.64**	**91**	Pn	**Pn**	**20 29 13.7**	**-1.7**
H19K	**Roundabout Mou**	**9.70**	**340**	Pn	**Pn**	**20 29 18.0**	**+1.8**
J14K	**Nanvaranak Lak**	**9.71**	**315**	Pn	**Pn**	**20 29 16.4**	**0.0**
IMAR	**Indian Mountai**	**9.72**	**348**	Pn	**Pn**	**20 29 16.3**	**-0.2**
H18K	**Honhosa River**	**9.78**	**335**	Pn	**Pn**	**20 29 17.0**	**-0.3**
R33M	**Jennings River**	**9.79**	**66**		**Pn**	**20 29 17.0**	**-0.6**
I28M	**Miner Creek**	**9.81**	**22**	Pn	**Pn**	**20 29 18.5**	**+0.6**
J30M	**Hart River**	**10.01**	**32**	Pn	**Pn**	**20 29 21.3**	**+0.8**
FYU	**Fort Yukon**	**10.12**	**8**		**Pn**	**20 29 22.1**	**+0.2**
DLBC	**Dease Lake** comp=N,0.3nm,0.3s,baz=226,slow=6.2,SNR=1.5 comp=N,1.3nm,0.3s	**10.18**	**72**	Pn	**Pn**	**20 29 22.6**	**-0.3**
G21K	**Allakaket**	**10.20**	**349**	Pn	**Pn**	**20 29 24.0**	**+0.9**
I30M	**Mount Dempster**	**10.48**	**30**	Pn	**Pn**	**20 29 26.7**	**-0.3**
UNV	**Unalaska Valle**	**10.56**	**262**	Pn	**Pn**	**20 29 27.7**	**-0.3**
MMPY	**Sheldon Lake,**	**10.65**	**48**	Pn	**Pn**	**20 29 29.7**	**+0.5**
G27K	**Doyon Strip**	**10.75**	**15**	Pn	**Pn**	**20 29 32.7**	**+2.1**
H29M	**Whitestone**	**10.81**	**23**	Pn	**Pn**	**20 29 32.9**	**+1.5**
F21K	**Alatna River**	**10.89**	**350**	Pn	**Pn**	**20 29 31.8**	**-0.6**
F24K	**Squaw Lake**	**10.96**	**2**	Pn	**Pn**	**20 29 34.3**	**+0.9**
F20K	**Avaraart Lake**	**10.99**	**345**	Pn	**Pn**	**20 29 33.7**	**0.0**
G16K	**Coyuk River**	**11.01**	**329**	Pn	**Pn**	**20 29 34.1**	**+0.1**
BMAR	**Burnt Mountain**	**11.02**	**8**	Pn	**Pn**	**20 29 34.5**	**+0.1**
G29M	**Pine Creek**

0.2nm,0.7s,baz=110,slow=7.2,SNR=3.3
0.2nm,0.7s
KURBB **Kurchatov Arra** 63.23 328 P P 20 52 05.7 -0.4
0.2nm,0.6s,baz=119,slow=7.6,SNR=2.5
0.2nm,0.6s

NEIC ***27*** *20:51:44.1±1.4,56˚49N±0˙07×148˚61W±0˙05,h10km±2km, mb3.8/2,ML4.0/76,ML3.7(AEIC),Error ellipse: s-maj=12.5km s-min=3.0km az=157.0*
IDC ***27*** *20:51:44.7±1.3,56˚41N×148˚54W,h0km,mb3.6/7, mbtmp3.7/12,ML3.7/5,MS3.1/18,Error ellipse: s-maj=26.6km s-min=20.2km az=16.0*
AEIC ***27*** *20:51:49.7±1.4,56˚54N±0˙08×148˚61W±0˙09,h12km±7km, Error ellipse: s-maj=11.8km s-min=7.1km az=180.0*

ISC 27 20:51:44.8±0.8,56˚57N±0˙08×148˚56W±0˙05,h10km, n338,σ1s11/327,mb3.8/7,MS3.1/15,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.50**	**301**		**Pn**	**20 52 25.2**	**-0.3**
KDAK	**Kodiak Island**	**2.50**	**301**		**Sn**	**20 52 53.4**	**-2.7**
KDAK	**Kodiak Island**	**2.50**	**301**	Pn	**Pn**	**20 52 25.0**	**-0.5**
	12nm,0.3s,baz=118,slow=5.9,SNR=124						
KDAK				Sn	**Sn**	**20 52 53.1**	**-3.0**
	13nm,0.3s,baz=66,slow=23,SNR=17						
	29nm,0.3s						
OHAK	**Old Harbor**	**2.67**	**286**		**Pn**	**20 52 26.6**	**-1.2**
OHAK	**Old Harbor**	**2.67**	**286**		**Sn**	**20 52 55.9**	**-4.3**
OHAK	**Old Harbor**	**2.67**	**286**	P	**Pn**	**20 52 26.8**	**-1.1**
	baz=105						
OHAK				S	**Sn**	**20 52 57.1**	**-3.2**
	baz=105						
SYI	**Shuyak Island**	**2.90**	**316**	Pn	**Pn**	**20 52 30.6**	**-0.4**
SYI	**Shuyak Island**	**2.90**	**316**		**Sn**	**20 53 04.1**	**-1.8**
Q20K	**Shuyak Island**	**2.91**	**316**	P	**Pn**	**20 52 31.1**	**+0.1**
	baz=136						
Q20K				S	**Sn**	**20 53 04.4**	**-1.6**
	baz=136						
Q23K	**Middleton Isla**	**3.10**	**21**		**Pn**	**20 52 33.7**	**0.0**
Q23K					**Sn**	**20 53 08.1**	**-2.6**
Q23K	**Middleton Isla**	**3.10**	**21**	IAML		20 53 11.1	
	comp=E,229nm,0.9s						
Q23K				IAML		20 54 08.0	
	comp=N,243nm,1.4s						
Q23K	**Middleton Isla**	**3.10**	**21**	P	**Pn**	**20 52 33.7**	**0.0**
	baz=203						
Q23K				S	**Sn**	**20 53 09.2**	**-1.5**
	baz=203						
MID	**Middleton Isla**	**3.10**	**22**		**Pn**	**20 52 33.7**	**0.0**
MID	**Middleton Isla**	**3.10**	**22**	IAML		20 53 23.0	
	comp=N,235nm,1.5s						
CNPM	**China Poot**	**3.29**	**336**	Pn	**Pn**	**20 52 36.2**	**-0.2**
CNPM	**China Poot**	**3.29**	**336**		**Sn**	**20 53 13.2**	**-2.3**
BRSE	**Bradley Lake S**	**3.38**	**341**		**Pn**	**20 52 37.5**	**-0.2**
BRSE					**Sn**	**20 53 15.9**	**-2.0**
BRSE	**Bradley Lake S**	**3.38**	**341**	P	**Pn**	**20 52 37.5**	**-0.2**
	baz=161						
BRSE				S	**Sn**	**20 53 15.9**	**-2.0**
	baz=161						
BRLK	**Bradley Lake**	**3.43**	**340**		**Pn**	**20 52 38.1**	**-0.2**
P23K	**Montague Islan**	**3.49**	**10**	P	**Pn**	**20 52 39.2**	**+0.1**
	baz=191						
HOM	**Homer**	**3.50**	**333**		**Pn**	**20 52 40.0**	**+0.8**
HOM				IAML		20 53 33.0	
	comp=N,339nm,0.7s						
HOM				IAML		20 53 35.5	
	comp=E,308nm,0.8s						
HOM	**Homer**	**3.50**	**333**	P	**Pn**	**20 52 40.1**	**+0.8**
	baz=152						
SEW	**Seward**	**3.58**	**353**		**Pn**	**20 52 40.1**	**-0.1**
SEW	**Seward**	**3.58**	**353**	P	**Pn**	**20 52 40.0**	**-0.2**
	baz=173						
Q19K	**Cape Douglas,**	**3.61**	**313**		**Pn**	**20 52 41.5**	**+0.7**
Q19K				IAML		20 53 29.3	
	comp=N,376nm,0.8s						
Q19K	**Cape Douglas,**	**3.61**	**313**	P	**Pn**	**20 52 41.5**	**+0.7**
	baz=131						
AU22	**Augustine Moun**	**3.80**	**320**		**Pn**	**20 52 44.1**	**+0.8**
AUCH	**Augustine Cone**	**3.82**	**319**		**Pn**	**20 52 44.5**	**+0.8**
AUL	**Augustine Lava**	**3.83**	**319**		**Pn**	**20 52 44.8**	**+1.1**
KCE	**Katmai Mt Cerb**	**3.96**	**298**		**Pn**	**20 52 47.0**	**+1.5**
P19K	**Oil Pt**	**3.96**	**323**		**Pn**	**20 52 46.4**	**+0.7**
P19K				IAML		20 53 34.1	
	comp=E,311nm,0.5s						
P19K				IAML		20 53 37.2	
	comp=N,224nm,0.6s						
P19K	**Oil Pt**	**3.96**	**323**	P	**Pn**	**20 52 46.3**	**+0.7**
	baz=141						
Q22K	**Cooper Landing**	**3.97**	**352**		**Pn**	**20 52 46.6**	**+0.9**
HIN	**Hinchinbrook I**	**3.99**	**15**		**Pn**	**20 52 46.3**	**+0.3**
HIN				IAML		20 53 37.6	
	comp=N,299nm,1.0s						
HIN				IAML		20 53 37.9	
	comp=E,224nm,0.7s						
ACHA	**Angle Creek He**	**4.01**	**297**		**Pn**	**20 52 47.5**	**+1.1**
KAIM	**Kayak Island**	**4.02**	**31**		**Pn**	**20 52 46.9**	**+0.5**
KAIM				IAML		20 53 44.8	
	comp=N,265nm,0.6s						
KAIM	**Kayak Island**	**4.02**	**31**	P	**Pn**	**20 52 47.0**	**+0.7**
	baz=214						
KAHC	**Katmai Hardscr**	**4.04**	**304**	P	**Pn**	**20 52 47.8**	**+1.0**
	baz=120						
SLKM	**Skilak Lake**	**4.04**	**348**		**Pn**	**20 52 46.8**	**0.0**
KVTA	**Katmai Vly 10**	**4.06**	**299**		**Pn**	**20 52 48.3**	**+1.3**
ANCK	**Angle Creek**	**4.09**	**296**		**Pn**	**20 52 48.1**	**+0.7**
O20K	**Slope Mountain**	**4.12**	**330**		**Pn**	**20 52 48.3**	**+0.5**
O20K	**Slope Mountain**	**4.12**	**330**	P	**Pn**	**20 52 48.3**	**+0.5**
	baz=148						
ILSW	**Iliamna Southw**	**4.19**	**327**		**Pn**	**20 52 48.0**	**-0.8**
ILSW				IAML		20 53 43.2	
	comp=N,105nm,0.4s						
ILSW				IAML		20 53 44.5	
	comp=E,115nm,0.8s						
EYAK	**Cordova Ski Ar**	**4.25**	**19**		**Pn**	**20 52 50.0**	**+0.5**
EYAK	**Cordova Ski Ar**	**4.25**	**19**	P	**Pn**	**20 52 50.0**	**+0.5**
	baz=202						
KELA	**Mount Kelaz**	**4.30**	**299**		**Pn**	**20 52 51.1**	**+0.8**
CNTC	**Contact Creek**	**4.31**	**296**		**Pn**	**20 52 50.7**	**+0.3**
Q17K	**Contact Creek**	**4.31**	**296**	P	**Pn**	**20 52 50.7**	**+0.3**
	baz=112						
SUCK	**Suckling Hills**	**4.33**	**34**		**Pn**	**20 52 51.3**	**+0.7**
SUCK				IAML		20 53 55.6	
	comp=N,187nm,1.0s						
SUCK				IAML		20 53 58.9	
	comp=E,118nm,1.4s						
RAGM	**Ragged Mountai**	**4.34**	**26**		**Pn**	**20 52 51.4**	**+0.6**
HMT	**Hamilton**	**4.40**	**29**		**Pn**	**20 52 52.3**	**+0.7**
CAPN	**Captain Cook N**	**4.42**	**343**	Pn	**Pn**	**20 52 52.3**	**+0.4**
RDSO	**Redoubt South**	**4.47**	**332**		**Pn**	**20 52 52.4**	**-0.3**
RSO	**Redoubt South**	**4.48**	**332**		**Pn**	**20 52 52.5**	**-0.4**
P18K	**Big Mountain,**	**4.54**	**311**		**Pn**	**20 52 53.0**	**-0.6**
P18K	**Big Mountain,**	**4.54**	**311**	P	**Pn**	**20 52 53.3**	**-0.2**
	baz=127						
DFR	**Drift River**	**4.58**	**334**		**Pn**	**20 52 53.5**	**-0.6**
RC01	**Rabbit Creek A**	**4.58**	**353**	Pn	**Pn**	**20 52 54.6**	**+0.6**
RC01				IAML		20 53 50.2	
	comp=N,162nm,0.6s						
RC01	**Rabbit Creek A**	**4.58**	**353**	P	**Pn**	**20 52 54.6**	**+0.6**
	baz=173						
BERG	**Berg Lake**	**4.61**	**32**		**Pn**	**20 52 55.1**	**+0.7**
BERG				IAML		20 53 48.7	
	comp=N,167nm,0.9s						
FIS	**Fire Island**	**4.67**	**350**	Pn	**Pn**	**20 52 56.4**	**+1.1**
SNH	**Sunshine Point**	**4.71**	**37**		**Pn**	**20 52 56.4**	**+0.5**
SNH				IAML		20 53 49.3	
	comp=E,111nm,1.3s						
SNH				IAML		20 54 12.1	
	comp=N,121nm,1.5s						
O19K	**Port Alsworth**	**4.73**	**323**		**Pn**	**20 52 56.1**	**0.0**
O19K	**Port Alsworth**	**4.73**	**323**	P	**Pn**	**20 52 56.1**	**0.0**
	baz=139						
DIV	**Divide**	**4.80**	**16**		**Pn**	**20 52 57.4**	**+0.3**
O18K	**Koktuh Hills**	**4.82**	**316**		**Pn**	**20 52 57.1**	**-0.2**
O18K	**Koktuh Hills**	**4.82**	**316**	P	**Pn**	**20 52 57.2**	**-0.1**
	baz=132						
KNK	**Knik Glacier**	**4.86**	**1**		**Pn**	**20 52 58.4**	**+0.5**
KNK				IAML		20 54 04.2	
	comp=N,62nm,0.6s						
KNK				IAML		20 54 04.4	
	comp=E,79nm,0.7s						
KNK	**Knik Glacier**	**4.86**	**1**	P	**Pn**	**20 52 58.8**	**+0.9**
	baz=181						
BMRM	**Bremner River**	**4.87**	**23**		**Pn**	**20 52 58.4**	**+0.4**
BMRM	**Bremner River**	**4.87**	**23**	P	**Pn**	**20 52 58.6**	**+0.5**
	baz=207						
WAX	**Waxell Ridge**	**4.91**	**35**		**Pn**	**20 52 59.1**	**+0.4**
WAX				IAML		20 53 55.5	
	comp=E,134nm,0.4s						
P17K	**Kvichak River**	**4.96**	**305**		**Pn**	**20 52 60.0**	**+0.8**
P17K	**Kvichak River**	**4.96**	**305**	P	**Pn**	**20 52 60.0**	**+0.8**
	baz=120						
N20K	**Mount Spurr**	**5.01**	**339**	P	**Pn**	**20 53 00.2**	**+0.1**
	baz=157						
MESA	**MESA**	**5.02**	**41**		**Pn**	**20 53 00.7**	**+0.4**
MESA	**MESA**	**5.02**	**41**	IAML		20 53 59.0	
	comp=N,87nm,1.2s						
MESA				IAML		20 54 10.0	
	comp=E,66nm,0.9s						
MESA	**MESA**	**5.02**	**41**	P	**Pn**	**20 53 00.7**	**+0.4**
	baz=226						
SPCN	**Chakachatna No**	**5.03**	**340**		**Pn**	**20 53 01.1**	**+0.8**
SUA	**Susitna One**	**5.04**	**348**		**Pn**	**20 53 00.6**	**+0.1**
SUA	**Susitna One**	**5.04**	**348**	IAML		20 54 01.8	
	comp=E,56nm,0.7s						
SUA	**Susitna One**	**5.04**	**348**	P	**Pn**	**20 53 00.6**	**+0.1**
	baz=167						
PMR	**Palmer**	**5.05**	**357**		**Pn**	**20 53 00.9**	**+0.5**
PMR				IAML		20 53 57.3	
	comp=N,59nm,1.0s						
PMR				IAML		20 53 58.8	
	comp=E,76nm,0.7s						
PMR	**Palmer**	**5.05**	**357**	P	**Pn**	**20 53 01.8**	**+1.3**
	baz=177						
CRQM	**Cirque**	**5.06**	**32**		**Pn**	**20 53 01.5**	**+0.7**
CRQM	**Cirque**	**5.06**	**32**	IAML		20 54 01.9	
	comp=N,86nm,0.5s						
CRQM				IAML		20 54 10.2	
	comp=E,68nm,0.7s						
SPCP	**Crater Peak Br**	**5.07**	**340**		**Pn**	**20 53 01.2**	**+0.4**
CRQE	**Cirque**	**5.07**	**32**	P	**Pn**	**20 53 01.5**	**+0.6**
	baz=216						
SPBG	**Spurr Blockage**	**5.10**	**339**		**Pn**	**20 53 01.6**	**+0.3**
KLU	**Klutina**	**5.12**	**14**		**Pn**	**20 53 02.4**	**+0.8**
KLU				IAML		20 54 02.3	
	comp=N,71nm,0.5s						
KLU				IAML		20 54 06.8	
	comp=E,77nm,0.6s						
KLU	**Klutina**	**5.12**	**14**	P	**Pn**	**20 53 02.5**	**+0.9**
	baz=197						
TGL	**Tana Glacier**	**5.16**	**33**		**Pn**	**20 53 02.8**	**+0.8**
TGL	**Tana Glacier**	**5.16**	**33**	IAML		20 54 00.5	
	comp=E,120nm,0.5s						
TGL				IAML		20 54 00.9	
	comp=N,91nm,0.4s						
ISLE	**Juniper Island**	**5.19**	**36**	Pn	**Pn**	**20 53 03.0**	**+0.5**
ISLE				IAML		20 54 10.5	
	comp=N,71nm,1.5s						
GHO	**Glory Hole Cre**	**5.22**	**358**		**Pn**	**20 53 04.0**	**+1.1**
GHO				IAML		20 54 04.2	
	comp=E,96nm,0.7s						
SML	**Sawmill**	**5.26**	**1**		**Pn**	**20 53 04.2**	**+0.8**
SML				IAML		20 54 05.4	
	comp=N,100nm,0.7s						
SML				IAML		20 54 08.3	
	comp=E,65nm,1.0s						
SML	**Sawmill**	**5.26**	**1**	P	**Pn**	**20 53 04.3**	**+1.0**
	baz=182						
N19K	**Bonanza Creek**	**5.26**	**327**		**Pn**	**20 53 03.2**	**-0.3**
N19K	**Bonanza Creek**	**5.26**	**327**	P	**Pn**	**20 53 03.2**	**-0.3**
	baz=143						
M22K	**Willow**	**5.26**	**352**	Pn	**Pn**	**20 53 03.9**	**+0.6**
M22K				IAML		20 54 31.2	
	comp=E,112nm,1.1s						
SPNN	**North Nagishla**	**5.27**	**338**		**Pn**	**20 53 04.0**	**+0.4**
SCM	**Sheep Creek Mo**	**5.32**	**6**		**Pn**	**20 53 04.9**	**+0.7**
SCM	**Sheep Creek Mo**	**5.32**	**6**	P	**Pn**	**20 53 05.6**	**+1.3**
	baz=188						
VRDI	**Verde Repeater**	**5.37**	**27**	Pn	**Pn**	**20 53 05.6**	**+0.5**
SAMH	**Samovar Hills**	**5.43**	**46**		**Pn**	**20 53 06.8**	**+0.9**
N25K	**Chitina, Valde**	**5.45**	**20**		**Pn**	**20 53 07.1**	**+1.0**
N25K	**Chitina, Valde**	**5.45**	**20**	P	**Pn**	**20 53 06.9**	**+0.8**
	baz=204						
GLB	**Gilahina Butte**	**5.47**	**25**	Pn	**Pn**	**20 53 06.9**	**+0.6**
CHGN	**Chignik**	**5.47**	**271**	Pn	**Pn**	**20 53 04.7**	**-1.6**
GRNC	**Granite Creek**	**5.48**	**38**		**Pn**	**20 53 07.0**	**+0.4**
TABL	**Table Mountain**	**5.50**	**42**		**Pn**	**20 53 07.6**	**+0.8**
O17K	**Koliganek Bris**	**5.54**	**309**		**Pn**	**20 53 07.1**	**-0.1**
O17K	**Koliganek Bris**	**5.54**	**309**	P	**Pn**	**20 53 07.1**	**-0.1**
	baz=123						
YKU2	**Yakutat**	**5.57**	**54**	Pn	**Pn**	**20 53 08.4**	**+0.9**
MCARA	**McCarthy VSAT**	**5.61**	**28**		**Pn**	**20 53 08.8**	**+0.6**
MCARA	**McCarthy VSAT**	**5.61**	**28**	P	**Pn**	**20 53 09.1**	**+0.9**
	baz=213						
N18K	**Kilae Creek**	**5.62**	**320**		**Pn**	**20 53 08.1**	**-0.3**
N18K	**Kilae Creek**	**5.62**	**320**	P	**Pn**	**20 53 08.4**	**0.0**
	baz=135						
SKT	**Skwentna**	**5.64**	**346**		**Pn**	**20 53 09.0**	**+0.4**
SKT	**Skwentna**	**5.64**	**346**	P	**Pn**	**20 53 09.3**	**+0.8**
	baz=164						
M24K	**Tolsona, Glenn**	**5.69**	**11**		**Pn**	**20 53 10.1**	**+0.8**
M24K	**Tolsona, Glenn**	**5.69**	**11**	P	**Pn**	**20 53 11.0**	**+1.7**
	baz=194						
BARN	**Barnard Glacie**	**5.76**	**36**		**Pn**	**20 53 11.1**	**+0.7**
PNL	**Peninsula**	**5.77**	**54**		**Pn**	**20 53 11.1**	**+0.7**
PNL	**Peninsula**	**5.77**	**54**	P	**Pn**	**20 53 11.1**	**+0.7**
	baz=241						
CTG	**Chitna Glacier**	**5.79**	**37**	P	**Pn**	**20 53 11.6**	**+0.8**
	baz=223						
CTGM	**Chitina Glacie**	**5.79**	**37**		**Pn**	**20 53 11.4**	**+0.6**
BCPM	**Bancas Point**	**5.81**	**51**		**Pn**	**20 53 11.8**	**+0.9**
LOGN	**Logan Glacier**	**5.81**	**40**		**Pn**	**20 53 11.4**	**+0.4**
SVW2	**Sparrevohn**	**5.82**	**324**		**Pn**	**20 53 10.6**	**-0.5**
M20K	**Styx River**	**5.82**	**338**		**Pn**	**20 53 11.5**	**+0.3**
M20K	**Styx River**	**5.82**	**338**	P	**Pn**	**20 53 11.5**	**+0.3**
	baz=155						
WACK	**Wrangell Chich**	**5.85**	**20**		**Pn**	**20 53 12.6**	**+0.8**
O16K	**Kokwok River B**	**5.89**	**305**		**Pn**	**20 53 11.7**	**-0.3**
O16K	**Kokwok River B**	**5.89**	**305**	P	**Pn**	**20 53 12.7**	**+0.6**
	baz=118						
CUT	**Chulitna**	**5.92**	**352**	Pn	**Pn**	**20 53 12.9**	**+0.5**
N17K	**Nushagak Hills**	**6.01**	**315**	Pn	**Pn**	**20 53 12.3**	**-1.4**
WAT6	**Susitna Watana**	**6.05**	**4**	P	**Pn**	**20 53 15.2**	**+0.9**
	baz=185						
O28M	**Mount Upton**	**6.07**	**43**		**Pn**	**20 53 15.5**	**+0.8**
O28M	**Mount Upton**	**6.07**	**43**	P	**Pn**	**20 53 15.5**	**+0.8**
	baz=229						
HARP	**HAARP**	**6.10**	**15**		**Pn**	**20 53 16.2**	**+1.3**
HARP	**HAARP**	**6.10**	**15**	P	**Pn**	**20 53 16.2**	**+1.3**
	baz=198						
M19K	**Big River Lodg**	**6.13**	**333**		**Pn**	**20 53 14.8**	**-0.5**
M18K	**Stony River**	**6.20**	**326**	P	**Pn**	**20 53 15.7**	**-0.5**
	baz=141						
WAT1	**Susitna Watana**	**6.28**	**0**		**Pn**	**20 53 18.3**	**+0.9**
WAT1	**Susitna Watana**	**6.28**	**0**	P	**Pn**	**20 53 18.3**	**+0.9**
	baz=180						
WAT7	**Susitna Watana**	**6.29**	**359**		**Pn**	**20 53 18.6**	**+1.0**
O29M	**Mount Kennedy**	**6.44**	**50**		**Pn**	**20 53 19.7**	**0.0**
CNBA	**Chernabura Isl**	**6.48**	**259**	Pn	**Pn**	**20 53 18.6**	**-1.5**
L19K	**White Mountain**	**6.48**	**333**		**Pn**	**20 53 19.5**	**-0.7**
L19K	**White Mountain**	**6.48**	**333**	P	**Pn**	**20 53 19.7**	**-0.5**
	baz=148						
M26K	**Nabesna, AK**	**6.50**	**24**		**Pn**	**20 53 21.4**	**+1.0**
M26K	**Nabesna, AK**	**6.50**	**24**	P	**Pn**	**20 53 21.4**	**+1.0**
	baz=208						
P29M	**Windy Craggy**	**6.51**	**57**	Pn	**Pn**	**20 53 20.4**	**-0.1**
DHY	**Denali Highway**	**6.55**	**5**		**Pn**	**20 53 22.0**	**+0.7**
DHY	**Denali Highway**	**6.55**	**5**	P	**Pn**	**20 53 22.0**	**+0.7**
	baz=186						
YUK2	**White River**	**6.56**	**34**		**Pn**	**20 53 23.0**	**+1.6**
PAX	**Paxson**	**6.61**	**12**		**Pn**	**20 53 23.4**	**+1.4**
PAX	**Paxson**	**6.61**	**12**	P	**Pn**	**20 53 23.4**	**+1.4**
	baz=195						
M17K	**Holitna River**	**6.67**	**320**		**Pn**	**20 53 22.7**	**0.0**
M17K	**Holitna River**	**6.67**	**320**	P	**Pn**	**20 53 22.7**	**0.0**
	baz=134						
YUK3	**Moose Creek**	**6.68**	**35**		**Pn**	**20 53 24.3**	**+1.3**
YUK3	**Moose Creek**	**6.68**	**35**	P	**Pn**	**20 53 24.3**	**+1.3**
	baz=222						
M27K	**Edge Creek, AK**	**6.73**	**28**		**Pn**	**20 53 24.0**	**+0.3**
YUK7	**Dusty Glacier**	**6.75**	**50**		**Pn**	**20 53 25.2**	**+1.3**
SDPT	**Sand Point**	**6.80**	**265**	Pn	**Pn**	**20 53 24.5**	**0.0**
S31K	**Pelican**	**6.83**	**73**		**Pn**	**20 53 23.9**	**-1.1**
S31K	**Pelican**	**6.83**	**73**	P	**Pn**	**20 53 24.1**	**-0.9**
	baz=263						
MENT	**Mentasta**	**6.84**	**19**		**Pn**	**20 53 25.0**	**-0.1**
RND	**Reindeer**	**6.86**	**359**		**Pn**	**20 53 25.6**	**+0.1**
YUK6	**Outpost Mounta**	**6.88**	**46**	P	**Pn**	**20 53 27.7**	**+1.9**
	baz=234						
TRF	**Thorofare Moun**	**6.96**	**354**		**Pn**	**20 53 26.7**	**-0.1**
TRF	**Thorofare Moun**	**6.96**	**354**	P	**Pn**	**20 53 28.1**	**+1.3**
	baz=173						
L26K	**Log Cabin Wild**	**6.99**	**20**		**Pn**	**20 53 26.9**	**-0.2**
M16K	**Timber Creek**	**7.00**	**314**		**Pn**	**20 53 27.0**	**-0.3**
YUK4	**Talbot Arm**	**7.01**	**43**	P	**Pn**	**20 53 30.9**	**+3.3**
	baz=231						
L18K	**Granite Mounta**	**7.02**	**327**	Pn	**Pn**	**20 53 27.0**	**-0.5**
N15K	**Kwethluk River**	**7.05**	**306**		**Pn**	**20 53 27.9**	**-0.1**
CAST	**Castle Rocks**	**7.09**	**347**		**Pn**	**20 53 28.9**	**+0.3**
CAST	**Castle Rocks**	**7.09**	**347**	P	**Pn**	**20 53 29.4**	**+0.9**
	baz=165						
KTH	**Kantishna Hill**	**7.11**	**351**		**Pn**	**20 53 29.2**	**+0.5**
HYT	**Haines Junctio**	**7.17**	**49**	Pn	**Pn**	**20 53 30.3**	**+0.7**
O14K	**Tigyukauivet M**	**7.28**	**297**	Pn	**Pn**	**20 53 31.2**	**+0.1**
SIT	**Sitka**	**7.29**	**81**	Pn	**Pn**	**20 53 29.2**	**-2.0**
L27K	**Beaver Creek,**	**7.34**	**25**		**Pn**	**20 53 31.6**	**-0.4**
L27K	**Beaver Creek,**	**7.34**	**25**	P	**Pn**	**20 53 32.7**	**+0.7**
	baz=210						
K20K	**Telida**	**7.35**	**340**		**Pn**	**20 53 31.8**	**-0.2**
BCAR	**Beaver Creek A**	**7.35**	**25**	Pn	**Pn**	**20 53 32.4**	**+0.3**
K24K	**Donnelly Dome**	**7.39**	**10**		**Pn**	**20 53 34.5**	**+1.9**
K24K	**Donnelly Dome**	**7.39**	**10**	P	**Pn**	**20 53 34.5**	**+1.9**
	baz=192						
TTA	**Tatalina**	**7.40**	**333**	Pn	**Pn**	**20 53 32.2**	**-0.6**
RIDG	**Independent Ri**	**7.43**	**13**		**Pn**	**20 53 32.8**	**-0.4**
RIDG	**Independent Ri**	**7.43**	**13**	P	**Pn**	**20 53 34.7**	**+1.5**
	baz=196						
S12K	**Black Hills**	**7.59**	**269**	Pn	**Pn**	**20 53 36.0**	**+0.5**
SKAG	**Skagway**	**7.60**	**62**		**Pn**	**20 53 35.1**	**-0.3**
L16K	**Owhat River**	**7.61**	**317**	Pn	**Pn**	**20 53 34.0**	**-1.6**
BWN	**Browne**	**7.64**	**357**	Pn	**Pn**	**20 53 35.4**	**-0.6**
BPAW	**Bear Paw Mtn.**	**7.65**	**352**		**Pn**	**20 53 36.8**	**+0.6**
BPAW	**Bear Paw Mtn.**	**7.65**	**352**	P	**Pn**	**20 53 36.8**	**+0.6**
	baz=170						
N30M	**Aishikik Lake**	**7.68**	**46**		**Pn**	**20 53 37.7**	**+1.0**
S32K	**Killisnoo**	**7.69**	**77**		**Pn**	**20 53 35.1**	**-1.5**
S32K	**Killisnoo**	**7.69**	**77**	P	**Pn**	**20 53 35.1**	**-1.5**
	baz=268						
O30N	**Mendenhall**	**7.74**	**52**		**Pn**	**20 53 38.3**	**+0.8**
O30N	**Mendenhall**	**7.74**	**52**	P	**Pn**	**20 53 38.3**	**+0.8**
	baz=242						
SCRK	**Sand Creek**	**7.77**	**15**	Pn	**Pn**	**20 53 37.8**	**-0.1**
R32K	**Eaglecrest**	**7.77**	**71**	Pn	**Pn**	**20 53 38.2**	**+0.3**
M29M	**Somme Creek**	**7.81**	**37**		**Pn**	**20 53 39.7**	**+1.3**
JIS	**Juneau Island**	**7.84**	**72**	Pn	**Pn**	**20 53 38.8**	**0.0**
K17K	**Iditarod**	**7.89**	**325**	Pn	**Pn**	**20 53 39.1**	**-0.3**
K17K	**Iditarod**	**7.89**	**325**	P	**Pn**	**20 53 39.1**	**-0.3**
	baz=138						
HDA	**Harding Lake**	**7.91**	**5**		**Pn**	**20 53 40.3**	**+0.6**
WRH	**Wood River Hil**	**7.93**	**1**		**Pn**	**20 53 40.5**	**+0.5**
J18K	**Innoko River**	**8.03**	**333**		**Pn**	**20 53 41.2**	**-0.2**
J18K	**Innoko River**	**8.03**	**333**	P	**Pn**	**20 53 41.6**	**+0.3**
	baz=146						
NEA2	**Nenana**	**8.05**	**358**		**Pn**	**20 53 41.7**	**0.0**
NEA2	**Nenana**	**8.05**	**358**	P	**Pn**	**20 53 42.5**	**+0.7**
	baz=178						
CCB	**Clear Creek Bu**	**8.11**	**2**		**Pn**	**20 53 42.7**	**+0.2**
J20K	**Nowinta River**	**8.12**	**342**		**Pn**	**20 53 42.4**	**-0.1**
M14K	**Bethel**	**8.14**	**307**	Pn	**Pn**	**20 53 43.3**	**+0.4**
K27K	**Chicken**	**8.14**	**21**		**Pn**	**20 53 42.7**	**-0.2**
J25K	**Salcha River,**	**8.22**	**10**		**Pn**	**20 53 43.9**	**-0.2**
N31M	**Braeburn, Yuko**	**8.23**	**48**	Pn	**Pn**	**20 53 45.4**	**+1.3**
J19K	**Poorman**	**8.23**	**338**		**Pn**	**20 53 43.0**	**-1.0**
J19K	**Poorman**	**8.23**	**338**	P	**Pn**	**20 53 43.9**	**-0.1**
	baz=152						
WHY	**Whitehorse**	**8.23**	**54**	Pn	**Pn**	**20 53 45.0**	**+0.8**
IL31		**8.27**	**5**		**Pn**	**20 53 44.4**	**-0.2**
ILAR	**Eielson Array**	**8.27**	**5**	Pn	**Pn**	**20 53 44.8**	**+0.1**
ILAR	**Eielson Array**	**8.27**	**5**	Pn	**Pn**	**20 53 46.5**	**+1.8**
	comp=E,0.4nm,0.3s,baz=186,slow=14,SNR=20						
ILAR				Sn	**Sn**	**20 55 15.1**	**-3.0**
	comp=E,1.0nm,0.3s,baz=188,slow=23,SNR=10						
	comp=E,1.0nm,0.5s						
J26L	**Joseph Creek**	**8.33**	**15**	Pn	**Pn**	**20 53 46.2**	**+0.7**
COLA	**College**	**8.34**	**2**	Pn	**Pn**	**20 53 46.5**	**+1.0**
L29M	**L29M**	**8.39**	**34**		**Pn**	**20 53 47.4**	**+1.0**
MDM	**Murphy Dome**	**8.42**	**1**		**Pn**	**20 53 47.9**	**+1.2**
**P32M

D27M	**Malcolm River**	**13.17**	**12**	Pn		**Pn**	**20 54 52.0**	**+0.3**
C23K	**Itkillik River**	**13.35**	**357**	Pn		**Pn**	**20 54 54.3**	**+0.2**
C18K	**Utukok River**	**13.40**	**340**	Pn		**Pn**	**20 54 53.5**	**-1.3**
INK	**Inuvik**	**13.62**	**24**			**Pn**	**20 54 58.0**	**+0.3**
INK	**Inuvik**	**13.62**	**24**	Pn		**Pn**	**20 55 00.3**	**+2.6**
	comp=E,0.2nm,0.3s,baz=224,slow=14,SNR=6.0							
INK				LR		LR	21 00 36.9	
	comp=E,86nm,18.4s,baz=218,slow=39							
	comp=E,2.4nm,0.8s							
B22K	**Teshekpuk Lake**	**13.99**	**353**	Pn		**Pn**	**20 55 02.3**	**-0.4**
C16K	**Lisburne Hills**	**14.01**	**334**	Pn		**Pn**	**20 55 03.1**	**+0.1**
B20K	**Meade River**	**14.01**	**348**	Pn		**Pn**	**20 55 01.9**	**-1.1**
C36M	**Paulatuk**	**16.79**	**31**	Pn		**Pn**	**20 55 38.9**	**-0.8**
C36M				IAmb		IAmb	20 55 47.7	
	comp=Z,5.2nm,1.1s							
YKA	**Yellowknife Ar**	**18.05**	**57**	P		**P**	**20 55 57.8**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=268,slow=12,SNR=11							
YKA				LR		LR	21 03 31.0	
	comp=Z,55nm,18.6s,baz=278,slow=39							
	comp=Z,1.4nm,0.8s							
A36M	**Sachs Harbour**	**18.26**	**23**	P		**Pn**	**20 55 57.9**	**+0.1**
A36M				IAmb		IAmb	20 56 15.4	
	comp=Z,11nm,0.9s							
NEW	**Newport**	**20.74**	**100**	LR		LR	21 03 26.1	
	comp=Z,40nm,20.6s,baz=309,slow=34							
SHEM	**Shemya Is, Ala**	**21.76**	**276**	LR		LR	21 04 41.6	
	comp=Z,27nm,18.7s,baz=220,slow=36							
ELK	**Elko**	**26.76**	**112**	LR		LR	21 05 54.5	
	comp=Z,80nm,18.5s,baz=270,slow=32							
NVAR	**Mina Array Bea**	**27.00**	**119**	P		**P**	**20 57 27.6**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=292,slow=11,SNR=2.8							
NVAR				LR		LR	21 05 46.0	
	comp=Z,58nm,20.3s,baz=282,slow=31							
	comp=Z,0.3nm,0.5s							
SEY	**Seymchan**	**29.45**	**307**	LR		LR	21 10 48.9	
	comp=Z,59nm,20.9s,baz=312,slow=39							
PETK	**Petropavlovsk-**	**30.48**	**287**	LR		LR	21 10 46.7	
	comp=Z,21nm,19.9s,baz=75,slow=37							
MA2	**Magadan**	**31.25**	**301**	LR		LR	21 10 28.8	
	comp=Z,55nm,19.2s,baz=72,slow=36							
PFO	**Pinyon Flats O**	**31.77**	**123**	LR		LR	21 08 31.1	
	comp=Z,63nm,18.5s,baz=136,slow=32							
TIXI	**Tiksi**	**35.65**	**327**	LR		LR	21 13 09.8	
	comp=Z,19nm,19.5s,baz=24,slow=36							
KLR	**Kul'dur**	**46.06**	**296**	LR		LR	21 19 51.1	
	comp=Z,14nm,21.9s,baz=22,slow=36							
NRIK	**Noril'sk**	**48.00**	**337**	LR		LR	21 21 47.8	
	comp=Z,36nm,20.1s,baz=22,slow=37							
JMIC	**Jan Mayen**	**49.63**	**16**	LR		LR	21 25 02.2	
	comp=Z,19nm,18.4s,baz=289,slow=40							
SONM	**Songino Array**	**58.76**	**310**	P		**P**	**21 01 44.9**	**+2.1**
	comp=Z,0.8nm,1.0s,baz=228,slow=1.8,SNR=4.2							
	comp=Z,0.8nm,1.0s							
ZALV	**Zalesovo Beam**	**61.54**	**327**	P		**P**	**21 02 04.8**	**+3.3**
	comp=Z,0.9nm,0.6s,baz=29,slow=7.0,SNR=4.9							
	comp=Z,0.9nm,0.6s							
NOA	**NORSAR Array B**	**61.66**	**11**	LR		LR	21 33 02.6	
	comp=Z,5.3nm,18.1s,baz=250,slow=40							
FINES	**FINESS Array B**	**62.25**	**3**	P		**P**	**21 02 08.5**	**+2.4**
	comp=Z,0.6nm,0.5s,baz=10,slow=8.5,SNR=2.0							
	comp=Z,0.6nm,0.5s							
BVAR	**Borovoye Array**	**66.19**	**335**	P		**P**	**21 02 34.8**	**+2.6**
	comp=Z,0.7nm,0.6s,baz=23,slow=8.0,SNR=5.2							
	comp=Z,0.7nm,0.6s							
KURBB	**Kurchatov Arra**	**66.30**	**329**	P		**P**	**21 02 35.1**	**+2.2**
	comp=Z,0.3nm,0.6s,baz=31,slow=6.6,SNR=4.8							
KURBB				LR		LR	21 33 24.0	
	comp=Z,20nm,18.3s,baz=176,slow=38							
	comp=Z,0.3nm,0.6s							
MKAR	**Makanchi Array**	**68.59**	**325**	P		**P**	**21 02 49.7**	**+2.3**
	comp=Z,0.3nm,0.5s,baz=37,slow=6.1,SNR=5.0							
	comp=Z,0.3nm,0.5s							
AAK	**Ala-Archa**	**74.71**	**329**	LR		LR	21 41 16.1	
	comp=Z,24nm,18.3s,baz=44,slow=40							

DJA ***27*** *20:57:17.1±0.2,7˚S±3˚×10˚6E±˚, h131km±2km, M4.7/23, mB5.3/10, mb4.8/16, MLv4.6/23, Mw(mB)4.7/10*
IDC ***27*** *20:57:18.2±1.1, 6˚.25S×106˚.59E, h136km±10km, mb3.7/19, mbtmp4.2/20, MS2.4/1, Error ellipse: s-maj=19.4km s-min=10.3km az=62.0*
NEIC ***27*** *20:57:19.0±2.0, 6˚.31S±0˚.08×106˚.67E±0˚.07, h139km±2km, mb4.5/44, Error ellipse: s-maj=14.1km s-min=7.2km az=216.0*

ISC 27 20:57:18.2±0.6,**6˚42S**±0˚.06×**106˚55E**±0˚.05,**h138**km±5km,
n119,σ1°33/127,mb4.3/36,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DBJI	**Dramaga**	**0.24**	**124**	P		**Pn**	**20 57 36.5**	**-0.6**
DBJI				S		**Sn**	**20 57 50.4**	**-1.0**
TNG	**Tangerang**	**0.27**	**22**	P		**Pn**	**20 57 37.2**	**0.0**
TNG				P		**Pn**	**20 57 37.2**	**0.0**
TNG				S		**Sn**	**20 57 52.1**	**+0.6**
TNG				S			20 57 52.4	
CBJI	**Citeko**	**0.30**	**90**	P		**Pn**	**20 57 37.1**	**-0.1**
CBJI				S		**Sn**	**20 57 52.4**	**+0.7**
SBJI	**Serang**	**0.51**	**306**	P		**Pn**	**20 57 38.5**	**+0.3**
SBJI				S		**Sn**	**20 57 54.2**	**+0.9**
SKJI	**Sukabumi**	**0.58**	**179**	P		**Pn**	**20 57 36.6**	**-2.0**
SKJI				S		**Sn**	**20 57 51.7**	**-2.5**
LEM	**Lembang**	**1.14**	**111**	P		**Pn**	**20 57 43.4**	**+0.2**
	703nm,0.6s,baz=277,slow=5.0,SNR=218							
LEM				LR		LR	20 58 18.0	
	comp=Z,147nm,21.7s,baz=219,slow=51							
LEM	**Lembang**	**1.14**	**111**	P		**Pn**	**20 57 43.2**	**-0.1**
LEM				S		**Sn**	**20 58 02.0**	**-0.3**
BBJI	**Bungbulang**	**1.51**	**134**	P		**Pn**	**20 57 45.6**	**-1.4**
JCJI	**Jatiwangi**	**1.71**	**92**	P		**Pn**	**20 57 49.3**	**+0.1**
JCJI				S		**Sn**	**20 58 13.1**	**+0.2**
KASI	**Kota Agung**	**2.23**	**293**	P		**Pn**	**20 57 56.7**	**+1.4**
KASI				S		**Sn**	**20 58 24.2**	**+0.4**
CMJI	**Cimerak**	**2.32**	**126**	P		**Pn**	**20 57 54.7**	**-1.8**
KPJI	**Karang Pucung**	**2.54**	**111**	P		**Pn**	**20 57 59.0**	**-0.2**
LWLI	**Liwa**	**2.84**	**299**	P		**Pn**	**20 58 04.9**	**+1.7**
PMBI	**Palembang**	**3.89**	**333**	P		Pn	20 58 21.2	+4.4
PMBI	**Palembang**	**3.89**	**333**	Pn		Pn	20 58 20.7	+3.9
PMBI	**Palembang**	**3.89**	**333**	P		**Pn**	**20 58 19.9**	**+3.1**
SMRI	**Semarang**	**3.92**	**99**	P		**Pn**	**20 58 18.3**	**+1.2**
SMRI	**Semarang**	**3.92**	**99**			**Pn**	**20 58 16.8**	**-0.2**
SMRI	**Semarang**	**3.92**	**99**	P		**Pn**	**20 58 17.5**	**+0.4**
YOGI	**Yogyakarta**	**3.97**	**111**	P		**Pn**	**20 58 15.9**	**-1.9**
XMI	**Christmas Isla**	**4.09**	**192**	P		Pn	20 58 13.8	-5.6
MNAI	**Manna**	**4.12**	**300**	P		**Pn**	**20 58 21.7**	**+1.9**
MNAI	**Manna**	**4.12**	**300**			**Pn**	**20 58 20.7**	**+1.0**
MNAI	**Manna**	**4.12**	**300**	P		**Pn**	**20 58 21.3**	**+1.5**
XMIS	**Christmas Isla**	**4.13**	**192**	P		Pn	20 58 13.9	-6.0
UGM	**Wanagama**	**4.21**	**111**	P		**Pn**	**20 58 20.3**	**-0.8**
UGM	**Wanagama**	**4.21**	**111**			**Pn**	**20 58 20.1**	**-0.9**
UGM	**Wanagama**	**4.21**	**111**	P		**Pn**	**20 58 20.2**	**-0.8**
PWJI	**Pagerwojo**	**5.45**	**107**	P		**Pn**	**20 58 37.3**	**-0.2**
	55nm,0.5s,1μm0.5nm							
KRJI	**Kerinci**	**6.65**	**310**	P		**Pn**	**20 58 55.0**	**+1.4**
	245nm,0.7s,3μm0.7nm							
GMJI	**Gumukmas**	**7.08**	**105**	P		**Pn**	**20 59 00.7**	**+1.3**
BLJI	**Banyuglugur**	**7.12**	**101**	P		**Pn**	**20 59 02.8**	**+3.0**
	100nm,0.5s,3μm0.6nm							
PPSI	**Pulau Pagai**	**7.46**	**299**	P		**Pn**	**20 59 03.9**	**-0.5**
	214nm,0.9s,7μm1.0nm							
ABJI	**Asem Bagus**	**7.75**	**101**	P		**Pn**	**20 59 11.3**	**+3.0**
	383nm,0.8s,4μm1.2nm							
JAGI	**Jajag, Banyuwa**	**7.81**	**106**	P		**Pn**	**20 59 10.0**	**+0.8**
JAGI	**Jajag, Banyuwa**	**7.81**	**106**			**Pn**	**20 59 08.4**	**-0.8**
JAGI	**Jajag, Banyuwa**	**7.81**	**106**	P		**Pn**	**20 59 09.4**	**+0.2**
PDSI	**Padang**	**8.17**	**312**	P		**Pn**	**20 59 13.0**	**-1.0**
SRBI	**Singaraja**	**8.75**	**101**	P		**Pn**	**20 59 22.3**	**+0.5**
	53nm,0.5s,2μm							
SISI	**Saibi**	**9.00**	**304**	P		**Pn**	**20 59 23.2**	**-1.8**
	42nm,0.6s,3μm							
PBSI	**Pulau Batu**	**10.39**	**307**	P		**Pn**	**20 59 41.6**	**-2.1**
	99nm,1.1s							
TWSI	**Taliwang, Sumb**	**10.50**	**103**	P		**Pn**	**20 59 42.4**	**-2.8**
	17nm,1.0s							
PLAI	**Plampang**	**11.38**	**103**	P		**Pn**	**20 59 54.8**	**-2.1**
	20nm,0.8s							
GSI	**Gunungsitoli**	**11.79**	**310**			**Pn**	**20 59 59.0**	**-3.3**
GSI	**Gunungsitoli**	**11.79**	**310**	P		**Pn**	**20 59 58.9**	**-3.3**
	49nm,0.6s,1μm							
KULM	**Kulim**	**13.04**	**333**	Pn		**Pn**	**21 00 18.9**	**+0.5**
EDFI	**Ende, Flores**	**15.19**	**100**	P		**Pn**	**21 00 43.3**	**-2.5**
	16nm,0.8s							
MMRI	**Maumere**	**15.71**	**99**	Pn		**Pn**	**21 00 50.3**	**-1.8**
BATI	**Baumata**	**17.35**	**104**	P		**Pn**	**21 01 12.2**	**+0.2**
	40nm,0.4s,baz=62,slow=2.3,SNR=15							
GIRL	**Giralia**	**17.75**	**156**			**Pn**	**21 01 17.3**	**+0.5**

SOEI	**Soe**	**17.85**	**102**			**P**	**21 01 14.3**	**-2.7**
SOEI				IAmb		IAmb	21 01 55.7	
	comp=Z,29nm,1.0s							
SOEI	**Soe**	**17.85**	**102**	P		**P**	**21 01 16.7**	**-0.3**
	comp=Z,33nm,0.9s							
DLV	**T Lat**	**18.34**	**6**	P		**P**	**21 01 21.7**	**-0.7**
DLV				IAmb		IAmb	21 01 26.1	
	comp=Z,18nm,1.0s							
MBWA	**Marble Bar**	**19.43**	**140**	P		**P**	**21 01 32.9**	**-1.2**
FITZ	**Fitzroy Brossi**	**21.94**	**124**	P		**P**	**21 02 00.6**	**-0.4**
KNRA	**Kununurra**	**23.64**	**115**	P		**P**	**21 02 16.9**	**-0.2**
KNRA				IAmb		IAmb	21 02 18.5	
	comp=Z,16nm,1.0s							
MORW	**Morawa**	**24.25**	**159**	P		**P**	**21 02 22.7**	**+0.2**
MORW				IAmb		IAmb	21 02 51.9	
	comp=Z,21nm,1.3s							
MTN	**Manton Dam**	**25.05**	**107**			**P**	**21 02 29.9**	**-0.1**
MTN				IAmb		IAmb	21 03 03.6	
	comp=Z,28nm,1.2s							
CMAR	**Chiang Mai Arr**	**25.83**	**343**	P		**P**	**21 02 36.3**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=180,slow=8.4,SNR=15							
CMAR				LR		LR	21 13 03.7	
	comp=Z,8.5nm,21.9s,baz=210,slow=37							
	comp=Z,0.9nm,0.6s							
NWAO	**Narrogin (SRO)**	**28.19**	**161**	P		**P**	**21 02 56.9**	**-1.0**
PALK	**Pallekele**	**29.15**	**297**	P		**P**	**21 03 04.6**	**-2.1**
PALK				IAmb		IAmb	21 03 30.7	
	comp=Z,12nm,1.1s							
WB0	**Warramunga Arr**	**30.12**	**119**	P		**P**	**21 03 14.9**	**-0.3**
WB0				IAmb		IAmb	21 03 52.8	
	comp=Z,7.2nm,1.2s							
WRA	**Warramunga Arr**	**30.14**	**119**	P		**P**	**21 03 15.3**	**0.0**
	comp=Z,0.5nm,0.4s,baz=307,slow=9.3,SNR=12							
WRA				PcP		**PcP**	**21 06 13.9**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=310,slow=2.0,SNR=10							
	comp=Z,0.5nm,0.4s							
WB2	**Warramunga Arr**	**30.16**	**119**			**P**	**21 03 14.7**	**-0.7**
WB2				IAmb		IAmb	21 03 52.2	
	comp=Z,16nm,1.4s							
WR0	**Warramunga Arr**	**30.33**	**119**	P		**P**	**21 03 16.8**	**-0.2**
WR0				IAmb		IAmb	21 03 38.3	
	comp=Z,20nm,1.5s							
AS31	**Alice Springs**	**31.39**	**126**	P		**P**	**21 03 26.1**	**-0.3**
ASAR	**Alice Springs**	**31.39**	**126**	P		**P**	**21 03 26.9**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=303,slow=8.2,SNR=12							
ASAR				ScP		**ScP**	**21 09 47.9**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=294,slow=3.3,SNR=6.0							
	comp=Z,0.8nm,0.5s							
COEN	**Coen**	**36.78**	**105**	P		**P**	**21 04 13.1**	**+0.1**
COEN				IAmb		IAmb	21 04 31.5	
	comp=Z,15nm,1.4s							
BBOO	**Buckleboo**	**37.98**	**138**	P		**P**	**21 04 21.8**	**-1.0**
STKA	**Stephens Creek**	**41.36**	**132**	P		**P**	**21 04 51.5**	**+0.7**
STKA	**Stephens Creek**	**41.36**	**132**	P		**P**	**21 04 51.6**	**+0.8**
	comp=Z,11nm,0.4s,baz=308,slow=7.9,SNR=35							
	comp=Z,11nm,0.4s							
GTA	**Gaotai**	**46.02**	**353**	P		**P**	**21 05 28.5**	**+0.4**
GTA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
KSRS	**Korea Array**	**47.99**	**23**	P		**P**	**21 05 41.9**	**-1.3**
	comp=Z,8.9nm,0.8s,baz=231,slow=9.4,SNR=1.8							
	comp=Z,0.8nm,0.8s							
CN2	**Changchun**	**52.83**	**17**	P		**P**	**21 06 21.3**	**+1.8**
CN2				pmax		pmax		
	comp=Z,10.0nm,1.0s							
SONM	**Songino Array**	**54.02**	**360**	P		**P**	**21 06 28.0**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=179,slow=12,SNR=4.6							
SONM				PcP		**PcP**	**21 07 31.6**	**0.0**
	comp=Z,0.4nm,0.5s,baz=188,slow=3.0,SNR=4.9							
	comp=Z,0.4nm,0.5s							
USRK	**Ussuriysk Ar.**	**55.37**	**22**	P		**P**	**21 06 37.8**	**0.0**
	comp=Z,1.1nm,0.6s,baz=203,slow=7.8,SNR=2.1							
	comp=Z,1.1nm,0.6s							
MK31	**Makanchi Array**	**57.19**	**340**	P		**P**	**21 06 49.4**	**-1.4**
MKAR	**Makanchi Array**	**57.19**	**340**	P		**P**	**21 06 48.8**	**-2.0**
MKAR	**Makanchi Array**	**57.19**	**340**	P		**P**	**21 06 49.2**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=150,slow=8.7,SNR=18							
	comp=Z,0.7nm,0.4s							
ABPO	**Ambohimpanom**	**58.95**	**252**	P		**P**	**21 07 05.5**	**+1.7**
ABPO				IAmb		IAmb	21 07 42.9	
	comp=Z,5.1nm,1.1s							
VOI	**Vohitsoka**	**59.60**	**248**	P		**P**	**21 07 09.9**	**+1.8**
VOI				IAmb		IAmb	21 07 10.8	
	comp=Z,10nm,1.2s							
CASY	**Casey**	**59.83**	**178**	P		**P**	**21 07 09.0**	**+0.3**
KURBB	**Kurchatov Arra**	**61.76**	**340**	P		**P**	**21 07 20.2**	**-1.7**
	comp=Z,0.7nm,0.7s,baz=158,slow=5.9,SNR=6.4							
	comp=Z,0.7nm,0.7s							
ZALV	**Zalesovo Beam**	**62.86**	**346**	P		**P**	**21 07 27.2**	**-2.1**
ZALV	**Zalesovo Beam**	**62.86**	**346**	P		**P**	**21 07 27.4**	**-1.8**
	comp=Z,1.0nm,0.5s,baz=171,slow=5.6,SNR=5.6							
	comp=Z,1.0nm,0.5s							
WHZ	**Wether Hill Ro**	**65.69**	**138**	P		**P**	**21 07 49.6**	**+1.6**
RAYN	**Ar Rayn**	**66.58**	**299**	P		**P**	**21 07 54.2**	**+0.2**
RAYN				IAmb		IAmb	21 07 55.6	
	comp=Z,1.5nm,0.5s							
BVAR	**Borovoye Array**	**66.66**	**337**	P		**P**	**21 07 52.4**	**-1.5**
	comp=Z,0.9nm,0.5s,baz=145,slow=8.1,SNR=7.7							
	comp=Z,0.9nm,0.5s							
MAW	**Mawson**	**67.79**	**197**	P		**P**	**21 08 02.3**	**+1.5**
MAW	**Mawson**	**67.79**	**197**	P		**P**	**21 08 02.6**	**+1.8**
	comp=Z,1.2nm,0.4s,baz=72,slow=13,SNR=2.3							
	comp=Z,1.2nm,0.4s							
ABKAR	**Akbulak array**	**68.69**	**329**			**P**	**21 08 04.7**	**-2.0**
ABKAR	**Akbulak array**	**68.69**	**329**	P		**P**	**21 08 04.8**	**-1.9**
PEA0B	**Petropavlovsk-**	**73.31**	**29**			**P**	**21 08 34.2**	**-0.3**
PETK	**Petropavlovsk-**	**73.31**	**29**	P		**P**	**21 08 33.4**	**-1.2**
PETK	**Petropavlovsk-**	**73.31**	**29**	P		**P**	**21 08 33.5**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=228,slow=2.9,SNR=5.1							
	comp=Z,0.8nm,0.5s							
VNDA	**Vanda**	**76.62**	**169**	P		**P**	**21 08 54.3**	**+1.2**
VNDA				IAmb		IAmb	21 08 55.2	
	comp=Z,5.1nm,1.2s							
VNDA	**Vanda**	**76.62**	**169**	P		**P**	**21 08 54.4**	**+1.2**
	comp=Z,1.4nm,0.4s,baz=314,slow=6.8,SNR=12							
	comp=Z,1.4nm,0.4s							
MMAI	**Mount Meron Ar**	**77.90**	**306**	P		**P**	**21 09 02.7**	**+1.5**
	comp=Z,0.8nm,0.5s,baz=108,slow=7.1,SNR=6.8							
	comp=Z,1.5nm,0.6s							
LBTB	**Lobatse**	**79.13**	**246**	P		**P**	**21 09 09.7**	**+1.5**
LBTB				IAmb		IAmb	21 09 42.1	
	comp=Z,12nm,1.4s							
BOSA	**Boshof**	**79.33**	**242**	P		**P**	**21 09 09.8**	**+0.5**
BOSA				IAmb		IAmb	21 09 11.3	
	comp=Z,12nm,1.4s							
BOSA	**Boshof**	**79.33**	**242**	P		**P**	**21 09 10.3**	**+1.0**
	comp=Z,3.1nm,0.9s,baz=45,slow=4.0,SNR=5.2							
	comp=Z,3.1nm,0.9s							
BR131	**Keskin Array S**	**81.11**	**312**	P		**P**	**21 09 17.7**	**-0.8**
BR131				IAmb		IAmb	21 09 18.7	
	comp=Z,4.3nm,0.7s							
BRTR	**Keskin Array B**	**81.11**	**312**	P		**P**	**21 09 18.3**	**-0.3**
BRTR	**Keskin Array B**	**81.11**	**312**	P		**P**	**21 09 18.1**	**-0.5**
	comp=Z,2.9nm,0.6s,baz=132,slow=7.7,SNR=9.9							
	comp=Z,2.9nm,0.6s							
BR231	**Keskin MP Arra**	**81.78**	**312**	P		**P**	**21 09 23.4**	**+1.3**
BR231				IAmb		IAmb	21 09 25.9	
	comp=Z,6.2nm,0.5s							
SUR	**Sutherland**	**83.01**	**238**	P		**P**	**21 09 30.2**	**+1.4**
QSPA	**South Pole Qui**	**83.57**	**180**	P		**P**	**21 09 31.6**	**+0.8**
QSPA	**South Pole Qui**	**83.57**	**180**	P		**P**	**21 09 31.6**	**+0.8**
	comp=Z,1.5nm,0.4s,baz=229,slow=14,SNR=3.0							
	comp=Z,1.5nm,0.4s							
KARP	**Karpathos**	**85.12**	**306**	P		**P**	**21 09 40.4**	**+1.2**
ALN	**Alexandroupoli**	**87.03**	**312**	P		**P**	**21 09 49.6**	**+1.3**
MLR	**Muntele Rosu**	**87.98**	**316**	P		**P**	**21 09 53.2**	**+0.3**
MLR				IAmb		IAmb	21 10 00.9	
	comp=Z,3.4nm,0.8s							
BURAR	**Bucovina Array**	**88.88**	**318**	P		**P**	**21 09 57.2**	**+0.1**
BUR08	**Bucovina Ar. S**	**88.89**	**318**	P		**P**	**21 09 57.9**	**+0.8**
AGG	**Agios Georgios**	**89.52**	**309**	P		**P**	**21 09 59.7**	**-0.5**
AGG				IAmb		IAmb	21 10 38.3	
	comp=Z,7.8nm,1.5s							
LIT	**Litokhoron**	**89.56**	**310**	P		**P**	**21 10 00.3**	**0.0**
SNAA	**Sanae**	**89.94**	**197**	P		**P**	**21 10 02.9**	**+1.4**
SNAA				IAmb		IAmb	21 10 37.1	
	comp=Z,10nm,1.3s							
SNAA	**Sanae**	**89.94**	**197**	P		**P**	**21 10 01.6**	**0.0**
	comp=Z,1.8nm,0.9s,baz=117,slow=6.8,SNR=1.6							
	comp=Z,1.8nm,0.9s							
PDAR	**Pinedale Array**	**131.79**	**36**	SKPbc		**SKPbc**	**21 19 27.0**	**-1.9**
	comp=Z,0.7nm,0.9s,baz=0.0,slow=1.5,SNR=3.9							
TXAR	**Lajitas Array**	**143.52**	**48**	PKP		PKPbc	21 16 36.0	+1.0
	comp=Z,0.2nm,0.4s,baz=323,slow=0.5,SNR=3.3							
TXAR				SKPbc		**SKPbc**	**21 20 02.9**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=236,slow=1.5,SNR=5.4							

INMG ***27*** *21:00:27.8±1.8, 37˚.86N×3˚.25W, h4km±2km, ML3.0, Error ellipse: s-maj=2.1km s-min=1.7km az=20.0*
CNRM ***27*** *21:00:28.9, 37˚.85N×3˚.22W, h99km, ML2.7*
MDD ***27*** *21:00:28.9±0.2, 37˚.85N×3˚.23W, h12km, mb_Lg3.3/42, Error ellipse: s-maj=1.4km s-min=1.2km az=149.0*
LDG ***27*** *21:00:28.3±0.1, 37˚.85N×3˚.23W, h10km, Ml3.1/6, Error ellipse: s-maj=3.0km s-min=2.3km az=153.0*
IGIL ***27*** *21:00:28.0, 37˚.85N×3˚.23W, h9km, ML2.3*
SFS ***27*** *21:00:29.3, 37˚.84N×3˚.30W, h21km, ML3.5/27, ML3.6/22, MLv3.2/27*

ISC 27 21:00:26.9±0.8,**37˚90N**±0˚.01×**3˚26W**±0˚.01,**h15**km±5km,
n120,σ1°38/239,1C-4D,Spain

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
E0802	**Ubeda,Jaen**	**0.16**	**324**	⇓Pg		**Pg**	**21 00 31.8**	**+0.8**
E0802				Sg		**Sg**	**21 00 34.8**	**+1.0**
EQES	**Quesada**	**0.18**	**123**	⇓Pg		**Pg**	**21 00 30.3**	**-1.1**
EQES				Sg		**Sg**	**21 00 32.4**	**-1.8**
EQES				*i*	Vmb_Lg		21 00 33.3	
EQTA	**Presa de Quent**	**0.70**	**192**	Pg		**Pg**	**21 00 40.1**	**-0.6**
EQTA				Sg		**Sg**	**21 00 49.6**	**-0.4**
EQUE	**Quentar**	**0.71**	**192**	Pg		**Pg**	**21 00 40.5**	**-0.2**
EQUE				Sg		**Sg**	**21 00 49.5**	**-0.6**
PSIM	**Granatula de C**	**1.00**	**337**	Pg		**Pn**	**21 00 47.0**	**+0.7**
PSIM				Sg		**Sn**	**21 01 01.1**	**+0.9**
EGOR	**Sierra Gorda,**	**1.04**	**221**	Pg		**Pb**	**21 00 46.8**	**+0.2**
EGOR				Sg		**Sg**	**21 01 00.4**	**-0.1**
EGOR	**Sierra Gorda,**	**1.04**	**221**	Pg		**Pb**	**21 00 46.9**	**+0.3**
EGOR				Sg		**Sn**	**21 01 02.4**	**+1.2**
EGOR				*i*	Vmb_Lg		21 01 05.7	
EBER	**Berja**	**1.04**	**163**	Pg		**Pg**	**21 00 46.1**	**-1.0**
EBER				Sg		**Sg**	**21 00 58.2**	**-2.5**
EBER	**Berja**	**1.04**	**163**	Pg		**Pg**	**21 00 46.1**	**-1.0**
EBER				Sg		**Sg**	**21 01 00.7**	**+0.1**
EBER				*i*	Vmb_Lg		21 01 06.0	
ELGU	**Los Guajares,**	**1.07**	**196**	Pg		**Pg**	**21 00 47.0**	**-0.6**
ELGU				Sg		**Sg**	**21 01 01.3**	**-0.2**
ELGU	**Los Guajares,**	**1.07**	**196**	Pg		**Pg**	**21 00 47.1**	**-0.4**
ELGU				Sg		**Sg**	**21 01 01.4**	**-0.1**
ELGU				*i*	Vmb_Lg		21 01 08.5	
EADA	**Adamuz**	**1.07**	**285**	Pg		**Pn**	**21 00 47.9**	**+0.5**
EADA				Sg		**Sn**	**21 01 02.3**	**+0.3**
EADA	**Adamuz**	**1.07**	**285**	Pg		**Pn**	**21 00 47.9**	**+0.5**
EADA				Sg		**Sn**	**21 01 02.7**	**+0.7**
EADA				*i*	Vmb_Lg		21 01 06.6	
ELOR	**Lorca, Murcia**	**1.23**	**102**	Pg		**Pn**	**21 00 50.9**	**+1.4**
ELOR				Sg		**Sb**	**21 01 06.4**	**+1.0**
ELOR				*i*	Vmb_Lg		21 01 10.2	
EZAR	**

ETOR				Sg		Sg	21 02 04.4	-0.8
ETOR				*i* Vmb_Lg			21 02 08.1	
E0901	**Celadas (Terue**	**3.06**	**32**	Pn		Pn	**21 01 16.6**	**+1.8**
E0901				Pg		Pg	**21 01 25.1**	**-0.5**
E0901				Sn		Sn	**21 01 53.8**	**+2.6**
E0901				Sg		Sg	**21 02 03.7**	**-1.7**
E0901				*i* Vmb_Lg			21 02 10.4	
EBAD	**Badajoz**	**3.07**	**287**	Pn		Pn	**21 01 15.1**	**+0.3**
EBAD	**Badajoz**	**3.07**	**287**	⇓Pn		Pn	**21 01 15.1**	**+0.3**
EBAD				Pg		Pg	**21 01 23.7**	**-2.1**
EBAD				Sg		Sg	**21 02 02.2**	**-3.3**
EBAD				*i* Vmb_Lg			21 02 08.5	
EPLA	**Plasencia**	**3.08**	**315**	Pn		Pn	**21 01 16.1**	**+1.1**
EPLA				Pg		Pg	**21 01 24.5**	**-1.5**
EPLA				Sg		Sg	**21 02 02.3**	**-3.6**
EPLA				*i* Vmb_Lg			21 02 14.1	
TAF	**Taforalt**	**3.15**	**167**	P		Pn	**21 01 16.3**	**+0.3**
TAF	**Taforalt**	**3.15**	**167**	S		Sn	**21 01 54.1**	**+0.7**
EMOS	**Mosqueruela**	**3.28**	**41**	Pn		Pn	**21 01 19.2**	**+1.4**
EMOS				Pg		Pg	**21 01 29.5**	**-0.2**
EMOS				Sg		Sg	**21 02 10.2**	**-2.1**
EMOS				*i* Vmb_Lg			21 02 16.6	
AKLM	**AKL**	**3.42**	**188**	P		Pn	**21 01 18.8**	**-0.8**
AKLM	**AKL**	**3.42**	**188**	S		Sn	**21 01 57.0**	**-2.9**
PESTR	**Estremoz**	**3.54**	**287**	*e*Pn		Pn	**21 01 21.5**	**+0.3**
PESTR				*e*Sn		Sn	**21 02 03.3**	**+0.5**
PESTR				*e*Sg		Sg	**21 02 20.4**	**-0.1**
PESTR				A		A	21 02 22.9	
	48nm,0.6s							
PESTR	**Estremoz**	**3.54**	**287**	Pn		Pn	**21 01 21.3**	**+0.1**
PESTR	**Estremoz**	**3.54**	**287**	P		Pn	**21 01 21.6**	**+0.3**
PESTR	**Estremoz**	**3.54**	**287**	S		Sn	**21 02 05.4**	**+2.7**
PVAQ	**Vaqueiros**	**3.57**	**263**	*e*Pn		Pn	**21 01 21.8**	**+0.1**
PVAQ				*e*Sn		Sn	**21 02 02.6**	**-1.0**
PVAQ				*e*Sg		Sg	**21 02 20.1**	**-1.5**
PVAQ				A		A	21 02 24.3	
	40nm,0.5s							
PVAQ	**Vaqueiros**	**3.57**	**263**	Pn		Pn	**21 01 21.8**	**+0.1**
PVAQ	**Vaqueiros**	**3.57**	**263**	P		Pn	**21 01 21.8**	**+0.1**
PMRV	**Marv??o**	**3.58**	**297**	*e*Pn		Pn	**21 01 22.2**	**+0.4**
PMRV	**Marv??o**	**3.58**	**297**	*e*Pg		Pg	**21 01 33.8**	**-1.6**
PMRV				*e*Sn		Sn	**21 02 04.9**	**+1.2**
PMRV				*e*Sg		Sg	**21 02 21.3**	**-0.4**
PMRV				A		A	21 02 24.5	
	49nm,0.3s							
JBK	**JBK**	**3.60**	**171**	P		Pn	**21 01 23.9**	**+1.6**
PBEJ	**Beja**	**3.64**	**273**	*e*Sg		Sg	**21 02 20.8**	**-3.0**
PBEJ				A		A	21 02 32.5	
	18nm,0.3s							
PBDV	**Barranco-do-Ve**	**3.77**	**261**	*e*Pn		Pn	**21 01 25.6**	**+1.2**
PBDV				*e*Sn		Sn	**21 02 09.1**	**+0.6**
PBDV				*e*Sg		Sg	**21 02 25.9**	**-2.0**
PBDV				A		A	21 02 32.5	
	29nm,0.6s							
PBDV	**Barranco-do-Ve**	**3.77**	**261**	Pn		Pn	**21 01 24.9**	**+0.5**
EIBI	**Ibiza**	**3.79**	**71**	Pn		Pn	**21 01 24.7**	**+0.1**
EIBI	**Ibiza**	**3.79**	**71**	Pn		Pn	**21 01 24.7**	**+0.1**
EIBI				*i* Vmb_Lg			21 03 51.0	
PCVE	**Castro Verde**	**3.80**	**267**	*e*Pn		Pn	**21 01 25.6**	**+0.8**
PCVE				*e*Sg		Sg	**21 02 25.7**	**-3.1**
PCVE				A		A	21 02 30.6	
	26nm,0.4s							
PCVE	**Castro Verde**	**3.80**	**267**	Sn		Sn	**21 02 06.5**	**-2.7**
PCVE				Pn		Pn	**21 01 25.4**	**+0.7**
EVO	**Evora**	**3.80**	**281**	*e*Sn		Sn	**21 02 09.4**	**+0.3**
EVO				*e*Sg		Sg	**21 02 27.4**	**-1.4**
EVO				A		A	21 02 30.4	
	33nm,0.4s							
EVO	**Evora**	**3.80**	**281**	Pn		Pn	**21 01 25.6**	**+0.9**
PCBR	**Castelo Branco**	**3.82**	**302**	*e*Pn		Pn	**21 01 25.8**	**+0.7**
PCBR				*e*Sn		Sn	**21 02 10.4**	**+0.7**
PCBR				*e*Sg		Sg	**21 02 30.0**	**+0.5**
PCBR				A		A	21 02 33.4	
	29nm,0.5s							
MESJ	**Messejana**	**3.92**	**271**	*e*Pn		Pn	**21 01 27.3**	**+0.8**
MESJ				*e*Sn		Sn	**21 02 11.0**	**-1.3**
MESJ				*e*Sg		Sg	**21 02 30.6**	**-2.3**
MESJ				A		A	21 02 33.7	
	19nm,0.5s							
MESJ	**Messejana**	**3.92**	**271**	*e*P		Pn	**21 01 27.1**	**+0.6**
MESJ				*e*S		Sn	**21 02 10.0**	**-2.3**
MESJ				IAML			21 02 13.3	
	comp=N,6.1nm,0.3s							
PMTG	**Montargil**	**4.07**	**288**	*e*Pn		Pn	**21 01 29.6**	**+1.1**
PMTG				*e*Sn		Sn	**21 02 15.3**	**-0.5**
PMTG				*e*Sg		Sg	**21 02 36.8**	**-0.7**
PMTG				A		A	21 02 45.1	
	comp=N,43nm,0.6s							
MTE	**Manteigas**	**4.16**	**308**	*e*Pg		Pg	**21 01 45.6**	**-1.0**
MTE				*e*Sg		Sg	**21 02 39.3**	**-1.2**
MTE				A		A	21 02 52.1	
	comp=N,40nm,0.6s							
PNCL	**Nicolau / Gran**	**4.17**	**275**	*e*Pn		Pn	**21 01 31.1**	**+1.3**
PNCL				*e*Sn		Sn	**21 02 17.0**	**-1.2**
PNCL				*e*Sg		Sg	**21 02 38.2**	**-2.4**
PNCL				A		A	21 02 46.4	
	comp=N,23nm,0.6s							
PNCL	**Nicolau / Gran**	**4.17**	**275**	Pn		Pn	**21 01 29.8**	**0.0**
MORF	**Marmelete**	**4.32**	**264**	*e*Pn		Pn	**21 01 33.0**	**+1.0**
MORF				*e*Sn		Sn	**21 02 22.2**	**0.0**
MORF				*e*Sg		Sg	**21 02 43.3**	**-2.4**
MORF				A		A	21 02 52.3	
	comp=N,14nm,0.4s							
PTEO	**Sao Teotonio**	**4.35**	**267**	*e*Sn		Sn	**21 02 23.2**	**+0.5**
PTEO				*e*Sg		Sg	**21 02 45.5**	**-0.9**
PTEO				A		A	21 02 51.0	
	comp=N,29nm,0.6s							
MVO	**Moncorvo**	**4.37**	**319**	*e*Pn		Pn	**21 01 34.8**	**+2.0**
MVO	**Moncorvo**	**4.37**	**319**	*e*Pg		Pg	**21 01 49.7**	**-0.9**
MVO				*e*Sn		Sn	**21 02 24.0**	**+0.6**
MVO				*e*Sg		Sg	**21 02 47.0**	**-0.3**
MVO				A		A	21 02 57.7	
	comp=N,20nm,0.3s							
LCRM	**LCR**	**4.40**	**198**	P		Pn	**21 01 33.4**	**+0.2**
PACT	**Alcochete**	**4.47**	**283**	*e*Sn		Sn	**21 02 26.5**	**+0.9**
PACT				*e*Sg		Sg	**21 02 49.8**	**-0.5**
PACT				A		A	21 02 59.2	
	comp=N,33nm,0.4s							
PFVI	**Vila Bisbo**	**4.49**	**262**	*e*Sn		Sn	**21 02 25.2**	**-1.1**
PFVI				*e*Sg		Sg	**21 02 48.0**	**-3.0**
PFVI				A		A	21 03 00.6	
	comp=N,12nm,0.4s							
PVIS	**Viseu**	**4.56**	**309**	*e*Pn		Pn	**21 01 36.8**	**+1.4**
PVIS				*e*Sn		Sn	**21 02 28.7**	**+0.6**
PVIS				*e*Sg		Sg	**21 02 53.3**	**-0.1**
PVIS				A		A	21 03 03.6	
	comp=N,11nm,0.5s							
PCAS	**Casmilo, Conde**	**4.61**	**299**	*e*Pn		Pn	**21 01 37.3**	**+1.3**
PCAS				*e*Sn		Sn	**21 02 29.5**	**+0.2**
PCAS				*e*Sg		Sg	**21 02 54.4**	**-0.6**
PCAS				A		A	21 03 05.4	
	comp=N,36nm,0.6s							
PSBE	**So Bento**	**4.62**	**292**	*e*Pn		Pn	**21 01 37.3**	**+1.2**
PSBE				*e*Sn		Sn	**21 02 29.3**	**-0.2**
PSBE				*e*Sg		Sg	**21 02 55.8**	**+0.6**
PSBE				A		A	21 03 02.0	
	comp=N,30nm,0.4s							
COI	**Coimbra**	**4.63**	**301**	*e*Sn		Sn	**21 02 29.4**	**-0.2**
COI				*e*Sg		Sg	**21 02 55.0**	**-0.4**
COI				A		A	21 03 00.6	
	comp=N,43nm,0.4s							
PBRG	**Braganca**	**4.73**	**327**	*e*Pn		Pn	**21 01 39.7**	**+2.0**
PBRG				*e*Sn		Sn	**21 02 35.9**	**+3.6**
PBRG				*e*Sg		Sg	**21 02 58.5**	**-0.3**
PBRG				A		A	21 03 03.4	
	comp=N,9.0nm,0.3s							
PVRL	**Vila Real**	**4.82**	**316**	*e*Sn		Sn	**21 02 33.9**	**-0.5**
PVRL				*e*Sg		Sg	**21 03 02.3**	**+0.8**
PVRL				A		A	21 03 16.3	
	comp=N,10.0nm,0.9s							
ECAL	**Calabor**	**4.84**	**328**	Pn		Pn	**21 01 39.5**	**+0.3**
ETOS	**Mallorca**	**5.10**	**67**	Pn		Pn	**21 01 43.9**	**+1.3**
MD31	**MD31**	**5.17**	**194**	P		Pn	**21 01 42.8**	**-0.9**
MD31	**MD31**	**5.17**	**194**	S		Sn	**21 02 42.8**	**-0.3**
MDT	**Midelt**	**5.19**	**193**	P		Pn	**21 01 43.3**	**-0.7**
MDT	**Midelt**	**5.19**	**193**	S		Sn	**21 02 43.0**	**-0.7**
PCAB	**Cabril**	**5.29**	**318**	*e*Sg		Sg	**21 03 16.2**	**-0.4**
PCAB				A		A	21 03 28.4	
	comp=N,12nm,0.4s							
ETSF	**Etsaut**	**5.40**	**22**	*e*Pn		Pn	**21 01 47.8**	**+0.9**
ETSF				*e*Sn		Sn	**21 02 46.7**	**-2.1**
ETSF				*e*Sg		Sg	**21 03 17.1**	**-3.1**
	comp=N,5.0nm,0.4s							
SJPF	**Ste Jean**	**5.43**	**16**	*e*Pn		Pn	**21 01 47.4**	**+0.1**
SJPF	**Ste Jean**	**5.43**	**16**	*e*Pg		Pg	**21 02 08.5**	**-2.4**
SJPF				*e*Sn		Sn	**21 02 47.1**	**-2.4**
SJPF				*e*Sg		Sg	**21 03 18.7**	**-2.6**
	comp=N,15nm,0.4s							
PGAV	**Gavieira, Arco**	**5.60**	**318**	*e*Pn		Pn	**21 01 51.2**	**+1.6**
PGAV				*e*Sg		Sg	**21 03 24.6**	**-1.8**
PGAV				A		A	21 03 39.9	
	comp=N,11nm,0.4s							
EPF	**Esparros**	**5.81**	**27**	*e*Pn		Pn	**21 01 53.1**	**+0.6**
EPF	**Esparros**	**5.81**	**27**	*e*Pg		Pg	**21 02 14.2**	**-4.0**
EPF				*e*Sn		Sn	**21 02 57.9**	**-1.0**
EPF				*e*Sg		Sg	**21 03 29.9**	**-3.5**
	comp=N,7.4nm,0.4s							
MTLF	**Montolieu**	**6.85**	**36**	*e*Sg		Sg	**21 04 01.6**	**-4.9**
	comp=N,1.2nm,0.2s							
LFF	**La Frestale**	**7.65**	**22**	*e*Pn		Pn	**21 02 17.9**	**+0.3**
LFF				*e*Sn		Sn	**21 03 41.1**	**-2.9**
	comp=N,1.1nm,0.3s							
MFF	**Saint Martin d**	**9.00**	**14**	*e*P		Pn	21 02 41.9	+5.8

***IDC 27** 21:02:49.1±14.0, **20°.97S×178°.54W, h508**km±162km, **mb2.9**/5, **mbtmp3.8**/5, **Error ellipse: s-maj=52.0km s-min=35.1km az=84.0, Fiji Islands region*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.92**	**257**	P	P	21 10 10.7	0.0
	1.2nm,0.5s,baz=98,slow=8.0,SNR=20 1.2nm,0.5s						
WRA	**Warramunga Arr**	**44.04**	**263**	P	P	21 10 11.2	-0.4
	0.2nm,0.3s,baz=96,slow=7.5,SNR=6.3 0.2nm,0.3s						
QSPA	**South Pole Qui**	**69.10**	**180**	P	P	21 13 03.9	+0.2
	1.8nm,0.8s,baz=36,slow=4.4,SNR=4.5 1.8nm,0.8s						
NVAR	**Mina Array Bea**	**81.71**	**44**	P	P	21 14 13.4	-1.1
	0.2nm,0.4s,baz=225,slow=4.6,SNR=1.5 0.2nm,0.4s						
ILAR	**Eielson Array**	**88.88**	**13**	P	P	21 14 50.0	+1.7
	0.3nm,0.5s,baz=212,slow=5.3,SNR=4.5 0.3nm,0.5s						
AKASG	**Malin Array Be**	**143.18**	**330**	PKP	PKPbc	21 21 23.2	+0.3
	0.8nm,0.4s,baz=42,slow=4.0,SNR=5.3						

KRSC 27** 21:02:50.2±2.4, **48°.32N×156°.45E, h8**km±38km, **Ml3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**3.16**	**4**	*e*S	Sb	21 04 23.2	-1.9
KDTR	**Khodutka, Kamc**	**3.65**	**16**	*e*P	Pn	21 03 50.4	+3.5
KDTR				*e*S	Sb	21 04 35.0	-4.1
ASAK	**Asacha**	**4.17**	**12**	*e*P	Pn	21 03 57.8	+3.7
ASAK				*e*S	Sb	21 04 49.3	-5.0
MTVR	**Mutnovka**	**4.31**	**14**	*e*P	Pn	21 03 59.4	+3.2
MTVR				*e*S	Sn	21 04 51.6	+4.9
RUS	**Russkaya**	**4.32**	**17**	*e*P	Pn	21 03 59.8	+3.7
UGLR	**Uglovaya**	**5.12**	**16**	*e*P	Pn	21 04 11.8	+4.6
AVH	**Avacha**	**5.16**	**15**	*e*P	Pn	21 04 13.3	+5.6
KOK	**Koryaka**	**5.17**	**15**	*e*P	Pn	21 04 13.9	+6.1
KRX	**Arik**	**5.23**	**15**	*e*P	Pn	21 04 13.8	+5.1

***IDC 27** 21:39:25.9±2.0, **10°.66S×44°.27E, h0**km, **mb3.8**/3, **mbtmp3.8**/3, **Error ellipse: s-maj=120.8km s-min=31.1km az=122.0, Northwest of Madagascar*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**25.22**	**222**	P	P	21 44 53.8	0.0
	2.8nm,1.0s,baz=58,slow=9.5,SNR=2.5 2.8nm,1.0s						
OBN	**Obninsk**	**65.84**	**355**	P	P	21 50 12.9	0.0
	15nm,0.5s,baz=170,slow=5.4,SNR=6.0						
MKAR	**Makanchi Array**	**66.52**	**27**	P	P	21 50 17.4	-0.2
	0.4nm,0.8s,baz=223,slow=7.3,SNR=5.0 0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**72.95**	**24**	P	P	21 50 57.2	+0.3
	0.9nm,0.7s,baz=215,slow=4.8,SNR=4.3 0.9nm,0.7s						

***IDC 27** 21:41:21.7±2.2, **6°.67S×128°.53E, h0**km, **mb3.4**/1, **mbtmp3.2**/3, **ML3.3**/3, **Error ellipse: s-maj=135.4km s-min=32.3km az=66.0, Banda Sea*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.35**	**157**	Pn	Pn	21 44 45.6	-0.7
	0.2nm,0.3s,baz=336,slow=14,SNR=8.6						
WRA				Sn	Sn	21 47 10.0	-16
	0.2nm,0.3s,baz=342,slow=22,SNR=3.2 0.3nm,0.6s						
ASAR	**Alice Springs**	**17.67**	**164**	P	Pn	21 45 29.9	+0.4
	0.1nm,0.3s,baz=343,slow=11,SNR=5.2						
ASAR				S	Sn	21 48 36.6	-10
	0.4nm,0.8s,baz=355,slow=29,SNR=2.6 0.2nm,0.4s						
MKAR	**Makanchi Array**	**67.16**	**327**	P	P	21 52 17.5	0.0
	0.2nm,0.5s,baz=116,slow=7.9,SNR=4.5 0.2nm,0.5s						

*IDC **27** 21:44:06.4±6.2, 5°.25S×151°.75E, h61*km±51km, *mb3.5/7, mbtmp3.8/8, ML2.3/1, MS3.1/6, Error ellipse: s-maj=52.5km s-min=27.4km az=103.0*

ISC 27** 21:44:05.0±1.2, **5°.2S±0°.2×151°.8E±0°.2, h50**km, **n14,** σ**0°.83**/10, **mb3.7**/7, **MS3.0**/4, **New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.23**	**228**	P	Pn	**21 45 34.4**	**0.0**
	4.3nm,0.3s,baz=48,slow=12,SNR=7.3						
PMG				S	Sn	**21 46 45.0**	**+0.7**
	11nm,0.3s,baz=164,slow=18,SNR=2.6						
PMG				LR	LR	21 48 16.7	
	comp=Z,96nm,18.6s,baz=38,slow=41 13nm,0.5s						
CTA	**Charters Tower**	**15.74**	**200**	LR	LR	21 53 03.8	
	comp=Z,81nm,18.7s,baz=302,slow=34						
DZM	**Mont Dzumac**	**21.91**	**141**	LR	LR	21 56 14.3	
	comp=Z,72nm,19.8s,baz=307,slow=33						
WRA	**Warramunga Arr**	**22.45**	**228**	P	**P**	**21 48 58.8**	**-1.2**
	1.6nm,0.5s,baz=52,slow=10.0,SNR=11 1.6nm,0.5s						
ASAR	**Alice Springs**	**25.20**	**222**	P	**P**	**21 49 26.2**	**+0.1**
	2.9nm,0.7s,baz=53,slow=9.3,SNR=19 2.9nm,0.7s						
BATI	**Baumata**	**28.35**	**258**	LR	LR	22 05 00.2	
	comp=Z,33nm,18.4s,baz=132,slow=44						
DAV	**Davao City (W)**	**28.92**	**295**	LR	LR	22 00 47.6	
	comp=Z,28nm,20.3s,baz=64,slow=35						
MJAR	**Matsushiro Arr**	**43.47**	**344**	LR	LR	22 07 07.1	
	comp=Z,24nm,20.4s,baz=183,slow=32						
SONM	**Songino Array**	**66.18**	**328**	P	**P**	**21 54 48.3**	**+0.7**
	0.5nm,0.6s,baz=149,slow=5.7,SNR=4.6 0.5nm,0.6s						
MKAR	**Makanchi Array**	**80.02**	**319**	P	**P**	**21 56 09.6**	**+0.3**
	0.4nm,0.9s,baz=101,slow=7.8,SNR=3.0 0.4nm,0.9s						
ILAR	**Eielson Array**	**82.91**	**22**	P	**P**	**21 56 24.8**	**+0.6**
	0.3nm,0.6s,baz=237,slow=5.3,SNR=4.5 0.3nm,0.6s						
QSPA	**South Pole Qui**	**84.73**	**180**	P	**P**	**21 56 33.8**	**+0.1**
	1.0nm,1.0s,baz=256,slow=1.9,SNR=1.4 1.0nm,1.0s						
BVAR	**Borovoye Array**	**89.01**	**323**	P	**P**	**21 56 53.3**	**-1.2**
	0.3nm,0.6s,baz=93,slow=5.8,SNR=2.6 0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**149.53**	**287**	PKPbc	**PKPbc**	**22 03 49.3**	**-0.6**
	1.4nm,0.8s,baz=52,slow=5.4,SNR=8.6						

*NEIC **27** 21:47:42.4±1.0, 56°.00N±0°.09×149°.9W±0°.1, h16*km±7km, *ML3.5/36, ML3.4(AEIC), Error ellipse: s-maj=12.5km s-min=9.3km az=167.0*

*AEIC **27** 21:47:45.3±1.1, 55°.94N±0°.10×149°.8W±0°.1, h8*km±8km, *Error ellipse: s-maj=14.1km s-min=9.2km az=178.0*

ISC 27** 21:47:40.9±1.8, **56°.0N±0°.1×149°.91W±0°.06, h10**km, **n137,** σ**0°.97**/148, **Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.24**	**305**			**21 48 17.7**	**-0.2**
OHAK						**21 48 43.4**	**-2.1**
OHAK	**Old Harbor**	**2.24**	**305**	P		**21 48 17.6**	**-0.2**
	baz=122						
OHAK				S		**21 48 43.3**	**-2.3**
	baz=122						
KDAK	**Kodiak Island**	**2.32**	**322**	Pn		**21 48 19.4**	**+0.4**
KDAK						**21 48 45.9**	**-1.6**
KDAK	**Kodiak Island**	**2.32**	**322**	S		**21 48 46.1**	**-1.4**
	baz=140						
Q20K	**Shuyak Island**	**2.95**	**334**	P		**21 48 28.4**	**+0.7**
	baz=152						
Q20K				S		**21 49 02.8**	**-0.3**
	baz=152						
SYI	**Shuyak Island**	**2.95**	**334**			**21 48 28.3**	**+0.7**
SYI						**21 49 02.6**	**-0.4**
Q19K	**Cape Douglas,**	**3.57**	**327**			**21 48 37.2**	**+1.0**
Q19K						**21 49 18.3**	**-0.1**
Q19K	**Cape Douglas,**	**3.57**	**327**	P		**21 48 37.6**	**+1.4**
	baz=144						
Q19K				S		**21 49 19.0**	**+0.6**
	baz=144						
CNPM	**China Poot**	**3.61**	**349**			**21 48 36.8**	**0.0**
CNPM						**21 49 18.3**	**-1.2**
CNPM				IAML		21 49 19.7	
	comp=N,38nm,0.7s						
CNPM				IAML		21 49 20.0	
	comp=E,44nm,0.4s						
KAKN	**Katmai Knife C**	**3.63**	**312**			**21 48 38.5**	**+1.3**
KAKN						**21 49 19.9**	**-0.2**
KCE	**Katmai Mt Cerb**	**3.65**	**310**			**21 48 39.4**	**+1.9**
ACHA	**Angle Creek He**	**3.70**	**309**			**21 48 38.8**	**+0.8**
ANCK	**Angle Creek**	**3.76**	**308**			**21 48 40.4**	**+1.5**
BRSE	**Bradley Lake S**	**3.78**	**354**			**21 48 39.0**	**-0.2**
BRSE						**21 49 22.0**	**-1.7**
BRSE	**Bradley Lake S**	**3.78**	**354**	P		**21 48 39.0**	**-0.2**
	baz=173						
BRSE				S		**21 49 22.0**	**-1.7**
	baz=173						
KVTA	**Katmai Vly 10**	**3.78**	**311**			**21 48 40.9**	**+1.8**
BRLK	**Bradley Lake**	**3.82**	**353**			**21 48 39.5**	**-0.1**
BRLK				IAML		21 49 24.6	
	comp=E,37nm,0.4s						
BRLK				IAML		21 49 28.8	
	comp=N,36nm,1.4s						
KAHC	**Katmai Hardscr**	**3.84**	**316**			**21 48 41.5**	**+1.5**
KAHC	**Katmai Hardscr**	**3.84**	**316**	P		**21 48 41.5**	**+1.5**
	baz=132						
AUL	**Augustine Lava**	**3.89**	**332**			**21 48 41.9**	**+1.3**
Q23K	**Middleton Isla**	**3.94**	**28**	Pn		**21 48 41.3**	**+0.1**
Q17K	**Contact Creek**	**3.97**	**307**	P		**21 48 42.9**	**+1.1**
	baz=122						
P19K	**Oil Pt**	**4.08**	**336**			**21 48 44.2**	**+1.0**
P19K				IAML		21 49 35.0	
	comp=N,123nm,0.6s						
P19K	**Oil Pt**	**4.08**	**336**	P		**21 48 44.5**	**+1.2**
	baz=153						
P23K	**Montague Islan**	**4.23**	**17**			**21 48 45.6**	**+0.3**
P23K	**Montague Islan**	**4.23**	**17**	P		**21 48 45.6**	**+0.3**
	baz=200						
ILSW	**Iliamna Southw**	**4.35**	**338**	Pn		**21 48 47.8**	**+0.7**
ILSW				IAML		21 49 41.4	
	comp=E,45nm,1.2s						
ILSW				IAML		21 49 45.3	
	comp=N,37nm,0.8s						
IVE	**Iliamna Volcan**	**4.36**	**339**			**21 48 47.6**	**+0.5**
P18K	**Big Mountain,**	**4.44**	**322**	Pn		**21 48 48.8**	**+0.5**
P18K	**Big Mountain,**	**4.44**	**322**	P		**21 48 48.8**	**+0.5**
	baz=138						
SLKM	**Skilak Lake**	**4.53**	**358**			**21 48 49.8**	**+0.4**
RSO	**Redoubt South**	**4.72**	**343**	Pn		**21 48 51.3**	**-1.0**
P17K	**Kvichak River**	**4.76**	**315**			**21 48 54.0**	**+1.5**
P17K	**Kvichak River**	**4.76**	**315**	P		**21 48 54.0**	**+1.5**
	baz=130						
HIN	**Hinchinbrook I**	**4.77**	**21**			**21 48 53.1**	**+0.4**
HIN				IAML		21 49 54.0	
	comp=E,64nm,0.8s						
HIN				IAML		21 50 06.3	
	comp=N,56nm,1.4s						
RDT	**Redoubt**	**4.78**	**345**			**21 48 52.4**	**-0.5**
O18K	**Koktuh Hills**	**4.79**	**326**			**21 48 53.4**	**+0.4**
O18K				IAML		21 49 50.1	
	comp=N,38nm,1.3s						
O18K				IAML		21 50 03.1	
	comp=E,24nm,0.7s						
O18K	**Koktuh Hills**	**4.79**	**326**	P	Pn	**21 48 53.8**	**+0.7**
	baz=142						
KAIM	**Kayak Island**	**4.91**	**34**			**21 48 55.1**	**+0.6**
KAIM				IAML		21 49 56.0	
	comp=N,68nm,1.1s						
KAIM				IAML		21 49 56.2	
	comp=E,64nm,1.4s						
KAIM	**Kayak Island**	**4.91**	**34**	P	Pn	**21 48 55.2**	**+0.6**
	baz=219						
EYAK	**Cordova Ski Ar**	**5.07**	**24**			**21 48 57.3**	**+0.6**
EYAK	**Cordova Ski Ar**	**5.07**	**24**	P		**21 48 57.3**	**+0.6**
	baz=208						
RC01	**Rabbit Creek A**	**5.11**	**1**	Pn	Pn	**21 48 57.2**	**-0.1**
RC01				IAML		21 49 55.4	
	comp=E,30nm,0.3s						
RC01				IAML		21 49 58.2	
	comp=N,34nm,0.4s						
RAGM	**Ragged Mountai**	**5.20**	**30**			**21 48 59.0**	**+0.4**
RAGM				IAML		21 50 09.0	
	comp=E,44nm,1.2s						
SUCK	**Suckling Hills**	**5.23**	**36**			**21 48 59.7**	**+0.7**
SUCK				IAML		21 51 16.8	
	comp=N,39nm,1.3s						
HMT	**Hamilton**	**5.28**	**32**			**21 49 00.6**	**+0.8**
NICHA	**Nichawak Mount**	**5.29**	**34**			**21 49 00.8**	**+0.9**
P16K	**Nushagak River**	**5.31**	**308**			**21 49 01.4**	**+1.2**
P16K	**Nushagak River**	**5.31**	**308**	P		**21 49 01.4**	**+1.2**
	baz=122						
GOAT	**Goat Mountain**	**5.35**	**29**			**21 49 01.3**	**+0.6**
O17K	**Koliganek Bris**	**5.39**	**318**			**21 49 02.3**	**+1.1**
O17K	**Koliganek Bris**	**5.39**	**318**	P		**21 49 02.3**	**+1.1**
	baz=132						
N19K	**Bonanza Creek**	**5.40**	**335**			**21 49 01.6**	**+0.2**
N

M24K	Tolsona, Glenn	6.42	16	Pn		Pn	21 49 16.9	+1.4
TABL	Table Mountain	6.42	42			Pn	21 49 16.5	+0.9
N16K	Nishlik Lake	6.48	317			Pn	21 49 17.4	+1.2
N16K	Nishlik Lake baz=130	6.48	317	P		Pn	21 49 17.4	+1.2
MCARA	McCarthy VSAT	6.48	31			Pn	21 49 17.1	+0.9
MCARA	McCarthy VSAT baz=217	6.48	31	P		Pn	21 49 17.1	+0.9
PTPK	Patty Peak	6.50	34			Pn	21 49 17.3	+0.7
BARN	Barnard Glacie	6.66	37			Pn	21 49 19.8	+1.0
M17K	Holitna River	6.69	327			Pn	21 49 19.0	0.0
WAT6	Susitna Watana	6.70	9			Pn	21 49 20.5	+1.1
WAT6	Susitna Watana baz=190	6.70	9	P		Pn	21 49 20.5	+1.1
CTG	Chitna Glacier baz=226	6.71	38	P		Pn	21 49 20.3	+0.9
L19K	White Mountain	6.71	340			Pn	21 49 19.2	-0.1
CTGM	Chitina Glacie	6.71	39			Pn	21 49 20.2	+0.7
PNL	Peninsula	6.71	52			Pn	21 49 19.9	+0.6
PNL	Peninsula baz=241	6.71	52	P		Pn	21 49 19.9	+0.6
LOGN	Logan Glacier	6.73	40			Pn	21 49 20.2	+0.5
BCPM	Bancas Point	6.75	50			Pn	21 49 20.8	+0.9
N15K	Kwethluk River	6.83	312			Pn	21 49 22.5	+1.5
M16K	Timber Creek	6.92	320			Pn	21 49 23.4	+1.2
M16K	Timber Creek baz=133	6.92	320	P		Pn	21 49 23.5	+1.3
O14K	Tigyukauivet M	6.92	303	Pn		Pn	21 49 23.2	+1.1
O28M	Mount Upton	7.00	43			Pn	21 49 24.3	+0.7
O28M	Mount Upton baz=231	7.00	43	P		Pn	21 49 24.3	+0.7
DHY	Denali Highway	7.22	9	Pn		Pn	21 49 27.5	+1.0
M15K	Kasigluk River	7.37	314			Pn	21 49 30.0	+1.6
M15K	Kasigluk River baz=125	7.37	314	P		Pn	21 49 30.0	+1.6
O29M	Mount Kennedy	7.38	50			Pn	21 49 30.1	+1.4
O29M	Mount Kennedy baz=239	7.38	50	P		Pn	21 49 29.9	+1.2
P29M	Windy Craggy	7.45	56			Pn	21 49 29.9	+0.4
P29M	Windy Craggy baz=246	7.45	56	P		Pn	21 49 30.1	+0.6
M27K	Edge Creek, AK	7.59	30	Pn		Pn	21 49 33.0	+1.5
S31K	Pelican	7.73	70	Pn		Pn	21 49 32.2	-1.0
HYT	Haines Junctio	8.11	48	Pn		Pn	21 49 39.6	+1.0
BCAR	Beaver Creek A	8.20	27	Pn		Pn	21 49 40.5	+0.8
M13K	Dall Lake	8.36	307	Pn		Pn	21 49 43.5	+1.6
L14K	Kuka Creek	8.54	314	Pn		Pn	21 49 45.7	+1.3
S32K	Killisnoo	8.56	74	Pn		Pn	21 49 44.5	-0.1
N30M	Aishikik Lake	8.62	45	Pn		Pn	21 49 46.5	+0.9
O30N	Mendenhall	8.69	51	Pn		Pn	21 49 46.9	+0.4
J26L	Joseph Creek	9.09	18	Pn		Pn	21 49 53.0	+0.9
L29M	L29M	9.29	35	Pn		Pn	21 49 56.4	+1.6
P32M	Atlin	9.36	61	Pn		Pn	21 49 56.1	+0.4
J14K	Nanvaranak Lak	9.70	320	Pn		Pn	21 50 01.0	+0.8
P33M	Teslin, Yukon	9.97	58	Pn		Pn	21 50 04.2	+0.1
N32M	Quiet Lake	10.18	53	Pn		Pn	21 50 07.7	+0.9
IMAR	Indian Mountai	10.19	351	Pn		Pn	21 50 08.4	+1.4
R33M	Jennings River	10.68	64	Pn		Pn	21 50 14.2	+0.3
BMAR	Burnt Mountain	11.74	10	Pn		Pn	21 50 27.5	-0.7
G31M	Satah River	13.21	28	Pn		Pn	21 50 48.9	+0.8

IDC ***27*** *22:16:17.1±0.7,56°.54N×148°.56W,h0km,mb4.0/21, mbtmp4.1/26,ML4.1/5,MS4.0/28,Error ellipse: s-maj=19.8km s-min=12.3km az=35.0*

NEIC ***27*** *22:16:17.4±1.4,56°.50N±0°.02×148°.60W±0°.09,h17km±3km, mb4.4/50,ML4.5/78,ML4.2(AEIC),Error ellipse: s-maj=7.2km s-min=3.0km az=104.0*

GCMT ***27*** *22:16:19.4±0.3,56°.50N±0°.02×148°.64W±0°.03,h16km±1km, MW4.8/95,Moment Tensor Solution. s20,c23; s95,c143; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.16±.08; Mθθ=0.63±.08; Mφφ=0.79±.08; Mrθ=0.58±.24; Mrφ=1.89±.06; Mθφ=0.08±.23; Best double couple: M=2.10800×10¹⁶ NP1:ϕs=259.00000°,δ84.00000°,λ-16.00000°. NP2: ϕs=351.00000°,δ74.00000°,λ-174.00000°. Principal axes: T 2.1320, Plg7.0000°, Azm306.0000°; N -0.0490, Plg73.0000°, Azm58.0000°; P -2.0830, Plg15.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

AEIC ***27*** *22:16:20.4±1.2,56°.51N±0°.07×148°.57W±0°.08,h5km±4km Error ellipse: s-maj=10.2km s-min=6.7km az=170.0*

ISC 27 22:16:16.7±0.4,56°.53N±0°.06×148°.58W±0°.04,h10km, n425,σ1§01/415,mb4.3/49,MS4.0/23,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	Kodiak Island	2.52	302		Pn	22 16 56.6	-0.9
KDAK	Kodiak Island	2.52	302		Sn	22 17 24.9	-3.4
KDAK	Kodiak Island 32nm,0.3s,baz=153,slow=5.2,SNR=83	2.52	302	Pn	Pn	22 16 57.0	-0.5
KDAK	49nm,0.3s,baz=77,slow=22,SNR=16			Sn	Sn	22 17 25.3	-2.9
KDAK	comp=Z,2μm,21.2s,baz=139,slow=37 98nm,0.4s			LR	LR	22 17 50.1	
OHAK	Old Harbor	2.67	287	Pn	Pn	22 16 58.5	-1.3
OHAK				Sn	Sn	22 17 27.9	-4.3
OHAK	Old Harbor baz=104	2.67	287	P	Pn	22 16 58.7	-1.1
OHAK	baz=104			S	Sn	22 17 28.2	-3.9
SYI	Shuyak Island	2.92	317	Pn	Pn	22 17 02.6	-0.6
SYI				Sn	Sn	22 17 36.4	-2.0
Q20K	Shuyak Island baz=134	2.92	317	P	Pn	22 17 03.1	-0.1
Q20K	baz=134			S	Sn	22 17 36.7	-1.6
Q23K	Middleton Isla	3.14	21	Pn	Pn	22 17 05.8	-0.4
Q23K	comp=N,686nm,1.9s			IAML		22 17 46.9	
Q23K	Middleton Isla baz=203	3.14	21	P	Pn	22 17 05.7	-0.4
MID	Middleton Isla	3.14	21	P	Pn	22 17 05.6	-0.6
MID	Middleton Isla	3.14	21	Pn	Pn	22 17 05.6	-0.6
MID				Sn	Sn	22 17 40.0	-3.7
MID	comp=N,610nm,0.9s			IAML		22 17 46.9	
CNPM	China Poot	3.32	336	Pn	Pn	22 17 08.2	-0.4
CNPM				Sn	Sn	22 17 45.3	-2.8
BRSE	Bradley Lake S	3.42	341		Pn	22 17 09.4	-0.6
BRSE					Sn	22 17 48.4	-2.2
BRSE	Bradley Lake S baz=160	3.42	341	P	Pn	22 17 09.7	-0.3
BRSE	baz=160			S	Sn	22 17 48.4	-2.2
BRLK	Bradley Lake	3.46	340	Pn	Pn	22 17 09.9	-0.7
HOM	Homer	3.53	334	Pn	Pn	22 17 11.5	-0.1
HOM	comp=E,1μm,0.8s			IAML		22 18 12.3	
HOM	comp=N,1μm,0.9s			IAML		22 18 12.3	
HOM	Homer baz=152	3.53	334	P	Pn	22 17 12.0	+0.5
P23K	Montague Islan	3.53	10		Pn	22 17 11.1	-0.5
P23K					Sn	22 17 50.7	-2.6
P23K	Montague Islan baz=191	3.53	10	P	Pn	22 17 11.1	-0.5
P23K	baz=191			S	Sn	22 17 50.7	-2.6
SEW	Seward	3.61	353	Pn	Pn	22 17 11.8	-0.9
SEW	Seward baz=173	3.61	353	P	Pn	22 17 12.1	-0.6
Q19K	Cape Douglas,	3.62	314	Pn	Pn	22 17 13.3	+0.4
Q19K				Sn	Sn	22 17 53.7	-2.0
Q19K	Cape Douglas, baz=130	3.62	314	P	Pn	22 17 13.4	+0.5
Q19K	baz=130			S	Sn	22 17 52.1	-3.6
AU22	Augustine Moun	3.82	320		Pn	22 17 15.5	+0.1
AUCH	Augustine Cone	3.84	320		Pn	22 17 16.2	+0.3
AUL	Augustine Lava	3.85	320		Pn	22 17 16.5	+0.5
KAKN	Katmai Knife C	3.92	299		Pn	22 17 17.3	+0.3
KAKN					Sn	22 18 02.0	-1.2
KCE	Katmai Mt Cerb	3.96	298		Pn	22 17 18.6	+1.0
P19K	Oil Pt	3.98	324	Pn	Pn	22 17 18.1	+0.3
P19K	comp=E,710nm,0.6s			IAML		22 18 07.2	
P19K	comp=N,559nm,0.4s			IAML		22 18 09.6	
P19K	Oil Pt	3.98	324	P	Pn	22 17 18.2	+0.3
	baz=140						
O22K	Cooper Landing	4.01	352	Pn	Pn	22 17 17.5	-0.6
O22K	Cooper Landing baz=171	4.01	352	P	Pn	22 17 18.4	+0.4
ACHA	Angle Creek He	4.02	298		Pn	22 17 19.3	+1.0
HIN	Hinchinbrook I	4.03	15	Pn	Pn	22 17 18.1	-0.3
HIN	comp=E,864nm,0.9s			IAML		22 18 07.0	
KAIM	Kayak Island	4.05	31	Pn	Pn	22 17 18.7	-0.1
KAIM	comp=N,738nm,0.6s			IAML		22 18 15.6	
KAIM	Kayak Island baz=215	4.05	31	P	Pn	22 17 18.7	-0.1
KAHC	Katmai Hardscr	4.06	304		Pn	22 17 19.1	+0.3
KAHC	Katmai Hardscr baz=119	4.06	304	P	Pn	22 17 19.4	+0.5
SLKM	Skilak Lake	4.08	349		Pn	22 17 18.7	-0.4
ANCK	Angle Creek	4.10	297		Pn	22 17 19.8	+0.4
O20K	Slope Mountain	4.15	331		Pn	22 17 19.9	-0.2
O20K	Slope Mountain baz=148	4.15	331	P	Pn	22 17 20.1	0.0
IVE	Iliamna Volcan	4.21	328		Pn	22 17 20.2	-0.7
ILSW	Iliamna Southw	4.22	327	Pn	Pn	22 17 20.7	-0.4
ILSW	comp=N,273nm,0.9s			IAML		22 18 13.1	
ILSW	comp=E,396nm,0.9s			IAML		22 18 14.0	
EYAK	Cordova Ski Ar	4.29	19	P	Pn	22 17 22.2	+0.2
EYAK	Cordova Ski Ar	4.29	19		Pn	22 17 22.0	0.0
EYAK	Cordova Ski Ar baz=201	4.29	19	P	Pn	22 17 22.0	0.0
KELA	Mount Kelaz	4.31	299		Pn	22 17 22.7	+0.4
CNTC	Contact Creek	4.32	297		Pn	22 17 22.6	+0.2
CNTC					Sn	22 18 13.0	+0.2
Q17K	Contact Creek baz=111	4.32	297	P	Pn	22 17 22.6	+0.1
SUCK	Suckling Hills	4.36	34	Pn	Pn	22 17 22.9	0.0
SUCK	comp=E,411nm,0.8s			IAML		22 18 21.8	
SUCK	comp=N,532nm,0.9s			IAML		22 18 32.9	
RAGM	Ragged Mountai	4.38	26	Pn	Pn	22 17 23.1	-0.1
HMT	Hamilton	4.44	29	Pn	Pn	22 17 24.3	+0.3
CAPN	Captain Cook N	4.46	344	Pn	Pn	22 17 24.6	+0.4
RED	Redoubt Volcan	4.48	332		Pn	22 17 23.7	-0.9
RSO	Redoubt South	4.51	333	Pn	Pn	22 17 24.6	-0.6
RDT	Redoubt	4.52	335		Pn	22 17 24.3	-0.9
GOAT	Goat Mountain	4.54	25		Pn	22 17 25.4	+0.1
PLK1	Peulik 1	4.55	290		Pn	22 17 25.0	-0.5
P18K	Big Mountain,	4.56	312	Pn	Pn	22 17 25.1	-0.6
P18K	Big Mountain, baz=127	4.56	312	P	Pn	22 17 25.1	-0.6
DFR	Drift River	4.60	334		Pn	22 17 25.4	-1.0
RC01	Rabbit Creek A	4.61	353	Pn	Pn	22 17 26.4	0.0
RC01	comp=E,610nm,0.7s			IAML		22 18 20.2	
RC01	comp=N,318nm,0.5s			IAML		22 18 20.7	
RC01	Rabbit Creek A baz=172	4.61	353	P	Pn	22 17 26.3	-0.1
RDJH	Redoubt Jeurge	4.63	333		Pn	22 17 26.3	-0.5
NCT	North Crescent	4.64	332		Pn	22 17 26.0	-0.9
BERG	Berg Lake	4.64	31	Pn	Pn	22 17 26.6	-0.2
BERG	comp=N,531nm,0.6s			IAML		22 18 38.0	
GRIN	Grindle Hills	4.67	34		Pn	22 17 27.5	+0.3
FIS	Fire Island	4.71	350	Pn	Pn	22 17 27.7	+0.1
FIS	comp=E,604nm,0.8s			IAML		22 18 24.6	
SNH	Sunshine Point	4.75	37		Pn	22 17 28.3	0.0
SNH	comp=E,300nm,1.3s			IAML		22 18 33.5	
SNH	comp=N,315nm,1.1s			IAML		22 19 05.1	
O19K	Port Alsworth	4.76	323		Pn	22 17 28.1	-0.3
CYK	Cape Yakataga	4.80	40		Pn	22 17 29.1	+0.2
O18K	Koktuh Hills	4.83	316		Pn	22 17 28.9	-0.6
O18K	Koktuh Hills baz=131	4.83	316	P	Pn	22 17 29.1	-0.4
DIV	Divide	4.84	16		Pn	22 17 29.6	0.0
Q16K	King Salmon baz=113	4.85	300	P	Pn	22 17 30.0	+0.5
KNK	Knik Glacier	4.90	1		Pn	22 17 30.2	-0.1
KNK	comp=E,284nm,0.7s			IAML		22 18 29.0	
KNK	comp=N,184nm,0.9s			IAML		22 18 29.5	
KNK	Knik Glacier baz=181	4.90	1	P	Pn	22 17 30.8	+0.5
BMRM	Bremner River	4.91	23		Pn	22 17 30.6	+0.1
BMRM	Bremner River baz=207	4.91	23	P	Pn	22 17 30.5	+0.1
WAX	Waxell Ridge	4.95	35		Pn	22 17 31.0	0.0
WAX	comp=E,467nm,0.7s			IAML		22 18 28.7	
P17K	Kvichak River	4.97	306		Pn	22 17 31.7	+0.4
P17K	Kvichak River baz=120	4.97	306	P	Pn	22 17 31.7	+0.4
BARK	Barkley Ridge	5.03	37		Pn	22 17 32.0	-0.2
N20K	Mount Spurr baz=157	5.05	340	P	Pn	22 17 31.9	-0.5
MESA	MESA	5.06	41	Pn	Pn	22 17 32.2	-0.5
MESA	comp=N,249nm,0.6s			IAML		22 18 44.6	
MESA	comp=E,204nm,0.9s			IAML		22 18 45.3	
MESA	MESA baz=226	5.06	41	P	Pn	22 17 32.6	-0.1
SUA	Susitna One	5.07	348		Pn	22 17 32.7	-0.1
SUA	comp=E,211nm,0.8s			IAML		22 18 33.7	
SUA	Susitna One baz=166	5.07	348	P	Pn	22 17 32.5	-0.3
PMR	Palmer	5.08	357	P	Pn	22 17 33.8	+1.0
PMR	Palmer	5.08	357	Pn	Pn	22 17 32.9	0.0
PMR	comp=E,333nm,0.8s			IAML		22 18 31.1	
PMR	comp=N,221nm,0.9s			IAML		22 18 38.1	
PMR	Palmer baz=177	5.08	357	P	Pn	22 17 33.2	+0.4
SPCG	Spurr Capps Gl	5.10	341		Pn	22 17 33.1	-0.1
SPCP	Crater Peak Br	5.10	340		Pn	22 17 33.1	-0.1
CRQM	Cirque	5.10	32		Pn	22 17 33.1	-0.2
CRQM	comp=N,248nm,0.6s			IAML		22 18 32.4	
CRQM	comp=E,304nm,0.9s			IAML		22 18 41.4	
SPBG	Spurr Blockage	5.13	339		Pn	22 17 33.2	-0.4
KLU	Klutina	5.16	14		Pn	22 17 34.3	+0.3
KLU	comp=E,255nm,1.0s			IAML		22 18 34.4	
KLU	comp=N,217nm,0.7s			IAML		22 18 39.6	
KLU	Klutina baz=197	5.16	14	P	Pn	22 17 34.5	+0.5
TGL	Tana Glacier	5.19	33		Pn	22 17 34.5	0.0
TGL	comp=E,222nm,0.6s			IAML		22 18 34.4	
TGL	comp=N,199nm,0.5s			IAML		22 18 36.7	
ISLE	Juniper Island	5.23	36	Pn	Pn	22 17 34.9	-0.1
ISLE	comp=E,231nm,0.9s			IAML		22 18 39.6	
ISLE	comp=N,216nm,1.0s			IAML		22 19 01.2	
GHO	Glory Hole Cre	5.26	358	Pn	Pn	22 17 35.7	+0.3
GHO	comp=E,422nm,0.8s			IAML		22 18 38.0	
N19K	Bonanza Creek	5.28	327		Pn	22 17 35.0	-0.7
N19K	Bonanza Creek baz=142	5.28	327	P	Pn	22 17 35.1	-0.6
SML	Sawmill	5.29	1	Pn	Pn	22 17 36.1	+0.3
SML	comp=N,308nm,0.9s			IAML		22 18 39.0	
SML	comp=E,238nm,0.8s			IAML		22 18 39.0	
SML	Sawmill baz=182	5.29	1	P	Pn	22 17 36.2	+0.4
SPNN	North Nagishla	5.30	338		Pn	22 17 35.9	0.0
M22K	Willow	5.30	352	Pn	Pn	22 17 35.9	+0.2
M22K	comp=E,333nm,0.6s			IAML		22 18 45.7	
M22K	comp=N,356nm,0.9s			IAML		22 18 47.0	
SCM	Sheep Creek Mo	5.36	6	Pn	Pn	22 17 37.0	+0.4
SCM	comp=N,342nm,1.2s			IAML		22 18 42.9	
SCM	Sheep Creek Mo baz=188	5.36	6	P	Pn	22 17 37.6	+0.9
VRDI	Verde Repeater	5.41	27		Pn	22 17 37.4	-0.1
CHGN	Chignik	5.46	272	Pn	Pn	22 17 37.8	-0.2
KIAG	Kiagna River	5.47	34		Pn	22 17 38.2	-0.1
SAMH	Samovar Hills	5.47	45		Pn	22 17 38.9	+0.6
N25K	Chitina, Valde	5.49	20	Pn	Pn	22 17 38.7	+0.2
N25K	Chitina, Valde baz=204	5.49	20	P	Pn	22 17 38.8	+0.2
GLB	Gilahina Butte	5.51	25		Pn	22 17 38.8	0.0
GRNC	Granite Creek	5.52	37		Pn	22 17 39.0	0.0
O17K	Koliganek Bris	5.56	309		Pn	22 17 38.7	-0.6
O17K	Koliganek Bris baz=122	5.56	309	P	Pn	22 17 39.1	-0.2
P16K	Nushagak River baz=113	5.62	300	P	Pn	22 17 40.6	+0.4
N18K	Kilae Creek	5.65	320	Pn	Pn	22 17 39.6	-1.0
N18K	Kilae Creek baz=135	5.65	320	P	Pn	22 17 40.5	-0.1
MCARA	McCarthy VSAT baz=213	5.65	28	P	Pn	22 17 40.8	+0.1
SKT	Skwentna baz=163	5.67	346	P	Pn	22 17 40.9	0.0
M24K	Tolsona, Glenn	5.73	11		Pn	22 17 42.6	+0.8
M24K	Tolsona, Glenn baz=194	5.73	11	P	Pn	22 17 42.1	+0.3
BARN	Barnard Glacie	5.79	36		Pn	22 17 43.0	+0.3
PNL	Peninsula	5.80	53	P	Pn	22 17 43.5	+0.8
PNL	Peninsula	5.80	53		Pn	22 17 42.4	-0.3
PNL	Peninsula baz=241	5.80	53	P	Pn	22 17 42.4	-0.3
CTG	Chitna Glacier baz=223	5.83	37	P	Pn	22 17 43.5	+0.3
CTGM	Chitina Glacie	5.83	37	Pn	Pn	22 17 42.9	-0.3
BCPM	Bancas Point	5.84	50	Pn	Pn	22 17 43.5	+0.2
LOGN	Logan Glacier	5.84	39		Pn	22 17 43.4	-0.1
SVW2	Sparrevohn	5.84	324	P	Pn	22 17 42.5	-0.8
SVW2	Sparrevohn	5.84	324	Pn	Pn	22 17 42.0	-1.4
VNHG	Veniaminof 1	5.89	271		Pn	22 17 44.5	+0.5
WACK	Wrangell Chich	5.89	20		Pn	22 17 44.5	+0.3
O16K	Kokwok River B	5.91	305		Pn	22 17 44.4	+0.2
CUT	Chulitna	5.96	352		Pn	22 17 44.5	-0.3
N17K	Nushagak Hills baz=128	6.03	315	P	Pn	22 17 45.6	-0.2
WAT6	Susitna Watana	6.08	4		Pn	22 17 46.9	+0.1
WAT6	Susitna Watana baz=184	6.08	4	P	Pn	22 17 46.9	+0.1
VNFG	Fog Glacier, M	6.10	272		Pn	22 17 47.2	+0.4
O28M	Mount Upton	6.10	42		Pn	22 17 47.4	+0.3
HARP	HAARP	6.14	15		Pn	22 17 47.7	+0.4
HARP	HAARP baz=198	6.14	15	P	Pn	22 17 47.7	+0.4
M18K	Stony River	6.22	326		Pn	22 17 47.5	-0.9
WAT1	Susitna Watana	6.32	0		Pn	22 17 50.3	+0.4
WAT1	Susitna Watana baz=180	6.32	0	P	Pn	22 17 50.3	+0.4
CHNA	Chernabura Isl baz=70	6.46	259	P	Pn	22 17 51.1	-0.6
CNBA	Chernabura Isl	6.46	259	Pn	Pn	22 17 51.1	-0.6
O29M	Mount Kennedy	6.47	50		Pn	22 17 52.8	+0.7
P29M	Windy Craggy	6.54	57	Pn	Pn	22 17 53.2	+0.3
P29M	Windy Craggy baz=246	6.54	57	P	Pn	22 17 53.0	+0.2
M26K	Nabesna, AK	6.54	23		Pn	22 17 52.8	-0.1
O15K	Ungalikthiuk R	6.56	299		Pn	22 17 53.7	+0.6
O15K	Ungalikthiuk R baz=109	6.56	299	P	Pn	22 17 54.0	+0.9
DHY	Denali Highway	6.59	5		Pn	22 17 54.6	+0.8
DHY	Denali Highway baz=186	6.59	5	P	Pn	22 17 54.8	+1.1
YUK8	Steele Glacier	6.60	40		Pn	22 17 55.2	+1.3
YUK8	Steele Glacier baz=228	6.60	40	P	Pn	22 17 54.5	+0.6
YUK2	White River	6.60	34		Pn	22 17 54.6	+0.8
N16K	Nishlik Lake	6.64	311		Pn	22 17 54.1	-0.1
PPLA	Purkeypile	6.64	346		Pn	22 17 55.0	+0.7
PPLA	Purkeypile baz=163	6.64	346	P	Pn	22 17 55.2	+0.8
PAX	Paxson	6.65	12		Pn	22 17 54.5	+0.1
PAX	Paxson baz=195	6.65	12	P	Pn	22 17 54.9	+0.5
M17K	Holitna River	6.69	321	Pn	Pn	22 17 54.5	-0.4
YUK3	Moose Creek	6.71	35		Pn	22 17 56.0	+0.6
YUK3	Moose Creek baz=222	6.71	35	P	Pn	22 17 56.0	+0.6
YUK7	Dusty Glacier	6.78	49		Pn	22 17 57.0	+0.7
SDPT	Sand Point	6.79	265	P	Pn	22 17 56.4	+0.2
SDPT	Sand Point	6.79	265	Pn	Pn	22 17 55.9	-0.3
S31K	Pelican	6.86	73	Pn	Pn	22 17 56.2	-0.9
S31K	Pelican baz=263	6.86	73	P	Pn	22 17 56.2	-0.9
RND	Reindeer	6.90	359	Pn	Pn	22 17 58.2	+0.3
YUK6	Outpost Mounta	6.91	46		Pn	22 17 59.1	+0.9
YUK6	Outpost Mounta baz=235	6.91	46	P	Pn	22 17 58.6	+0.4
TRF	Thorofare Moun	6.99	354	Pn	Pn	22 17 59.2	0.0
TRF	Thorofare Moun baz=172	6.99	354	P	Pn	22 18 00.2	+0.9
M16K	Timber Creek	7.02	314		Pn	22 17 59.2	-0.2
M16K	Timber Creek baz=126	7.02	314	P	Pn	22 17 59.7	+0.2
L26K	Log Cabin Wild	7.03	20	Pn	Pn	22 17 59.0	-0.6
YUK4	Talbot Arm baz=231	7.05	43	P	Pn	22 18 01.5	+1.5
N15K	Kwethluk River	7.07	306	Pn	Pn	22 18 00.3	+0.2
BVCY	Beaver Creek baz=217	7.09	30	P	Pn	22 18 01.2	+0.8
PLBC	Pleasant Camp	7.12	61		Pn	22 18 00.9	+0.1
PLBC	Pleasant Camp baz=251	7.12	61	P	Pn	22 18 00.9	+0.1
CAST	Castle Rocks	7.13	347	Pn	Pn	22 18 00.7	-0.2
CAST	Castle Rocks baz=164	7.13	347	P	Pn	22 18 01.5	+0.6
KTH	Kantishna Hill	7.14	352	Pn	Pn	22 18 02.2	+1.1
HYT	Haines Junctio	7.20	49	Pn	Pn	22 18 02.2	+0.2
HYT	Haines Junctio baz=238	7.20	49	P	Pn	22 18 02.2	+0.2
O14K	Tigyukauivet M	7.29	297		Pn	22 18 03.2	+0.2
SIT	Sitka	7.30	80	P	Pn	22 18 01.0	-2.3
SIT	Sitka	7.30	80		Pn	22 18 00.9	-2.3
L27K	Beaver Creek,	7.38	25	Pn	Pn	22 18 04.5	+0.1
BCAR	Beaver Creek A	7.39	25	Pn	Pn	22 18 04.2	-0.3
K24K	Donnelly Dome	7.43	10		Pn	22 18 06.2	+1.2
K24K	Donnelly Dome baz=192	7.43	10	P	Pn	22 18 06.2	+1.2
TTA	Tatalina baz=147	7.43	333	P	Pn	22 18 04.9	-0.2
RIDG	Independent Ri	7.47	13	Pn	Pn	22 18 05.7	+0.1
RIDG	Independent Ri baz=196	7.47	13	P	Pn	22 18 06.2	+0.6
PS1A	Pavlof South-1	7.47	267		Pn	22 18 05.8	+0.2
M15K	Kasigluk River	7.57	308		Pn	22 18 07.0	+0.1
S12K	Black Hills	7.58	269	Pn	Pn	22 18 07.0	-0.2
CHUM	Lake Minchumin	7.61	347		Pn	22 18 07.5	+0.1
PN7A	Pavlof North-7	7.61	267		Pn	22 18 07.9	+0.3
SKAG	Skagway	7.63	62	P	Pn	22 18 09.0	+1.3
SKAG	Skagway	7.63	62	Pn	Pn	22 18 08.0	+0.2
SKAG	Skagway baz=253	7.63	62	P	Pn	22 18 08.1	+0.3
L16K	Owhat River	7.63	317		Pn	22 18 07.2	-0.6
L16K	Owhat River baz=128	7.63	317	P	Pn	22 18 07.5	-0.3
BESE	Bessie Mount

M14K	**Bethel**	8.15	307	Pn		**Pn**		22 18 15.1	+0.1
K27K	**Chicken**	8.18	21			**Pn**		22 18 15.4	+0.1
J19K	**Poorman**	8.26	338	Pn		**Pn**		22 18 15.2	-1.2
J25K	**Salcha River,**	8.26	10			**Pn**		22 18 16.5	0.0
WHY	**Whitehorse**	8.26	54			**Pn**		22 18 17.1	+0.6
ILAR	**Eielson Array**	8.31	5	Pn		**Pn**		22 18 17.9	+0.8
ILAR	**Eielson Array**	8.31	5	Pn		**Pn**		22 18 17.4	+0.3
	comp=N,1.2nm,0.3s,baz=189,slow=13,SNR=33								
ILAR				Sn		**Sn**		22 19 47.9	-3.0
	comp=N,2.4nm,0.3s,baz=188,slow=22,SNR=9.8								
ILAR				LR		LR		22 21 35.9	
	comp=N,730nm,19.1s,baz=212,slow=38								
	comp=N,4.3nm,0.6s								
J26L	**Joseph Creek**	8.37	15			**Pn**		22 18 18.5	+0.5
COLA	**College**	8.38	2	P		**Pn**		22 18 19.1	+1.1
COLA	**College**	8.38	2	Pn		**Pn**		22 18 18.1	+0.1
L15K	**Ungalak Mounta**	8.40	313			**Pn**		22 18 18.2	-0.1
P32M	**Atlin**	8.46	63			**Pn**		22 18 19.1	0.0
P32M	**Atlin**	8.46	63	P		**Pn**		22 18 19.1	0.0
	baz=255								
M30M	**Minto, Yukon**	8.51	40			**Pn**		22 18 20.0	+0.2
M30M	**Minto, Yukon**	8.51	40	P		**Pn**		22 18 19.8	0.0
	baz=230								
FALS	**False Pass**	8.55	265	P		**Pn**		22 18 19.3	-1.0
FALS	**False Pass**	8.55	265			**Pn**		22 18 19.9	-0.5
FALS	**False Pass**	8.55	265	P		**Pn**		22 18 20.6	+0.2
	baz=73								
MLY	**Manley**	8.59	354	Pn		**Pn**		22 18 21.4	+0.4
MLY	**Manley**	8.59	354	P		**Pn**		22 18 21.5	+0.5
	baz=172								
U33K	**Whale Pass**	8.61	86			**Pn**		22 18 18.2	-3.0
POKR	**Poker Plat Res**	8.63	3	Pn		**Pn**		22 18 21.5	-0.1
I23K	**Minto, Yukon-K**	8.65	358			**Pn**		22 18 21.4	-0.4
I23K	**Minto, Yukon-K**	8.65	358	P		**Pn**		22 18 22.1	+0.3
	baz=177								
M13K	**Dall Lake**	8.66	303			**Pn**		22 18 22.2	+0.4
CRAG	**Craig**	8.73	91	P		**Pn**		22 18 20.1	-2.8
CRAG	**Craig**	8.73	91			**Pn**		22 18 20.1	-2.8
L14K	**Kuka Creek**	8.73	309			**Pn**		22 18 22.6	-0.2
ISLZ	**Isanotski Laza**	8.75	264			**Pn**		22 18 22.7	-0.5
ISNN	**Isanotski Nort**	8.75	265			**Pn**		22 18 23.2	0.0
K15K	**Wolf Creek Mou**	8.76	317			**Pn**		22 18 23.0	-0.3
DAWY	**Dawson**	8.82	27	Pn		**Pn**		22 18 24.3	+0.2
EGAK	**Eagle**	9.03	21	Pn		**Pn**		22 18 27.3	+0.3
Q32M	**Nakina River**	9.05	68	Pn		**Pn**		22 18 28.2	+0.7
P33M	**Teslin, Yukon**	9.06	59	Pn		**Pn**		22 18 27.9	+0.3
P33M	**Teslin, Yukon**	9.06	59	P		**Pn**		22 18 27.8	+0.3
	baz=253								
PRP	**Porcupine Dome**	9.14	8	Pn		**Pn**		22 18 29.0	+0.5
PRP	**Porcupine Dome**	9.14	8	P		**Pn**		22 18 29.1	+0.5
	baz=191								
K29M	**Barlow Dome**	9.16	32			**Pn**		22 18 29.4	+0.5
N32M	**Quiet Lake**	9.26	54			**Pn**		22 18 30.6	+0.3
WESE	**West Dahl East**	9.31	264			**Pn**		22 18 31.0	+0.1
H23K	**Yukon River**	9.34	358	Pn		**Pn**		22 18 31.4	+0.2
H23K	**Yukon River**	9.34	358	P		**Pn**		22 18 31.9	+0.7
	baz=177								
H24K	**Noodor Dome**	9.35	2	Pn		**Pn**		22 18 32.4	+1.1
WECS	**Westdahl Cape**	9.40	264			**Pn**		22 18 32.2	+0.1
S34M	**Telegraph Cree**	9.57	74	Pn		**Pn**		22 18 34.0	-0.3
R33M	**Jennings River**	9.79	66	Pn		**Pn**		22 18 37.3	-0.1
J14K	**Nanvaranak Lak**	9.80	316			**Pn**		22 18 37.3	-0.1
IMAR	**Indian Mountai**	9.80	347	Pn		**Pn**		22 18 37.4	-0.2
H18K	**Honhosa River**	9.86	335			**Pn**		22 18 37.3	-1.1
T35M	**Bob Quinn**	10.08	80	Pn		**Pn**		22 18 41.3	0.0
AKUT	**Akutan**	10.08	263	Pn		**Pn**		22 18 40.7	-0.7
DLBC	**Dease Lake**	10.17	71	Pn		**Pn**		22 18 42.8	+0.2
DLBC	**Dease Lake**	10.17	71	Pn		**Pn**		22 18 43.5	+0.9
	comp=N,2.0nm,0.3s,baz=244,slow=8.3,SNR=20								
DLBC				Sn		**Sn**		22 20 31.8	-4.8
	comp=N,0.9nm,0.3s,baz=199,slow=18,SNR=1.9								
DLBC				LR		LR		22 22 03.4	
	comp=N,636nm,18.4s,baz=272,slow=34								
	comp=N,6.0nm,0.4s								
FYU	**Fort Yukon**	10.20	8	Pn		**Pn**		22 18 42.3	-0.6
I30M	**Mount Dempster**	10.53	29			**Pn**		22 18 49.4	+1.8
UNV	**Unalaska Valle**	10.59	263	P		**Pn**		22 18 48.4	+0.1
UNV	**Unalaska Valle**	10.59	263	Pn		**Pn**		22 18 47.5	-0.9
MMPY	**Sheldon Lake,**	10.67	48	Pn		**Pn**		22 18 50.4	+1.0
G27K	**Doyon Strip**	10.82	15	Pn		**Pn**		22 18 52.1	+0.7
H29M	**Whitestone**	10.86	22			**Pn**		22 18 51.9	-0.2
F21K	**Alatna River**	10.97	350	Pn		**Pn**		22 18 53.7	+0.1
BMAR	**Burnt Mountain**	11.10	8	Pn		**Pn**		22 18 55.4	+0.1
F19K	**Shaleruckik Mo**	11.20	341			**Pn**		22 18 56.2	-0.5
EPYK	**Eagle Plains**	11.36	25			**Pn**		22 19 00.0	+1.2
ANM	**Nome**	11.50	321	Pn		**Pn**		22 19 00.7	-0.1
H31M	**Peel River**	11.53	30	Pn		**Pn**		22 19 00.9	-0.2
G29M	**Pine Creek**	11.53	21			**Pn**		22 19 01.5	+0.3
F28M	**Old Crow**	11.83	16	Pn		**Pn**		22 19 05.8	+0.6
F15K	**North Star Dit**	12.00	327			**Pn**		22 19 05.9	-1.6
TOLK	**Toolik Lake Re**	12.16	358			**Pn**		22 19 11.4	+1.5
E18K	**Tukpahlearik C**	12.27	338			**Pn**		22 19 11.3	+0.1
G31M	**Satah River**	12.39	27	Pn		**Pn**		22 19 12.8	-0.1
D22K	**Ayikyak River**	12.53	353	Pn		**Pn**		22 19 15.8	+0.9
BBB	**Bella Bella**	12.69	101	LR		LR		22 23 04.1	
	comp=N,1μm,19.7s,baz=312,slow=32								
B21K	**Ikpikpuk River**	13.41	351			**Pn**		22 19 26.7	0.0
C19K	**Lookout Ridge**	13.55	343			**Pn**		22 19 29.0	+0.3
INK	**Inuvik**	13.66	24	Pn		**Pn**		22 19 30.8	+0.7
INK	**Inuvik**	13.66	24	Pn		**Pn**		22 19 31.0	+0.9
	comp=N,0.5nm,0.3s,baz=198,slow=14,SNR=38								
INK				LR		LR		22 25 09.5	
	comp=N,684nm,19.0s,baz=181,slow=39								
	comp=N,13nm,0.9s								
ATKA	**Atka Island**	15.50	265	Pn		**Pn**		22 19 54.6	-0.5
C36M	**Paulatuk**	16.83	31	Pn		**Pn**		22 20 10.8	-1.2
C36M				IAmb		IAmb		22 20 23.9	
	comp=Z,18nm,0.8s								
HILA	**High Level**	16.98	70			**P**		22 20 14.5	-1.4
ADK	**Adak**	17.02	266			**P**		22 20 14.4	-1.9
ADK				IAmb		IAmb		22 20 20.3	
	comp=Z,33nm,1.1s								
YKA	**Yellowknife Ar**	18.08	57			**P**		22 20 27.4	-0.6
YKA	**Yellowknife Ar**	18.08	57	P		**P**		22 20 28.4	+0.4
	comp=Z,0.3nm,0.3s,baz=267,slow=12,SNR=47								
YKA				LR		LR		22 27 16.6	
	comp=Z,548nm,19.2s,baz=287,slow=36								
	comp=Z,11nm,0.9s								
A36M	**Sachs Harbour**	18.30	23			**P**		22 20 29.6	-0.7
LTY	**Liberty**	19.44	107	P		**Pn**		22 20 43.6	-0.8
LTY				IAmb		IAmb		22 20 57.3	
	comp=Z,40nm,1.5s								
AMKA	**Amchitka**	19.47	268			**Pn**		22 20 43.0	-1.6
B08A	**Colville Reser**	19.49	102	P		**Pn**		22 20 43.5	-1.4
MXC	**Moxie City**	20.07	108	P		Pn		22 20 50.9	-0.9
MXC				IAmb		IAmb		22 21 03.9	
	comp=Z,28nm,1.2s								
H04A	**Detroit Lake**	20.38	114	P		Pn		22 20 54.6	-0.8
H04A				IAmb		IAmb		22 21 06.0	
	comp=Z,31nm,1.4s								
NEW	**Newport**	20.75	100	P		**P**		22 20 56.1	-1.2
NEW				IAmb		IAmb		22 21 13.6	
	comp=Z,28nm,1.5s								
NEW	**Newport**	20.75	100	P		Pn		22 21 00.5	+0.8
	comp=Z,4.1nm,1.1s,baz=225,slow=4.3,SNR=2.6								
NEW				LR		LR		22 27 57.2	
	comp=Z,422nm,18.5s,baz=300,slow=34								
	comp=Z,4.1nm,1.1s								
K02D	**Willamette Mer**	21.11	120	P		**P**		22 21 02.1	+0.8
K02D				IAmb		IAmb		22 21 07.6	
	comp=Z,20nm,1.1s								
HUMO	**Hull Mountain**	21.52	119	P		**P**		22 21 05.7	+0.1
HUMO				IAmb		IAmb		22 21 11.6	
	comp=Z,11nm,0.9s								
SHEM	**Shemya Is, Ala**	21.75	276	LR		LR		22 29 54.7	
	comp=Z,140nm,18.4s,baz=6.5,slow=38								
J05D	**Fort Rock, OR**	21.86	116	P		**P**		22 21 09.5	+0.1
J05D				IAmb		IAmb		22 21 25.1	
	comp=Z,28nm,1.2s								
I07A	**Izee**	22.16	112	P		**P**		22 21 12.2	-0.5
K05A	**Summer Lake**	22.44	116	P		**P**		22 21 15.9	+0.2
K05A				IAmb		IAmb		22 21 23.1	
	comp=Z,21nm,1.1s								
BMO	**Blue Mountains**	22.78	108	P		**P**		22 21 19.4	+0.1
BILL	**Bilibino**	23.32	318	P		**P**		22 21 24.0	-0.4
WVOR	**Wild Horse Val**	23.79	114	P		**P**		22 21 29.8	+0.4
WVOR				IAmb		IAmb		22 21 34.9	
	comp=Z,7.6nm,0.9s								
HLID	**Hailey**	25.19	106	P		**P**		22 21 42.5	+0.2
AFDM	**Forest Hills D**	25.31	122	P		**P**		22 21 42.7	-0.6
MPK	**Martis Peak**	25.48	120	P		**P**		22 21 45.3	+0.2
PNTR	**Pine Nut**	25.85	120	P		**P**		22 21 49.1	+0.7
PNTR				IAmb		IAmb		22 21 55.6	
	comp=Z,16nm,1.2s								
YERR	**Yerington**	26.10	120	P		**P**		22 21 51.2	+0.6
YERR				IAmb		IAmb		22 22 19.8	
	comp=Z,12nm,1.2s								
ELK	**Elko**	26.76	112	P		**P**		22 21 57.0	+0.4
ELK	**Elko**	26.76	112	P		**P**		22 21 58.7	+2.1
	comp=Z,1.0nm,0.5s,baz=330,slow=10,SNR=4.4								
ELK				LR		LR		22 30 39.6	
	comp=Z,423nm,21.4s,baz=312,slow=32								
	comp=Z,1.0nm,0.5s								
NVAR	**Mina Array Bea**	26.99	119	P		**P**		22 21 59.5	+0.8
NVAR	**Mina Array Bea**	26.99	119	P		**P**		22 22 00.8	+2.0
	comp=Z,2.6nm,0.8s,baz=307,slow=8.8,SNR=12								
NVAR				LR		LR		22 30 52.8	
	comp=Z,413nm,18.7s,baz=316,slow=32								
	comp=Z,2.6nm,0.8s								
RES	**Resolute Bay**	27.16	28	P		**P**		22 21 59.7	+0.1
RES	**Resolute Bay**	27.16	28	LR		LR		22 33 22.2	
	comp=Z,506nm,18.9s,baz=220,slow=38								
TPH	**Tonopah**	27.79	118	P		**P**		22 22 06.5	+0.6
PDAR	**Pinedale Array**	28.34	102	P		**P**		22 22 12.4	+1.7
	comp=Z,0.4nm,0.6s,baz=355,slow=4.5,SNR=2.9								
PDAR				LR		LR		22 31 56.1	
	comp=Z,161nm,19.9s,baz=312,slow=33								
	comp=Z,0.4nm,0.6s								
R11B	**Troy Canyon, C**	28.39	116	P		**P**		22 22 11.4	+0.2
FCC	**Fort Churchill**	28.58	62	P		**P**		22 22 12.4	0.0
FCC				IAmb		IAmb		22 22 15.3	
	comp=Z,4.7nm,0.9s								
SEY	**Seymchan**	29.46	307	LR		LR		22 35 22.2	
	comp=Z,682nm,18.7s,baz=136,slow=39								
PETK	**Petropavlovsk-**	30.48	287	LR		LR		22 35 09.0	
	comp=Z,155nm,20.6s,baz=82,slow=37								
MA2	**Magadan**	31.26	301	LR		LR		22 35 48.1	
	comp=Z,441nm,21.6s,baz=84,slow=38								
ULM	**Lac du Bonnet**	31.37	79	LR		LR		22 34 45.5	
	comp=Z,177nm,20.0s,baz=306,slow=35								
PFO	**Pinyon Flats O**	31.76	123	LR		LR		22 33 13.5	
	comp=Z,497nm,19.7s,baz=346,slow=32								
BLYC	**Blythe**	32.56	120	P		**P**		22 22 47.6	-0.2
TIXI	**Tiksi**	35.67	327	LR		LR		22 39 56.8	
	comp=Z,130nm,18.4s,baz=52,slow=40								
ANMO	**Albuquerque**	35.68	109	LR		LR		22 36 58.2	
	comp=Z,155nm,18.9s,baz=45,slow=35								
KULLO	**Kullorsuaq**	37.00	26	*i* P		**P**		22 23 26.6	+0.9
KULLO				IAmb		IAmb		22 23 31.9	
	comp=Z,7.1nm,0.5s								
KULLO				IAML				22 23 31.9	
	comp=Z,7.1nm,0.5s								
NEEM	**North Greenlan**	37.21	21	*i* P		**P**		22 23 28.2	+0.3
NEEM				IAmb		IAmb		22 23 30.8	
	comp=Z,4.1nm,0.9s								
FRB	**Frobisher Bay**	37.98	45	LR		LR		22 39 25.4	
	comp=Z,670nm,18.1s,baz=343,slow=37								
YAK	**Yakutsk**	39.49	313	LR		LR		22 40 16.9	
	comp=Z,234nm,20.9s,baz=357,slow=36								
NOR	**Nord**	39.73	10	*i* P		**P**		22 23 48.6	-0.1
NOR				IAmb		IAmb		22 24 18.3	
	comp=Z,2.0nm,0.9s								
TX31	**Lajitas Ar. Si**	41.55	112	P		**P**		22 24 04.0	-0.4
TX31				IAmb		IAmb		22 24 38.6	
	comp=Z,9.4nm,1.4s								
TXAR	**Lajitas Array**	41.55	112	P		**P**		22 24 04.5	+0.2
TXAR	**Lajitas Array**	41.55	112	P		**P**		22 24 06.6	+2.3
	comp=Z,0.4nm,0.7s,baz=309,slow=6.0,SNR=4.9								
TXAR				LR		LR		22 40 20.6	
	comp=Z,164nm,19.1s,baz=334,slow=35								
	comp=Z,0.4nm,0.7s								
SUMG	**Summit**	42.58	25	P		**P**		22 24 13.0	+0.4
SUMG	**Summit**	42.58	25	*i* P		**P**		22 24 13.8	+1.2
SUMG				IAmb		IAmb		22 24 15.9	
	comp=Z,6.9nm,0.7s								
LPIG	**La Paz**	42.65	123	LR		LR		22 38 54.0	
	comp=Z,157nm,21.6s,baz=298,slow=32								
JCT	**Junction City**	42.66	107	P		**P**		22 24 13.6	+0.3
JCT				IAmb		IAmb		22 24 18.1	
	comp=Z,6.2nm,0.8s								
SFJD	**Kangerlussuaq**	42.66	35	LR		LR		22 41 57.5	
	comp=Z,351nm,19.7s,baz=1.5,slow=36								
DRIO	**Del Rio**	43.07	108	P		**P**		22 24 17.0	+0.4
DRIO				IAmb		IAmb		22 24 25.9	
	comp=Z,11nm,1.5s								
DAG	**Danmarks Havn**	43.26	15	*i* P		**P**		22 24 16.9	-0.7
DAG				IAmb		IAmb		22 24 19.6	
	comp=Z,6.2nm,1.0s								
SCHQ	**Schefferville**	43.53	56	P		**P**		22 24 22.4	+2.3
	comp=Z,3.4nm,0.9s,baz=274,slow=9.7,SNR=5.2								
SCHQ				LR		LR		22 42 37.4	
	comp=Z,285nm,18.1s,baz=126,slow=36								
	comp=Z,3.4nm,0.9s								
ICESG	**Greenland Ices**	44.57	29	*i* P		**P**		22 24 27.6	-1.0
ICESG				IAmb		IAmb		22 24 58.1	
	comp=Z,3.9nm,1.1s								
DBG	**Daneborg**	44.97	18	*i* P		**P**		22 24 30.6	-0.7
DBG				IAmb		IAmb		22 24 37.5	
	comp=Z,3.4nm,0.9s								
HEH	**HeiHe**	47.51	300	*e*P		**P**		22 24 48.8	-2.8
HEH				pmax		pmax			
	comp=Z,5.0nm,0.9s								
TKL	**Tuckaleechee C**	47.53	87	LR		LR		22 44 38.7	
	comp=Z,270nm,19.9s,baz=322,slow=36								
NRIK	**Noril'sk**	48.03	337	P		**P**		22 24 56.4	+1.0
NRIK	**Noril'sk**	48.03	337	P		**P**		22 24 57.5	+2.1
	comp=Z,2.3nm,0.5s,baz=60,slow=5.9,SNR=7.6								
NRIK				LR		LR		22 48 43.4	
	comp=Z,287nm,19.4s,baz=83,slow=40								
	comp=Z,2.3nm,0.5s								
H11N2	**WAKE ISLAND Hy**	49.34	241	T		T		23 18 14.7	
	baz=31,slow=76,SNR=41								
H11N3	**WAKE ISLAND Hy**	49.35	241	T		T		23 18 18.4	
	baz=31,slow=76,SNR=33								
H11N1	**WAKE ISLAND Hy**	49.36	241	T		T		23 18 19.2	
	baz=31,slow=76,SNR=35								
JMIC	**Jan Mayen**	49.67	16	LR		LR		22 47 32.8	
	comp=Z,93nm,20.7s,baz=4.5,slow=38								
H11S1	**WAKE ISLAND Hy**	50.49	240	T		T		23 20 24.2	
	baz=29,slow=76,SNR=77								
H11S2	**WAKE ISLAND Hy**	50.50	240	T		T		23 20 22.8	
	baz=29,slow=76,SNR=46								
H11S3	**WAKE ISLAND Hy**	50.50	240	T		T		23 20 26.5	
	baz=29,slow=76,SNR=46								
ARCES	**ARCESS Array B**	54.16	3	P		**P**		22 25 42.2	+0.8
	comp=Z,3.8nm,1.0s,baz=359,slow=5.2,SNR=3.7								
	comp=Z,3.8nm,1.0s								
ULN	**Ulaanbaatar**	58.47	310	P		**P**		22 26 12.1	-0.6
ULN				IAmb		IAmb		22 26 23.6	
	comp=Z,2.9nm,0.9s								
SONM	**Songino Array**	58.77	310	P		**P**		22 26 15.3	+0.6
SONM				IAmb		IAmb		22 26 26.1	
	comp=Z,3.5nm,0.9s								
SONM	**Songino Array**	58.77	310	P		**P**		22 26 17.3	+2.6
	comp=Z,2.2nm,0.8s,baz=52,slow=6.2,SNR=13								
	comp=Z,2.2nm,0.8s								
ZALV	**Zalesovo Beam**	61.56	327	P		**P**		22 26 33.7	+0.1
ZALV	**Zalesovo Beam**	61.56	327	P		**P**		22 26 35.4	+1.9
	comp=Z,1.3nm,0.5s,baz=28,slow=7.8,SNR=7.7								
	comp=Z,1.3nm,0.5s								
NB2	**NORSAR Subarra**	61.70	11	P		**P**		22 26 35.7	+1.3
	comp=Z,0.8nm,0.6s,baz=347,slow=6.9								
NOA	**NORSAR Array B**	61.70	11	P		**P**		22 26 35.9	+1.5
	comp=Z,1.0nm,0.9s,baz=348,slow=6.7,SNR=3.4								
	comp=Z,1.0nm,0.9s								
FIA1	**FINESS Array S**	62.29	3	P		**P**		22 26 38.5	+0.2
FINES	**FINESS Array B**	62.29	3	P		**P**		22 26 39.1	+0.8
FINES	**FINESS Array B**	62.29	3	P		**P**		22 26 39.7	+1.4
	comp=Z,1.6nm,0.5s,baz=2.9,slow=9.0,SNR=28								
	comp=Z,1.6nm,0.5s								
EKA	**Eskdalemuir Ar**	65.01	21	P		**P**		22 26 57.1	+0.8
	comp=Z,2.1nm,0.9s,baz=320,slow=5.4,SNR=3.5								
	comp=Z,2.1nm,0.9s								
ARU	**Arti**	65.27	344	P		**P**		22 26 59.0	+1.0
BRVK	**Borovoye**	66.21	336	P		**P**		22 27 04.1	-0.1
BVAR	**Borovoye Array**	66.22	335	P		**P**		22 27 07.3	+3.0
	comp=Z,2.1nm,0.7s,baz=16,slow=6.3,SNR=10								
	comp=Z,2.1nm,0.7s								
KURBB	**Kurchatov Arra**	66.32	329	P		**P**		22 27 07.4	+2.5
	comp=Z,1.3nm,0.2s,baz=28,slow=6.7,SNR=2.0								
	comp=Z,1.3nm,0.2s								
MK31	**Makanchi Array**	68.61	325	P		**P**		22 27 19.1	-0.4
MK31				IAmb		IAmb		22 27 30.8	
	comp=Z,2.7nm,1.2s								
MKAR	**Makanchi Array**	68.61	325	P		**P**		22 27 19.6	0.0
MKAR	**Makanchi Array**	68.61	325	P		**P**		22 27 21.0	+1.5
	comp=Z,0.6nm,0.7s,baz=27,slow=6.4,SNR=8.6								
	comp=Z,0.6nm,0.7s								
MAKZ	**Makanchi**	68.70	325	P		**P**		22 27 19.2	-0.8
MAKZ				IAmb		IAmb		22 27 37.8	
	comp=Z,2.9nm,1.1s								
WMQ	**Urumqi**	69.41	320	*e*P		P		22 27 28.3	+3.8
WMQ				pmax		pmax			
	comp=Z,13nm,0.7s								
WMQ				LR		LR			
	comp=Z,100nm,19.3s								
ABKAR	**Akbulak array**	71.94	341	P		**P**		22 27 40.1	+0.3
ABKAR	**Akbulak array**	71.94	341	P		**P**		22 27 40.4	+0.6
ABKAR				IAmb		IAmb		22 27 51.2	
	comp=Z,2.5nm,0.8s								
AKASG	**Malin Array Be**	73.12	1	P		**P**		22 27 47.9	+1.2
	comp=Z,1.2nm,0.6s,baz=359,slow=5.9,SNR=6.9								
	comp=Z,1.2nm,0.6s								
AAK	**Ala-Archa**	74.74	329	P		**P**		22 27 59.4	+2.8
	comp=Z,0.4nm,0.4s,baz=45,slow=5.7,SNR=1.8								
	comp=Z,0.4nm,0.4s								
KECS	**Kecovo**	74.96	8	*e*P		P		22 28 03.5	+5.9
KK31	**Karatay Array**	75.41	331	P		**P**		22 28 00.6	+0.3
KK31				IAmb		IAmb		22 28 39.0	
	comp=Z,5.2nm,1.5s								
KKAR	**Karatay Array**	75.41	331	P		**P**		22 28 00.5	+0.2
KKAR				IAmb		IAmb		22 28 38.9	
	comp=Z,5.2nm,1.5s								
KBA	**Koelnbreinsper**	75.66	13	*e*P		**P**		22 28 03.8	+2.0
	comp=Z,1.1nm,0.4s								
BURAR	**Bucovina Array**	76.09	4	P		**P**		22 28 03.9	-0.4
OBKA	**Obir**	76.36	12	*i* P		**P**		22 28 07.6	+1.9
	comp=Z,3.4nm,0.9s								
ARSB	**Arslanbob**	76.39	329	P		**P**		22 28 04.5	-1.5
PZH	**PanZhiHua**	78.33	301	P		**P**		22 28 18.0	+0.9
PZH				pmax		pmax			
	comp=Z,10.0nm,0.7s								
PZH				pmax		pmax			
	comp=Z,100nm,5.3s								
ESDC	**Sonseca Array**	79.59	27	P		**P**		22 28 25.0	+1.2
ESDC	**Sonseca Array**	79.59	27	P		**P**		22 28 25.9	+2.1
	comp=Z,1.5nm,0.8s,baz=340,slow=6.0,SNR=7.8								
	comp=Z,1.5nm,0.8s								
KBZ	**Khabaz**	79.64	352	P		**P**		22 28 26.9	+3.1
	comp=Z,1.6nm,0.8s,baz=327,slow=5.1,SNR=4.9								
	comp=Z,1.6nm,0.8s								
RDO	**Rodhopi**	82.56	4	P		**P**		22 28 40.5	+1.0
BRTR	**Keskin Array B**	84.09	358	P		**P**		22 28 48.2	+0.6
CMAR	**Chiang Mai Arr**	86.51	299	P		**P**		22 28 59.3	-0.5
CMAR	**Chiang Mai Arr**	86.51	299	P		**P**		22 29 00.9	+1.2
	comp=Z,0.7nm,0.3s,baz=15,slow=5.0,SNR=5.8								
	comp=Z,0.7nm,0.3s								
QSPA	**South Pole Qui**	146.32	180	PKPbc		**PKiKP**		22 35 57.5	-1.6
	comp=Z,1.4nm,0.7s,baz=298,slow=1.0,SNR=8.4								
BOSA	**Boshof**	151.76	12	PKPbc		**PKiKP**		22 36 13.3	+1.7
	comp=Z,2.4nm,0.8s,baz=82,sl

comp=N,29nm,0.4s
EYAK Cordova Ski Ar 4.32 19 Pn Pn 22 25 59.1 +0.6
EYAK Cordova Ski Ar 4.32 19 P Pn 22 25 59.7 +1.1
baz=202
SUCK Suckling Hills 4.39 34 Pn 22 26 00.5 +0.9
SUCK IAML 22 27 02.4
comp=E,61nm,1.5s
SUCK IAML 22 28 16.9
comp=N,58nm,1.4s
RAGM Ragged Mountai 4.40 27 Pn 22 26 00.8 +1.1
NICHA Nichawak Mount 4.46 31 Pn 22 26 01.9 +1.2
HMT Hamilton 4.47 29 Pn 22 26 01.3 +0.6
RED Redoubt Volcan 4.47 333 Pn 22 26 01.6 +0.8
RDSO Redoubt South 4.50 333 Pn 22 26 02.0 +0.8
RSO Redoubt South 4.51 333 Pn 22 26 01.7 +0.3
P18K Big Mountain, 4.54 312 Pn 22 26 02.6 +0.9
P18K Big Mountain, 4.54 312 P Pn 22 26 02.6 +0.9
baz=127
RDWB Redoubt West 4.55 333 Pn 22 26 02.7 +0.7
GOAT Goat Mountain 4.56 25 Pn 22 26 03.2 +1.2
BERG Berg Lake 4.67 32 Pn 22 26 04.3 +0.9
GRIN Grindle Hills 4.70 34 Pn 22 26 05.1 +1.3
O18K Koktuh Hills 4.83 317 Pn 22 26 06.8 +1.2
O18K Koktuh Hills 4.83 317 P Pn 22 26 06.8 +1.2
baz=131
KHIT Khitrov Hills 4.84 33 Pn 22 26 06.8 +0.9
KNK Knik Glacier 4.91 1 Pn 22 26 07.6 +0.9
KNK IAML 22 27 15.7
comp=E,20nm,1.4s
KNK IAML 22 27 24.2
comp=N,17nm,1.4s
KNK Knik Glacier 4.91 1 P Pn 22 26 07.7 +1.0
baz=181
BMRM Bremner River 4.93 23 Pn 22 26 08.0 +0.9
BMRM Bremner River 4.93 23 P Pn 22 26 08.2 +1.1
baz=207
WAX Waxell Ridge 4.97 35 Pn 22 26 08.3 +0.7
WAX IAML 22 27 08.7
comp=E,39nm,1.1s
BARK Barkley Ridge 5.06 37 Pn 22 26 09.8 +1.0
SUA Susitna One 5.08 348 Pn Pn 22 26 10.1 +0.9
SUA IAML 22 28 15.3
comp=E,14nm,1.3s
SUA IAML 22 28 23.2
comp=N,13nm,1.4s
MESA MESA 5.08 41 Pn 22 26 10.4 +1.1
MESA MESA 5.08 41 P Pn 22 26 10.4 +1.1
baz=226
CRQM Cirque 5.13 32 Pn 22 26 10.8 +0.9
CRQM IAML 22 27 08.0
comp=N,36nm,1.3s
CRQM IAML 22 28 09.3
comp=E,24nm,1.4s
CRQE Cirque 5.14 32 P Pn 22 26 10.8 +0.8
baz=216
KLU Klutina 5.18 15 Pn 22 26 11.8 +1.2
KLU IAML 22 27 17.4
comp=N,17nm,0.7s
KLU IAML 22 27 19.8
comp=E,18nm,0.7s
KLU Klutina 5.18 15 P Pn 22 26 11.8 +1.2
baz=197
TGL Tana Glacier 5.22 33 Pn 22 26 11.9 +0.8
TGL IAML 22 27 09.4
comp=E,20nm,1.3s
TGL IAML 22 28 15.1
comp=N,21nm,1.4s
ISLE Juniper Island 5.25 36 Pn 22 26 12.1 +0.5
ISLE IAML 22 28 10.3
comp=E,29nm,1.3s
ISLE IAML 22 28 24.0
comp=N,38nm,1.3s
BAGL Bagley Icefiel 5.26 38 Pn 22 26 12.4 +0.9
STLK Strandline Lak 5.26 343 Pn 22 26 13.0 +1.3
GHO Glory Hole Cre 5.27 358 Pn 22 26 13.2 +1.4
GHO IAML 22 27 16.6
comp=E,27nm,0.6s
GHO IAML 22 27 25.0
comp=N,31nm,1.3s
N19K Bonanza Creek 5.28 327 Pn 22 26 12.8 +0.9
N19K Bonanza Creek 5.28 327 P Pn 22 26 12.9 +1.0
baz=142
SPNN North Nagishla 5.30 338 Pn 22 26 13.7 +1.5
SML Sawmill 5.31 2 Pn 22 26 13.2 +1.0
SML IAML 22 27 18.0
comp=E,19nm,1.2s
SML IAML 22 27 18.4
comp=N,22nm,1.2s
SML Sawmill 5.31 2 P Pn 22 26 13.8 +1.6
baz=182
VRDI Verde Repeater 5.43 27 Pn 22 26 14.8 +0.7
KIAG Kiagna River 5.50 34 Pn 22 26 15.8 +0.8
N25K Chitina, Valde 5.51 20 Pn 22 26 16.4 +1.4
N25K Chitina, Valde 5.51 20 P Pn 22 26 16.5 +1.4
baz=204
GLB Gilahina Butte 5.53 25 Pn 22 26 16.3 +1.0
GRNC Granite Creek 5.55 38 Pn 22 26 16.6 +0.9
TABL Table Mountain 5.56 42 Pn 22 26 16.3 +0.5
N18K Kilae Creek 5.64 321 Pn Pn 22 26 17.1 +0.3
PTPK Patty Peak 5.67 32 Pn 22 26 18.5 +1.2
SKT Skwentna 5.68 346 Pn Pn 22 26 18.7 +1.4
M24K Tolsona, Glenn 5.75 12 Pn 22 26 20.2 +2.0
M24K Tolsona, Glenn 5.75 12 P Pn 22 26 20.1 +1.9
baz=194
BARN Barnard Glacie 5.82 36 Pn 22 26 20.4 +1.1
CTG Chitna Glacier 5.86 37 P Pn 22 26 20.8 +1.0
baz=223
M20K Styx River 5.86 339 P Pn 22 26 21.3 +1.5
baz=155
CTGM Chitina Glacie 5.86 37 Pn 22 26 20.8 +0.9
BCPM Bancas Point 5.87 50 Pn Pn 22 26 21.0 +1.1
WASW Wrangell South 5.89 21 Pn 22 26 21.8 +1.5
O16K Kokwok River B 5.89 305 Pn 22 26 21.6 +1.4
O16K Kokwok River B 5.89 305 P Pn 22 26 21.3 +1.1
baz=118
WACK Wrangell Chich 5.91 20 Pn 22 26 22.2 +1.5
O28M Mount Upton 6.13 42 Pn 22 26 25.0 +1.2
O28M Mount Upton 6.13 42 P Pn 22 26 25.0 +1.2
baz=229
M19K Big River Lodg 6.16 334 Pn Pn 22 26 24.5 +0.6
O29M Mount Kennedy 6.50 50 Pn 22 26 30.1 +1.4
O29M Mount Kennedy 6.50 50 P Pn 22 26 29.8 +1.1
baz=238
P29M Windy Craggy 6.57 57 Pn 22 26 30.1 +0.6
P29M Windy Craggy 6.57 57 P Pn 22 26 30.4 +0.9
baz=246
DHY Denali Highway 6.61 5 Pn 22 26 32.3 +2.1
DHY Denali Highway 6.61 5 P Pn 22 26 32.0 +1.8
baz=186
M17K Holitna River 6.68 321 Pn Pn 22 26 32.3 +1.3
SDPT Sand Point 6.76 265 Pn Pn 22 26 32.1 0.0
S31K Pelican 6.88 73 Pn Pn 22 26 32.9 -0.9
RND Reindeer 6.91 359 Pn Pn 22 26 36.0 +1.8
YUK6 Outpost Mounta 6.94 46 Pn 22 26 36.1 +1.3
YUK6 Outpost Mounta 6.94 46 P Pn 22 26 36.1 +1.3
baz=234
TRF Thorofare Moun 7.00 354 Pn Pn 22 26 37.8 +2.2
M16K Timber Creek 7.01 314 Pn Pn 22 26 36.7 +1.1
N15K Kwethluk River 7.05 306 Pn Pn 22 26 38.5 +2.4
YUK4 Talbot Arm 7.08 43 P Pn 22 26 39.5 +2.9
baz=231
HYT Haines Junctio 7.23 49 Pn Pn 22 26 39.5 +0.9
O14K Tigyukauivet M 7.27 297 Pn Pn 22 26 40.2 +1.1
BCAR Beaver Creek A 7.42 25 Pn Pn 22 26 41.6 +0.5
RIDG Independent Ri 7.49 13 Pn 22 26 43.9 +1.8
SKAG Skagway 7.66 62 Pn Pn 22 26 45.4 +1.0
BPAW Bear Paw Mtn. 7.70 352 Pn Pn 22 26 46.0 +1.0
N30M Aishikik Lake 7.75 45 Pn Pn 22 26 46.8 +1.1
K17K Iditarod 7.91 326 Pn Pn 22 26 48.4 +0.5
ILAR Eielson Array 8.33 5 Pn Pn 22 26 55.2 +1.7
J26L Joseph Creek 8.39 15 Pn 22 26 55.6 +1.2
P32M Atlin 8.49 63 Pn Pn 22 26 56.3 +0.5
K29M Barlow Dome 9.19 32 Pn Pn 22 27 06.4 +0.9
H21K Melozitna Rive 9.39 349 Pn Pn 22 27 08.7 +0.6
IMAR Indian Mountai 9.81 348 Pn Pn 22 27 14.9 +1.0
F21K Alatna River 10.98 350 Pn Pn 22 27 30.8 +0.9

SOME ***27*** *22:29:04.3, 48˚.20N×86˚.10E, h0km*
ASRS ***27*** *22:29:06.0±0.8, 49˚N±4˚×8˚6E±˚, h10km, MLh3.1/10, Error ellipse: s-maj=8.0km s-min=6.0km az=5.2, confirmed*
NNC ***27*** *22:29:08.5±1.8, 48˚.21N×85˚.85E, h0km, mb3.6, mpv3.5, Error ellipse: s-maj=14.5km s-min=8.2km az=94.0*

ISC 27 22:29:04.8±0.8, 48˚.52N±0˚.04×86˚.32E±0˚.04, h10km, n30, σ2s 04/43, 4C-6D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DGZ	**Jazzator, Alta**	**1.39**	**31**	Pg	**Pn**	**22 29 29.9**	**-0.5**
DGZ				Sg	**Sn**	**22 29 48.6**	**-0.4**
ZSN	**Zaisan**	**1.45**	**223**	*e*P	**Pn**	**22 29 29.6**	**-1.5**
	62nm,0.2s						
ZSN				*e*S	**Sn**	**22 29 48.6**	**-1.6**
	67nm,0.2s						
ZSN	**Zaisan**	**1.45**	**223**	P	**Pn**	**22 29 29.6**	**-1.5**
	62nm,0.2s						
ZSN				S	**Sn**	**22 29 48.6**	**-1.6**
	67nm,0.2s						
CHBI	**Chibit, Altay**	**1.95**	**23**	Pg	**Pg**	**22 29 41.2**	**-1.1**
CHBI				Sg	**Sg**	**22 30 07.6**	**0.0**
AKAR	**Aktash**	**1.99**	**25**	Pg	**Pb**	**22 29 41.4**	**+0.2**
AKAR				Sg	**Sg**	**22 30 08.6**	**-0.2**
CUR	**Chagan-Uzun**	**2.06**	**39**	Pg	**Pg**	**22 29 42.9**	**-1.5**
CUR				Sg	**Sg**	**22 30 09.6**	**-1.6**
ULGR	**Ulagan, Altay**	**2.36**	**26**	Pg	**Pg**	**22 29 49.7**	**-0.3**
ULGR				Sg	**Sg**	**22 30 20.2**	**-0.4**
UKR	**Ust'-Kan**	**2.62**	**338**	Pg	**Pb**	**22 29 52.5**	**+0.6**
UKR				Sg	**Sg**	**22 30 26.2**	**-2.7**
ELDR	**Elanda**	**2.70**	**357**	Pg	**Pg**	**22 29 55.0**	**-1.6**
ELDR				Sg	**Sg**	**22 30 31.7**	**+0.1**
MK31	**Makanchi Array**	**3.23**	**239**	⇑Pn	**Pn**	**22 29 55.0**	**-0.6**
	0.5nm,0.1s,baz=74,slow=17,SNR=251						
MK31				⇑Pg	**Pb**	**22 30 01.7**	**-0.5**
	2.3nm,0.3s,baz=74,slow=17,SNR=18						
ARTR	**Artybash**	**3.34**	**10**	Pg	**Pb**	**22 30 05.7**	**+1.6**
ARTR				Sg	**Sg**	**22 30 48.3**	**-3.7**
YALR	**Yailyu, Altay**	**3.36**	**14**	Pg	**Pg**	**22 30 06.3**	**-2.8**
YALR				Sg	**Sb**	**22 30 48.4**	**+3.1**
MAKZ	**Makanchi**	**3.40**	**241**	⇑Pn	**Pn**	**22 29 58.2**	**+0.3**
	1.5nm,0.6s						
MAKZ				⇓Pg	**Pb**	**22 30 02.8**	**-2.4**
	2.3nm,0.3s						
MAKZ				⇓Lg	Lg	22 30 43.9	
	17nm,0.7s						
GALT	**Gorno-Altaysk,**	**3.45**	**356**	Pg	**Pg**	**22 30 09.1**	**-1.8**
GALT				Sg	**Sg**	**22 30 53.8**	**-1.8**
TEL	**Teeli**	**3.55**	**44**	Pg	**Pb**	**22 30 06.8**	**-0.9**
TEL				Sg	**Sb**	**22 30 53.3**	**+2.5**
SEM	**Semipalatinsk**	**4.39**	**298**	*e*P	**Pg**	**22 30 26.1**	**-2.8**
	2.5nm,0.1s						
SEM				*e*S	**Sg**	**22 31 25.1**	**-0.6**
	29nm,0.3s						
SEM	**Semipalatinsk**	**4.39**	**298**	Pg	**Pg**	**22 30 26.1**	**-2.8**
	2.5nm,0.1s						
SEM				Lg	Lg	22 31 25.1	
	29nm,0.3s						
KURK	**Kurchatov**	**5.47**	**297**	⇑Sn	**Sn**	**22 31 31.7**	**+2.5**
	2.5nm,0.5s						
KURK				⇓Lg	Lg	22 31 58.1	
	32nm,0.8s						
KURBB	**Kurchatov Arra**	**5.49**	**295**	⇓Lg	Lg	22 31 58.6	
	41nm,0.7s						
KAPS	**Kapalarasan**	**5.76**	**238**	*e*P	**Pb**	**22 30 46.0**	**+0.5**
	1.6nm,0.1s						
KAPS				*e*S	**Sb**	**22 31 59.6**	**+5.0**
	7.4nm,0.3s						
KAPS	**Kapalarasan**	**5.76**	**238**	Pg	**Pb**	**22 30 46.0**	**+0.5**
	1.6nm,0.1s						
KAPS				Lg	Lg	22 31 59.6	
	7.4nm,0.3s						
DJR	**Jarkent**	**6.16**	**230**	*e*P	**Pb**	**22 30 52.1**	**0.0**
	0.6nm,0.1s						
DJR				*e*S	**Sb**	**22 32 09.9**	**+4.0**
	5.0nm,0.5s						
DJR	**Jarkent**	**6.16**	**230**	Pg	**Pb**	**22 30 52.1**	**0.0**
	0.6nm,0.1s						
DJR				Lg	Lg	22 32 09.9	
	5.0nm,0.5s						
KNOS	**Konyrlen**	**6.46**	**233**	Pg	**Pb**	**22 30 58.6**	**+1.3**
	1.4nm,0.2s						
KNOS				Lg	Lg	22 32 21.2	
	2.9nm,0.3s						
PDGK	**Podgornoye**	**7.04**	**225**	⇓Lg	Lg	22 32 40.2	
	11nm,1.5s						
ARXS	**Arharly**	**7.28**	**237**	*e*P	**Pb**	**22 31 14.6**	**+3.2**
	2.2nm,0.2s						
ARXS				*e*S	Sg	22 32 48.3	-10
	5.0nm,0.4s						
ARXS	**Arharly**	**7.28**	**237**	Pg	**Pb**	**22 31 14.6**	**+3.2**
	2.2nm,0.2s						
ARXS				Lg	Lg	22 32 48.3	
	5.0nm,0.4s						
BRZS	**Berezniki**	**9.05**	**284**	*e*P	Pn	22 31 50.4	+35
	0.9nm,0.3s						
BRZS				*e*S	Sn	22 33 49.5	+52
	2.3nm,0.3s						
BRZS	**Berezniki**	**9.05**	**284**	Pg	Pn	22 31 50.4	+35
	0.9nm,0.3s						
BRZS				Lg	Lg	22 33 49.5	
	2.3nm,0.3s						
OTUK	**Ortayu**	**9.31**	**274**	⇓Lg	Lg	22 33 56.3	
	4.1nm,1.0s						

BJI ***27*** *22:41:07.1±0.0, 56˚.46N×148˚.99W, h5km, mb5.3/85, mB5.2/54, Ms5.4/84, Ms7 5.3/81*
IDC ***27*** *22:41:08.7±0.5, 56˚.52N×148˚.67W, h0km, mb4.8/33, mbtmp4.8/38, ML4.5/5, MS4.7/81, Error ellipse: s-maj=14.9km s-min=10.1km az=13.0*
NEIC ***27*** *22:41:08.6±1.2, 56˚.52N±0˚.06×148˚.64W±0˚.08, h6km±3km, mb5.2/180, ML5.3/78, Ms_20 5.0/166, Mwb5.4/16, Mww5.4/96, ML5.1(AEIC), Error ellipse: s-maj=9.0km s-min=6.8km az=179.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.51; Mθθ-0.95; Mφφ0.44; Mrθ0.04; Mrφ1.49; Mθφ0.19; Fault plane solution: M₀1.71000×10¹⁷ NP1:φs346.96000°, δ83.51000°, λ171.08000°. NP2:φs77.98000°, δ81.14000°, λ6.57000°. Principal axes: T 1.4211, Plg11.0000°, Azm302.0000°; N 0.4761, Plg79.0000°, Azm131.0000°; P -1.8972, Plg2.0000°, Azm33.0000°;*
NEIC ***27*** *22:41:08.7, 56˚.53N×148˚.60W, h6km*
NEIC ***27*** *22:41:08.8, 56˚.53N×148˚.60W, h12km, Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 10¹⁷Nm; Mrr-0.34; Mθθ-0.11; Mφφ0.46; Mrθ-0.03; Mrφ1.50; Mθφ-0.10; Fault plane solution: M₀1.53000×10¹⁷ NP1: φs174.61000°, δ89.70000°, λ176.53000°. NP2: φs264.63000°, δ86.53000°, λ0.30000°. Principal axes: T 1.6994, Plg3.0000°, Azm130.0000°; N -0.3473, Plg87.0000°, Azm350.0000°; P -1.3520, Plg2.0000°, Azm220.0000°;*
NEIC ***27*** *22:41:08.8, 56˚.53N×148˚.60W, h12km*
MOS ***27*** *22:41:09.8±1.0, 56˚.56N×148˚.54W, h21km, mb5.4/100, MS4.8/28, Error ellipse: s-maj=8.2km s-min=3.5km az=97.7*
GCMT ***27*** *22:41:10.6±0.1, 56˚.57N±0˚.01×148˚.46W±0˚.01, h12km, MW5.4/161, Moment Tensor Solution. s120,c208; s161,c318; Duration: 1s2 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.16±.02; Mθθ-0.19±.02; Mφφ0.35±.02; Mrθ0.24±.04; Mrφ1.50±.01; Mθr-0.15±.04; Best double couple: M₀1.55400×10¹⁷ NP1:φs264.00000°, δ83.00000°, λ-9.00000°. NP2:φs355.00000°, δ81.00000°, λ-173.00000°. Principal axes: T 1.6070, Plg1.0000°, Azm310.0000°; N -0.1070, Plg78.0000°, Azm47.0000°; P -1.5000, Plg12.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
AEIC ***27*** *22:41:12.9±1.6, 56˚.48N±0˚.04×148˚.58W±0˚.08, h12km±3km Error ellipse: s-maj=7.7km s-min=4.6km az=220.0*
BGR ***27*** *22:41:13.4, 56˚.55N×147˚.18W, h10km, mb4.6*

ISC 27 22:41:09.8±0.5, 56˚.54N±0˚.04×148˚.58W±0˚.03, h12km±2km, h13km:pP-P, n1333, σ1s24/1294, mb5.2/234, MS5.0/198, 71C-22D, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.51**	**301**	Pn	**Pn**	**22 41 48.8**	**-1.6**
KDAK				Sn	**Sn**	**22 42 17.3**	**-3.5**
KDAK	**Kodiak Island**	**2.51**	**301**	P	**Pn**	**22 41 48.9**	**-1.4**
	baz=118						
KDAK				S	**Sn**	**22 42 17.0**	**-3.8**
	baz=118						
KDAK	**Kodiak Island**	**2.51**	**301**	*c i*P	**Pn**	**22 41 48.3**	**-2.0**
KDAK	**Kodiak Island**	**2.51**	**301**	Pn	**Pn**	**22 41 48.9**	**-1.4**
	184nm,0.3s,baz=133,slow=4.6,SNR=405						
KDAK				Sn	**Sn**	**22 42 15.7**	**-5.1**
	124nm,0.3s,baz=291,slow=18,SNR=7.1						
KDAK				LR	LR	22 42 31.5	
	comp=Z,13μm,21.8s,baz=130,slow=33						
	397nm,0.3s						
OHAK	**Old Harbor**	**2.67**	**287**	P	**Pn**	**22 41 50.7**	**-1.8**
OHAK	**Old Harbor**	**2.67**	**287**	Pn	**Pn**	**22 41 50.5**	**-2.0**
OHAK					**Sn**	**22 42 20.1**	**-4.7**
OHAK	**Old Harbor**	**2.67**	**287**	P	**Pn**	**22 41 50.6**	**-1.8**
	baz=103,SNR=85						
OHAK				S	**Sn**	**22 42 20.5**	**-4.3**
	baz=103						
SYI	**Shuyak Island**	**2.92**	**317**	Pn	**Pn**	**22 41 55.1**	**-0.8**
SYI					**Sn**	**22 42 29.5**	**-1.3**
Q20K	**Shuyak Island**	**2.92**	**317**	P	**Pn**	**22 41 55.1**	**-0.8**
	baz=134,SNR=114						
Q20K				S	**Sn**	**22 42 29.4**	**-1.4**
	baz=134						
Q23K	**Middleton Isla**	**3.13**	**21**	Pn	**Pn**	**22 41 57.8**	**-1.0**
Q23K				IAML		22 42 33.9	
	comp=E,4μm,0.6s						
Q23K	**Middleton Isla**	**3.13**	**21**	P	**Pn**	**22 41 57.7**	**-1.0**
	baz=203,SNR=23						
Q23K				S	**Sn**	**22 42 33.0**	**-3.1**
	baz=203						
MID	**Middleton Isla**	**3.13**	**21**	P	**Pn**	**22 41 58.0**	**-0.9**
MID	**Middleton Isla**	**3.13**	**21**	Pn	**Pn**	**22 41 57.9**	**-0.9**
MID	**Middleton Isla**	**3.13**	**21**	P	**Pn**	**22 41 57.9**	**-0.9**
CNPM	**China Poot**	**3.31**	**336**	Pn	**Pn**	**22 42 00.5**	**-0.8**
CNPM					**Sn**	**22 42 37.5**	**-3.0**
CNPM				IAML		22 42 43.9	
	comp=E,4μm,1.0s						
BRSE	**Bradley Lake S**	**3.41**	**341**		**Pn**	**22 42 01.5**	**-1.1**
BRSE	**Bradley Lake S**	**3.41**	**341**	P	**Pn**	**22 42 01.6**	**-1.1**
	baz=159,SNR=238						
BRLK	**Bradley Lake**	**3.46**	**340**		**Pn**	**22 42 02.1**	**-1.2**
BRLK					**Sn**	**22 42 41.9**	**-2.3**
P23K	**Montague Islan**	**3.52**	**10**		**Pn**	**22 42 03.3**	**-0.9**
P23K					**Sn**	**22 42 42.3**	**-3.5**
P23K	**Montague Islan**	**3.52**	**10**	P	**Pn**	**22 42 03.4**	**-0.8**
	baz=191,SNR=28						
P23K				S	**Sn**	**22 42 42.2**	**-3.5**
	baz=191						
HOM	**Homer**	**3.53**	**334**		**Pn**	**22 42 03.8**	**-0.4**
HOM				IAML		22 42 49.3	
	comp=N,7μm,1.2s						
HOM				IAML		22 42 57.0	
	comp=E,9μm,1.3s						
HOM	**Homer**	**3.53**	**334**	P	**Pn**	**22 42 03.9**	**-0.4**
	baz=151,SNR=213						
SEW	**Seward**	**3.61**	**353**		**Pn**	**22 42 04.1**	**-1.1**
SEW	**Seward**	**3.61**	**353**	P	**Pn**	**22 42 04.2**	**-1.1**
	baz=172,SNR=172						
SEW				S	**Sn**	**22 42 44.1**	**-3.6**
	baz=172						
Q19K	**Cape Douglas,**	**3.62**	**314**	Pn	**Pn**	**22 42 05.2**	**-0.4**
Q19K				IAML		22 43 01.7	
	comp=N,9μm,0.9s						
Q19K	**Cape Douglas,**	**3.62**	**314**	P	**Pn**	**22 42 05.2**	**-0.4**
	baz=129,SNR=183						
Q19K				S	**Sn**	**22 42 46.4**	**-1.8**
	baz=129						
AU22	**Augustine Moun**	**3.81**	**320**		**Pn**	**22 42 07.8**	**-0.3**
AU22					**Sn**	**22 42 51.7**	**-1.1**
AUCH	**Augustine Cone**	**3.84**	**320**		**Pn**	**22 42 08.4**	**-0.3**
P19K	**Oil Pt**	**3.98**	**324**		**Pn**	**22 42 10.2**	**-0.3**
P19K				IAML		22 43 00.4	
	comp=E,4μm,0.7s						
P19K				IAML		22 43 00.4	
	comp=N,5μm,0.7s						
P19K	**Oil Pt**	**3.98**	**324**	P	**Pn**	**22 42 10.1**	**-0.5**
	baz=140,SNR=101						
O22K	**Cooper Landing**	**4.00**	**352**		**Pn**	**22 42 09.7**	**-1.0**
O22K	**Cooper Landing**	**4.00**	**352**	P	**Pn**	**22 42 09.7**	**-1.0**
	baz=171,SNR=114						
ACHA	**Angle Creek He**	**4.02**	**297**		**Pn**	**22 42 11.1**	**0.0**
HIN	**Hinchinbrook I**	**4.02**	**15**		**Pn**	**22 42 10.4**	**-0.7**
HIN				IAML		22 43 01.8	
	comp=E,5μm,1.0s						
KAIM	**Kayak Island**	**4.05**	**31**	Pn	**Pn**	**22 42 10.9**	**-0.5**
KAIM				IAML		22 43 06.5	
	comp=E,5μm,0.7s						
KAIM	**Kayak Island**	**4.05**	**31**	P	**Pn**	**22 42 11.0**	**-0.4**
	baz=215,SNR=57						
KAIM				S	**Sn**	**22 42 55.9**	**-2.7**
	baz=215						
SLKM	**Skilak Lake**	**4.07**	**348**		**Pn**	**22 42 10.8**	**-1.0**
ANCK	**Angle Creek**	**4.10**	**297**		**Pn**	**22 42 11.7**	**-0.4**
O20K	**Slope Mountain**	**4.14**	**331**		**Pn**	**22 42 12.1**	**-0.8**
O20K	**Slope Mountain**	**4.14**	**331**	P	**Pn**	**22 42 12.0**	**-0.8**
	baz=147,SNR=60						
IVE	**Iliamna Volcan**	**4.20**	**328**		**Pn**	**22 42 12.4**	**-1.3**
ILSW	**Iliamna Southw**	**4.21**	**327**		**Pn**	**22 42 12.6**	**-1.2**
ILSW				IAML		22 43 06.3	
	comp=E,3μm,0.7s						
EYAK	**Cordova Ski Ar**	**4.29**	**19**	P	**Pn**	**22 42 14.4**	**-0.3**
EYAK	**Cordova Ski Ar**	**4.29**	**19**		**Pn**	**22 42 13.9**	**-0.8**
EYAK	**Cordova Ski Ar**	**4.29**	**19**	P	**Pn**	**22 42 14.3**	**-0.3**
	baz=201,SNR=343						
EYAK				S	**Sn**	**22 43 01.3**	**-3.2**
	baz=201						
Q17K	**Contact Creek**	**4.32**	**297**	P	**Pn**	**22 42 14.6**	**-0.6**
	baz=111,SNR=364						
PLK3	**Peulik 3**	**4.35**	**289**		**Pn**	**22 42 14.8**	**-0.7**
SUCK	**Suckling Hills**	**4.36**	**34**		**Pn**	**22 42 15.3**	**-0.3**
SUCK				IAML		22 43 19.2	
	comp=E,3μm,1.5s						
SUCK				IAML		22 43 20.8	
	comp=N,3μm,1.0s						
RAGM	**Ragged Mountai**	**4.37**	**26**		**Pn**	**22 42 15.5**	**-0.4**
HMT	**Hamilton**	**4.43**	**29**		**Pn**	**22 42 16.6**	**-0.2**
CAPN	**Captain Cook N**	**4.45**	**343**		**Pn**	**22 42 17.1**	**+0.2**
CAPN	**Captain Cook N**	**4.45**	**343**	P	**Pn**	**22 42 17.0**	**+0.2**
	baz=161						
RSO	**Redoubt South**	**4.50**	**333**		**Pn**	**22 42 16.7**	**-1.2**
BGLC	**Bering Glacier**	**4.55**	**36**	P	**Pn**	**22 42 18.0**	**-0.3**
	baz=220						
PLK1	**Peulik 1**	**4.55**	**290**		**Pn**	**22 42 17.4**	**-0.9**
P18K	**Big Mountain,**	**4.55**	**312**		**Pn**	**22 42 17.2**	**-1.1**
P18K	**Big Mountain,**	**4.55**	**312**	P	**Pn**	**22 42 17.2**	**-1.1**
	baz=126,SNR=117						
RC01	**Rabbit Creek A**	**4.61**	**353**	Pn	**Pn**	**22 42 18.4**	**-0.7**
RC01				IAML		22 43 12.5	
	comp=E,4μm,0.7s						
RC01				IAML		22 43 15.8	
	comp=N,2μm,0.6s						
RC01	**Rabbit Creek A**	**4.61**	**353**	P	**Pn**	**22 42 18.5**	**-0.5**
	baz=172,SNR=70						
BERG	**Berg Lake**	**4.64**	**31**		**Pn**	**22 42 19.1**	**-0.4**
FIS	**Fire Island**	**4.70**	**350**		**Pn**	**22 42 20.3**	**0.0**
FIS				IAML		22 43 22.1	
	comp=N,4μm,0.8s						
SNH	**Sunshine Point**	**4.74**	**37**	Pn	**Pn**	**22 42 20.6**	**-0.4**
SNH				IAML		22 43 25.9	
	comp=E,2μm,0.8s						
SNH				IAML		22 43 28.7	
	comp=N,2μm,0.9s						
O19K	**Port Alsworth**	**4.75**	**323**		**Pn**	**22 42 20.7**	**-0.3**
O19K				IAML		22 43 19.2	
	comp=E,3μm,0.6s						
O19K				IAML		22 43 20.3	
	comp=N,4μm,0.5s						
O19K	**Port Alsworth**	**4.75**	**323**	P	**Pn**	**22 42 19.9**	**-1.2**
	baz=138						
CYK	**Cape Yakataga**	**4.79**	**40**		**Pn**	**22 42 21.1**	**-0.5**
DIV	**Divide**	**4.83**	**16**		**Pn**	**22 42 21.7**	**-0.5**
O18K	**Koktuh Hills**	**4.83**	**316**		**Pn**	**22 42 21.1**	**-1.1**
O18K				IAML		22 43 19.2	
	comp=N,1μm,0.8s						
O18K	**Koktuh Hills**	**4.83**	**316**	P	**Pn**	**22 42 21.0**	**-1.1**
	baz=131,SNR=157						
Q16K	**King Salmon**	**4.84**	**300**	P	**Pn**	**22 42 22.0**	**-0.3**
	baz=113,SNR=89						
KNK	**Knik Glacier**	**4.89**	**1**		**Pn**	**22 42 22.5**	**-0.5**
KNK				IAML		22 43 20.2	
	comp=E,2μm,0.6s						
KNK				IAML		22 43 20.3	
	comp=N,1μm,0.8s						
KNK	**Knik Glacier**	**4.89**	**1**	P	**Pn**	**22 42 22.5**	**-0.5**
	baz=181,SNR=32						
BMRM	**Bremner River

P17K	Kvichak River	4.97	306			Pn		22 42 23.4	-0.6
P17K	Kvichak River baz=119	4.97	306	P		Pn		22 42 23.6	-0.4
R16K	Pilot Point baz=98	5.02	286	P		Pn		22 42 25.0	+0.3
N20K	Mount Spurr baz=156,SNR=97	5.04	340	P		Pn		22 42 23.8	-1.3
SPCR	Spurr Chakacha	5.04	340			Pn		22 42 23.8	-1.3
MESA	MESA	5.05	41			Pn		22 42 24.9	-0.5
MESA comp=N,2µm,0.5s				IAML				22 43 31.1	
MESA comp=E,1µm,1.0s				IAML				22 43 47.9	
MESA	MESA baz=226,SNR=27	5.05	41	P		Pn		22 42 24.8	-0.5
SUA	Susitna One	5.07	348			Pn		22 42 24.6	-0.9
SUA comp=E,1µm,1.0s				IAML				22 43 25.9	
SUA	Susitna One baz=166,SNR=39	5.07	348	P		Pn		22 42 24.5	-1.0
PMR	Palmer	5.08	357	Pn		Pn		22 42 24.9	-0.6
PMR comp=N,1µm,0.9s				IAML				22 43 21.9	
PMR comp=E,2µm,0.9s				IAML				22 43 21.9	
PMR	Palmer baz=176,SNR=48	5.08	357	P		Pn		22 42 25.0	-0.6
PMR	Palmer	5.08	357	P		Pn		22 42 24.9	-0.6
SPCG	Spurr Capps Gl	5.09	341			Pn		22 42 24.8	-1.1
SPCP	Crater Peak Br	5.09	340			Pn		22 42 25.0	-0.8
CRQM	Cirque	5.09	32			Pn		22 42 25.4	-0.5
CRQM comp=N,3µm,0.6s				IAML				22 43 22.6	
CRQM comp=E,2µm,0.6s				IAML				22 43 27.6	
CRQE	Cirque baz=216	5.11	32	P		Pn		22 42 25.6	-0.4
KLU	Klutina	5.16	14			Pn		22 42 26.4	-0.3
KLU comp=E,2µm,0.7s				IAML				22 43 26.7	
KLU comp=N,2µm,0.9s				IAML				22 43 33.7	
KLU	Klutina baz=196,SNR=180	5.16	14	P		Pn		22 42 26.6	-0.1
TGL	Tana Glacier	5.19	33			Pn		22 42 26.3	-0.9
TGL comp=N,1µm,0.6s				IAML				22 43 28.1	
TGL comp=E,2µm,0.5s				IAML				22 43 30.3	
ISLE	Juniper Island	5.22	36			Pn		22 42 27.1	-0.6
ISLE comp=N,1µm,1.0s				IAML				22 43 42.5	
ISLE comp=E,1µm,1.0s				IAML				22 43 51.4	
GHO	Glory Hole Cre	5.25	358			Pn		22 42 28.1	0.0
GHO comp=E,2µm,0.8s				IAML				22 43 30.7	
N19K	Bonanza Creek	5.28	327			Pn		22 42 26.9	-1.5
N19K	Bonanza Creek baz=142	5.28	327	P		Pn		22 42 27.2	-1.2
SML	Sawmill	5.29	1			Pn		22 42 28.5	0.0
SML comp=E,2µm,1.1s				IAML				22 43 31.3	
SML comp=N,2µm,0.8s				IAML				22 43 32.3	
SML	Sawmill baz=181,SNR=68	5.29	1	P		Pn		22 42 28.5	0.0
M23K	Glacier View baz=185,SNR=148	5.29	4	P		Pn		22 42 28.8	+0.3
M22K	Willow	5.29	352			Pn		22 42 27.6	-0.8
M22K comp=N,2µm,0.9s				IAML				22 43 42.4	
M22K comp=E,2µm,1.0s				IAML				22 43 46.3	
M22K	Willow baz=171,SNR=22	5.29	352	P		Pn		22 42 28.2	-0.2
SPNN	North Nagishla	5.29	338			Pn		22 42 28.0	-0.7
ANNW	Aniakchak Nort	5.32	279			Pn		22 42 28.2	-0.7
SCM	Sheep Creek Mo	5.35	6			Pn		22 42 29.5	+0.2
SCM	Sheep Creek Mo baz=187,SNR=89	5.35	6	P		Pn		22 42 29.8	+0.4
SCM	Sheep Creek Mo	5.35	6	P		Pn		22 42 29.5	+0.2
VRDI	Verde Repeater	5.40	27	Pn		Pn		22 42 29.6	-0.6
SAMH	Samovar Hills	5.46	46			Pn		22 42 30.6	-0.3
CHGN	Chignik	5.47	272	Pn		Pn		22 42 29.4	-1.5
CHGN	Chignik baz=84,SNR=27	5.47	272	P		Pn		22 42 30.1	-0.8
N25K	Chitina, Valde	5.48	20	Pn		Pn		22 42 30.9	-0.2
N25K	Chitina, Valde baz=204,SNR=214	5.48	20	P		Pn		22 42 31.1	0.0
GLB	Gilahina Butte	5.50	25	Pn		Pn		22 42 30.9	-0.5
GRNC	Granite Creek	5.51	37			Pn		22 42 31.1	-0.6
TABL	Table Mountain	5.52	42			Pn		22 42 31.5	-0.4
O17K	Koliganek Bris	5.55	309			Pn		22 42 31.1	-0.9
O17K	Koliganek Bris baz=122	5.55	309	P		Pn		22 42 31.1	-0.9
P16K	Nushagak River baz=112,SNR=46	5.62	300	P		Pn		22 42 33.0	0.0
N18K	Kilae Creek	5.64	320			Pn		22 42 31.7	-1.6
N18K	Kilae Creek baz=134	5.64	320	P		Pn		22 42 31.9	-1.4
MCARA	McCarthy VSAT	5.64	28			Pn		22 42 33.1	-0.2
MCARA	McCarthy VSAT baz=213,SNR=89	5.64	28	P		Pn		22 42 33.1	-0.2
SKT	Skwentna	5.67	346	Pn		Pn		22 42 32.7	-0.9
SKT	Skwentna baz=163,SNR=85	5.67	346	P		Pn		22 42 32.7	-0.9
M24K	Tolsona, Glenn baz=193,SNR=91	5.72	11	P		Pn		22 42 35.0	+0.6
PNL	Peninsula	5.79	53	P		Pn		22 42 35.6	+0.2
PNL	Peninsula baz=241,SNR=47	5.79	53	P		Pn		22 42 35.5	+0.1
CTG	Chitna Glacier baz=223,SNR=83	5.82	37	P		Pn		22 42 35.6	-0.3
BCPM	Bancas Point	5.83	50			Pn		22 42 35.9	0.0
LOGN	Logan Glacier	5.84	39			Pn		22 42 35.7	-0.4
SVW2	Sparrevohn	5.84	324	P		Pn		22 42 34.3	-1.7
SVW2	Sparrevohn	5.84	324	Pn		Pn		22 42 34.7	-1.3
M20K	Styx River baz=154	5.85	338	P		Pn		22 42 35.2	-1.0
WACK	Wrangell Chich	5.88	20			Pn		22 42 36.6	-0.2
VNHG	Veniaminof 1	5.89	271			Pn		22 42 36.3	-0.4
O16K	Kokwok River B	5.91	305	Pn		Pn		22 42 36.2	-0.6
O16K	Kokwok River B baz=117,SNR=155	5.91	305	P		Pn		22 42 36.3	-0.6
CUT	Chulitna	5.95	352			Pn		22 42 37.3	-0.2
CUT	Chulitna baz=171,SNR=26	5.95	352	P		Pn		22 42 37.3	-0.2
N17K	Nushagak Hills	6.03	315	Pn		Pn		22 42 37.5	-1.1
N17K	Nushagak Hills baz=128,SNR=121	6.03	315	P		Pn		22 42 37.4	-1.1
VNKR	Veniaminof 5	6.03	270			Pn		22 42 38.4	-0.3
WAT6	Susitna Watana baz=184,SNR=158	6.08	4	P		Pn		22 42 39.3	-0.1
O28M	Mount Upton	6.10	42			Pn		22 42 39.4	-0.4
O28M	Mount Upton baz=230	6.10	42	P		Pn		22 42 39.6	-0.2
S14K	Fog Glacier baz=83	6.10	272	P		Pn		22 42 39.5	-0.1
VNFG	Fog Glacier, M	6.10	272			Pn		22 42 39.0	-0.6
HARP	HAARP baz=198,SNR=113	6.13	15	P		Pn		22 42 40.5	+0.5
M19K	Big River Lodg baz=148	6.15	333	P		Pn		22 42 38.8	-1.5
M18K	Stony River	6.22	326			Pn		22 42 39.6	-1.5
M18K	Stony River baz=140,SNR=232	6.22	326	P		Pn		22 42 39.6	-1.5
WAT1	Susitna Watana baz=180	6.31	0	P		Pn		22 42 42.6	0.0
CHNA	Chernabura Isl baz=70,SNR=11	6.46	259	P		Pn		22 42 43.0	-1.5
CNBA	Chernabura Isl	6.46	259	Pn		Pn		22 42 42.9	-1.6
O29M	Mount Kennedy	6.47	50			Pn		22 42 44.8	0.0
O29M	Mount Kennedy baz=239	6.47	50	P		Pn		22 42 44.7	0.0
L19K	White Mountain baz=148,SNR=135	6.50	333	P		Pn		22 42 43.7	-1.5
P29M	Windy Craggy	6.53	57			Pn		22 42 45.0	-0.4
P29M	Windy Craggy baz=246	6.53	57	P		Pn		22 42 45.1	-0.4
M26K	Nabesna, AK baz=208,SNR=64	6.53	23	P		Pn		22 42 45.3	-0.2
L20K	Farewell, AK	6.54	338			Pn		22 42 44.1	-1.5
L20K	Farewell, AK baz=153	6.54	338	P		Pn		22 42 44.3	-1.3
O15K	Ungalikthiuk R	6.56	298			Pn		22 42 45.8	-0.1
O15K	Ungalikthiuk R baz=109	6.56	298	P		Pn		22 42 46.0	+0.1
DHY	Denali Highway	6.59	5	Pn		Pn		22 42 46.7	+0.3
DHY	Denali Highway baz=186,SNR=96	6.59	5	P		Pn		22 42 46.8	+0.3
YUK8	Steele Glacier baz=228	6.59	40	P		Pn		22 42 47.3	+0.7
YUK2	White River	6.59	34			Pn		22 42 45.9	-0.5
PPLA	Purkeypile	6.63	346			Pn		22 42 46.2	-0.9
PPLA	Purkeypile baz=162	6.63	346	P		Pn		22 42 46.7	-0.3
N16K	Nishlik Lake baz=122,SNR=78	6.64	311	P		Pn		22 42 46.3	-0.6
PAX	Paxson	6.64	12			Pn		22 42 46.7	-0.4
PAX	Paxson baz=195,SNR=66	6.64	12	P		Pn		22 42 46.7	-0.4
PAX	Paxson	6.64	12	P		Pn		22 42 46.7	-0.4
M17K	Holitna River	6.69	320			Pn		22 42 46.8	-0.8
M17K	Holitna River baz=133	6.69	320	P		Pn		22 42 46.7	-0.9
YUK3	Moose Creek baz=222,SNR=77	6.71	35	P		Pn		22 42 48.9	+0.8
M27K	Edge Creek, AK baz=213	6.76	28	P		Pn		22 42 48.6	-0.2
YUK7	Dusty Glacier	6.77	49			Pn		22 42 49.1	+0.2
SDPT	Sand Point	6.79	265	P		Pn		22 42 48.3	-0.7
SDPT	Sand Point	6.79	265	Pn		Pn		22 42 47.9	-1.2
SDPT	Sand Point baz=75,SNR=17	6.79	265	P		Pn		22 42 48.2	-0.9
S31K	Pelican	6.85	73	Pn		Pn		22 42 48.4	-1.4
S31K	Pelican baz=263,SNR=52	6.85	73	P		Pn		22 42 48.2	-1.6
MENT	Mentasta	6.87	19			Pn		22 42 49.9	-0.2
RND	Reindeer	6.89	359			Pn		22 42 50.7	+0.2
RND	Reindeer	6.89	359	P		Pn		22 42 50.7	+0.2
YUK6	Outpost Mounta	6.91	46			Pn		22 42 51.3	+0.5
YUK6	Outpost Mounta baz=235,SNR=172	6.91	46	P		Pn		22 42 51.6	+0.7
TRF	Thorofare Moun	6.99	354	Pn		Pn		22 42 51.5	-0.4
TRF	Thorofare Moun baz=172,SNR=37	6.99	354	P		Pn		22 42 51.7	-0.2
L26K	Log Cabin Wild	7.02	20			Pn		22 42 52.5	+0.3
L26K	Log Cabin Wild baz=204,SNR=56	7.02	20	P		Pn		22 42 52.4	+0.3
M16K	Timber Creek	7.02	314	Pn		Pn		22 42 51.7	-0.5
M16K	Timber Creek baz=125,SNR=125	7.02	314	P		Pn		22 42 51.6	-0.5
L18K	Granite Mounta baz=140,SNR=70	7.04	327	P		Pn		22 42 50.7	-1.7
YUK4	Talbot Arm baz=231,SNR=155	7.04	43	P		Pn		22 42 54.9	+2.2
N15K	Kwethluk River	7.07	306	Pn		Pn		22 42 52.9	0.0
N15K	Kwethluk River baz=116,SNR=93	7.07	306	P		Pn		22 42 52.8	0.0
BVCY	Beaver Creek baz=217,SNR=57	7.08	30	P		Pn		22 42 53.4	+0.3
P30M	Million Dollar	7.09	55			Pn		22 42 53.3	0.0
P30M	Million Dollar baz=245	7.09	55	P		Pn		22 42 53.5	+0.2
PLBC	Pleasant Camp	7.12	61			Pn		22 42 52.6	-0.9
PLBC	Pleasant Camp baz=251,SNR=128	7.12	61	P		Pn		22 42 53.5	0.0
CAST	Castle Rocks	7.12	347	Pn		Pn		22 42 53.0	-0.6
CAST	Castle Rocks baz=164,SNR=80	7.12	347	P		Pn		22 42 52.9	-0.7
KTH	Kantishna Hill	7.13	352			Pn		22 42 53.3	-0.5
R31K	City Hall, Gus baz=260	7.17	69	P		Pn		22 42 53.7	-0.5
HYT	Haines Junctio	7.19	49	Pn		Pn		22 42 54.9	+0.2
HYT	Haines Junctio baz=238,SNR=32	7.19	49	P		Pn		22 42 54.5	-0.2
MCK	McKinley	7.22	359			Pn		22 42 55.7	+0.8
MCK	McKinley baz=178,SNR=60	7.22	359	P		Pn		22 42 55.2	+0.2
MCK	McKinley	7.22	359	P		Pn		22 42 55.7	+0.8
O14K	Tigyukauivet M	7.29	297			Pn		22 42 55.7	-0.1
O14K	Tigyukauivet M baz=106	7.29	297	P		Pn		22 42 55.7	-0.1
SIT	Sitka	7.30	80	P		Pn		22 42 52.6	-3.3
SIT	Sitka	7.30	80	Pn		Pn		22 42 52.8	-3.2
SIT	Sitka baz=271	7.30	80	P		Pn		22 42 52.7	-3.3
SIT	Sitka	7.30	80	P		Pn		22 42 52.8	-3.2
K20K	Telida	7.37	340			Pn		22 42 55.4	-1.6
K20K	Telida baz=156	7.37	340	P		Pn		22 42 55.6	-1.5
L27K	Beaver Creek, baz=210,SNR=62	7.37	25	P		Pn		22 42 56.9	-0.2
BCAR	Beaver Creek A	7.39	25	Pn		Pn		22 42 56.8	-0.4
K24K	Donnelly Dome	7.42	10			Pn		22 42 58.3	+0.6
K24K	Donnelly Dome baz=192,SNR=54	7.42	10	P		Pn		22 42 58.5	+0.8
TTA	Tatalina baz=146,SNR=70	7.43	333	P		Pn		22 42 55.8	-2.0
RIDG	Independent Ri baz=196,SNR=116	7.46	13	P		Pn		22 42 58.4	+0.1
PS1A	Pavlof South-1	7.47	267			Pn		22 42 57.8	-0.6
L17K	Donlin	7.49	323			Pn		22 42 57.1	-1.5
L17K	Donlin baz=134	7.49	323	P		Pn		22 42 57.2	-1.5
M15K	Kasigluk River baz=118,SNR=54	7.57	308	P		Pn		22 42 58.9	-0.8
S12K	Black Hills	7.58	269			Pn		22 42 59.3	-0.6
S12K	Black Hills baz=78	7.58	269	P		Pn		22 42 59.3	-0.6
CHUM	Lake Minchumin	7.60	347			Pn		22 42 59.3	-0.8
CHUM	Lake Minchumin baz=164,SNR=161	7.60	347	P		Pn		22 42 59.3	-0.8
SKAG	Skagway	7.62	62	P		Pn		22 43 01.0	+0.6
SKAG	Skagway	7.62	62			Pn		22 43 00.2	-0.2
SKAG	Skagway baz=253,SNR=46	7.62	62	P		Pn		22 43 00.3	-0.2
L16K	Owhat River	7.63	317	Pn		Pn		22 42 59.3	-1.3
L16K	Owhat River baz=128,SNR=126	7.63	317	P		Pn		22 42 59.2	-1.3
BESE	Bessie Mountai	7.66	69			Pn		22 43 00.3	-0.7
BPAW	Bear Paw Mtn. baz=170,SNR=62	7.68	352	P		Pn		22 43 00.2	-1.1
N14K	Kuskokwak Cree	7.70	302			Pn		22 43 01.3	-0.2
N14K	Kuskokwak Cree baz=110	7.70	302	P		Pn		22 43 01.5	-0.1
S32K	Killisnoo	7.70	77			Pn		22 42 59.3	-2.2
S32K	Killisnoo baz=269,SNR=11	7.70	77	P		Pn		22 43 00.0	-1.5
N30M	Aishikik Lake	7.71	45			Pn		22 43 01.7	0.0
N30M	Aishikik Lake baz=235,SNR=62	7.71	45	P		Pn		22 43 01.8	0.0
O30N	Mendenhall	7.77	52			Pn		22 43 02.4	-0.1
O30N	Mendenhall baz=242,SNR=25	7.77	52	P		Pn		22 43 02.3	-0.1
R32K	Eaglecrest	7.79	71			Pn		22 43 02.1	-0.7
R32K	Eaglecrest baz=263,SNR=33	7.79	71	P		Pn		22 43 02.2	-0.5
SCRK	Sand Creek	7.80	15	Pn		Pn		22 43 02.7	-0.3
SCRK	Sand Creek baz=199,SNR=28	7.80	15	P		Pn		22 43 03.3	+0.2
M29M	Somme Creek	7.84	37			Pn		22 43 03.6	+0.1
M29M	Somme Creek baz=225,SNR=111	7.84	37	P		Pn		22 43 03.8	+0.3
JIS	Juneau Island	7.86	71	P		Pn		22 43 03.0	-0.7
JIS	Juneau Island	7.86	71			Pn		22 43 03.0	-0.7
K17K	Idiard baz=137,SNR=107	7.91	326	P		Pn		22 43 02.8	-1.6
HDA	Harding Lake baz=186,SNR=45	7.94	5	P		Pn		22 43 05.2	+0.5
J18K	Innoko River	8.05	333			Pn		22 43 04.6	-1.7
J18K	Innoko River baz=146	8.05	333	P		Pn		22 43 04.6	-1.7
NEA2	Nenana baz=178,SNR=29	8.09	358	P		Pn		22 43 06.3	-0.5
J20K	Nowinta River baz=158,SNR=56	8.14	343	P		Pn		22 43 06.4	-1.2
CCB	Clear Creek Bu	8.14	2	Pn		Pn		22 43 07.0	-0.5
M14K	Bethel	8.15	307			Pn		22 43 07.2	-0.5
M14K	Bethel baz=115,SNR=31	8.15	307	P		Pn		22 43 07.3	-0.4
K27K	Chicken	8.18	21			Pn		22 43 07.2	-0.8
K27K	Chicken baz=206	8.18	21	P		Pn		22 43 07.6	-0.4
J19K	Poorman baz=152	8.25	338	P		Pn		22 43 07.4	-1.7
N31M	Braeburn, Yuko baz=239,SNR=55	8.25	48	P		Pn		22 43 09.4	+0.3
J25K	Salcha River, baz=192,SNR=26	8.25	10	P		Pn		22 43 07.9	-1.2
WHY	Whitehorse	8.26	54			Pn		22 43 09.2	0.0
WHY	Whitehorse baz=246,SNR=121	8.26	54	P		Pn		22 43 09.3	0.0
ILAR	Eielson Array	8.30	5	Pn		Pn		22 43 09.4	-0.4
ILAR	Eielson Array comp=E,5.3nm,0.3s,baz=190,slow=12,SNR=95	8.30	5	Pn		Pn		22 43 09.1	-0.7
ILAR comp=E,13nm,0.3s,baz=190,slow=23,SNR=9.1					Sn		Sn	22 44 39.1	-4.2
ILAR comp=E,4µm,18.3s,baz=180,slow=38 comp=E,12nm,0.5s					LR		LR	22 46 28.6	
J26L	Joseph Creek baz=199,SNR=140	8.36	15	P		Pn		22 43 10.3	-0.3
COLA	College	8.37	2	P		Pn		22 43 11.5	+0.8
COLA	College	8.37	2			Pn		22 43 10.7	0.0
COLA	College baz=183	8.37	2	P		Pn		22 43 11.2	+0.6
COLA	College	8.37	2	*i* P		Pn		22 43 09.9	-0.8
L15K	Ungalak Mounta	8.40	313			Pn		22 43 10.2	-0.9
L15K	Ungalak Mounta baz=122,SNR=56	8.40	313	P		Pn		22 43 10.1	-0.9
L29M	L29M baz=223,SNR=130	8.43	34	P		Pn		22 43 11.7	+0.2
P32M	Atlin	8.45	63	Pn		Pn		22 43 11.4	-0.5
P32M	Atlin baz=255,SNR=39	8.45	63	P		Pn		22 43 11.3	-0.5
M30M	Minto, Yukon baz=230,SNR=37	8.50	40	P		Pn		22 43 12.4	-0.2
FALS	False Pass	8.55	265			Pn		22 43 12.4	-0.7
FALS	False Pass	8.55	265			Pn		22 43 12.2	-1.0
FALS	False Pass baz=73,SNR=9.8	8.55	265	P		Pn		22 43 12.1	-1.0
MLY	Manley	8.59	354			Pn		22 43 13.2	-0.5
MLY	Manley baz=172,SNR=48	8.59	354	P		Pn		22 43 12.4	-1.3
U33K	Whale Pass	8.60	86	Pn		Pn		22 43 10.4	-3.5
U33K	Whale Pass baz=279,SNR=7.7	8.60	86	P		Pn		22 43 10.6	-3.2
POKR	Poker Plat Res baz=184,SNR=11	8.63	3	P		Pn		22 43 13.4	-0.8
I23K	Minto, Yukon-K baz=177,SNR=96	8.65	358	P		Pn		22 43 14.0	-0.5
M13K	Dall Lake	8.65	303			Pn		22 43 13.7	-0.8
M13K	Dall Lake baz=110,SNR=16	8.65	303	P		Pn		22 43 14.4	-0.1
CRAG	Craig	8.73	91	P		Pn		22 43 11.6	-4.0
CRAG	Craig	8.73	91			Pn		22 43 11.6	-4.0
CRAG	Craig baz=283	8.73	91	P		Pn		22 43 13.5	-2.1
L14K	Kuka Creek baz=117,SNR=99	8.73	309	P		Pn		22 43 14.9	-0.7
ISNN	Isanotski Nort	8.76	265			Pn		22 43 15.0	-1.0
K15K	Wolf Creek Mou baz=125,SNR=40	8.76	317	P		Pn		22 43 15.3	-0.7
I20K	Naaghedeneel baz=158	8.77	343	P		Pn		22 43 14.6	-1.5
DAWY	Dawson baz=215,SNR=50	8.81	27	P		Pn		22 43 16.6	-0.1
I21K	Tanana baz=168	8.83	351	P		Pn		22 43 15.8	-1.1
WRAK	Wrangell Islan	8.99	84			Pn		22 43 16.4	-2.8
WRAK	Wrangell Islan baz=278	8.99	84	P		Pn		22 43 16.9	-2.2
EGAK	Eagle	9.03	21	Pn		Pn		22 43 19.3	-0.4
EGAK	Eagle baz=207,SNR=38	9.03	21	P		Pn		22 43 19.7	0.0
Q32M	Nakina River	9.05	68			Pn		22 43 19.6	-0.6
Q32M	Nakina River baz=261	9.05	68	P		Pn		22 43 20.0	-0.2
J16K	Anvik River	9.05	323	Pn		Pn		22 43 18.3	-1.8
J16K	Anvik River baz=133,SNR=114	9.05	323	P		Pn		22 43 18.4	-1.7
P33M	Teslin, Yukon	9.06	60	Pn		Pn		22 43 19.7	-0.5
P33M	Teslin, Yukon baz=253,SNR=120	9.06	60	P		Pn		22 43 19.7	-0.5
PRP	Porcupine Dome	9.13	8			Pn		22 43 20.3	-0.9
PRP	Porcupine Dome baz=191,SNR=24	9.13	8	P		Pn		22 43 20.6	-0.6
K29M	Barlow Dome baz=222,SNR=113	9.15	32	P		Pn		22 43 21.8	+0.3
GCSA	Galena City Sc	9.18	337			Pn		22 43 19.9	-1.8
GCSA	Galena City Sc baz=150,SNR=20	9.18	337	P		Pn		22 43 19.9	-1.8
M31M	Drury Creek, Y baz=238,SNR=72	9.19	46	P		Pn		22 43 22.6	+0.7
N32M	Quiet Lake	9.26	54			Pn		22 43 22.4	-0.5
N32M	Quiet Lake baz=247	9.26	54	P		Pn		22 43 22.6	-0.3
H23K	Yukon River baz=177	9.33	358	P		Pn		22 43 24.2	+0.3
H24K	Noodor Dome baz=182	9.34	2	P		Pn		22 43 24.7	+0.8
H21K	Melozitna Rive baz=166,SNR=210	9.37	349	P		Pn		22 43 23.1	-1.4
WECS	Westdahl Cape	9.40	264			Pn		22 43 23.3	-1.6
J29N	Klondike Camp baz=217,SNR=69	9.43	28	P		Pn		22 43 25.5	+0.2
H22K	Ishtalitna Cre baz=171	9.48	353	P		Pn		22 43 24.7	-1.3
H20K	Anotleneega Mo	9.48	344			Pn		22 43 23.9	-2.0
H20K	Anotleneega Mo baz=158,SNR=41	9.48	344	P		Pn		22 43 24.0	-2.0
MAYO	Mayo, Yukon baz=228,SNR=7.9	9.49	37	P		Pn		22 43 25.8	-0.2
I17K	Unalakleet	9.51	326			Pn		22 43 24.3	-1.9
I17K	Unalakleet baz=135,SNR=32	9.51	326	P		Pn		22 43 24.5	-1.6
S34M	Telegraph Cree	9.56	74			Pn		22 43 25.7	-1.3
S34M	Telegraph Cree baz=269,SNR=15	9.56	74	P		Pn		22 43 26.9	-0.2
V35K	Ketchikan	9.60	90	Pn		Pn		22 43 25.4	-2.1
V35K	Ketchikan baz=284	9.60	90	P		Pn		22 43 24.9	-2.5
FARO	Faro, Yukon baz=240,SNR=43	9.62	47	P		Pn		22 43 28.0	+0.1
I27K	Kandik River	9.69	17			Pn		22 43 28.8	-0.1
I27K	Kandik River baz=204,SNR=45	9.69	17	P		Pn		22 43 28.8	-0.1
R33M	Jennings River	9.78	66			Pn		22 43 29.5	-0.6
R33M	Jennings River baz=261,SNR=29	9.78	66	P		Pn		22 43 29.7	-0.5
H19K	Roundabout Mou baz=154,SNR=50	9.78	340	P		Pn		22 43 28.2	-1.7
J14K	Nanvaranak Lak baz=123,SNR=30	9.79	316	P		Pn		22 43 29.4	-0.7
IMAR	Indian Mountai	9.79	347	Pn		Pn		22 43 28.8	-1.3
H25L	Birch Creek	9.85	7			Pn		22 43 31.4	+0.5
H25L	Birch Creek baz=189	9.85	7	P		Pn		22 43 31.7	+0.8
H18K	Honhosa River baz=147	9.86	335	P		Pn		22 43 29.1	-1.9
DIB	Dawson Inlet,	9

G25K	**Bearman Lake**	10.33	5	P		Pn	22 43 36.8	-0.7
	baz=188							
U35K	**Hyder**	10.35	86	P		Pn	22 43 38.2	+0.4
	baz=281							
G19K	**Purcell Mounta**	10.45	341	Pn		Pn	22 43 36.9	-2.3
G19K	**Purcell Mounta**	10.45	341	P		Pn	22 43 38.0	-1.2
	baz=153,SNR=24							
H16K	**Elim**	10.52	326	P		Pn	22 43 38.1	-1.9
	baz=134,SNR=49							
I30M	**Mount Dempster**	10.52	29	Pn		Pn	22 43 39.8	-0.5
I30M	**Mount Dempster**	10.52	29	P		Pn	22 43 39.8	-0.5
	baz=220,SNR=57							
G18K	**Tagagawik**	10.55	337	P		Pn	22 43 38.9	-1.6
	baz=148,SNR=42							
UNV	**Unalaska Valle**	10.59	263	P		Pn	22 43 38.7	-2.4
UNV	**Unalaska Valle**	10.59	263	P		Pn	22 43 39.9	-1.2
	baz=68							
RUBB	**Prince Rupert**	10.64	94			Pn	22 43 39.7	-2.1
MMPY	**Sheldon Lake,**	10.66	48	Pn		Pn	22 43 42.4	+0.2
MMPY	**Sheldon Lake,**	10.66	48	P		Pn	22 43 42.6	+0.4
	baz=243,SNR=38							
G26K	**Porcupine Rive**	10.69	10	P		Pn	22 43 41.8	-0.6
	baz=194,SNR=18							
G17K	**Kiwalik Mounta**	10.71	332	P		Pn	22 43 40.4	-2.3
	baz=141,SNR=52							
COLD	**Coldfoot**	10.76	357	P		Pn	22 43 42.9	-0.4
	baz=175,SNR=33							
G27K	**Doyon Strip**	10.81	15	P		Pn	22 43 43.3	-0.7
	baz=201							
H29M	**Whitestone**	10.86	22	P		Pn	22 43 44.0	-0.8
	baz=211,SNR=17							
F21K	**Alatna River**	10.96	350	P		Pn	22 43 44.4	-1.8
	baz=166							
GRNB	**Grenville Isla**	10.97	96			Pn	22 43 44.2	-2.2
WTLY	**Watson Lake, Y**	10.99	63			Pn	22 43 45.7	-0.8
WTLY	**Watson Lake, Y**	10.99	63	P		Pn	22 43 46.2	-0.3
	baz=260,SNR=15							
F24K	**Squaw Lake**	11.03	1	P		Pn	22 43 47.3	+0.3
	baz=182,SNR=43							
F20K	**Avaraart Lake**	11.06	345	P		Pn	22 43 45.4	-2.2
	baz=159,SNR=86							
BMAR	**Burnt Mountain**	11.09	8	Pn		Pn	22 43 47.3	-0.6
G16K	**Koyuk River**	11.09	329	P		Pn	22 43 45.8	-2.1
	baz=137,SNR=33							
F22K	**John River**	11.14	353	P		Pn	22 43 46.5	-2.0
	baz=170,SNR=28							
F25K	**Christian River**	11.18	6	P		Pn	22 43 47.2	-1.9
	baz=188							
F19K	**Shaleruckik Mo**	11.20	341	P		Pn	22 43 49.1	-0.2
	baz=153							
G15K	**Niukluk**	11.32	325	P		Pn	22 43 50.2	-0.8
	baz=131,SNR=64							
EPYK	**Eagle Plains**	11.35	25	P		Pn	22 43 51.9	+0.4
	baz=215,SNR=21							
F18K	**Selawik**	11.37	337	P		Pn	22 43 51.0	-0.6
	baz=147,SNR=66							
F26K	**Sheenjek River**	11.38	9	P		Pn	22 43 51.8	-0.2
	baz=192							
ANM	**Nome**	11.50	321	P		Pn	22 43 52.3	-1.1
	baz=127,SNR=89							
H31M	**Peel River**	11.52	30	P		Pn	22 43 53.3	-0.6
	baz=223							
G29M	**Pine Creek**	11.53	21	P		Pn	22 43 53.4	-0.4
	baz=210,SNR=69							
P08K	**Saint George I**	11.56	279	P		Pn	22 43 55.0	+0.6
	baz=82							
TGTN	**Hyland Airport**	11.57	56	P		Pn	22 43 54.8	+0.3
	baz=253,SNR=53							
E23K	**Chandalar**	11.57	358	P		Pn	22 43 54.1	-0.5
	baz=177,SNR=25							
F17K	**Baldwin Pennin**	11.60	334	P		Pn	22 43 52.9	-2.0
	baz=143,SNR=110							
E19K	**Redstone River**	11.67	343	P		Pn	22 43 54.9	-0.9
	baz=156							
E25K	**Arctic Village**	11.71	6	P		Pn	22 43 56.4	+0.1
	baz=188,SNR=26							
F28M	**Old Crow**	11.82	16	Pn		Pn	22 43 58.0	+0.1
F28M	**Old Crow**	11.82	16	P		Pn	22 43 57.5	-0.4
	baz=204,SNR=19							
G30M	**tAoh Zraii Nji**	11.97	24	P		Pn	22 44 00.0	+0.1
	baz=215,SNR=38							
F15K	**North Star Dit**	11.99	327	P		Pn	22 43 58.8	-1.4
	baz=132,SNR=39							
E27K	**Coleen River**	12.12	13	P		Pn	22 44 02.6	+0.6
	baz=199,SNR=10							
TOLK	**Toolik Lake Re**	12.16	358	Pn		Pn	22 44 02.9	+0.4
TOLK	**Toolik Lake Re**	12.16	358	P		Pn	22 44 03.0	+0.4
	baz=177,SNR=56							
E21K	**Killik River**	12.20	351			Pn	22 44 02.6	-0.4
E21K	**Killik River**	12.20	351	P		Pn	22 44 01.9	-1.2
	baz=166,SNR=27							
NIKH	**Nikolski High**	12.23	262	P		Pn	22 44 01.5	-2.0
	baz=65							
E17K	**Hotham Inlet**	12.25	335	P		Pn	22 44 01.5	-2.3
	baz=143							
E18K	**Tukpahearik C**	12.26	338	P		Pn	22 44 02.3	-1.6
	baz=147							
E20K	**Nigu River**	12.26	347	P		Pn	22 44 02.3	-1.6
	baz=160							
F14K	**Arctic Creek**	12.37	324	P		Pn	22 44 04.3	-1.2
	baz=128							
G31M	**Satah River**	12.39	27	Pn		Pn	22 44 04.8	-0.7
G31M	**Satah River**	12.39	27	P		Pn	22 44 06.1	+0.6
	baz=220,SNR=40							
D23K	**Nanushuk River**	12.51	356	P		Pn	22 44 07.2	0.0
	baz=175							
D22K	**Ayikyak River**	12.53	353	P		Pn	22 44 07.2	-0.4
	baz=170							
F30M	**Barrier River**	12.58	23	P		Pn	22 44 09.1	+0.8
	baz=214,SNR=49							
D24K	**Happy Valley**	12.66	360	P		Pn	22 44 10.7	+1.3
	baz=179							
TOAD	**Toad River Com**	12.68	70	P		Pn	22 44 09.4	-0.3
	baz=270,SNR=24							
BBB	**Bella Bella**	12.69	101	Pn		Pn	22 44 09.8	0.0
BBB	**Bella Bella**	12.69	101	Pn		Pn	22 44 07.2	-2.6
	comp=E,0.6nm,0.3s,baz=281,slow=6.1,SNR=6.3							
BBB					Sn	Sn	22 46 24.1	-6.7
	comp=E,2.4nm,0.3s,baz=164,slow=21,SNR=11							
BBB					LR	LR	22 47 56.1	
	comp=E,9µm,19.6s,baz=312,slow=32							
D20K	**Etivluk River**	12.75	347	P		Pn	22 44 09.9	-0.7
	baz=160							
D19K	**Kuna River**	12.76	344	P		Pn	22 44 09.3	-1.4
	baz=155							
E28M	**Babbage River**	12.78	15	P		Pn	22 44 11.7	+0.7
	baz=203,SNR=39							
E29M	**Blow River**	12.85	18	P		Pn	22 44 11.8	-0.1
	baz=208,SNR=64							
CLES	**Cleveland East**	12.87	262	Pn		Pn	22 44 10.9	-1.3
D25K	**Kavik River**	12.87	4	P		Pn	22 44 13.9	+1.7
	baz=186,SNR=14							
F31M	**Tsiigehtchic**	12.92	26	P		Pn	22 44 12.2	-0.6
	baz=219,SNR=18							
TNA	**Tin City**	12.96	322	P		Pn	22 44 12.5	-0.9
	baz=125,SNR=31							
C21K	**Knifeblade Rid**	12.97	350	P		Pn	22 44 13.3	-0.2
	baz=164,SNR=86							
D17K	**Noatak River**	13.04	335	P		Pn	22 44 13.6	-0.9
	baz=142,SNR=24							
D27M	**Malcolm River**	13.20	12	P		Pn	22 44 17.8	+1.1
	baz=199							
C24K	**Franklin Bluff**	13.23	360	P		Pn	22 44 17.4	+0.3
	baz=180,SNR=88							
RDOG	**Red Dog Mine**	13.29	336			Pn	22 44 17.0	-0.9
RDOG	**Red Dog Mine**	13.29	336	P		Pn	22 44 16.2	-1.7
	baz=143,SNR=33							
KOTAN	**Kotaneelee Air**	13.34	64	P		Pn	22 44 20.1	+1.5
	baz=265,SNR=76							
C23K	**Itkillik River**	13.38	357	P		Pn	22 44 18.0	-1.1
	baz=175							
B21K	**Ikpikpuk River**	13.40	351	P		Pn	22 44 18.0	-1.4
	baz=165,SNR=34							
C18K	**Utukok River**	13.42	340	P		Pn	22 44 17.7	-2.1
	baz=149							
HOLB	**Holberg**	13.48	107	Pn		Pn	22 44 19.8	-0.8
C26K	**Camden Bay**	13.53	5	P		Pn	22 44 23.0	+1.9
	baz=189,SNR=43							
GAMB	**Gambell**	13.54	312	P		Pn	22 44 20.8	-0.5
	baz=112							
C19K	**Lookout Ridge**	13.54	343	P		Pn	22 44 20.1	-1.3
	baz=153							
D28M	**Stokes Point**	13.57	15	P		Pn	22 44 22.6	+1.0
	baz=204,SNR=90							
FLDN	**Fort Liard**	13.64	64			Pn	22 44 23.1	+0.4
FLDN	**Fort Liard**	13.64	64	P		Pn	22 44 23.7	+1.1
	baz=265,SNR=16							
INK	**Inuvik**	13.65	24	Pn		Pn	22 44 22.6	-0.2
INK	**Inuvik**	13.65	24	P		Pn	22 44 22.6	-0.2
	baz=218,SNR=70							
INK	**Inuvik**	13.65	24	Pn		Pn	22 44 23.5	+0.7
	comp=E,0.7nm,0.3s,baz=209,slow=14,SNR=79							
INK					LR	LR	22 50 01.5	
	comp=E,5µm,19.0s,baz=202,slow=39							
	comp=E,54nm,0.9s							
C17K	**DeLong Mountai**	13.69	337	P		Pn	22 44 21.7	-1.6
	baz=144,SNR=51							
B22K	**Teshekpuk Lake**	14.02	353	P		Pn	22 44 26.6	-1.2
	baz=169,SNR=76							
C16K	**Lisburne Hills**	14.03	334	P		Pn	22 44 26.3	-1.7
	baz=139,SNR=70							
B20K	**Meade River**	14.04	348	P		Pn	22 44 25.5	-2.5
	baz=160,SNR=64							
B18K	**Kokolik River**	14.15	341	P		Pn	22 44 28.6	-1.0
	baz=149							
WRGLY	**Wrigley**	14.21	52	P		Pn	22 44 29.6	-0.8
	baz=253,SNR=55							
A19K	**Wainwright**	14.76	343	P		Pn	22 44 36.1	-1.8
	baz=152							
A22K	**Sinclair Lake**	14.78	352	P		Pn	22 44 35.6	-2.6
	baz=166							
A21K	**Barrow**	15.23	350	P		Pn	22 44 41.0	-3.2
	baz=163,SNR=20							
CBB	**Campbell River**	15.29	105	Pn		Pn	22 44 44.2	-0.9
CBB				IAmb		IAmb	22 44 47.1	
	comp=Z,191nm,1.5s							
ATKA	**Atka Island**	15.50	265	P		Pn	22 44 45.6	-2.3
ATKA	**Atka Island**	15.50	265	Pn		Pn	22 44 45.9	-2.0
ATKA				IAmb		IAmb	22 44 55.1	
	comp=Z,79nm,0.9s							
OZB	**Mount Ozzard**	15.85	109	Pn		Pn	22 44 51.6	-0.8
OZB				IAmb		IAmb	22 44 59.6	
	comp=Z,255nm,1.4s							
GSTR	**Great Sitkin T**	16.58	266	P		Pn	22 45 02.8	+1.0
CLRS	**Cowichan Lake**	16.65	107	Pn		Pn	22 45 02.2	-0.5
CLRS				IAmb		IAmb	22 45 05.4	
	comp=Z,367nm,1.8s							
C36M	**Paulatuk**	16.82	31	P		Pn	22 45 02.8	-1.9
	baz=232,SNR=51							
HILA	**High Level**	16.98	70			Pn	22 45 06.5	-0.2
ADK	**Adak**	17.02	266	P		Pn	22 45 06.0	-1.3
ADK	**Adak**	17.02	266			Pn	22 45 06.2	-1.1
ADK	**Adak**	17.02	266	P		Pn	22 45 06.2	-1.1
ADK				pmax		pmax		
	comp=Z,194nm,1.7s							
PGC	**Sidney**	17.11	107	Pn		Pn	22 45 07.2	-1.2
KIWB	**Kanaga Island**	17.29	266	Pn		Pn	22 45 08.7	-2.0
NLWA	**Neilton Lookou**	17.68	111	P		Pn	22 45 15.2	-0.4
NLWA				IAmb		IAmb	22 45 18.4	
	comp=Z,236nm,1.4s							
BRLDA	**Berland Lookou**	17.83	85	P		Pn	22 45 17.6	+0.1
YKA	**Yellowknife Ar**	18.07	57			Pn	22 45 19.9	-0.4
YKA	**Yellowknife Ar**	18.07	57	P		Pn	22 45 20.6	+0.4
	comp=Z,0.8nm,0.3s,baz=265,slow=11,SNR=183							
YKA					LR	LR	22 52 08.6	
	comp=Z,4µm,19.1s,baz=260,slow=36							
	comp=Z,48nm,0.9s							
A36M	**Sachs Harbour**	18.29	23	P		Pn	22 45 22.4	-0.4
	baz=224,SNR=56							
E03A	**Lebam**	18.39	112	P		Pn	22 45 24.1	-0.2
F04D	**Rainier, OR**	18.99	113	P		P	22 45 31.2	+0.4
F04D				IAmb		IAmb	22 45 37.9	
	comp=Z,296nm,1.3s							
AMKA	**Amchitka**	19.47	268	P		P	22 45 35.5	-0.6
COR	**Corvallis**	19.89	116	P		P	22 45 40.4	-0.3
COR				IAmb		IAmb	22 45 53.9	
	comp=Z,298nm,1.4s							
COR	**Corvallis**	19.89	116	P		P	22 45 40.4	-0.3
COR				pmax		pmax		
	comp=Z,298nm,1.4s							
H04A	**Detroit Lake**	20.38	114	P		P	22 45 45.5	-0.5
EDM	**Edmonton**	20.39	84	P		P	22 45 45.5	-0.7
EDM				IAmb		IAmb	22 45 52.0	
	comp=Z,119nm,1.2s							
EDM	**Edmonton**	20.39	84	P		P	22 45 45.5	-0.7
EDM				pmax		pmax		
	comp=Z,119nm,1.2s							
I03D	**Drain, OR**	20.51	118	P		P	22 45 47.3	-0.1
HAWA	**Hanford**	20.59	107	IAMs_20		IAMs_20	22 51 56.8	
	comp=Z,5µm,19.0s							
NEW	**Newport**	20.75	100	P		P	22 45 49.6	-0.4
NEW	**Newport**	20.75	100	P		P	22 45 51.1	+1.0
	baz=305,SNR=28							
NEW	**Newport**	20.75	100	P		P	22 45 49.6	-0.4
NEW				pmax		pmax		
	comp=Z,522nm,2.0s							
NEW				MLR		MLR		
	comp=Z,4µm,21.0s							
NEW	**Newport**	20.75	100	P		Pn	22 45 51.6	-0.8
	comp=Z,37nm,1.0s,baz=308,slow=8.6,SNR=12							
NEW					LR	LR	22 52 49.2	
	comp=Z,4µm,18.5s,baz=301,slow=34							
	comp=Z,37nm,1.0s							
KBO	**Bosley Butte**	21.21	122	P		P	22 45 54.7	-0.4
KBO				IAmb		IAmb	22 46 08.8	
	comp=Z,261nm,1.3s							
HUMO	**Hull Mountain**	21.52	119	P		P	22 45 58.3	0.0
HUMO				IAmb		IAmb	22 46 01.6	
	comp=Z,130nm,1.1s							
HUMO				IAMs_20		IAMs_20	22 52 03.2	
	comp=Z,5µm,19.0s							
KSXB	**Camp Six Broad**	21.68	122	P		P	22 46 00.1	-0.1
KSXB				IAmb		IAmb	22 46 03.1	
	comp=Z,178nm,1.3s							
SHEM	**Shemya Is, Ala**	21.75	276	P		P	22 45 60.0	-0.7
	comp=Z,107nm,1.0s,baz=190,slow=22,SNR=7.1							
SHEM					LR	LR	22 54 37.8	
	comp=Z,1µm,18.2s,baz=68,slow=37							
	comp=Z,107nm,1.0s							
YBH	**Yreka Blue Hor**	22.30	121	P		P	22 46 07.0	+0.1
YBH				IAmb		IAmb	22 46 17.7	
	comp=Z,113nm,1.1s							
YBH				IAMs_20		IAMs_20	22 52 26.0	
	comp=Z,5µm,19.0s							
YBH	**Yreka Blue Hor**	22.30	121	P		P	22 46 07.0	+0.1
YBH				pmax		pmax		
	comp=Z,113nm,1.1s							
KHMM	**Horse Mountain**	22.50	124	P		P	22 46 09.3	+0.3
KHMM				IAmb		IAmb	22 46 28.4	
	comp=Z,150nm,1.2s							
BMO	**Blue Mountains**	22.78	108	P		P	22 46 11.9	-0.1
BMO				IAMs_20		IAMs_20	22 53 25.7	
	comp=Z,5µm,19.0s							
BMO	**Blue Mountains**	22.78	108	P		P	22 46 11.9	-0.1
BMO				pmax		pmax		
	comp=Z,48nm,1.2s							
BMO				MLR		MLR		
	comp=Z,5µm,19.0s							
BILL	**Bilibino**	23.31	318	P		P	22 46 16.3	-0.8
BILL				IAMs_20		IAMs_20	22 56 13.2	
	comp=Z,6µm,18.0s							
BILL	**Bilibino**	23.31	318	*e*P		P	22 46 17.0	-0.1
OVMT	**Ovando**	23.71	98	P		P	22 46 21.6	+0.3
WVOR	**Wild Horse Val**	23.79	114	P		P	22 46 22.5	+0.4
WVOR				IAmb		IAmb	22 46 26.1	
	comp=Z,90nm,1.1s							
WVOR				IAMs_20		IAMs_20	22 54 01.2	
	comp=Z,5µm,19.0s							
WVOR	**Wild Horse Val**	23.79	114	P		P	22 46 22.5	+0.4
WVOR				pmax		pmax		
	comp=Z,90nm,1.1s							
WVOR				MLR		MLR		
	comp=Z,5µm,19.0s							
MFID	**Camas Ranch**	24.54	108	P		P	22 46 28.6	-0.5
MFID				IAMs_20		IAMs_20	22 54 22.2	
	comp=Z,4µm,20.0s							
ORV	**Oroville**	24.58	122	IAMs_20		IAMs_20	22 53 38.2	
	comp=Z,4µm,21.0s							
EGMT	**Eagleton**	24.93	93	P		P	22 46 31.9	-0.7
EGMT				IAmb		IAmb	22 47 05.0	
	comp=Z,72nm,1.3s							
EGMT	**Eagleton**	24.93	93	P		P	22 46 31.1	-1.5
	baz=305							
HLID	**Hailey**	25.19	106	P		P	22 46 34.5	-0.5
HLID				IAMs_20		IAMs_20	22 55 03.3	
	comp=Z,3µm,19.0s							
HLID	**Hailey**	25.19	106	P		P	22 46 34.8	-0.2
	baz=313,SNR=15							
BOZ	**Bozeman (W)**	25.36	100	P		P	22 46 35.8	-0.7
BOZ				IAmb		IAmb	22 47 04.3	
	comp=Z,114nm,1.9s							
BOZ				IAMs_20		IAMs_20	22 55 23.8	
	comp=Z,3µm,18.0s							
BOZ	**Bozeman (W)**	25.36	100	P		P	22 46 36.9	+0.4
	baz=309,SNR=5.6							
BOZ	**Bozeman (W)**	25.36	100	P		P	22 46 35.8	-0.7
BOZ				pmax		pmax		
	comp=Z,114nm,1.9s							
BOZ				MLR		MLR		
	comp=Z,3µm,18.0s							
FFC	**Flin Flon**	25.98	74	P		P	22 46 41.7	-0.2
FFC	**Flin Flon**	25.98	74	P		P	22 46 41.7	-0.2
FFC				pmax		pmax		
	comp=Z,44nm,1.2s							
BMN	**Battle Mountai**	25.98	115	P		P	22 46 41.5	-0.7
BMN				IAmb		IAmb	22 46 56.9	
	comp=Z,68nm,1.3s							
BMN	**Battle Mountai**	25.98	115	P		P	22 46 41.5	-0.7
BMN				pmax		pmax		
	comp=Z,68nm,1.3s							
YHH	**Holmes Hill**	26.30	100	P		P	22 46 45.5	+0.3
CMB	**Columbia Colle**	26.32	123	IAMs_20		IAMs_20	22 54 40.2	
	comp=Z,6µm,19.0s							
YNR	**Norris Junctio**	26.44	100	P		P	22 46 46.0	-0.4
YNR				IAmb		IAmb	22 47 00.0	
	comp=Z,45nm,1.2s							
H17A	**Grant Village**	26.70	101	P		P	22 46 50.6	+1.8
	baz=311,SNR=14							
ELK	**Elko**	26.76	112	P		P	22 46 49.4	+0.1
ELK				IAMs_20		IAMs_20	22 55 20.9	
	comp=Z,3µm,20.0s							
ELK	**Elko**	26.76	112	P		P	22 46 49.4	+0.1
ELK				pmax		pmax		
	comp=Z,33nm,1.2s							
ELK				MLR		MLR		
	comp=Z,3µm,20.0s							
ELK	**Elko**	26.76	112	LR		LR	22 55 42.1	
	comp=Z,3µm,20.6s,baz=317,slow=33							
SAO	**San Andreas Ge**	26.87	126	IAMs_20		IAMs_20	22 54 49.9	
	comp=Z,5µm,19.0s							
RLMT	**Red Lodge**	26.95	98	IAMs_20		IAMs_20	22 56 17.9	
	comp=Z,5µm,20.0s							
RLMT	**Red Lodge**	26.95	98	P		P	22 46 52.1	+1.2
	baz=309							
NVAR	**Mina Array Bea**	26.99	119	P		P	22 46 51.9	+0.5
NVAR	**Mina Array Bea**	26.99	119	P		P	22 46 52.7	+1.3
	comp=Z,17nm,0.8s,baz=306,slow=8.8,SNR=76							
NVAR				PcP		PcP	22 50 14.7	+2.0
	comp=Z,0.7nm,0.6s,baz=335,slow=4.0,SNR=2.2							
NVAR				LR		LR	22 55 44.3	
	comp=Z,4µm,18.2s,baz=326,slow=32							
	comp=Z,17nm,0.8s							
NV11	**Mina Array Sit**	27.06	119	P		P	22 46 51.9	-0.1
NV11				IAmb		IAmb	22 47 27.6	
	comp=Z,60nm,1.4s							
RES	**Resolute Bay**	27.15	28	P		P	22 46 52.0	-0.2
RES				IAmb		IAmb	22 47 24.6	
	comp=Z,39nm,1.1s							
RES	**Resolute Bay**	27.15	28	P		P	22 46 52.0	-0.2
RES				pmax		pmax		
	comp=Z,39nm,1.1s							
RES	**Resolute Bay**	27.15	28	LR		LR	22 58 14.2	
	comp=Z,4µm,19.1s,baz=254,slow=38							
ECR	**Eagle Creek**	27.16	104	P		P	22 46 52.4	-0.6
HVU	**Hansel Valley**	27.30	107	P		P	22 46 54.0	0.0
HVU	**Hansel Valley**	27.30	107	P		P	22 46 54.0	0.0
HVU				pmax		pmax		
	comp=Z,27nm,1.2s							
MLAC	**Mammoth, Mammc**	27.37	121	P		P	22 46 56.6	+1.8
	baz=323							
LAO	**LASA Array**	27.66	93	P		P	22 46 57.9	+0.7
	baz=307							
DGMT	**Dagmar**	27.76	88	IAMs_20		IAMs_20	22 57 24.4	
	comp=Z,4µm,21.0s							
DGMT	**Dagmar**	27.76	88	P		P	22 46 59.9	+1.8
	baz=304							
BGU	**Big Grassy Mou**	27.77	109	P		P	22 46 58.2	-0.2
BGU				IAmb		IAmb	22 47 32.0	
	comp=Z,85nm,2.0s							
TPH	**Tonopah**	27.80	118	P		P	22 46 58.6	+0.1
TPH	**Tonopah**	27.80	118	P		P	22 46 58.7	+0.1
TPH				pmax		pmax		
	comp=Z,118nm,1.1s							
HWUT	**Hardware Ranch**	28.06	106	P		P	22 47 00.8	-0.2
TIN	**Tinemaha, Big**	28.12	121	P		P	22 47 03.0	+1.6
	baz=324							
VOG	**Valley Oaks Go**	28.17	123	P		P	22 47 02.8	+1.1
	baz=325							
BW06	**Boulder Array**	28.33	102	P		P	22 47 04.2	+0.8
	baz=313							
PD31	**Pinedale Array**	28.34	102	P		P	22 47 03.3	-0.2
PDAR	**Pinedale Array**	28.34	102	P		P	22 47 03.2	-0.2
PDAR	**Pinedale Array**	28.34	102	P		P	22 47 03.9	+0.5
	comp=Z,3.4nm,0.8s,baz=313,slow=5.4,SNR=25							
	comp=Z,3.4nm,0.8s							
R11B	**Troy Canyon, C**	28.39	116	IAMs_20		IAMs_20	22 56 51.1	
	comp=Z,3µm,19.0s							
R11B	**Troy Canyon, C**	28.39	116	P		P	22 47 04.4	+0.5
	baz=321,SNR=53							
DUG	**Dugway, Tooele**	28.42	110	P		P	22 47 04.1	0.0
DUG				IAmb		IAmb	22 47 25.1	
	comp=Z,61nm,1.6s							
DUG				IAMs_20		IAMs_20	22 56 22.8	
	comp=Z,3µm,21.0s							
DUG	**Dugway, Tooele**	28.42	110	P		P	22 47 05.3	+1.2
	baz=317,SNR=9.4							
DUG	**Dugway, Tooele**	28.42	110	P		P	22 47 04.1	0.0
DUG				pmax		pmax		
	comp=Z,61nm,1.6s							
DUG				MLR		MLR		
	comp=Z,3µm,21.0s							
FCC	**Fort Churchill**	28.57	63	P		P	22 47 05.5	+0.5
FCC				IAmb		IAmb	22 47 29.8	
	comp=Z,51nm,1.2s							
FCC	**Fort Churchill**	28.57	63	P		P	22 47 05.5	+0.5
FCC				pmax		pmax		
	comp=Z,51nm,1.2s							
GRAC	**Grapevine Rang**	28.58	120	P		P	22 47 05.9	+0.5
GRAC				IAmb		IAmb	22 47 08.7	
	comp=Z,38nm,0.9s							
GRAC	**Grapevine Rang**	28.

baz=312
K22A **Casper** 30.06 99 P P 22 47 19.0 +0.3
baz=312
GSC **Goldstone, Bar** 30.21 121 P P 22 47 21.4 +1.5
baz=325,SNR=12
DECC **Green Verdugo** 30.36 124 P P 22 47 21.7 +0.5
baz=327
RSSD **Black Hills** 30.46 95 P P 22 47 22.2 -0.1
RSSD IAmb IAmb 22 47 43.7
comp=Z,26nm,0.9s
RSSD **Black Hills** 30.46 95 P P 22 47 23.3 +1.0
baz=310
RSSD **Black Hills** 30.46 95 P P 22 47 23.7 +1.4
baz=310,SNR=10
RSSD **Black Hills** 30.46 95 P P 22 47 22.2 -0.1
RSSD pmax pmax
comp=Z,26nm,0.9s
RSSD MLR MLR
comp=Z,6µm,19.0s
RRX **Edison Barstow** 30.47 122 P P 22 47 23.1 +1.0
baz=325
PEA0B **Petropavlovsk-** 30.48 287 P P 22 47 22.5 +0.4
PEA0B IAmb IAmb 22 48 25.1
comp=Z,55nm,1.1s
PEA0B **Petropavlovsk-** 30.48 287 *ce*P P 22 47 23.6 +1.6
PETK **Petropavlovsk-** 30.48 287 P P 22 47 21.8 -0.2
PETK **Petropavlovsk-** 30.48 287 P P 22 47 22.1 +0.1
comp=Z,17nm,0.8s,baz=75,slow=12,SNR=16
PETK LR LR 23 00 01.2
comp=Z,1µm,20.8s,baz=80,slow=37
comp=Z,17nm,0.8s
PASC **Pasadena Art C** 30.50 124 IAMs_20 IAMs_20 22 56 37.0
comp=Z,3µm,20.0s
TUQ **Turquoise Moun** 30.52 120 P P 22 47 23.9 +1.2
baz=324
MDND **Maddock** 30.65 85 P P 22 47 23.2 -0.5
baz=305
SNCC **San Nicolas Is** 30.67 127 P P 22 47 25.6 +1.6
baz=328
BFSC **Mount Baldy Ra** 30.68 123 P P 22 47 25.1 +0.9
baz=326,SNR=13
HEC **Hector,Ludlow** 30.82 121 P P 22 47 26.3 +1.0
baz=325,SNR=6.8
O20A **White River Ci** 30.88 105 P P 22 47 27.0 +1.1
baz=316,SNR=16
BBRC **Big Bear Solar** 31.01 122 P P 22 47 28.4 +1.3
baz=326
GMRC **Granite Mounta** 31.18 120 P P 22 47 30.0 +1.5
baz=325,SNR=15
MA2 **Magadan** 31.26 301 P P 22 47 28.4 -0.4
MA2 IAmb IAmb 22 47 33.9
comp=Z,46nm,0.9s
MA2 IAMs_20 IAMs_20 23 00 29.0
comp=Z,4µm,22.0s
MA2 **Magadan** 31.26 301 *ce*P P 22 47 30.4 +1.6
MA2 pmax pmax
comp=Z,61nm,1.0s
MA2 **Magadan** 31.26 301 LR LR 23 00 40.6
comp=Z,4µm,21.7s,baz=84,slow=38
SCI2 **San Clemente I** 31.33 126 P P 22 47 30.3 +0.6
baz=328
ULM **Lac du Bonnet** 31.37 79 P P 22 47 30.4 +0.5
ULM IAmb IAmb 22 47 41.7
comp=Z,45nm,1.4s
ULM **Lac du Bonnet** 31.37 79 *i* P P 22 47 29.3 -0.6
ULM **Lac du Bonnet** 31.37 79 P P 22 47 31.6 +1.7
comp=Z,5.7nm,0.9s,baz=326,slow=15,SNR=8.7
ULM LR LR 22 59 47.1
comp=Z,2µm,18.6s,baz=304,slow=36
comp=Z,5.7nm,0.9s
MURC **Murrieta** 31.43 124 P P 22 47 31.9 +1.3
baz=326
U15A **North Rim** 31.53 114 P P 22 47 32.2 +0.4
N23A **Red Feather La** 31.58 101 P P 22 47 33.2 +1.0
baz=314,SNR=5.2
BELC **Belle Mtn. Jos** 31.66 122 P P 22 47 34.0 +1.2
baz=326,SNR=6.8
NEE2 **Needles Airpor** 31.69 119 P P 22 47 33.8 +0.9
baz=324
PFO **Pinyon Flats O** 31.76 123 P P 22 47 32.9 -0.7
PFO **Pinyon Flats O** 31.76 123 P P 22 47 34.8 +1.1
baz=326,SNR=5.1
PFO **Pinyon Flats O** 31.76 123 *i* P P 22 47 33.1 -0.6
PFO pmax pmax
comp=Z,27nm,1.2s
PFO **Pinyon Flats O** 31.76 123 LR LR 22 58 05.2
comp=Z,4µm,20.0s,baz=336,slow=32
TPFO **Pinon Flats** 31.77 123 P P 22 47 34.7 +1.0
baz=326,SNR=5.6
IRM **Iron Mountain** 31.93 120 P P 22 47 36.9 +1.8
baz=325,SNR=15
109C **Camp Elliot, M** 32.06 124 P P 22 47 37.3 +1.2
baz=327
BC3 **Big Chuckawall** 32.20 121 P P 22 47 38.0 +0.6
baz=326,SNR=7.2
PDMCI **Parker Dam,Lak** 32.30 119 P P 22 47 38.5 +0.3
baz=324,SNR=6.7
MONP2 **Monument Peak** 32.38 123 P P 22 47 40.2 +1.0
baz=327,SNR=10
AGMN **Agassiz Nation** 32.46 82 P P 22 47 39.2 -0.3
AGMN **Agassiz Nation** 32.46 82 P P 22 47 39.4 -0.1
baz=305
AGMN **Agassiz Nation** 32.46 82 P P 22 47 40.6 +1.1
baz=305
ISCO **Idaho Springs** 32.53 102 P P 22 47 41.5 +0.9
baz=316
ISCO **Idaho Springs** 32.53 102 P P 22 47 41.8 +1.2
baz=316
SWSC **Sam W. Stewart** 32.62 122 P P 22 47 42.4 +1.4
baz=326,SNR=5.2
BRIGG **Briggsdale** 32.68 100 IAMs_20 IAMs_20 22 59 50.7
comp=Z,2µm,19.0s
WUAZ **Wupatki** 32.71 114 P P 22 47 42.8 +0.9
WUAZ IAmb IAmb 22 47 44.8
comp=Z,52nm,1.0s
WUAZ **Wupatki** 32.71 114 P P 22 47 43.2 +1.2
baz=322,SNR=21
IKP **In-Ko-Pah, Jac** 32.72 123 P P 22 47 43.2 +1.2
baz=327,SNR=9.5
CBX **Cerro Bola** 32.75 124 P P 22 47 42.7 +0.4
MVCO **Mesa Verde** 32.89 109 P P 22 47 43.0 -0.7
MVCO **Mesa Verde** 32.89 109 P P 22 47 43.9 +0.2
baz=319,SNR=12
GLA **Glamis** 32.99 121 P P 22 47 45.6 +1.3
baz=326
SUSD **Miller** 33.07 90 P P 22 47 45.5 +0.6
baz=309
ESJX **Sierra Juarez** 33.34 124 P P 22 47 46.0 -1.5
Q24A **Divide** 33.38 103 P P 22 47 49.1 +1.0
baz=316
B35A **Bob, Littlefor** 33.59 80 P P 22 47 50.3 +0.9
baz=305
F33A **5 Mile Ranch,** 33.67 86 P P 22 47 51.0 +0.8
baz=308
OGNE **Ogallala** 33.68 97 P P 22 47 50.8 +0.4
OGNE IAMs_20 IAMs_20 23 00 45.1
comp=Z,3µm,20.0s
OGNE **Ogallala** 33.68 97 P P 22 47 51.3 +0.9
baz=314
OGNE **Ogallala** 33.68 97 P P 22 47 52.0 +1.6
baz=314
K30B **Basset** 33.85 93 P P 22 47 52.5 +0.7
W18A **Petrified Fore** 33.85 113 P P 22 47 53.2 +1.2
baz=322,SNR=5.8
SDCO **Great Sand Dun** 34.08 105 P P 22 47 53.7 -0.4
SDCO IAMs_20 IAMs_20 23 00 29.6
comp=Z,3µm,20.0s
SDCO **Great Sand Dun** 34.08 105 P P 22 47 54.9 +0.8
baz=318,SNR=15
SDCO **Great Sand Dun** 34.08 105 P P 22 47 55.4 +1.3
baz=318,SNR=15
KSCO **Kaye Shedlock'** 34.71 100 P P 22 48 00.0 +0.6
KSCO **Kaye Shedlock'** 34.71 100 P P 22 48 00.7 +1.3
baz=316,SNR=8.7
KSCO **Kaye Shedlock'** 34.71 100 P P 22 48 00.8 +1.3
baz=316,SNR=8.7
ECSD **EROS Data Cent** 34.82 89 P P 22 47 59.6 -0.5
214A **Organ Pipe Nat** 34.86 120 P P 22 47 59.9 -0.6
214A IAmb IAmb 22 48 03.4
comp=Z,37nm,1.1s
214A **Organ Pipe Nat** 34.86 120 P P 22 48 01.5 +1.0
baz=326,SNR=12
EYMN **Ely** 35.05 79 P P 22 48 02.6 +0.6
EYMN IAmb IAmb 22 48 14.7
comp=Z,27nm,0.8s
EYMN **Ely** 35.05 79 IAMs_20 IAMs_20 23 01 56.0
comp=Z,2µm,21.0s
EYMN **Ely** 35.05 79 P P 22 48 03.0 +0.9
baz=306,SNR=7.4
EYMN **Ely** 35.05 79 P P 22 48 04.1 +2.1
baz=306,SNR=7.4
T25A **Trinidad** 35.11 105 P P 22 48 02.5 -0.4
T25A **Trinidad** 35.11 105 P P 22 48 02.1 -0.8
baz=318,SNR=8.0
F36A **Milaca** 35.19 84 P P 22 48 03.7 +0.5
baz=308
BGNE **Belgrade** 35.51 93 P P 22 48 06.2 +0.2
BGNE **Belgrade** 35.51 93 P P 22 48 06.8 +0.7
baz=313
BGNE **Belgrade** 35.51 93 P P 22 48 07.3 +1.2
baz=313
TUC **Tucson** 35.56 117 IAMs_20 IAMs_20 23 00 22.8
comp=Z,3µm,21.0s
TUC **Tucson** 35.56 117 P P 22 48 08.0 +1.4
baz=324
TIXI **Tiksi** 35.67 327 P P 22 48 07.0 -0.1
TIXI IAmb IAmb 22 48 10.1
comp=Z,23nm,0.8s
TIXI **Tiksi** 35.67 327 *ce*P P 22 48 07.7 +0.7
TIXI pmax pmax
comp=Z,41nm,1.3s
TIXI **Tiksi** 35.67 327 LR LR 23 04 49.3
comp=Z,1µm,18.4s,baz=71,slow=40
ANMO **Albuquerque** 35.68 109 P P 22 48 07.6 -0.3
ANMO **Albuquerque** 35.68 109 P P 22 48 08.6 +0.8
baz=321
ANMO **Albuquerque** 35.68 109 P P 22 48 09.3 +1.4
baz=320,SNR=9.4
ANMO **Albuquerque** 35.68 109 *ce*P P 22 48 09.2 +1.4
ANMO pmax pmax
comp=Z,11nm,1.3s
ANMO **Albuquerque** 35.68 109 LR LR 23 01 40.9
comp=Z,1µm,19.4s,baz=49,slow=34
KIP **Kipapa** 35.76 195 *ce*P P 22 48 10.4 +2.1
KIP pmax pmax
comp=Z,176nm,2.5s
E38A **The Farm, Brul** 35.81 81 P P 22 48 10.2 +1.6
baz=308
Y22D **IRIS PASSCAL I** 36.12 111 IAMs_20 IAMs_20 23 01 13.6
comp=Z,3µm,22.0s
Y22D **IRIS PASSCAL I** 36.12 111 P P 22 48 10.5 -1.0
baz=322
Y22F **Passcal Instru** 36.12 111 P P 22 48 10.6 -0.9
baz=322
I37B **Waseca** 36.42 86 P P 22 48 15.1 +1.3
baz=310
CBKS **Cedar Bluff** 36.44 98 P P 22 48 13.6 -0.5
CBKS IAmb IAmb 22 48 28.1
comp=Z,70nm,1.4s
CBKS IAMs_20 IAMs_20 23 02 33.9
comp=Z,2µm,20.0s
CBKS **Cedar Bluff** 36.44 98 P P 22 48 13.8 -0.3
baz=316,SNR=5.9
CBKS **Cedar Bluff** 36.44 98 P P 22 48 15.7 +1.7
baz=316,SNR=5.9
CBKS **Cedar Bluff** 36.44 98 P P 22 48 13.6 -0.5
CBKS pmax pmax
comp=Z,70nm,1.4s
CBKS MLR MLR
comp=Z,2µm,20.0s
121A **Cookes Peak, D** 36.88 113 P P 22 48 18.7 +0.6
121A **Cookes Peak, D** 36.88 113 P P 22 48 18.7 +0.6
baz=323,SNR=11
121A **Cookes Peak, D** 36.88 113 P P 22 48 20.2 +2.1
baz=323,SNR=11
KULLO **Kullorsuaq** 37.00 26 *i* P P 22 48 19.1 +0.7
KULLO IAmb IAmb 22 48 31.5
comp=Z,12nm,0.7s
NEEM **North Greenlan** 37.20 21 *i* P P 22 48 21.6 +1.1
NEEM IAmb IAmb 22 48 26.2
comp=Z,17nm,0.9s
N35A **Tabor** 37.27 92 P P 22 48 22.6 +1.6
baz=313
COWI **Conover** 37.45 80 IAMs_20 IAMs_20 23 03 15.5
comp=Z,3µm,18.0s
KSU1 **Kansas State U** 37.95 95 P P 22 48 27.0 +0.1
baz=315
FRB **Frobisher Bay** 37.97 45 LR LR 23 04 17.5
comp=Z,5µm,18.0s,baz=300,slow=36
UPNV **Upernavik** 38.02 29 *i* P P 22 48 27.5 +0.5
UPNV IAmb IAmb 22 48 30.6
comp=Z,16nm,0.9s
I40A **Norwalk** 38.03 84 P P 22 48 28.3 +0.8
baz=310
EPT **El Paso** 38.14 112 IAMs_20 IAMs_20 23 02 38.3
comp=Z,2µm,21.0s
HSIG 38.18 120 P P 22 48 29.0 +0.1
AMTX **Amarillo** 38.26 104 IAMs_20 IAMs_20 23 02 56.4
comp=Z,3µm,22.0s
AMTX **Amarillo** 38.26 104 P P 22 48 30.1 +0.5
baz=319
AMTX **Amarillo** 38.26 104 P P 22 48 30.6 +1.0
baz=319,SNR=6.7
MSTX **Muleshoe** 38.38 106 P P 22 48 31.3 +0.6
baz=320,SNR=6.3
MSTX **Muleshoe** 38.38 106 P P 22 48 31.7 +1.1
baz=320,SNR=6.3
OK035 **E0210 Rd and N** 38.52 99 IAMs_20 IAMs_20 23 03 28.1
comp=Z,2µm,18.0s
OK038 **West end E0370** 38.67 100 IAMs_20 IAMs_20 23 03 34.1
comp=Z,2µm,19.0s
OK032 **Salt Plains WL** 38.72 99 IAMs_20 IAMs_20 23 04 04.4
comp=Z,2µm,20.0s
MNTX **Cornudas Mount** 38.78 111 P P 22 48 34.4 +0.5
baz=323,SNR=18
MNTX **Cornudas Mount** 38.78 111 P P 22 48 35.4 +1.5
baz=323,SNR=18
JFWS **Jewell Farm** 38.88 85 IAMs_20 IAMs_20 23 03 30.4
comp=Z,2µm,21.0s
JFWS **Jewell Farm** 38.88 85 P P 22 48 33.6 -1.0
baz=311
JFWS **Jewell Farm** 38.88 85 P P 22 48 35.4 +0.8
baz=311
L40A **Anamosa** 38.90 87 P P 22 48 35.4 +0.5
baz=312
NKL **Nikolayevsk** 39.23 296 *e*P P 22 48 35.7 -1.7
NKL *e*S S 22 54 36.0 -1.1
NKL pmax pmax
comp=N,169nm,0.8s
NKL pmax pmax
comp=Z,271nm,1.0s
NKL pmax pmax
comp=E,112nm,0.5s
NKL smax smax
comp=E,215nm,2.2s
NKL smax smax
comp=N,273nm,1.1s
NKL MLR MLR
comp=N,4µm,16.0s
NKL MLR MLR
comp=E,4µm,17.0s
NKL MLR MLR
comp=Z,5µm,17.0s
P38A **Dawn** 39.29 91 P P 22 48 38.9 +0.8
baz=314,SNR=5.2
YAK **Yakutsk** 39.49 313 P P 22 48 39.4 0.0
YAK **Yakutsk** 39.49 313 IAMs_20 IAMs_20 23 04 51.5
comp=Z,2µm,20.0s
YAK **Yakutsk** 39.49 313 *c* *i*P P 22 48 40.1 +0.6
YAK *e**PP **sP** 22 48 43.5 +0.4
YAK *e* 22 50 11.5
YAK *e* 22 50 47.7
YAK *e*S S 22 54 42.1 +1.2
YAK *e*SSS SSS 22 58 08.3
YAK pmax pmax
comp=Z,148nm,0.9s
YAK pmax pmax
comp=E,67nm,1.3s
YAK pmax pmax
comp=N,44nm,1.4s
YAK pmax pmax
comp=Z,106nm,1.9s
YAK pmax pmax
comp=E,177nm,2.5s
YAK pmax pmax
comp=N,117nm,2.7s
YAK smax smax
comp=N,24nm,1.3s
YAK smax smax
comp=E,230nm,3.2s
YAK MLR MLR
comp=Z,2µm,13.0s
YAK MLR MLR
comp=N,1µm,14.0s
YAK MLR MLR
comp=E,676nm,11.0s
YAK **Yakutsk** 39.49 313 LR LR 23 05 09.6
comp=E,2µm,21.3s,baz=64,slow=36
TYV **Tymovskoe** 39.54 292 *e*P P 22 48 40.7 +0.7
TYV *e*S S 22 54 44.5 +2.6
TYV pmax pmax
comp=Z,19nm,0.9s
TYV pmax pmax
comp=Z,100nm,6.9s
TYV smax smax
comp=N,300nm,8.0s
TYV smax smax
comp=E,300nm,8.0s
T35B **Sooner Cattle** 39.57 97 P P 22 48 40.7 +0.2
baz=317
VHRN **Van Horn** 39.71 112 P P 22 48 41.9 +0.1
NOR **Nord** 39.73 10 *i* P P 22 48 42.4 +1.1
NOR IAmb IAmb 22 48 46.2
comp=Z,7.3nm,0.7s
WMOK **Wichita Mounta** 39.94 102 P P 22 48 43.2 -0.4
WMOK **Wichita Mounta** 39.94 102 P P 22 48 43.4 -0.2
baz=319,SNR=23
WMOK **Wichita Mounta** 39.94 102 P P 22 48 44.9 +1.3
baz=319,SNR=23
WMOK **Wichita Mounta** 39.94 102 P P 22 48 43.2 -0.4
WMOK pmax pmax
comp=Z,24nm,1.0s
WMOK MLR MLR
comp=Z,2µm,20.0s
OK033 **Mehan** 39.97 98 IAMs_20 IAMs_20 23 04 43.6
comp=Z,2µm,20.0s
N41A **Harden Midland** 40.02 88 P P 22 48 44.4 +0.2
baz=313
OK052 **Battle Ridge R** 40.09 98 IAMs_20 IAMs_20 23 04 45.6
comp=Z,2µm,19.0s
P40A **Paris** 40.18 90 P P 22 48 45.9 +0.4
baz=314,SNR=7.0
L44A **Lake County Fo** 40.65 84 IAMs_20 IAMs_20 23 04 23.4
comp=Z,2µm,18.0s
L44A **Lake County Fo** 40.65 84 P P 22 48 49.0 -0.4
baz=312
TUL3 **Leonard** 40.70 98 P P 22 48 49.4 -0.4
baz=318
GLMI **Grayling** 40.72 79 IAMs_20 IAMs_20 23 05 19.0
comp=Z,2µm,19.0s
GLMI **Grayling** 40.72 79 P P 22 48 49.1 -0.8
baz=310
S39A **Bolivar** 40.77 93 P P 22 48 49.1 -1.3
baz=316,SNR=5.9
R40A **Maddies Statio** 40.93 92 P P 22 48 51.3 -0.4
baz=315,SNR=10
HQIL **Hanson Quary C** 40.94 84 IAMs_20 IAMs_20 23 04 16.0
comp=Z,2µm,20.0s
HDIL **Hopedale** 40.99 87 P P 22 48 51.8 -0.4
HDIL IAmb IAmb 22 49 17.7
comp=Z,38nm,0.8s
HDIL **Hopedale** 40.99 87 P P 22 48 51.5 -0.7
baz=314
HDIL **Hopedale** 40.99 87 P P 22 48 52.7 +0.5
baz=314
ABTX **Abilene, Hawle** 41.08 104 P P 22 48 52.9 -0.1
baz=321,SNR=5.2
ABTX **Abilene, Hawle** 41.08 104 P P 22 48 53.9 +0.9
baz=321,SNR=5.2
U38A **Gravette** 41.09 96 P P 22 48 53.4 +0.3
baz=317,SNR=8.1
HHAR **Hobbs** 41.45 95 P P 22 48 55.0 -1.0
TX31 **Lajitas Ar. Si** 41.55 112 P P 22 48 58.1 +1.1
baz=324,SNR=14
TXAR **Lajitas Array** 41.55 112 P P 22 48 57.2 +0.2
TXAR **Lajitas Array** 41.55 112 P P 22 48 58.5 +1.4
comp=Z,6.1nm,0.9s,baz=325,slow=6.4,SNR=36
TXAR LR LR 23 05 13.0
comp=Z,1µm,19.8s,baz=314,slow=35
comp=Z,6.1nm,0.9s
CCM **Cathedral Cave** 41.66 91 P P 22 48 57.1 -0.6
CCM IAmb IAmb 22 49 21.1
comp=Z,72nm,1.8s
CCM **Cathedral Cave** 41.66 91 P P 22 48 57.3 -0.5
baz=316
CCM **Cathedral Cave** 41.66 91 P P 22 48 57.5 -0.2
baz=316
CCM **Cathedral Cave** 41.66 91 P P 22 48 57.1 -0.6
CCM pmax pmax
comp=Z,72nm,1.8s
CCM MLR MLR
comp=Z,4µm,21.0s
MGMO **Mountain Grove** 41.74 93 P P 22 48 57.5 -0.9
YSS **Yuzh-Sakhalins** 41.88 287 IAMs_20 IAMs_20 23 07 23.8
comp=Z,2µm,21.0s
YSS **Yuzh-Sakhalins** 41.88 287 *e*P P 22 49 00.8 +1.4
YSS *e*S S 22 55 18.1 +1.3
YSS pmax pmax
comp=Z,30nm,1.1s
YSS MLR MLR
comp=Z,1µm,15.0s
X37A **Clayton** 41.91 98 P P 22 49 01.3 +1.5
baz=318,SNR=5.0
U40A **Yellville** 41.99 94 P P 22 48 59.5 -1.0
baz=317,SNR=5.8
U40A P P 22 48 59.5 -1.0
baz=317,SNR=5.8
FVM **French Village** 42.16 91 P P 22 49 02.2 +0.4
baz=316,SNR=5.3
SFIN **Lafayette** 42.33 85 P P 22 49 02.5 -0.6
baz=314
SUMG **Summit** 42.57 25 P P 22 49 05.3 +0.1
SUMG IAmb IAmb 22 49 17.4
comp=Z,93nm,1.3s
SUMG **Summit** 42.57 25 P P 22 49 05.3 +0.1
SUMG pmax pmax
comp=Z,93nm,1.3s
SUMG **Summit** 42.57 25 *i* P P 22 49 06.0 +0.8
SUMG IAmb IAmb 22 49 16.7
comp=Z,22nm,0.8s
LPIG **La Paz** 42.65 123 LR LR 23 04 31.9
comp=Z,1µm,19.7s,baz=322,slow=33
SFJD **Kangerlussuaq** 42.66 35 P P 22 49 05.8 +0.3
SFJD IAmb IAmb 22 49 18.2
comp=Z,126nm,1.8s
SFJD **Kangerlussuaq** 42.66 35 P P 22 49 05.8 +0.3
SFJD pmax pmax
comp=Z,125nm,1.8s
SFJD **Kangerlussuaq** 42.66 35 *i* P P 22 49 05.1 -0.4
SFJD IAmb IAmb 22 49 09.2
comp=Z,12nm,0.9s
SFJD **Kangerlussuaq** 42.66 35 LR LR 23 06 49.8
comp=Z,3µm,19.7s,baz=318,slow=36
JCT **Junction City** 42.66 107 P P 22 49 06.0 -0.1
JCT IAmb IAmb 22 49 07.9
comp=Z,40nm,0.9s
JCT IAMs_20 IAMs_20 23 07 03.0
comp=Z,1µm,18.0s
JCT **Junction City** 42.66 107 P P 22 49 06.9 +0.9
baz=322,SNR=10
JCT **Junction City** 42.66 107 P P 22 49 06.0 -0.1
FCAR **Ozark Folk Cen** 42.74 94 P P 22 49 05.6 -0.9
WHTX **Lake Whitney,** 42.74 103 P P 22 49 06.9 +0.3
WHTX IAmb IAmb 22 49 32.9
comp=Z,69nm,1.6s
WHTX **Lake Whitney,** 42.74 103 P P 22 49 06.9 +0.3
baz=321
WHTX **Lake Whitney,** 42.74 103 P P 22 49 08.1 +1.5
baz=321
GRNR **Gornyy** 42.76 295 ⇓ *i* P P 22 49 06.7 +0.2
GRNR pmax pmax
comp=Z,30nm,0.9s
AAM **Ann Arbor** 42.91 81 IAMs_20 IAMs_20 23 06 34.0
comp=Z,3µm,20.0s
OLIL **Olney** 42.92 88 P P 22 49 08.7 +0.7
baz=315
MIAR **Mount Ida** 42.93 97 P P 22 49 08.7 +0.6
baz=318,SNR=7.2
S44A **Carbondale** 43.02 90 P P 22 49 08.7 -0.1
baz=316
DAG **Danmarks Havn** 43.26 15 *i* P P 22 49 10.0 -0.2
DAG IAmb IAmb 22 49 16.0
comp=Z,24nm,0.8s
O48B **Farmland** 43.48 84 IAMs_20 IAMs_20 23 06 00.3
comp=Z,2µm,19.0s
O48B **Farmland** 43.48 84 P P 22 49 11.8 -0.7
baz=314
SCHQ **Schefferville** 43.52 56 P P 22 49 13.0 +0.3
SCHQ IAmb IAmb 22 49 23.4
comp=Z,41nm,1.1s
SCHQ **Schefferville** 43.52 56 P P 22 49 14.0 +1.3

comp=Z,7.8nm,0.9s,baz=284,slow=9.1,SNR=10
SCHQ LR LR 23 07 19.9
comp=Z,2µm,18.5s,baz=310,slow=36
comp=Z,7.8nm,0.9s
435B Jarrell **43.61 104** P **P** **22 49 14.7 +1.1**
baz=322
SADO Sadowa **43.70 75** LR LR 23 08 18.4
comp=Z,786nm,19.1s,baz=285,slow=37
JKA Kamikawa-asahi **43.81 284** P **P** **22 49 15.6 +0.5**
ASAJ Asahikawa **43.81 284** P **P** **22 49 15.6 +0.5**
ASAJ pmax pmax
comp=Z,87nm,0.8s
ASAJ Asahikawa **43.81 284** LR LR 23 08 44.9
comp=Z,754nm,19.4s,baz=60,slow=38
P49A Miami Univ. Ec **44.23 84** IAMs_20 IAMs_20 23 07 07.1
comp=Z,2µm,20.0s
WCI Wyandotte Cave **44.28 87** IAMs_20 IAMs_20 23 06 40.4
comp=Z,2µm,19.0s
KBS Kingsbay **44.29 5** P **P** **22 49 19.4 +0.9**
KBS IAmb IAmb 22 49 46.8
comp=Z,48nm,1.2s
KBS Kingsbay **44.29 5** *i* P **P** **22 49 19.1 +0.6**
KBS pmax pmax
comp=Z,31nm,1.1s
NATX Nacogdoches **44.44 100** IAMs_20 IAMs_20 23 07 16.9
comp=Z,1µm,18.0s
NATX Nacogdoches **44.44 100** P **P** **22 49 20.7 +0.5**
baz=320
ICESG Greenland Ices **44.56 29** *i* P **P** **22 49 20.3 -0.9**
ICESG IAmb IAmb 22 49 24.4
comp=Z,18nm,0.8s
833A Chaparral WMA, **44.59 108** P **P** **22 49 22.3 +0.8**
baz=324
ACSO Alum Creek Sta **44.70 82** IAMs_20 IAMs_20 23 07 59.4
comp=Z,2µm,20.0s
ERM Erimo **44.92 281** P **P** **22 49 24.1 +0.1**
ERM IAmb IAmb 22 49 42.3
comp=Z,58nm,1.1s
ERM Erimo **44.92 281** *ce* P **P** **22 49 26.0 +2.0**
ERM pmax pmax
comp=Z,44nm,1.3s
WVT Waverly **44.94 90** P **P** **22 49 24.2 0.0**
baz=317
WVT Waverly **44.94 90** P **P** **22 49 24.4 +0.3**
baz=317
DBG Daneborg **44.96 18** *i* P **P** **22 49 24.4 +0.4**
DBG IAmb IAmb 22 49 40.4
comp=Z,11nm,0.9s
M53A WI Miller and **45.12 79** IAMs_20 IAMs_20 23 07 40.6
comp=Z,2µm,19.0s
M53A WI Miller and **45.12 79** P **P** **22 49 25.1 -0.5**
baz=314
HKT Hockley **45.20 103** P **P** **22 49 26.6 +0.3**
HKT IAmb IAmb 22 49 37.9
comp=Z,95nm,1.8s
HKT Hockley **45.20 103** *i* P **P** **22 49 26.9 +0.6**
HKT pmax pmax
comp=Z,50nm,1.7s
SPA0 Spitsbergen Ar **45.22 4** P **P** **22 49 26.4 +0.5**
SPA0 IAmb IAmb 22 49 38.0
comp=Z,55nm,1.1s
SPITS Spitsbergen Ar **45.22 4** P **P** **22 49 26.3 +0.3**
SPITS pmax pmax
comp=Z,57nm,1.2s
SPITS Spitsbergen Ar **45.22 4** P **P** **22 49 27.0 +1.0**
comp=Z,15nm,0.8s,baz=15,slow=3.5,SNR=9.0
SPITS LR LR 23 07 00.3
comp=Z,684nm,22.0s,baz=324,slow=34
comp=Z,15nm,0.8s
OXF Oxford **45.25 93** P **P** **22 49 26.8 +0.1**
baz=318
P52A Corning **45.58 82** IAMs_20 IAMs_20 23 07 09.8
comp=Z,1µm,20.0s
P52A Corning **45.58 82** P **P** **22 49 29.1 -0.2**
baz=315
O53A New Philadelph **45.66 81** IAMs_20 IAMs_20 23 08 15.7
comp=Z,2µm,21.0s
O53A New Philadelph **45.66 81** P **P** **22 49 30.1 +0.3**
baz=314
KLR Kul'dur **46.07 296** *ce* P **P** **22 49 31.8 -1.2**
KLR pmax pmax
comp=Z,121nm,1.7s
KLR Kul'dur **46.07 296** LR LR 23 09 16.1
comp=Z,1µm,21.9s,baz=51,slow=37
O54A Avella **46.16 80** P **P** **22 49 34.3 +0.5**
LONY Lake Ozonia **46.22 72** P **P** **22 49 33.9 -0.3**
baz=313
X48A Hartselle **46.60 91** P **P** **22 49 37.9 +0.5**
baz=318,SNR=5.0
SWET Sewanee **46.66 90** P **P** **22 49 37.3 -0.5**
SWET IAmb IAmb 22 49 59.9
comp=Z,47nm,1.5s
TZTN Tazewell **47.01 86** IAMs_20 IAMs_20 23 08 15.6
comp=Z,2µm,20.0s
BINY Binghamton **47.13 75** IAMs_20 IAMs_20 23 06 46.7
comp=Z,1µm,18.0s
SSPA Standing Stone **47.20 78** IAMs_20 IAMs_20 23 06 35.5
comp=Z,1µm,18.0s
FPAL Fort Paine **47.33 90** P **P** **22 49 42.6 -0.5**
VT1 Waterbury **47.38 71** IAMs_20 IAMs_20 23 07 25.4
comp=Z,1µm,18.0s
Y49A Blount Mountai **47.40 91** P **P** **22 49 44.1 +0.5**
baz=318
HEH HeiHe **47.51 300** *eP* **P** **22 49 44.0 -0.2**
HEH pP **sP** **22 49 47.0 -0.8**
HEH PP **PP** **22 51 30.0 -5.3**
HEH S **S** **22 56 37.5 -0.9**
HEH pmax pmax
comp=Z,82nm,1.0s
HEH pmax pmax
comp=Z,220nm,5.7s
HEH LR LR
comp=Z,2µm,13.4s
HEH LR LR
comp=Z,2µm,12.2s
HEH LR LR
comp=Z,2µm,16.4s
TKL Tuckaleechee C **47.53 87** LR LR 23 09 51.0
comp=Z,4µm,18.3s,baz=322,slow=36
ANGG Ammassalik, Gr **47.53 32** P **P** **22 49 44.3 +0.1**
ANGG Ammassalik, Gr **47.53 32** *i* P **P** **22 49 43.5 -0.7**
ANGG IAmb IAmb 22 49 46.9
comp=Z,18nm,0.8s
LRAL Lakeview Retre **47.69 93** P **P** **22 49 45.6 -0.2**
baz=319
NRIK Noril'sk **48.03 337** P **P** **22 49 48.2 +0.2**
NRIK Noril'sk **48.03 337** *ce* P **P** **22 49 48.8 +0.8**
NRIK pmax pmax
comp=Z,129nm,1.3s
NRIK Noril'sk **48.03 337** P **P** **22 49 49.0 +1.0**
comp=Z,55nm,0.7s,baz=52,slow=6.2,SNR=162
NRIK LR LR 23 13 46.3
comp=Z,2µm,19.5s,baz=44,slow=41
comp=Z,55nm,0.7s
PQI Presque Isle **48.22 66** IAMs_20 IAMs_20 23 09 31.3
comp=Z,2µm,19.0s
BOD Bodaibo **48.32 315** *eP* **P** **22 49 50.2 -0.2**
BOD pmax pmax
comp=Z,77nm,2.1s
L61B Northampton **48.72 73** IAMs_20 IAMs_20 23 07 48.6
comp=Z,2µm,18.0s
BATG Bathurst New B **48.79 64** P **P** **22 49 54.0 -0.2**
250A Grady **48.89 93** P **P** **22 49 55.0 -0.1**
QUA2 Belchertown **49.01 73** IAMs_20 IAMs_20 23 08 00.4
comp=Z,1µm,19.0s
JMM Marumori **49.13 279** P **P** **22 49 56.7 -0.2**
JMM IAmb IAmb 22 49 58.4
comp=Z,24nm,0.9s
152A Waverly Hall **49.22 91** P **P** **22 49 57.3 -0.4**
152A Waverly Hall **49.22 91** P **P** **22 49 57.7 0.0**
baz=319
WSPT Westport, CT **49.27 74** IAMs_20 IAMs_20 23 08 12.3
comp=Z,990nm,18.0s
USA0B Ussuriysk Arra **49.35 291** P **P** **22 49 58.1 -0.4**
USA0B IAmb IAmb 22 51 38.8
comp=Z,46nm,1.8s
USA0B Ussuriysk Arra **49.35 291** *i* P **P** **22 49 58.4 -0.1**
USRK Ussuriysk Ar. **49.35 291** P **P** **22 49 58.2 -0.3**
USRK Ussuriysk Ar. **49.35 291** P **P** **22 49 58.4 -0.1**
comp=Z,5.4nm,0.7s,baz=52,slow=7.9,SNR=15
USRK LR LR 23 13 02.2
comp=Z,1µm,18.3s,baz=56,slow=39
comp=Z,5.4nm,0.7s
H11N2 WAKE ISLAND Hy **49.35 241** T T 23 43 10.5
baz=31,slow=76,SNR=81
H11N3 WAKE ISLAND Hy **49.35 241** T T 23 43 09.8
baz=31,slow=76,SNR=128

GOGA Godfrey **49.36 89** P **P** **22 49 59.0 +0.3**
baz=319
H11N1 WAKE ISLAND Hy **49.37 241** T T 23 43 10.1
baz=31,slow=76,SNR=78
HODGE Hodges **49.42 87** P **P** **22 49 59.3 +0.1**
HODGE IAmb IAmb 22 50 21.8
comp=Z,48nm,1.1s
JMIC Jan Mayen **49.66 16** LR LR 23 12 14.7
comp=Z,619nm,21.5s,baz=328,slow=38
EMMW East Machias **49.86 67** IAMs_20 IAMs_20 23 12 54.7
comp=Z,2µm,19.0s
MDJ Mudanjiang **50.28 293** P **P** **22 50 06.0 +0.4**
MDJ PP **PP** **22 52 01.0 +0.3**
MDJ PcS **PcS** **22 55 22.0 +0.7**
MDJ S **S** **22 57 18.0 +0.4**
MDJ ScS **ScS** **22 59 57.0 +0.9**
MDJ pmax pmax
comp=Z,15nm,0.9s
MDJ pmax pmax
comp=Z,110nm,3.6s
MDJ LR LR
comp=Z,2µm,23.7s
MDJ LR LR
comp=Z,700nm,21.2s
MDJ LR LR
comp=Z,2µm,20.0s
MDJ Mudanjiang **50.28 293** IAMs_20 IAMs_20 23 14 28.3
comp=Z,2µm,18.0s
JSD Sado **50.39 281** P **P** **22 50 05.8 -0.7**
JSD IAmb IAmb 22 50 19.6
comp=Z,20nm,0.9s
H11S1 WAKE ISLAND Hy **50.49 240** T T 23 44 48.6
baz=28,slow=74,SNR=61
H11S2 WAKE ISLAND Hy **50.50 240** T T 23 44 49.7
baz=302,slow=74,SNR=70
H11S3 WAKE ISLAND Hy **50.51 240** T T 23 44 52.0
SNR=77
BNX BinXian **50.60 296** ⇑P **P** **22 50 09.0 +1.0**
BNX pP **sP** **22 50 11.5 -0.1**
BNX S **S** **22 57 23.3 +1.4**
BNX pmax pmax
comp=Z,33nm,1.2s
BNX pmax pmax
comp=Z,300nm,6.6s
BNX LR LR
comp=Z,890nm,16.1s
BNX LR LR
comp=Z,1µm,18.0s
BNX LR LR
comp=Z,2µm,19.6s
MSHR Mys Shultsa **50.92 290** *ce* P **P** **22 50 11.9 +1.5**
MSHR pmax pmax
comp=Z,30nm,1.7s
CNNC Cliffs of the **51.08 83** IAMs_20 IAMs_20 23 09 15.5
comp=Z,1µm,19.0s
MAJO Matsushiro **51.51 280** P **P** **22 50 14.5 -0.5**
MAJO IAmb IAmb 22 50 28.3
comp=Z,33nm,1.4s
MAJO Matsushiro **51.51 280** P **P** **22 50 14.5 -0.5**
MAJO pmax pmax
comp=Z,33nm,1.4s
MAJO MLR MLR
comp=Z,700nm,21.0s
MJAR Matsushiro Arr **51.51 280** P **P** **22 50 15.7 +0.8**
comp=Z,5.5nm,1.0s,baz=22,slow=7.4,SNR=9.4
MJAR LR LR 23 12 37.2
comp=Z,572nm,20.5s,baz=56,slow=37
comp=Z,5.5nm,1.0s
MJB9 Matsu-Tunnel **51.51 280** P **P** **22 50 14.6 -0.4**
HIA Hailar **51.80 304** P **P** **22 50 16.6 -0.4**
HIA IAmb IAmb 22 50 18.7
comp=Z,26nm,0.9s
HIA Hailar **51.80 304** IAMs_20 IAMs_20 23 14 04.1
comp=Z,1µm,18.0s
HIA Hailar **51.80 304** P **P** **22 50 16.6 -0.4**
HIA pmax pmax
comp=Z,26nm,0.9s
HIA MLR MLR
comp=Z,2µm,18.0s
BORG Borgarnes **52.54 25** LR LR 23 13 45.5
comp=Z,1µm,18.0s,baz=329,slow=37
CIT Chita **52.58 310** *eP* **P** **22 50 24.2 +1.5**
CIT *e* 22 50 30.4
CIT *e* 22 52 23.8
CIT pmax pmax
comp=Z,124nm,2.2s
JGF Kuroka **52.67 280** P **P** **22 50 23.5 -0.1**
CN2 Changchun **52.96 295** P **P** **22 50 26.0 +0.4**
CN2 S **S** **22 57 52.0 -2.4**
CN2 pmax pmax
comp=Z,120nm,0.8s
CN2 LR LR
comp=Z,500nm,11.0s
CN2 LR LR
comp=Z,300nm,11.0s
CN2 LR LR
comp=Z,500nm,12.0s
JHJ Hachijo jima 2 **53.19 276** LR LR 23 13 11.9
comp=Z,111nm,19.4s,baz=34,slow=36
ARCES ARCESS Array B **54.16 3** P **P** **22 50 34.0 -0.1**
ARCES ARCESS Array B **54.16 3** P **P** **22 50 34.0 -0.1**
comp=Z,3.6nm,0.6s,baz=4.0,slow=7.3,SNR=14
comp=Z,3.6nm,0.6s
DWPF Disney Wildern **54.53 92** P **P** **22 50 36.3 -1.0**
baz=321
HHU Hamhung **54.72 291** P **P** **22 50 39.3 +0.8**
SNY Shenyang **55.34 295** ⇑P **P** **22 50 44.0 +1.1**
SNY S **S** **22 58 29.5 +2.9**
SNY pmax pmax
comp=Z,80nm,0.8s
SNY LR LR
comp=Z,920nm,26.3s
SNY LR LR
comp=Z,800nm,24.3s
SNY LR LR
comp=Z,2µm,19.2s
LVZ Lovozero **55.85 359** P **P** **22 50 46.1 -0.2**
LVZ Lovozero **55.85 359** *ce* P **P** **22 50 48.0 +1.6**
LVZ pmax pmax
comp=Z,142nm,2.5s
SUJ Sinuiju **56.15 293** P **P** **22 50 49.3 +0.5**
SUJ S **S** **22 58 35.3 -2.2**
SUJ AmB
comp=Z,178nm,2.1s
SUJ AMS AMS
comp=Z,1µm,10.6s
CMIG Matias Romero **56.16 112** LR LR 23 14 06.3
comp=Z,1µm,20.5s,baz=325,slow=35
APA Apatity **56.20 359** ⇓*i* P **P** **22 50 49.3 +0.5**
APA *i* 22 52 59.0
APA *i* S **S** **22 58 38.0 +0.7**
APA *i* PS **PnS** **22 58 46.0 -1.3**
APA *i* 23 00 34.0
APA pmax pmax
comp=Z,12nm,1.0s
IRK Irkutsk **56.21 315** *eP* **P** **22 50 48.5 -0.6**
IRK pmax pmax
comp=E,84nm,2.6s
PYAG Pyongyang **56.29 291** P **P** **22 50 50.6 +0.8**
PYAG S **S** **22 58 37.3 -2.0**
PYAG AmB
comp=Z,254nm,1.2s
KS19 Wonju Array Si **56.35 288** P **P** **22 50 50.5 +0.2**
KS19 IAmb IAmb 22 50 53.0
comp=Z,27nm,1.1s
KSRS Korea Array **56.35 288** P **P** **22 50 51.6 +1.3**
comp=Z,16nm,1.0s,baz=46,slow=6.5,SNR=36
KSRS LR LR 23 17 04.3
comp=Z,219nm,18.3s,baz=45,slow=38
comp=Z,16nm,1.0s
KSAR Wonju Array Be **56.38 288** P **P** **22 50 50.7 +0.2**
KSAR Wonju Array Be **56.38 288** P **P** **22 50 50.7 +0.2**
JCJ Chichijima **56.48 269** LR LR 23 12 06.8
comp=Z,428nm,21.7s,baz=96,slow=33
TEIG Tepich **57.05 104** LR LR 23 16 58.1
comp=Z,5µm,20.3s,slow=38
HJU Haeju **57.06 290** P **P** **22 50 55.8 +0.5**
HJU S **S** **22 58 47.8 -1.8**
HJU AmB
comp=Z,219nm,1.0s
XLT XiLinHaoTe **57.45 301** *eP* **P** **22 50 59.5 +1.4**
XLT sP pwP 22 51 08.5 +2.2
XLT S **S** **22 58 57.3 +2.5**
XLT pmax pmax
comp=Z,13nm,1.0s
XLT pmax pmax
comp=Z,180nm,4.1s
XLT LR LR
comp=Z,1µm,12.8s
XLT LR LR
comp=Z,2µm,14.0s
TJN Taejon **57.46 288** *ce* P **P** **22 51 00.0 +1.9**
MOY Mondy **57.93 316** *eP* **P** **22 51 03.2 +1.8**
MOY pmax pmax
comp=Z,40nm,2.9s
JNU Nakatsue **58.05 283** LR LR 23 17 58.3
comp=Z,406nm,19.6s,baz=62,slow=38
ZAK Zakamensk **58.05 314** *eP* **P** **22 51 02.3 0.0**
ZAK pmax pmax
comp=Z,10.0nm,1.3s
ULN Ulaanbaatar **58.47 310** P **P** **22 51 05.9 +0.6**
ULN IAmb IAmb 22 51 07.6
comp=Z,33nm,0.8s
ULN Ulaanbaatar **58.47 310** *ce* P **P** **22 51 06.4 +1.1**
ULN pmax pmax
comp=Z,43nm,1.0s
SONM Songino Array **58.77 310** P **P** **22 51 08.4 +1.0**
SONM Songino Array **58.77 310** P **P** **22 51 08.4 +1.0**
SONM pmax pmax
comp=Z,58nm,0.9s
SONM Songino Array **58.77 310** P **P** **22 51 09.0 +1.6**
comp=Z,42nm,0.8s,baz=46,slow=7.6,SNR=293
comp=Z,42nm,0.8s
APG El Apazote **60.20 109** LR LR 23 16 39.9
comp=Z,78nm,21.8s,baz=240,slow=35
BJI Beijing **60.36 298** P **P** **22 51 19.3 +1.1**
BJI sP **pwP** **22 51 26.0 -0.4**
BJI S **S** **22 59 27.3 -5.0**
BJI pmax pmax
comp=Z,12nm,0.8s
BJI pmax pmax
comp=Z,85nm,6.2s
BJI LR LR
comp=Z,390nm,19.7s
BJI LR LR
comp=Z,350nm,20.3s
BJI LR LR
comp=Z,430nm,22.2s
BJT Baijiatuan **60.38 298** P **P** **22 51 18.6 +0.2**
BJT IAmb IAmb 22 51 19.6
comp=Z,16nm,0.7s
BJT Baijiatuan **60.38 298** P **P** **22 51 18.6 +0.2**
BJT pmax pmax
comp=Z,16nm,0.7s
BJT MLR MLR
comp=Z,700nm,20.0s
VAF Ylistaro **60.56 5** *eP* **P** **22 51 20.2 +1.0**
JOF Joensuu **60.88 0** *eP* **P** **22 51 22.3 +0.9**
KEF Keuruu **61.52 3** *eP* **P** **22 51 26.2 +0.4**
ZAA0 Zalesovo Array **61.56 327** P **P** **22 51 26.2 0.0**
ZALV Zalesovo Beam **61.56 327** P **P** **22 51 26.4 +0.2**
ZALV Zalesovo Beam **61.56 327** *i* P **P** **22 51 26.8 +0.6**
ZALV pmax pmax
comp=Z,24nm,0.7s
ZALV Zalesovo Beam **61.56 327** P **P** **22 51 27.1 +1.0**
comp=Z,24nm,0.7s,baz=29,slow=6.8,SNR=117
ZALV LR LR 23 21 50.4
comp=Z,996nm,18.3s,baz=25,slow=40
comp=Z,24nm,0.7s
NC405 NORSAR Array S **61.67 11** P **P** **22 51 26.8 0.0**
NB201 NORSAR Array S **61.69 11** P **P** **22 51 27.6 +0.6**
NB201 IAmb IAmb 22 51 43.0
comp=Z,31nm,1.1s
NB2 NORSAR Subarra **61.69 11** P **P** **22 51 27.1 +0.1**
comp=Z,25nm,1.4s,baz=347,slow=6.9
NOA NORSAR Array B **61.69 11** P **P** **22 51 27.4 +0.4**
comp=Z,4.3nm,0.8s,baz=348,slow=6.7,SNR=14
NOA LR LR 23 20 16.5
comp=Z,308nm,19.0s,baz=350,slow=38
comp=Z,4.3nm,0.8s
HHC Hu-ho-hao-te **61.93 302** *eP* **P** **22 51 30.3 +1.2**
HHC pP pwP 22 51 35.3 -1.9
HHC S **S** **22 59 50.5 -2.1**
HHC sS sS 22 59 56.8 -0.2
HHC ScS **SKKSac** **23 01 21.0 +0.5**
HHC SS **SS** **23 03 58.8 +4.7**
HHC pmax pmax
comp=Z,69nm,0.9s
HHC LR LR
comp=Z,910nm,13.8s
HHC LR LR
comp=Z,2µm,14.9s
HHC LR LR
comp=Z,1µm,16.2s
SNET Serv Nac Est T **61.95 109** IAMs_20 IAMs_20 23 19 01.9
comp=Z,830nm,19.0s
FIA1 FINESS Array S **62.28 3** P **P** **22 51 31.2 +0.3**
FINES FINESS Array B **62.28 3** P **P** **22 51 31.3 +0.4**
FINES FINESS Array B **62.28 3** P **P** **22 51 31.7 +0.8**
comp=Z,16nm,0.8s,baz=1.3,slow=7.3,SNR=27
comp=Z,16nm,0.8s
VALR Valaam **62.44 0** *i* P **P** **22 51 32.0 0.0**
VALR pmax pmax
comp=Z,54nm,1.5s
RAF Rauma **62.53 5** *eP* **P** **22 51 31.9 -0.6**
TGUH Tegucigalpa,Un **62.67 107** IAMs_20 IAMs_20 23 20 48.1
comp=Z,1µm,19.0s
KLMR Klimovskoe **62.77 356** *eP* **P** **22 51 32.2 -2.0**
KLMR pmax pmax
comp=Z,48nm,1.0s
HFS Hagfors **62.83 10** P **P** **22 51 36.5 +1.9**
comp=Z,1.8nm,0.5s,baz=14,slow=6.4,SNR=4.1
HFS LR LR 23 20 29.8
comp=Z,452nm,20.5s,baz=344,slow=38
comp=Z,1.8nm,0.5s
BTO Baotou **62.85 303** *eP* **P** **22 51 35.5 +0.3**
BTO pP **sP** **22 51 40.0 +1.2**
BTO sP **pwP** **22 51 42.8 -0.5**
BTO PP **PP** **22 53 54.8 +1.9**
BTO S **S** **23 00 02.8 -1.3**
BTO SS **SS** **23 04 06.3 -2.1**
BTO pmax pmax
comp=Z,39nm,0.9s
BTO pmax pmax
comp=Z,310nm,9.3s
BTO LR LR
comp=Z,3µm,17.4s
BTO LR LR
comp=Z,4µm,17.4s
BTO LR LR
comp=Z,4µm,16.0s
TIA Tai'an **62.86 295** P **P** **22 51 31.5 -3.7**
TIA S **S** **23 00 06.0 +1.7**
TIA pmax pmax
comp=Z,13nm,1.4s
TIA pmax pmax
comp=Z,120nm,9.8s
TIA LR LR
comp=Z,400nm,28.2s
TIA LR LR
comp=Z,390nm,23.1s
TIA LR LR
comp=Z,630nm,18.8s
KONO Kongsberg **62.87 12** *i* P **P** **22 51 34.5 -0.3**
KONO pmax pmax
comp=Z,97nm,2.4s
HNS HongShan **63.13 298** ⇑P **P** **22 51 38.3 +1.4**
HNS pmax pmax
comp=Z,84nm,1.0s
HNS LR LR
comp=Z,500nm,17.3s
HNS LR LR
comp=Z,2µm,19.0s
HNS LR LR
comp=Z,990nm,21.4s
MEF Metsahovi **63.45 4** *eP* **P** **22 51 39.5 +0.8**
TIY Taiyuan **63.99 299** P **P** **22 51 43.8 +1.1**
TIY pmax pmax
comp=Z,25nm,1.0s
TIY LR LR
comp=Z,1µm,15.1s
TIY LR LR
comp=Z,760nm,11.7s
TIY LR LR
comp=Z,1µm,15.8s
PUL Pulkovo **64.03 1** *eP* **P** **22 51 43.7 +1.2**
PUL pmax pmax
comp=Z,36nm,0.8s
KIRV Kirov **64.33 350** *ce* P **P** **22 51 45.4 +0.9**
KIRV Kirov **64.33 350** LR LR 23 23 32.2
comp=Z,433nm,20.1s,baz=25,slow=40
JOW Kunigami **64.35 280** P **P** **22 51 44.6 -0.5**

comp=Z,19nm,0.9s,baz=338,slow=5.4,SNR=4.1
JOW LR LR 23 24 00.8
comp=Z,120nm,18.1s,baz=41,slow=40
comp=Z,19nm,0.9s
SVE Sverdlovsk 64.55 343 *d iP* **P 22 51 47.0 +1.0**
SVE *eS* **S 23 00 30.5 +5.8**
SVE pmax pmax
comp=Z,98nm,1.5s
SVE MLR MLR
comp=Z,635nm,21.0s
VIKU Vikbolandet 64.71 8 *e*P **P 22 51 47.1 +0.2**
SSE Sheshan 64.79 289 P P **22 51 46.3 -1.6**
SSE S **S 23 00 26.3 -2.0**
SSE SS **SS 23 04 37.0 -1.9**
SSE pmax pmax
comp=Z,10.0nm,1.1s
SSE pmax pmax
comp=Z,43nm,4.0s
SSE LR LR
comp=Z,140nm,17.2s
EKA Eskdalemuir Ar 65.00 21 P **P 22 51 49.6 +0.6**
comp=Z,6.4nm,0.9s,baz=311,slow=4.3,SNR=5.6
comp=Z,6.4nm,0.9s
NJ2 Nanjing 65.25 291 ⇑P **P 22 51 51.5 +0.6**
NJ2 sP **pwP 22 52 01.5 +2.4**
NJ2 S **S 23 00 36.0 +2.1**
NJ2 pmax pmax
comp=Z,34nm,0.6s
NJ2 pmax pmax
comp=Z,130nm,3.5s
NJ2 LR LR
comp=Z,580nm,18.0s
NJ2 LR LR
comp=Z,940nm,18.0s
NJ2 LR LR
comp=Z,2µm,16.6s
ARU Arti 65.27 344 P **P 22 51 50.5 -0.2**
ARU Arti 65.27 344 *c iP* **P 22 51 51.1 +0.4**
ARU 22 52 21.9
ARU 22 54 11.9
ARU S **S 23 00 35.3 +1.9**
ARU SS **SS 23 04 40.8 -4.2**
ARU pmax pmax
comp=Z,56nm,0.9s
ARU Arti 65.27 344 LR LR 23 22 47.0
comp=Z,787nm,21.3s,baz=17,slow=38
VSU Vasula 65.29 3 *ce*P **P 22 51 52.5 +1.8**
VSU pmax pmax
comp=Z,71nm,1.7s
GUMO Guam 65.88 258 LR LR 23 16 31.4
comp=Z,262nm,21.3s,baz=72,slow=32
SEM Semipalatinsk 66.02 328 *e*P **P 22 51 55.0 -1.0**
baz=328
SEM Semipalatinsk 66.02 328 *e*P **P 22 51 54.9 -1.0**
BRVK Borovoye 66.21 336 P **P 22 51 56.8 0.0**
BRVK Borovoye 66.21 336 P **P 22 51 56.8 0.0**
BRVK pmax pmax
comp=Z,34nm,1.0s
KURK Kurchatov 66.21 329 P **P 22 51 57.0 +0.2**
KURK Kurchatov 66.21 329 *ce*P **P 22 51 54.6 -2.2**
KURK pmax pmax
comp=Z,43nm,1.7s
BVAR Borovoye Array 66.21 335 P **P 22 51 57.8 +0.9**
comp=Z,29nm,0.8s,baz=31,slow=6.8,SNR=143
BVAR PKP2bc 23 20 36.1
comp=Z,1.0nm,0.8s,baz=215,slow=4.9,SNR=3.8
BVAR LR LR 23 25 58.9
comp=Z,1µm,18.5s,baz=23,slow=41
comp=Z,29nm,0.8s
KURBB Kurchatov Arra 66.32 329 P **P 22 51 58.1 +0.5**
comp=Z,11nm,0.7s,baz=27,slow=6.2,SNR=44
KURBB PP **PP 22 54 24.4 +1.5**
comp=Z,3.0nm,0.7s,baz=36,slow=9.7,SNR=4.2
KURBB LR LR 23 24 38.5
comp=Z,1µm,18.9s,baz=338,slow=39
comp=Z,11nm,0.7s
LYN LuoYang 66.49 297 ⇑P **P 22 52 00.3 +1.4**
LYN sP pwP 22 52 07.3 +0.2
LYN S **S 23 00 48.8 -0.2**
LYN sS sS 23 00 56.5 +3.1
LYN pmax pmax
comp=Z,100nm,0.9s
LYN pmax pmax
comp=Z,190nm,5.5s
LYN LR LR
comp=Z,1µm,21.3s
LYN LR LR
comp=Z,1µm,20.3s
LYN LR LR
comp=Z,2µm,19.2s
ZSN Zaisan 67.20 324 *e*P **P 22 52 04.4 +1.1**
comp=Z,23nm,0.7s,baz=324
ZSN Zaisan 67.20 324 *e*P **P 22 52 04.3 +1.1**
ZSN pmax pmax
comp=Z,23nm,0.7s
SDDR Presa de Saban 67.39 90 IAMs_20 IAMs_20 23 23 14.5
comp=Z,752nm,20.0s
MOS Moscow 67.97 356 *e*P **P 22 52 08.1 +0.2**
MOS *e* 22 52 33.7
MOS *e*S **S 23 01 04.2 -1.9**
MOS pmax pmax
comp=Z,58nm,1.4s
PABE Paberze 68.15 5 P **P 22 52 09.3 +0.3**
PABE Paberze 68.15 5 *e*P **P 22 52 09.9 +0.9**
GTA Gaotai 68.38 309 P **P 22 52 11.5 +0.5**
GTA SS SS 23 05 33.5 -0.9
GTA pmax pmax
comp=Z,18nm,1.2s
GTA LR LR
comp=Z,1µm,18.5s
GTA LR LR
comp=Z,1µm,18.2s
GTA LR LR
comp=Z,3µm,20.0s
BRZS Berezniki 68.47 333 *e*P **P 22 52 11.4 +0.2**
comp=Z,16nm,1.1s,baz=333
BRZS Berezniki 68.47 333 *e*P **P 22 52 11.4 +0.2**
BRZS pmax pmax
comp=Z,16nm,1.1s
MK31 Makanchi Array 68.61 325 P **P 22 52 11.6 -0.5**
MK31 IAmb IAmb 22 52 13.6
comp=Z,11nm,0.9s
MK31 Makanchi Array 68.61 325 *i* P **P 22 52 11.9 -0.2**
MK31 pmax pmax
comp=Z,20nm,0.9s
MKAR Makanchi Array 68.61 325 P **P 22 52 12.3 +0.2**
MKAR Makanchi Array 68.61 325 P **P 22 52 12.4 +0.3**
comp=Z,13nm,0.8s,baz=45,slow=6.4,SNR=108
MKAR PP **PP 22 54 39.0 -4.0**
comp=Z,6.2nm,0.8s,baz=46,slow=6.9,SNR=6.1
comp=Z,13nm,0.8s
OBN Obninsk 68.63 357 P **P 22 52 12.4 +0.4**
OBN Obninsk 68.63 357 *ce*P **P 22 52 12.8 +0.8**
OBN *e**SP **pwP 22 52 21.2 +1.0**
OBN 22 52 45.0
OBN *i* S **S 23 01 17.7 +3.8**
OBN *e* 23 02 15.2
OBN *e*SS **SS 23 05 40.7 +3.7**
OBN pmax pmax
comp=Z,51nm,1.7s
OBN MLR MLR
comp=Z,352nm,18.0s
XAN Xi'an 68.64 299 ⇑P **P 22 52 13.0 +0.5**
XAN pP sP 22 52 17.0 +0.8
XAN PcP **PcP 22 52 38.3 +0.9**
XAN PP **PP 22 54 45.5 +1.9**
XAN S **S 23 01 16.0 +1.2**
XAN sS sS 23 01 23.5 +4.2
XAN pmax pmax
comp=Z,60nm,0.7s
XAN pmax pmax
comp=Z,270nm,5.7s
XAN LR LR
comp=Z,1µm,15.3s
XAN LR LR
comp=Z,890nm,13.2s
XAN LR LR
comp=Z,2µm,16.0s
XAN Xi'an 68.64 299 P **P 22 52 12.6 +0.1**
XAN Xi'an 68.64 299 P **P 22 52 12.6 +0.1**
XAN pmax pmax
comp=Z,174nm,1.8s
MAKZ Makanchi 68.70 325 P **P 22 52 12.4 -0.3**
MAKZ IAmb IAmb 22 52 14.2
comp=Z,22nm,0.9s
MAKZ IAMs_20 IAMs_20 23 27 04.6
comp=Z,633nm,19.0s
MAKZ Makanchi 68.70 325 P **P 22 52 12.4 -0.3**
MAKZ pmax pmax
comp=Z,22nm,1.0s
MAKZ MLR MLR
comp=Z,600nm,19.0s
WHN Wuhan 68.77 293 ⇑P **P 22 52 14.0 +0.7**
WHN sP **pwP 22 52 19.0 -2.5**
WHN S **S 23 01 19.3 +2.9**
WHN pmax pmax
comp=Z,76nm,1.1s
WHN LR LR
comp=Z,1µm,15.5s
WHN LR LR
comp=Z,2µm,16.1s
WHN LR LR
comp=Z,3µm,18.2s
LZH Lanzhou 69.35 304 ⇑P **P 22 52 17.8 +0.7**
LZH sP pwP 22 52 25.0 -0.3
LZH pmax pmax
comp=Z,39nm,1.4s
LZH LR LR
comp=Z,3µm,15.3s
LZH LR LR
comp=Z,3µm,15.0s
LZH LR LR
comp=Z,4µm,16.7s
WMQ Urumqi 69.40 320 ⇑P **P 22 52 19.0 +1.8**
WMQ pmax pmax
comp=Z,31nm,1.3s
WMQ pmax pmax
comp=Z,160nm,6.5s
WMQ LR LR
comp=Z,1µm,18.1s
WMQ LR LR
comp=Z,1µm,20.3s
WMQ LR LR
comp=Z,540nm,21.5s
SUW Suwalki 69.60 5 P **P 22 52 18.4 +0.4**
SUW Suwalki 69.60 5 P **P 22 52 18.5 +0.4**
SUW pmax pmax
comp=Z,28nm,0.8s
SUW Suwalki 69.60 5 *e*P **P 22 52 18.7 +0.6**
BUG Bochum--Univer 70.55 16 *e*P **P 22 52 25.4 +1.4**
comp=Z,12nm,0.8s,baz=348,slow=6.0
CLZ Clausthal 70.60 14 *e*P **P 22 52 25.6 +1.3**
comp=Z,8.4nm,0.8s,baz=348,slow=6.0
BELG Belogornoye 70.61 350 *i* P **P 22 52 24.8 +0.5**
BELG pmax pmax
comp=Z,18nm,1.1s
BELG Belogornoye 70.61 350 LR LR 23 27 59.0
comp=Z,507nm,19.6s,baz=12,slow=40
LPSR Galich'ya Gora 71.05 355 *e*P **P 22 52 25.9 -1.1**
LPSR pmax pmax
comp=Z,20nm,1.0s
AKTO Aktyubinsk 71.14 342 LR LR 23 28 21.7
comp=Z,347nm,20.2s,baz=46,slow=40
BMRD Maredsous 71.26 18 *d*PcP **PcP 22 52 48.2 +0.1**
NEUB Neuenburg 71.40 13 *e*P **P 22 52 30.5 +1.4**
comp=Z.9nm,0.8s,baz=348,slow=6.0
CNSH ChangSha 71.40 293 ⇑P **P 22 52 30.5 +1.0**
CNSH S **S 23 01 50.0 +2.7**
CNSH pmax pmax
comp=Z,49nm,0.9s
CNSH LR LR
comp=Z,500nm,22.4s
CNSH LR LR
comp=Z,440nm,23.5s
CNSH LR LR
comp=Z,710nm,20.1s
TDK Taldyqorghan 71.42 327 *e*P **P 22 52 30.3 +0.9**
comp=Z,21nm,1.1s,baz=327
TDK Taldyqorghan 71.42 327 *e*P **P 22 52 30.3 +0.9**
TDK pmax pmax
comp=Z,21nm,1.1s
DOU Dourbes 71.43 18 *d*PcP **PcP 22 52 47.9 -1.0**
ENH Enshi 71.43 297 P **P 22 52 29.4 -0.3**
ENH IAMs_20 IAMs_20 23 26 33.7
comp=Z,1µm,21.0s
CLL Collm 71.45 12 P **P 22 52 29.5 0.0**
CLL IAmb IAmb 22 52 41.4
comp=Z,34nm,1.8s
CLL Collm 71.45 12 *i* P **P 22 52 30.4 +1.0**
CLL *i* 22 52 36.6
CLL pmax pmax
comp=Z,13nm,1.3s
CLL Collm 71.45 12 *e*P **P 22 52 30.7 +1.3**
comp=Z,2.9nm,0.7s,baz=348,slow=6.0
MOX Moxa 71.93 13 *e*P **P 22 52 34.0 +1.6**
comp=Z,4.9nm,0.8s,baz=348,slow=6.0
ABKAR Akbulak array 71.94 341 P **P 22 52 33.0 +0.6**
ABKAR Akbulak array 71.94 341 P **P 22 52 33.0 +0.6**
ABKAR IAmb IAmb 22 52 44.9
comp=Z,62nm,1.4s
VORR Voronezh 71.96 355 *e*P **P 22 52 32.5 0.0**
VORR pmax pmax
comp=Z,37nm,1.6s
BRG Berggiesshubel 71.98 12 *e*P **P 22 52 33.8 +1.2**
BRG 22 52 40.6
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG MLR MLR
comp=E,314nm,19.9s
BRG MLR MLR
comp=Z,499nm,20.3s
BRG MLR MLR
comp=N,325nm,14.0s
BRG Berggiesshubel 71.98 12 *e*P **P 22 52 33.9 +1.2**
BRG Amp 22 52 37.2
comp=Z,5.4nm,1.0s
BRG Berggiesshubel 71.98 12 P P 22 52 40.6 +8.0
BRG Amp 22 52 44.2
comp=Z,6.7nm,1.1s
BRG Berggiesshubel 71.98 12 *e*P **P 22 52 34.3 +1.6**
comp=Z.2.7nm,0.7s,baz=348,slow=6.0
TANN Tannenbergstha 72.26 13 *e*P **P 22 52 35.8 +1.4**
comp=Z,2.5nm,0.8s,baz=348,slow=6.0
VRH Novokhopyorsk 72.29 353 *e*P **P 22 52 32.5 -1.9**
VRH pmax pmax
comp=Z,10.0nm,0.6s
ARXS Arharly 72.31 327 *e*P **P 22 52 35.4 +0.5**
PVCC Panska Ves 72.39 11 *e*P **P 22 52 37.0 +1.9**
PVCC Panska Ves 72.39 11 *e*P **P 22 52 37.0 +1.9**
VSR Storozhevoye 72.42 355 *e*P **P 22 52 33.5 -1.7**
VSR pmax pmax
comp=Z,10.0nm,0.7s
OSTC Ostas 72.53 10 *e*P **P 22 52 37.0 +1.0**
OSTC Ostas 72.53 10 *e*P **P 22 52 37.0 +1.0**
BTLS Baital 72.65 330 *e*P **P 22 52 37.3 +0.5**
baz=330
BTLS Baital 72.65 330 *e*P **P 22 52 37.3 +0.5**
VORD Divnogorie 72.66 355 *e*P **P 22 52 35.5 -1.2**
VORD pmax pmax
comp=Z,10.0nm,0.8s
SMRT St. Maarten 72.68 83 IAMs_20 IAMs_20 23 22 46.5
comp=Z,771nm,21.0s
DPC Dobruska-Polom 72.75 10 *e*P **P 22 52 38.6 +1.3**
DPC Dobruska-Polom 72.75 10 *e*P **P 22 52 38.6 +1.3**
SHLS Shalkode 72.76 325 *e*P **P 22 52 37.6 0.0**
comp=Z,25nm,1.0s,baz=325
SHLS Shalkode 72.76 325 *e*P **P 22 52 37.6 0.0**
SHLS pmax pmax
comp=Z,25nm,1.0s
ROTZ Rotzenmuhle 72.87 13 *e*P **P 22 52 39.5 +1.6**
comp=Z,0.9nm,0.8s,baz=348,slow=6.0
CHKK Chushkaly 72.89 327 *e*P **P 22 52 38.2 0.0**
baz=327
CHKK Chushkaly 72.89 327 *e*P **P 22 52 38.2 0.0**
UZB Uzynbulak 72.91 326 *e*P **P 22 52 39.5 +0.9**
baz=326
UZB Uzynbulak 72.91 326 *e*P **P 22 52 39.4 +0.9**
PRU Pruhonice 72.92 11 AMS AMS 23 32 00.0
comp=Z,600nm,15.9s
KRLC Kraliky 73.06 10 *e*P **P 22 52 40.5 +1.3**
KRLC Kraliky 73.06 10 *e*P **P 22 52 40.5 +1.3**
ZHN Zhinishke 73.07 326 *e*P **P 22 52 40.2 +0.8**
baz=326
ZHN Zhinishke 73.07 326 *e*P **P 22 52 40.2 +0.8**
AKASG Malin Array Be 73.11 1 P **P 22 52 39.8 +0.5**
comp=Z,7.4nm,0.6s,baz=355,slow=5.6,SNR=24
AKASG LR LR 23 26 59.9
comp=Z,350nm,19.2s,baz=16,slow=38
comp=Z,7.4nm,0.6s
AKBB Malin Array Si 73.11 1 P **P 22 52 39.5 +0.1**
AKBB IAmb IAmb 22 52 43.2
comp=Z,21nm,0.8s
AKBB Malin Array Si 73.11 1 *ce*P **P 22 52 40.1 +0.7**
AKBB pmax pmax
comp=Z,30nm,0.9s
OJC Ojcow 73.17 8 P **P 22 52 40.1 +0.3**
OJC Ojcow 73.17 8 P **P 22 52 40.1 +0.3**
OJC pmax pmax
comp=Z,16nm,1.3s
SATY Saty 73.18 326 *e*P **P 22 52 41.1 +1.0**
comp=Z,21nm,1.5s,baz=326
SATY Saty 73.18 326 *e*P **P 22 52 41.1 +1.0**
SATY pmax pmax
comp=Z,21nm,1.5s
GOMU GeErMu 73.21 311 P **P 22 52 41.8 +1.1**
GOMU pmax pmax
comp=Z,23nm,0.9s
GOMU LR LR
comp=Z,970nm,18.2s
GOMU LR LR
comp=Z,830nm,18.3s
GOMU LR LR
comp=Z,2µm,20.8s
OKC Ostrava-Krasne 73.42 9 AMS AMS 23 30 30.0
comp=Z,600nm,18.4s
ZVC Zvikov 73.42 12 *e*P **P 22 52 42.4 +1.1**
MORC Moravsky Berou 73.43 9 ⇑P **P 22 52 42.5 +1.1**
MORC Moravsky Berou 73.43 9 P **P 22 52 40.8 -0.5**
MORC IAmb IAmb 22 53 13.1
comp=Z,25nm,1.6s
MORC Moravsky Berou 73.43 9 *e*P **P 22 52 42.0 +0.7**
MORC Moravsky Berou 73.43 9 P **P 22 52 40.8 -0.5**
MORC pmax pmax
comp=Z,25nm,1.6s
MDOK Medeo 73.50 327 *e*P **P 22 52 42.8 +0.8**
baz=327
MDOK Medeo 73.50 327 *e*P **P 22 52 42.8 +0.8**
WET Wettzell 73.56 13 *e*P **P 22 52 43.6 +1.5**
comp=Z,2.7nm,0.9s,baz=348,slow=6.0
TNSS Tian-Shan 73.64 327 *e*P **P 22 52 43.8 +0.6**
baz=327
TNSS Tian-Shan 73.64 327 *e*P **P 22 52 43.7 +0.6**
KHC Kasperske Hory 73.66 12 P **P 22 52 43.0 +0.3**
KHC Kasperske Hory 73.66 12 *e*P **P 22 52 44.3 +1.6**
KHC *ex* x 22 52 53.0
KHC Kasperske Hory 73.66 12 P **P 22 52 43.0 +0.3**
KHC pmax pmax
comp=Z,17nm,1.5s
ECH Echery 73.67 17 P **P 22 52 42.5 -0.3**
ECH Echery 73.67 17 P **P 22 52 42.5 -0.3**
ECH pmax pmax
comp=Z,13nm,1.0s
CD2 Chengdu 73.67 301 P **P 22 52 43.5 +0.4**
CD2 S **SKiKP 23 02 12.5 +0.3**
CD2 SKS **SKSac 23 02 45.3 -4.2**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 LR LR
comp=Z,300nm,14.5s
CD2 LR LR
comp=Z,350nm,10.6s
CD2 LR LR
comp=Z,820nm,16.4s
TREC Trest 73.70 11 AMS AMS 23 31 20.0
comp=Z,600nm,15.8s
VRAC Vranov 73.80 10 ⇑P **P 22 52 44.8 +1.3**
VRAC Vranov 73.80 10 *e*P **P 22 52 44.4 +0.9**
VRAC Vranov 73.80 10 ⇑P **P 22 52 44.8 +1.3**
VRAC Vranov 73.80 10 LR LR 23 29 18.4
comp=Z,211nm,18.3s,baz=351,slow=39
PPT Papeete 73.82 181 LR LR 23 17 23.8
comp=Z,327nm,19.0s,baz=360,slow=30
LVV L'vov 73.83 5 *e*P **P 22 52 44.6 +1.0**
SGDS Sogindy 73.95 329 *e*P **P 22 52 45.5 +1.0**
baz=329
SGDS Sogindy 73.95 329 *e*P **P 22 52 45.5 +1.0**
KWP Kalwaria Pacla 73.95 6 P **P 22 52 44.8 +0.4**
KWP IAmb IAmb 22 53 02.8
comp=Z,20nm,1.1s
KWP Kalwaria Pacla 73.95 6 P **P 22 52 44.8 +0.4**
KWP pmax pmax
comp=Z,20nm,1.1s
GEC2 GERESS Array S 73.95 12 P **P 22 52 44.4 -0.1**
GEC2 IAmb IAmb 22 52 57.7
comp=Z,34nm,1.9s
GEC2 GERESS Array S 73.95 12 *e*P **P 22 52 45.9 +1.4**
comp=Z.2.2nm,0.7s,baz=348,slow=6.0
GERES GERESS Array B 73.95 12 P **P 22 52 44.7 +0.2**
GERES GERESS Array B 73.95 12 P **P 22 52 45.8 +1.3**
comp=Z.2.1nm,0.6s,baz=15,slow=5.7,SNR=9.1
comp=Z.2.1nm,0.6s
KRUC Moravsky 74.03 10 *e*P **P 22 52 45.8 +1.0**
CKRC Cesky Krumlov 74.05 12 *e*P **P 22 52 45.8 +0.8**
CKRC Cesky Krumlov 74.05 12 *e*P **P 22 52 45.8 +0.8**
STHS Stebnicka Huta 74.07 7 *e*P **P 22 52 46.4 +1.3**
STHS pmax pmax
comp=Z,11nm,0.7s
STHS Stebnicka Huta 74.07 7 *e*P **P 22 52 46.3 +1.2**
USP Ospenovka 74.16 329 P **P 22 52 46.9 +1.1**
SNR=13
SSF Saint Saulge 74.16 19 *e*P **P 22 52 46.7 +1.1**
LANS Liptovska Anna 74.21 8 *e*P **P 22 52 48.3 +2.4**
LANS pmax pmax
comp=Z,8.0nm,0.9s
LANS Liptovska Anna 74.21 8 *e*P **P 22 52 48.3 +2.4**
CHMS Chumysh 74.33 328 P **P 22 52 48.1 +1.4**
SNR=18
JAVC Velka Javorina 74.35 9 *e*P **P 22 52 46.9 +0.1**
AVF Avril sur Loir 74.39 20 *e*P **P 22 52 46.9 -0.1**
FRU1 Bishkek 74.54 328 P **P 22 52 48.5 +0.5**
FRU1 IAmb IAmb 22 52 50.6
comp=Z,36nm,0.9s
FRU1 Bishkek 74.54 328 P **P 22 52 48.5 +0.5**
FRU1 pmax pmax
comp=Z,36nm,0.9s
KBK Karagaybulak 74.59 328 P **P 22 52 49.9 +1.5**
SNR=17
UBR Ueberruh 74.63 15 *e*P **P 22 52 49.7 +1.2**
comp=Z.4.4nm,0.8s,baz=348,slow=6.0
SMOL Smolenice 74.67 10 *e*P **P 22 52 50.9 +2.4**
AAK Ala-Archa 74.74 329 P **P 22 52 50.6 +1.3**
SNR=15
AAK Ala-Archa 74.74 329 P **P 22 52 49.3 +0.1**
AAK IAmb IAmb 22 52 51.6
comp=Z,19nm,1.0s
AAK Ala-Archa 74.74 329 *ce*P **P 22 52 50.7 +1.4**
AAK pmax pmax
comp=Z,34nm,1.7s
AAK Ala-Archa 74.74 329 LR LR 23 29 25.3
comp=Z,2µm,18.1s,baz=20,slow=39
MODS Modra-Piesok 74.79 10 *e*P **P 22 52 51.2 +1.9**
MODS Modra-Piesok 74.79 10 *e*P **P 22 52 51.2 +1.9**
VYHS Vyhne 74.81 9 *e*P **P 22 52 51.1 +1.7**
VYHS pmax pmax
comp=Z,12nm,1.3s
VYHS Vyhne 74.81 9 *e*P **P 22 52 51.1 +1.7**
RETA Reutte 74.92 14 *e*P **P 22 52 48.1 -2.0**
comp=Z,6.8nm,1.7s
EKS2 Erkin-Say 74.92 329 P **P 22 52 51.7 +1.4**
SNR=19
RJOB Jochberg 74.94 13 *e*P **P 22 52 51.8 +1.6**
comp=Z.4.4nm,0.8s,baz=348,slow=6.0
KECS Kecovo 74.95 8 *e*P **P 22 52 51.7 +1.5**
KECS Kecovo 74.95 8 *e*P **P 22 52 51.7 +1.5**
GULI GuiLin 75.07 293 ⇑P **P 22 52 52.0 +0.8**
GULI S **S 23 02 28.8 -0.2**
GULI SS **SS 23 07 17.8 +0.6**
GULI pmax pmax
comp=Z,20nm,0.8s
GULI LR LR
comp=Z,430nm,17.6s
GULI LR LR
comp=Z,670nm,18.4s
GULI LR LR
comp=Z,650nm,18.2s
BIOA Bad Ischl, Aus 75.08 12 *e*pP **P 22 52 52.3 +1.3**
comp=Z,5.5nm,0.8s
CONA Conrad Observa 75.09 11 *e*pP **P 22 52 52.6 +1.4**
comp=Z,14nm,1.3s
MOTA Moosalm 75.10 14 *e*pP pP 22 52 52.9 -1.0
comp=Z,10nm,1.4s
UCH Uchtor 75.11 328 P **P 22 52 52.9 +1.1**
SNR=5.7
WATA Walderalm 75.17 14 *e*pP **P 22 52 53.0 +1.3**
comp=Z,17nm,1.4s
LESA Schwarzleotal 75.23 13 *e*pP pP 22 52 53.7 -1.0
comp=Z,5.7nm,1.0s

SQTA	Sankt Quirin	75.24	14	*i* pP		pP		22 52 53.9	-0.9	
	comp=Z,8.5nm,1.0s									
WTTA	Wattenberg	75.25	14	*e*pP		pP		22 52 53.9	-1.0	
	comp=Z,11nm,0.8s									
RONA	Rosalia, Austr	75.36	10	*e*pP		pP		22 52 54.2	-1.1	
	comp=Z,4.9nm,0.9s									
FETA	Feichten	75.37	14	*e*pP		pP		22 52 54.3	-1.2	
	comp=Z,3.1nm,0.8s									
DZA	Taraz	75.39	331	*e*P		P		22 52 53.7	+0.9	
	baz=331									
DZA	Taraz	75.39	331	*e*P		P		22 52 53.7	+0.9	
NRN	Naryn	75.39	327	P		P		22 52 53.4	+0.1	
NRN	Naryn	75.39	327	P		P		22 52 53.4	+0.1	
NRN				pmax		pmax				
	comp=Z,18nm,1.1s									
KK31	Karatay Array	75.41	331	P		P		22 52 53.0	+0.1	
KK31				IAmb		IAmb		22 52 54.8		
	comp=Z,20nm,1.0s									
KK31	Karatay Array	75.41	331	P		P		22 52 53.0	+0.1	
KK31				pmax		pmax				
	comp=Z,20nm,1.0s									
KKAR	Karatay Array	75.41	331	P		P		22 52 53.1	+0.2	
KKAR				IAmb		IAmb		22 52 54.8		
	comp=Z,20nm,1.0s									
KKAR	Karatay Array	75.41	331	P		P		22 52 53.1	+0.2	
KKAR				pmax		pmax				
	comp=Z,20nm,1.0s									
SRO	Srobarova	75.44	9	*e*P		P		22 52 56.3	+3.3	
SRO				pmax		pmax				
	comp=Z,25nm,1.8s									
SRO	Srobarova	75.44	9	*e*P		P		22 52 56.3	+3.3	
PSZ	Piszkesteto	75.47	8	⇓P		P		22 52 54.9	+1.7	
PSZ	Piszkesteto	75.47	8	P		P		22 52 54.0	+0.7	
PSZ				IAmb		IAmb		22 53 24.3		
	comp=Z,27nm,1.3s									
PSZ	Piszkesteto	75.47	8	P		P		22 52 54.0	+0.7	
PSZ				pmax		pmax				
	comp=Z,27nm,1.3s									
DAVOX	Davos/Dischmat	75.48	15	LR		LR		23 30 35.5		
	comp=Z,174nm,18.7s,baz=350,slow=39									
HKPS	Hong Kong Po S	75.59	288	IAMs_20		IAMs_20		23 30 10.6		
	comp=Z,860nm,18.0s									
KBA	Koelnbreinsper	75.65	13	*e*pP		P		22 52 55.9	+1.4	
	comp=Z,7.2nm,0.9s									
BRLS	Borolday	75.65	332	*e*P		P		22 52 56.3	+2.0	
	baz=332									
BRLS	Borolday	75.65	332	*e*P		P		22 52 56.3	+2.0	
SORM	Soroca	75.66	2	⇓P		P		22 52 54.6	+0.4	
SORM	Soroca	75.66	2	⇓P		P		22 52 54.6	+0.4	
FUORN	Ofenpass-Fuorn	75.69	15	P		P		22 52 54.7	-0.1	
TUE	Stuetta	75.71	16	P		P		22 52 55.2	+0.4	
TUE				IAmb		IAmb		22 52 59.3		
	comp=Z,41nm,1.9s									
ARSA	Arzberg	75.73	11	*e*pP		pP		22 52 56.3	-1.2	
	comp=Z,5.5nm,0.9s									
GYA	Guiyang	75.97	297	⇑*i*P		P		22 52 57.0	+0.5	
GYA				pP		pP		22 52 58.5	-0.7	
GYA				S		S		23 02 41.0	+1.8	
GYA				pmax		pmax				
	comp=Z,42nm,0.9s									
GYA				pmax		pmax				
	comp=Z,160nm,5.8s									
GYA				LR		LR				
	comp=Z,970nm,16.4s									
GYA				LR		LR				
	comp=Z,690nm,17.8s									
GYA				LR		LR				
	comp=Z,1μm,16.5s									
SDV	Santo Domingo	75.99	95	IAMs_20		IAMs_20		23 26 54.7		
	comp=Z,616nm,19.0s									
SDV	Santo Domingo	75.99	95	LR		LR		23 27 35.4		
	comp=Z,516nm,19.2s,baz=348,slow=37									
BUR08	Bucovina Ar. S	76.06	4	P		P		22 52 57.0	+0.3	
BURAR	Bucovina Array	76.09	4	⇑P		P		22 52 57.5	+0.7	
BURAR	Bucovina Array	76.09	4	P		P		22 52 57.0	+0.2	
BURAR	Bucovina Array	76.09	4	⇑P		P		22 52 57.5	+0.7	
MYKA	Terra Mystica	76.13	13	*e*pP		P		22 52 58.6	+1.5	
	comp=Z,1.0nm,0.5s									
SOKA	Soboth	76.24	12	*e*pP		P		22 52 58.7	+1.0	
	comp=Z,20nm,1.4s									
OBKA	Obir	76.35	12	*e*pP		P		22 52 59.4	+1.1	
	comp=Z,11nm,0.7s									
CHM	Chimkent	76.38	332	*e*P		P		22 52 59.5	+0.9	
	baz=332									
CHM	Chimkent	76.38	332	*e*P		P		22 52 59.4	+0.9	
IUG	Iuzhnay	76.43	331	*e*P		P		22 52 59.7	+0.8	
	comp=Z,27nm,1.1s,baz=332									
IUG	Iuzhnay	76.43	331	*e*P		P		22 52 59.6	+0.8	
IUG				pmax		pmax				
	comp=Z,27nm,1.1s									
DRGR		76.78	6	⇑P		P		22 53 01.8	+1.1	
DRGR		76.78	6	⇑P		P		22 53 01.8	+1.1	
MILM	Milestii Mici	76.89	2	⇑P		P		22 53 01.7	+0.5	
MILM	Milestii Mici	76.89	2	*e*P		P		22 53 01.0	-0.2	
MILM				LQM				23 29 20.0		
	comp=Z,500nm,18.5s									
MILM				LRM		MLR		23 33 16.0		
	comp=Z,400nm,21.0s									
MILM	Milestii Mici	76.89	2	*e*P		P		22 53 01.0	-0.2	
MARR	Marisel-Cluj	76.92	6	⇓P		P		22 53 02.7	+1.1	
KALN	Kalnik	76.93	11	*i* P		P		22 53 02.3	+0.7	
POLO	Lamas de Olo	76.99	29	*e*P		P		22 53 03.6	+1.6	
	comp=Z,17nm,1.7s									
MORH	Mrgy, Hungar	77.06	9	⇓P		P		22 53 03.4	+1.2	
PVRL	Vila Real	77.10	29	*e*P		P		22 53 05.8	+3.2	
	comp=Z,43nm,1.6s									
VASR	Vaslui	77.14	3	⇑P		P		22 53 04.1	+1.4	
KSH	Kashi	77.16	326	P		P		22 53 06.5	+3.4	
KSH				PcP		PcP		22 53 17.5	+3.7	
KSH				S		S		23 03 01.3	+9.4	
KSH				pmax		pmax				
	comp=Z,19nm,1.0s									
KSH				LR		LR				
	comp=Z,930nm,17.3s									
KSH				LR		LR				
	comp=Z,2μm,17.5s									
KSH				LR		LR				
	comp=Z,2μm,17.7s									
SIRR	Siria	77.24	7	⇑P		P		22 53 04.9	+1.6	
PURM	Purcari	77.29	1	⇑P		P		22 53 04.5	+1.0	
BAUV	El Baul	77.38	93	P		P		22 53 03.9	-0.5	
MOSL	Moslavina	77.48	10	*i* P		P		22 53 05.1	+0.5	
PVIS	Viseu	77.57	30	*e*P		P		22 53 06.2	+0.9	
OZUR		77.63	4	⇑P		P		22 53 07.1	+1.6	
BOSR	Bodos	77.64	4	⇓P		P		22 53 06.9	+1.3	
GHRR		77.72	3	⇑P		P		22 53 07.7	+1.8	
DOPR	Dopca	77.74	4	⇑P		P		22 53 08.3	+2.2	
SURR	Surduc	77.78	7	⇑P		P		22 53 07.4	+1.2	
BZS	Buzias	77.88	7	⇑P		P		22 53 07.4	+0.6	
BZS	Buzias	77.88	7	⇑P		P		22 53 07.4	+0.6	
VRI	Vrincioaia	77.89	3	⇑P		P		22 53 07.3	+0.4	
VRI	Vrincioaia	77.89	3	⇑P		P		22 53 07.3	+0.4	
PLOR	Plostina	77.90	3	⇑P		P		22 53 09.0	+2.0	
PLOR	Plostina	77.90	3	⇑P		P		22 53 09.0	+2.0	
VLDR	Vladesti	77.95	2	⇑P		P		22 53 09.0	+1.8	
MTE	Manteigas	77.96	29	*e*P		P		22 53 09.0	+1.5	
	comp=Z,32nm,1.6s									
RAR	Rarotonga	78.02	191	LR		LR		23 19 22.2		
	comp=Z,511nm,20.0s,baz=346,slow=29									
PCAS	Casmilo, Conde	78.02	30	*e*P		P		22 53 09.1	+1.4	
BTK	Batken	78.16	330	P		P		22 53 08.3	-0.3	
BTK				IAmb		IAmb		22 53 10.7		
	comp=Z,31nm,1.1s									
BTK	Batken	78.16	330	P		P		22 53 08.3	-0.3	
BTK				pmax		pmax				
	comp=Z,31nm,1.2s									
HNR	Honiara	78.18	232	IAMs_20		IAMs_20		23 18 54.9		
	comp=Z,1μm,22.0s									
HNR	Honiara	78.18	232	LR		LR		23 20 59.1		
	comp=Z,9μm,20.8s,baz=10.0,slow=31									
GZR	Gura Zlata	78.18	6	⇓P		P		22 53 09.6	+1.0	
GZR	Gura Zlata	78.18	6	⇓P		P		22 53 09.6	+1.0	
MLR	Muntele Rosu	78.24	4	⇑P		P		22 53 10.8	+1.8	
MLR	Muntele Rosu	78.24	4	P		P		22 53 09.2	+0.2	
MLR				IAmb		IAmb		22 53 15.0		
	comp=Z,63nm,2.0s									
MLR				IAMs_20		IAMs_20		23 32 28.7		
	comp=Z,668nm,19.0s									
MLR	Muntele Rosu	78.24	4	P		P		22 53 09.2	+0.2	
MLR				pmax		pmax				
	comp=Z,63nm,2.0s									
MLR				MLR		MLR				
	comp=Z,700nm,19.0s									
PCRV	Puerto La Cruz	78.25	89	LR		LR		23 26 07.8		
	comp=Z,567nm,20.9s,slow=34									
VOIR		78.25	5	⇑P		P		22 53 10.8	+1.8	
VOIR		78.25	5	⇑P		P		22 53 10.8	+1.8	
GOF	Gofitskoye	78.30	352	*ce*P		P		22 53 10.3	+1.1	
ARR	Arges	78.30	5	⇓P		P		22 53 10.8	+1.5	
PZH	PanZhiHua	78.33	301	P		P		22 53 10.0	+0.2	
PZH				S		S		23 03 01.0	-3.8	
PZH				pmax		pmax				
	comp=Z,40nm,0.9s									
PZH				pmax		pmax				
	comp=Z,200nm,6.7s									
PZH				LR		LR				
	comp=Z,500nm,18.2s									
PZH				LR		LR				
	comp=Z,470nm,18.2s									
PZH				LR		LR				
	comp=Z,740nm,16.7s									
PCBR	Castelo Branco	78.50	30	*e*P		P		22 53 11.5	+1.1	
	comp=Z,24nm,1.8s									
CFR	Carcaliu	78.62	2	⇓P		P		22 53 12.0	+1.1	
CFR	Carcaliu	78.62	2	⇓P		P		22 53 12.0	+1.1	
TGY	Tagaytay City	78.64	278	LR		LR		23 28 45.8		
	comp=Z,53nm,19.9s,baz=348,slow=36									
HERR	Herculane	78.67	7	⇓P		P		22 53 11.7	+0.5	
MDVR	Moldovita	78.72	7	⇓P		P		22 53 12.8	+1.2	
DUGI	Dugi Otok	78.90	12	*i* P		P		22 53 13.2	+0.7	
TPGR	Topolog	78.94	2	⇑P		P		22 53 14.2	+1.4	
KMI	Kunming	79.01	299	⇑P		P		22 53 14.0	+0.3	
KMI				S		S		23 03 08.8	-3.6	
KMI				pmax		pmax				
	comp=Z,10.0nm,0.9s									
KMI				LR		LR				
	comp=Z,720nm,23.5s									
KMI				LR		LR				
	comp=Z,680nm,23.9s									
KMI				LR		LR				
	comp=Z,770nm,16.8s									
PMTG	Montargil	79.02	30	*e*P		P		22 53 15.3	+2.1	
	comp=Z,20nm,1.7s									
HARR	Harsova	79.10	3	⇑P		P		22 53 15.2	+1.7	
HARR	Harsova	79.10	3	⇑P		P		22 53 15.2	+1.7	
MSVF	Nonsavu	79.11	212	P		P		22 53 13.6	-0.3	
MSVF				IAmb		IAmb		22 53 16.4		
	comp=Z,26nm,0.9s									
MSVF	Nonsavu	79.11	212	P		P		22 53 13.6	-0.3	
MSVF				pmax		pmax				
	comp=Z,26nm,1.0s									
TIRR	Tirgusor	79.34	2	⇑P		P		22 53 16.2	+1.3	
TIRR	Tirgusor	79.34	2	P		P		22 53 14.8	-0.1	
TIRR				IAmb		IAmb		22 53 30.2		
	comp=Z,28nm,0.9s									
TIRR				IAMs_20		IAMs_20		23 32 54.9		
	comp=Z,927nm,21.0s									
TIRR	Tirgusor	79.34	2	P		P		22 53 14.8	-0.1	
TIRR				pmax		pmax				
	comp=Z,28nm,0.9s									
TIRR				MLR		MLR				
	comp=Z,900nm,21.0s									
KVAR	Kislovodsk Arr	79.43	352	LR		LR		23 32 04.6		
	comp=Z,174nm,21.6s,baz=280,slow=38									
KIV	Kislovodsk	79.43	352	⇑P		P		22 53 16.8	+1.3	
KIV	Kislovodsk	79.43	352	P		P		22 53 15.5	0.0	
KIV				IAmb		IAmb		22 53 17.8		
	comp=Z,24nm,0.9s									
KIV	Kislovodsk	79.43	352	*e*P		P		22 53 16.5	+1.0	
KIV				*e*S		S		23 03 15.5	-0.5	
KIV				*e*SS		SS		23 08 21.2	-0.6	
KIV				pmax		pmax				
	comp=Z,25nm,1.1s									
KIV				MLR		MLR				
	comp=Z,315nm,19.0s									
ESBB	Sonseca Array	79.58	27	P		P		22 53 16.8	+0.4	
ESDC	Sonseca Array	79.58	27	P		P		22 53 17.0	+0.6	
ESDC	Sonseca Array	79.58	27	P		P		22 53 17.9	+1.5	
	comp=Z,6.9nm,0.8s,baz=337,slow=5.4,SNR=34									
ESDC				LR		LR		23 28 52.9		
	comp=Z,592nm,18.8s,baz=336,slow=36									
	comp=Z,6.9nm,0.8s									
KBZ	Khabaz	79.64	352	*ce*P		P		22 53 17.3	+0.8	
KBZ				pmax		pmax				
	comp=Z,15nm,0.9s									
KBZ	Khabaz	79.64	352	P		P		22 53 18.0	+1.5	
	comp=Z,11nm,0.8s,baz=338,slow=4.6,SNR=32									
KBZ				LR		LR		23 34 09.2		
	comp=Z,233nm,18.6s,baz=13,slow=40									
	comp=Z,11nm,0.8s									
ICOR	Ion Corvin	79.67	3	⇓P		P		22 53 18.2	+1.6	
NRCA	Norcia	79.80	14	P		P		22 53 17.3	-0.2	
NCK	Nalchik	79.81	351	*i* P		P		22 53 18.7	+1.2	
NCK				pmax		pmax				
	comp=Z,41nm,1.0s									
PNCL	Nicolau / Gran	79.82	31	*e*P		P		22 53 18.8	+1.2	
	comp=Z,43nm,1.8s									
BLKB	Belogradchik	79.94	6	⇑P		P		22 53 18.8	+0.5	
MAK	Makhachkala	79.94	348	*e*P		P		22 53 14.5	-3.7	
MAK				*e*S		S		23 03 16.3	-5.0	
MAK				*e*SS		SS		23 08 26.0	-3.3	
MAK				*e*SSS		SSS		23 11 57.0		
MAK				pmax		pmax				
	comp=Z,94nm,1.0s									
SIMJ	Simiganj	79.97	331	P		P		22 53 18.6	0.0	
SIMJ				IAmb		IAmb		22 53 20.4		
	comp=Z,38nm,1.0s									
MANR	Mangalia	79.99	2	⇑P		P		22 53 19.8	+1.4	
SOC	Sochi	80.00	354	*e*P		P		22 53 17.4	-1.1	
SOC				*e*PPP		PPP		22 58 08.1		
SOC				*e*S		S		23 03 21.5	-0.4	
SOC				*e*SS		SS		23 08 32.5	+2.3	
SOC				*e*SSS		SSS		23 11 55.3		
SOC				MLR		MLR				
	comp=Z,378nm,21.0s									
CAMP	Campotosto	80.13	13	P		P		22 53 19.2	-0.2	
PBAR	Barrancos	80.18	30	*e*P		P		22 53 20.6	+1.1	
	comp=Z,22nm,1.5s									
LSA	Lhasa	80.36	310	P		P		22 53 21.3	0.0	
LSA	Lhasa	80.36	310	P		P		22 53 21.3	0.0	
LSA				pmax		pmax				
	comp=Z,15nm,0.8s									
LSA				MLR		MLR				
	comp=Z,2μm,22.0s									
QIZ	Qiongzhong	80.52	290	P		P		22 53 21.3	-0.4	
QIZ				PP		PP		22 56 23.3	-1.3	
QIZ				S		S		23 03 30.5	+2.5	
QIZ				SS		SS		23 08 43.0	+3.4	
QIZ				LR		LR				
	comp=Z,420nm,14.2s									
QIZ				LR		LR				
	comp=Z,600nm,14.7s									
QIZ				LR		LR				
	comp=Z,450nm,15.2s									
ONI	Oni	80.72	351	P		P		22 53 22.2	-0.3	
ONI	Oni	80.72	351	P		P		22 53 22.2	-0.3	
ONI				pmax		pmax				
	comp=Z,11nm,1.1s									
PBDV	Barranco-do-Ve	80.80	31	*e*P		P		22 53 25.3	+2.4	
	comp=Z,30nm,1.8s									
TNCH	TengChong	81.10	302	P		P		22 53 26.0	+1.1	
TNCH				pP		pP		22 53 27.5	-0.2	
TNCH				S		S		23 03 33.5	-0.8	
TNCH				pmax		pmax				
	comp=Z,28nm,0.9s									
TNCH				pmax		pmax				
	comp=Z,140nm,4.8s									
TNCH				LR		LR				
	comp=Z,690nm,18.1s									
TNCH				LR		LR				
	comp=Z,660nm,20.4s									
TNCH				LR		LR				
	comp=Z,1μm,17.4s									
ZKTA	Zakatala	81.35	349	P		P		22 53 24.1	-1.7	
SLVN	Son La	81.62	296	P		P		22 53 27.6	0.0	
SLVN				IAmb		IAmb		22 53 29.6		
	comp=Z,14nm,0.9s									
SEKA	Sheki	81.71	348	P		P		22 53 26.0	-1.8	
DAV	Davao City (W)	81.86	270	LR		LR		23 23 16.1		
	comp=Z,464nm,21.9s,baz=50,slow=31									
MCRA	Macar, Loja	82.05	110	P		P		22 53 29.9	+0.1	
DIKM	Dikmen	82.13	357	⇑P		P		22 53 31.4	+1.5	
CART	Cartagena	82.29	25	IAMs_20		IAMs_20		23 30 44.4		
	comp=Z,779nm,19.0s									
GANJ	Ganja	82.36	349	P		P		22 53 30.4	-0.8	
RDO	Rodhopi	82.56	4	P		P		22 53 32.2	+0.1	
RDO				IAmb		IAmb		22 53 37.5		
	comp=Z,37nm,1.2s									
GNI	Garni	83.02	350	P		P		22 53 35.0	+0.2	
GNI	Garni	83.02	350	P		P		22 53 35.0	+0.2	
GNI				pmax		pmax				
	comp=Z,105nm,1.8s									
GNI	Garni	83.02	350	LR		LR		23 34 16.9		
	comp=Z,199nm,20.5s,baz=16,slow=38									
GEYT	Alibeck	83.21	339	P		P		22 53 36.4	+0.8	
GEYT	Alibeck	83.21	339	P		P		22 53 36.4	+0.8	
GEYT				pmax		pmax				
	comp=Z,26nm,0.9s									
GEYT	Alibeck	83.21	339	P		P		22 53 37.2	+1.6	
	comp=Z,19nm,0.8s,baz=352,slow=3.0,SNR=39									
GEYT				LR		LR		23 36 58.3		
	comp=Z,686nm,18.7s,baz=33,slow=40									
	comp=Z,19nm,0.8s									
GYA0B	ALIBECK ARRAY	83.21	339	P		P		22 53 36.0	+0.4	
GYA0B				IAmb		IAmb		22 53 38.3		
	comp=Z,21nm,0.8s									
MDUB	Mudurnu	83.36	0	P		P		22 53 37.3	+0.8	
NIL	Nilore	83.40	326	P		P		22 53 36.4	-0.3	
NIL				IAmb		IAmb		22 53 38.6		
	comp=Z,20nm,0.9s									
NIL	Nilore	83.40	326	P		P		22 53 36.4	-0.3	
NIL				pmax		pmax				
	comp=Z,20nm,1.0s									
KBL	Kabul	83.82	330	P		P		22 53 38.3	-0.7	
KBL				IAmb		IAmb		22 53 39.4		
	comp=Z,11nm,0.9s									
KBL	Kabul	83.82	330	P		P		22 53 38.3	-0.7	
KBL				pmax		pmax				
	comp=Z,11nm,1.0s									
TIP	Timpagrande	83.84	11	⇑P		P		22 53 40.0	+1.2	
TIP	Timpagrande	83.84	11	P		P		22 53 38.6	-0.3	
TIP				IAmb		IAmb		22 53 50.4		
	comp=Z,12nm,1.0s									
NAX	Nakhchivan	83.91	349	P		P		22 53 38.4	-0.8	
ANTO	Ankara	83.95	359	⇓P		P		22 53 41.0	+1.5	
ANTO	Ankara	83.95	359	⇓P		P		22 53 41.0	+1.5	
LKRN	Lenkeran, Azer	83.98	346	P		P		22 53 37.2	-2.3	
BR131	Keskin Array S	84.08	358	P		P		22 53 40.5	+0.3	
BR131				IAmb		IAmb		22 54 04.1		
	comp=Z,19nm,1.2s									
BR131	Keskin Array S	84.08	358	P		P		22 53 40.5	+0.3	
BR131				pmax		pmax				
	comp=Z,19nm,1.3s									
BRTR	Keskin Array B	84.08	358	P		P		22 53 40.8	+0.6	
BRTR	Keskin Array B	84.08	358	P		P		22 53 41.2	+1.0	
	comp=Z,4.6nm,0.8s,baz=20,slow=2.8,SNR=15									
	comp=Z,4.6nm,0.8s									
PMG	Port Moresby	84.14	243	P		P		22 53 39.9	-0.6	
PMG	Port Moresby	84.14	243	P		P		22 53 39.9	-0.6	
PMG				pmax		pmax				
	comp=Z,53nm,1.7s									
PMG	Port Moresby	84.14	243	LR		LR		23 25 36.0		
	comp=Z,369nm,21.6s,baz=29,slow=32									
CRAI	Chiangrai	84.30	298	P		P		22 53 40.9	-0.6	
CRAI				IAmb		IAmb		22 53 42.5		
	comp=Z,9.1nm,0.8s									
SGSI	Sangihe	84.68	269	P		P		22 53 40.7	-2.6	
	comp=Z,394nm,0.5s,comp=Z,11μm									
GURO	Guroymak-BITLI	84.85	352	P		P		22 53 44.5	+0.4	
ATAH	Atahualpa	85.20	110	LR		LR		23 30 40.7		
	comp=Z,351nm,21.8s,baz=337,slow=35									
HRA	Herat	85.72	335	P		P		22 53 48.9	+0.3	
HRA				IAmb		IAmb		22 54 01.0		
	comp=Z,42nm,1.6s									
PHRA	Phrae	85.84	297	P		P		22 53 48.4	-0.8	
MDT	Midelt	85.88	30	LR		LR		23 32 23.8		
	comp=Z,666nm,18.0s,baz=2.0,slow=36									
UBPT	Khong Chiam	85.92	292	P		P		22 53 48.8	-0.7	
UBPT				IAmb		IAmb		22 54 07.7		
	comp=Z,38nm,1.2s									
KEST	Kesra	86.19	18	P		P		22 53 52.9	+2.1	
	comp=Z,6.9nm,0.9s,baz=328,slow=9.5,SNR=2.4									
	comp=Z,6.9nm,0.8s									
CMAR	Chiang Mai Arr	86.50	299	P		P		22 53 52.2	-0.2	
CMAR	Chiang Mai Arr	86.50	299	P		P		22 53 53.0	+0.6	
	comp=Z,9.6nm,0.7s,baz=14,slow=5.1,SNR=67									
CMAR				LR		LR		23 37 16.0		
	comp=Z,700nm,18.7s,baz=15,slow=39									
	comp=Z,9.6nm,0.7s									
DZM	Mont Dzumac	86.99	221	LR		LR		23 25 24.3		
	comp=Z,542nm,21.7s,baz=16,slow=30									
ARG	Arkhangelos	87.56	3	P		P		22 53 57.1	-0.2	
ARG	Arkhangelos	87.56	3	P		P		22 53 57.1	-0.2	
ARG				pmax		pmax				
	comp=Z,38nm,1.0s									
CZSB	Cruzeiro do Su	88.70	106	P		P		22 54 02.3	-0.6	
MDP	Montagnes des	89.06	82	LR		LR		23 32 21.8		
	comp=Z,420nm,21.2s,baz=321,slow=34									
RPN	Rapa Nui	89.73	146	LR		LR		23 25 44.7		
	comp=Z,465nm,18.5s,baz=308,slow=30									
NNA	Nana	90.11	112	LR		LR		23 32 25.6		
	comp=Z,244nm,21.2s,baz=338,slow=34									
MMAI	Mount Meron Ar	90.73	357	P		P		22 54 13.9	+1.5	
	comp=Z,9.0nm,0.5s,baz=319,slow=3.7,SNR=7.1									
	comp=Z,0.9nm,0.5s									
ASF	Jabal al Asfar	91.52	355	LR		LR		23 42 34.1		
	comp=Z,130nm,18.6s,baz=78,slow=40									
CTA	Charters Tower	93.76	239	LR		LR		23 29 45.8		
	comp=Z,260nm,21.9s,baz=177,slow=31				

P23K	**Montague Islan**	**3.59**	**10**		Pn	Pn	22 45 08.0	-0.6
Q19K	**Cape Douglas,**	**3.66**	**314**	Pn	Pn	Pn	22 45 10.4	+0.8
Q19K				IAML			22 46 20.9	
	comp=N,455nm,1.2s							
KAKN	**Katmai Knife C**	**3.95**	**300**			Pn	22 45 14.2	+0.6
P19K	**Oil Pt**	**4.03**	**324**			Pn	22 45 14.9	+0.3
P19K				IAML			22 45 54.9	
	comp=E,99nm,1.1s							
P19K				IAML			22 46 10.0	
	comp=N,145nm,0.8s							
HIN	**Hinchinbrook I**	**4.08**	**15**			Pn	22 45 14.9	-0.5
HIN				IAML			22 46 34.3	
	comp=E,288nm,1.2s							
HIN				IAML			22 47 16.7	
	comp=N,241nm,0.9s							
KAIM	**Kayak Island**	**4.11**	**31**			Pn	22 45 15.6	-0.1
SLKM	**Skilak Lake**	**4.13**	**349**			Pn	22 45 15.7	-0.4
ILSW	**Iliamna Southw**	**4.26**	**328**			Pn	22 45 17.4	-0.5
ILSW				IAML			22 45 51.5	
	comp=N,97nm,1.1s							
ILSW				IAML			22 46 04.8	
	comp=E,123nm,1.0s							
EYAK	**Cordova Ski Ar**	**4.35**	**19**			Pn	22 45 18.8	-0.2
SUCK	**Suckling Hills**	**4.41**	**33**	Pn		Pn	22 45 20.0	+0.1
HMT	**Hamilton**	**4.49**	**29**	Pn		Pn	22 45 21.2	+0.2
P18K	**Big Mountain,**	**4.59**	**312**	Pn		Pn	22 45 22.0	-0.3
P18K				IAML			22 46 32.5	
	comp=N,59nm,1.1s							
RC01	**Rabbit Creek A**	**4.67**	**353**	Pn		Pn	22 45 23.2	-0.1
RC01				IAML			22 46 27.1	
	comp=E,56nm,1.2s							
RC01				IAML			22 46 29.6	
	comp=N,52nm,1.2s							
BERG	**Berg Lake**	**4.69**	**31**	Pn		Pn	22 45 23.6	-0.2
SNH	**Sunshine Point**	**4.80**	**37**	Pn		Pn	22 45 25.2	0.0
O18K	**Koktuh Hills**	**4.87**	**317**	Pn		Pn	22 45 25.9	-0.3
O18K				IAML			22 46 08.1	
	comp=N,75nm,1.1s							
PMR	**Palmer**	**5.14**	**357**	Pn		Pn	22 45 29.7	-0.1
PMR				IAML			22 46 19.7	
	comp=N,46nm,1.1s							
TGL	**Tana Glacier**	**5.24**	**33**	Pn		Pn	22 45 31.4	-0.1
TGL				IAML			22 47 02.0	
	comp=N,130nm,0.9s							
TGL				IAML			22 48 12.5	
	comp=E,164nm,1.0s							
GHO	**Glory Hole Cre**	**5.32**	**358**	Pn		Pn	22 45 32.7	+0.4
GHO				IAML			22 46 18.9	
	comp=N,125nm,1.1s							
GHO				IAML			22 46 47.0	
	comp=E,106nm,0.9s							
SML	**Sawmill**	**5.35**	**1**	Pn		Pn	22 45 33.0	+0.2
SML				IAML			22 46 21.0	
	comp=N,132nm,1.2s							
SML				IAML			22 46 46.3	
	comp=E,73nm,1.1s							
CHGN	**Chignik**	**5.46**	**272**	Pn		Pn	22 45 34.9	+0.7
VRDI	**Verde Repeater**	**5.46**	**27**	Pn		Pn	22 45 34.0	-0.4
N25K	**Chitina, Valde**	**5.54**	**20**	Pn		Pn	22 45 36.0	+0.5
GLB	**Gilahina Butte**	**5.56**	**24**	Pn		Pn	22 45 35.6	-0.1
GRNC	**Granite Creek**	**5.57**	**37**	Pn		Pn	22 45 36.0	+0.1
TABL	**Table Mountain**	**5.58**	**41**	Pn		Pn	22 45 36.2	+0.2
MCARA	**McCarthy VSAT**	**5.70**	**28**	Pn		Pn	22 45 37.9	+0.3
BARN	**Barnard Glacie**	**5.84**	**35**	Pn		Pn	22 45 39.8	+0.1
CTGM	**Chitina Glacie**	**5.88**	**37**	Pn		Pn	22 45 40.1	-0.1
BCPM	**Bancas Point**	**5.88**	**50**	Pn		Pn	22 45 40.4	+0.3
O16K	**Kokwok River B**	**5.93**	**306**	Pn		Pn	22 45 40.3	-0.4
CNBA	**Chernabura Isl**	**6.44**	**260**	Pn		Pn	22 45 47.4	-0.3
O29M	**Mount Kennedy**	**6.51**	**50**	Pn		Pn	22 45 49.4	+0.5
P29M	**Windy Craggy**	**6.57**	**57**	Pn		Pn	22 45 49.7	+0.1
M17K	**Holitna River**	**6.73**	**321**	Pn		Pn	22 45 51.6	-0.1
SDPT	**Sand Point**	**6.78**	**265**	Pn		Pn	22 45 52.3	0.0
S31K	**Pelican**	**6.88**	**72**	Pn		Pn	22 45 52.6	-1.1
RND	**Reindeer**	**6.96**	**359**	Pn		Pn	22 45 55.2	+0.4

*IDC **27** 22:51:56.2ₛ3.6, 10°.19N×126°.01E, h66km±33km, mb3.9/18, mbtmp4.2/19, ML4.4/1, MS3.8/3, Error ellipse: s-maj=31.5km s-min=13.0km az=68.0*
*NEIC **27** 22:51:57.4ₜ1.2, 10°.21N±0°.04×126°.0E±0°.1, h75km±8km, mb4.3/24, Error ellipse: s-maj=20.0km s-min=3.5km az=76.0*
ISC 27 22:51:54.7±0.5, 10°.30N±0°.05×126°.1E±0°.1, h50km, n56, σ1ˢ23/58, mb4.2/28, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.25**	**188**		**Pn**	**22 52 42.0**	**-1.2**
DAV				Sn	**Sn**	**22 53 20.8**	**+0.2**
DAV	**Davao City (W)**	**3.25**	**188**	P	**Pn**	**22 52 43.7**	**+0.6**
	47nm,0.3s,baz=90,slow=11,SNR=2.2						
DAV				S	**Sn**	**22 53 25.0**	**+4.5**
	261nm,0.5s,baz=299,slow=23,SNR=3.9						
	136nm,0.4s						
TGY	**Tagaytay City**	**6.27**	**308**	LR	LR	22 56 07.2	
	comp=Z,424nm,21.7s,baz=96,slow=40						
KKM	**Kota Kinabalu**	**10.62**	**247**	Pn	**Pn**	**22 54 25.3**	**+0.9**
TPUB	**Ta-pu**	**13.93**	**339**	Pn	**Pn**	**22 55 11.9**	**+2.5**
FAKI	**Fak Fak**	**14.51**	**155**	Pn	**Pn**	**22 55 18.7**	**+1.5**
BATI	**Baumata**	**20.51**	**187**	LR	LR	23 06 52.8	
	comp=Z,75nm,18.8s,baz=312,slow=44						
MTN	**Manton Dam**	**23.54**	**168**	P	**P**	**22 56 59.6**	**-1.0**
CRAI	**Chiangrai**	**26.63**	**295**	P	**P**	**22 57 28.4**	**-0.4**
CRAI				IAmb	IAmb	22 57 30.7	
	comp=Z,5.4nm,0.8s						
KSRS	**Korea Array**	**27.09**	**3**	P	**P**	**22 57 34.0**	**+1.4**
	comp=Z,1.2nm,0.5s,baz=184,slow=11,SNR=3.4						
	comp=Z,1.2nm,0.5s						
CM31	**Chiang Mai Arr**	**27.46**	**290**	P	**P**	**22 57 35.3**	**-1.0**
CMAR	**Chiang Mai Arr**	**27.46**	**290**	P	**P**	**22 57 35.3**	**-1.0**
CMAR	**Chiang Mai Arr**	**27.46**	**290**	P	**P**	**22 57 37.3**	**+1.0**
	comp=Z,4.1nm,0.6s,baz=102,slow=6.9,SNR=16						
	comp=Z,4.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**28.22**	**181**	P	**P**	**22 57 41.7**	**-1.3**
WRA	**Warramunga Arr**	**31.14**	**165**	P	**P**	**22 58 07.9**	**-1.0**
WRA	**Warramunga Arr**	**31.14**	**165**	P	**P**	**22 58 07.1**	**-1.8**
	comp=Z,0.7nm,0.5s,baz=345,slow=9.4,SNR=9.8						
	comp=Z,0.7nm,0.5s						
WR0	**Warramunga Arr**	**31.21**	**164**	P	**P**	**22 58 08.0**	**-1.4**
WR0				IAmb	IAmb	22 58 29.4	
	comp=Z,9.9nm,1.5s						
AS31	**Alice Springs**	**34.62**	**167**	P	**P**	**22 58 37.2**	**-2.1**
ASAR	**Alice Springs**	**34.62**	**167**	P	**P**	**22 58 37.5**	**-1.7**
ASAR	**Alice Springs**	**34.62**	**167**	P	**P**	**22 58 38.0**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=352,slow=6.7,SNR=18						
	comp=Z,0.7nm,0.3s						
ULN	**Ulaanbaatar**	**40.72**	**340**	P	**P**	**22 59 30.9**	**+0.2**
ULN				IAmb	IAmb	22 59 32.7	
	comp=Z,5.6nm,0.9s						
SONM	**Songino Array**	**40.92**	**340**	P	**P**	**22 59 32.4**	**+0.1**
SONM	**Songino Array**	**40.92**	**340**	P	**P**	**22 59 33.0**	**+0.8**
	comp=Z,2.1nm,0.9s,baz=155,slow=9.0,SNR=10.0						
SONM				PcP	**PcP**	**23 01 32.1**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=167,slow=3.5,SNR=4.4						
	comp=Z,2.1nm,0.9s						
BBOO	**Buckleboo**	**43.92**	**168**	P	**P**	**22 59 55.9**	**-0.7**
STKA	**Stephens Creek**	**44.50**	**161**	P	**P**	**23 00 00.1**	**-1.1**
STKA	**Stephens Creek**	**44.50**	**161**	P	**P**	**23 00 00.8**	**-0.5**
	comp=Z,2.4nm,0.7s,baz=347,slow=9.3,SNR=3.7						
	comp=Z,2.4nm,0.7s						
MKAR	**Makanchi Array**	**51.88**	**323**	P	**P**	**23 00 58.0**	**-0.2**
	comp=Z,3.0nm,0.7s,baz=108,slow=7.8,SNR=29						
MKAR				PcP	**PcP**	**23 02 10.6**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=100,slow=8.7,SNR=5.7						
	comp=Z,3.0nm,0.7s						
MAKZ	**Makanchi**	**52.07**	**323**	P	**P**	**23 00 59.3**	**-0.3**
MAKZ				IAmb	IAmb	23 01 00.2	
	comp=Z,2.3nm,0.9s						
ZALV	**Zalesovo Beam**	**54.50**	**331**	P	**P**	**23 01 16.2**	**-1.0**
ZALV	**Zalesovo Beam**	**54.50**	**331**	P	**P**	**23 01 16.4**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=128,slow=7.2,SNR=6.6						
	comp=Z,1.7nm,0.6s						
KURK	**Kurchatov**	**55.92**	**326**	P	**P**	**23 01 26.8**	**-0.7**
KURBB	**Kurchatov Arra**	**55.93**	**325**	P	**P**	**23 01 27.2**	**-0.4**
	comp=Z,3.5nm,0.7s,baz=127,slow=6.7,SNR=15						
	comp=Z,3.5nm,0.7s						
KK31	**Karatay Array**	**58.08**	**315**	P	**P**	**23 01 41.6**	**-1.4**
KK31				IAmb	IAmb	23 01 42.7	
	comp=Z,1.6nm,0.8s						
TIXI	**Tiksi**	**61.32**	**1**	P	**P**	**23 02 04.0**	**-0.7**
BVAR	**Borovoye Array**	**61.52**	**325**	P	**P**	**23 02 06.3**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=115,slow=14,SNR=9.7						
BVAR				PcP	**PcP**	**23 02 48.4**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=112,slow=4.0,SNR=4.4						
	comp=Z,1.7nm,0.7s						

NRIK	**Noril'sk**	**63.93**	**346**	P	**P**		**23 02 22.0**	**-0.2**
NRIK				IAmb	IAmb		23 02 43.3	
	comp=Z,2.5nm,0.9s							
NRIK	**Noril'sk**	**63.93**	**346**	P	**P**		**23 02 21.9**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=143,slow=6.9,SNR=7.4							
	comp=Z,2.3nm,0.6s							
ABKAR	**Akbulak array**	**66.72**	**319**	P	**P**		**23 02 39.4**	**-1.2**
ABKAR	**Akbulak array**	**66.72**	**319**	P	**P**		**23 02 39.7**	**-0.8**
ABKAR				IAmb	IAmb		23 02 40.4	
	comp=Z,1.5nm,0.8s							
RAO	**Raoul Island**	**66.78**	**128**	LR	LR		23 27 14.5	
	comp=Z,479nm,21.7s,baz=121,slow=32							
ARU	**Arti**	**69.08**	**327**	P	**P**		**23 02 53.9**	**-1.4**
F17K	**Baldwin Pennin**	**73.72**	**24**	P	**P**		**23 03 22.4**	**-0.6**
F17K				IAmb	IAmb		23 03 35.9	
	comp=Z,4.2nm,1.1s							
C18K	**Utukok River**	**74.20**	**21**	P	**P**		**23 03 26.8**	**+0.9**
C18K				IAmb	IAmb		23 03 28.9	
	comp=Z,3.4nm,0.9s							
C19K	**Lookout Ridge**	**74.87**	**21**	P	**P**		**23 03 31.5**	**+1.8**
C19K				IAmb	IAmb		23 03 33.4	
	comp=Z,4.3nm,0.8s							
IMAR	**Indian Mountai**	**76.66**	**24**	P	**P**		**23 03 40.5**	**+0.5**
RAYN	**Ar Rayn**	**77.36**	**292**	P	**P**		**23 03 43.9**	**-1.0**
RAYN				IAmb	IAmb		23 03 45.0	
	comp=Z,4.0nm,0.7s							
TOLK	**Toolik Lake Re**	**78.42**	**22**	P	**P**		**23 03 50.6**	**+0.8**
TOLK				IAmb	IAmb		23 03 52.9	
	comp=Z,2.1nm,0.8s							
ILAR	**Eielson Array**	**79.50**	**26**	P	**P**		**23 03 55.8**	**0.0**
	comp=Z,0.6nm,0.7s,baz=242,slow=6.4,SNR=8.0							
	comp=Z,0.6nm,0.7s							
BMAR	**Burnt Mountain**	**80.32**	**23**	P	**P**		**23 04 01.6**	**+1.4**
SPITS	**Spitsbergen Ar**	**83.94**	**349**	P	**P**		**23 04 19.6**	**+0.6**
	comp=Z,11nm,1.0s,baz=89,slow=6.8,SNR=6.8							
	comp=Z,11nm,1.0s							
ARCES	**ARCESS Array B**	**84.09**	**340**	P	**P**		**23 04 21.1**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=65,slow=4.7,SNR=6.4							
	comp=Z,0.8nm,0.5s							
FINES	**FINESS Array B**	**85.76**	**332**	P	**P**		**23 04 27.4**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=72,slow=6.2,SNR=7.3							
	comp=Z,1.1nm,0.6s							
AKASG	**Malin Array Be**	**86.41**	**321**	P	**P**		**23 04 30.3**	**-1.4**
	comp=Z,1.3nm,0.9s,baz=72,slow=3.9,SNR=2.9							
	comp=Z,1.3nm,0.9s							
VNDA	**Vanda**	**89.99**	**173**	P	**P**		**23 04 48.0**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=319,slow=6.4,SNR=3.1							
	comp=Z,0.8nm,0.8s							
YKA	**Yellowknife Ar**	**93.81**	**24**	P	**P**		**23 05 07.7**	**+1.4**
	comp=Z,0.8nm,0.8s,baz=301,slow=4.9,SNR=15							
	comp=Z,0.8nm,0.8s							
TORD	**Torodi Ar. Bea**	**120.06**	**292**	PKP	**PKPdf**		**23 10 39.6**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=79,slow=1.9,SNR=13							

*IDC **27** 23:06:46.4±1.8, 2°.66S×128°.21E, h0km, mb3.6/3, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=137.9km s-min=24.1km az=68.0*
*DJA **27** 23:06:48.5±0.2, 3°.5S±3°×12°.7E±°, h10km, M3.9/11, mb4.1/3, MLv3.8/11*
ISC 27 23:06:48.5±0.9, 3°.03S±0°.07×127°.48E±0°.06, h10km, n10, σ0ˢ76/13, mb3.7/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.43**	**241**	P	**Pb**	**23 06 57.9**	**-0.2**
NLAI				Pg	**Pg**	**23 06 57.7**	**+0.8**
NLAI				Sg	**Sb**	**23 07 04.2**	**-0.5**
SANI	**Sanana**	**1.78**	**303**	P	**Pn**	**23 07 18.7**	**-0.6**
SANI				S	**Sn**	**23 07 40.8**	**-1.1**
LBMI	**Labuha**	**2.38**	**1**	P	**Pn**	**23 07 27.6**	**+0.1**
BNDI	**Bandanaira**	**2.84**	**122**	P	**Pn**	**23 07 33.1**	**-0.8**
SWI	**Sorong**	**4.35**	**60**	P	**Pn**	**23 07 54.1**	**-0.6**
FAKI	**Fak Fak**	**4.77**	**89**	P	**Pn**	**23 08 00.1**	**-0.3**
WRA	**Warramunga Arr**	**18.09**	**159**	P	**Pn**	**23 11 00.3**	**+0.1**
	0.4nm,0.3s,baz=340,slow=11,SNR=23						
	3.8nm,0.6s						
ASAR	**Alice Springs**	**21.44**	**164**	P	**P**	**23 11 37.5**	**+0.5**
	2.9nm,0.6s,baz=341,slow=11,SNR=22						
	2.9nm,0.6s						
MKAR	**Makanchi Array**	**63.55**	**327**	P	**P**	**23 17 20.6**	**+1.3**
	0.2nm,0.6s,baz=143,slow=5.7,SNR=2.7						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**67.83**	**329**	P	**P**	**23 17 46.4**	**-0.4**
	0.4nm,0.8s,baz=114,slow=5.6,SNR=4.0						
	0.4nm,0.8s						

*IDC **27** 23:07:50.5±0.9, 31°.84N×48°.65E, h0km, mb4.0/21, mbtmp4.0/27, ML3.4/6, MS3.3/3, Error ellipse: s-maj=19.5km s-min=13.2km az=173.0*
*MOS **27** 23:07:50.7±1.0, 31°.80N×48°.70E, h15km, mb4.5/26, Error ellipse: s-maj=8.3km s-min=4.9km az=103.8*
*NEIC **27** 23:07:52.5±1.7, 31°.88N±0°.07×48°.74E±0°.05, h10km±1km, mb4.4/38, Error ellipse: s-maj=11.8km s-min=7.4km az=166.0*
*TEH **27** 23:07:53.6, 31°.82N×48°.67E, h20km±50km, ML4.1*
*OMAN **27** 23:07:58.1±0.9, 31°.51N×49°.17E, h10km, mb4.2/30, Error ellipse: s-maj=9.1km s-min=5.5km az=9.0*
*DSN **27** 23:08:00.6±1.0, 31°.21N×48°.96E, h15km, ML3.6/8, Error ellipse: s-maj=14.3km s-min=6.5km az=16.0*
ISC 27 23:07:51.6±0.3, 31°.80N±0°.03×48°.71E±0°.03, h10km, n294, σ2ˢ9/03/318, mb4.4/64, 38C-5D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.47**	**187**	Pg	**Pn**	**23 08 03.5**	**-0.9**
JHBN	**Jahan bin**	**1.71**	**75**	Pg	**Pg**	**23 08 24.4**	**-0.1**
ABEH	**Behbahan**	**1.78**	**132**	Pn	**Pg**	**23 08 25.6**	**-0.1**
ZNGN	**Zangian**	**1.85**	**79**	Pn	**Pg**	**23 08 26.5**	**-0.6**
IKFM	**Kafar-mosalman**	**1.87**	**337**	Pn	**Pg**	**23 08 25.9**	**-1.6**
IDOB	**Doab**	**2.04**	**347**	Pn	**Pb**	**23 08 28.2**	**-0.6**
IPIR	**Pirpir**	**2.05**	**64**	Pn	**Pb**	**23 08 29.2**	**+0.1**
IBRJ	**Brojen**	**2.17**	**86**	Pn	**Pb**	**23 08 30.9**	**-0.3**
HSAM	**Samen**	**2.41**	**358**	Pn	**Pb**	**23 08 33.6**	**-1.6**
KLNJ	**Kolanjah**	**2.58**	**107**	Pn	**Pb**	**23 08 37.1**	**-1.2**
KBD	**Kabd**	**2.76**	**199**	P	**Pb**	**23 08 40.4**	**-0.6**
KBD				S	**Sb**	**23 09 16.4**	**+1.6**
IBZA	**Bozab**	**2.76**	**345**	Pn	**Pb**	**23 08 38.3**	**-2.9**
ILBA	**Ilam Banvizeh**	**2.79**	**311**	Pn	**Pb**	**23 08 38.1**	**-3.4**
KCHF	**Cheshme Sefid,**	**2.84**	**331**	Pn	**Pb**	**23 08 39.1**	**-3.5**
IKLH	**Kolahrood**	**2.86**	**57**	Pn	**Pb**	**23 08 40.7**	**-2.1**
IGAR	**Gharneh**	**2.89**	**77**	Pn	**Pb**	**23 08 40.8**	**-2.6**
HAGD	**Aghdareh**	**3.04**	**7**	Pn	**Pb**	**23 08 42.4**	**-3.5**
IGHG	**Ghaleghazi**	**3.10**	**325**	Pn	**Pb**	**23 08 43.2**	**-3.8**
IRAM	**Ramesheh**	**3.12**	**89**	Pn	**Pb**	**23 08 44.1**	**-3.3**
IZEF	**Zefreh**	**3.25**	**69**	Pn	**Pb**	**23 08 45.7**	**-3.8**
KAZ2	**Kazeron-Fars-I**	**3.35**	**130**	Pn	**Pb**	**23 08 47.2**	**-3.9**
ILIN	**Lien**	**3.44**	**335**	Pn	**Pn**	**23 08 47.5**	**+2.0**
IDHR	**Dehrash**	**3.49**	**327**	Pn	**Pn**	**23 08 48.0**	**+1.9**
IQOM	**Qom**	**3.62**	**32**	Pn	**Pn**	**23 08 50.6**	**+2.6**
AHBU	**AHRAM**	**3.68**	**142**	Pn	**Pn**	**23 08 51.5**	**+3.0**
IRAZ	**Razeghan**	**3.74**	**15**	Pn	**Pn**	**23 08 52.1**	**+2.5**
KGS1	**Ghasr-e-Shirin**	**3.76**	**317**	Pn	**Pn**	**23 08 51.4**	**+1.7**
ISFB	**Sefidab**	**3.91**	**48**	Pn	**Pn**	**23 08 54.1**	**+2.4**
SHI	**Shiraz**	**3.92**	**122**	Pn	**Pn**	**23 08 55.0**	**+3.0**
IVRN	**Varamin**	**4.07**	**38**	Pn	**Pn**	**23 08 56.6**	**+2.7**
DSBU	**Dashti - Bushe**	**4.07**	**147**	Pn	**Pn**	**23 08 57.3**	**+3.3**
IMHD	**Mahdasht**	**4.21**	**22**	Pn	**Pn**	**23 08 58.7**	**+2.8**
ISAD	**Sadrabad**	**4.23**	**87**	Pn	**Pn**	**23 08 59.4**	**+3.0**
AMD1	**Meshkindasht**	**4.36**	**25**	Pn	**Pn**	**23 09 01.0**	**+2.9**
ANAR	**Anarak**	**4.46**	**71**	Pn	**Pn**	**23 09 02.3**	**+2.9**
IDMV	**Damavand**	**4.68**	**35**	Pn	**Pn**	**23 09 04.5**	**+2.0**
QIR1	**Qir**	**5.00**	**130**	Pn	**Pn**	**23 09 09.1**	**+2.3**
ILAS	**Lasjerd**	**5.03**	**44**	Pn	**Pn**	**23 09 09.5**	**+2.1**
IMEH	**Mehriz**	**5.05**	**93**	Pn	**Pn**	**23 09 10.6**	**+2.9**
KLST	**Kelardasht - M**	**5.09**	**22**	Pn	**Pn**	**23 09 11.5**	**+3.2**
SDS1	**Sardasht. Az.**	**5.10**	**329**	Pn	**Pn**	**23 09 10.3**	**+2.1**
IFIR	**Firoozkooh**	**5.10**	**40**	Pn	**Pn**	**23 09 10.7**	**+2.3**
MZPU	**Pul - Mazandar**	**5.20**	**26**	Pn	**Pn**	**23 09 12.6**	**+3.0**
JHRM	**Jahrom**	**5.34**	**127**	Pn	**Pn**	**23 09 14.2**	**+2.7**
IPRN	**Peran**	**5.36**	**33**	Pn	**Pn**	**23 09 14.7**	**+3.0**
MAHB	**Mahabad**	**5.55**	**334**	Pn	**Pn**	**23 09 16.1**	**+1.7**
IBAF	**Bafgh**	**5.85**	**90**	Pn	**Pn**	**23 09 21.9**	**+3.4**
SAKB	**Bahrain**	**6.01**	**164**	P	**Pn**	**23 09 23.9**	**+3.3**
SAKB				S	**Sn**	**23 10 29.3**	**-0.2**
ISRB	**Sarab**	**6.08**	**352**	Pn	**Pn**	**23 09 24.0**	**+2.3**
IGLO	**Ghaloghah**	**6.33**	**41**	Pn	**Pn**	**23 09 27.9**	**+2.8**
GAS1	**Astara - Iran**	**6.58**	**1**	Pn	**Pn**	**23 09 30.4**	**+2.1**
IHRS	**Heris**	**6.65**	**349**	Pn	**Pn**	**23 09 31.7**	**+2.1**
TPRV	**Parvadeh(Tabas**	**6.85**	**78**	Pn	**Pn**	**23 09 35.0**	**+2.7**
ISHB	**Shabestar**	**6.95**	**339**	Pn	**Pn**	**23 09 36.1**	**+2.4**

TNSJ	**Nastanj**	**6.99**	**70**	Pn		**Pn**	**23 09 36.9**	**+2.8**
GRMI	**Germi**	**7.03**	**355**	Pn		**Pn**	**23 09 36.8**	**+2.1**
NGRK	**Negar Kerman**	**7.23**	**105**	Pn		**Pn**	**23 09 40.6**	**+2.9**
SMRA	**Abu-Samra**	**7.27**	**165**	P		**Pn**	**23 09 40.0**	**+2.1**
TKDS	**Koohdasht(Taba**	**7.32**	**73**	Pn		**Pn**	**23 09 41.4**	**+2.7**
TRNA	**Turayna**	**7.37**	**162**	P		**Pn**	**23 09 41.9**	**+2.6**
	SNR=6.8							
TRNA				S		**Sn**	**23 11 01.9**	**-1.1**
KRM1	**Kerman Provinc**	**7.45**	**98**	Pn		**Pn**	**23 09 43.3**	**+2.7**
JRN	**Qarnain Island**	**7.74**	**151**	P		**Pn**	**23 09 45.0**	**+0.7**
JRN				S		**Sn**	**23 11 10.2**	**-1.8**
NAX	**Nakhchivan**	**7.81**	**341**	P		**Pn**	**23 09 46.1**	**+0.7**
GENO	**Geno**	**7.83**	**122**	Pn		**Pn**	**23 09 48.5**	**+2.7**
SLWR	**Sila**	**8.14**	**160**	P		**Pn**	**23 09 51.7**	**+1.9**
SLWR				S		**Sn**	**23 11 20.1**	**-1.7**
MRVT	**Maraveh tapeh**	**8.43**	**44**	Pn		**Pn**	**23 09 56.2**	**+2.4**
ITEG	**Tejag**	**8.56**	**80**	Pn		**Pn**	**23 09 59.7**	**+3.9**
GHWR	**Ruwais**	**8.63**	**154**	P		**Pn**	**23 09 58.0**	**+1.5**
GHWR				S		**Sn**	**23 11 32.3**	**-1.6**
GURO	**Guroymak-BITLI**	**8.68**	**323**	Pn		**Pn**	**23 09 56.0**	**-1.3**
SBZV	**Sabzevar**	**8.68**	**56**	Pn		**Pn**	**23 10 00.1**	**+2.6**
RAYN	**Ar Rayn**	**8.72**	**200**	Pn		**Pn**	**23 09 58.4**	**+0.5**
RAYN	**Ar Rayn**	**8.72**	**200**	*i* P		**Pn**	**23 09 58.9**	**+1.1**
	SNR=36							
RAYN	**Ar Rayn**	**8.72**	**200**	P		**Pn**	**23 09 58.4**	**+0.5**
RAYN	**Ar Rayn**	**8.72**	**200**	P		**Pn**	**23 09 59.2**	**+1.4**
AFRZ	**Afriz**	**8.84**	**77**	Pn		**Pn**	**23 10 02.5**	**+2.9**
BANOM	**Banah**	**8.86**	**129**	P		**Pn**	**23 10 00.3**	**+0.6**
BANOM				S		**Sn**	**23 11 35.4**	**-4.3**
BANOM	**Banah**	**8.86**	**129**	P		**Pn**	**23 10 01.1**	**+1.4**
BANOM				S		**Sn**	**23 11 36.3**	**-3.3**
NAZ	**Nazwa, Dubai**	**9.13**	**136**	P		**Pn**	**23 10 04.9**	**+1.4**
NAZ	**Nazwa, Dubai**	**9.13**	**136**	P		**Pn**	**23 10 04.9**	**+1.4**
	SNR=8.2							
NAZ				S		**Sn**	**23 11 43.4**	**-3.0**
MASF	**Masafi**	**9.15**	**133**	P		**Pn**	**23 10 04.7**	**+0.9**
MASF				S		**Sn**	**23 11 43.3**	**-3.6**
MSFE	**Esma-Masafi**	**9.16**	**133**	P		**Pn**	**23 10 04.3**	**+0.4**
ASUD	**Al Ashush, Dub**	**9.22**	**139**	*i* P		**Pn**	**23 10 06.0**	**+1.4**
	SNR=35							
ASUD	**Al Ashush, Dub**	**9.22**	**139**	P		**Pn**	**23 10 06.7**	**+2.0**
	SNR=35							
ASUD				S		**Sn**	**23 11 46.2**	**-2.4**
FAQ	**Al Faqa, Dubai**	**9.28**	**138**	*i* P		**Pn**	**23 10 06.7**	**+1.3**
	SNR=8.9							
FAQ	**Al Faqa, Dubai**	**9.28**	**138**	P		**Pn**	**23 10 07.3**	**+1.8**
	SNR=8.8							
FAQ				S		**Sn**	**23 11 45.9**	**-4.0**
ISFR	**Sfrayin**	**9.29**	**53**	Pn		**Pn**	**23 10 09.6**	**+3.8**
MDH	**Madha**	**9.29**	**132**	*i* P		**Pn**	**23

comp=Z,66nm,1.0s
ELL Elmali 16.30 293 Pn **P** **23 11 42.1 -1.6**
ELL IAmb IAmb 23 12 16.6
comp=Z,19nm,0.9s
ELL Elmali 16.30 293 P **P** **23 11 42.2 -1.6**
ELL pmax pmax
comp=Z,19nm,0.9s
ABKAR Akbulak array 19.38 23 P **P** **23 12 16.9 -0.5**
AKTO Aktyubinsk 19.87 18 P **Pn** **23 12 23.0 -1.3**
comp=Z,0.2nm,0.3s,baz=196,slow=10,SNR=8.1
comp=Z,2.0nm,0.7s
VRH Novokhopyorsk 20.07 347 *eP* **P** **23 12 23.1 -1.8**
VRH pmax pmax
comp=Z,60nm,0.7s
IDI Anoyia 20.15 286 P Pn 23 12 27.1 -0.8
IDI IAmb IAmb 23 13 05.1
comp=Z,42nm,1.5s
IDI Anoyia 20.15 286 P Pn 23 12 27.4 -0.5
comp=Z,0.1nm,0.7s,baz=74,slow=11,SNR=5.2
MFTR Murfatlar 20.15 314 ⇑P Pn 23 12 27.4 -0.3
TIRR Tirgusor 20.30 314 ⇑P Pn 23 12 28.6 -0.9
TIRR Tirgusor 20.30 314 P Pn 23 12 27.9 -1.6
TIRR IAmb IAmb 23 12 28.9
comp=Z,22nm,0.7s
TIRR Tirgusor 20.30 314 P Pn 23 12 27.9 -1.6
TIRR pmax pmax
comp=Z,22nm,0.7s
ALN Alexandroupoli 20.35 303 P Pn 23 12 28.6 -1.5
ALN IAmb IAmb 23 12 30.0
comp=Z,24nm,1.3s
ALN Alexandroupoli 20.35 303 P Pn 23 12 28.6 -1.5
ALN pmax pmax
comp=Z,24nm,1.3s
VORD Divnogorie 20.38 343 *eP* **P** **23 12 26.0 -2.3**
VORD pmax pmax
comp=Z,10.0nm,0.9s
TPGR Topolog 20.51 315 ⇑P Pn 23 12 30.8 -1.2
BELG Belogornoye 20.60 358 P **P** **23 12 30.6 0.0**
comp=Z,17nm,0.8s,baz=204,slow=0.9,SNR=10
comp=Z,17nm,0.8s
VSR Storozhevoye 20.64 343 *eP* **P** **23 12 28.9 -2.3**
VSR pmax pmax
comp=Z,10.0nm,0.6s
PURM Purcari 20.66 321 ⇑P Pn 23 12 31.6 -2.0
RDO Rodhopi 20.79 303 P Pn 23 12 33.6 -1.7
RDO IAmb IAmb 23 12 40.7
comp=Z,13nm,1.0s
CFR Carcaliu 20.85 316 ⇑P **P** **23 12 33.1 -0.4**
VORR Voronezh 21.05 343 *eP* **P** **23 12 33.4 -2.2**
VORR pmax pmax
comp=Z,12nm,1.3s
RAZG Razgrad 21.07 310 ⇑P **P** **23 12 37.1 +1.2**
ELND Elena 21.21 308 ⇑P **P** **23 12 39.2 +1.8**
VLDR Vladesti 21.25 317 ⇑P **P** **23 12 37.8 0.0**
GHRR 21.76 317 ⇓P **P** **23 12 44.1 +0.9**
PANC Panciu 21.81 316 ⇑P **P** **23 12 44.2 +0.4**
VASR Vaslui 21.87 319 ⇑P **P** **23 12 44.8 +0.3**
BISRR Bisoca 21.90 315 ⇑P **P** **23 12 46.7 +1.9**
LPSR Galich'ya Gora 21.98 344 *eP* **P** **23 12 43.3 -2.2**
LPSR pmax pmax
comp=Z,20nm,0.7s
VRI Vrincioaia 22.05 316 ⇑P **P** **23 12 47.7 +1.2**
NEHR Nehoiu 22.09 314 ⇑P **P** **23 12 48.4 +1.6**
PLOR Plostina 22.09 316 ⇓P **P** **23 12 48.2 +1.3**
MLR Muntele Rosu 22.33 314 ⇑P **P** **23 12 51.7 +2.1**
MLR Muntele Rosu 22.33 314 P **P** **23 12 50.6 +1.0**
MLR IAmb IAmb 23 12 57.9
comp=Z,8.4nm,0.8s
MLR Muntele Rosu 22.33 314 P **P** **23 12 50.6 +1.0**
MLR pmax pmax
comp=Z,8.0nm,0.8s
TESR Tescani 22.45 317 ⇑P **P** **23 12 50.6 0.0**
SORM Soroca 22.47 322 ⇑P **P** **23 12 49.6 -1.2**
TURR Turia 22.58 316 ⇑P **P** **23 12 53.3 +1.2**
OZUR 22.73 315 ⇓P **P** **23 12 53.9 +0.1**
VOIR 22.86 313 ⇑P **P** **23 12 56.1 +1.0**
DOPR Dopca 22.91 315 ⇑P **P** **23 12 56.6 +1.1**
ARR Arges 23.08 313 ⇑P **P** **23 12 58.8 +1.3**
KSH Kashi 23.39 63 P **P** **23 13 02.5 +1.8**
KSH pmax pmax
comp=Z,8.0nm,1.2s
FNA Florina 23.71 300 P **P** **23 13 04.7 +1.0**
FNA Florina 23.71 300 P **P** **23 13 04.7 +1.0**
FNA pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 23.77 328 P **P** **23 13 04.4 +0.2**
comp=Z,0.3nm,0.3s,baz=132,slow=8.2,SNR=8.0
comp=Z,0.3nm,0.3s
AKBB Malin Array Si 23.77 328 P **P** **23 13 03.0 -1.1**
AKBB IAmb IAmb 23 13 07.2
comp=Z,11nm,1.1s
AKBB Malin Array Si 23.77 328 *ce*P **P** **23 13 03.6 -0.5**
AKBB pmax pmax
comp=Z,35nm,3.2s
NRN Naryn 23.84 59 P **P** **23 13 05.8 +0.6**
NRN Naryn 23.84 59 P **P** **23 13 05.8 +0.6**
NRN pmax pmax
comp=Z,5.0nm,0.8s
BURAR Bucovina Array 23.87 318 ⇑P **P** **23 13 05.5 +0.2**
BURAR Bucovina Array 23.87 318 P **P** **23 13 05.3 0.0**
BUR08 Bucovina Ar. S 23.90 318 P **P** **23 13 05.1 -0.4**
KBN Korca 24.11 299 P **P** **23 13 08.0 +0.4**
KBN IAmb IAmb 23 13 10.0
comp=Z,29nm,1.4s
KBN Korca 24.11 299 P **P** **23 13 08.0 +0.4**
KBN pmax pmax
comp=Z,29nm,1.4s
GZR Gura Zlata 24.27 311 ⇑P **P** **23 13 08.8 -0.2**
HERR Herculane 24.29 310 ⇑P **P** **23 13 09.4 +0.4**
MARR Marisel-Cluj 24.63 314 ⇑P **P** **23 13 12.9 +0.6**
KEK Kerkira 24.68 297 P **P** **23 13 11.2 -1.5**
MDVR Moldovita 24.71 309 ⇑P **P** **23 13 13.9 +0.9**
OBN Obninsk 24.85 343 ⇓*eP* **P** **23 13 13.0 -0.9**
OBN *PP **pP** 23 13 16.0 -1.0
OBN *SP **sP** 23 13 20.0 +1.8
OBN S S 23 17 36.0 -0.5
OBN SSS SSS 23 18 48.0
OBN pmax pmax
comp=Z,6.0nm,0.6s
OBN MLR MLR
comp=Z,386nm,20.0s
DRGR 24.93 314 ⇑P **P** **23 13 16.1 +1.1**
TIR Tirane 24.95 301 P **P** **23 13 16.4 +1.3**
TIR Tirane 24.95 301 P **P** **23 13 16.4 +1.3**
TIR pmax pmax
comp=Z,20nm,0.8s
BZS Buzias 25.10 311 ⇑P **P** **23 13 17.0 +0.6**
MOS Moscow 25.17 345 *eP* **P** **23 13 17.6 +0.7**
MOS *e* 23 14 00.0
MOS pmax pmax
comp=Z,28nm,0.7s
SIRR Siria 25.35 313 ⇑P **P** **23 13 18.0 -0.7**
ARU Arti 25.57 13 *c i*P **P** **23 13 19.3 -1.2**
ARU 23 13 55.3
ARU S **S** **23 17 51.1 +3.0**
ARU SS **SnSn** **23 18 45.7 +4.3**
ARU pmax pmax
comp=Z,9.0nm,1.8s
BRVK Borovoye 26.36 30 P **P** **23 13 28.0 +0.3**
BRVK Borovoye 26.36 30 P **P** **23 13 28.0 +0.3**
BRVK pmax pmax
comp=Z,5.0nm,1.2s
KWP Kalwaria Pacla 26.36 320 P **P** **23 13 28.4 +0.6**
KWP IAmb IAmb 23 13 58.7
comp=Z,12nm,1.2s
KWP Kalwaria Pacla 26.36 320 P **P** **23 13 28.4 +0.6**
KWP pmax pmax
comp=Z,12nm,1.2s
BVAR Borovoye Array 26.38 30 P **P** **23 13 28.2 +0.3**
comp=Z,3.6nm,0.5s,baz=225,slow=7.9,SNR=35
BVAR PcP **PcP** **23 16 54.2 +0.9**
comp=Z,0.7nm,0.6s,baz=263,slow=2.5,SNR=3.0
comp=Z,3.6nm,0.5s
CRVS Cervenica-Dubn 26.68 318 *eP* **P** **23 13 32.2 +1.5**
CRVS Cervenica-Dubn 26.68 318 *eP* **P** **23 13 32.2 +1.5**
TIP Timpagrande 26.94 295 P **P** **23 13 33.4 +0.2**
TIP IAmb IAmb 23 13 35.1
comp=Z,9.1nm,1.1s
MORH Mrgy, Hungar 27.25 311 ⇑P **P** **23 13 37.3 +1.5**
LANS Liptovska Anna 27.95 317 *eP* **P** **23 13 42.4 +0.2**
LANS Liptovska Anna 27.95 317 *eP* **P** **23 13 42.4 +0.2**
VYHS Vyhne 28.04 315 *eP* **P** **23 13 44.3 +1.4**
VYHS Vyhne 28.04 315 *eP* **P** **23 13 44.3 +1.4**
KURBB Kurchatov Arra 28.98 41 P **P** **23 13 52.7 +1.5**
comp=Z,1.6nm,0.8s,baz=242,slow=9.4,SNR=9.4
comp=Z,1.6nm,0.8s
KURK Kurchatov 29.07 41 P **P** **23 13 52.3 +0.2**
KURK IAmb IAmb 23 13 54.3
comp=Z,4.3nm,0.9s
KURK Kurchatov 29.07 41 *ce*P **P** **23 13 52.0 0.0**
KURK pmax pmax
comp=Z,9.0nm,2.5s
MORC Moravsky Berou 29.36 317 P **P** **23 13 54.2 -0.5**
MORC Moravsky Berou 29.36 317 P **P** **23 13 54.2 -0.5**
MORC pmax pmax
comp=Z,3.0nm,0.8s
CONA Conrad Observa 29.64 312 *ep*P pP 23 13 58.9 -1.4
comp=Z,4.7nm,1.3s
KLMR Klimovskoe 29.69 351 *eP* **P** **23 13 53.8 -3.6**
KLMR pmax pmax
comp=Z,19nm,1.4s
MK31 Makanchi Array 29.73 50 P **P** **23 13 58.1 +0.1**
MK31 Makanchi Array 29.73 50 *ce*P **P** **23 13 58.4 +0.5**
MKAR Makanchi Array 29.73 50 P **P** **23 13 58.2 +0.3**
MKAR Makanchi Array 29.73 50 *ce*P **P** **23 13 58.7 +0.8**
MKAR Makanchi Array 29.73 50 P **P** **23 13 59.0 +1.1**
comp=Z,0.4nm,0.5s,baz=243,slow=7.9,SNR=9.6
MKAR PcP **PcP** **23 17 02.0 +0.3**
comp=Z,0.3nm,0.8s,baz=232,slow=3.5,SNR=2.5
comp=Z,0.4nm,0.5s
NRCA Norcia 30.17 302 P **P** **23 14 02.4 +0.4**
NRCA IAmb IAmb 23 14 17.7
comp=Z,4.2nm,1.0s
SABO M.te Sabotino 30.51 308 P **P** **23 14 05.0 +0.2**
SABO IAmb IAmb 23 14 36.3
comp=Z,20nm,1.5s
MOA Molln 30.62 312 *eP* **P** **23 14 06.2 +0.4**
comp=Z,4.5nm,0.9s
BIOA Bad Ischl, Aus 30.97 311 *eP* **P** **23 14 09.5 +0.5**
comp=Z,6.1nm,0.9s
KBA Koelnbreinsper 30.98 310 *i* P **P** **23 14 09.9 +0.7**
comp=Z,5.2nm,1.1s,SNR=5.3
LESA Schwarzleotal 31.52 310 *eP* **P** **23 14 12.9 -0.9**
comp=Z,4.0nm,0.8s
CTI Castel Tesino 31.84 307 P **P** **23 14 16.7 0.0**
CTI IAmb IAmb 23 14 17.9
comp=Z,4.3nm,0.8s
CTI Castel Tesino 31.84 307 P **P** **23 14 16.7 0.0**
CTI pmax pmax
comp=Z,4.0nm,0.8s
WTTA Wattenberg 32.15 310 *eP* **P** **23 14 19.3 -0.2**
comp=Z,3.7nm,0.7s,SNR=4.7
WATA Walderalm 32.21 310 *i* P **P** **23 14 19.8 -0.2**
comp=Z,7.4nm,1.2s,SNR=4.5
SQTA Sankt Quirin 32.42 309 *i* P **P** **23 14 21.6 -0.2**
comp=Z,5.8nm,0.6s,SNR=4.6
MOTA Moosalm 32.52 309 *i* P **P** **23 14 22.2 -0.5**
comp=Z,8.6nm,1.1s,SNR=7.3
CLL Collm 32.63 317 *eP* **P** **23 14 24.0 +0.6**
CLL Collm 32.63 317 *eP* **P** **23 14 24.0 +0.6**
FETA Feichten 32.69 309 *i* P **P** **23 14 23.9 -0.3**
comp=Z,5.8nm,1.1s,SNR=5.5
RETA Reutte 32.78 310 *eP* **P** **23 14 24.2 -0.7**
comp=Z,2.2nm,0.7s
FIA1 FINESS Array S 33.12 340 P **P** **23 14 27.2 -0.3**
FINES FINESS Array B 33.12 340 P **P** **23 14 26.7 -0.9**
FINES FINESS Array B 33.12 340 *i* P **P** **23 14 27.2 -0.4**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 33.12 340 P **P** **23 14 27.1 -0.5**
comp=Z,1.0nm,0.4s,baz=136,slow=8.7,SNR=11
comp=Z,1.0nm,0.4s
DAVA Damuels 33.32 309 *eP* **P** **23 14 29.5 -0.2**
comp=Z,7.5nm,0.6s
ZALV Zalesovo Beam 33.94 39 P **P** **23 14 33.7 -1.1**
ZALV Zalesovo Beam 33.94 39 *i* P **P** **23 14 35.4 +0.6**
ZALV pmax pmax
comp=Z,2.0nm,0.8s
ZALV Zalesovo Beam 33.94 39 P **P** **23 14 35.0 +0.2**
comp=Z,1.6nm,0.7s,baz=263,slow=10,SNR=8.7
comp=Z,1.6nm,0.7s
SENIN Lac Senin/Sane 34.87 307 P **P** **23 14 42.8 -0.4**
BNI Bardonecchia 35.10 304 P **P** **23 14 45.1 0.0**
BNI IAmb IAmb 23 15 29.3
comp=Z,14nm,1.2s
BNI Bardonecchia 35.10 304 P **P** **23 14 45.1 0.0**
BNI pmax pmax
comp=Z,14nm,1.2s
HFS Hagfors 36.58 331 P **P** **23 14 57.1 -0.4**
comp=Z,1.4nm,0.3s,baz=135,slow=9.5,SNR=14
comp=Z,1.4nm,0.3s
NB201 NORSAR Array S 38.08 331 P **P** **23 15 09.5 -0.8**
NB201 IAmb IAmb 23 15 50.5
comp=Z,16nm,1.4s
NOA NORSAR Array B 38.11 331 P **P** **23 15 09.2 -1.3**
comp=Z,1.5nm,0.9s,baz=123,slow=8.3,SNR=3.9
comp=Z,1.5nm,0.9s
ARCES ARCESS Array B 39.99 348 P **P** **23 15 26.0 -0.1**
ARCES ARCESS Array B 39.99 348 P **P** **23 15 26.0 -0.1**
comp=Z,3.4nm,0.9s,baz=15,slow=5.0,SNR=5.5
comp=Z,3.4nm,0.9s
ESDC Sonseca Array 42.95 296 P **P** **23 15 51.2 +0.3**
comp=Z,0.7nm,0.7s,baz=74,slow=7.8,SNR=9.1
comp=Z,0.7nm,0.7s
EKA Eskdalemuir Ar 43.05 319 P **P** **23 15 50.4 -0.9**
comp=Z,1.9nm,0.8s,baz=103,slow=8.7,SNR=3.5
comp=Z,1.9nm,0.8s
NRIK Noril'sk 43.48 19 *ce*P **P** **23 15 54.1 -0.5**
NRIK pmax pmax
comp=Z,10.0nm,2.9s
NRIK Noril'sk 43.48 19 P **P** **23 15 54.4 -0.3**
comp=Z,1.0nm,0.5s,baz=176,slow=6.7,SNR=3.6
comp=Z,1.0nm,0.5s
SONM Songino Array 46.04 52 P **P** **23 16 16.2 +0.7**
comp=Z,0.4nm,0.5s,baz=280,slow=8.3,SNR=2.9
comp=Z,0.4nm,0.5s
PZH PanZhiHua 46.24 82 P **P** **23 16 19.0 +1.6**
PZH pmax pmax
comp=Z,10.0nm,0.4s
PZH pmax pmax
comp=Z,100nm,6.7s
ULN Ulaanbaatar 46.48 52 *ce*P **P** **23 16 19.2 +0.2**
ULN pmax pmax
comp=Z,3.0nm,1.0s
TOA0 Torodi Ar. Sit 46.84 258 P **P** **23 16 22.6 +0.6**
TOA0 IAmb IAmb 23 16 29.3
comp=Z,5.2nm,1.2s
TORD Torodi Ar. Bea 46.84 258 P **P** **23 16 22.4 +0.3**
TORD IAmb IAmb 23 16 26.4
comp=Z,3.5nm,1.0s
TORD Torodi Ar. Bea 46.84 258 P **P** **23 16 22.8 +0.8**
comp=Z,2.0nm,0.7s,baz=59,slow=8.5,SNR=15
comp=Z,2.0nm,0.7s
CMAR Chiang Mai Arr 47.00 94 P **P** **23 16 24.3 +1.1**
comp=Z,1.9nm,0.3s,baz=300,slow=7.2,SNR=5.7
comp=Z,1.9nm,0.3s
SPB2 Spitsbergen Ar 48.59 352 P **P** **23 16 34.9 +0.2**
SPITS Spitsbergen Ar 48.59 352 P **P** **23 16 34.4 -0.4**
SPITS pmax pmax
comp=Z,29nm,1.4s
SPITS Spitsbergen Ar 48.59 352 P **P** **23 16 35.1 +0.3**
comp=Z,2.9nm,0.5s,baz=148,slow=9.7,SNR=24
comp=Z,2.9nm,0.5s
HHC Hu-ho-hao-te 50.48 61 *eP* **P** **23 16 50.3 +0.5**
HHC pmax pmax
comp=Z,7.0nm,0.8s
HHC pmax pmax
comp=Z,280nm,6.2s
DBIC Dimbokro 55.75 255 P **P** **23 17 28.1 -0.8**
comp=Z,4.6nm,1.1s,baz=72,slow=9.6,SNR=3.1
DBIC LR LR 23 42 39.0
comp=Z,977nm,21.4s,baz=340,slow=38
comp=Z,4.6nm,1.1s
TIXI Tiksi 57.08 22 *ce*P **P** **23 17 38.3 +0.8**
TIXI pmax pmax
comp=Z,7.0nm,2.5s
LBTB Lobatse 60.66 204 P **P** **23 18 04.7 +1.7**
LBTB Lobatse 60.66 204 P **P** **23 18 04.7 +1.7**
LBTB pmax pmax
comp=Z,13nm,1.5s
BOSA Boshof 64.09 203 P **P** **23 18 27.1 +1.1**
BOSA Boshof 64.09 203 P **P** **23 18 27.1 +1.1**
BOSA pmax pmax
comp=Z,10.0nm,1.4s
SEY Seymchan 68.02 29 *i* P **P** **23 18 50.9 +0.1**
SEY pmax pmax
comp=Z,14nm,2.9s
BILL Bilibino 70.27 21 *eP* **P** **23 19 04.4 -0.2**
SHEL Horse Pasture 70.56 236 *i* P P 23 19 00.5 -6.6
FRB Frobisher Bay 72.77 336 P **P** **23 19 19.8 0.0**
comp=Z,2.3nm,0.6s,baz=43,slow=4.3,SNR=8.7
comp=Z,2.3nm,0.6s
SCHQ Schefferville 77.57 328 P **P** **23 19 47.6 0.0**
SCHQ Schefferville 77.57 328 P **P** **23 19 47.2 -0.4**
comp=Z,3.8nm,0.8s,baz=42,slow=6.3,SNR=8.0
comp=Z,3.8nm,0.8s
TOLK Toolik Lake Re 78.95 7 P **P** **23 19 54.4 -0.7**
TOLK IAmb IAmb 23 19 56.3
comp=Z,5.7nm,1.1s
F28M Old Crow 80.69 3 P **P** **23 20 04.7 +0.2**
IMAR Indian Mountai 81.00 9 P **P** **23 20 05.4 -0.7**
ILAR Eielson Array 82.98 7 P **P** **23 20 16.3 -0.3**
comp=Z,0.4nm,0.9s,baz=336,slow=4.0,SNR=4.3
comp=Z,0.4nm,0.9s
YKA Yellowknife Ar 85.08 352 *ce*P **P** **23 20 28.0 +0.7**

IDC 27 23:10:12.8±4.5, 11°.59S×167°.06E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=195.8km s-min=32.4km az=138.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.52**	**251**	P	P		23 16 45.8	+0.2
	0.5nm,0.6s,baz=85,slow=9.0,SNR=6.0							
	0.5nm,0.6s							
ASAR	**Alice Springs**	**33.71**	**245**	P	P		23 16 56.2	+0.1
	0.5nm,0.6s,baz=82,slow=11,SNR=5.5							
	0.5nm,0.6s							
ILAR	**Eielson Array**	**83.62**	**18**	P	P		23 22 43.2	+0.4
	0.4nm,0.6s,baz=237,slow=5.0,SNR=6.7							
	0.4nm,0.6s							
MKAR	**Makanchi Array**	**94.80**	**317**	P	P		23 23 35.2	-1.3
	0.3nm,0.8s,baz=101,slow=6.0,SNR=3.3							
	0.3nm,0.8s							

IDC 27 23:29:16.5±2.2, 31°.98N×48°.56E, h0km, mb3.7/5, mbtmp3.7/6, ML3.3/1, Error ellipse: s-maj=61.0km s-min=22.6km az=155.0
TEH 27 23:29:17.6, 31°.85N×48°.69E, h19km±20km, ML3.6
OMAN 27 23:29:23.8±1.1, 31°.53N×49°.21E, h10km, mb4.0/15, ms3.3/1, Error ellipse: s-maj=9.5km s-min=6.8km az=11.0

ISC 27 23:29:17.0±0.7, 31°.82N±0°.03×48°.72E±0°.04, h10km, n72, σ2°.36/91, mb3.8/5, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.49**	**188**	Pg	**Pb**		**23 29 29.1**	**+1.4**
JHBN	**Jahan bin**	**1.70**	**75**	Pg	**Pb**		**23 29 49.3**	**+0.7**
ABEH	**Behbahan**	**1.79**	**132**	Pn	**Pg**		**23 29 52.9**	**+1.6**
ZNGN	**Zangian**	**1.84**	**80**	Pn	**Pb**		**23 29 51.6**	**+0.7**
IKFM	**Kafar-mosalman**	**1.85**	**337**	Pn	**Pb**		**23 29 50.6**	**-0.4**
IDOB	**Doab**	**2.02**	**347**	Pn	**Pb**		**23 29 53.5**	**-0.4**
IPIR	**Pirpir**	**2.03**	**64**	Pn	**Pb**		**23 29 54.1**	**-0.1**
IBRJ	**Brojen**	**2.16**	**87**	Pn	**Pb**		**23 29 56.2**	**-0.3**
HSAM	**Samen**	**2.39**	**358**	Pn	**Pb**		**23 29 58.5**	**-1.8**
KLNJ	**Kolanjah**	**2.58**	**107**	Pn	**Pn**		**23 30 02.1**	**+2.9**
KBD	**Kabd**	**2.78**	**199**	P	**Pb**		**23 30 05.5**	**-1.2**
KBD				S	**Sb**		**23 30 41.0**	**+0.2**
ILBA	**Ilam Banvizeh**	**2.78**	**311**	Pn	**Pn**		**23 30 03.2**	**+1.5**
KCHF	**Cheshme Sefid,**	**2.83**	**331**	Pn	**Pn**		**23 30 04.2**	**+1.7**
IKLH	**Kolahrood**	**2.84**	**57**	Pn	**Pn**		**23 30 05.3**	**+2.6**
IGAR	**Gharneh**	**2.88**	**77**	Pn	**Pn**		**23 30 06.2**	**+3.0**
QAMS	**Qamsar**	**2.96**	**49**	Pn	**Pn**		**23 30 06.7**	**+2.4**
HAGD	**Aghdareh**	**3.02**	**7**	Pn	**Pn**		**23 30 07.2**	**+2.1**
IRAM	**Ramesheh**	**3.12**	**89**	Pn	**Pn**		**23 30 09.3**	**+2.9**
IZEF	**Zefreh**	**3.24**	**70**	Pn	**Pn**		**23 30 10.8**	**+2.7**
KAZ2	**Kazeron-Fars-I**	**3.35**	**130**	Pn	**Pn**		**23 30 12.5**	**+2.9**
ILIN	**Lien**	**3.42**	**335**	Pn	**Pn**		**23 30 13.1**	**+2.4**
IDHR	**Dehrash**	**3.48**	**326**	Pn	**Pn**		**23 30 12.9**	**+1.5**
IQOM	**Qom**	**3.60**	**32**	Pn	**Pn**		**23 30 15.4**	**+2.3**
AHBU	**AHRAM**	**3.69**	**142**	Pn	**Pn**		**23 30 17.1**	**+3.0**
IRAZ	**Razeghan**	**3.72**	**15**	Pn	**Pn**		**23 30 17.5**	**+2.8**
KGS1	**Ghasr-e-Shirin**	**3.75**	**316**	Pn	**Pn**		**23 30 16.7**	**+1.7**
ISFB	**Sefidab**	**3.89**	**49**	Pn	**Pn**		**23 30 18.9**	**+1.9**
IVRN	**Varamin**	**4.05**	**38**	Pn	**Pn**		**23 30 21.4**	**+2.3**
DSBU	**Dashti - Bushe**	**4.09**	**147**	Pn	**Pn**		**23 30 22.7**	**+3.1**
IHSB	**Hasanabad**	**4.19**	**30**	Pn	**Pn**		**23 30 23.5**	**+2.4**
ISAD	**Sadrabad**	**4.22**	**87**	Pn	**Pn**		**23 30 24.3**	**+2.6**
ANAR	**Anarak**	**4.45**	**71**	Pn	**Pn**		**23 30 27.2**	**+2.6**
IDMV	**Damavand**	**4.66**	**35**	Pn	**Pn**		**23 30 29.7**	**+2.0**
ILAS	**Lasjerd**	**5.01**	**44**	Pn	**Pn**		**23 30 34.5**	**+2.0**
IMEH	**Mehriz**	**5.04**	**93**	Pn	**Pn**		**23 30 36.0**	**+3.0**
IFIR	**Firoozkooh**	**5.08**	**40**	Pn	**Pn**		**23 30 35.6**	**+2.1**
SDS1	**Sardasht. Az.**	**5.09**	**329**	Pn	**Pn**		**23 30 35.3**	**+1.8**
MZPU	**Pul - Mazandar**	**5.18**	**26**	Pn	**Pn**		**23 30 37.4**	**+2.6**
IPRN	**Peran**	**5.34**	**33**	Pn	**Pn**		**23 30 39.4**	**+2.5**
ISRB	**Sarab**	**6.06**	**352**	Pn	**Pn**		**23 30 49.0**	**+2.2**
IHRS	**Heris**	**6.63**	**348**	Pn	**Pn**		**23 30 56.8**	**+2.1**
TPRV	**Parvadeh(Tabas**	**6.84**	**78**	Pn	**Pn**		**23 30 59.8**	**+2.2**
GRMI	**Germi**	**7.01**	**355**	Pn	**Pn**		**23 31 01.9**	**+2.0**
SMRA	**Abu-Samra**	**7.29**	**165**	P	**Pn**		**23 31 05.0**	**+1.5**
SMRA				S	**Sn**		**23 32 27.2**	**+0.9**
TKDS	**Koohdasht(Taba**	**7.30**	**74**	Pn	**Pn**		**23 31 06.3**	**+2.4**
TRNA	**Turayna**	**7.39**	**162**	P	**Pn**		**23 31 05.6**	**+0.7**
	SNR=8.8							
TRNA				S	**Sn**		**23 32 28.3**	**-0.6**
JRN	**Qarnain Island**	**7.75**	**151**	P	**Pn**		**23 31 09.9**	**0.0**
JRN				S	**Sn**		**23 32 37.0**	**-0.8**
SLWR	**Sila**	**8.15**	**160**	P	**Pn**		**23 31 16.7**	**+1.3**
SLWR				S	**Sn**		**23 32 45.7**	**-2.0**
GHWR	**Ruwais**	**8.64**	**154**	P	**Pn**		**23 31 22.4**	**+0.2**
GHWR				S	**Sn**		**23 32 58.2**	**-1.6**
BANOM	**Banah**	**8.87**	**130**	P	**Pn**		**23 31 25.9**	**+0.7**
BANOM				S	**Sn**		**23 33 01.3**	**-4.0**
NAZ	**Nazwa, Dubai**	**9.14**	**136**	P	**Pn**		**23 31 30.3**	**+1.2**
NAZ				S	**Sn**		**23 33 08.1**	**-3.9**
MZWR	**Madinat Zayed**	**9.23**	**149**	P	**Pn**		**23 31 32.1**	**+1.8**
MZWR				S	**Sn**		**23 33 13.1**	**-1.1**
ASUD	**Al Ashush, Dub**	**9.23**	**139**	P	**Pn**		**23 31 32.0**	**+1.7**
	SNR=19							
ASUD				S	**Sn**		**23 33 11.8**	**-2.5**
FAQ	**Al Faqa, Dubai**	**9.29**	**138**	P	**Pn**		**23 31 32.3**	**+1.2**
FAQ				S	**Sn**		**23 33 10.7**	**-4.9**
MDH	**Madha**	**9.30**	**132**	P	**Pn**		**23 31 32.8**	**+1.6**
MDH				S	**Sn**		**23 33 10.0**	**-5.9**
UOSS	**Minazif**	**9.50**	**134**	P	**Pn**		**23 31 35.3**	**+1.4**
UOSS				S	**Sn**		**23 33 14.6**	**-6.2**
HATD	**Hatta, Dubai**	**9.54**	**135**	P	**Pn**		**23 31 35.3**	**+0.8**
HATD				S	**Sn**		**23 33 17.6**	**-4.3**
ASHO	**Ashiyiah**	**9.61**	**136**	P	**Pn**		**23 31 36.5**	**+1.1**
ASHO				S	**Sn**		**23 33 19.8**	**-3.7**
ALNE	**Al Ain**	**9.92**	**139**	P	**Pn**		**23 31 41.1**	**+1.4**
	SNR=10.0							
ALNE				S	**Sn**		**23 33 26.4**	**-4.7**
ASF	**Jabal al Asfar**	**10.05**	**275**	Pn	**Pn**		**23 31 39.0**	**-2.5**
	0.3nm,0.3s,baz=87,slow=0.6,SNR=3.0							
	0.9nm,0.3s							
SOHO	**SOHO**	**10.30**	**136**	P	**Pn**		**23 31 44.8**	**-0.2**
SOHO				S	**Sn**		**23 33 36.3**	**-4.2**
UMZA	**Um Al Zommool**	**10.72**	**146**	P	**Pn**		**23 31 51.4**	**+0.7**
UMZA				S	**Sn**		**23 33 45.0**	**-5.8**
ARQ	**Araqi**	**10.91**	**139**	P	**Pn**		**23 31 53.8**	**+0.4**
	SNR=9.4							
BSY	**Bisya**	**11.76**	**138**	P	**Pn**		**23 32 05.4**	**+0.5**
	SNR=9.0							
BSY				P	**Pn**		**23 32 05.4**	**+0.5**
	SNR=9.0							
MHTO	**MHTO**	**13.59**	**140**	P	**Pn**		**23 32 29.8**	**-0.1**
	SNR=12							
WHFO	**Wadi Hawf**	**14.57**	**161**	P	**Pn**		**23 32 42.8**	**-0.6**
DMTO	**DMTO**	**15.13**	**157**	P	**Pn**		**23 32 50.0**	**-0.9**
	SNR=5.9							
BVAR	**Borovoye Array**	**26.36**	**30**	P	**P**		**23 34 53.3**	**+0.1**
	1.5nm,0.5s,baz=234,slow=7.5,SNR=14							
	1.5nm,0.5s							
KURBB	**Kurchatov Arra**	**28.96**	**41**	P	**P**		**23 35 17.6**	**+1.2**
	0.7nm,0.8s,baz=243,slow=9.5,SNR=5.4							
	0.7nm,0.8s							
MKAR	**Makanchi Array**	**29.71**	**50**	P	**P**		**23 35 23.8**	**+0.6**
	0.4nm,0.7s,baz=235,slow=7.3,SNR=5.4							
	0.4nm,0.7s							
FINES	**FINESS Array B**	**33.11**	**340**	P	**P**		**23 35 52.3**	**-0.5**
	0.4nm,0.3s,baz=146,slow=8.2,SNR=11							
	0.4nm,0.3s							
TORD	**Torodi Ar. Bea**	**46.85**	**258**	P	**P**		**23 37 48.0**	**+0.5**
	0.3nm,0.3s,baz=60,slow=8.9,SNR=6.1							
	0.3nm,0.3s							

IDC 27 23:53:16.9±1.0, 37°.42N×20°.74E, h0km, mb3.8/11, mbtmp3.7/15, ML3.3/3, MS3.7/6, Error ellipse: s-maj=21.8km s-min=15.9km az=148.0

TIR ***27*** *23:53:17.4, 37˚.36N×21˚.10E, h52$^{km}_{\pm}$58^{km}, Ml3.8*
THE ***27*** *23:53:19.2, 37˚.42N×20˚.54E, h1$^{km}_{\pm}$1^{km}, ML3.6/24, Error ellipse: s-maj=1.7km s-min=0.6km az=229.0*
ATH ***27*** *23:53:19.8, 37˚.46N×20˚.51E, h5$^{km}_{\pm}$1^{km}, ML3.6/19, Error ellipse: s-maj=1.5km s-min=0.7km az=231.0*

ISC 27 23:53:18.0±1.2, **37˚.39N**±0˚.03×**20˚.61E**±0˚.03, **h10**$^{km}_{\pm}$7^{km}, **n140**, **σ1**§**59**/191, **mb3.6**/11, **MS3.9**/5, **9C-1D**, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRI1	**kERI**	**0.32**	**31**	P	**Pg**	**23 53 26.3**	**+1.8**
KRI1				S	**Sg**	**23 53 30.2**	**+1.4**
	22μm,0.3s						
LTHK	**Lithakia**	**0.37**	**29**	P	**Pb**	**23 53 26.9**	**+0.2**
LTHK				S	**Sb**	**23 53 31.5**	**-1.1**
	18μm,0.3s						
LTHK	**Lithakia**	**0.37**	**29**	P	**Pb**	**23 53 26.9**	**+0.2**
LTHK				S	**Sb**	**23 53 31.8**	**-0.7**
LTHK				AML	AML	23 53 31.9	
	comp=E,42278μm,0.2s						
LTHK				AML	AML	23 53 32.6	
	comp=N,35389μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.73**	**359**	P	**Pg**	**23 53 32.1**	**0.0**
PSDA				S	**Sb**	**23 53 43.1**	**+0.3**
	comp=N,8μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.73**	**359**	P	**Pg**	**23 53 32.0**	**0.0**
PSDA				S	**Sg**	**23 53 41.1**	**-0.5**
VLS	**Valsamata**	**0.79**	**359**	P	**Pg**	**23 53 33.0**	**-0.3**
VLS				S	**Sb**	**23 53 44.8**	**+0.1**
	comp=N,5μm,0.3s						
VLS	**Valsamata**	**0.79**	**359**	P	**Pg**	**23 53 33.0**	**-0.3**
VLS				S	**Sg**	**23 53 43.5**	**-0.1**
VLS				AML	AML	23 53 49.7	
	comp=N,11108μm,0.5s						
VLS				AML	AML	23 53 50.2	
	comp=E,10089μm,0.2s						
LXRA	**Lixouri, Kepha**	**0.82**	**351**	P	**Pg**	**23 53 34.1**	**+0.2**
LXRA				S	**Sg**	**23 53 44.2**	**-0.5**
LXR1	**Lixouri, Cepha**	**0.82**	**351**	P	**Pg**	**23 53 34.2**	**+0.3**
LXR1				S	**Sg**	**23 53 45.7**	**+1.0**
	comp=E,30μm,0.4s						
KEF3	**Kipouria, Keph**	**0.84**	**346**	P	**Pg**	**23 53 34.3**	**+0.1**
KEF3				S	**Sg**	**23 53 46.2**	**+1.0**
KEF3	**Kipouria, Keph**	**0.84**	**346**	P	**Pg**	**23 53 34.4**	**+0.1**
DMLN	**Damoulianata-K**	**0.87**	**348**	P	**Pg**	**23 53 34.7**	**-0.1**
DMLN				S	**Sg**	**23 53 47.1**	**+0.9**
	comp=E,20μm,0.5s						
DMLN	**Damoulianata-K**	**0.87**	**348**	P	**Pg**	**23 53 34.7**	**-0.1**
RLS	**Riolos of Patr**	**0.96**	**45**	P	**Pb**	**23 53 37.1**	**+0.4**
RLS				S	**Sn**	**23 53 52.2**	**+1.0**
	comp=E,3μm,0.6s						
RLS	**Riolos of Patr**	**0.96**	**45**	P	**Pb**	**23 53 37.2**	**+0.4**
RLS				S	**Sn**	**23 53 51.4**	**+0.2**
RLS				AML	AML	23 53 53.7	
	comp=N,6774μm,0.4s						
RLS				AML	AML	23 53 57.5	
	comp=E,6041μm,0.6s						
PYL	**PYLOS**	**1.03**	**118**	P	**Pn**	**23 53 40.6**	**+2.1**
PYL				S	**Sn**	**23 53 55.2**	**+2.2**
	comp=E,2μm,0.4s						
PYL	**PYLOS**	**1.03**	**118**	P	**Pn**	**23 53 41.0**	**+2.5**
PYL				S	**Sn**	**23 53 56.5**	**+3.5**
PYL				AML	AML	23 54 01.9	
	comp=E,3039μm,0.5s						
PYL				AML	AML	23 54 06.6	
	comp=N,3785μm,0.4s						
DRO	**Drossia**	**1.04**	**57**	P	**Pn**	**23 53 39.3**	**+0.6**
DRO				S	**Sn**	**23 53 54.3**	**+0.9**
	comp=N,8μm,0.6s						
DRO	**Drossia**	**1.04**	**57**	P	**Pn**	**23 53 39.6**	**+0.9**
DRO				S	**Sn**	**23 53 54.9**	**+1.6**
DRO				AML	AML	23 54 04.2	
	comp=N,16023μm,0.6s						
DRO				AML	AML	23 54 05.7	
	comp=E,16537μm,0.5s						
AST1	**Astakos**	**1.22**	**18**	P	**Pn**	**23 53 42.1**	**+1.0**
AST1				S	**Sn**	**23 53 59.7**	**+2.1**
	comp=E,3μm,0.4s						
EVGI	**Lefkada island**	**1.23**	**2**	P	**Pg**	**23 53 40.7**	**-1.0**
EVGI				S	**Sn**	**23 53 59.2**	**+1.1**
	comp=E,2μm,0.4s						
EVGI	**Lefkada island**	**1.23**	**2**	P	**Pg**	**23 53 41.1**	**-0.7**
EVGI				S	**Sg**	**23 53 56.9**	**-0.9**
UPR	**University Cam**	**1.29**	**46**	P	**Pn**	**23 53 44.7**	**+2.5**
UPR				S	**Sn**	**23 54 03.4**	**+3.9**
DRAG	**Dragano-Lefkad**	**1.30**	**359**	P	**Pg**	**23 53 41.8**	**-1.1**
DRAG				S	**Sn**	**23 54 01.4**	**+1.7**
DRAG	**Dragano-Lefkad**	**1.30**	**359**	P	**Pg**	**23 53 42.0**	**-0.9**
DRAG				S	**Sg**	**23 53 59.2**	**-0.6**
NYDR	**Nydri-Lefkada**	**1.33**	**3**	P	**Pn**	**23 53 42.8**	**+0.2**
NYDR				S	**Sn**	**23 54 01.7**	**+1.3**
	comp=E,2μm,0.3s						
KLV	**Kalavryta, Ach**	**1.39**	**61**	P	**Pb**	**23 53 45.6**	**+1.5**
KLV				S	**Sn**	**23 54 04.4**	**+2.4**
KLV				AML	AML	23 54 16.1	
	comp=E,1905μm,0.8s						
KLV				AML	AML	23 54 23.3	
	comp=N,1686μm,0.6s						
LKD2	**Lefkada island**	**1.40**	**2**	P	**Pn**	**23 53 43.8**	**+0.1**
	baz=347						
LKD2				S	**Sn**	**23 54 04.3**	**+2.0**
	baz=347						
LKD2				AMP			
	comp=E,10.0nm,0.5s,baz=347						
LKD2	**Lefkada island**	**1.40**	**2**	P	**Pn**	**23 53 44.3**	**+0.6**
LKD2				S	**Sn**	**23 54 04.0**	**+1.7**
	comp=E,3μm,0.5s						
LKD2	**Lefkada island**	**1.40**	**2**	P	**Pn**	**23 53 44.2**	**+0.6**
LKD2				S	**Sb**	**23 54 02.4**	**+0.1**
LKD2				AML	AML	23 54 09.6	
	comp=N,4640μm,0.4s						
LKD2				AML	AML	23 54 11.3	
	comp=E,5127μm,0.6s						
PVO	**Paravola**	**1.43**	**30**	P	**Pg**	**23 53 45.6**	**+0.2**
PVO				S	**Sn**	**23 54 05.6**	**+2.8**
	comp=E,18μm,0.3s						
PVO	**Paravola**	**1.43**	**30**	P	**Pg**	**23 53 45.2**	**-0.3**
TSLK	**Tsoukalades, L**	**1.44**	**1**	P	**Pn**	**23 53 44.6**	**+0.4**
TSLK				S	**Sn**	**23 54 04.9**	**+1.8**
	comp=E,3μm,0.5s						
TSLK	**Tsoukalades, L**	**1.44**	**1**	P	**Pn**	**23 53 44.6**	**+0.4**
EFP	**Efpalio**	**1.46**	**44**	P	**Pg**	**23 53 46.1**	**0.0**
EFP				S	**Sn**	**23 54 06.6**	**+2.9**
	comp=E,1μm,0.4s						
EFP	**Efpalio**	**1.46**	**44**	P	**Pg**	**23 53 45.9**	**-0.2**
EFP				S	**Sn**	**23 54 05.2**	**+1.5**
EFP				AML	AML	23 54 15.7	
	comp=N,2005μm,0.4s						
EFP				AML	AML	23 54 18.1	
	comp=E,2674μm,0.4s						
ALIK	**Aliki, Aigiali**	**1.48**	**53**	P	**Pg**	**23 53 46.8**	**+0.4**
ALIK				S	**Sn**	**23 54 08.4**	**+4.4**
GUR	**Goura**	**1.48**	**68**	P	**Pg**	**23 53 47.2**	**+0.7**
GUR				S	**Sn**	**23 54 07.6**	**+3.2**
	comp=E,2μm,0.5s						
GUR	**Goura**	**1.48**	**68**	P	**Pg**	**23 53 47.0**	**+0.5**
GUR				S	**Sn**	**23 54 06.5**	**+2.2**
GUR				AML	AML	23 54 18.0	
	comp=E,3062μm,0.6s						
GUR				AML	AML	23 54 18.4	
	comp=N,6083μm,0.4s						
ANX	**Ano Chora**	**1.59**	**40**	P	**Pg**	**23 53 47.7**	**-0.8**
ANX				S	**Sg**	**23 54 10.9**	**+1.7**
	comp=N,4μm,0.5s						
ANX	**Ano Chora**	**1.59**	**40**	P	**Pg**	**23 53 47.9**	**-0.6**
ANX				S	**Sg**	**23 54 07.8**	**-1.4**
ANX				AML	AML	23 54 17.9	
	comp=N,6561μm,0.5s						
ANX				AML	AML	23 54 18.1	
	comp=E,8686μm,0.6s						
THAL	**Thalero**	**1.75**	**68**	P	**Pg**	**23 53 51.4**	**-0.2**
THAL				S	**Sg**	**23 54 13.4**	**-1.0**
THAL				AML	AML	23 54 31.9	
	comp=E,8526μm,0.8s						
THAL				AML	AML	23 54 35.1	
	comp=N,4858μm,0.8s						
EVR	**Evrytania**	**1.80**	**31**	P	**Pb**	**23 53 51.6**	**+0.5**
EVR				S	**Sg**	**23 54 14.9**	**-0.9**
	comp=N,748nm,0.8s						
DLFA	**Delphi**	**1.85**	**53**	P	**Pg**	**23 53 52.2**	**-1.3**
DLFA				S	**Sg**	**23 54 15.0**	**-2.4**
DLFA				AML	AML	23 54 26.4	
	comp=E,947μm,0.6s						
DLFA				AML	AML	23 54 28.0	
	comp=N,1482μm,0.8s						
LOUT	**Loutraki**	**1.97**	**72**	P	**Pb**	**23 53 54.0**	**0.0**
LTK	**Loutraki**	**1.98**	**70**	P	**Pb**	**23 53 53.7**	**-0.4**
LTK				S	**Sg**	**23 54 19.2**	**-2.4**
LTK				AML	AML	23 54 37.3	
	comp=E,1372μm,0.9s						
LTK				AML	AML	23 54 38.8	
	comp=N,1093μm,0.7s						
VLI	**Veliai**	**1.98**	**109**	P	**Pg**	**23 53 54.9**	**-1.0**
VLI				S	**Sg**	**23 54 20.3**	**-1.4**
MAKR	**Makrakomi, Fth**	**2.02**	**36**	P	**Pb**	**23 53 54.6**	**-0.2**
KRND	**KRANIDI**	**2.02**	**89**	P	**Pb**	**23 53 55.3**	**+0.4**
KRND				S	**Sg**	**23 54 22.7**	**-0.4**
	comp=N,588nm,0.8s						
KRND	**KRANIDI**	**2.02**	**89**	P	**Pb**	**23 53 54.8**	**-0.1**
KRND				S	**Sg**	**23 54 21.0**	**-2.1**
KRND				AML	AML	23 54 36.2	
	comp=N,1328μm,0.9s						
KRND				AML	AML	23 54 36.3	
	comp=E,860μm,0.5s						
AXAR	**Agios Charalam**	**2.13**	**49**	P	**Pb**	**23 53 56.0**	**-0.7**
AXAR				S	**Sb**	**23 54 21.0**	**-2.1**
AXAR				AML	AML	23 54 36.5	
	comp=N,3607μm,0.6s						
AXAR				AML	AML	23 54 38.4	
	comp=E,2120μm,1.2s						
IGT	**Igoumenitsa**	**2.15**	**354**	P	**Pn**	**23 53 55.1**	**+1.1**
	baz=345						
IGT				S	**Sb**	**23 54 24.1**	**+0.2**
	baz=345						
IGT				AMP			
	comp=N,1.9nm,0.5s,baz=345						
IGT	**Igoumenitsa**	**2.15**	**354**	P	**Pn**	**23 53 55.1**	**+1.1**
IGT				S	**Sn**	**23 54 23.6**	**+2.8**
	comp=N,485nm,0.6s						
IGT	**Igoumenitsa**	**2.15**	**354**	P	**Pn**	**23 53 54.6**	**+0.6**
IGT				S	**Sn**	**23 54 19.7**	**-1.1**
IGT				AML	AML	23 54 34.9	
	comp=E,948μm,0.8s						
IGT				AML	AML	23 54 41.5	
	comp=N,966μm,0.5s						
VIL2	**Vilia**	**2.26**	**68**	P	**Pb**	**23 53 57.6**	**-1.3**
VIL2				S	**Sb**	**23 54 25.7**	**-1.3**
VIL2				AML	AML	23 54 44.1	
	comp=N,1030μm,0.8s						
VIL2				AML	AML	23 54 45.1	
	comp=E,1051μm,0.5s						
VILL	**Villia**	**2.28**	**69**	P	**Pb**	**23 53 57.5**	**-1.8**
VILL				S	**Sg**	**23 54 28.5**	**-2.8**
	comp=E,552nm,0.5s						
THL	**Klokotos Trika**	**2.44**	**26**	P	**Pn**	**23 53 59.8**	**+1.9**
THL				S	**Sn**	**23 54 29.1**	**+1.3**
	comp=E,172nm,0.6s						
ATH	**Athens Observa**	**2.54**	**76**	P	**Pb**	**23 54 01.9**	**-1.7**
ATH				S	**Sb**	**23 54 32.8**	**-2.0**
ATH				AML	AML	23 54 44.1	
	comp=E,397μm,0.4s						
ATH				AML	AML	23 54 52.1	
	comp=N,786μm,0.5s						
SRN	**Sarande**	**2.54**	**349**	P	**Pn**	**23 53 59.8**	**+0.5**
	baz=342						
SRN				S	**Sn**	**23 54 23.7**	**-6.5**
	baz=342						
SRN				AMP			
	comp=N,0.9nm,0.5s,baz=342						
ATHU	**Athens Univers**	**2.59**	**76**	P	**Pn**	**23 54 01.9**	**+1.9**
ATHU				S	**Sb**	**23 54 36.5**	**+0.2**
	comp=N,70nm,0.7s						
ATHU	**Athens Univers**	**2.59**	**76**	P	**Pn**	**23 54 02.0**	**+2.1**
ATHU				S	**Sb**	**23 54 34.0**	**-2.3**
ATHU				AML	AML	23 54 46.6	
	comp=E,123μm,0.5s						
ATHU				AML	AML	23 54 55.0	
	comp=N,230μm,0.7s						
LSK	**Leskovik**	**2.76**	**360**	P	**Pn**	**23 54 03.0**	**+0.6**
	baz=353						
LSK				S	**Sn**	**23 54 37.1**	**+1.2**
	baz=353						
NEO	**Neokhori**	**2.81**	**46**	P	**Pn**	**23 54 04.4**	**+1.3**
SCTE	**Santa Cesarea**	**3.16**	**329**	P	**Pn**	**23 54 08.5**	**+0.7**
	baz=324						
SCTE				S	**Sg**	**23 54 58.9**	**-0.7**
	baz=324						
SCTE				AMP			
	comp=N,0.3nm,0.7s,baz=324						
VLO	**Vlora**	**3.20**	**345**	P	**Pn**	**23 54 11.5**	**+3.2**
	baz=339						
KBN	**Korca**	**3.24**	**2**	P	**Pn**	**23 54 10.7**	**+1.7**
	baz=356						
KBN				S	**Sn**	**23 54 48.8**	**+1.2**
	baz=356						
FNA	**Florina**	**3.45**	**10**	P	**Pn**	**23 54 13.2**	**+1.4**
	baz=3.0						
FNA				S	**Sn**	**23 54 53.4**	**+0.6**
	baz=3.0						
TIP	**Timpagrande**	**3.52**	**302**	⇑P	**Pn**	**23 54 12.4**	**-0.4**
OHR	**Ohrid**	**3.72**	**2**	*i* Pn	**Pn**	**23 54 17.5**	**+1.8**
TIR	**Tirane**	**4.00**	**352**	⇑P	**Pn**	**23 54 23.1**	**+3.8**
IDI	**Anoyia**	**4.04**	**120**	Pn	**Pn**	**23 54 23.3**	**+3.3**
	baz=250,slow=11,SNR=13						
IDI				Sn	**Sn**	**23 55 09.6**	**+2.2**
	comp=N,0.2nm,0.3s,baz=297,slow=20,SNR=12						
VAY	**Valandovo**	**4.21**	**21**	*i* Pn	**Pn**	**23 54 22.8**	**+0.5**
DRME	**Dracevica, Mon**	**4.92**	**348**	*e*Pn	**Pn**	**23 54 31.5**	**-0.5**
HCY	**Herceg Novi**	**5.31**	**343**	*e*Pn	**Pn**	**23 54 35.7**	**-1.7**
TREB	**Trebinje**	**5.60**	**343**	*e*Pn	**Pn**	**23 54 38.5**	**-2.9**
DBRK	**Dubrovnik**	**5.61**	**341**	*i* Pn	**Pn**	**23 54 41.6**	**+0.2**
DBRK				Sn	Sn	23 55 38.4	-7.4
BRY	**Bratogost**	**5.73**	**345**	*e*Pn	**Pn**	**23 54 42.7**	**-0.6**
SJES	**Sjenica**	**5.89**	**355**	*e*Pn	**Pn**	**23 54 43.2**	**-2.2**
STON	**Ston**	**5.92**	**339**	*e*Pn	**Pn**	**23 54 43.9**	**-1.7**
STON	**Ston**	**5.92**	**339**	*e*Pn	**Pn**	**23 54 43.4**	**-2.2**
UPM	**Unac-Piva**	**5.96**	**348**	*e*Pn	**Pn**	**23 54 44.9**	**-1.5**
LSTV	**Lastovo**	**6.08**	**333**	*e*Pn	**Pn**	**23 54 46.1**	**-1.8**
NEVS	**Nevesinje**	**6.21**	**343**	*e*Pn	**Pn**	**23 54 50.7**	**+0.9**
RUDO	**Rudo**	**6.30**	**352**	*e*Pn	**Pn**	**23 54 50.9**	**0.0**
BLKB	**Belogradchik**	**6.43**	**14**	⇑P	**Pn**	**23 54 53.3**	**+0.6**
MAKA	**Makarska**	**6.50**	**336**	*e*Pn	**Pn**	**23 54 52.6**	**-1.1**
BBLS	**Lazi&#263i**	**6.54**	**352**	*e*Pn	Pn	23 54 50.9	-3.4
HVAR	**Hvar**	**6.60**	**333**	*e*Pn	**Pn**	**23 54 53.8**	**-1.3**
RICI	**Ricice**	**6.65**	**338**	*e*Pn	**Pn**	**23 54 54.2**	**-1.6**
HAPS	**Han Pijesak,BI**	**6.81**	**350**	*e*Pn	**Pn**	**23 54 57.7**	**-0.4**
ELND	**Elena**	**6.85**	**34**	⇑P	**Pn**	**23 55 00.9**	**+2.4**
TEKS	**Tekeris**	**7.20**	**354**	*e*Pn	**Pn**	**23 55 00.6**	**-2.8**
KIJV	**Kijevo**	**7.34**	**336**	*e*Pn	**Pn**	**23 55 04.1**	**-1.2**
MORI	**Morici**	**7.47**	**332**	*e*Pn	**Pn**	**23 55 07.0**	**0.0**
MGRS	**Mrkonjic Grad**	**7.51**	**340**	*e*Pn	**Pn**	**23 55 04.6**	**-3.1**
A050A	**Klekovaca**	**7.73**	**338**	*e*Pn	**Pn**	**23 55 11.4**	**+0.7**
FRGS	**Fruska Gora**	**7.79**	**356**	*e*Pn	Pn	23 55 05.2	-6.2
BLY	**Banja Luka**	**7.80**	**342**	*e*Pn	**Pn**	**23 55 11.7**	**+0.2**
DUGI	**Dugi Otok**	**7.83**	**329**	*e*Pn	**Pn**	**23 55 10.8**	**-1.1**
DUGI				Sn	Sn	23 56 31.8	-8.8
VIRC	**Vir**	**8.08**	**330**	*e*Pn	**Pn**	**23 55 15.1**	**-0.3**
VIRC				Sn	Sn	23 56 38.0	-8.7
A051A	**Mrakovica**	**8.11**	**341**	*e*Pn	**Pn**	**23 55 14.8**	**-1.1**
GZR	**Gura Zlata**	**8.16**	**11**	⇑P	**Pn**	**23 55 17.1**	**+0.5**
BZS	**Buzias**	**8.26**	**5**	⇓P	**Pn**	**23 55 19.0**	**+1.2**
ARR	**Arges**	**8.53**	**19**	⇑P	**Pn**	**23 55 21.8**	**+0.2**
MLR	**Muntele Rosu**	**9.03**	**25**	⇑P	**Pn**	**23 55 31.1**	**+2.5**
MLR	**Muntele Rosu**	**9.03**	**25**	Pn	**Pn**	**23 55 30.2**	**+1.6**
	comp=N,3.0nm,0.7s,baz=186,slow=9.2						
MLR				LR	LR	00 00 02.6	
	comp=N,179nm,18.6s,baz=151,slow=45						
BOJS	**Bojanci**	**9.05**	**335**	*e*Pn	**Pn**	**23 55 27.6**	**-1.1**
KEST	**Kesra**	**9.21**	**263**	Pn	**Pn**	**23 55 32.1**	**+1.1**
	comp=N,0.2nm,0.3s,baz=59,slow=18,SNR=1.6						
	comp=N,3.1nm,0.9s						
CEY	**Cerknica**	**9.54**	**333**	*e*Pn	**Pn**	**23 55 34.7**	**-0.8**
PLOR	**Plostina**	**9.59**	**26**	⇑P	**Pn**	**23 55 38.6**	**+2.5**
VRI	**Vrincioaia**	**9.63**	**26**	⇑P	**Pn**	**23 55 38.6**	**+1.9**
SOKA	**Soboth**	**10.17**	**338**	*e*Pn	**Pn**	**23 55 43.2**	**-0.8**
	comp=N,2.5nm,0.5s						
OBKA	**Obir**	**10.17**	**336**	*e*Pn	**Pn**	**23 55 46.0**	**+1.9**
	comp=N,0.7nm,0.2s						
OBKA	**Obir**	**10.17**	**336**	*e*Pn	**Pn**	**23 55 44.3**	**+0.2**
KBA	**Koelnbreinsper**	**11.08**	**333**	*e*Pn	**Pn**	**23 55 59.0**	**+2.4**
	comp=N,0.6nm,0.4s						
MOA	**Molln**	**11.45**	**338**	*e*Pn	**Pn**	**23 56 03.0**	**+1.5**
	comp=N,2.4nm,0.7s						
BIOA	**Bad Ischl, Aus**	**11.50**	**336**	*e*Pn	**Pn**	**23 56 04.3**	**+1.9**
	comp=N,0.9nm,0.3s						
LESA	**Schwarzleotal**	**11.61**	**332**	*e*Pn	**Pn**	**23 56 06.4**	**+2.6**
	comp=N,1.5nm,0.4s						
SQTA	**Sankt Quirin**	**12.03**	**328**	Pn	**Pn**	**23 56 10.9**	**+1.3**
	comp=N,0.9nm,0.2s						
FETA	**Feichten**	**12.09**	**326**	*e*Pn	Pn	23 56 17.9	+7.5
	comp=N,1.0nm,0.7s						
MOTA	**Moosalm**	**12.17**	**328**	*e*Pn	Pn	23 56 18.3	+6.7
	comp=N,0.6nm,0.3s						
MMAI	**Mount Meron Ar**	**12.86**	**105**	Pn	**Pn**	**23 56 19.6**	**-1.4**
	comp=N,0.4nm,0.3s,baz=297,slow=14,SNR=2.3						
	comp=N,0.1nm,0.2s						
AKASG	**Malin Array Be**	**14.67**	**22**	Pn	**P**	**23 56 50.3**	**-1.5**
	comp=N,1.7nm,0.3s,baz=209,slow=8.8,SNR=8.3						
ESDC	**Sonseca Array**	**19.35**	**284**	P	**P**	**23 57 45.0**	**+1.4**
	baz=87,slow=11,SNR=5.8						
	comp=N,0.9nm,0.9s						
MDT	**Midelt**	**21.11**	**265**	P	**P**	**23 58 03.9**	**+1.0**
	comp=N,2.0nm,0.8s,baz=33,slow=6.6,SNR=5.2						
	comp=N,2.0nm,0.8s						
HFS	**Hagfors**	**23.19**	**351**	P	**P**	**23 58 24.5**	**-0.2**
	comp=N,0.8nm,0.4s,baz=155,slow=12,SNR=6.9						
	comp=N,0.8nm,0.4s						
BELG	**Belogornoye**	**24.13**	**43**	P	**P**	**23 58 34.0**	**+0.2**
	comp=N,6.7nm,0.7s,baz=45,slow=2.9,SNR=2.4						
	comp=N,6.7nm,0.7s						
FINES	**FINESS Array B**	**24.32**	**6**	P	**P**	**23 58 34.3**	**-1.3**
	comp=N,1.0nm,0.6s,baz=173,slow=10.0,SNR=9.4						
	comp=N,1.0nm,0.6s						
NOA	**NORSAR Array B**	**24.41**	**349**	P	**P**	**23 58 37.6**	**+1.2**
	comp=N,0.3nm,0.5s,baz=164,slow=10,SNR=2.3						
	comp=N,0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**29.46**	**220**	P	**P**	**23 59 24.2**	**+2.1**
	comp=N,0.9nm,0.6s,baz=36,slow=9.8,SNR=9.1						
	comp=N,0.9nm,0.6s						
ARCES	**ARCESS Array B**	**32.32**	**3**	P	**P**	**23 59 45.7**	**-1.2**
	comp=N,4.3nm,1.1s,baz=188,slow=13,SNR=1.4						
	comp=N,4.3nm,1.1s						
WSAR	**Wadi Sarin**	**35.47**	**102**	P	**P**	**00 00 13.1**	**-1.8**
	comp=N,2.9nm,0.4s,baz=155,slow=18,SNR=4.5						
	comp=N,2.9nm,0.4s						
BVAR	**Borovoye Array**	**37.58**	**49**	P	**P**	**00 00 33.7**	**+1.2**
	comp=N,0.3nm,0.5s,baz=233,slow=6.4,SNR=3.6						
	comp=N,0.3nm,0.5s						
MKAR	**Makanchi Array**	**45.66**	**58**	P	**P**	**00 01 37.8**	**-0.9**
	comp=N,0.4nm,0.5s,baz=280,slow=7.0,SNR=3.7						
	comp=N,0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**46.17**	**48**	P	**P**	**00 01 41.9**	**-0.7**
	comp=N,0.8nm,0.4s,baz=284,slow=8.8,SNR=4.3						
	comp=N,0.8nm,0.4s						
SADO	**Sadowa**	**70.84**	**312**	LR	LR	00 33 37.6	
	comp=N,89nm,19.0s,baz=258,slow=34						
PDAR	**Pinedale Array**	**88.24**	**326**	LR	LR	00 49 00.8	
	comp=N,40nm,18.5s,baz=78,slow=38						
JHJ	**Hachijo jima 2**	**89.83**	**47**	LR	LR	00 49 14.9	
	comp=N,46nm,18.4s,baz=103,slow=37						
ANMO	**Albuquerque**	**92.84**	**319**	LR	LR	00 50 29.1	
	comp=N,26nm,18.2s,baz=151,slow=37						
PFO	**Pinyon Flats O**	**98.83**	**325**	LR	LR	00 53 54.8	
	comp=N,35nm,18.2s,baz=63,slow=37						

IDC ***27*** *23:55:07.7*±*0.9, 31˚.84N×48˚.68E, h0^{km}, mb4.0/20, mbtmp4.0/25, ML3.8/5, MS3.6/18, Error ellipse: s-maj=20.9km s-min=13.0km az=168.0*
NEIC ***27*** *23:55:09.2*±*1.9, 31˚.81N*±*0˚.07×48˚.71E*±*0˚.08, h10$^{km}_{\pm}$1^{km}, mb4.3/48, Error ellipse: s-maj=12.0km s-min=11.9km az=181.0*
TEH ***27*** *23:55:09.2, 31˚.91N×48˚.71E, h8$^{km}_{\pm}$56^{km}, ML4.1*
OMAN ***27*** *23:55:16.4*±*1.1, 31˚.47N×49˚.26E, h10^{km}, mb4.4/33, ms3.2/1, Error ellipse: s-maj=9.8km s-min=7.1km az=9.0*
DSN ***27*** *23:55:18.0*±*3.2, 31˚.08N×48˚.85E, h15^{km}, ML3.8/9, Error ellipse: s-maj=35.6km s-min=5.6km az=148.0*

ISC 27 23:55:08.9±0.4, **31˚.86N**±0˚.03×**48.72E**±0˚.03, **h10**^{km}, **n218**, **σ2**§**31**/236, **mb4.3**/38, **MS3.5**/15, **6C-2D**, **Western Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHWZ	**Ahwaz**	**0.53**	**187**	Pg	**Pb**	**23 55 21.1**	**+0.8**
JHBN	**Jahan bin**	**1.69**	**77**	Pg	**Pg**	**23 55 41.7**	**+0.3**
ABEH	**Behbahan**	**1.81**	**133**	Pn	**Pb**	**23 55 43.1**	**+1.0**
IKFM	**Kafar-mosalman**	**1.82**	**336**	Pg	**Pb**	**23 55 42.4**	**+0.1**
ZNGN	**Zangian**	**1.83**	**81**	Pn	**Pb**	**23 55 43.4**	**+0.7**
IDOB	**Doab**	**1.98**	**347**	Pn	**Pb**	**23 55 44.9**	**-0.2**
IPIR	**Pirpir**	**2.02**	**65**	Pn	**Pb**	**23 55 45.8**	**0.0**
IBRJ	**Brojen**	**2.16**	**88**	Pn	**Pb**	**23 55 47.8**	**-0.4**
HSAM	**Samen**	**2.35**	**358**	Pn	**Pb**	**23 55 50.3**	**-1.3**
KLNJ	**Kolanjah**	**2.59**	**108**	Pn	**Pn**	**23 55 53.9**	**+2.6**
IBZA	**Bozab**	**2.71**	**345**	Pn	**Pb**	**23 55 54.8**	**-2.7**
ILBA	**Ilam Banvizeh**	**2.76**	**310**	Pn	**Pn**	**23 55 54.9**	**+1.7**
KCHF	**Cheshme Sefid,**	**2.80**	**

SNR=39
ASUD Al Ashush, Dub 9.26 139 P **Pn** **23 57 23.5 +1.0**
SNR=39
ASUD S **Sn** **23 59 03.2 -3.6**
MZWR Madinat Zayed 9.27 149 P **Pn** **23 57 24.6 +2.0**
MZWR S **Sn** **23 59 04.0 -2.9**
FAQ Al Faqa, Dubai 9.32 138 P **Pn** **23 57 24.0 +0.7**
FAQ Al Faqa, Dubai 9.32 138 P **Pn** **23 57 25.1 +1.8**
SNR=5.5
FAQ S **Sn** **23 59 04.2 -3.9**
MDH Madha 9.33 133 P **Pn** **23 57 23.1 -0.3**
MDH Madha 9.33 133 P **Pn** **23 57 23.3 -0.1**
MDH S **Sn** **23 59 02.7 -5.7**
UOSS Minazif 9.53 134 P **Pn** **23 57 26.0 -0.2**
UOSS Minazif 9.53 134 P **Pn** **23 57 26.2 +0.1**
UOSS Minazif 9.53 134 P **Pn** **23 57 26.5 +0.3**
UOSS S **Sn** **23 59 06.7 -6.6**
HATD Hatta, Dubai 9.57 135 P **Pn** **23 57 27.1 +0.3**
HATD Hatta, Dubai 9.57 135 P **Pn** **23 57 27.0 +0.3**
HATD S **Sn** **23 59 09.9 -4.5**
ASHO Ashiyiah 9.63 136 *i* P **Pn** **23 57 27.8 +0.1**
SNR=8.6
ASHO Ashiyiah 9.63 136 P **Pn** **23 57 29.0 +1.3**
SNR=8.7
ASHO S **Sn** **23 59 13.5 -2.5**
IPAY Payeh 9.67 59 Pn **Pn** **23 57 31.0 +2.8**
MZR Muzera 9.78 153 P **Pn** **23 57 30.5 +0.9**
MZR S **Sn** **23 59 18.2 -1.3**
GEYT Alibeck 9.81 49 Pn **Pn** **23 57 33.1 +3.1**
GEYT Alibeck 9.81 49 Pn **Pn** **23 57 32.5 +2.5**
0.6nm,0.3s,baz=242,slow=13,SNR=7.3
1.6nm,0.4s
GYA0B ALIBECK ARRAY 9.81 49 Pn **Pn** **23 57 33.6 +3.6**
SHRT Shahrakht 9.90 77 Pn **Pn** **23 57 34.3 +2.9**
ALNE Al Ain 9.95 140 *i* P **Pn** **23 57 32.4 +0.5**
SNR=37
ALNE Al Ain 9.95 140 P **Pn** **23 57 33.0 +1.0**
SNR=46
ALNE S **Sn** **23 59 19.5 -4.2**
JASK Jask - Hormozg 9.99 124 P **Pn** **23 57 32.7 +0.2**
JASK S **Sn** **23 59 20.1 -4.6**
ASF Jabal al Asfar 10.04 275 Pn **Pn** **23 57 33.3 0.0**
0.9nm,0.3s,baz=140,slow=0.3,SNR=7.1
ASF LR LR 00 02 26.5
comp=Z,231nm,18.7s,baz=154,slow=44
3.1nm,0.4s
SOHO SOHO 10.33 136 *i* P **Pn** **23 57 36.6 -0.6**
SNR=6.6
SOHO SOHO 10.33 136 P **Pn** **23 57 36.7 -0.4**
SOHO S **Sn** **23 59 28.2 -4.9**
UMZA Um Al Zommool 10.75 146 P **Pn** **23 57 43.4 +0.4**
UMZA S **Sn** **23 59 37.8 -5.6**
ARQ Araqi 10.94 139 P **Pn** **23 57 45.6 0.0**
SNR=26
ARQ S **Sn** **23 59 43.9 -4.3**
ARPR Arapgir-MALATY 11.12 313 Pn **Pn** **23 57 48.3 +0.2**
HOQ Hoqain 11.21 135 P **Pn** **23 57 49.6 +0.3**
HOQ S **Sn** **23 59 49.1 -5.6**
MMAI Mount Meron Ar 11.31 279 Lg Lg 00 01 17.5
0.2nm,0.3s,baz=94,slow=39,SNR=3.4
BIDO Bidbid 11.76 133 P **Pn** **23 57 55.8 -0.9**
BIDO S **Sn** **00 00 02.3 -5.7**
BSY Bisya 11.79 138 P **Pn** **23 57 57.7 +0.5**
SNR=54
BSY S **Sn** **00 00 02.2 -6.7**
EIL Elat 12.04 263 Pn **Pn** **23 58 00.3 -0.3**
0.3nm,0.3s,baz=9.0,slow=16,SNR=2.3
EIL Lg Lg 00 01 44.0
0.4nm,0.3s,baz=90,slow=19,SNR=2.1
1.5nm,0.4s
SMDO Samad 12.05 134 P **Pn** **23 58 01.1 +0.3**
SMDO S **Sn** **00 00 09.5 -5.9**
WSAR Wadi Sarin 12.28 132 Pn **Pn** **23 58 02.4 -1.5**
0.8nm,0.3s,baz=0.6,slow=4.9,SNR=25
2.7nm,0.3s
JMDO Jabal Madar 12.61 136 P **Pn** **23 58 08.0 -0.3**
JMDO P **Pn** **23 58 08.0 -0.3**
JMDO S **Sn** **00 00 22.0 -6.8**
JMDO S **Sn** **00 00 22.0 -6.8**
BNN Bunyan 12.61 307 Pn **Pn** **23 58 10.6 +2.1**
NGCH Negor - Chabah 12.68 118 P **Pn** **23 58 08.9 -0.3**
NGCH S Sn 00 00 21.1 -9.5
KBZ Khabaz 12.71 340 LR LR 00 03 49.4
comp=Z,151nm,21.3s,baz=164,slow=41
WBK Wadi Bani Khal 12.95 133 P **Pn** **23 58 11.4 -1.6**
WBK S **Sn** **00 00 31.6 -5.7**
JLN Jalan Bani Buh 13.56 133 P **Pn** **23 58 20.4 -1.0**
JLN S **Sn** **00 00 45.7 -6.6**
MHTO MHTO 13.62 140 P **Pn** **23 58 22.0 -0.2**
SNR=30
DOK Doka 14.05 158 P **Pn** **23 58 28.0 -0.2**
SNR=10.0
DOK S **Sn** **00 00 56.8 -7.4**
DQM DQM 14.27 144 P **Pn** **23 58 30.2 -0.9**
DQM S Sn 00 01 00.9 -8.7
BRTR Keskin Array B 14.53 307 LR LR 00 05 04.8
comp=Z,184nm,19.9s,baz=137,slow=41
WHFO Wadi Hawf 14.61 161 P **Pn** **23 58 34.0 -1.8**
SNR=10.0
WHFO S **Sn** **00 01 12.1 -5.7**
ABTO Aybut 15.02 163 P **Pn** **23 58 39.5 -1.9**
SNR=13
SHAO Shalim 15.12 154 *i* P **Pn** **23 58 42.0 -0.7**
SNR=8.3
SHAO Shalim 15.12 154 P **Pn** **23 58 41.2 -1.5**
SNR=8.4
RBK Rabkut 15.13 160 P **Pn** **23 58 41.1 -1.7**
DMTO DMTO 15.16 157 P **Pn** **23 58 41.2 -2.0**
SNR=13
ELL Elmali 16.29 293 **P** **23 58 59.4 -1.5**
ELL IAmb IAmb 23 59 03.1
comp=Z,19nm,1.0s
ARG Arkhangelos 17.61 290 **P** **23 59 16.2 +0.8**
ARG IAmb IAmb 23 59 37.4
comp=Z,31nm,1.2s
ABKAR Akbulak array 19.32 23 P **Pn** **23 59 35.2 +0.1**
ABKAR Akbulak array 19.32 23 P **P** **23 59 31.6 -2.4**
AKTO Aktyubinsk 19.81 18 P **Pn** **23 59 41.6 +0.6**
comp=Z,0.3nm,0.3s,baz=203,slow=9.5,SNR=4.6
comp=Z,3.5nm,0.9s
MFTR Murfatlar 20.11 313 ⇓P Pn 23 59 44.6 0.0
IDI Anoyia 20.14 286 P **P** **23 59 43.6 +0.4**
IDI IAmb IAmb 23 59 49.4
comp=Z,13nm,1.0s
IDI Anoyia 20.14 286 P **P** **23 59 44.0 +0.8**
comp=Z,0.1nm,0.6s,baz=194,slow=4.2,SNR=5.3
TIRR Tirgusor 20.27 314 ⇑P Pn 23 59 45.9 -0.5
TIRR Tirgusor 20.27 314 P **P** **23 59 44.3 -0.1**
TIRR IAmb IAmb 23 59 46.0
comp=Z,22nm,0.9s
ALN Alexandroupoli 20.32 303 P **P** **23 59 44.8 -0.2**
ALN IAmb IAmb 23 59 51.9
comp=Z,23nm,1.3s
TPGR Topolog 20.47 315 ⇑P **P** **23 59 47.1 +0.4**
BELG Belogornoye 20.54 358 P **P** **23 59 46.9 -0.4**
comp=Z,18nm,0.8s,baz=128,slow=4.5,SNR=5.8
comp=Z,18nm,0.8s
KK31 Karatay Array 20.56 51 P **P** **23 59 47.9 +0.3**
KKAR Karatay Array 20.56 51 P **P** **23 59 48.2 +0.6**
PURM Purcari 20.62 321 ⇑P **P** **23 59 49.0 +0.8**
HARR Harsova 20.68 314 ⇓P Pn 23 59 50.8 -0.5
RDO Rodhopi 20.77 303 P **P** **23 59 50.1 +0.2**
CFR Carcaliu 20.81 316 ⇑P **P** **23 59 51.0 +0.6**
ATD Arta Tunnel 20.94 196 LR LR 00 08 20.9
comp=Z,6.4nm,20.0s,baz=12,slow=38
RAZG Razgrad 21.04 310 ⇑P **P** **23 59 54.0 +1.1**
ELND Elena 21.19 308 ⇑P **P** **23 59 54.8 +0.4**
MLR Muntele Rosu 22.30 314 P **P** **00 00 08.3 +1.8**
MLR IAmb IAmb 00 00 15.1
comp=Z,6.7nm,0.7s
MLR Muntele Rosu 22.30 314 P **P** **00 00 08.6 +2.1**
comp=Z,5.3nm,0.8s,baz=163,slow=2.1,SNR=9.7
comp=Z,5.3nm,0.8s
AAK Ala-Archa 23.08 55 LR LR 00 10 41.7
comp=Z,431nm,19.1s,baz=258,slow=40
KSH Kashi 23.36 63 P **P** **00 00 18.0 +0.4**
KSH pP sP 00 00 21.5 -0.3
KSH PP **PnPn** **00 00 45.8 +2.2**
KSH pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 23.73 328 P **P** **00 00 20.7 -0.3**
comp=Z,0.3nm,0.3s,baz=136,slow=9.5,SNR=7.1
comp=Z,0.3nm,0.3s
AKBB Malin Array Si 23.73 328 P **P** **00 00 22.0 +1.0**
AKBB IAmb IAmb 00 00 22.8
comp=Z,14nm,1.4s
NRN Naryn 23.80 59 **P** **00 00 22.7 +0.5**
NRN IAmb IAmb 00 00 27.0
comp=Z,6.4nm,0.8s
BURAR Bucovina Array 23.83 318 P **P** **00 00 23.3 +1.1**
BUR08 Bucovina Ar. S 23.86 318 P **P** **00 00 23.8 +1.4**
BUR08 IAmb IAmb 00 00 40.3
comp=Z,11nm,1.5s
TARG Taragay, Kyrgy 25.18 59 P **P** **00 00 36.3 +1.4**
TARG IAmb IAmb 00 00 40.7
comp=Z,6.9nm,1.1s
BRVK Borovoye 26.30 30 P **P** **00 00 44.3 -0.3**
KWP Kalwaria Pacla 26.32 320 P **P** **00 00 44.8 0.0**
KWP IAmb IAmb 00 00 46.8
comp=Z,5.6nm,0.8s
BVAR Borovoye Array 26.33 30 P **P** **00 00 45.1 +0.4**
comp=Z,4.7nm,0.6s,baz=228,slow=7.5,SNR=26
BVAR LR LR 00 12 44.7
comp=Z,82nm,20.1s,baz=205,slow=40
comp=Z,4.7nm,0.6s
KIRV Kirov 26.73 1 LR LR 00 12 25.6
comp=Z,102nm,18.6s,baz=170,slow=39
TIP Timpagrande 26.93 295 P **P** **00 00 49.5 -0.8**
TIP IAmb IAmb 00 01 23.8
comp=Z,16nm,1.4s
KURBB Kurchatov Arra 28.93 41 P **P** **00 01 09.7 +1.6**
comp=Z,1.6nm,0.7s,baz=243,slow=9.5,SNR=17
KURBB LR LR 00 14 08.6
comp=Z,126nm,19.9s,baz=196,slow=39
comp=Z,1.6nm,0.7s
KURK Kurchatov 29.02 41 P **P** **00 01 10.4 +1.5**
KURK IAmb IAmb 00 01 11.8
comp=Z,3.6nm,0.8s
MAKZ Makanchi 29.48 50 P **P** **00 01 14.3 +1.3**
MK31 Makanchi Array 29.68 50 P **P** **00 01 15.1 +0.3**
MKAR Makanchi Array 29.68 50 P **P** **00 01 15.6 +0.8**
comp=Z,0.9nm,0.7s,baz=242,slow=8.0,SNR=13
MKAR LR LR 00 13 54.3
comp=Z,119nm,20.7s,baz=271,slow=38
comp=Z,0.9nm,0.7s
GERES GERESS Array B 31.28 313 P **P** **00 01 28.7 -0.2**
WMQ Urumqi 32.73 57 *e*P **P** **00 01 44.3 +2.6**
WMQ pP sP 00 01 50.0 +3.9
WMQ pmax pmax
comp=Z,15nm,0.7s
FIA1 FINESS Array S 33.07 340 P **P** **00 01 44.6 +0.2**
FINES FINESS Array B 33.07 340 P **P** **00 01 44.6 +0.2**
FINES FINESS Array B 33.07 340 P **P** **00 01 44.1 -0.3**
comp=Z,0.8nm,0.5s,baz=142,slow=11,SNR=9.7
comp=Z,0.8nm,0.5s
ZAA0 Zalesovo Array 33.89 39 **P** **00 01 52.7 +1.0**
ZAA0 IAmb IAmb 00 01 53.1
comp=Z,2.6nm,0.7s
ZALV Zalesovo Beam 33.89 39 **P** **00 01 52.3 +0.6**
ZALV Zalesovo Beam 33.89 39 P **P** **00 01 52.9 +1.2**
comp=Z,3.2nm,0.7s,baz=262,slow=8.5,SNR=7.2
ZALV LR LR 00 16 26.5
comp=Z,54nm,21.9s,baz=244,slow=38
comp=Z,3.2nm,0.7s
SENIN Lac Senin/Sane 34.84 307 P **P** **00 02 00.5 +0.2**
BNI Bardonecchia 35.07 304 P **P** **00 02 02.6 +0.4**
BNI IAmb IAmb 00 02 43.8
comp=Z,7.2nm,1.1s
HFS Hagfors 36.54 331 P **P** **00 02 13.7 -0.6**
comp=Z,1.9nm,0.5s,baz=125,slow=9.4,SNR=13
comp=Z,1.9nm,0.5s
NOA NORSAR Array B 38.06 331 P **P** **00 02 26.5 -0.9**
comp=Z,0.6nm,0.7s,baz=124,slow=8.7,SNR=1.9
comp=Z,0.6nm,0.7s
ARCES ARCESS Array B 39.94 348 P **P** **00 02 43.5 +0.5**
comp=Z,1.8nm,0.8s,baz=153,slow=8.2,SNR=8.0
comp=Z,1.8nm,0.8s
ESDC Sonseca Array 42.94 296 P **P** **00 03 08.3 +0.3**
comp=Z,0.5nm,0.6s,baz=75,slow=8.1,SNR=7.3
comp=Z,0.5nm,0.6s
SONM Songino Array 46.00 52 P **P** **00 03 33.8 +1.4**
comp=Z,0.3nm,0.6s,baz=282,slow=8.5,SNR=3.7
SONM LR LR 00 24 44.0
comp=Z,82nm,19.0s,baz=359,slow=39
comp=Z,0.3nm,0.6s
PZH PanZhiHua 46.23 82 P **P** **00 03 34.5 0.0**
PZH pmax pmax
comp=Z,10.0nm,0.4s
PZH pmax pmax
comp=Z,100nm,6.7s
TOA0 Torodi Ar. Sit 46.86 258 P **P** **00 03 39.8 +0.4**
TORD Torodi Ar. Bea 46.86 258 P **P** **00 03 39.9 +0.4**
TORD IAmb IAmb 00 03 40.7
comp=Z,4.1nm,1.1s
TORD Torodi Ar. Bea 46.86 258 P **P** **00 03 40.2 +0.7**
comp=Z,1.0nm,0.4s,baz=58,slow=8.6,SNR=36
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 46.99 94 P **P** **00 03 40.7 +0.2**
comp=Z,0.9nm,0.3s,baz=284,slow=7.4,SNR=4.7
CMAR LR LR 00 27 04.5
comp=Z,23nm,19.2s,baz=295,slow=41
comp=Z,0.9nm,0.3s
SPB2 Spitsbergen Ar 48.53 352 P **P** **00 03 51.8 +0.2**
SPITS Spitsbergen Ar 48.53 352 P **P** **00 03 52.0 +0.3**
comp=Z,2.0nm,0.4s,baz=141,slow=11,SNR=23
comp=Z,2.0nm,0.4s
DBIC Dimbokro 55.77 255 P **P** **00 04 46.5 +0.2**
DBIC Dimbokro 55.77 255 P **P** **00 04 46.5 +0.2**
comp=Z,1.8nm,0.7s,baz=74,slow=6.2,SNR=4.2
DBIC LR LR 00 31 26.7
comp=Z,142nm,18.8s,baz=69,slow=39
comp=Z,1.8nm,0.7s
WIN Windhoek 62.01 213 P **P** **00 05 29.0 -0.6**
KSRS Korea Array 63.58 61 LR LR 00 36 51.2
comp=Z,27nm,19.2s,baz=295,slow=39
BOSA Boshof 64.15 203 P **P** **00 05 44.2 +0.6**
JNU Nakatsue 67.47 64 LR LR 00 40 55.2
comp=Z,39nm,20.1s,baz=351,slow=41
JOW Kunigami 68.06 71 LR LR 00 38 49.0
comp=Z,59nm,21.1s,baz=7.0,slow=38
MJAR Matsushiro Arr 71.49 58 LR LR 00 40 14.5
comp=Z,71nm,18.5s,baz=332,slow=38
ERM Erimo 72.47 51 P **P** **00 06 36.3 +0.7**
A36M Sachs Harbour 76.36 358 P **P** **00 06 58.0 +0.3**
A36M IAmb IAmb 00 07 01.6
comp=Z,4.1nm,1.0s
C18K Utukok River 77.37 11 P **P** **00 07 03.4 -0.2**
C18K IAmb IAmb 00 07 05.0
comp=Z,2.4nm,0.8s
B21K Ikpikpuk River 77.39 8 P **P** **00 07 04.0 +0.3**
B21K IAmb IAmb 00 07 06.2
comp=Z,4.5nm,0.8s
SCHQ Schefferville 77.53 328 P **P** **00 07 03.8 -0.8**
SCHQ Schefferville 77.53 328 P **P** **00 07 04.5 -0.2**
comp=Z,2.9nm,0.7s,baz=94,slow=8.2,SNR=3.5
comp=Z,2.9nm,0.7s
C23K Itkillik River 77.63 7 P **P** **00 07 04.9 -0.1**
D19K Kuna River 77.98 10 P **P** **00 07 06.7 -0.3**
D19K IAmb IAmb 00 07 34.9
comp=Z,2.9nm,1.1s
TOLK Toolik Lake Re 78.89 7 P **P** **00 07 12.2 +0.2**
TOLK IAmb IAmb 00 07 13.6
comp=Z,3.1nm,0.9s
E19K Redstone River 79.07 10 P **P** **00 07 12.6 -0.4**
F21K Alatna River 79.81 9 P **P** **00 07 17.0 -0.1**
F21K IAmb IAmb 00 07 19.7
comp=Z,2.9nm,1.0s
G19K Purcell Mounta 80.31 10 P **P** **00 07 19.2 -0.6**
G19K IAmb IAmb 00 07 24.4
comp=Z,4.9nm,0.9s
BMAR Burnt Mountain 80.51 5 P **P** **00 07 20.9 0.0**
IMAR Indian Mountai 80.94 9 P **P** **00 07 23.1 0.0**
G31M Satah River 81.51 1 P **P** **00 07 25.2 -0.8**
ILAR Eielson Array 82.92 7 P **P** **00 07 33.4 -0.1**
comp=Z,0.6nm,0.9s,baz=327,slow=4.8,SNR=3.3
comp=Z,0.6nm,0.9s
YKA Yellowknife Ar 85.03 352 P **P** **00 07 43.5 -0.9**
comp=Z,0.2nm,0.7s,baz=7.9,slow=5.4,SNR=4.3
comp=Z,0.2nm,0.7s
RCBR Riachuelo 88.49 262 LR LR 00 49 05.8
comp=Z,72nm,18.8s,baz=24,slow=37

*UPA **27** 23:57:20.8±1.0,8°.44N×82°.81W, h26km±6km, MD3.5, ML3.3*
*CATAC **27** 23:57:21.4±0.6,8°.46N×82°.91W, h10km±2km, ML3.1*
ISC 27 23:57:20.5±1.1, 8°.45N±0°.03×82°.82W±0°.02, h15km±9km, n27, σ0.97/52, 2C, Panama-Costa Rica border region

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

CDITO Canoas 0.13 339 *i* P **Pb** **23 57 25.3 +0.6**
CDITO *i* S **Sb** **23 57 28.6 +1.1**
CDITO IAML 23 57 33.7
comp=Z,4μm,1.0s
PTPM Petroterminale 0.25 193 *e*P **Pg** **23 57 26.7 +0.8**
PTPM AMP 23 57 27.9
comp=Z,3μm,0.2s
PTPM *e*S **Sb** **23 57 31.7 +0.9**
MLIR3 Monte Lirio, C 0.34 360 *e*P **Pb** **23 57 29.5 +1.2**
MLIR3 *e*S **Sn** **23 57 36.9 -0.7**
BRU2 Volcan 0.37 21⇑ *e*P **Pb** **23 57 29.5 +0.7**
BRU2 AMP 23 57 29.7
comp=Z,3μm,0.2s
BRU2 *i* S **Sb** **23 57 36.2 +1.8**
BRU2 Volcan 0.37 21 *i* P **Pb** **23 57 29.4 +0.7**
BRU2 *i* S **Sb** **23 57 35.9 +1.5**
BRU2 IAML 23 57 37.4
comp=Z,2μm,1.0s
DVD David 0.37 92 *e*P **Pb** **23 57 28.7 0.0**
DVD *e*S **Sb** **23 57 34.7 +0.4**
BCO2 Palmira 0.40 47⇑ *e*P **Pb** **23 57 29.8 +0.5**
BCO2 *e*S **Sb** **23 57 36.6 +1.4**
PEDE3 Pedregal, Chir 0.40 99 *e*P **Pb** **23 57 29.2 -0.1**
PEDE3 *e*S **Sn** **23 57 37.8 -1.2**
LOCO3 Loma Colorada, 0.40 95 *e*P **Pb** **23 57 29.3 0.0**
LOCO3 *e*S **Sb** **23 57 36.9 +1.6**
PTAR3 Potrerillos Ar 0.41 53 *e*P **Pb** **23 57 29.9 +0.5**
PTAR3 *e*S **Sb** **23 57 35.5 +0.1**
BC3P Paso Ancho 0.42 30 *e*P **Pb** **23 57 30.8 +1.0**
BC3P *e*S **Sb** **23 57 35.7 -0.3**
LNBQ3 Los Naranjos, 0.51 48 *e*P **Pb** **23 57 31.1 0.0**
LNBQ3 *e*S **Sb** **23 57 38.8 +0.4**
GUAL3 Gualaca, Chiri 0.53 81 *e*P **Pb** **23 57 31.4 +0.1**
GUAL3 *e*S **Sb** **23 57 39.1 +0.3**
POTG Potrero Grande 0.67 334 *i* P **Pg** **23 57 34.0 +0.4**
POTG *i* S **Sb** **23 57 43.8 +0.9**
POTG IAML 23 57 48.5
comp=Z,4μm,1.0s
CHGR2 Aguacate 0.83 54 *e*P **Pg** **23 57 35.6 -1.0**
CHGR2 *e*S **Sg** **23 57 46.0 -1.5**
PLAN Los Planes de 0.88 285 *i* P **Pg** **23 57 37.0 -0.5**
PLAN *i* S **Sb** **23 57 50.2 +1.3**
PLAN IAML 23 57 54.4
comp=Z,2μm,1.0s
SRBA San Rafael, Bu 0.94 326 *i* P **Pb** **23 57 37.9 -0.7**
SRBA *i* S **Sg** **23 57 50.7 -0.5**
SRBA IAML 23 57 51.5
comp=Z,640nm,1.0s
OCHAL Ojochal 1.04 308 *i* P **Pb** **23 57 38.8 -1.3**
OCHAL *i* S **Sb** **23 57 52.5 -1.0**
OCHAL IAML 23 57 54.8
comp=Z,310nm,1.0s
PEZE Perez Zeledon, 1.25 318 *i* P **Pn** **23 57 43.2 -0.3**
PEZE *i* S **Sb** **23 57 59.5 -0.4**
PEZE IAML 23 58 02.1
comp=Z,290nm,1.0s
CDM Cerro de Muert 1.44 320 *i* P **Pn** **23 57 45.6 -0.8**
CDM *i* S **Sn** **23 58 03.9 -1.3**
CDM IAML 23 58 15.8
comp=Z,160nm,1.0s
BATAN Batan 1.73 342 *i* P **Pb** **23 57 51.8 -0.1**
BATAN *i* S **Sb** **23 58 14.9 +1.5**
BATAN IAML 23 58 18.4
comp=Z,260nm,1.0s
VTCV VTCV, Calle Va 1.77 330 *i* P **Pn** **23 57 51.3 +0.6**
VTCV *i* S **Sb** **23 58 14.5 -0.2**
VTCV IAML 23 58 17.2
comp=Z,450nm,1.0s
OCM Ochomogo 1.82 322 *i* P **Pn** **23 57 52.0 +0.5**
OCM *i* S **Sn** **23 58 14.7 +0.3**
OCM IAML 23 58 22.7
comp=Z,120nm,1.0s
JACO JACO, Garabito 2.18 304 *i* P **Pn** **23 57 57.1 +1.0**
JACO IAML 23 58 32.6
comp=Z,71nm,1.0s
SOCE Pocosol 2.61 317 *i* P **Pb** **23 58 06.2 -0.8**
SOCE *i* S **Sb** **23 58 41.5 +2.5**
INDI Punta indio, G 3.00 298 *i* P **Pn** **23 58 07.9 +0.5**
INDI IAML 00 00 20.4
comp=Z,62nm,1.0s
SAJU San Juanillo, 3.27 300 *i* P **Pn** **23 58 12.4 +1.2**
SAJU *i* S **Sn** **23 58 49.2 -0.7**
SAJU IAML 00 00 17.1
comp=Z,37nm,1.0s

IDC 27 23:59:19.2±17.0, 6°.72S×130°.04E, h232km±200km, mb3.3/1, mbtmp3.8/3, ML3.7/2, Error ellipse: s-maj=121.2km s-min=82.2km az=78.0, Banda Sea

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

WRA Warramunga Arr 13.79 163 P P 00 02 25.6 0.0
0.4nm,0.3s,baz=342,slow=11,SNR=12
1.0nm,0.4s
ASAR Alice Springs 17.26 168 P P 00 03 05.0 0.0
0.3nm,0.3s,baz=344,slow=9.6,SNR=15
1.1nm,0.6s
MKAR Makanchi Array 68.01 327 P P 00 09 53.6 0.0
0.5nm,0.4s,baz=117,slow=8.1,SNR=11
0.5nm,0.4s

*IDC **28** 00:00:44.3±1.5, 32°.16N×48°.48E, h0km, mb3.8/8, mbtmp3.8/8, MS3.2/1, Error ellipse: s-maj=37.9km s-min=21.7km az=168.0*
*TEH **28** 00:00:44.9, 31°.95N×48°.69E, h19km±48km, ML3.7*
ISC 28 00:00:45.3±0.7, 31°.94N±0°.05×48°.68E±0°.04, h10km, n35, σ1.50/34, mb3.8/8, Western Iran

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

AHWZ Ahwaz 0.61 183 Pg **Pb** **00 00 57.6 -0.5**
JHBN Jahan bin 1.71 80 Pg **Pb** **00 01 16.5 -0.6**
IKFM Kafar-mosalman 1.73 336 Pg **Pb** **00 01 17.0 -0.1**
ZNGN Zangian 1.86 84 Pn **Pb** **00 01 18.9 -0.6**
IDOB Doab 1.89 347 Pn **Pb** **00 01 19.1 -0.9**
ABEH Behbahan 1.90 134 Pn **Pg** **00 01 21.9 +0.1**
IPIR Pirpir 2.01 68 Pn **Pb** **00 01 20.8 -1.4**
IBRJ Brojen 2.19 90 Pn **Pb** **00 01 23.6 -1.6**
HSAM Samen 2.26 358 Pn **Pn** **00 01 24.2 +1.2**
IKLH Kolahrood 2.81 60 Pn **Pn** **00 01 32.2 +1.7**
IGAR Gharneh 2.89 80 Pn **Pn** **00 01 33.1 +1.6**
HAGD Aghdareh 2.90 8 Pn **Pn** **00 01 33.6 +1.9**
IRAM Ramesheh 3.15 91 Pn **Pn** **00 01 36.7 +1.5**
IZEF Zefreh 3.23 72 Pn **Pn** **00 01 38.3 +2.0**
IDHR Dehrash 3.35 326 Pn **Pn** **00 01 39.5 +1.6**
IQOM Qom 3.52 34 Pn **Pn** **00 01 41.8 +1.5**
KGS1 Ghasr-e-Shirin 3.64 315 Pn **Pn** **00 01 43.3 +1.6**
ISFB Sefidab 3.83 50 Pn **Pn** **00 01 45.7 +1.2**
IVRN Varamin 3.97 39 Pn **Pn** **00 01 47.4 +1.1**
ANAR Anarak 4.44 72 Pn **Pn** **00 01 53.8 +1.0**
IDMV Damavand 4.58 37 Pn **Pn** **00 01 56.0 +1.1**
ILAS Lasjerd 4.95 45 Pn **Pn** **00 02 01.0 +1.0**
IFIR Firoozkooh 5.01 41 Pn **Pn** **00 02 02.4 +1.6**
MZPU Pul - Mazandar 5.08 27 Pn **Pn** **00 02 03.8 +2.0**
IPRN Peran 5.25 34 Pn **Pn** **00 02 06.0 +2.0**
IHRS Heris 6.50 349 Pn **Pn** **00 02 23.1 +1.9**
GEYT Alibeck 9.78 50 LR LR 00 07 40.7
comp=Z,132nm,20.1s,baz=354,slow=43
BVAR Borovoye Array 26.27 30 P **P** **00 06 19.2 -1.4**
1.6nm,0.6s,baz=228,slow=7.5,SNR=8.6
1.6nm,0.6s
KURBB Kurchatov Arra 28.89 41 P **P** **00 06 44.2 +0.1**
0.8nm,0.9s,baz=243,slow=9.5,SNR=6.6
0.8nm,0.9s
MKAR Makanchi Array 29.66 50 P **P** **00 06 52.6 +1.6**
0.4nm,0.8s,baz=248,slow=7.6,SNR=3.5
0.4nm,0.8s
FINES FINESS Array B 32.98 340 P **P** **00 07 17.8 -2.2**
1.7nm,1.0s,baz=159,slow=11,SNR=3.8
1.7nm,1.0s
HFS Hagfors 36.44 331 P **P** **00 07 48.1 -1.9**
2.4nm,0.9s,baz=106,slow=9.9,SNR=4.4
2.4nm,0.9s
ESDC Sonseca Array 42.87 296 P **P** **00 08 44.0 +0.2**
0.3nm,0.7s,baz=75,slow=7.8,SNR=1.7
0.3nm,0.7s
TORD Torodi Ar. Bea 46.84 258 P **P** **00 09 14.4 -1.3**
0.3nm,0.4s,baz=57,slow=7.5,SNR=6.1
0.3nm,0.4s
CMAR Chiang Mai Arr 47.03 94 P **P** **00 09 19.2 +2.0**
0.8nm,0.3s,baz=281,slow=9.1,SNR=2.3
0.8nm,0.3s

IDC ***28*** *00:10:17.6±0.9,41°.32N×29°.65W,h0km,mb3.8/11, mbtmp3.8/12,ML3.7/1,MS3.5/12,Error ellipse: s-maj=28.2km s-min=18.4km az=25.0*

ISC 28 00:10:18.5±0.7,**41°.04N**±0°.09×**29°.70W**±0°.09,**h10**km,**n33, σ1°85/24,mb3.9**/11,**MS3.4**/11,**Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07N1	**FLORES T-PHASE**	**1.73**	**219**	*eP*	**Pg**	**00 10 51.7**	**+0.1**
PSBA	**Serra de Santa**	**2.91**	**140**	*eP*	**Pn**	**00 11 02.7**	**-2.2**
PAGU	**Agualva, Azore**	**2.98**	**139**	*eP*	**Pn**	**00 11 03.6**	**-2.2**
ADH	**Angra Heroismo**	**3.04**	**141**	*eP*	**Pn**	**00 11 03.8**	**-2.8**
PSCM	**Serra do Cume**	**3.06**	**139**	*eP*	**Pn**	**00 11 04.3**	**-2.7**
PSET	**Sete Cidades**	**4.45**	**135**	*eP*	**Pn**	**00 11 24.6**	**-1.4**
PDA	**Ponta Delgada**	**4.54**	**135**	*eP*	**Pn**	**00 11 25.0**	**-2.1**
CMLA	**Cha da Macela**	**4.60**	**134**	*eP*	**Pn**	**00 11 26.4**	**-1.6**
PGRON	**Lagoa das Cont**	**4.68**	**133**	*eP*	**Pn**	**00 11 27.8**	**-1.3**
BART	**Pico Bartolome**	**4.79**	**131**	*eP*	**Pn**	**00 11 29.1**	**-1.6**
PSMA	**Santa Maria**	**5.38**	**137**	*eP*	**Pn**	**00 11 36.7**	**-2.1**
PSMN	**Pico do Norte,**	**5.41**	**137**	*eP*	**Pn**	**00 11 37.7**	**-1.5**
ESDC	**Sonseca Array**	**19.64**	**86**	P	**P**	**00 14 47.9**	**+0.6**
	0.1nm,0.3s,baz=288,slow=13,SNR=2.7						
ESDC				LR	LR	00 20 25.2	
	comp=Z,116nm,21.7s,baz=280,slow=31 0.6nm,0.8s						
MDT	**Midelt**	**21.62**	**104**	P	**P**	**00 15 11.6**	**+2.8**
	2.1nm,0.8s,baz=310,slow=11,SNR=4.1						
MDT				LR	LR	00 21 16.3	
	comp=Z,126nm,21.6s,baz=20,slow=30 2.1nm,0.8s						
SCHQ	**Schefferville**	**28.07**	**312**	LR	LR	00 25 44.2	
	comp=Z,76nm,18.1s,baz=105,slow=33						
DAVOX	**Davos/Dischmat**	**28.86**	**65**	LR	LR	00 26 31.1	
	comp=Z,85nm,18.1s,baz=264,slow=34						
GERES	**GERESS Array B**	**31.34**	**61**	LR	LR	00 28 21.0	
	comp=Z,62nm,18.2s,baz=288,slow=35						
NOA	**NORSAR Array B**	**31.84**	**37**	LR	LR	00 27 08.7	
	comp=Z,25nm,20.8s,baz=115,slow=32						
HFS	**Hagfors**	**32.72**	**40**	LR	LR	00 28 17.9	
	comp=Z,71nm,20.2s,baz=216,slow=33						
VRAC	**Vranov**	**33.22**	**60**	LR	LR	00 29 02.2	
	comp=Z,78nm,18.2s,baz=292,slow=34						
FINES	**FINESS Array B**	**38.92**	**39**	P	**P**	**00 17 44.0**	**0.0**
	2.0nm,0.8s,baz=255,slow=9.9,SNR=3.6						
FINES				LR	LR	00 30 49.1	
	comp=Z,72nm,20.4s,baz=215,slow=32 2.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**39.03**	**126**	P	**P**	**00 17 46.6**	**+1.2**
	1.4nm,1.0s,baz=323,slow=9.0,SNR=5.6 1.4nm,1.0s						
DBIC	**Dimbokro**	**40.77**	**140**	P	**P**	**00 18 01.8**	**+1.9**
	2.8nm,0.7s,baz=342,slow=7.7,SNR=4.5 2.8nm,0.7s						
AKASG	**Malin Array Be**	**41.14**	**56**	LR	LR	00 34 25.7	
	comp=Z,65nm,18.4s,baz=349,slow=35						
ULM	**Lac du Bonnet**	**45.76**	**305**	LR	LR	00 36 10.3	
	comp=Z,104nm,19.1s,baz=114,slow=34						
YKA	**Yellowknife Ar**	**52.38**	**324**	P	**P**	**00 19 29.3**	**-1.1**
	0.7nm,0.9s,baz=65,slow=7.1,SNR=4.5 0.7nm,0.9s						
PDAR	**Pinedale Array**	**57.28**	**300**	P	**P**	**00 20 06.0**	**-0.4**
	1.2nm,1.0s,baz=89,slow=6.5,SNR=3.5 1.2nm,1.0s						
NEW	**Newport**	**59.38**	**309**	LR	LR	00 43 45.5	
	comp=Z,89nm,18.1s,baz=66,slow=34						
TXAR	**Lajitas Array**	**59.92**	**284**	P	**P**	**00 20 25.9**	**+1.1**
	1.3nm,0.9s,baz=70,slow=6.8,SNR=9.0 1.3nm,0.9s						
KURBB	**Kurchatov Arra**	**69.30**	**40**	P	**P**	**00 21 23.4**	**-2.3**
	0.9nm,0.8s,baz=313,slow=6.6,SNR=10 0.9nm,0.8s						
ZALV	**Zalesovo Beam**	**70.00**	**35**	P	**P**	**00 21 30.8**	**+0.8**
	0.4nm,0.3s,baz=308,slow=7.3,SNR=4.3 0.4nm,0.3s						
MKAR	**Makanchi Array**	**73.70**	**42**	P	**P**	**00 21 50.1**	**-2.3**
	0.9nm,0.7s,baz=316,slow=6.7,SNR=10 0.9nm,0.7s						
SONM	**Songino Array**	**83.33**	**28**	P	**P**	**00 22 46.2**	**+0.6**
	0.9nm,0.9s,baz=320,slow=3.3,SNR=5.5 0.9nm,0.9s						

MOS ***28*** *00:27:01.7±1.2,34°.36N×45°.38E,h11km,mb4.4/21,Error ellipse: s-maj=8.0km s-min=4.5km az=90.1*

IDC ***28*** *00:27:02.6±0.8,34°.43N×45°.41E,h0km,mb4.0/19, mbtmp4.0/28,ML3.7/9,MS3.4/13,Error ellipse: s-maj=17.2km s-min=13.4km az=153.0*

NEIC ***28*** *00:27:03.8±2.0,34°.37N±0°.04×45°.46E±0°.08,h10km±1km, mb4.4/57,Error ellipse: s-maj=12.1km s-min=5.7km az=109.0*

TEH ***28*** *00:27:05.8,34°.49N×45°.50E,h17km±11km,ML4.0*

ISN ***28*** *00:27:05.4±1.0,34°.47N×45°.44E,h8km±5km,ML4.1*

GII ***28*** *00:27:05.3±0.8,34°.32N×45°.43E,h10km,Mws4.2, confirmed*

ISC 28 00:27:05.8±0.7,**34°.43N**±0°.03×**45°.56E**±0°.03,**h23**km±5km, **n305,σ2°93**/319,**mb4.3**/67,**MS3.3**/7,**24C-4D,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.08**	**15**	Pg	**Pb**	**00 27 09.1**	**-1.0**
KGS1				Sg	**Sb**	**00 27 12.4**	**-0.6**
IDHR	**Dehrash**	**0.73**	**68**	Pg	**Pb**	**00 27 20.2**	**+0.1**
IGHG	**Ghaleghazi**	**0.84**	**96**	Pg	**Pn**	**00 27 23.1**	**+0.5**
ILBA	**Ilam Banvizeh**	**0.96**	**146**	Pg	**Pn**	**00 27 25.5**	**+1.4**
ILIN	**Lien**	**1.25**	**67**	Pg	**Pb**	**00 27 30.2**	**+1.2**
IBDR	**Badra**	**1.35**	**167**	*e*Pn	**Pb**	**00 27 33.0**	**+2.6**
IBDR				*e*Sn	**Sb**	**00 27 53.0**	**+5.8**
IBDR				AML	AML	00 28 09.9	
	comp=E,2μm,0.7s						
IBDR				AML	AML	00 28 10.2	
	comp=N,1μm,0.6s						
IKRK	**Kirkuk**	**1.40**	**314**	*e*Pg	**Pn**	**00 27 30.0**	**0.0**
IKRK				*e*Sg	**Sb**	**00 27 49.0**	**+0.3**
IKRK				AML	AML	00 27 51.6	
	comp=E,22μm,0.6s						
IKRK				AML	AML	00 27 52.1	
	comp=N,17μm,0.6s						
BHD	**Baghdad**	**1.52**	**221**	*e*Pn	**Pb**	**00 27 34.0**	**+0.7**
BHD				*e*Sn	**Sb**	**00 27 55.0**	**+3.0**
BHD				AML	AML	00 27 57.8	
	comp=E,6μm,0.2s						
SDS1	**Sardasht. Az.**	**1.72**	**358**	Pg	**Pb**	**00 27 36.2**	**-0.7**
IBZA	**Bozab**	**1.90**	**88**	Pn	**Pb**	**00 27 40.3**	**+0.3**
IKFM	**Kafar-mosalman**	**2.10**	**115**	Pn	**Pb**	**00 27 43.4**	**+0.2**
IDOB	**Doab**	**2.26**	**106**	Pn	**Pb**	**00 27 45.2**	**-0.9**
MAHB	**Mahabad**	**2.34**	**3**	Pn	**Pn**	**00 27 44.6**	**+1.6**
HSAM	**Samen**	**2.52**	**94**	Pn	**Pn**	**00 27 49.0**	**+3.2**
RAFI	**Al-Rafai**	**2.73**	**170**	*e*Pn	**Pb**	**00 27 53.0**	**-1.1**
RAFI				*e*Sn	**Sb**	**00 28 27.0**	**-0.1**
RAFI				AML	AML	00 28 45.4	
	comp=E,258nm,0.6s						
RAFI				AML	AML	00 28 54.4	
	comp=N,288nm,0.6s						
MSL	**Mosul**	**2.81**	**315**	*e*Pn	**Pn**	**00 27 51.0**	**+1.6**
MSL				*e*Sn	**Sn**	**00 28 25.0**	**+2.4**
HAGD	**Aghdareh**	**2.98**	**81**	Pn	**Pn**	**00 27 55.3**	**+3.3**
CUKT	**Cukurca**	**3.23**	**331**	*e*P	**Pn**	**00 27 55.5**	**+0.1**
IAZR	**Azarshahr**	**3.26**	**6**	Pn	**Pn**	**00 27 57.5**	**+1.6**
ISRB	**Sarab**	**3.80**	**26**	Pn	**Pn**	**00 28 05.4**	**+2.2**
ITBZ	**Tabriz**	**3.83**	**7**	Pn	**Pn**	**00 28 04.2**	**+0.6**
AKDM	**Akdamar-Van**	**4.42**	**333**	*e*P	**Pn**	**00 28 12.5**	**+0.8**
VANB	**Van**	**4.51**	**338**	*e*P	**Pn**	**00 28 14.1**	**+1.1**
NAX	**Nakhchivan**	**4.74**	**359**	P	**Pn**	**00 28 17.8**	**+1.8**
GAS1	**Astara - Iran**	**4.75**	**33**	Pn	**Pn**	**00 28 18.8**	**+2.7**
TEH	**Tehran**	**4.95**	**73**	Pn	**Pn**	**00 28 22.1**	**+3.1**
ZNGN	**Zangian**	**5.00**	**116**	Pn	**Pn**	**00 28 21.9**	**+2.2**
LKRN	**Lenkeran, Azer**	**5.00**	**30**	P	**Pn**	**00 28 22.0**	**+2.5**
GURO	**Guroymak-BITLI**	**5.00**	**326**	*e*P	**Pn**	**00 28 18.8**	**-0.9**
GURO	**Guroymak-BITLI**	**5.00**	**326**		**Pn**	**00 28 18.5**	**-1.2**
IVRN	**Varamin**	**5.11**	**82**	Pn	**Pn**	**00 28 24.2**	**+3.1**
SVAN	**Silvan-Diyarba**	**5.12**	**318**	*e*P	**Pn**	**00 28 19.4**	**-1.8**
MAZI	**Mazidag**	**5.14**	**308**	*e*P	**Pn**	**00 28 20.6**	**-0.9**
MLAZ	**Malazgirt-MUS**	**5.29**	**334**	*e*P	**Pn**	**00 28 25.1**	**+1.4**
IDMV	**Damavand**	**5.43**	**76**	Pn	**Pn**	**00 28 28.7**	**+2.9**
ISFB	**Sefidab**	**5.52**	**89**	Pn	**Pn**	**00 28 29.6**	**+2.8**
AGRB	**Hanur-Agry**	**5.54**	**339**	*e*P	**Pn**	**00 28 28.7**	**+1.6**
KBD	**Kabd**	**5.54**	**160**	P	**Pn**	**00 28 29.7**	**+2.7**
KBD				S	**Sn**	**00 29 32.4**	**+2.4**
DYBB	**Diyarbakir**	**5.62**	**310**	*e*P	**Pn**	**00 28 26.3**	**-1.8**
TASB	**TASBURUN-IGDIR**	**5.65**	**350**	*e*P	**Pn**	**00 28 28.9**	**+0.4**
GNI	**Garni**	**5.75**	**354**	Pn	**Pn**	**00 28 29.9**	**0.0**
GNI	**Garni**	**5.75**	**354**	*i* P	**Pn**	**00 28 28.7**	**-1.3**
GNI	**Garni**	**5.75**	**354**	Pn	**Pn**	**00 28 29.7**	**-0.2**
	comp=N,0.7nm,0.3s,baz=342,slow=19,SNR=2.7						
GNI				Lg	Lg	00 30 15.7	
	baz=30,slow=20 comp=N,2.6nm,0.4s						
GNI	**Garni**	**5.75**	**354**	P	**Pb**	**00 28 47.8**	**+2.2**
VRTB	**Varto-Mus**	**5.76**	**326**	*e*P	**Pn**	**00 28 28.9**	**-1.2**
IGAR	**Gharneh**	**5.78**	**109**	Pn	**Pn**	**00 28 33.2**	**+2.7**
IZEF	**Zefreh**	**5.84**	**103**	Pn	**Pn**	**00 28 34.2**	**+2.8**
IFIR	**Firoozkooh**	**6.02**	**76**	Pn	**Pn**	**00 28 37.1**	**+3.3**
GANJ	**Ganja**	**6.24**	**5**	P	**Pn**	**00 28 38.6**	**+2.0**
KARS	**Kars**	**6.50**	**343**	Pn	**Pn**	**00 28 42.4**	**+2.2**
KARS	**Kars**	**6.50**	**343**	P	**Pn**	**00 28 42.4**	**+2.2**
PTK	**Pertek**	**6.67**	**314**	*e*P	**Pn**	**00 28 41.3**	**-1.3**
ANAR	**Anarak**	**6.91**	**98**	Pn	**Pn**	**00 28 48.7**	**+2.8**
GAZ	**Gaziantep**	**7.32**	**294**	*e*P	**Pn**	**00 28 54.6**	**+3.2**
GAZ	**Gaziantep**	**7.32**	**294**	Pn	**Pn**	**00 28 50.9**	**-0.5**
ARPR	**Arapgir-MALATY**	**7.44**	**311**	Pn	**Pn**	**00 28 53.3**	**+0.2**
ASF	**Jabal al Asfar**	**7.59**	**255**	Pn	**Pn**	**00 28 53.9**	**-1.4**
	comp=N,1.3nm,0.3s,baz=344,slow=0.1,SNR=8.2						
ASF				Lg	Lg	00 31 04.2	
	comp=N,2.0nm,0.3s,baz=355,slow=0.0,SNR=3.2						
ASF				LR	LR	00 32 41.6	
	comp=N,319nm,18.9s,baz=333,slow=45 comp=N,2.6nm,0.3s						
KMRS	**Kahramanmaras**	**7.67**	**296**	*e*P	**Pn**	**00 28 54.3**	**-1.9**
DARE	**Darende-Malaty**	**7.71**	**305**	*e*P	**Pn**	**00 28 56.1**	**-0.7**
DSBU	**Dashti - Bushe**	**7.76**	**140**	Pn	**Pn**	**00 29 00.1**	**+2.6**
TAHT	**Tahtakopru-Hat**	**7.90**	**287**	*e*P	**Pn**	**00 28 57.1**	**-2.2**
ONI	**Oni**	**8.32**	**349**	Pn	**Pn**	**00 29 08.6**	**+3.5**
ONI	**Oni**	**8.32**	**349**	P	**Pn**	**00 29 08.6**	**+3.5**
GEM	**Giv'at Ha'Em**	**8.33**	**264**	P	**Pn**	**00 29 05.0**	**-0.2**
GEM	**Giv'at Ha'Em**	**8.33**	**264**	S	**Sn**	**00 30 37.6**	**-0.9**
SHMJ	**Saham**	**8.35**	**261**	P	Pb	00 29 47.9	+18
KOZT	**Kozan**	**8.46**	**294**	*e*P	**Pn**	**00 29 06.6**	**-0.5**
MMA0B	**Mount Meron ar**	**8.58**	**263**	P	**Pn**	**00 29 08.9**	**+0.1**
MMAI	**Mount Meron Ar**	**8.58**	**263**	Pn	**Pn**	**00 29 07.7**	**-1.1**
	comp=N,1.5nm,0.3s,baz=71,slow=16,SNR=10						
MMAI				Lg	Lg	00 31 31.2	
	comp=N,2.7nm,0.3s,baz=81,slow=23,SNR=4.3						
MMAI				LR	LR	00 33 12.1	
	comp=N,207nm,18.1s,baz=18,slow=44 comp=N,0.6nm,0.3s						
MAK	**Makhachkala**	**8.66**	**10**	*e*P	**Pn**	**00 29 06.4**	**-3.3**
MAK				*e*S	**Sn**	**00 30 44.6**	**-1.9**
MAK				pmax	pmax		
	comp=Z,73nm,1.0s						
MAK				MLR	MLR		
	comp=Z,157nm,14.0s						
HMDT	**Nahal Hemdat**	**8.67**	**258**	S	**Sn**	**00 30 47.1**	**+0.1**
HMDT	**Nahal Hemdat**	**8.67**	**258**	P	**Pn**	**00 29 09.6**	**-0.4**
GHAJ	**Ghor Haditha**	**8.96**	**252**	Pn	**Pn**	**00 29 12.2**	**-1.7**
GHAJ	**Ghor Haditha**	**8.96**	**252**	P	**Pn**	**00 29 11.8**	**-2.1**
BNN	**Bunyan**	**8.97**	**302**	Pn	**Pn**	**00 29 12.9**	**-1.2**
DSI	**Dead Sea**	**9.01**	**254**	P	Pn	00 29 58.4	+44
DSI	**Dead Sea**	**9.01**	**254**	P	**Pn**	**00 29 13.3**	**-1.4**
SLTI	**Sal'it**	**9.07**	**259**	P	Pn	00 29 58.4	+43
NCK	**Nalchik**	**9.19**	**351**	*i* P	**Pn**	**00 29 16.9**	**-0.1**
KBZ	**Khabaz**	**9.52**	**348**	*i* P	**Pn**	**00 29 19.9**	**-1.6**
KBZ	**Khabaz**	**9.52**	**348**	Pn	**Pn**	**00 29 25.1**	**+3.7**
	comp=Z,0.1nm,0.3s,baz=175,slow=8.7,SNR=9.9						
KBZ				LR	LR	00 33 25.5	
	comp=Z,105nm,20.0s,baz=150,slow=40 comp=Z,3.2nm,0.9s						
KVAR	**Kislovodsk Arr**	**9.77**	**348**	Pn	**Pn**	**00 29 28.2**	**+3.1**
	baz=73,slow=19						
KVAR				LR	LR	00 33 06.7	
	comp=Z,233nm,20.6s,baz=1.0,slow=37 comp=Z,2.4nm,0.7s						
KIV	**Kislovodsk**	**9.77**	**348**	Pn	**Pn**	**00 29 28.5**	**+3.4**
KIV	**Kislovodsk**	**9.77**	**348**	*e*P	**Pn**	**00 29 24.7**	**-0.4**
KIV				pmax	pmax		
	comp=Z,12nm,1.1s						
KIV				MLR	MLR		
	comp=Z,47nm,12.0s						
PRNI	**Paran**	**9.80**	**248**	P	**Pn**	**00 29 23.8**	**-1.7**
HRFI	**Mount Harif**	**9.93**	**247**	P	**Pn**	**00 29 26.6**	**-0.6**
KRMI	**Paran Flat**	**10.13**	**248**	P	**Pn**	**00 29 29.6**	**-0.4**
EIL	**Elat**	**10.17**	**245**	Pn	**Pn**	**00 29 29.1**	**-1.5**
	comp=Z,0.9nm,0.3s,baz=130,slow=6.9,SNR=9.9						
EIL				Lg	Lg	00 32 31.3	
	comp=Z,0.6nm,0.3s,baz=76,slow=13,SNR=3.7						
EIL				LR	LR	00 34 24.9	
	comp=Z,196nm,19.2s,baz=66,slow=44 comp=Z,1.8nm,0.4s						
EIL	**Elat**	**10.17**	**245**	P	**Pn**	**00 29 29.8**	**-0.7**
SOC	**Sochi**	**10.21**	**335**	*e*P	**Pn**	**00 29 26.3**	**-4.7**
SOC				*e*		00 31 22.4	
SOC				MLR	MLR		
	comp=Z,296nm,15.0s						
SMRA	**Abu-Samra**	**10.68**	**153**	P	**Pn**	**00 29 40.0**	**+2.6**
SMRA				S	**Sn**	**00 31 33.5**	**-2.8**
GEYT	**Alibeck**	**10.73**	**67**	Pn	**Pn**	**00 29 41.6**	**+3.4**
GEYT	**Alibeck**	**10.73**	**67**	P	**Pn**	**00 29 41.6**	**+3.4**
GEYT	**Alibeck**	**10.73**	**67**	Pn	**Pn**	**00 29 42.5**	**+4.3**
	comp=Z,0.2nm,0.3s,baz=260,slow=16,SNR=8.6						
GYA0B	**ALIBECK ARRAY**	**10.73**	**67**	Pn	**Pn**	**00 29 41.9**	**+3.7**
TRNA	**Turayna**	**10.83**	**152**	P	**Pn**	**00 29 41.3**	**+1.7**
TRNA				S	**Sn**	**00 31 37.2**	**-3.0**
RAYN	**Ar Rayn**	**10.86**	**180**	Pn	**Pn**	**00 29 38.6**	**-1.5**
RAYN	**Ar Rayn**	**10.86**	**180**	P	**Pn**	**00 29 38.6**	**-1.5**
BRTR	**Keskin Array B**	**10.89**	**303**	LR	LR	00 34 19.3	
	comp=Z,153nm,18.8s,baz=124,slow=40						
SLWR	**Sila**	**11.62**	**151**	P	**Pn**	**00 29 53.5**	**+3.1**
SLWR				S	**Sn**	**00 31 57.2**	**-2.2**
AJN	**Ajban**	**12.80**	**138**	P	**Pn**	**00 30 07.0**	**+0.6**
AJN				S	**Sn**	**00 32 24.5**	**-3.7**
NAZ	**Nazwa, Dubai**	**12.86**	**134**	P	**Pn**	**00 30 08.3**	**+1.1**
MASF	**Masafi**	**12.87**	**132**	P	**Pn**	**00 30 07.8**	**+0.3**
MASF				S	**Sn**	**00 32 22.9**	**-7.3**
ASUD	**Al Ashush, Dub**	**12.94**	**136**	P	**Pn**	**00 30 10.0**	**+1.6**
	SNR=7.0						
FAQ	**Al Faqa, Dubai**	**13.00**	**135**	P	**Pn**	**00 30 09.6**	**+0.4**
FAQ				S	**Sn**	**00 32 27.4**	**-5.8**
MDH	**Madha**	**13.01**	**131**	P	**Pn**	**00 30 10.8**	**+1.4**
MDH				S	**Sn**	**00 32 27.6**	**-5.9**
UOSS	**Minazif**	**13.21**	**133**	Pn	**Pn**	**00 30 11.2**	**-0.9**
UOSS	**Minazif**	**13.21**	**133**	P	**Pn**	**00 30 12.3**	**+0.2**
UOSS				S	**Sn**	**00 32 30.3**	**-8.1**
HATD	**Hatta, Dubai**	**13.26**	**133**	P	**Pn**	**00 30 12.8**	**0.0**
HATD				S	**Sn**	**00 32 35.3**	**-4.2**
ASHO	**Ashiyiah**	**13.32**	**134**	P	**Pn**	**00 30 14.0**	**+0.4**
	SNR=6.2						
ASHO				S	**Sn**	**00 32 35.2**	**-5.9**
ALNE	**Al Ain**	**13.62**	**137**	P	**Pn**	**00 30 17.9**	**+0.1**
	SNR=5.6						
ALNE				S	**Sn**	**00 32 45.2**	**-3.2**
JASK	**Jask - Hormozg**	**13.63**	**125**	P	**Pn**	**00 30 17.6**	**-0.2**
HRA	**Herat**	**13.78**	**85**	Pn	**Pn**	**00 30 22.4**	**+2.5**
SOHO	**SOHO**	**14.02**	**134**	P	**Pn**	**00 30 23.7**	**+0.6**
SOHO				S	**Sn**	**00 32 52.4**	**-5.6**
UMZA	**Um Al Zommool**	**14.39**	**142**	P	**Pn**	**00 30 27.1**	**-1.1**
ARQ	**Araqi**	**14.62**	**136**	P	**Pn**	**00 30 31.4**	**0.0**
ARQ				S	**Sn**	**00 33 07.0**	**-5.8**
HOQ	**Hoqain**	**14.90**	**133**	P	**Pn**	**00 30 37.6**	**+2.4**
KARP	**Karpathos**	**15.13**	**279**	P	**P**	**00 30 42.6**	**-0.5**
BIDO	**Bidbid**	**15.44**	**131**	P	**P**	**00 30 47.2**	**+0.5**
BSY	**Bisya**	**15.47**	**136**	P	**Pn**	**00 30 41.1**	**-1.6**
BSY				S	**Sn**	**00 33 27.5**	**-6.1**
SMDO	**Samad**	**15.74**	**133**	P	**Pn**	**00 30 46.2**	**0.0**
SMDO				S	**Sn**	**00 33 33.1**	**-7.0**
WSAR	**Wadi Sarin**	**15.96**	**131**	Pn	**Pn**	**00 30 48.2**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=335,slow=12,SNR=9.1 comp=Z,2.9nm,0.5s						
NGCH	**Negor - Chabah**	**16.23**	**120**	P	**Pn**	**00 30 52.7**	**+0.2**
JMDO	**Jabal Madar**	**16.29**	**134**	P	**Pn**	**00 30 53.3**	**0.0**
WBK	**Wadi Bani Khal**	**16.64**	**132**	P	**Pn**	**00 30 57.5**	**-0.1**
IDI	**Anoyia**	**16.99**	**279**	P	**P**	**00 31 04.1**	**+0.3**
IDI	**Anoyia**	**16.99**	**279**	Pn	**P**	**00 31 03.8**	**-0.1**
	baz=83,slow=13,SNR=8.8						
VRH	**Novokhopyorsk**	**17.00**	**352**	*e*P	**Pn**	**00 31 00.8**	**-1.2**
VRH				pmax	pmax		
	comp=Z,15nm,0.8s						
CFR	**Carcaliu**	**17.13**	**314**	⇑P	**Pn**	**00 31 03.9**	**+0.3**
MHTO	**MHTO**	**17.30**	**138**	P	**Pn**	**00 31 04.1**	**-1.8**
VSR	**Storozhevoye**	**17.41**	**346**	*e*P	**Pn**	**00 31 05.7**	**-1.5**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
DOK	**Doka**	**17.50**	**152**	P	**P**	**00 31 10.0**	**+0.5**
	SNR=10						
VORR	**Voronezh**	**17.84**	**347**	*e*P	**Pn**	**00 31 12.0**	**-0.4**
VORR				pmax	pmax		
	comp=Z,30nm,0.5s						
DQM	**DQM**	**17.92**	**141**	P	**Pn**	**00 31 14.0**	**+0.3**
WHFO	**Wadi Hawf**	**18.00**	**154**	P	**P**	**00 31 15.5**	**+0.4**
BELG	**Belogornoye**	**18.02**	**4**	P	**Pn**	**00 31 13.2**	**-1.5**
	comp=Z,1.7nm,0.3s,baz=152,slow=3.7,SNR=6.4 comp=Z,25nm,0.8s						
ABKAR	**Akbulak array**	**18.24**	**31**	P	**Pn**	**00 31 17.1**	**-0.2**
VRI	**Vrincioaia**	**18.33**	**314**	⇑P	**Pn**	**00 31 20.5**	**+1.9**
ABTO	**Aybut**	**18.36**	**156**	P	**P**	**00 31 16.3**	**-2.8**
NEHR	**Nehoiu**	**18.37**	**312**	⇑P	**Pn**	**00 31 25.3**	**+6.3**
PLOR	**Plostina**	**18.37**	**314**	⇑P	**Pn**	**00 31 25.5**	**+6.5**
AKTO	**Aktyubinsk**	**18.41**	**26**	P	**Pn**	**00 31 20.3**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=226,slow=10,SNR=21 comp=Z,7.7nm,0.9s						
MLR	**Muntele Rosu**	**18.61**	**312**	⇓P	**Pn**	**00 31 27.5**	**+5.4**
DMTO	**DMTO**	**18.64**	**151**	P	**P**	**00 31 20.7**	**-1.4**
	SNR=7.4						
SHAO	**Shalim**	**18.64**	**149**	P	**P**	**00 31 22.0**	**-0.1**
	SNR=13						
SHAO				P	**P**	**00 31 22.0**	**-0.1**
	SNR=13						
TESR	**Tescani**	**18.73**	**316**	⇑P	**P**	**00 31 22.1**	**-0.7**
LPSR	**Galich'ya Gora**	**18.78**	**347**	*e*P	**P**	**00 31 21.0**	**-2.3**
LPSR				pmax	pmax		
	comp=Z,50nm,0.9s						
SORM	**Soroca**	**18.78**	**322**	⇑P	**P**	**00 31 22.3**	**-1.1**
TURR	**Turia**	**18.85**	**314**	⇑P	**Pn**	**00 31 25.5**	**+0.6**
OZUR		**19.01**	**314**	⇓P	**Pn**	**00 31 26.5**	**-0.3**
VOIR		**19.14**	**311**	⇑P	**Pn**	**00 31 28.2**	**-0.2**
AGG	**Agios Georgios**	**19.16**	**291**	P	**P**	**00 31 26.7**	**-1.0**
AGG	**Agios Georgios**	**19.16**	**291**	P	**P**	**00 31 26.7**	**-1.0**
AGG				pmax	pmax		
	comp=Z,10.0nm,1.3s						
DOPR	**Dopca**	**19.19**	**313**	⇑P	**Pn**	**00 31 28.8**	**-0.1**
KBL	**Kabul**	**19.35**	**83**	P	**Pn**	**00 31 31.4**	**+0.2**
KBL	**Kabul**	**19.35**	**83**	P	**Pn**	**00 31 31.4**	**+0.2**
KBL				pmax	pmax		
	comp=Z,16nm,1.2s						
KBL	**Kabul**	**19.35**	**83**	P	**Pn**	**00 31 33.8**	**+2.5**
	SNR=11						
ARR	**Arges**	**19.37**	**311**	⇑P	**Pn**	**00 31 31.0**	**-0.1**
LOT	**Lotru**	**19.95**	**310**	⇑P	**P**	**00 31 36.5**	**+0.1**
BURAR	**Bucovina Array**	**20.15**	**317**	⇑P	**P**	**00 31 38.1**	**-0.4**
BURAR	**Bucovina Array**	**20.15**	**317**	P	**P**	**00 31 38.3**	**-0.2**
FNA	**Florina**	**20.15**	**295**	P	**P**	**00 31 38.5**	**0.0**
FNA	**Florina**	**20.15**	**295**	P	**P**	**00 31 38.6**	**0.0**
FNA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AKASG	**Malin Array Be**	**20.16**	**329**	P	**P**	**00 31 37.3**	**-1.1**
	comp=Z,1.0nm,0.4s,baz=137,slow=11,SNR=14 comp=Z,1.0nm,0.4s						
AKBB	**Malin Array Si**	**20.16**	**329**	P	**P**	**00 31 36.7**	**-1.7**
AKBB				IAmb	IAmb	00 31 43.2	
	comp=Z,13nm,0.9s						
AKBB	**Malin Array Si**	**20.16**	**329**	*ce*P	**P**	**00 31 36.7**	**-1.7**
AKBB				pmax	pmax		
	comp=Z,12nm,0.9s						
BUR08	**Bucovina Ar. S**	**20.18**	**317**	P	**P**	**00 31 38.9**	**0.0**
GZR	**Gura Zlata**	**20.56**	**309**	⇑P	**P**	**00 31 42.8**	**-0.2**

KURBB	**Kurchatov Arra**	**28.89**	**46**	P		**P**		**00 33 04.7**	**+2.0**	
	comp=Z,0.6nm,0.7s,baz=252,slow=9.1,SNR=6.2									
	comp=Z,0.6nm,0.7s									
KURK	**Kurchatov**	**28.98**	**46**	P		**P**		**00 33 04.6**	**+1.0**	
KURK	**Kurchatov**	**28.98**	**46**	*ce*P		**P**		**00 33 04.5**	**+1.0**	
KURK					pmax		pmax			
	comp=Z,3.0nm,1.3s									
FETA	**Feichten**	**29.00**	**306**	*i* pP		**P**		**00 33 05.7**	**+1.7**	
	comp=Z,0.3nm,0.3s									
FINES	**FINESS Array B**	**29.77**	**341**	P		**P**		**00 33 09.3**	**-1.2**	
FINES	**FINESS Array B**	**29.77**	**341**	*i* P		**P**		**00 33 09.3**	**-1.2**	
FINES					pmax		pmax			
	comp=Z,1.0nm,0.4s									
FINES	**FINESS Array B**	**29.77**	**341**	P		**P**		**00 33 09.4**	**-1.1**	
	comp=Z,0.9nm,0.4s,baz=148,slow=10,SNR=18									
FINES					LR		LR	00 47 14.4		
	comp=Z,91nm,18.2s,baz=216,slow=41									
	comp=Z,0.9nm,0.4s									
FIA1	**FINESS Array S**	**29.78**	**341**	P		**P**		**00 33 09.0**	**-1.5**	
JOF	**Joensuu**	**29.88**	**347**	*e*P		**P**		**00 33 10.5**	**-0.9**	
MAKZ	**Makanchi**	**30.01**	**55**	P		**P**		**00 33 14.0**	**+1.2**	
MAKZ	**Makanchi**	**30.01**	**55**	P		**P**		**00 33 14.0**	**+1.2**	
MAKZ					pmax		pmax			
	comp=Z,2.0nm,1.1s									
MK31	**Makanchi Array**	**30.22**	**55**	P		**P**		**00 33 15.7**	**+1.0**	
MK31	**Makanchi Array**	**30.22**	**55**	*ce*P		**P**		**00 33 14.6**	**-0.1**	
MKAR	**Makanchi Array**	**30.22**	**55**	P		**P**		**00 33 15.5**	**+0.8**	
MKAR	**Makanchi Array**	**30.22**	**55**	*ce*P		**P**		**00 33 16.2**	**+1.5**	
MKAR					pmax		pmax			
	comp=Z,2.0nm,1.0s									
MKAR	**Makanchi Array**	**30.22**	**55**	P		**P**		**00 33 16.4**	**+1.8**	
	comp=Z,1.9nm,1.0s,baz=253,slow=10.0,SNR=9.4									
	comp=Z,1.9nm,1.0s									
KEF	**Keuruu**	**30.70**	**341**	*e*P		**P**		**00 33 17.9**	**-0.8**	
RAF	**Rauma**	**30.70**	**337**	*e*P		**P**		**00 33 17.7**	**-1.0**	
VIKU	**Vikbolandet**	**30.79**	**330**	*e*P		**P**		**00 33 19.6**	**+0.1**	
SENIN	**Lac Senin/Sane**	**31.19**	**304**	P		**P**		**00 33 22.2**	**-1.3**	
BNI	**Bardonecchia**	**31.45**	**301**	P		**P**		**00 33 25.6**	**-0.1**	
BNI					IAmb		IAmb	00 33 30.6		
	comp=Z,7.4nm,0.9s									
BNI	**Bardonecchia**	**31.45**	**301**	P		**P**		**00 33 25.6**	**-0.1**	
BNI					pmax		pmax			
	comp=Z,7.0nm,0.9s									
VAF	**Ylistaro**	**32.01**	**340**	*e*P		**P**		**00 33 29.4**	**-0.7**	
HFS	**Hagfors**	**33.01**	**331**	P		**P**		**00 33 38.5**	**-0.5**	
	comp=Z,3.6nm,0.4s,baz=133,slow=8.3,SNR=17									
	comp=Z,3.6nm,0.4s									
ZALV	**Zalesovo Beam**	**33.67**	**42**	P		**P**		**00 33 44.4**	**-0.4**	
	comp=Z,0.3nm,0.3s,baz=267,slow=5.8,SNR=2.0									
	comp=Z,0.3nm,0.3s									
WMQ	**Urumqi**	**33.70**	**61**	*e*P		**P**		**00 33 48.3**	**+3.0**	
NOA	**NORSAR Array B**	**34.54**	**331**	P		**P**		**00 33 50.7**	**-1.6**	
	comp=Z,1.0nm,0.7s,baz=125,slow=8.7,SNR=3.7									
NOA					LR		LR	00 49 37.7		
	comp=Z,56nm,19.3s,baz=285,slow=39									
	comp=Z,1.0nm,0.7s									
ARCES	**ARCESS Array B**	**36.88**	**348**	P		**P**		**00 34 11.5**	**-0.8**	
	comp=Z,2.9nm,0.7s,baz=148,slow=7.1,SNR=15									
	comp=Z,2.9nm,0.7s									
EKA	**Eskdalemuir Ar**	**39.34**	**317**	P		**P**		**00 34 32.9**	**-0.2**	
	comp=Z,0.9nm,0.6s,baz=108,slow=7.9,SNR=1.6									
	comp=Z,0.9nm,0.6s									
ESDC	**Sonseca Array**	**39.47**	**293**	P		**P**		**00 34 34.0**	**-0.5**	
	comp=Z,1.0nm,0.8s,baz=64,slow=9.1,SNR=6.0									
	comp=Z,1.0nm,0.8s									
NRIK	**Noril'sk**	**41.91**	**21**	P		**P**		**00 34 54.5**	**+0.3**	
NRIK					IAmb		IAmb	00 35 01.8		
	comp=Z,6.8nm,1.1s									
NRIK	**Noril'sk**	**41.91**	**21**	P		**P**		**00 34 54.5**	**+0.3**	
NRIK					pmax		pmax			
	comp=Z,7.0nm,1.2s									
NRIK	**Noril'sk**	**41.91**	**21**	P		**P**		**00 34 55.0**	**+0.8**	
	comp=Z,2.6nm,0.8s,baz=245,slow=5.0,SNR=8.5									
	comp=Z,2.6nm,0.8s									
TOA0	**Torodi Ar. Sit**	**44.95**	**253**	P		**P**		**00 35 17.1**	**-2.2**	
TORD	**Torodi Ar. Bea**	**44.95**	**253**	P		**P**		**00 35 19.7**	**+0.4**	
TORD	**Torodi Ar. Bea**	**44.95**	**253**	P		**P**		**00 35 19.3**	**-0.1**	
	comp=Z,0.7nm,0.6s,baz=50,slow=6.3,SNR=9.4									
	comp=Z,0.7nm,0.6s									
SPB2	**Spitsbergen Ar**	**45.61**	**352**	P		**P**		**00 35 23.4**	**-0.5**	
SPITS	**Spitsbergen Ar**	**45.62**	**352**	P		**P**		**00 35 24.0**	**+0.1**	
SPITS	**Spitsbergen Ar**	**45.62**	**352**	P		**P**		**00 35 24.0**	**+0.1**	
	comp=Z,4.2nm,0.5s,baz=143,slow=11,SNR=45									
	comp=Z,4.2nm,0.5s									
SONM	**Songino Array**	**46.59**	**54**	LR		LR		00 58 35.1		
	comp=Z,51nm,19.7s,baz=170,slow=40									
LZH	**Lanzhou**	**47.00**	**70**	*e*P		P		00 35 40.5	+5.0	
LZH					pP		sP	00 35 46.0	+0.6	
LZH					pmax		pmax			
	comp=Z,17nm,1.4s									
PZH	**PanZhiHua**	**48.54**	**83**	P		**P**		**00 35 49.5**	**+1.9**	
PZH					pmax		pmax			
	comp=Z,10.0nm,0.5s									
PZH					pmax		pmax			
	comp=Z,130nm,5.6s									
CMAR	**Chiang Mai Arr**	**49.83**	**94**	*i* P		**P**		**00 35 57.9**	**+0.5**	
CMAR					pmax		pmax			
	comp=Z,2.0nm,0.6s									
CMAR	**Chiang Mai Arr**	**49.83**	**94**	P		**P**		**00 35 57.9**	**+0.5**	
	comp=Z,1.4nm,0.5s,baz=300,slow=8.2,SNR=7.9									
CMAR					LR		LR	01 01 06.0		
	comp=Z,23nm,19.1s,baz=285,slow=41									
	comp=Z,1.4nm,0.5s									
HHC	**Hu-ho-hao-te**	**51.56**	**62**	*e*P		**P**		**00 36 11.0**	**+0.7**	
HHC					sP		pP	00 36 18.5	+1.1	
HHC					pmax		pmax			
	comp=Z,6.0nm,0.6s									
HHC					pmax		pmax			
	comp=Z,90nm,4.5s									
XAN	**Xi'an**	**51.59**	**71**	P		**P**		**00 36 11.5**	**+1.0**	
XAN					pmax		pmax			
	comp=Z,14nm,1.1s									
DBIC	**Dimbokro**	**53.98**	**251**	P		**P**		**00 36 26.6**	**-1.7**	
DBIC	**Dimbokro**	**53.98**	**251**	P		**P**		**00 36 26.6**	**-1.7**	
DBIC					pmax		pmax			
	comp=Z,15nm,1.5s									
DBIC	**Dimbokro**	**53.98**	**251**	P		**P**		**00 36 26.6**	**-1.7**	
	comp=Z,3.1nm,0.9s,baz=33,slow=5.6,SNR=4.3									
	comp=Z,3.1nm,0.9s									
TIXI	**Tiksi**	**55.65**	**22**	P		**P**		**00 36 38.8**	**-0.8**	
TIXI					IAmb		IAmb	00 36 45.7		
	comp=Z,2.8nm,0.8s									
TIXI	**Tiksi**	**55.65**	**22**	*ce*P		**P**		**00 36 40.2**	**+0.6**	
TIXI					pmax		pmax			
	comp=Z,3.0nm,1.0s									
TIA	**Tai'an**	**57.15**	**66**	P		P		00 36 57.8	+6.9	
TIA					pmax		pmax			
	comp=Z,4.0nm,1.1s									
MA2	**Magadan**	**68.03**	**32**	LR		LR		01 11 46.6		
	comp=Z,39nm,18.8s,baz=80,slow=39									
TOLK	**Toolik Lake Re**	**76.63**	**6**	P		**P**		**00 38 54.6**	**+0.3**	
TOLK					IAmb		IAmb	00 38 56.1		
	comp=Z,4.8nm,1.1s									
E28M	**Babbage River**	**77.21**	**2**	P		**P**		**00 38 57.4**	**-0.2**	
E28M					IAmb		IAmb	00 39 04.1		
	comp=Z,2.6nm,0.8s									
F17K	**Baldwin Pennin**	**77.36**	**11**	P		**P**		**00 38 58.1**	**-0.3**	
F17K					IAmb		IAmb	00 39 17.8		
	comp=Z,7.5nm,1.4s									
E25K	**Arctic Village**	**77.42**	**4**	P		**P**		**00 38 59.1**	**+0.3**	
E25K					IAmb		IAmb	00 39 06.0		
	comp=Z,3.8nm,1.1s									
E29M	**Blow River**	**77.46**	**1**	P		**P**		**00 38 59.2**	**+0.2**	
E27K	**Coleen River**	**77.56**	**3**	P		**P**		**00 38 59.2**	**-0.3**	
E27K					IAmb		IAmb	00 39 18.5		
	comp=Z,4.9nm,1.1s									
INK	**Inuvik**	**77.58**	**360**	P		**P**		**00 38 58.7**	**-0.9**	
INK					IAmb		IAmb	00 38 59.9		
	comp=Z,6.9nm,1.4s									
INK	**Inuvik**	**77.58**	**360**	P		**P**		**00 38 58.7**	**-0.9**	
INK					pmax		pmax			
	comp=Z,7.0nm,1.4s									
F21K	**Alatna River**	**77.64**	**7**	P		**P**		**00 38 60.0**	**0.0**	
F21K					IAmb		IAmb	00 39 01.8		
	comp=Z,2.4nm,0.9s									
BMAR	**Burnt Mountain**	**78.17**	**4**	P		**P**		**00 39 03.0**	**0.0**	
F28M	**Old Crow**	**78.19**	**2**	P		**P**		**00 39 03.4**	**+0.3**	
F28M					IAmb		IAmb	00 39 05.8		
	comp=Z,5.4nm,1.1s									
G19K	**Purcell Mounta**	**78.24**	**9**	P		**P**		**00 39 03.1**	**-0.3**	
G19K					IAmb		IAmb	00 39 14.7		
	comp=Z,8.7nm,1.5s									
G21K	**Allakaket**	**78.32**	**8**	P		**P**		**00 39 03.3**	**-0.4**	
G21K					IAmb		IAmb	00 39 22.4		
	comp=Z,4.6nm,1.2s									
F31M	**Tsiigehtchic**	**78.45**	**360**	P		**P**		**00 39 03.7**	**-0.7**	
F31M					IAmb		IAmb	00 39 11.4		
	comp=Z,5.3nm,0.8s									
IMAR	**Indian Mountai**	**78.80**	**8**	P		**P**		**00 39 06.1**	**-0.3**	
G30M	**tAoh Zraii Nji**	**78.90**	**1**	P		**P**		**00 39 06.1**	**-0.9**	
G29M	**Pine Creek**	**78.94**	**1**	P		**P**		**00 39 07.5**	**+0.3**	
G31M	**Satah River**	**78.97**	**360**	P		**P**		**00 39 06.4**	**-0.9**	
EPYK	**Eagle Plains**	**79.51**	**1**	P		**P**		**00 39 10.6**	**+0.2**	
EPYK					IAmb		IAmb	00 39 23.0		
	comp=Z,9.5nm,1.2s									
H29M	**Whitestone**	**79.63**	**2**	P		**P**		**00 39 11.1**	**+0.2**	
H29M					IAmb		IAmb	00 39 18.3		
	comp=Z,4.4nm,0.8s									
I28M	**Miner Creek**	**80.36**	**2**	P		**P**		**00 39 14.7**	**-0.4**	
I28M					IAmb		IAmb	00 39 22.0		
	comp=Z,2.5nm,0.8s									
ILAR	**Eielson Array**	**80.65**	**5**	P		**P**		**00 39 16.7**	**+0.2**	
	comp=Z,0.6nm,0.8s,baz=327,slow=3.3,SNR=6.4									
	comp=Z,0.6nm,0.8s									
I30M	**Mount Dempster**	**80.67**	**1**	P		**P**		**00 39 16.4**	**-0.3**	
I30M					IAmb		IAmb	00 39 23.1		
	comp=Z,10nm,1.4s									
BPAW	**Bear Paw Mtn.**	**80.93**	**7**	P		**P**		**00 39 17.8**	**-0.3**	
BPAW					IAmb		IAmb	00 39 36.3		
	comp=Z,5.7nm,1.2s									
J30M	**Hart River**	**81.32**	**1**	P		**P**		**00 39 20.3**	**+0.1**	
J30M					IAmb		IAmb	00 39 35.5		
	comp=Z,7.3nm,1.4s									
SCRK	**Sand Creek**	**81.64**	**4**	P		**P**		**00 39 21.6**	**-0.3**	
SCRK					IAmb		IAmb	00 39 29.4		
	comp=Z,1.8nm,0.8s									
YKA	**Yellowknife Ar**	**82.10**	**351**	*ce*P		**P**		**00 39 23.7**	**-0.5**	
YKA					pmax		pmax			
	comp=Z,2.0nm,1.3s									
YKA	**Yellowknife Ar**	**82.10**	**351**	P		**P**		**00 39 24.0**	**-0.2**	
	comp=Z,0.6nm,0.9s,baz=8.0,slow=5.5,SNR=8.7									
	comp=Z,0.6nm,0.9s									
BCAR	**Beaver Creek A**	**82.67**	**3**	P		**P**		**00 39 27.4**	**+0.2**	
SKT	**Skwentna**	**82.94**	**8**	P		**P**		**00 39 28.4**	**-0.2**	
SKT					IAmb		IAmb	00 39 35.6		
	comp=Z,3.1nm,0.9s									
SUA	**Susitna One**	**83.53**	**8**	P		**P**		**00 39 32.3**	**+0.5**	
KLU	**Klutina**	**83.97**	**6**	P		**P**		**00 39 35.1**	**+1.1**	

IDC ***28*** *00:58:02.8±0.5,41˚.42N×29˚.48W,h0km,mb4.1/25, mbtmp4.1/26,ML4.2/1,MS4.0/76,Error ellipse: s-maj=15.7km s-min=12.3km az=175.0*

NEIC ***28*** *00:58:04.6±2.1,41˚.20N±0˚.08×29˚.4W±0˚.1,h10km±1km, mb4.9/234,Error ellipse: s-maj=14.9km s-min=12.4km az=229.0*

GCMT ***28*** *00:58:04.6±0.2,41˚.52N±0˚.03×29˚.36W±0˚.02,h14km, MW4.8/115,Moment Tensor Solution. s36,c43; s115,c167; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.25±.12; Mθθ0.15±.08; Mϕϕ2.10±.08; Mrθ0.24±.23; Mθϕ0.18±.05; Mϕr=0.16±.15; Best double couple: M=2.20100×10^16 NP1:ϕs359.00000°,δ47.00000°, λ=-98.00000°. NP2:ϕs191.00000°,δ43.00000°, λ=-81.00000°. Principal axes: T 2.1210, Plg2.0000°, Azm95.0000°; N 0.1610, Plg6.0000°, Azm5.0000°; P -2.2810, Plg84.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

SVSA ***28*** *00:58:05.4±1.3,41˚.37N×-29˚.38W,h10km,ML3.8(INMG) Error ellipse: s-maj=9.0km s-min=4.7km az=41.0*

ISC 28 00:58:04.1±0.3, 41˚.14N±0˚.05×29˚.38W±0˚.04, h10km, n345, σ1s77/234, mb4.9/161, MS3.9/83, 9C-13D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
					Op	ISC	h	m	s	ISC
H07N1	**FLORES T-PHASE**	**1.97**	**223**	*e*P		**Pn**	**00**	**58**	**36.5**	**-1.0**
H07S1	**FLORES T-PHASE**	**2.25**	**219**	*e*P		**Pn**	**00**	**58**	**40.5**	**-0.9**
PGRA	**Graciosa**	**2.37**	**153**	*e*P		**Pg**	**00**	**58**	**51.2**	**+1.7**
PCED	**Cedros**	**2.56**	**168**	*e*P		**Pn**	**00**	**58**	**46.6**	**+0.9**
ROSA	**Rosais**	**2.57**	**160**	*e*P		**Pn**	**00**	**58**	**45.6**	**-0.3**
ROSA	**Rosais**	**2.57**	**160**	Pn		**Pn**	**00**	**58**	**44.8**	**-1.1**
CALA	**Caldeira**	**2.61**	**168**	*e*P		**Pn**	**00**	**58**	**47.1**	**+0.6**
HOR	**Horta**	**2.68**	**167**	*e*P		**Pn**	**00**	**58**	**47.1**	**-0.2**
PSBA	**Serra de Santa**	**2.85**	**146**	*e*P		**Pn**	**00**	**58**	**48.5**	**-1.2**
PSBA				*e*S		**Sn**	**00**	**59**	**21.4**	**-2.7**
PSBA				A		A	00	59	23.1	
	61nm,0.3s									
PID	**Ribeirinha**	**2.87**	**160**	*e*P		**Pn**	**00**	**58**	**49.5**	**-0.4**
PID				*e*S		**Sn**	**00**	**59**	**23.5**	**-1.0**
PID				A		A	00	59	24.9	
	33nm,0.3s									
PAGU	**Agualva, Azore**	**2.91**	**144**	*e*P		**Pn**	**00**	**58**	**49.3**	**-1.2**
PAGU				*e*S		**Sn**	**00**	**59**	**22.3**	**-3.2**
PAGU				A		A	00	59	24.1	
	29nm,0.3s									
ADH	**Angra Heroismo**	**2.98**	**146**	*e*P		**Pn**	**00**	**58**	**49.5**	**-2.0**
ADH				*e*S		**Sn**	**00**	**59**	**23.6**	**-3.7**
ADH				A		A	00	59	24.3	
	6.9nm,0.1s									
PSCM	**Serra do Cume**	**3.00**	**144**	*e*P		**Pn**	**00**	**58**	**50.4**	**-1.3**
PSCM				*e*S		**Sn**	**00**	**59**	**25.0**	**-2.7**
PSCM				A		A	00	59	27.6	
	21nm,0.1s									
PSET	**Sete Cidades**	**4.36**	**138**	*e*P		**Pn**	**00**	**59**	**09.9**	**-0.5**
PSET				*e*S		**Sn**	**00**	**59**	**58.4**	**-2.9**
PSET				A		A	01	00	03.5	
	32nm,0.3s									
PDA	**Ponta Delgada**	**4.45**	**139**	*e*P		**Pn**	**00**	**59**	**10.7**	**-0.9**
PDA				*e*S		**Sn**	**00**	**59**	**59.4**	**-4.0**
PDA				A		A	01	00	02.9	
	12nm,0.3s									
PCALD	**Caldeiras da R**	**4.50**	**137**	*e*P		**Pn**	**00**	**59**	**11.8**	**-0.5**
PCALD				*e*S		**Sn**	**01**	**00**	**01.6**	**-3.1**
PCALD				A		A	01	00	02.7	
	37nm,0.1s									
CMLA	**Cha da Macela**	**4.50**	**137**	*e*P		**Pn**	**00**	**59**	**11.7**	**-0.7**
CMLA				*e*S		**Sn**	**01**	**00**	**01.7**	**-3.2**
CMLA				A		A	01	00	02.5	
	25nm,0.3s									
CMLA	**Cha da Macela**	**4.50**	**137**	Pn		**Pn**	**00**	**59**	**11.3**	**-1.1**
PGRON	**Lagoa das Cont**	**4.58**	**136**	*e*P		**Pn**	**00**	**59**	**13.3**	**-0.1**
BART	**Pico Bartolome**	**4.68**	**135**	*e*P		**Pn**	**00**	**59**	**14.4**	**-0.5**
BART				*e*S		**Sn**	**01**	**00**	**05.9**	**-3.4**
BART				A		A	01	00	12.2	
	18nm,0.1s									
PSMA	**Santa Maria**	**5.30**	**140**	*e*P		**Pn**	**00**	**59**	**23.2**	**-0.1**
PSMN	**Pico do Norte,**	**5.32**	**140**	*e*P		**Pn**	**00**	**59**	**22.9**	**-0.8**
PMOZ	**Porto Moniz, M**	**12.79**	**127**	*e*P		**Pn**	**01**	**01**	**07.8**	**+1.7**
	161nm,1.9s									
PMOZ				*e*LQ		LQ	01	03	43.3	
PMOZ				*e*LR		LR	01	04	04.2	
	380nm,20.0s									
PMAR	**Madeira**	**13.03**	**126**	*e*P		**Pn**	**01**	**01**	**11.9**	**+2.5**
	108nm,1.2s									
PMPST	**Porto Santo, M**	**13.15**	**124**	*e*P		**Pn**	**01**	**01**	**14.7**	**+3.8**
PGAV	**Gavieira, Arco**	**15.82**	**80**	*e*P		**P**	**01**	**01**	**50.5**	**-0.4**
	48nm,1.6s									
PGAV				*e*LR		LR	01	05	18.2	
	856nm,20.0s									
PCAS	**Casmilo, Conde**	**15.90**	**87**	*e*P		**P**	**01**	**01**	**53.1**	**+1.5**
	41nm,1.4s									
PCAS				*e*LQ		LQ	01	05	20.2	
PACT	**Alcochete**	**15.93**	**92**	*e*P		**P**	**01**	**01**	**52.5**	**+0.6**
	147nm,2.5s									
COI	**Coimbra**	**15.94**	**86**	*e*P		**P**	**01**	**01**	**50.7**	**-1.3**
COI				*e*LQ		LQ	01	05	11.8	
COI	**Coimbra**	**15.94**	**86**	Pn		**Pn**	**01**	**01**	**49.8**	**+1.4**
POLO	**Lamas de Olo**	**16.23**	**82**	*e*P		**P**	**01**	**01**	**54.0**	**-1.4**
PVIS	**Viseu**	**16.24**	**84**	*e*P		**Pn**	**01**	**01**	**51.4**	**-1.0**
PVRL	**Vila Real**	**16.30**	**82**	*e*P		**P**	**01**	**01**	**57.0**	**+0.9**
	34nm,1.7s									
PMTG	**Montargil**	**16.32**	**90**	*e*P		**Pn**	**01**	**01**	**52.9**	**-0.4**
	36nm,1.5s									
PMTG				*e*LQ		LQ	01	05	14.9	
PNCL	**Nicolau / Gran**	**16.34**	**94**	*e*P		**Pn**	**01**	**01**	**54.8**	**+1.2**
	25nm,1.4s									
PNCL				*e*LQ		LQ	01	05	41.5	
PTEO	**Sao Teotonio**	**16.37**	**96**	*e*P		**P**	**01**	**01**	**56.0**	**-0.8**
	55nm,1.7s									
PFVI	**Vila Bisbo**	**16.43**	**97**	*e*P		**P**	**01**	**01**	**57.5**	**-0.1**
	56nm,2.1s									
MORF	**Marmelete**	**16.51**	**97**	*e*P		**Pn**	**01**	**01**	**56.1**	**+0.4**
	48nm,1.9s									
MORF				*e*LQ		LQ	01	05	13.6	
MTE	**Manteigas**	**16.56**	**85**	*e*P		**P**	**01**	**02**	**02.5**	**+3.5**
	19nm,1.5s									
MTE				*e*LQ		LQ	01	05	29.1	
MTE				*e*LR		LR	01	05	43.5	
	879nm,20.0s									
EVO	**Evora**	**16.61**	**92**	*e*P		**Pn**	**01**	**01**	**56.9**	**-0.2**
	29nm,1.4s									
MESJ	**Messejana**	**16.66**	**95**	*e*P		**P**	**01**	**01**	**59.1**	**-0.9**
	37nm,1.8s									
PCBR	**Castelo Branco**	**16.71**	**87**	*e*P		**Pn**	**01**	**01**	**59.1**	**+0.8**
	34nm,1.7s									
MVO	**Moncorvo**	**16.83**	**83**	*e*Sn		**Sn**	**01**	**05**	**09.8**	**+2.9**
MVO				*e*LR		LR	01	05	47.4	
	564nm,20.0s									
PCVE	**Castro Verde**	**16.86**	**95**	*e*P		**P**	**01**	**02**	**02.0**	**-0.3**
	38nm,1.6s									
PBEJ	**Beja**	**16.87**	**94**	P		**P**	**01**	**02**	**04.2**	**+1.8**
PBDV	**Barranco-do-Ve**	**17.07**	**96**	*e*P		**P**	**01**	**02**	**06.4**	**+1.8**
	36nm,1.7s									
PBDV				*e*LQ		LQ	01	04	09.1	
PBAR	**Barrancos**	**17.45**	**92**	*e*P		**P**	**01**	**02**	**10.6**	**+1.8**
	37nm,1.4s									
PBAR				*e*LQ		LQ	01	05	52.8	
ESDC	**Sonseca Array**	**19.39**	**86**	P		**Pn**	**01**	**02**	**31.9**	**+0.5**
ESDC	**Sonseca Array**	**19.39**	**86**	P		**Pn**	**01**	**02**	**32.5**	**+1.1**
	0.2nm,0.3s,baz=288,slow=13,SNR=9.6									
ESDC					LR		LR	01	08	33.2
	comp=Z,740nm,20.5s,baz=260,slow=32									
	2.4nm,1.1s									
DRLN	**Deer Lake**	**21.32**	**302**	P		**P**	**01**	**02**	**50.7**	**-0.3**
MDT	**Midelt**	**21.41**	**105**	P		**P**	**01**	**02**	**53.8**	**+1.6**
	9.2nm,1.1s,baz=285,slow=11,SNR=8.8									
MDT					LR		LR	01	09	25.2
	comp=Z,428nm,20.9s,baz=296,slow=32									
	9.2nm,1.1s									
EKA	**Eskdalemuir Ar**	**22.33**	**42**	P		**P**	**01**	**03**	**00.3**	**-1.4**
	1.1nm,0.7s,baz=238,slow=8.0,SNR=2.1									
	1.1nm,0.7s									
BORG	**Borgarnes**	**24.10**	**8**	LR		LR	01	09	59.8	
	comp=Z,281nm,20.6s,baz=192,slow=30									
DOU	**Dourbes**	**25.21**	**58**	*d*P		**P**	**01**	**03**	**30.8**	**+1.1**
	comp=Z,6.3nm,1.4s									
BMRD	**Maredsous**	**25.34**	**57**	*d*P		**P**	**01**	**03**	**34.1**	**+3.1**
BGES	**Gesves**	**25.56**	**57**	*d*P		**P**	**01**	**03**	**32.7**	**-0.3**
	comp=Z,11nm,1.1s									
RCHB	**Rochefort**	**25.62**	**58**	*d*P		**P**	**01**	**03**	**37.0**	**+3.5**
BCLA	**Clavier**	**25.70**	**57**	*d*P		**P**	**01**	**03**	**37.8**	**+3.5**
	comp=Z,11nm,1.2s									
BSTI	**Sart Tilman**	**25.89**	**57**	*d*P		**P**	**01**	**03**	**40.3**	**+4.4**
WLF	**Walferdange**	**26.16**	**59**	*d*P		**P**	**01**	**03**	**40.9**	**+2.5**
BTNL	**Ternell**	**26.25**	**57**	*d*P		**P**	**01**	**03**	**39.7**	**+0.5**
NUUK	**Nuuk**	**26.47**	**338**	*i* P		**P**	**01**	**03**	**41.6**	**+0.5**
NUUK					IAmb		IAmb	01	03	45.6
	comp=Z,10nm,0.9s									
ECH	**Echery**	**26.73**	**62**	P		**P**	**01**	**03**	**44.3**	**+0.6**
DY2G	**Dye2**	**27.07**	**345**	*i* P		**P**	**01**	**03**	**49.7**	**+2.9**
DY2G					IAmb		IAmb	01	03	54.6
	comp=Z,3.7nm,0.7s									
SCHQ	**Schefferville**	**28.18**	**312**	LR		LR	01	13	11.8	
	comp=Z,412nm,21.0s,baz=88,slow=32									
SFJD	**Kangerlussuaq**	**28.43**	**343**	LR		LR	01	12	37.6	
	comp=Z,232nm,19.7s,baz=153,slow=31									
ICESG	**Greenland Ices**	**28.53**	**352**	*i* P		**P**	**01**	**04**	**02.6**	**+2.7**
ICESG					IAmb		IAmb	01	04	07.9
	comp=Z,4.0nm,0.7s									
DAVOX	**Davos/Dischmat**	**28.60**	**65**	LR		LR	01	13	37.6	
	comp=Z,342nm,20.8

comp=Z,1.3nm,0.7s,baz=272,slow=6.7,SNR=2.7
FINES LR LR 01 19 46.7
comp=Z,164nm,19.6s,baz=246,slow=34
comp=Z,1.3nm,0.7s
BUR08 Bucovina Ar. S 38.84 61 P **P 01 05 29.1 -0.3**
BURAR Bucovina Array 38.86 62 ⇑P **P 01 05 29.8 +0.3**
BURAR Bucovina Array 38.86 62 P **P 01 05 29.6 +0.2**
TOA0 Torodi Ar. Sit 38.90 127 P **P 01 05 30.3 +0.3**
TORD Torodi Ar. Bea 38.90 127 P **P 01 05 29.8 -0.2**
TORD Torodi Ar. Bea 38.90 127 P **P 01 05 31.6 +1.6**
comp=Z,1.9nm,0.9s,baz=354,slow=9.1,SNR=8.9
TORD PcP **PcP 01 07 41.1 +0.3**
comp=Z,0.6nm,0.9s,baz=264,slow=1.3,SNR=3.8
TORD LR LR 01 19 50.8
comp=Z,179nm,21.9s,baz=325,slow=33
comp=Z,1.9nm,0.9s
NACGM Naroch 38.93 50 *e*P **P 01 05 28.5 -1.3**
comp=Z,15nm,1.0s,baz=274
P53A Whipple 39.21 285 P **P 01 05 34.0 +1.7**
P53A IAmb IAmb 01 05 39.0
comp=Z,40nm,1.4s
VOIR 39.22 65 ⇓P **P 01 05 31.1 -1.4**
MNK Minsk 39.59 50 *i* P **P 01 05 34.0 -1.3**
comp=E,9.0nm,1.0s
MNK *i* P **P 01 05 34.0 -1.3**
comp=N,8.0nm,1.1s
MNK *i* P **P 01 05 34.0 -1.3**
comp=Z,10.0nm,0.9s,baz=274
MNK *i* PP **PP 01 07 05.9 -0.1**
MNK *i* PPP PPP 01 07 29.4
MNK *i* S **S 01 11 39.2 +1.3**
MNK *i* SS **SnSn 01 14 34.4 +0.3**
MNK *i* SSS SSS 01 14 55.5
MNK *i* LQ LQ 01 17 42.6
MNK *i* LR LR 01 19 50.8
MNK *i* LRM MLR 01 21 45.5
comp=N,169nm,14.1s
MNK *i* LRM MLR 01 22 00.4
comp=Z,312nm,16.2s
MNK *i* LRM MLR 01 22 02.3
comp=E,96nm,16.6s
MLR Muntele Rosu 39.81 65 ⇑P **P 01 05 37.4 -0.1**
MLR Muntele Rosu 39.81 65 P **P 01 05 36.8 -0.7**
ARCES ARCESS Array B 39.97 27 LR LR 01 19 02.2
comp=E,105nm,20.5s,baz=266,slow=32
VRI Vrincioaia 40.26 64 ⇓P **P 01 05 38.5 -2.6**
P51A Williamsport 40.42 286 P **P 01 05 42.1 -0.4**
P51A IAmb IAmb 01 05 48.2
comp=Z,26nm,1.2s
ELND Elena 40.45 68 ⇑P **P 01 05 40.7 -2.0**
DBIC Dimbokro 40.70 141 P **P 01 05 45.2 +0.3**
DBIC IAmb IAmb 01 05 53.3
comp=Z,24nm,1.1s
DBIC Dimbokro 40.70 141 P **P 01 05 47.1 +2.2**
comp=Z,8.0nm,1.0s,baz=334,slow=6.1,SNR=6.4
DBIC LR LR 01 20 56.2
comp=Z,219nm,20.2s,baz=322,slow=34
comp=Z,8.0nm,1.0s
RDO Rodhopi 40.76 71 P **P 01 05 46.2 +1.0**
Q51A Peebles 40.79 285 P **P 01 05 45.3 -0.3**
Q51A IAmb IAmb 01 05 51.5
comp=Z,22nm,1.1s
AKASG Malin Array Be 40.88 56 P **P 01 05 44.7 -1.4**
comp=Z,1.6nm,0.6s,baz=276,slow=8.4,SNR=5.5
AKASG LR LR 01 22 22.0
comp=Z,287nm,18.3s,baz=271,slow=36
comp=Z,1.6nm,0.6s
AKBB Malin Array Si 40.88 56 P **P 01 05 47.8 +1.7**
CFR Carcaliu 41.39 64 ⇑P **P 01 05 47.5 -2.8**
MDP Montagnes des 41.49 216 LR LR 01 19 05.8
comp=Z,93nm,21.7s,baz=26,slow=30
O48B Farmland 41.67 288 P **P 01 05 53.6 +0.8**
TIRR Tirgusor 41.78 65 ⇑P **P 01 05 52.2 -1.3**
TIRR Tirgusor 41.78 65 P **P 01 05 51.9 -1.6**
TIRR IAmb IAmb 01 05 57.7
comp=Z,30nm,1.0s
TKL Tuckaleechee C 42.40 281 LR LR 01 22 24.6
comp=Z,331nm,18.8s,baz=77,slow=35
FCC Fort Churchill 43.32 317 P **P 01 06 05.8 -0.1**
G40A Rib Lake 43.61 297 P **P 01 06 09.6 +1.1**
G40A IAmb IAmb 01 06 13.3
comp=Z,35nm,1.6s
EYMN Ely 43.73 301 P **P 01 06 09.9 +0.6**
PCRV Puerto La Cruz 43.76 235 LR LR 01 22 18.8
comp=Z,132nm,19.7s,slow=33
E38A The Farm, Brul 44.13 299 P **P 01 06 12.8 +0.2**
E38A IAmb IAmb 01 06 17.7
comp=Z,18nm,1.1s
L42A Oliver, Polo 44.28 292 P **P 01 06 13.9 0.0**
L42A IAmb IAmb 01 06 19.3
comp=Z,37nm,1.4s
RES Resolute Bay 44.35 340 P **P 01 06 13.0 -1.0**
RES Resolute Bay 44.35 340 LR LR 01 21 11.4
comp=Z,75nm,19.8s,baz=40,slow=32
OBN Obninsk 44.49 48 LR LR 01 25 04.7
comp=Z,130nm,18.7s,baz=179,slow=37
B35A Bob, Littlefor 45.05 302 P **P 01 06 20.2 +0.2**
B35A IAmb IAmb 01 06 24.8
comp=Z,23nm,1.6s
L40A Anamosa 45.34 293 P **P 01 06 21.9 -0.4**
L40A IAmb IAmb 01 06 28.1
comp=Z,24nm,1.2s
N41A Harden Midland 45.57 291 P **P 01 06 23.6 -0.5**
N41A IAmb IAmb 01 06 29.9
comp=Z,22nm,1.1s
S44A Carbondale 45.59 286 P **P 01 06 24.0 -0.4**
S44A IAmb IAmb 01 06 34.5
comp=Z,22nm,1.3s
F36A Milaca 45.65 298 P **P 01 06 24.8 +0.1**
ULM Lac du Bonnet 45.90 305 LR LR 01 24 17.2
comp=Z,375nm,20.4s,baz=96,slow=34
SLM Saint Louis 45.92 288 P **P 01 06 27.8 +0.8**
I37A Lemond, Waseca 46.17 296 P **P 01 06 29.3 +0.4**
I37A IAmb IAmb 01 06 35.0
comp=Z,27nm,1.3s
PBMO Poplar Bluff 46.82 286 IAmb IAmb 01 06 39.2
comp=Z,16nm,1.2s
BAUV El Baul 46.85 238 P **P 01 06 35.5 +1.0**
CCM Cathedral Cave 46.88 288 P **P 01 06 35.3 +0.8**
CCM IAmb IAmb 01 06 39.8
comp=Z,15nm,1.2s
BRTR Keskin Array B 47.04 70 P **P 01 06 35.3 -0.6**
comp=Z,1.7nm,0.8s,baz=289,slow=4.4,SNR=4.4
BRTR LR LR 01 27 20.4
comp=Z,98nm,18.0s,baz=282,slow=37
comp=Z,1.7nm,0.8s
RCBR Riachuelo 47.12 189 LR LR 01 22 59.0
comp=Z,44nm,20.3s,baz=305,slow=32
N38A Joes South For 47.22 292 P **P 01 06 37.9 +0.8**
N38A IAmb IAmb 01 06 48.1
comp=Z,20nm,1.2s
P38A Dawn 47.88 290 P **P 01 06 42.0 -0.3**
FFC Flin Flon 48.33 312 P **P 01 06 44.4 -1.1**
ECSD EROS Data Cent 48.44 297 P **P 01 06 46.0 -0.5**
ECSD IAmb IAmb 01 06 51.9
comp=Z,10nm,1.1s
S39A Bolivar 48.53 288 IAmb IAmb 01 06 52.5
comp=Z,17nm,1.2s
SDV Santo Domingo 48.57 240 LR LR 01 22 23.0
comp=Z,49nm,21.8s,baz=100,slow=30
CCAR Cane Creek 49.07 283 P **P 01 06 50.7 -0.8**
MIAR Mount Ida 50.11 284 P **P 01 06 58.4 -1.0**
MIAR IAmb IAmb 01 07 04.9
comp=Z,27nm,1.2s
KIRV Kirov 50.56 42 LR LR 01 27 35.1
comp=Z,134nm,19.3s,baz=284,slow=35
TUL3 Leonard 51.09 287 P **P 01 07 06.8 0.0**
TUL3 IAmb IAmb 01 07 11.3
comp=Z,16nm,1.3s
MMAI Mount Meron Ar 51.26 77 LR LR 01 29 39.0
comp=Z,40nm,18.1s,baz=214,slow=37
KVAR Kislovodsk Arr 51.59 61 LR LR 01 29 48.7
comp=Z,68nm,18.5s,baz=305,slow=37
OK048 Pawnee Station 51.69 288 IAmb IAmb 01 07 16.2
comp=Z,24nm,1.3s
KBZ Khabaz 51.82 61 P **P 01 07 13.6 +1.5**
comp=Z,5.8nm,0.9s,baz=285,slow=5.9,SNR=7.7
KBZ LR LR 01 29 11.4
comp=Z,112nm,19.2s,baz=320,slow=36
comp=Z,5.8nm,0.9s
OK033 Mehan 51.86 288 P **P 01 07 11.6 -1.0**
OK029 Liberty Lake 52.34 288 P **P 01 07 15.5 -0.7**
YKA Yellowknife Ar 52.43 324 P **P 01 07 14.4 -2.0**
comp=Z,1.3nm,1.0s,baz=63,slow=7.4,SNR=8.8
YKA PcP **PcP 01 08 25.3 -1.7**
comp=Z,0.9nm,0.9s,baz=60,slow=4.1,SNR=6.5
YKA LR LR 01 26 59.4
comp=Z,128nm,18.6s,baz=360,slow=33
comp=Z,1.3nm,1.0s
EIL Elat 52.59 81 LR LR 01 30 50.2
comp=Z,73nm,18.3s,baz=290,slow=37
ASF Jabal al Asfar 52.77 77 LR LR 01 30 27.4
comp=Z,54nm,20.2s,baz=22,slow=37
A36M Sachs Harbour 53.21 337 IAmb IAmb 01 08 46.7
comp=Z,18nm,0.8s
TEIG Tepich 53.73 266 LR LR 01 25 58.9
comp=Z,1µm,21.9s,slow=31
WMOK Wichita Mounta 53.80 287 IAmb IAmb 01 07 31.2
comp=Z,34nm,1.9s
PLPT Palo Pinto 54.40 285 IAmb IAmb 01 07 36.6
comp=Z,13nm,1.1s
GNI Garni 54.59 65 LR LR 01 32 28.1
comp=Z,53nm,19.2s,baz=304,slow=38
SMWD Samnorwood 54.67 288 P **P 01 07 33.3 -0.1**
SMWD IAmb IAmb 01 07 38.8
comp=Z,21nm,1.4s
APMT Aspermont 55.46 286 P **P 01 07 37.8 -1.3**
APMT IAmb IAmb 01 07 44.0
comp=Z,21nm,1.4s
K22A Casper 55.50 299 IAmb IAmb 01 07 44.4
comp=Z,25nm,1.2s
BRDY Brady 55.68 284 IAmb IAmb 01 07 45.5
comp=Z,15nm,1.2s
N23A Red Feather La 55.91 297 IAmb IAmb 01 07 48.3
comp=Z,22nm,1.2s
ARU Arti 55.94 42 P **P 01 07 40.7 -1.4**
ARU IAmb IAmb 01 07 47.3
comp=Z,14nm,0.9s
ARU Arti 55.94 42 LR LR 01 32 01.8
comp=Z,112nm,18.2s,baz=231,slow=36
RLMT Red Lodge 56.17 303 IAmb IAmb 01 07 49.9
comp=Z,14nm,1.4s
Q24A Divide 56.27 295 IAmb IAmb 01 07 50.6
comp=Z,13nm,1.2s
YMP Mirror Lake Pl 56.90 303 P **P 01 07 48.4 -1.2**
MSTX Muleshoe 57.05 288 IAmb IAmb 01 07 55.8
comp=Z,18nm,1.1s
SRBA San Rafael, Bu 57.12 252 P **P 01 07 51.9 +0.7**
SRBA IAmb IAmb 01 07 58.7
comp=Z,24nm,1.3s
INK Inuvik 57.33 335 LR LR 01 29 30.4
comp=Z,98nm,18.6s,baz=3.0,slow=33
PDAR Pinedale Array 57.43 301 P **P 01 07 50.9 -2.3**
PDAR Pinedale Array 57.43 301 P **P 01 07 51.5 -1.8**
comp=Z,2.1nm,0.9s,baz=65,slow=7.0,SNR=11
PDAR LR LR 01 32 25.1
comp=Z,298nm,18.1s,baz=76,slow=36
comp=Z,2.1nm,0.9s
BOZ Bozeman (W) 57.44 304 IAmb IAmb 01 07 58.4
comp=Z,17nm,1.2s
YFT Old Faithful 57.47 303 IAmb IAmb 01 08 00.3
comp=Z,23nm,1.4s
FLWY Flag Ranch 57.55 302 P **P 01 07 53.4 -0.7**
JTS Las Juntas de 57.55 254 LR LR 01 28 10.6
comp=Z,206nm,21.6s,baz=77,slow=31
DRIO Del Rio 57.84 283 P **P 01 07 54.8 -1.3**
SNOW Snow King Moun 57.88 302 IAmb IAmb 01 08 01.8
comp=Z,11nm,1.1s
TPAW Teton Pass 57.99 302 IAmb IAmb 01 08 01.5
comp=Z,12nm,1.2s
MTO3 Montecristo 58.12 261 P **P 01 07 58.8 +0.5**
AKTO Aktyubinsk 58.27 49 LR LR 01 32 18.2
comp=Z,137nm,21.4s,baz=335,slow=35
G31M Satah River 58.27 333 P **P 01 07 58.2 -0.2**
G31M IAmb IAmb 01 08 02.9
comp=Z,17nm,1.2s
MNHN Monahans 58.40 286 IAmb IAmb 01 08 05.0
comp=Z,12nm,1.3s
AHID Auburn Hatcher 58.43 301 IAmb IAmb 01 08 05.3
comp=Z,22nm,1.6s
RDMU Red Mountain 58.49 298 IAmb IAmb 01 08 06.2
comp=Z,14nm,1.3s
SAND Sanderson 58.66 284 IAmb IAmb 01 08 06.8
comp=Z,13nm,1.3s
E29M Blow River 58.67 336 IAmb IAmb 01 08 05.8
comp=Z,13nm,1.4s
SAML Samuel 58.75 220 P **P 01 08 02.4 0.0**
G30M tAoh Zraii Nji 58.90 334 IAmb IAmb 01 08 03.7
comp=Z,13nm,1.5s
CCIG Comitan 59.03 265 P **P 01 08 04.4 -0.2**
BDFB Brasilia 59.08 201 P **P 01 08 06.7 +2.0**
comp=Z,3.1nm,0.8s,baz=359,slow=5.1,SNR=5.6
comp=Z,3.1nm,0.8s
ANMO Albuquerque 59.17 291 P **P 01 08 05.3 -0.2**
ANMO Albuquerque 59.17 291 LR LR 01 33 31.8
comp=Z,238nm,18.0s,baz=164,slow=36
BSUT Blindstream Ca 59.30 299 IAmb IAmb 01 08 11.8
comp=Z,11nm,1.2s
EPYK Eagle Plains 59.40 333 IAmb IAmb 01 08 13.7
comp=Z,21nm,1.4s
P18A Preston Nutter 59.41 298 IAmb IAmb 01 08 20.9
comp=Z,9.0nm,1.2s
NEW Newport 59.50 309 P **P 01 08 06.5 -0.8**
comp=Z,11nm,1.0s,baz=59,slow=7.1,SNR=13
NEW LR LR 01 32 37.3
comp=Z,256nm,18.0s,baz=64,slow=35
comp=Z,11nm,1.0s
G29M Pine Creek 59.53 334 IAmb IAmb 01 08 14.4
comp=Z,17nm,1.2s
ALPN Alpine 59.55 285 IAmb IAmb 01 08 12.3
comp=Z,28nm,1.9s
F28M Old Crow 59.72 335 P **P 01 08 08.8 +0.3**
F28M IAmb IAmb 01 08 12.9
comp=Z,26nm,1.6s
E27K Coleen River 59.92 336 IAmb IAmb 01 08 14.6
comp=Z,18nm,1.3s
ABKAR Akbulak array 59.93 49 P **P 01 08 09.2 -1.1**
HVU Hansel Valley 60.00 301 IAmb IAmb 01 08 16.1
comp=Z,9.1nm,1.1s
SPUT South Promonto 60.02 300 IAmb IAmb 01 08 16.4
comp=Z,16nm,1.2s
H29M Whitestone 60.03 334 IAmb IAmb 01 08 17.3
comp=Z,18nm,1.4s
TXAR Lajitas Array 60.13 284 P **P 01 08 11.7 -0.3**
comp=Z,2.7nm,0.9s,baz=74,slow=6.4,SNR=21
TXAR LR LR 01 34 48.8
comp=Z,67nm,18.7s,baz=56,slow=37
comp=Z,2.7nm,0.9s
TX31 Lajitas Ar. Si 60.13 284 IAmb IAmb 01 08 17.7
comp=Z,11nm,1.3s
VHRN Van Horn 60.30 286 IAmb IAmb 01 08 19.1
comp=Z,14nm,1.3s
NRIK Noril'sk 60.57 21 P **P 01 08 14.2 0.0**
NRIK Noril'sk 60.57 21 P **P 01 08 14.3 0.0**
comp=Z,0.8nm,0.4s,baz=158,slow=4.2,SNR=3.6
comp=Z,0.8nm,0.4s
BGU Big Grassy Mou 60.59 300 IAmb IAmb 01 08 20.3
comp=Z,14nm,1.3s
CMIG Mas Romero 60.60 267 LR LR 01 33 31.9
comp=Z,186nm,18.8s,baz=48,slow=35
D25K Kavik River 60.60 339 IAmb IAmb 01 08 19.2
comp=Z,24nm,1.8s
G27K Doyon Strip 60.76 335 IAmb IAmb 01 08 20.4
comp=Z,13nm,1.4s
DUG Dugway, Tooele 60.82 299 IAmb IAmb 01 08 22.2
comp=Z,19nm,1.2s
ETMB Extrema 61.01 222 P **P 01 08 17.8 -0.1**
ETMB IAmb IAmb 01 08 26.9
comp=Z,26nm,2.0s
DLBC Dease Lake 61.05 324 LR LR 01 33 20.4
comp=Z,97nm,18.8s,baz=113,slow=35
E25K Arctic Village 61.14 337 IAmb IAmb 01 08 26.0
comp=Z,16nm,1.6s
BMO Blue Mountains 61.31 306 IAmb IAmb 01 08 23.6
comp=Z,8.5nm,1.1s
D24K Happy Valley 61.37 339 IAmb IAmb 01 08 24.1
comp=Z,16nm,1.2s
121A Cookes Peak, D 61.38 289 IAmb IAmb 01 08 27.2
comp=Z,8.9nm,1.1s
MTPU Mount Pierson 61.52 297 P **P 01 08 20.8 -0.9**
MTPU IAmb IAmb 01 08 35.9
comp=Z,24nm,2.0s
M30M Minto, Yukon 61.56 330 P **P 01 08 24.6 +3.5**
M30M IAmb IAmb 01 08 30.0
comp=Z,22nm,1.6s
DAWY Dawson 61.64 332 IAmb IAmb 01 08 26.9
comp=Z,11nm,1.2s
X18A Snowflake 61.84 293 IAmb IAmb 01 08 29.5
comp=Z,8.8nm,1.2s
PKCU Pink Cliffs 61.92 296 P **P 01 08 23.5 -0.8**
PKCU IAmb IAmb 01 08 29.9
comp=Z,12nm,1.2s
TOLK Toolik Lake Re 61.92 339 IAmb IAmb 01 08 33.3
comp=Z,15nm,1.5s
ELK Elko 62.12 301 IAmb IAmb 01 08 31.4
comp=Z,11nm,1.2s
ELK Elko 62.12 301 LR LR 01 35 07.8
comp=Z,180nm,18.4s,baz=68,slow=36
PSUT Pine Spring 62.38 298 P **P 01 08 26.7 -0.6**
PSUT IAmb IAmb 01 08 33.1
comp=Z,8.9nm,1.1s
SPR3 Spring Creek 3 62.45 299 IAmb IAmb 01 08 33.4
comp=Z,16nm,1.6s
KNB Kanab 62.49 296 IAmb IAmb 01 08 33.0
comp=Z,14nm,1.4s
CCUT Cedar City 62.57 297 IAmb IAmb 01 08 34.6
comp=Z,11nm,1.1s
G24K Hadweenzic Riv 62.62 337 IAmb IAmb 01 08 33.9
comp=Z,16nm,1.5s
PRP Porcupine Dome 62.80 335 P **P 01 08 30.0 +0.4**
PRP IAmb IAmb 01 08 35.0
comp=Z,18nm,1.5s
CBB Campbell River 63.25 314 P **P 01 08 33.5 +0.9**
J25K Salcha River, 63.34 334 IAmb IAmb 01 08 40.5
comp=Z,16nm,1.6s
BBB Bella Bella 63.52 317 LR LR 01 35 17.4
comp=Z,94nm,19.6s,baz=58,slow=35
BMN Battle Mountai 63.57 302 IAmb IAmb 01 08 40.1
comp=Z,21nm,1.7s
BVAR Borovoye Array 63.58 42 P **P 01 08 34.2 -0.6**
comp=Z,3.7nm,0.9s,baz=294,slow=4.7,SNR=9.8
BVAR LR LR 01 36 06.8
comp=Z,103nm,19.3s,baz=298,slow=36
comp=Z,3.7nm,0.9s
ILAR Eielson Array 63.72 335 P **P 01 08 34.1 -1.4**
ILAR Eielson Array 63.72 335 P **P 01 08 33.9 -1.6**
comp=Z,1.0nm,1.0s,baz=46,slow=4.9,SNR=4.6
ILAR LR LR 01 33 22.9
comp=Z,78nm,19.8s,baz=98,slow=33
comp=Z,1.0nm,1.0s
H23K Yukon River 63.83 337 IAmb IAmb 01 08 41.8
comp=Z,13nm,1.4s
F21K Alatna River 63.97 339 IAmb IAmb 01 08 42.4
comp=Z,13nm,1.3s
C19K Lookout Ridge 64.09 342 IAmb IAmb 01 08 46.3
comp=Z,15nm,1.2s
D19K Kuna River 64.22 341 IAmb IAmb 01 08 43.1
comp=Z,12nm,1.4s
W13A Hualapai Mount 64.25 295 IAmb IAmb 01 08 45.5
comp=Z,17nm,1.5s
Y14A Wickenburg 64.28 293 IAmb IAmb 01 08 46.4
comp=Z,15nm,1.5s
WRH Wood River Hil 64.31 335 P **P 01 08 40.9 +1.5**
G21K Allakaket 64.49 338 IAmb IAmb 01 08 44.8
comp=Z,9.9nm,1.4s
J05D Fort Rock, OR 64.54 306 P **P 01 08 41.4 0.0**
J05D IAmb IAmb 01 08 47.0
comp=Z,14nm,1.1s
NEA2 Nenana 64.54 335 IAmb IAmb 01 08 45.1
comp=Z,13nm,1.3s
V12A Nelson 64.56 296 IAmb IAmb 01 08 47.7
comp=Z,13nm,1.4s
MCRA Macar, Loja 64.62 238 P **P 01 08 41.5 -0.6**
K05A Summer Lake 64.64 305 P **P 01 08 42.0 -0.1**
F20K Avaraart Lake 64.70 340 IAmb IAmb 01 08 52.0
comp=Z,14nm,1.5s
GEYT Alibeck 64.70 61 IAmb IAmb 01 08 48.7
comp=Z,6.7nm,1.0s
GEYT Alibeck 64.70 61 P **P 01 08 42.2 -0.2**
comp=Z,2.5nm,0.8s,baz=266,slow=8.2,SNR=7.1
GEYT LR LR 01 38 48.6
comp=Z,50nm,20.3s,baz=325,slow=38
comp=Z,2.5nm,0.8s
GYA0B ALIBECK ARRAY 64.70 61 P **P 01 08 43.4 +1.0**
C18K Utukok River 64.82 342 IAmb IAmb 01 08 47.9
comp=Z,9.5nm,1.2s
TPH Tonopah 64.85 299 P **P 01 08 41.8 -1.8**
MZP Montezuma Peak 65.17 299 IAmb IAmb 01 08 51.1
comp=Z,11nm,1.3s
WCT Wildcat Mounta 65.17 298 IAmb IAmb 01 08 50.9
comp=Z,8.6nm,1.3s
NV11 Mina Array Sit 65.27 300 IAmb IAmb 01 08 55.8
comp=Z,14nm,1.5s
PAHR Pah Rah Range 65.35 302 IAmb IAmb 01 08 52.4
comp=Z,12nm,1.2s
NVAR Mina Array Bea 65.36 300 P **P 01 08 45.9 -1.1**
comp=Z,0.9nm,0.9s,baz=62,slow=6.1,SNR=5.5
NVAR LR LR 01 37 29.0
comp=Z,268nm,18.3s,baz=100,slow=36
comp=Z,0.9nm,0.9s
F19K Shaleruckik Mo 65.39 340 IAmb IAmb 01 08 50.6
comp=Z,9.9nm,1.4s
GWY Greenwater Val 65.53 297 P **P 01 08 46.3 -1.7**
E18K Tukpahlearik C 65.64 341 IAmb IAmb 01 08 52.5
comp=Z,8.8nm,1.2s
ATAH Atahualpa 65.75 235 LR LR 01 35 33.1
comp=Z,89nm,21.6s,baz=31,slow=34
C16K Lisburne Hills 66.04 344 IAmb IAmb 01 09 00.4
comp=Z,12nm,1.2s
GLA Glamis 66.04 294 IAmb IAmb 01 08 57.6
comp=Z,15nm,1.2s
GSC Goldstone, Bar 66.12 297 IAmb IAmb 01 08 58.1
comp=Z,14nm,1.2s
PFO Pinyon Flats O 66.84 295 LR LR 01 37 59.8
comp=Z,457nm,19.1s,baz=64,slow=36
LPAZ La Paz 67.48 221 P **P 01 09 00.8 -0.2**
LPAZ IAmb IAmb 01 09 08.7
comp=Z,18nm,1.4s
LPAZ La Paz 67.48 221 P **P 01 09 02.7 +1.7**
comp=Z,2.7nm,0.9s,baz=20,slow=7.5,SNR=7.7
LPAZ LR LR 01 35 07.3
comp=Z,158nm,21.2s,baz=28,slow=33
comp=Z,2.7nm,0.9s
LPIG La Paz 67.98 283 LR LR 01 37 43.9
comp=Z,182nm,20.5s,baz=40,slow=35
NNA Nana 68.63 231 LR LR 01 36 11.4
comp=Z,56nm,21.7s,baz=28,slow=33
KURK Kurchatov 69.05 40 P **P 01 09 08.9 -0.9**
KURK IAmb IAmb 01 10 27.6
comp=Z,8.9nm,0.8s
KURBB Kurchatov Arra 69.06 40 P **P 01 09 09.1 -0.8**
comp=Z,3.6nm,0.9s,baz=312,slow=6.5,SNR=21
KURBB LR LR 01 38 37.1
comp=Z,98nm,19.1s,baz=166,slow=35
comp=Z,3.6nm,0.9s
KK31 Karatay Array 69.44 50 P **P 01 09 10.6 -1.8**
ZALV Zalesovo Beam 69.78 35 P **P 01 09 12.6 -1.7**
ZALV Zalesovo Beam 69.78 35 P **P 01 09 13.4 -0.8**
comp=Z,0.7nm,0.5s,baz=289,slow=5.8,SNR=6.7
ZALV LR LR 01 38 51.1
comp=Z,59nm,20.9s,baz=318,slow=35
comp=Z,0.7nm,0.5s
KDAK Kodiak Island 70.62 332 LR LR 01 38 02.4
comp=Z,73nm,19.5s,baz=75,slow=34
SIMJ Simiganj 71.25 55 P **P 01 09 22.7 -1.0**
SIMJ IAmb IAmb 01 09 30.1
comp=Z,8.8nm,1.0s
BTK Batken 71.49 53 P **P 01 09 25.5 +0.5**
BTK IAmb IAmb 01 09 34.5
comp=Z,13nm,1.4s
CPUP Villa Florida 71.97 206 LR LR 01 36 50.3
comp=Z,29nm,21.0s,baz=30,slow=32
AAK Ala-Archa 72.02 49 LR LR 01 42 04.9
comp=Z,114nm,19.8s,baz=312,slow=37
LVC Limon Verde 73.28 218 LR LR 01 38 39.3
comp=Z,79nm,21.8s,baz=356,slow=33
MKAR Makanchi Array 73.46 42 P **P 01 09 35.0 -1.7**
comp=Z,2.9nm,0.7s,baz=348,slow=6.3,SNR=3.8
MKAR LR LR 01 41 21.2
comp=Z,160nm,20.7s,baz=290,slow=35
comp=Z,2.9nm,0.7s
WSAR Wadi Sarin 73.66 73 LR LR 01 45 08.0
comp=Z,65nm,19.5s,baz=330,slow=38
TSUM Tsumeb 74.17 134 LR LR 01 39 18.7
comp=Z,164nm,21.6s,baz=318,slow=33
KSH Kashi 74.89 51 P **P 01 09 47.3 +2.1**
KSH pmax pmax
comp=Z,13nm,1.0s
SEY Seymchan 76.26 359 LR LR 01 41 45.3
comp=Z,33nm,19.8s,baz=320,slow=34
LSZ Lusaka 77.33 123 LR LR 01 45 11.4
comp=Z,341nm,18.0s,baz=326,slow=36
MA2 Magadan 79.64 360 LR LR 01 43 02.9
comp=Z,25nm,18.8s,baz=90,slow=34
SONM Songino Array 83.12 28 P **P 01 10 28.6 -1.6**
SONM Songino Array 83.12 28 P **P 01 10 29.4 -0.8**
comp=Z,1.4nm,1.0s,baz=326,slow=5.4,SNR=7.3
SONM LR LR 01 48 60.0
comp=Z,31nm,18.3s,baz=3.5,slow=37
comp=Z,1.4nm,1.0s
LBTB Lobatse 83.24 132 LR LR 01 45 00.1
comp=Z,153nm,21.6s,baz=319,slow=34

SHEM	**Shemya Is, Ala**	**84.32**	**346**	LR	LR	01 48 26.3			
	comp=Z,27nm,19.6s,baz=320,slow=36								
BOSA	**Boshof**	**85.87**	**134**	LR	LR	01 45 34.5			
	comp=Z,129nm,21.1s,baz=341,slow=33								
PETK	**Petropavlovsk-**	**85.92**	**356**	LR	LR	01 49 20.3			
	comp=Z,48nm,18.9s,baz=339,slow=36								
SUR	**Sutherland**	**86.57**	**139**	LR	LR	01 46 23.7			
	comp=Z,50nm,20.1s,baz=324,slow=33								
HHC	**Hu-ho-hao-te**	**91.02**	**29**	*e*P	**P**	**01 11 06.0**	**-2.7**		
HHC				pmax	pmax				
	comp=Z,13nm,0.5s								
HHC				pmax	pmax				
	comp=Z,100nm,5.3s								
HHC				LR	LR				
	comp=N,120nm,16.5s								
HHC				LR	LR				
	comp=E,110nm,13.1s								
HHC				LR	LR				
	comp=Z,150nm,14.2s								
LZH	**Lanzhou**	**91.98**	**36**	⇑P	**P**	**01 11 15.5**	**+2.2**		
LZH				sP	pwP	01 11 25.5	+7.2		
LZH				pmax	pmax				
	comp=Z,16nm,1.3s								
PZH	**PanZhiHua**	**98.87**	**43**	P	**P**	**01 11 44.5**	**-0.3**		
PZH				pmax	pmax				
	comp=Z,10.0nm,0.4s								
PZH				pmax	pmax				
	comp=Z,120nm,7.5s								
NJ2	**Nanjing**	**101.48**	**27**	*e*P	**Pdif**	**01 11 54.0**	**-2.2**		
NJ2				pmax	pmax				
	comp=Z,12nm,0.6s								
QSPA	**South Pole Qui**	**131.03**	**180**	PKP	**PKiKP**	**01 17 16.0**	**+0.1**		
	comp=Z,6.0nm,1.1s,baz=246,slow=2.4,SNR=7.4								
VNDA	**Vanda**	**143.22**	**184**	PKP	**PKPdf**	**01 17 36.0**	**-1.1**		
	comp=Z,1.9nm,1.1s,baz=247,slow=5.3,SNR=5.4								

*SOME **28** 01:04:47.4, 41˚.37N×83˚.63E, h5km*
*NNC **28** 01:04:52.4±2.2, 41˚.47N×83˚.50E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=17.3km s-min=12.6km az=175.0*
ISC 28 01:04:59.1±2.3, 41˚.8N±0˚.1×83˚.29E±0˚.08, h15km, n37, σ2s31/47, 2C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.14**	**297**	*e*P	**Pn**	**01 05 49.2**	**+1.1**
	31nm,0.4s						
SHLS				*e*S	**Sb**	**01 06 34.4**	**+1.5**
	102nm,0.5s						
SHLS	**Shalkode**	**3.14**	**297**	Pg	**Pn**	**01 05 49.0**	**+0.9**
	31nm,0.4s						
SHLS				Lg	Lg	01 06 34.4	
	102nm,0.5s						
PDGK	**Podgornoye**	**3.20**	**300**	⇓Pg	**Pg**	**01 05 59.8**	**-0.5**
	23nm,0.7s						
PDGK				⇑Lg	Lg	01 06 42.0	
	47nm,0.6s						
UZB	**Uzynbulak**	**3.43**	**295**	*e*P	**Pb**	**01 05 57.5**	**-2.2**
	6.8nm,0.2s						
UZB				*e*S	**Sg**	**01 06 48.3**	**-1.1**
	19nm,0.3s						
UZB	**Uzynbulak**	**3.43**	**295**	Pg	**Pb**	**01 05 57.5**	**-2.2**
	6.4nm,0.4s						
UZB				Lg	Lg	01 06 48.3	
	18nm,0.6s						
DJR	**Jarkent**	**3.61**	**316**	*e*P	**Pg**	**01 06 03.6**	**-4.6**
	3.8nm,0.3s						
DJR				*e*S	**Sg**	**01 06 58.6**	**+3.7**
	22nm,0.7s						
DJR	**Jarkent**	**3.61**	**316**	Pg	**Pg**	**01 06 03.9**	**-4.3**
	3.8nm,0.3s						
DJR				Lg	Lg	01 06 58.6	
	22nm,0.7s						
SATY	**Saty**	**3.83**	**291**	*e*P	**Pb**	**01 06 07.2**	**+0.8**
	15nm,0.2s						
SATY				*e*S	**Sg**	**01 07 04.4**	**+2.4**
	42nm,0.3s						
SATY	**Saty**	**3.83**	**291**	Pg	**Pb**	**01 06 08.8**	**+2.4**
	24nm,0.7s						
SATY				Lg	Lg	01 07 04.8	
	38nm,0.4s						
ZHN	**Zhinishke**	**3.84**	**293**	*e*P	**Pb**	**01 06 05.6**	**-1.0**
	5.7nm,0.2s						
ZHN				*e*S	**Sg**	**01 07 02.2**	**-0.3**
	30nm,0.1s						
ZHN	**Zhinishke**	**3.84**	**293**	Pg	**Pb**	**01 06 05.5**	**-1.2**
	11nm,0.6s						
ZHN				Lg	Lg	01 07 02.2	
	30nm,0.3s						
KNOS	**Konyrlen**	**3.96**	**312**	Pg	**Pg**	**01 06 10.6**	**-4.3**
	17nm,0.7s						
KNOS				Lg	Lg	01 07 09.9	
	16nm,0.8s						
KURS	**Kuram**	**4.14**	**296**	*e*P	**Pb**	**01 06 13.4**	**+1.7**
	9.8nm,0.3s						
KURS				*e*S	**Sg**	**01 07 14.8**	**+2.8**
	16nm,0.4s						
KURS	**Kuram**	**4.14**	**296**	Pg	**Pb**	**01 06 13.7**	**+2.1**
	10nm,0.7s						
KURS				Lg	Lg	01 07 15.0	
	17nm,0.9s						
BLB	**Baldybastay**	**4.22**	**305**	Pg	**Pb**	**01 06 13.7**	**+0.7**
	14nm,0.6s						
BLB				Lg	Lg	01 07 15.8	
	9.6nm,0.6s						
KAPS	**Kapalarasan**	**4.51**	**322**	*e*P	**Pb**	**01 06 17.4**	**-0.6**
	7.6nm,0.3s						
KAPS				*e*S	**Sg**	**01 07 22.4**	**-1.5**
	13nm,0.5s						
ARXS	**Arharly**	**4.68**	**303**	*e*P	**Pb**	**01 06 22.3**	**+1.4**
	3.9nm,0.3s						
ARXS				*e*S	**Sg**	**01 07 30.8**	**+1.5**
	17nm,0.5s						
ARXS	**Arharly**	**4.68**	**303**	Pg	**Pg**	**01 06 25.2**	**-3.5**
	7.0nm,0.3s						
ARXS				Lg	Lg	01 07 35.4	
	17nm,0.5s						
KOTS	**Kotyrbulak**	**4.79**	**290**	*e*P	**Pb**	**01 06 24.5**	**+1.7**
	8.8nm,0.3s						
KOTS				*e*S	**Sg**	**01 07 34.5**	**+1.8**
	38nm,0.5s						
KOTS	**Kotyrbulak**	**4.79**	**290**	Pg	**Pb**	**01 06 25.4**	**+2.6**
	21nm,0.5s						
KOTS				Lg	Lg	01 07 34.5	
	38nm,0.5s						
MDOK	**Medeo**	**4.81**	**289**	Pg	**Pb**	**01 06 25.9**	**+2.7**
	12nm,0.6s						
MDOK				Lg	Lg	01 07 35.8	
	14nm,0.6s						
TNSS	**Tian-Shan**	**4.86**	**287**	*e*P	**Pb**	**01 06 23.4**	**-0.7**
	3.4nm,0.2s						
TNSS				*e*S	**Sg**	**01 07 32.7**	**-2.3**
	7.7nm,0.6s						
TNSS	**Tian-Shan**	**4.86**	**287**	Pg	**Pb**	**01 06 23.4**	**-0.7**
	3.6nm,0.5s						
TNSS				Lg	Lg	01 07 32.7	
	7.7nm,0.6s						
MK31	**Makanchi Array**	**5.05**	**352**	Pg	**Pg**	**01 06 35.5**	**-0.3**
	0.8nm,0.3s,baz=175,slow=15,SNR=8.0						
MK31				⇑Lg	Lg	01 07 43.4	
	21nm,0.6s,baz=166,slow=28,SNR=12						
CHKK	**Chushkaly**	**5.07**	**296**	*e*P	**Pb**	**01 06 27.9**	**+0.4**
	0.5nm,0.1s						
CHKK				*e*S	**Sg**	**01 07 39.9**	**-1.9**
	12nm,0.6s						
CHKK	**Chushkaly**	**5.07**	**296**	Pg	**Pb**	**01 06 27.9**	**+0.4**
	1.2nm,0.4s						
CHKK				Lg	Lg	01 07 39.9	
	12nm,0.6s						
IZV	**Izvestkoviy**	**5.10**	**286**	Pg	**Pb**	**01 06 30.1**	**+2.1**
	3.1nm,0.5s						
IZV				Lg	Lg	01 07 42.7	
	28nm,0.6s						
KTBS	**Karatobe**	**5.23**	**294**	*e*P	**Pb**	**01 06 31.1**	**+0.9**
	2.6nm,0.3s						
KTBS				*e*S	**Sg**	**01 07 45.8**	**-1.1**
	14nm,0.3s						
KTBS	**Karatobe**	**5.23**	**294**	Pg	**Pb**	**01 06 31.7**	**+1.5**
	4.9nm,0.5s						
KTBS				Lg	Lg	01 07 45.8	
	10nm,0.7s						
MTBS	**Maitube**	**5.25**	**287**	Pg	**Pb**	**01 06 33.5**	**+2.9**
	4.8nm,0.4s						
MTBS				Lg	Lg	01 07 48.1	
	9.6nm,0.6s						
KST	**Kastek**	**5.56**	**285**	Pg	**Pb**	**01 06 37.6**	**+1.7**
	5.1nm,0.9s						
KST				Lg	Lg	01 07 56.0	
	11nm,0.8s						
DGS	**Degeres**	**5.74**	**287**	Pg	**Pg**	**01 06 44.7**	**-4.3**
	5.4nm,0.6s						
DGS				Lg	Lg	01 08 08.2	
	16nm,0.7s						
ZSN	**Zaisan**	**5.77**	**11**	*e*P	Pg	01 06 40.6	-8.9
	2.6nm,0.4s						
ZSN				*e*S	**Sg**	**01 08 02.3**	**-1.8**
	37nm,1.2s						
ZSN	**Zaisan**	**5.77**	**11**	Pg	Pg	01 06 40.6	-8.9
	2.6nm,0.4s						
ZSN				Lg	Lg	01 08 02.3	
	37nm,1.2s						
KRBS	**Karabastau**	**5.92**	**291**	Pg	**Pb**	**01 06 44.6**	**+2.6**
	4.0nm,0.6s						
KRBS				Lg	Lg	01 08 07.3	
	4.8nm,0.5s						
SGDS	**Sogindy**	**6.60**	**287**	Pg	**Pg**	**01 07 01.0**	**-4.4**
	2.0nm,0.9s						
BTLS	**Baital**	**7.47**	**299**	Pg	Pb	01 07 16.3	+7.9
	1.6nm,0.6s						

*IDC **28** 01:19:18.8±1.2, 34˚.49N×45˚.51E, h0km, mb3.7/11, mbtmp3.7/16, ML3.8/5, Error ellipse: s-maj=26.9km s-min=13.6km az=153.0*
*TEH **28** 01:19:19.9, 34˚.47N×45˚.41E, h11km±31km, ML3.7*
*NEIC **28** 01:19:20.2±2.3, 34˚.37N±0˚.05×45˚.44E±0˚.10, h10km±1km, mb4.3/29, Error ellipse: s-maj=13.9km s-min=8.0km az=108.0*
*ISN **28** 01:19:22.9±1.5, 34˚.47N×45˚.47E, h18km±10km, ML3.9*
ISC 28 01:19:22.1±0.9, 34˚.45N±0˚.03×45˚.51E±0˚.03, h25km±7km, n143, σ2s29/154, mb4.2/23, 3C-4D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.09**	**47**	Pg	**Pb**	**01 19 24.6**	**-2.1**
IDHR	**Dehrash**	**0.76**	**70**	Pg	**Pn**	**01 19 37.1**	**-0.4**
IDHR				Sg	**Sb**	**01 19 49.0**	**+2.0**
IGHG	**Ghaleghazi**	**0.88**	**97**	Pg	**Pn**	**01 19 39.8**	**+0.7**
IGHG				Sg	**Sb**	**01 19 54.8**	**+4.5**
KCHF	**Cheshme Sefid,**	**1.27**	**97**	Pg	**Pn**	**01 19 46.7**	**+2.3**
ILIN	**Lien**	**1.28**	**68**	Pg	**Pn**	**01 19 46.2**	**+1.5**
IKRK	**Kirkuk**	**1.35**	**315**	*e*Pg	**Pb**	**01 19 47.0**	**+0.3**
IKRK				*e*Sg	**Sb**	**01 20 05.0**	**+1.3**
IKRK				AML	AML	01 20 07.8	
	comp=E,6μm,0.4s						
IKRK				AML	AML	01 20 07.9	
	comp=N,5μm,0.4s						
IBDR	**Badra**	**1.38**	**165**	*e*Pn	**Pb**	**01 19 49.0**	**+1.9**
IBDR				*e*Sn	**Sb**	**01 20 09.0**	**+4.7**
IBDR				AML	AML	01 20 26.4	
	comp=E,1μm,0.7s						
IBDR				AML	AML	01 20 26.8	
	comp=N,981nm,0.8s						
BHD	**Baghdad**	**1.50**	**219**	*e*Pn	**Pb**	**01 19 50.0**	**+0.7**
BHD				*e*Sn	**Sb**	**01 20 11.0**	**+3.0**
SDS1	**Sardasht. Az.**	**1.70**	**359**	Pg	**Pn**	**01 19 52.3**	**+2.0**
IKFM	**Kafar-mosalman**	**2.15**	**115**	Pn	**Pb**	**01 20 00.1**	**-0.1**
IDOB	**Doab**	**2.31**	**106**	Pn	**Pn**	**01 20 02.1**	**+3.4**
MAHB	**Mahabad**	**2.32**	**4**	Pn	**Pn**	**01 20 01.0**	**+2.1**
HSAM	**Samen**	**2.57**	**94**	Pn	**Pn**	**01 20 05.5**	**+3.2**
RAFI	**Al-Rafai**	**2.76**	**169**	*e*Pn	**Pb**	**01 20 09.0**	**-1.7**
RAFI				*e*Sn	**Sb**	**01 20 43.0**	**-1.1**
MSL	**Mosul**	**2.77**	**315**	*e*Pn	**Pn**	**01 20 07.0**	**+2.2**
MSL				*e*Sn	**Sb**	**01 20 41.0**	**-3.2**
HAGD	**Aghdareh**	**3.01**	**82**	Pn	**Pn**	**01 20 12.2**	**+3.8**
CUKT	**Cukurca**	**3.19**	**332**	*e*P	**Pn**	**01 20 12.2**	**+1.4**
IRAZ	**Razeghan**	**3.75**	**74**	Pn	**Pn**	**01 20 22.2**	**+3.6**
ISRB	**Sarab**	**3.79**	**27**	Pn	**Pn**	**01 20 22.1**	**+3.0**
IHRS	**Heris**	**4.06**	**17**	Pn	**Pn**	**01 20 25.1**	**+2.4**
IMRD	**Marand**	**4.26**	**2**	Pn	**Pn**	**01 20 27.5**	**+2.0**
AKDM	**Akdamar-Van**	**4.38**	**333**	*e*P	**Pn**	**01 20 29.2**	**+2.1**
VANB	**Van**	**4.48**	**338**	*e*P	**Pn**	**01 20 28.7**	**+0.2**
IQOM	**Qom**	**4.60**	**84**	Pn	**Pn**	**01 20 32.8**	**+2.5**
GAS1	**Astara - Iran**	**4.76**	**33**	Pn	**Pn**	**01 20 35.4**	**+3.2**
IPIR	**Pirpir**	**4.82**	**110**	Pn	**Pn**	**01 20 35.4**	**+2.0**
IHSB	**Hasanabad**	**4.84**	**77**	Pn	**Pn**	**01 20 37.0**	**+3.6**
QAMS	**Qamsar**	**4.93**	**97**	Pn	**Pn**	**01 20 38.2**	**+3.4**
GURO	**Guroymak-BITLI**	**4.96**	**327**	*e*P	**Pn**	**01 20 36.0**	**+0.9**
GURO	**Guroymak-BITLI**	**4.96**	**327**	Pn	**Pn**	**01 20 35.7**	**+0.5**
ZNGN	**Zangian**	**5.04**	**116**	Pn	**Pn**	**01 20 38.6**	**+2.2**
SVAN	**Silvan-Diyarba**	**5.08**	**318**	*e*P	**Pn**	**01 20 35.6**	**-1.0**
MAZI	**Mazidag**	**5.09**	**308**	*e*P	**Pn**	**01 20 38.7**	**+1.8**
IVRN	**Varamin**	**5.15**	**82**	Pn	**Pn**	**01 20 40.9**	**+3.3**
MZPU	**Pul - Mazandar**	**5.33**	**66**	Pn	**Pn**	**01 20 44.1**	**+3.9**
IDMV	**Damavand**	**5.47**	**76**	Pn	**Pn**	**01 20 45.5**	**+3.3**
AGRB	**Hanur-Agry**	**5.50**	**339**	*e*P	**Pn**	**01 20 43.7**	**+1.1**
ISFB	**Sefidab**	**5.56**	**89**	Pn	**Pn**	**01 20 45.9**	**+2.5**
KBD	**Kabd**	**5.57**	**160**	P	**Pn**	**01 20 45.8**	**+2.4**
KBD				S	**Sn**	**01 21 47.1**	**+0.5**
DYBB	**Diyarbakir**	**5.58**	**310**	*e*P	Pn	01 20 48.5	+5.0
TASB	**TASBURUN-IGDIR**	**5.62**	**350**	*e*P	Pn	01 20 38.6	-5.5
GNI	**Garni**	**5.73**	**354**		**Pn**	**01 20 44.3**	**-1.3**
GNI	**Garni**	**5.73**	**354**	Pn	Pn	01 20 52.7	+7.1
	comp=N,0.3nm,0.3s,baz=170,slow=18,SNR=2.7						
IGAR	**Gharneh**	**5.83**	**109**	Pn	**Pn**	**01 20 49.3**	**+2.2**
IPRN	**Peran**	**5.86**	**70**	Pn	**Pn**	**01 20 50.7**	**+3.2**
IZEF	**Zefreh**	**5.89**	**103**	Pn	**Pn**	**01 20 51.0**	**+3.0**
BNGB	**Bingl**	**5.97**	**321**	*e*P	**Pn**	**01 20 49.2**	**+0.3**
IFIR	**Firoozkooh**	**6.06**	**77**	Pn	**Pn**	**01 20 53.6**	**+3.3**
IRAM	**Ramesheh**	**6.33**	**113**	Pn	**Pn**	**01 20 56.5**	**+2.5**
GAZ	**Gaziantep**	**7.27**	**294**	Pn	**Pn**	**01 21 04.9**	**-1.9**
ARPR	**Arapgir-MALATY**	**7.39**	**311**	Pn	**Pn**	**01 21 07.0**	**-1.5**
ASF	**Jabal al Asfar**	**7.56**	**255**	Pn	**Pn**	**01 21 10.0**	**-0.7**
	comp=N,1.1nm,0.3s,baz=274,slow=0.0,SNR=15						
ASF				Lg	Lg	01 23 20.2	
	comp=N,1.0nm,0.3s,baz=12,slow=0.1,SNR=5.9						
	comp=N,2.0nm,0.3s						
DSBU	**Dashti - Bushe**	**7.80**	**139**	Pn	**Pn**	**01 21 16.3**	**+2.3**
ONI	**Oni**	**8.29**	**349**	Pn	**Pn**	**01 21 24.4**	**+3.7**
MMAI	**Mount Meron Ar**	**8.54**	**263**	Pn	**Pn**	**01 21 23.7**	**-0.5**
	comp=N,1.0nm,0.3s,baz=66,slow=15,SNR=8.5						
MMAI				Lg	Lg	01 23 47.9	
	comp=N,1.3nm,0.3s,baz=90,slow=25,SNR=3.9						
	comp=N,0.6nm,0.4s						
GHAJ	**Ghor Haditha**	**8.93**	**252**	Pn	**Pn**	**01 21 27.4**	**-2.1**
KBZ	**Khabaz**	**9.49**	**348**	Pn	Pn	01 21 43.1	+6.0
	baz=170,slow=7.2,SNR=4.6						
SHMA	**Al-Shehemyia**	**9.77**	**150**	P	**Pn**	**01 21 42.0**	**+0.9**
EIL	**Elat**	**10.15**	**245**	Pn	**Pn**	**01 21 46.5**	**+0.4**
	comp=N,0.9nm,0.3s,baz=133,slow=5.3,SNR=12						
EIL				Lg	Lg	01 24 41.5	
	comp=N,0.3nm,0.3s,baz=246,slow=20,SNR=2.9						
	comp=N,1.9nm,0.4s						
SMRA	**Abu-Samra**	**10.71**	**153**	P	**Pn**	**01 21 55.3**	**+1.4**
TRNA	**Turayna**	**10.87**	**151**	P	**Pn**	**01 21 58.0**	**+1.9**
TRNA				S	**Sn**	**01 23 54.5**	**-2.4**
RAYN	**Ar Rayn**	**10.88**	**180**	Pn	**Pn**	**01 21 54.9**	**-1.5**
JRN	**Qarnain Island**	**11.41**	**144**	P	**Pn**	**01 22 04.8**	**+1.3**
SLWR	**Sila**	**11.66**	**151**	P	**Pn**	**01 22 08.6**	**+1.8**
SLWR				S	**Sn**	**01 24 13.6**	**-2.7**
SHME	**Shamm**	**12.42**	**130**	P	**Pn**	**01 22 18.4**	**+1.1**
MASF	**Masafi**	**12.92**	**132**	P	**Pn**	**01 22 24.2**	**+0.1**
MASF				S	**Sn**	**01 24 02.0**	**-5.1**
ASUD	**Al Ashush, Dub**	**12.98**	**136**	P	**Pn**	**01 22 26.0**	**+1.0**
	SNR=12						
ASUD				S	**Sn**	**01 24 42.9**	**-5.7**
MDH	**Madha**	**13.05**	**131**	P	**Pn**	**01 22 26.0**	**0.0**
UOSS	**Minazif**	**13.26**	**133**	Pn	**Pn**	**01 22 27.6**	**-1.1**
UOSS	**Minazif**	**13.26**	**133**	P	**Pn**	**01 22 28.6**	**-0.2**
UOSS				S	**Sn**	**01 24 48.8**	**-6.5**
HATD	**Hatta, Dubai**	**13.30**	**133**	P	**Pn**	**01 22 29.7**	**+0.3**
HATD				S	**Sn**	**01 24 51.5**	**-5.0**
ASHO	**Ashiyiah**	**13.36**	**134**	P	**Pn**	**01 22 29.9**	**-0.3**
	SNR=11						
ASHO				S	**Sn**	**01 24 52.3**	**-5.8**
ALNE	**Al Ain**	**13.67**	**137**	P	**Pn**	**01 22 34.3**	**-0.1**
JASK	**Jask - Hormozg**	**13.68**	**125**	P	**Pn**	**01 22 34.5**	**0.0**
SOHO	**SOHO**	**14.06**	**134**	P	**Pn**	**01 22 38.5**	**-1.2**
UMZA	**Um Al Zommool**	**14.43**	**142**	P	**Pn**	**01 22 43.7**	**-1.0**
ARQ	**Araqi**	**14.67**	**136**	P	**Pn**	**01 22 48.4**	**+0.4**
ARQ				S	**Sn**	**01 25 24.0**	**-5.8**
HOQ	**Hoqain**	**14.94**	**133**	P	**Pn**	**01 22 51.2**	**-0.5**
HOQ				S	**Sn**	**01 25 30.0**	**-6.5**
BSY	**Bisya**	**15.52**	**136**	P	**Pn**	**01 22 59.3**	**0.0**
BSY				S	**Sn**	**01 25 42.7**	**-7.8**
SMDO	**Samad**	**15.78**	**133**	P	**Pn**	**01 23 02.8**	**0.0**
SMDO				S	**Sn**	**01 25 51.4**	**-5.6**
WSAR	**Wadi Sarin**	**16.01**	**131**	Pn	**Pn**	**01 23 04.0**	**-1.6**
	comp=N,0.5nm,0.3s,baz=298,slow=6.1,SNR=12						
	comp=N,1.2nm,0.2s						
JMDO	**Jabal Madar**	**16.34**	**134**	P	**Pn**	**01 23 09.0**	**-0.8**
WBK	**Wadi Bani Khal**	**16.68**	**131**	P	**Pn**	**01 23 14.3**	**+0.2**
IDI	**Anoyia**	**16.95**	**279**		**P**	**01 23 19.8**	**+0.5**
IDI				IAmb	IAmb	01 23 28.5	
	comp=Z,15nm,1.0s						
IDI	**Anoyia**	**16.95**	**279**	Pn	**P**	**01 23 20.3**	**+1.0**
	baz=103,slow=18,SNR=5.8						
JLN	**Jalan Bani Buh**	**17.29**	**131**	P	**Pn**	**01 23 19.4**	**-2.4**
MHTO	**MHTO**	**17.34**	**137**	P	**Pn**	**01 23 19.4**	**-3.0**
DOK	**Doka**	**17.53**	**152**	P	**Pn**	**01 23 22.8**	**-2.0**
	SNR=7.3						
DQM	**DQM**	**17.96**	**141**	P	**P**	**01 23 30.6**	**+0.1**
WHFO	**Wadi Hawf**	**18.04**	**154**	P	**Pn**	**01 23 29.8**	**-1.3**
ABKAR	**Akbulak array**	**18.24**	**31**		**P**	**01 23 34.7**	**+1.3**
ABKAR	**Akbulak array**	**18.24**	**31**		**P**	**01 23 33.9**	**+0.5**
ABKAR				IAmb	IAmb	01 23 38.7	
	comp=Z,1.5nm,0.8s						
ABTO	**Aybut**	**18.39**	**156**	P	**P**	**01 23 33.3**	**-2.1**
AKTO	**Aktyubinsk**	**18.41**	**26**	P	**P**	**01 23 35.7**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=208,slow=8.7,SNR=6.9						
	comp=Z,2.8nm,0.9s						
DMTO	**DMTO**	**18.67**	**151**	P	**P**	**01 23 37.2**	**-1.1**
SHAO	**Shalim**	**18.68**	**149**	P	**P**	**01 23 38.7**	**+0.2**
	SNR=8.7						
SORM	**Soroca**	**18.74**	**322**	⇑P	**Pn**	**01 23 39.3**	**-0.1**
AGG	**Agios Georgios**	**19.12**	**291**		**Pn**	**01 23 44.5**	**+0.4**
ARR	**Arges**	**19.32**	**311**	⇓P	**Pn**	**01 23 48.1**	**+1.6**
FNA	**Florina**	**20.11**	**295**	P	Pn	01 23 54.4	-1.5
BURAR	**Bucovina Array**	**20.11**	**317**	⇑P	**P**	**01 23 53.5**	**-0.5**
BURAR	**Bucovina Array**	**20.11**	**317**	P	Pn	01 23 55.4	-0.5
AKASG	**Malin Array Be**	**20.12**	**329**	P	**P**	**01 23 53.9**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=135,slow=12,SNR=4.4						
	comp=Z,0.4nm,0.3s						
BUR08	**Bucovina Ar. S**	**20.14**	**317**	P	**P**	**01 23 55.1**	**+0.8**
GZR	**Gura Zlata**	**20.51**	**309**	⇓P	Pn	01 24 01.3	+0.7
MARR	**Marisel-Cluj**	**20.86**	**313**	⇓P	**P**	**01 24 02.0**	**-0.2**
MDVR	**Moldovita**	**20.97**	**307**	⇓P	Pn	01 24 08.9	+3.0
DRGR		**21.16**	**312**	⇑P	**P**	**01 24 06.8**	**+1.4**
BOOM	**Boomskoye usch**	**25.04**	**62**	P	**P**	**01 24 47.6**	**+3.2**
BVAR	**Borovoye Array**	**25.63**	**36**	P	**P**	**01 24 48.6**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=224,slow=7.2,SNR=2.4						
	comp=Z,0.5nm,0.6s						
PABE	**Paberze**	**25.79**	**331**	P	**P**	**01 24 51.2**	**+0.4**
PABE				IAmb	IAmb	01 24 56.3	
	comp=Z,8.9nm,0.8s						
KURBB	**Kurchatov Arra**	**28.90**	**46**	P	**P**	**01 25 17.4**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=255,slow=9.3,SNR=2.5						
	comp=Z,0.2nm,0.5s						
FINES	**FINESS Array B**	**29.74**	**341**	P	**P**	**01 25 25.3**	**-0.8**
FINES	**FINESS Array B**	**29.74**	**341**	P	**P**	**01 25 25.6**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=143,slow=9.8,SNR=9.8						
	comp=Z,0.6nm,0.4s						
FIA1	**FINESS Array S**	**29.74**	**341**	P	**P**	**01 25 25.6**	**-0.5**
MK31	**Makanchi Array**	**30.24**	**55**	P	**P**	**01 25 32.0**	**+1.2**
MKAR	**Makanchi Array**	**30.24**	**55**	P	**P**	**01 25 32.3**	**+1.5**
MKAR	**Makanchi Array**	**30.24**	**55**	P	**P**	**01 25 32.8**	**+2.0**
	comp=Z,0.2nm,0.4s,baz=259,slow=8.2,SNR=4.8						
	comp=Z,0.2nm,0.4s						
HFS	**Hagfors**	**32.97**	**331**	P	**P**	**01 25 54.8**	**+0.2**
	comp=Z,2.0nm,0.4s,baz=128,slow=9.6,SNR=17						
	comp=Z,2.0nm,0.4s						
NOA	**NORSAR Array B**	**34.50**	**331**	P	**P**	**01 26 07.4**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=126,slow=8.5,SNR=2.4						
	comp=Z,0.5nm,0.7s						
ARCES	**ARCESS Array B**	**36.85**	**348**	P	**P**	**01 26 27.3**	**-0.7**
ARCES	**ARCESS Array B**	**36.85**	**348**	P	**P**	**01 26 27.6**	**-0.3**
	comp=Z,4.3nm,0.9s,baz=163,slow=7.0,SNR=10.0						
	comp=Z,4.3nm,0.9s						
TOA0	**Torodi Ar. Sit**	**44.92**	**253**	P	**P**	**01 27 33.6**	**-1.4**
TOA0				IAmb	IAmb	01 27 55.6	
	comp=Z,4.8nm,1.4s						
TORD	**Torodi Ar. Bea**	**44.92**	**253**	P	**P**	**01 27 34.0**	**-1.0**
TORD	**Torodi Ar. Bea**	**44.92**	**253**	P	**P**	**01 27 35.8**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=49,slow=6.3,SNR=6.1						
	comp=Z,0.5nm,0.6s						
SPB2	**Spitsbergen Ar**	**45.59**	**352**	P	**P**	**01 27 39.9**	**+0.4**
SPITS	**Spitsbergen Ar**	**45.59**	**352**	P	**P**	**01 27 40.0**	**+0.4**
	comp=Z,1.7nm,0.4s,baz=146,slow=11,SNR=44						
	comp=Z,1.7nm,0.4s						
A36M	**Sachs Harbour**	**73

UWB	**Uwekahuna B**	**0.52**	**9**	Pg	Pg	01 43 11.1	-1.1		
HATHI	**Halema'uma'u T**	**0.52**	**11**	Pg	Pg	01 43 11.0	-1.3		
HATHI				IAML		01 43 26.1			
	comp=N,2μm,0.7s								
HATHI				IAML		01 43 26.1			
	comp=E,2μm,0.7s								
SBLHI	**Steaming Bluff**	**0.52**	**10**	Pg	Pg	01 43 11.1	-1.2		
SBLHI				IAML		01 43 27.1			
	comp=E,1μm,0.3s								
SBLHI				IAML		01 43 29.2			
	comp=N,2μm,0.6s								
STCH	**Steam Cracks**	**0.52**	**26**	Pg	Pg	01 43 11.5	-0.8		
JCUZ	**Jacuzzi**	**0.53**	**28**	Pg	Pg	01 43 12.0	-0.5		
NPOC	**North of Pu'u**	**0.54**	**27**	Pg	Pg	01 43 11.7	-0.9		
RSD	**Rainshed**	**0.55**	**9**	Pg	Pg	01 43 11.5	-1.4		
MLH	**Mauna Loa**	**0.58**	**358**	Pg	Pg	01 43 12.1	-1.3		
MLH				IAML		01 43 26.9			
	comp=N,2μm,0.4s								
MLH				IAML		01 43 28.4			
	comp=E,1μm,0.4s								
MWH	**Moku'aweowe**	**0.61**	**339**	Pg	Pg	01 43 12.6	-1.5		
MWH				IAML		01 43 33.2			
	comp=E,2μm,0.9s								
MWH				IAML		01 43 33.6			
	comp=N,2μm,1.0s								
MLOA	**Mauna Loa Obse**	**0.65**	**342**	Pg	Pg	01 43 13.1	-1.8		
MLOA				IAML		01 43 27.8			
	comp=N,877nm,0.5s								
ALEP	**Alea Permanent**	**0.68**	**337**		Pg	01 43 13.7	-1.7		
HMH	**Humu'ula Sheep**	**0.70**	**351**	Pg	Pg	01 43 14.0	-1.6		
HMH				Sg	Sg	01 43 22.8	-2.1		
HMH				IAML		01 43 33.3			
	comp=E,858nm,0.3s								
HMH				IAML		01 43 36.3			
	comp=N,911nm,0.4s								
KHLU	**Kahalu`u**	**0.84**	**324**	Pg	Pg	01 43 16.0	-2.4		
KHLU				IAML		01 43 37.1			
	comp=E,864nm,0.8s								
KHLU				IAML		01 43 37.3			
	comp=N,880nm,0.5s								
HUH	**Hualalai**	**0.89**	**330**	Pg	Pg	01 43 16.9	-2.4		

NOU 28 01:44:41.1,16°.93S×167°.61E,h0km,MLv4.7/5,Vanuatu Islands,Vanuatu Islands

*IDC **28** 01:55:29.1±1.1,34°.44N×45°.51E,h0km,mb3.7/11, mbtmp3.8/17,ML3.8/6,Error ellipse: s-maj=22.5km s-min=14.2km az=158.0*
*TEH **28** 01:55:29.6,34°.37N×45°.32E,h8km±62km,ML3.7*
*NEIC **28** 01:55:30.4±1.0,34°.38N±0°.05×45°.56E±0°.09,h10km±1km, mb4.2/26,Error ellipse: s-maj=13.1km s-min=7.4km az=110.0*
*ISN **28** 01:55:32.5±1.1,34°.46N×45°.44E,h25km±7km,ML3.8*
*OMAN **28** 01:55:41.5±0.1,33°.23N×45°.52E,h10km,mb3.8/16,Error ellipse: s-maj=2.5km s-min=1.4km az=228.0*

ISC 28 01:55:32.7±0.9,34°.40N±0°.03×45°.54E±0°.04,h27km±7km, n112,σ2°56/127,mb4.2/22,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.11**	**20**	Pg	**Pb**	**01 55 35.7**	**-2.0**
IDHR	**Dehrash**	**0.76**	**67**	Pg	**Pn**	**01 55 47.0**	**-0.8**
IGHG	**Ghaleghazi**	**0.85**	**95**	Pg	**Pn**	**01 55 49.8**	**+0.7**
KCHF	**Cheshme Sefid,**	**1.25**	**95**	Pg	**Pb**	**01 55 56.8**	**+1.2**
ILIN	**Lien**	**1.28**	**66**	Pg	**Pb**	**01 55 56.9**	**+0.6**
IBDR	**Badra**	**1.33**	**166**	*e*Pn	**Pb**	**01 55 58.0**	**+1.0**
IBDR				*e*Sn	**Sb**	**01 56 18.0**	**+4.4**
IBDR				AML	AML	01 56 36.6	
	comp=E,1μm,0.6s						
IBDR				AML	AML	01 56 36.9	
	comp=N,1μm,0.6s						
IKRK	**Kirkuk**	**1.40**	**315**	*e*Pg	**Pn**	**01 55 56.0**	**-0.5**
IKRK				*e*Sg	**Sn**	**01 56 14.0**	**-0.2**
IKRK				AML	AML	01 56 18.4	
	comp=E,3μm,0.5s						
IKRK				AML	AML	01 56 28.6	
	comp=N,2μm,0.4s						
BHD	**Baghdad**	**1.49**	**221**	*e*Pn	**Pn**	**01 55 59.0**	**+1.3**
BHD				*e*Sn	**Sb**	**01 56 19.0**	**+0.9**
SDS1	**Sardasht. Az.**	**1.74**	**358**	Pg	**Pn**	**01 56 03.2**	**+1.8**
IBZA	**Bozab**	**1.92**	**87**	Pn	**Pb**	**01 56 07.2**	**+0.1**
IKFM	**Kafar-mosalman**	**2.11**	**114**	Pn	**Pb**	**01 56 09.7**	**-0.5**
IDOB	**Doab**	**2.27**	**105**	Pn	**Pb**	**01 56 12.1**	**-1.0**
MAHB	**Mahabad**	**2.36**	**3**	Pn	**Pn**	**01 56 11.7**	**+1.9**
HSAM	**Samen**	**2.54**	**93**	Pn	**Pn**	**01 56 15.7**	**+3.3**
RAFI	**Al-Rafai**	**2.72**	**170**	*e*Pn	**Pn**	**01 56 18.0**	**+3.4**
RAFI				*e*Sn	**Sn**	**01 56 51.0**	**+4.5**
MSL	**Mosul**	**2.81**	**316**	*e*Pn	**Pn**	**01 56 16.0**	**+0.1**
MSL				*e*Sn	**Sn**	**01 56 49.0**	**0.0**
HAGD	**Aghdareh**	**3.00**	**81**	Pn	**Pn**	**01 56 22.0**	**+3.3**
IHSH	**Hashtrud**	**3.21**	**25**	Pn	**Pn**	**01 56 24.2**	**+2.5**
IRAZ	**Razeghan**	**3.74**	**73**	Pn	**Pn**	**01 56 32.6**	**+3.7**
ISRB	**Sarab**	**3.82**	**26**	Pn	**Pn**	**01 56 32.3**	**+2.3**
IHRS	**Heris**	**4.09**	**17**	Pn	**Pn**	**01 56 35.7**	**+2.0**
IMRD	**Marand**	**4.30**	**2**	Pn	**Pn**	**01 56 38.5**	**+2.0**
IQOM	**Qom**	**4.58**	**83**	Pn	**Pn**	**01 56 42.9**	**+2.4**
GAS1	**Astara - Iran**	**4.78**	**33**	Pn	**Pn**	**01 56 45.8**	**+2.9**
IPIR	**Pirpir**	**4.78**	**110**	Pn	**Pn**	**01 56 45.7**	**+2.4**
QAMS	**Qamsar**	**4.90**	**96**	Pn	**Pn**	**01 56 48.3**	**+3.4**
ZNGN	**Zangian**	**5.00**	**116**	Pn	**Pn**	**01 56 48.8**	**+2.6**
GURO	**Guroymak-BITLI**	**5.01**	**327**	Pn	**Pn**	**01 56 45.9**	**-0.4**
IVRN	**Varamin**	**5.13**	**82**	Pn	**Pn**	**01 56 51.1**	**+3.3**
IKLH	**Kolahrood**	**5.14**	**100**	Pn	**Pn**	**01 56 51.1**	**+3.0**
MZPU	**Pul - Mazandar**	**5.32**	**66**	Pn	**Pn**	**01 56 54.3**	**+3.7**
IDMV	**Damavand**	**5.45**	**76**	Pn	**Pn**	**01 56 55.5**	**+3.0**
KBD	**Kabd**	**5.52**	**160**	P	**Pn**	**01 56 56.4**	**+3.2**
ISFB	**Sefidab**	**5.54**	**89**	Pn	**Pn**	**01 56 56.4**	**+2.9**
IGAR	**Gharneh**	**5.79**	**108**	Pn	**Pn**	**01 56 59.8**	**+2.7**
IZEF	**Zefreh**	**5.86**	**103**	Pn	**Pn**	**01 57 01.3**	**+3.3**
IFIR	**Firoozkooh**	**6.04**	**76**	Pn	**Pn**	**01 57 03.8**	**+3.2**
ILAS	**Lasjerd**	**6.17**	**79**	Pn	**Pn**	**01 57 05.5**	**+3.2**
IRAM	**Ramesheh**	**6.29**	**112**	Pn	**Pn**	**01 57 07.3**	**+3.3**
ASF	**Jabal al Asfar**	**7.57**	**255**	Pn	**Pn**	**01 57 20.2**	**-1.2**
	comp=N,0.8nm,0.3s,baz=26,slow=0.2,SNR=9.0						
ASF				Lg	Lg	01 59 31.2	
	comp=N,1.0nm,0.3s,baz=259,slow=0.1,SNR=4.5						
	comp=N,1.5nm,0.3s						
DSBU	**Dashti - Bushe**	**7.75**	**139**	Pn	**Pn**	**01 57 26.4**	**+2.5**
MMAI	**Mount Meron Ar**	**8.56**	**264**	Pn	**Pn**	**01 57 34.0**	**-1.0**
	comp=N,0.8nm,0.3s,baz=65,slow=14,SNR=6.2						
MMAI				Lg	Lg	02 00 02.1	
	comp=N,1.2nm,0.3s,baz=93,slow=30,SNR=3.0						
	comp=N,0.6nm,0.4s						
GHAJ	**Ghor Haditha**	**8.94**	**253**	Pn	**Pn**	**01 57 39.2**	**-0.9**
EIL	**Elat**	**10.15**	**245**	Pn	**Pn**	**01 57 56.5**	**-0.2**
	comp=N,0.7nm,0.3s,baz=105,slow=7.6,SNR=9.0						
EIL				Lg	Lg	02 00 56.6	
	comp=N,0.3nm,0.3s,baz=68,slow=18,SNR=3.5						
	comp=N,1.6nm,0.4s						
TRNA	**Turayna**	**10.82**	**151**	P	**Pn**	**01 58 08.4**	**+2.5**
RAYN	**Ar Rayn**	**10.84**	**180**	Pn	**Pn**	**01 58 03.8**	**-2.4**
MASF	**Masafi**	**12.87**	**132**	P	**Pn**	**01 58 34.5**	**+0.5**
MASF				S	**Sn**	**02 00 51.3**	**-5.1**
ASUD	**Al Ashush, Dub**	**12.94**	**136**	P	**Pn**	**01 58 35.9**	**+1.1**
ASUD				S	**Sn**	**02 00 54.6**	**-3.2**
MDH	**Madha**	**13.01**	**131**	P	**Pn**	**01 58 36.3**	**+0.5**
MDH				S	**Sn**	**02 00 54.8**	**-4.9**
UOSS	**Minazif**	**13.21**	**133**	Pn	**Pn**	**01 58 37.4**	**-1.1**
UOSS	**Minazif**	**13.21**	**133**	P	**Pn**	**01 58 39.1**	**+0.5**
UOSS				S	**Sn**	**02 00 58.3**	**-6.3**
HATD	**Hatta, Dubai**	**13.26**	**133**	S	**Sn**	**02 01 00.9**	**-4.8**
ASHO	**Ashiyiah**	**13.32**	**134**	P	**Pn**	**01 58 40.1**	**0.0**
	SNR=7.8						
ASHO				S	**Sn**	**02 01 01.6**	**-5.6**
JASK	**Jask - Hormozg**	**13.63**	**125**	P	**Pn**	**01 58 43.7**	**-0.6**
SOHO	**SOHO**	**14.01**	**134**	P	**Pn**	**01 58 50.4**	**+0.9**
SOHO				S	**Sn**	**02 01 18.8**	**-5.4**
UMZA	**Um Al Zommool**	**14.38**	**142**	P	**Pn**	**01 58 55.0**	**+0.5**
ARQ	**Araqi**	**14.62**	**136**	P	**Pn**	**01 58 57.9**	**+0.1**
ARQ				S	**Sn**	**02 01 32.3**	**-6.7**
HOQ	**Hoqain**	**14.89**	**133**	P	**Pn**	**01 59 01.8**	**+0.3**
BSY	**Bisya**	**15.47**	**136**	P	**Pn**	**01 59 09.6**	**+0.5**
BSY				S	**Sn**	**02 01 55.4**	**-4.3**
SMDO	**Samad**	**15.73**	**133**	P	**Pn**	**01 59 12.8**	**+0.2**
SMDO				S	**Sn**	**02 01 59.9**	**-6.3**
WSAR	**Wadi Sarin**	**15.96**	**131**	Pn	**Pn**	**01 59 14.2**	**-1.2**
	comp=N,0.8nm,0.3s,baz=316,slow=4.9,SNR=12						
	comp=N,1.7nm,0.3s						
JMDO	**Jabal Madar**	**16.29**	**134**	P	**Pn**	**01 59 19.8**	**+0.2**
WBK	**Wadi Bani Khal**	**16.63**	**131**	P	**Pn**	**01 59 23.7**	**-0.3**
IDI	**Anoyia**	**16.98**	**279**		**P**	**01 59 30.8**	**+0.7**
IDI				IAmb	IAmb	01 59 39.2	
	comp=Z,7.5nm,0.8s						
IDI	**Anoyia**	**16.98**	**279**	Pn	**P**	**01 59 30.6**	**+0.5**
	baz=56,slow=3.6,SNR=3.5						
MHTO	**MHTO**	**17.29**	**137**	P	**Pn**	**01 59 31.3**	**-0.9**
MHTO				S	**Sn**	**02 02 34.9**	**-9.0**
DOK	**Doka**	**17.48**	**152**	P	**Pn**	**01 59 33.8**	**-0.8**
	SNR=8.9						
DOK				S	Sn	02 02 37.5	-11
WHFO	**Wadi Hawf**	**17.99**	**154**	P	**Pn**	**01 59 39.5**	**-1.5**
WHFO				S	Sn	02 02 49.0	-12
BELG	**Belogornoye**	**18.05**	**4**	P	**P**	**01 59 41.9**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=279,slow=1.9,SNR=4.8						
	comp=Z,7.8nm,0.6s						
ABKAR	**Akbulak array**	**18.26**	**31**		**Pn**	**01 59 45.5**	**+1.4**
ABTO	**Aybut**	**18.34**	**156**	S	Sn	02 02 59.0	-10
AKTO	**Aktyubinsk**	**18.44**	**26**	P	**P**	**01 59 44.6**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=211,slow=9.8,SNR=6.8						
	comp=Z,1.5nm,0.8s						
DMTO	**DMTO**	**18.62**	**151**	P	**P**	**01 59 47.4**	**-0.8**
DMTO				S	Sn	02 03 04.3	-12
SHAO	**Shalim**	**18.63**	**149**	P	**P**	**01 59 48.0**	**-0.3**
	SNR=9.3						
SHAO				S	**Sn**	**02 03 06.4**	**-10**
BURAR	**Bucovina Array**	**20.16**	**317**		**P**	**02 00 04.7**	**-0.2**
AKASG	**Malin Array Be**	**20.17**	**329**	P	**P**	**02 00 03.6**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=137,slow=10,SNR=2.7						
	comp=Z,0.2nm,0.3s						
BUR08	**Bucovina Ar. S**	**20.18**	**317**	P	**P**	**02 00 04.8**	**-0.4**
KWP	**Kalwaria Pacla**	**22.66**	**319**	P	**P**	**02 00 31.9**	**+0.1**
KWP				IAmb	IAmb	02 00 57.8	
	comp=Z,14nm,1.5s						
BVAR	**Borovoye Array**	**25.65**	**36**	P	**P**	**02 01 01.2**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=242,slow=7.9,SNR=2.7						
	comp=Z,0.2nm,0.3s						
FIA1	**FINESS Array S**	**29.79**	**341**	P	**P**	**02 01 35.7**	**-1.2**
FINES	**FINESS Array B**	**29.79**	**341**	P	**P**	**02 01 35.7**	**-1.2**
FINES	**FINESS Array B**	**29.79**	**341**	P	**P**	**02 01 36.0**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=145,slow=11,SNR=7.0						
	comp=Z,0.5nm,0.3s						
MK31	**Makanchi Array**	**30.25**	**55**	P	**P**	**02 01 39.9**	**-1.4**
MKAR	**Makanchi Array**	**30.25**	**55**	P	**P**	**02 01 41.1**	**-0.1**
MKAR	**Makanchi Array**	**30.25**	**55**	P	**P**	**02 01 42.9**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=250,slow=7.7,SNR=5.1						
	comp=Z,0.2nm,0.5s						
SENIN	**Lac Senin/Sane**	**31.19**	**304**	P	**P**	**02 01 50.1**	**+0.3**
HFS	**Hagfors**	**33.02**	**331**	P	**P**	**02 02 05.1**	**-0.3**
	comp=Z,2.3nm,0.4s,baz=131,slow=10,SNR=12						
	comp=Z,2.3nm,0.4s						
NOA	**NORSAR Array B**	**34.55**	**331**	P	**P**	**02 02 17.8**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=125,slow=8.8,SNR=1.9						
	comp=Z,0.7nm,0.8s						
ARCES	**ARCES Array B**	**36.90**	**348**	P	**P**	**02 02 38.2**	**-0.5**
ARCES				IAmb	IAmb	02 03 22.2	
	comp=Z,19nm,1.4s						
ARCES	**ARCES Array B**	**36.90**	**348**	P	**P**	**02 02 38.1**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=157,slow=6.5,SNR=8.9						
	comp=Z,1.4nm,0.6s						
EKA	**Eskdalemuir Ar**	**39.34**	**317**	P	**P**	**02 03 02.0**	**+2.6**
	comp=Z,0.7nm,0.6s,baz=90,slow=9.4,SNR=3.9						
ESDC	**Sonseca Array**	**39.46**	**293**	P	**P**	**02 03 01.2**	**+0.4**
	comp=Z,0.4nm,0.9s,baz=71,slow=8.9,SNR=1.9						
	comp=Z,0.4nm,0.9s						
TOA0	**Torodi Ar. Sit**	**44.93**	**253**	P	**P**	**02 03 44.8**	**-0.6**
TOA0				IAmb	IAmb	02 03 52.5	
	comp=Z,3.0nm,1.2s						
TORD	**Torodi Ar. Bea**	**44.93**	**253**	P	**P**	**02 03 45.4**	**-0.1**
TORD				IAmb	IAmb	02 04 25.1	
	comp=Z,2.1nm,1.4s						
TORD	**Torodi Ar. Bea**	**44.93**	**253**	P	**P**	**02 03 45.6**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=54,slow=6.1,SNR=7.7						
	comp=Z,0.3nm,0.4s						
SPB2	**Spitsbergen Ar**	**45.63**	**352**	P	**P**	**02 03 50.4**	**+0.1**
SPITS	**Spitsbergen Ar**	**45.64**	**352**	P	**P**	**02 03 50.7**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=146,slow=11,SNR=41						
	comp=Z,1.2nm,0.3s						
CMAR	**Chiang Mai Arr**	**49.84**	**94**	P	**P**	**02 04 23.6**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=301,slow=8.9,SNR=4.2						
	comp=Z,1.1nm,0.4s						
DBIC	**Dimbokro**	**53.95**	**251**	P	**P**	**02 04 54.1**	**-0.2**
A36M	**Sachs Harbour**	**73.70**	**357**	P	**P**	**02 07 03.7**	**+0.1**
A36M				IAmb	IAmb	02 07 11.2	
	comp=Z,3.9nm,0.9s						
C19K	**Lookout Ridge**	**75.14**	**9**	P	**P**	**02 07 12.3**	**+0.2**
C19K				IAmb	IAmb	02 07 47.7	
	comp=Z,4.4nm,1.4s						
C18K	**Utukok River**	**75.35**	**10**	P	**P**	**02 07 14.0**	**+0.7**
C18K				IAmb	IAmb	02 07 24.4	
	comp=Z,3.4nm,1.5s						
E19K	**Redstone River**	**77.00**	**9**	P	**P**	**02 07 22.8**	**+0.2**
E19K				IAmb	IAmb	02 07 29.4	
	comp=Z,1.8nm,1.1s						
E28M	**Babbage River**	**77.23**	**2**	P	**P**	**02 07 24.6**	**+0.7**
E29M	**Blow River**	**77.49**	**1**	P	**P**	**02 07 25.9**	**+0.6**
E29M				IAmb	IAmb	02 07 34.0	
	comp=Z,2.2nm,0.9s						
BMAR	**Burnt Mountain**	**78.19**	**4**	P	**P**	**02 07 29.0**	**-0.4**
G27K	**Doyon Strip**	**78.96**	**3**	P	**P**	**02 07 34.1**	**+0.6**
G27K				IAmb	IAmb	02 07 48.0	
	comp=Z,2.1nm,1.3s						
H29M	**Whitestone**	**79.65**	**2**	P	**P**	**02 07 37.1**	**-0.2**
J20K	**Nowinta River**	**80.52**	**9**	P	**P**	**02 07 42.6**	**+0.6**
J20K				IAmb	IAmb	02 07 49.0	
	comp=Z,2.8nm,1.1s						
I30M	**Mount Dempster**	**80.69**	**1**	P	**P**	**02 07 43.0**	**-0.1**
I30M				IAmb	IAmb	02 08 14.5	
	comp=Z,4.8nm,1.4s						
SKT	**Skwentna**	**82.96**	**8**	P	**P**	**02 07 55.6**	**+0.6**
SKT				IAmb	IAmb	02 08 04.5	
	comp=Z,7.6nm,1.4s						
SUA	**Susitna One**	**83.56**	**8**	P	**P**	**02 07 57.6**	**-0.6**

*IDC **28** 02:04:54.0±1.6,23°.35S×179°.71W,h531km±15km, mb3.6/13,mbtmp4.5/14,Error ellipse: s-maj=16.1km s-min=14.8km az=111.0*
*NEIC **28** 02:04:54.6±2.3,23°.35S±0°.1×179°.7W±0°.1,h537km±7km, mb4.7/34,Error ellipse: s-maj=17.5km s-min=15.0km az=108.0*
*PPT **28** 02:04:55.7±0.6,23°.34S×179°.57W,h568km±10km,mb4.8/8, MLv5.7/1,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NOU **28** 02:04:55.6,23°.42S×179°.63W,h560km,mb4.6/40,South of Fiji Islands*

ISC 28 02:04:54.0±0.3,23°.44S±0°.05×179°.71W±0°.05,h536km, n226,σ1°§41/240,mb4.8/45,27C-4D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**6.01**	**165**	P	**P**	**02 06 30.7**	**-1.1**
GLKZ	**Green Lake**	**6.01**	**165**	P	**P**	**02 06 34.2**	**+2.3**
GLKZ				S	**S**	**02 07 57.8**	**+5.7**
MSVF	**Nonsavu**	**6.05**	**339**	P	**P**	**02 06 34.8**	**+2.2**
MSVF	**Nonsavu**	**6.05**	**339**	P	**P**	**02 06 32.0**	**-0.6**
NIUE	**Niue**	**10.10**	**66**	P	**P**	**02 07 14.6**	**+1.8**
MARNC	**Mare, Loyalty**	**11.51**	**277**	P	**P**	**02 07 29.4**	**+2.0**
MARNC	**Mare, Loyalty**	**11.51**	**277**	P	**P**	**02 07 29.0**	**+1.6**
PINNC	**Pines Island,**	**11.86**	**271**	P	**P**	**02 07 33.4**	**+2.4**
PINNC	**Pines Island,**	**11.86**	**271**	P	**P**	**02 07 33.0**	**+1.9**
AFI	**Afiamalu**	**12.09**	**40**	P	**P**	**02 07 33.2**	**-0.4**
LIFNC	**LIFOU**	**12.39**	**280**	P	**P**	**02 07 37.0**	**+0.5**
DZM	**Mont Dzumac**	**12.85**	**273**	P	**P**	**02 07 44.2**	**+2.7**
DZM	**Mont Dzumac**	**12.85**	**273**	P	**P**	**02 07 43.2**	**+1.7**
DZM	**Mont Dzumac**	**12.85**	**273**	*e*S	**S**	**02 09 58.1**	**-1.3**
	123nm,26.1s						
DZM	**Mont Dzumac**	**12.85**	**273**	P	**P**	**02 07 42.8**	**+1.3**
	8.2nm,0.8s,baz=78,slow=20,SNR=2.2						
OUZ	**Omahuta**	**13.11**	**205**	P	**P**	**02 07 47.1**	**+3.3**
OUZ	**Omahuta**	**13.11**	**205**	P	**P**	**02 07 46.7**	**+2.9**
WCZ	**Waipu Caves**	**13.48**	**201**	P	**P**	**02 07 50.9**	**+3.2**
MXZ	**Matakaoa Point**	**14.18**	**186**	P	**P**	**02 07 56.3**	**+1.4**
MXZ	**Matakaoa Point**	**14.18**	**186**	P	**P**	**02 07 54.6**	**-0.4**
MXZ	**Matakaoa Point**	**14.18**	**186**	P	**P**	**02 07 56.0**	**+1.1**
MXZ				S	**S**	**02 10 21.1**	**-3.0**
WMGZ	**Waiomatatini S**	**14.42**	**186**	P	**P**	**02 07 59.5**	**+2.0**
HAZ	**Te Kaha**	**14.43**	**188**	P	**P**	**02 07 58.8**	**+1.3**
PKGZ	**Pakihiroa**	**14.53**	**187**	P	**P**	**02 07 58.5**	**-0.2**
PKGZ				S	**S**	**02 10 29.4**	**-1.5**
RUGZ	**Raukumara Rang**	**14.65**	**188**	P	**P**	**02 08 00.5**	**+0.5**
PUZ	**Puketiti**	**14.69**	**186**	P	**P**	**02 08 03.5**	**+3.3**
TWGZ	**Tauwhareparae**	**14.82**	**187**	P	**P**	**02 08 03.1**	**+1.4**
TWGZ				S	**S**	**02 10 35.6**	**-0.8**
TOZ	**Tahuroa Road**	**14.83**	**195**	P	**P**	**02 08 02.5**	**+0.8**
TOZ	**Tahuroa Road**	**14.83**	**195**	P	**P**	**02 08 03.6**	**+1.9**
KMRZ	**Kaimai**	**14.84**	**194**	P	**P**	**02 08 04.5**	**+2.7**
OMRZ	**Omania**	**15.00**	**192**	P	**P**	**02 08 08.5**	**+5.0**
URZ	**Urewera**	**15.02**	**190**	P	**P**	**02 08 05.2**	**+1.5**
URZ	**Urewera**	**15.02**	**190**	P	**P**	**02 08 01.9**	**-1.7**
	38nm,0.6s,baz=7.0,slow=3.9,SNR=15						
URZ				S	**S**	**02 10 35.7**	**-4.3**
	21nm,0.9s,baz=288,slow=20,SNR=3.0						
URZ	**Urewera**	**15.02**	**190**	P	**P**	**02 08 01.3**	**-2.4**
URZ				S	**S**	**02 10 32.2**	**-7.8**
MWZ	**Matawai**	**15.03**	**188**	P	**P**	**02 08 03.6**	**-0.3**
MWZ				S	**S**	**02 10 40.2**	**-0.2**
CNGZ	**Carnagh Statio**	**15.10**	**186**	P	**P**	**02 08 06.4**	**+1.9**
KOUNC	**Koumac, New Ca**	**15.12**	**278**	P	**P**	**02 08 04.7**	**-0.4**
TLZ	**Tolley Road**	**15.39**	**194**	P	**P**	**02 08 09.3**	**+1.7**
RTZ	**Ruatahuna**	**15.39**	**190**	P	**P**	**02 08 05.9**	**-1.7**
SNGZ	**Shannon Statio**	**15.50**	**189**	P	**P**	**02 08 08.6**	**-0.1**
MTHZ	**Maungataniwha**	**15.64**	**190**	P	**P**	**02 08 10.5**	**+0.3**
MTHZ				S	**S**	**02 10 49.2**	**-2.1**
RAHZ	**Arahi**	**15.67**	**189**	P	**P**	**02 08 08.3**	**-2.1**
BKZ	**Black Stump Fm**	**16.01**	**191**	P	**P**	**02 08 13.5**	**-0.4**
BKZ	**Black Stump Fm**	**16.01**	**191**	P	**P**	**02 08 13.4**	**-0.4**
BKZ				S	**S**	**02 10 54.8**	**-2.7**
BFZ	**Birch Farm**	**17.53**	**190**	P	**P**	**02 08 26.7**	**-1.3**
SNZO	**South Karori**	**18.43**	**193**	P	**P**	**02 08 37.5**	**+1.3**
SNZO	**South Karori**	**18.43**	**193**	P	**P**	**02 08 35.0**	**-1.2**
TCW	**Tory Channel**	**18.43**	**194**	P	**P**	**02 08 36.3**	**+0.1**
BHW	**Baring Head**	**18.48**	**193**	P	**P**	**02 08 36.8**	**0.0**
QRZ	**Quartz Range**	**18.52**	**199**	P	**P**	**02 08 39.1**	**+2.0**
TKNZ	**Takaka Hill**	**18.59**	**198**	P	**P**	**02 08 38.2**	**+0.4**
TUWZ	**Tuamarina**	**18.71**	**195**	P	**P**	**02 08 38.8**	**0.0**
KHZ	**Kahutara**	**19.74**	**195**	P	**P**	**02 08 48.8**	**+0.7**
KHZ	**Kahutara**	**19.74**	**195**	P	**P**	**02 08 48.2**	**0.0**
GVZ	**Greta Valley S**	**20.38**	**195**	P	**P**	**02 08 53.0**	**-1.0**
LTZ	**Lake Taylor**	**20.41**	**197**	P	**P**	**02 08 53.3**	**-1.0**
INZ	**Inchbonnie**	**20.59**	**199**	P	**P**	**02 08 55.9**	**+0.1**
RPZ	**Rata Peaks**	**21.61**	**198**	P	**P**	**02 09 05.9**	**+0.8**
RPZ	**Rata Peaks**	**21.61**	**198**	P	**P**	**02 09 05.8**	**+0.8**
	26nm,0.5s,baz=42,slow=16,SNR=8.3						
	26nm,0.5s						
JCZ	**Jackson Bay**	**22.65**	**202**	P	**P**	**02 09 15.1**	**+0.6**
ARMA	**Armidale**	**26.44**	**249**	P	**P**	**02 09 50.0**	**+1.7**
ARMA	**Armidale**	**26.44**	**249**	P	**P**	**02 09 49.5**	**+1.2**
EIDS	**Eidsvold**	**26.65**	**260**	P	**P**	**02 09 50.9**	**+0.8**
EIDS	**Eidsvold**	**26.65**	**260**	P	**P**	**02 09 50.3**	**+0.2**
MGCD	**Mangrove Creek**	**27.39**	**243**	P	**P**	**02 09 58.4**	**+1.9**
PPT2	**Papeete2**	**28.78**	**84**	*e*P	**P**	**02 10 11.8**	**+2.9**
	30nm,28.0s						
PPT2				*e*S	**S**	**02 14 19.4**	**-1.7**
	40nm,25.5s						
PPT2				*es*S	**sS**	**02 17 02.3**	**-3.5**
	64nm,28.0s						
CAN	**Canberra**	**29.61**	**239**	P	**P**	**02 10 17.5**	**+1.7**
CAN	**Canberra**	**29.61**	**239**	P	**P**	**02 10 17.1**	**+1.2**
CAN				IAmb	IAmb	02 10 17.8	
	comp=Z,18nm,0.6s						
TV1H	**Townsville Har**	**31.43**	**271**	P	**P**	**02 10 32.4**	**+0.7**
CMSA	**

	comp=Z,25nm,1.3s								
KPJI	**Karang Pucung**	**70.04**	**271**		P		**P**	**02 15 11.8**	**-0.7**
	comp=Z,20nm,0.6s								
JOW	**Kunigami**	**70.89**	**312**		P		**P**	**02 15 18.1**	**+0.9**
JOW	**Kunigami**	**70.89**	**312**		P		**P**	**02 15 17.6**	**+0.4**
JOW					IAmb		IAmb	02 17 32.1	
	comp=Z,56nm,1.4s								
MJAR	**Matsushiro Arr**	**71.67**	**325**		P		**P**	**02 15 21.6**	**0.0**
	comp=Z,0.8nm,0.3s,baz=158,slow=5.4,SNR=4.6								
	comp=Z,0.8nm,0.3s								
ADK	**Adak**	**75.04**	**2**		P		**P**	**02 15 40.5**	**+0.1**
ADK	**Adak**	**75.04**	**2**		P		**P**	**02 15 40.5**	**+0.1**
ADK					IAmb		IAmb	02 16 27.2	
	comp=Z,50nm,1.4s								
BELA	**Belgrano 2**	**76.86**	**173**		P		**P**	**02 15 50.4**	**+0.1**
KSRS	**Korea Array**	**78.07**	**320**		P		**P**	**02 15 58.2**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=141,slow=7.3,SNR=3.1								
	comp=Z,1.1nm,0.5s								
NJ2	**Nanjing**	**80.56**	**311**	*eP*			**P**	**02 16 12.3**	**+1.6**
NJ2					pP		**pP**	**02 18 06.5**	**+2.2**
NJ2					pmax		pmax		
	comp=Z,9.0nm,0.5s								
NJ2					pmax		pmax		
	comp=Z,180nm,5.7s								
ELIB	**Princess Elisa**	**83.55**	**187**	*dP*			**P**	**02 16 26.1**	**+0.7**
	comp=Z,3.0nm,0.7s								
TIA	**Tai'an**	**84.11**	**313**		P		**P**	**02 16 29.5**	**+0.9**
TIA					pmax		pmax		
	comp=Z,5.0nm,0.7s								
NVAR	**Mina Array Bea**	**84.24**	**44**		P		**P**	**02 16 28.7**	**-0.7**
	comp=Z,1.5nm,1.0s,baz=215,slow=7.4,SNR=5.9								
	comp=Z,1.5nm,1.0s								
P18K	**Big Mountain,**	**84.96**	**12**		P		**P**	**02 16 31.8**	**-0.4**
P18K					IAmb		IAmb	02 19 39.4	
	comp=Z,63nm,1.9s								
GYA	**Guiyang**	**86.75**	**301**	*eP*			**P**	**02 16 42.5**	**+0.9**
GYA					pmax		pmax		
	comp=Z,13nm,0.6s								
GYA					pmax		pmax		
	comp=Z,140nm,4.1s								
U15A	**North Rim**	**87.10**	**48**		P		**P**	**02 16 44.4**	**+1.1**
LOEI	**Loei**	**87.22**	**290**		P		**P**	**02 16 42.1**	**-1.8**
	comp=Z,3µm,0.8s								
XAN	**Xi'an**	**88.67**	**308**		P		**P**	**02 16 51.5**	**+1.1**
XAN					pmax		pmax		
	comp=Z,11nm,0.7s								
CMAR	**Chiang Mai Arr**	**89.62**	**290**		P		**P**	**02 16 56.9**	**+1.8**
	comp=Z,2.1nm,0.4s,baz=135,slow=3.5,SNR=18								
	comp=Z,2.1nm,0.4s								
TXAR	**Lajitas Array**	**89.96**	**58**		P		**P**	**02 16 58.3**	**+1.7**
	comp=Z,1.0nm,0.7s,baz=215,slow=6.8,SNR=16								
	comp=Z,1.0nm,0.7s								
BSUT	**Blindstream Ca**	**90.26**	**45**		P		**P**	**02 16 59.2**	**+1.2**
HHC	**Hu-ho-hao-te**	**90.28**	**315**	*eP*			**P**	**02 16 59.0**	**+1.2**
HHC					pmax		pmax		
	comp=Z,12nm,0.6s								
HHC					pmax		pmax		
	comp=Z,61nm,4.1s								
PZH	**PanZhiHua**	**90.70**	**299**		P		**P**	**02 17 01.3**	**+1.2**
PZH					pmax		pmax		
	comp=Z,10.0nm,0.5s								
PZH					pmax		pmax		
	comp=Z,120nm,5.6s								
ILAR	**Eielson Array**	**91.52**	**13**		P		**P**	**02 17 01.9**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=213,slow=6.8,SNR=2.2								
	comp=Z,0.2nm,0.5s								
PDAR	**Pinedale Array**	**92.17**	**44**		P		**P**	**02 17 07.0**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=227,slow=3.7,SNR=4.7								
	comp=Z,0.5nm,0.6s								
MKAR	**Makanchi Array**	**112.04**	**313**		PKiKP		**PKiKP**	**02 22 27.3**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=211,slow=1.0,SNR=9.1								
KURBB	**Kurchatov Arra**	**115.10**	**316**		PKP		**PKPdf**	**02 22 33.1**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=115,slow=2.0,SNR=5.6								
KK31	**Karatay Array**	**119.80**	**307**		PKPdf		**PKPdf**	**02 22 42.4**	**-0.9**
KKAR	**Karatay Array**	**119.80**	**307**		PKPdf		**PKPdf**	**02 22 42.4**	**-0.9**
BVAR	**Borovoye Array**	**120.27**	**319**		PKP		**PKPdf**	**02 22 43.4**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=129,slow=1.2,SNR=13								
SPITS	**Spitsbergen Ar**	**124.68**	**356**		PKP		**PKPdf**	**02 22 51.3**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=52,slow=5.7,SNR=1.4								
ABKAR	**Akbulak array**	**127.08**	**315**		PKPdf		**PKPdf**	**02 22 57.2**	**+0.2**
ARCES	**ARCESS Array B**	**131.49**	**348**		PKP		**PKPdf**	**02 23 04.6**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=340,slow=1.6,SNR=9.2								
ARCES					SKPbc		**SKPbc**	**02 25 39.9**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=32,slow=4.7,SNR=4.0								
FINES	**FINESS Array B**	**138.10**	**342**		PKPpre		PKPpre	02 23 07.0	
FINES	**FINESS Array B**	**138.10**	**342**		PKhKP		PKPpre	02 23 07.8	
	comp=Z,0.7nm,0.7s,baz=84,slow=5.9,SNR=4.7								
FINES					SKPbc		**SKPbc**	**02 26 00.2**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=48,slow=2.8,SNR=7.9								
NB2	**NORSAR Subarra**	**141.67**	**351**		PKP		**PKPdf**	**02 23 19.4**	**-4.5**
	comp=Z,0.5nm,0.5s,baz=21,slow=3.8								
NOA	**NORSAR Array B**	**141.67**	**351**		PKhKP		PKPpre	02 23 16.3	
	comp=Z,0.8nm,0.8s,baz=62,slow=0.9,SNR=5.7								
HFS	**Hagfors**	**142.15**	**349**		PKhKP		PKPpre	02 23 20.7	
	comp=Z,5.7nm,0.3s,baz=66,slow=3.6,SNR=78								
PABE	**Paberze**	**143.50**	**337**		PKPdf		PKPbc	02 23 26.0	+0.2
ARPR	**Arapgir-MALATY**	**144.22**	**305**		PKPbc		**PKPdf**	**02 23 29.8**	**+0.5**
AKASG	**Malin Array Be**	**144.73**	**328**		PKPdf		**PKPdf**	**02 23 29.2**	**-0.3**
AKASG	**Malin Array Be**	**144.73**	**328**		PKP		**PKPdf**	**02 23 29.5**	**0.0**
	comp=Z,4.0nm,0.5s,baz=43,slow=4.0,SNR=36								
AKASG					SKPbc		**SKPbc**	**02 26 17.6**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=54,slow=2.2,SNR=4.4								
GAZ	**Gaziantep**	**145.54**	**302**		PKPbc		**PKPbc**	**02 23 33.3**	**+0.5**
BNN	**Bunyan**	**146.16**	**305**		PKPbc		**PKPbc**	**02 23 34.2**	**-0.4**
SORM	**Soroca**	**146.78**	**325**	⇑	P		**PKPbc**	**02 23 35.5**	**-0.3**
BR131	**Keskin Array S**	**147.51**	**308**		PKPbc		**PKPbc**	**02 23 37.6**	**-0.6**
BRTR	**Keskin Array B**	**147.51**	**308**		PKPbc		**PKPbc**	**02 23 36.9**	**-1.3**
BRTR	**Keskin Array B**	**147.51**	**308**		PKPbc		**PKPbc**	**02 23 37.4**	**-0.8**
	comp=Z,2.1nm,0.5s,baz=130,slow=5.2,SNR=9.7								
MMAI	**Mount Meron Ar**	**147.75**	**295**		PKPbc		**PKPbc**	**02 23 39.8**	**+0.8**
	comp=Z,5.8nm,0.4s,baz=71,slow=6.3,SNR=30								
EKA	**Eskdalemuir Ar**	**148.04**	**4**		PKPbc		**PKPbc**	**02 23 38.7**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=337,slow=2.2,SNR=15								
ANTO	**Ankara**	**148.07**	**309**		PKPbc		**PKPbc**	**02 23 39.0**	**-0.5**
VLDR	**Vladesti**	**148.30**	**322**	⇑	P		**PKiKP**	**02 23 40.5**	**-0.5**
KWP	**Kalwaria Pacla**	**148.50**	**332**	*e*	PKP		**PKiKP**	**02 23 40.9**	**-0.4**
KWP	**Kalwaria Pacla**	**148.50**	**332**		PKPbc		**PKPbc**	**02 23 40.4**	**+0.2**
CFR	**Carcaliu**	**148.65**	**321**	⇑	P		**PKPbc**	**02 23 40.9**	**+0.2**
TPGR	**Topolog**	**148.66**	**320**	⇑	P		**PKiKP**	**02 23 41.4**	**-0.4**
TESR	**Tescani**	**148.70**	**324**	⇑	P		**PKPbc**	**02 23 41.1**	**+0.3**
BUR08	**Bucovina Ar. S**	**148.73**	**327**		PKPbc		**PKPbc**	**02 23 41.3**	**+0.4**
BURAR	**Bucovina Array**	**148.74**	**327**	⇑	P		**PKiKP**	**02 23 42.4**	**+0.4**
BURAR	**Bucovina Array**	**148.74**	**327**		PKPbc		**PKiKP**	**02 23 41.9**	**-0.1**
TIRR	**Tirgusor**	**148.89**	**319**	⇓	P		**PKPbc**	**02 23 41.6**	**+0.4**
VRI	**Vrincioaia**	**149.05**	**323**	⇑	P		**PKPbc**	**02 23 40.8**	**-0.9**
MANR	**Mangalia**	**149.13**	**318**	⇑	P		**PKPbc**	**02 23 42.2**	**+0.3**
STHS	**Stebnicka Huta**	**149.28**	**333**	*e*	PKP		**PKPbc**	**02 23 41.9**	**-0.2**
TURR	**Turia**	**149.33**	**324**	⇑	P		**PKiKP**	**02 23 43.3**	**+0.1**
CRVS	**Cervenica-Dubn**	**149.58**	**332**	*e*	PKP		**PKiKP**	**02 23 43.5**	**-0.1**
NIE	**Niedzica**	**149.67**	**334**	*e*	PKP		**PKiKP**	**02 23 44.9**	**+1.1**
MLR	**Muntele Rosu**	**149.71**	**323**	⇑	P		**PKPbc**	**02 23 43.6**	**+0.1**
MLR	**Muntele Rosu**	**149.71**	**323**		PKPbc		**PKPbc**	**02 23 42.8**	**-0.7**
DOPR	**Dopca**	**149.72**	**324**	⇑	P		**PKPbc**	**02 23 43.3**	**0.0**
OSTC	**Ostas**	**150.23**	**339**	⇑	*e*	PKP	**PKiKP**	**02 23 45.1**	**+0.2**
VOIR		**150.24**	**324**	⇑	P		**PKPbc**	**02 23 44.7**	**+0.1**
DPC	**Dobruska-Polom**	**150.37**	**339**	⇑	*e*	PKP	**PKiKP**	**02 23 45.5**	**+0.3**
MARR	**Marisel-Cluj**	**150.43**	**327**	⇑	P		**PKiKP**	**02 23 45.4**	**-0.1**
MORC	**Moravsky Berou**	**150.44**	**337**	⇑	P		**PKiKP**	**02 23 45.6**	**+0.2**
MORC	**Moravsky Berou**	**150.44**	**337**	*e*	PKP		**PKiKP**	**02 23 45.3**	**-0.1**
KRLC	**Kraliky**	**150.45**	**338**	⇑	*e*	PKP	**PKiKP**	**02 23 45.4**	**0.0**
CLL	**Collm**	**150.49**	**344**	⇓	*i*	PKPbc	**PKiKP**	**02 23 45.1**	**-0.3**
	comp=Z,7.0nm,0.6s								
ARR	**Arges**	**150.51**	**324**	⇑	P		**PKiKP**	**02 23 46.6**	**+0.9**
DRGR		**150.55**	**328**	⇓	P		**PKPbc**	**02 23 43.3**	**-1.9**
BRG	**Berggiesshubel**	**150.63**	**342**	*i*	PKP		**PKiKP**	**02 23 45.7**	**0.0**
BRG					Amp			02 23 46.2	
	comp=Z,5.4nm,0.6s								
MAUC	**Maruska**	**150.67**	**336**	⇑	*e*	PKP	**PKiKP**	**02 23 46.3**	**+0.4**
PVCC	**Panska Ves**	**150.76**	**341**	⇑	*e*	PKP	**PKiKP**	**02 23 46.3**	**+0.4**
VYHS	**Vyhne**	**150.99**	**334**	*e*	PKP		**PKiKP**	**02 23 46.6**	**+0.1**
VYHS				*e*				02 23 56.9	
JAVC	**Velka Javorina**	**151.15**	**336**	*e*	PKP		**PKPbc**	**02 23 46.6**	**0.0**
VRAC	**Vranov**	**151.17**	**338**	*e*	PKP		**PKPbc**	**02 23 45.7**	**-0.8**
ELL	**Elmali**	**151.28**	**304**		PKPbc		**PKPbc**	**02 23 46.8**	**-0.5**
SIRR	**Siria**	**151.43**	**328**	⇑	P		**PKPbc**	**02 23 47.0**	**-0.2**
KRUC	**Moravsky**	**151.44**	**338**	*e*	PKP		**PKPbc**	**02 23 47.0**	**-0.1**
GZR	**Gura Zlata**	**151.48**	**326**	⇑	P		**PKPbc**	**02 23 46.8**	**-0.6**
SURR	**Surduc**	**151.56**	**327**	⇑	P		**PKPbc**	**02 23 47.6**	**+0.1**
BZS	**Buzias**	**151.91**	**327**	⇑	P		**PKiKP**	**02 23 48.5**	**0.0**
HERR	**Herculane**	**152.01**	**325**	⇑	P		**PKPbc**	**02 23 47.8**	**-0.7**
KHC	**Kasperske Hory**	**152.30**	**341**	⇑	*e*	PKP	**PKiKP**	**02 23 49.3**	**+0.1**
CKRC	**Cesky Krumlov**	**152.35**	**340**	⇑	*e*	PKP	**PKiKP**	**02 23 49.5**	**+0.2**
RDO	**Rodhopi**	**152.46**	**316**		PKPbc		**PKPbc**	**02 23 48.4**	**-1.2**
KARP	**Karpathos**	**153.77**	**303**		PKPbc		**PKPbc**	**02 23 52.3**	**-0.4**
TOA0	**Torodi Ar. Sit**	**169.68**	**188**		PKPab		**PKPab**	**02 25 17.0**	**-1.2**
TORD	**Torodi Ar. Bea**	**169.68**	**188**		PKPab		**PKPab**	**02 25 17.4**	**-0.8**
TORD	**Torodi Ar. Bea**	**169.68**	**188**		PKP		**PKPdf**	**02 23 59.6**	**-1.2**
	comp=Z,0.8nm,0.9s,baz=325,slow=2.3,SNR=4.0								
TORD					PKPab		**PKPab**	**02 25 18.6**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=132,slow=2.2,SNR=3.7								

IDC 28 02:15:33.9±7.3, 18°79S×173°66W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=318.5km s-min=36.1km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**48.91**	**255**	P	P	02 24 22.3	+0.2
	3.9nm,0.6s,baz=90,slow=8.3,SNR=47						
	3.9nm,0.6s						
WRA	**Warramunga Arr**	**48.91**	**260**	P	P	02 24 21.6	-0.5
	0.4nm,0.3s,baz=98,slow=6.7,SNR=19						
	0.4nm,0.3s						
ILAR	**Eielson Array**	**85.80**	**11**	P	P	02 28 14.8	0.0
	0.2nm,0.5s,baz=230,slow=6.2,SNR=8.6						
	0.2nm,0.5s						

*NEIC **28** 02:18:12.9±1.8, 24°30S±0°06×66°85W±0°08, h166km±1km, mb4.4/56, Error ellipse: s-maj=11.0km s-min=9.1km az=81.0*
*SJA **28** 02:18:13.0±0.6, 24°27S×67°01W, h204km±4km, ML4.7, MW4.4*
*VAO **28** 02:18:14.5±0.4, 24°17S×66°90W, h184km±3km, mb4.4*
*GUC **28** 02:18:14.9±0.6, 24°21S×67°34W, h204km±5km, ML4.6*
*IDC **28** 02:18:14.4±1.0, 24°14S×66°83W, h175km±9km, mb3.8/12, mbtmp4.3/18, Error ellipse: s-maj=13.4km s-min=11.3km az=65.0*

ISC 28 02:18:13.9±0.6, 24°25S±0°03×67°04W±0°04, h183km±6km, n226, σ1°47/260, mb4.3/36, 12C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.47**	**109**	*eP*	**Pn**	**02 18 47.3**	**+1.3**
SLA				*eS*	**Sn**	**02 19 12.5**	**+1.7**
AF01	**San Pedro de A**	**1.67**	**321**		**Pn**	**02 18 49.8**	**+1.7**
AF01	**San Pedro de A**	**1.67**	**321**	⇑ *iP*	**Pn**	**02 18 50.0**	**+1.9**
AF01				*eS*	**Sn**	**02 19 17.0**	**+2.5**
AF01				IAML		02 19 25.4	
	comp=N,4µm,0.1s						
FSA	**Cafayete**	**2.08**	**153**	*eP*	**Pn**	**02 18 51.6**	**-0.7**
LVC	**Limon Verde**	**2.38**	**313**	Pn	**Pn**	**02 18 57.1**	**+1.4**
LVC	**Limon Verde**	**2.38**	**313**	*eP*	**Pn**	**02 18 57.2**	**+1.4**
LVC				*eS*	**Sn**	**02 19 30.7**	**+2.5**
LVC				IAML		02 19 32.4	
	comp=Z,1µm,0.3s						
LVC	**Limon Verde**	**2.38**	**313**	P	**Pn**	**02 18 57.2**	**+1.4**
	comp=Z,349nm,0.5s,baz=135,slow=6.9,SNR=703						
LVC				S	**Sn**	**02 19 29.2**	**+1.0**
	comp=Z,1µm,0.3s,baz=303,slow=18,SNR=78						
LVC	**Limon Verde**	**2.38**	**313**	⇑ *iP*	**Pn**	**02 18 57.2**	**+1.4**
LVC				*eS*	**Sn**	**02 19 28.9**	**+0.6**
LVC	**Limon Verde**	**2.38**	**313**	*eP*	**Pn**	**02 18 57.2**	**+1.4**
PB15	**IPOC Station P**	**2.46**	**295**	Pn	**Pn**	**02 18 57.8**	**+1.2**
PB15	**IPOC Station P**	**2.46**	**295**	*eP*	**Pn**	**02 18 58.0**	**+1.5**
PB15				*eS*	**Sn**	**02 19 30.9**	**+1.1**
PB15	**IPOC Station P**	**2.46**	**295**	⇑ *iP*	**Pn**	**02 18 57.8**	**+1.2**
PB15				*eS*	**Sn**	**02 19 29.8**	**+0.1**
GO02	**Mina Guanaco**	**2.49**	**248**	Pn	**Pn**	**02 18 58.0**	**+1.0**
GO02	**Mina Guanaco**	**2.49**	**248**	*eP*	**Pn**	**02 18 58.2**	**+1.2**
GO02				*eS*	**Sn**	**02 19 31.7**	**+1.2**
GO02	**Mina Guanaco**	**2.49**	**248**	⇑ *iP*	**Pn**	**02 18 58.3**	**+1.2**
GO02				*eS*	**Sn**	**02 19 31.1**	**+0.6**
YJA	**Yavi**	**2.50**	**34**	*eP*	**Pn**	**02 18 58.8**	**+1.5**
YJA				*eS*	**Sn**	**02 19 32.5**	**+1.7**
PB06	**IPOC Station P**	**2.79**	**303**	Pn	**Pn**	**02 19 01.3**	**+0.9**
PB06	**IPOC Station P**	**2.79**	**303**	*eP*	**Pn**	**02 19 01.8**	**+1.4**
PB06				*eS*	**Sn**	**02 19 37.7**	**+1.1**
PB06				IAML		02 19 39.4	
	comp=Z,3µm,0.2s						
PB06	**IPOC Station P**	**2.79**	**303**	⇑ *iP*	**Pn**	**02 19 01.8**	**+1.4**
PB06				*eS*	**Sn**	**02 19 36.3**	**-0.3**
PB14	**IPOC Station P**	**3.09**	**262**	Pn	**Pn**	**02 19 04.0**	**-0.2**
PB14	**IPOC Station P**	**3.09**	**262**	*eP*	**Pn**	**02 19 04.8**	**+0.7**
PB14				IAML		02 19 46.7	
	comp=Z,836nm,0.2s						
PB14	**IPOC Station P**	**3.09**	**262**	⇑ *iP*	**Pn**	**02 19 04.7**	**+0.5**
PB14				*eS*	**Sn**	**02 19 41.3**	**-1.9**
PB14				IAML		02 19 43.9	
	comp=E,1µm,0.5s						
PB09	**IPOC Station P**	**3.18**	**320**	Pn	**Pn**	**02 19 06.3**	**+1.2**
PB09	**IPOC Station P**	**3.18**	**320**	*eP*	**Pn**	**02 19 06.6**	**+1.5**
PB09				*eS*	**Sn**	**02 19 46.1**	**+1.0**
PB09				IAML		02 19 46.5	
	comp=Z,1µm,0.4s						
PB09	**IPOC Station P**	**3.18**	**320**	⇑ *iP*	**Pn**	**02 19 06.6**	**+1.5**
PB09				*eS*	**Sn**	**02 19 45.4**	**+0.4**
PB09				IAML		02 19 49.0	
	comp=N,1µm,0.3s						
AC02	**Maricunga**	**3.19**	**216**	Pn	**Pn**	**02 19 06.3**	**+0.8**
AC02	**Maricunga**	**3.19**	**216**	*eP*	**Pn**	**02 19 06.7**	**+1.3**
AC02	**Maricunga**	**3.19**	**216**	⇑ *iP*	**Pn**	**02 19 06.8**	**+1.3**
AC02				*eS*	**Sn**	**02 19 46.1**	**+0.4**
AC02				IAML		02 19 51.8	
	comp=E,492nm,0.3s						
PB05	**IPOC Station P**	**3.22**	**295**	Pn	**Pn**	**02 19 05.6**	**0.0**
PB05	**IPOC Station P**	**3.22**	**295**	*eP*	**Pn**	**02 19 06.4**	**+0.8**
PB05				IAML		02 19 55.3	
	comp=Z,803nm,0.4s						
PB05	**IPOC Station P**	**3.22**	**295**	⇑ *iP*	**Pn**	**02 19 06.3**	**+0.7**
PB05				*eS*	**Sn**	**02 19 43.8**	**-2.0**
PB10	**IPOC Station P**	**3.30**	**282**	Pn	**Pn**	**02 19 07.2**	**+0.7**
PB10	**IPOC Station P**	**3.30**	**282**	*eP*	**Pn**	**02 19 07.4**	**+0.9**
PB10				*eS*	**Sn**	**02 19 47.5**	**+0.1**
PB10				IAML		02 19 48.9	
	comp=Z,1µm,0.4s						
PB04	**IPOC Station P**	**3.44**	**303**	Pn	**Pn**	**02 19 08.1**	**-0.2**
PB04	**IPOC Station P**	**3.44**	**303**	*eP*	**Pn**	**02 19 09.2**	**+0.8**
PB04				*eS*	**Sn**	**02 19 49.8**	**-1.0**
PB04				IAML		02 19 51.6	
	comp=Z,3µm,0.2s						
PB04	**IPOC Station P**	**3.44**	**303**	⇑ *iP*	**Pn**	**02 19 08.9**	**+0.6**
PB04				*eS*	**Sn**	**02 19 49.2**	**-1.6**
PB07	**IPOC Station P**	**3.64**	**313**	Pn	**Pn**	**02 19 10.9**	**+0.1**
PB07	**IPOC Station P**	**3.64**	**313**	*eP*	**Pn**	**02 19 11.3**	**+0.6**
PB07				IAML		02 20 01.1	
	comp=Z,2µm,0.7s						
PB07	**IPOC Station P**	**3.64**	**313**	⇑ *iP*	**Pn**	**02 19 11.4**	**+0.6**
PB07				*eS*	**Sn**	**02 19 53.1**	**-2.1**
AC01	**Pan de Azucar**	**3.74**	**239**	Pn	**Pn**	**02 19 11.2**	**-0.7**
AC01	**Pan de Azucar**	**3.74**	**239**	*eP*	**Pn**	**02 19 11.6**	**-0.2**
AC01				*eS*	**Sn**	**02 19 55.2**	**-1.9**
AC01				IAML		02 19 55.8	
	comp=Z,390nm,0.3s						
AC01	**Pan de Azucar**	**3.74**	**239**	⇑ *iP*	**Pn**	**02 19 11.5**	**-0.3**
AC01				*eS*	**Sn**	**02 19 54.7**	**-2.4**
PB01	**IPOC Station P**	**3.92**	**324**	Pn	**Pn**	**02 19 14.3**	**+0.1**
PB01	**IPOC Station P**	**3.92**	**324**	*eP*	**Pn**	**02 19 14.2**	**-0.1**
PB01				IAML		02 20 05.6	
	comp=Z,693nm,0.2s						
PB01	**IPOC Station P**	**3.92**	**324**	*eP*	**Pn**	**02 19 15.0**	**+0.8**
PB01				*eS*	**Sn**	**02 19 59.5**	**-1.9**
PB02	**IPOC Station P**	**3.94**	**317**	*eP*	**Pn**	**02 19 15.1**	**+0.6**
PB02				*eS*	**Sn**	**02 20 01.6**	**-0.3**
PB02				IAML		02 20 06.0	
	comp=Z,3µm,0.2s						
PB02	**IPOC Station P**	**3.94**	**317**	*eP*	**Pn**	**02 19 15.8**	**+1.3**
PB02				*eS*	**Sn**	**02 20 00.5**	**-1.3**
AC06	**Mina Casimiro**	**4.30**	**223**	Pn	**Pn**	**02 19 17.8**	**-1.1**
AC06	**Mina Casimiro**	**4.30**	**223**	*eP*	**Pn**	**02 19 18.2**	**-0.7**
AC06				*eS*	**Sn**	**02 20 06.6**	**-3.4**
CYA	**Choya**	**4.32**	**165**	*eP*	**Pn**	**02 19 20.1**	**+0.9**
CYA	**Choya**	**4.32**	**165**	⇓ *eP*	**Pn**	**02 19 20.0**	**+0.9**
GO03	**Copiap**	**4.40**	**220**	*eP*	**Pn**	**02 19 20.1**	**-0.2**
GO03				*eS*	**Sn**	**02 20 10.6**	**-1.8**
GO03	**Copiap**	**4.40**	**220**	*eP*	**Pn**	**02 19 20.2**	**-0.2**
GO03				*eS*	**Sn**	**02 20 10.3**	**-2.1**
PB08	**IPOC Station P**	**4.54**	**334**	Pn	**Pn**	**02 19 23.1**	**+0.7**
PB08	**IPOC Station P**	**4.54**	**334**	*eP*	**Pn**	**02 19 23.3**	**+0.8**
PB08				IAML		02 20 22.2	
	comp=Z,369nm,0.6s						
PB08	**IPOC Station P**	**4.54**	**334**	*eP*	**Pn**	**02 19 24.7**	**+2.3**
PB08				*eS*	**Sn**	**02 20 16.7**	**+0.6**
VCA	**Vinchina**	**4.59**	**193**	*eP*	**Pn**	**02 19 24.9**	**+2.2**
TA01	**Diego Aracena**	**4.68**	**321**	Pn	**Pn**	**02 19 23.1**	**-0.8**
TA01	**Diego Aracena**	**4.68**	**321**	*eP*	**Pn**	**02 19 24.0**	**0.0**
TA01				IAML		02 20 35.4	
	comp=Z,349nm,0.4s						
TA01	**Diego Aracena**	**4.68**	**321**	*eP*	**Pn**	**02 19 23.9**	**0.0**
TA01				*eS*	**Sn**	**02 20 15.8**	**-3.1**
TA02	**Huaiquique**	**4.89**	**324**	Pn	**Pn**	**02 19 26.4**	**-0.3**
PB11	**IPOC Station P**	**5.09**	**331**	Pn	**Pn**	**02 19 28.2**	**-1.2**
PB11	**IPOC Station P**	**5.09**	**331**	*eP*	**Pn**	**02 19 28.7**	**-0.7**
PB11				IAML		02 20 29.4	
	comp=Z,307nm,0.2s						
PB11	**IPOC Station P**	**5.09**	**331**	*eP*	**Pn**	**02 19 29.2**	**-0.1**
PB11				*eS*	**Sn**	**02 20 28.1**	**-0.4**
ACLC	**CERRO LA CRUZ**	**5.15**	**179**	*eP*	**Pn**	**02 19 30.4**	**+0.3**
AC04	**Llanos de Chal**	**5.35**	**222**	Pn	**Pn**	**02 19 30.8**	**-1.7**
AC04	**Llanos de Chal**	**5.35**	**222**	*eP*	**Pn**	**02 19 31.0**	**-1.5**
AC04				*eS*	**Sn**	**02 20 26.9**	**-7.4**
AC04				IAML		02 20 38.0	
	comp=Z,329nm,0.5s						
AC04	**Llanos de Chal**	**5.35**	**222**	*eP*	**Pn**	**02 19 31.8**	**-0.7**
AGUA	**GUANDACOL**	**5.37**	**194**	*eP*	**Pn**	**02 19 33.8**	**+0.9**
LCO	**Las Campanas**	**5.76**	**214**	Pn	**Pn**	**02 19 36.4**	**-1.7**
CO01	**Juntas del Tor**	**6.32**	**205**		**Pn**	**02 19 45.3**	**-0.1**
PB16	**IPOC Station P**	**6.33**	**338**	Pn	**Pn**	**02 19 46.0**	**+0.1**
TICA	**Tres Isletas**	**6.38**	**111**	*eP*	**Pn**	**02 19 44.6**	**-1.4**
CO06	**Fray Jorge**	**7.59**	**212**	Pn	**Pn**	**02 19 59.8**	**-1.9**
LPAZ	**La Paz**	**7.99**	**352**	P	**Pn**	**02 20 07.8**	**0.0**
	comp=Z,9.9nm,0.5s,baz=157,slow=9.0,SNR=57						
LPAZ				S	**Sn**	**02 21 34.4**	**-3.5**
	comp=Z,4.9nm,0.6s,baz=250,slow=15,SNR=1.9						
LPAZ	**La Paz**	**7

SN07	**Snyder 07**	**65.52**	**329**	P	**P**	**02 28 38.6**	**+0.8**
SN07				IAmb	IAmb	02 28 39.6	
	comp=Z,4.1nm,0.8s						
VHRN	**Van Horn**	**65.71**	**325**	P	**P**	**02 28 39.7**	**+0.5**
VHRN				IAmb	IAmb	02 28 41.7	
	comp=Z,3.3nm,0.8s						
QSPA	**South Pole Qui**	**65.95**	**180**	P	**P**	**02 28 41.3**	**+1.0**
QSPA	**South Pole Qui**	**65.95**	**180**	P	**P**	**02 28 42.3**	**+2.0**
	comp=Z,11nm,0.6s,baz=177,slow=0.8,SNR=99						
	comp=Z,11nm,0.6s						
CCM	**Cathedral Cave**	**66.02**	**339**	P	**P**	**02 28 41.1**	**+0.2**
CCM				IAmb	IAmb	02 28 42.0	
	comp=Z,4.5nm,0.7s						
S39A	**Bolivar**	**66.39**	**337**	P	**P**	**02 28 43.9**	**+0.7**
S39A				IAmb	IAmb	02 28 45.4	
	comp=Z,5.9nm,0.9s						
SMWD	**Samnorwood**	**66.90**	**331**	P	**P**	**02 28 46.5**	**-0.1**
SMWD				IAmb	IAmb	02 28 48.6	
	comp=Z,7.8nm,0.8s						
MSTX	**Muleshoe**	**67.14**	**328**	P	**P**	**02 28 48.9**	**+0.7**
MSTX				IAmb	IAmb	02 28 50.2	
	comp=Z,8.0nm,1.0s						
DBIC	**Dimbokro**	**67.91**	**71**	P	**P**	**02 28 51.7**	**-1.6**
DBIC				IAmb	IAmb	02 28 52.3	
	comp=Z,8.8nm,1.2s						
DBIC	**Dimbokro**	**67.91**	**71**	P	**P**	**02 28 52.5**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=245,slow=10,SNR=5.1						
	comp=Z,1.8nm,0.5s						
P38A	**Dawn**	**68.20**	**338**	P	**P**	**02 28 54.8**	**+0.3**
P38A				IAmb	IAmb	02 28 55.9	
	comp=Z,5.9nm,0.9s						
K43A	**Burlington**	**69.46**	**343**	P	**P**	**02 29 02.1**	**-0.1**
ANMO	**Albuquerque**	**69.74**	**326**	P	**P**	**02 29 06.1**	**+1.7**
BGNE	**Belgrade**	**71.42**	**336**	P	**P**	**02 29 14.9**	**+0.7**
SDCO	**Great Sand Dun**	**71.49**	**329**	P	**P**	**02 29 16.5**	**+1.5**
X16A	**Lo Mia Camp, P**	**71.99**	**323**	P	**P**	**02 29 20.1**	**+2.2**
WUAZ	**Wupatki**	**72.76**	**323**	P	**P**	**02 29 24.4**	**+1.9**
WUAZ				IAmb	IAmb	02 29 26.3	
	comp=Z,5.4nm,0.9s						
ECSD	**EROS Data Cent**	**72.90**	**338**	P	**P**	**02 29 22.8**	**-0.1**
F36A	**Milaca**	**73.82**	**341**	P	**P**	**02 29 29.2**	**+1.0**
VNDA	**Vanda**	**74.45**	**190**	P	**P**	**02 29 34.4**	**+2.8**
	comp=Z,2.1nm,0.9s,baz=116,slow=2.7,SNR=9.3						
	comp=Z,2.1nm,0.9s						
SRU	**San Rafael Swe**	**75.02**	**326**	P	**P**	**02 29 36.9**	**+1.4**
SRU				IAmb	IAmb	02 29 38.5	
	comp=Z,4.5nm,0.9s						
GWY	**Greenwater Val**	**76.22**	**321**	P	**P**	**02 29 44.4**	**+1.9**
PSUT	**Pine Spring**	**76.32**	**324**	P	**P**	**02 29 44.8**	**+1.8**
TOA0	**Torodi Ar. Sit**	**76.69**	**69**	P	**P**	**02 29 44.5**	**-0.8**
TOA0				IAmb	IAmb	02 29 45.3	
	comp=Z,4.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**76.69**	**69**	P	**P**	**02 29 44.2**	**-1.1**
TORD	**Torodi Ar. Bea**	**76.69**	**69**	P	**P**	**02 29 45.0**	**-0.3**
	comp=Z,3.0nm,0.6s,baz=261,slow=5.0,SNR=50						
	comp=Z,3.0nm,0.6s						
SPR3	**Spring Creek 3**	**76.92**	**324**	P	**P**	**02 29 48.1**	**+1.6**
R11B	**Troy Canyon, C**	**77.13**	**323**	P	**P**	**02 29 49.7**	**+2.2**
GMN	**Gold Mountain**	**77.34**	**321**	P	**P**	**02 29 49.0**	**+0.2**
GMN				IAmb	IAmb	02 29 56.9	
	comp=Z,4.2nm,0.7s						
PDAR	**Pinedale Array**	**77.35**	**329**	P	**P**	**02 29 50.1**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=120,slow=8.8,SNR=4.3						
	comp=Z,0.5nm,0.7s						
ULM	**Lac du Bonnet**	**78.46**	**342**	P	**P**	**02 29 54.2**	**-0.1**
ULM	**Lac du Bonnet**	**78.46**	**342**	P	**P**	**02 29 55.1**	**+0.8**
	comp=Z,2.1nm,0.6s,baz=144,slow=3.8,SNR=6.0						
	comp=Z,2.1nm,0.6s						
NVAR	**Mina Array Bea**	**78.72**	**321**	P	**P**	**02 29 58.6**	**+2.3**
	comp=Z,1.4nm,0.9s,baz=168,slow=6.5,SNR=5.6						
	comp=Z,1.4nm,0.9s						
KVN	**Kaiserville**	**79.03**	**322**	P	**P**	**02 29 59.4**	**+1.5**
DGMT	**Dagmar**	**79.68**	**336**	P	**P**	**02 30 02.6**	**+1.7**
DGMT				IAmb	IAmb	02 30 03.9	
	comp=Z,11nm,1.1s						
HLID	**Hailey**	**80.28**	**327**	P	**P**	**02 30 07.1**	**+2.5**
HLID				IAmb	IAmb	02 30 08.2	
	comp=Z,4.4nm,0.8s						
MAW	**Mawson**	**81.20**	**163**	P	**P**	**02 30 10.6**	**+1.7**
	comp=Z,8.2nm,0.9s,baz=237,slow=6.6,SNR=6.9						
	comp=Z,8.2nm,0.9s						
BPMT	**Black Pine Rid**	**81.94**	**330**	P	**P**	**02 30 15.0**	**+1.6**
PLID	**Pearl Lake**	**82.17**	**327**	P	**P**	**02 30 16.4**	**+1.8**
PLID				IAmb	IAmb	02 30 17.4	
	comp=Z,3.9nm,0.8s						
K05A	**Summer Lake**	**83.08**	**323**	P	**P**	**02 30 21.6**	**+2.4**
K05A				IAmb	IAmb	02 30 22.3	
	comp=Z,6.8nm,0.9s						
PINE	**Pine Mountain**	**83.82**	**324**	P	**P**	**02 30 24.3**	**+1.4**
PINE				IAmb	IAmb	02 30 26.3	
	comp=Z,8.4nm,1.0s						
TAM	**Tamanrasset**	**84.54**	**62**	P	**P**	**02 30 27.8**	**+0.7**
TAM				IAmb	IAmb	02 30 29.1	
	comp=Z,3.5nm,0.8s						
ESDC	**Sonseca Array**	**86.60**	**44**	P	**P**	**02 30 38.0**	**+1.3**
	comp=Z,1.1nm,1.0s,baz=242,slow=4.7,SNR=4.9						
	comp=Z,1.1nm,1.0s						
YKA	**Yellowknife Ar**	**94.35**	**340**	P	**P**	**02 31 13.3**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=132,slow=4.2,SNR=15						
	comp=Z,0.7nm,0.7s						
ASAR	**Alice Springs**	**128.21**	**205**	PKP	**PKPdf**	**02 36 59.5**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=146,slow=2.1,SNR=9.7						
WRA	**Warramunga Arr**	**131.39**	**207**	PKP	**PKiKP**	**02 37 06.1**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=164,slow=1.6,SNR=6.5						
ZALV	**Zalesovo Beam**	**143.63**	**28**	PKP	**PKPdf**	**02 37 25.8**	**-0.9**
	comp=Z,2.0nm,0.6s,baz=290,slow=3.6,SNR=9.8						
MKAR	**Makanchi Array**	**146.74**	**40**	PKPbc	**PKPbc**	**02 37 33.7**	**-0.6**
	comp=Z,3.9nm,0.8s,baz=340,slow=1.7,SNR=28						
HHC	**Hu-ho-hao-te**	**163.41**	**4**	*e*P	**PKPdf**	**02 37 54.3**	**-0.7**

MOS ***28*** *02:20:32.2±0.9, 5.6S×151.0E, h10km, mb5.0/35, Error ellipse: s-maj=9.8km s-min=6.5km az=106.6*

BJI ***28*** *02:20:33.0±0.0, 6.0S×151.7E, h47km, mb5.0/65, mB5.0/30, Ms4.6/28, Ms7 4.4/34*

NEIC ***28*** *02:20:33.9±2.2, 5.8S±0.0°×151.0E±0.0°, h9km±3km, mb5.1/161, Error ellipse: s-maj=15.2km s-min=8.6km az=126.0*

IDC ***28*** *02:20:36.1±2.6, 5.7S×151.1E, h27km±17km, mb4.5/23, mbtmp4.6/24, ML2.3/1, MS4.0/45, Error ellipse: s-maj=18.2km s-min=11.0km az=103.0*

DJA ***28*** *02:20:39.7±1.2, 6°S±4°×15°1E±1°0, h59km±9km, M4.9/14, mB5.3/6, mb4.8/14, MLv5.2/1, Mw(mB)4.7/6*

GCMT ***28*** *02:20:40.8±0.2, 6.1S±0.0°×151.0E±0.0°, h37km, MW5.0/90, Moment Tensor Solution. s56,c80; s90,c119; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.52±.17; Mθθ-3.66±.10; Mφφ0.14±.10; Mrθ1.30±.10; Mθφ-0.99±.09; Mφr-0.51±.12; Best double couple: M○3.97500×10^16 NP1:φs89.00000°, δ55.00000°, λ105.00000°. NP2: φs243.00000°, δ38.00000°, λ69.00000°. Principal axes: T 3.8740, Plg75.0000°, Azm44.0000°; N 0.2030, Plg12.0000°, Azm260.0000°; P -4.0770, Plg9.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 02:20:37.9±0.3, 5.90S±0.04×151.19E±0.05, h43km, n655, σ1§26/606, mb5.0/143, MS4.2/59, 24C-15D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BULU	**Kimbe**	**0.94**	**292**	P	**Pn**	**02 20 54.4**	**-0.4**
KRVT	**Keravat (AS076**	**1.79**	**28**	Pn	**Pn**	**02 21 09.8**	**+3.5**
	2μm,0.3s,baz=106,slow=0.1,SNR=28						
I40PG	**Keravat**	**1.79**	**27**	Pn	**Pn**	**02 21 08.9**	**+2.6**
	baz=189,slow=42						
I40PG				I	I	02 31 00.0	
	baz=227,slow=321,SNR=2.3						
RABL	**Rabaul**	**1.95**	**30**	Pn	**Pn**	**02 21 09.1**	**+0.5**
KAVG	**Kavieng**	**3.32**	**353**	P	Pn	02 21 32.9	+5.5
PMG	**Port Moresby**	**5.30**	**229**	Pn	**Pn**	**02 21 54.7**	**0.0**
PMG	**Port Moresby**	**5.30**	**229**	Pn	**Pn**	**02 21 55.9**	**+1.2**
	5.9nm,0.3s,baz=56,slow=8.0,SNR=38						
PMG				Sn	**Sn**	**02 22 54.8**	**+0.2**
	35nm,0.3s,baz=196,slow=19,SNR=6.4						
PMG				LR	LR	02 23 18.7	
	comp=Z,367nm,21.6s,baz=7.0,slow=30						
	72nm,0.4s						
MANU	**Manus Island**	**5.41**	**315**		Pn	02 22 01.1	+5.0
HNR	**Honiara**	**9.36**	**113**	LR	LR	02 25 58.8	
	comp=Z,12μm,21.5s,baz=290,slow=34						
COEN	**Coen**	**11.24**	**224**	P	**Pn**	**02 23 16.7**	**+0.5**
	baz=11,SNR=6.9						
COEN	**Coen**	**11.24**	**224**	P	**Pn**	**02 23 16.9**	**+0.7**
COEN	**Coen**	**11.24**	**224**	Pn	**Pn**	**02 23 14.9**	**-1.3**
MTSU	**Mount Surprise**	**13.89**	**208**	P	**Pn**	**02 23 55.6**	**+3.2**
	baz=14,SNR=7.3						
CTA	**Charters Tower**	**14.90**	**198**	Pn	**P**	**02 24 12.4**	**+1.6**
	0.6nm,0.3s,baz=148,slow=0.1,SNR=6.4						
CTA				LR	LR	02 29 54.7	
	comp=Z,710nm,18.2s,baz=196,slow=37						
QIS	**Mount Isa**	**18.41**	**217**	P	**P**	**02 24 49.9**	**+0.2**
	baz=18,SNR=18						
QIS	**Mount Isa**	**18.41**	**217**	P	**Pn**	**02 24 52.0**	**+1.9**
EIDS	**Eidsvold**	**19.36**	**180**	P	**Pn**	**02 25 02.0**	**+0.5**
	baz=20,SNR=4.9						
EIDS	**Eidsvold**	**19.36**	**180**	P	**P**	**02 25 01.2**	**+1.1**
KDU	**Kakadu**	**19.66**	**249**	P	**P**	**02 25 02.7**	**-0.7**
	baz=20,SNR=26						
GUMO	**Guam**	**20.35**	**342**	P	**P**	**02 25 08.3**	**-2.6**
	190nm,1.0s,baz=197,slow=11,SNR=2.8						
GUMO				LR	LR	02 31 26.4	
	comp=Z,602nm,21.4s,baz=150,slow=32						
	190nm,1.0s						
MTN	**Manton Dam**	**20.95**	**249**	P	**P**	**02 25 16.9**	**-0.5**
	baz=21,SNR=5.3						
MTN	**Manton Dam**	**20.95**	**249**	P	**P**	**02 25 15.4**	**-2.1**
WB0	**Warramunga Arr**	**21.38**	**228**	P	**P**	**02 25 21.3**	**-0.7**
WB0				IAmb	IAmb	02 25 31.8	
	comp=Z,43nm,0.8s						
WR0	**Warramunga Arr**	**21.39**	**228**	P	**P**	**02 25 21.4**	**-0.7**
WC3	**Warramunga Arr**	**21.51**	**228**	P	**P**	**02 25 23.0**	**-0.4**
	baz=22						
WRAB	**Tennant Creek**	**21.51**	**228**	P	**P**	**02 25 22.8**	**-0.6**
WRAB	**Tennant Creek**	**21.51**	**228**	*e*P	**P**	**02 25 22.9**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,79nm,1.7s						
WB2	**Warramunga Arr**	**21.52**	**228**	P	**P**	**02 25 22.8**	**-0.7**
WB2				IAmb	IAmb	02 25 32.7	
	comp=Z,151nm,1.7s						
WRA	**Warramunga Arr**	**21.52**	**228**	P	**P**	**02 25 22.4**	**-1.2**
WRA	**Warramunga Arr**	**21.52**	**228**	P	**P**	**02 25 23.4**	**-0.2**
	comp=Z,13nm,0.6s,baz=52,slow=10,SNR=92						
WRA				PcP	**PcP**	**02 29 25.9**	**+0.7**
	comp=Z,6.1nm,0.9s,baz=50,slow=2.0,SNR=8.1						
WRA				ScP	**ScP**	**02 33 00.3**	**+1.4**
	comp=Z,2.6nm,1.0s,baz=49,slow=2.5,SNR=7.2						
WRA				LR	LR	02 34 00.5	
	comp=Z,368nm,21.6s,baz=54,slow=37						
	comp=Z,13nm,0.6s						
QLP	**Quilpie**	**21.61**	**197**	P	**P**	**02 25 25.8**	**+1.4**
	baz=22,SNR=14						
QLP	**Quilpie**	**21.61**	**197**	P	**P**	**02 25 28.1**	**+3.7**
DZM	**Mont Dzumac**	**21.82**	**139**	P	**P**	**02 25 27.2**	**+0.5**
DZM				IAmb	IAmb	02 25 32.2	
	comp=Z,123nm,2.0s						
DZM	**Mont Dzumac**	**21.82**	**139**	*e*P	**P**	**02 25 26.4**	**-0.3**
	comp=Z,132nm,27.0s						
DZM				*e*S	**S**	**02 29 16.0**	**-10**
	comp=Z,500nm,24.2s						
DZM				*e*LR	LR	02 30 28.5	
	comp=Z,1μm,24.6s						
DZM	**Mont Dzumac**	**21.82**	**139**	P	**P**	**02 25 28.3**	**+1.6**
	comp=Z,14nm,0.9s,baz=11,slow=10,SNR=6.1						
DZM				LR	LR	02 33 16.3	
	comp=Z,1μm,18.5s,baz=311,slow=35						
	comp=Z,14nm,0.9s						
KNRA	**Kununurra**	**24.05**	**244**	P	**P**	**02 25 49.3**	**-0.1**
	baz=24,SNR=4.0						
KNRA	**Kununurra**	**24.05**	**244**	P	**P**	**02 25 50.7**	**+1.3**
KNRA	**Kununurra**	**24.05**	**244**	P	**P**	**02 25 48.8**	**-0.6**
AS31	**Alice Springs**	**24.27**	**222**	P	**P**	**02 25 51.8**	**+0.5**
ASAR	**Alice Springs**	**24.27**	**222**	P	**P**	**02 25 51.3**	**-0.1**
ASAR	**Alice Springs**	**24.27**	**222**	P	**P**	**02 25 51.8**	**+0.4**
	comp=Z,20nm,0.7s,baz=55,slow=9.1,SNR=147						
ASAR				S	**S**	**02 30 11.4**	**+4.0**
	comp=Z,2.4nm,1.0s,baz=50,slow=12,SNR=3.4						
ASAR				ScP	**ScP**	**02 33 07.5**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=51,slow=3.1,SNR=6.7						
ASAR				LR	LR	02 35 24.0	
	comp=Z,488nm,20.2s,baz=83,slow=36						
	comp=Z,20nm,0.7s						
ASPA	**Alice Springs**	**24.27**	**222**	P	**P**	**02 25 51.9**	**+0.6**
	baz=24						
ARMA	**Armidale**	**24.39**	**179**	P	**P**	**02 25 54.0**	**+1.5**
	baz=25						
CMSA	**Cobar Meteorol**	**26.02**	**191**	P	**P**	**02 26 09.0**	**+1.9**
	baz=26,SNR=12						
OOD	**Oodnadatta**	**26.29**	**212**	P	**P**	**02 26 12.3**	**+2.7**
LCRK	**Leigh Creek**	**27.30**	**205**	P	**P**	**02 26 19.5**	**+0.9**
STKA	**Stephens Creek**	**27.36**	**198**	P	**P**	**02 26 22.7**	**+3.5**
	baz=28,SNR=6.5						
STKA	**Stephens Creek**	**27.36**	**198**	P	**P**	**02 26 18.3**	**-0.8**
STKA	**Stephens Creek**	**27.36**	**198**	*i* P	**P**	**02 26 22.0**	**+2.8**
STKA	**Stephens Creek**	**27.36**	**198**	P	**P**	**02 26 20.0**	**+0.9**
	comp=Z,12nm,0.9s,baz=16,slow=9.2,SNR=13						
STKA				LR	LR	02 37 48.8	
	comp=Z,470nm,18.6s,baz=26,slow=38						
	comp=Z,12nm,0.9s						
BATI	**Baumata**	**27.58**	**259**	LR	LR	02 39 28.5	
	comp=Z,767nm,20.2s,baz=97,slow=41						
FITZ	**Fitzroy Crossi**	**27.73**	**242**	P	**P**	**02 26 22.0**	**-0.7**
	baz=28,SNR=16						
FITZ	**Fitzroy Crossi**	**27.73**	**242**	P	**P**	**02 26 21.9**	**-0.7**
YNG	**Young**	**28.38**	**185**	P	**P**	**02 26 29.5**	**+1.2**
	baz=28,SNR=4.8						
DAV	**Davao City (W)**	**28.62**	**296**	LR	LR	02 37 56.9	
	comp=Z,214nm,18.6s,baz=159,slow=36						
MSVF	**Nonsavu**	**28.75**	**116**	*i* P	**P**	**02 26 35.6**	**+3.8**
MSVF				pmax	pmax		
	comp=Z,20nm,1.3s						
WRKA	**Warakurna**	**29.05**	**227**	P	**P**	**02 26 34.1**	**-0.2**
	baz=29,SNR=9.9						
WRKA	**Warakurna**	**29.05**	**227**	P	**P**	**02 26 34.3**	**0.0**
MULG	**Mulgathing**	**29.13**	**212**	P	**P**	**02 26 35.1**	**+0.2**
HTT	**Hallett**	**29.68**	**201**	P	**P**	**02 26 40.9**	**+1.1**
	baz=30						
BBOO	**Buckleboo**	**30.26**	**206**	P	**P**	**02 26 45.5**	**+0.5**
BBOO	**Buckleboo**	**30.26**	**206**	P	**P**	**02 26 45.4**	**+0.4**
BBOO				IAmb	IAmb	02 27 22.8	
	comp=Z,40nm,1.4s						
FORT	**Forrest**	**32.94**	**218**	P	**P**	**02 27 10.7**	**+2.2**
MBWA	**Marble Bar**	**34.04**	**240**	P	**P**	**02 27 17.1**	**-1.1**
MBWA				IAmb	IAmb	02 27 37.5	
	comp=Z,12nm,0.8s						
MOO	**Moorlands**	**36.56**	**185**	P	**P**	**02 27 42.5**	**+2.8**
	baz=37						
MEEK	**Meekatharra**	**37.27**	**233**	P	**P**	**02 27 45.8**	**-0.2**
	baz=37,SNR=12						
JOW	**Kunigami**	**39.39**	**327**	P	**P**	**02 28 04.1**	**+0.5**
JOW				IAmb	IAmb	02 28 05.8	
	comp=Z,61nm,1.0s						
URZ	**Urewera**	**39.89**	**148**	LR	LR	02 42 06.7	
	comp=Z,359nm,21.8s,baz=114,slow=32						
KLBR	**Kellerberrin**	**40.39**	**227**	P	**P**	**02 28 11.4**	**-0.6**
	baz=40,SNR=8.0						
MORW	**Morawa**	**40.41**	**231**	P	**P**	**02 28 12.0**	**-0.2**
	baz=40,SNR=6.3						
MORW	**Morawa**	**40.41**	**231**	P	**P**	**02 28 12.0**	**-0.2**
MORW				IAmb	IAmb	02 28 52.8	
	comp=Z,31nm,1.3s						
BLDU	**Ballidu**	**40.66**	**229**	P	**P**	**02 28 13.8**	**-0.4**
	baz=41,SNR=8.7						
TCW	**Tory Channel**	**40.76**	**153**	P	**P**	**02 28 16.4**	**+1.5**
TUWZ	**Tuamarina**	**40.79**	**154**	P	**P**	**02 28 15.7**	**+0.6**
YOJ	**Yonaguni jima**	**40.80**	**319**	P	**P**	**02 28 15.2**	**-0.2**
YOJ	**Yonaguni jima**	**40.80**	**319**	P	**P**	**02 28 15.2**	**-0.2**
YOJ				pmax	pmax		
	comp=Z,80nm,0.8s						
YULB	**Yu-li**	**41.23**	**316**	P	**P**	**02 28 17.6**	**-1.4**
YULB				IAmb	IAmb	02 28 21.3	
	comp=Z,28nm,0.7s						
PLWZ	**Palliser**	**41.49**	**152**	P	**P**	**02 28 21.2**	**+0.3**
YHNB	**Yeheng**	**42.03**	**317**	P	**P**	**02 28 25.0**	**-0.6**
LEM	**Lembang**	**43.31**	**265**	LR	LR	02 50 59.7	
	comp=Z,66nm,19.2s,baz=48,slow=42						
JNU	**Nakatsue**	**43.34**	**335**	P	**P**	**02 28 36.6**	**+0.6**
JNU	**Nakatsue**	**43.34**	**335**	LR	LR	02 44 48.7	
	comp=Z,82nm,21.8s,baz=173,slow=34						
MJAR	**Matsushiro Arr**	**43.94**	**345**	P	**P**	**02 28 38.0**	**-2.8**
MJAR	**Matsushiro Arr**	**43.94**	**345**	P	**P**	**02 28 38.0**	**-2.8**
	comp=Z,1.6nm,0.7s,baz=163,slow=9.0,SNR=4.8						
MJAR				LR	LR	02 46 41.9	
	comp=Z,233nm,18.8s,baz=158,slow=36						
	comp=Z,1.6nm,0.7s						
MAJO	**Matsushiro**	**43.94**	**345**	*i* P	**P**	**02 28 39.7**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TJN	**Taejon**	**47.62**	**334**	P	**P**	**02 29 08.9**	**-0.8**
TJN	**Taejon**	**47.62**	**334**	*i* P	**P**	**02 29 09.0**	**-0.8**
QIZ	**Qiongzhong**	**47.67**	**302**	P	**P**	**02 29 10.8**	**+0.3**
QIZ				S	**S**	**02 36 04.5**	**+0.7**
QIZ				SS	**SS**	**02 39 36.5**	**+3.9**
QIZ				pmax	pmax		
	comp=Z,13nm,1.8s						
QIZ				LR	LR		
	comp=Z,160nm,20.2s						
QIZ				LR	LR		
	comp=Z,170nm,16.8s						
QIZ				LR	LR		
	comp=Z,350nm,18.5s						
KSRS	**Korea Array**	**48.28**	**335**	P	**P**	**02 29 15.2**	**+0.3**
	comp=Z,7.9nm,0.8s,baz=152,slow=8.3,SNR=18						
KSRS				LR	LR	02 47 57.4	
	comp=Z,158nm,21.4s,baz=145,slow=34						
	comp=Z,7.9nm,0.8s						
KSAR	**Wonju Array Be**	**48.29**	**335**	P	**P**	**02 29 14.9**	**-0.1**
KSAR	**Wonju Array Be**	**48.29**	**335**	P	**P**	**02 29 14.9**	**-0.1**
NJ2	**Nanjing**	**48.72**	**323**	↑P	**P**	**02 29 19.3**	**+1.0**
NJ2				pP	**pP**	**02 29 28.0**	**-2.7**
NJ2				sP	**sP**	**02 29 32.0**	**-3.9**
NJ2				pmax	pmax		
	comp=Z,31nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,110nm,5.7s						
CNSH	**ChangSha**	**50.09**	**315**	↑P	**P**	**02 29 30.3**	**+1.4**
CNSH				S	**S**	**02 36 43.5**	**+6.0**
CNSH				LR	LR		
	comp=Z,180nm,22.6s						
CNSH				LR	LR		
	comp=Z,230nm,21.8s						
ASAJ	**Asahikawa**	**50.38**	**352**	LR	LR	02 49 34.7	
	comp=Z,133nm,20.8s,baz=162,slow=35						
WHN	**Wuhan**	**50.57**	**318**	↓*i* P	**P**	**02 29 33.8**	**+1.3**
WHN				pmax	pmax		
	comp=Z,60nm,0.8s						
WHN				LR	LR		
	comp=Z,1μm,20.2s						
TIA	**Tai'an**	**52.67**	**325**	↓P	**P**	**02 29 48.3**	**+0.2**
TIA				pmax	pmax		
	comp=Z,12nm,0.6s						
USRK	**Ussuriysk Ar.**	**52.79**	**343**	P	**P**	**02 29 48.2**	**-0.6**
USRK	**Ussuriysk Ar.**	**52.79**	**343**	P	**P**	**02 29 48.2**	**-0.6**
USRK	**Ussuriysk Ar.**	**52.79**	**343**	LR	LR	02 50 35.9	
	comp=Z,124nm,21.1s,baz=159,slow=34						
ENH	**Enshi**	**53.75**	**314**	P	**P**	**02 29 54.8**	**-1.4**
ENH				IAmb	IAmb	02 29 57.1	
	comp=Z,27nm,1.0s						
GYA	**Guiyang**	**53.81**	**309**	↓P	**P**	**02 29 56.8**	**0.0**
GYA				S	**S**	**02 37 31.8**	**+2.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GYA				pmax	pmax		
	comp=Z,150nm,13.6s						
GYA				LR	LR		
	comp=Z,290nm,22.2s						
LYN	**LuoYang**	**54.34**	**321**	↓P	**P**	**02 30 00.5**	**+0.1**
LYN				pmax	pmax		
	comp=Z,19nm,1.2s						
LYN				pmax	pmax		
	comp=Z,210nm,4.6s						
LYN				LR	LR		
	comp=Z,330nm,23.4s						
LYN				LR	LR		
	comp=Z,330nm,22.0s						
LYN				LR	LR		
	comp=Z,600nm,18.2s						
CN2	**Changchun**	**54.66**	**337**	P	**P**	**02 30 01.3**	**-1.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HNS	**HongShan**	**54.89**	**325**	↓P	**P**	**02 30 04.5**	**+0.2**
HNS				S	**S**	**02 37 47.8**	**+5.0**
HNS				pmax	pmax		
	comp=Z,26nm,1.2s						
HNS				LR	LR		
	comp=Z,250nm,16.4s						
HNS				LR	LR		
	comp=Z,150nm,15.2s						
HNS				LR	LR		
	comp=Z,380nm,21.2s						
BNX	**BinXian**	**55.62**	**340**	↓P	**P**	**02 30 08.8**	**-0.7**
BNX				pmax	pmax		
	comp=Z,19nm,0.9s						
BNX				pmax	pmax		
	comp=Z,130nm,4.3s						
CRAI	**Chiangrai**	**56.28**	**299**	P	**P**	**02 30 13.6**	**-1.1**
KMI	**Kunming**	**56.29**	**305**	↓P	**P**	**02 30 16.0**	**+1.1**
KMI				pmax	pmax		
	comp=Z,12nm,1.0s						
KMI				LR	LR		
	comp=Z,88nm,18.6s						
KMI				LR	LR		
	comp=Z,180nm,20.0s						
KMI				LR	LR		
	comp=Z,250nm,23.2s						
XAN	**Xi'an**	**56.33**	**318**	P	**P**	**02 30 13.3**	**-1.5**
XAN				pP	pP	02 30 24.3	-3.1
XAN				S	**S**	**02 38 00.5**	**-1.8**
XAN				sS	sS	02 38 21.8	-1.0
XAN				pmax	pmax		
	comp=Z,25nm,1.4s						
XAN				LR	LR		
	comp=Z,260nm,20.4s						
XAN				LR	LR		
	comp=Z,240nm,18.7s						
XAN				LR	LR		
	comp=Z,510nm,18.9s						
KIP	**Kipapa**	**56.71**	**60**	P	**P**	**02 30 19.8**	**+2

HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,64nm,4.9s
HHC LR LR
comp=Z,170nm,18.0s
HHC LR LR
comp=Z,130nm,15.5s
HHC LR LR
comp=Z,230nm,15.0s
PET Petropavlovsk 59.04 5 *e*P P 02 30 38.5 +5.2
PET *e*S **S** **02 38 44.4 +7.5**
PET MLR MLR
comp=Z,200nm,19.0s
PEA0B Petropavlovsk- 59.04 5 P **P** **02 30 31.3 -2.1**
PEA0B Petropavlovsk- 59.04 5 P **P** **02 30 31.3 -2.1**
PEA0B pmax pmax
comp=Z,60nm,1.4s
PETK Petropavlovsk- 59.04 5 P **P** **02 30 31.6 -1.9**
PETK Petropavlovsk- 59.04 5 P **P** **02 30 32.5 -0.9**
comp=Z,7.8nm,0.8s,baz=160,slow=7.1,SNR=8.1
PETK LR LR 02 52 20.1
comp=Z,186nm,21.7s,baz=187,slow=32
comp=Z,7.8nm,0.8s
TBI Tubuai 59.58 114 *e*LQ LQ 02 45 26.2
TBI comp=Z,2µm,30.5s *e*LR LR 02 47 35.0
comp=Z,375nm,26.0s
HEH HeiHe 59.60 343 *e*P **P** **02 30 35.5 -1.8**
HEH pmax pmax
comp=Z,9.0nm,0.9s
HEH pmax pmax
comp=Z,180nm,4.9s
BTO Baotou 59.74 325 *e*P **P** **02 30 41.0 +2.4**
BTO pP **sP** **02 30 53.8 -2.4**
BTO sP pP 02 30 59.0 +7.8
BTO PP **PP** **02 32 55.5 +4.5**
BTO S **S** **02 38 50.5 +3.7**
BTO sS **sS** **02 39 09.5 +2.1**
BTO SS **SS** **02 42 45.8 +2.4**
BTO pmax pmax
comp=Z,16nm,1.1s
BTO pmax pmax
comp=Z,200nm,4.4s
BTO LR LR
comp=Z,360nm,16.6s
BTO LR LR
comp=Z,510nm,18.9s
BTO LR LR
comp=Z,630nm,22.7s
LZH Lanzhou 60.92 317 ⇓P **P** **02 30 47.5 +0.6**
LZH pmax pmax
comp=Z,23nm,1.3s
LZH LR LR
comp=Z,160nm,14.1s
LZH LR LR
comp=Z,120nm,13.1s
LZH LR LR
comp=Z,170nm,12.7s
HIA Hailar 61.40 337 P **P** **02 30 48.3 -1.4**
HIA IAmb IAmb 02 30 50.1
comp=Z,16nm,1.1s
HIA Hailar 61.40 337 *i*P **P** **02 30 49.0 -0.7**
HIA pmax pmax
comp=Z,17nm,1.1s
SHEM Shemya Is, Ala 61.56 16 LR LR 02 52 18.9
comp=Z,202nm,22.0s,baz=154,slow=31
ZEA Zeya 62.74 344 *e*P **P** **02 30 58.4 -0.1**
ZEA pmax pmax
comp=Z,10.0nm,0.5s
KIWB Kanaga Island 63.57 21 P **P** **02 31 03.4 -0.6**
MA2 Magadan 65.27 360 *ce*P **P** **02 31 12.5 -2.5**
MA2 pmax pmax
comp=Z,14nm,1.7s
MA2 Magadan 65.27 360 LR LR 02 55 52.9
comp=Z,179nm,21.8s,baz=170,slow=32
GTA Gaotai 65.39 318 P **P** **02 31 16.5 +0.1**
GTA pmax pmax
comp=Z,9.0nm,1.2s
GTA LR LR
comp=Z,100nm,17.8s
GTA LR LR
comp=Z,130nm,19.3s
GTA LR LR
comp=Z,130nm,17.8s
ULN Ulaanbaatar 66.09 329 P **P** **02 31 20.7 -0.1**
ULN Ulaanbaatar 66.09 329 *ce*P **P** **02 31 18.3 -2.5**
ULN pmax pmax
comp=Z,7.0nm,1.0s
SONM Songino Array 66.41 329 P **P** **02 31 22.0 -0.8**
SONM Songino Array 66.41 329 P **P** **02 31 22.0 -0.8**
SONM pmax pmax
comp=Z,6.0nm,1.0s
SONM Songino Array 66.41 329 P **P** **02 31 22.8 0.0**
comp=Z,5.2nm,0.9s,baz=137,slow=4.7,SNR=24
SONM LR LR 02 59 38.7
comp=Z,223nm,21.2s,baz=186,slow=35
SONM PKP2bc 02 59 59.0
comp=Z,0.8nm,1.0s,baz=346,slow=3.0,SNR=4.5
comp=Z,5.2nm,0.9s
NIKH Nikolski High 67.67 25 P **P** **02 31 29.3 -1.2**
baz=224
SEY Seymchan 68.64 1 *ce*P **P** **02 31 36.6 +0.2**
SEY pmax pmax
comp=Z,7.0nm,1.7s
SEY Seymchan 68.64 1 LR LR 03 01 37.4
comp=Z,94nm,18.9s,baz=208,slow=36
ZAK Zakamensk 69.61 330 *e*P **P** **02 31 42.1 -0.7**
ZAK pmax pmax
comp=Z,10.0nm,1.0s
YAK Yakutsk 69.74 349 LR LR 03 00 05.0
comp=Z,118nm,21.9s,baz=176,slow=34
BOD Bodaibo 70.25 340 *e*P **P** **02 31 45.2 -1.2**
BOD pmax pmax
comp=Z,11nm,1.4s
PALK Pallekele 71.53 280 LR LR 03 05 31.6
comp=Z,36nm,21.6s,baz=219,slow=38
MOY Mondy 71.54 330 *e*P **P** **02 31 53.8 -0.7**
MOY pmax pmax
comp=Z,13nm,1.6s
VNDA Vanda 71.80 178 P **P** **02 31 56.3 +0.7**
VNDA Vanda 71.80 178 P **P** **02 31 56.3 +0.7**
VNDA pmax pmax
comp=Z,6.0nm,1.2s
VNDA Vanda 71.80 178 P **P** **02 31 57.0 +1.4**
comp=Z,1.1nm,0.7s,baz=328,slow=7.9,SNR=3.6
comp=Z,1.1nm,0.7s
BILL Bilibino 74.53 6 P **P** **02 32 11.3 -0.5**
BILL Bilibino 74.53 6 *e*P **P** **02 32 11.7 -0.1**
WMQ Urumqi 75.47 318 *e*P **P** **02 32 18.5 +0.7**
WMQ sP PcP 02 32 31.3 +0.6
WMQ pmax pmax
comp=Z,35nm,0.7s
O15K Ungalikthiuk R 75.60 24 P **P** **02 32 16.8 -1.3**
baz=231
M14K Bethel 75.81 22 P **P** **02 32 18.2 -1.0**
baz=229
L14K Kuka Creek 75.94 21 IAmb IAmb 02 32 24.1
comp=Z,18nm,1.1s
L14K Kuka Creek 75.94 21 P **P** **02 32 19.1 -0.9**
baz=228
J14K Nanvaranak Lak 76.60 20 P **P** **02 32 23.8 +0.2**
baz=227
Q17K Contact Creek 76.68 26 P **P** **02 32 23.8 -0.6**
baz=235
N16K Nishlik Lake 76.83 23 P **P** **02 32 24.7 -0.4**
baz=232
K15K Wolf Creek Mou 76.98 21 IAmb IAmb 02 32 29.6
comp=Z,17nm,1.1s
K15K Wolf Creek Mou 76.98 21 P **P** **02 32 25.8 -0.1**
baz=229
O17K Koliganek Bris 77.07 24 P **P** **02 32 26.8 +0.4**
baz=233
M16K Timber Creek 77.10 22 P **P** **02 32 27.0 +0.4**
baz=231
OHAK Old Harbor 77.25 27 P **P** **02 32 26.6 -0.8**
TNA Tin City 77.29 16 P **P** **02 32 27.7 +0.3**
baz=222
ANM Nome 77.30 18 P **P** **02 32 27.2 -0.4**
ANM IAmb IAmb 02 32 42.0
comp=Z,26nm,2.0s
ANM Nome 77.30 18 P **P** **02 32 27.0 -0.7**
baz=225
ANM Nome 77.30 18 P **P** **02 32 27.2 -0.4**
ANM pmax pmax
comp=Z,26nm,2.0s

L16K Owhat River 77.34 22 P **P** **02 32 27.2 -0.7**
L16K IAmb IAmb 02 35 15.7
comp=Z,43nm,1.9s
L16K Owhat River 77.34 22 P **P** **02 32 27.9 0.0**
baz=231
N17K Nushagak Hills 77.48 23 P **P** **02 32 28.6 -0.2**
baz=233
P18K Big Mountain, 77.61 25 P **P** **02 32 28.9 -0.6**
baz=235
F14K Arctic Creek 77.67 17 P **P** **02 32 29.3 -0.4**
baz=224
KDAK Kodiak Island 77.87 27 P **P** **02 32 31.3 +0.4**
baz=238
KDAK Kodiak Island 77.87 27 LR LR 03 03 03.2
comp=Z,71nm,20.0s,baz=256,slow=33
O18K Koktuh Hills 77.89 25 P **P** **02 32 31.4 +0.4**
baz=235
M17K Holitna River 77.92 23 P **P** **02 32 31.0 -0.2**
baz=233
J16K Anvik River 77.96 20 P **P** **02 32 31.5 +0.2**
baz=229
G15K Niukluk 78.01 18 P **P** **02 32 31.9 +0.4**
baz=226
Q19K Cape Douglas, 78.03 26 P **P** **02 32 32.0 +0.2**
baz=237
N18K Kilae Creek 78.09 24 P **P** **02 32 32.4 +0.2**
baz=234
DGAR Diego Garcia 78.13 264 *ce*P **P** **02 32 32.6 -0.7**
H16K Elim 78.32 19 P **P** **02 32 33.8 +0.5**
baz=228
I17K Unalakleet 78.32 20 P **P** **02 32 33.8 +0.5**
baz=229
F15K North Star Dit 78.33 17 P **P** **02 32 33.7 +0.3**
baz=225
Q20K Shuyak Island 78.40 26 P **P** **02 32 33.5 -0.3**
baz=238
K17K Iditarod 78.41 21 P **P** **02 32 34.1 +0.3**
baz=232
O19K Port Alsworth 78.45 25 P **P** **02 32 34.3 +0.3**
baz=236
SVW2 Sparrevohn 78.46 23 P **P** **02 32 33.6 -0.5**
SVW2 IAmb IAmb 02 32 38.0
comp=Z,12nm,1.0s
M18K Stony River 78.59 23 P **P** **02 32 35.5 +0.6**
baz=234
P19K Oil Pt 78.60 25 P **P** **02 32 34.1 -0.9**
P19K Oil Pt 78.60 25 P **P** **02 32 35.0 0.0**
baz=237
ZSN Zaisan 78.69 321 *e*P **P** **02 32 34.8 -1.0**
comp=Z,13nm,1.3s,baz=321
ZSN Zaisan 78.69 321 *e*P **P** **02 32 34.7 -1.0**
ZSN pmax pmax
comp=Z,13nm,1.3s
L18K Granite Mounta 78.70 22 P **P** **02 32 35.7 +0.3**
baz=233
N19K Bonanza Creek 78.73 24 P **P** **02 32 35.9 +0.1**
baz=236
TIXI Tiksi 78.78 353 *ce*P **P** **02 32 36.0 +0.4**
TIXI pmax pmax
comp=Z,4.0nm,1.3s
TIXI Tiksi 78.78 353 LR LR 03 03 49.0
comp=Z,77nm,21.7s,baz=188,slow=33
G16K Koyuk River 78.80 18 P **P** **02 32 36.4 +0.5**
baz=227
O20K Slope Mountain 79.09 25 P **P** **02 32 38.0 +0.2**
baz=237
H17K Granite Mounta 79.27 19 P **P** **02 32 38.8 +0.3**
baz=230
HOM Homer 79.29 26 P **P** **02 32 39.0 +0.3**
baz=238
L19K White Mountain 79.37 23 IAmb IAmb 02 32 42.0
comp=Z,12nm,0.9s
L19K White Mountain 79.37 23 P **P** **02 32 39.4 +0.2**
baz=235
TTA Tatalina 79.37 22 P **P** **02 32 39.6 +0.3**
baz=234
M19K Big River Lodg 79.39 23 P **P** **02 32 38.1 -1.1**
baz=236
CNPM China Poot 79.39 26 P **P** **02 32 38.8 -0.5**
G17K Kiwalik Mounta 79.40 18 P **P** **02 32 38.3 -0.9**
baz=229
J18K Innoko River 79.44 21 P **P** **02 32 38.1 -1.3**
baz=233
BRLK Bradley Lake 79.67 26 P **P** **02 32 40.4 -0.4**
BRSE Bradley Lake S 79.72 26 P **P** **02 32 39.8 -1.3**
baz=228
F17K Baldwin Pennin 79.84 18 P **P** **02 32 40.1 -1.5**
baz=238
N20K Mount Spurr 79.87 24 P **P** **02 32 40.9 -1.0**
baz=238
M20K Styx River 79.87 23 P **P** **02 32 40.7 -1.2**
baz=237
H18K Honhosa River 79.91 19 P **P** **02 32 41.6 -0.4**
baz=231
L20K Farewell, AK 79.91 23 P **P** **02 32 41.0 -1.1**
baz=236
C16K Lisburne Hills 79.97 15 P **P** **02 32 41.9 -0.3**
baz=224
CAPN Captain Cook N 80.08 25 P **P** **02 32 42.5 -0.4**
baz=239
E17K Hotham Inlet 80.10 17 P **P** **02 32 42.5 -0.5**
baz=228,SNR=6.5
MK31 Makanchi Array 80.11 319 P **P** **02 32 42.8 -0.7**
MK31 Makanchi Array 80.11 319 *ce*P **P** **02 32 42.7 -0.7**
MKAR Makanchi Array 80.11 319 P **P** **02 32 42.4 -1.1**
comp=Z,3.1nm,0.8s,baz=106,slow=5.8,SNR=27
MKAR PP **PP** **02 35 44.3 -1.8**
comp=Z,1.9nm,0.9s,baz=106,slow=8.9,SNR=5.3
MKAR LR LR 03 08 57.5
comp=Z,120nm,18.7s,baz=84,slow=36
comp=Z,3.1nm,0.8s
J19K Poorman 80.14 21 P **P** **02 32 42.9 -0.4**
baz=234
D17K Noatak River 80.17 16 P **P** **02 32 43.3 0.0**
baz=226
G18K Tagagawik 80.29 19 P **P** **02 32 43.6 -0.4**
G18K Tagagawik 80.29 19 P **P** **02 32 43.7 -0.3**
baz=231
MAKZ Makanchi 80.31 319 P **P** **02 32 43.5 -1.1**
MAKZ Makanchi 80.31 319 P **P** **02 32 43.5 -1.1**
MAKZ pmax pmax
comp=Z,13nm,1.1s
K20K Telida 80.34 22 P **P** **02 32 44.4 0.0**
baz=236
F18K Selawik 80.43 18 P **P** **02 32 44.7 0.0**
baz=230
SEW Seward 80.46 26 P **P** **02 32 44.3 -0.7**
baz=240
O22K Cooper Landing 80.54 26 P **P** **02 32 45.0 -0.5**
baz=240
SKT Skwentna 80.56 24 P **P** **02 32 45.3 -0.3**
baz=238
SUA Susitna One 80.61 24 P **P** **02 32 44.5 -1.5**
SUA Susitna One 80.61 24 P **P** **02 32 45.0 -1.0**
baz=239
E18K Tukpahlearik C 80.69 17 P **P** **02 32 45.4 -0.7**
baz=229
C17K DeLong Mountai 80.69 16 P **P** **02 32 45.7 -0.4**
baz=226
H19K Roundabout Mou 80.78 20 P **P** **02 32 46.2 -0.4**
baz=233
J20K Nowinta River 80.78 21 P **P** **02 32 46.7 0.0**
baz=235
PPLA Purkeypile 80.80 23 P **P** **02 32 46.9 -0.1**
baz=237
RC01 Rabbit Creek A 80.84 25 P **P** **02 32 46.2 -0.8**
baz=240
SHLS Shalkode 80.87 315 *e*P **P** **02 32 45.2 -2.6**
comp=Z,12nm,1.2s,baz=315
SHLS Shalkode 80.87 315 *e*P **P** **02 32 45.2 -2.6**
SHLS pmax pmax
comp=Z,13nm,1.2s
G19K Purcell Mounta 80.94 19 P **P** **02 32 47.1 -0.4**
baz=232
M22K Willow 81.02 24 P **P** **02 32 47.5 -0.4**
baz=240
I20K Naaghedeneel 81.02 21 P **P** **02 32 47.6 -0.3**
baz=235
CAST Castle Rocks 81.12 22 P **P** **02 32 47.3 -1.3**
CAST Castle Rocks 81.12 22 P **P** **02 32 47.9 -0.6**
baz=237
F19K Shaleruckik Mo 81.16 18 P **P** **02 32 47.9 -0.7**
baz=232
UZB Uzynbulak 81.18 315 *e*P **P** **02 32 48.5 -1.1**
comp=Z,11nm,1.3s,baz=315
UZB Uzynbulak 81.18 315 *e*P **P** **02 32 48.4 -1.1**
UZB pmax pmax
comp=Z,11nm,1.3s

ZALV Zalesovo Beam 81.18 327 P **P** **02 32 47.2 -1.8**
ZALV Zalesovo Beam 81.18 327 *i*P **P** **02 32 47.2 -1.8**
ZALV pmax pmax
comp=Z,4.0nm,0.8s
ZALV Zalesovo Beam 81.18 327 P **P** **02 32 47.4 -1.6**
comp=Z,4.2nm,0.8s,baz=127,slow=4.7,SNR=11
ZALV LR LR 03 07 52.4
comp=Z,127nm,21.4s,baz=111,slow=35
comp=Z,4.2nm,0.8s
H20K Anotleneega Mo 81.28 20 P **P** **02 32 48.9 -0.5**
baz=234
CHUM Lake Minchumin 81.28 22 P **P** **02 32 49.0 -0.3**
baz=237,SNR=7.2
C18K Utukok River 81.34 16 P **P** **02 32 49.4 -0.2**
baz=228
PMR Palmer 81.34 25 P **P** **02 32 49.1 -0.6**
baz=240
GHO Glory Hole Cre 81.52 25 P **P** **02 32 49.3 -1.5**
GHO IAmb IAmb 02 33 56.6
comp=Z,51nm,1.8s
Q23K Middleton Isla 81.53 27 P **P** **02 32 50.1 -0.6**
baz=243
KNK Knik Glacier 81.53 25 P **P** **02 32 50.1 -0.7**
baz=241
SATY Saty 81.59 315 *e*P **P** **02 32 50.5 -1.1**
baz=315
SATY Saty 81.59 315 *e*P **P** **02 32 50.5 -1.1**
ZHN Zhinishke 81.60 315 *e*P **P** **02 32 50.4 -1.3**
baz=315
ZHN Zhinishke 81.60 315 *e*P **P** **02 32 50.3 -1.3**
B18K Kokolik River 81.66 15 P **P** **02 32 51.2 0.0**
baz=227
E19K Redstone River 81.71 18 P **P** **02 32 51.0 -0.5**
baz=232
SML Sawmill 81.78 25 P **P** **02 32 50.9 -1.2**
SML IAmb IAmb 02 32 54.1
comp=Z,13nm,0.8s
SML Sawmill 81.78 25 P **P** **02 32 51.0 -1.2**
baz=241
TRF Thorofare Moun 81.82 23 P **P** **02 32 50.9 -1.5**
baz=239
BPAW Bear Paw Mtn. 81.90 22 P **P** **02 32 51.7 -1.0**
baz=238
F20K Avaraart Lake 81.93 18 P **P** **02 32 51.5 -1.2**
baz=234
IMAR Indian Mountai 81.95 20 P **P** **02 32 51.9 -0.9**
M23K Glacier View 82.03 25 P **P** **02 32 52.6 -0.8**
baz=242
C19K Lookout Ridge 82.08 16 P **P** **02 32 53.4 -0.1**
C19K Lookout Ridge 82.08 16 P **P** **02 32 53.0 -0.6**
baz=230
H21K Melozitna Rive 82.09 20 P **P** **02 32 53.5 -0.1**
baz=236
D19K Kuna River 82.10 17 P **P** **02 32 52.8 -0.8**
baz=231
I21K Tanana 82.11 21 P **P** **02 32 53.1 -0.6**
baz=237
TDK Taldyqorghan 82.13 317 *e*P **P** **02 32 53.5 -0.9**
comp=Z,8.7nm,0.8s,baz=317
TDK Taldyqorghan 82.13 317 *e*P **P** **02 32 53.4 -0.9**
TDK pmax pmax
comp=Z,9.0nm,0.8s
WAT1 Susitna Watana 82.19 24 P **P** **02 32 54.0 -0.2**
baz=241
G21K Allakaket 82.33 19 P **P** **02 32 54.7 -0.1**
baz=236
RND Reindeer 82.36 23 IAmb IAmb 02 32 56.7
comp=Z,10nm,0.8s
WAT6 Susitna Watana 82.40 24 P **P** **02 32 54.9 -0.6**
baz=242
A19K Wainwright 82.42 15 P **P** **02 32 55.0 -0.2**
baz=228
KSH Kashi 82.44 311 P **P** **02 32 57.0 +0.8**
KSH pmax pmax
comp=Z,6.0nm,1.1s
MLY Manley 82.48 21 P **P** **02 32 55.4 -0.3**
baz=238,SNR=5.2
MCK McKinley 82.49 23 P **P** **02 32 55.4 -0.4**
baz=240
E20K Nigu River 82.51 17 P **P** **02 32 55.7 -0.2**
baz=233
SEM Semipalatinsk 82.57 322 *e*P **P** **02 32 55.7 -1.1**
baz=322
SEM Semipalatinsk 82.57 322 *e*P **P** **02 32 55.6 -1.1**
MDOK Medeo 82.57 315 *e*P **P** **02 32 55.2 -1.6**
baz=315
MDOK Medeo 82.57 315 *e*P **P** **02 32 55.2 -1.6**
TNSS Tian-Shan 82.61 315 *e*P **P** **02 32 56.4 -1.0**
baz=315
TNSS Tian-Shan 82.61 315 *e*P **P** **02 32 56.3 -1.0**
D20K Etivluk River 82.67 17 P **P** **02 32 56.5 -0.1**
baz=232
H22K Ishtalitna Cre 82.71 20 P **P** **02 32 56.6 -0.3**
baz=238
F21K Alatna River 82.74 19 P **P** **02 32 56.6 -0.4**
baz=236
DHY Denali Highway 82.78 24 IAmb IAmb 02 32 59.4
comp=Z,9.0nm,1.0s
DHY Denali Highway 82.78 24 P **P** **02 32 56.9 -0.5**
baz=242
CHKK Chushkaly 82.80 315 *e*P **P** **02 32 56.3 -1.5**
baz=316
CHKK Chushkaly 82.80 315 *e*P **P** **02 32 56.3 -1.5**
M24K Tolsona, Glenn 82.82 25 P **P** **02 32 56.9 -0.6**
M24K Tolsona, Glenn 82.82 25 P **P** **02 32 57.6 +0.1**
baz=243
NEA2 Nenana 82.87 22 P **P** **02 32 57.2 -0.5**
baz=240
BMRM Bremner River 82.99 26 P **P** **02 32 58.3 -0.1**
baz=245
I23K Minto, Yukon-K 83.04 22 P **P** **02 32 58.6 +0.1**
baz=240
G22K Bettles 83.22 20 P **P** **02 32 59.7 +0.2**
baz=238
NIL Nilore 83.28 305 P **P** **02 32 58.9 -1.6**
NIL IAmb IAmb 02 33 01.2
comp=Z,12nm,0.7s
NIL Nilore 83.28 305 P **P** **02 32 58.9 -1.6**
NIL pmax pmax
comp=Z,12nm,0.7s
E21K Killik River 83.29 18 P **P** **02 32 59.5 -0.3**
baz=235
B20K Meade River 83.31 16 P **P** **02 32 59.6 -0.2**
baz=232
H23K Yukon River 83.32 21 P **P** **02 32 59.6 -0.4**
baz=240
F22K John River 83.32 19 P **P** **02 32 59.5 -0.5**
baz=237
HARP HAARP 83.38 25 P **P** **02 32 59.8 -0.6**
baz=244
COLA College 83.46 22 P **P** **02 33 00.2 -0.5**
baz=241
COLA College 83.46 22 *i*P **P** **02 32 59.3 -1.4**
COLA pmax pmax
comp=Z,9.0nm,0.9s
C21K Knifeblade Rid 83.46 17 P **P** **02 33 00.4 -0.3**
baz=234
PAX Paxson 83.50 24 P **P** **02 33 00.6 -0.5**
baz=244
CRQE Cirque 83.57 27 P **P** **02 33 00.8 -0.8**
baz=246
HDA Harding Lake 83.58 23 P **P** **02 33 00.7 -0.7**
baz=242
G23K Bananza Creek 83.61 20 P **P** **02 33 01.5 0.0**
baz=239
KURK Kurchatov 83.65 322 P **P** **02 32 60.0 -2.0**
KURK IAmb IAmb 02 33 03.8
comp=Z,14nm,1.1s
KURK Kurchatov 83.65 322 *ce*P **P** **02 33 00.9 -1.1**
KURK pmax pmax
comp=Z,17nm,1.3s
KURBB Kurchatov Arra 83.68 322 P **P** **02 33 00.9 -1.2**
comp=Z,3.4nm,0.2s,baz=111,slow=4.3,SNR=14
KURBB LR LR 03 12 16.0
comp=Z,90nm,18.4s,baz=160,slow=37
comp=Z,3.4nm,0.2s
K24K Donnelly Dome 83.75 23 P **P** **02 33 02.4 +0.1**
baz=243
ILAR Eielson Array 83.77 22 P **P** **02 33 00.1 -2.3**
ILAR Eielson Array 83.77 22 P **P** **02 33 00.4 -1.9**
comp=Z,4.1nm,0.8s,baz=254,slow=5.3,SNR=24
ILAR LR LR 03 08 16.0
comp=Z,158nm,19.2s,baz=251,slow=34
comp=Z,4.1nm,0.8s
COLD Coldfoot 83.82 20 P **P** **02 33 02.0 -0.5**
baz=239
MCARA McCarthy VSAT 83.86 26 P **P** **02 33 01.2 -1.6**

baz=246
H24K **Noodor Dome** 83.92 21 P P 02 33 02.5 -0.6
baz=241
D22K **Ayikyak River** 83.93 18 P P 02 33 02.9 -0.2
baz=236,SNR=5.9
MAW **Mawson** 83.95 203 P P 02 33 03.9 +0.7
baz=84
MAW **Mawson** 83.95 203 P P 02 33 03.8 +0.6
comp=Z,2.3nm,0.6s,baz=94,slow=7.6,SNR=4.1
comp=Z,2.3nm,0.6s
QSPA **South Pole Qui** 84.07 180 P P 02 33 04.5 +0.5
QSPA IAmb IAmb 02 33 15.5
comp=Z,10.0nm,0.9s
QSPA **South Pole Qui** 84.07 180 P P 02 33 04.8 +0.8
comp=Z,5.6nm,0.7s,baz=326,slow=1.0,SNR=25
QSPA LR LR 03 09 09.3
comp=Z,57nm,18.4s,baz=8.5,slow=35
comp=Z,5.6nm,0.7s
RIDG **Independent Ri** 84.10 24 P P 02 33 04.3 +0.2
baz=244
AAK **Ala-Archa** 84.26 314 P P 02 33 03.6 -2.0
AAK IAmb IAmb 02 33 06.2
comp=Z,10.0nm,1.1s
AAK **Ala-Archa** 84.26 314 *ce*P P 02 33 05.4 -0.1
AAK pmax pmax
comp=Z,13nm,1.3s
AAK **Ala-Archa** 84.26 314 LR LR 03 10 07.5
comp=Z,176nm,21.3s,baz=98,slow=35
A21K **Barrow** 84.27 15 P P 02 33 04.4 -0.3
baz=232
J25K **Salcha River,** 84.28 23 IAmb IAmb 02 33 06.6
comp=Z,12nm,0.9s
J25K **Salcha River,** 84.28 23 P P 02 33 04.4 -0.6
baz=244
SGDS **Sogindy** 84.35 315 *e*P P 02 33 04.7 -1.2
baz=315
SGDS **Sogindy** 84.35 315 *e*P P 02 33 04.6 -1.2
L26K **Log Cabin Wild** 84.40 25 P P 02 33 05.3 -0.3
baz=246
E23K **Chandalar** 84.44 19 P P 02 33 05.6 -0.2
baz=239
CTG **Chitna Glacier** 84.44 27 P P 02 33 05.5 -0.5
baz=248
G24K **Hadweenzic Riv** 84.48 21 P P 02 33 05.7 -0.2
baz=241
A22K **Sinclair Lake** 84.50 15 P P 02 33 05.5 -0.4
baz=234
B22K **Teshekpuk Lake** 84.54 16 P P 02 33 05.4 -0.6
baz=235
SCRK **Sand Creek** 84.54 24 P P 02 33 05.8 -0.6
baz=245
D23K **Nanushuk River** 84.58 18 P P 02 33 06.3 0.0
baz=238,SNR=11
F24K **Squaw Lake** 84.74 20 P P 02 33 07.3 +0.1
baz=241
M27K **Edge Creek, AK** 84.75 26 IAmb IAmb 02 33 16.4
comp=Z,32nm,1.8s
M27K **Edge Creek, AK** 84.75 26 P P 02 33 07.2 -0.3
baz=247
TOLK **Toolik Lake Re** 84.75 18 P P 02 33 07.6 +0.3
baz=239
PNL **Peninsula** 84.86 28 P P 02 33 07.7 -0.2
baz=249
H25L **Birch Creek** 84.86 21 P P 02 33 07.9 +0.1
baz=243
J26L **Joseph Creek** 84.94 23 P P 02 33 08.3 0.0
baz=245
G25K **Bearman Lake** 84.99 21 P P 02 33 08.6 +0.2
baz=243
L27K **Beaver Creek,** 85.05 25 P P 02 33 09.2 +0.4
baz=247
C23K **Itkillik River** 85.06 17 P P 02 33 07.4 -1.3
C23K IAmb IAmb 02 33 12.0
comp=Z,14nm,1.2s
C23K **Itkillik River** 85.06 17 P P 02 33 09.3 +0.6
baz=238
BTLS **Baital** 85.13 316 *e*P P 02 33 08.9 -0.7
comp=Z,12nm,1.0s,baz=316
BTLS **Baital** 85.13 316 *e*P P 02 33 08.9 -0.7
BTLS pmax pmax
comp=Z,12nm,1.0s
YUK3 **Moose Creek** 85.14 26 P P 02 33 09.2 -0.3
baz=248
BVCY **Beaver Creek** 85.21 26 P P 02 33 09.6 -0.1
baz=248
D24K **Happy Valley** 85.25 18 P P 02 33 10.0 +0.4
baz=240
K27K **Chicken** 85.33 24 P P 02 33 10.2 0.0
baz=247
O29M **Mount Kennedy** 85.47 28 P P 02 33 10.3 -0.8
baz=250
F25K **Christian Rive** 85.53 20 P P 02 33 10.9 -0.3
baz=243
C24K **Franklin Bluff** 85.57 18 P P 02 33 11.4 +0.1
baz=240
YUK6 **Outpost Mounta** 85.79 27 P P 02 33 12.7 -0.2
baz=250
YUK4 **Talbot Arm** 85.80 27 P P 02 33 13.0 +0.1
baz=250
E25K **Arctic Village** 85.80 20 P P 02 33 12.7 +0.2
baz=243
G26K **Porcupine Rive** 85.90 21 P P 02 33 12.8 -0.1
baz=245
EGAK **Eagle** 85.99 23 P P 02 33 13.4 -0.1
baz=247
SIT **Sitka** 86.04 32 P P 02 33 13.5 -0.3
baz=253
F26K **Sheenjek River** 86.09 20 P P 02 33 14.0 +0.1
baz=244
D25K **Kavik River** 86.09 18 P P 02 33 13.0 -0.9
baz=242
I27K **Kandik River** 86.14 23 P P 02 33 14.4 +0.2
baz=247
HYT **Haines Junctio** 86.14 28 P P 02 33 13.7 -0.7
baz=251
P30M **Million Dollar** 86.17 28 P P 02 33 14.7 +0.1
baz=251
PLBC **Pleasant Camp** 86.24 29 P P 02 33 15.1 +0.3
baz=252
M29M **Somme Creek** 86.26 26 P P 02 33 14.9 -0.1
baz=250
H27K **Steamboat Moun** 86.42 22 P P 02 33 15.2 -0.4
baz=247
DAWY **Dawson** 86.44 24 P P 02 33 15.6 -0.1
baz=249
NRIK **Noril'sk** 86.48 341 *ce*P P 02 33 15.2 -0.6
NRIK pmax pmax
comp=Z,5.0nm,0.9s
NRIK **Noril'sk** 86.48 341 P P 02 33 14.8 -1.0
comp=Z,2.4nm,0.4s,baz=116,slow=4.2,SNR=7.8
NRIK LR LR 03 10 17.8
comp=Z,74nm,21.2s,baz=148,slow=35
comp=Z,2.4nm,0.4s
N30M **Aishikik Lake** 86.54 27 P P 02 33 16.5 +0.1
baz=251
DZA **Taraz** 86.59 314 *e*P P 02 33 15.8 -1.2
comp=Z,11nm,0.9s,baz=314
DZA **Taraz** 86.59 314 *e*P P 02 33 15.8 -1.2
DZA pmax pmax
comp=Z,11nm,0.9s
G27K **Doyon Strip** 86.60 21 P P 02 33 16.3 -0.2
baz=247
L29M **L29M** 86.63 25 IAmb IAmb 02 33 21.0
comp=Z,8.5nm,1.1s
L29M **L29M** 86.63 25 P P 02 33 16.7 0.0
baz=250
I28M **Miner Creek** 86.73 23 IAmb IAmb 02 34 09.0
comp=Z,25nm,1.9s
I28M **Miner Creek** 86.73 23 P P 02 33 16.8 -0.4
baz=248
SKAG **Skagway** 86.75 29 P P 02 33 17.2 -0.1
baz=253
O30N **Mendenhall** 86.78 28 P P 02 33 17.8 +0.3
baz=252
C26K **Camden Bay** 86.82 18 P P 02 33 17.9 +0.5
baz=244
M30M **Minto, Yukon** 87.03 26 P P 02 33 18.7 +0.1
baz=251
J29N **Klondike Camp** 87.06 24 P P 02 33 18.2 -0.6
J29N IAmb IAmb 02 33 26.3
comp=Z,7.8nm,1.0s
J29N **Klondike Camp** 87.06 24 P P 02 33 19.5 +0.7
baz=250
K29M **Barlow Dome** 87.14 25 P P 02 33 19.5 +0.2
baz=251
BRZS **Berezniki** 87.14 321 *e*P P 02 33 18.3 -1.2
baz=321
BRZS **Berezniki** 87.14 321 *e*P P 02 33 18.2 -1.2
comp=Z,12nm,1.1s
N31M **Braeburn, Yuko** 87.15 27 P P 02 33 19.6 +0.4
baz=252
E27K **Coleen River** 87.17 20 IAmb IAmb 02 33 22.7
comp=Z,7.5nm,1.1s
E27K **Coleen River** 87.17 20 P P 02 33 19.7 +0.5
baz=247
KK31 **Karatay Array** 87.22 314 IAmb IAmb 02 33 20.0
comp=Z,15nm,1.2s
KKAR **Karatay Array** 87.22 314 P P 02 33 18.3 -1.7
KKAR IAmb IAmb 02 33 20.0
comp=Z,15nm,1.2s
KKAR **Karatay Array** 87.22 314 P P 02 33 18.3 -1.7
KKAR pmax pmax
comp=Z,15nm,1.2s
WHY **Whitehorse** 87.32 28 P P 02 33 20.7 +0.5
baz=253
IUG **luzhnay** 87.40 313 *e*P P 02 33 19.1 -1.9
comp=Z,12nm,1.1s,baz=313
IUG **luzhnay** 87.40 313 *e*P P 02 33 19.9 -1.1
IUG pmax pmax
comp=Z,12nm,1.1s
WRAK **Wrangell Islan** 87.45 33 P P 02 33 20.8 0.0
baz=256
F28M **Old Crow** 87.56 21 P P 02 33 21.1 0.0
baz=248
SIMJ **Simiganj** 87.57 309 P P 02 33 19.7 -2.3
P32M **Atlin** 87.58 29 P P 02 33 20.6 -0.8
baz=254
V35K **Ketchikan** 87.58 34 P P 02 33 20.9 -0.4
baz=256
BRLS **Borolday** 87.70 313 *e*P P 02 33 21.1 -1.2
baz=313
BRLS **Borolday** 87.70 313 *e*P P 02 33 21.1 -1.2
CHM **Chimkent** 87.74 313 *e*P P 02 33 21.2 -1.4
baz=313
CHM **Chimkent** 87.74 313 *e*P P 02 33 21.1 -1.4
D27M **Malcolm River** 87.80 19 IAmb IAmb 02 33 23.6
comp=Z,5.0nm,0.8s
D27M **Malcolm River** 87.80 19 P P 02 33 22.4 +0.1
baz=247
J30M **Hart River** 87.87 24 IAmb IAmb 02 33 27.0
comp=Z,4.8nm,0.8s
J30M **Hart River** 87.87 24 P P 02 33 22.5 -0.3
baz=252
G29M **Pine Creek** 87.98 22 P P 02 33 22.8 -0.3
baz=250
M31M **Drury Creek, Y** 87.99 27 P P 02 33 23.1 -0.2
baz=254
E28M **Babbage River** 88.04 20 IAmb IAmb 02 34 41.4
comp=Z,24nm,2.0s
E28M **Babbage River** 88.04 20 P P 02 33 23.7 +0.4
baz=249
I30M **Mount Dempster** 88.05 24 IAmb IAmb 02 33 23.9
comp=Z,25nm,1.9s
I30M **Mount Dempster** 88.05 24 P P 02 33 23.3 -0.3
baz=252
Q32M **Nakina River** 88.13 30 P P 02 33 23.8 -0.4
baz=256
P33M **Teslin, Yukon** 88.18 29 P P 02 33 24.4 +0.1
baz=255
EPYK **Eagle Plains** 88.29 23 P P 02 33 23.6 -1.0
EPYK IAmb IAmb 02 33 25.9
comp=Z,26nm,1.6s
EPYK **Eagle Plains** 88.29 23 P P 02 33 24.9 +0.3
baz=251
N32M **Quiet Lake** 88.30 28 P P 02 33 25.0 +0.2
baz=255
S34M **Telegraph Cree** 88.45 31 P P 02 33 25.6 +0.1
baz=257
FARO **Faro, Yukon** 88.47 27 IAmb IAmb 02 33 27.7
comp=Z,7.6nm,1.1s
FARO **Faro, Yukon** 88.47 27 P P 02 33 25.6 +0.1
baz=254
E29M **Blow River** 88.53 20 P P 02 33 25.2 -0.5
baz=250
D28M **Stokes Point** 88.57 20 P P 02 33 25.7 -0.1
baz=249
G30M **tAoh Zraii Nji** 88.67 22 IAmb IAmb 02 33 28.2
comp=Z,26nm,1.6s
G30M **tAoh Zraii Nji** 88.67 22 P P 02 33 26.5 +0.1
baz=252
R33M **Jennings River** 88.88 30 P P 02 33 27.2 -0.5
baz=257
BBB **Bella Bella** 88.93 37 LR LR 03 06 29.6
comp=Z,127nm,20.6s,baz=284,slow=31
F30M **Barrier River** 89.03 21 P P 02 33 27.9 -0.2
baz=252
H31M **Peel River** 89.04 23 IAmb IAmb 02 33 29.0
comp=Z,29nm,1.9s
H31M **Peel River** 89.04 23 P P 02 33 27.5 -0.6
baz=254
DLBC **Dease Lake** 89.14 31 P P 02 33 28.4 -0.4
baz=258
DLBC **Dease Lake** 89.14 31 LR LR 03 06 33.9
comp=Z,277nm,21.2s,baz=276,slow=31
BVAR **Borovoye Array** 89.16 323 P P 02 33 27.0 -2.0
comp=Z,2.7nm,0.8s,baz=111,slow=6.5,SNR=12
BVAR LR LR 03 15 07.2
comp=Z,87nm,19.1s,baz=86,slow=37
comp=Z,2.7nm,0.8s
G31M **Satah River** 89.39 22 IAmb IAmb 02 34 51.2
comp=Z,28nm,1.9s
G31M **Satah River** 89.39 22 P P 02 33 29.5 -0.1
baz=254
MMPY **Sheldon Lake,** 89.50 27 P P 02 33 29.9 -0.5
baz=256
F31M **Tsiigehtchic** 89.73 22 P P 02 33 30.8 -0.4
baz=254
INK **Inuvik** 90.05 21 P P 02 33 31.4 -1.3
INK **Inuvik** 90.05 21 P P 02 33 32.3 -0.4
baz=254,SNR=6.5
INK **Inuvik** 90.05 21 P P 02 33 31.4 -1.3
INK pmax pmax
comp=Z,7.0nm,1.2s
INK **Inuvik** 90.05 21 P P 02 33 31.6 -1.1
comp=Z,6.2nm,1.1s,baz=236,slow=6.0,SNR=7.4
INK LR LR 03 10 40.8
comp=Z,96nm,20.8s,baz=186,slow=33
comp=Z,6.2nm,1.1s
WTLY **Watson Lake, Y** 90.11 30 P P 02 33 32.5 -0.8
baz=258
K02D **Willamette Mer** 90.39 47 P P 02 33 35.8 +0.7
K02D IAmb IAmb 02 33 37.8
comp=Z,18nm,1.1s
TGTN **Hyland Airport** 90.64 28 P P 02 33 35.4 -0.4
baz=259
YBH **Yreka Blue Hor** 90.97 48 IAmb IAmb 02 33 40.4
comp=Z,11nm,0.9s
ORV **Oroville** 91.64 51 IAmb IAmb 02 33 43.6
comp=Z,11nm,1.1s
AFDM **Forest Hills D** 91.98 51 P P 02 33 42.9 +0.4
AFDM IAmb IAmb 02 33 45.4
comp=Z,14nm,1.0s
CMB **Columbia Colle** 92.35 52 IAmb IAmb 02 33 46.5
comp=Z,8.7nm,1.0s
KOTAN **Kotaneelee Air** 92.46 30 P P 02 33 43.7 -0.4
baz=263
PINE **Pine Mountain** 92.50 46 P P 02 33 45.5 +0.5
PKM **Mcpherson Peak** 92.51 55 P P 02 33 45.4 +0.2
baz=265,SNR=5.9
SCZ2 **Santa Cruz Isl** 92.57 56 P P 02 33 44.4 -0.9
baz=265
SNCC **San Nicolas Is** 92.59 57 P P 02 33 44.4 -1.0
baz=265
EMB **Emerald Bay** 92.66 51 IAmb IAmb 02 33 48.3
comp=Z,14nm,1.1s
WAKR **Walker** 93.14 52 IAmb IAmb 02 33 50.7
comp=Z,11nm,0.9s
VES **Vestal, Richgr** 93.19 54 P P 02 33 47.7 -0.3
baz=265
PAHR **Pah Rah Range** 93.28 51 IAmb IAmb 02 33 50.9
comp=Z,10nm,1.0s
ARVC **Arvin** 93.33 55 P P 02 33 48.6 -0.1
baz=265
CIS **Catalina Islan** 93.53 57 P P 02 33 48.7 -1.1
baz=265
I07A **Izee** 93.56 46 P P 02 33 49.7 -0.1
I07A IAmb IAmb 02 33 51.9
comp=Z,17nm,1.4s
A36M **Sachs Harbour** 93.57 18 IAmb IAmb 02 33 48.9
comp=Z,5.3nm,0.7s
A36M **Sachs Harbour** 93.57 18 P P 02 33 48.6 -0.4
baz=262
C36M **Paulatuk** 93.62 21 IAmb IAmb 02 33 49.0
comp=Z,3.3nm,0.7s
C36M **Paulatuk** 93.62 21 P P 02 33 48.5 -0.7
baz=263,SNR=5.4
ISA **Isabella, Lake** 93.67 55 IAmb IAmb 02 33 52.8
comp=Z,12nm,1.1s
ISA **Isabella, Lake** 93.67 55 P P 02 33 49.7 -0.7
baz=266,SNR=5.6
RYN **Ryan** 93.86 52 IAmb IAmb 02 33 53.8
comp=Z,12nm,1.0s
EDW2 **Edwards Air Fo** 94.00 55 P P 02 33 51.2 -0.7
baz=266,SNR=8.8
NVAR **Mina Array Bea** 94.02 52 P P 02 33 53.6 +1.5
comp=Z,11nm,0.8s,baz=254,slow=6.2,SNR=60
comp=Z,11nm,0.8s
CWC **Cottonwood Cre** 94.05 54 P P 02 33 51.5 -0.7
baz=266
WVOR **Wild Horse Val** 94.06 48 IAmb IAmb 02 33 53.7
comp=Z,12nm,1.4s
NV11 **Mina Array Sit** 94.13 52 P P 02 33 52.9 +0.4
NV11 IAmb IAmb 02 33 55.0
comp=Z,16nm,1.0s
KVN **Kaiserville** 94.22 51 IAmb IAmb 02 33 55.4
comp=Z,8.7nm,0.8s
BFSC **Mount Baldy Ra** 94.23 56 P P 02 33 51.9 -1.1
baz=266
J08A **Circle Bar Ran** 94.25 47 P P 02 33 53.4 +0.5
J08A IAmb IAmb 02 33 55.6
comp=Z,8.1nm,1.1s
LRMC **Laurel Mtn Rad** 94.30 55 P P 02 33 52.7 -0.7
baz=266,SNR=20
MPMC **Manual Prospec** 94.49 54 P P 02 33 54.4 0.0
baz=266
MURC **Murrieta** 94.56 57 P P 02 33 53.8 -0.7
baz=266
MZP **Montezuma Peak** 94.69 53 IAmb IAmb 02 33 57.7
comp=Z,11nm,1.0s
QSM **Queen of Sheba** 94.99 54 P P 02 33 56.3 0.0
GSC **Goldstone, Bar** 95.00 55 IAmb IAmb 02 33 59.3
comp=Z,11nm,1.1s
GSC **Goldstone, Bar** 95.00 55 P P 02 33 55.8 -0.8
baz=266,SNR=5.7
FURC **Furnace Creek,** 95.03 54 P P 02 33 56.7 +0.2
baz=266,SNR=5.4
MONP2 **Monument Peak** 95.16 58 P P 02 33 57.0 -0.5
baz=266
GWY **Greenwater Val** 95.17 54 IAmb IAmb 02 33 59.9
comp=Z,16nm,1.4s
PFO **Pinyon Flats O** 95.18 57 P P 02 33 58.5 +1.0
PFO IAmb IAmb 02 33 59.9
comp=Z,8.3nm,1.1s
PFO **Pinyon Flats O** 95.18 57 P P 02 33 56.5 -0.9
baz=266
PFO **Pinyon Flats O** 95.18 57 *i*P P 02 33 57.5 +0.1
PFO pmax pmax
comp=Z,15nm,1.0s
BMO **Blue Mountains** 95.18 46 IAmb IAmb 02 33 58.2
comp=Z,3.9nm,0.9s
TPFO **Pinon Flats** 95.18 57 P P 02 33 56.6 -0.8
baz=266
PMD **Palm Desert** 95.25 57 IAmb IAmb 02 34 00.5
comp=Z,7.1nm,0.9s
ELIB **Princess Elisa** 95.35 194 *d*P P 02 33 57.6 +0.2
comp=Z,2.5nm,1.2s
HEC **Hector,Ludlow** 95.36 56 P P 02 33 57.5 -0.6
baz=267
IKP **In-Ko-Pah, Jac** 95.41 58 P P 02 33 57.8 -0.7
baz=267
SHOC **Shoshone, Teco** 95.47 55 P P 02 33 59.0 +0.5
baz=267,SNR=6.2
NEW **Newport** 95.48 42 P P 02 33 58.9 +0.6
baz=267
NEW **Newport** 95.48 42 P P 02 33 58.5 +0.2
comp=Z,2.7nm,0.9s,baz=311,slow=5.5,SNR=5.0
NEW LR LR 03 10 51.9
comp=Z,176nm,20.2s,baz=266,slow=32
comp=Z,2.7nm,0.9s
ESJX **Sierra Juarez** 95.51 58 IAmb IAmb 02 34 03.8
comp=Z,9.1nm,1.1s
YUH **Yuha Desert** 95.57 58 P P 02 34 00.1 +1.0
YUH IAmb IAmb 02 34 03.6
comp=Z,11nm,1.0s
BELC **Belle Mtn. Jos** 95.58 56 P P 02 33 59.5 +0.2
baz=267
SWSC **Sam W. Stewart** 95.69 58 P P 02 34 00.4 +0.8
baz=267
RPN **Rapa Nui** 95.72 118 LR LR 03 08 24.4
comp=Z,51nm,22.0s,baz=252,slow=30
TUQ **Turquoise Moun** 95.73 55 P P 02 34 00.4 +0.5
baz=267
GMRC **Granite Mounta** 95.91 56 P P 02 34 01.6 +0.9
baz=267,SNR=7.4
GEYT **Alibeck** 96.01 307 LR LR 03 20 12.1
comp=Z,55nm,18.2s,baz=138,slow=37
BC3 **Big Chuckawall** 96.02 57 P P 02 34 01.9 +0.6
baz=267
R11B **Troy Canyon, C** 96.14 52 IAmb IAmb 02 34 05.8
comp=Z,6.9nm,1.3s
R11B **Troy Canyon, C** 96.14 52 P P 02 34 02.5 +0.7
baz=268,SNR=7.5
IRM **Iron Mountain** 96.30 56 P P 02 34 03.3 +0.8
baz=267
ARU **Arti** 96.33 326 *di*P P 02 33 59.5 -2.5
ARU 02 37 51.4
ARU S SKSac 02 44 32.5 -2.5
ARU pmax pmax
comp=Z,7.0nm,1.9s
ARU **Arti** 96.33 326 LR LR 03 16 59.9
comp=Z,204nm,21.5s,baz=112,slow=35
SHPR **Sheep Range** 96.40 54 IAmb IAmb 02 34 06.1
comp=Z,5.6nm,1.1s
ELK **Elko** 96.51 50 IAmb IAmb 02 34 07.1
comp=Z,3.7nm,1.1s
AKTO **Aktyubinsk** 96.53 320 LR LR 03 17 00.1
comp=Z,112nm,21.0s,baz=40,slow=35
V12A **Nelson** 96.61 55 IAmb IAmb 02 34 07.5
comp=Z,12nm,1.2s
NEE2 **Needles Airpor** 96.76 56 P P 02 34 05.3 +0.9
baz=268
Q12A **Willow Creek R** 96.76 51 P P 02 34 05.8 +1.2
Q12A IAmb IAmb 02 34 10.5
comp=Z,9.3nm,1.0s
BLYC **Blythe** 96.80 57 IAmb IAmb 02 34 07.7
comp=Z,4.8nm,0.7s
PDMCI **Parker Dam,Lak** 97.14 56 P Pdif 02 34 06.6 +0.3
baz=268
YKA **Yellowknife Ar** 97.14 28 P P 02 34 05.1 -0.3
comp=Z,1.1nm,0.8s,baz=276,slow=4.7,SNR=13
YKA LR LR 03 11 55.2
comp=Z,102nm,21.8s,baz=288,slow=32
comp=Z,1.1nm,0.8s
PSUT **Pine Spring** 97.51 52 P P 02 34 07.5 -0.5
PSUT IAmb IAmb 02 34 12.1
comp=Z,3.1nm,0.8s
DUG **Dugway, Tooele** 98.35 50 P Pdif 02 34 12.0 +0.3
baz=270
MTPU **Mount Pierson** 98.81 53 IAmb IAmb 02 34 18.6
comp=Z,11nm,1.5s
WUAZ **Wupatki** 99.44 55 P Pdif 02 34 17.1 +0.4
baz=270
TUC **Tucson** 99.90 58 P Pdif 02 34 18.8 +0.1
baz=269
H17A **Grant Village** 99.98 46 P Pdif 02 34 19.1 +0.1
baz=272
SRU **San Rafael Swe** 100.11 51 Pdif Pdif 02 34 19.4 -0.2
SRU **San Rafael Swe** 100.11 51 *i*P Pdif 02 34 19.4 -0.2
BW06 **Boulder Array** 100.77 48 P Pdif 02 34 21.9 -0.6
baz=272
PD31 **Pinedale Array** 100.77 48 Pdif Pdif 02 34 22.3 -0.2
PDAR **Pinedale Array** 100.77 48 P Pdif 02 34 22.4 -0.1
comp=Z,2.4nm,0.9s,baz=246,slow=2.4,SNR=15
MVCO **Mesa Verde** 101.75 53 P Pdif 02 34 27.1 +0.1
baz=272
O20A **White River Ci** 101.85 50 P Pdif 02 34 27.5 +0.2
baz=272
ANMO **Albuquerque** 103.47 56 P Pdif 02 34 34.9 +0.2
baz=272
N23A **Red Feather La** 103.56 49 P Pdif 02 34 35.3 +0.3
baz=274
ISCO **Idaho Springs** 103.89 51 P Pdif 02 34 36.6 +0.1
baz=274
MNTX **Cornudas Mount** 104.49 59 P Pdif 02 34 39.8 +0.8
baz=272
RSSD **Black Hills** 104.68 46 P Pdif 02 34 40.7 +0.8
baz=276
TXAR **Lajitas Array** 106.06 61 PP PP 02 39 09.6 -0.6
comp=Z,1.0nm,1.0s,baz=255,slow=4.9,SNR=6.5
OBN **Obninsk** 108.77 327 *e*P Pdif 02 34 56.8 -0.6
OBN *e* 02 39 29.3
OBN *e*PPP PPP 02 41 45.4
OBN pmax pmax
comp=Z,2.0nm,0.8s
NACGM **Naroch** 114.08 329 *e*Pdif Pdif 02 35 20.9 -0.2

comp=Z,8.0nm,0.8s,baz=64
JFWS Jewell Farm 114.75 45 P PKPdf 02 39 14.6 +0.6
baz=286
BRTR Keskin Array B 114.83 311*c i* PKIKP **PKiK 02 39 13.8 -0.7**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 114.83 311 PKP **PKiK 02 39 14.2 -0.3**
comp=Z,1.0nm,0.8s,baz=75,slow=1.4,SNR=3.6
SORM Soroca 115.92 321 ⇑P **PKiK 02 39 15.9 -0.3**
MDUB Mudurnu 116.45 312 ⇑P **PKPdf 02 39 16.6 -1.0**
CFR Carcaliu 117.13 318 ⇑P **PKPdf 02 39 18.4 -0.1**
MANR Mangalia 117.29 317 ⇑P **PKiK 02 39 19.0 +0.1**
BURAR Bucovina Array 118.07 322 ⇑P **PKPdf 02 39 20.4 -0.1**
VOIR 119.05 319 ⇑P **PKPdf 02 39 18.4 -4.0**
O48B Farmland 119.18 47 P **PKiK 02 39 23.1 +0.4**
baz=289
ARR Arges 119.35 319 ⇓P **PKiK 02 39 24.1 +1.0**
ELND Elena 119.45 317 ⇓P **PKiK 02 39 23.5 +0.2**
HUMR Humele 119.45 318 ⇑P **PKPdf 02 39 23.0 -0.1**
CRVS Cervenica-Dubn 119.75 324 *e*PKIKP **PKiK 02 39 25.1 +1.5**
CRVS Cervenica-Dubn 119.75 324 *e*PKP **PKiK 02 39 25.1 +1.5**
GZR Gura Zlata 120.53 320 ⇓P **PKPdf 02 39 24.7 -0.6**
SURR Surduc 120.79 321 ⇓P **PKPdf 02 39 25.6 0.0**
SIRR Siria 120.85 321 ⇓P **PKPdf 02 39 25.2 -0.6**
BORG Borgarnes 121.02 356 *i* PKIKP **PKiK 02 39 32.4 +6.8**
BZS Buzias 121.17 321 ⇑P **PKiK 02 39 26.6 +0.1**
BLKB Belogradchik 121.34 318 ⇑P **PKPdf 02 39 26.8 0.0**
VYHS Vyhne 121.47 325 *e*PKIKP **PKPdf 02 39 26.0 -0.9**
VYHS Vyhne 121.47 325 *e*PKP **PKPdf 02 39 26.0 -0.9**
MDVR Moldovita 121.47 320 ⇑P **PKPdf 02 39 26.7 -0.3**
MORC Moravsky Berou 121.53 327 *e*PKP **PKiK 02 39 27.4 +0.3**
DPC Dobruska-Polom 121.87 328 *e*PKPDF **PKiK 02 39 28.6 +0.8**
DPC Dobruska-Polom 121.87 328 *e*PKIKP **PKiK 02 39 28.6 +0.8**
JAVC Velka Javorina 121.94 326 *e*PKP **PKiK 02 39 28.5 +0.5**
VRAC Vranov 122.30 327 *e*PKP **PKiK 02 39 28.7 +0.1**
MODS Modra-Piesok 122.42 325 *e*PKIKP **PKiK 02 39 29.6 +0.7**
MODS Modra-Piesok 122.42 325 *e*PKP **PKiK 02 39 29.6 +0.7**
KRUC Moravsky 122.54 326 *e*PKP **PKPdf 02 39 28.3 -0.6**
MORH Mrgy, Hungar 122.72 323 ⇑P **PKPdf 02 39 29.3 0.0**
CLL Collm 123.02 330 *e*PKIKP **PKiK 02 39 30.0 +0.1**
CLL Collm 123.02 330 *e*PKPdf **PKiK 02 39 30.0 +0.1**
CLL AMS AMS 03 32 00.0
comp=Z,100nm,18.8s
RONA Rosalia, Austr 123.34 325 *e*PKP **PKPdf 02 39 30.2 -0.3**
comp=Z,6.1nm,1.5s
FNA Florina 123.38 316 PKPdf **PKPdf 02 39 29.9 -0.9**
FNA Florina 123.38 316 PKIKP **PKPdf 02 39 29.9 -0.9**
CONA Conrad Observa 123.46 325 *e*PKP **PKPdf 02 39 30.3 -0.5**
comp=Z,2.6nm,0.7s
ZVC Zvikov 123.52 328 *e*PKPDF **PKiK 02 39 31.2 +0.2**
KMSC Kings Mountain 123.68 51 P **PKPdf 02 39 30.8 -0.7**
baz=289
BLA Blacksburg 123.69 49 P **PKPdf 02 39 30.8 -0.7**
baz=291
CKRC Cesky Krumlov 123.82 327 *e*PKPDF **PKiK 02 39 31.6 0.0**
CKRC Cesky Krumlov 123.82 327 *e*PKIKP **PKiK 02 39 31.6 0.0**
KHC Kasperske Hory 124.03 328 PKPdf **PKPdf 02 39 31.9 +0.1**
KHC Kasperske Hory 124.03 328 *e*PKPDF **PKiK 02 39 32.0 -0.1**
KHC Kasperske Hory 124.03 328 *i* PKIKP **PKPdf 02 39 31.5 -0.3**
KHC *e* 02 39 32.9
KHC pmax pmax
comp=Z,14nm,1.3s
GEC2 GERESS Array S 124.13 327 PKPdf **PKPdf 02 39 31.8 -0.3**
GERES GERESS Array B 124.13 327 PKP **PKiK 02 39 32.4 0.0**
comp=Z,1.6nm,0.6s,baz=70,slow=3.3,SNR=8.3
SSPA Standing Stone 124.20 44 P **PKPdf 02 39 31.9 -0.5**
baz=295
MOA Molln 124.40 326 *e*PKP **PKPdf 02 39 32.1 -0.5**
comp=Z,3.3nm,1.1s
LONY Lake Ozonia 124.54 38 P **PKPdf 02 39 32.2 -0.6**
baz=300
SOKA Soboth 124.62 325 *e*PKP **PKPdf 02 39 32.7 -0.4**
comp=Z,4.0nm,1.0s
BINY Binghamton 124.80 42 P **PKPdf 02 39 33.0 -0.5**
baz=298
OBKA Obir 124.99 325 *e*PKP **PKPdf 02 39 33.2 -0.6**
comp=Z,5.7nm,1.3s
KBA Koelnbreinsper 125.35 326 *e*PKP **PKPdf 02 39 33.2 -1.4**
comp=Z,2.0nm,0.8s
LESA Schwarzleotal 125.52 326 *e*PKP **PKPdf 02 39 33.8 -0.9**
comp=Z,1.6nm,0.6s
ABTA Abfaltersbach 126.01 326 *e*PKP **PKPdf 02 39 34.6 -1.1**
comp=Z,4.6nm,0.9s
WATA Walderalm 126.17 327 *e*PKP **PKPdf 02 39 35.4 -0.7**
comp=Z,7.9nm,1.2s
STAL STALIGIAL 126.18 325 PKPdf **PKPdf 02 39 35.0 -1.0**
WTTA Wattenberg 126.18 327 *e*PKP **PKPdf 02 39 35.6 -0.6**
comp=Z,8.1nm,1.0s
MOTA Moosalm 126.42 327 *i* PKP **PKPdf 02 39 36.3 -0.3**
comp=Z,8.5nm,1.3s
SQTA Sankt Quirin 126.44 327 *e*PKiKP **PKPdf 02 39 36.5 -0.1**
comp=Z,6.1nm,1.1s
SGRT San Giovanni R 126.74 319 PKPdf **PKPdf 02 39 36.3 -0.9**
FETA Feichten 126.82 327 *e*PKiKP **PKiKP 02 39 37.8 -0.1**
comp=Z,5.9nm,1.2s
L61B Northampton 126.83 40 P **PKPdf 02 39 36.8 -0.5**
baz=301
TIP Timpagrande 127.27 316 PKPdf **PKPdf 02 39 37.8 -0.6**
MCRA Macar, Loja 127.92 100 PKPdf **PKPdf 02 39 39.2 -1.1**
LPAZ La Paz 135.28 120 PKP **PKPdf 02 39 54.4 -0.4**
comp=Z,2.0nm,0.9s,baz=197,slow=3.7,SNR=5.9
SDV Santo Domingo 138.43 83 PKPdf **PKPdf 02 40 00.7 +0.5**
SAML Samuel 142.69 113 PKPpre 02 40 04.0
SAML Samuel 142.69 113 PKIKP **PKPdf 02 40 04.0 -3.6**
TAM Tamanrasset 142.88 300 PKPdf **PKPdf 02 40 05.8 -2.2**
TAM Tamanrasset 142.88 300 PKIKP **PKPdf 02 40 05.8 -2.2**
SMRT St. Maarten 144.45 67 PKPdf **PKPab 02 40 08.2 -0.7**
BOAV Boa Vista 148.18 95 PKPbc **PKPbc 02 40 20.9 +0.5**
TOA0 Torodi Ar. Sit 149.09 286 PKPbc **PKPbc 02 40 21.6 -1.0**
TORD Torodi Ar. Bea 149.09 286 PKPdf **PKPdf 02 40 16.4 -2.1**
TORD Torodi Ar. Bea 149.09 286 PKP **PKPdf 02 40 18.1 -0.4**
comp=Z,31nm,0.8s,baz=34,slow=5.6,SNR=57
TORD PKPbc **PKPbc 02 40 22.3 -0.3**
comp=Z,30nm,0.8s,baz=48,slow=3.8,SNR=121
BDFB Brasilia 151.37 139 **PKPbc 02 40 28.0 -0.2**
BDFB Brasilia 151.37 139 PKIKP **PKPbc 02 40 28.0 -0.2**
BDFB Brasilia 151.37 139 PKPbc **PKPbc 02 40 28.6 +0.3**
comp=Z,2.8nm,0.5s,baz=167,slow=3.7,SNR=8.1
DBIC Dimbokro 156.18 273 PKPab **PKPab 02 40 56.9 0.0**
comp=Z,6.7nm,0.8s,baz=87,slow=5.7,SNR=5.1

*IDC **28** 02:25:34.1±2.7,28°.61S×178°.28W,h48km±29km,mb4.0/5, mbtmp4.2/5,Error ellipse: s-maj=58.8km s-min=21.3km az=168.0*

ISC 28 02:25:34.1±0.7,28°.4S±0°.1×178°.3W±0°.2,h50km,n18, σ1s23/19,mb4.2/6,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.90**	**158**	P	**Pn**	**02 25 48.8**	**-1.7**
RAO	7μm,0.3s,baz=105,slow=7.8,SNR=86			S	**Sn**	**02 26 04.6**	**+2.2**
	9μm,0.3s,baz=70,slow=21,SNR=21						
CTA	**Charters Tower**	**33.26**	**276**	P	P	02 32 12.2	+5.3
	1.4nm,0.4s,baz=146,slow=0.0,SNR=1.6						
STKA	**Stephens Creek**	**34.71**	**254**	P	**P**	**02 32 18.9**	**-0.4**
	12nm,0.8s,baz=90,slow=9.1,SNR=13						
	12nm,0.8s						
ASAR	**Alice Springs**	**42.98**	**265**	P	**P**	**02 33 28.5**	**-0.2**
	1.5nm,0.5s,baz=104,slow=7.1,SNR=12						
ASAR				ScP	**ScP**	**02 39 07.7**	**+2.2**
	0.2nm,0.7s,baz=122,slow=3.4,SNR=4.0						
	1.5nm,0.5s						
WRA	**Warramunga Arr**	**43.79**	**270**	P	**P**	**02 33 36.4**	**+1.2**
	3.7nm,0.6s,baz=110,slow=8.0,SNR=25						
	3.7nm,0.6s						
NVAR	**Mina Array Bea**	**86.97**	**43**	P	**P**	**02 38 16.1**	**+1.9**
	1.1nm,0.8s,baz=219,slow=7.0,SNR=5.5						
	1.1nm,0.8s						
TXAR	**Lajitas Array**	**91.55**	**57**	P	**P**	**02 38 34.5**	**-1.3**
	0.4nm,0.9s,baz=198,slow=5.7,SNR=3.0						
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**116.29**	**311**	PKP	**PKPdf**	**02 44 10.5**	**-1.3**
	0.2nm,0.5s,baz=232,slow=1.8,SNR=3.5						
KURBB	**Kurchatov Arra**	**119.52**	**315**	PKP	**PKPdf**	**02 44 16.9**	**-1.0**
	0.6nm,0.5s,baz=107,slow=1.8,SNR=10						
BVAR	**Borovoye Array**	**124.79**	**317**	PKP	**PKPdf**	**02 44 27.9**	**-0.1**
	1.5nm,0.7s,baz=177,slow=1.3,SNR=7.2						
FINES	**FINESS Array B**	**143.20**	**341**	PKP	**PKPdf**	**02 45 01.2**	**-0.7**
	9.7nm,0.7s,baz=51,slow=3.8,SNR=72						
KBZ	**Khabaz**	**143.76**	**306**	PKP	**PKPdf**	**02 45 02.9**	**-0.6**
	1.7nm,0.6s,baz=185,slow=5.8,SNR=6.5						
NB2	**NORSAR Subarra**	**146.76**	**352**	PKP	**PKPab**	**02 45 11.3**	**0.0**
	comp=Z,1.4nm,0.6s,baz=12,slow=2.7						
NOA	**NORSAR Array B**	**146.76**	**352**	PKPbc	**PKPab**	**02 45 11.3**	**0.0**
	comp=Z,1.7nm,0.7s,baz=15,slow=4.3,SNR=8.9						
HFS	**Hagfors**	**147.26**	**349**	PKPbc	**PKPbc**	**02 45 12.3**	**+1.0**
	comp=Z,4.5nm,0.7s,baz=169,slow=1.5,SNR=8.1						
AKASG	**Malin Array Be**	**149.55**	**325**	PKPbc	**PKPbc**	**02 45 17.8**	**+0.2**
	comp=Z,1.6nm,0.4s,baz=48,slow=2.5,SNR=16						
MMAI	**Mount Meron Ar**	**150.73**	**287**	PKPbc	**PKPbc**	**02 45 21.4**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=83,slow=7.1,SNR=8.2						
BRTR	**Keskin Array B**	**151.38**	**302**	PKPbc	**PKPbc**	**02 45 22.0**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=18,slow=1.8,SNR=2.6						

TEH 28 02:35:43.8,31°.86N×48°.71E,h20km±27km,ML3.5, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHWZ	**Ahwaz**	**0.54**	**186**	Pg	Pg	02 35 55.2	+0.6
JHBN	**Jahan bin**	**1.71**	**77**	Pg	Pb	02 36 15.4	+0.7
IKFM	**Kafar-mosalman**	**1.81**	**337**	Pn	Pb	02 36 16.8	+0.6
ABEH	**Behbahan**	**1.83**	**133**	Pn	Pg	02 36 19.3	+0.3
ZNGN	**Zangian**	**1.84**	**82**	Pn	Pb	02 36 17.7	+0.6
IDOB	**Doab**	**1.97**	**347**	Pn	Pb	02 36 19.6	+0.4
IPIR	**Pirpir**	**2.02**	**66**	Pn	Pb	02 36 20.3	+0.2
IBRJ	**Brojen**	**2.17**	**88**	Pn	Pb	02 36 22.5	-0.2
HSAM	**Samen**	**2.34**	**358**	Pn	Pb	02 36 24.8	-0.8
KLNJ	**Kolanjah**	**2.61**	**108**	Pn	Pb	02 36 27.8	-2.3
IBZA	**Bozab**	**2.69**	**345**	Pn	Pb	02 36 29.6	-1.9
ILBA	**Ilam Banvizeh**	**2.74**	**310**	Pn	Pn	02 36 29.2	+2.5
KCHF	**Cheshme Sefid,**	**2.78**	**330**	Pn	Pb	02 36 30.6	-2.3
IKLH	**Kolahrood**	**2.83**	**58**	Pn	Pb	02 36 31.1	-2.7
IGAR	**Gharneh**	**2.88**	**78**	Pn	Pb	02 36 32.2	-2.4
HAGD	**Aghdareh**	**2.97**	**7**	Pn	Pb	02 36 33.4	-2.8
IRAM	**Ramesheh**	**3.13**	**90**	Pn	Pn	02 36 35.4	+3.2
IZEF	**Zefreh**	**3.23**	**70**	Pn	Pn	02 36 36.8	+3.1
IDHR	**Dehrash**	**3.43**	**326**	Pn	Pn	02 36 39.6	+3.2
IQOM	**Qom**	**3.57**	**33**	Pn	Pn	02 36 40.7	+2.3
IRAZ	**Razeghan**	**3.68**	**16**	Pn	Pn	02 36 43.0	+3.2
KGS1	**Ghasr-e-Shirin**	**3.71**	**316**	Pn	Pn	02 36 42.7	+2.7
ISFB	**Sefidab**	**3.87**	**49**	Pn	Pn	02 36 45.0	+2.8
IVRN	**Varamin**	**4.02**	**38**	Pn	Pn	02 36 46.6	+2.3
DSBU	**Dashti - Bushe**	**4.13**	**147**	Pn	Pn	02 36 48.9	+3.0
ANAR	**Anarak**	**4.45**	**71**	Pn	Pn	02 36 53.3	+3.1
IDMV	**Damavand**	**4.63**	**36**	Pn	Pn	02 36 55.6	+2.7
ICHK	**Chekchek**	**4.86**	**84**	Pn	Pn	02 36 58.4	+2.4
ILAS	**Lasjerd**	**4.99**	**44**	Pn	Pn	02 37 00.3	+2.5
SDS1	**Sardasht. Az.**	**5.04**	**329**	Pn	Pn	02 37 01.7	+3.2
IFIR	**Firoozkooh**	**5.06**	**41**	Pn	Pn	02 37 01.5	+2.8
MZPU	**Pul - Mazandar**	**5.14**	**27**	Pn	Pn	02 37 03.6	+3.7
IHRS	**Heris**	**6.58**	**349**	Pn	Pn	02 37 22.9	+3.2

*IDC **28** 02:50:00.8±0.8,21°.43N×144°.69E,h90km±7km,mb3.6/14, mbtmp3.9/14,Error ellipse: s-maj=22.2km s-min=14.4km az=83.0*

ISC 28 02:50:01.7±0.7,21°.5N±0°.1×144°.6E±0°.2,h100km,n20, σ1s54/22,mb3.8/14,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**6.00**	**339**	P	**Pn**	**02 51 23.9**	**-4.0**
JCJ	82nm,0.8s,baz=262,slow=19,SNR=2.1			S	Sn	02 52 27.1	-8.1
	133nm,1.1s,baz=304,slow=22,SNR=8.3						
H11N1	**WAKE ISLAND Hy**	**20.95**	**91**	T	T	03 16 38.0	
	baz=277,slow=75,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**20.95**	**91**	T	T	03 16 34.2	
	baz=277,slow=75,SNR=3.9						
H11N3	**WAKE ISLAND Hy**	**20.97**	**91**	T	T	03 16 42.4	
	baz=277,slow=75,SNR=4.8						
SONM	**Songino Array**	**40.33**	**320**	P	**P**	**02 57 32.0**	**+2.5**
	0.4nm,0.4s,baz=123,slow=6.7,SNR=4.2						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**42.38**	**194**	P	**P**	**02 57 46.3**	**0.0**
	0.9nm,0.4s,baz=17,slow=8.8,SNR=15						
WRA				pP	**pP**	**02 58 08.0**	**-1.1**
	1.1nm,0.6s,baz=13,slow=8.9,SNR=4.3						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**46.07**	**194**	P	**P**	**02 58 15.5**	**-0.3**
	0.4nm,0.5s,baz=14,slow=7.5,SNR=7.9						
ASAR				pP	**pP**	**02 58 36.7**	**-2.1**
	0.8nm,0.7s,baz=14,slow=8.4,SNR=6.0						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**55.18**	**322**	P	**P**	**02 59 24.6**	**+0.8**
	0.4nm,0.3s,baz=110,slow=13,SNR=2.1						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**55.80**	**313**	P	**P**	**02 59 30.0**	**+1.5**
	0.2nm,0.3s,baz=88,slow=8.4,SNR=4.5						
MKAR				PcP	**PcP**	**03 00 26.7**	**+0.4**
	0.7nm,0.4s,baz=72,slow=3.9,SNR=9.4						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**58.57**	**317**	P	**P**	**02 59 48.6**	**+0.8**
	0.9nm,0.4s,baz=94,slow=7.6,SNR=7.2						
KURBB				pP	**pP**	**03 00 10.0**	**-1.6**
	0.8nm,0.5s,baz=94,slow=7.6,SNR=3.5						
	0.9nm,0.4s						
ILAR	**Eielson Array**	**61.63**	**27**	P	**P**	**03 00 08.2**	**-0.3**
	0.5nm,0.8s,baz=257,slow=5.9,SNR=8.7						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	**63.68**	**320**	P	**P**	**03 00 23.1**	**+0.7**
	2.1nm,0.4s,baz=90,slow=7.6,SNR=11						
BVAR				pP	**pP**	**03 00 46.8**	**+0.4**
	0.8nm,0.5s,baz=76,slow=5.8,SNR=2.8						
	2.1nm,0.4s						
YKA	**Yellowknife Ar**	**76.03**	**28**	P	**P**	**03 01 38.5**	**+0.7**
	0.6nm,0.4s,baz=292,slow=5.6,SNR=13						
	0.6nm,0.4s						
ARCES	**ARCESS Array B**	**79.53**	**342**	P	**P**	**03 01 58.0**	**+0.9**
	2.6nm,0.9s,baz=64,slow=8.1,SNR=4.1						
	2.6nm,0.9s						
NVAR	**Mina Array Bea**	**82.25**	**52**	P	**P**	**03 02 13.7**	**+1.2**
	0.8nm,0.6s,baz=288,slow=5.1,SNR=7.2						
	0.8nm,0.6s						
KBZ	**Khabaz**	**83.45**	**314**	P	**P**	**03 02 19.7**	**+1.5**
	1.8nm,0.8s,baz=241,slow=2.7,SNR=5.1						
	1.8nm,0.8s						
FINES	**FINESS Array B**	**83.93**	**335**	P	**P**	**03 02 20.0**	**-0.3**
	2.6nm,0.5s,baz=68,slow=4.9,SNR=34						
	2.6nm,0.5s						
PDAR	**Pinedale Array**	**86.62**	**45**	P	**P**	**03 02 35.3**	**+0.8**
	0.1nm,0.3s,baz=262,slow=1.8,SNR=4.8						
	0.1nm,0.3s						
PLCA	**Paso Flores**	**144.64**	**131**	PKP	**PKPdf**	**03 09 25.7**	**-1.2**
	1.3nm,0.8s,baz=318,slow=1.8,SNR=3.4						
LPAZ	**La Paz**	**148.65**	**86**	PKPbc	**PKPbc**	**03 09 37.0**	**-1.8**
	0.7nm,0.5s,baz=329,slow=5.9,SNR=2.4						

*MOS **28** 02:54:00.1±1.5,46°.39N×151°.48E,h99km,mb4.2/4, Error ellipse: s-maj=13.2km s-min=7.5km az=56.7*
*SKHL **28** 02:54:01.2±0.8,46°.30N×151°.50E,h103km±5km,mb4.9/5, msha5.7/5*
*JMA **28** 02:54:03.0±0.7,45°.N±5°.×15°.2E±°.,h117km,MV3.8/12, KURILE ISLANDS REGION*
*IDC **28** 02:54:03.7±2.6,46°.53N×151°.33E,h107km±22km, mb3.5/19,mbtmp3.8/22,Error ellipse: s-maj=20.6km s-min=12.6km az=152.0*
*NEIC **28** 02:54:04.3±1.9,46°.7N±0°.2×151°.3E±0°.1,h108km±11km, mb4.1/37,Error ellipse: s-maj=27.8km s-min=9.6km az=162.0*

ISC 28 02:54:00.8±0.5,46°.14N±0°.07×151°.63E±0°.07,h100km, n133,σ1s92/147,mb4.1/41,8C-1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.79**	**252**	⇑*i* PN	**Pn**	**02 54 44.2**	**+0.6**
KUR				*i* S	**Sn**	**02 55 16.8**	**+0.2**
KUR				pmax	pmax		
	comp=Z,116nm,0.5s						
KUR				pmax	pmax		
	comp=N,34nm,0.3s						
KUR				smax	smax		
	comp=N,381nm,0.3s						
KUR				smax	smax		
	comp=E,188nm,0.2s						
KUR	**Kuril'sk**	**2.79**	**252**	*i* P	**Pn**	**02 54 44.3**	**+0.6**
KUR				AMB	AMB	02 54 44.8	
	comp=E,140nm,0.4s						
KUR				*e*S	**Sn**	**02 55 16.0**	**-0.6**
KUR				A	A	02 55 19.2	
	comp=E,310nm,0.4s						
KUR				A	A	02 55 19.2	
	comp=E,290nm,0.4s						
SHO	**Shikotan**	**4.09**	**238**	*e*PN	**Pn**	**02 55 00.3**	**-0.8**
SHO				*e*S	**Sn**	**02 55 44.2**	**-3.7**
SHO				smax	smax		
	comp=N,131nm,0.2s						
SHO				smax	smax		
	comp=E,15nm,0.4s						
SHO	**Shikotan**	**4.09**	**238**	*e*P	**Pn**	**02 55 00.7**	**-0.4**
SHO				AMB	AMB	02 55 01.3	
	comp=E,30nm,0.4s						
SHO				*e*S	**Sn**	**02 55 45.8**	**-2.1**
SHO				A	A	02 55 48.8	
	comp=E,90nm,0.2s						
SHO				A	A	02 55 48.8	
	comp=E,130nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**4.59**	**245**	*e*PN	**Pn**	**02 55 10.5**	**+2.6**
YUK				*e*S	**Sn**	**02 56 01.2**	**+1.1**
YUK				smax	smax		
	comp=E,161nm,0.3s						
YUK				smax	smax		
	comp=N,174nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**4.59**	**245**	*e*P	**Pn**	**02 55 08.7**	**+0.8**
YUK				AMB	AMB	02 55 10.0	
	comp=N,80nm,0.3s						
YUK				*e*S	**Sn**	**02 55 59.5**	**-0.6**
YUK				A	A	02 56 02.2	
	comp=N,310nm,0.6s						
YUK				A	A	02 56 02.2	
	comp=N,290nm,0.6s						
RUSJ	**Misakicho**	**4.95**	**248**	*e*PN	**Pn**	**02 55 15.6**	**+2.8**
RUSJ				*e*S	**Sn**	**02 56 12.0**	**+3.2**
NEM2	**Nemuro 2**	**5.03**	**239**	*e*P	**Pn**	**02 55 12.6**	**-1.1**
NEM2				S	**Sn**	**02 56 06.9**	**-3.7**
NMR	**Nemuro--Hokkai**	**5.03**	**239**	*e*PN	**Pn**	**02 55 12.5**	**-1.4**
NMR				*e*S	**Sn**	**02 56 06.8**	**-3.9**
NMR	**Nemuro--Hokkai**	**5.03**	**239**	*e*P	**Pn**	**02 55 12.7**	**-1.2**
NMR				*e*S	**Sn**	**02 56 07.0**	**-3.7**
JRA	**Rausu**	**5.11**	**247**	*e*P	**Pn**	**02 55 15.8**	**+1.0**
SKR	**Severo-Kuril's**	**5.44**	**32**	*e*PN	**Pn**	**02 55 16.5**	**-2.8**
SKR				*e*S	**Sn**	**02 56 13.5**	**-7.0**
SKR				pmax	pmax		
	comp=Z,69nm,1.0s						
SKR				smax	smax		
	comp=N,77nm,0.6s						
SKR				smax	smax		
	comp=E,133nm,0.8s						
SKR				MLR	MLR		
	comp=Z,300nm,12.0s						
SKR	**Severo-Kuril's**	**5.44**	**32**	*e*P	**Pn**	**02 55 19.0**	**-0.3**
SKR				AMB	AMB	02 55 19.7	
	comp=Z,50nm,0.3s						
SKR				*e*S	**Sn**	**02 56 17.2**	**-3.3**
SKR				A	A	02 56 19.5	
	comp=Z,80nm,0.5s						
SKR				A	A	02 56 19.5	
	comp=Z,150nm,0.5s						
JNK	**Nakash**	**5.54**	**245**	*e*P	**Pn**	**02 55 21.1**	**+0.4**
JNK				*e*S	**Sn**	**02 56 22.2**	**-0.8**
AKK	**Akkeshi**	**5.77**	**240**	*e*P	**Pn**	**02 55 22.6**	**-1.2**
JAK	**Akkeshi**	**5.87**	**240**	*e*P	**Pn**	**02 55 23.9**	**-1.3**
JAK				*e*S	**Sn**	**02 56 26.3**	**-4.7**
JTKR	**Abashiri--Toko**	**5.88**	**251**	*e*P	**Pn**	**02 55 26.5**	**+1.1**
YSS	**Yuzh-Sakhalins**	**6.17**	**281**	*e*PN	**Pn**	**02 55 30.9**	**+1.6**
YSS				*e*S	**Sn**	**02 56 41.5**	**+3.1**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				smax	smax		
	comp=N,30nm,0.8s						
YSS				smax	smax		
	comp=E,20nm,0.9s						
YSS	**Yuzh-Sakhalins**	**6.17**	**281**	*e*P	**Pn**	**02 55 28.9**	**-0.4**
YSS				AMB	AMB	02 55 31.0	
	comp=E,30nm,0.4s						
YSS				*e*S	**Sn**	**02 56 34.9**	**-3.5**
YSS				A	A	02 56 44.2	
	comp=E,30nm,0.8s						
YSS				A	A	02 56 44.2	
	comp=E,20nm,0.8s						
JAR	**Ashorobuto**	**6.28**	**246**	*e*P	**Pn**	**02 55 30.7**	**-0.1**
JAR				*e*S	**Sn**	**02 56 40.5**	**-0.6**
PAU	**Pauzhetka**	**6.33**	**31**	*e*P	**Pn**	**02 55 31.3**	**-0.1**
PAU				*e*S	**Sn**	**02 56 38.8**	**-3.4**
PAU				A	A	02 56 43.1	
	comp=E,60nm,0.2s						
PAU				A	A	02 56 43.1	
	comp=E,80nm,0.2s						
JOB	**Onbets**	**6.44**	**243**	*e*P	**Pn**	**02 55 32.6**	**-0.4**
JOB				*e*S	**Sn**	**02 56 41.5**	**-3.5**
JKA	**Kamikawa-asahi**	**6.70**	**256**	Pn	**Pn**	**02 55 38.2**	**+1.7**
JKA	**Kamikawa-asahi**	**6.70**	**256**	*e*P	**Pn**	**02 55 38.5**	**+2.0**
ASAJ	**Asahikawa**	**6.70**	**256**	P	**Pn**	**02 55 38.5**	**+1.9**
	comp=E,20nm,0.9s,baz=107,slow=15,SNR=7.0						
JCH	**Churui**	**6.89**	**242**	*e*P	**Pn**	**02 55 38.1**	**-1.0**
JCH				*e*S	**Sn**	**02 56 51.5**	**-4.5**
ERM	**Erimo**	**7.36**	**239**	Pn	**Pn**	**02 55 45.0**	**-0.5**
ERM	**Erimo**	**7.36**	**239**	PN	**Pn**	**02 55 45.0**	**-0.5**
JNBK	**Urakawa-nobuka**	**7.45**	**242**	*e*P	**Pn**	**02 55 44.7**	**-2.1**
JNBK				*e*S	**Sn**	**02 57 03.0**	**-6.6**
PEA0B	**Petropavlovsk-**	**8.01**	**27**	Pn	**Pn**	**02 55 52.7**	**-1.5**
PEA0B	**Petropavlovsk-**	**8.01**	**27**	PN	**Pn**	**02 55 52.7**	**-1.5**
PETK	**Petropavlovsk-**	**8.01**	**27**	Pn	**Pn**	**02 55 53.0**	**-1.3**
PETK	**Petropavlovsk-**	**8.01**	**27**	P	**Pn**	**02 55 53.8**	**-0.4**
	comp=E,6.8nm,0.8s,baz=208,slow=12,SNR=12						
JTM	**Tenmabayashi**	**9.36**	**239**	Pn	**Pn**	**02 56 16.8**	**+4.1**
JANG	**Nango**	**9.36**	**236**	*e*P	**Pn**	**02 56 09.1**	**-3.6**
JANG

I28M	**Miner Creek**	**40.56**	**37**	P	**P**	**03 01 31.1**	**+1.2**
I28M				IAmb	IAmb	03 01 31.9	
	comp=Z,2.3nm,0.8s						
G29M	**Pine Creek**	**41.18**	**34**	P	**P**	**03 01 36.5**	**+1.6**
L29M	**L29M**	**41.67**	**40**	P	**P**	**03 01 40.1**	**+1.1**
G30M	**tAoh Zraii Nji**	**41.87**	**34**	P	**P**	**03 01 41.6**	**+1.0**
G30M				IAmb	IAmb	03 02 11.8	
	comp=Z,6.8nm,1.5s						
I30M	**Mount Dempster**	**42.07**	**37**	P	**P**	**03 01 42.9**	**+0.6**
I30M				IAmb	IAmb	03 01 44.2	
	comp=Z,2.9nm,0.7s						
ZALV	**Zalesovo Beam**	**42.13**	**306**	PcP	**PcP**	**03 03 36.6**	**+1.3**
	comp=Z,1.0nm,0.6s,baz=97,slow=5.8,SNR=4.7						
J30M	**Hart River**	**42.20**	**38**	P	**P**	**03 01 44.2**	**+0.8**
J30M				IAmb	IAmb	03 01 55.5	
	comp=Z,4.6nm,1.2s						
INK	**Inuvik**	**42.71**	**32**	P	**P**	**03 01 48.1**	**+0.8**
INK				IAmb	IAmb	03 02 07.1	
	comp=Z,5.0nm,1.5s						
INK	**Inuvik**	**42.71**	**32**	P	**P**	**03 01 48.1**	**+0.8**
INK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
H31M	**Peel River**	**42.80**	**36**	P	**P**	**03 01 49.0**	**+0.8**
FARO	**Faro, Yukon**	**44.01**	**41**	P	**P**	**03 01 59.3**	**+1.4**
FARO				IAmb	IAmb	03 02 21.0	
	comp=Z,6.7nm,1.5s						
A36M	**Sachs Harbour**	**44.85**	**26**	P	**P**	**03 02 02.9**	**-1.5**
C36M	**Paulatuk**	**45.86**	**29**	P	**P**	**03 02 11.8**	**-0.5**
MK31	**Makanchi Array**	**46.31**	**297**	P	**P**	**03 02 14.1**	**-2.2**
MK31	**Makanchi Array**	**46.31**	**297**	P	**P**	**03 02 14.1**	**-2.2**
MKAR	**Makanchi Array**	**46.31**	**297**	P	**P**	**03 02 13.9**	**-2.3**
MKAR	**Makanchi Array**	**46.31**	**297**	P	**P**	**03 02 15.5**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=73,slow=7.4,SNR=7.0						
MKAR				PcP	**PcP**	**03 03 50.4**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=67,slow=3.6,SNR=4.8						
	comp=Z,0.7nm,0.7s						
KURK	**Kurchatov**	**46.85**	**304**	P	**P**	**03 02 19.6**	**-0.7**
KURK						03 03 53.1	
KURK	**Kurchatov**	**46.85**	**304**	*e*P	**P**	**03 02 19.6**	**-0.7**
KURBB	**Kurchatov Arra**	**46.94**	**303**	P	**P**	**03 02 19.6**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=71,slow=8.3,SNR=5.0						
KURBB				PcP	**PcP**	**03 03 53.0**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=70,slow=3.8,SNR=4.3						
	comp=Z,0.6nm,0.6s						
BVAR	**Borovoye Array**	**50.45**	**309**	P	**P**	**03 02 46.5**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=74,slow=11,SNR=2.3						
BVAR				PcP	**PcP**	**03 04 04.8**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=80,slow=6.2,SNR=3.6						
	comp=Z,0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**51.23**	**256**	P	**P**	**03 02 57.0**	**+2.8**
CMAR	**Chiang Mai Arr**	**51.23**	**256**	P	**P**	**03 02 57.0**	**+2.8**
	comp=Z,0.8nm,0.3s,baz=29,slow=7.5,SNR=1.4						
	comp=Z,0.8nm,0.3s						
RES	**Resolute Bay**	**51.74**	**18**	P	**P**	**03 02 58.8**	**+1.6**
RES	**Resolute Bay**	**51.74**	**18**	P	**P**	**03 02 58.8**	**+1.6**
RES				pmax	pmax		
	comp=Z,1.0nm,1.2s						
YKA	**Yellowknife Ar**	**52.02**	**36**	P	**P**	**03 02 59.2**	**-0.3**
YKA	**Yellowknife Ar**	**52.02**	**36**	P	**P**	**03 03 00.7**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=298,slow=7.3,SNR=15						
	comp=Z,1.0nm,0.7s						
NOR	**Nord**	**52.35**	**358**	*i* P	**P**	**03 02 57.0**	**-4.7**
ABKAR	**Akbulak array**	**58.02**	**309**	P	**P**	**03 03 41.4**	**-1.4**
SUMG	**Summit**	**61.37**	**3**	P	**P**	**03 04 04.5**	**-1.5**
SUMG	**Summit**	**61.37**	**3**	P	**P**	**03 04 04.5**	**-1.5**
FCC	**Fort Churchill**	**62.33**	**32**	P	**P**	**03 04 12.0**	**0.0**
FCC	**Fort Churchill**	**62.33**	**32**	P	**P**	**03 04 12.0**	**0.0**
FCC				pmax	pmax		
	comp=Z,6.0nm,1.4s						
NVAR	**Mina Array Bea**	**63.63**	**61**	P	**P**	**03 04 24.2**	**+2.9**
	comp=Z,0.3nm,0.5s,baz=289,slow=8.2,SNR=3.0						
	comp=Z,0.3nm,0.5s						
FIA1	**FINESS Array S**	**64.15**	**334**	P	**P**	**03 04 22.1**	**-1.9**
FINES	**FINESS Array B**	**64.15**	**334**	P	**P**	**03 04 22.3**	**-1.7**
FINES	**FINESS Array B**	**64.15**	**334**	P	**P**	**03 04 22.2**	**-1.8**
	comp=Z,1.0nm,0.6s,baz=57,slow=7.0,SNR=5.8						
	comp=Z,1.0nm,0.6s						
OBN	**Obninsk**	**65.22**	**325**	*e*P	**P**	**03 04 31.3**	**+0.2**
OBN				*e*		03 05 03.1	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
OBN	**Obninsk**	**65.22**	**325**	*e*P	**P**	**03 04 31.3**	**+0.2**
PDAR	**Pinedale Array**	**65.93**	**53**	P	**P**	**03 04 38.2**	**+2.0**
	comp=Z,0.5nm,0.8s,baz=288,slow=1.4,SNR=5.1						
	comp=Z,0.5nm,0.8s						
WRA	**Warramunga Arr**	**67.61**	**198**	P	**P**	**03 04 49.3**	**+2.6**
	comp=Z,0.3nm,0.6s,baz=12,slow=6.3,SNR=2.1						
	comp=Z,0.3nm,0.6s						
NOA	**NORSAR Array B**	**68.47**	**341**	P	**P**	**03 04 51.0**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=29,slow=6.6,SNR=6.1						
	comp=Z,0.4nm,0.5s						
HFS	**Hagfors**	**68.66**	**339**	P	**P**	**03 04 51.4**	**-1.4**
	comp=Z,2.7nm,0.7s,baz=45,slow=4.4,SNR=6.2						
	comp=Z,2.7nm,0.7s						
KBZ	**Khabaz**	**70.54**	**313**	P	**P**	**03 05 05.9**	**+1.3**
	comp=Z,2.0nm,0.9s,baz=56,slow=5.8,SNR=6.0						
	comp=Z,2.0nm,0.9s						
ASAR	**Alice Springs**	**71.31**	**197**	P	**P**	**03 05 12.7**	**+3.3**
	comp=Z,0.3nm,0.7s,baz=1.6,slow=6.5,SNR=2.6						
	comp=Z,0.3nm,0.7s						
AKASG	**Malin Array Be**	**71.47**	**326**	P	**P**	**03 05 08.8**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=39,slow=7.5,SNR=3.1						
	comp=Z,0.4nm,0.4s						
SCHQ	**Schefferville**	**74.26**	**22**	P	**P**	**03 05 27.0**	**+0.5**
SCHQ	**Schefferville**	**74.26**	**22**	P	**P**	**03 05 27.2**	**+0.6**
	comp=Z,1.0nm,0.4s,baz=315,slow=10.0,SNR=11						
	comp=Z,1.0nm,0.4s						
BUR08	**Bucovina Ar. S**	**75.50**	**326**	P	**P**	**03 05 33.4**	**-0.6**
BUR08				IAmb	IAmb	03 05 37.4	
	comp=Z,2.6nm,0.8s						
BURAR	**Bucovina Array**	**75.52**	**326**	⇑P	**P**	**03 05 34.3**	**+0.2**
BURAR	**Bucovina Array**	**75.52**	**326**	P	**P**	**03 05 34.3**	**+0.2**
BURAR				IAmb	IAmb	03 05 35.4	
	comp=Z,2.3nm,0.8s						
TPGR	**Topolog**	**76.44**	**322**	⇑P	**P**	**03 05 40.1**	**+0.9**
CLL	**Collm**	**76.59**	**335**	*e*P	**P**	**03 05 39.0**	**-0.9**
BISRR	**Bisoca**	**76.60**	**324**	⇑P	P	03 05 30.8	-9.3
EKA	**Eskdalemuir Ar**	**76.68**	**346**	P	**P**	**03 05 40.1**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=23,slow=4.6,SNR=5.0						
	comp=Z,0.3nm,0.3s						
MLR	**Muntele Rosu**	**76.96**	**324**	⇑P	**P**	**03 05 43.8**	**+1.5**
VOIR		**77.37**	**325**	⇑P	**P**	**03 05 45.7**	**+1.2**
ARR	**Arges**	**77.59**	**325**	⇑P	**P**	**03 05 47.3**	**+1.5**
SURR	**Surduc**	**78.26**	**327**	⇓P	**P**	**03 05 50.2**	**+0.9**
BZS	**Buzias**	**78.57**	**327**	⇑P	**P**	**03 05 51.4**	**+0.4**
TX31	**Lajitas Ar. Si**	**78.69**	**59**	P	**P**	**03 05 53.7**	**+1.7**
TXAR	**Lajitas Array**	**78.69**	**59**	P	**P**	**03 05 53.5**	**+1.4**
TXAR	**Lajitas Array**	**78.69**	**59**	P	**P**	**03 05 54.3**	**+2.2**
	comp=Z,0.6nm,0.6s,baz=298,slow=5.4,SNR=10.0						
	comp=Z,0.6nm,0.6s						
BATG	**Bathurst New B**	**81.27**	**25**	P	**P**	**03 06 05.1**	**-0.5**
MMAI	**Mount Meron Ar**	**82.44**	**311**	P	**P**	**03 06 12.8**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=5.7,slow=2.5,SNR=3.6						
	comp=Z,1.2nm,0.5s						
H03N2	**Juan Fernandez**	**139.78**	**90**	T	T	05 50 02.4	
	baz=307,slow=77,SNR=64						
H03N3	**Juan Fernandez**	**139.79**	**90**	T	T	05 50 04.2	
	baz=307,slow=77,SNR=68						
H03N1	**Juan Fernandez**	**139.79**	**90**	T	T	05 50 03.8	
	baz=307,slow=77,SNR=92						

*TEH **28** 02:59:40.7, 34°.55N×45°.34E, h14km±58km, ML2.8*
*ISN **28** 02:59:42.0±1.1, 34°.53N×45°.38E, h20km±7km, ML2.6*

ISC 28 02:59:41.5±1.0, 34°.55N±0°.04×45°.38E±0°.04, h13km±8km, n11, σ1°30/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.18**	**104**	Pg	**Pg**	**02 59 45.5**	**-0.1**
KGS1				Sg	**Sg**	**02 59 49.1**	**+0.5**
IDHR	**Dehrash**	**0.85**	**80**	Pg	**Pb**	**02 59 56.8**	**-1.4**
IGHG	**Ghaleghazi**	**1.01**	**102**	Pg	**Pb**	**03 00 00.6**	**-0.3**
ILBA	**Ilam Banvizeh**	**1.15**	**143**	Pg	**Pn**	**03 00 02.7**	**-0.7**
IKRK	**Kirkuk**	**1.20**	**315**	*e*Pg	**Pb**	**03 00 04.0**	**-0.1**
IKRK				*e*Sg	**Sg**	**03 00 21.0**	**+0.7**
IKRK				AML	AML	03 00 27.0	
	comp=E,283nm,0.5s						
IKRK				AML	AML	03 00 28.2	
	comp=N,110nm,0.6s						
ILIN	**Lien**	**1.36**	**74**	Pg	**Pb**	**03 00 07.2**	**+0.3**
KCHF	**Cheshme Sefid,**	**1.40**	**101**	Pg	**Pb**	**03 00 07.8**	**+0.2**
IBDR	**Badra**	**1.51**	**162**	*e*Pn	**Pb**	**03 00 09.0**	**-0.3**
IBDR				*e*Sn	**Sg**	**03 00 30.0**	**-0.1**
IBDR				AML	AML	03 00 36.8	
	comp=N,61nm,0.7s						
IBDR				AML	AML	03 00 45.2	
	comp=E,71nm,0.5s						
BHD	**Baghdad**	**1.52**	**213**	*e*Pn	**Pb**	**03 00 09.0**	**-0.5**
BHD				*e*Sn	**Sg**	**03 00 30.0**	**-0.5**
MSL	**Mosul**	**2.61**	**316**	*e*Pn	**Pn**	**03 00 25.0**	**+1.6**
MSL				*e*Sn	**Sb**	**03 00 57.0**	**-3.2**
RAFI	**Al-Rafai**	**2.89**	**167**	*e*Pn	**Pn**	**03 00 29.0**	**+1.9**
RAFI				*e*Sn	**Sn**	**03 01 03.0**	**+1.3**

*SFS **28** 03:28:25.4, 36°.95N×5°.56W, h0km, ML1.8/7, ML2.0/7, MLv1.7/7*
*IGIL **28** 03:28:26.6, 36°.94N×5°.61W, h11km*
*MDD **28** 03:28:26.5±0.3, 36°.94N×5°.61W, h11km, mb_Lg2.0/14, Error ellipse: s-maj=3.0km s-min=1.7km az=11.0*
*INMG **28** 03:28:26.9±1.7, 36°.93N×5°.63W, h13km, ML1.7, Error ellipse: s-maj=3.0km s-min=2.9km az=115.0*
*CNRM **28** 03:28:29.9, 36°.62N×5°.70W, h73km, ML2.6*

ISC 28 03:28:24.9±0.9, 36°.91N±0°.02×5°.59W±0°.02, h17km±6km, n40, σ1°32/68, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESPR	**Espera**	**0.21**	**259**	Pg	**Pg**	**03 28 30.4**	**+0.5**
ESPR				Sg	**Sg**	**03 28 33.3**	**-0.1**
ESPR	**Espera**	**0.21**	**259**	Pg	**Pg**	**03 28 30.4**	**+0.5**
ESPR				Sg	**Sg**	**03 28 33.9**	**+0.5**
ESPR				*i* Vmb_Lg		03 28 40.8	
EJIF	**Jimena Fronter**	**0.47**	**168**	Pg	**Pg**	**03 28 34.2**	**-0.1**
EJIF				Sg	**Sb**	**03 28 43.4**	**+2.2**
EMIJ	**Mijas**	**0.74**	**117**	Pg	**Pg**	**03 28 37.9**	**-1.5**
EMIJ	**Mijas**	**0.74**	**117**	Pg	**Pg**	**03 28 38.4**	**-1.0**
EMIJ				Sg	**Sb**	**03 28 50.4**	**+1.1**
EMIJ				*i* Vmb_Lg		03 28 55.7	
ECAB	**El Cabril**	**1.17**	**7**	Sg	**Sb**	**03 29 01.4**	**-0.2**
ECAB				Pg	**Pn**	**03 28 47.0**	**+0.5**
ECAB	**El Cabril**	**1.17**	**7**	Pg	**Pb**	**03 28 46.3**	**-0.4**
ECAB				Sg	**Sb**	**03 29 01.9**	**+0.3**
ECAB				*i* Vmb_Lg		03 29 05.8	
EGOR	**Sierra Gorda,**	**1.20**	**80**	Pn	**Pg**	**03 28 48.4**	**+0.2**
EGOR				Sn	**Sn**	**03 29 04.8**	**+1.7**
EGOR	**Sierra Gorda,**	**1.20**	**80**	Pg	**Pg**	**03 28 48.5**	**+0.4**
EGOR				Sg	**Sn**	**03 29 06.0**	**+2.9**
EGOR				*i* Vmb_Lg		03 29 10.6	
EMIN	**Mina Concepcio**	**1.22**	**315**	Pn	**Pb**	**03 28 47.3**	**-0.1**
EMIN				Sn	**Sn**	**03 29 04.5**	**+1.3**
EMIN	**Mina Concepcio**	**1.22**	**315**	Pg	**Pg**	**03 28 48.1**	**-0.3**
EMIN				Sg	**Sn**	**03 29 04.6**	**+1.5**
EMIN				*i* Vmb_Lg		03 29 06.8	
EADA	**Adamuz**	**1.49**	**32**	Pn	**Pn**	**03 28 51.2**	**+0.2**
EADA				Sn	**Sn**	**03 29 09.7**	**-0.3**
EADA	**Adamuz**	**1.49**	**32**	Pn	**Pn**	**03 28 51.0**	**+0.1**
EADA				Pg	**Pg**	**03 28 52.9**	**-0.8**
EADA				Sn	**Sn**	**03 29 10.3**	**+0.3**
EADA				Sg	**Sg**	**03 29 13.4**	**+0.2**
EADA				*i* Vmb_Lg		03 29 15.9	
ELGU	**Los Guajares,**	**1.58**	**91**	Sg	**Sg**	**03 29 16.6**	**+0.8**
PBAR	**Barrancos**	**1.71**	**318**	*e*P	**Pn**	**03 28 54.1**	**+0.2**
PBAR				*e*S	**Sn**	**03 29 16.1**	**+0.8**
PBAR				A	A	03 29 21.0	
	3.0nm,0.4s						
EQUE	**Quentar**	**1.75**	**80**	Pg	**Pg**	**03 28 59.0**	**+0.5**
EQUE				Sg	**Sg**	**03 29 22.8**	**+1.5**
EQUE				*i* Vmb_Lg		03 29 35.1	
PVAQ	**Vaqueiros**	**1.77**	**287**	*e*P	**Pn**	**03 28 55.1**	**+0.4**
PVAQ				*e*S	**Sg**	**03 29 21.3**	**-0.6**
PVAQ				A	A	03 29 24.2	
	5.4nm,0.1s						
PVAQ	**Vaqueiros**	**1.77**	**287**	Pn	**Pn**	**03 28 54.9**	**+0.2**
PVAQ				Sn	**Sg**	**03 29 20.4**	**-1.5**
PVAQ	**Vaqueiros**	**1.77**	**287**	P	**Pg**	**03 28 58.9**	**0.0**
PBDV	**Barranco-do-Ve**	**1.90**	**281**	*e*P	**Pn**	**03 28 57.0**	**+0.5**
PBDV				*e*Sg	**Sg**	**03 29 27.6**	**+1.5**
PBDV				A	A	03 29 32.0	
	2.8nm,0.3s						
PCVE	**Castro Verde**	**2.08**	**291**	*e*Sg	**Sg**	**03 29 30.7**	**-1.2**
PCVE				A	A	03 29 35.2	
	2.5nm,0.5s						
EBAD	**Badajoz**	**2.16**	**329**	Pn	**Pn**	**03 29 00.2**	**+0.1**
EBAD				Sn	**Sn**	**03 29 27.2**	**+0.7**
EBAD				Sg	**Sg**	**03 29 32.6**	**-1.8**
EBAD				*i* Vmb_Lg		03 29 35.9	
EQES	**Quesada**	**2.20**	**65**	Pn	**Pn**	**03 29 02.2**	**+1.5**
EQES				Pg	**Pg**	**03 29 06.2**	**-0.9**
EQES				Sg	**Sg**	**03 29 35.4**	**-0.2**
EQES				*i* Vmb_Lg		03 29 39.1	
MESJ	**Messejana**	**2.29**	**295**	*e*Pn	**Pn**	**03 29 03.0**	**+1.1**
MESJ				*e*Sg	**Sg**	**03 29 39.7**	**+1.1**
MESJ				A	A	03 29 42.6	
	2.4nm,0.6s						
MESJ	**Messejana**	**2.29**	**295**	*e*P	**Pn**	**03 29 02.2**	**+0.4**
PSIM	**Granatula de C**	**2.40**	**37**	Pg	**Pb**	**03 29 07.7**	**+0.1**
PESTR	**Estremoz**	**2.51**	**322**	*e*Sn	**Sn**	**03 29 37.3**	**+2.1**
PESTR				A	A	03 29 52.7	
	1.9nm,0.6s						
PESTR	**Estremoz**	**2.51**	**322**	P	**Pg**	**03 29 11.6**	**-1.5**
PESTR	**Estremoz**	**2.51**	**322**	S	**Sg**	**03 29 43.1**	**-2.7**
PTEO	**Sao Teotonio**	**2.58**	**285**	*e*Sn	**Sn**	**03 29 37.7**	**+0.9**
PNCL	**Nicolau / Gran**	**2.63**	**298**	*e*Pn	**Pn**	**03 29 07.4**	**+0.9**
PNCL				A	A	03 29 58.3	
	2.0nm,0.7s						
PAB	**San Pablo**	**2.81**	**20**	Pn	**Pn**	**03 29 10.5**	**+1.4**
PAB				Sg	**Sg**	**03 29 52.3**	**-2.8**
PAB				*i* Vmb_Lg		03 29 56.4	
PMRV	**Marv??o**	**2.89**	**331**	*e*P	**Pn**	**03 29 11.6**	**+1.5**
PMRV				*e*Sn	**Sn**	**03 29 44.5**	**+0.1**
PMRV				A	A	03 30 01.5	
	1.9nm,0.3s						
PMTG	**Montargil**	**3.00**	**317**	*e*Pn	**Pn**	**03 29 12.8**	**+1.2**
ESDC	**Sonseca Array**	**3.04**	**24**	Sn	**Sn**	**03 29 50.3**	**+1.9**
ESDC				Sg	**Sg**	**03 29 59.7**	**-3.0**
ESDC				*i* Vmb_Lg		03 30 07.5	
PCBR	**Castelo Branco**	**3.28**	**334**	*e*Pn	**Pn**	**03 29 16.9**	**+1.4**
PCBR				*e*Sn	**Sn**	**03 29 54.1**	**0.0**
PCBR				A	A	03 30 04.5	
	0.9nm,0.5s						
MD31	**MD31**	**4.09**	**170**	P	**Pn**	**03 29 26.2**	**-0.6**
MD31	**MD31**	**4.09**	**170**	S	**Sn**	**03 30 10.5**	**-3.7**
MDT	**Midelt**	**4.17**	**168**	P	**Pn**	**03 29 27.5**	**-0.2**
MDT	**Midelt**	**4.17**	**168**	S	**Sn**	**03 30 13.6**	**-2.5**

*IDC **28** 03:37:03.3±1.1, 53°.03S×140°.95E, h0km, mb3.7/5, mbtmp3.8/5, MS3.3/5, Error ellipse: s-maj=129.5km s-min=19.1km az=83.0*

ISC 28 03:37:04.9±1.1, 53°.1S±0°.1×140°.2E±0°.8, h10km, n19, σ0°37/7, mb3.7/5, MS3.3/5, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**21.22**	**3**	P	**P**	**03 41 50.9**	**+0.2**
	1.3nm,0.4s,baz=163,slow=14,SNR=3.0						
STKA				LR	LR	03 47 37.9	
	comp=Z,44nm,18.7s,baz=201,slow=30						
	1.3nm,0.4s						
VNDA	**Vanda**	**25.79**	**169**	P	**P**	**03 42 35.5**	**+0.1**
	0.9nm,0.8s,baz=320,slow=11,SNR=7.4						
	0.9nm,0.8s						
H01W1	**Cape Leeuwin H**	**25.88**	**304**	T	T	04 09 47.5	
	baz=142,slow=75,SNR=48						
H01W2	**Cape Leeuwin H**	**25.89**	**304**	T	T	04 09 47.1	
	baz=142,slow=75,SNR=58						
H01W3	**Cape Leeuwin H**	**25.90**	**304**	T	T	04 09 42.2	
	baz=142,slow=75,SNR=49						
ASAR	**Alice Springs**	**29.76**	**348**	P	**P**	**03 43 11.3**	**-0.2**
	0.2nm,0.5s,baz=163,slow=9.3,SNR=4.2						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**33.39**	**350**	P	**P**	**03 43 43.5**	**+0.1**
	1.3nm,0.7s,baz=171,slow=7.5,SNR=12						
WRA				PcP	**PcP**	**03 46 24.3**	**-0.6**
	0.4nm,0.9s,baz=180,slow=2.4,SNR=1.9						
	1.3nm,0.7s						
DZM	**Mont Dzumac**	**36.89**	**43**	LR	LR	03 56 40.0	
	comp=Z,75nm,19.8s,baz=190,slow=32						
QSPA	**South Pole Qui**	**37.03**	**180**	P	**P**	**03 44 14.6**	**0.0**
	2.1nm,0.9s,baz=274,slow=2.3,SNR=5.6						
	2.1nm,0.9s						
MAW	**Mawson**	**38.06**	**217**	LR	LR	03 58 23.6	
	comp=Z,94nm,18.9s,baz=92,slow=33						
H04S1	**CROZET ISLANDS**	**53.67**	**238**	T	T	04 45 12.8	
	baz=131,slow=75,SNR=17						
H04S2	**CROZET ISLANDS**	**53.68**	**238**	T	T	04 45 17.7	
	baz=131,slow=75,SNR=17						
H04S3	**CROZET ISLANDS**	**53.69**	**238**	T	T	04 45 20.7	
	baz=131,slow=75,SNR=14						
DAV	**Davao City (W)**	**61.20**	**343**	LR	LR	04 13 09.6	
	comp=Z,24nm,20.9s,baz=164,slow=35						
H08S2	**Diego Garcia H**	**70.59**	**284**	T	T	05 05 36.1	
	baz=143,slow=76,SNR=14						
H08S1	**Diego Garcia H**	**70.60**	**283**	T	T	05 05 40.0	
	baz=143,slow=76,SNR=19						
H08S3	**Diego Garcia H**	**70.61**	**284**	T	T	05 05 41.9	
	baz=143,slow=76,SNR=20						
CMAR	**Chiang Mai Arr**	**79.66**	**320**	LR	LR	04 26 01.3	
	comp=Z,7.5nm,18.3s,baz=230,slow=37						
FINES	**FINESS Array B**	**144.88**	**310**	PKPbc	**PKPbc**	**03 56 40.2**	**+0.3**
	1.3nm,1.0s,baz=94,slow=4.3,SNR=1.9						

*PGC **28** 04:07:44.8±7.8, 47°.54N×129°.08W, h10km, MLSn2.9/14, Mw3.5/14, 294km Wsw of Tofino, Bc Off Coast Of Washington*
*NEIC **28** 04:07:45.1±1.2, 47°.58N±0°.02×129°.0W±0°.2, h12km±8km, ML3.0/12, Mwr3.5(OTT), Error ellipse: s-maj=18.0km s-min=2.9km az=85.0*

ISC 28 04:07:43.8±3.1, 47°.5N±0°.1×129°.1W±0°.2, h10km, n37, σ0°67/43, Off coast of Washington

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEMO	**NEPTUNE Canada**	**0.41**	**355**		**Pg**	**04 07 52.0**	**+0.2**
KEMO					**Sg**	**04 07 56.3**	**-0.9**
KEMO	**NEPTUNE Canada**	**0.41**	**355**	P	**Pg**	**04 07 52.0**	**+0.2**
KEMO				S	**Sg**	**04 07 56.3**	**-0.9**
KEMF	**NEPTUNE Canada**	**0.43**	**357**		**Pg**	**04 07 52.5**	**+0.2**
KEMF					**Sg**	**04 07 57.6**	**-0.4**
KEMF	**NEPTUNE Canada**	**0.43**	**357**	P	**Pg**	**04 07 52.5**	**+0.2**
KEMF				S	**Sg**	**04 07 57.6**	**-0.4**
NCHR	**NEPTUNE Canada**	**0.46**	**358**		**Pg**	**04 07 52.8**	**0.0**
NCHR					**Sg**	**04 07 58.3**	**-0.5**
NCHR	**NEPTUNE Canada**	**0.46**	**358**	P	**Pg**	**04 07 52.8**	**0.0**
NCHR				S	**Sg**	**04 07 58.3**	**-0.5**
OZB	**Mount Ozzard**	**2.79**	**57**	Pn	**Pn**	**04 08 28.9**	**+0.3**
OZB				IAML		04 09 41.1	
	comp=E,68nm,3.0s						
B928	**Bamfield**	**2.94**	**62**	Pn	**Pn**	**04 08 30.0**	**-0.5**
B928	**Bamfield**	**2.94**	**62**	Pn	**Pn**	**04 08 30.0**	**-0.5**
WOSB	**Woss**	**3.12**	**31**	Pn	**Pn**	**04 08 33.4**	**+0.3**
WOSB	**Woss**	**3.12**	**31**	Pn	**Pn**	**04 08 33.4**	**+0.3**
MAYB	**Maynard**	**3.15**	**23**	Pn	**Pn**	**04 08 33.7**	**+0.1**
MAYB	**Maynard**	**3.15**	**23**	Pn	**Pn**	**04 08 33.7**	**+0.1**
PFB	**Port Renfrew**	**3.27**	**69**	Pn	**Pn**	**04 08 34.4**	**-0.8**
PFB	**Port Renfrew**	**3.27**	**69**	Pn	**Pn**	**04 08 34.4**	**-0.8**
SPLB	**Strathcona Par**	**3.28**	**42**	Pn	**Pn**	**04 08 36.2**	**+0.9**
SPLB	**Strathcona Par**	**3.28**	**42**	Pn	**Pn**	**04 08 36.2**	**+0.9**
PTRF	**Port Renfrew**	**3.28**	**70**	Pn	**Pn**	**04 08 34.6**	**-0.7**
NCSB	**Newcastle Ridg**	**3.50**	**33**	Pn	**Pn**	**04 08 39.5**	**+1.1**
NCRB	**Newcastle Ridg**	**3.50**	**33**	Pn	**Pn**	**04 08 39.5**	**+1.0**
NCRB	**Newcastle Ridg**	**3.50**	**33**	Pn	**Pn**	**04 08 39.5**	**+1.0**
CBB	**Campbell River**	**3.51**	**43**	Pn	**Pn**	**04 08 39.3**	**+0.9**
CBB				IAML		04 09 35.4	
	comp=E,25nm,3.5s						
CBB	**Campbell River**	**3.51**	**43**	Pn	**Pn**	**04 08 39.4**	**+1.0**
NLWA	**Neilton Lookou**	**3.52**	**90**	Pn	**Pn**	**04 08 39.3**	**+0.6**
NLWA				IAML		04 10 55.4	
	comp=E,30nm,2.5s						
NLWA				IAML		04 10 57.2	
	comp=E,30nm,2.0s						
B926	**Mesachie Lake**	**3.55**	**67**	Pn	**Pn**	**04 08 38.3**	**-0.6**
B926	**Mesachie Lake**	**3.55**	**67**	Pn	**Pn**	**04 08 38.3**	**-0.6**
CLRS	**Cowichan Lake**	**3.55**	**67**	Pn	**Pn**	**04 08 38.6**	**-0.3**
CLRS	**Cowichan Lake**	**3.55**	**67**	Pn	**Pn**	**04 08 38.3**	**-0.6**
SYMB	**Survey Mountai

PB06	**IPOC Station P**	**2.72**	**273**	⇑*i*	P	**Pn**	**04 14 57.6**	**+0.4**
PB06				*i*	S	**S**	**04 15 32.6**	**-0.9**
PB01	**IPOC Station P**	**3.22**	**304**		P	**Pn**	**04 15 03.5**	**+0.7**
PB01	**IPOC Station P**	**3.22**	**304**	*e*	P	**Pn**	**04 15 03.8**	**+1.0**
PB01				*e*	S	**S**	**04 15 44.2**	**+0.3**
PB01					IAML		04 15 46.1	
	comp=Z,456nm,0.2s							
PB01	**IPOC Station P**	**3.22**	**304**	⇑*i*	P	**Pn**	**04 15 03.6**	**+0.7**
PB01				*i*	S	**S**	**04 15 43.7**	**-0.2**
PB07	**IPOC Station P**	**3.23**	**290**			**Pn**	**04 15 03.2**	**+0.2**
PB07	**IPOC Station P**	**3.23**	**290**	*e*	P	**Pn**	**04 15 03.8**	**+0.8**
PB07				*e*	S	**S**	**04 15 42.9**	**-1.2**
PB07					IAML		04 15 44.0	
	comp=Z,560nm,0.2s							
PB07	**IPOC Station P**	**3.23**	**290**	⇑*i*	P	**Pn**	**04 15 03.6**	**+0.6**
PB07				*e*	S	**S**	**04 15 42.4**	**-1.7**
FSA	**Cafayete**	**3.27**	**170**	*e*	P	**Pn**	**04 15 04.6**	**+1.1**
PB05	**IPOC Station P**	**3.29**	**270**			**Pn**	**04 15 03.7**	**0.0**
PB05	**IPOC Station P**	**3.29**	**270**	*e*	P	**Pn**	**04 15 04.0**	**+0.3**
PB05	**IPOC Station P**	**3.29**	**270**	⇑*i*	P	**Pn**	**04 15 03.7**	**0.0**
PB05				*i*	S	**S**	**04 15 43.2**	**-2.2**
PB04	**IPOC Station P**	**3.29**	**279**			**Pn**	**04 15 03.8**	**0.0**
PB04	**IPOC Station P**	**3.29**	**279**	*e*	P	**Pn**	**04 15 04.4**	**+0.6**
PB04				*e*	S	**S**	**04 15 45.4**	**-0.2**
PB04					IAML		04 15 47.7	
	comp=Z,441nm,0.4s							
PB04	**IPOC Station P**	**3.29**	**279**	⇑*i*	P	**Pn**	**04 15 04.1**	**+0.3**
PB04				*i*	S	**S**	**04 15 43.7**	**-1.9**
PB02	**IPOC Station P**	**3.40**	**297**			**Pn**	**04 15 05.4**	**+0.3**
PB02	**IPOC Station P**	**3.40**	**297**	*e*	P	**Pn**	**04 15 05.5**	**+0.5**
PB02					IAML		04 15 50.7	
	comp=Z,1µm,0.3s							
PB02	**IPOC Station P**	**3.40**	**297**	⇑*i*	P	**Pn**	**04 15 05.4**	**+0.3**
PB02				*i*	S	**S**	**04 15 45.9**	**-1.9**
GO02	**Mina Guanaco**	**3.53**	**229**			**Pn**	**04 15 06.8**	**+0.1**
GO02	**Mina Guanaco**	**3.53**	**229**	*e*	P	**Pn**	**04 15 06.9**	**+0.1**
GO02				*e*	S	**S**	**04 15 51.0**	**0.0**
GO02	**Mina Guanaco**	**3.53**	**229**	⇑*i*	P	**Pn**	**04 15 06.9**	**+0.1**
GO02				*i*	S	**S**	**04 15 50.0**	**-0.9**
PB08	**IPOC Station P**	**3.60**	**319**			**Pn**	**04 15 09.1**	**+1.5**
PB08	**IPOC Station P**	**3.60**	**319**	*e*	P	**Pn**	**04 15 09.6**	**+1.9**
PB08					IAML		04 15 58.4	
	comp=Z,203nm,0.3s							
PB08	**IPOC Station P**	**3.60**	**319**	⇑*i*	P	**Pn**	**04 15 09.6**	**+1.9**
PB08				*i*	S	**S**	**04 15 54.1**	**+1.5**
PB10	**IPOC Station P**	**3.66**	**259**	Pn		**Pn**	**04 15 08.2**	**+0.2**
PX03	**IPOC Station P**	**3.72**	**311**	*e*	P	**Pn**	**04 15 09.0**	**+0.1**
PX03				*i*	S	**S**	**04 15 53.2**	**-1.6**
PB14	**IPOC Station P**	**3.87**	**243**	Pn		**Pn**	**04 15 10.2**	**-0.6**
PB14	**IPOC Station P**	**3.87**	**243**	⇑*i*	P	**Pn**	**04 15 10.6**	**-0.2**
PB14				*i*	S	**S**	**04 15 55.4**	**-2.9**
GO01	**Chusmiza**	**3.99**	**323**			**Pn**	**04 15 13.7**	**+1.2**
GO01	**Chusmiza**	**3.99**	**323**	*e*	P	**Pn**	**04 15 13.9**	**+1.3**
GO01	**Chusmiza**	**3.99**	**323**	⇑*i*	P	**Pn**	**04 15 13.9**	**+1.3**
GO01				*i*	S	**S**	**04 16 02.7**	**+1.3**
TA01	**Diego Aracena**	**4.03**	**304**	Pn		**Pn**	**04 15 11.8**	**-0.7**
TA01	**Diego Aracena**	**4.03**	**304**	*e*	P	**Pn**	**04 15 12.1**	**-0.4**
TA02	**Huaiquique**	**4.17**	**308**			**Pn**	**04 15 13.5**	**-0.7**
TA02	**Huaiquique**	**4.17**	**308**	*e*	P	**Pn**	**04 15 15.0**	**+0.8**
PB11	**IPOC Station P**	**4.19**	**317**			**Pn**	**04 15 14.7**	**-0.1**
PB11	**IPOC Station P**	**4.19**	**317**	⇑*i*	P	**Pn**	**04 15 14.7**	**-0.1**
PB11				*i*	S	**S**	**04 16 03.5**	**-1.9**
AC02	**Maricunga**	**4.54**	**209**	Pn		**Pn**	**04 15 18.9**	**-0.4**
AC02	**Maricunga**	**4.54**	**209**	*e*	P	**Pn**	**04 15 19.4**	**+0.1**
AC02	**Maricunga**	**4.54**	**209**	⇑*i*	P	**Pn**	**04 15 19.4**	**+0.1**
AC01	**Pan de Azucar**	**4.86**	**227**	Pn		**Pn**	**04 15 21.2**	**-1.6**
AC01	**Pan de Azucar**	**4.86**	**227**	*e*	P	**Pn**	**04 15 21.4**	**-1.4**
AC01				*e*	S	**S**	**04 16 15.2**	**-4.9**
AC01					IAML		04 16 18.1	
	comp=Z,104nm,0.7s							
AC01	**Pan de Azucar**	**4.86**	**227**	⇑*i*	P	**Pn**	**04 15 21.2**	**-1.6**
PB16	**IPOC Station P**	**5.26**	**329**	Pn		**Pn**	**04 15 29.8**	**+1.2**
PB12	**IPOC Station P**	**5.48**	**320**	Pn		**Pn**	**04 15 29.5**	**-1.4**
AC06	**Mina Casimiro**	**5.59**	**216**			**Pn**	**04 15 29.7**	**-2.4**
GO03	**Copiap**	**5.71**	**214**			**Pn**	**04 15 31.9**	**-1.9**
AC04	**Llanos de Chal**	**6.65**	**216**	Pn		**Pn**	**04 15 42.9**	**-2.8**
LPAZ	**La Paz**	**6.71**	**348**	P		**Pn**	**04 15 49.0**	**+1.9**
	comp=Z,9.6nm,0.4s,baz=157,slow=6.5,SNR=90							
LPAZ					S	**S**	**04 17 02.3**	**-1.9**
	comp=Z,3.1nm,0.5s,baz=348,slow=20,SNR=1.8							
LPAZ	**La Paz**	**6.71**	**348**	*e*	P	**Pn**	**04 15 48.8**	**+1.7**
AC05	**El Transito**	**6.78**	**208**			**Pn**	**04 15 45.5**	**-1.9**
LCO	**Las Campanas**	**7.12**	**210**			**Pn**	**04 15 49.2**	**-2.7**
CO01	**Juntas del Tor**	**7.72**	**203**	Pn		**Pn**	**04 15 58.6**	**-1.1**
BBSD	**Serra de San D**	**8.01**	**46**	*e*	P	**Pn**	**04 16 02.9**	**-0.5**
MURT	**Porto Murtinho**	**8.44**	**83**	*e*	P	**Pn**	**04 16 08.4**	**-0.5**
SIV	**San Ignacio**	**8.63**	**38**	P		**Pn**	**04 16 10.6**	**-0.9**
	comp=Z,4.3nm,0.4s,baz=241,slow=10.0,SNR=32							
SIV					S	**S**	**04 17 41.1**	**-7.7**
	comp=Z,1.4nm,0.5s,baz=285,slow=18,SNR=2.0							
CO03	**El Pedregal**	**8.71**	**204**	Pn		**Pn**	**04 16 09.8**	**-2.7**
CO06	**Fray Jorge**	**8.95**	**209**	Pn		**Pn**	**04 16 12.4**	**-3.0**
CPUP	**Villa Florida**	**9.13**	**114**	P		**Pn**	**04 16 18.0**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=272,slow=11,SNR=6.4							
CO02	**Combarbal**	**9.16**	**204**	Pn		**Pn**	**04 16 14.9**	**-3.3**
PTLB	**Pontes e Lacer**	**10.24**	**45**			**Pn**	**04 16 32.1**	**0.0**
PTLB	**Pontes e Lacer**	**10.24**	**45**	*e*	P	**Pn**	**04 16 31.2**	**-0.9**
VA03	**San Esteban**	**10.44**	**199**	Pn		**Pn**	**04 16 35.0**	**+0.3**
AQDB	**Aquidauana**	**10.44**	**79**	*e*	P	**Pn**	**04 16 34.7**	**0.0**
MT03	**Universidad Ad**	**11.11**	**197**	Pn		**Pn**	**04 16 43.3**	**0.0**
MT09	**Talagante**	**11.51**	**198**	Pn		**Pn**	**04 16 48.5**	**+0.1**
RVDE	**Rio Verde (Bra**	**11.58**	**73**	*e*	P	**Pn**	**04 16 50.2**	**+0.9**
BO04	**La Punta**	**11.60**	**197**	Pn		**Pn**	**04 16 49.1**	**-0.4**
VILB	**Vilhena**	**11.62**	**33**	Pn		**Pn**	**04 16 49.8**	**0.0**
UNIS	**Unistalda (Bra**	**12.08**	**123**	*e*	P	**P**	**04 17 00.1**	**+0.4**
BO01	**Tunca**	**12.11**	**198**	Pn		**Pn**	**04 16 55.3**	**-0.6**
CRSM	**Crissiumal (Br**	**12.29**	**115**	*e*	P	**P**	**04 17 03.3**	**+1.3**
BO02	**Sierra Bellavi**	**12.41**	**196**	Pn		**Pn**	**04 16 58.7**	**-1.0**
SALV	**Santo Antonio**	**12.44**	**58**	*e*	P	**Pn**	**04 17 00.0**	**-0.1**
TBOT	**Tacuaremb**	**12.93**	**135**	*e*	P	**P**	**04 17 09.8**	**+0.8**
GO05	**Huala**	**12.94**	**200**	Pn		**Pn**	**04 17 05.9**	**-0.4**
ETMB	**Extrema**	**13.00**	**2**	Pn		**Pn**	**04 17 06.8**	**-0.3**
ETMB	**Extrema**	**13.00**	**2**	*e*	P	**Pn**	**04 17 07.3**	**+0.1**
PTGB	**Pitanga**	**13.46**	**101**	*e*	P	**P**	**04 17 14.2**	**-1.0**
ML02	**Panimavida**	**13.49**	**197**	Pn		**Pn**	**04 17 12.6**	**-0.6**
ALGR	**Alto Alegre (B**	**13.59**	**119**	*e*	P	**P**	**04 17 17.8**	**+1.3**
ITAB	**Concordia**	**13.84**	**111**	*e*	P	**P**	**04 17 20.0**	**+0.8**
SAML	**Samuel**	**14.24**	**14**			**P**	**04 17 23.1**	**-0.8**
SAML	**Samuel**	**14.24**	**14**	*e*	P	**P**	**04 17 23.2**	**-0.6**
LDASE	**Londrina, Braz**	**14.28**	**95**	*e*	P	**Pn**	**04 17 23.0**	**0.0**
PCMB	**Pacaembu**	**14.29**	**88**	*e*	P	**P**	**04 17 23.2**	**-1.1**
PDRB	**Porto dos Gac**	**14.65**	**42**	*e*	P	**P**	**04 17 27.7**	**-0.7**
ITRB	**Iturama**	**15.49**	**81**	*e*	P	**P**	**04 17 37.5**	**-0.1**
ARAG	**Araguaiana, MT**	**15.70**	**66**	*e*	P	**Pn**	**04 17 40.1**	**-0.2**
FRTB	**Fartura**	**15.71**	**95**	*e*	P	**Pn**	**04 17 40.5**	**+0.1**
BB19B	**Bebedouro**	**16.89**	**87**	*e*	P	**Pn**	**04 17 54.7**	**+0.2**
LR05	**Currie**	**17.88**	**193**	P		**P**	**04 18 04.4**	**+0.8**
IPMB	**Ipameri, GO**	**17.93**	**78**	*e*	P	**Pn**	**04 18 05.3**	**-1.5**
PLCA	**Paso Flores**	**18.10**	**190**	P		**P**	**04 18 06.5**	**+0.4**
PLCA					IAmb	IAmb	04 18 07.5	
	comp=Z,5.7nm,0.7s							
PLCA	**Paso Flores**	**18.10**	**190**	P		**P**	**04 18 06.7**	**+0.6**
	comp=Z,4.2nm,0.5s,baz=13,slow=9.9,SNR=28							
VAO	**Valinhos**	**18.12**	**94**	*e*	P	**P**	**04 18 06.6**	**+0.1**
SNDB	**Serra Nova Dou**	**18.20**	**56**	*e*	P	**P**	**04 18 07.2**	**-0.1**
BDFB	**Brasilia**	**18.98**	**71**	P		**P**	**04 18 16.7**	**+0.8**
BDFB					IAmb	IAmb	04 18 18.0	
	comp=Z,33nm,1.0s							
BDFB	**Brasilia**	**18.98**	**71**	P		**P**	**04 18 16.8**	**+0.8**
	comp=Z,21nm,0.6s,baz=242,slow=12,SNR=45							
NPGB	**Novo Progresso**	**19.12**	**36**	*e*	P	**P**	**04 18 15.9**	**-1.4**
PARB	**Paraibuna**	**19.33**	**95**	*e*	P	**P**	**04 18 20.1**	**+0.5**
LL05	**Los Muermos**	**19.34**	**196**	P		**P**	**04 18 19.2**	**-0.2**
LL05					IAmb	IAmb	04 18 23.1	
	comp=Z,55nm,1.1s							
TEFE	**Tefe**	**19.36**	**6**	*e*	P	**P**	**04 18 17.5**	**-2.3**
LL06	**Loncomilla**	**20.14**	**195**	P		**P**	**04 18 28.4**	**+0.5**
BSCB	**Bom Sucesso**	**20.36**	**89**	*e*	P	**P**	**04 18 31.0**	**+0.4**
MACA	**Manacapuru-AM**	**20.43**	**17**	*e*	P	**P**	**04 18 30.1**	**-1.2**
ITTB	**Itaituba**	**21.21**	**31**	*e*	P	**P**	**04 18 38.0**	**-1.5**
DIAM	**Diamantina, MG**	**21.96**	**82**	*e*	P	**P**	**04 18 47.5**	**+0.3**
MCRA	**Macar, Loja**	**22.47**	**323**	P		**P**	**04 18 53.0**	**+1.3**
JANB	**Januaria**	**22.48**	**74**	*e*	P	**P**	**04 18 51.0**	**-0.9**
SMTB	**Santa Maria do**	**22.98**	**56**	*e*	P	**P**	**04 18 56.0**	**-0.2**
SDBA	**SAO DESIDERIO**	**23.15**	**67**	*e*	P	**P**	**04 18 57.1**	**-0.7**
MALB	**Monte Alegre**	**24.11**	**32**	*e*	P	**P**	**04 19 05.8**	**-0.7**
RIB01	**Linhares ES**	**24.72**	**87**	*e*	P	**P**	**04 19 11.4**	**-0.7**
NAN01	**Guarapari, ES**	**25.33**	**83**	*e*	P	**P**	**04 19 16.8**	**-0.8**
BOAV	**Boa Vista**	**25.82**	**14**	P		**P**	**04 19 21.8**	**-0.2**
BOAV					IAmb	IAmb	04 19 23.4	
	comp=Z,2.7nm,0.7s							
BOAV	**Boa Vista**	**25.82**	**14**	*e*	P	**P**	**04 19 22.2**	**+0.3**
NBLA	**Lagarto - SE**	**29.95**	**72**	*e*	P	**P**	**04 19 57.4**	**-1.3**
NBLV	**Livramento - P**	**32.47**	**66**	*e*	P	**P**	**04 20 20.1**	**-0.7**
NBCL	**Cascavel-CE**	**33.09**	**60**	*e*	P	**P**	**04 20 26.1**	**0.0**
TXAR	**Lajitas Array**	**62.97**	**324**	P		**P**	**04 24 15.2**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=152,slow=7.9,SNR=4.8							
	comp=Z,0.3nm,0.7s							
P38A	**Dawn**	**67.07**	**338**	P		**P**	**04 24 40.9**	**+0.5**
P38A					IAmb	IAmb	04 24 41.0	
	comp=Z,4.3nm,1.0s							
DBIC	**Dimbokro**	**67.13**	**72**	P		**P**	**04 24 40.8**	**-0.6**
DBIC					IAmb	IAmb	04 24 42.9	
	comp=Z,5.1nm,0.7s							
DBIC	**Dimbokro**	**67.13**	**72**	P		**P**	**04 24 40.7**	**-0.7**
	comp=Z,2.4nm,0.4s,baz=236,slow=4.9,SNR=8.4							
	comp=Z,2.4nm,0.4s							
QSPA	**South Pole Qui**	**67.32**	**180**	P		**P**	**04 24 43.8**	**+1.8**
QSPA					IAmb	IAmb	04 24 44.4	
	comp=Z,6.1nm,0.8s							
QSPA	**South Pole Qui**	**67.32**	**180**	P		**P**	**04 24 43.7**	**+1.8**
	comp=Z,4.3nm,0.5s,baz=306,slow=0.6,SNR=61							
	comp=Z,4.3nm,0.5s							
TORD	**Torodi Ar. Bea**	**75.85**	**69**	P		**P**	**04 25 32.6**	**-0.8**
	comp=Z,1.5nm,0.4s,baz=260,slow=6.0,SNR=35							
	comp=Z,1.5nm,0.4s							
PDAR	**Pinedale Array**	**76.37**	**329**	P		**P**	**04 25 37.2**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=129,slow=7.9,SNR=3.9							
	comp=Z,0.2nm,0.5s							
PLID	**Pearl Lake**	**81.22**	**327**	P		**P**	**04 26 03.6**	**+1.2**
WRA	**Warramunga Ar**	**132.77**	**207**	PKP		**PKiKP**	**04 33 01.3**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=156,slow=1.8,SNR=12							
MKAR	**Makanchi Array**	**145.45**	**39**	PKPbc		**PKPbc**	**04 33 23.3**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=306,slow=4.2,SNR=7.0							

IDC 28 04:18:14.0±8.3, 6.16S×142.09E, h0km, mb3.4/1, mbtmp3.2/3, ML3.3/1, Error ellipse: s-maj=295.7km s-min=37.6km az=95.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.63**	**208**	Pn		Pn	04 21 56.7	+0.8
	0.1nm,0.3s,baz=29,slow=11,SNR=9.4							
	0.1nm,0.3s							
ASAR	**Alice Springs**	**19.10**	**204**	P		P	04 22 37.9	-0.6
	0.6nm,0.8s,baz=30,slow=8.8,SNR=5.6							
MKAR	**Makanchi Array**	**74.56**	**322**	P		P	04 29 55.1	+0.2
	0.2nm,0.6s,baz=116,slow=6.7,SNR=2.4							
	0.2nm,0.6s							

*IDC **28** 04:38:39.4±1.7, 55.53N×165.15E, h0km, mb3.3/2, mbtmp3.5/3, ML3.2/1, MS2.8/1, Error ellipse: s-maj=145.9km s-min=25.4km az=151.0*
*KRSC **28** 04:38:42.0±1.5, 55.27N×165.10E, h50km±16km, Ml4.1*
ISC 28 04:38:44.2±1.8, 55.29N±0.05×165.25E±0.04, h38km±2km, n50, σ1s22/68, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.42**	**101**	*e*P		**Pn**	**04 38 53.8**	**+0.2**
BKI				*e*S		**Sn**	**04 39 01.3**	**+0.9**
KBG	**Krutoberegovo**	**1.74**	**305**	*e*S		**Sn**	**04 39 29.4**	**-3.2**
BDR	**Baidarnaya**	**2.61**	**301**	*e*S		**Sn**	**04 39 54.5**	**+0.1**
ZLN	**Zelenaya**	**2.63**	**288**	*e*P		**Pn**	**04 39 24.8**	**+0.7**
ZLN				*e*S		**Sn**	**04 39 55.3**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**2.67**	**286**	*e*P		**Pn**	**04 39 24.6**	**-0.1**
BZGR				*e*S		**Sn**	**04 39 57.0**	**+1.3**
CIRR	**Tsirk**	**2.68**	**290**	*e*P		**Pn**	**04 39 25.5**	**+0.6**
LGNR	**Loginova**	**2.71**	**289**	*e*P		**Pn**	**04 39 26.6**	**+1.2**
LGNR				*e*S		**Sn**	**04 39 58.1**	**+1.2**
BZP	**Bezymyannyi-Pe**	**2.75**	**285**	*e*P		**Pn**	**04 39 26.3**	**+0.4**
BZMR	**Bezymyannaya**	**2.78**	**286**	*e*P		**Pn**	**04 39 26.9**	**+0.7**
TUMD	**Tumrok D**	**2.78**	**270**	*e*P		**Pn**	**04 39 26.5**	**+0.3**
TUMD				*e*S		**Sn**	**04 39 58.4**	**0.0**
BZWR	**Bezymyannyi-We**	**2.78**	**286**	*e*P		**Pn**	**04 39 26.8**	**+0.5**
KLY	**Klyuchi**	**2.79**	**294**	*e*P		**Pn**	**04 39 24.9**	**-1.3**
KLY				*e*S		**Sn**	**04 39 55.7**	**-3.0**
KRSR	**Krestovskiy**	**2.81**	**291**	*e*P		**Pn**	**04 39 26.1**	**-0.6**
KRSR				*e*S		**Sn**	**04 39 58.0**	**-1.3**
KIRR	**Kirishev**	**2.87**	**286**	*e*P		**Pn**	**04 39 27.8**	**+0.4**
KIRR				*e*S		**Sn**	**04 40 00.5**	**-0.1**
KMNR	**Kamenistaya**	**2.89**	**281**	*e*P		**Pn**	**04 39 28.7**	**+0.9**
KMNR				*e*S		**Sn**	**04 40 02.6**	**+1.4**
TUMR	**Tumrok**	**2.92**	**272**	*e*P		**Pn**	**04 39 28.9**	**+0.7**
KPT	**Kopyto**	**2.93**	**286**	*e*P		**Pn**	**04 39 28.7**	**+0.3**
KPT				*e*S		**Sn**	**04 40 02.8**	**+0.6**
KOZ	**Kozyrevsk**	**3.14**	**286**	*e*P		**Pn**	**04 39 32.3**	**+1.2**
SRDR	**Sredinnyy**	**3.29**	**291**	*e*P		**Pn**	**04 39 33.7**	**+0.5**
SRDR				*e*S		**Sn**	**04 40 11.4**	**+0.3**
KII	**Karymskiy**	**3.59**	**252**	*e*P		**Pn**	**04 39 38.0**	**+0.6**
KII				*e*S		**Sn**	**04 40 18.4**	**-0.2**
ESO	**Esso**	**3.77**	**282**	*e*P		**Pn**	**04 39 40.7**	**+0.9**
ESO				*e*S		**Sn**	**04 40 23.0**	**+0.1**
SPN	**Mys Shipunski**	**3.77**	**237**	*e*P		**Pn**	**04 39 39.2**	**-0.5**
SPN				*e*S		**Sn**	**04 40 20.0**	**-2.8**
NLC	**Nalytchevo**	**4.06**	**241**	*e*P		**Pn**	**04 39 44.2**	**+0.5**
NLC				*e*S		**Sn**	**04 40 28.3**	**-1.6**
OSSR	**Ossora**	**4.15**	**344**	*e*P		**Pn**	**04 39 43.9**	**-0.9**
SMAR	**Somma**	**4.29**	**244**	*e*P		**Pn**	**04 39 48.1**	**+1.0**
KRER	**Koryakskii**	**4.30**	**245**	*e*P		**Pn**	**04 39 48.5**	**+1.3**
KRER				*e*S		**Sn**	**04 40 35.8**	**-0.2**
UGLR	**Uglovaya**	**4.31**	**244**	*e*P		**Pn**	**04 39 48.4**	**+1.2**
UGLR				*e*S		**Sn**	**04 40 35.6**	**-0.5**
AVH	**Avacha**	**4.32**	**245**	*e*P		**Pn**	**04 39 48.7**	**+1.3**
AVH				*e*S		**Sn**	**04 40 36.8**	**+0.3**
KRX	**Arik**	**4.32**	**246**	*e*P		**Pn**	**04 39 48.4**	**+1.0**
KRX				*e*S		**Sn**	**04 40 35.9**	**-0.7**
KOK	**Koryaka**	**4.36**	**245**	*e*P		**Pn**	**04 39 49.2**	**+1.2**
DALK	**Dalny**	**4.44**	**242**	*e*P		**Pn**	**04 39 49.6**	**+0.7**
DALK				*e*S		**Sn**	**04 40 38.3**	**-0.9**
PET	**Petropavlovsk**	**4.49**	**242**	*e*P		**Pn**	**04 39 50.8**	**+1.2**
PET				*e*S		**Sn**	**04 40 39.4**	**-1.1**
GNL	**Ganaly**	**4.55**	**253**	*e*P		**Pn**	**04 39 51.8**	**+1.3**
KRMR	**Karymshinskiy**	**4.86**	**243**	*e*P		**Pn**	**04 39 55.9**	**+1.1**
KRMR				*e*S		**Sn**	**04 40 49.4**	**-0.3**
RUS	**Russkaya**	**4.91**	**237**	*e*P		**Pn**	**04 39 55.7**	**+0.4**
RUS				*e*S		**Sn**	**04 40 48.1**	**-2.6**
PETK	**Petropavlovsk-**	**4.94**	**247**	Pn		**Pn**	**04 39 56.2**	**+0.4**
	4.7nm,0.3s,baz=74,slow=18,SNR=121							
PETK						Sn	**Sn**	**04 40 52.6**	**+1.0**
	1.7nm,0.3s,baz=88,slow=20,SNR=6.2							
	6.5nm,0.3s							
MTVR	**Mutnovka**	**5.04**	**239**	*e*P		**Pn**	**04 39 58.1**	**+0.9**
MTVR				*e*S		**Sn**	**04 40 52.3**	**-1.8**
TILK	**Tilichiki**	**5.20**	**5**	*e*P		**Pn**	**04 39 59.3**	**+0.1**
ASAK	**Asacha**	**5.24**	**239**	*e*P		Pn	04 40 01.4	+1.5
ASAK				*e*S		**Sn**	**04 40 58.7**	**-0.3**
APC	**Apacha**	**5.32**	**247**	*e*P		Pn	04 40 03.1	+2.2
KDTR	**Khodutka, Kamc**	**5.51**	**234**	*e*P		**Pn**	**04 40 03.7**	**0.0**
KDTR				*e*S		**Sn**	**04 41 01.7**	**-4.0**
USRK	**Ussuriysk Ar.**	**23.95**	**256**	LR		LR	04 54 14.2	
	comp=Z,24nm,20.1s,baz=140,slow=39							
ILAR	**Eielson Array**	**25.10**	**49**	P		**P**	**04 44 04.0**	**-1.0**
	0.5nm,0.7s,baz=258,slow=8.7,SNR=8.3							
	0.5nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**35.52**	**177**	T		T	05 23 39.3	
	baz=358,slow=76,SNR=137							
H11N3	**WAKE ISLAND Hy**	**35.53**	**177**	T		T	05 23 38.6	
	baz=358,slow=76,SNR=83							
H11N1	**WAKE ISLAND Hy**	**35.53**	**177**	T		T	05 23 39.4	
	baz=358,slow=76,SNR=128							
H11S1	**WAKE ISLAND Hy**	**36.73**	**178**	T		T	05 25 07.9	
	baz=359,slow=76,SNR=4.3							
H11S3	**WAKE ISLAND Hy**	**36.74**	**178**	T		T	05 25 07.4	
	baz=359,slow=76,SNR=4.4							
H11S2	**WAKE ISLAND Hy**	**36.75**	**178**	T		T	05 25 08.0	
	baz=359,slow=76,SNR=4.3							
TXAR	**Lajitas Array**	**67.02**	**71**	P		**P**	**04 49 34.2**	**+0.9**
	0.2nm,0.6s,baz=304,slow=6.6,SNR=4.8							
	0.2nm,0.6s							

*TEH **28** 04:44:15.4, 34.54N×45.38E, h12km±25km, ML3.3*
*ISN **28** 04:44:17.1±1.5, 34.51N×45.40E, h20km±10km, ML3.3*
ISC 28 04:44:16.5±1.1, 34.54N±0.03×45.40E±0.03, h11km±9km, n20, σ1s19/28, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.16**	**101**	Pg		**Pg**	**04 44 19.9**	**-0.2**
IDHR	**Dehrash**	**0.83**	**78**	Pg		**Pb**	**04 44 31.4**	**-1.7**
IDHR				Sg		**Sb**	**04 44 44.0**	**-0.4**
IGHG	**Ghaleghazi**	**0.99**	**102**	Pg		**Pb**	**04 44 34.4**	**-1.4**
IGHG				Sg		**Sn**	**04 44 50.5**	**-0.2**
ILBA	**Ilam Banvizeh**	**1.13**	**143**	Pg		**Pb**	**04 44 37.4**	**-0.7**
IKRK	**Kirkuk**	**1.22**	**315**	*e*Pg		**Pg**	**04 44 40.0**	**0.0**
IKRK				*e*Sg		**Sg**	**04 44 57.0**	**+1.1**
IKRK					AML	AML	04 45 00.7	
	comp=N,1µm,0.7s							
IKRK					AML	AML	04 45 01.4	
	comp=E,2µm,0.5s							
ILIN	**Lien**	**1.34**	**73**	Pg		**Pb**	**04 44 41.1**	**-0.7**
KCHF	**Cheshme Sefid,**	**1.38**	**100**	Pg		**Pb**	**04 44 42.2**	**-0.3**
IBDR	**Badra**	**1.49**	**163**	*e*Pn		**Pb**	**04 44 44.0**	**-0.2**
IBDR				*e*Sn		**Sg**	**04 45 05.0**	**+0.6**
IBDR					AML	AML	04 45 15.3	
	comp=N,168nm,0.6s							
IBDR					AML	AML	04 45 21.1	
	comp=E,316nm,0.6s							
BHD	**Baghdad**	**1.52**	**214**	*e*Pn		**Pb**	**04 44 44.0**	**-0.7**
BHD				*e*Sn		**Sg**	**04 45 05.0**	**-0.4**
SDS1	**Sardasht. Az.**	**1.61**	**2**	Pg		**Pb**	**04 44 45.9**	**-0.5**
SDS1				Sg		**Sg**	**04 45 09.9**	**+1.6**
IBZA	**Bozab**	**2.03**	**91**	Pn		**Pb**	**04 44 52.0**	**-1.7**
MAHB	**Mahabad**	**2.24**	**6**	Pn		**Pn**	**04 44 54.3**	**+0.7**
IKFM	**Kafar-mosalman**	**2.27**	**116**	Pn		**Pn**	**04 44 54.8**	**+0.8**
MSL	**Mosul**	**2.63**	**315**	*e*Pn		**Pn**	**04 45 00.0**	**+1.0**
MSL				*e*Sn		**Sb**	**04 45 33.0**	**-3.

YHNB				*e*S		**Sn**	04 55 57.0	-0.3
	baz=288							
NHDH	**Xindian Distri**	**0.93**	**307**	*e*P		**Pn**	04 55 43.8	-0.4
	baz=319							
LXIB	**Xiulin Townshi**	**0.94**	**246**	P		**Pn**	04 55 43.9	-0.5
	baz=243							
LXIB				*e*S		**Sn**	04 55 56.6	-1.1
	baz=243							
NSK	**Sanguang**	**0.94**	**287**	*e*P		**Pn**	04 55 44.7	+0.3
	baz=288							
NSK				*e*S		**Sn**	04 55 57.2	-0.4
	baz=288							
SHUL	**Shoufeng**	**0.95**	**230**	*e*P		**Pn**	04 55 44.3	-0.1
	baz=225							
SHUL				*e*S		**Sn**	04 55 57.7	+0.1
	baz=225							
YM01	**YM01**	**1.02**	**316**	P		**Pn**	04 55 44.9	-0.4
	baz=319							
YM01				*e*S		**Sn**	04 55 58.5	-0.9
	baz=319							
ESL	**Shilin**	**1.02**	**235**	*e*P		**Pn**	04 55 44.7	-0.7
	baz=225							
ESL				*e*S		**Sn**	04 55 58.3	-1.0
	baz=225							
WHF	**Hehuan Shan**	**1.02**	**256**	*e*P		**Pn**	04 55 45.8	0.0
	baz=253							
WHF				*e*S		**Sn**	04 55 59.3	-0.7
	baz=253							
YM08	**YM08**	**1.04**	**319**	*e*P		**Pn**	04 55 45.3	-0.3
	baz=321							
YM08				*e*S		**Sn**	04 55 57.8	-1.9
	baz=321							
TWT	**Tachien**	**1.08**	**262**	*e*P		**Pn**	04 55 47.1	+0.9
	baz=258							
TWT				S		**Sn**	04 56 01.1	+0.2
	baz=258							
TWS1	**Kuangyinshan**	**1.09**	**309**	P		**Pn**	04 55 46.1	-0.1
	baz=318							
TWS1				S		**Sn**	04 56 00.5	-0.4
	baz=318							
TDCB	**Techi**	**1.10**	**262**	*e*P		**Pn**	04 55 47.0	+0.6
	baz=258							
TDCB				S		**Sn**	04 56 00.9	-0.3
	baz=258							
WARBT	**Fenglin Townsh**	**1.12**	**232**	P		**Pn**	04 55 45.8	-0.7
	baz=229							
WARBT				*e*S		**Sn**	04 56 00.0	-1.4
	baz=229							
EGFH	**Guangfu**	**1.12**	**229**	*e*P		**Pn**	04 55 46.0	-0.6
	baz=220							
EGFH				*e*S		**Sn**	04 56 00.6	-0.9
	baz=220							
CHGB	**Renai**	**1.13**	**252**	*e*P		**Pn**	04 55 47.0	+0.1
	baz=244							
CHGB				*e*S		**Sn**	04 56 01.4	-0.6
	baz=244							
NFF	**Wufeng Townshi**	**1.15**	**282**	P		**Pn**	04 55 47.4	+0.4
	baz=291							
NFF				*e*S		**Sn**	04 56 01.9	-0.3
	baz=291							
OWD	**Renai**	**1.16**	**248**	*e*P		**Pn**	04 55 47.3	+0.1
	baz=240							
OWD				*e*S		**Sn**	04 56 01.8	-0.9
	baz=240							
WUSB	**Renai**	**1.20**	**250**	P		**Pn**	04 55 48.0	+0.3
	baz=243							
WUSB				*e*S		**Sn**	04 56 03.0	-0.5
	baz=243							
HGSD	**Ruisui**	**1.24**	**223**	*e*P		**Pn**	04 55 47.7	-0.4
	baz=219							
HGSD				*e*S		**Sn**	04 56 03.4	-0.9
	baz=219							
NSTT	**Nanjuang**	**1.25**	**281**	*e*S		**Sn**	04 56 04.7	+0.2
	baz=292							
VWDT	**VWDT**	**1.28**	**240**	P		**Pn**	04 55 48.9	+0.3
	baz=231							
VWDT				*e*S		**Sn**	04 56 04.7	-0.4
	baz=231							
WHP	**Taichung City**	**1.29**	**265**	*e*P		**Pn**	04 55 50.7	+1.9
	baz=261							
WHP				*e*S		**Sn**	04 56 07.0	+1.6
	baz=261							
EHY	**Hungye**	**1.30**	**227**	P		**Pn**	04 55 48.1	-0.8
	baz=223							
EHY				*e*S		**Sn**	04 56 03.8	-1.8
	baz=223							
ECBN	**Changbin**	**1.36**	**217**	*e*P		**Pn**	04 55 49.3	-0.3
	baz=207							
ECBN				*e*S		**Sn**	04 56 05.9	-1.1
	baz=207							
YULB	**Yu-li**	**1.40**	**224**	P		**Pn**	04 55 49.4	-0.8
	baz=221							
YULB				*e*S		**Sn**	04 56 05.9	-2.0
	baz=221							
EYUL	**Yuli**	**1.42**	**222**	*e*P		**Pn**	04 55 50.6	+0.2
	baz=228							
SSLB	**Suanglung**	**1.42**	**245**	*e*P		**Pn**	04 55 50.4	0.0
	baz=239							
SSLB				*e*S		**Sn**	04 56 08.6	+0.2
	baz=239							
SMLT	**Sun Moon Lake**	**1.42**	**249**	*e*P		**Pn**	04 55 51.4	+0.8
	baz=242							
SMLT				*e*S		**Sn**	04 56 10.1	+1.4
	baz=242							
TWF1	**Yuli**	**1.42**	**223**	*e*P		**Pn**	04 55 49.7	-0.8
	baz=228							
TYC	**Yuchr**	**1.45**	**250**	*e*P		**Pn**	04 55 51.6	+0.8
	baz=243							
TYC				*e*S		**Sn**	04 56 09.5	+0.3
	baz=243							
CHKH	**Chenggong**	**1.49**	**216**	*e*P		**Pn**	04 55 50.4	-1.0
	baz=205							
CHKH				*e*S		**Sn**	04 56 07.7	-2.4
	baz=205							
JKRS	**Kuro-shima**	**1.52**	**96**	*e*S		**Sn**	04 56 11.8	+0.9
FULB	**Fuli**	**1.54**	**219**	*e*P		**Pn**	04 55 52.2	+0.1
	baz=208							
FULB				*e*S		**Sn**	04 56 10.3	-1.0
	baz=208							
JIJ	**Ishigaki jima**	**1.64**	**91**	*e*S		**Sn**	04 56 13.3	-0.2
ALS	**Alishan**	**1.67**	**238**	*e*P		**Pn**	04 55 54.8	+0.7
	baz=228							
ALS				*e*S		**Sn**	04 56 15.2	+0.4
	baz=228							
EDH	**Donghe**	**1.72**	**214**	*e*P		**Pn**	04 55 52.6	-1.8
	baz=205							
EDH				*e*S		**Sn**	04 56 12.5	-3.1
	baz=205							
ELDTW	**Lidau**	**1.72**	**225**	P		**Pn**	04 55 54.1	-0.5
	baz=220							
ELDTW				*e*S		**Sn**	04 56 14.4	-1.3
	baz=220							
CHN5	**Tsauling**	**1.73**	**243**	*e*P		**Pn**	04 55 56.0	+1.4
	baz=232							
CHN5				*e*S		**Sn**	04 56 17.9	+2.0
	baz=232							
WDLH	**Douliu**	**1.80**	**247**	*e*S		**Sn**	04 56 20.2	+2.7
	baz=259							
WCKO	**Fanlu**	**1.86**	**239**	*e*S		**Sn**	04 56 21.1	+2.1
	baz=237							
LDUT	**Ludao**	**1.91**	**205**	*e*P		**Pn**	04 55 55.6	-1.3
	baz=202							
LDUT				*e*S		**Sn**	04 56 17.9	-2.1
	baz=202							
CHN4	**Tsaushan**	**1.92**	**237**	*e*P		**Pn**	04 55 58.9	+1.8
	baz=235							
CHN4				*e*S		**Sn**	04 56 22.6	+2.2
	baz=235							
TPUB	**Ta-pu**	**1.92**	**235**	P		**Pn**	04 55 58.7	+1.6
	baz=233							
TPUB				S		**Sn**	04 56 22.3	+1.9
	baz=233							
TWGBT	**Beinan**	**1.96**	**217**	*e*P		**Pn**	04 55 56.9	-0.8
	baz=219							
TWGBT				*e*S		**Sn**	04 56 19.7	-1.7
	baz=219							
WTP	**Ta-pu**	**1.96**	**234**	*e*P		**Pn**	04 55 59.1	+1.3
	baz=232							
WTP				*e*S		**Sn**	04 56 23.1	+1.6
	baz=232							
TWG	**Pinlang**	**1.97**	**217**	P		**Pn**	04 55 57.3	-0.4
	baz=219							
TWG				*e*S		**Sn**	04 56 19.9	-1.6
	baz=219							
TWK	**Hsinying**	**2.05**	**237**	*e*P		**Pn**	04 56 00.2	+1.3
	baz=235							
TWK				*e*S		**Sn**	04 56 25.3	+1.8
	baz=235							
SNST	**Tainan City**	**2.07**	**236**	*e*S		**Sn**	04 56 25.6	+1.7
	baz=234							
SLGT	**Liugui**	**2.10**	**228**	*e*P		**Pn**	04 56 00.6	+1.1
	baz=226							
SLGT				*e*S		**Sn**	04 56 27.0	+2.3
	baz=226							
MASBT	**Mashibuluo**	**2.38**	**222**	*e*P		**Pn**	04 56 04.0	+0.7
	baz=219							
MASBT				*e*S		**Sn**	04 56 33.1	+1.6
	baz=219							

IDC ***28*** *05:04:03.7±1.6,31°.89N×48°.69E,h0km,mb3.8/8, mbtmp3.8/10,ML3.6/2,MS3.0/14,Error ellipse: s-maj=29.2km s-min=24.7km az=173.0*
TEH ***28*** *05:04:05.7,31°.91N×48°.72E,h17km±40km,ML3.9*
ISC 28 05:04:05.7±0.7,31°.91N±0'.04×48°.69E±0'.04,h10km,n58, σ1s74/46,mb3.9/7,MS3.0/8,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AHWZ	**Ahwaz**	**0.58**	**184**	Pg	**Pb**	**05 04 17.6**	**-0.2**
JHBN	**Jahan bin**	**1.71**	**79**	Pg	**Pg**	**05 04 37.6**	**-0.9**
IKFM	**Kafar-mosalman**	**1.76**	**337**	Pg	**Pb**	**05 04 38.1**	**+0.1**
ZNGN	**Zangian**	**1.85**	**83**	Pn	**Pb**	**05 04 39.6**	**-0.2**
ABEH	**Behbahan**	**1.87**	**134**	Pn	**Pg**	**05 04 42.1**	**+0.5**
IDOB	**Doab**	**1.92**	**347**	Pn	**Pb**	**05 04 41.0**	**0.0**
IPIR	**Pirpir**	**2.02**	**67**	Pn	**Pb**	**05 04 42.2**	**-0.5**
IBRJ	**Brojen**	**2.19**	**89**	Pn	**Pb**	**05 04 43.9**	**-1.7**
HSAM	**Samen**	**2.30**	**358**	Pn	**Pb**	**05 04 46.2**	**-1.2**
KLNJ	**Kolanjah**	**2.64**	**109**	Pn	**Pn**	**05 04 50.3**	**+1.6**
IBZA	**Bozab**	**2.65**	**345**	Pn	**Pn**	**05 04 50.8**	**+2.1**
ILBA	**Ilam Banvizeh**	**2.70**	**310**	Pn	**Pn**	**05 04 51.0**	**+1.8**
KCHF	**Cheshme Sefid,**	**2.73**	**330**	Pn	**Pn**	**05 04 52.1**	**+2.3**
IKLH	**Kolahrood**	**2.82**	**59**	Pn	**Pn**	**05 04 53.1**	**+2.1**
IGAR	**Gharneh**	**2.89**	**79**	Pn	**Pn**	**05 04 54.1**	**+2.1**
QAMS	**Qamsar**	**2.92**	**51**	Pn	**Pn**	**05 04 54.2**	**+1.7**
HAGD	**Aghdareh**	**2.93**	**7**	Pn	**Pn**	**05 04 55.2**	**+2.6**
IGHG	**Ghaleghazi**	**3.00**	**324**	Pn	**Pb**	**05 04 56.6**	**-2.7**
IRAM	**Ramesheh**	**3.15**	**91**	Pn	**Pn**	**05 04 56.7**	**+1.2**
IZEF	**Zefreh**	**3.23**	**71**	Pn	**Pn**	**05 04 58.6**	**+1.9**
ILIN	**Lien**	**3.33**	**335**	Pn	**Pn**	**05 05 00.5**	**+2.4**
IDHR	**Dehrash**	**3.38**	**326**	Pn	**Pn**	**05 05 00.5**	**+1.7**
IQOM	**Qom**	**3.54**	**34**	Pn	**Pn**	**05 05 02.9**	**+1.9**
IRAZ	**Razeghan**	**3.64**	**16**	Pn	**Pn**	**05 05 04.5**	**+2.3**
ISFB	**Sefidab**	**3.85**	**50**	Pn	**Pn**	**05 05 06.2**	**+1.2**
IVRN	**Varamin**	**3.99**	**39**	Pn	**Pn**	**05 05 09.1**	**+2.1**
IMHD	**Mahdasht**	**4.11**	**23**	Pn	**Pn**	**05 05 10.7**	**+2.0**
DSBU	**Dashti - Bushe**	**4.18**	**147**	Pn	**Pn**	**05 05 11.9**	**+2.3**
ANAR	**Anarak**	**4.45**	**72**	Pn	**Pn**	**05 05 15.0**	**+1.7**
IDMV	**Damavand**	**4.60**	**36**	Pn	**Pn**	**05 05 17.3**	**+1.7**
IFIR	**Firoozkooh**	**5.03**	**41**	Pn	**Pn**	**05 05 23.4**	**+2.0**
IMEH	**Mehriz**	**5.08**	**94**	Pn	**Pn**	**05 05 24.2**	**+2.1**
MZPU	**Pul - Mazandar**	**5.11**	**27**	Pn	**Pn**	**05 05 25.2**	**+2.7**
IPRN	**Peran**	**5.28**	**34**	Pn	**Pn**	**05 05 27.4**	**+2.7**
IALA	**Alasht**	**5.39**	**38**	Pn	**Pn**	**05 05 28.9**	**+2.5**
TNSJ	**Nastanj**	**6.97**	**71**	Pn	**Pn**	**05 05 49.9**	**+2.0**
GNI	**Garni**	**8.82**	**340**	LR	LR	05 10 36.5	
	comp=Z,35nm,21.1s,baz=156,slow=44						
GEYT	**Alibeck**	**9.80**	**50**	LR	LR	05 10 49.2	
	comp=Z,160nm,20.4s,baz=308,slow=41						
ASF	**Jabal al Asfar**	**10.01**	**275**	LR	LR	05 11 43.7	
	comp=Z,43nm,18.4s,baz=341,slow=46						
MMAI	**Mount Meron Ar**	**11.28**	**279**	LR	LR	05 12 33.7	
	comp=Z,40nm,20.0s,baz=55,slow=45						
EIL	**Elat**	**12.02**	**263**	LR	LR	05 12 33.0	
	comp=Z,54nm,18.0s,baz=68,slow=42						
WSAR	**Wadi Sarin**	**12.34**	**132**	Pn	**Pn**	**05 06 59.5**	**-1.9**
	0.5nm,0.3s,baz=295,slow=4.2,SNR=6.3 1.0nm,0.4s						
KBZ	**Khabaz**	**12.65**	**340**	LR	LR	05 12 04.7	
	comp=Z,48nm,18.7s,baz=233,slow=38						
AKTO	**Aktyubinsk**	**19.77**	**18**	P	**P**	**05 08 35.5**	**-0.2**
	0.1nm,0.3s,baz=219,slow=6.5,SNR=2.4 0.6nm,0.4s						
BELG	**Belogornoye**	**20.48**	**358**	P	**P**	**05 08 43.5**	**+0.1**
	9.2nm,0.7s,baz=132,slow=4.6,SNR=6.3 9.2nm,0.7s						
MLR	**Muntele Rosu**	**22.24**	**314**	P	**P**	**05 09 02.5**	**-0.2**
	3.4nm,0.7s,baz=135,slow=19,SNR=2.3 3.4nm,0.7s						
AAK	**Ala-Archa**	**23.08**	**55**	LR	LR	05 19 09.4	
	comp=Z,36nm,20.3s,baz=246,slow=39						
AKASG	**Malin Array Be**	**23.67**	**328**	P	**P**	**05 09 16.6**	**-0.6**
	0.3nm,0.4s,baz=139,slow=9.7,SNR=4.3 0.3nm,0.4s						
ARU	**Arti**	**25.46**	**13**	LR	LR	05 22 26.2	
	comp=Z,29nm,18.9s,baz=167,slow=43						
BVAR	**Borovoye Array**	**26.30**	**30**	P	**P**	**05 09 41.1**	**-0.2**
	1.2nm,0.5s,baz=226,slow=8.2,SNR=8.2						
BVAR				LR	LR	05 20 23.8	
	comp=Z,33nm,18.1s,baz=229,slow=37 1.2nm,0.5s						
MKAR	**Makanchi Array**	**29.67**	**50**	P	**P**	**05 10 11.6**	**+0.1**
	0.4nm,0.9s,baz=254,slow=5.2,SNR=3.1						
MKAR				LR	LR	05 23 30.0	
	comp=Z,36nm,20.3s,baz=264,slow=39 0.4nm,0.9s						
FINES	**FINESS Array B**	**33.01**	**340**	P	**P**	**05 10 40.0**	**-0.7**
	0.4nm,0.3s,baz=148,slow=8.2,SNR=7.1 0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**33.87**	**39**	LR	LR	05 25 35.0	
	comp=Z,26nm,20.5s,baz=340,slow=38						
HFS	**Hagfors**	**36.48**	**331**	P	**P**	**05 11 10.0**	**-0.6**
	1.0nm,0.4s,baz=107,slow=9.8,SNR=6.4 1.0nm,0.4s						
TORD	**Torodi Ar. Bea**	**46.84**	**258**	P	**P**	**05 12 36.0**	**-0.1**
	1.2nm,1.0s,baz=56,slow=7.8,SNR=5.6 1.2nm,1.0s						
DBIC	**Dimbokro**	**55.76**	**255**	LR	LR	05 37 43.6	
	comp=Z,28nm,19.9s,baz=76,slow=36						
TIXI	**Tiksi**	**56.98**	**22**	LR	LR	05 42 43.5	
	comp=Z,22nm,19.1s,baz=0.0,slow=41						
JOW	**Kunigami**	**68.07**	**71**	LR	LR	05 45 54.3	
	comp=Z,85nm,19.3s,baz=136,slow=37						

AFAD ***28*** *05:05:18.7±0.0,40°.76N×31°.00E,h7km±2km,ML2.6*
ISK ***28*** *05:05:18.1,40°.80N×31°.02E,h6km,ML2.7/24*
ISC 28 05:05:18.7±1.0,40°.79N±0'.03×31°.00E±0'.02,h9km±10km, n35,σ0s49/48,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTAS	**Taskesti**	**0.22**	**180**	P	**Pg**	**05 05 23.2**	**0.0**
BTAS				*i* AML	AML	05 05 26.0	
	comp=N,4μm,0.6s						
BTAS				S	**Sg**	**05 05 26.1**	**-0.1**
BTAS				*i* AML	AML	05 05 27.0	
	comp=Z,1μm,0.6s						
MDUB	**Mudurnu**	**0.35**	**154**	Pg	**Pg**	**05 05 25.6**	**-0.1**
MDUB				Sg	**Sg**	**05 05 30.7**	**+0.4**
SUSU	**Bolu-G¶lynk-**	**0.46**	**195**	P	**Pb**	**05 05 28.1**	**-1.0**
SUSU				S	**Sg**	**05 05 34.2**	**+0.4**
GULT	**Gulveren**	**0.51**	**226**	Pg	**Pb**	**05 05 29.3**	**-0.6**
GULT				Sg	**Sb**	**05 05 37.2**	**-0.3**
SAUV	**Serdivan-Sakar**	**0.51**	**265**	Pg	**Pg**	**05 05 28.9**	**+0.2**
SAUV				Sg	**Sb**	**05 05 36.9**	**-0.5**
BOLU	**Bolu-Merkez-Mu**	**0.51**	**91**	P	**Pg**	**05 05 28.5**	**-0.2**
BOLU				S	**Sg**	**05 05 35.2**	**-0.3**
BOLU				*i* AML	AML	05 05 37.0	
	comp=N,534nm,0.5s						
BOLU				*i* AML	AML	05 05 37.0	
	comp=E,529nm,0.2s						
KAYN	**Sakarya, Kayna**	**0.53**	**290**	P	**Pb**	**05 05 29.6**	**-0.6**
KAYN				S	**Sg**	**05 05 36.4**	**+0.4**
GEYV	**SAKARYA_Geyve**	**0.62**	**241**	P	**Pb**	**05 05 31.0**	**-0.6**
GEYV				S	**Sb**	**05 05 39.5**	**-0.9**
YUVA	**Yuva-Kibriscik**	**0.66**	**127**	Pg	**Pg**	**05 05 31.4**	**0.0**
KAND	**Kocaeli-Kandir**	**0.68**	**297**	P	**Pb**	**05 05 32.3**	**-0.4**
KAND				S	**Sg**	**05 05 41.6**	**+0.8**
GPA	**Golpazari**	**0.72**	**227**	Pg	**Pg**	**05 05 32.1**	**-0.6**
KIBS	**BOLU**	**0.75**	**119**	P	**Pg**	**05 05 33.0**	**-0.1**
KIBS				S	**Sb**	**05 05 43.6**	**-0.6**
SRCK	**Saricakaya, Es**	**0.80**	**201**	Pg	**Pb**	**05 05 34.4**	**-0.3**
HISA	**Bilecik-Osmane**	**0.88**	**249**	P	**Pg**	**05 05 35.7**	**0.0**
HISA				S	**Sb**	**05 05 48.2**	**+0.1**
AUMIH	**MIHALICIK**	**0.99**	**158**	P	**Pb**	**05 05 37.9**	**-0.2**
AUMIH				S	**Sb**	**05 05 51.3**	**0.0**
AUMIH				*i* AML	AML	05 05 55.0	
	comp=N,127nm,0.3s						
AUMIH				*i* AML	AML	05 05 56.0	
	comp=E,148nm,0.2s						
BORA	**Eskisehir**	**1.00**	**205**	P	**Pg**	**05 05 37.6**	**-0.3**
BORA				S	**Sb**	**05 05 51.6**	**+0.1**
BORA				*i* AML	AML	05 05 56.0	
	comp=N,228nm,0.2s						
BORA				*i* AML	AML	05 05 56.0	
	comp=E,262nm,0.3s						
OSMT	**Osmaniye**	**1.00**	**260**	Pg	**Pg**	**05 05 37.4**	**-0.6**
HRT	**Hereke**	**1.01**	**272**	Pg	**Pg**	**05 05 37.9**	**-0.3**
ADVT	**Abdulvahap**	**1.02**	**250**	Pg	**Pg**	**05 05 38.0**	**-0.4**
CAVI	**Cavuskoy**	**1.06**	**237**	Pn	**Pg**	**05 05 38.9**	**-0.1**
SILT	**Sile**	**1.09**	**290**	Pn	**Pb**	**05 05 39.7**	**0.0**
YLV	**Yalova**	**1.26**	**260**	Pn	**Pg**	**05 05 43.3**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.40**	**163**	Pn	**Pb**	**05 05 44.7**	**-0.3**
GEMT	**Gemlik**	**1.42**	**256**	Pn	**Pn**	**05 05 45.1**	**+0.4**
CIFT	**Cifteler, Eski**	**1.43**	**178**	Pn	**Pg**	**05 05 46.5**	**+0.4**
KAVV	**Kandilli-Istan**	**1.50**	**281**	Pn	**Pn**	**05 05 45.1**	**-0.6**
ISK	**Istanbul-Kandi**	**1.50**	**281**	Pn	**Pn**	**05 05 46.1**	**+0.4**
KLYT	**Kilyos**	**1.55**	**288**	Pn	**Pn**	**05 05 46.9**	**+0.4**
ARMT	**Armutlu**	**1.64**	**263**	Pn	**Pb**	**05 05 48.8**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.67**	**256**	Pn	**Pn**	**05 05 48.8**	**+0.8**
KURC	**Kurucasile-Bar**	**1.69**	**51**	Pn	**Pn**	**05 05 48.6**	**+0.3**
BGKT	**Bogazkoy**	**1.73**	**284**	Pn	**Pb**	**05 05 50.2**	**-0.4**
TVSB	**Tavsanli**	**1.78**	**222**	Pn	**Pn**	**05 05 50.4**	**+0.6**
CTKS	**Kestanelik-??a**	**1.94**	**284**	Pn	**Pn**	**05 05 52.8**	**+1.0**
BR131	**Keskin Array S**	**2.28**	**117**	Pn	**Pn**	**05 05 57.5**	**+0.8**

EAF 28 05:12:45.1±0.9,13°.68N×39°.75E,h0km±51km,ML3.8, MW4.1,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DESE	**Dese**	**2.55**	**183**	*e*P	Pn	05 13 28.2	+0.2
DESE				*e*S	Sn	05 13 59.3	-0.7
DESE	**Dese**	**2.55**	**183**	*e*P	Pn	05 13 27.5	-0.6
DESE				*e*S	Sn	05 13 57.8	-2.2
DESE				IAML		05 14 05.9	
	comp=E,674nm,0.5s						
ATD	**Arta Tunnel**	**3.70**	**125**	*e*P	Pn	05 13 42.6	-1.0
ATD				*e*S	Sn	05 14 27.3	-0.8
ATD	**Arta Tunnel**	**3.70**	**125**	*e*P	Pn	05 13 43.0	-0.7
ATD				*e*S	Sn	05 14 25.6	-2.4
WLRA	**Wolmera**	**4.67**	**193**	*e*P	Pb	05 14 08.8	+0.7
WLRA				*e*S	Sb	05 15 06.1	+1.0
FURI	**Furi**	**4.87**	**193**	*e*P	Pn	05 13 59.1	-0.8
FURI				*e*S	Sn	05 14 54.0	-3.3

IDC ***28*** *05:17:45.0±3.4,5°.58S×150°.23E,h106km±25km,mb3.4/7, mbtmp3.8/8,Error ellipse: s-maj=43.9km s-min=19.3km az=104.0*
ISC 28 05:17:48.7±1.2,5°.7S±0°.2×150°.0E±0°.3,h135km,n9, σ1s48/11,mb3.4/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.70**	**217**	P	**Pn**	**05 18 57.1**	**-0.7**
	18nm,0.3s,baz=42,slow=7.2,SNR=8.6						
PMG				S	**Sn**	**05 19 50.2**	**-1.4**
	103nm,0.6s,baz=201,slow=20,SNR=13						
WRA	**Warramunga Arr**	**20.85**	**226**	P	**P**	**05 22 20.8**	**+0.8**
	3.0nm,0.5s,baz=49,slow=10,SNR=62						
WRA				ScP	**ScP**	**05 29 49.3**	**+1.6**
	0.3nm,1.0s,baz=50,slow=2.6,SNR=6.4 3.0nm,0.5s						
ASAR	**Alice Springs**	**23.71**	**219**	P	**P**	**05 22 50.0**	**+1.5**
	0.7nm,0.5s,baz=55,slow=8.3,SNR=14 0.7nm,0.5s						
SONM	**Songino Array**	**65.61**	**329**	P	**P**	**05 28 19.2**	**+0.8**
	1.0nm,0.6s,baz=144,slow=5.1,SNR=7.6 1.0nm,0.6s						
MKAR	**Makanchi Array**	**79.17**	**320**	P	**P**	**05 29 38.8**	**+0.1**
	0.2nm,0.5s,baz=116,slow=3.9,SNR=2.3 0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**82.78**	**322**	P	**P**	**05 29 57.2**	**-0.4**
	0.4nm,0.8s,baz=113,slow=4.7,SNR=4.3 0.4nm,0.8s						
ILAR	**Eielson Array**	**83.99**	**23**	P	**P**	**05 30 00.9**	**-2.6**
	0.3nm,0.7s,baz=254,slow=5.3,SNR=6.1 0.3nm,0.7s						
QSPA	**South Pole Qui**	**84.31**	**180**	P	**P**	**05 30 06.3**	**+0.9**
	0.6nm,0.5s,baz=247,slow=1.0,SNR=12 0.6nm,0.5s						
TORD	**Torodi Ar. Bea**	**147.92**	**286**	PKPbc	**PKPdf**	**05 37 17.1**	**+1.1**
	0.4nm,0.5s,baz=36,slow=4.6,SNR=3.9						

CFUSG ***28*** *05:20:37.8,40°.86N×30°.97E,h10km,mb2.4/2,Northwest Turkey Magtype MSH 3.0 from 2 stations*
AFAD ***28*** *05:20:37.4±0.0,40°.79N×31°.01E,h7km±3km,MW3.2*
ISK ***28*** *05:20:37.1,40°.80N×31°.01E,h5km,ML3.1/28*
ISC 28 05:20:37.4±1.0,40°.81N±0'.02×31°.01E±0'.02,h7km±9km, n44,σ0s58/60,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTAS	**Taskesti**	**0.24**	**181**	P	**Pg**	**05 20 42.2**	**+0.1**
BTAS				S	**Sg**	**05 20 45.2**	**-0.2**
BTAS				*i* AML	AML	05 20 46.0	
	comp=Z,3μm,0.5s						
BTAS				*i* AML	AML	05 20 46.0	
	comp=N,8μm,0.5s						
MDUB	**Mudurnu**	**0.37**	**157**	Pg	**Pg**	**05 20 44.7**	**+0.1**
MDUB				Sg	**Sg**	**05 20 49.8**	**+0.4**
SUSU	**Bolu-G¶lynk-**	**0.48**	**195**	P	**Pg**	**05 20 47.1**	**+0.3**
SUSU				S	**Sg**	**05 20 53.6**	**+0.4**
SUSU				*i* AML	AML	05 20 54.0	
	comp=E,584nm,0.3s						
SUSU				*i* AML	AML	05 20 57.0	
	comp=Z,632nm,0.3s						
SUSU				*i* AML	AML	05 21 00.0	
	comp=N,378nm,0.4s						
BOLU	**Bolu-Merkez-Mu**	**0.51**	**93**	P	**Pg**	**05

BCAM				*i* AML	AML	05 21 05.0		
	comp=E,176nm,0.6s							
BCAM				*i* AML	AML	05 21 06.0		
	comp=Z,136nm,0.2s							
BCAM				*i* AML	AML	05 21 07.0		
	comp=N,164nm,0.3s							
SRCK	**Saricakaya, Es**	**0.82**	**201**	Pg	**Pg**	**05 20 53.1**	**-0.1**	
HISA	**Bilecik-Osmane**	**0.89**	**248**	P	**Pg**	**05 20 54.8**	**+0.2**	
HISA				S	**Sb**	**05 21 07.3**	**-0.1**	
HISA				*i* AML	AML	05 21 13.0		
	comp=Z,202nm,0.3s							
HISA				*i* AML	AML	05 21 13.0		
	comp=N,344nm,0.3s							
HISA				*i* AML	AML	05 21 13.0		
	comp=E,228nm,0.2s							
AUMIH	**MIHALICIK**	**1.01**	**159**	P	**Pb**	**05 20 56.9**	**-0.4**	
AUMIH				S	**Sb**	**05 21 10.6**	**-0.1**	
AUMIH				*i* AML	AML	05 21 14.0		
	comp=N,323nm,0.3s							
AUMIH				*i* AML	AML	05 21 15.0		
	comp=E,362nm,0.4s							
AUMIH				*i* AML	AML	05 21 16.0		
	comp=Z,258nm,0.4s							
OSMT	**Osmaniye**	**1.01**	**259**	Pg	**Pg**	**05 20 56.5**	**-0.4**	
HRT	**Hereke**	**1.02**	**271**	Pg	**Pg**	**05 20 56.7**	**-0.2**	
BORA	**Eskisehir**	**1.02**	**205**	P	**Pg**	**05 20 56.8**	**-0.2**	
BORA				S	**Sn**	**05 21 12.5**	**-0.3**	
BORA				*i* AML	AML	05 21 15.0		
	comp=N,549nm,0.2s							
BORA				*i* AML	AML	05 21 15.0		
	comp=E,654nm,0.3s							
BORA				*i* AML	AML	05 21 16.0		
	comp=Z,216nm,0.5s							
ADVT	**Abdulvahap**	**1.04**	**249**	Pg	**Pg**	**05 20 56.9**	**-0.4**	
CAVI	**Cavuskoy**	**1.07**	**236**	Pg	**Pg**	**05 20 57.6**	**-0.4**	
SILT	**Sile**	**1.09**	**289**	Pn	**Pb**	**05 20 58.5**	**-0.1**	
YLV	**Yalova**	**1.27**	**260**	Pn	**Pb**	**05 21 01.6**	**0.0**	
SVRH	**Sivrihisar-ESK**	**1.42**	**164**	Pn	**Pb**	**05 21 04.2**	**0.0**	
GEMT	**Gemlik**	**1.43**	**255**	Pn	**Pb**	**05 21 04.2**	**-0.2**	
CIFT	**Cifteler, Eski**	**1.45**	**178**	Pn	**Pg**	**05 21 04.8**	**-0.4**	
KAVV	**Kandilli-Istan**	**1.50**	**280**	Pn	**Pb**	**05 21 05.7**	**+0.2**	
ISK	**Istanbul-Kandi**	**1.50**	**280**	Pn	**Pn**	**05 21 04.6**	**-0.1**	
KLYT	**Kilyos**	**1.55**	**287**	Pn	**Pb**	**05 21 06.2**	**-0.2**	
ARMT	**Armutlu**	**1.65**	**262**	Pn	**Pb**	**05 21 07.9**	**-0.2**	
KURC	**Kurucasile-Bar**	**1.67**	**51**	Pn	**Pn**	**05 21 06.9**	**-0.1**	
MDNY	**Mudanya-Bursa**	**1.68**	**255**	Pn	**Pb**	**05 21 08.4**	**-0.2**	
BGKT	**Bogazkoy**	**1.73**	**283**	Pn	**Pb**	**05 21 08.8**	**-0.7**	
TVSB	**Tavsanli**	**1.80**	**222**	Pn	**Pn**	**05 21 09.3**	**+0.3**	
CTKS	**Kestanelik-??a**	**1.94**	**284**	Pn	**Pb**	**05 21 12.0**	**-1.1**	
KIZT	**Kizilcal**	**2.04**	**160**	Pn	**Pn**	**05 21 12.5**	**+0.2**	
AFSR	**Afar-Bala (An**	**2.09**	**130**	Pn	**Pn**	**05 21 13.5**	**+0.6**	
GEDZ	**Gediz**	**2.15**	**215**	Pn	**Pn**	**05 21 14.4**	**+0.7**	
SHUT	**Suhut-Afyon**	**2.28**	**189**	Pn	**Pn**	**05 21 16.3**	**+0.7**	
BR131	**Keskin Array S**	**2.29**	**117**	Pn	**Pn**	**05 21 16.3**	**+0.6**	
SEV	**Sevastopol'**	**4.22**	**27**	*e*P	**Pn**	**05 21 41.6**	**-0.5**	
SEV				Sm		05 21 34.7		
	comp=E,5.0nm,0.3s							
SEV				Pm		05 21 41.9		
	comp=Z,1.0nm,0.3s							
SEV				*e*S	**Sn**	**05 22 32.1**	**+0.6**	
SEV				Sm		05 22 34.7		
	comp=N,2.0nm,0.3s							
TARU	**Tarkhankut**	**4.70**	**13**	*e*S	**Sn**	**05 22 44.7**	**+1.3**	
TARU				Sm		05 22 47.8		
	comp=N,3.0nm,0.3s							
TARU				Sm		05 22 47.8		
	comp=E,2.0nm,0.3s							
SUDU	**Sudak**	**5.03**	**34**	*e*P	**Pn**	**05 21 54.3**	**+1.1**	
SUDU				Pm		05 21 56.8		
	comp=Z,8.0nm,0.4s							
SUDU				*e*S	**Sn**	**05 22 53.1**	**+1.7**	
SUDU				Sm		05 22 59.7		
	comp=N,10.0nm,0.4s							
SUDU				Sm		05 22 59.7		
	comp=E,5.0nm,0.4s							

DJA ***28*** *05:35:48.4±0.4, 6°S±4′×12°5E±°, h616km±6km, M4.3/13, mB4.7/6, mb4.2/13, MLv4.6/13, Mw(mB)3.9/6*
NEIC ***28*** *05:35:51.2±0.8, 6.0°S±0.1′×124.6°E±0.1′, h597km±12km, mb4.4/23, Error ellipse: s-maj=19.2km s-min=14.8km az=71.0*
IDC ***28*** *05:35:51.9±1.0, 6.09°S×124.64°E, h600km±18km, mb3.2/11, mbtmp4.2/14, Error ellipse: s-maj=28.5km s-min=13.0km az=63.0*

ISC 28 05:35:51.8±0.5, 6.17°S±0.07°×124.65°E±0.09, h617km, n65, σ1°19/63, mb3.9/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**3.42**	**224**		**P**	**05 37 14.3**	**-0.6**
MMRI	**Maumere**	**3.42**	**224**	P	**P**	**05 37 13.4**	**-1.4**
SOEI	**Soe**	**3.58**	**186**	P	**P**	**05 37 15.1**	**-0.9**
SOEI	**Soe**	**3.58**	**186**	P	**P**	**05 37 14.8**	**-1.2**
EDFI	**Ende, Flores**	**3.90**	**229**	P	**P**	**05 37 16.5**	**-1.5**
BATI	**Baumata**	**4.13**	**194**	P	**P**	**05 37 19.2**	**-0.3**
	75nm,0.3s,baz=61,slow=1.2,SNR=12						
BATI				S	**S**	**05 38 29.8**	**-1.1**
	44nm,0.6s,baz=47,slow=19,SNR=1.7						
BATI	**Baumata**	**4.13**	**194**	P	**P**	**05 37 18.6**	**-0.9**
BKSI	**Bulukumba**	**4.58**	**280**	P	**P**	**05 37 20.3**	**-2.3**
KAPI	**Kappang**	**5.00**	**283**	P	**P**	**05 37 24.1**	**-1.7**
LUWI	**Luwuk**	**5.42**	**340**		P	05 37 21.6	-7.6
LUWI	**Luwuk**	**5.42**	**340**	P	P	05 37 20.7	-8.5
	86nm,0.6s,4µm0.5nm						
BASI	**Baing, Sumba**	**5.69**	**225**	P	**P**	**05 37 30.5**	**-0.8**
	175nm,0.5s,0.8nm						
TTSI	**Tana Toraja**	**5.72**	**303**	P	P	05 37 27.1	-4.5
	97nm,0.6s,2µm0.9nm						
GTOI	**Gorontalo**	**6.95**	**346**	P	P	05 37 33.9	-8.3
	44nm,0.5s,940nm0.2nm						
MRSI	**Marisa**	**7.13**	**338**	P	P	05 37 37.7	-6.1
	88nm,0.6s,1µm0.4nm						
PLAI	**Plampang**	**7.30**	**248**	P	**P**	**05 37 43.2**	**-2.2**
	26nm,0.8s,0.2nm						
TWSI	**Taliwang, Sumb**	**8.11**	**251**	P	**P**	**05 37 50.7**	**-2.1**
	16nm,0.6s,1µm						
FAKI	**Fak Fak**	**8.24**	**67**	P	**P**	**05 37 51.9**	**-2.2**
FAKI	**Fak Fak**	**8.24**	**67**	P	**P**	**05 37 51.2**	**-2.8**
	64nm,0.6s						
MTN	**Manton Dam**	**9.21**	**137**	P	**P**	**05 38 02.6**	**-0.8**
KNRA	**Kununurra**	**10.28**	**157**	P	**P**	**05 38 13.8**	**+0.1**
JAGI	**Jajag, Banyuwa**	**10.66**	**257**	P	**P**	**05 38 15.1**	**-2.4**
FITZ	**Fitzroy Crossi**	**11.90**	**175**	P	**P**	**05 38 29.9**	**+0.4**
MBWA	**Marble Bar**	**15.65**	**197**	P	**P**	**05 39 05.8**	**+0.6**
MBWA				IAmb	IAmb	05 39 07.5	
	comp=Z,10.0nm,0.7s						
KPJI	**Karang Pucung**	**15.65**	**265**	P	**P**	**05 39 03.2**	**-2.1**
	comp=Z,43nm,0.9s						
PSA00	**Pilbara Seismi**	**16.00**	**196**	P	**P**	**05 39 09.7**	**+1.3**
PSA00				IAmb	IAmb	05 39 36.6	
	comp=Z,9.9nm,1.0s						
WB0	**Warramunga Arr**	**16.51**	**146**	P	**P**	**05 39 13.9**	**+0.8**
WB0				IAmb	IAmb	05 39 15.1	
	comp=Z,9.7nm,0.5s						
WRAB	**Tennant Creek**	**16.62**	**146**	P	**P**	**05 39 15.3**	**+1.2**
WRAB				IAmb	IAmb	05 39 16.3	
	comp=Z,9.5nm,0.8s						
WRA	**Warramunga Arr**	**16.62**	**146**	P	**P**	**05 39 14.7**	**+0.5**
WRA	**Warramunga Arr**	**16.62**	**146**	P	**P**	**05 39 15.0**	**+0.8**
	comp=Z,4.5nm,0.4s,baz=328,slow=7.8,SNR=160						
WRA				S	**S**	**05 41 58.4**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=326,slow=17,SNR=4.9						
WB2	**Warramunga Arr**	**16.63**	**146**	P	**P**	**05 39 15.1**	**+0.9**
WB2				IAmb	IAmb	05 39 16.4	
	comp=Z,11nm,0.7s						
WR0	**Warramunga Arr**	**16.75**	**146**	P	**P**	**05 39 16.1**	**+0.9**
WR0				IAmb	IAmb	05 39 18.0	
	comp=Z,14nm,1.0s						
AS31	**Alice Springs**	**19.55**	**154**	P	**P**	**05 39 41.5**	**+0.7**
AS31				IAmb	IAmb	05 39 44.2	
	comp=Z,3.2nm,0.5s						
ASAR	**Alice Springs**	**19.55**	**154**	P	**P**	**05 39 42.0**	**+1.2**
ASAR	**Alice Springs**	**19.55**	**154**	P	**P**	**05 39 42.4**	**+1.6**
	comp=Z,4.2nm,0.3s,baz=344,slow=14,SNR=95						
ASAR				S	**S**	**05 42 44.6**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=334,slow=21,SNR=4.4						
COEN	**Coen**	**19.81**	**114**	P	**P**	**05 39 43.3**	**+0.2**
COEN				IAmb	IAmb	05 40 08.2	
	comp=Z,5.1nm,0.8s						
MORW	**Morawa**	**24.19**	**199**	P	**P**	**05 40 23.2**	**+1.3**
FORT	**Forrest**	**24.69**	**173**	P	**P**	**05 40 27.6**	**+1.2**
CTAO	**Charters Tower**	**25.14**	**125**	P	**P**	**05 40 31.2**	**+0.7**
GSI	**Gunungsitoli**	**28.03**	**284**	P	**P**	**05 40 55.0**	**-0.8**

BBOO	**Buckleboo**	**28.56**	**160**	P	**P**	**05 40 59.8**	**-0.4**	
BBOO				IAmb	IAmb	05 41 16.1		
	comp=Z,26nm,1.5s							
STKA	**Stephens Creek**	**30.09**	**150**	P	**P**	**05 41 12.8**	**-0.6**	
STKA	**Stephens Creek**	**30.09**	**150**	P	**P**	**05 41 15.1**	**+1.8**	
	comp=Z,3.4nm,0.4s,baz=332,slow=10,SNR=9.6							
	comp=Z,3.4nm,0.4s							
EIDS	**Eidsvold**	**31.69**	**130**	P	**P**	**05 41 26.1**	**-1.0**	
EIDS				IAmb	IAmb	05 41 26.4		
	comp=Z,7.1nm,0.9s							
CMAR	**Chiang Mai Arr**	**35.23**	**314**	P	**P**	**05 41 57.9**	**+1.1**	
	comp=Z,0.8nm,0.3s,baz=145,slow=6.3,SNR=4.2							
	comp=Z,0.8nm,0.3s							
CAN	**Canberra**	**36.66**	**146**	P	**P**	**05 42 09.6**	**+1.2**	
JGF	**Kuroka**	**43.23**	**15**	P	**P**	**05 43 00.8**	**+0.3**	
KSRS	**Korea Array**	**43.50**	**4**	P	**P**	**05 43 03.5**	**+1.0**	
	comp=Z,1.7nm,0.5s,baz=181,slow=10.0,SNR=6.8							
	comp=Z,1.7nm,0.5s							
MJAR	**Matsushiro Arr**	**44.34**	**16**	P	**P**	**05 43 08.9**	**-0.2**	
	comp=Z,2.9nm,0.5s,baz=190,slow=8.4,SNR=8.2							
	comp=Z,2.9nm,0.5s							
MAJO	**Matsushiro**	**44.35**	**16**	P	**P**	**05 43 07.8**	**-1.2**	
MAJO				IAmb	IAmb	05 43 11.9		
	comp=Z,6.4nm,0.4s							
MJB9	**Matsu-Tunnel**	**44.35**	**16**	P	**P**	**05 43 08.2**	**-0.9**	
MJB9				IAmb	IAmb	05 43 10.3		
	comp=Z,5.9nm,0.6s							
JSD	**Sado**	**45.77**	**15**	P	**P**	**05 43 19.6**	**-0.2**	
JSD				IAmb	IAmb	05 43 43.9		
	comp=Z,14nm,1.1s							
USRK	**Ussuriysk Ar.**	**50.57**	**7**	P	**P**	**05 43 55.6**	**+0.4**	
	comp=Z,3.2nm,0.6s,baz=213,slow=6.9,SNR=2.9							
	comp=Z,3.2nm,0.6s							
SONM	**Songino Array**	**56.13**	**345**	P	**P**	**05 44 35.4**	**+1.0**	
	comp=Z,0.5nm,0.4s,baz=170,slow=8.0,SNR=6.5							
	comp=Z,0.5nm,0.4s							
HEH	**HeiHe**	**56.24**	**2**	*e*P	**P**	**05 44 35.8**	**+0.8**	
HEH				pmax	pmax			
	comp=Z,8.0nm,0.8s							
HEH				pmax	pmax			
	comp=Z,95nm,5.0s							
MK31	**Makanchi Array**	**64.70**	**329**	P	**P**	**05 45 31.1**	**+0.5**	
MKAR	**Makanchi Array**	**64.70**	**329**	P	**P**	**05 45 30.9**	**+0.3**	
MKAR	**Makanchi Array**	**64.70**	**329**	P	**P**	**05 45 31.7**	**+1.0**	
	comp=Z,1.3nm,0.4s,baz=124,slow=7.7,SNR=21							
	comp=Z,1.3nm,0.4s							
PETK	**Petropavlovsk-**	**65.34**	**21**	P	**P**	**05 45 35.9**	**+1.5**	
	comp=Z,2.9nm,0.7s,baz=257,slow=3.3,SNR=4.1							
	comp=Z,2.9nm,0.7s							
ZALV	**Zalesovo Beam**	**68.57**	**336**	P	**P**	**05 45 53.9**	**-0.3**	
ZALV	**Zalesovo Beam**	**68.57**	**336**	P	**P**	**05 45 54.2**	**0.0**	
	comp=Z,0.8nm,0.4s,baz=142,slow=5.5,SNR=4.7							
	comp=Z,0.8nm,0.4s							
KURBB	**Kurchatov Arra**	**69.10**	**331**	P	**P**	**05 45 58.4**	**+1.0**	
	comp=Z,0.6nm,0.6s,baz=133,slow=5.1,SNR=7.5							
	comp=Z,0.6nm,0.6s							
KURK	**Kurchatov**	**69.11**	**331**	P	**P**	**05 45 57.4**	**-0.1**	
BVAR	**Borovoye Array**	**74.59**	**329**	P	**P**	**05 46 30.0**	**+0.9**	
	comp=Z,0.9nm,0.5s,baz=121,slow=6.8,SNR=5.5							
	comp=Z,0.9nm,0.5s							
ABKAR	**Akbulak array**	**78.59**	**323**	P	**P**	**05 46 51.4**	**+0.4**	

IDC 28 05:37:52.5±7.5, 18.17S×177.82W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=331.8km s-min=116.2km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.14**	**260**	P	P	05 46 11.8	+0.6
	0.7nm,0.9s,baz=94,slow=7.7,SNR=4.7						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**45.26**	**254**	P	P	05 46 11.3	-0.8
	0.3nm,0.4s,baz=94,slow=9.0,SNR=4.6						
	0.3nm,0.4s						
AKASG	**Malin Array Be**	**141.05**	**333**	PKP	PKPdf	05 57 23.8	-0.9
	0.9nm,0.4s,baz=43,slow=4.1,SNR=7.2						

NEIC ***28*** *05:46:15.1±1.2, 56.36N±0.10°×148.67W±0.03, h20km±10km, ML3.5/64, MLv3.3(AEIC), Error ellipse: s-maj=14.7km s-min=2.0km az=176.0*
AEIC ***28*** *05:46:18.7±1.1, 56.38N±0.09°×148.6W±0.1′, h12km±8km, Error ellipse: s-maj=13.5km s-min=9.2km az=166.0*

ISC 28 05:46:12.6±1.9, 56.4N±0.1°×148.65W±0.05, h10km, n173, σ1°40/165, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.58**	**305**		**Pn**	**05 46 55.5**	**+1.0**
KDAK					**Sn**	**05 47 23.9**	**-2.0**
OHAK	**Old Harbor**	**2.70**	**291**	P	**Pn**	**05 46 56.9**	**+0.9**
OHAK	**Old Harbor**	**2.70**	**291**		**Pn**	**05 46 56.8**	**+0.8**
OHAK					**Sn**	**05 47 26.2**	**-2.5**
OHAK	**Old Harbor**	**2.70**	**291**	P	**Pn**	**05 46 56.8**	**+0.8**
	baz=107						
OHAK				S	**Sn**	**05 47 26.2**	**-2.5**
	baz=107						
SYI	**Shuyak Island**	**3.04**	**320**		**Pn**	**05 47 01.5**	**+0.8**
SYI					**Sn**	**05 47 36.2**	**-0.9**
Q20K	**Shuyak Island**	**3.04**	**320**	P	**Pn**	**05 47 01.5**	**+0.8**
	baz=137						
Q20K				S	**Sn**	**05 47 36.2**	**-0.9**
	baz=137						
Q23K	**Middleton Isla**	**3.32**	**21**		**Pn**	**05 47 04.9**	**+0.3**
Q23K				IAML		05 47 41.8	
	comp=E,127nm,1.1s						
Q23K	**Middleton Isla**	**3.32**	**21**		**Sn**	**05 47 41.4**	**-2.6**
Q23K	**Middleton Isla**	**3.32**	**21**	IAML		05 47 33.2	
	comp=N,105nm,1.1s						
Q23K	**Middleton Isla**	**3.32**	**21**	P	**Pn**	**05 47 04.9**	**+0.3**
	baz=203						
Q23K				S	**Sn**	**05 47 41.4**	**-2.6**
	baz=203						
MID	**Middleton Isla**	**3.32**	**21**	P	**Pn**	**05 47 05.0**	**+0.4**
MID	**Middleton Isla**	**3.32**	**21**		**Pn**	**05 47 05.0**	**+0.4**
MID	**Middleton Isla**	**3.32**	**21**	IAML		05 47 33.2	
	comp=N,94nm,1.2s						
MID				IAML		05 49 13.8	
	comp=E,137nm,1.4s						
CNPM	**China Poot**	**3.47**	**338**		**Pn**	**05 47 07.5**	**+0.8**
CNPM					**Sn**	**05 47 46.8**	**-1.0**
BRSE	**Bradley Lake S**	**3.58**	**343**		**Pn**	**05 47 08.8**	**+0.7**
BRSE	**Bradley Lake S**	**3.58**	**343**	P	**Pn**	**05 47 08.8**	**+0.7**
	baz=161						
BRLK	**Bradley Lake**	**3.62**	**342**		**Pn**	**05 47 09.2**	**+0.5**
BRLK	**Bradley Lake**	**3.62**	**342**	IAML		05 47 54.7	
	comp=N,35nm,1.2s						
P23K	**Montague Islan**	**3.72**	**10**		**Pn**	**05 47 10.5**	**+0.5**
P23K	**Montague Islan**	**3.72**	**10**	P	**Pn**	**05 47 10.5**	**+0.5**
	baz=191						
Q19K	**Cape Douglas,**	**3.73**	**316**		**Pn**	**05 47 11.6**	**+1.4**
Q19K	**Cape Douglas,**	**3.73**	**316**	IAML		05 48 09.9	
	comp=N,78nm,1.4s						
Q19K	**Cape Douglas,**	**3.73**	**316**	P	**Pn**	**05 47 11.6**	**+1.4**
	baz=132						
SEW	**Seward**	**3.79**	**354**		**Pn**	**05 47 11.1**	**+0.2**
SEW	**Seward**	**3.79**	**354**	P	**Pn**	**05 47 11.1**	**+0.2**
	baz=173						
KAKN	**Katmai Knife C**	**3.99**	**302**		**Pn**	**05 47 16.0**	**+2.2**
P19K	**Oil Pt**	**4.11**	**326**		**Pn**	**05 47 17.6**	**+2.1**
P19K	**Oil Pt**	**4.11**	**326**	IAML		05 48 09.2	
	comp=E,49nm,0.8s						
P19K				IAML		05 48 10.6	
	comp=N,66nm,0.5s						
P19K	**Oil Pt**	**4.11**	**326**	P	**Pn**	**05 47 17.5**	**+2.1**
	baz=142						
O22K	**Cooper Landing**	**4.18**	**353**		**Pn**	**05 47 17.3**	**+0.9**
HIN	**Hinchinbrook I**	**4.21**	**15**		**Pn**	**05 47 17.5**	**+0.7**
HIN	**Hinchinbrook I**	**4.21**	**15**	IAML		05 48 05.4	
	comp=N,93nm,0.7s						
HIN				IAML		05 48 18.4	
	comp=E,80nm,1.5s						
KAIM	**Kayak Island**	**4.23**	**30**		**Pn**	**05 47 17.7**	**+0.7**
KAIM	**Kayak Island**	**4.23**	**30**	IAML		05 48 07.0	
	comp=E,80nm,1.5s						
KAIM				IAML		05 48 17.5	
	comp=N,64nm,1.1s						
KAIM	**Kayak Island**	**4.23**	**30**	P	**Pn**	**05 47 17.7**	**+0.7**
	baz=214						
SLKM	**Skilak Lake**	**4.25**	**349**		**Pn**	**05 47 18.1**	**+0.7**
O20K	**Slope Mountain**	**4.29**	**332**		**Pn**	**05 47 19.2**	**+1.2**
O20K	**Slope Mountain**	**4.29**	**332**	P	**Pn**	**05 47 19.2**	**+1.2**
	baz=149						
IVE	**Iliamna Volcan**	**4.34**	**330**		**Pn**	**05 47 19.8**	**+1.1**
ILSW	**Iliamna Southw**	**4.35**	**329**	Pn	**Pn**	**05 47 20.6**	**+1.7**
ILSW				IAML		05 48 12.8	
	comp=N,20nm,1.3s						
ILSW				IAML		05 48 16.7	
	comp=E,25nm,1.0s						
CNTC	**Contact Creek**	**4.37**	**299**		**Pn**	**05 47 21.4**	**+2.3**
Q17K	**Contact Creek**	**4.37**	**299**	P	**Pn**	**05 47 21.4**	**+2.3**
	baz=113						
EYAK	**Cordova Ski Ar**	**4.48**	**19**	P	**Pn**	**05 47 21.4**	**+1.0**
EYAK	**Cordova Ski Ar**	**4.48**	**19**	P	**Pn**	**05 47 21.5**	**+1.0**
	baz=201						
SUCK	**Suckling Hills**	**4.53**	**33**		**Pn**	**05 47 22.5**	**+1.2**
SUCK				IAML		05 48 13.0	
	comp=N,70nm,1.3s						
SUCK				IAML		05 48 17.3	
	comp=E,53nm,1.4s						
RAGM	**Ragged Mountai**	**4.56**	**26**		**Pn**	**05 47 22.5**	**+0.9**
NICHA	**Nichawak Mount**	**4.61**	**30**		**Pn**	**05 47 23.4**	**+1.1**
HMT	**Hamilton**	**4.62**	**28**		**Pn**	**05 47 23.5**	**+1.1**
CAPN	**Captain Cook N**	**4.62**	**345**	Pn	**Pn**	**05 47 23.8**	**+1.4**
P18K	**Big Mountain,**	**4.65**	**314**		**Pn**	**05 47 23.7**	**+0.8**
P18K	**Big Mountain,**	**4.65**	**314**	P	**Pn**	**05 47 23.7**	**+0.8**
	baz=128						
RSO	**Redoubt South**	**4.65**	**334**		**Pn**	**05 47 24.1**	**+1.0**
GOAT	**Goat Mountain**	**4.71**	**24**		**Pn**	**05 47 24.5**	**+0.7**
RC01	**Rabbit Creek A**	**4.79**	**354**		**Pn**	**05 47 25.5**	**+0.8**
RC01	**Rabbit Creek A**	**4.79**	**354**	IAML		05 48 21.3	
	comp=E,20nm,0.6s						
RC01				IAML		05 48 23.1	
	comp=N,29nm,0.8s						
RC01	**Rabbit Creek A**	**4.79**	**354**	P	**Pn**	**05 47 25.5**	**+0.8**
	baz=173						
BERG	**Berg Lake**	**4.82**	**31**		**Pn**	**05 47 26.1**	**+0.9**
BERG					**Sn**	**05 48 19.8**	**-1.2**
GRIN	**Grindle Hills**	**4.84**	**33**		**Pn**	**05 47 26.5**	**+1.0**
O19K	**Port Alsworth**	**4.88**	**325**	Pn	**Pn**	**05 47 28.1**	**+2.1**
O19K				IAML		05 48 25.2	
	comp=N,51nm,0.5s						
SNH	**Sunshine Point**	**4.91**	**36**		**Pn**	**05 47 27.3**	**+0.8**
SNH	**Sunshine Point**	**4.91**	**36**	IAML		05 48 21.3	
	comp=E,52nm,1.4s						
SNH				IAML		05 49 52.9	
	comp=N,56nm,1.4s						
O18K	**Koktub Hills**	**4.94**	**318**	Pn	**Pn**	**05 47 29.3**	**+2.4**
KHIT	**Khitrov Hills**	**4.99**	**32**		**Pn**	**05 47 28.3**	**+0.7**
DIV	**Divide**	**5.02**	**16**		**Pn**	**05 47 29.0**	**+1.0**
KNK	**Knik Glacier**	**5.08**	**1**		**Pn**	**05 47 29.5**	**+0.7**
KNK	**Knik Glacier**	**5.08**	**1**	IAML		05 48 34.0	
	comp=N,16nm,1.5s						
KNK				IAML		05 48 42.8	
	comp=E,17nm,1.5s						
KNK	**Knik Glacier**	**5.08**	**1**	P	**Pn**	**05 47 29.5**	**+0.7**
	baz=181						
BMRM	**Bremner River**	**5.09**	**23**		**Pn**	**05 47 29.8**	**+0.9**
BMRM	**Bremner River**	**5.09**	**23**	P	**Pn**	**05 47 29.8**	**+0.9**
	baz=206						
WAX	**Waxell Ridge**	**5.12**	**34**		**Pn**	**05 47 30.0**	**+0.7**
BARK	**Barkley Ridge**	**5.20**	**36**		**Pn**	**05 47 31.3**	**+0.9**
N20K	**Mount Spurr**	**5.21**	**341**	P	**Pn**	**05 47 31.7**	**+1.2**
	baz=158						
SPCR	**Spurr Chakacha**	**5.21**	**341**		**Pn**	**05 47 31.8**	**+1.2**
MESA	**MESA**	**5.22**	**40**		**Pn**	**05 47 31.8**	**+1.0**
MESA	**MESA**	**5.22**	**40**	IAML		05 48 40.3	
	comp=E,41nm,1.1s						
MESA	**MESA**	**5.22**	**40**	P	**Pn**	**05 47 31.8**	**+1.0**
	baz=226						
SUA	**Susitna One**	**5.24**	**349**		**Pn**	**05 47 31.6**	**+0.5**
SUA	**Susitna One**	**5.24**	**349**	P	**Pn**	**05 47 31.6**	**+0.5**
	baz=167						
PMR	**Palmer**	**5.26**	**357**	P	**Pn**	**05 47 32.3**	**+1.1**
PMR	**Palmer**	**5.26**	**357**		**Pn**	**05 47 32.1**	**+0.9**
PMR	**Palmer**	**5.26**	**357**	IAML		05 48 32.8	
	comp=E,10nm,1.1s						
PMR	**Palmer**	**5.26**	**357**	P	**Pn**	**05 47 32.1**	**+0.9**
	baz=177						
CRQM	**Cirque**	**5.28**	**31**		**Pn**	**05 47 32.4**	**+0.8**
CRQM	**Cirque**	**5.28**	**31**	IAML		05 48 34.8	
	comp=N,29nm,1.4s						
CRQE	**Cirque**	**5.29**	**31**	P	**Pn**	**05 47 32.4**	**+0.7**
	baz=216						
KLU	**Klutina**	**5.35**	**14**		**Pn**	**05 47 33.4**	**+0.9**
KLU	**Klutina**	**5.35**	**14**	IAML		05 48 36.8	
	comp=E,18nm,0.4s						
KLU				IAML		05 48 40.7	
	comp=N,21nm,0.7s						
KLU	**Klutina**	**5.35**	**14**	P	**Pn**	**05 47 33.4**	**+0.9**
	baz=197

YUK8	Steele Glacier	6.76	39		Pn	05 47 54.2	+2.2
YUK8	Steele Glacier baz=227	6.76	39	P	Pn	05 47 54.2	+2.2
YUK2	White River	6.77	33		Pn	05 47 54.0	+1.9
DHY	Denali Highway	6.78	5	Pn	Pn	05 47 55.0	+2.8
YUK3	Moose Creek	6.88	34		Pn	05 47 55.1	+1.4
YUK3	Moose Creek baz=222	6.88	34	P	Pn	05 47 55.1	+1.4
YUK7	Dusty Glacier	6.92	48		Pn	05 47 55.9	+1.7
M27K	Edge Creek, AK	6.95	27		Pn	05 47 55.8	+1.4
M27K	Edge Creek, AK baz=213	6.95	27	P	Pn	05 47 55.8	+1.4
MENT	Mentasta	7.06	19		Pn	05 47 57.6	+1.6
YUK4	Talbot Arm baz=230	7.21	42	P	Pn	05 48 01.2	+3.1
P30M	Million Dollar	7.23	54		Pn	05 47 59.9	+1.6
P30M	Million Dollar baz=244	7.23	54	P	Pn	05 47 59.9	+1.6
CAST	Castle Rocks	7.30	348	Pn	Pn	05 48 00.8	+1.6
HYT	Haines Junctio	7.35	48	Pn	Pn	05 48 00.9	+1.0
RIDG	Independent Ri	7.65	13	Pn	Pn	05 48 05.8	+1.8
SKAG	Skagway	7.75	61	P	Pn	05 48 07.2	+1.9
SKAG	Skagway	7.75	61	Pn	Pn	05 48 07.4	+2.1
N30M	Aishikik Lake	7.87	45		Pn	05 48 08.8	+1.8
JIS	Juneau Island	7.96	70	P	Pn	05 48 09.4	+1.2
WHY	Whitehorse	8.40	53	Pn	Pn	05 48 16.5	+2.1
IL31		8.49	5		Pn	05 48 17.1	+1.6
ILAR	Eielson Array	8.49	5	Pn	Pn	05 48 17.1	+1.6
P32M	Atlin	8.57	62	Pn	Pn	05 48 18.0	+1.3
L29M	L29M baz=223	8.60	34	P	Pn	05 48 19.4	+2.3
MLY	Manley	8.77	354	Pn	Pn	05 48 20.8	+1.4
DAWY	Dawson	9.00	27	Pn	Pn	05 48 23.6	+1.1
EGAK	Eagle	9.21	20	Pn	Pn	05 48 27.6	+2.2
I28M	Miner Creek	10.05	21	Pn	Pn	05 48 39.5	+2.6

*IDC **28** 05:55:48.3±1.8,40°.92N×31°.00E,h0km,mb3.4/2,*
mbtmp3.3/3,ML2.6/1,MS3.0/2,Error ellipse: s-maj=31.1km
s-min=16.1km az=18.0
*ISK **28** 05:55:48.7,40°.79N×31°.00E,h10km,ML3.5/55*
*AFAD **28** 05:55:49.1±0.0,40°.79N×31°.01E,h5km±3km,MW3.6*
*CFUSG **28** 05:55:51.0,40°.89N×30°.89E,h10km,mb2.7/2,Northwest*
Turkey Magtype MSH 3.2 from 3 stations

ISC 28 05:55:49.1±1.1,**40°.83N**±0°.02×**31°.00E**±0°.01,**h2**km±9km,
n124,σ1s**00**/160,**7C-6D,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BTAS	Taskesti	0.26	180	P		Pg	05 55 53.8	-0.3
BTAS				S		Sg	05 55 56.7	-0.8
YIGI	Dzce	0.36	69	P		Pg	05 55 56.6	+0.5
YIGI				S		Sb	05 56 02.3	-2.2
MDUB	Mudurnu	0.39	157	Pg		Pg	05 55 56.3	-0.3
MDUB				Sg		Sg	05 56 01.4	-0.3
SUSU	Bolu-G¶lynk-	0.51	194	P		Pg	05 55 58.6	-0.2
SUSU				S		Sg	05 56 04.8	-0.6
BOLU	Bolu-Merkez-Mu	0.52	96	P		Pg	05 55 59.0	0.0
BOLU				S		Sg	05 56 06.3	+0.6
KAYN	Sakarya, Kayna	0.52	285	P		Pb	05 56 00.1	-0.9
KAYN				S		Sb	05 56 06.8	-2.1
SAUV	Serdivan-Sakar	0.52	260	Pg		Pg	05 55 59.6	+0.5
SAUV				Sg		Sg	05 56 06.8	+1.0
GULT	Gulveren	0.54	223	Pg		Pg	05 55 59.9	+0.4
GEYV	SAKARYA_Geyve	0.64	237	P		Pg	05 56 01.6	+0.3
GEYV				S		Sg	05 56 10.1	+0.5
KAND	Kocaeli-Kandir	0.67	293	P		Pb	05 56 02.9	-0.6
KAND				S		Sb	05 56 11.9	-1.3
YUVA	Yuva-Kibriscik	0.68	130	Pg		Pg	05 56 01.9	-0.3
GPA	Golpazari	0.76	224	Pg		Pg	05 56 03.2	-0.4
KIBS	BOLU	0.77	122	P		Pg	05 56 03.7	-0.1
DEVR	Zonguldak/Devr	0.80	67	P		Pg	05 56 03.9	-0.5
DEVR				S		Sg	05 56 14.6	-0.2
BCAM	Yenicaga	0.81	91	P		Pg	05 56 04.5	-0.2
BCAM				S		Sg	05 56 14.9	-0.2
SRCK	Saricakaya, Es	0.84	200	Pg		Pg	05 56 04.7	-0.5
HISA	Bilecik-Osmane	0.90	246	P		Pg	05 56 06.2	-0.2
HISA				S		Sn	05 56 20.6	-1.9
SEMS	Kocaeli-K¶rfe	0.96	273	P		Pb	05 56 07.9	-0.6
SEMS				S		Sb	05 56 20.7	-0.9
HRT	Hereke	1.01	270	Pg		Pg	05 56 08.4	-0.1
OSMT	Osmaniye	1.01	257	Pg		Pg	05 56 08.3	-0.3
AUMIH	MIHALICIK	1.03	159	P		Pg	05 56 08.5	-0.4
AUMIH				S		Sb	05 56 24.9	+1.1
BORA	Eskisehir	1.04	204	P		Pg	05 56 08.5	-0.6
BORA				S		Sb	05 56 25.0	+1.0
ADVT	Abdulvahap	1.04	248	Pg		Pg	05 56 08.2	-0.8
SILT	Sile	1.08	288	Pn		Pn	05 56 10.1	-1.1
CAVI	Cavuskoy	1.08	235	Pg		Pb	05 56 09.3	-1.3
BILE	Bilecik/Merkez	1.09	232	P		Pb	05 56 09.4	-1.3
BILE				S		Sn	05 56 26.3	-0.9
AUKUT	KUTAHYA	1.15	221	P		Pg	05 56 18.6	+7.4
AUKUT				S		Sn	05 56 41.4	+13
AUBOZ	BOZOYUK	1.18	219	P		Pn	05 56 10.9	-1.9
AUBOZ				S		Sg	05 56 28.6	+1.6
BTIN	Bartın	1.24	49	P		Pg	05 56 12.1	-0.8
BTIN				S		Sn	05 56 29.9	-0.9
YLV	Yalova	1.27	258	Pn		Pn	05 56 12.9	-1.0
KBUK	KARABUK-Merkez	1.29	71	P		Pn	05 56 12.6	-1.7
KBUK				S		Sn	05 56 32.4	+0.2
SGAZ	Eskisehir, Sey	1.31	185	P		Pn	05 56 13.9	-0.6
SGAZ				S		Sg	05 56 33.2	+2.1
SAFT	Safranbolu	1.34	72	Pn		Pb	05 56 13.9	-1.1
GEMT	Gemlik	1.43	255	Pn		Pn	05 56 15.2	-1.0
SVRH	Sivrihisar-ESK	1.44	164	Pn		Pn	05 56 14.6	-1.7
DOMA	Ktahya-Doman	1.45	224	P		Pn	05 56 15.1	-1.3
DOMA				S		Sn	05 56 35.4	-0.6
AUSIV	SIVRIHISAR	1.45	163	P		Pn	05 56 15.8	-0.7
AUSIV				S		Sg	05 56 37.2	+1.4
CIFT	Cifteler, Eski	1.47	178	Pn		Pn	05 56 16.1	-0.6
IGD	Bursa	1.48	248	P		Pn	05 56 16.4	-0.4
IGD				S		Sb	05 56 36.8	+0.1
KAVV	Kandilli-Istan	1.49	280	Pn		Pn	05 56 16.2	-0.7
ISK	Istanbul-Kandi	1.49	280	Pn		Pn	05 56 16.2	-0.7
KLYT	Kilyos	1.54	286	Pn		Pn	05 56 16.9	-0.7
ANDZ	Kutahya, Merke	1.57	213	P		Pn	05 56 17.3	-0.8
ANDZ				S		Sb	05 56 39.6	+0.3
ULDT	Uludag	1.58	245	P		Pn	05 56 18.0	-0.3
ULDT				S		Sb	05 56 39.1	-0.6
AUKIR	Kırka- Seyitga	1.59	193	P		Pb	05 56 19.1	-0.2
AUKIR				S		Sb	05 56 40.3	+0.3
ARMT	Armutlu	1.65	261	Pn		Pn	05 56 18.2	-0.9
KURC	Kurucasile-Bar	1.66	52	Pn		Pb	05 56 18.7	-1.7
ANTO	Ankara	1.67	124	⇓P		Pb	05 56 20.3	-0.4
MDNY	Mudanya-Bursa	1.68	255	Pn		Pn	05 56 18.6	-0.9
BGKT	Bogazkoy	1.72	282	Pn		Pn	05 56 19.5	-0.6
ORLT	Orhaneli	1.79	245	Pn		Pn	05 56 19.4	-1.7
PELI	Kastamonı-Ara	1.81	74	P		Pn	05 56 22.3	-0.8
PELI				S		Sg	05 56 48.2	+0.9
TVSB	Tavsanli	1.82	221	Pn		Pn	05 56 20.4	-1.1
ELDT	Eldivan	1.88	100	P		Pb	05 56 22.6	-1.6
ELDT				S		Sg	05 56 51.0	+1.6
CTKS	Kestanelik-??a	1.93	283	Pn		Pn	05 56 21.7	-1.3
EMET	Ktahya-Emet	1.94	222	P		Pb	05 56 24.7	-0.6
EMET				S		Sb	05 56 51.5	+1.5
KIZT	Kizilcal	2.06	161	Pn		Pn	05 56 22.9	-2.0
KCTX	Karacabey (Bur	2.09	255	Pn		Pn	05 56 24.6	-0.6
KURO	Afyon-Bolvadin	2.10	181	P		Pn	05 56 25.5	+0.1
KURO				S		Sg	05 56 56.7	+0.3
AFSR	Afar-Bala (An	2.10	130	Pn		Pn	05 56 24.4	-1.1
AFYO	Afyonkarahisar	2.11	195	P		Pb	05 56 28.5	+0.3
AFYO				S		Sb	05 56 56.5	+1.6
KIYI	Yalıkoy-Catalc	2.14	289	Pn		Pn	05 56 26.1	+0.2
CTYL	Yalikoy Yolu	2.15	288	Pn		Pn	05 56 26.2	+0.3
SLVT	Silivri	2.15	282	Pn		Pn	05 56 26.2	+0.2
GEDZ	Gediz	2.16	215	Pn		Pn	05 56 25.1	-1.2
YENC	ankr-Yen	2.17	93	P		Pb	05 56 27.3	-1.8
DST	Dursunbey	2.20	237	Pn		Pb	05 56 26.3	-0.4
KKUL	Konya-Kulu	2.22	138	P		Pb	05 56 30.4	+0.4
UCKU	Afyonkarahisar	2.22	171	P		Pn	05 56 26.6	-0.4
UCKU				S		Sn	05 56 54.2	-0.9
BAND	Balkesir-Ban	2.26	259	P		Pn	05 56 27.2	-0.3
BAND				S		Sb	05 56 58.6	-0.5
BR131	Keskin Array S	2.30	118	Pn		Pn	05 56 27.9	-0.4
BRTR	Keskin Array B 1.5nm,0.3s,baz=294,slow=11,SNR=27	2.30	118	Pn		Pn	05 56 27.9	-0.4
BRTR	8.6nm,0.3s,baz=305,slow=14,SNR=22					Pg	05 56 32.8	-0.4
BRTR	9.3nm,0.3s,baz=302,slow=24,SNR=11					Lg	05 57 04.0	
BRTR	comp=Z,111nm,19.1s,baz=261,slow=47 10nm,0.4s				LR	LR	05 57 39.4	
SHUT	Suhut-Afyon	2.30	189	Pn		Pn	05 56 27.5	-0.7
BNAZ	Uak-Banaz	2.32	202	P		Pn	05 56 28.4	0.0
BNAZ				S		Sg	05 57 03.8	+0.2
SMAA	Simav-Kutahya	2.32	223	Pn		Pn	05 56 28.2	-0.3
SIMA	Simav-Kutahya	2.34	222	Pn		Pn	05 56 28.2	-0.5
KULU	Kulu	2.36	139	Pn		Pn	05 56 28.4	-0.6
EDC	Edincik	2.44	260	Pn		Pn	05 56 30.1	+0.1
KAMT	Kaman	2.54	124	Pn		Pn	05 56 31.3	-0.2
AFYN	Afyon-Dinar-K	2.59	189	P		Pb	05 56 36.0	-0.3
BKES	Balkesir-Mer	2.59	246	P		Pn	05 56 31.9	-0.2
BKES				S		Sg	05 57 14.1	+1.7
MRMT	Marmara Adasi	2.60	266	Pn		Pn	05 56 31.6	-0.6
USAK	Uak-Merkez	2.61	216	P		Pb	05 56 37.9	+1.2
USAK				S		Sb	05 57 11.3	+2.1
GONE	Gonen-Balikesi	2.65	254	Pn		Pn	05 56 33.0	+0.2
CHBY	Cihanbeyli	2.68	146	Pn		Pn	05 56 33.0	-0.4
SERE	Sereflikochisa	2.73	133	Pn		Pn	05 56 33.9	-0.2
LADK	Ladik-KONYA	2.83	158	Pn		Pn	05 56 34.9	-0.6
CORM	Corum	2.84	102	Pn		Pn	05 56 35.8	+0.1
KRBG	Karabiga-Canak	2.85	262	Pn		Pn	05 56 35.9	+0.3
YAYX	Yaylak	2.87	130	Pn		Pn	05 56 35.4	-0.7
STEP	BALIKESIR_Sava	2.91	241	P		Pn	05 56 36.0	-0.4
STEP				S		Sg	05 57 24.0	+1.6
RKY	Sarkoy-Tekirda	2.91	268	Pn		Pn	05 56 36.8	+0.3
KULA	Kula-Manisa	2.94	219	Pn		Pn	05 56 36.9	0.0
KONT	Konya--Tatoy	3.07	159	Pn		Pn	05 56 38.5	-0.2
KIRK	Kırklareli	3.09	289	P		Pn	05 56 39.7	+0.8
KIRK				S		Sg	05 57 25.4	-2.9
LPK	Lapseki	3.26	263	Pn		Pn	05 56 41.8	+0.5
DIKM	Dikmen	3.31	74	⇑P		Pb	05 56 49.0	+0.4
DIKM	Dikmen	3.31	74	Pn		Pn	05 56 42.7	+0.7
UKOP	Uzunkopru-Edir	3.32	277	Pn		Pn	05 56 42.8	+0.7
KOZK	Kozakli-Nevseh	3.38	117	Pn		Pn	05 56 43.3	+0.2
ERIK	Erikli-Kesan	3.41	269	Pn		Pn	05 56 44.2	+0.9
SEYD	Seydisehir-KON	3.48	169	Pn		Pn	05 56 44.6	+0.2
GULA	Gulagac	3.52	134	Pn		Pn	05 56 45.2	+0.2
APMY	Acipayam-Deniz	3.61	202	Pn		Pn	05 56 46.1	0.0
KORT	Korkueli	3.86	188	Pn		Pn	05 56 49.9	+0.3
TIRR	Tirgusor	4.10	333	⇓P		Pb	05 56 57.0	-5.0
SEV	Sevastopol'	4.20	27	eP		Pn	05 56 55.4	+1.2
SEV				Pm			05 56 59.3	
SEV	comp=Z,3.0nm,0.4s			ex		x	05 57 42.3	
SEV				eS		Sn	05 57 45.8	+2.0
SEV				Sm			05 57 46.4	
SEV	comp=N,5.0nm,0.3s			Sm			05 57 46.4	
SEV	comp=E,9.0nm,0.4s							
YAL	Yalta	4.33	31	ex		x	05 56 57.9	
YAL				eS		Sn	05 57 47.6	+0.6
YAL				Sm			05 57 51.1	
YAL	comp=N,5.0nm,0.3s			Sm			05 57 51.1	
YAL	comp=E,22nm,0.3s							
TPGR	Topolog	4.45	336	⇓P		Pn	05 56 59.2	+1.6
HARR	Harsova	4.47	331	⇑P		Pn	05 57 01.3	+3.4
ALU	Alushta	4.59	32	eS		Sn	05 57 54.5	+1.1
ALU				Sm			05 57 58.5	
ALU	comp=N,81nm,0.3s			Sm			05 57 58.5	
ALU	comp=E,28nm,0.4s							
TARU	Tarkhankut	4.68	13	eP		Pn	05 57 02.0	+1.3
TARU				eS		Sn	05 57 56.5	+0.9
TARU				Sm			05 57 59.0	
TARU	comp=N,13nm,0.5s			Sm			05 57 59.0	
TARU	comp=E,2.0nm,0.3s							
CFR	Carcaliu	4.83	335	⇓P		Pn	05 57 03.9	+1.2
SUDU	Sudak	5.01	35	eP		Pn	05 57 05.8	+0.5
SUDU				Pm			05 57 08.4	
SUDU	comp=Z,12nm,0.3s			eS		Sn	05 58 03.9	+0.2
SUDU				Sm			05 58 11.5	
SUDU	comp=N,14nm,0.4s			Sm			05 58 11.5	
SUDU	comp=E,19nm,0.4s							
VRI	Vrincioaia	5.92	330	⇑P		Pn	05 57 21.3	+3.5
PLOR	Plostina	5.94	329	⇑P		Pn	05 57 20.6	+2.5
MLR	Muntele Rosu	5.95	323	⇑P		Pn	05 57 22.5	+4.2
VOIR		6.33	319	⇓P		Pn	05 57 26.0	+2.5
TURR	Turia	6.36	327	⇓P		Pn	05 57 26.6	+2.8
LOT	Lotru	7.02	314	⇑P		Pn	05 57 33.8	+0.8
GZR	Gura Zlata	7.55	310	⇑P		Pn	05 57 39.9	-0.3
MKAR	Makanchi Array comp=E,0.4nm,0.7s,baz=292,slow=7.9,SNR=3.7	36.94	63	P		P	06 02 59.2	-0.2
TORD	comp=E,0.4nm,0.7s Torodi Ar. Bea	37.65	231	P		P	06 03 06.0	+0.3
OPO	comp=E,0.3nm,0.5s,baz=39,slow=8.6,SNR=4.8 comp=E,0.3nm,0.5s Ambohidratompo	60.98	162	LR		LR	06 31 08.6	
	comp=E,40nm,20.1s,baz=19,slow=35							

*NEIC **28** 06:03:23.0±1.7,16°.3S×0°.1×177°.04W±0°.06,h402km±9km,*
mb4.2/25,Error ellipse: s-maj=16.2km s-min=6.3km
az=197.0
*IDC **28** 06:03:27.4±6.4,16°.22S×177°.39W,h445km±72km,mb3.3/9,*
mbtmp4.1/10,Error ellipse: s-maj=30.2km s-min=21.5km
az=123.0

ISC 28 06:03:23.0±0.6,**16°.3S**±0°.1×**177°.12W**±0°.10,**h400**km,**n42,**
σ0s**99**/42,**mb4.1**/21,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.84	252			Pn	06 04 45.3	+1.8
AFI	Afiamalu	5.68	66			Pn	06 04 51.0	-1.3
NIUE	Niue	7.40	113			Pn	06 05 10.7	-0.5
RAO	Raoul Island	12.93	183	P		P	06 06 12.5	-0.3
MARNC	Mare, Loyalty	14.97	248	P		P	06 06 35.3	+0.1
PINNC	Pines Island,	15.85	244	P		P	06 06 45.2	+0.5
OUENC	Ouen Island, N	16.31	246	P		P	06 06 49.1	-0.6
DZM	Mont Dzumac	16.55	247	P		P	06 06 52.9	+0.5
DZM	Mont Dzumac 7.5nm,0.6s,baz=276,slow=19,SNR=2.2	16.55	247	P		P	06 06 53.7	+1.3
BBOO	Buckleboo	45.27	240	P		P	06 11 01.6	-1.3
WR0	Warramunga Arr	45.97	258	P		P	06 11 06.9	-1.6
WB0	Warramunga Arr	46.12	258	P		P	06 11 08.6	-1.1
WB2	Warramunga Arr comp=Z,6.7nm,0.4s	46.15	258	P		P	06 11 08.6	-1.3
WB2				IAmb		IAmb	06 11 29.9	
WRA	comp=Z,14nm,1.4s Warramunga Arr	46.16	258	P		P	06 11 08.2	-1.8
WRA	Warramunga Arr comp=Z,2.5nm,0.8s,baz=93,slow=6.8,SNR=37 comp=Z,2.5nm,0.8s	46.16	258	P		P	06 11 08.6	-1.3
AS31	Alice Springs	46.43	253	P		P	06 11 11.1	-1.0
ASAR	Alice Springs	46.43	253	P		P	06 11 10.7	-1.4
ASAR	Alice Springs comp=Z,6.7nm,0.4s,baz=89,slow=7.9,SNR=141 comp=Z,6.7nm,0.4s	46.43	253	P		P	06 11 11.2	-0.9
MTN	Manton Dam	50.10	267	P		P	06 11 39.2	-0.6
MTN	comp=Z,26nm,1.5s			IAmb		IAmb	06 12 22.5	
FORT	Forrest comp=Z,16nm,0.9s	51.82	243	P		P	06 11 50.8	-1.4
FORT				IAmb		IAmb	06 11 54.4	
FITZ	Fitzroy Crossi	54.52	259	P		P	06 12 11.4	-0.4
PSA00	Pilbara Seismi	59.52	254	P		P	06 12 45.4	-1.0
PSA00	comp=Z,13nm,1.1s			IAmb		IAmb	06 12 47.9	
VNDA	Vanda comp=Z,0.5nm,0.7s,baz=331,slow=4.3,SNR=5.8 comp=Z,0.5nm,0.7s	62.16	185	P		P	06 13 03.6	+0.6
QSPA	South Pole Qui	73.76	180	P		P	06 14 15.6	+1.0
QSPA	comp=Z,9.1nm,1.4s			IAmb		IAmb	06 14 21.1	
QSPA	South Pole Qui comp=Z,0.9nm,0.8s,baz=192,slow=1.1,SNR=1.8 comp=Z,0.9nm,0.8s	73.76	180	P		P	06 14 15.1	+0.5
NVAR	Mina Array Bea comp=Z,1.2nm,0.7s,baz=226,slow=8.6,SNR=8.7 comp=Z,1.2nm,0.7s	77.41	44	P		P	06 14 36.2	+0.6
K05A	Summer Lake	78.17	39	P		P	06 14 39.6	-0.1
K05A	comp=Z,5.4nm,1.3s			IAmb		IAmb	06 14 39.8	
PINE	Pine Mountain	78.76	38	P		P	06 14 43.5	+0.7
PINE	comp=Z,6.7nm,1.4s			IAmb		IAmb	06 14 51.1	
L18K	Granite Mounta	79.89	10	P		P	06 14 49.1	+0.9
K17K	Iditarod	80.12	9	P		P	06 14 50.1	+0.8
K17K				IAmb		IAmb	06 15 22.8	
SUA	comp=Z,8.7nm,1.3s Susitna One	80.29	12	P		P	06 14 50.4	0.0
SUA				IAmb		IAmb	06 15 13.9	
TTA	comp=Z,5.7nm,1.3s Tatalina	80.67	10	P		P	06 14 52.9	+0.5
TTA	comp=Z,5.3nm,1.4s			IAmb		IAmb	06 15 34.2	
MVU	Marysvale	81.56	46	P		P	06 14 56.5	-1.3
MSU	Marysvale	81.59	46	P		P	06 14 56.6	-1.3
GLB	Gilahina Butte	81.88	15	P		P	06 14 58.5	-0.1
GLB	comp=Z,6.9nm,1.1s			IAmb		IAmb	06 14 59.4	
DHY	Denali Highway comp=Z,6.1nm,1.3s	82.45	13	P		P	06 15 01.0	-0.7
DHY				IAmb		IAmb	06 15 14.2	
HDA	Harding Lake comp=Z,4.2nm,0.7s	83.71	13	P		P	06 15 07.6	-0.2
HDA				IAmb		IAmb	06 15 08.4	
ILAR	Eielson Array comp=Z,1.2nm,0.8s,baz=222,slow=5.0,SNR=14 comp=Z,1.2nm,0.8s	84.04	13	P		P	06 15 09.2	-0.3
TXAR	Lajitas Array comp=Z,1.6nm,0.8s,baz=226,slow=7.8,SNR=10 comp=Z,1.6nm,0.8s	84.09	57	P		P	06 15 12.2	+1.6
PDAR	Pinedale Array comp=Z,0.2nm,0.5s,baz=222,slow=2.0,SNR=3.5 comp=Z,0.2nm,0.5s	85.33	43	P		P	06 15 16.9	+0.3
YKA	Yellowknife Ar comp=Z,0.3nm,0.7s,baz=250,slow=4.6,SNR=6.9 comp=Z,0.3nm,0.7s	92.35	24	P		P	06 15 49.2	+0.5
ARCES	ARCESS Array B comp=Z,2.9nm,0.9s,baz=5.7,slow=2.7,SNR=4.1	124.94	350	PKP		PKPdf	06 21 35.4	-0.3

*IDC **28** 06:22:04.9±0.8,26°.46S×27°.53E,h0km,mb4.0/8,*
mbtmp4.2/13,ML4.2/3,MS2.4/2,Error ellipse:
s-maj=16.4km s-min=14.0km az=79.0
*PRE **28** 06:22:04.2±0.9,26°.39S×27°.36E,h2km,ML3.3*
*NEIC **28** 06:22:05.7±1.4,26°.50S±0°.05×27°.6E±0°.1,h5km±1km,*
mb4.6/6,Error ellipse: s-maj=17.5km s-min=9.0km
az=88.0
*BUL **28** 06:22:06.3±2.2,26°.65S×27°.69E,h10km,MD4.0*
*EAF **28** 06:22:06.0±2.2,26°.67S×27°.71E,h10km,MD3.7*

ISC 28 06:22:05.3±1.4,**26°.45S**±0°.03×**27°.47E**±0°.03,**h5**km±9km,
n63,σ1s**85**/95,**mb4.3**/10,**South Africa**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PRYS	Parys	0.48	192	eP		Pg	06 22 14.8	+0.2
PRYS				eS		Sg	06 22 22.3	+1.4
PRYS				IAML			06 22 26.2	
KSR	comp=Z,1µm,0.4s Koster	0.79	319	eP		Pg	06 22 17.7	-2.8
KSR				eS		Sg	06 22 26.9	-3.9
KSR				IAML			06 22 41.0	
LBTB	comp=Z,2µm,0.2s Lobatse	2.22	310			Pn	06 22 45.0	+2.2
LBTB				Sn		Sb	06 23 14.3	+0.6
LBTB	Lobatse	2.22	310	iP		Pn	06 22 45.2	+2.4
LBTB				iS		Sb	06 23 16.4	+2.6
LBTB	Lobatse comp=Z,136nm,0.3s,baz=128,slow=15,SNR=995	2.22	310	Pn		Pn	06 22 45.0	+2.2
LBTB	comp=Z,137nm,0.3s,baz=122,slow=16,SNR=385			Pg		Pb	06 22 46.9	+0.9
LBTB	comp=Z,36nm,22.0s,baz=127,slow=30			LR		LR	06 23 11.7	
LBTB	comp=Z,180nm,0.3s,baz=48,slow=6.4,SNR=39 comp=Z,578nm,0.5s			Lg		Lg	06 23 15.8	
LBTB	Lobatse	2.22	310	iP		Pn	06 22 45.2	+2.4
LBTB				iS		Sb	06 23 16.4	+2.6
CRLN	Carolina, Mapu	2.33	79	eP		Pn	06 22 45.4	+0.9
CRLN				eS		Sb	06 23 15.9	-1.3
CRLN	comp=Z,92nm,0.2s			IAML			06 23 16.0	
NWCL	Newcastle	2.51	121	eP		Pn	06 22 48.8	+1.9
NWCL				eS		Sb	06 23 21.2	-0.9
NWCL	comp=Z,506nm,0.5s			IAML			06 23 22.4	
LEPH	Lephalale, Lim	2.60	7	eP		Pn	06 22 48.1	0.0
LEPH				eS		Sn	06 23 19.3	-0.8
LEPH	comp=Z,232nm,0.4s			IAML			06 23 27.7	
BOSA	Boshof	2.92	222			Pn	06 22 53.3	+0.8
BOSA				Sn		Sn	06 23 28.2	+0.2
BOSA	Boshof	2.92	222	iP		Pn	06 22 52.1	-0.4
BOSA				iS		Sn	06 23 27.3	-0.7
BOSA	Boshof comp=Z,12nm,0.3s,baz=43,slow=12,SNR=324	2.92	222	Pn		Pn	06 22 53.4	+0.8
BOSA	comp=Z,14nm,0.3s,baz=30,slow=12,SNR=7.3			Sn		Sn	06 23 27.4	-0.6
BOSA				Lg		Lg	06 23 37.6	
BOSA	comp=Z,39nm,0.3s,baz=313,slow=19,SNR=12 comp=Z,33nm,0.3s Boshof	2.92	222	iP		Pn	06 22 52.1	-0.4
BOSA				iS		Sn	06 23 27.3	-0.7
PILG	Pilgrimsrest,	3.29	63	eP		Pn	06 22 58.7	+1.0
PILG				eS		Sn	06 23 37.9	+0.6
PILG	comp=Z,348nm,0.6s			IAML			06 23 51.4	
PMBG	Pietermaritzbu	4.06	139	eP		Pn	06 23 09.3	+1.1
PMBG				e

SUR	**Sutherland**	**8.28**	**223**		**Pn**		**06 24 07.1**	**+0.7**
SUR				Sn	**Sn**		**06 25 38.3**	**-2.1**
SUR	**Sutherland**	**8.28**	**223**	Pn	**Pn**		**06 24 07.0**	**+0.7**
	comp=Z,3.7nm,0.3s,baz=53,slow=9.0,SNR=88							
SUR				Sn	**Sn**		**06 25 35.1**	**-5.3**
	comp=Z,2.3nm,0.3s,baz=98,slow=17,SNR=3.7							
SUR				Lg	Lg		06 26 22.9	
	comp=Z,6.6nm,0.3s,baz=127,slow=16,SNR=7.4							
	comp=Z,35nm,0.6s							
KRI	**Karoi**	**9.78**	**12**	*i* P	Pn		06 24 21.8	-5.1
KRI				*i* S	Sn		06 26 01.6	-16
KRI	**Karoi**	**9.78**	**12**	*i* P	Pn		06 24 21.8	-5.1
KRI				*i* S	Sn		06 26 01.6	-16
CER	**Ceres**	**9.89**	**224**	*e*P	**Pn**		**06 24 28.3**	**+0.2**
CER				*e*S	**Sn**		**06 26 14.0**	**-5.6**
WIN	**Windhoek**	**10.21**	**290**		**Pn**		**06 24 34.1**	**+1.4**
LSZ	**Lusaka**	**11.14**	**4**		**Pn**		**06 24 43.4**	**-2.0**
LSZ	**Lusaka**	**11.14**	**4**	Pn	**Pn**		**06 24 44.0**	**-1.5**
	comp=Z,11nm,0.5s,baz=189,slow=12,SNR=19							
LSZ				Sn	Sn		06 26 40.1	-10
	comp=Z,0.6nm,0.3s,baz=352,slow=1.5,SNR=6.1							
LSZ				Lg	Lg		06 27 50.0	
	comp=Z,0.9nm,0.3s,baz=302,slow=17,SNR=4.1							
TSUM	**Tsumeb**	**11.62**	**306**		**Pn**		**06 24 52.1**	**+0.1**
TSUM	**Tsumeb**	**11.62**	**306**	Pn	**Pn**		**06 24 51.4**	**-0.7**
	comp=Z,9.5nm,0.4s,baz=124,slow=12,SNR=15							
TSUM				Lg	Lg		06 28 06.1	
	comp=Z,1.3nm,0.3s,baz=51,slow=20,SNR=5.1							
TSUM				LR	LR		06 29 31.3	
	comp=Z,42nm,20.0s,baz=83,slow=38							
DBIC	**Dimbokro**	**45.47**	**312**	P	**P**		**06 30 26.4**	**+0.8**
	comp=Z,3.3nm,0.9s,baz=118,slow=9.1,SNR=2.2							
	comp=Z,3.3nm,0.9s							
TOA0	**Torodi Ar. Sit**	**46.67**	**324**	P	**P**		**06 30 34.8**	**-0.3**
TOA0				IAmb	IAmb		06 30 36.0	
	comp=Z,3.3nm,0.8s							
TORD	**Torodi Ar. Bea**	**46.67**	**324**	P	**P**		**06 30 34.9**	**-0.1**
TORD				IAmb	IAmb		06 30 36.0	
	comp=Z,3.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**46.67**	**324**	P	**P**		**06 30 35.3**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=137,slow=6.5,SNR=20							
	comp=Z,2.1nm,0.6s							
SNAA	**Sanae**	**48.31**	**192**	P	**P**		**06 30 48.2**	**+0.9**
BELA	**Belgrano 2**	**58.55**	**193**	P	**P**		**06 32 03.1**	**+0.7**
BELA				IAmb	IAmb		06 32 04.4	
	comp=Z,17nm,1.5s							
QSPA	**South Pole Qui**	**63.73**	**180**	P	**P**		**06 32 37.6**	**-0.3**
QSPA				IAmb	IAmb		06 32 39.8	
	comp=Z,9.3nm,1.4s							
QSPA	**South Pole Qui**	**63.73**	**180**	P	**P**		**06 32 38.2**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=39,slow=3.3,SNR=6.8							
	comp=Z,1.5nm,0.8s							
ESDC	**Sonseca Array**	**72.02**	**335**	P	**P**		**06 33 31.1**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=153,slow=6.6,SNR=8.9							
	comp=Z,1.3nm,0.6s							
SBA	**Scott Base**	**73.20**	**172**	P	**P**		**06 33 37.4**	**+0.8**
AKASG	**Malin Array Be**	**76.83**	**1**	P	**P**		**06 33 58.0**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=182,slow=4.9,SNR=4.2							
	comp=Z,0.5nm,0.4s							
ABKAR	**Akbulak array**	**80.74**	**21**	P	**P**		**06 34 19.4**	**0.0**
FINES	**FINESS Array B**	**87.59**	**359**	P	**P**		**06 34 54.6**	**+0.7**
FINES	**FINESS Array B**	**87.59**	**359**	P	**P**		**06 34 54.8**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=159,slow=5.4,SNR=6.3							
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**88.11**	**34**	P	**P**		**06 34 57.0**	**+0.1**
MKAR	**Makanchi Array**	**88.11**	**34**	P	**P**		**06 34 56.7**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=222,slow=3.5,SNR=5.6							
	comp=Z,0.5nm,0.6s							
KURBB	**Kurchatov Arra**	**89.00**	**30**	P	**P**		**06 35 00.9**	**0.0**
	comp=Z,0.4nm,0.8s,baz=224,slow=5.5,SNR=5.1							
	comp=Z,0.4nm,0.8s							
NVAR	**Mina Array Bea**	**148.92**	**301**	PKPbc	**PKPbc**		**06 41 55.5**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=80,slow=3.2,SNR=5.5							

TEH ***28*** *06:23:12.5,34˚.54N×45˚.39E,h14km±26km,ML2.8*
ISN ***28*** *06:23:13.1±1.5,34˚.51N×45˚.40E,h21km±10km,ML2.7*
ISC 28 06:23:13.2±1.0**,34˚.53N**±0˚.05×**45˚.40E**±0˚.05**,h11**km±8**km,**n12,**σ0**^{s}77/17,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.15**	**98**	Pg	**Pg**		**06 23 16.7**	**0.0**
KGS1				Sg	**Sb**		**06 23 19.9**	**+0.8**
IDHR	**Dehrash**	**0.83**	**78**	Pg	**Pg**		**06 23 28.2**	**-1.0**
IGHG	**Ghaleghazi**	**0.98**	**101**	Pg	**Pb**		**06 23 31.2**	**-1.2**
ILBA	**Ilam Banvizeh**	**1.12**	**143**	Pg	**Pb**		**06 23 34.1**	**-0.5**
IKRK	**Kirkuk**	**1.23**	**315**	*e*Pg	**Pb**		**06 23 36.0**	**-0.5**
IKRK				*e*Sg	**Sg**		**06 23 53.0**	**+0.1**
IKRK				AML	AML		06 24 16.3	
	comp=Z,108nm,0.4s							
ILIN	**Lien**	**1.34**	**73**	Pg	**Pg**		**06 23 38.3**	**-0.7**
KCHF	**Cheshme Sefid,**	**1.38**	**100**	Pg	**Pg**		**06 23 39.1**	**-0.5**
IBDR	**Badra**	**1.48**	**163**	*e*Pn	**Pn**		**06 23 40.0**	**+0.2**
IBDR				*e*Sn	**Sg**		**06 24 01.0**	**+0.2**
IBDR				AML	AML		06 24 17.3	
	comp=E,146nm,0.7s							
BHD	**Baghdad**	**1.52**	**214**	*e*Pn	**Pn**		**06 23 40.0**	**-0.3**
BHD				*e*Sn	**Sb**		**06 24 01.0**	**+0.5**
IKFM	**Kafar-mosalman**	**2.26**	**116**	Pn	**Pn**		**06 23 51.5**	**+1.0**
MSL	**Mosul**	**2.65**	**316**	*e*Pn	**Pn**		**06 23 56.0**	**+0.2**
MSL				*e*Sn	**Sn**		**06 24 29.0**	**+1.1**
HSAM	**Samen**	**2.66**	**96**	Pn	**Pn**		**06 23 57.3**	**+1.0**

MDD ***28*** *07:25:48.6±0.3,36˚.93N×5˚.59W,h11km,mb_Lg2.6/11,*
Error ellipse: s-maj=3.0km s-min=1.7km az=176.0
SFS ***28*** *07:25:48.8,36˚.95N×5˚.62W,h11km,ML2.5/11,ML2.7/10,*
MLv2.4/11
INMG ***28*** *07:25:49.1±1.5,36˚.90N×5˚.60W,h14km,ML2.4,Error*
ellipse: s-maj=3.0km s-min=2.2km az=6.0
CNRM ***28*** *07:25:50.6,36˚.58N×5˚.52W,h13km,ML1.8*
ISC 28 07:25:46.5±0.9**,36˚.90N**±0˚.02×**5˚.55W**±0˚.02**,h11**km±7**km,**n57,**σ1^{s}**52**/106**,1D,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ESPR	**Espera**	**0.24**	**263**	Pg	**Pb**		**07 25 53.0**	**0.0**
ESPR	**Espera**	**0.24**	**263**	||Pg	**Pb**	**07 25 52.9**	**0.0**
ESPR				Sg	**Sb**		**07 25 56.6**	**+1.7**
ESPR				*i* Vmb_Lg			07 26 00.9	
EJIF	**Jimena Fronter**	**0.45**	**171**	Pg	**Pn**		**07 25 56.7**	**-2.3**
EJIF				Sg	**Sb**		**07 26 04.9**	**+1.7**
EMIJ	**Mijas**	**0.71**	**118**	Pg	**Pn**		**07 26 01.6**	**-0.9**
EMIJ				Sg	**Sn**		**07 26 13.5**	**0.0**
EMIJ	**Mijas**	**0.71**	**118**	Pg	**Pn**		**07 26 01.6**	**-0.9**
EMIJ				Sg	**Sn**		**07 26 12.8**	**-0.6**
EMIJ				*i* Vmb_Lg			07 26 18.0	
EGOR	**Sierra Gorda,**	**1.18**	**79**	Pg	**Pn**		**07 26 10.9**	**+1.8**
EGOR				Sg	**Sn**		**07 26 28.0**	**+2.9**
EGOR	**Sierra Gorda,**	**1.18**	**79**	Pg	**Pn**		**07 26 10.8**	**+1.8**
EGOR				Sg	**Sn**		**07 26 26.6**	**+1.5**
EGOR				*i* Vmb_Lg			07 26 35.7	
ECAB	**El Cabril**	**1.18**	**5**	Pg	**Pn**		**07 26 08.9**	**0.0**
ECAB				Sg	**Sb**		**07 26 24.3**	**+0.1**
ECAB	**El Cabril**	**1.18**	**5**	Pg	**Pn**		**07 26 08.9**	**0.0**
ECAB				Sg	**Sb**		**07 26 24.3**	**+0.1**
ECAB				*i* Vmb_Lg			07 26 27.0	
SMIR	**Smir Dam**	**1.22**	**173**	P	**Pn**		**07 26 08.3**	**-1.2**
EADA	**Adamuz**	**1.48**	**31**	Pn	**Pg**		**07 26 13.8**	**-1.2**
EADA				Sn	**Sn**		**07 26 32.6**	**0.0**
EADA				Sg	**Sb**		**07 26 35.7**	**+2.6**
EADA	**Adamuz**	**1.48**	**31**	Pn	**Pg**		**07 26 13.9**	**-1.2**
EADA				Pg	**Pb**		**07 26 15.7**	**+1.6**
EADA				Sn	**Sn**		**07 26 32.9**	**+0.2**
EADA				Sg	**Sb**		**07 26 35.4**	**+2.4**
EADA				*i* Vmb_Lg			07 26 38.4	
ELGU	**Los Guajares,**	**1.54**	**91**	Pn	**Pg**		**07 26 16.9**	**+0.8**
ELGU				Sn	**Sn**		**07 26 36.2**	**+2.0**
ELGU				Sg	**Sb**		**07 26 39.5**	**+4.7**
ELGU	**Los Guajares,**	**1.54**	**91**	Pg	**Pg**		**07 26 16.3**	**+0.1**
ELGU				Sg	**Sn**		**07 26 37.2**	**+3.1**
ELGU				*i* Vmb_Lg			07 26 47.1	
PBAR	**Barrancos**	**1.74**	**318**	*e*Pn	**Pn**		**07 26 16.8**	**+0.2**
PBAR				*e*Sn	**Sn**		**07 26 39.7**	**+0.9**
PBAR				*e*Sg	**Sg**		**07 26 43.3**	**+1.0**
PBAR				A	A		07 26 47.8	
	21nm,0.2s							
PBAR	**Barrancos**	**1.74**	**318**	Pn	**Pn**		**07 26 16.8**	**+0.2**
PVAQ	**Vaqueiros**	**1.80**	**287**	*e*P	**Pn**		**07 26 17.6**	**+0.1**
PVAQ				*e*Sn	**Sn**		**07 26 39.7**	**-0.6**
PVAQ				*e*Sg	**Sg**		**07 26 45.4**	**+1.0**
PVAQ				A	A		07 26 46.9	
	29nm,0.2s							
PVAQ	**Vaqueiros**	**1.80**	**287**	Pn	**Pn**		**07 26 17.6**	**+0.1**
PVAQ	**Vaqueiros**	**1.80**	**287**	P	**Pg**		**07 26 22.7**	**+1.6**
PVAQ	**Vaqueiros**	**1.80**	**287**	S	**Sg**		**07 26 48.1**	**+3.7**
PBDV	**Barranco-do-Ve**	**1.93**	**281**	*e*Pn	**Pn**		**07 26 19.5**	**+0.1**
PBDV	**Barranco-do-Ve**	**1.93**	**281**	*e*Pg	**Pg**		**07 26 22.7**	**-0.8**
PBDV				*e*Sn	**Sn**		**07 26 42.2**	**-1.4**
PBDV				*e*Sg	**Sg**		**07 26 48.0**	**-0.6**
PBDV				A	A		07 26 56.2	
	16nm,0.4s							
PBDV	**Barranco-do-Ve**	**1.93**	**281**	Pn	**Pn**		**07 26 19.4**	**+0.1**
PBDV				Sg	**Sg**		**07 26 47.7**	**-0.9**
PCVE	**Castro Verde**	**2.11**	**291**	*e*Pn	**Pn**		**07 26 21.9**	**+0.1**
PCVE	**Castro Verde**	**2.11**	**291**	*e*Pg	**Pg**		**07 26 26.2**	**-0.8**
PCVE				*e*Sg	**Sg**		**07 26 55.4**	**+1.0**
PCVE				A	A		07 26 59.9	
	14nm,0.7s							
PCVE	**Castro Verde**	**2.11**	**291**	Pn	**Pn**		**07 26 21.9**	**+0.1**
EQES	**Quesada**	**2.17**	**65**	Pn	**Pb**		**07 26 24.6**	**-1.3**
EQES				Pb	**Pg**		**07 26 26.1**	**-2.1**
EQES				Sn	**Sb**		**07 26 50.9**	**-2.0**
EQES				Sg	**Sg**		**07 26 58.3**	**+1.9**
EQES				*i* Vmb_Lg			07 27 01.3	
EBAD	**Badajoz**	**2.18**	**328**	Pn	**Pn**		**07 26 22.9**	**+0.1**
EBAD				Sn	**Sn**		**07 26 48.7**	**-1.1**
EBAD	**Badajoz**	**2.18**	**328**	Pn	**Pn**		**07 26 22.7**	**0.0**
EBAD				Pb	**Pb**		**07 26 25.5**	**-0.6**
EBAD				Pg	**Pg**		**07 26 26.4**	**-2.0**
EBAD				Sn	**Sn**		**07 26 49.6**	**-0.2**
EBAD				Sg	**Sb**		**07 26 54.1**	**+1.0**
EBAD				*i* Vmb_Lg			07 27 00.5	
MESJ	**Messejana**	**2.32**	**295**	*e*Sg	**Sg**		**07 27 02.4**	**+1.3**
PSIM	**Granatula de C**	**2.39**	**36**	Pn	**Pb**		**07 26 26.5**	**-3.1**
PSIM				Pg	**Pg**		**07 26 30.4**	**-1.8**
PSIM				Sn	**Sn**		**07 26 53.9**	**-1.1**
PSIM				Sg	**Sg**		**07 27 02.0**	**-1.3**
MORF	**Marmelete**	**2.51**	**280**	*e*Pg	**Pg**		**07 26 34.3**	**-0.3**
MORF				*e*Sn	**Sn**		**07 26 57.5**	**-0.4**
MORF				*e*Sg	**Sg**		**07 27 07.4**	**+0.3**
MORF				A	A		07 27 07.4	
	11nm,0.4s							
PESTR	**Estremoz**	**2.54**	**321**	*e*Pn	**Pn**		**07 26 28.5**	**+0.8**
PESTR				*e*Sn	**Sn**		**07 26 57.7**	**-0.9**
PESTR				A	A		07 27 16.5	
	11nm,0.5s							
PESTR	**Estremoz**	**2.54**	**321**	P	**Pg**		**07 26 35.0**	**-0.2**
PESTR	**Estremoz**	**2.54**	**321**	S	**Sg**		**07 27 10.2**	**+2.0**
EVO	**Evora**	**2.54**	**311**	*e*Sn	**Sn**		**07 26 58.5**	**-0.1**
PTEO	**Sao Teotonio**	**2.61**	**285**	*e*Sn	**Sn**		**07 26 59.6**	**-0.7**
PTEO				A	A		07 27 19.6	
	11nm,1.0s							
PFVI	**Vila Bisbo**	**2.63**	**276**	*e*Sn	**Sn**		**07 26 59.8**	**-1.0**
PFVI				A	A		07 27 16.0	
	10nm,0.7s							
PFVI	**Vila Bisbo**	**2.63**	**276**	P	**Pb**		**07 26 33.7**	**0.0**
PFVI	**Vila Bisbo**	**2.63**	**276**	S	**Sb**		**07 27 07.6**	**+1.7**
PNCL	**Nicolau / Gran**	**2.66**	**298**	*e*Pn	**Pn**		**07 26 29.6**	**+0.3**
PNCL	**Nicolau / Gran**	**2.66**	**298**	*e*Pg	**Pg**		**07 26 36.3**	**-1.1**
PNCL				*e*Sg	**Sg**		**07 27 12.7**	**+0.8**
PNCL				A	A		07 27 20.5	
	7.5nm,0.6s							
PNCL	**Nicolau / Gran**	**2.66**	**298**	Pn	**Pn**		**07 26 29.6**	**+0.3**
PAB	**San Pablo**	**2.81**	**19**	Pn	**Pn**		**07 26 31.6**	**+0.2**
PAB				Pg	**Pg**		**07 26 38.6**	**-1.7**
PAB				Sn	**Sn**		**07 27 04.5**	**-0.8**
PAB				Sg	**Sg**		**07 27 16.5**	**-0.2**
PAB				*i* Vmb_Lg			07 27 20.9	
PMRV	**Marv??o**	**2.91**	**331**	*e*Pn	**Pn**		**07 26 34.2**	**+1.4**
PMRV				*e*Sn	**Sn**		**07 27 06.9**	**-0.9**
PMRV				*e*Sg	**Sg**		**07 27 17.9**	**-2.1**
PMRV				A	A		07 27 25.6	
	10.0nm,0.3s							
PMTG	**Montargil**	**3.02**	**317**	*e*Pn	**Pn**		**07 26 34.7**	**+0.4**
PMTG	**Montargil**	**3.02**	**317**	*e*Pg	**Pg**		**07 26 43.9**	**-0.5**
PMTG				*e*Sn	**Sn**		**07 27 10.3**	**-0.2**
PMTG				*e*Sg	**Sg**		**07 27 21.4**	**-2.2**
PMTG				A	A		07 27 33.9	
	8.6nm,0.4s							
ESDC	**Sonseca Array**	**3.04**	**24**	Sg	**Sg**		**07 27 22.2**	**-2.0**
ESDC				*i* Vmb_Lg			07 27 28.4	
PACT	**Alcochete**	**3.20**	**307**	*e*Pn	**Pn**		**07 26 37.2**	**+0.5**
PACT				*e*Sn	**Sn**		**07 27 16.3**	**+1.5**
PACT				A	A		07 27 35.5	
	29nm,0.6s							
PCBR	**Castelo Branco**	**3.30**	**333**	*e*Pn	**Pn**		**07 26 39.4**	**+1.3**
PCBR				*e*Sn	**Sn**		**07 27 15.0**	**-2.4**
PCBR				A	A		07 27 46.2	
	4.5nm,0.4s							
MTE	**Manteigas**	**3.83**	**337**	*e*Sn	**Sn**		**07 27 29.2**	**-1.2**
MTE				A	A		07 27 53.4	
	8.0nm,0.4s							
GUD	**Guadarrama**	**3.90**	**16**	Pn	**Pn**		**07 26 47.4**	**+1.0**
GUD				Sn	**Sn**		**07 27 29.2**	**-3.1**
GUD				Sg	**Sb**		**07 27 46.0**	**+3.6**
GUD				*i* Vmb_Lg			07 27 58.8	
PCAS	**Casmilo, Conde**	**3.91**	**325**	A	A		07 27 52.7	
	8.6nm,0.5s							
MD31	**MD31**	**4.08**	**171**	P	**Pn**		**07 26 49.1**	**+0.3**
MD31	**MD31**	**4.08**	**171**	S	**Sn**		**07 27 33.6**	**-3.0**
MDT	**Midelt**	**4.15**	**169**	P	**Pn**		**07 26 50.1**	**+0.3**
MDT	**Midelt**	**4.15**	**169**	S	**Sn**		**07 27 35.3**	**-3.2**

IDC 28 07:26:16.8±4.0**,8˚.80S**×**153˚.67E,h0km,mb3.2/3,**
mbtmp3.3/3,Error ellipse: s-maj=293.4km
s-min=31.6km az=133.0,D'Entrecasteaux Islands
region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.73**	**237**	P	P		07 31 08.9	-1.0
	0.4nm,1.0s,baz=67,slow=13,SNR=1.5							
	0.4nm,1.0s							
ASAR	**Alice Springs**	**24.00**	**230**	P	P		07 31 34.0	+0.6
	0.7nm,0.9s,baz=60,slow=9.1,SNR=4.8							
	0.7nm,0.9s							
ILAR	**Eielson Array**	**85.53**	**22**	P	P		07 38 56.5	+0.1
	0.2nm,0.4s,baz=247,slow=5.7,SNR=5.9							
	0.2nm,0.4s							

NEIC ***28*** *07:50:28.8±2.1,21˚.0N±0˚.1×109˚.3W±0˚.1,h10km±2km,*
mb4.0/41,Md4.2/9(MEX),Error ellipse: s-maj=21.9km
s-min=15.6km az=229.0
IDC ***28*** *07:50:32.8±4.3,21˚.47N×109˚.12W,h0km,mb3.4/3,*
mbtmp3.5/6,ML3.2/3,MS3.5/28,Error ellipse:
s-maj=62.4km s-min=53.1km az=22.0
MEX ***28*** *07:50:34.1±0.5,21˚.28N×109˚.14W,h18km±17km,MD4.2*
ISC 28 07:50:32.1±1.7**,21˚.4N**±0˚.1×**109˚.1W**±0˚.1**,h10**km**,n93,**
σ1^{s}**56**/70**,mb3.6/4,MS3.5/22,Revilla Gigedo Islands**
region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SLBS	**Sierra La Lagu**	**2.44**	**341**	Pn	**Pn**		**07 51 11.7**	**-0.3**
SLBS	**Sierra La Lagu**	**2.44**	**341**	*e*P	**Pn**		**07 51 11.0**	**-1.0**
SLBS				*e*S	**Sn**		**07 51 40.5**	**-1.4**
LPIG	**La Paz**	**2.94**	**338**	Pn	**Pn**		**07 51 19.7**	**+0.8**
	1.4nm,0.3s,baz=274,slow=9.7,SNR=5.5							
LPIG				LR	LR		07 51 45.7	
	comp=Z,184nm,19.5s,baz=109,slow=26							
LPIG				Sn	**Sn**		**07 51 53.4**	**-0.8**
	34nm,0.3s,baz=156,slow=13,SNR=12							
	49nm,0.7s							
LPIG	**La Paz**	**2.94**	**338**	*e*P	**Pn**		**07 51 18.8**	**-0.1**
LPIG				*i* S	**Sn**		**07 51 52.8**	**-1.5**
H06E1	**SOCORRO T-PHAS**	**3.10**	**214**	T	T		07 54 23.5	
	SNR=47							
SSIG	**Sanalona**	**3.88**	**27**	*e*P	**Pn**		**07 51 31.9**	**+0.1**
ZAIG	**Zacatecas**	**6.21**	**76**	Pn	**Pn**		**07 52 02.0**	**-2.1**
HPIG		**6.36**	**29**	Pn	**Pn**		**07 52 07.6**	**+1.4**
TX31	**Lajitas Ar. Si**	**9.32**	**31**	Pn	**Pn**		**07 52 48.5**	**+1.8**
TXAR	**Lajitas Array**	**9.32**	**31**	Pn	**Pn**		**07 52 48.5**	**+1.8**
TXAR	**Lajitas Array**	**9.32**	**31**	Pn	**Pn**		**07 52 48.1**	**+1.4**
	0.2nm,0.3s,baz=209,slow=14,SNR=12							
	0.8nm,0.5s							
TXAR				LR	LR		07 56 22.8	
	comp=Z,236nm,18.1s,baz=208,slow=38							
	0.8nm,0.5s							
319A	**Douglas**	**9.97**	**359**	Pn	**Pn**		**07 52 56.1**	**+0.6**
VHRN	**Van Horn**	**10.08**	**21**	Pn	**Pn**		**07 52 59.9**	**+2.9**
ALPN	**Alpine**	**10.22**	**28**		**Pn**		**07 53 01.0**	**+2.0**
EPT	**El Paso**	**10.61**	**12**		**Pn**		**07 53 06.0**	**+1.6**

TLIG	**Tlapa**	**10.63**	**109**	Pn	**Pn**		**07 53 04.0**	**-0.6**
TUC	**Tucson**	**11.00**	**352**	Pn	**Pn**		**07 53 11.3**	**+1.7**
PECS	**Pecos**	**11.00**	**24**		**Pn**		**07 53 10.6**	**+1.0**
214A	**Organ Pipe Nat**	**11.05**	**343**		**Pn**		**07 53 09.0**	**-1.3**
DUN6	**Lazy B Ranch**	**11.14**	**0**		**Pn**		**07 53 11.9**	**+0.3**
121A	**Cookes Peak, D**	**11.18**	**6**	Pn	**Pn**		**07 53 14.1**	**+1.9**
MNHN	**Monahans**	**11.43**	**28**	Pn	**Pn**		**07 53 17.5**	**+2.0**
ODSA	**Odessa**	**12.19**	**27**	Pn	**Pn**		**07 53 28.0**	**+2.0**
GLA	**Glamis**	**12.70**	**338**		**Pn**		**07 53 34.6**	**+1.7**
X18A	**Snowflake**	**13.13**	**357**	Pn	**Pn**		**07 53 38.7**	**-0.2**
POST	**Post**	**13.46**	**28**	Pn	**Pn**		**07 53 44.1**	**+0.9**
ANMO	**Albuquerque**	**13.72**	**9**		**Pn**		**07 53 47.7**	**+0.7**
ANMO	**Albuquerque**	**13.72**	**9**	Pn	**Pn**		**07 53 48.7**	**+1.8**
	0.1nm,0.3s,baz=234,slow=8.7,SNR=1.9							
ANMO				LR	LR		07 59 03.5	
	comp=Z,263nm,20.4s,baz=284,slow=38							
	0.4nm,0.3s							
MSTX	**Muleshoe**	**13.74**	**23**		**Pn**		**07 53 49.5**	**+2.4**
SN07	**Snyder 07**	**13.76**	**30**		**Pn**		**07 53 50.2**	**+2.9**
PFO	**Pinyon Flats O**	**13.83**	**333**	LR	LR		07 59 16.7	
	comp=Z,191nm,18.2s,baz=151,slow=38							
CMIG	**Matias Romero**	**14.08**	**105**	LR	LR		07 58 59.6	
	comp=Z,267nm,19.7s,baz=284,slow=36							
DKNS	**Dickens**	**14.22**	**29**		**Pn**		**07 53 54.4**	**+0.7**
WUAZ	**Wupatki**	**14.24**	**352**	Pn	**Pn**		**07 53 57.2**	**+3.3**
HKT	**Hockley**	**14.69**	**52**	Pn	**Pn**		**07 54 00.4**	**+0.5**
V12A	**Nelson**	**15.17**	**342**		**P**		**07 54 11.2**	**-0.5**
V12A				IAmb	IAmb		07 54 23.1	
	comp=Z,7.6nm,0.9s							
SMWD	**Samnorwood**	**15.74**	**28**	Pn	**Pn**		**07 54 13.9**	**0.0**
MVCO	**Mesa Verde**	**15.79**	**2**	Pn	**Pn**		**07 54 15.0**	**+0.2**
CCAC	**Calif City Air**	**15.81**	**332**	Pn	**Pn**		**07 54 14.6**	**-0.3**
CCAC				IAmb	IAmb		07 54 27.2	
	comp=Z,9.7nm,0.8s							
Z35A	**Perchaven, San**	**15.88**	**39**	Pn	**Pn**		**07 54 17.1**	**+1.4**
Z35A				IAmb	IAmb		07 54 24.8	
	comp=Z,16nm,1.1s							
KNB	**Kanab**	**15.92**	**349**	Pn	**Pn**		**07 54 16.5**	**+0.1**
SHPR	**Sheep Range**	**15.98**	**342**		**Pn**		**07 54 14.4**	**-2.8**
RTBA	**Rita Blanca**	**16.00**	**19**	Pn	**Pn**		**07 54 19.1**	**+1.6**
RTBA				IAmb	IAmb		07 54 30.7	
	comp=Z,15nm,1.2s							
QSM	**Queen of Sheba**	**16.05**	**337**	Pn	**Pn**		**07 54 18.5**	**+0.5**
QSM				IAmb	IAmb		07 54 30.4	
	comp=Z,18nm,1.3s							
GWY	**Greenwater Val**	**16.18**	**337**	P	**P**		**07 54 22.6**	**-0.3**
GWY				IAmb	IAmb		07 54 32.1	
	comp=Z,13nm,1.3s							
T25A	**Trinidad**	**16.23**	**13**	Pn	**Pn**		**07 54 21.1**	**+0.7**
T25A				IAmb	IAmb		07 54 34.4	
	comp=Z,17nm,1.4s							
Q16A	**Castle Valley**	**17.58**	**355**	P	**P**		**07 54 39.9**	**+1.4**
PSUT	**Pine Spring**	**17.59**	**348**	P	**P**		**07 54 38.8**	**+0.2**
P17A	**Butcher Ranch,**	**18.10**	**356**	P	**Pn**		**07 54 46.0**	**+2.2**
QUOK	**Quay**	**18.29**	**34**	P	**P**		**07 54 46.1**	**0.0**
OK048	**Pawnee Station**	**18.36**	**33**		**P**		**07 54 44.9**	**-1.9**
TUL3	**Leonard**	**18.58**	**36**		**P**		**07 54 47.9**	**-1.3**
TUL3				IAmb	IAmb		07 54 57.7	

GBRS	**Gornja Briga**	**0.28**	**3**	*i* Pg	**Pg**	**07 56 31.1**	**+0.3**
GBRS				*i* Sg	**Sb**	**07 56 35.7**	**-0.8**
KNDS	**Knezji Dol**	**0.40**	**314**	*i* Pg	**Pg**	**07 56 32.6**	**-0.4**
KNDS				*e*Sg	**Sg**	**07 56 39.1**	**+0.7**
KNDS				IAML		07 56 39.8	
	comp=Z,18nm,0.2s						
BOJS	**Bojanci**	**0.41**	**51**	*i* Pg	**Pg**	**07 56 33.2**	**0.0**
BOJS				*i* Sg	**Sg**	**07 56 39.2**	**+0.5**
BOJS				IAML		07 56 40.4	
	comp=Z,8.2nm,0.1s						
CEY	**Cerknica**	**0.56**	**333**	*i* Sg	**Sb**	**07 56 44.1**	**-0.2**
CEY				IAML		07 56 45.5	
	comp=Z,12nm,0.2s						
VISS	**Visnje**	**0.56**	**4**	*i* Pg	**Pg**	**07 56 35.5**	**-0.3**
VISS				*i* Sg	**Sg**	**07 56 43.6**	**+0.4**
VISS				IAML		07 56 46.5	
	comp=Z,4.4nm,0.1s						
OZLJ	**Ozalj**	**0.60**	**52**	*e*Pg	**Pb**	**07 56 37.5**	**+0.4**
OZLJ				Sg	**Sb**	**07 56 45.0**	**-0.5**
SKDS	**Skadanscina**	**0.62**	**299**	*i* Pg	**Pg**	**07 56 36.2**	**-0.8**
SKDS				*i* Sg	**Sb**	**07 56 46.2**	**0.0**
SKDS				IAML		07 56 48.7	
	comp=Z,2.7nm,0.1s						
NVLJ	**Novalja**	**0.69**	**175**	*e*Pg	**Pg**	**07 56 37.4**	**-0.8**
NVLJ				Sg	**Sb**	**07 56 48.5**	**+0.7**
PLIT	**Plitvice**	**0.69**	**122**	*e*Pg	**Pg**	**07 56 37.7**	**-0.7**
PLIT				Sg	**Sg**	**07 56 47.0**	**-0.5**
CRES	**Cresnjev**	**0.75**	**39**	*i* Pg	**Pb**	**07 56 39.8**	**+0.2**
CRES				*i* Sg	**Sg**	**07 56 49.4**	**+0.2**
CRES				IAML		07 56 50.7	
	comp=Z,3.2nm,0.1s						
LEGS	**Legarje**	**0.79**	**28**	*e*Sg	**Sg**	**07 56 50.6**	**-0.1**
BRJN	**Brijuni**	**0.81**	**246**	*e*Pg	**Pg**	**07 56 40.5**	**0.0**
CRNS	**Crni Vrh**	**0.91**	**336**	*i* Pg	**Pn**	**07 56 43.2**	**-0.1**
CRNS				IAML		07 57 01.8	
	comp=Z,3.2nm,0.1s						
VIRC	**Vir**	**0.97**	**169**	*e*Pg	**Pg**	**07 56 43.4**	**-0.2**
VIRC				Sg	**Sn**	**07 56 58.0**	**+0.4**
DUGI	**Dugi Otok**	**1.27**	**171**	*e*Pg	**Pg**	**07 56 49.0**	**-0.3**
DUGI				Sg	**Sg**	**07 57 06.4**	**+0.7**

*NNC **28** 07:58:57.5±2.0,51°.80N×75°.53E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=78.1km s-min=12.0km az=27.0, Suspected Mining explosion.*
*IDC **28** 07:58:59.5±1.4,51°.72N×75°.62E, h0km, mbtmp2.6/3, ML2.0/3, Error ellipse: s-maj=34.4km s-min=10.7km az=32.0*

ISC 28 07:58:56.8±1.0, 51°.6N±0°.1×75°.13E±0°.08, h0km, n9, σ1§34/9, 1C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.37**	**114**	Pg		**Pn**	**07 59 37.5**	**+0.7**
	0.4nm,0.3s,baz=301,slow=18,SNR=23							
KURBB				Lg		Lg	08 00 06.5	
	0.7nm,0.3s,baz=303,slow=33,SNR=8.6							
KURBB	**Kurchatov Arra**	**2.37**	**114**	⇓Pg		**Pb**	**07 59 39.1**	**-1.2**
	2.2nm,0.3s							
KURBB				Lg		Lg	08 00 09.3	
	29nm,0.6s							
KURK	**Kurchatov**	**2.38**	**112**	⇓Pg		**Pn**	**07 59 37.6**	**+0.6**
	2.7nm,0.5s							
KURK				Lg		Lg	08 00 05.8	
	14nm,0.6s							
BVA0	**Borovoye Array**	**3.22**	**297**	⇑Pg		**Pg**	**07 59 58.6**	**+0.1**
	1.6nm,0.6s,baz=118,slow=16,SNR=4.3							
BVA0				⇓Lg		Lg	08 00 43.9	
	7.5nm,0.7s,baz=115,slow=27,SNR=7.0							
BVAR	**Borovoye Array**	**3.22**	**297**	Pn		**Pb**	**07 59 54.1**	**-0.8**
	baz=113,slow=13,SNR=3.9							
BVAR				Lg		Lg	08 00 43.6	
	0.2nm,0.3s,baz=111,slow=29,SNR=8.4							
	0.5nm,0.3s							
I46RU	**ZALESOVO INFRA**	**6.31**	**65**	I		I	08 34 50.0	
	baz=251,slow=318,SNR=1.3							
ZALV	**Zalesovo Beam**	**6.31**	**65**	Pn		**Pn**	**08 00 31.7**	**+0.7**
	0.3nm,0.3s,baz=257,slow=15,SNR=5.0							
	1.1nm,0.5s							
MK31	**Makanchi Array**	**6.74**	**133**	Sn		**Sn**	**08 01 56.6**	**+2.1**
	0.4nm,0.5s,baz=329,slow=21,SNR=4.2							
MK31				⇓Lg		Lg	08 02 26.2	
	1.9nm,0.5s,baz=320,slow=29,SNR=7.0							
MKAR	**Makanchi Array**	**6.74**	**133**	Pn		**Pn**	**08 00 37.7**	**+0.7**
	0.1nm,0.3s,baz=317,slow=9.9,SNR=3.3							
MKAR				Sn		**Sn**	**08 01 52.9**	**-1.6**
	0.2nm,0.3s,baz=320,slow=18,SNR=6.0							
MKAR				Lg		Lg	08 02 24.9	
	0.3nm,0.3s,baz=326,slow=26,SNR=4.0							
	0.2nm,0.5s							

*IDC **28** 07:59:19.1±4.0,6°.33S×128°.52E, h308km±38km, mb3.1/1, mbtmp4.1/4, Error ellipse: s-maj=61.7km s-min=14.1km az=67.0*
*DJA **28** 07:59:20.4±0.6,7°.S±4°×12°.8E±°, h299km±11km, M4.2/8, mb4.2/6, mB5.0/4, MLv4.2/8, Mw(mB)4.3/4*

ISC 28 07:59:20.1±1.0, 6°.48S±0°.08×128°.3E±0°.1, h334km, n13, σ1§43/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.31**	**117**	P		**Pn**	**08 00 18.9**	**-2.3**
NLAI	**Namlea**	**3.44**	**339**	P		**Pn**	**08 00 22.2**	**-0.4**
SANI	**Sanana**	**4.98**	**332**	P		**Pn**	**08 00 38.7**	**-0.2**
	14nm,0.5s,0.1nm							
SOEI	**Soe**	**5.17**	**231**	P		**Pn**	**08 00 40.1**	**-0.9**
	55nm,0.4s,2µm0.5nm							
FAKI	**Fak Fak**	**5.28**	**48**	P		**Pn**	**08 00 41.7**	**-0.5**
	17nm,0.6s,842nm0.1nm							
LBMI	**Labuha**	**5.86**	**352**	P		**Pn**	**08 00 48.6**	**-0.3**
	100nm,0.9s,0.3nm							
BATI	**Baumata**	**5.91**	**231**	P		**Pn**	**08 00 49.3**	**-0.1**
	44nm,0.3s,baz=44,slow=1.8,SNR=6.2							
BATI	**Baumata**	**5.91**	**231**	P		**Pn**	**08 00 48.8**	**-0.6**
	62nm,0.6s,0.3nm							
EDFI	**Ende, Flores**	**6.95**	**251**	P		**Pn**	**08 01 01.1**	**-0.6**
	12nm,1.2s,0.1nm							
BASI	**Baing, Sumba**	**8.51**	**244**	P		**Pn**	**08 01 18.5**	**-1.7**
	114nm,1.0s							
WRA	**Warramunga Arr**	**14.60**	**157**	P		**Pn**	**08 02 33.4**	**+0.5**
	1.1nm,0.4s,baz=339,slow=12,SNR=35							
WRA				S		**S**	**08 05 10.4**	**+0.7**
	0.7nm,0.7s,baz=337,slow=21,SNR=7.2							
ASAR	**Alice Springs**	**17.91**	**163**	P		**Pn**	**08 03 10.2**	**-1.1**
	3.0nm,0.5s,baz=345,slow=11,SNR=57							
ASAR				S		**S**	**08 06 18.5**	**+3.3**
	2.1nm,1.0s,baz=348,slow=22,SNR=12							
MKAR	**Makanchi Array**	**66.89**	**327**	P		**P**	**08 09 38.4**	**+1.3**
	0.4nm,0.4s,baz=124,slow=7.7,SNR=6.2							
	0.4nm,0.4s							

*ISK **28** 08:07:09.9, 38°.60N×25°.61E, h20km, ML2.5/9*
*AFAD **28** 08:07:23.4±0.0, 38°.56N×26°.43E, h7km±27km, ML1.2*

ISC 28 08:07:06.3±3.0, 38°.51N±0°.08×25°.4E±0°.1, h9km±15km, n13, σ0§73/18, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.78**	**26**	Pg		**Pn**	**08 07 23.0**	**-0.6**
SIGR				Sg		**Sg**	**08 07 32.6**	**+0.9**
KARB	**zmir-Karabur**	**0.80**	**79**	P		**Pn**	**08 07 22.9**	**-0.9**
KARB				S		**Sg**	**08 07 31.5**	**-0.8**
KARB				*i* AML	AML		08 07 34.0	
	comp=N,73nm,0.3s							
KARB				*i* AML	AML		08 07 34.0	
	comp=E,119nm,0.4s							
ZEYE	**Izmir, Urla-Ze**	**0.90**	**107**	P		**Pn**	**08 07 25.8**	**+0.5**
ZEYE				S		**Sb**	**08 07 36.4**	**+0.1**
ZEYE				*i* AML	AML		08 07 40.0	
	comp=E,29nm,0.4s							
ZEYE				*i* AML	AML		08 07 43.0	
	comp=N,26nm,0.4s							
URLA	**Izmir**	**0.94**	**99**	Pg		**Pn**	**08 07 26.4**	**+0.6**
URLA				Sg		**Sb**	**08 07 37.7**	**+0.1**
URLA	**Izmir**	**0.94**	**99**	P		**Pn**	**08 07 26.2**	**+0.4**
URLA				S		**Sb**	**08 07 37.3**	**-0.2**
URLA				*i* AML	AML		08 07 39.0	
	comp=E,55nm,0.5s							
URLA				*i* AML	AML		08 07 40.0	
	comp=N,44nm,0.3s							
FOCM	**Foa**	**1.06**	**78**	Pg		**Pn**	**08 07 27.6**	**+0.3**
FOCM				Sg		**Sb**	**08 07 40.4**	**-0.3**
CAND	**Candarli**	**1.18**	**67**	Pg		**Pb**	**08 07 28.9**	**0.0**
BLCB	**Balcova**	**1.29**	**95**	Pn		**Pg**	**08 07 31.2**	**+0.1**
APE	**Apeiranthos**	**1.44**	**176**	Pn		Pg	08 07 36.5	+2.5
EZN	**Ezine**	**1.50**	**28**	Pn		**Pb**	**08 07 34.0**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**1.52**	**35**	P		Pg	08 07 47.7	+12
BAYC				S		**Sb**	**08 07 55.7**	**+1.7**
GADA	**Gvkgeada**	**1.72**	**13**	Pn		**Pb**	**08 07 37.8**	**-0.4**
COMU	**Canakkale**	**1.79**	**27**	Pn		**Pb**	**08 07 38.5**	**-0.8**

*EAF **28** 08:08:16.9±2.9,20°.14S×31°.59E, h10km, MD3.2*
*BUL **28** 08:08:17.0±2.2,20°.22S×31°.59E, h10km, MD3.1*

ISC 28 08:08:11.9±0.9, 19°.46S±0°.05×31°.20E±0°.05, h10km, n14, σ0§71/18, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CHIPN	**CHIPINGE**	**1.57**	**120**	*i* P		**Pn**	**08 08 40.2**	**+0.2**
CHIPN				*i* S		**Sn**	**08 08 59.9**	**-0.4**
CHIPN	**CHIPINGE**	**1.57**	**120**	*i* P		**Pn**	**08 08 40.2**	**+0.2**
CHIPN				*i* S		**Sn**	**08 08 59.9**	**-0.4**
BLWY	**Bulawayo**	**2.53**	**254**	*i* P		**Pg**	**08 09 01.3**	**+0.9**
BLWY				*i* S		**Sg**	**08 09 33.7**	**+0.5**
BLWY	**Bulawayo**	**2.53**	**254**	*i* P		**Pg**	**08 09 01.3**	**+0.9**
BLWY				*i* S		**Sg**	**08 09 33.7**	**+0.5**
KRI	**Karoi**	**3.02**	**330**	*i* P		**Pg**	**08 09 09.8**	**0.0**
KRI				*i* S		**Sb**	**08 09 42.4**	**-0.5**
KRI	**Karoi**	**3.02**	**330**	*i* P		**Pb**	**08 09 06.3**	**+0.5**
KRI				*i* S		**Sb**	**08 09 42.4**	**-0.5**
MUSN	**Musina, Limpop**	**3.08**	**204**	*i* P		**Pn**	**08 08 59.4**	**-1.3**
MUSN	**Musina, Limpop**	**3.08**	**204**	*i* P		**Pn**	**08 08 59.4**	**-1.3**
MOPA	**Mopani**	**4.04**	**177**	*i* P		**Pn**	**08 09 13.4**	**-0.6**
MOPA	**Mopani**	**4.04**	**177**	*i* P		**Pn**	**08 09 13.4**	**-0.6**
LBTB	**Lobatse**	**7.58**	**222**	*i* P		**Pn**	**08 10 02.2**	**-0.5**
LBTB				*i* S		Sn	08 11 20.3	-8.4
LBTB	**Lobatse**	**7.58**	**222**	*i* P		**Pn**	**08 10 02.2**	**-0.5**
LBTB				*i* S		Sn	08 11 20.3	-8.4
BOSA	**Boshof**	**10.60**	**210**	*i* P		Pn	08 10 40.0	-4.1
BOSA	**Boshof**	**10.60**	**210**	*i* P		Pn	08 10 40.0	-4.1

*SOME **28** 08:19:45.6, 42°.18N×82°.35E, h5km*
*NNC **28** 08:19:46.2±4.3, 41°.96N×82°.21E, h0km, mb4.1, mpv3.6, Error ellipse: s-maj=40.4km s-min=23.5km az=161.0*

ISC 28 08:19:40.3±2.4, 42°.04N±0°.10×82°.50E±0°.07, h13km, n24, σ1§33/44, 7C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.51**	**298**	*e*P		**Pb**	**08 20 25.4**	**+0.1**
	95nm,0.3s							
SHLS				*e*S		**Sb**	**08 20 54.1**	**-1.9**
	274nm,0.5s							
PDGK	**Podgornoye**	**2.57**	**301**	⇑Pn		**Pg**	**08 20 28.4**	**-1.1**
	53nm,0.8s							
PDGK				⇑Lg		Lg	08 21 04.2	
	309nm,0.8s							
UZB	**Uzynbulak**	**2.80**	**295**	*e*P		**Pg**	**08 20 34.8**	**+0.8**
	35nm,0.2s							
UZB				*e*S		**Sg**	**08 21 10.1**	**-0.1**
	117nm,0.7s							
DJR	**Jarkent**	**3.03**	**320**	*e*P		**Pg**	**08 20 38.1**	**-0.3**
	4.5nm,0.2s							
DJR				*e*S		**Sg**	**08 21 16.1**	**-1.5**
	29nm,0.4s							
SATY	**Saty**	**3.19**	**290**	*e*P		**Pg**	**08 20 42.8**	**+1.3**
	30nm,0.2s							
SATY				*e*S		**Sg**	**08 21 23.8**	**+1.0**
	158nm,0.4s							
ZHN	**Zhinishke**	**3.21**	**292**	*e*P		**Pg**	**08 20 42.4**	**+0.7**
	23nm,0.2s							
ZHN				*e*S		**Sg**	**08 21 23.4**	**+0.1**
	130nm,0.4s							
KURS	**Kuram**	**3.50**	**296**	*e*P		**Pg**	**08 20 48.0**	**+0.6**
	7.7nm,0.2s							
KURS				*e*S		**Sg**	**08 21 32.8**	**+0.1**
	30nm,0.7s							
KAPS	**Kapalarasan**	**3.97**	**326**	*e*P		**Pb**	**08 20 52.4**	**+2.3**
	35nm,0.2s							
KAPS				*e*S		**Sb**	**08 21 40.2**	**+2.2**
	57nm,0.3s							
ARXS	**Arharly**	**4.05**	**304**	*e*P		**Pg**	**08 20 56.8**	**-1.1**
	17nm,0.4s							
ARXS				*e*S		**Sg**	**08 21 47.9**	**-2.6**
	44nm,0.5s							
KOTS	**Kotyrbulak**	**4.15**	**289**	*e*P		**Pg**	**08 21 00.1**	**+0.3**
	23nm,0.3s							
KOTS				*e*S		**Sg**	**08 21 53.5**	**0.0**
	138nm,0.4s							
MDOK	**Medeo**	**4.18**	**287**	*e*P		**Pg**	**08 20 58.8**	**-1.6**
	13nm,0.6s							
MDOK				*e*S		**Sg**	**08 21 51.3**	**-3.2**
	40nm,1.3s							
TDK	**Taldyqorghan**	**4.20**	**316**	*e*P		**Pg**	**08 21 01.5**	**+0.8**
	107nm,0.4s							
TDK				*e*S		**Sg**	**08 21 56.0**	**+0.9**
	61nm,0.2s							
TNSS	**Tian-Shan**	**4.22**	**286**	*e*P		**Pg**	**08 21 00.3**	**-0.9**
	16nm,0.3s							
TNSS				*e*S		**Sg**	**08 21 53.9**	**-2.0**
	15nm,0.4s							
CHKK	**Chushkaly**	**4.43**	**296**	*e*P		**Pg**	**08 21 06.0**	**+0.7**
	9.3nm,0.7s							
CHKK				*e*S		**Sg**	**08 22 03.4**	**+0.7**
	19nm,0.3s							
IZV	**Izvestkoviy**	**4.46**	**285**	*e*P		**Pg**	**08 21 06.1**	**+0.4**
	4.8nm,0.3s							
IZV				*e*S		**Sg**	**08 22 04.2**	**+0.6**
	70nm,0.3s							
KTBS	**Karatobe**	**4.59**	**293**	*e*P		**Pg**	**08 21 08.3**	**+0.1**
	9.7nm,0.5s							
KTBS				*e*S		**Sg**	**08 22 07.6**	**-0.1**
	33nm,0.7s							
MTBS	**Maitube**	**4.61**	**286**	*e*P		**Pg**	**08 21 09.7**	**+1.0**
	16nm,0.5s							
MTBS				*e*S		**Sg**	**08 22 09.9**	**+1.5**
	25nm,0.6s							
MK31	**Makanchi Array**	**4.76**	**358**	Pn		**Pb**	**08 21 00.2**	**-3.3**
	1.0nm,0.2s,baz=185,slow=13,SNR=95							
MK31				⇑Pg		**Pg**	**08 21 12.6**	**+1.2**
	8.5nm,0.6s,baz=163,slow=16,SNR=15							
MK31				⇑Lg		Lg	08 22 18.0	
	17nm,0.6s,baz=180,slow=28,SNR=3.6							
KST	**Kastek**	**4.93**	**284**	*e*P		**Pg**	**08 21 14.5**	**-0.3**
	14nm,0.3s							
KST				*e*S		**Sg**	**08 22 18.5**	**-0.2**
	33nm,0.4s							
DGS	**Degeres**	**5.11**	**286**	*e*P		**Pg**	**08 21 17.6**	**-0.5**
	21nm,0.7s							
DGS				*e*S		**Sg**	**08 22 23.5**	**-0.8**
	36nm,0.3s							
TKM2	**Tokmak 2**	**5.18**	**282**	⇑Pg		**Pb**	**08 21 12.3**	**+1.4**
	12nm,0.8s							
TKM2				⇑Lg		Lg	08 22 25.9	
	32nm,0.8s							
KRBS	**Karabastau**	**5.28**	**291**	*e*P		**Pg**	**08 21 20.4**	**-1.0**
	4.9nm,0.5s							
KRBS				*e*S		**Sg**	**08 22 28.5**	**-1.3**
	7.1nm,0.3s							
ZSN	**Zaisan**	**5.67**	**16**	*e*P		**Pg**	**08 21 28.9**	**+0.2**
	14nm,0.4s							
ZSN				*e*S		**Sg**	**08 22 43.0**	**+0.9**
	33nm,0.6s							
KURK	**Kurchatov**	**9.08**	**344**	⇑Pn		Pn	08 21 59.6	+8.6
	4.2nm,0.8s							
KURK				⇓Lg		Lg	08 24 36.4	
	26nm,1.2s							

IDC 28 08:30:38.3±3.1, 54°.14N×87°.36E, h0km, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=25.8km s-min=19.7km az=44.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.51**	**264**	I		I	08 40 50.0	
	0.1nm,0.9s,baz=80,slow=331,SNR=4.7							
ZALV	**Zalesovo Beam**	**1.51**	**264**	Pg		Pn	08 31 04.3	-2.3
	1.3nm,0.3s,baz=83,slow=18,SNR=6.6							
ZALV				Lg		Lg	08 31 27.9	
	1.3nm,0.3s,baz=85,slow=22,SNR=9.6							
KURBB	**Kurchatov Arra**	**6.45**	**240**	Pn		Pn	08 32 15.0	+0.6
	baz=56,slow=14,SNR=9.0							
KURBB				Sn		Sn	08 33 26.2	-2.4
	baz=47,slow=15,SNR=1.7							
KURBB				Lg		Lg	08 34 02.6	
	baz=58,slow=35,SNR=3.8							
	0.6nm,0.4s							
MKAR	**Makanchi Array**	**8.03**	**206**	Pn		Pn	08 32 38.2	+2.0
	0.1nm,0.3s,baz=26,slow=13,SNR=2.5							
	0.3nm,0.6s							

*IDC **28** 08:37:42.8±1.6,54°.70N×83°.74E, h0km, mbtmp3.0/3, ML2.6/3, Error ellipse: s-maj=15.6km s-min=9.7km az=18.0*
*NNC **28** 08:37:46.8±5.7,54°.49N×83°.75E, h0km, mb3.3, mpv2.6, Error ellipse: s-maj=49.1km s-min=13.8km az=3.0, Suspected Mining explosion.*

ISC 28 08:37:40.9±2.3, 54°.8N±0°.1×83°.63E±0°.07, h0km, n9, σ1§86/13, 7C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.08**	**139**	I		I	08 43 17.9	
	0.1nm,0.8s,baz=319,slow=332,SNR=4.2							
ZAA0	**Zalesovo Array**	**1.08**	**139**	⇑P		**Pg**	**08 38 00.9**	**-0.7**
	0.5nm,0.2s							
ZAA0				⇑S		**Sb**	**08 38 15.5**	**-1.6**
	4.2nm,0.3s							
ZALV	**Zalesovo Beam**	**1.08**	**139**	Pg		**Pg**	**08 38 01.4**	**-0.2**
	7.6nm,0.3s,baz=321,slow=18,SNR=45							
ZALV				Lg		Lg	08 38 15.0	
	14nm,0.3s,baz=330,slow=31,SNR=11							
KURK	**Kurchatov**	**5.07**	**219**	⇑Pn		Pn	08 39 05.3	+7.1
	0.9nm,0.4s							
KURK				⇑Sn		**Sn**	**08 39 58.9**	**+1.5**
	0.8nm,0.5s							
KURK				⇑Lg		Lg	08 40 22.7	
	4.8nm,0.6s							
KURBB	**Kurchatov Arra**	**5.18**	**219**	Pn		**Pn**	**08 39 02.1**	**+2.5**
	0.1nm,0.3s,baz=41,slow=14,SNR=8.3							
KURBB				Pg		**Pg**	**08 39 18.1**	**-2.0**
	0.1nm,0.3s,baz=39,slow=16,SNR=8.8							
KURBB				Sn		**Sn**	**08 39 59.4**	**-0.7**
	0.1nm,0.3s,baz=47,slow=18,SNR=1.4							
KURBB				Lg		Lg	08 40 27.4	
	0.1nm,0.3s,baz=41,slow=33,SNR=5.2							
	0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**5.18**	**219**	⇓Pn		Pn	08 39 06.9	+7.2
	1.4nm,0.4s							
KURBB				⇑Sn		**Sn**	**08 40 01.1**	**+1.0**
	3.7nm,0.7s							
KURBB				⇓Lg		Lg	08 40 25.7	
	10nm,0.6s							
BVAR	**Borovoye Array**	**8.01**	**263**	Pn		**Pn**	**08 39 39.7**	**+1.2**
	0.1nm,0.3s,baz=71,slow=15,SNR=11							
	1.2nm,0.4s							
MK31	**Makanchi Array**	**8.03**	**187**	⇓Pn		**Pn**	**08 39 37.4**	**-1.4**
	0.1nm,0.3s,baz=13,slow=14,SNR=5.0							
MK31				⇑Sn		**Sn**	**08 41 13.6**	**+3.3**
	0.3nm,0.5s,baz=70,slow=40,SNR=4.9							
MK31				⇓Lg		Lg	08 41 50.5	
	1.5nm,0.8s							
MKAR	**Makanchi Array**	**8.03**	**187**	Pn		**Pn**	**08 39 40.5**	**+1.7**
	0.1nm,0.3s,baz=9.8,slow=13,SNR=5.1							
MKAR				Sn		**Sn**	**08 41 10.1**	**-0.2**
	0.1nm,0.3s,baz=10,slow=25,SNR=2.3							
MKAR				Lg		Lg	08 41 52.0	
	0.1nm,0.3s,baz=360,slow=28,SNR=2.1							
	0.3nm,0.5s							

IDC 28 08:39:18.0±3.7, 54°.43N×87°.13E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=33.9km s-min=21.6km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.44**	**251**	I		I	08 48 30.0	
	baz=71,slow=333,SNR=6.0							
ZALV	**Zalesovo Beam**	**1.45**	**251**	Pn		Pn	08 39 44.3	-1.1
	0.8nm,0.3s,baz=68,slow=17,SNR=3.4							
ZALV				Lg		Lg	08 40 04.0	
	0.8nm,0.3s,baz=65,slow=24,SNR=2.1							
KURBB	**Kurchatov Arra**	**6.49**	**237**	Pn		Pn	08 40 55.5	+0.9
	0.1nm,0.3s,baz=57,slow=14,SNR=2.3							
	0.9nm,0.5s							
MKAR	**Makanchi Array**	**8.24**	**204**	Pn		Pn	08 41 19.9	+1.1
	0.2nm,0.3s,baz=26,slow=12,SNR=4.4							
	0.3nm,0.4s							

*IDC **28** 08:44:09.2±3.9,53°.62N×91°.06E, h0km, mbtmp3.1/3, ML2.7/3, Error ellipse: s-maj=36.6km s-min=29.4km az=88.0*
*NNC **28** 08:44:11.7±3.1,53°.80N×90°.59E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=24.7km s-min=20.3km az=28.0, Suspected Mining explosion.*

ISC 28 08:44:13.3±4.0, 53°.6N±0°.1×90°.6E±0°.2, h0km, n9, σ1§48/12, 6C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.42**	**277**	I		I	09 10 00.0	
	baz=89,slow=336,SNR=5.0							
ZAA0	**Zalesovo Array**	**3.42**	**277**	⇑Pg		**Pb**	**08 45 13.0**	**-1.6**
	0.6nm,0.5s							
ZAA0				⇓Lg		Lg	08 46 02.3	
	3.9nm,0.8s							
ZALV	**Zalesovo Beam**	**3.42**	**277**	Pn		**Pn**	**08 45 09.9**	**+2.1**
	1.5nm,0.3s,baz=91,slow=15,SNR=11							
ZALV				Lg		Lg	08 46 01.1	
	2.4nm,0.3s,baz=91,slow=27,SNR=5.4							
	2.4nm,0.3s							
KURK	**Kurchatov**	**7.90**	**253**	⇓Pn		**Pn**	**08 46 08.9**	**-0.4**
	2.5nm,1.1s							
KURK				⇓Sn		**Sn**	**08 47 41.3**	**+2.0**
	5.0nm,0.8s							
KURK				⇓Lg		Lg	08 48 26.9	
	22nm,1.2s							
KURBB	**Kurchatov Arra**	**7.99**	**253**	Pn		**Pn**	**08 46 10.1**	**-0.5**
	0.1nm,0.3s,baz=67,slow=15,SNR=7.5							
KURBB				Sn		**Sn**	**08 47 41.8**	**+0.1**
	baz=68,slow=27,SNR=3.

mbtmp4.2/13,ML4.6/2,MS3.2/5,Error ellipse: s-maj=34.8km s-min=13.2km az=76.0

ISC 28 08:48:30.2±0.7,**0°26'S**±0'07×**132°88'E**±0'07,**h32**km,**n40,** σ1§**55**/37,**mb4.1**/11,**MS3.2**/3,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SWI	**Sorong**	**1.73**	**250**	P		**Pn**	**08 48 56.5**	**-1.6**
SWI				S		**Sb**	**08 49 22.8**	**+0.1**
FAKI	**Fak Fak**	**2.71**	**194**	P		**Pn**	**08 49 12.3**	**+0.7**
FAKI	**Fak Fak**	**2.71**	**194**	P		**Pn**	**08 49 10.6**	**-1.0**
BNDI	**Bandanaira** 496nm,0.7s,2.4nm	**5.17**	**215**	P		**Pn**	**08 49 44.7**	**-0.8**
LBMI	**Labuha** 83nm,0.9s,0.4nm	**5.40**	**266**	P		**Pn**	**08 49 46.0**	**-2.5**
TNTI	**Ternate**	**5.61**	**281**	P		**Pn**	**08 49 47.9**	**-3.6**
NLAI	**Namlea** 62nm,0.6s,0.3nm	**6.49**	**243**	P		**Pn**	**08 50 02.1**	**-1.5**
NLAI	62nm,0.6s,0.3nm			S		**Sn**	**08 51 20.9**	**+4.3**
SANI	**Sanana** 14nm,0.5s,0.1nm	**7.12**	**256**	P		**Pn**	**08 50 10.3**	**-1.9**
GTOI	**Gorontalo** 12nm,0.8s	**9.91**	**275**	P		**Pn**	**08 50 49.0**	**-1.6**
DRS	**Darwin Rock St**	**12.25**	**189**	P		**Pn**	**08 51 21.6**	**-0.9**
KDU	**Kakadu**	**12.35**	**182**	P		**Pn**	**08 51 22.5**	**-1.4**
MTN	**Manton Dam**	**12.62**	**188**	P		**Pn**	**08 51 27.6**	**0.0**
BATI	**Baumata** 12nm,0.3s,baz=44,slow=1.5,SNR=2.6	**13.48**	**223**	Pn		**Pn**	**08 51 38.3**	**-1.1**
BATI	comp=Z,140nm,19.4s,baz=88,slow=39 24nm,0.3s			LR		LR	08 57 13.3	
EDFI	**Ende, Flores** 11nm,0.9s	**13.98**	**233**	P		**Pn**	**08 51 45.5**	**-0.8**
KNRA	**Kununurra**	**15.85**	**195**	P		**Pn**	**08 52 08.9**	**-2.2**
PMG	**Port Moresby** comp=Z,77nm,18.8s,baz=274,slow=45	**16.86**	**123**	LR		LR	09 01 07.9	
FITZ	**Fitzroy Crossi**	**19.10**	**201**	P		**Pn**	**08 52 51.3**	**-0.2**
WRA	**Warramunga Arr** 1.1nm,0.3s,baz=355,slow=12,SNR=28	**19.61**	**176**	P		**P**	**08 52 55.5**	**-0.6**
WRA	2.0nm,0.6s,baz=360,slow=23,SNR=5.5 6.1nm,0.7s			S		S	08 56 22.9	-13
QIS	**Mount Isa**	**21.21**	**162**	P		**P**	**08 53 14.2**	**+0.7**
AS01	**Alice Springs**	**23.29**	**178**	P		**P**	**08 53 35.3**	**-0.1**
ASAR	**Alice Springs** 18nm,0.9s,baz=356,slow=9.5,SNR=77	**23.29**	**178**	P		**P**	**08 53 34.5**	**-0.8**
ASAR	0.6nm,0.8s,baz=358,slow=19,SNR=2.1 18nm,0.9s			S		**S**	**08 57 48.0**	**+2.2**
CTA	**Charters Tower** 7.5nm,0.9s,baz=159,slow=0.2,SNR=3.0 7.5nm,0.9s	**23.66**	**147**	P		**P**	**08 53 38.1**	**-0.9**
PSA00	**Pilbara Seismi**	**24.71**	**210**	P		**P**	**08 53 50.4**	**+1.7**
STKA	**Stephens Creek** 5.9nm,0.6s,baz=336,slow=9.2,SNR=9.7	**32.51**	**166**	P		**P**	**08 54 56.9**	**-1.3**
STKA	comp=Z,100nm,19.1s,baz=21,slow=39 5.9nm,0.6s			LR		LR	09 09 42.7	
CMAR	**Chiang Mai Arr** 0.7nm,0.3s,baz=105,slow=10,SNR=6.0 0.7nm,0.3s	**38.18**	**301**	P		**P**	**08 55 47.7**	**+0.5**
H11N1	**WAKE ISLAND Hy** baz=243,slow=75,SNR=83	**38.79**	**57**	T		T	09 37 11.0	
H11N2	**WAKE ISLAND Hy** baz=243,slow=75,SNR=115	**38.80**	**57**	T		T	09 37 12.0	
H11N3	**WAKE ISLAND Hy** baz=243,slow=75,SNR=66	**38.81**	**57**	T		T	09 37 10.6	
MA2	**Magadan** comp=Z,11nm,21.1s,baz=134,slow=33	**61.29**	**10**	LR		LR	09 22 10.4	
YAK	**Yakutsk** comp=Z,16nm,20.9s,baz=207,slow=35	**62.18**	**358**	LR		LR	09 24 59.5	
MKAR	**Makanchi Array** 1.3nm,0.9s,baz=114,slow=6.8,SNR=4.1 1.3nm,0.8s	**64.35**	**324**	P		**P**	**08 59 04.3**	**+1.3**
SEY	**Seymchan** 0.4nm,0.3s,baz=147,slow=7.2,SNR=3.5 0.4nm,0.3s	**64.71**	**10**	P		**P**	**08 59 07.2**	**+2.3**
KURBB	**Kurchatov Arra** 1.6nm,1.0s,baz=116,slow=6.5,SNR=4.0 1.6nm,1.0s	**68.43**	**326**	P		**P**	**08 59 29.8**	**+0.9**
BVAR	**Borovoye Array** 1.9nm,0.8s,baz=104,slow=6.3,SNR=4.4 1.9nm,0.8s	**74.02**	**326**	P		**P**	**09 00 03.3**	**+0.5**
VNDA	**Vanda** 0.7nm,0.7s,baz=314,slow=4.7,SNR=3.5 0.7nm,0.7s	**78.77**	**174**	P		**P**	**09 00 29.3**	**+0.1**
ILAR	**Eielson Array** 0.4nm,0.9s,baz=242,slow=5.8,SNR=4.5 0.4nm,0.9s	**86.06**	**25**	P		**P**	**09 01 07.1**	**-0.4**
QSPA	**South Pole Qui** 1.6nm,1.1s,baz=312,slow=1.3,SNR=5.6 1.6nm,1.1s	**89.67**	**180**	P		**P**	**09 01 24.5**	**-0.3**
CPUP	**Villa Florida** 1.8nm,1.0s,baz=331,slow=3.5,SNR=5.5	**151.79**	**160**	PKPbc		**PKPbc**	**09 08 22.4**	**-0.1**
LPAZ	**La Paz**	**153.54**	**129**	PKIKP		**PKiKP**	**09 08 28.3**	**+0.7**
LPAZ	**La Paz** 0.3nm,0.4s,baz=231,slow=6.5,SNR=1.9	**153.54**	**129**	PKPbc		**PKiKP**	**09 08 28.2**	**+0.7**

*IDC **28** 08:48:51.7±0.9,42°.45N×144°.61E,h0km,mb4.1/23, mbtmp4.1/26,ML2.9/3,MS3.5/27,Error ellipse: s-maj=22.1km s-min=15.2km az=166.0*

*NIED **28** 08:48:55.0,42°.17N×144°.81E,h27km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.62; $M_{\theta\theta}$-0.66; $M_{\phi\phi}$-0.96; $M_{r\theta}$0.61; $M_{\theta\phi}$-1.11; $M_{\phi r}$1.59; Fault plane solution: $M_0$2.47000×10^{15} NP1:ϕ_s26.00000°, δ68.00000°,λ77.00000°. NP2:ϕ_s238.00000°,δ26.00000°, λ119.00000°.*

*JMA **28** 08:48:55.0±0.1,42°.2N±0°.2×144°.8E±0°.6,h27km,MD4.2/35, MV4.3/35,SE OFF TOKACHI*

*SKHL **28** 08:48:54.3±0.1,42°.00N×144°.90E,h54km±4km,mb5.0/5, ms4.0/3*

*MOS **28** 08:48:54.1±1.0,42°.08N×144°.79E,h43km,mb4.6/14,Error ellipse: s-maj=9.3km s-min=6.2km az=92.1*

*NEIC **28** 08:48:56.8±2.9,42°.26N±0°.03×144°.8E±0°.1,h37km±8km, mb4.3/35,Error ellipse: s-maj=13.4km s-min=3.8km az=86.0*

ISC 28 08:48:56.3±0.5,**42°16N**±0°06×**144°81E**±0°04,**h39**km±2km, **n189,** σ1§**25**/167,**mb4.3**/59,**MS3.7**/24,**5C-6D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JAK	**Akkeshi**	**0.84**	**354**	*e*P		**Pn**	**08 49 10.6**	**-0.9**
JAK				*e*S		**Sn**	**08 49 23.1**	**+0.4**
JAK	**Akkeshi** comp=E,10.0nm,1.6s,comp=N,11nm,1.6s	**0.84**	**354**	A		A	08 49 10.6	
AKK	**Akkeshi**	**0.85**	**1**	*i* P		**Pn**	**08 49 11.1**	**-0.7**
AKK				*i* S		**Sn**	**08 49 23.8**	**+0.7**
JKHN	**Kushirohamanak**	**0.95**	**15**	P		**Pn**	**08 49 12.8**	**-0.4**
JKHN				*e*S		**Sn**	**08 49 26.7**	**+1.1**
JKHN	**Kushirohamanak** comp=E,30nm,0.8s,comp=N,20nm,1.2s	**0.95**	**15**	A		A	08 49 12.8	
JOB	**Onbets**	**1.03**	**316**	*e*P		**Pn**	**08 49 13.8**	**-0.4**
JOB	**Onbets** comp=E,18nm,2.3s,comp=N,24nm,2.0s	**1.03**	**316**	A		A	08 49 13.8	
JTHR	**Tokachihiroo**	**1.13**	**277**	*e*P		**Pn**	**08 49 14.9**	**-0.6**
JTHR	**Tokachihiroo** comp=E,9.0nm,1.8s,comp=N,18nm,1.4s	**1.13**	**277**	A		A	08 49 14.9	
JCH	**Churui**	**1.17**	**293**	*i* P		**Pn**	**08 49 15.5**	**-0.6**
JCH				*e*S		**Sn**	**08 49 30.8**	**+0.1**
JCH	**Churui** comp=E,6.0nm,0.6s,comp=N,7.0nm,0.5s	**1.17**	**293**	A		A	08 49 15.5	
ERM	**Erimo**	**1.24**	**264**			**Pn**	**08 49 17.5**	**+0.5**
ERM	**Erimo**	**1.24**	**264**	*d i*	PN	**Pn**	**08 49 16.8**	**-0.3**
JEM	**Erimo**	**1.24**	**264**	*e*P		**Pn**	**08 49 16.8**	**-0.3**
JAR	**Ashorobuto**	**1.37**	**326**	*i* P		**Pn**	**08 49 17.9**	**-1.0**
JAR				*e*S		**Sn**	**08 49 35.9**	**+0.1**
JAR	**Ashorobuto** comp=E,6.0nm,0.9s,comp=N,6.0nm,2.5s	**1.37**	**326**	A		A	08 49 17.9	
NMR	**Nemuro--Hokkai**	**1.38**	**29**	*e*PN		**Pn**	**08 49 17.9**	**-1.1**
NMR				*e*S		**Sn**	**08 49 36.1**	**+0.1**
NMR	**Nemuro--Hokkai**	**1.38**	**29**	*i* P		**Pn**	**08 49 18.2**	**-0.8**
NMR				*e*S		**Sn**	**08 49 36.1**	**+0.1**
NEM2	**Nemuro 2**	**1.38**	**29**	P		**Pn**	**08 49 18.1**	**-0.9**
NEM2				S		**Sn**	**08 49 36.0**	**0.0**
JNK	**Nakash**	**1.42**	**357**	*i* P		**Pn**	**08 49 18.4**	**-1.2**
JNK				S		**Sn**	**08 49 36.6**	**-0.5**
JNBK	**Urakawa-nobuka**	**1.54**	**275**	P		**Pn**	**08 49 20.2**	**-0.9**
JNBK	**Urakawa-nobuka** comp=E,9.0nm,1.8s,comp=N,7.0nm,2.0s	**1.54**	**275**	A		A	08 49 20.2	
JNSB	**Nemuroshibetsu** comp=E,6.0nm,1.6s,comp=N,7.0nm,2.0s	**1.62**	**5**	A		A	08 49 22.4	
RUSJ	**Misakicho**	**1.97**	**9**	*e*PN		**Pn**	**08 49 26.5**	**-0.5**
RUSJ				*e*S		**Sn**	**08 49 51.2**	**+0.8**
YUK	**Yuzh-Kuril'sk**	**2.02**	**22**	*e*PN		**Pn**	**08 49 26.9**	**-0.9**
YUK				*e*S		**Sn**	**08 49 52.2**	**+0.4**
YUK	comp=Z,280nm,0.2s			pmax	pmax			
YUK	comp=E,56nm,0.1s			pmax	pmax			
YUK	comp=N,72nm,0.2s			pmax	pmax			
YUK	comp=E,2μm,0.6s			smax	smax			
YUK	comp=N,1μm,0.3s			smax	smax			
YUK	**Yuzh-Kuril'sk**	**2.02**	**22**	*e*P		**Pn**	**08 49 27.2**	**-0.6**
YUK	comp=N,280nm,0.3s			AMB	AMB		08 49 29.3	
YUK				*e*S		**Sn**	**08 49 51.9**	**+0.1**
YUK	comp=N,1μm,0.4s			A	A		08 49 55.3	
YUK	comp=N,2μm,0.4s			A	A		08 49 55.3	
SHO	**Shikotan**	**2.26**	**40**	*e*PN		**Pn**	**08 49 30.9**	**-0.1**
SHO				*e*S		**Sn**	**08 49 59.2**	**+1.6**
SHO	comp=E,464nm,0.4s			smax	smax			
SHO	comp=N,541nm,0.5s			smax	smax			
SHO	**Shikotan**	**2.26**	**40**	*e*P		**Pn**	**08 49 30.9**	**-0.1**
SHO	comp=N,80nm,0.3s			AMB	AMB		08 49 33.1	
SHO				*e*S		**Sn**	**08 49 57.6**	**0.0**
SHO	comp=N,540nm,0.5s			A	A		08 50 09.7	
SHO	comp=N,460nm,0.5s			A	A		08 50 09.7	
JKA	**Kamikawa-asahi**	**2.54**	**321**			**Pn**	**08 49 35.2**	**+0.3**
JKA	**Kamikawa-asahi**	**2.54**	**321**	*e*P		**Pn**	**08 49 35.2**	**+0.3**
ASAJ	**Asahikawa**	**2.54**	**321**	PN		**Pn**	**08 49 35.2**	**+0.3**
ASAJ	**Asahikawa** comp=N,16nm,0.3s,baz=171,slow=14,SNR=47	**2.54**	**321**	Pn		**Pn**	**08 49 34.8**	**-0.1**
ASAJ				Sn		**Sn**	**08 50 07.2**	**+2.6**
ASAJ	comp=N,19nm,0.3s,baz=198,slow=9.4,SNR=6.4			LR		LR	08 50 44.9	
ASAJ	comp=N,654nm,19.1s,baz=152,slow=51			LR		LR	08 50 44.9	
JTM	**Tenmabayashi**	**3.13**	**245**	Pn		**Pn**	**08 49 42.2**	**-0.8**
KUR	**Kuril'sk**	**3.78**	**35**	*e*PN		**Pn**	**08 49 54.1**	**+2.1**
KUR				*e*S		**Sn**	**08 50 35.8**	**+0.6**
KUR	comp=N,50nm,0.4s			pmax	pmax			
KUR	comp=Z,72nm,0.4s			pmax	pmax			
KUR	comp=E,30nm,0.2s			pmax	pmax			
KUR	comp=N,182nm,0.6s			smax	smax			
KUR	comp=E,113nm,0.5s			smax	smax			
KUR	**Kuril'sk**	**3.78**	**35**	*e*P		**Pn**	**08 49 53.7**	**+1.7**
KUR				AMB	AMB		08 50 03.9	
KUR	comp=E,50nm,0.4s			AMB	AMB		08 50 03.9	
KUR	comp=E,30nm,0.4s			AMB	AMB		08 50 03.9	
KUR	comp=E,70nm,0.4s			AMB	AMB		08 50 03.9	
KUR				*e*S		**Sn**	**08 50 36.9**	**+1.7**
KUR				A	A		08 50 42.7	
KUR	comp=E,200nm,0.5s			A	A		08 50 42.7	
KUR	comp=E,310nm,0.5s			MLR	MLR			
YSS	**Yuzh-Sakhalins**	**5.01**	**344**	*e*PN		**Pn**	**08 50 07.9**	**-0.9**
YSS	comp=Z,20nm,1.0s			pmax	pmax			
YSS	comp=Z,1μm,13.0s			MLR	MLR			
YSS	comp=N,500nm,12.0s			MLR	MLR			
YSS	comp=E,900nm,13.0s			MLR	MLR			
YSS	**Yuzh-Sakhalins**	**5.01**	**344**	*e*P		**Pn**	**08 50 09.2**	**+0.4**
YSS	comp=E,50nm,0.7s			AMB	AMB		08 50 10.2	
YSS				*e*S		**Sn**	**08 51 06.9**	**+1.5**
YSS				A	A		08 51 10.1	
YSS	comp=E,500nm,13.0s			AMS	AMS		08 52 27.0	
YSS	comp=E,900nm,13.0s			AMS	AMS		08 52 27.0	
YSS	comp=E,1μm,13.0s			AMS	AMS		08 52 27.0	
JMM	**Marumori**	**5.29**	**217**			**Pn**	**08 50 10.3**	**-2.3**
JSD	**Sado**	**6.50**	**233**			**Pn**	**08 50 28.0**	**-1.3**
MJA0	**Matsu Arr-Jizo**	**7.57**	**224**	*e*PN		**Pn**	**08 50 43.2**	**-0.9**
MJB9	**Matsu-Tunnel**	**7.59**	**225**			**Pn**	**08 50 44.3**	**0.0**
MAJO	**Matsushiro**	**7.59**	**225**			**Pn**	**08 50 43.2**	**-1.2**
MAJO	**Matsushiro**	**7.59**	**225**	*d i*	PN	**Pn**	**08 50 43.2**	**-1.2**
MJAR	**Matsushiro Arr** comp=E,0.3nm,0.3s,baz=29,slow=13,SNR=23 comp=E,6.8nm,0.7s	**7.59**	**225**	Pn		**Pn**	**08 50 43.3**	**-1.1**
JGF	**Kuroka**	**8.76**	**224**	Pn		**Pn**	**08 50 59.9**	**-0.5**
TYV	**Tymovskoe**	**8.83**	**351**	*e*PN		Pn	08 51 10.2	+9.0
TYV				*e*S		Sn	08 52 52.2	+13
TYV	comp=Z,5.0nm,0.9s			pmax	pmax			
TYV	comp=N,3.0nm,1.0s			smax	smax			
TYV	**Tymovskoe**	**8.83**	**351**	*e*P		**Pn**	**08 51 04.5**	**+3.3**
TYV				AMB	AMB		08 51 07.5	
TYV	comp=N,40nm,0.6s			*e*S		**Sn**	**08 52 40.6**	**+1.3**
TYV				A	A		08 52 57.5	
TYV	comp=N,30nm,0.4s			A	A		08 52 57.5	
TYV	comp=N,40nm,0.4s							
USRK	**Ussuriysk Ar.**	**9.59**	**287**	Pn		**Pn**	**08 51 13.1**	**+1.5**
USRK	**Ussuriysk Ar.**	**9.59**	**287**	PN		**Pn**	**08 51 13.1**	**+1.5**
USRK	**Ussuriysk Ar.** comp=N,0.5nm,0.3s,baz=90,slow=14,SNR=2.6	**9.59**	**287**	Pn		**Pn**	**08 51 12.1**	**+0.5**
USRK				LR		LR	08 55 19.1	
JHJ	**Hachijo jima 2** comp=N,3.7nm,0.3s,baz=72,slow=16,SNR=1.4	**9.87**	**205**	Pn		**Pn**	**08 51 12.1**	**-3.4**
JHJ				Sn		Sn	08 52 52.5	-12
JHJ	comp=N,13nm,0.3s,baz=83,slow=23,SNR=8.6							
GRNR	**Gornyy** comp=N,500nm,17.0s	**10.37**	**329**	AMS	AMS		08 55 30.8	
GRNR	comp=N,600nm,17.0s			AMS	AMS		08 55 30.8	
OKH	**Okha**	**11.46**	**354**	*e*P		**Pn**	**08 51 38.6**	**+1.4**
OKH	comp=N,70nm,0.3s			AMB	AMB		08 51 39.2	
OKH	comp=N,100nm,14.0s			AMS	AMS		08 57 15.5	
OKH	comp=N,500nm,14.0s			AMS	AMS		08 57 15.5	
OKH	comp=N,300nm,14.0s			AMS	AMS		08 57 15.5	
KLR	**Kul'dur** comp=N,0.1nm,0.3s,baz=240,slow=23,SNR=1.8	**11.54**	**312**	Pn		Pn	08 51 30.5	-7.8
KLR				LR		LR	08 56 38.2	
KLR	comp=N,295nm,19.2s,baz=39,slow=42							
KLR	**Kul'dur**	**11.54**	**312**	*e*P		**Pn**	**08 51 40.6**	**+2.3**
KSRS	**Korea Array**	**13.81**	**256**	*e*P		**Pn**	**08 52 09.4**	**+0.1**
KSRS	**Korea Array** comp=N,0.2nm,0.3s,baz=67,slow=14,SNR=4.8	**13.81**	**256**	Pn		**Pn**	**08 52 08.1**	**-1.2**
KSRS				LR		LR	08 57 36.8	
KSRS	comp=N,174nm,18.6s,baz=65,slow=38 comp=N,1.5nm,0.7s							
PETK	**Petropavlovsk-** comp=N,0.1nm,0.3s,baz=260,slow=8.9,SNR=1.7 comp=N,2.9nm,0.9s	**13.95**	**34**	Pn		**Pn**	**08 52 08.9**	**-2.3**
PET	**Petropavlovsk**	**14.30**	**36**	*e*P		**Pn**	**08 52 15.1**	**-0.8**
PET	comp=N,600nm,17.0s			AMS	AMS		08 58 22.0	
ZEA	**Zeya**	**16.45**	**321**	*e*P		Pn	08 52 36.5	-7.5
ZEA	comp=Z,10.0nm,0.5s			pmax	pmax			
ZEA	**Zeya**	**16.45**	**321**	*e*P		**Pn**	**08 52 43.5**	**-0.5**
MA2	**Magadan** comp=Z,47nm,18.2s,baz=251,slow=39	**17.82**	**10**	LR		LR	09 00 18.6	
SEY	**Seymchan**	**21.28**	**10**	*i* P		**P**	**08 53 41.2**	**+2.2**
SEY	comp=Z,5.0nm,1.3s			pmax	pmax			
SEY	**Seymchan** comp=Z,0.9nm,0.4s,baz=186,slow=12,SNR=8.1 comp=Z,0.9nm,0.4s	**21.28**	**10**	P		**P**	**08 53 36.0**	**-3.0**
SEY	**Seymchan**	**21.28**	**10**	*e*P		**P**	**08 53 41.2**	**+2.2**
YAK	**Yakutsk**	**21.85**	**341**	*e*P		**P**	**08 53 46.5**	**+1.3**
YAK	comp=Z,16nm,0.6s			pmax	pmax			
YAK	**Yakutsk** comp=Z,101nm,19.9s,baz=101,slow=39	**21.85**	**341**	LR		LR	09 02 52.0	
YAK	**Yakutsk**	**21.85**	**341**	*e*P		**P**	**08 53 46.5**	**+1.3**
TIA	**Tai'an**	**22.22**	**264**	P		**P**	**08 53 47.5**	**-1.8**
TIA	comp=Z,5.0nm,0.9s			pmax	pmax			
SHEM	**Shemya Is, Ala** comp=Z,25nm,20.2s,baz=242,slow=37	**22.30**	**52**	LR		LR	09 02 28.1	
HHC	**Hu-ho-hao-te**	**24.85**	**278**	*e*P		**P**	**08 54 14.5**	**-0.6**
HHC				sP		sP	08 54 30.0	-0.1
HHC	comp=Z,9.0nm,0.6s			pmax	pmax			
HHC	comp=Z,74nm,5.6s			pmax	pmax			
HHC	comp=N,120nm,10.0s			LR	LR			
HHC	comp=E,130nm,16.1s			LR	LR			
HHC	comp=Z,210nm,14.3s			LR	LR			
ULN	**Ulaanbaatar**	**27.10**	**295**	P		**P**	**08 54 36.3**	**+0.9**
ULN	comp=Z,5.5nm,0.9s			IAmb	IAmb	IAmb	08 54 37.9	
ULN	**Ulaanbaatar**	**27.10**	**295**	*d i*	P	**P**	**08 54 36.7**	**+1.3**
ULN	comp=Z,7.0nm,1.0s			pmax	pmax			
SONM	**Songino Array**	**27.55**	**295**	P		**P**	**08 54 39.8**	**+0.4**
SONM	comp=Z,14nm,1.4s			IAmb	IAmb	IAmb	08 54 41.5	
SONM	**Songino Array**	**27.55**	**295**	*e*P		**P**	**08 54 40.3**	**+0.9**
SONM	comp=Z,5.0nm,0.7s			pmax	pmax			
SONM	**Songino Array** comp=Z,4.6nm,0.7s,baz=85,slow=7.9,SNR=26	**27.55**	**295**	P		**P**	**08 54 38.8**	**-0.5**
SONM	comp=Z,98nm,18.8s,baz=163,slow=39 comp=Z,4.6nm,0.7s			LR		LR	09 06 43.3	
GUMO	**Guam** comp=Z,21nm,19.4s,baz=90,slow=34	**28.47**	**180**	LR		LR	09 05 15.8	
H11N2	**WAKE ISLAND Hy** baz=326,slow=75,SNR=235	**29.14**	**133**	T		T	09 26 18.2	
H11N1	**WAKE ISLAND Hy** baz=326,slow=75,SNR=126	**29.15**	**133**	T		T	09 26 20.5	
H11N3	**WAKE ISLAND Hy** baz=326,slow=75,SNR=118	**29.16**	**133**	T		T	09 26 21.1	
XAN	**Xi'an**	**29.22**	**266**	P		P	08 54 46.0	-8.3
XAN	comp=Z,10.0nm,0.8s			pmax	pmax			
ZAK	**Zakamensk**	**29.54**	**301**	*e*P		**P**	**08 54 55.8**	**-1.2**
ZAK	comp=Z,6.0nm,1.4s			pmax	pmax			
ZAK	**Zakamensk**	**29.54**	**301**	*e*P		**P**	**08 54 55.8**	**-1.2**
H11S1	**WAKE ISLAND Hy** baz=328,slow=76,SNR=175	**30.04**	**135**	T		T	09 27 21.6	
H11S3	**WAKE ISLAND Hy** baz=328,slow=76,SNR=111	**30.05**	**135**	T		T	09 27 30.1	
H11S2	**WAKE ISLAND Hy** baz=328,slow=76,SNR=95	**30.06**	**135**	T		T	09 27 28.7	
LZH	**Lanzhou**	**32.12**	**273**	⇑P		**P**	**08 55 21.0**	**+0.9**
LZH				pP		pwP	08 55 32.0	-0.4
LZH	comp=Z,25nm,1.4s			pmax	pmax			
C18K	**Utukok River**	**38.52**	**28**	P		**P**	**08 56 14.2**	**-0.3**
C18K	comp=Z,2.7nm,0.8s			IAmb	IAmb	IAmb	08 56 31.1	
GOMU	**GeErMu**	**38.76**	**278**	P		**P**	**08 56 18.0**	**+0.7**
GOMU	comp=Z,6.0nm,0.4s			pmax	pmax			
G18K	**Tagagawik**	**38.91**	**33**	P		**P**	**08 56 17.9**	**+0.2**
G18K	comp=Z,4.3nm,1.1s			IAmb	IAmb	IAmb	08 56 30.1	
G19K	**Purcell Mounta**	**39.58**	**33**	P		**P**	**08 56 21.8**	**-1.5**
E19K	**Redstone River**	**39.72**	**31**	P		**P**	**08 56 24.3**	**-0.2**
H19K	**Roundabout Mou**	**39.76**	**34**	P		**P**	**08 56 25.2**	**+0.4**
NRIK	**Noril'sk**	**39.83**	**332**	‖*e*P		**P**	**08 56 25.3**	**0.0**
NRIK	comp=Z,6.0nm,1.3s			pmax	pmax			
NRIK	**Noril'sk** comp=Z,2.0nm,0.3s,baz=152,slow=6.4,SNR=4.5	**39.83**	**332**	P		**P**	**08 56 21.6**	**-3.7**
NRIK	comp=Z,50nm,20.4s,baz=131,slow=38 comp=Z,2.0nm,0.3s			LR		LR	09 13 57.3	
B20K	**Meade River** comp=Z,3.2nm,0.7s	**40.24**	**27**	IAmb		IAmb	08 56 30.8	
ZALV	**Zalesovo Beam**	**40.61**	**308**	P		**P**	**08 56 32.1**	**+0.1**
ZALV	**Zalesovo Beam**	**40.61**	**308**	*e*P		**P**	**08 56 31.4**	**-0.6**
ZALV	comp=Z,2.0nm,0.6s			pmax	pmax			
ZALV	**Zalesovo Beam** comp=Z,1.7nm,0.6s,baz=88,slow=7.0,SNR=6.4	**40.61**	**308**	P		**P**	**08 56 30.3**	**-1.7**
ZALV	comp=Z,1.5nm,0.6s,baz=119,slow=5.1,SNR=4.2			PcP		**PcP**	**08 58 33.1**	**-0.2**
ZALV	comp=Z,48nm,18.6s,baz=110,slow=38 comp=Z,1.7nm,0.6s			LR		LR	09 14 30.0	
J20K	**Nowinta River**	**40.63**	**36**	P		**P**	**08 56 32.9**	**+0.9**
J20K	comp=Z,3.7nm,0.9s			IAmb		IAmb	08 56 53.7	
IMAR	**Indian Mountai**	**40.92**	**33**	P		**P**	**08 56 34.6**	**+0.2**
G21K	**Allakaket** comp=Z,4.5nm,1.0s	**41.06**	**32**	IAmb		IAmb	08 56 38.0	
WMQ	**Urumqi**	**41.10**	**292**	*e*P		**P**	**08 56 37.3**	**+1.1**
WMQ				sP		sP	08 56 50.8	-0.6
WMQ	comp=Z,51nm,0.9s			pmax	pmax			
H23K	**Yukon River** comp=Z,4.0nm,0.8s	**42.63**	**34**	IAmb		IAmb	08 56 50.6	
TOLK	**Toolik Lake Re**	**42.72**	**29**	P		**P**	**08 56 50.0**	**+0.9**
NEA2	**Nenana**	**42.85**	**35**	P		**P**	**08 56 50.8**	**+0.7**
NEA2	comp=Z,3.8nm,0.7s			IAmb		IAmb	08 57 07.6	
D24K	**Happy Valley** comp=Z,4.2nm,0.6s	**43.02**	**29**	IAmb		IAmb	08 56 53.5	
G24K	**Hadweenzic Riv**	**43.47**	**32**	P		**P**	**08 56 56.3**	**+1.1**
ILAR	**Eielson Array**	**43.78**	**35**	*e*P		**P**	**08 57 00.2**	**+2.5**
ILAR	comp=Z,1.0nm,0.6s			pmax	pmax			
ILAR	**Eielson Array** comp=Z,2.0nm,0.7s,baz=274,slow=6.7,SNR=8.7 comp=Z,0.6nm,0.7s	**43.78**	**35**	P		**P**	**08 56 58.0**	**+0.3**
MK31	**Makanchi Array**	**43.81**	**298**	*d i*	P	**P**	**08 56 57.9**	**-0.3**
MKAR	**Makanchi Array**	**43.81**	**298**	P		**P**	**08 56 58.0**	**-0.2**
MKAR	**Makanchi Array**	**43.81**	**298**	*e*P		**P**	**08 56 57.8**	**-0.4**
MKAR	comp=Z,1.0nm,0.6s			pmax	pmax			
MKAR	**Makanchi Array** comp=Z,1.1nm,0.6s,baz=82,slow=10,SNR=8.6	**43.81**	**298**	P		**P**	**08 56 57.3**	**-1.0**
MKAR	comp=Z,42nm,20.8s,baz=62,slow=39 comp=Z,1.1nm,0.6s			LR		LR	09 17 12.3	
KLU	**Klutina**	**44.52**	**40**	P		**P**	**08 57 03.9**	**+0.2**
BMAR	**Burnt Mountain**	**44.58**	**31**	P		**P**	**08 57 05.3**	**+1.1**
RIDG	**Independent Ri**	**44.75**	**37**	P		**P**	**08 57 05.3**	**-0.2**
RIDG	comp=Z,6.6nm,1.2s			IAmb		IAmb	08 57 34.5	
KURK	**Kurchatov**	**45.01**	**305**	P		**P**	**08 57 08.6**	**+1.0**
KURK	comp=Z,4.0nm,0.7s			IAmb	IAmb	IAmb	08 57 19.5	
KURK	**Kurchatov**	**45

comp=Z,38nm,19.9s,baz=69,slow=38
comp=Z,2.4nm,0.4s

BRVK	**Borovoye**	**49.24**	**310**	P	**P**	**08 57 40.5**	**-0.1**
BRVK				IAmb	IAmb	08 57 43.4	

comp=Z,2.5nm,0.6s

BRVK	**Borovoye**	**49.24**	**310**	P	**P**	**08 57 40.5**	**-0.1**
BRVK				pmax	pmax		

comp=Z,3.0nm,0.6s

AAK	**Ala-Archa**	**50.50**	**296**	LR	LR	09 21 12.3	

comp=Z,72nm,18.5s,baz=65,slow=39

ARU	**Arti**	**54.33**	**317**	*c iP*	**P**	**08 58 17.8**	**-0.7**
ARU						09 00 17.3	
ARU				S	**S**	**09 05 54.4**	**+0.9**
ARU				SS	**SS**	**09 09 33.8**	**-1.5**
ARU				pmax	pmax		

comp=Z,11nm,1.4s

ARU	**Arti**	**54.33**	**317**	P	**P**	**08 58 16.9**	**-1.6**

comp=Z,7.8nm,0.2s,baz=44,slow=4.6,SNR=4.8

ARU				LR	LR	09 23 14.7	

comp=Z,83nm,19.4s,baz=81,slow=38

ARU	**Arti**	**54.33**	**317**	*i* P	**P**	**08 58 17.8**	**-0.7**
SPITS	**Spitsbergen Ar**	**56.01**	**349**	P	**P**	**08 58 29.2**	**-1.1**

comp=Z,5.3nm,0.9s,baz=83,slow=8.5,SNR=8.0
comp=Z,5.3nm,0.9s

ABKAR	**Akbulak array**	**56.72**	**309**	P	**P**	**08 58 34.6**	**-1.2**
ABKAR	**Akbulak array**	**56.72**	**309**	P	**P**	**08 58 35.7**	**0.0**
ABKAR				IAmb	IAmb	08 58 49.3	

comp=Z,2.6nm,0.8s

RES	**Resolute Bay**	**56.97**	**16**	IAmb	IAmb	08 58 52.3	

comp=Z,3.4nm,0.8s

AKTO	**Aktyubinsk**	**57.27**	**311**	P	**P**	**08 58 38.5**	**-1.1**

comp=Z,0.7nm,0.5s,baz=59,slow=3.9,SNR=2.2
comp=Z,0.7nm,0.5s

KIRV	**Kirov**	**57.79**	**322**	LR	LR	09 26 18.8	

comp=Z,78nm,18.9s,baz=56,slow=39

YKA	**Yellowknife Ar**	**58.07**	**33**	P	**P**	**08 58 45.2**	**+0.2**

comp=Z,0.7nm,0.9s,baz=304,slow=7.5,SNR=7.7
comp=Z,0.7nm,0.9s

ARCES	**ARCESS Array B**	**60.13**	**339**	P	**P**	**08 58 58.3**	**-0.9**

comp=Z,3.0nm,0.9s,baz=32,slow=5.8,SNR=1.7
comp=Z,3.0nm,0.9s

NEEM	**North Greenlan**	**60.26**	**4**	*i* P	**P**	**08 59 00.2**	**-0.1**
NEEM				IAmb	IAmb	08 59 03.8	

comp=Z,2.7nm,0.7s

DAG	**Danmarks Havn**	**60.88**	**356**	*i* P	**P**	**08 59 03.0**	**-1.2**
DAG				IAmb	IAmb	08 59 06.3	

comp=Z,2.2nm,0.9s

BELG	**Belogornoye**	**61.87**	**316**	⇓*eP*	**P**	**08 59 11.2**	**-0.1**
BELG				pmax	pmax		

comp=Z,1.0nm,0.8s

CTA	**Charters Tower**	**61.95**	**178**	LR	LR	09 27 11.6	

comp=Z,8.8nm,18.6s,baz=15,slow=37

WRA	**Warramunga Arr**	**62.55**	**191**	P	**P**	**08 59 19.6**	**+3.5**

comp=Z,0.8nm,0.7s,baz=7.3,slow=6.7,SNR=2.2
comp=Z,0.8nm,0.7s

KULLO	**Kullorsuaq**	**62.61**	**6**	*eP*	P	08 59 09.3	-6.7
KULLO				IAmb	IAmb	08 59 11.1	

comp=Z,3.2nm,0.8s

KULLO				IAML		09 00 17.7	

comp=Z,2.9nm,1.5s

GEYT	**Alibeck**	**63.69**	**298**	P	**P**	**08 59 22.1**	**-1.6**

comp=Z,2.4nm,0.6s,baz=36,slow=5.4,SNR=4.5
comp=Z,2.4nm,0.6s

FINES	**FINESS Array B**	**65.50**	**332**	P	**P**	**08 59 34.1**	**-0.9**

comp=Z,2.5nm,0.4s,baz=50,slow=7.2,SNR=30

FINES				LR	LR	09 30 39.8	

comp=Z,51nm,19.1s,baz=42,slow=38
comp=Z,2.5nm,0.4s

SUMG	**Summit**	**65.54**	**1**	*i* P	**P**	**08 59 34.9**	**-0.7**
SUMG				IAmb	IAmb	08 59 38.2	

comp=Z,3.5nm,1.4s

OBN	**Obninsk**	**65.57**	**323**	*eP*	**P**	**08 59 33.3**	**-2.3**
OBN				*e**PP	**sP**	**08 59 52.0**	**+1.0**
OBN				*e*		09 00 06.2	
OBN				*e*PPP	PPP	09 03 37.3	
OBN	**Obninsk**	**65.57**	**323**	LR	LR	09 30 40.7	

comp=Z,49nm,20.2s,baz=66,slow=38

OBN	**Obninsk**	**65.57**	**323**	*eP*	**P**	**08 59 33.3**	**-2.3**
NUUG	**Nuugaatsiaq**	**65.88**	**6**	*i* P	**P**	**08 59 36.7**	**-0.6**
NUUG				IAmb	IAmb	08 59 38.0	

comp=Z,5.8nm,0.7s

ICESG	**Greenland Ices**	**69.02**	**2**	*i* P	**P**	**08 59 56.9**	**-0.7**
ICESG				IAmb	IAmb	09 00 01.9	

comp=Z,5.5nm,0.8s

KIV	**Kislovodsk**	**69.53**	**311**	*eP*	**P**	**09 00 01.5**	**+0.6**
KIV				pmax	pmax		

comp=Z,5.0nm,1.0s

KIV				MLR	MLR		

comp=Z,80nm,17.0s

KIV	**Kislovodsk**	**69.53**	**311**	*eP*	**P**	**09 00 01.5**	**+0.6**
KBZ	**Khabaz**	**69.55**	**311**	*eP*	**P**	**09 00 02.2**	**+1.3**
KBZ				pmax	pmax		

comp=Z,4.0nm,0.8s

KBZ	**Khabaz**	**69.55**	**311**	P	**P**	**09 00 00.8**	**-0.1**

comp=Z,3.9nm,0.8s,baz=35,slow=4.4,SNR=10

KBZ				LR	LR	09 36 07.7	

comp=Z,65nm,18.6s,baz=90,slow=41
comp=Z,3.9nm,0.8s

NVAR	**Mina Array Bea**	**69.88**	**56**	P	**P**	**09 00 04.8**	**+1.4**

comp=Z,0.6nm,0.8s,baz=289,slow=4.5,SNR=4.1
comp=Z,0.6nm,0.8s

NB2	**NORSAR Subarra**	**70.45**	**338**	P	**P**	**09 00 05.8**	**-0.4**

comp=Z,0.8nm,0.6s,baz=34,slow=6.5

NOA	**NORSAR Array B**	**70.45**	**338**	P	**P**	**09 00 05.5**	**-0.7**

comp=Z,1.9nm,0.8s,baz=35,slow=6.2,SNR=6.0
comp=Z,1.9nm,0.8s

HFS	**Hagfors**	**70.47**	**336**	P	**P**	**09 00 05.7**	**-0.6**

comp=Z,2.4nm,0.6s,baz=45,slow=4.4,SNR=9.1
comp=Z,2.4nm,0.6s

GNI	**Garni**	**70.74**	**307**	LR	LR	09 37 08.2	

comp=Z,34nm,18.0s,baz=174,slow=41

AKASG	**Malin Array Be**	**71.83**	**323**	*eP*	**P**	**09 00 15.3**	**+0.7**
AKASG				pmax	pmax		

comp=Z,1.0nm,0.4s

AKASG	**Malin Array Be**	**71.83**	**323**	P	**P**	**09 00 13.8**	**-0.9**

comp=Z,1.5nm,0.6s,baz=40,slow=6.0,SNR=7.8
comp=Z,1.5nm,0.6s

AKBB	**Malin Array Si**	**71.83**	**323**	⇑*eP*	**P**	**09 00 13.9**	**-0.7**
AKBB				pmax	pmax		

comp=Z,16nm,2.0s

PDAR	**Pinedale Array**	**72.24**	**48**	P	**P**	**09 00 18.1**	**+0.5**

comp=Z,0.5nm,0.6s,baz=252,slow=1.9,SNR=7.7
comp=Z,0.5nm,0.6s

CRVS	**Cervenica-Dubn**	**76.54**	**325**	*eP*	**P**	**09 00 45.9**	**+3.7**
CRVS	**Cervenica-Dubn**	**76.54**	**325**	*eP*	**P**	**09 00 45.9**	**+3.7**
MLR	**Muntele Rosu**	**77.12**	**321**	LR	LR	09 37 47.0	

comp=Z,58nm,18.6s,baz=116,slow=38

LANS	**Liptovska Anna**	**77.17**	**327**	*eP*	**P**	**09 00 48.1**	**+2.3**
LANS	**Liptovska Anna**	**77.17**	**327**	*eP*	**P**	**09 00 48.1**	**+2.3**
CLL	**Collm**	**77.91**	**331**	*eP*	**P**	**09 00 49.0**	**-0.8**
CLL	**Collm**	**77.91**	**331**	*eP*	**P**	**09 00 49.0**	**-0.8**
VYHS	**Vyhne**	**77.95**	**327**	*eP*	**P**	**09 00 49.3**	**-0.8**
VYHS	**Vyhne**	**77.95**	**327**	*eP*	**P**	**09 00 49.3**	**-0.8**
VRAC	**Vranov**	**78.20**	**328**	LR	LR	09 38 35.4	

comp=Z,57nm,19.2s,baz=13,slow=38

EKA	**Eskdalemuir Ar**	**79.12**	**342**	P	**P**	**09 00 56.0**	**-0.4**

comp=Z,0.6nm,0.5s,baz=21,slow=4.5,SNR=6.0
comp=Z,0.6nm,0.5s

GERES	**GERESS Array B**	**79.68**	**330**	LR	LR	09 39 40.1	

comp=Z,83nm,18.6s,baz=76,slow=38

DAVOX	**Davos/Dischmat**	**82.82**	**331**	LR	LR	09 41 38.3	

comp=Z,49nm,19.9s,baz=71,slow=38

TXAR	**Lajitas Array**	**84.96**	**55**	P	**P**	**09 01 28.6**	**+0.9**

comp=Z,0.5nm,0.8s,baz=296,slow=3.5,SNR=5.9
comp=Z,0.5nm,0.8s

ESDC	**Sonseca Array**	**93.75**	**336**	LR	LR	09 50 10.2	

comp=Z,33nm,18.4s,baz=277,slow=39

H03N2	**Juan Fernandez**	**144.68**	**90**	T	T	11 50 14.3	

baz=299

H03N3	**Juan Fernandez**	**144.69**	**90**	T	T	11 50 16.6	

baz=299

H03N1	**Juan Fernandez**	**144.69**	**90**	T	T	11 50 10.6	

baz=299

SIV	**San Ignacio**	**145.73**	**48**	PKPbc	**PKPab**	**09 08 31.7**	**0.0**

comp=Z,0.7nm,0.6s,baz=302,slow=6.5,SNR=2.9

*IDC **28** 08:57:27.2±1.1,23°.25N×94°.12E,h0km,mb3.7/4, mbtmp3.7/6,ML3.9/2,MS3.7/1,Error ellipse: s-maj=34.5km s-min=21.2km az=58.0*

ISC 28 08:57:34.0±1.2,23°.2N±0°.2×93°.9E±0°.1,h58km,n7,σ0°39/6, mb3.7/4,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**2.11**	**257**	Pn	**Pn**	**08 58 07.0**	**+0.1**

35nm,0.3s,baz=270,slow=23,SNR=1.6

BRDH				Sn	**Sn**	**08 58 31.9**	**-0.2**

48nm,0.3s,baz=270,slow=23,SNR=5.8
79nm,0.3s

CMAR	**Chiang Mai Arr**	**6.68**	**134**	Pn	Pn	08 59 05.6	-4.0

0.6nm,0.3s,baz=315,slow=13,SNR=1.3
0.6nm,0.3s

MKAR	**Makanchi Array**	**25.33**	**341**	P	**P**	**09 02 55.7**	**+0.3**

0.6nm,0.5s,baz=154,slow=10,SNR=7.6
0.6nm,0.5s

SONM	**Songino Array**	**26.55**	**19**	P	**P**	**09 03 06.2**	**-0.3**

0.2nm,0.4s,baz=205,slow=9.2,SNR=2.8
0.2nm,0.4s

BELG	**Belogornoye**	**45.62**	**322**	LR	LR	09 29 05.6	

comp=Z,87nm,19.0s,baz=162,slow=42

WRA	**Warramunga Arr**	**58.28**	**134**	P	**P**	**09 07 22.7**	**-0.3**

0.8nm,0.5s,baz=322,slow=7.5,SNR=30
0.8nm,0.5s

ASAR	**Alice Springs**	**60.68**	**137**	P	**P**	**09 07 39.9**	**+0.3**

1.1nm,0.5s,baz=319,slow=6.9,SNR=34
1.1nm,0.5s

IDC 28 09:09:38.0±3.3,53°.60N×87°.91E,h0km,mbtmp3.0/2, ML2.3/2,Error ellipse: s-maj=28.5km s-min=17.7km az=57.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.87**	**282**	I	I	09 22 30.0	

baz=97,slow=338,SNR=3.2

ZALV	**Zalesovo Beam**	**1.87**	**282**	Pg	Pn	09 10 11.0	-0.2
ZALV				Lg	Lg	09 10 37.6	

1.1nm,0.3s,baz=101,slow=15,SNR=8.4
2.3nm,0.3s,baz=102,slow=26,SNR=8.8

KURBB	**Kurchatov Arra**	**6.50**	**246**	Pn	Pn	09 11 16.1	+1.3
KURBB				Lg	Lg	09 13 02.7	

baz=63,slow=15,SNR=2.2
baz=61,slow=34,SNR=1.5
1.0nm,0.3s

MKAR	**Makanchi Array**	**7.70**	**210**	Pn	Pn	09 11 32.5	+1.1
MKAR				Lg	Lg	09 13 41.0	

0.1nm,0.3s,baz=26,slow=13,SNR=2.5
baz=27,slow=32,SNR=2.8
0.1nm,0.2s

*OSPL **28** 09:12:37.1±2.1,18°.85N×73°.98W,h0km±17km,ML2.3*
*SSNC **28** 09:12:37.0±1.3,18°.80N×74°.01W,h0km±8km,MD2.7, ML2.2*

ISC 28 09:12:35.2±2.7,18°.84N±0°.10×74°.00W±0°.06,h6km±17km, n10,σ0°79/18,1D,Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**1.34**	**351**	*eP*	**Pn**	**09 13 00.2**	**-0.3**
MASC				*eS*	**Sg**	**09 13 18.1**	**-0.4**
MASC				IAML		09 13 20.7	

comp=E,40nm,0.3s

MASC				IAML		09 13 21.4	

comp=N,20nm,0.2s

MASC	**Masc**	**1.34**	**351**	*i* P	**Pn**	**09 13 00.7**	**+0.2**
MASC				*eS*	**Sb**	**09 13 18.4**	**+0.2**
MASC				IAML		09 13 27.5	

comp=Z,55nm,3.8s

GTBY	**Guantanamo Bay**	**1.50**	**316**	⇓*eP*	**Pn**	**09 13 03.1**	**+0.5**
GTBY				*eS*	**Sg**	**09 13 23.3**	**-0.2**
GTBY				IAML		09 13 26.3	

comp=Z,20nm,0.1s

GTBY				IAML		09 13 26.5	

comp=Z,35nm,0.2s

GTBY	**Guantanamo Bay**	**1.50**	**316**	*i* P	**Pn**	**09 13 02.9**	**+0.2**
GTBY				IAML		09 13 22.6	

comp=Z,29nm,3.7s

GTBY				*eS*	**Sg**	**09 13 23.6**	**0.0**
PAPH	**Port-au-Prince**	**1.65**	**101**	*eP*	**Pn**	**09 13 04.2**	**-0.4**
PAPH				*eS*	**Sn**	**09 13 25.5**	**-0.7**
PAPH				IAML		09 13 27.0	

comp=E,77nm,0.2s

PAPH				IAML		09 13 27.4	

comp=N,91nm,0.3s

PAPH	**Port-au-Prince**	**1.65**	**101**	*i* P	**Pn**	**09 13 03.2**	**-1.4**
PAPH				*eS*	**Sn**	**09 13 25.6**	**-0.6**
PAPH				IAML		09 13 27.7	

comp=Z,38nm,0.2s

SABCS	**La Quijada**	**1.95**	**321**	*eP*	**Pn**	**09 13 09.2**	**+0.3**
SABCS				*eS*	**Sn**	**09 13 34.2**	**+0.4**
SABCS				IAML		09 13 37.0	

comp=N,19nm,0.4s

SABCS				IAML		09 13 38.4	

comp=E,32nm,0.3s

RCC	**Rio Carpintero**	**1.97**	**306**	*eP*	**Pn**	**09 13 08.8**	**-0.3**
RCC				*eS*	**Sn**	**09 13 33.5**	**-0.6**
RCC				IAML		09 13 36.3	

comp=N,6.6nm,0.1s

RCC				IAML		09 13 37.4	

comp=E,4.3nm,0.2s

SDDR	**Presa de Saban**	**2.58**	**86**	*i* P	**Pn**	**09 13 18.7**	**+1.2**
SDDR				IAML		09 13 55.7	

comp=Z,20nm,3.1s

PODR	**Polo**	**2.67**	**104**	*i* P	**Pn**	**09 13 20.6**	**+1.7**

*KRNET **28** 09:32:04.7±0.1,39°.87N×74°.41E,h14km,mb3.4*
*SOME **28** 09:32:10.2,40°.07N×74°.53E,h10km*
*NNC **28** 09:32:11.4±2.1,40°.14N×74°.47E,h0km,mb4.1,mpv3.7, Error ellipse: s-maj=16.3km s-min=9.0km az=164.0*

ISC 28 09:32:05.1±1.5,39°.97N±0°.05×74°.44E±0°.03,h1km±12km, n57,σ1°66/91,18C-29D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.72**	**274**	⇑*iP*	**Pg**	**09 32 18.4**	**-0.5**

baz=83

SFK				⇑*iS*	**Sg**	**09 32 28.4**	**+0.1**

baz=83

OHH	**Osh**	**1.38**	**294**	⇑*iP*	**Pb**	**09 32 31.2**	**-0.7**

baz=98

OHH				⇑*iP*	**Sg**	**09 32 50.6**	**+1.0**

baz=98

NRN	**Naryn**	**1.89**	**39**	⇑*iP*	**Pb**	**09 32 40.8**	**+0.2**

baz=37

NRN				⇑*iS*	**Sg**	**09 33 07.6**	**+1.9**

baz=37

ARLS	**Aral**	**1.90**	**357**	⇓*iP*	**Pg**	**09 32 41.6**	**+0.1**

baz=58

ARLS				⇓*iS*	**Sg**	**09 33 08.2**	**+2.2**

baz=58

DRK	**Karamyk**	**2.09**	**257**	⇑*iP*	**Pb**	**09 32 42.3**	**-1.8**

baz=60

DRK				⇑*iS*	**Sb**	**09 33 09.9**	**-0.8**

baz=60

UCH	**Uchtor**	**2.26**	**1**	P	**Pg**	**09 32 48.8**	**+0.3**

SNR=85

UCH	**Uchtor**	**2.26**	**1**	⇑*iP*	**Pb**	**09 32 47.0**	**0.0**

baz=2.0

UCH				⇑*iS*	**Sg**	**09 33 17.6**	**-0.2**

baz=2.0

ARK	**Arkit**	**2.62**	**315**	⇓*iP*	**Pb**	**09 32 51.0**	**-2.0**

baz=17

ARK				⇓*iS*	**Sb**	**09 33 24.9**	**-0.9**

baz=17

ULHL	**Ulahol**	**2.65**	**30**	⇑*iP*	**Pb**	**09 32 52.2**	**-1.4**

baz=30

ULHL				⇑*iS*	**Sb**	**09 33 26.5**	**-0.3**

baz=30

AAK	**Ala-Archa**	**2.67**	**1**	P	**Pg**	**09 32 55.2**	**-1.1**

SNR=10

AAK	**Ala-Archa**	**2.67**	**1**	⇑*iP*	**Pb**	**09 32 52.5**	**-1.3**

baz=1.0

AAK				⇑*iS*	**Sb**	**09 33 27.3**	**+0.1**

baz=1.0

KBK	**Karagaybulak**	**2.71**	**8**	P	**Pb**	**09 32 55.5**	**+0.9**

SNR=9.7

KBK	**Karagaybulak**	**2.71**	**8**	⇓*iP*	**Pb**	**09 32 53.0**	**-1.6**

baz=8.0

KBK				⇓*iS*	**Sb**	**09 33 28.3**	**-0.2**

baz=8.0

EKS2	**Erkin-Say**	**2.74**	**350**	P	**Pg**	**09 32 58.1**	**+0.4**

SNR=13

EKS2	**Erkin-Say**	**2.74**	**350**	⇓*iP*	**Pb**	**09 32 53.2**	**-1.8**

baz=51

EKS2				⇓*iS*	**Sb**	**09 33 28.7**	**-0.5**

baz=51

BOOM	**Boomskoye usch**	**2.76**	**24**	⇓*iP*	**Pb**	**09 32 53.6**	**-1.9**

baz=23

BOOM				⇓*iS*	**Sb**	**09 33 29.4**	**-0.5**

baz=23

BTK	**Batken**	**2.78**	**273**	⇓*iP*	**Pn**	**09 32 52.2**	**+1.2**

baz=75

BTK				⇓*iS*	**Sb**	**09 33 26.7**	**-3.7**

baz=75

MNAS	**Manas**	**2.91**	**331**	⇓*eP*	**Pb**	**09 32 55.4**	**-2.6**

baz=32

MNAS				⇓*eS*	**Sb**	**09 33 32.4**	**-1.7**

baz=32

MRKS	**Merke**	**2.92**	**342**	*eP*	**Pg**	**09 33 02.0**	**+0.9**

9.7nm,0.2s

MRKS				*eS*	**Sg**	**09 33 39.7**	**+0.7**

28nm,0.4s

MRKS	**Merke**	**2.92**	**342**	Pg	**Pg**	**09 33 02.0**	**+0.9**

9.8nm,0.5s

MRKS				Lg	Lg	09 33 39.7	

28nm,0.4s

TRKS	**Terek-Say**	**2.95**	**303**	⇓*iP*	**Pn**	**09 32 54.4**	**+1.0**

baz=4.0

TRKS				⇓*iS*	**Sb**	**09 33 31.0**	**-4.4**

baz=4.0

KDJ	**Kajisay**	**3.00**	**43**	⇓*iP*	**Pb**	**09 32 56.9**	**-2.5**

baz=42

KDJ				⇓*iS*	**Sb**	**09 33 34.7**	**-1.9**

baz=42

CHMS	**Chumysh**	**3.04**	**4**	⇑Pg	**Pg**	**09 33 02.7**	**-0.7**

5.0nm,0.4s

CHMS				⇓Lg	Lg	09 33 45.7	

28nm,0.6s

CHMS	**Chumysh**	**3.04**	**4**	⇓*eP*	**Pb**	**09 32 57.3**	**-2.8**

baz=5.0

CHMS				⇓*iS*	**Sb**	**09 33 35.6**	**-2.1**

baz=5.0

TKM2	**Tokmak 2**	**3.08**	**16**	P	**Pb**	**09 33 00.3**	**-0.6**

SNR=18

TKM2	**Tokmak 2**	**3.08**	**16**	⇓Pg	**Pb**	**09 32 59.9**	**-0.9**

13nm,0.6s

TKM2				⇓Lg	Lg	09 33 43.1	

24nm,0.7s

TKM2	**Tokmak 2**	**3.08**	**16**	⇑*iP*	**Pb**	**09 32 58.1**	**-2.7**

baz=16

TKM2				⇑*iS*	**Sb**	**09 33 37.1**	**-1.9**

baz=16

KST	**Kastek**	**3.28**	**20**	*eP*	**Pg**	**09 33 06.8**	**-1.2**

12nm,0.6s

KST				*eS*	**Sg**	**09 33 47.7**	**-2.8**

66nm,0.7s

KST	**Kastek**	**3.28**	**20**	Pg	**Pg**	**09 33 07.1**	**-0.9**

12nm,0.6s

KST				Lg	Lg	09 33 47.7	

66nm,0.7s

USP	**Ospenovka**	**3.30**	**1**	P	**Pg**	**09 33 08.4**	**0.0**

SNR=14

USP	**Ospenovka**	**3.30**	**1**	⇓*iP*	**Pb**	**09 33 01.2**	**-3.3**

baz=1.0

USP				⇓*iS*	**Sb**	**09 33 42.0**	**-3.2**

baz=1.0

DGS	**Degeres**	**3.42**	**17**	*eP*	**Pg**	**09 33 09.9**	**-0.8**

17nm,0.2s

DGS				*eS*	**Sg**	**09 33 52.7**	**-2.4**

30nm,0.5s

DGS	**Degeres**	**3.42**	**17**	Pg	**Pg**	**09 33 09.9**	**-0.8**

17nm,0.5s

DGS				Lg	Lg	09 33 52.7

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.96**	**201**	P	P	09 50 19.9	-0.3
	3.1nm,0.7s,baz=333,slow=12,SNR=1.7						
	3.1nm,0.7s						
CTA	**Charters Tower**	**37.91**	**261**	P	P	09 52 53.4	-1.6
	4.1nm,0.8s,baz=172,slow=0.0,SNR=2.0						
	4.1nm,0.8s						
ASAR	**Alice Springs**	**49.04**	**255**	P	P	09 54 25.7	+0.9
	1.2nm,0.6s,baz=94,slow=7.9,SNR=25						
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**49.06**	**260**	P	P	09 54 24.9	0.0
	1.0nm,0.6s,baz=97,slow=8.7,SNR=21						
	1.0nm,0.6s						
ILAR	**Eielson Array**	**85.87**	**11**	P	P	09 58 16.6	-0.2
	0.6nm,1.1s,baz=218,slow=5.7,SNR=2.3						
	0.6nm,1.1s						

*IDC **28** 09:46:11.2±0.8,26˚.76N×130˚.13E, h0km,mb3.9/11, mbtmp4.0/14,ML3.7/3,MS3.2/4, Error ellipse: s-maj=23.7km s-min=17.7km az=75.0*
*JMA **28** 09:46:13.7±0.1,26˚.7N±0˚.5×130˚.1E±0˚.5, h52km, MV3.7/24, NEAR MINAMI-DAITOJIMA IS*
*NIED **28** 09:46:13.7, 26˚.71N×130˚.13E, h52km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr-3.91; Mθθ1.32; Mφφ2.59; Mrθ-4.69; Mθφ4.26; Mφr-1.59; Fault plane solution: M0 7.31000×10^14 NP1:φs66.00000°, δ70.00000°,λ-63.00000°. NP2:φs190.00000°,δ33.00000°, λ-141.00000°.*

ISC 28 09:46:15.0±3.4, 26˚.78N±0˚.05×130˚.07E±0˚.04, h29km±25km, n35,σ1§11/34,mb3.9/11,MS3.5/3,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKDJ	**Kitadaitoujima**	**1.38**	**127**	P	Pn	09 46 35.9	-2.4
JTK	**Tokunoshima**	**1.41**	**316**	P	Pn	09 46 39.0	+0.3
JTK				eS	**Sn**	**09 46 56.8**	**+0.4**
JMZ	**Minamidaito 2**	**1.41**	**132**	P	Pn	09 46 36.1	-2.6
JOKE	**Okinoerabujima**	**1.45**	**294**	eP	Pn	09 46 39.5	+0.2
JOKE				eS	**Sn**	**09 46 57.8**	**+0.3**
JYRO	**Yoronjima**	**1.46**	**280**	P	Pn	09 46 39.2	-0.2
JYRO				eS	**Sn**	**09 46 57.9**	**+0.2**
JZK	**Kikaishima**	**1.53**	**357**	eP	**Pn**	**09 46 41.0**	**+0.5**
JOW	**Kunigami**	**1.60**	**272**	P	Pn	09 46 41.4	0.0
JOW				eS	**Sn**	**09 47 00.5**	**-0.6**
JOW	**Kunigami**	**1.60**	**272**	Pn	Pn	09 46 41.4	0.0
	114nm,0.3s,baz=111,slow=27,SNR=256						
JOW				Sn	**Sn**	**09 47 00.3**	**-0.8**
	86nm,0.3s,baz=156,slow=27,SNR=8.1						
JOW				LR	LR	09 47 26.6	
	comp=Z,184nm,21.9s,baz=80,slow=45						
JAMN	**Amaminishikomi**	**1.66**	**332**	eP	Pn	09 46 42.0	-0.2
JAMN				eS	**Sn**	**09 47 02.3**	**-0.2**
JAM	**Amami Oshima**	**1.68**	**346**	eP	**Pn**	**09 46 42.4**	**0.0**
JNTH	**Nagotoyohara**	**1.85**	**262**	P	Pn	09 46 44.2	-0.5
JNTH				eS	**Sn**	**09 47 06.2**	**-0.9**
JIH	**Iheya**	**1.89**	**278**	P	**Pn**	**09 46 45.6**	**+0.2**
JIH				eS	**Sn**	**09 47 08.5**	**+0.3**
JJT3	**Tamagusuku3**	**2.14**	**253**	eP	**Pn**	**09 46 48.7**	**-0.1**
JJT3				eS	**Sn**	**09 47 13.9**	**-0.5**
JTAJ	**Takarajima**	**2.48**	**342**	P	Pn	09 46 53.1	-0.4
JTAJ				eS	**Sn**	**09 47 22.7**	**-0.2**
JAGN	**Aguni-jima**	**2.53**	**266**	eP	**Pn**	**09 46 54.4**	**+0.2**
JAGN				eS	**Sn**	**09 47 22.9**	**-1.2**
JKE	**Kume jima 2**	**2.97**	**262**	eP	Pn	09 46 59.6	-0.6
JYAK	**Yakushimahirau**	**3.47**	**6**	eP	**Pn**	**09 47 06.6**	**-0.4**
JYAK				eS	**Sn**	**09 47 45.1**	**-2.1**
JKC	**Kuchinoerabu**	**3.67**	**2**	eP	Pn	09 47 09.4	-0.4
JKC				eS	**Sn**	**09 47 51.1**	**-1.1**
JTN	**Tanegashima 3**	**3.94**	**12**	eP	Pn	09 47 12.9	-0.7
JNU	**Nakatsue**	**6.36**	**6**	Pn	**Pn**	**09 47 47.2**	**+0.4**
	1.4nm,0.3s,baz=159,slow=1.1,SNR=14						
JNU				Sn	**Sn**	**09 48 55.4**	**-3.1**
	0.1nm,0.3s,baz=37,slow=20,SNR=1.6						
	13nm,0.7s						
JHJ	**Hachijo jima 2**	**10.53**	**51**	Pn	**Pn**	**09 48 44.9**	**+0.9**
	7.3nm,0.3s,baz=350,slow=20,SNR=2.4						
	63nm,0.8s						
KSRS	**Korea Array**	**10.80**	**351**	Pn	**Pn**	**09 48 48.5**	**+0.8**
	0.2nm,0.3s,baz=164,slow=13,SNR=3.6						
KSRS				LR	LR	09 53 15.4	
	comp=Z,40nm,18.9s,baz=160,slow=39						
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**42.41**	**311**	P	**P**	**09 54 09.2**	**+2.2**
	0.4nm,0.6s,baz=102,slow=9.9,SNR=6.1						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**45.60**	**316**	P	**P**	**09 54 33.3**	**+0.8**
	2.0nm,0.2s,baz=104,slow=8.1,SNR=4.8						
	2.0nm,0.2s						
WRA	**Warramunga Arr**	**46.63**	**174**	P	**P**	**09 54 40.9**	**+0.1**
	0.8nm,0.7s,baz=354,slow=8.3,SNR=9.6						
	0.8nm,0.7s						
NRIK	**Noril'sk**	**49.24**	**342**	P	**P**	**09 54 59.5**	**-1.1**
	1.9nm,0.3s,baz=98,slow=7.1,SNR=5.1						
	1.9nm,0.3s						
ASAR	**Alice Springs**	**50.29**	**175**	P	**P**	**09 55 09.5**	**+0.5**
	0.4nm,0.7s,baz=6.5,slow=14,SNR=7.9						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**50.97**	**318**	P	**P**	**09 55 14.8**	**+1.0**
	2.6nm,0.9s,baz=98,slow=11,SNR=7.3						
BVAR				LR	LR	10 19 13.0	
	comp=Z,40nm,18.2s,baz=79,slow=39						
	2.6nm,0.9s						
AKTO	**Aktyubinsk**	**58.62**	**315**	LR	LR	10 23 26.7	
	comp=Z,41nm,18.4s,baz=268,slow=38						
KBZ	**Khabaz**	**70.08**	**310**	P	**P**	**09 57 26.8**	**+2.3**
	1.9nm,0.8s,baz=97,slow=2.0,SNR=4.0						
	1.9nm,0.8s						
FINES	**FINESS Array B**	**73.19**	**331**	P	**P**	**09 57 43.6**	**+0.7**
	1.3nm,0.5s,baz=58,slow=7.2,SNR=8.2						
	1.3nm,0.5s						
AKASG	**Malin Array Be**	**76.18**	**320**	P	**P**	**09 58 00.7**	**+0.3**
	0.3nm,0.3s,baz=55,slow=7.6,SNR=4.7						
	0.3nm,0.3s						
YKA	**Yellowknife Ar**	**77.33**	**25**	P	**P**	**09 58 06.6**	**-0.1**
	0.3nm,0.8s,baz=299,slow=6.2,SNR=4.9						
	0.3nm,0.8s						
EIL	**Elat**	**81.29**	**299**	LR	LR	10 43 45.3	
	comp=Z,8.7nm,18.2s,baz=249,slow=42						
PDAR	**Pinedale Array**	**91.70**	**39**	P	**P**	**09 59 21.5**	**+1.3**
	0.4nm,0.8s,baz=268,slow=2.7,SNR=4.4						
	0.4nm,0.8s						

*JMA **28** 09:49:04.7±0.2,24˚N±1˚×126˚.6E±0˚.8, h113km, MV3.3/27, NEAR MIYAKOJIMA ISLAND*
*IDC **28** 09:49:05.9±1.2,24˚.48N×126˚.31E, h0km,mb3.6/4, mbtmp3.7/6,ML3.5/2,Error ellipse: s-maj=38.3km s-min=21.2km az=89.0*

ISC 28 09:49:03.5±2.7, 23˚.9N±0˚.2×126˚.7E±0˚.2, h90km±43km, n27, σ1§02/35,mb3.6/4,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.43**	**308**	eP	**Pn**	**09 49 28.9**	**+0.6**
JOGS				eS	**Sn**	**09 49 47.3**	**+0.2**
JMJ2	**Miyako jima3**	**1.48**	**305**	P	**Pn**	**09 49 29.5**	**+0.6**
JMJ2				S	**Sn**	**09 49 48.1**	**-0.1**
JIRB	**Irabujima**	**1.64**	**305**	P	**Pn**	**09 49 31.9**	**+0.8**
JIRB				S	**Sn**	**09 49 51.7**	**-0.2**
JIKM	**Ikemajima**	**1.64**	**309**	P	**Pn**	**09 49 31.8**	**+0.8**
JIKM				eS	**Sn**	**09 49 52.1**	**+0.2**
JTJ	**Tarama**	**1.93**	**293**	P	**Pn**	**09 49 35.2**	**+0.5**
JTJ				S	**Sn**	**09 49 57.9**	**-0.7**
JISG	**Ishigakijimahi**	**2.25**	**289**	P	**Pn**	**09 49 39.3**	**+0.3**
JISG				eS	**Sn**	**09 50 05.4**	**-0.6**
JIJ	**Ishigaki jima**	**2.34**	**282**	P	**Pn**	**09 49 41.0**	**+0.9**
JIJ				S	**Sn**	**09 50 07.2**	**-1.0**
JKE	**Kume jima 2**	**2.43**	**3**	P	**Pn**	**09 49 41.9**	**+0.5**
JKRS	**Kuro-shima**	**2.44**	**279**	P	**Pn**	**09 49 42.6**	**+1.1**
JKRS				S	**Sn**	**09 50 10.2**	**-0.4**
HATJ	**Hateruma jima**	**2.61**	**274**	S	**Sn**	**09 50 12.7**	**-1.9**
IRIF	**Iriomote-Funau**	**2.70**	**280**	P	**Pn**	**09 49 46.1**	**+1.1**
JAGN	**Aguni-jima**	**2.74**	**11**	P	**Pn**	**09 49 46.4**	**+0.8**
JAGN				S	**Sn**	**09 50 17.6**	**-0.3**
JNTH	**Nagotoyohara**	**2.90**	**25**	P	**Pn**	**09 49 47.9**	**+0.2**
JOW	**Kunigami**	**3.28**	**26**	P	**Pn**	**09 49 53.5**	**+0.6**
JOW	**Kunigami**	**3.28**	**26**	Pn	**Pn**	**09 49 53.5**	**+0.6**
	5.5nm,0.3s,baz=162,slow=18,SNR=1.8						
JOW				Sn	**Sn**	**09 50 27.7**	**-3.2**
	18nm,0.3s,baz=134,slow=25,SNR=5.1						
	14nm,0.2s						
JIH	**Iheya**	**3.35**	**21**	P	**Pn**	**09 49 54.5**	**+0.7**
JIH				S	**Sn**	**09 50 30.9**	**-1.7**
JYNG	**Yonagunijimaku**	**3.43**	**280**	eP	**Pn**	**09 49 56.0**	**+1.2**
JYRO	**Yoronjima**	**3.52**	**27**	eP	**Pn**	**09 49 56.6**	**+0.5**
JOKE	**Okinoerabujima**	**3.87**	**26**	eP	**Pn**	**09 50 01.6**	**+0.8**
JTK	**Tokunoshima**	**4.40**	**28**	P	**Pn**	**09 50 08.4**	**+0.4**
JAMN	**Amaminishikomi**	**4.90**	**27**	eP	**Pn**	**09 50 15.7**	**+1.0**
JTAJ	**Takarajima**	**5.72**	**23**	P	**Pn**	**09 50 26.6**	**+0.6**
JNU	**Nakatsue**	**9.92**	**21**	Pn	**Pn**	**09 51 24.4**	**+1.1**
	0.9nm,0.3s,baz=188,slow=19,SNR=6.8						
JNU				Sn	**Sn**	**09 53 13.2**	**+0.5**
	0.2nm,0.3s,baz=22,slow=13,SNR=1.1						
	2.4nm,0.4s						
MKAR	**Makanchi Array**	**42.08**	**314**	P	P	09 56 54.3	+7.8
	0.2nm,0.5s,baz=96,slow=9.6,SNR=2.3						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**43.29**	**325**	P	P	09 57 03.6	+7.5
	0.7nm,0.3s,baz=105,slow=9.1,SNR=2.0						
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**44.20**	**170**	P	P	09 57 21.3	+17
	1.5nm,0.7s,baz=351,slow=9.0,SNR=5.8						
	1.5nm,0.7s						
ASAR	**Alice Springs**	**47.79**	**171**	P	P	09 57 50.8	+19
	0.3nm,0.7s,baz=353,slow=7.9,SNR=2.9						
	0.3nm,0.7s						

*IDC **28** 09:49:40.8±0.7,5˚.92S×154˚.11E, h0km,mb4.1/15, mbtmp4.2/16,ML2.6/1,MS3.4/8,Error ellipse: s-maj=25.4km s-min=15.1km az=91.0*
*NEIC **28** 09:49:47.7±0.5,5˚.88S±0˚.06×154˚.05E±0˚.07, h48km, n48, σ1§17/40,mb4.1/17,MS3.6/7,Bougainville-Solomon Islands region*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.52**	**312**		**Pn**	**09 50 24.9**	**-1.4**
KRVT	**Keravat (AS076**	**2.56**	**308**	LR	LR	09 51 37.8	
	comp=Z,30μm,21.5s,baz=96,slow=44						
HNR	**Honiara**	**6.82**	**121**	Sn	**Sn**	**09 52 39.9**	**-1.8**
	80nm,0.3s,baz=155,slow=3.1,SNR=1.5						
PMG	**Port Moresby**	**7.68**	**242**	Pn	**Pn**	**09 51 35.9**	**-1.1**
PMG	**Port Moresby**	**7.68**	**242**	Pn	**Pn**	**09 51 34.8**	**-2.2**
	5.4nm,0.3s,baz=40,slow=8.0,SNR=9.6						
PMG				Sn	**Sn**	**09 53 03.6**	**+0.9**
	1.9nm,0.3s,baz=115,slow=4.9,SNR=6.8						
PMG				LR	LR	09 55 04.5	
	comp=Z,114nm,18.1s,baz=60,slow=42						
	10.0nm,0.3s						
PATS	**Pohnpei**	**13.33**	**19**		**Pn**	**09 52 53.5**	**-0.9**
CTAO	**Charters Tower**	**16.03**	**208**	Pn	**Pn**	**09 53 29.5**	**-0.5**
CTAO				IAmb	IAmb	09 53 39.4	
	comp=Z,11nm,1.1s						
LIFNC	**LIFOU**	**19.57**	**140**	P	**P**	**09 54 13.2**	**+1.5**
DZM	**Mont Dzumac**	**20.06**	**145**	P	**P**	**09 54 17.7**	**+0.5**
DZM				IAmb	IAmb	09 54 32.3	
	comp=Z,15nm,0.8s						
GUMO	**Guam**	**21.39**	**335**	LR	LR	10 03 27.4	
	comp=Z,31nm,18.2s,baz=117,slow=38						
WR0	**Warramunga Arr**	**23.57**	**232**	P	**P**	**09 54 53.9**	**-0.3**
WR0				IAmb	IAmb	09 54 54.2	
	comp=Z,7.4nm,1.1s						
WRAB	**Tennant Creek**	**23.70**	**232**	P	**P**	**09 54 54.5**	**-1.0**
WRAB				IAmb	IAmb	09 55 07.7	
	comp=Z,4.3nm,0.9s						
WRA	**Warramunga Arr**	**23.72**	**232**	P	**P**	**09 54 54.2**	**-1.4**
	comp=Z,1.5nm,0.4s,baz=58,slow=9.4,SNR=20						
WRA				PcP	**PcP**	**09 58 39.8**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=51,slow=2.6,SNR=5.4						
	comp=Z,1.5nm,0.4s						
AS31	**Alice Springs**	**26.24**	**226**	P	**P**	**09 55 18.4**	**-0.1**
ASAR	**Alice Springs**	**26.24**	**226**	P	**P**	**09 55 18.8**	**+0.2**
ASAR	**Alice Springs**	**26.24**	**226**	P	**P**	**09 55 17.6**	**-0.9**
	comp=Z,2.8nm,0.5s,baz=57,slow=9.3,SNR=30						
ASAR				PcP	**PcP**	**09 58 45.2**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=56,slow=2.8,SNR=5.4						
ASAR				LR	LR	10 05 19.6	
	comp=Z,102nm,21.5s,baz=36,slow=36						
	comp=Z,2.8nm,0.5s						
KNRA	**Kununurra**	**26.65**	**247**	P	**P**	**09 55 22.4**	**+0.1**
H11S3	**WAKE ISLAND Hy**	**27.24**	**27**	T	T	10 23 50.9	
	baz=207,slow=71,SNR=18						
H11S2	**WAKE ISLAND Hy**	**27.25**	**27**	T	T	10 23 43.0	
	baz=207,slow=71,SNR=16						
H11S1	**WAKE ISLAND Hy**	**27.26**	**27**	T	T	10 23 47.2	
	baz=207,slow=71,SNR=14						
STKA	**Stephens Creek**	**28.37**	**203**	P	**P**	**09 55 38.0**	**+0.5**
STKA	**Stephens Creek**	**28.37**	**203**	P	**P**	**09 55 36.6**	**-0.8**
	comp=Z,1.7nm,0.9s,baz=23,slow=15,SNR=2.3						
STKA				LR	LR	10 06 45.1	
	comp=Z,75nm,20.5s,baz=24,slow=36						
	comp=Z,1.7nm,0.9s						
H11N1	**WAKE ISLAND Hy**	**28.40**	**26**	T	T	10 25 16.0	
	baz=204						
H11N3	**WAKE ISLAND Hy**	**28.41**	**26**	T	T	10 25 14.7	
	baz=204						
H11N2	**WAKE ISLAND Hy**	**28.42**	**26**	T	T	10 25 17.1	
	baz=204						
FITZ	**Fitzroy Crossi**	**30.27**	**244**	P	**P**	**09 55 53.1**	**-1.4**
FORT	**Forrest**	**34.77**	**221**	P	**P**	**09 56 33.4**	**-0.4**
URZ	**Urewera**	**38.43**	**150**	P	**P**	**09 57 02.1**	**-2.7**
	comp=Z,4.1nm,0.7s,baz=339,slow=5.8,SNR=3.1						
	comp=Z,4.1nm,0.7s						
THZ	**Tophouse**	**39.48**	**158**	P	**P**	**09 57 15.1**	**+1.5**
TUWZ	**Tuamarina**	**39.59**	**156**	P	**P**	**09 57 16.2**	**+1.7**
MJAR	**Matsushiro Arr**	**44.74**	**342**	P	**P**	**09 57 57.7**	**+1.3**
	comp=Z,1.1nm,0.5s,baz=165,slow=7.6,SNR=3.9						
	comp=Z,1.1nm,0.5s						
KSRS	**Korea Array**	**49.53**	**333**	P	**P**	**09 58 34.5**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=149,slow=7.6,SNR=5.9						
	comp=Z,0.8nm,0.4s						
USRK	**Ussuriysk Ar.**	**53.68**	**340**	P	**P**	**09 59 06.2**	**+1.6**
	comp=Z,1.5nm,0.6s,baz=143,slow=5.2,SNR=6.5						
	comp=Z,1.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**59.47**	**295**	P	**P**	**09 59 46.4**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=116,slow=6.2,SNR=4.3						
	comp=Z,1.5nm,0.3s						
SONM	**Songino Array**	**67.90**	**327**	P	**P**	**10 00 42.3**	**+0.8**
SONM				IAmb	IAmb	10 00 49.3	
	comp=Z,1.4nm,0.6s						
SONM	**Songino Array**	**67.90**	**327**	P	**P**	**10 00 41.8**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=138,slow=5.2,SNR=6.4						
	comp=Z,0.8nm,0.5s						
VNDA	**Vanda**	**71.71**	**178**	P	**P**	**10 01 05.9**	**+1.6**
VNDA				IAmb	IAmb	10 01 06.5	
	comp=Z,1.0nm,0.7s						
VNDA	**Vanda**	**71.71**	**178**	P	**P**	**10 01 05.5**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=322,slow=7.1,SNR=9.5						
	comp=Z,0.9nm,0.6s						
MKAR	**Makanchi Array**	**81.96**	**319**	P	**P**	**10 02 02.0**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=101,slow=7.2,SNR=7.1						
	comp=Z,0.8nm,0.5s						
ILAR	**Eielson Array**	**82.69**	**22**	P	**P**	**10 02 04.7**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=225,slow=4.6,SNR=5.6						
ILAR				LR	LR	10 35 43.4	
	comp=Z,42nm,19.4s,baz=265,slow=33						
	comp=Z,0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**82.74**	**326**	P	**P**	**10 02 05.4**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=126,slow=7.3,SNR=2.5						
	comp=Z,1.2nm,0.6s						
QSPA	**South Pole Qui**	**84.08**	**180**	P	**P**	**10 02 14.4**	**+1.1**
QSPA				IAmb	IAmb	10 02 22.2	
	comp=Z,3.2nm,1.1s						
QSPA	**South Pole Qui**	**84.08**	**180**	P	**P**	**10 02 13.7**	**+0.4**
	comp=Z,3.7nm,1.1s,baz=293,slow=2.6,SNR=9.4						
	comp=Z,3.7nm,1.1s						
INK	**Inuvik**	**89.02**	**21**	LR	LR	10 41 03.2	
	comp=Z,37nm,18.9s,baz=168,slow=35						
BVAR	**Borovoye Array**	**90.85**	**323**	P	**P**	**10 02 45.9**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=72,slow=4.8,SNR=4.7						
	comp=Z,0.6nm,0.4s						
NEW	**Newport**	**93.56**	**42**	LR	LR	10 40 43.4	
	comp=Z,32nm,18.1s,baz=312,slow=33						
ELK	**Elko**	**94.33**	**50**	LR	LR	10 47 16.2	
	comp=Z,20nm,18.0s,baz=294,slow=37						
TORD	**Torodi Ar. Bea**	**151.82**	**287**	PKPbc	**PKPbc**	**10 09 38.0**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=46,slow=2.9,SNR=14						

*KOLA **28** 09:59:25.9, 64˚.52N×31˚.29E, h0km, ML2.1, Error ellipse: s-maj=44.8km s-min=20.9km az=160.0, Karelia*

HEL 28 09:59:28.6±0.2, 64˚.72N×30˚.71E, h0km, ML1.9, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.61**	**214**	eP	Pg	09 59 38.2	-2.0
RMF				eS	Sg	09 59 46.5	-1.5
RMF				MSG		09 59 52.3	
	comp=Z,22nm,0.2s						
KU6	**Riekki**	**1.35**	**346**	eP	Pg	09 59 52.8	-1.7
KU6				MSG		10 00 07.8	
	comp=Z,12nm,0.2s						
KU6				eSB	Sg	10 00 11.8	-0.2
MSF	**Maaselka**	**1.39**	**330**	eP	Pg	09 59 53.3	-1.9
MSF				eSB	Sg	10 00 12.8	-0.2
OLKF	**Oulanka, Finla**	**1.70**	**342**	ePG	Pn	09 59 58.9	-0.6
OLKF				MSG		10 00 17.4	
	comp=Z,9.3nm,0.2s						
OLKF				eS	Sn	10 00 20.8	-1.1
JOF	**Joensuu**	**1.83**	**171**	eP	Pn	10 00 00.2	-1.1
JOF	**Joensuu**	**1.83**	**171**	eP	Pn	10 00 00.0	-1.2
JOF				eS	Sn	10 00 24.2	-0.9
NIF	**Nilsia**	**1.85**	**225**	eP	Pn	10 00 00.8	-0.7
NIF				eS	Sn	10 00 24.4	-1.1
OUL	**Oulu**	**2.08**	**282**	ePB	Pn	10 00 04.9	+0.2
OUL				eS	Sn	10 00 31.0	-0.3
RANF	**Ranua**	**2.09**	**310**	ePB	Pn	10 00 05.4	+0.5
RANF				eS	Sn	10 00 30.2	-1.4
OBF4	**Vikkela, Lumij**	**2.40**	**275**	ePB	Pn	10 00 10.1	+1.0
OBF4				MSG		10 00 36.6	
	comp=Z,6.7nm,0.2s						
OBF4				eS	Sn	10 00 40.2	+1.0
OUF	**Merijarvi**	**2.61**	**265**	eP	Pn	10 00 11.6	-0.3
OUF				MSG		10 00 43.1	
	comp=Z,9.1nm,0.2s						
OUF				eSB	Sn	10 00 46.2	+2.0
RNF	**Rovaniemi**	**2.72**	**316**	eP	Pn	10 00 13.7	+0.3
RNF				eSG	Sb	10 00 51.2	-0.6
OBF0	**Syolatti, Pyha**	**2.80**	**268**	ePB	Pb	10 00 17.7	-1.7
OBF0				MSG		10 00 48.2	
	comp=Z,5.7nm,0.2s						
SUF	**Sumiainen**	**2.85**	**227**	ePB	Pn	10 00 17.2	+1.9
SUF				MSG		10 00 54.2	
	comp=Z,2.3nm,0.2s						
TOF	**Tornio**	**3.00**	**300**	ePB	Pn	10 00 19.3	+2.0
TOF				MSG		10 00 52.6	
	comp=Z,2.4nm,0.2s						
TOF				eSG	Sb	10 00 59.6	-0.3
APA0	**Apatity Array**	**3.04**	**17**	S	Sn	10 00 56.6	+1.6
VRF	**Varrio**	**3.07**	**352**	eP	Pn	10 00 18.3	-0.1
VRF				MSG		10 00 57.8	
	comp=Z,2.2nm,0.2s						
SGF	**Sodankyl**	**3.22**	**330**	eP	Pn	10 00 21.6	+1.2
SGF				eSB	Sb	10 01 05.2	-1.1
KAF	**Kangasniemi**	**3.28**	**219**	ePB	Pb	10 00 24.9	-2.7
KALU	**Kalix**	**3.29**	**294**	eP	Pn	10 00 21.9	+0.5
KALU				eSB	Sb	10 01 07.0	-1.4
RUF	**Ruokolahti**	**3.40**	**194**	ePB	Pb	10 00 27.4	-2.3
KEF	**Keuruu**	**3.67**	**228**	eP	Pn	10 00 29.1	+2.6
KEF	**Keuruu**	**3.67**	**228**	eP	Pn	10 00 27.8	+1.3
KLF	**Kolari**	**3.74**	**315**	eP	Pn	10 00 27.9	+0.4
PAJU	**Pajala**	**3.88**	**310**	eP	Pn	10 00 30.9	+1.4
FIA0	**FINESS Array S**	**3.90**	**215**	ePG	Pb	10 00 40.1	+1.9
FIA0				eSG	Sg	10 01 30.6	-3.3
VAF	**Ylistaro**	**3.93**	**248**	eP	Pn	10 00 31.6	+1.6
VAF	**Ylistaro**	**3.93**	**248**	eP	Pn	10 00 31.8	+1.7
BURU	**Burvik**	**4.01**	**272**	eP	Pn	10 00 31.6	+0.4
UMAU	**Umeaa**	**4.45**	**264**	eP	Pn	10 00 36.9	-0.3
KMNF	**Kaamanen**	**4.68**	**344**	eP	Pn	10 00 39.0	-1.4
KMNF				eS	Sn	10 01 33.4	-2.0
PVF	**Pernaja**	**4.75**	**210**	eSG	Sg	10 01 56.4	-4.5
LANU	**Lannavaara**	**4.84**	**318**	eP	Pn	10 00 43.8	+1.2
KPF	**Kankaanpaa**	**4.86**	**237**	eP	Pn	10 00 44.2	+1.4
ARA0	**ARCESS Array S**	**5.24**	**340**	eP	Pn	10 00 48.1	0.0
ARA0	**ARCESS Array S**	**5.24**	**340**	eP	Pn	10 00 47.7	-0.4
ARA0				eS	Sn	10 01 45.9	-3.3
ARCES	**ARCESS Array B**	**5.24**	**340**	P	Pn	10 00 47.8	-0.3
ARCES				S	Sn	10 01 46.9	-2.3
KEV	**Kevo**	**5.26**	**346**	eP	Pn	10 00 47.2	-1.1
VADS	**Vadso**	**5.45**	**355**	S	Sn	10 01 54.1	-0.1
RAF	**Rauma**	**5.52**	**232**	eP	Pn	10 00 53.2	+1.3
AAL	**Aland**	**6.74**	**232**	eP	Pn	10 01 08.6	0.0
FAUS	**Fauske**	**6.82**	**300**	P	Pn	10 01 07.6	-2.1
FAUS				S	Sn	10 02 27.7	-0.1

HEL 28 10:03:37.7±0.1, 60˚.50N×26˚.01E, h0km, ML1.3, Explosion, Finland

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

KDU	Kakadu	12.24	182	P		Pn	10 07 30.0	-0.6
MTN	Manton Dam	12.51	188	P		Pn	10 07 34.1	-0.1
MTN	Manton Dam	12.51	188	Pn		Pn	10 07 32.8	-1.4
BATI	Baumata	13.36	223	Pn		Pn	10 07 48.2	+2.3
	5.9nm,0.3s,baz=313,slow=2.9,SNR=5.9							
BATI				LR		LR	10 13 10.0	
	comp=Z,217nm,18.5s,baz=72,slow=38							
KNRA	Kununurra	15.73	195	P		Pn	10 08 16.0	-1.7
KNRA	Kununurra	15.73	195	Pn		Pn	10 08 15.3	-2.4
PMG	Port Moresby	16.86	123	Pn		Pn	10 08 30.6	-1.5
PMG	Port Moresby	16.86	123	LR		LR	10 16 03.9	
	comp=Z,168nm,20.3s,baz=278,slow=41							
COEN	Coen	16.95	143	P		P	10 08 35.3	+0.4
COEN	Coen	16.95	143			Pn	10 08 32.3	-1.0
GUMO	Guam	18.30	40	LR		LR	10 13 56.6	
	comp=Z,134nm,20.9s,baz=195,slow=31							
FITZ	Fitzroy Crossi	18.98	201	P		P	10 08 56.9	-0.4
WB0	Warramunga Arr	19.34	176	P		P	10 09 01.5	+0.3
WB0				IAmb		IAmb	10 09 21.1	
	comp=Z,13nm,0.8s							
WRA	Warramunga Arr	19.51	176	P		P	10 09 03.1	0.0
WRA	Warramunga Arr	19.51	176	P		P	10 09 03.9	+0.8
	comp=Z,1.1nm,0.3s,baz=355,slow=11,SNR=51							
WRA				S		S	10 12 31.6	-10
	comp=Z,2.4nm,0.6s,baz=349,slow=24,SNR=5.7							
	comp=Z,7.1nm,0.7s							
WB2	Warramunga Arr	19.51	176	P		P	10 09 03.0	-0.1
WB2				IAmb		IAmb	10 09 24.1	
	comp=Z,20nm,1.1s							
WR0	Warramunga Arr	19.54	175	P		P	10 09 03.1	-0.4
WR0				IAmb		IAmb	10 09 24.0	
	comp=Z,19nm,0.8s							
RABL	Rabaul	19.69	101	P		P	10 09 03.5	-1.6
QIS	Mount Isa	21.13	162	P		P	10 09 21.8	+1.1
KSM	Kuching	22.59	275	P		P	10 09 34.5	-2.0
KSM				IAmb		IAmb	10 09 39.2	
	comp=Z,8.4nm,1.0s							
AS31	Alice Springs	23.18	177	P		P	10 09 42.5	+0.1
AS31				IAmb		IAmb	10 10 04.1	
	comp=Z,5.6nm,0.6s							
AS01	Alice Springs	23.18	177	P		P	10 09 43.5	+1.0
ASAR	Alice Springs	23.18	177	P		P	10 09 42.4	-0.1
ASAR	Alice Springs	23.18	177	P		P	10 09 43.0	+0.5
	comp=Z,21nm,1.0s,baz=355,slow=10,SNR=124							
ASAR				S		S	10 13 55.4	+3.2
	comp=Z,0.7nm,0.9s,baz=359,slow=23,SNR=1.8							
ASAR				LR		LR	10 20 20.3	
	comp=Z,146nm,19.9s,baz=342,slow=41							
	comp=Z,21nm,1.0s							
CTA	Charters Tower	23.60	147	P		P	10 09 47.5	+0.9
	comp=Z,6.2nm,0.9s,baz=26,slow=0.1,SNR=4.3							
	comp=Z,6.2nm,0.9s							
CTAO	Charters Tower	23.60	147	P		P	10 09 46.1	-0.5
CTAO				IAmb		IAmb	10 09 49.8	
	comp=Z,10.0nm,0.9s							
MBWA	Marble Bar	24.30	211	P		P	10 09 52.4	-0.8
MBWA				IAmb		IAmb	10 10 08.9	
	comp=Z,18nm,1.1s							
PSA00	Pilbara Seismi	24.59	210	P		P	10 09 57.5	+1.8
PSA00	Pilbara Seismi	24.59	210	P		P	10 09 54.9	-0.8
PSA00	Pilbara Seismi	24.59	210	P		P	10 09 55.3	-0.5
PSA00				IAmb		IAmb	10 09 58.2	
	comp=Z,9.0nm,1.0s							
WRKA	Warakurna	24.91	190	P		P	10 10 00.2	+1.5
LEM	Lembang	25.95	255	LR		LR	10 21 49.2	
	comp=Z,72nm,19.0s,baz=94,slow=40							
JOW	Kunigami	27.40	351	LR		LR	10 19 02.4	
	comp=Z,146nm,22.0s,baz=173,slow=32							
OOD	Oodnadatta	27.41	174	P		P	10 10 22.6	+1.5
INKA	Innaminka	28.26	165	P		P	10 10 29.4	+0.7
FORT	Forrest	30.58	188	P		P	10 10 49.9	+0.6
BBOO	Buckleboo	32.41	175	P		P	10 11 06.0	+0.6
STKA	Stephens Creek	32.42	166	P		P	10 11 05.1	-0.4
STKA	Stephens Creek	32.42	166	P		P	10 11 05.2	-0.4
	comp=Z,5.0nm,0.4s,baz=337,slow=8.6,SNR=14							
STKA				LR		LR	10 25 40.8	
	comp=Z,168nm,19.6s,baz=13,slow=39							
	comp=Z,5.0nm,0.4s							
MORW	Morawa	32.73	208	P		P	10 11 07.6	-0.7
JNU	Nakatsue	33.36	357	LR		LR	10 23 43.5	
	comp=Z,45nm,19.7s,baz=196,slow=35							
JHJ	Hachijo jima 2	33.95	10	LR		LR	10 22 28.0	
	comp=Z,126nm,18.3s,baz=269,slow=32							
NWAO	Narrogin (SRO)	35.56	203	LR		LR	10 27 24.8	
	comp=Z,50nm,18.3s,baz=237,slow=38							
MJAR	Matsushiro Arr	37.06	7	LR			10 24 02.3	
	comp=Z,78nm,20.4s,baz=178,slow=32							
KSRS	Korea Array	37.91	354	LR		LR	10 25 35.8	
	comp=Z,42nm,21.3s,baz=140,slow=33							
CMAR	Chiang Mai Arr	38.19	301	P		P	10 11 55.4	0.0
	comp=Z,0.8nm,0.4s,baz=120,slow=6.4,SNR=9.5							
	comp=Z,0.8nm,0.4s							
H11N1	WAKE ISLAND Hy	38.90	57	T		T	10 53 19.3	
	baz=243,slow=75,SNR=115							
H11N2	WAKE ISLAND Hy	38.91	57	T		T	10 53 20.3	
	baz=243,slow=75,SNR=115							
H11N3	WAKE ISLAND Hy	38.91	57	T		T	10 53 20.6	
	baz=243,slow=75,SNR=96							
DZM	Mont Dzumac	39.21	126	LR		LR	10 26 36.2	
	comp=Z,80nm,21.6s,baz=272,slow=34							
PZH	PanZhiHua	40.13	314	P		P	10 12 12.8	+1.1
PZH				pmax		pmax		
	comp=Z,10.0nm,0.4s							
PZH				pmax		pmax		
	comp=Z,150nm,5.8s							
HEH	HeiHe	50.64	356	*e*P		P	10 13 38.5	+4.1
HEH				pmax		pmax		
	comp=Z,3.0nm,1.1s							
SONM	Songino Array	53.23	338	P		P	10 13 54.1	+0.2
	comp=Z,0.2nm,0.4s,baz=138,slow=6.7,SNR=3.8							
	comp=Z,0.2nm,0.4s							
PETK	Petropavlovsk-	57.19	18	LR		LR	10 34 40.7	
	comp=Z,27nm,21.8s,baz=208,slow=32							
YAK	Yakutsk	62.28	358	LR		LR	10 40 45.7	
	comp=Z,12nm,20.3s,baz=191,slow=35							
MK31	Makanchi Array	64.40	324	P		P	10 15 11.5	0.0
MK31				IAmb		IAmb	10 15 13.0	
	comp=Z,1.2nm,0.9s							
MKAR	Makanchi Array	64.40	324	P		P	10 15 10.2	-1.3
MKAR	Makanchi Array	64.40	324	P		P	10 15 11.1	-0.4
	comp=Z,0.8nm,0.5s,baz=117,slow=8.0,SNR=9.3							
	comp=Z,0.8nm,0.5s							
MAKZ	Makanchi	64.60	324	P		P	10 15 11.0	-1.7
MAKZ				IAmb		IAmb	10 15 14.2	
	comp=Z,4.4nm,1.1s							
SEY	Seymchan	64.83	10	P		P	10 15 14.1	+0.2
	comp=Z,0.9nm,0.6s,baz=180,slow=24,SNR=1.8							
	comp=Z,0.9nm,0.6s							
KSH	Kashi	65.24	314	P		P	10 15 19.5	+2.3
KSH				pmax		pmax		
	comp=Z,7.0nm,0.7s							
KURBB	Kurchatov Arra	68.48	326	P		P	10 15 37.1	-0.3
	comp=Z,1.0nm,0.2s,baz=122,slow=5.8,SNR=6.9							
	comp=Z,1.0nm,0.2s							
KK31	Karatay Array	70.37	316	P		P	10 15 48.7	-0.7
KK31				IAmb		IAmb	10 15 59.4	
	comp=Z,1.9nm,1.1s							
KKAR	Karatay Array	70.37	316	P		P	10 15 48.7	-0.7
KKAR				IAmb		IAmb	10 15 59.4	
	comp=Z,1.9nm,1.1s							
TIXI	Tiksi	71.95	359	LR		LR	10 45 05.4	
	comp=Z,15nm,20.9s,baz=203,slow=34							
BVAR	Borovoye Array	74.08	326	P		P	10 16 11.6	+0.4
	comp=Z,1.9nm,0.8s,baz=121,slow=6.9,SNR=8.3							
	comp=Z,1.9nm,0.8s							
VNDA	Vanda	78.67	174	P		P	10 16 38.2	+1.4
VNDA	Vanda	78.67	174	P		P	10 16 37.0	+0.1
	comp=Z,0.9nm,0.8s,baz=283,slow=6.8,SNR=4.7							
	comp=Z,0.9nm,0.8s							
ABKAR	Akbulak array	79.17	320	P		P	10 16 39.2	-0.8
SBA	Scott Base	79.51	173	P		P	10 16 42.4	+0.9
MAW	Mawson	82.11	201	P		P	10 16 55.0	-0.5
KDAK	Kodiak Island	82.13	31	LR		LR	10 50 59.5	
	comp=Z,31nm,19.7s,baz=246,slow=34							
ILAR	Eielson Array	86.19	25	P		P	10 17 14.8	-1.5
	comp=Z,0.5nm,0.8s,baz=249,slow=6.6,SNR=4.0							
	comp=Z,0.5nm,0.8s							
RIDG	Independent Ri	86.92	26	P		P	10 17 19.4	-0.6
RIDG				IAmb		IAmb	10 17 23.0	
	comp=Z,4.0nm,1.1s							
BERG	Berg Lake	87.08	30	P		P	10 17 19.9	-0.8
BMAR	Burnt Mountain	87.49	23	P		P	10 17 22.2	-0.4
QSPA	South Pole Qui	89.56	180	P		P	10 17 32.7	+0.2
QSPA				IAmb		IAmb	10 17 37.7	
	comp=Z,1.5nm,1.0s							
QSPA	South Pole Qui	89.56	180	P		P	10 17 32.6	0.0
	comp=Z,2.4nm,1.2s,baz=308,slow=1.2,SNR=2.1							
	comp=Z,2.4nm,1.2s							
TORD	Torodi Ar. Bea	129.96	287	PKP		PKPdf	10 23 45.6	-0.3
	comp=Z,0.4nm,0.7s,baz=104,slow=5.2,SNR=2.9							
CPUP	Villa Florida	151.71	160	PKPbc		PKPbc	10 24 30.6	+0.1
	comp=Z,1.6nm,0.7s,baz=46,slow=14,SNR=5.1							
LPAZ	La Paz	153.51	130	PKPbc		PKiKP	10 24 37.3	+1.6
	comp=Z,0.8nm,0.7s,baz=278,slow=5.8,SNR=2.3							

HEL 28 10:05:03.9±0.4, 62°.01N×25°.62E, h0km, ML0.6, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAF	Kangasniemi	0.34	71	PG	Pg	10 05 10.1	-0.3
KEF	Keuruu	0.39	295	PG	Pg	10 05 10.6	-0.7
KEF				SG	Sg	10 05 15.7	-0.5
FIA0	FINESS Array S	0.61	158	MSG		10 05 23.1	
	comp=Z,0.9nm,0.2s						
SUF	Sumiainen	0.76	19	PG	Pg	10 05 17.8	-0.6
SUF				SG	Sg	10 05 27.1	-1.2
SUF				MSG		10 05 27.5	
	comp=Z,0.6nm,0.2s						
VAF	Ylistaro	1.72	309	PG	Pn	10 05 35.5	+0.6
	baz=125						
VAF				MSG		10 05 55.2	
	comp=Z,0.6nm,0.2s						
VAF				SN	Sb	10 05 58.4	0.0
NIF	Nilsia	1.72	35	PG	Pn	10 05 34.9	-0.1
NIF				SN	Sn	10 05 57.4	-0.2
UMAU	Umeaa	2.94	312	PN	Pn	10 05 50.8	-1.0
OUL	Oulu	3.09	2	PG	Pb	10 06 00.8	+1.1
BURU	Burvik	3.22	325	*e*SG	Pg	10 06 01.1	-4.4
BURU	Burvik	3.22	325	PG	Pb	10 06 01.1	-0.7

*NEIC **28** 10:09:37.0±0.8, 56°.3N±0°.1×149°.44W±0°.02, h20km±10km, ML2.9/38, ML2.7(AEIC), Error ellipse: s-maj=14.8km s-min=1.9km az=182.0*

AEIC 28 10:09:38.8±1.4, 56°.1N±0°.1×149°.36W±0°.09, h12km±8km, Error ellipse: s-maj=17.3km s-min=6.7km az=172.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	Kodiak Island	2.43	315		Pn	10 10 13.8	-4.5
KDAK					Sn	10 10 41.1	-6.8
OHAK	Old Harbor	2.43	299		Pn	10 10 13.9	-4.4
OHAK					Sn	10 10 40.9	-7.0
SYI	Shuyak Island	2.99	328		Pn	10 10 21.5	-4.4
SYI				IAML		10 10 58.4	
	comp=N,16nm,0.9s						
CNPM	China Poot	3.56	344		Pn	10 10 28.9	-4.9
CNPM				IAML		10 11 20.8	
	comp=E,6.9nm,1.1s						
Q19K	Cape Douglas,	3.64	322	Pn	Pn	10 10 31.6	-3.3
Q19K				IAML		10 11 02.4	
	comp=N,42nm,1.2s						
Q19K				IAML		10 12 17.5	
	comp=E,56nm,1.1s						
MID	Middleton Isla	3.69	25	Pn	Pn	10 10 30.7	-4.9
Q23K	Middleton Isla	3.69	25		Pn	10 10 30.7	-4.9
BRSE	Bradley Lake S	3.71	349		Pn	10 10 30.7	-5.1
BRSE					Sn	10 11 12.7	-6.7
BRLK	Bradley Lake	3.74	348		Pn	10 10 31.3	-5.0
BRLK				IAML		10 11 47.2	
	comp=E,7.6nm,1.1s						
SEW	Seward	4.00	359		Pn	10 10 34.7	-5.1
P23K	Montague Islan	4.03	14		Pn	10 10 35.0	-5.2
P19K	Oil Pt	4.10	331		Pn	10 10 36.1	-5.1
P19K				IAML		10 11 30.7	
	comp=E,22nm,0.7s						
P19K				IAML		10 11 30.8	
	comp=N,24nm,1.1s						
CNTC	Contact Creek	4.15	304		Pn	10 10 37.1	-4.9
O20K	Slope Mountain	4.33	338		Pn	10 10 39.6	-4.8
ILSW	Iliamna Southw	4.36	334		Pn	10 10 39.4	-5.6
ILSW				IAML		10 11 40.2	
	comp=E,5.5nm,1.1s						
O22K	Cooper Landing	4.38	358	Pn	Pn	10 10 40.3	-4.7
O22K				IAML		10 11 42.4	
	comp=N,26nm,1.1s						
O22K				IAML		10 13 18.4	
	comp=E,26nm,1.1s						
SLKM	Skilak Lake	4.42	354		Pn	10 10 40.5	-5.2
P18K	Big Mountain,	4.54	319		Pn	10 10 42.5	-4.8
P18K				IAML		10 12 23.4	
	comp=N,3.2nm,1.2s						
HIN	Hinchinbrook I	4.55	18		Pn	10 10 42.8	-4.6
HIN				IAML		10 12 43.2	
	comp=N,29nm,1.2s						
KAIM	Kayak Island	4.63	32		Pn	10 10 44.0	-4.6
KAIM				IAML		10 13 14.4	
	comp=E,27nm,1.0s						
RSO	Redoubt South	4.71	339	Pn	Pn	10 10 44.1	-5.6
EYAK	Cordova Ski Ar	4.83	22		Pn	10 10 46.7	-4.5
O18K	Koktuh Hills	4.87	323	Pn	Pn	10 10 47.4	-4.4
O18K				IAML		10 11 42.3	
	comp=N,4.6nm,1.1s						
HMT	Hamilton	5.01	30	Pn	Pn	10 10 50.2	-3.6
HMT				IAML		10 12 39.5	
	comp=N,17nm,1.1s						
BERG	Berg Lake	5.22	33		Pn	10 10 52.3	-4.3
KNK	Knik Glacier	5.33	5	Pn	Pn	10 10 54.2	-3.9
KNK				IAML		10 11 37.3	
	comp=E,3.6nm,1.1s						
KNK				IAML		10 13 33.9	
	comp=N,3.4nm,1.1s						
SNH	Sunshine Point	5.34	38	Pn	Pn	10 10 53.9	-4.4
WAX	Waxell Ridge	5.53	36	Pn	Pn	10 10 57.2	-3.8
GHO	Glory Hole Cre	5.67	2	Pn	Pn	10 10 59.0	-3.9
KLU	Klutina	5.68	17	Pn	Pn	10 10 58.6	-4.3
CRQM	Cirque	5.68	33	Pn	Pn	10 10 59.0	-4.1
TGL	Tana Glacier	5.78	34	Pn	Pn	10 11 00.1	-4.3
ISLE	Juniper Island	5.82	37	Pn	Pn	10 11 01.0	-4.0
VRDI	Verde Repeater	5.98	29	Pn	Pn	10 11 02.8	-4.3
GLB	Gilahina Butte	6.07	26	Pn	Pn	10 11 04.4	-3.8
GRNC	Granite Creek	6.11	38	Pn	Pn	10 11 05.0	-4.0
TABL	Table Mountain	6.13	42	Pn	Pn	10 11 05.5	-3.8
MCARA	McCarthy VSAT	6.22	29	Pn	Pn	10 11 06.5	-3.8
SDPT	Sand Point	6.33	268	Pn	Pn	10 11 08.9	-2.9
CTGM	Chitina Glacie	6.42	38	Pn	Pn	10 11 09.1	-4.1
DHY	Denali Highway	7.05	7	Pn	Pn	10 11 17.3	-4.5
P29M	Windy Craggy	7.12	56	Pn	Pn	10 11 19.1	-3.7
KTH	Kantishna Hill	7.50	355	Pn	Pn	10 11 22.6	-5.3

*IDC **28** 10:17:36.3±0.7, 42°.19N×104°.54E, h0km, mb3.9/15, mbtmp3.9/19, ML3.4/4, MS3.1/1, Error ellipse: s-maj=16.7km s-min=13.5km az=56.0*
*BJI **28** 10:17:37.6±0.0, 42°.28N×104°.71E, h10km, mb4.2/2, mB4.5/2, ML4.4/13, Ms3.8/7, Ms7 3.5/6*
*NEIC **28** 10:17:38.9±1.4, 42°.18N±0°.08×104°.59E±0°.10, h10km±2km, mb4.0/14, Error ellipse: s-maj=15.6km s-min=9.8km az=39.0*

ISC 28 10:17:38.3±0.4, 42°.20N±0°.04×104°.65E±0°.04, h10km, n48, σ1°83/58, mb4.1/17, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTO	Baotou	4.34	110	*e*Pn	Pn	10 18 42.0	-2.4
BTO				Pg	Pb	10 18 54.5	-0.2
BTO				smax	smax		
	comp=N,890nm,0.4s						
BTO				smax	smax		
	comp=E,710nm,0.4s						
GTA	Gaotai	4.61	234	Pn	Pn	10 18 50.5	+2.4
GTA				Pg	Pb	10 19 02.0	+2.8
GTA				Sn	Sn	10 19 43.0	+1.3
GTA				Sg	Sg	10 20 00.5	-5.6
GTA				smax	smax		
	comp=N,260nm,0.7s						
GTA				smax	smax		
	comp=E,270nm,0.6s						
GTA				LR	LR		
	comp=N,360nm,6.2s						
GTA				LR	LR		
	comp=E,610nm,7.6s						
GTA				LR	LR		
	comp=Z,490nm,7.6s						
HHC	Hu-ho-hao-te	5.36	102	*e*Pn	Pn	10 19 00.5	+2.0
HHC				Pg	Pb	10 19 14.8	+2.7
HHC				Sn	Sn	10 19 58.8	-1.5
HHC				Sg	Sb	10 20 22.3	+5.7
HHC				smax	smax		
	comp=N,790nm,0.8s						
HHC				smax	smax		
	comp=E,730nm,0.5s						
SONM	Songino Array	5.77	12	Pn	Pn	10 19 04.4	+0.4
	2.5nm,0.3s,baz=187,slow=14,SNR=20						
SONM				Pg	Pb	10 19 22.1	+3.1
	5.4nm,0.3s,baz=200,slow=17,SNR=14						
SONM				Sn	Sn	10 20 07.9	-2.4
	3.5nm,0.3s,baz=197,slow=15,SNR=1.2						
SONM				Lg	Lg	10 20 39.4	
	17nm,0.3s,baz=201,slow=31,SNR=7.7						
	4.2nm,0.3s						
ULN	Ulaanbaatar	5.92	16	Pn	Pn	10 19 07.1	+1.1
LZH	Lanzhou	6.14	186	Pn	Pn	10 19 10.0	+0.9
LZH				Pg	Pb	10 19 27.8	+2.5
LZH				Sg	Sg	10 20 52.5	-2.8
LZH				smax	smax		
	comp=N,220nm,1.5s						
LZH				smax	smax		
	comp=E,190nm,1.5s						
LZH				LR	LR		
	comp=N,560nm,5.8s						
LZH				LR	LR		
	comp=E,650nm,6.5s						
LZH				LR	LR		
	comp=Z,230nm,5.2s						
XAN	Xi'an	8.81	156	Pn	Pn	10 19 45.8	0.0
BJT	Baijiatuau	8.97	100	Pn	Pn	10 19 47.9	+0.1
GOMU	GeErMu	9.70	235	P	Pn	10 20 00.8	+2.6
GOMU				smax	smax		
	comp=N,18nm,0.9s						
GOMU				smax	smax		
	comp=E,15nm,0.8s						
TIA	Tai'an	11.37	118	*e*P	Pn	10 20 13.8	-6.9
TIA				S	Sn	10 22 49.5	+22
TIA				pmax	pmax		
	comp=Z,4.0nm,2.0s						
TIA				pmax	pmax		
	comp=Z,49nm,2.1s						
TIA				LR	LR		
	comp=N,99nm,13.7s						
TIA				LR	LR		
	comp=E,49nm,12.9s						
TIA				LR	LR		
	comp=Z,40nm,15.1s						
ENH	Enshi	12.53	160	Pn	Pn	10 20 34.9	-1.7
PZH	PanZhiHua	15.84	190	P	Pn	10 21 22.0	+0.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,110nm,5.2s						
LSA	Lhasa	16.56	225	Pn	Pn	10 21 30.8	-0.2
LSA				IAmb	IAmb	10 21 40.0	
	comp=Z,8.7nm,0.6s						
MK31	Makanchi Array	16.58	294	Pn	Pn	10 21 29.8	-1.0
MKAR	Makanchi Array	16.58	294	Pn	Pn	10 21 30.5	-0.2
MKAR	Makanchi Array	16.58	294	Pn	P	10 21 33.7	+0.4
	comp=Z,0.5nm,0.3s,baz=97,slow=13,SNR=50						
MKAR				Lg	Lg	10 26 20.8	
	baz=205,slow=5.2,SNR=1.9						
MAKZ	Makanchi	16.80	294		Pn	10 21 33.0	-0.5
MAKZ				IAmb	IAmb	10 21 40.1	
	comp=Z,9.2nm,0.9s						
ZAA0	Zalesovo Array	17.64	319	P	Pn	10 21 43.8	-0.1
ZALV	Zalesovo Beam	17.64	319	P	Pn	10 21 44.5	+0.6
	comp=Z,0.1nm,0.3s,baz=118,slow=8.8,SNR=1.9						
ZALV				Lg	Lg	10 26 49.4	
	baz=140,slow=19						
	comp=Z,0.4nm,0.4s						
HEH	HeiHe	17.64	55	*e*P	Pn	10 21 39.5	-4.5
HEH				S	Sn	10 24 59.3	-1.1
KSRS	Korea Array	18.48	97	P	Pn	10 21 56.0	+1.7
	comp=Z,0.2nm,0.3s,baz=294,slow=7.9,SNR=2.0						
	comp=Z,0.7nm,0.5s						
KURK	Kurchatov	19.77	304	P	P	10 22 08.5	+0.2
KURK				IAmb	IAmb	10 22 14.4	
	comp=Z,5.8nm,1.0s						
KURBB	Kurchatov Arra	19.80	304	P	P	10 22 08.3	-0.3
	comp=Z,0.2nm,0.3s,baz=104,slow=13,SNR=11						
KURBB				Lg	Lg	10 28 06.5	
	baz=353,slow=22,SNR=1.2						
	comp=Z,1.1nm,0.4s						
TARG	Taragay, Kyrgy	19.94	278	P	P	10 22 10.3	-0.4
USRK	Ussuriysk Ar.	20.00	75	P	P	10 22 11.2	+0.3
	comp=Z,1.8nm,0.9s,baz=280,slow=8.6,SNR=2.8						
	comp=Z,1.8nm,0.9s						
KLR	Kul'dur	20.12	60	P	P	10 22 13.4	+1.3
	comp=Z,1.5nm,0.8s,baz=280,slow=6.4,SNR=4.3						
	comp=Z,1.5nm,0.8s						
NRN	Naryn	21.33	278	P	P	10 22 26.1	+0.5
NRN				IAmb	IAmb	10 22 30.6	
	comp=Z,4.1nm,0.8s						
AAK	Ala-Archa	22.21	281	LR	LR	10 32 02.6	
	comp=Z,45nm,18.6s,baz=94,slow=39						
CMAR	Chiang Mai Arr	24.16	193	P	P	10 22 54.5	-0.2
	comp=Z,1.1nm,0.4s,baz=353,slow=8.6,SNR=5.7						
	comp=Z,1.1nm,0.4s						
KK31	Karatay Array	25.03	284	P	P	10 23 02.7	+0.3
KKAR	Karatay Array	25.03	284	P	P	10 23 02.2	-0.2
KKAR				IAmb	IAmb	10 23 07.9	
	comp=Z,1.4nm,0.8s						
BVAR	Borovoye Array	25.27	307	P	P	10 23 04.2	-0.2
	comp=Z,2.5nm,0.5s,baz=102,slow=10.0,SNR=13						
	comp=Z,2.5nm,0.5s						
BRVK	Borovoye	25.34	307	P	P	10 23 04.9	-0.2
BRVK				IAmb	IAmb	10 23 10.1	
	comp=Z,3.3nm,0.8s						
MJAR	Matsushiro Arr	26.44	91	P	P	10 23 15.9	+0.7
MJAR	Matsushiro Arr	26.44	91	P	P	10 23 15.9	+0.7
	comp=Z,3.0nm,0.8s,baz=289,slow=9.1,SNR=7.9						
	comp=Z,3.0nm,0.8s						
SIMJ	Simiganj	27.23	275	P	P	10 23 22.3	-0.2
SIMJ				IAmb	IAmb	10 23 27.4	
	comp=Z,4.6nm,1.1s						
ABKAR	Akbulak array	31.61	298	P	P	10 24 01.3	+0.2
TIXI	Tiksi	31.85	14	P	P	10 24 01.5	-1.4
	comp=Z,1.4nm,0.3s,baz=238,slow=4.8,SNR=3.7						
	comp=Z,1.4nm,0.3s						
ARU	Arti	32.57	312	P	P	10 24 07.1	-2.2
	comp=Z,2.1nm,0.3s,baz=346,slow=14,SNR=3.5						
	comp=Z,2.1nm,0.3s			

KBG				eS		Sb	10 18 06.5	-2.0
ZLN	Zelenaya	1.17	279	PN		Pb	10 18 13.9	-1.3
ZLN	Zelenaya	1.17	279	eP		Pb	10 18 13.9	-1.3
CIRR	Tsirk	1.22	283	PN		Pn	10 18 14.1	-1.9
CIRR	Tsirk	1.22	283	eP		Pn	10 18 14.1	-1.9
BZGR	Bezymyannyi-Gr	1.22	275	PN		Pn	10 18 15.0	-1.1
BZGR	Bezymyannyi-Gr	1.22	275	eP		Pn	10 18 15.0	-1.1
SRKR	Sorokina	1.24	311	PN		Pn	10 18 14.9	-1.4
SRKR	Sorokina	1.24	311	eP		Pn	10 18 14.9	-1.4
LGNR	Loginova	1.24	282	PN		Pn	10 18 14.9	-1.6
LGNR	Loginova	1.24	282	eP		Pn	10 18 14.9	-1.6
BZP	Bezymyannyi-Pe	1.31	274	eP		Pn	10 18 15.6	-1.7
KLY	Klyuchi	1.32	291	PN		Pn	10 18 14.0	-3.3
KLY	Klyuchi	1.32	291	eP		Pn	10 18 14.0	-3.3
BZWR	Bezymyannyi-We	1.34	276	PN		Pn	10 18 17.2	-0.5
BZWR	Bezymyannyi-We	1.34	276	eP		Pn	10 18 17.2	-0.5
BZMR	Bezymyannaya	1.34	274	PN		Pn	10 18 17.0	-0.7
BZMR	Bezymyannaya	1.34	274	eP		Pn	10 18 17.0	-0.7
KRSR	Krestovskiy	1.34	287	PN		Pn	10 18 15.6	-2.1
KRSR	Krestovskiy	1.34	287	eP		Pn	10 18 15.6	-2.1
KIRR	Kirishev	1.42	275	PN		Pn	10 18 17.7	-1.1
KIRR	Kirishev	1.42	275	eP		Pn	10 18 17.7	-1.1
KMNR	Kamenistaya	1.49	267	PN		Pn	10 18 19.4	-0.3
KMNR	Kamenistaya	1.49	267	eP		Pn	10 18 19.4	-0.3
KPT	Kopyto	1.49	275	PN		Pn	10 18 19.2	-0.6
KPT	Kopyto	1.49	275	eP		Pn	10 18 19.2	-0.6
TUMD	Tumrok D	1.55	246	eP		Pn	10 18 19.5	-0.9
TUMR	Tumrok	1.65	251	PN		Pn	10 18 19.5	-2.4
SRDR	Sredinnyy	1.82	286	PN		Pn	10 18 23.9	-0.4
SRDR	Sredinnyy	1.82	286	eP		Pn	10 18 23.9	-0.4
BKI	Bering	1.88	109	PN		Pn	10 18 21.4	-3.6
BKI	Bering	1.88	109	eP		Pn	10 18 21.4	-3.6
ESO	Esso	2.35	273	PN		Pn	10 18 31.5	+0.1
ESO	Esso	2.35	273	eP		Pn	10 18 31.5	+0.1
KII	Karymskiy	2.68	229	PN		Pn	10 18 36.2	+0.1
KII	Karymskiy	2.68	229	eP		Pn	10 18 36.2	+0.1
SPN	Mys Shipunski	3.22	212	PN		Pn	10 18 42.4	-1.0
SPN	Mys Shipunski	3.22	212	eP		Pn	10 18 42.4	-1.0
NLC	Nalytchevo	3.38	219	PN		Pn	10 18 49.0	+3.4
NLC				S		Sn	10 19 27.0	+1.3
NLC	Nalytchevo	3.38	219	eP		Pn	10 18 49.0	+3.4
NLC				eS		Sn	10 19 27.0	+1.3
OSSR	Ossora	3.41	2	PN		Pn	10 18 46.2	+0.3
OSSR	Ossora	3.41	2	eP		Pn	10 18 46.2	+0.3
KRX	Arik	3.50	226	PN		Pn	10 18 48.8	+1.4
KRX	Arik	3.50	226	eP		Pn	10 18 48.8	+1.4
SMAR	Somma	3.51	224	PN		Pn	10 18 47.6	0.0
SMAR	Somma	3.51	224	eP		Pn	10 18 47.6	0.0
AVH	Avacha	3.54	225	PN		Pn	10 18 49.2	+1.4
AVH	Avacha	3.54	225	eP		Pn	10 18 49.2	+1.4
UGLR	Uglovaya	3.54	223	PN		Pn	10 18 48.3	+0.4
UGLR	Uglovaya	3.54	223	eP		Pn	10 18 48.3	+0.4
KOK	Koryaka	3.56	226	PN		Pn	10 18 49.9	+1.8
KOK	Koryaka	3.56	226	eP		Pn	10 18 49.9	+1.8
GNL	Ganaly	3.58	235	PN		Pn	10 18 49.3	+0.9
GNL	Ganaly	3.58	235	eP		Pn	10 18 49.3	+0.9
DALK	Dalny	3.71	222	PN		Pn	10 18 50.4	+0.3
DALK	Dalny	3.71	222	eP		Pn	10 18 50.4	+0.3
PET	Petropavlovsk	3.75	223	ePN		Pn	10 18 54.7	+4.0
PET				eS		Sb	10 19 41.2	-3.4
PET				pmax	pmax			
	comp=Z,30nm,0.9s							
PET				smax	smax			
	comp=E,87nm,0.9s							
PET				smax	smax			
	comp=N,86nm,0.6s							
PET	Petropavlovsk	3.75	223	eP		Pb	10 18 55.9	-3.2
PEA0B	Petropavlovsk-	4.08	230‖	ePN		Pn	10 18 56.1	+0.9
PETK	Petropavlovsk-	4.08	230	Pn		Pn	10 18 56.2	+1.0
	comp=N,0.9nm,0.3s,baz=57,slow=18,SNR=6.8							
PETK				Sn		Sb	10 19 49.1	-4.9
	baz=83,slow=18							
PETK				LR	LR		10 20 38.6	
	comp=N,127nm,18.2s,baz=46,slow=40							
	comp=N,5.6nm,0.6s							
KRMR	Karymshinskiy	4.11	224	PN		Pn	10 18 56.5	+1.0
KRMR	Karymshinskiy	4.11	224	eP		Pn	10 18 56.5	+1.0
RUS	Russkaya	4.28	219	PN		Pn	10 19 00.5	+2.6
RUS	Russkaya	4.28	219	eP		Pn	10 19 00.5	+2.6
MTVR	Mutnovka	4.36	221	PN		Pn	10 19 00.7	+1.6
MTVR	Mutnovka	4.36	221	eP		Pn	10 19 00.7	+1.6
ASAK	Asacha	4.54	222	PN		Pn	10 19 03.2	+1.6
ASAK	Asacha	4.54	222	eP		Pn	10 19 03.2	+1.6
TILK	Tilichiki	4.92	19	PN		Pn	10 19 08.6	+1.9
TILK	Tilichiki	4.92	19	eP		Pn	10 19 08.6	+1.9
KDTR	Khodutka, Kamc	4.95	217	PN		Pn	10 19 10.2	+3.1
KDTR	Khodutka, Kamc	4.95	217	eP		Pn	10 19 10.2	+3.1
KLR	Kul'dur	19.93	264‖	eP		P	10 22 15.2	-9.3
KLR				pmax	pmax			
	comp=Z,7.0nm,1.4s							
TIXI	Tiksi	21.34	331⇑	eP		P	10 22 42.5	+2.9
TIXI				pmax	pmax			
	comp=Z,4.0nm,0.6s							
TIXI	Tiksi	21.34	331	P		P	10 22 42.2	+2.6
	comp=Z,5.8nm,0.5s,baz=124,slow=11,SNR=18							
TIXI				LR	LR		10 31 10.3	
	comp=Z,25nm,18.7s,baz=204,slow=38							
	comp=Z,5.8nm,0.5s							
ILAR	Eielson Array	25.75	49	eP		P	10 23 27.7	+4.5
ILAR	Eielson Array	25.75	49	P		P	10 23 24.0	+0.8
	comp=Z,0.3nm,0.7s,baz=267,slow=9.5,SNR=6.7							
	comp=Z,0.3nm,0.7s							
INK	Inuvik	30.70	41	P		P	10 24 08.1	+0.8
	comp=Z,0.4nm,0.5s,baz=292,slow=6.0,SNR=2.1							
	comp=Z,0.4nm,0.5s							
H11N2	WAKE ISLAND Hy	36.19	174	T		T	11 03 22.4	
	baz=356,slow=76,SNR=1537							
H11N3	WAKE ISLAND Hy	36.21	174	T		T	11 03 18.7	
	baz=356,slow=76,SNR=1507							
H11N1	WAKE ISLAND Hy	36.21	174	T		T	11 03 22.7	
	baz=356,slow=76,SNR=1245							
YKA	Yellowknife Ar	40.05	46	eP		P	10 25 32.8	+5.2
YKA	Yellowknife Ar	40.05	46	P		P	10 25 28.4	+0.8
	comp=Z,0.2nm,0.7s,baz=303,slow=8.0,SNR=4.5							
	comp=Z,0.2nm,0.7s							
ZALV	Zalesovo Beam	42.68	301	eP		P	10 25 42.5	-6.8
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.3s							
SPITS	Spitsbergen Ar	44.67	351	P		P	10 26 06.4	+1.3
	comp=Z,13nm,1.1s,baz=62,slow=7.0,SNR=2.3							
	comp=Z,13nm,1.1s							
FINES	FINESS Array B	58.21	337	P		P	10 27 46.6	0.0
	comp=Z,0.8nm,0.7s,baz=66,slow=7.6,SNR=2.1							
	comp=Z,0.8nm,0.7s							
OBN	Obninsk	61.04	328	eP		P	10 28 02.5	-3.6
OBN				e*PP		PcP	10 28 49.0	-0.1
OBN				e			10 30 17.9	
NOA	NORSAR Array B	61.32	345	P		P	10 28 07.5	-0.5
	comp=Z,0.4nm,0.5s,baz=18,slow=7.0,SNR=1.6							
	comp=Z,0.4nm,0.5s							
TXAR	Lajitas Array	68.12	70	P		P	10 28 54.9	+2.0
	comp=Z,0.8nm,0.8s,baz=289,slow=5.1,SNR=7.7							
	comp=Z,0.8nm,0.8s							

NEIC ***28*** *10:25:31.4±1.1,56˚.48N±0˚.09×148˚.4W±0˚.1,h20km±9km, mb3.6/1,ML3.7/72,ML3.4(AEIC),Error ellipse: s-maj=13.9km s-min=9.4km az=165.0*

AEIC ***28*** *10:25:35.0±1.3,56˚.55N±0˚.09×148˚.3W±0˚.1,h8km±7km, Error ellipse: s-maj=13.9km s-min=8.9km az=166.0*

ISC 28 10:25:30.9±1.3,56˚.62N±0˚.10×148˚.42W±0˚.06,h10km, n293,σ0s87/297,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	Kodiak Island	2.55	299		Pn	10 26 12.8	+0.6
OHAK	Old Harbor	2.73	285	P	Pn	10 26 14.1	-0.7
OHAK	Old Harbor	2.73	285		Pn	10 26 14.0	-0.7
OHAK	Old Harbor	2.73	285	P	Pn	10 26 14.1	-0.7
	baz=101						
OHAK				S	Sn	10 26 44.5	-3.3
	baz=101						
SYI	Shuyak Island	2.92	315		Pn	10 26 17.9	+0.5
SYI				IAML		10 26 53.1	
	comp=N,104nm,0.4s						
Q20K	Shuyak Island	2.92	315	P	Pn	10 26 17.9	+0.5
	baz=132						
Q20K				S	Sn	10 26 51.9	-0.6
	baz=132						
Q23K	Middleton Isla	3.02	20	Pn	Pn	10 26 18.7	0.0
Q23K				IAML		10 26 54.4	
	comp=E,235nm,0.7s						
Q23K				IAML		10 26 55.2	
	comp=N,124nm,0.6s						
Q23K	Middleton Isla	3.02	20	P	Pn	10 26 18.7	0.0
	baz=202						
MID	Middleton Isla	3.03	21	P	Pn	10 26 19.1	+0.3
MID	Middleton Isla	3.03	21	Pn	Pn	10 26 18.6	-0.2
MID				IAML		10 26 54.4	
	comp=E,202nm,0.7s						
MID				IAML		10 26 54.7	
	comp=N,180nm,0.7s						
CNPM	China Poot	3.27	334		Pn	10 26 22.6	+0.4
BRSE	Bradley Lake S	3.36	340		Pn	10 26 23.6	+0.1
BRSE	Bradley Lake S	3.36	340	P	Pn	10 26 23.6	+0.1
	baz=158						
BRLK	Bradley Lake	3.41	339		Pn	10 26 24.4	+0.3
P23K	Montague Islan	3.43	9		Pn	10 26 24.5	+0.1
P23K					Sn	10 27 03.5	-1.5
P23K	Montague Islan	3.43	9	P	Pn	10 26 24.5	+0.1
	baz=189						
P23K				S	Sn	10 27 03.5	-1.5
	baz=189						
HOM	Homer	3.49	332		Pn	10 26 26.3	+1.1
HOM				IAML		10 27 11.2	
	comp=N,164nm,0.7s						
HOM				IAML		10 27 12.5	
	comp=E,160nm,0.7s						
HOM	Homer	3.49	332	P	Pn	10 26 25.9	+0.7
	baz=150						
SEW	Seward	3.54	352		Pn	10 26 25.8	+0.1
SEW	Seward	3.54	352	P	Pn	10 26 25.9	+0.1
	baz=171						
Q19K	Cape Douglas,	3.63	312		Pn	10 26 28.3	+1.1
Q19K	Cape Douglas,	3.63	312	P	Pn	10 26 27.9	+0.8
	baz=128						
AU22	Augustine Moun	3.81	318		Pn	10 26 30.6	+1.0
AUCH	Augustine Cone	3.83	318		Pn	10 26 31.2	+1.3
AUL	Augustine Lava	3.84	318		Pn	10 26 31.4	+1.4
HIN	Hinchinbrook I	3.92	14		Pn	10 26 31.8	+0.7
HIN				IAML		10 27 18.1	
	comp=E,100nm,0.6s						
KAIM	Kayak Island	3.93	31	Pn	Pn	10 26 31.8	+0.5
KAIM				IAML		10 27 19.0	
	comp=E,123nm,0.5s						
KAIM	Kayak Island	3.93	31	P	Pn	10 26 31.6	+0.4
	baz=214						
O22K	Cooper Landing	3.93	351		Pn	10 26 31.6	+0.3
O22K				IAML		10 27 21.2	
	comp=E,137nm,0.3s						
O22K	Cooper Landing	3.93	351	P	Pn	10 26 31.2	0.0
	baz=170						
KAKN	Katmai Knife C	3.96	298		Pn	10 26 32.7	+1.0
P19K	Oil Pt	3.97	322	Pn	Pn	10 26 32.9	+1.1
P19K	Oil Pt	3.97	322	P	Pn	10 26 32.8	+1.1
	baz=138						
KCE	Katmai Mt Cerb	4.00	297		Pn	10 26 33.8	+1.6
SLKM	Skilak Lake	4.01	347		Pn	10 26 32.6	+0.2
ACHA	Angle Creek He	4.06	296		Pn	10 26 34.5	+1.4
KAHC	Katmai Hardscr	4.08	303		Pn	10 26 34.6	+1.2
KAHC	Katmai Hardscr	4.08	303	P	Pn	10 26 34.6	+1.2
	baz=118						
KVTA	Katmai Vly 10	4.11	298		Pn	10 26 35.1	+1.4
O20K	Slope Mountain	4.12	329		Pn	10 26 34.5	+0.7
O20K	Slope Mountain	4.12	329	P	Pn	10 26 34.5	+0.7
	baz=146						
ANCK	Angle Creek	4.14	295		Pn	10 26 35.8	+1.6
IVE	Iliamna Volcan	4.18	326		Pn	10 26 35.0	+0.3
EYAK	Cordova Ski Ar	4.18	18	P	Pn	10 26 35.5	+0.8
EYAK	Cordova Ski Ar	4.18	18		Pn	10 26 35.5	+0.8
EYAK	Cordova Ski Ar	4.18	18	P	Pn	10 26 35.4	+0.8
	baz=201						
ILSW	Iliamna Southw	4.19	326		Pn	10 26 35.5	+0.5
ILSW				IAML		10 27 28.5	
	comp=E,53nm,0.4s						
ILSW				IAML		10 27 28.0	
	comp=N,58nm,0.6s						
SUCK	Suckling Hills	4.24	33		Pn	10 26 36.2	+0.7
SUCK				IAML		10 27 24.5	
	comp=N,110nm,0.3s						
SUCK				IAML		10 27 25.2	
	comp=E,98nm,1.1s						
RAGM	Ragged Mountai	4.26	26		Pn	10 26 36.7	+1.0
NICHA	Nichawak Mount	4.32	31		Pn	10 26 37.3	+0.7
HMT	Hamilton	4.32	29		Pn	10 26 37.5	+0.9
CNTC	Contact Creek	4.36	295		Pn	10 26 38.0	+0.9
Q17K	Contact Creek	4.36	295	P	Pn	10 26 38.1	+0.9
	baz=110						
CAPN	Captain Cook N	4.40	342		Pn	10 26 39.5	+1.9
CAPN				IAML		10 27 42.1	
	comp=N,82nm,0.7s						
CAPN	Captain Cook N	4.40	342	P	Pn	10 26 39.3	+1.7
	baz=160						
GOAT	Goat Mountain	4.42	24		Pn	10 26 38.6	+0.6
BGLC	Bering Glacier	4.43	35		Pn	10 26 38.5	+0.4
BGLC	Bering Glacier	4.43	35	P	Pn	10 26 38.5	+0.4
	baz=220						
RED	Redoubt Volcan	4.44	331		Pn	10 26 38.4	+0.1
RDSO	Redoubt South	4.46	331		Pn	10 26 38.6	0.0
RSO	Redoubt South	4.47	331		Pn	10 26 39.2	+0.4
RDT	Redoubt	4.48	334		Pn	10 26 38.5	-0.3
RDWB	Redoubt West	4.52	331		Pn	10 26 39.2	-0.2
BERG	Berg Lake	4.52	31		Pn	10 26 39.7	+0.4
RC01	Rabbit Creek A	4.54	352		Pn	10 26 40.1	+0.5
RC01				IAML		10 27 32.5	
	comp=E,46nm,0.4s						
RC01				IAML		10 27 32.7	
	comp=N,42nm,0.4s						
RC01	Rabbit Creek A	4.54	352	P	Pn	10 26 40.0	+0.5
	baz=171						
GRIN	Grindle Hills	4.54	34		Pn	10 26 40.5	+0.9
P18K	Big Mountain,	4.56	310		Pn	10 26 40.2	+0.2
P18K	Big Mountain,	4.56	310	P	Pn	10 26 39.8	-0.1
	baz=125						
NCT	North Crescent	4.60	331		Pn	10 26 40.7	+0.1
SNH	Sunshine Point	4.62	37	Pn	Pn	10 26 41.3	+0.5
SNH				IAML		10 27 33.6	
	comp=E,44nm,0.6s						
SNH				IAML		10 27 38.1	
	comp=N,47nm,1.1s						
KHIT	Khitrov Hills	4.69	33		Pn	10 26 42.0	+0.2
DIV	Divide	4.73	16		Pn	10 26 43.3	+1.1
O19K	Port Alsworth	4.74	322		Pn	10 26 42.4	+0.1
O19K	Port Alsworth	4.74	322	P	Pn	10 26 42.6	+0.3
	baz=137						
BMRM	Bremner River	4.79	23		Pn	10 26 44.0	+0.9
BMRM	Bremner River	4.79	23	P	Pn	10 26 43.6	+0.5
	baz=206						
KNK	Knik Glacier	4.81	360		Pn	10 26 44.0	+0.7
KNK				IAML		10 27 46.1	
	comp=N,26nm,0.4s						
KNK	Knik Glacier	4.81	360	P	Pn	10 26 43.7	+0.4
	baz=180						
WAX	Waxell Ridge	4.82	35		Pn	10 26 43.9	+0.4
O18K	Koktuh Hills	4.83	315		Pn	10 26 44.1	+0.4
O18K	Koktuh Hills	4.83	315	P	Pn	10 26 44.1	+0.4
	baz=130						
Q16K	King Salmon	4.88	298		Pn	10 26 45.4	+1.2
Q16K	King Salmon	4.88	298	P	Pn	10 26 45.4	+1.2
	baz=112						
BARK	Barkley Ridge	4.90	37		Pn	10 26 45.1	+0.4
MESA	MESA	4.93	41	Pn	Pn	10 26 45.4	+0.2
MESA				IAML		10 27 42.8	
	comp=E,53nm,1.1s						
MESA				IAML		10 27 44.2	
	comp=N,42nm,1.2s						
MESA	MESA	4.93	41	P	Pn	10 26 45.1	0.0
	baz=226						
CRQM	Cirque	4.98	31		Pn	10 26 46.3	+0.5
CRQM				IAML		10 27 42.3	
	comp=E,57nm,0.3s						
CRQM				IAML		10 27 43.1	
	comp=N,50nm,0.5s						
CRQE	Cirque	4.99	32	P	Pn	10 26 46.0	+0.1
	baz=216						
P17K	Kvichak River	4.99	304		Pn	10 26 46.6	+0.8
P17K	Kvichak River	4.99	304	P	Pn	10 26 46.6	+0.8
	baz=118						
N20K	Mount Spurr	5.00	338	P	Pn	10 26 46.2	+0.3
	baz=155						
SPCR	Spurr Chakacha	5.00	338		Pn	10 26 46.2	+0.3
PMR	Palmer	5.00	356	P	Pn	10 26 46.7	+0.8
PMR	Palmer	5.00	356		Pn	10 26 46.5	+0.6
PMR				IAML		10 27 42.8	
	comp=E,24nm,0.7s						
PMR				IAML		10 27 43.0	
	comp=N,28nm,0.6s						
PMR	Palmer	5.00	356	P	Pn	10 26 46.5	+0.6
	baz=176						
SUA	Susitna One	5.00	347		Pn	10 26 46.4	+0.4
SUA	Susitna One	5.00	347	P	Pn	10 26 46.3	+0.2
	baz=165						
CKL	Chakachamna La	5.02	338		Pn	10 26 46.8	+0.5
SPCP	Crater Peak Br	5.04	339		Pn	10 26 47.6	+0.9
KLU	Klutina	5.05	14		Pn	10 26 47.6	+0.9
KLU				IAML		10 27 46.7	
	comp=N,44nm,0.3s						
KLU				IAML		10 27 47.8	
	comp=E,44nm,0.4s						
KLU	Klutina	5.05	14	P	Pn	10 26 47.1	+0.3
	baz=196						
TGL	Tana Glacier	5.07	33		Pn	10 26 47.6	+0.7
TGL				IAML		10 27 44.2	
	comp=E,56nm,0.2s						
TGL				IAML		10 27 45.2	
	comp=N,33nm,0.3s						
BAGL	Bagley Icefiel	5.10	38		Pn	10 26 47.6	+0.3
ISLE	Juniper Island	5.10	36	Pn	Pn	10 26 48.1	+0.6
ISLE				IAML		10 27 45.0	
	comp=N,45nm,1.0s						
ISLE				IAML		10 27 46.1	
	comp=E,31nm,1.0s						
GHO	Glory Hole Cre	5.17	357		Pn	10 26 49.5	+1.2
GHO				IAML		10 27 50.3	
	comp=N,38nm,0.5s						
GHO				IAML		10 27 51.2	
	comp=E,39nm,0.5s						
STLK	Strandline Lak	5.20	342		Pn	10 26 49.3	+0.5
SML	Sawmill	5.20	0		Pn	10 26 50.0	+1.2
SML				IAML		10 27 52.0	
	comp=N,30nm,0.6s						
SML				IAML		10 27 52.6	
	comp=E,30nm,0.5s						
SML	Sawmill	5.20	0	P	Pn	10 26 49.8	+1.0
	baz=181						
SPNN	North Nagishla	5.25	337		Pn	10 26 50.6	+1.2
N19K	Bonanza Creek	5.26	326		Pn	10 26 49.7	+0.2
N19K	Bonanza Creek	5.26	326	P	Pn	10 26 49.7	+0.2
	baz=141						
SCM	Sheep Creek Mo	5.26	6		Pn	10 26 51.3	+1.7
SCM	Sheep Creek Mo	5.26	6	P	Pn	10 26 50.8	+1.3
	baz=187						
VRDI	Verde Repeater	5.29	27		Pn	10 26 50.6	+0.5
SAMH	Samovar Hills	5.34	46		Pn	10 26 51.1	+0.5
KIAG	Kiagna River	5.34	34		Pn	10 26 51.3	+0.5
N25K	Chitina, Valde	5.37	20		Pn	10 26 52.3	+1.2
N25K	Chitina, Valde	5.37	20	P	Pn	10 26 52.1	+1.0
	baz=203						
GLB	Gilahina Butte	5.39	24		Pn	10 26 51.9	+0.6
GRNC	Granite Creek	5.39	37	Pn	Pn	10 26 52.0	+0.5
TABL	Table Mountain	5.40	42		Pn	10 26 52.1	+0.5
PTPK	Patty Peak	5.52	31		Pn	10 26 53.9	+0.7
MCARA	McCarthy VSAT	5.53	28		Pn	10 26 54.3	+1.1
MCARA	McCarthy VSAT	5.53	28	P	Pn	10 26 53.6	+0.4
	baz=212						
CHGN	Chignik	5.55	271		Pn	10 26 53.0	-0.4
CHGN	Chignik	5.55	271	P	Pn	10 26 52.9	-0.5
	baz=83						
O17K	Koliganek Bris	5.57	308		Pn	10 26 54.2	+0.5
O17K	Koliganek Bris	5.57	308	P	Pn	10 26 54.2	+0.5
	baz=121						
SKT	Skwentna	5.61	345		Pn	10 26 54.9	+0.7
SKT	Skwentna	5.61	345	P	Pn	10 26 54.9	+0.7
	baz=162						
M24K	Tolsona, Glenn	5.62	11	Pn	Pn	10 26 56.2	+1.7
M24K	Tolsona, Glenn	5.62	11	P	Pn	10 26 55.7	+1.2
	baz=193						
N18K	Kilae Creek	5.63	319	Pn	Pn	10 26 54.8	+0.2
N18K	Kilae Creek	5.63	319	P	Pn	10 26 54.6	0.0
	baz=133						
P16K	Nushagak River	5.66	299		Pn	10 26 56.1	+1.2
P16K	Nushagak River	5.66	299	P	Pn	10 26 56.1	+1.2
	baz=112						
BARN	Barnard Glacie	5.67	35		Pn	10 26 56.0	+0.7
PNL	Peninsula	5.67	54	P	Pn	10 26 55.7	+0.5
PNL	Peninsula	5.67	54		Pn	10 26 55.2	+0.1
PNL	Peninsula	5.67	54	P	Pn	10 26 55.2	+0.1
	baz=241						
CTG	Chitna Glacier	5.70	37	P	Pn	10 26 56.2	+0.6
	baz=223						
CTGM	Chitina Glacie	5.71	37	Pn	Pn	10 26 56.3	+0.6
BCPM	Bancas Point	5.71	51		Pn	10 26 56.6	+0.9
LOGN	Logan Glacier	5.72	39		Pn	10 26 56.5	+0.5
WACK	Wrangell Chich	5.78	20		Pn	10 26 57.7	+1.0
M20K	Styx River	5.80	337		Pn	10 26 57.7	+0.6
M20K	Styx River	5.80	337	P	Pn	10 26 57.5	+0.5
	baz=154						
SVW2	Sparrevohn	5.83	323	P	Pn	10 26 57.3	+0.1
SVW2	Sparrevohn	5.83	323		Pn	10 26 57.0	-0.3
CUT	Chulitna	5.88	352		Pn	10 26 58.9	+0.9
CUT	Chulitna	5.88	352	P	Pn	10 26 58.8	+0.9
	baz=170						
O16K	Kokwok River B	5.93	304		Pn	10 26 59.3	+0.7
O16K	Kokwok River B	5.93	304	P	Pn	10 26 59.4	+0.8
	baz=116						
O28M	Mount Upton	5.98	42		Pn	10 27 00.2	+0.6
O28M	Mount Upton	5.98	42	P	Pn	10 27 00.2	+0.6
	baz=229						
WAT6	Susitna Watana	5.99	3		Pn	10 27 00.6	+1.0
WAT6	Susitna Watana	5.99	3	P	Pn	10 27 00.6	+1.0
	baz=184						
N17K	Nushagak Hills	6.03	314		Pn	10 27 00.3	+0.3
N17K	Nushagak Hills	6.03	314	P	Pn	10 27 00.3	+0.3
	baz=127						
HARP	HAARP	6.03	15		Pn	10 27 00.8	+0.7
HARP

SDPT	Sand Point	6.88	264	P	Pn	10 27 11.3	-0.4	
SDPT	Sand Point	6.88	264		Pn	10 27 11.6	-0.1	
SDPT	Sand Point	6.88	264	P	Pn	10 27 11.6	-0.1	
	baz=75							
TRF	Thorofare Moun	6.92	353	Pn	Pn	10 27 13.7	+1.4	
TRF	Thorofare Moun	6.92	353	P	Pn	10 27 13.3	+1.0	
	baz=172							
YUK4	Talbot Arm	6.92	43	P	Pn	10 27 14.8	+2.4	
	baz=231							
P30M	Million Dollar	6.97	55		Pn	10 27 13.7	+0.7	
P30M	Million Dollar	6.97	55	P	Pn	10 27 13.1	0.0	
	baz=245							
PLBC	Pleasant Camp	7.00	61		Pn	10 27 13.3	0.0	
PLBC	Pleasant Camp	7.00	61	P	Pn	10 27 13.3	0.0	
	baz=251							
L18K	Granite Mounta	7.02	327		Pn	10 27 13.8	+0.2	
L18K	Granite Mounta	7.02	327	P	Pn	10 27 13.1	-0.5	
	baz=140							
M16K	Timber Creek	7.03	313		Pn	10 27 14.2	+0.5	
M16K	Timber Creek	7.03	313	P	Pn	10 27 14.1	+0.4	
	baz=124							
CAST	Castle Rocks	7.06	346		Pn	10 27 14.5	+0.3	
CAST	Castle Rocks	7.06	346	P	Pn	10 27 15.8	+1.6	
	baz=163							
KTH	Kantishna Hill	7.07	351		Pn	10 27 15.2	+0.9	
HYT	Haines Junctio	7.07	49	Pn	Pn	10 27 15.1	+0.6	
N15K	Kwethluk River	7.09	305		Pn	10 27 16.0	+1.5	
MCK	McKinley	7.14	358		Pn	10 27 15.9	+0.6	
MCK	McKinley	7.14	358	P	Pn	10 27 16.5	+1.3	
	baz=178							
SIT	Sitka	7.20	81	Pn	Pn	10 27 12.7	-3.4	
L27K	Beaver Creek,	7.26	24	Pn	Pn	10 27 17.6	+0.6	
BCAR	Beaver Creek A	7.28	25	Pn	Pn	10 27 17.9	+0.8	
K20K	Telida	7.33	340		Pn	10 27 18.3	+0.5	
K24K	Donnelly Dome	7.33	9		Pn	10 27 19.5	+1.6	
K24K	Donnelly Dome	7.33	9	P	Pn	10 27 19.5	+1.6	
	baz=192							
O14K	Tigyukauivet M	7.33	296		Pn	10 27 18.8	+1.0	
O14K	Tigyukauivet M	7.33	296	P	Pn	10 27 18.8	+1.0	
	baz=106							
RIDG	Independent Ri	7.36	13	Pn	Pn	10 27 19.7	+1.4	
RIDG	Independent Ri	7.36	13	P	Pn	10 27 19.7	+1.4	
	baz=196							
TTA	Tatalina	7.39	332	Pn	Pn	10 27 18.8	0.0	
L17K	Donlin	7.48	322		Pn	10 27 19.9	0.0	
L17K	Donlin	7.48	322	P	Pn	10 27 19.9	0.0	
	baz=134							
SKAG	Skagway	7.51	62	P	Pn	10 27 20.8	+0.5	
CHUM	Lake Minchumin	7.54	347		Pn	10 27 21.5	+0.8	
CHUM	Lake Minchumin	7.54	347	P	Pn	10 27 21.5	+0.8	
	baz=164							
N30M	Aishikik Lake	7.59	46		Pn	10 27 22.5	+1.0	
N30M	Aishikik Lake	7.59	46	P	Pn	10 27 22.1	+0.6	
	baz=235							
BPAW	Bear Paw Mtn.	7.61	351		Pn	10 27 22.7	+1.0	
BPAW	Bear Paw Mtn.	7.61	351	P	Pn	10 27 22.2	+0.5	
	baz=169							
L16K	Owhat River	7.63	317	Pn	Pn	10 27 22.4	+0.5	
L16K	Owhat River	7.63	317	P	Pn	10 27 22.1	+0.2	
	baz=127							
O30N	Mendenhall	7.65	52	Pn	Pn	10 27 22.8	+0.5	
O30N	Mendenhall	7.65	52	P	Pn	10 27 22.3	0.0	
	baz=242							
S12K	Black Hills	7.67	269		Pn	10 27 22.4	-0.2	
S12K	Black Hills	7.67	269	P	Pn	10 27 22.4	-0.2	
	baz=78							
PN7A	Pavlof North-7	7.70	267		Pn	10 27 22.7	-0.3	
M29M	Somme Creek	7.72	37		Pn	10 27 24.6	+1.2	
M29M	Somme Creek	7.72	37	P	Pn	10 27 24.2	+0.9	
	baz=225							
JIS	Juneau Island	7.75	72	P	Pn	10 27 23.9	+0.3	
JIS	Juneau Island	7.75	72	Pn	Pn	10 27 23.0	-0.6	
K17K	Iditarod	7.89	325		Pn	10 27 25.7	+0.2	
K17K	Iditarod	7.89	325	P	Pn	10 27 25.6	+0.1	
	baz=136							
NEA2	Nenana	8.01	358		Pn	10 27 27.9	+0.8	
NEA2	Nenana	8.01	358	P	Pn	10 27 27.5	+0.4	
	baz=178							
J18K	Innoko River	8.02	332	Pn	Pn	10 27 27.6	+0.3	
CCB	Clear Creek Bu	8.06	2	Pn	Pn	10 27 28.3	+0.5	
J20K	Nowinta River	8.09	342		Pn	10 27 29.5	+1.2	
WHY	Whitehorse	8.14	55	Pn	Pn	10 27 29.8	+0.8	
IL31		8.21	5		Pn	10 27 30.3	+0.4	
J26L	Joseph Creek	8.26	15		Pn	10 27 32.1	+1.5	
COLA	College	8.29	2	P	Pn	10 27 32.1	+1.2	
L29M	L29M	8.31	34		Pn	10 27 32.1	+0.8	
P32M	Atlin	8.34	63		Pn	10 27 31.9	+0.2	
P32M	Atlin	8.34	63	P	Pn	10 27 31.1	-0.6	
	baz=255							
MDM	Murphy Dome	8.37	1		Pn	10 27 33.4	+1.3	
M30M	Minto, Yukon	8.38	40	Pn	Pn	10 27 32.6	+0.3	
MLY	Manley	8.52	353		Pn	10 27 34.9	+0.7	
MLY	Manley	8.52	353	P	Pn	10 27 34.6	+0.4	
	baz=171							
I23K	Minto, Yukon-K	8.57	357		Pn	10 27 36.0	+1.2	
I23K	Minto, Yukon-K	8.57	357	P	Pn	10 27 35.3	+0.5	
	baz=177							
FALS	False Pass	8.64	264	P	Pn	10 27 35.0	-0.9	
FALS	False Pass	8.64	264		Pn	10 27 35.5	-0.4	
FALS	False Pass	8.64	264	P	Pn	10 27 35.5	-0.4	
	baz=72							
L14K	Kuka Creek	8.75	309	Pn	Pn	10 27 38.5	+1.3	
K15K	Wolf Creek Mou	8.76	316	Pn	Pn	10 27 38.1	+0.7	
ISLZ	Isanotski Laza	8.85	264		Pn	10 27 38.1	-0.6	
P33M	Teslin, Yukon	8.94	60	Pn	Pn	10 27 39.8	-0.3	
J16K	Anvik River	9.04	323	Pn	Pn	10 27 41.5	+0.2	
N32M	Quiet Lake	9.14	54	Pn	Pn	10 27 43.5	+0.7	
H21K	Melozitna Rive	9.31	349		Pn	10 27 45.9	+0.9	
FARO	Faro, Yukon	9.51	48	Pn	Pn	10 27 49.4	+1.7	
R33M	Jennings River	9.67	66	Pn	Pn	10 27 49.9	-0.1	
IMAR	Indian Mountai	9.73	347	Pn	Pn	10 27 50.9	+0.1	
H18K	Honhosa River	9.82	335	Pn	Pn	10 27 52.1	+0.1	
DLBC	Dease Lake	10.05	72	Pn	Pn	10 27 55.3	0.0	
FYU	Fort Yukon	10.10	7	Pn	Pn	10 27 56.3	+0.6	
G23K	Bananza Creek	10.16	356	Pn	Pn	10 27 57.6	+1.0	
ANM	Nome	11.49	321	Pn	Pn	10 28 15.6	+0.9	
C23K	Itkillik River	13.30	357	Pn	Pn	10 28 40.5	+1.0	
A36M	Sachs Harbour	18.18	23		Pn	10 29 43.7	+0.8	
A36M				IAmb	IAmb	10 30 00.3		
	comp=Z,4.5nm,1.0s							

JMA ***28*** *10:29:56.3±0.2,24.6N±0.7×122.0E±0.5,h75km±2km, MD4.0/16,MV4.3/16,TAIWAN REGION*

NIED ***28*** *10:29:56.3,24.62N×121.97E,h75km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.04; Mθθ1.04; Mϕϕ-1.08; Mrθ0.47; Mϕθ-0.81; Mϕr-1.87; Fault plane solution: M0 2.32000×10¹⁵ NP1: ϕs158.00000°,δ89.00000°,λ56.00000°. NP2:ϕs67.00000°, δ34.00000°,λ179.00000°.*

NEIC ***28*** *10:29:57.4±1.6,24.65N±0.07×122.11E±0.06,h71km±7km, mb4.4/57 Error ellipse: s-maj=9.9km s-min=7.8km az=164.0*

TAP ***28*** *10:29:57.4,24.65N×121.98E,h64km,ML4.9,B*

ASIES ***28*** *10:29:57.4,24.65N×121.98E,h64km,ML4.9,Mw4.2, Moment Tensor Solution. Moment tensor: Scale 10²²Nm; Mrr0.87; Mθθ0.19; Mϕϕ-1.06; Mrθ0.10; Mϕθ-0.72; Mϕr-2.21; Fault plane solution: M0 2.52644×10²² NP1: ϕs179.07000°,δ78.45000°,λ72.85000°. NP2:ϕs56.10000°, δ20.57000°,λ145.28000°. Principal axes: T Plg53.4680°, Azm68.5790°; N Plg16.7860°, Azm182.6070°; P Plg31.3670°, Azm283.2030°;*

BJI ***28*** *10:29:57.4±0.0,24.68N×121.94E,h76km,mb4.2/27, mB4.4/10,Ms3.9/3,Ms7 3.5/4*

IDC ***28*** *10:29:58.4±2.7,24.73N×122.13E,h86km±25km,mb3.9/17, mbtmp4.2/20,MS2.9/4,Error ellipse: s-maj=15.5km s-min=12.7km az=65.0*

ISC 28 10:29:56.8±0.5,24.68N±0.02×122.01E±0.02,h71km±4km, n309,σ1§02/419,mb4.3/47,80C-18D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWC	Suao	0.16	244	⇑iP			Pn	10 30 07.4	+0.1
	baz=250								
TWC				*i*	S		Sn	10 30 14.2	-0.7
	baz=250								
EGS		0.18	336	⇑iP			Pn	10 30 07.6	+0.3
	baz=2.0								
EGS				*i*	S		Sn	10 30 14.8	-0.3
	baz=2.0								
ESAO	Su ao	0.18	236	⇑iP			Pn	10 30 07.6	+0.2
	baz=240								
ESAO					S		Sn	10 30 14.8	-0.3
	baz=240								
NTC	Toucheng	0.24	316	P			Pn	10 30 08.0	+0.3
	baz=336								
NTC					*e*S		Sn	10 30 15.1	-0.5
	baz=336								
ILA	Ilan	0.25	289	⇑*i*P			Pn	10 30 08.2	+0.5
	baz=310								
NDS	Dongshan	0.27	260	⇑*i*P			Pn	10 30 08.4	+0.6
	baz=267								
NDS					S		Sn	10 30 15.5	-0.4
	baz=267								
EWUT	Wuta	0.32	222	⇑*i*P			Pn	10 30 08.4	+0.3
	baz=222								
EWUT					S		Sn	10 30 16.4	0.0
	baz=222								
TWE	Neicheng	0.32	277	⇑*i*P			Pn	10 30 08.7	+0.6
	baz=294								
TWE					*e*S		Sn	10 30 17.2	+0.8
	baz=294								
TWB1	Santiao Chiao	0.33	356	⇑*i*P			Pn	10 30 08.3	+0.1
	baz=3.0								
TWB1					*e*S		Sn	10 30 14.9	-1.7
	baz=3.0								
EOS2	EOS2	0.33	142	⇓*e*P			Pn	10 30 08.8	+0.8
	baz=137								
EOS2					*e*S		Sn	10 30 17.9	+1.6
	baz=137								
TIPB	Shuangxi	0.34	330	⇑*i*P			Pn	10 30 08.5	+0.2
	baz=338								
TIPB					*i* S		Sn	10 30 16.3	-0.4
	baz=338								
ENA	Nanau	0.35	224	⇑*i*P			Pn	10 30 08.7	+0.3
	baz=223								
ENA					*i* S		Sn	10 30 16.8	-0.1
	baz=223								
ENTT	Nioudou	0.41	264	⇑*i*P			Pn	10 30 09.5	+0.7
	baz=269								
ENTT					S		Sn	10 30 18.2	+0.6
	baz=269								
EAHA	Aohua	0.43	215	⇑*i*P			Pn	10 30 09.0	0.0
	baz=214								
EAHA					S		Sn	10 30 17.9	0.0
	baz=214								
SXI1	Grass Mountain	0.43	343	⇑*i*P			Pn	10 30 09.3	+0.1
	baz=340								
SXI1					*e*S		Sn	10 30 17.5	-0.6
	baz=340								
NWF	Wu-fen Shan	0.44	332	⇑*i*P			Pn	10 30 09.5	+0.3
	baz=338								
NWF					*i* S		Sn	10 30 17.5	-0.8
	baz=338								
WFSB	Wu-fen Shan	0.44	332	⇑*i*P			Pn	10 30 09.5	+0.4
	baz=338								
WFSB					*i* S		Sn	10 30 17.6	-0.6
	baz=338								
EHP	Heping Village	0.44	214	P			Pn	10 30 09.3	+0.1
	baz=211								
EHP					S		Sn	10 30 18.2	0.0
	baz=211								
NDT	Datong Townshi	0.46	260	⇑*i*P			Pn	10 30 09.9	+0.6
	baz=273								
NDT					*i* S		Sn	10 30 18.6	+0.2
	baz=273								
LATG	Datong	0.46	252	⇑*i*P			Pn	10 30 09.9	+0.5
	baz=251								
LATG					*i* S		Sn	10 30 19.0	+0.3
	baz=251								
NWLT	Wulai	0.47	282	⇑*i*P			Pn	10 30 09.9	+0.5
	baz=299								
NWLT					*i* S		Sn	10 30 18.6	-0.1
	baz=299								
EOS3	EOS3	0.48	145	⇓*e*P			Pn	10 30 10.3	+1.1
	baz=140								
EOS3					*e*S		Sn	10 30 20.3	+1.8
	baz=140								
TWA	Mucha	0.49	308	⇑*i*P			Pn	10 30 09.9	+0.3
	baz=321								
TWA					*i* S		Sn	10 30 18.9	-0.1
	baz=321								
TNOU	National Taiwa	0.52	335	⇑*i*P			Pn	10 30 09.9	+0.1
	baz=340								
TNOU					*i* S		Sn	10 30 18.7	-0.6
	baz=340								
NHDH	Xindian Distri	0.52	303	⇑*i*P			Pn	10 30 10.3	+0.4
	baz=316								
NHDH					S		Sn	10 30 19.5	+0.1
	baz=316								
NHY	Taipei	0.54	312	P			Pn	10 30 10.3	+0.4
	baz=326								
NHY					S		Sn	10 30 19.8	+0.1
	baz=326								
TATO	Taipei	0.56	302	P			Pn	10 30 10.7	+0.5
TATO	Taipei	0.56	302				Pn	10 30 10.5	+0.3
TATO	Taipei	0.56	302	⇑*i*P			Pn	10 30 10.5	+0.3
	baz=315								
TATO					*i* S		Sn	10 30 19.9	-0.2
	baz=315								
YHNB	Yeheng	0.58	269	P			Pn	10 30 10.9	+0.5
YHNB	Yeheng	0.58	269				Pn	10 30 10.8	+0.3
YHNB	Yeheng	0.58	269	⇑*i*P			Pn	10 30 11.0	+0.5
	baz=272								
YHNB					*i* S		Sn	10 30 20.6	-0.1
	baz=272								
TAP	Taipei	0.58	308	⇑*i*P			Pn	10 30 10.8	+0.4
	baz=323								
TAP					S		Sn	10 30 20.3	-0.2
	baz=323								
NSK	Sanguang	0.59	270	⇑*i*P			Pn	10 30 11.0	+0.4
	baz=273								
NSK					*i* S		Sn	10 30 21.0	+0.2
	baz=273								
BACT	New Taipei Cit	0.61	301	P			Pn	10 30 11.1	+0.4
	baz=313								
BACT					S		Sn	10 30 21.4	+0.5
	baz=313								
NWRT	Kuosheng	0.61	329	*e*P			Pn	10 30 10.9	+0.2
	baz=333								
YM01	YM01	0.61	319	⇑*i*P			Pn	10 30 11.1	+0.3
	baz=324								
YM01					*i* S		Sn	10 30 20.9	-0.3
	baz=324								
EOS4	EOS4	0.62	153	⇓P			Pn	10 30 10.8	+0.3
	baz=157								
EOS4					*e*S		Sn	10 30 21.2	+0.6
	baz=157								
NNSB	Datong	0.62	246	⇑*i*P			Pn	10 30 11.5	+0.5
	baz=241								
NNSB					*i* S		Sn	10 30 21.4	-0.2
	baz=241								
NNSH	Datong	0.62	246	⇑*i*P			Pn	10 30 11.5	+0.5
	baz=242								
NNSH					*i* S		Sn	10 30 21.3	-0.2
	baz=242								
ETL	Fush Village	0.63	214	⇑P			Pn	10 30 10.5	-0.5
	baz=205								
ETL					S		Sn	10 30 21.1	-0.3
	baz=205								
NNS	Nan Shan	0.63	248	⇑*i*P			Pn	10 30 11.6	+0.5
	baz=242								
NNS					*i* S		Sn	10 30 21.5	-0.1
	baz=242								
NACB	Ninganchiao	0.63	217	P			Pn	10 30 10.7	-0.3
NACB	Ninganchiao	0.63	217				Pn	10 30 10.6	-0.3
NACB	Ninganchiao	0.63	217	⇑*i*P			Pn	10 30 10.6	-0.4
	baz=216								
NACB					*e*S		Sn	10 30 20.4	-1.0
	baz=216								
YM08	YM08	0.63	323	⇑*i*P			Pn	10 30 11.0	0.0
	baz=328								
YM08					*e*S		Sn	10 30 20.4	-1.1
	baz=328								
ANP	Anpu	0.67	319	⇑*i*P			Pn	10 30 11.5	0.0
	baz=323								
ANP					*e*S		Sn	10 30 22.3	-0.1
	baz=323								
ETLH	Xiulin Townshi	0.68	226	⇑P			Pn	10 30 11.3	-0.3
	baz=234								
ETLH					S		Sn	10 30 22.3	-0.1
	baz=234								
TWS1	Kuangyinshan	0.68	308	⇑*i*P			Pn	10 30 12.2	+0.7
	baz=318								
TWS1					*i* S		Sn	10 30 22.9	+0.5
	baz=318								
TWY	Chenhua	0.70	328	⇑*i*P			Pn	10 30 12.3	+0.6
	baz=332								
NTST	Danshui	0.70	313	⇑P			Pn	10 30 12.3	+0.6
	baz=326								
NTST					*e*S		Sn	10 30 22.7	-0.1
	baz=326								
TWD	Chiawan	0.71	212	⇑*i*P			Pn	10 30 11.4	-0.4
	baz=223								
TWD					*e*S		Sn	10 30 22.2	-0.7
	baz=223								
NSM	Shimen	0.72	328	*e*P			Pn	10 30 12.1	+0.2
	baz=332								
NSM					*e*S		Sn	10 30 22.9	-0.1
	baz=332								
NTY	Taoyuan	0.72	296	⇑*i*P			Pn	10 30 12.8	+0.8
	baz=305								
NTY					S		Sn	10 30 24.0	+0.8
	baz=305								
HWA	Hwalien	0.79	208	⇑*e*P			Pn	10 30 13.0	+0.2
	baz=195								
HWA					*e*S		Sn	10 30 24.9	+0.3
	baz=195								
NCU	National Centr	0.80	291	⇑*i*P			Pn	10 30 13.6	+0.7
	baz=295								
NCU					*i* S		Sn	10 30 25.8	+0.9
	baz=295								
NCUH	Zhongli	0.80	291	⇑*i*P			Pn	10 30 13.6	+0.7
	baz=295								
NCUH					*i* S		Sn	10 30 25.7	+0.9
	baz=295								
NFF	Wufeng Townshi	0.81	267	⇑*i*P			Pn	10 30 13.6	+0.5
	baz=276								
NFF					*i* S		Sn	10 30 25.2	+0.1
	baz=276								
FUSS	Fushou	0.82	238	⇑*i*P			Pn	10 30 13.7	+0.3
	baz=233								
FUSS					*i* S		Sn	10 30 25.6	0.0
	baz=233								
NJD	Zhudong	0.84	274	*e*P			Pn	10 30 14.0	+0.7
	baz=276								
NJD					*e*S		Sn	10 30 25.9	+0.3
	baz=276								
ETM	Tongmen	0.85	214	⇑*e*P			Pn	10 30 12.9	-0.6
	baz=222								
WHF	Hehuan Shan	0.86	232	⇓*i*P			Pn	10 30 14.2	+0.1
	baz=226								
WHF					S		Sn	10 30 26.5	-0.3
	baz=226								
TWT	Tachien	0.87	241	⇑*i*P			Pn	10 30 14.8	+0.9
	baz=233								
TWT					*i* S		Sn	10 30 27.0	+0.4
	baz=233								
JYNG	Yonagunijimaku	0.88	105	P			Pn	10 30 14.2	+0.4
JYNG					*e*S		Sn	10 30 26.6	+0.1
JYNG	Yonagunijimaku	0.88	105	A			A	10 30 14.2	
	comp=E,5.0nm,4.2s,comp=N,6.0nm,4.3s								
TDCB	Techi	0.89	241	⇑*i*P			Pn	10 30 14.8	+0.8
	baz=233								
TDCB					*i* S		Sn	10 30 26.7	-0.2
	baz=233								
HSN1	Hsinchu	0.91	276	⇑*i*P			Pn	10 30 14.8	+0.6
	baz=279								
HSN1					*i* S		Sn	10 30 27.6	+0.5
	baz=279								
NSTT	Nanjuang	0.92	267	⇑*i*P			Pn	10 30 14.8	+0.5
	baz=268								
NSTT					*i* S		Sn	10 30 27.6	+0.3
	baz=268								
NHW	Xinwu Township	0.93	291	⇑*i*P			Pn	10 30 15.1	+0.7
	baz=294								
NHW					*i* S		Sn	10 30 28.5	+0.8
	baz=294								
YOJ	Yonaguni jima	0.94	103	P			Pn	10 30 15.1	+0.6
YOJ	Yonaguni jima	0.94	103				Pn	10 30 14.3	-0.2
YOJ	Yonaguni jima	0.94	103	⇓*i*P			Pn	10 30 14.8	+0.4
	baz=101								
YOJ					*i* S		Sn	10 30 28.1	+0.5
	baz=101								
YOJ	Yonaguni jima	0.94	103	P			Pn	10 30 14.8	+0.4
YOJ					S		Sn	10 30 28.1	+0.5
YOJ	Yonaguni jima	0.94	103	A			A	10 30 14.8	
	comp=E,5.0nm,0.5s,comp=N,5.0nm,1.6s								
SBCB	Hsinchu	0.94	277	⇑*i*P			Pn	10 30 15.2	+0.7
	baz=279								
SBCB					*i* S		Sn	10 30 28.3	+0.6
	baz=279								
PCYT	Pengchaiyu	0.95	3	*e*P			Pn	10 30 15.5	+0.8
	baz=1.0								
HSN	Hsinchu	0.95	277	⇑*i*P			Pn	10 30 14.9	+0.2
	baz=282								
HSN					*i* S		Sn	10 30 28.0	0.0
	baz=282								
SHUL	Shoufeng	0.98	205	⇑*i*P			Pn	10 30 15.0	0.0
	baz=195								
SHUL					S		Sn	10 30 28.5	-0.1
	baz=195								
CHGB	Renai	0.98	231	⇑*i*P			Pn	10 30 15.8	+0.5
	baz=230								
CHGB					*i* S		Sn	10 30 28.5	-0.6
	baz=230								
ESL	Shilin	1.01	212	⇑*e*P			Pn	10 30 14.4	-1.0
	baz=217								
ESL					*e*S		Sn	10 30 27.2	-2.1
	baz=217								
NJN	Zhunan	1.04	270	*e*P			Pn	10 30 16.2	+0.5
	baz=272								
NJN					*e*S		Sn	10 30 30.5	+0.7
	baz=272								
OWD	Renai	1.05	227	⇑*i*P			Pn	10 30 16.3	+0.2
	baz=217								
OWD					*e*S		Sn	10 30 29.5	-0.9
	baz=217								
WHP	Taichung City	1.05	248	⇓P			Pn	10 30 17.2	+1.2
	baz=247								
WHP					S		Sn	10 30 31.0	+0.6
	baz=247								
WUSB	Renai	1.06	230	⇑*i*P			Pn	10 30 16.8	+0.5
	baz=228								
WUSB					*i* S		Sn	10 30 30.5	-0.3
	baz=228								
WARBT	Fenglin Townsh	1.12	211	⇑*e*P			Pn	10 30 15.6	-1.2
	baz=217								
NMLH	Miaoli	1.12	263	⇑P			Pn	10 30 17.6	+0.8
	baz=263								
NMLH					S		Sn	10 30 32.4	+0.6
	baz=263								
EGFH	Guangfu	1.14	208	⇑*e*P			Pn	10 30 15.8	-1.2
	baz=217								
NSY	Sanyi	1.17	257	⇑*i*P			Pn	10 30 18.4	+0.9
	baz=257								
NSY					*i* S		Sn	10 30 33.6	+0.7
	baz=257								
WPL	Puli Township	1.17	236	⇑*i*P			Pn	10 30 18.5	+1.0
	baz=227								
WPL					S		Sn	10 30 33.0	+0.1
	baz=227								
TWQ1	Liyutan	1.18	254	P			Pn	10 30 18.3	+0.7
	baz=253								
TWQ1					S		Sn	10 30 33.4	+0.3
	baz=253								
WCS	Beigang Elemen	1.18	238	P			Pn	10 30 18.7	+1.1
	baz=247								
WCS					*i* S		Sn	10 30 33.9	+0.8
	baz=247								
DPDB	Guoxing	1.18	237	⇑*i*P			Pn	10 30 18.9	+1.2
	baz=228								
DPDB			

SSLB **Suanglung** 1.31 228⇑ *i*P Pn 10 30 19.7 +0.3
baz=219
SSLB eS Sn 10 30 36.6 +0.4
baz=219
EHY Hungye 1.33 208⇑ eP Pn 10 30 18.1 -1.4
baz=207
TCU Taichung 1.33 247 eP Pn 10 30 20.1 +0.6
baz=245
EHYH Wanrong 1.33 207 eP Pn 10 30 18.2 -1.3
baz=206
WWF Wufeng 1.35 242 eP Pn 10 30 20.6 +0.8
baz=252
WWF S Sn 10 30 37.8 +0.6
baz=252
WNT1 Nantou City 1.44 238 eP Pn 10 30 22.5 +1.5
baz=248
WNT1 eS Sn 10 30 39.9 +0.8
baz=248
YULB Yu-li 1.44 207 P Pn 10 30 20.1 -0.9
YULB Yu-li 1.44 207 Pn 10 30 19.5 -1.5
YULB Yu-li 1.44 207⇑ eP Pn 10 30 19.5 -1.5
baz=206
WHYT Xinyi Township 1.44 227⇑ eP Pn 10 30 22.5 +1.5
baz=233
WHYT eS Sn 10 30 40.8 +1.5
baz=233
WJS Zhushan 1.45 234 eP Pn 10 30 22.1 +1.0
baz=244
WJS eS Sn 10 30 40.7 +1.3
baz=244
WNT Mingjian 1.45 237 eP Pn 10 30 21.9 +0.8
baz=247
WNT eS Sn 10 30 40.0 +0.5
baz=247
ECBN Changbin 1.45 201⇑ eP Pn 10 30 20.6 -0.5
baz=208
ECBN eS Sn 10 30 37.6 -1.9
baz=208
WCHH Zhanghua 1.45 246 eP Pn 10 30 21.6 +0.5
baz=244
WCHH eS Sn 10 30 40.2 +0.7
baz=244
EYUL Yuli 1.47 206 eP Pn 10 30 20.2 -1.2
baz=205
TWF1 Yuli 1.48 206⇑ eP Pn 10 30 20.0 -1.5
baz=205
WYL Yuanlin Townsh 1.49 242 eP Pn 10 30 22.0 +0.4
baz=240
CHKH Chenggong 1.59 201 eP Pn 10 30 21.6 -1.3
baz=192
IRIF Iriomote-Funau 1.60 102 P Pn 10 30 23.5 +0.4
IRIF eS Sn 10 30 43.2 +0.2
IRIF Iriomote-Funau 1.60 102 A A 10 30 23.5
comp=E,7.0nm,1.2s,comp=N,7.0nm,1.0s
ALS Alishan 1.60 224⇑ *i*P Pn 10 30 24.5 +1.1
baz=230
ALS S Sn 10 30 44.6 +1.2
baz=230
FULB Fuli 1.61 204 eP Pn 10 30 22.8 -0.5
baz=203
CHN5 Tsauling 1.63 229 eP Pn 10 30 24.4 +0.8
baz=237
CHN5 eS Sn 10 30 44.9 +1.2
baz=237
WGK Gukeng 1.65 233 eP Pn 10 30 24.8 +1.1
baz=243
WGK eS Sn 10 30 45.1 +0.9
baz=243
WDLH Douliu 1.67 234 eP Pn 10 30 25.0 +1.0
baz=243
WRL Guolierlin Hig 1.68 243 eP Pn 10 30 24.6 +0.4
baz=241
CHKT Chengkung 1.68 201⇑ eP Pn 10 30 23.1 -1.1
baz=192
EHD Haiduan 1.69 206 eP Pn 10 30 23.0 -1.3
baz=205
RLNB Erlin 1.70 243 *i* P Pn 10 30 24.8 +0.4
baz=250
RLNB *i* S Sn 10 30 45.6 +0.3
baz=250
ECS Chishang 1.74 205 eP Pn 10 30 24.5 -0.4
baz=204
ELDTW Lidau 1.74 212 eP Pn 10 30 24.3 -0.8
baz=203
HATJ Hateruma jima 1.75 110 eP Pn 10 30 25.6 +0.6
HATJ eS Sn 10 30 46.9 +0.4
HATJ Hateruma jima 1.75 110 A A 10 30 25.6
comp=E,6.0nm,2.9s,comp=N,7.0nm,2.8s
WTCT Ta-ch'eng 1.78 243 eP Pn 10 30 25.7 +0.3
baz=249
WTCT eS Sn 10 30 46.7 -0.4
baz=249
WTK Tuku 1.78 237 eP Pn 10 30 26.0 +0.6
baz=245
WTK eS Sn 10 30 47.9 +0.6
baz=245
WCKO Fanlu 1.78 226 eP Pn 10 30 27.3 +1.7
baz=232
WCKO eS Sn 10 30 49.4 +2.0
baz=232
CHN2 Minshiung 1.81 231 eP Pn 10 30 27.3 +1.5
baz=240
EDH Donghe 1.82 201 eP Pn 10 30 24.9 -1.1
baz=200
CHN4 Tsaushan 1.85 225 P Pn 10 30 27.6 +1.2
baz=234
CHN4 eS Sn 10 30 51.1 +2.1
baz=234
TPUB Ta-pu 1.87 223 P Pn 10 30 27.9 +1.2
TPUB Ta-pu 1.87 223 Pn 10 30 27.8 +1.1
TPUB Ta-pu 1.87 223 P Pn 10 30 27.8 +1.2
baz=231
TPUB eS Sn 10 30 50.2 +0.8
baz=231
JKRS Kuro-shima 1.87 103 P Pn 10 30 27.6 +0.9
JKRS eS Sn 10 30 50.9 +1.4
JKRS Kuro-shima 1.87 103 A A 10 30 27.6
comp=E,7.0nm,1.4s,comp=N,7.0nm,1.3s
STYH Taoyuan 1.88 217 eP Pn 10 30 27.2 +0.3
baz=210
STYT Tauyuan 1.90 217 P Pn 10 30 28.0 +0.9
baz=205
STYT eS Sn 10 30 51.8 +1.6
baz=205
WTP Ta-pu 1.92 222 ⇓P Pn 10 30 28.2 +0.9
baz=230
WTP eS Sn 10 30 52.9 +2.2
baz=230
WSF Szhu 1.94 238 P Pn 10 30 27.9 +0.3
baz=235
WSF S Sn 10 30 50.9 -0.1
baz=235
LONT Longtian 1.94 205 eP Pn 10 30 26.5 -1.2
baz=196
JIJ Ishigaki jima 1.97 99 P Pn 10 30 28.3 +0.3
JIJ eS Sn 10 30 51.5 -0.2
TWK Hsinying 1.98 225 ⇑P Pn 10 30 29.1 +0.9
baz=233
TWK eS Sn 10 30 54.7 +2.6
baz=233
WSL Shuilin Townsh 2.00 235 eP Pn 10 30 28.9 +0.6
baz=242
SNST Tainan City 2.01 224 eP Pn 10 30 29.4 +0.9
baz=233
CHN1 Nanshi 2.02 223 P Pn 10 30 29.6 +1.0
baz=230
CHN1 eS Sn 10 30 53.7 +0.7
baz=230
TWG Pinlang 2.04 205 Pn 10 30 27.5 -1.5
TWG Pinlang 2.04 205 eP Pn 10 30 27.3 -1.7
baz=196
TWGBT Beinan 2.04 205 P Pn 10 30 28.0 -1.0
TWGBT Beinan 2.04 205⇑ eP Pn 10 30 27.3 -1.7
baz=196
ICHU Yijhu 2.06 231 eP Pn 10 30 30.0 +0.8
baz=228
LDUT Ludao 2.06 194 eP Pn 10 30 27.6 -1.6
baz=193
SGST Jiashian 2.06 220⇑ *i*P Pn 10 30 29.6 +0.4
baz=227
SGST eS Sn 10 30 54.5 +0.5
baz=227
TTN Taitung 2.08 203 eP Pn 10 30 29.5 +0.1
baz=202
SLGT Liugui 2.09 217 eP Pn 10 30 31.2 +1.5
baz=215
JISG Ishigakijimahi 2.10 92 P Pn 10 30 30.3 +0.6
JISG eS Sn 10 30 55.4 +0.6

CHN8 Yiju 2.12 231 eP Pn 10 30 30.5 +0.5
baz=226
CHN8 eS Sn 10 30 55.7 +0.4
baz=226
CHN3 Shinhua 2.20 224 eP Pn 10 30 32.7 +1.6
baz=232
SSHA Shanhua 2.20 226 eP Pn 10 30 32.6 +1.4
baz=223
SCLT Jiali 2.24 228 eP Pn 10 30 33.3 +1.7
baz=225
SHHT Tainan City 2.25 223 eP Pn 10 30 33.4 +1.7
baz=231
SCST Cishan 2.26 218 eP Pn 10 30 33.8 +1.8
baz=215
ECL Taimali 2.29 205 eP Pn 10 30 31.3 -1.0
baz=198
SSD Sandimen 2.30 214 eP Pn 10 30 33.6 +1.1
baz=203
TSCK Chigu Township 2.33 229 eP Pn 10 30 33.4 +0.5
baz=227
TSMG Majia 2.33 213 eP Pn 10 30 34.5 +1.6
baz=203
VWUC VWUC 2.35 278⇓ eP Pn 10 30 32.8 -0.3
baz=277
TWM1 Shoushan 2.35 219 eP Pn 10 30 35.3 +2.1
baz=227
MATB Ma-tsu 2.37 309⇓ eP Pn 10 30 33.5 +0.1
baz=311
SGLT Jiouru 2.39 216 eP Pn 10 30 36.4 +2.6
baz=213
MSUT Lienchiang 2.40 309⇓ eP Pn 10 30 33.7 -0.1
baz=312
MASBT Mashibuluo 2.42 212 eP Pn 10 30 34.9 +0.9
baz=206
MASBT eS Sn 10 31 03.0 +0.4
baz=206
JTJ Tarama 2.45 90 eP Pn 10 30 35.9 +1.4
SNJT Kaohsiung City 2.46 219 eP Pn 10 30 36.3 +1.7
baz=228
PNG Penghu 2.50 244 eP Pn 10 30 34.4 -0.8
baz=241
PHUB P'eng-hu 2.51 243⇓ eP Pn 10 30 34.4 -0.9
baz=240
EAST Anshuo 2.52 205 eP Pn 10 30 35.2 -0.4
baz=198
TAW Tawu 2.53 204 eP Pn 10 30 35.1 -0.5
baz=198
TAWH Dawu Township 2.55 204 eP Pn 10 30 36.5 +0.7
baz=198
WDGT Dungji 2.57 237 eP Pn 10 30 36.0 -0.2
baz=234
WSSB Gushan 2.59 219 eP Pn 10 30 37.9 +1.5
baz=216
SCZT Fangliao 2.63 209 eP Pn 10 30 38.0 +1.1
baz=208
PTMZ Houxiangcun 2.65 278⇓ eP Pn 10 30 37.0 -0.2
baz=277
LAY Lan-yu 2.66 189 eP Pn 10 30 36.2 -1.3
baz=181
SLIU Shizi 2.69 205 eP Pn 10 30 38.0 +0.2
baz=204
LYUB Lan-yu 2.69 188 eP Pn 10 30 35.4 -2.4
baz=181
LYJJ Jianjiangzhen 2.76 313⇓ eP Pn 10 30 38.9 +0.2
baz=317
TWP Hsiaoliuchiu 2.77 213 eP Pn 10 30 41.5 +2.6
baz=224
XPSS Dashiqiu 2.78 324 eP Pn 10 30 38.9 0.0
baz=337
VCHM Qimei 2.78 239 eP Pn 10 30 38.5 -0.5
baz=233
VCHM eS Sn 10 31 08.5 -2.9
baz=233
JIRB Irabujima 2.88 86 eP Pn 10 30 41.9 +1.6
JIRB eS Sn 10 31 16.0 +2.2
HEN Hengchun 2.91 204 eP Pn 10 30 42.4 +1.6
baz=204
TWK1 Hengchun 2.94 202 eP Pn 10 30 41.5 +0.3
baz=202
TWKBT Hengchun 2.94 202 eP Pn 10 30 41.2 0.0
baz=202
JMJ Miyako jima 2 2.99 87 eP Pn 10 30 44.1 +2.3
baz=87
MHZQ Yeshan 3.04 298⇓ eP Pn 10 30 42.2 -0.3
baz=301
QZH Quanzhou 3.12 276 *i* P Pn 10 30 43.0 -0.6
QZH S Sn 10 31 16.3 -3.4
QZH smax smax
comp=N,830nm,0.6s
QZH smax smax
comp=N,710nm,0.5s
KNM Kinmen 3.27 266⇓ eP Pn 10 30 46.8 +1.2
baz=262
KNMB Chin-men Tao 3.31 267 Pn Pn 10 30 45.4 -0.8
KNMB Chin-men Tao 3.31 267⇓ eP Pn 10 30 45.6 -0.6
baz=263
ZPLA Ao Xicun 3.96 260 eP Pn 10 30 55.0 -0.1
baz=255
DSXP Dongshan 4.30 258⇓ eP Pn 10 30 59.3 -0.3
baz=252
SXFK Yanhouchang 4.30 294⇓ eP Pn 10 30 59.2 -0.5
baz=297
JOW Kunigami 6.04 68 Pn Pn 10 31 23.8 +0.3
JOW Kunigami 6.04 68 eP Pn 10 31 24.1 +0.6
baz=70
JOW Kunigami 6.04 68 P Pn 10 31 24.3 +0.8
comp=N,24nm,0.3s,baz=120,slow=25,SNR=55
JOW S Sn 10 32 28.4 -2.9
comp=N,16nm,0.3s,baz=101,slow=26,SNR=1.8
NJ2 Nanjing 7.85 340 eP Pn 10 31 51.5 +3.3
NJ2 S Sn 10 33 18.0 +2.4
NJ2 smax smax
comp=N,25nm,0.8s
NJ2 smax smax
comp=N,54nm,0.6s
NJ2 LR LR
comp=N,160nm,4.3s
NJ2 LR LR
comp=N,270nm,5.0s
NJ2 LR LR
comp=N,90nm,8.1s
CNSH ChangSha 8.85 295 ⇑P Pn 10 32 01.8 -0.1
CNSH S Sn 10 33 36.8 -3.3
CNSH smax smax
comp=N,310nm,0.7s
CNSH smax smax
comp=N,200nm,1.2s
TIA Tai'an 12.24 341 eP P 10 32 56.0 -1.9
TIA pmax pmax
comp=Z,1.0nm,0.3s
KSAR Wonju Array Be 13.68 20 Pn Pn 10 33 07.4 0.0
KSRS Korea Array 13.70 20 P Pn 10 33 11.3 +3.6
comp=Z,18nm,0.7s,baz=199,slow=12,SNR=4.2
KSRS LR LR 10 38 39.7
comp=Z,25nm,18.4s,baz=210,slow=38
KS19 Wonju Array Si 13.72 20 Pn Pn 10 33 07.3 -0.8
JMN Monobe 13.73 46 Pn Pn 10 33 05.5 -2.7
XAN Xi'an 14.73 312 P Pn 10 33 22.0 +0.7
XAN pmax pmax
comp=Z,9.0nm,0.8s
XAN LR LR
comp=Z,190nm,7.0s
XAN LR LR
comp=Z,170nm,5.2s
XAN LR LR
comp=Z,130nm,7.9s
KMI Kunming 17.49 275 ⇑P P 10 33 56.5 0.0
KMI pmax pmax
comp=Z,11nm,0.8s
JHJ Hachijo jima 2 17.67 58 P P 10 33 58.7 +0.5
comp=Z,109nm,0.8s,baz=92,slow=0.2,SNR=4.8
JHJ LR LR 10 40 06.7
comp=Z,44nm,20.4s,baz=342,slow=35
MJAR Matsushiro Arr 18.25 46 P P 10 34 04.0 -0.5
comp=Z,1.2nm,0.7s,baz=225,slow=9.7,SNR=4.1
MJAR LR LR 10 41 08.5
comp=Z,59nm,19.7s,baz=206,slow=37
JCJ Chichijima 18.31 78 P P 10 34 05.4 +0.1
JCJ Chichijima 18.31 78 P P 10 34 00.4 -4.9
comp=Z,60nm,0.7s,baz=275,slow=23,SNR=5.5
HHC Hu-ho-hao-te 18.34 334 eP Pn 10 34 08.3 +2.0
HHC pP pP 10 34 20.0 0.0
HHC pmax pmax
comp=Z,8.0nm,0.5s
HHC pmax pmax
comp=Z,99nm,5.2s
PZH PanZhiHua 18.37 280 P Pn 10 34 07.5 +0.6

PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,5.7s
CN2 Changchun 19.28 8 P Pn 10 34 18.3 +0.9
CN2 pmax pmax
comp=Z,10.0nm,0.6s
LZH Lanzhou 19.33 310 eP Pn 10 34 21.5 +3.3
LZH pP pP 10 34 28.0 -3.1
LZH pmax pmax
comp=Z,12nm,1.5s
CRAI Chiangrai 20.48 262 P P 10 34 29.9 +1.0
JMM Marumori 20.70 46 P P 10 34 29.2 -1.9
USA0B Ussuriysk Arra 21.11 20 P P 10 34 36.2 +0.7
USA0B lAmb lAmb 10 34 43.8
comp=Z,22nm,1.4s
USRK Ussuriysk Ar. 21.11 20 P P 10 34 36.5 +1.0
USRK Ussuriysk Ar. 21.11 20 P P 10 34 36.9 +1.5
comp=Z,2.9nm,0.7s,baz=205,slow=11,SNR=7.1
comp=Z,2.9nm,0.7s
PHRA Phrae 21.16 257 P P 10 34 37.9 +1.7
CMAR Chiang Mai Arr 22.31 258 P P 10 34 49.9 +1.3
comp=Z,2.1nm,0.8s,baz=63,slow=8.6,SNR=9.1
CMAR LR LR 10 44 50.9
comp=Z,20nm,18.1s,baz=75,slow=40
comp=Z,2.1nm,0.8s
GTA Gaotai 23.78 313 P P 10 35 06.0 +3.0
GTA sP sP 10 35 26.5 -1.4
GTA pmax pmax
comp=Z,3.0nm,1.5s
JKA Kamikawa-asahi 25.65 36 P P 10 35 18.8 -1.0
HEH HeiHe 25.87 8 eP P 10 35 22.3 +0.6
HEH pmax pmax
comp=Z,6.0nm,0.9s
HEH pmax pmax
comp=Z,150nm,5.8s
SONM Songino Array 26.21 336 P P 10 35 25.5 +0.5
comp=Z,2.3nm,0.7s,baz=151,slow=9.7,SNR=12
comp=Z,2.3nm,0.7s
FAKI Fak Fak 29.18 159 P P 10 35 51.3 -0.4
WMQ Urumqi 33.86 313 eP P 10 36 35.3 +2.7
MTN Manton Dam 38.34 166 P P 10 37 09.6 -1.3
MK31 Makanchi Array 38.51 315 P P 10 37 12.2 0.0
MKAR Makanchi Array 38.51 315 P P 10 37 12.5 +0.3
MKAR Makanchi Array 38.51 315 P P 10 37 12.9 +0.7
comp=Z,1.1nm,0.5s,baz=100,slow=9.7,SNR=18
comp=Z,1.1nm,0.5s
MAKZ Makanchi 38.72 315 P P 10 37 14.1 +0.1
ZAA0 Zalesovo Array 40.24 326 P P 10 37 27.2 +0.8
ZAA0 lAmb lAmb 10 37 31.8
comp=Z,2.5nm,0.7s
ZALV Zalesovo Beam 40.24 326 P P 10 37 26.0 -0.5
ZALV Zalesovo Beam 40.24 326 P P 10 37 26.6 +0.2
comp=Z,2.0nm,0.5s,baz=120,slow=7.7,SNR=7.9
comp=Z,2.0nm,0.5s
KNRA Kununurra 40.65 170 P P 10 37 29.3 -0.8
COEN Coen 43.61 149 P P 10 37 54.7 +0.4
WB0 Warramunga Arr 45.80 164 P P 10 38 11.1 -0.5
WB0 lAmb lAmb 10 38 14.5
comp=Z,4.4nm,1.1s
WRA Warramunga Arr 45.95 164 P P 10 38 12.2 -0.6
WRA Warramunga Arr 45.95 164 P P 10 38 12.9 0.0
comp=Z,2.6nm,0.4s,baz=347,slow=8.7,SNR=76
comp=Z,2.6nm,0.4s
TIXI Tiksi 47.16 3 lAmb lAmb 10 38 21.6
comp=Z,4.9nm,0.8s
TIXI P P 10 38 21.7 0.0
BVAR Borovoye Array 47.77 320 P P 10 38 27.4 +0.7
comp=Z,2.2nm,0.5s,baz=104,slow=8.3,SNR=8.5
comp=Z,2.2nm,0.5s
AS31 Alice Springs 49.42 166 P P 10 38 39.9 +0.1
ASAR Alice Springs 49.42 166 P P 10 38 39.7 0.0
ASAR Alice Springs 49.42 166 P P 10 38 40.6 +0.9
comp=Z,0.7nm,0.4s,baz=356,slow=7.2,SNR=31
comp=Z,0.7nm,0.4s
ABKAR Akbulak array 53.64 314 P P 10 39 11.4 +0.5
GEYT Alibeck 55.20 300 P P 10 39 21.6 -0.8
comp=Z,2.6nm,0.6s,baz=60,slow=4.9,SNR=4.2
comp=Z,2.6nm,0.6s
STKA Stephens Creek 59.27 161 P P 10 39 50.2 -0.9
STKA Stephens Creek 59.27 161 P P 10 39 50.1 -0.9
comp=Z,3.3nm,0.6s,baz=13,slow=3.0,SNR=4.5
comp=Z,2.3nm,0.6s
ANM Nome 60.53 28 P P 10 39 60.0 +0.6
ANM lAmb lAmb 10 40 33.2
comp=Z,5.5nm,1.4s
F17K Baldwin Pennin 62.35 26 P P 10 40 12.8 +1.3
F17K lAmb lAmb 10 40 13.8
comp=Z,6.3nm,1.4s
H17K Granite Mounta 62.89 28 P P 10 40 16.3 +1.2
H17K lAmb lAmb 10 40 54.2
comp=Z,2.7nm,0.8s
G18K Tagagawik 63.40 27 P P 10 40 19.8 +1.2
M16K Timber Creek 63.45 32 P P 10 40 18.9 0.0
D19K Kuna River 63.58 24 P P 10 40 19.8 +0.1
D19K lAmb lAmb 10 40 21.5
comp=Z,4.3nm,0.6s
M17K Holitna River 64.16 32 P P 10 40 24.6 +1.0
L18K Granite Mounta 64.45 31 P P 10 40 26.2 +0.7
L18K lAmb lAmb 10 40 59.4
comp=Z,7.1nm,1.4s
F20K Avaraart Lake 64.53 25 P P 10 40 25.9 +0.1
F20K lAmb lAmb 10 41 06.5
comp=Z,4.8nm,1.5s
TTA Tatalina 64.70 30 P P 10 40 27.5 +0.3
TTA lAmb lAmb 10 40 28.6
comp=Z,4.4nm,1.2s
B22K Teshekpuk Lake 65.17 22 P P 10 40 30.4 +0.4
L19K White Mountain 65.31 31 P P 10 40 32.0 +0.9
L19K lAmb lAmb 10 40 43.0
comp=Z,3.8nm,1.1s
F21K Alatna River 65.39 25 P P 10 40 32.1 +0.5
IMAR Indian Mountai 65.40 27 P P 10 40 32.7 +1.1
D22K Ayikyak River 65.54 23 P P 10 40 33.0 +0.5
C23K Itkillik River 66.18 22 P P 10 40 37.2 +0.7
C23K lAmb lAmb 10 41 11.9
comp=Z,5.1nm,1.4s
TOLK Toolik Lake Re 66.70 23 P P 10 40 40.9 +1.0
TOLK lAmb lAmb 10 40 41.8
comp=Z,3.3nm,0.8s
MLY Manley 66.76 27 P P 10 40 41.4 +1.0
BPAW Bear Paw Mtn. 66.80 29 P P 10 40 41.4 +0.8
G23K Bananza Creek 66.81 26 P P 10 40 41.2 +0.6
G23K lAmb lAmb 10 40 44.0
comp=Z,2.8nm,0.8s
I23K Minto, Yukon-K 67.32 27 P P 10 40 45.1 +1.3
I23K lAmb lAmb 10 40 55.9
comp=Z,7.0nm,1.5s
SUA Susitna One 67.34 31 P P 10 40 44.1 -0.1
SUA lAmb lAmb 10 40 46.0
comp=Z,6.9nm,1.0s
F24K Squaw Lake 67.50 25 P P 10 40 45.7 +0.7
F24K lAmb lAmb 10 40 47.1
comp=Z,4.8nm,0.8s
NEA2 Nenana 67.54 28 P P 10 40 45.5 +0.3
NEA2 lAmb lAmb 10 40 47.9
comp=Z,4.1nm,0.9s
MDM Murphy Dome 67.83 27 P P 10 40 47.3 +0.2
MDM lAmb lAmb 10 40 48.8
comp=Z,2.5nm,0.6s
RND Reindeer 67.85 29 P P 10 40 47.5 +0.1
RND lAmb lAmb 10 40 48.4
comp=Z,3.7nm,0.6s
ILAR Eielson Array 68.43 27 P P 10 40 50.0 -0.8
comp=Z,0.4nm,0.4s,baz=291,slow=7.1,SNR=14
comp=Z,0.4nm,0.4s
SPITS Spitsbergen Ar 69.16 348 P P 10 40 54.0 -1.2
comp=Z,6.3nm,0.9s,baz=89,slow=8.4,SNR=10
comp=Z,6.3nm,0.9s
ARCES ARCESS Array B 69.36 338 P P 10 40 56.3 -0.2
comp=Z,2.8nm,1.0s,baz=62,slow=6.2,SNR=1.7
comp=Z,2.8nm,1.0s
E27K Coleen River 69.68 23 P P 10 40 59.6 +1.0
F28M Old Crow 70.47 24 P P 10 41 04.0 +0.7
F28M lAmb lAmb 10 41 06.3
comp=Z,4.2nm,1.1s
FINES FINESS Array B 71.40 330 P P 10 41 09.2 +0.1
comp=Z,1.0nm,0.5s,baz=65,slow=6.0,SNR=15
comp=Z,1.0nm,0.5s
DAWY Dawson 71.75 27 P P 10 41 11.1 -0.2
DAWY lAmb lAmb 10 41 14.2
comp=Z,3.9nm,1.1s
G30M tAoh Zraii Nji 72.01 24 P P 10 41 12.6 -0.2
G30M lAmb lAmb 10 41 14.9
comp=Z,7.1nm,1.3s
INK Inuvik 72.48 22 P P 10 41 15.2 -0.2

INK IAmb IAmb 10 41 16.3
comp=Z,3.7nm,1.0s
F31M Tsiigehtchic 72.74 23 P **P 10 41 16.3 -0.6**
F31M IAmb IAmb 10 41 17.3
comp=Z,3.4nm,0.7s
A36M Sachs Harbour 73.43 17 P **P 10 41 20.1 -0.8**
A36M IAmb IAmb 10 41 20.5
comp=Z,3.3nm,1.0s
HYT Haines Junctio 73.69 30 P **P 10 41 23.2 +0.4**
C36M Paulatuk 75.08 20 P **P 10 41 29.7 -0.9**
C36M IAmb IAmb 10 41 31.8
comp=Z,3.6nm,0.6s
STHS Stebnicka Huta 78.26 319 *e*P P 10 41 57.1 +8.1
YKA Yellowknife Ar 82.22 23 P **P 10 42 09.3 -0.6**
comp=Z,0.9nm,0.6s,baz=311,slow=5.3,SNR=26
comp=Z,0.9nm,0.6s
NEW Newport 90.17 35 P **P 10 42 48.0 -1.3**
comp=Z,2.1nm,0.7s,baz=286,slow=8.6,SNR=4.6
comp=Z,2.1nm,0.7s
PINE Pine Mountain 90.76 40 P **P 10 42 52.0 -0.4**
NVAR Mina Array Bea 95.56 43 P **P 10 43 14.9 +0.3**
comp=Z,1.1nm,0.7s,baz=296,slow=5.7,SNR=10
comp=Z,1.1nm,0.7s

KRSC 28 10:35:03.0±1.1, 54°47N×167°98E, h15km±10km, MI3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.38**	**303**	*e*P	Pn	10 35 27.5	-0.1
BKI				*e*S	Sn	10 35 45.2	-0.3
TUMR	**Tumrok**	**4.60**	**283**	*e*P	Pn	10 36 16.1	+4.1
KMNR	**Kamenistaya**	**4.63**	**289**	*e*P	Pn	10 36 16.4	+4.1
SMAR	**Somma**	**5.56**	**261**	*e*P	Pn	10 36 29.9	+4.6
UGLR	**Uglovaya**	**5.56**	**261**	*e*P	Pn	10 36 29.6	+4.4
AVH	**Avacha**	**5.60**	**261**	*e*P	Pn	10 36 30.1	+4.5
KRX	**Arik**	**5.62**	**262**	*e*P	Pn	10 36 30.1	+4.0
KOK	**Koryaka**	**5.65**	**262**	*e*P	Pn	10 36 30.7	+4.3
KRMR	**Karymshinskiy**	**6.08**	**258**	*e*P	Pn	10 36 36.7	+4.4
MTVR	**Mutnovka**	**6.17**	**255**	*e*P	Pn	10 36 37.7	+4.0
ASAK	**Asacha**	**6.37**	**255**	*e*P	Pn	10 36 41.2	+4.9

IDC 28 10:40:47.3±1.5, 4°53N×127°17E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=138.5km s-min=20.5km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.32**	**164**	P	P	10 46 16.4	+0.6
	0.7nm,0.7s,baz=341,slow=10,SNR=11						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**28.78**	**167**	P	P	10 46 46.0	-1.1
	0.2nm,0.7s,baz=351,slow=7.2,SNR=2.0						
	0.2nm,0.7s						
SONM	**Songino Array**	**46.69**	**341**	P	P	10 49 15.9	-2.1
	0.3nm,0.6s,baz=139,slow=8.0,SNR=2.1						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**57.16**	**325**	P	P	10 50 36.9	+0.9
	0.5nm,0.4s,baz=116,slow=7.1,SNR=10						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**61.31**	**327**	P	P	10 51 04.8	+0.2
	0.6nm,0.5s,baz=125,slow=6.9,SNR=8.1						
	0.6nm,0.5s						

*MOS **28** 11:03:45.9±1.6, 37°33N×57°83E, h10km, mb4.7/20, Error ellipse: s-maj=4.3km s-min=4.1km az=95.5*
*IDC **28** 11:03:46.0±0.6, 37°19N×57°66E, h0km, mb4.3/27, mbtmp4.4/37, ML3.9/9, MS3.7/44, Error ellipse: s-maj=10.9km s-min=7.6km az=143.0*
*TEH **28** 11:03:47.8, 37°21N×57°75E, h13km±13km, ML4.4*
*NEIC **28** 11:03:48.5±1.8, 37°25N±0°05×57°69E±0°08, h10km±1km, mb4.5/33, Error ellipse: s-maj=11.7km s-min=6.5km az=298.0*
ISC 28 11:03:47.7±0.3, 37°24N±0°03×57°74E±0°03, h10km, n534, σ1ᵍ50/532, mb4.4/53, MS3.7/44, 21C-19D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISFR	**Sfrayin**	**0.28**	**132**	Pg	**Pg**	**11 03 53.6**	**+0.1**
ISFR				Sg	**Sg**	**11 03 58.0**	**+0.6**
GEYT	**Alibeck**	**0.75**	**24**	Pg	**Pb**	**11 04 03.2**	**+0.4**
	3μm,0.3s,baz=209,slow=20,SNR=4349						
GEYT				Lg	Lg	11 04 12.8	
	2μm,0.3s,baz=209,slow=23,SNR=17						
GYA0	**ALIBECK ARRAY**	**0.75**	**24**	P	**Pg**	**11 04 03.1**	**+1.0**
GYA0				S	**Sb**	**11 04 14.6**	**+1.4**
GYA0B	**ALIBECK ARRAY**	**0.75**	**24**		**Pg**	**11 04 03.0**	**+0.9**
GYA0B				Sg	**Sb**	**11 04 14.6**	**+1.4**
IEMG	**Emamgholi**	**0.75**	**76**	Pg	**Pg**	**11 04 02.5**	**+0.3**
IEMG				Sg	**Sb**	**11 04 13.5**	**+0.1**
SBZV	**Sabzevar**	**0.86**	**187**	Pg	**Pg**	**11 04 04.0**	**-0.2**
IAKL	**Akhelmad**	**1.04**	**128**	Pg	**Pg**	**11 04 06.8**	**-0.8**
MRVT	**Maraveh tapeh**	**1.38**	**288**	Pg	**Pn**	**11 04 13.8**	**+0.8**
IMOG	**Moghan**	**1.71**	**131**	Pg	**Pb**	**11 04 19.1**	**-0.3**
IMND	**Minoodasht**	**1.86**	**271**	Pn	**Pb**	**11 04 21.5**	**-0.2**
IMYA	**Miami**	**2.10**	**115**	Pn	**Pn**	**11 04 24.2**	**+1.2**
TBHD	**Torbat heydari**	**2.19**	**146**	Pn	**Pb**	**11 04 26.2**	**-1.3**
JRKH	**Jarkhoshk**	**2.49**	**122**	Pn	**Pn**	**11 04 29.7**	**+1.3**
TBJM	**Torbat-e-JAM**	**2.88**	**132**	Pn	**Pn**	**11 04 35.3**	**+1.5**
IGLO	**Ghaloghah**	**3.22**	**258**	Pn	**Pn**	**11 04 39.7**	**+1.2**
TNSJ	**Nastanj**	**3.40**	**196**	Pn	**Pn**	**11 04 41.8**	**+1.0**
IANJ	**Anjilo**	**3.56**	**241**	Pn	**Pn**	**11 04 45.2**	**+2.0**
TKDS	**Koohdasht(Taba**	**3.66**	**188**	Pn	**Pn**	**11 04 45.4**	**+1.0**
AFRZ	**Afriz**	**3.96**	**164**	Pn	**Pn**	**11 04 49.9**	**+1.4**
SHRT	**Shahrakht**	**4.15**	**149**	Pn	**Pn**	**11 04 52.0**	**+0.8**
ILAS	**Lasjerd**	**4.28**	**246**	Pn	**Pn**	**11 04 54.7**	**+1.6**
TPRV	**Parvadeh(Tabas**	**4.29**	**192**	Pn	**Pn**	**11 04 54.1**	**+0.9**
IFIR	**Firoozkooh**	**4.32**	**250**	Pn	**Pn**	**11 04 55.5**	**+1.8**
ITEG	**Tejag**	**4.42**	**169**	Pn	**Pn**	**11 04 56.4**	**+1.5**
IPRN	**Peran**	**4.45**	**259**	Pn	**Pn**	**11 04 57.1**	**+1.8**
HRA	**Herat**	**4.64**	**127**	Pn	**Pn**	**11 04 59.7**	**+1.7**
IDAH	**Dahanechah**	**4.82**	**158**	Pn	**Pn**	**11 05 01.4**	**+0.9**
IDMV	**Damavand**	**4.89**	**252**	Pn	**Pn**	**11 05 03.3**	**+1.8**
IKOO	**Kooshah**	**4.92**	**167**	Pn	**Pn**	**11 05 03.2**	**+1.4**
MZPU	**Pul - Mazandar**	**5.01**	**263**	Pn	**Pn**	**11 05 05.3**	**+2.2**
ANAR	**Anarak**	**5.21**	**220**	Pn	**Pn**	**11 05 07.1**	**+1.4**
ISFB	**Sefidab**	**5.32**	**239**	Pn	**Pn**	**11 05 08.9**	**+1.7**
IVRN	**Varamin**	**5.36**	**247**	Pn	**Pn**	**11 05 09.1**	**+1.4**
BSRN	**Basiran**	**5.39**	**167**	Pn	**Pn**	**11 05 09.3**	**+1.1**
KLST	**Kelardasht - M**	**5.40**	**264**	Pn	**Pn**	**11 05 10.0**	**+1.5**
IBAF	**Bafgh**	**5.92**	**198**	Pn	**Pn**	**11 05 17.2**	**+1.7**
NHDN	**Nehbandan**	**6.14**	**161**	Pn	**Pn**	**11 05 19.8**	**+1.2**
IZEF	**Zefreh**	**6.20**	**227**	Pn	**Pn**	**11 05 21.0**	**+1.5**
QAMS	**Qamsar**	**6.24**	**238**	Pn	**Pn**	**11 05 21.5**	**+1.4**
ISAD	**Sadrabad**	**6.28**	**213**	Pn	**Pn**	**11 05 21.8**	**+1.2**
ZRDN	**Zarand Kerman**	**6.34**	**189**	Pn	**Pn**	**11 05 22.9**	**+1.6**
IKLH	**Kolahrood**	**6.38**	**234**	Pn	**Pn**	**11 05 23.1**	**+1.1**
IMEH	**Mehriz**	**6.38**	**205**	Pn	**Pn**	**11 05 23.5**	**+1.5**
IGAR	**Gharneh**	**6.72**	**226**	Pn	**Pn**	**11 05 28.4**	**+1.8**
KHGB	**Koh Gabri**	**6.93**	**189**	Pn	**Pn**	**11 05 31.2**	**+1.7**
IRAM	**Rameshed**	**6.99**	**221**	Pn	**Pn**	**11 05 32.0**	**+1.7**
IBRJ	**Brojen**	**7.54**	**227**	Pn	**Pn**	**11 05 39.6**	**+1.8**
NGRK	**Negar Kerman**	**7.62**	**187**	Pn	**Pn**	**11 05 40.2**	**+1.0**
ZNGN	**Zangian**	**7.63**	**230**	Pn	**Pn**	**11 05 41.2**	**+2.0**
ISRB	**Sarab**	**8.02**	**277**	Pn	**Pn**	**11 05 46.3**	**+1.8**
KLNJ	**Kolanjah**	**8.04**	**221**	Pn	**Pn**	**11 05 46.8**	**+2.0**
KBAM	**BAM**	**8.11**	**176**	Pn	**Pn**	**11 05 47.0**	**+1.4**
IHRS	**Heris**	**8.54**	**280**	Pn	**Pn**	**11 05 52.7**	**+1.1**
SIMJ	**Simiganj**	**9.02**	**78**	Pn	**Pn**	**11 05 57.2**	**-0.8**
SEKA	**Sheki**	**9.09**	**299**	P	**Pn**	**11 05 57.6**	**-1.3**
GANJ	**Ganja**	**9.52**	**294**	P	**Pn**	**11 06 04.3**	**-0.5**
KBL	**Kabul**	**9.56**	**103**	Pn	**Pn**	**11 06 06.9**	**+1.3**
KBL	**Kabul**	**9.56**	**103**	P	**Pn**	**11 06 06.9**	**+1.3**
IMRD	**Marand**	**9.62**	**282**	Pn	**Pn**	**11 06 08.3**	**+2.1**
ZKTA	**Zakatala**	**9.65**	**300**	P	**Pn**	**11 06 06.1**	**-0.5**
MAK	**Makhachkala**	**9.69**	**309**	*c i*P	**Pn**	**11 06 03.4**	**-3.7**
MAK				*e*S	**Sn**	**11 07 51.4**	**-4.6**
MAK				pmax	pmax		
	comp=Z,278nm,1.1s						
MAK				MLR	MLR		
	comp=Z,368nm,13.0s						
NAX	**Nakhchivan**	**9.83**	**285**	P	**Pn**	**11 06 08.5**	**-0.6**
CHM	**Chimkent**	**10.44**	**57**	*e*Pn	**Pn**	**11 06 14.2**	**-3.2**
	baz=58						
CHM	**Chimkent**	**10.44**	**57**	*e*P	**Pn**	**11 06 14.2**	**-3.2**
MAKU	**Maku**	**10.47**	**286**	Pn	**Pn**	**11 06 19.4**	**+1.4**
GNI	**Garni**	**10.56**	**290**	Pn	**Pn**	**11 06 20.2**	**+0.9**
GNI	**Garni**	**10.56**	**290**	*de*P	**Pn**	**11 06 21.9**	**+2.7**
GNI	**Garni**	**10.56**	**290**	Pn	**Pn**	**11 06 19.8**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=131,slow=20,SNR=1.8						
	comp=Z,34nm,0.9s						
GNI	**Garni**	**10.56**	**290**	P	**Pn**	**11 06 15.9**	**-3.4**
BTK	**Batken**	**10.61**	**71**		**Pn**	**11 06 20.3**	**+0.5**
BTK	**Batken**	**10.61**	**71**	P	**Pn**	**11 06 20.3**	**+0.5**
IUG	**Iuzhnay**	**10.66**	**59**	*e*Pn	**Pn**	**11 06 18.4**	**-2.2**
	baz=60						
IUG				*e*Lg	Lg	11 09 23.3	
	baz=60						
IUG	**Iuzhnay**	**10.66**	**59**	*e*P	**Pn**	**11 06 18.3**	**-2.2**
GROC	**Groznyy**	**10.89**	**307**	*e*P	**Pn**	**11 06 23.4**	**-0.2**
GROC				*e*S	**Sn**	**11 08 25.1**	**-0.4**
GROC				pmax	pmax		
	comp=Z,16nm,0.5s						
BRLS	**Borolday**	**10.91**	**54**	*e*Pn	Pn	11 06 17.9	-6.0
	baz=56						
BRLS	**Borolday**	**10.91**	**54**	*e*P	Pn	11 06 17.9	-6.0
DRK	**Karamyk**	**11.27**	**74**		**Pn**	**11 06 27.7**	**-1.3**
KK31	**Karatay Array**	**11.39**	**55**	Pn	**Pn**	**11 06 29.0**	**-1.4**
KK31	**Karatay Array**	**11.39**	**55**	P	**Pn**	**11 06 29.0**	**-1.4**
KKAR	**Karatay Array**	**11.39**	**55**	Pn	**Pn**	**11 06 29.0**	**-1.4**
KKAR	**Karatay Array**	**11.39**	**55**	P	**Pn**	**11 06 29.0**	**-1.4**
DZA	**Taraz**	**11.84**	**57**	*e*Pn	**Pn**	**11 06 33.7**	**-2.8**
	baz=58						
DZA	**Taraz**	**11.84**	**57**	*e*P	**Pn**	**11 06 33.7**	**-2.8**
AB31	**Akbulak array**	**12.11**	**7**	P	Pn	11 06 36.0	-4.2
AB31						11 08 50.7	
ABKAR	**Akbulak array**	**12.11**	**7**	Pn	**Pn**	**11 06 37.3**	**-2.9**
ONI	**Oni**	**12.19**	**300**	Pn	**Pn**	**11 06 41.4**	**0.0**
ONI	**Oni**	**12.19**	**300**	P	**Pn**	**11 06 41.4**	**0.0**
UOSS	**Minazif**	**12.33**	**187**	P	**Pn**	**11 06 43.9**	**+0.6**
ASHO	**Ashiyiah**	**12.60**	**187**	P	**Pn**	**11 06 47.5**	**+0.5**
KBZ	**Khabaz**	**13.01**	**304**	*de*P	**Pn**	**11 06 50.0**	**-2.5**
KBZ	**Khabaz**	**13.01**	**304**	Pn	**Pn**	**11 06 50.2**	**-2.3**
	comp=Z,0.7nm,0.3s,baz=144,slow=7.4,SNR=16						
KBZ				Sn	Sn	11 09 08.1	-9.2
	comp=Z,0.2nm,0.3s,baz=95,slow=18,SNR=1.2						
KBZ				LR	LR	11 13 25.3	
	comp=Z,83nm,21.0s,baz=115,slow=45						
	comp=Z,4.9nm,0.6s						
NIL	**Nilore**	**13.15**	**101**		**Pn**	**11 06 55.2**	**+0.8**
NIL	**Nilore**	**13.15**	**101**	P	**Pn**	**11 06 55.3**	**+0.8**
AKTO	**Aktyubinsk**	**13.19**	**1**	P	**Pn**	**11 06 51.9**	**-3.0**
AKTO						11 09 13.8	
AKTO	**Aktyubinsk**	**13.19**	**1**	Pn	**Pn**	**11 06 52.9**	**-2.1**
	comp=Z,1.8nm,0.3s,baz=179,slow=12,SNR=75						
AKTO				Sn	**Sn**	**11 09 14.9**	**-6.7**
	comp=Z,0.9nm,0.3s,baz=283,slow=22,SNR=3.3						
AKTO				LR	LR	11 13 04.8	
	comp=Z,677nm,18.2s,baz=228,slow=42						
	comp=Z,27nm,0.7s						
KVAR	**Kislovodsk Arr**	**13.24**	**305**	Pn	**Pn**	**11 06 54.2**	**-1.5**
	baz=90,slow=20						
KVAR				Sn	**Sn**	**11 09 17.2**	**-5.9**
	baz=83,slow=8.1						
	comp=Z,5.3nm,0.6s						
KIV	**Kislovodsk**	**13.25**	**305**		**Pn**	**11 06 53.7**	**-2.1**
KIV	**Kislovodsk**	**13.25**	**305**	*e*P	**Pn**	**11 06 55.3**	**-0.5**
KIV				*e*S	**Sn**	**11 09 22.4**	**-0.8**
KIV				pmax	pmax		
	comp=Z,15nm,1.0s						
KIV				MLR	MLR		
	comp=Z,39nm,13.0s						
EKS2	**Erkin-Say**	**13.44**	**61**	P	**Pn**	**11 06 57.1**	**-1.4**
	SNR=22						
UCH	**Uchtor**	**13.83**	**64**	P	**Pn**	**11 07 01.0**	**-3.2**
	SNR=17						
AAK	**Ala-Archa**	**13.93**	**62**	P	**Pn**	**11 07 03.0**	**-2.3**
	SNR=11						
AAK	**Ala-Archa**	**13.93**	**62**	Pn	**Pn**	**11 07 03.5**	**-1.8**
AAK	**Ala-Archa**	**13.93**	**62**	*de*P	**Pn**	**11 07 03.0**	**-2.3**
AAK				pmax	pmax		
	comp=Z,12nm,0.7s						
AAK	**Ala-Archa**	**13.93**	**62**	Pn	**Pn**	**11 07 03.2**	**-2.1**
	comp=Z,1.6nm,0.3s,baz=235,slow=8.9,SNR=15						
AAK				LR	LR	11 13 19.2	
	comp=Z,464nm,18.7s,baz=264,slow=41						
	comp=Z,9.9nm,0.6s						
AAK	**Ala-Archa**	**13.93**	**62**	P	**Pn**	**11 07 03.5**	**-1.8**
WSAR	**Wadi Sarin**	**13.98**	**177**	Pn	**P**	**11 07 12.5**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=25,slow=13,SNR=4.2						
WSAR				LR	LR	11 13 41.4	
	comp=Z,124nm,19.7s,baz=22,slow=43						
USP	**Ospenovka**	**14.14**	**60**	P	**Pn**	**11 07 05.0**	**-2.9**
	SNR=18						
KBK	**Karagaybulak**	**14.26**	**62**	P	**Pn**	**11 07 07.8**	**-1.9**
	SNR=6.8						
SGDS	**Sogindy**	**14.29**	**59**	*e*Pn	**Pn**	**11 07 07.4**	**-2.6**
	comp=Z,4.0nm,0.6s,baz=60						
SGDS	**Sogindy**	**14.29**	**59**	*e*P	**Pn**	**11 07 07.4**	**-2.6**
SGDS				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BSY	**Bisya**	**14.46**	**182**	P	**Pn**	**11 07 13.4**	**+1.0**
BSY				P	**Pn**	**11 07 13.4**	**+1.0**
KSH	**Kashi**	**14.49**	**75**	P	Pn	11 07 06.0	-6.8
KSH				S	Sn	11 09 42.0	-12
KSH				pmax	pmax		
	comp=Z,24nm,0.7s						
KSH				LR	LR		
	comp=N,460nm,12.8s						
KSH				LR	LR		
	comp=E,610nm,13.7s						
KSH				LR	LR		
	comp=Z,670nm,14.1s						
BTLS	**Baital**	**14.53**	**53**	*e*Pn	**Pn**	**11 07 10.8**	**-2.5**
	comp=Z,7.6nm,0.7s,baz=53						
BTLS	**Baital**	**14.53**	**53**	*e*P	**Pn**	**11 07 10.8**	**-2.5**
BTLS				pmax	pmax		
	comp=Z,8.0nm,0.7s						
NRN	**Naryn**	**14.74**	**68**	Pn	**Pn**	**11 07 13.8**	**-2.6**
NRN	**Naryn**	**14.74**	**68**	P	**Pn**	**11 07 13.8**	**-2.6**
TKM2	**Tokmak 2**	**14.79**	**62**	P	**Pn**	**11 07 13.9**	**-3.2**
BOOM	**Boomskoye usch**	**14.92**	**64**	Pn	**Pn**	**11 07 17.0**	**-1.8**
BOOM	**Boomskoye usch**	**14.92**	**64**	P	**Pn**	**11 07 17.0**	**-1.8**
SOC	**Sochi**	**15.11**	**300**	*e*P	**Pn**	**11 07 20.1**	**-0.9**
SOC				*e*		11 10 07.5	
SOC				MLR	MLR		
	comp=Z,39nm,14.0s						
OTUK	**Ortayu**	**15.33**	**40**	P	**Pn**	**11 07 19.9**	**-4.1**
MDOK	**Medeo**	**15.88**	**62**	*e*Pn	**Pn**	**11 07 29.9**	**-1.5**
	baz=63						
MDOK				*e*Lg	Lg	11 12 10.1	
	baz=63						
MDOK	**Medeo**	**15.88**	**62**	*e*P	**Pn**	**11 07 29.8**	**-1.5**
MHTO	**MHTO**	**16.20**	**179**	P	**P**	**11 07 36.9**	**-1.7**
MHTO				P	**P**	**11 07 36.9**	**-1.7**
GAZ	**Gaziantep**	**16.36**	**276**	Pn	**Pn**	**11 07 36.8**	**-0.7**
BRZS	**Berezniki**	**16.67**	**35**	*e*Pn	**Pn**	**11 07 37.9**	**-3.3**
	baz=36						
BRZS	**Berezniki**	**16.67**	**35**	*e*P	**Pn**	**11 07 37.9**	**-3.3**
PRZ	**Przheval'sk**	**16.69**	**65**		**Pn**	**11 07 42.1**	**+0.3**
PRZ				IAmb	IAmb	11 07 52.1	
	comp=Z,62nm,1.5s						
PRZ	**Przheval'sk**	**16.69**	**65**	P	**Pn**	**11 07 42.1**	**+0.3**
PRZ				pmax	pmax		
	comp=Z,62nm,1.5s						
BELG	**Belogornoye**	**16.73**	**338**	*ce*P	**Pn**	**11 07 39.1**	**-2.9**
BELG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BELG	**Belogornoye**	**16.73**	**338**	Pn	**Pn**	**11 07 39.3**	**-2.7**
	comp=Z,1.6nm,0.3s,baz=166,slow=15,SNR=8.4						
BELG				Sn	Sn	11 10 35.6	-12
	comp=Z,0.4nm,0.3s,baz=285,slow=22,SNR=3.4						
BELG				LR	LR	11 16 07.6	
	comp=Z,186nm,20.1s,baz=149,slow=44						
SATY	**Saty**	**16.82**	**63**	*e*Pn	**Pn**	**11 07 42.0**	**-1.4**
	baz=64						
SATY	**Saty**	**16.82**	**63**	*e*P	**Pn**	**11 07 41.9**	**-1.4**
ANN	**Anapa**	**17.05**	**303**	*e*P	**P**	**11 07 47.5**	**-0.4**
ANN				*e*S	**Sn**	**11 10 58.8**	**+3.2**
ANN				pmax	pmax		
	comp=Z,19nm,1.0s						
RAYN	**Ar Rayn**	**17.25**	**221**	P	**Pn**	**11 07 47.3**	**-1.5**
RAYN	**Ar Rayn**	**17.25**	**221**	P	**Pn**	**11 07 47.3**	**-1.5**
RAYN				pmax	pmax		
	comp=Z,19nm,1.1s						
RAYN	**Ar Rayn**	**17.25**	**221**	P	**Pn**	**11 07 48.3**	**-0.5**
DQM	**DQM**	**17.25**	**181**	P	**P**	**11 07 49.5**	**-0.7**
DQM				P	**Pn**	**11 07 50.3**	**+1.6**
UZB	**Uzynbulak**	**17.28**	**63**	*e*Pn	**Pn**	**11 07 47.3**	**-1.8**
	baz=64						
UZB	**Uzynbulak**	**17.28**	**63**	*e*P	**Pn**	**11 07 47.3**	**-1.8**
BNN	**Bunyan**	**17.32**	**282**	P	**Pn**	**11 07 50.4**	**+0.8**
BNN				IAmb	IAmb	11 07 54.0	
	comp=Z,21nm,0.4s						
TDK	**Taldyqorghan**	**17.37**	**57**	*e*Pn	**Pn**	**11 07 48.2**	**-1.9**
	comp=Z,12nm,0.4s,baz=58						
TDK	**Taldyqorghan**	**17.37**	**57**	*e*P	**Pn**	**11 07 48.2**	**-1.9**
TDK				pmax	pmax		
	comp=Z,12nm,0.4s						
ASF	**Jabal al Asfar**	**17.86**	**260**	Pn	**Pn**	**11 07 56.5**	**+0.3**
	comp=Z,1.8nm,0.3s,baz=77,slow=9.5,SNR=9.6						
	comp=Z,4.2nm,0.3s						
VRH	**Novokhopyorsk**	**18.01**	**326**	*e*P	**Pn**	**11 07 56.9**	**-1.0**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BRVK	**Borovoye**	**18.08**	**25**	P	**Pn**	**11 07 56.5**	**-2.2**
BRVK				IAmb	IAmb	11 08 06.0	
	comp=Z,24nm,0.8s						
BRVK	**Borovoye**	**18.08**	**25**	P	**Pn**	**11 07 56.6**	**-2.2**
BRVK				pmax	pmax		
	comp=Z,25nm,0.9s						
BVAR	**Borovoye Array**	**18.09**	**25**	Pn	**Pn**	**11 07 56.8**	**-2.0**
	comp=Z,0.8nm,0.3s,baz=202,slow=7.2,SNR=48						
BVAR				Sn	**Sn**	**11 11 11.5**	**-9.1**
	comp=Z,0.1nm,0.3s,baz=221,slow=22,SNR=2.9						
BVAR				LR	LR	11 15 52.8	
	comp=Z,443nm,18.1s,baz=216,slow=40						
	comp=Z,44nm,0.7s						
MMAI	**Mount Meron Ar**	**18.74**	**264**	P	**P**	**11 08 06.7**	**0.0**
	comp=Z,0.7nm,0.2s,baz=76,slow=11,SNR=3.7						
DOK	**Doka**	**18.82**	**191**	P	**Pn**	**11 08 08.4**	**+0.3**
	SNR=13						
VORD	**Divnogorie**	**19.00**	**322**	*e*P	**P**	**11 08 08.6**	**-0.6**
VORD				pmax	pmax		
	comp=Z,20nm,1.0s						
BR131	**Keskin Array S**	**19.02**	**285**	P	**P**	**11 08 09.8**	**+0.1**
BR131	**Keskin Array S**	**19.02**	**285**	⇓*e*P	**Pn**	**11 08 11.9**	**+1.5**
BRTR	**Keskin Array B**	**19.02**	**285**	P	**P**	**11 08 09.9**	**+0.2**
BRTR	**Keskin Array B**	**19.02**	**285**	*ce*P	**Pn**	**11 08 12.0**	**+1.5**
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRTR	**Keskin Array B**	**19.02**	**285**	P	**P**	**11 08 10.0**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=107,slow=8.3,SNR=13						
	comp=Z,5.4nm,0.9s						
ARU	**Arti**	**19.20**	**1**	P	**P**	**11 08 10.3**	**-1.1**
ARU				IAmb	IAmb	11 08 54.5	
	comp=Z,19nm,0.9s						
ARU	**Arti**	**19.20**	**1**	*c i*P	**P**	**11 08 10.2**	**-1.3**
ARU				S	**Sn**	**11 11 46.3**	**-1.1**
ARU				pmax	pmax		
	comp=Z,20nm,1.0s						
ARU	**Arti**	**19.20**	**1**	P	**P**	**11 08 10.1**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=182,slow=7.9,SNR=15						
ARU				S	Sn	11 11 34.3	-13
	comp=Z,4.7nm,0.2s,baz=292,slow=18,SNR=1.1						
ARU				LR	LR	11 16 20.6	
	comp=Z,161nm,20.8s,baz=182,slow=39						
	comp=Z,7.6nm,0.2s						
VSR	**Storozhevoye**	**19.21**	**323**	*e*P	**P**	**11 08 10.5**	**-1.2**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SHAO	**Shalim**	**19.24**	**186**	P	**P**	**11 08 12.0**	**-0.2**
	SNR=13						
VORR	**Voronezh**	**19.49**	**324**	pmax	pmax		
	comp=Z,72nm,0.5s						
WHFO	**Wadi Hawf**	**19.56**	**191**	P	**P**	**11 08 15.5**	**-0.2**
	SNR=8.0						
DMTO	**DMTO**	**19.61**	**188**	P	**P**	**11 08 15.7**	**-0.5**
DMTO				P	**P**	**11 08 15.7**	**-0.5**
ANTO	**Ankara**	**19.67**	**285**	P	**P**	**11 08 17.8**	**+1.0**
ANTO	**Ankara**	**19.67**	**285**	P	**P**	**11 08 17.8**	**+1.0**
ANTO				pmax	pmax		
	comp=Z,14nm,0.8s						
ANTO	**Ankara**	**19.67**	**285**	P	**P**	**11 08 13.4**	**-3.4**
RBK	**Rabkut**	**19.91**	**190**	P	**P**	**11 08 19.7**	**+0.2**
	SNR=9.7						
KURBB	**Kurchatov Arra**	**19.99**	**41**	P	Pn	11 08 21.3	-0.5
	comp=Z,15nm,0.8s,baz=243,slow=12,SNR=53						
KURBB				LR	LR	11 16 29.7	
	comp=Z,119nm,21.5s,baz=185,slow=38						
	comp=Z,15nm,0.8s						
KURK	**Kurchatov**	**20.09**	**41**	P	**P**	**11 08 21.9**	**+0.7**
KURK				IAmb	IAmb	11 08 25.5	
	comp=Z,18nm,0.8s						
KURK	**Kurchatov**	**20.09**	**41**	*c i*P	Pn	11 08 23.9	+0.9
KURK

TESR Tescani 24.80 302 ⇑P **P** **11 09 11.0 +1.3**
ZAA0 Zalesovo Array 25.03 39 P **P** **11 09 12.5 +0.7**
ZAA0 IAmb IAmb 11 09 15.5
comp=Z,13nm,0.9s
ZALV Zalesovo Beam 25.03 39 P **P** **11 09 12.7 +1.0**
ZALV Zalesovo Beam 25.03 39 *i* P **P** **11 09 12.6 +0.9**
ZALV pmax pmax
comp=Z,8.0nm,0.5s
ZALV Zalesovo Beam 25.03 39 P **P** **11 09 12.5 +0.8**
comp=Z,8.3nm,0.5s,baz=247,slow=9.2,SNR=42
ZALV LR LR 11 20 23.0
comp=Z,266nm,20.6s,baz=224,slow=40
comp=Z,8.3nm,0.5s
MLR Muntele Rosu 25.11 299 ⇑P **P** **11 09 15.5 +2.8**
MLR Muntele Rosu 25.11 299 P **P** **11 09 14.8 +2.2**
MLR Muntele Rosu 25.11 299 P **P** **11 09 14.9 +2.2**
MLR pmax pmax
comp=Z,25nm,1.0s
MLR Muntele Rosu 25.11 299 P **P** **11 09 13.4 +0.7**
comp=Z,14nm,0.9s,baz=58,slow=6.0,SNR=14
MLR LR LR 11 21 52.2
comp=Z,102nm,18.6s,baz=57,slow=43
comp=Z,14nm,0.9s
TURR Turia 25.15 301 ⇑P **P** **11 09 14.9 +2.0**
RDO Rodhopi 25.18 289 P **P** **11 09 15.5 +2.4**
DOPR Dopca 25.57 300 ⇑P **P** **11 09 18.7 +2.0**
MTUR Matau 25.70 298 ⇑P **P** **11 09 18.1 +0.1**
MTUR Matau 25.70 298 ⇑P **P** **11 09 18.1 +0.1**
VOIR 25.73 299 ⇑P **P** **11 09 19.7 +1.4**
VOIR 25.73 299 ⇑P **P** **11 09 19.7 +1.4**
BURAR Bucovina Array 25.97 304 ⇓P **P** **11 09 21.8 +1.3**
BURAR Bucovina Array 25.97 304 P **P** **11 09 21.2 +0.7**
BURAR Bucovina Array 25.97 304 ⇓P **P** **11 09 21.8 +1.3**
BUR08 Bucovina Ar. S 25.99 304 P **P** **11 09 21.5 +0.9**
BUR08 IAmb IAmb 11 09 41.1
comp=Z,8.3nm,1.1s
KLMR Klimovskoe 26.29 340 *e*P **P** **11 09 20.9 -2.1**
KLMR pmax pmax
comp=Z,27nm,1.1s
MNK Minsk 26.72 320 *i* P **P** **11 09 27.8 +0.7**
comp=E,4.0nm,0.8s
MNK *i* P **P** **11 09 27.8 +0.7**
comp=N,16nm,0.8s
MNK *i* P **P** **11 09 27.8 +0.7**
comp=Z,14nm,0.8s,baz=118
MNK *i* PP **PnPn** **11 10 08.6 +0.6**
MNK *i* PPP PPP 11 10 16.8
MNK *i* S **S** **11 14 04.6 +2.2**
MNK *i* SS **SnSn** **11 15 09.1 +3.5**
MNK *i* SSS SSS 11 15 22.5
MNK *i* LQ LQ 11 17 57.7
MNK *i* LR LR 11 19 39.6
MNK *i* LRM MLR 11 20 26.9
comp=N,134nm,19.8s
MNK *i* LRM MLR 11 21 27.2
comp=Z,115nm,14.9s
MNK *i* LRM MLR 11 21 29.8
comp=E,61nm,13.2s
MNK Minsk 26.72 320 *i* P **P** **11 09 27.7 +0.7**
MNK *i* 11 10 08.5
MNK *i* PPP PPP 11 10 16.7
MNK *i* S **S** **11 14 04.6 +2.2**
MNK *i* SS **SnSn** **11 15 09.0 +3.5**
MNK *i* SSS SSS 11 15 22.5
MNK pmax pmax
comp=E,4.0nm,0.8s
MNK pmax pmax
comp=Z,14nm,0.8s
MNK pmax pmax
comp=N,16nm,0.8s
MNK MLR MLR
comp=N,134nm,20.0s
MNK MLR MLR
comp=Z,115nm,15.0s
MNK MLR MLR
comp=E,61nm,13.0s
DRGR 27.52 301 ⇓P **P** **11 09 35.8 +1.4**
DRGR 27.52 301 ⇓P **P** **11 09 35.8 +1.4**
ATD Arta Tunnel 28.89 211 LR LR 11 23 03.5
comp=E,8.3nm,19.6s,baz=29,slow=40
VSU Vasula 29.29 326⇓ *e*P **P** **11 09 50.8 +1.0**
VSU pmax pmax
comp=Z,20nm,1.0s
OJC Ojcow 29.99 308 P **P** **11 09 56.6 +0.4**
OJC IAmb IAmb 11 09 57.9
comp=Z,8.5nm,1.0s
OJC Ojcow 29.99 308 P **P** **11 09 56.6 +0.4**
OJC pmax pmax
comp=Z,8.0nm,1.0s
VYHS Vyhne 30.34 304 *e*P **P** **11 10 01.1 +1.8**
VYHS Vyhne 30.34 304 *e*P **P** **11 10 01.1 +1.8**
SRO Srobarova 30.61 303 *e*P **P** **11 10 04.3 +2.6**
SRO Srobarova 30.61 303 *e*P **P** **11 10 04.3 +2.6**
FIA1 FINESS Array S 31.25 331 P **P** **11 10 08.5 +1.3**
FINES FINESS Array B 31.25 331 P **P** **11 10 07.9 +0.7**
FINES FINESS Array B 31.25 331 *i* P **P** **11 10 08.6 +1.4**
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 31.25 331 P **P** **11 10 08.3 +1.1**
comp=Z,2.8nm,0.7s,baz=126,slow=9.0,SNR=9.4
FINES LR LR 11 23 52.2
comp=Z,65nm,19.4s,baz=188,slow=39
comp=Z,2.8nm,0.7s
VRAC Vranov 31.90 305 LR LR 11 25 27.5
comp=Z,58nm,18.1s,baz=130,slow=41
GTA Gaotai 32.87 73 P P 11 10 29.0 +7.2
GTA pP sP 11 10 35.8 +9.1
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA LR LR
comp=N,180nm,16.7s
GTA LR LR
comp=E,110nm,16.4s
GTA LR LR
comp=Z,140nm,16.0s
LVZ Lovozero 33.32 344 P **P** **11 10 26.4 +1.1**
LVZ Lovozero 33.32 344 P **P** **11 10 26.4 +1.1**
LVZ pmax pmax
comp=Z,94nm,1.5s
GEC2 GERESS Array S 33.76 304 P **P** **11 10 29.8 +0.3**
GEC2 IAmb IAmb 11 11 08.5
comp=Z,6.9nm,1.5s
GERES GERESS Array B 33.76 304 P **P** **11 10 30.0 +0.6**
GERES GERESS Array B 33.76 304 P **P** **11 10 29.8 +0.3**
comp=Z,1.5nm,0.8s,baz=81,slow=8.2,SNR=4.6
GERES LR LR 11 28 11.0
comp=Z,79nm,18.2s,baz=315,slow=43
comp=Z,1.5nm,0.8s
BRG Berggiesshubel 33.78 308 *e*P **P** **11 10 31.5 +2.1**
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG Berggiesshubel 33.78 308 *e*P **P** **11 10 31.6 +2.1**
BRG Amp 11 10 32.6
comp=Z,5.1nm,0.9s
KHC Kasperske Hory 33.85 305 P **P** **11 10 31.0 +0.8**
KHC Kasperske Hory 33.85 305 P **P** **11 10 31.0 +0.8**
KHC pmax pmax
comp=Z,2.0nm,0.8s
NRIK Noril'sk 35.99 17 P **P** **11 10 49.2 +0.9**
NRIK IAmb IAmb 11 10 56.4
comp=Z,4.0nm,0.7s
NRIK Noril'sk 35.99 17 P **P** **11 10 49.2 +0.9**
NRIK pmax pmax
comp=Z,4.0nm,0.7s
NRIK Noril'sk 35.99 17 P **P** **11 10 49.0 +0.7**
comp=Z,1.3nm,0.4s,baz=233,slow=12,SNR=5.7
NRIK LR LR 11 28 15.2
comp=Z,226nm,19.9s,baz=244,slow=41
comp=Z,1.3nm,0.4s
HFS Hagfors 36.02 324 P **P** **11 10 48.9 +0.2**
comp=Z,7.8nm,0.8s,baz=94,slow=9.1,SNR=10
HFS LR LR 11 27 30.0
comp=Z,49nm,18.3s,baz=94,slow=40
comp=Z,7.8nm,0.8s
DAVOX Davos/Dischmat 36.32 301 LR LR 11 28 19.6
comp=Z,35nm,19.6s,baz=71,slow=41
PALK Pallekele 36.42 139 LR LR 11 27 21.8
comp=Z,82nm,19.1s,baz=72,slow=39
LZH Lanzhou 36.72 77 *e*P **P** **11 10 57.8 +2.6**
LZH sP sP 11 11 06.5 +6.4
LZH pmax pmax
comp=Z,17nm,1.4s
LZH LR LR
comp=N,180nm,13.1s
LZH LR LR
comp=E,120nm,12.0s
LZH LR LR
comp=Z,140nm,12.4s
ARCES ARCESS Array B 36.72 342 P **P** **11 10 55.3 +0.7**
comp=Z,1.5nm,0.5s,baz=144,slow=8.9,SNR=13
ARCES LR LR 11 28 41.8
comp=Z,116nm,19.4s,baz=99,slow=41
comp=Z,1.5nm,0.5s
SONM Songino Array 36.83 58 P **P** **11 10 57.1 +1.2**
comp=Z,0.4nm,0.6s,baz=274,slow=10.0,SNR=1.8
SONM LR LR 11 28 48.1
comp=Z,42nm,18.5s,baz=186,slow=41
NC405 NORSAR Array S 37.26 325 P **P** **11 10 59.5 +0.2**
NC405 IAmb IAmb 11 11 00.6
comp=Z,15nm,0.8s
ULN Ulaanbaatar 37.27 57⇓ *i*P **P** **11 11 03.0 +3.3**
ULN pmax pmax
comp=Z,6.0nm,0.9s
NB2 NORSAR Subarra 37.47 325 P **P** **11 11 00.9 -0.2**
comp=Z,3.1nm,0.7s,baz=109,slow=8.6
NOA NORSAR Array B 37.47 325 P **P** **11 11 01.2 +0.1**
comp=Z,4.8nm,0.8s,baz=109,slow=8.1,SNR=19
NOA LR LR 11 28 09.8
comp=Z,78nm,19.4s,baz=105,slow=39
comp=Z,4.8nm,0.8s
PZH PanZhiHua 38.57 93 P **P** **11 11 12.0 +1.1**
PZH pmax pmax
comp=Z,10.0nm,0.4s
PZH pmax pmax
comp=Z,130nm,5.7s
KMI Kunming 40.01 94⇓ P **P** **11 11 21.3 -1.7**
KMI pmax pmax
comp=Z,8.0nm,0.8s
CMAR Chiang Mai Arr 40.58 106 P **P** **11 11 28.6 +1.0**
comp=Z,3.2nm,0.4s,baz=300,slow=8.5,SNR=36
CMAR LR LR 11 31 43.1
comp=Z,23nm,19.3s,baz=330,slow=41
comp=Z,3.2nm,0.4s
HHC Hu-ho-hao-te 41.41 68 *e*P **P** **11 11 34.5 +0.2**
HHC pP sP 11 11 40.5 +1.2
HHC pmax pmax
comp=Z,8.0nm,0.5s
HHC LR LR
comp=N,110nm,13.1s
HHC LR LR
comp=E,110nm,11.4s
HHC LR LR
comp=Z,140nm,12.8s
BOD Bodaibo 41.74 42 *e*P **P** **11 11 37.6 +1.0**
BOD pmax pmax
comp=Z,6.0nm,1.0s
KMBO Kilima Mbogo 42.64 211 P **P** **11 11 45.4 +0.8**
comp=Z,0.1nm,0.5s,baz=81,slow=12,SNR=1.8
EKA Eskdalemuir Ar 44.25 314 P **P** **11 11 56.6 -0.4**
comp=Z,1.8nm,0.8s,baz=93,slow=10,SNR=2.2
comp=Z,1.8nm,0.8s
SPITS Spitsbergen Ar 44.51 349 P **P** **11 11 58.5 -0.3**
comp=Z,4.6nm,0.9s,baz=175,slow=19,SNR=1.3
comp=Z,4.6nm,0.9s
ESDC Sonseca Array 47.53 293 P **P** **11 12 22.3 -0.9**
comp=Z,0.8nm,0.8s,baz=75,slow=7.8,SNR=4.6
comp=Z,0.8nm,0.8s
JMIC Jan Mayen 47.57 336 LR LR 11 32 07.2
comp=Z,46nm,20.2s,baz=93,slow=36
TIXI Tiksi 49.21 23⇑ *e*P **P** **11 12 37.9 +2.4**
TIXI pmax pmax
comp=Z,9.0nm,1.4s
TIXI Tiksi 49.21 23 LR LR 11 36 15.6
comp=Z,128nm,18.4s,baz=305,slow=40
YAK Yakutsk 49.60 36 LR LR 11 35 37.8
comp=Z,144nm,18.7s,baz=271,slow=38
NJ2 Nanjing 49.79 77 *e*P **P** **11 12 41.5 +0.9**
NJ2 pP **pP** **11 12 44.3 +0.1**
NJ2 sP **sP** **11 12 46.0 +0.5**
NJ2 pmax pmax
comp=Z,3.0nm,0.5s
NJ2 pmax pmax
comp=Z,49nm,5.7s
HEH HeiHe 50.21 52 *e*P **P** **11 12 43.5 0.0**
HEH pmax pmax
comp=Z,6.0nm,0.8s
HEH pmax pmax
comp=Z,190nm,4.5s
HEH LR LR
comp=N,140nm,16.1s
HEH LR LR
comp=E,250nm,15.3s
HEH LR LR
comp=Z,270nm,15.8s
CN2 Changchun 50.59 60 P **P** **11 12 45.0 -1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=N,200nm,10.0s
CN2 LR LR
comp=E,200nm,10.0s
CN2 LR LR
comp=Z,200nm,11.0s
KLR Kul'dur 53.19 52*ce*P **P** **11 13 08.6 +2.8**
KLR pmax pmax
comp=Z,4.0nm,1.0s
KLR Kul'dur 53.19 52 LR LR 11 37 47.7
comp=Z,151nm,20.7s,baz=286,slow=38
KSRS Koca Array 54.54 67 P **P** **11 13 16.1 +0.3**
comp=Z,2.3nm,0.6s,baz=283,slow=7.1,SNR=10.0
KSRS LR LR 11 40 32.4
comp=Z,68nm,18.7s,baz=275,slow=40
comp=Z,2.3nm,0.6s
TORD Torodi Ar. Bea 55.22 260 P **P** **11 13 19.4 -1.7**
TORD Torodi Ar. Bea 55.22 260 P **P** **11 13 19.8 -1.2**
comp=Z,1.2nm,0.6s,baz=53,slow=7.0,SNR=10
comp=Z,1.2nm,0.6s
JNU Nakatsue 58.54 70 LR LR 11 41 50.4
comp=Z,40nm,19.3s,baz=232,slow=39
LSZ Lusaka 59.19 214 LR LR 11 40 19.6
comp=Z,128nm,18.1s,baz=2.5,slow=37
SEY Seymchan 59.58 32 LR LR 11 42 29.5
comp=Z,196nm,19.2s,baz=292,slow=39
MA2 Magadan 60.18 36 LR LR 11 43 18.6
comp=Z,82nm,18.6s,baz=308,slow=39
ASAJ Asahikawa 62.00 54 LR LR 11 42 59.5
comp=Z,142nm,18.4s,baz=237,slow=38
MJAR Matsushiro Arr 62.38 64 P **P** **11 14 10.2 -0.4**
comp=Z,1.7nm,0.8s,baz=295,slow=6.8,SNR=4.5
MJAR LR LR 11 43 18.9
comp=Z,74nm,18.1s,baz=318,slow=38
comp=Z,1.7nm,0.8s
BILL Bilibino 62.42 24 *e*P **P** **11 14 11.9 +1.5**
DBIC Dimbokro 64.25 258 P P **11 14 22.2 -1.0**
comp=Z,4.2nm,0.9s,baz=78,slow=12,SNR=2.6
DBIC LR LR 11 45 09.3
comp=Z,50nm,18.7s,baz=103,slow=39
comp=Z,4.2nm,0.9s
PETK Petropavlovsk- 66.58 40 LR LR 11 46 07.6
comp=Z,118nm,18.1s,baz=285,slow=38
A21K Barrow 69.01 11 P **P** **11 14 53.7 +1.0**
baz=331
A19K Wainwright 69.22 13 P **P** **11 14 55.3 +1.2**
baz=328
A22K Sinclair Lake 69.54 11 P **P** **11 14 56.8 +0.7**
baz=333
B18K Kokolik River 69.80 14 P **P** **11 14 58.8 +1.0**
baz=327
C16K Lisburne Hills 69.98 16 P **P** **11 14 59.3 +0.5**
baz=325
B20K Meade River 70.08 12 P **P** **11 15 00.2 +0.8**
baz=331
C17K DeLong Mountai 70.27 15 P **P** **11 15 01.3 +0.6**
baz=326
B22K Teshekpuk Lake 70.37 11 P **P** **11 15 02.2 +1.1**
baz=334
C19K Lookout Ridge 70.44 13 P **P** **11 15 03.0 +1.3**
baz=329
C18K Utukok River 70.52 14 P **P** **11 15 02.7 +0.5**
baz=328
RDOG Red Dog Mine 70.68 15 P **P** **11 15 03.4 +0.2**
baz=327
B21K Ikpikpuk River 70.84 11 P **P** **11 15 05.3 +1.3**
baz=333
D17K Noatak River 70.94 15 P **P** **11 15 04.8 +0.1**
baz=326
A36M Sachs Harbour 71.05 1 P **P** **11 15 05.7 +0.4**
baz=358
C21K Knifeblade Rid 71.22 12 P **P** **11 15 07.3 +0.9**
baz=333,SNR=5.5
C23K Itkillik River 71.23 10 P **P** **11 15 07.5 +1.0**
baz=336
D19K Kuna River 71.24 13 P **P** **11 15 07.1 +0.5**
baz=330
D20K Etivluk River 71.31 13 P **P** **11 15 07.4 +0.4**
baz=332
TNA Tin City 71.58 18 P **P** **11 15 09.3 +0.7**
baz=323
C24K Franklin Bluff 71.60 9 P **P** **11 15 09.3 +0.7**
baz=338
E18K Tukpahlearik C 71.69 15 P **P** **11 15 09.6 +0.3**
baz=329
E17K Hotham Inlet 71.73 15 P **P** **11 15 09.9 +0.4**
baz=328
E20K Nigu River 71.79 13 P **P** **11 15 10.6 +0.7**
baz=332,SNR=6.6
D22K Ayikyak River 71.81 11 P **P** **11 15 10.0 +0.1**
baz=335
C26K Camden Bay 71.87 8 P **P** **11 15 10.4 +0.1**
baz=341
D23K Nanushuk River 72.03 10 P **P** **11 15 12.4 +1.1**
baz=336
F14K Arctic Creek 72.05 18 P **P** **11 15 12.0 +0.5**
baz=324
D24K Happy Valley 72.11 10 P **P** **11 15 12.4 +0.7**
baz=338
BOSA Boshof 72.25 210 LR LR 11 47 22.5
comp=Z,79nm,22.0s,baz=23,slow=36
F15K North Star Dit 72.25 17 P **P** **11 15 13.1 +0.4**
baz=326
D25K Kavik River 72.27 9 P **P** **11 15 13.8 +1.0**
baz=340
E19K Redstone River 72.31 13 P **P** **11 15 13.4 +0.4**
baz=331
F17K Baldwin Pennin 72.39 15 P **P** **11 15 14.0 +0.6**
baz=328
TOLK Toolik Lake Re 72.48 10 P **P** **11 15 14.9 +0.8**
baz=337,SNR=11
F18K Selawik 72.59 15 P **P** **11 15 15.2 +0.6**
baz=330
E22K Anaktuvuk Pass 72.62 11 P **P** **11 15 15.5 +0.6**
baz=336
F19K Shaleruckik Mo 72.76 14 P **P** **11 15 16.2 +0.6**
baz=331
F20K Avaraart Lake 72.95 13 P **P** **11 15 17.2 +0.4**
baz=333
G15K Niukluk 72.99 17 P **P** **11 15 18.0 +1.0**
baz=326
E23K Chandalar 73.02 10 P **P** **11 15 17.9 +0.6**
baz=338
D28M Stokes Point 73.05 6 P **P** **11 15 17.7 +0.5**
baz=346
F22K John River 73.14 12 P **P** **11 15 19.0 +1.1**
baz=336
F21K Alatna River 73.18 12 P **P** **11 15 19.1 +0.9**
baz=334
G17K Kiwalik Mounta 73.33 16 P **P** **11 15 19.8 +0.7**
baz=329
G18K Tagagawik 73.41 15 P **P** **11 15 20.0 +0.5**
baz=330
G19K Purcell Mounta 73.50 14 P **P** **11 15 20.2 +0.2**
baz=332
E25K Arctic Village 73.50 9 P **P** **11 15 20.4 +0.4**
baz=341,SNR=6.6
E28M Babbage River 73.68 7 P **P** **11 15 21.6 +0.5**
baz=346
COLD Coldfoot 73.70 11 P **P** **11 15 22.0 +0.7**
baz=337,SNR=9.3
H16K Elim 73.71 17 P **P** **11 15 21.1 -0.2**
baz=328
F24K Squaw Lake 73.77 10 P **P** **11 15 22.0 +0.3**
baz=339
G21K Allakaket 73.82 12 P **P** **11 15 22.1 +0.2**
baz=334
E27K Coleen River 73.89 7 P **P** **11 15 22.9 +0.6**
baz=344
H17K Granite Mounta 73.97 16 P **P** **11 15 23.4 +0.5**
baz=330
F25K Christian Rive 73.99 9 P **P** **11 15 23.7 +0.7**
baz=341
E29M Blow River 74.03 6 P **P** **11 15 23.7 +0.5**
baz=347
F26K Sheenjek River 74.08 9 P **P** **11 15 24.2 +0.7**
baz=342
H18K Honhosa River 74.11 15 P **P** **11 15 23.9 +0.3**
baz=331
H19K Roundabout Mou 74.17 14 P **P** **11 15 24.7 +0.8**
baz=332
G23K Bananza Creek 74.21 11 P **P** **11 15 24.4 +0.1**
baz=337
INK Inuvik 74.43 4 P **P** **11 15 25.6 +0.2**
baz=351,SNR=7.1
INK Inuvik 74.43 4 LR LR 11 53 12.7
comp=Z,20nm,18.0s,baz=3.5,slow=40
H20K Anotleneega Mo 74.50 13 P **P** **11 15 25.9 0.0**
baz=334
G24K Hadweenzic Riv 74.59 10 P **P** **11 15 27.0 +0.6**
baz=339
F28M Old Crow 74.61 7 P **P** **11 15 27.5 +0.9**
baz=346,SNR=5.1
I17K Unalakleet 74.71 17 P **P** **11 15 27.9 +0.8**
baz=329
H21K Meloziina Rive 74.72 13 P **P** **11 15 28.1 +0.9**
baz=335
H22K Ishtalitna Cre 74.75 12 P **P** **11 15 28.3 +0.9**
baz=336
SHEM Shemya Is, Ala 74.76 34 LR LR 11 51 18.3
comp=Z,69nm,19.7s,baz=308,slow=38
GCSA Galena City Sc 74.78 15 P **P** **11 15 28.2 +0.8**
baz=332
G26K Porcupine Rive 74.83 9 P **P** **11 15 28.4 +0.6**
baz=342
F30M Barrier River 74.97 5 P **P** **11 15 29.3 +0.7**
baz=349
J14K Nanvaranak Lak 74.99 18 P **P** **11 15 29.2 +0.4**
baz=327
H23K Yukon River 75.11 11 P **P** **11 15 29.6 +0.1**
baz=338
G27K Doyon Strip 75.21 8 P **P** **11 15 30.9 +0.8**
baz=344,SNR=7.2
H25L Birch Creek 75.23 10 P **P** **11 15 30.6 +0.5**
baz=341
J16K Anvik River 75.25 17 P **P** **11 15 30.6 +0.4**
baz=329
F31M Tsiigehtchic 75.27 5 P **P** **11 15 30.5 +0.2**
baz=351,SNR=11
H24K Noodor Dome 75.35 11 P **P** **11 15 31.1 +0.2**
baz=339
G29M Pine Creek 75.47 6 P **P** **11 15 31.4 -0.1**
baz=347
G30M tAoh Zraii Nji 75.55 6 P **P** **11 15 32.0 0.0**
baz=349
MLY Manley 75.65 12 P **P** **11 15 33.1 +0.5**
baz=337
J19K Poorman 75.70 14 P **P** **11 15 32.9 0.0**
baz=333
G31M Satah River 75.75 5 P **P** **11 15 34.0 +1.0**
baz=350,SNR=13
I23K Minto, Yukon-K 75.76 11 P **P** **11 15 33.8 +0.6**
baz=338
H27K Steamboat Moun 75.79 8 P **P** **11 15 33.5 +0.1**
baz=344
J20K Nowinta River 75.82 14 P **P** **11 15 34.3 +0.7**
baz=334
K15K Wolf Creek Mou 75.88 18 P **P** **11 15 34.4 +0.5**
baz=329
J18K Innoko River 75.95 15 P **P** **11 15 34.6 +0.3**
baz=332
POKR Poker Plat Res 76.09 11 P **P** **11 15 35.8 +0.7**
baz=340
EPYK Eagle Plains 76.11 6 P **P** **11 15 35.9 +0.7**
baz=348
H29M Whitestone 76.12 7 P **P** **11 15 35.3 +0.1**
baz=347
COLA College 76.25 11 P **P** **11 15 36.6 +0.6**
baz=339
M11K Mekoryuk 76.25 21 P **P** **11 15 35.9 -0.1**
baz=325
K17K Iditarod 76.27 16 P **P** **11 15 37.1 +1.1**
baz=331
NEA2 Nenana 76.33 12 P **P** **11 15 37.6 +1.1**
baz=338
I27K Kandik River 76.38 8 P **P** **11 15 37.4 +0.6**
baz=344
L14K Kuka Creek 76.40 19 P **P** **11 15 37.0 +0.2**
baz=328
L15K Ungalak Mounta 76.42 18 P **P** **11 15 36.9 -0.1**
baz=329
CHUM Lake Minchumin 76.43 13 P **P** **11 15 37.5 +0.5**
baz=336
BPAW Bear Paw Mtn. 76.47 13 P **P** **11 15 37.3 +0.1**
baz=337

I26K	**Coal Creek Min**	**76.49**	**9**	P	**P**	**11 15 37.2**	**-0.1**
	baz=343						
ILAR	**Eielson Array**	**76.49**	**11**	P	**P**	**11 15 37.9**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=330,slow=4.9,SNR=10						
ILAR				LR	LR	11 54 13.4	
	comp=Z,35nm,18.7s,baz=345,slow=40						
	comp=Z,0.8nm,0.9s						
K20K	**Telida**	**76.58**	**14**	P	**P**	**11 15 38.0**	**+0.1**
	baz=334						
I28M	**Miner Creek**	**76.72**	**7**	P	**P**	**11 15 38.9**	**+0.1**
	baz=346						
SCHQ	**Schefferville**	**76.73**	**331**	P	**P**	**11 15 38.8**	**-0.1**
	comp=Z,5.6nm,1.0s,baz=52,slow=6.9,SNR=3.7						
	comp=Z,5.6nm,1.0s						
L17K	**Donlin**	**76.78**	**16**	P	**P**	**11 15 38.9**	**-0.1**
	baz=331						
HDA	**Harding Lake**	**76.83**	**11**	P	**P**	**11 15 39.2**	**-0.1**
	baz=340						
H31M	**Peel River**	**76.85**	**5**	P	**P**	**11 15 39.7**	**+0.3**
	baz=350						
J25K	**Salcha River,**	**76.86**	**10**	P	**P**	**11 15 39.7**	**+0.1**
	baz=341						
L16K	**Owhat River**	**76.88**	**17**	P	**P**	**11 15 40.0**	**+0.5**
	baz=330						
CAST	**Castle Rocks**	**76.90**	**13**	P	**P**	**11 15 40.4**	**+0.7**
	baz=336						
M13K	**Dall Lake**	**77.02**	**20**	P	**P**	**11 15 40.7**	**+0.4**
	baz=328						
L18K	**Granite Mounta**	**77.06**	**16**	P	**P**	**11 15 41.1**	**+0.5**
	baz=332						
M14K	**Bethel**	**77.09**	**19**	P	**P**	**11 15 40.8**	**+0.1**
	baz=328						
MCK	**McKinley**	**77.15**	**12**	P	**P**	**11 15 41.0**	**-0.1**
	baz=338						
J26L	**Joseph Creek**	**77.21**	**9**	P	**P**	**11 15 41.5**	**0.0**
	baz=343						
EGAK	**Eagle**	**77.23**	**8**	P	**P**	**11 15 41.9**	**+0.4**
	baz=345						
I30M	**Mount Dempster**	**77.27**	**6**	P	**P**	**11 15 42.3**	**+0.4**
	baz=348						
PPLA	**Purkeypile**	**77.36**	**14**	P	**P**	**11 15 42.5**	**+0.1**
	baz=336						
SUR	**Sutherland**	**77.37**	**211**	LR	LR	11 51 37.2	
	comp=Z,65nm,18.9s,baz=344,slow=37						
L20K	**Farewell, AK**	**77.41**	**14**	P	**P**	**11 15 42.5**	**-0.2**
	baz=335						
M15K	**Kasigluk River**	**77.46**	**18**	P	**P**	**11 15 42.7**	**-0.2**
	baz=330						
L19K	**White Mountain**	**77.48**	**15**	P	**P**	**11 15 42.7**	**-0.3**
	baz=334						
K24K	**Donnelly Dome**	**77.57**	**10**	P	**P**	**11 15 43.6**	**+0.1**
	baz=341						
M16K	**Timber Creek**	**77.60**	**17**	P	**P**	**11 15 43.5**	**-0.1**
	baz=331						
SPIA	**Saint Paul Isl**	**77.61**	**24**	P	**P**	**11 15 43.7**	**-0.1**
	baz=323						
M17K	**Holitna River**	**77.62**	**16**	P	**P**	**11 15 43.5**	**-0.2**
	baz=332						
SCRK	**Sand Creek**	**77.66**	**10**	P	**P**	**11 15 44.1**	**+0.1**
	baz=342						
RIDG	**Independent Ri**	**77.77**	**10**	P	**P**	**11 15 44.9**	**+0.3**
	baz=342						
M19K	**Big River Lodg**	**77.83**	**15**	P	**P**	**11 15 44.9**	**0.0**
	baz=334						
K27K	**Chicken**	**77.85**	**9**	P	**P**	**11 15 45.6**	**+0.6**
	baz=344						
J29N	**Klondike Camp**	**77.86**	**7**	P	**P**	**11 15 45.7**	**+0.6**
	baz=347						
M18K	**Stony River**	**77.90**	**16**	P	**P**	**11 15 45.5**	**+0.2**
	baz=333						
J30M	**Hart River**	**77.91**	**6**	P	**P**	**11 15 45.4**	**-0.1**
	baz=349						
DHY	**Denali Highway**	**78.02**	**11**	P	**P**	**11 15 46.4**	**+0.3**
	baz=340						
M20K	**Styx River**	**78.10**	**14**	P	**P**	**11 15 46.4**	**-0.1**
	baz=335						
DAWY	**Dawson**	**78.12**	**8**	P	**P**	**11 15 46.4**	**-0.2**
	baz=346						
N16K	**Nishlik Lake**	**78.13**	**18**	P	**P**	**11 15 45.7**	**-0.9**
	baz=331						
CUT	**Chulitna**	**78.16**	**13**	P	**P**	**11 15 46.2**	**-0.5**
	baz=338						
SKT	**Skwentna**	**78.32**	**14**	P	**P**	**11 15 47.6**	**0.0**
	baz=337						
PAX	**Paxson**	**78.41**	**11**	P	**P**	**11 15 48.2**	**0.0**
	baz=341						
WAT6	**Susitna Watana**	**78.43**	**12**	P	**P**	**11 15 47.6**	**-0.8**
	baz=340						
N17K	**Nushagak Hills**	**78.45**	**17**	P	**P**	**11 15 48.5**	**+0.1**
	baz=332						
K29M	**Barlow Dome**	**78.52**	**7**	P	**P**	**11 15 48.3**	**-0.6**
	baz=348						
O14K	**Tigyukauivet M**	**78.56**	**19**	P	**P**	**11 15 48.2**	**-0.8**
	baz=329						
N18K	**Kilae Creek**	**78.61**	**16**	P	**P**	**11 15 48.4**	**-0.8**
	baz=333						
L26K	**Log Cabin Wild**	**78.65**	**10**	P	**P**	**11 15 49.2**	**-0.3**
	baz=343						
M22K	**Willow**	**78.79**	**13**	P	**P**	**11 15 50.0**	**-0.2**
	baz=338						
N19K	**Bonanza Creek**	**78.79**	**15**	P	**P**	**11 15 49.8**	**-0.6**
	baz=334						
L27K	**Beaver Creek,**	**78.81**	**9**	P	**P**	**11 15 50.1**	**-0.3**
	baz=344						
N20K	**Mount Spurr**	**78.91**	**14**	P	**P**	**11 15 50.9**	**-0.1**
	baz=336						
MAYO	**Mayo, Yukon**	**78.91**	**6**	P	**P**	**11 15 50.9**	**0.0**
	baz=349						
SUA	**Susitna One**	**78.94**	**13**	P	**P**	**11 15 51.1**	**-0.2**
	baz=337						
HARP	**HAARP**	**79.00**	**11**	P	**P**	**11 15 51.5**	**+0.1**
	baz=342						
SML	**Sawmill**	**79.05**	**12**	P	**P**	**11 15 51.8**	**0.0**
	baz=339						
O16K	**Kokwok River B**	**79.06**	**18**	P	**P**	**11 15 50.6**	**-1.1**
	baz=332						
PMR	**Palmer**	**79.12**	**13**	P	**P**	**11 15 52.0**	**0.0**
	baz=338						
M24K	**Tolsona, Glenn**	**79.12**	**11**	P	**P**	**11 15 52.0**	**-0.1**
	baz=341						
L29M	**L29M**	**79.18**	**7**	P	**P**	**11 15 52.2**	**-0.2**
	baz=347						
SCM	**Sheep Creek Mo**	**79.20**	**12**	P	**P**	**11 15 52.1**	**-0.5**
	baz=340						
M26K	**Nabesna, AK**	**79.30**	**10**	P	**P**	**11 15 52.5**	**-0.6**
	baz=343						
O19K	**Port Alsworth**	**79.39**	**16**	P	**P**	**11 15 53.2**	**-0.3**
	baz=334						
KNK	**Knik Glacier**	**79.40**	**12**	P	**P**	**11 15 53.3**	**-0.3**
	baz=339						
RC01	**Rabbit Creek A**	**79.48**	**13**	P	**P**	**11 15 53.6**	**-0.4**
	baz=338						
M27K	**Edge Creek, AK**	**79.49**	**9**	P	**P**	**11 15 53.0**	**-1.2**
	baz=344						
O18K	**Koktuh Hills**	**79.50**	**16**	P	**P**	**11 15 52.9**	**-1.3**
	baz=334						
CAPN	**Captain Cook N**	**79.51**	**14**	P	**P**	**11 15 53.5**	**-0.6**
	baz=337						
KLU	**Klutina**	**79.74**	**11**	P	**P**	**11 15 54.5**	**-1.0**
	baz=341						
M29M	**Somme Creek**	**79.80**	**8**	P	**P**	**11 15 54.8**	**-1.1**
	baz=347						
N25K	**Chitina, Valde**	**79.84**	**11**	P	**P**	**11 15 55.6**	**-0.5**
	baz=342						
WRGLY	**Wrigley**	**79.86**	**1**	P	**P**	**11 15 55.8**	**-0.2**
	baz=359						
P18K	**Big Mountain,**	**79.91**	**16**	P	**P**	**11 15 55.2**	**-1.2**
	baz=334						
O22K	**Cooper Landing**	**80.05**	**13**	P	**P**	**11 15 56.2**	**-0.9**
	baz=338						
P19K	**Oil Pt**	**80.11**	**15**	P	**P**	**11 15 56.2**	**-1.3**
	baz=335						
Q16K	**King Salmon**	**80.22**	**17**	P	**P**	**11 15 57.5**	**-0.5**
	baz=333						
YUK3	**Moose Creek**	**80.23**	**9**	P	**P**	**11 15 57.2**	**-1.1**
	baz=345						
MCARA	**McCarthy VSAT**	**80.27**	**10**	P	**P**	**11 15 57.3**	**-1.1**
	baz=343						
M31M	**Drury Creek, Y**	**80.41**	**6**	P	**P**	**11 15 58.6**	**-0.5**
	baz=350						
YKA	**Yellowknife Ar**	**80.42**	**356**	P	**P**	**11 15 59.2**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=1.2,slow=6.3,SNR=69						
YKA				LR	LR	11 56 05.8	
	comp=Z,28nm,19.6s,baz=284,slow=39						
	comp=Z,3.2nm,0.8s						
HOM	**Homer**	**80.44**	**15**	P	**P**	**11 15 57.9**	**-1.3**
	baz=337						
BMRM	**Bremner River**	**80.44**	**11**	P	**P**	**11 15 58.6**	**-0.7**
	baz=342						
SEW	**Seward**	**80.45**	**13**	P	**P**	**11 15 58.5**	**-0.7**
	baz=338						
FARO	**Faro, Yukon**	**80.47**	**5**	P	**P**	**11 15 59.0**	**-0.4**
	baz=351						
BRSE	**Bradley Lake S**	**80.54**	**14**	P	**P**	**11 15 58.7**	**-1.1**
	baz=337						
EYAK	**Cordova Ski Ar**	**80.67**	**12**	P	**P**	**11 15 59.5**	**-0.9**
	baz=341						
Q17K	**Contact Creek**	**80.78**	**17**	P	**P**	**11 16 00.1**	**-1.1**
	baz=334						
YUK4	**Talbot Arm**	**80.86**	**8**	P	**P**	**11 16 00.7**	**-1.0**
	baz=347						
CRQE	**Cirque**	**80.87**	**10**	P	**P**	**11 16 01.5**	**-0.2**
	baz=343						
CTG	**Chitna Glacier**	**80.90**	**9**	P	**P**	**11 16 01.5**	**-0.3**
	baz=345						
N30M	**Aishikik Lake**	**80.91**	**7**	P	**P**	**11 16 01.2**	**-0.6**
	baz=348						
N31M	**Braeburn, Yuko**	**81.00**	**7**	P	**P**	**11 16 01.5**	**-0.8**
	baz=349						
O28M	**Mount Upton**	**81.23**	**9**	P	**P**	**11 16 03.3**	**-0.5**
	baz=346						
Q20K	**Shuyak Island**	**81.25**	**15**	P	**P**	**11 16 02.6**	**-0.9**
	baz=336						
YUK6	**Outpost Mounta**	**81.28**	**8**	P	**P**	**11 16 02.0**	**-1.9**
	baz=347						
S12K	**Black Hills**	**81.39**	**21**	P	**P**	**11 16 02.9**	**-1.5**
	baz=329						
TGTN	**Hyland Airport**	**81.46**	**3**	P	**P**	**11 16 04.2**	**-0.5**
	baz=355						
KAIM	**Kayak Island**	**81.47**	**11**	P	**P**	**11 16 03.7**	**-1.0**
	baz=342						
NIKH	**Nikolski High**	**81.47**	**26**	P	**P**	**11 16 04.2**	**-0.7**
	baz=324						
HYT	**Haines Junctio**	**81.49**	**7**	P	**P**	**11 16 03.5**	**-1.5**
	baz=348						
N32M	**Quiet Lake**	**81.56**	**5**	P	**P**	**11 16 03.6**	**-1.6**
	baz=351						
UNV	**Unalaska Valle**	**81.57**	**25**	P	**P**	**11 16 02.8**	**-2.5**
	baz=326						
MESA	**MESA**	**81.58**	**10**	P	**P**	**11 16 03.8**	**-1.8**
	baz=344						
S14K	**Fog Glacier**	**81.59**	**20**	P	**P**	**11 16 03.7**	**-1.9**
	baz=331						
Q23K	**Middleton Isla**	**81.63**	**12**	P	**P**	**11 16 04.1**	**-1.5**
	baz=341						
O30N	**Mendenhall**	**81.68**	**7**	P	**P**	**11 16 04.5**	**-1.4**
	baz=349						
FALS	**False Pass**	**81.71**	**23**	P	**P**	**11 16 04.9**	**-1.1**
	baz=328						
CHGN	**Chignik**	**81.89**	**19**	P	**P**	**11 16 04.9**	**-2.0**
	baz=332						
KDAK	**Kodiak Island**	**81.96**	**16**	P	**P**	**11 16 06.1**	**-1.3**
	baz=336						
SDPT	**Sand Point**	**82.15**	**21**	P	**P**	**11 16 06.4**	**-1.9**
	baz=330						
OHAK	**Old Harbor**	**82.32**	**16**	P	**P**	**11 16 07.9**	**-1.3**
	baz=336						
PNL	**Peninsula**	**82.40**	**9**	P	**P**	**11 16 08.7**	**-1.0**
	baz=346						
P33M	**Teslin, Yukon**	**82.51**	**5**	P	**P**	**11 16 08.6**	**-1.7**
	baz=352						
P29M	**Windy Craggy**	**82.63**	**8**	P	**P**	**11 16 09.6**	**-1.3**
	baz=348						
WTLY	**Watson Lake, Y**	**82.85**	**3**	P	**P**	**11 16 10.8**	**-1.2**
	baz=355						
CHNA	**Chernabura Isl**	**82.86**	**21**	P	**P**	**11 16 10.0**	**-2.1**
	baz=331						
PLBC	**Pleasant Camp**	**82.95**	**7**	P	**P**	**11 16 10.4**	**-2.1**
	baz=349						
KOTAN	**Kotaneelee Air**	**82.97**	**1**	P	**P**	**11 16 11.9**	**-0.7**
	baz=359						
SKAG	**Skagway**	**83.04**	**7**	P	**P**	**11 16 12.1**	**-0.8**
	baz=350						
P32M	**Atlin**	**83.06**	**6**	P	**P**	**11 16 11.9**	**-1.2**
	baz=351						
R33M	**Jennings River**	**83.45**	**4**	P	**P**	**11 16 13.6**	**-1.6**
	baz=353						
R31K	**City Hall, Gus**	**84.03**	**7**	P	**P**	**11 16 17.7**	**-0.4**
	baz=349						
TOAD	**Toad River Com**	**84.23**	**2**	P	**P**	**11 16 18.8**	**-0.3**
	baz=358						
DLBC	**Dease Lake**	**84.46**	**4**	P	**P**	**11 16 20.0**	**-0.3**
	baz=354						
S32K	**Killisnoo**	**85.08**	**7**	P	**P**	**11 16 22.5**	**-0.8**
	baz=350						
SIT	**Sitka**	**85.41**	**7**	P	**P**	**11 16 24.4**	**-0.6**
	baz=350						
WRAK	**Wrangell Islan**	**86.31**	**6**	P	**P**	**11 16 28.5**	**-1.0**
	baz=352						
V35K	**Ketchikan**	**87.45**	**5**	P	**P**	**11 16 33.6**	**-1.5**
	baz=353						
LONY	**Lake Ozonia**	**87.81**	**328**	P	**P**	**11 16 35.3**	**-1.8**
	baz=36						
ULM	**Lac du Bonnet**	**89.82**	**343**	P	**P**	**11 16 45.6**	**-0.8**
	comp=Z,4.9nm,0.8s,baz=32,slow=5.6,SNR=13						
	comp=Z,4.9nm,0.8s						
WRA	**Warramunga Arr**	**91.74**	**114**	P	**P**	**11 16 54.2**	**-1.6**
	comp=Z,0.6nm,0.9s,baz=321,slow=4.6,SNR=5.3						
	comp=Z,0.6nm,0.9s						
ASAR	**Alice Springs**	**93.76**	**117**	P	**P**	**11 17 03.6**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=318,slow=5.3,SNR=5.9						
	comp=Z,0.5nm,0.7s						
NEW	**Newport**	**94.75**	**357**	LR	LR	12 04 13.2	
	comp=Z,23nm,20.9s,baz=24,slow=38						
PDAR	**Pinedale Array**	**99.53**	**351**	LR	LR	12 05 52.1	
	comp=Z,25nm,21.7s,baz=46,slow=37						
QSPA	**South Pole Qui**	**127.05**	**180**	PKP	**PKPdf**	**11 22 49.9**	**-1.1**
	comp=Z,1.9nm,1.0s,baz=262,slow=1.2,SNR=6.4						

IDC 28 11:22:41.0±1.9, 1°05'N×123°67'E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=186.6km s-min=27.5km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.34**	**154**	P	P	11 27 50.9	-0.2
	0.3nm,0.3s,baz=331,slow=11,SNR=8.9						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**26.51**	**159**	P	P	11 28 20.6	+0.3
	0.4nm,0.4s,baz=341,slow=7.1,SNR=13						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**58.08**	**328**	P	P	11 32 36.0	-0.2
	0.1nm,0.4s,baz=116,slow=6.6,SNR=1.7						
	0.1nm,0.4s						

*IDC **28** 11:46:15.3±0.8, 6°52'S×143°12'E, h0km, mb4.1/11, mbtmp4.1/13, ML1.3/1, MS3.5/16, Error ellipse: s-maj=36.0km s-min=17.9km az=75.0*
*NEIC **28** 11:46:16.1±1.1, 6°63'S±0°10'×142°94'E±0°07, h10km±1km, mb4.1/16, Error ellipse: s-maj=17.9km s-min=8.6km az=25.0*

ISC 28 11:46:19.8±0.6, 6°76'S±0°07×142°90'E±0°07, h35km, n48, σ1§30/40, mb4.1/14, MS3.5/13, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.97**	**122**		**Pn**	**11 47 30.8**	**-1.1**
PMG	**Port Moresby**	**4.97**	**122**	Pn	**Pn**	**11 47 32.0**	**0.0**
	0.9nm,0.3s,baz=329,slow=7.9,SNR=6.9						
PMG				Sn	**Sn**	**11 48 26.8**	**-1.4**
	2.1nm,0.3s,baz=218,slow=15,SNR=4.6						
	14nm,0.7s						
COEN	**Coen**	**7.16**	**178**	Pn	**Pn**	**11 48 03.0**	**+0.9**
FAKI	**Fak Fak**	**11.28**	**289**	Pn	**Pn**	**11 48 56.8**	**-1.8**
SAUI	**Saumlaki**	**11.57**	**263**	Pn	**Pn**	**11 49 02.1**	**-0.4**
MTN	**Manton Dam**	**13.07**	**242**	Pn	**Pn**	**11 49 22.7**	**-0.4**
CTA	**Charters Tower**	**13.64**	**167**	LR	LR	11 54 46.4	
	comp=Z,185nm,18.7s,baz=277,slow=37						
WB0	**Warramunga Arr**	**15.35**	**212**		**Pn**	**11 49 53.8**	**-0.1**
WB0					IAmb	IAmb	11 50 03.3
	comp=Z,6.9nm,0.8s						
WR0	**Warramunga Arr**	**15.43**	**211**	Pn	**Pn**	**11 49 55.5**	**+0.5**
WR0					IAmb	IAmb	11 50 14.2
	comp=Z,7.6nm,0.8s						
WRAB	**Tennant Creek**	**15.51**	**212**	Pn	**Pn**	**11 49 57.1**	**+1.1**
WRAB					IAmb	IAmb	11 50 07.9
	comp=Z,12nm,0.9s						
WB2	**Warramunga Arr**	**15.51**	**212**	Pn	**Pn**	**11 49 57.1**	**+1.0**
WB2					IAmb	IAmb	11 50 08.1
	comp=Z,15nm,0.9s						
WRA	**Warramunga Arr**	**15.52**	**212**	Pn	**Pn**	**11 49 56.4**	**+0.3**
WRA	**Warramunga Arr**	**15.52**	**212**	Pn	**Pn**	**11 49 56.6**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=29,slow=13,SNR=23						
WRA				Sn	**Sn**	**11 52 42.9**	**-4.1**
	comp=Z,0.2nm,0.3s,baz=38,slow=24,SNR=3.8						
WRA				Lg	Lg	11 54 31.9	
	comp=Z,0.1nm,0.3s,baz=33,slow=29,SNR=3.7						
KNRA	**Kununurra**	**16.45**	**236**	Pn	**Pn**	**11 50 07.6**	**-0.4**
KNRA				IAmb	IAmb	11 50 34.9	
	comp=Z,9.3nm,0.8s						
AS31	**Alice Springs**	**18.90**	**206**		**Pn**	**11 50 38.4**	**0.0**
ASAR	**Alice Springs**	**18.91**	**206**		**P**	**11 50 36.8**	**-0.8**
ASAR	**Alice Springs**	**18.91**	**206**	P	**Pn**	**11 50 42.1**	**+3.7**
	comp=Z,6.6nm,0.9s,baz=30,slow=11,SNR=30						
ASAR				S	**Sn**	**11 54 08.9**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=20,slow=25,SNR=3.1						
ASAR				Lg	Lg	11 56 23.0	
	comp=Z,0.1nm,0.3s,baz=26,slow=29,SNR=6.3						
ASAR				LR	LR	11 58 31.6	
	comp=Z,551nm,18.0s,baz=26,slow=38						
BATI	**Baumata**	**19.33**	**258**	LR	LR	12 00 06.1	
	comp=Z,248nm,18.0s,baz=98,slow=42						
FITZ	**Fitzroy Crossi**	**20.25**	**235**		**P**	**11 50 52.1**	**-0.2**
GUMO	**Guam**	**20.31**	**6**	LR	LR	11 57 49.2	
	comp=Z,30nm,19.8s,baz=150,slow=35						
ARMA	**Armidale**	**24.92**	**162**	P	**P**	**11 51 40.6**	**+0.8**
ARMA				IAmb	IAmb	11 51 55.4	
	comp=Z,7.2nm,1.1s						
STKA	**Stephens Creek**	**25.02**	**183**	P	**P**	**11 51 40.8**	**+0.2**
STKA	**Stephens Creek**	**25.02**	**183**	P	**P**	**11 51 42.7**	**+2.1**
	comp=Z,3.4nm,0.8s,baz=20,slow=5.5,SNR=4.6						
STKA				LR	LR	12 02 13.6	
	comp=Z,132nm,21.9s,baz=17,slow=38						
	comp=Z,3.4nm,0.8s						
MBWA	**Marble Bar**	**26.60**	**235**	P	**P**	**11 51 53.9**	**-1.1**
MBWA				IAmb	IAmb	11 52 12.8	
	comp=Z,6.5nm,1.1s						
LEM	**Lembang**	**35.03**	**268**	LR	LR	12 10 43.8	
	comp=Z,47nm,19.1s,baz=132,slow=42						
NWAO	**Narrogin (SRO)**	**35.30**	**219**	LR	LR	12 08 37.7	
	comp=Z,310nm,20.2s,baz=242,slow=38						
URZ	**Jewera**	**44.06**	**140**	LR	LR	12 13 53.4	
	comp=Z,54nm,18.3s,baz=302,slow=38						
KSRS	**Korea Array**	**46.16**	**343**	P	**P**	**11 54 40.1**	**-0.8**
	comp=Z,2.1nm,1.0s,baz=166,slow=10,SNR=7.7						
	comp=Z,2.1nm,1.0s						
CMAR	**Chiang Mai Arr**	**50.07**	**301**	P	**P**	**11 55 12.6**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=135,slow=6.6,SNR=7.3						
CMAR				LR	LR	12 19 26.0	
	comp=Z,8.1nm,18.6s,baz=200,slow=40						
	comp=Z,0.6nm,0.4s						
KLR	**Kul'dur**	**56.60**	**351**	LR	LR	12 16 36.0	
	comp=Z,28nm,21.9s,baz=311,slow=32						
SONM	**Songino Array**	**63.16**	**333**	P	**P**	**11 56 44.6**	**+0.2**
	comp=Z,1.1nm,1.0s,baz=157,slow=8.0,SNR=6.6						
	comp=Z,1.1nm,1.0s						
SHEM	**Shemya Is, Ala**	**64.92**	**20**	LR	LR	12 20 49.6	
	comp=Z,38nm,20.4s,baz=241,slow=32						
VNDA	**Vanda**	**71.43**	**176**	LR	LR	12 28 46.4	
	comp=Z,57nm,18.3s,baz=320,slow=36						
MK31	**Makanchi Array**	**75.53**	**322**	P	**P**	**11 58 00.3**	**-0.4**
MKAR	**Makanchi Array**	**75.53**	**322**	P	**P**	**11 58 00.1**	**-0.7**
MKAR	**Makanchi Array**	**75.53**	**322**	P	**P**	**11 58 01.8**	**+1.1**
	comp=Z,2.1nm,1.0s,baz=111,slow=6.6,SNR=12						
	comp=Z,2.1nm,1.0s						
MAKZ	**Makanchi**	**75.73**	**322**	P	**P**	**11 58 00.7**	**-1.2**
ZALV	**Zalesovo Beam**	**77.52**	**329**	P	**P**	**11 58 10.7**	**-1.1**
ZALV	**Zalesovo Beam**	**77.52**	**329**	P	**P**	**11 58 12.7**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=121,slow=5.6,SNR=2.1						
	comp=Z,0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**79.42**	**324**	P	**P**	**11 58 22.6**	**+0.3**
	comp=Z,2.1nm,1.1s,baz=116,slow=4.3,SNR=7.9						
	comp=Z,2.1nm,1.1s						
KDAK	**Kodiak Island**	**82.52**	**29**	LR	LR	12 28 41.7	
	comp=Z,33nm,21.8s,baz=273,slow=31						
QSPA	**South Pole Qui**	**83.21**	**180**	P	**P**	**11 58 43.2**	**+0.8**
QSPA	**South Pole Qui**	**83.21**	**180**	P	**P**	**11 58 44.5**	**+2.0**
	comp=Z,1.8nm,0.8s,baz=353,slow=2.4,SNR=7.4						
QSPA				LR	LR	12 35 55.7	
	comp=Z,114nm,18.3s,baz=38,slow=36						
	comp=Z,1.8nm,0.8s						
G18K	**Tagagawik**	**83.87**	**21**	P	**P**	**11 58 45.6**	**+0.1**
G18K				IAmb	IAmb	11 58 47.2	
	comp=Z,1.9nm,1.1s						
NRIK	**Noril'sk**	**84.77**	**343**	P	**P**	**11 58 50.7**	**+0.6**
	comp=Z,3.0nm,0.8s,baz=123,slow=6.1,SNR=5.4						
	comp=Z,3.0nm,0.8s						
BVAR	**Borovoye Array**	**85.00**	**325**	P	**P**	**11 58 52.6**	**+1.0**
	comp=Z,7.4nm,1.1s,baz=107,slow=5.1,SNR=16						
	comp=Z,7.4nm,1.1s						
ILAR	**Eielson Array**	**87.80**	**24**	P	**P**	**11 59 04.1**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=259,slow=5.0,SNR=11						
ILAR				LR	LR	12 30 06.4	
	comp=Z,23nm,22.0s,baz=7.0,slow=30						
	comp=Z,1.1nm,0.8s						
ARU	**Arti**	**92.45**	**326**	LR	LR	12 41 37.1	
	comp=Z,13nm,20.6s,baz=304,slow=36						

*IDC **28** 11:47:08.7±1.1, 31°91'N×48°64'E, h0km, mb3.8/12, mbtmp3.8/16, ML3.5/4, MS3.3/6, Error ellipse: s-maj=25.7km s-min=14.9km az=178.0*
*TEH **28** 11:47:10.6, 31°82'N×48°68'E, h24km±20km, ML3.8*
*DSN **28** 11:47:17.1±1.6, 31°30'N×48°89'E, h15km, ML3.4/2, Error ellipse: s-maj=19.5km s-min=8.7km az=3.0*

ISC 28 11:47:09.9±0.5, 31°82'N±0°04×48°69'E±0°04, h10km, n63, σ1§73/59, mb3.8/12, MS3.4/5, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHWZ	**Ahwaz**	**0.49**	**185**	Pg	**Pb**	**11 47 21.4**	**+0.8**
JHBN	**Jahan bin**	**1.73**	**76**	Pg	**Pb**	**11 47 42.5**	**+0.5**
ABEH	**Behbahan**	**1.81**	**132**	Pn	**Pg**	**11 47 45.8**	**+1.1**
IKFM	**Kafar-mosalman**	**1.84**	**337**	Pn	**Pb**	**11 47 43.8**	**+0.1**
ZNGN	**Zangian**	**1.86**	**80**	Pn	**Pb**	**11 47 44.2**	**0.0**
IDOB	**Doab**	**2.01**	**348**	Pn	**Pb**	**11 47 46.6**	**-0.1**
IPIR	**Pirpir**	**2.05**	**65**	Pn	**Pb**	**11 47 46.9**	**-0.6**
IBRJ	**Brojen**	**2.19**	**87**	Pn	**Pn**	**11 47 48.8**	**+2.2**
HSAM	**Samen**	**2.

0.9nm,0.5s
IDI Anoyia 20.12 286 P **P** **11 51 42.7 -1.4**
0.1nm,0.5s,baz=163,slow=20,SNR=2.1
AAK Ala-Archa 23.12 55 LR LR 12 02 41.3
comp=Z,141nm,18.6s,baz=264,slow=40
AKASG **Malin Array Be 23.74 328** P **P** **11 52 20.7 -1.5**
0.2nm,0.2s,baz=137,slow=8.3,SNR=5.6
0.2nm,0.2s
BVAR Borovoye Array 26.37 30 P **P** **11 52 46.4 +0.2**
2.2nm,0.6s,baz=226,slow=8.2,SNR=12
BVAR LR LR 12 04 41.9
comp=Z,58nm,18.9s,baz=230,slow=40
2.2nm,0.6s
KURBB **Kurchatov Arra 28.97 41** P **P** **11 53 10.2 +0.7**
0.7nm,0.7s,baz=242,slow=9.6,SNR=7.8
0.7nm,0.7s
MKAR Makanchi Array 29.72 50 P **P** **11 53 17.2 +0.9**
0.5nm,0.7s,baz=235,slow=5.5,SNR=5.9
MKAR LR LR 12 06 45.4
comp=Z,47nm,19.3s,baz=267,slow=40
0.5nm,0.7s
FINES FINESS Array B 33.09 340 P **P** **11 53 45.3 -0.3**
0.4nm,0.3s,baz=149,slow=9.5,SNR=5.8
0.4nm,0.3s
ZALV Zalesovo Beam 33.94 39 P **P** **11 53 53.3 +0.2**
0.7nm,0.4s,baz=245,slow=9.6,SNR=4.1
0.7nm,0.4s
HFS Hagfors 36.55 331 P **P** **11 54 14.4 -1.2**
1.0nm,0.4s,baz=116,slow=10,SNR=5.3
1.0nm,0.4s
ESDC Sonseca Array 42.93 296 P **P** **11 55 09.1 +0.2**
0.4nm,0.7s,baz=81,slow=8.3,SNR=2.2
0.4nm,0.7s
EKA Eskdalemuir Ar 43.02 319 P **P** **11 55 08.4 -1.0**
0.9nm,0.7s,baz=99,slow=8.9,SNR=1.4
0.9nm,0.7s
TORD Torodi Ar. Bea 46.83 258 P **P** **11 55 40.7 +0.5**
1.5nm,0.9s,baz=57,slow=9.6,SNR=7.2
1.5nm,0.9s
CMAR Chiang Mai Arr 47.02 94 P **P** **11 55 41.7 0.0**
0.5nm,0.5s,baz=288,slow=8.2,SNR=5.2
0.5nm,0.5s
SPITS Spitsbergen Ar 48.56 352 P **P** **11 55 52.2 -0.7**
7.1nm,0.9s,baz=136,slow=9.0,SNR=6.4
7.1nm,0.9s
DBIC Dimbokro 55.74 255 LR LR 12 23 33.6
comp=Z,34nm,18.0s,baz=40,slow=39
USRK Ussuriysk Ar. 64.15 53 LR LR 12 30 04.9
comp=Z,30nm,19.5s,baz=232,slow=40

*IDC **28** 11:49:31.3±1.2,31°.85N×48°.66E,h0km,mb3.8/10,*
mbtmp3.8/13,ML3.5/3,MS3.5/1,Error ellipse:
s-maj=26.2km s-min=19.0km az=178.0
*TEH **28** 11:49:36.0,31°.91N×48°.70E,h20km±64km,ML3.8*
ISC 28 11:49:36.3±0.7,31°.81N±0°.05×48°.63E±0°.06,h35km,n39,
σ1§58/38,mb3.8/10,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.48**	**178**	Pg	**Pn**	**11 49 47.5**	**+0.9**
JHBN	**Jahan bin**	**1.78**	**76**	Pg	**Pn**	**11 50 06.2**	**+1.3**
IKFM	**Kafar-mosalman**	**1.83**	**339**	Pg	**Pn**	**11 50 06.9**	**+1.6**
ZNGN	**Zangian**	**1.92**	**80**	Pn	**Pn**	**11 50 08.0**	**+1.2**
IDOB	**Doab**	**2.01**	**349**	Pn	**Pn**	**11 50 09.3**	**+1.4**
IPIR	**Pirpir**	**2.11**	**65**	Pn	**Pn**	**11 50 10.7**	**+1.3**
IBRJ	**Brojen**	**2.24**	**87**	Pn	**Pn**	**11 50 12.6**	**+1.4**
HSAM	**Samen**	**2.40**	**359**	Pn	**Pn**	**11 50 14.8**	**+1.5**
KLNJ	**Kolanjah**	**2.66**	**107**	Pn	**Pn**	**11 50 19.7**	**+2.8**
IBZA	**Bozab**	**2.73**	**347**	Pn	**Pn**	**11 50 20.1**	**+2.2**
KCHF	**Cheshme Sefid,**	**2.80**	**332**	Pn	**Pn**	**11 50 21.1**	**+2.3**
IKLH	**Kolahrood**	**2.91**	**58**	Pn	**Pn**	**11 50 21.5**	**+1.1**
IGAR	**Gharneh**	**2.96**	**78**	Pn	**Pn**	**11 50 22.5**	**+1.5**
HAGD	**Aghdareh**	**3.04**	**8**	Pn	**Pn**	**11 50 23.6**	**+1.5**
IGHG	**Ghaleghazi**	**3.05**	**326**	Pn	**Pn**	**11 50 24.0**	**+1.8**
IRAM	**Ramesheh**	**3.19**	**89**	Pn	**Pn**	**11 50 25.8**	**+1.6**
IZEF	**Zefreh**	**3.31**	**70**	Pn	**Pn**	**11 50 28.0**	**+2.1**
ILIN	**Lien**	**3.40**	**336**	Pn	**Pn**	**11 50 28.8**	**+1.7**
IDHR	**Dehrash**	**3.44**	**328**	Pn	**Pn**	**11 50 29.3**	**+1.7**
IQOM	**Qom**	**3.65**	**33**	Pn	**Pn**	**11 50 31.5**	**+0.9**
IRAZ	**Razeghan**	**3.75**	**16**	Pn	**Pn**	**11 50 32.9**	**+1.1**
IVRN	**Varamin**	**4.10**	**38**	Pn	**Pn**	**11 50 38.3**	**+1.7**
DSBU	**Dashti - Bushe**	**4.12**	**146**	Pn	**Pn**	**11 50 40.3**	**+3.4**
ANAR	**Anarak**	**4.52**	**71**	Pn	**Pn**	**11 50 43.7**	**+1.3**
KLST	**Kelardasht - M**	**5.11**	**23**	Pn	**Pn**	**11 50 52.7**	**+2.1**
ASF	**Jabal al Asfar**	**9.97**	**275**	Pn	**Pn**	**11 51 56.7**	**-0.4**
	0.5nm,0.3s,baz=359,slow=0.1,SNR=1.5						
	1.7nm,0.3s						
WSAR	**Wadi Sarin**	**12.31**	**131**	Pn	**Pn**	**11 52 27.4**	**-1.7**
	0.7nm,0.3s,baz=338,slow=4.0,SNR=1.9						
	2.3nm,0.3s						
AKTO	**Aktyubinsk**	**19.88**	**18**	P	**P**	**11 54 03.2**	**-1.1**
	baz=21,slow=7.9,SNR=1.8						
	1.1nm,0.7s						
AKASG	**Malin Array Be**	**23.73**	**328**	P	**P**	**11 54 44.8**	**-0.2**
	0.2nm,0.3s,baz=136,slow=10,SNR=1.4						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**26.41**	**30**	P	**P**	**11 55 09.4**	**0.0**
	2.1nm,0.5s,baz=221,slow=7.6,SNR=10						
	2.1nm,0.5s						
KURBB	**Kurchatov Arra**	**29.02**	**41**	P	**P**	**11 55 33.5**	**+0.8**
	0.8nm,0.7s,baz=242,slow=9.4,SNR=6.4						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**29.77**	**50**	P	**P**	**11 55 38.6**	**-1.0**
	0.6nm,0.8s,baz=240,slow=9.4,SNR=4.6						
	0.6nm,0.8s						
FINES	**FINESS Array B**	**33.09**	**340**	P	**P**	**11 56 07.8**	**-0.6**
	0.4nm,0.4s,baz=153,slow=13,SNR=5.2						
	0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**33.98**	**39**	P	**P**	**11 56 15.7**	**-0.6**
	0.6nm,0.5s,baz=262,slow=7.1,SNR=2.7						
	0.6nm,0.5s						
HFS	**Hagfors**	**36.54**	**331**	P	**P**	**11 56 36.9**	**-1.4**
	1.9nm,0.8s,baz=135,slow=9.7,SNR=5.4						
	1.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**46.77**	**258**	P	**P**	**11 58 03.3**	**+0.7**
	0.5nm,0.5s,baz=61,slow=7.9,SNR=9.0						
	0.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**47.07**	**94**	P	**P**	**11 58 04.3**	**-0.6**
	0.6nm,0.6s,baz=290,slow=8.5,SNR=5.5						
	0.6nm,0.6s						
SPITS	**Spitsbergen Ar**	**48.57**	**352**	P	**P**	**11 58 15.8**	**+0.1**
	2.3nm,0.6s,baz=144,slow=9.1,SNR=5.9						
	2.3nm,0.6s						
TSUM	**Tsumeb**	**58.81**	**215**	LR	LR	12 28 13.6	
	comp=Z,40nm,18.8s,baz=320,slow=40						

*IDC **28** 11:59:41.0±1.2,31°.83N×48°.68E,h0km,mb3.8/14,*
mbtmp3.8/16,ML3.7/2,MS3.0/7,Error ellipse:
s-maj=26.6km s-min=16.7km az=5.0
*TEH **28** 11:59:43.9,31°.84N×48°.70E,h17km±22km,ML3.8*
ISC 28 11:59:43.0±0.6,31°.85N±0°.05×48°.68E±0°.06,h10km,n58,
σ1§69/53,mb4.0/14,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.52**	**184**	Pg	**Pg**	**11 59 54.1**	**+0.9**
JHBN	**Jahan bin**	**1.73**	**77**	Pg	**Pn**	**12 00 14.9**	**+1.5**
IKFM	**Kafar-mosalman**	**1.81**	**337**	Pn	**Pn**	**12 00 16.4**	**+2.1**
ABEH	**Behbahan**	**1.83**	**132**	Pn	**Pb**	**12 00 17.7**	**+1.0**
ZNGN	**Zangian**	**1.86**	**81**	Pn	**Pn**	**12 00 16.9**	**+1.6**
IDOB	**Doab**	**1.98**	**348**	Pn	**Pb**	**12 00 19.3**	**0.0**
IPIR	**Pirpir**	**2.05**	**66**	Pn	**Pn**	**12 00 19.8**	**+1.9**
IBRJ	**Brojen**	**2.19**	**88**	Pn	**Pn**	**12 00 21.3**	**+1.4**
HSAM	**Samen**	**2.35**	**358**	Pn	**Pn**	**12 00 24.2**	**+2.2**
KLNJ	**Kolanjah**	**2.63**	**108**	Pn	**Pn**	**12 00 27.3**	**+1.4**
IBZA	**Bozab**	**2.70**	**345**	Pn	**Pn**	**12 00 28.3**	**+1.5**
ILBA	**Ilam Banvizeh**	**2.73**	**311**	Pn	**Pn**	**12 00 29.1**	**+2.0**
KCHF	**Cheshme Sefid,**	**2.78**	**331**	Pn	**Pn**	**12 00 30.5**	**+2.7**
IKLH	**Kolahrood**	**2.85**	**58**	Pn	**Pn**	**12 00 31.1**	**+2.3**
IGAR	**Gharneh**	**2.90**	**78**	Pn	**Pn**	**12 00 31.6**	**+2.0**
QAMS	**Qamsar**	**2.96**	**50**	Pn	**Pn**	**12 00 32.1**	**+1.8**
HAGD	**Aghdareh**	**2.99**	**7**	Pn	**Pn**	**12 00 32.5**	**+1.8**
IGHG	**Ghaleghazi**	**3.04**	**325**	Pn	**Pn**	**12 00 33.2**	**+1.7**
IRAM	**Ramesheh**	**3.15**	**90**	Pn	**Pn**	**12 00 34.7**	**+1.8**
IZEF	**Zefreh**	**3.26**	**70**	Pn	**Pn**	**12 00 36.3**	**+1.9**
IDHR	**Dehrash**	**3.43**	**327**	Pn	**Pn**	**12 00 38.9**	**+2.1**
IQOM	**Qom**	**3.59**	**33**	Pn	**Pn**	**12 00 40.7**	**+1.6**
IRAZ	**Razeghan**	**3.69**	**16**	Pn	**Pn**	**12 00 43.0**	**+2.6**
AHBU	**AHRAM**	**3.74**	**142**	Pn	**Pn**	**12 00 42.6**	**+1.8**
ISFB	**Sefidab**	**3.89**	**49**	Pn	**Pn**	**12 00 44.2**	**+1.2**
IVRN	**Varamin**	**4.04**	**38**	Pn	**Pn**	**12 00 46.5**	**+1.5**
DSBU	**Dashti - Bushe**	**4.13**	**147**	Pn	**Pn**	**12 00 48.0**	**+1.7**
IHSB	**Hasanabad**	**4.18**	**30**	Pn	**Pn**	**12 00 49.2**	**+2.2**
ANAR	**Anarak**	**4.47**	**71**	Pn	**Pn**	**12 00 52.7**	**+1.8**
IDMV	**Damavand**	**4.65**	**36**	Pn	**Pn**	**12 00 55.1**	**+1.5**
KLST	**Kelardasht - M**	**5.05**	**22**	Pn	**Pn**	**12 01 01.4**	**+2.2**
IMEH	**Mehriz**	**5.08**	**94**	Pn	**Pn**	**12 01 01.3**	**+1.8**
MZPU	**Pul - Mazandar**	**5.17**	**27**	Pn	**Pn**	**12 01 03.0**	**+2.4**
IPRN	**Peran**	**5.33**	**34**	Pn	**Pn**	**12 01 05.4**	**+2.6**
IGLO	**Ghaloghah**	**6.30**	**41**	Pn	**Pn**	**12 01 18.3**	**+2.1**
TNSJ	**Nastanj**	**6.99**	**70**	Pn	**Pn**	**12 01 27.9**	**+2.3**
TKDS	**Koohdasht(Taba**	**7.33**	**74**	Pn	**Pn**	**12 01 31.4**	**+1.2**
GEYT	**Alibeck**	**9.84**	**49**	Pn	**Pn**	**12 02 04.9**	**+0.4**
	0.5nm,0.3s,baz=219,slow=8.9,SNR=2.1						
GEYT				LR	LR	12 06 25.8	
	comp=Z,187nm,18.2s,baz=321,slow=41						
	1.2nm,0.3s						
ASF	**Jabal al Asfar**	**10.01**	**275**	LR	LR	12 07 01.4	
	comp=Z,48nm,18.2s,baz=231,slow=44						
MMAI	**Mount Meron Ar**	**11.28**	**279**	LR	LR	12 07 30.0	
	comp=Z,51nm,19.6s,baz=34,slow=42						
EIL	**Elat**	**12.01**	**263**	LR	LR	12 08 03.0	
	comp=Z,44nm,18.9s,baz=70,slow=42						
WSAR	**Wadi Sarin**	**12.30**	**132**	Pn	**Pn**	**12 02 36.1**	**-2.2**
	0.6nm,0.3s,baz=329,slow=10,SNR=7.4						
	1.7nm,0.3s						
AKTO	**Aktyubinsk**	**19.82**	**18**	LR	LR	12 14 05.3	
	comp=Z,28nm,18.6s,baz=160,slow=44						
MLR	**Muntele Rosu**	**22.28**	**314**	P	**P**	**12 04 41.2**	**+0.8**
	4.5nm,0.8s,baz=169,slow=13,SNR=4.5						
	4.5nm,0.8s						
AAK	**Ala-Archa**	**23.11**	**55**	LR	LR	12 14 47.4	
	comp=Z,44nm,20.1s,baz=241,slow=39						
AKASG	**Malin Array Be**	**23.71**	**328**	P	**P**	**12 04 54.4**	**-0.7**
	0.2nm,0.3s,baz=136,slow=7.9,SNR=5.3						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**26.35**	**30**	P	**P**	**12 05 18.9**	**-0.2**
	3.3nm,0.5s,baz=223,slow=7.9,SNR=28						
	3.3nm,0.5s						
KURBB	**Kurchatov Arra**	**28.96**	**41**	P	**P**	**12 05 42.8**	**+0.3**
	1.4nm,0.2s,baz=242,slow=9.6,SNR=4.8						
	1.4nm,0.2s						
MKAR	**Makanchi Array**	**29.71**	**50**	P	**P**	**12 05 49.0**	**-0.2**
	0.4nm,0.7s,baz=244,slow=11,SNR=4.0						
MKAR				LR	LR	12 19 09.1	
	comp=Z,30nm,18.7s,baz=254,slow=39						
	0.4nm,0.7s						
FINES	**FINESS Array B**	**33.06**	**340**	P	**P**	**12 06 16.9**	**-1.7**
	0.6nm,0.4s,baz=126,slow=9.7,SNR=5.9						
	0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**33.92**	**39**	P	**P**	**12 06 25.4**	**-0.7**
	1.6nm,0.7s,baz=247,slow=9.5,SNR=6.2						
	1.6nm,0.7s						
HFS	**Hagfors**	**36.52**	**331**	P	**P**	**12 06 46.7**	**-1.7**
	2.9nm,0.8s,baz=177,slow=8.8,SNR=3.6						
	2.9nm,0.8s						
NOA	**NORSAR Array B**	**38.05**	**331**	P	**P**	**12 07 00.4**	**-1.0**
	0.2nm,0.5s,baz=121,slow=14,SNR=2.5						
	0.2nm,0.5s						
ESDC	**Sonseca Array**	**42.91**	**296**	P	**P**	**12 07 42.2**	**+0.2**
	0.4nm,0.6s,baz=103,slow=5.8,SNR=2.6						
	0.4nm,0.6s						
SONM	**Songino Array**	**46.02**	**52**	P	**P**	**12 08 06.4**	**-0.4**
	0.2nm,0.4s,baz=243,slow=6.9,SNR=2.0						
	0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**46.83**	**258**	P	**P**	**12 08 12.9**	**-0.4**
	0.5nm,0.3s,baz=53,slow=7.6,SNR=6.1						
	0.5nm,0.3s						
CMAR	**Chiang Mai Arr**	**47.03**	**94**	P	**P**	**12 08 14.1**	**-0.9**
	0.4nm,0.3s,baz=289,slow=6.5,SNR=5.1						
	0.4nm,0.3s						
SPITS	**Spitsbergen Ar**	**48.53**	**352**	P	**P**	**12 08 25.6**	**-0.2**
	1.1nm,0.4s,baz=144,slow=11,SNR=10						
	1.1nm,0.4s						

*NNC **28** 12:00:40.9±5.4,37°.55N×71°.32E,h213km±65km,mb2.5,*
mpv3.5,Error ellipse: s-maj=59.1km s-min=34.6km
az=179.0
ISC 28 12:00:36.6±3.6,37°.2N±0°.2×71°.2E±0°.1,h150km,n9,
σ1§44/11,3C,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**5.61**	**26**	P	**Pn**	**12 01 59.1**	**+0.6**
	SNR=13						
EKS2	**Erkin-Say**	**5.78**	**19**	P	**Pn**	**12 02 01.6**	**+1.2**
	SNR=12						
KK31	**Karatay Array**	**5.89**	**355**	P	**Pn**	**12 02 02.8**	**+1.1**
	0.5nm,0.2s,baz=185,slow=13,SNR=18						
KK31				⇑S	**Sn**	**12 03 08.1**	**-0.2**
	1.0nm,0.3s,baz=190,slow=26,SNR=3.4						
AAK	**Ala-Archa**	**5.97**	**24**	P	**Pn**	**12 02 04.1**	**+1.1**
	SNR=14						
USP	**Ospenovka**	**6.54**	**22**	P	**Pn**	**12 02 10.8**	**+0.3**
	SNR=7.2						
TKM2	**Tokmak 2**	**6.61**	**29**	P	**Pn**	**12 02 12.3**	**+0.7**
	SNR=8.8						
TKM2	**Tokmak 2**	**6.61**	**29**	⇑P	**Pn**	**12 02 12.0**	**+0.3**
	5.3nm,0.5s						
TKM2				S	**Sn**	**12 03 25.2**	**-0.8**
	1.1nm,0.5s						
AB31	**Akbulak array**	**14.52**	**329**	P	**Pn**	**12 03 55.5**	**+0.7**
	0.3nm,0.4s,baz=143,slow=12,SNR=23						
AKTO	**Aktyubinsk**	**16.22**	**329**	⇑P	**Pn**	**12 04 12.6**	**-3.3**
	1.5nm,0.8s						

*JMA **28** 12:03:33.8±0.1,37°.8N±0°.4×142°.3E±0°.8,h38km±2km,*
MV3.6/39,SE OFF MIYAGI PREF
*IDC **28** 12:03:37.7±8.7,37°.69N×142°.03E,h67km±68km,mb3.0/3,*
mbtmp3.2/4,ML2.2/1,Error ellipse: s-maj=63.9km
s-min=31.2km az=67.0
ISC 28 12:03:31.7±1.7,37°.80N±0°.05×142°.24E±0°.07,h19km±3km,
n24,σ0§76/30,mb3.5/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.80**	**310**	*i* P	**Pn**	**12 03 48.8**	**+0.9**
JIKH				S	**Sn**	**12 03 59.4**	**+0.2**
JIO	**Ouri**	**0.96**	**313**	*i* P	**Pg**	**12 03 51.2**	**+0.8**
JIO				S	**Sn**	**12 04 03.6**	**+0.4**
JMST	**Minamisoumatoc**	**1.08**	**267**	*i* P	**Pg**	**12 03 52.9**	**+0.4**
JMST				*e*S	**Sg**	**12 04 07.0**	**+0.3**
JMM	**Marumori**	**1.15**	**274**	*i* P	**Pg**	**12 03 54.1**	**+0.2**
JMM				*e*S	**Sg**	**12 04 08.7**	**-0.3**
JFK	**Kawauchi**	**1.17**	**249**	*i* P	**Pg**	**12 03 54.3**	**0.0**
JFK				S	**Sg**	**12 04 09.3**	**-0.4**
JOU	**Okura**	**1.37**	**295**	P	**Pg**	**12 03 57.7**	**-0.4**
JOU				*e*S	**Sg**	**12 04 15.4**	**-0.6**
JMK	**Ichinoseki**	**1.41**	**325**	*i* P	**Pb**	**12 03 57.6**	**+0.4**
JMK				S	**Sb**	**12 04 14.8**	**+0.1**
JOTO	**OTAMA OYAMA**	**1.53**	**262**	*i* P	**Pg**	**12 04 00.5**	**-0.7**
JOTO				S	**Sg**	**12 04 20.2**	**-1.0**
JYS	**Shirataka**	**1.77**	**284**	P	**Pb**	**12 04 04.1**	**+0.7**
JYS				S	**Sb**	**12 04 26.4**	**+1.1**
JOM	**Ohasama**	**1.83**	**336**	*i* P	**Pb**	**12 04 03.5**	**-1.0**
JYK	**Kaneyama**	**1.85**	**308**	*i* P	**Pb**	**12 04 04.5**	**-0.5**
JYK				*e*S	**Sb**	**12 04 26.6**	**-1.1**
JRG	**Rokugo**	**2.03**	**322**	P	**Pb**	**12 04 07.4**	**-0.6**
JRG				*e*S	**Sb**	**12 04 32.6**	**-0.3**
JFY	**Yanaizu**	**2.05**	**260**	P	**Pb**	**12 04 07.9**	**-0.4**
JYA	**Atsumi**	**2.14**	**293**	P	**Pb**	**12 04 08.6**	**-1.3**
MJAR	**Matsushiro Arr**	**3.46**	**250**	P	**Pn**	**12 04 26.3**	**+1.9**
	0.2nm,0.3s,baz=77,slow=15,SNR=16						
MJAR				S	**Sn**	**12 05 04.1**	**-0.7**
	1.4nm,0.5s,baz=62,slow=11,SNR=1.6						
	2.1nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**27.99**	**123**	T	T	12 38 36.7	
	baz=316,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**28.00**	**123**	T	T	12 38 38.4	
	baz=316,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**28.01**	**123**	T	T	12 38 38.6	
	baz=316,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**28.74**	**125**	T	T	12 39 35.1	
	baz=317,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**28.74**	**125**	T	T	12 39 34.0	
	baz=317,slow=76,SNR=10						
H11S2	**WAKE ISLAND Hy**	**28.76**	**125**	T	T	12 39 34.5	
	baz=317,slow=76,SNR=9.9						
MKAR	**Makanchi Array**	**44.28**	**302**	P	**P**	**12 11 39.7**	**-0.2**
	0.1nm,0.4s,baz=66,slow=5.2,SNR=1.9						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**46.06**	**308**	P	**P**	**12 11 53.8**	**-0.2**
	0.2nm,0.2s,baz=82,slow=8.5,SNR=2.6						
	0.2nm,0.2s						
WRA	**Warramunga Arr**	**57.91**	**189**	P	**P**	**12 13 22.0**	**-0.5**
	0.2nm,0.4s,baz=7.4,slow=6.6,SNR=5.1						
	0.2nm,0.4s						

*ISN **28** 12:10:07.4±0.8,34°.51N×45°.39E,h10km±6km,ML3.5*
*TEH **28** 12:10:08.0,34°.55N×45°.44E,h14km±22km,ML3.5*
ISC 28 12:10:08.6±1.6,34°.51N±0°.04×45°.41E±0°.04,h4km±13km,
n21,σ0§84/28,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.15**	**92**	Pg	**Pg**	**12 10 12.6**	**+1.0**
IDHR	**Dehrash**	**0.83**	**77**	Pg	**Pg**	**12 10 24.5**	**-0.1**
IGHG	**Ghaleghazi**	**0.98**	**100**	Pg	**Pb**	**12 10 27.4**	**-0.9**
IGHG				Sg	**Sn**	**12 10 42.5**	**-1.3**
ILBA	**Ilam Banvizeh**	**1.11**	**143**	Pg	**Pb**	**12 10 29.8**	**-0.6**
ILBA				Sg	**Sn**	**12 10 47.3**	**+0.6**
ILIN	**Lien**	**1.35**	**72**	Pg	**Pg**	**12 10 33.8**	**-0.7**
ILIN				Sg	**Sn**	**12 10 53.2**	**+0.3**
KCHF	**Cheshme Sefid,**	**1.37**	**99**	Pg	**Pb**	**12 10 35.3**	**+0.3**
IBDR	**Badra**	**1.46**	**162**	*e*Pn	**Pb**	**12 10 36.0**	**-0.4**
IBDR				*e*Sn	**Sn**	**12 10 56.0**	**+0.6**
IBDR				AML	AML	12 11 00.5	
	comp=E,864nm,0.4s						
IBDR				AML	AML	12 11 14.8	
	comp=N,679nm,0.7s						
BHD	**Baghdad**	**1.50**	**215**	*e*Pn	**Pn**	**12 10 36.0**	**-0.3**
BHD				*e*Sn	**Sb**	**12 10 57.0**	**+0.5**
SDS1	**Sardasht. Az.**	**1.64**	**2**	Pg	**Pn**	**12 10 39.4**	**+1.1**
IBZA	**Bozab**	**2.03**	**90**	Pn	**Pb**	**12 10 44.8**	**-1.4**
IKFM	**Kafar-mosalman**	**2.25**	**115**	Pn	**Pb**	**12 10 47.8**	**-2.1**
MAHB	**Mahabad**	**2.27**	**6**	Pn	**Pn**	**12 10 48.0**	**+1.0**
IDOB	**Doab**	**2.41**	**107**	Pn	**Pn**	**12 10 50.0**	**+0.9**
MSL	**Mosul**	**2.66**	**316**	*e*Pn	**Pn**	**12 10 52.0**	**-0.2**
MSL				*e*Sn	**Sn**	**12 11 25.0**	**+0.1**
HSAM	**Samen**	**2.66**	**96**	Pn	**Pn**	**12 10 52.9**	**+0.4**
RAFI	**Al-Rafai**	**2.84**	**168**	*e*Pn	**Pn**	**12 10 55.0**	**+0.2**
RAFI				*e*Sn	**Sn**	**12 11 30.0**	**+0.6**
HAGD	**Aghdareh**	**3.09**	**83**	Pn	**Pn**	**12 10 59.1**	**+0.7**
IQOM	**Qom**	**4.68**	**84**	Pn	**Pn**	**12 11 20.8**	**+0.5**
GRMI	**Germi**	**4.73**	**24**	Pn	**Pn**	**12 11 21.3**	**+0.5**
ISFB	**Sefidab**	**5.65**	**90**	Pn	**Pn**	**12 11 33.7**	**+0.2**
IZEF	**Zefreh**	**5.99**	**104**	Pn	**Pn**	**12 11 39.0**	**+0.7**

DJA 28 12:13:57.9±0.5,0°.N±6°.×12°.4E±°,h80km±14km,M3.6/9,
mb3.6/1,mB4.9/1,MLv3.5/9,Mw(mB)4.2/1,Minahassa
Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.58**	**350**	P	**Pn**	**12 14 13.8**	**+1.4**
GTOI	**Gorontalo**	**1.24**	**301**	P	**Pn**	**12 14 22.0**	**+2.1**
GTOI				S	**Sn**	**12 14 40.7**	**+4.2**
LUWI	**Luwuk**	**1.67**	**232**	P	**Pn**	**12 14 26.8**	**+1.4**
MRSI	**Marisa**	**2.19**	**282**	P	**Pn**	**12 14 30.9**	**-1.5**
LBMI	**Labuha**	**3.48**	**100**	P	**Pn**	**12 14 49.2**	**-0.6**
MPSI	**Mapaga**	**4.20**	**275**	P	**Pn**	**12 14 59.7**	**+0.2**
NLAI	**Namlea**	**4.41**	**137**	P	**Pn**	**12 15 01.9**	**-0.6**
TTSI	**Tana Toraja**	**5.22**	**235**	P	**Pn**	**12 15 13.0**	**-0.6**

*SJA **28** 12:29:48.6±2.7,25°.63S×70°.52W,h30km,ML4.0,MW4.0*
*GUC **28** 12:29:49.3±0.8,25°.81S×70°.45W,h68km±5km,ML3.9*
*IDC **28** 12:29:50.4±0.8,25°.87S×70°.24W,h60km±5km,mb3.8/5,*
mbtmp4.0/8,MS2.2/1,Error ellipse: s-maj=34.7km
s-min=12.3km az=106.0
ISC 28 12:29:49.9±0.7,25°.82S±0°.03×70°.49W±0°.05,h59km±5km,
n54,σ1§67/63,mb4.2/5,8C,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC01	**Pan de Azucar**	**0.34**	**197**	*e*P	**Pn**	**12 30 00.6**	**+0.3**
AC01				*e*S	**Sn**	**12 30 08.7**	**+0.9**
AC01				IAML		12 30 08.9	
	comp=Z,5μm,0.3s						
AC01	**Pan de Azucar**	**0.34**	**197**	⇑*i*P	**Pn**	**12 30 00.6**	**+0.3**
AC01				*i* S	**Sn**	**12 30 08.3**	**+0.6**
GO02	**Mina Guanaco**	**1.04**	**51**	*e*P	**Pn**	**12 30 08.0**	**-0.8**
GO02				*e*P		12 30 08.7	
GO02				*e*S	**Sn**	**12 30 23.1**	**+0.3**
GO02				IAML		12 30 23.5	
	comp=Z,3μm,0.6s						
GO02	**Mina Guanaco**	**1.04**	**51**	⇑*i*P	**Pn**	**12 30 08.5**	**-0.3**
GO02				*i* S	**Sn**	**12 30 22.4**	**-0.3**

ACDV	**Cuesta del Vie**	**4.50**	**165**	*eP*		Pn	12 30 36.0	-20	
PB02	**IPOC Station P**	**4.52**	**7**	*eP*		**Pn**	**12 30 53.7**	**-2.2**	
PB02				*eS*		Sn	12 32 02.9	+16	
PB02				IAML			12 32 18.7		
	comp=Z,166nm,0.3s								
ACLC	**CERRO LA CRUZ**	**4.76**	**140**	*eP*		**Pn**	**12 31 00.8**	**+1.4**	
CO03	**El Pedregal**	**5.00**	**182**	*eP*		Pn	12 30 56.9	-5.6	
CO03				IAML			12 32 36.3		
	comp=Z,104nm,0.7s								
LPAZ	**La Paz**	**9.74**	**13**	P		**Pn**	**12 32 07.3**	**-0.6**	
	comp=Z,0.9nm,0.5s,baz=190,slow=2.9,SNR=2.4								
H03N1	**Juan Fernandez**	**10.55**	**222**	T		T	12 42 49.8		
	baz=48,slow=72,SNR=18								
H03N2	**Juan Fernandez**	**10.56**	**222**	T		T	12 42 44.0		
	baz=48,slow=72,SNR=13								
H03N3	**Juan Fernandez**	**10.56**	**222**	T		T	12 42 41.4		
	baz=48,slow=72,SNR=15								
SIV	**San Ignacio**	**13.15**	**44**	P		**Pn**	**12 32 54.3**	**+0.3**	
	comp=Z,1.5nm,0.5s,baz=258,slow=9.5,SNR=6.9								
TXAR	**Lajitas Array**	**63.42**	**328**	P		**P**	**12 40 15.4**	**+1.8**	
	comp=Z,0.2nm,0.5s,baz=137,slow=9.3,SNR=1.6								
	comp=Z,0.2nm,0.5s								
QSPA	**South Pole Qui**	**64.39**	**180**	P		**P**	**12 40 19.9**	**+0.3**	
	comp=Z,0.8nm,0.5s,baz=144,slow=8.7,SNR=18								
QSPA				pP		**pP**	**12 40 35.9**	**+0.2**	
	comp=Z,0.6nm,0.5s,baz=152,slow=1.0,SNR=1.7								
	comp=Z,0.8nm,0.5s								
DBIC	**Dimbokro**	**71.37**	**73**	P		**P**	**12 41 03.1**	**-1.1**	
	comp=Z,2.4nm,0.6s,baz=216,slow=7.5,SNR=3.9								
	comp=Z,2.4nm,0.6s								
TORD	**Torodi Ar. Bea**	**80.17**	**70**	P		**P**	**12 41 53.8**	**-0.6**	
	comp=Z,3.2nm,0.6s,baz=268,slow=5.1,SNR=36								
TORD				pP		**pP**	**12 42 09.9**	**-1.2**	
	comp=Z,1.5nm,0.7s,baz=266,slow=4.3,SNR=5.5								
	comp=Z,3.2nm,0.6s								
MAW	**Mawson**	**80.62**	**164**	P		**P**	**12 41 56.1**	**+0.2**	
	comp=Z,1.7nm,0.6s,baz=247,slow=7.7,SNR=3.3								
	comp=Z,1.7nm,0.6s								
ASAR	**Alice Springs**	**125.43**	**208**	PKP		**PKPdf**	**12 48 44.4**	**-0.7**	
	comp=Z,0.2nm,0.5s,baz=112,slow=4.1,SNR=2.1								
H11S2	**WAKE ISLAND Hyl**	**26.87**	**274**	T		T	15 08 35.7		
	baz=108,slow=75,SNR=9.0								
H11S1	**WAKE ISLAND Hyl**	**26.88**	**274**	T		T	15 08 34.7		
	baz=108,slow=75,SNR=8.4								
H11S3	**WAKE ISLAND Hyl**	**26.89**	**274**	T		T	15 08 40.8		
	baz=108,slow=75,SNR=9.2								
WRA	**Warramunga Arr**	**128.51**	**210**	PKP		**PKiKP**	**12 48 50.8**	**-0.9**	
	comp=Z,0.2nm,0.6s,baz=171,slow=1.8,SNR=6.8								
BVAR	**Borovoye Array**	**140.14**	**36**	PKP		**PKPdf**	**12 49 12.0**	**+0.3**	
	comp=Z,0.3nm,0.5s,baz=270,slow=2.5,SNR=1.5								
KURBB	**Kurchatov Arra**	**145.71**	**36**	PKPbc		**PKPbc**	**12 49 21.2**	**-0.8**	
	comp=Z,0.4nm,0.3s,baz=312,slow=4.0,SNR=6.2								
ZALV	**Zalesovo Beam**	**146.46**	**27**	PKPbc		**PKPbc**	**12 49 23.2**	**-0.9**	
	comp=Z,4.2nm,0.7s,baz=301,slow=3.9,SNR=18								
ZALV				pPKPbc		pPKPab	12 49 41.4	-0.9	
	comp=Z,1.1nm,0.6s,baz=318,slow=4.0,SNR=3.5								
MKAR	**Makanchi Array**	**149.93**	**39**	PKPbc		**PKiKP**	**12 49 33.6**	**-0.9**	
	comp=Z,1.8nm,0.7s,baz=320,slow=2.4,SNR=22								
MKAR				pPKPbc		**pPKPbc**	**12 49 50.4**	**-0.6**	
	comp=Z,0.8nm,0.5s,baz=308,slow=2.5,SNR=6.5								

TEH 28 12:36:56.7, 31.85N×48.67E, h12km±95km, ML3.5, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.51**	**183**	Pg	Pb	12 37 07.8	+0.2
JHBN	**Jahan bin**	**1.73**	**77**	Pg	Pn	12 37 27.8	+0.8
IKFM	**Kafar-mosalman**	**1.81**	**338**	Pn	Pb	12 37 28.8	-1.0
ABEH	**Behbahan**	**1.84**	**132**	Pn	Pb	12 37 30.9	+0.7
ZNGN	**Zangian**	**1.87**	**81**	Pn	Pb	12 37 30.2	-0.8
IDOB	**Doab**	**1.98**	**348**	Pn	Pb	12 37 32.1	-0.8
IPIR	**Pirpir**	**2.06**	**65**	Pn	Pb	12 37 33.1	-1.1
IBRJ	**Brojen**	**2.20**	**88**	Pn	Pn	12 37 34.5	+1.1
HSAM	**Samen**	**2.36**	**359**	Pn	Pn	12 37 36.9	+1.4
KLNJ	**Kolanjah**	**2.63**	**108**	Pn	Pn	12 37 40.3	+1.0
ILBA	**Ilam Banvizeh**	**2.73**	**311**	Pn	Pn	12 37 41.7	+1.2
IGAR	**Gharneh**	**2.91**	**78**	Pn	Pn	12 37 44.8	+1.7
QAMS	**Qamsar**	**2.97**	**50**	Pn	Pn	12 37 46.2	+2.4
HAGD	**Aghdareh**	**3.00**	**7**	Pn	Pn	12 37 46.3	+2.0
IGHG	**Ghaleghazi**	**3.04**	**325**	Pn	Pn	12 37 45.7	+0.8
IRAM	**Rameseh**	**3.16**	**90**	Pn	Pn	12 37 47.5	+1.0
IZEF	**Zefreh**	**3.27**	**70**	Pn	Pn	12 37 50.2	+2.3
ILIN	**Lien**	**3.38**	**335**	Pn	Pn	12 37 51.1	+1.5
IDHR	**Dehrash**	**3.43**	**327**	Pn	Pn	12 37 51.5	+1.3
IRAZ	**Razeghan**	**3.70**	**16**	Pn	Pn	12 37 56.4	+2.4
ISFB	**Sefidab**	**3.90**	**49**	Pn	Pn	12 37 57.6	+1.1
IVRN	**Varamin**	**4.05**	**38**	Pn	Pn	12 37 59.9	+1.3
MZPU	**Pul - Mazandar**	**5.17**	**27**	Pn	Pn	12 38 16.4	+2.2
IPRN	**Peran**	**5.34**	**34**	Pn	Pn	12 38 18.1	+1.8

*IDC **28** 13:07:29.8±2.2,32°.17N×48°.49E, h0km, mb3.7/6, mbtmp3.7/7, ML3.3/1, MS2.9/8, Error ellipse: s-maj=61.7km s-min=25.8km az=151.0*

*TEH **28** 13:07:30.6, 31°.81N×48°.66E, h12km±60km, ML3.7*

ISC 28 13:07:30.6±0.9, 31°.84N±0°.06×48°.67E±0°.05, h10km, n45, σ1s84/37, mb3.8/6, MS3.0/3, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.51**	**182**	**Pg**	**Pg**	**13 07 40.4**	**-0.1**
JHBN	**Jahan bin**	**1.74**	**76**	Pg	**Pn**	**13 08 03.2**	**+1.9**
IKFM	**Kafar-mosalman**	**1.82**	**338**	Pn	**Pn**	**13 08 03.7**	**+1.7**
ABEH	**Behbahan**	**1.83**	**132**	Pn	**Pn**	**13 08 04.4**	**+2.2**
ZNGN	**Zangian**	**1.88**	**81**	Pn	**Pn**	**13 08 04.5**	**+1.4**
IDOB	**Doab**	**1.99**	**348**	Pn	**Pn**	**13 08 06.5**	**+1.9**
IPIR	**Pirpir**	**2.06**	**65**	Pn	**Pn**	**13 08 07.6**	**+2.0**
HSAM	**Samen**	**2.37**	**359**	Pn	**Pn**	**13 08 11.6**	**+1.8**
KLNJ	**Kolanjah**	**2.63**	**108**	Pn	**Pn**	**13 08 14.9**	**+1.4**
IBZA	**Bozab**	**2.71**	**346**	Pn	**Pn**	**13 08 16.4**	**+1.9**
ILBA	**Ilam Banvizeh**	**2.74**	**311**	Pn	**Pn**	**13 08 16.3**	**+1.6**
KCHF	**Cheshme Sefid,**	**2.79**	**331**	Pn	**Pn**	**13 08 17.0**	**+1.5**
IKLH	**Kolahrood**	**2.87**	**58**	Pn	**Pn**	**13 08 19.2**	**+2.6**
IGAR	**Gharneh**	**2.92**	**78**	Pn	**Pn**	**13 08 19.1**	**+1.7**
HAGD	**Aghdareh**	**3.00**	**7**	Pn	**Pn**	**13 08 20.6**	**+2.1**
IGHG	**Ghaleghazi**	**3.05**	**325**	Pn	**Pn**	**13 08 21.1**	**+2.0**
IRAM	**Rameseh**	**3.16**	**90**	Pn	**Pn**	**13 08 22.9**	**+2.3**
IZEF	**Zefreh**	**3.27**	**70**	Pn	**Pn**	**13 08 23.6**	**+1.3**
ILIN	**Lien**	**3.39**	**336**	Pn	**Pn**	**13 08 25.8**	**+2.0**
IDHR	**Dehrash**	**3.44**	**327**	Pn	**Pn**	**13 08 26.1**	**+1.7**
IQOM	**Qom**	**3.61**	**33**	Pn	**Pn**	**13 08 28.4**	**+1.5**
IRAZ	**Razeghan**	**3.71**	**16**	Pn	**Pn**	**13 08 30.4**	**+2.1**
ISFB	**Sefidab**	**3.91**	**49**	Pn	**Pn**	**13 08 32.2**	**+1.3**
IVRN	**Varamin**	**4.06**	**38**	Pn	**Pn**	**13 08 34.2**	**+1.4**
ANAR	**Anarak**	**4.48**	**71**	Pn	**Pn**	**13 08 40.2**	**+1.4**
IDMV	**Damavand**	**4.67**	**36**	Pn	**Pn**	**13 08 43.1**	**+1.6**
KLST	**Kelardasht - M**	**5.07**	**22**	Pn	**Pn**	**13 08 48.3**	**+1.3**
MZPU	**Pul - Mazandar**	**5.18**	**27**	Pn	**Pn**	**13 08 51.0**	**+2.5**
IPRN	**Peran**	**5.35**	**34**	Pn	**Pn**	**13 08 53.4**	**+2.7**
TPRV	**Parvadeh(Tabas**	**6.88**	**78**	Pn	**Pn**	**13 09 13.1**	**+1.4**
TKDS	**Koohdasht(Taba**	**7.34**	**74**	Pn	**Pn**	**13 09 19.3**	**+1.3**
GNI	**Garni**	**8.88**	**340**	LR	LR	13 12 35.3	
	comp=Z,14nm,19.5s,baz=139,slow=36						
GEYT	**Alibeck**	**9.85**	**49**	LR	LR	13 14 26.6	
	comp=Z,94nm,19.6s,baz=318,slow=43						
ASF	**Jabal al Asfar**	**10.00**	**275**	LR	LR	13 14 56.2	
	comp=Z,27nm,18.7s,baz=154,slow=45						
MMAI	**Mount Meron Ar**	**11.27**	**280**	LR	LR	13 15 37.9	
	comp=Z,29nm,18.2s,baz=30,slow=44						
EIL	**Elat**	**12.00**	**263**	LR	LR	13 15 59.3	
	comp=Z,35nm,19.6s,baz=67,slow=43						
AKTO	**Aktyubinsk**	**19.84**	**18**	P	**P**	**13 11 57.9**	**-3.6**
	0.1nm,0.3s,baz=225,slow=11,SNR=1.6						
	1.1nm,0.8s						
AAK	**Ala-Archa**	**23.13**	**55**	LR	LR	13 23 02.1	
	comp=Z,58nm,18.6s,baz=264,slow=40						
BVAR	**Borovoye Array**	**26.37**	**30**	P	**P**	**13 13 06.0**	**-0.9**
	1.1nm,0.5s,baz=216,slow=6.8,SNR=8.9						
	1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**28.97**	**41**	P	**P**	**13 13 29.2**	**-1.0**
	0.5nm,0.2s,baz=235,slow=11,SNR=2.8						
	0.5nm,0.2s						
MKAR	**Makanchi Array**	**29.73**	**50**	P	**P**	**13 13 36.8**	**-0.3**
	0.3nm,0.7s,baz=254,slow=8.0,SNR=4.4						
MKAR				LR	LR	13 26 29.1	
	comp=Z,19nm,18.4s,baz=261,slow=38						
	0.3nm,0.7s						
FINES	**FINESS Array B**	**33.08**	**340**	P	P	13 14 03.9	-2.3
	2.0nm,1.0s,baz=147,slow=9.5,SNR=6.0						
	2.0nm,1.0s						
ZALV	**Zalesovo Beam**	**33.94**	**39**	P	**P**	**13 14 13.3**	**-0.5**
	0.4nm,0.3s,baz=260,slow=8.7,SNR=3.8						
	0.4nm,0.3s						

TORD	**Torodi Ar. Bea**	**46.81**	**258**	P		**P**	**13 16 00.7**	**-0.2**	
	0.4nm,0.6s,baz=65,slow=8.7,SNR=4.2								
	0.4nm,0.6s								
TKL	**Tuckaleechee C**	**99.39**	**322**	LR		LR	14 08 18.6		
	comp=Z,35nm,18.4s,baz=124,slow=37								

IDC 28 13:10:08.2±8.6, 5.94S×145.53E, h75km±101km, mb2.8/2, mbtmp3.3/4, ML3.8/1, Error ellipse: s-maj=72.6km s-min=42.8km az=122.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.80**	**155**	P	Pn	13 11 03.7	-0.8
	5.4nm,0.3s,baz=58,slow=13,SNR=7.5						
PMG				S	Sn	13 11 48.9	+0.9
	7.4nm,0.4s,baz=272,slow=11,SNR=5.8						
WRA	**Warramunga Arr**	**17.66**	**217**	P	Pn	13 14 10.2	+0.7
	0.4nm,0.3s,baz=38,slow=11,SNR=21						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**20.87**	**211**	P	P	13 14 43.1	-1.3
	0.3nm,0.6s,baz=29,slow=12,SNR=9.1						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**76.53**	**321**	P	P	13 21 51.0	+0.6
	0.2nm,0.5s,baz=106,slow=3.1,SNR=2.2						
	0.2nm,0.5s						

*IDC **28** 13:21:47.2±1.2, 12°.31N×86°.25W, h0km, mb3.5/4, mbtmp3.5/5, ML2.5/2, MS2.7/3, Error ellipse: s-maj=83.3km s-min=19.8km az=56.0*

*CATAC **28** 13:21:52.9±0.4, 11°.72N×86°.90W, h23km±4km, ML3.9*

*SNET **28** 13:21:54.5±0.6, 11°.89N×87°.02W, h15km±12km, ML3.3*

ISC 28 13:21:51.7±1.3, 11°.68N±0°.04×86°.94W±0°.03, h31km±10km, n82, σ1s32/99, mb3.5/4, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.60**	**34**	*i* P	**Pn**	**13 22 05.6**	**+1.5**
COPN				IAML		13 22 17.3	
	comp=Z,4μm,1.0s						
BC86	**Nagarote**	**0.69**	**32**	*i* P	**Pn**	**13 22 06.7**	**+1.4**
BC86				IAML		13 22 54.6	
	comp=Z,6μm,1.0s						
ADRN	**Diriamba**	**0.70**	**76**	*i* P	**Pn**	**13 22 06.7**	**+1.1**
ADRN				IAML		13 22 31.3	
	comp=Z,8μm,1.0s						
RE6B4	**Centro civico**	**0.77**	**55**	*i* P	**Sn**	**13 22 18.8**	**+1.9**
UNAN	**Cigeo UNAN**	**0.78**	**57**	*i* P	**Pn**	**13 22 07.7**	**+1.1**
UNAN				*i* S	**Sn**	**13 22 17.8**	**+0.6**
UNAN				IAML		13 22 25.9	
	comp=Z,17μm,1.0s						
USIM	**UNAN**	**0.78**	**56**	*i* P	**Pn**	**13 22 08.0**	**+1.4**
USIM				IAML		13 22 10.8	
	comp=Z,9μm,1.0s						
LEVN	**Ruinas Leon Vi**	**0.78**	**24**	*i* P	**Pn**	**13 22 08.0**	**+1.4**
LEVN				*i* S	**Sn**	**13 22 17.9**	**+0.7**
LEVN				IAML		13 22 23.1	
	comp=Z,5μm,1.0s						
APQ2	**Apoyeque**	**0.79**	**49**	*i* P	**Pn**	**13 22 08.2**	**+1.5**
APQ2				IAML		13 22 23.6	
	comp=Z,4μm,1.0s						
ENAN	**Enatrel Managu**	**0.79**	**57**	*i* P	**Pn**	**13 22 08.2**	**+1.5**
ENAN				IAML		13 22 08.5	
	comp=Z,9μm,1.0s						
APYN	**Apoyeque**	**0.80**	**46**	*i* P	**Pn**	**13 22 08.0**	**+1.2**
APYN				*i* S	**Sn**	**13 22 18.1**	**+0.5**
APYN				IAML		13 22 23.1	
	comp=Z,4μm,1.0s						
R8CCA	**La Lomita**	**0.80**	**57**	*i* P	**Pn**	**13 22 08.3**	**+1.5**
TISN	**Laguna Tiscapa**	**0.80**	**55**	*i* P	**Pb**	**13 22 06.1**	**-1.1**
TISN				IAML		13 22 23.8	
	comp=Z,460nm,1.0s						
ALLN	**Telcor Managua**	**0.80**	**54**	*i* P	**Pn**	**13 22 08.3**	**+1.4**
ALLN				IAML		13 22 48.5	
	comp=Z,9μm,1.0s						
BC84	**Volcan Momotom**	**0.81**	**29**	*i* P	**Pn**	**13 22 08.1**	**+1.1**
BC84				IAML		13 22 58.3	
	comp=Z,7μm,1.0s						
RB213	**Mirador 2 Volc**	**0.81**	**68**	*i* P	**Pn**	**13 22 08.0**	**+1.0**
R0529	**La Mascota**	**0.81**	**57**	*i* P	**Pn**	**13 22 08.5**	**+1.5**
MGA1	**Managua**	**0.82**	**55**	*i* P	**Pn**	**13 22 08.2**	**+1.1**
MGA1				*i* S	**Sn**	**13 22 18.8**	**+0.7**
MGA1				IAML		13 22 43.2	
	comp=Z,5μm,1.0s						
R4DEC	**Barrio San Lui**	**0.82**	**55**	*i* P	**Pb**	**13 22 08.0**	**+0.5**
MAS3	**Al N del Volca**	**0.82**	**65**	*i* P	**Pn**	**13 22 08.1**	**+1.0**
MAS3				IAML		13 22 08.6	
	comp=Z,4μm,1.0s						
MACN	**El Madrono**	**0.82**	**18**	*i* P	**Pn**	**13 22 08.4**	**+1.2**
MACN				*i* S	**Sn**	**13 22 19.1**	**+0.8**
MACN				IAML		13 22 28.1	
	comp=Z,2μm,1.0s						
MOMN	**Momotombo**	**0.82**	**28**	*i* P	**Pn**	**13 22 08.5**	**+1.3**
MOMN				*i* S	**Sn**	**13 22 19.0**	**+0.7**
MOMN				IAML		13 22 25.3	
	comp=Z,140nm,1.0s						
APQN	**BB Volcan Apoy**	**0.82**	**49**	*i* P	**Pn**	**13 22 08.6**	**+1.4**
MASN	**Masaya**	**0.83**	**68**	*i* P	**Pn**	**13 22 08.9**	**+1.6**
MASN				IAML		13 22 23.3	
	comp=Z,720nm,1.0s						
CNGA	**AI SSO del Vol**	**0.84**	**16**	*i* P	**Pb**	**13 22 07.8**	**-0.1**
CNGA				*i* S	**Sn**	**13 22 19.8**	**+1.0**
CNGA				IAML		13 22 22.5	
	comp=Z,5μm,1.0s						
CNGN	**Cerro Negro**	**0.85**	**16**	*eP*	**Pb**	**13 22 07.6**	**-0.4**
CNGN				*eS*	**Sb**	**13 22 17.9**	**-1.2**
CNGN	**Cerro Negro**	**0.85**	**16**	*i* P	**Pb**	**13 22 08.4**	**+0.4**
CNGN				*i* S	**Sn**	**13 22 20.0**	**+1.1**
CNGN				IAML		13 22 23.6	
	comp=Z,3μm,1.0s						
MOM2	**El Cardon**	**0.87**	**30**	*i* P	**Pn**	**13 22 09.2**	**+1.4**
MOM2				IAML		13 22 09.6	
	comp=Z,2μm,1.0s						
MOM2				*i* S	**Sn**	**13 22 20.8**	**+1.3**
AMYN	**Masaya**	**0.87**	**70**	*i* P	**Pb**	**13 22 08.9**	**+0.5**
AMYN				IAML		13 22 33.3	
	comp=Z,5μm,1.0s						
WILN	**Americas 2**	**0.88**	**57**	*i* P	**Pn**	**13 22 09.3**	**+1.4**
WILN				*i* S	**Sn**	**13 22 20.7**	**+1.2**
WILN				IAML		13 22 23.9	
	comp=Z,3μm,1.0s						
PLRN	**Geotermica Pol**	**0.91**	**10**	*i* P	**Pn**	**13 22 09.7**	**+1.3**
PLRN				*i* S	**Sn**	**13 22 21.1**	**+1.6**
PLRN				IAML		13 22 26.1	
	comp=Z,5μm,1.0s						
HERN	**Volcan Telica**	**0.93**	**6**	*i* P	**Pb**	**13 22 09.9**	**+0.5**
HERN				IAML		13 22 31.4	
	comp=Z,3μm,1.0s						
TIPN	**Tipitapa**	**0.97**	**58**	*i* P	**Pb**	**13 22 09.4**	**-0.6**
TIPN				IAML		13 22 46.6	
	comp=Z,6μm,1.0s						
PKGN	**Cerro Pekin**	**0.98**	**358**	*i* P	**Pb**	**13 22 10.6**	**+0.4**
PKGN				IAML		13 22 31.0	
	comp=Z,8μm,1.0s						
CRIN	**San Cristobal**	**1.02**	**354**	*eP*	**Pb**	**13 22 11.1**	**+0.2**
CRIN				*eS*	**Sb**	**13 22 22.4**	**-1.6**
CRIN	**San Cristobal**	**1.02**	**354**	*i* P	**Pn**	**13 22 11.7**	**+1.8**
CRIN				IAML		13 22 30.5	
	comp=Z,6μm,1.0s						
BC87	**San Francisco**	**1.04**	**38**	*i* P	**Pn**	**13 22 11.8**	**+1.7**
BC87				IAML		13 22 24.3	
	comp=Z,6μm,1.0s						
BRAN	**Las Pilas**	**1.18**	**29**	*i* P	Pn	13 22 06.6	-5.5
BRAN				IAML		13 22 09.2	
	comp=Z,3μm,1.0s						
BRAN				*i* S	Sb	13 22 16.8	-12
JAPN	**AI SSO del Vol**	**1.24**	**97**	IAML		13 22 13.9	
	comp=Z,1μm,1.0s						
JAPN				*i* P	**Pn**	**13 22 14.7**	**+1.8**
OMEN	**AI SSO del Vol**	**1.29**	**97**	*i* P	**Pn**	**13 22 14.4**	**+0.7**
OMEN				IAML		13 22 36.7	
	comp=Z,2μm,1.0s						
BOAB	**BOACO BROADBAN**	**1.46**	**58**	*i* P	**Pn**	**13 22 16.8**	**+0.9**
BOAB				*i* S	**Sb**	**13 22 36.2**	**-0.3**
BOAB				IAML		13 22 43.2	
	comp=Z,540nm,1.0s						
LIMN	**Finca el Limon**	**1.48**	**22**	*i* P	**Pn**	**13 22 17.8**	**+1.5**
LIMN				*i* S	**Sb**	**13 22 36.9**	**-0.3**
LIMN				IAML		13 22 38.6	
	comp=Z,730nm,1.0s						
ACON	**Acoyapa**	**1.75**	**80**	*i* P	**Pn**	**13 22 21.1**	**+1.2**
ACON				IAML		13 22 48.2	
	comp=Z,300nm,1.0s						
CNCH	**Conchagua**	**1.81**	**331**	*eP*	**Pn**	**13 22 21.9**	**+1.1**
CNCH				*eS*	**Sn**	**13 22 43.6**	**+0.7**
CNCH				IAML		13 22 48.4	
	comp=Z,2μm,0.4s						
CNCH	**Conchagua**	**1.81**	**331**	*i* P	**Pn**	**13 22 22.2**	**+1.3**
CNCH				IAML		13 22 48.1	
	comp=Z,2μm,1.0s						
LCND	**La Caada**	**1.87**	**330**	*eP*	**Pn**	**13 22 22.4**	**+0.9**
LCND				*eS*	**Sn**	**13 22 44.4**	**+0.3**
LCND				IAML		13 22 48.8	
	comp=Z,798nm,0.4s						
LCND	**La Caada**	**1.87**	**330**	*i* P	**Pn**	**13 22 22.5**	**+0.9**
LCND				IAML		13 22 48.4	
	comp=Z,750nm,1.0s						
ORTG	**Ortega, Santa**	**1.96**	**132**	*i* P	**Pn**	**13 22 25.0**	**+2.2**
ORTG				IAML		13 23 08.4	
	comp=Z,320nm,1.0s						
SAJU	**San Juanillo,**	**2.01**	**143**	*i* P	**Pn**	**13 22 23.8**	**+0.4**
SAJU				IAML		13 23 05.9	
	comp=Z,380nm,1.0s						
RCPN	**Sur Rio San Ju**	**2.01**	**24**	*i* P	**Pn**	**13 22 25.0**	**+1.4**
RCPN				IAML		13 22 26.2	
	comp=Z,2.1nm,1.0s						
BLLM	**Bellamira**	**2.16**	**324**	*eP*	**Pn**	**13 22 27.1**	**+1.4**
LCY	**Lacayo**	**2.18**	**323**	*eP*	**Pn**	**13 22 27.4**	**+1.4**
RANC	**El Ranchito**	**2.19**	**323**	*eP*	**Pn**	**13 22 27.7**	**+1.6**
PACA	**Pacayal**	**2.23**	**323**	*eP*	**Pn**	**13 22 27.9**	**+1.3**
PACA				*eS*	**Sn**	**13 22 54.2**	**+0.9**
PACA	**Pacayal**	**2.23**	**323**	*i* P	**Pn**	**13 22 28.5**	**+1.8**
PACA				IAML		13 23 04.7	
	comp=Z,4μm,1.0s						
INDI	**Punta indio, G**	**2.29**	**142**	*i* P	**Pn**	**13 22 29.0**	**+1.7**
INDI				IAML		13 23 13.7	
	comp=Z,490nm,1.0s						
TECA	**Tecapa**	**2.36**	**320**	*eP*	**Pn**	**13 22 30.4**	**+1.9**
TGUH	**Tegucigalpa,Un**	**2.38**	**352**	*eP*	**Pn**	**13 22 29.8**	**+1.0**
TGUH	**Tegucigalpa,Un**	**2.38**	**352**	*i* P	**Pn**	**13 22 30.7**	**+1.9**
TGUH				IAML		13 23 02.9	
	comp=Z,370nm,1.0s						
JTS	**Las Juntas de**	**2.39**	**125**	Pn	**Pn**	**13 22 28.9**	**+0.2**
	comp=Z,7.7nm,0.3s,baz=301,slow=16,SNR=12						
JTS				Sn	**Sn**	**13 22 57.1**	**+0.2**
	comp=Z,6.5nm,0.3s,baz=244,slow=17,SNR=6.8						
JTS				LR	LR	13 23 04.7	
	comp=Z,32nm,21.6s,baz=314,slow=33						
	comp=Z,13nm,0.3s						
PQSS	**Presa 15 de Se**	**2.50**	**321**	*eP*	**Pn**	**13 22 31.6**	**+1.5**
PQSS				IAML		13 23 05.3	
	comp=Z,45nm,0.2s						
PQSS	**Presa 15 de Se**	**2.50**	**321**	*i* P	**Pn**	**13 22 31.7**	**+1.5**
PQSS				IAML		13 23 09.7	
	comp=Z,96nm,1.0s						
SOCE	**Pocosol**	**2.62**	**119**	*i* P	**Pn**	**13 22 34.2**	**+2.3**
SOCE				IAML		13 23 28.6	
	comp=Z,110nm,1.0s						
SCLA	**Alcaldia de Sa**	**2.66**	**319**	*eP*	**Pn**	**13 22 34.2**	**+1.7**
SCLA				IAML		13 23 08.0	
	comp=Z,44nm,0.4s						
SCLA	**Alcaldia de Sa**	**2.66**	**319**	*i* P	**Pn**	**13 22 34.4**	**+1.9**
SCLA				IAML		13 22 52.0	
	comp=Z,140nm,1.0s						
LALI	**Alcalda de L**	**2.94**	**308**	*i* P	**Pn**	**13 22 38.5**	**+2.2**
LALI				IAML		13 22 54.2	
	comp=Z,190nm,1.0s						
JAYA	**Jayaque - finc**	**3.14**	**309**	*eP*	**Pn**	**13 22 40.5**	**+1.4**
JAYA				*eS*	**Sn**	**13 23 17.0**	**+1.3**
RIFO	**Rio Frio, Sara**	**3.25**	**114**	*i* P	**Pn**	**13 22 42.7**	**+2.1**
RIFO				IAML		13 22 58.4	
	comp=Z,250nm,1.0s						
LCR2	**La Lucha 2**	**3.47**	**124**	*i* P	**Pn**	**13 22 45.6**	**+1.9**
LCR2				IAML		13 23 45.5	
	comp=Z,97nm,1.0s						

DMLN S Sb 13 28 27.6 +1.2
comp=E,35µm,0.5s
DMLN Damoulianata-K 0.43 5 P Pb 13 28 20.3 +0.2
DMLN S Sb 13 28 27.0 +0.5
VSK1 VASILIKIADES 0.63 17 P Pg 13 28 23.1 -0.2
VSK1 S Sb 13 28 32.8 +0.7
comp=E,16µm,0.5s
EVGI Lefkada island 0.85 18 P Pg 13 28 26.8 -0.7
EVGI Lefkada island 0.85 18 P Pg 13 28 27.1 -0.4
DRAG Dragano-Lefkad 0.90 12 P Pb 13 28 27.9 -0.2
DRAG Dragano-Lefkad 0.90 12 P Pg 13 28 28.1 -0.3
DRAG S Sg 13 28 40.5 +0.4
RLS Riolos of Patr 0.94 74 P Pb 13 28 27.7 -0.9
RLS S Sn 13 28 42.1 -0.2
comp=E,6µm,0.5s
RLS Riolos of Patr 0.94 74 P Pb 13 28 27.8 -0.9
RLS S Sn 13 28 42.0 -0.4
RLS AML AML 13 28 47.4
comp=E,12960µm,0.6s
RLS AML AML 13 28 48.2
comp=N,11422µm,0.5s
NYDR Nydri-Lefkada 0.95 18 P Pb 13 28 28.7 -0.3
NYDR Nydri-Lefkada 0.95 18 P Pg 13 28 29.0 -0.4
LKD2 Lefkada island 1.02 15 P Pb 13 28 30.1 0.0
LKD2 S Sn 13 28 46.8 +2.4
comp=N,6µm,0.4s
LKD2 Lefkada island 1.02 15 P Pg 13 28 30.2 -0.3
LKD2 S Sn 13 28 44.7 +0.3
LKD2 AML AML 13 28 54.2
comp=E,11612µm,0.4s
LKD2 AML AML 13 28 55.6
comp=N,14083µm,0.4s
TSLK Tsoukalades, L 1.05 14 P Pn 13 28 30.8 -0.1
TSLK Tsoukalades, L 1.05 14 P Pg 13 28 31.2 0.0
TSLK AML AML 13 28 54.5
comp=E,14982µm,0.8s
TSLK AML AML 13 28 58.2
comp=N,17506µm,0.6s
DRO Drossia 1.10 82 P Pb 13 28 30.5 -1.1
DRO Drossia 1.10 82 P Pb 13 28 30.7 -0.8
DRO AML AML 13 28 59.2
comp=E,41988µm,0.4s
DRO AML AML 13 29 00.8
comp=N,27211µm,0.6s
PVO Paravola 1.24 49 P Pb 13 28 33.7 -0.3
PVO Paravola 1.24 49 P Pb 13 28 33.7 -0.3
EFP Efpalio 1.39 63 P Pn 13 28 35.7 +0.2
EFP S Sg 13 28 56.5 +0.7
comp=N,4µm,0.7s
EFP Efpalio 1.39 63 P Pn 13 28 35.8 +0.2
EFP AML AML 13 29 01.6
comp=E,6685µm,0.7s
EFP AML AML 13 29 02.4
comp=N,7337µm,0.4s
PYL PYLOS 1.45 128 P Pn 13 28 36.4 +0.1
PYL S Sn 13 28 55.0 0.0
PYL AML AML 13 29 08.3
comp=E,2682µm,0.5s
PYL AML AML 13 29 11.4
comp=N,2905µm,0.9s
KLV Kalavryta, Ach 1.46 80 P Pn 13 28 36.8 +0.2
KLV S Sg 13 28 57.6 -0.5
comp=N,3µm,1.2s
KLV Kalavryta, Ach 1.46 80 P Pn 13 28 36.8 +0.2
KLV AML AML 13 29 10.8
comp=E,5250µm,1.2s
KLV AML AML 13 29 14.1
comp=N,4875µm,1.1s
ANX Ano Chora 1.48 57 P Pn 13 28 37.3 +0.4
ANX AML AML 13 29 02.0
comp=N,18496µm,0.6s
ANX AML AML 13 29 05.6
comp=E,16699µm,0.6s
GUR Goura 1.60 85 P Pn 13 28 39.1 +0.6
GUR Goura 1.60 85 P Pn 13 28 39.1 +0.6
GUR AML AML 13 29 14.7
comp=N,10208µm,0.5s
GUR AML AML 13 29 14.9
comp=E,6509µm,0.7s
EVR Evrytania 1.61 46 P Pb 13 28 39.7 -0.6
EVR AML AML 13 29 13.6
comp=N,4368µm,0.5s
EVR AML AML 13 29 21.8
comp=E,3677µm,0.8s
IGT Igoumenitsa 1.72 0 P Pb 13 28 41.3 -0.8
IGT S Sg 13 29 06.8 +0.4
comp=E,2µm,0.5s
IGT Igoumenitsa 1.72 0 P Pb 13 28 41.4 -0.7
IGT AML AML 13 29 15.4
comp=E,3528µm,0.5s
IGT AML AML 13 29 20.8
comp=N,2791µm,0.4s
THAL Thalero 1.86 82 P Pn 13 28 41.4 -0.7
THAL AML AML 13 29 23.4
comp=E,14786µm,0.7s
THAL AML AML 13 29 28.3
comp=N,7809µm,0.5s
JAN Janina 1.89 12 P Pb 13 28 43.7 -1.3
JAN AML AML 13 29 26.7
comp=E,4502µm,0.7s
JAN AML AML 13 29 30.7
comp=N,2022µm,0.6s
KEK Kerkira 1.95 348 Pn 13 28 41.0 -2.2
KASA Kassiopi 1.96 351 P Pb 13 28 45.4 -0.7
KASA AML AML 13 29 26.2
comp=N,4184µm,0.5s
KASA AML AML 13 29 29.9
comp=E,3295µm,0.8s
AGG Agios Georgios 1.99 52 Pn Pb 13 28 45.9 -0.8
THL Klokotos Trika 2.20 36 P Pb 13 28 48.7 -1.5
THL AML AML 13 29 29.8
comp=E,1506µm,0.6s
THL AML AML 13 29 33.9
comp=N,716µm,0.4s
KRND KRANIDI 2.28 100 P Pn 13 28 48.0 +0.1
KRND AML AML 13 29 25.0
comp=E,1726µm,0.5s
KRND AML AML 13 29 31.3
comp=N,1700µm,0.6s
KPRO Kipourio 2.29 20 P Pn 13 28 48.3 +0.3
KPRO AML AML 13 29 40.2
comp=N,2693µm,0.8s
KPRO AML AML 13 29 42.4
comp=E,2923µm,0.6s
VLI Velíai 2.35 117 P Pn 13 28 49.6 +0.8
PENT Pentalofos 2.47 15 P Pn 13 28 52.6 +2.1
NEST Nestorio 2.67 12 P Pn 13 28 55.1 +1.9
NEST AML AML 13 29 59.8
comp=N,1030µm,0.5s
NEST AML AML 13 30 00.2
comp=E,1165µm,0.7s
SCTE Santa Cesarea 2.69 328 Pn 13 28 54.1 +0.7
VLO Vlora 2.74 347 Pn 13 28 55.9 +1.8
KBN Korca 2.84 7 Pn Pn 13 28 54.4 -1.1
LIT Litokhoron 2.84 36 Pn 13 28 56.8 +1.2
FNA Florina 3.08 15 Pn 13 28 59.6 +0.7
TIP Timpagrande 3.12 297 ⇓P Pn 13 29 00.7 +1.3
TIP Timpagrande 3.12 297 Pn 13 28 59.6 +0.3
OHR Ohrid 3.32 6 *i* Pn Pn 13 29 05.1 +2.9
CEL Celeste 3.53 279 Pn 13 29 06.1 +1.1
TIR Tirane 3.56 354 ⇑P Pn 13 29 06.8 +1.5
TIR Tirane 3.56 354 Pn 13 29 06.4 +1.0
VAY Valandovo 3.92 26 *i* Pn Pn 13 29 13.2 +2.9
MATE Matera 4.00 316 ⇑P Pn 13 29 12.1 +0.7
CUC Castrocucco 4.14 303 Pn Pn 13 29 15.9 +2.4
APE Apeiranthos 4.21 98 ⇓P Pn 13 29 15.1 +0.8
ULC Ulcinj 4.24 349 ⇑*i* Pn Pn 13 29 15.2 +0.5
ULC *i* Sn Sn 13 30 03.6 -0.2
PUK Puka 4.25 356 Pn 13 29 15.3 +0.5
SKO Skopje 4.25 11 *i* Pn Pn 13 29 16.5 +1.6
IDI Anoyia 4.45 123 Pn 13 29 20.8 +3.1
IDI Anoyia 4.45 123 Pn Pn 13 29 19.2 +1.5
baz=247,slow=4.6,SNR=11
IDI Sn Sn 13 30 07.3 -1.8
comp=E,0.3nm,0.3s,baz=318,slow=21,SNR=13
DRME Dracevica, Mon 4.46 349 *e*Pn Pn 13 29 18.5 +0.7
DRME Dracevica, Mon 4.46 349 ⇓*i* Pn Pn 13 29 18.4 +0.7
DRME *i* Sn Sn 13 30 09.2 -0.2
RAFF Raffo Rosso 4.78 265 Pn 13 29 22.5 +0.4
PVY Plav 4.79 357 ⇓*i* Pn Pn 13 29 22.4 0.0
PVY *i* Sn Sn 13 30 16.9 -0.8
HCY Herceg Novi 4.84 344 *e*Pn Pn 13 29 22.7 -0.3
HCY Herceg Novi 4.84 344 ⇓*i* Pn Pn 13 29 22.7 -0.3
HCY *i* Sn Sn 13 30 17.4 -1.4

CEME Cevo 4.86 348 ⇑*i* Pn Pn 13 29 23.8 +0.5
CEME *i* Sn Sn 13 30 18.3 -0.9
WDD Wied Dalam 5.05 249 Pn 13 29 26.7 +0.8
NKME Niksic 5.07 348 ⇑*i* Pn Pn 13 29 26.5 +0.4
NKME *i* Sn Sn 13 30 23.7 -0.6
IVA Berane 5.07 356 ⇑*i* Pn Pn 13 29 26.3 +0.1
IVA *i* Sn Sn 13 30 23.5 -1.0
KOME Kolasin 5.08 353 ⇑*i* Pn Pn 13 29 26.8 +0.5
KOME *i* Sn Sn 13 30 23.7 -0.9
TREB Trebinje 5.13 343 *e*Pn Pn 13 29 26.2 -0.8
DBRK Dubrovnik 5.14 342 *e*Pn Pn 13 29 26.7 -0.3
DBRK Sn Sn 13 30 20.9 -5.0
RDO Rodhopi 5.23 49 Pn Pn 13 29 28.6 +0.3
BRY Bratogost 5.27 346 *e*Pn Pn 13 29 28.9 -0.1
BRY Bratogost 5.27 346 ⇑*i* Pn Pn 13 29 28.9 -0.1
BRY *i* Sn Sn 13 30 28.6 -0.9
SGRT San Giovanni R 5.29 320 Pn 13 29 29.8 +0.5
ALN Alexandroupoli 5.40 53 Pn Pn 13 29 31.1 +0.4
STON Ston 5.44 339 *e*Pn Pn 13 29 31.2 -0.1
STON Ston 5.44 339 *e*Pn Pn 13 29 31.1 -0.1
SJES Sjenica 5.46 357 *e*Pn Pn 13 29 32.5 +0.9
UPM Unac-Piva 5.50 349 *e*Pn Pn 13 29 33.1 +0.8
UPM Unac-Piva 5.50 349 ⇓*i* Pn Pn 13 29 33.0 +0.8
UPM *i* Sn Sn 13 30 33.9 -1.3
PAOL Paolisi 5.50 308 Pn Pn 13 29 34.9 +2.8
PLE Pljevlja 5.56 353 ⇑*i* Pn Pn 13 29 33.6 +0.6
PLE *i* Sn Sn 13 30 35.3 -1.4
LSTV Lastovo 5.61 333 *e*Pn Pn 13 29 33.4 -0.1
CLTB Caltabellotta 5.64 270 Pn 13 29 37.2 +3.0
NEVS Nevesinje 5.74 344 *e*Pn Pn 13 29 35.7 +0.3
RUDO Rudo 5.85 353 *e*Pn Pn 13 29 36.2 -0.7
KARP Karpathos 5.94 110 Pn Pn 13 29 39.4 +1.3
MAKA Makarska 6.03 336 *e*Pn Pn 13 29 39.2 -0.1
BLKB Belogradchik 6.08 16 ⇓P Pn 13 29 40.9 +0.9
BBLS Lazi&#263i 6.09 354 *e*Pn Pn 13 29 40.2 -0.1
HVAR Hvar 6.13 332 *e*Pn Pn 13 29 40.4 -0.2
RICI Ricice 6.18 338 *e*Pn Pn 13 29 41.4 0.0
HAPS Han Pijesak,Bl 6.36 351 *e*Pn Pn 13 29 43.3 -0.7
ARG Arkhangelos 6.44 102 Pn Pn 13 29 45.6 +0.6
ELND Elena 6.64 38 ⇑P Pn 13 29 49.2 +1.5
TEKS Tekeris 6.76 355 *e*Pn Pn 13 29 48.0 -1.4
ZIRJ Zirje 6.84 330 *e*Pn Pn 13 29 50.0 -0.4
KIJV Kijevo 6.87 336 *e*Pn Pn 13 29 51.5 +0.7
MORI Morici 6.99 331 *e*Pn Pn 13 29 53.3 +0.8
MGRS Mrkonjic Grad 7.04 341 *e*Pn Pn 13 29 54.2 +0.9
CAMP Campotosto 7.10 314 Pn Pn 13 29 57.1 +3.0
HERR Herculane 7.24 12 ⇑P Pn 13 29 57.5 +1.5
A050A Klekovaca 7.26 338 *e*Pn Pn 13 29 57.7 +1.5
BLY Banja Luka 7.33 342 *e*Pn Pn 13 30 00.2 +3.1
DUGI Dugi Otok 7.36 329 *e*Pn Pn 13 29 58.3 +0.8
FRGS Fruska Gora 7.36 357 *e*Pn Pn 13 29 56.2 -1.3
NRCA Norcia 7.45 315 Pn 13 30 01.6 +2.6
UDBI Udbina 7.54 334 *e*Pn Pn 13 30 01.7 +1.5
VIRC Vir 7.61 330 *e*Pn Pn 13 30 01.9 +1.0
A051A Mrakovica 7.64 341 *e*Pn Pn 13 30 01.4 -0.1
GZR Gura Zlata 7.80 13 ⇓P Pn 13 30 04.5 +0.8
BZS Buzias 7.86 7 ⇓P Pn 13 30 06.1 +1.6
PLIT Plitvice 7.90 335 *e*Pn Pn 13 30 05.9 +0.8
NVLJ Novalja 7.90 330 *e*Pn Pn 13 30 05.5 +0.5
LOT Lotru 8.06 18 ⇑P Pn 13 30 09.0 +1.7
VOIR 8.40 23 ⇑P Pn 13 30 13.9 +1.9
MORH Mrgy, Hungar 8.50 352 ⇑P Pn 13 30 14.1 +1.0
SIRR Siria 8.51 6 ⇑P Pn 13 30 14.8 +1.4
BOJS Bojanci 8.58 335 *e*Pn Pn 13 30 14.5 +0.3
ISR Istrita 8.67 31 ⇓P Pn 13 30 17.2 +1.6
MANR Mangalia 8.67 44 ⇑P Pn 13 30 17.0 +1.5
PTJ Puntijarka 8.72 340 *e*Pn Pn 13 30 18 -0.6
MLR Muntele Rosu 8.75 27 ⇑P Pn 13 30 19.8 +3.0
MLR Muntele Rosu 8.75 27 Pn Pn 13 30 18.5 +1.7
MLR Muntele Rosu 8.75 27 Pn Pn 13 30 18.7 +1.9
comp=E,0.8nm,0.3s,baz=209,slow=6.7,SNR=8.9
MLR LR LR 13 34 51.6
comp=E,102nm,20.4s,baz=194,slow=46
comp=E,10nm,0.8s
KALN Kalnik 8.80 342 *e*Pn Pn 13 30 16.3 -1.1
HARR Harsova 8.95 37 ⇑P Pn 13 30 21.0 +1.7
DOPR Dopca 8.98 23 ⇑P Pn 13 30 22.0 +2.1
KEST Kesra 9.05 260 Pn Pn 13 30 22.7 +1.8
comp=E,0.7nm,0.3s,baz=346,slow=22,SNR=2.5
comp=E,3.5nm,0.5s
CEY Cerknica 9.07 333 *e*Pn Pn 13 30 21.7 +0.7
TURR Turia 9.27 25 ⇑P Pn 13 30 25.8 +2.1
SPBR Spulber 9.27 29 ⇑P Pn 13 30 25.1 +1.3
TPGR Topolog 9.30 38 ⇓P Pn 13 30 25.4 +1.1
PLOR Plostina 9.32 28 ⇑P Pn 13 30 26.7 +2.2
VRI Vrincioaia 9.36 29 ⇑P Pn 13 30 27.2 +2.2
CFR Carcaliu 9.41 36 ⇑P Pn 13 30 26.8 +1.2
SABO M.te Sabotino 9.58 331 Pn Pn 13 30 28.1 +0.1
SOKA Soboth 9.69 338 *i* Pn Pn 13 30 29.7 +0.1
comp=E,6.5nm,0.5s,SNR=8.9
SOKA *e*Sn Sn 13 32 12.4 -5.7
comp=E,6.4nm,0.4s
OBKA Obir 9.69 336 *i* Pn Pn 13 30 30.9 +1.2
comp=E,2.9nm,0.2s
OBKA *e*Sn Sn 13 32 12.6 -5.6
comp=E,13nm,0.3s
OBKA Obir 9.69 336 *e*Pn Pn 13 30 30.5 +0.8
PRED Cave del Predi 9.98 332 Pn 13 30 32.9 -0.7
ARSA Arzberg 10.08 341 *e*Pn Pn 13 30 34.9 0.0
comp=E,3.0nm,0.3s
ARSA *e*Sn Sn 13 32 20.5 -7.0
comp=E,4.1nm,0.6s
MYKA Terra Mystica 10.11 333 *e*Sn Sn 13 32 23.5 -4.9
comp=E,6.2nm,0.4s
MSSA Maissana 10.43 312 Pn Pn 13 30 41.5 +1.7
BURAR Bucovina Array 10.44 19 ⇑P Pn 13 30 41.5 +1.6
BRTR Keskin Array B 10.57 75 Pn Pn 13 30 42.6 +0.9
comp=E,0.2nm,0.3s,baz=257,slow=12,SNR=3.8
BRTR LR LR 13 34 59.0
comp=E,48nm,18.4s,baz=264,slow=39
comp=E,0.7nm,0.6s
KBA Koelnbreinsper 10.60 333 *e*Pn Pn 13 30 43.0 +0.9
comp=E,1.4nm,0.2s
KBA *e*Sn Sn 13 32 34.7 -5.8
comp=E,11nm,0.4s
ABTA Abfaltersbach 10.64 330 *e*Sn Sn 13 32 36.6 -4.8
comp=E,15nm,0.6s
VYHS Vyhne 10.74 355 *e*PN Pn 13 30 43.6 -0.3
MOA Molln 10.97 338 *e*Pn Pn 13 30 48.1 +1.0
comp=E,4.0nm,0.3s
BIOA Bad Ischl, Aus 11.03 336 Pn Pn 13 30 48.9 +1.0
comp=E,2.8nm,0.3s
BIOA *e*Sn Sn 13 32 45.3 -5.6
comp=E,3.0nm,0.2s
LESA Schwarzleotal 11.14 332 *e*Pn Pn 13 30 50.6 +1.2
comp=E,7.9nm,0.6s
LESA *e*Sn Sn 13 32 48.8 -4.7
comp=E,15nm,0.4s
WTTA Wattenberg 11.41 329 *e*Pn Pn 13 30 57.2 +3.9
comp=E,2.2nm,0.3s
WTTA *e*Sn Sn 13 32 54.9 -5.5
comp=E,21nm,0.7s
WATA Walderalm 11.49 329 *e*Pn Pn 13 31 00.2 +5.8
comp=E,2.6nm,0.2s
SQTA Sankt Quirin 11.56 327 *e*Sn Sn 13 33 04.0 +0.1
comp=E,8.3nm,0.4s
FETA Feichten 11.62 325 *e*Sn Sn 13 32 59.4 -6.0
comp=E,1.6nm,0.3s
MOTA Moosalm 11.70 327 *e*Pn Pn 13 31 00.0 +2.9
comp=E,1.7nm,0.3s
MOTA *e*Sn Sn 13 33 03.2 -4.2
comp=E,2.6nm,0.3s
VRAC Vranov 11.81 348 LR LR 13 36 47.6
comp=E,15nm,20.5s,baz=182,slow=44
DAVOX Davos/Dischmat 11.83 323 Pn Pn 13 31 00.8 +1.8
comp=E,0.6nm,0.3s,baz=143,slow=20,SNR=2.6
DAVOX Sn Sn 13 33 04.6 -6.2
comp=E,0.7nm,0.3s,baz=216,slow=11,SNR=3.0
comp=E,1.9nm,0.6s
GERES GERESS Array B 12.04 339 Pn Pn 13 31 00.9 -0.8
comp=E,0.8nm,0.3s,baz=154,slow=12,SNR=9.3
GERES Sn Sn 13 33 07.9 -7.7
comp=E,1.2nm,0.3s,baz=150,slow=23,SNR=7.5
comp=E,1.3nm,0.4s
DAVA Damuels 12.20 324 *e*Sn Sn 13 33 16.8 -2.9
comp=E,4.1nm,0.3s
DSI Dead Sea 13.85 112 P Pn 13 31 15.0 -12
GHAJ Ghor Haditha 14.13 113 P Pn 13 31 18.9 -11
PRNI Paran 14.25 117 P Pn 13 31 19.0 -13
AKASG Malin Array Be 14.37 23 Pn Pn 13 31 31.5 -1.9
comp=E,0.5nm,0.3s,baz=214,slow=12,SNR=10
AKASG LR LR 13 37 55.3
comp=E,90nm,21.4s,baz=206,slow=41
comp=E,1.1nm,0.6s

AKBB Malin Array Si 14.37 23 Pn 13 31 32.7 -0.7
HRFI Mount Harif 14.45 118 P Pn 13 31 20.1 -15
CLL Collm 14.46 341 *e*PP P 13 31 43.0 +1.6
MBRI Mt Berech 14.51 119 P Pn 13 31 27.4 -8.2
EIL Elat 14.61 119 Pn Pn 13 31 36.5 -0.5
comp=E,0.5nm,0.3s,baz=324,slow=12,SNR=1.8
comp=E,1.8nm,0.3s
EIL Elat 14.61 119 P Pn 13 31 28.1 -8.8
SUW Suwalki 16.33 6 Pn Pn 13 31 58.8 -0.4
SUW IAmb IAmb 13 32 00.6
comp=Z,58nm,1.1s
NACGM Naroch 17.66 12 *e*P P 13 32 22.7 +5.9
comp=Z,16nm,0.8s,baz=197
PABE Paberze 17.88 7 P Pn 13 32 17.4 -1.2
PABE IAmb IAmb 13 32 18.5
comp=Z,53nm,0.6s
PABE Paberze 17.88 7 *e*P Pn 13 32 17.4 -1.2
KIV Kislovodsk 17.96 63 P 13 32 21.4 +1.0
KBZ Khabaz 18.07 64 P P 13 32 21.5 +0.1
comp=Z,0.3nm,0.3s,baz=273,slow=7.3,SNR=8.0
comp=Z,3.0nm,0.8s
ONI Oni 18.28 68 P P 13 32 24.5 +0.6
ESDC Sonseca Array 19.03 283 P Pn 13 32 32.8 -0.1
comp=Z,0.1nm,0.3s,baz=79,slow=9.4,SNR=4.4
comp=Z,0.6nm,0.7s
GNI Garni 19.11 75 LR LR 13 40 21.5
comp=Z,19nm,18.4s,baz=279,slow=39
SLIT Slitere, Latvi 19.88 3 *e*P P 13 32 40.4 -0.7
OBN Obninsk 20.52 27 P P 13 32 48.0 -0.2
VIKU Vikbolandet 20.84 355 *e*P P 13 32 51.8 +0.2
MDT Midelt 20.92 264 LR LR 13 40 39.5
comp=Z,28nm,19.2s,baz=3.0,slow=36
AAL Aland 22.39 360 *e*P P 13 33 07.5 -0.8
MEF Metsahovi 22.58 5 *e*P P 13 33 10.2 0.0
HFS Hagfors 22.74 351 P P 13 33 11.8 -0.1
comp=Z,5.2nm,0.4s,baz=161,slow=11,SNR=49
comp=Z,5.2nm,0.4s
OSL Oslo 22.98 348 *e*P P 13 33 14.5 0.0
RAF Rauma 23.26 2 *e*P P 13 33 16.2 -1.0
BLS5 Blasjo 23.40 342 *e*P P 13 33 20.1 +1.4
NC602 NORSAR Array S 23.61 349 P P 13 33 20.8 0.0
NC602 IAmb IAmb 13 33 36.9
comp=Z,9.3nm,1.1s
NC602 NORSAR Array S 23.61 349 *e*P P 13 33 21.0 +0.2
EKA Eskdalemuir Ar 23.64 325 P P 13 33 22.2 +1.0
comp=Z,4.1nm,0.8s,baz=127,slow=7.2,SNR=12
comp=Z,4.1nm,0.8s
NAO01 NORSAR Array S 23.82 349 P P 13 33 22.9 +0.2
NAO01 IAmb IAmb 13 33 53.9
comp=Z,36nm,1.4s
FINES FINESS Array B 23.93 7 P P 13 33 23.9 +0.1
FINES FINESS Array B 23.93 7 P P 13 33 23.4 -0.5
comp=Z,8.9nm,0.4s,baz=175,slow=9.3,SNR=97
comp=Z,8.9nm,0.4s
FIA1 FINESS Array S 23.93 7 P P 13 33 23.8 0.0
NB2 NORSAR Subarra 23.95 349 P P 13 33 24.1 0.0
comp=Z,1.5nm,0.5s,baz=169,slow=9.3
NB2 NORSAR Subarra 23.95 349 P P 13 33 24.1 0.0
baz=169,slow=9.3
NOA NORSAR Array B 23.95 349 P P 13 33 23.6 -0.5
comp=Z,1.4nm,0.5s,baz=150,slow=9.7,SNR=19
comp=Z,1.4nm,0.5s
BELG Belogornoye 23.98 44 P P 13 33 23.1 -1.2
comp=Z,20nm,0.6s,baz=282,slow=0.9,SNR=7.1
comp=Z,20nm,0.6s
SKAR Skarslia 24.12 345 *e*P P 13 33 26.9 +1.2
KEF Keuruu 24.55 5 *e*P P 13 33 30.0 +0.5
SUE Sulen 25.25 342 *e*P P 13 33 37.2 +1.5
DOMB Dombas 25.25 348 *e*P P 13 33 37.7 +1.8
VAF Ylistaro 25.31 2 *e*P P 13 33 36.8 +0.5
JOF Joensuu 26.02 11 *e*P P 13 33 41.9 -1.0
KONS Konsvik 29.04 354 *e*P P 13 34 11.2 +1.5
TOA0 Torodi Ar. Sit 29.64 219 P P 13 34 16.7 +1.0
TOA0 IAmb IAmb 13 34 56.2
comp=Z,4.8nm,1.4s
TORD Torodi Ar. Bea 29.64 219 P P 13 34 16.8 +1.1
comp=Z,1.0nm,0.6s,baz=33,slow=10,SNR=8.5
comp=Z,1.0nm,0.6s
FAUS Fauske 29.76 356 *e*P P 13 34 17.2 +1.0
ABKAR Akbulak array 30.58 55 P P 13 34 23.2 -0.5
KTK1 Kautokeino 31.30 2 *e*P P 13 34 30.1 +0.3
ARU Arti 31.44 41 LR LR 13 48 57.5
comp=Z,40nm,18.1s,baz=294,slow=40
TRO Tromso 31.90 359 *e*P P 13 34 35.3 +0.4
ARA0 ARCESS Array S 31.91 3 *e*P P 13 34 35.2 +0.1
ARCES ARCESS Array B 31.91 3 P P 13 34 35.0 -0.2
comp=Z,4.1nm,0.5s,baz=189,slow=11,SNR=32
comp=Z,4.1nm,0.5s
KEV Kevo 32.21 4 P P 13 34 37.5 -0.2
VADS Vadso 32.73 6 *e*P P 13 34 42.8 +0.5
BVAR Borovoye Array 37.48 50 P P 13 35 22.7 -0.7
comp=Z,0.9nm,0.5s,baz=251,slow=4.5,SNR=9.1
comp=Z,0.9nm,0.5s
KK31 Karatay Array 38.09 66 P P 13 35 28.1 -0.6
KKAR Karatay Array 38.09 66 P P 13 35 28.2 -0.5
SPA0 Spitsbergen Ar 40.52 359 *e*P P 13 35 49.5 +0.9
SPITS Spitsbergen Ar 40.52 359 P P 13 35 48.5 -0.1
comp=Z,10.0nm,1.0s,baz=153,slow=13,SNR=9.5
comp=Z,10.0nm,1.0s
KURBB Kurchatov Arra 42.57 53 P P 13 36 04.4 -1.3
comp=Z,1.9nm,0.4s,baz=281,slow=8.6,SNR=17
comp=Z,1.9nm,0.4s
KURK Kurchatov 42.62 53 P P 13 36 04.9 -1.2
KURK IAmb IAmb 13 36 11.3
comp=Z,4.3nm,1.1s
MK31 Makanchi Array 45.63 58 P P 13 36 28.6 -1.7
MK31 IAmb IAmb 13 36 39.1
comp=Z,1.7nm,0.7s
MKAR Makanchi Array 45.63 58 P P 13 36 29.1 -1.2
MKAR Makanchi Array 45.63 58 P P 13 36 29.0 -1.3
comp=Z,2.6nm,0.4s,baz=272,slow=7.6,SNR=31
MKAR PcP PcP 13 38 08.0 -0.5
comp=Z,0.3nm,0.6s,baz=284,slow=5.8,SNR=1.6
comp=Z,2.6nm,0.4s
ZAA0 Zalesovo Array 46.05 48 P P 13 36 32.0 -1.5
ZAA0 IAmb IAmb 13 36 33.1
comp=Z,5.6nm,0.7s
ZALV Zalesovo Beam 46.05 48 P P 13 36 32.2 -1.4
ZALV Zalesovo Beam 46.05 48 P P 13 36 32.4 -1.1
comp=Z,5.1nm,0.4s,baz=277,slow=8.2,SNR=27
ZALV LR LR 13 58 28.8
comp=Z,19nm,18.1s,baz=65,slow=40
comp=Z,5.1nm,0.4s
NRIK Noril'sk 47.20 26 P P 13 36 41.3 -0.9
comp=Z,1.5nm,0.4s,baz=180,slow=2.0,SNR=3.2
comp=Z,1.5nm,0.4s
TSUM Tsumeb 56.76 183 LR LR 14 02 32.4
comp=Z,40nm,18.7s,baz=176,slow=36
SCHQ Schefferville 58.63 317 P P 13 38 06.9 0.0
comp=Z,1.7nm,0.8s,baz=69,slow=8.6,SNR=1.6
comp=Z,1.7nm,0.8s
SONM Songino Array 60.81 50 P P 13 38 21.6 -0.6
comp=Z,1.6nm,0.8s,baz=284,slow=7.4,SNR=9.4
comp=Z,1.6nm,0.8s
YAK Yakutsk 65.51 29 LR LR 14 10 00.8
comp=Z,18nm,19.0s,baz=36,slow=38
HHC Hu-ho-hao-te 67.37 55 *e*P P 13 39 05.3 -0.1
HHC sP pwP 13 39 13.5 +0.4
HHC pmax pmax
comp=Z,6.0nm,0.6s
HHC pmax pmax
comp=Z,68nm,6.4s
PZH PanZhiHua 67.86 73 P P 13 39 10.8 +2.1
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,70nm,7.0s
CMAR Chiang Mai Arr 70.09 82 P P 13 39 21.9 -0.7
comp=Z,1.0nm,0.7s,baz=303,slow=7.6,SNR=6.0
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 73.69 340 P P 13 39 44.2 +0.9
comp=Z,0.2nm,0.4s,baz=38,slow=6.3,SNR=6.1
comp=Z,0.2nm,0.4s
ULM Lac du Bonnet 75.91 324 P P 13 39 57.5 +1.1
comp=Z,1.5nm,0.8s,baz=36,slow=19,SNR=1.6
comp=Z,1.5nm,0.8s
KSRS Korea Array 79.68 50 P P 13 40 17.6 -0.1
comp=Z,0.8nm,0.6s,baz=298,slow=2.7,SNR=4.4
comp=Z,0.8nm,0.6s
ASAR Alice Springs 122.28 96 PKP PKPdf 13 47 05.2 -0.2
comp=Z,0.2nm,0.5s,baz=289,slow=2.0,SNR=1.6

STR 28 13:29:10.8±0.5,46°N±3°×°±°,h0km,MLv1.5/7,Error ellipse: s-maj=0.0km s-min=0.0km az=58.6,preliminary, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIGLE	**Aigle**	**0.12**	**353**	Pg	Pg	13 29 14.6	+1.5
AIGLE				Sg	Sg	13 29 15.5	+0.9
OGSI	**Sixt**	**0.22**	**224**	Pg	Pg	13 29 15.7	+0.7
OGSI				Sg	Sg	13 29 19.0	+1.2
DIX	**Grande Dixence**	**0.34**	**115**	Pg	Pg	13 29 17.6	+0.4
DIX				Sg	Sg	13 29 22.7	+1.1
CIRO	**Champorcher**	**0.75**	**146**	Sg	Sg	13 29 35.2	+0.4
RIVEL	**MONT RIVEL**	**0.90**	**307**	Pg	Pg	13 29 28.2	+0.1
OG35	**Corcelles**	**0.99**	**260**	Pn	Pn	13 29 32.0	-0.1
OG35				Sn	Sn	13 29 47.2	+0.4
CHMF	**Charmoille**	**1.05**	**348**	Sn	Sn	13 29 47.8	-0.4

*IDC **28** 13:34:28.8±12.0, 15°.00S×165°.50E, h0km, mb3.8/3, mbtmp3.9/4, ML4.1/1, Error ellipse: s-maj=215.3km s-min=36.8km az=54.0*
*NOU **28** 13:34:29.3, 14°.72S×167°.38E, h87km, MLv4.6/8, Vanuatu Islands*
ISC 28 13:34:24.9±3.6, 14°.5S±0°.2×166°.9E±0°.3, h67km, n8, σ2s31/9, mb3.3/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOUNC	**Koumac, New Ca**	**6.55**	**202**	P	**Pn**	**13 36 01.2**	**+2.5**
DZM	**Mont Dzumac**	**7.57**	**183**	P	**Pn**	**13 36 14.8**	**+2.1**
DZM	**Mont Dzumac**	**7.57**	**183**	Pn	**Pn**	**13 36 14.2**	**+1.5**
	3.4nm,0.3s,baz=348,slow=14,SNR=8.6						
DZM				Sn	**Sn**	**13 37 34.5**	**-2.6**
	1.0nm,0.3s,baz=106,slow=23,SNR=1.9 7.3nm,0.3s						
ONTNC	**Ouen Toro**	**7.81**	**183**	P	**Pn**	**13 36 18.9**	**+3.1**
PINNC	**Pines Island,**	**8.11**	**177**	P	**Pn**	**13 36 20.4**	**+0.4**
STKA	**Stephens Creek**	**28.91**	**229**	P	**P**	**13 40 17.7**	**0.0**
	3.1nm,0.5s,baz=49,slow=10,SNR=13 3.1nm,0.5s						
WRA	**Warramunga Arr**	**31.57**	**255**	P	**P**	**13 40 40.1**	**-1.2**
	0.3nm,0.7s,baz=85,slow=8.2,SNR=2.1 0.3nm,0.7s						
ASAR	**Alice Springs**	**32.46**	**249**	P	**P**	**13 40 48.0**	**-1.1**
	0.4nm,0.8s,baz=76,slow=9.2,SNR=14 0.4nm,0.8s						

IDC 28 13:35:36.2±52.0, 22°.10S×174°.58W, h0km, mb4.1/3, mbtmp4.1/3, MS2.6/1, Error ellipse: s-maj=984.4km s-min=176.6km az=86.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.02**	**246**	P	P	13 43 13.2	+0.2
	1.8nm,0.7s,baz=112,slow=10,SNR=4.0 1.8nm,0.7s						
ASAR	**Alice Springs**	**47.28**	**258**	P	P	13 44 11.4	-0.3
	1.2nm,0.6s,baz=95,slow=7.3,SNR=34 1.2nm,0.6s						
WRA	**Warramunga Arr**	**47.55**	**263**	P	P	13 44 13.7	-0.2
	2.1nm,0.6s,baz=102,slow=8.3,SNR=112 2.1nm,0.6s						
RPN	**Rapa Nui**	**58.95**	**109**	LR	LR	14 08 38.7	
	comp=Z,5.2nm,18.7s,baz=58,slow=34						

*NORS **28** 13:43:34.9, 43°.71N×43°.03E, h10km, MPVA4.6 TIF **28** 13:43:37.2, 43°.64N×43°.21E, h3km±2km*
ISC 28 13:43:36.0±1.1, 43°.70N±0°.04×43°.06E±0°.03, h8km±10km, n26, σ1s29/48, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTC	**Kuba-Taba**	**0.28**	**64**	*i* Pg	**Pg**	**13 43 41.5**	**-0.2**
KBTC				*e*Sg	**Sg**	**13 43 46.0**	**+0.5**
SHA1	**Shidzhatmaz**	**0.29**	**279**	*i* Pg	**Pg**	**13 43 42.0**	**+0.1**
SHA1				*e*Sg	**Sg**	**13 43 46.3**	**+0.5**
NCK	**Nalchik**	**0.44**	**117**	*i* Pg	**Pb**	**13 43 45.3**	**-0.8**
NCK				*e*Sg	**Sb**	**13 43 52.5**	**-0.3**
LSNR	**Lesken**	**0.70**	**126**	*e*Pg	**Pb**	**13 43 50.1**	**-0.3**
LSNR				*e*Sg	**Sn**	**13 44 01.2**	**-2.1**
STDR	**Stavd-Durt**	**0.80**	**114**	*e*Pg	**Pn**	**13 43 53.2**	**-0.5**
STDR				*e*Sg	**Sn**	**13 44 06.7**	**+0.9**
DIGR	**Digorskoe uzhe**	**0.88**	**154**	*e*Pg	**Pb**	**13 43 52.9**	**-0.9**
DIGR				*e*Sg	**Sb**	**13 44 05.3**	**-0.4**
PRTR	**Priterechnaya**	**0.89**	**86**	*e*Pg	**Pn**	**13 43 53.9**	**-1.0**
PRTR				*e*Sg	**Sn**	**13 44 07.3**	**-0.6**
KORR	**Kora**	**0.96**	**129**	*e*Pg	**Pn**	**13 43 55.3**	**-0.5**
KORR				*e*Sg	**Sn**	**13 44 09.4**	**-0.2**
ARNR	**Ardon**	**1.03**	**119**	*e*Pg	**Pn**	**13 43 57.7**	**+0.9**
BTKR	**Batakoyurt**	**1.13**	**106**	*e*Pg	**Pn**	**13 43 59.0**	**+0.8**
BTKR				*e*Sg	**Sn**	**13 44 17.2**	**+3.3**
ONI	**Oni**	**1.14**	**165**	P	**Pn**	**13 43 58.1**	**-0.3**
ONI				S	**Sn**	**13 44 14.1**	**-0.2**
ONI	**Oni**	**1.14**	**165**	*e*Pg	**Pn**	**13 43 58.3**	**-0.1**
ONI				*e*Sg	**Sn**	**13 44 14.3**	**0.0**
TRKR	**Terskaya**	**1.22**	**88**	*e*Pg	**Pn**	**13 44 00.1**	**+0.7**
TRKR				*e*Sg	**Sn**	**13 44 17.1**	**+1.2**
LACR	**Lac**	**1.25**	**133**	*e*Pg	**Pn**	**13 44 00.4**	**+0.4**
LACR				*e*Sg	**Sn**	**13 44 17.7**	**+0.5**
TKB	**Tkibuli**	**1.34**	**182**	P	**Pg**	**13 44 03.0**	**+1.2**
VLKR	**Vladikavkaz**	**1.35**	**118**	*e*Pg	**Pg**	**13 44 01.1**	**-0.8**
VLKR				*e*Sg	**Sn**	**13 44 22.6**	**+3.3**
KMGR	**Komgaron**	**1.47**	**115**	*e*Pg	**Pg**	**13 44 04.7**	**+0.5**
KMGR				*e*Sg	**Sg**	**13 44 27.3**	**+4.2**
MTEO	**Meteo**	**1.48**	**133**	P	**Pg**	**13 44 04.2**	**-0.3**
MTEO				S	**Sn**	**13 44 23.4**	**+0.2**
GUDG	**Gudauri**	**1.61**	**139**	P	**Pg**	**13 44 06.3**	**-0.6**
GUDG				S	**Sg**	**13 44 27.3**	**-0.6**
GUDG	**Gudauri**	**1.61**	**139**	*e*Pg	**Pg**	**13 44 06.5**	**-0.4**
GUDG				*e*Sg	**Sg**	**13 44 28.6**	**+0.8**
ALIG	**Mtskhetisjvari**	**1.65**	**164**	P	**Pg**	**13 44 08.1**	**+0.4**
SHTL	**Shatili**	**1.85**	**123**	P	**Pb**	**13 44 09.7**	**-0.6**
SHTL				S	**Sg**	**13 44 34.2**	**-1.3**
CHRG	**Chargali**	**1.94**	**134**	P	**Pg**	**13 44 11.8**	**-1.3**
CHRG				S	**Sg**	**13 44 37.3**	**-0.9**
ABS	**Abastumani**	**1.95**	**185**	P	**Pg**	**13 44 12.6**	**-0.7**
TRLG	**Trialeti**	**2.29**	**160**	P	**Pg**	**13 44 19.6**	**-0.3**
TRLG				S	**Sg**	**13 44 52.2**	**+2.7**
DVE	**Vedeno**	**2.36**	**107**	*e*Pn	**Pb**	**13 44 16.8**	**-2.0**
DVE				*e*Sn	**Sb**	**13 44 48.3**	**+0.2**

NNC 28 13:49:57.3±11.0, 37°.73N×70°.74E, h0km, mb3.9, mpv3.5, 1D, Error ellipse: s-maj=73.9km s-min=61.6km az=6.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**4.45**	**353**	Pg	Pg	13 51 21.6	-0.9
	10nm,0.4s						
IUG				Lg	Lg	13 52 23.9	
	21nm,0.5s						
BRLS	**Borolday**	**5.34**	**353**	Pg	Pb	13 51 29.7	-1.8
	2.5nm,0.3s						
BRLS				Lg	Lg	13 52 38.1	
	3.2nm,0.6s						
MRKS	**Merke**	**5.36**	**20**	Pg	Pb	13 51 32.8	+0.9
	2.1nm,0.3s						
MRKS				Lg	Lg	13 52 43.6	
	4.0nm,0.4s						
KK31	**Karatay Array**	**5.37**	**358**	⇓Pg	Pb	13 51 33.7	+1.6
	0.5nm,0.3s,baz=178,slow=13,SNR=4.2						
KK31				Lg	Lg	13 52 45.1	
	1.6nm,0.5s,baz=182,slow=22,SNR=8.4						

*IDC **28** 14:09:15.4±5.1, 6°.83N×72°.79W, h183km±53km, mb2.9/3, mbtmp3.4/4, MS3.0/1, Error ellipse: s-maj=73.1km s-min=31.7km az=69.0*
*RSNC **28** 14:09:15.7±0.0, 7°.N±2°×7°.3W±°, h143km±3km, mb3.7, mB4.7, mBc5.9, ML3.3, MLv4.1, Mw(mB)3.9*
ISC 28 14:09:13.8±0.9, 6°.85N±0°.04×73°.07W±0°.05, h148km±6km, n33, σ1s24/48, mb3.1/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.28**	**203**	P	**Pn**	**14 09 34.5**	**+0.1**
BARC				S	**Sn**	**14 09 49.3**	**-0.7**
PAMC	**Pamplona, Colo**	**0.61**	**37**	P	**Pn**	**14 09 37.3**	**+1.2**
PAMC				S	**Sn**	**14 09 54.4**	**+1.3**
RUSC	**La Rusia**	**0.95**	**181**	P	**Pn**	**14 09 38.4**	**-0.2**
RUSC				S	**Sn**	**14 09 57.4**	**-0.1**
OCAC	**Ocana**	**1.40**	**350**	P	**Pn**	**14 09 42.7**	**+0.3**
OCAC				S	**Sn**	**14 10 05.0**	**+0.8**
PTBC	**PUERTO BERRIO,**	**1.41**	**257**	P	**Pn**	**14 09 40.9**	**-1.4**
PTBC				S	**Sn**	**14 10 02.4**	**-1.7**
SPBC	**San Pablo de B**	**1.55**	**220**	P	**Pn**	**14 09 43.3**	**-0.6**
SPBC				S	**Sn**	**14 10 05.9**	**-1.1**
NORC	**Norcasia**	**2.20**	**235**	P	**Pn**	**14 09 50.7**	**-0.6**
NORC				S	**Sn**	**14 10 19.6**	**-0.5**
CVER	**Cruz Verde, Cu**	**2.52**	**203**	P	**Pn**	**14 09 56.4**	**+0.8**
HELC	**Santa Helena**	**2.53**	**255**	P	**Pn**	**14 09 56.0**	**+0.4**
HELC				S	**Sn**	**14 10 27.5**	**-0.2**
VILC	**Villavicencio,**	**2.79**	**193**	P	**Pn**	**14 09 58.7**	**0.0**
PTGC	**Puerto Gaitan,**	**2.80**	**160**	P	**Pn**	**14 09 58.0**	**-0.6**
PTGC				S	**Sn**	**14 10 32.5**	**-0.7**
GUY2C	**Guyana, Caldas**	**2.80**	**235**	P	**Pn**	**14 09 59.3**	**+0.3**
GUY2C				S	**Sn**	**14 10 37.5**	**+3.7**
CBOC	**Ciudad Bolivar**	**3.08**	**252**	P	**Pn**	**14 10 03.9**	**+1.5**
CBOC				S	**Sn**	**14 10 43.1**	**+3.2**
DBBC	**Dabeiba**	**3.12**	**273**	P	**Pn**	**14 10 02.9**	**+0.1**
SDV	**Santo Domingo**	**3.15**	**50**	P	**Pn**	**14 10 03.9**	**+0.7**
	31nm,0.3s,baz=263,slow=5.0,SNR=10.0						
SDV				S	**Sn**	**14 10 42.0**	**+0.7**
	80nm,0.5s,baz=253,slow=19,SNR=29						
ARGC	**Ariguani, Magd**	**3.21**	**339**	P	**Pn**	**14 10 05.4**	**+1.6**
APAC	**Apartado, Choc**	**3.63**	**287**	P	**Pn**	**14 10 08.5**	**-0.8**
ORTC	**Ortega, Tolima**	**3.64**	**217**	P	**Pn**	**14 10 09.3**	**-0.1**
ORTC				S	**Sn**	**14 10 52.2**	**-0.3**
SJCC	**San Jacinto, C**	**3.67**	**326**	P	**Pn**	**14 10 08.5**	**-1.4**
SJCC				S	**Sn**	**14 10 52.5**	**-0.9**
PLMC	**San Jos del P**	**3.73**	**239**	P	**Pn**	**14 10 10.6**	**-0.1**
PLMC				S	**Sn**	**14 10 55.8**	**+1.0**
CRJC	**Cerrejon, Guaj**	**4.14**	**3**	P	**Pn**	**14 10 15.4**	**-0.7**
CRJC				S	**Sn**	**14 11 02.7**	**-1.8**
YOTC	**Yotoco, Valle**	**4.33**	**229**	P	**Pn**	**14 10 18.6**	**+0.1**
SMRC	**Santa Marta, M**	**4.43**	**345**	P	**Pn**	**14 10 20.2**	**+0.4**
JAMC	**Jamundi, Valle**	**5.09**	**225**	P	**Pn**	**14 10 28.2**	**-0.5**
	8.6nm,0.8s,0.1nm						
GARC	**Garzon, Huila**	**5.23**	**208**	P	**Pn**	**14 10 28.9**	**-1.6**
POPC	**Popayan, Colom**	**5.59**	**220**	P	**Pn**	**14 10 35.0**	**-0.3**
	8.4nm,0.7s						
BBAC	**Balboa, Cauca**	**6.35**	**221**	P	**Pn**	**14 10 45.5**	**0.0**
MDP	**Montagnes des**	**20.39**	**94**	LR	LR	14 22 51.2	
	comp=Z,44nm,18.5s,baz=112,slow=41						
PDAR	**Pinedale Array**	**48.08**	**324**	P	**P**	**14 17 37.8**	**-1.0**
	0.4nm,0.9s,baz=138,slow=8.6,SNR=1.8 0.4nm,0.9s						
NVAR	**Mina Array Bea**	**51.50**	**315**	P	**P**	**14 18 04.4**	**-0.3**
	0.1nm,0.3s,baz=127,slow=6.9,SNR=1.1 0.1nm,0.3s						
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**14 19 24.8**	**-1.5**
	0.6nm,0.7s,baz=129,slow=6.5,SNR=13 0.6nm,0.7s						
ASAR	**Alice Springs**	**149.17**	**234**	PKPbc	**PKPdf**	**14 28 43.0**	**+1.7**
	0.6nm,0.6s,baz=115,slow=3.7,SNR=16						
WRA	**Warramunga Arr**	**150.40**	**241**	PKPbc	**PKPdf**	**14 28 46.3**	**+2.9**
	0.4nm,0.4s,baz=106,slow=2.7,SNR=23						

JMA 28 14:57:55.5±0.2, 35°.2N±0°.5×135°.7E±0°.3, h11km±1km, MV-0.3/6, MID KYOTO PREF, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.27**	**282**	*e*P	Pg	14 58 01.0	0.0

*IDC **28** 14:58:38.2±0.6, 36°.12N×143°.47E, h0km, mb3.9/18, mbtmp3.9/22, ML3.4/4, MS3.0/18, Error ellipse: s-maj=17.0km s-min=16.4km az=86.0*
*NEIC **28** 14:58:40.8±1.7, 36°.15N±0°.07×143°.4E±0°.1, h10km±1km, mb4.4/31, Error ellipse: s-maj=16.1km s-min=11.8km az=104.0*
*MOS **28** 14:58:41.8±1.8, 36°.37N×143°.47E, h33km, mb4.5/12, Error ellipse: s-maj=10.8km s-min=7.3km az=95.0*
*JMA **28** 14:58:43.2±0.2, 36°.3N±0°.6×14°.3E±°, h86km, MV4.0/29, FAR E OFF CENTRAL HONSHU*
*NIED **28** 14:58:43.2, 36°.26N×143°.19E, h86km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=0.98; Mθθ=0.02; Mφφ=0.96; Mrθ=0.16; Mθφ=0.29; Mφr=0.28; Fault plane solution: M0=1.07000×10^15 NP1: φs=200.00000°, δ=54.00000°, λ=84.00000°. NP2:φs=11.00000°, δ=37.00000°, λ=-98.00000°.*
ISC 28 14:58:43.0±2.5, 36°.27N±0°.05×143°.37E±0°.06, h28km±17km, n139, σ2s06/137, mb4.3/45, MS3.1/13, 2C-8D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**2.22**	**293**	*e*P	**Pn**	**14 59 16.9**	**-1.1**
ONAJ				S	**Sn**	**14 59 43.3**	**-1.3**
JHYU	**Hitachinakayam**	**2.25**	**273**	*i* P	**Pn**	**14 59 17.5**	**-0.7**
JHYU				S	**Sn**	**14 59 42.5**	**-2.4**
JFK	**Kawauchi**	**2.28**	**299**	*e*P	**Pn**	**14 59 17.7**	**-1.1**
JHO	**Hitachi**	**2.28**	**279**	*e*P	**Pn**	**14 59 17.6**	**-1.1**
JHO				S	**Sn**	**14 59 43.0**	**-2.9**
BSO1	**Boso 1**	**2.53**	**231**	P	**Pn**	**14 59 20.5**	**-1.1**
BSO1				*e*S	**Sn**	**14 59 49.9**	**-1.3**
JMM	**Marumori**	**2.60**	**308**	P	**Pn**	**14 59 22.5**	**-0.6**
JMM	**Marumori**	**2.60**	**308**		**Pn**	**14 59 22.6**	**-0.6**
JOTO	**OTAMA OYAMA**	**2.75**	**299**	*i* P	**Pn**	**14 59 25.2**	**0.0**
JOTO				S	**Sn**	**14 59 56.5**	**-1.0**
JAG	**Ashikaga**	**3.16**	**274**	*e*P	**Pn**	**14 59 30.2**	**-0.6**
JMK	**Ichinoseki**	**3.17**	**328**	*i* P	**Pn**	**14 59 30.4**	**-0.5**
JMK				S	**Sn**	**15 00 06.1**	**-1.8**
JYK	**Kaneyama**	**3.56**	**319**	P	**Pn**	**14 59 36.2**	**-0.1**
JYK				S	**Sn**	**15 00 16.9**	**-0.6**
JOM	**Ohasama**	**3.59**	**333**	*e*P	**Pn**	**14 59 35.9**	**-0.9**
JOM				*e*S	**Sn**	**15 00 16.4**	**-1.8**
JOD2	**Odawara 2**	**3.62**	**255**	P	**Pn**	**14 59 36.6**	**-0.6**
JOD2				S	**Sn**	**15 00 17.2**	**-1.8**
JRY	**Ryogami san**	**3.62**	**267**	*i* P	**Pn**	**14 59 36.5**	**-0.7**
JRY				S	**Sn**	**15 00 16.7**	**-2.3**
JFNN	**Fujinakano**	**3.96**	**256**	*e*S	**Sn**	**15 00 25.2**	**-2.0**
MJA0	**Matsu Arr-Jizo**	**4.14**	**275**	*e*P	**Pn**	**14 59 44.6**	**+0.3**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**4.17**	**275**	Pn	**Pn**	**14 59 44.7**	**0.0**
	comp=Z,0.7nm,0.3s,baz=87,slow=19,SNR=43						
MJAR				Sn	**Sn**	**15 00 30.0**	**-2.5**
	comp=Z,1.4nm,0.3s,baz=165,slow=10,SNR=7.9 comp=Z,10.0nm,0.4s						
MAJO	**Matsushiro**	**4.17**	**275**	P	**Pn**	**14 59 45.2**	**+0.5**
MAJO	**Matsushiro**	**4.17**	**275**		**Pn**	**14 59 44.6**	**-0.1**
MAJO	**Matsushiro**	**4.17**	**275**	*c iP*	**Pn**	**14 59 45.2**	**+0.5**
MJB9	**Matsu-Tunnel**	**4.17**	**275**		**Pn**	**14 59 45.3**	**+0.6**
JHJ2	**Mitsune**	**4.30**	**224**	P	**Pn**	**14 59 44.0**	**-2.4**
JHJ2	**Mitsune**	**4.30**	**224**	Pn	**Pn**	**14 59 43.5**	**-2.9**
JHJ2	**Mitsune**	**4.30**	**224**	P	**Pn**	**14 59 44.1**	**-2.4**
JHJ2				*e*S	**Sn**	**15 00 29.5**	**-6.2**
JHJ	**Hachijo jima 2**	**4.31**	**224**	Pn	**Pn**	**14 59 43.9**	**-2.7**
	comp=Z,38nm,0.3s,baz=78,slow=21,SNR=34						
JHJ				Sn	**Sn**	**15 00 29.5**	**-6.5**
	comp=Z,248nm,0.3s,baz=42,slow=23,SNR=21 comp=Z,74nm,0.3s						
JTM	**Tenmabayashi**	**4.86**	**339**	P	**Pn**	**14 59 54.7**	**+0.6**
JTM	**Tenmabayashi**	**4.86**	**339**	Pn	**Pn**	**14 59 54.9**	**+0.8**
JGF	**Kuroka**	**4.92**	**264**	P	**Pn**	**14 59 57.3**	**+2.2**
JGF	**Kuroka**	**4.92**	**264**		**Pn**	**14 59 54.6**	**-0.4**
INU	**Inuyama**	**5.24**	**262**	P	**Pn**	**15 00 01.2**	**+1.8**
INU	**Inuyama**	**5.24**	**262**		**Pn**	**14 59 57.9**	**-1.5**
ERM	**Erimo**	**5.74**	**358**	P	**Pn**	**15 00 04.7**	**-1.5**
ERM	**Erimo**	**5.74**	**358**	Pn	**Pn**	**15 00 05.2**	**-1.0**
ERM	**Erimo**	**5.74**	**358**	P	**Pn**	**15 00 05.2**	**-1.0**
JEM	**Erimo**	**5.74**	**358**	P	**Pn**	**15 00 05.1**	**-1.1**
NMR	**Nemuro--Hokkai**	**7.32**	**14**	*e*P	**Pn**	**15 00 24.2**	**-3.7**
NMR				*e*S	**Sn**	**15 01 42.3**	**-7.7**
JKA	**Kamikawa-asahi**	**7.86**	**356**	Pn	**Pn**	**15 00 34.4**	**-0.9**
ASAJ	**Asahikawa**	**7.86**	**356**	P	**Pn**	**15 00 34.4**	**-0.9**
ASAJ	**Asahikawa**	**7.86**	**356**	Pn	**Pn**	**15 00 33.6**	**-1.7**
	comp=Z,1.2nm,0.3s,baz=218,slow=17,SNR=14						
ASAJ				Sn	**Sn**	**15 01 59.3**	**-4.0**
	comp=Z,0.7nm,0.3s,baz=198,slow=19,SNR=1.7						
RUSJ	**Misakicho**	**7.96**	**10**	*e*P	**Pn**	**15 00 34.5**	**-2.1**
RUSJ				*e*S	**Sn**	**15 02 00.7**	**-4.9**
YUK	**Yuzh-Kuril'sk**	**7.99**	**13**	*e*P	**Pn**	**15 00 34.4**	**-2.6**
YUK				*e*S	**Sn**	**15 01 59.8**	**-6.6**
SHO	**Shikotan**	**8.04**	**18**	*e*P	Pn	15 00 33.2	-4.6
SHO				*e*S	Sn	15 01 59.0	-8.7
JMN	**Monobe**	**8.19**	**255**	Pn	**Pn**	**15 00 40.4**	**+0.5**
JCJ	**Chichijima**	**9.20**	**187**	Pn	Pn	15 00 42.6	-11
	comp=Z,4.8nm,0.3s,baz=288,slow=20,SNR=7.9						
JCJ				Sn	Sn	15 02 17.2	-19
	comp=Z,11nm,0.3s,baz=303,slow=22,SNR=5.4						
JNU	**Nakatsue**	**10.75**	**257**	Pn	**Pn**	**15 01 14.3**	**-0.7**
JNU	**Nakatsue**	**10.75**	**257**	Pn	**Pn**	**15 01 13.3**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=63,slow=10,SNR=2.1						
JNU				LR	LR	15 06 13.1	
	comp=Z,171nm,18.0s,baz=79,slow=42 comp=Z,3.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**11.75**	**316**	Pn	**Pn**	**15 01 25.2**	**-3.5**
	comp=Z,0.2nm,0.3s,baz=112,slow=14,SNR=2.4						
USRK				LR	LR	15 05 39.6	
	comp=Z,58nm,18.7s,baz=198,slow=35						
KSRS	**Korea Array**	**12.43**	**280**	Pn	**Pn**	**15 01 38.1**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=94,slow=14,SNR=2.4						
KSRS				LR	LR	15 06 05.1	
	comp=Z,73nm,19.3s,baz=85,slow=36 comp=Z,0.8nm,0.8s						
KLR	**Kul'dur**	**15.48**	**330**	⇓*e*P	**P**	**15 02 24.4**	**+1.0**
KLR				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KLR	**Kul'dur**	**15.48**	**330**	Pn	**Pn**	**15 02 17.2**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=109,slow=14,SNR=2.3						
KLR				LR	LR	15 07 51.6	
	comp=Z,30nm,19.4s,baz=176,slow=35						
HEH	**HeiHe**	**18.12**	**325**	*e*P	**P**	**15 02 52.8**	**+0.3**
PETK	**Petropavlovsk-**	**19.61**	**26**	LR	LR	15 11 53.3	
	comp=Z,19nm,19.8s,baz=262,slow=40						
MA2	**Magadan**	**23.81**	**9**	LR	LR	15 12 28.4	
	comp=Z,19nm,21.2s,baz=129,slow=35						
H11N2	**WAKE ISLAND Hy**	**26.41**	**122**	T	T	15 31 35.6	
	baz=314,slow=75,SNR=25						
H11N1	**WAKE ISLAND Hy**	**26.42**	**122**	T	T	15 31 34.9	
	baz=314,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**26.43**	**122**	T	T	15 31 36.9	
	baz=314,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**27.13**	**124**	T	T	15 32 31.8	
	baz=316,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**27.13**	**125**	T	T	15 32 28.4	
	baz=316,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**27.15**	**125**	T	T	15 32 33.3	
	baz=316,slow=76,SNR=18						
YAK	**Yakutsk**	**27.17**	**346**	LR	LR	15 16 38.7	
	comp=Z,44nm,18.2s,baz=136,slow=40						
SEY	**Seymchan**	**27.27**	**9**	⇓*e*P	P	15 04 37.3	+13
SEY				pmax	pmax		
	comp=Z,6.0nm,1.3s						
ULN	**Ulaanbaatar**	**29.08**	**305**	⇓*e*P	P	15 04 46.9	+5.8
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**29.51**	**305**	P	**P**	**15 04 46.2**	**+1.3**
SONM	**Songino Array**	**29.51**	**305**	*e*P	**P**	**15 04 46.9**	**+2.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**29.51**	**305**	P	**P**	**15 04 46.6**	**+1.7**
	comp=Z,1.0nm,0.7s,baz=109,slow=8.0,SNR=8.2						
SONM				LR	LR	15 16 31.5	
	comp=Z,21nm,20.7s,baz=56,slow=36 comp=Z,1.0nm,0.7s						
LZH	**Lanzhou**	**31.75**	**282**	*e*P	**P**	**15 05 08.0**	**+3.2**
LZH				sP	sP	15 05 17.0	+3.3
LZH				pmax	pmax		
	comp=Z,10.0nm,1.5s						
GTA	**Gaotai**	**34.29**	**289**	*e*P	**P**	**15 05 28.5**	**+1.6**
GTA				sP	sP	15 05 39.3	+3.5
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BILL	**Bilibino**	**34.33**	**15**	*i* P	P	15 05 38.3	+12
TIXI	**Tiksi**	**36.24**	**352**	⇓*e*P	P	15 05 51.9	+8.8
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.8s						
ANM	**Nome**	**41.44**	**31**	P	**P**	**15 06 28.5**	**+1.8**
ANM				IAmb	IAmb	15 06 40.6	
	comp=Z,5.9nm,0.8s						
ANM	**Nome**	**41.44**	**31**	P	**P**	**15 06 28.5**	**+1.8**
ANM				pmax	pmax		
	comp=Z,6.0nm,0.8s						
J14K	**Nanvaranak Lak**	**41.72**	**34**	P	**P**	**15 06 30.9**	**+1.9**
J14K				IAmb	IAmb	15 06 31.6	
	comp=Z,8.7nm,1.4s						
C16K	**Lisburne Hills**	**42.71**	**25**	P	**P**	**15 06 37.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**42.85**	**258**	LR	LR	15 26 17.9	
	comp=Z,8.4nm,20.6s,baz=270,slow=39						
ZALV	**Zalesovo Beam**	**43.59**	**313**	P	**P**	**15 06 45.4**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=101,slow=6.0,SNR=2.7						
ZALV				LR	LR	15 25 47.5	
	comp=Z,19nm,18.3s,baz=72,slow=37 comp=Z,0.6nm,0.5s						
F17K	**Baldwin Pennin**	**43.62**	**29**	P	**P**	**15 06 45.6**	**+1.2**
F17K				IAmb	IAmb	15 06 58.5	
	comp=Z,5.3nm,1.0s

WRAB				pmax	pmax		
	comp=Z,23nm,3.3s						
WB2	**Warramunga Arr**	**56.55**	**190**	P	**P**	**15 08 21.5**	**-1.5**
WB2				IAmb	IAmb	15 08 22.4	
	comp=Z,3.5nm,0.7s						
WRA	**Warramunga Arr**	**56.56**	**190**	P	**P**	**15 08 21.5**	**-1.5**
WRA	**Warramunga Arr**	**56.56**	**190**	P	**P**	**15 08 21.7**	**-1.3**
	comp=Z,2.6nm,0.7s,baz=11,slow=7.4,SNR=44						
	comp=Z,2.6nm,0.7s						
ARU	**Arti**	**57.97**	**319**	*d iP*	**P**	**15 08 33.7**	**+1.1**
ARU						15 10 39.7	
ARU				S	**S**	**15 16 30.9**	**+0.1**
ARU				SS	**SS**	**15 20 15.0**	**-6.5**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ARU	**Arti**	**57.97**	**319**	P	**P**	**15 08 33.5**	**+0.9**
	comp=Z,2.3nm,0.4s,baz=102,slow=4.0,SNR=5.6						
ARU				LR	LR	15 34 45.1	
	comp=Z,17nm,19.6s,baz=28,slow=37						
	comp=Z,2.3nm,0.4s						
AS31	**Alice Springs**	**60.28**	**190**	P	**P**	**15 08 47.7**	**-1.2**
ASAR	**Alice Springs**	**60.28**	**190**	P	**P**	**15 08 47.6**	**-1.3**
ASAR	**Alice Springs**	**60.28**	**190**	P	**P**	**15 08 47.8**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=3.4,slow=7.1,SNR=56						
	comp=Z,1.5nm,0.6s						
AKTO	**Aktyubinsk**	**60.35**	**313**	P	**P**	**15 08 49.9**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=60,slow=10.0,SNR=5.5						
	comp=Z,1.8nm,0.7s						
YKA	**Yellowknife Ar**	**63.67**	**30**	P	**P**	**15 09 11.6**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=294,slow=6.8,SNR=4.5						
	comp=Z,0.2nm,0.6s						
OBN	**Obninsk**	**69.64**	**324**	*e*P	**P**	**15 09 54.0**	**+4.6**
OBN				*e*		15 10 17.4	
OBN				*e*		15 12 25.5	
OBN				*e*PPP	PPP	15 14 10.4	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	**FINESS Array B**	**70.21**	**333**	P	**P**	**15 09 53.5**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=340,slow=8.7,SNR=4.1						
	comp=Z,0.9nm,0.7s						
KBZ	**Khabaz**	**72.59**	**312**	*e*P	**P**	**15 10 10.4**	**+2.9**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KBZ	**Khabaz**	**72.59**	**312**	P	**P**	**15 10 06.8**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=29,slow=4.6,SNR=5.4						
	comp=Z,1.9nm,0.8s						
KIV	**Kislovodsk**	**72.59**	**312**	*e*P	**P**	**15 10 09.8**	**+2.1**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HFS	**Hagfors**	**75.42**	**337**	P	**P**	**15 10 23.7**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=92,slow=4.6,SNR=1.9						
	comp=Z,1.8nm,0.9s						
NB2	**NORSAR Subarra**	**75.49**	**338**	P	**P**	**15 10 25.1**	**+0.9**
	comp=Z,2.1nm,0.7s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**75.49**	**338**	P	**P**	**15 10 25.1**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=39,slow=5.7,SNR=5.7						
NOA				LR	LR	15 48 52.1	
	comp=Z,9.9nm,19.0s,baz=260,slow=40						
	comp=Z,1.3nm,0.7s						
AKASG	**Malin Array Be**	**75.85**	**323**	P	**P**	**15 10 27.0**	**+0.6**
AKASG	**Malin Array Be**	**75.85**	**323**	P	**P**	**15 10 27.0**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=49,slow=5.0,SNR=6.5						
	comp=Z,0.8nm,0.5s						
AKBB	**Malin Array Si**	**75.85**	**323**	*e*P	**P**	**15 10 30.1**	**+3.7**
AKBB				pmax	pmax		
	comp=Z,14nm,3.2s						
PDAR	**Pinedale Array**	**77.07**	**46**	P	**P**	**15 10 33.6**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=283,slow=1.1,SNR=6.0						
	comp=Z,0.3nm,0.5s						
BURAR	**Bucovina Array**	**79.88**	**323**	P	**P**	**15 10 49.8**	**+0.8**
MLR	**Muntele Rosu**	**80.97**	**321**	LR	LR	15 52 55.2	
	comp=Z,28nm,19.6s,baz=20,slow=40						
VRAC	**Vranov**	**82.61**	**328**	LR	LR	15 49 22.7	
	comp=Z,13nm,20.1s,baz=318,slow=37						
KHC	**Kasperske Hory**	**84.00**	**330**	*e*P	P	15 11 17.1	+6.5
EIL	**Elat**	**86.11**	**304**	LR	LR	15 54 46.9	
	comp=Z,11nm,19.4s,baz=244,slow=39						
TXAR	**Lajitas Array**	**89.33**	**54**	P	**P**	**15 11 37.4**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=284,slow=3.5,SNR=6.4						
	comp=Z,0.6nm,0.7s						
QSPA	**South Pole Qui**	**126.02**	**180**	PKP	**PKPdf**	**15 17 40.3**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=179,slow=1.7,SNR=5.9						
LPAZ	**La Paz**	**145.68**	**63**	PKPbc	**PKPdf**	**15 18 19.1**	**-0.8**
	comp=Z,2.0nm,0.6s,baz=241,slow=1.1,SNR=8.5						

IDC 28 15:06:39.9±2.1, 3°.02N×126°.25E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=179.4km s-min=27.1km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.16**	**161**	P	P	15 11 58.1	+0.1
	0.8nm,0.5s,baz=340,slow=11,SNR=16						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**27.55**	**165**	P	P	15 12 29.1	+0.4
	0.2nm,0.3s,baz=351,slow=8.2,SNR=8.7						
	0.2nm,0.3s						
STKA	**Stephens Creek**	**37.64**	**158**	P	P	15 13 56.9	+0.1
	1.2nm,0.6s,baz=334,slow=11,SNR=3.0						
	1.2nm,0.6s						
MKAR	**Makanchi Array**	**57.86**	**326**	P	P	15 16 32.9	-0.7
	0.1nm,0.4s,baz=109,slow=6.9,SNR=2.3						
	0.1nm,0.4s						

IDC 28 15:28:02.7±5.9, 24°.43S×176°.77W, h0km, mb3.6/3, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=124.3km s-min=65.5km az=92.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.74**	**199**	Pn	Pn	15 31 31.8	-0.7
	0.3nm,0.3s,baz=55,slow=16,SNR=2.2						
URZ				Sn	Sn	15 34 04.6	-12
	0.1nm,0.3s,baz=351,slow=19,SNR=1.1						
	4.1nm,0.9s						
ASAR	**Alice Springs**	**44.85**	**260**	P	P	15 36 18.9	-0.1
	0.8nm,0.9s,baz=99,slow=7.2,SNR=7.4						
	0.8nm,0.9s						
WRA	**Warramunga Arr**	**45.31**	**266**	P	P	15 36 22.6	-0.1
	0.4nm,0.7s,baz=102,slow=7.9,SNR=2.7						
	0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**92.48**	**289**	P	P	15 41 16.2	0.0
	0.4nm,0.6s,baz=139,slow=3.9,SNR=4.5						
	0.4nm,0.6s						

*NOU **28** 15:40:06.5, 7°.15S×129°.37E, h208km, mb3.8/8, Banda Sea*

*IDC **28** 15:40:13.4±7.7, 7°.95S×129°.15E, h152km±68km, mb3.5/1, mbtmp3.7/4, MS3.0/2, Error ellipse: s-maj=94.1km s-min=35.1km az=40.0*

ISC 28 15:40:11.3±2.2, 7.7S±0°.2×129°.1E±0°.1, h150km, n13, σ2s90°/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.16**	**97**	P	**Pn**	**15 40 46.6**	**-1.7**
DRS	**Darwin Rock St**	**5.01**	**160**	P	**Pn**	**15 41 27.5**	**+2.7**
SOEI	**Soe**	**5.22**	**247**	P	**Pn**	**15 41 29.7**	**+1.8**
MTN	**Manton Dam**	**5.47**	**159**	P	**Pn**	**15 41 32.5**	**+1.5**
KDU	**Kakadu**	**5.94**	**147**	P	**Pn**	**15 41 37.8**	**+0.6**
BATI	**Baumata**	**5.95**	**245**	P	**Pn**	**15 41 38.4**	**+1.0**
	14nm,0.4s,baz=69,slow=6.8,SNR=7.3						
KNRA	**Kununurra**	**7.93**	**183**	P	**Pn**	**15 42 06.3**	**+2.5**
PLAI	**Plampang**	**11.30**	**264**	P	**Pn**	**15 42 46.3**	**-2.2**
WRA	**Warramunga Arr**	**13.17**	**158**	P	**Pn**	**15 43 10.5**	**-2.2**
	0.3nm,0.5s,baz=341,slow=13,SNR=2.2						
WRA				S	Sn	15 45 35.0	-3.6
	0.6nm,0.4s,baz=332,slow=22,SNR=7.9						
ASAR	**Alice Springs**	**16.52**	**164**	P	**Pn**	**15 43 55.3**	**+0.8**
	1.4nm,0.7s,baz=346,slow=12,SNR=29						
ASAR				S	**S**	**15 46 56.7**	**-1.4**
	0.1nm,0.3s,baz=344,slow=23,SNR=2.2						
PMG	**Port Moresby**	**17.90**	**97**	LR	LR	15 51 32.8	
	comp=Z,44nm,18.7s,baz=256,slow=38						
CTA	**Charters Tower**	**20.65**	**128**	LR	LR	15 53 42.4	
	comp=Z,46nm,19.8s,baz=240,slow=40						
STKA	**Stephens Creek**	**26.71**	**156**	P	**P**	**15 45 36.1**	**-0.5**
	1.9nm,1.0s,baz=343,slow=11,SNR=2.8						
	1.9nm,1.0s						

*IDC **28** 16:05:13.6±1.1, 12°.03N×86°.91W, h0km, mb3.9/8, mbtmp3.9/10, ML3.7/2, MS3.8/43, Error ellipse: s-maj=46.2km s-min=15.4km az=45.0*

*CATAC **28** 16:05:14.9±0.3, 11°.45N×87°.50W, h20km, ML4.3*

*NEIC **28** 16:05:14.3±2.0, 11°.58N±0°.06×87°.33W±0°.07, h10km±1km, mb4.6/111, Error ellipse: s-maj=12.1km s-min=8.4km az=235.0*

*GCMT **28** 16:05:17.3±0.5, 11°.40N±0°.03×87°.79W±0°.04, h20km±1km, MW4.9/79, Moment Tensor Solution. s22,c24; s79,c108; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.73±.17; Mθθ -0.76±.10; Mφφ -0.96±.11; Mrθ 0.60±.14; Mrφ 0.60±.05; Mθφ -1.75±.24; Best double couple: Mo 2.43800×10^16 NP1: φs 155.00000°, δ 70.00000°, λ 98.00000°. NP2: φs 312.00000°, δ 22.00000°, λ 68.00000°. Principal axes: T 2.6140, Plg64.0000°, Azm79.0000°; N -0.3490, Plg8.0000°, Azm332.0000°; P -2.2620, Plg24.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*SNET **28** 16:05:20.1±1.4, 11°.83N×87°.71W, h13km±12km, ML4.0*

ISC 28 16:05:14.0±1.5, 11°.54N±0°.04×87°.41W±0°.04, h13km±9km, n236, σ1s55/198, mb4.6/61, MS3.8/41, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.02**	**51**	*i* P	**Pn**	**16 05 35.1**	**+1.1**
COPN				IAML		16 05 56.4	
	comp=Z,4μm,1.0s						
BC86	**Nagarote**	**1.09**	**49**	*i* P	**Pn**	**16 05 36.2**	**+1.2**
BC86				*i* S	**Sn**	**16 05 53.5**	**+3.5**
BC86				IAML		16 06 26.9	
	comp=Z,9μm,1.0s						
PACN	**Al O del Volca**	**1.13**	**32**	*i* P	**Pn**	**16 05 35.0**	**-0.5**
LEVN	**Ruinas Leon Vi**	**1.15**	**42**	*i* P	**Pn**	**16 05 37.2**	**+1.4**
LEVN				*i* S	**Sn**	**16 05 55.0**	**+3.6**
LEVN				IAML		16 06 06.4	
	comp=Z,5μm,1.0s						
SAPS	**Ciudad Sandino**	**1.16**	**57**	*i* P	**Pn**	**16 05 37.6**	**+1.7**
SAPS				*i* S	**Sn**	**16 05 55.6**	**+3.9**
SAPS				IAML		16 06 09.0	
	comp=Z,5μm,1.0s						
MACN	**El Madrono**	**1.17**	**38**	*i* P	**Pn**	**16 05 37.3**	**+1.3**
MACN				IAML		16 06 09.9	
	comp=Z,3μm,1.0s						
CNGA	**Al SSO del Vol**	**1.17**	**36**	*i* P	**Pn**	**16 05 36.4**	**+0.3**
CNGA				*i* S	**Sn**	**16 05 55.4**	**+3.4**
CNGA				IAML		16 06 06.6	
	comp=Z,4μm,1.0s						
CNGN	**Cerro Negro**	**1.18**	**36**	Pn	**Pn**	**16 05 36.1**	**-0.1**
CNGN	**Cerro Negro**	**1.18**	**36**	*e*P	**Pn**	**16 05 35.9**	**-0.3**
CNGN				*e*S	**Sn**	**16 05 53.9**	**+1.8**
CNGN	**Cerro Negro**	**1.18**	**36**	*i* P	**Pn**	**16 05 38.0**	**+1.8**
CNGN				*i* S	**Sn**	**16 05 55.8**	**+3.7**
CNGN				IAML		16 06 30.8	
	comp=Z,6μm,1.0s						
ADRN	**Diriamba**	**1.19**	**75**	*i* P	**Pn**	**16 05 37.7**	**+1.4**
ADRN				IAML		16 06 11.4	
	comp=Z,11μm,1.0s						
PKGN	**Cerro Pekin**	**1.20**	**21**	*i* P	**Pn**	**16 05 37.9**	**+1.5**
PKGN				IAML		16 05 48.1	
	comp=Z,8μm,1.0s						
BC84	**Volcan Momotom**	**1.20**	**45**	*i* P	**Pn**	**16 05 37.7**	**+1.3**
BC84				IAML		16 06 28.3	
	comp=Z,11μm,1.0s						
HERN	**Volcan Telica**	**1.20**	**28**	*i* P	**Pn**	**16 05 37.7**	**+1.2**
HERN				IAML		16 06 15.8	
	comp=Z,5μm,1.0s						
CRIN	**San Cristobal**	**1.20**	**17**	Pn	**Pn**	**16 05 37.5**	**+0.9**
CRIN	**San Cristobal**	**1.20**	**17**	*i* P	**Pn**	**16 05 38.1**	**+1.5**
CRIN				IAML		16 06 16.6	
	comp=Z,13μm,1.0s						
MOMN	**Momotombo**	**1.21**	**44**	*i* P	**Pn**	**16 05 37.7**	**+1.1**
MOMN				*i* S	**Sn**	**16 05 55.7**	**+2.8**
MOMN				IAML		16 06 28.9	
	comp=Z,220nm,1.0s						
APQ2	**Apoyeque**	**1.24**	**58**	*i* P	**Pg**	**16 05 38.4**	**+0.4**
APQ2				IAML		16 06 14.3	
	comp=Z,4μm,1.0s						
UNAN	**Cigeo UNAN**	**1.25**	**63**	*i* P	**Pg**	**16 05 38.9**	**+0.8**
UNAN				IAML		16 06 02.7	
	comp=Z,23μm,1.0s						
ENAN	**Enatrel Managu**	**1.26**	**63**	*i* P	**Pg**	**16 05 39.3**	**+1.1**
ENAN				IAML		16 06 08.4	
	comp=Z,10μm,1.0s						
TISN	**Laguna Tiscapa**	**1.26**	**62**	*i* P	**Pg**	**16 05 39.1**	**+0.7**
TISN				IAML		16 06 04.7	
	comp=Z,410nm,1.0s						
R8CCA	**La Lomita**	**1.27**	**63**	*i* P	**Pg**	**16 05 39.3**	**+0.9**
R8CCA				IAML		16 06 04.1	
	comp=Z,4μm,1.0s						
MOM2	**El Cardon**	**1.27**	**45**	*i* P	**Pg**	**16 05 38.6**	**+0.2**
MOM2				IAML		16 06 20.7	
	comp=Z,3μm,1.0s						
APQN	**BB Volcan Apoy**	**1.28**	**58**	*i* P	**Pg**	**16 05 39.0**	**+0.4**
R0529	**La Mascota**	**1.28**	**63**	*i* P	**Pg**	**16 05 39.7**	**+1.0**
R0529				IAML		16 06 11.1	
	comp=Z,4μm,1.0s						
R4DEC	**Barrio San Lui**	**1.29**	**62**	*i* P	**Pg**	**16 05 38.8**	**0.0**
R4DEC				IAML		16 06 01.7	
	comp=Z,3μm,1.0s						
RB213	**Mirador 2 Volc**	**1.29**	**70**	*i* P	**Pg**	**16 05 38.6**	**-0.2**
RB213				IAML		16 06 06.0	
	comp=Z,4μm,1.0s						
MAS3	**Al N del Volca**	**1.30**	**68**	*i* P	**Pg**	**16 05 38.7**	**-0.3**
MAS3				*i* S	**Sn**	**16 05 59.7**	**+4.7**
MAS3				IAML		16 06 02.2	
	comp=Z,4μm,1.0s						
MASN	**Masaya**	**1.31**	**70**	*i* P	**Pg**	**16 05 41.0**	**+1.8**
MASN				IAML		16 06 14.7	
	comp=Z,700nm,1.0s						
WILN	**Americas 2**	**1.34**	**63**	*i* P	**Pg**	**16 05 39.1**	**-0.8**
WILN				*i* S	**Sn**	**16 06 01.5**	**+5.4**
WILN				IAML		16 06 04.7	
	comp=Z,3μm,1.0s						
BRAN	**Las Pilas**	**1.56**	**41**	*i* P	**Pn**	**16 05 36.9**	**-4.5**
BRAN				*i* S	**Sn**	**16 05 56.3**	**-5.2**
BRAN				IAML		16 05 59.8	
	comp=Z,3μm,1.0s						
JAPN	**Al SSO del Vol**	**1.69**	**90**	*i* P	**Pb**	**16 05 44.6**	**-0.4**
JAPN				*i* S	**Sg**	**16 06 07.8**	**-0.8**
JAPN				IAML		16 06 15.7	
	comp=Z,2μm,1.0s						
CNCH	**Conchagua**	**1.77**	**346**	*e*P	**Pn**	**16 05 44.9**	**+0.5**
CNCH	**Conchagua**	**1.77**	**346**	*i* P	**Pn**	**16 05 45.6**	**+1.1**
CNCH				*i* S	**Sb**	**16 06 09.2**	**+0.6**
CNCH				IAML		16 06 19.2	
	comp=Z,3μm,1.0s						
LCND	**La Caada**	**1.82**	**345**	*e*P	**Pn**	**16 05 46.0**	**+1.0**
LCND				*e*S	**Sn**	**16 06 06.0**	**-1.9**
LCND				IAML		16 06 18.1	
	comp=Z,868nm,0.3s						
LCND	**La Caada**	**1.82**	**345**	*i* P	**Pn**	**16 05 46.4**	**+1.4**
LCND				IAML		16 06 19.2	
	comp=Z,900nm,1.0s						
LIMN	**Finca el Limon**	**1.82**	**34**	*i* P	**Pb**	**16 05 46.4**	**-0.9**
LIMN				IAML		16 06 27.5	
	comp=Z,2μm,1.0s						
BOAB	**BOACO BROADBAN**	**1.93**	**62**	Pn	**Pn**	**16 05 47.0**	**+0.5**
BOAB	**BOACO BROADBAN**	**1.93**	**62**	*i* P	**Pb**	**16 05 48.1**	**-0.9**
BOAB				IAML		16 06 38.5	
	comp=Z,1μm,1.0s						
HZTE	**Horizontes, Gu**	**1.96**	**115**	Pn	**Pn**	**16 05 47.4**	**+0.5**
HZTE	**Horizontes, Gu**	**1.96**	**115**	*i* P	**Pn**	**16 05 47.5**	**+0.6**
HZTE				IAML		16 06 51.8	
	comp=Z,2μm,1.0s						
VSM	**San Miguel**	**2.06**	**336**	*e*P	**Pn**	**16 05 49.8**	**+1.3**
LCY	**Lacayo**	**2.06**	**335**	*e*P	**Pn**	**16 05 49.5**	**+1.1**
RANC	**El Ranchito**	**2.07**	**336**	*e*P	**Pn**	**16 05 49.4**	**+0.9**
RANC	**El Ranchito**	**2.07**	**336**	*i* P	**Pn**	**16 05 50.0**	**+1.5**
RANC				IAML		16 06 08.7	
	comp=Z,770nm,1.0s						
PACA	**Pacayal**	**2.11**	**335**	*e*P	**Pn**	**16 05 50.1**	**+0.9**
PACA				*e*S	**Sn**	**16 06 12.9**	**-2.5**
PACA				IAML		16 06 26.1	
	comp=Z,5μm,0.6s						
PACA	**Pacayal**	**2.11**	**335**	*i* P	**Pn**	**16 05 50.7**	**+1.5**
PACA				IAML		16 06 32.9	
	comp=Z,6μm,1.0s						
SAJU	**San Juanillo,**	**2.22**	**131**	*i* P	**Pn**	**16 05 51.1**	**+0.6**
SAJU				IAML		16 06 41.9	
	comp=Z,850nm,1.0s						
ACON	**Acoyapa**	**2.23**	**79**	Pn	**Pn**	**16 05 49.8**	**-0.8**
ORTG	**Ortega, Santa**	**2.24**	**121**	Pn	**Pn**	**16 05 51.1**	**+0.3**
ORTG	**Ortega, Santa**	**2.24**	**121**	*i* P	**Pn**	**16 05 51.2**	**+0.3**
ORTG				IAML		16 06 59.5	
	comp=Z,980nm,1.0s						
RCPN	**Sur Rio San Ju**	**2.35**	**33**	*i* P	**Pn**	**16 05 53.6**	**+1.2**
RCPN				IAML		16 06 29.9	
	comp=Z,1.6nm,1.0s						
SCLA	**Alcaldia de Sa**	**2.50**	**329**	*e*P	**Pn**	**16 05 55.5**	**+1.1**
SCLA	**Alcaldia de Sa**	**2.50**	**329**	*i* P	**Pn**	**16 05 55.6**	**+1.1**
SCLA				IAML		16 06 47.2	
	comp=Z,520nm,1.0s						
TGUH	**Tegucigalpa,Un**	**2.50**	**3**	Pn	**Pn**	**16 05 56.2**	**+1.7**
TGUH	**Tegucigalpa,Un**	**2.50**	**3**	*e*P	**Pn**	**16 05 56.2**	**+1.7**
TGUH	**Tegucigalpa,Un**	**2.50**	**3**	*i* P	**Pn**	**16 05 56.4**	**+1.9**
TGUH				IAML		16 06 48.7	
	comp=Z,1μm,1.0s						
INDI	**Punta indio, G**	**2.51**	**131**	*i* P	**Pn**	**16 05 53.8**	**-0.6**
INDI				IAML		16 06 51.4	
	comp=Z,2μm,1.0s						
PAVA	**Las Pavas**	**2.62**	**325**	*e*P	**Pn**	**16 05 57.3**	**+1.1**
JTS	**Las Juntas de**	**2.71**	**117**	Pn	**Pn**	**16 05 57.6**	**+0.3**
JTS	**Las Juntas de**	**2.71**	**117**	Pn	**Pn**	**16 05 58.0**	**+0.8**
	comp=Z,11nm,0.3s,baz=317,slow=17,SNR=18						
JTS				Sn	**Sn**	**16 06 29.6**	**-0.4**
	comp=Z,55nm,0.3s,baz=235,slow=18,SNR=9.8						
JTS				LR	LR	16 06 49.5	
	comp=Z,290nm,19.6s,baz=283,slow=37						
	comp=Z,18nm,0.3s						
ARE1	**Arenal 1**	**2.85**	**112**	Pn	**Pn**	**16 06 00.5**	**+1.3**
JAYA	**Jayaque - finc**	**2.90**	**317**	*e*P	**Pn**	**16 05 60.0**	**+0.1**
JAYA	**Jayaque - finc**	**2.90**	**317**	*i* P	**Pn**	**16 06 00.5**	**+0.6**
JAYA				IAML		16 06 37.0	
	comp=Z,860nm,1.0s						
SOCE	**Pocosol**	**2.97**	**113**	Pn	**Pn**	**16 06 00.9**	**+0.1**
SOCE	**Pocosol**	**2.97**	**113**	*i* P	**Pn**	**16 06 02.5**	**+1.6**
SOCE				IAML		16 06 56.0	
	comp=Z,280nm,1.0s						
LAFE	**Finca La Fe, P**	**3.00**	**125**	*i* P	**Pn**	**16 06 00.9**	**-0.3**
LAFE				IAML		16 07 16.6	
	comp=Z,7.3nm,1.0s						
COVE	**Coope Vega, Sa**	**3.06**	**105**	Pn	**Pn**	**16 06 02.4**	**+0.3**
ESPN	**Las Esperanzas**	**3.11**	**78**	Pn	**Pn**	**16 06 02.3**	**-0.5**
JACO	**JACO, Garabito**	**3.28**	**124**	Pn	**Pn**	**16 06 06.1**	**+1.0**
JACO	**JACO, Garabito**	**3.28**	**124**	*i* P	**Pn**	**16 06 06.1**	**+1.0**
JACO				IAML		16 07 24.6	
	comp=Z,430nm,1.0s						
NUBE	**Las Nubes**	**3.30**	**316**	*i* P	**Pn**	**16 06 06.0**	**+0.6**
NUBE				IAML		16 06 46.5	
	comp=Z,420nm,1.0s						
MTO3	**Montecristo**	**3.42**	**326**	Pn	**Pn**	**16 06 08.4**	**+1.2**
LCR2	**La Lucha 2**	**3.79**	**118**	Pn	**Pn**	**16 06 14.0**	**+1.6**
LCR2	**La Lucha 2**	**3.79**	**118**	*i* P	**Pn**	**16 06 14.5**	**+2.2**
LCR2				IAML		16 07 19.9	
	comp=Z,290nm,1.0s						
CDM	**Cerro de Muert**	**4.09**	**119**	*i* P	**Pn**	**16 06 18.3**	**+1.7**
CDM				IAML		16 08 05.5	
	comp=Z,240nm,1.0s						
BATAN	**Batan**	**4.21**	**110**	Pn	**Pn**	**16 06 21.3**	**+3.4**
BATAN	**Batan**	**4.21**	**110**	*i* P	**Pn**	**16 06 22.3**	**+4.4**
PEZE	**Perez Zeledon,**	**4.25**	**120**	Pn	**Pn**	**16 06 19.5**	**+1.0**
APG	**El Apazote**	**4.55**	**319**	Pn	**Pn**	**16 06 23.9**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=152,slow=15,SNR=2.5						
SRBA	**San Rafael, Bu**	**4.60**	**120**	Pn	**Pn**	**16 06 23.0**	**-0.3**
SRBA	**San Rafael, Bu**	**4.60**	**120**	*i* P	**Pn**	**16 06 25.6**	**+2.3**
PLAN	**Los Planes de**	**4.65**	**128**	*i* P	**Pn**	**16 06 25.1**	**+1.2**
PLAN				IAML		16 07 19.8	
	comp=Z,710nm,1.0s						
DRK0	**Durika**	**4.68**	**119**	Pn	**Pn**	**16 06 25.0**	**+0.5**
POTG	**Potrero Grande**	**4.89**	**120**	*i* P	**Pn**	**16 06 28.1**	**+0.8**
POTG				IAML		16 06 58.3	
	comp=Z,740nm,1.0s						
CDITO	**Canoas**	**5.35**	**123**	Pn	**Pn**	**16 06 35.2**	**+1.6**
BRU2	**Volcan**	**5.39**	**120**	Pn	**Pn**	**16 06 34.1**	**-0.1**
TEIG	**Tepich**	**8.68**	**355**	LR	LR	16 10 52.9	
	comp=Z,2μm,18.0s,slow=41						
CMIG	**Matias Romero**	**9.11**	**308**	Pn	**Pn**	**16 07 28.0**	**+2.9**
	comp=Z,1.0nm,0.3s,baz=123,slow=12,SNR=12						
CMIG				Sn	**Sn**	**16 09 13.7**	**+6.2**
	comp=Z,0.2nm,0.3s,baz=306,slow=22,SNR=1.1						
	comp=Z,4.1nm,0.6s						
TLIG	**Tlapa**	**12.35**	**300**	Pn	**Pn**	**16 08 12.0**	**+2.3**
COHC	**Cochancay**	**16.11**	**149**	P	**Pn**	**16 09 02.4**	**+2.2**
SDV	**Santo Domingo**	**16.72**	**98**	Pn	**Pn**	**16 09 05.8**	**-2.5**
HBVL	**Hebbronville**	**18.73**	**327**	P	**P**	**16 09 32.6**	**+0.2**
HBVL				IAmb	IAmb	16 09 41.7	
	comp=Z,46nm,1.1s						
BAUV	**El Baul**	**19.23**	**96**	P	**P**	**16 09 37.1**	**-1.0**
HKT	**Hockley**	**19.92**	**338**	P	**P**	**16 09 46.0**	**+0.6**
HKT				IAmb	IAmb	16 09 53.6	
	comp=Z,36nm,1.4s						
833A	**Chaparral WMA,**	**20.12**	**328**	P	**P**	**16 09 48.5**	**+0.9**
ATAH	**Atahualpa**	**20.61**	**154**	LR	LR	16 16 51.8	
	comp=Z,254nm,18.2s,baz=340,slow=34						
HNDO	**Hondo**	**21.04**	**330**	P	**P**	**16 09 57.4**	**-0.3**
HNDO				IAmb	IAmb	16 10 04.6	
	comp=Z,27nm,1.2s						
152A	**Waverly Hall**	**21.17**	**6**	P	**P**	**16 09 59.5**	**+0

SWET	**Sewanee**	**23.61**	**3**	P	**P**	**16 10 24.5**	**-0.2**
SWET				IAmb	IAmb	16 10 30.8		
	comp=Z,29nm,1.3s							
W50A	**Signal Mountai**	**23.63**	**4**	P	**P**	**16 10 25.0**	**+0.1**
W50A				IAmb	IAmb	16 10 33.5		
	comp=Z,18nm,1.0s							
BG3	**Lake Jocassee**	**23.70**	**9**	P	**P**	**16 10 25.8**	**+0.2**
BG3				IAmb	IAmb	16 10 33.6		
	comp=Z,14nm,0.9s							
ABTX	**Abilene, Hawle**	**23.81**	**334**	P	**P**	**16 10 26.4**	**-0.2**
ABTX				IAmb	IAmb	16 10 29.4		
	comp=Z,25nm,1.4s							
CPCT	**Cooper Cave**	**23.95**	**6**	P	**P**	**16 10 27.8**	**-0.1**
CPCT				IAmb	IAmb	16 10 34.9		
	comp=Z,28nm,1.1s							
WHAR	**Wooly Hollow**	**24.05**	**350**	IAmb	IAmb	16 10 38.7		
	comp=Z,23nm,1.2s							
LOOK	**Love County**	**24.07**	**340**	P	**P**	**16 10 28.0**	**-1.1**
TKL	**Tuckaleechee C**	**24.23**	**7**	LR	LR	16 20 02.6		
	comp=Z,139nm,18.3s,baz=140,slow=38							
MNHN	**Monahans**	**24.28**	**327**	IAmb	IAmb	16 10 43.6		
	comp=Z,19nm,0.9s							
V53A	**Saluda**	**24.38**	**9**	P	**P**	**16 10 31.7**	**-0.3**
V53A				IAmb	IAmb	16 10 39.6		
	comp=Z,28nm,1.4s							
CLTN	**Cedars of Leba**	**24.46**	**2**	IAmb	IAmb	16 10 42.9		
	comp=Z,23nm,1.3s							
LCAR	**Lake Charles**	**24.65**	**353**	IAmb	IAmb	16 10 42.2		
	comp=Z,9.3nm,0.8s							
SN07	**Snyder 07**	**24.76**	**332**	IAmb	IAmb	16 11 00.1		
	comp=Z,21nm,1.5s							
U49A	**Red Boiling Sp**	**24.91**	**3**	IAmb	IAmb	16 10 43.2		
	comp=Z,26nm,1.2s							
POST	**Post**	**25.02**	**331**	P	**P**	**16 10 37.9**	**0.0**
POST				IAmb	IAmb	16 11 01.9		
	comp=Z,17nm,1.0s							
W35A	**Tecumseh**	**25.03**	**341**	IAmb	IAmb	16 11 03.2		
	comp=Z,17nm,1.1s							
LPIG	**La Paz**	**25.08**	**303**	LR	LR	16 21 09.1		
	comp=Z,161nm,18.7s,baz=46,slow=38							
DKNS	**Dickens**	**25.26**	**333**	P	**P**	**16 10 40.2**	**+0.2**
DKNS				IAmb	IAmb	16 10 58.1		
	comp=Z,13nm,1.1s							
PBMO	**Poplar Bluff**	**25.27**	**354**	IAmb	IAmb	16 10 42.0		
	comp=Z,11nm,0.8s							
FNO	**Franklin**	**25.29**	**341**	P	**P**	**16 10 39.8**	**-0.5**
WMOK	**Wichita Mounta**	**25.31**	**338**	IAmb	IAmb	16 10 43.5		
	comp=Z,22nm,1.4s							
T47A	**Sharon Grove**	**25.34**	**1**	IAmb	IAmb	16 10 46.8		
	comp=Z,28nm,1.3s							
TUL3	**Leonard**	**25.42**	**344**	P	**P**	**16 10 41.2**	**-0.1**
CGM3	**Cape Girardeau**	**25.73**	**356**	IAmb	IAmb	16 10 50.1		
	comp=Z,17nm,1.4s							
OK052	**Battle Ridge R**	**25.79**	**342**	P	**P**	**16 10 43.6**	**-1.1**
OK052				IAmb	IAmb	16 10 57.9		
	comp=Z,22nm,1.1s							
CSTR	**Hydro, Custer**	**26.09**	**339**	P	**P**	**16 10 46.8**	**-0.6**
S44A	**Carbondale**	**26.09**	**357**	P	**P**	**16 10 46.6**	**-0.8**
S44A				IAmb	IAmb	16 10 50.0		
	comp=Z,10.0nm,0.8s							
MSTX	**Muleshoe**	**26.37**	**330**	P	**P**	**16 10 48.6**	**-1.5**
MSTX				IAmb	IAmb	16 11 13.5		
	comp=Z,19nm,0.8s							
S39A	**Bolivar**	**26.57**	**349**	IAmb	IAmb	16 11 02.3		
	comp=Z,12nm,0.9s							
AMTX	**Amarillo**	**26.62**	**333**	IAmb	IAmb	16 10 59.6		
	comp=Z,24nm,1.2s							
CCM	**Cathedral Cave**	**26.62**	**353**	P	**P**	**16 10 51.3**	**-1.0**
CCM				IAmb	IAmb	16 10 56.3		
	comp=Z,24nm,1.3s							
R40A	**Maddies Statio**	**26.99**	**352**	IAmb	IAmb	16 10 59.3		
	comp=Z,14nm,1.3s							
P38A	**Dawn**	**28.49**	**350**	P	**P**	**16 11 07.0**	**-2.0**
P38A				IAmb	IAmb	16 11 15.5		
	comp=Z,17nm,1.1s							
ETMB	**Extrema**	**29.90**	**134**	P	**P**	**16 11 21.5**	**-0.2**
N35A	**Tabor**	**30.09**	**347**	P	**P**	**16 11 22.4**	**-0.8**
L44A	**Lake County Fo**	**30.52**	**359**	P	**P**	**16 11 24.4**	**-2.5**
SAML	**Samuel**	**31.54**	**129**	P	**P**	**16 11 35.1**	**-1.1**
K30B	**Basset**	**32.79**	**343**	P	**P**	**16 11 47.0**	**+0.1**
ECSD	**EROS Data Cent**	**33.05**	**348**	IAmb	IAmb	16 11 55.9		
	comp=Z,6.4nm,0.8s							
LPAZ	**La Paz**	**33.59**	**145**	LR	LR	16 26 27.3		
	comp=Z,105nm,20.0s,baz=338,slow=38							
SADO	**Sadowa**	**33.86**	**11**	LR	LR	16 25 49.2		
	comp=Z,114nm,18.1s,baz=241,slow=37							
SPMN	**Marine on St.**	**33.88**	**353**	P	**P**	**16 11 55.2**	**-1.2**
PFO	**Pinyon Flats O**	**34.46**	**314**	LR	LR	16 27 15.7		
	comp=Z,184nm,19.5s,baz=162,slow=38							
COWI	**Conover**	**34.47**	**358**	IAmb	IAmb	16 12 08.5		
	comp=Z,6.9nm,0.9s							
LONY	**Lake Ozonia**	**34.76**	**16**	P	**P**	**16 12 02.8**	**-1.2**
MDP	**Montagnes des**	**34.97**	**98**	LR	LR	16 27 28.3		
	comp=Z,94nm,19.8s,baz=296,slow=39							
PDAR	**Pinedale Array**	**36.59**	**332**	P	**P**	**16 12 19.3**	**-0.8**
PDAR	**Pinedale Array**	**36.59**	**332**	P	**P**	**16 12 20.1**	**0.0**
	comp=Z,0.7nm,0.6s,baz=134,slow=9.2,SNR=7.5							
PDAR				LR	LR	16 31 09.5		
	comp=Z,98nm,18.1s,baz=136,slow=43							
	comp=Z,0.7nm,0.6s							
AGMN	**Agassiz Nation**	**37.32**	**351**	IAmb	IAmb	16 12 29.6		
	comp=Z,14nm,1.1s							
MDND	**Maddock**	**37.61**	**347**	P	**P**	**16 12 27.1**	**-1.3**
TPAW	**Teton Pass**	**37.79**	**332**	IAmb	IAmb	16 12 41.5		
	comp=Z,23nm,1.5s							
NVAR	**Mina Array Bea**	**38.41**	**320**	P	**P**	**16 12 36.7**	**+1.2**
NVAR	**Mina Array Bea**	**38.41**	**320**	P	**P**	**16 12 37.5**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=142,slow=7.1,SNR=4.0							
NVAR				PcP	**PcP**	**16 14 50.7**	**+1.8**	
	comp=Z,0.9nm,0.8s,baz=90,slow=2.8,SNR=3.0							
	comp=Z,0.5nm,0.7s							
PTLB	**Pontes e Lacer**	**38.77**	**133**	P	**P**	**16 12 37.6**	**-0.8**
ULM	**Lac du Bonnet**	**39.22**	**351**	P	**P**	**16 12 39.5**	**-2.4**
	comp=Z,5.8nm,1.0s,baz=181,slow=7.7,SNR=4.7							
ULM				LR	LR	16 30 39.8		
	comp=Z,84nm,18.4s,baz=85,slow=39							
	comp=Z,5.8nm,1.0s							
RPN	**Rapa Nui**	**43.94**	**209**	LR	LR	16 26 54.7		
	comp=Z,106nm,18.0s,baz=45,slow=29							
NEW	**Newport**	**44.22**	**332**	LR	LR	16 37 19.1		
	comp=Z,101nm,18.7s,baz=132,slow=44							
SCHQ	**Schefferville**	**46.13**	**16**	P	**P**	**16 13 35.3**	**-2.6**
SCHQ				IAmb	IAmb	16 13 43.6		
	comp=Z,5.5nm,1.0s							
SCHQ	**Schefferville**	**46.13**	**16**	P	**P**	**16 13 35.2**	**-2.8**
	comp=Z,2.4nm,0.5s,baz=220,slow=7.7,SNR=6.3							
SCHQ				LR	LR	16 32 45.0		
	comp=Z,166nm,21.4s,baz=234,slow=36							
	comp=Z,2.4nm,0.5s							
FCC	**Fort Churchill**	**47.40**	**355**	P	**P**	**16 13 46.7**	**-1.0**
FCC				IAmb	IAmb	16 13 53.6		
	comp=Z,9.9nm,1.3s							
BDFB	**Brasilia**	**47.44**	**124**	P	**P**	**16 13 48.0**	**-0.8**
BDFB	**Brasilia**	**47.44**	**124**	P	**P**	**16 13 48.9**	**+0.1**
	comp=Z,4.6nm,0.6s,baz=326,slow=8.0,SNR=5.4							
BDFB				LR	LR	16 34 15.3		
	comp=Z,224nm,20.0s,baz=314,slow=37							
	comp=Z,4.6nm,0.6s							
FRB	**Frobisher Bay**	**53.81**	**10**	LR	LR	16 38 55.5		
	comp=Z,211nm,18.2s,baz=210,slow=38							
RCBR	**Riachuelo**	**54.07**	**106**	LR	LR	16 38 37.0		
	comp=Z,83nm,18.7s,baz=16,slow=37							
YKA	**Yellowknife Ar**	**54.49**	**345**	P	**P**	**16 14 40.0**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=138,slow=8.0,SNR=6.3							
	comp=Z,0.3nm,0.7s							
DLBC	**Dease Lake**	**56.74**	**335**	LR	LR	16 45 43.6		
	comp=Z,107nm,18.8s,baz=330,slow=43							
SFJD	**Kangerlussuaq**	**60.58**	**16**	LR	LR	16 41 05.6		
	comp=Z,104nm,20.2s,baz=215,slow=36							
O30N	**Mendenhall**	**60.61**	**335**	P	**P**	**16 15 26.2**	**+1.9**
O30N				IAmb	IAmb	16 15 30.7		
	comp=Z,8.1nm,1.4s							
RES	**Resolute Bay**	**63.27**	**358**	LR	LR	16 44 49.1		
	comp=Z,83nm,18.1s,baz=313,slow=38							
G31M	**Satah River**	**63.46**	**341**	P	**P**	**16 15 42.3**	**-0.9**
BCAR	**Beaver Creek A**	**64.09**	**336**	P	**P**	**16 15 49.2**	**+1.7**
G29M	**Pine Creek**	**64.66**	**340**	P	**P**	**16 15 51.0**	**-0.2**
G29M				IAmb	IAmb	16 15 57.9		
	comp=Z,9.2nm,1.4s							
E29M	**Blow River**	**65.44**	**342**	P	**P**	**16 15 56.2**	**0.0**
E29M				IAmb	IAmb	16 16 11.2		
	comp=Z,5.3nm,1.5s							
RIDG	**Independent Ri**	**65.63**	**336**	P	**P**	**16 15 58.3**	**+0.7**
RIDG				IAmb	IAmb	16 16 16.7		
	comp=Z,6.7nm,1.3s							
F28M	**Old Crow**	**65.65**	**341**	P	**P**	**16 15 58.0**	**+0.4**
ILAR	**Eielson Array**	**66.86**	**336**	P	**P**	**16 16 04.7**	**-0.7**
ILAR	**Eielson Array**	**66.86**	**336**	P	**P**	**16 16 05.6**	**+0.2**
	comp=Z,0.6nm,1.0s,baz=157,slow=4.6,SNR=6.4							
ILAR				LR	LR	16 51 49.3		
	comp=Z,84nm,18.5s,baz=82,slow=42							
	comp=Z,0.6nm,1.0s							
BMAR	**Burnt Mountain**	**67.14**	**339**	P	**P**	**16 16 06.8**	**-0.3**
KDAK	**Kodiak Island**	**67.15**	**328**	LR	LR	16 47 12.3		
	comp=Z,43nm,18.8s,baz=108,slow=38							
BORG	**Borgarnes**	**69.51**	**25**	LR	LR	16 44 56.7		
	comp=Z,47nm,20.4s,baz=343,slow=35							
F21K	**Alatna River**	**70.25**	**338**	P	**P**	**16 16 26.6**	**0.0**
JMIC	**Jan Mayen**	**75.54**	**19**	LR	LR	16 48 22.2		
	comp=Z,24nm,21.0s,baz=253,slow=34							
ESDC	**Sonseca Array**	**77.72**	**52**	LR	LR	16 46 56.9		
	comp=Z,43nm,20.7s,baz=270,slow=32							
MDT	**Midelt**	**77.84**	**59**	LR	LR	16 50 45.0		
	comp=Z,92nm,18.0s,baz=344,slow=35							
RAR	**Rarotonga**	**78.14**	**245**	LR	LR	16 42 34.4		
	comp=Z,53nm,21.9s,baz=266,slow=28							
DBIC	**Dimbokro**	**81.42**	**85**	LR	LR	16 52 18.3		
	comp=Z,41nm,18.9s,baz=220,slow=35							
SPITS	**Spitsbergen Ar**	**81.58**	**12**	LR	LR	16 55 03.5		
	comp=Z,106nm,19.4s,baz=250,slow=37							
NOA	**NORSAR Array B**	**84.14**	**29**	LR	LR	16 52 16.9		
	comp=Z,30nm,20.7s,baz=335,slow=34							
HFS	**Hagfors**	**85.55**	**30**	LR	LR	16 49 43.3		
	comp=Z,39nm,21.7s,baz=264,slow=32							
TORD	**Torodi Ar. Bea**	**86.57**	**77**	LR	LR	16 52 27.1		
	comp=Z,14nm,21.8s,baz=334,slow=33							
DAVOX	**Davos/Dischmat**	**86.62**	**43**	LR	LR	16 50 34.6		
	comp=Z,120nm,19.2s,baz=264,slow=32							
ARCES	**ARCESS Array B**	**87.03**	**19**	LR	LR	16 56 28.8		
	comp=Z,16nm,20.7s,baz=289,slow=36							
GERES	**GERESS Array B**	**88.60**	**40**	LR	LR	16 52 33.4		
	comp=Z,84nm,19.2s,baz=292,slow=32							
VRAC	**Vranov**	**90.28**	**39**	LR	LR	16 53 37.2		
	comp=Z,78nm,19.8s,baz=318,slow=32							
FINES	**FINESS Array B**	**90.76**	**26**	LR	LR	16 56 08.3		
	comp=Z,33nm,21.2s,baz=284,slow=34							
TIXI	**Tiksi**	**93.54**	**349**	LR	LR	17 05 53.8		
	comp=Z,36nm,18.8s,baz=140,slow=39							
PETK	**Petropavlovsk-**	**95.17**	**327**	LR	LR	17 04 30.6		
	comp=Z,13nm,18.8s,baz=68,slow=37							
MA2	**Magadan**	**95.27**	**334**	LR	LR	17 06 30.0		
	comp=Z,32nm,18.1s,baz=63,slow=39							
AKASG	**Malin Array Be**	**97.23**	**35**	LR	LR	17 01 03.0		
	comp=Z,63nm,18.7s,baz=278,slow=35							
MLR	**Muntele Rosu**	**97.58**	**41**	LR	LR	16 59 35.8		
	comp=Z,66nm,18.9s,baz=324,slow=34							
ASAR	**Alice Springs**	**138.96**	**247**	PKP	**PKPdf**	**16 24 41.6**	**+0.5**	
	comp=Z,0.5nm,0.9s,baz=97,slow=2.6,SNR=5.7							
WRA	**Warramunga Arr**	**139.05**	**253**	PKP	**PKPdf**	**16 24 42.2**	**+0.8**	
	comp=Z,0.9nm,1.0s,baz=89,slow=1.9,SNR=6.4							
CMAR	**Chiang Mai Arr**	**149.54**	**348**	PKPbc	**PKPbc**	**16 25 04.4**	**+0.3**	
	comp=Z,2.0nm,0.6s,baz=333,slow=2.6,SNR=18							

*IDC **28** 16:34:50.0±1.1, 30.58N×131.77E, h0km, mb3.7/7, mbtmp3.7/10, ML2.9/3, MS2.9/2, Error ellipse: s-maj=27.0km s-min=20.0km az=100.0*
*JMA **28** 16:34:52.5±0.2, 30.6N±0.5×13.2E±, h57km±3km, MV3.1/35, E OFF TANEGASHIMA ISLAND*
ISC 28 16:34:50.2±2.0, 30.58N±0.05×132.07E±0.06, h6km±11km, n28, σ1§47/36, mb3.6/7, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	**0.94**	**275**	*i* P	**Pb**	**16 35 09.6**	**+0.7**
JTN				S	**Sb**	**16 35 22.7**	**+1.0**
JMTN	**Minamitane**	**1.02**	**260**	*i* P	**Pb**	**16 35 11.0**	**+0.7**
JTSR	**Tashiro 2**	**1.15**	**301**	*i* P	**Pg**	**16 35 11.9**	**-0.2**
JTSR				*eS*	**Sg**	**16 35 25.7**	**-1.4**
JNAR	**Kushima--Naru**	**1.17**	**324**	*i* P	**Pg**	**16 35 12.8**	**+0.3**
JNAR				*eS*	**Sg**	**16 35 28.0**	**+0.3**
JNKG	**Nichinankitago**	**1.23**	**331**	P	**Pg**	**16 35 13.6**	**-0.2**
JNKG				S	**Sg**	**16 35 29.1**	**-0.7**
JYAK	**Yakushimahirau**	**1.39**	**256**	*i* P	**Pn**	**16 35 15.9**	**-0.2**
JYAK				S	**Sb**	**16 35 34.1**	**-0.5**
JTZ	**Takazaki**	**1.56**	**328**	P	**Pn**	**16 35 18.3**	**-0.2**
JTZ				S	**Sn**	**16 35 37.4**	**-1.6**
JKC	**Kuchinoerabu**	**1.62**	**266**	*i* P	**Pn**	**16 35 19.2**	**-0.1**
JKC				S	**Sn**	**16 35 39.6**	**-0.8**
JSU	**Suzuyama**	**1.67**	**304**	*i* P	**Pn**	**16 35 19.4**	**-0.5**
JTSN	**Tsuno**	**1.73**	**344**	*i* P	**Pn**	**16 35 20.6**	**-0.2**
JTSN				S	**Sn**	**16 35 41.1**	**-2.0**
JZO	**Okuchi**	**2.00**	**321**	P	**Pn**	**16 35 24.5**	**0.0**
JNN	**Nakanoshima**	**2.04**	**249**	P	**Pn**	**16 35 25.0**	**0.0**
JNN				S	**Sn**	**16 35 50.0**	**-0.7**
JIU3	**Izumi3**	**2.24**	**332**	P	**Pn**	**16 35 28.0**	**+0.3**
JTO	**Tosashimizu**	**2.36**	**15**	P	**Pn**	**16 35 28.1**	**-1.3**
JTO				S	**Sn**	**16 35 53.4**	**-5.3**
JNU	**Nakatsue**	**2.73**	**339**	Pn	**Pn**	**16 35 34.9**	**+0.3**
	4.2nm,0.3s,baz=213,slow=6.8,SNR=51						
JNU				Sn	**Sn**	**16 36 07.6**	**-0.3**
	7.1nm,0.3s,baz=121,slow=19,SNR=7.7						
	12nm,0.3s						
JOW	**Kunigami**	**5.00**	**223**	Pn	**Pn**	**16 36 04.0**	**-1.8**
	1.1nm,0.3s,baz=30,slow=15,SNR=1.9						
JOW				Sn	**Sn**	**16 37 00.8**	**-3.1**
	2.5nm,0.3s,baz=190,slow=28,SNR=1.8						
	13nm,0.8s						
MJAR	**Matsushiro Arr**	**7.85**	**39**	Pn	**Pn**	**16 36 46.6**	**+1.8**
	0.1nm,0.3s,baz=240,slow=14,SNR=8.5						
	1.1nm,0.4s						
SONM	**Songino Array**	**26.14**	**318**	P	**P**	**16 40 24.4**	**-0.7**
	0.4nm,0.4s,baz=124,slow=11,SNR=3.7						
SONM				LR	LR	16 51 18.7	
	comp=Z,28nm,19.4s,baz=2.5,slow=38						
	0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**32.34**	**256**	LR	LR	16 55 03.4	
	comp=Z,15nm,18.5s,baz=55,slow=38						
H11N2	**WAKE ISLAND Hy**	**33.20**	**101**	T	T	17 16 30.6	
	baz=296,slow=75,SNR=6.4						
H11N1	**WAKE ISLAND Hy**	**33.20**	**101**	T	T	17 16 32.5	
	baz=296,slow=75,SNR=4.7						
H11N3	**WAKE ISLAND Hy**	**33.22**	**101**	T	T	17 16 34.2	
	baz=296,slow=75,SNR=4.3						
KURBB	**Kurchatov Arra**	**44.22**	**313**	P	**P**	**16 42 59.0**	**-0.9**
	0.7nm,0.7s,baz=99,slow=8.8,SNR=7.3						
	0.7nm,0.7s						
BVAR	**Borovoye Array**	**49.42**	**316**	P	**P**	**16 43 40.0**	**-0.7**
	0.5nm,0.5s,baz=90,slow=11,SNR=3.2						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**59.01**	**30**	P	**P**	**16 44 52.5**	**+2.2**
	0.4nm,0.7s,baz=287,slow=6.9,SNR=6.3						
	0.4nm,0.7s						
STKA	**Stephens Creek**	**62.77**	**171**	P	**P**	**16 45 17.6**	**+1.3**
	1.5nm,0.7s,baz=340,slow=5.6,SNR=3.2						
	1.5nm,0.7s						
FINES	**FINESS Array B**	**70.75**	**331**	P	**P**	**16 46 06.5**	**-0.3**
	1.1nm,0.6s,baz=66,slow=6.7,SNR=7.5						
	1.1nm,0.6s						
YKA	**Yellowknife Ar**	**73.15**	**26**	P	**P**	**16 46 22.6**	**+1.4**
	0.3nm,0.7s,baz=307,slow=6.3,SNR=5.3						
	0.3nm,0.7s						

*IDC **28** 16:35:10.3±1.5, 6.11S×130.44E, h0km, mb4.0/6, mbtmp4.0/8, ML4.3/3, Error ellipse: s-maj=51.4km s-min=25.4km az=81.0*
*DJA **28** 16:35:26.4±0.5, 7.3S±4.3×13.0E±, h205km±14km, M4.5/10, mb4.5/6, mB4.9/5, MLv4.7/10, Mw(mB)4.2/5*
*NEIC **28** 16:35:27.8±2.6, 6.74S±0.08×129.9E±0.1, h160km±6km, mb4.0/10, Error ellipse: s-maj=15.7km s-min=11.3km az=91.0*
ISC 28 16:35:26.4±0.6, 6.84S±0.06×129.80E±0.07, h150km, n42, σ1§81/43, mb3.9/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.87**	**128**	Pn	**Pn**	**16 36 03.0**	**+3.0**
SAUI	**Saumlaki**	**1.87**	**128**	P	**Pn**	**16 36 03.9**	**+3.9**
BNDI	**Bandanaira**	**2.30**	**2**	P	**Pn**	**16 36 07.4**	**+2.2**
FAKI	**Fak Fak**	**4.59**	**32**	Pn	**Pn**	**16 36 33.9**	**-0.6**
FAKI	**Fak Fak**	**4.59**	**32**	P	**Pn**	**16 36 33.9**	**-0.6**
MTN	**Manton Dam**	**6.11**	**168**	Pn	**Pn**	**16 36 55.7**	**+1.2**
SWI	**Sorong**	**6.11**	**14**	P	**Pn**	**16 36 53.8**	**-0.8**
	22nm,0.7s,3μm0.4nm						
SOEI	**Soe**	**6.20**	**242**	Pn	**Pn**	**16 36 56.8**	**+0.9**
SOEI	**Soe**	**6.20**	**242**	P	**Pn**	**16 36 57.7**	**+1.8**
	99nm,0.6s,0.4nm						
BATI	**Baumata**	**6.93**	**241**	Pn	**Pn**	**16 37 06.7**	**+1.1**
	34nm,0.3s,baz=97,slow=3.8,SNR=43						
BATI				Sn	**Sn**	**16 38 22.5**	**-0.9**
	14nm,0.3s,baz=125,slow=24,SNR=6.1						

BATI	**Baumata**	**6.93**	**241**	P	**Pn**	**16 37 06.8**	**+1.2**
MMRI	**Maumere**	**7.71**	**256**	Pn	**Pn**	**16 37 18.1**	**+2.1**
KNRA	**Kununurra**	**8.84**	**187**	Pn	**Pn**	**16 37 30.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**11.90**	**200**	Pn	**Pn**	**16 38 10.1**	**-1.3**
WB0	**Warramunga Arr**	**13.60**	**161**	Pn	**Pn**	**16 38 31.3**	**-2.0**
WRAB	**Tennant Creek**	**13.74**	**162**	Pn	**Pn**	**16 38 33.4**	**-1.7**
WRA	**Warramunga Arr**	**13.75**	**162**	Pn	**Pn**	**16 38 32.8**	**-2.4**
WRA	**Warramunga Arr**	**13.75**	**162**	Pn	**Pn**	**16 38 33.7**	**-1.5**
	1.1nm,0.3s,baz=346,slow=13,SNR=33						
WRA				Sn	Sn	16 40 59.3	-8.2
	3.7nm,0.3s,baz=334,slow=22,SNR=13						
	1.5nm,0.3s						
WB2	**Warramunga Arr**	**13.75**	**162**	Pn	**Pn**	**16 38 34.0**	**-1.2**
WR0	**Warramunga Arr**	**13.83**	**161**	Pn	**Pn**	**16 38 34.4**	**-1.8**
COEN	**Coen**	**14.93**	**119**	Pn	**Pn**	**16 38 50.0**	**0.0**
AS31	**Alice Springs**	**17.19**	**167**	P	**P**	**16 39 19.1**	**+2.3**
ASAR	**Alice Springs**	**17.19**	**167**	P	**P**	**16 39 18.9**	**+2.0**
ASAR	**Alice Springs**	**17.19**	**167**	P	**P**	**16 39 19.2**	**+2.3**
	0.4nm,0.3s,baz=344,slow=11,SNR=32						
ASAR				S	**S**	**16 42 22.1**	**-6.4**
	1.9nm,0.7s,baz=347,slow=25,SNR=6.0						
	0.8nm,0.4s						
MBWA	**Marble Bar**	**17.25**	**213**	P	**P**	**16 39 20.4**	**+2.9**
MBWA				IAmb	IAmb	16 39 40.8	
	comp=Z,10nm,1.2s						
PSA00	**Pilbara Seismi**	**17.53**	**212**	P	**P**	**16 39 21.8**	**+1.2**
FORT	**Forrest**	**23.87**	**184**	P	**P**	**16 40 26.1**	**0.0**
CMAR	**Chiang Mai Arr**	**39.48**	**310**	P	**P**	**16 42 42.2**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=140,slow=7.3,SNR=4.8						
	comp=Z,0.4nm,0.4s						
SONM	**Songino Array**	**58.23**	**342**	P	**P**	**16 45 04.2**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=152,slow=5.4,SNR=3.9						
	comp=Z,0.4nm,0.3s						
MK31	**Makanchi Array**	**67.99**	**327**	P	**P**	**16 46 09.8**	**+0.5**
MK31				IAmb	IAmb	16 46 10.9	
	comp=Z,1.4nm,0.7s						
MKAR	**Makanchi Array**	**67.99**	**327**	P	**P**	**16 46 09.4**	**+0.1**
MKAR	**Makanchi Array**	**67.99**	**327**	P	**P**	**16 46 10.2**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=117,slow=8.1,SNR=24						
	comp=Z,1.5nm,0.5s						
MAKZ	**Makanchi**	**68.17**	**327**	P	**P**	**16 46 11.0**	**+0.5**
MAKZ				IAmb	IAmb	16 46 11.9	
	comp=Z,1.5nm,0.6s						
ZAA0	**Zalesovo Array**	**71.35**	**334**	P	**P**	**16 46 27.9**	**-1.8**
ZALV	**Zalesovo Beam**	**71.35**	**334**	P	**P**	**16 46 29.8**	**0.0**
ZALV	**Zalesovo Beam**	**71.35**	**334**	P	**P**	**16 46 29.5**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=125,slow=6.0,SNR=5.6						
	comp=Z,1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**72.27**	**329**	P	**P**	**16 46 35.7**	**+0.4**
	comp=Z,1.4nm,0.4s,baz=127,slow=4.9,SNR=21						
	comp=Z,1.4nm,0.4s						
KURK	**Kurchatov**	**72.28**	**329**	P	**P**	**16 46 35.8**	**+0.4**
KURK				IAmb	IAmb	16 46 38.1	
	comp=Z,1.9nm,0.8s						
BVAR	**Borovoye Array**	**77.83**	**328**	P	**P**	**16 47 07.5**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=123,slow=7.3,SNR=5.3						
	comp=Z,1.0nm,0.7s						
BRVK	**Borovoye**	**77.90**	**328**	P	**P**	**16 47 07.2**	**-0.2**
BRVK				IAmb	IAmb	16 47 16.4	
	comp=Z,2.7nm,0.9s						
ABKAR	**Akbulak array**	**82.26**	**322**	P	**P**	**16 47 31.3**	**+0.3**
QSPA	**South Pole Qui**	**83.14**	**180**	P	**P**	**16 47 36.0**	**+0.6**
QSPA				IAmb	IAmb	16 48 07.7	
	comp=Z,2.8nm,1.4s						

*CATAC **28** 16:43:46.6±0.7, 11.76N×87.40W, h20km±6km, ML3.5*

ACON IAML 16 44 47.4
comp=Z,120nm,1.0s
SCLA Alcaldia de Sa 2.31 326 *i* S **Sn 16 44 53.0 +1.9**
ORTG Ortega, Santa 2.37 127 *i* P **Pn 16 44 24.9 +0.9**
ORTG IAML 16 45 00.1
comp=Z,170nm,1.0s
SAJU San Juanillo, 2.38 136 *i* P **Pn 16 44 25.2 +1.1**
SAJU IAML 16 45 10.3
comp=Z,130nm,1.0s
SJTE Alcalda de S 2.41 319 *eP* **Pn 16 44 25.5 +0.9**
SJTE Alcalda de S 2.41 319 *i* P **Pn 16 44 24.2 -0.4**
SJTE *i* S **Sn 16 44 54.2 +0.6**
SJTE IAML 16 44 57.2
comp=Z,130nm,1.0s
INDI Punta indio, G 2.66 136 *i* P **Pn 16 44 27.9 -0.1**
INDI IAML 16 45 19.4
comp=Z,210nm,1.0s
JAYA Jayaque - finc 2.74 313 IAML 16 45 04.4
comp=Z,111nm,0.2s
ESPN Las Esperanzas 3.05 82 *i* P **Pn 16 44 33.9 +0.6**
ESPN IAML 16 44 33.9
comp=Z,380nm,1.0s
LCR2 La Lucha 2 3.90 121 *i* P **Pn 16 44 45.0 -0.2**
LCR2 IAML 16 45 51.7
comp=Z,60nm,1.0s
CDM Cerro de Muert 4.20 122 *i* P **Pn 16 44 48.9 -0.7**
CDM IAML 16 45 35.4
comp=Z,59nm,1.0s

IDC ***28*** *17:13:00.7±0.4,1.66N×126.21E,h0km,mb4.7/31, mbtmp4.7/31,MS3.5/16,Error ellipse: s-maj=21.0km s-min=10.5km az=73.0*
MOS ***28*** *17:13:01.2±1.0,1.65N×126.15E,h12km,mb5.1/36,Error ellipse: s-maj=11.5km s-min=6.0km az=105.4*
NEIC ***28*** *17:13:02.4±1.7,1.61N±0.08×126.21E±0.06,h10km±1km, mb5.0/104,Error ellipse: s-maj=13.4km s-min=9.7km az=193.0*
BJI ***28*** *17:13:03.8±0.0,1.36N×126.17E,h41km,mb4.8/63, mB5.0/33,Ms4.2/15,Ms7 3.9/19*
DJA ***28*** *17:13:04.9±0.3,2.1N×12.6E±.1°,h10km,M4.7/17, mb5.0/13,mB5.2/8,MLv4.8/17,Mw(mB)4.5/8,MwMwp4.5/3, Mwp4.9/3*
PPT ***28*** *17:13:04.5±0.2,1.64N×126.23E,h10km,mb5.1/24, MLv4.7/5,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
GCMT ***28*** *17:13:08.3±0.4,1.75N±0.03×126.19E±0.03,h30km±1km, MW4.8/51,Moment Tensor Solution. s40,c43; s51,c73; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.91±.14; Mθθ-0.38±.08; Mφφ-1.52±.09; Mrθ-0.21±.17; Mθφ-0.74±.06; Mφr-0.82±.15; Best double couple: M=2.08000×10^16 NP1:φs201.00000°,δ57.00000°,λ.85.00000°. NP2: φs31.00000°,δ33.00000°,λ98.00000°. Principal axes: T 2.0980, Plg77.0000°, Azm94.0000°; N -0.0270, Plg4.0000°, Azm204.0000°; P -2.0620, Plg12.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 17:13:02.6±0.2,1.62N±0.04×126.21E±0.04,h10km,n588, σ1§20/548,mb4.9/120,MS3.7/24,22C-20D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.43**	**126**	Pn	**Pn**	**17 13 28.6**	**+0.1**
TNTI	**Ternate**	**1.43**	**126**	P	**Pb**	**17 13 28.8**	**-0.5**
SGSI	**Sangihe**	**2.16**	**342**	P	**Pn**	**17 13 40.1**	**+1.5**
KMSI	**Cibinong**	**2.46**	**245**	P	**Pb**	**17 13 45.7**	**-1.3**
LBMI	**Labuha**	**2.59**	**150**	P	**Pn**	**17 13 46.1**	**+1.5**
GTOI	**Gorontalo**	**3.35**	**253**	P	**Pb**	**17 13 58.5**	**-3.6**
SANI	**Sanana**	**3.66**	**184**	P	**Pn**	**17 14 01.5**	**+2.3**
SANI	**Sanana**	**3.66**	**184**	P	**Pn**	**17 14 00.4**	**+1.2**
LUWI	**Luwuk**	**4.34**	**232**	P	Pn	17 14 13.2	+4.5
LUWI	**Luwuk**	**4.34**	**232**	Pn	**Pn**	**17 14 07.5**	**-1.2**
LUWI	**Luwuk**	**4.34**	**232**	P	**Pn**	**17 14 12.0**	**+3.3**
MRSI	**Marisa**	**4.42**	**255**	P	**Pn**	**17 14 13.2**	**+3.4**
NLAI	**Namlea**	**4.91**	**170**	P	**Pn**	**17 14 19.1**	**+2.6**
SWI	**Sorong** 65nm,0.8s,2µm0.2nm	**5.62**	**116**	P	**Pn**	**17 14 28.1**	**+1.9**
MPSI	**Mapaga** 126nm,0.9s,1µm0.4nm	**6.44**	**259**	P	Pn	17 14 42.1	+4.5
FAKI	**Fak Fak**	**7.54**	**127**	P	**Pn**	**17 14 55.8**	**+3.2**
FAKI	**Fak Fak**	**7.54**	**127**	Pn	**Pn**	**17 14 51.7**	**-0.9**
FAKI	**Fak Fak** 68nm,0.8s,0.2nm	**7.54**	**127**	P	**Pn**	**17 14 55.1**	**+2.5**
TTSI	**Tana Toraja** 141nm,0.7s,2µm0.5nm	**7.90**	**234**	P	**Pn**	**17 15 00.7**	**+3.1**
BKSI	**Bulukumba** 65nm,0.7s,842nm	**9.20**	**221**	P	**Pn**	**17 15 18.6**	**+3.2**
KAPI	**Kappang**	**9.23**	**224**	Pn	**Pn**	**17 15 17.1**	**+1.4**
KAPI	**Kappang**	**9.23**	**224**	P	**Pn**	**17 15 17.2**	**+1.4**
BKB	**Balikpapan**	**9.75**	**253**	P	**Pn**	**17 15 26.1**	**+3.2**
BKB	**Balikpapan**	**9.75**	**253**		**Pn**	**17 15 21.3**	**-1.6**
BKB	**Balikpapan** 87nm,1.0s	**9.75**	**253**	P	**Pn**	**17 15 25.6**	**+2.7**
KKM	**Kota Kinabalu**	**10.90**	**294**	P	Pn	17 15 44.2	+5.4
KKM	**Kota Kinabalu**	**10.90**	**294**	Pn	**Pn**	**17 15 43.3**	**+4.4**
EDFI	**Ende, Flores**	**11.25**	**204**	P	Pn	17 15 49.1	+5.5
SOEI	**Soe**	**11.47**	**190**	Pn	**Pn**	**17 15 45.4**	**-1.3**
SOEI	**Soe**	**11.47**	**190**	P	Pn	17 15 55.4	+8.7
MTKI	**Muara Teweh, K**	**11.60**	**257**	P	Pn	17 15 55.9	+7.5
BATI	**Baumata** 2.4nm,0.3s,baz=182,slow=19,SNR=3.8	**12.02**	**192**	Pn	Pn	17 16 03.0	+8.8
BATI				LR	LR	17 21 47.1	
	comp=Z,207nm,21.8s,baz=3.0,slow=44						
PLAI	**Plampang**	**13.36**	**219**	P	**P**	**17 16 26.2**	**+4.1**
TGY	**Tagaytay City**	**13.45**	**337**	LR	LR	17 21 44.7	
	comp=Z,301nm,20.3s,baz=215,slow=39						
GENI	**Genyem**	**14.57**	**107**	P	**Pn**	**17 16 31.2**	**+2.3**
DRS	**Darwin Rock St**	**14.72**	**162**	P	**Pn**	**17 16 33.3**	**+2.3**
MTN	**Manton Dam** baz=15,SNR=31	**15.18**	**161**	P	**Pn**	**17 16 37.3**	**+0.1**
MTN	**Manton Dam**	**15.18**	**161**		**Pn**	**17 16 39.6**	**-2.7**
MTN	**Manton Dam**	**15.18**	**161**		**Pn**	**17 16 39.2**	**+2.0**
KDU	**Kakadu** baz=16,SNR=26	**15.52**	**157**	P	**Pn**	**17 16 42.8**	**+1.2**
KDU	**Kakadu**	**15.52**	**157**	P	**P**	**17 16 43.7**	**-2.3**
JAGI	**Jajag, Banyuwa**	**15.66**	**230**	P	**P**	**17 16 47.4**	**-0.2**
JAGI	**Jajag, Banyuwa**	**15.66**	**230**	P	**Pn**	**17 16 44.9**	**+1.4**
KSM	**Kuching**	**15.90**	**270**	P	**P**	**17 16 52.7**	**+2.4**
KSM	**Kuching**	**15.90**	**270**	P	**P**	**17 16 50.0**	**-0.3**
KNRA	**Kununurra** baz=17,SNR=33	**17.37**	**172**	P	**P**	**17 17 06.2**	**-0.4**
KNRA	**Kununurra**	**17.37**	**172**	P	**P**	**17 17 07.2**	**+0.6**
KNRA	**Kununurra**	**17.37**	**172**	P	**P**	**17 17 05.8**	**-0.8**
KNRA				IAmb	IAmb	17 17 09.9	
	comp=Z,84nm,0.8s						
FITZ	**Fitzroy Crossi** baz=20,SNR=34	**19.61**	**182**	P	**P**	**17 17 30.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**19.61**	**182**	P	**P**	**17 17 30.7**	**-0.5**
DLV	**T Lat**	**20.35**	**301**	P	Pn	17 17 43.2	+1.6
DLV	**T Lat**	**20.35**	**301**	P	**P**	**17 17 39.6**	**0.0**
LEM	**Lembang** comp=Z,8.8nm,0.5s,baz=2.3,slow=6.9,SNR=4.1	**20.37**	**245**	P	**P**	**17 17 40.0**	**+0.3**
	comp=Z,8.8nm,0.5s						
BBJI	**Bungbulang**	**20.60**	**244**	P	Pn	17 17 46.3	+1.8
TWGBT	**Beinan**	**21.65**	**347**	P	**P**	**17 17 55.6**	**+2.3**
TWG	**Pinlang**	**21.65**	**347**	P	**P**	**17 17 52.5**	**-0.9**
TWG				IAmb	IAmb	17 17 55.6	
	comp=Z,35nm,0.6s						
TPUB	**Ta-pu**	**22.22**	**346**	P	**P**	**17 17 57.8**	**-1.7**
MYKOM	**Kota Tinggi**	**22.35**	**271**	P	**P**	**17 18 00.1**	**-0.9**
MYKOM				IAmb	IAmb	17 18 07.4	
	comp=Z,29nm,0.9s						
SSLB	**Suanglung**	**22.61**	**347**	P	**P**	**17 18 02.2**	**-1.5**
SSLB				IAmb	IAmb	17 18 06.9	
	comp=Z,24nm,0.7s						
WB0	**Warramunga Arr**	**22.72**	**160**	P	**P**	**17 18 03.8**	**-1.1**
COEN	**Coen** baz=23,SNR=16	**22.85**	**133**	P	**P**	**17 18 05.5**	**-0.8**
COEN	**Coen**	**22.85**	**133**	P	**P**	**17 18 07.5**	**+1.2**
COEN	**Coen**	**22.85**	**133**	P	**P**	**17 18 03.5**	**-2.7**
WRAB	**Tennant Creek**	**22.86**	**160**	P	**P**	**17 18 05.3**	**-1.0**
WRAB				IAmb	IAmb	17 18 09.3	
	comp=Z,52nm,0.7s						
WRAB	**Tennant Creek**	**22.86**	**160**	*d* *i* P	**P**	**17 18 05.5**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,49nm,0.6s						
WRA	**Warramunga Arr**	**22.87**	**160**	P	**P**	**17 18 04.6**	**-1.8**
WRA	**Warramunga Arr**	**22.87**	**160**	*eP*	**P**	**17 18 05.6**	**-0.8**
WRA				pmax	pmax		
	comp=Z,53nm,0.6s						
WRA	**Warramunga Arr**	**22.87**	**160**	P	**P**	**17 18 05.9**	**-0.5**
	comp=Z,51nm,0.6s,baz=337,slow=10,SNR=163						
WRA				S	**S**	**17 22 10.9**	**-5.3**
	comp=Z,7.0nm,0.9s,baz=336,slow=16,SNR=14						
	comp=Z,51nm,0.6s						
WB2	**Warramunga Arr** baz=23	**22.87**	**160**	P	**P**	**17 18 05.5**	**-0.9**
WC3	**Warramunga Arr** baz=23	**22.89**	**160**	P	**P**	**17 18 05.8**	**-0.9**
WR0	**Warramunga Arr**	**22.95**	**160**	P	**P**	**17 18 06.2**	**-1.1**
WR0				IAmb	IAmb	17 18 12.2	
	comp=Z,45nm,0.8s						
MBWA	**Marble Bar**	**23.52**	**195**	P	**P**	**17 18 13.5**	**+0.6**
MBWA	**Marble Bar**	**23.52**	**195**	P	**P**	**17 18 12.1**	**-0.8**
MBWA				IAmb	IAmb	17 18 15.6	
	comp=Z,23nm,0.7s						
PMG	**Port Moresby**	**23.57**	**118**	LR	LR	17 28 42.9	
	comp=Z,186nm,19.3s,baz=295,slow=40						
QIZ	**Qiongzhong**	**23.59**	**318**	P	**P**	**17 18 14.3**	**+0.6**
QIZ				S	**S**	**17 22 27.5**	**-0.7**
QIZ				pmax	pmax		
	comp=Z,13nm,0.8s						
QIZ				LR	LR		
	comp=Z,170nm,12.6s						
QIZ				LR	LR		
	comp=Z,210nm,20.2s						
PSA00	**Pilbara Seismi**	**23.88**	**195**	P	**P**	**17 18 18.5**	**+2.0**
PSA00	**Pilbara Seismi**	**23.88**	**195**	P	**P**	**17 18 15.4**	**-1.1**
PSA00				IAmb	IAmb	17 18 17.3	
	comp=Z,69nm,1.6s						
JOW	**Kunigami**	**25.14**	**4**	P	**P**	**17 18 32.0**	**+4.0**
JOW	**Kunigami**	**25.14**	**4**	P	**P**	**17 18 26.8**	**-1.2**
QIS	**Mount Isa** baz=26,SNR=26	**25.65**	**150**	P	**P**	**17 18 32.8**	**+0.1**
QIS	**Mount Isa**	**25.65**	**150**	P	**P**	**17 18 33.2**	**+0.5**
AS31	**Alice Springs**	**26.23**	**164**	P	**P**	**17 18 36.7**	**-1.2**
AS31				IAmb	IAmb	17 18 42.8	
	comp=Z,14nm,0.6s						
ASAR	**Alice Springs**	**26.23**	**164**	P	**P**	**17 18 36.6**	**-1.4**
ASAR	**Alice Springs**	**26.23**	**164**	P	**P**	**17 18 37.6**	**-0.3**
	comp=Z,15nm,0.6s,baz=343,slow=7.3,SNR=537						
ASAR				PcP	**PcP**	**17 22 04.7**	**-0.2**
	comp=Z,4.3nm,0.6s,baz=346,slow=2.1,SNR=8.4						
ASAR				S	**S**	**17 23 06.9**	**-3.5**
	comp=Z,3.5nm,0.8s,baz=352,slow=24,SNR=7.8						
	comp=Z,15nm,0.6s						
ASPA	**Alice Springs** baz=26	**26.23**	**164**	P	**P**	**17 18 37.3**	**-0.6**
AS01	**Alice Springs**	**26.24**	**164**	P	**P**	**17 18 38.3**	**+0.3**
MTSU	**Mount Surprise** baz=26,SNR=8.9	**26.52**	**139**	P	**P**	**17 18 40.1**	**-0.5**
MTSU	**Mount Surprise**	**26.52**	**139**	P	**P**	**17 18 42.4**	**+1.8**
WRKA	**Warakurna** baz=27,SNR=102	**26.58**	**176**	P	**P**	**17 18 41.7**	**+0.6**
WRKA	**Warakurna**	**26.58**	**176**	P	**P**	**17 18 42.0**	**+0.9**
NONG	**Nongkai**	**27.92**	**307**	P	**P**	**17 18 56.6**	**+3.4**
GSI	**Gunungsitoli**	**28.63**	**270**	P	**P**	**17 19 01.9**	**+2.3**
GSI	**Gunungsitoli**	**28.63**	**270**	P	**P**	**17 18 57.9**	**-1.7**
GSI				IAmb	IAmb	17 19 04.3	
	comp=Z,23nm,0.9s						
TV1H	**Townsville Har**	**28.98**	**137**	P	**P**	**17 19 04.2**	**+1.6**
MEEK	**Meekatharra** baz=29,SNR=6.4	**29.04**	**194**	P	**P**	**17 19 03.1**	**0.0**
MEEK	**Meekatharra**	**29.04**	**194**	P	**P**	**17 19 03.4**	**+0.3**
CTA	**Charters Tower** baz=29	**29.19**	**139**	P	**P**	**17 19 03.8**	**-0.6**
CTA	**Charters Tower**	**29.19**	**139**	LR	LR	17 32 06.8	
	comp=Z,96nm,21.0s,baz=152,slow=39						
JCJ	**Chichijima**	**29.60**	**30**	LR	LR	17 29 57.7	
	comp=Z,28nm,20.5s,baz=102,slow=34						
OOD	**Oodnadatta**	**30.64**	**163**	P	**P**	**17 19 16.9**	**-0.3**
GYA	**Guiyang**	**31.03**	**324**	⇑*i* P	**P**	**17 19 22.0**	**+1.2**
GYA				pmax	pmax		
	comp=Z,13nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,5.0s						
NJ2	**Nanjing**	**31.05**	**348**	*eP*	**P**	**17 19 22.3**	**+1.5**
NJ2				pP	**pwP**	**17 19 28.5**	**+5.1**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,98nm,4.5s						
CMAR	**Chiang Mai Arr**	**31.55**	**304**	P	**P**	**17 19 25.3**	**0.0**
	comp=Z,1.0nm,0.5s,baz=111,slow=6.6,SNR=10						
CMAR				PcP	**PcP**	**17 22 19.5**	**+1.3**
	comp=Z,1.1nm,0.8s,baz=123,slow=3.8,SNR=4.8						
CMAR				LR	LR	17 31 26.0	
	comp=Z,62nm,20.9s,baz=120,slow=35						
	comp=Z,1.0nm,0.5s						
JNU	**Nakatsue**	**31.64**	**7**	P	**P**	**17 19 28.6**	**+2.6**
JNU	**Nakatsue**	**31.64**	**7**	P	**P**	**17 19 27.5**	**+1.5**
JNU				IAmb	IAmb	17 19 30.7	
	comp=Z,10nm,0.8s						
FORT	**Forrest** baz=32,SNR=15	**32.27**	**177**	P	**P**	**17 19 32.3**	**+0.7**
FORT	**Forrest**	**32.27**	**177**	P	**P**	**17 19 33.7**	**+2.2**
FORT	**Forrest**	**32.27**	**177**	P	**P**	**17 19 29.4**	**-2.1**
KMI	**Kunming**	**32.54**	**318**	⇑P	**P**	**17 19 34.3**	**0.0**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KMI				pmax	pmax		
	comp=Z,92nm,4.2s						
KMI				LR	LR		
	comp=Z,100nm,20.7s						
KMI				LR	LR		
	comp=Z,140nm,18.6s						
KMI				LR	LR		
	comp=Z,220nm,21.3s						
MULG	**Mulgathing**	**32.60**	**167**	P	**P**	**17 19 34.8**	**+0.4**
QLP	**Quilpie** baz=33	**33.00**	**149**	P	**P**	**17 19 37.3**	**-0.7**
QLP	**Quilpie**	**33.00**	**149**	P	**P**	**17 19 37.8**	**-0.2**
KMBL	**Kambalda** baz=33,SNR=12	**33.07**	**187**	P	**P**	**17 19 38.8**	**+0.3**
KMBL	**Kambalda**	**33.07**	**187**	P	**P**	**17 19 38.9**	**+0.3**
BLDU	**Ballidu** baz=33,SNR=27	**33.31**	**195**	P	**P**	**17 19 41.4**	**+0.7**
BLDU	**Ballidu**	**33.31**	**195**	P	**P**	**17 19 41.4**	**+0.7**
JHJ	**Hachijo jima 2**	**33.82**	**21**	LR	LR	17 33 32.0	
	comp=Z,54nm,18.9s,baz=38,slow=36						
LCRK	**Leigh Creek**	**33.88**	**161**	P	**P**	**17 19 45.9**	**+0.2**
KLBR	**Kellerberrin** baz=34,SNR=34	**34.00**	**193**	P	**P**	**17 19 47.1**	**+0.5**
KLBR	**Kellerberrin**	**34.00**	**193**	P	**P**	**17 19 47.3**	**+0.7**
PZH	**PanZhiHua**	**34.13**	**319**	P	**P**	**17 19 47.3**	**-0.7**
PZH				S	**S**	**17 25 15.3**	**+0.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,110nm,5.9s						
PZH				LR	LR		
	comp=Z,70nm,5.9s						
PZH				LR	LR		
	comp=Z,80nm,8.4s						
PZH				LR	LR		
	comp=Z,180nm,22.1s						
RK1H	**Rockhampton Ha**	**34.30**	**138**	P	**P**	**17 19 50.5**	**+1.1**
MUN	**Mundaring** baz=35,SNR=12	**34.74**	**195**	P	**P**	**17 19 53.8**	**+0.8**
INU	**Inuyama**	**35.03**	**15**	P	**P**	**17 19 58.1**	**+2.6**
LYN	**LuoYang**	**35.18**	**340**	*eP*	**P**	**17 19 58.3**	**+1.5**
LYN				pmax	pmax		
	comp=Z,23nm,0.7s						
LYN				pmax	pmax		
	comp=Z,270nm,4.7s						
HNR	**Honiara**	**35.35**	**109**	LR	LR	17 36 07.3	
	comp=Z,784nm,18.0s,baz=212,slow=39						
JGF	**Kuroka**	**35.36**	**16**	P	**P**	**17 20 01.1**	**+2.7**
JGF	**Kuroka**	**35.36**	**16**	P	**P**	**17 19 57.7**	**-0.7**
NWAO	**Narrogin (SRO)** baz=36,SNR=20	**35.40**	**193**	P	**P**	**17 19 59.2**	**+0.5**
NWAO				P	**P**	**17 19 59.2**	**+0.5**
	baz=36,SNR=20						
TIA	**Tai'an**	**35.43**	**347**	*eP*	**P**	**17 19 58.0**	**-1.0**
TIA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TNCH	**TengChong**	**35.43**	**313**	⇑P	**P**	**17 20 01.5**	**+2.1**
TNCH				pP	pwP	17 20 07.0	+2.9
TNCH				PP	**PP**	**17 21 21.5**	**+1.6**
TNCH				S	**S**	**17 25 36.5**	**+1.8**
TNCH				sS	sS	17 25 47.0	+8.0
TNCH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TNCH				pmax	pmax		
	comp=Z,88nm,5.0s						
TNCH				LR	LR		
	comp=Z,94nm,6.0s						
TNCH				LR	LR		
	comp=Z,88nm,4.4s						
TNCH				LR	LR		
	comp=Z,97nm,11.6s						
BBOO	**Buckleboo** baz=36,SNR=57	**35.49**	**166**	P	**P**	**17 19 59.4**	**-0.2**
BBOO	**Buckleboo**	**35.49**	**166**	P	**P**	**17 19 59.3**	**-0.2**
BBOO	**Buckleboo**	**35.49**	**166**	P	**P**	**17 19 58.6**	**-1.0**
KSRS	**Korea Array**	**35.69**	**2**	*eP*	**P**	**17 20 04.2**	**+3.1**
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KSRS	**Korea Array** comp=Z,4.5nm,0.9s,baz=177,slow=10,SNR=16	**35.69**	**2**	P	**P**	**17 20 01.5**	**+0.4**
	comp=Z,4.5nm,0.9s						
CD2	**Chengdu**	**36.06**	**326**	P	**P**	**17 20 04.5**	**0.0**
CD2				pmax	pmax		
	comp=Z,20nm,0.4s						
CD2				LR	LR		
	comp=Z,150nm,11.9s						
XAN	**Xi'an**	**36.08**	**335**	⇑P	**P**	**17 20 04.0**	**-0.6**
XAN				pP	pwP	17 20 16.8	+7.4
XAN				pmax	pmax		
	comp=Z,21nm,0.8s						
XAN				pmax	pmax		
	comp=Z,160nm,4.3s						
WHYH	**Whyalla**	**36.10**	**164**	P	**P**	**17 20 04.7**	**0.0**
STKA	**Stephens Creek** baz=36,SNR=49	**36.37**	**158**	P	**P**	**17 20 07.2**	**+0.1**
STKA	**Stephens Creek**	**36.37**	**158**	P	**P**	**17 20 07.6**	**+0.5**
STKA	**Stephens Creek**	**36.37**	**158**	P	**P**	**17 20 06.4**	**-0.7**
STKA	**Stephens Creek**	**36.37**	**158**	*eP*	**P**	**17 20 07.3**	**+0.1**
STKA				pmax	pmax		
	comp=Z,24nm,0.6s						
STKA	**Stephens Creek** comp=Z,24nm,0.6s,baz=330,slow=8.8,SNR=65	**36.37**	**158**	P	**P**	**17 20 07.0**	**-0.2**
	comp=Z,24nm,0.6s						
MJAR	**Matsushiro Arr**	**36.47**	**16**	P	**P**	**17 20 07.5**	**-0.4**
	comp=Z,6.3nm,1.0s,baz=180,slow=8.9,SNR=11						
MJAR				LR	LR	17 34 57.6	
	comp=Z,45nm,20.6s,baz=217,slow=36						
	comp=Z,6.3nm,1.0s						
MAJO	**Matsushiro**	**36.48**	**16**	⇑*eP*	**P**	**17 20 07.4**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,11nm,1.2s						
MJA0	**Matsu Arr-Jizo**	**36.49**	**16**	*eP*	**P**	**17 20 07.4**	**-0.7**
MJA0				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HTT	**Hallett** baz=37,SNR=8.9	**36.87**	**162**	P	**P**	**17 20 11.7**	**+0.3**
HTT	**Hallett**	**36.87**	**162**	P	**P**	**17 20 11.9**	**+0.5**
RKGY	**Rocky Gully** baz=37,SNR=5.9	**37.07**	**193**	P	**P**	**17 20 14.5**	**+1.5**
RKGY	**Rocky Gully**	**37.07**	**193**	P	**P**	**17 20 14.9**	**+1.9**
HNS	**HongShan**	**37.15**	**345**	⇓P	**P**	**17 20 14.8**	**+1.2**
HNS				pmax	pmax		
	comp=Z,9.0nm,0.9s						
AULRC	**Lightning Ridg**	**37.24**	**148**	P	**P**	**17 20 14.9**	**+0.4**
CMSA	**Cobar Meteorol** baz=38,SNR=9.3	**37.81**	**152**	P	**P**	**17 20 18.7**	**-0.6**
CMSA	**Cobar Meteorol**	**37.81**	**152**	P	**P**	**17 20 19.7**	**+0.3**
JMM	**Marumori**	**38.48**	**19**	P	**P**	**17 20 26.5**	**+1.6**
JMM	**Marumori**	**38.48**	**19**	IAmb	IAmb	17 20 29.0	
	comp=Z,27nm,0.7s						
BJI	**Beijing**	**39.31**	**348**	P	**P**	**17 20 31.5**	**-0.3**
BJI				pP	**pwP**	**17 20 39.0**	**+2.3**
BJI				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AUDCS	**Dubbo College**	**39.80**	**150**	P	**P**	**17 20 36.6**	**+0.5**
ARMA	**Armidale** baz=40,SNR=12	**40.03**	**145**	P	**P**	**17 20 39.1**	**+1.0**
ARMA	**Armidale**	**40.03**	**145**	P	**P**	**17 20 39.3**	**+1.2**
LZH	**Lanzhou**	**40.07**	**331**	⇑P	**P**	**17 20 39.0**	**+0.6**
LZH				pP	pwP	17 20 47.5	+4.3
LZH				pmax	pmax		
	comp=Z,25nm,1.4s						
LZH				LR	LR		
	comp=Z,180nm,18.9s						
LZH				LR	LR		
	comp=Z,190nm,19.8s						
ARPS	**Mount Arapiles** baz=41,SNR=25	**40.87**	**161**	P	**P**	**17 20 45.5**	**+0.7**
ARPS	**Mount Arapiles**	**40.87**	**161**	P	**P**	**17 20 45.6**	**+0.8**
HHC	**Hu-ho-hao-te**	**41.24**	**343**	*eP*	**P**	**17 20 50.5**	**+2.6**
HHC				pP	pwP	17 20 57.0	+4.2
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,58nm,4.5s						
HHC				LR	LR		
	comp=Z,100nm,16.5s						
HHC				LR	LR		
	comp=Z,140nm,11.8s						
HHC				LR	LR		
	comp=Z,180nm,14.9s						
YNG	**Young** baz=41	**41.37**	**152**	P	**P**	**17 20 49.8**	**+0.8**
YNG	**Young**	**41.37**	**152**	P	**P**	**17 20 49.6**	**+0.6**
BRAT	**Ballarat**	**42.29**	**159**	P	**P**	**17 20 57.7**	**+1.3**
USRK	**Ussuriysk Ar.** comp=Z,6.1nm,0.6s,baz=158,slow=4.2,SNR=5.9	**42.70**	**6**	P	**P**	**17 20 59.8**	**+0.1**
	comp=Z,6.1nm,0.6s						
USA0B	**Ussuriysk Arra**	**42.70**	**6**	*ceP*	**P**	**17 21 02.7**	**+3.0**
TOO	**Toolangi** baz=43,SNR=16	**42.89**	**157**	P	**P**	**17 21 02.8**	**+1.4**
TOO	**Toolangi**	**42.89**	**157**	P	**P**	**17 21 01.1**	**-0.3**
TOO	**Toolangi**	**42.89**	**157**	P	**P**	**17 21 01.1**	**-0.3**
TOO				pmax	pmax		
	comp=Z,13nm,1.0s						
MDJ	**Mudanjiang**	**42.91**	**4**	P	**P**	**17 21 03.5**	**+2.1**
MDJ				pmax	pmax		
	comp=Z,16nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,130nm,3.9s						
XLT	**XiLinHaoTe**	**43.05**	**349**	*eP*	**P**	**17 21 03.0**	**+0.3**
XLT				pmax	pmax		
	comp=Z,18nm,0.6s						
XLT				pmax	pmax		
	comp=Z,93nm,4.4s						
H11S3	**WAKE ISLAND Hy** baz=252,slow=75,SNR=56	**43.07**	**64**	T	T	18 08 07.9	
H11S2	**WAKE ISLAND Hy** baz=252,slow=75,SNR=36	**43.09**	**64**	T	T	18 08 05.4	
H11S1	**WAKE ISLAND Hy** baz=252,slow=75,SNR=21	**43.09**	**64**	T	T	18 08 04.8	
H11N1	**WAKE ISLAND Hy** baz=258	**43.64**	**63**	T	T	18 09 22.8	
H11N2	**WAKE ISLAND Hy** baz=258	**43.66**	**63**	T	T	18 09 15.4	
H11N3	**WAKE ISLAND Hy** baz=258	**43.66**	**63**	T	T	18 09 12.3	
GTA	**Gaotai**	**44.65**	**331**	P	**P**	**17 21 15.5**

SONM	**Songino Array**	**49.13**	**342**	*e*P	**P**	**17 21 50.4**	**-0.2**
SONM				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SONM	**Songino Array**	**49.13**	**342**	P	**P**	**17 21 50.3**	**-0.3**
	comp=Z,6.6nm,0.9s,baz=159,slow=7.9,SNR=20						
SONM				LR	LR	17 43 27.2	
	comp=Z,77nm,20.9s,baz=178,slow=37						
	comp=Z,6.6nm,0.9s						
HYB	**Hyderabad**	**49.37**	**292**	*e*P	**P**	**17 21 52.3**	**-0.5**
CIT	**Chita**	**51.33**	**350**	*e*P	**P**	**17 22 08.0**	**+0.9**
CIT				*e*		17 22 14.6	
CIT				*e*		17 23 23.0	
CIT				*e*		17 24 09.2	
CIT				pmax	pmax		
	comp=Z,64nm,1.1s						
ZEA	**Zeya**	**51.95**	**1**	*e*P	**P**	**17 22 12.2**	**+0.6**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
WMQ	**Urumqi**	**54.16**	**326**	*e*P	**P**	**17 22 29.8**	**+1.6**
WMQ				pmax	pmax		
	comp=Z,21nm,0.7s						
WMQ				LR	LR		
	comp=Z,96nm,23.8s						
MOY	**Mondy**	**54.18**	**341**	*e*P	**P**	**17 22 28.4**	**+0.1**
BOD	**Bodaibo**	**56.86**	**352**	*e*P	**P**	**17 22 47.6**	**+0.3**
BOD				pmax	pmax		
	comp=Z,15nm,1.2s						
PEA0B	**Petropavlovsk-**	**57.56**	**22**⇓	*e*P	**P**	**17 22 53.6**	**+1.3**
PETK	**Petropavlovsk-**	**57.56**	**22**	P	**P**	**17 22 51.4**	**-1.0**
	comp=Z,4.4nm,0.6s,baz=193,slow=5.7,SNR=26						
	comp=Z,4.4nm,0.6s						
NIL	**Nilore**	**58.82**	**309**	P	**P**	**17 23 00.9**	**-0.6**
NIL				IAmb	IAmb	17 23 06.6	
	comp=Z,9.5nm,0.7s						
NIL	**Nilore**	**58.82**	**309**	P	**P**	**17 23 00.9**	**-0.6**
NIL				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MK31	**Makanchi Array**	**58.99**	**326**	*c i*P	**P**	**17 23 01.8**	**-0.7**
MKAR	**Makanchi Array**	**58.99**	**326**	*e*P	**P**	**17 23 02.0**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MKAR	**Makanchi Array**	**58.99**	**326**	P	**P**	**17 23 01.8**	**-0.7**
	comp=Z,5.3nm,0.5s,baz=116,slow=8.2,SNR=9.9						
	comp=Z,5.3nm,0.5s						
KSH	**Kashi**	**59.18**	**316**	P	**P**	**17 23 05.8**	**+1.7**
KSH				pP	pwP	17 23 13.0	+4.0
KSH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
YAK	**Yakutsk**	**60.31**	**2**	P	**P**	**17 23 10.7**	**-0.5**
YAK	**Yakutsk**	**60.31**	**2**	*d i*P	**P**	**17 23 11.9**	**+0.7**
YAK				*e*		17 23 54.5	
YAK				*e*		17 25 23.7	
YAK				*e*S	**S**	**17 31 23.3**	**-2.2**
YAK				*e**SS	sS	17 31 48.8	+19
YAK				*e*		17 32 59.1	
YAK				*e*SS	**SS**	**17 35 20.7**	**-2.4**
YAK				pmax	pmax		
	comp=Z,22nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.2s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,97nm,4.3s						
YAK				pmax	pmax		
	comp=E,82nm,4.0s						
YAK				smax	smax		
	comp=N,31nm,3.0s						
YAK				smax	smax		
	comp=E,25nm,2.3s						
MA2	**Magadan**	**60.86**	**14**	P	**P**	**17 23 15.4**	**+0.4**
MA2	**Magadan**	**60.86**	**14**	*c i*P	**P**	**17 23 16.1**	**+1.1**
MA2				pmax	pmax		
	comp=Z,16nm,0.6s						
MA2	**Magadan**	**60.86**	**14**	LR	LR	17 48 17.4	
	comp=Z,19nm,21.9s,baz=202,slow=35						
URZ	**Urewera**	**61.38**	**136**	P	**P**	**17 23 18.6**	**-0.4**
	comp=Z,8.6nm,0.9s,baz=71,slow=12,SNR=4.1						
URZ				LR	LR	17 51 05.6	
	comp=Z,72nm,18.0s,baz=306,slow=37						
	comp=Z,8.6nm,0.9s						
RTZ	**Ruatahuna**	**61.46**	**136**	P	**P**	**17 23 18.4**	**-1.2**
AAK	**Ala-Archa**	**61.58**	**319**	*de*P	**P**	**17 23 21.8**	**+1.3**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ZALV	**Zalesovo Beam**	**62.23**	**334**	*e*P	**P**	**17 23 26.4**	**+2.0**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZALV	**Zalesovo Beam**	**62.23**	**334**	P	**P**	**17 23 23.2**	**-1.2**
	comp=Z,3.0nm,0.6s,baz=119,slow=12,SNR=6.7						
	comp=Z,3.0nm,0.6s						
KBL	**Kabul**	**62.40**	**308**	P	**P**	**17 23 24.7**	**-1.6**
KBL				IAmb	IAmb	17 23 29.2	
	comp=Z,11nm,0.7s						
KBL	**Kabul**	**62.40**	**308**	P	**P**	**17 23 24.7**	**-1.6**
KBL				pmax	pmax		
	comp=Z,11nm,0.7s						
BTK	**Batken**	**63.02**	**315**	IAmb	IAmb	17 23 34.6	
	comp=Z,7.7nm,0.9s						
KURBB	**Kurchatov Arra**	**63.23**	**328**	P	**P**	**17 23 30.2**	**-1.0**
	comp=Z,12nm,0.6s,baz=123,slow=6.2,SNR=13						
	comp=Z,12nm,0.6s						
KURK	**Kurchatov**	**63.24**	**328**	*de*P	**P**	**17 23 30.2**	**-1.0**
KURK				pmax	pmax		
	comp=Z,19nm,0.6s						
SIMJ	**Simiganj**	**63.81**	**313**	P	**P**	**17 23 34.0**	**-1.4**
SIMJ				IAmb	IAmb	17 23 38.7	
	comp=Z,12nm,1.0s						
SEY	**Seymchan**	**64.19**	**13**⇑	*e*P	**P**	**17 23 38.7**	**+1.5**
SEY				pmax	pmax		
	comp=Z,22nm,1.7s						
AMKA	**Amchitka**	**66.53**	**33**	P	**P**	**17 23 52.1**	**-0.5**
BVAR	**Borovoye Array**	**68.80**	**328**	P	**P**	**17 24 05.9**	**-1.0**
	comp=Z,6.7nm,0.7s,baz=129,slow=12,SNR=14						
	comp=Z,6.7nm,0.7s						
TIXI	**Tiksi**	**69.94**	**1**	P	**P**	**17 24 12.4**	**-1.2**
TIXI				IAmb	IAmb	17 24 14.7	
	comp=Z,16nm,1.2s						
TIXI	**Tiksi**	**69.94**	**1**	P	**P**	**17 24 12.4**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,16nm,1.2s						
ATKA	**Atka Island**	**70.51**	**34**	P	**P**	**17 24 16.0**	**-1.5**
GEYT	**Alibeck**	**71.81**	**309**	P	**P**	**17 24 25.9**	**+0.1**
GEYT	**Alibeck**	**71.81**	**309**	P	**P**	**17 24 26.0**	**+0.2**
	comp=Z,4.6nm,0.8s,baz=197,slow=4.6,SNR=5.8						
	comp=Z,4.6nm,0.8s						
NRIK	**Noril'sk**	**72.34**	**347**	P	**P**	**17 24 27.4**	**-0.9**
NRIK				IAmb	IAmb	17 24 31.4	
	comp=Z,13nm,0.7s						
NRIK	**Noril'sk**	**72.34**	**347**⇓	*i*P	**P**	**17 24 28.4**	**+0.2**
NRIK				pmax	pmax		
	comp=Z,12nm,0.7s						
NRIK	**Noril'sk**	**72.34**	**347**	P	**P**	**17 24 27.6**	**-0.7**
	comp=Z,14nm,0.7s,baz=123,slow=5.8,SNR=19						
	comp=Z,14nm,0.7s						
ABKAR	**Akbulak array**	**73.45**	**321**	P	**P**	**17 24 33.2**	**-2.0**
ABKAR				IAmb	IAmb	17 24 37.5	
	comp=Z,5.3nm,0.7s						
ABKAR	**Akbulak array**	**73.45**	**321**	P	**P**	**17 24 33.5**	**-1.7**
NIKH	**Nikolski High**	**73.83**	**35**	P	**P**	**17 24 37.2**	**-0.1**
	baz=250						
SPIA	**Saint Paul Isl**	**74.56**	**30**	P	**P**	**17 24 42.0**	**+0.5**
	baz=248						
P08K	**Saint George I**	**74.71**	**31**	P	**P**	**17 24 43.0**	**+0.6**
	baz=249						
AKTO	**Aktyubinsk**	**74.98**	**322**	P	**P**	**17 24 43.4**	**-0.8**
	comp=Z,5.6nm,0.6s,baz=95,slow=6.1,SNR=16						
	comp=Z,5.6nm,0.6s						
UNV	**Unalaska Valle**	**75.44**	**34**	P	**P**	**17 24 47.0**	**+0.3**
	baz=252						
SVE	**Sverdlovsk**	**75.48**	**329**	*e*P	**P**	**17 24 45.9**	**-1.0**
SVE				pmax	pmax		
	comp=Z,22nm,0.8s						
ARU	**Arti**	**76.43**	**328**	*d i*P	**P**	**17 24 51.2**	**-1.1**
ARU				S	**S**	**17 34 34.4**	**-3.3**
ARU				pmax	pmax		
	comp=Z,18nm,0.8s						
ARU	**Arti**	**76.43**	**328**	P	**P**	**17 24 51.4**	**-0.9**
	comp=Z,14nm,0.7s,baz=322,slow=0.2,SNR=22						
	comp=Z,14nm,0.7s						
GAMB	**Gambell**	**76.52**	**24**	P	**P**	**17 24 53.2**	**+0.6**
	baz=245						
FALS	**False Pass**	**77.46**	**34**	P	**P**	**17 24 58.0**	**0.0**
	baz=255						
M11K	**Mekoryuk**	**77.66**	**28**	P	**P**	**17 24 59.2**	**+0.1**
	baz=251						
S12K	**Black Hills**	**78.43**	**33**	P	**P**	**17 25 03.5**	**0.0**
	baz=256						
TNA	**Tin City**	**78.72**	**23**	P	**P**	**17 25 05.2**	**+0.4**
	baz=248						
M13K	**Dall Lake**	**79.02**	**28**	P	**P**	**17 25 06.6**	**0.0**
	baz=254						
SDPT	**Sand Point**	**79.22**	**34**	P	**P**	**17 25 07.7**	**-0.1**
	baz=257						
F14K	**Arctic Creek**	**79.31**	**23**	P	**P**	**17 25 08.4**	**+0.3**
	baz=250						
ANM	**Nome**	**79.39**	**24**	P	**P**	**17 25 09.3**	**+0.7**
	baz=251						
L14K	**Kuka Creek**	**79.59**	**28**	P	**P**	**17 25 09.8**	**+0.1**
	baz=254						
J14K	**Nanvaranak Lak**	**79.59**	**26**	P	**P**	**17 25 10.1**	**+0.4**
	baz=253						
CHNA	**Chernabura Isl**	**79.60**	**34**	P	**P**	**17 25 10.6**	**+0.7**
	baz=258						
N14K	**Kuskokwak Cree**	**79.69**	**29**	P	**P**	**17 25 10.7**	**+0.4**
	baz=255						
O14K	**Tigyukauivet M**	**79.72**	**30**	P	**P**	**17 25 10.7**	**+0.2**
	baz=256						
M14K	**Bethel**	**79.77**	**28**	IAmb	IAmb	17 25 13.1	
	comp=Z,33nm,1.2s						
M14K	**Bethel**	**79.77**	**28**	P	**P**	**17 25 11.6**	**+0.9**
	baz=255						
S14K	**Fog Glacier**	**79.93**	**33**	P	**P**	**17 25 11.9**	**+0.1**
	baz=258						
F15K	**North Star Dit**	**80.04**	**23**	P	**P**	**17 25 12.4**	**+0.3**
	baz=252						
G15K	**Niukluk**	**80.06**	**24**	P	**P**	**17 25 12.4**	**+0.1**
	baz=252						
L15K	**Ungalak Mounta**	**80.23**	**27**	P	**P**	**17 25 13.3**	**0.0**
	baz=255						
M15K	**Kasigluk River**	**80.36**	**29**	P	**P**	**17 25 14.2**	**+0.2**
	baz=256						
K15K	**Wolf Creek Mou**	**80.37**	**27**	P	**P**	**17 25 14.0**	**0.0**
	baz=255						
O15K	**Ungalikthiuk R**	**80.42**	**30**	P	**P**	**17 25 14.6**	**+0.3**
	baz=257						
N15K	**Kwethluk River**	**80.52**	**29**	P	**P**	**17 25 15.2**	**+0.4**
	baz=257						
CHGN	**Chignik**	**80.56**	**33**	P	**P**	**17 25 15.8**	**+0.8**
	baz=259						
C16K	**Lisburne Hills**	**80.63**	**21**	IAmb	IAmb	17 25 18.2	
	comp=Z,20nm,1.3s						
C16K	**Lisburne Hills**	**80.63**	**21**	P	**P**	**17 25 16.0**	**+0.8**
	baz=250						
H16K	**Elim**	**80.70**	**24**	P	**P**	**17 25 16.7**	**+1.0**
	baz=254,SNR=11						
VOI	**Vohitsoka**	**80.79**	**248**	P	**P**	**17 25 20.6**	**+3.4**
VOI	**Vohitsoka**	**80.79**	**248**	P	**P**	**17 25 18.4**	**+1.1**
VOI				IAmb	IAmb	17 25 20.9	
	comp=Z,11nm,0.7s						
RAYN	**Ar Rayn**	**80.83**	**293**	P	**P**	**17 25 15.4**	**-1.9**
RAYN	**Ar Rayn**	**80.83**	**293**	P	**P**	**17 25 15.4**	**-1.9**
RAYN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
G16K	**Koyuk River**	**80.86**	**24**	P	**P**	**17 25 16.9**	**+0.4**
	baz=254						
J16K	**Anvik River**	**81.04**	**26**	P	**P**	**17 25 18.0**	**+0.5**
	baz=256						
I17K	**Unalakleet**	**81.15**	**25**	IAmb	IAmb	17 25 21.1	
	comp=Z,12nm,1.0s						
I17K	**Unalakleet**	**81.15**	**25**	P	**P**	**17 25 18.8**	**+0.8**
	baz=255						
L16K	**Owhat River**	**81.17**	**28**	IAmb	IAmb	17 25 20.6	
	comp=Z,14nm,1.0s						
L16K	**Owhat River**	**81.17**	**28**	P	**P**	**17 25 18.9**	**+0.7**
	baz=257						
N16K	**Nishlik Lake**	**81.23**	**29**	P	**P**	**17 25 19.1**	**+0.5**
	baz=258						
D17K	**Noatak River**	**81.25**	**21**	P	**P**	**17 25 19.5**	**+1.0**
	baz=253						
M16K	**Timber Creek**	**81.26**	**28**	P	**P**	**17 25 19.5**	**+0.7**
	baz=257						
P16K	**Nushagak River**	**81.32**	**30**	P	**P**	**17 25 19.6**	**+0.5**
	baz=259						
O16K	**Kokwok River B**	**81.38**	**30**	P	**P**	**17 25 19.8**	**+0.4**
	baz=258						
VNDA	**Vanda**	**81.42**	**173**	P	**P**	**17 25 18.5**	**-0.8**
VNDA				IAmb	IAmb	17 25 20.1	
	comp=Z,6.9nm,0.8s						
VNDA	**Vanda**	**81.42**	**173**	P	**P**	**17 25 18.5**	**-0.8**
VNDA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
VNDA	**Vanda**	**81.42**	**173**	P	**P**	**17 25 19.2**	**0.0**
	comp=Z,6.2nm,0.8s,baz=314,slow=5.7,SNR=32						
VNDA				LR	LR	18 01 49.6	
	comp=Z,43nm,19.1s,baz=330,slow=36						
	comp=Z,6.2nm,0.8s						
RDOG	**Red Dog Mine**	**81.42**	**21**	P	**P**	**17 25 20.3**	**+0.8**
	baz=253						
C17K	**DeLong Mountai**	**81.45**	**21**	P	**P**	**17 25 20.7**	**+1.0**
	baz=252						
E17K	**Hotham Inlet**	**81.54**	**22**	P	**P**	**17 25 21.4**	**+1.3**
	baz=254,SNR=9.1						
G17K	**Kiwalik Mounta**	**81.58**	**24**	P	**P**	**17 25 21.0**	**+0.6**
	baz=255						
F17K	**Baldwin Pennin**	**81.58**	**23**	P	**P**	**17 25 21.0**	**+0.7**
	baz=254						
MAW	**Mawson**	**81.61**	**200**	P	**P**	**17 25 21.1**	**+0.6**
	baz=282						
MAW	**Mawson**	**81.61**	**200**	P	**P**	**17 25 20.3**	**-0.1**
MAW	**Mawson**	**81.61**	**200**	P	**P**	**17 25 20.3**	**-0.1**
MAW				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MAW	**Mawson**	**81.61**	**200**	P	**P**	**17 25 21.0**	**+0.5**
	comp=Z,4.1nm,0.8s,baz=28,slow=8.8,SNR=5.3						
	comp=Z,4.1nm,0.8s						
H17K	**Granite Mounta**	**81.74**	**24**	P	**P**	**17 25 22.2**	**+1.0**
	baz=256						
KIRV	**Kirov**	**81.75**	**329**	*d i*P	**P**	**17 25 20.4**	**-0.9**
BELG	**Belogornoye**	**81.75**	**323**	*d i*P	**P**	**17 25 20.3**	**-1.2**
BELG				pmax	pmax		
	comp=Z,7.0nm,0.9s						
L17K	**Donlin**	**81.81**	**27**	P	**P**	**17 25 22.6**	**+1.0**
	baz=258						
O17K	**Koliganek Bris**	**81.91**	**30**	P	**P**	**17 25 23.4**	**+1.2**
	baz=259						
K17K	**Iditarod**	**81.93**	**27**		**P**	**17 25 23.9**	**+1.7**
K17K	**Iditarod**	**81.93**	**27**	P	**P**	**17 25 22.0**	**-0.2**
	baz=258						
N17K	**Nushagak Hills**	**82.01**	**29**	P	**P**	**17 25 23.2**	**+0.5**
	baz=259						
M17K	**Holitna River**	**82.06**	**28**	P	**P**	**17 25 23.8**	**+0.8**
	baz=259						
E18K	**Tukpahlearik C**	**82.09**	**22**	P	**P**	**17 25 23.5**	**+0.5**
	baz=255						
P17K	**Kvichak River**	**82.14**	**30**	P	**P**	**17 25 24.2**	**+0.8**
	baz=260						
B18K	**Kokolik River**	**82.19**	**20**	P	**P**	**17 25 24.7**	**+1.2**
	baz=254						
C18K	**Utukok River**	**82.20**	**21**	P	**P**	**17 25 24.8**	**+1.2**
	baz=254						
F18K	**Selawik**	**82.24**	**23**	P	**P**	**17 25 25.1**	**+1.3**
	baz=256						
Q17K	**Contact Creek**	**82.26**	**31**	P	**P**	**17 25 24.0**	**-0.2**
	baz=260						
SBA	**Scott Base**	**82.33**	**172**		**P**	**17 25 25.3**	**+1.2**
SBA				IAmb	IAmb	17 25 30.3	
	comp=Z,31nm,1.6s						
SBA	**Scott Base**	**82.33**	**172**	P	**P**	**17 25 25.3**	**+1.2**
SBA				pmax	pmax		
	comp=Z,31nm,1.6s						
H18K	**Honhosa River**	**82.42**	**24**	IAmb	IAmb	17 25 27.3	
	comp=Z,17nm,1.1s						
H18K	**Honhosa River**	**82.42**	**24**	P	**P**	**17 25 25.8**	**+1.0**
	baz=257						
G18K	**Tagagawik**	**82.47**	**24**	IAmb	IAmb	17 25 27.4	
	comp=Z,11nm,1.1s						
G18K	**Tagagawik**	**82.47**	**24**	P	**P**	**17 25 25.8**	**+0.7**
	baz=257						
L18K	**Granite Mounta**	**82.56**	**27**	P	**P**	**17 25 27.1**	**+1.5**
	baz=259						
N18K	**Kilae Creek**	**82.67**	**29**	IAmb	IAmb	17 25 29.0	
	comp=Z,32nm,1.6s						
N18K	**Kilae Creek**	**82.67**	**29**	P	**P**	**17 25 27.3**	**+1.1**
	baz=260						
A19K	**Wainwright**	**82.67**	**19**	P	**P**	**17 25 27.6**	**+1.7**
	baz=254						
P18K	**Big Mountain,**	**82.78**	**30**	P	**P**	**17 25 28.1**	**+1.3**
	baz=261						
J18K	**Innoko River**	**82.78**	**26**	P	**P**	**17 25 27.8**	**+1.1**
	baz=259						
M18K	**Stony River**	**82.83**	**28**	P	**P**	**17 25 28.4**	**+1.4**
	baz=260,SNR=12						
O18K	**Koktuh Hills**	**82.86**	**30**	P	**P**	**17 25 28.4**	**+1.2**
	baz=261						
C19K	**Lookout Ridge**	**82.88**	**20**	P	**P**	**17 25 28.8**	**+1.6**
	baz=256						
SVW2	**Sparrevohn**	**82.89**	**29**	P	**P**	**17 25 28.6**	**+1.3**
SVW2				IAmb	IAmb	17 25 30.0	
	comp=Z,11nm,0.9s						
GCSA	**Galena City Sc**	**82.96**	**25**	P	**P**	**17 25 28.7**	**+1.2**
	baz=259						
TTA	**Tatalina**	**83.00**	**27**	P	**P**	**17 25 29.4**	**+1.4**
	baz=260						
F19K	**Shaleruckik Mo**	**83.03**	**23**	P	**P**	**17 25 28.9**	**+1.0**
	baz=258						
G19K	**Purcell Mounta**	**83.15**	**23**	P	**P**	**17 25 30.0**	**+1.4**
	baz=258						
D19K	**Kuna River**	**83.26**	**21**	P	**P**	**17 25 30.5**	**+1.4**
	baz=257						
H19K	**Roundabout Mou**	**83.29**	**24**	P	**P**	**17 25 30.7**	**+1.4**
	baz=259						
J19K	**Poorman**	**83.36**	**26**	P	**P**	**17 25 31.2**	**+1.5**
	baz=260						
E19K	**Redstone River**	**83.36**	**22**	P	**P**	**17 25 30.9**	**+1.3**
	baz=258						
N19K	**Bonanza Creek**	**83.37**	**29**	P	**P**	**17 25 31.5**	**+1.6**
	baz=261						
L19K	**White Mountain**	**83.40**	**28**	P	**P**	**17 25 31.2**	**+1.2**
	baz=261						
OHAK	**Old Harbor**	**83.49**	**33**	P	**P**	**17 25 31.3**	**+0.8**
	baz=263						
Q19K	**Cape Douglas,**	**83.52**	**31**	P	**P**	**17 25 31.5**	**+0.8**
	baz=262						
ONI	**Oni**	**83.57**	**313**	P	**P**	**17 25 30.2**	**-1.1**
ONI				IAmb	IAmb	17 25 42.0	
	comp=Z,6.3nm,0.9s						
ONI	**Oni**	**83.57**	**313**	P	**P**	**17 25 30.2**	**-1.1**
ONI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
M19K	**Big River Lodg**	**83.58**	**28**	P	**P**	**17 25 31.3**	**+0.4**
	baz=261,SNR=11						
D20K	**Etivluk River**	**83.84**	**21**	P	**P**	**17 25 33.3**	**+1.2**
	baz=259,SNR=24						
F20K	**Avaraart Lake**	**83.86**	**23**	P	**P**	**17 25 33.6**	**+1.4**
	baz=260						
L20K	**Farewell, AK**	**83.90**	**27**	P	**P**	**17 25 33.7**	**+1.2**
	baz=262						
E20K	**Nigu River**	**83.91**	**21**	P	**P**	**17 25 33.3**	**+0.8**
	baz=259						
B20K	**Meade River**	**83.92**	**20**	P	**P**	**17 25 33.6**	**+1.2**
	baz=258,SNR=15						
H20K	**Anotleneega Mo**	**83.93**	**24**	P	**P**	**17 25 34.1**	**+1.5**
	baz=261						
KDAK	**Kodiak Island**	**83.93**	**32**	P	**P**	**17 25 33.5**	**+0.8**
	baz=263						
KDAK	**Kodiak Island**	**83.93**	**32**	LR	LR	18 03 07.7	
	comp=Z,33nm,19.3s,baz=256,slow=36						
K20K	**Telida**	**83.94**	**26**	P	**P**	**17 25 33.7**	**+1.0**
	baz=262						
I20K	**Naagheneel**	**83.98**	**25**	P	**P**	**17 25 33.8**	**+1.0**
	baz=261						
J20K	**Nowinta River**	**84.03**	**26**	P	**P**	**17 25 34.4**	**+1.3**
	baz=261						
KBZ	**Khabaz**	**84.05**	**314**⇓	*e*P	**P**	**17 25 32.9**	**-0.7**
KBZ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KBZ	**Khabaz**	**84.05**	**314**	P	**P**	**17 25 33.2**	**-0.4**
	comp=Z,5.1nm,0.8s,baz=148,slow=5.7,SNR=13						
	comp=Z,5.1nm,0.8s						
Q20K	**Shuyak Island**	**84.13**	**31**	P	**P**	**17 25 34.6**	**+0.9**
	baz=264						
M20K	**Styx River**	**84.16**	**28**	P	**P**	**17 25 34.6**	**+0.6**
	baz=262						
O20K	**Slope Mountain**	**84.18**	**30**	P	**P**	**17 25 34.7**	**+0.6**
	baz=263						
KIV	**Kislovodsk**	**84.21**	**314**	⇑P	**P**	**17 25 36.5**	**+1.9**
KIV	**Kislovodsk**	**84.21**	**314**	*e*P	**P**	**17 25 35.8**	**+1.2**
KIV				pmax	pmax		
	comp=Z,11nm,1.1s						
A21K	**Barrow**	**84.37**	**18**	P	**P**	**17 25 35.8**	**+1.2**
	baz=258						
IMAR	**Indian Mountai**	**84.46**	**24**	P	**P**	**17 25 35.6**	**+0.3**
N20K	**Mount Spurr**	**84.52**	**29**	P	**P**	**17 25 36.5**	**+0.7**
	baz=263,SNR=5.4						
C21K	**Knifeblade Rid**	**84.58**	**21**	P	**P**	**17 25 37.2**	**+1.4**
	baz=260						
G21K	**Allaket**	**84.64**	**23**	P	**P**	**17 25 37.4**	**+1.2**
	baz=262						
B21K	**Ikpikpuk River**	**84.71**	**20**	P	**P**	**17 25 37.7**	**+1.2**
	baz=260						
PPLA	**Purkeypile**	**84.72**	**27**	P	**P**	**17 25 37.3**	**+0.5**
	baz=263						
F21K	**Alatna River**	**84.75**	**23**	P	**P**	**17 25 37.4**	**+0.6**
	baz=262						
CHUM	**Lake Minchumin**	**84.79**	**26**	P	**P**	**17 25 37.8**	**+0.8**
	baz=263						
H21K	**Melozitna Rive**	**84.80**	**24**	P	**P**	**17 25 38.2**	**+1.2**
	baz=262						
A22K	**Sinclair Lake**	**84.83**	**19**	P	**P**	**17 25 37.6**	**+0.6**
	baz=260						
CAST	**Castle Rocks**	**84.83**	**27**	IAmb	IAmb	17 26 12.9	
	comp=Z,8.9nm,1.6s						
CAST	**Castle Rocks**	**84.83**	**27**	P	**P**	**17 25 37.3**	**+0.1**
	baz=263						
SKT	**Skwentna**	**84.93**	**28**	IAmb	IAmb	17 25 39.1	
	comp=Z,8.8nm,1.0s						
SKT	**Skwentna**	**84.93**	**28**	P	**P**	**17 25 37.7**	**0.0**
	baz=264,SNR=6.5						
PPT2	**Papeete2**	**84.97**	**108**	*e*LR	LR	17 52 32.9	
	comp=Z,61nm,27.5s						
CAPN	**Captain Cook N**	**84.98**	**29**	P	**P**	**17 25 38.3**	**+0.3**
	baz=264						
I21K	**Tanana**	**85.08**	**25**	P	**P**	**17 25 39.6**	**+1.2**
	baz=263						
BRSE	**Bradley Lake S**	**85.09**	**30**	P	**P**	**17 25 38.7**	**+0.1**
	baz=265						
B22K	**Teshekpuk Lake**	**85.23**	**20**	P	**P**	**17 25 40.1**	**+1.1**
	baz=262						
SUA	**Susitna One**	**85.25**	**29**	P	**P**	**17 25 39.5**	**0.0**
	baz=265,SNR=16						
D22K	**Ayikyak River**	**85.28**	**21**	P	**P**	**17 25 40.5**	**+1.1**
	baz=262						
VRH	**Novokhopyorsk**	**85.28**	**321**	*e*P	**P**	**17 25 38.4**	**-1.3**
VRH				pmax	pmax		
	comp=Z,52nm,0.7s						
F22K	**John River**	**85.29**	**22**	P	**P**	**17 25 40.3**	**+0.8**
	baz=263						
BPAW	**Bear Paw Mtn.**	**85.39**	**26**	P	**P**	**17 25 40.4**	**+0.4**
	baz=264						
H22K	**Ishtalitna Cre**	**85.42**	**24**	P	**P**	**17 25 41.0**	**+0.9**
	baz=264						
E22K	**Anaktuvuk Pass**	**85.50**	**22**	IAmb	IAmb	17 26 02.1	
	comp=Z,7.2nm,1.1s						
E22K	**Anaktuvuk Pass**	**85.50**	**22**	P	**P**	**17 25 41.1**	**+

KTUT	Trabzon		86.26	311	⇑P		P	17 25 44.0	-0.8
MCK	McKinley		86.27	26	P		P	17 25 44.5	+0.1
	baz=266								
NEA2	Nenana		86.27	25	P		P	17 25 44.5	+0.2
	baz=266								
RND	Reindeer		86.28	27	IAmb		IAmb	17 25 44.3	
	comp=Z,14nm,1.5s								
E23K	Chandalar		86.32	22	P		P	17 25 44.8	+0.1
	baz=265								
KNK	Knik Glacier		86.34	29	IAmb		IAmb	17 25 46.6	
	comp=Z,10.0nm,0.8s								
KNK	Knik Glacier		86.34	29	P		P	17 25 45.0	+0.2
	baz=267,SNR=5.2								
WAT1	Susitna Watana		86.38	27	P		P	17 25 44.7	-0.3
	baz=266								
TOLK	Toolik Lake Re		86.38	21	IAmb		IAmb	17 25 53.6	
	comp=Z,5.7nm,0.9s								
TOLK	Toolik Lake Re		86.38	21	P		P	17 25 44.9	0.0
	baz=265,SNR=7.1								
SML	Sawmill		86.42	28	IAmb		IAmb	17 25 46.9	
	comp=Z,8.9nm,0.7s								
SML	Sawmill		86.42	28	P		P	17 25 44.8	-0.4
	baz=267								
D24K	Happy Valley		86.69	21	P		P	17 25 46.7	+0.4
	baz=266								
M23K	Glacier View		86.71	28	P		P	17 25 46.7	+0.1
	baz=267								
WAT6	Susitna Watana		86.74	28	P		P	17 25 46.8	-0.1
	baz=267,SNR=5.5								
C24K	Franklin Bluff		86.78	20	P		P	17 25 47.3	+0.6
	baz=266								
P23K	Montague Islan		86.79	30	P		P	17 25 47.5	+0.5
	baz=268								
VORD	Divnogorie		86.80	321	*e*P		P	17 25 47.0	-0.2
VORD					pmax		pmax		
	comp=Z,30nm,0.7s								
H24K	Nondor Dome		86.85	24	P		P	17 25 47.0	-0.2
	baz=267								
VORR	Voronezh		86.87	321	*e*P		P	17 25 47.1	-0.5
VSR	Storozhevoye		86.89	321	*e*P		P	17 25 45.6	-2.0
VSR					pmax		pmax		
	comp=Z,20nm,0.7s								
SCM	Sheep Creek Mo		86.90	28	P		P	17 25 47.1	-0.5
	baz=268								
DHY	Denali Highway		86.93	27	P		P	17 25 47.8	0.0
	baz=268								
F24K	Squaw Lake		86.94	23	P		P	17 25 47.3	-0.3
	baz=267								
KLMR	Klimovskoe		86.98	331	*e*P		P	17 25 46.9	-0.9
KLMR					pmax		pmax		
	comp=Z,37nm,1.5s								
G24K	Hadweenzic Riv		87.05	23	P		P	17 25 48.9	+0.8
	baz=267								
LPSR	Galich'ya Gora		87.07	322	*e*P		P	17 25 46.7	-1.8
LPSR					pmax		pmax		
	comp=Z,30nm,0.8s								
HDA	Harding Lake		87.17	26	P		P	17 25 48.2	-0.5
	baz=266,SNR=5.1								
ILAR	Eielson Array		87.21	25	*e*P		P	17 25 48.0	-1.0
ILAR					pmax		pmax		
	comp=Z,1.0nm,0.6s								
ILAR	Eielson Array		87.21	25	P		P	17 25 47.8	-1.2
	comp=Z,0.8nm,0.6s,baz=245,slow=5.0,SNR=16								
	comp=Z,0.8nm,0.6s								
Q23K	Middleton Isla		87.30	31	P		P	17 25 49.1	-0.4
	baz=269								
M24K	Tolsona, Glenn		87.45	28	P		P	17 25 49.6	-0.7
	baz=269								
KLU	Klutina		87.56	29	P		P	17 25 50.5	-0.3
	baz=269								
D25K	Kavik River		87.57	21	P		P	17 25 50.9	+0.2
	baz=268								
G25K	Bearman Lake		87.60	23	P		P	17 25 50.5	-0.2
	baz=268								
EYAK	Cordova Ski Ar		87.63	30	P		P	17 25 51.2	+0.2
	baz=269								
K24K	Donnelly Dome		87.67	26	P		P	17 25 51.4	+0.2
	baz=269								
H25L	Birch Creek		87.70	24	P		P	17 25 51.5	+0.2
	baz=269								
PAX	Paxson		87.80	27	P		P	17 25 51.8	-0.1
	baz=269								
F25K	Christian Rive		87.80	23	P		P	17 25 52.5	+0.7
	baz=269								
PRP	Porcupine Dome		87.81	25	P		P	17 25 52.2	+0.2
	baz=269								
E25K	Arctic Village		87.84	22	IAmb		IAmb	17 25 53.8	
	comp=Z,6.4nm,1.1s								
E25K	Arctic Village		87.84	22	P		P	17 25 52.7	+0.7
	baz=269								
J25K	Salcha River,		87.86	26	P		P	17 25 50.8	-1.3
	baz=269								
RIDG	Independent Ri		88.08	26	IAmb		IAmb	17 25 53.9	
	comp=Z,7.0nm,1.0s								
RIDG	Independent Ri		88.08	26	P		P	17 25 53.1	-0.1
	baz=270,SNR=5.1								
C26K	Camden Bay		88.10	20	P		P	17 25 53.3	+0.3
	baz=270								
N25K	Chitina, Valde		88.19	29	P		P	17 25 53.5	-0.3
	baz=270								
BMAR	Burnt Mountain		88.20	23	P		P	17 25 54.4	+0.7
KIBK	Kibwezi		88.23	268	P		P	17 25 55.0	0.0
KIBK					IAmb		IAmb	17 25 58.7	
	comp=Z,9.2nm,1.1s								
F26K	Sheenjek River		88.37	22	P		P	17 25 54.5	0.0
	baz=270								
SCRK	Sand Creek		88.46	26	P		P	17 25 54.9	-0.2
	baz=270								
OBN	Obninsk		88.48	325	⇑*e*P		P	17 25 55.3	+0.2
OBN					pmax		pmax		
	comp=Z,17nm,0.7s								
G26K	Porcupine Rive		88.52	23	P		P	17 25 55.2	+0.1
	baz=271								
MENT	Mentasta		88.60	27	IAmb		IAmb	17 25 56.8	
	comp=Z,4.2nm,0.8s								
J26L	Joseph Creek		88.64	26	P		P	17 25 55.6	-0.3
	baz=271								
L26K	Log Cabin Wild		88.76	27	P		P	17 25 56.7	+0.2
	baz=271								
I26K	Coal Creek Min		88.80	25	P		P	17 25 56.6	+0.1
	baz=271								
CRQE	Cirque		88.94	29	P		P	17 25 56.9	-0.5
	baz=271								
MCARA	McCarthy VSAT		88.95	29	P		P	17 25 57.1	-0.2
	baz=271								
K27K	Chicken		89.30	26	P		P	17 25 59.9	+1.0
	baz=272								
E27K	Coleen River		89.32	22	P		P	17 25 59.5	+0.6
	baz=273								
G27K	Doyon Strip		89.36	23	P		P	17 25 59.1	-0.1
	baz=273								
I27K	Kandik River		89.43	25	P		P	17 26 00.1	+0.6
	baz=273								
H27K	Steamboat Moun		89.44	24	P		P	17 26 00.1	+0.5
	baz=273								
L27K	Beaver Creek,		89.46	27	P		P	17 26 00.2	+0.5
	baz=272								
M27K	Edge Creek, AK		89.46	28	P		P	17 25 59.7	-0.2
	baz=272								
BCAR	Beaver Creek A		89.47	27	P		P	17 25 59.2	-0.6
D27M	Malcolm River		89.50	21	IAmb		IAmb	17 26 03.7	
	comp=Z,6.3nm,1.4s								
D27M	Malcolm River		89.50	21	P		P	17 26 00.2	+0.4
	baz=273								
EGAK	Eagle		89.67	25	P		P	17 26 01.1	+0.5
	baz=273								
CTG	Chitna Glacier		89.78	29	P		P	17 26 01.1	-0.3
	baz=273								
MMAI	Mount Meron Ar		89.81	303	P		P	17 26 01.8	-0.2
	comp=Z,2.6nm,0.5s,baz=88,slow=8.4,SNR=6.9								
	comp=Z,2.6nm,0.5s								
F28M	Old Crow		90.01	22	P		P	17 26 02.5	+0.3
	baz=274								
E28M	Babbage River		90.06	21	P		P	17 26 03.0	+0.7
	baz=275								
I28M	Miner Creek		90.14	25	P		P	17 26 03.4	+0.5
	baz=274								
O28M	Mount Upton		90.36	29	P		P	17 26 04.3	0.0
	baz=274								
DAWY	Dawson		90.48	26	P		P	17 26 04.6	+0.2
	baz=275								
YUK8	Steele Glacier		90.53	29	P		P	17 26 05.4	+0.4
	baz=274								
E29M	Blow River		90.68	22	P		P	17 26 05.6	+0.3
	baz=276								
H29M	Whitestone		90.72	24	P		P	17 26 05.2	-0.3
	baz=276								
G29M	Pine Creek		90.79	23	P		P	17 26 05.8	0.0
	baz=276								
BRTR	Keskin Array B		90.96	310	*e*P		P	17 26 07.7	+0.3
BRTR					pmax		pmax		
	comp=Z,3.0nm,0.8s								
BRTR	Keskin Array B		90.96	310	P		P	17 26 06.0	-1.3
	comp=Z,2.5nm,0.8s,baz=150,slow=5.7,SNR=7.0								
	comp=Z,2.5nm,0.8s								
M29M	Somme Creek		91.04	28	P		P	17 26 07.7	+0.5
	baz=276								
YUK4	Talbot Arm		91.06	29	P		P	17 26 07.8	+0.4
	baz=275								
L29M	L29M		91.13	27	P		P	17 26 08.2	+0.7
	baz=276								
K29M	Barlow Dome		91.33	26	P		P	17 26 08.8	+0.3
	baz=276								
EPYK	Eagle Plains		91.36	24	P		P	17 26 08.6	+0.1
	baz=277								
G30M	tAoh Zraii Nji		91.48	23	P		P	17 26 08.7	-0.4
	baz=278								
QSPA	South Pole Qui		91.55	180	P		P	17 26 08.6	-0.8
	comp=Z,2.1nm,0.7s,baz=267,slow=0.8,SNR=11								
	comp=Z,2.1nm,0.7s								
F30M	Barrier River		91.56	22	P		P	17 26 09.3	-0.1
	baz=278								
I30M	Mount Dempster		91.65	25	P		P	17 26 09.7	-0.3
	baz=277								
HYT	Haines Junctio		91.67	29	P		P	17 26 10.1	-0.1
	baz=276								
J30M	Hart River		91.75	25	P		P	17 26 10.6	+0.1
	baz=277								
N30M	Aishikik Lake		91.79	29	P		P	17 26 10.3	-0.3
	baz=277								
M30M	Minto, Yukon		91.80	27	P		P	17 26 10.8	+0.2
	baz=277								
ARCES	ARCESS Array B		92.23	340	*e*P		P	17 26 12.6	+0.2
ARCES					pmax		pmax		
	comp=Z,8.0nm,1.1s								
ARCES	ARCESS Array B		92.23	340	P		P	17 26 11.2	-1.3
	comp=Z,7.8nm,1.1s,baz=68,slow=7.0,SNR=7.5								
	comp=Z,7.8nm,1.1s								
G31M	Satah River		92.25	23	P		P	17 26 12.5	-0.1
	baz=279								
INK	Inuvik		92.30	21	P		P	17 26 13.0	+0.3
	baz=280								
O30N	Mendenhall		92.36	29	P		P	17 26 13.6	+0.4
	baz=278								
H31M	Peel River		92.40	24	P		P	17 26 13.5	+0.2
	baz=279								
N31M	Braeburn, Yuko		92.41	28	P		P	17 26 14.0	+0.5
	baz=278								
SPITS	Spitsbergen Ar		92.43	349	P		P	17 26 12.3	-1.0
	comp=Z,8.6nm,0.9s,baz=105,slow=5.4,SNR=6.4								
	comp=Z,8.6nm,0.9s								
WHY	Whitehorse		92.96	29	P		P	17 26 16.5	+0.4
	baz=279								
AKASG	Malin Array Be		93.19	321	P		P	17 26 17.1	-0.1
	comp=Z,0.2nm,0.3s,baz=67,slow=4.7,SNR=4.2								
	comp=Z,0.2nm,0.3s								
FINES	FINESS Array B		93.43	332	*e*P		P	17 26 16.8	-1.3
FINES					pmax		pmax		
	comp=Z,1.0nm,0.5s								
FINES	FINESS Array B		93.43	332	P		P	17 26 17.9	-0.2
	comp=Z,1.3nm,0.5s,baz=56,slow=4.8,SNR=10								
	comp=Z,1.3nm,0.5s								
FARO	Faro, Yukon		93.44	27	P		P	17 26 18.4	+0.3
	baz=280								
R32K	Eaglecrest		93.51	31	P		P	17 26 18.5	0.0
	baz=279								
N32M	Quiet Lake		93.75	29	P		P	17 26 19.8	+0.1
	baz=280								
P33M	Tesiin, Yukon		94.05	29	P		P	17 26 20.6	-0.5
	baz=280								
SORM	Soroca		94.05	318	⇓P		P	17 26 22.1	+0.9
SORM	Soroca		94.05	318	⇓P		P	17 26 22.1	+0.9
MMPY	Sheldon Lake,		94.32	27	P		P	17 26 22.1	-0.1
	baz=282								
CFR	Carcaliu		94.56	315	⇓P		P	17 26 23.7	+0.1
CFR	Carcaliu		94.56	315	⇓P		P	17 26 23.7	+0.1
R33M	Jennings River		95.12	30	P		P	17 26 26.2	+0.1
	baz=282								
NOR	Nord		95.13	355	*i* P		P	17 26 23.5	-2.1
NOR					IAmb		IAmb	17 26 26.2	
	comp=Z,2.2nm,0.7s								
C36M	Paulatuk		95.36	20	IAmb		IAmb	17 26 33.4	
	comp=Z,6.8nm,1.1s								
C36M	Paulatuk		95.36	20	P		P	17 26 26.7	0.0
	baz=289								
TESR	Tescani		95.41	317	⇑P		P	17 26 26.9	-0.7
VRI	Vrincioaia		95.45	316	⇑P		P	17 26 28.3	+0.6
VRI	Vrincioaia		95.45	316	⇑P		P	17 26 28.3	+0.6
PLOR	Plostina		95.51	316	⇑P		P	17 26 27.5	-0.5
PLOR	Plostina		95.51	316	⇑P		P	17 26 27.5	-0.5
TGTN	Hyland Airport		95.94	28	P		P	17 26 28.9	-0.8
	baz=284								
MLR	Muntele Rosu		96.05	316	⇑P		P	17 26 30.1	-0.5
MLR	Muntele Rosu		96.05	316	⇑P		P	17 26 30.1	-0.5
BURAR	Bucovina Array		96.22	318	⇓P		P	17 26 30.8	-0.5
BURAR	Bucovina Array		96.22	318	⇓P		P	17 26 30.8	-0.5
BUR08	Bucovina Ar. S		96.22	318	IAmb		IAmb	17 26 33.9	
	comp=Z,4.5nm,0.8s								
DRGR			98.04	318	⇑P		Pdif	17 26 39.6	0.0
DRGR			98.04	318	⇑P		Pdif	17 26 39.6	0.0
BBB	Bella Bella		98.28	37	LR		LR	18 09 42.5	
	comp=Z,22nm,18.1s,baz=175,slow=35								
KOTAN	Kotaneelee Air		98.31	28	P		P	17 26 39.9	-0.5
	baz=288								
DAG	Danmarks Havn		99.26	352	*i* P		Pdif	17 26 43.0	-1.2
DAG					IAmb		IAmb	17 26 44.4	
	comp=Z,3.5nm,0.7s								
HFS	Hagfors		99.63	332	P		Pdif	17 26 45.8	-0.5
	comp=Z,1.9nm,0.9s,baz=114,slow=6.5,SNR=1.7								
	comp=Z,1.9nm,0.9s								
NOA	NORSAR Array B		100.43	333	P		Pdif	17 26 48.5	-1.3
	comp=Z,0.5nm,0.7s,baz=68,slow=4.6,SNR=3.5								
DBG	Daneborg		101.51	351	*i* P		Pdif	17 26 53.4	-1.0
DBG					IAmb		IAmb	17 26 55.4	
	comp=Z,1.3nm,0.8s								
YKA	Yellowknife Ar		101.62	24	*i* P		Pdif	17 26 57.2	+2.2
YKA	Yellowknife Ar		101.62	24	P		Pdif	17 26 55.0	0.0
	comp=Z,0.3nm,0.7s,baz=300,slow=4.9,SNR=4.6								
TPFO	Pinon Flats		111.56	53	P		PKiKP	17 31 36.9	-1.3
	baz=287								
MONP2	Monument Peak		111.80	54	P		PKiKP	17 31 37.6	-1.0
	baz=287								
IRM	Iron Mountain		112.43	52	P		PKiKP	17 31 38.6	-1.0
	baz=288								
SDCO	Great Sand Dun		118.28	45	P		PKPdf	17 31 49.8	-1.3
	baz=297								
EYMN	Ely		120.72	29	P		PKPdf	17 31 53.7	-1.4
	baz=315								
ECSD	EROS Data Cent		120.80	35	PKPdf		PKPdf	17 31 54.9	-0.5
MNTX	Cornudas Mount		120.97	51	P		PKPdf	17 31 54.8	-1.3
	baz=294								
AMTX	Amarillo		122.34	46	P		PKPdf	17 31 57.6	-1.1
	baz=299								
TOA0	Torodi Ar. Sit		123.05	287	PKPdf		PKPdf	17 31 59.6	-0.9
TORD	Torodi Ar. Bea		123.05	287	PKP		PKPdf	17 32 00.2	-0.2
	comp=Z,4.6nm,0.7s,baz=41,slow=3.6,SNR=25								
TXAR	Lajitas Array		123.28	53	PKP		PKPdf	17 32 00.3	-0.3
	comp=Z,0.6nm,0.7s,baz=276,slow=2.0,SNR=8.0								
WMOK	Wichita Mounta		124.48	45	P		PKPdf	17 32 01.6	-1.2
	baz=301								
JFWS	Jewell Farm		124.86	32	P		PKPdf	17 32 02.6	-0.6
	baz=314								
JCT	Junction City		125.81	50	P		PKPdf	17 32 04.5	-1.0
	baz=298								
S39A	Bolivar		126.47	39	PKPdf		PKPdf	17 32 05.5	-0.9
833A	Chaparral WMA,		127.10	52	P		PKPdf	17 32 06.7	-1.2
	baz=296								
MIAR	Mount Ida		128.18	42	P		PKPdf	17 32 08.7	-1.1
	baz=306								
O48B	Farmland		129.42	31	PKPdf		PKPdf	17 32 08.8	-3.2
DBIC	Dimbokro		130.47	280	PKP		PKiKP	17 32 15.2	-0.4
	comp=Z,4.0nm,0.6s,baz=88,slow=2.8,SNR=6.8								
LBNH	Lisbon		131.54	17	P		PKPdf	17 32 14.9	-1.1
	baz=336								
SSPA	Standing Stone		132.54	25	P		PKPdf	17 32 17.1	-0.8
	baz=326								
L61B	Northampton		132.93	19	P		PKPdf	17 32 17.8	-0.8
	baz=334								
HRV	Adam Dziewonsk		133.23	18	P		PKPdf	17 32 18.6	-0.5
	baz=335								
PAL	Palisades		133.78	21	P		PKPdf	17 32 19.6	-0.6
	baz=332								
PLCA	Paso Flores		138.21	161	PKP		PKPdf	17 32 29.2	+0.6
	comp=Z,3.1nm,0.7s,baz=271,slow=1.1,SNR=7.2								
BOAB	BOACO BROADBAND		146.40	65			PKPbc	17 32 37.6	-4.2
LCO	Las Campanas		148.35	151	PKPab		PKPbc	17 32 50.2	-0.1
LCO	Las Campanas		148.35	151	PKP2		PKPbc	17 32 50.2	-0.1
SRBA	San Rafael, Bu		148.62	69			PKPbc	17 32 50.6	-0.6
PLTB	Pedras Altas		150.02	180			PKPbc	17 32 54.0	-0.2
AC02	Maricunga		150.92	151			PKPbc	17 32 56.7	-0.3
PB14	IPOC Station P		152.06	146			PKPbc	17 32 58.9	-0.6
GO02	Mina Guanaco		152.07	148			PKPbc	17 32 59.1	-0.4
CPUP	Villa Florida		155.20	172	PKPbc		PKPdf	17 33 06.1	+9.2
	comp=Z,3.4nm,1.0s,baz=138,slow=4.7,SNR=3.9								
LPAZ	La Paz		159.70	137	PKP		PKPdf	17 33 03.1	-0.5
	comp=Z,1.6nm,0.8s,baz=232,slow=4.4,SNR=5.6								
LPAZ					PKPab		PKPbc	17 33 42.9	+0.9
	comp=Z,1.7nm,0.7s,baz=220,slow=5.4,SNR=3.3								

*TAP **28** 17:16:31.5,24°.82N×122°.48E,h14km,ML2.9,D*
*JMA **28** 17:16:31.4±0.2,24°.8N±0°.7×122°.4E±0°.2,h3km±2km,*
MV2.1/10,NW OFF ISHIGAKIJIMA IS

ISC 28 17:16:31.4±1.0,**24.78N**±0°.03×**122.46E**±0°.02,**h8**km±12km,
n39,σ0s**37/58,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
EOS2	EOS2	0.41	210	P		Pb	17 16 40.4	-0.4
	baz=209							
EOS2				S		Sb	17 16 47.3	+0.2
	baz=209							
TWB1	Santiao Chiao	0.48	299	P		Pg	17 16 40.7	-0.1
	baz=293							
TWB1				S		Sg	17 16 46.8	-0.4
	baz=293							
EOS3	EOS3	0.50	195	*e*P		Pb	17 16 42.1	-0.3
	baz=195							
EOS3				*e*S		Sb	17 16 49.7	-0.1
	baz=195							
JYNG	Yonagunijimaku	0.55	126	P		Pg	17 16 42.1	0.0
JYNG				S		Sg	17 16 49.5	+0.2
TWC	Suao	0.58	253	*e*P		Pg	17 16 42.6	0.0
	baz=249							
YOJ	Yonaguni jima	0.59	122	*i* P		Pg	17 16 42.9	0.0
	baz=125							
YOJ				S		Sg	17 16 50.5	-0.1
	baz=125							
YOJ	Yonaguni jima	0.59	122	P		Pg	17 16 42.9	0.0
YOJ				S		Sg	17 16 50.8	+0.1
TIPB	Shuangxi	0.60	289	*e*P		Pg	17 16 43.3	+0.1
	baz=284							
TIPB				*e*S		Sg	17 16 51.7	+0.7
	baz=284							
SXI1	Grass Mountain	0.61	301	P		Pg	17 16 43.6	+0.3
	baz=296							
SXI1				*e*S		Sg	17 16 51.9	+0.5
	baz=296							
EOS4	EOS4	0.66	191	*e*S		Sb	17 16 54.7	+0.5
	baz=191							
NWF	Wu-fen Shan	0.68	296	*e*S		Sg	17 16 53.7	+0.3
	baz=291							
WFSB	Wu-fen Shan	0.68	296	*e*S		Sg	17 16 53.5	+0.1
	baz=291							
EWUT	Wuta	0.70	242	P		Pg	17 16 45.2	+0.3
	baz=239							
TWE	Neicheng	0.72	266	*e*P		Pg	17 16 44.9	-0.4
	baz=262							
TWE				*e*S		Sg	17 16 55.3	+0.6
	baz=262							
TNOU	National Taiwa	0.72	301	*e*P		Pg	17 16 45.1	-0.3
	baz=297							
TNOU				*e*S		Sg	17 16 54.6	-0.2
	baz=297							
ENA	Nanau	0.74	242	*e*S		Sg	17 16 54.5	-0.8
	baz=239							
EAHA	Aohua	0.79	236	*e*P		Pg	17 16 46.6	0.0
	baz=234							
EAHA				*e*S		Sg	17 16 57.6	+0.7
	baz=234							
LATG	Datong	0.88	254	*e*P		Pg	17 16 48.1	-0.2
	baz=252							
LATG				*e*S		Sg	17 17 00.3	+0.5
	baz=252							
YM01	YM01	0.89	295	*e*P		Pg	17 16 48.0	-0.5
	baz=291							
YM01				*e*S		Sg	17 16 59.5	-0.4
	baz=291							
PCYT	Pengchaiyu	0.92	338	*e*P		Pb	17 16 49.5	-0.1
	baz=335							
TWY	Chenhua	0.92	303	*e*P		Pb	17 16 49.5	-0.1
	baz=299							
TWY				*e*S		Sg	17 17 01.0	-0.2
	baz=299							
NACB	Ninganchiao	0.99	233	*e*P		Pg	17 16 49.9	-0.5
	baz=231							
NACB				*e*S		Sg	17 17 02.6	-0.6
	baz=231							
YHNB	Yeheng	0.99	264	*e*P		Pg	17 16 50.3	-0.1
	baz=261							
YHNB				*e*S		Sg	17 17 02.7	-0.5
	baz=261							
NSK	Sanguang	1.00	265	*e*P		Pg	17 16 50.4	-0.3
	baz=261							
NSK				*e*S		Sg	17 17 03.5	-0.2
	baz=261							
NNSB	Datong	1.04	251	*e*P		Pg	17 16 50.8	-0.5
	baz=248							
NNSB				*e*S		Sg	17 17 04.4	-0.4
	baz=248							
NNS	Nan Shan	1.04	252	*e*P		Pg	17 16 51.4	0.0
	baz=249							
NNS				*e*S		Sg	17 17 05.3	+0.3
	baz=249							
ETLH	Xiulin Townshi	1.05	238	*e*P		Pg	17 16 51.6	-0.1
	baz=236							
LXIB	Xiulin Townshi	1.21	232	*e*P		Pb	17 16 54.1	-0.6
	baz=230							
FUSS	Fushou	1.22	245	*e*P		Pb	17 16 54.8	-0.2
	baz=243							
IRIF	Iriomote-Funau	1.24	110	*e*P		Pn	17 16 54.9	-0.1
WHF	Hehuan Shan	1.25	240	*e*P		Pb	17 16 55.4	-0.1
	baz=238							
TWT	Tachien	1.28	246	*e*P		Pg	17 16 56.7	+0.7
	baz=244							
NSTT	Nanjuang	1.33	264	*e*P		Pg	17 16 57.2	+0.2
	baz=262							
CHGB	Renai	1.37	239	*e*P		Pb	17 16 57.3	0.0
	baz=237							
WUSB	Renai	1.45	238	*e*P		Pb	17 16 58.6	-0.1
	baz=236					

PDGK				⇑Sn		**Sb**	**17 19 26.2**	**0.0**
	242nm,0.5s							
TDK	**Taldyqorghan**	**1.97**	**275**	*e*P		**Pb**	**17 19 01.6**	**-0.2**
	189nm,0.2s							
TDK				*e*S		**Sn**	**17 19 25.3**	**+0.3**
	655nm,0.2s							
TDK	**Taldyqorghan**	**1.97**	**275**	P		**Pb**	**17 19 01.3**	**-0.5**
	189nm,0.2s							
TDK				S		**Sn**	**17 19 25.6**	**+0.7**
	271nm,0.2s							
MAKZ	**Makanchi**	**2.03**	**16**	⇑Pn		**Pg**	**17 19 03.3**	**-0.7**
	9.6nm,0.3s							
MAKZ				⇑Sn		**Sg**	**17 19 30.2**	**-0.2**
	46nm,0.4s							
BLB	**Baldybastay**	**2.07**	**250**	P		**Pb**	**17 19 03.5**	**0.0**
	95nm,0.2s							
BLB				S		**Sn**	**17 19 28.5**	**+0.9**
	136nm,0.4s							
MK31	**Makanchi Array**	**2.09**	**22**	⇑Pn		**Pb**	**17 19 04.1**	**+0.3**
	18nm,0.4s,baz=206,slow=13,SNR=900							
MK31				⇓Sn		**Sg**	**17 19 31.6**	**-0.7**
	13nm,0.2s,baz=202,slow=24,SNR=18							
SHLS	**Shalkode**	**2.10**	**217**	*e*P		**Pn**	**17 19 02.0**	**+0.5**
	42nm,0.1s							
SHLS				*e*S		**Sn**	**17 19 25.9**	**-2.4**
	523nm,0.2s							
SHLS	**Shalkode**	**2.10**	**217**	P		**Pn**	**17 19 01.5**	**0.0**
	24nm,0.1s							
SHLS				S		**Sn**	**17 19 25.9**	**-2.4**
	523nm,0.2s							
UZB	**Uzynbulak**	**2.31**	**223**	*e*P		**Pb**	**17 19 07.3**	**-0.3**
	11nm,0.1s							
UZB				*e*S		**Sn**	**17 19 35.0**	**+1.6**
	181nm,0.1s							
UZB	**Uzynbulak**	**2.31**	**223**	Pg		**Pb**	**17 19 06.2**	**-1.4**
	4.8nm,0.1s							
UZB				Lg		Lg	17 19 34.3	
	33nm,0.2s							
ARXS	**Arharly**	**2.48**	**256**	*e*P		**Pb**	**17 19 10.5**	**+0.1**
	20nm,0.1s							
ARXS				*e*S		**Sb**	**17 19 40.4**	**-1.1**
	277nm,0.3s							
ARXS	**Arharly**	**2.48**	**256**	Pg		**Pb**	**17 19 09.8**	**-0.6**
	14nm,0.2s							
ARXS				Lg		Lg	17 19 40.4	
	277nm,0.3s							
KURS	**Kuram**	**2.56**	**239**	*e*P		**Pb**	**17 19 11.7**	**0.0**
	5.2nm,0.2s							
KURS				*e*S		**Sb**	**17 19 42.2**	**-1.5**
	78nm,0.2s							
KURS	**Kuram**	**2.56**	**239**	Pg		**Pb**	**17 19 11.4**	**-0.3**
	5.2nm,0.2s							
KURS				Lg		Lg	17 19 42.2	
	35nm,0.5s							
SATY	**Saty**	**2.69**	**229**	*e*P		**Pb**	**17 19 15.0**	**+1.0**
	12nm,0.1s							
SATY				*e*S		**Sb**	**17 19 47.6**	**+0.2**
	203nm,0.2s							
SATY	**Saty**	**2.69**	**229**	Pg		**Pb**	**17 19 15.0**	**+1.0**
	12nm,0.1s							
SATY				Lg		Lg	17 19 47.7	
	203nm,0.2s							
CHKK	**Chushkaly**	**3.16**	**253**	*e*P		**Pb**	**17 19 22.4**	**+0.3**
	4.7nm,0.1s							
CHKK				*e*S		**Sb**	**17 20 00.8**	**-0.3**
	201nm,0.1s							
CHKK	**Chushkaly**	**3.16**	**253**	Pg		**Pb**	**17 19 21.7**	**-0.4**
	3.6nm,0.2s							
CHKK				Lg		Lg	17 20 00.8	
	104nm,0.3s							
KTBS	**Karatobe**	**3.42**	**252**	*e*P		**Pb**	**17 19 26.9**	**+0.4**
	3.4nm,0.2s							
KTBS				*e*S		**Sb**	**17 20 08.2**	**-0.3**
	240nm,0.2s							
KTBS	**Karatobe**	**3.42**	**252**	Pg		**Pb**	**17 19 26.9**	**+0.4**
	3.4nm,0.2s							
KTBS				Lg		Lg	17 20 08.2	
	126nm,0.4s							
MDOK	**Medeo**	**3.42**	**242**	*e*P		**Pb**	**17 19 27.0**	**+0.5**
	4.0nm,0.2s							
MDOK				*e*S		**Sb**	**17 20 08.4**	**-0.3**
	80nm,0.3s							
MDOK	**Medeo**	**3.42**	**242**	Pg		**Pb**	**17 19 27.0**	**+0.5**
	4.0nm,0.2s							
MDOK				⇓Pg		**Pg**	**17 19 29.9**	**-0.8**
	8.8nm,0.5s							
MDOK				Lg		Lg	17 20 08.4	
	31nm,0.7s							
MDOK				⇑Lg		Lg	17 20 09.1	
	62nm,0.5s							
KNDC	**Almaty**	**3.45**	**243**	⇑Pg		**Pg**	**17 19 31.7**	**+0.6**
	20nm,0.4s							
KNDC				⇑Lg		Lg	17 20 10.1	
	37nm,0.6s							
TNSS	**Tian-Shan**	**3.55**	**241**	*e*P		**Pb**	**17 19 28.7**	**-0.3**
	1.7nm,0.2s							
TNSS				*e*S		**Sb**	**17 20 11.2**	**-1.5**
	22nm,0.2s							
TNSS	**Tian-Shan**	**3.55**	**241**	Pg		**Pb**	**17 19 28.7**	**-0.3**
	1.7nm,0.2s							
TNSS				Lg		Lg	17 20 11.2	
	12nm,0.3s							
ZSN	**Zaisan**	**3.65**	**43**	*e*P		**Pg**	**17 19 34.9**	**-0.2**
	36nm,0.6s							
ZSN				*e*S		**Sg**	**17 20 22.4**	**+0.1**
	27nm,0.2s							
ZSN	**Zaisan**	**3.65**	**43**	Pg		**Pg**	**17 19 34.9**	**-0.2**
	36nm,0.6s							
ZSN				Lg		Lg	17 20 22.4	
	28nm,0.5s							
KASK	**Kaskelen**	**3.65**	**245**	⇓Lg		Lg	17 20 16.4	
MTBS	**Maitube**	**3.83**	**245**	*e*P		**Pb**	**17 19 34.6**	**+1.0**
	3.3nm,0.2s							
MTBS				*e*S		**Sb**	**17 20 21.1**	**+0.7**
	149nm,0.2s							
MTBS	**Maitube**	**3.83**	**245**	Pg		**Pb**	**17 19 34.6**	**+1.0**
	3.3nm,0.2s							
MTBS				Lg		Lg	17 20 21.1	
	99nm,0.4s							
KRBS	**Karabastau**	**4.12**	**256**	*e*P		**Pb**	**17 19 38.7**	**+0.4**
	2.4nm,0.1s							
KRBS				*e*S		**Sb**	**17 20 28.6**	**+0.1**
	9.6nm,0.4s							
KRBS	**Karabastau**	**4.12**	**256**	Pg		**Pb**	**17 19 38.7**	**+0.4**
	2.4nm,0.3s							
KRBS				Lg		Lg	17 20 28.6	
	9.6nm,0.4s							
KST	**Kastek**	**4.17**	**246**	*e*P		**Pb**	**17 19 39.5**	**+0.1**
	2.4nm,0.3s							
KST				*e*S		**Sb**	**17 20 29.8**	**-0.6**
	20nm,0.3s							
KST	**Kastek**	**4.17**	**246**	Pg		**Pb**	**17 19 39.5**	**+0.1**
	2.4nm,0.3s							
KST				Lg		Lg	17 20 29.8	
	20nm,0.3s							
TKM2	**Tokmak 2**	**4.47**	**246**	⇑Pg		**Pb**	**17 19 46.9**	**+2.4**
	4.1nm,0.6s							
TKM2				⇑Lg		Lg	17 20 41.9	
	14nm,0.3s							
SGDS	**Sogindy**	**4.91**	**256**	Pg		**Pb**	**17 19 53.6**	**+1.7**
	3.0nm,0.9s							
SGDS				Lg		Lg	17 20 53.8	
	6.9nm,0.3s							
CHMS	**Chumysh**	**5.00**	**250**	⇓Pg		**Pg**	**17 20 01.1**	**+0.3**
	3.0nm,0.5s							
CHMS				⇑Lg		Lg	17 20 56.2	
	18nm,0.7s							
BTLS	**Baital**	**5.06**	**275**	*e*P		**Pb**	**17 19 56.5**	**+2.0**
	1.8nm,0.2s							
BTLS				*e*S		**Sb**	**17 20 59.0**	**+3.3**
	2.8nm,0.4s							
BTLS	**Baital**	**5.06**	**275**	Pg		**Pb**	**17 19 56.5**	**+2.0**
	1.8nm,0.2s							
BTLS				Lg		Lg	17 20 59.0	
	2.8nm,0.4s							
KURK	**Kurchatov**	**6.11**	**345**	Pg		**Pn**	**17 19 59.9**	**+3.5**
KURK				Sn		**Sn**	**17 21 01.5**	**-5.4**
KURK				⇑Lg		Lg	17 21 38.4	
	29nm,0.7s							
MRKS	**Merke**	**6.12**	**253**	Pg		**Pb**	**17 20 15.8**	**+3.2**
	0.6nm,0.2s							
MRKS				Lg		Lg	17 21 32.0	
	9.3nm,0.5s							
KK31	**Karatay Array**	**7.89**	**261**	⇑Lg		Lg	17 22 30.0	
	1.7nm,0.3s,baz=75,slow=28,SNR=8.0							

*SNET **28** 17:31:42.9±0.8, 14°.19N×91°.58W, h60km, ML3.6*

*CATAC **28** 17:31:44.4±0.4, 14°.30N×91°.45W, h28km±4km, ML3.8*
*GCG **28** 17:31:46.2±0.6, 14°.42N×91°.40W, h44km±30km, MD3.7*
ISC 28 17:31:44.7±1.7, 14°.29N±0°.07×91°.48W±0°.07, h55km±12km, n44, σ0s82/63, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.08**	**280**		*e*P	**Pn**		**17 31 53.8**	**+0.7**
RTAL	**Retalhuleu**	**0.31**	**319**		*i*P	**Pn**		**17 31 53.6**	**-0.8**
RTAL					*e*S	**Sn**		**17 32 01.6**	**+0.3**
RTAL					IAML			17 32 02.0	
	comp=Z,3μm,0.2s								
RTAL	**Retalhuleu**	**0.31**	**319**		*i*P	**Pn**		**17 31 53.6**	**-0.8**
RTAL					*i*S	**Sn**		**17 32 00.7**	**-0.7**
RTAL					IAML			17 32 01.9	
	comp=Z,6μm,1.0s								
STG3	**Santiaguito 3,**	**0.43**	**349**		*e*P	**Pn**		**17 31 55.7**	**0.0**
FUG	**Fuego 3**	**0.64**	**76**		*e*P	**Pn**		**17 31 58.2**	**0.0**
SMSP	**San Marcos**	**0.74**	**337**		*i*P	**Pn**		**17 31 58.8**	**-0.7**
SMSP					*i*S	**Sn**		**17 32 09.4**	**-0.8**
SMSP					IAML			17 32 11.9	
	comp=Z,16μm,1.0s								
PCG	**Pacaya**	**0.85**	**83**		*e*P	**Pn**		**17 32 01.0**	**+0.1**
GUMI	**Mixco**	**0.91**	**68**		*i*P	**Pn**		**17 32 01.2**	**-0.4**
GUMI					IAML			17 32 20.7	
	comp=Z,4μm,1.0s								
GCG4	**OSOP**	**0.97**	**72**		*i*P	**Pn**		**17 32 00.7**	**-1.6**
GCG4					IAML			17 32 02.8	
	comp=Z,3μm,1.0s								
HUEH	**Huehuetenango**	**1.02**	**359**		*e*P	**Pn**		**17 32 02.9**	**-0.3**
HUEH					*e*S	**Sn**		**17 32 19.8**	**+3.2**
HUEH	**Huehuetenango**	**1.02**	**359**		*i*P	**Pn**		**17 32 02.7**	**-0.4**
HUEH					IAML			17 32 03.0	
	comp=Z,2μm,1.0s								
HUEH					*i*S	**Sn**		**17 32 16.6**	**-0.1**
QUIS	**Sacapulas**	**1.06**	**21**		*i*P	**Pn**		**17 32 03.4**	**-0.2**
QUIS					IAML			17 32 05.7	
	comp=Z,2μm,1.0s								
QUIS					*i*S	**Sn**		**17 32 17.2**	**-0.3**
NBG	**Las Nubes**	**1.14**	**75**		*e*P	**Pn**		**17 32 05.4**	**+0.7**
GUNB	**GUNB**	**1.14**	**74**		*i*P	**Pn**		**17 32 04.3**	**-0.5**
GUNB					*i*S	**Sn**		**17 32 18.9**	**-0.8**
GUNB					IAML			17 32 27.6	
	comp=Z,1μm,1.0s								
LOAL	**Lomas de Alarc**	**1.68**	**100**		*i*P	**Pn**		**17 32 11.3**	**-0.5**
LOAL					IAML			17 32 45.9	
	comp=Z,2μm,1.0s								
NUBE	**Las Nubes**	**1.70**	**103**		*e*P	**Pn**		**17 32 10.9**	**-1.2**
NUBE					*e*S	**Sn**		**17 32 33.1**	**+0.2**
NUBE	**Las Nubes**	**1.70**	**103**		*i*P	**Pn**		**17 32 10.8**	**-1.4**
NUBE					*i*S	**Sn**		**17 32 32.6**	**-0.3**
NUBE					IAML			17 32 36.7	
	comp=Z,460nm,1.0s								
SBLS	**San Blas**	**1.86**	**104**		*e*P	**Pn**		**17 32 14.9**	**+0.4**
SBLS					*e*S	**Sn**		**17 32 39.0**	**+2.1**
CEVE	**Cerro Verde**	**1.86**	**104**		*e*P	**Pn**		**17 32 14.0**	**-0.5**
CEVE					*e*S	**Sn**		**17 32 38.6**	**+1.6**
CEVE	**Cerro Verde**	**1.86**	**104**		*i*P	**Pn**		**17 32 13.9**	**-0.6**
CEVE					*i*S	**Sn**		**17 32 36.2**	**-0.8**
CEVE					IAML			17 32 44.9	
	comp=Z,980nm,1.0s								
SNJE	**San Jose**	**1.87**	**103**		*e*S	**Sn**		**17 32 39.2**	**+2.1**
UNIC	**Universidad Ca**	**1.90**	**99**		*i*P	**Pn**		**17 32 14.4**	**-0.5**
UNIC					IAML			17 32 31.8	
	comp=Z,180nm,1.0s								
MTO3	**Montecristo**	**2.06**	**87**		*i*P	**Pn**		**17 32 16.4**	**-0.8**
MTO3					IAML			17 32 36.8	
	comp=Z,110nm,1.0s								
JAYA	**Jayaque - finc**	**2.07**	**108**		*e*P	**Pn**		**17 32 16.5**	**-0.7**
JAYA					*e*S	**Sn**		**17 32 42.7**	**+0.6**
JAYA					IAML			17 32 44.7	
	comp=Z,489nm,0.2s								
JAYA	**Jayaque - finc**	**2.07**	**108**		*i*P	**Pn**		**17 32 16.6**	**-0.7**
JAYA					*i*S	**Sn**		**17 32 41.9**	**-0.2**
JAYA					IAML			17 32 51.5	
	comp=Z,1μm,1.0s								
CCIG	**Comitan**	**2.08**	**342**		*i*P	**Pn**		**17 32 17.2**	**-0.2**
CCIG					*i*S	**Sn**		**17 32 43.3**	**+1.1**
CCIG					IAML			17 33 03.9	
	comp=Z,140nm,1.0s								
ESQI	**Esquipulas**	**2.09**	**82**		*i*P	**Pn**		**17 32 17.2**	**-0.3**
ESQI					IAML			17 34 01.7	
	comp=Z,170nm,1.0s								
PMON	**Piamonte**	**2.18**	**105**		*i*P	**Pn**		**17 32 18.4**	**-0.3**
PMON					*i*S	**Sn**		**17 32 44.6**	**-0.1**
PMON					IAML			17 33 02.8	
	comp=Z,740nm,1.0s								
QUEZ	**Alcaldia de Qu**	**2.19**	**102**		*i*P	**Pn**		**17 32 18.6**	**-0.2**
QUEZ					IAML			17 32 53.7	
	comp=Z,2μm,1.0s								
LALI	**Alcalda de L**	**2.25**	**111**		*i*P	**Pn**		**17 32 19.4**	**-0.1**
LALI					IAML			17 32 52.2	
	comp=Z,140nm,1.0s								
SNET	**Serv Nac Est T**	**2.27**	**105**		*i*P	**Pn**		**17 32 19.9**	**0.0**
SNET					IAML			17 33 50.5	
	comp=Z,1μm,1.0s								
LOMA	**Loma Larga**	**2.33**	**106**		*e*P	**Pn**		**17 32 20.9**	**0.0**
LOMA	**Loma Larga**	**2.33**	**106**		*i*P	**Pn**		**17 32 20.4**	**-0.5**
LOMA					*i*S	**Sn**		**17 32 48.7**	**+0.2**
LOMA					IAML			17 32 55.0	
	comp=Z,430nm,1.0s								
SJTE	**Alcalda de S**	**2.50**	**105**		*i*P	**Pn**		**17 32 22.7**	**-0.3**
SJTE					*i*S	**Sn**		**17 32 52.4**	**0.0**
SJTE					IAML			17 33 03.6	
	comp=Z,200nm,1.0s								
PAVA	**Las Pavas**	**2.54**	**103**		*i*P	**Pn**		**17 32 23.3**	**-0.3**
PAVA					*i*S	**Sn**		**17 32 53.4**	**0.0**
PAVA					IAML			17 33 06.1	
	comp=Z,350nm,1.0s								
COEG	**Centro de Oper**	**2.61**	**104**		*i*P	**Pn**		**17 32 24.2**	**-0.4**
COEG					*i*S	**Sn**		**17 32 55.3**	**+0.1**
COEG					IAML			17 34 04.6	
	comp=Z,240nm,1.0s								
UESV	**Universidad de**	**2.70**	**104**		*i*P	**Pn**		**17 32 25.7**	**0.0**
UESV					IAML			17 33 28.1	
	comp=Z,160nm,1.0s								
TECO	**Alcaldia de Te**	**2.73**	**106**		*i*P	**Pn**		**17 32 25.7**	**-0.5**
TECO					*i*S	**Sn**		**17 32 58.4**	**+0.4**
TECO					IAML			17 34 34.9	
	comp=Z,200nm,1.0s								
PACA	**Pacayal**	**3.18**	**105**		*i*P	**Pn**		**17 32 32.8**	**+0.4**
PACA					IAML			17 33 27.2	
	comp=Z,740nm,1.0s								
RANC	**El Ranchito**	**3.22**	**105**		*i*P	Pn		17 32 37.7	+4.7
INTHN	**La Esperanza I**	**3.28**	**89**		*i*P	**Pn**		**17 32 33.2**	**-0.7**
LCND	**La Caada**	**3.62**	**105**		*i*P	**Pn**		**17 32 38.2**	**-0.2**
LCND					IAML			17 32 56.3	
	comp=Z,160nm,1.0s								
CNCH	**Conchagua**	**3.69**	**105**		*i*P	**Pn**		**17 32 39.2**	**-0.2**
CNCH					IAML			17 33 30.4	
	comp=Z,200nm,1.0s								
HERN	**Volcan Telica**	**4.83**	**110**		*i*P	Pn		17 33 00.9	+6.0

*ISN **28** 17:38:00.0±1.1, 34°.36N×45°.40E, h14km±8km, ML2.9, Landslide*
*TEH **28** 17:38:59.5, 34°.52N×45°.45E, h18km±19km, ML3.0*
ISC 28 17:38:59.9±1.1, 34°.59N±0°.04×45°.38E±0°.04, h11km±8km, n16, σ1s10/24, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.19**	**115**		Pg	**Pg**		**17 39 04.1**	**+0.1**
KGS1					Sg	**Sg**		**17 39 07.8**	**+0.9**
IDHR	**Dehrash**	**0.84**	**82**		Pg	**Pb**		**17 39 15.6**	**-1.0**
IDHR					Sg	**Sb**		**17 39 27.5**	**-0.4**
IGHG	**Ghaleghazi**	**1.01**	**104**		Pg	**Pg**		**17 39 18.8**	**-0.7**
IGHG					Sg	**Sn**		**17 39 34.1**	**-0.5**
ILBA	**Ilam Banvizeh**	**1.18**	**144**		Pg	**Pg**		**17 39 21.3**	**-1.3**
ILBA					Sg	**Sg**		**17 39 37.0**	**-1.0**
ILIN	**Lien**	**1.34**	**75**		Pg	**Pb**		**17 39 25.6**	**+0.4**
KCHF	**Cheshme Sefid,**	**1.41**	**102**		Pg	**Pg**		**17 39 26.6**	**-0.3**
IBDR	**Badra**	**1.54**	**163**	*e*Pn		**Pn**		**17 39 28.0**	**+0.7**
IBDR				*e*Sn		**Sn**		**17 39 48.0**	**+0.7**
IBDR				AML		AML		17 39 51.9	
	comp=E,284nm,0.2s								
IBDR				AML		AML		17 40 06.2	
	comp=N,178nm,0.7s								
BHD	**Baghdad**	**1.56**	**213**	*e*Pn		**Pn**		**17 39 28.0**	**+0.5**
BHD				*e*Sn		**Sn**		**17 39 49.0**	**+1.4**
SDS1	**Sardasht. Az.**	**1.56**	**3**	Pg		**Pg**		**17 39 29.9**	**0.0**
IBZA	**Bozab**	**2.05**	**93**	Pn		**Pb**		**17 39 37.0**	**-0.3**
MAHB	**Mahabad**	**2.19**	**7**	Pn		**Pg**		**17 39 39.3**	**-2.7**
IKFM	**Kafar-mosalman**	**2.30**	**117**	Pn		**Pn**		**17 39 39.0**	**+1.2**
MSL	**Mosul**	**2.59**	**315**	*e*Pn		**Pb**		**17 39 47.0**	**+0.6**
MSL				*e*Sn		**Sg**		**17 40 23.0**	**-0.2**
HSAM	**Samen**	**2.69**	**97**	Pn		**Pn**		**17 39 44.4**	**+1.0**
RAFI	**Al-Rafai**	**2.92**	**168**	*e*Pn		**Pn**		**17 39 46.0**	**-0.3**
RAFI				*e*Sn		**Sn**		**17 40 21.0**	**-0.4**
HAGD	**Aghdareh**	**3.10**	**85**	Pn		**Pn**		**17 39 51.3**	**+2.2**

IDC 28 17:50:51.0±2.0, 5°.20S×151°.38E, h0km, mb3.8/3, mbtmp3.9/4, ML1.7/1, Error ellipse: s-maj=125.3km s-min=25.7km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.91**	**225**			Pn	Pn	17 52 22.0	+2.1
	1.2nm,0.3s,baz=50,slow=6.3,SNR=5.9								
PMG						Sn	Sn	17 53 28.0	-0.4
	0.4nm,0.3s,baz=315,slow=17,SNR=3.4								
	11nm,0.9s								
WRA	**Warramunga Arr**	**22.13**	**227**	P		P	P	17 55 48.4	0.0
	3.2nm,0.6s,baz=52,slow=10,SNR=38								
	3.2nm,0.6s								
ASAR	**Alice Springs**	**24.91**	**221**	P		P	P	17 56 15.4	-0.5
	3.5nm,0.7s,baz=59,slow=8.6,SNR=72								
	3.5nm,0.7s								
ILAR	**Eielson Array**	**83.07**	**22**	P		P	P	18 03 18.3	+0.1
	0.2nm,0.6s,baz=249,slow=5.0,SNR=4.4								
	0.2nm,0.6s								

*DSN **28** 17:52:55.9±5.7, 12°.34N×58°.30E, h33km, mb4.7/1, ML3.5/1, Ms4.2/9, Error ellipse: s-maj=64.0km s-min=17.3km az=148.0*
*IDC **28** 17:52:59.6±0.9, 12°.71N×57°.84E, h0km, mb4.2/21, mbtmp4.2/22, ML4.3/1, MS4.1/57, Error ellipse: s-maj=21.3km s-min=16.5km az=18.0*
*GCMT **28** 17:53:00.7±0.2, 12°.90N±0°.01×57°.73E±0°.02, h12km, MW5.0/120, Moment Tensor Solution. s53,c66; s120,c202; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.30±.06; $M_{\theta\theta}$2.74±.06; $M_{\phi\phi}$0.56±.07; $M_{r\theta}$1.61±.19; $M_{\theta\phi}$-0.95±.05; $M_{r\phi}$0.43±.24; Best double couple: M_o3.59200×10^{16} NP1:ϕ_s276.00000°, δ58.00000°, λ-105.00000°. NP2:ϕ_s123.00000°, δ35.00000°, λ-68.00000°. Principal axes: T 3.3840, Plg12.0000°, Azm17.0000°; N 0.4190, Plg12.0000°, Azm284.0000°; P -3.8010, Plg73.0000°, Azm150.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **28** 17:53:03.7±1.9, 13°.0N±0°.1×57°.9E±0°.1, h10km±1km, mb4.7/44 Error ellipse: s-maj=19.2km s-min=16.7km az=109.0*
*OMAN **28** 17:53:11.7±0.7, 13°.71N×58°.48E, h10km, mb4.4/33, ml3.6/2, ms4.1/24, Mwp5.0/7, Error ellipse: s-maj=8.6km s-min=5.2km az=61.0*
ISC 28 17:53:04.1±0.5, 12°.99N±0°.05×58°.09E±0°.05, h16km, n203, σ2s51/232, mb4.5/71, MS4.1/62, 1C, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHAO	**Shalim**	**5.54**	**335**		*i*P	**Pn**		**17 54 24.5**	**-1.4**
	SNR=31								
SHAO	**Shalim**	**5.54**	**335**		P	**Pn**		**17 54 24.1**	**-1.8**
SHAO					P	**Pn**		**17 54 24.1**	**-1.8**
SHAO					S	**Sn**		**17 55 30.5**	**+1.2**
SHAO					S	**Sn**		**17 55 30.5**	**+1.2**
DMTO	**DMTO**	**5.59**	**328**		P	**Pn**		**17 54 25.6**	**-1.0**
	SNR=6.4								
DMTO					P	**Pn**		**17 54 25.6**	**-1.0**
	SNR=6.4								
DMTO					S	**Sn**		**17 55 33.4**	**+2.8**
DMTO					S	**Sn**		**17 55 33.4**	**+2.8**
RBK	**Rabkut**	**5.85**	**321**		P	**Pn**		**17 54 34.6**	**+4.4**
	SNR=9.4								
RBK					P	**Pn**		**17 54 34.6**	**+4.4**
	SNR=9.4								
RBK					S	**Sn**		**17 55 43.7**	**+6.7**
RBK					S	**Sn**		**17 55 43.7**	**+6.7**
ABTO	**Aybut**	**6.34**	**314**		S	**Sn**		**17 55 55.1**	**+5.9**
WHFO	**Wadi Hawf**	**6.43**	**320**		P	Pn		17 54 43.3	+5.1
	SNR=17								
DOK	**Doka**	**6.77**	**326**		P	**Pn**		**17 54 46.2**	**+3.4**
	SNR=9.2								
DOK					P	**Pn**		**17 54 46.2**	**+3.4**
	SNR=9.2								
DOK					S	**Sn**		**17 56 04.1**	**+4.4**
DOK					S	**Sn**		**17 56 04.1**	**+4.4**
DQM	**DQM**	**6.92**	**356**		P	**Pn**		**17 54 44.5**	**-0.3**
	SNR=21								
MHTO	**MHTO**	**7.95**	**359**		P	**Pn**		**17 54 57.9**	**-1.2**
	SNR=9.4								
MHTO					P	**Pn**		**17 54 57.9**	**-1.2**
	SNR=9.4								
JLN	**Jalan Bani Buh**	**9.19**	**8**		P	**Pn**		**17 55 15.4**	**-0.7**
	SNR=15								
JLN					P	**Pn**		**17 55 15.4**	**-0.7**
	SNR=15								
JLN					S	Sn		17 56 52.8	-6.5
JLN					S	Sn		17 56 52.8	-6.5
JMDO	**Jabal Madar**	**9.33**	**0**		P	**Pn**		**17 55 18.1**	**+0.1**
	SNR=23								
JMDO					P	**Pn**		**17 55 18.1**	**+0.1**
	SNR=23								
JMDO					S	**Sn**		**17 56 58.1**	**-4.5**
JMDO					S	**Sn**		**17 56 58.1**	**-4.5**
WBK	**Wadi Bani Khal**	**9.60**	**5**		P	**Pn**		**17 55 21.4**	**-0.3**
	SNR=28								
WBK					P	**Pn**		**17 55 21.4**	**-0.3**
	SNR=28								
WBK					S	Sn		17 56 58.9	-10
WBK					S	Sn		17 56 58.9	-10
BSY	**Bisya**	**9.74**	**355**		P	**Pn**		**17 55 24.0**	**+0.4**
	SNR=17								
BSY					P	**Pn**

SNR=12
ASHO Ashiyiah 11.79 351 P **Pn** **17 55 52.1 +0.5**
SNR=12
ASHO P **Pn** **17 55 52.1 +0.5**
SNR=12
ASHO S **Sn** **17 57 58.3 -4.7**
ASHO S **Sn** **17 57 58.3 -4.7**
ASUD Al Ashush, Dub 11.86 348 P **Pn** **17 55 53.2 +0.6**
ASUD Al Ashush, Dub 11.86 348 P **Pn** **17 55 54.3 +1.6**
ASUD P **Pn** **17 55 54.3 +1.6**
ASUD S **Sn** **17 58 00.8 -4.0**
ASUD S **Sn** **17 58 00.8 -4.0**
HATD Hatta, Dubai 11.91 351 *i* P **Pn** **17 55 53.2 -0.2**
SNR=11
HATD Hatta, Dubai 11.91 351 P **Pn** **17 55 53.8 +0.4**
SNR=11
HATD P **Pn** **17 55 53.8 +0.4**
SNR=11
HATD P **Pn** **17 55 53.8 +0.4**
SNR=11
GHWR Ruwais 11.98 336 P **Pn** **17 55 55.9 +1.6**
GHWR S **Sn** **17 58 07.4 -0.2**
UOSS Minazif 12.02 352 P **Pn** **17 55 54.6 -0.3**
UOSS Minazif 12.02 352 *i* P **Pn** **17 55 54.7 -0.1**
SNR=5.3
UOSS Minazif 12.02 352 P **Pn** **17 55 55.0 +0.1**
UOSS P **Pn** **17 55 55.0 +0.1**
MSFE Esma-Masafi 12.44 352 *i* P **Pn** **17 56 01.4 +0.8**
SNR=6.9
MASF Masafi 12.45 352 P **Pn** **17 56 01.6 +0.9**
SNR=6.9
MASF P **Pn** **17 56 01.6 +0.9**
SNR=6.9
SLWR Sila 12.57 332 P **Pn** **17 56 04.1 +1.8**
SLWR P **Pn** **17 56 04.1 +1.8**
SLWR P **Pn** **17 56 04.1 +1.8**
SLWR S **Sn** **17 58 20.7 -1.4**
SLWR S **Sn** **17 58 20.7 -1.4**
SLWR S **Sn** **17 58 20.7 -1.4**
JRN Qarnain Island 12.88 338 P **Pn** **17 56 07.5 +1.0**
JRN S **Sn** **17 58 28.4 -1.1**
SHME Shamm 13.12 352 P **Pn** **17 56 10.7 +0.9**
TRNA Turayna 13.37 332 P **Pn** **17 56 14.0 +0.8**
SNR=5.9
TRNA S **Sn** **17 58 38.1 -3.5**
SMRA Abu-Samra 13.56 331 P **Pn** **17 56 16.8 +1.0**
SNR=12
SAKB Bahrain 14.74 332 P **Pn** **17 56 35.5 +3.5**
SAKB S **Sn** **17 59 12.6 -2.5**
RAYN Ar Rayn 15.88 313 Pn **Pn** **17 56 43.1 -4.0**
RAYN IAmb IAmb 17 56 47.2
comp=Z,67nm,1.2s
RAYN Ar Rayn 15.88 313 *i* P **Pn** **17 56 45.0 -2.1**
SNR=37
MSEY Mahe Island 17.74 189 Pn **Pn** **17 57 05.9 -4.8**
MSEY Mahe Island 17.74 189 P P 17 57 29.0 +18
KAAM Kaadhehdhoo 19.30 129 P Pn 17 57 40.7 +11
HRA Herat 21.63 9 P **P** **17 57 55.2 +1.3**
HRA IAmb IAmb 17 58 05.1
comp=Z,35nm,1.2s
PALK Pallekele 22.96 102 P **P** **17 58 07.7 -0.5**
PALK IAmb IAmb 17 58 20.9
comp=Z,23nm,1.4s
PALK Pallekele 22.96 102 LR LR 18 05 38.1
comp=Z,355nm,18.9s,baz=42,slow=33
PALK Pallekele 22.96 102 P **P** **17 58 14.8 +6.7**
PALK P **P** **17 58 14.8 +6.7**
KBL Kabul 23.64 23 P **P** **17 58 15.7 +0.7**
KBL Kabul 23.64 23 P **P** **17 58 18.1 +3.2**
SNR=21
KBL P **P** **17 58 18.1 +3.2**
SNR=21
LODK Lodwar 24.40 249 P **P** **17 58 20.7 -1.4**
LODK IAmb IAmb 17 58 36.9
comp=Z,30nm,1.3s
GEYT Alibeck 24.83 0 P **P** **17 58 26.9 +1.2**
GEYT IAmb IAmb 17 58 30.2
comp=Z,28nm,1.2s
GEYT Alibeck 24.83 0 P **P** **17 58 26.8 +1.0**
comp=Z,8.9nm,0.8s,baz=190,slow=7.5,SNR=12
GEYT LR LR 18 09 10.2
comp=Z,327nm,18.7s,baz=174,slow=39
comp=Z,8.9nm,0.8s
GYA0B ALIBECK ARRAY 24.83 0 P **P** **17 58 27.3 +1.6**
GYA0B IAmb IAmb 17 58 30.1
comp=Z,21nm,1.1s
KIBK Kibwezi 25.06 234 P **P** **17 58 25.9 -2.2**
KIBK IAmb IAmb 17 58 29.8
comp=Z,25nm,1.2s
EIL Elat 27.11 311 LR LR 18 09 41.9
comp=Z,809nm,18.0s,baz=75,slow=37
ASF Jabal al Asfar 27.24 318 LR LR 18 10 03.5
comp=Z,692nm,18.7s,baz=152,slow=38
MMAI Mount Meron Ar 28.75 318 LR LR 18 11 00.4
comp=Z,615nm,18.0s,baz=78,slow=38
BTK Batken 29.20 20 P **P** **17 59 06.6 +1.6**
BTK IAmb IAmb 17 59 14.5
comp=Z,9.2nm,1.0s
GNI Garni 29.49 339 LR LR 18 12 24.8
comp=Z,457nm,21.1s,baz=141,slow=39
KSH Kashi 30.78 28 P **P** **17 59 16.8 -2.3**
KSH pP pP 17 59 25.3 +2.4
KSH pmax pmax
comp=Z,7.0nm,1.5s
KSH LR LR
comp=N,520nm,15.7s
KSH LR LR
comp=E,340nm,16.7s
KSH LR LR
comp=Z,520nm,15.9s
KK31 Karatay Array 31.86 17 P **P** **17 59 29.8 +1.3**
KKAR Karatay Array 31.86 17 P **P** **17 59 29.8 +1.3**
AAK Ala-Archa 32.78 23 P **P** **17 59 38.1 +1.4**
AAK IAmb IAmb 17 59 42.6
comp=Z,11nm,1.2s
AAK Ala-Archa 32.78 23 LR LR 18 14 17.9
comp=Z,653nm,21.8s,baz=212,slow=39
AAK Ala-Archa 32.78 23 P **P** **17 59 40.1 +3.5**
AAK P **P** **17 59 40.1 +3.5**
OPO Ambohidratompo 33.16 199 LR LR 18 09 44.9
comp=Z,306nm,21.6s,baz=177,slow=31
KBZ Khabaz 33.30 340 P **P** **17 59 41.3 +0.4**
comp=Z,5.5nm,0.9s,baz=164,slow=6.5,SNR=16
KBZ LR LR 18 15 02.3
comp=Z,289nm,18.6s,baz=146,slow=40
comp=Z,5.5nm,0.9s
TARG Taragay, Kyrgy 33.39 27 P **P** **17 59 44.1 +1.8**
TARG IAmb IAmb 18 00 17.1
comp=Z,8.9nm,1.4s
KVAR Kislovodsk Arr 33.57 340 LR LR 18 14 47.9
comp=Z,257nm,19.9s,baz=84,slow=39
KIV Kislovodsk 33.57 340 P **P** **17 59 43.6 +0.1**
KIV IAmb IAmb 17 59 56.2
comp=Z,16nm,1.2s
KIV Kislovodsk 33.57 340 P **P** **17 59 45.0 +1.5**
KIV P **P** **17 59 45.0 +1.5**
BRTR Keskin Array B 34.26 325 P **P** **17 59 48.5 -1.0**
comp=Z,0.7nm,0.6s,baz=149,slow=11,SNR=2.3
BRTR LR LR 18 15 22.7
comp=Z,708nm,18.6s,baz=134,slow=39
comp=Z,0.7nm,0.6s
ELL Elmali 34.60 318 P **P** **17 59 51.5 -1.1**
ABKAR Akbulak array 36.19 2 P **P** **18 00 06.3 +0.4**
ABKAR IAmb IAmb 18 00 09.1
comp=Z,8.3nm,1.1s
ABKAR Akbulak array 36.19 2 P **P** **18 00 06.6 +0.8**
IDI Anoyia 37.28 312 P **P** **18 00 15.2 -0.2**
IDI Anoyia 37.28 312 P **P** **18 00 16.0 +0.5**
comp=Z,0.8nm,1.0s,baz=107,slow=7.4,SNR=5.8
AKTO Aktyubinsk 37.34 360 LR LR 18 16 47.4
comp=Z,237nm,21.4s,baz=208,slow=38
MAKZ Makanchi 39.24 26 P **P** **18 00 32.5 +0.8**
MK31 Makanchi Array 39.36 26 P **P** **18 00 33.8 +1.0**
MKAR Makanchi Array 39.36 26 P **P** **18 00 33.5 +0.8**
comp=Z,1.5nm,0.7s,baz=218,slow=8.7,SNR=14
MKAR LR LR 18 18 13.2
comp=Z,324nm,21.5s,baz=220,slow=38
comp=Z,1.5nm,0.7s
CMAR Chiang Mai Arr 39.63 77 P **P** **18 00 36.5 +1.1**
CMAR Chiang Mai Arr 39.63 77 P **P** **18 00 37.0 +1.6**
comp=Z,3.7nm,1.2s,baz=274,slow=8.8,SNR=12
CMAR LR LR 18 17 10.9
comp=Z,50nm,21.6s,baz=260,slow=36
comp=Z,3.7nm,1.2s
RDO Rodhopi 39.92 321 P **P** **18 00 38.0 +0.5**
RDO IAmb IAmb 18 00 41.8
comp=Z,30nm,1.3s
BELG Belogornoye 40.19 350 LR LR 18 20 51.5
comp=Z,104nm,19.1s,baz=136,slow=41
GOMU GeErMu 40.24 48 P **P** **18 00 42.8 +2.1**
GOMU pP pwP 18 00 59.8 +11
GOMU PP **PnPn** **18 02 24.8 +7.8**
GOMU S **S** **18 06 54.0 +6.3**
GOMU SS **SnSn** **18 09 54.5 +4.1**
GOMU pmax pmax
comp=Z,5.0nm,0.9s
GOMU LR LR
comp=N,220nm,17.7s
GOMU LR LR
comp=E,220nm,17.5s
GOMU LR LR
comp=Z,240nm,18.1s
LSZ Lusaka 40.80 227 LR LR 18 16 58.6
comp=Z,295nm,20.4s,baz=55,slow=36
KURBB Kurchatov Arra 41.06 20 P **P** **18 00 47.9 +1.1**
comp=Z,6.8nm,0.2s,baz=218,slow=8.2,SNR=13
KURBB LR LR 18 19 13.4
comp=Z,456nm,21.7s,baz=181,slow=38
comp=Z,6.8nm,0.2s
BVAR Borovoye Array 41.12 11 P **P** **18 00 47.8 +0.6**
comp=Z,2.1nm,0.9s,baz=188,slow=5.8,SNR=11
BVAR LR LR 18 20 09.6
comp=Z,405nm,19.3s,baz=192,slow=39
comp=Z,2.1nm,0.9s
KURK Kurchatov 41.17 20 P **P** **18 00 48.8 +1.1**
KURK Kurchatov 41.17 20 P **P** **18 00 49.1 +1.5**
KURK P **P** **18 00 49.1 +1.5**
MLR Muntele Rosu 42.33 326 P **P** **18 00 57.1 -0.3**
MLR IAmb IAmb 18 01 03.9
comp=Z,19nm,1.3s
MLR Muntele Rosu 42.33 326 P **P** **18 00 57.4 0.0**
comp=Z,2.7nm,0.6s,baz=158,slow=11,SNR=4.8
MLR LR LR 18 20 30.1
comp=Z,209nm,21.7s,baz=129,slow=39
comp=Z,2.7nm,0.6s
KMI Kunming 43.70 67 ⇑P **P** **18 01 09.3 +0.3**
KMI S **S** **18 07 44.5 +5.6**
KMI SS **SS** **18 10 53.8 -0.6**
KMI pmax pmax
comp=Z,8.0nm,0.9s
KMI pmax pmax
comp=Z,64nm,5.0s
KMI LR LR
comp=N,210nm,21.7s
KMI LR LR
comp=E,250nm,22.7s
KMI LR LR
comp=Z,280nm,25.0s
BUR08 Bucovina Ar. S 44.11 328 P **P** **18 01 11.0 -0.7**
AKASG Malin Array Be 44.34 334 P **P** **18 01 12.4 -1.0**
comp=Z,0.7nm,0.5s,baz=147,slow=8.0,SNR=8.4
AKASG LR LR 18 23 55.9
comp=Z,164nm,18.4s,baz=140,slow=42
comp=Z,0.7nm,0.5s
AKBB Malin Array Si 44.34 334 P **P** **18 01 12.3 -1.1**
GTA Gaotai 45.18 47 *e*P **P** **18 01 22.8 +2.3**
GTA sP pwP 18 01 38.3 +9.3
GTA pmax pmax
comp=Z,3.0nm,1.8s
OBN Obninsk 45.27 343 LR LR 18 23 01.6
comp=Z,263nm,20.4s,baz=174,slow=40
CUC Castrocucco 45.81 314 P **P** **18 01 24.8 -0.5**
KIRV Kirov 45.97 354 LR LR 18 25 16.4
comp=Z,224nm,18.4s,baz=162,slow=42
ZAA0 Zalesovo Array 45.99 22 P **P** **18 01 25.6 -0.8**
ZAA0 IAmb IAmb 18 01 28.7
comp=Z,9.1nm,0.9s
ZALV Zalesovo Beam 45.99 22 P **P** **18 01 25.6 -0.9**
ZALV Zalesovo Beam 45.99 22 P **P** **18 01 27.0 +0.6**
comp=Z,8.1nm,0.9s,baz=227,slow=7.9,SNR=29
ZALV LR LR 18 22 19.7
comp=Z,677nm,21.1s,baz=224,slow=38
comp=Z,8.1nm,0.9s
CRVS Cervenica-Dubn 46.84 327 *e*P **P** **18 01 35.2 +1.9**
STHS Stebnicka Huta 47.27 328 *e*P **P** **18 01 39.8 +3.2**
TATN Tataouine 47.54 302 P **P** **18 01 38.3 -0.7**
MNK Minsk 47.72 337 *i* P **P** **18 01 37.6 -2.4**
comp=E,4.0nm,0.9s
MNK *i* P **P** **18 01 37.6 -2.4**
comp=N,11nm,0.8s
MNK *i* P **P** **18 01 37.6 -2.4**
comp=Z,14nm,0.9s,baz=139
MNK *i* PP **PP** **18 03 29.6 -2.1**
MNK *i* PPP PPP 18 04 17.2
MNK *i* S **S** **18 08 34.5 -0.9**
MNK *i* SS **SS** **18 12 04.0 +0.2**
MNK *i* SSS SSS 18 13 12.3
MNK *i* LQ LQ 18 18 24.3
MNK *i* LR LR 18 21 20.2
MNK *i* LRM MLR 18 24 00.7
comp=Z,208nm,18.2s
MNK *i* LRM MLR 18 25 47.1
comp=N,159nm,15.6s
MNK *i* LRM MLR 18 26 18.0
comp=E,62nm,12.6s
VYHS Vyhne 48.02 326 *e*P **P** **18 01 45.4 +2.9**
LANS Liptovska Anna 48.05 327 *e*P P 18 01 47.6 +4.9
NACGM Naroch 48.45 336 *e*P **P** **18 01 45.4 -0.2**
comp=Z,22nm,0.9s,baz=138
GUMA Gualdo di Mace 48.76 317 P **P** **18 01 46.8 -1.5**
GUMA IAmb IAmb 18 01 51.8
comp=Z,22nm,1.0s
NRCA Norcia 48.81 316 P **P** **18 01 47.6 -1.1**
MODS Modra-Piesok 48.83 325 *e*P **P** **18 01 47.4 -1.3**
JAVC Velka Javorina 48.87 325 *e*P **P** **18 01 48.7 -0.3**
RONA Rosalia, Austr 49.03 323 *e*P **P** **18 01 49.4 -0.9**
comp=Z,3.4nm,0.7s
KEST Kesra 49.24 306 LR LR 18 24 04.9
comp=Z,143nm,18.6s,baz=312,slow=38
ARSA Arzberg 49.26 323 *i* P **P** **18 01 50.8 -1.3**
comp=Z,2.3nm,0.7s
SOKA Soboth 49.28 322 *e*P **P** **18 01 51.5 -0.8**
comp=Z,5.8nm,1.0s
SUW Suwalki 49.30 334 P **P** **18 01 51.2 -1.0**
LBTB Lobatse 49.31 220 P **P** **18 01 51.0 -1.7**
LBTB IAmb IAmb 18 01 54.4
comp=Z,9.7nm,0.9s
LBTB Lobatse 49.31 220 LR LR 18 20 51.6
comp=Z,422nm,19.9s,baz=48,slow=34
CONA Cod Observa 49.40 323 *e*P **P** **18 01 51.9 -1.3**
comp=Z,11nm,1.3s
MORC Moravsky Berou 49.44 326 P **P** **18 01 51.2 -2.1**
MORC IAmb IAmb 18 01 59.2
comp=Z,7.8nm,1.2s
MORC Moravsky Berou 49.44 326 *e*P **P** **18 01 52.1 -1.3**
OBKA Obir 49.49 321 *i* P **P** **18 01 52.8 -1.1**
comp=Z,8.8nm,1.2s
KRUC Moravsky 49.69 325 *e*P P 18 01 51.1 -4.1
VRAC Vranov 49.70 325 *e*P **P** **18 01 53.7 -1.7**
VRAC Vranov 49.70 325 LR LR 18 26 10.6
comp=Z,146nm,18.5s,baz=117,slow=40
MYKA Terra Mystica 50.10 321 *i* P **P** **18 01 57.6 -0.9**
comp=Z,7.5nm,1.1s
KBA Koelnbreinsper 50.49 321 *i* P **P** **18 02 00.1 -1.4**
comp=Z,8.9nm,1.4s
STAL STALIGIAL 50.51 320 P **P** **18 01 59.0 -2.6**
STAL IAmb IAmb 18 02 05.7
comp=Z,16nm,1.3s
BIOA Bad Ischl, Aus 50.60 322 *e*P **P** **18 02 00.3 -1.9**
comp=Z,6.0nm,1.1s
ABTA Abfaltersbach 50.85 321 *i* P **P** **18 02 03.3 -0.9**
comp=Z,6.5nm,1.4s
LESA Schwarzleotal 51.05 322 *i* P **P** **18 02 03.6 -2.1**
comp=Z,4.8nm,0.9s
GERES GERESS Array B 51.11 324 LR LR 18 26 09.9
comp=Z,142nm,19.8s,baz=116,slow=39
TSUM Tsumeb 51.15 232 LR LR 18 25 19.8
comp=Z,273nm,18.4s,baz=334,slow=38
WTTA Wattenberg 51.62 321 *i* P **P** **18 02 08.1 -2.0**
comp=Z,8.2nm,0.9s
WATA Walderalm 51.68 321 *i* P **P** **18 02 07.5 -3.0**
comp=Z,3.7nm,0.7s
SQTA Sankt Quirin 51.86 321 *e*P **P** **18 02 09.1 -2.7**
comp=Z,4.4nm,0.7s
MOTA Moosalm 51.98 321 *e*P **P** **18 02 09.9 -2.8**
comp=Z,7.3nm,1.0s
FETA Feichten 52.07 320 *e*pP **P** **18 02 16.0 +2.6**
comp=Z,12nm,1.5s
BOSA Boshof 52.15 217 LR LR 18 22 00.8
comp=Z,572nm,20.7s,baz=38,slow=34
RETA Reutte 52.25 321 *e*P **P** **18 02 11.9 -2.8**
comp=Z,2.7nm,0.7s
DAVOX Davos/Dischmat 52.51 320 LR LR 18 25 59.6
comp=Z,137nm,20.9s,baz=80,slow=38
CLL Collm 52.71 326 *e*P **P** **18 02 16.0 -1.9**
comp=Z,19nm,1.7s
CLL *e*x x 18 02 30.0
comp=Z,41nm,2.0s
CLL *e*S S 18 10 00.0 +15
CLL *e*SSS SSS 18 14 54.0
DAVA Damuels 52.71 320 P **P** **18 02 15.6 -2.5**
comp=Z,15nm,1.3s
BTO Baotou 52.95 49 *e*P **P** **18 02 22.5 +2.5**
BTO pP **pwP** **18 02 32.8 +4.2**
BTO sP sP 18 02 36.3 +11
BTO PP **PP** **18 04 24.0 +4.3**
BTO S **S** **18 09 52.5 +3.5**
BTO sS sS 18 10 06.0 +10
BTO Baotou 52.95 49 SS SKiKP 18 13 27.0 -12
BTO pmax pmax
comp=Z,17nm,1.3s
BTO pmax pmax
comp=Z,220nm,4.7s
BTO LR LR
comp=N,550nm,17.8s
BTO LR LR
comp=E,440nm,17.5s
BTO LR LR
comp=Z,570nm,23.4s
SONM Songino Array 52.99 39 P **P** **18 02 20.9 +0.7**
comp=Z,1.2nm,0.9s,baz=250,slow=8.7,SNR=8.1
SONM LR LR 18 27 36.1
comp=Z,145nm,20.6s,baz=182,slow=39
comp=Z,1.2nm,0.9s
LEM Lembang 52.99 109 LR LR 18 21 19.8
comp=Z,101nm,21.5s,baz=270,slow=32
ULN Ulaanbaatar 53.41 39 P **P** **18 02 25.0 +1.7**
FINES FINESS Array B 53.63 342 P **P** **18 02 22.7 -1.7**
comp=Z,5.2nm,0.8s,baz=134,slow=8.0,SNR=17
FINES LR LR 18 29 22.0
comp=Z,125nm,18.1s,baz=162,slow=41
comp=Z,5.2nm,0.8s
HHC Hu-ho-hao-te 54.15 49 *e*P **P** **18 02 28.5 -0.3**
HHC sP pwP 18 02 43.3 +5.9
HHC *e*S **S** **18 10 08.3 +3.1**
HHC sS sS 18 10 28.3 +16
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,110nm,4.7s
HHC LR LR
comp=N,170nm,17.5s
HHC LR LR
comp=E,320nm,19.6s
HHC LR LR
comp=Z,480nm,20.2s
TORD Torodi Ar. Bea 54.83 277 P **P** **18 02 32.4 -1.6**
TORD IAmb IAmb 18 02 40.6
comp=Z,6.3nm,1.4s
TORD Torodi Ar. Bea 54.83 277 P **P** **18 02 31.0 -3.0**
comp=Z,1.7nm,1.0s,baz=68,slow=7.3,SNR=7.2
TORD PcP **PcP** **18 03 33.4 -2.9**
comp=Z,0.8nm,0.8s,baz=68,slow=3.5,SNR=3.5
TORD LR LR 18 25 40.5
comp=Z,74nm,20.3s,baz=126,slow=36
comp=Z,1.7nm,1.0s
HFS Hagfors 57.18 335 P **P** **18 02 48.2 -1.9**
comp=Z,4.0nm,0.8s,baz=146,slow=10,SNR=5.4
HFS LR LR 18 30 09.9
comp=Z,236nm,20.0s,baz=117,slow=39
comp=Z,4.0nm,0.8s
SUR Sutherland 57.51 217 LR LR 18 24 59.6
comp=Z,494nm,21.4s,baz=38,slow=34
NOA NORSAR Array B 58.70 335 P **P** **18 02 59.3 -1.5**
comp=Z,1.2nm,0.9s,baz=110,slow=8.6,SNR=4.6
NOA LR LR 18 30 56.3
comp=Z,159nm,20.9s,baz=100,slow=39
comp=Z,1.2nm,0.9s
H04N1 CROZET ISLANDS 59.15 185 T T 19 06 49.5
baz=10,slow=75,SNR=4.0
H04N2 CROZET ISLANDS 59.15 185 T T 19 06 48.3
baz=10,slow=75,SNR=4.7
H04N3 CROZET ISLANDS 59.17 185 T T 19 06 48.5
baz=10,slow=75,SNR=5.8
NRIK Noril'sk 59.33 12 P **P** **18 03 05.3 +0.4**
comp=Z,1.9nm,0.5s,baz=242,slow=3.1,SNR=5.0
NRIK LR LR 18 32 23.7
comp=Z,214nm,18.9s,baz=192,slow=40
comp=Z,1.9nm,0.5s
ARCES ARCESS Array B 60.13 347 P **P** **18 03 09.8 -0.8**
comp=Z,5.2nm,0.9s,baz=150,slow=5.1,SNR=4.9
ARCES LR LR 18 32 35.2
comp=Z,94nm,18.3s,baz=124,slow=39
comp=Z,5.2nm,0.9s
MDT Midelt 60.20 300 P **P** **18 03 09.8 -2.0**
comp=Z,3.5nm,1.1s,baz=96,slow=9.1,SNR=3.9
MDT LR LR 18 31 06.1
comp=Z,161nm,18.2s,baz=146,slow=38
comp=Z,3.5nm,1.1s
ESDC Sonseca Array 60.36 308 P **P** **18 03 09.9 -2.7**
ESDC Sonseca Array 60.36 308 P **P** **18 03 10.2 -2.4**
comp=Z,1.8nm,0.7s,baz=82,slow=6.1,SNR=14
ESDC LR LR 18 31 16.5
comp=Z,54nm,18.7s,baz=94,slow=38
comp=Z,1.8nm,0.7s
DBIC Dimbokro 62.22 271 LR LR 18 30 23.0
comp=Z,45nm,18.0s,baz=89,slow=36
HEH HeiHe 66.91 41 *e*P **P** **18 03 56.0 +0.4**
HEH pmax pmax
comp=Z,8.0nm,1.2s
HEH pmax pmax
comp=Z,150nm,4.4s
SPITS Spitsbergen Ar 68.37 352 LR LR 18 40 35.1
comp=Z,70nm,18.1s,baz=107,slow=42
USRK Ussuriysk Ar. 69.53 48 LR LR 18 36 30.2
comp=Z,117nm,19.4s,baz=254,slow=37
YAK Yakutsk 69.99 28 LR LR 18 37 07.3
comp=Z,222nm,21.5s,baz=265,slow=38
JMIC Jan Mayen 70.25 341 LR LR 18 38 23.8
comp=Z,136nm,18.4s,baz=104,slow=39
H01W3 Cape Leeuwin H 71.31 134 T T 19 22 05.7
baz=301,slow=75,SNR=51
H01W2 Cape Leeuwin H 71.32 134 T T 19 22 06.2
baz=301,slow=75,SNR=58
H01W1 Cape Leeuwin H 71.33 134 T T 19 22 07.0
baz=301,slow=75,SNR=54
TIXI Tiksi 71.73 18 P **P** **18 04 23.5 -1.5**
TIXI IAmb IAmb 18 04 52.1
comp=Z,8.8nm,1.4s
TIXI Tiksi 71.73 18 LR LR 18 39 00.0
comp=Z,241nm,19.6s,baz=243,slow=38
BORG Borgarnes 73.82 334 LR LR 18 40 07.8
comp=Z,68nm,19.8s,baz=57,slow=38
DAG Danmarks Havn 74.40 347 *i* P **P** **18 04 40.0 -0.8**
DAG IAmb IAmb 18 04 41.2
comp=Z,4.5nm,0.8s
DBG Daneborg 74.41 344 *i* P **P** **18 04 40.4 -0.5**
DBG IAmb IAmb 18 04 49.4
comp=Z,2.3nm,1.0s
SCO Scoresbysund 74.51 340 P **P** **18 04 40.8 -0.7**
SCO Scoresbysund 74.51 340 *i* P **P** **18 04 39.4 -2.1**
SCO IAmb IAmb 18 04 43.5
comp=Z,5.3nm,0.9s
NOR Nord 75.01 352 *i* P **P** **18 04 42.4 -1.9**
NOR IAmb IAmb 18 04 45.4
comp=Z,1.2nm,0.8s
ASAJ Asahikawa 77.16 47 LR LR 18 40 04.7
comp=Z,98nm,21.2s,baz=8.0,slow=36
MA2 Magadan 80.26 31 LR LR 18 43 36.7
comp=Z,97nm,20.9s,baz=276,slow=38
MAW Mawson 80.45 178 LR LR 18 34 44.5
comp=Z,146nm,19.0s,baz=324,slow=31
SEY Seymchan 80.49 28 LR LR 18 43 41.1
comp=Z,217nm,20.9s,baz=294,slow=38
NEEM North Greenlan 81.49 348 *i* P **P** **18 05 19.3 -1.3**
NEEM IAmb IAmb 18 05 21.6
comp=Z,4.7nm,0.9s
WRA Warramunga Arr 81.82 113 P **P** **18 05 20.8 -2.2**
comp=Z,1.1nm,1.0s,baz=294,slow=4.5,SNR=5.5
WRA PP **PP** **18 08 30.1 -0.4**
comp=Z,0.6nm,0.9s,baz=302,slow=4.8,SNR=3.3
comp=Z,1.1nm,1.0s
ASAR Alice Springs 82.54 116 P **P** **18 05 25.1 -1.6**
comp=Z,1.0nm,0.9s,baz=292,slow=4.7,SNR=7.9
ASAR PP **PP** **18 08 32.6 -3.8**
comp=Z,0.5nm,0.8s,baz=296,slow=5.0,SNR=4.9
comp=Z,1.0nm,0.9s
H09W1 TRISTAN DA CUN 82.71 229 T T 19 34 49.4
SNR=4.8

SFJD	**Kangerlussuaq**	**85.27**	**338**	LR		LR	18 45 30.7	
	comp=Z,84nm,21.1s,baz=58,slow=37							
FRB	**Frobisher Bay**	**93.36**	**339**	LR		LR	18 51 19.0	
	comp=Z,96nm,19.1s,baz=30,slow=37							
RCBR	**Riachuelo**	**95.17**	**265**	LR		LR	18 46 47.5	
	comp=Z,55nm,19.7s,baz=64,slow=34							
D25K	**Kavik River**	**96.10**	**9**	P		**P**	**18 06 27.7**	**-3.0**
D25K				IAmb		IAmb	18 06 32.0	
	comp=Z,1.9nm,0.9s							
SCHQ	**Schefferville**	**98.08**	**331**	LR		LR	18 54 10.5	
	comp=Z,78nm,18.5s,baz=180,slow=37							
NVAR	**Mina Array Bea**	**128.74**	**356**	PKP		**PKPdf**	**18 12 10.7**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=322,slow=1.5,SNR=3.8							

*IDC **28** 17:56:09.1±5.0, 12°.85N×57°.60E, h0km, mb3.9/6, mbtmp3.9/7, ML3.5/1, Error ellipse: s-maj=108.3km s-min=42.8km az=158.0*
*NEIC **28** 17:56:12.1±1.7, 13°.0N±0°.1×57°.6E±0°.1, h10km±2km, mb4.1/14, Error ellipse: s-maj=32.7km s-min=6.6km az=133.0*

ISC 28 17:56:12.8±1.8, 13°.1N±0°.2×57°.5E±0°.3, h17km, n24, σ1833/21, mb4.0/14, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**10.16**	**6**	Pn	**Pn**	**17 58 39.0**	**+0.9**
	0.4nm,0.3s,baz=190,slow=18,SNR=1.8						
	2.4nm,0.6s						
UOSS	**Minazif**	**11.87**	**354**	Pn	**Pn**	**17 58 59.8**	**-1.6**
HRA	**Herat**	**21.65**	**11**	P	**P**	**18 01 03.6**	**+0.9**
HRA				IAmb	IAmb	18 01 10.5	
	comp=Z,10nm,1.4s						
KIBK	**Kibwezi**	**24.64**	**233**	P	**P**	**18 01 32.7**	**-0.2**
KIBK				IAmb	IAmb	18 01 36.4	
	comp=Z,3.8nm,1.0s						
GEYT	**Alibeck**	**24.75**	**1**	P	**P**	**18 01 32.6**	**-1.0**
GEYT				IAmb	IAmb	18 01 37.6	
	comp=Z,4.5nm,0.9s						
BTK	**Batken**	**29.32**	**21**	P	**P**	**18 02 14.7**	**0.0**
BTK				IAmb	IAmb	18 02 17.4	
	comp=Z,3.1nm,0.8s						
KK31	**Karatay Array**	**31.96**	**18**	P	**P**	**18 02 34.7**	**-3.2**
KK31				IAmb	IAmb	18 02 39.9	
	comp=Z,2.0nm,0.8s						
KKAR	**Karatay Array**	**31.96**	**18**	P	**P**	**18 02 35.0**	**-2.9**
KKAR				IAmb	IAmb	18 02 39.8	
	comp=Z,2.0nm,0.8s						
ABKAR	**Akbulak array**	**36.13**	**3**	P	**P**	**18 03 15.9**	**+1.9**
ABKAR				IAmb	IAmb	18 03 17.5	
	comp=Z,1.6nm,0.8s						
MAKZ	**Makanchi**	**39.42**	**27**	P	**P**	**18 03 41.9**	**+0.1**
MK31	**Makanchi Array**	**39.55**	**27**	P	**P**	**18 03 42.8**	**-0.1**
MKAR	**Makanchi Array**	**39.55**	**27**	P	**P**	**18 03 42.7**	**-0.2**
MKAR	**Makanchi Array**	**39.55**	**27**	P	**P**	**18 03 42.9**	**0.0**
	comp=Z,1.2nm,0.9s,baz=212,slow=8.4,SNR=6.0						
	comp=Z,1.2nm,0.8s						
BVAR	**Borovoye Array**	**41.16**	**12**	P	**P**	**18 03 57.2**	**+1.1**
	comp=Z,1.0nm,0.9s,baz=166,slow=3.0,SNR=3.3						
	comp=Z,1.0nm,0.9s						
KURBB	**Kurchatov Arra**	**41.18**	**20**	P	**P**	**18 03 57.0**	**+0.6**
	comp=Z,2.3nm,0.2s,baz=217,slow=8.7,SNR=5.9						
	comp=Z,2.3nm,0.2s						
KURK	**Kurchatov**	**41.29**	**20**	P	**P**	**18 03 57.8**	**+0.5**
KURK				IAmb	IAmb	18 03 58.4	
	comp=Z,3.7nm,1.1s						
ZAA0	**Zalesovo Array**	**46.13**	**22**	P	**P**	**18 04 35.4**	**-0.7**
ZALV	**Zalesovo Beam**	**46.13**	**22**	P	**P**	**18 04 35.2**	**-1.0**
ZALV	**Zalesovo Beam**	**46.13**	**22**	P	**P**	**18 04 36.0**	**-0.2**
	comp=Z,3.3nm,0.8s,baz=231,slow=9.0,SNR=9.0						
	comp=Z,3.3nm,0.8s						
FINES	**FINESS Array B**	**53.36**	**342**	P	**P**	**18 05 31.9**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=134,slow=12,SNR=2.2						
	comp=Z,1.0nm,0.7s						
ESDC	**Soneca Array**	**59.85**	**308**	P	**P**	**18 06 18.1**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=108,slow=6.9,SNR=2.1						
	comp=Z,0.5nm,0.7s						
H01W3	**Cape Leeuwin H**	**71.79**	**134**	T	T	19 25 09.3	
	baz=301						
H01W2	**Cape Leeuwin H**	**71.80**	**134**	T	T	19 25 09.5	
	baz=301						
H01W1	**Cape Leeuwin H**	**71.81**	**134**	T	T	19 25 11.8	
	baz=301						

KRSC 28 18:09:41.3±1.7, 53°.64N×168°.46E, h68km±32km, MI3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**2.14**	**318**	*eS*	Sn	18 10 42.6	+2.3
SPN	**Mys Shipunski**	**5.08**	**267**	*eS*	Sn	18 10 58.1	+3.3
SPN				*eS*	Sn	18 11 54.6	+2.5
KMNR	**Kamenistaya**	**5.22**	**297**	*eP*	Pn	18 11 01.7	+4.9
NLC	**Nalytchevo**	**5.47**	**269**	*eS*	Sn	18 12 03.8	+2.1
UGLR	**Uglovaya**	**5.78**	**270**	*eP*	Pn	18 11 08.6	+4.1
AVH	**Avacha**	**5.82**	**270**	*eP*	Pn	18 11 09.1	+4.1
AVH				*eS*	Sn	18 12 13.6	+3.3
DALK	**Dalny**	**5.85**	**268**	*eP*	Pn	18 11 09.0	+3.7
DALK				*eS*	Sn	18 12 14.3	+3.5
KRX	**Arik**	**5.86**	**271**	*eP*	Pn	18 11 09.5	+3.8
KRX				*eS*	Sn	18 12 14.9	+3.5
KOK	**Koryaka**	**5.88**	**271**	*eP*	Pn	18 11 09.5	+3.7
RUS	**Russkaya**	**6.12**	**263**	*eP*	Pn	18 11 12.3	+3.3
RUS				*eS*	Sn	18 12 19.7	+2.2
KRMR	**Karymshinskiy**	**6.25**	**267**	*eP*	Pn	18 11 14.6	+3.8
KRMR				*eS*	Sn	18 12 23.6	+2.8
MTVR	**Mutnovka**	**6.30**	**264**	*eP*	Pn	18 11 15.4	+3.7
MTVR				*eS*	Sn	18 12 24.7	+2.4
ASAK	**Asacha**	**6.50**	**263**	*eP*	Pn	18 11 18.3	+4.1
ASAK				*eS*	Sn	18 12 30.7	+3.8
KDTR	**Khodutka, Kamc**	**6.57**	**258**	*eP*	Pn	18 11 18.4	+3.3
KDTR				*eS*	Sn	18 12 29.3	+0.8
KMSK	**Kamenskaya**	**8.94**	**353**	*eP*	Pn	18 11 50.3	+2.9

*IDC **28** 18:11:06.3±1.1, 50°.82N×176°.91E, h0km, mb4.0/14, mbtmp4.0/17, ML3.6/3, MS3.3/4, Error ellipse: s-maj=27.5km s-min=16.4km az=5.0*
*NEIC **28** 18:11:08.4±1.2, 50°.79N±0°.08×176°.89E±0°.09, h10km±1km, mb4.0/49, ML3.5(AEIC), Error ellipse: s-maj=16.6km s-min=4.7km az=148.0*
*AEIC **28** 18:11:10.5±2.0, 50°.7N±0°.1×177°.2E±0°.1, h12km±7km, Error ellipse: s-maj=14.8km s-min=11.4km az=168.0*

ISC 28 18:11:07.9±0.7, 50.77N±0°.09×176.87E±0°.05, h10km, n257, σ0°76/245, mb4.0/39, MS3.9/3, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSE	**Little Sitkin**	**1.58**	**42**		**Pn**	**18 11 36.4**	**+0.4**
LSSE					**Sb**	**18 11 56.9**	**-0.3**
LSNW	**Little Sitkin**	**1.59**	**40**		**Pn**	**18 11 36.3**	**+0.2**
LSPA	**Little Sitkin**	**1.60**	**41**		**Pn**	**18 11 36.7**	**+0.5**
LSPA					**Sb**	**18 11 57.7**	**-0.1**
AMKA	**Amchitka**	**1.65**	**67**	Pn	**Pn**	**18 11 35.6**	**-1.3**
AMKA				Sn	**Sn**	**18 11 54.9**	**-3.3**
CESW	**Semis' Southwe**	**2.04**	**55**		**Pn**	**18 11 42.9**	**+0.7**
CESW					**Sn**	**18 12 07.3**	**-0.4**
CEAP	**Semis' Anvil P**	**2.10**	**53**		**Pn**	**18 11 44.0**	**+0.8**
CEPE	**Semis' Perret**	**2.12**	**54**		**Pn**	**18 11 44.1**	**+0.8**
SHEM	**Shemya Is, Ala**	**2.61**	**320**	Pn	**Pn**	**18 11 48.0**	**-2.1**
	11nm,0.3s,baz=108,slow=7.4,SNR=4.1						
SHEM				Sn	**Sn**	**18 12 20.7**	**-1.1**
	27nm,0.3s,baz=255,slow=19,SNR=11						
SHEM				LR	LR	18 12 59.8	
	comp=Z,97nm,19.4s,baz=232,slow=44						
	30nm,0.3s						
GANO	**Gareloi North**	**2.92**	**67**		**Pn**	**18 11 54.7**	**+0.4**
GANE	**Gareloi Northe**	**2.93**	**67**		**Pn**	**18 11 54.8**	**+0.3**
GANE					**Sn**	**18 12 30.3**	**+0.6**
TANO	**Tanaga North**	**3.35**	**68**		**Pn**	**18 12 00.5**	**+0.2**
TASE	**Tanaga Southea**	**3.37**	**70**		**Pn**	**18 12 01.0**	**+0.4**
TAFP	**Tanaga Falls P**	**3.42**	**69**		**Pn**	**18 12 01.4**	**0.0**
KICM	**Kanaga Island**	**3.90**	**71**		**Pn**	**18 12 08.1**	**+0.3**
KIWB	**Kanaga Island**	**3.91**	**72**	Pn	**Pn**	**18 12 08.1**	**+0.2**
ADK	**Adak**	**4.20**	**72**	Pn	**Pn**	**18 12 11.7**	**-0.2**
ADK				Sn	**Sn**	**18 12 59.6**	**-1.3**
GSCK	**Great Sitkin C**	**4.54**	**71**		**Pn**	**18 12 16.8**	**+0.1**
GSMY	**Great Sitkin M**	**4.61**	**71**		**Pn**	**18 12 17.6**	**0.0**
GSTR	**Great Sitkin T**	**4.62**	**71**	Pn	**Pn**	**18 12 17.4**	**-0.4**
ATKA	**Atka Island**	**5.77**	**72**		**Pn**	**18 12 33.5**	**0.0**
KOKL	**Mount Kliuchef**	**5.79**	**71**		**Pn**	**18 12 33.8**	**0.0**
KOFP	**Korovin Flat P**	**5.84**	**72**		**Pn**	**18 12 34.8**	**+0.3**

CLCO	**Concord Point,**	**8.56**	**71**			**Pn**	**18 13 12.3**	**+0.6**
NIKH	**Nikolski High**	**9.11**	**70**			**Pn**	**18 13 20.1**	**+0.8**
NIKH	**Nikolski High**	**9.11**	**70**	P		**Pn**	**18 13 19.8**	**+0.5**
	baz=262							
UNV	**Unalaska Valle**	**10.64**	**67**	P		**Pn**	**18 13 40.4**	**+0.2**
	baz=260							
PETK	**Petropavlovsk-**	**12.06**	**289**	Pn		**Pn**	**18 14 00.5**	**+0.8**
PETK	**Petropavlovsk-**	**12.06**	**289**	Pn		**Pn**	**18 13 59.9**	**+0.3**
	0.9nm,0.3s,baz=96,slow=18,SNR=5.5							
	3.5nm,0.6s							
S12K	**Black Hills**	**13.53**	**60**	P		**Pn**	**18 14 17.4**	**-2.3**
	baz=257							
SDPT	**Sand Point**	**14.35**	**63**	P		**Pn**	**18 14 33.7**	**+2.9**
	baz=261							
M14K	**Bethel**	**15.48**	**42**	P		**Pn**	**18 14 45.1**	**-0.9**
	baz=239							
CHGN	**Chignik**	**15.66**	**60**	P		**Pn**	**18 14 47.9**	**-0.5**
	baz=260							
J14K	**Nanvaranak Lak**	**16.01**	**34**	P		**Pn**	**18 14 52.7**	**-0.2**
	baz=230							
N15K	**Kwethluk River**	**16.02**	**45**	P		**Pn**	**18 14 52.6**	**-0.4**
	baz=244							
K15K	**Wolf Creek Mou**	**16.49**	**37**			**P**	**18 15 02.4**	**+0.7**
K15K	**Wolf Creek Mou**	**16.49**	**37**	P		**Pn**	**18 15 00.3**	**+1.2**
	baz=235							
N16K	**Nishlik Lake**	**16.74**	**45**	P		**Pn**	**18 15 03.2**	**+0.8**
	baz=245							
F14K	**Arctic Creek**	**17.11**	**24**	P		**P**	**18 15 08.3**	**-0.3**
	baz=219							
P17K	**Kvichak River**	**17.38**	**51**	P		**Pn**	**18 15 10.8**	**+0.5**
	baz=253							
G15K	**Niukluk**	**17.39**	**28**	P		**Pn**	**18 15 11.0**	**+0.7**
	baz=224							
L17K	**Donlin**	**17.70**	**40**	P		**Pn**	**18 15 14.2**	**0.0**
	baz=241							
F15K	**North Star Dit**	**17.74**	**25**	P		**Pn**	**18 15 14.6**	**-0.1**
	baz=221							
SEY	**Seymchan**	**17.95**	**322**	P		**P**	**18 15 19.8**	**+1.9**
	1.1nm,0.6s,baz=129,slow=12,SNR=7.2							
N18K	**Kilae Creek**	**18.13**	**46**	P		**Pn**	**18 15 18.6**	**-1.0**
	baz=249							
G16K	**Koyuk River**	**18.17**	**28**	P		**Pn**	**18 15 20.2**	**+0.2**
	baz=226							
O18K	**Koktuh Hills**	**18.18**	**49**	P		**Pn**	**18 15 19.4**	**-0.8**
	baz=252							
OHAK	**Old Harbor**	**18.59**	**58**	P		**Pn**	**18 15 26.7**	**+1.6**
	baz=262							
H17K	**Granite Mounta**	**18.65**	**32**	P		**Pn**	**18 15 26.0**	**+0.2**
	baz=232							
G17K	**Kiwalik Mounta**	**18.77**	**30**	P		**Pn**	**18 15 29.0**	**+1.6**
	baz=229							
N19K	**Bonanza Creek**	**18.83**	**47**	P		**P**	**18 15 27.9**	**+0.2**
	baz=251							
J18K	**Innoko River**	**18.98**	**38**	P		**P**	**18 15 29.4**	**+0.2**
	baz=240							
TTA	**Tatalina**	**19.00**	**40**	P		**Pn**	**18 15 31.5**	**+1.3**
	baz=243							
KDAK	**Kodiak Island**	**19.05**	**57**	P		**P**	**18 15 27.8**	**-2.1**
	0.4nm,0.3s,baz=274,slow=8.8,SNR=7.9							
	1.7nm,0.4s							
L19K	**White Mountain**	**19.17**	**43**	P		**Pn**	**18 15 32.6**	**+0.4**
	baz=246							
M19K	**Big River Lodg**	**19.26**	**44**	P		**Pn**	**18 15 33.6**	**+0.3**
	baz=248							
H18K	**Honhosa River**	**19.30**	**32**	P		**P**	**18 15 33.0**	**+0.3**
H18K	**Honhosa River**	**19.30**	**32**	P		**Pn**	**18 15 33.8**	**+0.1**
	baz=234							
E17K	**Hotham Inlet**	**19.53**	**25**	P		**Pn**	**18 15 36.4**	**0.0**
	baz=224							
C16K	**Lisburne Hills**	**19.60**	**20**	P		**P**	**18 15 36.0**	**+0.2**
C16K				IAmb		IAmb	18 15 43.5	
	comp=Z,8.9nm,1.4s							
C16K	**Lisburne Hills**	**19.60**	**20**	P		**Pn**	**18 15 37.0**	**-0.2**
	baz=215							
G18K	**Tagawik**	**19.66**	**30**	P		**P**	**18 15 37.4**	**+0.8**
	baz=231							
D17K	**Noatak River**	**19.66**	**23**	P		**Pn**	**18 15 38.3**	**+0.4**
	baz=220							
J19K	**Poorman**	**19.67**	**37**	P		**P**	**18 15 37.3**	**+0.6**
	baz=241							
M20K	**Styx River**	**19.81**	**44**	P		**P**	**18 15 38.6**	**+0.3**
M20K				IAmb		IAmb	18 16 04.7	
	comp=Z,9.5nm,1.2s							
M20K	**Styx River**	**19.81**	**44**	P		**P**	**18 15 38.8**	**+0.5**
	baz=250							
F18K	**Selawik**	**19.81**	**28**	P		**Pn**	**18 15 39.5**	**-0.2**
	baz=228							
K20K	**Telida**	**19.98**	**40**	P		**P**	**18 15 41.1**	**+0.9**
	baz=244							
N20K	**Mount Spurr**	**20.00**	**47**	P		**P**	**18 15 41.3**	**+0.8**
	baz=252,SNR=5.1							
E18K	**Tukpahlearik C**	**20.10**	**26**	P		**P**	**18 15 42.0**	**+0.6**
E18K	**Tukpahlearik C**	**20.10**	**26**	P		Pn	18 15 43.0	-0.3
	baz=225,SNR=5.9							
H19K	**Roundabout Mou**	**20.18**	**33**	P		**P**	**18 15 42.7**	**+0.6**
H19K				IAmb		IAmb	18 15 48.4	
	comp=Z,12nm,1.4s							
H19K	**Roundabout Mou**	**20.18**	**33**	P		**P**	**18 15 42.9**	**+0.7**
	baz=236							
C17K	**DeLong Mountai**	**20.24**	**21**	P		Pn	18 15 44.2	-0.6
	baz=219							
G19K	**Purcell Mounta**	**20.32**	**31**	P		**P**	**18 15 43.8**	**0.0**
G19K	**Purcell Mounta**	**20.32**	**31**	P		Pn	18 15 45.3	-0.5
	baz=233							
J20K	**Nowinta River**	**20.32**	**38**	P		**P**	**18 15 44.3**	**+0.4**
J20K	**Nowinta River**	**20.32**	**38**	P		Pn	18 15 45.1	-0.7
	baz=242							
I20K	**Naaghedeneel**	**20.50**	**36**	P		**P**	**18 15 45.9**	**+0.2**
I20K	**Naaghedeneel**	**20.50**	**36**	P		**P**	**18 15 45.8**	**+0.2**
	baz=240							
F19K	**Shaleruckik Mo**	**20.53**	**29**			**P**	**18 15 46.1**	**+0.1**
F19K	**Shaleruckik Mo**	**20.53**	**29**	P		**P**	**18 15 46.5**	**+0.5**
	baz=231							
SKT	**Skwentna**	**20.55**	**45**	P		**P**	**18 15 46.8**	**+0.4**
SKT	**Skwentna**	**20.55**	**45**	P		**P**	**18 15 47.6**	**+1.2**
	baz=251							
H20K	**Anotleneega Mo**	**20.70**	**34**	P		**P**	**18 15 48.2**	**+0.2**
	baz=238							
SUA	**Susitna One**	**20.75**	**47**	P		**P**	**18 15 48.1**	**-0.5**
SUA	**Susitna One**	**20.75**	**47**	P		**P**	**18 15 49.1**	**+0.4**
	baz=254							
CAST	**Castle Rocks**	**20.83**	**41**	P		**P**	**18 15 49.5**	**+0.2**
CAST	**Castle Rocks**	**20.83**	**41**	P		**P**	**18 15 50.1**	**+0.8**
	baz=247							
C18K	**Utuok River**	**20.84**	**23**	P		**P**	**18 15 49.8**	**+0.3**
C18K	**Utukok River**	**20.84**	**23**	P		**P**	**18 15 50.2**	**+0.7**
	baz=222							
CHUM	**Lake Minchumin**	**20.92**	**39**	P		**P**	**18 15 51.1**	**+0.8**
	baz=246							
O22K	**Cooper Landing**	**20.99**	**50**	P		**P**	**18 15 52.2**	**+1.2**
	baz=257							
E19K	**Redstone River**	**21.09**	**28**	P		**P**	**18 15 52.5**	**+0.4**
	baz=230							
B18K	**Kokolik River**	**21.25**	**21**	P		**P**	**18 15 54.6**	**+0.8**
	baz=220							
F20K	**Avaraart Lake**	**21.30**	**30**	P		**P**	**18 15 54.8**	**+0.5**
F20K	**Avaraart Lake**	**21.30**	**30**	P		**P**	**18 15 54.5**	**+0.2**
	baz=234							
KTH	**Kantishna Hill**	**21.36**	**41**	P		**P**	**18 15 55.4**	**+0.3**
KTH				IAmb		IAmb	18 15 56.0	
	comp=Z,7.6nm,1.2s							
IMAR	**Indian Mountai**	**21.36**	**33**	P		**P**	**18 15 55.2**	**+0.2**
D19K	**Kuna River**	**21.53**	**25**	P		**P**	**18 15 56.4**	**-0.4**
D19K	**Kuna River**	**21.53**	**25**	P		**P**	**18 15 57.0**	**+0.2**
	baz=227							
H21K	**Melozitna Rive**	**21.53**	**35**	P		**P**	**18 15 56.9**	**+0.1**
H21K				IAmb		IAmb	18 16 00.2	
	comp=Z,5.6nm,1.1s							
H21K	**Melozitna Rive**	**21.53**	**35**	P		**P**	**18 15 57.0**	**+0.1**
	baz=241							
BPAW	**Bear Paw Mtn.**	**21.54**	**40**	P		**P**	**18 15 57.2**	**+0.2**
	baz=247							
C19K	**Lookout Ridge**	**21.58**	**23**	P		**P**	**18 15 57.6**	**+0.3**
C19K				IAmb		IAmb	18 16 17.5	
	comp=Z,5.7nm,1.2s							
C19K	**Lookout Ridge**	**21.58**	**23**	P		**P**	**18 15 57.6**	**+0.3**
	baz=224							
TRF	**Thorofare Moun**	**21.59**	**41**	P		**P**	**18 15 58.3**	**+0.6**
TRF				IAmb		IAmb	18 16 03.6	
	comp=Z,8.9nm,1.4s							
TRF	**Thorofare Moun**	**21.59**	**41**	P		**P**	**18 15 57.9**	**+0.3**
	baz=249							
I21K	**Tanana**	**21.61**	**36**	IAmb		IAmb	18 16 01.6	
	comp=Z,11nm,1.3s							
I21K	**Tanana**	**21.61**	**36**	P		**P**	**18 15 58.2**	**+0.5**
	baz=243							
G21K	**Allakaket**	**21.73**	**32**	P		**P**	**18 15 58.5**	**-0.4**

G21K					IAmb	IAmb	18 15 59.9	
	comp=Z,9.1nm,1.4s							
G21K	**Allakaket**	**21.73**	**32**	P	**P**	**P**	**18 15 58.3**	**-0.6**
	baz=238							
KNK	**Knik Glacier**	**21.80**	**47**	P	**P**	**P**	**18 15 59.3**	**-0.5**
KNK					IAmb	IAmb	18 16 21.8	
	comp=Z,6.2nm,1.0s							
KNK	**Knik Glacier**	**21.80**	**47**	P		**P**	**18 16 00.8**	**+0.9**
	baz=257							
E20K	**Nigu River**	**21.91**	**27**	P		**P**	**18 16 00.9**	**0.0**
	baz=230							
MLY	**Manley**	**22.02**	**37**	P		**P**	**18 16 01.6**	**-0.5**
MLY	**Manley**	**22.02**	**37**	P		**P**	**18 16 02.0**	**-0.2**
	baz=245							
A19K	**Wainwright**	**22.06**	**20**	P		**P**	**18 16 02.2**	**-0.3**
	baz=219							
D20K	**Etivluk River**	**22.08**	**26**	P		**P**	**18 16 01.3**	**-1.5**
	baz=229							
F21K	**Alatna River**	**22.12**	**31**	P		**P**	**18 16 03.1**	**-0.1**
F21K				IAmb		IAmb	18 16 05.6	
	comp=Z,8.8nm,1.4s							
F21K	**Alatna River**	**22.12**	**31**	P		**P**	**18 16 02.9**	**-0.2**
	baz=236							
H22K	**Ishtalitna Cre**	**22.16**	**35**	P		**P**	**18 16 04.1**	**+0.4**
	baz=242							
M23K	**Glacier View**	**22.23**	**47**	P		**P**	**18 16 04.8**	**+0.4**
	baz=256							
WAT6	**Susitna Watana**	**22.43**	**45**	P		**P**	**18 16 06.2**	**-0.4**
	baz=255							
NEA2	**Nenana**	**22.50**	**39**	P		**P**	**18 16 06.3**	**-0.9**
NEA2				IAmb		IAmb	18 16 07.3	
	comp=Z,3.8nm,0.9s							
NEA2	**Nenana**	**22.50**	**39**	P		**P**	**18 16 07.0**	**-0.3**
	baz=248							
I23K	**Minto, Yukon-K**	**22.60**	**38**	P		**P**	**18 16 08.7**	**+0.4**
I23K				IAmb		IAmb	18 16 15.3	
	comp=Z,6.3nm,1.5s							
I23K	**Minto, Yukon-K**	**22.60**	**38**	P		**P**	**18 16 08.5**	**+0.2**
	baz=247							
F22K	**John River**	**22.70**	**31**	P		**P**	**18 16 09.0**	**-0.3**
	baz=238							
DHY	**Denali Highway**	**22.72**	**44**	P		**P**	**18 16 08.4**	**-1.4**
DHY				IAmb		IAmb	18 16 08.9	
	comp=Z,2.7nm,0.6s							
DHY	**Denali Highway**	**22.72**	**44**	P		**P**	**18 16 08.8**	**-0.9**
	baz=254							
B20K	**Meade River**	**22.82**	**23**	P		**P**	**18 16 10.0**	**-0.5**
	baz=226							
C21K	**Knifeblade Rid**	**22.88**	**26**	P		**P**	**18 16 11.2**	**0.0**
	baz=231							
MDM	**Murphy Dome**	**22.97**	**39**	P		**P**	**18 16 12.1**	**-0.1**
G23K	**Bananza Creek**	**23.03**	**34**	P		**P**	**18 16 12.5**	**-0.4**
G23K				IAmb		IAmb	18 16 14.2	
	comp=Z,4.2nm,0.8s							
G23K	**Bananza Creek**	**23.03**	**34**	P		**P**	**18 16 12.4**	**-0.4**
	baz=242							
E22K	**Anaktuvuk Pass**	**23.15**	**30**	P		**P**	**18 16 13.5**	**-0.6**
E22K				IAmb		IAmb	18 16 15.8	
	comp=Z,4.2nm,0.8s							
E22K	**Anaktuvuk Pass**	**23.15**	**30**	P		**P**	**18 16 14.2**	**+0.1**
	baz=237,SNR=6.9							
B21K	**Ikpikpuk River**	**23.22**	**25**	P		**P**	**18 16 13.7**	**-1.0**
B21K				IAmb		IAmb	18 16 14.8	
	comp=Z,8.6nm,1.4s							
D22K	**Ayikyak River**	**23.31**	**28**	IAmb		IAmb	18 16 20.3	
	comp=Z,5.5nm,1.1s							
D22K	**Ayikyak River**	**23.31**	**28**	P		**P**	**18 16 14.8**	**-0.8**
	baz=234							
POKR	**Poker Plat Res**	**23.34**	**39**	P		**P**	**18 16 16.0**	**-0.1**
	baz=249							
H24K	**Noodor Dome**	**23.44**	**37**	IAmb		IAmb	18 16 18.6	
	comp=Z,6.7nm,1.1s							
H24K	**Noodor Dome**	**23.44**	**37**	P		**P**	**18 16 16.6**	**-0.4**
	baz=247							
ILAR	**Eielson Array**	**23.45**	**40**	P		**P**	**18 16 14.8**	**-2.3**
	comp=Z,0.5nm,0.6s,baz=241,slow=8.8,SNR=8.9							
	comp=Z,0.5nm,0.6s							
PAX	**Paxson**	**23.53**	**44**	P		**P**	**18 16 16.7**	**-1.4**
	baz=256							
BMRM	**Bremner River**	**23.55**	**49**	P		**P**	**18 16 18.0**	**-0.2**
	baz=262							
N25K	**Chitina, Valde**	**23.66**	**48**	P		**P**	**18 16 18.6**	**-0.6**
	baz=260							
E23K	**Chandalar**	**23.82**	**31**	P		**P**	**18 16 20.6**	**-0.1**
	baz=240							
G24K	**Hadweenzic Riv**	**23.94**	**35**	P		**P**	**18 16 21.3**	**-0.5**
G24K				IAmb		IAmb	18 16 24.6	
	comp=Z,3.6nm,0.8s							
G24K	**Hadweenzic Riv**	**23.94**	**35**	P		**P**	**18 16 21.8**	**0.0**
	baz=246							
D23K	**Nanushuk River**	**23.96**	**28**	P		**P**	**18 16 22.7**	**+0.8**
	baz=237							
RIDG	**Independent Ri**	**24.00**	**43**	P		**P**	**18 16 21.2**	**-1.2**
	baz=255							
B22K

I28M	**Miner Creek** baz=257	26.46	40	P		P	18 16 43.9	-0.9
O29M	**Mount Kennedy** baz=269	26.46	52	P		P	18 16 45.1	+0.1
E27K	**Coleen River** comp=Z,1.9nm,0.7s	26.60	34	IAmb		IAmb	18 16 49.2	
E27K	**Coleen River** baz=250	26.60	34	P		P	18 16 45.3	-0.7
F28M	**Old Crow** baz=253	27.04	35	P		P	18 16 49.2	-0.7
D27M	**Malcolm River** baz=249	27.19	32	P		P	18 16 52.1	+0.8
K29M	**Barlow Dome** baz=263	27.21	44	P		P	18 16 50.9	-0.7
EPYK	**Eagle Plains** baz=259	27.94	39	P		P	18 16 57.5	-0.5
E29M	**Blow River** baz=254	27.97	34	P		P	18 16 57.9	-0.3
F30M	**Barrier River** baz=258	28.55	36	P		P	18 17 02.6	-0.8
H31M	**Peel River** baz=262	28.80	40	P		P	18 17 05.6	-0.1
G31M	**Satah River** baz=261	29.00	38	P		P	18 17 07.0	-0.3
N32M	**Quiet Lake** baz=272	29.15	50	P		P	18 17 07.8	-1.0
INK	**Inuvik** baz=259	29.53	35	P		P	18 17 11.8	-0.2
INK	**Inuvik** comp=Z,39nm,20.9s,baz=185,slow=37	29.53	35	LR		LR	18 29 05.1	
CRAG	**Craig** baz=282	29.84	61	P		P	18 17 15.0	+0.1
H11N2	**WAKE ISLAND Hy** baz=2.8,slow=76,SNR=16	31.96	198	T		T	18 52 35.8	
H11N3	**WAKE ISLAND Hy** baz=2.8,slow=76,SNR=11	31.97	198	T		T	18 52 37.9	
H11N1	**WAKE ISLAND Hy** baz=2.8,slow=76,SNR=13	31.98	198	T		T	18 52 38.1	
C36M	**Paulatuk** baz=267	33.06	34	P		P	18 17 42.9	-0.2
H11S1	**WAKE ISLAND Hy** baz=2.6,slow=76,SNR=6.1	33.19	198	T		T	18 54 16.0	
H11S2	**WAKE ISLAND Hy** baz=2.6,slow=76,SNR=4.9	33.21	198	T		T	18 54 17.9	
H11S3	**WAKE ISLAND Hy** baz=2.6,slow=76,SNR=2.7	33.21	198	T		T	18 54 15.5	
KOTAN	**Kotaneelee Air** baz=281	33.69	51	P		P	18 17 48.8	+0.1
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.6s,baz=302,slow=8.5,SNR=4.5 comp=Z,0.4nm,0.6s	37.62	45	P		P	18 18 21.7	-0.7
NEW	**Newport** baz=299	41.65	67	P		P	18 18 55.7	-0.5
SONM	**Songino Array** comp=Z,0.4nm,0.8s,baz=54,slow=7.3,SNR=2.3 comp=Z,0.4nm,0.8s	44.45	295	P		P	18 19 18.8	-0.2
HLID	**Hailey** baz=304	45.73	71	P		P	18 19 29.1	-0.2
EGMT	**Eagleton** baz=302	46.01	63	P		P	18 19 30.8	-0.5
BOZ	**Bozeman (W)** baz=304,SNR=9.9	46.25	67	P		P	18 19 33.1	-0.2
H17A	**Grant Village** baz=305,SNR=5.8	47.54	68	P		P	18 19 44.4	+0.9
RLMT	**Red Lodge** baz=305,SNR=7.5	47.89	66	P		P	18 19 46.8	+0.6
R11B	**Troy Canyon, C** baz=308	48.09	78	P		P	18 19 48.4	+0.7
DUG	**Dugway, Tooele** baz=307	48.67	74	P		P	18 19 52.4	+0.2
PDAR	**Pinedale Array** comp=Z,3.5nm,0.7s,baz=307,slow=3.9,SNR=33 comp=Z,3.5nm,0.7s	49.09	69	P		P	18 19 55.6	+0.1
SPITS	**Spitsbergen Ar** comp=Z,8.2nm,1.0s,baz=50,slow=6.7,SNR=17 comp=Z,8.2nm,1.0s	50.77	355	P		P	18 20 07.5	+0.1
SDCO	**Great Sand Dun** baz=311	54.64	72	P		P	18 20 37.2	+0.2
EYMN	**Ely** baz=310	55.97	54	P		P	18 20 45.4	-0.7
BGNE	**Belgrade** baz=311	56.58	64	P		P	18 20 50.6	0.0
CBKS	**Cedar Bluff** baz=312	57.37	67	P		P	18 20 57.1	+0.9
KURBB	**Kurchatov Arra** comp=Z,1.1nm,0.2s,baz=49,slow=6.9,SNR=4.9 comp=Z,1.1nm,0.2s	57.53	312	P		P	18 20 57.1	0.0
MNTX	**Cornudas Mount** baz=314	58.75	77	P		P	18 21 07.2	+1.2
MSTX	**Muleshoe** baz=313	58.80	73	P		P	18 21 07.9	+1.5
BVAR	**Borovoye Array** comp=Z,2.2nm,0.7s,baz=46,slow=8.5,SNR=14 comp=Z,2.2nm,0.7s	59.55	318	P		P	18 21 11.2	0.0
WMOK	**Wichita Mounta** baz=314	60.68	70	P		P	18 21 20.1	+0.9
TXAR	**Lajitas Array** comp=Z,0.5nm,0.5s,baz=280,slow=4.4,SNR=5.8 comp=Z,0.5nm,0.5s	61.45	78	P		P	18 21 24.6	0.0
HDIL	**Hopedale** baz=314	62.10	59	P		P	18 21 28.2	-0.4
SCHQ	**Schefferville** comp=Z,2.3nm,0.8s,baz=284,slow=8.3,SNR=1.9 comp=Z,2.3nm,0.8s	62.14	36	P		P	18 21 28.1	-0.6
SFIN	**Lafayette** baz=315	63.42	58	P		P	18 21 37.2	-0.3
O48B	**Farmland** baz=316	64.55	57	P		P	18 21 44.0	-0.9
FINES	**FINESS Array B** comp=Z,1.1nm,0.7s,baz=25,slow=7.6,SNR=3.6 comp=Z,1.1nm,0.7s	65.72	345	P		P	18 21 52.0	-0.2
M53A	**WI Miller and** baz=317	66.03	53	P		P	18 21 54.0	-0.5
WVT	**Waverly** baz=316	66.05	62	P		P	18 21 54.8	+0.1
NB2	**NORSAR Subarra** comp=Z,6.6nm,1.1s,baz=8.9,slow=6.5	67.95	353	P		P	18 22 06.7	+0.3
NOA	**NORSAR Array B** comp=Z,2.5nm,1.0s,baz=10.0,slow=6.2,SNR=4.7 comp=Z,2.5nm,1.0s	67.95	353	P		P	18 22 06.8	+0.3
SSPA	**Standing Stone** baz=319	68.03	52	P		P	18 22 06.5	-0.8
HFS	**Hagfors** comp=Z,1.5nm,0.7s,baz=285,slow=7.5,SNR=6.4 comp=Z,1.5nm,0.7s	68.62	351	P		P	18 22 10.3	-0.2
LRAL	**Lakeview Retre** baz=318	68.77	64	P		P	18 22 12.0	0.0
L61B	**Northampton** baz=321	69.19	48	P		P	18 22 13.6	-0.9
BLA	**Blacksburg** baz=319,SNR=6.0	69.29	56	P		P	18 22 14.3	-0.9
AKASG	**Malin Array Be** comp=Z,1.2nm,0.6s,baz=24,slow=6.1,SNR=4.5 comp=Z,1.2nm,0.6s	75.22	339	P		P	18 22 50.3	0.0
CTA	**Charters Tower** comp=Z,64nm,18.5s,baz=290,slow=38	75.53	210	LR		LR	18 58 28.1	
KBA	**Koelnbreinsper** comp=Z,3.8nm,0.8s	81.50	349	*e*PKiKP		P	18 23 26.8	+1.4
WTTA	**Wattenberg** comp=Z,1.8nm,0.5s	81.52	350	*e*PKP		P	18 23 26.6	+1.1
ABTA	**Abfaltersbach** comp=Z,1.2nm,0.6s	81.93	349	*e*PKiKP		P	18 23 29.2	+1.7
ASAR	**Alice Springs** comp=Z,0.4nm,0.8s,baz=22,slow=4.8,SNR=6.2 comp=Z,0.4nm,0.8s	83.24	219	P		P	18 23 33.8	-0.5
ROSC	**El Rosal** comp=Z,36nm,20.1s,baz=86,slow=37	98.01	72	LR		LR	19 11 24.1	

*SJA **28** 18:26:57.0±2.2,21°.29S×68°.58W,h100km,ML3.4,MW3.6*
*GUC **28** 18:26:58.3±0.6,21°.26S×68°.71W,h121km±4km,ML3.7*

ISC 28 18:26:57.4±1.7,21°.25S±0°.04×68°.84W±0°.07, h134km±12km, n27, σ0°53/41, 5C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
PB01	**IPOC Station P**	0.64	289	*i*	P		Pn	18 27 17.7	-0.2
PB01				*e*	S		Sn	18 27 33.3	-0.1
PB01					IAML			18 27 33.8	
	comp=Z,986nm,0.1s								
PB01	**IPOC Station P**	0.64	289	⇑*i*	P		Pn	18 27 17.5	-0.4
PB01				*e*	S		Sn	18 27 32.9	-0.5
PB01					IAML			18 27 33.6	
	comp=N,2μm,0.1s								
PB09	**IPOC Station P**	0.66	214	*i*	P		Pn	18 27 18.2	0.0
PB09				*e*	S		Sn	18 27 33.5	-0.5
PB09					IAML			18 27 35.2	
	comp=Z,969nm,0.4s								
PB09	**IPOC Station P**	0.66	214	⇑*i*	P		Pn	18 27 18.1	0.0
PB09				*e*	S		Sn	18 27 33.1	-0.9
PB09					IAML			18 27 34.4	
	comp=N,2μm,0.6s								
PB02	**IPOC Station P**	0.98	266	*i*	P		Pn	18 27 21.1	+0.5
PB02				*e*	S		Sn	18 27 39.4	+1.0
PB02					IAML			18 27 42.5	
	comp=Z,2μm,0.3s								
PB02	**IPOC Station P**	0.98	266	⇑*i*	P		Pn	18 27 21.1	+0.5
PB02				*e*	S		Sn	18 27 38.8	+0.5
PB02					IAML			18 27 42.2	
	comp=E,3μm,0.4s								
PB07	**IPOC Station P**	1.08	244	*i*	P		Pn	18 27 22.1	+0.4
PB07				*e*	S		Sn	18 27 40.3	+0.2
PB07					IAML			18 27 41.1	
	comp=Z,996nm,0.3s								
PB07	**IPOC Station P**	1.08	244	*i*	P		Pn	18 27 22.0	+0.4
PB07				*e*	S		Sn	18 27 40.4	+0.2
PB07					IAML			18 27 40.5	
	comp=N,2μm,0.1s								
PB08	**IPOC Station P**	1.14	345	*i*	P		Pn	18 27 22.6	+0.1
PB08				*e*	S		Sn	18 27 41.2	-0.3
PB08					IAML			18 27 44.0	
	comp=Z,341nm,0.2s								
LVC	**Limon Verde**	1.36	183	*i*	P		Pn	18 27 24.1	-0.6
LVC					IAML			18 27 46.4	
	comp=Z,156nm,0.4s								
TA01	**Diego Aracena**	1.42	298	*i*	P		Pn	18 27 24.6	-0.3
TA01					IAML			18 27 48.5	
	comp=Z,356nm,0.3s								
TA01	**Diego Aracena**	1.42	298	*i*	P		Pn	18 27 25.3	+0.4
TA01				*e*	S		Sn	18 27 46.1	+0.1
TA01					IAML			18 27 47.5	
	comp=E,1μm,0.3s								
TA02	**Huaiquique**	1.55	309	*i*	P		Pn	18 27 26.2	-0.2
TA02					IAML			18 27 52.9	
	comp=Z,816nm,0.1s								
PB06	**IPOC Station P**	1.60	205	*i*	P		Pn	18 27 26.9	-0.3
PB06					IAML			18 27 50.9	
	comp=Z,465nm,0.1s								
PB06	**IPOC Station P**	1.60	205	⇑*i*	P		Pn	18 27 27.5	+0.4
PB06				*e*	S		Sn	18 27 49.9	+0.1
PB06					IAML			18 27 50.5	
	comp=E,901nm,0.4s								
GO01	**Chusmiza**	1.60	348	*i*	P		Pn	18 27 27.9	+0.4
GO01				*e*	S		Sn	18 27 51.6	+1.1
PB04	**IPOC Station P**	1.62	228	*i*	P		Pn	18 27 27.6	+0.2
PB04					IAML			18 27 52.8	
	comp=Z,665nm,0.3s								
PB11	**IPOC Station P**	1.66	333	*i*	P		Pn	18 27 27.1	-0.8
PB11					IAML			18 27 52.7	
	comp=Z,539nm,1.1s								
PB11	**IPOC Station P**	1.66	333	⇑*i*	P		Pn	18 27 27.7	-0.2
PB11				*e*	S		Sn	18 27 51.1	0.0
PB05	**IPOC Station P**	2.04	218	*i*	P		Pn	18 27 32.0	-0.2
PB05					IAML			18 28 02.2	
	comp=Z,157nm,0.5s								
PB05	**IPOC Station P**	2.04	218	*e*	P		Pn	18 27 32.7	+0.5
PB05				*e*	S		Sn	18 27 58.4	-0.4
PB05					IAML			18 28 01.1	
	comp=E,253nm,0.2s								
PB15	**IPOC Station P**	2.04	196	*i*	P		Pn	18 27 32.6	+0.3
PB15					IAML			18 28 05.2	
	comp=Z,863nm,0.1s								
PB10	**IPOC Station P**	2.75	215	*i*	P		Pn	18 27 40.8	-0.3
PB10					IAML			18 28 18.9	
	comp=Z,45nm,0.5s								
PB16	**IPOC Station P**	2.96	348	*i*	P		Pn	18 27 45.0	+0.7
PB16					IAML			18 28 28.9	
	comp=Z,44nm,0.8s								
PB12	**IPOC Station P**	2.97	332	*i*	P		Pn	18 27 42.5	-1.4
PB12					IAML			18 28 23.1	
	comp=Z,98nm,0.6s								
PB12	**IPOC Station P**	2.97	332	*e*	P		Pn	18 27 43.1	-0.8
YJA	**Yavi**	3.23	107	*i*	P		Pn	18 27 47.8	+0.3
YJA					IAML			18 28 32.0	
	comp=Z,1.9nm,0.6s								

*BJI **28** 18:34:14.7±0.0,6°.80S×131°.78E, h46km, mb5.0/73, mB5.1/29, Ms4.6/6, Ms7 4.0/4*
*PPT **28** 18:34:15.4±0.2,6°.57S×131°.72E, h10km, mb5.1/23, MLv5.6/5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*MOS **28** 18:34:16.3±0.8,6°.61S×131°.50E, h41km, mb5.2/34, Error ellipse: s-maj=11.2km s-min=5.5km az=113.7*
*NEIC **28** 18:34:19.8±1.5,6°.58S±0°.05×131°.56E±0°.07, h49km±6km, mb5.0/146, Error ellipse: s-maj=10.4km s-min=6.9km az=110.0*
*DJA **28** 18:34:19.7±0.2,7°.5S±2°×13°.2E±°, h48km±4km, M5.2/34, mb5.3/34, mB5.6/24, MLv5.7/13, Mw(mB)5.1/24, MwMwp4.4/3, Mwp4.8/3*
*IDC **28** 18:34:21.2±1.8,6°.60S×131°.50E, h64km±15km, mb4.6/22, mbtmp4.9/24, MS3.4/19, Error ellipse: s-maj=17.3km s-min=10.7km az=75.0*

ISC 28 18:34:18.6±0.4,6°.67S±0°.04×131°.55E±0°.04, h47km±3km, h46km:pP-P, n624, σ1°33/581, mb5.0/138, MS3.5/16, 16C-18D, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
SAUI	**Saumlaki**	1.33	191	P			Pn	18 34 45.3	+4.5
SAUI	**Saumlaki**	1.33	191				Pn	18 34 44.7	+3.9
SAUI	**Saumlaki**	1.33	191	P			Pn	18 34 45.8	+5.0
BNDI	**Bandanaira**	2.69	322	P			Pn	18 35 02.4	+3.0
BNDI	**Bandanaira**	2.69	322	P			Pn	18 35 01.5	+2.1
FAKI	**Fak Fak**	3.79	11	P			Pn	18 35 15.9	+1.3
FAKI	**Fak Fak**	3.79	11	Pn			Pn	18 35 15.2	+0.6
FAKI	**Fak Fak**	3.79	11	P			Pn	18 35 15.2	+0.6
NLAI	**Namlea** 300nm,0.5s,13μm1.4nm	5.59	307	P			Pn	18 35 41.9	+2.6
DRS	**Darwin Rock St**	5.76	186	P			Pn	18 35 43.8	+2.2
SWI	**Sorong**	5.77	357	P			Pn	18 35 41.9	+0.1
KDU	**Kakadu** baz=6.1,SNR=224	6.05	171	P			Pn	18 35 46.7	+1.1
KDU	**Kakadu**	6.05	171	P			Pn	18 35 47.5	+1.9
MTN	**Manton Dam** baz=6.2,SNR=312	6.15	184	P			Pn	18 35 48.7	+1.8
MTN	**Manton Dam**	6.15	184	P			Pn	18 35 49.2	+2.2
MTN	**Manton Dam**	6.15	184	Pn			Pn	18 35 48.6	+1.7
MTN							Sn	18 36 53.6	-2.4
SANI	**Sanana**	7.20	309	P			Pn	18 36 04.5	+3.2
SANI	**Sanana** 193nm,0.4s,3μm1μm1.0nm	7.20	309	P			Pn	18 36 04.0	+2.7
LBMI	**Labuha** 426nm,0.9s,5μm2.5nm	7.22	326	P			Pn	18 36 04.1	+2.4
SOEI	**Soe**	7.83	246	P			Pn	18 36 13.1	+2.9
SOEI	**Soe**	7.83	246	Pn			Pn	18 36 11.7	+1.5
SOEI							Sn	18 37 33.5	-4.1
SOEI	**Soe** 370nm,0.7s,3μm5.0nm	7.83	246	P			Pn	18 36 11.9	+1.7
TNTI	**Ternate**	8.49	330				Pn	18 36 18.9	-0.1
TNTI	**Ternate** 59nm,1.0s	8.49	330	P			Pn	18 36 21.1	+2.1
BATI	**Baumata** 293nm,0.4s,baz=99,slow=2.8,SNR=148	8.55	245	P			Pn	18 36 22.3	+2.3
BATI							Sn	18 37 53.0	-2.2
BATI	**Baumata** 276nm,0.4s,4μm	8.55	245	P			Pn	18 36 22.8	+2.8
MMPI	**Merauke** 601nm,0.5s,12μm	8.94	102	P			Pn	18 36 25.7	+0.5
KNRA	**Kununurra** baz=9.5,SNR=676	9.36	197	P			Pn	18 36 31.3	+0.3
KNRA	**Kununurra**	9.36	197	P			Pn	18 36 32.6	+1.6
KNRA	**Kununurra**	9.36	197	Pn			Pn	18 36 31.6	+0.6
MMRI	**Maumere**	9.43	257	P			Pn	18 36 35.3	+3.3
MMRI	**Maumere**	9.43	257	Pn			Pn	18 36 32.5	+0.5
MMRI	**Maumere**	9.43	257	P			Pn	18 36 33.2	+1.2
GENI	**Genyem**	9.50	65	P			Pn	18 36 35.5	+2.6
GENI	**Genyem** 127nm,0.6s	9.50	65	P			Pn	18 36 33.7	+0.8
TABU	**Tabubil**	9.72	82	P			Pn	18 36 37.4	+1.4
EDFI	**Ende, Flores** 42nm,0.5s,745nm	9.99	257	P			Pn	18 36 41.8	+2.1
JAY	**Jayapura** 79nm,0.9s	10.02	66	P			Pn	18 36 39.9	-0.1
LUWI	**Luwuk**	10.39	302	P			Pn	18 36 49.8	+4.8
LUWI	**Luwuk**	10.39	302	Pn			Pn	18 36 44.9	-0.1
LUWI	**Luwuk** 152nm,1.0s,2μm	10.39	302	P			Pn	18 36 48.7	+3.7
GTOI	**Gorontalo** 33nm,0.7s	11.19	310	P			Pn	18 37 01.5	+5.4

BASI	**Baing, Sumba** 303nm,0.6s,3μm	11.41	251	P			Pn	18 36 59.3	+0.2
BKSI	**Bulukumba** 47nm,0.8s,719nm	11.44	276	P			Pn	18 37 02.9	+3.4
KAPI	**Kappang**	11.85	277	Pn			Pn	18 37 06.0	+0.9
KAPI	**Kappang**	11.85	277	P			Pn	18 37 06.0	+0.9
MRSI	**Marisa** 107nm,0.8s,886nm	11.93	306	P			Pn	18 37 07.5	+1.3
TTSI	**Tana Toraja**	12.23	287	P			P	18 37 16.0	-5.4
FITZ	**Fitzroy Crossi** baz=13,SNR=280	12.74	206	P			Pn	18 37 15.1	-2.1
FITZ	**Fitzroy Crossi**	12.74	206	Pn			Pn	18 37 15.6	-1.6
TOLI2	**Tolitoli**	13.24	305				Pn	18 37 25.2	+1.2
WB0	**Warramunga Arr**	13.31	168	Pn			Pn	18 37 21.9	-3.2
WRAB	**Tennant Creek**	13.46	169				Pn	18 37 24.2	-3.0
WRAB	**Tennant Creek**	13.46	169	*d*	iP		Pn	18 37 23.9	-3.2
WRA	**Warramunga Arr**	13.47	169	Pn			Pn	18 37 23.4	-3.8
WRA	**Warramunga Arr**	13.47	169	P			Pn	18 37 23.4	-3.8
WRA	**Warramunga Arr** 38nm,0.6s,baz=347,slow=13,SNR=118	13.47	169	P			Pn	18 37 24.6	-2.6
WRA	34nm,0.6s,baz=348,slow=22,SNR=13				S		Sn	18 39 45.3	-10
WRA					LR		LR	18 43 35.6	
	comp=Z,379nm,18.1s,baz=40,slow=41								
WB2	**Warramunga Arr** baz=14	13.47	169	P			Pn	18 37 24.2	-3.1
WB2	**Warramunga Arr**	13.47	169	Pn			Pn	18 37 24.2	-3.1
WR0	**Warramunga Arr**	13.53	168				Pn	18 37 24.6	-3.4
COEN	**Coen** baz=14,SNR=194	13.53	123	P			Pn	18 37 25.8	-2.3
COEN	**Coen**	13.53	123	P			Pn	18 37 27.3	-0.8
COEN	**Coen**	13.53	123	Pn			Pn	18 37 26.7	-1.4
MPSI	**Mapaga**	13.55	300	P			P	18 37 36.9	+0.7
PLAI	**Plampang**	13.81	260	P			Pn	18 37 32.3	+0.4
PLAI	**Plampang**	13.81	260	P			Pn	18 37 30.4	-1.5
DAV	**Davao City (W)** comp=Z,119nm,19.2s,baz=106,slow=41	14.89	336	LR			LR	18 44 22.3	
BKB	**Balikpapan**	15.57	290	Pn			Pn	18 37 56.6	+1.5
PMG	**Port Moresby**	15.69	101	P			Pn	18 37 57.7	+1.0
PMG	**Port Moresby**	15.69	101	P			Pn	18 37 57.7	+1.0
PMG						pmax	pmax		
	comp=Z,349nm,1.3s								
PMG	**Port Moresby** comp=Z,118nm,0.8s,baz=290,slow=7.6,SNR=47	15.69	101	P			Pn	18 37 57.8	+1.1
PMG					S		Sn	18 40 41.3	-8.4
	comp=Z,8.1nm,0.6s,baz=194,slow=22,SNR=2.0								
QIS	**Mount Isa** baz=16,SNR=65	15.86	151	P			Pn	18 37 56.9	-1.9
MTSU	**Mount Surprise** baz=17,SNR=39	16.88	134	P			Pn	18 38 11.2	-0.5
MTSU	**Mount Surprise**	16.88	134	P			Pn	18 38 11.5	-0.2
AS31	**Alice Springs**	17.05	173	P			Pn	18 38 11.8	-2.0
ASAR	**Alice Springs**	17.05	173	P			Pn	18 38 12.1	-1.7
ASAR	**Alice Springs**	17.05	173	P			Pn	18 38 12.1	-1.7
ASAR	**Alice Springs** comp=Z,20nm,0.6s,baz=341,slow=6.9,SNR=291	17.05	173	P			Pn	18 38 11.8	-2.1
ASAR					S		Sn	18 41 12.4	-10
	comp=Z,50nm,0.7s,baz=354,slow=28,SNR=12								
ASAR					LR		LR	18 44 22.4	
	comp=Z,228nm,19.6s,baz=342,slow=35								
ASPA	**Alice Springs** baz=17	17.05	173	P			Pn	18 38 12.7	-1.1
AS01	**Alice Springs**	17.06	172	P			Pn	18 38 14.4	+0.5
JAGI	**Jajag, Banyuwa**	17.34	263	P			Pn	18 38 14.5	-2.9
BLJI	**Banyuglugur** comp=Z,63nm,0.7s	17.84	265	P			P	18 38 26.5	+2.7
MBWA	**Marble Bar**	18.39	217	P			P	18 38 29.8	0.0
MBWA	**Marble Bar**	18.39	217	P			P	18 38 28.8	-1.1
WRKA	**Warakurna** baz=19,SNR=198	18.53	189	P			P	18 38 30.7	-0.7
WRKA	**Warakurna**	18.53	189	P			P	18 38 31.0	-0.3
PSA00	**Pilbara Seismi**	18.64	216	P			Pn	18 38 34.0	+0.7
PSA00	**Pilbara Seismi**	18.64	216	P			P	18 38 31.9	-0.6
PSA00	**Pilbara Seismi**	18.64	216	P			P	18 38 32.5	0.0
PSA00					IAmb		IAmb	18 38 40.3	
	comp=Z,12nm,0.8s								
TV1H	**Townsville Har**	19.40	132	P			Pn	18 38 43.4	+1.0
CTA	**Charters Tower** comp=Z,90nm,0.8s,baz=101,slow=0.0,SNR=36	19.54	134	P			Pn	18 38 45.4	+1.4
CTA					LR		LR	18 47 50.4	
	comp=Z,139nm,20.8s,baz=265,slow=41								
CTAO	**Charters Tower**	19.54	134	P			Pn	18 38 45.9	+1.9
CTAO	**Charters Tower**	19.54	134	P			P	18 38 43.0	+0.6
CTAO	**Charters Tower**	19.54	134	P			P	18 38 43.0	+0.6
CTAO						pmax	pmax		
	comp=Z,127nm,1.0s								
PWJI	**Pagerwojo**	19.63	265	P			Pn	18 38 47.8	+2.7
KKM	**Kota Kinabalu**	19.84	309	P			Pn	18 38 47.3	-0.4
KKM	**Kota Kinabalu**	19.84	309	P			P	18 38 45.5	-0.4
AUAYR	**Ayr State High**	20.06	131	P			Pn	18 38 52.0	+1.9
STKI	**Sintang** comp=Z,3nm,1.1s,comp=Z,4μm	21.11	288	P			P	18 39 01.6	+2.1
OOD	**Oodnadatta**	21.38	170	P			P	18 39 04.0	+1.8
KPJI	**Karang Pucung**	22.46	267	P			P	18 39 21.7	+7.7
KSM	**Kuching**	22.69	290	P			P	18 39 16.9	+0.4
INKA	**Innaminka**	22.70	158	P			P	18 39 20.1	+3.7
QLP	**Quilpie** baz=23,SNR=18	23.20	150	P			P	18 39 23.1	+1.6
QLP	**Quilpie**	23.20	150	P			P	18 39 24.2	+2.7
MEEK	**Meekatharra** baz=24,SNR=8.2	23.37	210	P			P	18 39 24.4	+1.2
MULG	**Mulgathing**	23.61	175	P			P	18 39 27.3	+1.9
BBJI	**Bungbulang**	23.73	267	P			P	18 39 28.4	+1.6
GUMO	**Guam** comp=Z,62nm,20.8s,baz=210,slow=37	24.08	33	LR			LR	18 49 02.9	
FORT	**Forrest** baz=24,SNR=85	24.21	187	P			P	18 39 31.7	+0.8
FORT	**Forrest**	24.21	187	P			P	18 39 34.0	+3.1
FORT	**Forrest**	24.21	187	P			P	18 39 30.6	-0.3
LCRK	**Leigh Creek**	24.47	166	P			P	18 39 35.1	+1.8
CBJI	**Citeko** comp=Z,64nm,1.0s	24.54	269	P			P	18 39 34.6	+0.5
RK1H	**Rockhampton Ha**	24.66	134	P			P	18 39 37.0	+1.9
KMBL	**Kambalda**	26.18	199	P			P	18 39 50.4	+1.5
BBOO	**Buckleboo** baz=26,SNR=38	26.35	171	P			P	18 39 50.7	+0.4
BBOO	**Buckleboo**	26.35	171	P			P	18 39 51.9	+1.6
BBOO	**Buckleboo**	26.35	171	P			P	18 39 50.6	+0.4
BBOO					IAmb		IAmb	18 40 20.9	
	comp=Z,24nm,0.7s								
MORW	**Morawa** baz=27,SNR=3.6	26.66	211	P			P	18 39 55.2	+2.0
STKA	**Stephens Creek** baz=27,SNR=14	26.78	161	P			P	18 39 55.0	+0.8
STKA	**Stephens Creek**	26.78	161	P			P	18 39 55.6	+1.4

comp=Z,25nm,0.9s
CAN Canberra 32.72 153 P **P** **18 40 48.1 +1.2**
CAN pmax pmax
comp=Z,25nm,0.9s
CAN Canberra 32.72 153 P **P** **18 40 48.7 +1.8**
BRAT Ballarat 32.74 162 P **P** **18 40 49.0 +2.1**
CNB Canberra Magne 32.88 153 P **P** **18 40 49.7 +1.3**
baz=33,SNR=5.5
TOO Toolangi 33.27 160 P **P** **18 40 54.1 +2.5**
baz=33,SNR=21
TOO Toolangi 33.27 160 P **P** **18 40 54.6 +2.9**
TOO Toolangi 33.27 160 P **P** **18 40 54.0 +2.3**
TOO lAmb lAmb 18 40 55.2
comp=Z,21nm,0.8s
TOO Toolangi 33.27 160 P **P** **18 40 54.0 +2.3**
TOO pmax pmax
comp=Z,21nm,0.8s
GEXS Deakin Univers 33.45 162 P **P** **18 40 56.1 +3.0**
JOW Kunigami 33.45 355 LR LR 18 53 34.4
comp=Z,106nm,21.9s,baz=206,slow=34
NONG Nongkai 37.28 312 P **P** **18 41 27.3 +1.0**
MOO Moorlands 38.22 161 P **P** **18 41 34.9 +0.9**
baz=38,SNR=4.1
SLVN Son La 38.86 316 P **P** **18 41 39.4 -0.2**
JNU Nakatsue 39.58 359 P **P** **18 41 45.8 +0.4**
JNU Nakatsue 39.58 359 LR LR 18 56 16.6
comp=Z,48nm,20.4s,baz=193,slow=33
PHRA Phrae 39.74 310 P **P** **18 41 46.8 -0.2**
JMN Monobe 40.24 3 P **P** **18 41 52.1 +1.2**
JMN Monobe 40.24 3 lAmb lAmb 18 41 52.5
comp=Z,41nm,1.2s
JHJ Hachijo jima 2 40.33 11 LR LR 18 56 28.8
comp=Z,141nm,20.3s,baz=201,slow=33
NJ2 Nanjing 40.36 343 ⇑P **P** **18 41 52.8 +0.9**
NJ2 pP **pwP** **18 42 07.3 -2.0**
NJ2 sP **sP** **18 42 11.5 +3.3**
NJ2 pmax pmax
comp=Z,20nm,0.5s
NJ2 pmax pmax
comp=Z,130nm,5.0s
WHN Wuhan 40.51 337 ⇑*i*P **P** **18 41 54.0 +0.9**
WHN pmax pmax
comp=Z,100nm,0.9s
CM31 Chiang Mai Arr 40.72 308 P **P** **18 41 54.8 -0.3**
CMAR Chiang Mai Arr 40.72 308 P **P** **18 41 54.8 -0.2**
CMAR Chiang Mai Arr 40.72 308 P **P** **18 41 55.2 +0.2**
comp=Z,3.1nm,0.5s,baz=138,slow=7.1,SNR=21
CMAR PcP **PcP** **18 43 56.8 +0.7**
comp=Z,2.2nm,0.7s,baz=158,slow=3.0,SNR=7.3
CMAR ScP **ScP** **18 47 40.4 -1.5**
comp=Z,1.5nm,0.8s,baz=158,slow=3.8,SNR=6.3
CMAR LR LR 19 01 18.1
comp=Z,20nm,18.9s,baz=125,slow=40
comp=Z,3.1nm,0.5s
GYA Guiyang 40.83 325 ⇑*i*P **P** **18 41 56.0 0.0**
GYA sP pwP 18 42 17.8 +3.6
GYA pmax pmax
comp=Z,19nm,0.6s
GYA pmax pmax
comp=Z,140nm,4.2s
KMI Kunming 42.24 319 ⇑P **P** **18 42 08.5 +0.8**
KMI pP sP 18 42 22.8 -1.0
KMI pmax pmax
comp=Z,8.0nm,1.2s
ENH Enshi 42.39 331 P **P** **18 42 08.4 -0.2**
ENH Enshi 42.39 331 lAmb lAmb 18 42 08.8
comp=Z,21nm,0.8s
ENH Enshi 42.39 331 P **P** **18 42 08.0 -0.6**
JGF Kuroka 42.40 7 P **P** **18 42 09.8 +1.2**
JGF Kuroka 42.40 7 P **P** **18 42 08.0 -0.6**
TJN Taejon 43.00 355 ⇓*i*P **P** **18 42 13.6 +0.2**
MAJO Matsushiro 43.43 8 P **P** **18 42 17.3 +0.4**
MAJO Matsushiro 43.43 8 P **P** **18 42 15.6 -1.4**
MAJO lAmb lAmb 18 42 17.4
comp=Z,31nm,0.8s
MAJO Matsushiro 43.43 8*d i*P **P** **18 42 15.6 -1.4**
MAJO pmax pmax
comp=Z,30nm,0.8s
MAJO Matsushiro 43.43 8 P **P** **18 42 16.1 -0.8**
MJAR Matsushiro Arr 43.43 8 P **P** **18 42 16.0 -1.0**
MJAR Matsushiro Arr 43.43 8 P **P** **18 42 16.0 -1.0**
comp=Z,15nm,0.8s,baz=188,slow=9.4,SNR=27
MJAR LR LR 18 58 11.6
comp=Z,57nm,20.0s,baz=189,slow=33
comp=Z,15nm,0.8s
MJB9 Matsu-Tunnel 43.44 8 P **P** **18 42 16.7 -0.2**
MJB9 lAmb lAmb 18 42 18.4
comp=Z,30nm,0.8s
PZH PanZhiHua 43.85 320 P **P** **18 42 19.5 -1.1**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,130nm,5.5s
KSAR Wonju Array Be 44.01 356 P **P** **18 42 21.2 -0.3**
KSAR Wonju Array Be 44.01 356 P **P** **18 42 21.2 -0.3**
KSRS Korea Array 44.02 356 P **P** **18 42 22.0 +0.4**
comp=Z,3.3nm,0.7s,baz=180,slow=9.9,SNR=17
KSRS PcP **PcP** **18 44 07.2 +0.7**
comp=Z,2.4nm,0.6s,baz=185,slow=3.5,SNR=8.0
KSRS LR LR 18 59 42.5
comp=Z,36nm,21.7s,baz=175,slow=35
comp=Z,3.3nm,0.7s
TIA Tai'an 44.75 343 ⇑P **P** **18 42 27.0 -0.5**
TIA pmax pmax
comp=Z,6.0nm,0.9s
LYN LuoYang 44.79 337 ⇑P **P** **18 42 28.0 +0.2**
LYN pmax pmax
comp=Z,31nm,0.6s
LYN pmax pmax
comp=Z,130nm,4.7s
MND Mandalay 44.92 310 P **P** **18 42 28.3 -0.8**
TNCH TengChong 45.01 316 ⇓P **P** **18 42 29.0 -1.0**
TNCH pP sP 18 42 46.5 0.0
TNCH S **S** **18 49 07.8 +2.1**
TNCH pmax pmax
comp=Z,8.0nm,0.9s
TNCH LR LR
comp=Z,92nm,3.8s
TNCH LR LR
comp=Z,110nm,4.8s
TNCH LR LR
comp=Z,62nm,6.5s
JMM Marumori 45.13 10 lAmb lAmb 18 42 38.3
comp=Z,26nm,1.0s
XAN Xi'an 45.81 334 ⇑P **P** **18 42 35.3 -0.7**
XAN pP pP 18 42 47.8 +0.3
XAN pmax pmax
comp=Z,38nm,0.7s
XAN Xi'an 45.81 334 P **P** **18 42 35.0 -1.0**
CD2 Chengdu 45.87 326 P **P** **18 42 35.8 -0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
HNS HongShan 46.58 341 ⇓P **P** **18 42 41.8 -0.1**
HNS pmax pmax
comp=Z,37nm,0.9s
TIY Taiyuan 47.62 339 ⇑P **P** **18 42 50.3 +0.2**
TIY pmax pmax
comp=Z,40nm,0.6s
BJT Baijiatuau 48.58 344 P **P** **18 42 57.7 +0.4**
BJT Baijiatuau 48.58 344 lAmb lAmb 18 42 58.1
comp=Z,28nm,1.3s
BJT Baijiatuau 48.58 344 P **P** **18 42 57.1 -0.3**
BJI Beijing 48.59 344 P **P** **18 42 57.5 0.0**
BJI pP **sP** **18 43 13.3 -0.5**
BJI PcP **PcP** **18 44 23.5 +0.9**
BJI pmax pmax
comp=Z,8.0nm,1.2s
MSHR Mys Shultsa 49.01 360 ⇓*e*P **P** **18 43 01.7 +1.1**
MSHR pmax pmax
comp=Z,12nm,0.9s
LZH Lanzhou 49.86 330 *e*P **P** **18 43 08.0 +0.6**
LZH pmax pmax
comp=Z,22nm,1.5s
CN2 Changchun 50.54 354 P **P** **18 43 11.5 -0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
RPZ Rata Peaks 50.57 143 P **P** **18 43 14.1 +1.5**
THZ Tophouse 50.63 140 P **P** **18 43 14.8 +1.7**
USA0B Ussuriysk Arra 50.63 0*d i*P **P** **18 43 13.1 +0.2**
USRK Ussuriysk Ar. 50.63 0 P **P** **18 43 12.8 -0.2**
USRK Ussuriysk Ar. 50.63 0 P **P** **18 43 13.2 +0.3**
comp=Z,16nm,0.6s,baz=184,slow=8.0,SNR=48
comp=Z,16nm,0.6s
HHC Hu-ho-hao-te 50.73 340 *e*P **P** **18 43 15.8 +1.9**
HHC pP pP 18 43 25.3 -0.1
HHC pmax pmax
comp=Z,8.0nm,0.7s
BTO Baotou 51.04 339 *e*P **P** **18 43 17.0 +0.8**
BTO pP **sP** **18 43 33.0 +0.3**
BTO PP **PP** **18 45 15.8 +2.5**
BTO pmax pmax
comp=Z,25nm,0.9s
BTO pmax pmax
comp=Z,120nm,5.0s
MDJ Mudanjiang 51.08 358 P **P** **18 43 16.8 +0.5**
MDJ pmax pmax
comp=Z,31nm,1.1s
MDJ pmax pmax
comp=Z,110nm,5.2s
MDJ Mudanjiang 51.08 358 P **P** **18 43 18.4 +2.1**
MDJ Mudanjiang 51.08 358 P **P** **18 43 16.6 +0.3**
TUWZ Tuamarina 51.12 139 P **P** **18 43 17.0 +0.3**
ASAJ Asahikawa 51.52 10 P **P** **18 43 20.1 +0.4**
comp=Z,7.8nm,0.7s,baz=283,slow=3.6,SNR=7.3
ASAJ LR LR 19 05 29.3
comp=Z,39nm,18.4s,baz=186,slow=36
comp=Z,7.8nm,0.7s
BNX BinXian 52.30 356 ⇑P **P** **18 43 25.3 -0.1**
BNX pmax pmax
comp=Z,10.0nm,0.7s
BNX pmax pmax
comp=Z,160nm,5.1s
PALK Pallekele 52.58 284 LR LR 19 08 10.6
comp=Z,35nm,18.1s,baz=215,slow=39
LSA Lhasa 53.04 315 lAmb lAmb 18 43 32.9
comp=Z,9.7nm,0.6s
LSA Lhasa 53.04 315 P **P** **18 43 32.3 +0.6**
YSS Yuzh-Sakhalins 54.31 9 ⇓*i*P **P** **18 43 40.2 +0.1**
YSS pmax pmax
comp=Z,92nm,3.5s
GTA Gaotai 54.44 330 P **P** **18 43 41.8 +0.4**
GTA pP pP 18 43 52.8 -0.4
GTA sP sP 18 43 57.0 -1.1
GTA PcP **PcP** **18 44 45.8 +1.2**
GTA pmax pmax
comp=Z,20nm,1.0s
KLR Kul'dur 55.66 0 ⇑*i*P **P** **18 43 50.2 +0.3**
KLR pmax pmax
comp=Z,13nm,1.1s
KLR Kul'dur 55.66 0 P **P** **18 43 49.9 0.0**
comp=Z,7.8nm,1.0s,baz=211,slow=2.7,SNR=14
comp=Z,7.8nm,1.0s
HEH HeiHe 56.80 357 *e*P **P** **18 43 57.5 -0.4**
HEH pmax pmax
comp=Z,14nm,1.1s
HEH pmax pmax
comp=Z,120nm,3.6s
ULN Ulaanbaatar 58.44 341 P **P** **18 44 09.8 +0.1**
ULN Ulaanbaatar 58.44 341*d i*P **P** **18 44 10.2 +0.4**
ULN pmax pmax
comp=Z,27nm,1.0s
ULN Ulaanbaatar 58.44 341 P **P** **18 44 10.5 +0.7**
ULN PcP **PcP** **18 45 00.0 0.0**
SONM Songino Array 58.63 340 P **P** **18 44 10.9 -0.2**
SONM lAmb lAmb 18 44 12.7
comp=Z,16nm,1.2s
SONM Songino Array 58.63 340 P **P** **18 44 10.9 -0.2**
SONM pmax pmax
comp=Z,16nm,1.2s
SONM Songino Array 58.63 340 P **P** **18 44 11.7 +0.6**
comp=Z,8.9nm,0.9s,baz=168,slow=6.5,SNR=55
comp=Z,8.9nm,0.9s
ZEA Zeya 60.29 357 *e*P **P** **18 44 22.5 +0.3**
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,20nm,1.0s
ZAK Zakamensk 61.87 340 *e*P **P** **18 44 32.3 -0.8**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
IRK Irkutsk 63.13 342 *e*P **P** **18 44 40.2 -1.2**
IRK pmax pmax
comp=Z,46nm,1.8s
PEA0B Petropavlovsk- 63.54 17 P **P** **18 44 44.9 +0.8**
PEA0B Petropavlovsk- 63.54 17*de*P **P** **18 44 44.6 +0.5**
PETK Petropavlovsk- 63.54 17 P **P** **18 44 44.3 +0.2**
PETK Petropavlovsk- 63.54 17 P **P** **18 44 44.9 +0.8**
comp=Z,19nm,0.8s,baz=142,slow=3.2,SNR=20
PETK PP **PP** **18 47 01.1 -3.3**
comp=Z,2.6nm,0.7s,baz=190,slow=1.3,SNR=7.2
PETK LR LR 19 12 24.3
comp=Z,12nm,20.0s,baz=178,slow=36
comp=Z,19nm,0.8s
MOY Mondy 63.74 339 *e*P **P** **18 44 46.2 +0.7**
MOY pmax pmax
comp=Z,29nm,1.5s
PET Petropavlovsk 63.76 18 P **P** **18 44 45.5 +0.1**
PET Petropavlovsk 63.76 18*c i*P **P** **18 44 46.3 +0.9**
PET pmax pmax
comp=Z,21nm,1.3s
WMQ Urumqi 63.97 326 *e*P **P** **18 44 48.3 +1.1**
WMQ pmax pmax
comp=Z,38nm,1.1s
BOD Bodaibo 65.83 350 *e*P **P** **18 44 59.0 +0.1**
BOD pmax pmax
comp=Z,15nm,1.1s
MA2 Magadan 67.79 10*d i*P **P** **18 45 11.7 +0.4**
MA2 pmax pmax
comp=Z,24nm,0.9s
MA2 Magadan 67.79 10 P **P** **18 45 12.0 +0.7**
comp=Z,19nm,0.8s,baz=184,slow=6.5,SNR=28
MA2 LR LR 19 16 38.5
comp=Z,13nm,18.0s,baz=177,slow=38
comp=Z,19nm,0.8s
MA2 Magadan 67.79 10 P **P** **18 45 12.0 +0.7**
ZSN Zaisan 67.80 328 *e*P **P** **18 45 11.6 -0.1**
comp=Z,6.0nm,0.8s,baz=328
ZSN Zaisan 67.80 328 *e*P **P** **18 45 11.6 -0.1**
ZSN pmax pmax
comp=Z,6.0nm,0.8s
SHLS Shalkode 68.41 322 *e*P **P** **18 45 14.2 -1.6**
comp=Z,6.6nm,0.6s,baz=322
SHLS Shalkode 68.41 322 *e*P **P** **18 45 14.1 -1.6**
SHLS pmax pmax
comp=Z,7.0nm,0.6s
YAK Yakutsk 68.51 359*d i*P **P** **18 45 15.8 +0.1**
YAK *e**PP **pwP** **18 45 31.7 -0.9**
YAK *e* 18 45 39.8
YAK *e*S **S** **18 54 14.0 -0.1**
YAK *e**SS sS 18 54 43.5 +8.9
YAK *e* 18 55 08.7
YAK *e*SS **SS** **18 58 37.3 -1.7**
YAK pmax pmax
comp=Z,78nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=N,16nm,1.0s
YAK pmax pmax
comp=Z,122nm,5.4s
YAK pmax pmax
comp=E,97nm,5.2s
YAK smax smax
comp=N,131nm,4.8s
YAK smax smax
comp=E,45nm,3.6s
YAK Yakutsk 68.51 359 P **P** **18 45 15.9 +0.2**
comp=E,80nm,0.7s,baz=352,slow=0.2,SNR=60
comp=E,80nm,0.7s
YAK Yakutsk 68.51 359 P **P** **18 45 15.7 -0.1**
UZB Uzynbulak 68.67 321 *e*P **P** **18 45 17.3 -0.1**
comp=E,7.5nm,0.8s,baz=322
UZB Uzynbulak 68.67 321 *e*P **P** **18 45 17.3 -0.1**
UZB pmax pmax
comp=Z,7.0nm,0.8s
MK31 Makanchi Array 68.80 326 P **P** **18 45 18.0 0.0**
MK31 lAmb lAmb 18 45 19.4
comp=Z,15nm,0.9s
MK31 Makanchi Array 68.80 326*d i*P **P** **18 45 17.8 -0.2**
MKAR Makanchi Array 68.80 326 P **P** **18 45 17.7 -0.3**
MKAR Makanchi Array 68.80 326 P **P** **18 45 18.2 +0.2**
comp=Z,8.2nm,0.4s,baz=118,slow=8.2,SNR=155
comp=Z,8.2nm,0.4s
KSH Kashi 68.82 317 P **P** **18 45 19.5 +1.1**
KSH sP sP 18 45 35.5 -0.5
KSH pmax pmax
comp=Z,11nm,0.7s
MAKZ Makanchi 68.98 326 P **P** **18 45 18.8 -0.3**
MAKZ lAmb lAmb 18 45 20.5
comp=Z,24nm,1.1s
MAKZ Makanchi 68.98 326 P **P** **18 45 18.8 -0.3**
MAKZ pmax pmax
comp=Z,24nm,1.1s
MAKZ Makanchi 68.98 326 P **P** **18 45 19.3 +0.2**
MAKZ pP **pwP** **18 45 35.1 -0.8**
SATY Saty 69.01 321 *e*P **P** **18 45 19.5 0.0**
comp=Z,7.7nm,0.8s,baz=321
SATY Saty 69.01 321 *e*P **P** **18 45 19.4 0.0**
SATY pmax pmax
comp=Z,8.0nm,0.8s
SHEM Shemya Is, Ala 69.30 26 P **P** **18 45 22.0 +1.1**
comp=Z,26nm,0.5s,baz=327,slow=6.7,SNR=6.5
comp=Z,26nm,0.5s
MDOK Medeo 69.91 321 *e*P **P** **18 45 25.1 0.0**
baz=321
MDOK Medeo 69.91 321 *e*P **P** **18 45 25.1 0.0**
ARXS Arharly 69.97 322 *e*P **P** **18 45 25.4 +0.1**
TDK Taldyqorghan 70.04 323 *e*P **P** **18 45 25.7 0.0**
comp=Z,6.0nm,0.7s,baz=323
TDK Taldyqorghan 70.04 323 *e*P **P** **18 45 25.6 0.0**
TDK pmax pmax
comp=Z,6.0nm,0.7s
CHKK Chushkaly 70.30 321 *e*P **P** **18 45 27.1 -0.2**
baz=321
CHKK Chushkaly 70.30 321 *e*P **P** **18 45 27.1 -0.2**
TKM2 Tokmak 2 70.72 320 P **P** **18 45 30.2 +0.1**
SNR=8.1
KBK Karagaybulak 71.00 319 P **P** **18 45 32.9 +1.1**
SNR=6.2
UCH Uchtor 71.08 319 P **P** **18 45 34.1 +1.5**
SNR=13
SEY Seymchan 71.21 10 ⇑*i*P **P** **18 45 33.3 +1.0**
SEY pmax pmax
comp=Z,72nm,1.7s
SEY Seymchan 71.21 10 P **P** **18 45 33.3 +1.0**
comp=Z,28nm,0.8s,baz=193,slow=4.8,SNR=115
comp=Z,28nm,0.8s
AAK Ala-Archa 71.29 319 P **P** **18 45 34.7 +1.2**
SNR=7.9
AAK Ala-Archa 71.29 319 P **P** **18 45 32.9 -0.6**
AAK Ala-Archa 71.29 319 ⇓*e*P **P** **18 45 34.0 +0.5**
AAK pmax pmax
comp=Z,10.0nm,1.3s
AAK Ala-Archa 71.29 319 P **P** **18 45 34.5 +1.0**
AAK pP **sP** **18 45 50.4 -0.7**
USP Ospenovka 71.59 320 P **P** **18 45 35.7 +0.6**
SNR=11
SGDS Sogindy 71.59 320 *e*P **P** **18 45 34.9 -0.3**
baz=320
SGDS Sogindy 71.59 320 *e*P **P** **18 45 34.9 -0.3**
KBL Kabul 71.73 310 P **P** **18 45 35.5 -0.9**
KBL Kabul 71.73 310 P **P** **18 45 35.5 -0.9**
KBL pmax pmax
comp=Z,15nm,1.2s
EKS2 Erkin-Say 71.77 319 P **P** **18 45 37.5 +1.2**
SNR=9.3
ZAA0 Zalesovo Array 71.98 333 P **P** **18 45 36.2 -0.9**
ZAA0 lAmb lAmb 18 45 37.4
comp=Z,29nm,1.5s
ZALV Zalesovo Beam 71.98 333 P **P** **18 45 36.0 -1.1**
ZALV Zalesovo Beam 71.98 333 P **P** **18 45 36.7 -0.4**
comp=Z,5.5nm,0.6s,baz=119,slow=5.2,SNR=29
comp=Z,5.5nm,0.6s
SEM Semipalatinsk 72.02 328 *e*P **P** **18 45 37.0 -0.8**
baz=328
SEM Semipalatinsk 72.02 328 *e*P **P** **18 45 36.9 -0.8**
VNDA Vanda 72.59 173 P **P** **18 45 41.4 +0.9**
VNDA Vanda 72.59 173 P **P** **18 45 41.4 +0.9**
VNDA pmax pmax
comp=Z,4.0nm,1.0s
VNDA Vanda 72.59 173 P **P** **18 45 42.0 +1.4**
comp=Z,3.4nm,0.8s,baz=323,slow=5.3,SNR=16
comp=Z,3.4nm,0.8s
BTK Batken 72.61 315 lAmb lAmb 18 46 11.8
comp=Z,37nm,1.9s
BTLS Baital 72.72 321 *e*P **P** **18 45 41.6 -0.2**
baz=321
BTLS Baital 72.72 321 *e*P **P** **18 45 41.6 -0.2**
KURBB Kurchatov Arra 73.04 328 P **P** **18 45 43.6 +0.1**
comp=Z,4.2nm,0.5s,baz=127,slow=4.8,SNR=47
comp=Z,4.2nm,0.5s
KURK Kurchatov 73.05 328 P **P** **18 45 43.4 -0.1**
KURK lAmb lAmb 18 45 44.7
comp=Z,16nm,1.0s
KURK Kurchatov 73.05 328 ⇑*i*P **P** **18 45 44.0 +0.4**
KURK pmax pmax
comp=Z,22nm,1.3s
SIMJ Simiganj 73.33 314 P **P** **18 45 45.3 -0.5**
SIMJ lAmb lAmb 18 46 03.1
comp=Z,21nm,1.1s
DZA Taraz 73.48 318 *e*P **P** **18 45 46.4 0.0**
baz=318
DZA Taraz 73.48 318 *e*P **P** **18 45 46.4 0.0**
IUG Iuzhnay 74.03 317 *e*P **P** **18 45 49.3 -0.4**
comp=Z,6.6nm,0.7s,baz=317
IUG Iuzhnay 74.03 317 *e*P **P** **18 45 49.3 -0.4**
IUG pmax pmax
comp=Z,7.0nm,0.7s
BRLS Borolday 74.53 318 *e*P **P** **18 45 52.3 -0.2**
baz=318
BRLS Borolday 74.53 318 *e*P **P** **18 45 52.3 -0.2**
BRZS Berezniki 75.91 325 *e*P **P** **18 45 60.0 -0.4**
baz=325
BRZS Berezniki 75.91 325 *e*P **P** **18 45 59.9 -0.4**
PPT2 Papeete2 77.44 106 *e*LR LR 19 09 45.5
comp=Z,105nm,28.5s
PPT2 *e*LR LR 19 10 18.6
comp=Z,104nm,30.0s
NIKH Nikolski High 77.75 32 P **P** **18 46 11.3 +0.8**
baz=241
TIXI Tiksi 78.18 359 P **P** **18 46 11.5 -1.0**
TIXI lAmb lAmb 18 46 13.1
comp=Z,13nm,0.6s
TIXI Tiksi 78.18 359 ⇑*i*P **P** **18 46 11.7 -0.8**
TIXI pmax pmax
comp=Z,18nm,1.0s
TIXI Tiksi 78.18 359 LR LR 19 22 55.0
comp=Z,24nm,18.8s,baz=197,slow=37
BILL Bilibino 78.45 13 *i*P **P** **18 46 14.3 +0.2**
BVAR Borovoye Array 78.61 327 P **P** **18 46 15.2 -0.1**
comp=Z,24nm,1.2s,baz=130,slow=6.2,SNR=33
comp=Z,24nm,1.2s
BRVK Borovoye 78.68 327 P **P** **18 46 15.5 -0.2**
BRVK Borovoye 78.68 327 P **P** **18 46 15.5 -0.2**
BRVK pmax pmax
comp=Z,11nm,1.0s
SPIA Saint Paul Isl 79.15 28 P **P** **18 46 19.2 +1.1**
baz=239
P08K Saint George I 79.19 29 P **P** **18 46 19.2 +0.9**
baz=240
UNV Unalaska Valle 79.40 32 P **P** **18 46 20.6 +1.0**
baz=243
GEYT Alibeck 81.18 310 P **P** **18 46 29.6 -0.1**
comp=Z,2.7nm,0.6s,baz=79,slow=7.9,SNR=5.1
comp=Z,2.7nm,0.6s
FALS False Pass 81.47 32 P **P** **18 46 31.2 +0.6**
baz=246
NRIK Noril'sk 81.62 346 lAmb lAmb 18 46 33.7
comp=Z,13nm,0.8s
NRIK Noril'sk 81.62 346*d i*P **P** **18 46 31.3 +0.1**
NRIK Noril'sk 81.62 346 P **P** **18 46 31.5 +0.3**
comp=Z,9.7nm,0.6s,baz=134,slow=6.2,SNR=17
NRIK LR LR 19 24 13.5
comp=Z,24nm,21.9s,baz=156,slow=37
comp=Z,9.7nm,0.6s
GAMB Gambell 82.03 22 P **P** **18 46 34.5 +1.1**
baz=237
S12K Black Hills 82.52 32 P **P** **18 46 36.9 +0.6**
baz=247
M11K Mekoryuk 82.55 26 P **P** **18 46 37.2 +1.0**
baz=242
ABKAR Akbulak array 83.21 321 P **P** **18 46 39.0 -0.9**
ABKAR Akbulak array 83.21 321 lAmb lAmb 18 46 40.4
comp=Z,3.2nm,0.9s
SDPT Sand Point 83.22 32 P **P** **18 46 40.2 +0.4**
baz=248
QSPA South Pole Qui 83.31 180 P **P** **18 46 40.9 +0.6**
comp=Z,3.4nm,0.8s,baz=292,slow=1.8,SNR=17
comp=Z,3.4nm,0.8s
CHNA Chernabura Isl 83.50 33 P **P** **18 46 41.8 +0.5**
baz=249
M13K Dall Lake 83.84 27 P **P** **18 46 43.8 +0.9**
baz=245
S14K Fog Glacier 84.05 32 P **P** **18 46 45.1 +0.9**
baz=249
O14K Tigyukauivet M 84.32 28 P **P** **18 46 46.4 +1.0**
baz=247
TNA Tin City 84.35 21 P **P** **18 46 46.0 +0.6**

baz=240
N14K **Kuskokwak Cree** 84.39 28 P P 18 46 46.2 +0.5
baz=246
L14K **Kuka Creek** 84.52 26 P P 18 46 46.8 +0.5
baz=246
M14K **Bethel** 84.60 27 P P 18 46 47.8 +1.1
baz=246,SNR=6.8
CHGN **Chignik** 84.65 32 P P 18 46 47.9 +0.9
baz=250
J14K **Nanvaranak Lak** 84.75 25 IAmb IAmb 18 46 49.9
comp=Z,16nm,1.1s
J14K **Nanvaranak Lak** 84.75 25 P P 18 46 48.6 +1.2
baz=245
ANM **Nome** 84.83 23 IAmb IAmb 18 46 49.9
comp=Z,8.5nm,0.8s
ANM **Nome** 84.83 23 P P 18 46 48.8 +1.0
baz=243,SNR=7.2
F14K **Arctic Creek** 84.89 22 P P 18 46 49.4 +1.3
baz=242
O15K **Ungalikthiuk R** 84.98 29 P P 18 46 48.9 +0.2
baz=248
M15K **Kasigluk River** 85.15 27 P P 18 46 50.0 +0.5
baz=247
L15K **Ungalak Mounta** 85.18 26 P P 18 46 50.4 +0.7
baz=246
N15K **Kwethluk River** 85.22 28 P P 18 46 50.7 +0.8
baz=248
SVE **Sverdlovsk** 85.28 329 *eP* P 18 46 49.4 -0.9
K15K **Wolf Creek Mou** 85.41 26 P P 18 46 52.1 +1.3
baz=246
G15K **Niukluk** 85.53 23 P P 18 46 51.9 +0.6
baz=244
F15K **North Star Dit** 85.62 22 IAmb IAmb 18 46 53.8
comp=Z,9.8nm,0.7s
F15K **North Star Dit** 85.62 22 P P 18 46 52.6 +0.8
baz=243
P16K **Nushagak River** 85.81 29 P P 18 46 53.4 +0.6
baz=250
N16K **Nishlik Lake** 85.95 28 P P 18 46 54.5 +0.9
baz=249
O16K **Kokwok River B** 85.96 29 IAmb IAmb 18 46 55.4
comp=Z,12nm,0.9s
O16K **Kokwok River B** 85.96 29 P P 18 46 54.2 +0.6
baz=250
M16K **Timber Creek** 86.06 27 P P 18 46 55.0 +1.0
baz=249,SNR=11
H16K **Elim** 86.08 23 P P 18 46 54.6 +0.6
baz=246,SNR=13
L16K **Owhat River** 86.08 26 P P 18 46 55.0 +0.9
baz=248,SNR=10.0
J16K **Anvik River** 86.19 25 P P 18 46 55.7 +1.1
baz=247
ARU **Arti** 86.24 328 P P 18 46 53.8 -1.2
ARU IAmb IAmb 18 46 55.5
comp=Z,9.3nm,1.1s
ARU **Arti** 86.24 328 *d iP* P 18 46 54.1 -0.9
ARU 18 50 11.2
ARU S **SKSac** 18 57 15.5 -1.7
ARU SS **SS** 19 03 04.8 -1.7
ARU pmax pmax
comp=Z,9.0nm,1.1s
G16K **Koyuk River** 86.34 23 IAmb IAmb 18 46 57.8
comp=Z,11nm,0.9s
G16K **Koyuk River** 86.34 23 P P 18 46 56.0 +0.6
baz=246
I17K **Unalakleet** 86.39 24 P P 18 46 56.6 +1.0
baz=247
O17K **Koliganek Bris** 86.49 29 P P 18 46 57.2 +1.0
baz=251
C16K **Lisburne Hills** 86.55 19 IAmb IAmb 18 46 57.8
comp=Z,9.5nm,0.9s
C16K **Lisburne Hills** 86.55 19 P P 18 46 56.5 +0.3
baz=243
Q17K **Contact Creek** 86.59 30 P P 18 46 56.7 -0.1
baz=252
P17K **Kvichak River** 86.62 29 P P 18 46 56.8 0.0
baz=251
N17K **Nushagak Hills** 86.70 28 P P 18 46 58.3 +1.1
baz=250
L17K **Donlin** 86.75 26 P P 18 46 58.6 +1.2
baz=249
M17K **Holitna River** 86.88 27 IAmb IAmb 18 47 00.6
comp=Z,13nm,0.9s
M17K **Holitna River** 86.88 27 P P 18 46 59.1 +1.0
baz=250
K17K **Iditarod** 86.96 26 P P 18 46 59.2 +0.8
baz=249
G17K **Kiwalik Mounta** 87.04 23 P P 18 46 59.5 +0.7
baz=247
D17K **Noatak River** 87.06 20 P P 18 46 59.2 +0.5
baz=245
H17K **Granite Mounta** 87.11 23 P P 18 46 59.9 +0.8
baz=248,SNR=24
F17K **Baldwin Pennin** 87.19 22 P P 18 46 59.7 +0.4
baz=246
E17K **Hotham Inlet** 87.24 21 P P 18 47 00.2 +0.6
baz=246
RDOG **Red Dog Mine** 87.27 20 P P 18 47 00.0 +0.2
baz=245
P18K **Big Mountain,** 87.27 29 IAmb IAmb 18 47 00.6
comp=Z,10nm,1.1s
P18K **Big Mountain,** 87.27 29 P P 18 46 59.8 -0.2
baz=252
C17K **DeLong Mountai** 87.36 20 P P 18 47 00.4 +0.2
baz=245
N18K **Kilae Creek** 87.36 28 P P 18 47 01.2 +0.8
baz=252
O18K **Koktuh Hills** 87.42 29 P P 18 47 00.9 +0.2
baz=252
L18K **Granite Mounta** 87.49 26 P P 18 47 02.0 +1.0
baz=251
OHAK **Old Harbor** 87.62 32 P P 18 47 02.2 +0.5
baz=254
M18K **Stony River** 87.64 27 P P 18 47 02.8 +1.0
baz=252
H18K **Honhosa River** 87.80 23 IAmb IAmb 18 47 04.8
comp=Z,6.6nm,0.9s
H18K **Honhosa River** 87.80 23 P P 18 47 03.1 +0.7
baz=249
E18K **Tukpahlearik C** 87.81 21 P P 18 47 03.2 +0.8
baz=247
F18K **Selawik** 87.84 22 P P 18 47 03.5 +0.9
baz=248
J18K **Innoko River** 87.89 25 IAmb IAmb 18 47 04.7
comp=Z,9.9nm,0.7s
J18K **Innoko River** 87.89 25 P P 18 47 03.6 +0.7
baz=251
Q19K **Cape Douglas,** 87.92 30 P P 18 47 03.0 -0.2
baz=254
G18K **Tagagawik** 87.95 23 IAmb IAmb 18 47 05.0
comp=Z,5.3nm,0.6s
G18K **Tagagawik** 87.95 23 P P 18 47 03.7 +0.5
baz=249
TTA **Tatalina** 88.02 26 P P 18 47 04.3 +0.7
baz=251,SNR=12
N19K **Bonanza Creek** 88.06 28 IAmb IAmb 18 47 05.8
comp=Z,12nm,1.0s
N19K **Bonanza Creek** 88.06 28 P P 18 47 04.6 +0.7
baz=253
C18K **Utukok River** 88.09 20 P P 18 47 03.8 0.0
baz=246
KDAK **Kodiak Island** 88.14 31 P P 18 47 05.1 +0.9
baz=254
B18K **Kokolik River** 88.18 19 P P 18 47 04.5 +0.4
baz=246
GCSA **Galena City Sc** 88.25 24 P P 18 47 05.3 +0.8
baz=250
L19K **White Mountain** 88.30 27 P P 18 47 06.0 +1.1
baz=252
M19K **Big River Lodg** 88.42 27 IAmb IAmb 18 47 07.8
comp=Z,6.4nm,0.8s
M19K **Big River Lodg** 88.42 27 P P 18 47 06.8 +1.3
baz=253
J19K **Poorman** 88.53 25 P P 18 47 06.7 +0.9
baz=252
F19K **Shaleruckik Mo** 88.62 22 P P 18 47 06.6 +0.4
baz=250
G19K **Purcell Mounta** 88.64 23 IAmb IAmb 18 47 07.7
comp=Z,7.2nm,0.9s
G19K **Purcell Mounta** 88.64 23 P P 18 47 06.9 +0.5
baz=250
H19K **Roundabout Mou** 88.68 23 IAmb IAmb 18 47 09.5
comp=Z,7.1nm,0.8s
H19K **Roundabout Mou** 88.68 23 P P 18 47 07.4 +0.9
baz=251
A19K **Wainwright** 88.76 18 P P 18 47 07.4 +0.6
baz=246
C19K **Lookout Ridge** 88.81 20 P P 18 47 07.8 +0.7
baz=248
L20K **Farewell, AK** 88.82 27 P P 18 47 08.4 +1.0
baz=253
M20K **Styx River** 88.99 27 P P 18 47 09.1 +0.9
baz=254
K20K **Telida** 88.99 26 IAmb IAmb 18 47 10.5
comp=Z,5.8nm,0.7s
K20K **Telida** 88.99 26 P P 18 47 09.2 +1.1
baz=253
RAYN **Ar Rayn** 89.02 294 P P 18 47 09.1 -0.1
RAYN IAmb IAmb 18 47 10.0
comp=Z,7.5nm,0.8s
RAYN **Ar Rayn** 89.02 294 P P 18 47 09.1 -0.1
RAYN pmax pmax
comp=Z,8.0nm,0.9s
E19K **Redstone River** 89.03 21 IAmb IAmb 18 47 09.4
comp=Z,7.3nm,0.8s
E19K **Redstone River** 89.03 21 P P 18 47 08.9 +0.7
baz=250
D19K **Kuna River** 89.08 20 IAmb IAmb 18 47 09.3
comp=Z,9.7nm,0.9s
D19K **Kuna River** 89.08 20 P P 18 47 08.6 +0.1
baz=249
J20K **Nowinta River** 89.20 25 P P 18 47 09.5 +0.5
baz=253,SNR=9.1
N20K **Mount Spurr** 89.23 28 P P 18 47 09.6 +0.2
baz=255
I20K **Naagheheneel** 89.25 24 IAmb IAmb 18 47 13.0
comp=Z,8.5nm,0.9s
I20K **Naagheheneel** 89.25 24 P P 18 47 10.0 +0.8
baz=253
ELIB **Princess Elisa** 89.26 197 *dP* P 18 47 10.1 +0.6
H20K **Anotleneega Mo** 89.29 24 P P 18 47 09.8 +0.3
baz=252
F20K **Avaraart Lake** 89.45 22 P P 18 47 10.5 +0.4
baz=252
E20K **Nigu River** 89.67 21 P P 18 47 11.3 +0.1
baz=251
D20K **Etivluk River** 89.67 20 P P 18 47 11.8 +0.6
baz=251
PPLA **Purkeypile** 89.69 26 P P 18 47 11.8 +0.3
baz=255
SKT **Skwentna** 89.74 27 P P 18 47 11.7 0.0
baz=255
CAST **Castle Rocks** 89.87 26 IAmb IAmb 18 49 07.6
comp=Z,16nm,1.8s
CAST **Castle Rocks** 89.87 26 P P 18 47 12.3 +0.1
baz=255
CHUM **Lake Minchumin** 89.89 25 P P 18 47 12.3 0.0
baz=255,SNR=10
B20K **Meade River** 89.93 19 IAmb IAmb 18 47 13.3
comp=Z,6.2nm,0.7s
B20K **Meade River** 89.93 19 P P 18 47 12.8 +0.5
baz=250
SUA **Susitna One** 89.98 28 IAmb IAmb 18 47 13.9
comp=Z,6.3nm,0.9s
SUA **Susitna One** 89.98 28 P P 18 47 12.7 -0.2
baz=256
G21K **Allakaket** 90.13 23 IAmb IAmb 18 47 14.5
comp=Z,14nm,1.9s
G21K **Allakaket** 90.13 23 P P 18 47 13.6 +0.3
baz=254
H21K **Melozitna Rive** 90.17 24 P P 18 47 13.8 +0.2
baz=254
O22K **Cooper Landing** 90.23 29 P P 18 47 14.2 +0.3
baz=257
SEW **Seward** 90.28 29 P P 18 47 13.9 -0.2
baz=257
M22K **Willow** 90.34 28 P P 18 47 14.4 +0.1
baz=257
F21K **Alatna River** 90.34 22 P P 18 47 14.2 -0.1
baz=254
RC01 **Rabbit Creek A** 90.36 28 P P 18 47 14.2 -0.3
baz=257
I21K **Tanana** 90.37 24 P P 18 47 14.4 0.0
baz=255
C21K **Knifeblade Rid** 90.44 20 P P 18 47 14.8 0.0
baz=252
BPAW **Bear Paw Mtn.** 90.51 25 P P 18 47 14.9 -0.3
baz=256
B21K **Ikpikpuk River** 90.64 20 IAmb IAmb 18 47 16.6
comp=Z,7.6nm,0.9s
B21K **Ikpikpuk River** 90.64 20 P P 18 47 15.7 0.0
baz=253
PMR **Palmer** 90.76 28 P P 18 47 16.6 +0.3
baz=258
H22K **Ishtalitna Cre** 90.80 24 P P 18 47 16.5 0.0
baz=256
MLY **Manley** 90.84 25 IAmb IAmb 18 47 18.6
comp=Z,3.7nm,0.7s
MLY **Manley** 90.84 25 P P 18 47 16.9 +0.1
baz=256,SNR=7.9
F22K **John River** 90.90 22 P P 18 47 17.2 +0.2
baz=255
A22K **Sinclair Lake** 90.94 18 P P 18 47 17.1 +0.1
baz=252
KNK **Knik Glacier** 91.04 28 P P 18 47 17.6 -0.1
baz=258
D22K **Ayikyak River** 91.09 21 P P 18 47 18.0 +0.2
baz=254
SML **Sawmill** 91.18 28 P P 18 47 18.6 +0.2
baz=258
E22K **Anaktuvuk Pass** 91.20 21 IAmb IAmb 18 47 19.5
comp=Z,8.9nm,1.0s
E22K **Anaktuvuk Pass** 91.20 21 P P 18 47 18.6 +0.2
baz=255
B22K **Teshekpuk Lake** 91.24 19 P P 18 47 18.2 -0.2
baz=254
P23K **Montague Islan** 91.26 30 P P 18 47 18.6 -0.1
baz=259
WAT1 **Susitna Watana** 91.29 27 P P 18 47 18.8 -0.1
baz=258
MCK **McKinley** 91.31 26 P P 18 47 18.7 -0.2
baz=258
GROC **Groznyy** 91.43 313 *eP* P 18 47 16.6 -3.3
GROC *e*PP pP 18 47 31.2 -1.3
GROC *eS* **SKSac** 18 57 44.1 -4.5
GROC pmax pmax
comp=Z,19nm,1.0s
I23K **Minto, Yukon-K** 91.44 25 IAmb IAmb 18 47 20.4
comp=Z,6.1nm,0.7s
I23K **Minto, Yukon-K** 91.44 25 P P 18 47 19.4 0.0
baz=257,SNR=6.3
NEA2 **Nenana** 91.44 25 P P 18 47 19.5 0.0
baz=258
M23K **Glacier View** 91.46 28 P P 18 47 19.7 +0.1
baz=259
H23K **Yukon River** 91.51 24 IAmb IAmb 18 47 21.1
comp=Z,3.6nm,0.8s
H23K **Yukon River** 91.51 24 P P 18 47 19.6 -0.3
baz=257,SNR=5.7
G23K **Bananza Creek** 91.53 23 IAmb IAmb 18 47 21.2
comp=Z,5.0nm,0.8s
G23K **Bananza Creek** 91.53 23 P P 18 47 20.0 +0.2
baz=257
BELG **Belogornoye** 91.53 322 ⇩ *eP* P 18 47 18.1 -2.0
BELG pmax pmax
comp=Z,1.0nm,0.9s
COLD **Coldfoot** 91.58 22 P P 18 47 19.8 -0.3
baz=257
WAT6 **Susitna Watana** 91.61 27 P P 18 47 20.7 +0.2
baz=259
SCM **Sheep Creek Mo** 91.65 28 P P 18 47 20.4 -0.3
baz=259
D23K **Nanushuk River** 91.81 21 P P 18 47 20.8 -0.3
baz=256
WRH **Wood River Hil** 91.83 25 IAmb IAmb 18 47 21.2
comp=Z,3.6nm,0.8s
DHY **Denali Highway** 91.87 27 IAmb IAmb 18 47 25.4
comp=Z,5.0nm,0.7s
DHY **Denali Highway** 91.87 27 P P 18 47 20.8 -0.8
baz=259
CCB **Clear Creek Bu** 91.98 25 IAmb IAmb 18 47 21.7
comp=Z,5.7nm,0.7s
E23K **Chandalar** 91.98 22 P P 18 47 21.9 -0.1
baz=257
COLA **College** 92.01 25 ⇩ *eP* P 18 47 22.7 +0.6
COLA pmax pmax
comp=Z,4.0nm,0.9s
C23K **Itkillik River** 92.04 20 IAmb IAmb 18 47 23.1
comp=Z,5.7nm,0.6s
C23K **Itkillik River** 92.04 20 P P 18 47 22.1 -0.1
baz=256
TOLK **Toolik Lake Re** 92.13 21 IAmb IAmb 18 47 23.8
comp=Z,6.1nm,0.7s
TOLK **Toolik Lake Re** 92.13 21 P P 18 47 22.8 +0.2
baz=257
H24K **Noodor Dome** 92.19 24 IAmb IAmb 18 47 24.6
comp=Z,5.1nm,0.8s
H24K **Noodor Dome** 92.19 24 P P 18 47 23.2 +0.2
baz=259
HDA **Harding Lake** 92.30 25 IAmb IAmb 18 47 22.6
comp=Z,14nm,1.7s
HDA **Harding Lake** 92.30 25 P P 18 47 23.8 +0.4
baz=260
IL31 92.39 25 IAmb IAmb 18 47 28.4
comp=Z,6.4nm,1.3s
ILAR **Eielson Array** 92.39 25 P P 18 47 22.6 -1.3
comp=Z,2.2nm,0.6s,baz=259,slow=4.5,SNR=39
comp=Z,2.2nm,0.6s
D24K **Happy Valley** 92.50 21 IAmb IAmb 18 47 25.5
comp=Z,5.4nm,0.8s
D24K **Happy Valley** 92.50 21 P P 18 47 24.9 +0.6
baz=258
F24K **Squaw Lake** 92.51 22 IAmb IAmb 18 47 26.0
comp=Z,6.9nm,0.8s
F24K **Squaw Lake** 92.51 22 P P 18 47 24.3 -0.1
baz=259,SNR=10
G24K **Hadweenzic Riv** 92.51 23 P P 18 47 25.3 +0.8
baz=259
C24K **Franklin Bluff** 92.67 20 P P 18 47 25.0 0.0
baz=258
K24K **Donnelly Dome** 92.70 26 P P 18 47 26.1 +0.7
baz=260
PAX **Paxson** 92.70 27 P P 18 47 25.7 +0.3
baz=261
KAIM **Kayak Island** 92.73 30 P P 18 47 25.7 +0.1
baz=262
HARP **HAARP** 92.75 28 P P 18 47 25.8 +0.1
baz=261
BMRM **Bremner River** 92.80 29 P P 18 47 25.6 -0.3
baz=261
N25K **Chitina, Valde** 92.89 28 P P 18 47 26.1 -0.3
baz=262
J25K **Salcha River,** 93.01 25 P P 18 47 26.6 -0.2
baz=261
H25L **Birch Creek** 93.09 24 P P 18 47 27.3 +0.2
baz=261
RIDG **Independent Ri** 93.10 26 IAmb IAmb 18 47 27.8
comp=Z,4.7nm,0.7s
RIDG **Independent Ri** 93.10 26 P P 18 47 26.8 -0.4
baz=261
F25K **Christian Rive** 93.38 22 P P 18 47 28.4 0.0
baz=261
D25K **Kavik River** 93.39 21 P P 18 47 27.8 -0.7
baz=260
E25K **Arctic Village** 93.49 22 P P 18 47 28.8 -0.1
baz=261,SNR=7.3
SCRK **Sand Creek** 93.51 26 P P 18 47 29.0 -0.2
baz=262
MCARA **McCarthy VSAT** 93.61 29 P P 18 47 29.8 +0.2
baz=263
M26K **Nabesna, AK** 93.75 28 P P 18 47 30.8 +0.5
baz=263
BMAR **Burnt Mountain** 93.75 23 P P 18 47 30.7 +0.5
J26L **Joseph Creek** 93.77 26 IAmb IAmb 18 47 31.1
comp=Z,5.7nm,0.6s
J26L **Joseph Creek** 93.77 26 P P 18 47 29.9 -0.4
baz=263,SNR=9.3
F26K **Sheenjek River** 93.96 22 P P 18 47 31.8 +0.7
baz=262
MESA **MESA** 93.99 30 P P 18 47 31.3 -0.3
baz=264
C26K **Camden Bay** 93.99 20 P P 18 47 31.9 +0.7
baz=262
G26K **Porcupine Rive** 94.00 23 P P 18 47 31.7 +0.5
baz=262,SNR=6.8
I26K **Coal Creek Min** 94.04 25 P P 18 47 31.2 -0.3
baz=263
M27K **Edge Creek, AK** 94.26 28 P P 18 47 33.2 +0.4
baz=264
K27K **Chicken** 94.35 26 IAmb IAmb 18 47 34.9
comp=Z,5.3nm,0.8s
K27K **Chicken** 94.35 26 P P 18 47 33.7 +0.7
baz=264
L27K **Beaver Creek,** 94.36 27 P P 18 47 33.6 +0.5
baz=264
BCAR **Beaver Creek A** 94.38 27 P P 18 47 33.8 +0.7
I27K **Kandik River** 94.71 25 P P 18 47 35.1 +0.5
baz=264,SNR=7.9
BVCY **Beaver Creek** 94.74 28 P P 18 47 35.0 +0.2
baz=265
H27K **Steamboat Moun** 94.81 24 P P 18 47 35.7 +0.7
baz=264
G27K **Doyon Strip** 94.81 23 P P 18 47 35.4 +0.3
baz=264
EGAK **Eagle** 94.83 25 P P 18 47 35.9 +0.8
baz=265
E27K **Coleen River** 94.97 22 IAmb IAmb 18 47 36.9
comp=Z,6.5nm,0.9s
E27K **Coleen River** 94.97 22 P P 18 47 37.0 +1.3
baz=265
YUK8 **Steele Glacier** 95.17 29 P P 18 47 37.8 +0.7
baz=266
D27M **Malcolm River** 95.29 21 IAmb IAmb 18 47 38.2
comp=Z,4.8nm,1.1s
D27M **Malcolm River** 95.29 21 P P 18 47 37.4 +0.1
baz=265
I28M **Miner Creek** 95.40 25 IAmb IAmb 18 47 39.2
comp=Z,5.9nm,0.9s
I28M **Miner Creek** 95.40 25 P P 18 47 37.8 0.0
baz=266,SNR=8.5
DAWY **Dawson** 95.53 26 IAmb IAmb 18 47 39.6
comp=Z,4.8nm,0.9s
DAWY **Dawson** 95.53 26 P P 18 47 38.6 +0.2
baz=266,SNR=5.3
F28M **Old Crow** 95.57 23 IAmb IAmb 18 47 39.4
comp=Z,4.3nm,0.9s
F28M **Old Crow** 95.57 23 P P 18 47 39.0 +0.5
baz=266,SNR=5.9
E28M **Babbage River** 95.76 22 IAmb IAmb 18 47 40.4
comp=Z,12nm,1.6s
E28M **Babbage River** 95.76 22 P P 18 47 38.9 -0.4
baz=267
M29M **Somme Creek** 95.86 28 P P 18 47 40.5 +0.5
baz=267
L29M **L29M** 96.04 27 P P 18 47 40.9 +0.1
baz=267
J29N **Klondike Camp** 96.07 26 P P 18 47 41.5 +0.6
baz=267
D28M **Stokes Point** 96.09 21 P P 18 47 40.5 -0.2
baz=267
HYT **Haines Junctio** 96.23 30 P P 18 47 41.1 -0.6
baz=268
G29M **Pine Creek** 96.25 23 P P 18 47 41.8 +0.3
baz=268
K29M **Barlow Dome** 96.35 26 P P 18 47 42.3 +0.1
baz=268
E29M **Blow River** 96.36 22 P P 18 47 42.0 0.0
baz=268
N30M **Aishikik Lake** 96.46 29 P P 18 47 42.4 -0.3
baz=268
P30M **Million Dollar** 96.48 30 P P 18 47 42.8 0.0
baz=268
M30M **Minto, Yukon** 96.64 28 P P 18 47 43.5 +0.1
baz=268
PLBC **Pleasant Camp** 96.76 31 P P 18 47 43.8 -0.2
baz=268
EPYK **Eagle Plains** 96.76 24 P P 18 47 43.9 0.0
baz=269
KLMR **Klimovskoe** 96.77 330 *eP* P 18 47 40.8 -3.2
KLMR pmax pmax
comp=Z,25nm,1.6s
S31K **Pelican** 96.78 32 P P 18 47 43.7 -0.4
baz=268
I30M **Mount Dempster** 96.88 25 P P 18 47 44.3 -0.3
baz=269
J30M **Hart River** 96.89 26 P P 18 47 44.5 -0.2
baz=269
O30N **Mendenhall** 96.93 30 P P 18 47 44.3 -0.5
baz=269
G30M **tAoh Zraii Nji** 96.97 23 P P 18 47 44.4 -0.4
baz=270
F30M **Barrier River** 97.14 23 P P 18 47 44.9 -0.7
baz=270
H31M **Peel River** 97.73 25 P P 18 47 48.2 -0.1
baz=271
G31M **Satah River** 97.73 23 P P 18 47 47.7 -0.5
baz=271
F31M **Tsiigehtchic** 97.93 23 P P 18 47 48.2 -0.8
baz=272
INK **Inuvik** 97.98 22 IAmb IAmb 18 47 49.4
comp=Z,4.0nm,1.1s
INK **Inuvik** 97.98 22 P P 18 47 48.4 -0.9
baz=272
FARO **Faro, Yukon** 98.24 28 P P 18 47 50.2 -0.4

baz=271
OBN Obninsk 98.28 325 *e*P **P** **18 47 48.4 -2.5**
OBN *e* 18 51 51.2
OBN *e*PPP PPP 18 53 55.6
OBN pmax pmax
comp=Z,4.0nm,1.0s
CRAG Craig 98.47 35 P **P** **18 47 51.4 -0.3**
baz=271
C36M Paulatuk 101.27 21 P **Pdif** **18 48 03.1 -0.8**
baz=281
ARCES ARCESS Array B 101.80 340 P **Pdif** **18 48 06.4 +0.1**
comp=Z,0.9nm,0.4s,baz=80,slow=7.8,SNR=10.0
YKA Yellowknife Ar 106.78 26 Pdiff **Pdif** **18 48 29.0 +0.4**
comp=Z,0.2nm,0.5s,baz=293,slow=5.0,SNR=4.1
RONA Rosalia, Austr 111.80 319 *i* PKiKP **PKiKP** **18 52 49.2 +0.8**
comp=Z,0.5nm,0.3s
CONA Conrad Observa 112.02 319 *e*PKiKP **PKiKP** **18 52 49.2 +0.3**
comp=Z,1.1nm,0.6s
ARSA Arzberg 112.42 319 *e*PKiKP **PKiKP** **18 52 49.1 -0.5**
comp=Z,0.5nm,0.3s
GERES GERESS Array B 113.15 321 *i* PKiKP **PKiKP** **18 52 51.0 -0.1**
GERES GERESS Array B 113.15 321 PKiKP **PKiKP** **18 52 51.0 -0.1**
comp=Z,1.2nm,0.5s,baz=91,slow=3.1,SNR=6.0
MYKA Terra Mystica 113.83 318 *e*PKiKP **PKiKP** **18 52 53.6 +1.2**
comp=Z,1.5nm,0.4s
LESA Schwarzleotal 114.23 319 *e*PKiKP **PKiKP** **18 52 53.6 +0.4**
comp=Z,1.3nm,0.3s
ABTA Abfaltersbach 114.54 319 *e*PKP PKPdf 18 52 53.7 -0.1
comp=Z,0.6nm,0.3s
WTTA Wattenberg 114.95 319 *e*PKP **PKiKP** **18 52 54.2 -0.5**
comp=Z,6.5nm,0.4s
SQTA Sankt Quirin 115.24 319 *e*PKP **PKPdf** **18 52 55.1 0.0**
comp=Z,1.7nm,0.5s
MOTA Moosalm 115.27 320 *e*PKP **PKiKP** **18 52 55.0 -0.3**
comp=Z,1.7nm,0.3s
RETA Reutte 115.44 320 *e*PKP **PKiKP** **18 52 55.3 -0.2**
comp=Z,0.7nm,0.3s
FETA Feichten 115.61 319 *e*PKP **PKiKP** **18 52 55.6 -0.4**
comp=Z,0.7nm,0.4s
DAVA Damuels 116.07 320 *e*PKP **PKPdf** **18 52 56.4 -0.5**
comp=Z,3.7nm,0.4s
EKA Eskdalemuir Ar 119.60 332 PKP **PKPdf** **18 53 02.9 -0.2**
comp=Z,0.7nm,0.4s,baz=29,slow=3.4,SNR=8.8
SDCO Great Sand Dun 119.91 50 P **PKPdf** **18 53 04.0 -0.7**
baz=286
ULM Lac du Bonnet 121.33 34 PKP **PKPdf** **18 53 06.6 0.0**
comp=Z,0.9nm,0.4s,baz=315,slow=5.7,SNR=2.7
MNTX Cornudas Mount 121.49 57 P **PKPdf** **18 53 07.1 -0.5**
baz=283
TXAR Lajitas Array 123.44 59 PKP **PKiKP** **18 53 11.9 +0.2**
comp=Z,0.3nm,0.5s,baz=253,slow=1.3,SNR=4.5
EYMN Ely 124.99 34 P **PKPdf** **18 53 13.7 -0.1**
baz=304
WMOK Wichita Mounta 125.99 52 P **PKPdf** **18 53 15.7 -0.4**
baz=289
JCT Junction City 126.43 57 P **PKPdf** **18 53 16.8 -0.3**
baz=286
SCHQ Schefferville 129.75 14 PKP **PKiKP** **18 53 23.5 +0.1**
comp=Z,3.6nm,0.9s,baz=229,slow=11,SNR=3.8
TORD Torodi Ar. Bea 130.25 282 PKP **PKPdf** **18 53 24.9 +0.2**
comp=Z,1.8nm,0.7s,baz=68,slow=2.9,SNR=10.0
TORD SKPbc **SKPab** **18 56 40.8 -3.1**
comp=Z,4.3nm,0.8s,baz=62,slow=5.1,SNR=22
CCM Cathedral Cave 130.26 45 P **PKPdf** **18 53 23.7 -0.4**
baz=298
DBIC Dimbokro 136.71 273 PKP **PKiKP** **18 53 38.3 -0.3**
comp=Z,1.4nm,0.4s,baz=116,slow=1.7,SNR=5.3
LBNH Lisbon 137.31 25 P **PKPdf** **18 53 37.4 +0.2**
baz=324
PKME Peaks-Kenny Pk 137.50 22 P **PKPdf** **18 53 37.9 +0.5**
baz=329
KMSC Kings Mountain 138.57 42 P **PKPdf** **18 53 40.3 +0.5**
baz=306
HRV Adam Dziewonsk 138.87 26 P **PKPdf** **18 53 40.6 +0.6**
baz=324
CPUP Villa Florida 146.09 166 PKPbc **PKPab** **18 53 54.9 +0.1**
comp=Z,2.1nm,0.5s,baz=88,slow=1.8,SNR=6.5
PB16 IPOC Station P 147.61 140 **PKiKP** **18 54 00.9 -0.7**
LPAZ La Paz 150.01 140 PKPbc **PKiKP** **18 54 07.5 +0.8**
comp=Z,1.5nm,0.5s,baz=73,slow=1.8,SNR=5.9

*SKHL **28** 18:44:03.8±0.3,48.°10N×149.°90E,h311km±19km,mb4.7/6, msha5.1/3*
*IDC **28** 18:44:07.0±1.7,48.°31N×148.°96E,h396km±20km, mb3.1/14,mbtmp3.9/21,Error ellipse: s-maj=21.5km s-min=12.8km az=156.0*
ISC 28 18:44:01.3±0.6,48.04N±0.07°×149.56E±0.08,h350km,n30, σ2s24/35,mb3.4/14,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.04**	**203**	*e*P	**Pn**	**18 45 01.0**	**-0.1**
KUR				AMB	AMB	18 45 01.2	
	100nm,0.8s						
KUR				*e*S	**S**	**18 45 45.2**	**-3.9**
KUR				A	A	18 45 48.9	
	30nm,0.4s						
KUR				A	A	18 45 48.9	
	20nm,0.4s						
SHO	**Shikotan**	**4.58**	**206**	*e*P	**Pn**	**18 45 18.3**	**+1.8**
SHO				AMB	AMB	18 45 19.0	
	40nm,0.3s						
SHO				*e*S	**S**	**18 46 14.5**	**-2.6**
SHO				A	A	18 46 17.5	
	100nm,0.5s						
SHO				A	A	18 46 17.5	
	140nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.74**	**259**	*i* P	**Pn**	**18 45 20.7**	**+2.7**
YSS				AMB	AMB	18 45 21.1	
	50nm,0.6s						
YSS				*e*S	**S**	**18 46 21.0**	**+1.0**
YUK	**Yuzh-Kuril'sk**	**4.76**	**214**	*e*P	**Pn**	**18 45 20.8**	**+2.5**
YUK				AMB	AMB	18 45 22.1	
	200nm,0.5s						
YUK				*e*S	**S**	**18 46 20.6**	**0.0**
YUK				A	A	18 46 28.1	
	20nm,0.4s						
YUK				A	A	18 46 28.1	
	120nm,0.4s						
TYV	**Tymovskoe**	**5.32**	**305**	*e*P	**Pn**	**18 45 27.0**	**+2.7**
TYV				AMB	AMB	18 45 27.7	
	20nm,0.8s						
NMR	**Nemuro--Hokkai**	**5.39**	**211**	*e*P	**Pn**	**18 45 25.7**	**+0.5**
AKK	**Akkeshi**	**6.02**	**215**	*e*P	**Pn**	**18 45 34.1**	**+1.8**
ASAJ	**Asahikawa**	**6.23**	**234**	P	**Pn**	**18 45 38.5**	**+3.7**
	31nm,0.5s,baz=62,slow=9.2,SNR=45						
PET	**Petropavlovsk**	**7.64**	**46**	*e*S	**S**	**18 47 14.9**	**-5.5**
MA2	**Magadan**	**11.58**	**3**	P	**P**	**18 46 40.1**	**+2.1**
	1.8nm,0.6s,baz=125,slow=13,SNR=1.9						
KLR	**Kul'dur**	**11.85**	**282**	P	**Pn**	**18 46 41.7**	**+0.6**
	13nm,1.1s,baz=80,slow=11,SNR=12						
USRK	**Ussuriysk Ar.**	**12.78**	**259**	P	**Pn**	**18 46 52.8**	**+0.6**
	1.9nm,0.6s,baz=56,slow=10,SNR=5.0						
MJAR	**Matsushiro Arr**	**14.21**	**220**	P	**Pn**	**18 47 11.8**	**+2.7**
	1.6nm,0.6s,baz=297,slow=4.1,SNR=6.1						
YAK	**Yakutsk**	**17.95**	**329**	P	**P**	**18 47 46.6**	**-0.7**
	5.9nm,0.3s,baz=125,slow=4.8,SNR=11						
YAK	**Yakutsk**	**17.95**	**329**	*e*	**P**	**18 47 46.7**	**-0.6**
KSRS	**Korea Array**	**19.03**	**244**	P	**P**	**18 47 59.7**	**+0.7**
	1.3nm,0.7s,baz=46,slow=10,SNR=6.6						
SONM	**Songino Array**	**28.64**	**286**	P	**P**	**18 49 25.1**	**-1.7**
	0.3nm,0.6s,baz=70,slow=9.1,SNR=3.0						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**37.07**	**40**	P	**P**	**18 50 41.1**	**+2.5**
	0.6nm,0.8s,baz=280,slow=8.0,SNR=9.7						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**44.21**	**295**	P	**P**	**18 51 34.5**	**-2.3**
	1.2nm,0.7s,baz=67,slow=6.4,SNR=12						
MKAR				PcP	**PcP**	**18 53 14.0**	**-0.4**
	0.2nm,0.5s,baz=58,slow=3.6,SNR=2.3						
	1.2nm,0.7s						
KURBB	**Kurchatov Arra**	**44.73**	**301**	P	**P**	**18 51 38.2**	**-2.5**
	0.9nm,0.5s,baz=70,slow=8.5,SNR=12						
	0.9nm,0.5s						
BVAR	**Borovoye Array**	**48.16**	**307**	P	**P**	**18 52 05.4**	**-1.7**
	1.9nm,0.5s,baz=58,slow=7.3,SNR=13						
	1.9nm,0.5s						
CMAR	**Chiang Mai Arr**	**50.40**	**252**	P	**P**	**18 52 24.4**	**+0.2**
	0.5nm,0.4s,baz=39,slow=7.2,SNR=2.8						
	0.5nm,0.4s						
YKA	**Yellowknife Ar**	**51.32**	**36**	P	**P**	**18 52 32.1**	**+1.7**
	0.3nm,0.7s,baz=303,slow=7.4,SNR=5.4						
	0.3nm,0.7s						
FINES	**FINESS Array B**	**61.82**	**333**	P	**P**	**18 53 41.5**	**-2.1**
	1.2nm,0.7s,baz=54,slow=9.7,SNR=7.1						
	1.2nm,0.7s						
PDAR	**Pinedale Array**	**65.90**	**52**	P	**P**	**18 54 13.1**	**+2.5**
	0.3nm,0.5s,baz=308,slow=4.4,SNR=2.5						
	0.3nm,0.5s						
NOA	**NORSAR Array B**	**66.20**	**339**	P	**P**	**18 54 10.4**	**-1.5**
	0.7nm,0.6s,baz=29,slow=6.6,SNR=5.0						
	0.7nm,0.6s						
HFS	**Hagfors**	**66.37**	**338**	P	**P**	**18 54 11.0**	**-2.0**
	0.5nm,0.3s,baz=328,slow=1.9,SNR=4.4						
	0.5nm,0.3s						
KBZ	**Khabaz**	**68.21**	**312**	P	**P**	**18 54 23.2**	**-1.5**
	1.8nm,0.7s,baz=12,slow=6.4,SNR=6.4						
	1.8nm,0.7s						
TXAR	**Lajitas Array**	**78.92**	**58**	P	**P**	**18 55 29.3**	**+2.5**
	0.4nm,0.6s,baz=279,slow=3.6,SNR=4.5						
	0.4nm,0.6s						
MMAI	**Mount Meron Ar**	**80.14**	**309**	P	**P**	**18 55 31.9**	**-1.4**
	0.5nm,0.2s,baz=46,slow=6.8,SNR=2.6						
	0.5nm,0.2s						

IDC 28 18:49:05.1±855.0,48.°01N×3.°13W,h0km,Error ellipse: s-maj=384.3km s-min=165.5km az=93.0,France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**11.23**	**79**	I	I	19 52 10.0	
	baz=274,slow=317,SNR=0.6						
I48TN	**KESRA INFRASON**	**15.29**	**138**	I	I	20 20 54.7	
	baz=326,slow=318,SNR=4.1						
I43RU	**DUBNA INFRASON**	**25.80**	**55**	I	I	21 28 50.0	
	baz=266,slow=330,SNR=1.0						

*MOS **28** 18:50:02.3±0.9,6.°33S×142.°93E,h10km,mb5.1/42,Error ellipse: s-maj=12.4km s-min=6.3km az=106.2*
*IDC **28** 18:50:02.4±0.7,6.°22S×143.°22E,h0km,mb4.7/15, mbtmp4.7/18,ML4.3/3,MS3.7/22,Error ellipse: s-maj=30.8km s-min=13.2km az=83.0*
*BJI **28** 18:50:03.2±0.0,6.°26S×143.°34E,h21km,mb4.8/65, mB5.1/28,Ms4.6/3,Ms7 4.3/3*
*NEIC **28** 18:50:05.0±2.8,6.°26S±0.°07×142.°76E±0.°09,h10km±1km, mb5.0/162,Error ellipse: s-maj=14.3km s-min=12.4km az=96.0*
*GCMT **28** 18:50:08.0±0.3,6.°35S±0.°03×142.°87E±0.°03,h15km±1km, MW4.8/70,Moment Tensor Solution. s22,c25; s70,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.65±.14; $M_{\theta\theta}$-0.64±.08; $M_{\phi\phi}$-1.01±.09; $M_{r\theta}$0.40±.17; $M_{\theta\phi}$0.94±.05; $M_{\phi r}$0.04±.16; Best double couple: $M_0$1.76800×10^{16} NP1:ϕs332.00000°,δ43.00000°,λ108.00000°. Principal axes: T 1.7360, Plg78.0000°, Azm337.0000°; N 0.0680, Plg12.0000°, Azm139.0000°; P -1.8010, Plg4.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **28** 18:50:08.7±1.0,6.°5±3.°×14.°3E±.°,h28km±8km,M5.1/43, mB5.5/18,mb5.0/43,MLv5.6/6,Mw(mB)4.9/18, MwMwp5.1/1,Mwp5.4/1*
ISC 28 18:50:05.9±0.6,6.°35S±0.°04×142.°87E±0.°05,h19km±2km, n593,σ1s13/529,mb5.0/158,MS3.7/20,12C-17D,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.96**	**303**	P	**Pb**	**18 50 41.5**	**+0.5**
MMPI	**Merauke**	**3.24**	**229**	P	**Pn**	**18 50 58.2**	**+2.5**
JAY	**Jayapura**	**4.38**	**330**	P	**Pn**	**18 51 12.1**	**+0.6**
GENI	**Genyem**	**4.61**	**324**	P	**Pn**	**18 51 16.7**	**+2.2**
GENI	**Genyem**	**4.61**	**324**	P	**Pn**	**18 51 15.8**	**+1.3**
PMG	**Port Moresby**	**5.22**	**126**	Pn	**Pn**	**18 51 22.2**	**-0.8**
	10nm,0.3s,baz=354,slow=2.0,SNR=58						
PMG				Sn	**Sn**	**18 52 20.2**	**-2.6**
	6.3nm,0.3s,baz=331,slow=8.6,SNR=4.0						
MANU	**Manus Island**	**6.20**	**47**	P	**Pn**	**18 51 40.2**	**+3.7**
MANU	**Manus Island**	**6.20**	**47**	Pn	**Pn**	**18 51 37.5**	**+0.9**
COEN	**Coen**	**7.56**	**178**	P	**Pn**	**18 51 57.0**	**+1.8**
	baz=7.6,SNR=8.4						
COEN	**Coen**	**7.56**	**178**	Pn	**Pn**	**18 51 57.7**	**+2.5**
FAKI	**Fak Fak**	**11.12**	**287**	P	**Pn**	**18 52 43.7**	**-0.3**
FAKI	**Fak Fak**	**11.12**	**287**	Pn	**Pn**	**18 52 42.3**	**-1.7**
FAKI	**Fak Fak**	**11.12**	**287**	P	**Pn**	**18 52 43.8**	**-0.3**
	52nm,0.9s						
SAUI	**Saumlaki**	**11.59**	**261**	P	**Pn**	**18 52 52.4**	**+1.9**
SAUI	**Saumlaki**	**11.59**	**261**	Pn	**Pn**	**18 52 50.9**	**+0.4**
SAUI	**Saumlaki**	**11.59**	**261**	P	**Pn**	**18 52 51.7**	**+1.2**
	793nm,1.0s,7μm						
KDU	**Kakadu**	**12.03**	**238**	P	**Pn**	**18 52 56.1**	**-0.3**
	baz=12,SNR=54						
KDU	**Kakadu**	**12.03**	**238**	P	**Pn**	**18 52 56.4**	**0.0**
SWI	**Sorong**	**12.80**	**295**	P	**Pn**	**18 53 05.5**	**-1.5**
MTN	**Manton Dam**	**13.24**	**240**	P	**Pn**	**18 53 12.7**	**-0.3**
	baz=13,SNR=53						
MTN	**Manton Dam**	**13.24**	**240**	P	**Pn**	**18 53 12.9**	**-0.1**
MTN	**Manton Dam**	**13.24**	**240**	Pn	**Pn**	**18 53 12.2**	**-0.9**
DRS	**Darwin Rock St**	**13.26**	**242**	P	**Pn**	**18 53 14.3**	**+1.0**
CTA	**Charters Tower**	**14.04**	**167**	Pn	**Pn**	**18 53 25.1**	**+1.1**
	0.2nm,0.3s,baz=334,slow=0.1,SNR=2.1						
CTA				Lg	Lg	18 57 30.4	
	0.2nm,0.3s,baz=142,slow=0.0,SNR=2.6						
	7.0nm,1.0s						
QIS	**Mount Isa**	**14.47**	**192**	P	**Pn**	**18 53 31.5**	**+1.6**
	baz=15,SNR=6.5						
QIS	**Mount Isa**	**14.47**	**192**	P	**Pn**	**18 53 31.5**	**+1.6**
WB0	**Warramunga Arr**	**15.67**	**211**	Pn	**Pn**	**18 53 44.6**	**-1.3**
WR0	**Warramunga Arr**	**15.76**	**210**	P	**Pn**	**18 53 45.2**	**-1.8**
WRAB	**Tennant Creek**	**15.83**	**211**		**Pn**	**18 53 46.1**	**-1.8**
WRAB	**Tennant Creek**	**15.83**	**211**	*e*P	**Pn**	**18 53 45.7**	**-2.2**
WB2	**Warramunga Arr**	**15.84**	**211**		**Pn**	**18 53 46.5**	**-1.6**
WC3	**Warramunga Arr**	**15.84**	**211**	P	**Pn**	**18 53 46.7**	**-1.4**
	baz=16						
WRA	**Warramunga Arr**	**15.85**	**211**	Pn	**Pn**	**18 53 45.6**	**-2.5**
WRA	**Warramunga Arr**	**15.85**	**211**	*i* P	**Pn**	**18 53 46.5**	**-1.6**
WRA				pmax	pmax		
	comp=Z,11nm,0.9s						
WRA	**Warramunga Arr**	**15.85**	**211**	Pn	**Pn**	**18 53 46.5**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=31,slow=13,SNR=34						
WRA				Sn	**Sn**	**18 56 37.1**	**-6.3**
	comp=Z,0.8nm,0.3s,baz=45,slow=21,SNR=5.2						
WRA				Lg	Lg	18 58 24.8	
	comp=Z,1.1nm,0.3s,baz=31,slow=29,SNR=5.2						
KNRA	**Kununurra**	**16.65**	**235**	P	**Pn**	**18 53 57.8**	**-0.5**
	baz=17,SNR=16						
KNRA	**Kununurra**	**16.65**	**235**	P	**Pn**	**18 53 57.7**	**-0.6**
KNRA	**Kununurra**	**16.65**	**235**		**Pn**	**18 53 56.8**	**-1.6**
KNRA				IAmb	IAmb	18 54 06.1	
	comp=Z,87nm,0.8s						
SANI	**Sanana**	**17.36**	**284**	P	**P**	**18 54 10.0**	**+1.4**
SANI	**Sanana**	**17.36**	**284**	P	**P**	**18 54 08.8**	**+0.2**
	comp=Z,54nm,0.9s,comp=Z,672nm						
SOEI	**Soe**	**18.72**	**258**	P	**Pn**	**18 54 25.6**	**+1.4**
SOEI	**Soe**	**18.72**	**258**		**P**	**18 54 22.5**	**-1.2**
SOEI				IAmb	IAmb	18 54 29.2	
	comp=Z,139nm,1.0s						
SOEI	**Soe**	**18.72**	**258**	P	**Pn**	**18 54 24.5**	**+0.3**
	comp=Z,182nm,1.0s,comp=Z,1μm						
AS01	**Alice Springs**	**19.23**	**206**	P	**Pn**	**18 54 32.1**	**+1.9**
AS31	**Alice Springs**	**19.25**	**206**		**Pn**	**18 54 30.2**	**-0.2**
ASAR	**Alice Springs**	**19.25**	**206**	P	**P**	**18 54 29.7**	**+0.3**
ASAR	**Alice Springs**	**19.25**	**206**	P	**P**	**18 54 29.7**	**+0.3**
ASAR	**Alice Springs**	**19.25**	**206**	P	**Pn**	**18 54 32.1**	**+1.6**
	comp=Z,4.4nm,0.3s,baz=34,slow=9.5,SNR=402						
ASAR				S	**Sn**	**18 57 58.9**	**-7.0**
	comp=Z,9.5nm,0.8s,baz=16,slow=26,SNR=4.9						
ASAR				Lg	Lg	19 00 22.4	
	comp=Z,0.5nm,0.3s,baz=18,slow=29,SNR=4.4						
ASAR				LR	LR	19 01 11.0	
	comp=Z,464nm,21.1s,baz=34,slow=34						
	comp=Z,170nm,0.9s						
ASPA	**Alice Springs**	**19.25**	**206**	P	**Pn**	**18 54 32.6**	**+2.1**
	baz=19						
BATI	**Baumata**	**19.38**	**257**	P	**Pn**	**18 54 33.9**	**+1.8**
	comp=Z,2.6nm,0.3s,baz=135,slow=4.5,SNR=5.3						
BATI				LR	LR	19 02 29.9	
	comp=Z,228nm,21.0s,baz=90,slow=38						
	comp=Z,34nm,0.8s						
BATI	**Baumata**	**19.38**	**257**	P	**Pn**	**18 54 32.2**	**+0.1**
	comp=Z,79nm,0.9s,comp=Z,1μm						
KMSI	**Cibinong**	**20.07**	**289**	P	Pn	18 54 40.0	-0.2
	comp=Z,127nm,1.1s,comp=Z,5μm						
QLP	**Quilpie**	**20.16**	**176**	P	Pn	18 54 41.5	+0.3
	baz=20,SNR=8.5						
QLP	**Quilpie**	**20.16**	**176**	P	Pn	18 54 42.6	+1.4
FITZ	**Fitzroy Crossi**	**20.46**	**234**	P	Pn	18 54 44.5	-0.3
	baz=21,SNR=17						
FITZ	**Fitzroy Crossi**	**20.46**	**234**	P	**P**	**18 54 41.8**	**-0.8**
EIDS	**Eidsvold**	**20.48**	**158**	P	Pn	18 54 44.8	-0.1
	baz=21,SNR=4.6						
EIDS	**Eidsvold**	**20.48**	**158**	P	Pn	18 54 45.3	+0.4
EIDS	**Eidsvold**	**20.48**	**158**	P	Pn	18 54 45.0	+0.1
MMRI	**Maumere**	**20.58**	**262**	P	Pn	18 54 45.9	-0.3
MMRI	**Maumere**	**20.58**	**262**	P	**P**	**18 54 44.0**	**+0.1**
MMRI				IAmb	IAmb	18 54 58.0	
	comp=Z,55nm,0.9s						
LUWI	**Luwuk**	**20.73**	**284**	P	Pn	18 54 47.8	-0.2
LUWI	**Luwuk**	**20.73**	**284**	P	Pn	18 54 46.9	-1.1
LUWI	**Luwuk**	**20.73**	**284**	P	**P**	**18 54 46.7**	**+1.1**
	comp=Z,167nm,1.2s,comp=Z,2μm						
EDFI	**Ende, Flores**	**21.13**	**262**	P	**P**	**18 54 47.9**	**-2.1**
INKA	**Innaminka**	**21.37**	**185**	P	**P**	**18 54 55.2**	**+2.9**
DAV	**Davao City (W)**	**21.80**	**307**	LR	LR	19 03 55.1	
	comp=Z,110nm,19.5s,baz=290,slow=38						
MRSI	**Marisa**	**21.96**	**287**	P	**P**	**18 55 01.2**	**+2.4**
	comp=Z,95nm,1.1s						
BASI	**Baing, Sumba**	**22.39**	**259**	P	**P**	**18 55 04.4**	**+1.0**
	comp=Z,202nm,0.9s						
OOD	**Oodnadatta**	**22.39**	**197**	P	**P**	**18 55 05.5**	**+2.3**
BKSI	**Bulukumba**	**22.65**	**271**	P	**P**	**18 55 08.2**	**+2.0**
	comp=Z,160nm,1.0s,comp=Z,1μm						
KAPI	**Kappang**	**23.04**	**272**	P	**P**	**18 55 13.2**	**+2.9**
KAPI	**Kappang**	**23.04**	**272**	P	**P**	**18 55 12.6**	**+2.3**
KAPI	**Kappang**	**23.04**	**272**	P	**P**	**18 55 12.6**	**+2.3**
KAPI				pmax	pmax		
	comp=Z,165nm,1.1s						
TTSI	**Tana Toraja**	**23.20**	**277**	P	**P**	**18 55 13.6**	**+1.7**
	comp=Z,38nm,1.0s,comp=Z,806nm						
WRKA	**Warakurna**	**23.24**	**215**	P	**P**	**18 55 13.4**	**+1.1**
	baz=23,SNR=105						
WRKA	**Warakurna**	**23.24**	**215**	P	**P**	**18 55 14.0**	**+1.8**
TOLI2	**Tolitoli**	**23.26**	**288**	P	**P**	**18 55 13.6**	**+1.1**
TOLI2	**Tolitoli**	**23.26**	**288**	P	**P**	**18 55 12.4**	**-0.2**
AULRC	**Lightning Ridg**	**23.46**	**169**	P	**P**	**18 55 14.5**	**+0.2**
MPSI	**Mapaga**	**23.87**	**285**	P	**P**	**18 55 18.7**	**+0.2**
	comp=Z,54nm,1.5s,comp=Z,648nm						
LCRK	**Leigh Creek**	**24.36**	**190**	P	**P**	**18 55 23.9**	**+1.0**
PLAI	**Plampang**	**24.99**	**263**	P	**P**	**18 55 28.4**	**-0.3**
PLAI	**Plampang**	**24.99**	**263**	P	**P**	**18 55 28.3**	**-0.5**
	comp=Z,43nm,0.8s						
CMSA	**Cobar Meteorol**	**25.19**	**174**	P	**P**	**18 55 31.1**	**+0.7**
	baz=25,SNR=8.4						
CMSA	**Cobar Meteorol**	**25.19**	**174**	P	**P**	**18 55 32.1**	**+1.7**
MULG	**Mulgathing**	**25.20**	**198**	P	**P**	**18 55 31.4**	**+0.9**
ARMA	**Armidale**	**25.32**	**162**	P	**P**	**18 55 33.1**	**+1.5**
ARMA				IAmb	IAmb	18 55 38.7	
	comp=Z,57nm,1.7s						
STKA	**Stephens Creek**	**25.42**	**183**	P	**P**	**18 55 32.9**	**+0.5**
	baz=26,SNR=13						
STKA	**Stephens Creek**	**25.42**	**183**	P	**P**	**18 55 32.9**	**+0.5**
STKA	**Stephens Creek**	**25.42**	**183**	P	**P**	**18 55 31.9**	**-0.5**
STKA	**Stephens Creek**	**25.42**	**183**	*e*P	**P**	**18 55 31.9**	**-0.5**
STKA	**Stephens Creek**	**25.42**	**183**	P	**P**	**18 55 32.5**	**+0.1**
	comp=Z,14nm,1.0s,baz=353,slow=8.9,SNR=15						
	comp=Z,14nm,1.0s						
MBWA	**Marble Bar**	**26.80**	**234**	P	**P**	**18 55 46.1**	**+1.0**
MBWA	**Marble Bar**	**26.80**	**234**	P	**P**	**18 55 44.4**	**-0.7**
MBWA				IAmb	IAmb	18 55 53.5	
	comp=Z,26nm,1.1s						
PSA00	**Pilbara Seismi**	**26.92**	**234**	P	**P**	**18 55 46.3**	**+0.2**
PSA00	**Pilbara Seismi**	**26.92**	**234**	P	**P**	**18 55 45.4**	**-0.7**
PSA00				IAmb	IAmb	18 55 47.4	
	comp=Z,27nm,0.9s						
BBOO	**Buckleboo**	**27.08**	**193**	P	**P**	**18 55 48.0**	**+0.5**
	baz=27						
BBOO	**Buckleboo**	**27.08**	**193**	P	**P**	**18 55 47.6**	**+0.2**
BBOO	**Buckleboo**	**27.08**	**193**	P	**P**	**18 55 47.1**	**-0.4**
HTT	**Hallett**	**27.19**	**187**	P	**P**	**18 55 49.4**	**+0.9**
	baz=27,SNR=5.2						
HTT	**Hallett**	**27.19**	**187**	P	**P**	**18 55 51.1**	**+2.6**
SRBI	**Singaraja**	**27.49**	**265**	P	**P**	**18 55 52.5**	**+1.2**
	comp=Z,32nm,1.0s						
DZM	**Mont Dzumac**	**27.61**	**127**	*e*LR	LR	19 02 53.5	
	comp=Z,340nm,23.4s						
FORT	**Forrest**	**27.99**	**208**	P	**P**	**18 55 56.5**	**+0.8**
	baz=28						
FORT	**Forrest**	**27.99**	**208**	P	**P**	**18 55 54.9**	**-0.8**
FORT				IAmb	IAmb	18 56 29.1	
	comp=Z,37nm,1.0s						
YNG	**Young**	**28.27**	**170**	P	**P**	**18 55 59.3**	**+1.1**
	baz=28						
YNG	**Young**	**28.27**	**170**	P	**P**	**18 55 59.4**	**+1.2**
JAGI	**Jajag, Banyuwa**	**28.55**	**264**	P	**P**	**18 56 00.1**	**-0.8**
JAGI				IAmb	IAmb	18 56 00.8	
	comp=Z,33nm,1.0s						
CNB	**Canberra Magne**	**29.44**	**169**	P	**P**	**18 56 09.0**	**+0.5**
	baz=30						
ARPS	**Mount Arapiles**	**30.29**	**182**	P	**P**	**18 56 17.0**	**+1.1**
	baz=30						
KMBL	**Kambalda**	**31.70**	**216**	P	**P**	**18 56 29.3**	**+0.7**
	baz=32						
KMBL	**Kambalda**	**31.70**	**216**	P	**P**	**18 56 29.1**	**+0.5**
STKI	**Sintang**	**31.97**	**280**	P	**P**	**18 56 32.6**	**+1.5**
	comp=Z,26nm,1.4s,comp=Z,4μm						
SMRI	**Semarang**	**32.21**	**267**	P	**P**	**18 56 34.2**	**+1.0**
SMRI	**Semarang**	**32.21**	**267**	P	**P**	**18 56 33.4**	**+0.2**
SMRI	**Semarang**	**32.21**	**267**	P	**P**	**18 56 34.0**	**+0.8**
	comp=Z,108nm,1.2s		

GSI	**Gunungsitoli**	**45.85**	**278**	P	**P**	**18 58 26.2**	**-1.1**
NONG	**Nongkai**	**46.10**	**302**	P	**P**	**18 58 29.7**	**+0.5**
SLVN	**Son La**	**47.10**	**307**	P	**P**	**18 58 36.4**	**-0.7**
GYA	**Guiyang**	**47.91**	**314**	⇑*i*P	**P**	**18 58 45.3**	**+1.9**
GYA				pmax	pmax		
	comp=Z,24nm,1.0s						
GYA				pmax	pmax		
	comp=Z,150nm,6.0s						
ENH	**Enshi**	**48.48**	**321**	P	**P**	**18 58 48.2**	**+0.6**
PHRA	**Phrae**	**48.76**	**301**	P	**P**	**18 58 50.9**	**+0.9**
LYN	**LuoYang**	**49.79**	**327**	⇓P	**P**	**18 58 58.3**	**+0.7**
LYN				pmax	pmax		
	comp=Z,34nm,0.9s						
LYN				pmax	pmax		
	comp=Z,170nm,6.1s						
CM31	**Chiang Mai Arr**	**49.84**	**301**	P	**P**	**18 58 59.3**	**+1.1**
CM31				IAmb	IAmb	18 59 00.6	
	comp=Z,17nm,1.4s						
CMAR	**Chiang Mai Arr**	**49.84**	**301**	P	**P**	**18 58 58.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**49.84**	**301**	P	**P**	**18 58 59.2**	**+1.0**
	comp=Z,5.5nm,1.0s,baz=125,slow=6.0,SNR=25						
	comp=Z,5.5nm,1.0s						
KMI	**Kunming**	**50.02**	**310**	⇑P	**P**	**18 59 01.8**	**+2.0**
KMI				pmax	pmax		
	comp=Z,27nm,1.1s						
ASAJ	**Asahikawa**	**50.24**	**360**	LR	LR	19 17 03.9	
	comp=Z,25nm,22.0s,baz=302,slow=32						
HNS	**HongShan**	**50.85**	**331**	⇓P	**P**	**18 59 05.8**	**+0.3**
HNS				pmax	pmax		
	comp=Z,11nm,1.2s						
USA0B	**Ussuriysk Arra**	**51.27**	**350**	⇓*i*P	**P**	**18 59 08.6**	**+0.1**
USRK	**Ussuriysk Ar.**	**51.27**	**350**	P	**P**	**18 59 08.0**	**-0.5**
USRK	**Ussuriysk Ar.**	**51.27**	**350**	P	**P**	**18 59 08.0**	**-0.5**
USRK	**Ussuriysk Ar.**	**51.27**	**350**	P	**P**	**18 59 07.9**	**-0.5**
	comp=Z,6.2nm,0.9s,baz=182,slow=7.1,SNR=5.9						
	comp=Z,6.2nm,0.9s						
XAN	**Xi'an**	**51.43**	**324**	⇓P	**P**	**18 59 10.5**	**+0.5**
XAN				pP	pP	18 59 14.8	-1.5
XAN				pmax	pmax		
	comp=Z,29nm,1.2s						
PZH	**PanZhiHua**	**51.53**	**311**	P	**P**	**18 59 11.3**	**+0.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PZH				pmax	pmax		
	comp=Z,130nm,5.6s						
MDJ	**Mudanjiang**	**52.13**	**348**	P	P	18 59 20.3	+5.4
MDJ				pmax	pmax		
	comp=Z,11nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,180nm,4.6s						
BJI	**Beijing**	**52.32**	**334**	P	**P**	**18 59 16.3**	**-0.1**
BJI				pP	**pP**	**18 59 20.3**	**-2.5**
BJI				sP	**sP**	**18 59 23.5**	**-1.7**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CN2	**Changchun**	**52.35**	**344**	P	**P**	**18 59 20.5**	**+3.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2	**Chengdu**	**52.65**	**317**	P	**P**	**18 59 20.3**	**+1.1**
CD2				S	**S**	**19 06 46.0**	**0.0**
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
TNCH	**TengChong**	**53.23**	**308**	⇑P	**P**	**18 59 25.0**	**+1.3**
TNCH				pP	pP	18 59 28.5	-1.6
TNCH				PcP	**PcP**	**19 00 31.5**	**-0.1**
TNCH				S	**S**	**19 06 55.5**	**+1.1**
TNCH				sS	sS	19 07 08.8	+4.2
TNCH				pmax	pmax		
	comp=Z,16nm,1.3s						
TNCH				LR	LR		
	comp=Z,93nm,6.2s						
TNCH				LR	LR		
	comp=Z,90nm,6.6s						
TNCH				LR	LR		
	comp=Z,71nm,5.0s						
BNX	**BinXian**	**53.67**	**347**	⇓P	**P**	**18 59 25.8**	**-0.5**
BNX				pmax	pmax		
	comp=Z,18nm,0.9s						
BNX				pmax	pmax		
	comp=Z,92nm,4.6s						
MND	**Mandalay**	**53.77**	**303**	P	**P**	**18 59 28.9**	**+1.4**
HHC	**Hu-ho-hao-te**	**55.07**	**331**	*e*P	**P**	**18 59 38.3**	**+1.6**
HHC				pP	pP	18 59 42.8	-0.3
HHC				sP	sP	18 59 47.3	+1.7
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,150nm,4.0s						
BTO	**Baotou**	**55.63**	**330**	*e*P	**P**	**18 59 44.0**	**+3.2**
BTO				pP	**sP**	**18 59 48.5**	**-1.1**
BTO				sP	**pP**	**18 59 51.0**	**+3.8**
BTO				PP	**PP**	**19 01 42.5**	**-2.8**
BTO				pmax	pmax		
	comp=Z,20nm,1.2s						
BTO				pmax	pmax		
	comp=Z,360nm,9.7s						
LZH	**Lanzhou**	**55.88**	**322**	⇓P	**P**	**18 59 44.5**	**+1.8**
LZH				sP	sP	18 59 52.0	+0.6
LZH				pmax	pmax		
	comp=Z,38nm,1.4s						
KLR	**Kul'dur**	**56.20**	**351**	⇓*e*P	**P**	**18 59 44.5**	**-0.1**
KLR				pmax	pmax		
	comp=Z,14nm,1.8s						
KLR	**Kul'dur**	**56.20**	**351**	LR	LR	19 20 13.9	
	comp=Z,42nm,22.0s,baz=154,slow=32						
HEH	**HeiHe**	**57.95**	**348**	*e*P	**P**	**18 59 57.3**	**+0.4**
HEH				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HEH				pmax	pmax		
	comp=Z,150nm,4.1s						
GTA	**Gaotai**	**60.45**	**323**	P	**P**	**19 00 15.5**	**+0.8**
GTA				pP	pP	19 00 20.0	-1.1
GTA				pmax	pmax		
	comp=Z,11nm,1.0s						
LSA	**Lhasa**	**61.21**	**309**	IAmb	IAmb	19 00 23.4	
	comp=Z,7.2nm,0.8s						
ZEA	**Zeya**	**61.30**	**349**	*e*P	**P**	**19 00 20.1**	**+0.1**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GOMU	**GeErMu**	**61.79**	**317**	P	**P**	**19 00 25.8**	**+1.7**
GOMU				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ULN	**Ulaanbaatar**	**62.52**	**334**	P	**P**	**19 00 28.9**	**+0.4**
ULN	**Ulaanbaatar**	**62.52**	**334**	*c i*P	**P**	**19 00 28.9**	**+0.4**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SONM	**Songino Array**	**62.79**	**333**	P	**P**	**19 00 29.8**	**-0.5**
SONM	**Songino Array**	**62.79**	**333**	P	**P**	**19 00 29.8**	**-0.5**
SONM				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	**Songino Array**	**62.79**	**333**	P	**P**	**19 00 30.2**	**-0.1**
	comp=Z,3.2nm,0.9s,baz=161,slow=7.3,SNR=16						
SONM				LR	LR	19 27 40.7	
	comp=Z,72nm,19.8s,baz=180,slow=36						
	comp=Z,3.2nm,0.9s						
PALK	**Pallekele**	**63.48**	**281**	P	**P**	**19 00 33.8**	**-1.6**
PALK				IAmb	IAmb	19 00 37.9	
	comp=Z,12nm,1.1s						
PALK	**Pallekele**	**63.48**	**281**	P	**P**	**19 00 33.8**	**-1.6**
PALK				pmax	pmax		
	comp=Z,13nm,1.1s						
PALK	**Pallekele**	**63.48**	**281**	LR	LR	19 30 57.1	
	comp=Z,34nm,19.7s,baz=217,slow=38						
SHEM	**Shemya Is, Ala**	**64.56**	**20**	LR	LR	19 23 24.7	
	comp=Z,42nm,20.8s,baz=260,slow=31						
MA2	**Magadan**	**66.02**	**4**	P	**P**	**19 00 50.7**	**-0.3**
MA2	**Magadan**	**66.02**	**4**	P	**P**	**19 00 50.4**	**-0.6**
MA2				IAmb	IAmb	19 00 51.4	
	comp=Z,9.7nm,1.0s						
MA2	**Magadan**	**66.02**	**4**	⇓*i*P	**P**	**19 00 50.6**	**-0.4**
MA2				pmax	pmax		
	comp=Z,13nm,1.2s						
ZAK	**Zakamensk**	**66.05**	**333**	*e*P	**P**	**19 00 51.3**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,13nm,1.2s						
PPT	**Papeete**	**66.74**	**106**	LR	LR	19 27 17.1	
	comp=Z,32nm,19.3s,baz=4.0,slow=34						
PPT2	**Papeete2**	**66.74**	**106**	*e*LR	LR	19 20 53.3	
	comp=Z,77nm,26.2s						
KIWB	**Kanaga Island**	**67.28**	**26**	P	**P**	**19 00 58.5**	**-0.7**
MOY	**Mondy**	**67.98**	**333**	*e*P	**P**	**19 01 04.1**	**+0.3**
MOY				pmax	pmax		
	comp=Z,16nm,1.5s						
YAK	**Yakutsk**	**68.94**	**353**	*e*P	**P**	**19 01 08.4**	**-1.0**
YAK				*e*		19 01 32.6	
YAK				*e*		19 03 44.5	
YAK				*e*S	**S**	**19 10 10.9**	**-1.9**
YAK				*e**SS	sS	19 10 35.0	+11
YAK				*e*		19 11 03.6	
YAK				*e*SS	**SS**	**19 14 34.4**	**-4.3**
YAK				pmax	pmax		
	comp=Z,8.0nm,1.5s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,2.0s						
YAK				pmax	pmax		
	comp=Z,111nm,4.8s						
YAK				pmax	pmax		
	comp=E,87nm,5.6s						
YAK				smax	smax		
	comp=N,62nm,4.8s						
YAK	**Yakutsk**	**68.94**	**353**	LR	LR	19 28 38.5	
	comp=N,26nm,21.8s,baz=152,slow=34						
SEY	**Seymchan**	**69.47**	**5**	⇓*i*P	**P**	**19 01 12.5**	**-0.2**
SEY				pmax	pmax		
	comp=Z,9.0nm,1.3s						
WMQ	**Urumqi**	**70.43**	**321**	*e*P	**P**	**19 01 20.5**	**+1.4**
WMQ				pmax	pmax		
	comp=Z,23nm,1.1s						
NIKH	**Nikolski High**	**71.79**	**28**	P	**P**	**19 01 26.7**	**-0.3**
	baz=231						
VNDA	**Vanda**	**71.83**	**176**	P	**P**	**19 01 28.0**	**+1.0**
VNDA	**Vanda**	**71.83**	**176**	P	**P**	**19 01 28.0**	**+1.0**
VNDA				pmax	pmax		
	comp=Z,7.0nm,1.3s						
VNDA	**Vanda**	**71.83**	**176**	P	**P**	**19 01 27.4**	**+0.4**
	comp=Z,3.7nm,1.1s,baz=325,slow=4.8,SNR=6.6						
VNDA				LR	LR	19 32 25.4	
	comp=Z,111nm,18.3s,baz=344,slow=35						
	comp=Z,3.7nm,1.1s						
UNV	**Unalaska Valle**	**73.44**	**29**	P	**P**	**19 01 37.7**	**+0.8**
	baz=233						
SPIA	**Saint Paul Isl**	**73.87**	**24**	P	**P**	**19 01 40.3**	**+1.0**
	baz=229						
ZSN	**Zaisan**	**73.94**	**323**	*e*P	**P**	**19 01 39.9**	**-0.1**
	comp=Z,6.7nm,0.9s,baz=323						
ZSN	**Zaisan**	**73.94**	**323**	*e*P	**P**	**19 01 39.8**	**-0.1**
ZSN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MK31	**Makanchi Array**	**75.19**	**322**	P	**P**	**19 01 47.7**	**+0.4**
MK31				IAmb	IAmb	19 01 49.0	
	comp=Z,21nm,1.1s						
MK31	**Makanchi Array**	**75.19**	**322**	*c i*P	**P**	**19 01 47.5**	**+0.2**
MKAR	**Makanchi Array**	**75.19**	**322**	P	**P**	**19 01 47.2**	**-0.1**
MKAR	**Makanchi Array**	**75.19**	**322**	*i* P	**P**	**19 01 47.9**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,15nm,0.8s						
MKAR	**Makanchi Array**	**75.19**	**322**	P	**P**	**19 01 47.9**	**+0.6**
	comp=Z,14nm,0.8s,baz=105,slow=7.3,SNR=131						
	comp=Z,14nm,0.8s						
MAKZ	**Makanchi**	**75.39**	**322**	P	**P**	**19 01 48.7**	**+0.3**
MAKZ	**Makanchi**	**75.39**	**322**	P	**P**	**19 01 48.7**	**+0.3**
MAKZ				pmax	pmax		
	comp=Z,31nm,1.1s						
SHLS	**Shalkode**	**75.48**	**317**	*e*P	**P**	**19 01 47.6**	**-1.6**
	comp=Z,8.1nm,0.9s,baz=318						
SHLS	**Shalkode**	**75.48**	**317**	*e*P	**P**	**19 01 47.5**	**-1.6**
SHLS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
UZB	**Uzynbulak**	**75.77**	**317**	*e*P	**P**	**19 01 51.3**	**+0.4**
	comp=Z,7.3nm,0.6s,baz=317						
UZB	**Uzynbulak**	**75.77**	**317**	*e*P	**P**	**19 01 51.3**	**+0.4**
UZB				pmax	pmax		
	comp=Z,7.0nm,0.6s						
PRZ	**Przheval'sk**	**75.94**	**317**	P	**P**	**19 01 52.2**	**+0.3**
PRZ	**Przheval'sk**	**75.94**	**317**	P	**P**	**19 01 52.2**	**+0.3**
PRZ				pmax	pmax		
	comp=Z,26nm,1.0s						
BILL	**Bilibino**	**76.04**	**9**	P	**P**	**19 01 50.7**	**-1.0**
BILL	**Bilibino**	**76.04**	**9**	*i* P	**P**	**19 01 50.8**	**-0.8**
SATY	**Saty**	**76.16**	**317**	*e*P	**P**	**19 01 53.1**	**0.0**
	comp=Z,8.2nm,0.9s,baz=317						
SATY	**Saty**	**76.16**	**317**	*e*P	**P**	**19 01 53.0**	**0.0**
SATY				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ZHN	**Zhinishke**	**76.18**	**317**	*e*P	**P**	**19 01 53.1**	**-0.1**
	baz=317						
ZHN	**Zhinishke**	**76.18**	**317**	*e*P	**P**	**19 01 53.0**	**-0.1**
KSH	**Kashi**	**76.58**	**313**	P	**P**	**19 01 57.8**	**+2.3**
KSH				sP	sP	19 02 04.0	-0.4
KSH				pmax	pmax		
	comp=Z,15nm,1.0s						
NIL	**Nilore**	**76.81**	**307**	P	**P**	**19 01 57.2**	**+0.4**
NIL	**Nilore**	**76.81**	**307**	P	**P**	**19 01 57.2**	**+0.4**
NIL				pmax	pmax		
	comp=Z,26nm,0.8s						
TDK	**Taldyqorghan**	**76.91**	**319**	*e*P	**P**	**19 01 57.1**	**0.0**
	comp=Z,8.2nm,0.6s,baz=319						
TDK	**Taldyqorghan**	**76.91**	**319**	*e*P	**P**	**19 01 57.0**	**0.0**
TDK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ARXS	**Arharly**	**76.98**	**318**	*e*P	**P**	**19 01 57.7**	**+0.1**
MDOK	**Medeo**	**77.12**	**317**	*e*P	**P**	**19 01 58.3**	**-0.2**
	baz=317						
MDOK	**Medeo**	**77.12**	**317**	*e*P	**P**	**19 01 58.3**	**-0.2**
ZAA0	**Zalesovo Array**	**77.16**	**329**	P	**P**	**19 01 57.2**	**-1.1**
ZAA0				IAmb	IAmb	19 01 58.6	
	comp=Z,8.2nm,0.8s						
ZALV	**Zalesovo Beam**	**77.16**	**329**	P	**P**	**19 01 56.7**	**-1.5**
ZALV	**Zalesovo Beam**	**77.16**	**329**	P	**P**	**19 01 57.9**	**-0.4**
	comp=Z,6.0nm,0.7s,baz=112,slow=5.4,SNR=28						
ZALV				LR	LR	19 34 27.7	
	comp=Z,25nm,21.6s,baz=82,slow=34						
	comp=Z,6.0nm,0.7s						
CHKK	**Chushkaly**	**77.41**	**317**	*e*P	**P**	**19 01 59.5**	**-0.5**
	baz=317						
CHKK	**Chushkaly**	**77.41**	**317**	*e*P	**P**	**19 01 59.4**	**-0.5**
M11K	**Mekoryuk**	**77.54**	**23**	P	**P**	**19 02 01.3**	**+1.1**
	baz=232						
SEM	**Semipalatinsk**	**77.99**	**324**	*e*P	**P**	**19 02 02.1**	**-1.3**
	baz=324						
SEM	**Semipalatinsk**	**77.99**	**324**	*e*P	**P**	**19 02 02.0**	**-1.3**
TKM2	**Tokmak 2**	**78.02**	**316**	P	**P**	**19 02 04.8**	**+1.2**
	SNR=7.1						
S14K	**Fog Glacier**	**78.12**	**29**	P	**P**	**19 02 04.2**	**+0.5**
	baz=239						
TIXI	**Tiksi**	**78.39**	**356**	P	**P**	**19 02 03.1**	**-1.7**
TIXI	**Tiksi**	**78.39**	**356**	⇓*e*P	**P**	**19 02 03.1**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.1s						
UCH	**Uchtor**	**78.54**	**315**	P	**P**	**19 02 07.8**	**+1.0**
	SNR=17						
CHMS	**Chumysh**	**78.63**	**316**	P	**P**	**19 02 07.7**	**+1.0**
	SNR=6.1						
AAK	**Ala-Archa**	**78.69**	**316**	P	**P**	**19 02 08.6**	**+1.3**
	SNR=11						
AAK	**Ala-Archa**	**78.69**	**316**	P	**P**	**19 02 07.6**	**+0.3**
AAK				IAmb	IAmb	19 02 09.3	
	comp=Z,15nm,1.3s						
AAK	**Ala-Archa**	**78.69**	**316**	*c i*P	**P**	**19 02 07.9**	**+0.6**
AAK				pmax	pmax		
	comp=Z,14nm,1.4s						
M13K	**Dall Lake**	**78.70**	**24**	P	**P**	**19 02 07.2**	**+0.6**
	baz=235						
SGDS	**Sogindy**	**78.87**	**316**	*e*P	**P**	**19 02 08.0**	**-0.2**
	comp=Z,7.0nm,1.1s,baz=316						
SGDS	**Sogindy**	**78.87**	**316**	*e*P	**P**	**19 02 07.9**	**-0.2**
SGDS				pmax	pmax		
	comp=Z,7.0nm,1.1s						
USP	**Ospenovka**	**78.90**	**316**	P	**P**	**19 02 09.0**	**+0.8**
	SNR=18						
O14K	**Tigyukauivet M**	**78.92**	**26**	P	**P**	**19 02 08.0**	**+0.2**
	baz=237						
KURK	**Kurchatov**	**79.07**	**324**	P	**P**	**19 02 08.2**	**-0.7**
KURK	**Kurchatov**	**79.07**	**324**	*i* P	**P**	**19 02 08.8**	**-0.1**
KURBB	**Kurchatov Arra**	**79.08**	**324**	P	**P**	**19 02 09.1**	**+0.1**
	comp=Z,13nm,0.9s,baz=115,slow=4.6,SNR=91						
	comp=Z,13nm,0.9s						
N14K	**Kuskokwak Cree**	**79.11**	**25**	P	**P**	**19 02 08.9**	**0.0**
	baz=237						
EKS2	**Erkin-Say**	**79.20**	**315**	P	**P**	**19 02 11.1**	**+1.1**
	SNR=16						
M14K	**Bethel**	**79.45**	**24**	P	**P**	**19 02 10.9**	**+0.1**
	baz=236						
L14K	**Kuka Creek**	**79.50**	**24**	IAmb	IAmb	19 02 12.3	
	comp=Z,19nm,0.9s						
L14K	**Kuka Creek**	**79.50**	**24**	P	**P**	**19 02 11.6**	**+0.6**
	baz=235						
DRK	**Karamyk**	**79.63**	**312**	P	**P**	**19 02 11.8**	**-0.9**
BTLS	**Baital**	**79.80**	**318**	*e*P	**P**	**19 02 12.7**	**-0.4**
	comp=Z,11nm,0.9s,baz=318						
BTLS	**Baital**	**79.80**	**318**	*e*P	**P**	**19 02 12.6**	**-0.4**
BTLS				pmax	pmax		
	comp=Z,11nm,0.9s						
N15K	**Kwethluk River**	**79.91**	**25**	IAmb	IAmb	19 02 14.6	
	comp=Z,14nm,1.1s						
N15K	**Kwethluk River**	**79.91**	**25**	P	**P**	**19 02 13.3**	**-0.1**
	baz=238						
M15K	**Kasigluk River**	**79.95**	**25**	P	**P**	**19 02 13.7**	**+0.2**
	baz=237						
J14K	**Nanvaranak Lak**	**79.98**	**22**	P	**P**	**19 02 13.6**	**+0.1**
	baz=234						
L15K	**Ungalak Mounta**	**80.16**	**24**	P	**P**	**19 02 14.3**	**-0.3**
	baz=236						
TNA	**Tin City**	**80.20**	**19**	P	**P**	**19 02 14.6**	**-0.1**
TNA	**Tin City**	**80.20**	**19**	P	**P**	**19 02 14.5**	**-0.2**
	baz=230,SNR=6.3						
ANM	**Nome**	**80.41**	**20**	P	**P**	**19 02 16.3**	**+0.3**
ANM	**Nome**	**80.41**	**20**	P	**P**	**19 02 16.1**	**+0.2**
	baz=232,SNR=6.9						
ANM	**Nome**	**80.41**	**20**	P	**P**	**19 02 16.3**	**+0.3**
ANM				pmax	pmax		
	comp=Z,12nm,1.2s						
KBL	**Kabul**	**80.41**	**306**	P	**P**	**19 02 16.0**	**-0.9**
KBL	**Kabul**	**80.41**	**306**	P	**P**	**19 02 16.0**	**-0.9**
KBL				pmax	pmax		
	comp=Z,7.0nm,0.6s						
O16K	**Kokwok River B**	**80.48**	**26**	IAmb	IAmb	19 02 17.3	
	comp=Z,29nm,1.3s						
O16K	**Kokwok River B**	**80.48**	**26**	P	**P**	**19 02 16.1**	**-0.2**
	baz=240						
K15K	**Wolf Creek Mou**	**80.49**	**23**	IAmb	IAmb	19 02 17.8	
	comp=Z,16nm,1.0s						
K15K	**Wolf Creek Mou**	**80.49**	**23**	P	**P**	**19 02 16.3**	**-0.1**
	baz=236						
N16K	**Nishlik Lake**	**80.63**	**25**	P	**P**	**19 02 17.4**	**+0.1**
	baz=239						
F14K	**Arctic Creek**	**80.66**	**19**	P	**P**	**19 02 17.3**	**+0.1**
	baz=231						
Q17K	**Contact Creek**	**80.83**	**28**	P	**P**	**19 02 18.4**	**0.0**
	baz=242						
M16K	**Timber Creek**	**80.84**	**25**	IAmb	IAmb	19 02 19.7	
	comp=Z,20nm,1.1s						
M16K	**Timber Creek**	**80.84**	**25**	P	**P**	**19 02 19.0**	**+0.7**
	baz=239						
DZA	**Taraz**	**80.98**	**315**	*e*P	**P**	**19 02 19.2**	**-0.3**
	comp=Z,10nm,1.0s,baz=315						
DZA	**Taraz**	**80.98**	**315**	*e*P	**P**	**19 02 19.2**	**-0.3**
DZA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
L16K	**Owhat River**	**80.99**	**24**	IAmb	IAmb	19 02 20.1	
	comp=Z,13nm,1.1s						
L16K	**Owhat River**	**80.99**	**24**	P	**P**	**19 02 18.9**	**-0.2**
	baz=238						
O17K	**Koliganek Bris**	**81.01**	**26**	P	**P**	**19 02 19.1**	**0.0**
	baz=241						
G15K	**Niukluk**	**81.13**	**20**	P	**P**	**19 02 20.1**	**+0.3**
	baz=234						
N17K	**Nushagak Hills**	**81.34**	**26**	P	**P**	**19 02 21.8**	**+0.8**
	baz=241						
F15K	**North Star Dit**	**81.36**	**19**	IAmb	IAmb	19 02 22.9	
	comp=Z,13nm,1.2s						
F15K	**North Star Dit**	**81.36**	**19**	P	**P**	**19 02 20.9**	**-0.1**
	baz=233,SNR=8.6						
J16K	**Anvik River**	**81.39**	**22**	IAmb	IAmb	19 02 22.9	
	comp=Z,15nm,1.1s						
J16K	**Anvik River**	**81.39**	**22**	P	**P**	**19 02 21.7**	**+0.5**
	baz=237						
SIMJ	**Simiganj**	**81.49**	**310**	P	**P**	**19 02 21.8**	**-0.7**
H16K	**Elim**	**81.55**	**21**	P	**P**	**19 02 21.9**	**-0.1**
	baz=235,SNR=10						
KK31	**Karatay Array**	**81.62**	**315**	P	**P**	**19 02 22.8**	**-0.1**
KK31				IAmb	IAmb	19 02 24.4	
	comp=Z,25nm,1.6s						
KK31	**Karatay Array**	**81.62**	**315**	P	**P**	**19 02 22.8**	**-0.1**
KK31				pmax	pmax		
	comp=Z,25nm,1.6s						
KKAR	**Karatay Array**	**81.62**	**315**	P	**P**	**19 02 22.4**	**-0.5**
KKAR				IAmb	IAmb	19 02 24.4	
	comp=Z,25nm,1.6s						
KKAR	**Karatay Array**	**81.62**	**315**	P	**P**	**19 02 22.4**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,25nm,1.6s						
M17K	**Holitna River**	**81.67**	**25**	IAmb	IAmb	19 02 24.4	
	comp=Z,14nm,1.0s						
M17K	**Holitna River**	**81.67**	**25**	P	**P**	**19 02 23.8**	**+1.2**
	baz=240						
IUG	**Iuzhnay**	**81.68**	**314**	*e*P	**P**	**19 02 23.3**	**-0.1**
	comp=Z,11nm,1.0s,baz=314						
IUG	**Iuzhnay**	**81.68**	**314**	*e*P	**P**	**19 02 23.2**	**-0.1**
IUG				pmax	pmax		
	comp=Z,11nm,1.0s						
L17K	**Donlin**	**81.68**	**24**	P	**P**	**19 02 23.4**	**+0.6**
	baz=239						
I17K	**Unalakleet**	**81.69**	**22**	P	**P**	**19 02 23.2**	**+0.5**
I17K				IAmb	IAmb	19 02 24.5	
	comp=Z,20nm,1.1s						
I17K	**Unalakleet**	**81.69**	**22**	P	**P**	**19 02 22.8**	**+0.1**
	baz=237,SNR=7.9						
G16K	**Koyuk River**	**81.94**	**20**	IAmb	IAmb	19 02 25.2	
	comp=Z,12nm,1.0s						
G16K	**Koyuk River**	**81.94**	**20**	P	**P**	**19 02 24.1**	**+0.1**
	baz=235,SNR=9.8						
N18K	**Kilae Creek**	**81.97**	**26**	P	**P**	**19 02 24.8**	**+0.4**
	baz=242						
K17K	**Iditarod**	**81.98**	**23**	IAmb	IAmb	19 02 25.8	
	comp=Z,17nm,1.0s						
K17K	**Iditarod**	**81.98**	**23**	P	**P**	**19 02 24.5**	**+0.1**
	baz=239						
BRLS	**Borolday**	**82.07**	**315**	*e*P	**P**	**19 02 25.5**	**+0.2**
	baz=315						
BRLS	**Borolday**	**82.07**	**315**	*e*P	**P**	**19 02 25.4**	**+0.2**
SVW2	**Sparrevohn**	**82.30**	**26**	P	**P**	**19 02 27.1**	**+1.0**
SVW2	**Sparrevohn**	**82.30**	**26**	IAmb	IAmb	19 02 33.4	
	comp=Z,17nm,1.3s						
BRZS	**Berezniki**	**82.33**	**322**	*e*P	**P**	**19 02 26.5**	**+0.1**
	comp=Z,8.6nm,1.0s,baz=322						
BRZS	**Berezniki**	**82.33**	**322**	*e*P	**P**	**19 02 26.5**	**+0.1**
BRZS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
L18K	**Granite Mounta**	**82.38**	**24**	P	**P**	**19 02 26.5**	**0.0**
	baz=241						
M18K	**Stony River**	**82.39**	**25**	P	**P**	**19 02 26.7**	**+0.2**
	baz=242						
H17K	**Granite Mounta**	**82.55**	**21**	IAmb	IAmb	19 02 28.6	
	comp=Z,10nm,0.8s						
H17K	**Granite Mounta**	**82.55**	**21**	P	**P**	**19 02 27.6**	**+0.4**

	baz=238							
QSPA	South Pole Qui	83.62	180	P	P	19 02 33.2	+0.3	
	comp=Z,12nm,1.0s,baz=337,slow=1.8,SNR=22							
QSPA				LR	LR	19 40 12.7		
	comp=Z,152nm,18.7s,baz=14,slow=36							
	comp=Z,12nm,1.0s							
L20K	Farewell, AK	83.66	25	P	P	19 02 33.1	0.0	
	baz=243							
J19K	Poorman	83.67	23	IAmb	IAmb	19 02 34.2		
	comp=Z,12nm,1.1s							
J19K	Poorman	83.67	23	P	P	19 02 33.0	0.0	
	baz=242							
E18K	Tukpahlearik C	83.67	19	P	P	19 02 33.2	+0.3	
	baz=237							
M20K	Styx River	83.71	25	IAmb	IAmb	19 02 34.3		
	comp=Z,11nm,1.0s							
M20K	Styx River	83.71	25	P	P	19 02 32.7	-0.7	
	baz=244							
N20K	Mount Spurr	83.81	26	P	P	19 02 33.1	-0.9	
	baz=245							
BRSE	Bradley Lake S	83.87	28	P	P	19 02 33.3	-0.9	
	baz=246							
K20K	Telida	83.98	24	P	P	19 02 34.9	+0.3	
	baz=243							
H19K	Roundabout Mou	84.10	21	IAmb	IAmb	19 02 36.4		
	comp=Z,12nm,1.0s							
H19K	Roundabout Mou	84.10	21	P	P	19 02 35.1	-0.1	
	baz=241,SNR=11							
C18K	Utukok River	84.17	18	IAmb	IAmb	19 02 36.4		
	comp=Z,17nm,1.6s							
C18K	Utukok River	84.17	18	P	P	19 02 35.4	-0.2	
	baz=236							
G19K	Purcell Mounta	84.18	21	IAmb	IAmb	19 02 36.9		
	comp=Z,15nm,1.2s							
G19K	Purcell Mounta	84.18	21	P	P	19 02 35.7	+0.1	
	baz=240							
F19K	Shaleruckik Mo	84.29	20	P	P	19 02 36.2	0.0	
	baz=239							
J20K	Nowinta River	84.33	23	IAmb	IAmb	19 02 37.7		
	comp=Z,11nm,1.0s							
J20K	Nowinta River	84.33	23	P	P	19 02 36.1	-0.3	
	baz=243							
NRIK	Noril'sk	84.38	343	P	P	19 02 36.1	-0.4	
NRIK	Noril'sk	84.38	343	*c iP*	P	19 02 36.2	-0.3	
NRIK				pmax	pmax			
	comp=Z,30nm,1.0s							
NRIK	Noril'sk	84.38	343	P	P	19 02 36.4	-0.2	
	comp=Z,20nm,1.0s,baz=117,slow=5.1,SNR=26							
	comp=Z,20nm,1.0s							
B18K	Kokolik River	84.40	17	P	P	19 02 36.9	+0.3	
	baz=235							
SKT	Skwentna	84.43	26	P	P	19 02 36.1	-0.9	
	baz=246							
I20K	Naaghedeneel	84.48	22	P	P	19 02 37.5	+0.3	
	baz=243							
PPLA	Purkeypile	84.54	25	P	P	19 02 36.7	-1.0	
	baz=245							
SUA	Susitna One	84.56	26	P	P	19 02 36.4	-1.4	
SUA				IAmb	IAmb	19 03 20.9		
	comp=Z,12nm,1.2s							
SUA	Susitna One	84.56	26	P	P	19 02 37.3	-0.5	
	baz=246							
SEW	Seward	84.61	28	P	P	19 02 37.3	-0.6	
	baz=248							
BVAR	Borovoye Array	84.66	325	P	P	19 02 38.6	+0.3	
	comp=Z,52nm,0.8s,baz=111,slow=6.6,SNR=237							
H20K	Anotleneega Mo	84.66	22	P	P	19 02 36.7	-1.3	
	baz=242,SNR=7.8							
E19K	Redstone River	84.79	20	P	P	19 02 37.2	-1.5	
	baz=240							
CAST	Castle Rocks	84.81	24	P	P	19 02 37.0	-1.9	
CAST	Castle Rocks	84.81	24	P	P	19 02 37.9	-1.0	
	baz=245,SNR=6.9							
RC01	Rabbit Creek A	84.86	27	P	P	19 02 38.1	-1.1	
RC01	Rabbit Creek A	84.86	27	P	P	19 02 38.5	-0.7	
	baz=247							
C19K	Lookout Ridge	84.91	18	P	P	19 02 38.3	-1.0	
	baz=238							
CHUM	Lake Minchumin	84.92	24	P	P	19 02 39.1	-0.2	
	baz=245,SNR=14							
M22K	Willow	84.95	26	P	P	19 02 37.8	-1.8	
M22K	Willow	84.95	26	P	P	19 02 39.1	-0.4	
	baz=247							
D19K	Kuna River	85.04	18	P	P	19 02 39.0	-1.0	
	baz=239							
A19K	Wainwright	85.08	16	P	P	19 02 39.5	-0.5	
	baz=236							
F20K	Avaraart Lake	85.10	20	IAmb	IAmb	19 02 41.5		
	comp=Z,7.3nm,1.0s							
F20K	Avaraart Lake	85.10	20	P	P	19 02 39.4	-0.8	
	baz=241							
IMAR	Indian Mountai	85.30	22	P	P	19 02 40.6	-0.7	
PMR	Palmer	85.33	26	P	P	19 02 40.9	-0.5	
PMR	Palmer	85.33	26	P	P	19 02 40.2	-1.2	
PMR				IAmb	IAmb	19 02 41.3		
	comp=Z,12nm,1.0s							
PMR	Palmer	85.33	26	P	P	19 02 40.5	-1.0	
	baz=248							
PMR	Palmer	85.33	26	P	P	19 02 40.2	-1.2	
PMR				pmax	pmax			
	comp=Z,12nm,1.0s							
KTH	Kantishna Hill	85.34	24	P	P	19 02 40.2	-1.4	
KTH				IAmb	IAmb	19 02 41.3		
	comp=Z,12nm,1.1s							
H21K	Melozitna Rive	85.50	22	P	P	19 02 41.9	-0.4	
	baz=244							
P23K	Montague Islan	85.53	28	P	P	19 02 41.7	-0.8	
	baz=249							
E20K	Nigu River	85.54	19	P	P	19 02 41.3	-1.2	
	baz=241							
BPAW	Bear Paw Mtn.	85.54	24	P	P	19 02 40.7	-1.9	
BPAW	Bear Paw Mtn.	85.54	24	P	P	19 02 41.7	-0.8	
	baz=246							
KNK	Knik Glacier	85.56	27	P	P	19 02 41.5	-1.2	
	baz=248							
TRF	Thorofare Moun	85.56	24	P	P	19 02 41.8	-1.0	
	baz=247							
I21K	Tanana	85.60	23	P	P	19 02 42.4	-0.4	
	baz=245							
D20K	Etivluk River	85.63	19	P	P	19 02 42.1	-0.8	
	baz=240							
G21K	Allakaket	85.63	21	P	P	19 02 42.7	-0.2	
	baz=243							
SML	Sawmill	85.76	26	P	P	19 02 42.3	-1.4	
SML	Sawmill	85.76	26	P	P	19 02 42.9	-0.8	
	baz=248,SNR=7.0							
HRA	Herat	85.86	305	P	P	19 02 42.6	-2.5	
F21K	Alatna River	85.96	20		P	19 02 49.5	+4.9	
MLY	Manley	86.02	23	IAmb	IAmb	19 02 45.5		
	comp=Z,12nm,1.1s							
MLY	Manley	86.02	23	P	P	19 02 44.3	-0.6	
	baz=246,SNR=12							
M23K	Glacier View	86.02	26	P	P	19 02 44.6	-0.4	
	baz=249							
WAT1	Susitna Watana	86.05	25	P	P	19 02 44.1	-1.0	
	baz=248							
B20K	Meade River	86.11	17	P	P	19 02 45.1	-0.1	
	baz=240							
H22K	Ishtalitna Cre	86.14	22	P	P	19 02 44.9	-0.6	
	baz=245							
RND	Reindeer	86.14	25	IAmb	IAmb	19 02 45.1		
	comp=Z,12nm,0.9s							
SCM	Sheep Creek Mo	86.21	27	P	P	19 02 45.1	-0.9	
	baz=249							
MCK	McKinley	86.23	24	P	P	19 02 44.2	-1.8	
MCK				IAmb	IAmb	19 02 45.7		
	comp=Z,12nm,1.0s							
MCK	McKinley	86.23	24	P	P	19 02 44.6	-1.4	
	baz=248,SNR=6.8							
MCK	McKinley	86.23	24	P	P	19 02 44.2	-1.8	
MCK				pmax	pmax			
	comp=Z,12nm,1.0s							
WAT6	Susitna Watana	86.30	26	P	P	19 02 45.4	-1.1	
	baz=249							
E21K	Killik River	86.35	19	P	P	19 02 46.3	-0.1	
	baz=243							
C21K	Knifeblade Rid	86.42	19	P	P	19 02 46.3	-0.4	
	baz=242							
NEA2	Nenana	86.50	24	P	P	19 02 45.9	-1.3	
NEA2				IAmb	IAmb	19 02 47.1		
	comp=Z,15nm,1.4s							
NEA2	Nenana	86.50	24	P	P	19 02 46.0	-1.3	
	baz=248							
F22K	John River	86.54	20	P	P	19 02 47.0	-0.4	
	baz=245							
I23K	Minto, Yukon-K	86.60	23	P	P	19 02 47.0	-0.7	
	baz=247							
DHY	Denali Highway	86.64	25	IAmb	IAmb	19 03 02.1		
	comp=Z,11nm,1.0s							
DHY	Denali Highway	86.64	25	P	P	19 02 47.3	-0.9	
	baz=249,SNR=8.3							
DIV	Divide	86.67	27	P	P	19 02 47.8	-0.5	
B21K	Ikpikpuk River	86.69	18	IAmb	IAmb	19 02 54.5		
	comp=Z,18nm,1.4s							
B21K	Ikpikpuk River	86.69	18	P	P	19 02 47.7	-0.4	
	baz=242							
KLU	Klutina	86.72	27	IAmb	IAmb	19 02 49.2		
	comp=Z,17nm,1.2s							
KLU	Klutina	86.72	27	P	P	19 02 48.1	-0.5	
	baz=251							
H23K	Yukon River	86.80	22	P	P	19 02 48.1	-0.6	
	baz=247							
M24K	Tolsona, Glenn	86.82	26	P	P	19 02 48.4	-0.5	
	baz=250							
WRH	Wood River Hil	86.85	24	IAmb	IAmb	19 02 48.5		
	comp=Z,11nm,1.0s							
KAIM	Kayak Island	86.92	29	P	P	19 02 49.3	0.0	
	baz=252							
A21K	Barrow	86.93	16	P	P	19 02 49.1	-0.1	
	baz=240							
E22K	Anaktuvuk Pass	86.93	20	P	P	19 02 49.3	-0.1	
	baz=245							
D22K	Ayikyak River	86.97	19	P	P	19 02 49.9	+0.4	
	baz=244							
G23K	Bananza Creek	86.97	22	P	P	19 02 49.4	-0.2	
	baz=247							
CCB	Clear Creek Bu	87.03	24	IAmb	IAmb	19 02 49.2		
	comp=Z,12nm,0.9s							
COLA	College	87.09	24	*e*P	P	19 02 48.8	-1.3	
COLA				pmax	pmax			
	comp=Z,10.0nm,1.1s							
COLD	Coldfoot	87.11	21	P	P	19 02 49.6	-0.6	
COLD				IAmb	IAmb	19 02 51.5		
	comp=Z,21nm,1.7s							
COLD	Coldfoot	87.11	21	P	P	19 02 50.4	+0.2	
	baz=246							
BMRM	Bremner River	87.16	28	P	P	19 02 49.9	-0.7	
BMRM				IAmb	IAmb	19 02 51.3		
	comp=Z,15nm,1.1s							
BMRM	Bremner River	87.16	28	P	P	19 02 50.1	-0.5	
	baz=252							
A22K	Sinclair Lake	87.24	17	P	P	19 02 50.8	+0.1	
	baz=242							
HDA	Harding Lake	87.29	24	P	P	19 02 51.0	-0.1	
	baz=250							
POKR	Poker Plat Res	87.35	23	P	P	19 02 51.0	-0.4	
	baz=249							
N25K	Chitina, Valde	87.36	27	P	P	19 02 51.1	-0.5	
	baz=252							
HARP	HAARP	87.37	26	P	P	19 02 51.2	-0.4	
	baz=251							
B22K	Teshekpuk Lake	87.39	18	P	P	19 02 51.5	+0.1	
	baz=243							
PAX	Paxson	87.42	26	P	P	19 02 51.2	-0.7	
	baz=251							
H24K	Noodor Dome	87.44	23	P	P	19 02 51.7	-0.1	
	baz=249							
IL31		87.44	24	IAmb	IAmb	19 02 50.8		
	comp=Z,6.9nm,0.8s							
ILAR	Eielson Array	87.44	24	P	P	19 02 49.5	-2.4	
ILAR	Eielson Array	87.44	24	P	P	19 02 50.0	-1.9	
ILAR	Eielson Array	87.44	24	P	P	19 02 50.0	-1.9	
	comp=Z,5.3nm,0.8s,baz=257,slow=5.1,SNR=49							
ILAR				LR	LR	19 35 23.6		
	comp=Z,25nm,21.2s,baz=318,slow=31							
	comp=Z,5.3nm,0.8s							
IL03	Eielson Array	87.45	24	P	P	19 02 49.2	-2.7	
K24K	Donnelly Dome	87.56	25	P	P	19 02 51.8	-0.7	
	baz=251							
E23K	Chandalar	87.65	20	P	P	19 02 53.4	+0.5	
	baz=247							
D23K	Nanushuk River	87.66	19	P	P	19 02 53.0	+0.2	
	baz=246							
GLB	Gilahina Butte	87.67	27	IAmb	IAmb	19 03 03.0		
	comp=Z,12nm,1.1s							
CRQE	Cirque	87.80	28	P	P	19 02 53.0	-0.8	
	baz=253							
TOLK	Toolik Lake Re	87.90	20	P	P	19 02 53.3	-0.7	
	baz=247							
G24K	Hadweenzic Riv	87.90	22	P	P	19 02 53.8	-0.2	
	baz=249							
RIDG	Independent Ri	87.93	25	P	P	19 02 54.1	-0.2	
	baz=252							
J25K	Salcha River,	88.00	24	P	P	19 02 54.4	-0.2	
	baz=251							
MCARA	McCarthy VSAT	88.01	28	P	P	19 02 54.4	-0.2	
	baz=253							
C23K	Itkillik River	88.04	19	P	P	19 02 55.1	+0.6	
	baz=246							
F24K	Squaw Lake	88.05	21	P	P	19 02 55.0	+0.2	
	baz=249							
MENT	Mentasta	88.17	26	P	P	19 02 55.3	-0.1	
MENT	Mentasta	88.17	26	IAmb	IAmb	19 04 10.5		
	comp=Z,6.5nm,1.1s							
D24K	Happy Valley	88.35	19	P	P	19 02 56.2	+0.2	
	baz=248							
L26K	Log Cabin Wild	88.35	26	P	P	19 02 56.6	+0.3	
	baz=253							
SCRK	Sand Creek	88.37	25	P	P	19 02 56.0	-0.4	
	baz=252,SNR=5.0							
H25L	Birch Creek	88.38	23	P	P	19 02 56.4	+0.2	
	baz=250							
G25K	Bearman Lake	88.44	22	P	P	19 02 56.9	+0.4	
	baz=250							
BARN	Barnard Glacie	88.56	28	IAmb	IAmb	19 02 58.5		
	comp=Z,9.5nm,0.8s							
C24K	Franklin Bluff	88.60	19	P	P	19 02 57.3	+0.1	
	baz=248							
CTG	Chitna Glacier	88.68	28	P	P	19 02 57.7	-0.3	
	baz=255,SNR=5.3							
J26L	Joseph Creek	88.71	25	IAmb	IAmb	19 02 58.7		
	comp=Z,8.1nm,1.0s							
J26L	Joseph Creek	88.71	25	P	P	19 02 57.7	-0.3	
	baz=253							
M27K	Edge Creek, AK	88.81	27	IAmb	IAmb	19 02 59.6		
	comp=Z,12nm,1.0s							
M27K	Edge Creek, AK	88.81	27	P	P	19 02 58.8	+0.2	
	baz=254							
F25K	Christian Rive	88.89	21	P	P	19 02 59.1	+0.4	
	baz=251							
L27K	Beaver Creek,	89.03	26	IAmb	IAmb	19 03 06.6		
	comp=Z,15nm,1.4s							
L27K	Beaver Creek,	89.03	26	P	P	19 02 59.3	-0.1	
	baz=254							
BCAR	Beaver Creek A	89.05	26	P	P	19 02 59.1	-0.4	
E25K	Arctic Village	89.09	21	IAmb	IAmb	19 03 01.3		
	comp=Z,13nm,1.1s							
E25K	Arctic Village	89.09	21	P	P	19 02 59.8	+0.2	
	baz=251							
I26K	Coal Creek Min	89.11	24	P	P	19 02 59.6	-0.1	
	baz=253							
O28M	Mount Upton	89.17	29	P	P	19 03 00.3	-0.2	
	baz=256							
K27K	Chicken	89.19	25	P	P	19 03 00.2	+0.1	
	baz=254							
BMAR	Burnt Mountain	89.22	22	P	P	19 03 00.4	+0.1	
D25K	Kavik River	89.22	20	IAmb	IAmb	19 03 01.3		
	comp=Z,15nm,1.5s							
D25K	Kavik River	89.22	20	P	P	19 02 59.9	-0.4	
	baz=250							
BVCY	Beaver Creek	89.28	27	P	P	19 03 00.9	+0.3	
	baz=255							
YUK3	Moose Creek	89.30	28	P	P	19 03 01.3	+0.3	
	baz=255,SNR=5.2							
G26K	Porcupine Rive	89.36	22	P	P	19 03 01.2	+0.4	
	baz=252							
F26K	Sheenjek River	89.46	21	P	P	19 03 02.0	+0.6	
	baz=252							
YUK8	Steele Glacier	89.50	28	P	P	19 03 01.9	-0.1	
	baz=256							
UOSS	Minazif	89.63	295	P	P	19 03 01.9	-1.2	
UOSS				IAmb	IAmb	19 03 03.6		
	comp=Z,8.0nm,1.1s							
GEYT	Alibeck	89.73	308	P	P	19 03 04.6	+1.2	
GEYT				IAmb	IAmb	19 03 06.2		
	comp=Z,22nm,1.8s							
GEYT	Alibeck	89.73	308	P	P	19 03 04.6	+1.2	
GEYT				pmax	pmax			
	comp=Z,22nm,1.8s							
GEYT	Alibeck	89.73	308	P	P	19 03 03.6	+0.3	
	comp=Z,3.8nm,1.0s,baz=75,slow=8.7,SNR=6.8							
	comp=Z,3.8nm,1.0s							
EGAK	Eagle	89.78	25	IAmb	IAmb	19 03 03.6		
	comp=Z,11nm,1.1s							
EGAK	Eagle	89.78	25	P	P	19 03 03.0	+0.2	
	baz=255							
I27K	Kandik River	89.81	24	P	P	19 03 03.1	0.0	
	baz=254							
O29M	Mount Kennedy	89.84	29	P	P	19 03 03.1	-0.3	
	baz=257							
C26K	Camden Bay	89.91	19	P	P	19 03 04.3	+1.0	
	baz=251							
H27K	Steamboat Moun	90.02	23	P	P	19 03 04.2	+0.2	
	baz=254							
YUK4	Talbot Arm	90.04	28	P	P	19 03 04.6	+0.2	
	baz=257							
YUK6	Outpost Mounta	90.08	29	P	P	19 03 04.5	-0.2	
	baz=257							
G27K	Doyon Strip	90.13	23	P	P	19 03 04.7	+0.1	
	baz=254							
ABKAR	Akbulak array	90.16	319	P	P	19 03 03.7	-1.3	
ABKAR	Akbulak array	90.16	319	IAmb	IAmb	19 03 05.0		
	comp=Z,6.8nm,0.9s							
DAWY	Dawson	90.34	25	IAmb	IAmb	19 03 06.6		
	comp=Z,9.2nm,1.1s							
DAWY	Dawson	90.34	25	P	P	19 03 05.6	0.0	
	baz=256							
M29M	Somme Creek	90.37	27	P	P	19 03 05.5	-0.4	
	baz=257							
I28M	Miner Creek	90.45	24	P	P	19 03 06.3	+0.1	
	baz=256							
HYT	Haines Junctio	90.47	29	P	P	19 03 06.4	0.0	
	baz=258							
E27K	Coleen River	90.53	21	IAmb	IAmb	19 03 13.9		
	comp=Z,8.6nm,1.4s							
E27K	Coleen River	90.53	21	P	P	19 03 06.8	+0.5	
	baz=254							
L29M	L29M	90.67	27	IAmb	IAmb	19 03 08.3		
	comp=Z,9.2nm,0.9s							
L29M	L29M	90.67	27	P	P	19 03 07.2	+0.1	
	baz=258							
N30M	Aishikik Lake	90.80	28	P	P	19 03 07.1	-0.7	
	baz=258							
F28M	Old Crow	91.01	22	P	P	19 03 09.1	+0.5	
	baz=256							
D27M	Malcolm River	91.03	20	P	P	19 03 09.4	+0.7	
	baz=255							
K29M	Barlow Dome	91.09	26	IAmb	IAmb	19 03 19.6		
	comp=Z,8.1nm,1.0s							
K29M	Barlow Dome	91.09	26	P	P	19 03 09.6	+0.4	
	baz=258							
O30N	Mendenhall	91.14	29	P	P	19 03 09.3	0.0	
	baz=259							
M30M	Minto, Yukon	91.16	27	P	P	19 03 09.8	+0.4	
	baz=259							
R32K	Eaglecrest	91.48	32	P	P	19 03 11.1	+0.2	
	baz=260							
J30M	Hart River	91.75	25	P	P	19 03 12.0	-0.2	
	baz=259							
I30M	Mount Dempster	91.86	25	IAmb	IAmb	19 03 13.1		
	comp=Z,8.8nm,1.2s							
I30M	Mount Dempster	91.86	25	P	P	19 03 12.5	-0.2	
	baz=259							
EPYK	Eagle Plains	91.94	23	P	P	19 03 12.9	-0.1	
	baz=259							
ARU	Arti	92.10	326	P	P	19 03 12.4	-1.4	
ARU	Arti	92.10	326	*c iP*	P	19 03 12.4	-1.4	
ARU						19 06 53.1		
ARU				S	SKSac	19 13 45.2	-0.7	
ARU				SS	SS	19 20 29.1	+4.5	
ARU				pmax	pmax			
	comp=Z,15nm,1.1s							
P32M	Atlin	92.10	30	P	P	19 03 14.4	+0.5	
	baz=261							
M31M	Drury Creek, Y	92.19	28	P	P	19 03 14.3	+0.1	
	baz=261							
G30M	tAoh Zraii Nji	92.25	23	IAmb	IAmb	19 03 23.9		
	comp=Z,8.0nm,1.1s							
G30M	tAoh Zraii Nji	92.25	23	P	P	19 03 14.6	+0.2	
	baz=259							
F30M	Barrier River	92.54	22	P	P	19 03 16.0	+0.3	
	baz=260							
P33M	Teslin, Yukon	92.64	30	P	P	19 03 16.2	-0.2	
	baz=262							
N32M	Quiet Lake	92.65	29	P	P	19 03 16.3	0.0	
	baz=262							
FARO	Faro, Yukon	92.68	28	P	P	19 03 16.4	0.0	
	baz=262							
Q32M	Nakina River	92.75	31	P	P	19 03 16.8	-0.3	
	baz=262							
ELIB	Princess Elisa	92.77	196	*d*P	P	19 03 17.2	+0.4	
	comp=Z,3.8nm,1.2s							
ELIB				*d*PcP	PcP	19 03 18.3	+0.8	
H31M	Peel River	92.79	24	P	P	19 03 16.5	-0.4	
	baz=261							
G31M	Satah River	93.00	23	P	P	19 03 17.9	+0.1	
	baz=261							
F31M	Tsiigehtchic	93.28	23	P	P	19 03 19.0	0.0	
	baz=262							
INK	Inuvik	93.49	22	P	P	19 03 19.9	-0.1	
	baz=262							
INK	Inuvik	93.49	22	LR	LR	19 42 09.3		
	comp=Z,56nm,20.6s,baz=12,slow=34							
DLBC	Dease Lake	93.85	32	LR	LR	19 38 13.2		
	comp=Z,45nm,21.1s,baz=110,slow=31							
BBB	Bella Bella	94.37	38	LR	LR	19 38 02.4		
	comp=Z,38nm,21.5s,baz=222,slow=31							
A36M	Sachs Harbour	96.58	18	IAmb	IAmb	19 06 55.3		
	comp=Z,8.6nm,1.4s							
A36M	Sachs Harbour	96.58	18	P	P	19 03 33.8	-0.2	
	baz=270							
B04A	Port Angeles	97.11	42	P	P	19 03 36.9	0.0	
BELG	Belogornoye	98.19	322	*d iP*	P	19 03 40.6	-1.1	
BELG				pmax	pmax			
	comp=Z,4.0nm,0.9s							
SNAA	Sanae	98.95	190	LR	LR	19 48 03.0		
	comp=Z,70nm,20.0s,baz=297,slow=35							
PKM	Mcpherson Peak	99.59	56	P	Pdif	19 03 47.4	-1.3	
	baz=269							
CIS	Catalina Islan	100.73	57	P	Pdif	19 03 52.7	-0.9	
	baz=270							
EDW2	Edwards Air Fo	101.09	56	P	Pdif	19 03 53.4	-1.8	
	baz=270							
YKA	Yellowknife Ar	101.39	28	P	Pdif	19 03 53.9	-1.9	
	comp=Z,0.2nm,0.7s,baz=248,slow=3.7,SNR=3.9							
OBN	Obninsk	104.49	325	*e*P	Pdif	19 04 09.0	-0.7	
OBN				*e*		19 08 28.5		
OBN				*e*PPP	PPP	19 10 40.8		
OBN				pmax	pmax			
	comp=Z,4.0nm,0.7s							
ABTA	Abfaltersbach	121.49	322	*e*PKiKP	PKiKP	19 08 58.6	0.0	
	comp=Z,0.7nm,0.3s							
WTTA	Wattenberg	121.78	323	*e*PKiKP	PKiKP	19 08 59.8	+0.5	
	comp=Z,2.2nm,0.5s							
MOTA	Moosalm	122.06	323	*e*PKP	PKPdf	19 08 58.7	-0.9	
	comp=Z,1.8nm,0.6s							
FETA	Feichten	122.44	323	*e*PKiKP	PKiKP	19 09 00.8	+0.3	
	comp=Z,1.7nm,0.9s							
DAVA	Damuels	122.81	324	*e*PKiKP	PKiKP	19 09 01.7	+0.4	
	comp=Z,2.3nm,0.6s							
EKA	Eskdalemuir Ar	124.14	337	PKP	PKPdf	19 09 03.0	-0.1	
	comp=Z,1.1nm,0.6s,baz=34,slow=3.1,SNR=4.7							
OXF	Oxford	124.35	52	P	PKPdf	19 09 04.2	0.0	
	baz=288							
WVNY	West Valley, N	128.72	39		PKPdf	19 09 11.1	-1.3	
LONY	Lake Ozonia	129.83	34	P	PKiKP	19 09 15.7	+0.5	
	baz=308							
TORD	Torodi Ar. Bea	141.18	283	PKhKP	PKPpre	19 09 31.1		
	comp=Z,21nm,1.0s,baz=87,slow=2.8,SNR=7.8							
LPAZ	La Paz	141.96	127	PKhKP	PKPpre	19 09 34.5		
	comp=Z,2.3nm,0.9s,baz=300,slow=4.0,SNR=3.7							
KIC	Kosan Boka	147.81	272	*e*PKiKP	PKPbc

MBFL				*e*S	Sb	18 57 41.1	+2.7
SVN	**Savane Anatole**	**1.26**	**178**	*e*P	Pb	18 57 25.9	+0.1
SVN				*e*S	Sb	18 57 43.9	+2.3
BIM	**Bigot**	**1.59**	**175**	*e*P	Pb	18 57 31.0	-0.5
BIM				*e*S	Sb	18 57 51.0	-0.1
MPOM	**Morne Pois Mar**	**1.69**	**168**	*e*P	Pb	18 57 32.6	-0.6
MPOM				*e*S	Sb	18 57 52.9	-1.1
SLBI	**Saint Lucia, B**	**2.08**	**173**	*e*P	Pb	18 57 38.1	-1.8

IDC ***28*** *19:03:22.0±1.0, 6°.20S×143°.07E, h0km, mb4.0/5, mbtmp4.0/7, ML1.3/1, Error ellipse: s-maj=35.5km s-min=21.9km az=71.0*

ISC 28 19:03:27.1±0.9, 6°.3S±0°.1×143°.0E±0°.1, h35km, n8, σ1s17/9, mb3.9/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.11**	**127**	Pn	**Pn**	**19 04 41.4**	**+0.2**
	0.8nm,0.3s,baz=300,slow=9.0,SNR=2.7						
PMG				Sn	**Sn**	**19 05 38.9**	**-0.1**
	1.3nm,0.3s,baz=217,slow=22,SNR=1.7						
	3.0nm,0.3s						
WRA	**Warramunga Arr**	**15.94**	**211**	Pn	**Pn**	**19 07 06.9**	**-2.0**
	0.2nm,0.3s,baz=30,slow=13,SNR=16						
WRA				Sn	Sn	19 09 55.2	-9.5
	0.1nm,0.3s,baz=34,slow=23,SNR=2.0						
WRA				Lg	Lg	19 11 53.3	
	0.2nm,0.3s,baz=24,slow=28,SNR=4.7						
ASAR	**Alice Springs**	**19.34**	**206**	P	**P**	**19 07 51.4**	**+1.7**
	11nm,0.6s,baz=29,slow=12,SNR=93						
ASAR				Lg	Lg	19 13 41.3	
	baz=21,slow=29,SNR=4.6						
MKAR	**Makanchi Array**	**75.27**	**322**	P	**P**	**19 15 07.0**	**+0.4**
	1.0nm,0.7s,baz=104,slow=7.6,SNR=12						
	1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**79.15**	**324**	P	**P**	**19 15 28.0**	**-0.2**
	0.5nm,0.6s,baz=114,slow=4.9,SNR=5.4						
	0.5nm,0.6s						
QSPA	**South Pole Qui**	**83.64**	**180**	P	**P**	**19 15 52.2**	**+0.3**
	1.1nm,0.9s,baz=272,slow=1.5,SNR=5.1						
	1.1nm,0.9s						
BVAR	**Borovoye Array**	**84.73**	**325**	P	**P**	**19 15 58.0**	**+0.5**
	3.0nm,0.6s,baz=112,slow=7.0,SNR=16						
	3.0nm,0.6s						
ILAR	**Eielson Array**	**87.36**	**24**	P	**P**	**19 16 09.4**	**-0.9**
	0.3nm,0.7s,baz=268,slow=4.5,SNR=4.3						
	0.3nm,0.7s						

BER ***28*** *19:08:47.4±3.2, 81°.91N×4°.56W, h10km, mb(Pn)3.3, ML1.8(DNK), Confirmed Earthquake*
DNK ***28*** *19:08:49.6±2.7, 81°.74N×6°.27W, h0km±16km, ML1.8*
FCIAR ***28*** *19:08:49.0, 81°.93N×3°.11W, h10km, station OMEGA has station magnitude of 3.20 station ZFI2 has station magnitude of 3.30*

ISC 28 19:08:41.1±0.9, 82°.08N±0°.07×4°.15W±0°.05, h10km, n19, σ3s49/35, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NOR	**Nord**	**1.85**	**261**	*e*	**Pn**	**19 09 12.7**	**-0.1**
	baz=93,slow=18						
NOR				*i* P	**Pb**	**19 09 15.9**	**+1.0**
NOR				*i* S	**Sn**	**19 09 36.8**	**+0.7**
NOR				IAML		19 09 38.1	
	comp=Z,17nm,0.4s						
NOR	**Nord**	**1.85**	**261**	*e*	**Pn**	**19 09 12.7**	**-0.1**
	baz=93,slow=18						
NOR				*i* P	**Pb**	**19 09 15.9**	**+1.0**
NOR				*i* S	**Sn**	**19 09 36.8**	**+0.7**
NOR				IAML		19 09 38.1	
	comp=Z,17nm,0.4s						
KBS	**Kingsbay**	**4.12**	**132**	*e*P	**Pn**	**19 09 47.1**	**+3.2**
KBS				*e*S	**Sn**	**19 10 30.6**	**-1.5**
KBS				IAML		19 10 49.3	
	comp=Z,4.5nm,0.8s						
KBS	**Kingsbay**	**4.12**	**132**	*e*P	**Pn**	**19 09 46.5**	**+2.6**
KBS				S	**Sn**	**19 10 29.5**	**-2.5**
BRBB	**Barentsburg B**	**5.07**	**132**	*e*P	**Pn**	**19 10 01.6**	**+4.6**
BRBA	**Barentsburg A**	**5.10**	**132**	*e*P	Pn	19 10 02.5	+5.1
BRBA				*e*S	**Sn**	**19 10 56.0**	**-0.2**
SPA0	**Spitsbergen Ar**	**5.23**	**128**	*e*P	**Pn**	**19 10 02.5**	**+3.4**
SPA0				*e*S	**Sn**	**19 10 57.2**	**-2.1**
SPA0				IAML		19 11 04.8	
	comp=Z,2.4nm,0.4s						
SPA0	**Spitsbergen Ar**	**5.23**	**128**	*e*P	**Pn**	**19 10 02.3**	**+3.2**
SPA0				*e*S	**Sn**	**19 10 57.3**	**-2.1**
DAG	**Danmarks Havn**	**5.93**	**214**	*i* P	**Pn**	**19 10 11.2**	**+2.4**
DAG				*i* S	**Sn**	**19 11 12.2**	**-4.4**
DAG				IAML		19 11 17.1	
	comp=Z,6.1nm,0.3s						
DAG	**Danmarks Havn**	**5.93**	**214**	*i* P	**Pn**	**19 10 11.2**	**+2.4**
DAG				*i* S	**Sn**	**19 11 12.2**	**-4.4**
DAG				IAML		19 11 17.1	
	comp=Z,6.1nm,0.3s						
HSPB	**Hornsund (broa**	**6.18**	**135**	*e*P	**Pn**	**19 10 16.1**	**+3.9**
ZFI2	**Zemlya Franca-**	**7.59**	**73**	*e*P	**Pn**	**19 10 34.6**	**+3.1**
ZFI2				*e*S	**Sn**	**19 11 52.2**	**-5.2**
	comp=Z,8.3nm,3.4s						
OMEGA	**Omega**	**7.62**	**73**	*e*P	**Pn**	**19 10 34.5**	**+2.7**
OMEGA				*e*S	**Sn**	**19 11 52.9**	**-5.1**
	comp=Z,6.7nm,2.2s						
HOPEN	**Hopen**	**7.65**	**121**	*e*P	**Pn**	**19 10 33.0**	**+0.6**
HOPEN				*e*S	**Sn**	**19 11 55.4**	**-3.5**
HOPEN				IAML		19 12 02.2	
	comp=Z,2.7nm,0.9s						
HOPEN	**Hopen**	**7.65**	**121**	*e*P	**Pn**	**19 10 35.8**	**+3.4**
HOPEN				*e*S	**Sn**	**19 11 54.6**	**-4.3**
DBG	**Daneborg**	**8.42**	**211**	*i* P	**Pn**	**19 10 44.1**	**+1.3**
DBG				*e*S	Sn	19 12 09.6	-8.1
DBG				IAML		19 12 18.8	
	comp=Z,2.2nm,0.4s						
DBG	**Daneborg**	**8.42**	**211**	*i* P	**Pn**	**19 10 44.1**	**+1.3**
DBG				*e*S	Sn	19 12 09.6	-8.1
DBG				IAML		19 12 18.8	
	comp=Z,2.2nm,0.4s						
NEEM	**North Greenlan**	**9.22**	**265**	*e*P	**Pn**	**19 10 58.0**	**+3.9**
NEEM				*e*S	**Sn**	**19 12 30.9**	**-6.9**
NEEM				IAML		19 12 48.4	
	comp=Z,1.5nm,0.4s						
NEEM	**North Greenlan**	**9.22**	**265**	*e*P	**Pn**	**19 10 58.0**	**+3.9**
NEEM				*e*S	**Sn**	**19 12 30.9**	**-6.9**
NEEM				IAML		19 12 48.4	
	comp=Z,1.5nm,0.4s						

IDC ***28*** *19:18:19.3±1.3, 12°.05N×86°.17W, h0km, mb3.6/6, mbtmp3.6/8, ML3.8/2, MS3.6/5, Error ellipse: s-maj=54.9km s-min=19.5km az=54.0*
UCR ***28*** *19:18:20.9±0.5, 11°.29N×86°.80W, h26km±28km, MW4.3, MB4.3(NEIC)*
CATAC ***28*** *19:18:22.2±0.4, 11°.36N×86°.74W, h12km±3km, ML4.1*
NEIC ***28*** *19:18:24.2±1.0, 11°.43N±0°.06×86°.65W±0°.07, h41km±16km, mb4.2/14, Error ellipse: s-maj=11.8km s-min=6.7km az=55.0*

ISC 28 19:18:24.4±1.0, 11°.41N±0°.04×86°.70W±0°.06, h61km±9km, n106, σ1s10/115, mb4.1/14, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADRN	**Diriamba**	**0.64**	**45**	*i* P	**Pn**	**19 18 36.3**	**-1.7**
ADRN				IAML		19 18 58.0	
	comp=Z,17μm,1.0s						
RB213	**Mirador 2 Volc**	**0.77**	**42**	*i* P	**Pn**	**19 18 40.0**	**+0.3**
COPN	**Copaltepe**	**0.78**	**8**	*i* P	**Pn**	**19 18 38.8**	**-0.9**
COPN				IAML		19 18 58.0	
	comp=Z,4μm,1.0s						
MASN	**Masaya**	**0.79**	**43**	*i* P	**Pn**	**19 18 39.3**	**-0.6**
MASN				IAML		19 19 03.8	
	comp=Z,860nm,1.0s						
MAS3	**Al N del Volca**	**0.80**	**40**	*i* P	**Pn**	**19 18 39.0**	**-1.0**
MAS3				IAML		19 18 40.4	
	comp=Z,3μm,1.0s						
UNAN	**Cigeo UNAN**	**0.82**	**31**	*i* P	**Pn**	**19 18 39.3**	**-0.9**
UNAN				IAML		19 18 59.9	
	comp=Z,15μm,1.0s						
RE6B4	**Centro civico**	**0.82**	**29**	*i* P	**Pn**	**19 18 40.0**	**-0.2**
MAFN	**Magfor**	**0.82**	**33**	*i* P	**Pn**	**19 18 39.4**	**-0.8**
MAFN				IAML		19 19 01.6	
	comp=Z,7μm,1.0s						
USIM	**UNAN**	**0.82**	**30**	*i* P	**Pn**	**19 18 39.8**	**-0.4**
USIM				IAML		19 18 55.0	
	comp=Z,8μm,1.0s						
AMYN	**Masaya**	**0.82**	**45**	*i* P	**Pn**	**19 18 39.4**	**-0.8**
AMYN				IAML		19 19 00.4	
	comp=Z,6μm,1.0s						
ENAN	**Enatrel Managu**	**0.82**	**31**	*i* P	**Pn**	**19 18 39.6**	**-0.7**
ENAN				IAML		19 18 42.9	
	comp=Z,9μm,1.0s						
R8CCA	**La Lomita**	**0.83**	**32**	*i* P	**Pn**	**19 18 39.8**	**-0.5**
R0529	**La Mascota**	**0.84**	**32**	*i* P	**Pn**	**19 18 40.1**	**-0.4**
TISN	**Laguna Tiscapa**	**0.84**	**30**	IAML		19 18 38.7	
	comp=Z,510nm,1.0s						
TISN				*i* P	**Pn**	**19 18 39.8**	**-0.7**
ARIN	**Rivas**	**0.85**	**87**	*i* P	**Pn**	**19 18 39.1**	**-1.4**
ARIN				IAML		19 18 39.7	
	comp=Z,10μm,1.0s						
ALLN	**Telcor Managua**	**0.85**	**29**	*i* P	**Pn**	**19 18 39.8**	**-0.8**
ALLN				IAML		19 19 09.0	
	comp=Z,12μm,1.0s						
MGA1	**Managua**	**0.86**	**31**	*i* P	**Pn**	**19 18 40.2**	**-0.5**
MGA1				IAML		19 18 40.8	
	comp=Z,7μm,1.0s						
R4DEC	**Barrio San Lui**	**0.86**	**31**	*i* P	**Pn**	**19 18 40.0**	**-0.7**
BC86	**Nagarote**	**0.86**	**9**	*i* P	**Pn**	**19 18 40.1**	**-0.7**
BC86				IAML		19 19 39.3	
	comp=Z,6μm,1.0s						
AMTN	**Mateare**	**0.87**	**18**	*i* P	**Pn**	**19 18 39.9**	**-0.9**
AMTN				IAML		19 18 59.3	
	comp=Z,8μm,1.0s						
APQ2	**Apoyeque**	**0.87**	**25**	*i* P	**Pn**	**19 18 40.2**	**-0.6**
APQ2				IAML		19 19 00.1	
	comp=Z,4μm,1.0s						
APYN	**Apoyeque**	**0.89**	**23**	*i* P	**Pn**	**19 18 40.5**	**-0.6**
APYN				IAML		19 18 57.7	
	comp=Z,2μm,1.0s						
GRNN	**Granada**	**0.90**	**54**	*i* P	**Pn**	**19 18 40.4**	**-0.7**
GRNN				IAML		19 19 02.2	
	comp=Z,6μm,1.0s						
AERN	**Aeropuerto Man**	**0.90**	**35**	*i* P	**Pn**	**19 18 40.0**	**-1.2**
AERN				IAML		19 18 56.2	
	comp=Z,6μm,1.0s						
WILN	**Americas 2**	**0.90**	**34**	*i* P	**Pn**	**19 18 40.7**	**-0.5**
WILN				IAML		19 18 59.8	
	comp=Z,2μm,1.0s						
TIPN	**Tipitapa**	**0.98**	**37**	*i* P	**Pn**	**19 18 41.6**	**-0.7**
TIPN				IAML		19 18 58.6	
	comp=Z,5μm,1.0s						
LEVN	**Ruinas Leon Vi**	**0.99**	**5**	*i* P	**Pn**	**19 18 41.9**	**-0.5**
LEVN				IAML		19 18 42.7	
	comp=Z,8μm,1.0s						
LEVN				*i* S	**Sn**	**19 18 56.9**	**+1.2**
BC84	**Volcan Momotom**	**0.99**	**9**	*i* P	**Pn**	**19 18 41.6**	**-0.8**
BC84				IAML		19 18 42.9	
	comp=Z,6μm,1.0s						
MOMN	**Momotombo**	**1.01**	**9**	*i* P	**Pn**	**19 18 42.0**	**-0.7**
MOMN				IAML		19 18 43.0	
	comp=Z,280nm,1.0s						
MOMN				*i* S	**Sn**	**19 18 57.1**	**+0.9**
HUGN	**San Francisco L**	**1.02**	**30**	*i* P	**Pn**	**19 18 42.0**	**-0.7**
HUGN				IAML		19 19 40.7	
	comp=Z,7μm,1.0s						
MOM2	**El Cardon**	**1.05**	**12**	*i* P	**Pn**	**19 18 42.7**	**-0.4**
MOM2				*i* S	**Sn**	**19 18 58.5**	**+1.5**
MOM2				IAML		19 19 02.2	
	comp=Z,2μm,1.0s						
MACN	**El Madrono**	**1.05**	**1**	*i* P	**Pn**	**19 18 42.6**	**-0.6**
MACN				IAML		19 19 05.5	
	comp=Z,3μm,1.0s						
OMEN	**Al SSO del Vol**	**1.06**	**84**	*i* P	**Pn**	**19 18 42.0**	**-1.2**
OMEN				IAML		19 19 05.7	
	comp=Z,6μm,1.0s						
HUEN		**1.06**	**29**	*i* P	**Pn**	**19 18 43.0**	**-0.3**
CNGN	**Cerro Negro**	**1.09**	**0**		**Pn**	**19 18 41.3**	**-2.4**
CNGN	**Cerro Negro**	**1.09**	**0**	*e*P	**Pn**	**19 18 41.8**	**-1.9**
CNGN	**Cerro Negro**	**1.09**	**0**	*i* P	**Pn**	**19 18 42.5**	**-1.2**
CNGN				*i* S	**Sn**	**19 18 59.1**	**+1.1**
CNGN				IAML		19 19 04.6	
	comp=Z,4μm,1.0s						
SBEN	**San Benito**	**1.09**	**35**	*i* P	**Pn**	**19 18 42.9**	**-0.8**
SBEN				IAML		19 19 03.4	
	comp=Z,6μm,1.0s						
LCRUZ	**La Cruz**	**1.10**	**107**	*e*P	**Pn**	**19 18 42.9**	**-0.9**
LCRUZ				*e*S	**Sn**	**19 18 59.0**	**+0.8**
BC87	**San Francisco**	**1.17**	**20**	*i* P	**Pn**	**19 18 44.6**	**-0.1**
BC87				*i* S	**Sn**	**19 19 01.6**	**+1.8**
HERN	**Volcan Telica**	**1.20**	**354**	*i* P	**Pn**	**19 18 44.9**	**-0.4**
HERN				*i* S	**Sn**	**19 19 01.7**	**+0.9**
HERN				IAML		19 19 08.3	
	comp=Z,2μm,1.0s						
HZTE	**Horizontes, Gu**	**1.28**	**122**		**Pn**	**19 18 43.8**	**-2.4**
HZTE	**Horizontes, Gu**	**1.28**	**122**	*e*P	**Pn**	**19 18 43.9**	**-2.4**
HZTE	**Horizontes, Gu**	**1.28**	**122**	*i* P	**Pn**	**19 18 45.0**	**-1.2**
HZTE				*i* S	**Sn**	**19 19 03.4**	**+0.8**
HZTE				IAML		19 19 25.8	
	comp=Z,3μm,1.0s						
PKGN	**Cerro Pekin**	**1.29**	**348**	*i* P	**Pn**	**19 18 45.7**	**-0.6**
PKGN				*i* S	**Sn**	**19 19 04.0**	**+1.4**
PKGN				IAML		19 19 06.5	
	comp=Z,7μm,1.0s						
CRIN	**San Cristobal**	**1.33**	**345**		**Pn**	**19 18 45.7**	**-1.3**
CRIN	**San Cristobal**	**1.33**	**345**	*e*P	**Pn**	**19 18 46.1**	**-0.9**
CRIN	**San Cristobal**	**1.33**	**345**	*i* P	**Pn**	**19 18 46.3**	**-0.6**
CRIN				*i* S	**Sn**	**19 19 04.7**	**+0.9**
CRIN				IAML		19 19 16.6	
	comp=Z,6μm,1.0s						
BRAN	**Las Pilas**	**1.35**	**15**	*i* P	Pn	19 18 38.8	-8.3
BRAN				IAML		19 18 39.6	
	comp=Z,6μm,1.0s						
BOAB	**BOACO BROADBAN**	**1.45**	**44**		**Pn**	**19 18 47.5**	**-0.9**
BOAB	**BOACO BROADBAN**	**1.45**	**44**	*i* P	**Pn**	**19 18 48.1**	**-0.3**
BOAB				IAML		19 19 01.2	
	comp=Z,610nm,1.0s						
AESN	**El Sauce Leon**	**1.48**	**6**	*i* P	**Pn**	**19 18 49.1**	**+0.2**
AESN				IAML		19 19 09.6	
	comp=Z,6μm,1.0s						
AESN				*i* S	**Sn**	**19 19 09.7**	**+2.4**
ACON	**Acoyapa**	**1.59**	**69**		**Pn**	**19 18 49.1**	**-1.3**
ACON	**Acoyapa**	**1.59**	**69**	*e*P	**Pn**	**19 18 49.5**	**-0.9**
ACON	**Acoyapa**	**1.59**	**69**	*i* P	**Pn**	**19 18 50.8**	**+0.4**
ACON				*i* S	**Sn**	**19 19 12.4**	**+2.4**
ACON				IAML		19 19 16.9	
	comp=Z,940nm,1.0s						
ORTG	**Ortega, Santa**	**1.60**	**130**		**Pn**	**19 18 47.8**	**-2.7**
ORTG	**Ortega, Santa**	**1.60**	**130**	*i* P	**Pn**	**19 18 50.0**	**-0.5**
ORTG				*i* S	**Sn**	**19 19 10.8**	**+0.6**
ORTG				IAML		19 19 24.3	
	comp=Z,1μm,1.0s						
SAJU	**San Juanillo,**	**1.65**	**144**	*i* P	**Pn**	**19 18 51.0**	**-0.1**
SAJU				IAML		19 19 22.5	
	comp=Z,1μm,1.0s						
VMAR	**Armenia, Volca**	**1.66**	**111**	*e*P	**Pn**	**19 18 50.0**	**-1.4**
LIMN	**Finca el Limon**	**1.68**	**11**	*i* P	**Pn**	**19 18 51.7**	**+0.1**
LIMN				IAML		19 19 01.4	
	comp=Z,900nm,1.0s						
LIMN				*i* S	**Sn**	**19 19 14.5**	**+2.3**
INDI	**Punta indio, G**	**1.93**	**142**	*i* P	**Pn**	**19 18 55.2**	**+0.3**
INDI				IAML		19 19 36.0	
	comp=Z,1μm,1.0s						
JTS	**Las Juntas de**	**2.04**	**123**		**Pn**	**19 18 55.5**	**-1.0**
JTS	**Las Juntas de**	**2.04**	**123**	Pn	**Pn**	**19 18 56.2**	**-0.3**
	comp=Z,39nm,0.3s,baz=303,slow=18,SNR=42						
JTS				Sn	**Sn**	**19 19 23.9**	**+3.0**
	comp=Z,72nm,0.3s,baz=8.4,slow=21,SNR=9.7						
	comp=Z,70nm,0.3s						
ARE1	**Arenal 1**	**2.16**	**116**		**Pn**	**19 18 57.3**	**-0.7**
CNCH	**Conchagua**	**2.17**	**329**	*i* P	**Pn**	**19 18 58.2**	**0.0**
CNCH				*i* S	**Sn**	**19 19 24.7**	**+0.6**
CNCH				IAML		19 19 31.5	
	comp=Z,1μm,1.0s						
SOCE	**Pocosol**	**2.28**	**116**	*i* P	**Pn**	**19 19 00.1**	**+0.3**
SOCE				IAML		19 19 44.1	
	comp=Z,340nm,1.0s						
COVE	**Coope Vega, Sa**	**2.36**	**107**		**Pn**	**19 18 59.3**	**-1.4**
LAFE	**Finca La Fe, P**	**2.37**	**132**	*i* P	**Pn**	**19 19 02.0**	**+1.1**
LAFE				IAML		19 19 40.9	
	comp=Z,3.5nm,1.0s						
ESPN	**Las Esperanzas**	**2.48**	**71**		**Pn**	**19 19 01.3**	**-1.0**
CPMI	**Catarata Coope**	**2.54**	**116**	*i* P	**Pn**	**19 19 04.1**	**+0.7**
CPMI				IAML		19 19 54.9	
	comp=Z,360nm,1.0s						
JACO	**JACO, Garabito**	**2.65**	**131**		**Pn**	**19 19 05.8**	**+1.1**
JACO	**JACO, Garabito**	**2.65**	**131**	*i* P	**Pn**	**19 19 05.7**	**+1.0**
JACO				IAML		19 20 01.2	
	comp=Z,210nm,1.0s						
TGUH	**Tegucigalpa,Un**	**2.69**	**348**		**Pn**	**19 19 05.0**	**-0.4**
TGUH				IAML		19 19 06.8	
	comp=Z,380nm,1.0s						
LCR2	**La Lucha 2**	**3.12**	**122**		**Pn**	**19 19 10.8**	**-0.6**
PEZE	**Perez Zeledon,**	**3.59**	**124**		**Pn**	**19 19 17.1**	**-0.5**
SRBA	**San Rafael, Bu**	**3.93**	**123**		**Pn**	**19 19 22.5**	**+0.1**
MTO3	**Montecristo**	**3.95**	**319**		**Pn**	**19 19 22.5**	**-0.2**
DRK0	**Durika**	**4.01**	**122**		**Pn**	**19 19 22.7**	**-0.8**
ESQI	**Esquipulas**	**4.06**	**321**	Pn	**Pn**	**19 19 24.0**	**-0.1**
BRU2	**Volcan**	**4.72**	**123**	Pn	**Pn**	**19 19 32.4**	**-0.9**
CMIG	**Matias Romero**	**9.74**	**306**	Pn	**Pn**	**19 20 42.1**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=110,slow=5.4,SNR=4.4						
	comp=Z,2.0nm,0.4s						
PAPH	**Port-au-Prince**	**15.60**	**61**	Pn	**Pn**	**19 22 00.2**	**-0.3**
ATAH	**Atahualpa**	**20.19**	**155**	LR	LR	19 29 49.1	
	comp=Z,67nm,18.8s,baz=358,slow=34						
DRIO	**Del Rio**	**22.13**	**326**	P	**P**	**19 23 15.4**	**+0.4**
TXAR	**Lajitas Array**	**23.84**	**321**	P	**P**	**19 23 33.2**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=128,slow=10,SNR=13						
	comp=Z,1.3nm,0.6s						
MIAR	**Mount Ida**	**23.87**	**346**	P	**P**	**19 23 32.7**	**+0.4**
WHAR	**Wooly Hollow**	**24.32**	**349**	P	**P**	**19 23 36.3**	**+0.1**
WHAR				IAmb	IAmb	19 23 50.1	
	comp=Z,12nm,1.4s						
X37A	**Clayton**	**24.39**	**342**	P	**P**	**19 23 38.0**	**+1.1**
X37A				IAmb	IAmb	19 23 59.9	
	comp=Z,20nm,1.5s						
WVT	**Waverly**	**24.64**	**358**	P	**P**	**19 23 40.3**	**+1.2**
WVT				IAmb	IAmb	19 23 44.5	
	comp=Z,17nm,1.4s						
MNHN	**Monahans**	**24.78**	**326**	P	**P**	**19 23 40.7**	**0.0**
MNHN				IAmb	IAmb	19 23 48.5	
	comp=Z,5.1nm,0.8s						
T47A	**Sharon Grove**	**25.48**	**359**	P	**P**	**19 23 48.7**	**+1.9**
POST	**Post**	**25.48**	**330**	P	**P**	**19 23 47.0**	**0.0**
POST				IAmb	IAmb	19 24 03.2	
	comp=Z,4.3nm,0.7s						
WMOK	**Wichita Mounta**	**25.70**	**337**	P	**P**	**19 23 50.5**	**+1.6**
WMOK				IAmb	IAmb	19 23 52.3	
	comp=Z,8.7nm,1.0s						
S39A	**Bolivar**	**26.84**	**348**	P	**P**	**19 23 58.1**	**-1.0**
S39A				IAmb	IAmb	19 23 60.0	
	comp=Z,4.6nm,0.7s						
ETMB	**Extrema**	**29.31**	**135**	P	**P**	**19 24 22.4**	**+1.0**
ETMB				IAmb	IAmb	19 24 22.6	
	comp=Z,3.0nm,0.7s						
PFO	**Pinyon Flats O**	**35.06**	**314**	LR	LR	19 41 33.3	
	comp=Z,70nm,19.6s,baz=225,slow=40						
PDAR	**Pinedale Array**	**37.04**	**332**	P	**P**	**19 25 29.0**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=126,slow=9.7,SNR=7.7						
	comp=Z,0.5nm,0.5s						
ELK	**Elko**	**38.54**	**324**	LR	LR	19 46 14.1	
	comp=Z,51nm,18.8s,baz=260,slow=44						
SCHQ	**Schefferville**	**46.07**	**16**	P	**P**	**19 26 39.3**	**-2.7**
	comp=Z,1.6nm,0.7s,baz=240,slow=10,SNR=1.8						
	comp=Z,1.6nm,0.7s						
YKA	**Yellowknife Ar**	**54.81**	**345**	P	**P**	**19 27 47.1**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=128,slow=8.1,SNR=6.3						
	comp=Z,0.2nm,0.5s						
RES	**Resolute Bay**	**63.43**	**358**	P	**P**	**19 28 46.4**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=193,slow=8.9,SNR=1.6						
	comp=Z,0.3nm,0.5s						
ILAR	**Eielson Array**	**67.27**	**336**	P	**P**	**19 29 12.0**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=131,slow=4.7,SNR=3.6						
ILAR				LR	LR	20 04 52.3	
	comp=Z,49nm,18.2s,baz=27,slow=42						
	comp=Z,0.3nm,0.7s						
DAVOX	**Davos/Dischmat**	**86.24**	**43**	LR	LR	20 04 38.8	
	comp=Z,68nm,18.9s,baz=310,slow=32						
ASAR	**Alice Springs**	**139.55**	**247**	PKhKP	PKPpre	19 37 47.2	
	comp=Z,0.3nm,0.7s,baz=94,slow=2.0,SNR=7.1						
WRA	**Warramunga Arr**	**139.67**	**253**	PKhKP	PKPpre	19 37 47.7	
	comp=Z,0.3nm,0.8s,baz=96,slow=3.4,SNR=4.5						

CATAC ***28*** *20:01:37.7±0.5, 12°.95N×89°.15W, h19km±4km, ML3.8*
SNET ***28*** *20:01:38.1±1.0, 12°.95N×89°.16W, h31km, ML3.9*

ISC 28 20:01:37.6±1.6, 12°.93N±0°.07×89°.14W±0°.04, h21km±5km, n65, σ0s87/103, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.58**	**343**	*e*P	**Pn**	**20 01 50.3**	**-0.2**
LALI				*e*S	**Sn**	**20 01 58.4**	**-1.0**
LALI	**Alcalda de L**	**0.58**	**343**	*i* P	**Pb**	**20 01 50.1**	**+1.0**
LALI				*i* S	**Sb**	**20 01 57.8**	**+0.8**
LALI				IAML		20 01 58.8	
	comp=Z,1μm,1.0s						
PANCS	**Alcalda de**	**0.68**	**357**	*i* P	**Pb**	**20 01 51.4**	**+0.6**
PANCS				*i* S	**Sb**	**20 02 00.8**	**+1.0**
PANCS				IAML		20 02 02.3	
	comp=Z,5μm,1.0s						
ALJI	**Alcalda de J**	**0.68**	**55**	*e*P	Pb	20 01 43.4	-7.4
ALJI				*e*S	**Sb**	**20 01 52.9**	**-6.9**
SJTE	**Alcalda de S**	**0.69**	**11**	*e*P	**Pb**	**20 01 51.6**	**+0.6**
SJTE				*e*S	**Sn**	**20 02 01.5**	**-0.8**
SJTE	**Alcalda de S**	**0.69**	**11**	*i* P	**Pb**	**20 01 51.6**	**+0.6**
SJTE				*i* S	**Sb**	**20 02 01.0**	**+0.8**
SJTE				IAML	

SCLA				*i* S		**Sn**	**20 02 06.7 +0.2**
SCLA				IAML			20 02 08.2	
	comp=Z,720nm,1.0s							
PQSS	**Presa 15 de Se**	**0.89**	**39**	*eP*		**Pb**	**20 01 54.9 +0.6**
PQSS				*eS*		**Sn**	**20 02 07.0 -0.1**
PQSS	**Presa 15 de Se**	**0.89**	**39**	*i P*		**Pb**	**20 01 54.9 +0.6**
PQSS				*i S*		**Sn**	**20 02 07.5 +0.4**
PQSS				IAML			20 02 08.2	
	comp=Z,5µm,1.0s							
CEDA	**San Andres**	**0.90**	**344**	*eP*		**Pb**	**20 01 54.5 +0.1**
CEDA	**San Andres**	**0.90**	**344**	*i* P		**Pb**	**20 01 54.6 +0.1**
CEDA				*i S*		**Sn**	**20 02 07.2 -0.2**
CEDA				IAML			20 02 08.6	
	comp=Z,5µm,1.0s							
QUEZ	**Alcaldia de Qu**	**0.91**	**352**	*i* P		**Pb**	**20 01 54.8 +0.2**
QUEZ				*i* S		**Sn**	**20 02 07.6 +0.1**
QUEZ				IAML			20 02 15.7	
	comp=Z,4µm,1.0s							
LCY	**Lacayo**	**0.96**	**59**	*eP*		**Pb**	**20 01 56.1 +0.5**
LCY				*eS*		**Sn**	**20 02 09.4 +0.4**
PACA	**Pacayal**	**0.96**	**56**	*eP*		**Pn**	**20 01 56.3 +0.4**
PACA				*eS*		**Sn**	**20 02 09.5 +0.5**
PACA	**Pacayal**	**0.96**	**56**	*i* P		**Pn**	**20 01 56.3 +0.4**
PACA				*i S*		**Sn**	**20 02 09.5 +0.5**
PACA				IAML			20 02 11.1	
	comp=Z,33µm,1.0s							
RANC	**El Ranchito**	**0.97**	**59**	*i* P		**Pb**	**20 01 56.4 +0.6**
RANC				*i S*		**Sn**	**20 02 09.7 +0.4**
RANC				IAML			20 02 11.8	
	comp=Z,4µm,1.0s							
VSM	**San Miguel**	**0.98**	**60**	*eP*		**Pb**	**20 01 56.5 +0.6**
CEVE	**Cerro Verde**	**1.01**	**332**	*eP*		**Pb**	**20 01 56.2 -0.2**
CEVE	**Cerro Verde**	**1.01**	**332**	*i* P		**Pb**	**20 01 56.2 -0.2**
CEVE				*i S*		**Sn**	**20 02 10.3 0.0**
CEVE				IAML			20 02 12.3	
	comp=Z,1µm,1.0s							
SBLS	**San Blas**	**1.01**	**333**	*eP*		**Pb**	**20 01 56.4 -0.2**
BLLM	**Bellamira**	**1.02**	**60**	*eP*		**Pb**	**20 01 56.8 +0.3**
BLLM				*eS*		**Sn**	**20 02 10.9 +0.6**
SNJE	**San Jose**	**1.03**	**334**	*eP*		**Pb**	**20 01 56.4 -0.5**
RTR	**El Retiro**	**1.08**	**333**	*eP*		**Pb**	**20 01 57.3 -0.3**
RTR				*eS*		**Sn**	**20 02 12.0 0.0**
UNIC	**Universidad Ca**	**1.11**	**339**	*i* P		**Pn**	**20 01 58.2 +0.2**
UNIC				IAML			20 02 13.8	
	comp=Z,870nm,1.0s							
NUBE	**Las Nubes**	**1.15**	**327**	*eP*		**Pn**	**20 01 57.8 -0.7**
NUBE	**Las Nubes**	**1.15**	**327**	*i* P		**Pn**	**20 01 58.2 -0.3**
NUBE				IAML			20 02 13.0	
	comp=Z,2µm,1.0s							
LOAL	**Lomas de Alarc**	**1.23**	**330**	*i* P		**Pn**	**20 01 59.6 +0.1**
LOAL				IAML			20 02 39.5	
	comp=Z,2µm,1.0s							
SLOZ	**Alcaldia de Sa**	**1.25**	**330**	*eP*		**Pn**	**20 01 59.6 -0.2**
LCND	**La Caada**	**1.28**	**73**	*eP*		**Pn**	**20 02 00.5 +0.3**
LCND				*eS*		**Sn**	**20 02 16.5 -0.2**
LCND	**La Caada**	**1.28**	**73**	*i* P		**Pn**	**20 02 00.5 +0.3**
LCND				*i* P		**Pb**	**20 02 00.6 -0.3**
LCND				IAML			20 02 00.7	
	comp=Z,2µm,1.0s							
LCND				IAML			20 02 20.3	
	comp=Z,13µm,1.0s							
CNCH	**Conchagua**	**1.32**	**75**	*eP*		**Pn**	**20 02 00.7 -0.2**
CNCH				*eS*		**Sn**	**20 02 18.6 +0.7**
CNCH	**Conchagua**	**1.32**	**75**	*i* P		**Pn**	**20 02 00.7 -0.2**
CNCH				IAML			20 02 23.8	
	comp=Z,3µm,1.0s							
MTO3	**Montecristo**	**1.47**	**352**	*eP*		**Pn**	**20 02 02.8 -0.3**
MTO3	**Montecristo**	**1.47**	**352**	*i* P		**Pn**	**20 02 02.8 -0.3**
MTO3				IAML			20 02 29.8	
	comp=Z,190nm,1.0s							
ESQI	**Esquipulas**	**1.63**	**353**	*i* P		**Pn**	**20 02 05.4 +0.3**
ESQI				IAML			20 02 27.6	
	comp=Z,310nm,1.0s							
INTHN	**La Esperanza I**	**1.71**	**36**	*i* P		**Pn**	**20 02 06.3 0.0**
PKGN	**Cerro Pekin**	**2.13**	**97**	*i* P		**Pn**	**20 02 12.4 +0.5**
PKGN				IAML			20 02 13.1	
	comp=Z,2µm,1.0s							
TGUH	**Tegucigalpa,Un**	**2.13**	**58**	*i* P		**Pn**	**20 02 12.1 0.0**
TGUH				IAML			20 02 52.1	
	comp=Z,130nm,1.0s							
COMHN	**El Horno**	**2.15**	**46**	*i* P		**Pn**	**20 02 12.1 -0.3**
HERN	**Volcan Telica**	**2.28**	**98**	*i* P		**Pn**	**20 02 14.3 +0.3**
HERN				IAML			20 02 44.1	
	comp=Z,270nm,1.0s							
COPN	**Copaltepe**	**2.60**	**106**	*i* P		**Pn**	**20 02 18.9 +0.5**
COPN				IAML			20 03 07.0	
	comp=Z,73nm,1.0s							
LIMN	**Finca el Limon**	**2.71**	**87**	*i* P		**Pn**	**20 02 19.8 -0.2**
LIMN				IAML			20 02 20.4	
	comp=Z,94nm,1.0s							

*IDC **28** 20:13:09.7±1.0,6.16S×143.22E,h0km,mb3.8/5, mbtmp3.9/7,ML1.4/1,Error ellipse: s-maj=35.8km s-min=20.6km az=76.0*

ISC 28 20:13:14.9±0.8,6.46S±0.07×142.99E±0.07,h35km,n17, σ2s53/20,mb3.8/5,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**2.11**	**304**	P	**Pn**	**20 13 47.6**	**-0.2**
PMG	**Port Moresby**	**5.07**	**126**	Pn	**Pn**	**20 14 26.9**	**-1.5**
	0.9nm,0.3s,baz=244,slow=17,SNR=2.3						
PMG				Sn	**Sn**	**20 15 25.9**	**+0.2**
	0.6nm,0.3s,baz=347,slow=17,SNR=3.0						
	3.0nm,0.4s						
FAKI	**Fak Fak**	**11.26**	**288**	P	**Pn**	**20 15 53.5**	**+0.1**
FAKI	**Fak Fak**	**11.26**	**288**	P	**Pn**	**20 15 53.6**	**+0.1**
KDU	**Kakadu**	**12.07**	**298**	P	**Pn**	**20 16 03.8**	**-0.7**
QIS	**Mount Isa**	**14.40**	**193**	P	**P**	**20 16 45.0**	**+2.3**
WRA	**Warramunga Arr**	**15.82**	**211**	Pn	**Pn**	**20 16 55.2**	**+0.1**
	0.2nm,0.3s,baz=31,slow=13,SNR=18						
WRA				Sn	**Sn**	**20 19 42.3**	**-7.2**
	0.1nm,0.3s,baz=26,slow=22,SNR=2.6						
WRA				Lg	Lg	20 21 42.5	
	0.2nm,0.3s,baz=29,slow=29,SNR=4.6						
KNRA	**Kununurra**	**16.69**	**236**	P	**P**	**20 17 07.5**	**-0.7**
AS01	**Alice Springs**	**19.19**	**206**	P	**Pn**	**20 17 39.9**	**+3.0**
	11nm,0.7s						
ASAR	**Alice Springs**	**19.21**	**206**	P	**Pn**	**20 17 39.7**	**+2.5**
	6.8nm,0.6s,baz=31,slow=11,SNR=115						
ASAR				S	**Sn**	**20 21 09.8**	**-1.8**
	0.4nm,0.7s,baz=19,slow=28,SNR=2.7						
ASAR				Lg	Lg	20 23 29.9	
	baz=12,slow=28,SNR=4.1						
OOD	**Oodnadatta**	**22.32**	**197**	P	**P**	**20 18 13.4**	**+3.8**
WRKA	**Warakurna**	**23.22**	**216**	P	**P**	**20 18 21.4**	**+2.3**
STKA	**Stephens Creek**	**25.32**	**183**	P	**P**	**20 18 41.1**	**+2.7**
	1.5nm,0.9s,baz=0.0,slow=15,SNR=1.9						
	1.5nm,0.9s						
SONM	**Songino Array**	**62.93**	**333**	P	**P**	**20 23 37.4**	**-0.5**
	0.2nm,0.4s,baz=148,slow=8.5,SNR=2.0						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**75.34**	**322**	P	**P**	**20 24 54.4**	**-0.4**
	0.6nm,0.6s,baz=102,slow=7.4,SNR=9.9						
	0.6nm,0.6s						
BVAR	**Borovoye Array**	**84.81**	**325**	P	**P**	**20 25 45.4**	**-0.3**
	2.8nm,0.7s,baz=119,slow=5.6,SNR=13						
	2.8nm,0.7s						
ILAR	**Eielson Array**	**87.49**	**24**	P	**P**	**20 25 57.1**	**-1.5**
	0.4nm,0.8s,baz=256,slow=4.2,SNR=4.8						
	0.4nm,0.8s						

*IDC **28** 20:40:26.1±4.7,31.67S×179.78E,h380km±39km,mb3.2/3, mbtmp4.0/4,Error ellipse: s-maj=52.3km s-min=20.9km az=45.0*
*WEL **28** 20:41:53.9,38.5±21.1×17.7E±2.0,h78km±27km,M2.2/18, ML2.2/18,MLv2.2/18,Error ellipse: s-maj=0.0km s-min=0.0km az=140.3*

ISC 28 20:40:28.7±1.7,32.0S±0.1×179.6E±0.2,h400km,n41, σ1s39/38,mb3.5/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUGZ	**Raukumara Rang**	**6.19**	**194**	P	**Pn**	**20 42 03.8**	**+0.6**
TWGZ	**Tauwhareparae**	**6.33**	**192**	P	**P**	**20 42 07.4**	**+2.6**
MWZ	**Matawai**	**6.57**	**194**	P	**Pn**	**20 42 08.0**	**+0.5**
CNGZ	**Carnagh Statio**	**6.60**	**190**	P	**Pn**	**20 42 08.3**	**+0.6**
URZ	**Urewera**	**6.60**	**197**	P	**Pn**	**20 42 08.5**	**+0.8**
	12nm,0.4s,baz=337,slow=4.1,SNR=29						
URZ				S	**S**	**20 43 24.6**	**-4.0**
	12nm,0.3s,baz=309,slow=23,SNR=14						
URZ	**Urewera**	**6.60**	**197**	P	**Pn**	**20 42 08.6**	**+0.8**
RAGZ	**Rawiri**	**6.75**	**195**	P	**Pn**	**20 42 10.2**	**+0.7**
RIGZ	**Rimuhau**	**6.89**	**192**	P	**P**	**20 42 12.3**	**+0.8**
MUGZ	**Murupara**	**6.89**	**199**	P	Pn	20 42 03.2	-7.8
RTZ	**Ruatahuna**	**6.97**	**197**	P	Pn	20 42 05.2	-6.7
SNGZ	**Shannon Statio**	**7.04**	**195**	P	**P**	**20 42 14.9**	**+1.7**
MTHZ	**Maungataniwha**	**7.23**	**197**	P	**Pn**	**20 42 15.9**	**+1.1**
RAHZ	**Arahi**	**7.23**	**196**	P	**Pn**	**20 42 14.4**	**-0.4**
MHGZ	**Mahia Peninsul**	**7.30**	**190**	P	**P**	**20 42 17.4**	**+1.3**
MRHZ	**Matea Rd**	**7.33**	**200**	P	**Pn**	**20 42 16.6**	**+0.7**
NMHZ	**Naumai**	**7.47**	**197**	P	**P**	**20 42 19.0**	**+1.0**
ARHZ	**Aropaoanui**	**7.58**	**196**	P	**Pn**	**20 42 19.5**	**+0.8**
HIZ	**Hauiti**	**7.59**	**209**	P	**P**	**20 42 22.9**	**+3.5**
BKZ	**Black Stump Fm**	**7.61**	**199**	P	**Pn**	**20 42 19.4**	**+0.2**
ETVZ	**East Tongariro**	**7.82**	**203**	P	**Pn**	**20 42 22.5**	**+0.9**
WTVZ	**West Tongariro**	**7.84**	**204**	P	**Pn**	**20 42 22.9**	**+1.1**
TWVZ	**Taurewa**	**7.86**	**204**	P	**P**	**20 42 23.9**	**+1.5**
OTVZ	**Oturere**	**7.86**	**203**	P	Pn	20 42 17.2	-4.9
KWHZ	**Kaweka Forest**	**7.87**	**198**	P	**Pn**	**20 42 22.6**	**+0.5**
SNVZ	**South Ngauruho**	**7.89**	**203**	P	**Pn**	**20 42 23.6**	**+1.2**
CKHZ	**Cape Kidnapper**	**7.94**	**194**	P	**Pn**	**20 42 23.7**	**+0.9**
WNVZ	**Wahianoa**	**8.03**	**203**	P	**Pn**	**20 42 24.2**	**+0.2**
BHHZ	**Black Hill Sta**	**8.04**	**200**	P	**Pn**	**20 42 23.1**	**-0.8**
PKVZ	**Pokaka**	**8.08**	**204**	P	**Pn**	**20 42 24.9**	**+0.4**
KAHZ	**Kahuranaki**	**8.11**	**195**	P	**Pn**	**20 42 25.7**	**+0.9**
PXZ	**Pawanui**	**8.34**	**195**	P	**Pn**	**20 42 27.7**	**+0.4**
PNHZ	**Pukenui**	**8.39**	**198**	P	**Pn**	**20 42 27.2**	**-0.8**
TSZ	**Takapari Road**	**8.59**	**199**	P	**Pn**	**20 42 29.6**	**-0.7**
PRHZ	**Porangahau**	**8.62**	**195**	P	**Pn**	**20 42 30.8**	**+0.2**
ANWZ	**Angora Road**	**8.84**	**196**	P	**P**	**20 42 33.9**	**+0.7**
BFZ	**Birch Farm**	**9.10**	**196**	P	P	20 42 31.0	-5.1
MRZ	**Mangatainoka R**	**9.26**	**199**	P	**P**	**20 42 36.6**	**-1.3**
ASAR	**Alice Springs**	**41.01**	**270**	P	**P**	**20 47 35.2**	**+0.2**
	0.6nm,0.5s,baz=106,slow=7.3,SNR=15						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**42.15**	**275**	P	**P**	**20 47 43.8**	**-0.3**
	1.6nm,0.5s,baz=112,slow=7.9,SNR=30						
	1.6nm,0.5s						
QSPA	**South Pole Qui**	**58.14**	**180**	P	**P**	**20 49 43.0**	**+1.0**
	1.2nm,0.5s,baz=251,slow=1.9,SNR=16						
	1.2nm,0.5s						
FINES	**FINESS Array B**	**145.86**	**338**	PKPbc	**PKPab**	**20 59 19.6**	**-2.8**
	1.5nm,0.8s,baz=43,slow=4.7,SNR=8.1						

*TAP **28** 20:46:38.8,24.29N×122.89E,h36km,ML3.4,D*
*JMA **28** 20:46:38.5±0.1,24.2N±2.1×123.0E±0.5,h49km±1km, MV2.6/12,NW OFF ISHIGAKIJIMA IS*

ISC 28 20:46:38.7±1.2,24.27N±0.04×122.97E±0.02,h43km±8km, n77,σ1s36/106,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.18**	**353**	*i* P	**Pn**	**20 46 46.0**	**-0.1**
JYNG				S	**Sn**	**20 46 51.4**	**+0.2**
YOJ	**Yonaguni jima**	**0.19**	**12**	P	**Pn**	**20 46 45.5**	**-0.7**
YOJ	**Yonaguni jima**	**0.19**	**12**	*i* P	**Pn**	**20 46 46.2**	**0.0**
	baz=24						
YOJ				S	**Sn**	**20 46 51.5**	**+0.1**
	baz=24						
YOJ	**Yonaguni jima**	**0.19**	**12**	*i* P	**Pn**	**20 46 46.2**	**0.0**
YOJ				S	**Sn**	**20 46 51.6**	**+0.1**
EOS3	**EOS3**	**0.59**	**271**	*i* P	**Pn**	**20 46 50.9**	**+0.3**
	baz=270						
EOS2	**EOS2**	**0.69**	**282**	*i* P	**Pn**	**20 46 51.8**	**-0.1**
	baz=286						
EOS2				*eS*	**Sn**	**20 47 01.8**	**+0.4**
	baz=286						
IRIF	**Iriomote-Funau**	**0.70**	**85**	P	**Pn**	**20 46 52.0**	**-0.1**
IRIF				*eS*	**Sn**	**20 47 02.1**	**+0.3**
HATJ	**Hateruma jima**	**0.79**	**106**	*eS*	**Sn**	**20 47 05.6**	**+1.5**
JKRS	**Kuro-shima**	**0.95**	**92**	*eP*	**Pn**	**20 46 56.1**	**+0.5**
JKRS				S	**Sn**	**20 47 08.6**	**+0.6**
TWC	**Suao**	**1.07**	**288**	*eP*	**Pn**	**20 46 56.4**	**-0.9**
	baz=299						
TWC				*eS*	**Sn**	**20 47 09.3**	**-1.6**
	baz=299						
JIJ	**Ishigaki jima**	**1.08**	**85**	*i* P	**Pn**	**20 46 57.1**	**-0.2**
JIJ				S	**Sn**	**20 47 10.1**	**-0.9**
ENA	**Nanau**	**1.13**	**278**	P	**Pn**	**20 46 58.0**	**-0.1**
	baz=277						
TWB1	**Santiao Chiao**	**1.15**	**310**	*eS*	**Sn**	**20 47 10.0**	**-3.0**
	baz=310						
NDS	**Dongshan**	**1.20**	**288**	*i* P	**Pn**	**20 46 58.8**	**-0.1**
	baz=297						
NDS				*eS*	**Sn**	**20 47 12.6**	**-1.4**
	baz=297						
TIPB	**Shuangxi**	**1.25**	**304**	*eP*	**Pn**	**20 46 59.1**	**-0.6**
	baz=315						
TIPB				*eS*	**Sn**	**20 47 13.2**	**-2.2**
	baz=315						
NACB	**Ninganchiao**	**1.26**	**266**	P	**Pn**	**20 46 59.9**	**+0.1**
NACB	**Ninganchiao**	**1.26**	**266**	*i* P	**Pn**	**20 46 59.8**	**0.0**
	baz=264						
JISG	**Ishigakijimahi**	**1.26**	**75**	*i* P	**Pn**	**20 46 59.6**	**-0.3**
JISG				S	**Sn**	**20 47 15.1**	**-0.5**
TWE	**Neicheng**	**1.27**	**291**	*eP*	**Pn**	**20 46 59.5**	**-0.4**
	baz=300						
TWE				*eS*	**Sn**	**20 47 14.4**	**-1.3**
	baz=300						
SXI1	**Grass Mountain**	**1.29**	**310**	*eP*	**Pn**	**20 46 59.9**	**-0.4**
	baz=319						
ENTT	**Nioudou**	**1.33**	**286**	*i* P	**Pn**	**20 47 01.3**	**+0.6**
	baz=296						
LATG	**Datong**	**1.34**	**282**	*eP*	**Pn**	**20 47 01.3**	**+0.3**
	baz=291						
SHUL	**Shoufeng**	**1.37**	**250**	*eS*	**Sn**	**20 47 18.3**	**0.0**
	baz=248						
ETM	**Tongmen**	**1.38**	**258**	P	**Pn**	**20 47 01.1**	**-0.4**
	baz=245						
ETM				*eS*	**Sn**	**20 47 17.3**	**-1.3**
	baz=245						
LXIB	**Xiulin Townshi**	**1.44**	**260**	*eP*	**Pn**	**20 47 02.4**	**-0.1**
	baz=258						
NNSB	**Datong**	**1.45**	**276**	*eP*	**Pn**	**20 47 02.9**	**+0.3**
	baz=275						
ESL	**Shilin**	**1.48**	**252**	*eP*	**Pn**	**20 47 02.0**	**-0.8**
	baz=240						
YHNB	**Yeheng**	**1.50**	**286**	P	**Pn**	**20 47 04.6**	**+1.4**
YHNB	**Yeheng**	**1.50**	**286**	*eP*	**Pn**	**20 47 04.3**	**+1.1**
	baz=296						
NSK	**Sanguang**	**1.52**	**286**	*eP*	**Pn**	**20 47 04.7**	**+1.3**
	baz=295						
WARBT	**Fenglin Townsh**	**1.55**	**249**	*eP*	**Pn**	**20 47 02.8**	**-1.0**
	baz=238						
WHF	**Hehuan Shan**	**1.56**	**266**	*eP*	**Pn**	**20 47 04.6**	**+0.3**
	baz=264						
HGSD	**Ruisui**	**1.61**	**242**	*eP*	**Pn**	**20 47 03.7**	**-0.9**
	baz=239						
JTJ	**Tarama**	**1.62**	**77**	P	**Pn**	**20 47 05.0**	**+0.2**
CHGB	**Renai**	**1.65**	**263**	P	**Pn**	**20 47 05.9**	**+0.5**
	baz=250						
OWD	**Renai**	**1.67**	**259**	*eP*	**Pn**	**20 47 05.6**	**+0.1**
	baz=258						
EHY	**Dungye**	**1.69**	**243**	*eP*	**Pn**	**20 47 05.1**	**-0.6**
	baz=241						
EHY				*eS*	**Sn**	**20 47 24.5**	**-1.6**
	baz=241						
WUSB	**Renai**	**1.71**	**261**	*eP*	**Pn**	**20 47 06.6**	**+0.5**
	baz=259						
VWDT	**VWDT**	**1.75**	**253**	*eP*	**Pn**	**20 47 06.8**	**+0.4**
	baz=252						
VWDT				*eS*	**Sn**	**20 47 27.3**	**-0.2**
	baz=252						
YULB	**Yu-li**	**1.76**	**241**	P	**Pn**	**20 47 06.3**	**-0.4**
YULB	**Yu-li**	**1.76**	**241**	P	**Pn**	**20 47 06.0**	**-0.7**
	baz=238						
YULB				*eS*	**Sn**	**20 47 26.2**	**-1.8**
	baz=238						
EYUL	**Yuli**	**1.77**	**239**	*eP*	**Pn**	**20 47 06.3**	**-0.5**
	baz=236						
TWF1	**Yuli**	**1.78**	**239**	P	**Pn**	**20 47 06.5**	**-0.5**
	baz=237						
TWF1				*eS*	**Sn**	**20 47 27.4**	**-1.1**
	baz=237						
CHKH	**Chenggong**	**1.80**	**234**	*eS*	**Sn**	**20 47 25.7**	**-3.1**
	baz=221						
FULB	**Fuli**	**1.87**	**235**	*eP*	**Pn**	**20 47 07.3**	**-0.9**
	baz=223						
FULB				*eS*	**Sn**	**20 47 28.8**	**-1.8**
	baz=223						
CHKT	**Chengkung**	**1.88**	**232**	*eS*	**Sn**	**20 47 27.7**	**-3.0**
	baz=219						
WCS	**Beigang Elemen**	**1.89**	**264**	*eP*	**Pn**	**20 47 09.7**	**+1.2**
	baz=253						
WCS				*eS*	**Sn**	**20 47 32.1**	**+1.1**
	baz=253						
SSLB	**Suanglung**	**1.90**	**256**	P	**Pn**	**20 47 09.0**	**+0.3**
SSLB	**Suanglung**	**1.90**	**256**	*eP*	**Pn**	**20 47 09.2**	**+0.6**
	baz=254						
EHD	**Haiduan**	**1.96**	**236**	*eP*	**Pn**	**20 47 08.7**	**-0.8**
	baz=224						
EHD				*eS*	**Sn**	**20 47 31.0**	**-1.9**
	baz=224						
TYC	**Yuchr**	**1.96**	**260**	*eP*	**Pn**	**20 47 10.5**	**+1.1**
	baz=258						
ECS	**Chishang**	**1.99**	**234**	*eP*	**Pn**	**20 47 09.3**	**-0.4**
	baz=223						
ECS				*eS*	**Sn**	**20 47 33.0**	**-0.5**
	baz=223						
TWQ1	**Liyutan**	**2.00**	**273**	*eS*	**Sn**	**20 47 35.8**	**+1.9**
	baz=272						
ELDTW	**Lidau**	**2.09**	**239**	*eP*	**Pn**	**20 47 10.6**	**-0.7**
	baz=237						
TCU	**Taichung**	**2.10**	**267**	*eS*	**Sn**	**20 47 38.3**	**+2.2**
	baz=254						
LDUT	**Ludao**	**2.10**	**221**	*eS*	**Sn**	**20 47 32.4**	**-3.9**
	baz=219						
ALS	**Alishan**	**2.12**	**249**	*eP*	**Pn**	**20 47 12.8**	**+0.9**
	baz=247						
CHN5	**Tsauling**	**2.20**	**253**	*eP*	**Pn**	**20 47 14.3**	**+1.5**
	baz=242						
CHN5				*eS*	**Sn**	**20 47 40.2**	**+1.3**
	baz=242						
TWGBT	**Beinan**	**2.26**	**230**	P	**Pn**	**20 47 14.0**	**+0.5**
TWGBT	**Beinan**	**2.26**	**230**	*eP*	**Pn**	**20 47 12.9**	**-0.7**
	baz=239						
TWG	**Pinlang**	**2.26**	**231**	*eP*	**Pn**	**20 47 13.2**	**-0.3**
	baz=239						
STYH	**Taoyuan**	**2.29**	**242**	*eP*	**Pn**	**20 47 14.6**	**+0.6**
	baz=232						
STYH				*eS*	**Sn**	**20 47 40.1**	**-0.8**
	baz=232						
WDLH	**Douliu**	**2.30**	**256**	*eS*	**Sn**	**20 47 43.8**	**+2.7**
	baz=255						
WCKO	**Fanlu**	**2.32**	**249**	*eS*	**Sn**	**20 47 43.9**	**+2.3**
	baz=248						
TPUB	**Ta-pu**	**2.35**	**246**	*eP*	**Pn**	**20 47 16.3**	**+1.5**
	baz=244						
TPUB				*eS*	**Sn**	**20 47 44.2**	**+1.7**
	baz=244						
CHN4	**Tsaushan**	**2.36**	**248**	*eP*	**Pn**	**20 47 17.2**	**+2.3**
	baz=246						
CHN4				*eS*	**Sn**	**20 47 45.1**	**+2.5**
	baz=246						
WTP	**Ta-pu**	**2.39**	**245**	*eP*	**Pn**	**20 47 17.0**	**+1.6**
	baz=243						
WTP				*eS*	**Sn**	**20 47 45.4**	**+2.0**
	baz=243						
WTK	**Tuku**	**2.43**	**257**	*eS*	**Sn**	**20 47 47.8**	**+3.4**
	baz=244						
TWK	**Hsinying**	**2.48**	**247**	*eP*	**Pn**	**20 47 18.8**	**+2.2**
	baz=245						
TWK				*eS*	**Sn**	**20 47 47.8**	**+2.0**
	baz=245						
CHN1	**Nanshi**	**2.48**	**245**	*eS*	**Sn**	**20 47 48.1**	**+2.3**
	baz=243						
SGST	**Jiashian**	**2.49**	**242**	*eP*	**Pn**	**20 47 17.9**	**+1.2**
	baz=240						
SGST				*eS*	**Sn**	**20 47 47.2**	**+1.4**
	baz=240						
WSF	**Szhu**	**2.59**	**256**	*eS*	**Sn**	**20 47 51.1**	**+2.8**
	baz=255						
EAST	**Anshuo**	**2.71**	**226**	*eP*	**Pn**	**20 47 18.9**	**-0.8**
	baz=224						
MASBT	**Mashibuluo**	**2.71**	**233**	*eP*	**Pn**	**20 47 20.0**	**+0.3**
	baz=224						
PHUB	**P'eng-hu**	**3.20**	**257**	*eS*	**Sn**	**20 48 02.9**	**-0.4**
	baz=256						
PNG	**Penghu**	**3.20**	**258**	*eS*	**Sn**	**20 48 03.2**	**-0.2**
	baz=257						
VWUC	**VWUC**	**3.28**	**283**	*eP*	**Pn**	**20 47 27.6**	**0.0**
	baz=284						
VWUC				*eS*	**Sn**	**20 48 02.9**	**-2.4**
	baz=284						

IDC 28 22:11:23.5±6.2,13.09N×142.61E,h0km,mb3.6/5, mbtmp3.6/5,Error ellipse: s-maj=263.6km s-min=23.0km az=81.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**27.59**	**334**	P	P	22 17 12.2	-0.3
	1.8nm,0.7s,baz=131,slow=8.8,SNR=6.8						
	1.8nm,0.7s						
WRA	**Warramunga Arr**	**33.82**	**194**	P	P	22 18 07.1	-0.5
	0.2nm,0.5s,baz=16,slow=9.2,SNR=1.7						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**37.51**	**193**	P	P	22 18 39.5	+0.2
	0.1nm,0.3s,baz=18,slow=13,SNR=1.9						
	0.1nm,0.3s						
SONM	**Songino Array**	**45.90**	**326**	P	P	22 19 48.3	+0.3
	0.8nm,0.7s,baz=141,slow=8.2,SNR=8.5						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**60.34**	**317**	P	P	22 21 34.2	-0.1
	0.4nm,0.5s,baz=90,slow=8.4,SNR=10						
	0.4nm,0.5s						

*OSPL **28** 22:16:58.6±1.3,19.06N×67.02W,h21km±7km,ML3.0*
*SDD **28** 22:16:58.0±0.7,19.08N×67.10W,h28km±19km,MD3.5, ML3.0,MW3.3*
*NEIC **28** 22:16:59.4±1.9,18.96N±0.07×67.12W±0.04,

LSP					Sb	22 17 26.6	+1.7		
UUPR	**Utuado, UPR, P**	**0.80**	**153**	*e*P	**Pn**	**22 17 13.9**	**-0.8**		
UUPR	**Utuado, UPR, P**	**0.80**	**153**	*e*S	**Sb**	**22 17 25.7**	**+0.6**		
UUPR	**Utuado, UPR, P**	**0.80**	**153**		**Pn**	**22 17 13.2**	**-1.4**		
UUPR					**Sb**	**22 17 23.9**	**-1.3**		
CRPR	**Cabo Rojo, PR**	**0.96**	**181**	*e*P	**Pn**	**22 17 16.4**	**-0.4**		
CRPR	**Cabo Rojo, PR**	**0.96**	**181**		**Pn**	**22 17 16.2**	**-0.6**		
CRPR				Sn	**Sn**	**22 17 29.7**	**+0.2**		
CRPR	**Cabo Rojo, PR**	**0.96**	**181**	*e*Pg	**Pn**	**22 17 16.4**	**-0.4**		
CRPR				*e*Sg	**Sn**	**22 17 29.8**	**+0.4**		
CRPR				IAML		22 17 33.2			
	comp=N,352nm,0.2s								
CRPR				IAML		22 17 35.8			
	comp=E,238nm,0.6s								
CRPR	**Cabo Rojo, PR**	**0.96**	**181**	*i* P	**Pn**	**22 17 16.3**	**-0.4**		
CRPR				*e*S	**Sn**	**22 17 30.1**	**+0.6**		
CRPR				IAML		22 17 31.3			
	comp=Z,426nm,0.3s								
MLPR	**Magueyes Islan**	**1.00**	**177**	*e*P	**Pn**	**22 17 16.8**	**-0.5**		
MLPR	**Magueyes Islan**	**1.00**	**177**	*e*S	**Sn**	**22 17 31.1**	**+0.6**		
MLPR	**Magueyes Islan**	**1.00**	**177**		**Pn**	**22 17 16.8**	**-0.5**		
MLPR					**Sn**	**22 17 31.4**	**+1.0**		
MLPR				IAML		22 17 37.6			
	comp=E,281nm,0.3s								
MLPR	**Magueyes Islan**	**1.00**	**177**	*e*Pg	**Pn**	**22 17 16.9**	**-0.5**		
MLPR				*e*Sg	**Sn**	**22 17 31.2**	**+0.8**		
MLPR				IAML		22 17 31.6			
	comp=N,224nm,0.3s								
MLPR				IAML		22 17 37.5			
	comp=E,265nm,0.4s								
GBPR	**Guanica, Bosqu**	**1.01**	**168**		**Pn**	**22 17 17.5**	**0.0**		
GBPR				*e*S	**Sn**	**22 17 31.1**	**+0.3**		
GBPR	**Guanica, Bosqu**	**1.01**	**168**		**Pn**	**22 17 17.5**	**0.0**		
CELP	**Cerrillos**	**1.02**	**151**	*e*P	**Pn**	**22 17 17.4**	**-0.2**		
CELP	**Cerrillos**	**1.02**	**151**	*e*S	**Sn**	**22 17 30.6**	**-0.4**		
CELP	**Cerrillos**	**1.02**	**151**		**Pn**	**22 17 17.2**	**-0.4**		
CELP					**Sn**	**22 17 31.6**	**+0.7**		
CELP				IAML		22 17 34.7			
	comp=N,295nm,0.3s								
CELP	**Cerrillos**	**1.02**	**151**	*e*Pg	**Pn**	**22 17 17.4**	**-0.2**		
CELP				IAML		22 17 34.3			
	comp=N,297nm,0.2s								
OBIP	**Obispado Ponce**	**1.03**	**153**	*e*P	**Pn**	**22 17 16.8**	**-1.0**		
OBIP	**Obispado Ponce**	**1.03**	**153**	*e*S	**Sn**	**22 17 31.7**	**+0.4**		
OBIP	**Obispado Ponce**	**1.03**	**153**		**Pn**	**22 17 16.7**	**-1.2**		
OBIP					**Sn**	**22 17 31.4**	**0.0**		
OBIP				IAML		22 17 32.9			
	comp=N,318nm,0.2s								
OBIP				IAML		22 17 36.1			
	comp=E,244nm,0.3s								
GCPR	**Guaynabo City**	**1.17**	**124**	*e*P	**Pn**	**22 17 19.4**	**-0.2**		
GCPR	**Guaynabo City**	**1.17**	**124**	*e*S	**Sn**	**22 17 35.0**	**+0.4**		
GCPR	**Guaynabo City**	**1.17**	**124**		**Pn**	**22 17 19.3**	**-0.4**		
PCDR	**Punta Cana, DR**	**1.30**	**250**	*e*P	**Pn**	**22 17 20.2**	**-1.2**		
PCDR	**Punta Cana, DR**	**1.30**	**250**		**Pn**	**22 17 20.1**	**-1.3**		
PCDR				IAML		22 17 43.5			
	comp=N,414nm,0.7s								
PCDR	**Punta Cana, DR**	**1.30**	**250**	*e*Pg	**Pn**	**22 17 20.3**	**-1.2**		
PCDR				IAML		22 17 42.2			
	comp=E,113nm,0.5s								
PCDR				IAML		22 17 43.3			
	comp=N,375nm,0.6s								
PCDR	**Punta Cana, DR**	**1.30**	**250**	*i* P	**Pn**	**22 17 20.4**	**-1.1**		
PCDR				*e*S	**Sn**	**22 17 38.2**	**+0.4**		
PCDR				IAML		22 17 50.9			
	comp=Z,189nm,0.6s								
IGPR	**InterUniversit**	**1.37**	**137**	*e*P	**Pn**	**22 17 23.0**	**+0.5**		
IGPR	**InterUniversit**	**1.37**	**137**	*e*S	**Sn**	**22 17 41.3**	**+1.6**		
IGPR	**InterUniversit**	**1.37**	**137**	Pn	**Pn**	**22 17 22.1**	**-0.4**		
HUMP	**Col San Antoni**	**1.44**	**125**	*e*P	**Pn**	**22 17 23.2**	**-0.3**		
HUMP	**Col San Antoni**	**1.44**	**125**	*e*S	**Sn**	**22 17 41.3**	**-0.1**		
HUMP	**Col San Antoni**	**1.44**	**125**	Pn	**Pn**	**22 17 23.0**	**-0.4**		
HUMP				IAML		22 17 47.5			
	comp=N,181nm,0.2s								
HUMP				IAML		22 17 50.3			
	comp=E,189nm,0.2s								
SADR	**Isla Saona**	**1.77**	**244**	*e*Pg	**Pn**	**22 17 28.0**	**0.0**		
SADR				IAML		22 17 54.4			
	comp=E,136nm,1.2s								
SADR				IAML		22 17 57.0			
	comp=N,288nm,0.8s								
MIDR	**Miches**	**1.85**	**271**	*e*Pg	**Pn**	**22 17 29.0**	**0.0**		
MIDR				IAML		22 17 57.0			
	comp=N,67nm,0.9s								
SDDR	**Presa de Saban**	**3.96**	**271**	Pn	**Pn**	**22 17 58.0**	**-0.2**		
SDDR	**Presa de Saban**	**3.96**	**271**	*i* P	**Pn**	**22 17 58.2**	**0.0**		
SDDR				IAML		22 19 07.3			
	comp=Z,21nm,2.9s								
PODR	**Polo**	**4.05**	**259**	*i* P	**Pn**	**22 18 00.0**	**+0.5**		

*IDC **28** 22:33:03.9±0.7, 22.°96N×70.°45E, h0km, mb3.8/16, mbtmp3.8/20, ML3.4/4, MS3.4/20, Error ellipse: s-maj=17.7km s-min=15.0km az=37.0*
*NEIC **28** 22:33:06.0±1.8, 23.°17N±0.°08×70.°45E±0.°10, h10km±1km, mb4.2/35, Error ellipse: s-maj=16.3km s-min=11.9km az=119.0*
*NDI **28** 22:33:08.9±3.2, 23.°49N×70.°48E, h10km, ML4.2, MW4.2, mb4.2(NEIC)*

ISC 28 22:33:07.1±0.4, 23.°23N±0.°05×70.°38E±0.°04, h15km, n145, σ2s31/170, mb4.2/40, MS3.5/19, Southern India

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BHUJ	**Bhuj**	**0.67**	**272**	*e*P		**Pn**	**22 33 23.5**		**+1.4**
BHUJ				*e*S		**Sn**	**22 33 35.1**		**+2.8**
BHUJ				IAML			22 33 37.6		
	comp=Z,10μm,0.1s								
BHUJ				IAML			22 33 38.0		
	comp=N,17μm,0.1s								
BHV	**Bhavnagar**	**2.19**	**132**	*e*P		**Pn**	**22 33 41.6**		**-1.5**
BHV				*i* x		x	22 33 46.3		
BHV				*e*S		**Sn**	**22 34 09.3**		**-0.7**
JASL	**Jaisalmer**	**3.71**	**7**	*e*P		**Pn**	**22 34 04.5**		**+0.5**
BOM	**Bombay**	**4.87**	**152**	*ex*		**Pn**	**22 34 20.2**		**+0.3**
AJM	**Ajmer**	**5.05**	**49**	*e*P		**Pn**	**22 34 20.8**		**-1.6**
AJM				*ex*			22 35 21.0		
POO	**Poona**	**5.69**	**145**	*e*P		**Pn**	**22 34 35.1**		**+3.9**
POO				*e*S		**Sn**	**22 35 39.1**		**+2.7**
AKL	**Akola**	**6.65**	**111**	*ex*		**Pn**	**22 34 41.5**		**-2.9**
KAD	**Karad**	**6.89**	**148**	*e*P		**Pn**	**22 34 51.6**		**+3.9**
KAD				IAmb		IAmb	22 34 54.7		
	comp=Z,22nm,0.5s								
LATR	**Latur**	**7.50**	**128**	*ex*		**Pn**	**22 34 54.0**		**-2.1**
GOA	**Goa**	**8.35**	**157**	*e*P		Pn	22 35 12.9		+5.1
GOA				*e*S		**Sn**	**22 36 43.5**		**+1.6**
NGCH	**Negor - Chabah**	**8.70**	**286**	P		**Pn**	**22 35 14.9**		**+2.5**
	SNR=7.8								
NGCH				S		**Sn**	**22 36 45.9**		**-4.3**
HYB	**Hyderabad**	**9.60**	**126**	*e*P		**Pn**	**22 35 23.5**		**-1.4**
HYB				*e*S		**Sn**	**22 37 11.1**		**-1.6**
SMLA	**Simla**	**9.92**	**36**	*e*P		**Pn**	**22 35 28.0**		**-1.1**
SMLA				*ex*		x	22 37 23.2		
SMLA				IAML			22 37 44.3		
	comp=E,76nm,0.9s								
SMLA				IAML			22 37 46.6		
	comp=N,85nm,0.4s								
JLN	**Jalan Bani Buh**	**10.19**	**266**	P		**Pn**	**22 35 34.5**		**+1.6**
JLN				P		**Pn**	**22 35 34.5**		**+1.6**
JLN				S		**Sn**	**22 37 22.7**		**-4.2**
JLN				S		**Sn**	**22 37 22.7**		**-4.2**
THN	**Thein Dam**	**10.31**	**26**	*e*P		**Pn**	**22 35 34.9**		**+0.3**
THN				IAmb		IAmb	22 35 35.8		
	comp=Z,14nm,0.2s								
DHRM	**DHARAMSHALA**	**10.40**	**29**	*e*P		**Pn**	**22 35 34.7**		**-1.3**
WBK	**Wadi Bani Khal**	**10.54**	**269**	P		**Pn**	**22 35 38.8**		**+1.1**
	SNR=9.1								
WBK				P		**Pn**	**22 35 38.8**		**+1.1**
	SNR=9.1								
WBK				S		**Sn**	**22 37 30.4**		**-5.2**
WBK				S		**Sn**	**22 37 30.4**		**-5.2**
NIL	**Nilore**	**10.69**	**13**			**Pn**	**22 35 38.4**		**-1.3**
LGTI	**Lohaghat**	**10.80**	**53**	*e*P		Pn	22 35 35.8		-5.5
LGTI				IAmb		IAmb	22 35 42.5		
	comp=Z,5.9nm,0.3s								
WSAR	**Wadi Sarin**	**10.80**	**272**	Pn		**Pn**	**22 35 41.7**		**+0.3**
	comp=Z,0.5nm,0.3s,baz=128,slow=9.4,SNR=17								
WSAR					Sn	**Sn**	**22 37 35.4**		**-6.8**
	comp=Z,0.4nm,0.3s,baz=6.0,slow=20,SNR=1.6								
	comp=Z,2.4nm,0.5s								
PTH	**Pithoragarh**	**10.83**	**52**	*e*P		**Pn**	**22 35 38.8**		**-3.1**
BIDO	**Bidbid**	**11.26**	**274**	P		**Pn**	**22 35 50.8**		**+3.2**
BIDO				S		**Sn**	**22 37 47.6**		**-5.6**
KBL	**Kabul**	**11.33**	**354**	Pn		**Pn**	**22 35 48.1**		**-0.7**
KBL	**Kabul**	**11.33**	**354**	P		Pn	22 35 56.6		+7.8
	SNR=7.4								
KBL				S		**Sn**	**22 37 55.1**		**-0.2**
SMDO	**Samad**	**11.35**	**272**	P		**Pn**	**22 35 52.1**		**+3.2**
SMDO				S		**Sn**	**22 37 53.0**		**-2.6**
JMDO	**Jabal Madar**	**11.36**	**268**	P		**Pn**	**22 35 51.0**		**+2.0**
	SNR=11								
JMDO				S		**Sn**	**22 37 52.4**		**-3.3**
JASK	**Jask - Hormozg**	**11.69**	**286**	P		**Pn**	**22 35 55.4**		**+1.9**
MHTO	**MHTO**	**11.72**	**261**	P		**Pn**	**22 35 56.7**		**+2.8**
	SNR=10								
MHTO				P		**Pn**	**22 35 56.7**		**+2.8**
	SNR=10								
MHTO				S		**Sn**	**22 37 57.9**		**-6.6**
MHTO				S		**Sn**	**22 37 57.9**		**-6.6**
HOQ	**Hoqain**	**12.01**	**274**	P		**Pn**	**22 35 58.8**		**+1.0**
HOQ				P		**Pn**	**22 35 58.8**		**+1.0**
BSY	**Bisya**	**12.15**	**270**	P		**Pn**	**22 36 01.1**		**+1.2**
BSY				P		**Pn**	**22 36 01.1**		**+1.2**
DQM	**DQM**	**12.39**	**257**	P		**Pn**	**22 36 06.9**		**+3.9**
DQM				S		**Sn**	**22 38 16.5**		**-4.5**
SOHO	**SOHO**	**12.72**	**277**	Pn		**Pn**	**22 36 08.3**		**+0.7**
SOHO	**SOHO**	**12.72**	**277**	P		**Pn**	**22 36 08.3**		**+0.7**
SOHO				P		**Pn**	**22 36 08.3**		**+0.7**
ARQ	**Araqi**	**12.74**	**273**	P		**Pn**	**22 36 11.0**		**+3.1**
ARQ				P		**Pn**	**22 36 11.0**		**+3.1**
ARQ				S		**Sn**	**22 38 26.2**		**-3.3**
ARQ				S		**Sn**	**22 38 26.2**		**-3.3**
VLK	**Valmikinagar**	**12.86**	**69**	*e*P		**Pn**	**22 36 07.3**		**-2.1**
MDH	**Madha**	**13.01**	**282**	P		**Pn**	**22 36 11.4**		**-0.1**
MDH				P		**Pn**	**22 36 11.4**		**-0.1**
MDH				S		**Sn**	**22 38 31.7**		**-4.4**
MDH				S		**Sn**	**22 38 31.7**		**-4.4**
UOSS	**Minazif**	**13.06**	**280**	Pn		**Pn**	**22 36 11.1**		**-1.1**
UOSS	**Minazif**	**13.06**	**280**	Pn		**Pn**	**22 36 11.8**		**-0.5**
UOSS	**Minazif**	**13.06**	**280**	P		**Pn**	**22 36 13.5**		**+1.2**
UOSS				P		**Pn**	**22 36 13.5**		**+1.2**
MASF	**Masafi**	**13.14**	**282**	P		**Pn**	**22 36 15.3**		**+1.9**
MASF				P		**Pn**	**22 36 15.3**		**+1.9**
ASHO	**Ashiyiah**	**13.18**	**279**	Pn		**Pn**	**22 36 15.9**		**+2.0**
ASHO	**Ashiyiah**	**13.18**	**279**	P		**Pn**	**22 36 16.1**		**+2.3**
ASHO				S		**Sn**	**22 38 35.6**		**-4.6**
HRA	**Herat**	**13.20**	**329**	Pn		**Pn**	**22 36 15.3**		**+1.0**
SHME	**Shamm**	**13.25**	**285**	P		**Pn**	**22 36 16.0**		**+1.2**
ALNE	**Al Ain**	**13.44**	**276**	P		**Pn**	**22 36 19.7**		**+2.3**
FAQ	**Al Faqa, Dubai**	**13.60**	**279**	Pn		**Pn**	**22 36 20.9**		**+1.2**
FAQ	**Al Faqa, Dubai**	**13.60**	**279**	P		**Pn**	**22 36 21.3**		**+1.6**
FAQ				P		**Pn**	**22 36 21.3**		**+1.6**
ASUD	**Al Ashush, Dub**	**13.84**	**279**	Pn		**Pn**	**22 36 23.1**		**+0.3**
ASUD	**Al Ashush, Dub**	**13.84**	**279**	P		**Pn**	**22 36 23.8**		**+1.0**
UMZA	**Um Al Zommool**	**14.03**	**271**	P		**Pn**	**22 36 26.7**		**+1.2**
UMZA				P		**Pn**	**22 36 26.7**		**+1.2**
UMZA				S		**Sn**	**22 38 59.1**		**-1.9**
UMZA				S		**Sn**	**22 38 59.1**		**-1.9**
BOK	**Bokaro**	**14.24**	**85**	*e*P		**Pn**	**22 36 29.2**		**+0.9**
BOK				*ex*		x	22 39 02.4		
SIMJ	**Simiganj**	**15.43**	**356**	Pn		**Pn**	**22 36 41.8**		**-2.6**
SIMJ				IAmb		IAmb	22 37 05.1		
	comp=Z,9.3nm,0.6s								
DMTO	**DMTO**	**15.46**	**252**	P		**P**	**22 36 52.7**		**+3.5**
MZR	**Muzera**	**15.55**	**273**	P		**P**	**22 36 48.9**		**-1.4**
DOK	**Doka**	**15.86**	**256**	P		**P**	**22 36 56.0**		**+2.4**
	SNR=8.5								
DOK				P		**P**	**22 36 56.0**		**+2.4**
	SNR=8.5								
DRK	**Karamyk**	**16.25**	**4**	Pn		**Pn**	**22 36 51.8**		**-3.4**
DRK				IAmb		IAmb	22 37 12.9		
	comp=Z,7.4nm,0.6s								
WHFO	**Wadi Hawf**	**16.42**	**254**	P		**P**	**22 37 02.4**		**+2.4**
	SNR=10.0								
WHFO				P		**P**	**22 37 02.4**		**+2.4**
	SNR=10.0								
BTK	**Batken**	**16.79**	**1**			**Pn**	**22 37 02.2**		**+0.4**
BTK				IAmb		IAmb	22 37 13.7		
	comp=Z,19nm,0.8s								
KSH	**Kashi**	**16.92**	**15**	P		**Pn**	**22 36 58.5**		**-5.0**
KSH				pP		P	22 37 01.8		-3.7
KSH				S		Sn	22 39 57.3		-14
KSH				pmax		pmax			
	comp=Z,9.0nm,0.9s								
KSH				LR		LR			
	comp=N,500nm,14.5s								
KSH				LR		LR			
	comp=E,280nm,14.0s								
KSH				LR		LR			
	comp=Z,560nm,11.6s								
GTK	**Tadong**	**16.98**	**72**	*ex*		**P**	**22 37 09.5**		**+3.3**
ABTO	**Aybut**	**17.05**	**253**	P		**P**	**22 37 07.7**		**+0.7**
ABTO				P		**P**	**22 37 07.7**		**+0.7**
SHMA	**Al-Shehemyia**	**17.86**	**282**	P		**P**	**22 37 19.3**		**+3.5**
SMRA	**Abu-Samra**	**17.94**	**279**	P		**P**	**22 37 19.0**		**+2.4**
GEYT	**Alibeck**	**18.04**	**327**			**P**	**22 37 17.4**		**-0.3**
GEYT	**Alibeck**	**18.04**	**327**	P		**P**	**22 37 19.6**		**+1.9**
	comp=Z,0.1nm,0.3s,baz=133,slow=6.1,SNR=2.3								
GEYT				LR		LR	22 45 09.8		
	comp=Z,77nm,18.2s,baz=157,slow=40								
	comp=Z,1.3nm,0.7s								
GYA0B	**ALIBECK ARRAY**	**18.04**	**327**			**P**	**22 37 17.7**		**0.0**
ARSB	**Arslanbob**	**18.18**	**6**			**Pn**	**22 37 17.7**		**-1.4**
PALK	**Pallekele**	**18.71**	**146**	P		**P**	**22 37 25.3**		**0.0**
PALK	**Pallekele**	**18.71**	**146**	P		**P**	**22 37 22.4**		**-2.9**
	comp=Z,0.1nm,0.3s,baz=102,slow=19,SNR=1.3								
PALK				S		Sn	22 40 40.6		-14
	comp=Z,3.0nm,0.7s,baz=322,slow=7.7,SNR=2.0								
PALK				LR		LR	22 44 07.3		
	comp=Z,70nm,20.4s,baz=94,slow=36								
	comp=Z,2.2nm,0.8s								
NRN	**Naryn**	**18.76**	**13**			**P**	**22 37 24.5**		**-1.4**
TARG	**Taragay, Kyrgy**	**19.47**	**17**	P		**P**	**22 37 32.2**		**-1.6**
AAK	**Ala-Archa**	**19.66**	**9**	P		**P**	**22 37 35.1**		**-0.5**
AAK				IAmb		IAmb	22 37 47.6		
	comp=Z,11nm,1.1s								
AAK	**Ala-Archa**	**19.66**	**9**	P		**Pn**	**22 37 38.1**		**+1.0**
	comp=Z,0.1nm,0.3s,baz=190,slow=7.0,SNR=17								
AAK				LR		LR	22 45 38.2		
	comp=Z,132nm,19.2s,baz=198,slow=38								
	comp=Z,4.1nm,0.7s								
LSA	**Lhasa**	**19.67**	**66**			**P**	**22 37 35.5**		**-0.6**
LSA				IAmb		IAmb	22 37 45.0		
	comp=Z,24nm,1.4s								
BOOM	**Boomskoye usch**	**19.76**	**12**	P		**P**	**22 37 36.8**		**0.0**
KK31	**Karatay Array**	**19.82**	**0**	P		**P**	**22 37 37.2**		**0.0**
KK31				IAmb		IAmb	22 37 47.7		
	comp=Z,13nm,0.7s								
KKAR	**Karatay Array**	**19.82**	**0**	P		**P**	**22 37 37.5**		**+0.2**
KKAR				IAmb		IAmb	22 37 47.7		
	comp=Z,13nm,0.7s								
FRU1	**Bishkek**	**19.85**	**9**	P		**Pn**	**22 37 38.2**		**-1.0**
FRU1				IAmb		IAmb	22 37 54.0		
	comp=Z,9.2nm,0.9s								
RAYN	**Ar Rayn**	**22.83**	**276**	P		**P**	**22 38 09.0**		**-0.9**
RAYN				IAmb		IAmb	22 38 13.7		
	comp=Z,14nm,1.1s								
WMQ	**Urumqi**	**25.01**	**31**	*e*P		**P**	**22 38 33.3**		**+2.8**
WMQ				pP		sP	22 38 39.5		+2.5
WMQ				pmax		pmax			
	comp=Z,14nm,0.9s								
WMQ				LR		LR			
	comp=Z,150nm,18.9s								
MAKZ	**Makanchi**	**25.32**	**19**	P		**P**	**22 38 32.8**		**-0.4**
MAKZ				IAmb		IAmb	22 38 42.1		
	comp=Z,4.8nm,1.0s								
MK31	**Makanchi Array**	**25.40**	**19**	P		**P**	**22 38 34.0**		**+0.1**
MK31				IAmb		IAmb	22 38 42.7		
	comp=Z,3.8nm,0.9s								
MKAR	**Makanchi Array**	**25.40**	**19**	P		**P**	**22 38 33.5**		**-0.4**
MKAR	**Makanchi Array**	**25.40**	**19**	P		**P**	**22 38 33.9**		**-0.1**
	comp=Z,1.4nm,1.0s,baz=203,slow=7.9,SNR=7.9								
MKAR				LR		LR	22 49 22.6		
	comp=Z,79nm,20.1s,baz=262,slow=38								
	comp=Z,1.4nm,1.0s								
CMAR	**Chiang Mai Arr**	**27.09**	**95**	P		**P**	**22 38 47.8**		**-1.8**
CMAR	**Chiang Mai Arr**	**27.09**	**95**	P		**P**	**22 38 47.3**		**-2.3**
	comp=Z,0.7nm,0.3s,baz=284,slow=10,SNR=4.5								
CMAR				LR		LR	22 50 53.6		
	comp=Z,22nm,18.2s,baz=300,slow=40								
	comp=Z,0.7nm,0.3s								
ABKAR	**Akbulak array**	**27.25**	**345**	P		**P**	**22 38 50.6**		**0.0**
ABKAR	**Akbulak array**	**27.25**	**345**	P		**P**	**22 38 49.8**		**-0.8**
ABKAR				IAmb		IAmb	22 39 03.3		
	comp=Z,4.5nm,0.8s								
CRAI	**Chiangrai**	**28.00**	**90**	P		**P**	**22 38 55.7**		**-2.0**
CRAI				IAmb		IAmb	22 39 06.4		
	comp=Z,6.9nm,1.4s								
KURBB	**Kurchatov Arra**	**28.07**	**11**	P		**P**	**22 39 00.5**		**+2.5**
	comp=Z,0.8nm,0.7s,baz=207,slow=8.7,SNR=5.7								
KURBB				LR		LR	22 51 10.7		
	comp=Z,136nm,19.0s,baz=178,slow=38								
	comp=Z,0.8nm,0.7s								
PZH	**PanZhiHua**	**28.61**	**77**	P		**P**	**22 39 05.0**		**+1.8**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.6s								
PZH				pmax		pmax			
	comp=Z,90nm,6.4s								
GTA	**Gaotai**	**29.70**	**50**	*e*P		**P**	**22 39 14.3**		**+1.5**
GTA				pP		sP	22 39 18.5		-0.7
GTA				pmax		pmax			
	comp=Z,2.0nm,0.9s								
BVAR	**Borovoye Array**	**29.75**	**0**	LR		LR	22 52 13.1		
	comp=Z,99nm,18.4s,baz=199,slow=38								
MMAI	**Mount Meron Ar**	**32.23**	**295**	LR		LR	22 56 26.6		
	comp=Z,51nm,18.1s,baz=58,slow=43								
EIL	**Elat**	**32.28**	**289**	LR		LR	22 56 57.3		
	comp=Z,32nm,18.4s,baz=266,slow=44								
ZALV	**Zalesovo Beam**	**32.55**	**16**	P		**P**	**22 39 37.8**		**+0.3**
ZALV	**Zalesovo Beam**	**32.55**	**16**	P		**P**	**22 39 39.8**		**+2.3**
	comp=Z,0.9nm,0.7s,baz=232,slow=8.9,SNR=4.6								
ZALV				LR		LR	22 53 51.9		
	comp=Z,139nm,18.0s,baz=230,slow=38								
	comp=Z,0.9nm,0.7s								
ARU	**Arti**	**34.28**	**348**	LR		LR	22 55 49.2		
	comp=Z,83nm,18.1s,baz=304,slow=40								
XAN	**Xi'an**	**35.32**	**64**	P		**P**	**22 40 06.5**		**+4.6**
XAN				pmax		pmax			
	comp=Z,12nm,0.8s								
SONM	**Songino Array**	**37.71**	**40**	P		**P**	**22 40 22.3**		**+0.1**
SONM				IAmb		IAmb	22 40 31.0		
	comp=Z,3.1nm,0.9s								
SONM	**Songino Array**	**37.71**	**40**	P		**P**	**22 40 23.4**		**+1.2**
	comp=Z,0.4nm,0.8s,baz=232,slow=7.3,SNR=3.6								
	comp=Z,0.4nm,0.8s								
KIRV	**Kirov**	**38.37**	**342**	LR		LR	23 00 58.3		
	comp=Z,21nm,19.2s,baz=198,slow=43								
HHC	**Hu-ho-hao-te**	**38.67**	**53**	*e*P		**P**	**22 40 32.5**		**+2.1**
HHC				pP		sP	22 40 39.5		+2.5
HHC				pmax		pmax			
	comp=Z,9.0nm,0.6s								
HHC				pmax		pmax			
	comp=Z,120nm,4.7s								
HHC				LR		LR			
	comp=N,90nm,13.1s								
HHC				LR		LR			
	comp=E,130nm,15.5s								
HHC				LR		LR			
	comp=Z,190nm,15.9s								
AKASG	**Malin Array Be**	**42.01**	**321**	P		**P**	**22 40 58.8**		**+1.1**
	comp=Z,0.1nm,0.3s,baz=110,slow=6.4,SNR=5.4								
	comp=Z,0.1nm,0.3s								
MLR	**Muntele Rosu**	**42.20**	**313**	P		**P**	**22 40 59.7**		**+0.1**
MLR				IAmb		IAmb	22 41 05.5		
	comp=Z,5.6nm,1.1s								
TIA	**Tai'an**	**42.23**	**61**	P		P	22 41 05.0		+5.2
TIA				pmax		pmax			
	comp=Z,5.0nm,0.8s								
BURAR	**Bucovina Array**	**43.31**	**316**	P		**P**	**22 41 08.7**		**+0.1**
BUR08	**Bucovina Ar. S**	**43.33**	**316**	P		**P**	**22 41 09.5**		**+0.8**
KWP	**Kalwaria Pacla**	**45.52**	**318**	P		**P**	**22 41 26.8**		**+0.8**
NRIK	**Noril'sk**	**47.27**	**8**	P		**P**	**22 41 42.2**		**+2.7**
	comp=Z,3.1nm,1.1s,baz=168,slow=6.3,SNR=2.6								
	comp=Z,3.1nm,1.1s								
FINES	**FINESS Array B**	**48.68**	**333**	P		**P**	**22 41 50.7**		**+0.2**
FINES	**FINESS Array B**	**48.68**	**333**	P		**P**	**22 41 51.8**		**+1.3**
	comp=Z,0.8nm,0.7s,baz=110,slow=12,SNR=1.8								
FINES				LR		LR	23 05 53.9		
	comp=Z,76nm,18.4s,baz=120,slow=40								
	comp=Z,0.8nm,0.7s								
**VRA

ISC 28 22:49:23.8±1.3,11°21N±0.06×125°39E±0.08,h86km±12km, n331,σ1°10/323,mb4.5/69,2C,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.12**	**177**	**Pn**	**Pn**	**22 50 26.2**	**+1.8**
DAV				Sn	Sn	22 51 05.2	-6.3
DAV	**Davao City (W)**	**4.12**	**177**	LR	LR	22 52 35.7	
	comp=Z,464nm,20.2s,baz=350,slow=45						
TGY	**Tagaytay City**	**5.21**	**304**	P	**Pn**	**22 50 40.9**	**+1.5**
	106nm,0.4s,baz=319,slow=19,SNR=4.1						
TGY				LR	LR	22 52 52.1	
	comp=Z,374nm,18.9s,baz=68,slow=40						
KKM	**Kota Kinabalu**	**10.42**	**241**	Pn	**Pn**	**22 51 53.8**	**+3.4**
LUWI	**Luwuk**	**12.45**	**192**	Pn	**P**	**22 52 24.6**	**-1.7**
JOW	**Kunigami**	**15.77**	**10**	LR	LR	22 58 31.8	
	comp=Z,38nm,18.6s,baz=156,slow=35						
QIZ	**Qiongzhong**	**16.89**	**299**	P	**Pn**	**22 53 14.5**	**-0.4**
QIZ				S	**Sn**	**22 56 22.5**	**+0.1**
QIZ				LR	LR		
	comp=N,120nm,10.9s						
QIZ				LR	LR		
	comp=E,74nm,13.7s						
QIZ				LR	LR		
	comp=Z,170nm,15.9s						
BATI	**Baumata**	**21.35**	**185**	LR	LR	23 02 55.4	
	comp=Z,46nm,19.6s,baz=341,slow=38						
JCJ	**Chichijima**	**22.34**	**43**	LR	LR	23 01 28.2	
	comp=Z,55nm,21.1s,baz=99,slow=33						
JNU	**Nakatsue**	**22.38**	**12**	LR	LR	23 01 57.3	
	comp=Z,34nm,21.6s,baz=178,slow=34						
IPM	**Ipoh**	**25.03**	**256**	P	**P**	**22 54 40.3**	**+0.2**
IPM				IAmb	IAmb	22 54 44.2	
	comp=Z,9.7nm,0.6s						
KULM	**Kulim**	**25.17**	**258**	P	**P**	**22 54 41.4**	**0.0**
KULM				IAmb	IAmb	22 54 45.6	
	comp=Z,10.0nm,0.7s						
PHRA	**Phrae**	**25.35**	**290**	P	**P**	**22 54 41.9**	**-1.1**
TIA	**Tai'an**	**25.99**	**345**	*e*P	P	22 55 02.3	+14
TIA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KSAR	**Wonju Array Be**	**26.21**	**4**	P	**P**	**22 54 50.2**	**-0.3**
KSRS	**Korea Array**	**26.23**	**5**	P	**P**	**22 54 50.4**	**-0.3**
	comp=Z,3.8nm,0.8s,baz=185,slow=10,SNR=12						
	comp=Z,3.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**26.54**	**289**	P	**P**	**22 54 52.8**	**-0.9**
CMAR	**Chiang Mai Arr**	**26.54**	**289**	P	**P**	**22 54 54.8**	**+1.1**
	comp=Z,3.1nm,0.3s,baz=101,slow=7.3,SNR=27						
CMAR				PcP	**PcP**	**22 58 18.1**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=62,slow=0.9,SNR=4.8						
CMAR				LR	LR	23 05 57.1	
	comp=Z,17nm,18.2s,baz=120,slow=37						
	comp=Z,3.1nm,0.3s						
PZH	**PanZhiHua**	**26.98**	**308**	P	**P**	**22 54 58.3**	**+0.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,170nm,6.9s						
XAN	**Xi'an**	**27.26**	**329**	P	**P**	**22 54 59.5**	**-0.5**
XAN				pmax	pmax		
	comp=Z,12nm,0.7s						
XAN	**Xi'an**	**27.26**	**329**	P	**P**	**22 54 57.1**	**-2.9**
MJAR	**Matsushiro Arr**	**27.75**	**23**	P	**P**	**22 55 01.8**	**-2.6**
	comp=Z,1.6nm,0.8s,baz=191,slow=8.5,SNR=4.4						
MJAR				LR	LR	23 03 59.5	
	comp=Z,51nm,21.7s,baz=208,slow=32						
	comp=Z,1.6nm,0.8s						
HNS	**HongShan**	**27.79**	**342**	⇑P	**P**	**22 55 04.5**	**-0.1**
HNS				pmax	pmax		
	comp=Z,13nm,1.0s						
FITZ	**Fitzroy Crossi**	**29.13**	**180**	P	**P**	**22 55 17.4**	**+0.8**
BJT	**Baijiatuan**	**29.83**	**346**	P	**P**	**22 55 21.1**	**-1.6**
BJT				IAmb	IAmb	22 55 23.5	
	comp=Z,9.9nm,1.2s						
WB0	**Warramunga Arr**	**32.04**	**164**	P	**P**	**22 55 41.7**	**-0.6**
WB0				PcP	**PcP**	**22 58 30.8**	**+0.4**
WRA	**Warramunga Arr**	**32.19**	**164**	P	**P**	**22 55 43.4**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=343,slow=9.4,SNR=8.5						
WRA				PcP	**PcP**	**22 58 31.6**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=345,slow=3.2,SNR=15						
WRA				ScP	**ScP**	**23 02 07.7**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=346,slow=3.7,SNR=5.4						
	comp=Z,1.0nm,0.7s						
WB2	**Warramunga Arr**	**32.19**	**164**	P	**P**	**22 55 43.8**	**+0.1**
USRK	**Ussuriysk Ar.**	**33.36**	**9**	P	**P**	**22 55 53.0**	**-0.6**
USRK	**Ussuriysk Ar.**	**33.36**	**9**	P	**P**	**22 55 53.3**	**-0.3**
	comp=Z,4.4nm,0.6s,baz=190,slow=7.5,SNR=9.3						
	comp=Z,4.4nm,0.6s						
BNX	**BinXian**	**34.45**	**2**	⇑P	**P**	**22 56 03.0**	**-0.1**
BNX				pmax	pmax		
	comp=Z,11nm,0.7s						
BNX				pmax	pmax		
	comp=Z,110nm,3.8s						
AS31	**Alice Springs**	**35.65**	**167**	P	**P**	**22 56 15.0**	**+1.3**
ASAR	**Alice Springs**	**35.65**	**167**	P	**P**	**22 56 15.7**	**+2.0**
ASAR	**Alice Springs**	**35.65**	**167**	P	**P**	**22 56 15.0**	**+1.3**
	comp=Z,2.1nm,0.6s,baz=351,slow=7.3,SNR=31						
ASAR				PcP	**PcP**	**22 58 41.5**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=344,slow=2.2,SNR=12						
	comp=Z,2.1nm,0.6s						
ASAJ	**Asahikawa**	**35.99**	**21**	LR	LR	23 11 36.0	
	comp=Z,20nm,20.3s,baz=118,slow=37						
GTA	**Gaotai**	**36.12**	**325**	P	**P**	**22 56 18.3**	**+0.6**
GTA				pP	sP	22 56 48.5	+0.6
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KLR	**Kul'dur**	**38.27**	**7**	LR	LR	23 10 46.4	
	comp=Z,21nm,21.4s,baz=272,slow=34						
HEH	**HeiHe**	**38.96**	**2**	*e*P	**P**	**22 56 40.8**	**-0.5**
HEH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HEH				pmax	pmax		
	comp=Z,190nm,4.8s						
ULN	**Ulaanbaatar**	**39.65**	**341**	P	**P**	**22 56 47.3**	**0.0**
SONM	**Songino Array**	**39.84**	**340**	P	**P**	**22 56 48.7**	**-0.2**
SONM				IAmb	IAmb	22 56 50.1	
	comp=Z,7.3nm,0.8s						
SONM	**Songino Array**	**39.84**	**340**	P	**P**	**22 56 49.1**	**+0.3**
	comp=Z,7.2nm,0.6s,baz=156,slow=9.7,SNR=54						
SONM				PcP	**PcP**	**22 58 53.3**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=170,slow=4.9,SNR=2.7						
SONM				LR	LR	23 13 59.9	
	comp=Z,40nm,18.8s,baz=166,slow=37						
	comp=Z,7.2nm,0.6s						
HNR	**Honiara**	**40.02**	**120**	LR	LR	23 11 41.6	
	comp=Z,374nm,20.2s,baz=324,slow=33						
H11S3	**WAKE ISLAND Hy**	**40.49**	**75**	T	T	23 40 00.7	
	baz=287,slow=73,SNR=100						
H11S1	**WAKE ISLAND Hy**	**40.51**	**75**	T	T	23 39 59.8	
	baz=287,slow=73,SNR=58						
H11S2	**WAKE ISLAND Hy**	**40.51**	**75**	T	T	23 39 59.0	
	baz=287,slow=73,SNR=62						
H11N1	**WAKE ISLAND Hy**	**40.79**	**73**	T	T	23 40 20.8	
	baz=265,slow=75,SNR=373						
H11N2	**WAKE ISLAND Hy**	**40.80**	**73**	T	T	23 40 21.1	
	baz=265,slow=75,SNR=329						
H11N3	**WAKE ISLAND Hy**	**40.81**	**73**	T	T	23 40 22.1	
	baz=265,slow=75,SNR=307						
PALK	**Pallekele**	**44.25**	**269**	LR	LR	23 16 19.4	
	comp=Z,32nm,18.9s,baz=207,slow=36						
STKA	**Stephens Creek**	**45.57**	**161**	P	**P**	**22 57 37.0**	**+1.8**
	comp=Z,5.7nm,0.6s,baz=337,slow=8.7,SNR=15						
	comp=Z,5.7nm,0.6s						
PETK	**Petropavlovsk-**	**49.15**	**25**	P	**P**	**22 58 02.9**	**+0.2**
	comp=Z,4.4nm,0.8s,baz=231,slow=5.0,SNR=2.4						
	comp=Z,4.4nm,0.8s						
MK31	**Makanchi Array**	**50.76**	**323**	P	**P**	**22 58 14.6**	**-0.5**
MK31				IAmb	IAmb	22 58 16.4	
	comp=Z,4.1nm,0.7s						
MKAR	**Makanchi Array**	**50.76**	**323**	P	**P**	**22 58 14.6**	**-0.5**
MKAR				PcP	**PcP**	**22 59 31.0**	**0.0**
MKAR	**Makanchi Array**	**50.76**	**323**	P	**P**	**22 58 15.5**	**+0.4**
	comp=Z,4.7nm,0.6s,baz=118,slow=8.4,SNR=71						
MKAR				PcP	**PcP**	**22 59 31.5**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=118,slow=5.2,SNR=2.3						
MKAR				LR	LR	23 20 27.9	
	comp=Z,30nm,21.0s,baz=71,slow=37						
	comp=Z,4.7nm,0.6s						
YAK	**Yakutsk**	**50.83**	**3**	P	**P**	**22 58 14.6**	**-0.6**
MAKZ	**Makanchi**	**50.95**	**323**	P	**P**	**22 58 16.2**	**-0.3**
MAKZ				IAmb	IAmb	22 58 17.4	
	comp=Z,3.7nm,0.6s						
NIL	**Nilore**	**52.49**	**304**	P	**P**	**22 58 27.6**	**-0.6**
ZAA0	**Zalesovo Array**	**53.39**	**331**	P	**P**	**22 58 33.7**	**-0.7**
ZAA0				IAmb	IAmb	22 58 34.9	
	comp=Z,4.8nm,0.8s						
ZALV	**Zalesovo Beam**	**53.39**	**331**	P	**P**	**22 58 33.8**	**-0.6**
ZALV	**Zalesovo Beam**	**53.39**	**331**	P	**P**	**22 58 34.0**	**-0.3**
	comp=Z,4.6nm,0.7s,baz=117,slow=7.1,SNR=20						
	comp=Z,4.6nm,0.7s						
AAK	**Ala-Archa**	**54.05**	**315**	LR	LR	23 23 20.6	
	comp=Z,60nm,19.3s,baz=86,slow=38						
KURK	**Kurchatov**	**54.80**	**325**	P	**P**	**22 58 44.6**	**-0.2**
KURBB	**Kurchatov Arra**	**54.81**	**325**	P	**P**	**22 58 45.1**	**+0.3**
	comp=Z,5.5nm,0.8s,baz=125,slow=7.0,SNR=30						
	comp=Z,5.5nm,0.8s						
BTK	**Batken**	**55.92**	**311**	P	**P**	**22 58 52.4**	**-0.7**
KBL	**Kabul**	**56.09**	**304**	P	**P**	**22 58 53.8**	**-0.7**
SIMJ	**Simiganj**	**56.94**	**309**	P	**P**	**22 58 59.6**	**-0.9**
SIMJ				IAmb	IAmb	22 59 02.4	
	comp=Z,5.1nm,1.1s						
KK31	**Karatay Array**	**56.98**	**314**	P	**P**	**22 58 59.6**	**-0.9**
KK31				IAmb	IAmb	22 59 02.6	
	comp=Z,2.1nm,0.5s						
BVAR	**Borovoye Array**	**60.40**	**325**	P	**P**	**22 59 24.2**	**+0.2**
	comp=Z,4.8nm,0.8s,baz=119,slow=9.3,SNR=30						
	comp=Z,4.8nm,0.8s						
TIXI	**Tiksi**	**60.43**	**1**	P	**P**	**22 59 23.1**	**-0.8**
BRVK	**Borovoye**	**60.47**	**325**	P	**P**	**22 59 24.4**	**-0.1**
HRA	**Herat**	**61.63**	**303**	P	**P**	**22 59 31.2**	**-1.7**
HRA				IAmb	IAmb	22 59 33.2	
	comp=Z,3.4nm,0.8s						
NRIK	**Noril'sk**	**62.89**	**346**	P	**P**	**22 59 40.2**	**-0.2**
NRIK	**Noril'sk**	**62.89**	**346**	P	**P**	**22 59 40.7**	**+0.3**
	comp=Z,12nm,0.6s,baz=126,slow=6.4,SNR=27						
	comp=Z,12nm,0.6s						
GEYT	**Alibeck**	**65.29**	**307**	P	**P**	**22 59 54.5**	**-2.4**
GEYT				IAmb	IAmb	22 59 58.5	
	comp=Z,6.5nm,0.8s						
GEYT	**Alibeck**	**65.29**	**307**	P	**P**	**22 59 57.0**	**+0.2**
	comp=Z,4.7nm,0.8s,baz=123,slow=5.5,SNR=10						
GEYT				LR	LR	23 32 43.9	
	comp=Z,33nm,19.4s,baz=344,slow=40						
	comp=Z,4.7nm,0.8s						
ABKAR	**Akbulak array**	**65.60**	**319**	P	**P**	**22 59 57.3**	**-1.2**
ABKAR				IAmb	IAmb	22 59 59.4	
	comp=Z,4.1nm,0.9s						
ABKAR	**Akbulak array**	**65.60**	**319**	P	**P**	**22 59 57.6**	**-0.9**
NIKH	**Nikolski High**	**66.58**	**37**	P	**P**	**23 00 05.7**	**+1.0**
	baz=257						
ARU	**Arti**	**67.97**	**327**	P	**P**	**23 00 12.5**	**-0.9**
ARU				IAmb	IAmb	23 00 13.3	
	comp=Z,5.2nm,0.6s						
UNV	**Unalaska Valle**	**68.13**	**36**	P	**P**	**23 00 14.9**	**+0.4**
	baz=259						
GAMB	**Gambell**	**68.18**	**25**	P	**P**	**23 00 15.4**	**+0.8**
	baz=250						
M11K	**Mekoryuk**	**69.69**	**30**	P	**P**	**23 00 24.6**	**+0.6**
	baz=257						
TNA	**Tin City**	**70.29**	**24**	P	**P**	**23 00 29.4**	**+1.8**
	baz=253						
F14K	**Arctic Creek**	**70.91**	**24**	P	**P**	**23 00 32.7**	**+1.3**
	baz=255						
S12K	**Black Hills**	**70.98**	**35**	P	**P**	**23 00 33.0**	**+0.9**
	baz=262						
ANM	**Nome**	**71.07**	**25**	P	**P**	**23 00 33.5**	**+1.1**
	baz=256						
M13K	**Dall Lake**	**71.08**	**30**	P	**P**	**23 00 34.1**	**+1.7**
	baz=259						
J14K	**Nanvaranak Lak**	**71.45**	**27**	P	**P**	**23 00 36.1**	**+1.5**
	baz=258						
L14K	**Kuka Creek**	**71.58**	**29**	P	**P**	**23 00 36.7**	**+1.3**
	baz=260						
F15K	**North Star Dit**	**71.64**	**24**	P	**P**	**23 00 36.2**	**+0.4**
F15K	**North Star Dit**	**71.64**	**24**	P	**P**	**23 00 36.7**	**+0.9**
	baz=256						
G15K	**Niukluk**	**71.72**	**25**	P	**P**	**23 00 36.9**	**+0.7**
	baz=257						
N14K	**Kuskokwak Cree**	**71.82**	**30**	P	**P**	**23 00 37.9**	**+1.0**
	baz=261						
M14K	**Bethel**	**71.82**	**30**	P	**P**	**23 00 36.9**	**0.0**
M14K	**Bethel**	**71.82**	**30**	P	**P**	**23 00 37.9**	**+1.0**
	baz=260						
SDPT	**Sand Point**	**71.83**	**35**	P	**P**	**23 00 37.7**	**+0.6**
	baz=264						
O14K	**Tigyukauivet M**	**71.93**	**31**	P	**P**	**23 00 38.7**	**+1.1**
	baz=262						
C16K	**Lisburne Hills**	**72.02**	**21**	P	**P**	**23 00 38.8**	**+0.8**
	baz=255						
L15K	**Ungalak Mounta**	**72.20**	**29**	P	**P**	**23 00 39.8**	**+0.7**
	baz=261						
CHNA	**Chernabura Isl**	**72.28**	**36**	P	**P**	**23 00 41.2**	**+1.5**
	baz=264						
K15K	**Wolf Creek Mou**	**72.28**	**28**	P	**P**	**23 00 42.0**	**+2.3**
	baz=260						
H16K	**Elim**	**72.40**	**26**	P	**P**	**23 00 41.5**	**+1.2**
	baz=259						
M15K	**Kasigluk River**	**72.43**	**30**	P	**P**	**23 00 41.4**	**+0.8**
	baz=262						
G16K	**Koyuk River**	**72.50**	**25**	P	**P**	**23 00 42.1**	**+1.2**
	baz=259						
N15K	**Kwethluk River**	**72.65**	**30**	P	**P**	**23 00 42.9**	**+1.0**
	baz=262						
D17K	**Noatak River**	**72.71**	**22**	P	**P**	**23 00 43.6**	**+1.5**
	baz=257,SNR=7.1						
C17K	**DeLong Mountai**	**72.85**	**21**	P	**P**	**23 00 44.1**	**+1.2**
	baz=257,SNR=5.5						
RDOG	**Red Dog Mine**	**72.85**	**22**	P	**P**	**23 00 43.8**	**+0.8**
	baz=257						
J16K	**Anvik River**	**72.87**	**27**	P	**P**	**23 00 44.2**	**+1.1**
	baz=261						
I17K	**Unalakleet**	**72.93**	**26**	P	**P**	**23 00 44.3**	**+0.9**
	baz=261						
E17K	**Hotham Inlet**	**73.05**	**23**	P	**P**	**23 00 45.3**	**+1.2**
	baz=259						
CHGN	**Chignik**	**73.09**	**34**	P	**P**	**23 00 44.9**	**+0.4**
	baz=265						
F17K	**Baldwin Pennin**	**73.15**	**24**	P	**P**	**23 00 45.9**	**+1.1**
	baz=259						
G17K	**Kiwalik Mounta**	**73.22**	**25**	P	**P**	**23 00 46.2**	**+1.0**
	baz=260,SNR=7.8						
M16K	**Timber Creek**	**73.31**	**30**	P	**P**	**23 00 46.3**	**+0.5**
	baz=263						
N16K	**Nishlik Lake**	**73.34**	**30**	P	**P**	**23 00 47.0**	**+1.0**
	baz=263						
H17K	**Granite Mounta**	**73.44**	**25**	P	**P**	**23 00 47.5**	**+1.1**
	baz=261						
B18K	**Kokolik River**	**73.53**	**21**	P	**P**	**23 00 48.2**	**+1.2**
	baz=258						
P16K	**Nushagak River**	**73.57**	**32**	P	**P**	**23 00 49.4**	**+2.1**
	baz=264						
O16K	**Kokwok River B**	**73.58**	**31**	P	**P**	**23 00 49.0**	**+1.6**
	baz=264						
E18K	**Tukpahlearik C**	**73.58**	**23**	P	**P**	**23 00 48.0**	**+0.7**
E18K				IAmb	IAmb	23 00 49.5	
	comp=Z,4.2nm,0.8s						
E18K	**Tukpahlearik C**	**73.58**	**23**	P	**P**	**23 00 48.5**	**+1.2**
	baz=260						
C18K	**Utukok River**	**73.60**	**21**	P	**P**	**23 00 48.3**	**+0.9**
C18K				IAmb	IAmb	23 00 49.1	
	comp=Z,3.4nm,0.8s						
C18K	**Utukok River**	**73.60**	**21**	P	**P**	**23 00 48.6**	**+1.2**
	baz=259						
BELG	**Belogornoye**	**73.73**	**321**	P	**P**	**23 00 48.5**	**+0.1**
	comp=Z,15nm,0.8s,baz=257,slow=7.9,SNR=3.4						
	comp=Z,15nm,0.8s						
L17K	**Donlin**	**73.76**	**28**	P	**P**	**23 00 50.3**	**+1.8**
	baz=263						
F18K	**Selawik**	**73.81**	**24**	P	**P**	**23 00 50.1**	**+1.5**
	baz=261,SNR=5.9						
K17K	**Iditarod**	**73.83**	**28**	P	**P**	**23 00 50.0**	**+1.2**
	baz=263						
A19K	**Wainwright**	**73.96**	**20**	P	**P**	**23 00 50.8**	**+1.4**
	baz=258						
M17K	**Holitna River**	**74.09**	**29**	P	**P**	**23 00 51.7**	**+1.4**
	baz=264						
G18K	**Tagagawik**	**74.10**	**24**	P	**P**	**23 00 51.2**	**+0.9**
	baz=262						
H18K	**Honhosa River**	**74.12**	**25**	P	**P**	**23 00 51.2**	**+0.7**
	baz=262						
N17K	**Nushagak Hills**	**74.12**	**30**	P	**P**	**23 00 51.7**	**+1.1**
	baz=265						
C19K	**Lookout Ridge**	**74.26**	**21**	P	**P**	**23 00 52.7**	**+1.4**
	baz=260						
P17K	**Kvichak River**	**74.39**	**32**	P	**P**	**23 00 53.0**	**+1.0**
	baz=266						
L18K	**Granite Mounta**	**74.52**	**28**	P	**P**	**23 00 54.3**	**+1.5**
	baz=265						
F19K	**Shaleruckik Mo**	**74.58**	**24**	P	**P**	**23 00 53.5**	**+0.4**
	baz=262						
Q17K	**Contact Creek**	**74.61**	**33**	P	**P**	**23 00 53.8**	**+0.3**
	baz=267						
J18K	**Innoko River**	**74.63**	**27**	P	**P**	**23 00 54.6**	**+1.1**
	baz=264						
D19K	**Kuna River**	**74.69**	**22**	P	**P**	**23 00 54.6**	**+0.8**
D19K				IAmb	IAmb	23 00 55.8	
	comp=Z,7.6nm,1.0s						
D19K	**Kuna River**	**74.69**	**22**	P	**P**	**23 00 54.9**	**+1.2**
	baz=262						
GCSA	**Galena City Sc**	**74.69**	**26**	P	**P**	**23 00 55.4**	**+1.7**
	baz=264						
G19K	**Purcell Mounta**	**74.77**	**24**	P	**P**	**23 00 55.3**	**+1.1**
	baz=263						
N18K	**Kilae Creek**	**74.77**	**30**	P	**P**	**23 00 55.4**	**+1.1**
	baz=266						
M18K	**Stony River**	**74.87**	**29**	P	**P**	**23 00 56.2**	**+1.4**
	baz=266						
E19K	**Redstone River**	**74.87**	**23**	P	**P**	**23 00 56.1**	**+1.3**
	baz=263						
H19K	**Roundabout Mou**	**74.96**	**25**	P	**P**	**23 00 56.6**	**+1.4**
	baz=264,SNR=6.3						
O18K	**Koktuh Hills**	**75.06**	**31**	P	**P**	**23 00 56.4**	**+0.4**
O18K				IAmb	IAmb	23 00 58.6	
	comp=Z,8.9nm,0.8s						
O18K	**Koktuh Hills**	**75.06**	**31**	P	**P**	**23 00 57.3**	**+1.3**
	baz=267						
B20K	**Meade River**	**75.24**	**20**	P	**P**	**23 00 58.0**	**+1.2**
	baz=262						
D20K	**Etivluk River**	**75.26**	**22**	P	**P**	**23 00 58.4**	**+1.3**
	baz=263						
E20K	**Nigu River**	**75.36**	**22**	P	**P**	**23 00 59.1**	**+1.4**
	baz=264						
L19K	**White Mountain**	**75.38**	**28**	P	**P**	**23 00 58.8**	**+1.0**
	baz=266						
F20K	**Avaraart Lake**	**75.41**	**23**	P	**P**	**23 00 58.8**	**+1.0**
	baz=264						
N19K	**Bonanza Creek**	**75.47**	**30**	P	**P**	**23 00 59.6**	**+1.1**
	baz=267						
M19K	**Big River Lodg**	**75.58**	**29**	P	**P**	**23 01 00.3**	**+1.3**
	baz=267						
H20K	**Anotleneega Mo**	**75.61**	**25**	P	**P**	**23 01 00.1**	**+1.0**
	baz=266,SNR=7.1						
I20K	**Naaghedeneel**	**75.72**	**26**	P	**P**	**23 01 01.0**	**+1.3**
	baz=266						
Q19K	**Cape Douglas,**	**75.81**	**32**	P	**P**	**23 01 00.7**	**+0.3**
	baz=268						
J20K	**Nowinta River**	**75.83**	**26**	P	**P**	**23 01 01.3**	**+1.0**
	baz=266						
L20K	**Farewell, AK**	**75.85**	**28**	P	**P**	**23 01 01.6**	**+1.1**
	baz=267						
OHAK	**Old Harbor**	**75.96**	**34**	P	**P**	**23 01 02.9**	**+1.8**
	baz=269						
C21K	**Knifeblade Rid**	**75.97**	**21**	P	**P**	**23 01 02.3**	**+1.2**
	baz=265						
B21K	**Ikpikpuk River**	**76.07**	**21**	P	**P**	**23 01 02.3**	**+0.8**
B21K				IAmb	IAmb	23 01 03.7	
	comp=Z,7.0nm,0.8s						
B21K	**Ikpikpuk River**	**76.07**	**21**	P	**P**	**23 01 02.8**	**+1.2**
	baz=265						
A22K	**Sinclair Lake**	**76.09**	**19**	P	**P**	**23 01 02.9**	**+1.3**
	baz=264						
IMAR	**Indian Mountai**	**76.11**	**25**	P	**P**	**23 01 02.4**	**+0.5**
M20K	**Styx River**	**76.17**	**29**	P	**P**	**23 01 03.5**	**+1.1**
	baz=268						
G21K	**Allakaket**	**76.24**	**24**	P	**P**	**23 01 03.9**	**+1.2**
	baz=266						
F21K	**Alatna River**	**76.30**	**23**	P	**P**	**23 01 04.1**	**+1.2**
	baz=266						
RAYN	**Ar Rayn**	**76.42**	**292**	P	**P**	**23 01 03.2**	**-1.3**
H21K	**Melozitna Rive**	**76.48**	**25**	P	**P**	**23 01 05.3**	**+1.3**
	baz=267						
B22K	**Teshekpuk Lake**	**76.55**	**20**	P	**P**	**23 01 05.3**	**+1.0**
	baz=266						
N20K	**Mount Spurr**	**76.59**	**30**	P	**P**	**23 01 05.7**	**+0.9**
	baz=269						
CHUM	**Lake Minchumin**	**76.62**	**27**	P	**P**	**23 01 05.8**	**+1.1**
	baz=268						
PPLA	**Purkeypile**	**76.64**	**28**	P	**P**	**23 01 05.9**	**+0.8**
	baz=269						
D22K	**Ayikyak River**	**76.70**	**22**	P	**P**	**23 01 05.9**	**+0.7**
D22K	**Ayikyak River**	**76.70**	**22**	P	**P**	**23 01 06.5**	**+1.3**
	baz=267						
CAST	**Castle Rocks**	**76.70**	**27**	P	**P**	**23 01 05.5**	**+0.1**
CAST				IAmb	IAmb	23 01 07.0	
	comp=Z,3.6nm,0.8s						
CAST	**Castle Rocks**	**76.70**	**27**	P	**P**	**23 01 06.2**	**+0.9**
	baz=269,SNR=5.5						
I21K	**Tanana**	**76.80**	**25**	P	**P**	**23 01 07.0**	**+1.3**
	baz=268						
F22K	**John River**	**76.82**	**23**	P	**P**	**23 01 07.3**	**+1.4**
	baz=268,SNR=6.0						
SKT	**Skwentna**	**76.93**	**29**	P	**P**	**23 01 07.4**	**+0.8**
	baz=269						
KBZ	**Khabaz**	**76.94**	**312**	P	**P**	**23 01 07.2**	**+0.3**
	comp=Z,4.7nm,0.9s,baz=119,slow=2.3,SNR=12						
KBZ				LR	LR	23 40 57.4	
	comp=Z,21nm,18.5s,baz=117,slow=40						
	comp=Z,4.7nm,0.9s						
E22K	**Anaktuvuk Pass**	**76.98**	**22**	P	**P**	**23 01 08.4**	**+1.6**
	baz=268						
KVAR	**Kislovodsk Arr**	**77.07**	**313**	P	**P**	**23 01 08.8**	**+0.9**
	comp=Z,2.7nm,0.7s,baz=267,slow=23,SNR=8.5						
	comp=Z,2.7nm,0.7s						
H22K	**Ishtalitna Cre**	**77.08**	**25**	P	**P**	**23 01 08.5**	**+1.2**
	baz=269						
KIV	**Kislovodsk**	**77.08**	**313**	P	**P**	**23 01 07.3**	**-0.6**
BPAW	**Bear Paw Mtn.**	**77.21**	**27**	P	**P**	**23 01 08.5**	**+0.4**
BPAW				IAmb	IAmb	23 01 09.8	
	comp=Z,5.6nm,0.8s						
BPAW	**Bear Paw Mtn.**	**77.21**	**27**	P	**P**	**23 01 08.7**	**+0.5**
	baz=269,SNR=7.3						
SUA	**Susitna One**	**77.30**	**29**	P	**P**	**23 01 08.4**	**-0.4**
SUA				IAmb	IAmb	23 01 09

DHY	Denali Highway	78.84	28	P		P	23 01 17.7 +0.4
	baz=273						
SCM	Sheep Creek Mo	78.92	29	P		P	23 01 18.3 +0.6
	baz=273						
HDA	Harding Lake	78.96	26	P		P	23 01 17.4 -0.5
HDA	Harding Lake	78.96	26	P		P	23 01 17.0 -0.8
	baz=273						
D25K	Kavik River	78.97	21	P		P	23 01 18.9 +1.1
	baz=272,SNR=11						
ILAR	Eielson Array	78.97	26	P		P	23 01 17.6 -0.2
	comp=Z,1.0nm,0.7s,baz=238,slow=5.4,SNR=16						
	comp=Z,1.0nm,0.7s						
G25K	Bearman Lake	79.19	24	P		P	23 01 20.6 +1.6
	baz=273						
E25K	Arctic Village	79.32	22	P		P	23 01 20.6 +0.8
E25K	Arctic Village	79.32	22	P		P	23 01 21.2 +1.4
	baz=274,SNR=5.0						
F25K	Christian Rive	79.33	23	P		P	23 01 21.4 +1.6
	baz=274						
C26K	Camden Bay	79.45	21	P		P	23 01 21.9 +1.6
	baz=274						
M24K	Tolsona, Glenn	79.45	29	P		P	23 01 21.6 +1.1
	baz=274						
PRP	Porcupine Dome	79.50	25	P		P	23 01 21.6 +0.7
	baz=274						
K24K	Donnelly Dome	79.51	27	P		P	23 01 21.4 +0.5
	baz=274						
FYU	Fort Yukon	79.55	24	P		P	23 01 22.0 +1.0
KLU	Klutina	79.61	29	P		P	23 01 22.2 +0.7
	baz=274						
J25K	Salcha River,	79.63	26	P		P	23 01 22.0 +0.4
	baz=274						
PAX	Paxson	79.71	28	P		P	23 01 22.7 +0.7
	baz=275						
BMAR	Burnt Mountain	79.74	23	P		P	23 01 23.0 +1.0
F26K	Sheenjek River	79.89	23	P		P	23 01 24.0 +1.2
	baz=275						
HARP	HAARP	79.90	28	P		P	23 01 23.5 +0.5
	baz=275						
RIDG	Independent Ri	79.93	27	P		P	23 01 23.3 +0.1
	baz=275						
G26K	Porcupine Rive	80.09	24	P		P	23 01 25.3 +1.5
	baz=275						
N25K	Chitina, Valde	80.23	29	P		P	23 01 25.9 +1.0
	baz=276						
SCRK	Sand Creek	80.29	27	P		P	23 01 25.3 +0.2
SCRK	Sand Creek	80.29	27	P		P	23 01 26.2 +1.0
	baz=276						
J26L	Joseph Creek	80.42	26	P		P	23 01 26.3 +0.5
	baz=276						
I26K	Coal Creek Min	80.51	25	P		P	23 01 26.7 +0.6
	baz=276						
L26K	Log Cabin Wild	80.67	28	P		P	23 01 28.0 +0.9
	baz=276						
E27K	Coleen River	80.80	22	P		P	23 01 29.0 +1.3
	baz=277						
D27M	Malcolm River	80.89	21	P		P	23 01 29.4 +1.2
	baz=278						
M26K	Nabesna, AK	80.90	28	P		P	23 01 29.3 +0.9
	baz=277						
G27K	Doyon Strip	80.94	24	P		P	23 01 30.1 +1.6
	baz=277						
H27K	Steamboat Moun	81.07	24	P		P	23 01 30.9 +1.7
	baz=278						
I27K	Kandik River	81.11	25	P		P	23 01 30.9 +1.5
	baz=278						
K27K	Chicken	81.12	26	P		P	23 01 31.1 +1.6
	baz=277						
L27K	Beaver Creek,	81.36	27	P		P	23 01 32.1 +1.4
	baz=278						
BCAR	Beaver Creek A	81.37	27	P		P	23 01 31.8 +0.9
EGAK	Eagle	81.42	26	P		P	23 01 31.7 +0.7
	baz=278						
M27K	Edge Creek, AK	81.42	28	P		P	23 01 32.3 +1.0
	baz=278						
E28M	Babbage River	81.50	22	P		P	23 01 32.6 +1.3
	baz=279						
F28M	Old Crow	81.52	23	P		P	23 01 32.5 +0.9
F28M				IAmb		IAmb	23 01 33.6
	comp=Z,4.4nm,0.7s						
F28M	Old Crow	81.52	23	P		P	23 01 32.6 +1.1
	baz=279						
I28M	Miner Creek	81.83	25	P		P	23 01 34.6 +1.3
	baz=279						
CTG	Chitna Glacier	81.87	29	P		P	23 01 34.8 +1.2
	baz=278						
CTGM	Chitina Glacie	81.88	29	P		P	23 01 34.7 +1.0
CTGM				IAmb		IAmb	23 01 36.0
	comp=Z,5.5nm,0.9s						
E29M	Blow River	82.13	22	P		P	23 01 36.0 +1.4
	baz=280						
YUK3	Moose Creek	82.17	29	P		P	23 01 36.5 +1.2
	baz=279						
DAWY	Dawson	82.28	26	P		P	23 01 37.0 +1.4
	baz=280						
H29M	Whitestone	82.34	24	P		P	23 01 36.7 +0.9
	baz=280						
G29M	Pine Creek	82.35	23	P		P	23 01 37.0 +1.1
	baz=281						
ABPO	Ambohimpanom	82.66	249	P		P	23 01 38.8 +0.2
ABPO				IAmb		IAmb	23 01 40.6
	comp=Z,4.6nm,0.8s						
SPITS	Spitsbergen Ar	82.93	349	P		P	23 01 38.4 -0.2
	comp=Z,7.9nm,0.9s,baz=95,slow=4.8,SNR=2.1						
	comp=Z,7.9nm,0.9s						
M29M	Somme Creek	82.98	28	P		P	23 01 40.8 +1.4
	baz=281						
L29M	L29M	83.01	27	P		P	23 01 41.1 +1.7
	baz=281						
ARCES	ARCESS Array B	83.01	340	P		P	23 01 38.6 -0.6
ARCES	ARCESS Array B	83.01	340	P		P	23 01 39.2 -0.1
	comp=Z,5.6nm,0.9s,baz=81,slow=5.9,SNR=8.8						
	comp=Z,5.6nm,0.9s						
G30M	tAoh Zraii Nji	83.03	23	P		P	23 01 39.8 +0.4
	baz=282						
F30M	Barrier River	83.06	22	P		P	23 01 40.2 +0.7
	baz=283						
YUK4	Talbot Arm	83.10	29	P		P	23 01 40.4 +0.3
	baz=281						
K29M	Barlow Dome	83.14	26	P		P	23 01 40.4 +0.3
	baz=282						
YUK6	Outpost Mounta	83.31	29	P		P	23 01 41.7 +0.5
	baz=281						
O29M	Mount Kennedy	83.33	30	P		P	23 01 42.1 +0.9
	baz=281						
I30M	Mount Dempster	83.34	25	P		P	23 01 41.5 +0.4
	baz=282						
J30M	Hart River	83.50	25	P		P	23 01 42.8 +0.8
	baz=282						
M30M	Minto, Yukon	83.72	27	P		P	23 01 43.2 +0.2
M30M				IAmb		IAmb	23 02 00.1
	comp=Z,6.5nm,1.5s						
M30M	Minto, Yukon	83.72	27	P		P	23 01 44.0 +0.9
	baz=282						
INK	Inuvik	83.73	22	P		P	23 01 43.0 +0.2
INK	Inuvik	83.73	22	P		P	23 01 43.4 +0.5
	baz=285						
HYT	Haines Junctio	83.75	29	P		P	23 01 44.5 +1.2
	baz=282						
VOI	Vohitsoka	83.77	246	P		P	23 01 44.0 -0.1
G31M	Satah River	83.79	23	P		P	23 01 43.3 0.0
G31M				IAmb		IAmb	23 02 07.0
	comp=Z,8.5nm,1.5s						
G31M	Satah River	83.79	23	P		P	23 01 43.9 +0.7
	baz=284						
N30M	Aishikik Lake	83.81	29	P		P	23 01 44.3 +0.8
	baz=282						
F31M	Tsiigehtchic	83.86	22	P		P	23 01 44.2 +0.7
	baz=284						
MMAI	Mount Meron Ar	83.97	302	P		P	23 01 45.4 +0.4
	comp=Z,3.2nm,0.9s,baz=96,slow=2.9,SNR=2.6						
	comp=Z,3.2nm,0.9s						
H31M	Peel River	84.03	24	P		P	23 01 45.3 +0.7
	baz=284						
P30M	Million Dollar	84.15	30	P		P	23 01 46.3 +1.0
	baz=282						
BRTR	Keskin Array B	84.27	309	P		P	23 01 46.1 -0.4
BRTR	Keskin Array B	84.27	309	P		P	23 01 46.3 -0.2
	comp=Z,0.9nm,0.6s,baz=103,slow=4.6,SNR=2.6						
	comp=Z,0.9nm,0.6s						
N31M	Braeburn, Yuko	84.42	28	P		P	23 01 47.8 +1.1
	baz=283						
O30N	Mendenhall	84.43	29	P		P	23 01 47.6 +0.9
	baz=283						
FIA1	FINESS Array S	84.65	332	P		P	23 01 47.5 -0.2
FINES	FINESS Array B	84.66	332	P		P	23 01 47.6 -0.1
	comp=Z,2.0nm,0.4s,baz=72,slow=4.7,SNR=49						
	comp=Z,2.0nm,0.4s						
M31M	Drury Creek, Y	84.89	28	P		P	23 01 49.7 +0.7
M31M				IAmb		IAmb	23 02 04.9
	comp=Z,6.1nm,1.3s						
M31M	Drury Creek, Y	84.89	28	P		P	23 01 49.9 +0.9
	baz=284						
WHY	Whitehorse	85.04	29	P		P	23 01 50.6 +0.7
WHY				IAmb		IAmb	23 01 52.4
	comp=Z,7.2nm,0.9s						
WHY	Whitehorse	85.04	29	P		P	23 01 51.3 +1.5
	baz=284						
A36M	Sachs Harbour	85.27	17	P		P	23 01 51.3 +0.7
A36M				IAmb		IAmb	23 01 52.2
	comp=Z,6.9nm,0.9s						
A36M	Sachs Harbour	85.27	17	P		P	23 01 51.4 +0.8
	baz=292						
AKASG	Malin Array Be	85.29	321	P		P	23 01 50.0 -1.1
AKASG				IAmb		IAmb	23 01 51.6
	comp=Z,6.2nm,1.1s						
AKASG	Malin Array Be	85.29	321	P		P	23 01 50.5 -0.7
	comp=Z,1.7nm,0.5s,baz=66,slow=4.6,SNR=13						
AKASG				LR		LR	23 43 48.7
	comp=Z,29nm,20.1s,baz=266,slow=38						
	comp=Z,1.7nm,0.5s						
CSS	Mathiatis	85.34	305	P		P	23 01 51.4 -0.4
FARO	Faro, Yukon	85.36	27	P		P	23 01 51.9 +0.6
FARO				IAmb		IAmb	23 01 53.6
	comp=Z,6.3nm,0.8s						
FARO	Faro, Yukon	85.36	27	P		P	23 01 52.5 +1.2
	baz=285						
N32M	Quiet Lake	85.76	28	P		P	23 01 54.7 +1.3
	baz=286						
S32K	Killisnoo	85.97	32	P		P	23 01 55.1 +0.8
	baz=285						
P33M	Teslin, Yukon	86.14	29	P		P	23 01 56.4 +1.1
	baz=286						
MMPY	Sheldon Lake,	86.18	27	P		P	23 01 56.9 +1.5
	baz=287						
C36M	Paulatuk	86.65	19	P		P	23 01 58.2 +0.8
	baz=293						
BURAR	Bucovina Array	88.57	318	P		P	23 02 06.9 -0.3
BURAR				IAmb		IAmb	23 02 08.3
	comp=Z,3.3nm,0.7s						
BUR08	Bucovina Ar. S	88.57	318	P		P	23 02 07.2 -0.1
BUR08				IAmb		IAmb	23 02 08.4
	comp=Z,2.8nm,0.8s						
MLR	Muntele Rosu	88.62	316	P		P	23 02 07.2 -0.3
MLR				IAmb		IAmb	23 02 11.1
	comp=Z,2.3nm,0.8s						
MLR	Muntele Rosu	88.62	316	P		P	23 02 07.8 +0.2
	comp=Z,1.2nm,0.4s,baz=147,slow=13,SNR=5.5						
MLR				LR		LR	23 46 04.4
	comp=Z,42nm,19.0s,baz=46,slow=38						
	comp=Z,1.2nm,0.4s						
CRVS	Cervenica-Dubn	90.61	320	eP		P	23 02 17.6 +1.0
HFS	Hagfors	90.82	332	P		P	23 02 16.4 -0.9
	comp=Z,0.7nm,0.4s,baz=148,slow=3.3,SNR=8.0						
	comp=Z,0.7nm,0.4s						
VNDA	Vanda	90.97	173	P		P	23 02 19.2 +1.6
	comp=Z,2.1nm,1.1s,baz=350,slow=3.6,SNR=5.1						
	comp=Z,2.1nm,1.1s						
NOA	NORSAR Array B	91.53	334	LR		LR	23 46 37.8
	comp=Z,18nm,18.1s,baz=265,slow=38						
YKA	Yellowknife Ar	93.25	24	P		P	23 02 28.2 -0.3
	comp=Z,0.4nm,0.5s,baz=301,slow=4.9,SNR=8.9						
	comp=Z,0.4nm,0.5s						
TORD	Torodi Ar. Bea	119.11	292	PKP		PKPdf	23 08 02.8 -0.9
	comp=Z,0.4nm,0.7s,baz=43,slow=4.1,SNR=4.3						
PLCA	Paso Flores	147.41	157	PKPbc		PKPab	23 08 59.8 -0.4
	comp=Z,4.4nm,0.7s,baz=262,slow=2.7,SNR=11						

*IDC **28** 23:00:04.3±0.6, 13°.74N×145°.02E, h120km±3km, mb3.8/17, mbtmp4.2/17, Error ellipse: s-maj=23.7km s-min=12.5km az=86.0*

*NEIC **28** 23:00:05.4±1.8, 13°.69N±0°.07×144°.9E±0°.1, h124km±4km, mb4.4/36, Error ellipse: s-maj=17.7km s-min=8.6km az=109.0*

ISC 28 23:00:05.2±0.8, 13°.69N±0°.08×144°.9E±0°.1, h126km±7km, n71, σ0°.74/66, mb4.3/34, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
GUMO	Guam	0.10	171	P	Pn	23 00 22.7	+0.3
	2μm,0.3s,baz=342,slow=6.4,SNR=215						
GUMO				S	Sn	23 00 34.7	-0.6
	6μm,0.3s,baz=2.3,slow=15,SNR=28						
PATS	Pohnpei	14.89	116		Pn	23 03 29.7	+0.3
H11S3	WAKE ISLAND Hy	21.51	74	T	T	23 27 27.1	
	baz=260,slow=74						
H11S1	WAKE ISLAND Hy	21.52	74	T	T	23 27 27.3	
	baz=260						
H11S2	WAKE ISLAND Hy	21.53	74	T	T	23 27 26.7	
	baz=260						
H11N1	WAKE ISLAND Hy	21.93	71	T	T	23 27 57.8	
	baz=257,slow=75,SNR=20						
H11N2	WAKE ISLAND Hy	21.94	71	T	T	23 27 56.1	
	baz=257,slow=75,SNR=11						
H11N3	WAKE ISLAND Hy	21.95	71	T	T	23 27 59.3	
	baz=257,slow=75,SNR=20						
JNU	Nakatsue	23.16	329	P	P	23 05 01.6	+1.0
JNU				IAmb	IAmb	23 05 03.3	
	comp=Z,11nm,0.9s						
JNU	Nakatsue	23.16	329	P	P	23 05 00.2	-0.4
	comp=Z,6.3nm,0.7s,baz=87,slow=6.2,SNR=4.8						
	comp=Z,6.3nm,0.7s						
MJAR	Matsushiro Arr	23.52	347	P	P	23 05 02.4	-1.5
	comp=Z,1.5nm,0.8s,baz=159,slow=7.5,SNR=2.2						
	comp=Z,1.5nm,0.8s						
COEN	Coen	27.52	184	P	P	23 05 40.7	+0.5
KSRS	Korea Array	28.07	330	P	P	23 05 44.6	-0.2
	comp=Z,1.2nm,0.5s,baz=146,slow=9.9,SNR=5.0						
	comp=Z,1.2nm,0.5s						
MTN	Manton Dam	29.66	208	P	P	23 05 59.0	-0.1
WB0	Warramunga Arr	34.81	197	P	P	23 06 43.8	-0.3
WB0				IAmb	IAmb	23 06 51.6	
	comp=Z,9.0nm,1.4s						
WRA	Warramunga Arr	34.99	197	P	P	23 06 44.5	-1.1
WRA	Warramunga Arr	34.99	197	P	P	23 06 45.6	0.0
	comp=Z,3.1nm,0.6s,baz=16,slow=8.3,SNR=28						
	comp=Z,3.1nm,0.6s						
FITZ	Fitzroy Crossi	36.84	211	P	P	23 07 01.7	+0.3
AS31	Alice Springs	38.64	196	P	P	23 07 15.7	-0.9
ASAR	Alice Springs	38.64	196	P	P	23 07 15.5	-1.1
ASAR	Alice Springs	38.64	196	P	P	23 07 16.9	+0.3
	comp=Z,1.2nm,0.7s,baz=19,slow=12,SNR=16						
	comp=Z,1.2nm,0.7s						
EIDS	Eidsvold	39.30	171	P	P	23 07 21.1	-0.8
DZM	Mont Dzumac	41.37	149	P	P	23 07 40.0	+0.8
STKA	Stephens Creek	45.42	184	P	P	23 08 11.1	-0.3
STKA	Stephens Creek	45.42	184	P	P	23 08 11.6	+0.2
	comp=Z,3.5nm,0.5s,baz=359,slow=8.2,SNR=7.6						
	comp=Z,3.5nm,0.5s						
SONM	Songino Array	46.64	325	P	P	23 08 21.9	+0.9
SONM	Songino Array	46.64	325	P	P	23 08 22.3	+1.3
	comp=Z,1.1nm,0.7s,baz=139,slow=7.2,SNR=11						
SONM				PcP	PcP	23 09 53.4	+0.6
	comp=Z,0.4nm,0.5s,baz=131,slow=3.5,SNR=3.9						
	comp=Z,1.1nm,0.7s						
BBOO	Buckleboo	47.00	190	P	P	23 08 23.7	0.0
BBOO				IAmb	IAmb	23 08 24.7	
	comp=Z,8.4nm,0.8s						
FORT	Forrest	47.07	200	P	P	23 08 24.5	+0.1
FORT				IAmb	IAmb	23 08 25.4	
	comp=Z,10nm,0.7s						
KIWB	Kanaga Island	48.73	31	P	P	23 08 37.5	+0.5
ADK	Adak	48.98	31	P	P	23 08 39.6	+0.8
ADK				IAmb	IAmb	23 08 45.6	
	comp=Z,12nm,1.1s						
TOO	Toolangi	50.99	179	P	P	23 08 54.0	-0.2
TOO				IAmb	IAmb	23 08 56.6	
	comp=Z,5.5nm,0.7s						
CNBA	Chernabura Isl	59.34	34	P	P	23 09 53.7	-0.1
ANM	Nome	61.10	22	P	P	23 10 05.4	-0.3
ANM				IAmb	IAmb	23 10 27.9	
	comp=Z,5.3nm,1.5s						
N15K	Kwethluk River	61.18	28	P	P	23 10 06.1	-0.3
MK31	Makanchi Array	61.41	316	P	P	23 10 08.3	+0.2
MK31				IAmb	IAmb	23 10 10.1	
	comp=Z,3.5nm,1.4s						
MKAR	Makanchi Array	61.41	316	P	P	23 10 08.2	+0.1
MKAR	Makanchi Array	61.41	316	P	P	23 10 09.0	+0.9
	comp=Z,0.7nm,0.5s,baz=93,slow=8.3,SNR=17						
	comp=Z,0.7nm,0.5s						
K15K	Wolf Creek Mou	61.48	25	P	P	23 10 07.9	-0.4
ZALV	Zalesovo Beam	61.53	324	P	P	23 10 08.4	-0.4
	comp=Z,0.4nm,0.4s,baz=111,slow=7.9,SNR=2.2						
	comp=Z,0.4nm,0.4s						
MAKZ	Makanchi	61.62	316	P	P	23 10 10.1	+0.6
F15K	North Star Dit	61.97	21	P	P	23 10 11.0	-0.5
KDAK	Kodiak Island	63.99	32	P	P	23 10 25.1	+0.1
TTA	Tatalina	64.07	26	P	P	23 10 25.1	-0.5
TTA				IAmb	IAmb	23 10 26.6	
	comp=Z,4.3nm,1.2s						
KURK	Kurchatov	64.50	320	P	P	23 10 29.2	+0.8
KURK				IAmb	IAmb	23 10 29.5	
	comp=Z,3.2nm,0.8s						
KURBB	Kurchatov Arra	64.54	320	P	P	23 10 28.9	+0.3
	comp=Z,1.4nm,0.2s,baz=101,slow=6.5,SNR=9.6						
	comp=Z,1.4nm,0.2s						
J19K	Poorman	64.63	25	P	P	23 10 29.0	-0.1
J19K				IAmb	IAmb	23 10 48.6	
	comp=Z,3.8nm,1.5s						
CNPM	China Poot	65.15	30	P	P	23 10 31.7	-0.8
IMAR	Indian Mountai	66.11	23	P	P	23 10 37.7	-0.8
SCM	Sheep Creek Mo	67.59	28	P	P	23 10 47.7	-0.5
SCM				IAmb	IAmb	23 11 07.9	
	comp=Z,11nm,1.3s						
IL31		68.48	25	P	P	23 10 51.4	-2.1
IL31				IAmb	IAmb	23 10 53.3	
	comp=Z,2.0nm,0.5s						
ILAR	Eielson Array	68.48	25	P	P	23 10 51.4	-2.1
	comp=Z,1.3nm,0.4s,baz=251,slow=5.7,SNR=41						
	comp=Z,1.3nm,0.4s						
BERG	Berg Lake	69.04	30	P	P	23 10 57.2	+0.1
BERG				IAmb	IAmb	23 11 23.6	
	comp=Z,13nm,1.2s						
BVAR	Borovoye Array	69.84	322	P	P	23 11 02.5	+0.4
	comp=Z,2.8nm,0.5s,baz=105,slow=7.6,SNR=24						
	comp=Z,2.8nm,0.5s						
BRVK	Borovoye	69.90	322	P	P	23 11 02.9	+0.4
BRVK				IAmb	IAmb	23 11 03.6	
	comp=Z,2.7nm,0.8s						
BMAR	Burnt Mountain	70.01	23	P	P	23 11 03.2	+0.2
BCAR	Beaver Creek A	70.36	28	P	P	23 11 04.8	-0.4
ABKAR	Akbulak array	76.45	318	P	P	23 11 40.9	-0.1
ABKAR	Akbulak array	76.45	318	P	P	23 11 40.8	-0.3
ABKAR				IAmb	IAmb	23 12 08.4	
	comp=Z,1.2nm,1.1s						
HUMO	Hull Mountain	82.46	48	P	P	23 12 15.1	+1.3
HUMO				IAmb	IAmb	23 12 17.8	
	comp=Z,10nm,1.5s						
YKA	Yellowknife Ar	82.78	27	P	P	23 12 13.7	-1.2
	comp=Z,0.6nm,0.6s,baz=285,slow=5.5,SNR=11						
	comp=Z,0.6nm,0.6s						
PINE	Pine Mountain	83.65	47	P	P	23 12 20.8	+0.6
K05A	Summer Lake	83.92	48	P	P	23 12 22.6	+1.1
K05A				IAmb	IAmb	23 12 24.0	
	comp=Z,3.6nm,0.9s						
SPITS	Spitsbergen Ar	83.95	351	P	P	23 12 20.8	0.0
	comp=Z,6.1nm,0.9s,baz=101,slow=3.6,SNR=6.1						
	comp=Z,6.1nm,0.9s						
PLID	Pearl Lake	86.76	44	P	P	23 12 35.4	-0.3
PLID				IAmb	IAmb	23 12 36.5	
	comp=Z,3.1nm,0.8s						
NVAR	Mina Array Bea	86.87	51	P	P	23 12 36.6	+0.3
NVAR	Mina Array Bea	86.87	51	P	P	23 12 37.2	+0.9
	comp=Z,1.5nm,0.7s,baz=268,slow=6.4,SNR=9.3						
	comp=Z,1.5nm,0.7s						
FINES	FINESS Array B	91.06	335	P	P	23 12 54.2	-1.0
	comp=Z,0.8nm,0.4s,baz=48,slow=4.2,SNR=12						
	comp=Z,0.8nm,0.4s						
NOA	NORSAR Array B	96.95	339	P	P	23 13 21.8	-0.5
	comp=Z,0.6nm,0.8s,baz=50,slow=4.2,SNR=1.6						
	comp=Z,0.6nm,0.8s						
TORD	Torodi Ar. Bea	134.79	305	PKP	PKPdf	23 19 09.7	-0.4
	comp=Z,0.2nm,0.3s,baz=62,slow=2.7,SNR=5.4						
DBIC	Dimbokro	143.75	302	PKP	PKPbc	23 19 24.7	+0.3
	comp=Z,2.6nm,0.5s,baz=53,slow=3.7,SNR=6.8						

*IDC **28** 23:25:25.4±0.8, 31°.57N×104°.23E, h0km, mb3.6/11, mbtmp3.6/13, ML3.5/1, MS3.2/1, Error ellipse: s-maj=31.3km s-min=16.7km az=60.0*

ISC 28 23:25:26.9±0.8, 31°.6N±0°.1×104°.3E±0°.2, h10km, n14, σ0°.79/14, mb3.8/10, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
CMAR	Chiang Mai Arr	13.92	202	Pn	Pn	23 28 44.5	+0.2
	0.4nm,0.3s,baz=33,slow=7.5,SNR=1.2						
SONM	Songino Array	16.33	5	Pn	Pn	23 29 16.9	+0.6
	0.2nm,0.3s,baz=192,slow=13,SNR=2.5						
	0.1nm,0.3s						
KSRS	Korea Array	20.32	67	P	P	23 30 02.2	-1.0
	0.5nm,0.3s,baz=269,slow=11,SNR=1.3						
	0.5nm,0.3s						
MKAR	Makanchi Array	22.73	318	P	P	23 30 29.1	+0.1
	0.6nm,0.7s,baz=118,slow=10,SNR=6.9						
	0.6nm,0.7s						
ZALV	Zalesovo Beam	26.37	334	P	P	23 31 03.6	+0.4
	1.5nm,0.7s,baz=138,slow=9.4,SNR=6.2						
	1.5nm,0.7s						
KURBB	Kurchatov Arra	26.96	322	P	P	23 31 08.5	0.0
	0.3nm,0.3s,baz=134,slow=8.0,SNR=6.1						
KURBB				LR	LR	23 42 44.0	
	comp=Z,55nm,19.6s,baz=160,slow=39						
	0.3nm,0.3s						
FINES	FINESS Array B	57.27	326	P	P	23 35 14.1	-0.2
	1.2nm,0.8s,baz=90,slow=11,SNR=4.1						
	1.2nm,0.8s						
WRA	Warramunga Arr	58.78	147	P	P	23 35 25.8	+0.3
	0.7nm,0.6s,baz=337,slow=7.7,SNR=11						
	0.7nm,0.6s						
ASAR	Alice Springs	61.81	149	P	P	23 35 46.9	+0.7
	0.3nm,0.4s,baz=343,slow=5.9,SNR=4.5						
	0.3nm,0.4s						
HFS	Hagfors	63.47	326	P	P	23 35 56.1	-0.7
	0.9nm,0.5s,baz=75,slow=7.8,SNR=4.1						
	0.9nm,0.5s						
NOA	NORSAR Array B	64.35	327	P	P	23 36 01.6	-1.1
	0.6nm,0.7s,baz=59,slow=6.8,SNR=1.8						
	0.6nm,0.7s						
ILAR	Eielson Array	69.35	26	P	P	23 36 34.6	+0.2
	0.2nm,0.5s,baz=285,slow=3.9,SNR=5.6						
	0.2nm,0.5s						
YKA	Yellowknife Ar	81.20	17	P	P	23 37 43.6	+1.0
	0.3nm,0.6s,baz=324,slow=4.8,SNR=5.2						
	0.3nm,0.6s						
QSPA	South Pole Qui	121.34	180	PKP	PKPdf	23 44 18.1	-1.4
	1.7nm,1.0s,baz=264,slow=2.1,SNR=2.9						

*BJI **28** 23:45:40.3±0.0, 9°.91S×161°.99E, h81km, mb4.9/56, mB5.0/31, Ms4.9/4, Ms7 4.9/7*

*IDC **28** 23:45:42.7±2.0, 10°.26S×161°.60E, h86km±15km, mb4.3/18, mbtmp4.6/20, MS3.4/14, Error ellipse: s-maj=19.9km s-min=11.8km az=79.0*

*NEIC **28** 23:45:42.5±1.

7.0nm,0.4s,baz=76,slow=11,SNR=1.8
PMG LR LR 23 54 18.7
comp=Z,319nm,21.2s,baz=109,slow=36
TARA Tarawa 16.11 45 P **P** **23 49 24.7 -1.4**
TARA Tarawa 16.11 45 Pn **Pn** **23 49 23.6 -0.8**
MANU Manus Island 16.32 299 Pn **Pn** **23 49 26.5 -0.6**
PATS Pohnpei 17.28 349 **P** **23 49 37.5 -1.5**
CTA Charters Tower 17.75 235 P **Pn** **23 49 47.5 +3.0**
CTA Charters Tower 17.75 235 P **Pn** **23 49 46.4 +1.9**
17nm,0.8s,baz=198,slow=0.0,SNR=13
CTA LR LR 23 55 57.2
comp=Z,113nm,21.0s,baz=8.5,slow=35
CTAO Charters Tower 17.75 235 P **Pn** **23 49 47.5 +3.0**
CTAO Charters Tower 17.75 235 P **P** **23 49 44.4 +0.2**
EIDS Eidsvold 18.06 212 P **P** **23 49 45.2 -2.4**
COEN Coen 18.40 257 P **Pn** **23 49 54.9 +2.5**
COEN Coen 18.40 257 P **P** **23 49 51.7 +0.3**
MTSU Mount Surprise 18.50 243 P **Pn** **23 49 56.6 +3.0**
TABU Tabubil 20.79 282 P Pn 23 50 19.2 -1.4
ARMA Armidale 22.12 203 P **P** **23 50 32.1 +0.5**
AUPHS Peel High Scho 23.02 204 P **P** **23 50 43.7 +2.9**
AUDCS Dubbo College 24.95 207 P **P** **23 51 00.8 +2.4**
INKA Innaminka 26.23 226 P **P** **23 51 13.4 +3.4**
WR0 Warramunga Arr 27.82 247 P **P** **23 51 24.2 -0.2**
WRA Warramunga Arr 28.00 247 P **P** **23 51 24.7 -1.3**
WRA Warramunga Arr 28.00 247 P **P** **23 51 25.8 -0.2**
5.5nm,0.7s,baz=74,slow=9.3,SNR=39
WRA PcP **PcP** **23 54 38.5 -0.7**
0.5nm,0.5s,baz=71,slow=3.4,SNR=3.2
5.5nm,0.7s
STKA Stephens Creek 28.40 218 P **P** **23 51 31.4 +2.0**
STKA Stephens Creek 28.40 218 P **P** **23 51 29.3 -0.1**
STKA Stephens Creek 28.40 218 P **P** **23 51 29.2 -0.1**
2.6nm,0.6s,baz=40,slow=14,SNR=7.0
STKA LR LR 00 02 14.7
comp=Z,144nm,18.9s,baz=28,slow=35
2.6nm,0.6s
GUMO Guam 28.92 325 LR LR 00 04 59.5
comp=Z,27nm,18.1s,baz=90,slow=40
AS31 Alice Springs 29.60 240 P **P** **23 51 39.4 -0.7**
ASAR Alice Springs 29.60 240 P **P** **23 51 39.6 -0.6**
ASAR Alice Springs 29.60 240 P **P** **23 51 39.4 -0.8**
1.6nm,0.4s,baz=62,slow=10.0,SNR=21
ASAR LR LR 00 03 05.1
comp=Z,202nm,20.0s,baz=61,slow=35
1.6nm,0.4s
MTN Manton Dam 29.96 262 P **P** **23 51 43.0 -0.4**
MTN IAmb IAmb 23 52 14.9
comp=Z,97nm,1.8s
TOO Toolangi 30.84 205 P **P** **23 51 51.1 +0.1**
HTT Hallett 31.10 219 P **P** **23 51 54.9 +1.6**
URZ Urewera 31.18 156 LR LR 00 02 48.1
comp=Z,98nm,20.0s,baz=122,slow=33
KNRA Kununurra 32.44 257 P **P** **23 52 04.8 -0.4**
KNRA IAmb IAmb 23 52 30.2
comp=Z,36nm,1.1s
MULG Mulgathing 32.49 228 P **P** **23 52 05.5 0.0**
BBOO Buckleboo 32.53 222 P **P** **23 52 05.8 -0.1**
BBOO IAmb IAmb 23 52 30.4
comp=Z,10.0nm,0.7s
FITZ Fitzroy Crossi 35.68 253 P **P** **23 52 32.8 -0.5**
FITZ Fitzroy Crossi 35.68 253 P **P** **23 52 32.6 -0.6**
BATI Baumata 37.33 267 LR LR 00 09 26.1
comp=Z,49nm,18.6s,baz=108,slow=38
DAV Davao City (W) 39.78 294 LR LR 00 10 55.6
comp=Z,24nm,18.5s,baz=300,slow=38
PSA00 Pilbara Seismi 41.59 249 P **P** **23 53 22.2 -0.5**
PSA00 IAmb IAmb 23 54 31.9
comp=Z,61nm,1.7s
MBWA Marble Bar 41.63 250 P **P** **23 53 22.5 -0.5**
MBWA IAmb IAmb 23 53 47.7
comp=Z,14nm,0.9s
TOLI2 Tolitoli 42.16 283 P **P** **23 53 24.7 -2.7**
TOLI2 IAmb IAmb 23 54 20.8
comp=Z,12nm,1.0s
KMBL Kambalda 42.35 234 P **P** **23 53 29.8 +1.0**
PLAI Plampang 43.22 268 P **P** **23 53 34.2 -1.9**
comp=Z,68nm,0.9s
MEEK Meekatharra 43.69 242 P **P** **23 53 40.2 +0.5**
TWSI Taliwang, Sumb 44.11 268 P **P** **23 53 40.7 -2.5**
comp=Z,30nm,0.9s
MORW Morawa 46.48 240 P **P** **23 54 00.7 -1.0**
NWAO Narrogin (SRO) 46.59 234 P **P** **23 54 01.8 -0.7**
NWAO Narrogin (SRO) 46.59 234 LR LR 00 11 56.9
comp=Z,46nm,20.5s,baz=120,slow=34
JAGI Jajag, Banyuwa 46.83 268 P **P** **23 54 02.1 -2.5**
JAGI Jajag, Banyuwa 46.83 268 P **P** **23 54 01.9 -2.7**
comp=Z,62nm,1.1s
PPT Papeete 47.84 104 LR LR 00 09 23.6
comp=Z,24nm,21.9s,baz=354,slow=30
KKM Kota Kinabalu 48.01 288 P **P** **23 54 12.1 -1.9**
KKM IAmb IAmb 23 54 32.6
comp=Z,19nm,1.2s
TBI Tubuai 48.40 112 *e*LR LR 00 08 35.7
comp=Z,670nm,32.0s
PWJI Pagerwojo 49.18 268 P **P** **23 54 20.9 -1.9**
comp=Z,39nm,0.6s
UGM Wanagama 50.46 268 P **P** **23 54 31.2 -1.3**
INU Inuyama 50.95 334 P **P** **23 54 36.0 +0.2**
INU Inuyama 50.95 334 P **P** **23 54 35.1 -0.7**
INU Inuyama 50.95 334 P **P** **23 54 35.8 0.0**
JGF Kuroka 51.02 334 P **P** **23 54 36.5 +0.1**
JGF Kuroka 51.02 334 P **P** **23 54 35.4 -1.0**
JGF IAmb IAmb 23 54 36.8
comp=Z,9.6nm,0.7s
JMN Monobe 51.06 330 P **P** **23 54 37.4 +0.7**
JMN Monobe 51.06 330 P **P** **23 54 36.6 -0.1**
MJAR Matsushiro Arr 51.48 336 P **P** **23 54 38.5 -1.3**
comp=Z,7.5nm,0.7s,baz=171,slow=8.6,SNR=22
comp=Z,7.5nm,0.7s
MAJO Matsushiro 51.48 336 P **P** **23 54 39.1 -0.7**
MAJO Matsushiro 51.48 336 P **P** **23 54 38.6 -1.2**
MAJO IAmb IAmb 23 54 39.6
comp=Z,16nm,0.8s
MAJO Matsushiro 51.48 336 P **P** **23 54 38.9 -0.9**
MJB9 Matsu-Tunnel 51.49 336 P **P** **23 54 39.2 -0.6**
MJB9 IAmb IAmb 23 54 40.6
comp=Z,16nm,0.8s
JMM Marumori 51.67 339 P **P** **23 54 41.5 +0.4**
JMM Marumori 51.67 339 P **P** **23 54 40.3 -0.8**
YULB Yu-li 51.69 311 P **P** **23 54 40.4 -1.2**
YULB IAmb IAmb 23 55 06.3
comp=Z,28nm,1.2s
NACB Ninganchiao 51.93 312 P **P** **23 54 42.4 -0.9**
JNU Nakatsue 52.12 327 P **P** **23 54 44.7 +0.1**
JNU Nakatsue 52.12 327 P **P** **23 54 43.6 -1.0**
SSLB Suanglung 52.18 311 P **P** **23 54 44.1 -1.1**
JSD Sado 52.76 337 P **P** **23 54 49.0 -0.2**
LEM Lembang 53.45 269 P **P** **23 54 53.6 -1.3**
comp=Z,40nm,0.8s
JTM Tenmabayashi 54.20 341 P **P** **23 54 58.8 -0.8**
TJN Taejon 56.47 327 P **P** **23 55 16.7 +0.6**
TJN Taejon 56.47 327 P **P** **23 55 16.1 +0.1**
JKA Kamikawa-asahi 56.79 344 P **P** **23 55 18.5 +0.3**
KSRS Korea Array 56.99 328 P **P** **23 55 19.9 +0.2**
comp=Z,12nm,0.9s,baz=144,slow=7.3,SNR=36
comp=Z,12nm,0.9s
NJ2 Nanjing 58.64 318 *e*P **P** **23 55 33.8 +2.4**
NJ2 pP **pP** **23 55 50.0 -2.1**
NJ2 pmax pmax
comp=Z,11nm,1.0s
NJ2 pmax pmax
comp=Z,140nm,4.7s
USA0B Ussuriysk Arra 60.48 336 P **P** **23 55 43.9 +0.1**
USRK Ussuriysk Ar. 60.48 336 P **P** **23 55 43.6 -0.2**
USRK Ussuriysk Ar. 60.48 336 P **P** **23 55 44.5 +0.8**
comp=Z,33nm,0.8s,baz=135,slow=6.7,SNR=28
comp=Z,33nm,0.8s
MDJ Mudanjiang 61.81 335 P **P** **23 55 52.8 0.0**
MDJ pmax pmax
comp=Z,12nm,1.0s
MDJ pmax pmax
comp=Z,170nm,3.9s
MDJ Mudanjiang 61.81 335 P **P** **23 55 53.9 +1.1**
TIA Tai'an 62.35 320 ⇓P **P** **23 55 56.0 -0.6**
TIA pmax pmax
comp=Z,6.0nm,0.7s
CN2 Changchun 63.03 331 P **P** **23 56 01.0 +0.1**
CN2 pmax pmax
comp=Z,40nm,0.7s
PETK Petropavlovsk- 63.19 357 P **P** **23 56 01.9 +0.1**
comp=Z,7.5nm,0.9s,baz=153,slow=8.2,SNR=5.6
comp=Z,7.5nm,0.9s
BNX BinXian 63.64 334 ⇓P **P** **23 56 05.0 +0.1**
BNX pmax pmax
comp=Z,26nm,0.5s
BNX pmax pmax
comp=Z,110nm,4.5s
ENH Enshi 64.26 311 P **P** **23 56 08.3 -1.1**
ENH IAmb IAmb 23 56 10.0
comp=Z,8.7nm,0.5s
LYN LuoYang 64.42 316 *e*P **P** **23 56 10.3 0.0**
LYN pmax pmax
comp=Z,17nm,0.9s
KIWB Kanaga Island 64.50 14 P **P** **23 56 11.2 +0.7**
HNS HongShan 64.61 320 ⇑P **P** **23 56 11.0 -0.4**
HNS pmax pmax
comp=Z,26nm,1.0s
GYA Guiyang 64.62 306 *e*P **P** **23 56 14.0 +2.1**
GYA pmax pmax
comp=Z,14nm,0.7s
GYA pmax pmax
comp=Z,130nm,5.6s
ADK Adak 64.65 15 P **P** **23 56 12.0 +0.7**
ADK IAmb IAmb 23 56 13.3
comp=Z,22nm,1.1s
ADK Adak 64.65 15 P **P** **23 56 12.2 +0.8**
ADK pP **pP** **23 56 32.8 +0.3**
XAN Xi'an 66.61 314 P **P** **23 56 23.8 -0.7**
XAN pP pP 23 56 40.8 -4.9
XAN pmax pmax
comp=Z,27nm,0.7s
XAN Xi'an 66.61 314 P **P** **23 56 23.7 -0.7**
HEH HeiHe 67.22 337 *e*P **P** **23 56 27.8 -0.1**
HEH pmax pmax
comp=Z,27nm,0.9s
HEH pmax pmax
comp=Z,110nm,4.8s
KMI Kunming 67.25 303 ⇑P **P** **23 56 28.5 -0.4**
KMI pmax pmax
comp=Z,7.0nm,1.0s
VNDA Vanda 67.26 180 P **P** **23 56 27.9 +0.1**
VNDA Vanda 67.26 180 P **P** **23 56 28.1 +0.2**
comp=Z,0.8nm,0.8s,baz=325,slow=4.8,SNR=3.9
VNDA LR LR 00 19 33.2
comp=Z,23nm,20.4s,baz=49,slow=30
comp=Z,0.8nm,0.8s
NIKH Nikolski High 67.84 19 P **P** **23 56 31.9 +0.2**
baz=212
XLT XiLinHaoTe 67.89 326 *e*P **P** **23 56 32.5 +0.1**
XLT pP pP 23 56 51.8 -1.8
XLT pmax pmax
comp=Z,66nm,0.8s
XLT pmax pmax
comp=Z,76nm,4.1s
XLT LR LR
comp=Z,22nm,5.4s
XLT LR LR
comp=Z,110nm,5.7s
XLT LR LR
comp=Z,330nm,9.2s
CMAR Chiang Mai Arr 68.07 295 P **P** **23 56 34.1 +0.1**
comp=Z,0.9nm,0.3s,baz=127,slow=5.1,SNR=5.2
comp=Z,0.9nm,0.3s
HHC Hu-ho-hao-te 68.63 321 *e*P **P** **23 56 38.0 +0.9**
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,89nm,6.6s
PZH PanZhiHua 68.63 304 P **P** **23 56 40.3 +2.9**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,5.7s
CD2 Chengdu 68.91 309 P **P** **23 56 39.5 +0.5**
CD2 pmax pmax
comp=Z,40nm,0.4s
BTO Baotou 69.44 320 *e*P **P** **23 56 43.5 +1.3**
BTO PP **PP** **23 59 20.0 +3.1**
BTO pmax pmax
comp=Z,19nm,1.1s
BTO pmax pmax
comp=Z,190nm,5.3s
HIA Hailar 69.71 332 P **P** **23 56 44.0 +0.4**
HIA Hailar 69.71 332 P **P** **23 56 43.5 0.0**
HIA IAmb IAmb 23 56 44.7
comp=Z,20nm,0.7s
HIA Hailar 69.71 332 P **P** **23 56 43.8 +0.3**
HIA pP **pP** **23 57 04.2 -0.7**
LZH Lanzhou 71.23 314 *e*P **P** **23 56 54.3 +1.0**
LZH pP pP 23 57 14.5 -0.3
LZH pmax pmax
comp=Z,18nm,1.5s
SDPT Sand Point 72.63 22 P **P** **23 57 00.3 -0.6**
SDPT IAmb IAmb 23 57 21.9
comp=Z,20nm,1.0s
SDPT Sand Point 72.63 22 P **P** **23 57 00.7 -0.3**
baz=219
S14K Fog Glacier 73.69 21 P **P** **23 57 07.9 +0.6**
baz=220
ULN Ulaanbaatar 75.30 325 P **P** **23 57 16.9 0.0**
ULN IAmb IAmb 23 57 18.6
comp=Z,26nm,0.9s
O14K Tigyukauivet M 75.42 19 P **P** **23 57 17.6 +0.4**
O14K IAmb IAmb 23 59 35.3
comp=Z,49nm,1.8s
GTA Gaotai 75.60 315 P **P** **23 57 19.3 +0.5**
GTA pmax pmax
comp=Z,13nm,0.9s
SONM Songino Array 75.65 325 P **P** **23 57 19.6 +0.7**
SONM IAmb IAmb 23 57 20.3
comp=Z,25nm,0.7s
SONM Songino Array 75.65 325 P **P** **23 57 19.4 +0.5**
comp=Z,23nm,0.7s,baz=142,slow=6.0,SNR=188
comp=Z,23nm,0.7s
M13K Dall Lake 75.73 17 P **P** **23 57 19.3 +0.5**
baz=216
N14K Kuskokwak Cree 75.83 18 P **P** **23 57 19.4 0.0**
baz=217
YAK Yakutsk 76.23 345 P **P** **23 57 21.4 -0.3**
YAK IAmb IAmb 23 57 22.5
comp=Z,24nm,0.7s
P16K Nushagak River 76.32 20 P **P** **23 57 22.6 +0.3**
baz=221
M14K Bethel 76.41 17 P **P** **23 57 23.2 +0.5**
M14K IAmb IAmb 23 57 24.5
comp=Z,9.9nm,0.8s
M14K Bethel 76.41 17 P **P** **23 57 23.4 +0.7**
baz=217
Q17K Contact Creek 76.49 22 P **P** **23 57 23.8 +0.4**
baz=223
N15K Kwethluk River 76.51 19 P **P** **23 57 23.8 +0.5**
baz=219
Q16K King Salmon 76.52 21 P **P** **23 57 23.8 +0.4**
baz=222
GAMB Gambell 76.56 12 P **P** **23 57 24.0 +0.5**
baz=207
L14K Kuka Creek 76.67 17 P **P** **23 57 24.7 +0.6**
baz=216
OHAK Old Harbor 76.72 23 P **P** **23 57 25.0 +0.4**
baz=226
M15K Kasigluk River 76.74 18 P **P** **23 57 25.0 +0.4**
baz=218
N16K Nishlik Lake 77.17 19 P **P** **23 57 28.4 +1.3**
baz=220
O17K Koliganek Bris 77.19 20 P **P** **23 57 27.0 -0.1**
baz=222
L15K Ungalak Mounta 77.28 17 P **P** **23 57 28.3 +0.6**
baz=217
KDAK Kodiak Island 77.39 23 P **P** **23 57 28.8 +0.5**
KDAK Kodiak Island 77.39 23 P **P** **23 57 29.1 +0.9**
baz=226
M16K Timber Creek 77.53 18 P **P** **23 57 29.6 +0.6**
baz=220
P18K Big Mountain, 77.55 21 P **P** **23 57 29.5 +0.3**
baz=224
J14K Nanvaranak Lak 77.58 16 P **P** **23 57 30.4 +1.2**
J14K Nanvaranak Lak 77.58 16 P **P** **23 57 29.9 +0.7**
baz=215
N17K Nushagak Hills 77.72 19 P **P** **23 57 31.4 +1.2**
baz=222
K15K Wolf Creek Mou 77.77 17 P **P** **23 57 31.3 +1.0**
K15K IAmb IAmb 23 57 32.5
comp=Z,10.0nm,0.9s
K15K Wolf Creek Mou 77.77 17 P **P** **23 57 31.3 +1.0**
baz=217
Q19K Cape Douglas, 77.79 22 P **P** **23 57 31.0 +0.5**
baz=225
O18K Koktuh Hills 77.89 21 P **P** **23 57 31.6 +0.5**
baz=224
L16K Owhat River 77.90 18 P **P** **23 57 32.2 +1.1**
baz=219
BILL Bilibino 78.15 2 P **P** **23 57 32.6 +0.3**
BILL IAmb IAmb 23 57 33.8
comp=Z,19nm,1.0s
N18K Kilae Creek 78.26 20 P **P** **23 57 33.7 +0.6**
N18K IAmb IAmb 23 57 34.8
comp=Z,16nm,1.4s
N18K Kilae Creek 78.26 20 P **P** **23 57 34.2 +1.1**
baz=223
M17K Holitna River 78.30 19 P **P** **23 57 34.5 +1.2**
baz=221
P19K Oil Pt 78.45 22 P **P** **23 57 34.9 +0.7**
baz=225
L17K Donlin 78.59 18 P **P** **23 57 35.8 +0.9**
baz=220
ANM Nome 78.63 14 P **P** **23 57 36.2 +1.1**
baz=213
SVW2 Sparrevohn 78.67 20 P **P** **23 57 36.9 +1.5**
J16K Anvik River 78.81 16 P **P** **23 57 37.2 +1.2**
baz=218
N19K Bonanza Creek 78.83 20 P **P** **23 57 36.3 -0.1**
N19K IAmb IAmb 23 59 14.1
comp=Z,18nm,1.8s
N19K Bonanza Creek 78.83 20 P **P** **23 57 37.1 +0.7**
baz=224
M18K Stony River 78.88 19 P **P** **23 57 37.8 +1.3**
baz=223
TNA Tin City 78.91 12 P **P** **23 57 37.6 +1.0**
baz=210
K17K Iditarod 79.03 18 P **P** **23 57 38.4 +1.1**
baz=220
HOM Homer 79.03 22 P **P** **23 57 37.7 +0.4**
baz=227
L18K Granite Mounta 79.15 19 P **P** **23 57 39.2 +1.2**
baz=222
F14K Arctic Creek 79.18 13 P **P** **23 57 39.1 +1.1**
baz=212
I17K Unalakleet 79.27 16 P **P** **23 57 39.2 +0.7**
baz=218
G15K Niukluk 79.31 14 P **P** **23 57 39.4 +0.6**
baz=214
H16K Elim 79.46 15 P **P** **23 57 40.6 +1.1**
baz=216
M19K Big River Lodg 79.65 20 P **P** **23 57 41.8 +1.1**
M19K IAmb IAmb 23 57 43.2
comp=Z,15nm,0.8s
M19K Big River Lodg 79.65 20 P **P** **23 57 42.0 +1.3**
baz=224
L19K White Mountain 79.70 19 P **P** **23 57 42.3 +1.3**
baz=224
QSPA South Pole Qui 79.76 180 P **P** **23 57 41.6 +0.1**
QSPA South Pole Qui 79.76 180 P **P** **23 57 41.6 +0.1**
comp=Z,3.9nm,0.8s,baz=334,slow=0.6,SNR=16
comp=Z,3.9nm,0.8s
F15K North Star Dit 79.76 14 P **P** **23 57 42.1 +0.9**
baz=214
TTA Tatalina 79.89 18 P **P** **23 57 43.0 +1.0**
TTA Tatalina 79.89 18 P **P** **23 57 42.5 +0.4**
TTA Tatalina 79.89 18 P **P** **23 57 42.6 +0.5**
baz=222
G16K Koyuk River 80.05 14 P **P** **23 57 43.6 +0.8**
baz=216,SNR=6.1
M20K Styx River 80.06 20 P **P** **23 57 43.5 +0.6**
M20K Styx River 80.06 20 P **P** **23 57 43.6 +0.6**
baz=225
J18K Innoko River 80.07 18 P **P** **23 57 43.7 +0.7**
baz=222
L20K Farewell, AK 80.23 19 P **P** **23 57 44.8 +0.9**
baz=224
H17K Granite Mounta 80.31 16 P **P** **23 57 44.9 +0.8**
baz=218
G17K Kiwalik Mounta 80.56 15 P **P** **23 57 46.3 +0.8**
baz=218
SUA Susitna One 80.59 21 P **P** **23 57 46.3 +0.4**
baz=228
RC01 Rabbit Creek A 80.70 22 P **P** **23 57 47.4 +1.0**
baz=228
J19K Poorman 80.79 18 P **P** **23 57 47.9 +1.1**
baz=223
K20K Telida 80.80 19 P **P** **23 57 48.0 +1.2**
baz=224
H18K Honhosa River 80.89 16 P **P** **23 57 47.7 +0.4**
baz=220
PPLA Purkeypile 81.08 20 P **P** **23 57 48.6 +0.1**
baz=226
F17K Baldwin Pennin 81.16 14 P **P** **23 57 49.6 +0.9**
baz=217
PMR Palmer 81.25 22 P **P** **23 57 49.5 +0.2**
baz=229
J20K Nowinta River 81.37 18 P **P** **23 57 50.8 +1.0**
baz=224
KNK Knik Glacier 81.38 22 P **P** **23 57 51.1 +1.1**
baz=230
G18K Tagagawik 81.38 15 P **P** **23 57 50.6 +0.7**
baz=220
CAST Castle Rocks 81.48 19 P **P** **23 57 50.4 0.0**
baz=226,SNR=19
E17K Hotham Inlet 81.54 14 P **P** **23 57 51.5 +0.8**
baz=216,SNR=13
F18K Selawik 81.68 15 P **P** **23 57 51.5 +0.1**
baz=218
SML Sawmill 81.68 22 P **P** **23 57 52.5 +0.9**
baz=230
H19K Roundabout Mou 81.70 16 P **P** **23 57 52.2 +0.7**
baz=222,SNR=6.1
I20K Naaghedeneel 81.72 17 P **P** **23 57 52.5 +0.9**
baz=224
CHUM Lake Minchumin 81.73 19 P **P** **23 57 52.4 +0.7**
baz=226
D17K Noatak River 81.76 13 P **P** **23 57 52.7 +0.9**
baz=215,SNR=6.9
C16K Lisburne Hills 81.77 12 P **P** **23 57 52.3 +0.5**
baz=213
M23K Glacier View 81.89 22 P **P** **23 57 53.1 +0.4**
baz=230
G19K Purcell Mounta 81.99 16 P **P** **23 57 53.7 +0.6**
baz=221,SNR=11
KAIM Kayak Island 82.01 24 P **P** **23 57 54.1 +0.8**
baz=233
SCM Sheep Creek Mo 82.07 22 P **P** **23 57 53.7 +0.1**
baz=231
RDOG Red Dog Mine 82.09 13 P **P** **23 57 54.2 +0.6**
baz=215
TRF Thorofare Moun 82.09 20 P **P** **23 57 53.3 -0.6**
baz=228
E18K Tukpahlearik C 82.10 14 P **P** **23 57 54.1 +0.5**
baz=218,SNR=7.7
H20K Anotleneega Mo 82.11 17 P **P** **23 57 54.7 +0.9**
baz=223,SNR=6.7
WAT1 Susitna Watana 82.27 21 P **P** **23 57 54.7 0.0**
baz=229
BPAW Bear Paw Mtn. 82.31 19 P **P** **23 57 54.9 +0.1**
baz=227
F19K Shaleruckik Mo 82.33 15 P **P** **23 57 55.1 +0.3**
baz=220,SNR=5.8
KLU Klutina 82.38 23 P **P** **23 57 55.8 +0.5**
baz=232
C17K DeLong Mountai 82.38 12 P **P** **23 57 55.4 +0.3**
baz=215,SNR=6.6
WAT6 Susitna Watana 82.39 21 P **P** **23 57 55.7 +0.2**
baz=230
BMRM Bremner River 82.56 23 P **P** **23 57 57.0 +0.7**
baz=233
M24K Tolsona, Glenn 82.66 22 P **P** **23 57 57.5 +0.7**
baz=232
MCK McKinley 82.73 20 P **P** **23 57 57.0 0.0**
baz=229,SNR=9.8
I21K Tanana 82.74 18 P **P** **23 57 57.6 +0.6**
baz=226
IMAR Indian Mountai 82.79 17 P **P** **23 57 57.5 +0.3**
H21K Melozitna Rive 82.83 17 P **P** **23 57 58.3 +0.8**
baz=225
DHY Denali Highway 82.84 21 P **P** **23 57 57.9 +0.2**
DHY Denali Highway 82.84 21 P **P** **23 57 58.5 +0.8**
baz=230
C18K Utukok River 82.95 13 P **P** **23 57 58.3 +0.2**
baz=217
N25K Chitina, Valde 82.95 23 P **P** **23 57 59.4 +1.1**
baz=233
E19K Redstone River 82.95 15 P **P** **23 57 58.7 +0.7**
baz=221
MLY Manley 83.02 18 P **P** **23 57 59.4 +0.9**
baz=227,SNR=11
F20K Avaraart Lake 83.03 16 P **P** **23 57 59.6 +1.2**
baz=222
G21K Allakaket 83.24 17 P **P** **23 58 00.2 +0.7**
G21K Allakaket 83.24 17 P **P** **23 58 00.4 +0.8**
baz=224
NEA2 Nenana 83.26 19 P **P** **23 57 59.4 -0.3**

baz=229
B18K Kokolik River 83.40 12 P P 23 58 00.9 +0.6
baz=216
H22K Ishtalitna Cre 83.42 18 P P 23 58 01.3 +0.7
baz=226
MCARA McCarthy VSAT 83.43 24 P P 23 58 01.0 +0.4
baz=235
PAX Paxson 83.45 22 P P 23 58 01.6 +0.8
baz=232
D19K Kuna River 83.53 14 P P 23 58 01.5 +0.4
baz=220
I23K Minto, Yukon-K 83.53 19 P P 23 58 02.0 +1.0
baz=228
C19K Lookout Ridge 83.67 13 P P 23 58 02.9 +1.1
baz=218
F21K Alatna River 83.76 16 P P 23 58 03.1 +0.9
baz=224
MDM Murphy Dome 83.77 19 P P 23 58 02.0 -0.3
MDM IAmb IAmb 23 58 03.0
comp=Z,7.8nm,1.0s
E20K Nigu River 83.81 15 P P 23 58 03.1 +0.6
baz=222
COLA College 83.84 19 P P 23 58 02.6 0.0
COLA College 83.84 19 P P 23 58 02.8 +0.2
baz=230
HDA Harding Lake 83.84 20 P P 23 58 03.2 +0.5
baz=231,SNR=10
CTG Chitna Glacier 83.86 24 P P 23 58 03.9 +0.9
baz=236
K24K Donnelly Dome 83.86 21 P P 23 58 03.8 +1.0
baz=232
H23K Yukon River 83.93 18 P P 23 58 03.9 +0.8
baz=228,SNR=10
M26K Nabesna, AK 84.03 23 P P 23 58 04.4 +0.7
baz=234,SNR=5.9
D20K Etivluk River 84.05 14 P P 23 58 04.3 +0.7
baz=221
ILAR Eielson Array 84.09 20 P P 23 58 03.7 -0.2
comp=Z,3.1nm,0.8s,baz=247,slow=5.3,SNR=40
comp=Z,3.1nm,0.8s
POKR Poker Plat Res 84.13 19 P P 23 58 04.3 +0.1
baz=230
RIDG Independent Ri 84.15 21 P P 23 58 04.8 +0.5
baz=233
O28M Mount Upton 84.22 25 P P 23 58 06.2 +1.1
baz=237
A19K Wainwright 84.22 12 P P 23 58 05.6 +1.1
baz=217
L26K Log Cabin Wild 84.26 22 P P 23 58 06.0 +1.1
baz=234
F22K John River 84.32 16 P P 23 58 06.1 +1.1
baz=226
G23K Bananza Creek 84.38 17 P P 23 58 06.5 +1.1
baz=228
M27K Edge Creek, AK 84.43 23 P P 23 58 06.6 +0.7
baz=236
H24K Noodor Dome 84.45 19 P P 23 58 06.6 +0.8
baz=230
J25K Salcha River, 84.50 20 P P 23 58 06.3 +0.3
baz=232,SNR=7.7
TIXI Tiksi 84.56 350 P P 23 58 05.3 -0.8
SCRK Sand Creek 84.59 21 P P 23 58 07.3 +0.6
SCRK IAmb IAmb 23 58 08.4
comp=Z,5.4nm,0.8s
SCRK Sand Creek 84.59 21 P P 23 58 07.4 +0.7
baz=234,SNR=8.0
O29M Mount Kennedy 84.65 26 P P 23 58 08.8 +1.8
baz=239
YUK3 Moose Creek 84.66 24 P P 23 58 08.3 +1.1
baz=237
YUK8 Steele Glacier 84.67 24 P P 23 58 08.5 +1.2
baz=238
C21K Knifeblade Rid 84.83 14 P P 23 58 08.8 +1.2
baz=223
L27K Beaver Creek, 84.85 22 P P 23 58 09.1 +1.3
baz=236
BVCY Beaver Creek 84.86 23 P P 23 58 09.3 +1.4
baz=236
E22K Anaktuvuk Pass 84.86 16 P P 23 58 09.3 +1.5
baz=226
BCAR Beaver Creek A 84.87 22 P P 23 58 08.2 +0.2
CRAG Craig 84.88 31 P P 23 58 08.9 +0.8
baz=244
B20K Meade River 84.91 13 P P 23 58 08.7 +0.8
baz=221
PRP Porcupine Dome 85.01 19 P P 23 58 10.1 +1.4
baz=232
J26L Joseph Creek 85.06 21 P P 23 58 09.8 +0.9
baz=234
G24K Hadweenzic Riv 85.14 18 P P 23 58 10.5 +1.4
baz=230
D22K Ayikyak River 85.15 15 P P 23 58 10.5 +1.3
baz=225
YUK4 Talbot Arm 85.17 25 P P 23 58 11.6 +1.9
baz=239,SNR=5.9
PLBC Pleasant Camp 85.19 27 P P 23 58 11.6 +2.0
baz=241
B21K Ikpikpuk River 85.21 14 P P 23 58 10.2 +0.8
baz=223
K27K Chicken 85.31 22 P P 23 58 11.7 +1.7
baz=235
HYT Haines Junctio 85.37 25 P P 23 58 11.8 +1.2
baz=240
E23K Chandalar 85.41 16 P P 23 58 11.9 +1.3
baz=228
F24K Squaw Lake 85.54 17 P P 23 58 12.3 +1.1
baz=230
V35K Ketchikan 85.59 32 P P 23 58 12.6 +1.0
baz=245
G25K Bearman Lake 85.60 18 P P 23 58 13.4 +2.0
baz=231
WMQ Urumqi 85.67 316 eP P 23 58 14.0 +1.6
WMQ LR LR
comp=Z,420nm,17.5s
I26K Coal Creek Min 85.67 20 P P 23 58 13.2 +1.3
baz=234
D23K Nanushuk River 85.73 16 P P 23 58 13.5 +1.4
baz=227
TOLK Toolik Lake Re 85.81 16 P P 23 58 13.9 +1.3
baz=228
M29M Somme Creek 85.81 24 P P 23 58 13.9 +1.1
baz=239
N30M Aishikik Lake 85.87 25 P P 23 58 14.4 +1.4
baz=240
B22K Teshekpuk Lake 86.02 14 P P 23 58 13.9 +0.4
baz=224
EGAK Eagle 86.06 21 P P 23 58 14.6 +0.8
EGAK IAmb IAmb 23 58 16.2
comp=Z,16nm,1.4s
EGAK Eagle 86.06 21 P P 23 58 14.9 +1.1
baz=236,SNR=9.2
A22K Sinclair Lake 86.14 13 P P 23 58 14.9 +0.9
baz=223
F25K Christian Rive 86.26 18 P P 23 58 16.5 +1.7
baz=232
L29M L29M 86.29 23 P P 23 58 16.5 +1.5
baz=239
DAWY Dawson 86.31 22 P P 23 58 15.9 +0.8
DAWY IAmb IAmb 23 58 18.4
comp=Z,19nm,1.4s
DAWY Dawson 86.31 22 P P 23 58 16.4 +1.3
baz=238,SNR=9.8
C23K Itkillik River 86.35 15 P P 23 58 16.9 +1.9
baz=227
D24K Happy Valley 86.36 16 P P 23 58 16.3 +1.2
baz=229
I27K Kandik River 86.37 20 P P 23 58 17.3 +1.9
baz=236
G26K Porcupine Rive 86.44 19 P P 23 58 17.5 +1.9
baz=234
P32M Atlin 86.44 27 P P 23 58 17.7 +1.9
baz=243
BMAR Burnt Mountain 86.48 18 P P 23 58 17.4 +1.5
M30M Minto, Yukon 86.55 24 P P 23 58 18.0 +1.7
baz=240
E25K Arctic Village 86.61 17 P P 23 58 18.1 +1.6
baz=232
H27K Steamboat Moun 86.75 20 P P 23 58 18.9 +1.7
baz=236
C24K Franklin Bluff 86.76 15 P P 23 58 18.8 +1.8
baz=229
F26K Sheenjek River 86.77 18 P P 23 58 19.1 +1.9
baz=233
I28M Miner Creek 86.87 21 P P 23 58 19.1 +1.3
baz=237
K29M Barlow Dome 86.90 23 P P 23 58 19.6 +1.5
baz=239
S34M Telegraph Cree 86.92 30 P P 23 58 19.7 +1.6
baz=245
J29N Klondike Camp 86.96 22 P P 23 58 20.0 +1.7
baz=239
G27K Doyon Strip 87.04 19 P P 23 58 20.1 +1.5
baz=236
D25K Kavik River 87.13 16 P P 23 58 20.1 +1.2
baz=231
H29M Whitestone 87.82 21 P P 23 58 23.8 +1.5
baz=238
E27K Coleen River 87.84 18 P P 23 58 24.3 +1.9
baz=236
C26K Camden Bay 87.90 16 P P 23 58 24.6 +2.0
baz=232
I30M Mount Dempster 88.03 22 P P 23 58 25.0 +1.6
baz=240
F28M Old Crow 88.07 19 P P 23 58 25.0 +1.6
baz=237
G29M Pine Creek 88.30 20 P P 23 58 26.1 +1.5
baz=239
CWC Cottonwood Cre 88.33 53 P P 23 58 26.8 +1.2
baz=256
EPYK Eagle Plains 88.47 21 P P 23 58 26.8 +1.4
baz=240
D27M Malcolm River 88.63 17 P P 23 58 27.5 +1.4
baz=236
NVAR Mina Array Bea 88.64 51 P P 23 58 27.8 +0.7
comp=Z,1.3nm,0.7s,baz=240,slow=8.4,SNR=8.4
comp=Z,1.3nm,0.7s
MPMC Manual Prospec 88.71 53 P P 23 58 27.8 +0.4
baz=256
E28M Babbage River 88.71 18 P P 23 58 28.5 +2.0
baz=237
MMPY Sheldon Lake, 88.84 25 P P 23 58 28.6 +1.4
baz=245
MONP2 Mcumont Peak 88.84 56 P P 23 58 29.2 +1.0
baz=257
G30M tAoh Zraii Nji 88.95 20 P P 23 58 29.4 +1.7
baz=240
PFO Pinyon Flats O 88.97 56 LR LR 00 33 01.7
comp=Z,22nm,19.2s,baz=290,slow=32
H31M Peel River 89.05 22 P P 23 58 29.0 +0.9
baz=242
GSC Goldstone, Bar 89.07 54 P P 23 58 30.2 +1.1
baz=257
F30M Barrier River 89.41 20 P P 23 58 31.3 +1.5
baz=241
G31M Satah River 89.60 21 P P 23 58 31.8 +1.2
baz=242
BC3 Big Chuckawall 89.80 56 P P 23 58 34.2 +1.7
baz=258
GMRC Granite Mounta 89.88 55 P P 23 58 34.0 +1.2
baz=258
F31M Tsiigehtchic 90.02 20 P P 23 58 34.3 +1.8
baz=243
IRM Iron Mountain 90.16 55 P P 23 58 35.1 +1.0
baz=258
MK31 Makanchi Array 90.17 318 P P 23 58 33.2 -0.6
MK31 IAmb IAmb 23 58 34.0
comp=Z,5.5nm,0.9s
MKAR Makanchi Array 90.17 318 P P 23 58 33.1 -0.7
comp=Z,4.0nm,0.5s,baz=91,slow=6.7,SNR=99
comp=Z,4.0nm,0.5s
MAKZ Makanchi 90.38 317 P P 23 58 33.9 -0.9
MAKZ IAmb IAmb 23 58 36.2
comp=Z,3.5nm,0.8s
INK Inuvik 90.49 20 P P 23 58 36.3 +1.6
baz=243
ZALV Zalesovo Beam 90.54 325 P P 23 58 33.9 -1.4
comp=Z,1.5nm,0.6s,baz=110,slow=4.5,SNR=6.9
comp=Z,1.5nm,0.6s
SHPR Sheep Range 90.64 53 P P 23 58 35.9 -0.5
R11B Troy Canyon, C 90.70 51 P P 23 58 38.0 +1.3
baz=258
NEW Newport 91.81 41 P P 23 58 42.3 +0.9
baz=257
LPIG La Paz 92.39 66 LR LR 00 33 45.8
comp=Z,11nm,19.3s,baz=226,slow=31
HLID Hailey 92.65 46 P P 23 58 46.0 +0.4
HLID IAmb IAmb 23 58 48.3
comp=Z,5.9nm,1.3s
HLID Hailey 92.65 46 P P 23 58 46.4 +0.8
baz=258
DUG Dugway, Tooele 93.18 50 P P 23 58 49.0 +1.0
baz=259
TUC Tucson 93.39 58 P P 23 58 50.6 +1.4
baz=260
KURK Kurchatov 93.44 321 P P 23 58 47.2 -1.6
KURK IAmb IAmb 23 58 48.4
comp=Z,4.5nm,1.1s
KURBB Kurchatov Arra 93.47 321 P P 23 58 47.6 -1.3
comp=Z,2.7nm,0.9s,baz=105,slow=3.4,SNR=28
comp=Z,2.7nm,0.9s
ELIB Princess Elisa 93.51 192 dP P 23 58 50.4 +1.4
C36M Paulatuk 94.06 20 P P 23 58 51.9 +0.8
baz=252
A36M Sachs Harbour 94.53 17 P P 23 58 54.2 +0.9
baz=251
YKA Yellowknife Ar 96.14 28 P P 23 58 59.8 -1.0
comp=Z,0.4nm,0.6s,baz=260,slow=4.9,SNR=7.3
comp=Z,0.4nm,0.6s
BVAR Borovoye Array 98.82 322 P P 23 59 11.8 -1.4
comp=Z,1.0nm,0.5s,baz=86,slow=6.2,SNR=5.7
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 114.50 344 PKiKP PKPdf 00 04 11.6 -1.0
comp=Z,3.7nm,0.9s,baz=56,slow=1.4,SNR=6.1
BOSA Boshof 122.82 226 PKP PKPdf 00 04 27.9 -2.1
comp=Z,2.1nm,0.8s,baz=198,slow=2.2,SNR=3.8
KEST Kesra 144.24 320 PKP PKPbc 00 05 07.8 -0.1
comp=Z,3.7nm,0.9s,baz=296,slow=5.0,SNR=4.2
ESDC Sonseca Array 147.99 339 PKPbc PKPbc 00 05 18.1 -0.8
comp=Z,1.0nm,0.8s,baz=11,slow=3.9,SNR=5.4

*NEIC **28** 23:58:28.8±0.8, 6.5N±0.1°×92.4E±0.1°, h10km±2km, mb4.1/20, Error ellipse: s-maj=25.3km s-min=20.0km az=134.0*
*IDC **28** 23:58:36.0±1.2, 7.56N×91.33E, h0km, mb4.1/9, mbtmp4.1/10, ML4.5/1, MS3.8/7, Error ellipse: s-maj=44.1km s-min=19.5km az=57.0*
ISC 28 23:58:37.8±1.0, 7.6N±0.1°×91.62E±0.09, h10km, n50, σ1s 88/38, mb4.2/18, MS4.2/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	Pallekele	10.84	269	Pn	Pn	00 01 15.2	+2.1
PALK	Pallekele	10.84	269	Pn	Pn	00 01 15.6	+2.5
	3.2nm,0.3s,baz=187,slow=13,SNR=17						
PALK				Sn	Sn	00 03 10.0	-4.6
	5.6nm,0.3s,baz=287,slow=22,SNR=13						
PALK				LR	LR	00 04 51.3	
	comp=Z,52nm,18.8s,baz=204,slow=36						
CM31	Chiang Mai Arr	12.91	33	Pn	Pn	00 01 40.5	-1.0
CMAR	Chiang Mai Arr	12.91	33	Pn	Pn	00 01 40.1	-1.4
CMAR	Chiang Mai Arr	12.91	33	Pn	Pn	00 01 44.1	+2.6
	0.8nm,0.3s,baz=233,slow=14,SNR=32						
CMAR				LR	LR	00 06 34.1	
	comp=Z,22nm,20.6s,baz=200,slow=36						
	4.8nm,0.8s						
CRAI	Chiangrai	15.13	33	Pn	Pn	00 02 09.9	-1.8
LEM	Lembang	21.46	132	LR	LR	00 12 31.5	
	comp=Z,30nm,21.2s,baz=178,slow=39						
LSA	Lhasa	21.96	359	P	P	00 03 35.5	+3.1
LSA				IAmb	IAmb	00 03 37.5	
	comp=Z,8.5nm,0.8s						
H08S3	Diego Garcia H	24.37	232	T	T	00 30 19.0	
	baz=53,slow=76,SNR=14						
H08S2	Diego Garcia H	24.37	232	T	T	00 30 13.6	
	baz=53,slow=76,SNR=14						
H08S1	Diego Carcia H	24.39	232	T	T	00 30 29.6	
	baz=53,slow=76,SNR=7.9						
BTK	Batken	37.28	333	P	P	00 05 51.9	+1.8
BTK				IAmb	IAmb	00 05 55.1	
	comp=Z,3.6nm,0.8s						
ARSB	Arslanbob	37.42	337	P	P	00 05 53.3	+1.9
AAK	Ala-Archa	38.00	339	P	P	00 05 58.1	+1.8
AAK				IAmb	IAmb	00 06 00.1	
	comp=Z,3.7nm,1.1s						
MK31	Makanchi Array	39.84	350	P	P	00 06 11.9	+0.4
MK31				IAmb	IAmb	00 06 13.1	
	comp=Z,3.7nm,1.1s						
MKAR	Makanchi Array	39.84	350	P	P	00 06 11.8	+0.3
MKAR	Makanchi Array	39.84	350	P	P	00 06 12.3	+0.9
	comp=Z,2.3nm,0.4s,baz=168,slow=9.0,SNR=61						
	comp=Z,2.3nm,0.4s						
MAKZ	Makanchi	39.91	350	P	P	00 06 12.7	+0.7
MAKZ				IAmb	IAmb	00 06 13.2	
	comp=Z,1.8nm,0.7s						
KK31	Karatay Array	39.91	336	P	P	00 06 13.6	+1.5
SONM	Songino Array	42.00	15	P	P	00 06 28.7	-0.7
SONM	Songino Array	42.00	15	P	P	00 06 28.3	-1.0
	comp=Z,2.3nm,0.7s,baz=195,slow=8.4,SNR=20						
	comp=Z,2.3nm,0.7s						
GEYT	Alibeck	42.75	320	P	P	00 06 37.6	+2.1
GEYT				IAmb	IAmb	00 06 39.5	
	comp=Z,3.1nm,0.7s						
GEYT	Alibeck	42.75	320	P	P	00 06 38.4	+2.8
	comp=Z,2.6nm,0.6s,baz=123,slow=11,SNR=6.0						
KURBB	Kurchatov Arra	44.23	348	P	P	00 06 48.2	+1.1
	comp=Z,2.1nm,0.6s,baz=170,slow=7.1,SNR=24						
	comp=Z,2.1nm,0.6s						
KURK	Kurchatov	44.29	348	P	P	00 06 48.2	+0.5
ZAA0	Zalesovo Array	46.52	354	P	P	00 07 04.9	-0.4
ZALV	Zalesovo Beam	46.52	354	P	P	00 07 05.3	+0.1
ZALV	Zalesovo Beam	46.52	354	P	P	00 07 05.7	+0.4
	comp=Z,1.4nm,0.3s,baz=191,slow=6.0,SNR=12						
	comp=Z,1.4nm,0.3s						
ABKAR	Akbulak array	49.29	333	P	P	00 07 27.8	+1.0
ABKAR	Akbulak array	49.29	333	P	P	00 07 27.9	+1.1
ABKAR				IAmb	IAmb	00 07 29.1	
	comp=Z,6.8nm,1.5s						
WRA	Warramunga Arr	50.17	124	P	P	00 07 35.3	+1.3
	comp=Z,1.4nm,0.9s,baz=303,slow=9.0,SNR=5.5						
	comp=Z,1.4nm,0.9s						
ASAR	Alice Springs	51.70	128	P	P	00 07 47.1	+1.6
	comp=Z,1.1nm,0.7s,baz=302,slow=7.3,SNR=10.0						
	comp=Z,1.1nm,0.7s						
H04N2	CROZET ISLANDS	64.25	210	T	T	01 19 55.5	
	baz=42,slow=75,SNR=14						
H04N1	CROZET ISLANDS	64.26	210	T	T	01 19 51.3	
	baz=42,slow=75,SNR=10						
H04N3	CROZET ISLANDS	64.27	210	T	T	01 19 56.2	
	baz=42,slow=75,SNR=12						
MLR	Muntele Rosu	67.61	316	P	P	00 09 34.4	-0.7
TIXI	Tiksi	67.98	12	P	P	00 09 33.6	-3.1
MA2	Magadan	68.15	28	LR	LR	00 44 22.6	
	comp=Z,339nm,18.3s,baz=218,slow=40						
BURAR	Bucovina Array	68.56	318	P	P	00 09 40.5	-0.4
BUR08	Bucovina Ar. S	68.58	318	P	P	00 09 39.4	-1.7
BUR08				IAmb	IAmb	00 09 50.7	
	comp=Z,3.1nm,1.4s						
PETK	Petropavlovsk-	69.67	36	LR	LR	00 43 03.1	
	comp=Z,203nm,18.4s,baz=230,slow=38						
FINES	FINESS Array B	71.77	333	P	P	00 09 58.6	-1.6
FINES	FINESS Array B	71.77	333	P	P	00 09 59.1	-1.1
	comp=Z,1.1nm,0.6s,baz=105,slow=7.1,SNR=9.6						
	comp=Z,1.1nm,0.6s						
LBTB	Lobatse	71.94	241	P	P	00 09 52.7	-9.3
GERES	GERESS Array B	76.35	318	P	P	00 10 26.3	-1.1
	comp=Z,0.8nm,0.6s,baz=65,slow=8.0,SNR=3.9						
	comp=Z,0.8nm,0.6s						
HFS	Hagfors	77.42	330	P	P	00 10 31.2	-1.8
	comp=Z,1.1nm,0.6s,baz=99,slow=9.2,SNR=4.1						
	comp=Z,1.1nm,0.6s						
SHEM	Shemya Is, Ala	79.42	38	LR	LR	00 46 20.9	
	comp=Z,74nm,22.0s,baz=12,slow=36						
C18K	Utukok River	89.12	20	P	P	00 11 29.9	-3.3
C18K				IAmb	IAmb	00 11 41.5	
	comp=Z,1.8nm,1.2s						
KDAK	Kodiak Island	96.88	29	LR	LR	00 59 55.9	
	comp=Z,72nm,18.3s,baz=269,slow=38						
INK	Inuvik	97.91	15	LR	LR	01 03 50.7	
	comp=Z,71nm,18.4s,baz=288,slow=40						

*NEIC **29** 00:01:17.6±0.7, 38.43N±0.01°×111.65W±0.02, h11km±11km, Error ellipse: s-maj=2.1km s-min=2.0km az=169.0*
UUSS 29 00:01:17.7±1.1, 38.42N±0.02°×111.65W±0.02, h17km±8km, ML2.6/16, ML2.7/72(NEIC), Error ellipse: s-maj=2.3km s-min=2.1km az=188.0, Utah

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMU	Miners Mountai	0.36	127		Pg	00 01 24.9	-0.4
OWUT	Old Woman Plat	0.41	26		Pg	00 01 26.0	-0.2
MSU	Marysvale	0.42	283	Pg	Pg	00 01 26.1	-0.4
MSU				Sg	Sg	00 01 31.2	-1.2
MVU	Marysvale	0.45	282	Pg	Pg	00 01 26.4	-0.5
MVU				Sg	Sg	00 01 32.8	-0.3
MTPU	Mount Pierson	0.56	228	Pg	Pg	00 01 28.7	-0.3
MTPU				Sg	Sg	00 01 36.0	-0.6
MTPU				IAML		00 01 36.6	
	comp=N,274nm,0.5s						
MTPU				IAML		00 01 37.0	
	comp=E,418nm,0.5s						
Q16A	Castle Valley	0.63	37		Pg	00 01 29.8	-0.4
Q16A					Sg	00 01 38.1	-0.5
Q16A				IAML		00 01 38.5	
	comp=N,659nm,0.5s						
Q16A				IAML		00 01 38.7	
	comp=E,756nm,0.4s						
WCU	Willow Creek	0.65	328		Pg	00 01 30.3	-0.3
TCRU	Three Creeks R	0.65	288	Pg	Pg	00 01 30.2	-0.5
TCRU				Sg	Sg	00 01 39.3	-0.1
TCRU				IAML		00 01 40.1	
	comp=N,282nm,0.8s						
BTU	Barney Top	0.68	195		Pg	00 01 31.1	-0.1
SGU	Sterling	0.77	1		Pb	00 01 32.4	-0.3
HMU	Henry Mountain	0.86	123	Pg	Pb	00 01 33.8	-0.6
HMU				Sg	Sb	00 01 45.1	-0.6
HMU				IAML		00 01 50.8	
	comp=N,268nm,0.5s						
HMU				IAML		00 01 54.3	
	comp=E,227nm,0.7s						
SNO	Snow College	0.90	6		Pb	00 01 34.8	-0.3
NMUT	North Mineral	0.94	277		Pb	00 01 35.5	-0.2
TMUT	Trail Mountain	0.95	21	Pg	Pb	00 01 35.4	-0.5
TMUT				Sg	Sb	00 01 47.0	-1.2
TMUT				IAML		00 01 49.9	
	comp=N,440nm,0.3s						
TMUT				IAML		00 01 50.6	
	comp=E,348nm,0.4s						
FLU	Fool Peak	1.04	337		Pb	00 01 36.9	-0.5
LEVU	Levan	1.10	353		Pb	00 01 38.1	-0.3
PKCU	Pink Cliffs	1.10	208	Pg	Pb	00 01 38.5	0.0
PKCU				IAML		00 01 55.5	
	comp=E,354nm,0.3s						
PKCU				IAML		00 01 55.5	
	comp=N,176nm,0.3s						
SRU	San Rafael Swe	1.12	51	Pg	Pb	00 01 38.3	-0.5
SRU				IAML		00 01 56.9	
	comp=E,238nm,0.4s						
SRU				IAML		00 01 57.2	
	comp=N,111nm,0.4s						
ELU	Electric Lake	1.27	16		Pb	00 01 41.3	-0.2
P17A	Butcher Ranch,	1.27	34	Pg	Pn	00 01 40.8	-0.1
P17A				IAML		00 01 58.2	
	comp=N,167nm,0.4s						
P17A				IAML		00 01 58.0	
	comp=E,212nm,0.5s						
SZCU	Shurtz Canyon	1.40	235	Pn	Pb	00 01 43.3	-0.2
SZCU				IAML		00 02 02.9	
	comp=E,133nm,0.3s						
SZCU				IAML		00 02 03.0	
	comp=N,119nm,0.2s						
DCM	Dugout Coal Mi	1.53	33		Pb	00 01 46.1	+0.3
NLU	North Lily Min	1.57	348	Pn	Pb	00 01 45.8	-0.7
NLU				IAML		00 02 10.8	
	comp=N,68nm,0.6s						
NLU				IAML		00 02 10.0	
	comp=E,82nm,0.8s						
MPU	Maple Canyon	1.60	1	Pn	Pb	00 01 46.6	-0.3
CCUT	Cedar City	1.60	238	Pn	Pb	00 01 46.7	-0.3
P18A	Preston Nutter	1.63	42	Pn	Pb	00 01 48.0	+0.5
P18A				IAML		00 02 10.9	
	comp=E,187nm,0.4s						
P18A				IAML		00 02 13.2	
	comp=N,151nm,0.4s						
KNB	Kanab	1.68	214	Pn	Pb	00 01 48.0	-0.2
PSUT	Pine Spring	1.73	275	Pn	Pb	00 01 48.7	-0.5
DUG	Dugway, Tooele	1.99	334	Pn	Pn	00 01 51.6	+0.9
DUG				IAML		00 02 21.0	
	comp=N,36nm,0.6s						
DUG				IAML		00 02 23.5	
	comp=N,36nm,0.6s						
U15A	North Rim	2.05	195	Pn	Pb	00 01 53.8	-0.8
U15A				IAML		00 02 24.2	
	comp=N,82nm,0.5s						
BSUT	Blindstream Ca	2.23	18	Pn	Pn	00 01 55.7	+1.5
BSUT				IAML		00 02 29.9	
	comp=N,26nm,0.5s						
BSUT				IAML		00 02 30.0	

comp=E,35nm,0.6s
CTU Camp Tracy 2.28 358 Pn Pn 00 01 56.3 +1.6
CTU IAML 00 02 30.4
comp=E,38nm,0.6s
CTU IAML 00 02 30.4
comp=N,25nm,0.7s
BGU Big Grassy Mou 2.72 337 Pn Pn 00 02 03.2 +2.4
BGU IAML 00 02 47.4
comp=E,17nm,0.4s
MVCO Mesa Verde 2.77 115 Pn Pn 00 02 03.7 +2.1
SPUT South Promonto 2.95 348 Pn Pn 00 02 06.4 +2.4
R11B Troy Canyon, C 3.09 270 Pn Pn 00 02 07.6 +1.7
O20A White River Ci 3.16 56 Pn Pn 00 02 09.4 +2.6
HWUT Hardware Ranch 3.19 1 Pn Pn 00 02 09.8 +2.5
HWUT IAML 00 03 03.1
comp=E,13nm,1.3s
HWUT IAML 00 03 10.5
comp=E,11nm,0.9s
HVU Hansel Valley 3.47 346 Pn Pn 00 02 12.9 +1.8
HVU IAML 00 03 11.7
comp=N,11nm,0.8s
HVU IAML 00 03 18.7
comp=E,9.3nm,0.6s
ELK Elko 3.62 311 Pn Pn 00 02 15.7 +2.6
W18A Petrified Fore 3.63 154 Pn Pn 00 02 15.8 +2.5
W18A IAML 00 03 22.7
comp=E,26nm,0.6s
X18A Snowflake 4.11 160 Pn Pn 00 02 22.6 +2.7
PD31 Pinedale Array 4.63 19 Pn Pn 00 02 26.1 -1.0
PDAR Pinedale Array 4.63 19 Pn Pn 00 02 25.9 -1.2
RWWY Rawlins 4.72 45 Pn Pn 00 02 31.1 +2.7
NV11 Mina Array Sit 5.11 272 Pn Pn 00 02 34.9 +1.4
NV11 IAML 00 03 55.6
comp=N,5.6nm,5.0s
NV11 IAML 00 05 41.4
comp=E,7.7nm,4.6s

*NORS **29** 00:10:10.1,42°.13N×45°.44E,h6km,MPVA3.6*
*TIF **29** 00:10:10.7,42°.34N×45°.39E,h30km*
*DRS **29** 00:10:13.1,42°.24N×45°.42E,h16km*
*AFAD **29** 00:10:25.8±0.0,42°.26N×44°.03E,h6km±4km,ML1.8*
ISC 29 00:10:11.7±1.0,**42°.25N**±0°.02×**45°.41E**±0°.01,**h13**km±8km,
n43,σ1§49/85,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHRG	**Chargali**	**0.37**	**283**	P		**Pg**	**00 10 18.3**	**-0.8**
CHRG				S		**Sb**	**00 10 25.5**	**-0.3**
SHTL	**Shatili**	**0.45**	**336**	P		**Pg**	**00 10 19.4**	**-1.2**
SHTL				S		**Sg**	**00 10 25.2**	**-1.5**
SEAG	**Tbilisi Sea**	**0.66**	**223**	P		**Pb**	**00 10 25.1**	**+0.1**
SEAG				S		**Sb**	**00 10 35.1**	**+1.0**
GUDG	**Gudauri**	**0.72**	**288**	P		**Pg**	**00 10 24.8**	**-1.0**
GUDG				S		**Sg**	**00 10 35.4**	**+0.1**
GUDG	**Gudauri**	**0.72**	**288**	*e*Pg		**Pg**	**00 10 24.9**	**-0.8**
GUDG				*e*Sg		**Sg**	**00 10 35.5**	**+0.1**
LGD	**Lagodekhi**	**0.75**	**123**	P		**Pg**	**00 10 25.5**	**-0.6**
LGD				S		**Sb**	**00 10 37.7**	**+1.0**
MTEO	**Meteo**	**0.78**	**304**	P		**Pg**	**00 10 26.4**	**-0.4**
MTEO				S		**Sg**	**00 10 36.8**	**-0.3**
DGRG	**David-gareji**	**0.80**	**182**	P		**Pn**	**00 10 28.2**	**-0.4**
DVE	**Vedeno**	**0.89**	**37**	*i*Pg		**Pg**	**00 10 28.1**	**-0.8**
DVE				*e*Sg		**Sb**	**00 10 40.3**	**-0.5**
KMGR	**Komgaron**	**0.90**	**334**	*e*Pg		**Pn**	**00 10 29.5**	**-0.6**
KMGR				*e*Sg		**Sn**	**00 10 43.2**	**+0.2**
GROC	**Groznyy**	**1.00**	**17**	*i*Pg		**Pn**	**00 10 31.2**	**-0.1**
GROC				*e*Sg		**Sn**	**00 10 46.2**	**+0.9**
LACR	**Lac**	**1.00**	**306**	*e*Pg		**Pg**	**00 10 30.2**	**-0.8**
LACR				*e*Sg		**Sg**	**00 10 43.9**	**-0.3**
XNZR	**Khunzakh** 9.0nm,0.3s	**1.01**	**73**	*e*Pg		**Pg**	**00 10 30.3**	**-0.8**
XNZR				*e*Sg		**Sb**	**00 10 44.4**	**+0.1**
UNCR	**Uncukul** 8.0nm,0.4s	**1.13**	**65**	*e*Pg		**Pg**	**00 10 32.8**	**-0.6**
UNCR				*e*Sg		**Sn**	**00 10 48.6**	**0.0**
GNBR	**Gunib** 13nm,0.5s	**1.16**	**82**	*e*Pg		**Pg**	**00 10 33.6**	**-0.5**
GNBR				*e*Sg		**Sn**	**00 10 49.5**	**0.0**
TRLG	**Trialeti** 4.0nm,0.4s	**1.20**	**234**	P		**Pn**	**00 10 33.5**	**-0.9**
TRLG				S		**Sb**	**00 10 50.7**	**+0.8**
DLMR	**Dylym** 46nm,0.9s	**1.22**	**47**	*e*Pg		**Pb**	**00 10 34.1**	**-0.5**
DLMR				*e*Sg		**Sn**	**00 10 50.6**	**-0.3**
ARNR	**Ardon** 19nm,0.2s	**1.25**	**319**	*i*Pg		**Pg**	**00 10 36.1**	**+0.4**
ARNR				*e*Sg		**Sg**	**00 10 54.4**	**+2.5**
KRNR	**Karanay** 9.0nm,0.5s	**1.25**	**62**	*e*Pg		**Pn**	**00 10 34.5**	**-0.5**
KRNR				*e*Sg		**Sn**	**00 10 51.5**	**-0.3**
VSHL	**Vashlovani** 57nm,0.2s	**1.26**	**143**	P		**Pg**	**00 10 36.4**	**+0.5**
VSHL				S		**Sg**	**00 10 56.3**	**+4.0**
KMKR	**Kumukh** 20nm,0.2s	**1.26**	**95**	*e*Pg		**Pb**	**00 10 35.2**	**-0.2**
KMKR				*e*Sg		**Sn**	**00 10 52.9**	**+0.8**
DMNI	**Dmanisi** 17nm,0.4s	**1.29**	**225**	P		**Pn**	**00 10 34.9**	**-0.7**
DMNI				S		**Sb**	**00 10 52.5**	**+0.1**
BTKR	**Batakoyurt**	**1.29**	**331**	*e*Pg		**Pg**	**00 10 37.8**	**+1.3**
BTKR				*e*Sg		**Sg**	**00 10 57.2**	**+3.9**
KORR	**Kora** 1.0nm,0.3s	**1.30**	**311**	*e*Pg		**Pg**	**00 10 36.8**	**+0.2**
KORR				*e*Sg		**Sg**	**00 10 55.7**	**+2.2**
DBC	**Dubki** 6.0nm,0.3s	**1.30**	**53**	*e*Pg		**Pg**	**00 10 36.0**	**-0.8**
DBC				*e*Sg		**Sg**	**00 10 53.9**	**+0.1**
ALIG	**Mtskhetisjvari** 23nm,0.4s	**1.31**	**264**	P		**Pn**	**00 10 35.8**	**0.0**
ALIG				S		**Sn**	**00 10 53.5**	**+0.3**
BRNG	**Burnasheti**	**1.33**	**243**	P		**Pn**	**00 10 36.5**	**+0.3**
BRNG				S		**Sg**	**00 10 55.4**	**+0.8**
BUJR	**Buynaksk** 6.0nm,0.3s	**1.39**	**65**	*e*Pg		**Pg**	**00 10 37.3**	**-0.9**
BUJR				*e*Sg		**Sg**	**00 10 56.5**	**+0.2**
ONI	**Oni** 1.0nm,0.6s	**1.49**	**284**	P		**Pb**	**00 10 39.1**	**-0.1**
ONI				S		**Sb**	**00 10 58.1**	**+0.2**
ONI	**Oni**	**1.49**	**284**	*e*Pg		**Pb**	**00 10 39.4**	**+0.3**
ONI				*e*Sg		**Sg**	**00 10 59.8**	**+0.2**
STDR	**Stavd-Durt**	**1.50**	**319**	*e*Pg		**Pg**	**00 10 40.7**	**+0.3**
STDR				*e*Sg		**Sg**	**00 11 02.8**	**+3.0**
DIGR	**Digorskoe uzhe**	**1.50**	**296**	*i*Pg		**Pb**	**00 10 39.4**	**0.0**
DIGR				*e*Sg		**Sg**	**00 11 00.3**	**+0.4**
TRKR	**Terskaya**	**1.56**	**342**	*e*Pg		**Pg**	**00 10 41.6**	**+0.1**
TRKR				*e*Sg		**Sg**	**00 11 04.0**	**+2.2**
URKR	**Urkarakh** 6.0nm,0.3s	**1.66**	**92**	*e*Pg		**Pg**	**00 10 42.7**	**-0.8**
URKR				*e*Sg		**Sg**	**00 11 05.3**	**+0.3**
SGKR	**Sergokala** 8.0nm,0.4s	**1.68**	**82**	*e*Pg		**Pb**	**00 10 42.0**	**-0.5**
SGKR				*e*Sg		**Sg**	**00 11 05.1**	**-0.8**
TKB	**Tkibuli** 14nm,0.4s	**1.79**	**274**	P		**Pb**	**00 10 44.0**	**-0.4**
TKB				S		**Sg**	**00 11 08.7**	**-0.6**
AKT	**Akhty** 6.0nm,0.6s	**1.90**	**113**	*e*Pg		**Pb**	**00 10 46.2**	**0.0**
AKT				*e*Sg		**Sg**	**00 11 12.5**	**-0.1**
ABS	**Abastumani**	**1.99**	**257**	P		**Pb**	**00 10 47.0**	**-0.8**
ABS				S		**Sb**	**00 11 14.5**	**+1.8**
EAK	**Akyaka**	**2.06**	**222**	P		**Pn**	**00 10 46.7**	**+0.6**
EAK				S		**Sn**	**00 11 13.7**	**+1.9**
EAK	comp=N,32nm,0.5s			*i* AML		AML	00 11 18.0	
EPOS	**Posof**	**2.13**	**251**	P		**Pn**	**00 10 48.8**	**+1.7**
EPOS				S		**Sb**	**00 11 15.8**	**-0.8**
EPOS	comp=N,33nm,0.6s			*i* AML		AML	00 11 19.0	
EPOS	comp=E,11nm,0.4s			*i* AML		AML	00 11 21.0	
DRN	**Derbent** 4.0nm,0.4s	**2.19**	**95**	*e*Pg		**Pb**	**00 10 49.7**	**-1.4**
DRN				*e*Sg		**Sb**	**00 11 19.0**	**+1.1**
DAGI	**Agillar**	**2.87**	**247**	P		**Pn**	**00 10 59.1**	**+2.0**
DAGI	19nm,0.6s			S		**Sn**	**00 11 24.7**	**-6.9**
DBAD	**Bademkaya**	**3.04**	**247**	P		**Pn**	**00 11 02.2**	**+2.6**
DBAD				S		**Sn**	**00 11 30.5**	**-5.3**
DBAD	comp=N,5.6nm,1.1s			*i* AML		AML	00 11 59.0	

*IDC **29** 00:13:26.6±0.8,83°.06N×5°.83W,h0km,mb3.5/12,*
mbtmp3.6/14,ML3.4/2,MS3.4/10,Error ellipse:
s-maj=22.6km s-min=16.0km az=34.0
*BER **29** 00:13:29.3±3.5,82°.99N×6°.10W,h10km,mb(Pn)3.8,*
ML3.4(NAO),Confirmed Earthquake
*DNK **29** 00:13:30.1±2.6,83°.00N×5°.16W,h33km±27km,ML1.8*
*FCIAR **29** 00:13:31.0,82°.96N×4°.97W,h10km,station ZFI2 has*
station magnitude of 3.50 station OMEGA has station
magnitude of 3.50
ISC 29 00:13:26.6±0.6,**82°.90N**±0°.06×**6°.25W**±0°.04,**h11**km,**n52,**
σ3§00/71,mb3.6/12,MS3.4/9,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NOR	**Nord** baz=56,slow=18	**1.92**	**233**	*e*		**Pn**	**00 13 59.3**	**+0.2**
NOR				*i* P		**Pb**	**00 14 01.6**	**+0.1**
NOR				*i* S		**Sn**	**00 14 25.6**	**+2.4**
NOR	comp=Z,15nm,0.3s			IAML			00 14 33.7	
NOR	**Nord**	**1.92**	**233**	P		**Pn**	**00 14 01.4**	**+2.3**
NOR				Sn		**Sn**	**00 14 23.9**	**+0.6**
NOR	**Nord** baz=56,slow=18	**1.92**	**233**	*e*		**Pn**	**00 13 59.3**	**+0.2**
NOR				*i* P		**Pb**	**00 14 01.6**	**+0.1**
NOR				*i* S		**Sn**	**00 14 25.6**	**+2.4**
NOR	comp=Z,16nm,0.5s			IAML			00 14 33.7	
KBS	**Kingsbay**	**4.89**	**135**	*e*P		**Pn**	**00 14 41.2**	**+1.4**
KBS				*e*S		**Sn**	**00 15 33.4**	**-2.9**
KBS	comp=Z,16nm,0.5s			IAML			00 15 37.3	
KBS	**Kingsbay**	**4.89**	**135**	Pn		**Pn**	**00 14 41.3**	**+1.4**
KBS				Sn		**Sn**	**00 15 32.8**	**-3.5**
KBS	**Kingsbay**	**4.89**	**135**	*i* P		**Pn**	**00 14 42.0**	**+2.2**
KBS				*i* S		**Sn**	**00 15 31.6**	**-4.6**
KBS	**Kingsbay**	**4.89**	**135**	*e*P		**Pn**	**00 14 41.3**	**+1.4**
KBS				*e*S		**Sn**	**00 15 33.1**	**-3.2**
BRBB	**Barentsburg B**	**5.84**	**134**	*e*P		**Pn**	**00 14 56.1**	**+3.2**
BRBB				*e*S		**Sn**	**00 15 56.5**	**-3.2**
BRBB	**Barentsburg B**	**5.84**	**134**	Pn		**Pn**	**00 14 55.3**	**+2.4**
BRBB				Sn		**Sn**	**00 15 56.0**	**-3.7**
BRBA	**Barentsburg A**	**5.87**	**135**	*e*P		**Pn**	**00 14 56.8**	**+3.4**
BRBA				*e*S		**Sn**	**00 15 56.5**	**-3.9**
BRBA	comp=Z,6.0nm,0.3s			IAML			00 16 07.0	
BRBA	**Barentsburg A**	**5.87**	**135**	Pn		**Pn**	**00 14 55.8**	**+2.4**
SPA0	**Spitsbergen Ar** baz=326,slow=22	**5.96**	**130**	Pn		**Pn**	**00 14 56.2**	**+1.5**
SPA0				Sn		**Sn**	**00 15 59.2**	**-3.6**
SPA0	**Spitsbergen Ar** baz=326,slow=22	**5.96**	**130**	Pn		**Pn**	**00 14 56.2**	**+1.5**
SPA0				Sn		**Sn**	**00 15 59.2**	**-3.6**
SPA0	**Spitsbergen Ar**	**5.96**	**130**	*e*P		**Pn**	**00 14 55.7**	**+1.1**
SPA0				*e*S		**Sn**	**00 15 59.0**	**-3.7**
SPITS	**Spitsbergen Ar** baz=1.4,slow=10.0	**5.96**	**130**	Pn		**Pn**	**00 14 56.0**	**+1.4**
SPITS	baz=321,slow=9.1 comp=Z,8.0nm,0.6s			Sn		**Sn**	**00 15 59.1**	**-3.7**
DAG	**Danmarks Havn**	**6.51**	**206**	*i* P		**Pn**	**00 15 05.0**	**+2.9**
DAG				*i* S		**Sn**	**00 16 13.8**	**-2.4**
DAG	comp=Z,2.3nm,0.3s			IAML			00 16 23.6	
DAG	**Danmarks Havn**	**6.51**	**206**	*i* P		**Pn**	**00 15 05.0**	**+2.9**
DAG				*i* S		**Sn**	**00 16 13.8**	**-2.4**
DAG	comp=Z,2.3nm,0.3s			IAML			00 16 23.6	
HSPB	**Hornsund (broa**	**6.96**	**136**	*e*P		**Pn**	**00 15 10.4**	**+2.1**
HSPB				*e*S		**Sn**	**00 16 23.3**	**-3.9**
HSPB	comp=Z,3.7nm,0.4s			IAML			00 16 30.4	
HSPB	**Hornsund (broa**	**6.96**	**136**	Pn		**Pn**	**00 15 11.0**	**+2.8**
HSPB				Sn		**Sn**	**00 16 24.4**	**-2.8**
ZFI2	**Zemlya Franca-**	**7.65**	**77**	P		**Pn**	**00 15 15.8**	**-1.9**
ZFI2	comp=Z,14nm,2.6s			*e*S		Sn	00 16 33.7	-10
OMEGA	**Omega**	**7.67**	**78**	P		**Pn**	**00 15 16.4**	**-1.6**
OMEGA	comp=Z,12nm,2.3s			*e*S		Sn	00 16 33.5	-11
HOPEN	**Hopen**	**8.32**	**123**	*e*P		**Pn**	**00 15 27.3**	**+0.4**
HOPEN				*e*S		Sn	00 16 53.3	-7.4
HOPEN	comp=Z,3.4nm,0.4s			IAML			00 16 58.0	
HOPEN	**Hopen**	**8.32**	**123**	Pn		**Pn**	**00 15 28.6**	**+1.6**
HOPEN				Sn		**Sn**	**00 16 54.8**	**-5.9**
HOPEN	**Hopen**	**8.32**	**123**	*e*P		**Pn**	**00 15 28.0**	**+1.1**
HOPEN				*e*S		Sn	00 16 53.8	-6.9
DBG	**Daneborg**	**9.02**	**205**	*i* P		**Pn**	**00 15 37.5**	**+1.0**
DBG				*e*S		**Sn**	**00 17 11.3**	**-6.5**
DBG	comp=Z,0.8nm,0.3s			IAML			00 17 19.9	
DBG	**Daneborg**	**9.02**	**205**	Pn		**Pn**	**00 15 37.7**	**+1.2**
DBG				Sn		**Sn**	**00 17 11.9**	**-5.8**
DBG	**Daneborg**	**9.02**	**205**	*i* P		**Pn**	**00 15 37.5**	**+1.0**
DBG				*e*S		**Sn**	**00 17 11.3**	**-6.5**
DBG	comp=Z,0.8nm,0.3s			IAML			00 17 19.9	
NEEM	**North Greenlan**	**9.07**	**258**	*i* P		**Pn**	**00 15 37.0**	**-0.5**
NEEM				*e*S		**Sn**	**00 17 12.6**	**-6.8**
NEEM	comp=Z,4.4nm,0.4s			IAML			00 17 16.2	
NEEM	**North Greenlan**	**9.07**	**258**	*i* P		**Pn**	**00 15 37.0**	**-0.5**
NEEM				*e*S		**Sn**	**00 17 12.6**	**-6.8**
NEEM	comp=Z,4.4nm,0.4s			IAML			00 17 16.2	
SUMG	**Summit**	**12.08**	**230**	*i* P		**Pn**	**00 16 17.7**	**-1.0**
SUMG	comp=Z,1.1nm,0.4s			IAML			00 18 33.7	
SUMG	**Summit**	**12.08**	**230**	*i* P		**Pn**	**00 16 17.7**	**-1.0**
SUMG	comp=Z,1.1nm,0.4s			IAML			00 18 33.7	
ARCES	**ARCESS Array B** comp=Z,0.1nm,0.3s,baz=335,slow=5.4,SNR=4.3	**14.97**	**134**	Pn		**Pn**	**00 16 58.0**	**+0.2**
ARCES	comp=Z,66nm,19.6s,baz=332,slow=38 comp=Z,3.4nm,0.8s			LR		LR	00 22 52.6	
RES	**Resolute Bay** comp=Z,0.3nm,0.3s,baz=36,slow=12,SNR=21	**16.80**	**293**	Pn		**Pn**	**00 17 16.3**	**-5.0**
RES	baz=61,slow=22,SNR=1.6			Sn		Sn	00 20 14.3	-13
NRIK	**Noril'sk** comp=Z,2.2nm,1.0s,baz=356,slow=3.5,SNR=1.2 comp=Z,2.2nm,1.0s	**22.38**	**68**	P		**P**	**00 18 23.8**	**-0.4**
NOA	**NORSAR Array B** comp=Z,0.8nm,1.0s,baz=332,slow=15,SNR=2.1	**22.40**	**157**	P		**P**	**00 18 28.6**	**+4.0**
NOA	comp=Z,29nm,21.2s,baz=330,slow=32 comp=Z,0.8nm,1.0s			LR		LR	00 25 20.5	
FINES	**FINESS Array B** comp=Z,0.9nm,0.8s,baz=331,slow=11,SNR=1.4	**22.97**	**139**	P		**P**	**00 18 32.1**	**+1.6**
FINES	comp=Z,58nm,20.6s,baz=340,slow=36 comp=Z,0.9nm,0.8s			LR		LR	00 27 13.8	
YKA	**Yellowknife Ar** comp=Z,0.1nm,0.3s,baz=32,slow=12,SNR=4.0 comp=Z,0.1nm,0.3s	**30.62**	**300**	P		**P**	**00 19 39.9**	**-0.1**
ILAR	**Eielson Array** comp=Z,0.3nm,0.9s,baz=13,slow=8.4,SNR=3.4 comp=Z,0.3nm,0.9s	**31.21**	**328**	P		**P**	**00 19 46.9**	**+1.6**
ARU	**Arti** comp=Z,40nm,18.8s,baz=224,slow=40	**31.30**	**105**	LR		LR	00 34 20.1	
AKASG	**Malin Array Be** comp=Z,63nm,19.4s,baz=18,slow=35	**33.88**	**139**	LR		LR	00 33 23.2	
VRAC	**Vranov** comp=Z,59nm,18.1s,baz=328,slow=34	**34.39**	**153**	LR		LR	00 32 52.3	
ZALV	**Zalesovo Beam** comp=Z,0.9nm,0.8s,baz=342,slow=9.1,SNR=3.7 comp=Z,0.9nm,0.8s	**36.97**	**79**	P		**P**	**00 20 36.1**	**+0.9**
KURBB	**Kurchatov Arra** comp=Z,1.3nm,0.9s,baz=346,slow=7.6,SNR=10 comp=Z,1.3nm,0.9s	**39.46**	**87**	P		**P**	**00 20 57.7**	**+1.5**
ESDC	**Sonseca Array** comp=Z,0.7nm,0.7s,baz=356,slow=8.7,SNR=5.1 comp=Z,0.7nm,0.7s	**43.37**	**177**	P		**P**	**00 21 31.6**	**+3.1**
MKAR	**Makanchi Array** comp=Z,0.8nm,0.7s,baz=354,slow=7.2,SNR=9.8 comp=Z,0.8nm,0.7s	**43.69**	**84**	P		**P**	**00 21 33.2**	**+2.3**
NEW	**Newport** comp=Z,116nm,18.2s,baz=308,slow=36	**44.88**	**298**	LR		LR	00 40 25.8	
PDAR	**Pinedale Array** comp=Z,0.7nm,0.9s,baz=35,slow=8.1,SNR=5.2 comp=Z,0.7nm,0.9s	**49.44**	**289**	P		**P**	**00 22 18.8**	**+2.4**
NVAR	**Mina Array Bea**	**54.73**	**297**	LR		LR	00 45 16.5	
ANMO	**Albuquerque** comp=Z,59nm,18.6s,baz=161,slow=36	**56.79**	**285**	LR		LR	00 47 12.5	
WSAR	**Wadi Sarin** comp=Z,81nm,18.2s,baz=98,slow=41	**64.03**	**112**	LR		LR	00 57 31.2	
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.7s,baz=356,slow=6.5,SNR=1.6 comp=Z,0.3nm,0.7s	**69.86**	**172**	P		**P**	**00 24 39.0**	**+2.0**
CMAR	**Chiang Mai Arr** comp=Z,0.9nm,0.3s,baz=2.1,slow=7.2,SNR=2.2 comp=Z,0.9nm,0.3s	**73.66**	**73**	P		**P**	**00 24 59.2**	**-0.7**

*KRSC **29** 00:14:22.9±1.6,55°.90N×162°.99E,h22km±12km,Ml4.3*
*MOS **29** 00:14:25.5±1.3,55°.99N×162°.73E,h22km,mb4.4/11,Error*
ellipse: s-maj=8.1km s-min=5.6km az=65.2
*IDC **29** 00:14:30.4±3.0,56°.05N×162°.70E,h58km±31km,mb3.5/17,*
mbtmp3.8/18,ML2.6/1,MS3.3/8,Error ellipse:
s-maj=19.7km s-min=15.2km az=166.0
*NEIC **29** 00:14:31.3±1.6,55°.9N±0°.2×162°.5E±0°.2,h57km±14km,*
mb4.0/28,Error ellipse: s-maj=26.9km s-min=13.7km
az=143.0
ISC 29 00:14:26.8±1.0,**56°.01N**±0°.04×**162°.54E**±0°.04,**h17**km±6km,
n147,σ1§56/133,mb4.0/33,MS3.3/5,5C-4D,Near east
coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**0.26**	**20**	PN		**Pg**	**00 14 31.3**	**-1.3**
KBG				S		**Sg**	**00 14 38.2**	**+1.7**
KBG	**Krutoberegovo**	**0.26**	**20**	*e*P		**Pg**	**00 14 31.3**	**-1.3**
KBG				*e*S		**Sg**	**00 14 38.2**	**+1.7**
BDR	**Baidarnaya**	**0.93**	**308**	PN		**Pn**	**00 14 45.0**	**-0.2**
BDR	**Baidarnaya**	**0.93**	**308**	*e*P		**Pn**	**00 14 45.0**	**-0.2**
ZLN	**Zelenaya**	**0.98**	**271**	PN		**Pn**	**00 14 45.7**	**-0.1**
ZLN	**Zelenaya**	**0.98**	**271**	*e*P		**Pn**	**00 14 45.7**	**-0.1**
SRKR	**Sorokina**	**1.00**	**311**	*e*S		**Sn**	**00 15 01.9**	**+2.0**
CIRR	**Tsirk**	**1.01**	**277**	PN		**Pn**	**00 14 46.2**	**-0.1**
CIRR	**Tsirk**	**1.01**	**277**	*e*P		**Pn**	**00 14 46.2**	**-0.1**
LGNR	**Loginova**	**1.04**	**275**	PN		**Pn**	**00 14 47.3**	**+0.4**
LGNR	**Loginova**	**1.04**	**275**	*e*P		**Pn**	**00 14 47.3**	**+0.4**
KLY	**Klyuchi**	**1.10**	**287**	PN		**Pg**	**00 14 46.2**	**-1.8**
KLY	**Klyuchi**	**1.10**	**287**	*e*P		**Pg**	**00 14 46.2**	**-1.8**
KRSR	**Krestovskiy**	**1.13**	**282**	PN		**Pb**	**00 14 47.4**	**-0.5**
KRSR	**Krestovskiy**	**1.13**	**282**	*e*P		**Pb**	**00 14 47.4**	**-0.5**
BZP	**Bezymyannyi-Pe**	**1.13**	**266**	*e*P		**Pg**	**00 14 47.4**	**-1.2**
BZWR	**Bezymyannyi-We**	**1.15**	**269**	PN		**Pb**	**00 14 48.1**	**-0.2**
BZWR	**Bezymyannyi-We**	**1.15**	**269**	*e*P		**Pb**	**00 14 48.1**	**-0.2**
BZMR	**Bezymyannaya**	**1.16**	**267**	PN		**Pg**	**00 14 47.6**	**-1.5**
BZMR	**Bezymyannaya**	**1.16**	**267**	*e*P		**Pg**	**00 14 47.6**	**-1.5**
KIRR	**Kirishev**	**1.24**	**268**	PN		**Pg**	**00 14 49.2**	**-1.4**
KIRR	**Kirishev**	**1.24**	**268**	*e*P		**Pg**	**00 14 49.2**	**-1.4**
KPT	**Kopyto**	**1.30**	**269**	PN		**Pn**	**00 14 50.1**	**-0.2**
KPT	**Kopyto**	**1.30**	**269**	*e*P		**Pn**	**00 14 50.1**	**-0.2**
KMNR	**Kamenistaya**	**1.32**	**260**	PN		**Pn**	**00 14 50.7**	**+0.1**
KMNR	**Kamenistaya**	**1.32**	**260**	*e*P		**Pn**	**00 14 50.7**	**+0.1**
TUMD	**Tumrok D**	**1.46**	**237**	*e*P		**Pn**	**00 14 51.6**	**-0.7**
KOZ	**Kozyrevsk**	**1.50**	**273**	PN		**Pg**	**00 14 54.0**	**-1.6**
KOZ	**Kozyrevsk**	**1.50**	**273**	*e*P		**Pg**	**00 14 54.0**	**-1.6**
TUMR	**Tumrok**	**1.54**	**243**	PN		**Pn**	**00 14 53.4**	**-0.2**
TUMR	**Tumrok**	**1.54**	**243**	*e*P		**Pn**	**00 14 53.4**	**-0.2**
SRDR	**Sredinnyy**	**1.61**	**282**	PN		**Pb**	**00 14 55.5**	**-0.6**
SRDR	**Sredinnyy**	**1.61**	**282**	*e*P		**Pb**	**00 14 55.5**	**-0.6**
ESO	**Esso**	**2.16**	**269**	PN		**Pn**	**00 15 03.4**	**+1.4**
ESO	**Esso**	**2.16**	**269**	*e*P		**Pn**	**00 15 03.4**	**+1.4**
OSSR	**Ossora**	**3.26**	**5**	PN		**Pn**	**00 15 18.2**	**+1.1**
OSSR	**Ossora**	**3.26**	**5**	*e*P		**Pn**	**00 15 18.2**	**+1.1**
KRX	**Arik**	**3.49**	**222**	PN		**Pn**	**00 15 21.8**	**+1.5**
KRX	**Arik**	**3.49**	**222**	*e*P		**Pn**	**00 15 21.8**	**+1.5**
SMAR	**Somma**	**3.51**	**220**	PN		**Pn**	**00 15 19.9**	**-0.8**
SMAR	**Somma**	**3.51**	**220**	*e*P		**Pn**	**00 15 19.9**	**-0.8**
AVH	**Avacha**	**3.53**	**220**	PN		**Pn**	**00 15 21.9**	**+1.1**
AVH	**Avacha**	**3.53**	**220**	*e*P		**Pn**	**00 15 21.9**	**+1.1**
GNL	**Ganaly**	**3.53**	**231**	PN		**Pn**	**00 15 20.6**	**-0.3**
GNL	**Ganaly**	**3.53**	**231**	*e*P		**Pn**	**00 15 20.6**	**-0.3**
UGLR	**Uglovaya**	**3.54**	**219**	PN		**Pn**	**00 15 21.0**	**0.0**
UGLR	**Uglovaya**	**3.54**	**219**	*e*P		**Pn**	**00 15 21.0**	**0.0**
PET	**Petropavlovsk**	**3.75**	**219**			**Pn**	**00 15 24.8**	**+1.0**
PET	**Petropavlovsk**	**3.75**	**219**	*e*PN		**Pn**	**00 15 26.0**	**+2.2**
PET				*e*S		**Sn**	**00 16 12.0**	**+4.4**
PET	comp=Z,195nm,1.2s			pmax	pmax			
PET	comp=N,197nm,0.8s			smax	smax			
PET	comp=E,181nm,0.9s			smax	smax			
PET	comp=Z,700nm,11.0s			MLR	MLR			
PET	comp=Z,400nm,15.0s			MLR	MLR			
PET	**Petropavlovsk**	**3.75**	**219**	*e*P		**Pn**	**00 15 27.9**	**+4.1**
PEA0B	**Petropavlovsk-**	**4.05**	**226**			**Pn**	**00 15 29.5**	**+1.5**
PEA0B	**Petropavlovsk-**	**4.05**	**226**	*c*	*i*PN	**Pn**	**00 15 31.4**	**+3.5**
PETK	**Petropavlovsk-**	**4.05**	**226**	Pn		**Pn**	**00 15 29.5**	**+1.6**
PETK	**Petropavlovsk-** comp=Z,2.0nm,0.3s,baz=76,slow=14,SNR=12	**4.05**	**226**	P		**Pn**	**00 15 30.7**	**+2.8**
PETK	comp=Z,14nm,0.8s,baz=13,slow=9.1,SNR=1.2			S		**Sn**	**00 16 19.3**	**+4.4**
PETK	comp=Z,393nm,19.1s,baz=41,slow=39 comp=Z,28nm,0.9s			LR		LR	00 17 11.5	
KRMR	**Karymshinskiy**	**4.10**	**221**	PN		**Pn**	**00 15 27.1**	**-1.5**
KRMR	**Karymshinskiy**	**4.10**	**221**	*e*P		**Pn**	**00 15 27.1**	**-1.5**
RUS	**Russkaya**	**4.29**	**215**	PN		**Pn**	**00 15 31.0**	**-0.2**
RUS	**Russkaya**	**4.29**	**215**	*e*P		**Pn**	**00 15 31.0**	**-0.2**
**MT

BPAW					IAmb	IAmb	00 19 44.9		
	comp=Z,8.4nm,1.4s								
KDAK	**Kodiak Island**	**24.24**	**67**	LR	LR	LR	00 29 12.8		
	comp=Z,80nm,19.5s,baz=300,slow=37								
H23K	**Yukon River**	**24.64**	**47**	P	**P**	**P**	**00 19 47.3**	**+1.3**	
H23K					IAmb	IAmb	00 19 53.3		
	comp=Z,7.3nm,1.2s								
TOLK	**Toolik Lake Re**	**24.79**	**40**	P	**P**	**P**	**00 19 47.8**	**+0.4**	
G24K	**Hadweenzic Riv**	**25.48**	**45**	P	**P**	**P**	**00 19 53.8**	**+0.2**	
MJAR	**Matsushiro Arr**	**25.50**	**230**	P	**P**	**P**	**00 19 53.8**	**-0.2**	
	comp=Z,0.8nm,0.3s,baz=26,slow=8.5,SNR=2.1								
MJAR				LR	LR	LR	00 30 44.3		
	comp=Z,73nm,20.9s,baz=249,slow=38								
	comp=Z,0.8nm,0.3s								
ILAR	**Eielson Array**	**25.79**	**50**	*e*P	**P**	**P**	**00 19 57.3**	**+0.9**	
ILAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
ILAR	**Eielson Array**	**25.79**	**50**	P	**P**	**P**	**00 19 54.8**	**-1.7**	
	comp=Z,0.8nm,0.9s,baz=256,slow=7.8,SNR=9.8								
ILAR				LR	LR	LR	00 30 36.4		
	comp=Z,92nm,18.7s,baz=252,slow=38								
	comp=Z,0.8nm,0.9s								
SCM	**Sheep Creek Mo**	**25.95**	**56**	P	**P**	**P**	**00 19 58.1**	**0.0**	
SCM	**Sheep Creek Mo**	**25.95**	**56**	P	**P**	**P**	**00 19 58.1**	**0.0**	
SCM				pmax	pmax				
	comp=Z,16nm,1.4s								
BMAR	**Burnt Mountain**	**26.61**	**43**	P	**P**	**P**	**00 20 03.9**	**0.0**	
SCRK	**Sand Creek**	**27.13**	**51**	P	**P**	**P**	**00 20 09.3**	**+0.6**	
SCRK				IAmb	IAmb	IAmb	00 20 11.6		
	comp=Z,3.9nm,1.1s								
D27M	**Malcolm River**	**27.93**	**39**	P	**P**	**P**	**00 20 17.1**	**+1.4**	
D27M				IAmb	IAmb	IAmb	00 20 19.5		
	comp=Z,8.7nm,1.2s								
I30M	**Mount Dempster**	**30.14**	**47**	P	**P**	**P**	**00 20 36.7**	**+1.2**	
I30M				IAmb	IAmb	IAmb	00 20 38.8		
	comp=Z,2.7nm,1.1s								
NRIK	**Noril'sk**	**34.40**	**323**	⇓*e*P	**P**	**P**	**00 21 16.2**	**+3.7**	
NRIK				pmax	pmax				
	comp=Z,9.0nm,2.5s								
NRIK	**Noril'sk**	**34.40**	**323**	P	**P**	**P**	**00 21 12.6**	**0.0**	
	comp=Z,0.6nm,0.3s,baz=93,slow=9.2,SNR=2.4								
	comp=Z,0.6nm,0.3s								
SONM	**Songino Array**	**34.69**	**281**	P	**P**	**P**	**00 21 14.4**	**-1.1**	
	comp=Z,0.1nm,0.5s,baz=60,slow=8.5,SNR=1.8								
	comp=Z,0.1nm,0.5s								
H11N2	**WAKE ISLAND Hy**	**36.37**	**173**	T	T	T	00 59 51.1		
	baz=356,slow=76,SNR=2805								
H11N3	**WAKE ISLAND Hy**	**36.38**	**173**	T	T	T	00 59 53.3		
	baz=356,slow=76,SNR=1652								
H11N1	**WAKE ISLAND Hy**	**36.38**	**173**	T	T	T	00 59 58.3		
	baz=356,slow=76,SNR=1419								
H11S1	**WAKE ISLAND Hy**	**37.57**	**174**	T	T	T	01 01 27.7		
	baz=351,slow=75								
H11S3	**WAKE ISLAND Hy**	**37.58**	**174**	T	T	T	01 01 23.2		
	baz=351,slow=75								
H11S2	**WAKE ISLAND Hy**	**37.59**	**174**	T	T	T	01 01 23.5		
	baz=351,slow=75								
BBB	**Bella Bella**	**39.29**	**65**	LR	LR	LR	00 37 17.9		
	comp=Z,51nm,18.8s,baz=9.0,slow=35								
YKA	**Yellowknife Ar**	**40.07**	**46**	*e*P	**P**	**P**	**00 22 02.2**	**+1.5**	
YKA				pmax	pmax				
	comp=Z,1.0nm,0.9s								
YKA	**Yellowknife Ar**	**40.07**	**46**	P	**P**	**P**	**00 21 58.4**	**-2.3**	
	comp=Z,0.3nm,0.8s,baz=300,slow=8.5,SNR=12								
	comp=Z,0.3nm,0.8s								
LYN	**LuoYang**	**40.13**	**259**	*e*P	**P**	**P**	**00 22 01.3**	**-0.1**	
LYN				pmax	pmax				
	comp=Z,17nm,0.5s								
SPITS	**Spitsbergen Ar**	**44.49**	**351**	P	**P**	**P**	**00 22 35.7**	**-0.8**	
	comp=Z,5.1nm,1.0s,baz=7.1,slow=5.8,SNR=1.1								
	comp=Z,5.1nm,1.0s								
KURK	**Kurchatov**	**47.43**	**301**	⇓*e*P	**P**	**P**	**00 23 00.3**	**+0.3**	
KURK				pmax	pmax				
	comp=Z,4.0nm,1.7s								
KURBB	**Kurchatov Arra**	**47.53**	**301**	P	**P**	**P**	**00 22 58.7**	**-2.1**	
	comp=Z,0.6nm,0.5s,baz=54,slow=8.2,SNR=3.4								
	comp=Z,0.6nm,0.5s								
MK31	**Makanchi Array**	**48.20**	**295**	⇓*e*P	**P**	**P**	**00 23 05.4**	**-0.7**	
MKAR	**Makanchi Array**	**48.20**	**295**	P	**P**	**P**	**00 23 05.3**	**-0.7**	
MKAR	**Makanchi Array**	**48.20**	**295**	*e*P	**P**	**P**	**00 23 08.8**	**+2.7**	
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
MKAR	**Makanchi Array**	**48.20**	**295**	P	**P**	**P**	**00 23 03.5**	**-2.6**	
	comp=Z,0.5nm,0.7s,baz=68,slow=8.7,SNR=3.5								
	comp=Z,0.5nm,0.7s								
BVAR	**Borovoye Array**	**49.71**	**308**	P	**P**	**P**	**00 23 15.4**	**-2.1**	
	comp=Z,1.5nm,0.9s,baz=81,slow=9.1,SNR=4.2								
	comp=Z,1.5nm,0.9s								
ARCES	**ARCESS Array B**	**50.95**	**342**	P	**P**	**P**	**00 23 24.8**	**-1.9**	
	comp=Z,3.7nm,0.9s,baz=287,slow=4.9,SNR=2.4								
	comp=Z,3.7nm,0.9s								
NVAR	**Mina Array Bea**	**53.48**	**74**	P	**P**	**P**	**00 23 43.9**	**-2.2**	
	comp=Z,0.1nm,0.4s,baz=0.0,slow=1.8,SNR=2.6								
	comp=Z,0.1nm,0.4s								
KIRV	**Kirov**	**53.90**	**323**	⇑*e*P	**P**	**P**	**00 23 49.6**	**+1.0**	
PDAR	**Pinedale Array**	**54.91**	**64**	P	**P**	**P**	**00 23 53.9**	**-2.6**	
	comp=Z,0.3nm,0.8s,baz=310,slow=7.0,SNR=2.7								
	comp=Z,0.3nm,0.8s								
AAK	**Ala-Archa**	**55.08**	**296**	P	**P**	**P**	**00 23 56.9**	**-0.7**	
AAK	**Ala-Archa**	**55.08**	**296**	⇑*e*P	**P**	**P**	**00 23 57.6**	**0.0**	
AAK				pmax	pmax				
	comp=Z,7.0nm,1.7s								
KK31	**Karatay Array**	**56.72**	**299**	P	**P**	**P**	**00 24 08.0**	**-1.2**	
KK31	**Karatay Array**	**56.72**	**299**	P	**P**	**P**	**00 24 08.0**	**-1.2**	
KK31				pmax	pmax				
	comp=Z,4.0nm,1.1s								
ARSB	**Arslanbob**	**56.80**	**296**	P	**P**	**P**	**00 24 10.2**	**+0.2**	
ARSB	**Arslanbob**	**56.80**	**296**	P	**P**	**P**	**00 24 10.2**	**+0.2**	
ARSB				pmax	pmax				
	comp=Z,1.0nm,1.2s								
ABKAR	**Akbulak array**	**56.99**	**310**	P	**P**	**P**	**00 24 12.3**	**+1.3**	
ABKAR	**Akbulak array**	**56.99**	**310**	P	**P**	**P**	**00 24 12.5**	**+1.5**	
ABKAR				IAmb	IAmb	IAmb	00 24 14.0		
	comp=Z,1.3nm,0.8s								
FINES	**FINESS Array B**	**58.00**	**337**	P	**P**	**P**	**00 24 18.7**	**+0.8**	
FINES	**FINESS Array B**	**58.00**	**337**	*e*P	**P**	**P**	**00 24 21.1**	**+3.2**	
FINES				pmax	pmax				
	comp=Z,1.0nm,0.7s								
FINES	**FINESS Array B**	**58.00**	**337**	P	**P**	**P**	**00 24 17.4**	**-0.5**	
	comp=Z,2.8nm,0.9s,baz=50,slow=7.4,SNR=6.8								
	comp=Z,2.8nm,0.9s								
BTK	**Batken**	**58.84**	**296**	P	**P**	**P**	**00 24 23.6**	**-0.6**	
BTK	**Batken**	**58.84**	**296**	P	**P**	**P**	**00 24 23.6**	**-0.6**	
BTK				pmax	pmax				
	comp=Z,4.0nm,1.0s								
CMAR	**Chiang Mai Arr**	**60.17**	**259**	LR	LR	LR	00 53 27.7		
	comp=Z,51nm,19.9s,baz=180,slow=39								
NB2	**NORSAR Subarra**	**61.12**	**345**	P	**P**	**P**	**00 24 39.4**	**-0.1**	
	comp=Z,0.8nm,0.8s,baz=18,slow=6.9								
NOA	**NORSAR Array B**	**61.12**	**345**	P	**P**	**P**	**00 24 37.4**	**-2.1**	
	comp=Z,1.2nm,0.8s,baz=18,slow=6.7,SNR=1.6								
	comp=Z,1.2nm,0.8s								
HFS	**Hagfors**	**61.59**	**343**	P	**P**	**P**	**00 24 42.6**	**0.0**	
	comp=Z,2.2nm,0.9s,baz=344,slow=9.0,SNR=2.1								
	comp=Z,2.2nm,0.9s								
TXAR	**Lajitas Array**	**68.23**	**70**	P	**P**	**P**	**00 25 23.5**	**-2.9**	
	comp=Z,1.0nm,0.8s,baz=328,slow=6.4,SNR=6.6								
	comp=Z,1.0nm,0.8s								
WRA	**Warramunga Arr**	**79.33**	**207**	*c*e P	**P**	**P**	**00 26 30.1**	**-1.2**	
WRA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
QSPA	**South Pole Qui**	**145.76**	**180**	PKPbc	**PKPdf**		**00 34 02.3**	**-0.5**	
	comp=Z,3.3nm,1.0s,baz=282,slow=0.8,SNR=6.6								

IDC ***29*** *00:17:47.9±0.5,23.92N×121.09E,h0km,mb4.3/27, mbtmp4.3/32,ML4.0/5,MS4.2/54,Error ellipse: s-maj=16.3km s-min=11.8km az=67.0*

GCMT ***29*** *00:17:49.7±0.3,23.88N±0.02×121.03E±0.02,h24km, MW4.9/85,Moment Tensor Solution. s33,c36; s85,c129; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.89±.13; Mθθ1.77±.08; Mθφ0.12±.09; Mrθ-1.24±.11; Mφφ-1.24±.06; Mφr-0.29±.13; Best double couple: M₀2.54800×10¹⁶ NP1:φs97.00000°,δ61.00000°,λ-116.00000°. NP2: φs321.00000°,δ38.00000°,λ-52.00000°. Principal axes: T 2.6460, Plg12.0000°, Azm205.0000°; N -0.1930, Plg22.0000°, Azm110.0000°; P -2.4510, Plg64.0000°, Azm322.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

JMA ***29*** *00:17:50.4±0.2,24.0N±0.5×121.0E±1.0,h4km,MD4.7/15, MW4.9/15,TAIWAN REGION*

NIED ***29*** *00:17:50.4,24.01N×121.03E,h4km,MW4.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr-0.69; Mθθ0.49; Mφφ0.20; Mrθ0.25; Mθφ-1.33; Mφr0.02; Fault plane solution: M₀1.38000×10¹⁶ NP1: φs271.00000°,δ75.00000°,λ-158.00000°. NP2: φs175.00000°,δ69.00000°,λ-16.00000°.*

ASIES ***29*** *00:17:50.3,24.00N×121.02E,h11km,ML5.0,Mw4.8, Moment Tensor Solution. Moment tensor: Scale 10²³Nm; Mrr-1.04; Mθθ1.21; Mφφ0.12; Mrθ-1.03; Mθφ-0.72; Mφr-0.47; Fault plane solution: M₀1.75694×10²³ NP1:φs87.76000°, δ66.40000°,λ-119.86000°. NP2:φs322.87000°, δ37.38000°,λ-41.27000°. Principal axes: T Plg16.1840°, Azm199.2690°; N Plg27.1490°, Azm100.7100°; P Plg57.6770°, Azm316.5720°;*

TAP ***29*** *00:17:50.3,24.00N×121.02E,h11km,ML5.0,B*

NEIC ***29*** *00:17:50.7,24.01N×121.05E,h10km*

NEIC ***29*** *00:17:50.7±1.4,24.02N±0.03×121.06E±0.05,h10km±4km, mb4.9/72,Mwr4.8/20,Error ellipse: s-maj=7.4km s-min=2.4km az=119.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr-1.55; Mθθ1.70; Mφφ-0.15; Mrθ-0.75; Mθφ-0.49; Mφr0.04; Fault plane solution: M₀1.86000×10¹⁶ NP1:φs98.69000°,δ57.02000°, λ-96.21000°. NP2:φs290.00000°,δ33.49000°, λ-80.53000°. Principal axes: T 1.9748, Plg12.0000°, Azm193.0000°; N -0.2577, Plg5.0000°, Azm102.0000°; P -1.7171, Plg77.0000°, Azm349.0000°;*

BJI ***29*** *00:17:50.0±0.0,24.11N×120.96E,h10km,mb4.5/67, mB5.0/43,ML5.2/13,Ms5.0/80,Ms7 4.9/75*

ISC 29 00:17:50.6±0.5,24°00N±0'.01×121°03E±0'.01,h12km±2km, n409,σ1$32/523,mb4.7/76,MS4.4/56,98C-27D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPL	**Puli Township**	**0.07**	**283**	⇓P	**Pg**	**00 17 52.8**	**-0.4**
	baz=279						
WPL				S	**Sg**	**00 17 54.5**	**-0.5**
	baz=279						
WUSB	**Renai**	**0.08**	**93**	⇓*i*P	**Pg**	**00 17 53.5**	**+0.1**
	baz=98						
WUSB				*i* S	**Sg**	**00 17 55.5**	**+0.1**
	baz=98						
DPDB	**Guoxing**	**0.10**	**291**	P	**Pg**	**00 17 53.3**	**-0.3**
	baz=289						
DPDB				S	**Sg**	**00 17 55.3**	**-0.5**
	baz=289						
WCS	**Beigang Elemen**	**0.13**	**299**	P	**Pg**	**00 17 53.5**	**-0.3**
	baz=299						
WCS				S	**Sg**	**00 17 55.7**	**-0.4**
	baz=299						
OWD	**Renai**	**0.14**	**107**	⇓*i*P	**Pb**	**00 17 54.5**	**-0.7**
	baz=108						
OWD				*i* S	**Sg**	**00 17 57.2**	**+0.5**
	baz=108						
CHGB	**Renai**	**0.14**	**64**	⇑*i*P	**Pb**	**00 17 54.5**	**-0.9**
	baz=69						
CHGB				*i* S	**Sg**	**00 17 56.9**	**0.0**
	baz=69						
SMLT	**Sun Moon Lake**	**0.17**	**227**	⇑*i*P	**Pg**	**00 17 54.4**	**-0.1**
	baz=211						
SMLT				*i* S	**Sg**	**00 17 57.2**	**0.0**
	baz=211						
TYC	**Yuchr**	**0.18**	**240**	⇑*i*P	**Pg**	**00 17 54.4**	**-0.3**
	baz=233						
TYC				*i* S	**Sg**	**00 17 57.1**	**-0.5**
	baz=233						
SSLB	**Suanglung**	**0.22**	**199**	P	**Pg**	**00 17 55.4**	**0.0**
SSLB	**Suanglung**	**0.22**	**199**	Pg	**Pg**	**00 17 55.0**	**-0.4**
SSLB				Sg	**Sg**	**00 17 57.6**	**-0.9**
SSLB	**Suanglung**	**0.22**	**199**	⇑*i*P	**Pg**	**00 17 54.9**	**-0.4**
	baz=188						
SSLB				*e*S	**Sg**	**00 17 58.3**	**-0.3**
	baz=188						
WHF	**Hehuan Shan**	**0.26**	**55**	⇑*i*P	**Pb**	**00 17 56.8**	**-0.7**
	baz=60						
WHF				*i* S	**Sg**	**00 18 00.3**	**+0.3**
	baz=60						
VWDT	**VWDT**	**0.26**	**157**	⇓*i*P	**Pb**	**00 17 56.5**	**-0.7**
	baz=150						
VWDT				*i* S	**Sg**	**00 18 00.1**	**+0.4**
	baz=150						
TDCB	**Techi**	**0.28**	**24**	⇑*i*P	**Pg**	**00 17 56.2**	**-0.3**
	baz=28						
TDCB				S	**Sg**	**00 18 00.2**	**-0.3**
	baz=28						
TWT	**Tachien**	**0.29**	**27**	⇑*i*P	**Pg**	**00 17 56.2**	**-0.4**
	baz=29						
TWT				*e*S	**Sg**	**00 18 00.6**	**-0.1**
	baz=29						
WHP	**Taichung City**	**0.29**	**344**	⇑*e*P	**Pg**	**00 17 56.4**	**-0.2**
	baz=352						
WHP				*e*S	**Sb**	**00 18 01.8**	**-0.9**
	baz=352						
WWF	**Wufeng**	**0.31**	**279**	*e*P	**Pb**	**00 17 57.8**	**-0.3**
	baz=282						
WWF				*e*S	**Sb**	**00 18 04.3**	**+1.2**
	baz=282						
FUSS	**Fushou**	**0.32**	**38**	⇑P	**Pg**	**00 17 56.9**	**-0.3**
	baz=41						
WJS	**Zhushan**	**0.33**	**238**	P	**Pb**	**00 17 57.9**	**-0.5**
	baz=230						
WJS				S	**Sb**	**00 18 03.8**	**+0.1**
	baz=230						
WNT1	**Nantou City**	**0.33**	**255**	⇑*i*P	**Pb**	**00 17 58.5**	**-0.1**
	baz=248						
WNT1				S	**Sb**	**00 18 04.2**	**+0.4**
	baz=248						
WNT	**Mingjian**	**0.34**	**250**	⇑*i*P	**Pb**	**00 17 58.3**	**-0.3**
	baz=242						
WNT				S	**Sb**	**00 18 04.0**	**0.0**
	baz=242						
WHYT	**Xinyi Township**	**0.34**	**209**	⇑P	**Pg**	**00 17 57.3**	**-0.2**
	baz=201						
WHYT				*e*S	**Sb**	**00 18 03.2**	**-0.8**
	baz=201						
LXIB	**Xiulin Townshi**	**0.35**	**86**	⇑*i*P	**Pb**	**00 17 58.2**	**-0.7**
	baz=80						
LXIB				S	**Sb**	**00 18 03.3**	**-1.1**
	baz=80						
TCU	**Taichung**	**0.36**	**295**	⇓P	**Pb**	**00 17 58.8**	**-0.1**
	baz=295						
TCU				*e*S	**Sb**	**00 18 05.6**	**+1.1**
	baz=295						
ESL	**Shilin**	**0.41**	**116**	⇓*i*P	**Pb**	**00 17 59.3**	**-0.5**
	baz=116						
ESL				S	**Sg**	**00 18 04.9**	**+0.7**
	baz=116						
WYL	**Yuanlin Townsh**	**0.41**	**265**	*e*P	**Pb**	**00 18 00.1**	**+0.2**
	baz=263						
WYL				S	**Sb**	**00 18 07.2**	**+1.0**
	baz=263						
ETM	**Tongmen**	**0.42**	**94**	*e*P	**Pg**	**00 17 59.3**	**+0.3**
	baz=92						
ETM				S	**Sb**	**00 18 05.7**	**-0.7**
	baz=92						
TWQ1	**Liyutan**	**0.42**	**326**	⇑P	**Pb**	**00 17 59.6**	**-0.4**
	baz=339						
TWQ1				S	**Sb**	**00 18 06.2**	**-0.1**
	baz=339						
WARBT	**Fenglin Townsh**	**0.43**	**130**	P	**Pb**	**00 17 59.4**	**-0.7**
	baz=130						
WARBT				S	**Sg**	**00 18 04.8**	**0.0**
	baz=130						
WCHH	**Zhanghua**	**0.44**	**281**	P	**Pb**	**00 18 00.6**	**+0.3**
	baz=280						
WCHH				*e*S	**Sb**	**00 18 08.4**	**+1.6**
	baz=280						
ETLH	**Xiulin Townshi**	**0.46**	**63**	⇑P	**Pg**	**00 17 59.9**	**+0.1**
	baz=59						
ETLH				*e*S	**Sg**	**00 18 05.9**	**0.0**
	baz=59						
WDJ	**Dajia District**	**0.50**	**314**	P	**Pb**	**00 18 02.0**	**+0.6**
	baz=327						
WDJ				*e*S	**Sb**	**00 18 10.6**	**+2.0**
	baz=327						
CHN5	**Tsauling**	**0.51**	**219**	⇑*i*P	**Pb**	**00 18 01.4**	**-0.2**
	baz=216						
CHN5				S	**Sb**	**00 18 09.8**	**+0.7**
	baz=216						
TWD	**Chiawan**	**0.52**	**81**	⇑*i*P	**Pb**	**00 18 01.1**	**-0.6**
	baz=92						
TWD				*e*S	**Sg**	**00 18 08.0**	**+0.2**
	baz=92						
HWA	**Hwalien**	**0.52**	**92**	P	**Pb**	**00 18 01.6**	**-0.1**
	baz=93						
HWA				*e*S	**Sb**	**00 18 09.4**	**+0.1**
	baz=93						
ALS	**Alishan**	**0.53**	**203**	⇑*i*P	**Pg**	**00 18 01.1**	**+0.1**
	baz=189						
ALS				S	**Sb**	**00 18 09.4**	**-0.2**
	baz=189						
SHUL	**Shoufeng**	**0.53**	**113**	⇓*i*P	**Pb**	**00 18 01.8**	**0.0**
	baz=113						
SHUL				S	**Sb**	**00 18 09.7**	**+0.3**
	baz=113						
WGK	**Gukeng**	**0.53**	**234**	P	**Pb**	**00 18 01.8**	**-0.1**
	baz=231						
WGK				S	**Sb**	**00 18 10.8**	**+1.4**
	baz=231						
NNSB	**Datong**	**0.54**	**37**	⇑*i*P	**Pg**	**00 18 00.6**	**-0.6**
	baz=39						
NNSH	**Datong**	**0.54**	**37**	⇑*i*P	**Pg**	**00 18 00.6**	**-0.6**
	baz=38						
NNS	**Nan Shan**	**0.54**	**35**	⇑*i*P	**Pg**	**00 18 00.8**	**-0.5**
	baz=38						
NACB	**Ninganchiao**	**0.54**	**71**	P	**Pb**	**00 18 01.6**	**-0.5**
NACB	**Ninganchiao**	**0.54**	**71**	Pg	**Pg**	**00 18 01.3**	**0.0**
NACB				Sg	**Sg**	**00 18 07.7**	**-0.8**
NACB	**Ninganchiao**	**0.54**	**71**	⇑*i*P	**Pg**	**00 18 01.3**	**0.0**
	baz=68						
NACB				S	**Sg**	**00 18 07.9**	**-0.6**
	baz=68						
WDLH	**Douliu**	**0.55**	**236**	⇑P	**Pb**	**00 18 02.2**	**+0.1**
	baz=233						
WDLH				*e*S	**Sb**	**00 18 11.4**	**+1.5**
	baz=233						
EHY	**Hungye**	**0.56**	**151**	⇑P	**Pg**	**00 18 01.6**	**+0.1**
	baz=144						
EHY				S	**Sg**	**00 18 09.3**	**+0.5**
	baz=144						
ETL	**Fush Village**	**0.56**	**73**	⇑P	**Pg**	**00 18 01.6**	**0.0**
	baz=85						
ETL				*e*S	**Sg**	**00 18 08.8**	**-0.4**
	baz=85						
EHYH	**Wanrong**	**0.58**	**150**	*e*P	**Pg**	**00 18 02.0**	**+0.1**
	baz=144						
EHYH				*e*S	**Sg**	**00 18 09.7**	**+0.2**
	baz=144						
NMLH	**Miaoli**	**0.58**	**338**	⇑P	**Pb**	**00 18 03.1**	**+0.4**
	baz=339						
WRL	**Guolierlin Hig**	**0.61**	**261**	⇑P	**Pb**	**00 18 03.3**	**+0.2**
	baz=260						
WRL				S	**Sb**	**00 18 12.8**	**+1.2**
	baz=260						
HGSD	**Ruisui**	**0.62**	**144**	⇓*i*P	**Pb**	**00 18 03.4**	**+0.1**
	baz=148						
HGSD				*e*S	**Sg**	**00 18 11.2**	**+0.4**
	baz=148						
RLNB	**Erlin**	**0.62**	**260**	⇑*i*P	**Pb**	**00 18 03.6**	**+0.1**
	baz=259						
RLNB				*i* S	**Sb**	**00 18 13.3**	**+1.1**
	baz=259						
NSTT	**Nanjuang**	**0.63**	**357**	⇑*i*P	**Pb**	**00 18 03.0**	**-0.6**
NSTT				*e*S	**Sb**	**00 18 12.1**	**-0.4**
NFF	**Wufeng Townshi**	**0.64**	**7**	⇑*e*P	**Pg**	**00 18 02.6**	**-0.5**
	baz=14						
YULB	**Yu-li**	**0.65**	**158**	P	**Pb**	**00 18 03.5**	**-0.4**
YULB	**Yu-li**	**0.65**	**158**	Pg	**Pg**	**00 18 02.9**	**-0.4**
YULB				Sg	**Sg**	**00 18 11.7**	**-0.1**
YULB	**Yu-li**	**0.65**	**158**	⇑P	**Pg**	**00 18 03.1**	**-0.2**
	baz=150						
YULB				*e*S	**Sg**	**00 18 11.5**	**-0.3**
	baz=150						
WTK	**Tuku**	**0.66**	**243**	⇑P	**Pb**	**00 18 04.3**	**+0.2**
	baz=240						
WTK				S	**Sn**	**00 18 14.9**	**-1.3**
	baz=240						
WCKO	**Fanlu**	**0.68**	**215**	⇑*i*P	**Pb**	**00 18 04.6**	**+0.2**
	baz=226						
WCKO				S	**Sb**	**00 18 14.3**	**+0.5**
	baz=226						
TWF1	**Yuli**	**0.69**	**159**	⇑P	**Pg**	**00 18 03.8**	**-0.1**
	baz=151						
TWF1				S	**Sb**	**00 18 13.7**	**-0.2**
	baz=151						
CHN2	**Minshiung**	**0.69**	**228**	⇑*i*P	**Pb**	**00 18 04.9**	**+0.3**
	baz=225						
CHN2				*e*S	**Sn**	**00 18 15.6**	**-1.1**
	baz=225						
EYUL	**Yuli**	**0.70**	**158**	⇑*e*P	**Pg**	**00 18 04.2**	**0.0**
	baz=150						
NJN	**Zhunan**	**0.70**	**348**	*e*P	**Pn**	**00 18 05.6**	**-0.7**
	baz=359						
NJN				*e*S	**Sn**	**00 18 16.2**	**-0.9**
	baz=359						
WTCT	**Ta-ch'eng**	**0.70**	**259**	⇑P	**Pb**	**00 18 04.7**	**-0.1**
	baz=257						
WTCT				S	**Sb**	**00 18 15.2**	**+0.9**
	baz=257						
LATG	**Datong**	**0.70**	**40**	⇑*i*P	**Pg**	**00 18 03.6**	**-0.7**
	baz=33						
LATG				S	**Sb**	**00 18 13.8**	**-0.7**
	baz=33						
EHP	**Heping Village**	**0.72**	**64**	*e*P	**Pb**	**00 18 04.8**	**-0.3**
	baz=74						
EAHA	**Aohua**	**0.73**	**63**	⇑P	**Pg**	**00 18 04.4**	**-0.3**
	baz=64						
NJD	**Zhudong**	**0.74**	**4**	*e*P	**Pn**	**00 18 06.1**	**-0.7**
	baz=357						
NSK	**Sanguang**	**0.74**	**24**	⇑*i*P	**Pg**	**00 18 04.4**	**-0.6**
	baz=20						
NSK				S	**Sg**	**00 18 14.7**	**-0.1**
	baz=20						
YHNB	**Yeheng**	**0.74**	**25**	P	**Pg**	**00 18 04.5**	**-0.5**
YHNB	**Yeheng**	**0.74**	**25**	Pg	**Pg**	**00 18 03.9**	**-1.1**
YHNB				Sg	**Sg**	**00 18 13.0**	**-1.8**
YHNB	**Yeheng**	**0.74**	**25**	⇑*i*P	**Pg**	**00 18 04.4**	**-0.6**
	baz=21						
YHNB				*e*S	**Sg**	**00 18 13.4**	**-1.3**
	baz=21						
CHY	**Chiayi**	**0.75**	**228**	⇑P	**Pb**	**00 18 05.9**	**+0.3**
	baz=225						
CHY				S	**Sn**	**00 18 17.1**	**-1.1**
	baz=225						
NDT	**Datong Townshi**	**0.75**	**36**	⇑*i*P	**Pg**	**00 18 04.4**	**-0.7**
	baz=37						
CHN4	**Tsaushan**	**0.76**	**212**	⇑*i*P	**Pb**	**00 18 05.8**	**+0.1**
	baz=210						
CHN4				*e*S	**Sn**	**00

WTP	**Ta-pu**	**0.84**	**207**	⇑*i*P	**Pb**	**00 18 07.0**	**-0.2**	**JTJ**	**Tarama**	**3.41**	**78**	*e*P	**Pn**	**00 18 46.4**	**+2.8**
	baz=205							**SXFK**	**Yanhouchang**	**3.89**	**309**	*e*P	**Pn**	**00 18 48.8**	**-1.4**
WTP				S	**Sn**	**00 18 19.9**	**-0.7**		baz=309						
	baz=205							**VDOS**	**Pratas Island**	**5.16**	**231**	*e*P	**Pn**	**00 19 08.8**	**+1.1**
STYH	**Taoyuan**	**0.85**	**196**	⇑P	**Pg**	**00 18 07.0**	**-0.2**		baz=226						
	baz=195							**HKPS**	**Hong Kong Po S**	**6.57**	**256**	Pn	**Pn**	**00 19 25.4**	**-1.7**
EHD	**Haiduan**	**0.86**	**169**	⇑*e*P	**Pg**	**00 18 07.0**	**-0.2**	**HKPS**	**Hong Kong Po S**	**6.57**	**256**	*e*P	**Pn**	**00 19 26.0**	**-1.1**
	baz=168								baz=251						
EHD				*e*S	**Sn**	**00 18 20.6**	**-0.5**	**SSE**	**Sheshan**	**7.07**	**1**	P	**Pn**	**00 19 32.8**	**-1.1**
	baz=168							SSE				S	**Sn**	**00 20 57.5**	**+3.2**
CHKH	**Chenggong**	**0.87**	**157**	⇑P	**Pn**	**00 18 08.2**	**-0.4**	SSE				smax	smax		
	baz=156								comp=N,200nm,1.4s						
CHKH				*e*S	**Sn**	**00 18 20.5**	**-0.6**	SSE				smax	smax		
	baz=156								comp=N,260nm,1.6s						
STYT	**Tauyuan**	**0.87**	**197**	⇑P	**Pg**	**00 18 07.4**	**0.0**	SSE				LR	LR		
STYT				S	**Sb**	**00 18 20.1**	**+0.9**		comp=N,4μm,11.1s						
	baz=194							SSE				LR	LR		
WSL	**Shuilin Townsh**	**0.88**	**238**	⇑*i*P	**Pb**	**00 18 07.6**	**-0.1**		comp=N,1μm,11.4s						
	baz=236							**GZH**	**Guangzhou**	**7.11**	**264**	P	**Pn**	00 19 29.5	-5.0
TWK	**Hsinying**	**0.88**	**215**	⇑*i*P	**Pb**	**00 18 07.8**	**-0.1**	GZH				S	**Sn**	**00 20 47.8**	**-7.5**
TWK				*e*S	**Sb**	**00 18 20.6**	**+0.9**	GZH				smax	smax		
	baz=211								comp=N,2μm,1.0s						
NWLT	**Wulai**	**0.89**	**29**	⇑P	**Pg**	**00 18 06.8**	**-0.9**	GZH				smax	smax		
	baz=30								comp=N,1μm,1.0s						
NDS	**Dongshan**	**0.89**	**44**	P	**Pg**	**00 18 07.0**	**-0.8**	**JOW**	**Kunigami**	**7.13**	**65**	Pn	**Pn**	**00 19 34.8**	**0.0**
	baz=45							**JOW**	**Kunigami**	**7.13**	**65**	Pn	**Pn**	**00 19 34.2**	**-0.5**
ECS	**Chishang**	**0.91**	**169**	P	**Pb**	**00 18 08.6**	**+0.2**		comp=N,9.9nm,0.3s,baz=162,slow=9.6,SNR=16						
	baz=168								comp=N,20nm,0.3s						
ECS				S	**Sn**	**00 18 22.6**	**+0.3**	**NJ2**	**Nanjing**	**8.25**	**347**	⇓P	**Pn**	**00 19 48.3**	**-1.8**
	baz=168							NJ2				pP	Pb	00 19 52.3	-21
SNST	**Tainan City**	**0.92**	**213**	⇑*i*P	**Pb**	**00 18 08.3**	**-0.1**	NJ2				S	**Sn**	**00 21 19.5**	**-3.8**
	baz=210							NJ2				pmax	pmax		
SNST				*e*S	**Sn**	**00 18 23.0**	**+0.6**		comp=N,29nm,0.5s						
	baz=210							NJ2				smax	smax		
TWE	**Neicheng**	**0.93**	**39**	⇑*i*P	**Pg**	**00 18 07.8**	**-0.7**		comp=N,540nm,1.1s						
	baz=36							NJ2				smax	smax		
CHN1	**Nanshi**	**0.93**	**210**	⇑*i*P	**Pg**	**00 18 08.5**	**-0.1**		comp=N,370nm,1.0s						
	baz=207							NJ2				LR	LR		
CHN1				*i* S	**Sn**	**00 18 22.6**	**-0.2**		comp=N,1μm,3.8s						
	baz=207							NJ2				LR	LR		
ICHU	**Yijhu**	**0.94**	**228**	⇑*i*P	**Pb**	**00 18 08.8**	**+0.1**		comp=N,2μm,5.0s						
	baz=225							NJ2				LR	LR		
ICHU				S	**Sn**	**00 18 23.0**	**+0.2**		comp=N,7μm,10.3s						
	baz=225							**CNSH**	**ChangSha**	**8.39**	**302**	⇑P	**Pn**	**00 19 50.5**	**-1.5**
ESAO	**Su ao**	**0.94**	**52**	⇑P	**Pg**	**00 18 07.9**	**-0.8**	CNSH				S	**Sn**	**00 21 24.5**	**-2.2**
	baz=54							CNSH				smax	smax		
ESAO				*e*S	**Sg**	**00 18 20.4**	**-0.6**		comp=N,2μm,1.0s						
	baz=54							CNSH				smax	smax		
CHKT	**Chengkung**	**0.94**	**161**	⇑P	**Pn**	**00 18 09.5**	**-0.2**		comp=N,2μm,1.0s						
	baz=141							CNSH				LR	LR		
CHKT				S	**Sn**	**00 18 23.8**	**+0.7**		comp=N,7μm,9.1s						
	baz=141							CNSH				LR	LR		
TWC	**Suao**	**0.96**	**51**	⇑*i*P	**Pg**	**00 18 08.7**	**-0.5**		comp=N,11μm,11.5s						
TWC				S	**Sb**	**00 18 22.5**	**+0.6**	**WHN**	**Wuhan**	**8.82**	**319**	P	**Pn**	**00 19 56.5**	**-1.5**
	baz=53							WHN				S	**Sn**	**00 21 33.0**	**-4.3**
NCUH	**Zhongli**	**0.98**	**8**	P	**Pn**	**00 18 10.5**	**+0.3**	WHN				LR	LR		
	baz=11								comp=N,18μm,8.0s						
NCUH				S	**Sn**	**00 18 24.6**	**+0.7**	WHN				LR	LR		
	baz=11								comp=N,17μm,8.3s						
NCU	**National Centr**	**0.98**	**8**	⇑P	**Pn**	**00 18 10.5**	**+0.3**	WHN				LR	LR		
	baz=11								comp=N,21μm,11.2s						
NCU				S	**Sn**	**00 18 25.0**	**+1.0**	**TGY**	**Tagaytay City**	**9.84**	**181**	LR	LR	00 24 51.1	
	baz=11								comp=N,2μm,18.6s,baz=30,slow=43						
CHN8	**Yiju**	**0.99**	**229**	⇑*i*P	**Pg**	**00 18 09.5**	**-0.2**	**QIZ**	**Qiongzhong**	**11.53**	**247**	P	**Pn**	**00 20 33.3**	**-1.8**
	baz=227							QIZ				S	**Sn**	**00 22 45.0**	**+1.2**
CHN8				S	**Sn**	**00 18 24.4**	**+0.1**	QIZ				LR	LR		
	baz=227								comp=N,3μm,16.0s						
SGST	**Jiashian**	**1.00**	**204**	⇑*e*P	**Pg**	**00 18 08.8**	**-1.1**	QIZ				LR	LR		
	baz=212								comp=N,1μm,16.8s						
SGST				S	**Sn**	**00 18 25.4**	**+1.0**	QIZ				LR	LR		
	baz=212								comp=N,1μm,10.3s						
ILA	**Ilan**	**1.01**	**40**	*e*P	**Pg**	**00 18 09.2**	**-0.8**	**JNU**	**Nakatsue**	**12.54**	**41**	Pn	**Pn**	**00 20 49.1**	**+0.1**
	baz=39								comp=N,0.3nm,0.3s,baz=221,slow=19,SNR=2.0						
NHW	**Xinwu Township**	**1.01**	**1**	P	**Pn**	**00 18 10.8**	**+0.2**	JNU				LR	LR	00 25 48.5	
	baz=3.0								comp=N,290nm,18.9s,baz=188,slow=38						
NHW				*e*S	**Sn**	**00 18 25.2**	**+0.5**		comp=N,1.3nm,0.3s						
	baz=3.0							**LYN**	**LuoYang**	**12.89**	**327**	*e*P	**Pn**	**00 20 57.0**	**+3.3**
NTY	**Taoyuan**	**1.03**	**14**	P	**Pn**	**00 18 11.7**	**+0.8**	LYN				PP	**P**	**00 21 07.0**	**+2.5**
	baz=16							LYN				S	**Sn**	**00 23 14.3**	**-2.9**
NTY				*e*S	**Sn**	**00 18 27.4**	**+2.2**	LYN				sS		00 23 27.0	
	baz=16							LYN				pmax	pmax		
SLGT	**Liugui**	**1.06**	**200**	⇑*e*P	**Pn**	**00 18 11.1**	**-0.2**		comp=N,7.0nm,0.6s						
	baz=186							LYN				LR	LR		
SLGT				*e*S	**Sn**	**00 18 27.5**	**+1.5**		comp=N,8μm,10.2s						
	baz=186							LYN				LR	LR		
TATO	**Taipei**	**1.06**	**23**	P	**Pn**	**00 18 11.3**	**0.0**		comp=N,6μm,10.9s						
TATO	**Taipei**	**1.06**	**23**	Pg	**Pb**	**00 18 10.8**	**-0.1**	LYN				LR	LR		
TATO					**Sn**	**00 18 26.9**	**+0.9**		comp=N,12μm,10.9s						
TATO	**Taipei**	**1.06**	**23**	⇑*i*P	**Pb**	**00 18 10.7**	**-0.2**	**GYA**	**Guiyang**	**13.23**	**284**	⇓P	**Pn**	**00 20 59.0**	**+0.5**
	baz=29							GYA				S	**Sn**	**00 23 24.3**	**-1.4**
TATO				*e*S	**Sn**	**00 18 27.4**	**+1.5**	GYA				pmax	pmax		
	baz=29								comp=N,19nm,1.0s						
BACT	**New Taipei Cit**	**1.06**	**20**	*e*P	**Pn**	**00 18 12.4**	**+1.1**	GYA				pmax	pmax		
	baz=35								comp=N,220nm,7.8s						
LONT	**Longtian**	**1.09**	**175**	⇑P	**Pn**	**00 18 11.8**	**+0.1**	GYA				LR	LR		
	baz=174								comp=N,2μm,7.6s						
LONT				*e*S	**Sn**	**00 18 28.8**	**+2.1**	GYA				LR	LR		
	baz=174								comp=N,3μm,11.8s						
SSHA	**Shanhua**	**1.09**	**219**	P	**Pn**	**00 18 12.3**	**+0.6**	GYA				LR	LR		
	baz=216								comp=N,4μm,13.2s						
SSHA				*e*S	**Sn**	**00 18 29.8**	**+3.0**	**HNS**	**HongShan**	**14.42**	**339**	⇓P	**P**	**00 21 17.8**	**-3.6**
	baz=216							HNS				pmax	pmax		
TWA	**Mucha**	**1.10**	**27**	⇑*e*P	**Pg**	**00 18 11.4**	**-0.4**		comp=N,27nm,1.4s						
	baz=35							HNS				pmax	pmax		
TWA				*e*S	**Sn**	**00 18 29.1**	**+2.0**		comp=N,380nm,5.5s						
	baz=35							HNS				LR	LR		
CHN3	**Shinhua**	**1.10**	**214**	⇑*i*P	**Pn**	**00 18 12.3**	**+0.5**		comp=N,4μm,12.7s						
	baz=222							HNS				LR	LR		
CHN3				*e*S	**Sn**	**00 18 30.2**	**+3.2**		comp=N,2μm,14.3s						
	baz=222							HNS				LR	LR		
NTC	**Toucheng**	**1.12**	**40**	*e*P	**Pn**	**00 18 12.9**	**+0.8**		comp=N,5μm,12.7s						
	baz=32							**XAN**	**Xi'an**	**14.56**	**316**	⇓P	**P**	**00 21 24.8**	**+1.7**
SCLT	**Jiali**	**1.12**	**223**	*e*P	**Pg**	**00 18 11.9**	**-0.3**	XAN				pP	Pn	00 21 27.8	+11
	baz=220							XAN				S	**S**	**00 24 14.0**	**-3.4**
SCLT				*i* S	**Sn**	**00 18 29.8**	**+2.3**	XAN				SS	SnSn	00 24 29.5	+19
	baz=220							XAN				pmax	pmax		
TAP	**Taipei**	**1.12**	**22**	*e*P	**Pn**	**00 18 12.4**	**+0.3**		comp=Z,38nm,1.2s						
	baz=33							XAN				pmax	pmax		
TAP				*e*S	**Sn**	**00 18 28.8**	**+1.3**		comp=Z,220nm,4.1s						
	baz=33							XAN				LR	LR		
NHY	**Taipei**	**1.15**	**25**	*e*P	**Pn**	**00 18 14.0**	**+1.5**		comp=N,6μm,9.1s						
	baz=7.0							XAN				LR	LR		
TWS1	**Kuangyinshan**	**1.15**	**18**	P	**Pg**	**00 18 13.2**	**+0.4**		comp=E,5μm,9.3s						
	baz=6.0							XAN				LR	LR		
TWS1				S	**Sn**	**00 18 30.3**	**+2.0**		comp=Z,7μm,11.5s						
	baz=6.0							**KSAR**	**Wonju Array Be**	**14.63**	**22**	Pn	**Pn**	**00 21 17.6**	**+0.1**
SHHT	**Tainan City**	**1.16**	**213**	⇑P	**Pg**	**00 18 13.8**	**+0.9**	**KSRS**	**Korea Array**	**14.66**	**22**	Pn	**Pn**	**00 21 17.6**	**-0.1**
	baz=210								comp=Z,0.6nm,0.3s,baz=210,slow=14,SNR=4.8						
SHHT				*e*S	**Sn**	**00 18 32.4**	**+4.0**	KSRS				LR	LR	00 27 33.1	
	baz=210								comp=Z,817nm,21.1s,baz=210,slow=40						
TWG	**Pinlang**	**1.17**	**178**		**Pb**	**00 18 12.7**	**-0.1**		comp=Z,1.4nm,0.4s						
TWG	**Pinlang**	**1.17**	**178**	*e*P	**Pg**	**00 18 13.0**	**-0.2**	**KS19**	**Wonju Array Si**	**14.68**	**22**	Pn	**Pn**	**00 21 17.6**	**-0.5**
	baz=168							**DL2**	**Dalian**	**14.87**	**2**	P	**Pn**	**00 21 22.5**	**+1.8**
TWG				*e*S	**Sn**	**00 18 31.0**	**+2.3**	DL2				S	**Sn**	**00 24 09.0**	**+3.6**
	baz=168							DL2				pmax	pmax		
EOS2	**EOS2**	**1.17**	**69**	*e*P	**Pg**	**00 18 14.0**	**+0.8**		comp=Z,33nm,1.2s						
	baz=68							DL2				pmax	pmax		
TWGBT	**Beinan**	**1.17**	**178**	P	**Pg**	**00 18 14.0**	**+0.8**		comp=Z,340nm,4.1s						
TWGBT	**Beinan**	**1.17**	**178**	⇑*i*P	**Pg**	**00 18 13.3**	**0.0**	DL2				LR	LR		
	baz=168								comp=Z,4μm,13.4s						
TWGBT				*e*S	**Sn**	**00 18 31.3**	**+2.5**	DL2				LR	LR		
	baz=168								comp=Z,1μm,12.3s						
EGS		**1.18**	**44**	⇑P	**Pn**	**00 18 12.8**	**-0.1**	DL2				LR	LR		
	baz=55								comp=Z,4μm,13.5s						
EOS4	**EOS4**	**1.18**	**84**	*e*P	**Pg**	**00 18 13.8**	**+0.5**	**TIY**	**Taiyuan**	**15.53**	**334**	⇓P	**P**	**00 21 32.3**	**-1.5**
	baz=101							TIY				S	**Sn**	**00 24 26.0**	**+4.6**
TAI1	**Yung-k'ang**	**1.20**	**218**	P	**Pg**	**00 18 14.5**	**+0.7**	TIY				pmax	pmax		
	baz=215								comp=Z,140nm,3.7s						
TAI1				*e*S	**Sn**	**00 18 32.6**	**+3.2**	TIY				LR	LR		
	baz=215								comp=Z,4μm,12.4s						
EOS3	**EOS3**	**1.21**	**76**	*e*P	**Pg**	**00 18 14.6**	**+0.7**	TIY				LR	LR		
	baz=75								comp=Z,3μm,9.2s						
SCST	**Cishan**	**1.21**	**204**	⇑*e*P	**Pg**	**00 18 14.2**	**+0.3**	TIY				LR	LR		
	baz=203								comp=Z,4μm,12.6s						
TIPB	**Shuangxi**	**1.21**	**36**	*e*P	**Pn**	**00 18 12.9**	**-0.5**	**SLVN**	**Son La**	**16.03**	**264**	Pn	**Pn**	**00 21 35.7**	**-0.3**
	baz=37							**BJT**	**Baijiatuan**	**16.49**	**347**	Pn	**Pn**	**00 21 40.9**	**-0.9**
TSCK	**Chigu Township**	**1.21**	**226**	*e*P	**Pn**	**00 18 13.1**	**-0.2**	**KMI**	**Kunming**	**16.68**	**278**	⇓P	**P**	**00 21 50.0**	**+3.1**
	baz=235							KMI				pmax	pmax		
TSCK				*e*S	**Sn**	**00 18 31.6**	**+1.9**		comp=Z,20nm,1.4s						
	baz=235							KMI				pmax	pmax		
NTST	**Danshui**	**1.22**	**18**	*e*P	**Pg**	**00 18 14.8**	**+0.6**		comp=Z,160nm,5.7s						
	baz=19							KMI				LR	LR		
TTN	**Taitung**	**1.24**	**175**	*e*P	**Pg**	**00 18 15.5**	**+1.0**		comp=Z,1μm,7.3s						
	baz=174							KMI				LR	LR		
YM01	**YM01**	**1.25**	**23**	P	**Pg**	**00 18 14.4**	**-0.2**		comp=Z,4μm,9.3s						
	baz=25							KMI				LR	LR		
YM01				S	**Sn**	**00 18 32.1**	**+1.5**		comp=Z,3μm,9.9s						
	baz=25														
TAI	**Tainan**	**1.26**	**218**	*e*P	**Pg**	**00 18 15.1**	**+0.3**								
	baz=214														
TAI				S	**Sg**	**00 18 34.1**	**+2.9**								
	baz=214														
ANP	**Anpu**	**1.27**	**20**	P	**Pg**	**00 18 14.4**	**-0.6**								
	baz=23														
ANP				*e*S	**Sn**	**00 18 33.4**	**+2.2**								
	baz=23														
NWF	**Wu-fen Shan**	**1.27**	**32**	*e*P	**Pn**	**00 18 14.2**	**-0.1**								
	baz=34														
NWF				*e*S	**Sn**	**00 18 33.6**	**+2.3**								
	baz=34														
WFSB	**Wu-fen Shan**	**1.27**	**32**	⇑P	**Pb**	**00 18 14.3**	**-0.2**								
	baz=34														
WFSB				*e*S	**Sg**	**00 18 33.4**	**+1.9**								
	baz=34														
YM08	**YM08**	**1.29**	**23**	⇓P	**Pn**	**00 18 14.4**	**-0.1**								
	baz=25														
YM08				*e*S	**Sg**	**00 18 31.9**	**-0.4**								
	baz=25														
TWM1	**Shoushan**	**1.29**	**206**	⇑*i*P	**Pg**	**00 18 16.1**	**+0.6**								
	baz=204														
SSD	**Sandimen**	**1.30**	**197**	⇑P	**Pg**	**00 18 15.2**	**-0.4**								
	baz=194														
SSD				*e*S	**Sg**	**00 18 33.5**	**+1.0**								
	baz=194														
NWRT	**Kuosheng**	**1.33**	**25**	*e*P	**Pg**	**00 18 16.3**	**+0.1**								
	baz=26														
TNOU	**National Taiwa**	**1.33**	**30**	*e*P	**Pg**	**00 18 16.0**	**-0.2**								
	baz=14														
TNOU				*e*S	**Sg**	**00 18 33.3**	**-0.3**								
	baz=14														
TWB1	**Santiao Chiao**	**1.33**	**41**	*e*P	**Pn**	**00 18 15.1**	**0.0**								
	baz=34														
TWB1				S	**Sg**	**00 18 33.6**	**0.0**								
	baz=34														
TSMG	**Majia**	**1.33**	**196**	⇑P	**Pg**	**00 18 16.2**	**0.0**								
	baz=208														
SXI1	**Grass Mountain**	**1.34**	**35**	⇑P	**Pb**	**00 18 15.5**	**-0.1**								
	baz=37														
SXI1				*e*S	**Sg**	**00 18 34.8**	**+1.1**								
	baz=37														
SGLT	**Jiouru**	**1.36**	**202**	⇑P	**Pg**	**00 18 17.2**	**+0.5**								
	baz=200														
TWY	**Chenhua**	**1.38**	**22**	*e*P	**Pb**	**00 18 16.2**	**-0.1**								
	baz=23														
LDUT	**Ludao**	**1.38**	**163**	⇑*e*P	**Pn**	**00 18 15.5**	**-0.2**								
	baz=148														
NSM	**Shimen**	**1.38**	**21**	*e*P	**Pg**	**00 18 17.1**	**-0.1**								
	baz=22														
SNJT	**Kaohsiung City**	**1.39**	**208**	⇑P	**Pg**	**00 18 16.9**	**-0.5**								
	baz=206														
ECL	**Taimali**	**1.40**	**183**	⇑*i*P	**Pb**	**00 18 16.8**	**+0.2**								
	baz=181														
ECL				*i* S	**Sg**	**00 18 36.0**	**+0.5**								
	baz=181														
TSPT	**Pingtung City**	**1.40**	**201**	*e*P	**Pg**	**00 18 17.8**	**+0.2**								
	baz=199														
PNG	**Penghu**	**1.42**	**253**	*e*P	**Pn**	**00 18 15.6**	**-0.6**								
	baz=243														
PNG				*e*S	**Sn**	**00 18 34.8**	**0.0**								
	baz=243														
PHUB	**P'eng-hu**	**1.42**	**251**	⇑P	**Pn**	**00 18 15.7**	**-0.6**								
	baz=248														
PHUB				*e*S	**Sn**	**00 18 32.8**	**-2.0**								
	baz=248														
MASBT	**Mashibuluo**	**1.43**	**195**	⇑*i*P	**Pb**	**00 18 17.2**	**+0.1**								
	baz=193														
MASBT				S	**Sg**	**00 18 37.2**	**+0.7**								
	baz=193														
WDGT	**Dungji**	**1.46**	**240**	⇑*i*P	**Pn**	**00 18 16.5**	**-0.2**								
	baz=229														
WDGT				S	**Sb**	**00 18 36.1**	**0.0**								
	baz=229														
WSSB	**Gushan**	**1.52**	**208**	*e*P	**Pb**	**00 18 18.9**	**+0.1**								
	baz=205														
WSSB				*e*S	**Sg**	**00 18 41.2**	**+1.5**								
	baz=205														
KAU	**Kaohsiung**	**1.57**	**205**	*e*P	**Pg**	**00 18 20.4**	**-0.4**								
	baz=203														
EAST	**Anshuo**	**1.61**	**186**	⇑*i*P	**Pb**	**00 18 20.4**	**+0.1**								
	baz=184														
EAST				*e*S	**Sg**	**00 18 43.3**	**+0.7**								
	baz=184														
TAW	**Tawu**	**1.64**	**184**	*e*P	**Pb**	**00 18 20.7**	**0.0**								
	baz=165														
TAW				*e*S	**Sg**	**00 18 43.3**	**0.0**								
	baz=165														
TAWH	**Dawu Township**	**1.65**	**185**	*e*P	**Pb**	**00 18 21.1**	**+0.1**								
	baz=202														
SCZT	**Fangliau**	**1.66**	**193**	⇑*i*P	**Pb**	**00 18 20.6**	**-0.5**								
	baz=192														
VCHM	**Qimei**	**1.67**	**242**	⇑*i*P	**Pn**	**00 18 19.5**	**-0.1**								
	baz=229														
VCHM				*e*S	**Sn**	**00 18 41.0**	**+0.1**								
	baz=229														
VWUC	**VWUC**	**1.75**	**305**	⇓*e*P	**Pn**	**00 18 19.2**	**-1.5**								
	baz=306														
TWP	**Hsiaoliuchiu**	**1.75**	**201**	*e*P	**Pb**	**00 18 22.1**	**-0.7**								
	baz=199														
SLIU	**Shizi**	**1.79**	**187**	⇑*e*P	**Pn**	**00 18 22.1**	**+0.8**								
	baz=202														
JYNG	**Yonagunijimaku**	**1.80**	**75**	P	**Pb**	**00 18 22.6**	**-1.0**								
JYNG				*e*S	**Sg**	**00 18 48.1**	**-0.6**								
JYNG	**Yonagunijimaku**	**1.80**	**75**	A	A	00 18 22.6									
	comp=E,8.0nm,3.7s,comp=N,9.0nm,3.3s														
YOJ	**Yonaguni jima**	**1.86**	**75**	P	**Pb**	**00 18 23.4**	**-1.2**								
YOJ	**Yonaguni jima**	**1.86**	**75**		**Pn**	**00 18 23.1**	**+0.7**								
YOJ	**Yonaguni jima**	**1.86**	**75**	*e*P	**Pn**	**00 18 23.0**	**+0.7**								
	baz=88														
YOJ	**Yonaguni jima**	**1.86**	**75**	*e*P	**Pb**	**00 18 24.5**	**-0.1**								
YOJ	**Yonaguni jima**	**1.86**	**75**	A	A	00 18 24.5									
	comp=E,8.0nm,3.9s,comp=N,10.0nm,9.0s														
PCYT	**Pengchaiyu**	**1.88**	**30**	*e*P	**Pb**	**00 18 23.6**	**-1.3**								
	baz=32														
SMST	**Manzhou Townsh**	**1.98**	**185**	*e*P	**Pn**	**00 18 24.6**	**+0.7**								
	baz=202														
HEN	**Hengchun**	**2.00**	**188**	*e*P	**Pb**	**00 18 25.8**	**-1.1**								
	baz=187														
LAY	**Lan-yu**	**2.01**	**166**	*e*P	**Pn**	**00 18 24.5**	**+0.2**								
	baz=153														
PTMZ	**Houxiangcun**	**2.03**	**301**	⇓*e*P	**Pn**	**00 18 23.2**	**-1.4**								
	baz=302														
LYUB	**Lan-yu**	**2.05**	**166**	*e*P	**Pn**	**00 18 23.9**	**-1.0**								
	baz=154														
TWK1	**Hengchun**	**2.05**	**186**	⇑P	**Pn**	**00 18 26.0**	**+1.0**								
	baz=200														
TWKBT	**Hengchun**	**2.06**	**186**	⇑P	**Pn**	**00 18 25.8**	**+0.9**								
	baz=200														
MATB	**Ma-tsu**	**2.36**	**336**	⇓*e*P	**Pn**	**00 18 27.8**	**-1.4**								
	baz=338														
MSUT	**Lienchiang**	**2.39**	**335**	*e*P	**Pn**	**00 18 28.5**	**-1.1**								
	baz=338														
KNM	**Kinmen**	**2.41**	**281**	*e*P	**Pn**	**00 18 30.4**	**+0.6**								
	baz=278														
QZH	**Quanzhou**	**2.42**	**293**	⇓*i*Pn	**Pn**	**00 18 28.3**	**-1.6**								
QZH				Sn	**Sn**	**00 18 56.8**	**-2.6**								
QZH				smax	smax										
	comp=N,6μm,1.4s														
QZH				smax	smax										
	comp=N,6μm,0.9s														
KNMB	**Chin-men Tao**	**2.46**	**281**	Pn	**Pn**	**00 18 29.2**	**-1.3**								
KNMB	**Chin-men Tao**	**2.46**	**281**	⇓*e*P	**Pn**	**00 18 29.2**	**-1.3**								
	baz=279														
IRIF	**Iriomote-Funau**	**2.49**	**82**	P	**Pb**	**00 18 33.2**	**-2.1**								
HATJ	**Hateruma jima**	**2.54**	**88**	*e*S	**Sn**	**00 19 03.9**	**+1.

CD2	**Chengdu**	**16.80**	**298**		P	**P**	**00 21 49.3**	**+1.3**
CD2					S	**S**	**00 24 59.5**	**-3.7**
CD2					pmax	pmax		
	comp=Z,80nm,1.0s							
CD2					pmax	pmax		
	comp=Z,130nm,3.7s							
CD2					LR	LR		
	comp=Z,5µm,7.1s							
CD2					LR	LR		
	comp=Z,5µm,9.0s							
CD2					LR	LR		
	comp=Z,6µm,10.6s							
DAV	**Davao City (W)**	**17.39**	**165**		LR	LR	00 28 30.2	
	comp=Z,819nm,21.3s,baz=348,slow=37							
PZH	**PanZhiHua**	**17.63**	**282**		P	**P**	**00 21 59.5**	**+2.3**
PZH					S	**Sn**	**00 25 13.8**	**+1.1**
PZH					pmax	pmax		
	comp=Z,10.0nm,0.5s							
PZH					pmax	pmax		
	comp=Z,190nm,7.7s							
PZH					LR	LR		
	comp=Z,2µm,13.9s							
PZH					LR	LR		
	comp=Z,2µm,11.6s							
PZH					LR	LR		
	comp=Z,2µm,11.9s							
SNY	**Shenyang**	**17.91**	**6**	⇑	P	**P**	**00 22 02.8**	**+2.7**
SNY					S	**Sn**	**00 25 20.8**	**+1.8**
SNY					SS	**SnSn**	**00 25 35.3**	**+2.4**
SNY					pmax	pmax		
	comp=Z,5.0nm,0.5s							
SNY					LR	LR		
	comp=Z,1µm,11.6s							
SNY					LR	LR		
	comp=Z,590nm,9.0s							
SNY					LR	LR		
	comp=Z,2µm,12.3s							
KKM	**Kota Kinabalu**	**18.44**	**195**		P	**P**	**00 22 05.7**	**-0.5**
HHC	**Hu-ho-hao-te**	**18.59**	**337**	*e*	P	**Pn**	**00 22 10.3**	**+2.4**
HHC					pP	sP	00 22 15.5	+2.3
HHC					pmax	pmax		
	comp=Z,22nm,1.3s							
HHC					pmax	pmax		
	comp=Z,580nm,3.7s							
HHC					LR	LR		
	comp=Z,2µm,12.8s							
HHC					LR	LR		
	comp=Z,1µm,11.3s							
HHC					LR	LR		
	comp=Z,2µm,14.8s							
JHJ	**Hachijo jima 2**	**18.79**	**57**		LR	LR	00 29 28.8	
	comp=Z,414nm,20.2s,baz=109,slow=37							
BTO	**Baotou**	**18.97**	**333**	*e*	P	**Pn**	**00 22 17.0**	**+4.4**
BTO					pP	**sP**	**00 22 20.8**	**+3.4**
BTO					sP	pP	00 22 23.8	+8.3
BTO					pmax	pmax		
	comp=Z,36nm,2.1s							
BTO					pmax	pmax		
	comp=Z,1µm,6.7s							
BTO					LR	LR		
	comp=Z,6µm,15.2s							
BTO					LR	LR		
	comp=Z,10µm,15.1s							
BTO					LR	LR		
	comp=Z,13µm,12.9s							
LZH	**Lanzhou**	**19.11**	**313**	⇓	P	**Pn**	**00 22 15.5**	**+1.1**
LZH					pP	sP	00 22 22.0	+2.9
LZH					SS	S	00 26 06.5	+16
LZH					pmax	pmax		
	comp=Z,46nm,1.5s							
LZH					pmax	pmax		
	comp=Z,240nm,4.8s							
LZH					LR	LR		
	comp=Z,2µm,11.0s							
LZH					LR	LR		
	comp=Z,4µm,10.3s							
LZH					LR	LR		
	comp=Z,5µm,11.0s							
JCJ	**Chichijima**	**19.33**	**76**		P	**P**	**00 22 14.2**	**-1.7**
	comp=Z,3.3nm,0.3s,baz=282,slow=20,SNR=1.4							
JCJ					LR	LR	00 28 57.8	
	comp=Z,449nm,21.6s,baz=188,slow=35							
	comp=Z,41nm,0.8s							
MJAR	**Matsushiro Arr**	**19.36**	**46**		P	**Pn**	**00 22 16.7**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=224,slow=6.3,SNR=1.4							
	comp=Z,0.8nm,0.3s							
CRAI	**Chiangrai**	**19.50**	**263**		P	**P**	**00 22 17.2**	**-0.6**
PHRA	**Phrae**	**20.14**	**258**		P	**P**	**00 22 24.2**	**-0.5**
PHRA					IAmb	IAmb	00 22 39.0	
	comp=Z,119nm,1.3s							
XLT	**XiLinHaoTe**	**20.27**	**350**	*e*	P	Pn	00 22 27.5	-0.5
XLT					PP	**PnPn**	**00 22 44.3**	**+1.5**
XLT					S	**S**	**00 26 12.8**	**-0.3**
XLT					sS	Sn	00 26 17.0	+0.9
XLT					SS	**SnSn**	**00 26 39.3**	**+8.4**
XLT					pmax	pmax		
	comp=Z,22nm,1.3s							
XLT					pmax	pmax		
	comp=Z,270nm,4.1s							
XLT					LR	LR		
	comp=Z,170nm,12.9s							
XLT					LR	LR		
	comp=Z,570nm,11.8s							
XLT					LR	LR		
	comp=Z,2µm,13.2s							
TNCH	**TengChong**	**20.51**	**278**	⇓	P	Pn	00 22 30.5	-0.6
TNCH					sP	sP	00 22 34.5	0.0
TNCH					S	**S**	**00 26 13.3**	**-5.2**
TNCH					sS	Sn	00 26 18.8	-3.6
TNCH					pmax	pmax		
	comp=Z,400nm,2.2s							
TNCH					LR	LR		
	comp=Z,1µm,8.9s							
TNCH					LR	LR		
	comp=Z,2µm,8.3s							
TNCH					LR	LR		
	comp=Z,3µm,9.5s							
CM31	**Chiang Mai Arr**	**21.30**	**259**		P	**P**	**00 22 36.5**	**-0.8**
CMAR	**Chiang Mai Arr**	**21.30**	**259**		P	**P**	**00 22 37.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**21.30**	**259**		P	**P**	**00 22 35.7**	**-1.7**
	comp=Z,1.4nm,0.3s,baz=68,slow=8.7,SNR=9.2							
CMAR					LR	LR	00 32 12.4	
	comp=Z,496nm,18.4s,baz=95,slow=40							
	comp=Z,1.4nm,0.3s							
MDJ	**Mudanjiang**	**21.73**	**17**		P	**P**	**00 22 42.5**	**+0.9**
MDJ					PP	**PnPn**	**00 23 03.3**	**+0.6**
MDJ					S	**S**	**00 26 44.0**	**+2.2**
MDJ					sS	Sn	00 26 50.0	-1.0
MDJ					SS	**SnSn**	**00 27 09.0**	**+2.5**
MDJ					ScP	**ScP**	**00 30 21.0**	**+1.7**
MDJ					ScS	**ScS**	**00 34 04.0**	**+0.4**
MDJ					pmax	pmax		
	comp=Z,6.0nm,0.8s							
MDJ					pmax	pmax		
	comp=Z,280nm,4.5s							
MDJ					LR	LR		
	comp=Z,2µm,15.5s							
MDJ					LR	LR		
	comp=Z,1µm,14.1s							
MDJ					LR	LR		
	comp=Z,3µm,15.8s							
USRK	**Ussuriysk Ar.**	**22.06**	**21**		P	**P**	**00 22 45.1**	**-0.2**
USRK	**Ussuriysk Ar.**	**22.06**	**21**		P	**P**	**00 22 44.9**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=203,slow=9.4,SNR=2.9							
USRK					LR	LR	00 31 16.5	
	comp=Z,298nm,18.4s,baz=200,slow=37							
	comp=Z,1.8nm,0.7s							
BNX	**BinXian**	**22.30**	**12**	⇓	P	**P**	**00 22 48.5**	**+0.7**
BNX					pP	**sP**	**00 22 52.0**	**-1.3**
BNX					S	**S**	**00 26 56.0**	**+3.2**
BNX					pmax	pmax		
	comp=Z,12nm,1.7s							
BNX					pmax	pmax		
	comp=Z,220nm,8.1s							
BNX					LR	LR		
	comp=Z,1µm,14.9s							
BNX					LR	LR		
	comp=Z,480nm,11.4s							
BNX					LR	LR		
	comp=Z,1µm,15.3s							
TOLI2	**Tolitoli**	**22.75**	**181**		P	**P**	**00 22 51.6**	**-1.2**
TOLI2					IAmb	IAmb	00 22 55.4	
	comp=Z,15nm,0.7s							
GTOI	**Gorontalo**	**23.30**	**175**		P	**P**	**00 22 56.7**	**-1.8**
	comp=Z,15nm,0.7s							
GTA	**Gaotai**	**23.62**	**316**		P	**P**	**00 23 02.0**	**+0.3**
GTA					sP	sP	00 23 09.0	+1.6
GTA					sS	sS	00 27 21.8	-0.8
GTA					pmax	pmax		
	comp=Z,10.0nm,1.6s							
GTA					pmax	pmax		
	comp=Z,170nm,4.0s							
GTA					LR	LR		
	comp=Z,920nm,14.5s							
GTA					LR	LR		
	comp=Z,2µm,13.5s							
GTA					LR	LR		
	comp=Z,3µm,14.2s							
KSM	**Kuching**	**24.68**	**206**		P	**P**	**00 23 10.8**	**-0.7**
KSM					IAmb	IAmb	00 23 36.0	
	comp=Z,25nm,1.3s							
GUMO	**Guam**	**24.79**	**110**		LR	LR	00 32 13.3	
	comp=Z,185nm,19.1s,baz=85,slow=35							
LUWI	**Luwuk**	**24.95**	**176**		P	**P**	**00 23 13.5**	**-0.5**
HIA	**Hailar**	**25.24**	**358**		P	**P**	**00 23 15.4**	**-1.0**
BKB	**Balikpapan**	**25.43**	**190**		P	**P**	**00 23 19.2**	**+0.9**
	comp=Z,107nm,0.7s							
GOMU	**GeErMu**	**25.65**	**304**		P	**P**	**00 23 23.3**	**+2.6**
GOMU					pP	sP	00 23 27.5	+1.1
GOMU					sP	pP	00 23 28.8	+4.2
GOMU					pmax	pmax		
	comp=Z,16nm,1.4s							
GOMU					LR	LR		
	comp=Z,1µm,12.8s							
GOMU					LR	LR		
	comp=Z,650nm,12.7s							
GOMU					LR	LR		
	comp=Z,860nm,12.6s							
ULN	**Ulaanbaatar**	**26.29**	**338**		P	**P**	**00 23 25.7**	**-0.4**
ULN					IAmb	IAmb	00 23 29.2	
	comp=Z,36nm,1.4s							
SANI	**Sanana**	**26.33**	**169**		P	**P**	**00 23 28.0**	**+1.5**
	comp=Z,13nm,0.8s							
SONM	**Songino Array**	**26.49**	**338**		P	**P**	**00 23 27.8**	**-0.1**
SONM					IAmb	IAmb	00 23 29.8	
	comp=Z,30nm,1.5s							
SONM	**Songino Array**	**26.49**	**338**		P	**P**	**00 23 27.7**	**-0.1**
	comp=Z,6.2nm,1.0s,baz=156,slow=9.6,SNR=36							
SONM					LR	LR	00 35 14.0	
	comp=Z,2µm,18.1s,baz=182,slow=39							
	comp=Z,6.2nm,1.0s							
KLR	**Kul'dur**	**26.56**	**16**		P	**P**	**00 23 28.6**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=217,slow=5.2,SNR=6.4							
KLR					LR	LR	00 34 48.3	
	comp=Z,851nm,19.6s,baz=206,slow=38							
	comp=Z,1.4nm,0.5s							
HEH	**HeiHe**	**26.68**	**9**	*e*	P	**P**	**00 23 31.8**	**+2.5**
HEH					pP	**sP**	**00 23 34.5**	**-0.6**
HEH					S	**S**	**00 28 09.5**	**+5.2**
HEH					SS	**SnSn**	**00 29 15.8**	**+8.3**
HEH					pmax	pmax		
	comp=Z,12nm,1.0s							
HEH					pmax	pmax		
	comp=Z,250nm,4.7s							
HEH					LR	LR		
	comp=Z,2µm,12.2s							
HEH					LR	LR		
	comp=Z,710nm,12.2s							
HEH					LR	LR		
	comp=Z,3µm,12.7s							
ASAJ	**Asahikawa**	**26.73**	**36**		LR	LR	00 34 35.6	
	comp=Z,456nm,19.2s,baz=106,slow=38							
LSA	**Lhasa**	**27.21**	**289**		P	**P**	**00 23 34.6**	**-0.4**
NLAI	**Namlea**	**27.71**	**167**		P	**P**	**00 23 40.7**	**+1.8**
	comp=Z,31nm,0.8s							
EDFI	**Ende, Flores**	**32.55**	**179**		P	**P**	**00 24 20.7**	**-1.2**
	comp=Z,29nm,0.8s							
TWSI	**Taliwang, Sumb**	**32.79**	**188**		P	**P**	**00 24 25.1**	**+1.3**
	comp=Z,17nm,0.7s							
KPJI	**Karang Pucung**	**33.30**	**202**		P	**P**	**00 24 27.8**	**-0.5**
	comp=Z,27nm,1.4s							
LEM	**Lembang**	**33.32**	**205**		LR	LR	00 38 28.8	
	comp=Z,77nm,19.4s,baz=66,slow=37							
WMQ	**Urumqi**	**33.69**	**314**	*e*	P	**P**	**00 24 33.5**	**+1.9**
WMQ					pmax	pmax		
	comp=Z,15nm,1.5s							
WMQ					LR	LR		
	comp=Z,910nm,16.5s							
WMQ					LR	LR		
	comp=Z,1µm,14.1s							
WMQ					LR	LR		
	comp=Z,400nm,14.1s							
BATI	**Baumata**	**34.09**	**175**		P	**P**	**00 24 35.0**	**-0.2**
	comp=Z,47nm,0.8s,baz=288,slow=3.2,SNR=2.1							
BATI					LR	LR	00 39 49.4	
	comp=Z,221nm,21.6s,baz=336,slow=39							
MK31	**Makanchi Array**	**38.38**	**316**		P	**P**	**00 25 11.9**	**+0.3**
MKAR	**Makanchi Array**	**38.38**	**316**		P	**P**	**00 25 12.2**	**+0.5**
MKAR	**Makanchi Array**	**38.38**	**316**		P	**P**	**00 25 11.9**	**+0.3**
	comp=Z,8.3nm,0.7s,baz=106,slow=8.2,SNR=82							
MKAR					LR	LR	00 42 48.3	
	comp=Z,329nm,21.2s,baz=100,slow=39							
	comp=Z,8.3nm,0.7s							
YAK	**Yakutsk**	**38.47**	**7**		LR	LR	00 42 40.8	
	comp=Z,567nm,19.8s,baz=186,slow=39							
MAKZ	**Makanchi**	**38.58**	**316**		P	**P**	**00 25 13.6**	**+0.3**
MAKZ					IAmb	IAmb	00 25 15.8	
	comp=Z,94nm,2.0s							
TARG	**Taragay, Kyrgy**	**39.92**	**307**		P	**P**	**00 25 25.2**	**+0.1**
ZAA0	**Zalesovo Array**	**40.33**	**327**		P	**P**	**00 25 27.6**	**-0.2**
ZAA0					IAmb	IAmb	00 25 28.9	
	comp=Z,15nm,0.8s							
ZALV	**Zalesovo Beam**	**40.33**	**327**		P	**P**	**00 25 27.2**	**-0.5**
ZALV	**Zalesovo Beam**	**40.33**	**327**		P	**P**	**00 25 27.5**	**-0.3**
	comp=Z,11nm,0.7s,baz=113,slow=8.2,SNR=59							
ZALV					LR	LR	00 43 15.8	
	comp=Z,502nm,18.3s,baz=122,slow=38							
	comp=Z,11nm,0.7s							
KSH	**Kashi**	**40.88**	**303**		P	**P**	**00 25 36.5**	**+3.7**
KSH					pP	sP	00 25 42.0	+3.4
KSH					pmax	pmax		
	comp=Z,11nm,1.7s							
KSH					LR	LR		
	comp=Z,1µm,12.0s							
KSH					LR	LR		
	comp=Z,800nm,13.9s							
KSH					LR	LR		
	comp=Z,1µm,13.7s							
NRN	**Naryn**	**41.18**	**306**		P	**P**	**00 25 36.2**	**+0.7**
NRN					IAmb	IAmb	00 25 38.3	
	comp=Z,38nm,1.6s							
PMG	**Port Moresby**	**41.88**	**139**		LR	LR	00 42 58.1	
	comp=Z,188nm,18.6s,baz=282,slow=36							
PALK	**Pallekele**	**42.05**	**253**		LR	LR	00 43 49.7	
	comp=Z,196nm,20.7s,baz=162,slow=37							
KURK	**Kurchatov**	**42.15**	**320**		P	**P**	**00 25 42.9**	**+0.1**
KURK					IAmb	IAmb	00 25 44.9	
	comp=Z,67nm,1.8s							
KURBB	**Kurchatov Arra**	**42.16**	**320**		P	**P**	**00 25 43.0**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=119,slow=7.6,SNR=41							
	comp=Z,2.6nm,0.6s							
AAK	**Ala-Archa**	**42.51**	**308**		P	**P**	**00 25 46.3**	**+0.2**
AAK	**Ala-Archa**	**42.51**	**308**		LR	LR	00 46 02.1	
	comp=Z,268nm,18.7s,baz=95,slow=40							
NIL	**Nilore**	**42.63**	**294**		P	**P**	**00 25 46.9**	**-0.2**
NIL					IAmb	IAmb	00 26 20.8	
	comp=Z,9.7nm,0.4s							
H11N1	**WAKE ISLAND Hy**	**42.64**	**87**		T	T	01 10 59.4	
	baz=283,slow=75,SNR=7.4							
H11N2	**WAKE ISLAND Hy**	**42.64**	**86**		T	T	01 11 03.9	
	baz=283,slow=75,SNR=11							
H11N3	**WAKE ISLAND Hy**	**42.65**	**86**		T	T	01 11 00.7	
	baz=283,slow=75,SNR=10							
H11S3	**WAKE ISLAND Hy**	**42.76**	**88**		T	T	01 11 38.8	
	baz=284,slow=74							
H11S1	**WAKE ISLAND Hy**	**42.77**	**88**		T	T	01 11 34.1	
	baz=284							
H11S2	**WAKE ISLAND Hy**	**42.78**	**88**		T	T	01 11 45.6	
	baz=284,slow=74							
ARSB	**Arslanbob**	**43.41**	**305**		P	**P**	**00 25 53.9**	**+0.5**
DRK	**Karamyk**	**44.09**	**303**		P	**P**	**00 25 59.9**	**+0.9**
BTK	**Batken**	**44.89**	**303**		P	**P**	**00 26 05.5**	**+0.2**
BTK					IAmb	IAmb	00 26 08.7	
	comp=Z,44nm,2.0s							
MBWA	**Marble Bar**	**44.90**	**182**		P	**P**	**00 26 03.8**	**-1.4**
PSA00	**Pilbara Seismi**	**45.31**	**182**		P	**P**	**00 26 06.7**	**-1.8**
PSA00					IAmb	IAmb	00 26 19.6	
	comp=Z,7.6nm,0.8s							
KK31	**Karatay Array**	**45.47**	**308**		P	**P**	**00 26 10.1**	**+0.4**
KK31					IAmb	IAmb	00 26 12.0	
	comp=Z,27nm,1.9s							
KKAR	**Karatay Array**	**45.47**	**308**		P	**P**	**00 26 10.2**	**+0.4**
KKAR					IAmb	IAmb	00 26 12.0	
	comp=Z,26nm,1.9s							
WRA	**Warramunga Arr**	**45.56**	**162**		P	**P**	**00 26 08.4**	**-2.1**
	comp=Z,1.4nm,0.5s,baz=343,slow=8.7,SNR=17							
	comp=Z,1.4nm,0.5s							
WR0	**Warramunga Arr**	**45.63**	**162**		P	**P**	**00 26 09.4**	**-1.7**
WR0					IAmb	IAmb	00 26 11.4	
	comp=Z,38nm,2.0s							
KBL	**Kabul**	**46.12**	**296**		P	**P**	**00 26 15.4**	**+0.3**
KBL					IAmb	IAmb	00 26 17.8	
	comp=Z,14nm,1.1s							
SIMJ	**Simiganj**	**46.20**	**301**		P	**P**	**00 26 15.4**	**-0.3**
SIMJ					IAmb	IAmb	00 26 30.3	
	comp=Z,14nm,1.6s							
BVAR	**Borovoye Array**	**47.73**	**321**		P	**P**	**00 26 27.4**	**+0.2**
	comp=Z,5.4nm,0.7s,baz=105,slow=8.9,SNR=24							
	comp=Z,5.4nm,0.7s							
BRVK	**Borovoye**	**47.80**	**321**		P	**P**	**00 26 27.8**	**0.0**
BRVK					IAmb	IAmb	00 26 29.3	
	comp=Z,11nm,0.9s							
TIXI	**Tiksi**	**47.89**	**3**		P	**P**	**00 26 27.0**	**-1.1**
TIXI	**Tiksi**	**47.89**	**3**		P	**P**	**00 26 27.1**	**-1.0**
	comp=Z,2.1nm,0.6s,baz=195,slow=6.1,SNR=11							
TIXI					LR	LR	00 48 13.7	
	comp=Z,445nm,19.4s,baz=200,slow=38							
	comp=Z,2.1nm,0.6s							
ASAR	**Alice Springs**	**49.00**	**164**		P	**P**	**00 26 37.1**	**-0.2**
ASAR	**Alice Springs**	**49.00**	**164**		P	**P**	**00 26 36.0**	**-1.4**
	comp=Z,2.3nm,0.8s,baz=339,slow=6.8,SNR=16							
ASAR					LR	LR	00 48 25.9	
	comp=Z,56nm,18.2s,baz=352,slow=38							
	comp=Z,2.3nm,0.8s							
NRIK	**Noril'sk**	**49.55**	**345**		P	**P**	**00 26 40.5**	**-0.4**
NRIK					IAmb	IAmb	00 27 03.9	
	comp=Z,11nm,1.2s							
NRIK	**Noril'sk**	**49.55**	**345**		P	**P**	**00 26 40.4**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=127,slow=7.7,SNR=6.6							
NRIK					LR	LR	00 49 17.6	
	comp=Z,214nm,18.3s,baz=146,slow=38							
	comp=Z,1.7nm,0.5s							
CTA	**Charters Tower**	**50.24**	**149**		P	**P**	**00 26 45.7**	**-1.1**
	comp=Z,4.8nm,0.7s,baz=304,slow=0.0,SNR=1.8							
CTA					LR	LR	00 45 44.9	
	comp=Z,217nm,21.9s,baz=54,slow=33							
	comp=Z,4.8nm,0.7s							
HNR	**Honiara**	**50.48**	**127**		LR	LR	00 46 43.9	
	comp=Z,1µm,19.8s,baz=316,slow=34							
HRA	**Herat**	**51.73**	**296**		P	**P**	**00 26 58.7**	**+0.4**
HRA					IAmb	IAmb	00 27 00.6	
	comp=Z,28nm,1.9s							
ABKAR	**Akbulak array**	**53.47**	**314**		P	**P**	**00 27 11.2**	**+0.6**
ABKAR	**Akbulak array**	**53.47**	**314**		P	**P**	**00 27 10.7**	**0.0**
ABKAR					IAmb	IAmb	00 27 13.2	
	comp=Z,47nm,1.9s							
GEYT	**Alibeck**	**54.77**	**300**		P	**P**	**00 27 21.1**	**+0.7**
GEYT	**Alibeck**	**54.77**	**300**		P	**P**	**00 27 21.2**	**+0.8**
	comp=Z,4.0nm,0.8s,baz=68,slow=8.0,SNR=12							
	comp=Z,4.0nm,0.8s							
GYA0B	**ALIBECK ARRAY**	**54.77**	**300**		P	**P**	**00 27 20.9**	**+0.5**
AKTO	**Aktyubinsk**	**54.81**	**316**		LR	LR	00 52 24.8	
	comp=Z,478nm,18.4s,baz=110,slow=38							
FORT	**Forrest**	**54.88**	**173**		P	**P**	**00 27 20.3**	**-0.7**
FORT					IAmb	IAmb	00 27 43.9	
	comp=Z,14nm,1.0s							
ARU	**Arti**	**55.17**	**323**		P	**P**	**00 27 22.6**	**-0.2**
ARU	**Arti**	**55.17**	**323**		LR	LR	00 51 42.0	
	comp=Z,259nm,19.3s,baz=86,slow=37							
NWAO	**Narrogin (SRO)**	**56.72**	**184**		LR	LR	00 55 42.9	
	comp=Z,60nm,18.1s,baz=216,slow=40							
BBOO	**Buckleboo**	**58.28**	**165**		P	**P**	**00 27 44.6**	**-0.6**
STKA	**Stephens Creek**	**58.94**	**160**		P	**P**	**00 27 48.4**	**-1.4**
STKA	**Stephens Creek**	**58.94**	**160**		P	**P**	**00 27 47.3**	**-2.5**
	comp=Z,1.9nm,0.6s,baz=294,slow=12,SNR=2.0							
STKA					LR	LR	00 54 46.3	
	comp=Z,73nm,20.0s,baz=14,slow=38							
	comp=Z,1.9nm,0.6s							
KIRV	**Kirov**	**60.29**	**325**		LR	LR	00 56 42.7	
	comp=Z,321nm,18.6s,baz=93,slow=39							
BELG	**Belogornoye**	**61.34**	**318**		LR	LR	00 58 31.7	
	comp=Z,138nm,19.3s,baz=184,slow=40							
C16K	**Lisburne Hills**	**61.88**	**24**		P	**P**	**00 28 08.8**	**-0.7**
DZM	**Mont Dzumac**	**63.61**	**132**		LR	LR	00 53 23.1	
	comp=Z,109nm,19.4s,baz=240,slow=34							
GNI	**Garni**	**64.80**	**305**		P	**P**	**00 28 30.5**	**+1.0**
ONI	**Oni**	**65.30**	**307**		P	**P**	**00 28 32.7**	**+0.1**
KBZ	**Khabaz**	**65.49**	**309**		P	**P**	**00 28 33.8**	**+0.1**
	comp=Z,3.1nm,0.7s,baz=94,slow=5.3,SNR=9.5							
	comp=Z,3.1nm,0.7s							
KIV	**Kislovodsk**	**65.60**	**309**	⇓	P	**P**	**00 28 35.8**	**+1.2**
KIV	**Kislovodsk**	**65.60**	**309**		P	**P**	**00 28 34.8**	**+0.3**
H21K	**Melozitna Rive**	**66.83**	**27**		P	**P**	**00 28 42.5**	**+0.5**
H21K					IAmb	IAmb	00 28 44.1	
	comp=Z,3.4nm,0.6s							
GURO	**Guroymak-BITLI**	**67.18**	**303**		P	**P**	**00 28 45.3**	**+0.4**
GURO					IAmb	IAmb	00 28 49.2	
	comp=Z,17nm,1.6s							
OBN	**Obninsk**	**67.56**	**322**		LR	LR	01 01 24.5	
	comp=Z,232nm,18.1s,baz=3,slow=39							
RAYN	**Ar Rayn**	**68.27**	**287**		P	**P**	**00 28 51.3**	**-0.5**
RAYN					IAmb	IAmb	00 28 57.5	
	comp=Z,9.6nm,1.4s							
SUA	**Susitna One**	**68.39**	**31**		P	**P**	**00 28 51.6**	**-0.4**
SUA					IAmb	IAmb	00 28 53.6	
	comp=Z,7.7nm,1.0s							
MDM	**Murphy Dome**	**68.84**	**27**		P	**P**	**00 28 54.7**	**0.0**
MDM					IAmb	IAmb	00 29 33.2	
	comp=Z,8.7nm,1.2s							
RND	**Reindeer**	**68.88**	**29**		P	**P**	**00 28 54.2**	**-0.8**
RND					IAmb	IAmb	00 28 56.3	
	comp=Z,9.0nm,1.2s							
ILAR	**Eielson Array**	**69.44**	**27**		P	**P**	**00 28 57.2**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=274,slow=4.9,SNR=2.7							
ILAR					LR	LR	01 02 36.3	
	comp=Z,103nm,18.8s,baz=80,slow=39							
	comp=Z,0.4nm,0.7s							
KNK	**Knik Glacier**	**69.47**	**31**		P	**P**	**00 28 57.8**	**-0.9**
KNK					IAmb	IAmb	00 29 59.0	
	comp=Z,17nm,1.4s							
SPB1	**Spitsbergen Ar**	**69.63**	**348**		P	**P**	**00 28 59.4**	**0.0**
SPITS	**Spitsbergen Ar**	**69.64**	**348**		P	**P**	**00 28 59.5**	**+0.1**
	comp=Z,7.9nm,0.9s,baz=84,slow=8.5,SNR=11							
SPITS					LR	LR	01 04 18.2	
	comp=Z,351nm,18.2s,baz=27,slow=40							
	comp=Z,7.9nm,0.9s							
ARCES	**ARCESS Array B**	**69.66**	**338**		P	**P**	**00 28 59.8**	**+0.2**
ARCES	**ARCESS Array B**	**69.66**	**338**		P	**P**	**00 28 59.2**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=73,slow=7.7,SNR=13							
ARCES					LR	LR	01 04 37.2	
	comp=Z,167nm,19.0s,baz=80,slow=40							
	comp=Z,2.8nm,0.7s							
BMAR	**Burnt Mountain**	**

NOA	**NORSAR Array B**	**78.33**	**332**	P	**P**	**00 29 49.6**	**-0.9**
	comp=Z,3.0nm,0.8s,baz=59,slow=5.5,SNR=14						
NOA				LR	LR	01 06 49.3	
	comp=Z,299nm,20.6s,baz=60,slow=38						
	comp=Z,3.0nm,0.8s						
NEEM	**North Greenlan**	**78.67**	**358**	*i* P	**P**	**00 29 51.6**	**-0.9**
OJC	**Ojcow**	**78.73**	**320**	P	**P**	**00 29 52.3**	**-0.6**
OJC				IAmb	IAmb	00 29 56.0	
	comp=Z,21nm,1.5s						
RES	**Resolute Bay**	**78.87**	**9**	LR	LR	01 06 40.0	
	comp=Z,111nm,21.8s,baz=12,slow=37						
JMIC	**Jan Mayen**	**78.97**	**345**	LR	LR	01 08 39.7	
	comp=Z,170nm,18.1s,baz=18,slow=39						
DLBC	**Dease Lake**	**79.18**	**30**	LR	LR	01 04 54.9	
	comp=Z,56nm,21.9s,baz=98,slow=36						
VYHS	**Vyhne**	**80.01**	**319**	*e*P	**P**	**00 30 01.0**	**+1.0**
VRAC	**Vranov**	**81.00**	**320**	LR	LR	01 10 35.1	
	comp=Z,150nm,18.0s,baz=56,slow=39						
URZ	**Urewera**	**81.23**	**139**	LR	LR	01 03 58.9	
	comp=Z,71nm,19.8s,baz=120,slow=34						
CLL	**Collm**	**82.12**	**323**	*e*P	**P**	**00 30 11.0**	**-0.1**
SUMG	**Summit**	**82.67**	**354**	P	**P**	**00 30 14.4**	**+0.3**
SUMG				IAmb	IAmb	00 31 09.2	
	comp=Z,12nm,1.6s						
SUMG	**Summit**	**82.67**	**354**	*i* P	**P**	**00 30 15.0**	**+0.9**
KHC	**Kasperske Hory**	**82.83**	**321**	*e*P	**P**	**00 30 15.0**	**+0.1**
GERES	**GERESS Array B**	**82.90**	**321**	P	**P**	**00 30 15.1**	**-0.3**
GERES	**GERESS Array B**	**82.90**	**321**	P	**P**	**00 30 15.9**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=38,slow=10.0,SNR=3.0						
GERES				LR	LR	01 12 10.4	
	comp=Z,147nm,18.5s,baz=76,slow=39						
	comp=Z,1.6nm,0.8s						
YKA	**Yellowknife Ar**	**83.19**	**23**	P	**P**	**00 30 14.9**	**-1.6**
	comp=Z,0.6nm,0.8s,baz=318,slow=4.9,SNR=10						
YKA				LR	LR	01 12 14.8	
	comp=Z,134nm,18.9s,baz=321,slow=39						
	comp=Z,0.6nm,0.8s						
LESA	**Schwarzleotal**	**84.19**	**320**	*e*P	**P**	**00 30 22.7**	**+0.7**
	comp=Z,1.6nm,0.6s						
ABTA	**Abfaltersbach**	**84.61**	**319**	*e*P	**P**	**00 30 24.0**	**-0.2**
	comp=Z,0.6nm,0.5s						
WTTA	**Wattenberg**	**84.88**	**320**	*e*P	**P**	**00 30 25.9**	**+0.3**
	comp=Z,1.8nm,0.6s						
SQTA	**Sankt Quirin**	**85.15**	**320**	*e*P	**P**	**00 30 27.3**	**+0.3**
	comp=Z,0.6nm,0.2s						
FUORN	**Ofenpass-Fuorn**	**86.02**	**320**	P	**P**	**00 30 31.1**	**-0.3**
FUORN				IAmb	IAmb	00 30 39.8	
	comp=Z,11nm,1.6s						
DAVOX	**Davos/Dischmat**	**86.16**	**320**	LR	LR	01 13 56.9	
	comp=Z,244nm,18.7s,baz=42,slow=39						
CEL	**Celeste**	**86.48**	**310**	P	**P**	**00 30 33.6**	**0.0**
BORG	**Borgarnes**	**86.87**	**345**	LR	LR	01 12 27.5	
	comp=Z,239nm,19.6s,baz=25,slow=38						
EKA	**Eskdalemuir Ar**	**87.81**	**332**	P	**P**	**00 30 39.6**	**0.0**
	comp=Z,1.3nm,0.8s,baz=56,slow=4.4,SNR=3.6						
	comp=Z,1.3nm,0.8s						
SFJD	**Kangerlussuaq**	**89.07**	**357**	LR	LR	01 14 33.3	
	comp=Z,68nm,18.0s,baz=358,slow=38						
FRB	**Frobisher Bay**	**92.23**	**4**	LR	LR	01 16 41.5	
	comp=Z,178nm,18.6s,baz=6.0,slow=38						
ESDC	**Sonseca Array**	**98.49**	**320**	LR	LR	01 21 24.1	
	comp=Z,117nm,18.5s,baz=32,slow=39						
ELIB	**Princess Elisa**	**114.98**	**200**	*d*PKiKP	PKPdf	00 36 30.9	0.0
LPAZ	**La Paz**	**168.48**	**50**	PKP	**PKPdf**	**00 37 59.1**	**+0.2**
	comp=Z,1.6nm,1.0s,baz=5.2,slow=8.9,SNR=3.5						

TAP **29** *00:24:17.5,24.00N×121.01E,h10km,ML3.8,B*

ISC 29 00:24:17.8±0.7,24°00N±0.01×121°01E±0.01,h12km±4km, n170,σ0=68/293,29C-14D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WPL	**Puli Township**	**0.05**	**280**	⇓P			**Pg**	**00 24 20.0**	**-0.1**
	baz=283								
WPL				*i* S			**Sg**	**00 24 21.4**	**-0.4**
	baz=283								
DPDB	**Guoxing**	**0.08**	**292**	⇑*i*P			**Pg**	**00 24 20.5**	**0.0**
	baz=293								
DPDB				*i* S			**Sg**	**00 24 22.2**	**-0.2**
	baz=293								
WUSB	**Renai**	**0.10**	**96**	⇓*i*P			**Pg**	**00 24 20.9**	**+0.1**
	baz=95								
WUSB				*i* S			**Sg**	**00 24 22.8**	**-0.1**
	baz=95								
WCS	**Beigang Elemen**	**0.10**	**301**	⇑*i*P			**Pg**	**00 24 20.7**	**0.0**
	baz=302								
WCS				*e*S			**Sg**	**00 24 22.5**	**-0.3**
	baz=302								
SMLT	**Sun Moon Lake**	**0.16**	**220**	⇓*i*P			**Pg**	**00 24 21.5**	**0.0**
	baz=217								
SMLT				*i* S			**Sg**	**00 24 24.3**	**+0.2**
	baz=217								
OWD	**Renai**	**0.16**	**108**	⇓P			**Pg**	**00 24 21.9**	**+0.3**
	baz=107								
OWD				S			**Sg**	**00 24 24.7**	**+0.5**
	baz=107								
CHGB	**Renai**	**0.16**	**69**	⇑*i*P			**Pg**	**00 24 21.8**	**+0.2**
	baz=69								
CHGB				*i* S			**Sg**	**00 24 24.4**	**0.0**
	baz=69								
TYC	**Yuchr**	**0.17**	**235**	⇑P			**Pg**	**00 24 21.6**	**0.0**
	baz=233								
TYC				*e*S			**Sg**	**00 24 24.3**	**0.0**
	baz=233								
SSLB	**Suanglung**	**0.22**	**193**	P			**Pg**	**00 24 22.2**	**-0.4**
SSLB	**Suanglung**	**0.22**	**193**	P			**Pg**	**00 24 22.0**	**-0.5**
SSLB	**Suanglung**	**0.22**	**193**	⇓*i*P			**Pg**	**00 24 22.1**	**-0.4**
	baz=187								
SSLB				*e*S			**Sg**	**00 24 25.3**	**-0.4**
	baz=187								
WHF	**Hehuan Shan**	**0.27**	**59**	⇑P			**Pb**	**00 24 24.1**	**-0.8**
	baz=60								
WHF				S			**Sg**	**00 24 27.9**	**+0.4**
	baz=60								
VWDT	**VWDT**	**0.28**	**154**	⇓*i*P			**Pg**	**00 24 23.8**	**+0.3**
	baz=148								
VWDT				*i* S			**Sg**	**00 24 27.5**	**+0.2**
	baz=148								
WHP	**Taichung City**	**0.28**	**348**	⇑*i*P			**Pg**	**00 24 23.6**	**0.0**
	baz=354								
WHP				S			**Sb**	**00 24 28.8**	**-0.8**
	baz=354								
TDCB	**Techi**	**0.28**	**29**	⇑*i*P			**Pg**	**00 24 23.5**	**-0.2**
	baz=29								
TDCB				*e*S			**Sg**	**00 24 27.0**	**-0.7**
	baz=29								
WWF	**Wufeng**	**0.29**	**278**	*e*P			**Pb**	**00 24 24.9**	**0.0**
	baz=283								
WWF				*e*S			**Sb**	**00 24 31.0**	**+1.3**
	baz=283								
TWT	**Tachien**	**0.29**	**31**	⇑*i*P			**Pg**	**00 24 23.5**	**-0.3**
	baz=30								
TWT				*e*S			**Sg**	**00 24 27.7**	**-0.2**
	baz=30								
WJS	**Zhushan**	**0.32**	**235**	⇑*i*P			**Pb**	**00 24 25.0**	**-0.4**
	baz=230								
WJS				*i* S			**Sb**	**00 24 30.6**	**+0.1**
	baz=230								
WNT1	**Nantou City**	**0.32**	**252**	*e*P			**Pb**	**00 24 25.5**	**+0.1**
	baz=253								
WNT1				S			**Sb**	**00 24 31.4**	**+0.8**
	baz=253								
WNT	**Mingjian**	**0.32**	**247**	P			**Pb**	**00 24 25.4**	**-0.1**
	baz=247								
WNT				S			**Sb**	**00 24 31.2**	**+0.5**
	baz=247								
FUSS	**Fushou**	**0.32**	**41**	⇑P			**Pg**	**00 24 24.2**	**-0.2**
	baz=42								
FUSS				S			**Sg**	**00 24 29.6**	**+0.7**
	baz=42								
TCU	**Taichung**	**0.34**	**295**	*e*P			**Pb**	**00 24 25.9**	**+0.1**
	baz=296								
TCU				*e*S			**Sb**	**00 24 32.6**	**+1.5**
	baz=296								
WHYT	**Xinyi Township**	**0.34**	**205**	*e*P			**Pg**	**00 24 24.6**	**-0.1**
	baz=200								
WHYT				*e*S			**Sb**	**00 24 30.1**	**-1.1**
	baz=200								
LXIB	**Xiulin Townshi**	**0.37**	**87**	*e*P			**Pg**	**00 24 25.4**	**+0.2**
	baz=80								
LXIB				S			**Sg**	**00 24 30.5**	**+0.3**
	baz=80								
WYL	**Yuanlin Townsh**	**0.40**	**264**	*e*P			**Pb**	**00 24 27.2**	**+0.5**
	baz=264								
WYL				S			**Sb**	**00 24 34.4**	**+1.6**
	baz=264								
TWQ1	**Liyutan**	**0.41**	**328**	⇑*i*P			**Pb**	**00 24 26.8**	**-0.2**
	baz=339								
TWQ1				*i* S			**Sb**	**00 24 33.4**	**+0.3**
	baz=339								
WCHH	**Zhanghua**	**0.42**	**281**	*e*P			**Pb**	**00 24 27.6**	**+0.4**
	baz=280								
WCHH				S			**Sb**	**00 24 34.9**	**+1.4**
	baz=280								
ESL	**Shilin**	**0.43**	**116**	⇓*i*P			**Pb**	**00 24 26.6**	**-0.7**
	baz=115								
ESL				S			**Sg**	**00 24 32.3**	**+0.3**
	baz=115								
ETM	**Tongmen**	**0.44**	**95**	P			**Pg**	**00 24 26.6**	**+0.1**
	baz=88								
ETM				S			**Sg**	**00 24 32.8**	**+0.4**
	baz=88								
WARBT	**Fenglin Townsh**	**0.45**	**129**	⇓*i*P			**Pg**	**00 24 26.8**	**+0.1**
	baz=135								
WARBT				*e*S			**Sg**	**00 24 32.0**	**-0.5**
	baz=135								
ETLH	**Xiulin Townshi**	**0.48**	**65**	P			**Pg**	**00 24 27.2**	**0.0**
	baz=65								
ETLH				*e*S			**Sg**	**00 24 33.2**	**-0.4**
	baz=65								
WDJ	**Dajia District**	**0.48**	**316**	*e*P			**Pb**	**00 24 28.9**	**+0.7**
	baz=327								
WDJ				*e*S			**Sb**	**00 24 36.8**	**+1.5**
	baz=327								
EGFH	**Guangfu**	**0.51**	**131**	*e*P			**Pg**	**00 24 27.8**	**0.0**
	baz=122								
EGFH				*e*S			**Sg**	**00 24 34.3**	**-0.1**
	baz=122								
WGK	**Gukeng**	**0.52**	**232**	*e*P			**Pb**	**00 24 28.9**	**+0.1**
	baz=231								
WGK				S			**Sb**	**00 24 37.4**	**+1.1**
	baz=231								
ALS	**Alishan**	**0.53**	**201**	⇓*i*P			**Pb**	**00 24 28.4**	**-0.7**
	baz=189								
ALS				*i* S			**Sb**	**00 24 37.2**	**+0.4**
	baz=189								
WDLH	**Douliu**	**0.53**	**234**	*e*P			**Pb**	**00 24 29.6**	**+0.4**
	baz=233								
TWD	**Chiawan**	**0.54**	**82**	⇓P			**Pg**	**00 24 28.5**	**+0.1**
	baz=92								
TWD				*e*S			**Sg**	**00 24 35.3**	**-0.3**
	baz=92								
NNSB	**Datong**	**0.54**	**39**	⇑P			**Pg**	**00 24 27.8**	**-0.6**
	baz=47								
NNSB				*e*S			**Sg**	**00 24 35.2**	**-0.5**
	baz=47								
NNSH	**Datong**	**0.54**	**39**	⇑P			**Pg**	**00 24 27.9**	**-0.6**
	baz=44								
NNSH				*e*S			**Sg**	**00 24 35.0**	**-0.7**
	baz=44								
HWA	**Hwalien**	**0.55**	**93**	*e*P			**Pb**	**00 24 28.8**	**-0.5**
	baz=93								
HWA				*e*S			**Sb**	**00 24 36.8**	**-0.4**
	baz=93								
NNS	**Nan Shan**	**0.55**	**37**	⇑*i*P			**Pg**	**00 24 28.1**	**-0.5**
	baz=47								
NNS				*e*S			**Sg**	**00 24 35.9**	**0.0**
	baz=47								
SHUL	**Shoufeng**	**0.55**	**113**	*e*P			**Pb**	**00 24 29.1**	**-0.3**
	baz=113								
SHUL				S			**Sb**	**00 24 36.7**	**-0.5**
	baz=113								
NACB	**Ninganchiao**	**0.56**	**72**	P			**Pg**	**00 24 28.5**	**-0.3**
NACB	**Ninganchiao**	**0.56**	**72**	⇑*i*P			**Pg**	**00 24 28.6**	**-0.1**
	baz=68								
NACB				*e*S			**Sg**	**00 24 35.8**	**-0.4**
	baz=68								
NMLH	**Miaoli**	**0.57**	**339**	⇑P			**Pb**	**00 24 30.3**	**+0.6**
	baz=340								
NMLH				*e*S			**Sb**	**00 24 39.4**	**+1.6**
	baz=340								
EHY	**Hungye**	**0.57**	**150**	⇓*i*P			**Pg**	**00 24 28.9**	**0.0**
	baz=144								
EHY				*e*S			**Sg**	**00 24 36.4**	**-0.2**
	baz=144								
ETL	**Fush Village**	**0.58**	**74**	*e*P			**Pg**	**00 24 29.0**	**-0.2**
	baz=85								
ETL				*e*S			**Sg**	**00 24 36.7**	**-0.2**
	baz=85								
WRL	**Guolierlin Hig**	**0.59**	**260**	⇑*e*P			**Pb**	**00 24 30.3**	**+0.3**
	baz=260								
WRL				*e*S			**Sn**	**00 24 40.0**	**-1.5**
	baz=260								
EHYH	**Wanrong**	**0.59**	**149**	*e*P			**Pg**	**00 24 29.2**	**-0.1**
	baz=143								
EHYH				*e*S			**Sg**	**00 24 37.0**	**-0.2**
	baz=143								
RLNB	**Erlin**	**0.60**	**260**	⇑P			**Pb**	**00 24 30.6**	**+0.3**
	baz=259								
RLNB				S			**Sb**	**00 24 40.1**	**+1.3**
	baz=259								
NSTT	**Nanjuang**	**0.62**	**359**	⇑P			**Pb**	**00 24 30.4**	**-0.3**
	baz=1.0								
NSTT				S			**Sb**	**00 24 39.4**	**-0.1**
	baz=1.0								
NFF	**Wufeng Townshi**	**0.63**	**9**	P			**Pg**	**00 24 30.1**	**-0.1**
	baz=19								
NFF				*e*S			**Sb**	**00 24 39.7**	**-0.1**
	baz=19								
HGSD	**Ruisui**	**0.64**	**143**	P			**Pb**	**00 24 30.4**	**-0.4**
	baz=148								
HGSD				S			**Sb**	**00 24 39.2**	**-0.5**
	baz=148								
WTK	**Tuku**	**0.65**	**241**	⇓*i*P			**Pb**	**00 24 31.4**	**+0.3**
	baz=241								
WTK				*e*S			**Sn**	**00 24 41.6**	**-1.5**
	baz=241								
YULB	**Yu-li**	**0.66**	**156**	P			**Pg**	**00 24 30.5**	**-0.2**
WCKO	**Fanlu**	**0.67**	**214**	⇑*i*P			**Pb**	**00 24 31.4**	**-0.1**
	baz=226								
WCKO				S			**Sb**	**00 24 41.5**	**+0.7**
	baz=226								
CHN2	**Minshiung**	**0.68**	**226**	P			**Pb**	**00 24 32.0**	**+0.4**
	baz=226								
CHN2				S			**Sn**	**00 24 42.5**	**-1.3**
	baz=226								
WTCT	**Ta-ch'eng**	**0.68**	**258**	*i* P			**Pb**	**00 24 31.8**	**+0.2**
	baz=258								
WTCT				*i* S			**Sn**	**00 24 42.6**	**-1.3**
	baz=258								
NJN	**Zhunan**	**0.69**	**349**	*e*P			**Pn**	**00 24 32.6**	**-0.8**
	baz=359								
NJN				*e*S			**Sn**	**00 24 43.1**	**-1.0**
	baz=359								
TWF1	**Yuli**	**0.70**	**158**	⇓*i*P			**Pg**	**00 24 31.1**	**-0.2**
	baz=150								
TWF1				*e*S			**Sg**	**00 24 40.8**	**+0.2**
	baz=150								
EYUL	**Yuli**	**0.71**	**156**	*e*P			**Pg**	**00 24 31.4**	**-0.2**
	baz=149								
EYUL				*e*S			**Sb**	**00 24 41.6**	**-0.4**
	baz=149								
NJD	**Zhudong**	**0.73**	**6**	*e*P			**Pg**	**00 24 31.2**	**-0.8**
	baz=6.0								
NJD				*e*S			**Sb**	**00 24 43.4**	**+0.9**
	baz=6.0								
CHY	**Chiayi**	**0.74**	**227**	*e*P			**Pb**	**00 24 32.7**	**+0.1**
	baz=226								
CHY				*i* S			**Sn**	**00 24 44.2**	**-0.9**
	baz=226								
EAHA	**Aohua**	**0.74**	**64**	*e*P			**Pg**	**00 24 32.0**	**-0.1**
	baz=64								
NSK	**Sanguang**	**0.74**	**25**	⇑*i*P			**Pg**	**00 24 31.7**	**-0.5**
	baz=20								
NSK				*e*S			**Sg**	**00 24 41.3**	**-0.7**
	baz=20								
YHNB	**Yeheng**	**0.74**	**27**	P			**Pg**	**00 24 31.7**	**-0.6**
YHNB	**Yeheng**	**0.74**	**27**	P			**Pg**	**00 24 31.5**	**-0.7**
YHNB	**Yeheng**	**0.74**	**27**	⇑*i*P			**Pg**	**00 24 31.6**	**-0.6**
	baz=21								
YHNB				*e*S			**Sg**	**00 24 40.8**	**-1.2**
	baz=21								
WMLT	**Mailiao**	**0.75**	**255**	*e*P			**Pb**	**00 24 32.8**	**0.0**
	baz=254								
WMLT				*e*S			**Sn**	**00 24 44.4**	**-1.1**
	baz=254								
CHN4	**Tsaushan**	**0.75**	**211**	⇑P			**Pb**	**00 24 33.0**	**+0.1**
	baz=210								
CHN4				*e*S			**Sn**	**00 24 45.0**	**-0.6**
	baz=210								
NDT	**Datong Townshi**	**0.75**	**37**	*e*P			**Pg**	**00 24 31.6**	**-0.8**
	baz=38								
HSN1	**Hsinchu**	**0.77**	**1**	*e*P			**Pn**	**00 24 34.4**	**-0.1**
	baz=1.0								
TPUB	**Ta-pu**	**0.78**	**207**	P			**Pb**	**00 24 33.3**	**-0.1**
	baz=206								
TPUB	**Ta-pu**	**0.78**	**207**	⇑P			**Pb**	**00 24 33.2**	**-0.1**
	baz=206								
TPUB				S			**Sn**	**00 24 45.1**	**-1.3**
	baz=206								
SBCB	**Hsinchu**	**0.79**	**358**	P			**Pn**	**00 24 34.2**	**-0.5**
	baz=7.0								
SBCB				*e*S			**Sn**	**00 24 45.8**	**-0.6**
	baz=7.0								
ENA	**Nanau**	**0.79**	**58**	P			**Pg**	**00 24 32.9**	**-0.2**
	baz=59								
ENA				*e*S			**Sg**	**00 24 43.0**	**-0.5**
	baz=59								
ECBN	**Changbin**	**0.80**	**149**	*e*P			**Pb**	**00 24 33.6**	**+0.1**
	baz=149								
ECBN				*e*S			**Sn**	**00 24 45.8**	**-0.8**
	baz=149								
HSN	**Hsinchu**	**0.80**	**357**	*e*P			**Pn**	**00 24 34.9**	**0.0**
	baz=14								
HSN				*e*S			**Sn**	**00 24 46.9**	**+0.2**
	baz=14								
WSF	**Szhu**	**0.81**	**243**	*i* P			**Pb**	**00 24 33.6**	**-0.1**
	baz=242								
WSF				*i* S			**Sn**	**00 24 46.0**	**-1.0**
	baz=242								
ELDTW	**Lidau**	**0.81**	**180**	*e*P			**Pb**	**00 24 33.8**	**-0.2**
	baz=178								
ELDTW				*e*S			**Sb**	**00 24 45.1**	**+0.2**
	baz=178								
ENTT	**Nioudou**	**0.81**	**39**	P			**Pg**	**00 24 32.9**	**-0.7**
	baz=39								
EWUT	**Wuta**	**0.83**	**58**	*e*P			**Pg**	**00 24 33.5**	**-0.4**
	baz=58								
EWUT				*e*S			**Sg**	**00 24 44.0**	**-0.7**
	baz=58								
WTP	**Ta-pu**	**0.84**	**206**	*i* P			**Pb**	**00 24 34.1**	**-0.2**
	baz=205								
WTP				*i* S			**Sn**	**00 24 46.7**	**-1.0**
	baz=205								
FULB	**Fuli**	**0.84**	**162**	*e*P			**Pb**	**00 24 34.4**	**0.0**
	baz=161								
FULB				*e*S			**Sn**	**00 24 46.8**	**-1.0**
	baz=161								
STYH	**Taoyuan**	**0.86**	**195**	P			**Pb**	**00 24 34.4**	**-0.2**
	baz=194								
STYH				S			**Sb**	**00 24 46.3**	**+0.2**
	baz=194								
WSL	**Shuilin Townsh**	**0.86**	**236**	*e*P			**Pb**	**00 24 34.6**	**-0.1**
	baz=236								
WSL				*e*S			**Sn**	**00 24 48.4**	**+0.1**
	baz=236								
STYT	**Tauyuan**	**0.87**	**196**	*i* P			**Pb**	**00 24 34.8**	**-0.1**
	baz=194								
STYT				*i* S			**Sb**	**00 24 47.4**	**+0.9**
	baz=194								
EHD	**Haiduan**	**0.87**	**168**	*e*P			**Pb**	**00 24 35.0**	**+0.2**
	baz=173								
EHD				S			**Sb**	**00 24 47.3**	**+0.8**
	baz=173								
TWK	**Hsinying**	**0.88**	**213**	⇑*i*P			**Pb**	**00 24 34.9**	**-0.1**
	baz=211								
TWK				S			**Sn**	**00 24 48.3**	**-0.5**
	baz=211								
CHKH	**Chenggong**	**0.88**	**156**	*e*P			**Pb**	**00 24 35.0**	**0.0**
	baz=146								
NWLT	**Wulai**	**0.89**	**30**	⇑P			**Pg**	**00 24 34.2**	**-0.8**
	baz=31								
NDS	**Dongshan**	**0.90**	**46**	P			**Pg**	**00 24 34.5**	**-0.7**
	baz=46								
SNST	**Tainan City**	**0.91**	**211**	*e*P			**Pb**	**00 24 35.4**	**-0.1**
	baz=210								
SNST				S			**Sn**	**00 24 49.4**	**-0.2**
	baz=210								
ECS	**Chishang**	**0.92**	**168**	*e*P			**Pb**	**00 24 35.8**	**0.0**
	baz=167								
ECS				*e*S			**Sn**	**00 24 49.6**	**-0.2**
	baz=167								
ICHU	**Yijhu**	**0.93**	**226**	*e*P			**Pb**	**00 24 35.8**	**0.0**
	baz=225								
ICHU				*e*S			**Sn**	**00 24 49.9**	**0.0**
	baz=225								
CHN1	**Nanshi**	**0.93**	**209**	*i* P			**Pb**	**00 24 35.6**	**-0.2**
	baz=207								
CHN1				S			**Sn**	**00 24 49.0**	**-0.9**
	baz=207								
TWE	**Neicheng**	**0.93**	**40**	*e*P			**Pg**	**00 24 35.3**	**-0.5**
	baz=37								
TWE				*e*S			**Sb**	**00 24 48.6**	**+0.3**
	baz=37								
ESAO	**Su ao**	**0.95**	**53**	*e*P			**Pg**	**00 24 35.3**	**-0.9**
	baz=54								
ESAO				*e*S			**Sg**	**00 24 48.5**	**-0.1**
	baz=54								
CHKT	**Chengkung**	**0.96**	**160**	*e*P			**Pn**	**00 24 37.2**	**+0.2**
	baz=141								
NCUH	**Zhongli**	**0.97**	**9**	*e*P			**Pn**	**00 24 37.2**	**-0.2**
	baz=10.0								
TWC	**Suao**	**0.97**	**52**	P			**Pg**	**00 24 36.0**	**-0.7**
	baz=53								
TWC				*e*S			**Sg**	**00 24 49.2**	**-0.2**
	baz=53								
NCU	**National Centr**	**0.98**	**9**	*e*P			**Pn**	**00 24 37.0**	**-0.4**
	baz=12								
NCU				*e*S			**Sn**	**00 24 51.3**	**+0.2**
	baz=12								
CHN8	**Yiju**	**0.98**	**228**	*e*P			**Pn**	**00 24 37.0**	**-0.4**
	baz=227								
CHN8				S			**Sn**	**00 24 51.6**	**+0.3**
	baz=227								
SGST	**Jiashian**	**1.00**	**203**	*e*P			**Pg**	**00 24 36.2**	**-0.9**
	baz=212								
SGST				*i* S			**Sn**	**00 24 51.5**	**-0.2**
	baz=212								
NHW	**Xinwu Township**	**1.00**	**2**	*e*P			**Pn**	**00 24 37.5**	**-0.1**
	baz=3.0								
NHW				*e*S			**Sn**	**00 24 52.9**	**+1.2**
	baz=3.0								
NTY	**Taoyuan**	**1.03**	**15**	*e*P			**Pn**	**00 24 38.6**	**+0.5**
	baz=27								
SLGT	**Liugui**	**1.06**	**198**	*e*P			**Pn**	**00 24 38.3**	**-0.2**
	baz=186								
SLGT				*e*S			**Sn**	**00 24 54.0**	**+0.7**
	baz=186								
TATO	**Taipei**	**1.06**	**24**	P			**Pn**	**00 24 38.4**	**-0.1**
TATO	**Taipei**	**1.06**	**24**	P			**Pg**	**00 24 38.1**	**-0.1**
	baz=30								
TATO				*e*S			**Sn**	**00 24 53.5**	**+0.3**
	baz=30								
SSHA	**Shanhua**	**1.09**	**218**	*e*P			**Pn**	**00 24 39.1**	**+0.2**
	baz=216								
SSHA				*e*S			**Sn**	**00

EGS						*e*S		**Sn**	**00 24 57.9**	**+1.6**			
	baz=59												
EOS2	**EOS2**	**1.19**	**69**	*e*P		**Pg**		**00 24 40.9**	**+0.2**				
	baz=72												
TAI1	**Yung-k'ang**	**1.20**	**217**	*e*P		**Pg**		**00 24 40.7**	**-0.1**				
	baz=215												
TAI1						*e*S		**Sn**	**00 24 58.7**	**+2.2**			
	baz=215												
EOS4	**EOS4**	**1.20**	**84**	*e*P		**Pg**		**00 24 42.1**	**+1.3**				
	baz=101												
TSCK	**Chigu Township**	**1.20**	**225**	*e*P		**Pn**		**00 24 39.6**	**-0.9**				
	baz=235												
TSCK						*e*S		**Sn**	**00 24 57.4**	**+0.7**			
	baz=235												
SCST	**Cishan**	**1.21**	**203**	*e*P		**Pg**		**00 24 41.2**	**+0.2**				
	baz=203												
TIPB	**Shuangxi**	**1.22**	**37**	*e*P		**Pn**		**00 24 40.3**	**-0.4**				
	baz=39												
TIPB						*e*S		**Sn**	**00 24 57.4**	**+0.2**			
	baz=39												
NTST	**Danshui**	**1.22**	**19**	*e*P		**Pg**		**00 24 42.0**	**+0.7**				
	baz=19												
EOS3	**EOS3**	**1.23**	**76**	*e*P		**Pg**		**00 24 42.4**	**+1.0**				
	baz=75												
YM01	**YM01**	**1.25**	**24**	P		**Pb**		**00 24 41.4**	**0.0**				
	baz=26												
YM01						S		**Sn**	**00 24 59.1**	**+1.2**			
	baz=26												
ANP	**Anpu**	**1.27**	**21**	*e*P		**Pg**		**00 24 41.9**	**-0.2**				
	baz=32												
ANP						*e*S		**Sn**	**00 24 59.6**	**+1.1**			
	baz=32												
NWF	**Wu-fen Shan**	**1.27**	**33**	*e*P		**Pg**		**00 24 42.1**	**-0.3**				
	baz=35												
NWF						*e*S		**Sg**	**00 25 00.5**	**+1.6**			
	baz=35												
WFSB	**Wu-fen Shan**	**1.27**	**33**	P		**Pb**		**00 24 41.8**	**0.0**				
	baz=35												
WFSB						*e*S		**Sg**	**00 24 59.4**	**+0.5**			
	baz=35												
TWM1	**Shoushan**	**1.29**	**205**	*e*P		**Pg**		**00 24 43.2**	**+0.5**				
	baz=204												
YM08	**YM08**	**1.29**	**24**	*e*P		**Pg**		**00 24 42.4**	**-0.2**				
	baz=26												
YM08						*e*S		**Sg**	**00 24 59.3**	**-0.1**			
	baz=26												
SSD	**Sandimen**	**1.30**	**196**	*e*P		**Pg**		**00 24 42.3**	**-0.5**				
	baz=194												
SSD						*e*S		**Sg**	**00 25 00.7**	**+1.1**			
	baz=194												
TSMG	**Majia**	**1.33**	**195**	*e*P		**Pg**		**00 24 42.9**	**-0.6**				
	baz=194												
TNOU	**National Taiwa**	**1.34**	**31**	*e*P		**Pb**		**00 24 42.7**	**-0.2**				
	baz=41												
TWB1	**Santiao Chiao**	**1.34**	**41**	*e*P		**Pn**		**00 24 42.4**	**0.0**				
	baz=36												
TWB1						*e*S		**Sg**	**00 25 01.7**	**+0.7**			
	baz=36												
SXI1	**Grass Mountain**	**1.34**	**36**	P		**Pb**		**00 24 43.0**	**0.0**				
	baz=37												
SXI1						*e*S		**Sg**	**00 25 01.8**	**+0.8**			
	baz=37												
TWY	**Chenhua**	**1.38**	**23**	*e*P		**Pb**		**00 24 43.7**	**+0.2**				
	baz=25												
TWY						*e*S		**Sg**	**00 25 02.3**	**+0.2**			
	baz=25												
LDUT	**Ludao**	**1.39**	**162**	*e*P		**Pn**		**00 24 43.1**	**0.0**				
	baz=147												
SNJT	**Kaohsiung City**	**1.39**	**207**	*e*P		**Pg**		**00 24 44.1**	**-0.4**				
	baz=206												
ECL	**Taimali**	**1.40**	**182**	*e*P		**Pb**		**00 24 44.0**	**+0.1**				
	baz=181												
ECL						*e*S		**Sg**	**00 25 03.1**	**+0.2**			
	baz=181												
PNG	**Penghu**	**1.40**	**252**	⇓P		**Pn**		**00 24 43.1**	**-0.1**				
	baz=243												
PNG						*e*S		**Sg**	**00 25 02.2**	**-0.7**			
	baz=243												
PHUB	**P'eng-hu**	**1.41**	**250**	*e*P		**Pn**		**00 24 42.6**	**-0.6**				
	baz=241												
PHUB						*e*S		**Sn**	**00 25 01.3**	**-0.4**			
	baz=241												
MASBT	**Mashibuluo**	**1.43**	**194**	P		**Pb**		**00 24 44.3**	**-0.1**				
	baz=193												
MASBT						*e*S		**Sg**	**00 25 04.0**	**+0.2**			
	baz=193												
WDGT	**Dungji**	**1.44**	**239**	⇑P		**Pn**		**00 24 43.6**	**-0.2**				
	baz=229												
WDGT						*e*S		**Sg**	**00 25 03.5**	**-0.8**			
	baz=229												
WSSB	**Gushan**	**1.52**	**207**	*e*P		**Pb**		**00 24 45.5**	**-0.5**				
	baz=206												
EAST	**Anshuo**	**1.62**	**185**	*e*P		**Pb**		**00 24 47.0**	**-0.6**				
	baz=176												
VCHM	**Qimei**	**1.65**	**242**	⇑P		**Pn**		**00 24 46.3**	**-0.3**				
	baz=229												
VCHM						S		**Sb**	**00 25 08.4**	**-0.5**			
	baz=229												
SCZT	**Fangliau**	**1.66**	**193**	*e*P		**Pb**		**00 24 47.6**	**-0.8**				
	baz=181												
VWUC	**VWUC**	**1.73**	**305**	*e*P		**Pn**		**00 24 46.1**	**-1.6**				
	baz=307												
VWUC						*e*S		**Sn**	**00 25 08.2**	**-1.5**			
	baz=307												
SLIU	**Shizi**	**1.79**	**186**	*e*P		**Pb**		**00 24 49.4**	**-1.1**				
	baz=202												
PCYT	**Pengchaiyu**	**1.89**	**31**	*e*P		**Pn**		**00 24 50.5**	**+0.7**				
	baz=32												
HEN	**Hengchun**	**2.00**	**187**	*e*P		**Pb**		**00 24 54.3**	**+0.1**				
	baz=186												
PTMZ	**Houxiangcun**	**2.01**	**301**	*e*P		**Pn**		**00 24 50.4**	**-1.2**				
	baz=302												
LAY	**Lan-yu**	**2.02**	**166**	*e*P		**Pn**		**00 24 51.8**	**+0.1**				
	baz=153												
LYUB	**Lan-yu**	**2.06**	**165**	*e*P		**Pn**		**00 24 51.4**	**-0.8**				
	baz=152												
LYUB						*e*S		**Sn**	**00 25 17.3**	**-0.6**			
	baz=152												
TWKBT	**Hengchun**	**2.06**	**185**	*e*P		**Pn**		**00 24 53.1**	**+0.8**				
	baz=200												
MATB	**Ma-tsu**	**2.35**	**336**	*e*P		**Pn**		**00 24 54.9**	**-1.3**				
	baz=339												
MATB						*e*S		**Sn**	**00 25 24.4**	**-0.5**			
	baz=339												
MSUT	**Lienchiang**	**2.37**	**336**	*e*P		**Pn**		**00 24 55.4**	**-1.2**				
	baz=339												
KNM	**Kinmen**	**2.39**	**280**	*e*P		**Pn**		**00 24 58.3**	**+1.5**				
	baz=277												
KNMB	**Chin-men Tao**	**2.44**	**281**	*e*P		**Pn**		**00 24 56.7**	**-0.7**				
	baz=279												
MHZQ	**Yeshan**	**2.75**	**320**	*e*P		**Pn**		**00 25 00.5**	**-1.3**				
	baz=322												
MHZQ						*e*S		**Sn**	**00 25 36.4**	**+1.4**			
	baz=322												
LYJJ	**Jianjiangzhen**	**2.78**	**336**	*e*P		**Pn**		**00 25 01.1**	**-1.1**				
	baz=340												
LYJJ						*e*S		**Sn**	**00 25 35.7**	**+0.1**			
	baz=340												
ZPLA	**Ao Xicun**	**2.98**	**269**	*e*P		**Pn**		**00 25 05.1**	**+0.2**				
	baz=266												
XPSS	**Dashiqiu**	**3.01**	**346**	*e*P		**Pn**		**00 25 04.1**	**-1.2**				
	baz=349												
DSXP	**Dongshan**	**3.29**	**266**	*e*P		**Pn**		**00 25 09.3**	**+0.1**				
	baz=262												
SXFK	**Yanhouchang**	**3.87**	**309**	*e*P		**Pn**		**00 25 16.5**	**-0.7**				
	baz=309												

IDC ***29*** *00:48:02.9±1.8, 6°.15S×142°.71E, h0km, mb3.8/5, mbtmp3.8/7, ML3.7/2, Error ellipse: s-maj=70.8km s-min=21.7km az=109.0*

ISC 29 00:48:03.6±1.5, 6°.4S±0°.2×142°.6E±0°.4, h10km, n7, σ3§15/8, mb3.8/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.70**	**210**	Pn	**Pn**	**00 51 47.0**	**+1.9**
	0.3nm,0.3s,baz=23,slow=13,SNR=11						
WRA				Sn	Sn	00 54 31.3	-7.9
	0.1nm,0.3s,baz=28,slow=22,SNR=1.3						
WRA				Lg	Lg	00 56 27.2	
	0.1nm,0.3s,baz=29,slow=26,SNR=3.6						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**19.13**	**205**	P	**Pn**	**00 52 31.5**	**+3.7**
	0.4nm,0.3s,baz=31,slow=10,SNR=45						
ASAR				S	**Sn**	**00 55 57.5**	**-4.8**
	0.2nm,0.3s,baz=13,slow=27,SNR=1.8						
ASAR				Lg	Lg	00 58 15.5	
	baz=21,slow=28,SNR=4.1						
	3.1nm,0.7s						
PETK	**Petropavlovsk-**	**60.62**	**10**	P	**P**	**00 58 12.5**	**-2.0**
	6.5nm,0.9s,baz=177,slow=9.2,SNR=3.7						
	6.5nm,0.9s						
SONM	**Songino Array**	**62.70**	**333**	P	**P**	**00 58 27.2**	**-1.6**
	0.2nm,0.6s,baz=145,slow=5.3,SNR=1.8						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**75.05**	**322**	P	**P**	**00 59 46.6**	**+1.0**
	0.3nm,0.7s,baz=111,slow=6.6,SNR=4.7						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**84.53**	**325**	P	**P**	**01 00 38.3**	**+1.4**
	0.9nm,0.6s,baz=115,slow=6.7,SNR=6.7						
	0.9nm,0.6s						
ILAR	**Eielson Array**	**87.56**	**24**	P	**P**	**01 00 51.9**	**+0.3**
	0.4nm,0.8s,baz=256,slow=5.1,SNR=4.1						
	0.4nm,0.8s						

IDC ***29*** *00:56:17.8±1.8, 23°.53S×70°.44W, h0km, mb3.6/4, mbtmp3.8/7, ML4.0/3, MS3.5/3, Error ellipse: s-maj=45.1km s-min=26.6km az=1.0*

SJA ***29*** *00:56:24.8±0.8, 23°.09S×70°.26W, h56km±6km, ML4.2, MW4.0*

VAO ***29*** *00:56:26.2±2.1, 23°.22S×70°.06W, h10km, mb4.2*

NEIC ***29*** *00:56:26.5±1.3, 23°.04S±0°.03×70°.31W±0°.05, h49km±8km, mb4.0/5, Error ellipse: s-maj=6.5km s-min=4.1km az=108.0*

GUC ***29*** *00:56:27.0±0.6, 23°.03S×70°.17W, h47km±1km, ML4.2*

ISC 29 00:56:26.1±0.7, 23°.06S±0°.02×70°.29W±0°.04, h45km±6km, n94, σ1§52/117, mb3.6/4, 9C-5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB05	**IPOC Station P**	**0.22**	**22**		**Pn**	**00 56 34.7**	**+0.5**
PB05				Sn	**Sn**	**00 56 41.1**	**+1.2**
PB05	**IPOC Station P**	**0.22**	**22**	*e*P	**Pn**	**00 56 34.8**	**+0.5**
PB05	**IPOC Station P**	**0.22**	**22**	⇓*i*P	**Pn**	**00 56 35.2**	**+0.9**
PB05				*i* S	**Sn**	**00 56 41.4**	**+1.4**
PB05				IAML		00 56 41.9	
	comp=N,37μm,0.3s						
PB10	**IPOC Station P**	**0.52**	**208**		**Pn**	**00 56 37.7**	**+0.4**
PB10					**Sn**	**00 56 46.3**	**+1.0**
PB04	**IPOC Station P**	**0.73**	**10**		**Pn**	**00 56 40.8**	**+0.5**
PB04				Sn	**Sn**	**00 56 51.4**	**+0.9**
PB04	**IPOC Station P**	**0.73**	**10**	*e*P	**Pn**	**00 56 40.5**	**+0.2**
PB04				*e*S	**Sn**	**00 56 52.5**	**+2.0**
PB04				IAML		00 56 55.7	
	comp=Z,8μm,0.2s						
PB04	**IPOC Station P**	**0.73**	**10**	⇓*i*P	**Pn**	**00 56 41.2**	**+0.8**
PB04				*i* S	**Sn**	**00 56 51.4**	**+0.9**
PB04				IAML		00 56 54.6	
	comp=E,16μm,0.5s						
PB06	**IPOC Station P**	**0.75**	**62**		**Pn**	**00 56 40.2**	**-0.3**
PB06				Sn	**Sn**	**00 56 50.4**	**-0.6**
PB06	**IPOC Station P**	**0.75**	**62**	*e*P	Pn	00 56 35.0	-5.5
PB06				*e*P		00 56 40.3	
PB06				*e*S	**Sn**	**00 56 50.8**	**-0.1**
PB06				IAML		00 56 51.0	
	comp=Z,6μm,0.2s						
PB06	**IPOC Station P**	**0.75**	**62**	⇑*i*P	**Pn**	**00 56 40.4**	**-0.1**
PB06				*i* S	**Sn**	**00 56 50.2**	**-0.7**
PB15	**IPOC Station P**	**0.77**	**102**		**Pn**	**00 56 40.6**	**-0.3**
PB15	**IPOC Station P**	**0.77**	**102**	*e*P	**Pn**	**00 56 40.6**	**-0.3**
PB15				*e*S	**Sn**	**00 56 51.7**	**+0.2**
PB15				IAML		00 56 55.8	
	comp=Z,23μm,0.2s						
PB15	**IPOC Station P**	**0.77**	**102**	⇓*i*P	**Pn**	**00 56 40.6**	**-0.3**
PB15				*i* S	**Sn**	**00 56 51.0**	**-0.5**
LVC	**Limon Verde**	**1.35**	**71**		**Pn**	**00 56 49.4**	**+0.5**
LVC	**Limon Verde**	**1.35**	**71**	Pn	**Pn**	**00 56 49.0**	**+0.1**
	comp=Z,99nm,0.3s,baz=246,slow=9.9,SNR=554						
LVC				Sn	**Sn**	**00 57 06.3**	**+0.5**
	comp=Z,618nm,0.3s,baz=153,slow=18,SNR=29						
LVC				LR	LR	00 57 24.2	
	comp=Z,214nm,20.6s,baz=250,slow=40						
LVC	**Limon Verde**	**1.35**	**71**	*e*P	**Pn**	**00 56 49.3**	**+0.4**
LVC				*i* S	**Sn**	**00 57 05.8**	**0.0**
LVC				IAML		00 57 07.5	
	comp=Z,10μm,0.2s						
LVC	**Limon Verde**	**1.35**	**71**	*e*P	**Pn**	**00 56 49.2**	**+0.4**
PB07	**IPOC Station P**	**1.38**	**16**		**Pn**	**00 56 49.9**	**+0.8**
PB07	**IPOC Station P**	**1.38**	**16**	*e*P	**Pn**	**00 56 49.4**	**+0.3**
PB07				*e*S	**Sn**	**00 57 09.0**	**+2.8**
PB07				IAML		00 57 12.5	
	comp=Z,4μm,0.4s						
PB07	**IPOC Station P**	**1.38**	**16**	⇑*i*P	**Pn**	**00 56 50.0**	**+0.9**
PB07				*i* S	**Sn**	**00 57 07.7**	**+1.6**
PB07				IAML		00 57 11.6	
	comp=N,4μm,0.3s						
PB14	**IPOC Station P**	**1.57**	**184**		**Pn**	**00 56 51.9**	**+0.1**
PB14	**IPOC Station P**	**1.57**	**184**	*e*P	**Pn**	**00 56 51.7**	**-0.2**
PB14				*i* S	**Sn**	**00 57 13.1**	**+2.0**
PB09	**IPOC Station P**	**1.59**	**38**		**Pn**	**00 56 53.2**	**+1.2**
PB09	**IPOC Station P**	**1.59**	**38**	*e*P	**Pn**	**00 56 52.6**	**+0.7**
PB09				*e*S	**Sn**	**00 57 13.3**	**+2.0**
PB09				IAML		00 57 16.7	
	comp=Z,1μm,0.4s						
PB09	**IPOC Station P**	**1.59**	**38**	⇑*i*P	**Pn**	**00 56 53.3**	**+1.3**
PB09				*e*S	**Sn**	**00 57 12.2**	**+0.9**
PB02	**IPOC Station P**	**1.77**	**12**		**Pn**	**00 56 54.9**	**+0.5**
PB02	**IPOC Station P**	**1.77**	**12**	⇑*i*P	**Pn**	**00 56 55.1**	**+0.7**
PB02				*i* S	**Sn**	**00 57 17.2**	**+1.5**
PB02				IAML		00 57 26.9	
	comp=E,3μm,0.5s						
AF01	**San Pedro de A**	**1.95**	**87**		**Pn**	**00 56 59.3**	**+2.2**
AF01	**San Pedro de A**	**1.95**	**87**	⇓*i*P	**Pn**	**00 56 59.5**	**+2.5**
AF01				*i* S	**Sn**	**00 57 24.5**	**+4.0**
AF01				IAML		00 57 38.0	
	comp=N,6μm,0.6s						
PB01	**IPOC Station P**	**2.14**	**21**		**Pn**	**00 57 00.3**	**+0.8**
PB01	**IPOC Station P**	**2.14**	**21**	*e*P	**Pn**	**00 56 59.9**	**+0.5**
PB01				*e*S	**Sn**	**00 57 29.8**	**+5.0**
PB01				IAML		00 57 42.7	
	comp=Z,914nm,0.6s						
PB01	**IPOC Station P**	**2.14**	**21**	⇑*i*P	**Pn**	**00 57 00.5**	**+1.0**
PB01				*i* S	**Sn**	**00 57 25.9**	**+1.1**
PB01				IAML		00 57 31.3	
	comp=E,2μm,0.3s						
GO02	**Mina Guanaco**	**2.19**	**163**		**Pn**	**00 57 01.4**	**+1.0**
GO02	**Mina Guanaco**	**2.19**	**163**	*e*P	**Pn**	**00 57 00.8**	**+0.4**
GO02				*e*S	**Sn**	**00 57 31.5**	**+5.0**
GO02				IAML		00 57 37.2	
	comp=Z,2μm,0.5s						
GO02	**Mina Guanaco**	**2.19**	**163**	⇓*i*P	**Pn**	**00 57 01.4**	**+1.0**
GO02				*i* S	**Sn**	**00 57 29.8**	**+3.3**
GO02				IAML		00 57 33.1	
	comp=N,3μm,0.4s						
PATCX	**Punta Patache**	**2.23**	**3**		**Pn**	**00 57 00.6**	**-0.1**
PATCX	**Punta Patache**	**2.23**	**3**	⇑*i*P	**Pn**	**00 57 00.9**	**+0.2**
PATCX				*e*S	**Sn**	**00 57 28.4**	**+1.4**
PATCX				IAML		00 57 45.4	
	comp=E,1μm,0.4s						
TA01	**Diego Aracena**	**2.48**	**2**		**Pn**	**00 57 03.8**	**-0.3**
TA01	**Diego Aracena**	**2.48**	**2**	*e*P	**Pn**	**00 57 03.7**	**-0.3**
TA01				*i* S	**Sn**	**00 57 32.4**	**-0.7**
TA01				IAML		00 57 44.3	
	comp=N,987nm,0.5s						
TA02	**Huaiquique**	**2.78**	**3**		**Pn**	**00 57 07.9**	**-0.3**
HMBC	**Humberstone**	**2.79**	**8**	⇑*i*P	**Pn**	**00 57 08.6**	**+0.1**
HMBC				*i* S	**Sn**	**00 57 46.0**	**+5.1**
HMBC				IAML		00 58 00.6	
	comp=N,1μm,0.4s						
PB08	**IPOC Station P**	**3.09**	**20**		**Pn**	**00 57 13.2**	**+0.4**
PB08	**IPOC Station P**	**3.09**	**20**	⇑*i*P	**Pn**	**00 57 13.8**	**+1.0**
PB08				*i* S	**Sn**	**00 57 48.9**	**+0.2**
PB08				IAML		00 58 07.7	
	comp=N,651nm,0.4s						
AC01	**Pan de Azucar**	**3.09**	**185**		**Pn**	**00 57 11.5**	**-1.0**
AC01	**Pan de Azucar**	**3.09**	**185**	*e*P	**Pn**	**00 57 11.5**	**-1.0**
AC01				*e*S	Sn	00 57 59.1	+11
AC01	**Pan de Azucar**	**3.09**	**185**	*e*P	**Pn**	**00 57 11.4**	**-1.0**
AC01				*i* S	**Sn**	**00 57 46.1**	**-2.1**
AC01				IAML		00 58 00.6	
	comp=N,422nm,0.2s						
PB11	**IPOC Station P**	**3.33**	**10**		**Pn**	**00 57 15.6**	**-0.3**
PB11	**IPOC Station P**	**3.33**	**10**	⇑*i*P	**Pn**	**00 57 15.8**	**-0.2**
PB11				*i* S	**Sn**	**00 57 55.0**	**+0.6**
PB11				IAML		00 58 14.2	
	comp=E,803nm,0.4s						
GO01	**Chusmiza**	**3.52**	**17**		**Pn**	**00 57 19.4**	**+0.5**
GO01	**Chusmiza**	**3.52**	**17**	*e*P	**Pn**	**00 57 19.5**	**+0.6**
GO01				*i* S	**Sn**	**00 57 59.8**	**+0.3**
GO01				IAML		00 58 18.1	
	comp=N,525nm,0.2s						
AC02	**Maricunga**	**3.91**	**165**		**Pn**	**00 57 25.2**	**+1.1**
AC02	**Maricunga**	**3.91**	**165**	*e*P	**Pn**	**00 57 24.9**	**+0.8**
AC02				*e*S	**Sn**	**00 58 10.0**	**+1.0**
AC02				IAML		00 58 29.0	
	comp=Z,424nm,0.6s						
AC02	**Maricunga**	**3.91**	**165**	*e*P	**Pn**	**00 57 25.4**	**+1.3**
AC02				*i* S	**Sn**	**00 58 11.2**	**+2.1**
AC06	**Mina Casimiro**	**4.28**	**181**		**Pn**	**00 57 28.6**	**-0.3**
PB12	**IPOC Station P**	**4.42**	**360**		**Pn**	**00 57 30.3**	**-0.5**
PB12	**IPOC Station P**	**4.42**	**360**	*e*P	**Pn**	**00 57 29.8**	**-1.0**
PB12				*e*S	Sn	00 58 35.0	+14
PB12				IAML		00 58 54.7	
	comp=Z,160nm,0.5s						
GO03	**Copiap**	**4.52**	**179**		**Pn**	**00 57 32.6**	**+0.4**
GO03	**Copiap**	**4.52**	**179**	*e*P	**Pn**	**00 57 31.4**	**-0.7**
GO03				*e*S	Sn	00 58 32.5	+9.1
GO03				IAML		00 58 46.7	
	comp=Z,210nm,0.5s						
PB16	**IPOC Station P**	**4.75**	**9**		**Pn**	**00 57 35.7**	**-0.1**
AC04	**Llanos de Chal**	**5.17**	**188**	*e*P	**Pn**	**00 57 38.0**	**-3.1**
AC04				IAML		00 59 10.1	
	comp=N,99nm,0.5s						
AC05	**El Transito**	**5.76**	**180**		**Pn**	**00 57 48.4**	**-0.8**
LCO	**Las Campanas**	**5.94**	**183**		**Pn**	**00 57 50.4**	**-1.5**
LPAZ	**La Paz**	**7.03**	**17**		**Pn**	**00 58 09.0**	**+1.8**
LPAZ	**La Paz**	**7.03**	**17**	Pn	**Pn**	**00 58 09.7**	**+2.4**
	comp=Z,3.9nm,0.3s,baz=259,slow=2.7,SNR=133						
LPAZ				Sn	**Sn**	**00 59 28.4**	**+2.2**
	baz=257,slow=20						
	comp=Z,11nm,0.3s						
LPAZ	**La Paz**	**7.03**	**17**	*e*P	**Pn**	**00 58 09.6**	**+2.4**
BBSD	**Serra de San D**	**10.80**	**59**	*e*P	**Pn**	**00 58 58.6**	**+0.3**
SIV	**San Ignacio**	**11.17**	**53**	Pn	**Pn**	**00 59 02.8**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=259,slow=8.3,SNR=14						
SIV				Sn	**Sn**	**01 01 04.7**	**-2.3**
	baz=150,slow=20						
	comp=Z,2.3nm,0.4s						
CPUP	**Villa Florida**	**12.23**	**108**	Pn	**Pn**	**00 59 19.8**	**+2.1**
CPUP	**Villa Florida**	**12.23**	**108**	Pn	**Pn**	**00 59 14.3**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=342,slow=20,SNR=1.7						
CPUP				LR	LR	01 04 04.2	
	comp=Z,90nm,19.5s,baz=297,slow=38						
	comp=Z,1.2nm,0.8s						
NNA	**Nana**	**12.65**	**329**	LR	LR	01 03 28.7	
	comp=Z,55nm,20.3s,baz=134,slow=33						
H03N1	**Juan Fernandez**	**12.83**	**214**	T	T	01 12 13.8	
	baz=40,slow=72,SNR=209						
H03N2	**Juan Fernandez**	**12.84**	**214**	T	T	01 12 12.8	
	baz=40,slow=72,SNR=14						
H03N3	**Juan Fernandez**	**12.85**	**214**	T	T	01 12 12.5	
	baz=40,slow=72,SNR=37						
ETMB	**Extrema**	**13.73**	**17**	*e*P	**P**	**00 59 43.7**	**-2.2**
CZSB	**Cruzeiro do Su**	**15.41**	**351**		**Pn**	**00 59 59.8**	**-0.9**
CZSB				IAmb	IAmb	01 00 07.0	
	comp=Z,11nm,0.8s						
CZSB	**Cruzeiro do Su**	**15.41**	**351**	*e*P	**P**	**01 00 06.3**	**+1.7**
TRCB	**Terra Rica**	**16.27**	**93**	Pn	**Pn**	**01 00 11.8**	**+0.1**
TRCB				IAmb	IAmb	01 00 16.8	
	comp=Z,12nm,0.8s						
PLCA	**Paso Flores**	**17.63**	**181**		**P**	**01 00 29.3**	**+0.3**
PLCA	**Paso Flores**	**17.63**	**181**	P	**Pn**	**01 00 28.4**	**0.0**
	comp=Z,0.9nm,0.8s,baz=35,slow=18,SNR=2.8						
IPMB	**Ipameri, GO**	**21.28**	**80**	*e*P	**P**	**01 01 11.0**	**+2.0**
BDFB	**Brasilia**	**22.26**	**75**	P	**P**	**01 01 20.8**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=259,slow=14,SNR=2.3						
	comp=Z,0.6nm,0.3s						
USHA	**Ushuaia**	**31.76**	**178**	LR	LR	01 16 30.9	
	comp=Z,609nm,19.8s,baz=317,slow=39						
NVAR	**Mina Arroyo Bea**	**75.94**	**323**	P	**P**	**01 08 09.7**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=152,slow=4.1,SNR=3.8						
	comp=Z,0.5nm,0.8s						
TOA0	**Torodi Ar. Sit**	**79.08**	**71**	P	**P**	**01 08 24.8**	**-1.5**
TORD	**Torodi Ar. Bea**	**79.08**	**71**	P	**P**	**01 08 24.5**	**-1.7**
TORD				IAmb	IAmb	01 08 32.9	
	comp=Z,1.9nm,1.1s						
TORD	**Torodi Ar. Bea**	**79.08**	**71**	P	**P**	**01 08 24.9**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=251,slow=5.1,SNR=6.7						
	comp=Z,0.3nm,0.4s						
YKA	**Yellowknife Ar**	**92.23**	**341**	P	**P**	**01 09 29.7**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=142,slow=4.4,SNR=5.1						
	comp=Z,0.

WR0 Warramunga Arr 42.27 266 P **P** **01 24 09.3 -0.7**
WB2 Warramunga Arr 42.44 266 P **P** **01 24 11.0 -0.4**
WB2 IAmb IAmb 01 24 11.2
comp=Z,6.1nm,0.5s
WRAB Tennant Creek 42.45 266 P **P** **01 24 12.9 +1.5**
WB0 Warramunga Arr 42.45 267 P **P** **01 24 10.9 -0.5**
WB0 IAmb IAmb 01 24 11.5
comp=Z,6.7nm,0.7s
WRA Warramunga Arr 42.45 266 P **P** **01 24 10.9 -0.6**
WRA Warramunga Arr 42.45 266 P **P** **01 24 10.5 -1.0**
comp=Z,5.8nm,0.6s,baz=97,slow=8.4,SNR=79
WRA ScP **ScP** **01 28 58.2 +4.2**
comp=Z,1.0nm,1.1s,baz=118,slow=3.6,SNR=4.1
comp=Z,5.8nm,0.6s
FORT Forrest 46.29 250 P **P** **01 24 40.5 -0.5**
FORT IAmb IAmb 01 24 50.5
comp=Z,19nm,1.1s
MTN Manton Dam 47.53 275 P **P** **01 24 49.8 -0.8**
MTN IAmb IAmb 01 25 17.4
comp=Z,21nm,1.2s
KNRA Kununurra 48.75 270 P **P** **01 24 59.8 +0.2**
KNRA IAmb IAmb 01 25 21.5
comp=Z,38nm,1.5s
FITZ Fitzroy Crossi 50.87 266 P **P** **01 25 15.8 +0.5**
QSPA South Pole Qui 65.97 180 P **P** **01 26 57.6 +1.0**
QSPA IAmb IAmb 01 26 58.8
comp=Z,4.6nm,0.8s
QSPA South Pole Qui 65.97 180 P **P** **01 26 57.4 +0.8**
comp=Z,3.0nm,0.6s,baz=337,slow=0.9,SNR=18
comp=Z,3.0nm,0.6s
EMB Emerald Bay 84.06 43 P **P** **01 28 41.5 +3.2**
EMB IAmb IAmb 01 28 41.5
comp=Z,6.2nm,0.8s
SNAA Sanae 84.45 179 P **P** **01 28 39.7 +0.2**
SNAA IAmb IAmb 01 29 09.3
comp=Z,7.8nm,1.3s
TXAR Lajitas Array 90.49 58 P **P** **01 29 08.5 -0.3**
comp=Z,1.1nm,0.8s,baz=205,slow=6.6,SNR=5.1
comp=Z,1.1nm,0.8s
OXIG Oaxaca 90.86 72 P P 01 29 16.5 +5.6
ILAR Eielson Array 92.23 14 P **P** **01 29 14.9 -0.9**
comp=Z,1.0nm,1.2s,baz=233,slow=7.5,SNR=2.3
comp=Z,1.0nm,1.2s
PDAR Pinedale Array 92.80 44 P **P** **01 29 18.7 -0.6**
comp=Z,0.4nm,0.7s,baz=257,slow=3.6,SNR=1.8
comp=Z,0.4nm,0.7s
FINES FINESS Array B 138.67 341 PKP **PKPdf** **01 35 28.1 -0.2**
comp=Z,1.3nm,0.8s,baz=93,slow=2.8,SNR=2.2
HFS Hagfors 142.77 349 PKP **PKPdf** **01 35 32.3 -3.4**
comp=Z,1.7nm,0.3s,baz=60,slow=3.6,SNR=14
EKA Eskdalemuir Ar 148.73 4 PKPbc **PKPbc** **01 35 49.0 -1.4**
comp=Z,0.3nm,0.3s,baz=334,slow=2.5,SNR=7.0
TORD Torodi Ar. Bea 168.98 188 PKPab **PKPab** **01 37 24.6 -0.2**
comp=Z,0.6nm,0.6s,baz=159,slow=4.0,SNR=4.3

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*CATAC **29** 01:21:47.5±0.4, 13°.96N×91°.31W, h30^{km}±6^{km}, ML5.0*
*NEIC **29** 01:21:48.6±1.5, 14°.12N±0°.06×91°.24W±0°.06, h70^{km}±6^{km}, mb4.5/177, Mwr4.7/13, Error ellipse: s-maj=10.7km s-min=6.5km az=218.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.68; $M_{\theta\theta}$-0.40; $M_{\phi\phi}$-0.28; $M_{r\theta}$0.81; $M_{\theta\phi}$0.36; $M_{\phi r}$-0.55; Fault plane solution: $M_0$1.20000×10^{16} NP1:ϕ_s125.25000°, δ72.40000°, λ86.97000°. NP2:ϕ_s315.17000°, δ17.85000°, λ99.45000°. Principal axes: T 1.1951, Plg62.0000°, Azm31.0000°; N 0.0179, Plg3.0000°, Azm126.0000°; P -1.2130, Plg27.0000°, Azm218.0000°;*
*GCMT **29** 01:21:48.6±0.5, 14°.08N±0°.03×91°.26W±0°.04, h69^{km}±3^{km}, MW4.7/64, Moment Tensor Solution. s21,c28; s64,c83; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.45±.11; $M_{\theta\theta}$-1.22±.09; $M_{\phi\phi}$-0.23±.11; $M_{r\theta}$0.38±.06; $M_{\theta\phi}$0.49±.06; $M_{\phi r}$-0.42±.06; Best double couple: $M_0$1.54000×10^{16} NP1:ϕ_s121.00000°, δ55.00000°, λ100.00000°. NP2: ϕ_s284.00000°, δ36.00000°, λ76.00000°. Principal axes: T 1.5730, Plg77.0000°, Azm64.0000°; N -0.0700, Plg8.0000°, Azm295.0000°; P -1.5080, Plg10.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **29** 01:21:48.8, 14°.13N×91°.23W, h73^{km}*
*GCG **29** 01:21:50.4±0.6, 14°.26N×91°.25W, h49^{km}±16^{km}, MD4.4*
*IDC **29** 01:21:51.4±1.3, 14°.35N×90°.83W, h105^{km}±6^{km}, mb3.8/15, mbtmp4.2/18, MS3.6/35, Error ellipse: s-maj=26.2km s-min=11.0km az=52.0*
*SNET **29** 01:21:54.5±9.7, 14°.29N×90°.72W, h47^{km}, ML4.9*
ISC 29 01:21:47.0±0.7, **14°.03N**±0°.05×**91°.29W**±0°.04, **h75**^{km}±6^{km}, **n502**, σ**1°19**/459, **mb4.5**/84, **Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.38**	**315**	*eP*		**Pn**	**01 21 59.4**	**+0.1**
FUG	**Fuego 3**	**0.60**	**47**	*eP*		**Pn**	**01 22 01.5**	**0.0**
RTAL	**Retalhuleu**	**0.62**	**321**	Pn		**Pn**	**01 22 00.5**	**-1.0**
RTAL				Sn		**Sn**	**01 22 10.5**	**-1.7**
RTAL	**Retalhuleu**	**0.62**	**321**	*eP*		**Pn**	**01 22 00.6**	**-1.0**
RTAL				*eS*		**Sn**	**01 22 11.0**	**-1.2**
RTAL	**Retalhuleu**	**0.62**	**321**	*i P*		**Pn**	**01 22 00.7**	**-0.8**
RTAL				*i S*		**Sn**	**01 22 10.1**	**-2.1**
RTAL				IAML			01 22 15.7	
comp=Z,19μm,1.0s								
STG3	**Santiaguito 3,**	**0.72**	**338**	*eP*		**Pn**	**01 22 02.6**	**-0.2**
PCG	**Pacaya**	**0.75**	**62**	*eP*		**Pn**	**01 22 03.6**	**+0.4**
GUMI	**Mixco**	**0.89**	**48**	*i P*		**Pn**	**01 22 05.2**	**+0.6**
GUMI				*i S*		**Sn**	**01 22 17.4**	**-0.3**
GUMI				IAML			01 22 22.9	
comp=Z,130μm,1.0s								
GCG4	**OSOP**	**0.92**	**53**	*i P*		**Pn**	**01 22 05.7**	**+0.7**
GCG4				IAML			01 22 06.4	
comp=Z,42μm,1.0s								
GCG4				*i S*		**Sn**	**01 22 19.4**	**+1.1**
SMSP	**San Marcos**	**1.05**	**333**	*i P*		**Pn**	**01 22 06.6**	**-0.1**
SMSP				*i S*		**Sn**	**01 22 21.5**	**+0.2**
SMSP				IAML			01 22 22.1	
comp=Z,69μm,1.0s								
NBG	**Las Nubes**	**1.07**	**59**	*eP*		**Pn**	**01 22 08.4**	**+1.5**
GUNB	**GUNB**	**1.07**	**59**	*i P*		**Pn**	**01 22 08.0**	**+1.0**
GUNB				*i S*		**Sn**	**01 22 23.3**	**+1.4**
GUNB				IAML			01 22 24.9	
comp=Z,35μm,1.0s								
APG	**El Apazote**	**1.25**	**40**	P		**Pn**	**01 22 09.5**	**+0.3**
comp=Z,45nm,0.4s,baz=196,slow=13,SNR=609								
APG				S		**Sn**	**01 22 25.1**	**-0.7**
comp=Z,414nm,0.7s,baz=98,slow=15,SNR=16								
APG				LR		LR	01 22 35.5	
comp=Z,47nm,21.9s,baz=259,slow=60								
QUIS	**Sacapulas**	**1.26**	**9**	*i P*		**Pn**	**01 22 10.3**	**+1.0**
QUIS				*i S*		**Sn**	**01 22 28.2**	**+2.3**
QUIS				IAML			01 22 30.6	
comp=Z,8μm,1.0s								
THIG		**1.28**	**313**			**Pn**	**01 22 09.2**	**-0.1**
HUEH	**Huehuetenango**	**1.29**	**351**	Pn		**Pn**	**01 22 09.9**	**+0.2**
HUEH				Sn		**Sn**	**01 22 25.0**	**-1.7**
HUEH	**Huehuetenango**	**1.29**	**351**	*i P*		**Pn**	**01 22 10.6**	**+0.9**
HUEH				*eS*		**Sn**	**01 22 29.7**	**+3.0**
HUEH	**Huehuetenango**	**1.29**	**351**	*i P*		**Pn**	**01 22 10.7**	**+0.9**
HUEH				*i S*		**Sn**	**01 22 28.9**	**+2.2**
HUEH				IAML			01 22 35.4	
comp=Z,11μm,1.0s								
SLOZ	**Alcaldia de Sa**	**1.46**	**90**	*eP*		**Pn**	**01 22 12.2**	**+0.4**
SLOZ				*eS*		**Sn**	**01 22 31.3**	**+0.9**
LOAL	**Lomas de Alarc**	**1.47**	**91**	*i P*		**Pn**	**01 22 12.2**	**+0.4**
LOAL				*i S*		**Sn**	**01 22 31.7**	**+1.3**
LOAL				IAML			01 22 39.1	
comp=Z,27μm,1.0s								
NUBE	**Las Nubes**	**1.47**	**95**	*eP*		**Pn**	**01 22 12.2**	**+0.2**
NUBE				*eS*		**Sn**	**01 22 30.5**	**-0.2**
NUBE	**Las Nubes**	**1.47**	**95**	*i P*		**Pn**	**01 22 12.3**	**+0.3**
NUBE				*i S*		**Sn**	**01 22 30.5**	**-0.2**
NUBE				IAML			01 22 31.7	
comp=Z,19μm,1.0s								
JUAM	**Asuncion Mita**	**1.57**	**79**	*i P*		**Pn**	**01 22 13.3**	**+0.2**
JUAM				*i S*		**Sn**	**01 22 33.7**	**+0.9**
JUAM				IAML			01 22 38.4	
comp=Z,13μm,1.0s								
RTR	**El Retiro**	**1.60**	**95**	*eP*		**Pn**	**01 22 14.4**	**+0.7**
SBLS	**San Blas**	**1.63**	**97**	*eP*		**Pn**	**01 22 14.6**	**+0.5**
CEVE	**Cerro Verde**	**1.63**	**97**	*eP*		**Pn**	**01 22 14.8**	**+0.7**
CEVE				*eS*		**Sn**	**01 22 35.6**	**+1.0**
CEVE	**Cerro Verde**	**1.63**	**97**	*i P*		**Pn**	**01 22 14.9**	**+0.7**
CEVE				*i S*		**Sn**	**01 22 35.0**	**+0.4**
				IAML			01 22 37.1	
comp=Z,22μm,1.0s								
SNJE	**San Jose**	**1.65**	**96**	*eP*		**Pn**	**01 22 15.2**	**+0.9**
UNIC	**Universidad Ca**	**1.69**	**92**	*i P*		**Pn**	**01 22 14.8**	**0.0**
UNIC				*i S*		**Sn**	**01 22 36.6**	**+0.8**
UNIC				IAML			01 22 43.4	
comp=Z,4μm,1.0s								
JAYA	**Jayaque - finc**	**1.83**	**102**	*eP*		**Pn**	**01 22 17.2**	**+0.5**
JAYA				*eS*		**Sn**	**01 22 39.2**	**+0.1**
JAYA	**Jayaque - finc**	**1.83**	**102**	*i P*		**Pn**	**01 22 17.1**	**+0.4**
JAYA				*i S*		**Sn**	**01 22 38.0**	**-1.2**
JAYA				IAML			01 22 42.3	
comp=Z,39μm,1.0s								
CEDA	**San Andres**	**1.86**	**97**	*eP*		**Pn**	**01 22 17.6**	**+0.7**
CEDA				*eS*		**Sn**	**01 22 40.9**	**+1.3**
CEDA	**San Andres**	**1.86**	**97**	*i P*		**Pn**	**01 22 17.8**	**+0.9**
CEDA				*i S*		**Sn**	**01 22 40.4**	**+0.8**
CEDA				IAML			01 22 51.9	
comp=Z,19μm,1.0s								
MRL	**Marmol**	**1.87**	**56**	*eP*		**Pn**	**01 22 18.7**	**+1.4**
MTO3	**Montecristo**	**1.91**	**79**	Pn		**Pn**	**01 22 17.4**	**-0.3**
MTO3	**Montecristo**	**1.91**	**79**	*i P*		**Pn**	**01 22 17.6**	**-0.2**
MTO3				IAML			01 22 36.9	
comp=Z,3μm,1.0s								
MTO3				*i S*		**Sn**	**01 22 41.9**	**+0.8**
PMON	**Piamonte**	**1.95**	**99**	*eP*		**Pn**	**01 22 18.8**	**+0.6**
PMON	**Piamonte**	**1.95**	**99**	*i P*		**Pn**	**01 22 18.7**	**+0.6**
PMON				IAML			01 22 49.8	
comp=Z,16μm,1.0s								
ESQI	**Esquipulas**	**1.96**	**74**	Pn		**Pn**	**01 22 18.2**	**-0.2**
ESQI	**Esquipulas**	**1.96**	**74**	*eP*		**Pn**	**01 22 18.6**	**+0.2**
ESQI	**Esquipulas**	**1.96**	**74**	*i P*		**Pn**	**01 22 18.4**	**0.0**
ESQI				IAML			01 22 54.4	
comp=Z,5μm,1.0s								
QUEZ	**Alcaldia de Qu**	**1.97**	**96**	*eP*		**Pn**	**01 22 19.4**	**+1.0**
QUEZ	**Alcaldia de Qu**	**1.97**	**96**	*i P*		**Pn**	**01 22 19.0**	**+0.6**
QUEZ				*i S*		**Sn**	**01 22 43.8**	**+1.4**
QUEZ				IAML			01 22 48.0	
comp=Z,21μm,1.0s								
BOQS	**Boqueron**	**1.98**	**98**	*eP*		**Pn**	**01 22 19.1**	**+0.5**
LALI	**Alcalda de L**	**1.99**	**106**	*eP*		**Pn**	**01 22 19.5**	**+0.8**
LALI				*eS*		**Sn**	**01 22 43.0**	**+0.2**
LALI	**Alcalda de L**	**1.99**	**106**	*i P*		**Pn**	**01 22 19.4**	**+0.8**
LALI				*i S*		**Sn**	**01 22 43.1**	**+0.4**
LALI				IAML			01 22 48.9	
comp=Z,3μm,1.0s								
PIC2	**El Picacho**	**2.00**	**98**	*eP*		**Pn**	**01 22 19.6**	**+0.6**
SNET	**Serv Nac Est T**	**2.03**	**100**	Pn		**Pn**	**01 22 19.7**	**+0.4**
SNET	**Serv Nac Est T**	**2.03**	**100**	*eP*		**Pn**	**01 22 19.8**	**+0.4**
SNET	**Serv Nac Est T**	**2.03**	**100**	*i P*		**Pn**	**01 22 20.0**	**+0.7**
SNET				*i S*		**Sn**	**01 22 44.5**	**+0.6**
SNET				IAML			01 22 51.4	
comp=Z,17μm,1.0s								
PANCS	**Alcalda de**	**2.09**	**101**	*eP*		**Pn**	**01 22 20.7**	**+0.6**
PANCS				*eS*		**Sn**	**01 22 45.3**	**-0.1**
PANCS	**Alcalda de**	**2.09**	**101**	*i P*		**Pn**	**01 22 20.6**	**+0.5**
PANCS				*i S*		**Sn**	**01 22 44.9**	**-0.5**
PANCS				IAML			01 22 49.3	
comp=Z,22μm,1.0s								
LOMA	**Loma Larga**	**2.10**	**100**	*i P*		**Pn**	**01 22 20.8**	**+0.6**
LOMA				*i S*		**Sn**	**01 22 45.7**	**+0.2**
LOMA				IAML			01 22 53.3	
comp=Z,10μm,1.0s								
UDBS	**Universidad Do**	**2.10**	**98**	*i P*		**Pn**	**01 22 20.6**	**+0.4**
UDBS				IAML			01 22 55.9	
comp=Z,7μm,1.0s								
LFU	**La Fuente**	**2.13**	**97**	*eP*		**Pn**	**01 22 21.4**	**+0.8**
SJTE	**Alcalda de S**	**2.26**	**100**	*eP*		**Pn**	**01 22 23.4**	**+1.1**
SJTE	**Alcalda de S**	**2.26**	**100**	*i P*		**Pn**	**01 22 23.0**	**+0.6**
SJTE				IAML			01 23 02.2	
comp=Z,6μm,1.0s								
PAVA	**Las Pavas**	**2.31**	**98**	*eP*		**Pn**	**01 22 23.6**	**+0.5**
PAVA	**Las Pavas**	**2.31**	**98**	*i P*		**Pn**	**01 22 23.7**	**+0.6**
PAVA				IAML			01 23 04.5	
comp=Z,7μm,1.0s								
COEG	**Centro de Oper**	**2.38**	**100**	*eP*		**Pn**	**01 22 24.6**	**+0.7**
COEG	**Centro de Oper**	**2.38**	**100**	*i P*		**Pn**	**01 22 24.8**	**+0.8**
COEG				*i S*		**Sn**	**01 22 53.8**	**+1.6**
COEG				IAML			01 23 05.1	
comp=Z,5μm,1.0s								
CCIG	**Comitan**	**2.38**	**340**	Pn		**Pn**	**01 22 25.7**	**+1.6**
UESV	**Universidad de**	**2.46**	**99**	*i P*		**Pn**	**01 22 25.5**	**+0.4**
UESV				IAML			01 23 04.3	
comp=Z,3μm,1.0s								
TECO	**Alcaldia de Te**	**2.49**	**101**	*i P*		**Pn**	**01 22 26.0**	**+0.6**
TECO				*i S*		**Sn**	**01 22 55.3**	**+0.5**
TECO				IAML			01 23 02.7	
comp=Z,3μm,1.0s								
PCIG		**2.50**	**312**			**Pn**	**01 22 25.6**	**+0.1**
SCLA	**Alcaldia de Sa**	**2.51**	**97**	*eP*		**Pn**	**01 22 26.3**	**+0.5**
SCLA	**Alcaldia de Sa**	**2.51**	**97**	*i P*		**Pn**	**01 22 26.6**	**+0.9**
SCLA				IAML			01 23 23.4	
comp=Z,1μm,1.0s								
PACA	**Pacayal**	**2.94**	**101**	*i P*		**Pn**	**01 22 33.0**	**+1.4**
PACA				IAML			01 23 31.2	
comp=Z,19μm,1.0s								
RANC	**El Ranchito**	**2.98**	**101**	*i P*		**Pn**	**01 22 33.4**	**+1.2**
RANC				IAML			01 23 24.5	
comp=Z,2μm,1.0s								
BLLM	**Bellamira**	**3.02**	**101**	*eP*		**Pn**	**01 22 34.3**	**+1.6**
PETF	**Flores**	**3.18**	**25**	Pn		**Pn**	**01 22 35.0**	**+0.3**
PETF	**Flores**	**3.18**	**25**	*eP*		**Pn**	**01 22 35.8**	**+1.1**
PETF	**Flores**	**3.18**	**25**	*i P*		**Pn**	**01 22 35.9**	**+1.1**
PETF				IAML			01 23 40.4	
comp=Z,2μm,1.0s								
TGIG		**3.25**	**327**			**Pn**	**01 22 35.7**	**-0.1**
LCND	**La Caada**	**3.38**	**102**	*i P*		**Pn**	**01 22 38.5**	**+1.0**
LCND				IAML			01 23 25.7	
comp=Z,2μm,1.0s								
CNCH	**Conchagua**	**3.44**	**102**	*i P*		**Pn**	**01 22 39.4**	**+0.9**
CNCH				IAML			01 23 30.1	
comp=Z,5μm,1.0s								
TGUH	**Tegucigalpa,Un**	**3.90**	**89**	Pn		**Pn**	**01 22 43.9**	**-0.8**
CRIN	**San Cristobal**	**4.33**	**107**	Pn		**Pn**	**01 22 51.9**	**+1.3**
PKGN	**Cerro Pekin**	**4.41**	**107**	*i P*		**Pn**	**01 22 53.6**	**+2.0**
PKGN				IAML			01 23 58.9	
comp=Z,4μm,1.0s								
HERN	**Volcan Telica**	**4.57**	**108**	*i P*		**Pn**	**01 22 54.7**	**+0.9**
HERN				IAML			01 23 57.4	
comp=Z,2μm,1.0s								
CMIG	**Matias Romero**	**4.61**	**312**			**Pn**	**01 22 54.1**	**-0.1**
CMIG						**Sn**	**01 23 46.5**	**+0.1**
CMIG	**Matias Romero**	**4.61**	**312**	P		**Pn**	**01 22 54.9**	**+0.7**
comp=Z,56nm,0.3s,baz=142,slow=11,SNR=103								
CMIG				S		**Sn**	**01 23 47.1**	**+0.6**
comp=Z,57nm,0.3s,baz=201,slow=18,SNR=3.7								
PACN	**Al O del Volca**	**4.64**	**109**	*i P*		**Pn**	**01 22 55.9**	**+1.2**
PACN				IAML			01 23 56.2	
comp=Z,1μm,1.0s								
ROCN	**Rota Cerro Neg**	**4.68**	**108**	*i P*		**Pn**	**01 22 56.6**	**+1.4**
ROCN				IAML			01 24 01.9	
comp=Z,560nm,1.0s								
CNGA	**Al SSO del Vol**	**4.72**	**108**	*i P*		**Pn**	**01 22 57.0**	**+1.1**
CNGA				IAML			01 23 53.3	
comp=Z,760nm,1.0s								
CNGN	**Cerro Negro**	**4.72**	**108**	*i P*		**Pn**	**01 22 56.2**	**+0.3**
CNGN				IAML			01 24 06.5	
comp=Z,1μm,1.0s								
MOM2	**El Cardon**	**4.94**	**108**	*i P*		**Pn**	**01 23 00.3**	**+1.5**
MOM2				IAML			01 24 11.5	
comp=Z,520nm,1.0s								
HZTE	**Horizontes, Gu**	**6.47**	**120**	Pn		**Pn**	**01 23 21.8**	**+2.1**
ORTG	**Ortega, Santa**	**6.77**	**122**	Pn		**Pn**	**01 23 25.6**	**+1.7**
TEIG	**Tepich**	**6.80**	**25**	Pn		**Pn**	**01 23 25.1**	**+1.0**
TEIG	**Tepich**	**6.80**	**25**	LR		LR	01 26 31.9	
comp=Z,6μm,21.8s,slow=44								
JTS	**Las Juntas de**	**7.23**	**120**	Pn		**Pn**	**01 23 31.5**	**+1.4**
JTS	**Las Juntas de**	**7.23**	**120**	P		**Pn**	**01 23 32.0**	**+1.9**
comp=Z,10nm,0.3s,baz=299,slow=20,SNR=7.7								
JTS				S		**Sn**	**01 24 50.2**	**-0.6**
comp=Z,12nm,0.5s,baz=332,slow=20,SNR=1.0								
JACO	**JACO, Garabito**	**7.81**	**123**			**Pn**	**01 23 38.7**	**+0.7**
TLIG	**Tlapa**	**7.83**	**298**	Pn		**Pn**	**01 23 40.1**	**+1.7**
LCR2	**La Lucha 2**	**8.31**	**120**	Pn		**Pn**	**01 23 46.3**	**+1.2**
PEZE	**Perez Zeledon,**	**8.77**	**121**	Pn		**Pn**	**01 23 52.6**	**+1.3**
SRBA	**San Rafael, Bu**	**9.12**	**121**	Pn		**Pn**	**01 23 58.1**	**+2.2**
BRU2	**Volcan**	**9.91**	**121**	Pn		**Pn**	**01 24 09.0**	**+2.2**
JRQG	**Juriquilla Cam**	**10.97**	**308**	Pn		**Pn**	**01 24 21.9**	**+0.6**
MOIG	**Morelia**	**11.01**	**302**	Pn		**Pn**	**01 24 23.1**	**+1.2**
SOR	**Soroa**	**11.73**	**41**	Pn		**Pn**	**01 24 31.3**	**-0.2**
ZAIG	**Zacatecas**	**13.78**	**311**	Pn		**Pn**	**01 25 01.2**	**+1.9**
PAYG	**Puerto Ayora**	**14.65**	**176**	Pn		**P**	**01 25 13.9**	**-0.9**
833A	**Chaparral WMA,**	**16.09**	**333**	P		**Pn**	**01 25 30.6**	**+1.8**
comp=Z,150								
EF01	**Eagle Ford 01**	**16.39**	**338**	Pn		**Pn**	**01 25 33.4**	**+0.8**
MLDN	**Muldoon**	**16.56**	**342**	Pn		**Pn**	**01 25 34.9**	**+0.4**
DWPF	**Disney Wildern**	**16.74**	**32**	P		**Pn**	**01 25 36.8**	**0.0**
baz=215								
HNDO	**Hondo**	**17.10**	**336**	Pn		**Pn**	**01 25 41.2**	**-0.1**
DRIO	**Del Rio**	**17.58**	**332**			**P**	**01 25 48.2**	**+1.0**
435B	**Jarrell**	**17.65**	**342**	P		**P**	**01 25 49.8**	**+1.8**
baz=159								
NATX	**Nacogdoches**	**17.91**	**351**	P		**P**	**01 25 52.5**	**+1.7**
baz=169								
JCT	**Junction City**	**18.15**	**336**	P		**Pn**	**01 25 55.6**	**+1.5**
baz=152								
250A	**Grady**	**18.44**	**14**	Pn		**P**	**01 25 58.4**	**+1.7**
250A				IAmb		IAmb	01 26 01.2	
comp=Z,30nm,0.9s								
BRDY	**Brady**	**18.57**	**339**	P		**P**	**01 25 59.7**	**+1.6**
HPIG		**18.58**	**316**	P		**P**	**01 25 59.0**	**+0.6**
TIGA	**Tifton**	**18.71**	**21**	P		**P**	**01 26 00.7**	**+1.1**
baz=204								
SAND	**Sanderson**	**18.74**	**329**	Pn		**Pn**	**01 26 02.7**	**+1.5**
WHTX	**Lake Whitney,**	**18.75**	**344**	P		**P**	**01 26 02.3**	**+2.3**
baz=161								
TXAR	**Lajitas Array**	**19.05**	**325**			**P**	**01 26 04.5**	**+1.0**
TXAR	**Lajitas Array**	**19.05**	**325**	P		**P**	**01 26 04.9**	**+1.4**
comp=Z,2.9nm,0.9s,baz=151,slow=12,SNR=18								
ROSC	**El Rosal**	**19.06**	**117**	P		**Pn**	**01 26 04.7**	**-0.7**
ROSC	**El Rosal**	**19.06**	**117**	P		**Pn**	**01 26 04.4**	**-1.0**
comp=Z,13nm,0.8s,baz=41,slow=19,SNR=7.1								
TX31	**Lajitas Ar. Si**	**19.06**	**325**	P		**P**	**01 26 04.5**	**+1.0**
OZNA	**Ozona**	**19.09**	**333**	P		**P**	**01 26 04.5**	**+0.7**
TREL	**Terrell**	**19.12**	**348**	P		**P**	**01 26 04.3**	**+0.2**
TREL				IAmb		IAmb	01 26 29.3	
comp=Z,20nm,0.9s								
Z47A	**Carrollton**	**19.30**	**8**	IAmb		IAmb	01 26 17.0	
comp=Z,27nm,0.7s								
LRAL	**Lakeview Retre**	**19.32**	**11**	P		**P**	**01 26 07.4**	**+1.2**
LRAL				IAmb		IAmb	01 26 12.4	
comp=Z,30nm,1.0s								
LRAL	**Lakeview Retre**	**19.32**	**11**	P		**P**	**01 26 07.3**	**+1.1**
baz=192,SNR=14								
Z38A	**Mt. Pleasant**	**19.43**	**351**	IAmb		IAmb	01 26 10.2	
comp=Z,24nm,0.8s								
152A	**Waverly Hall**	**19.50**	**17**	IAmb		IAmb	01 26 34.2	
comp=Z,18nm,0.9s								
WLAR	**White Oak Lake**	**19.64**	**355**	P		**P**	**01 26 11.0**	**+1.3**
WLAR				IAmb		IAmb	01 26 41.1	
comp=Z,44nm,1.2s								
CCAR	**Cane Creek**	**19.80**	**359**	IAmb		IAmb	01 26 18.3	
comp=Z,28nm,0.9s								
FW03	**Perrin-Whitt E**	**19.90**	**343**	IAmb		IAmb	01 26 38.4	
comp=Z,28nm,0.9s								
154A	**Montrose**	**19.95**	**21**	P		**P**	**01 26 12.8**	**-0.2**
SGCY	**Sterling City**	**19.95**	**335**	P		**P**	**01 26 13.8**	**+0.6**
Z35A	**Perchaven, San**	**19.96**	**345**	IAmb		IAmb	01 26 38.6	
comp=Z,24nm,0.8s								
ABTX	**Abilene, Hawle**	**20.01**	**339**	IAmb		IAmb	01 26 16.9	
comp=Z,21nm,0.8s								
ABTX	**Abilene, Hawle**	**20.01**	**339**	P		**P**	**01 26 14.8**	**+0.9**
baz=156,SNR=13								
MNHN	**Monahans**	**20.19**	**330**	P		**P**	**01 26 17.2**	**+1.4**
MNHN				IAmb		IAmb	01 26 19.2	
comp=Z,20nm,0.7s								
Y49A	**Blount Mountai**	**20.23**	**12**	IAmb		IAmb	01 26 20.1	
comp=Z,18nm,0.8s								
OXF	**Oxford**	**20.46**	**4**	P		**P**	**01 26 18.0**	**-0.6**
OXF	**Oxford**	**20.46**	**4**	P		**P**	**01 26 19.8**	**+1.2**
baz=185								
MIAR	**Mount Ida**	**20.53**	**355**	P		**P**	**01 26 19.0**	**-0.3**
MIAR	**Mount Ida**	**20.53**	**355**	P		**P**	**01 26 20.4**	**+1.1**
baz=174								
LPIG	**La Paz**	**20.55**	**302**	LR		LR	01 35 29.3	
comp=Z,27nm,21.3s,baz=170,slow=39								
GOGA	**Godfrey**	**20.56**	**19**	P		**P**	**01 26 19.9**	**+0.2**
GOGA				IAmb		IAmb	01 26 45.0	
comp=Z,18nm,0.8s								
GOGA	**Godfrey**	**20.56**	**19**	P		**P**	**01 26 20.5**	**+0.8**
baz=202								
LOOK	**Love County**	**20.58**	**346**	P		**P**	**01 26 18.8**	**-1.0**
LOOK				IAmb		IAmb	01 26 46.8	
comp=Z,30nm,1.1s								
**

comp=Z,19nm,1.1s
TZTN Tazewell 23.46 16 P **P** **01 26 49.4 -0.6**
TZTN IAmb IAmb 01 27 16.9
comp=Z,20nm,0.9s
TZTN Tazewell 23.46 16 P **P** **01 26 50.1 +0.1**
baz=199
V55A Taylorsville 23.54 21 IAmb IAmb 01 26 52.5
comp=Z,13nm,0.7s
CCM Cathedral Cave 23.93 0 P **P** **01 26 53.5 -0.6**
CCM IAmb IAmb 01 26 55.8
comp=Z,22nm,0.8s
CCM Cathedral Cave 23.93 0 P **P** **01 26 54.6 +0.5**
baz=180
V58A Windy Hill, Pi 24.27 25 IAmb IAmb 01 26 58.3
comp=Z,19nm,0.7s
U56A King 24.27 22 IAmb IAmb 01 26 59.6
comp=Z,13nm,0.6s
CNNC Cliffs of the 24.32 27 P **P** **01 26 57.3 -0.4**
baz=213
S51A Beattyville 24.49 15 IAmb IAmb 01 27 26.9
comp=Z,23nm,1.1s
WCI Wyandotte Cave 24.50 10 P **P** **01 26 58.8 -0.6**
WCI IAmb IAmb 01 27 20.8
comp=Z,17nm,0.9s
WCI Wyandotte Cave 24.50 10 P **P** **01 26 59.2 -0.2**
baz=192
R50A Paris 24.93 13 IAmb IAmb 01 27 32.3
comp=Z,19nm,0.9s
BLA Blacksburg 25.04 21 P **P** **01 27 05.0 +0.7**
baz=206
P40A Paris 25.41 359 IAmb IAmb 01 27 09.7
comp=Z,16nm,0.8s
TUC Tucson 25.46 319 P **P** **01 27 10.2 +2.0**
baz=131
P38A Dawn 25.57 356 IAmb IAmb 01 27 11.3
comp=Z,13nm,0.9s
T59A Double "B" Far 25.93 26 IAmb IAmb 01 27 13.3
comp=Z,14nm,0.7s
PCRV Puerto La Cruz 26.34 95 LR LR 01 38 41.1
comp=Z,94nm,19.0s,slow=39
Q54A Coxs Mills 26.51 18 IAmb IAmb 01 27 46.2
comp=Z,13nm,0.9s
214A Organ Pipe Nat 26.57 316 P **P** **01 27 21.0 +2.8**
baz=127
ACSO Alum Creek Sta 27.10 14 P **P** **01 27 24.4 +1.6**
baz=198
O52A Adamsville 27.27 16 IAmb IAmb 01 27 52.5
comp=Z,19nm,1.1s
O53A New Philadelph 27.57 17 P **P** **01 27 27.6 +0.6**
baz=201
113A Mohawk Valley, 27.70 316 **P** **01 27 30.3 +2.0**
O54A Avella 27.75 18 IAmb IAmb 01 27 55.2
comp=Z,23nm,1.4s
GLA Glamis 28.59 316 P **P** **01 27 37.0 +0.7**
GLA IAmb IAmb 01 27 56.3
comp=Z,6.6nm,0.7s
M53A WI Miller and 28.83 17 P **P** **01 27 39.3 +1.1**
baz=202
PDMCI Parker Dam,Lak 28.89 318 P **P** **01 27 41.3 +2.5**
baz=129
SSPA Standing Stone 28.98 21 P **P** **01 27 38.3 -1.3**
SSPA Standing Stone 28.98 21 P **P** **01 27 40.1 +0.5**
baz=208
SWSC Sam W. Stewart 29.19 314 P **P** **01 27 44.8 +3.2**
baz=124
IKP In-Ko-Pah, Jac 29.25 314 P **P** **01 27 45.1 +3.0**
baz=123
BC3 Big Chuckawall 29.36 316 P **P** **01 27 45.9 +2.7**
baz=126
IRM Iron Mountain 29.46 317 P **P** **01 27 45.8 +1.9**
baz=127
MONP2 Monument Peak 29.60 314 P **P** **01 27 47.6 +2.1**
baz=123
M57A Sunshine Farm, 29.87 22 IAmb IAmb 01 27 49.8
comp=Z,6.9nm,0.7s
BELC Belle Mtn. Jos 29.93 316 P **P** **01 27 51.1 +2.8**
baz=126
TPFO Pinon Flats 30.02 315 P **P** **01 27 51.7 +2.7**
baz=124
PFO Pinyon Flats O 30.02 315 P **P** **01 27 51.8 +2.7**
baz=124
PFO Pinyon Flats O 30.02 315 LR LR 01 39 44.4
comp=Z,88nm,19.1s,baz=80,slow=36
GMRC Granite Mounta 30.17 317 P **P** **01 27 52.6 +2.2**
baz=127
BINY Binghamton 31.04 22 P **P** **01 27 58.7 +0.9**
baz=210
SPMN Marine on St. 31.11 358 IAmb IAmb 01 28 29.2
comp=Z,6.9nm,0.6s
SPMN Marine on St. 31.11 358 P **P** **01 27 59.5 +1.1**
baz=177
QSM Queen of Sheba 31.67 318 P **P** **01 28 05.0 +1.6**
QSM IAmb IAmb 01 28 06.6
comp=Z,7.1nm,1.2s
MPMC Manual Prospec 32.13 318 P **P** **01 28 09.6 +2.0**
baz=126,SNR=7.5
J58A Remsen 32.30 22 IAmb IAmb 01 28 09.1
comp=Z,5.2nm,0.7s
SADO Sadowa 32.33 16 IAmb IAmb 01 28 36.4
comp=Z,8.0nm,1.0s
SADO Sadowa 32.33 16 P **P** **01 28 07.7 -1.4**
comp=Z,4.5nm,0.6s,baz=222,slow=7.1,SNR=11
SADO LR LR 01 41 55.5
comp=Z,137nm,20.1s,baz=42,slow=38
comp=Z,4.5nm,0.6s
ARVC Arvin 32.50 315 P **P** **01 28 12.4 +1.7**
baz=123
ISA Isabella, Lake 32.55 316 P **P** **01 28 13.5 +2.2**
baz=124
L61B Northampton 32.56 26 P **P** **01 28 10.9 -0.2**
baz=215
GRAC Grapevine Rang 32.61 319 P **P** **01 28 14.1 +2.3**
baz=128
PDAR Pinedale Array 32.68 335 PcP **PcP** **01 30 55.9 -0.9**
comp=Z,0.3nm,0.6s,baz=180,slow=3.4,SNR=2.9
PDAR LR LR 01 45 18.4
comp=Z,50nm,19.2s,baz=136,slow=43
PKM Mcpherson Peak 33.05 314 P **P** **01 28 17.9 +2.2**
baz=122
VES Vestal, Richgr 33.06 316 P **P** **01 28 17.9 +2.3**
baz=124
LONY Lake Ozonia 33.64 22 P **P** **01 28 19.6 -1.0**
LONY Lake Ozonia 33.64 22 P **P** **01 28 21.0 +0.4**
baz=210
SNOW Snow King Moun 33.75 334 IAmb IAmb 01 28 52.4
comp=Z,6.0nm,1.0s
ELK Elko 33.84 326 IAmb IAmb 01 28 26.8
comp=Z,3.7nm,0.8s
ELK Elko 33.84 326 LR LR 01 44 10.7
comp=Z,73nm,19.1s,baz=138,slow=40
NV11 Mina Array Sit 33.99 321 IAmb IAmb 01 28 29.2
comp=Z,8.4nm,1.0s
NVAR Mina Array Bea 34.08 320 P **P** **01 28 25.6 +0.9**
NVAR PcP **PcP** **01 31 01.2 +0.5**
NVAR Mina Array Bea 34.08 320 P **P** **01 28 27.1 +2.4**
comp=Z,7.4nm,0.8s,baz=135,slow=8.6,SNR=40
NVAR PcP **PcP** **01 31 02.1 +1.3**
comp=Z,1.8nm,0.7s,baz=122,slow=3.9,SNR=8.0
NVAR LR LR 01 42 42.1
comp=Z,89nm,19.8s,baz=170,slow=37
comp=Z,7.4nm,0.8s
LHV Little Huntoon 34.09 320 IAmb IAmb 01 28 29.2
comp=Z,6.8nm,0.8s
IMW Indian Meadow 34.18 334 P **P** **01 28 25.6 0.0**
IMW PcP **PcP** **01 31 00.8 -0.2**
KVN Kaiserville 34.34 322 IAmb IAmb 01 28 31.5
comp=Z,4.7nm,0.9s
ETMB Extrema 34.36 132 P **P** **01 28 27.3 +0.2**
BMN Battle Mountai 34.72 324 IAmb IAmb 01 28 34.4
comp=Z,3.7nm,0.8s
YERR Yerington 35.00 320 IAmb IAmb 01 28 36.5
comp=Z,3.3nm,0.7s
PNTR Pine Nut 35.28 320 P **P** **01 28 36.2 +1.1**
PNTR IAmb IAmb 01 28 39.9
comp=Z,5.9nm,0.7s
HLID Hailey 35.48 331 P **P** **01 28 38.4 +1.7**
baz=139,SNR=5.8
PAHR Pah Rah Range 35.53 321 IAmb IAmb 01 28 41.6
comp=Z,5.8nm,1.0s
MPK Martis Peak 35.67 320 P **P** **01 28 38.3 -0.2**
MPK IAmb IAmb 01 28 45.8
comp=Z,8.3nm,1.1s
SAML Samuel 36.05 128 P **P** **01 28 41.3 -0.3**
SAML IAmb IAmb 01 28 41.8
comp=Z,6.2nm,0.8s
PKME Peaks-Kenny Pk 36.28 27 P **P** **01 28 44.0 +0.8**
baz=218
ULM Lac du Bonnet 36.31 355 P **P** **01 28 41.9 -1.5**
comp=Z,2.1nm,0.7s,baz=180,slow=11,SNR=5.0
ULM LR LR 01 44 23.5
comp=Z,109nm,20.6s,baz=268,slow=38
comp=Z,2.1nm,0.7s
PLID Pearl Lake 37.38 331 IAmb IAmb 01 28 55.1
comp=Z,3.7nm,0.8s
LPAZ La Paz 37.84 142 P **P** **01 28 58.5 +1.1**
comp=Z,1.3nm,0.8s,baz=318,slow=12,SNR=5.4
LPAZ LR LR 01 44 19.7
comp=Z,83nm,21.4s,baz=14,slow=36
comp=Z,1.3nm,0.8s
NEW Newport 40.27 333 P **P** **01 29 18.3 +1.6**
baz=139
NEW Newport 40.27 333 LR LR 01 48 10.4
comp=Z,76nm,18.0s,baz=136,slow=39
HOOD Mount Hood Mea 40.40 327 P **P** **01 29 19.0 +1.1**
VILB Vilhena 40.84 130 P **P** **01 29 22.2 +0.4**
LON Longmire 41.42 328 P **P** **01 29 27.6 +1.3**
LON IAmb IAmb 01 29 29.3
comp=Z,7.4nm,0.8s
PB14 IPOC Station P 43.50 152 P **P** **01 29 46.0 +2.3**
RPN Rapa Nui 44.51 203 LR LR 01 43 59.3
comp=Z,30nm,20.2s,baz=46,slow=30
SCHQ Schefferville 44.95 20 P **P** **01 29 52.8 -1.8**
comp=Z,5.2nm,0.7s,baz=215,slow=5.6,SNR=11
SCHQ PcP **PcP** **01 31 33.2 -1.4**
comp=Z,1.0nm,0.6s,baz=270,slow=3.0,SNR=1.0
SCHQ LR LR 01 49 25.5
comp=Z,142nm,19.0s,baz=218,slow=37
comp=Z,5.2nm,0.7s
LCO Las Campanas 47.19 155 P **P** **01 30 14.4 +1.7**
LCO IAmb IAmb 01 30 44.6
comp=Z,8.2nm,1.1s
BBB Bella Bella 48.07 330 LR LR 01 53 07.7
comp=Z,92nm,18.1s,baz=215,slow=39
CO03 El Pedregal 48.82 156 P **P** **01 30 26.7 +1.7**
CO03 IAmb IAmb 01 30 56.2
comp=Z,7.9nm,1.1s
CO02 Combarbal 49.02 157 P **P** **01 30 27.2 +0.5**
YKA Yellowknife Ar 51.15 346 P **P** **01 30 42.1 -0.1**
comp=Z,2.1nm,0.8s,baz=148,slow=7.1,SNR=36
YKA PcP **PcP** **01 31 57.1 +0.4**
comp=Z,1.2nm,0.7s,baz=151,slow=3.5,SNR=8.7
YKA LR LR 01 55 11.9
comp=Z,52nm,19.2s,baz=282,slow=39
comp=Z,2.1nm,0.8s
TOAD Toad River Com 51.36 338 P **P** **01 30 45.5 +1.6**
baz=136
BDFB Brasilia 51.96 123 P **P** **01 30 49.0 -0.1**
comp=Z,1.6nm,0.5s,baz=292,slow=15,SNR=3.0
BDFB LR LR 01 56 33.4
comp=Z,83nm,18.0s,baz=316,slow=40
comp=Z,1.6nm,0.5s
T35M Bob Quinn 52.06 334 P **P** **01 30 50.4 +1.3**
baz=129
FRB Frobisher Bay 52.13 13 LR LR 01 53 34.4
comp=Z,83nm,18.7s,baz=130,slow=37
DLBC Dease Lake 52.91 336 P **P** **01 30 56.7 +1.3**
baz=130
R33M Jennings River 53.90 336 P **P** **01 31 04.0 +1.3**
baz=130
Q32M Nakina River 54.14 335 P **P** **01 31 05.9 +1.4**
baz=128
SKAG Skagway 55.70 335 P **P** **01 31 17.0 +1.4**
baz=125
MMPY Sheldon Lake, 56.11 339 P **P** **01 31 20.3 +1.7**
baz=131
O30N Mendenhall 56.77 336 P **P** **01 31 24.3 +1.0**
baz=125
P29M Windy Craggy 56.82 334 P **P** **01 31 24.4 +0.8**
baz=123
N30M Aishikik Lake 57.57 336 P **P** **01 31 29.6 +0.8**
baz=124
YUK6 Outpost Mounta 57.79 335 P **P** **01 31 31.7 +1.0**
baz=123
M30M Minto, Yukon 58.09 337 P **P** **01 31 33.8 +1.3**
baz=125
M29M Somme Creek 58.66 336 P **P** **01 31 37.6 +1.1**
M29M IAmb IAmb 01 32 02.7
comp=Z,5.5nm,1.1s
M29M PcP **PcP** **01 32 27.4 +1.6**
M29M Somme Creek 58.66 336 P **P** **01 31 37.0 +0.5**
baz=124
YUK3 Moose Creek 59.09 335 P **P** **01 31 40.8 +1.2**
baz=121
K29M Barlow Dome 59.10 338 P **P** **01 31 40.3 +0.7**
baz=125
J30M Hart River 59.11 339 P **P** **01 31 40.5 +0.9**
baz=127
SFJD Kangerlussuaq 59.28 17 LR LR 01 57 55.6
comp=Z,96nm,18.5s,baz=216,slow=37
I30M Mount Dempster 59.52 340 P **P** **01 31 43.8 +1.4**
baz=127
CRQE Cirque 59.69 333 P **P** **01 31 44.6 +0.9**
baz=118
KAIM Kayak Island 59.90 332 P **P** **01 31 45.9 +0.9**
baz=116
DAWY Dawson 59.91 338 P **P** **01 31 45.8 +0.8**
baz=123
G31M Satah River 59.91 342 P **P** **01 31 45.9 +1.0**
baz=130
MCARA McCarthy VSAT 59.96 334 P **P** **01 31 46.6 +1.2**
baz=118
M27K Edge Creek, AK 59.96 335 P **P** **01 31 46.3 +0.8**
baz=120
F31M Tsiigehtchic 60.09 343 P **P** **01 31 47.2 +1.1**
baz=131
L27K Beaver Creek, 60.30 336 P **P** **01 31 48.9 +1.1**
baz=120
M26K Nabesna, AK 60.44 335 P **P** **01 31 49.5 +0.8**
baz=119
BMRM Bremner River 60.45 333 P **P** **01 31 49.2 +0.4**
baz=116
G30M tAoh Zraii Nji 60.54 341 P **P** **01 31 50.4 +1.1**
baz=128
INK Inuvik 60.60 343 P **P** **01 31 49.7 +0.1**
INK IAmb IAmb 01 31 50.4
comp=Z,1.8nm,0.7s
INK Inuvik 60.60 343 P **P** **01 31 50.0 +0.4**
baz=132
INK Inuvik 60.60 343 LR LR 02 01 25.0
comp=Z,68nm,18.1s,baz=183,slow=39
RES Resolute Bay 60.68 359 P **P** **01 31 48.2 -1.8**
comp=Z,1.7nm,0.7s,baz=184,slow=8.4,SNR=9.1
RES LR LR 02 00 46.2
comp=Z,82nm,18.1s,baz=24,slow=39
comp=Z,1.7nm,0.7s
N25K Chitina, Valde 60.73 334 IAmb IAmb 01 31 54.2
comp=Z,3.7nm,0.8s
N25K Chitina, Valde 60.73 334 P **P** **01 31 51.4 +0.6**
baz=117
EYAK Cordova Ski Ar 60.77 333 P **P** **01 31 51.8 +0.9**
baz=115
H29M Whitestone 60.77 340 P **P** **01 31 51.7 +0.8**
baz=125
F30M Barrier River 60.80 342 P **P** **01 31 51.7 +0.7**
baz=129
KLU Klutina 61.25 333 P **P** **01 31 55.2 +1.0**
baz=115
HARP HAARP 61.33 335 P **P** **01 31 55.7 +1.0**
baz=117
I27K Kandik River 61.54 339 P **P** **01 31 57.2 +1.1**
baz=122
M24K Tolsona, Glenn 61.63 334 P **P** **01 31 58.0 +1.2**
baz=116
J26L Joseph Creek 61.69 337 P **P** **01 31 58.2 +1.1**
baz=119
PAX Paxson 61.71 335 P **P** **01 31 58.3 +0.9**
baz=117
RIDG Independent Ri 61.82 336 P **P** **01 31 59.0 +1.0**
baz=118
H27K Steamboat Moun 61.84 339 P **P** **01 31 59.0 +0.9**
baz=122
E29M Blow River 61.91 342 P **P** **01 31 59.6 +1.2**
baz=127
I26K Coal Creek Min 61.94 338 P **P** **01 31 59.8 +1.1**
baz=120
SCM Sheep Creek Mo 62.01 334 P **P** **01 31 59.9 +0.6**
baz=114
F28M Old Crow 62.06 341 P **P** **01 32 00.3 +0.8**
baz=124,SNR=10
M23K Glacier View 62.16 333 P **P** **01 32 01.7 +1.4**
baz=114
G27K Doyon Strip 62.20 340 P **P** **01 32 01.3 +0.9**
baz=122
UPNV Upernavik 62.20 11 *i* P **P** **01 31 59.6 -0.7**
UPNV IAmb IAmb 01 32 02.9
comp=Z,7.9nm,0.8s
K24K Donnelly Dome 62.22 336 P **P** **01 32 01.0 +0.3**
baz=117
SEW Seward 62.29 331 P **P** **01 32 02.0 +0.9**
baz=111
KNK Knik Glacier 62.33 333 P **P** **01 32 02.6 +1.1**
KNK Knik Glacier 62.33 333 P **P** **01 32 02.6 +1.1**
baz=113
J25K Saicha River, 62.43 337 P **P** **01 32 03.0 +1.0**
baz=118
SML Sawmill 62.43 333 P **P** **01 32 03.1 +1.0**
baz=113
WAT6 Susitna Watana 62.49 334 P **P** **01 32 03.5 +0.8**
baz=114
E28M Babbage River 62.53 342 P **P** **01 32 03.3 +0.7**
baz=125
DHY Denali Highway 62.54 335 P **P** **01 32 03.2 +0.2**
baz=115
O22K Cooper Landing 62.55 332 P **P** **01 32 03.6 +0.8**
baz=111
D28M Stokes Point 62.72 343 P **P** **01 32 04.6 +0.7**
baz=126
PRP Porcupine Dome 62.91 338 P **P** **01 32 06.2 +0.9**
baz=118
E27K Coleen River 62.92 341 P **P** **01 32 06.5 +1.2**
baz=123
WAT1 Susitna Watana 62.93 334 P **P** **01 32 06.3 +0.9**
baz=114
HDA Harding Lake 62.95 336 P **P** **01 32 05.9 +0.5**
baz=116
KDAK Kodiak Island 63.05 328 P **P** **01 32 07.8 +1.6**
baz=107
IL31 63.08 337 P **P** **01 32 06.5 +0.2**
ILAR Eielson Array 63.08 337 P **P** **01 32 05.9 -0.5**
comp=Z,1.0nm,0.7s,baz=139,slow=5.0,SNR=7.7
comp=Z,1.0nm,0.7s
M22K Willow 63.20 333 P **P** **01 32 08.9 +1.8**
baz=111
Q20K Shuyak Island 63.20 329 P **P** **01 32 08.2 +1.0**
baz=108
OHAK Old Harbor 63.25 327 P **P** **01 32 08.5 +1.0**
baz=106
CAPN Captain Cook N 63.31 332 P **P** **01 32 09.0 +1.1**
baz=110
D27M Malcolm River 63.32 342 P **P** **01 32 08.4 +0.5**
baz=124
H25L Birch Creek 63.37 338 P **P** **01 32 09.3 +1.2**
baz=118
SUA Susitna One 63.37 332 P **P** **01 32 09.6 +1.1**
baz=111
MCK McKinley 63.45 335 P **P** **01 32 10.4 +1.6**
baz=114
F26K Sheenjek River 63.48 340 P **P** **01 32 10.3 +1.3**
baz=120
BMAR Burnt Mountain 63.50 340 P **P** **01 32 09.3 +0.2**
G25K Bearman Lake 63.70 339 P **P** **01 32 10.8 +0.5**
baz=118
O20K Slope Mountain 63.77 331 P **P** **01 32 11.5 +0.4**
baz=108
ICESG Greenland Ices 63.82 18 *i* P **P** **01 32 08.5 -3.1**
ICESG IAmb IAmb 01 32 11.7
comp=Z,3.7nm,0.7s
NEA2 Nenana 63.85 336 P **P** **01 32 12.6 +1.1**
baz=114
SKT Skwentna 63.90 333 P **P** **01 32 13.0 +1.1**
baz=110
TRF Thorofare Moun 63.90 335 P **P** **01 32 12.7 +0.7**
baz=112
H24K Noodor Dome 63.92 338 P **P** **01 32 13.0 +1.1**
baz=116
Q19K Cape Douglas, 63.92 329 P **P** **01 32 13.6 +1.6**
baz=107
F25K Christian Rive 63.93 340 P **P** **01 32 13.1 +1.1**
baz=118
P19K Oil Pt 63.93 330 P **P** **01 32 12.9 +0.8**
baz=108
N20K Mount Spurr 63.94 332 P **P** **01 32 12.9 +0.7**
baz=109
G24K Hadweenzic Riv 64.16 338 P **P** **01 32 14.5 +1.1**
baz=116
E25K Arctic Village 64.16 340 P **P** **01 32 14.1 +0.6**
baz=119
I23K Minto, Yukon-K 64.19 337 P **P** **01 32 14.8 +1.2**
baz=114
BPAW Bear Paw Mtn. 64.43 335 P **P** **01 32 16.2 +0.9**
baz=112
PPLA Purkeypile 64.51 334 P **P** **01 32 16.7 +0.7**
baz=110
H23K Yukon River 64.54 337 P **P** **01 32 16.5 +0.5**
baz=114
M20K Styx River 64.58 332 IAmb IAmb 01 32 39.1
comp=Z,8.6nm,1.4s
M20K Styx River 64.58 332 P **P** **01 32 17.3 +0.9**
baz=109
O19K Port Alsworth 64.62 330 P **P** **01 32 17.2 +0.7**
baz=107
CAST Castle Rocks 64.64 334 P **P** **01 32 17.5 +0.9**
baz=110
MLY Manley 64.69 336 P **P** **01 32 17.3 +0.4**
baz=112,SNR=5.9
P18K Big Mountain, 64.83 329 P **P** **01 32 18.6 +0.6**
baz=106
C26K Camden Bay 64.85 342 P **P** **01 32 19.0 +1.2**
baz=120
Q17K Contact Creek 64.87 328 P **P** **01 32 19.4 +1.0**
baz=104
N19K Bonanza Creek 64.88 331 P **P** **01 32 18.6 +0.3**
baz=107
O18K Koktuh Hills 64.95 330 P **P** **01 32 19.7 +1.0**
baz=106,SNR=5.2
D25K Kavik River 65.00 341 P **P** **01 32 19.4 +0.5**
baz=118
G23K Bananza Creek 65.08 338 P **P** **01 32 19.4 -0.1**
baz=114
L20K Farewell, AK 65.11 333 P **P** **01 32 20.0 +0.3**
baz=108
M19K Big River Lodg 65.16 332 P **P** **01 32 20.4 +0.4**
baz=107
I21K Tanana 65.23 336 P **P** **01 32 21.1 +0.7**
baz=111
H22K Ishtaitna Cre 65.26 337 P **P** **01 32 21.4 +0.8**
baz=112
Q16K King Salmon 65.37 329 P **P** **01 32 22.9 +1.5**
baz=104
P17K Kvichak River 65.38 329 P **P** **01 32 22.3 +0.8**
baz=104
L19K White Mountain 65.45 332 P **P** **01 32 22.0 +0.1**
baz=107
K20K Telida 65.47 334 P **P** **01 32 22.6 +0.7**
baz=108
E23K Chandalar 65.49 339 P **P** **01 32 22.7 +0.6**
baz=115
N18K Kilae Creek 65.50 331 IAmb IAmb 01 32 49.6
comp=Z,9.7nm,1.4s
N18K Kilae Creek 65.50 331 P **P** **01 32 22.9 +0.7**
baz=106
PPT Papeete 65.52 243 LR LR 01 55 37.4
comp=Z,52nm,20.7s,baz=23,slow=31
M18K Stony River 65.69 332 P **P** **01 32 24.1 +0.7**
baz=106
H21K Melozitna Rive 65.72 336 P **P** **01 32 24.3 +0.8**
baz=111
TOLK Toolik Lake Re 65.72 340 P **P** **01 32 24.2 +0.6**
baz=115
J20K Nowinta River 65.76 335 P **P** **01 32 24.2 +0.3**
baz=109
CHGN Chignik 65.77 326 P **P** **01 32 24.8 +0.9**
baz=101
O17K Koliganek Bris 65.85 330 P **P** **01 32 25.6 +1.2**
baz=104
C24K Franklin Bluff 65.91 341 P **P** **01 32 25.6 +0.9**
baz=116
SUMG Summit 66.02 15 *i* P **P** **01 32 24.1 -1.8**
SUMG IAmb IAmb 01 32 27.2
comp=Z,2.5nm,0.8s
N17K Nushagak Hills 66.08 330 IAmb IAmb 01 32 27.6
comp=Z,6.0nm,0.9s
N17K Nushagak Hills 66.08 330 P **P** **01 32 26.9 +0.9**
baz=104
CHNA Chernabura Isl 66.16 324 P **P** **01 32 27.3 +0.7**
baz=100
F22K John River 66.17 338 P **P** **01 32 27.5 +1.1**
baz=112
TTA Tatalina 66.18 333 P **P** **01 32 26.6 0.0**
TTA Tatalina 66.18 333 P **P** **01 32 27.1 +0.5**
baz=106
D23K Nanushuk River 66.22 340 P **P** **01 32 27.7 +1.0**
baz=114
L18K Granite Mounta 66.28 332 P **P** **01 32 28.4 +1.1**

	baz=105						
G21K	**Allakaket**	66.29	337	P	**P**	01 32 28.3	+1.1
	baz=110						
O16K	**Kokwok River B**	66.30	329	IAmb	IAmb	01 32 29.7	
	comp=Z,4.5nm,0.8s						
O16K	**Kokwok River B**	66.30	329	P	**P**	01 32 28.6	+1.3
	baz=103						
J19K	**Poorman**	66.32	334	P	**P**	01 32 28.2	+0.8
	baz=107						
S14K	**Fog Glacier**	66.39	326	P	**P**	01 32 29.2	+1.0
	baz=100						
M17K	**Holitna River**	66.42	331	P	**P**	01 32 29.3	+1.2
	baz=104						
F21K	**Alatna River**	66.53	338	P	**P**	01 32 29.8	+1.1
	baz=111						
C23K	**Itkillik River**	66.56	341	P	**P**	01 32 30.0	+1.1
	baz=114						
NEEM	**North Greenlan**	66.59	9	*i* P	**P**	01 32 26.9	-2.4
NEEM				IAmb	IAmb	01 32 30.4	
	comp=Z,3.4nm,0.8s						
SDPT	**Sand Point**	66.75	324	P	**P**	01 32 31.2	+0.9
	baz=99						
N16K	**Nishlik Lake**	66.83	330	P	**P**	01 32 31.6	+0.9
	baz=103						
D22K	**Ayikyak River**	66.86	340	P	**P**	01 32 31.9	+1.1
	baz=112						
L17K	**Donlin**	66.99	332	P	**P**	01 32 32.1	+0.3
	baz=104						
M16K	**Timber Creek**	67.04	331	P	**P**	01 32 33.1	+1.0
	baz=103						
H19K	**Roundabout Mou**	67.11	336	P	**P**	01 32 33.3	+0.9
	baz=107						
K17K	**Iditarod**	67.14	333	P	**P**	01 32 33.8	+1.1
	baz=104						
E21K	**Killik River**	67.14	339	P	**P**	01 32 33.1	+0.5
	baz=111						
F20K	**Avaraart Lake**	67.30	337	P	**P**	01 32 34.4	+0.8
	baz=108						
N15K	**Kwethluk River**	67.41	330	P	**P**	01 32 36.1	+1.7
	baz=101						
L16K	**Owhat River**	67.44	331	P	**P**	01 32 35.9	+1.4
	baz=103						
G19K	**Purcell Mounta**	67.54	336	P	**P**	01 32 37.0	+1.9
	baz=107						
M15K	**Kasigluk River**	67.80	330	P	**P**	01 32 37.5	+0.7
	baz=101						
E20K	**Nigu River**	67.85	339	P	**P**	01 32 38.5	+1.3
	baz=108						
E19K	**Redstone River**	67.98	338	P	**P**	01 32 39.4	+1.5
	baz=107						
F19K	**Shaleruckik Mo**	68.00	337	P	**P**	01 32 39.5	+1.5
	baz=106						
G18K	**Tagagawik**	68.09	336	P	**P**	01 32 39.8	+1.2
	baz=105						
D20K	**Etivluk River**	68.14	339	P	**P**	01 32 40.0	+1.0
	baz=108						
N14K	**Kuskokwak Cree**	68.15	329	P	**P**	01 32 40.4	+1.4
	baz=100						
J16K	**Anvik River**	68.29	333	P	**P**	01 32 41.5	+1.7
	baz=102						
L15K	**Ungalak Mounta**	68.37	331	P	**P**	01 32 41.7	+1.4
	baz=101						
A22K	**Sinclair Lake**	68.37	342	P	**P**	01 32 41.5	+1.2
	baz=111						
M14K	**Bethel**	68.43	330	P	**P**	01 32 42.5	+1.8
	baz=100,SNR=7.1						
K15K	**Wolf Creek Mou**	68.51	332	P	**P**	01 32 42.8	+1.6
	baz=101						
D19K	**Kuna River**	68.60	339	P	**P**	01 32 42.7	+0.9
	baz=106						
B20K	**Meade River**	68.73	340	P	**P**	01 32 43.8	+1.3
	baz=108						
G17K	**Kiwalik Mounta**	68.80	335	P	**P**	01 32 44.3	+1.3
	baz=103						
L14K	**Kuka Creek**	68.87	331	P	**P**	01 32 45.2	+1.7
	baz=100						
BORG	**Borgarnes**	68.88	26	LR	LR	02 00 37.2	
	comp=Z,10nm,20.4s,baz=250,slow=34						
M13K	**Dall Lake**	69.05	330	P	**P**	01 32 46.1	+1.5
	baz=98						
H16K	**Elim**	69.27	334	P	**P**	01 32 47.4	+1.4
	baz=101						
C19K	**Lookout Ridge**	69.29	339	P	**P**	01 32 47.6	+1.6
	baz=105						
J14K	**Nanvaranak Lak**	69.51	332	P	**P**	01 32 48.7	+1.2
	baz=99						
E17K	**Hotham Inlet**	69.61	337	P	**P**	01 32 49.5	+1.5
	baz=102						
C18K	**Utukok River**	69.73	338	P	**P**	01 32 50.1	+1.3
	baz=104						
UNV	**Unalaska Valle**	70.07	322	P	**P**	01 32 52.6	+1.6
	baz=93						
A19K	**Wainwright**	70.07	340	P	**P**	01 32 51.4	+0.6
	baz=104						
G15K	**Niukluk**	70.09	334	P	**P**	01 32 52.9	+1.9
	baz=100						
B18K	**Kokolik River**	70.12	339	P	**P**	01 32 52.6	+1.5
	baz=103						
M11K	**Mekoryuk**	70.45	329	P	**P**	01 32 54.4	+1.2
	baz=96						
F15K	**North Star Dit**	70.47	335	P	**P**	01 32 55.0	+1.7
	baz=99						
ANM	**Nome**	70.59	334	P	**P**	01 32 55.2	+1.2
	baz=98						
F14K	**Arctic Creek**	71.12	335	P	**P**	01 32 58.6	+1.4
	baz=98						
C16K	**Lisburne Hills**	71.16	338	P	**P**	01 32 58.7	+1.3
	baz=100						
NIKH	**Nikolski High**	71.44	321	P	**P**	01 33 01.4	+2.0
	baz=91						
TNA	**Tin City**	71.79	335	P	**P**	01 33 03.2	+2.0
	baz=96						
DAG	**Danmarks Havn**	72.47	13	*i* P	**P**	01 33 03.0	-2.1
DAG				IAmb	IAmb	01 33 04.5	
	comp=Z,2.3nm,0.7s						
GAMB	**Gambell**	73.28	333	P	**P**	01 33 12.0	+1.9
	baz=92						
NOR	**Nord**	73.97	8	*i* P	**P**	01 33 12.2	-1.7
NOR				IAmb	IAmb	01 33 13.9	
	comp=Z,0.8nm,0.7s						
JMIC	**Jan Mayen**	74.48	20	LR	LR	02 05 30.5	
	comp=Z,26nm,20.6s,baz=232,slow=35						
EKA	**Eskdalemuir Ar**	77.53	36	P	**P**	01 33 32.3	-2.4
	comp=Z,1.3nm,0.6s,baz=279,slow=6.6,SNR=9.0						
	comp=Z,1.3nm,0.6s						
ESDC	**Sonseca Array**	79.16	52	P	**P**	01 33 41.4	-2.6
	comp=Z,0.5nm,0.7s,baz=296,slow=7.0,SNR=3.0						
ESDC				LR	LR	02 04 42.6	
	comp=Z,31nm,19.2s,baz=258,slow=33						
	comp=Z,0.5nm,0.7s						
MDT	**Midelt**	79.79	59	LR	LR	02 07 40.6	
	comp=Z,26nm,18.1s,baz=309,slow=35						
SPITS	**Spitsbergen Ar**	79.92	12	P	**P**	01 33 46.5	-0.9
	comp=Z,5.8nm,0.9s,baz=318,slow=1.9,SNR=1.3						
SPITS				LR	LR	02 10 52.2	
	comp=Z,89nm,18.2s,baz=220,slow=37						
	comp=Z,5.8nm,0.9s						
NOA	**NORSAR Array B**	83.79	29	P	**P**	01 34 06.7	-1.4
	comp=Z,0.7nm,0.7s,baz=292,slow=4.8,SNR=3.3						
	comp=Z,0.7nm,0.7s						
DBIC	**Dimbokro**	84.97	84	LR	LR	02 06 39.1	
	comp=Z,20nm,21.2s,baz=238,slow=32						
ARCES	**ARCESS Array B**	85.89	18	LR	LR	02 11 36.3	
	comp=Z,35nm,21.6s,baz=300,slow=35						
DAVOX	**Davos/Dischmat**	87.37	42	LR	LR	02 12 11.2	
	comp=Z,31nm,18.1s,baz=288,slow=35						
GERES	**GERESS Array B**	89.14	40	LR	LR	02 10 40.6	
	comp=Z,26nm,20.5s,baz=274,slow=33						
TORD	**Torodi Ar. Bea**	89.70	77	P	**P**	01 34 34.8	-2.9
	comp=Z,0.5nm,0.9s,baz=305,slow=6.3,SNR=1.8						
TORD				LR	LR	02 14 28.3	
	comp=Z,27nm,18.1s,baz=128,slow=35						
	comp=Z,0.5nm,0.9s						
VRAC	**Vranov**	90.74	39	LR	LR	02 11 14.5	
	comp=Z,14nm,21.1s,baz=328,slow=33						
MA2	**Magadan**	91.38	333	LR	LR	02 21 18.4	
	comp=Z,35nm,18.1s,baz=95,slow=39						
YAK	**Yakutsk**	97.64	342	LR	LR	02 26 16.6	
	comp=Z,15nm,18.9s,baz=4.5,slow=40						
MLR	**Muntele Rosu**	98.11	39	LR	LR	02 20 05.3	
	comp=Z,20nm,19.1s,baz=307,slow=36						
KURBB	**Kurchatov Arra**	115.01	7	PKP	**PKiKP**	01 40 18.8	-0.7
	comp=Z,0.7nm,0.7s,baz=347,slow=1.9,SNR=12						
MKAR	**Makanchi Array**	119.18	5	PKP	**PKPdf**	01 40 26.9	-0.9
	comp=Z,0.5nm,0.6s,baz=14,slow=2.5,SNR=7.1						
WRA	**Warramunga Arr**	136.07	256	PKP	**PKiKP**	01 41 01.4	-0.8
	comp=Z,1.6nm,0.8s,baz=89,slow=1.5,SNR=10.0						
ASAR	**Alice Springs**	136.32	250	PKP	**PKiKP**	01 41 02.7	0.0
	comp=Z,0.6nm,0.8s,baz=124,slow=1.9,SNR=6.1						
CMAR	**Chiang Mai Arr**	146.17	342	PKPbc	**PKPbc**	01 41 20.1	+0.4
	comp=Z,8.8nm,0.7s,baz=325,slow=3.6,SNR=32						

MEX 29 01:28:31.1±1.0, 16°.41N×95°.17W, h27km±29km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	0.55	73	*i*	P		Pb	01 28 37.0	-5.3
NILT				*i*	S		Sb	01 28 44.8	-5.1
CMIG	**Matias Romero**	0.73	22	*i*	P		Pb	01 28 39.4	-6.0
CMIG				*e*	S		Sb	01 28 48.3	-6.7
HUIG	**Huatulco**	1.10	235	*e*	P		Pn	01 28 47.2	-3.6
HUIG				*e*	S		Sn	01 29 02.2	-2.9
CARR	**Arriaga**	1.22	97	*e*	P		Pn	01 28 49.4	-3.0
UXUV	**UXUV**	1.34	47	*e*	P		Pn	01 28 50.2	-3.8
UXUV				*e*	S		Sn	01 29 07.8	-3.1
NEUV	**Arroyo Zacate**	1.43	335	*i*	P		Pn	01 28 51.5	-3.9
NEUV				*i*	S		Sn	01 29 10.0	-3.4
VHO	**Vista Hermosa**	1.64	294	*i*	S		Sn	01 29 16.5	-2.2
PEIG	**Puerto Escondi**	1.94	258	*e*	P		Pn	01 29 00.5	-1.9
PEIG				*e*	S		Sn	01 29 25.9	0.0
PCIG		2.00	110		P		Sn	01 29 26.5	-0.8
PCIG		2.00	110	*i*	P		Pn	01 29 01.5	-1.7
PCIG				*e*	S		Sn	01 29 26.5	-0.8
YOIG	**Yosondua**	2.32	281		P		Pn	01 29 07.2	-0.6
YOIG	**Yosondua**	2.32	281	*e*	P		Pn	01 29 07.2	-0.6
YOIG				*e*	S		Sn	01 29 37.2	+1.6
PATR	**El Naranjo**	3.10	114	*e*	P		Pn	01 29 18.9	+0.4
PATR				*e*	P		Pb	01 29 21.2	-4.6
PATR				*i*	S		Sn	01 29 54.8	-0.1
PAVE	**Pavencul**	3.12	112	*e*	S		Sn	01 29 56.8	+1.4
CHUJ	**Union Juarez**	3.22	113	*e*	P		Pn	01 29 19.2	-1.0
CHUJ				*e*	S		Sn	01 29 58.5	+0.6

*IDC **29** 01:32:06.0±0.9, 55°.48N×166°.47E, h0km, mb3.5/9, mbtmp3.5/11, ML3.6/2, MS3.2/14, Error ellipse: s-maj=27.2km s-min=15.9km az=173.0*
*KRSC **29** 01:32:10.9±2.1, 55°.26N×166°.26E, h38km±11km, Ml4.1*
ISC 29 01:32:08.9±0.6, 55°.38N±0°.08×166°.65E±0°.05, h20km, n52, σ1§75/49, mb3.4/10, MS3.1/11, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	0.42	247	*e*	P		Pb	01 32 17.4	-0.2
BKI				*e*	S		Sb	01 32 23.7	+0.1
ZLN	**Zelenaya**	3.37	283	*e*	P		Pn	01 33 04.2	+3.7
BZGR	**Bezymyannyi-Gr**	3.42	282	*e*	P		Pn	01 33 03.4	+2.3
BZP	**Bezymyannyi-Pe**	3.51	281	*e*	P		Pn	01 33 04.0	+1.6
KLY	**Klyuchi**	3.51	288	*e*	P		Pn	01 33 02.0	-0.2
BZMR	**Bezymyannaya**	3.54	282	*e*	P		Pn	01 33 04.3	+1.5
BZWR	**Bezymyannyi-We**	3.54	282	*e*	P		Pn	01 33 04.3	+1.5
KRSR	**Krestovskiy**	3.54	286	*e*	P		Pn	01 33 03.6	+0.9
KIRR	**Kirishev**	3.62	282	*e*	P		Pn	01 33 05.6	+1.7
KMNR	**Kamenistaya**	3.66	279	*e*	P		Pn	01 33 06.6	+2.1
KPT	**Kopyto**	3.69	282	*e*	P		Pn	01 33 06.5	+1.7
TUMR	**Tumrok**	3.72	271	*e*	P		Pn	01 33 07.1	+1.9
SRDR	**Sredinnyy**	4.02	286	*e*	P		Pn	01 33 11.0	+1.7
SPN	**Mys Shipunski**	4.51	242	*e*	P		Pn	01 33 17.4	+1.5
SPN				*e*	S		Sn	01 34 06.2	-1.6
SMAR	**Somma**	5.06	249	*e*	P		Pn	01 33 25.6	+1.8
KRER	**Koryakskii**	5.07	249	*e*	P		Pn	01 33 26.0	+2.2
UGLR	**Uglovaya**	5.07	248	*e*	P		Pn	01 33 25.8	+2.0
AVH	**Avacha**	5.09	249	*e*	P		Pn	01 33 26.3	+2.2
KRX	**Arik**	5.10	250	*e*	P		Pn	01 33 25.8	+1.6
SHEM	**Shemya Is, Ala**	5.13	118	Pn			Pn	01 33 25.0	+0.5
	7.1nm,0.3s,baz=46,slow=3.4,SNR=10								
SHEM					Sn		Sn	01 34 21.8	-1.1
	4.1nm,0.3s,baz=224,slow=23,SNR=5.9								
	15nm,0.4s								
KOK	**Koryaka**	5.13	249	*e*	P		Pn	01 33 26.6	+1.9
PET	**Petropavlovsk**	5.25	247	*e*	P		Pn	01 33 29.2	+3.0
GNL	**Ganaly**	5.34	255	*e*	P		Pn	01 33 29.7	+2.2
KRMR	**Karymshinskiy**	5.62	247	*e*	P		Pn	01 33 32.5	+1.2
RUS	**Russkaya**	5.64	242	*e*	P		Pn	01 33 32.9	+1.4
RUS				*e*	S		Sn	01 34 34.0	-1.6
PETK	**Petropavlovsk-**	5.72	250	Pn			Pn	01 33 33.2	+0.6
	2.0nm,0.3s,baz=74,slow=16,SNR=20								
PETK					Sn		Sn	01 34 37.6	0.0
	0.6nm,0.3s,baz=84,slow=20,SNR=2.4								
PETK					LR		LR	01 35 59.7	
	comp=Z,165nm,19.8s,baz=30,slow=41								
	6.6nm,0.6s								
MTVR	**Mutnovka**	5.78	243	*e*	P		Pn	01 33 34.9	+1.3
MTVR				*e*	S		Sn	01 34 38.2	-1.1
ASAK	**Asacha**	5.98	244	*e*	P		Pn	01 33 39.1	+2.8
ASAK				*e*	S		Sn	01 34 45.0	+0.9
APC	**Apacha**	6.09	250	*e*	P		Pn	01 33 41.1	+3.4
KDTR	**Khodutka, Kamc**	6.23	239	*e*	P		Pn	01 33 41.5	+2.0
KDTR				*e*	S		Sn	01 34 47.1	-3.0
MA2	**Magadan**	9.53	303	LR			LR	01 38 12.8	
	comp=Z,67nm,18.8s,baz=94,slow=39								
ASAJ	**Asahikawa**	19.09	244	LR			LR	01 43 13.7	
	comp=Z,45nm,20.7s,baz=128,slow=35								
KLR	**Kul'dur**	22.04	268	LR			LR	01 46 23.6	
	comp=Z,53nm,20.0s,baz=329,slow=39								
TIXI	**Tiksi**	22.82	330	LR			LR	01 46 17.5	
	comp=Z,66nm,18.9s,baz=24,slow=38								
ILAR	**Eielson Array**	24.44	49	P			P	01 37 26.5	+0.6
	0.9nm,0.9s,baz=256,slow=8.5,SNR=9.7								
ILAR					LR		LR	01 48 02.3	
	comp=Z,63nm,18.1s,baz=74,slow=39								
	0.9nm,0.9s								
USRK	**Ussuriysk Ar.**	24.75	258	LR			LR	01 47 46.4	
	comp=Z,73nm,20.3s,baz=33,slow=38								
KSRS	**Korea Array**	31.62	252	LR			LR	01 50 13.2	
	comp=Z,18nm,20.0s,baz=30,slow=34								
JNU	**Nakatsue**	33.37	243	LR			LR	01 51 38.6	
	comp=Z,35nm,21.1s,baz=162,slow=35								
SONM	**Songino Array**	37.10	284	P			P	01 39 17.3	-0.4
	0.3nm,0.6s,baz=69,slow=7.9,SNR=3.0								
	0.3nm,0.6s								
YKA	**Yellowknife Ar**	38.84	47	P			P	01 39 32.1	+0.1
	0.2nm,0.6s,baz=297,slow=8.2,SNR=7.4								
	0.2nm,0.6s								
GUMO	**Guam**	45.00	211	LR			LR	01 54 11.9	
	comp=Z,53nm,21.1s,baz=116,slow=29								
SPITS	**Spitsbergen Ar**	45.47	352	P			P	01 40 25.3	-0.6
	8.3nm,0.9s,baz=62,slow=3.4,SNR=2.0								
KURBB	**Kurchatov Arra**	49.84	304	P			P	01 40 58.7	-1.4
	1.5nm,0.8s,baz=54,slow=7.7,SNR=15								
	1.5nm,0.8s								
MKAR	**Makanchi Array**	50.57	298	P			P	01 41 03.8	-1.9
	0.4nm,0.7s,baz=48,slow=5.7,SNR=4.8								
MKAR					LR		LR	02 04 54.6	
	comp=Z,14nm,18.0s,baz=62,slow=39								
	0.4nm,0.7s								
BVAR	**Borovoye Array**	51.92	310	P			P	01 41 15.2	-0.5
	0.9nm,0.7s,baz=67,slow=11,SNR=4.3								
	0.9nm,0.7s								
PDAR	**Pinedale Array**	53.06	66	P			P	01 41 24.0	-0.7
	0.3nm,0.9s,baz=328,slow=3.2,SNR=2.2								
	0.3nm,0.9s								
ULM	**Lac du Bonnet**	54.42	52	LR			LR	02 06 12.8	
	comp=Z,56nm,18.0s,baz=358,slow=38								
PFO	**Pinyon Flats O**	55.91	79	LR			LR	02 02 20.4	
	comp=Z,36nm,19.2s,baz=350,slow=32								
CMAR	**Chiang Mai Arr**	62.36	262	LR			LR	02 12 31.8	
	comp=Z,13nm,18.8s,baz=40,slow=39								
TXAR	**Lajitas Array**	66.24	73	P			P	01 42 57.4	+2.0
	0.5nm,0.6s,baz=298,slow=4.2,SNR=5.6								
	0.5nm,0.6s								
ASAR	**Alice Springs**	83.54	210	P			P	01 44 35.7	+0.6
	0.1nm,0.5s,baz=15,slow=6.1,SNR=1.3								
	0.1nm,0.5s								
QSPA	**South Pole Qui**	145.13	180	PKPbc			PKPbc	01 51 42.4	-0.5
	1.7nm,0.7s,baz=104,slow=12,SNR=3.5								

*TAP **29** 01:32:32.3, 21°.44N×121°.31E, h62km, ML3.6, C*
*ASIES **29** 01:32:32.3, 21°.44N×121°.31E, h62km, ML3.6, Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}-1.08; $M_{\theta\theta}$1.11; $M_{\phi\phi}$-0.04; $M_{r\theta}$0.12; $M_{\theta\phi}$-0.34; $M_{\phi r}$7.06; Fault plane solution: $M_0$7.15353×10^{21} NP1: ϕ_s180.25000°, δ87.90000°, λ-87.29000°. NP2: ϕ_s307.99000°, δ3.43000°, λ-142.21000°. Principal axes: T Plg42.8370°, Azm267.6350°; N Plg2.7100°, Azm0.1500°; P Plg47.0340°, Azm93.0630°;*
ISC 29 01:32:30.5±1.2, 21°.37N±0°.07×121°.33E±0°.05, h21km±5km, n71, σ1§27/98, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LYUB	**Lan-yu**	0.67	21	P			Pn	01 32 45.9	+1.1
	baz=24								
LYUB				S			Sn	01 32 55.5	+0.8
	baz=24								
LAY	**Lan-yu**	0.70	17	*i* P			Pn	01 32 46.2	+1.0
	baz=21								
LAY				S			Sn	01 32 56.2	+0.9
	baz=21								
TWKBT	**Hengchun**	0.74	320	⇓ *i* P			Pn	01 32 46.8	+1.1
	baz=311								
TWKBT				S			Sn	01 32 57.7	+1.4
	baz=311								
TWK1	**Hengchun**	0.75	320	P			Pn	01 32 46.8	+0.9
	baz=311								
TWK1				*e* S			Sn	01 32 58.2	+1.7
	baz=311								
SMST	**Manzhou Townsh**	0.79	325	*e* P			Pn	01 32 47.0	+0.6
	baz=317								
HEN	**Hengchun**	0.84	319	P			Pn	01 32 48.6	+1.6
	baz=308								
SLIU	**Shizi**	0.97	330	*e* P			Pn	01 32 49.6	+0.6
	baz=333								
SLIU				*e* S			Sn	01 33 02.4	+0.3
	baz=333								
TAWH	**Dawu Township**	1.05	337	P			Pn	01 32 50.4	+0.5
	baz=343								
TAWH				*e* S			Sb	01 33 03.5	+0.3
	baz=343								
TAW	**Tawu**	1.06	338	P			Pb	01 32 50.3	+0.2
	baz=346								
EAST	**Anshuo**	1.10	336	P			Pb	01 32 51.1	+0.2
	baz=345								
EAST				*e* S			Sn	01 33 05.5	+0.2
	baz=345								
SCZT	**Fangliau**	1.19	327	P			Pb	01 32 53.4	+0.9
	baz=317								
ECL	**Taimali**	1.27	344	P			Pn	01 32 52.8	-0.2
	baz=352								
ECL				S			Sn	01 33 07.9	-1.5
	baz=352								
LDUT	**Ludao**	1.30	6	P			Pn	01 32 53.8	+0.4
	baz=14								
LDUT				*e* S			Sn	01 33 10.1	-0.1
	baz=14								
TTN	**Taitung**	1.39	353	*e* P			Pn	01 32 55.0	+0.5
	baz=354								
TTN				*e* S			Sb	01 33 13.2	+0.2
	baz=354								
MASBT	**Mashibuluo**	1.39	333	*e* P			Pb	01 32 56.1	+0.3
	baz=339								
TWGBT	**Beinan**	1.46	351	*e* P			Pn	01 32 55.1	-0.5
	baz=351								
TWGBT				*e* S			Sn	01 33 13.2	-0.9
	baz=351								
TWG	**Pinlang**	1.46	351	*e* P			Pn	01 32 55.3	-0.4
	baz=351								
TWG				*e* S			Sn	01 33 12.8	-1.4
	baz=351								
TSMG	**Majia**	1.47	335	*e* P			Pb	01 32 57.2	0.0
	baz=340								
LONT	**Longtian**	1.54	353	*e* P			Pn	01 32 56.6	-0.1
	baz=347								
LONT				*e* S			Sn	01 33 15.1	-0.9
	baz=347								
SCST	**Cishan**	1.69	333	*e* P			Pb	01 33 01.2	+0.3
	baz=332								
ECS	**Chishang**	1.72	357	*e* P			Pn	01 32 59.8	+0.6
	baz=348								
ECS				*e* S			Sn	01 33 20.6	+0.1
	baz=348								
CHKT	**Chengkung**	1.72	1	*e* P			Pn	01 33 00.2	+1.0
	baz=352								
CHKT				*e* S			Sn	01 33 20.3	-0.2
	baz=352								
SLGT	**Liugui**	1.73	339	*e* P			Pb	01 33 01.7	+0.1
	baz=338								
EHD	**Haiduan**	1.77	356	*e* P			Pn	01 32 59.5	-0.5
	baz=349								
EHD				*e* S			Sn	01 33 20.2	-1.7
	baz=349								
CHKH	**Chenggong**	1.81	2	*e* P			Pn	01 33 01.4	+0.9
	baz=354								
CHKH				*e* S			Sn	01 33 22.8	0.0
	baz=354								
FULB	**Fuli**	1.82	359	*e* P			Pn	01 33 01.4	+0.8
	baz=350								
FULB				*e* S			Sn	01 33 23.2	+0.1
	baz=350								
ELDTW	**Lidau**	1.83	351	*e* P			Pn	01 33 01.3	+0.4
	baz=356								
ELDTW				S			Sn	01 33 21.1	-2.4
	baz=356								
SGST	**Jiashian**	1.84	338	*e* P			Pb	01 33 02.8	-0.6
	baz=338								
STYH	**Taoyuan**	1.86	344	*e* P			Pb	01 33 03.0	-0.8
	baz=344								
CHN1	**Nanshi**	1.95	338	*e* P			Pb	01 33 05.5	+0.1
	baz=337								
EYUL	**Yuli**	1.97	360	*e* P			Pn	01 33 04.0	+1.4
	baz=352								
WTP	**Ta-pu**	1.98	341	*e* P			Pb	01 33 05.8	0.0
	baz=341								
SNST	**Tainan City**	1.99	338	*e* P			Pb	01 33 06.6	+0.5
	baz=337								
YULB	**Yu-li**	2.01	359	*e* P			Pn	01 33 02.9	-0.3
	baz=352								
YULB				*e* S			Sn	01 33 25.9	-1.9
	baz=352								
TPUB	**Ta-pu**	2.03	342	*e* P			Pb	01 33 05.7	-1.0
	baz=341								
TWK	**Hsinying**	2.04	338	*e* P			Pb	01

YHNB	**Yeheng**	**3.28**	**1**	*eP*	**Pn**	**01 33 23.5**	**+2.7**
	baz=349							
VWUC	**VWUC**	**4.00**	**335**	*eP*	**Pn**	**01 33 31.7**	**+1.2**
	baz=343							
KNM	**Kinmen**	**4.04**	**319**	*eP*	**Pn**	**01 33 33.6**	**+2.5**
	baz=317							
KNMB	**Chin-men Tao**	**4.10**	**319**	*eP*	**Pn**	**01 33 33.5**	**+1.6**
	baz=318							
KNMB				*eS*	**Sn**	**01 34 18.5**	**-0.8**
	baz=318							
ZPLA	**Ao Xicun**	**4.17**	**308**	*eP*	**Pn**	**01 33 34.4**	**+1.5**
	baz=307							
PTMZ	**Houxiangcun**	**4.18**	**331**	*eP*	**Pn**	**01 33 34.4**	**+1.4**
	baz=331							
PTMZ				*eS*	**Sn**	**01 34 20.3**	**-0.9**
	baz=331							
VDOS	**Pratas Island**	**4.34**	**262**	*eP*	**Pn**	**01 33 37.3**	**+2.0**
	baz=260							
VDOS				*eS*	**Sn**	**01 34 22.8**	**-2.5**
	baz=260							
MATB	**Ma-tsu**	**4.92**	**345**	*eP*	**Pn**	**01 33 43.6**	**+0.3**
	baz=345							
MHZQ	**Yeshan**	**5.16**	**336**	*eP*	**Pn**	**01 33 47.9**	**+1.4**
	baz=336							
SXFK	**Yanhouchang**	**6.03**	**327**	*eP*	**Pn**	**01 33 59.3**	**+0.7**
	baz=326							
WRA	**Warramunga Arr**	**42.99**	**162**	P	**P**	**01 40 26.6**	**-1.8**
	0.7nm,0.7s,baz=344,slow=8.8,SNR=4.7							
	0.7nm,0.7s							
ASAR	**Alice Springs**	**46.41**	**164**	P	**P**	**01 40 55.7**	**0.0**
	0.3nm,0.4s,baz=348,slow=8.7,SNR=2.1							
	0.3nm,0.4s							

IDC 29 01:37:24.4±2.7, 72°.78N×5°.39E, h0km, mbtmp3.5/5, ML2.6/5, Error ellipse: s-maj=34.6km s-min=22.1km az=83.0, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPITS	**Spitsbergen Ar**	**6.07**	**22**	Pn	Pn	01 38 53.2	-2.0
	baz=207,slow=18						
	10nm,1.1s						
ARCES	**ARCESS Array B**	**7.26**	**107**	Pn	Pn	01 39 12.4	+0.9
	0.1nm,0.3s,baz=309,slow=11,SNR=6.4						
ARCES				Sn	Sn	01 40 30.9	-3.6
	0.2nm,0.3s,baz=305,slow=19,SNR=3.6						
	3.6nm,0.9s						
NOA	**NORSAR Array B**	**12.00**	**166**	Pn	Pn	01 40 17.4	+1.0
	baz=349,slow=14,SNR=1.3						
NOA				Sn	Sn	01 42 25.5	-5.4
	baz=323,slow=16,SNR=0.9						
	0.4nm,0.8s						
HFS	**Hagfors**	**13.11**	**161**	Pn	Pn	01 40 33.1	+1.7
	0.1nm,0.3s,baz=345,slow=14,SNR=4.2						
	1.2nm,0.7s						
FINES	**FINESS Array B**	**13.81**	**135**	Pn	Pn	01 40 40.8	-0.3
	0.1nm,0.3s,baz=340,slow=12,SNR=6.7						
	0.6nm,0.5s						

*TAP **29** 01:40:24.7, 24°.41N×121°.92E, h25km, ML3.5, B*
*ASIES **29** 01:40:24.7, 24°.41N×121°.92E, h25km, ML3.5, Mw3.2, Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm; M_{rr}0.73; $M_{\theta\theta}$5.42; $M_{\phi\phi}$-6.15; $M_{r\theta}$4.33; $M_{\theta\phi}$4.84; $M_{\phi r}$-1.08; Fault plane solution: M_o8.78539×10^{20} NP1: ϕ_s116.55000°, δ84.11000°, λ30.20000°. NP2:ϕ_s23.13000°, δ59.98000°, λ173.19000°. Principal axes: T Plg25.2370°, Azm344.0450°; N Plg59.2880°, Azm126.5550°; P Plg16.3300°, Azm246.1070°;*
*JMA **29** 01:40:24.7±0.2, 24°.3N±0°.9×12°.2E±°, h40km±3km, TAIWAN REGION*
ISC 29 01:40:24.7±0.9, 24°.39N±0°.02×121°.95E±0°.02, h19km±2km, n97, σ0s71/160, 4C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EWUT	**Wuta**	**0.16**	**289**	⇓*iP*	**Pg**	**01 40 29.7**	**+0.5**
	baz=288						
EWUT				S	**Sg**	**01 40 33.0**	**+0.8**
	baz=288						
ENA	**Nanau**	**0.19**	**281**	P	**Pg**	**01 40 30.0**	**+0.4**
	baz=278						
ENA				S	**Sg**	**01 40 33.7**	**+0.8**
	baz=278						
EAHA	**Aohua**	**0.20**	**252**	⇑P	**Pg**	**01 40 30.2**	**+0.5**
	baz=245						
EAHA				S	**Sg**	**01 40 34.4**	**+1.3**
	baz=245						
EHP	**Heping Village**	**0.20**	**246**	*eP*	**Pg**	**01 40 30.4**	**+0.6**
	baz=238						
EHP				*eS*	**Sg**	**01 40 35.1**	**+1.9**
	baz=238						
ESAO	**Su ao**	**0.20**	**333**	⇓P	**Pg**	**01 40 30.3**	**+0.5**
	baz=338						
ESAO				*eS*	**Sg**	**01 40 33.8**	**+0.6**
	baz=338						
TWC	**Suao**	**0.23**	**338**	⇓*iP*	**Pg**	**01 40 30.7**	**+0.4**
	baz=345						
TWC				*i* S	**Sg**	**01 40 34.5**	**+0.5**
	baz=345						
EOS2	**EOS2**	**0.26**	**84**	⇓*eP*	**Pn**	**01 40 32.4**	**-1.2**
	baz=86						
NDS	**Dongshan**	**0.32**	**319**	P	**Pb**	**01 40 32.0**	**+0.1**
	baz=322						
NDS				*eS*	**Sg**	**01 40 36.3**	**-0.1**
	baz=322						
EOS3	**EOS3**	**0.35**	**107**	*eP*	**Pb**	**01 40 33.6**	**+1.1**
	baz=107						
EOS3				*eS*	**Sn**	**01 40 39.9**	**-1.3**
	baz=107						
ETL	**Fush Village**	**0.38**	**232**	*eP*	**Pb**	**01 40 33.0**	**+0.1**
	baz=232						
ETL				*eS*	**Sb**	**01 40 39.9**	**+1.4**
	baz=232						
NACB	**Ninganchiao**	**0.39**	**236**	*eP*	**Pb**	**01 40 33.1**	**0.0**
	baz=236						
NACB				*eS*	**Sb**	**01 40 39.9**	**+1.1**
	baz=236						
LATG	**Datong**	**0.41**	**290**	⇑P	**Pg**	**01 40 33.3**	**+0.1**
	baz=298						
LATG				*eS*	**Sb**	**01 40 39.9**	**+0.4**
	baz=298						
ILA	**Ilan**	**0.41**	**334**	*eP*	**Pb**	**01 40 33.8**	**+0.2**
	baz=332						
ILA				*eS*	**Sb**	**01 40 40.3**	**+0.8**
	baz=332						
TWE	**Neicheng**	**0.41**	**322**	⇓P	**Pb**	**01 40 33.5**	**-0.1**
	baz=326						
TWE				*eS*	**Sg**	**01 40 38.8**	**-0.3**
	baz=326						
ENTT	**Nioudou**	**0.42**	**306**	*eP*	**Pb**	**01 40 33.6**	**-0.1**
	baz=307						
ENTT				*eS*	**Sb**	**01 40 39.7**	**-0.1**
	baz=307						
EOS4	**EOS4**	**0.43**	**128**	*eP*	**Pb**	**01 40 34.4**	**+0.8**
	baz=121						
NDT	**Datong Townshi**	**0.45**	**298**	P	**Pb**	**01 40 34.1**	**0.0**
	baz=299						
NDT				*eS*	**Sb**	**01 40 40.5**	**0.0**
	baz=299						
TWD	**Chiawan**	**0.45**	**226**	P	**Pb**	**01 40 34.2**	**+0.1**
	baz=225						
TWD				*eS*	**Sb**	**01 40 41.6**	**+1.2**
	baz=225						
EGS		**0.45**	**358**	*eP*	**Pb**	**01 40 34.4**	**+0.2**
	baz=4.0						
EGS				*eS*	**Sb**	**01 40 41.6**	**+1.0**
	baz=4.0						
ETLH	**Xiulin Townshi**	**0.46**	**246**	P	**Pg**	**01 40 34.2**	**0.0**
	baz=247						
ETLH				*eS*	**Sb**	**01 40 41.7**	**+0.7**
	baz=247						
NNSH	**Datong**	**0.51**	**274**	*eP*	**Pb**	**01 40 35.2**	**-0.1**
	baz=277						
NNSH				*eS*	**Sg**	**01 40 42.2**	**0.0**
	baz=277						
NNSB	**Datong**	**0.52**	**274**	⇑*iP*	**Pb**	**01 40 35.1**	**-0.2**
	baz=279						
NNSB				S	**Sg**	**01 40 42.0**	**-0.2**
	baz=279						
HWA	**Hwalien**	**0.52**	**217**	*eP*	**Pg**	**01 40 35.8**	**+0.7**
	baz=212						
NNS	**Nan Shan**	**0.52**	**275**	*eP*	**Pb**	**01 40 35.3**	**-0.1**
	baz=280						
NNS				*eS*	**Sb**	**01 40 42.1**	**-0.6**
	baz=280						
NWLT	**Wulai**	**0.56**	**314**	*eP*	**Pb**	**01 40 35.8**	**-0.1**
	baz=315						
NWLT				*eS*	**Sb**	**01 40 43.2**	**-0.3**
	baz=315						
TIPB	**Shuangxi**	**0.59**	**349**	*eP*	**Pg**	**01 40 36.4**	**-0.1**
	baz=357						
TIPB				*eS*	**Sg**	**01 40 44.7**	**+0.3**
	baz=357						
YHNB	**Yeheng**	**0.59**	**298**	P	**Pb**	**01 40 36.3**	**-0.1**
	baz=299						
YHNB				*eS*	**Sb**	**01 40 44.2**	**-0.2**
	baz=299						
ETM	**Tongmen**	**0.59**	**224**	P	**Pb**	**01 40 36.4**	**-0.1**
	baz=231						
ETM				*eS*	**Sn**	**01 40 46.2**	**-1.2**
	baz=231						
NSK	**Sanguang**	**0.60**	**298**	⇑P	**Pb**	**01 40 36.5**	**-0.2**
	baz=299						
NSK				S	**Sb**	**01 40 44.6**	**-0.2**
	baz=299						
LXIB	**Xiulin Townshi**	**0.61**	**233**	⇓*iP*	**Pb**	**01 40 36.6**	**-0.3**
	baz=230						
LXIB				*eS*	**Sg**	**01 40 46.1**	**+1.0**
	baz=230						
TWB1	**Santiao Chiao**	**0.61**	**4**	P	**Pg**	**01 40 37.0**	**+0.1**
	baz=2.0						
TWB1				*eS*	**Sg**	**01 40 45.1**	**-0.1**
	baz=2.0						
FUSS	**Fushou**	**0.66**	**257**	*eP*	**Pg**	**01 40 37.9**	**+0.1**
	baz=261						
FUSS				*eS*	**Sg**	**01 40 47.3**	**+0.6**
	baz=261						
WHF	**Hehuan Shan**	**0.67**	**249**	*eP*	**Pg**	**01 40 38.2**	**+0.1**
	baz=253						
WHF				*eS*	**Sg**	**01 40 47.9**	**+0.8**
	baz=253						
TWA	**Mucha**	**0.67**	**331**	*eP*	**Pg**	**01 40 38.1**	**+0.1**
	baz=326						
TWA				*eS*	**Sg**	**01 40 47.0**	**0.0**
	baz=326						
NHDH	**Xindian Distri**	**0.69**	**326**	*eP*	**Pb**	**01 40 38.1**	**0.0**
	baz=321						
NWF	**Wu-fen Shan**	**0.69**	**348**	*eP*	**Pg**	**01 40 38.6**	**+0.2**
	baz=343						
NWF				*eS*	**Sg**	**01 40 48.1**	**+0.4**
	baz=343						
WFSB	**Wu-fen Shan**	**0.69**	**348**	*eP*	**Pg**	**01 40 38.5**	**+0.1**
	baz=343						
WFSB				*eS*	**Sg**	**01 40 48.4**	**+0.7**
	baz=343						
SHUL	**Shoufeng**	**0.70**	**210**	*eP*	**Pg**	**01 40 38.8**	**+0.3**
	baz=208						
SXI1	**Grass Mountain**	**0.70**	**355**	*eP*	**Pg**	**01 40 38.7**	**+0.1**
	baz=360						
SXI1				*eS*	**Sg**	**01 40 48.8**	**+0.8**
	baz=360						
TWT	**Tachien**	**0.72**	**259**	*eP*	**Pg**	**01 40 39.5**	**+0.6**
	baz=258						
TWT				S	**Sg**	**01 40 49.5**	**+1.1**
	baz=258						
TDCB	**Techi**	**0.73**	**259**	*eP*	**Pg**	**01 40 39.2**	**0.0**
	baz=258						
TDCB				*eS*	**Sg**	**01 40 49.4**	**+0.4**
	baz=258						
ESL	**Shilin**	**0.74**	**219**	*eP*	**Pb**	**01 40 38.7**	**-0.4**
	baz=230						
TAP	**Taipei**	**0.76**	**328**	*eS*	**Sg**	**01 40 50.5**	**+0.8**
	baz=330						
TNOU	**National Taiwa**	**0.77**	**348**	*eP*	**Pg**	**01 40 39.8**	**-0.1**
	baz=346						
TNOU				*eS*	**Sb**	**01 40 49.7**	**0.0**
	baz=346						
CHGB	**Renai**	**0.78**	**245**	P	**Pb**	**01 40 39.8**	**0.0**
	baz=243						
CHGB				*eS*	**Sn**	**01 40 52.0**	**-0.2**
	baz=243						
NFF	**Wufeng Townshi**	**0.79**	**288**	*eP*	**Pg**	**01 40 40.2**	**0.0**
	baz=291						
YM01	**YM01**	**0.82**	**336**	*eP*	**Pg**	**01 40 40.9**	**0.0**
	baz=349						
YM01				*eS*	**Sn**	**01 40 52.5**	**-0.7**
	baz=349						
OWD	**Renai**	**0.83**	**238**	P	**Pb**	**01 40 40.2**	**-0.4**
	baz=236						
OWD				*eS*	**Sn**	**01 40 52.8**	**-0.5**
	baz=236						
WARBT	**Fenglin Townsh**	**0.84**	**217**	*eP*	**Pb**	**01 40 39.9**	**-0.9**
	baz=228						
TWS1	**Kuangyinshan**	**0.85**	**326**	*eP*	**Pg**	**01 40 41.3**	**-0.1**
	baz=338						
TWS1				*eS*	**Sg**	**01 40 53.1**	**+0.3**
	baz=338						
WUSB	**Renai**	**0.85**	**242**	P	**Pb**	**01 40 40.9**	**-0.2**
	baz=232						
WUSB				*eS*	**Sg**	**01 40 53.2**	**+0.4**
	baz=232						
YM08	**YM08**	**0.85**	**338**	P	**Pg**	**01 40 41.3**	**-0.2**
	baz=340						
YM08				*eS*	**Sg**	**01 40 53.1**	**+0.3**
	baz=340						
ANP	**Anpu**	**0.88**	**334**	*eP*	**Pb**	**01 40 41.3**	**-0.2**
	baz=336						
ANP				*eS*	**Sg**	**01 40 53.6**	**0.0**
	baz=336						
NTST	**Danshui**	**0.89**	**330**	*eS*	**Sn**	**01 40 54.9**	**+0.2**
	baz=341						
NSTT	**Nanjuang**	**0.89**	**286**	*eP*	**Pb**	**01 40 41.3**	**-0.4**
	baz=286						
NSTT				*eS*	**Sg**	**01 40 54.1**	**+0.1**
	baz=286						
NCUH	**Zhongli**	**0.90**	**310**	*eP*	**Pg**	**01 40 42.2**	**0.0**
	baz=297						
NCUH				*eS*	**Sn**	**01 40 55.9**	**+0.9**
	baz=297						
JYNG	**Yonagunijimaku**	**0.91**	**86**	*eP*	**Pb**	**01 40 42.1**	**+0.1**
JYNG				S	**Sn**	**01 40 55.4**	**+0.1**
WHP	**Taichung City**	**0.92**	**263**	*eP*	**Pg**	**01 40 42.8**	**+0.2**
	baz=268						
WHP				*eS*	**Sg**	**01 40 54.8**	**0.0**
	baz=268						
TWY	**Chenhua**	**0.93**	**340**	*eP*	**Pg**	**01 40 43.0**	**0.0**
	baz=343						
TWY				*eS*	**Sg**	**01 40 55.3**	**0.0**
	baz=343						
SBCB	**Hsinchu**	**0.96**	**295**	*eS*	**Sn**	**01 40 58.1**	**+1.6**
	baz=295						
VWDT	**VWDT**	**0.97**	**229**	P	**Pb**	**01 40 42.5**	**-0.5**
	baz=227						
VWDT				*eS*	**Sg**	**01 40 57.2**	**+0.7**
	baz=227						
YOJ	**Yonaguni jima**	**0.97**	**86**	P	**Pn**	**01 40 43.2**	**-0.2**
	baz=79						
YOJ				*eS*	**Sg**	**01 40 56.8**	**+0.3**
	baz=79						
YOJ	**Yonaguni jima**	**0.97**	**86**	*eS*	**Sn**	**01 40 56.4**	**-0.3**
WCS	**Beigang Elemen**	**1.00**	**251**	*eP*	**Pb**	**01 40 43.6**	**0.0**
	baz=249						
HGSD	**Ruisui**	**1.02**	**208**	*eP*	**Pb**	**01 40 43.3**	**-0.5**
	baz=221						
EHY	**Hungye**	**1.05**	**213**	*eP*	**Pb**	**01 40 42.6**	**-1.8**
	baz=211						
TWQ1	**Liyutan**	**1.07**	**268**	*eP*	**Pg**	**01 40 46.0**	**+0.5**
	baz=267						
TWQ1				*eS*	**Sg**	**01 41 00.1**	**+0.5**
	baz=267						
NSY	**Sanyi**	**1.08**	**271**	*eS*	**Sg**	**01 41 02.0**	**+2.1**
	baz=271						
SMLT	**Sun Moon Lake**	**1.08**	**242**	*eP*	**Pb**	**01 40 44.7**	**-0.3**
	baz=230						
SSLB	**Suanglung**	**1.09**	**237**	P	**Pn**	**01 40 44.4**	**-0.7**
	baz=227						
SSLB				*eS*	**Sn**	**01 40 59.3**	**-0.4**
	baz=227						
YULB	**Yu-li**	**1.16**	**211**	*eP*	**Pn**	**01 40 43.9**	**-2.2**
	baz=209						
TCU	**Taichung**	**1.18**	**258**	*eS*	**Sg**	**01 41 04.6**	**+1.4**
	baz=257						
EYUL	**Yuli**	**1.19**	**209**	*eP*	**Pn**	**01 40 46.2**	**-0.2**
	baz=220						
WDJ	**Dajia District**	**1.19**	**268**	*eS*	**Sg**	**01 41 03.8**	**+0.4**
	baz=267						
TWF1	**Yuli**	**1.19**	**210**	*eP*	**Pn**	**01 40 44.5**	**-1.9**
	baz=220						
WHYT	**Xinyi Township**	**1.22**	**235**	*eP*	**Pb**	**01 40 47.1**	**-0.1**
	baz=234						
WHYT				*eS*	**Sg**	**01 41 05.6**	**+1.4**
	baz=234						
WNT	**Mingjian**	**1.26**	**246**	*eP*	**Pg**	**01 40 48.9**	**-0.2**
	baz=244						
CHKH	**Chenggong**	**1.30**	**203**	*eP*	**Pn**	**01 40 47.9**	**0.0**
	baz=187						
FULB	**Fuli**	**1.33**	**207**	*eP*	**Pb**	**01 40 48.9**	**-0.2**
	baz=218						
ALS	**Alishan**	**1.36**	**230**	*eP*	**Pn**	**01 40 49.1**	**0.0**
	baz=217						
CHN5	**Tsauling**	**1.40**	**236**	*eP*	**Pb**	**01 40 50.6**	**+0.2**
	baz=235						
CHN5				*eS*	**Sg**	**01 41 11.4**	**+1.2**
	baz=235						
EHD	**Haiduan**	**1.41**	**209**	*eP*	**Pn**	**01 40 49.0**	**-0.5**
	baz=207						
WDLH	**Douliu**	**1.47**	**242**	*eP*	**Pb**	**01 40 51.7**	**+0.2**
	baz=240						
WDLH				*eS*	**Sg**	**01 41 11.8**	**-0.4**
	baz=240						
ELDTW	**Lidau**	**1.47**	**216**	*eP*	**Pn**	**01 40 49.0**	**-1.4**
	baz=203						
WRL	**Guolierlin Hig**	**1.51**	**251**	*eP*	**Pb**	**01 40 52.0**	**-0.3**
	baz=249						
CHN4	**Tsaushan**	**1.61**	**230**	*eP*	**Pb**	**01 40 53.7**	**-0.3**
	baz=229						
CHN4				*eS*	**Sg**	**01 41 16.9**	**0.0**
	baz=229						
STYH	**Taoyuan**	**1.62**	**222**	*eP*	**Pn**	**01 40 50.9**	**-1.5**
	baz=220						
TPUB	**Ta-pu**	**1.62**	**228**	*eP*	**Pb**	**01 40 53.5**	**-0.6**
	baz=227						
TPUB				*eS*	**Sg**	**01 41 16.2**	**-0.9**
	baz=227						
WTP	**Ta-pu**	**1.67**	**227**	*eP*	**Pn**	**01 40 54.0**	**+0.9**
	baz=225						
TWK	**Hsinying**	**1.74**	**230**	*eP*	**Pb**	**01 40 55.4**	**-0.9**
	baz=228						
SNST	**Tainan City**	**1.77**	**229**	*eP*	**Pb**	**01 40 55.9**	**-0.7**
	baz=228						
SNST				*eS*	**Sb**	**01 41 20.1**	**+1.6**
	baz=228						
CHN1	**Nanshi**	**1.77**	**228**	*eP*	**Pn**	**01 40 55.5**	**+1.1**
	baz=226						
CHN1				*eS*	**Sg**	**01 41 20.4**	**-1.5**
	baz=226						
SGST	**Jiashian**	**1.81**	**224**	*eP*	**Pn**	**01 40 55.4**	**+0.4**
	baz=210						
SGST				*eS*	**Sb**	**01 41 19.5**	**0.0**
	baz=210						
SLGT	**Liugui**	**1.83**	**221**	*eP*	**Pb**	**01 40 57.0**	**-0.7**
	baz=220						
SLGT				*eS*	**Sb**	**01 41 21.0**	**+0.7**
	baz=220						
ECL	**Taimali**	**2.01**	**207**	*eP*	**Pn**	**01 40 57.0**	**-0.6**
	baz=196						
TSMG	**Majia**	**2.06**	**216**	*eP*	**Pb**	**01 41 00.0**	**-1.6**
	baz=216						
MASBT	**Mashibuluo**	**2.14**	**214**	*eP*	**Pn**	**01 41 00.2**	**+0.6**
	baz=214						
MASBT				*eS*	**Sb**	**01 41 28.5**	**-0.8**
	baz=214						

TAP 29 01:49:37.7, 24°.07N×121°.36E, h6km, ML1.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LXIB	**Xiulin Townshi**	**0.07**	**134**	P	Pg	01 49 40.1	+0.7
	baz=134						
LXIB				S	Sg	01 49 41.5	+0.9
	baz=134						
WHF	**Hehuan Shan**	**0.12**	**312**	*eP*	Pg	01 49 40.7	+0.4
	baz=312						
WHF				*eS*	Sg	01 49 42.8	+0.6
	baz=312						
ETM	**Tongmen**	**0.16**	**130**	*eP*	Pg	01 49 41.5	+0.7
	baz=131						
ETM				*eS*	Sg	01 49 44.0	+1.1
	baz=131						
CHGB	**Renai**	**0.17**	**268**	P	Pg	01 49 41.7	+0.5
	baz=260						
CHGB				*eS*	Sg	01 49 44.3	+0.8
	baz=260						
ETLH	**Xiulin Townshi**	**0.18**	**38**	*eP*	Pg	01 49 42.1	+0.9
	baz=25						
ETLH				*eS*	Sg	01 49 44.8	+1.2
	baz=25						
OWD	**Renai**	**0.20**	**237**	*eP*	Pg	01 49 42.0	+0.3
	baz=238						
FUSS	**Fushou**	**0.21**	**329**	*eS*	Sg	01 49 45.9	+1.2
	baz=328						
TWD	**Chiawan**	**0.21**	**87**	*eP*	Pg	01 49 42.9	+1.0
	baz=86						
TWD				*eS*	Sg	01 49 46.5	+1.7
	baz=86						
NACB	**Ninganchiao**	**0.24**	**63**	*eP*	Pg	01 49 43.2	+0.9
	baz=62						
NACB				*eS*	Sg	01 49 46.9	+1.4
	baz=62						
ETL	**Fush Village**	**0.26**	**69**	*eS*	Sg	01 49 47.5	+1.4
	baz=69						
ESL	**Shilin**	**0.26**	**165**	*eP*	Pg	01 49 43.6	+0.8
	baz=165						
WARBT	**Fenglin Townsh**	**0.35**	**176**	*eP*	Pg	01 49 45.0	+0.5
	baz=166						
WARBT				*eS*	Sg	01 49 48.1	-0.9
	baz=166						
VWDT	**VWDT**	**0.37**	**213**	*eS*	Sg	01 49 49.4	-0.4
	baz=222						

TAP 29 01:49:38.6, 23°.99N×121°.01E, h10km±1km, ML2.0, 2C-1D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WPL	**Puli Township**	**0.05**	**297**	*i* P	Pg	01 49 41.4	+0.8
	baz=295						
WPL				*eS*	Sg	01 49 42.9	+0.8
	baz=295						
DPDB	**Guoxing**	**0.09**	**301**	⇑*iP*	Pg	01 49 41.9	+0.8
	baz=301						
DPDB				S	Sg	01 49 43.8	+0.9
	baz=301						
WUSB	**Renai**	**0.10**	**87**	P	Pg	01 49 42.1	+0.8
	baz=252						
WUSB				*eS*	Sg	01 49 43.9	+0.7
	baz=252						
WUSB	**Renai**	**0.10**	**87**	⇓*iP*	Pg	01 49 42.2	+0.9
	baz=87						
WUSB				*i* S	Sg	01 49 43.8	+0.7
	baz=87						
WCS	**Beigang Elemen**	**0.11**	**308**	⇑P	Pg	01 49 42.1	+0.7
	baz=307						
WCS				S	Sg	01 49 44.1	+0.8
	baz=307						
SMLT	**Sun Moon Lake**	**0.14**	**224**	P	Pg	01 49 42.9	+1.0
	baz=221						
SMLT				S	Sg	01 49 45.3	+1.0
	baz=221						
OWD	**Renai**	**0.15**	**102**	*eP*	Pg	01 49 43.1	+1.0
	baz=101						
OWD				S	Sg	01 49 45.8	+1.3
	baz=101						
OWD	**Renai**	**0.15**	**102**	*eS*	Pg	01 49 43.3	+1.2
	baz=238						
TYC	**Yuchr**	**0.16**	**239**	*eP*	Pg	01 49 43.0	+0.9
	baz=237						
TYC				*i* S	Sg	01 49 45.5	+1.0
	baz=237						
SSLB	**Suanglung**	**0.20**	**194**	*eP*	Pg	01 49 43.6	+0.7
	baz=194						
VWDT	**VWDT**	**0.26**	**153**	*i* P	Pb	01 49 45.2	-0.2
	baz=152						
VWDT				S	Sg	01 49 48.7	+1.2
	baz=152						
VWDT	**VWDT**	**0.26**	**153**	P	Pb	01 49 45.1	-0.3
	baz=222						
WHF	**Hehuan Shan**	**0.28**	**56**	*eP*	Pb	01 49 45.3	-0.8
	baz=56						
WHF				*eS*	Sg	01 49 49.3	+0.9
	baz=56						
WHP	**Taichung City**	**0.29**	**349**	*eP*	Pg	01 49 45.3	+0.7
	baz=348						
TDCB	**Techi**	**0.30**	**27**	P	Pg	01 49 44.8	+0.2
	baz=27						
TWT	**Tachien**	**0.30**	**30**	*eP*	Pg	01 49 45.2	+0.4
	baz=27						

*IDC **29** 01:57:40.1±0.9, 56°.32S×27°.68W, h0km, mb4.1/5,*

mbtmp4.0/6,ML3.2/1, Error ellipse: s-maj=41.4km s-min=21.2km az=89.0
*NEIC **29** 01:57:45.6±0.8, 56°.3S×0°.1×27°.87W×0°.08, h37km±8km, mb4.5/15, Error ellipse: s-maj=18.6km s-min=4.5km az=196.0*

ISC 29 01:57:41.4±0.6, 56°.27S±0°.10×27°.8W±0°.1, h10km, n24, σ0s97/24, mb4.5/11, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.36**	**288**	Pn	**Pn**	**01 59 02.2**	**+0.9**
SNAA	**Sanae**	**18.68**	**155**	P	**P**	**02 01 57.5**	**-1.8**
	0.1nm,0.3s,baz=306,slow=22,SNR=1.3						
	1.9nm,1.0s						
BELA	**Belgrano 2**	**21.83**	**184**	P	**P**	**02 02 35.4**	**+1.9**
BELA				IAmb	IAmb	02 02 56.9	
	comp=Z,21nm,1.5s						
QSPA	**South Pole Qui**	**33.98**	**180**	P	**P**	**02 04 25.4**	**+0.5**
QSPA				IAmb	IAmb	02 04 30.7	
	comp=Z,3.9nm,0.8s						
QSPA	**South Pole Qui**	**33.98**	**180**	P	**P**	**02 04 25.2**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=196,slow=3.0,SNR=18						
	comp=Z,2.1nm,0.6s						
VA03	**San Esteban**	**37.62**	**290**	P	**P**	**02 04 54.3**	**-2.0**
VA03				IAmb	IAmb	02 04 56.7	
	comp=Z,12nm,0.8s						
PB09	**IPOC Station P**	**45.98**	**301**	P	**P**	**02 06 04.4**	**-0.4**
PB09				IAmb	IAmb	02 06 21.6	
	comp=Z,24nm,1.5s						
VNDA	**Vanda**	**46.34**	**183**	P	**P**	**02 06 06.9**	**+0.1**
VNDA	**Vanda**	**46.34**	**183**	P	**P**	**02 06 06.7**	**-0.1**
	comp=Z,0.9nm,1.0s,baz=215,slow=4.4,SNR=2.7						
	comp=Z,0.9nm,1.0s						
GO01	**Chusmiza**	**47.78**	**303**	P	**P**	**02 06 20.5**	**+1.2**
GO01				IAmb	IAmb	02 06 25.0	
	comp=Z,5.8nm,1.1s						
PB11	**IPOC Station P**	**47.92**	**302**	P	**P**	**02 06 20.6**	**+0.6**
LBTB	**Lobatse**	**49.39**	**74**	P	**P**	**02 06 31.3**	**+0.1**
LPAZ	**La Paz**	**50.23**	**306**	P	**P**	**02 06 38.4**	**+0.1**
LPAZ				IAmb	IAmb	02 06 54.0	
	comp=Z,5.2nm,1.4s						
LPAZ	**La Paz**	**50.23**	**306**	P	**P**	**02 06 39.7**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=192,slow=10,SNR=4.9						
	comp=Z,1.0nm,0.7s						
BOAV	**Boa Vista**	**64.25**	**323**	P	**P**	**02 08 16.4**	**-0.2**
BOAV				IAmb	IAmb	02 08 27.6	
	comp=Z,7.8nm,1.3s						
DBIC	**Dimbokro**	**65.51**	**25**	P	**P**	**02 08 24.8**	**+0.1**
DBIC				IAmb	IAmb	02 08 56.6	
	comp=Z,9.0nm,1.1s						
DBIC	**Dimbokro**	**65.51**	**25**	P	**P**	**02 08 25.8**	**+1.1**
	comp=Z,1.9nm,0.6s,baz=155,slow=6.7,SNR=3.7						
	comp=Z,1.9nm,0.6s						
SACV	**Santiago Islan**	**71.06**	**4**	P	**P**	**02 08 59.3**	**-0.1**
TOA0	**Torodi Ar. Sit**	**73.41**	**30**	P	**P**	**02 09 14.1**	**+0.5**
TOA0				IAmb	IAmb	02 09 14.9	
	comp=Z,2.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**73.41**	**30**	P	**P**	**02 09 13.8**	**+0.3**
TORD	**Torodi Ar. Bea**	**73.41**	**30**	P	**P**	**02 09 14.0**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=198,slow=6.2,SNR=23						
	comp=Z,2.0nm,0.6s						
DCZ	**Deep Cove**	**77.86**	**191**	P	**P**	**02 09 38.6**	**-0.2**
YKA	**Yellowknife Ar**	**136.11**	**318**	PKP	**PKPdf**	**02 17 00.5**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=129,slow=2.5,SNR=2.3						
ILAR	**Eielson Array**	**150.01**	**311**	PKPbc	**PKPbc**	**02 17 29.4**	**-1.2**
	comp=Z,3.9nm,1.0s,baz=125,slow=1.3,SNR=25						

IDC 29 02:05:53.8±6.3, 19°.96S×176°.09W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=263.6km s-min=40.7km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**35.33**	**263**	P	P	02 12 52.6	+1.5
	2.5nm,0.4s,baz=108,slow=0.1,SNR=2.2						
	2.5nm,0.4s						
ASAR	**Alice Springs**	**46.38**	**256**	P	P	02 14 21.8	-0.5
	0.8nm,0.6s,baz=100,slow=8.7,SNR=9.4						
	0.8nm,0.6s						
WRA	**Warramunga Ar**	**46.45**	**261**	P	P	02 14 22.1	-0.8
	0.8nm,0.6s,baz=96,slow=7.6,SNR=18						
	0.8nm,0.6s						
ILAR	**Eielson Array**	**87.40**	**12**	P	P	02 18 42.5	0.0
	0.2nm,0.5s,baz=191,slow=4.2,SNR=1.1						
	0.2nm,0.5s						

IDC 29 02:13:06.4±2.3, 6°.82S×128°.93E, h0km, mb3.3/1, mbtmp3.5/3, ML3.4/2, Error ellipse: s-maj=146.1km s-min=33.1km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.06**	**159**	Pn	Pn	02 16 26.5	-0.6
	0.1nm,0.3s,baz=340,slow=12,SNR=7.9						
WRA				Sn	Sn	02 18 50.7	-13
	0.9nm,0.3s,baz=328,slow=22,SNR=12						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**17.42**	**165**	P	Pn	02 17 11.4	+0.4
	0.4nm,0.3s,baz=346,slow=12,SNR=24						
ASAR				S	Sn	02 20 10.8	-15
	0.2nm,0.4s,baz=352,slow=24,SNR=2.8						
	1.3nm,0.6s						
MKAR	**Makanchi Array**	**67.50**	**327**	P	P	02 24 04.3	0.0
	0.1nm,0.4s,baz=129,slow=5.2,SNR=2.4						
	0.1nm,0.4s						

IDC 29 02:22:53.0±2.0, 6°.43S×143°.55E, h0km, mb3.6/3, mbtmp3.6/5, ML3.3/2, Error ellipse: s-maj=76.3km s-min=24.3km az=110.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.14**	**213**	Pn	Pn	02 26 39.6	-1.8
	0.1nm,0.3s,baz=31,slow=13,SNR=3.1						
WRA				Lg	Lg	02 31 23.6	
	baz=35,slow=26,SNR=2.1						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**19.49**	**207**	P	Pn	02 27 23.2	+0.2
	0.2nm,0.3s,baz=36,slow=9.5,SNR=19						
ASAR				Lg	Lg	02 33 09.3	
	baz=27,slow=31						
	1.4nm,0.6s						
MKAR	**Makanchi Array**	**75.67**	**322**	P	P	02 34 40.7	+0.5
	0.3nm,0.6s,baz=123,slow=5.3,SNR=2.7						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**85.11**	**325**	P	P	02 35 31.3	+0.4
	0.9nm,0.8s,baz=96,slow=4.3,SNR=4.9						
	0.9nm,0.8s						
ILAR	**Eielson Array**	**87.24**	**24**	P	P	02 35 39.9	-1.3
	0.3nm,0.8s,baz=243,slow=5.6,SNR=2.4						
	0.3nm,0.8s						

*IDC **29** 02:30:32.2±0.9, 14°.82N×119°.27E, h0km, mb3.8/9, mbtmp3.8/9, MS4.0/1, Error ellipse: s-maj=35.4km s-min=15.0km az=58.0*

ISC 29 02:30:37.7±1.0, 14°.8N±0°.2×119°.3E±0°.2, h39km, n12, σ0s82/11, mb3.8/9, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**1.76**	**114**	Pn	**Pn**	**02 31 05.5**	**-0.2**
	28nm,0.3s,baz=253,slow=17,SNR=1.1						
TGY				Sn	**Sn**	**02 31 27.5**	**+0.5**
	115nm,0.3s,baz=315,slow=16,SNR=5.3						
CMAR	**Chiang Mai Arr**	**19.81**	**283**	LR	LR	02 43 10.1	
	comp=Z,10nm,18.3s,baz=20,slow=38						
KSRS	**Korea Array**	**23.81**	**17**	P	**P**	**02 35 45.5**	**-1.5**
	1.6nm,0.8s,baz=201,slow=13,SNR=6.0						
	1.6nm,0.8s						
SONM	**Songino Array**	**34.61**	**345**	P	**P**	**02 37 22.7**	**-0.4**
	1.0nm,0.9s,baz=163,slow=11,SNR=5.6						
	1.0nm,0.9s						
WRA	**Warramunga Arr**	**37.59**	**156**	P	**P**	**02 37 47.8**	**-0.9**
	1.5nm,0.5s,baz=332,slow=9.8,SNR=8.6						
	1.5nm,0.5s						
ASAR	**Alice Springs**	**40.84**	**159**	P	**P**	**02 38 16.0**	**+0.1**
	2.1nm,0.5s,baz=339,slow=6.9,SNR=21						
	2.1nm,0.5s						
MKAR	**Makanchi Array**	**44.31**	**324**	P	**P**	**02 38 44.1**	**+0.2**
	0.4nm,0.7s,baz=144,slow=8.4,SNR=4.6						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**48.49**	**326**	P	**P**	**02 39 16.7**	**+0.1**
	0.3nm,0.7s,baz=130,slow=7.3,SNR=4.5						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**54.07**	**326**	P	**P**	**02 39 58.5**	**+0.1**
	0.5nm,0.5s,baz=133,slow=10,SNR=3.0						
	0.5nm,0.5s						
NRIK	**Noril'sk**	**58.02**	**347**	P	**P**	**02 40 26.6**	**+0.3**
	1.5nm,0.4s,baz=153,slow=4.5,SNR=3.7						
	1.5nm,0.4s						
OBN	**Obninsk**	**73.82**	**324**	LR	LR	03 18 39.0	
	comp=Z,85nm,18.6s,baz=180,slow=39						
YKA	**Yellowknife Ar**	**92.27**	**22**	P	**P**	**02 43 44.7**	**+1.3**
	0.1nm,0.3s,baz=309,slow=4.1,SNR=1.2						
	0.1nm,0.3s						

*IDC **29** 02:40:19.4±0.6, 6°.31S×142°.61E, h0km, mb4.3/15, mbtmp4.4/19, ML4.4/3, MS4.2/45, Error ellipse: s-maj=24.9km s-min=13.1km az=87.0*
*NEIC **29** 02:40:22.3±1.2, 6°.32S±0°.04×142°.52E±0°.08, h10km±1km, mb4.9/127, Error ellipse: s-maj=14.0km s-min=4.2km az=110.0*
*GCMT **29** 02:40:25.3±0.2, 6°.29S±0°.01×142°.40E±0°.02, h12km, MW5.0/120, Moment Tensor Solution. s48,c57; s120,c175; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.61±.07; $M_{\theta\theta}$-2.51±.07; $M_{\phi\phi}$-1.10±.07; $M_{r\theta}$1.24±.23; $M_{\theta\phi}$1.57±.06; $M_{\phi r}$-1.70±.25; Best double couple: M_o4.13900×10^{16} NP1:ω_s133.00000°, δ60.00000°, λ100.00000°. NP2:ω_s294.00000°, δ31.00000°, λ73.00000°. Principal axes: T 4.2380, Plg73.0000°, Azm67.0000°; N -0.1980, Plg9.0000°, Azm308.0000°; P -4.0400, Plg15.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **29** 02:40:26.5±2.6, 6°.5±4°×14°.2E±°, h27km±28km, M5.1/9, mB5.3/5, mb4.7/9, MLv5.6/4, Mw(mB)4.7/5*

ISC 29 02:40:21.7±0.4, 6°.47S±0°.05×142°.56E±0°.06, h10km, n211, σ1s23/187, mb4.9/84, MS4.2/46, 1D, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMPI	**Merauke**	**2.94**	**227**	P	**Pn**	**02 41 10.8**	**+2.4**
JAY	**Jayapura**	**4.34**	**335**	P	**Pn**	**02 41 27.8**	**0.0**
GENI	**Genyem**	**4.53**	**328**	P	**Pn**	**02 41 29.9**	**-0.4**
PMG	**Port Moresby**	**5.41**	**123**		**Pn**	**02 41 44.1**	**+1.6**
PMG	**Port Moresby**	**5.41**	**123**	Pn	**Pn**	**02 41 42.5**	**0.0**
	11nm,0.3s,baz=327,slow=4.7,SNR=10						
PMG				Sn	**Sn**	**02 42 44.5**	**-0.3**
	7.4nm,0.3s,baz=325,slow=22,SNR=7.1						
PMG				LR	LR	02 44 47.7	
	comp=Z,2μm,20.9s,baz=264,slow=49						
MANU	**Manus Island**	**6.50**	**48**	Pn	**Pn**	**02 41 58.6**	**+1.1**
FAKI	**Fak Fak**	**10.86**	**288**	Pn	**Pn**	**02 42 56.0**	**-1.4**
FAKI	**Fak Fak**	**10.86**	**288**	P	**Pn**	**02 42 56.2**	**-1.2**
	52nm,1.0s,876nm						
SWI	**Sorong**	**12.57**	**296**	P	**Pn**	**02 43 20.2**	**-0.6**
	54nm,1.4s						
MTN	**Manton Dam**	**12.92**	**240**	Pn	**Pn**	**02 43 25.4**	**-0.1**
CTA	**Charters Tower**	**14.01**	**166**	Pn	**Pn**	**02 43 38.5**	**-1.8**
	0.2nm,0.3s,baz=300,slow=0.0,SNR=1.4						
CTA				LR	LR	02 48 55.6	
	comp=Z,2μm,21.6s,baz=220,slow=36						
WB0	**Warramunga Arr**	**15.42**	**210**	Pn	**Pn**	**02 44 02.2**	**+2.7**
WR0	**Warramunga Arr**	**15.51**	**209**		**Pn**	**02 44 00.6**	**0.0**
WRAB	**Tennant Creek**	**15.58**	**210**	Pn	**Pn**	**02 44 02.7**	**+1.1**
WB2	**Warramunga Arr**	**15.59**	**210**	Pn	**Pn**	**02 44 00.2**	**-1.6**
WRA	**Warramunga Arr**	**15.60**	**210**	Pn	**Pn**	**02 43 59.5**	**-2.2**
WRA	**Warramunga Arr**	**15.60**	**210**	Pn	**Pn**	**02 44 01.2**	**-0.6**
	1.0nm,0.3s,baz=25,slow=14,SNR=26						
WRA				Sn	**Sn**	**02 46 51.0**	**-3.8**
	0.9nm,0.3s,baz=29,slow=25,SNR=4.2						
WRA				Lg	Lg	02 48 35.9	
	0.3nm,0.3s,baz=33,slow=28,SNR=1.7						
	6.0nm,0.6s						
KNRA	**Kununurra**	**16.34**	**235**	Pn	**Pn**	**02 44 11.1**	**-0.2**
SANI	**Sanana**	**17.10**	**284**	P	**Pn**	**02 44 19.8**	**-1.2**
	19nm,1.1s						
SOEI	**Soe**	**18.40**	**259**		**P**	**02 44 39.1**	**+1.9**
SOEI				IAmb	IAmb	02 44 48.1	
	comp=Z,180nm,1.4s						
SOEI	**Soe**	**18.40**	**259**	P	**Pn**	**02 44 37.1**	**-0.2**
	comp=Z,145nm,0.9s,comp=Z,3μm						
AS31	**Alice Springs**	**19.02**	**205**	Pn	**Pn**	**02 44 46.7**	**+2.1**
ASAR	**Alice Springs**	**19.02**	**205**	P	**P**	**02 44 44.5**	**+0.6**
ASAR	**Alice Springs**	**19.02**	**205**	P	**P**	**02 44 45.4**	**+1.5**
	comp=Z,1.5nm,0.3s,baz=34,slow=9.8,SNR=90						
ASAR				S	**Sn**	**02 48 14.6**	**-3.2**
	comp=Z,1.9nm,0.7s,baz=18,slow=30,SNR=2.6						
ASAR				Lg	Lg	02 50 24.6	
	comp=Z,0.2nm,0.3s,baz=26,slow=28,SNR=2.8						
ASAR				LR	LR	02 52 59.4	
	comp=Z,5μm,19.0s,baz=34,slow=40						
	comp=Z,15nm,0.7s						
BATI	**Baumata**	**19.06**	**257**	P	**P**	**02 44 44.9**	**+0.4**
	comp=Z,1.8nm,0.3s,baz=100,slow=14,SNR=1.4						
BATI				LR	LR	02 54 21.8	
	comp=Z,3μm,18.1s,baz=91,slow=44						
	comp=Z,14nm,0.3s						
BATI	**Baumata**	**19.06**	**257**	P	**P**	**02 44 43.9**	**-0.5**
GUMO	**Guam**	**20.05**	**7**	LR	LR	02 52 05.3	
	comp=Z,447nm,18.6s,baz=196,slow=36						
EIDS	**Eidsvold**	**20.49**	**157**	P	**P**	**02 45 02.2**	**+2.3**
EIDS				IAmb	IAmb	02 45 11.6	
	comp=Z,54nm,1.1s						
DAV	**Davao City (W)**	**21.63**	**308**	LR	LR	02 53 48.3	
	comp=Z,264nm,20.1s,baz=162,slow=38						
KAPI	**Kappang**	**22.74**	**272**	P	**P**	**02 45 24.6**	**+0.4**
KAPI				IAmb	IAmb	02 45 38.0	
	comp=Z,68nm,1.4s						
TOLI2	**Tolitoli**	**23.01**	**288**	P	**P**	**02 45 25.9**	**-1.1**
TOLI2				IAmb	IAmb	02 45 32.7	
	comp=Z,31nm,1.0s						
STKA	**Stephens Creek**	**25.30**	**182**	P	**P**	**02 45 50.1**	**+1.7**
STKA	**Stephens Creek**	**25.30**	**182**	P	**P**	**02 45 49.4**	**+0.9**
	comp=Z,7.1nm,0.7s,baz=346,slow=10,SNR=16						
STKA				LR	LR	02 56 26.3	
	comp=Z,1μm,18.5s,baz=356,slow=38						
	comp=Z,7.1nm,0.7s						
PSA00	**Pilbara Seismi**	**26.61**	**233**	P	**P**	**02 46 02.0**	**+1.5**
BBOO	**Buckleboo**	**26.90**	**192**	P	**P**	**02 46 04.7**	**+1.7**
DZM	**Mont Dzumac**	**27.79**	**126**	eLR	LR	02 53 31.2	
	comp=Z,803nm,24.1s						
LHI	**Lord Howe Isla**	**29.32**	**150**	P	**P**	**02 46 25.0**	**+0.4**
TGY	**Tagaytay City**	**29.63**	**314**	LR	LR	02 58 21.2	
	comp=Z,264nm,21.1s,baz=95,slow=37						
JCJ	**Chichijima**	**33.36**	**359**	LR	LR	02 59 40.5	
	comp=Z,256nm,22.0s,baz=166,slow=35						
LEM	**Lembang**	**34.71**	**267**	LR	LR	03 05 37.5	
	comp=Z,249nm,18.5s,baz=138,slow=44						
NWAO	**Narrogin (SRO)**	**35.32**	**218**	LR	LR	03 02 32.7	
	comp=Z,3μm,18.0s,baz=38,slow=38						
JOW	**Kunigami**	**35.88**	**338**	LR	LR	02 58 58.6	
	comp=Z,437nm,21.4s,baz=114,slow=31						
JNU	**Nakatsue**	**40.90**	**345**	LR	LR	03 04 13.3	
	comp=Z,194nm,19.0s,baz=158,slow=35						
MJAR	**Matsushiro Arr**	**42.97**	**355**	P	**P**	**02 48 17.6**	**-3.5**
	comp=Z,2.8nm,0.8s,baz=174,slow=9.1,SNR=5.5						
MJAR				LR	LR	03 04 27.2	
	comp=Z,326nm,20.6s,baz=149,slow=34						
	comp=Z,2.8nm,0.8s						
URZ	**Urewera**	**44.49**	**140**	LR	LR	03 07 13.4	
	comp=Z,281nm,19.1s,baz=332,slow=36						
WHN	**Wuhan**	**45.66**	**325**	P	**P**	**02 48 44.5**	**+1.8**
KSAR	**Wonju Array Be**	**45.78**	**344**	P	**P**	**02 48 42.3**	**-1.3**
KSRS	**Korea Array**	**45.78**	**344**	P	**P**	**02 48 42.3**	**-1.2**
	comp=Z,1.8nm,0.5s,baz=163,slow=9.1,SNR=11						
KSRS				LR	LR	03 06 21.2	
	comp=Z,170nm,20.6s,baz=145,slow=34						
	comp=Z,1.8nm,0.5s						
CMAR	**Chiang Mai Arr**	**49.64**	**301**	P	**P**	**02 49 12.6**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=139,slow=7.0,SNR=1.5						
CMAR				LR	LR	03 13 12.7	
	comp=Z,48nm,18.4s,baz=110,slow=40						
	comp=Z,1.0nm,0.3s						
LYN	**LuoYang**	**49.72**	**327**	*e*P	**P**	**02 49 14.8**	**+0.6**
LYN				S	**S**	**02 56 26.8**	**+3.5**
LYN				pmax	pmax		
	comp=Z,18nm,0.6s						
LYN				pmax	pmax		
	comp=Z,250nm,5.9s						
LYN				LR	LR		
	comp=N,340nm,17.4s						
LYN				LR	LR		
	comp=E,190nm,15.2s						
LYN				LR	LR		
	comp=Z,370nm,23.3s						
ASAJ	**Asahikawa**	**50.35**	**0**	LR	LR	03 15 22.6	
	comp=Z,76nm,18.4s,baz=149,slow=42						
USRK	**Ussuriysk Ar.**	**51.33**	**350**	P	**P**	**02 49 24.1**	**-2.1**
	comp=Z,3.4nm,0.9s,baz=111,slow=6.8,SNR=2.5						
USRK				LR	LR	03 07 49.7	
	comp=Z,384nm,21.1s,baz=175,slow=32						
	comp=Z,3.4nm,0.9s						
XAN	**Xi'an**	**51.34**	**324**	P	**P**	**02 49 27.0**	**+0.5**
XAN				S	**S**	**02 56 47.0**	**+1.0**
XAN				pmax	pmax		
	comp=Z,16nm,1.5s						
XAN				LR	LR		
	comp=N,280nm,19.1s						
XAN				LR	LR		
	comp=E,300nm,18.9s						
XAN				LR	LR		
	comp=Z,350nm,21.0s						
CD2	**Chengdu**	**52.52**	**317**	P	**P**	**02 49 36.5**	**+1.1**
CD2				S	**S**	**02 57 05.0**	**+2.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CD2				LR	LR		
	comp=Z,120nm,13.6s						
BNX	**BinXian**	**53.71**	**347**	↓P	**P**	**02 49 43.3**	**-0.5**
BNX				pmax	pmax		
	comp=Z,11nm,1.5s						
BNX				pmax	pmax		
	comp=Z,220nm,5.8s						
HHC	**Hu-ho-hao-te**	**55.02**	**332**	*e*P	P	02 49 58.8	+5.2
HHC				sP	sP	02 50 06.5	+8.4
HHC				S	**S**	**02 57 40.3**	**+4.3**
HHC				sS	sS	02 57 49.5	+8.0
HHC				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC				pmax	pmax		
	comp=Z,190nm,5.4s						
HHC				LR	LR		
	comp=N,170nm,18.2s						
HHC				LR	LR		
	comp=E,220nm,15.7s						
HHC				LR	LR		
	comp=Z,290nm,15.6s						
LZH	**Lanzhou**	**55.78**	**322**	*e*P	**P**	**02 49 59.8**	**+0.6**
LZH				pP	sP	02 50 04.0	+0.2
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
KLR	**Kul'dur**	**56.26**	**351**	LR	LR	03 10 50.5	
	comp=Z,217nm,21.5s,baz=205,slow=33						
HEH	**HeiHe**	**58.00**	**349**	*e*P	**P**	**02 50 18.5**	**+4.0**
HEH				pmax	pmax		
	comp=Z,6.0nm,1.1s						
HEH				pmax	pmax		
	comp=Z,190nm,4.2s						
HEH				LR	LR		
	comp=N,370nm,18.4s						
HEH				LR	LR		
	comp=E,210nm,18.5s						
HEH				LR	LR		
	comp=Z,560nm,18.2s						
GTA	**Gaotai**	**60.36**	**323**	*e*P	**P**	**02 50 34.5**	**+3.3**
GTA				pP	sP	02 50 53.0	+17
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PETK	**Petropavlovsk-**	**60.72**	**10**	P	**P**	**02 50 31.3**	**-2.0**
	comp=Z,5.2nm,0.8s,baz=156,slow=8.3,SNR=4.1						
PETK				LR	LR	03 15 59.6	
	comp=Z,126nm,19.8s,baz=204,slow=35						
	comp=Z,5.2nm,0.8s						
ULN	**Ulaanbaatar**	**62.48**	**334**	P	**P**	**02 50 45.7**	**+0.2**
ULN				IAmb	IAmb	02 50 52.9	
	comp=Z,14nm,1.5s						
SONM	**Songino Array**	**62.75**	**333**	P	**P**	**02 50 45.3**	**-1.9**
SONM				IAmb	IAmb	02 50 55.3	
	comp=Z,18nm,2.0s						
SONM	**Songino Array**	**62.75**	**333**	P	**P**	**02 50 45.6**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=151,slow=6.4,SNR=7.8						
SONM				LR	LR	03 17 32.2	
	comp=Z,255nm,19.9s,baz=146,slow=36						
	comp=Z,0.8nm,0.6s						
PALK	**Palkekele**	**63.20**	**281**	LR	LR	03 22 02.3	
	comp=Z,106nm,19.0s,baz=218,slow=40						
SHEM	**Shemya Is, Ala**	**64.77**	**21**	LR	LR	03 14 06.3	
	comp=Z,375nm,21.6s,baz=256,slow=31						
MA2	**Magadan**	**66.15**	**5**	LR	LR	03 17 14.0	
	comp=Z,104nm,21.5s,baz=138,slow=34						
PPT	**Papeete**	**67.00**	**106**	LR	LR	03 18 27.1	
	comp=Z,43nm,19.0s,baz=268,slow=34						
TBI	**Tubuai**	**67.26**	**113**	eLR	LR	03 11 59.3	
	comp=Z,694nm,27.2s						
YAK	**Yakutsk**	**69.02**	**354**	LR	LR	03 19 56.0	
	comp=Z,150nm,20.5s,baz=148,slow=34						
SEY	**Seymchan**	**69.61**	**5**	LR	LR	03 19 34.4	
	comp=Z,165nm,21.4s,baz=247,slow=34						
VNDA	**Vanda**	**71.75**	**176**	P	**P**	**02 51 46.7**	**+3.1**
VNDA	**Vanda**	**71.75**	**176**	P	**P**	**02 51 43.9**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=291,slow=8.7,SNR=6.2						
VNDA				LR	LR	03 22 39.1	
	comp=Z,380nm,18.3s,baz=349,slow=35						
	comp=Z,1.9nm,0.8s						
MK31	**Makanchi Array**	**75.09**	**322**	P	**P**	**02 52 03.3**	**-0.6**
MKAR	**Makanchi Array**	**75.09**	**322**	P	**P**	**02 52 03.3**	**-0.6**
MKAR	**Makanchi Array**	**75.09**	**322**	P	**P**	**02 52 02.9**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=109,slow=6.6,SNR=15						
MKAR				LR	LR	03 25 12.8	
	comp=Z,56nm,20.9s,baz=81,slow=36						
	comp=Z,1.3nm,0.8s						
MAKZ	**Makanchi**	**75.29**	**322**	P	**P**	**02 52 04.5**	**-0.6**
ZALV	**Zalesovo Beam**	**77.10**	**329**	P	**P**	**02 52 13.8**	**-1.4**
ZALV	**Zalesovo Beam**	**77.10**	**329**	P	**P**	**02 52 13.7**	**-1.5**
	comp=Z,1.0nm,0.6s,baz=116,slow=6.8,SNR=6.4						
ZALV				LR	LR	03 27 11.4	
	comp=Z,161nm,19.2s,baz=98,slow=36						
	comp=Z,1.0nm,0.6s						
BOOM	**Boomskoye usch**	**77.50**	**316**	P	**P**	**02 52 18.2**	**+0.3**
TIXI	**Tiksi**	**78.48**	**356**	LR	LR	03 25 48.6	
	comp=Z,73nm,19.3s,baz=194,slow=35						
AAK	**Ala-Archa**	**78.56**	**316**	P	**P**	**02 52 21.9**	**-1.9**
KURK	**Kurchatov**	**78.98**	**324**	P	**P**	**02 52 25.1**	**-0.6**
KURK				IAmb	IAmb	02 52 33.5	
	comp=Z,12n

comp=Z,8.0nm,1.1s
J18K Innoko River 83.20 23 P 02 52 47.6 -0.4
J18K IAmb IAmb 02 52 50.7
comp=Z,12nm,1.6s
TTA Tatalina 83.22 24 P P 02 52 48.1 0.0
TTA IAmb IAmb 02 53 02.1
comp=Z,14nm,1.6s
L19K White Mountain 83.35 25 P P 02 52 47.5 -1.2
QSPA South Pole Qui 83.50 180 P P 02 52 50.3 +0.6
QSPA South Pole Qui 83.50 180 P P 02 52 50.1 +0.5
comp=Z,3.9nm,0.9s,baz=5.6,slow=3.5,SNR=7.2
QSPA LR LR 03 30 21.5
comp=Z,741nm,19.3s,baz=15,slow=36
comp=Z,3.9nm,0.9s
G18K Tagagawik 83.71 21 P 02 52 49.9 -0.6
E18K Tukpahlearik C 83.87 19 P 02 52 50.3 -1.0
J19K Poorman 83.89 23 P P 02 52 51.5 +0.1
J19K IAmb IAmb 02 52 55.9
comp=Z,9.5nm,1.2s
M20K Styx River 83.94 25 P P 02 52 51.8 -0.1
M20K IAmb IAmb 02 52 59.7
comp=Z,10nm,1.1s
K20K Telida 84.20 24 P P 02 52 53.0 0.0
K20K IAmb IAmb 02 52 54.0
comp=Z,9.0nm,1.1s
H19K Roundabout Mou 84.31 21 P P 02 52 53.1 -0.4
H19K IAmb IAmb 02 52 58.5
comp=Z,8.9nm,1.2s
C18K Utukok River 84.37 18 P P 02 52 53.3 -0.5
G19K Purcell Mounta 84.39 21 P 02 52 53.1 -0.8
G19K IAmb IAmb 02 53 13.8
comp=Z,12nm,1.4s
NRIK Noril'sk 84.39 343 P 02 52 53.8 -0.1
NRIK IAmb IAmb 02 53 01.6
comp=Z,12nm,1.1s
NRIK Noril'sk 84.39 343 P P 02 52 52.6 -1.2
comp=Z,1.8nm,0.4s,baz=133,slow=6.4,SNR=6.9
NRIK LR LR 03 28 55.3
comp=Z,123nm,21.9s,baz=142,slow=35
comp=Z,1.8nm,0.4s
F19K Shaleruckik Mo 84.50 20 P P 02 52 53.2 -1.3
F19K IAmb IAmb 02 53 46.1
comp=Z,17nm,1.8s
J20K Nowinta River 84.55 23 P P 02 52 55.4 +0.6
J20K IAmb IAmb 02 52 59.5
comp=Z,14nm,1.3s
BVAR Borovoye Array 84.57 325 P P 02 52 54.7 -0.5
comp=Z,4.0nm,0.7s,baz=113,slow=6.8,SNR=23
comp=Z,4.0nm,0.7s
BRVK Borovoye 84.64 325 P P 02 52 54.5 -1.0
SKT Skwentna 84.67 26 P P 02 52 55.6 +0.2
SUA Susitna One 84.80 26 P P 02 52 55.4 -0.9
E19K Redstone River 85.00 20 P 02 52 57.5 +0.5
E19K IAmb IAmb 02 53 01.4
comp=Z,12nm,1.2s
CAST Castle Rocks 85.04 24 P P 02 52 57.0 -0.2
CAST IAmb IAmb 02 53 00.1
comp=Z,11nm,1.4s
RC01 Rabbit Creek A 85.10 27 P P 02 52 56.6 -1.0
C19K Lookout Ridge 85.11 18 P 02 52 58.2 +0.6
C19K IAmb IAmb 02 53 09.5
comp=Z,9.7nm,1.2s
M22K Willow 85.19 26 P P 02 52 55.8 -2.2
D19K Kuna River 85.24 19 P P 02 52 57.3 -0.9
F20K Avaraart Lake 85.31 20 P 02 52 59.4 +0.9
F20K IAmb IAmb 02 53 10.4
comp=Z,19nm,1.8s
IMAR Indian Mountai 85.51 22 P P 02 52 58.8 -0.8
PMR Palmer 85.56 26 P P 02 52 59.3 -0.6
PMR IAmb IAmb 02 53 00.1
comp=Z,6.5nm,0.9s
KTH Kantishna Hill 85.57 24 P P 02 52 59.0 -1.0
KTH IAmb IAmb 02 53 03.7
comp=Z,16nm,1.4s
BPAW Bear Paw Mtn. 85.76 24 P P 02 53 00.5 -0.4
TRF Thorofare Moun 85.78 25 P P 02 53 01.4 +0.2
KNK Knik Glacier 85.79 27 P P 02 53 01.3 +0.2
I21K Tanana 85.82 23 P P 02 53 01.8 +0.6
I21K IAmb IAmb 02 53 05.6
comp=Z,12nm,1.4s
G21K Allakaket 85.84 21 P P 02 53 01.1 -0.1
SML Sawmill 85.99 26 P P 02 53 01.3 -0.8
MLY Manley 86.24 23 P P 02 52 02.9 -0.3
B20K Meade River 86.31 17 P P 02 53 03.6 +0.2
RND Reindeer 86.36 25 P P 02 53 02.6 -1.3
RND IAmb IAmb 02 53 03.8
comp=Z,8.5nm,0.8s
I23K Minto, Yukon-K 86.82 23 P P 02 53 06.1 0.0
I23K IAmb IAmb 02 53 09.9
comp=Z,18nm,1.9s
DHY Denali Highway 86.87 25 P P 02 53 06.2 -0.4
DHY IAmb IAmb 02 53 06.6
comp=Z,7.6nm,0.9s
KLU Klutina 86.96 27 P P 02 53 06.5 -0.5
KLU IAmb IAmb 02 53 12.3
comp=Z,8.0nm,1.0s
H23K Yukon River 87.02 22 P P 02 53 06.9 -0.2
WRH Wood River Hil 87.07 24 P P 02 53 06.5 -0.8
WRH IAmb IAmb 02 53 10.8
comp=Z,9.6nm,1.2s
D22K Ayikyak River 87.17 19 P P 02 53 07.8 +0.1
G23K Bananza Creek 87.18 22 P P 02 53 08.2 +0.3
G23K IAmb IAmb 02 53 09.5
comp=Z,14nm,1.8s
CCB Clear Creek Bu 87.25 24 P P 02 53 07.0 -1.2
HDA Harding Lake 87.51 24 P P 02 53 08.3 -1.1
B22K Teshekpuk Lake 87.59 18 P P 02 53 09.7 0.0
B22K IAmb IAmb 02 53 10.2
comp=Z,8.6nm,0.8s
N25K Chitina, Valde 87.60 27 P P 02 53 09.9 -0.1
N25K IAmb IAmb 02 53 15.7
comp=Z,19nm,1.8s
H24K Noodor Dome 87.66 23 P P 02 53 10.3 +0.1
H24K IAmb IAmb 02 53 16.8
comp=Z,8.9nm,1.5s
IL31 87.67 24 P P 02 53 08.4 -1.7
IL31 IAmb IAmb 02 53 08.9
comp=Z,5.8nm,0.9s
ILAR Eielson Array 87.67 24 P P 02 53 08.0 -2.1
ILAR Eielson Array 87.67 24 P P 02 53 08.2 -1.9
comp=Z,3.4nm,0.7s,baz=253,slow=4.9,SNR=50
ILAR LR LR 03 28 01.7
comp=Z,207nm,21.4s,baz=250,slow=33
comp=Z,3.4nm,0.7s
GLB Gilahina Butte 87.91 27 P P 02 53 11.3 -0.1
GLB IAmb IAmb 02 53 15.4
comp=Z,7.6nm,1.1s
CRQM Cirque 88.02 28 P P 02 53 12.4 +0.3
TOLK Toolik Lake Re 88.10 20 P P 02 53 12.8 +0.5
TOLK IAmb IAmb 02 53 21.2
comp=Z,9.2nm,1.1s
G24K Hadweenzic Riv 88.12 22 P P 02 53 12.4 +0.1
RIDG Independent Ri 88.16 25 P P 02 53 12.6 0.0
TGL Tana Glacier 88.16 28 P P 02 53 13.2 +0.5
J25K Salcha River, 88.23 24 P P 02 53 12.5 -0.4
J25K IAmb IAmb 02 53 12.7
comp=Z,8.8nm,1.1s
C23K Itkillik River 88.24 19 P P 02 53 13.4 +0.7
F24K Squaw Lake 88.27 21 P P 02 53 12.9 -0.1
F24K IAmb IAmb 02 53 21.6
comp=Z,7.9nm,1.0s
MENT Mentasta 88.40 26 P P 02 53 13.7 0.0
D24K Happy Valley 88.55 19 P P 02 53 14.6 +0.3
L26K Log Cabin Wild 88.59 26 P P 02 53 14.0 -0.6
L26K IAmb IAmb 02 53 37.6
comp=Z,11nm,1.4s
BARN Barnard Glacie 88.80 28 P P 02 53 15.8 0.0
FYU Fort Yukon 88.92 22 P P 02 53 15.9 -0.1
CTGM Chitina Glacie 88.92 28 P P 02 53 16.6 +0.2
CTGM IAmb IAmb 02 53 24.5
comp=Z,8.2nm,0.9s
J26L Joseph Creek 88.93 25 P P 02 53 16.2 -0.1
J26L IAmb IAmb 02 53 20.4
comp=Z,9.7nm,1.2s
LOGN Logan Glacier 89.04 28 P P 02 53 16.9 -0.1
M27K Edge Creek, AK 89.05 27 P P 02 53 17.0 0.0
M27K IAmb IAmb 02 53 22.7
comp=Z,9.5nm,1.1s
L27K Beaver Creek, 89.26 26 P P 02 53 18.0 +0.2
L27K IAmb IAmb 02 53 23.0
comp=Z,12nm,1.4s
BCAR Beaver Creek A 89.28 26 P P 02 53 18.1 +0.1
E25K Arctic Village 89.30 21 P P 02 53 18.2 +0.3
I26K Coal Creek Min 89.34 24 P P 02 53 18.0 0.0
I26K IAmb IAmb 02 53 34.5
comp=Z,16nm,1.8s
K27K Chicken 89.42 25 P P 02 53 18.7 +0.2
D25K Kavik River 89.43 20 P P 02 53 18.8 +0.3
D25K IAmb IAmb 02 53 22.1
comp=Z,15nm,1.6s
BMAR Burnt Mountain 89.43 22 P P 02 53 18.7 +0.2
EGAK Eagle 90.00 25 P P 02 53 20.9 -0.3
EGAK IAmb IAmb 02 53 26.0
comp=Z,9.8nm,1.2s
G27K Doyon Strip 90.35 23 P P 02 53 23.1 +0.4
G27K IAmb IAmb 02 53 57.5
comp=Z,13nm,1.9s
DAWY Dawson 90.57 25 P P 02 53 24.0 +0.1
DAWY IAmb IAmb 02 53 29.1
comp=Z,16nm,1.5s
M29M Somme Creek 90.61 27 P P 02 53 24.2 0.0
M29M IAmb IAmb 02 53 28.0
comp=Z,12nm,1.6s
I28M Miner Creek 90.67 24 P P 02 53 24.5 0.0
I28M IAmb IAmb 02 53 26.9
comp=Z,14nm,1.6s
L29M L29M 90.91 27 P P 02 53 25.4 -0.1
L29M IAmb IAmb 02 53 27.0
comp=Z,6.5nm,1.0s
K29M Barlow Dome 91.33 26 P P 02 53 27.8 +0.2
K29M IAmb IAmb 02 53 28.5
comp=Z,5.0nm,0.9s
M30M Minto, Yukon 91.39 27 P P 02 53 28.0 +0.2
M30M IAmb IAmb 02 53 28.4
comp=Z,7.1nm,1.4s
ARU Arti 92.02 326 LR LR 03 36 39.9
comp=Z,46nm,18.6s,baz=156,slow=37
I30M Mount Dempster 92.08 25 P P 02 53 30.8 -0.2
I30M IAmb IAmb 02 53 42.4
comp=Z,7.4nm,1.5s
OPO Ambohidratompo 93.03 251 LR LR 03 34 12.3
comp=Z,60nm,18.2s,baz=141,slow=35
F31M Tsiigehtchic 93.50 23 P P 02 53 36.6 -0.6
F31M IAmb IAmb 02 53 41.4
comp=Z,12nm,1.5s
INK Inuvik 93.71 22 LR LR 03 32 27.9
comp=Z,124nm,19.5s,baz=199,slow=33
R33M Jennings River 93.72 31 P P 02 53 38.6 -0.1
DLBC Dease Lake 94.10 32 LR LR 03 28 31.9
comp=Z,196nm,21.4s,baz=284,slow=31
BBB Bella Bella 94.64 38 LR LR 03 34 32.3
comp=Z,160nm,18.7s,baz=230,slow=34
KIRV Kirov 97.11 328 LR LR 03 38 51.6
comp=Z,146nm,20.4s,baz=88,slow=36
BELG Belogornoye 98.09 322 LR LR 03 41 18.2
comp=Z,81nm,19.2s,baz=337,slow=37
SNAA Sanae 98.78 190 LR LR 03 38 13.7
comp=Z,354nm,20.7s,baz=136,slow=35
NVAR Mina Array Bea 101.14 52 P Pdif 02 54 11.8 -1.0
comp=Z,0.1nm,0.4s,baz=241,slow=6.8,SNR=1.3
PLCA Paso Flores 124.04 150 PKP PKPdf 02 59 20.3 -0.6
comp=Z,1.4nm,0.9s,baz=229,slow=11,SNR=3.5
TORD Torodi Ar. Bea 140.91 283 PKP PKPdf 02 59 50.9 -2.3
comp=Z,0.5nm,0.7s,baz=72,slow=3.1,SNR=4.1
CPUP Villa Florida 142.12 150 PKP PKPdf 02 59 53.9 -1.1
comp=Z,2.4nm,1.0s,baz=258,slow=4.1,SNR=2.9
DBIC Dimbokro 147.63 272 PKPbc PKPbc 03 00 06.8 -0.8
comp=Z,7.1nm,1.0s,baz=112,slow=5.9,SNR=3.3

IDC 29 02:49:08.9±3.4, 5.87S×149.31E, h202km±30km, mb3.2/4, mbtmp3.7/5, Error ellipse: s-maj=77.3km s-min=29.9km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.11**	**211**	P		Pn	02 50 13.0	+0.9
	5.9nm,0.3s,baz=31,slow=5.9,SNR=2.3						
PMG				S		S	02 51 02.1	+0.8
	25nm,0.7s,baz=31,slow=18,SNR=6.0						
WRA	**Warramunga Arr**	**20.18**	**225**	P		P	02 53 27.8	-0.5
	3.5nm,0.9s,baz=54,slow=12,SNR=12						
	3.5nm,0.9s						
ASAR	**Alice Springs**	**23.08**	**218**	P		P	02 53 58.5	+1.4
	1.6nm,0.6s,baz=52,slow=8.0,SNR=4.8						
	1.6nm,0.6s						
ZALV	**Zalesovo Beam**	**80.14**	**327**	P		P	03 00 54.8	-1.7
	0.4nm,0.4s,baz=110,slow=6.2,SNR=2.1						
	0.4nm,0.4s						
ILAR	**Eielson Array**	**84.47**	**23**	P		P	03 01 19.8	+1.1
	0.2nm,0.8s,baz=244,slow=4.9,SNR=2.0						
	0.2nm,0.8s						

SNET 29 03:05:58.9±1.1, 13.70N×90.95W, h61km±22km, ML3.7
GCG 29 03:05:59.2±0.6, 13.64N×91.01W, h40km±127km, MD3.4
CATAC 29 03:05:59.0±0.5, 13.61N×91.00W, h43km±54km, ML3.8
ISC 29 03:05:58.9±1.9, 13.64N±0.09×90.98W±0.05, h67km±29km, n46, σ0.51/69, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.81**	**9**	*eP*		**Pn**	**03 06 15.1**	**0.0**
PCG	**Pacaya**	**0.83**	**26**	*eP*		**Pn**	**03 06 15.2**	**-0.2**
SULM	**Suchitepequez,**	**0.87**	**319**	*eP*		**Pn**	**03 06 16.6**	**+0.9**
GUMI	**Mixco**	**1.05**	**20**	*iP*		**Pn**	**03 06 17.7**	**-0.3**
GUMI					IAML		03 06 18.2	
	comp=Z,4μm,1.0s						
GUMI				*i*	S	**Sn**	**03 06 33.0**	**+0.8**
RTAL	**Retalhuleu**	**1.12**	**322**	*eP*		**Pn**	**03 06 18.1**	**-0.7**
RTAL				*eS*		**Sn**	**03 06 33.1**	**-0.5**
RTAL	**Retalhuleu**	**1.12**	**322**	*iP*		**Pn**	**03 06 18.4**	**-0.4**
RTAL					IAML		03 06 18.4	
	comp=Z,650nm,1.0s						
RTAL				*i*	S	**Sn**	**03 06 33.0**	**-0.6**
NBG	**Las Nubes**	**1.12**	**33**	*eP*		**Pn**	**03 06 19.9**	**+0.8**
NBG				*eS*		**Sn**	**03 06 35.7**	**+1.6**
GUNB	**GUNB**	**1.13**	**33**	*iP*		**Pn**	**03 06 18.6**	**-0.6**
GUNB					IAML		03 06 18.9	
	comp=Z,2μm,1.0s						
GUNB				*i*	S	**Sn**	**03 06 34.1**	**-0.2**
NUBE	**Las Nubes**	**1.19**	**77**	*eP*		**Pn**	**03 06 19.3**	**-0.5**
NUBE				*eS*		**Sn**	**03 06 34.8**	**-0.7**
NUBE	**Las Nubes**	**1.19**	**77**	*iP*		**Pn**	**03 06 19.3**	**-0.5**
NUBE				*i*	S	**Sn**	**03 06 34.8**	**-0.7**
NUBE					IAML		03 06 35.8	
	comp=Z,2μm,1.0s						
STG3	**Santiaguito 3,**	**1.21**	**332**	*eP*		**Pn**	**03 06 20.1**	**0.0**
LOAL	**Lomas de Alarc**	**1.22**	**73**	*eP*		**Pn**	**03 06 19.7**	**-0.3**
LOAL				*eS*		**Sn**	**03 06 36.3**	**+0.4**
LOAL	**Lomas de Alarc**	**1.22**	**73**	*iP*		**Pn**	**03 06 19.8**	**-0.3**
LOAL				*i*	S	**Sn**	**03 06 36.3**	**+0.4**
LOAL					IAML		03 06 43.9	
	comp=Z,3μm,1.0s						
SLOZ	**Alcaldia de Sa**	**1.22**	**72**	*eP*		**Pn**	**03 06 19.6**	**-0.5**
SLOZ				*eS*		**Sn**	**03 06 36.1**	**+0.1**
RTR	**El Retiro**	**1.32**	**79**	*eP*		**Pn**	**03 06 21.6**	**0.0**
CEVE	**Cerro Verde**	**1.33**	**82**	*eP*		**Pn**	**03 06 21.4**	**-0.3**
CEVE				*eS*		**Sn**	**03 06 39.0**	**+0.1**
CEVE					IAML		03 06 40.6	
	comp=Z,3μm,0.5s						
CEVE	**Cerro Verde**	**1.33**	**82**	*iP*		**Pn**	**03 06 21.6**	**-0.1**
CEVE				*iS*		**Sn**	**03 06 38.9**	**+0.1**
CEVE					IAML		03 06 40.5	
	comp=Z,2μm,1.0s						
SBLS	**San Blas**	**1.33**	**81**	*eP*		**Pn**	**03 06 21.4**	**-0.4**
SBLS				*eS*		**Sn**	**03 06 39.6**	**+0.8**
SNJE	**San Jose**	**1.35**	**80**	*eP*		**Pn**	**03 06 21.8**	**-0.2**
SNJE				*eS*		**Sn**	**03 06 39.5**	**+0.1**
UNIC	**Universidad Ca**	**1.43**	**76**	*iP*		**Pn**	**03 06 22.4**	**-0.5**
UNIC					IAML		03 06 42.4	
	comp=Z,340nm,1.0s						
JAYA	**Jayaque - finc**	**1.49**	**89**	*eP*		**Pn**	**03 06 23.3**	**-0.4**
JAYA				*eS*		**Sn**	**03 06 41.9**	**-0.5**
JAYA					IAML		03 06 42.6	
	comp=Z,1μm,0.2s						
JAYA	**Jayaque - finc**	**1.49**	**89**	*iP*		**Pn**	**03 06 23.4**	**-0.3**
JAYA					IAML		03 06 43.8	
	comp=Z,3μm,1.0s						
CEDA	**San Andres**	**1.55**	**84**	*eS*		**Sn**	**03 06 42.9**	**-0.8**
CEDA					IAML		03 06 46.6	
	comp=Z,599nm,0.2s						
LALI	**Alcalda de L**	**1.62**	**95**	*eP*		**Pn**	**03 06 25.1**	**-0.2**
LALI				*eS*		**Sn**	**03 06 45.0**	**-0.3**
LALI	**Alcalda de L**	**1.62**	**95**	*iP*		**Pn**	**03 06 25.6**	**+0.3**
LALI					IAML		03 06 46.6	
	comp=Z,140nm,1.0s						
PMON	**Piamonte**	**1.62**	**87**	*eP*		**Pn**	**03 06 25.5**	**0.0**
PMON				*eS*		**Sn**	**03 06 45.7**	**+0.2**
PMON	**Piamonte**	**1.62**	**87**	*iP*		**Pn**	**03 06 25.5**	**0.0**
PMON					IAML		03 06 47.7	
	comp=Z,1μm,1.0s						
QUIS	**Sacapulas**	**1.64**	**356**	*iP*		**Pn**	**03 06 26.2**	**+0.4**
QUIS					IAML		03 06 48.8	
	comp=Z,640nm,1.0s						
BOQS	**Boqueron**	**1.65**	**87**	*eP*		**Pn**	**03 06 26.4**	**+0.4**
QUEZ	**Alcaldia de Qu**	**1.67**	**83**	*eS*		**Sn**	**03 06 47.0**	**+0.4**
SNET	**Serv Nac Est T**	**1.70**	**88**	*eP*		**Pn**	**03 06 26.6**	**+0.2**
SNET				*eS*		**Sn**	**03 06 47.3**	**-0.1**
MTO3	**Montecristo**	**1.74**	**64**	*iP*		**Pn**	**03 06 26.2**	**-0.9**
MTO3	**Montecristo**	**1.74**	**64**	*iP*		**Pn**	**03 06 26.3**	**-0.9**
MTO3					IAML		03 06 52.0	
	comp=Z,240nm,1.0s						
PANCS	**Alcalda de**	**1.75**	**91**	*iP*		**Pn**	**03 06 27.2**	**+0.1**
PANCS				*iS*		**Sn**	**03 06 48.1**	**-0.5**
PANCS					IAML		03 06 48.9	
	comp=Z,2μm,1.0s						
LOMA	**Loma Larga**	**1.76**	**90**	*eP*		**Pn**	**03 06 27.1**	**-0.2**
LOMA				*eS*		**Sn**	**03 06 48.7**	**-0.2**
LOMA	**Loma Larga**	**1.76**	**90**	*iP*		**Pn**	**03 06 27.5**	**+0.2**
LOMA				*iS*		**Sn**	**03 06 48.7**	**-0.2**
LOMA					IAML		03 06 50.2	
	comp=Z,1μm,1.0s						
ESQI	**Esquipulas**	**1.83**	**60**	*eP*		**Pn**	**03 06 27.9**	**-0.4**
ESQI	**Esquipulas**	**1.83**	**60**	*iP*		**Pn**	**03 06 27.6**	**-0.7**
ESQI					IAML		03 06 54.8	
	comp=Z,240nm,1.0s						
SJTE	**Alcalda de S**	**1.92**	**91**	*eP*		**Pn**	**03 06 29.4**	**0.0**
SJTE				*eS*		**Sn**	**03 06 53.5**	**+0.8**
SJTE	**Alcalda de S**	**1.92**	**91**	*iP*		**Pn**	**03 06 29.6**	**+0.2**
SJTE				*iS*		**Sn**	**03 06 53.0**	**+0.4**
SJTE					IAML		03 06 56.0	
	comp=Z,420nm,1.0s						
PAVA	**Las Pavas**	**1.98**	**88**	*eP*		**Pn**	**03 06 30.2**	**-0.2**
PAVA	**Las Pavas**	**1.98**	**88**	*iP*		**Pn**	**03 06 30.4**	**0.0**
PAVA					IAML		03 06 50.8	
	comp=Z,530nm,1.0s						
COEG	**Centro de Oper**	**2.04**	**90**	*eP*		**Pn**	**03 06 31.5**	**+0.4**
COEG					IAML		03 06 49.6	
	comp=Z,292nm,0.5s						
COEG	**Centro de Oper**	**2.04**	**90**	*iP*		**Pn**	**03 06 31.7**	**+0.6**
COEG					IAML		03 06 49.7	
	comp=Z,260nm,1.0s						
SCLA	**Alcaldia de Sa**	**2.19**	**88**	*eP*		**Pn**	**03 06 33.0**	**0.0**
PACA	**Pacayal**	**2.59**	**93**	*iP*		**Pn**	**03 06 39.4**	**+0.8**
PACA					IAML		03 07 11.9	
	comp=Z,760nm,1.0s						

NORS 29 03:06:11.4, 43.56N×45.45E, h172km±1km, MPVA3.3
DRS 29 03:06:14.0, 43.54N×44.24E, h27km, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRTR	**Priterechnaya**	**0.21**	**8**	*eP*	g	Pn	03 06 38.9	+18
PRTR				*eS*	g	Sb	03 06 59.0	+35
STDR	**Stavd-Durt**	**0.22**	**217**	*eP*	g	Pn	03 06 40.5	+19
STDR				*eS*	g	Sb	03 07 01.1	+37
TRKR	**Terskaya**	**0.40**	**63**	*eP*	g	Pn	03 06 37.2	+13
TRKR				*eS*	g	Sn	03 06 56.0	+25
KORR	**Kora**	**0.47**	**196**	*eP*	g	Pn	03 06 41.0	+16
KORR				*eS*	g	Sn	03 07 02.3	+30
LACR	**Lac**	**0.72**	**177**	*eP*	g	Pn	03 06 40.4	+12
LACR				*eS*	g	Sn	03 07 01.2	+23
SHA1	**Shidzhatmaz**	**1.17**	**280**	*eP*	g	Pb	03 06 49.2	+14
SHA1				*eS*	g	Sb	03 07 16.6	+26
DVE	**Vedeno**	**1.50**	**112**	*eP*	g	Pn	03 06 38.9	-0.2
DVE				*eS*	g	Sn	03 06 58.0	+0.1
DBC	**Dubki**	**1.96**	**105**	*eP*	g	Pn	03 06 41.5	-4.1
	3.0nm,0.4s						
DBC				*eS*	g	Sn	03 07 02.3	-7.0
	14nm,0.3s						
UNCR	**Uncukul**	**2.04**	**113**	*eP*	g	Pn	03 06 42.7	-4.0
	4.0nm,0.2s						
UNCR				*eS*	g	Sn	03 07 04.9	-6.4
	12nm,0.4s						
XNZR	**Khunzakh**	**2.06**	**118**	*eP*	g	Pn	03 06 43.0	-4.1
	6.0nm,0.3s						
XNZR				*eS*	g	Sn	03 07 05.8	-6.2
	81nm,0.4s						
KRNR	**Karanay**	**2.08**	**109**	*eP*	g	Pn	03 06 42.9	-4.3
	2.0nm,0.3s						
KRNR				*eS*	g	Sn	03 07 05.1	-7.1
	18nm,0.3s						
BUJR	**Buynaksk**	**2.22**	**108**	*eP*	g	Pn	03 06 45.2	-3.8
	21nm,0.4s						
BUJR				*eS*	g	Sn	03 07 08.6	-6.9
	34nm,0.6s						
GNBR	**Gunib**	**2.31**	**119**	*ePn*		Pn	03 06 47.0	-3.3
	4.0nm,0.5s						
GNBR				*eSn*		Sn	03 07 11.5	-6.3
	14nm,0.4s						
AKT	**Akhty**	**3.30**	**127**	*ePn*		Pn	03 06 58.3	-5.7
	2.0nm,0.4s						
AKT				*eSn*		Sn	03 07 32.5	-10
	14nm,0.4s						

IDC 29 03:07:01.9±3.5, 55.74N×153.80W, h0km, mb3.4/5, mbtmp3.4/6, ML2.9/1, MS4.0/3, Error ellipse: s-maj=75.6km s-min=30.4km az=152.0
NEIC 29 03:07:05.6±0.8, 56.13N±0.07×153.3W±0.1, h34km±14km, Error ellipse: s-maj=12.4km s-min=6.8km az=143.0
AEIC 29 03:07:05.5±0.9, 56.23N±0.07×153.4W±0.1, h47km±9km, ML3.1, ML3.1/46(NEIC), Error ellipse: s-maj=12.2km s-min=6.2km az=133.0
ISC 29 03:07:05.2±1.1, 56.18N±0.07×153.28W±0.06, h23km, n143, σ1.07/139, mb3.7/4, MS4.1/3, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**1.04**	**360**			**Pn**	**03 07 24.1**	**-0.3**
OHAK					IAML		03 07 45.6	
	comp=E,494nm,0.7s						
OHAK					IAML		03 07 45.6	
	comp=N,349nm,0.6s						
OHAK	**Old Harbor**	**1.04**	**360**			**Sb**	**03 07 37.6**	**-0.2**
OHAK	**Old Harbor**	**1.04**	**360**	P		**Pn**	**03 07 24.1**	**-0.3**
	baz=183						
OHAK				S		**Sb**	**03 07 37.6**	**-0.2**
	baz=183						
KDAK	**Kodiak Island**	**1.65**	**13**			**Pn**	**03 07 32.9**	**+0.1**
KDAK					IAML		03 07 52.8	
	comp=N,182nm,0.5s						
KDAK	**Kodiak Island**	**1.65**	**13**			**Sn**	**03 07 52.2**	**-1.0**
KDAK	**Kodiak Island**	**1.65**	**13**	LR	LR		03 08 06.4	
	comp=N,61nm,19.2s,baz=292,slow=30						
PLK3	**Peulik 3**	**2.23**	**314**			**Pn**	**03 07 40.5**	**-0.1**
ACHA	**Angle Creek He**	**2.32**	**332**			**Pn**	**03 07 41.8**	**-0.2**
KAKN	**Katmai Knife C**	**2.33**	**336**			**Pn**	**03 07 42.4**	**+0.3**
ANCK	**Angle Creek**	**2.35**	**330**			**Pn**	**03 07 42.3**	**-0.2**
Q20K	**Shuyak Island**	**2.48**	**11**	P		**Pn**	**03 07 44.7**	**+0.6**
	baz=193						
SYI	**Shuyak Island**	**2.48**	**11**			**Pn**	**03 07 44.6**	**+0.5**
SYI					IAML		03 08 45.3	
	comp=E,73nm,1.4s						
CNTC	**Contact Creek**	**2.52**	**327**			**Pn**	**03 07 44.7**	**-0.1**
Q17K	**Contact Creek**	**2.52**	**327**	P		**Pn**	**03 07 44.7**	**-0.1**
	baz=145						
ANNE	**Aniakchak Nort**	**2.75**	**288**			**Pn**	**03 07 47.1**	**-0.7**
Q19K	**Cape Douglas,**	**2.76**	**356**			**Pn**	**03 07 48.4**	**+0.4**
Q19K	**Cape Douglas,**	**2.76**	**356**	P		**Pn**	**03 07 48.4**	**+0.4**
	baz=177						
ANNW	**Aniakchak Nort**	**2.84**	**288**			**Pn**	**03 07 49.0**	**-0.1**
CHGN	**Chignik**	**2.87**	**275**			**Pn**	**03 07 48.4**	**-0.9**
CHGN						**Sn**	**03 08 20.7**	**-2.4**
CHGN	**Chignik**	**2.87**	**275**	IAML			03 08 21.9	
	comp=E,52nm,0.4s						
CHGN					IAML		03 08 22.0	
	comp=N,89nm,0.5s						
CHGN	**Chignik**	**2.87**	**275**	P		**Pn**	**03 07 48.9**	**-0.4**
	baz=89						
CHGN				S		**Sn**	**03 08 21.1**	**-2.0**
	baz=89						
Q16K	**King Salmon**	**3.10**	**325**			**Pn**	**03 07 52.1**	**-0.4**
Q16K	**King Salmon**	**3.10**	**325**	P		**Pn**	**03 07 52.2**	**-0.4**
	baz=143						
AUL	**Augustine Lava**	**3.21**	**359**			**Pn**	**03 07 54.2**	**+0.1**
VNHG	**Veniaminof 1**	**3.29**	**273**			**Pn**	**03 07 55.2**	**0.0**
P18K	**Big Mountain,**	**3.39**	**343**			**Pn**	**03 07 56.2**	**-0.3**
P18K	**Big Mountain,**	**3.39**	**343**	P		**Pn**	**03 07 56.2**	**-0.3**
	baz=162						
P17K	**Kvichak River**	**3.47**	**332**			**Pn**	**03 07 57.4**	**-0.2**

P17K	**Kvichak River**	**3.47**	**332**	P		**Pn**	**03 07 57.4**	**-0.2**
	baz=150							
P19K	**Oil Pt**	**3.48**	**0**			**Pn**	**03 07 58.4**	**+0.5**
P19K	**Oil Pt**	**3.48**	**0**	IAML			03 09 06.0	
	comp=N,55nm,0.6s							
P19K	**Oil Pt**	**3.48**	**0**	P		**Pn**	**03 07 58.4**	**+0.5**
	baz=181							
S14K	**Fog Glacier**	**3.50**	**274**	P		**Pn**	**03 07 58.0**	**-0.2**
	baz=88							
VNFG	**Fog Glacier, M**	**3.50**	**274**			**Pn**	**03 07 58.0**	**-0.2**
CNPM	**China Poot**	**3.53**	**17**			**Pn**	**03 07 58.5**	**0.0**
CNPM						**Sn**	**03 08 37.1**	**-2.4**
CNPM	**China Poot**	**3.53**	**17**	IAML			03 09 12.9	
	comp=E,43nm,0.9s							
CNPM				IAML			03 09 18.9	
	comp=N,34nm,0.9s							
BRLK	**Bradley Lake**	**3.81**	**19**			**Pn**	**03 08 02.1**	**-0.4**
BRLK						**Sn**	**03 08 44.2**	**-2.4**
BRLK	**Bradley Lake**	**3.81**	**19**	IAML			03 09 23.7	
	comp=E,34nm,0.9s							
ILSW	**Iliamna Southw**	**3.81**	**1**			**Pn**	**03 08 02.4**	**-0.2**
ILSW	**Iliamna Southw**	**3.81**	**1**	IAML			03 09 15.2	
	comp=E,36nm,0.9s							
P16K	**Nushagak River**	**3.82**	**320**			**Pn**	**03 08 02.0**	**-0.4**
P16K	**Nushagak River**	**3.82**	**320**	P		**Pn**	**03 08 02.0**	**-0.4**
	baz=137							
BRSE	**Bradley Lake S**	**3.82**	**20**			**Pn**	**03 08 02.5**	**-0.1**
BRSE						**Sn**	**03 08 45.0**	**-1.7**
BRSE	**Bradley Lake S**	**3.82**	**20**	P		**Pn**	**03 08 02.5**	**-0.1**
	baz=203							
BRSE				S		**Sn**	**03 08 45.0**	**-1.7**
	baz=203							
O18K	**Koktuh Hills**	**3.82**	**345**			**Pn**	**03 08 02.4**	**-0.1**
O18K	**Koktuh Hills**	**3.82**	**345**	IAML			03 09 14.4	
	comp=E,23nm,1.4s							
O18K				IAML			03 09 28.5	
	comp=N,28nm,0.9s							
O18K	**Koktuh Hills**	**3.82**	**345**	P		**Pn**	**03 08 02.4**	**-0.1**
	baz=164							
CHNA	**Chernabura Isl**	**3.83**	**252**	P		**Pn**	**03 08 00.7**	**-2.0**
	baz=66							
CHNA				S		**Sn**	**03 08 41.7**	**-5.2**
	baz=66							
CNBA	**Chernabura Isl**	**3.84**	**252**			**Pn**	**03 08 00.7**	**-2.0**
CNBA						**Sn**	**03 08 41.7**	**-5.3**
CNBA	**Chernabura Isl**	**3.84**	**252**	IAML			03 08 44.8	
	comp=N,33nm,0.5s							
CNBA				IAML			03 09 19.7	
	comp=E,25nm,4.5s							
IVE	**Iliamna Volcan**	**3.85**	**2**			**Pn**	**03 08 03.4**	**+0.4**
O20K	**Slope Mountain**	**3.93**	**5**			**Pn**	**03 08 04.8**	**+0.8**
O20K						**Sn**	**03 08 48.9**	**-0.5**
O20K	**Slope Mountain**	**3.93**	**5**	P		**Pn**	**03 08 04.9**	**+0.8**
	baz=186							
O20K				S		**Sn**	**03 08 48.9**	**-0.5**
	baz=186							
O19K	**Port Alsworth**	**4.06**	**353**			**Pn**	**03 08 05.8**	**0.0**
O19K	**Port Alsworth**	**4.06**	**353**	P		**Pn**	**03 08 05.8**	**0.0**
	baz=172							
O17K	**Koliganek Bris**	**4.13**	**332**			**Pn**	**03 08 06.6**	**-0.2**
O17K	**Koliganek Bris**	**4.13**	**332**	P		**Pn**	**03 08 06.6**	**-0.2**
	baz=149							
SDPT	**Sand Point**	**4.15**	**261**			**Pn**	**03 08 06.8**	**-0.2**
SDPT	**Sand Point**	**4.15**	**261**	P		**Pn**	**03 08 06.8**	**-0.2**
	baz=75							
O16K	**Kokwok River B**	**4.28**	**325**			**Pn**	**03 08 08.1**	**-0.7**
O16K	**Kokwok River B**	**4.28**	**325**	P		**Pn**	**03 08 08.1**	**-0.7**
	baz=141							
RSO	**Redoubt South**	**4.30**	**3**			**Pn**	**03 08 10.7**	**+1.3**
RDWB	**Redoubt West**	**4.33**	**3**			**Pn**	**03 08 09.7**	**+0.1**
RDT	**Redoubt**	**4.43**	**6**			**Pn**	**03 08 11.1**	**+0.1**
RDT						**Sn**	**03 09 02.1**	**+0.3**
DFR	**Drift River**	**4.44**	**4**			**Pn**	**03 08 11.2**	**+0.2**
O15K	**Ungalikthiuk R**	**4.62**	**313**			**Pn**	**03 08 13.1**	**-0.4**
O15K	**Ungalikthiuk R**	**4.62**	**313**	P		**Pn**	**03 08 13.1**	**-0.4**
	baz=128							
SLKM	**Skilak Lake**	**4.63**	**19**			**Pn**	**03 08 13.2**	**-0.4**
N19K	**Bonanza Creek**	**4.69**	**353**			**Pn**	**03 08 14.7**	**+0.2**
N19K	**Bonanza Creek**	**4.69**	**353**	IAML			03 09 45.3	
	comp=E,14nm,0.8s							
N19K				IAML			03 09 49.4	
	comp=N,12nm,1.1s							
N19K	**Bonanza Creek**	**4.69**	**353**	P		**Pn**	**03 08 14.7**	**+0.2**
	baz=172							
N18K	**Kilae Creek**	**4.72**	**344**			**Pn**	**03 08 15.1**	**+0.3**
N18K	**Kilae Creek**	**4.72**	**344**	IAML			03 09 49.2	
	comp=E,12nm,0.9s							
N18K	**Kilae Creek**	**4.72**	**344**	P		**Pn**	**03 08 15.1**	**+0.3**
	baz=162							
N17K	**Nushagak Hills**	**4.82**	**336**			**Pn**	**03 08 16.0**	**-0.2**
N17K	**Nushagak Hills**	**4.82**	**336**	IAML			03 09 46.6	
	comp=E,12nm,1.3s							
N17K				IAML			03 09 46.7	
	comp=N,12nm,1.6s							
N17K	**Nushagak Hills**	**4.82**	**336**	P		**Pn**	**03 08 16.0**	**-0.2**
	baz=153							
PS1A	**Pavlof South-1**	**4.83**	**264**			**Pn**	**03 08 16.2**	**-0.2**
PS4A	**Pavlof South-4**	**4.91**	**264**			**Pn**	**03 08 16.7**	**-0.8**
P23K	**Montague Islan**	**4.94**	**37**			**Pn**	**03 08 17.6**	**-0.2**
P23K	**Montague Islan**	**4.94**	**37**	P		**Pn**	**03 08 17.6**	**-0.2**
	baz=222							
HAG	**Hague Volcano**	**4.95**	**264**			**Pn**	**03 08 17.6**	**-0.4**
S12K	**Black Hills**	**4.96**	**268**			**Pn**	**03 08 17.5**	**-0.6**
S12K	**Black Hills**	**4.96**	**268**	P		**Pn**	**03 08 17.5**	**-0.6**
	baz=80							
PN7A	**Pavlof North-7**	**4.97**	**265**			**Pn**	**03 08 18.1**	**-0.3**
SVW2	**Sparrevohn**	**5.08**	**347**	Pn		**Pn**	**03 08 19.9**	**+0.2**
N16K	**Nishlik Lake**	**5.19**	**328**			**Pn**	**03 08 21.1**	**-0.2**
N16K	**Nishlik Lake**	**5.19**	**328**	P		**Pn**	**03 08 21.0**	**-0.2**
	baz=144							
O14K	**Tigyukauivet M**	**5.27**	**309**			**Pn**	**03 08 22.2**	**-0.2**
O14K	**Tigyukauivet M**	**5.27**	**309**	IAML			03 09 24.3	
	comp=N,15nm,4.0s							
O14K				IAML			03 10 15.7	
	comp=E,14nm,3.5s							
O14K	**Tigyukauivet M**	**5.27**	**309**	P		**Pn**	**03 08 22.2**	**-0.2**
	baz=122							
N15K	**Kwethluk River**	**5.38**	**321**			**Pn**	**03 08 23.6**	**-0.4**
N15K	**Kwethluk River**	**5.38**	**321**	IAML			03 10 00.5	
	comp=N,13nm,3.1s							
N15K				IAML			03 10 59.4	
	comp=E,14nm,4.6s							
N15K	**Kwethluk River**	**5.38**	**321**	P		**Pn**	**03 08 23.6**	**-0.4**
	baz=135							
STLK	**Strandline Lak**	**5.39**	**7**			**Pn**	**03 08 24.0**	**-0.1**
M18K	**Stony River**	**5.49**	**347**			**Pn**	**03 08 25.6**	**+0.2**
M18K	**Stony River**	**5.49**	**347**	P		**Pn**	**03 08 25.6**	**+0.2**
	baz=165							
HIN	**Hinchinbrook I**	**5.54**	**37**			**Pn**	**03 08 25.6**	**-0.5**
M17K	**Holitna River**	**5.66**	**339**			**Pn**	**03 08 27.6**	**-0.2**
M17K	**Holitna River**	**5.66**	**339**	P		**Pn**	**03 08 27.6**	**-0.2**
	baz=156							
M16K	**Timber Creek**	**5.69**	**331**			**Pn**	**03 08 27.9**	**-0.3**
M16K	**Timber Creek**	**5.69**	**331**	P		**Pn**	**03 08 27.9**	**-0.3**
	baz=146							
M20K	**Styx River**	**5.72**	**1**			**Pn**	**03 08 29.6**	**+0.9**
M19K	**Big River Lodg**	**5.77**	**355**			**Pn**	**03 08 29.3**	**0.0**
M19K	**Big River Lodg**	**5.77**	**355**	P		**Pn**	**03 08 29.3**	**0.0**
	baz=174							
N14K	**Kuskokwak Cree**	**5.83**	**314**			**Pn**	**03 08 29.8**	**-0.2**
N14K	**Kuskokwak Cree**	**5.83**	**314**	P		**Pn**	**03 08 29.8**	**-0.2**
	baz=126							
EYAK	**Cordova Ski Ar**	**5.91**	**39**			**Pn**	**03 08 31.3**	**+0.2**
EYAK	**Cordova Ski Ar**	**5.91**	**39**	P		**Pn**	**03 08 31.3**	**+0.2**
	baz=226							
KAIM	**Kayak Island**	**6.02**	**48**			**Pn**	**03 08 32.8**	**+0.1**
KAIM	**Kayak Island**	**6.02**	**48**	P		**Pn**	**03 08 32.8**	**+0.1**
	baz=236							
L19K	**White Mountain**	**6.07**	**353**			**Pn**	**03 08 33.9**	**+0.4**
ISLZ	**Isanotski Laza**	**6.11**	**261**			**Pn**	**03 08 33.3**	**-0.7**
L18K	**Granite Mounta**	**6.30**	**345**			**Pn**	**03 08 36.1**	**-0.5**
SCM	**Sheep Creek Mo**	**6.45**	**26**			**Pn**	**03 08 38.5**	**-0.2**
SCM	**Sheep Creek Mo**	**6.45**	**26**	P		**Pn**	**03 08 38.5**	**-0.2**
	baz=212							
BMRM	**Bremner River**	**6.60**	**40**			**Pn**	**03 08 40.6**	**-0.1**
BMRM	**Bremner River**	**6.60**	**40**	P		**Pn**	**03 08 40.6**	**-0.1**
	baz=228							
GRIN	**Grindle Hills**	**6.67**	**48**			**Pn**	**03 08 41.9**	**+0.2**
KHIT	**Khitrov Hills**	**6.79**	**47**			**Pn**	**03 08 43.5**	**0.0**
L15K	**Ungalak Mounta**	**6.96**	**326**			**Pn**	**03 08 45.0**	**-0.5**
L15K	**Ungalak Mounta**	**6.96**	**326**	P		**Pn**	**03 08 45.0**	**-0.5**
	baz=139							
WAT7	**Susitna Watana**	**7.04**	**17**			**Pn**	**03 08 46.7**	**-0.1**
K20K	**Telida**	**7.21**	**357**			**Pn**	**03 08 49.5**	**+0.4**
GRNC	**Granite Creek**	**7.57**	**48**			**Pn**	**03 08 54.1**	**0.0**
TABL	**Table Mountain**	**7.69**	**51**			**Pn**	**03 08 55.7**	**0.0**
MSW	**Makushin Switc**	**8.08**	**259**			**Pn**	**03 09 00.4**	**-0.6**
PNL	**Peninsula**	**8.17**	**59**			**Pn**	**03 09 02.6**	**+0.3**
PNL	**Peninsula**	**8.17**	**59**	P		**Pn**	**03 09 02.6**	**+0.3**
	baz=251							
P29M	**Windy Craggy**	**8.96**	**61**			**Pn**	**03 09 13.5**	**+0.4**
P29M	**Windy Craggy**	**8.96**	**61**	P		**Pn**	**03 09 13.5**	**+0.4**
	baz=254							
IL31		**9.17**	**17**			**Pn**	**03 09 16.2**	**+0.3**
ILAR	**Eielson Array**	**9.17**	**17**	Pn		**Pn**	**03 09 16.8**	**+0.8**
	comp=E,0.1nm,0.3s,baz=205,slow=14,SNR=8.2							
ILAR				Sn		**Sn**	**03 10 52.0**	**-6.2**
	comp=E,0.1nm,0.3s,baz=213,slow=9.7,SNR=5.9							
	comp=E,0.3nm,0.5s							
S31K	**Pelican**	**9.46**	**72**			**Pn**	**03 09 19.8**	**0.0**
S31K	**Pelican**	**9.46**	**72**	P		**Pn**	**03 09 19.8**	**0.0**
	baz=267							
YKA	**Yellowknife Ar**	**20.45**	**56**	P		Pn	03 11 46.1	+3.2
	comp=E,0.2nm,0.7s,baz=270,slow=11,SNR=2.8							
	comp=E,0.2nm,0.7s							
ARCES	**ARCESS Array B**	**54.59**	**1**	LR		LR	03 42 58.7	
	comp=E,70nm,20.7s,baz=82,slow=39							
SONM	**Songino Array**	**56.97**	**308**	P		**P**	**03 16 50.0**	**+1.6**
	comp=E,0.4nm,0.4s,baz=60,slow=8.5,SNR=4.5							
	comp=E,0.4nm,0.4s							
CMIG	**Matias Romero**	**58.51**	**107**	LR		LR	03 42 23.3	
	comp=E,161nm,19.9s,baz=250,slow=36							
FINES	**FINESS Array B**	**62.72**	**0**	LR		LR	03 46 48.1	
	comp=E,129nm,18.3s,baz=58,slow=38							
KURBB	**Kurchatov Arra**	**65.23**	**327**	P		**P**	**03 17 45.9**	**+1.6**
	comp=E,0.5nm,0.8s,baz=35,slow=6.3,SNR=3.6							
	comp=E,0.5nm,0.8s							
BVAR	**Borovoye Array**	**65.39**	**333**	P		**P**	**03 17 46.0**	**+0.7**
	comp=E,0.8nm,0.6s,baz=22,slow=4.7,SNR=5.4							
	comp=E,0.8nm,0.6s							
MKAR	**Makanchi Array**	**67.34**	**322**	P		**P**	**03 18 00.0**	**+2.1**
	comp=E,0.2nm,0.6s,baz=28,slow=7.4,SNR=2.4							
	comp=E,0.2nm,0.6s							

*NEIC **29** 03:11:16.8±1.0,45.54N±0.02×67.34W±0.02,h5km±1km, mb_Lg2.5/4,ML2.3/14,mb_Lg2.6(OTT),Error ellipse: s-maj=3.4km s-min=3.0km az=191.0*
*OTT **29** 03:11:16.8±0.1,45.60N×67.34W,h1km,MN2.6/26*
OTT 2km west from McAdam, Nb. Felt Northern Appalachians Seismic Zone. Felt in McAdam, Nb.
*ANF **29** 03:11:16.6±0.4,45.57N×67.38W,h5km,ML2.8/4,Error ellipse: s-maj=3.8km s-min=1.7km az=66.0*

ISC 29 03:11:15.6±0.8,45.57N±0.02×67.35W±0.02,h5km±6km, n115,σ1§05/160,1D,Maine

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
MCNB	**McAdam**	**0.03**	**41**	↓↓PG		**Pg**	**03**	**11**	**16.7**	**0.0**
MCNB				Trac			03	11	17.1	
	comp=Z,10μm,0.0s									
MCNB				SG		**Sg**	**03**	**11**	**17.1**	**-0.4**
G65A	**Princeton**	**0.40**	**202**	Pg		**Pg**	**03**	**11**	**24.3**	**+0.9**
G65A				IAML			03	11	32.4	
	comp=N,302nm,0.8s									
G65A				IAML			03	11	33.1	
	comp=E,360nm,0.7s									
G65A	**Princeton**	**0.40**	**202**	P		**Pg**	**03**	**11**	**24.4**	**+1.0**
	baz=24									
G65A				P		**Pg**	**03**	**11**	**24.4**	**+1.0**
	baz=24									
G65A				S		**Sg**	**03**	**11**	**29.6**	**+0.9**
	baz=24									
G65A				S		**Sg**	**03**	**11**	**29.6**	**+0.9**
	baz=24									
GGN	**Saint George**	**0.58**	**142**	Pg		**Pb**	**03**	**11**	**27.7**	**-0.5**
GGN				Sg		**Sg**	**03**	**11**	**35.4**	**+1.2**
GGN	**Saint George**	**0.58**	**142**	PG		**Pb**	**03**	**11**	**27.9**	**-0.3**
GGN				SG		**Sg**	**03**	**11**	**35.3**	**+1.2**
GGN				Trac			03	11	39.2	
	comp=E,21nm,0.0s									
F64A	**Sherman**	**0.76**	**293**	Pg		**Pb**	**03**	**11**	**30.9**	**-0.4**
F64A				Sg		**Sg**	**03**	**11**	**41.1**	**+1.1**
F64A				IAML			03	11	45.5	
	comp=N,87nm,0.3s									
F64A				IAML			03	11	46.4	
	comp=E,87nm,0.7s									
F64A	**Sherman**	**0.76**	**293**	P		**Pb**	**03**	**11**	**31.0**	**-0.3**
	baz=115									
F64A				P		**Pb**	**03**	**11**	**31.0**	**-0.3**
	baz=115									
F64A				S		**Sb**	**03**	**11**	**41.3**	**-0.6**
	baz=115									
F64A				S		**Sb**	**03**	**11**	**41.3**	**-0.6**
	baz=115									
EMMW	**East Machias**	**0.87**	**185**	Pg		**Pb**	**03**	**11**	**32.9**	**-0.2**
EMMW				Sg		**Sg**	**03**	**11**	**44.2**	**+0.6**
EMMW				IAML			03	11	49.2	
	comp=E,134nm,0.2s									
EMMW	**East Machias**	**0.87**	**185**	P		**Pb**	**03**	**11**	**33.1**	**-0.1**
	baz=5.3									
E63A	**Oxbow**	**1.13**	**319**	P		**Pn**	**03**	**11**	**38.3**	**+0.2**
	baz=138									
E63A				P		**Pn**	**03**	**11**	**38.3**	**+0.2**
	baz=138									
E63A				S		**Sn**	**03**	**11**	**53.6**	**-0.4**
	baz=138									
E63A				S		**Sn**	**03**	**11**	**53.6**	**-0.4**
	baz=138									
PQI	**Presque Isle**	**1.19**	**337**	Pg		**Pn**	**03**	**11**	**39.3**	**+0.4**
SRNB	**Snider Mountai**	**1.23**	**77**	Pg		**Pb**	**03**	**11**	**39.0**	**-0.3**
SRNB				Sg		**Sb**	**03**	**11**	**55.1**	**-0.3**
SRNB	**Snider Mountai**	**1.23**	**77**	PG		**Pb**	**03**	**11**	**39.0**	**-0.3**
SRNB				SG		**Sb**	**03**	**11**	**55.1**	**-0.3**
SRNB				Trac			03	11	58.0	
	comp=E,30nm,0.1s									
F63A	**Nahmakanta, Br**	**1.24**	**277**	Pg		**Pn**	**03**	**11**	**39.8**	**+0.2**
F63A				IAML			03	11	59.5	
	comp=E,76nm,0.3s									
F63A	**Nahmakanta, Br**	**1.24**	**277**	P		**Pn**	**03**	**11**	**39.8**	**+0.2**
	baz=97									
F63A				P		**Pn**	**03**	**11**	**39.8**	**+0.2**
	baz=97									
F63A				S		**Sb**	**03**	**11**	**56.4**	**+0.7**
	baz=97									
F63A				S		**Sb**	**03**	**11**	**56.4**	**+0.7**
	baz=97									
PKME	**Peaks-Kenny Pk**	**1.41**	**258**			**Pn**	**03**	**11**	**42.2**	**+0.5**
PKME	**Peaks-Kenny Pk**	**1.41**	**258**	P		**Pn**	**03**	**11**	**42.3**	**+0.5**
	baz=78									
PKME				S		**Sb**	**03**	**12**	**00.7**	**+0.3**
	baz=78									
PKME	**Peaks-Kenny Pk**	**1.41**	**258**	PG		**Pn**	**03**	**11**	**42.3**	**+0.5**
PKME	**Peaks-Kenny Pk**	**1.41**	**258**	SG		**Sg**	**03**	**12**	**01.1**	**+0.4**
PKME				Trac			03	12	03.3	
	comp=E,46nm,0.2s									
HKNB	**Havelock Quarr**	**1.43**	**73**	Pg		**Pb**	**03**	**11**	**42.6**	**-0.1**
HKNB				Sg		**Sn**	**03**	**12**	**01.6**	**+0.2**
HKNB	**Havelock Quarr**	**1.43**	**73**	PG		**Pb**	**03**	**11**	**42.6**	**-0.1**
HKNB	**Havelock Quarr**	**1.43**	**73**	SG		**Sn**	**03**	**12**	**01.6**	**+0.2**
HKNB				Trac			03	12	04.7	
	comp=E,81nm,0.2s									
ELNB	**Elgin, New Bru**	**1.56**	**79**	Pg		**Pb**	**03**	**11**	**44.6**	**-0.3**
ELNB				Sg		**Sg**	**03**	**12**	**05.2**	**-0.6**
ELNB	**Elgin, New Bru**	**1.56**	**79**	PG		**Pb**	**03**	**11**	**44.6**	**-0.3**
ELNB	**Elgin, New Bru**	**1.56**	**79**	SG		**Sg**	**03**	**12**	**05.2**	**-0.6**
ELNB				Trac			03	12	09.8	
	comp=E,13nm,0.3s									
LMN	**Caledonia Moun**	**1.80**	**80**	Pn		**Pb**	**03**	**11**	**48.1**	**-0.9**
LMN	**Caledonia Moun**	**1.80**	**80**			**Sb**	**03**	**12**	**12.0**	**0.0**
LMN	**Caledonia Moun**	**1.80**	**80**	PN		**Pn**	**03**	**11**	**47.7**	**+0.4**
LMN	**Caledonia Moun**	**1.80**	**80**	SN		**Sb**	**03**	**12**	**12.0**	**0.0**
LMN				Trac			03	12	14.6	
	comp=E,5.1nm,0.1s									
SVNB	**Stilesville Qu**	**1.82**	**70**	Pn		**Pb**	**03**	**11**	**48.7**	**-0.8**
SVNB						**Sb**	**03**	**12**	**12.3**	**-0.2**
SVNB	**Stilesville Qu**	**1.82**	**70**	PN		**Pb**	**03**	**11**	**48.7**	**-0.8**
SVNB	**Stilesville Qu**	**1.82**	**70**	SN		**Sb**	**03**	**12**	**12.3**	**-0.2**
SVNB				Trac			03	12	14.9	
	comp=E,56nm,0.2s									
E62A	**Clayton Lake**	**1.84**	**305**	Pn		**Pn**	**03**	**11**	**48.1**	**+0.2**
E62A				IAmb_Lg			03	12	20.0	
	comp=Z,22nm,1.1s									
E62A	**Clayton Lake**	**1.84**	**305**	P		**Pn**	**03**	**11**	**48.3**	**+0.5**
	baz=125									
E62A				P		**Pn**	**03**	**11**	**48.3**	**+0.5**
	baz=125									
F62A	**Pittston Farm,**	**1.86**	**281**	Pn		**Pn**	**03**	**11**	**49.0**	**+0.9**
F62A	**Pittston Farm,**	**1.86**	**281**	Pb		**Pg**	**03**	**11**	**51.3**	**0.0**
	baz=100									
F62A				Pb		**Pg**	**03**	**11**	**51.3**	**0.0**
	baz=100									
F62A				S		**Sb**	**03**	**12**	**14.4**	**+0.7**
	baz=100									
F62A				S		**Sb**	**03**	**12**	**14.4**	**+0.7**
	baz=100									
D62A	**Allapoint, All**	**1.92**	**323**	Pn		**Pn**	**03**	**11**	**49.0**	**+0.2**
BATG	**Bathurst New B**	**1.92**	**27**	Pn		**Pb**	**03**	**11**	**51.0**	**-0.1**
HSNB	**Heath Steele M**	**1.92**	**27**	PN		**Pb**	**03**	**11**	**50.3**	**-0.8**
HSNB	**Heath Steele M**	**1.92**	**27**	SN		**Sb**	**03**	**12**	**15.1**	**-0.3**
HSNB				Trac			03	12	17.8	
	comp=Z,14nm,0.1s									
WVL	**Waterville**	**1.92**	**239**	Pn		**Pn**	**03**	**11**	**49.4**	**+0.5**
G62A	**West of Eustis**	**2.27**	**262**	Pn		**Pn**	**03**	**11**	**54.4**	**+0.6**
G62A	**West of Eustis**	**2.27**	**262**	P		**Pn**	**03**	**11**	**54.6**	**+0.8**
	baz=81									
G62A				P		**Pn**	**03**	**11**	**54.6**	**+0.8**
	baz=81									
A11	**Saint Roch-des**	**2.58**	**311**	Pn		**Pn**	**03**	**11**	**59.4**	**+1.4**
A11						**Sn**	**03**	**12**	**30.2**	**+0.4**
A11	**Saint Roch-des**	**2.58**	**311**	PN		**Pn**	**03**	**11**	**59.4**	**+1.4**
A11	**Saint Roch-des**	**2.58**	**311**	SN		**Sn**	**03**	**12**	**30.2**	**+0.4**
A11				Trac			03	12	49.1	
	comp=Z,72nm,1.1s									
A16	**Riviere Ouelle**	**2.64**	**317**	Pn		**Pn**	**03**	**11**	**60.0**	**+1.2**
A16						**Sn**	**03**	**12**	**32.3**	**+1.2**
A16	**Riviere Ouelle**	**2.64**	**317**	PN		**Pn**	**03**	**11**	**60.0**	**+1.2**
A16	**Riviere Ouelle**	**2.64**	**317**	SN		**Sn**	**03**	**12**	**32.3**	**+1.2**
A16				Trac			03	12	45.0	
	comp=Z,36nm,0.5s									
A21	**Saint Andre**	**2.67**	**324**	Pn		**Pn**	**03**	**12**	**00.7**	**+1.4**
A21						**Sn**	**03**	**12**	**32.6**	**+0.6**
A21	**Saint Andre**	**2.67**	**324**	PN		**Pn**	**03**	**12**	**00.7**	**+1.4**
A21				SN		**Sn**	**03**	**12**	**32.6**	**+0.6**
A21				Trac			03	12	48.3	
	comp=Z,29nm,0.5s									
I63A	**Otisfield**	**2.76**	**238**	Pn		**Pn**	**03**	**12**	**00.9**	**+0.4**
I63A	**Otisfield**	**2.76**	**238**	P		**Pn**	**03**	**12**	**01.2**	**+0.8**
	baz=56									
I63A				P		**Pn**	**03**	**12**	**01.2**	**+0.8**
	baz=56									
A54	**Misere**	**2.83**	**313**	Pn		**Pn**	**03**	**12**	**02.1**	**+0.6**
A54						**Sn**	**03**	**12**	**36.6**	**+0.6**
A54	**Misere**	**2.83**	**313**	PN		**Pn**	**03**	**12**	**02.1**	**+0.6**
A54				SN		**Sn**	**03**	**12**	**36.6**	**+0.6**
A54				Trac			03	12	48.5	
	comp=Z,0.9nm,0.1s									
A61	**Sainte Mathild**	**2.84**	**319**	Pn		**Pn**	**03**	**12**	**02.6**	**+1.0**
A61						**Sn**	**03**	**12**	**36.8**	**+0.7**
A61	**Sainte Mathild**	**2.84**	**319**	PN		**Pn**	**03**	**12**	**02.6**	**+1.0**
A61				SN		**Sn**	**03**	**12**	**36.8**	**+0.7**
A61				LG		Lg	03	12	44.6	
A61				Trac			03	12	58.0	
	comp=Z,14nm,0.4s									
LMQ	**La Malbaie**	**2.85**	**315**	Pn		**Pn**	**03**	**12**	**02.1**	**+0.4**
LMQ	**La Malbaie**	**2.85**	**315**			**Sn**	**03**	**12**	**37.1**	**+0.7**
LMQ	**La Malbaie**	**2.85**	**315**	PN		**Pn**	**03**	**12**	**02.9**	**+1.1**
LMQ				SN		**Sn**	**03**	**12**	**37.1**	**+0.7**
LMQ				Trac			03	12	51.8	
	comp=Z,7.8nm,0.2s									
A64	**Saint Simeon**	**2.85**	**323**	Pn		**Pn**	**03**	**12**	**02.7**	**+1.0**
A64						**Sn**	**03**	**12**	**36.9**	**+0.4**
A64	**Saint Simeon**	**2.85**	**323**	PN		**Pn**	**03**	**12**	**02.7**	**+1.0**
A64				SN		**Sn**	**03**	**12**	**36.9**	**+0.4**
A64				Trac			03	12	57.9	
	comp=Z,8.5nm,0.4s									
H62A	**Milan**	**2.88**	**251**	Pn		**Pn**	**03**	**12**	**02.3**	**+0.2**
H62A				IAmb_Lg			03	12	51.7	
	comp=Z,16nm,0.9s									
H62A	**Milan**	**2.88**	**251**	P		**Pn**	**03**	**12**	**02.8**	**+0.7**

IDC 29 03:12:29.6±1.8, 4°16S×140°80E, h0km, **mb4.0**/3, **mbtmp4.1**/4, **ML3.9**/1, **MS3.4**/1, **Error ellipse: s-maj=138.4km s-min=29.1km az=111.0, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**16.70**	**162**	LR	LR	03 23 22.1	
	comp=Z,115nm,18.5s,baz=279,slow=39						
WRA	**Warramunga Arr**	**16.90**	**201**	Pn	P	03 16 29.0	-0.8
	0.4nm,0.3s,baz=22,slow=12,SNR=11						
WRA				Sn	Sn	03 19 36.7	+0.4
	0.1nm,0.3s,baz=18,slow=22,SNR=2.7						
	1.4nm,0.4s						
ASAR	**Alice Springs**	**20.50**	**198**	P	Pn	03 17 10.7	-0.8
	9.0nm,0.7s,baz=28,slow=9.6,SNR=79						
ASAR				S	S	03 20 58.6	-1.3
	0.1nm,0.4s,baz=16,slow=27,SNR=1.3						
	9.0nm,0.7s						
QSPA	**South Pole Qui**	**85.79**	**180**	P	P	03 25 09.4	-1.5
	1.6nm,0.7s,baz=352,slow=2.6,SNR=6.8						
	1.6nm,0.7s						
ILAR	**Eielson Array**	**86.29**	**24**	P	P	03 25 13.8	+0.7
	0.3nm,0.6s,baz=259,slow=4.8,SNR=4.6						
	0.3nm,0.6s						

IDC ***29*** *03:17:00.6±0.8, 40°.72N×35°.54E, h0km, mb3.3/3, mbtmp3.5/7, ML3.3/4, MS2.8/2, Error ellipse: s-maj=17.0km s-min=7.4km az=152.0*
AFAD ***29*** *03:17:02.3±0.0, 40°.67N×35°.49E, h10km±2km, MW3.7*
ISK ***29*** *03:17:02.0, 40°.71N×35°.54E, h5km, ML3.8/17*
CFUSG ***29*** *03:17:03.8, 40°.81N×35°.59E, h10km, mb2.8/5, Northern Turkey Magtype MSH 3.3 from 3 stations*
ISC 29 03:17:02.2±1.1, 40.72N±0.02×35.50E±0.02, h5km±9km, n88, σ1§22/134, mb3.2/3, 11C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time h m s	Res ISC
AMSY	**Amasya-Merkez**	**0.27**	**108**	P	**Pn**	**03 17 13.0**	**+0.1**
AMSY				S	**Sb**	**03 17 16.1**	**+1.7**
YARM	**Yarimca-Ladik(**	**0.32**	**50**	Pg	**Pb**	**03 17 09.5**	**-1.0**
YARM				Sg	**Sb**	**03 17 14.6**	**-1.4**
KIZO	**Buyukkizoglu-L**	**0.38**	**61**	Pg	**Pb**	**03 17 10.3**	**-1.1**
KIZO				Sg	**Sb**	**03 17 16.5**	**-1.1**
HAVZ	**Havza**	**0.39**	**25**	P	**Pb**	**03 17 10.9**	**-0.8**
CTAK	**Corum_Osmancik**	**0.55**	**263**	P	**Pg**	**03 17 13.2**	**+0.4**
COAL	**Corum-Alaca**	**0.61**	**221**	P	**Pg**	**03 17 13.7**	**-0.2**
COAL				S	**Sg**	**03 17 21.6**	**-0.2**
CKRK	**Yozgat, Cekere**	**0.64**	**180**	P	**Pg**	**03 17 14.6**	**0.0**
CKRK				S	**Sg**	**03 17 22.8**	**-0.1**
TOKA	**Tokat**	**0.84**	**118**	P	**Pg**	**03 17 18.7**	**+0.3**
TOKA				S	**Sg**	**03 17 29.7**	**+0.4**
CORM	**Corum**	**0.86**	**231**	Pg	**Pg**	**03 17 19.1**	**+0.4**
CORM				Sg	**Sb**	**03 17 32.9**	**+1.4**
KAGI	**orum-Kargı**	**0.88**	**299**	P	**Pg**	**03 17 19.2**	**0.0**
KAGI				S	**Sg**	**03 17 29.7**	**-0.9**
TOKT	**Tokat**	**0.89**	**116**	Pg	**Pg**	**03 17 19.7**	**+0.4**
TOKT				Sg	**Sb**	**03 17 32.7**	**+0.4**
DIKM	**Dikmen**	**0.95**	**349**	⇓P	**Pb**	**03 17 21.6**	**+0.4**
DIKM				⇑S	**Sn**	**03 17 35.4**	**-0.8**
DIKM	**Dikmen**	**0.95**	**349**	Pg	**Pb**	**03 17 21.6**	**+0.4**
DIKM				Sg	**Sn**	**03 17 36.2**	**0.0**
BOYA	**Sinop/Boyabat-**	**1.02**	**323**	P	**Pg**	**03 17 21.9**	**0.0**
BOYA				S	**Sg**	**03 17 33.3**	**-1.9**
HACI	**Hacifakili, Ak**	**1.03**	**170**	P	**Pg**	**03 17 20.1**	**-1.8**
YOZG	**Bozok Univ. Me**	**1.08**	**210**	P	**Pg**	**03 17 22.8**	**-0.2**
YOZG				S	**Sg**	**03 17 35.6**	**-1.4**
SUNG	**orum-Sungurl**	**1.09**	**242**	P	**Pg**	**03 17 23.2**	**0.0**
SUNG				S	**Sg**	**03 17 38.8**	**+1.4**
TOS	**Tosya**	**1.17**	**286**	Pn	**Pg**	**03 17 25.0**	**+0.4**
YENC	**ankr-Yen**	**1.26**	**269**	P	**Pg**	**03 17 26.4**	**0.0**
YENC				S	**Sg**	**03 17 43.0**	**+0.2**
SINP	**Sinop**	**1.30**	**347**	Pn	**Pg**	**03 17 28.4**	**+1.2**
SINP				Sn	**Sn**	**03 17 47.6**	**+2.8**
SINO	**SINOP_Merkez**	**1.32**	**350**	P	**Pg**	**03 17 28.4**	**+0.9**
SINO				S	**Sn**	**03 17 45.6**	**+0.3**
CDAG	**Cicekdag**	**1.40**	**219**	P	**Pn**	**03 17 28.1**	**-0.4**
CDAG				S	**Sb**	**03 17 44.0**	**-3.0**
ILGA	**Ilgaz**	**1.40**	**284**	P	**Pn**	**03 17 28.7**	**+0.2**
ILGA				S	**Sb**	**03 17 47.2**	**+0.1**
SVSK	**Karacayir**	**1.40**	**124**	Pn	**Pb**	**03 17 28.7**	**0.0**
SVSK				Sn	**Sn**	**03 17 48.7**	**+1.6**
SIRC	**Yozgat**	**1.41**	**191**	P	**Pn**	**03 17 28.0**	**-0.6**
SIRC				S	**Sb**	**03 17 46.5**	**-0.8**
DELI	**KIRIKKALE**	**1.41**	**240**	P	**Pn**	**03 17 28.3**	**-0.3**
DELI				S	**Sb**	**03 17 45.6**	**-1.7**
CUSAR	**Sarkisla-SIVAS**	**1.42**	**156**	P	**Pn**	**03 17 28.6**	**-0.1**
CUSAR				S	**Sg**	**03 17 48.4**	**+0.7**
RSDY	**Resadiye-TOKAT**	**1.43**	**102**	Pn	**Pn**	**03 17 28.8**	**0.0**
RSDY				Sn	**Sg**	**03 17 49.8**	**+1.7**
SCER	**sogukcermik**	**1.51**	**124**	P	**Pb**	**03 17 30.6**	**-0.2**
SCER				S	**Sn**	**03 17 49.8**	**-0.4**
KOZK	**Kozakli-Nevseh**	**1.58**	**198**	Pn	**Pb**	**03 17 31.6**	**+0.6**
KOZK				Sn	**Sg**	**03 17 54.4**	**+1.3**
ELDT	**Eldivan**	**1.60**	**262**	P	**Pn**	**03 17 31.5**	**+0.2**
ELDT				S	**Sn**	**03 17 50.3**	**-2.1**
SEYI	**Kastamonu-Seyd**	**1.61**	**305**	P	**Pb**	**03 17 32.6**	**0.0**
SEYI				S	**Sn**	**03 17 52.0**	**-0.7**
AKPI	**Kirsehir/Akpin**	**1.67**	**224**	P	**Pn**	**03 17 32.7**	**+0.5**
MCUR	**KIREHR**	**1.73**	**206**	P	**Pn**	**03 17 33.7**	**+0.7**
MCUR				S	**Sn**	**03 17 55.4**	**-0.1**
BR131	**Keskin Array S**	**1.74**	**236**	Pn	**Pn**	**03 17 34.1**	**+0.9**
BR131				Sn	**Sg**	**03 17 58.7**	**+0.7**
CUAYA	**Sivas-Altinyay**	**1.74**	**146**	P	**Pb**	**03 17 35.2**	**+0.5**
CUAYA				S	**Sg**	**03 17 58.6**	**+0.6**
BRTR	**Keskin Array B**	**1.74**	**236**	Pg	**Pn**	**03 17 33.6**	**+0.4**
	41nm,0.3s,baz=61,slow=14,SNR=1037						
BRTR				Lg		03 17 56.2	
	7.5nm,0.3s,baz=56,slow=19,SNR=6.1						
PELI	**Kastamonı-Ara**	**1.76**	**290**	P	**Pn**	**03 17 34.6**	**+1.1**
PELI				S	**Sn**	**03 17 54.4**	**-1.9**
ORDU	**Ordu-Boztepe**	**1.81**	**81**	P	**Pn**	**03 17 34.2**	**+0.2**
ORDU				S	**Sb**	**03 17 58.3**	**-0.5**
GUNE	**Kayseri**	**1.81**	**177**	P	**Pb**	**03 17 36.1**	**+0.1**
GUNE				S	**Sg**	**03 18 01.2**	**+0.6**
KESK	**Krkkale-Ke**	**1.83**	**234**	P	**Pn**	**03 17 35.1**	**+0.7**
CUZAR	**Zara_SIVAS**	**1.92**	**115**	P	**Pb**	**03 17 37.3**	**-0.5**
CUZAR				S	**Sb**	**03 18 01.8**	**-0.4**
AVNS	**Nevsehir-Avano**	**1.97**	**195**	P	**Pb**	**03 17 38.6**	**-0.1**
AVNS				S	**Sb**	**03 18 04.5**	**+0.8**
KIRS	**Kirsehir-Merke**	**2.00**	**218**	P	**Pn**	**03 17 38.2**	**+1.5**
CUKAN	**kangal_SIVAS**	**2.06**	**132**	P	**Pb**	**03 17 39.2**	**-0.9**
CUKAN				S	**Sn**	**03 18 04.0**	**+0.3**
SUSE	**Susehri**	**2.12**	**103**	P	**Pn**	**03 17 39.0**	**+0.5**
SUSE				S	**Sb**	**03 18 08.2**	**+0.2**
BBAL	**Bala**	**2.17**	**238**	P	**Pn**	**03 17 40.5**	**+1.4**
BBAL				S	**Sn**	**03 18 07.2**	**+0.7**
YAYX	**Yaylak**	**2.20**	**217**	Pn	**Pb**	**03 17 41.7**	**-0.9**
YAYX				Sn	**Sb**	**03 18 09.9**	**-0.3**
ANTO	**Ankara**	**2.24**	**249**	⇑P	**Pb**	**03 17 43.3**	**+0.1**
AFSR	**Afar-Bala (An**	**2.26**	**237**	Pn	**Pb**	**03 17 42.6**	**-0.9**
SERE	**Sereflikochisa**	**2.31**	**221**	Pn	**Pn**	**03 17 42.9**	**+1.8**
KURC	**Kurucasile-Bar**	**2.37**	**299**	Pn	**Pb**	**03 17 44.1**	**-1.2**
CUGUR	**Gurin_SVAS**	**2.41**	**145**	P	**Pb**	**03 17 45.0**	**-1.2**
CUGUR				S	**Sb**	**03 18 14.7**	**-1.7**
SARI	**SarD1z-Kayseri**	**2.41**	**163**	Pn	**Pn**	**03 17 44.2**	**+1.7**
ESPY	**Espiye-Giresun**	**2.46**	**84**	Pn	**Pb**	**03 17 44.9**	**-2.0**
ALUC	**Giresun/Alucra**	**2.52**	**97**	P	**Pb**	**03 17 47.1**	**-0.9**
DARE	**Darende-Malaty**	**2.63**	**144**	Pn	**Pn**	**03 17 47.2**	**+1.7**
ILIC	**ilic-Erzincan**	**2.67**	**117**	Pn	**Pn**	**03 17 47.5**	**+1.5**
KEMA	**Kemaliye**	**2.71**	**121**	P	**Pn**	**03 17 47.9**	**+1.4**
KEMA				S	**Sb**	**03 18 22.4**	**-2.6**
ARPR	**Arapgir-MALATY**	**2.72**	**126**	Pn	**Pn**	**03 17 48.3**	**+1.6**
KTUT	**Trabzon**	**3.25**	**84**	⇑P	**Pb**	**03 18 00.1**	**-0.2**
KTUT				⇓S	**Sg**	**03 18 44.2**	**-2.2**
YAL	**Yalta**	**3.90**	**346**	*e*P	**Pn**	**03 18 04.0**	**+1.3**
YAL				Pm		03 18 05.9	
	comp=Z,7.0nm,0.2s						
ALU	**Alushta**	**4.04**	**349**	*e*P	**Pn**	**03 18 05.0**	**+0.3**
ALU				Pm		03 18 06.2	
	comp=Z,17nm,0.4s						
ALU				*e*S	**Sn**	**03 18 52.4**	**0.0**
ALU				Sm		03 18 56.2	
	comp=N,44nm,0.4s						
ALU				Sm		03 18 56.2	
	comp=E,56nm,0.5s						
SEV	**Sevastopol'**	**4.06**	**341**	*e*P	**Pn**	**03 18 06.6**	**+1.7**
SEV				⇓*i*P	Pb	03 18 07.7	-6.4
SEV				Pm		03 18 08.6	
	comp=Z,3.0nm,0.2s						
SEV				*e*S	**Sn**	**03 18 55.2**	**+2.4**
SEV				Sm		03 19 02.0	
	comp=N,4.0nm,0.2s						
SEV				Sm		03 19 02.0	
	comp=E,3.0nm,0.3s						
SUDU	**Sudak**	**4.19**	**355**	*e*P	**Pn**	**03 18 07.4**	**+0.7**
SUDU				Pm		03 18 13.4	
	comp=Z,14nm,0.4s						
SUDU				*e*S	**Sn**	**03 18 55.7**	**-0.3**
SUDU				Sm		03 19 01.5	
	comp=N,48nm,0.5s						
SUDU				Sm		03 19 01.5	
	comp=E,21nm,0.5s						
FEO	**Feodosiya**	**4.30**	**359**	*e*P	**Pn**	**03 18 09.2**	**+1.0**
FEO				Pm		03 18 12.4	
	comp=Z,25nm,0.3s						
SIM	**Simferopol'**	**4.35**	**347**	*e*S	**Sn**	**03 19 01.3**	**+1.3**
SIM				Sm		03 19 06.0	
	comp=N,17nm,0.4s						
SIM				Sm		03 19 06.0	
	comp=E,17nm,0.5s						
TARU	**Tarkhankut**	**5.14**	**336**	*e*S	**Sn**	**03 19 20.7**	**+1.3**
TARU				Sm		03 19 25.2	
	comp=N,8.0nm,0.5s						
TARU				Sm		03 19 25.2	
	comp=E,6.0nm,0.5s						
KVAR	**Kislovodsk Arr**	**6.23**	**56**	Pn	**Pn**	**03 18 33.9**	**-1.0**
	baz=241,slow=13						
KVAR				Sn	**Sn**	**03 19 44.8**	**-1.8**
	baz=256,slow=8.3						
	comp=E,3.4nm,0.6s						
KBZ	**Khabaz**	**6.26**	**59**	Pn	**Pn**	**03 18 36.4**	**+1.2**
	comp=E,0.3nm,0.3s,baz=246,slow=11,SNR=12						
	comp=E,4.4nm,0.7s						
TIRR	**Tirgusor**	**6.43**	**308**	⇑P	**Pn**	**03 18 39.2**	**+1.7**
TPGR	**Topolog**	**6.65**	**311**	⇑P	**Pn**	**03 18 40.3**	**-0.3**
CFR	**Carcaliu**	**7.00**	**312**	⇑P	**Pn**	**03 18 45.8**	**+0.4**
ELND	**Elena**	**7.52**	**290**	⇓P	**Pn**	**03 18 54.1**	**+1.6**
MILM	**Milestii Mici**	**7.86**	**324**	*e*P	**Pn**	**03 18 57.7**	**+0.6**
	comp=E,6.0nm,0.4s						
VRI	**Vrincioaia**	**8.21**	**312**	⇑P	**Pn**	**03 19 06.5**	**+4.5**
MLR	**Muntele Rosu**	**8.46**	**307**	⇓P	**Pn**	**03 19 09.0**	**+3.5**
MLR	**Muntele Rosu**	**8.46**	**307**	Pn	**Pn**	**03 19 07.0**	**+1.5**
	comp=E,0.2nm,0.3s,baz=128,slow=18,SNR=2.8						
MLR				Sn	**Sn**	**03 20 39.3**	**-2.1**
	comp=E,0.1nm,0.3s,baz=116,slow=18,SNR=1.7						
	comp=E,1.5nm,0.7s						
TESR	**Tescani**	**8.64**	**315**	⇑P	**Pn**	**03 19 08.1**	**+0.2**
VOIR		**8.98**	**305**	⇑P	**Pn**	**03 19 14.8**	**+2.2**
SORM	**Soroca**	**9.01**	**328**	⇑P	**Pn**	**03 19 13.5**	**+0.7**
BURAR	**Bucovina Array**	**10.10**	**316**	⇑P	**Pn**	**03 19 29.7**	**+1.8**
EIL	**Elat**	**11.03**	**183**	LR	LR	03 24 35.3	
	comp=E,29nm,20.6s,baz=251,slow=41						
AKTO	**Aktyubinsk**	**18.45**	**51**	P	**Pn**	**03 21 18.1**	**-0.4**
	comp=E,0.3nm,0.3s,baz=255,slow=11,SNR=6.5						
	comp=E,1.6nm,0.7s						
KEST	**Kesra**	**21.11**	**265**	LR	LR	03 31 43.5	
	comp=E,52nm,18.6s,baz=329,slow=42						
FINES	**FINESS Array B**	**21.54**	**348**	P	**P**	**03 21 50.4**	**-1.6**
	comp=E,0.8nm,0.8s,baz=172,slow=13,SNR=1.7						
	comp=E,0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**31.25**	**57**	P	**P**	**03 23 23.1**	**+0.4**
	comp=E,0.5nm,0.7s,baz=277,slow=9.0,SNR=5.4						
	comp=E,0.5nm,0.7s						
MKAR	**Makanchi Array**	**33.93**	**64**	P	**P**	**03 23 46.6**	**+0.4**
	comp=E,0.2nm,0.6s,baz=258,slow=7.2,SNR=2.8						
	comp=E,0.2nm,0.6s						

IDC ***29*** *03:21:27.3±4.1, 19°.71N×145°.73E, h60km±34km, mb3.6/12, mbtmp4.0/14, ML3.8/2, MS3.2/1, Error ellipse: s-maj=35.3km s-min=18.1km az=87.0*
ISC 29 03:21:31.7±1.0, 19.8N±0.1×145.5E±0.2, h100km, n15, σ1§15/12, mb3.9/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**7.87**	**338**	P	**Pn**	**03 23 22.0**	**-1.3**
	3.5nm,0.3s,baz=214,slow=11,SNR=16						
JCJ				S	**Sn**	**03 24 49.7**	**-1.0**
	42nm,0.7s,baz=109,slow=22,SNR=1.5						
	102nm,0.9s						
JOW	**Kunigami**	**17.29**	**297**	LR	LR	03 30 47.7	
	comp=Z,74nm,19.1s,baz=114,slow=32						
MJAR	**Matsushiro Arr**	**17.86**	**341**	P	**Pn**	**03 25 34.0**	**+0.4**
	0.1nm,0.3s,baz=169,slow=10,SNR=5.4						
	1.0nm,0.5s						
KSRS	**Korea Array**	**23.32**	**323**	P	**P**	**03 26 32.5**	**+1.5**
	1.8nm,0.6s,baz=151,slow=9.6,SNR=7.8						
	1.8nm,0.6s						
WRA	**Warramunga Arr**	**40.99**	**196**	P	**P**	**03 29 03.9**	**-1.0**
	0.4nm,0.6s,baz=20,slow=9.1,SNR=4.5						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**44.66**	**195**	P	**P**	**03 29 33.9**	**-0.8**
	0.3nm,0.6s,baz=24,slow=7.1,SNR=4.1						
	0.3nm,0.6s						
ZALV	**Zaanoiaa Beam**	**57.03**	**322**	P	**P**	**03 31 08.1**	**+1.1**
	0.8nm,0.5s,baz=106,slow=7.9,SNR=4.0						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**57.57**	**313**	P	P	03 31 13.1	+2.2
	0.6nm,0.5s,baz=88,slow=9.6,SNR=7.1						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**60.38**	**318**	P	**P**	**03 31 31.4**	**+1.1**
	0.5nm,0.4s,baz=93,slow=7.4,SNR=10						
	0.5nm,0.4s						
NRIK	**Noril'sk**	**60.51**	**340**	P	P	03 31 32.4	+1.6
	2.5nm,0.5s,baz=104,slow=6.7,SNR=4.4						
	2.5nm,0.5s						
ILAR	**Eielson Array**	**62.74**	**26**	P	**P**	**03 31 45.9**	**0.0**
	0.2nm,0.7s,baz=254,slow=5.0,SNR=4.8						
	0.2nm,0.7s						
BVAR	**Borovoye Array**	**65.51**	**320**	P	**P**	**03 32 05.8**	**+1.6**
	2.1nm,0.3s,baz=95,slow=7.5,SNR=13						
	2.1nm,0.3s						
YKA	**Yellowknife Ar**	**77.10**	**28**	P	**P**	**03 33 13.9**	**+0.1**
	0.2nm,0.7s,baz=289,slow=5.2,SNR=3.8						
	0.2nm,0.7s						
ARCES	**ARCESS Array B**	**81.39**	**342**	P	P	03 33 38.8	+1.7
	6.6nm,1.1s,baz=31,slow=3.1,SNR=4.7						
	6.6nm,1.1s						
FINES	**FINESS Array B**	**85.81**	**335**	P	**P**	**03 33 59.4**	**-0.3**
	1.2nm,0.3s,baz=66,slow=4.4,SNR=25						
	1.2nm,0.3s						

NEIC 29 03:31:21.5±1.2, 31.26N±0.01×103.47W±0.03, h5km±1km, mb_Lg2.5/24, ML2.9/56, Error ellipse: s-maj=4.8km s-min=2.9km az=252.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECS	**Pecos**	**0.36**	**288**		Pg	03 31 28.4	0.0
PECS				Sg	Sg	03 31 32.8	-0.3
MNHN	**Monahans**	**0.61**	**83**	Pg	Pg	03 31 33.8	+0.6
ALPN	**Alpine**	**0.90**	**189**	Pg	Pg	03 31 38.0	-0.7
ALPN				Sg	Sg	03 31 50.3	0.0
ODSA	**Odessa**	**1.16**	**42**		Pg	03 31 43.2	-0.6
ODSA				IAML		03 32 16.8	
	177nm,0.9s						
VHRN	**Van Horn**	**1.38**	**250**	Pg	Pn	03 31 47.0	-0.5
VHRN				Sg	Sb	03 32 05.7	-0.2
VHRN				IAML		03 32 15.6	
	102nm,0.6s						
SAND	**Sanderson**	**1.75**	**138**		Pb	03 31 53.4	-0.6
TX31	**Lajitas Ar. Si**	**1.93**	**185**		Pn	03 31 55.7	+0.6
TXAR	**Lajitas Array**	**1.93**	**185**		Pn	03 31 55.8	+0.7
OZNA	**Ozona**	**2.04**	**99**		Pb	03 31 58.1	-1.0
OZNA				IAML		03 32 28.5	
	49nm,0.7s						
OZNA				IAML		03 32 34.3	
	44nm,0.7s						
SGCY	**Sterling City**	**2.10**	**71**	Pn	Pb	03 31 58.9	-1.2
SGCY				IAML		03 32 29.1	
	44nm,0.6s						
SGCY				IAmb_Lg		03 32 29.3	
	comp=Z,31nm,1.1s						
SGCY				IAML		03 32 32.8	
	comp=Z,61nm,0.9s						
POST	**Post**	**2.46**	**42**		Pn	03 32 03.3	+1.1
POST				IAML		03 32 41.2	
	comp=Z,61nm,0.6s						
POST				IAmb_Lg		03 32 42.3	
	comp=Z,26nm,1.0s						
POST				IAML		03 32 44.4	
	comp=Z,39nm,0.4s						
SN05	**Snyder 5**	**2.72**	**53**		Pn	03 32 07.3	+1.4
SN05				IAML		03 32 48.4	
	comp=Z,75nm,0.4s						
SN05				IAmb_Lg		03 32 53.8	
	comp=Z,18nm,0.8s						
SN05				IAML		03 32 58.0	
	comp=Z,58nm,0.6s						
MSTX	**Muleshoe**	**2.76**	**12**	Pn	Pn	03 32 07.4	+0.9
MSTX				IAML		03 32 54.5	
	comp=N,70nm,0.5s						
MSTX				IAML		03 32 54.5	
	comp=E,63nm,0.4s						
SN07	**Snyder 07**	**2.85**	**50**		Pn	03 32 09.1	+1.5
SN07				IAmb_Lg		03 32 52.2	
	comp=Z,13nm,0.9s						
SN07				IAML		03 32 56.2	
	comp=Z,66nm,0.5s						
SN07				IAML		03 33 03.2	
	comp=Z,62nm,0.4s						
DRIO	**Del Rio**	**3.07**	**126**	Pn	Pn	03 32 12.6	+1.9
DRIO				IAML		03 32 58.2	
	comp=Z,30nm,0.4s						
DRIO				IAML		03 32 58.4	
	comp=Z,33nm,0.4s						
DRIO				IAmb_Lg		03 33 00.7	
	comp=Z,14nm,0.8s						
DKNS	**Dickens**	**3.22**	**41**	Pn	Pn	03 32 14.3	+1.5
DKNS				IAmb_Lg		03 33 08.1	
	comp=Z,12nm,0.8s						
DKNS				IAML		03 33 20.4	
	comp=Z,43nm,0.6s						
JCT	**Junction City**	**3.25**	**103**	Pn	Pn	03 32 14.5	+1.3
JCT				IAmb_Lg		03 33 11.2	
	comp=Z,18nm,0.8s						
JCT				IAML		03 33 17.5	
	comp=Z,47nm,0.6s						
APMT	**Aspermont**	**3.50**	**53**	Pn	Pn	03 32 17.7	+1.0
APMT				IAmb_Lg		03 33 20.4	
	comp=Z,14nm,0.9s						
APMT				IAML		03 33 25.1	
	comp=Z,34nm,0.6s						
ABTX	**Abilene, Hawle**	**3.53**	**66**		Pn	03 32 18.5	+1.6
ABTX				IAML		03 33 24.3	
	comp=N,34nm,0.8s						
BRDY	**Brady**	**3.83**	**88**	Pn	Pn	03 32 22.4	+1.3
BRDY				IAML		03 33 29.0	
	comp=N,14nm,1.0s						
BRDY				IAML		03 33 29.1	
	comp=N,22nm,0.7s						
BRDY				IAmb_Lg		03 33 33.4	
	comp=Z,9.4nm,0.8s						
121A	**Cookes Peak, D**	**3.88**	**290**	Pn	Pn	03 32 22.0	+0.1
121A				IAML		03 33 32.0	
	comp=N,16nm,0.5s						
121A				IAML		03 33 34.2	
	comp=E,12nm,0.7s						
AMTX	**Amarillo**	**3.91**	**22**	Pn	Pn	03 32 24.0	+1.7
AMTX				IAmb_Lg		03 33 34.3	
	comp=Z,13nm,0.8s						
HNDO	**Hondo**	**4.01**	**114**	Pn	Pn	03 32 25.8	+2.2
ANMO	**Albuquerque**	**4.45**	**326**	Pn	Pn	03 32 31.7	+2.0
ANMO				IAML		03 33 16.9	
	comp=Z,5.9nm,4.8s						
PLPT	**Palo Pinto**	**4.64**	**69**		Pn	03 32 32.6	+0.4
SMWD	**Samnorwood**	**4.69**	**34**	Pn	Pn	03 32 34.2	+1.2
SMWD				IAmb_Lg		03 33 59.9	
	comp=Z,8.0nm,0.7s						
WTFS	**Witchita Falls**	**4.91**	**58**		Pn	03 32 37.5	+1.5
RTBA	**Rita Blanca**	**5.20**	**7**	Pn	Pn	03 32 42.8	+2.8
WMOK	**Wichita Mounta**	**5.25**	**47**		Pn	03 32 42.2	+1.6
WMOK				IAML		03 34 35.7	
	comp=Z,6.7nm,4.8s						
WMOK				IAML		03 34 49.7	
	comp=Z,8.8nm,4.5s						

IDC ***29*** *03:33:10.4±0.5, 1°.08N×98°.84E, h91km±3km, mb4.4/30, mbtmp4.7/32, MS3.3/12, Error ellipse: s-maj=13.9km s-min=11.1km az=66.0*
DJA ***29*** *03:33:11.9±0.2, 1°.N±2°×9°.9E±°, h94km±2km, M4.8/32, mb5.0/32, mB5.3/13, MLv5.0/16, Mw4.8, Mw(mB)4.7/13, MwMwp5.8/2, Mwp5.9/2*
NEIC ***29*** *03:33:12.5±0.9, 1°.13N±0°.07×98°.85E±0°.05, h95km±6km, mb4.9/63, Error ellipse: s-maj=10.8km s-min=7.6km az=196.0*
ISC 29 03:33:10.9±0.4, 1.06N±0°.04×98°.86E±0°.04, h95km±2km, h95km:pP-P, n195, σ1§44/214, mb4.9/78, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBSI	**Sibolga**	**0.48**	**4**	P	**Pn**	**03 33 28.4**	**+2.3**
SBSI				S	**Sn**	**03 33 40.4**	**+3.0**
PBSI	**Pulau Batu**	**1.25**	**207**	P	**Pn**	**03 33 36.0**	**+2.1**
GSI	**Gunungsitoli**	**1.30**	**281**	P	**Pn**	**03 33 36.3**	**+1.8**
GSI	**Gunungsitoli**	**1.30**	**281**	Pn	**Pn**	**03 33 35.7**	**+1.2**
GSI				Sn	**Sn**	**03 33 53.0**	**+0.7**
GSI	**Gunungsitoli**	**1.30**	**281**	P	**Pn**	**03 33 36.1**	**+1.6**
BKNI	**Bangkinang**	**2.30**	**109**	P	**Pn**	**03 33 49.8**	**+2.5**
BKNI	**Bangkinang**	**2.30**	**109**		**Pn**	**03 33 49.1**	**+1.8**
BKNI	**Bangkinang**	**2.30**	**109**	P	**Pn**	**03 33 48.8**	**+1.5**
SISI	**Saibi**	**2.39**	**174**	P	**Pn**	**03 33 49.9**	**+1.5**
PDSI	**Padang**	**2.54**

GTOI	**Gorontalo**	**24.16**	**91**	P		**P**	**03 38 17.5**	**-1.0**	
	comp=Z,47nm,0.9s,comp=Z,440nm								
SHL	**Shillong**	**25.27**	**345**	*eP*		**P**	**03 38 29.2**	**+0.5**	
MOKO	**MOKOCHONG**	**25.46**	**351**	*eP*		**P**	**03 38 31.1**	**+0.8**	
MOKO				IAmb	IAmb	IAmb	03 38 32.2		
	comp=Z,42nm,0.5s								
BOK	**Bokaro**	**25.86**	**332**	*eP*		**P**	**03 38 36.3**	**+2.4**	
BOK				IAmb	IAmb	IAmb	03 38 37.2		
	comp=Z,17nm,0.8s								
ITAN	**ITANAGAR**	**26.40**	**350**	*eP*		**P**	**03 38 39.2**	**+0.6**	
ITAN				IAmb	IAmb	IAmb	03 38 42.4		
	comp=Z,57nm,0.7s								
DAV	**Davao City (W)**	**27.30**	**77**	LR		LR	03 50 37.1		
	comp=Z,42nm,18.6s,baz=195,slow=38								
H08S2	**Diego Garcia H**	**27.68**	**251**	T		T	04 06 31.1		
	baz=72,slow=75,SNR=433								
H08S3	**Diego Garcia H**	**27.68**	**251**	T		T	04 06 29.5		
	baz=72,slow=75,SNR=514								
H08S1	**Diego Carcia H**	**27.70**	**251**	T		T	04 06 30.6		
	baz=72,slow=75,SNR=413								
NLAI	**Namlea**	**28.55**	**99**	P		**P**	**03 38 59.2**	**+1.1**	
	comp=Z,34nm,0.6s								
LSA	**Lhasa**	**29.41**	**346**	P		**P**	**03 39 06.1**	**+0.1**	
LSA				IAmb	IAmb	IAmb	03 39 10.3		
	comp=Z,11nm,0.5s								
PTH	**Pithoragarh**	**33.43**	**330**	*eP*		**P**	**03 39 44.9**	**+3.9**	
FAKI	**Fak Fak**	**33.62**	**97**	P		**P**	**03 39 41.9**	**-0.8**	
XAN	**Xi'an**	**34.13**	**15**	P		**P**	**03 39 45.8**	**-1.1**	
XAN				pmax	pmax				
	comp=Z,33nm,0.7s								
XAN	**Xi'an**	**34.13**	**15**	P		**P**	**03 39 45.6**	**-1.2**	
SMLA	**Simla**	**36.28**	**328**	*eP*		**P**	**03 40 08.5**	**+3.3**	
SMLA				*i* pP		**pP**	**03 40 26.6**	**-0.5**	
GTA	**Gaotai**	**38.17**	**1**	P		**P**	**03 40 22.0**	**+0.6**	
GTA				pP	pP		03 40 28.0	-15	
GTA				pmax	pmax				
	comp=Z,16nm,1.1s								
NIL	**Nilore**	**40.33**	**326**	P		**P**	**03 40 39.5**	**+0.1**	
NIL				IAmb	IAmb		03 41 01.8		
	comp=Z,22nm,0.8s								
WB0	**Warramunga Arr**	**40.53**	**123**	P		**P**	**03 40 40.6**	**-0.6**	
WB0				IAmb	IAmb		03 40 45.6		
	comp=Z,18nm,0.7s								
WRA	**Warramunga Arr**	**40.56**	**123**	P		**P**	**03 40 41.1**	**-0.3**	
WRA	**Warramunga Arr**	**40.56**	**123**	P		**P**	**03 40 41.1**	**-0.3**	
	comp=Z,16nm,0.6s,baz=303,slow=9.1,SNR=47								
WRA				PcP		**PcP**	**03 42 43.3**	**+1.2**	
	comp=Z,1.2nm,0.5s,baz=314,slow=2.7,SNR=4.5								
WRA				ScP		**ScP**	**03 46 22.9**	**-0.3**	
	comp=Z,1.2nm,0.9s,baz=319,slow=3.0,SNR=5.5								
	comp=Z,16nm,0.6s								
WB2	**Warramunga Arr**	**40.58**	**123**	P		**P**	**03 40 41.0**	**-0.5**	
WB2				IAmb	IAmb		03 40 46.1		
	comp=Z,19nm,0.6s								
BTO	**Baotou**	**40.64**	**13**	*eP*		**P**	**03 40 44.0**	**+2.2**	
BTO				pP		**pP**	**03 41 06.8**	**+2.6**	
BTO				sP		**sP**	**03 41 18.5**	**+3.4**	
BTO				PP		**PnPn**	**03 42 22.0**	**-0.2**	
BTO				pmax	pmax				
	comp=Z,28nm,0.9s								
BTO				pmax	pmax				
	comp=Z,310nm,7.8s								
WR0	**Warramunga Arr**	**40.74**	**123**	P		**P**	**03 40 42.4**	**-0.5**	
HHC	**Hu-ho-hao-te**	**41.24**	**15**	*eP*		**P**	**03 40 49.0**	**+2.2**	
HHC				pmax	pmax				
	comp=Z,22nm,0.6s								
HHC				pmax	pmax				
	comp=Z,94nm,4.6s								
BJT	**Baijiatuau**	**41.85**	**20**	P		**P**	**03 40 52.6**	**+1.0**	
BJT	**Baijiatuau**	**41.85**	**20**	P		**P**	**03 40 53.3**	**+1.6**	
JAY	**Jayapura**	**41.99**	**95**	P		**P**	**03 40 53.8**	**+0.6**	
	comp=Z,11nm,0.9s								
ASAR	**Alice Springs**	**42.00**	**128**	P		**P**	**03 40 52.8**	**-0.4**	
	comp=Z,2.9nm,0.4s,baz=298,slow=7.6,SNR=46								
ASAR				PcP		**PcP**	**03 42 48.2**	**+1.4**	
	comp=Z,0.6nm,0.6s,baz=312,slow=7.7,SNR=3.5								
ASAR				ScP		**ScP**	**03 46 28.9**	**+0.1**	
	comp=Z,1.7nm,0.7s,baz=305,slow=3.9,SNR=8.7								
ASAR				S		**S**	**03 46 57.1**	**-8.1**	
	comp=Z,1.3nm,0.8s,baz=297,slow=14,SNR=7.6								
	comp=Z,2.9nm,0.4s								
AS31	**Alice Springs**	**42.00**	**128**	P		**P**	**03 40 55.6**	**+2.5**	
FORT	**Forrest**	**42.12**	**141**	P		**P**	**03 40 55.6**	**+1.6**	
JNU	**Nakatsue**	**43.83**	**40**	P		**P**	**03 41 08.1**	**+0.3**	
JNU				IAmb	IAmb		03 41 09.1		
	comp=Z,11nm,0.9s								
JNU	**Nakatsue**	**43.83**	**40**	P		**P**	**03 41 07.7**	**-0.1**	
	comp=Z,10nm,0.9s,baz=170,slow=4.1,SNR=7.5								
JNU				LR		LR	03 59 45.5		
	comp=Z,29nm,19.6s,baz=188,slow=36								
	comp=Z,10nm,0.9s								
TARG	**Taragay, Kyrgy**	**44.71**	**338**	P		**P**	**03 41 15.0**	**-0.2**	
TARG				IAmb	IAmb		03 41 58.1		
	comp=Z,9.4nm,0.8s								
KSRS	**Korea Array**	**45.04**	**33**	P		**P**	**03 41 17.1**	**-0.1**	
	comp=Z,17nm,0.6s,baz=222,slow=8.6,SNR=62								
KSRS				LR		LR	03 59 41.2		
	comp=Z,11nm,21.8s,baz=230,slow=35								
	comp=Z,17nm,0.6s								
KS19	**Wonju Array Si**	**45.04**	**33**	P		**P**	**03 41 16.9**	**-0.4**	
NRN	**Naryn**	**45.18**	**336**	P		**P**	**03 41 19.2**	**+0.5**	
NRN				IAmb	IAmb		03 41 21.0		
	comp=Z,7.4nm,0.6s								
XLT	**XiLinHaoTe**	**45.33**	**18**	*eP*		**P**	**03 41 20.5**	**+0.9**	
XLT				pP		pP	03 41 42.8	+0.4	
XLT				sP		sP	03 41 55.8	+2.5	
XLT				pmax	pmax				
	comp=Z,24nm,0.9s								
XLT				pmax	pmax				
	comp=Z,150nm,5.3s								
DRK	**Karamyk**	**45.51**	**330**	P		**P**	**03 41 22.4**	**+1.0**	
DRK				IAmb	IAmb		03 41 46.0		
	comp=Z,22nm,0.7s								
BOOM	**Boomskoye usch**	**46.09**	**336**	P		**P**	**03 41 25.7**	**0.0**	
SIMJ	**Simiganj**	**46.34**	**327**	P		**P**	**03 41 27.6**	**-0.1**	
ARSB	**Arslanbob**	**46.39**	**333**	P		**P**	**03 41 29.0**	**+0.9**	
SONM	**Songino Array**	**47.04**	**7**	P		**P**	**03 41 34.4**	**+1.4**	
SONM				PcP		**PcP**	**03 43 04.6**	**+0.9**	
SONM	**Songino Array**	**47.04**	**7**	P		**P**	**03 41 33.7**	**+0.7**	
	comp=Z,26nm,0.7s,baz=191,slow=9.8,SNR=134								
SONM				PcP		**PcP**	**03 43 04.0**	**+0.3**	
	comp=Z,3.4nm,0.7s,baz=186,slow=4.7,SNR=5.4								
SONM				ScP		**ScP**	**03 46 47.8**	**-1.3**	
	comp=Z,1.9nm,0.7s,baz=190,slow=4.5,SNR=9.2								
	comp=Z,28nm,0.7s								
ULN	**Ulaanbaatar**	**47.16**	**8**	P		**P**	**03 41 35.1**	**+1.2**	
ULN				IAmb	IAmb		03 41 36.3		
	comp=Z,39nm,1.2s								
ULN	**Ulaanbaatar**	**47.16**	**8**	P		**P**	**03 41 35.5**	**+1.6**	
MK31	**Makanchi Array**	**47.79**	**345**	P		**P**	**03 41 39.5**	**+0.8**	
MK31				IAmb	IAmb		03 41 40.5		
	comp=Z,10nm,0.6s								
MKAR	**Makanchi Array**	**47.79**	**345**	P		**P**	**03 41 39.9**	**+1.1**	
MKAR	**Makanchi Array**	**47.79**	**345**	P		**P**	**03 41 39.1**	**+0.4**	
	comp=Z,12nm,0.5s,baz=154,slow=7.8,SNR=178								
MKAR				pP		**pP**	**03 42 00.4**	**-1.1**	
	comp=Z,5.1nm,0.5s,baz=148,slow=7.1,SNR=5.2								
MKAR				LR		LR	04 04 49.7		
	comp=Z,34nm,18.0s,baz=62,slow=40								
	comp=Z,12nm,0.5s								
MAKZ	**Makanchi**	**47.89**	**344**	P		**P**	**03 41 40.2**	**+0.8**	
MAKZ				IAmb	IAmb		03 41 41.1		
	comp=Z,10nm,0.6s								
MAKZ	**Makanchi**	**47.89**	**344**	P		**P**	**03 41 40.2**	**+0.8**	
MAKZ				pP		**pP**	**03 42 01.1**	**-1.1**	
MAKZ				sP		**sP**	**03 42 12.4**	**-0.5**	
KK31	**Karatay Array**	**48.92**	**333**	P		**P**	**03 41 48.2**	**+0.8**	
KKAR	**Karatay Array**	**48.92**	**333**	P		**P**	**03 41 48.3**	**+0.8**	
MJAR	**Matsushiro Arr**	**50.69**	**41**	P		**P**	**03 42 00.3**	**-0.7**	
	comp=Z,1.6nm,0.6s,baz=232,slow=6.3,SNR=4.8								
MJAR				LR		LR	04 05 22.5		
	comp=Z,13nm,18.7s,baz=236,slow=38								
	comp=Z,1.6nm,0.6s								
BNX	**BinXian**	**51.08**	**25**	⇓P		**P**	**03 42 04.3**	**+0.6**	
BNX				pmax	pmax				
	comp=Z,46nm,1.0s								
BNX				pmax	pmax				
	comp=Z,86nm,6.5s								
HIA	**Hailar**	**51.26**	**17**	P		**P**	**03 42 05.8**	**+0.8**	
HIA	**Hailar**	**51.26**	**17**	P		**P**	**03 42 05.5**	**+0.6**	
STKA	**Stephens Creek**	**52.04**	**133**	P		**P**	**03 42 10.9**	**-0.2**	
	comp=Z,1.6nm,0.4s,baz=278,slow=14,SNR=2.5								
	comp=Z,1.6nm,0.4s								
USA0B	**Ussuriysk Arra**	**52.05**	**30**	P		**P**	**03 42 11.8**	**+0.9**	
USRK	**Ussuriysk Ar.**	**52.05**	**30**	P		**P**	**03 42 10.6**	**-0.3**	
USRK	**Ussuriysk Ar.**	**52.05**	**30**	P		**P**	**03 42 10.9**	**-0.1**	
	comp=Z,15nm,0.8s,baz=225,slow=4.7,SNR=28								
	comp=Z,15nm,0.8s								
KURBB	**Kurchatov Arra**	**52.31**	**344**	P		**P**	**03 42 13.2**	**+0.5**	
	comp=Z,8.9nm,0.5s,baz=165,slow=7.2,SNR=94								
KURBB				pP		**pP**	**03 42 33.9**	**-1.9**	
	comp=Z,2.9nm,0.6s,baz=162,slow=6.8,SNR=4.5								
	comp=Z,8.9nm,0.5s								
KURK	**Kurchatov**	**52.37**	**344**	P		**P**	**03 42 14.1**	**+0.9**	
KURK				IAmb	IAmb	IAmb	03 42 15.0		
	comp=Z,11nm,0.7s								
KURK	**Kurchatov**	**52.37**	**344**	P		**P**	**03 42 14.1**	**+0.9**	
KURK				pP		**pP**	**03 42 35.4**	**-0.9**	
ZAA0	**Zalesovo Array**	**53.97**	**350**	P		**P**	**03 42 25.7**	**+0.8**	
ZALV	**Zalesovo Beam**	**53.97**	**350**	P		**P**	**03 42 25.8**	**+1.0**	
ZALV	**Zalesovo Beam**	**53.97**	**350**	P		**P**	**03 42 24.7**	**-0.2**	
	comp=Z,22nm,0.4s,baz=179,slow=6.4,SNR=71								
ZALV				pP		**pP**	**03 42 46.5**	**-1.6**	
	comp=Z,9.5nm,0.6s,baz=178,slow=5.9,SNR=4.0								
ZALV				S		**S**	**03 49 53.5**	**+0.3**	
	comp=Z,1.0nm,0.7s,baz=173,slow=16,SNR=3.9								
	comp=Z,22nm,0.4s								
HEH	**HeiHe**	**54.70**	**22**	*eP*		**P**	**03 42 30.8**	**+0.6**	
HEH				pmax	pmax				
	comp=Z,23nm,0.5s								
HEH				pmax	pmax				
	comp=Z,130nm,4.7s								
KLR	**Kul'dur**	**55.65**	**26**	P		**P**	**03 42 37.0**	**-0.1**	
	comp=Z,46nm,0.6s,baz=239,slow=7.3,SNR=179								
KLR				LR		LR	04 08 27.6		
	comp=Z,35nm,18.1s,baz=342,slow=38								
	comp=Z,46nm,0.6s								
BVAR	**Borovoye Array**	**56.93**	**340**	P		**P**	**03 42 45.9**	**-0.2**	
	comp=Z,5.8nm,0.5s,baz=141,slow=9.2,SNR=34								
BVAR				pP		**pP**	**03 43 08.0**	**-1.6**	
	comp=Z,4.6nm,0.5s,baz=137,slow=10,SNR=6.0								
	comp=Z,5.8nm,0.5s								
BRVK	**Borovoye**	**57.00**	**340**	P		**P**	**03 42 47.1**	**+0.6**	
BRVK				IAmb	IAmb		03 42 47.6		
	comp=Z,4.6nm,0.5s								
BRVK	**Borovoye**	**57.00**	**340**	P		**P**	**03 42 46.9**	**+0.3**	
BRVK				pP		**pP**	**03 43 09.1**	**-0.9**	
ASAJ	**Asahikawa**	**57.79**	**36**	P		**P**	**03 42 52.8**	**+0.5**	
	comp=Z,2.7nm,0.3s,baz=266,slow=12,SNR=5.6								
	comp=Z,2.7nm,0.3s								
ABKAR	**Akbulak array**	**58.42**	**331**	P		**P**	**03 42 57.3**	**+0.7**	
ABKAR				IAmb	IAmb		03 43 30.5		
	comp=Z,4.3nm,0.7s								
ABKAR	**Akbulak array**	**58.42**	**331**	P		**P**	**03 42 57.0**	**+0.4**	
KIBK	**Kibwezi**	**60.89**	**267**	P		**P**	**03 43 14.8**	**+0.4**	
H04N2	**CROZET ISLANDS**	**62.60**	**215**	T		T	04 50 44.8		
	baz=54,slow=75,SNR=129								
H04N1	**CROZET ISLANDS**	**62.61**	**215**	T		T	04 50 45.4		
	baz=54,slow=75,SNR=108								
H04N3	**CROZET ISLANDS**	**62.62**	**215**	T		T	04 50 44.0		
	baz=54,slow=75,SNR=104								
H04S1	**CROZET ISLANDS**	**62.92**	**214**	T		T	04 50 57.3		
	baz=53,slow=75,SNR=17								
H04S3	**CROZET ISLANDS**	**62.94**	**214**	T		T	04 50 57.1		
	baz=53,slow=75,SNR=16								
H04S2	**CROZET ISLANDS**	**62.94**	**214**	T		T	04 50 58.4		
	baz=53,slow=75,SNR=14								
YAK	**Yakutsk**	**65.10**	**15**	P		**P**	**03 43 40.4**	**-0.8**	
	comp=Z,18nm,0.5s,baz=191,slow=10,SNR=1.2								
YAK				LR		LR	04 15 56.0		
	comp=Z,26nm,19.2s,baz=298,slow=39								
	comp=Z,18nm,0.5s								
KBZ	**Khabaz**	**65.26**	**319**	P		**P**	**03 43 42.8**	**+0.2**	
	comp=Z,1.5nm,0.7s,baz=78,slow=6.9,SNR=2.3								
	comp=Z,1.5nm,0.7s								
NRIK	**Noril'sk**	**68.58**	**356**	P		**P**	**03 44 03.6**	**+0.4**	
NRIK	**Noril'sk**	**68.58**	**356**	P		**P**	**03 44 02.5**	**-0.7**	
	comp=Z,2.7nm,0.4s,baz=144,slow=7.2,SNR=5.7								
	comp=Z,2.7nm,0.4s								
BRTR	**Kin Array B**	**70.43**	**312**	P		**P**	**03 44 14.4**	**-1.0**	
	comp=Z,1.3nm,0.7s,baz=131,slow=5.1,SNR=3.8								
BRTR				pP		**pP**	**03 44 38.6**	**-1.0**	
	comp=Z,1.8nm,0.7s,baz=127,slow=7.3,SNR=3.5								
BRTR				sP		**sP**	**03 44 48.2**	**-1.8**	
	comp=Z,2.4nm,0.6s,baz=143,slow=7.5,SNR=4.0								
	comp=Z,1.3nm,0.7s								
MA2	**Magadan**	**70.75**	**25**	P		**P**	**03 44 17.1**	**+0.4**	
MA2				IAmb	IAmb		03 44 18.3		
	comp=Z,14nm,0.8s								
MA2	**Magadan**	**70.75**	**25**	P		**P**	**03 44 16.2**	**-0.4**	
	comp=Z,12nm,0.6s,baz=225,slow=4.7,SNR=13								
MA2				pP		**pP**	**03 44 40.0**	**-1.0**	
	comp=Z,4.2nm,0.4s,baz=224,slow=4.6,SNR=2.3								
	comp=Z,12nm,0.6s								
PETK	**Petropavlovsk-**	**70.94**	**33**	P		**P**	**03 44 17.3**	**-0.7**	
	comp=Z,4.6nm,0.8s,baz=254,slow=10,SNR=3.1								
	comp=Z,4.6nm,0.8s								
LSZ	**Lusaka**	**71.66**	**254**	LR		LR	04 12 28.2		
	comp=Z,27nm,19.5s,baz=148,slow=33								
MAW	**Mawson**	**72.96**	**194**	P		**P**	**03 44 33.2**	**+3.4**	
	comp=Z,1.6nm,0.6s,baz=92,slow=15,SNR=3.8								
MAW				LR		LR	04 14 53.0		
	comp=Z,43nm,18.0s,baz=208,slow=34								
TIXI	**Tiksi**	**73.04**	**10**	P		**P**	**03 44 29.8**	**-0.4**	
TIXI	**Tiksi**	**73.04**	**10**	P		**P**	**03 44 29.6**	**-0.5**	
	comp=Z,7.6nm,0.3s,baz=196,slow=4.6,SNR=29								
	comp=Z,7.6nm,0.3s								
SEY	**Seymchan**	**73.24**	**23**	P		**P**	**03 44 31.9**	**+0.4**	
	comp=Z,7.5nm,0.7s,baz=245,slow=7.0,SNR=24								
	comp=Z,7.5nm,0.7s								
LBTB	**Lobatse**	**75.31**	**244**	P		**P**	**03 44 45.6**	**+1.1**	
LBTB				IAmb	IAmb		03 44 48.0		
	comp=Z,15nm,1.0s								
BOSA	**Boshof**	**76.15**	**240**	P		**P**	**03 44 49.3**	**+0.1**	
	comp=Z,5.5nm,0.7s,baz=95,slow=4.1,SNR=16								
	comp=Z,5.5nm,0.7s								
AKASG	**Malin Array Be**	**76.38**	**322**	P		**P**	**03 44 49.5**	**-0.4**	
	comp=Z,0.7nm,0.5s,baz=89,slow=4.8,SNR=7.2								
AKASG				pP		**pP**	**03 45 11.8**	**-2.6**	
	comp=Z,1.5nm,0.5s,baz=88,slow=4.7,SNR=5.0								
	comp=Z,0.7nm,0.5s								
BUR08	**Bucovina Ar. S**	**78.24**	**318**	P		**P**	**03 45 01.3**	**+0.8**	
FINES	**FINESS Array B**	**80.89**	**332**	P		**P**	**03 45 14.8**	**+0.5**	
	comp=Z,2.2nm,0.5s,baz=104,slow=5.5,SNR=20								
FINES				pP		**pP**	**03 45 38.3**	**-0.8**	
	comp=Z,2.8nm,0.5s,baz=97,slow=6.5,SNR=5.6								
	comp=Z,2.2nm,0.5s								
TSUM	**Tsumeb**	**82.11**	**251**	P		**P**	**03 45 22.4**	**+0.6**	
LANS	**Liptovska Anna**	**82.25**	**319**	*eP*		P	03 45 29.3	+7.4	
ARCES	**ARCESS Array B**	**83.22**	**340**	P		P	**03 45 25.6**	**-0.9**	
	comp=Z,0.9nm,0.3s,baz=104,slow=4.5,SNR=22								
ARCES				pP		**pP**	**03 45 48.2**	**-3.2**	
	comp=Z,2.5nm,0.7s,baz=100,slow=5.2,SNR=1.5								
	comp=Z,0.9nm,0.3s								
PRED	**Cave del Predi**	**85.98**	**316**	P		**P**	**03 45 41.8**	**+0.9**	
HFS	**Hagfors**	**86.67**	**330**	P		**P**	**03 45 44.0**	**+0.1**	
	comp=Z,1.9nm,0.5s,baz=104,slow=6.3,SNR=9.1								
HFS				pP		**pP**	**03 46 08.3**	**-0.7**	
	comp=Z,1.9nm,0.5s,baz=116,slow=3.4,SNR=2.0								
	comp=Z,1.9nm,0.5s								
SPITS	**Spitsbergen Ar**	**87.42**	**348**	P		**P**	**03 45 46.7**	**-0.5**	
	comp=Z,2.7nm,0.5s,baz=99,slow=8.5,SNR=11								
	comp=Z,2.7nm,0.8s								
NB2	**NORSAR Subarra**	**87.93**	**331**	P		pP	03 46 15.1	0.0	
	comp=Z,1.0nm,0.8s,baz=91,slow=5.1								
NOA	**NORSAR Array B**	**87.93**	**331**	P		**P**	**03 45 50.1**	**+0.1**	
	comp=Z,0.7nm,0.8s,baz=174,slow=14,SNR=2.6								
NOA				pP		**pP**	**03 46 14.1**	**-1.1**	
	comp=Z,0.8nm,0.8s,baz=95,slow=5.0,SNR=2.4								
	comp=Z,0.7nm,0.8s								
KEST	**Kesra**	**88.99**	**306**	pP		pP	03 46 20.6	-0.1	
	comp=Z,4.6nm,0.9s,baz=99,slow=13,SNR=4.3								
G16K	**Koyuk River**	**92.71**	**24**	P		**P**	**03 46 12.5**	**+0.4**	
G16K				IAmb	IAmb		03 46 14.8		
	comp=Z,3.9nm,1.0s								
F17K	**Baldwin Pennin**	**92.99**	**23**	P		**P**	**03 46 14.5**	**+1.2**	
F17K				IAmb	IAmb		03 46 39.3		
	comp=Z,4.9nm,1.1s								
B20K	**Meade River**	**93.77**	**20**	P		**P**	**03 46 18.0**	**+1.1**	
B20K				IAmb	IAmb		03 49 55.6		
	comp=Z,6.0nm,0.9s								
D19K	**Kuna River**	**93.78**	**21**	P		**P**	**03 46 18.1**	**+1.1**	
D19K				IAmb	IAmb		03 46 42.6		
	comp=Z,4.4nm,0.9s								
J16K	**Anvik River**	**93.80**	**26**	P		**P**	**03 46 18.6**	**+1.4**	
H17K	**Granite Mounta**	**93.80**	**25**	P		**P**	**03 46 18.3**	**+1.2**	
H17K				IAmb	IAmb		03 46 19.0		
	comp=Z,3.8nm,0.7s								
E19K	**Redstone River**	**94.34**	**22**	P		**P**	**03 46 20.5**	**+0.9**	
E19K				IAmb	IAmb		03 46 21.2		
	comp=Z,2.8nm,0.8s								
H18K	**Honhosa River**	**94.40**	**24**	P		**P**	**03 46 20.9**	**+0.9**	
H18K				IAmb	IAmb		03 46 21.4		
	comp=Z,4.2nm,0.7s								
G19K	**Purcell Mounta**	**94.70**	**23**	P		**P**	**03 46 22.2**	**+0.9**	
G19K				IAmb	IAmb		03 46 22.9		
	comp=Z,3.4nm,0.7s								
B21K	**Ikpikpuk River**	**94.72**	**20**	P		**P**	**03 46 22.5**	**+1.2**	
B22K	**Teshekpuk Lake**	**94.91**	**19**	P		**P**	**03 46 23.1**	**+0.9**	
B22K				IAmb	IAmb		03 46 48.2		
	comp=Z,7.6nm,1.2s								
K17K	**Iditarod**	**94.94**	**27**	P		**P**	**03 46 23.5**	**+1.1**	
K17K				IAmb	IAmb		03 46 24.6		
	comp=Z,6.7nm,0.8s								
F20K	**Avaraart Lake**	**95.01**	**22**	P		**P**	**03 46 23.7**	**+1.1**	
F20K				IAmb	IAmb		03 46 24.3		
	comp=Z,4.1nm,0.8s								
H19K	**Roundabout Mou**	**95.10**	**24**	P		**P**	**03 46 24.5**	**+1.5**	
J18K	**Innoko River**	**95.47**	**26**	P		**P**	**03 46 26.0**	**+1.1**	
F21K	**Alatna River**	**95.80**	**22**	P		**P**	**03 46 27.4**	**+1.0**	
F21K				IAmb	IAmb		03 46 27.8		
	comp=Z,2.9nm,0.8s								
J19K	**Poorman**	**95.82**	**25**	P		**P**	**03 46 27.5**	**+1.1**	
J19K				IAmb	IAmb		03 46 52.5		
	comp=Z,4.0nm,0.9s								
G21K	**Allakaket**	**96.00**	**23**	P		**P**	**03 46 28.1**	**+1.0**	
IMAR	**Indian Mountai**	**96.06**	**23**	P		**P**	**03 46 28.6**	**+1.1**	
I20K	**Naaghedeneel**	**96.09**	**24**	P		**P**	**03 46 29.3**	**+1.7**	
J20K	**Nowinta River**	**96.40**	**25**	P		**P**	**03 46 30.5**	**+1.4**	
J20K				IAmb	IAmb		03 46 54.8		
	comp=Z,5.1nm,1.0s								
H21K	**Melozitna Rive**	**96.52**	**23**	P		**P**	**03 46 30.9**	**+1.3**	
H21K				IAmb	IAmb		03 46 55.3		
	comp=Z,3.4nm,0.8s								
K20K	**Telida**	**96.66**	**26**	P		**P**	**03 46 31.6**	**+1.3**	
K20K				IAmb	IAmb		03 46 56.5		
	comp=Z,5.0nm,0.8s								
CAST	**Castle Rocks**	**97.49**	**25**	P		Pdif	03 46 34.8	+0.7	
BPAW	**Bear Paw Mtn.**	**97.74**	**25**	P		Pdif	03 46 36.1	+0.9	
BPAW				IAmb	IAmb		03 47 00.3		
	comp=Z,5.2nm,0.9s								
ILAR	**Eielson Array**	**99.17**	**23**	P		**Pdif**	**03 46 40.0**	**-1.5**	
	comp=Z,0.3nm,0.6s,baz=302,slow=4.8,SNR=4.5								
ILAR				PP		**PP**	**03 50 39.5**	**-5.2**	
	comp=Z,0.2nm,0.5s,baz=293,slow=7.5,SNR=4.3								
	comp=Z,0.3nm,0.6s								
ESDC	**Sonseca Array**	**99.18**	**310**	LR		LR	04 36 26.8		
	comp=Z,34nm,18.0s,baz=230,slow=38								
YKA	**Yellowknife Ar**	**111.77**	**16**	PP		**PP**	**03 52 16.4**	**-1.1**	
	comp=Z,1.2nm,1.0s,baz=324,slow=7.0,SNR=12								
SCHQ	**Schefferville**	**123.06**	**350**	PKP		**PKPdf**	**03 51 55.1**	**-1.2**	
	comp=Z,0.9nm,0.4s,baz=17,slow=3.5,SNR=7.6								
SCHQ				pPKP		**pPKPdf**	**03 52 21.6**	**-1.0**	
	comp=Z,1.3nm,0.7s,baz=22,slow=1.8,SNR=1.6								
ULM	**Lac du Bonnet**	**127.35**	**12**	PKP		**PKPdf**	**03 52 03.3**	**-1.3**	
	comp=Z,0.9nm,0.4s,baz=262,slow=1.7,SNR=4.3								
NVAR	**Mina Array Bea**	**127.91**	**37**	PKP		**PKPdf**	**03 52 04.6**	**-1.8**	
	comp=Z,0.1nm,0.5s,baz=322,slow=4.1,SNR=3.0				

GOPC				*e*SG	**Sn**	**04 02 33.0**	**+0.5**
	comp=Z,11nm,0.6s							
PRU	**Pruhonice**	**1.88 213**	*e*PG	**Pb**	**04 02 09.8**	**-0.3**
PRU				*e*SG	**Sn**	**04 02 33.3**	**+0.6**
	comp=Z,14nm,0.4s							
HSKC	**Hora Svate Kat**	**1.96 242**	*e*PG	**Pb**	**04 02 11.0**	**-0.5**
HSKC				*e*SG	**Sb**	**04 02 36.4**	**-0.1**
	comp=Z,17nm,0.3s							
CLL	**Collm**	**1.98 264**	*e*(Pn)	**Pn**	**04 02 10.0**	**+0.3**
CLL				*e*Pg	**Pb**	**04 02 12.0**	**+0.2**
CLL				*e*Sg	**Sg**	**04 02 38.0**	**-0.5**
	comp=Z,14nm,0.5s							
MORC	**Moravsky Berou**	**2.01 153**	*e*PN	**Pn**	**04 02 10.1**	**0.0**
MORC				*e*SG	**Sb**	**04 02 37.6**	**-0.2**
OKC	**Ostrava-Krasne**	**2.15 143**	*e*PG	**Pb**	**04 02 15.3**	**+0.6**
OKC				*e*SG	**Sb**	**04 02 42.9**	**+0.9**
VRAC	**Vranov**	**2.29 173**	*e*PN	**Pn**	**04 02 14.1**	**+0.3**
VRAC				*e*SG	**Sb**	**04 02 46.3**	**+0.5**
KRUC	**Moravsky**	**2.52 176**	*e*PN	**Pn**	**04 02 16.5**	**-0.5**
KRUC				*e*SG	**Sb**	**04 02 52.8**	**+0.3**
NKC	**Novy Kostel**	**2.69 242**	*e*PN	**Pn**	**04 02 20.3**	**+0.8**
NKC				*e*PG	**Pg**	**04 02 26.8**	**+0.3**
NKC				*e*SG	**Sg**	**04 02 59.9**	**-1.5**
	comp=Z,22nm,0.5s							
KHC	**Kasperske Hory**	**2.94 215**	*e*PN	**Pn**	**04 02 23.2**	**+0.3**
KHC				*e*PG	**Pb**	**04 02 28.8**	**+0.6**
KHC				*e*SN	**Sn**	**04 02 55.9**	**-3.1**
KHC				*e*SG	**Sb**	**04 03 06.8**	**+2.0**
	comp=Z,12nm,1.0s							
CKRC	**Cesky Krumlov**	**3.00 204**	*e*PN	**Pn**	**04 02 24.4**	**+0.8**
CKRC				*e*PG	**Pb**	**04 02 30.6**	**+1.5**
CKRC				*e*SG	**Sb**	**04 03 08.3**	**+2.1**
	comp=Z,8.1nm,0.5s							
LANS	**Liptovska Anna**	**3.23 137**	*e*PG	**Pg**	**04 02 36.9**	**+0.2**
LANS				*e*SG	**Sg**	**04 03 17.7**	**-0.8**
MODS	**Modra-Piesok**	**3.29 167**	*e*SG	**Sb**	**04 03 16.5**	**+2.0**
BSD	**Bornholm Skovb**	**3.62 349**	*i* P	**Pn**	**04 02 33.1**	**+0.9**
BSD			*i* S	**Sn**	**04 03 14.7**	**-0.9**
BSD			IAML		04 03 16.9	
	comp=Z,1.4nm,0.2s							
CONA	**Conrad Observa**	**3.65 183**	*i* Pn	**Pn**	**04 02 33.7**	**+1.0**
	comp=Z,0.3nm,0.2s							
CONA				*e*Sg	**Sg**	**04 03 29.2**	**-3.0**
	comp=Z,5.1nm,0.3s							
RONA	**Rosalia, Austr**	**3.88 178**	Sg		**Sb**	**04 03 34.9**	**+3.3**
	comp=Z,3.3nm,0.4s							
ARSA	**Arzberg**	**4.34 186**	Sg		**Sg**	**04 03 50.4**	**-4.0**
	comp=Z,2.2nm,0.6s							
LUNU	**Lund**	**4.37 340**	*i* P		**Pn**	**04 02 42.8**	**+0.3**
LUNU				P	**Pn**	**04 02 42.9**	**+0.5**
LUNU			*i* S		**Sn**	**04 03 32.1**	**-2.0**
LUNU	**Lund**	**4.37 340**	P		**Pn**	**04 02 42.9**	**+0.5**
BLEU	**Blekinge**	**4.75 358**	*i* P		**Pn**	**04 02 48.9**	**+1.3**
BLEU				P	**Pn**	**04 02 49.1**	**+1.5**
BLEU			*i* S		**Sn**	**04 03 39.2**	**-4.0**
BLEU			S		**Sn**	**04 03 42.9**	**-0.4**
BLEU	**Blekinge**	**4.75 358**	P		**Pn**	**04 02 49.1**	**+1.5**
BLEU			S		**Sn**	**04 03 42.9**	**-0.4**
DEL	**Delary**	**5.09 346**	*i* P		**Pn**	**04 02 52.8**	**+0.5**
DEL				P	**Pn**	**04 02 53.0**	**+0.7**
DEL			*i* S		**Sn**	**04 03 49.4**	**-2.3**
DEL			S		**Sn**	**04 03 50.6**	**-1.1**
DEL	**Delary**	**5.09 346**	P		**Pn**	**04 02 53.0**	**+0.7**
DEL			S		**Sn**	**04 03 50.6**	**-1.1**
VXJU	**Vaexsjoe**	**5.41 353**	P		**Pn**	**04 02 58.3**	**+1.7**
VXJU			S		**Sn**	**04 03 58.9**	**-0.7**
VXJU	**Vaexsjoe**	**5.41 353**	P		**Pn**	**04 02 58.3**	**+1.7**
VXJU			S		**Sn**	**04 03 58.9**	**-0.7**
OSKU	**Oskarshamn**	**5.63 360**	P		**Pn**	**04 03 01.6**	**+1.8**
OSKU	**Oskarshamn**	**5.63 360**	P		**Pn**	**04 03 01.6**	**+1.8**

IDC 29 04:08:44.5±1.5, 30°39N×101°34E, h0km, mb3.4/4, mbtmp3.4/5, MS2.7/2, Error ellipse: s-maj=81.5km s-min=23.9km az=60.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**17.85**	**11**	P	Pn	04 12 54.6	+0.2
	0.2nm,0.4s,baz=193,slow=11,SNR=2.1						
MKAR	**Makanchi Array**	**22.05**	**323**	P	P	04 13 40.3	-0.5
	0.4nm,0.8s,baz=118,slow=10,SNR=4.1						
	0.4nm,0.8s						
KSRS	**Korea Array**	**23.11**	**65**	LR	LR	04 22 26.5	
	comp=Z,13nm,18.1s,baz=70,slow=36						
ZALV	**Zalesovo Beam**	**26.41**	**338**	P	P	04 14 22.4	-0.2
	0.6nm,0.4s,baz=142,slow=7.3,SNR=2.6						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**26.45**	**326**	P	P	04 14 23.5	+0.6
	0.2nm,0.6s,baz=133,slow=9.3,SNR=3.1						
	0.2nm,0.6s						
PALK	**Pallekele**	**30.05**	**224**	LR	LR	04 28 51.0	
	comp=Z,21nm,19.5s,baz=33,slow=40						
WRA	**Warramunga Arr**	**59.26**	**143**	P	P	04 18 48.0	-0.1
	1.1nm,0.8s,baz=334,slow=7.5,SNR=7.5						
	1.1nm,0.8s						

ROM 29 04:25:52.8±0.1, 43°169N±0°004×11°382E±0°006, h10km±1km, ML1.9/27, 9C, Error ellipse: s-maj=0.5km s-min=0.2km az=143.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FROS	**Frosini**	**0.17**	**284**	⇑P	Pg	04 25 57.3	+0.8
FROS				S	Sg	04 25 59.8	+0.7
FROS				AML	AML		
	comp=E,4440μm,0.4s						
FROS				AML	AML		
	comp=N,2495μm,0.2s						
FROS				AML	AML		
	comp=E,4440μm,1.6s						
ARCI	**Arcidosso**	**0.32**	**168**	⇑P	Pg	04 25 59.5	+0.1
ARCI				S	Sb	04 26 05.0	-1.0
ARCI				AML	AML		
	comp=E,454μm,0.6s						
ARCI				AML	AML		
	comp=N,716μm,0.3s						
ARCI				AML	AML		
	comp=E,454μm,1.4s						
RIBO	**Ribolla Roccas**	**0.33**	**228**	⇑P	Pg	04 25 60.0	+0.6
RIBO				S	Sb	04 26 05.9	-0.3
RIBO	**Ribolla Roccas**	**0.33**	**228**	AML	AML		
	comp=E,442μm,1.7s						
TRIF	**Trifonti**	**0.35**	**261**	⇑P	Pg	04 26 00.5	+0.6
TRIF				S	Sg	04 26 05.5	+0.9
TRIF				AML	AML		
	comp=N,511μm,0.5s						
TRIF				AML	AML		
	comp=E,623μm,0.5s						
OSSC	**Osservatorio P**	**0.37**	**344**	⇑P	Pg	04 26 00.4	+0.2
OSSC				S	Sg	04 26 06.0	+0.9
OSSC				AML	AML		
	comp=E,174μm,1.2s						
OSSC				AML	AML		
	comp=E,174μm,0.8s						
OSSC				AML	AML		
	comp=N,164μm,0.8s						
SF01	**Poggio Pratacc**	**0.38**	**160**	⇑P	Pg	04 26 00.5	+0.1
SF01				S	Sb	04 26 07.1	-0.6
SF01				AML	AML		
	comp=E,470μm,1.1s						
SF01				AML	AML		
	comp=N,690μm,0.2s						
SF01				AML	AML		
	comp=E,470μm,0.9s						
SF01				AML	AML		
	comp=N,690μm,0.2s						
SF04	**Casetta**	**0.39**	**148**	P	Pg	04 26 00.7	+0.1
SF04				S	Sg	04 26 05.4	-0.3
SF04				AML	AML		
	comp=E,430μm,1.6s						
SF04				AML	AML		
	comp=N,400μm,0.3s						
SF04				AML	AML		
	comp=E,430μm,0.4s						
SF03	**Valle Cupa**	**0.43**	**149**	P	Pg	04 26 01.2	0.0
CAFI	**Castiglion Fio**	**0.46**	**69**	⇑P	Pg	04 26 01.9	+0.1
SACS	**San Casciano d**	**0.50**	**129**	P	Pb	04 26 03.9	+0.1
SACS				AML	AML		
	comp=E,72μm,1.2s						
SACS				AML	AML		
	comp=N,68μm,0.6s						
SACS				AML	AML		
	comp=E,74μm,1.6s						
SACS				AML	AML		
	comp=N,79μm,1.6s						
SACS				AML	AML		
	comp=E,72μm,1.2s						
SACS				AML	AML		
	comp=N,68μm,0.6s						
SACS				AML	AML		
	comp=N,79μm,0.4s						
SACS				AML	AML		
	comp=E,74μm,0.4s						
SACS				AML	AML		
	comp=E,72μm,0.8s						
CASP	**Castiglione de**	**0.54**	**225**	⇑P	Pb	04 26 04.1	-0.2
CASP				S	Sb	04 26 12.3	+0.2
CASP				AML	AML		
	comp=E,154μm,0.8s						
CASP				AML	AML		
	comp=N,183μm,1.3s						
CASP				AML	AML		
	comp=E,154μm,1.2s						
MAGO	**Bibbona**	**0.54**	**281**	P	Pb	04 26 03.9	-0.5
MAGO				S	Sg	04 26 11.2	+0.7
MAGO				AML	AML		
	comp=E,98μm,1.5s						
MAGO				AML	AML		
	comp=E,98μm,1.0s						
MAGO				AML	AML		
	comp=N,153μm,0.7s						
MAGO				AML	AML		
	comp=E,98μm,1.0s						
MGAB	**Montegabbione**	**0.59**	**115**	P	Pg	04 26 04.6	+0.2
CRE	**Caprese Michel**	**0.61**	**42**	⇑P	Pg	04 26 05.1	+0.3
CRE				S	Sg	04 26 13.3	+0.5
ATMC	**Monte Cedrone**	**0.65**	**65**	P	Pg	04 26 05.5	0.0
ATMI	**Monte Miggiano**	**0.67**	**75**	P	Pb	04 26 06.3	-0.3
ATVA	**AVT- Monte Val**	**0.67**	**80**	P	Pg	04 26 05.2	-0.6
RUFI	**Rufina**	**0.68**	**8**	P	Pg	04 26 06.2	+0.3
RUFI				S	Sb	04 26 15.6	-0.6
SSP9	**Sansepolcro**	**0.68**	**53**	P	Pg	04 26 06.1	+0.1
SSP9				AML	AML		
	comp=E,145μm,0.4s						
SSP9				AML	AML		
	comp=N,162μm,0.6s						
SSP9				AML	AML		
	comp=E,145μm,1.6s						
BADI	**Badiali**	**0.71**	**61**	P	Pg	04 26 06.2	-0.4
ATLO	**AVT- Montelove**	**0.76**	**79**	P	Pg	04 26 07.4	-0.1
MAON	**Monte Argentar**	**0.76**	**194**	P	Pg	04 26 07.6	0.0
PARC	**Parchiule**	**0.79**	**52**	P	Pg	04 26 08.1	+0.1
PARC				AML	AML		
	comp=E,90μm,0.8s						
PARC				AML	AML		
	comp=N,100μm,1.0s						
PARC				AML	AML		
	comp=N,100μm,1.0s						
ATPI	**Pietralunga -**	**0.80**	**69**	P	Pg	04 26 07.8	-0.4
SFI	**Santa Sofia**	**0.81**	**25**	P	Pg	04 26 08.1	-0.4
PII	**Pisa**	**0.83**	**312**	P	Pg	04 26 08.0	-0.9
MURB	**Monte Urbino**	**0.84**	**83**	P	Pg	04 26 08.9	-0.1
ATPC	**Poggio Castell**	**0.84**	**68**	P	Pg	04 26 08.7	-0.4
APEC	**Apecchio**	**0.85**	**62**	P	Pg	04 26 09.3	+0.1
SEI	**Scarperia**	**0.89**	**359**	P	Pb	04 26 10.5	+0.1
LMD	**Lutirano**	**0.94**	**14**	P	Pb	04 26 11.1	-0.1
LMD				AML	AML		
	comp=N,52μm,0.8s						
LMD				AML	AML		
	comp=E,45μm,1.3s						

ROM 29 04:26:41.9±0.1, 43°152N±0°004×11°391E±0°010, h11km, ML1.6/15, 8C-1D, Error ellipse: s-maj=0.9km s-min=0.4km az=243.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FROS	**Frosini**	**0.18**	**289**	⇑P	Pg	04 26 46.5	+0.7
FROS				S	Sg	04 26 49.1	+0.5
FROS				AML	AML		
	comp=E,728μm,0.4s						
FROS				AML	AML		
	comp=N,484μm,0.2s						
FROS				AML	AML		
	comp=E,480μm,0.3s						
FROS				AML	AML		
	comp=N,484μm,0.2s						
FROS				AML	AML		
	comp=E,728μm,0.4s						
ARCI	**Arcidosso**	**0.31**	**168**	⇑P	Pg	04 26 48.7	+0.6
ARCI				S	Sb	04 26 53.9	-0.6
ARCI				AML	AML		
	comp=N,283μm,0.2s						
ARCI				AML	AML		
	comp=E,208μm,1.3s						
ARCI				AML	AML		
	comp=N,283μm,0.2s						
ARCI				AML	AML		
	comp=E,195μm,0.2s						
RIBO	**Ribolla Roccas**	**0.32**	**231**	P	Pb	04 26 49.2	-0.4
RIBO				S	Sb	04 26 54.3	-0.6
RIBO				AML	AML		
	comp=E,161μm,0.2s						
RIBO				AML	AML		
	comp=E,107μm,0.9s						
TRIF	**Trifonti**	**0.36**	**264**	P	Pb	04 26 49.7	-0.6
TRIF				S	Sg	04 26 54.4	+0.5
TRIF				AML	AML		
	comp=E,144μm,0.2s						
TRIF				AML	AML		
	comp=N,126μm,0.1s						
TRIF				AML	AML		
	comp=E,145μm,0.2s						
TRIF				AML	AML		
	comp=E,145μm,0.2s						
TRIF				AML	AML		
	comp=N,126μm,0.1s						
TRIF				AML	AML		
	comp=E,142μm,0.5s						
TRIF				AML	AML		
	comp=N,83μm,0.6s						
SF01	**Poggio Pratacc**	**0.36**	**160**	⇑P	Pg	04 26 49.7	+0.6
SF01				S	Sb	04 26 55.2	-0.9
SF01				AML	AML		
	comp=E,288μm,0.2s						
SF01				AML	AML		
	comp=N,274μm,1.2s						
SF01				AML	AML		
	comp=E,288μm,0.2s						
SF01				AML	AML		
	comp=N,261μm,0.2s						
SF01				AML	AML		
	comp=N,148μm,0.2s						
SF04	**Casetta**	**0.37**	**148**	⇑P	Pb	04 26 50.0	-0.6
SF04				S	Sg	04 26 54.5	+0.2
SF04				AML	AML		
	comp=E,137μm,0.3s						
SF04				AML	AML		
	comp=N,143μm,0.2s						
SF13	**Bagnolo**	**0.37**	**153**	⇑P	Pb	04 26 50.0	-0.6
SF13				S	Sg	04 26 54.6	+0.3
OSSC	**Osservatorio P**	**0.39**	**344**	P	Pg	04 26 49.6	+0.1
SF03	**Valle Cupa**	**0.41**	**148**	P	Pb	04 26 50.6	-0.6
MCIV	**Monte Civitell**	**0.43**	**151**	⇑P	Pb	04 26 50.9	-0.6
MCIV				S	Sg	04 26 55.8	-0.2
MCIV				AML	AML		
	comp=N,35μm,0.3s						
MCIV				AML	AML		
	comp=E,29μm,0.3s						
MCIV				AML	AML		
	comp=E,43μm,1.6s						
SF14	**Selvena**	**0.43**	**157**	⇑P	Pg	04 26 50.5	+0.2
SF14				S	Sg	04 26 55.9	-0.1
CAFI	**Castiglion Fio**	**0.46**	**67**	⇑P	Pg	04 26 51.1	+0.2
CRE	**Caprese Michel**	**0.62**	**41**	⇓P	Pg	04 26 54.4	+0.4
CRE				S	Sg	04 27 02.0	-0.1
CRE				AML	AML		
	comp=N,83μm,0.3s						
CRE				AML	AML		
	comp=N,83μm,1.7s						
CRE				AML	AML		
	comp=N,32μm,1.9s						
CRE				AML	AML		
	comp=E,27μm,1.0s						

IDC 29 04:58:55.6±3.3, 53°54N×87°47E, h0km, mbtmp2.3/2, ML2.2/2, Error ellipse: s-maj=30.5km s-min=17.1km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.62**	**286**	I	I	05 10 21.6	
	baz=101,slow=336,SNR=2.3						
ZALV	**Zalesovo Beam**	**1.62**	**286**	Pg	Pn	04 59 24.9	-0.5
	0.7nm,0.3s,baz=102,slow=13,SNR=8.5						
ZALV				Lg	Lg	04 59 46.8	
	0.7nm,0.3s,baz=108,slow=28,SNR=4.7						
KURBB	**Kurchatov Arra**	**6.24**	**246**	Pn	Pn	05 00 29.5	+0.7
	baz=62,slow=14,SNR=2.5						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**7.53**	**208**	Pn	Pn	05 00 47.8	+1.2
	0.1nm,0.3s,baz=28,slow=13,SNR=1.8						
	0.1nm,0.3s						

IDC 29 05:08:58.9±4.4, 53°68N×87°91E, h0km, mbtmp2.6/2, ML2.1/2, Error ellipse: s-maj=48.5km s-min=23.5km az=78.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.85**	**280**	I	I	05 22 04.0	
	0.1nm,0.8s,baz=96,slow=334,SNR=3.5						
ZALV	**Zalesovo Beam**	**1.85**	**280**	Pn	Pn	05 09 31.3	-0.6
	0.7nm,0.3s,baz=98,slow=14,SNR=8.8						
ZALV				Sn	Sg	05 09 58.2	-0.1
	1.7nm,0.3s,baz=100,slow=25,SNR=12						
KURBB	**Kurchatov Arra**	**6.53**	**246**	Pn	Pn	05 10 36.3	+0.1
	baz=61,slow=14,SNR=4.0						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.78**	**210**	Pn	Pn	05 10 55.0	+1.7
	baz=25,slow=16,SNR=3.0						
	0.1nm,0.5s						

*ISN **29** 05:23:20.5±0.8, 34°07N×45°91E, h10km±4km, ML3.0*
*TEH **29** 05:23:22.0, 34°04N×46°04E, h8km±87km, ML3.0*
ISC 29 05:23:21.8±1.3, 34°05N±0°03×46°00E±0°04, h11km±12km, n13, σ0°61/19, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.45**	**157**	Pg	**Pg**	**05 23 30.4**	**-0.3**
ILBA				Sg	**Sg**	**05 23 37.1**	**+0.3**
IGHG	**Ghaleghazi**	**0.55**	**59**	Pg	**Pb**	**05 23 33.5**	**-0.1**
KGS1	**Ghasr-e-Shirin**	**0.57**	**324**	Pg	**Pb**	**05 23 34.1**	**+0.3**
IDHR	**Dehrash**	**0.73**	**26**	Pg	**Pg**	**05 23 36.0**	**+0.1**
IDHR				Sg	**Sb**	**05 23 45.9**	**-0.8**
KCHF	**Cheshme Sefid,**	**0.90**	**75**	Pg	**Pg**	**05 23 39.0**	**-0.1**
IBDR	**Badra**	**0.93**	**183**	*e*Pg	**Pb**	**05 23 39.5**	**-0.5**
IBDR				*e*Sg	**Sb**	**05 23 52.0**	**-0.3**
IBDR				AML	AML	05 24 02.3	
	comp=N,180nm,0.7s						
IBDR				AML	AML	05 24 05.8	
	comp=E,252nm,0.4s						
BHD	**Baghdad**	**1.55**	**241**	*e*Pg	**Pn**	**05 23 49.5**	**+0.2**
BHD				*e*Sg	**Sb**	**05 24 10.0**	**-0.2**
BHD				AML	AML	05 24 19.5	
	comp=E,366nm,0.3s						
IBZA	**Bozab**	**1.60**	**74**	Pg	**Pb**	**05 23 51.8**	**+0.3**
IKFM	**Kafar-mosalman**	**1.63**	**108**	Pg	**Pg**	**05 23 53.4**	**+0.4**
IDOB	**Doab**	**1.83**	**97**	Pg	**Pb**	**05 23 55.7**	**+0.3**
IKRK	**Kirkuk**	**1.92**	**315**	*e*Pn	**Pn**	**05 23 54.0**	**-0.4**
IKRK				*e*Sn	**Sn**	**05 24 19.0**	**+0.4**
IKRK				AML	AML	05 24 30.4	
	comp=E,289nm,0.4s						
IKRK				AML	AML	05 24 34.8	
	comp=N,284nm,0.6s						
HSAM	**Samen**	**2.17**	**85**	Pn	**Pb**	**05 24 00.3**	**-0.9**
RAFI	**Al-Rafai**	**2.32**	**178**	*e*Pn	**Pn**	**05 24 01.0**	**+1.2**
RAFI				*e*Sn	**Sb**	**05 24 31.0**	**-1.2**

IDC 29 06:15:58.9±2.3, 6°47S×129°26E, h0km, mb3.4/1, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=120.8km s-min=33.3km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.28**	**160**	Pn	Pn	06 19 21.9	-0.6
	0.1nm,0.3s,baz=339,slow=13,SNR=2.4						
WRA				Sn	Sn	06 21 50.8	-11
	0.2nm,0.3s,baz=336,slow=22,SNR=5.8						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**17.68**	**166**	P	Pn	06 20 07.0	+0.3
	0.2nm,0.3s,baz=344,slow=11,SNR=10						
ASAR				S	Sn	06 23 09.8	-15
	0.3nm,0.9s,baz=349,slow=22,SNR=1.4						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**67.38**	**327**	P	P	06 26 56.1	0.0
	0.1nm,0.3s,baz=124,slow=6.9,SNR=2.3						
	0.1nm,0.3s						

IDC 29 06:28:06.3±2.1, 5°70S×142°33E, h0km, mb3.6/3, mbtmp3.6/4, ML3.3/1, MS3.1/2, Error ellipse: s-maj=86.9km s-min=37.6km az=102.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.04**	**128**	LR	LR	06 31 44.1	
	comp=Z,47nm,21.4s,baz=166,slow=36						
WRA	**Warramunga Arr**	**16.15**	**208**	Pn	Pn	06 31 50.3	-4.6
	0.1nm,0.3s,baz=29,slow=13,SNR=2.3						
WRA				Lg	Lg	06 36 33.1	
	baz=30,slow=23						
ASAR	**Alice Springs**	**19.62**	**204**	P	P	06 32 36.5	0.0
	0.1nm,0.3s,baz=32,slow=10,SNR=6.1						
ASAR				Lg	Lg	06 38 20.5	
	baz=31,slow=7.5,SNR=1.5						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**74.35**	**322**	P	P	06 39 46.5	+0.5
	0.5nm,0.8s,baz=109,slow=6.6,SNR=4.9						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	**83.82**	**325**	P	P	06 40 36.9	-0.8
	0.4nm,0.4s,baz=97,slow=6.7,SNR=2.0						
	0.4nm,0.4s						
ILAR	**Eielson Array**	**87.07**	**24**	P	P	06 40 53.7	+0.1
	0.2nm,0.7s,baz=249,slow=4.7,SNR=2.4						
	0.2nm,0.7s						
OPO	**Ambohidratompo**	**93.06**	**251**	LR	LR	07 24 04.4	
	comp=Z,32nm,18.3s,baz=8.5,slow=36						

IDC 29 06:31:02.0±3.9, 6°05S×142°21E, h0km, mb3.9/2, mbtmp3.7/4, ML3.4/2, Error ellipse: s-maj=135.9km s-min=28.1km az=100.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.78**	**208**	Pn	Pn	06 34 44.5	-1.3
	0.1nm,0.3s,baz=32,slow=13,SNR=3.1						
WRA				Sn	Sn	06 37 30.6	-11
	baz=41,slow=31						
WRA				Lg	Lg	06 39 21.6	
	baz=32,slow=26,SNR=1.3						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**19.25**	**204**	P	Pn	06 35 29.1	+0.1
	0.2nm,0.3s,baz=30,slow=11,SNR=13						
	1.8nm,0.7s						
MKAR	**Makanchi Array**	**74.55**	**322**	P	P	06 42 43.1	+0.4
	0.4nm,0.7s,baz=100,slow=7.5,SNR=4.1						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**84.03**	**325**	P	P	06 43 33.9	-0.5
	0.9nm,0.5s,baz=112,slow=6.9,SNR=4.4						
	0.9nm,0.5s						

*EST **29** 06:46:18.5±0.1, 59°22N×27°91E, h0km, ML2.0(HEL), Explosion*
*IDC **29** 06:46:20.0±2.9, 59°33N×27°94E, h0km, mbtmp3.5/3, ML2.1/4, Error ellipse: s-maj=28.5km s-min=14.5km az=137.0*
ISC 29 06:46:16.9±1.0, 59°20N±0°03×27°87E±0°04, h0km, n33, σ1°42/54, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EE03	**Tooma soojaam,**	**0.89**	**249**	*e*P	**Pb**	**06 46 34.5**	**-0.6**
EE03				*e*S	**Sb**	**06 46 46.9**	**-0.6**
VSU	**Vasula**	**0.94**	**219**	*e*P	**Pb**	**06 46 36.0**	**-0.1**
VSU				*e*S	**Sb**	**06 46 48.4**	**-0.7**
ARBE	**Arbavere**	**1.00**	**285**	*e*P	**Pg**	**06 46 36.4**	**+0.4**
ARBE				*e*S	**Sg**	**06 46 49.2**	**+0.4**

VJF	**Virojoki**	**1.36**	**353**	*e*P	**Pg**	**06 46 42.1**	**-0.7**
VJF				*e*SB	**Sg**	**06 47 00.0**	**-0.4**
VJF				MSG		06 47 00.7	
	comp=Z,13nm,0.1s						
EE07	**Piusa Caves, O**	**1.38**	**189**	*e*P	**Pb**	**06 46 44.0**	**+0.6**
EE07				*e*S	**Sb**	**06 47 01.5**	**0.0**
EE08	**Sarghaua, Vand**	**1.47**	**250**	*e*P	**Pb**	**06 46 44.9**	**-0.1**
EE08				*e*S	**Sn**	**06 47 04.4**	**0.0**
EE02	**Kiisa, Saku**	**1.63**	**271**	*e*P	**Pb**	**06 46 47.9**	**+0.1**
EE02				*e*S	**Sn**	**06 47 08.2**	**-0.3**
PVF	**Pernaja**	**1.69**	**324**	*e*PG	**Pn**	**06 46 48.6**	**+1.0**
PVF				MSG		06 47 08.8	
	comp=Z,8.1nm,0.2s						
PVF				*e*SG	**Sn**	**06 47 10.3**	**+0.4**
HEL1	**Helsinki**	**1.81**	**304**	*e*PG	**Pb**	**06 46 50.9**	**+0.1**
HEL1				*e*SN	**Sb**	**06 47 14.3**	**+0.4**
HEL1				MSG		06 47 15.1	
	comp=Z,5.0nm,0.1s						
MEF	**Metsahovi**	**2.04**	**302**	*e*P	**Pb**	**06 46 54.5**	**-0.2**
MEF	**Metsahovi**	**2.04**	**302**	*e*PG	**Pb**	**06 46 54.9**	**+0.2**
MEF				*e*SG	**Sb**	**06 47 20.9**	**+0.3**
MEF				MSG		06 47 22.0	
	comp=Z,8.3nm,0.1s						
NUR	**Nurmijrvi**	**2.09**	**310**	*e*PG	**Pb**	**06 46 55.7**	**+0.1**
NUR				*e*SB	**Sb**	**06 47 21.9**	**-0.3**
NUR				MSG		06 47 23.4	
	comp=Z,7.9nm,0.1s						
MTSE	**Matsula**	**2.16**	**259**	*e*PB	**Pb**	**06 46 56.5**	**-0.2**
MTSE				*e*SB	**Sg**	**06 47 24.5**	**-1.6**
EE01	**Perakula, Nova**	**2.19**	**272**	*e*PB	**Pb**	**06 46 57.1**	**-0.1**
EE01				*e*SB	**Sb**	**06 47 25.2**	**+0.4**
RUF	**Ruokolahti**	**2.30**	**13**	*e*P	**Pn**	**06 46 57.1**	**+1.1**
RUF				*e*PB	**Pb**	**06 46 57.8**	**-1.4**
RUF				MSG		06 47 25.9	
	comp=Z,7.8nm,0.2s						
RUF				*e*SG	**Sb**	**06 47 28.9**	**+0.8**
FIA0	**FINESS Array S**	**2.42**	**339**	*e*PB	**Pn**	**06 47 00.2**	**+2.5**
FIA0				*e*SG	**Sb**	**06 47 32.8**	**+1.1**
FIA0				MSG		06 47 34.0	
	comp=Z,9.2nm,0.1s						
FIA1	**FINESS Array S**	**2.42**	**339**	*e*P	**Pn**	**06 46 59.1**	**+1.4**
FIA1				*e*PB	**Pb**	**06 47 00.2**	**-1.1**
FIA1				*e*SG	**Sb**	**06 47 32.3**	**+0.6**
FIA1				MSG		06 47 34.0	
	comp=Z,7.7nm,0.1s						
FINES	**FINESS Array B**	**2.42**	**339**	Pn	**Pn**	**06 46 58.9**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=156,slow=17,SNR=37						
FINES				Sn	**Sb**	**06 47 32.3**	**+0.6**
	comp=Z,2.7nm,0.3s,baz=164,slow=28,SNR=12						
KAF	**Kangasniemi**	**3.03**	**346**	*e*P	**Pn**	**06 47 07.7**	**+1.8**
KAF				*e*SG	**Sb**	**06 47 50.9**	**+1.9**
KAF				MSG		06 47 52.0	
	comp=Z,5.1nm,0.1s						
KEF	**Keuruu**	**3.33**	**335**	*e*P	**Pn**	**06 47 12.0**	**+1.9**
RAF	**Rauma**	**3.56**	**304**	*e*P	**Pn**	**06 47 15.0**	**+1.7**
RAF	**Rauma**	**3.56**	**304**	*e*P	**Pn**	**06 47 15.9**	**+2.6**
SUF	**Sumiainen**	**3.63**	**347**	*e*P	**Pn**	**06 47 16.2**	**+1.9**
KPF	**Kankaanpaa**	**3.90**	**315**	*e*P	**Pn**	**06 47 20.5**	**+2.5**
JOF	**Joensuu**	**4.09**	**23**	*e*P	**Pn**	**06 47 20.2**	**-0.4**
AAL	**Aland**	**4.11**	**287**	*e*P	**Pn**	**06 47 23.7**	**+2.8**
AAL	**Aland**	**4.11**	**287**	*e*SG	**Sg**	**06 48 25.2**	**-3.6**
VAF	**Ylistaro**	**4.61**	**329**	*e*P	**Pn**	**06 47 30.0**	**+2.3**
VAF	**Ylistaro**	**4.61**	**329**	*e*P	**Pn**	**06 47 30.3**	**+2.6**
VIKU	**Vikbolandet**	**5.84**	**268**	*e*P	**Pn**	**06 47 45.6**	**+1.0**
HFS	**Hagfors**	**7.24**	**284**	Pn	**Pn**	**06 48 05.2**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=92,slow=16,SNR=5.1						
HFS				Sn	**Sn**	**06 49 23.6**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=86,slow=26,SNR=2.1						
HFS				Lg	Lg	06 50 01.1	
	comp=Z,0.4nm,0.3s,baz=99,slow=29,SNR=4.0						
	comp=Z,4.9nm,1.1s						
NOA	**NORSAR Array B**	**8.52**	**290**	Pn	**Pn**	**06 48 21.2**	**-0.2**
	baz=95,slow=12,SNR=4.7						
NOA				Lg	Lg	06 50 44.7	
	baz=92,slow=13,SNR=1.7						
	comp=Z,0.8nm,1.0s						
ARCES	**ARCESS Array B**	**10.43**	**355**	Pn	**Pn**	**06 48 45.5**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=167,slow=14,SNR=6.2						
ARCES				Sn	Sn	06 50 36.6	-8.3
	baz=178,slow=27,SNR=1.0						
	comp=Z,5.0nm,0.9s						

IDC 29 06:59:22.9±2.8, 53°.89N×86°.46E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=21.5km s-min=13.1km az=69.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**274**	I	I	07 05 00.0	
	baz=95,slow=328,SNR=2.9						
ZALV	**Zalesovo Beam**	**0.97**	**274**	Pg	Pg	06 59 40.3	-1.3
	0.4nm,0.3s,baz=90,slow=18,SNR=3.8						
ZALV				Lg	Lg	06 59 55.6	
	1.3nm,0.3s,baz=92,slow=30,SNR=13						
KURBB	**Kurchatov Arra**	**5.87**	**239**	Pn	Pn	07 00 52.1	+1.1
	0.1nm,0.3s,baz=56,slow=13,SNR=3.0						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.58**	**202**	Pn	Pn	07 01 15.8	+1.1
	0.1nm,0.3s,baz=24,slow=14,SNR=2.4						
	0.1nm,0.3s						

*NNC **29** 07:00:19.9±3.7, 53°.69N×90°.42E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=27.4km s-min=19.9km az=59.0, Suspected Mining explosion.*

IDC 29 07:00:17.8±3.2, 53°.55N×90°.71E, h0km, mbtmp3.0/3, ML2.4/3, 10C-4D, Error ellipse: s-maj=27.1km s-min=21.6km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.52**	**279**	I	I	07 25 20.0	
	baz=90,slow=336,SNR=8.1						
ZAA0	**Zalesovo Array**	**3.52**	**279**	⇑Pg	Pb	07 01 22.6	+1.7
	0.1nm,0.3s						
ZAA0				⇑Lg	Lg	07 02 03.6	
	3.8nm,0.8s						
ZALV	**Zalesovo Beam**	**3.52**	**279**	Pn	Pn	07 01 13.9	+0.2
	0.3nm,0.3s,baz=95,slow=12,SNR=2.9						
ZALV				Pg	Pb	07 01 21.6	+0.6
	0.9nm,0.3s,baz=97,slow=15,SNR=11						
ZALV				Lg	Lg	07 02 09.7	
	1.6nm,0.3s,baz=93,slow=25,SNR=5.6						
	0.8nm,0.5s						
KURK	**Kurchatov**	**7.96**	**254**	⇓Pn	Pn	07 02 14.1	-0.6
	0.7nm,0.5s						
KURK				⇓Sn	Sn	07 03 45.7	+0.3
	2.1nm,0.5s						
KURK				⇑Lg	Lg	07 04 27.1	
	4.9nm,1.0s						
KURBB	**Kurchatov Arra**	**8.05**	**254**	Pn	Pn	07 02 15.4	-0.5
	0.1nm,0.3s,baz=65,slow=15,SNR=12						
KURBB				Sn	Sn	07 03 46.5	-1.1
	baz=66,slow=25,SNR=5.6						
KURBB				Lg	Lg	07 04 34.2	
	baz=69,slow=29,SNR=7.1						
	1.4nm,0.6s						
KURBB	**Kurchatov Arra**	**8.05**	**254**	⇑Pn	Pn	07 02 15.4	-0.5
	1.2nm,0.5s						
KURBB				⇓Sn	Sn	07 03 46.2	-1.4
	3.8nm,0.6s						
KURBB				⇑Lg	Lg	07 04 34.9	
	13nm,0.9s						
MK31	**Makanchi Array**	**8.65**	**222**	⇑Pn	Pn	07 02 26.4	+2.2
	0.2nm,0.5s,baz=39,slow=12,SNR=4.2						
MK31				⇑Sn	Sn	07 04 09.0	+6.6
	0.4nm,0.6s						
MK31				⇓Lg	Lg	07 04 53.0	
	4.0nm,0.9s,baz=44,slow=29,SNR=3.5						
MKAR	**Makanchi Array**	**8.65**	**222**	Pn	Pn	07 02 25.7	+1.5
	0.1nm,0.3s,baz=42,slow=14,SNR=7.6						
MKAR				Sn	Sn	07 03 59.7	-2.6
	0.1nm,0.3s,baz=42,slow=18,SNR=1.6						
MKAR				Lg	Lg	07 04 53.3	
	baz=33,slow=25,SNR=5.0						
	0.5nm,0.6s						
MAKZ	**Makanchi**	**8.77**	**223**	⇑Pn	Pn	07 02 26.0	+0.2
	0.2nm,0.5s						
MAKZ				⇑Sn	Sn	07 04 07.4	+2.2
	0.8nm,0.6s						
MAKZ				⇑Lg	Lg	07 05 00.7	
	3.2nm,1.1s						

IDC 29 07:01:32.3±3.5, 54°.54N×87°.12E, h0km, mbtmp2.9/2, ML2.2/2, Error ellipse: s-maj=30.9km s-min=20.2km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.47**	**247**	I	I	07 10 40.0	
	baz=68,slow=332,SNR=2.3						
ZALV	**Zalesovo Beam**	**1.47**	**247**	Pg	Pn	07 01 58.4	-1.7
	1.1nm,0.3s,baz=64,slow=20,SNR=2.7						
ZALV				Lg	Lg	07 02 19.2	
	2.1nm,0.3s,baz=63,slow=28,SNR=9.8						
KURBB	**Kurchatov Arra**	**6.54**	**237**	Pn	Pn	07 03 10.0	+0.4
	0.1nm,0.3s,baz=55,slow=14,SNR=9.9						
	1.2nm,0.6s						
MKAR	**Makanchi Array**	**8.33**	**204**	Pn	Pn	07 03 35.5	+1.3
	baz=14,slow=12,SNR=1.5						
	0.2nm,0.4s						

*TAP **29** 07:04:16.6, 24°.45N×122°.29E, h74km, ML3.1, C*
*JMA **29** 07:04:16.7±0.1, 25°.3N×122°.4E±1.0, h72km, MV2.3/10, TAIWAN REGION*

ISC 29 07:04:16.6±1.3, 24°.46N±0°.03×122°.32E±0°.02, h73km±6km, n73, σ0°.72/132, 4C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS2	**EOS2**	**0.09**	**243**	*i* P	**Pn**	**07 04 27.4**	**+0.4**
	baz=257						
EOS2				*e*S	**Sn**	**07 04 35.5**	**+0.9**
	baz=257						
EOS3	**EOS3**	**0.17**	**181**	*e*P	**Pn**	**07 04 27.7**	**+0.4**
	baz=206						
EOS3				*e*S	**Sn**	**07 04 35.8**	**+0.8**
	baz=206						
EOS4	**EOS4**	**0.34**	**180**	*e*P	**Pn**	**07 04 28.3**	**+0.4**
	baz=183						
ESAO	**Su ao**	**0.45**	**285**	P	**Pn**	**07 04 29.3**	**+0.1**
	baz=286						
ESAO				*e*S	**Sn**	**07 04 38.1**	**-0.3**
	baz=286						
TWC	**Suao**	**0.45**	**289**	⇑*i*P	**Pn**	**07 04 29.0**	**-0.2**
	baz=295						
TWC				S	**Sn**	**07 04 37.9**	**-0.6**
	baz=295						
EWUT	**Wuta**	**0.49**	**268**	P	**Pn**	**07 04 29.4**	**-0.2**
	baz=266						
EWUT				S	**Sn**	**07 04 38.6**	**-0.6**
	baz=266						
EGS		**0.52**	**317**	P	**Pn**	**07 04 30.1**	**+0.2**
	baz=320						
EGS				S	**Sn**	**07 04 38.8**	**-0.8**
	baz=320						
ENA	**Nanau**	**0.53**	**267**	*i* P	**Pn**	**07 04 29.8**	**-0.2**
	baz=267						
ENA				S	**Sn**	**07 04 39.8**	**0.0**
	baz=267						
EAHA	**Aohua**	**0.55**	**256**	*e*P	**Pn**	**07 04 30.1**	**0.0**
	baz=253						
EAHA				*e*S	**Sn**	**07 04 40.0**	**-0.1**
	baz=253						
JYNG	**Yonagunijimaku**	**0.57**	**91**	*e*P	**Pn**	**07 04 30.1**	**-0.2**
JYNG				*e*S	**Sn**	**07 04 40.4**	**-0.1**
NDS	**Dongshan**	**0.58**	**287**	P	**Pn**	**07 04 30.6**	**+0.2**
	baz=294						
NDS				S	**Sn**	**07 04 41.2**	**+0.6**
	baz=294						
ILA	**Ilan**	**0.60**	**300**	*e*P	**Pn**	**07 04 30.7**	**0.0**
	baz=307						
TWB1	**Santiao Chiao**	**0.62**	**331**	P	**Pn**	**07 04 30.8**	**-0.1**
	baz=326						
TWB1				S	**Sn**	**07 04 40.8**	**-0.7**
	baz=326						
YOJ	**Yonaguni jima**	**0.63**	**90**	*i* P	**Pn**	**07 04 31.1**	**+0.1**
	baz=89						
YOJ				S	**Sn**	**07 04 41.2**	**-0.4**
	baz=89						
YOJ	**Yonaguni jima**	**0.63**	**90**	*e*P	**Pn**	**07 04 30.8**	**-0.1**
YOJ				*e*S	**Sn**	**07 04 41.1**	**-0.4**
TWE	**Neicheng**	**0.65**	**294**	*i* P	**Pn**	**07 04 31.5**	**+0.4**
	baz=297						
TWE				S	**Sn**	**07 04 42.7**	**+0.8**
	baz=297						
TIPB	**Shuangxi**	**0.68**	**319**	⇓*i*P	**Pn**	**07 04 31.4**	**-0.1**
	baz=322						
TIPB				S	**Sn**	**07 04 42.0**	**-0.6**
	baz=322						
ETL	**Fush Village**	**0.70**	**245**	P	**Pn**	**07 04 31.2**	**-0.6**
	baz=238						
ETL				S	**Sn**	**07 04 42.4**	**-0.6**
	baz=238						
ENTT	**Nioudou**	**0.71**	**285**	⇑*i*P	**Pn**	**07 04 32.4**	**+0.5**
	baz=289						
ENTT				S	**Sn**	**07 04 43.6**	**+0.5**
	baz=289						
NACB	**Ninganchiao**	**0.72**	**247**	P	**Pn**	**07 04 31.2**	**-0.7**
	baz=240						
NACB				*e*S	**Sn**	**07 04 42.8**	**-0.5**
	baz=240						
LATG	**Datong**	**0.73**	**276**	⇑*i*P	**Pn**	**07 04 32.4**	**+0.2**
	baz=271						
LATG				S	**Sn**	**07 04 43.7**	**+0.1**
	baz=271						
FUSB	**Fushanzhiwuyua**	**0.73**	**294**	⇑*i*P	**Pn**	**07 04 32.5**	**+0.3**
	baz=301						
FUSB				S	**Sn**	**07 04 44.0**	**+0.4**
	baz=301						
NDT	**Datong Townshi**	**0.75**	**281**	⇓*i*P	**Pn**	**07 04 33.0**	**+0.7**
	baz=276						
NDT				S	**Sn**	**07 04 44.7**	**+0.8**
	baz=276						
SXI1	**Grass Mountain**	**0.75**	**327**	*i* P	**Pn**	**07 04 32.0**	**-0.4**
	baz=331						
SXI1				S	**Sn**	**07 04 44.0**	**0.0**
	baz=331						
TWD	**Chiawan**	**0.76**	**240**	*i* P	**Pn**	**07 04 31.6**	**-0.8**
	baz=234						
TWD				*i* S	**Sn**	**07 04 43.0**	**-1.0**
	baz=234						
NWF	**Wu-fen Shan**	**0.78**	**321**	*i* P	**Pn**	**07 04 32.5**	**-0.2**
	baz=314						
NWF				S	**Sn**	**07 04 44.5**	**-0.1**
	baz=314						
WFSB	**Wu-fen Shan**	**0.78**	**321**	P	**Pn**	**07 04 32.8**	**+0.2**
	baz=316						
WFSB				S	**Sn**	**07 04 44.1**	**-0.4**
	baz=316						
ETLH	**Xiulin Townshi**	**0.81**	**252**	*e*P	**Pn**	**07 04 32.5**	**-0.5**
	baz=251						
ETLH				S	**Sn**	**07 04 45.1**	**-0.1**
	baz=251						
NWLT	**Wulai**	**0.81**	**293**	P	**Pn**	**07 04 33.8**	**+0.8**
	baz=297						
NWLT				S	**Sn**	**07 04 45.8**	**+0.7**
	baz=297						
HWA	**Hwalien**	**0.81**	**234**	*e*P	**Pn**	**07 04 33.5**	**+0.5**
	baz=226						
HWA				*e*S	**Sn**	**07 04 45.1**	**0.0**
	baz=226						
TNOU	**National Taiwa**	**0.85**	**324**	*e*P	**Pn**	**07 04 33.3**	**-0.1**
	baz=325						
TNOU				*e*S	**Sn**	**07 04 45.9**	**0.0**
	baz=325						
NNSB	**Datong**	**0.85**	**268**	P	**Pn**	**07 04 33.6**	**0.0**
	baz=262						
NNSB				S	**Sn**	**07 04 46.0**	**-0.2**
	baz=262						
NNS	**Nan Shan**	**0.86**	**269**	P	**Pn**	**07 04 34.2**	**+0.5**
	baz=262						
NNS				*e*S	**Sn**	**07 04 47.4**	**+1.0**
	baz=262						
NHDH	**Xindian Distri**	**0.88**	**305**	*e*P	**Pn**	**07 04 33.7**	**0.0**
	baz=314						
NHDH				*e*S	**Sn**	**07 04 46.4**	**-0.2**
	baz=314						
YHNB	**Yeheng**	**0.89**	**284**	*i* P	**Pn**	**07 04 34.1**	**+0.2**
	baz=284						
YHNB				S	**Sn**	**07 04 46.9**	**+0.1**
	baz=284						
NSK	**Sanguang**	**0.90**	**284**	*i* P	**Pn**	**07 04 35.0**	**+0.9**
	baz=277						
NSK				*i* S	**Sn**	**07 04 47.5**	**+0.4**
	baz=277						
ETM	**Tongmen**	**0.90**	**237**	P	**Pn**	**07 04 33.6**	**-0.5**
	baz=229						
ETM				*e*S	**Sn**	**07 04 45.9**	**-1.1**
	baz=229						

LXIB	**Xiulin Townshi**	**0.94**	**242**	P	**Pn**	**07 04 33.9**	**-0.7**
	baz=242						
LXIB				*e*S	**Sn**	**07 04 46.8**	**-1.2**
	baz=242						
SHUL	**Shoufeng**	**0.96**	**226**	*e*P	**Pn**	**07 04 35.0**	**+0.2**
	baz=225						
SHUL				*e*S	**Sn**	**07 04 47.6**	**-0.8**
	baz=225						
YM01	**YM01**	**0.96**	**315**	*e*P	**Pn**	**07 04 34.4**	**-0.5**
	baz=316						
YM01				*e*S	**Sn**	**07 04 48.3**	**-0.1**
	baz=316						
YM08	**YM08**	**0.98**	**318**	*e*P	**Pn**	**07 04 34.6**	**-0.5**
	baz=311						
YM08				*e*S	**Sn**	**07 04 47.4**	**-1.4**
	baz=311						
WHF	**Hehuan Shan**	**1.01**	**252**	*i* P	**Pn**	**07 04 35.8**	**-0.1**
	baz=251						
WHF				*i* S	**Sn**	**07 04 48.9**	**-1.2**
	baz=251						
ESL	**Shilin**	**1.04**	**232**	*e*P	**Pn**	**07 04 34.6**	**-1.1**
	baz=225						
ESL				*e*S	**Sn**	**07 04 48.7**	**-1.2**
	baz=225						
TWS1	**Kuangyinshan**	**1.04**	**308**	P	**Pn**	**07 04 36.0**	**+0.2**
	baz=315						
TWS1				*e*S	**Sn**	**07 04 50.9**	**+0.9**
	baz=315						
TWT	**Tachien**	**1.06**	**259**	*i* P	**Pn**	**07 04 37.2**	**+1.0**
	baz=256						
TWT				*i* S	**Sn**	**07 04 51.2**	**+0.3**
	baz=256						
TDCB	**Techi**	**1.08**	**259**	*i* P	**Pn**	**07 04 37.1**	**+0.7**
	baz=256						
TDCB				S	**Sn**	**07 04 50.7**	**-0.4**
	baz=256						
NFF	**Wufeng Townshi**	**1.11**	**279**	*i* P	**Pn**	**07 04 37.6**	**+1.0**
	baz=287						
NFF				*i* S	**Sn**	**07 04 52.5**	**+0.8**
	baz=287						
CHGB	**Renai**	**1.12**	**249**	P	**Pn**	**07 04 37.3**	**+0.4**
	baz=242						
CHGB				S	**Sn**	**07 04 51.4**	**-0.8**
	baz=242						
WARBT	**Fenglin Townsh**	**1.13**	**229**	*e*P	**Pn**	**07 04 36.1**	**-0.8**
	baz=223						
EGFH	**Guangfu**	**1.14**	**226**	*e*S	**Sn**	**07 04 51.2**	**-1.0**
	baz=220						
NCUH	**Zhongli**	**1.15**	**296**	*e*P	**Pn**	**07 04 37.7**	**+0.6**
	baz=297						
NCUH				*e*S	**Sn**	**07 04 53.0**	**+0.5**
	baz=297						
OWD	**Renai**	**1.16**	**244**	*e*P	**Pn**	**07 04 36.8**	**-0.6**
	baz=239						
OWD				*e*S	**Sn**	**07 04 51.4**	**-1.5**
	baz=239						
WUSB	**Renai**	**1.19**	**247**	P	**Pn**	**07 04 38.3**	**+0.4**
	baz=242						
WUSB				S	**Sn**	**07 04 53.1**	**-0.6**
	baz=242						
NSTT	**Nanjuang**	**1.21**	**278**	P	**Pn**	**07 04 38.9**	**+1.0**
	baz=278						
NSTT				S	**Sn**	**07 04 54.5**	**+0.5**
	baz=278						
HGSD	**Ruisui**	**1.27**	**221**	*e*P	**Pn**	**07 04 39.6**	**+1.0**
	baz=220						
HGSD				*e*S	**Sn**	**07 04 54.4**	**-0.7**
	baz=220						
WHP	**Taichung City**	**1.27**	**262**	P	**Pn**	**07 04 39.9**	**+1.2**
	baz=259						
WHP				S	**Sn**	**07 04 56.0**	**+0.8**
	baz=259						
VWDT	**VWDT**	**1.29**	**237**	*e*P	**Pn**	**07 04 39.1**	**+0.2**
	baz=231						
VWDT				*e*S	**Sn**	**07 04 54.5**	**-1.1**
	baz=231						
HATJ	**Hateruma jima**	**1.41**	**106**	*e*S	**Sn**	**07 04 59.2**	**+0.7**
SSLB	**Suanglung**	**1.42**	**242**	*e*P	**Pn**	**07 04 41.9**	**+1.2**
	baz=237						
SSLB				*e*S	**Sn**	**07 04 58.4**	**-0.3**
	baz=237						
YULB	**Yu-li**	**1.42**	**222**	*e*P	**Pn**	**07 04 40.4**	**-0.2**
	baz=229						
SMLT	**Sun Moon Lake**	**1.42**	**246**	*e*P	**Pn**	**07 04 41.8**	**+1.0**
	baz=239						
EYUL	**Yuli**	**1.44**	**220**	*e*P	**Pn**	**07 04 42.3**	**+1.4**
	baz=227						
EYUL				*e*S	**Sn**	**07 04 59.6**	**+0.4**
	baz=227						
WHYT	**Xinyi Township**	**1.54**	**241**	*e*P	**Pn**	**07 04 43.8**	**+1.5**
	baz=236						
JKRS	**Kuro-shima**	**1.56**	**98**	*e*P	**Pn**	**07 04 42.7**	**+0.3**
JKRS				*e*S	**Sn**	**07 05 02.0**	**+0.1**
JIJ	**Ishigaki jima**	**1.66**	**93**	*e*P	**Pn**	**07 04 43.9**	**+0.1**
JIJ				S	**Sn**	**07 05 03.4**	**-1.1**
ALS	**Alishan**	**1.68**	**236**	*e*P	**Pn**	**07 04 45.4**	**+1.1**
	baz=228						
CHN5	**Tsauling**	**1.73**	**241**	*e*P	**Pn**	**07 04 46.6**	**+1.8**
	baz=231						
JISG	**Ishigakijimahi**	**1.82**	**86**	S	**Sn**	**07 05 08.0**	**-0.1**
TPUB	**Ta-pu**	**1.93**	**234**	*e*P	**Pn**	**07 04 47.3**	**-0.1**
	baz=233						
TPUB				*e*S	**Sn**	**07 05 11.4**	**+0.5**
	baz=233						
JTJ	**Tarama**	**2.18**	**85**	*e*S	**Sn**	**07 05 16.7**	**0.0**
VWUC	**VWUC**	**2.66**	**282**	*e*P	**Pn**	**07 04 56.8**	**-0.5**
	baz=281						
VWUC				*e*S	**Sn**	**07 05 25.5**	**-3.0**
	baz=281						
JMJ2	**Miyako jima3**	**2.75**	**84**	*e*P	**Pn**	**07 04 58.8**	**+0.3**
LYJJ	**Jianjiangzhen**	**3.11**	**312**	*e*P	**Pn**	**07 05 03.6**	**+0.3**
	baz=311						

DJA 29 07:26:37.6±0.5, 2°.N±4°.×126°.6E±°, h79km±16km, M4.3/9, mb4.7/2, mB5.6/1, MLv4.1/9, Mw(mB)5.1/1, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.87**	**358**	P	Pn	07 27 07.9	+0.1
TNTI	**Ternate**	**2.05**	**120**	P	Pn	07 27 11.0	+0.9
GTOI	**Gorontalo**	**2.83**	**246**	P	Pn	07 27 21.3	+0.7
LBMI	**Labuha**	**3.08**	**142**	P	Pn	07 27 24.4	+0.3
SANI	**Sanana**	**3.84**	**174**	P	Pn	07 27 32.6	-1.8
LUWI	**Luwuk**	**3.99**	**225**	P	Pn	07 27 39.2	+2.8
NLAI	**Namlea**	**5.23**	**163**	P	Pn	07 27 52.7	-0.6
	24nm,0.8s,7μm0.4nm						

*BJI **29** 07:30:54.5±0.0, 5°.51S×151°.34E, h130km, mb5.2/79, mB5.1/38*
*MOS **29** 07:30:57.8±0.9, 5°.31S×150°.69E, h131km, mb4.8/44, Error ellipse: s-maj=9.7km s-min=5.6km az=102.6*
*NEIC **29** 07:30:58.8±1.6, 5°.38S±0°.02×150°.81E±0°.07, h126km±6km, mb5.0/100, Error ellipse: s-maj=10.3km s-min=2.9km az=91.0*
*GCMT **29** 07:30:58.8±0.2, 5°.41S±0°.01×150°.74E±0°.01, h123km±1km, MW5.1/143, Moment Tensor Solution. s79,c94; s143,c219; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.73±.10; $M_{\theta\theta}$4.61±.13; $M_{\phi\phi}$0.11±.13; $M_{r\theta}$-2.68±.10; $M_{\theta\phi}$1.95±.13; $M_{\phi r}$-0.30±.10; Best double couple: M_o5.71700×10^{16} NP1:ϕ_s77.00000°, δ59.00000°, λ-82.00000°. NP2:ϕ_s241.00000°, δ32.00000°, λ-103.00000°. Principal axes: T

MANU **Manus Island** 4.79 314 **Pn** 07 32 10.3 +1.2
PMG **Port Moresby** 5.37 222 **Pn** 07 32 15.8 -1.1
PMG **Port Moresby** 5.37 222 P **Pn** 07 32 16.4 -0.5
437nm,0.4s,baz=51,slow=6.1,SNR=68
PMG S **Sn** 07 33 14.6 -3.3
974nm,0.4s,baz=340,slow=19,SNR=7.5
HNR **Honiara** 9.91 114 Pn **Pn** 07 33 18.4 +0.4
HNR **Honiara** 9.91 114 P **Pn** 07 33 19.2 +1.3
4µm,0.9s,baz=227,slow=3.7,SNR=14
HNR S **Sn** 07 35 07.7 +0.2
396nm,0.3s,baz=345,slow=14,SNR=1.2
COEN **Coen** 11.34 221 P **Pn** 07 33 35.3 -1.8
baz=11,SNR=43
COEN **Coen** 11.34 221 P **Pn** 07 33 37.0 -0.1
COEN **Coen** 11.34 221 **Pn** 07 33 36.7 -0.4
MTSU **Mount Surprise** 14.15 206 P **Pn** 07 34 14.8 +1.3
baz=14,SNR=63
MTSU **Mount Surprise** 14.15 206 P **Pn** 07 34 14.7 +1.3
PATS **Pohnpei** 14.28 32 **P** 07 34 18.1 -0.3
TV1H **Townsville Har** 14.32 195 P **P** 07 34 17.7 -1.0
CTA **Charters Tower** 15.25 196 P **Pn** 07 34 27.4 +0.1
69nm,0.9s,baz=149,slow=0.0,SNR=24
CTAO **Charters Tower** 15.25 196 P **Pn** 07 34 28.3 +1.0
CTAO **Charters Tower** 15.25 196 **P** 07 34 28.4 -0.7
CTAO **Charters Tower** 15.25 196 P **P** 07 34 28.4 -0.7
RK1H **Rockhampton Ha** 17.88 181 P **Pn** 07 35 00.6 +1.3
QIS **Mount Isa** 18.58 215 P **Pn** 07 35 07.0 -0.6
baz=19,SNR=27
QIS **Mount Isa** 18.58 215 P **Pn** 07 35 07.3 -0.3
KDU **Kakadu** 19.48 247 P **P** 07 35 15.3 -0.4
baz=19,SNR=81
KDU **Kakadu** 19.48 247 P **P** 07 35 15.4 -0.3
GUMO **Guam** 19.77 343 P **Pn** 07 35 20.3 -1.2
602nm,1.1s,baz=152,slow=14,SNR=11
EIDS **Eidsvold** 19.85 179 P **P** 07 35 21.3 +1.8
baz=20,SNR=20
EIDS **Eidsvold** 19.85 179 P **P** 07 35 21.3 +1.8
EIDS **Eidsvold** 19.85 179 P **P** 07 35 20.9 +1.3
KOUNC **Koumac, New Ca** 19.95 140 P **P** 07 35 21.8 +1.1
SWI **Sorong** 20.02 282 P **P** 07 35 19.9 -1.6
57nm,1.0s
MTN **Manton Dam** 20.77 248 P **P** 07 35 28.9 -0.7
baz=21,SNR=17
MTN **Manton Dam** 20.77 248 P **P** 07 35 28.8 -0.7
DRS **Darwin Rock St** 20.86 249 P **P** 07 35 30.0 -0.4
WRAB **Tennant Creek** 21.56 226 P **P** 07 35 37.0 -1.0
WRAB **Tennant Creek** 21.56 226 *i* P **P** 07 35 38.0 +0.1
WRAB pmax pmax
comp=Z,40nm,0.9s
WB2 **Warramunga Arr** 21.56 226 P **P** 07 35 37.0 -1.0
baz=22
WRA **Warramunga Arr** 21.57 226 P **P** 07 35 37.7 -0.4
comp=Z,15nm,0.3s,baz=52,slow=9.8,SNR=110
WRA S **S** 07 39 27.4 -1.9
comp=Z,37nm,1.1s,baz=47,slow=17,SNR=14
WRA ScP **ScP** 07 43 01.0 +0.8
comp=Z,1.8nm,0.5s,baz=50,slow=2.7,SNR=11
WRA LR LR 07 45 14.6
comp=Z,362nm,19.3s,baz=66,slow=40
WRA PKiKP **PKiKP** 07 47 20.8 -1.2
comp=Z,0.6nm,0.7s,baz=339,slow=0.7,SNR=5.0
comp=Z,15nm,0.3s
QLP **Quilpie** 21.97 196 P **P** 07 35 43.1 +0.9
baz=22,SNR=31
QLP **Quilpie** 21.97 196 P **P** 07 35 43.6 +1.4
DZM **Mont Dzumac** 22.44 139 P **P** 07 35 48.2 +1.2
DZM **Mont Dzumac** 22.44 139 P **P** 07 35 47.5 +0.5
DZM **Mont Dzumac** 22.44 139 *e*P **P** 07 35 48.1 +1.1
comp=Z,119nm,0.9s
DZM *e*S **S** 07 39 45.4 +1.4
comp=Z,701nm,23.9s
DZM *e*LR LR 07 41 21.0
comp=Z,1µm,31.3s
KNRA **Kununurra** 23.93 243 P **P** 07 36 01.0 +0.2
baz=24,SNR=37
KNRA **Kununurra** 23.93 243 P **P** 07 36 01.0 +0.2
KNRA **Kununurra** 23.93 243 P **P** 07 36 00.8 0.0
INKA **Innaminka** 24.19 202 P **P** 07 36 04.0 +1.0
AS01 **Alice Springs** 24.35 220 P **P** 07 36 05.6 +0.9
AS31 **Alice Springs** 24.38 220 P **P** 07 36 05.7 +0.7
ASAR **Alice Springs** 24.39 220 P **P** 07 36 04.6 -0.4
ASAR **Alice Springs** 24.39 220 P **P** 07 36 05.3 +0.3
comp=Z,34nm,0.7s,baz=54,slow=8.3,SNR=459
ASAR PcP **PcP** 07 39 40.2 -0.7
comp=Z,4.1nm,0.7s,baz=66,slow=1.7,SNR=5.6
ASAR S **S** 07 40 13.9 -1.3
comp=Z,2.4nm,0.6s,baz=46,slow=13,SNR=4.8
ASAR ScP **ScP** 07 43 08.8 +1.2
comp=Z,4.3nm,0.9s,baz=51,slow=3.7,SNR=9.6
ASAR LR LR 07 46 25.9
comp=Z,258nm,18.9s,baz=104,slow=38
ASAR PKiKP **PKiKP** 07 47 21.9 -1.4
comp=Z,0.3nm,0.5s,baz=91,slow=0.9,SNR=4.2
comp=Z,34nm,0.7s
ASPA **Alice Springs** 24.39 220 P **P** 07 36 05.6 +0.6
baz=24
ARMA **Armidale** 24.89 178 P **P** 07 36 11.2 +1.6
baz=25,SNR=4.6
ARMA **Armidale** 24.89 178 P **P** 07 36 10.9 +1.3
ARMA **Armidale** 24.89 178 P **P** 07 36 10.3 +0.7
CMSA **Cobar Meteorol** 26.44 190 P **P** 07 36 24.4 +1.1
baz=27,SNR=17
CMSA **Cobar Meteorol** 26.44 190 P **P** 07 36 24.5 +1.1
OOD **Oodnadatta** 26.50 211 P **P** 07 36 24.5 +0.5
SOEI **Soe** 26.65 259 P **P** 07 36 23.8 -1.9
SOEI IAmb IAmb 07 36 48.7
comp=Z,43nm,1.0s
BATI **Baumata** 27.30 258 P **P** 07 36 31.6 +0.2
comp=Z,25nm,0.3s,baz=94,slow=13,SNR=5.5
comp=Z,25nm,0.3s
BATI **Baumata** 27.30 258 P **P** 07 36 31.6 +0.2
comp=Z,27nm,0.8s
LCRK **Leigh Creek** 27.59 204 P **P** 07 36 34.4 +0.7
FITZ **Fitzroy Crossi** 27.63 241 P **P** 07 36 34.1 -0.1
baz=28,SNR=42
FITZ **Fitzroy Crossi** 27.63 241 P **P** 07 36 34.1 -0.1
FITZ **Fitzroy Crossi** 27.63 241 P **P** 07 36 33.5 -0.7
STKA **Stephens Creek** 27.71 197 P **P** 07 36 35.3 +0.5
baz=28,SNR=13
STKA **Stephens Creek** 27.71 197 P **P** 07 36 35.4 +0.6
STKA **Stephens Creek** 27.71 197 P **P** 07 36 35.4 +0.6
STKA **Stephens Creek** 27.71 197 P **P** 07 36 35.2 +0.5
comp=Z,9.8nm,0.9s,baz=5.4,slow=9.0,SNR=19
STKA ScP **ScP** 07 43 19.4 +2.3
comp=Z,5.4nm,1.0s,baz=135,slow=4.3,SNR=4.0
STKA LR LR 07 47 09.8
comp=Z,163nm,18.6s,baz=34,slow=35
comp=Z,9.8nm,0.9s
FUNA **Funafuti** 28.35 98 P **P** 07 36 40.2 -0.4
EDFI **Ende, Flores** 29.08 262 P **P** 07 36 46.2 -1.0
comp=Z,16nm,0.8s
WRKA **Warakurna** 29.11 226 P **P** 07 36 47.1 -0.2
baz=29,SNR=87
WRKA **Warakurna** 29.11 226 P **P** 07 36 47.3 0.0
MULG **Mulgathing** 29.35 211 P **P** 07 36 49.2 -0.1
HTT **Hallett** 30.00 200 P **P** 07 36 55.8 +0.8
baz=30,SNR=14
HTT **Hallett** 30.00 200 P **P** 07 36 55.7 +0.6
BASI **Baing, Sumba** 30.31 259 P **P** 07 36 57.8 -0.2
comp=Z,92nm,0.7s
BBOO **Buckleboo** 30.54 205 P **P** 07 36 59.8 0.0
baz=31,SNR=7.1
BBOO **Buckleboo** 30.54 205 P **P** 07 36 59.8 0.0
BBOO **Buckleboo** 30.54 205 P **P** 07 36 58.9 -0.9
BBOO IAmb IAmb 07 37 32.8
comp=Z,65nm,1.9s
ARPS **Mount Arapiles** 32.28 194 P **P** 07 37 16.7 +1.7
baz=32
TOO **Toolangi** 32.38 188 P **P** 07 37 18.4 +2.5
baz=33,SNR=4.3
TOO **Toolangi** 32.38 188 P **P** 07 37 17.4 +1.4
TOO **Toolangi** 32.38 188 P **P** 07 37 17.4 +1.4
TOO pmax pmax
comp=Z,25nm,1.3s
PLAI **Plampang** 32.94 262 P **P** 07 37 19.7 -1.4
comp=Z,34nm,1.0s
PLAI **Plampang** 32.94 262 P **P** 07 37 19.2 -1.9
comp=Z,36nm,1.3s
FORT **Forrest** 33.08 218 P **P** 07 37 22.2 +0.1
baz=33,SNR=33
FORT **Forrest** 33.08 218 P **P** 07 37 22.3 +0.2
FORT **Forrest** 33.08 218 P **P** 07 37 22.0 -0.1
JCJ **Chichijima** 33.37 346 LR LR 07 50 20.6
comp=Z,151nm,18.9s,baz=75,slow=35
TWSI **Taliwang, Sumb** 33.82 262 P **P** 07 37 27.3 -1.4
comp=Z,31nm,1.0s

MBWA **Marble Bar** 33.95 240 P **P** 07 37 29.4 -0.3
MBWA **Marble Bar** 33.95 240 P **P** 07 37 29.5 -0.3
MBWA IAmb IAmb 07 37 31.5
comp=Z,26nm,0.8s
MBWA **Marble Bar** 33.95 240 P **P** 07 37 29.5 -0.3
PSA00 **Pilbara Seismi** 34.02 239 P **P** 07 37 30.1 -0.2
PSA00 **Pilbara Seismi** 34.02 239 P **P** 07 37 29.8 -0.6
PSA00 IAmb IAmb 07 37 32.2
comp=Z,57nm,1.1s
TGY **Tagaytay City** 35.41 303 P **P** 07 37 41.9 -0.6
comp=Z,139nm,0.5s,baz=263,slow=3.5,SNR=7.1
OUZ **Omahuta** 36.37 148 P **P** 07 37 52.4 +2.1
JAGI **Jajag, Banyuwa** 36.50 263 P **P** 07 37 50.4 -1.3
JAGI **Jajag, Banyuwa** 36.50 263 P **P** 07 37 50.2 -1.5
comp=Z,34nm,1.1s
MEEK **Meekatharra** 37.26 232 P **P** 07 37 57.9 -0.1
baz=37,SNR=195
MEEK **Meekatharra** 37.26 232 P **P** 07 37 58.2 +0.1
KMBL **Kambalda** 37.45 223 P **P** 07 37 59.2 -0.3
baz=38,SNR=45
KMBL **Kambalda** 37.45 223 P **P** 07 37 59.6 +0.1
JOW **Kunigami** 38.77 327 P **P** 07 38 11.1 +0.5
GIRL **Giralia** 39.24 240 P **P** 07 38 14.6 0.0
baz=39,SNR=11
GIRL **Giralia** 39.24 240 P **P** 07 38 15.2 +0.6
GIRL **Giralia** 39.24 240 P **P** 07 38 14.5 0.0
TOZ **Tahuroa Road** 39.27 148 P **P** 07 38 16.2 +1.6
TOZ IAmb IAmb 07 38 19.3
comp=Z,32nm,1.3s
QRZ **Quartz Range** 40.29 154 P **P** 07 38 24.1 +1.1
MORW **Morawa** 40.43 230 P **P** 07 38 24.0 -0.4
baz=40,SNR=11
MORW **Morawa** 40.43 230 P **P** 07 38 24.4 0.0
MORW **Morawa** 40.43 230 P **P** 07 38 23.7 -0.7
KLBR **Kellerberrin** 40.45 226 P **P** 07 38 24.0 -0.6
baz=40,SNR=13
KLBR **Kellerberrin** 40.45 226 P **P** 07 38 24.1 -0.4
URZ **Urewera** 40.51 148 P **P** 07 38 26.8 +2.0
URZ **Urewera** 40.51 148 LR LR 07 52 08.3
comp=Z,103nm,19.9s,baz=332,slow=31
TKNZ **Takaka Hill** 40.64 154 P **P** 07 38 27.4 +1.4
BLDU **Ballidu** 40.69 228 P **P** 07 38 25.9 -0.6
baz=41,SNR=14
BLDU **Ballidu** 40.69 228 P **P** 07 38 26.2 -0.3
RTZ **Ruatahuna** 40.70 148 P **P** 07 38 27.8 +1.2
RTZ IAmb IAmb 07 38 30.1
comp=Z,20nm,0.8s
NACB **Ninganchiao** 40.92 317 P **P** 07 38 29.0 +0.6
NACB **Ninganchiao** 40.92 317 P **P** 07 38 29.2 +0.8
NACB IAmb IAmb 07 38 34.3
comp=Z,44nm,0.9s
THZ **Tophouse** 41.22 155 P **P** 07 38 31.8 +1.1
TCW **Tory Channel** 41.37 153 P **P** 07 38 33.2 +1.3
TUWZ **Tuamarina** 41.40 153 P **P** 07 38 33.6 +1.5
INZ **Inchbonnie** 41.42 157 P **P** 07 38 32.9 +0.6
INZ IAmb IAmb 07 38 53.3
comp=Z,46nm,1.4s
MRZ **Mangatainoka R** 41.55 151 P **P** 07 38 34.0 +0.6
MRZ IAmb IAmb 07 38 36.6
comp=Z,25nm,1.0s
NWAO **Narrogin (SRO)** 41.56 225 P **P** 07 38 33.3 -0.2
baz=42,SNR=6.0
NWAO P **P** 07 38 33.3 -0.2
baz=42,SNR=6.0
NWAO **Narrogin (SRO)** 41.56 225 P **P** 07 38 33.1 -0.5
NWAO **Narrogin (SRO)** 41.56 225 LR LR 07 56 13.4
comp=Z,196nm,20.8s,baz=38,slow=36
BSWZ **Bikroch Sta** 41.60 154 P **P** 07 38 34.4 +0.6
JCZ **Jackson Bay** 41.63 160 P **P** 07 38 36.0 +1.9
SNZO **South Karori** 41.65 153 P **P** 07 38 35.8 +1.7
KPJI **Karang Pucung** 41.65 265 P **P** 07 38 35.1 +0.6
comp=Z,19nm,0.5s
MUN **Mundaring** 41.77 226 P **P** 07 38 35.2 -0.1
baz=42,SNR=8.8
MUN **Mundaring** 41.77 226 P **P** 07 38 35.5 +0.2
BHW **Baring Head** 41.80 153 P **P** 07 38 35.9 +0.5
BHW IAmb IAmb 07 38 37.9
comp=Z,32nm,1.0s
LTZ **Lake Taylor** 41.80 156 P **P** 07 38 36.1 +0.7
LTZ IAmb IAmb 07 38 40.5
comp=Z,22nm,0.9s
BFZ **Birch Farm** 41.88 151 P **P** 07 38 37.2 +1.1
KHZ **Kahutara** 42.02 155 P **P** 07 38 38.2 +1.1
JMN **Monobe** 42.09 339 P **P** 07 38 39.1 +1.2
JMN **Monobe** 42.09 339 P **P** 07 38 38.6 +0.8
PLWZ **Palliser** 42.10 152 P **P** 07 38 38.5 +0.6
RPZ **Rata Peaks** 42.12 158 P **P** 07 38 39.8 +1.8
RPZ **Rata Peaks** 42.12 158 P **P** 07 38 39.2 +1.3
RPZ IAmb IAmb 07 38 41.3
comp=Z,53nm,1.2s
OXZ **Oxford** 42.17 157 P **P** 07 38 39.5 +1.2
RKGY **Rocky Gully** 42.69 223 P **P** 07 38 43.2 +0.6
baz=43,SNR=9.0
JNU **Nakatsue** 42.73 335 P **P** 07 38 44.0 +1.0
JNU **Nakatsue** 42.73 335 P **P** 07 38 43.3 +0.3
BBJI **Bungbulang** 42.92 265 P **P** 07 38 45.3 +0.4
KNMB **Chin-men Tao** 43.34 315 P **P** 07 38 49.5 +1.5
MJAR **Matsushiro Arr** 43.36 345 P **P** 07 38 47.1 -1.0
comp=Z,14nm,0.9s,baz=164,slow=8.1,SNR=21
MJAR LR LR 07 55 43.9
comp=Z,96nm,18.6s,baz=154,slow=34
comp=Z,14nm,0.9s
MAJO **Matsushiro** 43.36 345 P **P** 07 38 47.5 -0.6
MAJO IAmb IAmb 07 38 48.4
comp=Z,33nm,1.1s
MAJO **Matsushiro** 43.36 345 P **P** 07 38 47.5 -0.6
MAJO pmax pmax
comp=Z,33nm,1.1s
MJB9 **Matsu-Tunnel** 43.37 345 P **P** 07 38 48.5 +0.5
MJB9 IAmb IAmb 07 38 49.4
comp=Z,32nm,1.1s
QZH **Quanzhou** 43.49 315 ⇓ *i*P **P** 07 38 50.8 +1.5
QZH pP **pwP** 07 39 20.8 -0.3
QZH pmax pmax
comp=Z,97nm,0.9s
JMM **Marumori** 44.05 349 P **P** 07 38 53.4 -0.1
JMM IAmb IAmb 07 38 54.4
comp=Z,37nm,1.0s
JTM **Tenmabayashi** 46.83 350 P **P** 07 39 16.2 +0.9
JTM **Tenmabayashi** 46.83 350 P **P** 07 39 15.1 -0.2
TJN **Taejon** 47.01 334 P **P** 07 39 18.0 +1.2
TJN **Taejon** 47.01 334 *ce*P **P** 07 39 17.0 +0.2
KSRS **Korea Array** 47.68 335 P **P** 07 39 23.6 +1.6
comp=Z,51nm,0.8s,baz=152,slow=8.8,SNR=121
KSRS PcP **PcP** 07 40 48.7 -0.6
comp=Z,2.0nm,0.8s,baz=168,slow=3.4,SNR=2.2
comp=Z,51nm,0.8s
KSAR **Wonju Array Be** 47.68 335 P **P** 07 39 23.2 +1.2
KSAR **Wonju Array Be** 47.68 335 P **P** 07 39 23.2 +1.2
KS19 **Wonju Array Si** 47.74 335 P **P** 07 39 23.6 +1.1
NJ2 **Nanjing** 48.09 323 ⇓ P **P** 07 39 27.0 +1.7
NJ2 pP **pwP** 07 39 57.3 -0.2
NJ2 sP **sP** 07 40 09.5 0.0
NJ2 pmax pmax
comp=Z,32nm,0.9s
INCN **Inchon** 48.25 334 P **P** 07 39 28.0 +1.6
INCN **Inchon** 48.25 334 P **P** 07 39 28.0 +1.6
INCN pmax pmax
comp=Z,317nm,1.2s
INCN **Inchon** 48.25 334 P **P** 07 39 28.0 +1.6
INCN pP **pwP** 07 39 58.3 -0.6
JKA **Kamikawa-asahi** 49.84 352 P **P** 07 39 38.7 +0.3
ASAJ **Asahikawa** 49.85 352 P **P** 07 39 38.7 +0.3
ASAJ pmax pmax
comp=Z,68nm,1.5s
ASAJ **Asahikawa** 49.85 352 LR LR 08 00 19.9
comp=Z,60nm,20.1s,baz=155,slow=35
WHN **Wuhan** 49.94 318 ⇓ P **P** 07 39 41.0 +1.6
WHN pP **pwP** 07 40 11.3 +1.8
WHN pmax pmax
comp=Z,270nm,1.4s
MSHR **Mys Shultsa** 50.99 341 *i* P **P** 07 39 47.0 0.0
MSHR pmax pmax
comp=Z,9.0nm,1.0s
DL2 **Dalian** 51.70 331 P **P** 07 39 53.3 +0.9
DL2 pmax pmax
comp=Z,190nm,0.9s
TIA **Tai'an** 52.05 325 P **P** 07 39 55.8 +0.7
TIA pmax pmax
comp=Z,25nm,0.8s
USA0B **Ussuriysk Arra** 52.21 343 *i* P **P** 07 39 56.1 0.0
USRK **Ussuriysk Ar.** 52.21 343 P **P** 07 39 56.2 +0.1
comp=Z,11nm,0.9s,baz=167,slow=7.1,SNR=12
comp=Z,11nm,0.9s

YSS **Yuzh-Sakhalins** 52.62 353 *e*P **P** 07 39 58.7 -0.3
YSS *e* 07 40 31.6
YSS pmax pmax
comp=Z,30nm,1.1s
SLVN **Son La** 53.10 302 P **P** 07 40 03.9 +0.7
SLVN IAmb IAmb 07 40 06.0
comp=Z,17nm,1.1s
GYA **Guiyang** 53.20 309 ⇓ P **P** 07 40 06.3 +2.4
GYA pmax pmax
comp=Z,21nm,1.3s
MDJ **Mudanjiang** 53.32 341 P **P** 07 40 05.0 +0.8
MDJ pP pP 07 40 35.3 +0.8
MDJ sP sP 07 40 50.0 +1.2
MDJ PcP **PcP** 07 41 13.5 +3.4
MDJ S **S** 07 47 21.5 -4.2
MDJ ScS **ScS** 07 49 40.8 +0.2
MDJ pmax pmax
comp=Z,21nm,1.4s
MDJ pmax pmax
comp=Z,190nm,4.5s
LYN **LuoYang** 53.72 321 ⇓ *i*P **P** 07 40 08.3 +0.9
LYN pP pP 07 40 36.5 -1.3
LYN S **S** 07 47 34.5 +3.0
LYN sS sS 07 48 26.5 +2.7
LYN pmax pmax
comp=Z,91nm,1.0s
LYN pmax pmax
comp=Z,360nm,4.0s
CN2 **Changchun** 54.06 337 *e*P **P** 07 40 10.5 +0.8
CN2 pmax pmax
comp=Z,20nm,0.6s
HNS **HongShan** 54.26 325 ⇓ P **P** 07 40 12.5 +1.3
HNS pP **pwP** 07 40 42.5 -1.7
HNS S **S** 07 47 42.5 +3.9
HNS pmax pmax
comp=Z,110nm,1.2s
BNX **BinXian** 55.03 340 ⇓ P **P** 07 40 16.8 +0.2
BNX pmax pmax
comp=Z,36nm,1.6s
BNX pmax pmax
comp=Z,110nm,6.2s
BJI **Beijing** 55.32 328 P **P** 07 40 19.3 +0.5
BJI pmax pmax
comp=Z,14nm,1.6s
KMI **Kunming** 55.69 305 ⇑ P **P** 07 40 23.8 +1.7
KMI pmax pmax
comp=Z,32nm,0.8s
CRAI **Chiangrai** 55.71 299 P **P** 07 40 22.9 +0.9
CRAI IAmb IAmb 07 40 24.7
comp=Z,26nm,1.0s
XAN **Xi'an** 55.71 318 ⇑ P **P** 07 40 23.0 +1.2
XAN pP pP 07 40 50.5 -1.9
XAN S **S** 07 47 59.8 +1.5
XAN pmax pmax
comp=Z,100nm,0.8s
XAN pmax pmax
comp=Z,160nm,4.0s
XAN **Xi'an** 55.71 318 P **P** 07 40 22.1 +0.3
XAN pP **pP** 07 40 52.0 -0.4
TIY **Taiyuan** 55.80 323 P **P** 07 40 24.0 +1.6
CMAR **Chiang Mai Arr** 56.35 296 *i* P **P** 07 40 27.5 +1.0
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR **Chiang Mai Arr** 56.35 296 P **P** 07 40 27.1 +0.5
comp=Z,2.2nm,0.4s,baz=112,slow=5.4,SNR=18
CMAR PKP2bc 08 10 35.2
comp=Z,3.9nm,0.6s,baz=285,slow=3.9,SNR=17
comp=Z,2.2nm,0.4s
TYV **Tymovskoe** 56.48 354 *e*P **P** 07 40 27.1 +0.2
TYV pmax pmax
comp=Z,100nm,2.8s
TYV pmax pmax
comp=Z,15nm,1.5s
KLR **Kul'dur** 56.89 345 *i* P **P** 07 40 30.0 +0.2
KLR pmax pmax
comp=Z,10.0nm,1.0s
KLR **Kul'dur** 56.89 345 LR LR 08 01 35.7
comp=Z,42nm,20.5s,baz=210,slow=32
PZH **PanZhiHua** 57.11 306 P **P** 07 40 33.0 +1.1
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,140nm,5.0s
CD2 **Chengdu** 57.64 312 ⇑ P **P** 07 40 37.0 +1.5
CD2 pP pP 07 41 06.0 -0.5
CD2 pmax pmax
comp=Z,50nm,1.0s
CD2 pmax pmax
comp=Z,150nm,4.8s
XLT **XiLinHaoTe** 58.21 331 ⇑ *i*P **P** 07 40 41.0 +1.8
XLT pP pwP 07 41 11.0 -1.6
XLT pmax pmax
comp=Z,61nm,1.1s
XLT pmax pmax
comp=Z,110nm,4.9s
HHC **Hu-ho-hao-te** 58.40 326 ⇑ *i*P **P** 07 40 42.5 +1.8
HHC pP pwP 07 41 12.5 -1.3
HHC *e*S **S** 07 48 31.3 -2.2
HHC sS sS 07 49 28.5 +1.5
HHC SS **SS** 07 52 33.3 +5.3
HHC pmax pmax
comp=Z,52nm,0.8s
HHC pmax pmax
comp=Z,110nm,4.1s
PEA0B **Petropavlovsk-** 58.58 5 P **P** 07 40 41.8 +0.3
PEA0B **Petropavlovsk-** 58.58 5 *ce*P **P** 07 40 42.9 +1.3
PETK **Petropavlovsk-** 58.58 5 P **P** 07 40 41.3 -0.3
PETK **Petropavlovsk-** 58.58 5 P **P** 07 40 41.9 +0.3
comp=Z,64nm,1.0s,baz=167,slow=6.8,SNR=45
PETK LR LR 08 03 17.7
comp=Z,40nm,19.4s,baz=190,slow=33
comp=Z,64nm,1.0s
PET **Petropavlovsk** 58.59 6 *e*P **P** 07 40 41.1 -0.4
PET *e**PP **pwP** 07 41 17.1 +2.4
PET *e*S **S** 07 48 34.0 -1.1
PET pmax pmax
comp=Z,40nm,1.0s
PET MLR MLR
comp=Z,100nm,19.0s
HEH **HeiHe** 59.01 343 *e*P **P** 07 40 44.8 +0.2
HEH pmax pmax
comp=Z,16nm,1.0s
HEH pmax pmax
comp=Z,130nm,5.3s
BTO **Baotou** 59.12 325 *e*P **P** 07 40 48.5 +2.9
BTO pP **pwP** 07 41 22.0 +3.1
BTO sP **PcP** 07 41 37.5 +4.6
BTO PP **PP** 07 43 03.0 +5.1
BTO pmax pmax
comp=Z,58nm,1.0s
BTO pmax pmax
comp=Z,330nm,11.2s
PPT2 **Papeete2** 59.44 107 *e*P P 07 40 42.3 -6.0
comp=Z,32nm,25.2s
PPT2 *e*S **S** 07 48 46.9 -0.7
comp=Z,113nm,26.0s
PPT2 *e*LQ LQ 07 55 59.7
comp=Z,142nm,26.2s
TBI **Tubuai** 60.13 114 *e*S **S** 07 48 54.5 -1.6
comp=Z,477nm,28.5s
TBI *e*LQ LQ 07 56 20.6
comp=Z,2µm,36.5s
TBI *e*LR LR 07 58 57.5
comp=Z,1µm,39.0s
LZH **Lanzhou** 60.30 317 ⇓ P **P** 07 40 55.5 +1.6
LZH pP pP 07 41 22.5 -2.6
LZH sP sP 07 41 40.0 +0.7
LZH pmax pmax
comp=Z,74nm,1.5s
LZH pmax pmax
comp=Z,270nm,4.7s
LZH LR LR
comp=Z,390nm,21.4s
LZH LR LR
comp=Z,810nm,20.2s
LZH LR LR
comp=Z,160nm,19.6s
SHEM **Shemya Is, Ala** 61.19 16 LR LR 08 04 30.3
comp=Z,48nm,20.9s,baz=132,slow=33
ZEA **Zeya** 62.17 344 *e*P **P** 07 41 07.0 +1.1
ZEA *e* 07 41 36.9
GTA **Gaotai** 64.77 318 P **P** 07 41 24.5 +1.0
GTA pP PcP 07 41 57.5 +1.6
GTA pmax pmax
comp=Z,16nm,1.5s

GTA LR LR
comp=Z,160nm,21.4s
GTA LR LR
comp=Z,890nm,22.2s
GTA LR LR
comp=Z,130nm,19.6s
MA2 Magadan 64.78 360 P **P** **07 41 22.7 -0.2**
MA2 Magadan 64.78 360 *ce*P **P** **07 41 23.0 +0.1**
MA2 pmax pmax
comp=Z,42nm,1.0s
MA2 Magadan 64.78 360 LR LR 08 11 14.7
comp=Z,32nm,18.1s,baz=134,slow=37
MA2 Magadan 64.78 360 P **P** **07 41 22.4 -0.6**
MA2 pP **pP** **07 41 52.9 -1.6**
ULN Ulaanbaatar 65.48 329 P **P** **07 41 29.4 +1.4**
ULN IAmb IAmb 07 42 01.3
comp=Z,19nm,1.1s
ULN Ulaanbaatar 65.48 329 *ce*P **P** **07 41 29.1 +1.2**
ULN pmax pmax
comp=Z,21nm,1.3s
ULN Ulaanbaatar 65.48 329 P **P** **07 41 29.1 +1.2**
ULN pP **pwP** **07 42 00.7 -1.0**
SONM Songino Array 65.79 329 P **P** **07 41 31.2 +1.3**
SONM IAmb IAmb 07 41 33.5
comp=Z,26nm,1.2s
SONM Songino Array 65.79 329 P **P** **07 41 31.2 +1.3**
SONM pmax pmax
comp=Z,26nm,1.2s
SONM Songino Array 65.79 329 P **P** **07 41 30.8 +0.9**
comp=Z,6.4nm,0.5s,baz=140,slow=7.7,SNR=20
SONM PKPPKP **P'P'df** **08 10 02.1 -4.0**
comp=Z,0.4nm,0.7s,baz=248,slow=1.6,SNR=3.7
SONM PKP2bc 08 10 10.2
comp=Z,1.2nm,0.9s,baz=277,slow=1.5,SNR=6.0
SONM LR LR 08 10 39.8
comp=Z,42nm,20.2s,baz=159,slow=36
comp=Z,6.4nm,0.5s
GOMU GeErMu 66.71 313 P **P** **07 41 37.8 +1.5**
GOMU pmax pmax
comp=Z,10.0nm,1.2s
NIKH Nikolski High 67.39 25 P **P** **07 41 39.5 -0.3**
baz=224
SEY Seymchan 68.16 1 *i*P **P** **07 41 44.8 +0.4**
SEY pmax pmax
comp=Z,31nm,1.2s
SEY Seymchan 68.16 1 LR LR 08 10 39.6
comp=Z,30nm,20.0s,baz=310,slow=35
ZAK Zakamensk 68.99 330 *e*P **P** **07 41 50.2 +0.2**
ZAK *e* 07 42 19.4
ZAK pmax pmax
comp=Z,27nm,1.1s
ZAK pmax pmax
comp=Z,21nm,1.3s
UNV Unalaska Valle 69.01 25 P **P** **07 41 49.2 -0.6**
baz=226
YAK Yakutsk 69.19 350 *e*P **P** **07 41 48.0 -2.7**
YAK *e* 07 42 10.0
YAK *e**PP **pP** **07 42 21.3 -1.4**
YAK *e* 07 44 22.4
YAK *e*PPP PPP 07 46 08.6
YAK *e*S **S** **07 50 44.3 -1.5**
YAK *e**SS **ScS** **07 51 39.0 0.0**
YAK *e*SS **SS** **07 55 14.2 -0.8**
YAK pmax pmax
comp=Z,36nm,1.5s
YAK pmax pmax
comp=N,23nm,2.2s
YAK pmax pmax
comp=E,7.0nm,1.5s
YAK pmax pmax
comp=Z,245nm,6.0s
YAK pmax pmax
comp=N,72nm,4.8s
YAK pmax pmax
comp=E,84nm,5.2s
YAK smax smax
comp=E,92nm,5.8s
YAK smax smax
comp=N,56nm,3.1s
BOD Bodaibo 69.66 340 *e*P **P** **07 41 53.8 0.0**
BOD pmax pmax
comp=Z,22nm,1.4s
SPIA Saint Paul Isl 69.93 21 P **P** **07 41 55.2 -0.2**
baz=222
MOY Mondy 70.92 330 *e*P **P** **07 42 02.6 +0.9**
MOY pmax pmax
comp=Z,27nm,1.4s
FALS False Pass 71.03 26 P **P** **07 42 01.9 -0.2**
baz=229
PALK Pallekele 71.07 280 LR LR 08 18 18.9
comp=Z,19nm,18.7s,baz=207,slow=40
CCD Concordia, Ant 71.41 187 P **P** **07 42 06.0 +1.3**
S12K Black Hills 72.17 26 P **P** **07 42 08.7 -0.3**
baz=230
VNDA Vanda 72.31 177 P **P** **07 42 10.4 +0.9**
VNDA Vanda 72.31 177 P **P** **07 42 10.4 +0.9**
VNDA pmax pmax
comp=Z,8.0nm,0.9s
VNDA Vanda 72.31 177 P **P** **07 42 10.9 +1.4**
comp=Z,6.0nm,0.7s,baz=329,slow=6.6,SNR=40
comp=Z,6.0nm,0.7s
SDPT Sand Point 72.64 27 P **P** **07 42 10.9 -0.8**
baz=232
CHNA Chernabura Isl 72.72 27 P **P** **07 42 11.3 -0.9**
baz=232
SBA Scott Base 72.89 177 P **P** **07 42 14.7 +1.8**
SBA Scott Base 72.89 177 P **P** **07 42 14.7 +1.8**
SBA pmax pmax
comp=Z,13nm,1.3s
S14K Fog Glacier 73.63 26 P **P** **07 42 17.2 -0.5**
baz=232
M11K Mekoryuk 73.71 21 P **P** **07 42 17.7 -0.2**
baz=225
BILL Bilibino 74.08 6 *e*P **P** **07 42 20.3 +0.3**
CHGN Chignik 74.14 27 P **P** **07 42 20.3 -0.2**
baz=233
GAMB Gambell 74.51 16 P **P** **07 42 22.7 +0.2**
baz=219
M13K Dall Lake 74.76 22 P **P** **07 42 24.0 0.0**
baz=228
O14K Tigyukauivet M 74.78 23 P **P** **07 42 24.0 -0.2**
baz=230
WMQ Urumqi 74.85 318 *e*P **P** **07 42 26.5 +1.5**
WMQ pmax pmax
comp=Z,19nm,1.1s
N14K Kuskokwak Cree 75.06 23 P **P** **07 42 25.4 -0.3**
baz=229
R16K Pilot Point 75.27 26 P **P** **07 42 26.2 -0.8**
baz=234
O15K Ungalikthiuk R 75.31 24 P **P** **07 42 27.0 -0.2**
baz=231
M14K Bethel 75.49 22 P **P** **07 42 28.5 +0.3**
M14K IAmb IAmb 07 42 29.8
comp=Z,20nm,0.7s
M14K Bethel 75.49 22 P **P** **07 42 28.2 0.0**
baz=229,SNR=7.6
L14K Kuka Creek 75.62 21 P **P** **07 42 28.9 0.0**
baz=228
N15K Kwethluk River 75.83 23 P **P** **07 42 29.7 -0.5**
baz=231
M15K Kasigluk River 75.93 22 P **P** **07 42 30.3 -0.4**
baz=230
P16K Nushagak River 75.97 25 P **P** **07 42 30.6 -0.3**
baz=233
O16K Kokwok River B 76.27 24 P **P** **07 42 32.3 -0.4**
baz=233
J14K Nanvaranak Lak 76.27 20 P **P** **07 42 32.2 -0.3**
baz=227
L15K Ungalak Mounta 76.28 21 P **P** **07 42 32.4 -0.3**
baz=229
Q16K King Salmon 76.32 25 P **P** **07 42 32.1 -0.8**
baz=234
Q17K Contact Creek 76.41 26 P **P** **07 42 32.8 -0.8**
baz=235
N16K Nishlik Lake 76.53 23 P **P** **07 42 34.2 0.0**
baz=232
K15K Wolf Creek Mou 76.66 21 P **P** **07 42 34.9 0.0**
baz=229
P17K Kvichak River 76.71 25 P **P** **07 42 34.6 -0.5**
baz=234
O17K Koliganek Bris 76.78 24 P **P** **07 42 35.3 -0.3**
baz=234
M16K Timber Creek 76.80 23 P **P** **07 42 35.3 -0.4**
baz=232
TNA Tin City 76.92 16 P **P** **07 42 35.8 -0.4**
baz=222,SNR=5.3
ANM Nome 76.95 18 P **P** **07 42 36.4 0.0**
ANM Nome 76.95 18 P **P** **07 42 36.7 +0.3**
baz=225,SNR=11
ANM Nome 76.95 18 P **P** **07 42 36.4 0.0**
ANM pmax pmax
comp=Z,13nm,1.0s
OHAK Old Harbor 77.00 28 P **P** **07 42 36.4 -0.3**
baz=238
L16K Owhat River 77.03 22 P **P** **07 42 36.8 -0.2**
L16K Owhat River 77.03 22 P **P** **07 42 36.7 -0.2**
baz=231,SNR=13
N17K Nushagak Hills 77.19 24 P **P** **07 42 37.7 -0.2**
baz=234
F14K Arctic Creek 77.32 17 P **P** **07 42 38.2 -0.2**
baz=224
P18K Big Mountain, 77.33 25 P **P** **07 42 37.8 -1.0**
P18K Big Mountain, 77.33 25 P **P** **07 42 38.2 -0.5**
baz=236
O18K Koktuh Hills 77.60 25 P **P** **07 42 39.9 -0.2**
O18K Koktuh Hills 77.60 25 P **P** **07 42 39.7 -0.5**
baz=236
KDAK Kodiak Island 77.61 27 P **P** **07 42 39.6 -0.6**
baz=238
M17K Holitna River 77.61 23 P **P** **07 42 39.8 -0.4**
baz=233,SNR=12
J16K Anvik River 77.63 20 P **P** **07 42 40.0 -0.2**
baz=230
G15K Niukluk 77.66 18 P **P** **07 42 40.4 +0.1**
baz=226
L17K Donlin 77.73 22 P **P** **07 42 40.7 -0.1**
baz=232
Q19K Cape Douglas, 77.75 26 P **P** **07 42 40.4 -0.6**
baz=237
N18K Kilae Creek 77.80 24 P **P** **07 42 41.0 -0.2**
baz=235
F15K North Star Dit 77.97 17 P **P** **07 42 41.6 -0.5**
baz=226
H16K Elim 77.98 19 P **P** **07 42 42.2 +0.1**
baz=228,SNR=6.9
I17K Unalakleet 77.99 20 P **P** **07 42 43.2 +1.0**
I17K Unalakleet 77.99 20 P **P** **07 42 42.9 +0.7**
baz=230,SNR=6.2
ZSN Zaisan 78.07 321 *e*P **P** **07 42 42.5 -0.6**
comp=Z,11nm,1.0s,baz=321
ZSN Zaisan 78.07 321 *e*P **P** **07 42 42.4 -0.6**
ZSN pmax pmax
comp=Z,11nm,1.0s
K17K Iditarod 78.09 21 P **P** **07 42 42.9 +0.1**
K17K IAmb IAmb 07 42 44.7
comp=Z,23nm,0.9s
K17K Iditarod 78.09 21 P **P** **07 42 43.1 +0.3**
baz=232,SNR=15
Q20K Shuyak Island 78.14 27 P **P** **07 42 42.5 -0.6**
baz=238
O19K Port Alsworth 78.16 25 P **P** **07 42 43.1 -0.1**
baz=236,SNR=6.5
TIXI Tiksi 78.24 353 P **P** **07 42 43.2 -0.2**
TIXI Tiksi 78.24 353 *ce*P **P** **07 42 42.5 -0.9**
TIXI pmax pmax
comp=Z,10.0nm,1.3s
M18K Stony River 78.29 23 P **P** **07 42 44.2 +0.3**
baz=235,SNR=13
P19K Oil Pt 78.33 25 P **P** **07 42 43.4 -0.8**
P19K Oil Pt 78.33 25 P **P** **07 42 43.8 -0.4**
baz=237,SNR=10
L18K Granite Mounta 78.39 22 P **P** **07 42 44.4 -0.1**
baz=234,SNR=20
N19K Bonanza Creek 78.44 24 P **P** **07 42 44.7 -0.2**
baz=236
G16K Koyuk River 78.45 18 P **P** **07 42 44.4 -0.3**
baz=228,SNR=20
O20K Slope Mountain 78.81 25 P **P** **07 42 46.1 -0.8**
baz=238
H17K Granite Mounta 78.93 19 P **P** **07 42 47.1 -0.2**
baz=230,SNR=17
HOM Homer 79.01 26 P **P** **07 42 48.0 +0.1**
baz=239
G17K Kiwalik Mounta 79.06 19 P **P** **07 42 47.9 -0.1**
baz=229
TTA Tatalina 79.06 22 P **P** **07 42 48.1 -0.1**
TTA Tatalina 79.06 22 P **P** **07 42 47.8 -0.4**
baz=234,SNR=13
TTA Tatalina 79.06 22 P **P** **07 42 48.1 -0.1**
TTA pmax pmax
comp=Z,9.0nm,0.9s
L19K White Mountain 79.07 23 P **P** **07 42 48.1 -0.1**
baz=235
M19K Big River Lodg 79.09 23 P **P** **07 42 48.0 -0.4**
baz=236
J18K Innoko River 79.12 21 P **P** **07 42 48.4 -0.1**
baz=234
BRSE Bradley Lake S 79.45 26 P **P** **07 42 49.7 -0.7**
baz=240
MK31 Makanchi Array 79.48 319 P **P** **07 42 50.2 -0.6**
MK31 Makanchi Array 79.48 319 *ce*P **P** **07 42 50.5 -0.3**
MKAR Makanchi Array 79.48 319 *i*P **P** **07 42 50.7 -0.1**
MKAR pmax pmax
comp=Z,7.0nm,0.9s
MKAR Makanchi Array 79.48 319 P **P** **07 42 50.8 0.0**
comp=Z,6.9nm,0.9s,baz=99,slow=7.5,SNR=49
MKAR PKKPbc **PKKPbc** **08 01 39.7 -1.3**
comp=Z,1.1nm,0.7s,baz=302,slow=2.3,SNR=10
MKAR PKPPKP **P'P'df** **08 09 42.1 -0.4**
comp=Z,1.0nm,0.9s,baz=0.0,slow=1.7,SNR=3.8
MKAR LR LR 08 18 03.5
comp=Z,34nm,19.9s,baz=72,slow=36
comp=Z,6.9nm,0.9s
F17K Baldwin Pennin 79.49 18 P **P** **07 42 50.1 -0.3**
F17K IAmb IAmb 07 42 53.7
comp=Z,20nm,0.8s
F17K Baldwin Pennin 79.49 18 P **P** **07 42 50.3 -0.1**
baz=229,SNR=28
M20K Styx River 79.58 24 P **P** **07 42 50.9 -0.1**
baz=237
H18K Honhosa River 79.58 19 P **P** **07 42 50.4 -0.5**
baz=232
N20K Mount Spurr 79.58 24 P **P** **07 42 50.4 -0.7**
baz=238
C16K Lisburne Hills 79.60 15 P **P** **07 42 50.3 -0.6**
baz=224
L20K Farewell, AK 79.61 23 P **P** **07 42 50.4 -0.7**
baz=236
E17K Hotham Inlet 79.75 17 P **P** **07 42 51.3 -0.4**
baz=228,SNR=38
CAPN Captain Cook N 79.80 25 P **P** **07 42 51.5 -0.6**
baz=239
D17K Noatak River 79.81 16 P **P** **07 42 51.8 -0.3**
baz=227,SNR=16
J19K Poorman 79.83 21 P **P** **07 42 52.4 +0.2**
J19K Poorman 79.83 21 P **P** **07 42 51.8 -0.4**
baz=234,SNR=8.7
GCSA Galena City Sc 79.83 20 P **P** **07 42 51.9 -0.3**
baz=233,SNR=15
G18K Tagagawik 79.95 19 P **P** **07 42 52.4 -0.5**
baz=231
K20K Telida 80.03 22 P **P** **07 42 53.4 0.0**
baz=236
F18K Selawik 80.08 18 P **P** **07 42 53.0 -0.5**
baz=230,SNR=16
RDOG Red Dog Mine 80.10 16 P **P** **07 42 53.3 -0.3**
baz=227
SEW Seward 80.19 26 P **P** **07 42 53.7 -0.5**
baz=241,SNR=9.7
SHLS Shalkode 80.25 315 *e*P **P** **07 42 52.9 -2.3**
comp=Z,12nm,1.0s,baz=315
SHLS Shalkode 80.25 315 *e*P **P** **07 42 52.8 -2.3**
SHLS pmax pmax
comp=Z,12nm,1.0s
O22K Cooper Landing 80.26 26 P **P** **07 42 54.7 +0.1**
O22K IAmb IAmb 07 43 02.6
comp=Z,33nm,0.8s
O22K Cooper Landing 80.26 26 P **P** **07 42 53.9 -0.7**
baz=240,SNR=8.8
SKT Skwentna 80.27 24 P **P** **07 42 53.9 -0.8**
baz=239
C17K Deng Mountai 80.32 16 P **P** **07 42 54.7 -0.1**
baz=227
SUA Susitna One 80.32 25 P **P** **07 42 54.3 -0.8**
baz=239,SNR=9.9
E18K Tukpahlearik C 80.33 17 P **P** **07 42 54.6 -0.2**
baz=229
H19K Roundabout Mou 80.44 20 P **P** **07 42 55.6 +0.1**
baz=233
J20K Nowinta River 80.46 21 P **P** **07 42 55.4 -0.2**
baz=236,SNR=20
PPLA Purkeypile 80.49 23 P **P** **07 42 55.9 -0.1**
baz=238
RC01 Rabbit Creek A 80.56 25 P **P** **07 42 56.0 -0.2**
RC01 IAmb IAmb 07 42 58.4
comp=Z,17nm,0.8s
RC01 Rabbit Creek A 80.56 25 P **P** **07 42 55.1 -1.1**
baz=240,SNR=12
UZB Uzynbulak 80.56 315 *e*P **P** **07 42 56.5 -0.3**
comp=Z,17nm,1.2s,baz=315
UZB Uzynbulak 80.56 315 *e*P **P** **07 42 56.5 -0.3**
UZB pmax pmax
comp=Z,17nm,1.2s
ZALV Zalesovo Beam 80.56 327 P **P** **07 42 55.8 -0.6**
ZALV Zalesovo Beam 80.56 327 P **P** **07 42 55.4 -1.0**
comp=Z,6.0nm,0.6s,baz=114,slow=5.6,SNR=24
ZALV PKKPbc **PKKPbc** **08 01 37.5 -1.5**
comp=Z,0.7nm,0.5s,baz=236,slow=2.7,SNR=3.6
ZALV LR LR 08 17 30.9
comp=Z,44nm,21.6s,baz=107,slow=35
comp=Z,6.0nm,0.6s
G19K Purcell Mounta 80.61 19 P **P** **07 42 56.0 -0.4**
baz=233
I20K Naaghedeneel 80.70 21 P **P** **07 42 56.8 0.0**
baz=235,SNR=6.6
M22K Willow 80.73 24 P **P** **07 42 55.3 -1.7**
baz=240,SNR=9.3
F19K Shaleruckik Mo 80.81 18 P **P** **07 42 57.1 -0.3**
F19K IAmb IAmb 07 43 00.2
comp=Z,18nm,0.8s
F19K Shaleruckik Mo 80.81 18 P **P** **07 42 56.6 -0.8**
baz=232,SNR=32
CAST Castle Rocks 80.81 22 P **P** **07 42 56.8 -0.8**
CAST Castle Rocks 80.81 22 P **P** **07 42 56.4 -1.2**
baz=238,SNR=21
H20K Anotleneega Mo 80.95 20 P **P** **07 42 57.7 -0.6**
baz=235
SATY Saty 80.97 315 *e*P **P** **07 42 58.5 -0.5**
comp=Z,12nm,1.1s,baz=315
SATY Saty 80.97 315 *e*P **P** **07 42 58.5 -0.5**
SATY pmax pmax
comp=Z,12nm,1.1s
C18K Utukok River 80.97 16 P **P** **07 42 57.8 -0.5**
baz=228
CHUM Lake Minchumin 80.97 22 P **P** **07 42 57.9 -0.4**
baz=238,SNR=34
ZHN Zhinishke 80.98 315 *e*P **P** **07 42 58.1 -0.9**
baz=315
ZHN Zhinishke 80.98 315 *e*P **P** **07 42 58.1 -0.9**
CUT Chulitna 81.00 24 P **P** **07 42 57.5 -1.0**
baz=240
P23K Montague Islan 81.05 27 P **P** **07 42 58.0 -0.8**
baz=243
PMR Palmer 81.06 25 P **P** **07 42 57.9 -0.9**
baz=241,SNR=8.3
KNK Knik Glacier 81.25 25 P **P** **07 42 59.2 -0.7**
baz=242,SNR=6.1
Q23K Middleton Isla 81.27 27 P **P** **07 42 59.3 -0.6**
baz=244
B18K Kokolik River 81.29 15 P **P** **07 42 59.6 -0.3**
baz=228
E19K Redstone River 81.36 18 P **P** **07 43 00.3 -0.1**
baz=232,SNR=74
SML Sawmill 81.50 25 P **P** **07 43 00.7 -0.5**
SML IAmb IAmb 07 43 03.0
comp=Z,22nm,0.8s
SML Sawmill 81.50 25 P **P** **07 43 00.3 -1.0**
baz=242,SNR=16
TDK Taldyqorghan 81.51 317 *e*P **P** **07 43 01.4 -0.3**
comp=Z,19nm,0.9s,baz=317
TDK Taldyqorghan 81.51 317 *e*P **P** **07 43 01.3 -0.3**
TDK pmax pmax
comp=Z,19nm,0.9s
TRF Thorofare Moun 81.52 23 P **P** **07 42 60.0 -1.5**
baz=240
F20K Avaraart Lake 81.58 19 P **P** **07 43 01.4 -0.2**
baz=234
BPAW Bear Paw Mtn. 81.59 22 P **P** **07 43 00.7 -1.0**
baz=239,SNR=9.2
IMAR Indian Mountai 81.62 20 P **P** **07 43 02.0 +0.2**
C19K Lookout Ridge 81.71 16 P **P** **07 43 02.0 -0.2**
baz=230
D19K Kuna River 81.74 17 P **P** **07 43 01.9 -0.4**
baz=232
M23K Glacier View 81.74 25 P **P** **07 43 02.3 -0.3**
baz=242
H21K Melozitna Rive 81.76 20 P **P** **07 43 02.5 0.0**
baz=237,SNR=8.0
KSH Kashi 81.82 311 P **P** **07 43 05.5 +1.9**
KSH pmax pmax
comp=Z,16nm,0.9s
WAT1 Susitna Watana 81.90 24 P **P** **07 43 02.7 -0.6**
baz=241
SCM Sheep Creek Mo 81.93 25 P **P** **07 43 02.9 -0.7**
baz=242,SNR=12
SEM Semipalatinsk 81.94 322 *e*P **P** **07 43 03.6 -0.4**
baz=322
SEM Semipalatinsk 81.94 322 *e*P **P** **07 43 03.6 -0.4**
MDOK Medeo 81.95 315 *e*P **P** **07 43 03.7 -0.5**
baz=315
MDOK Medeo 81.95 315 *e*P **P** **07 43 03.7 -0.5**
G21K Allakaket 82.00 20 P **P** **07 43 03.4 -0.3**
baz=236
EYAK Cordova Ski Ar 82.03 27 P **P** **07 43 03.5 -0.5**
baz=244
A19K Wainwright 82.04 15 P **P** **07 43 03.7 -0.1**
baz=228
AAA Alma-Ata 82.06 315 *e*P **P** **07 43 04.2 -0.5**
comp=Z,16nm,0.6s,baz=315
AAA Alma-Ata 82.06 315 *e*P **P** **07 43 04.1 -0.5**
AAA pmax pmax
comp=Z,15nm,0.6s
WAT6 Susitna Watana 82.11 24 P **P** **07 43 03.7 -0.9**
baz=242,SNR=9.2
E20K Nigu River 82.16 17 P **P** **07 43 04.2 -0.4**
baz=233
MLY Manley 82.16 21 P **P** **07 43 03.9 -0.8**
baz=239,SNR=32
CHKK Chushkaly 82.17 315 *e*P **P** **07 43 04.8 -0.4**
baz=316
CHKK Chushkaly 82.17 315 *e*P **P** **07 43 04.7 -0.4**
MCK McKinley 82.19 23 P **P** **07 43 03.9 -0.9**
baz=241,SNR=13
D20K Etivluk River 82.31 17 P **P** **07 43 04.9 -0.4**
baz=233,SNR=13
KAIM Kayak Island 82.37 27 P **P** **07 43 05.6 -0.2**
baz=245
KLU Klutina 82.37 26 P **P** **07 43 05.4 -0.5**
baz=244,SNR=22
H22K Ishtalitna Cre 82.39 21 P **P** **07 43 05.0 -0.7**
baz=238
F21K Alatna River 82.40 19 P **P** **07 43 05.2 -0.6**
baz=236
RAGM Ragged Mountai 82.44 27 P **P** **07 43 06.2 0.0**
RAGM IAmb IAmb 07 43 08.1
comp=Z,29nm,1.1s
DHY Denali Highway 82.49 24 P **P** **07 43 05.9 -0.7**
baz=242,SNR=7.8
M24K Tolsona, Glenn 82.54 25 P **P** **07 43 06.8 +0.1**
M24K IAmb IAmb 07 43 09.2
comp=Z,49nm,1.1s
M24K Tolsona, Glenn 82.54 25 P **P** **07 43 06.0 -0.7**
baz=244,SNR=13
NEA2 Nenana 82.56 22 P **P** **07 43 05.1 -1.6**
baz=240,SNR=22
BMRM Bremner River 82.72 26 P **P** **07 43 07.2 -0.5**
baz=245,SNR=11
I23K Minto, Yukon-K 82.73 22 P **P** **07 43 06.9 -0.6**
baz=240,SNR=8.2
WRH Wood River Hil 82.87 22 P **P** **07 43 07.9 -0.4**
WRH IAmb IAmb 07 43 09.1
comp=Z,20nm,1.0s
BERG Berg Lake 82.89 27 P **P** **07 43 08.7 +0.2**
BERG IAmb IAmb 07 43 10.9
comp=Z,26nm,1.0s
TKM2 Tokmak 2 82.92 314 P **P** **07 43 09.3 0.0**
SNR=18
B20K Meade River 82.95 16 P **P** **07 43 08.4 -0.1**
baz=232
F22K John River 82.98 19 P **P** **07 43 08.4 -0.4**
baz=237
N25K Chitina, Valde 83.00 26 P **P** **07 43 08.7 -0.4**
baz=245,SNR=9.2
H23K Yukon River 83.00 21 P **P** **07 43 08.9 -0.1**
baz=240
KURK Kurchatov 83.03 322 P **P** **07 43 09.0 -0.4**
KURK IAmb IAmb 07 43 11.6
comp=Z,38nm,1.1s
KURK Kurchatov 83.03 322 *ce*P **P** **07 43 09.2 -0.2**
KURK pmax pmax
comp=Z,47nm,1.3s

KURBB **Kurchatov Arra** 83.05 322 P P 07 43 09.2 -0.3
comp=Z,13nm,0.9s,baz=107,slow=4.0,SNR=51
KURBB PKPPKP P'P'df 08 09 36.1 +0.3
comp=Z,0.8nm,0.7s,baz=284,slow=2.4,SNR=8.1
comp=Z,13nm,0.9s
HARP **HAARP** 83.10 25 P P 07 43 09.7 +0.2
baz=244,SNR=11
C21K **Knifeblade Rid** 83.11 17 P P 07 43 09.0 -0.5
baz=235
COLA **College** 83.15 22 P P 07 43 08.4 -1.3
baz=242
PAX **Paxson** 83.22 24 P P 07 43 09.2 -1.1
baz=244,SNR=7.1
HDA **Harding Lake** 83.28 23 P P 07 43 09.1 -1.3
baz=242,SNR=10
G23K **Bananza Creek** 83.28 20 P P 07 43 10.4 0.0
G23K **Bananza Creek** 83.28 20 P P 07 43 09.7 -0.7
baz=239,SNR=16
CRQM **Cirque** 83.29 27 P P 07 43 10.8 +0.1
CRQM IAmb IAmb 07 43 13.5
comp=Z,22nm,1.0s
WAX **Waxell Ridge** 83.30 27 P P 07 43 11.0 +0.4
CRQE **Cirque** 83.31 27 P P 07 43 10.2 -0.6
baz=246,SNR=11
KBK **Karagaybulak** 83.32 314 P P 07 43 11.8 +0.5
SNR=7.4
VRDI **Verde Repeater** 83.34 26 P P 07 43 10.8 -0.2
POKR **Poker Plat Res** 83.42 22 P P 07 43 09.7 -1.5
baz=242
B21K **Ikpikpuk River** 83.43 17 P P 07 43 10.6 -0.4
baz=235
K24K **Donnelly Dome** 83.46 24 P P 07 43 10.7 -0.6
baz=244,SNR=15
ILAR **Eielson Array** 83.47 22 P P 07 43 10.2 -1.2
comp=Z,13nm,0.8s,baz=252,slow=4.9,SNR=79
comp=Z,13nm,0.8s
COLD **Coldfoot** 83.48 20 P P 07 43 10.8 -0.6
baz=239,SNR=14
UCH **Uchtor** 83.53 313 P P 07 43 13.8 +1.0
SNR=40
CHMS **Chumysh** 83.54 314 P P 07 43 12.6 +0.4
SNR=8.9
D22K **Ayikyak River** 83.58 18 P P 07 43 11.6 -0.3
baz=237
MCARA **McCarthy VSAT** 83.59 26 P P 07 43 11.6 -0.4
baz=246,SNR=14
MESA **MESA** 83.60 28 P P 07 43 11.8 -0.6
baz=248
H24K **Noodor Dome** 83.60 21 P P 07 43 11.6 -0.5
baz=242,SNR=12
AAK **Ala-Archa** 83.64 314 P P 07 43 14.0 +1.0
SNR=9.5
AAK **Ala-Archa** 83.64 314 P P 07 43 13.1 +0.1
AAK IAmb IAmb 07 43 14.7
comp=Z,23nm,1.0s
AAK **Ala-Archa** 83.64 314 *ce*P P 07 43 13.6 +0.6
AAK pmax pmax
comp=Z,33nm,1.3s
AAK **Ala-Archa** 83.64 314 LR LR 08 21 00.8
comp=Z,28nm,19.9s,baz=102,slow=36
SGDS **Sogindy** 83.73 315 *e*P P 07 43 12.8 -0.6
comp=Z,14nm,0.9s,baz=315
SGDS **Sogindy** 83.73 315 *e*P P 07 43 12.7 -0.6
SGDS pmax pmax
comp=Z,14nm,0.9s
USP **Ospenovka** 83.78 314 P P 07 43 14.4 +0.9
SNR=26
RIDG **Independent Ri** 83.81 24 P P 07 43 12.3 -0.9
baz=244
A21K **Barrow** 83.90 15 P P 07 43 12.6 -0.7
baz=233
MENT **Mentasta** 83.93 25 P P 07 43 13.8 +0.1
MENT IAmb IAmb 07 43 16.8
comp=Z,13nm,0.8s
J25K **Salcha River,** 83.98 23 P P 07 43 12.8 -1.3
baz=244
M26K **Nabesna, AK** 84.01 25 P P 07 43 13.4 -0.8
baz=246
BARN **Barnard Glacie** 84.07 27 P P 07 43 15.0 +0.2
BARN IAmb IAmb 07 43 17.2
comp=Z,16nm,0.7s
TABL **Table Mountain** 84.07 28 P P 07 43 14.7 -0.1
E23K **Chandalar** 84.10 19 P P 07 43 13.9 -0.7
baz=240,SNR=22
L26K **Log Cabin Wild** 84.12 25 P P 07 43 14.4 -0.3
baz=246,SNR=25
A22K **Sinclair Lake** 84.13 15 P P 07 43 14.2 -0.4
baz=234
G24K **Hadweenzic Riv** 84.16 21 P P 07 43 14.4 -0.5
baz=242
EKS2 **Erkin-Say** 84.16 314 P P 07 43 16.8 +1.2
SNR=34
B22K **Teshekpuk Lake** 84.18 16 P P 07 43 13.9 -0.9
baz=236
CTG **Chitna Glacier** 84.18 27 P P 07 43 14.4 -0.9
baz=248,SNR=16
D23K **Nanushuk River** 84.23 18 P P 07 43 15.6 +0.4
baz=239
MAW **Mawson** 84.25 203 P P 07 43 16.0 +0.8
baz=84
MAW **Mawson** 84.25 203 P P 07 43 15.7 +0.5
comp=Z,9.3nm,0.7s,baz=94,slow=7.1,SNR=10
MAW LR LR 08 18 36.7
comp=Z,41nm,19.5s,baz=136,slow=34
comp=Z,9.3nm,0.7s
SCRK **Sand Creek** 84.25 24 P P 07 43 14.9 -0.6
SCRK **Sand Creek** 84.25 24 P P 07 43 14.8 -0.6
baz=245,SNR=14
PRP **Porcupine Dome** 84.32 22 P P 07 43 15.2 -0.7
baz=244
F24K **Squaw Lake** 84.41 20 P P 07 43 15.8 -0.4
baz=241,SNR=29
TOLK **Toolik Lake Re** 84.41 19 P P 07 43 15.8 -0.4
baz=240,SNR=14
M27K **Edge Creek, AK** 84.47 26 P P 07 43 16.3 -0.4
baz=247
BTLS **Baital** 84.51 316 *e*P P 07 43 16.4 -0.7
comp=Z,19nm,0.9s,baz=316
BTLS **Baital** 84.51 316 *e*P P 07 43 16.4 -0.7
BTLS pmax pmax
comp=Z,19nm,0.9s
H25L **Birch Creek** 84.55 21 P P 07 43 16.7 -0.1
baz=243,SNR=9.5
QSPA **South Pole Qui** 84.56 180 PKKPbc PKKPbc 08 01 26.7 -3.9
comp=Z,1.2nm,0.9s,baz=278,slow=1.7,SNR=2.2
QSPA LR LR 08 17 41.1
comp=Z,34nm,19.6s,baz=262,slow=33
PNL **Peninsula** 84.61 29 P P 07 43 17.2 -0.1
baz=250
O28M **Mount Upton** 84.63 27 P P 07 43 17.3 -0.4
baz=249
J26L **Joseph Creek** 84.64 23 P P 07 43 17.0 -0.4
baz=246,SNR=16
G25K **Bearman Lake** 84.67 21 P P 07 43 17.3 -0.1
baz=243,SNR=14
C23K **Itkillik River** 84.71 17 P P 07 43 17.3 -0.2
baz=239
L27K **Beaver Creek,** 84.77 25 P P 07 43 17.4 -0.6
baz=247
BCAR **Beaver Creek A** 84.79 25 P P 07 43 18.2 +0.1
YUK3 **Moose Creek** 84.88 26 P P 07 43 18.4 -0.4
baz=249,SNR=16
FYU **Fort Yukon** 84.89 21 P P 07 43 18.5 +0.1
FYU IAmb IAmb 07 43 20.3
comp=Z,24nm,1.1s
D24K **Happy Valley** 84.91 18 P P 07 43 18.6 +0.1
baz=240
BVCY **Beaver Creek** 84.94 26 P P 07 43 18.1 -0.7
baz=248,SNR=7.3
DRK **Karamyk** 84.97 310 P P 07 43 20.0 +0.1
DRK IAmb IAmb 07 45 47.0
comp=Z,28nm,1.0s
K27K **Chicken** 85.04 24 P P 07 43 19.5 +0.1
baz=247
I26K **Coal Creek Min** 85.13 23 P P 07 43 19.2 -0.5
baz=246
F25K **Christian Rive** 85.21 20 P P 07 43 20.3 +0.1
baz=243
O29M **Mount Kennedy** 85.22 28 P P 07 43 20.2 -0.2
baz=250
C24K **Franklin Bluff** 85.22 18 P P 07 43 19.9 -0.1
baz=240
P29M **Windy Craggy** 85.39 29 P P 07 43 21.2 0.0
baz=251
E25K **Arctic Village** 85.47 20 P P 07 43 21.2 -0.2
baz=244,SNR=10
BMAR **Burnt Mountain** 85.50 20 P P 07 43 20.9 -0.7
YUK6 **Outpost Mounta** 85.53 28 P P 07 43 22.3 +0.2
baz=251
YUK4 **Talbot Arm** 85.54 27 P P 07 43 22.4 +0.3
baz=250,SNR=20
G26K **Porcupine Rive** 85.58 21 P P 07 43 22.5 +0.6
baz=245,SNR=41
S31K **Pelican** 85.62 31 P P 07 43 22.3 0.0
baz=253
EGAK **Eagle** 85.70 23 P P 07 43 22.8 +0.3
EGAK IAmb IAmb 07 43 25.3
comp=Z,26nm,0.9s
EGAK **Eagle** 85.70 23 P P 07 43 22.2 -0.3
baz=248,SNR=38
D25K **Kavik River** 85.75 18 P P 07 43 22.4 -0.4
baz=243
F26K **Sheenjek River** 85.77 20 P P 07 43 23.0 +0.1
baz=245
SIT **Sitka** 85.83 32 P P 07 43 23.2 -0.1
baz=254
I27K **Kandik River** 85.84 23 P P 07 43 23.0 -0.3
baz=247
HYT **Haines Junctio** 85.89 28 P P 07 43 24.1 +0.3
HYT **Haines Junctio** 85.89 28 P P 07 43 23.2 -0.6
baz=251,SNR=43
NRIK **Noril'sk** 85.90 341 *ce*P P 07 43 22.9 -0.5
NRIK pmax pmax
comp=Z,5.0nm,0.8s
NRIK **Noril'sk** 85.90 341 P P 07 43 22.6 -0.8
comp=Z,6.8nm,0.7s,baz=120,slow=4.7,SNR=15
comp=Z,6.8nm,0.7s
P30M **Million Dollar** 85.92 29 P P 07 43 23.8 -0.1
baz=252
DZA **Taraz** 85.97 314 *e*P P 07 43 24.4 -0.1
comp=Z,16nm,0.8s,baz=314
DZA **Taraz** 85.97 314 *e*P P 07 43 24.3 -0.1
DZA pmax pmax
comp=Z,16nm,0.8s
M29M **Sonnne Creek** 85.99 26 P P 07 43 23.9 -0.3
baz=250,SNR=26
PLBC **Pleasant Camp** 86.01 29 P P 07 43 24.2 0.0
baz=252
H27K **Steamboat Moun** 86.11 22 P P 07 43 24.6 0.0
baz=247
DAWY **Dawson** 86.15 24 P P 07 43 24.5 -0.4
DAWY IAmb IAmb 07 43 27.6
comp=Z,20nm,1.0s
DAWY **Dawson** 86.15 24 P P 07 43 25.2 +0.3
baz=250,SNR=39
N30M **Aishikik Lake** 86.28 27 P P 07 43 26.1 +0.5
baz=252
G27K **Doyon Strip** 86.29 22 P P 07 43 25.7 +0.2
baz=247
S32K **Killisnoo** 86.33 31 P P 07 43 25.9 +0.1
baz=254
L29M **L29M** 86.36 26 P P 07 43 26.2 +0.3
baz=251,SNR=25
I28M **Miner Creek** 86.43 23 P P 07 43 25.6 -0.7
baz=249,SNR=17
C26K **Camden Bay** 86.48 18 P P 07 43 26.9 +0.6
baz=244
SKAG **Skagway** 86.51 29 P P 07 43 27.0 +0.3
SKAG IAmb IAmb 07 43 29.2
comp=Z,15nm,1.0s
SKAG **Skagway** 86.51 29 P P 07 43 27.0 +0.3
baz=253,SNR=6.5
BRZS **Berezniki** 86.52 321 *e*P P 07 43 26.2 -0.7
baz=321
BRZS **Berezniki** 86.52 321 *e*P P 07 43 26.2 -0.7
O30N **Mendenhall** 86.53 28 P P 07 43 27.1 +0.3
O30N **Mendenhall** 86.53 28 P P 07 43 26.5 -0.3
baz=253,SNR=13
R32K **Eaglecrest** 86.58 31 P P 07 43 27.2 +0.2
baz=254
CRAG **Craig** 86.59 34 P P 07 43 27.4 +0.4
baz=256
KK31 **Karatay Array** 86.60 314 P P 07 43 27.0 -0.5
KK31 **Karatay Array** 86.60 314 P P 07 43 27.0 -0.5
KK31 pmax pmax
comp=Z,37nm,1.1s
KKAR **Karatay Array** 86.60 314 P P 07 43 27.0 -0.5
KKAR **Karatay Array** 86.60 314 P P 07 43 27.0 -0.5
KKAR pmax pmax
comp=Z,37nm,1.1s
U33K **Whale Pass** 86.75 33 P P 07 43 28.2 +0.4
baz=255
M30M **Minto, Yukon** 86.77 26 P P 07 43 28.0 +0.1
baz=252,SNR=29
J29N **Klondike Camp** 86.77 24 P P 07 43 27.8 -0.1
J29N **Klondike Camp** 86.77 24 P P 07 43 28.8 +0.9
baz=250,SNR=25
IUG **luzhnay** 86.78 313 *e*P P 07 43 27.6 -1.0
baz=313
IUG **luzhnay** 86.78 313 *e*P P 07 43 27.5 -1.0
E27K **Coleen River** 86.85 20 P P 07 43 28.2 0.0
baz=247
K29M **Barlow Dome** 86.86 25 P P 07 43 28.8 +0.3
baz=251
N31M **Braeburn, Yuko** 86.89 27 P P 07 43 28.6 +0.1
baz=253,SNR=16
T33K **Petersburg** 87.02 32 P P 07 43 29.7 +0.6
baz=256
WHY **Whitehorse** 87.07 28 P P 07 43 29.5 0.0
baz=254,SNR=12
BRLS **Borolday** 87.08 314 *e*P P 07 43 29.2 -0.6
baz=313
BRLS **Borolday** 87.08 314 *e*P P 07 43 29.2 -0.6
CHM **Chimkent** 87.12 313 *e*P P 07 43 29.4 -0.7
comp=Z,13nm,1.2s,baz=313
CHM **Chimkent** 87.12 313 *e*P P 07 43 29.3 -0.7
CHM pmax pmax
comp=Z,13nm,1.2s
F28M **Old Crow** 87.24 21 P P 07 43 30.4 +0.4
F28M IAmb IAmb 07 43 32.9
comp=Z,13nm,1.1s
F28M **Old Crow** 87.24 21 P P 07 43 30.2 +0.2
baz=249,SNR=18
WRAK **Wrangell Islan** 87.24 33 P P 07 43 30.4 +0.1
baz=256
H29M **Whitestone** 87.30 23 P P 07 43 30.8 +0.4
baz=250
P32M **Atlin** 87.34 30 P P 07 43 30.9 +0.2
baz=255,SNR=8.7
V35K **Ketchikan** 87.39 34 P P 07 43 31.1 +0.2
baz=257
D27M **Malcolm River** 87.47 19 P P 07 43 31.1 -0.1
baz=248
MAYO **Mayo, Yukon** 87.47 25 P P 07 43 31.6 +0.4
MAYO **Mayo, Yukon** 87.47 25 P P 07 43 31.1 -0.1
baz=253
J30M **Hart River** 87.58 24 P P 07 43 31.6 -0.2
baz=252,SNR=32
G29M **Pine Creek** 87.67 22 P P 07 43 32.3 +0.2
baz=251,SNR=18
E28M **Babbage River** 87.71 20 P P 07 43 32.3 0.0
baz=249
M31M **Drury Creek, Y** 87.73 27 P P 07 43 32.2 -0.3
baz=254,SNR=14
I30M **Mount Dempster** 87.76 24 P P 07 43 32.0 -0.7
baz=252
Q32M **Nakina River** 87.90 30 P P 07 43 33.9 +0.3
baz=256
P33M **Teslin, Yukon** 87.94 29 P P 07 43 33.1 -0.5
baz=256,SNR=6.5
EPYK **Eagle Plains** 87.98 23 P P 07 43 33.2 -0.5
baz=252,SNR=17
N32M **Quiet Lake** 88.05 28 P P 07 43 34.1 +0.1
N32M **Quiet Lake** 88.05 28 P P 07 43 34.3 +0.2
baz=255,SNR=23
E29M **Blow River** 88.20 21 P P 07 43 34.3 -0.2
baz=251,SNR=11
FARO **Faro, Yukon** 88.20 27 P P 07 43 34.9 +0.1
FARO IAmb IAmb 07 43 36.6
comp=Z,20nm,1.2s
FARO **Faro, Yukon** 88.20 27 P P 07 43 34.6 -0.1
baz=255,SNR=26
D28M **Stokes Point** 88.24 20 P P 07 43 34.7 +0.1
baz=250
S34M **Telegraph Cree** 88.24 31 P P 07 43 34.6 -0.4
baz=257,SNR=6.6
G30M **tAoh Zraii Nji** 88.36 22 P P 07 43 35.0 -0.5
baz=252,SNR=16
U35K **Hyder** 88.40 34 P P 07 43 35.0 -0.7
baz=258
T35M **Bob Quinn** 88.50 33 P P 07 43 36.5 +0.2
baz=256
BVAR **Borovoye Array** 88.54 323 P P 07 43 35.6 -0.9
comp=Z,7.0nm,0.9s,baz=106,slow=4.8,SNR=22
BVAR LR LR 08 25 48.4
comp=Z,19nm,18.1s,baz=82,slow=37
comp=Z,7.0nm,0.9s
R33M **Jennings River** 88.65 30 P P 07 43 36.5 -0.5
baz=257,SNR=8.1
F30M **Barrier River** 88.71 22 P P 07 43 36.4 -0.6
baz=253,SNR=21
H31M **Peel River** 88.74 23 P P 07 43 37.0 -0.2
baz=254,SNR=13
DLBC **Dease Lake** 88.92 31 P P 07 43 37.7 -0.6
baz=258,SNR=7.0
DLBC **Dease Lake** 88.92 31 P P 07 43 39.4 +1.2
comp=Z,9.6nm,1.1s,baz=266,slow=4.5,SNR=9.7
comp=Z,9.6nm,1.1s
G31M **Satah River** 89.08 22 P P 07 43 38.5 -0.1
baz=254,SNR=12
F31M **Tsiigehtchic** 89.42 22 P P 07 43 39.9 -0.4
baz=254
INK **Inuvik** 89.73 21 P P 07 43 40.6 -1.1
INK IAmb IAmb 07 43 43.8
comp=Z,19nm,1.1s
INK **Inuvik** 89.73 21 P P 07 43 41.0 -0.7
baz=255
INK **Inuvik** 89.73 21 P P 07 43 40.6 -1.1
INK pmax pmax
comp=Z,19nm,1.2s
INK **Inuvik** 89.73 21 PKKP 08 01 12.7
comp=Z,1.4nm,1.0s,baz=56,slow=1.5,SNR=5.1
WTLY **Watson Lake, Y** 89.88 30 P P 07 43 42.4 -0.2
baz=259,SNR=9.8
TGTN **Hyland Airport** 90.39 28 P P 07 43 45.2 +0.1
baz=260,SNR=7.9
L04D **Klamath Falls** 91.29 48 P P 07 43 50.0 +0.2
L04D IAmb IAmb 07 43 50.6
comp=Z,16nm,1.0s
TOAD **Toad River Com** 91.46 31 P P 07 43 50.5 +0.5
baz=262
AFDM **Forest Hills D** 91.98 51 P P 07 43 51.5 -1.4
AFDM IAmb IAmb 07 43 54.5
comp=Z,12nm,1.4s
J05D **Fort Rock, OR** 92.18 47 P P 07 43 54.4 +0.5
J05D IAmb IAmb 07 43 56.4
comp=Z,11nm,0.8s
KOTAN **Kotaneelee Air** 92.22 30 P P 07 43 53.9 +0.4
baz=263,SNR=5.5
K05A **Summer Lake** 92.38 47 P P 07 43 55.3 +0.4
K05A IAmb IAmb 07 43 57.5
comp=Z,11nm,0.8s
SMMC **Simmler** 92.43 55 P P 07 43 53.9 -1.2
baz=265
FLDN **Fort Liard** 92.52 30 P P 07 43 55.1 +0.2
baz=264
WRGLY **Wrigley** 92.86 27 P P 07 43 56.2 -0.1
baz=264,SNR=7.3
PNTR **Pine Nut** 93.06 51 P P 07 43 58.4 +0.3
PNTR IAmb IAmb 07 43 59.4
comp=Z,7.5nm,0.9s
VES **Vestal, Richgr** 93.22 54 P P 07 43 57.9 -0.7
baz=266
A36M **Sachs Harbour** 93.23 18 P P 07 43 57.6 -0.2
baz=263
PAHR **Pah Rah Range** 93.27 51 P P 07 43 58.4 -0.6
PAHR IAmb IAmb 07 44 00.7
comp=Z,21nm,1.8s
C36M **Paulatuk** 93.30 21 P P 07 43 57.4 -0.8
baz=264
MDPB **Devils Postpil** 93.35 53 P P 07 44 00.0 +0.5
CIS **Catalina Islan** 93.59 57 P P 07 43 59.2 -1.2
baz=266
ISA **Isabella, Lake** 93.70 55 P P 07 44 01.0 0.0
baz=266
PNT **Penticton** 93.78 41 P P 07 43 58.4 -2.5
PNT pmax pmax
comp=Z,7.0nm,0.9s
RYN **Ryan** 93.86 52 P P 07 44 01.4 -0.3
NVAR **Mina Array Bea** 94.02 52 P P 07 44 03.4 +0.9
comp=Z,4.3nm,0.7s,baz=253,slow=6.3,SNR=36
comp=Z,4.3nm,0.7s
WVOR **Wild Horse Val** 94.02 48 P P 07 44 01.6 -0.8
WVOR IAmb IAmb 07 44 07.4
comp=Z,7.7nm,1.4s
WVOR **Wild Horse Val** 94.02 48 P P 07 44 01.6 -0.8
WVOR pmax pmax
comp=Z,8.0nm,1.4s
EDW2 **Edwards Air Fo** 94.04 55 P P 07 44 03.4 +0.9
baz=266
CWC **Cottonwood Cre** 94.07 54 P P 07 44 03.1 +0.4
baz=266
BFSC **Mount Baldy Ra** 94.27 56 P P 07 44 03.9 +0.2
baz=266
LRMC **Laurel Mtn Rad** 94.33 55 P P 07 44 04.3 +0.4
baz=266,SNR=7.8
MPMC **Manual Prospec** 94.52 54 P P 07 44 05.1 +0.2
baz=267,SNR=8.2
MURC **Murrieta** 94.62 57 P P 07 44 05.6 +0.4
baz=267
109C **Camp Elliot, M** 94.65 58 P P 07 44 06.2 +0.9
baz=267
GRAC **Grapevine Rang** 94.67 53 P P 07 44 05.5 +0.2
baz=267
GSC **Goldstone, Bar** 95.04 55 P P 07 44 07.2 +0.1
baz=267
FURC **Furnace Creek,** 95.05 54 P P 07 44 07.5 +0.5
baz=267
MONP2 **Monument Peak** 95.23 58 P P 07 44 08.0 -0.2
baz=267
PFO **Pinyon Flats O** 95.23 57 P P 07 44 08.4 +0.3
baz=267
PFO **Pinyon Flats O** 95.23 57 P P 07 44 09.8 +1.7
comp=Z,3.3nm,0.7s,baz=252,slow=9.6,SNR=6.9
comp=Z,3.3nm,0.7s
TPFO **Pinon Flats** 95.24 57 P P 07 44 07.9 -0.3
baz=267
NEW **Newport** 95.38 42 P P 07 44 08.9 +0.6
baz=268
NEW **Newport** 95.38 42 P P 07 44 08.3 0.0
comp=Z,1.1nm,0.6s,baz=242,slow=9.7,SNR=2.4
comp=Z,1.1nm,0.6s
HEC **Hector,Ludlow** 95.40 56 P P 07 44 09.4 +0.6
baz=267
GEYT **Alibeck** 95.41 307 P P 07 44 08.6 0.0
comp=Z,5.4nm,1.0s,baz=68,slow=3.9,SNR=5.7
comp=Z,5.4nm,1.0s
IKP **In-Ko-Pah, Jac** 95.48 58 P P 07 44 09.3 +0.1
baz=267
SHOC **Shoshone, Teco** 95.50 55 P P 07 44 09.1 0.0
baz=267
BELC **Belle Mtn. Jos** 95.64 56 P P 07 44 10.2 +0.3
baz=267
ARU **Arti** 95.71 326 *di*P P 07 44 07.2 -2.3
ARU 07 48 00.3
ARU S SKSac 07 54 30.7 -2.5
ARU SS SS 08 01 44.0 -3.7
ARU pmax pmax
comp=Z,5.0nm,1.0s
ARU **Arti** 95.71 326 LR LR 08 26 02.7
comp=Z,42nm,21.8s,baz=94,slow=34
ELIB **Princess Elisa** 95.73 194 *d*P P 07 44 10.1 +0.5
comp=Z,6.5nm,0.9s
SWSC **Sam W. Stewart** 95.75 58 P P 07 44 10.4 +0.1
baz=267
TUQ **Turquoise Moun** 95.76 55 P P 07 44 10.1 -0.4
baz=268,SNR=6.5
GMRC **Granite Mounta** 95.95 56 P P 07 44 11.3 -0.1
baz=268
BC3 **Big Chuckawall** 96.07 57 P P 07 44 12.2 +0.3
baz=268
R11B **Troy Canyon, C** 96.15 52 P P 07 44 12.2 0.0
baz=268
IRM **Iron Mountain** 96.35 56 P P 07 44 13.2 +0.2
baz=268
YKA **Yellowknife Ar** 96.89 28 P P 07 44 14.6 -0.2
comp=Z,1.3nm,0.6s,baz=274,slow=4.9,SNR=28
comp=Z,1.3nm,0.6s
HLID **Hailey** 97.16 47 P P 07 44 16.8 +0.1
baz=269
PDMCI **Parker Dam,Lak** 97.19 56 P P 07 44 17.1 +0.3
baz=268
214A **Organ Pipe Nat** 98.24 59 P P 07 44 21.4 -0.2
baz=269
DUG **Dugway, Tooele** 98.33 50 P P 07 44 22.0 0.0
baz=270
BOZ **Bozeman (W)** 99.13 45 P Pdif 07 44 25.2 -0.2
baz=272
WUAZ **Wupatki** 99.48 55 P Pdif 07 44 27.0 -0.2
baz=270
H17A **Grant Village** 99.92 46 P Pdif 07 44 29.6 +0.5
baz=272
TUC **Tucson** 99.97 58 P Pdif 07 44 29.3 -0.1

baz=270
EGMT Eagleton 100.31 42 P Pdif 07 44 30.8 +0.2
baz=273
BW06 Boulder Array 100.72 48 P Pdif 07 44 32.7 0.0
baz=273
PDAR Pinedale Array 100.72 48 P Pdif 07 44 32.3 -0.4
comp=Z,1.7nm,0.6s,baz=229,slow=1.9,SNR=25
PDAR PKiKP **PKiKP** 07 48 58.5 +0.4
comp=Z,0.3nm,0.6s,baz=259,slow=1.8,SNR=3.8
W18A Petrified Fore 100.82 55 P Pdif 07 44 33.1 -0.2
baz=271
SNAA Sanae 101.16 188 *i* P Pdif 07 44 32.3 -1.5
SNAA pmax pmax
comp=Z,5.0nm,1.1s
MVCO Mesa Verde 101.76 53 P Pdif 07 44 36.2 -1.2
baz=272
O20A White River Ci 101.84 50 P Pdif 07 44 37.4 -0.2
baz=273
BELG Belogornoye 102.30 322 *i* P Pdif 07 44 38.3 -0.8
BELG pmax pmax
comp=Z,1.0nm,1.0s
121A Cookes Peak, D 102.50 58 P Pdif 07 44 40.6 -0.1
baz=272
LAO LASA Array 102.81 43 P Pdif 07 44 41.7 +0.1
baz=276
K22A Casper 102.96 48 P Pdif 07 44 42.9 +0.3
baz=275
ANMO Albuquerque 103.52 55 P Pdif 07 44 45.2 0.0
baz=273
N23A Red Feather La 103.53 49 P Pdif 07 44 45.5 +0.2
baz=275
ISCO Idaho Springs 103.87 50 P Pdif 07 44 46.9 0.0
baz=275
SDCO Great Sand Dun 104.12 53 P Pdif 07 44 47.8 -0.2
baz=274
RSSD Black Hills 104.62 46 P Pdif 07 44 49.7 -0.2
baz=277
ARCES ARCESS Array B 106.85 343 PKiKP **PKiKP** 07 49 08.2 -0.1
comp=Z,5.1nm,1.1s,baz=353,slow=4.0,SNR=5.7
AMTX Amarillo 107.43 55 P **PKiKP** 07 49 09.5 -1.0
baz=276
SUSD Miller 108.18 45 P **PKiKP** 07 49 11.3 -0.2
baz=281
JCT Junction City 109.43 60 P **PKiKP** 07 49 13.6 -0.7
baz=275
WMOK Wichita Mounta 109.82 55 P **PKiKP** 07 49 15.1 +0.2
baz=277
833A Chaparral WMA, 109.97 62 P **PKiKP** 07 49 14.8 -0.5
baz=275
FINES FINESS Array B 110.77 335 Pdiff **Pdif** 07 45 15.2 -1.4
comp=Z,1.1nm,0.8s,baz=134,slow=4.0,SNR=2.0
FINES PKiKP **PKiKP** 07 49 15.7 0.0
comp=Z,1.3nm,0.8s,baz=66,slow=3.4,SNR=2.0
KSU1 Kansas State U 110.87 50 P **PKiKP** 07 49 16.3 -0.4
baz=280
TUL3 Leonard 112.07 54 P **PKiKP** 07 49 18.3 -0.8
baz=280
SPMN Marine on St. 112.27 43 P **PKiKP** 07 49 19.6 +0.4
baz=286
EYMN Ely 112.36 40 P **PKiKP** 07 49 18.9 -0.3
baz=288
AKASG Malin Array Be 113.81 324 PKiKP **PKiKP** 07 49 20.2 -1.7
comp=Z,0.8nm,0.5s,baz=50,slow=1.9,SNR=4.1
AKASG PP **PP** 07 50 16.4 -0.2
comp=Z,1.6nm,0.7s,baz=60,slow=5.4,SNR=8.1
MIAR Mount Ida 114.09 55 P PKPdf 07 49 22.4 -0.6
baz=280
JFWS Jewell Farm 114.68 45 P **PKiKP** 07 49 23.1 -0.7
baz=287
CCM Cathedral Cave 115.20 50 P **PKiKP** 07 49 24.4 -0.6
baz=284
HDIL Hopedale 116.03 47 P **PKPdf** 07 49 26.5 0.0
baz=286
HFS Hagfors 116.49 338 PKP **PKPdf** 07 49 25.9 -0.9
comp=Z,4.0nm,1.0s,baz=180,slow=7.3,SNR=2.0
L44A Lake County Fo 116.54 45 P **PKPdf** 07 49 27.0 -0.4
baz=288
NB2 NORSAR Subarra 116.79 339 PKPdf **PKPdf** 07 49 25.8 -1.6
comp=Z,1.2nm,0.7s,baz=44,slow=1.9
NOA NORSAR Array B 116.79 339 PKP **PKPdf** 07 49 26.5 -0.9
comp=Z,1.1nm,0.6s,baz=50,slow=1.8,SNR=5.3
NOA PP **PP** 07 50 35.8 -1.3
comp=Z,1.0nm,0.8s,baz=5.4,slow=6.7,SNR=3.6
BOSA Boshof 117.67 234 PKP **PKiKP** 07 49 30.5 +0.2
comp=Z,2.7nm,0.8s,baz=122,slow=1.4,SNR=5.7
SFIN Lafayette 117.68 47 P **PKPdf** 07 49 29.2 -0.5
baz=288
WVT Waverly 118.32 52 P **PKPdf** 07 49 30.5 -0.6
baz=285
WCI Wyandotte Cave 118.92 49 P **PKPdf** 07 49 31.5 -0.7
baz=287
O48B Farmland 119.13 47 P **PKPdf** 07 49 32.1 -0.4
baz=289
AAM Ann Arbor 119.48 44 P **PKPdf** 07 49 32.9 -0.2
baz=292
P49A Miami Univ. Ec 119.68 47 P **PKPdf** 07 49 33.4 -0.2
baz=289
LRAL Lakeview Retre 119.76 55 P **PKPdf** 07 49 33.6 -0.3
baz=284
PLCA Paso Flores 120.47 144 PKP **PKiKP** 07 49 36.2 +0.9
comp=Z,6.6nm,0.7s,baz=248,slow=1.9,SNR=25
PLCA PKKPbc **PKKPbc** 07 59 42.1 -0.7
comp=Z,1.5nm,0.9s,baz=67,slow=4.2,SNR=3.5
ACSO Alum Creek Sta 120.70 46 P **PKPdf** 07 49 35.2 -0.3
baz=291
TZTN Tazewell 121.52 50 P **PKPdf** 07 49 36.4 -0.8
baz=288
P52A Corning 121.52 46 P **PKPdf** 07 49 36.5 -0.6
baz=291
M53A WI Miller and 121.86 44 P **PKPdf** 07 49 37.4 -0.3
baz=294
O53A New Philadelph 121.95 45 P **PKPdf** 07 49 37.5 -0.5
baz=292
SCHQ Schefferville 122.17 25 PKP **PKPdf** 07 49 37.5 -0.4
comp=Z,2.4nm,0.9s,baz=360,slow=5.9,SNR=4.0
CLL Collm 122.40 330 *e*PKiKP **PKiKP** 07 49 39.0 +0.4
CLL Collm 122.40 330 *e*PKiKP **PKiKP** 07 49 39.0 +0.4
CLL *e*PP **PP** 07 51 16.0 +0.2
GOGA Godfrey 122.52 54 P **PKPdf** 07 49 38.6 -0.6
baz=287
CONA Conrad Observa 122.84 325 *e*PKP **PKPdf** 07 49 39.1 -0.4
comp=Z,3.2nm,0.8s
TIGA Tifton 122.96 56 P **PKPdf** 07 49 39.3 -0.8
baz=285
MCWV Mont Chateau 123.15 45 P **PKPdf** 07 49 39.5 -0.7
baz=293
CKRC Cesky Krumlov 123.20 327 *e*PKPDF **PKiKP** 07 49 40.3 0.0
KHC Kasperske Hory 123.41 328 *e*PKPDF **PKPdf** 07 49 40.4 -0.1
KHC Kasperske Hory 123.41 328 *c i*PKiKP **PKiKP** 07 49 41.1 +0.4
KHC pmax pmax
comp=Z,23nm,1.7s
GERES GERESS Array B 123.51 327 PKP **PKPdf** 07 49 40.8 0.0
comp=Z,2.7nm,0.7s,baz=3.8,slow=4.0,SNR=4.1
BLA Blacksburg 123.65 48 P **PKPdf** 07 49 40.6 -0.7
baz=291
SSPA Standing Stone 124.11 44 P **PKPdf** 07 49 41.3 -0.7
baz=296
OBKA Obir 124.36 325 *e*PKP **PKPdf** 07 49 41.1 -1.4
comp=Z,7.5nm,1.2s
LONY Lake Ozonia 124.39 38 P **PKPdf** 07 49 42.0 -0.5
baz=301
BINY Binghamton 124.69 41 P **PKPdf** 07 49 42.5 -0.6
baz=298
MYKA Terra Mystica 124.81 325 *e*PKP **PKPdf** 07 49 42.8 -0.5
comp=Z,1.6nm,0.7s
ABTA Abfaltersbach 125.38 326 *e*PKP **PKPdf** 07 49 43.8 -0.6
comp=Z,3.3nm,0.6s
WTTA Wattenberg 125.56 327 *e*PKP **PKPdf** 07 49 43.7 -1.2
comp=Z,7.6nm,0.9s
DWPF Disney Wildern 125.62 59 P **PKPdf** 07 49 44.2 -1.1
baz=285
MOTA Moosalm 125.80 327 *e*PKP **PKPdf** 07 49 44.1 -1.2
comp=Z,7.7nm,1.0s
SQTA Sankt Quirin 125.82 327 *e*PKiKP **PKiKP** 07 49 45.6 -0.1
comp=Z,2.9nm,0.5s
EKA Eskdalemuir Ar 126.01 342 PKP **PKPdf** 07 49 45.2 0.0
comp=Z,2.0nm,0.7s,baz=32,slow=3.0,SNR=5.7
FETA Feichten 126.20 327 *e*PKiKP **PKPdf** 07 49 46.1 0.0
comp=Z,11nm,1.2s
LBNH Lisbon 126.21 37 P **PKPdf** 07 49 44.8 -1.1
baz=303
DAVA Damuels 126.49 328 *e*PKP **PKPdf** 07 49 46.1 -0.5
comp=Z,3.9nm,0.6s
PAL Palisades 126.63 42 P **PKPdf** 07 49 45.7 -1.2
baz=299
L61B Northampton 126.70 39 P **PKPdf** 07 49 45.9 -1.1
baz=301
BGES Gesves 126.76 333 *d*PKP **PKPdf** 07 49 46.4 -0.4
BMRD Maredsous 126.97 333 *d*PKP **PKPdf** 07 49 46.7 -0.5
PKME Peaks-Kenny Pk 127.17 35 P **PKPdf** 07 49 47.2 -0.5
baz=306
HRV Adam Dziewonsk 127.37 39 P **PKPdf** 07 49 47.7 -0.5
baz=302
LVC Limon Verde 132.22 127 PKP **PKPdf** 07 49 59.1 +0.7
comp=Z,5.3nm,0.6s,baz=227,slow=3.7,SNR=7.2
ROSC El Rosal 135.06 89 PKP **PKPdf** 07 50 04.9 +0.8
comp=Z,16nm,0.7s,baz=258,slow=6.1,SNR=9.3
LPAZ La Paz 135.86 120 PKhKP PKPpre 07 49 53.5
comp=Z,2.0nm,0.7s,baz=196,slow=1.1,SNR=5.4
LPAZ PKP **PKPdf** 07 50 06.1 +0.3
comp=Z,19nm,0.9s,baz=306,slow=1.3,SNR=27
CPUP Villa Florida 138.30 140 PKhKP PKPpre 07 50 02.2
comp=Z,7.1nm,0.9s,baz=143,slow=3.2,SNR=3.7
CPUP PKP **PKPdf** 07 50 09.7 +0.4
comp=Z,7.1nm,0.7s,baz=249,slow=0.8,SNR=14
SIV San Ignacio 141.96 124 PKhKP PKPpre 07 50 11.3
comp=Z,8.5nm,0.8s,baz=237,slow=3.3,SNR=27
PCRV Puerto La Cruz 144.59 80 PKP **PKPab** 07 50 19.4 -0.3
comp=Z,49nm,0.7s,baz=302,slow=0.4,SNR=40
TORD Torodi Ar. Bea 148.59 286 PKPbc **PKPbc** 07 50 30.7 -0.7
comp=Z,12nm,0.7s,baz=58,slow=3.6,SNR=50
BDFB Brasilia 151.99 139 PKP **PKPdf** 07 50 33.5 +0.6
comp=Z,12nm,0.8s,baz=184,slow=1.7,SNR=20
BDFB PKPbc **PKiKP** 07 50 40.5 +0.6
comp=Z,59nm,0.7s,baz=249,slow=1.7,SNR=64
DBIC Dimbokro 155.76 274 PKP **PKPdf** 07 50 38.5 +0.3
comp=Z,3.5nm,0.8s,baz=155,slow=3.8,SNR=4.0
DBIC PKPab **PKPab** 07 51 05.2 -0.2
comp=Z,5.5nm,0.9s,baz=95,slow=5.1,SNR=4.6

*IDC **29** 07:35:19.8±1.0, 17°.29N×46°.60W, h0km, mb3.8/8, mbtmp3.9/9, ML3.6/1, MS3.7/34, Error ellipse: s-maj=30.0km s-min=23.4km az=117.0*
*GCMT **29** 07:35:24.0±0.4, 17°.19N±0°.05×46°.15W±0°.03, h24km±1km, MW4.9/63, Moment Tensor Solution. s21,c22; s63,c83; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.84±.21; Mθθ1.07±.12; Mφφ1.77±.12; Mrθ-0.66±.17; Mrφ-0.77±.10; Mθφ-0.85±.14; Best double couple: Mo2.71700×10¹⁶ NP1:φs344.00000°, δ51.00000°, λ-71.00000°. NP2: φs134.00000°, δ43.00000°, λ-113.00000°. Principal axes: T 2.2910, Plg5.0000°, Azm60.0000°; N 0.8510, Plg15.0000°, Azm151.0000°; P -3.1430, Plg74.0000°, Azm314.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
ISC 29 07:35:21.3±0.8, 17.3N±0.1×46.6W±0.2, h10km, n45, σ0.982/10, mb4.0/8, MS3.7/33, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDP	**Montagnes des**	**13.46**	**207**	Pn	**Pn**	**07 38 32.6**	**+0.1**
	0.3nm,0.3s,baz=356,slow=21,SNR=2.2						
MDP				LR	LR	07 43 19.6	
	comp=Z,54nm,18.8s,baz=24,slow=36						
	17nm,1.0s						
H05S1	**Guadeloupe/Mar**	**13.99**	**260**	T	T	07 53 09.1	
	SNR=6.3						
SDV	**Santo Domingo**	**24.83**	**253**	LR	LR	07 52 04.2	
	comp=Z,151nm,18.2s,baz=86,slow=40						
RCBR	**Riachuelo**	**25.26**	**154**	LR	LR	07 48 09.6	
	comp=Z,151nm,18.8s,baz=64,slow=30						
ROSC	**El Rosal**	**29.83**	**249**	LR	LR	07 55 26.1	
	comp=Z,53nm,18.2s,baz=70,slow=40						
TKL	**Tuckaleechee C**	**37.70**	**306**	LR	LR	07 55 31.9	
	comp=Z,154nm,20.3s,baz=122,slow=32						
SADO	**Sadowa**	**38.67**	**322**	LR	LR	07 55 15.3	
	comp=Z,134nm,20.7s,baz=108,slow=31						
TEIG	**Tepich**	**39.51**	**281**	LR	LR	07 57 19.9	
	comp=Z,544nm,21.5s,slow=33						
LPAZ	**La Paz**	**39.53**	**214**	P	**P**	**07 42 53.4**	**+0.1**
	3.7nm,0.9s,baz=15,slow=6.8,SNR=14						
LPAZ				LR	LR	07 58 55.8	
	comp=Z,89nm,19.4s,baz=10.0,slow=36						
	3.7nm,0.9s						
ATAH	**Atahualpa**	**39.70**	**235**	LR	LR	07 59 54.7	
	comp=Z,84nm,18.8s,baz=30,slow=37						
H10N3	**ASCENSION HYDR**	**40.36**	**126**	T	T	08 25 39.2	
	baz=308,slow=75,SNR=131						
H10N2	**ASCENSION HYDR**	**40.36**	**126**	T	T	08 25 40.0	
	baz=308,slow=75,SNR=149						
H10N1	**ASCENSION HYDR**	**40.38**	**126**	T	T	08 25 39.4	
	baz=308,slow=75,SNR=152						
SCHQ	**Schefferville**	**40.60**	**342**	LR	LR	07 59 51.7	
	comp=Z,79nm,18.2s,baz=174,slow=36						
MDT	**Midelt**	**40.78**	**60**	LR	LR	07 56 29.2	
	comp=Z,50nm,18.7s,baz=293,slow=31						
H10S3	**ASCENSION HYDR**	**40.93**	**127**	T	T	08 26 23.0	
	baz=306,slow=74,SNR=35						
H10S2	**ASCENSION HYDR**	**40.95**	**127**	T	T	08 26 23.8	
	baz=274,slow=74,SNR=13						
NNA	**Nana**	**41.69**	**228**	LR	LR	08 00 04.2	
	comp=Z,61nm,18.7s,baz=21,slow=36						
DBIC	**Dimbokro**	**42.08**	**99**	LR	LR	07 57 32.2	
	comp=Z,178nm,20.0s,baz=288,slow=32						
ESDC	**Sonseca Array**	**43.10**	**50**	LR	LR	07 57 31.9	
	comp=Z,88nm,18.3s,baz=257,slow=31						
CPUP	**Villa Florida**	**44.58**	**194**	LR	LR	08 02 15.8	
	comp=Z,32nm,18.2s,baz=342,slow=36						
LVC	**Limon Verde**	**45.25**	**210**	LR	LR	08 04 51.5	
	comp=Z,45nm,18.4s,baz=349,slow=39						
TORD	**Torodi Ar. Bea**	**46.69**	**88**	P	**P**	**07 43 49.6**	**-1.0**
	0.7nm,1.0s,baz=296,slow=7.1,SNR=4.0						
TORD				LR	LR	08 00 45.2	
	comp=Z,196nm,21.0s,baz=310,slow=33						
	0.7nm,1.0s						
FRB	**Frobisher Bay**	**48.82**	**347**	LR	LR	08 02 54.4	
	comp=Z,61nm,18.6s,baz=200,slow=34						
BORG	**Borgarnes**	**50.42**	**14**	LR	LR	07 59 30.9	
	comp=Z,35nm,19.0s,baz=245,slow=29						
ULM	**Lac du Bonnet**	**51.22**	**321**	P	**P**	**07 44 24.3**	**-0.6**
	1.8nm,0.9s,baz=102,slow=7.9,SNR=3.1						
ULM				LR	LR	08 03 02.0	
	comp=Z,108nm,20.8s,baz=130,slow=32						
	1.8nm,0.9s						
TXAR	**Lajitas Array**	**53.32**	**294**	P	**P**	**07 44 41.0**	**-0.1**
	0.2nm,0.6s,baz=109,slow=6.8,SNR=2.5						
TXAR				PcP	**PcP**	**07 45 49.4**	**+0.8**
	0.7nm,0.9s,baz=86,slow=3.9,SNR=4.8						
TXAR				LR	LR	08 09 04.3	
	comp=Z,39nm,18.6s,baz=30,slow=38						
	0.2nm,0.6s						
DAVOX	**Davos/Dischmat**	**54.76**	**45**	LR	LR	08 06 17.0	
	comp=Z,62nm,18.2s,baz=264,slow=34						
ANMO	**Albuquerque**	**55.78**	**301**	LR	LR	08 06 02.7	
	comp=Z,142nm,21.9s,baz=190,slow=33						
PDAR	**Pinedale Array**	**58.70**	**310**	LR	LR	08 08 18.1	
	comp=Z,77nm,21.7s,baz=115,slow=34						
NOA	**NORSAR Array B**	**59.64**	**29**	LR	LR	08 06 26.1	
	comp=Z,35nm,18.1s,baz=260,slow=31						
PLCA	**Paso Flores**	**61.85**	**200**	LR	LR	08 12 30.8	
	comp=Z,59nm,20.5s,baz=196,slow=36						
ELK	**Elko**	**62.86**	**307**	LR	LR	08 12 11.4	
	comp=Z,75nm,19.1s,baz=91,slow=35						
H09N1	**TRISTAN DA CUN**	**62.97**	**150**	T	T	08 52 00.7	
	SNR=21						
H09W1	**TRISTAN DA CUN**	**62.98**	**150**	T	T	08 54 01.9	
	SNR=2.9						
RES	**Resolute Bay**	**63.04**	**347**	LR	LR	08 11 15.0	
	comp=Z,62nm,20.2s,baz=6.5,slow=34						
YKA	**Yellowknife Ar**	**64.70**	**332**	P	**P**	**07 45 58.8**	**-0.5**
	0.3nm,0.7s,baz=95,slow=7.4,SNR=4.2						
YKA				LR	LR	08 11 33.1	
	comp=Z,92nm,19.6s,baz=332,slow=34						
	0.3nm,0.7s						
FINES	**FINESS Array B**	**66.70**	**30**	P	**P**	**07 46 13.8**	**+1.5**
	1.2nm,0.8s,baz=262,slow=9.7,SNR=1.3						
	1.2nm,0.8s						
SPITS	**Spitsbergen Ar**	**67.77**	**11**	P	**P**	**07 46 19.0**	**+0.2**
	7.3nm,1.1s,baz=183,slow=7.1,SNR=1.5						
	7.3nm,1.1s						
EIL	**Elat**	**74.48**	**63**	LR	LR	08 19 55.2	
	comp=Z,52nm,19.6s,baz=250,slow=36						
RPN	**Rapa Nui**	**75.15**	**235**	LR	LR	08 15 58.4	
	comp=Z,34nm,18.8s,baz=286,slow=32						
ASF	**Jabal al Asfar**	**75.63**	**60**	LR	LR	08 22 20.5	
	comp=Z,6.9nm,19.0s,baz=246,slow=37						
ILAR	**Eielson Array**	**78.85**	**335**	P	**P**	**07 47 24.1**	**-0.2**
	1.2nm,0.8s,baz=72,slow=4.5,SNR=11						
	1.2nm,0.8s						
SUR	**Sutherland**	**81.18**	**128**	LR	LR	08 19 23.9	
	comp=Z,29nm,18.5s,baz=244,slow=33						
LBTB	**Lobatse**	**81.89**	**119**	LR	LR	08 16 27.2	
	comp=Z,81nm,20.3s,baz=267,slow=30						

*IDC **29** 07:51:01.9±4.2, 52°.22N×179°.93W, h164km±63km, mb2.9/6, mbtmp3.5/8, Error ellipse: s-maj=56.0km s-min=37.4km az=129.0*
*NEIC **29** 07:51:01.9±1.0, 51°.94N±0°.08×179°.84W±0°.08, h177km±7km, mb3.8/52, ML3.0(AEIC), Error ellipse: s-maj=12.3km s-min=5.1km az=204.0*
*AEIC **29** 07:51:02.8±1.5, 52°.1N±0°.2×179°.86W±0°.05, h174km±6km, Error ellipse: s-maj=25.0km s-min=4.5km az=177.0*
ISC 29 07:51:02.1±0.8, 52°.1N±0°.1×179°.86W±0°.04, h174km±7km, n95, σ0.979/103, mb3.7/19, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEPE	**Semis' Perret**	**0.32**	**250**		**Pn**	**07 51 25.7**	**+0.2**
CEPE					**Sn**	**07 51 43.0**	**-0.5**
CEAP	**Semis' Anvil P**	**0.35**	**258**		**Pn**	**07 51 25.5**	**-0.2**
CESW	**Semis' Southwe**	**0.40**	**244**		**Pn**	**07 51 25.9**	**+0.1**
CESW					**Sn**	**07 51 43.2**	**-0.7**
GASW	**Gareloi Southw**	**0.69**	**115**		**Pn**	**07 51 27.3**	**+0.2**
GASW					**Sn**	**07 51 46.4**	**+0.1**
GANO	**Gareloi North**	**0.70**	**111**		**Pn**	**07 51 27.0**	**-0.2**
GANE	**Gareloi Northe**	**0.72**	**110**		**Pn**	**07 51 27.1**	**-0.2**
GAEA	**Gareloi East**	**0.75**	**113**		**Pn**	**07 51 27.7**	**+0.2**
AMKA	**Amchitka**	**0.87**	**217**		**Pn**	**07 51 28.0**	**-0.3**
AMKA	**Amchitka**	**0.87**	**217**		**Sn**	**07 51 47.2**	**-1.1**
LSPA	**Little Sitkin**	**0.97**	**264**		**Pn**	**07 51 29.2**	**+0.3**
LSPA					**Sn**	**07 51 51.0**	**+1.4**
LSSE	**Little Sitkin**	**0.98**	**262**		**Pn**	**07 51 29.3**	**+0.3**
LSNW	**Little Sitkin**	**1.01**	**265**		**Pn**	**07 51 29.2**	**0.0**
TANO	**Tanaga North**	**1.09**	**98**		**Pn**	**07 51 30.0**	**+0.2**
TASE	**Tanaga Southea**	**1.16**	**101**		**Pn**	**07 51 30.6**	**+0.2**
TAFP	**Tanaga Falls P**	**1.18**	**98**		**Pn**	**07 51 30.5**	**-0.1**
TAFP					**Sn**	**07 51 52.4**	**-0.1**
KICM	**Kanaga Island**	**1.66**	**94**		**Pn**	**07 51 35.2**	**+0.2**
KIWB	**Kanaga Island**	**1.69**	**96**		**Pn**	**07 51 34.8**	**-0.6**
KIRH	**Kanaga Island**	**1.72**	**95**		**Pn**	**07 51 35.6**	**-0.1**
ADK	**Adak**	**1.98**	**94**		**Pn**	**07 51 38.0**	**-0.4**
ADK					**Sn**	**07 52 05.8**	**-0.8**
GSCK	**Great Sitkin C**	**2.29**	**90**		**Pn**	**07 51 41.6**	**-0.3**
GSTD	**Great Sitkin T**	**2.29**	**89**		**Sn**	**07 52 12.3**	**-0.8**
GSTR	**Great Sitkin T**	**2.35**	**88**	Pn	**Pn**	**07 51 42.3**	**-0.3**
GSMY	**Great Sitkin M**	**2.35**	**89**		**Pn**	**07 51 42.3**	**-0.3**
ATKA	**Atka Island**	**3.49**	**86**		**Pn**	**07 51 56.1**	**-0.4**
ATKA					**Sn**	**07 52 38.4**	**-0.5**
SHEM	**Shemya Is, Ala**	**3.76**	**282**	P	**Pn**	**07 52 00.3**	**+0.5**
	6.0nm,0.3s,baz=156,slow=5.0,SNR=5.9						
SHEM				S	**Sn**	**07 52 42.4**	**-2.5**
	40nm,0.8s,baz=11,slow=13,SNR=17						
CLCO	**Concord Point,**	**6.24**	**79**		**Pn**	**07 52 33.3**	**+1.3**
NIKH	**Nikolski High**	**6.78**	**78**		**Pn**	**07 52 39.0**	**-0.1**
MAPS	**Pakushin South**	**8.00**	**72**		**Pn**	**07 52 55.6**	**+0.4**
MGOD	**Makushin Gods**	**8.04**	**73**		**Pn**	**07 52 56.5**	**+0.7**
M14K	**Bethel**	**13.14**	**42**	Pn	**P**	**07 54 03.2**	**-2.4**
L14K	**Kuka Creek**	**13.19**	**39**	Pn	**Pn**	**07 54 03.8**	**+1.2**
CHGN	**Chignik**	**13.23**	**63**	Pn	**Pn**	**07 54 03.3**	**+0.3**
N15K	**Kwethluk River**	**13.64**	**46**	P	**P**	**07 54 12.3**	**+1.0**
K15K	**Wolf Creek Mou**	**14.21**	**37**	P	**P**	**07 54 18.6**	**+1.1**
N17K	**Nushagak Hills**	**15.10**	**47**	P	**P**	**07 54 27.4**	**+0.1**
N17K				IAmb	IAmb	07 54 41.3	
	comp=Z,8.1nm,1.4s						
M17K	**Holitna River**	**15.37**	**44**	P	**P**	**07 54 29.5**	**-0.9**
P18K	**Big Mountain,**	**15.62**	**52**	P	**P**	**07 54 33.5**	**+0.3**
P18K				IAmb	IAmb	07 54 44.2	
	comp=Z,7.0nm,1.3s						
O18K	**Koktuh Hills**	**15.77**	**51**	P	**Pn**	**07 54 33.5**	**-1.0**
SVW2	**Sparrevohn**	**16.05**	**46**	P	**P**	**07 54 38.8**	**+0.9**
G16K	**Koyuk River**	**16.06**	**27**	P	**P**	**07 54 38.4**	**+0.5**
L18K	**Granite Mounta**	**16.07**	**42**	P	**P**	**07 54 39.2**	**+1.2**
L18K				IAmb	IAmb	07 55 04.5	
	comp=Z,7.6nm,1.5s						
N19K	**Bonanza Creek**	**16.44**	**48**	P	**Pn**	**07 54 42.3**	**-0.4**
KDAK	**Kodiak Island**	**16.81**	**59**	P	**P**	**07 54 42.5**	**-1.6**
	comp=Z,4.7nm,0.8s,baz=291,slow=9.7,SNR=38						
L19K	**White Mountain**	**16.81**	**43**	P	**Pn**	**07 54 46.7**	**-0.4**
L19K				IAmb	IAmb	07 55 04.8	
	comp=Z,5.9nm,1.4s						
H18K	**Honhosa River**	**17.11**	**32**	P	**Pn**	**07 54 50.4**	**-0.1**
M20K	**Styx River**	**17.43**	**45**	P	**Pn**	**07 54 54.1**	**-0.4**
M20K				IAmb	IAmb	07 55 05.7	
	comp=Z,5.5nm,1.5s						
K20K	**Telida**	**17.66**	**40**	P	**Pn**	**07 54 56.7**	**-0.5**
SKT	**Skwentna**	**18.18**	**46**	P	**Pn**	**07 55 02.0**	**-1.2**
SKT				IAmb	IAmb	07 55 06.8	
	comp=Z,4.4nm,0.9s						
SUA	**Susitna One**	**18.36**	**48**	P	**P**	**07 55 03.8**	**+0.5**
SUA				IAmb	IAmb	07 55 06.3	
	comp=Z,3.1nm,0.9s						
F19K	**Shaleruckik Mo**	**18.40**	**28**	P	**Pn**	**07 55 04.6**	**-1.1**
E19K	**Redstone River**	**18.98**	**27**	P	**Pn**	**07 55 10.8**	**-1.7**
KTH	**Kantishna Hill**	**19.02**	**42**	P	**P**	**07 55 11.0**	**+0.6**
BPAW	**Bear Paw Mtn.**	**19.23**	**40**	P	**Pn**	**07 55 13.5**	**-2.0**
KNK	**Knik Glacier**	**19.41**	**49**	P	**P**	**07 55 14.1**	**-0.5**
KNK				IAmb	IAmb	07 55 22.0	
	comp=Z,5.2nm,1.2s						
D19K	**Kuna River**	**19.48**	**24**	P	**P**	**07 55 15.7**	**+0.4**
SML	**Sawmill**	**19.57**	**48**	P	**P**	**07 55 15.8**	**-0.5**
SML				IAmb	IAmb	07 55 37.2	
	comp=Z,4.0nm,1.1s						
MLY	**Manley**	**19.73**	**38**	P	**Pn**	**07 55 19.4**	**-2.1**
RND	**Reindeer**	**19.83**	**43**	P	**P**	**07 55 19.4**	**+0.3**
RND				IAmb	IAmb	07 55 44.1	
	comp=Z,3.3nm,1.4s						
SCM	**Sheep Creek Mo**	**20.03**	**48**	P	**P**	**07 55 21.4**	**0.0**
DHY	**Denali Highway**	**20.36**	**45**	P	**P**	**07 55 24.6**	**-0.2**
DHY				IAmb	IAmb	07 55 27.9	
	comp=Z,2.3nm,0.6s						
M24K	**Tolsona, Glenn**	**20.63**	**48**	P	**P**	**07 55 28.5**	**+0.8**
M24K				IAmb	IAmb	07 55 53.8	
	comp=Z,4.3nm,1.4s						
MDM	**Murphy Dome**	**20.67**	**39**	P	**P**	**07 55 28.2**	**+0.3**
MDM				IAmb	IAmb	07 55 30.5	
	comp=Z,2.3nm,0.6s						
RAGM	**Ragged Mountai**	**21.02**	**53**	P	**P**	**07 55 33.5**	**+1.7**
ILAR	**Eielson Array**	**21.13**	**40**	P	**P**	**07 55 33.0**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=242,slow=9.0,SNR=9.0						
	comp=Z,0.2nm,0.4s						
H24K	**Noodor Dome**	**21.16**	**37**	P	**P**	**07 55 34.1**	**+0.8**
H24K				IAmb	IAmb	07 55 42.2	
	comp=Z,6.5nm,1.5s						
N25K	**Chitina, Valde**	**21.25**	**50**	P	**P**	**07 55 34.2**	**-0.1**
GLB	**Gilahina Butte**	**21.60**	**50**	P	**P**	**07 55 37.5**	**-0.4**
VRDI	**Verde Repeater**	**21.73**	**51**	P	**P**	**07 55 39.8**	**+0.3**
VRDI				IAmb	IAmb	07 56 08.0	
	comp=Z,4.8nm,1.5s						
CRQM	**Cirque**	**21.82**	**52**	P	**P**	**07 55 40.6**	**+0.3**
F24K	**Squaw Lake**	**21.93**	**33**	P	**P**	**07 55 41.9**	**+0.7**
MCARA

J30M	**Hart River**	**25.46**	**44**	P	**P**	**07 56 13.3**	**-0.4**
J30M				IAmb	IAmb	07 56 17.4	
	comp=Z,2.4nm,1.2s						
INK	**Inuvik**	**27.27**	**36**	P	**P**	**07 56 29.8**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=349,slow=13,SNR=2.4						
	comp=Z,0.4nm,0.5s						
YKA	**Yellowknife Ar**	**35.23**	**47**	P	**P**	**07 57 39.7**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=283,slow=8.5,SNR=6.1						
	comp=Z,0.3nm,0.6s						
NVAR	**Mina Array Bea**	**44.12**	**83**	P	**P**	**07 58 55.0**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=301,slow=7.3,SNR=6.1						
	comp=Z,0.7nm,0.7s						
PDAR	**Pinedale Array**	**46.73**	**72**	P	**P**	**07 59 13.7**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=336,slow=3.3,SNR=5.1						
	comp=Z,0.2nm,0.5s						
MK31	**Makanchi Array**	**59.08**	**308**	P	**P**	**08 00 43.9**	**+0.2**
MK31				IAmb	IAmb	08 00 57.1	
	comp=Z,1.9nm,1.4s						
MKAR	**Makanchi Array**	**59.08**	**308**	P	**P**	**08 00 43.2**	**-0.5**
TX31	**Lajitas Ar. Si**	**59.20**	**81**	P	**P**	**08 00 44.7**	**-0.1**
TXAR	**Lajitas Array**	**59.20**	**81**	P	**P**	**08 00 44.6**	**-0.2**
TXAR	**Lajitas Array**	**59.20**	**81**	P	**P**	**08 00 45.3**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=308,slow=5.4,SNR=5.6						
	comp=Z,0.5nm,0.9s						

IDC 29 07:58:14.0±2.7, 53°.96N×86°.67E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=22.3km s-min=13.6km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.09**	**270**	I	I	08 06 10.0	
	baz=88,slow=330,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.09**	**270**	Pg	Pg	07 58 34.4	-0.5
	0.5nm,0.3s,baz=88,slow=16,SNR=8.5						
ZALV				Lg	Lg	07 58 50.0	
	1.2nm,0.3s,baz=89,slow=30,SNR=8.2						
KURBB	**Kurchatov Arra**	**6.00**	**240**	Pn	Pn	07 59 45.1	+1.1
	0.1nm,0.3s,baz=57,slow=14,SNR=5.1						
KURBB				Lg	Lg	08 01 23.4	
	baz=344,slow=23,SNR=3.3						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.70**	**203**	Pn	Pn	08 00 08.2	+1.0
	0.1nm,0.3s,baz=24,slow=13,SNR=5.5						
MKAR				Lg	Lg	08 02 17.2	
	baz=23,slow=30						
	0.1nm,0.3s						

*NOU **29** 08:29:44.2, 42°.17S×174°.27E, h11km, MLv4.1/12, Off E. Coast of S. Island, N.Z.*
*WEL **29** 08:29:45.2, 41°.92S×173°.98E, h15km, ML3.6, Mw3.5, Moment Tensor Solution. s4 Moment tensor: Mrr19.25; Mθθ5.08; Mθφ-24.32; Mrθ-9.88; Mφφ8.03; Mrr-7.04; Fault plane solution: NP1:φ221.00000°, δ47.00000°, λ133.00000°. NP2:φ347.00000°, δ58.00000°, λ54.00000°. Principal axes: T 26.2900, Plg59.0000°, Azm203.0000°; N 0.5300, Plg30.0000°, Azm8.0000°; P -26.8200, Plg6.0000°, Azm102.0000°; SOUTH ISLAND*
*WEL **29** 08:29:45.2±0.6, 42°.3S×174°.4E±°, h11km±5km, M3.6/8, ML3.8/8, MLv3.6/8 Error ellipse: s-maj=0.0km s-min=0.0km az=139.8*

ISC 29 08:29:43.5±1.3, 42°.03S±0°.03×174°.12E±0°.03, h4km±12km, n113, σ1§34/121, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.29**	**14**	P	**Pg**	**08 29 50.9**	**+1.8**
CMWZ				S	**Sb**	08 29 56.2	-0.2
BSWZ	**Blackbirch Sta**	**0.37**	**330**	P	**Pg**	**08 29 50.4**	**-0.1**
BSWZ				S	**Sg**	**08 29 54.5**	**-0.9**
KHZ	**Kahutara**	**0.58**	**228**	P	**Pb**	**08 29 56.9**	**+0.8**
KHZ	**Kahutara**	**0.58**	**228**	P	**Pb**	**08 29 57.2**	**+1.1**
KHZ				S	**Sb**	**08 30 06.4**	**+1.9**
TUWZ	**Tuamarina**	**0.62**	**348**	P	**Pg**	**08 29 55.3**	**0.0**
TUWZ				S	**Sg**	**08 30 02.8**	**-0.5**
TCW	**Tory Channel**	**0.83**	**8**	P	**Pg**	**08 29 59.4**	**0.0**
TCW				S	**Sg**	**08 30 10.5**	**+0.3**
BHW	**Baring Head**	**0.84**	**42**	P	**Pb**	**08 30 01.5**	**+1.0**
SNZO	**South Karori**	**0.84**	**31**	P	**Pg**	**08 30 01.2**	**+1.5**
WEL	**Wellington**	**0.89**	**33**	P	**Pb**	**08 30 02.2**	**+0.8**
WEL				S	**Sn**	**08 30 15.3**	**-0.7**
THZ	**Tophouse**	**0.95**	**286**	P	**Pg**	**08 30 01.4**	**-0.2**
THZ				S	**Sg**	**08 30 12.8**	**-1.0**
PLWZ	**Palliser**	**0.97**	**62**	P	**Pg**	**08 30 03.4**	**+1.4**
NNZ	**Nelson**	**0.99**	**326**	P	**Pg**	**08 30 01.4**	**-1.0**
NNZ				S	**Sg**	**08 30 13.4**	**-1.8**
CAW	**Cannon Point**	**1.17**	**38**	P	**Pb**	**08 30 06.1**	**-0.1**
PAWZ	**Paruwai Farm**	**1.18**	**57**	P	**Pb**	**08 30 06.0**	**-0.3**
MRNZ	**Matariki Terra**	**1.20**	**301**	P	**Pn**	**08 30 05.7**	**-1.2**
GVZ	**Greta Valley S**	**1.23**	**220**	P	**Pn**	**08 30 07.6**	**+0.2**
DUWZ	**D'Urville Isla**	**1.24**	**353**	P	**Pn**	**08 30 06.2**	**-1.3**
KIW	**Kapiti Island**	**1.31**	**27**	P	**Pn**	**08 30 08.3**	**-0.2**
TKNZ	**Takaka Hill**	**1.33**	**319**	P	**Pn**	**08 30 07.4**	**-1.3**
TRWZ	**Traveller**	**1.33**	**62**	P	**Pn**	**08 30 08.0**	**-0.8**
MTW	**Mount Morrison**	**1.36**	**50**	P	**Pn**	**08 30 08.2**	**-0.9**
OGWZ	**Otaki Gorge**	**1.45**	**33**	P	**Pn**	**08 30 10.0**	**-0.4**
HOWZ	**Holdsworth Sta**	**1.55**	**43**	P	**Pn**	**08 30 10.8**	**-0.9**
LTZ	**Lake Taylor**	**1.56**	**241**	P	**Pn**	**08 30 11.9**	**0.0**
AMCZ	**Amberley**	**1.57**	**223**	P	**Pn**	**08 30 12.0**	**-0.1**
TMWZ	**Te Maipa**	**1.62**	**56**	P	**Pn**	**08 30 11.6**	**-1.1**
QRZ	**Quartz Range**	**1.70**	**315**	P	**Pn**	**08 30 14.2**	**+0.4**
QRZ	**Quartz Range**	**1.70**	**315**	P	**Pn**	**08 30 13.7**	**-0.1**
DSZ	**Denniston Nort**	**1.75**	**279**	P	**Pn**	**08 30 14.9**	**+0.3**
MRZ	**Mangatainoka R**	**1.76**	**39**	P	**Pn**	**08 30 13.7**	**-0.9**
TIWZ	**Tintock**	**1.83**	**47**	P	**Pn**	**08 30 14.5**	**-1.1**
CPWZ	**Castlepoint**	**1.93**	**55**	P	**Pn**	**08 30 16.0**	**-0.9**
MQZ	**McQueen's Vall**	**1.99**	**212**	P	**Pn**	**08 30 16.5**	**-1.3**
OXZ	**Oxford**	**2.01**	**229**	P	**Pn**	**08 30 17.2**	**-0.9**
PRWZ	**Pori Road**	**2.03**	**44**	P	**Pn**	**08 30 17.2**	**-1.2**
OHWZ	**Ohakea**	**2.04**	**27**	P	**Pn**	**08 30 20.3**	**+1.9**
AKCZ	**Akaroa Harbour**	**2.04**	**205**	P	**Pn**	**08 30 18.0**	**-0.6**
POWZ	**Post Office Ro**	**2.06**	**38**	P	**Pn**	**08 30 18.0**	**-0.7**
BFZ	**Birch Farm**	**2.09**	**51**	P	**Pn**	**08 30 18.2**	**-1.1**
BFZ	**Birch Farm**	**2.09**	**51**	P	**Pn**	**08 30 17.5**	**-1.8**
INZ	**Inchbonnie**	**2.10**	**250**	P	**Pn**	**08 30 19.3**	**0.0**
RACZ	**Rakaia**	**2.23**	**220**	P	**Pn**	**08 30 20.2**	**-0.9**
DVHZ	**Dannevirke**	**2.32**	**42**	P	**Pn**	**08 30 20.8**	**-1.6**
WAZ	**Wanganui**	**2.37**	**16**	P	**Pn**	**08 30 24.4**	**+1.4**
ANWZ	**Angora Road**	**2.37**	**49**	P	**Pn**	**08 30 21.2**	**-1.8**
MHCZ	**Mount Hutt**	**2.40**	**231**	P	**Pn**	**08 30 22.4**	**-1.1**
TSZ	**Takapari Road**	**2.42**	**36**	P	**Pn**	**08 30 22.5**	**-1.2**
WACZ	**Wakanui South**	**2.54**	**220**	P	**Pn**	**08 30 24.4**	**-1.0**
LREZ	**Lake Rotokare**	**2.58**	**5**	P	**Pn**	**08 30 28.7**	**+2.8**
NMEZ	**Namu Road**	**2.62**	**356**	P	**Pb**	**08 30 30.6**	**-0.4**
PNHZ	**Pukenui**	**2.64**	**37**	P	**Pn**	**08 30 25.5**	**-1.3**
PREZ	**Palmer Road**	**2.69**	**1**	P	**Pb**	**08 30 31.1**	**-1.0**
WVZ	**Waitaha Valley**	**2.71**	**246**	P	**Pn**	**08 30 27.6**	**0.0**
KHEZ	**Kahui Hut**	**2.74**	**358**	P	**Pn**	**08 30 31.2**	**+3.0**
KHEZ	**Kahui Hut**	**2.74**	**358**	P	**Pn**	**08 30 30.8**	**+2.6**
NEZ	**North Egmont**	**2.76**	**360**	P	**Pb**	**08 30 31.8**	**-1.6**
NBEZ	**Newall Road No**	**2.77**	**356**	P	**Pb**	**08 30 32.4**	**-1.1**
RPZ	**Rata Peaks**	**2.81**	**232**	P	**Pn**	**08 30 28.8**	**-0.3**
RPZ	**Rata Peaks**	**2.81**	**232**	P	**Pn**	**08 30 28.4**	**-0.7**
MTVZ	**Mangateitei**	**2.84**	**22**	P	**Pn**	**08 30 31.1**	**+1.5**
PKE	**Pukeiti**	**2.84**	**358**	P	**Pn**	**08 30 31.8**	**+2.3**
DREZ	**Durham Road**	**2.84**	**1**	P	**Pb**	**08 30 33.0**	**-1.7**
ARCZ	**Arundel**	**2.88**	**227**	P	**Pn**	**08 30 29.4**	**-0.7**
PKVZ	**Pokaka**	**2.90**	**19**	P	**Pn**	**08 30 31.6**	**+1.2**
WNVZ	**Wahianoa**	**2.93**	**23**	P	**Pn**	**08 30 33.0**	**+2.1**
KRHZ	**Kereru**	**2.94**	**36**	P	**Pn**	**08 30 29.3**	**-1.6**
BHHZ	**Black Hill Sta**	**2.94**	**31**	P	**Pn**	**08 30 30.3**	**-0.6**
TRVZ	**Turoa**	**2.94**	**22**	P	**Pn**	**08 30 33.0**	**+1.9**
VRZ	**Vera Road**	**2.95**	**10**	P	**Pn**	**08 30 32.1**	**+1.1**
WHVZ	**Whangaehu Hut**	**2.97**	**23**	P	**Pb**	**08 30 36.0**	**-1.0**
MAVZ	**Matarangi**	**2.97**	**22**	P	**Pb**	**08 30 37.5**	**+0.3**
FWVZ	**Far West T-bar**	**2.98**	**22**	P	**Pb**	**08 30 36.8**	**-0.4**
TUVZ	**Tukino**	**3.00**	**23**	P	**Pn**	**08 30 33.1**	**+1.3**
COVZ	**Chateau Observ**	**3.03**	**21**	P	**Pb**	**08 30 36.8**	**-1.2**
KAHZ	**Kahuranaki**	**3.06**	**44**	P	**Pn**	**08 30 30.8**	**-1.8**
NGZ	**Ngauruhoe**	**3.07**	**22**	P	**Pn**	**08 30 34.9**	**+2.1**
SNVZ	**South Ngauruho**	**3.07**	**23**	P	**Pn**	**08 30 33.8**	**+1.0**
GCSZ	**Gaunt Creek Bo**	**3.08**	**244**	P	**Pn**	**08 30 33.2**	**+0.4**
OTVZ	**Oturere**	**3.10**	**23**	P	**Pn**	**08 30 34.0**	**+0.7**
NNVZ	**North Ngauruho**	**3.12**	**22**	P	**Pn**	**08 30 34.5**	**+1.0**
WTVZ	**West Tongariro**	**3.12**	**21**	P	**Pn**	**08 30 35.5**	**+2.0**
TWVZ	**Taurewa**	**3.13**	**19**	P	**Pb**	**08 30 38.0**	**-1.6**
ETVZ	**East Tongariro**	**3.14**	**23**	P	**Pn**	**08 30 34.9**	**+1.1**
KWHZ	**Kaweka Forest**	**3.14**	**35**	P	**Pn**	**08 30 32.2**	**-1.5**
TMVZ	**Te Maari**	**3.15**	**23**	P	**Pn**	**08 30 34.6**	**+0.6**
KRVZ	**Karewarewa**	**3.16**	**22**	P	**Pn**	**08 30 36.6**	**+2.7**
NTVZ	**North Tongarir**	**3.16**	**23**	P	**Pn**	**08 30 35.1**	**+1.0**
TMZ	**Timaru**	**3.27**	**223**	P	**Pn**	**08 30 34.5**	**-0.9**
FOZ	**Fox Glacier**	**3.50**	**243**	P	**Pn**	**08 30 38.9**	**+0.3**
HIZ	**Hauiti**	**3.56**	**9**	P	**Pn**	**08 30 41.8**	**+2.4**
HIZ	**Hauiti**	**3.56**	**9**	P	**Pn**	**08 30 41.3**	**+1.9**
LBZ	**Lake Benmore**	**3.71**	**229**	P	**Pn**	**08 30 41.2**	**-0.4**
MTHZ	**Maungataniwha**	**3.80**	**34**	P	**Pn**	**08 30 42.3**	**-0.4**
TLZ	**Tolley Road**	**3.86**	**17**	P	**Pn**	**08 30 44.1**	**+0.5**
ODZ	**Otahua Downs**	**3.93**	**219**	P	**Pn**	**08 30 43.3**	**-1.1**
ODZ	**Otahua Downs**	**3.93**	**219**	P	**Pn**	**08 30 43.3**	**-1.1**
JCZ	**Jackson Bay**	**4.41**	**241**	P	**Pn**	**08 30 51.6**	**+0.4**
JCZ	**Jackson Bay**	**4.41**	**241**	P	**Pn**	**08 30 51.5**	**+0.4**
URZ	**Urewera**	**4.41**	**32**	P	**Pn**	**08 30 52.4**	**+1.3**
URZ	**Urewera**	**4.41**	**32**	P	**Pn**	**08 30 54.2**	**+3.1**
HHSZ	**Highcliff Hill**	**4.61**	**212**	P	**Pn**	**08 30 53.2**	**-0.7**
WKZ	**Wanaka**	**4.65**	**231**	P	**Pn**	**08 30 53.6**	**-0.8**
EAZ	**Earnscleugh**	**4.73**	**226**	P	**Pn**	**08 30 54.7**	**-0.9**
AWAZ	**Awhitu Peninsu**	**4.98**	**5**	P	**Pn**	**08 31 01.3**	**+2.4**
MKAZ	**Moumakai**	**4.99**	**10**	P	**Pn**	**08 31 00.8**	**+1.8**
TUZ	**Tuapeka**	**5.08**	**218**	P	**Pn**	**08 30 59.4**	**-0.9**
MBAZ	**Motutapu North**	**5.29**	**7**	P	**Pn**	**08 31 06.1**	**+2.9**
MLZ	**Mavora Lakes**	**5.48**	**231**	P	**Pn**	**08 31 04.7**	**-1.1**
SYZ	**Scrubby Hill**	**5.75**	**217**	P	**Pn**	**08 31 09.4**	**0.0**
SYZ	**Scrubby Hill**	**5.75**	**217**	P	**Pn**	**08 31 09.1**	**-0.4**
APZ	**The Paps**	**6.50**	**220**	P	**Pn**	**08 31 19.0**	**-0.9**
OUZ	**Omahuta**	**6.82**	**356**	P	**Pn**	**08 31 26.8**	**+2.7**
OUZ	**Omahuta**	**6.82**	**356**	P	**Pn**	**08 31 27.1**	**+3.0**

IDC 29 08:31:25.6±21.0, 21°.83N×108°.60W, h0km, mb2.9/1, mbtmp3.2/5, ML3.2/4, MS3.3/3, Error ellipse: s-maj=273.0km s-min=52.3km az=175.0, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**2.75**	**326**	Pn	Pn	08 32 09.1	-1.9
	3.4nm,0.3s,baz=138,slow=12,SNR=3.7						
LPIG				Sn	Sn	08 32 38.4	-6.6
	8.8nm,0.3s,baz=168,slow=19,SNR=8.7						
	14nm,0.5s						
TXAR	**Lajitas Array**	**8.70**	**30**	Pn	Pn	08 33 32.5	-0.3
	0.1nm,0.3s,baz=206,slow=14,SNR=7.1						
	0.3nm,0.5s						
ANMO	**Albuquerque**	**13.20**	**8**	Pn	Pn	08 34 36.5	+2.0
	0.1nm,0.3s,baz=180,slow=12,SNR=3.7						
ANMO				LR	LR	08 39 35.9	
	comp=Z,78nm,21.1s,baz=260,slow=37						
	0.7nm,0.7s						
PFO	**Pinyon Flats O**	**13.63**	**331**	LR	LR	08 39 44.5	
	comp=Z,124nm,18.7s,baz=236,slow=37						
NVAR	**Mina Array Bea**	**18.53**	**335**	P	Pn	08 35 44.2	+0.2
	baz=153,slow=13,SNR=5.3						
	0.5nm,0.7s						
PDAR	**Pinedale Array**	**20.89**	**358**	P	Pn	08 36 11.2	-1.0
	0.4nm,0.6s,baz=161,slow=8.6,SNR=6.1						
	0.4nm,0.6s						
ULM	**Lac du Bonnet**	**30.08**	**16**	LR	LR	08 49 52.5	
	comp=Z,63nm,18.1s,baz=190,slow=37						

*IDC **29** 08:35:09.7±1.1, 12°.90N×125°.78E, h0km, mb3.7/7, mbtmp3.7/7, MS2.9/4, Error ellipse: s-maj=47.8km s-min=18.8km az=69.0*

ISC 29 08:35:15.3±1.1, 12°.9N±0°.2×125°.8E±0°.3, h40km, n12, σ1§32/8, mb3.6/7, MS2.5/3, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**18.60**	**86**	LR	LR	08 46 18.0	
	comp=Z,49nm,19.1s,baz=159,slow=36						
KSRS	**Korea Array**	**24.54**	**4**	P	**P**	**08 40 31.8**	**+0.5**
	1.3nm,0.8s,baz=182,slow=10,SNR=5.1						
KSRS				LR	LR	08 51 22.1	
	comp=Z,11nm,18.9s,baz=155,slow=40						
	1.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**26.41**	**286**	P	**P**	**08 40 49.6**	**+1.2**
	1.1nm,0.4s,baz=102,slow=7.5,SNR=5.2						
CMAR				LR	LR	08 52 55.8	
	comp=Z,11nm,18.3s,baz=275,slow=40						
	1.1nm,0.4s						
WRA	**Warramunga Arr**	**33.69**	**165**	P	**P**	**08 41 52.3**	**-0.5**
	0.4nm,0.7s,baz=330,slow=10,SNR=2.3						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**37.19**	**168**	P	**P**	**08 42 22.9**	**+0.1**
	0.7nm,0.8s,baz=343,slow=6.6,SNR=12						
ASAR				PcP	**PcP**	**08 44 43.1**	**+0.7**
	0.4nm,0.8s,baz=346,slow=1.9,SNR=3.0						
	0.7nm,0.8s						
SONM	**Songino Array**	**38.42**	**339**	P	**P**	**08 42 34.0**	**+0.8**
	0.8nm,0.9s,baz=141,slow=9.3,SNR=3.7						
	0.8nm,0.9s						
H11N1	**WAKE ISLAND Hy**	**39.96**	**75**	T	T	09 26 22.1	
	baz=263						
H11N2	**WAKE ISLAND Hy**	**39.97**	**75**	T	T	09 26 31.6	
	baz=263						
H11N3	**WAKE ISLAND Hy**	**39.98**	**75**	T	T	09 26 27.6	
	baz=263						
STKA	**Stephens Creek**	**47.02**	**162**	LR	LR	09 08 27.0	
	comp=Z,30nm,18.1s,baz=205,slow=42						
MKAR	**Makanchi Array**	**49.68**	**322**	P	**P**	**08 44 01.4**	**-1.9**
	1.0nm,0.8s,baz=120,slow=8.1,SNR=2.5						
	1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**53.67**	**325**	P	**P**	**08 44 31.5**	**-1.4**
	1.4nm,0.8s,baz=119,slow=7.6,SNR=5.2						
	1.4nm,0.8s						

*NNC **29** 08:36:36.8±2.0, 53°.63N×87°.99E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=17.0km s-min=7.8km az=55.0, Suspected Mining explosion.*
*IDC **29** 08:36:39.6±2.9, 53°.61N×87°.74E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=27.4km s-min=20.6km az=82.0*

ISC 29 08:36:37.4±3.3, 53°.7N±0°.1×87°.9E±0°.2, h0km, n9, σ1§38/13, 7C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.84**	**280**	I	I	08 48 50.0	
	0.1nm,0.9s,baz=100,slow=332,SNR=5.4						
ZAA0	**Zalesovo Array**	**1.84**	**280**	⇑Pn	**Pn**	**08 37 10.7**	**+0.5**
	0.3nm,0.4s						
ZAA0				⇓Sn	**Sg**	**08 37 36.1**	**-0.3**
	1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**1.84**	**280**	Pn	**Pb**	**08 37 11.3**	**-0.5**
	1.2nm,0.3s,baz=95,slow=16,SNR=14						
ZALV				Sn	**Sb**	**08 37 35.1**	**-0.3**
	1.2nm,0.3s,baz=97,slow=26,SNR=3.9						
KURK	**Kurchatov**	**6.41**	**246**	⇑Pn	**Pn**	**08 38 13.9**	**+0.9**
	0.1nm,0.4s						
KURK				⇑Lg	Lg	08 39 59.7	
	2.4nm,0.8s						
KURBB	**Kurchatov Arra**	**6.51**	**246**	Pn	**Pn**	**08 38 15.9**	**+1.5**
	0.1nm,0.3s,baz=62,slow=14,SNR=7.3						
KURBB				Sn	**Sn**	**08 39 28.3**	**-1.0**
	baz=57,slow=16,SNR=2.8						
KURBB				Lg	Lg	08 40 03.2	
	baz=59,slow=29,SNR=4.3						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**6.51**	**246**	⇑Pn	**Pn**	**08 38 15.4**	**+1.1**
	0.6nm,0.4s						
KURBB				⇑Lg	Lg	08 40 02.2	
	8.5nm,0.6s						
MK31	**Makanchi Array**	**7.75**	**210**	⇓Pn	**Pn**	**08 38 30.3**	**-1.2**
	baz=30,slow=14,SNR=7.8						
MK31				⇓Sn	**Sn**	**08 40 00.5**	**+0.6**
	0.2nm,0.4s,baz=230,slow=14,SNR=4.7						
MK31				⇑Lg	Lg	08 40 45.3	
	1.2nm,0.8s,baz=27,slow=27						
MKAR	**Makanchi Array**	**7.75**	**210**	Pn	**Pn**	**08 38 33.6**	**+2.2**
	0.2nm,0.3s,baz=31,slow=14,SNR=6.5						
MKAR				Lg	Lg	08 40 41.0	
	baz=20,slow=29,SNR=3.6						
	0.3nm,0.3s						
MAKZ	**Makanchi**	**7.83**	**211**	⇓Pn	**Pn**	**08 38 30.3**	**-2.3**
	0.5nm,0.5s						
MAKZ				⇑Sn	**Sn**	**08 40 03.1**	**+1.2**
	0.3nm,0.5s						
MAKZ				⇓Lg	Lg	08 40 50.2	
	1.0nm,1.0s						

*SOME **29** 08:36:47.8, 39°.25N×71°.07E, h10km*
*NNC **29** 08:36:47.6±4.5, 38°.48N×71°.07E, h271km±50km, mb2.4, mpv3.8, Error ellipse: s-maj=48.2km s-min=27.9km az=16.0*
*KRNET **29** 08:36:49.0±0.1, 39°.06N×70°.76E, mb3.5*

ISC 29 08:36:51.2±1.8, 39°.17N±0°.09×70°.78E±0°.05, h10km, n39, σ3§03/63, 32C-21D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.85**	**68**	⇑*i*P	**Pg**	**08 37 06.4**	**-1.2**
	baz=62						
DRK				⇑*i*S	**Sb**	**08 37 19.5**	**-0.2**
	baz=62						
BTK	**Batken**	**0.89**	**2**	⇓*i*P	**Pb**	**08 37 08.2**	**-0.6**
	baz=3.0						
BTK				⇓*i*S	**Sn**	**08 37 21.9**	**-0.9**
	baz=3.0						
OHH	**Osh**	**2.05**	**48**	⇑*i*P	**Pb**	**08 37 28.1**	**-0.5**
	baz=46						
OHH				⇑*i*S	**Sg**	**08 37 56.3**	**-0.8**
	baz=46						
SFK	**Sufi-Kurgan**	**2.26**	**67**	⇑*i*P	**Pb**	**08 37 31.3**	**-1.0**
	baz=65						
SFK				⇑*i*S	**Sg**	**08 38 01.1**	**-2.9**
	baz=65						
TRKS	**Terek-Say**	**2.37**	**6**	⇑*e*P	**Pb**	**08 37 32.1**	**-2.0**
	baz=7.0						
TRKS				⇑*i*S	**Sb**	**08 38 03.2**	**-0.3**
	baz=7.0						
ARSB	**Arslanbob**	**2.73**	**37**	⇑*i*P	**Pb**	**08 37 37.8**	**-2.4**
	baz=36						
ARSB				⇑*i*S	**Sb**	**08 38 13.0**	**-0.8**
	baz=36						
ARK	**Arkit**	**2.77**	**19**	⇑*i*P	**Pb**	**08 37 38.8**	**-2.1**
	baz=18						
ARK				⇑*i*S	**Sb**	**08 38 14.5**	**-0.5**
	baz=18						
IUG	**Iuzhnay**	**3.03**	**349**	*e*P	**Pb**	**08 37 43.6**	**-1.7**
	15nm,0.3s						
IUG				*e*S	**Sb**	**08 38 24.3**	**+2.0**
	281nm,0.7s						
MNAS	**Manas**	**3.56**	**21**	⇑*i*P	**Pb**	**08 37 49.9**	**-4.5**
	baz=21						
MNAS				⇑*i*S	**Sb**	**08 38 33.3**	**-4.4**
	baz=21						
ARLS	**Aral**	**3.81**	**44**	⇓*i*P	**Pn**	**08 37 52.7**	**+2.6**
	baz=43						
ARLS				⇓*i*S	**Sn**	**08 38 38.7**	**+3.7**
	baz=43						
BRLS	**Borolday**	**3.92**	**350**	*e*P	**Pn**	**08 37 55.0**	**+3.5**
	3.5nm,0.1s						
BRLS				*e*S	**Sb**	**08 38 43.4**	**-4.5**
	25nm,0.5s						
KK31	**Karatay Array**	**3.93**	**357**	⇓P	**Pb**	**08 37 56.0**	**-4.7**
	1.2nm,0.3s,baz=175,slow=12,SNR=23						
KK31				⇑S	**Sg**	**08 38 59.4**	**+1.9**
	14nm,0.6s,baz=184,slow=30,SNR=4.6						
KKAR	**Karatay Array**	**3.93**	**357**	⇑*i*P	**Pn**	**08 37 54.3**	**+2.6**
	baz=57						
KKAR				⇑*i*S	**Sn**	**08 38 42.9**	**+5.0**
	baz=57						
MRKS	**Merke**	**4.02**	**27**	*e*P	**Pb**	**08 37 58.5**	**-3.7**
	7.9nm,0.3s						
MRKS				*e*S	**Sb**	**08 38 49.6**	**-1.3**
	15nm,0.4s						
EKS2	**Erkin-Say**	**4.16**	**32**	P	**Pb**	**08 38 00.0**	**-4.5**
	SNR=12						
EKS2	**Erkin-Say**	**4.16**	**32**	⇓*i*P	**Pn**	**08 37 56.9**	**+2.0**
	baz=32						
EKS2				⇓*i*S	**Sn**	**08 38 48.1**	**+4.5**
	baz=32						
UCH	**Uchtor**	**4.17**	**42**	P	**Pb**	**08 38 00.2**	**-4.7**
	SNR=48						
UCH	**Uchtor**	**4.17**	**42**	⇑*i*P	**Pn**	**08 37 57.1**	**+1.8**
	baz=41						
UCH				⇑*i*S	**Sn**	**08 38 47.9**	**+3.7**
	baz=41						
AAK	**Ala-Archa**	**4.46**	**38**	P	Pb	08 38 04.2	-5.5
	SNR=13						
AAK	**Ala-Archa**	**4.46**	**38**	⇑P	Pb	08 38 03.8	-6.0
	7.7nm,0.3s						
AAK				⇑S	**Sb**	**08 39 02.4**	**-1.2**
	12nm,0.7s						
AAK	**Ala-Archa**	**4.46**	**38**	⇓*i*P	**Pn**	**08 38 00.9**	**+1.9**
	baz=37						
AAK			

ILAR	**Eielson Array**	**83.40**	**22**	P	P	08 52 20.7	+0.3		
	0.5nm,0.8s,baz=245,slow=5.1,SNR=7.0								
	0.5nm,0.8s								
TORD	**Torodi Ar. Bea**	**149.58**	**286**	PKPbc	PKPbc	08 59 43.0	-1.1		
	0.6nm,0.6s,baz=81,slow=3.7,SNR=4.5								

IDC 29 08:44:56.4±3.8, 53.71N×87.98E, h0km, mbtmp2.7/2, ML2.7/1, Error ellipse: s-maj=35.8km s-min=19.3km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**278**	I	I	08 57 46.3	
	baz=97,slow=335,SNR=3.7						
ZALV	**Zalesovo Beam**	**1.89**	**278**	Pg	Pn	08 45 30.8	+0.9
	0.7nm,0.3s,baz=97,slow=14,SNR=9.1						
ZALV				Lg	Lg	08 45 56.1	
	1.2nm,0.3s,baz=93,slow=26,SNR=8.5						
KURBB	**Kurchatov Arra**	**6.59**	**246**	Pn	Pn	08 46 35.2	+0.8
	0.4nm,0.4s,baz=54,slow=13,SNR=0.6						
MKAR	**Makanchi Array**	**7.83**	**210**	Pn	Pn	08 46 52.4	+0.9
	0.1nm,0.3s,baz=24,slow=11,SNR=2.2						
	0.1nm,0.3s						

IDC 29 08:45:45.3±4.2, 19.52S×177.83W, h543km±43km, mb2.8/5, mbtmp3.7/5, Error ellipse: s-maj=164.4km s-min=18.4km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.76**	**263**	P	P	08 51 42.7	+0.3
	1.4nm,0.5s,baz=11,slow=0.0,SNR=1.4						
	1.4nm,0.5s						
WRA	**Warramunga Arr**	**44.90**	**261**	P	P	08 53 11.7	-0.5
	0.2nm,0.3s,baz=96,slow=7.7,SNR=11						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**44.91**	**256**	P	P	08 53 12.1	0.0
	0.5nm,0.5s,baz=94,slow=7.3,SNR=13						
ASAR				PcP	PcP	08 54 40.9	-1.1
	0.5nm,0.7s,baz=106,slow=4.9,SNR=1.7						
ASAR				S	S	08 59 11.5	+0.6
	0.2nm,0.8s,baz=95,slow=16,SNR=2.1						
	0.5nm,0.5s						
TXAR	**Lajitas Array**	**86.39**	**57**	P	P	08 57 31.0	+0.3
	0.4nm,0.7s,baz=218,slow=5.6,SNR=7.0						
	0.4nm,0.7s						
PDAR	**Pinedale Array**	**88.14**	**43**	P	P	08 57 38.6	-0.2
	0.3nm,0.6s,baz=212,slow=3.2,SNR=2.6						
	0.3nm,0.6s						

*CNRM **29** 08:45:57.2, 36.52N×8.67W, h30km, ML2.6*
*MDD **29** 08:46:00.8±0.6, 36.79N×8.41W, h12km, mb_Lg3.0/8, Error ellipse: s-maj=5.1km s-min=3.0km az=36.0*
*IGIL **29** 08:46:00.8, 36.75N×8.42W, h9km, ML2.4*
*INMG **29** 08:46:00.9±2.1, 36.75N×8.43W, h12km±3km, ML2.6, Error ellipse: s-maj=3.8km s-min=2.9km az=60.0*
*SFS **29** 08:46:01.5, 36.81N×8.45W, h23km, ML3.1/14, ML3.1/13, MLv2.7/14*

ISC 29 08:45:58.0±1.4, 36.72N±0.03×8.41W±0.03, h16km±9km, n72, σ1°9.79/122, 4D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALBU	**Albufeira**	**0.40**	**19**	*e*Pg	**Pb**	**08 46 07.9**	**+1.3**
PALBU				*e*Sg	**Sb**	**08 46 12.5**	**0.0**
PLAGO	**Lagos**	**0.44**	**329**	*e*Pg	**Pb**	**08 46 08.5**	**+1.1**
PLAGO				*e*Sg	**Sb**	**08 46 14.3**	**+0.7**
PFARO	**Faro**	**0.49**	**52**	*e*P	**Pb**	**08 46 09.9**	**+1.6**
PFARO				*e*S	**Sb**	**08 46 17.1**	**+1.8**
PFVI	**Vila Bisbo**	**0.53**	**321**	*e*P	**Pb**	**08 46 10.0**	**+1.0**
PFVI				*e*S	**Sb**	**08 46 17.1**	**+0.7**
PFVI				A	A	08 46 20.1	
	140nm,0.1s						
PFVI	**Vila Bisbo**	**0.53**	**321**	Pg	**Pb**	**08 46 10.0**	**+1.0**
PFVI				Sg	**Sb**	**08 46 16.3**	**-0.1**
PFVI	**Vila Bisbo**	**0.53**	**321**	P	**Pb**	**08 46 09.8**	**+0.9**
PSVI	**Cabo S. Vicent**	**0.56**	**303**	*e*P	**Pb**	**08 46 10.2**	**+0.7**
MORF	**Marmelete**	**0.61**	**341**	*e*P	**Pb**	**08 46 11.7**	**+1.3**
MORF				*e*S	**Sb**	**08 46 19.9**	**+1.1**
MORF				A	A	08 46 21.7	
	973nm,0.1s						
MORF	**Marmelete**	**0.61**	**341**	*e*P	**Pb**	**08 46 11.3**	**+0.9**
PBDV	**Barranco-do-Ve**	**0.65**	**36**	*e*P	**Pb**	**08 46 12.7**	**+0.1**
PBDV				*e*S	**Sb**	**08 46 21.0**	**+1.3**
PBDV	**Barranco-do-Ve**	**0.65**	**36**	Pg	**Pb**	**08 46 12.6**	**+0.1**
PBDV				Sg	**Sb**	**08 46 20.6**	**+0.9**
PALJ	**Aljezur**	**0.67**	**332**	*e*P	**Pb**	**08 46 13.7**	**+0.8**
PALJ				*e*S	**Sn**	**08 46 22.8**	**-0.3**
PTEO	**Sao Teotonio**	**0.86**	**343**	*e*P	**Pb**	**08 46 16.3**	**+0.8**
PTEO				*e*S	**Sb**	**08 46 27.0**	**+1.1**
PTEO				A	A	08 46 28.5	
	154nm,0.3s						
PVAQ	**Vaqueiros**	**0.88**	**39**	*e*P	**Pn**	**08 46 16.6**	**+0.9**
PVAQ				*e*S	**Sn**	**08 46 28.4**	**+0.3**
PVAQ				A	A	08 46 29.7	
	292nm,0.3s						
PVAQ	**Vaqueiros**	**0.88**	**39**	Pg	**Pn**	**08 46 16.5**	**+0.9**
PVAQ				Sg	**Sb**	**08 46 27.1**	**+0.7**
PVAQ	**Vaqueiros**	**0.88**	**39**	P	**Pn**	**08 46 16.5**	**+0.9**
PVAQ	**Vaqueiros**	**0.88**	**39**	S	**Sn**	**08 46 29.6**	**+1.5**
PCVE	**Castro Verde**	**0.95**	**18**	*e*P	**Pn**	**08 46 17.8**	**+1.0**
PCVE				*e*S	**Sn**	**08 46 30.4**	**+0.3**
PCVE				A	A	08 46 32.0	
	158nm,0.5s						
PCVE	**Castro Verde**	**0.95**	**18**	Pg	**Pn**	**08 46 17.7**	**+0.9**
PCVE				Sg	**Sb**	**08 46 29.9**	**+1.2**
MESJ	**Messejana**	**1.13**	**8**	*e*P	**Pn**	**08 46 20.1**	**+1.0**
MESJ				*e*S	**Sn**	**08 46 34.7**	**+0.4**
MESJ				A	A	08 46 36.4	
	100nm,0.2s						
MESJ	**Messejana**	**1.13**	**8**	*e*P	**Pn**	**08 46 20.1**	**+1.0**
MESJ				*e*S	**Sb**	**08 46 34.3**	**+0.8**
MESJ				IAML		08 46 36.5	
	comp=N,74nm,0.2s						
PBEJ	**Beja**	**1.37**	**18**	*e*Pg	**Pg**	**08 46 25.7**	**+1.2**
PBEJ				*e*Sn	**Sg**	**08 46 42.3**	**-0.1**
PBEJ				A	A	08 46 43.7	
	comp=N,45nm,0.1s						
PNCL	**Nicolau / Gran**	**1.39**	**356**	*e*Pn	**Pb**	**08 46 23.7**	**+0.1**
PNCL	**Nicolau / Gran**	**1.39**	**356**	*e*Pg	**Pg**	**08 46 25.1**	**+0.2**
PNCL				*e*Sg	**Sg**	**08 46 42.9**	**-0.1**
PNCL				A	A	08 46 44.4	
	comp=N,35nm,0.1s						
PNCL	**Nicolau / Gran**	**1.39**	**356**	Pn	**Pn**	**08 46 23.5**	**+0.7**
PNCL				Sn	**Sb**	**08 46 39.8**	**-1.4**
ARNO	**Arenosillo**	**1.39**	**74**	Pn	**Pb**	**08 46 24.5**	**+0.8**
ARNO				Sn	**Sb**	**08 46 42.2**	**+1.0**
PBAR	**Barrancos**	**1.81**	**36**	*e*Pn	**Pn**	**08 46 29.2**	**+0.6**
PBAR				*e*Sg	**Sg**	**08 46 56.3**	**-0.2**
PBAR				A	A	08 46 57.0	
	comp=N,56nm,0.4s						
PBAR	**Barrancos**	**1.81**	**36**	Pn	**Pn**	**08 46 29.2**	**+0.6**
PBAR				Sg	**Sg**	**08 46 55.8**	**-0.7**
EVO	**Evora**	**1.83**	**10**	*e*Pn	**Pn**	**08 46 30.1**	**+1.2**
EVO				*e*Sg	**Sg**	**08 46 56.7**	**-0.4**
EVO				A	A	08 46 58.0	
	comp=N,37nm,0.1s						
EVO	**Evora**	**1.83**	**10**	Pn	**Pn**	**08 46 29.2**	**+0.3**
EVO				Sg	**Sb**	**08 46 54.5**	**+0.6**
ESPR	**Espera**	**2.05**	**85**	Pn	**Pn**	**08 46 33.8**	**+1.9**
ESPR	**Espera**	**2.05**	**85**	Pn	**Pn**	**08 46 33.6**	**+1.7**
ESPR				Sn	**Sn**	**08 46 58.3**	**+1.2**
ESPR				*i* Vmb_Lg		08 47 09.3	
PACT	**Alcochete**	**2.07**	**351**	*e*Sn	**Sn**	**08 46 58.7**	**+1.2**
PACT				A	A	08 47 12.7	
	comp=N,34nm,0.3s						
PESTR	**Estremoz**	**2.24**	**17**	*e*Pn	**Pn**	**08 46 35.8**	**+1.4**
PESTR				*e*Sg	**Sg**	**08 47 09.0**	**-1.0**
PESTR				A	A	08 47 10.5	
	comp=N,14nm,0.3s						
PESTR	**Estremoz**	**2.24**	**17**	Pn	**Pn**	**08 46 35.4**	**+1.0**
PESTR				Sg	**Sb**	**08 47 07.2**	**+1.6**
PESTR	**Estremoz**	**2.24**	**17**	P	**Pb**	**08 46 36.8**	**-1.3**
PESTR	**Estremoz**	**2.24**	**17**	S	**Pb**	**08 47 05.7**	**+0.1**
EBAD	**Badajoz**	**2.31**	**28**	Pn	**Pn**	**08 46 35.8**	**+0.4**
EBAD				Sg	**Sb**	**08 47 08.8**	**+1.1**
EBAD	**Badajoz**	**2.31**	**28**	Pn	**Pn**	**08 46 35.8**	**+0.4**
EBAD				Sn	**Sn**	**08 47 03.5**	**0.0**
EBAD				Sg	**Sg**	**08 47 10.1**	**-2.3**
PMTG	**Montargil**	**2.35**	**3**	*e*Pn	**Pn**	**08 46 36.8**	**+0.9**
PMTG				*e*Sn	**Sn**	**08 47 04.2**	**-0.2**
PMTG				A	A	08 47 12.2	
	comp=N,10.0nm,0.4s						
SMIR	**Smir Dam**	**2.66**	**112**	P	**Pn**	**08 46 41.4**	**+1.2**
ECAB	**El Cabril**	**2.74**	**60**	Pn	**Pn**	**08 46 42.4**	**+1.1**
ECAB				Sg	**Sb**	**08 47 22.5**	**+2.6**
ECAB	**El Cabril**	**2.74**	**60**	Pn	**Pn**	**08 46 42.2**	**+0.9**
ECAB				Sn	**Sn**	**08 47 15.1**	**+1.1**
ECAB				Sg	**Sb**	**08 47 22.0**	**+2.0**
ECAB				*i* Vmb_Lg		08 47 29.4	
PMRV	**Marv??o**	**2.82**	**16**	*e*Pn	**Pn**	**08 46 43.0**	**+0.6**
PMRV				*e*Sn	**Sn**	**08 47 16.0**	**-0.1**
PMRV				*e*Sg	**Sg**	**08 47 26.6**	**-2.0**
PMRV				A	A	08 47 29.8	
	comp=N,26nm,0.4s						
PCBR	**Castelo Branco**	**3.20**	**13**	*e*Pn	**Pn**	**08 46 48.6**	**+1.0**
PCBR				*e*Sg	**Sg**	**08 47 39.0**	**-1.8**
PCBR				A	A	08 47 46.3	
	comp=N,7.3nm,0.4s						
PCAS	**Casmilo, Conde**	**3.33**	**359**	*e*Pn	**Pn**	**08 46 50.5**	**+1.1**
PCAS				*e*Sn	**Sn**	**08 47 27.8**	**-0.8**
PCAS				A	A	08 47 51.7	
	comp=N,11nm,0.7s						
EADA	**Adamuz**	**3.37**	**64**	Pn	**Pn**	**08 46 51.4**	**+1.4**
EADA				Sn	**Sn**	**08 47 29.6**	**-0.1**
EADA	**Adamuz**	**3.37**	**64**	Pn	**Pn**	**08 46 51.5**	**+1.4**
EADA				Sn	**Sn**	**08 47 30.2**	**+0.4**
EADA				Sg	**Sb**	**08 47 42.6**	**+4.4**
EADA				*i* Vmb_Lg		08 47 51.7	
ELGU	**Los Guajares,**	**3.84**	**86**	Pn	**Pn**	**08 47 00.5**	**+4.0**
ELGU	**Los Guajares,**	**3.84**	**86**	Pn	**Pn**	**08 46 59.7**	**+3.2**
ELGU				*i* Vmb_Lg		08 47 50.8	
PSIM	**Granatula de C**	**4.24**	**59**	Pn	**Pn**	**08 47 03.3**	**+1.3**
PSIM				Sn	**Sn**	**08 47 50.1**	**-1.0**
PSIM				Sg	**Sg**	**08 48 09.8**	**-4.3**
SRHM	**Skhour des Reh**	**4.26**	**174**	P	**Pn**	**08 47 02.4**	**+0.1**
SRHM	**Skhour des Reh**	**4.26**	**174**	S	**Sn**	**08 47 50.9**	**-0.8**
PAB	**San Pablo**	**4.26**	**47**	Pn	**Pn**	**08 47 03.5**	**+1.1**
PAB				Sn	**Sn**	**08 47 51.9**	**+0.1**
PAB				Sg	**Sg**	**08 48 10.7**	**-4.3**
PAB				*i* Vmb_Lg		08 48 24.1	
EQES	**Quesada**	**4.39**	**74**	Pn	**Pn**	**08 47 05.1**	**+0.9**
EQES				Sn	**Sn**	**08 47 55.3**	**+0.3**
EQES				*i* Vmb_Lg		08 47 59.2	
MVO	**Moncorvo**	**4.56**	**13**	*e*Sg	**Sg**	**08 48 22.2**	**-2.4**
MVO				A	A	08 48 30.1	
	comp=N,10nm,0.5s						
MD31	**MD31**	**4.88**	**141**	P	**Pn**	**08 47 09.7**	**-1.1**
MD31	**MD31**	**4.88**	**141**	S	**Sn**	**08 48 04.8**	**-2.1**
MDT	**Midelt**	**5.00**	**140**	P	**Pn**	**08 47 11.8**	**-0.6**
MDT	**Midelt**	**5.00**	**140**	S	**Sn**	**08 48 07.9**	**-2.1**
GUD	**Guadarrama**	**5.14**	**39**	Pn	**Pn**	**08 47 15.3**	**+0.9**
GUD				Sn	**Sn**	**08 48 10.8**	**-2.6**
GUD				Sg	**Sg**	**08 48 38.1**	**-4.9**
GUD				*i* Vmb_Lg		08 48 45.1	
ELOB	**Lobios**	**5.15**	**3**	Pn	**Pn**	**08 47 14.8**	**+0.3**
ELOB				Sn	**Sn**	**08 48 10.0**	**-3.5**
ELOB				*i* Vmb_Lg		08 48 10.3	
PGAV	**Gavieira, Arco**	**5.24**	**1**	*e*Pn	**Pn**	**08 47 16.6**	**+0.9**
TISM	**Timmit**	**5.25**	**161**	P	**Pn**	**08 47 14.1**	**-1.7**
TISM	**Timmit**	**5.25**	**161**	S	**Sn**	**08 48 09.4**	**-6.5**
ETOB	**Tobarra**	**5.77**	**68**	Pn	**Pn**	**08 47 23.7**	**+0.7**
ETOB	**Tobarra**	**5.77**	**68**	Pn	**Pn**	**08 47 23.7**	**+0.7**
ETOB				Sn	**Sn**	**08 48 25.5**	**-3.4**
OUZM	**OUZ**	**5.96**	**166**	P	**Pn**	**08 47 24.1**	**-1.6**
OUZM	**OUZ**	**5.96**	**166**	S	**Sn**	**08 48 28.0**	**-5.7**
TTIG	**Tnine Tigouga,**	**6.16**	**180**	P	Pn	08 47 24.6	-3.8
TTIG	**Tnine Tigouga,**	**6.16**	**180**	S	Sn	08 48 31.6	-7.0
ETOR	**Torete**	**6.43**	**49**	Pn	**Pn**	**08 47 33.2**	**+1.1**
ETOR				Sn	**Sn**	**08 48 41.1**	**-4.1**
ETOR				Sg	**Sg**	**08 49 19.8**	**-4.6**

IDC 29 08:46:41.2±3.5, 20.34S×177.78W, h536km±38km, mb3.1/7, mbtmp4.0/7, Error ellipse: s-maj=57.5km s-min=16.6km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.71**	**264**	P	P	08 52 38.4	+0.1
	2.5nm,0.5s,baz=110,slow=0.1,SNR=5.6						
	2.5nm,0.5s						
ASAR	**Alice Springs**	**44.76**	**257**	P	P	08 54 07.2	-0.1
	4.5nm,0.5s,baz=95,slow=7.7,SNR=55						
ASAR				PcP	PcP	08 55 38.0	0.0
	0.5nm,0.6s,baz=103,slow=4.3,SNR=4.8						
ASAR				S	S	09 00 05.7	+0.3
	0.7nm,0.9s,baz=92,slow=16,SNR=5.5						
	4.5nm,0.5s						
WRA	**Warramunga Arr**	**44.83**	**262**	P	P	08 54 07.3	-0.5
	2.6nm,0.6s,baz=98,slow=8.0,SNR=34						
	2.6nm,0.6s						
MJAR	**Matsushiro Arr**	**70.20**	**324**	P	P	08 57 00.6	+0.4
	1.4nm,0.5s,baz=168,slow=6.5,SNR=5.4						
	1.4nm,0.5s						
TXAR	**Lajitas Array**	**86.80**	**57**	P	P	08 58 29.6	+0.6
	0.1nm,0.6s,baz=213,slow=4.8,SNR=2.0						
	0.1nm,0.6s						
ILAR	**Eielson Array**	**88.11**	**13**	P	P	08 58 33.1	-1.1
	0.3nm,0.6s,baz=215,slow=6.4,SNR=5.9						
	0.3nm,0.6s						
PDAR	**Pinedale Array**	**88.70**	**43**	P	P	08 58 37.6	-0.2
	0.2nm,0.6s,baz=178,slow=4.4,SNR=2.1						
	0.2nm,0.6s						

IDC 29 09:03:11.4±3.3, 54.18N×87.34E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=29.3km s-min=20.8km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.50**	**262**	I	I	09 13 28.4	
	baz=80,slow=332,SNR=1.7						
ZALV	**Zalesovo Beam**	**1.50**	**262**	Pn	Pn	09 03 38.8	-0.8
	1.7nm,0.3s,baz=79,slow=16,SNR=22						
ZALV				Lg	Lg	09 03 59.0	
	1.0nm,0.3s,baz=82,slow=22,SNR=2.3						
KURBB	**Kurchatov Arra**	**6.46**	**240**	Pn	Pn	09 04 48.9	+1.3
	0.1nm,0.3s,baz=54,slow=13,SNR=4.9						
KURBB				Lg	Lg	09 06 35.9	
	baz=48,slow=28,SNR=2.3						
	0.3nm,0.2s						
MKAR	**Makanchi Array**	**8.07**	**206**	Pn	Pn	09 05 10.6	+0.8
	0.1nm,0.3s,baz=24,slow=12,SNR=2.0						
	0.1nm,0.3s						

IDC 29 09:35:01.1±3.0, 53.59N×87.80E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=27.9km s-min=22.1km az=80.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**283**	I	I	09 47 50.0	
	0.1nm,0.8s,baz=97,slow=337,SNR=13						
ZALV	**Zalesovo Beam**	**1.81**	**283**	Pn	Pn	09 35 33.5	+0.1
	1.3nm,0.3s,baz=101,slow=15,SNR=13						
ZALV				Sn	Sg	09 35 58.9	-0.2
	1.9nm,0.3s,baz=103,slow=26,SNR=12						
KURBB	**Kurchatov Arra**	**6.44**	**246**	Pn	Pn	09 36 37.9	+0.9
	0.2nm,0.3s,baz=64,slow=15,SNR=2.5						
KURBB				Sn	Sn	09 37 49.9	-1.3
	baz=58,slow=24						
KURBB				Lg	Lg	09 38 24.2	
	baz=62,slow=12,SNR=2.1						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**7.66**	**210**	Pn	Pn	09 36 55.0	+1.1
	0.1nm,0.3s,baz=28,slow=12,SNR=6.0						
	0.2nm,0.3s						

*UPP **29** 09:40:35.4±0.0, 67.63N×21.01E, h0km, ML1.9, Suspected explosion*
*IDC **29** 09:40:35.9±2.2, 67.60N×21.22E, h0km, mbtmp2.7/2, ML1.7/2, Error ellipse: s-maj=32.0km s-min=11.5km az=99.0*
*HEL **29** 09:40:35.3±0.3, 67.60N×20.93E, h0km, ML1.5, Suspected explosion*

ISC 29 09:40:35.6±0.8, 67.64N±0.02×21.02E±0.03, h0km, n34, σ0.90/49, Sweden

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

KUA	**Kurravaara**	**0.41**	**321**	P	**Pg**	**09 40 43.4**	**0.0**		
KUA				S	**Sg**	**09 40 49.0**	**+0.2**		
MASU	**Masugnsbyn**	**0.42**	**115**	P	**Pg**	**09 40 43.5**	**0.0**		
MASU				S	**Sg**	**09 40 49.5**	**+0.5**		
DUNU	**Dundret**	**0.55**	**199**	P	**Pg**	**09 40 45.7**	**-0.3**		
LANU	**Lannavaara**	**0.56**	**42**	P	**Pg**	**09 40 46.0**	**-0.2**		
RATU	**Laukkuluspa**	**0.58**	**290**	P	**Pg**	**09 40 46.3**	**-0.3**		
KOVU	**Salmi**	**0.67**	**332**	P	**Pg**	**09 40 48.2**	**-0.2**		
SALU	**Saltoluokta**	**1.00**	**256**	P	**Pg**	**09 40 54.0**	**-0.7**		
PAJU	**Pajala**	**1.02**	**126**	P	**Pg**	**09 40 54.0**	**-1.1**		
KLF	**Kolari**	**1.21**	**108**	PG	**Pg**	**09 40 57.5**	**-1.2**		
KLF				MSG		09 41 12.6			
	comp=Z,3.1nm,0.2s								
KLF				SB	**Sg**	**09 41 13.9**	**-0.3**		
HEF	**Hetta**	**1.26**	**51**	*e*P	**Pg**	**09 40 58.3**	**-1.4**		
HEF	**Hetta**	**1.26**	**51**	PG	**Pg**	**09 40 58.5**	**-1.2**		
	baz=234								
HEF				MSG		09 41 15.0			
	comp=Z,3.0nm,0.2s								
HEF				SG	**Sg**	**09 41 15.4**	**-0.6**		
KIF	**Kilpisjarvi**	**1.38**	**357**	*e*P	**Pg**	**09 41 01.1**	**-0.8**		
KIF	**Kilpisjarvi**	**1.38**	**357**	PG	**Pg**	**09 41 01.3**	**-0.6**		
KIF				MSG		09 41 18.9			
	comp=Z,8.9nm,0.2s								
KIF				SG	**Sb**	**09 41 20.3**	**0.0**		
HARU	**Harads**	**1.48**	**181**	P	**Pn**	**09 41 02.2**	**-1.1**		
KTK1	**Kautokeino**	**1.61**	**30**	PG	**Pn**	**09 41 04.9**	**-0.3**		
KTK1				SN	**Sg**	**09 41 27.6**	**+0.4**		
I37NO	**I37NO**	**1.70**	**329**	I	I	09 52 10.0			
	baz=148,slow=338,SNR=4.0								
KALU	**Kalix**	**2.01**	**151**	P	**Pn**	**09 41 11.0**	**+0.3**		
TOF	**Tornio**	**2.04**	**139**	PG	**Pn**	**09 41 11.9**	**+0.9**		
TOF				MSG		09 41 35.7			
	comp=Z,3.4nm,0.2s								
TOF				SG	**Sb**	**09 41 38.8**	**-0.4**		
SGF	**Sodankyl**	**2.12**	**93**	PB	**Pn**	**09 41 12.9**	**+0.7**		
SGF				SG	**Sb**	**09 41 41.5**	**-0.3**		
TRO	**Tromso**	**2.15**	**340**	SG	**Sb**	**09 41 42.1**	**-0.2**		
SJUU	**Sjulsmark**	**2.15**	**173**	P	**Pn**	**09 41 13.1**	**+0.5**		
RNF	**Rovaniemi**	**2.21**	**116**	PG	**Pn**	**09 41 14.5**	**+1.1**		
	baz=295								
RNF				SG	**Sb**	**09 41 43.9**	**-0.2**		
ARA0	**ARCESS Array S**	**2.52**	**39**	PN	**Pn**	**09 41 18.1**	**+0.4**		
ARA0				SB	**Sn**	**09 41 50.8**	**+1.7**		
ARCES	**ARCESS Array B**	**2.52**	**39**	Pn	**Pn**	**09 41 18.1**	**+0.3**		
	comp=Z,0.1nm,0.3s,baz=218,slow=14,SNR=8.6								
ARCES				Sn	**Sn**	**09 41 50.1**	**+1.0**		
	comp=Z,0.4nm,0.3s,baz=219,slow=26,SNR=8.8								
	comp=Z,2.3nm,0.8s								
KMNF	**Kaamanen**	**2.68**	**53**	PN	**Pn**	**09 41 19.9**	**0.0**		
KMNF				SN	**Sn**	**09 41 53.6**	**+0.5**		
RANF	**Ranua**	**2.80**	**123**	PB	**Pn**	**09 41 22.9**	**+1.3**		
RANF				SB	**Sn**	**09 41 57.6**	**+1.6**		
RAJF	**Raja-Jooseppi**	**2.87**	**70**	PG	**Pb**	**09 41 26.6**	**-0.9**		
RAJF				SB	**Sb**	**09 42 02.6**	**-0.5**		
KEV	**Kevo**	**3.05**	**43**	PN	**Pn**	**09 41 25.6**	**+0.6**		
KEV				SN	**Sn**	**09 42 03.1**	**+1.0**		
KEV				MSG		09 42 06.2			
	comp=Z,1.2nm,0.2s								
OUL	**Oulu**	**3.23**	**140**	SG	**Sb**	**09 42 15.0**	**+1.6**		
OLKF	**Oulanka, Finla**	**3.55**	**108**	PN	**Pn**	**09 41 32.9**	**+1.1**		
OLKF				SN	**Sn**	**09 42 15.8**	**+1.4**		
OUF	**Merijarvi**	**3.62**	**153**	PN	**Pn**	**09 41 34.4**	**+1.6**		
	baz=335								
KU6	**Riekki**	**3.86**	**111**	PN	**Pn**	**09 41 37.3**	**+1.2**		
FINES	**FINESS Array B**	**6.59**	**158**	Pn	**Pn**	**09 42 13.8**	**+0.3**		
	comp=Z,0.1nm,0.3s,baz=346,slow=12,SNR=1.3								
FINES				Sn	**Sn**	**09 43 27.3**	**-1.9**		
	comp=Z,0.1nm,0.3s,baz=348,slow=20,SNR=1.5								
	comp=Z,1.3nm,0.9s								
NASU	**Vaermlandsnaes**	**9.42**	**206**	P	Pn	09 42 47.4	-4.9		

*ATH **29** 09:45:33.0, 34.57N×23.94E, h8km±3km, ML3.5/3, Error ellipse: s-maj=4.5km s-min=1.4km az=50.0*
*THE **29** 09:45:32.0, 34.55N×24.24E, h14km±1km, ML3.4/3, Error ellipse: s-maj=3.0km s-min=1.9km az=80.0*

ISC 29 09:45:31.5±2.9, 34.6N±0.1×24.09E±0.06, h11km±15km, n21, σ0.83/27, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.26**	**360**	P	**Pb**	**09 45 38.6**	**+0.3**
GVD				S	**Sb**	**09 45 43.4**	**+0.7**
	37µm,0.3s						
GVD	**Gavdhos**	**0.26**	**360**	P	**Pb**	**09 45 38.5**	**+0.3**
GVD				S	**Sb**	**09 45 43.3**	**+0.5**
GVD				AML	AML	09 45 44.3	
	comp=E,79212µm,0.3s						
GVD				AML	AML	09 45 44.4	
	comp=N,67415µm,0.3s						
TMBK	**Timbaki Herakl**	**0.74**	**48**	P	**Pn**	**09 45 48.4**	**+0.5**
PRNS	**Prines Rethymn**	**0.85**	**23**	P	**Pb**	**09 45 47.7**	**-0.7**
PRNS				S	**Sg**	**09 45 59.1**	**-0.1**
	comp=N,655nm,0.5s						
IMMV	**Iera Moni Meta**	**0.89**	**354**	P	**Pb**	**09 45 48.1**	**-0.8**
IMMV				S	**Sn**	**09 46 02.3**	**-0.4**
	comp=N,3µm,0.5s						
**IMM

OBF0	**Syolatti, Pyha** baz=142	**0.85**	**326**	PB	Pg	09 52 30.8	-0.3
OBF0	comp=Z,1.3nm,0.2s			MSG		09 52 41.0	
OBF0				SB	Sg	09 52 42.1	+0.1
OBF4	**Vikkela, Lumij**	**1.02**	**355**	PB	Pg	09 52 33.9	-0.5
OBF4	comp=Z,1.3nm,0.2s			MSG		09 52 46.2	
OBF4				SB	Sg	09 52 48.5	+0.8
SUF	**Sumiainen**	**1.15**	**161**	PG	Pg	09 52 36.2	-0.6
SUF	comp=Z,0.7nm,0.2s			MSG		09 52 49.5	
NIF	**Nilsia**	**1.18**	**109**	PG	Pg	09 52 36.1	-1.4
NIF				SB	Sg	09 52 52.1	-0.7
OUL	**Oulu**	**1.31**	**11**	PN	Pg	09 52 38.9	-1.0
VAF	**Ylistaro** baz=54	**1.42**	**239**	PN	Pn	09 52 41.1	-0.6
VAF	comp=Z,1.6nm,0.2s			MSG		09 52 57.3	
VAF				SN	Sg	09 53 00.2	0.0
KEF	**Keuruu**	**1.65**	**187**	PG	Pn	09 52 44.5	-0.5
KEF	comp=Z,2.1nm,0.2s			MSG		09 53 04.3	
KEF				SN	Sn	09 53 06.2	-0.7
KAF	**Kangasniemi** baz=344	**1.75**	**165**	PG	Pn	09 52 46.5	+0.1
KAF	comp=Z,2.0nm,0.2s			MSG		09 53 07.2	
KAF				SG	Sn	09 53 09.3	0.0
RMF	**Romuvaara**	**2.07**	**76**	PG	Pn	09 52 51.8	+1.0
RMF	comp=Z,1.4nm,0.2s			MSG		09 53 16.2	
RMF				SG	Sb	09 53 18.8	-0.7
RANF	**Ranua**	**2.31**	**15**	PG	Pn	09 52 54.9	+0.8
RANF				SG	Sb	09 53 25.1	-1.2
TOF	**Tornio**	**2.33**	**350**	PG	Pb	09 52 56.7	-0.9
TOF	comp=Z,0.3nm,0.2s			MSG		09 53 23.7	
TOF				SG	Sb	09 53 27.6	+0.8
FIA0	**FINESS Array S**	**2.39**	**171**	PG	Pb	09 52 57.0	-1.6
FIA0	comp=Z,1.1nm,0.2s			MSG		09 53 25.3	
FIA0				SG	Sb	09 53 27.5	-1.1
KPF	**Kankaanpaa** baz=40	**2.48**	**219**	PB	Pb	09 52 58.3	-1.8
KPF				SG	Sb	09 53 30.9	-0.2
MSF	**Maaselka**	**2.65**	**35**	PB	Pn	09 52 59.9	+1.2
RNF	**Rovaniemi**	**2.84**	**6**	SG	Sb	09 53 42.4	+0.9
JOF	**Joensuu**	**2.84**	**105**	SG	Sb	09 53 41.5	0.0
KU6	**Riekki**	**2.96**	**39**	PB	Pn	09 53 05.0	+2.0
KU6	comp=Z,0.4nm,0.2s			MSG		09 53 41.9	
KU6				SB	Sb	09 53 43.4	-1.7

HEL 29 09:53:37.1±0.1, 61°58N×24°03E, h0km, ML1.1, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF	**Keuruu** baz=215	**0.71**	**34**	PG	Pg	09 53 50.2	-0.5
KEF	comp=Z,1.9nm,0.2s			SG	Sg	09 53 59.1	-0.8
KEF				MSG		09 53 59.4	
KPF	**Kankaanpaa** baz=105	**0.97**	**286**	PG	Pg	09 53 54.5	-1.0
FIA0	**FINESS Array S** baz=277	**0.99**	**97**	PG	Pg	09 53 54.7	-1.4
FIA0	comp=Z,1.6nm,0.2s			MSG		09 54 07.4	
FIA0				SB	Sn	09 54 12.0	-0.9
NUR	**Nurmijrvi**	**1.12**	**164**	SG	Pg	09 53 57.4	-1.0
NUR	**Nurmijrvi**	**1.12**	**164**	PG	Pg	09 53 57.4	-1.0
NUR	comp=Z,2.1nm,0.2s			MSG		09 54 11.1	
NUR				SB	Sg	09 54 12.5	-0.5
KAF	**Kangasniemi**	**1.20**	**63**	PG	Pg	09 53 58.7	-1.5
KAF	comp=Z,1.7nm,0.2s			MSG		09 54 13.7	
RAF	**Rauma**	**1.23**	**244**	PG	Pg	09 53 59.1	-1.5
RAF	comp=Z,1.5nm,0.2s			MSG		09 54 14.4	
PVF	**Pernaja**	**1.37**	**139**	PG	Pg	09 54 01.8	-1.5
PVF	comp=Z,1.5nm,0.2s			MSG		09 54 18.3	
PVF				SG	Sg	09 54 20.4	-0.6
MEF	**Metsahovi**	**1.38**	**172**	SB	Pg	09 54 01.9	-1.6
MEF	**Metsahovi**	**1.38**	**172**	PG	Pg	09 54 01.9	-1.6
MEF	comp=Z,1.4nm,0.2s			MSG		09 54 18.8	
SUF	**Sumiainen** comp=Z,0.6nm,0.2s	**1.52**	**40**	MSG		09 54 22.5	
SUF				SN	Sn	09 54 25.9	0.0
VAF	**Ylistaro** baz=155	**1.60**	**337**	PG	Pn	09 54 06.0	-0.6
VAF	comp=Z,1.5nm,0.2s			MSG		09 54 25.1	
VAF				SN	Sn	09 54 27.0	-0.8
VJF	**Virojoki** comp=Z,1.6nm,0.2s	**2.01**	**120**	MSG		09 54 36.7	
VJF				SG	Sb	09 54 40.0	+0.1
RUF	**Ruokolahti**	**2.37**	**92**	PG	Pn	09 54 18.6	+1.5
RUF	comp=Z,1.1nm,0.2s			MSG		09 54 47.1	
NIF	**Nilsia**	**2.52**	**42**	SG	Sb	09 54 54.0	-0.8
OUF	**Merijarvi** comp=Z,0.4nm,0.2s	**2.81**	**6**	MSG		09 55 00.0	
OUF				SG	Sb	09 55 04.2	+1.1
VSU	**Vasula**	**3.41**	**155**	PB	Pn	09 54 34.5	+3.1

*NEIC **29** 09:57:38.8±0.7, 38°42N±0°01×111°66W±0°01, h5km±1km, Error ellipse: s-maj=2.8km s-min=2.3km az=269.0*

UUSS 29 09:57:39.3±0.7, 38°42N±0°01×111°65W±0°02, h1km±1km, ML2.4/13, ML2.4/64(NEIC), Error ellipse: s-maj=2.0km s-min=1.6km az=147.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMU	**Miners Mountai**	**0.36**	**128**		Pg	09 57 46.2	0.0
OWUT	**Old Woman Plat**	**0.41**	**26**		Pg	09 57 47.2	+0.2
MSU	**Marysvale**	**0.42**	**283**		Pg	09 57 47.3	-0.1
MVU	**Marysvale**	**0.45**	**281**		Pg	09 57 47.9	0.0
MVU	**Marysvale**	**0.45**	**281**		Sg	09 57 54.2	+0.5
MVU	**Marysvale** comp=E,1µm,0.3s	**0.45**	**281**	IAML		09 57 54.2	
MTPU	**Mount Pierson**	**0.56**	**228**		Pg	09 57 50.1	0.0
MTPU	comp=E,200nm,0.5s			IAML		09 57 58.2	
MTPU	**Mount Pierson**	**0.56**	**228**		Sg	09 57 57.9	+0.6
MTPU	**Mount Pierson** comp=N,118nm,0.5s	**0.56**	**228**	IAML		09 57 57.9	
Q16A	**Castle Valley**	**0.63**	**37**		Pg	09 57 51.1	-0.2
Q16A					Sg	09 57 59.6	+0.1
Q16A	**Castle Valley** comp=N,333nm,0.5s	**0.63**	**37**	IAML		09 57 59.6	
Q16A	comp=E,384nm,0.4s			IAML		09 57 59.9	
WCU	**Willow Creek**	**0.65**	**328**		Pg	09 57 51.3	-0.4
TCRU	**Three Creeks R**	**0.65**	**287**		Pg	09 57 51.6	-0.2
TCRU	**Three Creeks R**	**0.65**	**287**	Sg	Sg	09 58 00.1	-0.2
TCRU	comp=E,149nm,0.8s			IAML		09 58 01.4	
TCRU	comp=N,139nm,0.7s			IAML		09 58 03.8	
BTU	**Barney Top**	**0.68**	**195**		Pg	09 57 52.3	0.0
SGU	**Sterling**	**0.77**	**0**		Pg	09 57 53.6	-0.3
HMU	**Henry Mountain**	**0.86**	**123**		Pg	09 57 55.2	-0.6
HMU	**Henry Mountain**	**0.86**	**123**	Sg	Sg	09 58 06.0	-1.0
HMU	comp=E,156nm,0.7s			IAML		09 58 11.4	
HMU	comp=N,177nm,0.5s			IAML		09 58 12.0	
SNO	**Snow College**	**0.90**	**6**		Pg	09 57 56.0	-0.6
TMUT	**Trail Mountain**	**0.94**	**21**		Pg	09 57 56.7	-0.8
TMUT				Sg	Sg	09 58 08.9	-0.7
PKCU	**Pink Cliffs**	**1.10**	**208**		Pg	09 58 00.0	-0.4
PKCU	**Pink Cliffs** comp=N,113nm,0.3s	**1.10**	**208**	IAML		09 58 16.8	
DWU	**Dry Willow Pea**	**1.10**	**254**		Pg	09 58 00.4	-0.1
SRU	**San Rafael Swe**	**1.12**	**52**	Pg	Pg	09 57 59.9	-0.9
SRU	comp=E,130nm,0.4s			IAML		09 58 18.1	
SRU	comp=N,65nm,0.4s			IAML		09 58 18.4	
P17A	**Butcher Ranch,**	**1.27**	**34**		Pg	09 58 02.5	-1.2
P17A	**Butcher Ranch,** comp=E,102nm,0.5s	**1.27**	**34**	IAML		09 58 19.2	
P17A	comp=N,86nm,0.4s			IAML		09 58 19.5	
SZCU	**Shurtz Canyon**	**1.40**	**235**		Pg	09 58 05.5	-0.6
SZCU	comp=E,70nm,0.2s			IAML		09 58 24.2	
SZCU	comp=N,79nm,0.2s			IAML		09 58 24.2	
EKU	**East Kanab**	**1.50**	**207**		Pn	09 58 06.4	-1.0
NLU	**North Lily Min**	**1.57**	**348**		Pn	09 58 08.2	-0.3
NLU	comp=E,45nm,0.8s			IAML		09 58 31.2	
NLU	comp=N,38nm,0.6s			IAML		09 58 32.0	
MPU	**Maple Canyon**	**1.60**	**1**		Pn	09 58 08.1	-0.7
MPU	comp=N,25nm,0.4s			IAML		09 58 33.4	
CCUT	**Cedar City**	**1.60**	**238**		Pn	09 58 08.7	-0.3
P18A	**Preston Nutter**	**1.63**	**42**		Pn	09 58 09.4	0.0
KNB	**Kanab**	**1.68**	**214**		Pn	09 58 09.5	-0.4
KNB	comp=E,22nm,0.6s			IAML		09 58 34.1	
PSUT	**Pine Spring**	**1.73**	**275**		Pn	09 58 10.5	-0.2
LCMT	**Little Creek M**	**1.89**	**222**		Pn	09 58 13.4	+0.6
LCMT	comp=E,42nm,0.2s			IAML		09 58 38.8	
LCMT	comp=N,30nm,0.2s			IAML		09 58 41.2	
DUG	**Dugway, Tooele**	**1.99**	**333**		Pn	09 58 12.1	-2.1
DUG	comp=N,23nm,0.6s			IAML		09 58 42.2	
DUG	comp=N,22nm,0.6s			IAML		09 58 44.7	
U15A	**North Rim**	**2.05**	**195**		Pn	09 58 15.3	+0.2
SPR3	**Spring Creek 3**	**2.17**	**286**		Pb	09 58 18.2	-1.3
BSUT	**Blindstream Ca**	**2.23**	**18**		Pn	09 58 17.8	+0.1
BSUT	comp=N,13nm,0.5s			IAML		09 58 51.1	
BSUT	comp=E,19nm,0.6s			IAML		09 58 51.3	
CTU	**Camp Tracy**	**2.27**	**358**		Pn	09 58 17.9	-0.2
CTU	comp=N,16nm,0.7s			IAML		09 58 51.6	
CTU	comp=E,22nm,0.6s			IAML		09 58 52.2	
Q12A	**Willow Creek R**	**2.56**	**285**	Pn	Pn	09 58 22.6	+0.5
Q12A	comp=N,12nm,1.6s			IAML		09 59 07.6	
RDMU	**Red Mountain**	**2.69**	**36**	Pn	Pb	09 58 26.4	-1.9
RDMU	comp=E,15nm,0.5s			IAML		09 59 02.0	
RDMU	comp=N,14nm,0.4s			IAML		09 59 03.4	
BGU	**Big Grassy Mou**	**2.72**	**337**	Pn	Pn	09 58 24.8	+0.5
BGU	comp=E,9.8nm,0.3s			IAML		09 59 08.6	
BGU	comp=N,7.6nm,1.1s			IAML		09 59 11.3	
MVCO	**Mesa Verde**	**2.77**	**115**		Pn	09 58 25.2	+0.2
WUAZ	**Wupatki**	**2.90**	**175**		Pn	09 58 29.3	+2.6
HWUT	**Hardware Ranch**	**3.19**	**1**	Pn	Pn	09 58 31.8	+1.1
HWUT	comp=N,8.6nm,4.6s			IAML		09 58 52.9	
HWUT	comp=N,6.3nm,0.9s			IAML		09 59 26.8	

*SOME **29** 10:13:06.8, 43°40N×69°42E*
*NNC **29** 10:13:08.2±1.3, 43°69N×69°73E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=7.7km s-min=5.9km az=133.0, Suspected Mining explosion.*
*KRNET **29** 10:13:08.2±0.1, 43°38N×69°53E, mb2.9*

ISC 29 10:13:09.9±2.1, 43°49N±0°08×69°66E±0°09, h0km, n22, σ1§20/35, 16C-12D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday** 3.6nm,0.2s	**0.47**	**164**	P	**Pn**	**10 13 24.2**	**+0.2**
BRLS	29nm,0.3s			S		10 13 36.4	
KK31	**Karatay Array** 3.3nm,0.4s,baz=322,slow=17,SNR=178	**0.73**	**121**	⇓P ⇑S	**Pg**	**10 13 23.8**	**-0.1**
KK31	32nm,0.6s,baz=324,slow=34,SNR=15				**Sb**	**10 13 35.3**	**-0.8**
KKAR	**Karatay Array** baz=11	**0.73**	**121**	⇑*e*P	**Pg**	**10 13 22.8**	**-1.1**
KKAR	baz=11			⇑*i*S	**Sg**	**10 13 33.5**	**+0.2**
DZA	**Taraz** 70nm,0.1s	**1.36**	**115**	P	**Pg**	**10 13 35.2**	**-0.7**
DZA	53nm,0.3s			S	**Sn**	**10 13 56.0**	**+1.1**
IUG	**Iuzhnay** 58nm,0.3s	**1.37**	**168**	P	**Pb**	**10 13 37.3**	**+0.9**
IUG	45nm,0.0s			S	**Sn**	**10 13 58.9**	**+3.7**
TRKS	**Terek-Say** baz=47	**2.24**	**150**	⇓*i*P	**Pn**	**10 13 48.6**	**+0.2**
TRKS	baz=47			⇓*i*S	**Sn**	**10 14 17.9**	**+1.1**
MNAS	**Manas** baz=11	**2.31**	**115**	⇑*i*P	**Pn**	**10 13 49.7**	**+0.3**
MNAS	baz=11			⇑*i*S	**Sn**	**10 14 20.2**	**+1.6**
ARK	**Arkit** baz=30	**2.40**	**134**	⇑*i*P	**Pn**	**10 13 50.5**	**0.0**
ARK	baz=30			⇑*i*S	**Sn**	**10 14 21.1**	**+0.5**
MRKS	**Merke** 6.2nm,0.5s	**2.71**	**105**	Pg	**Pb**	**10 13 58.3**	**-1.1**
MRKS	14nm,0.3s			Lg	Lg	10 14 35.4	
EKS2	**Erkin-Say** baz=1.0	**3.13**	**104**	⇑*i*P	**Pn**	**10 14 01.5**	**+1.0**
EKS2	baz=1.0			⇑*i*S	**Sn**	**10 14 40.2**	**+1.5**
ARSB	**Arslanbob** baz=28	**3.27**	**130**	⇑*e*P	**Pn**	**10 14 02.4**	**-0.2**
ARSB	baz=28			⇑*e*S	**Sn**	**10 14 42.1**	**-0.2**
BTLS	**Baital** 20nm,0.6s	**3.51**	**62**	Pg	**Pb**	**10 14 11.8**	**-1.1**
BTLS	2.0nm,0.4s			Lg	Lg	10 14 59.2	
BTK	**Batken** baz=63	**3.53**	**165**	⇓*e*P	**Pn**	**10 14 04.8**	**-1.3**
BTK	baz=63			⇓*e*S	**Sn**	**10 14 46.5**	**-2.1**
AAK	**Ala-Archa** 4.6nm,0.5s	**3.64**	**102**	⇓Pg	**Pb**	**10 14 14.3**	**-0.9**
AAK	9.6nm,0.9s			⇑Lg	Lg	10 15 04.4	
AAK	**Ala-Archa** baz=0.0	**3.64**	**102**	⇓*i*P	**Pn**	**10 14 08.8**	**+1.1**
AAK	baz=0.0			⇓*i*S	**Sn**	**10 14 52.8**	**+1.4**
CHMS	**Chumysh** 2.8nm,0.5s	**3.75**	**96**	⇑Pg	**Pb**	**10 14 15.5**	**-1.5**
CHMS	7.3nm,0.7s			⇑Lg	Lg	10 15 07.1	
UCH	**Uchtor** baz=6.0	**3.78**	**108**	⇓*i*P	**Pn**	**10 14 10.6**	**+0.7**
UCH	baz=6.0			⇓*i*S	**Sn**	**10 14 56.2**	**+0.9**
ARLS	**Aral** baz=12	**3.80**	**114**	⇑*i*P	**Pn**	**10 14 10.6**	**+0.7**
ARLS	baz=12			⇑*i*S	**Sn**	**10 14 56.1**	**+0.7**
KRBS	**Karabastau** 4.1nm,0.6s	**4.38**	**85**	Pg	**Pb**	**10 14 27.6**	**0.0**
KRBS	4.6nm,0.8s			Lg	Lg	10 15 25.6	
TKM2	**Tokmak 2** 1.7nm,0.5s	**4.38**	**95**	⇓Pg	**Pb**	**10 14 26.3**	**-1.5**
TKM2	4.7nm,0.7s			⇓Lg	Lg	10 15 27.2	
DGS	**Degeres** 2.7nm,0.6s	**4.46**	**91**	Pg	**Pb**	**10 14 29.1**	**-0.1**
DGS	12nm,0.8s			Lg	Lg	10 15 28.2	
KTBS	**Karatobe** 1.9nm,0.4s	**5.11**	**85**	Pg	**Pb**	**10 14 41.1**	**+1.0**
KTBS	3.1nm,0.5s			Lg	Lg	10 15 48.5	

*ISK **29** 10:25:23.4, 39°51N×26°13E, h9km, ML3.0/33*
*AFAD **29** 10:25:23.9±0.0, 39°53N×26°17E, h10km, MW3.1*
*THE **29** 10:25:23.9, 39°50N×26°17E, h8km±1km, ML2.8/5, Error ellipse: s-maj=1.4km s-min=0.5km az=192.0*
*ATH **29** 10:25:24.2, 39°49N×26°14E, h12km±3km, ML2.9/4, Error ellipse: s-maj=4.0km s-min=0.9km az=206.0*

ISC 29 10:25:23.9±0.8, 39°50N±0°02×26°15E±0.02, h12km±5km, n64, σ0§51/92, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.01**	**283**	P	**Pg**	**10 25 26.0**	**-0.1**
KOCA				S	**Sg**	**10 25 27.6**	**0.0**
PRK	**Paraskevi**	**0.27**	**159**	P	**Pg**	**10 25 29.6**	**+0.1**
PRK	3µm,0.2s			S	**Sg**	**10 25 32.8**	**-0.5**
PRK	**Paraskevi**	**0.27**	**159**	P	**Pg**	**10 25 29.6**	**+0.1**
PRK				S	**Sg**	**10 25 33.2**	**-0.1**
PRK	comp=N,8164µm,0.3s			AML	AML	10 25 34.7	
PRK	comp=E,5232µm,0.2s			AML	AML	10 25 35.3	
EZN	**Ezine**	**0.35**	**23**	Pg	**Pg**	**10 25 30.8**	**-0.2**
EZN	**Ezine**	**0.35**	**23**	P	**Pg**	**10 25 30.9**	**-0.1**
EZN	comp=E,2µm,0.2s			S	**Sg**	**10 25 35.9**	**+0.2**
SIGR	**SIGRI**	**0.37**	**218**	Pg	**Pg**	**10 25 31.2**	**0.0**
SIGR				Sg	**Sg**	**10 25 36.7**	**+0.6**
SIGR	**SIGRI**	**0.37**	**218**	P	**Pg**	**10 25 31.2**	**0.0**
SIGR				S	**Sg**	**10 25 36.9**	**+0.8**
SIGR	**SIGRI**	**0.37**	**218**	P	**Pg**	**10 25 31.3**	**0.0**
SIGR				S	**Sg**	**10 25 36.6**	**+0.4**
SIGR	comp=E,3941µm,0.3s			AML	AML	10 25 37.4	
SIGR	comp=N,3688µm,0.2s			AML	AML	10 25 37.9	
BAYC	**CANAKKALE_Bayr**	**0.39**	**52**	P	**Pg**	**10 25 31.2**	**-0.5**
BAYC				S	**Sg**	**10 25 36.5**	**-0.5**
EAG3	**Mitilini, Lesv**	**0.53**	**142**	P	**Pg**	**10 25 34.2**	**0.0**
EAG3				S	**Sb**	**10 25 42.0**	**-0.6**
EAG3	comp=N,4513µm,0.3s			AML	AML	10 25 43.0	
EAG3	comp=E,3736µm,0.3s			AML	AML	10 25 44.4	
COMU	**Canakkale**	**0.65**	**23**	Pg	**Pg**	**10 25 36.3**	**-0.2**
GOAD	**anakkale-G¶**	**0.69**	**345**	P	**Pg**	**10 25 37.1**	**0.0**
GOAD				S	**Sg**	**10 25 46.0**	**-0.2**
GADA	**Gvkgeada**	**0.71**	**345**	Pg	**Pg**	**10 25 37.2**	**-0.6**
BUHA	**Balikesir, Bur**	**0.72**	**90**	P	**Pg**	**10 25 37.3**	**-0.1**
BUHA				S	**Sb**	**10 25 47.7**	**-0.5**
DKL	**Dikili**	**0.73**	**126**	Pg	**Pg**	**10 25 38.2**	**+0.2**
CAND	**Candarli**	**0.75**	**137**	Pg	**Pg**	**10 25 38.5**	**+0.2**
LIA	**Limnos Island**	**0.84**	**298**	P	**Pg**	**10 25 40.2**	**+0.1**
LIA	comp=E,832nm,0.2s			S	**Sb**	**10 25 53.2**	**+1.5**
LIA	**Limnos Island**	**0.84**	**298**	P	**Pg**	**10 25 40.3**	**+0.1**
LIA				S	**Sg**	**10 25 51.8**	**+0.6**
LIA	comp=E,2069µm,0.3s			AML	AML	10 25 53.5	
LIA	comp=N,1336µm,0.2s			AML	AML	10 25 55.2	
KARB	**zmir-Karabur**	**0.86**	**166**	P	**Pg**	**10 25 40.7**	**+0.2**
KARB				S	**Sg**	**10 25 52.3**	**+0.5**
CANM	**Can-anakkale**	**0.86**	**54**	Pg	**Pb**	**10 25 41.0**	**+0.2**
CANM				Sg	**Sb**	**10 25 52.9**	**+0.5**
ZEDA	**zmir-Bergama**	**0.90**	**126**	P	**Pb**	**10 25 41.5**	**+0.1**
ZEDA				S	**Sn**	**10 25 54.7**	**-0.5**
FOCM	**Foa**	**0.91**	**150**	Pg	**Pg**	**10 25 40.9**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.93**	**16**	Pg	**Pg**	**10 25 41.4**	**-0.5**
LPK	**Lapseki**	**0.99**	**28**	Pg	**Pg**	**10 25 42.4**	**-0.6**
PSRA	**Psara**	**1.06**	**206**	P	**Pg**	**10 25 44.1**	**-0.2**
SMTH	**Samothraki Isl**	**1.08**	**334**	P	**Pg**	**10 25 44.0**	**-0.7**
SMTH				S	**Sn**	**10 25 59.6**	**-0.1**
SMTH	**Samothraki Isl**	**1.08**	**334**	P	**Pg**	**10 25 44.0**	**-0.7**
CAVK	**Edirne/Enez-Ca**	**1.19**	**1**	P	**Pb**	**10 25 46.2**	**-0.1**
CAVK				S	**Sn**	**10 26 02.3**	**-0.1**
URLA	**Izmir**	**1.19**	**163**	Pn	**Pb**	**10 25 45.6**	**-0.8**
ERIK	**Erikli-Kesan**	**1.20**	**13**	Pn	**Pb**	**10 25 46.1**	**-0.5**
STEP	**BALIKESIR_Sava**	**1.22**	**95**	P	**Pb**	**10 25 46.8**	**-0.2**
STEP				S	**Sn**	**10 26 04.0**	**+0.7**
ENEZ	**Enez**	**1.23**	**0**	Pn	**Pn**	**10 25 46.9**	**0.0**
ENEZ				Sn	**Sn**	**10 26 04.2**	**+0.7**
ENEZ	**Enez**	**1.23**	**0**	P	**Pn**	**10 25 46.8**	**-0.1**
ENEZ	comp=N,768nm,0.5s			S	**Sn**	**10 26 03.7**	**+0.2**
KRBG	**Karabiga-Canak**	**1.26**	**44**	Pn	**Pn**	**10 25 47.2**	**0.0**
ZEYE	**Izmir, Urla-Ze**	**1.29**	**167**	P	**Pn**	**10 25 46.8**	**-0.9**
ZEYE				S	**Sb**	**10 26 03.7**	**-0.9**
GONE	**Gonen-Balikesi**	**1.31**	**65**	Pn	**Pb**	**10 25 48.2**	**-0.1**
KNL	**Balıkesir**	**1.31**	**54**	P	**Pn**	**10 25 47.8**	**-0.2**
KNL				S	**Sg**	**10 26 06.8**	**+0.7**
BLCB	**Balcova**	**1.31**	**148**	Pn	**Pn**	**10 25 48.5**	**+0.5**
BLCB	**Balcova**	**1.31**	**148**	P	**Pn**	**10 25 47.4**	**-0.6**
ALN	**Alexandroupoli**	**1.40**	**357**	Pn	**Pn**	**10 25 49.4**	**+0.2**
ALN				Sn	**Sg**	**10 26 08.2**	**-0.7**
ALN	**Alexandroupoli**	**1.40**	**357**	P	**Pn**	**10 25 49.2**	**0.0**
ALN	comp=N,188nm,0.4s			S	**Sb**	**10 26 07.5**	**-0.2**
ALN	**Alexandroupoli**	**1.40**	**357**	P	**Pn**	**10 25 49.2**	**0.0**
BKES	**Balkesir-Mer**	**1.40**	**80**	P	**Pb**	**10 25 49.6**	**-0.3**
BKES				S	**Sg**	**10 26 08.6**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.43**	**33**	Pn	**Pn**	**10 25 49.8**	**+0.2**
THAS	**Thassos island**	**1.56**	**316**	P	**Pn**	**10 25 50.7**	**-0.6**
THAS	**Thassos island**	**1.56**	**316**	P	**Pn**	**10 25 50.5**	**-0.9**
MRMT	**Marmara Adasi**	**1.56**	**45**	Pn	**Pn**	**10 25 51.7**	**+0.1**
MRMT				Sn	**Sb**	**10 26 12.6**	**0.0**
EDC	**Edincik**	**1.57**	**57**	Pn	**Pn**	**10 25 51.4**	**-0.1**
UKOP	**Uzunkopru-Edir**	**1.67**	**13**	Pn	**Pn**	**10 25 53.3**	**+0.4**
RDO	**Rodhopi**	**1.71**	**344**	Pn	**Pn**	**10 25 54.0**	**+0.5**
RDO	**Rodhopi**	**1.71**	**344**	P	**Pn**	**10 25 53.9**	**+0.5**
RDO				S	**Sn**	**10 26 15.2**	**0.0**
RDO	**Rodhopi**	**1.71**	**344**	P	**Pn**	**10 25 53.9**	**+0.5**
TKR	**Tekirdag**	**1.83**	**35**	Pn	**Pn**	**10 25 55.8**	**+0.7**
KCTX	**Karacabey (Bur**	**1.86**	**65**	Pn	**Pn**	**10 25 56.1**	**+0.5**
ORLT	**Orhaneli**	**2.19**	**75**	Pn	**Pn**	**10 26 01.1**	**+1.0**
KULA	**Kula-Manisa**	**2.19**	**116**	Pn	**Pn**	**10 26 00.1**	**-0.1**
SIMA	**Simav-Kutahya**	**2.24**	**100**	Pn	**Pn**	**10 26 01.8**	**+0.9**
SLVT	**Silivri**	**2.34**	**42**	Pn	**Pn**	**10 26 02.9**	**+0.8**
ARMT	**Armutlu**	**2.34**	**62**	Pn	**Pn**	**10 26 02.9**	**+0.7**
EDRB	**Edirne**	**2.39**	**11**	Pn	**Pn**	**10 26 03.3**	**+0.5**
CTKS	**Kestanelik-??a**	**2.50**	**45**	Pn	**Pn**	**10 26 04.0**	**-0.3**
TVSB	**Tavsanli**	**2.57**	**90**	Pn	**Pn**	**10 26 05.9**	**+0.5**
YLV	**Yalova**	**2.70**	**66**	Pn	**Pn**	**10 26 08.4**	**+1.3**
KLYT	**Kilyos**	**2.82**	**51**	Pn	**Pn**	**10 26 09.9**	**+1.2**

*IDC **29** 10:44:30.8±0.9, 17°73N×119°94E, h0km, mb3.8/7, mbtmp3.8/9, ML4.5/2, MS3.1/12, Error ellipse: s-maj=38.9km s-min=17.1km az=72.0*

ISC 29 10:44:36.0±0.8, 17°80N±0°10×119°9E±0°2, h35km, n19, σ1§52/10, mb3.6/6, MS3.2/8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City** 49nm,0.3s,baz=312,slow=23,SNR=1.9	**3.80**	**165**	Pn	**Pn**	**10 45 31.1**	**-1.1**
TGY	68nm,0.3s,baz=49,slow=14,SNR=3.6 80nm,0.3s			Sn	**Sn**	**10 46 18.4**	**+2.7**
JOW	**Kunigami** comp=Z,81nm,20.8s,baz=108,slow=37	**11.86**	**39**	LR	LR	10 51 49.5	
DAV	**Davao City (W)** comp=Z,31nm,20.6s,baz=94,slow=43	**12.01**	**152**	LR	LR	10 53 08.2	
JNU	**Nakatsue** comp=Z,16nm,20.0s,baz=225,slow=38	**18.17**	**31**	LR	LR	10 55 57.0	
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=96,slow=9.2,SNR=2.1	**19.95**	**275**	P	**P**	**10 49 05.1**	**-0.1**
CMAR	comp=Z,28nm,20.8s,baz=105,slow=35 0.5nm,0.3s			LR	LR	10 56 17.8	
KSRS	**Korea Array** 3.4nm,0.7s,baz=200,slow=11,SNR=12	**20.81**	**18**	P	**P**	**10 49 13.7**	**-0.7**
KSRS	comp=Z,34nm,18.4s,baz=35,slow=41 3.4nm,0.7s			LR	LR	10 58 47.6	
GUMO

comp=Z,33nm,18.2s,baz=36,slow=36
KLR Kul'dur 32.79 14 LR LR 11 04 59.5
comp=Z,37nm,19.6s,baz=227,slow=37
WRA Warramunga Arr 40.09 159 P **P** **10 52 06.4 -1.9**
0.6nm,0.6s,baz=341,slow=9.1,SNR=7.7
0.6nm,0.6s
MKAR Makanchi Array 42.34 321 P **P** **10 52 26.2 -0.4**
0.4nm,0.7s,baz=111,slow=8.0,SNR=3.9
0.4nm,0.7s
ASAR Alice Springs 43.42 161 P **P** **10 52 35.0 -0.6**
0.9nm,0.7s,baz=339,slow=7.0,SNR=24
0.9nm,0.7s
YAK Yakutsk 44.72 7 LR LR 11 14 12.8
comp=Z,38nm,18.1s,baz=82,slow=40
STKA Stephens Creek 53.59 157 P **P** **10 53 53.8 0.0**
4.4nm,0.8s,baz=331,slow=11,SNR=7.9
4.4nm,0.8s
NRIK Noril'sk 55.27 347 P **P** **10 54 07.0 +1.5**
1.5nm,0.5s,baz=124,slow=8.7,SNR=3.6
1.5nm,0.5s
BELG Belogornoye 65.31 320 LR LR 11 23 19.9
comp=Z,36nm,18.7s,baz=158,slow=36
AKASG Malin Array Be 76.87 319 LR LR 11 30 21.7
comp=Z,45nm,18.0s,baz=248,slow=36
YKA Yellowknife Ar 89.29 22 P **P** **10 57 29.2 +0.8**
0.1nm,0.6s,baz=309,slow=4.9,SNR=1.8
0.1nm,0.6s
DAVOX Davos/Dischmat 90.21 320 LR LR 11 43 32.1
comp=Z,21nm,19.7s,slow=39

*IDC **29** 11:04:09.1±0.6,4.°12N×126.°46E,h0km,mb4.1/17, mbtmp4.1/18,ML3.9/1,MS3.2/3,Error ellipse: s-maj=38.4km s-min=13.6km az=71.0*
*DJA **29** 11:04:12.6±1.9,4.°N±5.°×12.°7E±.°,h11km±16km,M4.3/10, mb4.3/8,mB4.8/2,MLv4.3/10,Mw(mB)4.0/2*
*NEIC **29** 11:04:15.1±2.0,4.°28N±0.°07×126.°64E±0.°10,h38km±5km, mb4.3/18,Error ellipse: s-maj=14.5km s-min=9.0km az=70.0*
ISC 29 11:04:15.7±0.5,**4.°16N**±0.°05×**126.°59E**±0.°10,**h45**km,**n53,** σ1**§23**/54,**mb4.1**/23,**MS3.2**/3,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.16**	**246**	P		**Pn**	**11 04 34.8**	**-0.7**
DAV	**Davao City (W)**	**3.06**	**341**	Pn		**Pn**	**11 04 59.6**	**-2.0**
DAV	**Davao City (W)**	**3.06**	**341**	Pn		**Pn**	**11 04 58.3**	**-3.3**
	17nm,0.3s,baz=68,slow=20,SNR=1.3							
DAV					Sn	**Sn**	**11 05 40.5**	**+3.5**
	25nm,0.3s,baz=82,slow=22,SNR=3.6							
	64nm,0.3s							
TNTI	**Ternate**	**3.45**	**167**	Pn		**Pn**	**11 05 08.8**	**+1.8**
LBMI	**Labuha**	**4.85**	**169**	P		**Pn**	**11 05 26.6**	**+0.4**
GTOI	**Gorontalo**	**5.01**	**226**	P		**Pn**	**11 05 28.8**	**+0.5**
	15nm,0.7s,369nm0.1nm							
MRSI	**Marisa**	**5.92**	**232**	P		**Pn**	**11 05 42.0**	**+1.2**
	131nm,0.6s,2µm0.5nm							
SANI	**Sanana**	**6.20**	**186**	P		**Pn**	**11 05 43.8**	**-0.9**
	12nm,0.5s,0.1nm							
LUWI	**Luwuk**	**6.42**	**217**	Pn		**Pn**	**11 05 50.3**	**+2.5**
TOLI2	**Tolitoli**	**6.55**	**243**	Pn		**Pn**	**11 05 49.0**	**-0.5**
SWI	**Sorong**	**6.83**	**137**	P		**Pn**	**11 05 53.2**	**-0.2**
	18nm,0.8s,0.1nm							
FAKI	**Fak Fak**	**9.02**	**141**	Pn		**Pn**	**11 06 23.7**	**+0.2**
FAKI	**Fak Fak**	**9.02**	**141**	P		**Pn**	**11 06 23.5**	**0.0**
MTN	**Manton Dam**	**17.48**	**165**	P		**Pn**	**11 08 13.9**	**-2.5**
MTN					IAmb	IAmb	11 08 31.0	
	comp=Z,7.6nm,0.6s							
KNRA	**Kununurra**	**19.83**	**174**	P		**P**	**11 08 42.0**	**-0.8**
KNRA					IAmb	IAmb	11 09 06.9	
	comp=Z,8.2nm,0.8s							
TPUB	**Ta-pu**	**19.88**	**344**	P		**P**	**11 08 41.8**	**-1.6**
TPUB					IAmb	IAmb	11 09 19.9	
	comp=Z,28nm,1.2s							
WB0	**Warramunga Arr**	**24.98**	**162**	P		**P**	**11 09 34.9**	**-0.4**
WB0					IAmb	IAmb	11 09 53.0	
	comp=Z,6.1nm,0.6s							
WRAB	**Tennant Creek**	**25.13**	**163**	P		**P**	**11 09 35.6**	**-1.1**
WRAB					IAmb	IAmb	11 09 37.0	
	comp=Z,9.5nm,0.7s							
WRA	**Warramunga Arr**	**25.13**	**163**	P		**P**	**11 09 36.3**	**-0.4**
WRA	**Warramunga Arr**	**25.13**	**163**	P		**P**	**11 09 35.1**	**-1.6**
	comp=Z,2.0nm,0.5s,baz=344,slow=11,SNR=20							
	comp=Z,2.0nm,0.5s							
WB2	**Warramunga Arr**	**25.14**	**163**	P		**P**	**11 09 35.9**	**-0.8**
WB2					IAmb	IAmb	11 09 51.6	
	comp=Z,4.4nm,0.8s							
WR0	**Warramunga Arr**	**25.21**	**162**	P		**P**	**11 09 37.2**	**-0.2**
MBWA	**Marble Bar**	**26.05**	**195**	P		**P**	**11 09 45.7**	**+0.7**
MBWA					IAmb	IAmb	11 10 06.3	
	comp=Z,25nm,1.4s							
PSA00	**Pilbara Seismi**	**26.41**	**194**	P		**P**	**11 09 48.0**	**-0.2**
PSA00					IAmb	IAmb	11 09 49.9	
	comp=Z,25nm,1.4s							
AS31	**Alice Springs**	**28.56**	**166**	P		**P**	**11 10 07.8**	**+0.2**
ASAR	**Alice Springs**	**28.56**	**166**	P		**P**	**11 10 06.7**	**-0.9**
ASAR	**Alice Springs**	**28.56**	**166**	P		**P**	**11 10 06.8**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=345,slow=7.0,SNR=16							
ASAR					PcP	**PcP**	**11 13 20.2**	**+2.0**
	comp=Z,0.2nm,0.8s,baz=348,slow=2.3,SNR=1.5							
	comp=Z,0.6nm,0.6s							
PHRA	**Phrae**	**29.45**	**301**	P		**P**	**11 10 16.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**30.54**	**300**	P		**P**	**11 10 25.5**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=121,slow=7.8,SNR=6.1							
	comp=Z,0.9nm,0.3s							
MORW	**Morawa**	**34.56**	**196**	P		**P**	**11 11 00.9**	**+0.8**
BBOO	**Buckleboo**	**37.85**	**167**	P		**P**	**11 11 28.2**	**0.0**
STKA	**Stephens Creek**	**38.58**	**159**	P		**P**	**11 11 34.8**	**+0.4**
STKA	**Stephens Creek**	**38.58**	**159**	P		**P**	**11 11 34.1**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=324,slow=9.0,SNR=3.2							
	comp=Z,2.5nm,0.8s							
USRK	**Ussuriysk Ar.**	**40.16**	**6**	P		**P**	**11 11 48.7**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=190,slow=6.5,SNR=1.5							
	comp=Z,0.6nm,0.5s							
PALK	**Pallekele**	**45.75**	**276**	LR		LR	11 33 21.1	
	comp=Z,16nm,18.5s,baz=170,slow=38							
SONM	**Songino Array**	**46.85**	**341**	P		**P**	**11 12 42.3**	**+0.9**
SONM					IAmb	IAmb	11 12 44.4	
	comp=Z,3.0nm,1.4s							
SONM	**Songino Array**	**46.85**	**341**	P		**P**	**11 12 40.9**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=160,slow=7.9,SNR=6.5							
	comp=Z,1.0nm,0.5s							
PETK	**Petropavlovsk-**	**55.09**	**22**	P		**P**	**11 13 43.9**	**+0.9**
	comp=Z,2.4nm,0.8s,baz=194,slow=3.4,SNR=1.5							
	comp=Z,2.4nm,0.8s							
MK31	**Makanchi Array**	**57.13**	**325**	P		**P**	**11 13 56.7**	**-1.1**
MK31					IAmb	IAmb	11 13 57.8	
	comp=Z,1.5nm,0.9s							
MKAR	**Makanchi Array**	**57.13**	**325**	P		**P**	**11 13 56.9**	**-0.9**
MKAR	**Makanchi Array**	**57.13**	**325**	P		**P**	**11 13 57.1**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=119,slow=8.0,SNR=20							
MKAR					PcP	**PcP**	**11 14 52.3**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=116,slow=3.4,SNR=4.9							
	comp=Z,1.1nm,0.4s							
AAK	**Ala-Archa**	**59.95**	**318**	LR		LR	11 41 41.6	
	comp=Z,32nm,19.0s,baz=39,slow=38							
ZALV	**Zalesovo Beam**	**60.15**	**333**	P		**P**	**11 14 17.2**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=120,slow=8.5,SNR=2.1							
ZALV					LR	LR	11 40 06.9	
	comp=Z,17nm,19.7s,baz=31,slow=36							
	comp=Z,0.6nm,0.4s							
KURBB	**Kurchatov Arra**	**61.30**	**327**	P		**P**	**11 14 25.6**	**-1.0**
	comp=Z,2.2nm,0.5s,baz=129,slow=6.4,SNR=36							
	comp=Z,2.2nm,0.5s							
KURK	**Kurchatov**	**61.31**	**327**	P		**P**	**11 14 26.1**	**-0.5**
BVAR	**Borovoye Array**	**66.89**	**327**	P		**P**	**11 15 01.2**	**-1.9**
	comp=Z,0.7nm,0.5s,baz=127,slow=9.3,SNR=4.7							
	comp=Z,0.7nm,0.5s							
NRIK	**Noril'sk**	**69.98**	**346**	P		**P**	**11 15 21.9**	**-0.3**
	comp=Z,2.5nm,0.6s,baz=126,slow=7.6,SNR=6.4							
	comp=Z,2.5nm,0.6s							
ABKAR	**Akbulak array**	**71.73**	**321**	P		**P**	**11 15 31.7**	**-1.5**
VNDA	**Vanda**	**83.87**	**173**	P		**P**	**11 16 40.1**	**0.0**
	comp=Z,1.4nm,1.1s,baz=311,slow=5.7,SNR=3.2							
	comp=Z,1.4nm,1.1s							
ILAR	**Eielson Array**	**84.78**	**25**	P		**P**	**11 16 45.0**	**0.0**
	comp=Z,0.2nm,0.6s,baz=244,slow=5.9,SNR=2.5							
	comp=Z,0.2nm,0.6s							
ARCES	**ARCESS Array B**	**90.00**	**340**	P		**P**	**11 17 10.4**	**+0.3**
	comp=Z,5.4nm,1.0s,baz=68,slow=5.9,SNR=1.9							
	comp=Z,5.4nm,1.0s							
SPITS	**Spitsbergen Ar**	**90.03**	**349**	P		**P**	**11 17 10.7**	**+0.5**
	comp=Z,13nm,1.1s,baz=81,slow=6.3,SNR=4.2							
	comp=Z,13nm,1.1s							
FINES	**FINESS Array B**	**91.39**	**332**	P		**P**	**11 17 16.4**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=72,slow=6.2,SNR=5.9							
	comp=Z,0.9nm,0.7s							

*BJI **29** 11:13:05.7±0.0,14.°87S×168.°04E,h135km,mb4.9/51, mB4.9/25*
*NOU **29** 11:13:06.1,14.°97S×167.°43E,h118km,mb5.0/40, Vanuatu Islands*
*IDC **29** 11:13:07.6±1.9,15.°22S×167.°55E,h134km±16km, mb4.4/23,mbtmp4.8/24,MS3.4/9,Error ellipse: s-maj=13.8km s-min=10.2km az=78.0*
*NEIC **29** 11:13:08.0±2.0,15.°26S±0.°08×167.°48E±0.°09,h131km±6km, mb4.8/86,Error ellipse: s-maj=12.2km s-min=11.2km az=109.0*
ISC 29 11:13:08.6±0.5,**15.°28S**±0.°05×**167.°55E**±0.°06,**h146**km±4km, **h145**km:**pP-P,n220,**σ1**936**/222,**mb4.8**/83,**7C-2D,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**5.48**	**183**	Pn		**Pn**	**11 14 26.5**	**-1.7**
LIFNC						**Sn**	**11 15 27.4**	**-3.2**
KOUNC	**Koumac, New Ca**	**6.10**	**210**	P		**Pn**	**11 14 36.1**	**-0.4**
KOUNC	**Koumac, New Ca**	**6.10**	**210**			**Pn**	**11 14 35.4**	**-1.1**
MARNC	**Mare, Loyalty**	**6.19**	**176**	Pn		**Pn**	**11 14 36.1**	**-1.6**
DZM	**Mont Dzumac**	**6.84**	**189**			**Pn**	**11 14 46.1**	**-0.4**
DZM	**Mont Dzumac**	**6.84**	**189**	P		**Pn**	**11 14 46.6**	**0.0**
	40nm,0.5s,baz=50,slow=17,SNR=48							
DZM					S	**Sn**	**11 16 04.6**	**+1.3**
	117nm,0.8s,baz=322,slow=21,SNR=9.4							
NOUC	**Port Laguerre**	**6.89**	**190**	P		**Pn**	**11 14 48.9**	**+1.8**
ONTNC	**Ouen Toro**	**7.07**	**188**	P		**Pn**	**11 14 51.5**	**+2.0**
ONTNC	**Ouen Toro**	**7.07**	**188**	Pn		**Pn**	**11 14 50.6**	**+1.1**
OUENC	**Ouen Island, N**	**7.13**	**185**	P		**Pn**	**11 14 52.4**	**+2.0**
OUENC	**Ouen Island, N**	**7.13**	**185**			**Pn**	**11 14 50.7**	**+0.3**
OUENC						**Sn**	**11 16 09.6**	**-0.6**
PINNC	**Pines Island,**	**7.30**	**181**			**Pn**	**11 14 52.1**	**-0.5**
HNR	**Honiara**	**9.43**	**307**	Pn		**Pn**	**11 15 19.5**	**-1.6**
HNR	**Honiara**	**9.43**	**307**	P		**Pn**	**11 15 20.1**	**-1.0**
	3µm,0.7s,baz=239,slow=7.3,SNR=16							
HNR					S	**Sn**	**11 17 03.3**	**-2.4**
	933nm,0.5s,baz=287,slow=23,SNR=1.7							
HNR					LR	LR	11 18 49.2	
	comp=Z,2µm,19.7s,baz=160,slow=36							
MSVF	**Nonsavu**	**10.36**	**105**			**Pn**	**11 15 33.7**	**+0.1**
EIDS	**Eidsvold**	**18.40**	**234**	Pn		**P**	**11 17 13.9**	**+1.3**
AFI	**Afiamalu**	**20.05**	**89**	P		**Pn**	**11 17 32.9**	**-1.0**
PMG	**Port Moresby**	**20.75**	**284**	P		**P**	**11 17 37.8**	**-0.2**
	12nm,0.9s,baz=164,slow=18,SNR=3.3							
	12nm,0.8s							
CTA	**Charters Tower**	**20.84**	**254**	P		**P**	**11 17 40.0**	**+1.0**
	5.4nm,0.6s,baz=170,slow=0.2,SNR=11							
	5.4nm,0.6s							
CTAO	**Charters Tower**	**20.84**	**254**	P		**P**	**11 17 38.8**	**-0.2**
ARMA	**Armidale**	**20.99**	**221**	P		**P**	**11 17 40.7**	**+0.1**
AULRC	**Lightning Ridg**	**22.89**	**229**	P		**P**	**11 18 00.5**	**+0.8**
MGCD	**Mangrove Creek**	**23.26**	**217**	P		**P**	**11 18 04.9**	**+1.8**
TOZ	**Tahuroa Road**	**23.45**	**164**	P		**P**	**11 18 06.1**	**+1.4**
COEN	**Coen**	**23.62**	**270**			**P**	**11 18 06.0**	**-0.6**
COEN					IAmb	IAmb	11 18 40.2	
	comp=Z,43nm,1.9s							
SYDH	**Sydney Hard Ro**	**23.87**	**217**	P		**P**	**11 18 10.2**	**+1.6**
HIZ	**Hauiti**	**24.03**	**166**	P		**P**	**11 18 12.4**	**+2.4**
AUDCS	**Dubbo College**	**24.11**	**222**	P		**P**	**11 18 12.5**	**+1.6**
WOLH	**Wollongong Har**	**24.26**	**215**	P		**P**	**11 18 13.9**	**+1.7**
URZ	**Urewera**	**24.40**	**162**	LR		LR	11 25 34.8	
	comp=Z,73nm,21.7s,baz=117,slow=30							
QLP	**Quilpie**	**24.47**	**239**	P		**P**	**11 18 15.2**	**+1.0**
RTZ	**Ruatahuna**	**24.69**	**162**	P		**P**	**11 18 16.8**	**+0.7**
RTZ					IAmb	IAmb	11 18 22.0	
	comp=Z,48nm,0.9s							
BKZ	**Black Stump Fm**	**25.06**	**163**	P		**P**	**11 18 20.5**	**+1.1**
CMSA	**Cobar Meteorol**	**25.70**	**227**	P		**P**	**11 18 25.9**	**+0.7**
CNB	**Canberra Magne**	**25.77**	**216**	P		**P**	**11 18 27.3**	**+1.3**
MRZ	**Mangatainoka R**	**26.24**	**166**	P		**P**	**11 18 29.8**	**-0.2**
BFZ	**Birch Farm**	**26.42**	**165**	P		**P**	**11 18 31.5**	**-0.1**
BFZ					IAmb	IAmb	11 18 34.9	
	comp=Z,26nm,0.7s							
TUWZ	**Tuamarina**	**26.64**	**169**	P		**P**	**11 18 34.0**	**+0.4**
THZ	**Tophouse**	**26.80**	**171**	P		**P**	**11 18 35.9**	**+0.9**
THZ					IAmb	IAmb	11 18 46.0	
	comp=Z,18nm,0.7s							
QIS	**Mount Isa**	**27.09**	**255**	P		**P**	**11 18 37.8**	**-0.1**
INZ	**Inchbonnie**	**27.56**	**174**	P		**P**	**11 18 42.5**	**+0.8**
LTZ	**Lake Taylor**	**27.71**	**173**	P		**P**	**11 18 44.2**	**+1.1**
INKA	**Innaminka**	**27.78**	**239**	P		**P**	**11 18 44.7**	**+0.8**
RPZ	**Rata Peaks**	**28.50**	**175**	P		**P**	**11 18 51.0**	**+0.9**
RPZ					IAmb	IAmb	11 18 52.5	
	comp=Z,25nm,0.7s							
JCZ	**Jackson Bay**	**28.72**	**178**	P		**P**	**11 18 54.1**	**+1.9**
STKA	**Stephens Creek**	**28.85**	**231**	P		**P**	**11 18 54.4**	**+1.0**
STKA	**Stephens Creek**	**28.85**	**231**	P		**P**	**11 18 54.6**	**+1.2**
STKA	**Stephens Creek**	**28.85**	**231**	P		**P**	**11 18 54.6**	**+1.2**
	comp=Z,28nm,0.6s,baz=41,slow=7.2,SNR=54							
STKA					PcP	**PcP**	**11 21 59.9**	**+0.5**
	comp=Z,13nm,0.7s,baz=21,slow=3.0,SNR=16							
	comp=Z,28nm,0.6s							
AUMAG	**Moama Anglican**	**29.06**	**220**	P		**P**	**11 18 56.8**	**+1.6**
LBZ	**Lake Benmore**	**29.10**	**176**	IAmb		IAmb	11 18 57.6	
	comp=Z,21nm,0.8s							
TOO	**Toolangi**	**29.58**	**217**	P		**P**	**11 19 01.0**	**+1.2**
TOO	**Toolangi**	**29.58**	**217**	IAmb		IAmb	11 19 01.8	
	comp=Z,19nm,0.8s							
MLZ	**Mavora Lakes**	**30.00**	**179**	IAmb		IAmb	11 19 05.0	
	comp=Z,19nm,0.9s							
GLAD	**Gladstone**	**30.73**	**210**	P		**P**	**11 19 11.1**	**+1.3**
LCRK	**Leigh Creek**	**30.84**	**236**	P		**P**	**11 19 12.1**	**+1.1**
HTT	**Hallett**	**31.57**	**230**	P		**P**	**11 19 18.6**	**+1.1**
WB0	**Warramunga Arr**	**31.90**	**257**	P		**P**	**11 19 19.2**	**-1.3**
WB0					IAmb	IAmb	11 19 20.0	
	comp=Z,11nm,0.6s							
WB2	**Warramunga Arr**	**31.95**	**257**	IAmb		IAmb	11 19 20.5	
	comp=Z,7.2nm,0.8s							
WRA	**Warramunga Arr**	**31.96**	**257**	P		**P**	**11 19 19.4**	**-1.6**
WRA	**Warramunga Arr**	**31.96**	**257**	P		**P**	**11 19 19.6**	**-1.3**
	comp=Z,5.5nm,0.6s,baz=86,slow=8.9,SNR=81							
WRA					PcP	**PcP**	**11 22 07.8**	**-0.1**
	comp=Z,3.8nm,1.0s,baz=83,slow=2.6,SNR=9.5							
WRA					PKiKP	**PKiKP**	**11 29 35.1**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=342,slow=0.3,SNR=12							
	comp=Z,5.5nm,0.6s							
OOD	**Oodnadatta**	**32.05**	**242**	P		**P**	**11 19 22.5**	**+0.9**
WHYH	**Whyalla**	**32.40**	**232**	P		**P**	**11 19 25.7**	**+1.1**
AS01	**Alice Springs**	**32.70**	**250**	P		**P**	**11 19 26.6**	**-0.8**
AS31	**Alice Springs**	**32.74**	**250**	P		**P**	**11 19 27.2**	**-0.5**
AS31					IAmb	IAmb	11 19 28.1	
	comp=Z,12nm,0.5s							
ASAR	**Alice Springs**	**32.74**	**250**	P		**P**	**11 19 27.2**	**-0.5**
ASAR	**Alice Springs**	**32.74**	**250**	P		**P**	**11 19 26.9**	**-0.8**
	comp=Z,25nm,0.7s,baz=76,slow=9.1,SNR=540							
ASAR					PcP	**PcP**	**11 22 09.9**	**0.0**
	comp=Z,1.8nm,0.5s,baz=89,slow=2.5,SNR=6.9							
ASAR					ScP	**ScP**	**11 25 43.0**	**+2.5**
	comp=Z,1.8nm,0.9s,baz=93,slow=3.1,SNR=8.8							
ASAR					PKiKP	**PKiKP**	**11 29 35.5**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=111,slow=1.5,SNR=8.8							
ASAR					LR	LR	11 32 43.8	
	comp=Z,96nm,19.1s,baz=90,slow=36							
	comp=Z,25nm,0.7s							
BBOO	**Buckleboo**	**33.46**	**233**	P		**P**	**11 19 34.7**	**+0.8**
BBOO	**Buckleboo**	**33.46**	**233**	P		**P**	**11 19 34.8**	**+0.8**
MULG	**Mulgathing**	**34.15**	**238**	P		**P**	**11 19 40.0**	**+0.2**
FAKI	**Fak Fak**	**36.88**	**286**	P		**P**	**11 20 03.3**	**-0.1**
FAKI					IAmb	IAmb	11 20 04.2	
	comp=Z,17nm,0.8s							
FAKI	**Fak Fak**	**36.88**	**286**	P		**P**	**11 20 03.2**	**-0.1**
	comp=Z,24nm,1.2s							
KNRA	**Kununurra**	**37.35**	**264**	P		**P**	**11 20 06.6**	**-0.7**
KNRA	**Kununurra**	**37.35**	**264**	IAmb		IAmb	11 20 07.3	
	comp=Z,26nm,1.0s							
WRKA	**Warakurna**	**37.99**	**249**	P		**P**	**11 20 12.3**	**-0.4**
SWI	**Sorong**	**38.58**	**288**	P		**P**	**11 20 16.6**	**-1.0**
	comp=Z,31nm,0.7s							
FORT	**Forrest**	**39.26**	**240**	P		**P**	**11 20 23.4**	**+0.3**
FORT	**Forrest**	**39.26**	**240**	P		**P**	**11 20 23.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**40.19**	**260**	P		**P**	**11 20 31.1**	**+0.2**
PPT	**Papeete**	**41.12**	**99**	P		**P**	**11 20 39.7**	**+1.0**
	comp=Z,49nm,0.8s,baz=310,slow=8.8,SNR=5.3							
	comp=Z,49nm,0.8s							
PPTF	**Pamatai, Papee**	**41.13**	**99**	P		**P**	**11 20 41.0**	**+2.2**
PPTF	**Pamatai, Papee**	**41.13**	**99**	P		**P**	**11 20 40.6**	**+1.8**
PPTF	**Pamatai, Papee**	**41.13**	**99**	P		**P**	**11 20 40.5**	**+1.8**
SOEI	**Soe**	**42.56**	**272**	P		**P**	**11 20 51.0**	**+0.6**
SOEI					IAmb	IAmb	11 20 52.1	
	comp=Z,28nm,1.2s							
SANI	**Sanana**	**43.03**	**284**	P		**P**	**11 20 53.7**	**-0.4**
	comp=Z,25nm,0.8s							
BATI	**Baumata**	**43.05**	**271**	LR		LR	11 40 00.0	
	comp=Z,44nm,18.0s,baz=144,slow=38							
KMBL	**Kambalda**	**44.56**	**241**	P		**P**	**11 21 06.1**	**-0.1**
EDFI	**Ende, Flores**	**45.26**	**273**	P		**P**	**11 21 11.4**	**-0.6**
	comp=Z,17nm,0.6s							
MBWA	**Marble Bar**	**45.67**	**255**	P		**P**	**11 21 15.3**	**+0.3**
MBWA	**Marble Bar**	**45.67**	**255**	P		**P**	**11 21 15.3**	**+0.3**
MBWA					IAmb	IAmb	11 21 15.9	
	comp=Z,28nm,0.9s							
MBWA	**Marble Bar**	**45.67**	**255**	P		**P**	**11 21 15.1**	**0.0**
MEEK	**Meekatharra**	**46.83**	**248**	P		**P**	**11 21 24.2**	**+0.1**
KLBR	**Kellerberrin**	**48.08**	**241**	P		**P**	**11 21 33.2**	**-0.4**
TOLI2	**Tolitoli**	**49.02**	**285**	P		**P**	**11 21 39.2**	**-1.8**
TOLI2					IAmb	IAmb	11 21 41.2	
	comp=Z,14nm,1.0s							
MORW	**Morawa**	**49.28**	**245**	P		**P**	**11 21 42.9**	**0.0**
MORW					IAmb	IAmb	11 21 44.4	
	comp=Z,23nm,1.0s							
MPSI	**Mapaga**	**49.57**	**284**	P		**P**	**11 21 45.1**	**-0.1**
	comp=Z,39nm,0.8s							
TWSI	**Taliwang, Sumb**	**49.90**	**271**	P		**P**	**11 21 47.5**	**-0.2**
	comp=Z,47nm,1.1s							
KKM	**Kota Kinabalu**	**55.09**	**289**	P		**P**	**11 22 26.0**	**-0.1**
KPJI	**Karang Pucung**	**57.88**	**271**	P		**P**	**11 22 44.8**	**-0.9**
	comp=Z,39nm,0.7s							
JMN	**Monobe**	**58.35**	**327**	P		**P**	**11 22 48.8**	**+0.2**
MJAR	**Matsushiro Arr**	**58.51**	**332**	P		**P**	**11 22 48.4**	**-1.2**
	comp=Z,2.0nm,0.6s,baz=165,slow=6.8,SNR=6.3							
MJAR					PcP	**PcP**	**11 23 39.0**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=148,slow=2.7,SNR=4.1							
	comp=Z,2.0nm,0.6s							
KSM	**Kuching**	**58.98**	**281**	P		**P**	**11 22 52.7**	**-0.7**
KSM					IAmb	IAmb	11 22 54.3	
	comp=Z,14nm,0.9s							
LEM	**Lembang**	**59.27**	**271**	P		**P**	**11 22 55.6**	**+0.1**
	comp=Z,19nm,0.5s,baz=127,slow=20,SNR=5.1							
	comp=Z,19nm,0.5s							
JNU	**Nakatsue**	**59.52**	**324**	P		**P**	**11 22 55.8**	**-0.9**
JNU					IAmb	IAmb	11 22 57.3	
	comp=Z,10nm,0.8s							
TPUB	**Ta-pu**	**59.80**	**309**	P		**P**	**11 22 57.6**	**-1.2**
VNDA	**Vanda**	**62.32**	**181**	P		**P**	**11 23 15.9**	**+1.0**
VNDA					IAmb	IAmb	11 23 17.6	
	comp=Z,8.0nm,0.7s							
VNDA	**Vanda**	**62.32**	**181**	P		**P**	**11 23 15.8**	**+0.8**
	comp=Z,6.6nm,0.6s,baz=356,slow=7.8,SNR=64							
	comp=Z,6.6nm,0.6s							
VNDA	**Vanda**	**62.32**	**181**	P		**P**	**11 23 15.5**	**+0.6**
VNDA					pP	**pwP**	**11 23 48.5**	**-0.8**
SBA	**Scott Base**	**62.59**	**180**	P		**P**	**11 23 18.8**	**+2.1**
SBA	**Scott Base**	**62.59**	**180**	P		**P**	**11 23 18.5**	**+1.8**
SBA					pP	**pwP**	**11 23 50.2**	**-0.8**
KSRS	**Korea Array**	**64.34**	**326**	P		**P**	**11 23 28.9**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=139,slow=7.2,SNR=11							
KSRS					PcP	**pwP**	**11 24 03.4**	**0.0**
	comp=Z,1.5nm,0.7s,baz=138,slow=5.2,SNR=4.7							
KSRS					LR	LR	11 51 30.9	
	comp=Z,9.3nm,18.2s,baz=115,slow=36							
	comp=Z,2.4nm,0.8s							
CCD	**Concordia, Ant**	**64.42**	**192**	P		**P**	**11 23 29.9**	**+0.7**
CCD					pP	**pwP**	**11 24 03.6**	**-0.6**
NJ2	**Nanjing**	**66.26**	**316**	*eP*		**P**	**11 23 43.5**	**+2.3**
NJ2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
**USA

M20K	**Styx River**	**82.93**	**18**	IAmb	IAmb	11 26 32.0	
	comp=Z,21nm,1.9s						
BILL	**Bilibino**	**83.09**	**360**	P	**P**	**11 25 17.4**	**0.0**
SONM	**Songino Array**	**83.10**	**324**	P	**P**	**11 25 18.0**	**-0.1**
SONM				IAmb	IAmb	11 25 19.5	
	comp=Z,11nm,1.0s						
SONM	**Songino Array**	**83.10**	**324**	P	**P**	**11 25 18.4**	**+0.3**
	comp=Z,7.7nm,0.8s,baz=141,slow=5.5,SNR=37						
	comp=Z,7.7nm,0.8s						
GTA	**Gaotai**	**83.24**	**314**	P	**P**	**11 25 20.0**	**+1.0**
GTA				pP	pP	11 25 54.0	-1.4
GTA				pmax	pmax		
	comp=Z,15nm,1.2s						
SUA	**Susitna One**	**83.32**	**19**	P	**P**	**11 25 18.9**	**0.0**
K20K	**Telida**	**83.84**	**16**	IAmb	IAmb	11 28 02.5	
	comp=Z,15nm,1.8s						
CAST	**Castle Rocks**	**84.44**	**17**	P	**P**	**11 25 23.2**	**-1.2**
J20K	**Nowinta River**	**84.47**	**16**	IAmb	IAmb	11 25 27.6	
	comp=Z,21nm,1.8s						
I20K	**Naaghedenesei**	**84.89**	**15**	IAmb	IAmb	11 25 28.6	
	comp=Z,18nm,1.4s						
BERG	**Berg Lake**	**84.91**	**22**	P	**P**	**11 25 27.1**	**+0.3**
BERG				IAmb	IAmb	11 25 28.9	
	comp=Z,12nm,1.0s						
H19K	**Roundabout Mou**	**85.00**	**14**	IAmb	IAmb	11 25 28.2	
	comp=Z,11nm,1.4s						
F19K	**Shaleruckik Mo**	**85.78**	**13**	IAmb	IAmb	11 25 33.8	
	comp=Z,17nm,1.8s						
BELA	**Belgrano 2**	**86.16**	**175**	P	**P**	**11 25 31.6**	**-1.2**
BELA				IAmb	IAmb	11 25 33.7	
	comp=Z,19nm,1.0s						
HDA	**Harding Lake**	**86.68**	**18**	P	**P**	**11 25 35.1**	**-0.3**
IL31		**86.96**	**18**	P	**P**	**11 25 34.8**	**-2.0**
ILAR	**Eielson Array**	**86.96**	**18**	P	**P**	**11 25 35.0**	**-1.8**
	comp=Z,1.2nm,0.6s,baz=238,slow=5.1,SNR=28						
	comp=Z,1.2nm,0.6s						
BBB	**Bella Bella**	**87.08**	**34**	LR	LR	11 59 09.8	
	comp=Z,18nm,20.6s,baz=51,slow=32						
DSP	**Deep Springs**	**87.28**	**50**	P	**P**	**11 25 39.6**	**+0.7**
DSP				IAmb	IAmb	11 26 17.6	
	comp=Z,9.1nm,1.1s						
NVAR	**Mina Array Bea**	**87.42**	**49**	P	**P**	**11 25 40.4**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=231,slow=8.2,SNR=12						
NVAR				PKKPbc	**PKKPbc**	**11 43 31.1**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=91,slow=4.0,SNR=5.3						
	comp=Z,1.1nm,0.7s						
PINE	**Pine Mountain**	**87.64**	**43**	IAmb	IAmb	11 27 20.0	
	comp=Z,15nm,1.7s						
GMN	**Gold Mountain**	**87.78**	**50**	IAmb	IAmb	11 25 41.1	
	comp=Z,14nm,1.2s						
KVN	**Kaiserville**	**87.80**	**49**	P	**P**	**11 25 41.8**	**+0.2**
GNW	**Green Mountain**	**88.00**	**39**	IAmb	IAmb	11 25 43.3	
	comp=Z,3.9nm,0.7s						
ELIB	**Princess Elisa**	**89.73**	**191**	*d*P	**P**	**11 25 50.1**	**0.0**
	comp=Z,12nm,0.6s						
ELK	**Elko**	**90.45**	**48**	P	**P**	**11 25 52.1**	**-2.0**
SPR3	**Spring Creek 3**	**90.53**	**50**	IAmb	IAmb	11 26 32.8	
	comp=Z,5.7nm,1.1s						
TIXI	**Tiksi**	**90.56**	**349**	P	**P**	**11 25 51.8**	**-1.7**
TIXI				IAmb	IAmb	11 25 53.8	
	comp=Z,11nm,1.3s						
F10A	**Beach Ranch, E**	**90.91**	**42**	IAmb	IAmb	11 25 56.7	
	comp=Z,3.5nm,0.8s						
TROLL	**Troll, Antarti**	**92.34**	**185**	⇑P	**P**	**11 26 02.3**	**+0.1**
	comp=Z,1μm,0.6s						
SNAA	**Sanae**	**93.02**	**183**	⇑P	**P**	**11 26 04.7**	**-0.6**
	comp=Z,171nm,0.6s						
SNAA	**Sanae**	**93.02**	**183**	P	**P**	**11 26 04.7**	**-0.6**
	comp=Z,7.0nm,0.6s,baz=157,slow=11,SNR=16						
	comp=Z,7.0nm,0.6s						
VNA3	**Neumayer Olymp**	**93.67**	**181**	⇑P	**P**	**11 26 06.7**	**-1.5**
	comp=Z,17nm,0.6s						
VNA2	**Neumayer--Watz**	**93.94**	**182**	⇑P	**P**	**11 26 09.1**	**-0.4**
	comp=Z,16nm,0.6s,baz=186,slow=4.8						
PDAR	**Pinedale Array**	**95.12**	**47**	P	**P**	**11 26 13.4**	**-2.1**
	comp=Z,0.2nm,0.6s,baz=284,slow=3.6,SNR=2.0						
PDAR				PKKPbc	**PKKPdf**	**11 43 09.4**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=99,slow=5.5,SNR=6.4						
TXAR	**Lajitas Array**	**96.30**	**61**	P	**P**	**11 26 21.3**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=243,slow=5.8,SNR=2.2						
	comp=Z,0.2nm,0.6s						
MKAR	**Makanchi Array**	**97.79**	**316**	P	**P**	**11 26 26.2**	**-1.0**
MKAR	**Makanchi Array**	**97.79**	**316**	P	**P**	**11 26 27.4**	**+0.1**
	comp=Z,3.8nm,0.7s,baz=92,slow=6.4,SNR=18						
MKAR				PKKPbc	**PKKPbc**	**11 43 00.5**	**-3.1**
	comp=Z,0.2nm,0.8s,baz=309,slow=2.3,SNR=3.8						
	comp=Z,3.8nm,0.7s						
YKA	**Yellowknife Ar**	**97.91**	**27**	P	**P**	**11 26 26.8**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=256,slow=4.7,SNR=29						
YKA				PKKPbc	**PKKPbc**	**11 43 01.0**	**-2.8**
	comp=Z,0.2nm,0.6s,baz=65,slow=3.1,SNR=4.3						
	comp=Z,1.5nm,0.8s						
ZALV	**Zalesovo Beam**	**97.99**	**324**	P	**P**	**11 26 27.0**	**-0.9**
ZALV	**Zalesovo Beam**	**97.99**	**324**	P	**P**	**11 26 27.4**	**-0.6**
	comp=Z,5.4nm,0.7s,baz=114,slow=4.9,SNR=22						
	comp=Z,5.4nm,0.7s						
NRIK	**Noril'sk**	**100.68**	**339**	P	**Pdif**	**11 26 39.0**	**-0.6**
	comp=Z,1.8nm,0.5s,baz=76,slow=7.3,SNR=2.4						
KURBB	**Kurchatov Arra**	**101.03**	**320**	P	**Pdif**	**11 26 41.2**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=97,slow=4.3,SNR=5.3						
SPITS	**Spitsbergen Ar**	**115.50**	**354**	PKP	**PKiKP**	**11 31 32.2**	**-0.2**
	comp=Z,6.4nm,1.0s,baz=91,slow=5.8,SNR=5.8						
BELG	**Belogornoye**	**120.13**	**322**	PKP	**PKPdf**	**11 31 42.2**	**+0.2**
	comp=Z,12nm,0.7s,baz=58,slow=6.3,SNR=4.5						
ARCES	**ARCESS Array B**	**120.85**	**345**	PKP	**PKPdf**	**11 31 42.6**	**-0.2**
	comp=Z,7.3nm,0.6s,baz=61,slow=1.2,SNR=21						
SCHQ	**Schefferville**	**122.60**	**34**	PKKPab	PKKPab	11 41 41.9	+1.3
	comp=Z,2.1nm,0.6s,baz=129,slow=4.6,SNR=5.7						
BOSA	**Boshof**	**123.13**	**220**	PKP	**PKPdf**	**11 31 48.2**	**-0.5**
	comp=Z,3.7nm,0.8s,baz=114,slow=1.4,SNR=6.7						
FINES	**FINESS Array B**	**126.33**	**338**	PKP	**PKPdf**	**11 31 53.4**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=48,slow=2.8,SNR=9.4						
NB2	**NORSAR Subarra**	**131.22**	**345**	PKPdf	**PKPdf**	**11 32 03.0**	**0.0**
	comp=Z,1.9nm,0.8s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**131.22**	**345**	PKP	**PKPdf**	**11 32 03.2**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=31,slow=1.8,SNR=8.5						
HFS	**Hagfors**	**131.32**	**343**	PKP	**PKPdf**	**11 32 03.4**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=31,slow=5.9,SNR=1.9						
AKASG	**Malin Array Be**	**131.34**	**326**	PKP	**PKPdf**	**11 32 03.8**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=56,slow=1.6,SNR=5.4						
BRTR	**Keskin Array B**	**133.07**	**310**	PKP	**PKPdf**	**11 32 07.5**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=267,slow=2.9,SNR=2.6						
KHC	**Kasperske Hory**	**140.09**	**333**	*e*PKPDF	**PKiKP**	**11 32 22.4**	**0.0**
GERES	**GERESS Array B**	**140.25**	**333**	PKhKP	PKPpre	11 32 14.4	
	comp=Z,1.3nm,0.6s,baz=60,slow=5.9,SNR=4.0						
GERES				PKP	**PKPdf**	**11 32 21.2**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=15,slow=4.1,SNR=3.8						
KBA	**Koelnbreinsper**	**141.72**	**331**	*i* PKP	**PKPdf**	**11 32 18.6**	**-4.5**
	comp=Z,2.1nm,0.5s						
LESA	**Schwarzleotal**	**141.77**	**332**	*e*PKP	**PKPdf**	**11 32 19.7**	**-4.3**
	comp=Z,8.0nm,1.1s						
ABTA	**Abfaltersbach**	**142.35**	**332**	*e*PKP	**PKPdf**	**11 32 19.7**	**-4.3**
	comp=Z,4.9nm,0.6s						
MOTA	**Moosalm**	**142.53**	**333**	*e*PKP	**PKPdf**	**11 32 20.9**	**-3.6**
	comp=Z,8.3nm,0.8s						
RETA	**Reutte**	**142.56**	**334**	*e*PKP	**PKPdf**	**11 32 21.3**	**-3.1**
	comp=Z,3.2nm,0.7s						
SQTA	**Sankt Quirin**	**142.58**	**333**	*i* PKP	**PKPdf**	**11 32 20.7**	**-3.7**
	comp=Z,11nm,0.7s						
FETA	**Feichten**	**142.94**	**333**	*i* PKP	**PKPdf**	**11 32 22.4**	**-2.8**
	comp=Z,13nm,0.8s						
DAVA	**Damuels**	**143.09**	**334**	*e*PKP	PKPbc	11 32 22.4	-0.3
	comp=Z,12nm,0.6s						
KEST	**Kesra**	**151.80**	**320**	PKPbc	**PKPbc**	**11 32 47.1**	**+0.6**
	comp=Z,11nm,0.7s,baz=350,slow=1.9,SNR=9.7						
PBRG	**Braganca**	**153.11**	**351**	*e*PKPab	**PKPab**	**11 33 01.8**	**+0.6**
PVRL	**Vila Real**	**153.77**	**352**	*e*PKPab	**PKPab**	**11 33 05.2**	**+1.2**
PVIS	**Viseu**	**154.35**	**352**	*e*PKPab	**PKPab**	**11 33 07.3**	**+0.8**
ESDC	**Sonseca Array**	**154.58**	**345**	PKPbc	**PKiKP**	**11 32 52.8**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=10,slow=4.1,SNR=5.1						
ESDC				PKPab	**PKPab**	**11 33 07.0**	**-0.6**
	comp=Z,3.0nm,0.9s,baz=22,slow=3.9,SNR=10						
MTE	**Manteigas**	**154.61**	**351**	*e*PKPab	**PKPab**	**11 33 08.6**	**+1.0**
PCBR	**Castelo Branco**	**155.15**	**351**	*e*PKPab	**PKPab**	**11 33 10.5**	**+0.7**
PBAR	**Barrancos**	**156.70**	**349**	*e*PKPab	**PKPab**	**11 33 17.3**	**+0.8**
PBEJ	**Beja**	**156.98**	**351**	*e*PKPab	**PKPab**	**11 33 19.2**	**+1.4**
PNCL	**Nicolau / Gran**	**156.99**	**352**	*e*PKPab	**PKPab**	**11 33 19.4**	**+1.6**
MESJ	**Messejana**	**157.22**	**351**	*e*PKPab	**PKPab**	**11 33 20.2**	**+1.4**
PCVE	**Castro Verde**	**157.39**	**351**	*e*PKPab	**PKPab**	**11 33 20.9**	**+1.3**
PMOZ	**Porto Moniz, M**	**162.01**	**13**	*i* LQ	LQ	11 33 33.8	
TORD	**Torodi Ar. Bea**	**166.12**	**263**	PKP	**PKPdf**	**11 32 56.8**	**-0.4**
	comp=Z,3.7nm,0.6s,baz=40,slow=1.8,SNR=23						
TORD				PKPab	**PKPab**	**11 33 58.1**	**-0.6**
	comp=Z,1.8nm,0.9s,baz=88,slow=5.3,SNR=5.6						

*IDC **29** 11:27:19.7±0.8,59°.28S×26°.14W,h70km±7km, mb3.5/4,*

mbtmp4.0/5,MS3.5/1,Error ellipse: s-maj=33.9km s-min=23.6km az=89.0

ISC 29 11:27:17.4±0.8,59°.3S×26°.1W±0°.2,h50km,n22, σ0≡86/17,mb3.9/4,8C-1D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.62**	**154**	⇑P	**Pn**	**11 30 27.7**	**+0.1**
	comp=Z,21nm,0.4s						
VNA3	**Neumayer Olymp**	**13.78**	**157**	⇑P	**Pn**	**11 30 29.0**	**-0.8**
	comp=Z,12nm,0.2s						
VNA3				⇑S	Sn	11 32 44.8	-16
	comp=Z,5.8nm,0.2s						
VNA2	**Neumayer--Watz**	**14.02**	**154**	⇑P	**Pn**	**11 30 32.3**	**-0.6**
	comp=Z,9.9nm,0.4s,baz=315,slow=14						
VNA2				⇑S	Sn	11 32 50.0	-17
	comp=Z,4.6nm,0.4s,baz=302,slow=15						
SNAA	**Sanae**	**15.60**	**152**	⇑P	**Pn**	**11 30 54.0**	**+0.3**
	comp=Z,231nm,0.4s						
SNAA				⇓S	Sn	11 33 28.0	-17
	comp=Z,92nm,0.5s						
SNAA	**Sanae**	**15.60**	**152**	P	**Pn**	**11 30 53.4**	**-0.3**
	comp=Z,8.8nm,0.4s,baz=312,slow=6.5,SNR=112						
SNAA				S	Sn	11 33 29.6	-16
	comp=Z,2.1nm,0.5s,baz=346,slow=19,SNR=2.2						
TROLL	**Troll, Antarti**	**17.14**	**150**	⇑P	**P**	**11 31 15.0**	**+0.8**
	comp=Z,99nm,0.3s						
TROLL				⇑S	Sn	11 34 04.7	-18
	comp=Z,1.5nm,0.1s						
PLCA	**Paso Flores**	**33.23**	**284**	P	**P**	**11 33 49.7**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=134,slow=11,SNR=3.5						
	comp=Z,1.0nm,0.7s						
VNDA	**Vanda**	**43.39**	**183**	P	**P**	**11 35 15.7**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=197,slow=7.3,SNR=6.0						
	comp=Z,0.3nm,0.5s						
H04S2	**CROZET ISLANDS**	**45.80**	**111**	T	T	12 25 49.2	
	baz=225,slow=76,SNR=7.1						
H04S3	**CROZET ISLANDS**	**45.81**	**111**	T	T	12 26 03.8	
	baz=225,slow=76,SNR=6.7						
H04S1	**CROZET ISLANDS**	**45.82**	**111**	T	T	12 25 57.9	
	baz=225,slow=76,SNR=8.4						
H10S2	**ASCENSION HYDR**	**50.94**	**15**	T	T	12 30 51.2	
	baz=32,slow=74,SNR=7.9						
H10S3	**ASCENSION HYDR**	**50.95**	**15**	T	T	12 30 50.6	
	baz=188,slow=74,SNR=14						
H10N1	**ASCENSION HYDR**	**52.06**	**15**	T	T	12 32 17.3	
	baz=188						
H10N3	**ASCENSION HYDR**	**52.06**	**15**	T	T	12 32 14.5	
	baz=188,slow=74						
H10N2	**ASCENSION HYDR**	**52.08**	**15**	T	T	12 32 14.5	
	baz=188,slow=74						
RCBR	**Riachuelo**	**53.83**	**348**	LR	LR	11 53 59.9	
	comp=Z,54nm,22.0s,baz=258,slow=30						
TORD	**Torodi Ar. Bea**	**75.60**	**28**	P	**P**	**11 38 57.4**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=199,slow=6.0,SNR=16						
TORD				pP	**sP**	**11 39 16.6**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=200,slow=6.3,SNR=2.6						
	comp=Z,0.9nm,0.4s						
ASAR	**Alice Springs**	**95.75**	**162**	P	**P**	**11 40 37.0**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=188,slow=4.5,SNR=5.5						
ASAR				pP	**sP**	**11 40 57.0**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=187,slow=4.3,SNR=2.8						
	comp=Z,0.2nm,0.5s						
YKA	**Yellowknife Ar**	**138.90**	**315**	PKP	**PKPdf**	**11 46 36.1**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=118,slow=1.9,SNR=4.2						
YKA				pPKP	**sPKPdf**	**11 46 55.7**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=122,slow=2.6,SNR=3.6						
SONM	**Songino Array**	**150.22**	**91**	PKPbc	**PKPbc**	**11 47 00.5**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=210,slow=2.7,SNR=6.6						
SONM				pPKPbc	**sPKPbc**	**11 47 20.4**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=258,slow=1.8,SNR=3.4						
ILAR	**Eielson Array**	**152.59**	**307**	PKPbc	**PKPbc**	**11 47 05.5**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=173,slow=0.7,SNR=4.9						

IDC 29 11:44:35.3±2.3,25°.58N×95°.94E,h0km,mb3.5/3, mbtmp3.5/3,Error ellipse: s-maj=253.5km s-min=27.1km az=56.0,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**23.80**	**336**	P	P	11 49 50.2	+0.5
	0.6nm,0.4s,baz=141,slow=9.3,SNR=13						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**58.65**	**137**	P	P	11 54 34.7	+0.1
	0.4nm,0.6s,baz=326,slow=7.6,SNR=7.5						
	0.4nm,0.6s						
NOA	**NORSAR Array B**	**65.45**	**328**	P	P	11 55 19.2	-0.6
	0.4nm,0.6s,baz=79,slow=6.4,SNR=1.9						
	0.4nm,0.6s						

IDC 29 11:54:50.6±1.5,8°.93S×157°.29E,h0km,mb3.5/3, mbtmp3.7/4,ML5.0/1,MS3.6/2,Error ellipse: s-maj=45.2km s-min=24.3km az=176.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.67**	**101**	Pn	Pn	11 55 34.4	-0.5
	261nm,0.3s,baz=239,slow=11,SNR=4.0						
HNR				Sn	Sn	11 56 10.1	+2.1
	486nm,0.3s,baz=120,slow=20,SNR=4.9						
HNR				LR	LR	11 56 30.6	
	comp=Z,960nm,18.0s,baz=196,slow=38						
	650nm,0.3s						
WRA	**Warramunga Arr**	**24.75**	**241**	P	P	12 00 13.9	-0.2
	0.6nm,0.7s,baz=68,slow=10,SNR=6.5						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**26.75**	**234**	P	P	12 00 32.5	+0.3
	0.6nm,0.7s,baz=68,slow=10,SNR=7.1						
	0.6nm,0.7s						
VNDA	**Vanda**	**68.61**	**179**	LR	LR	12 31 28.4	
	comp=Z,42nm,18.2s,baz=142,slow=32						
SONM	**Songino Array**	**72.18**	**327**	P	P	12 06 17.6	+0.1
	0.4nm,0.6s,baz=140,slow=9.2,SNR=2.2						
	0.4nm,0.6s						

IDC 29 12:17:45.9±484.0,54°.30N×5°.66E,h0km,Error ellipse: s-maj=203.3km s-min=141.8km az=110.0,North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**7.40**	**134**	I	I	13 01 50.0	
	baz=322,slow=324,SNR=0.7						
I37NO	**I37NO**	**15.99**	**17**	I	I	13 53 50.0	
	baz=211,slow=335,SNR=1.3						
I43RU	**DUBNA INFRASONI**	**17.95**	**69**	I	I	14 05 00.0	
	baz=274,slow=321,SNR=2.1						

*IDC **29** 12:42:52.6±1.2,55°.73S×28°.15W,h0km,mb3.7/3, mbtmp3.8/4,ML4.2/1,Error ellipse: s-maj=70.5km s-min=25.8km az=92.0*

ISC 29 12:42:57.8±1.3,55°.8S±0°.2×28°.1W±0°.5,h35km,n6,σ1§26/6, mb3.7/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.20**	**156**	P	**Pn**	**12 47 18.9**	**-0.4**
	0.8nm,0.3s,baz=319,slow=11,SNR=14						
	2.1nm,0.4s						
QSPA	**South Pole Qui**	**34.47**	**180**	P	**P**	**12 49 42.2**	**+0.3**
	0.4nm,0.4s,baz=196,slow=20,SNR=10						
	0.4nm,0.4s						
VNDA	**Vanda**	**46.81**	**183**	P	**P**	**12 51 23.8**	**+0.6**
	0.4nm,0.7s,baz=177,slow=3.4,SNR=1.6						
	0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**73.08**	**30**	P	**P**	**12 54 25.1**	**+1.0**
	0.5nm,0.4s,baz=203,slow=6.0,SNR=5.1						
	0.5nm,0.4s						
ILAR	**Eielson Array**	**149.55**	**312**	PKPbc	**PKiKP**	**13 02 41.8**	**-1.0**
	0.6nm,0.8s,baz=120,slow=2.0,SNR=7.6						
SONM	**Songino Array**	**151.23**	**87**	PKPbc	**PKPbc**	**13 02 45.0**	**-1.5**
	0.4nm,0.4s,baz=244,slow=5.0,SNR=3.7						

*SDD **29** 13:00:32.7±2.4, 18°.94N×69°.67W,h77km±11km,MD3.2, ML2.7,MW3.5*

*OSPL **29** 13:00:34.1±3.6, 18°.86N×69°.64W,h78km±20km,ML2.7*

ISC 29 13:00:33.3±1.5,18°.86N±0°.05×69°.66W±0°.03,h66km±9km, n22,σ1§18/33,11C-1D,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATOM	**Hato Mayor del**	**0.27**	**106**	⇑*e*Pg	**Pn**	**13 00 43.0**	**-1.0**
HATOM				⇑*e*Sg	**Sn**	**13 00 52.1**	**+0.3**
HATOM					IAML	13 00 52.4	
	comp=E,173nm,0.1s						
HATOM					IAML	13 00 52.7	
	comp=N,320nm,0.3s						
DR08	**Loma La Naviza**	**0.36**	**286**	⇑*e*Pg	**Pn**	**13 00 42.8**	**-1.8**
DR08				⇑*e*Sg	**Sn**	**13 00 52.5**	**-0.5**
DR08					IAML	13 00 52.9	
	comp=E,2μm,0.1s						
DR08					IAML	13 00 53.5	
	comp=N,2μm,0.1s						
SDD	**Santo Domingo**	**0.47**	**211**	*e*Pg	**Pn**	**13 00 44.6**	**-0.9**
SDD				⇑*e*Sg	**Sn**	**13 00 54.6**	**+0.2**
SDD					IAML	13 00 55.0	
	comp=E,67nm,0.5s						
SDD					IAML	13 00 55.0	
	comp=N,49nm,0.2s						
SDD	**Santo Domingo**	**0.47**	**211**	*i* P	**Pn**	**13 00 47.4**	**+1.9**
SDD				*e*S	**Sn**	**13 00 54.8**	**+0.4**
NADR	**Nagua**	**0.52**	**339**	*e*Pg	**Pn**	**13 00 45.3**	**-0.8**
NADR					IAML	13 00 57.6	
	comp=N,3μm,0.2s						
NADR					IAML	13 00 58.4	
	comp=E,2μm,0.2s						
LONA1	**Toro Cenizo, N**	**0.55**	**339**	*i* P	**Pn**	**13 00 48.4**	**+2.0**
LONA1					IAML	13 00 57.4	
	comp=Z,3μm,2.9s						
LONA1				*e*S	**Sn**	**13 00 57.6**	**+1.7**
MIDR	**Miches**	**0.59**	**78**	⇑*e*Pg	**Pn**	**13 00 45.5**	**-1.2**
MIDR				*e*Sg	**Sn**	**13 00 56.8**	**+0.2**
MIDR					IAML	13 00 58.3	
	comp=E,124nm,0.2s						
MIDR					IAML	13 00 59.4	
	comp=N,86nm,0.1s						
SMDR	**Samana, DR**	**0.61**	**46**	*e*Pg	**Pn**	**13 00 45.6**	**-1.4**
SMDR				⇑*e*Sg	**Sn**	**13 00 58.2**	**+1.2**
SMDR					IAML	13 01 01.1	
	comp=N,399nm,0.5s						
SMDR					IAML	13 01 01.3	
	comp=E,227nm,0.2s						
BANI	**BANI**	**0.81**	**235**	⇓*e*Pg	**Pn**	**13 00 49.0**	**-0.4**
BANI				⇑*e*Sg	**Sn**	**13 01 02.6**	**+1.3**
BANI					IAML	13 01 03.1	
	comp=E,354nm,0.2s						
BANI					IAML	13 01 07.1	
	comp=N,487nm,0.3s						
ABDR	**Alto Bandera**	**0.92**	**267**	*e*Pg	**Pn**	**13 00 49.9**	**-1.1**
ABDR					IAML	13 01 05.3	
	comp=E,202nm,0.2s						
SADR	**Isla Saona**	**1.07**	**129**	*e*Pg	**Pn**	**13 00 52.0**	**-0.4**
SADR				*e*Sg	**Sn**	**13 01 07.1**	**+0.4**
SADR					IAML	13 01 11.8	
	comp=E,59nm,0.8s						
SADR					IAML	13 01 14.9	
	comp=N,119nm,0.3s						
SC01	**Santiago de lo**	**1.16**	**299**		IAML	13 01 13.5	
	comp=E,90nm,0.2s						
SC01	**Santiago de lo**	**1.16**	**299**	*i* P	**Pn**	**13 00 52.1**	**-1.6**
PCDR	**Punta Cana, DR**	**1.26**	**106**	*e*Pg	**Pn**	**13 00 54.5**	**-0.4**
PCDR					IAML	13 01 17.9	
	comp=E,93nm,2.8s						
PCDR					IAML	13 01 26.8	
	comp=N,231nm,2.6s						
PCDR	**Punta Cana, DR**	**1.26**	**106**	*i* P	**Pn**	**13 00 54.3**	**-0.7**
PCDR				*e*S	**Sn**	**13 01 12.4**	**+1.3**
PCDR					IAML	13 01 18.1	
	comp=Z,206nm,1.2s						
SDDR	**Presa de Saban**	**1.55**	**275**	*e*Pg	**Pn**	**13 00 57.2**	**-1.7**
SDDR					IAML	13 01 20.5	
	comp=N,35nm,1.4s						
SDDR					IAML	13 01 24.1	
	comp=E,26nm,0.4s						
SDDR	**Presa de Saban**	**1.55**	**275**	*i* P	**Pn**	**13 00 59.1**	**+0.2**
SDDR				*e*S	**Sn**	**13 01 19.8**	**+1.6**
SDDR					IAML	13 01 23.4	
	comp=Z,28nm,0.9s						
LOBA2	**Hotel Casa Bon**	**1.57**	**241**	⇑*e*Pg	**Pn**	**13 00 57.9**	**-1.2**
LOBA2				⇑*e*Sg	**Sn**	**13 01 18.5**	**-0.1**
REDR	**Restauracion**	**1.67**	**281**		IAML	13 01 37.4	
	comp=N,36nm,1.0s						
REDR					IAML	13 01 38.3	
	comp=E,33nm,0.8s						
PODR	**Polo**	**1.69**	**246**	⇑*e*Pg	**Pn**	**13 00 60.0**	**-0.9**
PODR					IAML	13 01 24.4	
	comp=N,41nm,0.5s						

NEIC ***29*** *14:02:30.9±0.7, 19°.93N×0°.03×155°.49W×0°.03, h44km±6km, Error ellipse: s-maj=4.6km s-min=2.6km az=48.0*

HVO 29 14:02:32.7±1.2,**19°.92N**×0°.04×**155°.47W**×0°.05,**h33**km±7km, **ML2.9**/22,**ML3.1**/54(NEIC),**Error ellipse: s-maj=6.4km s-min=5.8km az=77.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POHA	**Pohakuloa**	**0.17**	**201**		Pn	14 02 38.2	+0.3
HPAH	**Hawaii Prepara**	**0.24**	**297**		Pn	14 02 38.8	-0.8
HPAH				IAML		14 02 43.4	
	comp=E,1μm,0.3s						
HPAH				IAML		14 02 43.5	
	comp=N,2μm,0.3s						
HMH	**Humu'ula Sheep**	**0.32**	**183**		Pb	14 02 40.2	-0.7
HMH				IAML		14 02 46.2	
	comp=N,2μm,0.2s						
HMH	**Humu'ula Sheep**	**0.32**	**183**		Sn	14 02 46.0	-0.2
MLOA	**Mauna Loa Obse**	**0.40**	**195**		Pb	14 02 41.3	-0.8
MLOA	**Mauna Loa Obse**	**0.40**	**195**		Pn	14 02 47.5	+5.1
MLOA	**Mauna Loa Obse**	**0.40**	**195**	IAML		14 02 48.0	
	comp=N,550nm,0.1s						
MLOA				IAML		14 02 49.4	
	comp=E,570nm,0.1s						
ALEP	**Alea Permanent**	**0.41**	**204**		Pb	14 02 41.3	-1.0
ALEP					Pn	14 02 47.5	+4.8
HUH	**Hualalai**	**0.42**	**236**		Pb	14 02 41.3	-1.0
HUH				IAML		14 02 51.9	
	comp=N,2μm,0.1s						
HUH				IAML		14 02 53.0	
	comp=E,2μm,0.2s						
MLH	**Mauna Loa**	**0.43**	**170**		Pb	14 02 41.3	-1.1
MLH				IAML		14 02 47.8	
	comp=E,996nm,0.4s						
MLH				IAML		14 02 48.9	
	comp=N,1μm,0.1s						
MLH	**Mauna Loa**	**0.43**	**170**		Pn	14 02 47.6	+4.8
MWH	**Moku'aweowe**	**0.45**	**196**		Pb	14 02 41.6	-1.4
MWH	**Moku'aweowe**	**0.45**	**196**		Pn	14 02 48.5	+5.2
MHA	**Mahukona**	**0.49**	**303**		Pb	14 02 41.5	-1.6
MHA	**Mahukona**	**0.49**	**303**		Sb	14 02 48.8	-1.5
RSD	**Rainshed**	**0.49**	**159**		Pb	14 02 42.0	-1.2
RSD				IAML		14 02 49.8	
	comp=E,2μm,0.1s						
RSD	**Rainshed**	**0.49**	**159**		Pn	14 02 49.0	+5.5
UWE	**Uwekahuna**	**0.52**	**162**		Pb	14 02 42.2	-1.5
UWE					Pn	14 02 49.3	+5.4
UWE	**Uwekahuna**	**0.52**	**162**	IAML		14 02 49.6	
	comp=N,2μm,0.4s						
UWE				IAML		14 02 53.1	
	comp=E,2μm,0.5s						
UWB	**Uwekahuna B**	**0.52**	**160**	IAML		14 02 49.5	
	comp=N,704nm,0.6s						
UWB	**Uwekahuna B**	**0.52**	**160**		Pb	14 02 42.2	-1.6
UWB					Pn	14 02 49.0	+5.1
SBLHI	**Steaming Bluff**	**0.53**	**159**		Pb	14 02 42.1	-1.7
SBLHI					Sb	14 02 49.1	-2.4
SBLHI	**Steaming Bluff**	**0.53**	**159**	IAML		14 02 49.6	
	comp=N,846nm,0.4s						
SBLHI				IAML		14 02 53.5	
	comp=E,1μm,1.1s						
OBL	**Observatory Le**	**0.53**	**161**		Pb	14 02 42.2	-1.6
OBL					Sb	14 02 49.4	-2.1
OBL	**Observatory Le**	**0.53**	**161**	IAML		14 02 50.4	
	comp=E,3μm,0.7s						
OBL				IAML		14 02 50.4	
	comp=N,3μm,0.7s						
HATHI	**Halema'uma'u T**	**0.53**	**159**	IAML		14 02 49.0	
	comp=E,1μm,1.2s						
HATHI				IAML		14 03 05.5	
	comp=N,1μm,0.7s						
HATHI	**Halema'uma'u T**	**0.53**	**159**		Pb	14 02 42.2	-1.7
HATHI					Pn	14 02 49.1	+5.1
NPH	**North Pit**	**0.54**	**161**		Pb	14 02 42.2	-1.8
NPH				IAML		14 02 52.4	
	comp=N,773nm,0.4s						
NPH	**North Pit**	**0.54**	**161**		Sb	14 02 49.0	-2.7
WRMHI	**West Rim**	**0.54**	**163**		Pb	14 02 42.3	-1.7
WRMHI					Sb	14 02 49.6	-2.1
BYL	**Byron's Ledge**	**0.54**	**159**		Pn	14 02 48.9	+4.8
BYL	**Byron's Ledge**	**0.54**	**159**	IAML		14 02 51.7	
	comp=N,990nm,0.7s						
BYL				IAML		14 03 00.4	
	comp=E,598nm,1.0s						
KKO	**Keanakako`i**	**0.55**	**160**	IAML		14 02 49.9	
	comp=E,1μm,1.4s						
KKO				IAML		14 02 52.0	
	comp=N,1μm,1.1s						
RIM	**Rim**	**0.55**	**161**		Pb	14 02 42.5	-1.7
RIM	**Rim**	**0.55**	**161**	IAML		14 02 49.7	
	comp=N,1μm,1.1s						
RIM				IAML		14 03 02.0	
	comp=E,901nm,1.5s						
SDHHI	**Sand Hill**	**0.55**	**163**		Pb	14 02 42.5	-1.7
SDHHI	**Sand Hill**	**0.55**	**163**	IAML		14 02 50.5	
	comp=E,1μm,0.6s						
SDHHI				IAML		14 02 56.6	
	comp=N,1μm,0.7s						
KKH	**Kailua Kona**	**0.58**	**243**		Pn	14 02 42.8	-1.8
PUH	**Pauahi**	**0.59**	**157**		Pn	14 02 42.9	-1.9
PUH	**Pauahi**	**0.59**	**157**	IAML		14 02 51.1	
	comp=E,1μm,0.2s						
PUH				IAML		14 02 51.8	
	comp=N,1μm,0.3s						
CPH	**Captain Cook**	**0.60**	**225**		Pn	14 02 43.0	-1.9
KNHH	**Kane Nui o Ham**	**0.61**	**152**		Pn	14 02 43.2	-1.7
STCH	**Steam Cracks**	**0.62**	**149**		Pn	14 02 43.3	-1.8
STCH	**Steam Cracks**	**0.62**	**149**	IAML		14 02 51.5	
	comp=E,3μm,0.1s						
STCH				IAML		14 02 51.6	
	comp=N,3μm,0.2s						
NPOC	**North of Pu'u**	**0.62**	**147**	IAML		14 02 51.7	
	comp=E,992nm,0.3s						
NPOC	**North of Pu'u**	**0.62**	**147**		Pn	14 02 43.6	-1.6
NPOC					Sb	14 02 51.1	-2.8
JCUZ	**Jacuzzi**	**0.64**	**147**	IAML		14 02 51.7	
	comp=N,601nm,0.4s						
JCUZ	**Jacuzzi**	**0.64**	**147**		Pn	14 02 43.6	-1.7
JCUZ					Sb	14 02 51.3	-3.0
HLP	**Hilina Pali**	**0.64**	**166**		Pn	14 02 43.6	-1.8
HLP	**Hilina Pali**	**0.64**	**166**		Sb	14 02 51.8	-2.6
HLP	**Hilina Pali**	**0.64**	**166**	IAML		14 02 51.3	
	comp=N,550nm,1.3s						
JOKA	**Jonika Flow**	**0.65**	**138**		Pn	14 02 43.8	-1.8
HTC	**Hot Caves**	**0.68**	**175**		Pn	14 02 44.3	-1.7
KHU	**Kahuku**	**0.69**	**192**		Pn	14 02 44.2	-2.0
KHU				IAML		14 02 53.2	
	comp=N,646nm,0.3s						
KHU				IAML		14 02 53.3	
	comp=E,678nm,0.4s						
KHU	**Kahuku**	**0.69**	**192**		Sb	14 02 52.8	-3.1
HLK	**Haleakala**	**1.11**	**319**		Pn	14 02 49.8	-2.4
HLK	**Haleakala**	**1.11**	**319**		Sn	14 03 02.3	-4.1
WMR	**Waimanalo Ridg**	**2.50**	**304**		Pn	14 03 09.0	-2.0
DHH	**Diamond Head**	**2.56**	**302**		Pn	14 03 09.7	-2.2
HON	**Honolulu**	**2.75**	**301**		Pn	14 03 12.3	-2.2
HON					Sn	14 03 43.4	-3.2

NOU ***29*** *14:03:43.0, 40°.14S×173°.50E, h202km, MLv3.5/12, Cook Strait, New Zealand*

WEL ***29*** *14:03:47.3±0.7, 40°.5±.3°×17°.4E±°, h156km±5km, M3.0/40, ML3.1/8, MLv3.0/40, Error ellipse: s-maj=0.0km s-min=0.0km az=135.9*

ISC 29 14:03:42.4±1.6,**40°.20S**±0°.04×**173°.51E**±0°.04,**h194**km±9km, **n136,**σ1**§56**/151,**Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.68**	**153**	P	**Pn**	**14 04 11.0**	**+1.4**
DUWZ				S	**Sn**	**14 04 28.8**	**-1.9**
TKNZ	**Takaka Hill**	**0.93**	**207**	P	**Pn**	**14 04 12.3**	**+1.3**
TKNZ				S	**Sn**	**14 04 31.5**	**-1.9**
NBEZ	**Newall Road No**	**0.97**	**17**	P	**Pn**	**14 04 12.7**	**+1.4**
NBEZ				S	**Sn**	**14 04 32.8**	**-0.8**
QRZ	**Quartz Range**	**0.97**	**230**	P	**Pn**	**14 04 12.5**	**+1.3**
QRZ	**Quartz Range**	**0.97**	**230**	P	**Pn**	**14 04 12.6**	**+1.3**
QRZ				S	**Sn**	**14 04 31.6**	**-2.1**
KHEZ	**Kahui Hut**	**0.98**	**23**	P	**Pn**	**14 04 13.0**	**+1.5**
KHEZ	**Kahui Hut**	**0.98**	**23**	P	**Pn**	**14 04 12.9**	**+1.4**
KHEZ				S	**Sn**	**14 04 33.1**	**-0.9**
PREZ	**Palmer Road**	**0.99**	**30**	P	**Pn**	**14 04 12.8**	**+1.3**
LREZ	**Lake Rotokare**	**1.01**	**43**	P	**Pn**	**14 04 13.1**	**+1.6**
LREZ				S	**Sn**	**14 04 33.3**	**-0.7**
NNZ	**Nelson**	**1.02**	**186**	P	**Pn**	**14 04 13.0**	**+1.5**
NNZ				S	**Sn**	**14 04 32.4**	**-1.9**
NEZ	**North Egmont**	**1.03**	**26**	P	**Pn**	**14 04 13.0**	**+1.2**
PKE	**Pukeiti**	**1.07**	**20**	P	**Pn**	**14 04 13.4**	**+1.4**
DREZ	**Durham Road**	**1.14**	**28**	P	**Pn**	**14 04 14.0**	**+1.4**
TCW	**Tory Channel**	**1.16**	**150**	P	**Pn**	**14 04 14.6**	**+2.0**
WAZ	**Wanganui**	**1.22**	**69**	P	**Pn**	**14 04 15.2**	**+2.1**
WAZ				S	**Sn**	**14 04 36.8**	**-0.1**
KIW	**Kapiti Island**	**1.25**	**122**	P	**Pn**	**14 04 15.0**	**+1.6**
TUWZ	**Tuamarina**	**1.27**	**165**	P	**Pn**	**14 04 15.3**	**+1.8**
MHEZ	**Mangahewa**	**1.29**	**29**	P	**Pn**	**14 04 15.5**	**+1.9**
MRNZ	**Matariki Terra**	**1.33**	**205**	P	**Pn**	**14 04 15.5**	**+1.5**
OGWZ	**Otaki Gorge**	**1.41**	**116**	P	**Pn**	**14 04 16.4**	**+1.8**
SNZO	**South Karori**	**1.43**	**141**	P	**Pn**	**14 04 16.6**	**+1.8**
VRZ	**Vera Road**	**1.44**	**42**	P	**Pn**	**14 04 16.1**	**+1.2**
WEL	**Wellington**	**1.44**	**139**	P	**Pn**	**14 04 16.8**	**+1.9**
CAW	**Cannon Point**	**1.49**	**128**	P	**Pn**	**14 04 17.2**	**+1.9**
BSWZ	**Blackbirch Sta**	**1.54**	**170**	P	**Pn**	**14 04 18.0**	**+2.2**
BHW	**Baring Head**	**1.59**	**140**	P	**Pn**	**14 04 17.9**	**+1.7**
THZ	**Tophouse**	**1.63**	**196**	P	**Pn**	**14 04 18.5**	**+1.8**
CMWZ	**Cape Campbell**	**1.64**	**161**	P	**Pn**	**14 04 19.5**	**+2.8**
MRZ	**Mangatainoka R**	**1.64**	**107**	P	**Pn**	**14 04 18.4**	**+1.7**
HOWZ	**Holdsworth Sta**	**1.68**	**115**	P	**Pn**	**14 04 18.9**	**+1.7**
PKVZ	**Pokaka**	**1.68**	**58**	P	**Pn**	**14 04 18.6**	**+1.3**
MTVZ	**Mangateitei**	**1.71**	**62**	P	**Pn**	**14 04 19.0**	**+1.4**
POWZ	**Post Office Ro**	**1.74**	**97**	P	**Pn**	**14 04 19.3**	**+1.6**
MTW	**Mount Morrison**	**1.79**	**123**	P	**Pn**	**14 04 20.1**	**+1.9**
TRVZ	**Turoa**	**1.81**	**61**	P	**Pn**	**14 04 19.9**	**+1.2**
WNVZ	**Wahianoa**	**1.83**	**62**	P	**Pn**	**14 04 20.1**	**+1.3**
FWVZ	**Far West T-bar**	**1.83**	**60**	P	**Pn**	**14 04 20.4**	**+1.4**
WHVZ	**Whangaehu Hut**	**1.84**	**61**	P	**Pn**	**14 04 20.5**	**+1.5**
COVZ	**Chateau Observ**	**1.86**	**58**	P	**Pn**	**14 04 20.3**	**+1.5**
TWVZ	**Taurewa**	**1.87**	**53**	P	**Pn**	**14 04 20.2**	**+1.0**
PAWZ	**Paruwai Farm**	**1.87**	**130**	P	**Pn**	**14 04 20.9**	**+1.8**
TSZ	**Takapari Road**	**1.88**	**86**	P	**Pn**	**14 04 20.8**	**+1.6**
TUVZ	**Tukino**	**1.90**	**61**	P	**Pn**	**14 04 21.0**	**+1.5**
TIWZ	**Tintock**	**1.90**	**108**	P	**Pn**	**14 04 21.2**	**+1.8**
PLWZ	**Palliser**	**1.90**	**137**	P	**Pn**	**14 04 21.1**	**+1.7**
NGZ	**Ngauruhoe**	**1.91**	**58**	P	**Pn**	**14 04 20.9**	**+1.2**
PRWZ	**Pori Road**	**1.91**	**101**	P	**Pn**	**14 04 21.6**	**+2.2**
SNVZ	**South Ngauruho**	**1.93**	**59**	P	**Pn**	**14 04 21.2**	**+1.4**
WTVZ	**West Tongariro**	**1.94**	**57**	P	**Pn**	**14 04 21.1**	**+1.2**
NNVZ	**North Ngauruho**	**1.94**	**57**	P	**Pn**	**14 04 21.3**	**+1.3**
OTVZ	**Oturere**	**1.96**	**59**	P	**Pn**	**14 04 21.5**	**+1.4**
KRVZ	**Karewarewa**	**1.98**	**57**	P	**Pn**	**14 04 21.5**	**+1.2**
HIZ	**Hauiti**	**1.98**	**32**	P	**Pn**	**14 04 21.3**	**+1.1**
HIZ	**Hauiti**	**1.98**	**32**	P	**Pn**	**14 04 21.4**	**+1.2**
NTVZ	**North Tongarir**	**2.00**	**57**	P	**Pn**	**14 04 21.9**	**+1.3**
ETVZ	**East Tongariro**	**2.00**	**59**	P	**Pn**	**14 04 22.0**	**+1.5**
TMVZ	**Te Maari**	**2.01**	**58**	P	**Pn**	**14 04 22.2**	**+1.6**
DSZ	**Denniston Nort**	**2.01**	**219**	P	**Pn**	**14 04 22.4**	**+1.9**
DSZ				S	**Sn**	**14 04 48.8**	**-1.5**
TMWZ	**Te Maipa**	**2.02**	**117**	P	**Pn**	**14 04 22.6**	**+1.9**
TMWZ				S	**Sn**	**14 04 48.5**	**-2.0**
DVHZ	**Dannevirke**	**2.03**	**94**	P	**Pn**	**14 04 22.4**	**+1.6**
DVHZ				S	**Sn**	**14 04 49.6**	**-1.0**
TRWZ	**Traveller**	**2.04**	**127**	P	**Pn**	**14 04 22.7**	**+1.9**
TRWZ				S	**Sn**	**14 04 48.9**	**-1.8**
PNHZ	**Pukenui**	**2.08**	**83**	P	**Pn**	**14 04 23.0**	**+1.7**
PNHZ				S	**Sn**	**14 04 49.3**	**-2.3**
KATZ	**Kakaramea**	**2.08**	**55**	P	**Pn**	**14 04 22.9**	**+1.5**
BHHZ	**Black Hill Sta**	**2.09**	**71**	P	**Pn**	**14 04 22.3**	**+0.9**
BHHZ				S	**Sn**	**14 04 49.1**	**-2.6**
BFZ	**Birch Farm**	**2.14**	**104**	P	**Pn**	**14 04 23.5**	**+1.6**
BFZ	**Birch Farm**	**2.14**	**104**	P	**Pn**	**14 04 23.7**	**+1.8**
BFZ				S	**Sn**	**14 04 50.6**	**-2.0**
CPWZ	**Castlepoint**	**2.17**	**110**	P	**Pn**	**14 04 24.6**	**+2.5**
RITZ	**Rihia Road**	**2.19**	**57**	P	**Pn**	**14 04 24.3**	**+1.9**
RATZ	**Rangitukua**	**2.20**	**53**	P	**Pn**	**14 04 24.3**	**+1.7**
KHZ	**Kahutara**	**2.21**	**179**	P	**Pn**	**14 04 24.6**	**+2.0**
KHZ	**Kahutara**	**2.21**	**179**	P	**Pn**	**14 04 24.7**	**+2.1**
WPHZ	**Waipukurau**	**2.25**	**87**	P	**Pn**	**14 04 24.9**	**+1.8**
KRHZ	**Kereru**	**2.27**	**77**	P	**Pn**	**14 04 24.7**	**+1.4**
WATZ	**Wairara**	**2.28**	**50**	P	**Pn**	**14 04 25.1**	**+1.7**
ANWZ	**Angora Road**	**2.28**	**97**	P	**Pn**	**14 04 25.4**	**+2.0**
KWHZ	**Kaweka Forest**	**2.37**	**72**	P	**Pn**	**14 04 26.3**	**+1.9**
PRHZ	**Porangahau**	**2.39**	**93**	P	**Pn**	**14 04 26.8**	**+2.1**
TLZ	**Tolley Road**	**2.44**	**41**	P	**Pn**	**14 04 26.3**	**+1.0**
KUTZ	**Kaahu Road**	**2.48**	**47**	P	**Pn**	**14 04 27.2**	**+1.6**
BKZ	**Black Stump Fm**	**2.52**	**67**	P	**Pn**	**14 04 27.2**	**+1.1**
BKZ	**Black Stump Fm**	**2.52**	**67**	P	**Pn**	**14 04 27.2**	**+1.1**
MCHZ	**McNeill Hill**	**2.57**	**74**	P	**Pn**	**14 04 28.5**	**+1.9**
PXZ	**Pawanui**	**2.57**	**87**	P	**Pn**	**14 04 28.4**	**+1.8**
KAHZ	**Kahuranaki**	**2.62**	**62**	P	**Pn**	**14 04 29.0**	**+1.8**
MRHZ	**Matheson Rd**	**2.63**	**60**	P	**Pn**	**14 04 28.0**	**+0.6**
WPRZ	**Whakapapatarin**	**2.65**	**52**	P	**Pn**	**14 04 28.8**	**+1.2**
LTZ	**Lake Taylor**	**2.74**	**199**	P	**Pn**	**14 04 30.4**	**+1.8**
NMHZ	**Naumai**	**2.77**	**68**	P	**Pn**	**14 04 31.4**	**+2.4**
GVZ	**Greta Valley S**	**2.79**	**187**	P	**Pn**	**14 04 30.9**	**+1.8**
ARHZ	**Aropaoanui**	**2.84**	**72**	P	**Pn**	**14 04 31.3**	**+1.5**
MTHZ	**Maungataniwha**	**2.91**	**63**	P	**Pn**	**14 04 31.4**	**+0.8**
TOZ	**Tahuroa Road**	**2.91**	**33**	P	**Pn**	**14 04 31.8**	**+1.1**
INZ	**Inchbonnie**	**2.96**	**211**	P	**Pn**	**14 04 32.7**	**+1.6**
AMCZ	**Amberley**	**3.04**	**192**	P	**Pn**	**14 04 33.9**	**+1.8**
RAHZ	**Arahi**	**3.05**	**66**	P	**Pn**	**14 04 33.7**	**+1.4**
WHHZ	**Waihua**	**3.08**	**70**	P	**Pn**	**14 04 34.0**	**+1.4**
RTZ	**Ruatahuna**	**3.12**	**61**	P	**Pn**	**14 04 33.5**	**+0.4**
SNGZ	**Shannon Statio**	**3.28**	**66**	P	**Pn**	**14 04 37.2**	**+2.1**
OXZ	**Oxford**	**3.31**	**199**	P	**Pn**	**14 04 36.7**	**+1.3**
MKAZ	**Moumakai**	**3.35**	**23**	P	**Pn**	**14 04 38.3**	**+2.4**
URZ	**Urewera**	**3.40**	**56**	P	**Pn**	**14 04 36.7**	**+0.2**
URZ	**Urewera**	**3.40**	**56**	P	**Pn**	**14 04 36.7**	**+0.2**
RAGZ	**Rawiri**	**3.47**	**62**	P	**Pn**	**14 04 38.2**	**+0.8**
RVAZ	**Riverhead Bore**	**3.53**	**14**	P	**Pn**	**14 04 40.7**	**+2.6**
WVZ	**Waitaha Valley**	**3.54**	**215**	P	**Pn**	**14 04 39.6**	**+1.4**
MHGZ	**Mahia Peninsul**	**3.55**	**74**	P	**Pn**	**14 04 39.9**	**+1.6**
MQZ	**McQueen's Vall**	**3.56**	**190**	P	**Pn**	**14 04 39.0**	**+0.7**
RIGZ	**Rimuhau**	**3.61**	**67**	P	**Pn**	**14 04 39.9**	**+0.8**
MWZ	**Matawai**	**3.63**	**60**	P	**Pn**	**14 04 39.8**	**+0.4**
WIAZ	**Waiheke Island**	**3.63**	**21**	P	**Pn**	**14 04 42.2**	**+2.8**
RACZ	**Rakaia**	**3.67**	**196**	P	**Pn**	**14 04 41.0**	**+1.3**
AKCZ	**Akaroa Harbour**	**3.70**	**187**	P	**Pn**	**14 04 41.5**	**+1.5**
TKGZ	**Te Karaka**	**3.79**	**64**	P	**Pn**	**14 04 42.3**	**+0.9**
GCSZ	**Gaunt Creek Bo**	**3.92**	**216**	P	**Pn**	**14 04 44.1**	**+1.3**
RUGZ	**Raukumara Rang**	**3.94**	**57**	P	**Pn**	**14 04 42.9**	**-0.3**
WACZ	**Wakanui South**	**3.94**	**198**	P	**Pn**	**14 04 44.4**	**+1.4**
RPZ	**Rata Peaks**	**3.96**	**207**	P	**Pn**	**14 04 45.0**	**+1.6**
RPZ	**Rata Peaks**	**3.96**	**207**	P	**Pn**	**14 04 44.6**	**+1.2**
TWGZ	**Tauwhareparae**	**4.02**	**61**	P	**Pn**	**14 04 45.0**	**+0.8**
CNGZ	**Carnegie Statio**	**4.02**	**66**	P	**Pn**	**14 04 45.5**	**+1.4**
ARCZ	**Arundel**	**4.13**	**204**	P	**Pn**	**14 04 46.6**	**+1.1**
HAZ	**Te Kaha**	**4.13**	**55**	P	**Pn**	**14 04 45.2**	**-0.3**
PKGZ	**Pakihiroa**	**4.24**	**58**	P	**Pn**	**14 04 47.6**	**+0.7**
PUZ	**Puketiti**	**4.26**	**62**	P	**Pn**	**14 04 47.3**	**+0.1**
FOZ	**Fox Glacier**	**4.32**	**218**	P	**Pn**	**14 04 48.8**	**+0.9**
WMGZ	**Waiomatatini S**	**4.50**	**60**	P	**Pn**	**14 04 50.3**	**+0.1**
TMZ	**Timaru**	**4.57**	**203**	P	**Pn**	**14 04 52.3**	**+1.2**
MXZ	**Matakaoa Point**	**4.58**	**56**	P	**Pn**	**14 04 51.6**	**+0.5**
MXZ	**Matakaoa Point**	**4.58**	**56**	P	**Pn**	**14 04 51.7**	**+0.5**
LBZ	**Lake Benmore**	**4.86**	**209**	P	**Pn**	**14 04 55.5**	**+0.9**
JCZ	**Jackson Bay**	**5.23**	**221**	P	**Pn**	**14 05 00.8**	**+1.3**
JCZ	**Jackson Bay**	**5.23**	**221**	P	**Pn**	**14 05 00.6**	**+1.1**
ODZ	**Otahua Downs**	**5.28**	**203**	P	**Pn**	**14 05 01.5**	**+1.4**
ODZ	**Otahua Downs**	**5.28**	**203**	P	**Pn**	**14 05 01.4**	**+1.3**
WKZ	**Wanaka**	**5.69**	**214**	P	**Pn**	**14 05 06.0**	**+0.5**
WHZ	**Wether Hill Ro**	**7.00**	**214**	P	**Pn**	**14 05 22.5**	**+0.1**

JMA ***29*** *14:05:58.5±0.2, 41°.9N×0°.8×142°.3E±0°.8, h71km±2km, MD4.2/38, MW4.4/38, S OFF URAKAWA*

JMA Felt II J1 at S OFF URAKAWA .

NIED ***29*** *14:05:58.5, 41°.91N×142°.32E, h71km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr2.74; Mθθ-0.82; Mφφ-1.92; Mrθ 0.42; Mθφ-1.14; Mφr 2.01; Fault plane solution: Mo3.38000×10¹⁵ NP1:φs20.00000°, δ64.00000°, λ80.00000°. NP2:φs222.00000°, δ28.00000°, λ110.00000°.*

IDC ***29*** *14:05:59.9±1.5, 41°.99N×142°.29E, h75km±11km, mb3.9/28, mbtmp4.2/34, MS3.3/28 Error ellipse: s-maj=13.6km s-min=9.7km az=126.0*

NEIC ***29*** *14:05:59.3±1.4, 41°.91N±0°.06×142°.34E±0°.06, h68km±8km, mb4.4/52, Error ellipse: s-maj=9.9km s-min=6.0km az=154.0*

ISC 29 14:05:58.8±0.7,**41°.93N**±0°.04×**142°.32E**±0°.04,**h64**km±6km, **n182,**σ1**§46**/133,**mb4.4**/62,**15D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.48**	**42**	P	**Pn**	**14 06 10.7**	**-0.1**
JNBK				S	**Sn**	**14 06 20.4**	**+0.8**
JNBK	**Urakawa-nobuka**	**0.48**	**42**	A	A	14 06 10.7	
	comp=E,32nm,0.4s,comp=N,39nm,0.4s						
JSHD	**Hidakashinhida**	**0.49**	**12**	P	**Pn**	**14 06 11.4**	**+0.4**
JSHD				S	**Sn**	**14 06 21.3**	**+1.4**
JSHD	**Hidakashinhida**	**0.49**	**12**	A	A	14 06 11.4	
	comp=E,64nm,1.3s,comp=N,64nm,1.1s						
ERM	**Erimo**	**0.63**	**82**		**Pn**	**14 06 13.2**	**+0.8**
JEM	**Erimo**	**0.63**	**82**	*e*P	**Pn**	**14 06 13.0**	**+0.6**
JEM				*e*S	**Sn**	**14 06 23.5**	**+1.1**
JEM	**Erimo**	**0.63**	**82**	A	A	14 06 13.0	
	comp=E,13nm,1.4s,comp=N,14nm,0.5s						
JIAM	**Iburiatsuma**	**0.76**	**337**	⇓P	**Pn**	**14 06 15.0**	**+1.1**
JIAM				⇓S	**Sn**	**14 06 27.4**	**+2.3**
JIAM	**Iburiatsuma**	**0.76**	**337**	A	A	14 06 15.0	
	comp=E,99nm,0.9s,comp=N,48nm,0.6s						
JTHR	**Tokachihiroo**	**0.81**	**63**	A	A	14 06 14.9	
	comp=E,28nm,0.4s,comp=N,19nm,0.3s						
JBT2	**Biratori 2**	**0.85**	**2**	⇓P	**Pn**	**14 06 15.2**	**+0.2**
JBT2				⇓S	**Sn**	**14 06 28.2**	**+1.1**
JBT2	**Biratori 2**	**0.85**	**2**	A	A	14 06 15.2	
	comp=E,8.0nm,2.7s,comp=N,7.0nm,1.4s						
JKB	**Kayabe**	**0.96**	**268**	⇓P	**Pn**	**14 06 16.5**	**0.0**
JKB				⇓S	**Sn**	**14 06 29.7**	**+0.1**
JKB	**Kayabe**	**0.96**	**268**	A	A	14 06 16.5	
	comp=E,12nm,1.0s,comp=N,15nm,0.8s						
JAHD	**Aomorihigashid**	**0.99**	**229**	A	A	14 06 16.8	
	comp=E,45nm,1.0s,comp=N,25nm,1.8s						
JCH	**Churui**	**1.03**	**48**	P	**Pn**	**14 06 18.0**	**+0.7**
JCH				S	**Sn**	**14 06 32.7**	**+1.5**
JCH	**Churui**	**1.03**	**48**	A	A	14 06 18.0	
	comp=E,9.0nm,0.8s,comp=N,7.0nm,1.3s						
JNB	**Noboribetsu**	**1.10**	**300**	⇓P	**Pn**	**14 06 17.7**	**-0.5**
JNB				⇓S	**Sn**	**14 06 32.7**	**0.0**
JNB	**Noboribetsu**	**1.10**	**300**	A	A	14 06 17.7	
	comp=E,4.0nm,11.2s,comp=N,3.0nm,7.1s						
JOT	**Ohata**	**1.10**	**241**	⇓*e*P	**Pn**	**14 06 18.5**	**+0.3**
JOT				⇓S	**Sn**	**14 06 33.0**	**+0.3**
JOT	**Ohata**	**1.10**	**241**	A	A	14 06 18.5	
	comp=E,4.0nm,0.7s,comp=N,7.0nm,3.5s						
JEW	**Eniwo**	**1.12**	**325**	⇓P	**Pn**	**14 06 19.0**	**+0.5**
JEW				⇓S	**Sn**	**14 06 34.0**	**+0.8**
JEW	**Eniwo**	**1.12**	**325**	A	A	14 06 19.0	
	comp=E,13nm,2.0s,comp=N,13nm,1.7s						
JARK	**Aomorirokkasho**	**1.17**	**218**	A	A	14 06 19.1	
	comp=E,6.0nm,3.5s,comp=N,5.0nm,2.8s						
JFR	**Furan**	**1.25**	**9**	⇓P	**Pn**	**14 06 20.4**	**+0.1**
JFR				⇓*e*S	**Sn**	**14 06 36.7**	**+0.4**
JFR	**Furan**	**1.25**	**9**	A	A	14 06 20.4	
	comp=E,5.0nm,1.8s,comp=N,6.0nm,2.3s						
JYM2	**Yakumo 2**	**1.47**	**278**	P	**Pn**	**14 06 23.1**	**0.0**
JTM	**Tenmabayashi**	**

HHC pmax pmax
comp=Z,81nm,5.5s
SHEM Shemya Is, Ala 23.90 52 LR LR 14 21 42.5
comp=Z,29nm,18.5s,baz=166,slow=40
SONM Songino Array 25.97 295 P **P** **14 11 24.6 -0.7**
SONM Songino Array 25.97 295 P **P** **14 11 25.0 -0.4**
comp=Z,2.1nm,0.6s,baz=75,slow=9.1,SNR=15
SONM LR LR 14 22 46.2
comp=Z,52nm,18.3s,baz=72,slow=39
comp=Z,2.1nm,0.6s
XAN Xi'an 27.35 264 P **P** **14 11 38.3 +0.5**
XAN pmax pmax
comp=Z,14nm,1.2s
GUMO Guam 28.32 175 LR LR 14 21 45.9
comp=Z,25nm,21.3s,baz=96,slow=33
LZH Lanzhou 30.28 272 *e*P **P** **14 12 06.5 +2.6**
LZH pP pP 14 12 16.3 -2.9
LZH pmax pmax
comp=Z,14nm,1.4s
H11N2 WAKE ISLAND Hy 30.38 129 T T 14 43 47.5
baz=324,slow=75,SNR=321
H11N1 WAKE ISLAND Hy 30.39 129 T T 14 43 49.9
baz=324,slow=75,SNR=397
H11N3 WAKE ISLAND Hy 30.40 129 T T 14 43 47.1
baz=324,slow=75,SNR=503
TIXI Tiksi 30.54 352 LR LR 14 26 22.3
comp=Z,48nm,18.8s,baz=204,slow=40
H11S1 WAKE ISLAND Hy 31.24 131 T T 14 44 40.9
baz=325,slow=76,SNR=314
H11S3 WAKE ISLAND Hy 31.24 131 T T 14 44 41.4
baz=325,slow=76,SNR=239
H11S2 WAKE ISLAND Hy 31.25 131 T T 14 44 42.3
baz=325,slow=76,SNR=328
PZH PanZhiHua 36.55 258 P **P** **14 12 58.0 -0.5**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,90nm,6.2s
DAV Davao City (W) 37.76 208 LR LR 14 28 11.9
comp=Z,17nm,18.5s,baz=124,slow=35
NRIK Noril'sk 39.18 333 P **P** **14 13 19.6 -0.4**
NRIK LR LR 14 29 49.9
comp=Z,1.7nm,0.4s,baz=91,slow=6.5,SNR=2.2
comp=Z,82nm,21.0s,baz=50,slow=37
comp=Z,1.7nm,0.4s
ZAA0 Zalesovo Array 39.29 308 P **P** **14 13 21.8 +0.8**
ZAA0 IAmb IAmb 14 13 22.2
comp=Z,5.7nm,0.8s
ZALV Zalesovo Beam 39.29 308 P **P** **14 13 20.9 -0.1**
ZALV Zalesovo Beam 39.29 308 P **P** **14 13 20.6 -0.4**
comp=Z,5.3nm,0.8s,baz=89,slow=7.8,SNR=20
comp=Z,5.3nm,0.8s
WMQ Urumqi 39.47 292 *e*P **P** **14 13 24.0 +1.2**
WMQ LR LR
comp=Z,110nm,24.0s
G18K Tagagawik 40.12 33 P **P** **14 13 27.7 -0.1**
E19K Redstone River 40.87 31 P **P** **14 13 33.6 -0.4**
H19K Roundabout Mou 40.99 34 P **P** **14 13 34.4 -0.5**
B20K Meade River 41.29 27 P **P** **14 13 36.5 -0.9**
B20K IAmb IAmb 14 14 01.6
comp=Z,4.6nm,0.6s
CRAI Chiangrai 41.41 252 P **P** **14 13 38.8 -0.2**
CRAI IAmb IAmb 14 13 42.1
comp=Z,8.9nm,0.8s
J20K Nowinta River 41.92 36 P **P** **14 13 42.9 +0.3**
B21K Ikpikpuk River 42.10 28 P **P** **14 13 43.4 -0.6**
MK31 Makanchi Array 42.29 298 P **P** **14 13 45.9 0.0**
MK31 IAmb IAmb 14 13 46.9
comp=Z,5.3nm,0.8s
MKAR Makanchi Array 42.29 298 P **P** **14 13 45.6 -0.2**
comp=Z,5.7nm,0.9s,baz=82,slow=9.1,SNR=50
MKAR PcP **PcP** **14 15 38.5 0.0**
comp=Z,0.7nm,0.8s,baz=114,slow=1.7,SNR=2.2
comp=Z,5.7nm,0.9s
MAKZ Makanchi 42.49 298 P **P** **14 13 46.4 -1.2**
MAKZ IAmb IAmb 14 13 48.7
comp=Z,6.6nm,0.8s
CAST Castle Rocks 42.84 37 P **P** **14 13 50.0 -0.1**
E22K Anaktuvuk Pass 42.98 30 IAmb IAmb 14 14 16.9
comp=Z,3.0nm,0.6s
KDAK Kodiak Island 43.07 45 LR LR 14 34 39.6
comp=Z,35nm,18.1s,baz=245,slow=40
CMAR Chiang Mai Arr 43.59 251 P **P** **14 13 56.2 -0.5**
comp=Z,0.6nm,0.8s,baz=41,slow=7.6,SNR=3.4
CMAR LR LR 14 32 31.8
comp=Z,25nm,18.8s,baz=65,slow=36
comp=Z,0.6nm,0.8s
KURK Kurchatov 43.61 304 P **P** **14 13 56.6 +0.2**
KURBB Kurchatov Arra 43.69 304 P **P** **14 13 56.5 -0.6**
comp=Z,8.9nm,0.6s,baz=79,slow=8.7,SNR=25
comp=Z,8.9nm,0.6s
NEA2 Nenana 44.11 35 IAmb IAmb 14 14 02.3
comp=Z,3.7nm,0.8s
D24K Happy Valley 44.12 29 IAmb IAmb 14 14 25.3
comp=Z,3.7nm,0.7s
MDM Murphy Dome 44.45 35 P **P** **14 14 03.3 +0.3**
ILAR Eielson Array 45.03 35 P **P** **14 14 07.4 -0.2**
comp=Z,2.2nm,0.9s,baz=274,slow=7.3,SNR=24
comp=Z,2.2nm,0.9s
PRP Porcupine Dome 45.54 34 P **P** **14 14 12.3 +0.5**
PRP IAmb IAmb 14 14 13.9
comp=Z,3.5nm,0.9s
KLU Klutina 45.88 39 P **P** **14 14 15.0 +0.6**
KLU IAmb IAmb 14 14 17.7
comp=Z,8.7nm,1.4s
SCRK Sand Creek 46.38 36 P **P** **14 14 18.4 0.0**
SCRK IAmb IAmb 14 14 19.3
comp=Z,3.4nm,0.8s
VRDI Verde Repeater 47.10 39 IAmb IAmb 14 14 28.6
comp=Z,3.0nm,0.9s
K27K Chicken 47.20 36 IAmb IAmb 14 14 46.4
comp=Z,12nm,1.5s
EGAK Eagle 47.47 34 IAmb IAmb 14 14 27.9
comp=Z,3.2nm,1.0s
L27K Beaver Creek, 47.49 37 IAmb IAmb 14 14 29.9
comp=Z,4.1nm,0.9s
BCAR Beaver Creek A 47.51 37 P **P** **14 14 28.4 +1.3**
M27K Edge Creek, AK 47.60 38 IAmb IAmb 14 14 30.4
comp=Z,3.6nm,0.9s
I28M Miner Creek 47.85 33 IAmb IAmb 14 14 32.5
comp=Z,6.5nm,1.1s
BVAR Borovoye Array 47.91 309 P **P** **14 14 30.1 -0.2**
comp=Z,4.1nm,0.6s,baz=87,slow=7.9,SNR=13
BVAR PcP **PcP** **14 15 58.3 +0.5**
comp=Z,1.9nm,0.7s,baz=77,slow=7.6,SNR=3.0
comp=Z,4.1nm,0.6s
L29M L29M 49.12 36 IAmb IAmb 14 14 42.5
comp=Z,4.7nm,0.9s
KSH Kashi 49.20 291 P **P** **14 14 45.0 +4.4**
K29M Barlow Dome 49.21 35 IAmb IAmb 14 14 42.6
comp=Z,3.3nm,0.7s
INK Inuvik 49.74 29 IAmb IAmb 14 15 09.9
comp=Z,4.3nm,1.4s
P29M Windy Craggy 50.24 41 P **P** **14 14 50.5 +2.5**
ARSB Arslanbob 50.49 294 IAmb IAmb 14 14 52.1
comp=Z,3.0nm,0.8s
A36M Sachs Harbour 51.48 23 IAmb IAmb 14 14 59.5
comp=Z,4.0nm,1.0s
KULM Kulim 51.97 237 P **P** **14 15 01.8 +0.3**
C36M Paulatuk 52.72 26 IAmb IAmb 14 15 27.4
comp=Z,6.7nm,1.4s
ARU Arti 53.23 316 P **P** **14 15 10.4 0.0**
ARU Arti 53.23 316 LR LR 14 38 15.6
comp=Z,38nm,18.1s,baz=354,slow=36
SIMJ Simiganj 54.42 293 P **P** **14 15 18.9 -0.6**
ABKAR Akbulak array 55.41 308 P **P** **14 15 26.4 +0.2**
ABKAR Akbulak array 55.41 308 IAmb IAmb 14 15 27.6
comp=Z,10.0nm,1.2s
AKTO Aktyubinsk 56.01 310 P **P** **14 15 30.7 +0.2**
comp=Z,1.8nm,0.7s,baz=62,slow=12,SNR=3.9
comp=Z,1.8nm,0.7s
RES Resolute Bay 57.70 15 IAmb IAmb 14 15 42.4
comp=Z,3.7nm,0.9s
YKA Yellowknife Ar 59.25 32 P **P** **14 15 52.9 -0.2**
comp=Z,1.3nm,0.8s,baz=306,slow=6.6,SNR=20
comp=Z,1.3nm,0.8s
ARCES ARCESS Array B 59.69 339 LR LR 14 44 15.3
comp=Z,29nm,18.6s,baz=80,slow=38
NEEM North Greenlan 60.61 3 *i* P **P** **14 16 01.5 -1.0**
NEEM IAmb IAmb 14 16 04.9
comp=Z,2.8nm,0.9s
BELG Belogornoye 60.75 316 LR LR 14 44 36.7
comp=Z,40nm,18.5s,baz=166,slow=38
DAG Danmarks Havn 60.97 355 *i* P **P** **14 16 03.5 -1.1**
DAG IAmb IAmb 14 16 25.8
comp=Z,1.2nm,0.9s
DAG IAML 14 16 25.8
comp=Z,1.2nm,0.9s
WRA Warramunga Arr 62.00 189 P **P** **14 16 12.2 0.0**
comp=Z,1.5nm,0.8s,baz=5.6,slow=6.9,SNR=19
comp=Z,1.5nm,0.8s
GEYT Alibeck 62.16 297 P **P** **14 16 12.5 -0.8**
comp=Z,4.3nm,0.8s,baz=65,slow=11,SNR=5.5
GEYT LR LR 14 46 12.6
comp=Z,26nm,18.8s,baz=360,slow=39
comp=Z,4.3nm,0.8s
B04A Port Angeles 62.79 49 P **P** **14 16 18.1 +0.8**
FINES FINESS Array B 64.83 332 P **P** **14 16 29.6 -0.9**
comp=Z,3.9nm,0.5s,baz=54,slow=7.1,SNR=23
FINES LR LR 14 46 33.4
comp=Z,47nm,18.7s,baz=34,slow=38
comp=Z,3.9nm,0.5s
ASAR Alice Springs 65.72 188 P **P** **14 16 36.5 -0.2**
comp=Z,0.8nm,0.9s,baz=5.5,slow=7.4,SNR=9.7
ASAR LR LR 14 44 45.9
comp=Z,22nm,21.9s,baz=190,slow=35
comp=Z,0.8nm,0.9s
SUMG Summit 65.80 0 *i* P **P** **14 16 36.0 -1.0**
SUMG IAmb IAmb 14 16 38.5
comp=Z,2.8nm,0.7s
UMMG Uummannaq 67.22 5 *i* P **P** **14 16 48.9 +3.3**
UMMG IAmb IAmb 14 16 59.5
comp=Z,5.7nm,0.8s
KBZ Khabaz 68.29 310 P **P** **14 16 52.5 -0.2**
comp=Z,4.2nm,0.9s,baz=112,slow=0.5,SNR=4.8
KBZ LR LR 14 48 05.6
comp=Z,18nm,18.6s,baz=212,slow=37
comp=Z,4.2nm,0.9s
ICESG Greenland Ices 69.29 1 *i* P **P** **14 16 56.8 -2.3**
ICESG IAmb IAmb 14 17 01.2
comp=Z,3.9nm,0.7s
HFS Hagfors 69.93 335 P **P** **14 17 01.4 -1.3**
comp=Z,2.1nm,0.5s,baz=54,slow=7.3,SNR=9.2
HFS LR LR 14 53 46.1
comp=Z,24nm,18.9s,baz=30,slow=41
comp=Z,2.1nm,0.5s
NB2 NORSAR Subarra 69.96 337 P **P** **14 17 02.9 0.0**
comp=Z,1.3nm,0.6s,baz=36,slow=6.5
NOA NORSAR Array B 69.96 337 P **P** **14 17 02.2 -0.7**
comp=Z,2.2nm,0.7s,baz=37,slow=6.2,SNR=9.8
NOA LR LR 14 51 41.0
comp=Z,10nm,19.4s,baz=330,slow=39
comp=Z,2.2nm,0.7s
AKASG Malin Array Be 70.88 322 P **P** **14 17 08.1 -0.5**
comp=Z,2.7nm,0.6s,baz=44,slow=6.0,SNR=18
AKASG LR LR 14 50 41.6
comp=Z,42nm,18.4s,baz=14,slow=38
comp=Z,2.7nm,0.6s
NVAR Mina Array Bea 71.54 55 P **P** **14 17 13.2 0.0**
comp=Z,0.9nm,0.7s,baz=284,slow=5.5,SNR=8.8
comp=Z,0.9nm,0.7s
PD31 Pinedale Array 73.77 47 P **P** **14 17 25.6 -0.8**
PDAR Pinedale Array 73.77 47 P **P** **14 17 26.3 0.0**
comp=Z,1.5nm,0.7s,baz=270,slow=1.8,SNR=20
comp=Z,1.5nm,0.7s
BUR08 Bucovina Ar. S 74.91 321 P **P** **14 17 32.4 -0.2**
BUR08 IAmb IAmb 14 17 34.1
comp=Z,4.2nm,0.8s
ULM Lac du Bonnet 75.05 34 P **P** **14 17 33.2 -0.1**
comp=Z,2.3nm,0.8s,baz=283,slow=11,SNR=3.7
comp=Z,2.3nm,0.8s
PFO Pinyon Flats O 75.78 58 LR LR 14 43 53.3
comp=Z,18nm,21.8s,baz=213,slow=30
BRTR Keskin Array B 76.15 311 P **P** **14 17 40.1 +0.2**
comp=Z,1.4nm,0.7s,baz=52,slow=6.8,SNR=4.5
BRTR LR LR 14 55 59.2
comp=Z,19nm,18.4s,baz=356,slow=39
comp=Z,1.4nm,0.7s
LANS Liptovska Anna 76.33 325 *e*P **P** **14 17 42.8 +2.1**
KECS Kecovo 76.41 324 *e*P **P** **14 17 44.5 +3.4**
VYHS Vyhne 77.11 325 *e*P **P** **14 17 45.1 +0.1**
CLL Collm 77.21 330 *i* P **P** **14 17 45.9 +0.4**
CLL *i* PcP **PcP** **14 17 57.7 +1.7**
EKA Eskdalemuir Ar 78.75 341 P **P** **14 17 53.8 -0.2**
comp=Z,2.1nm,0.7s,baz=27,slow=6.4,SNR=5.2
comp=Z,2.1nm,0.7s
GERES GERESS Array B 78.93 328 P **P** **14 17 53.9 -1.3**
comp=Z,1.2nm,0.7s,baz=39,slow=6.3,SNR=4.0
comp=Z,1.2nm,0.7s
DAVOX Davos/Dischmat 82.10 329 LR LR 14 56 47.8
comp=Z,41nm,18.1s,slow=37
RAR Rarotonga 82.50 127 LR LR 14 50 20.3
comp=Z,30nm,20.8s,baz=294,slow=32
PPT Papeete 86.23 117 LR LR 14 48 01.3
comp=Z,21nm,20.7s,baz=276,slow=29
TXAR Lajitas Array 86.60 53 P **P** **14 18 36.1 +0.7**
comp=Z,0.9nm,0.8s,baz=294,slow=2.9,SNR=6.5
comp=Z,0.9nm,0.8s
ESDC Sonseca Array 93.20 335 P **P** **14 19 05.7 -0.3**
comp=Z,0.6nm,0.7s,baz=5.8,slow=5.8,SNR=2.9
ESDC LR LR 15 04 34.7
comp=Z,34nm,18.2s,baz=302,slow=38
comp=Z,0.6nm,0.7s
QSPA South Pole Qui 131.66 180 PKP **PKPdf** **14 25 03.2 +0.1**
comp=Z,0.6nm,0.7s,baz=304,slow=7.3,SNR=1.5
H03N2 Juan Fernandez 146.53 89 T T 17 08 54.7
baz=300,slow=76,SNR=112
H03N3 Juan Fernandez 146.55 89 T T 17 08 58.6
baz=300,slow=76,SNR=122
H03N1 Juan Fernandez 146.55 89 T T 17 08 56.6
baz=300,slow=76,SNR=133

*IDC **29** 14:08:34.4±0.9, 32°.00N×48°.63E, h0km, mb3.9/20, mbtmp4.0/24, ML3.8/4, MS3.2/12, Error ellipse: s-maj=20.8km s-min=13.5km az=179.0*
*NEIC **29** 14:08:34.7±1.7, 32°.01N±0°.03×48°.7E±0°.1, h10km±1km, mb4.3/20, Error ellipse: s-maj=15.2km s-min=3.0km az=253.0*
*TEH **29** 14:08:38.1, 31°.86N×48°.66E, h19km±31km, ML4.0*
*DSN **29** 14:08:42.7±1.5, 31°.88N×49°.53E, h15km, ML3.5/6, Error ellipse: s-maj=49.0km s-min=10.3km az=35.0*
*OMAN **29** 14:08:45.8±0.1, 31°.22N×49°.10E, h10km, mb4.3/31, ms2.3/1, Error ellipse: s-maj=1.3km s-min=0.9km az=5.0*
ISC 29 14:08:34.9±0.4, **31°.97N**±0°.03×**48°.70E**±0°.03, **h10km**, **n158**, σ**29**2/171, **mb4.3**/38, **MS3.4**/8, **Western Iran**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.64**	**184**	Pg	**Pb**		**14 08 48.5**	**+0.3**
JHBN	**Jahan bin**	**1.69**	**81**	Pg	**Pg**		**14 09 08.7**	**+1.3**
IKFM	**Kafar-mosalman**	**1.71**	**335**	Pn	**Pg**		**14 09 10.0**	**+2.3**
ZNGN	**Zangian**	**1.84**	**85**	Pn	**Pg**		**14 09 11.6**	**+1.4**
IDOB	**Doab**	**1.87**	**347**	Pn	**Pg**		**14 09 12.5**	**+1.7**
ABEH	**Behbahan**	**1.91**	**135**	Pn	**Pg**		**14 09 12.6**	**+1.1**
IPIR	**Pirpir**	**1.99**	**68**	Pn	**Pg**		**14 09 13.9**	**+0.8**
IBRJ	**Brojen**	**2.18**	**91**	Pn	**Pb**		**14 09 15.8**	**+1.2**
HSAM	**Samen**	**2.24**	**358**	Pn	**Pg**		**14 09 17.9**	**0.0**
KLNJ	**Kolanjah**	**2.65**	**110**	Pn	**Pb**		**14 09 21.7**	**-1.0**
ILBA	**Ilam Banvizeh**	**2.67**	**309**	Pn	**Pb**		**14 09 22.1**	**-0.8**
KCHF	**Cheshme Sefid,**	**2.69**	**329**	Pn	**Pb**		**14 09 24.1**	**-2.4**
IKLH	**Kolahrood**	**2.78**	**60**	Pn	**Pb**		**14 09 24.9**	**0.0**
IGAR	**Gharneh**	**2.87**	**80**	Pn	**Pb**		**14 09 26.0**	**-0.4**
KBD	**Kabd**	**2.92**	**198**	P	**Pb**		**14 09 25.2**	**-1.8**
KBD				S	**Sn**		**14 09 54.7**	**-1.7**
IRAM	**Ramesheh**	**3.14**	**92**	Pn	**Pb**		**14 09 28.9**	**-2.0**
IZEF	**Zefreh**	**3.21**	**72**	Pn	**Pb**		**14 09 30.3**	**-1.9**
IDHR	**Dehrash**	**3.34**	**325**	Pn	**Pb**		**14 09 32.3**	**-2.2**
KAZ2	**Kazeron-Fars-I**	**3.46**	**132**	Pn	**Pn**		**14 09 31.9**	**+2.9**
IQOM	**Qom**	**3.49**	**34**	Pn	**Pb**		**14 09 34.9**	**-2.0**
KGS1	**Ghasr-e-Shirin**	**3.63**	**315**	Pn	**Pb**		**14 09 35.7**	**-3.6**
ISFB	**Sefidab**	**3.81**	**50**	Pn	**Pb**		**14 09 38.7**	**-3.6**
AHBU	**AHRAM**	**3.82**	**143**	Pn	**Pn**		**14 09 37.0**	**+3.2**
IVRN	**Varamin**	**3.94**	**39**	Pn	**Pb**		**14 09 40.9**	**-3.6**
IMHD	**Mahdasht**	**4.05**	**23**	Pn	**Pb**		**14 09 43.3**	**-3.2**
IHSB	**Hasanabad**	**4.07**	**31**	Pn	**Pb**		**14 09 43.2**	**-3.6**
AMD1	**Meshkindasht**	**4.21**	**26**	Pn	**Pb**		**14 09 45.3**	**-4.0**
DSBU	**Dashti - Bushe**	**4.22**	**148**	Pn	**Pn**		**14 09 43.0**	**+3.6**
ANAR	**Anarak**	**4.42**	**73**	Pn	**Pn**		**14 09 46.9**	**+4.7**
IDMV	**Damavand**	**4.55**	**37**	Pn	**Pb**		**14 09 49.4**	**-5.6**
ICHK	**Chekchek**	**4.85**	**85**	Pn	**Pn**		**14 09 52.5**	**+4.3**
ILAS	**Lasjerd**	**4.92**	**45**	Pn	**Pn**		**14 09 53.9**	**+4.8**
KLST	**Kelardasht - M**	**4.94**	**23**	Pn	**Pb**		**14 09 55.5**	**-6.2**
IFIR	**Firoozkooh**	**4.98**	**42**	Pn	**Pb**		**14 09 55.4**	**+5.4**
MZPU	**Pul - Mazandar**	**5.05**	**27**	Pn	**Pb**		**14 09 57.1**	**-6.6**
IMEH	**Mehriz**	**5.07**	**95**	Pn	**Pn**		**14 09 55.6**	**+4.3**
IPRN	**Peran**	**5.22**	**34**	Pn	**Pn**		**14 09 58.7**	**+5.4**
MAHB	**Mahabad**	**5.39**	**333**	Pn	**Pn**		**14 10 00.5**	**+5.0**
IBAF	**Bafgh**	**5.86**	**92**	Pn	**Pn**		**14 10 06.0**	**+3.9**
SAKB	**Bahrain**	**6.18**	**164**	P	**Pn**		**14 10 06.4**	**+0.1**
IGLO	**Ghaloghah**	**6.21**	**42**	Pn	**Pn**		**14 10 12.6**	**+5.8**
SHMA	**Al-Shehemyia**	**6.40**	**161**	P	**Pn**		**14 10 10.1**	**+0.8**
TPRV	**Parvadeh(Tabas**	**6.83**	**79**	Pn	**Pn**		**14 10 19.5**	**+4.2**
TKDS	**Koohdasht(Taba**	**7.28**	**75**	Pn	**Pn**		**14 10 25.9**	**+4.4**
SMRA	**Abu-Samra**	**7.43**	**165**	P	**Pn**		**14 10 23.4**	**0.0**
TRNA	**Turayna**	**7.54**	**162**	P	**Pn**		**14 10 25.8**	**+0.9**
	SNR=13							
JRN	**Qarnain Island**	**7.89**	**151**	P	**Pn**		**14 10 30.8**	**+1.1**
JRN				S	**Sn**		**14 11 54.6**	**-4.6**
SLWR	**Sila**	**8.30**	**161**	P	**Pn**		**14 10 36.5**	**+1.1**
SLWR				S	**Sn**		**14 12 07.2**	**-2.0**
SHME	**Shamm**	**8.79**	**130**	P	**Pn**		**14 10 42.0**	**-0.1**
SHME				S	**Sn**		**14 12 15.0**	**-6.1**
SHME	**Shamm**	**8.79**	**130**	P	**Pn**		**14 10 42.8**	**+0.8**
SHME				S	**Sn**		**14 12 15.9**	**-5.3**
RAYN	**Ar Rayn**	**8.88**	**199**	Pn	**Pn**		**14 10 43.2**	**-0.1**
ISFR	**Sfrayin**	**9.20**	**54**	Pn	**Pn**		14 10 53.2	+5.3
NAZ	**Nazwa, Dubai**	**9.26**	**137**	P	**Pn**		**14 10 49.4**	**+0.8**
NAZ	**Nazwa, Dubai**	**9.26**	**137**	P	**Pn**		**14 10 49.4**	**+0.8**
NAZ				S	**Sn**		**14 12 28.4**	**-4.5**
MASF	**Masafi**	**9.28**	**133**	P	**Pn**		**14 10 49.4**	**+0.5**
MASF				S	**Sn**		**14 12 27.6**	**-5.7**
MSFE	**Esma-Masafi**	**9.29**	**133**	P	**Pn**		**14 10 48.7**	**-0.3**
ASUD	**Al Ashush, Dub**	**9.36**	**140**	P	**Pn**		**14 10 50.5**	**+0.6**
ASUD	**Al Ashush, Dub**	**9.36**	**140**	P	**Pn**		**14 10 51.2**	**+1.3**
ASUD				S	**Sn**		**14 12 30.5**	**-4.8**
MZWR	**Madinat Zayed**	**9.37**	**149**	P	**Pn**		**14 10 49.6**	**-0.5**
FAQ	**Al Faqa, Dubai**	**9.41**	**138**	P	**Pn**		**14 10 51.0**	**+0.4**
FAQ	**Al Faqa, Dubai**	**9.41**	**138**	P	**Pn**		**14 10 51.9**	**+1.2**
FAQ				S	**Sn**		**14 12 29.2**	**-7.4**
MDH	**Madha**	**9.42**	**133**	P	**Pn**		**14 10 50.0**	**-0.7**
MDH	**Madha**	**9.42**	**133**	P	**Pn**		**14 10 50.9**	**+0.2**
MDH				S	**Sn**		**14 12 29.4**	**-7.2**
UOSS	**Minazif**	**9.62**	**135**	Pn	**Pn**		**14 10 53.4**	**-0.1**
UOSS	**Minazif**	**9.62**	**135**	P	**Pn**		**14 10 52.7**	**-0.8**
UOSS	**Minazif**	**9.62**	**135**	P	**Pn**		**14 10 53.3**	**-0.1**
UOSS				P	**Pn**		**14 10 53.3**	**-0.1**
UOSS				S	**Sn**		**14 12 34.3**	**-7.3**
UOSS				S	**Sn**		**14 12 34.3**	**-7.3**
HATD	**Hatta, Dubai**	**9.66**	**136**	P	**Pn**		**14 10 54.3**	**+0.2**
HATD	**Hatta, Dubai**	**9.66**	**136**	P	**Pn**		**14 10 55.2**	**+1.1**
HATD				S	**Sn**		**14 12 37.5**	**-5.3**
ASHO	**Ashiyiah**	**9.73**	**136**	P	**Pn**		**14 10 55.0**	**0.0**
ASHO	**Ashiyiah**	**9.73**	**136**	P	**Pn**		**14 10 55.7**	**+0.7**
	SNR=6.8							
ASHO				S	**Sn**		**14 12 37.6**	**-6.8**
GEYT	**Alibeck**	**9.75**	**50**	Pn	**Pn**		**14 10 57.8**	**+2.5**
	0.3nm,0.3s,baz=231,slow=13,SNR=3.8							
GEYT				Lg	Lg		14 13 46.7	
	0.2nm,0.3s,baz=237,slow=29,SNR=1.8							
GEYT				LR	LR		14 15 11.3	
	comp=Z,184nm,18.5s,baz=285,slow=41							
	2.0nm,0.5s							
KARS	**Kars**	**9.76**	**334**	Pn	**Pn**		**14 10 54.6**	**-0.8**
ASF	**Jabal al Asfar**	**10.02**	**274**	Pn	**Pn**		**14 11 00.7**	**+1.7**
	1.8nm,0.3s,baz=48,slow=0.0,SNR=6.1							
ASF				Lg	Lg		14 13 52.7	
	0.3nm,0.3s,baz=126,slow=0.1,SNR=1.3							
ASF				LR	LR		14 15 29.0	
	comp=Z,57nm,20.2s,baz=153,slow=42							
	5.0nm,0.3s							
ALNE	**Al Ain**	**10.04**	**140**	P	**Pn**		**14 10 60.0**	**+0.7**
ALNE	**Al Ain**	**10.04**	**140**	P	**Pn**		**14 11 00.0**	**+0.7**
	SNR=8.6							
ALNE				S	**Sn**		**14 12 45.4**	**-6.7**
JASK	**Jask - Hormozg**	**10.07**	**125**	P	**Pn**		**14 11 04.4**	**+0.8**
JASK				S	Sn		14 12 44.1	-8.7
SOHO	**SOHO**	**10.43**	**137**	P	**Pn**		**14 11 03.5**	**-1.1**
SOHO	**SOHO**	**10.43**	**137**	P	**Pn**		**14 11 04.4**	**-0.2**
SOHO				S	**Sn**		**14 12 56.2**	**-5.3**
ARQ	**Araqi**	**11.04**	**139**	P	**Pn**		**14 11 13.1**	**+0.1**
ARQ				S	**Sn**		**14 13 09.8**	**-6.7**
MMAI	**Mount Meron Ar**	**11.28**	**279**	LR	LR		14 16 08.4	
	comp=Z,42nm,20.1s,baz=28,slow=40							
HOQ	**Hoqain**	**11.30**	**136**	P	**Pn**		**14 11 17.0**	**+0.4**
HOQ				S	Sn		14 13 14.6	-8.4
BSY	**Bisya**	**11.89**	**139**	P	**Pn**		**14 11 24.8**	**+0.2**
BSY				S	**Sn**		**14 13 31.6**	**-5.8**
EIL	**Elat**	**12.04**	**263**	LR	LR		14 16 40.3	
	comp=Z,61nm,18.6s,baz=65,slow=40							
SMDO	**Samad**	**12.14**	**135**	P	**Pn**		**14 11 28.4**	**+0.3**
SMDO				S	**Sn**		**14 13 37.5**	**-6.1**
WSAR	**Wadi Sarin**	**12.37**	**132**	Pn	**Pn**		**14 11 31.3**	**+0.2**
	0.6nm,0.3s,baz=333,slow=16,SNR=9.6							
WSAR				Sn	Sn		14 13 38.4	-11
	baz=336,slow=24							
	2.2nm,0.4s							
WSAR	**Wadi Sarin**	**12.37**	**132**	P	**Pn**		**14 11 32.0**	**+0.8**
KBZ	**Khabaz**	**12.60**	**340**	LR	LR		14 15 54.2	
	comp=Z,48nm,19.2s,baz=155,slow=35							
JMDO	**Jabal Madar**	**12.70**	**137**	P	**Pn**		**14 11 36.0**	**+0.3**
WBK	**Wadi Bani Khal**	**13.04**	**133**	P	**Pn**		**14 11 41.4**	**+1.0**
JLN	**Jalan Bani Buh**	**13.65**	**133**	P	**Pn**		**14 11 47.5**	**-1.2**
MHTO	**MHTO**	**13.72**	**141**	P	**Pn**		**14 11 48.8**	**-0.8**
MHTO				S	Sn		14 14 13.8	-8.3
DOK	**Doka**	**14.17**	**158**	P	**Pn**		**14 11 55.0**	**-0.7**
	SNR=8.2							
DOK				S	Sn		14 14 24.5	-8.5
DQM	**DQM**	**14.38**	**144**	P	**Pn**		**14 11 57.3**	**-1.3**
WHFO	**Wadi Hawf**	**14.72**	**161**	P	**Pn**		**14 12 01.3**	**-2.1**
	SNR=9.6							
WHFO				S	**Sn**		**14 14 38.5**	**-8.1**
ABTO	**Aybut**	**15.13**	**163**	P	**Pn**		**14 12 06.6**	**-2.3**
ABTO				S	**Sn**		**14 14 47.4**	**-10**
SHAO	**Shalim**	**15.23**	**154**	P	**Pn**		**14 12 07.9**	**-2.3**
RBK	**Rabkut**	**15.24**	**160**	P	**Pn**		**14 12 08.7**	**-1.6**
DMTO	**DMTO**	**15.27**	**157**	P	**Pn**		**14 12 09.0**	**-1.7**
	SNR=11							
DMTO				S	Sn		14 14 49.3	-11
MDUB	**Mudurnu**	**16.46**	**306**	Pn	**Pn**		**14 12 26.0**	**0.0**
ABKAR	**Akbulak array**	**19.23**	**23**	P	**P**		**14 12 57.3**	**-1.8**
AKTO	**Aktyubinsk**	**19.71**	**18**	P	**Pn**		**14 13 06.3**	**+0.5**
	0.4nm,0.3s,baz=213,slow=9.1,SNR=5.0							
	1.5nm,0.6s							
ALN	**Alexandroupoli**	**20.25**	**302**	P	**P**		**14 13 08.7**	**-1.6**
ALN				IAmb	IAmb		14 13 38.1	
	comp=Z,14nm,1.1s							
BELG	**Belogornoye**	**20.43**	**358**	P	Pn		14 13 13.1	-1.1
	comp=Z,15nm,0.8s,baz=237,slow=3.0,SNR=7.4							
	comp=Z,15nm,0.8s							
ARSB	**Arslanbob**	**21.55**	**57**	P	**P**		**14 13 23.4**	**-1.2**
MLR	**Muntele Rosu**	**22.21**	**314**	P	**P**		**14 13 30.9**	**-0.7**
MLR				IAmb	IAmb		14 13 39.6	
	comp=Z,11nm,1.0s							
LIT	**Litokhoron**	**22.64**	**298**	P	**P**		**14 13 33.0**	**-3.1**
AAK	**Ala-Archa**	**23.03**	**55**	P	**P**		**14 13 36.6**	**-3.7**
AAK	**Ala-Archa**	**23.03**	**55**	LR	LR		14 24 18.8	
	comp=Z,110nm,19.5s,baz=262,slow=41							
FNA	**Florina**	**23.62**	**300**	P	**P**		**14 13 42.8**	**-3.4**
FNA				IAmb	IAmb		14 13 50.3	
	comp=Z,4.6nm,1.3s							
AKASG	**Malin

	baz=138								
MNK					*i* sS		sS	14 19 25.8	+27
	baz=138								
MNK					*i* SS		**SnSn**	**14 20 01.2**	**+2.5**
	baz=138								
MNK					*i* LR		LR	14 23 37.0	
	baz=138								
RONA	**Rosalia, Austr**	**29.16**	**312**		*e*pP		pP	14 14 42.4	+3.0
	comp=Z,7.0nm,1.2s								
MKAR	**Makanchi Array**	**29.63**	**50**		P		**P**	**14 14 41.8**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=253,slow=5.9,SNR=2.0								
MKAR					PcP		**PcP**	**14 17 45.4**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=260,slow=5.3,SNR=2.9								
	comp=Z,0.6nm,0.6s								
BIOA	**Bad Ischl, Aus**	**30.85**	**311**		*e*P		**P**	**14 14 53.9**	**+2.6**
	comp=Z,1.8nm,0.4s								
KBA	**Koelnbreinsper**	**30.86**	**310**		*e*P		**P**	**14 14 54.4**	**+2.9**
	comp=Z,8.1nm,1.1s								
GERES	**GERESS Array B**	**31.19**	**313**		P		**P**	**14 14 53.2**	**-1.0**
ABTA	**Abfaltersbach**	**31.32**	**309**		*e*P		**P**	**14 14 58.8**	**+3.3**
	comp=Z,7.7nm,1.3s								
KHC	**Kasperske Hory**	**31.36**	**313**		*e*P		**PcP**	**14 17 55.0**	**+5.7**
LESA	**Schwarzleotal**	**31.40**	**310**		*e*P		**P**	**14 14 58.1**	**+2.0**
	comp=Z,1.9nm,0.6s								
WATA	**Walderalm**	**32.09**	**309**		*e*P		**P**	**14 15 04.4**	**+2.1**
	comp=Z,12nm,1.3s								
SQTA	**Sankt Quirin**	**32.31**	**309**		*i* P		**P**	**14 15 06.2**	**+2.1**
	comp=Z,2.4nm,0.4s								
FETA	**Feichten**	**32.58**	**309**		*e*P		**P**	**14 15 09.8**	**+3.2**
	comp=Z,8.5nm,1.2s								
WMQ	**Urumqi**	**32.68**	**58**		*e*P		**P**	**14 15 07.5**	**+0.1**
WMQ					LR		LR		
	comp=Z,110nm,24.2s								
FINES	**FINESS Array B**	**32.96**	**340**		P		**P**	**14 15 08.9**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=150,slow=9.3,SNR=11								
	comp=Z,0.7nm,0.3s								
GRA1	**Grafenberg Arr**	**33.00**	**313**		P		**P**	**14 15 10.1**	**+0.1**
GRFO	**Grafenberg**	**33.00**	**313**		P		**P**	**14 15 09.5**	**-0.5**
DAVA	**Damuels**	**33.20**	**309**		*e*P		**P**	**14 15 14.0**	**+2.0**
	comp=Z,6.3nm,0.5s								
ZAA0	**Zalesovo Array**	**33.82**	**39**		P		**P**	**14 15 16.2**	**-0.9**
ZAA0					IAmb		IAmb	14 15 29.7	
	comp=Z,4.3nm,1.1s								
ZALV	**Zalesovo Beam**	**33.82**	**39**		P		**P**	**14 15 16.3**	**-0.7**
ZALV	**Zalesovo Beam**	**33.82**	**39**		P		**P**	**14 15 17.1**	**0.0**
	comp=Z,0.8nm,0.3s,baz=258,slow=5.6,SNR=5.3								
ZALV					PcP		**PcP**	**14 17 56.8**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=207,slow=2.9,SNR=1.8								
	comp=Z,0.8nm,0.3s								
HFS	**Hagfors**	**36.43**	**331**		P		**P**	**14 15 38.9**	**-0.7**
	comp=Z,1.6nm,0.3s,baz=123,slow=10,SNR=10								
	comp=Z,1.6nm,0.3s								
NOA	**NORSAR Array B**	**37.95**	**331**		P		**P**	**14 15 52.5**	**0.0**
	comp=Z,0.6nm,0.7s,baz=129,slow=6.9,SNR=2.2								
	comp=Z,0.6nm,0.7s								
ARCES	**ARCESS Array B**	**39.83**	**348**		P		**P**	**14 16 09.3**	**+1.2**
	comp=Z,7.4nm,1.1s,baz=159,slow=7.7,SNR=1.2								
	comp=Z,7.4nm,1.1s								
ESDC	**Sonseca Array**	**42.87**	**296**		P		**P**	**14 16 33.9**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=82,slow=7.7,SNR=5.2								
	comp=Z,0.7nm,0.7s								
EKA	**Eskdalemuir Ar**	**42.92**	**319**		P		**P**	**14 16 34.7**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=99,slow=8.7,SNR=1.5								
	comp=Z,0.1nm,0.3s								
SONM	**Songino Array**	**45.94**	**52**		P		**P**	**14 16 59.5**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=266,slow=13,SNR=3.0								
SONM					PcP		**PcP**	**14 18 36.7**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=239,slow=0.8,SNR=3.0								
SONM					LR		LR	14 39 02.8	
	comp=Z,32nm,19.4s,baz=240,slow=40								
	comp=Z,0.4nm,0.6s								
PZH	**PanZhiHua**	**46.23**	**83**		P		**P**	**14 17 00.0**	**-0.6**
PZH					pmax		pmax		
	comp=Z,10.0nm,0.5s								
PZH					pmax		pmax		
	comp=Z,110nm,5.0s								
TOA0	**Torodi Ar. Sit**	**46.87**	**258**		P		**P**	**14 17 04.9**	**-0.7**
TORD	**Torodi Ar. Bea**	**46.87**	**258**		P		**P**	**14 17 04.0**	**-1.5**
TORD					IAmb		IAmb	14 17 08.6	
	comp=Z,5.9nm,1.2s								
TORD	**Torodi Ar. Bea**	**46.87**	**258**		P		**P**	**14 17 06.1**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=55,slow=7.4,SNR=17								
	comp=Z,1.5nm,0.5s								
CMAR	**Chiang Mai Arr**	**47.02**	**94**		P		**P**	**14 17 07.6**	**+0.9**
	comp=Z,0.9nm,0.4s,baz=293,slow=8.9,SNR=6.9								
	comp=Z,0.9nm,0.4s								
SPITS	**Spitsbergen Ar**	**48.42**	**352**		P		**P**	**14 17 18.3**	**+1.5**
	comp=Z,3.6nm,0.6s,baz=127,slow=9.2,SNR=14								
	comp=Z,3.6nm,0.6s								
HHC	**Hu-ho-hao-te**	**50.41**	**61**		*e*P		**P**	**14 17 31.5**	**-1.1**
HHC					pP		sP	14 17 42.3	+5.2
HHC					sP		pP	14 17 46.3	+10
HHC					pmax		pmax		
	comp=Z,17nm,0.5s								
HHC					pmax		pmax		
	comp=Z,47nm,3.8s								
LBTB	**Lobatse**	**60.81**	**204**		LR		LR	14 45 19.4	
	comp=Z,42nm,19.3s,baz=188,slow=36								
KSRS	**Korea Array**	**63.54**	**61**		P		**P**	**14 19 07.2**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=284,slow=7.3,SNR=4.9								
KSRS					LR		LR	14 52 25.6	
	comp=Z,8.5nm,18.4s,baz=160,slow=41								
	comp=Z,0.5nm,0.3s								
SEY	**Seymchan**	**67.88**	**29**		P		**P**	**14 19 34.0**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=276,slow=8.2,SNR=7.4								
	comp=Z,1.7nm,0.8s								
SUR	**Sutherland**	**69.22**	**205**		LR		LR	14 49 39.2	
	comp=Z,25nm,20.3s,baz=160,slow=36								
PETK	**Petropavlovsk-**	**75.31**	**36**		LR		LR	14 58 26.7	
	comp=Z,33nm,18.5s,baz=89,slow=40								
SCHQ	**Schefferville**	**77.42**	**328**		P		**P**	**14 20 31.5**	**+1.3**
	comp=Z,1.9nm,0.5s,baz=45,slow=4.3,SNR=4.7								
	comp=Z,1.9nm,0.5s								
ILAR	**Eielson Array**	**82.81**	**7**		P		**P**	**14 20 59.6**	**+0.6**
	comp=Z,0.4nm,0.9s,baz=328,slow=3.2,SNR=3.6								
	comp=Z,0.4nm,0.9s								
YKA	**Yellowknife Ar**	**84.91**	**352**		P		**P**	**14 21 10.8**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=30,slow=3.8,SNR=2.3								
	comp=Z,0.2nm,0.5s								

*TAP **29** 14:18:48.2,23.84N×122.65E,h42km,ML2.9,D*
*JMA **29** 14:18:48.1±0.1,23.8N±0.7×122.6E±0.5,h39km,MV2.4/12,*
NW OFF ISHIGAKIJIMA IS
ISC 29 14:18:45.7±1.0,**23.80N**±0.03×**122.64E**±0.02,**h17**km±8km,
n94,σ**79**/142,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.43**	**317**	*i* P			**Pn**	**14 18 57.7**	**+0.9**
	baz=309								
EOS3	**EOS3**	**0.56**	**329**	*i* P			**Pn**	**14 18 59.9**	**+1.1**
	baz=319								
JYNG	**Yonagunijimaku**	**0.70**	**24**	P			**Pn**	**14 19 01.4**	**+0.5**
JYNG					*e*S		**Sn**	**14 19 10.7**	**-0.7**
EOS2	**EOS2**	**0.72**	**329**	P			**Pn**	**14 19 02.8**	**+1.9**
	baz=310								
YOJ	**Yonaguni jima**	**0.74**	**27**	P			**Pn**	**14 19 02.2**	**+0.9**
	baz=27								
YOJ				S			**Sn**	**14 19 11.9**	**-0.3**
	baz=27								
YOJ	**Yonaguni jima**	**0.74**	**27**	P			**Pn**	**14 19 02.2**	**+0.9**
YOJ					*e*S		**Sn**	**14 19 11.8**	**-0.4**
SHUL	**Shoufeng**	**0.98**	**269**	*e*P			**Pb**	**14 19 04.0**	**-0.3**
	baz=266								
SHUL					*e*S		**Sn**	**14 19 19.1**	**+0.8**
	baz=266								
TWD	**Chiawan**	**0.99**	**286**	*i* P			**Pg**	**14 19 05.2**	**+0.2**
	baz=283								
TWD				S			**Sg**	**14 19 17.4**	**-0.6**
	baz=283								
ETL	**Fush Village**	**0.99**	**291**	*e*P			**Pg**	**14 19 05.8**	**+0.7**
	baz=277								
ETL					*e*S		**Sn**	**14 19 18.5**	**-0.1**
	baz=277								
EWUT	**Wuta**	**1.01**	**309**	P			**Pg**	**14 19 06.1**	**+0.8**
	baz=306								
EWUT					*e*S		**Sn**	**14 19 19.7**	**+0.8**
	baz=306								
NACB	**Ninganchiao**	**1.02**	**291**	*i* P			**Pg**	**14 19 05.8**	**+0.2**
	baz=277								
NACB				S			**Sb**	**14 19 17.4**	**-0.7**
	baz=277								
ENA	**Nanau**	**1.03**	**307**	P			**Pg**	**14 19 06.4**	**+0.7**
	baz=304								
ENA				S			**Sn**	**14 19 20.3**	**+0.9**
	baz=304								
ESAO	**Su ao**	**1.06**	**317**	*e*P			**Pg**	**14 19 07.2**	**+1.0**
	baz=314								
ESAO					*e*S		**Sn**	**14 19 20.8**	**+0.7**
	baz=314								
ETM	**Tongmen**	**1.06**	**279**	P			**Pg**	**14 19 06.1**	**-0.1**
	baz=270								
ETM				S			**Sg**	**14 19 20.8**	**+0.6**
	baz=270								
TWC	**Suao**	**1.08**	**318**	*e*P			**Pg**	**14 19 06.8**	**+0.2**
	baz=306								
TWC					*e*S		**Sn**	**14 19 20.8**	**+0.2**
	baz=306								
HATJ	**Hateruma jima**	**1.10**	**76**	P			**Pg**	**14 19 07.9**	**+0.9**
HATJ					*e*S		**Sg**	**14 19 21.8**	**+0.4**
ESL	**Shilin**	**1.10**	**271**	*i* P			**Pn**	**14 19 06.3**	**-0.1**
	baz=259								
ESL				S			**Sb**	**14 19 20.3**	**-0.1**
	baz=259								
EGFH	**Guangfu**	**1.12**	**263**	*e*P			**Pg**	**14 19 07.4**	**0.0**
	baz=260								
EGFH					*e*S		**Sb**	**14 19 21.5**	**+0.7**
	baz=260								
ETLH	**Xiulin Townshi**	**1.13**	**291**	P			**Pg**	**14 19 07.6**	**0.0**
	baz=288								
ETLH					*e*S		**Sg**	**14 19 21.7**	**-0.8**
	baz=288								
IRIF	**Iriomote-Funau**	**1.13**	**62**	P			**Pg**	**14 19 08.5**	**+0.9**
IRIF				S			**Sg**	**14 19 23.2**	**+0.8**
LXIB	**Xiulin Townshi**	**1.14**	**281**	P			**Pg**	**14 19 07.6**	**-0.2**
	baz=273								
LXIB					*e*S		**Sg**	**14 19 22.3**	**-0.5**
	baz=273								
WARBT	**Fenglin Townsh**	**1.15**	**266**	P			**Pb**	**14 19 07.3**	**+0.2**
	baz=255								
WARBT				S			**Sb**	**14 19 21.3**	**-0.5**
	baz=255								
HGSD	**Ruisui**	**1.16**	**255**	P			**Pn**	**14 19 07.6**	**+0.5**
	baz=252								
HGSD				S			**Sb**	**14 19 21.6**	**-0.3**
	baz=252								
NDS	**Dongshan**	**1.18**	**315**	*e*P			**Pg**	**14 19 08.8**	**+0.3**
	baz=311								
NDS					*e*S		**Sg**	**14 19 23.8**	**-0.2**
	baz=311								
ECBN	**Changbin**	**1.19**	**246**	*e*P			**Pb**	**14 19 08.4**	**+0.6**
	baz=234								
ECBN					*e*S		**Sb**	**14 19 22.8**	**-0.2**
	baz=234								
EHYH	**Wanrong**	**1.22**	**256**	P			**Pb**	**14 19 09.3**	**+0.8**
	baz=253								
EHYH				S			**Sb**	**14 19 24.4**	**+0.5**
	baz=253								
EHY	**Hungye**	**1.24**	**256**	*i* P			**Pb**	**14 19 09.1**	**+0.4**
	baz=254								
EHY				*i* S			**Sb**	**14 19 24.6**	**+0.2**
	baz=254								
TWE	**Neicheng**	**1.27**	**316**	*e*P			**Pg**	**14 19 10.3**	**0.0**
	baz=314								
ENTT	**Nioudou**	**1.28**	**311**	*e*P			**Pg**	**14 19 10.6**	**+0.1**
	baz=296								
CHKH	**Chenggong**	**1.29**	**242**	*e*P			**Pn**	**14 19 09.4**	**+0.4**
	baz=240								
CHKH					*e*S		**Sn**	**14 19 24.3**	**-1.6**
	baz=240								
EYUL	**Yuli**	**1.29**	**250**	P			**Pn**	**14 19 09.8**	**+0.9**
	baz=240								
EYUL					*e*S		**Sn**	**14 19 25.8**	**-0.1**
	baz=240								
YULB	**Yu-li**	**1.29**	**252**	*e*P			**Pb**	**14 19 09.9**	**+0.3**
	baz=242								
YULB					*e*S		**Sn**	**14 19 25.4**	**-0.6**
	baz=242								
NDT	**Datong Townshi**	**1.30**	**308**	*e*P			**Pg**	**14 19 10.7**	**-0.1**
	baz=305								
WHF	**Hehuan Shan**	**1.30**	**285**	*i* P			**Pg**	**14 19 10.6**	**-0.3**
	baz=282								
WHF				S			**Sn**	**14 19 26.1**	**-0.6**
	baz=282								
NNSB	**Datong**	**1.30**	**299**	*e*P			**Pg**	**14 19 10.4**	**-0.6**
	baz=286								
NNSB					*e*S		**Sg**	**14 19 26.6**	**-1.4**
	baz=286								
TWF1	**Yuli**	**1.31**	**250**	P			**Pb**	**14 19 10.4**	**+0.5**
	baz=240								
TWF1				S			**Sn**	**14 19 26.1**	**-0.3**
	baz=240								
NNS	**Nan Shan**	**1.32**	**299**	P			**Pg**	**14 19 10.7**	**-0.5**
	baz=287								
NNS				S			**Sg**	**14 19 26.9**	**-1.5**
	baz=287								
JKRS	**Kuro-shima**	**1.33**	**71**	P			**Pg**	**14 19 11.2**	**-0.1**
JKRS					*e*S		**Sg**	**14 19 28.6**	**-0.1**
OWD	**Renai**	**1.35**	**277**	P			**Pb**	**14 19 10.7**	**+0.2**
	baz=273								
OWD					*e*S		**Sn**	**14 19 27.3**	**-0.2**
	baz=273								
FUSS	**Fushou**	**1.35**	**289**	*e*P			**Pg**	**14 19 11.1**	**-0.7**
	baz=286								
FUSS					*e*S		**Sb**	**14 19 27.5**	**-0.3**
	baz=286								
FUSB	**Fushanzhiwuyua**	**1.35**	**315**	P			**Pg**	**14 19 11.6**	**-0.2**
	baz=300								
FUSB				S			**Sg**	**14 19 28.6**	**-0.9**
	baz=300								
CHKT	**Chengkung**	**1.36**	**239**	*e*P			**Pn**	**14 19 09.8**	**-0.2**
	baz=229								
CHKT					*e*S		**Sn**	**14 19 25.4**	**-2.2**
	baz=229								
CHGB	**Renai**	**1.36**	**281**	P			**Pb**	**14 19 11.0**	**+0.1**
	baz=270								
CHGB				S			**Sb**	**14 19 28.0**	**-0.2**
	baz=270								
VWDT	**VWDT**	**1.37**	**268**	P			**Pb**	**14 19 11.4**	**+0.5**
	baz=266								
VWDT				S			**Sn**	**14 19 28.2**	**+0.3**
	baz=266								
FULB	**Fuli**	**1.37**	**244**	*e*P			**Pn**	**14 19 10.5**	**+0.4**
	baz=234								
FULB					*e*S		**Sn**	**14 19 26.8**	**-1.1**
	baz=234								
TIPB	**Shuangxi**	**1.38**	**328**	*e*P			**Pg**	**14 19 12.3**	**0.0**
	baz=326								
WUSB	**Renai**	**1.40**	**278**	P			**Pb**	**14 19 11.6**	**0.0**
	baz=275								
WUSB				S			**Sb**	**14 19 29.3**	**+0.1**
	baz=275								
NWLT	**Wulai**	**1.42**	**313**	*e*P			**Pg**	**14 19 12.7**	**-0.4**
	baz=299								
TDCB	**Techi**	**1.42**	**289**	*e*P			**Pg**	**14 19 12.7**	**-0.6**
	baz=278								
YHNB	**Yeheng**	**1.44**	**307**	*e*P			**Pg**	**14 19 12.7**	**-0.8**
	baz=303								
YHNB					*e*S		**Sb**	**14 19 29.4**	**-0.8**
	baz=303								
NSK	**Sanguang**	**1.46**	**307**	*e*P			**Pg**	**14 19 12.8**	**-1.0**
	baz=303								
NSK					*e*S		**Sb**	**14 19 29.7**	**-1.0**
	baz=303								
SXI1	**Grass Mountain**	**1.46**	**332**	*e*P			**Pg**	**14 19 12.2**	**-1.7**
	baz=330								
EHD	**Haiduan**	**1.47**	**244**	*i* P			**Pn**	**14 19 12.3**	**+0.9**
	baz=234								
EHD				S			**Sn**	**14 19 29.2**	**-1.0**
	baz=234								
ECS	**Chishang**	**1.48**	**242**	*e*P			**Pn**	**14 19 11.9**	**+0.3**
	baz=232								
ECS					*e*S		**Sn**	**14 19 30.2**	**-0.4**
	baz=232								
JIJ	**Ishigaki jima**	**1.48**	**68**	P			**Pg**	**14 19 13.0**	**-1.4**
JIJ					*e*S		**Sb**	**14 19 30.7**	**-0.7**
SSLB	**Suanglung**	**1.54**	**270**	*e*P			**Pb**	**14 19 14.0**	**+0.1**
	baz=267								
LDUT	**Ludao**	**1.56**	**224**	*e*P			**Pn**	**14 19 13.0**	**+0.4**
	baz=223								
SMLT	**Sun Moon Lake**	**1.59**	**273**	*e*P			**Pb**	**14 19 15.1**	**+0.3**
	baz=263								
WCS	**Beigang Elemen**	**1.60**	**279**	*e*P			**Pb**	**14 19 15.0**	**+0.2**
	baz=277								
ELDTW	**Lidau**	**1.61**	**248**	P			**Pn**	**14 19 14.2**	**+0.7**
	baz=245								
ELDTW					*e*S		**Sn**	**14 19 33.0**	**-0.9**
	baz=245								
NFF	**Wufeng Townshi**	**1.61**	**301**	*e*P			**Pg**	**14 19 16.1**	**-0.7**
	baz=299								
WHP	**Taichung City**	**1.62**	**287**	*e*P			**Pg**	**14 19 16.9**	**0.0**
	baz=277								
TYC	**Yuchr**	**1.63**	**274**	*e*P			**Pb**	**14 19 15.5**	**+0.1**
	baz=271								
WHYT	**Xinyi Township**	**1.64**	**267**	*e*P			**Pb**	**14 19 15.7**	**+0.1**
	baz=258								
LONT	**Longtian**	**1.65**	**237**	*e*P			**Pn**	**14 19 13.9**	**0.0**
	baz=230								
ALS	**Alishan**	**1.71**	**261**	P			**Pb**	**14 19 16.6**	**-0.2**
	baz=251								
NSTT	**Nanjuang**	**1.71**	**299**	*e*P			**Pg**	**14 19 17.4**	**-1.1**
	baz=296								
JISG	**Ishigakijimahi**	**1.72**	**63**	P			**Pb**	**14 19 16.0**	**-0.8**
JISG					*e*S		**Sb**	**14 19 36.8**	**-1.3**
TWGBT	**Beinan**	**1.74**	**236**	P			**Pn**	**14 19 16.0**	**+0.9**
	baz=227								
TWGBT					*e*S		**Sn**	**14 19 36.3**	**-0.5**
	baz=227								
TWG	**Pinlang**	**1.74**	**236**	P			**Pn**	**14 19 16.3**	**+1.1**
	baz=228								
TWQ1	**Liyutan**	**1.79**	**288**	*e*P			**Pg**	**14 19 18.9**	**-1.2**
	baz=285								
WNT	**Mingjian**	**1.79**	**273**	*e*P			**Pg**	**14 19 19.4**	**-0.7**
	baz=270								
CHN5	**Tsauling**	**1.81**	**264**	*e*P			**Pb**	**14 19 18.5**	**+0.1**
	baz=262								
STYH	**Taoyuan**	**1.82**	**250**	*e*P			**Pn**	**14 19 17.9**	**+1.7**
	baz=240								
WCKO	**Fanlu**	**1.90**	**259**	*e*P			**Pb**	**14 19 20.6**	**+0.7**
	baz=257								
WGK	**Gukeng**	**1.91**	**267**	*e*P			**Pb**	**14 19 20.6**	**+0.6**
	baz=265								
TPUB	**Ta-pu**	**1.91**	**255**	*e*P			**Pb**	**14 19 20.1**	**-0.1**
	baz=245								
WDLH	**Douliu**	**1.93**	**267**	*e*P			**Pb**	**14 19 20.8**	**+0.4**
	baz=265								
WTP	**Ta-pu**	**1.94**	**254**	P			**Pb**	**14 19 21.1**	**+0.5**
	baz=252								
SLGT	**Liugui**	**2.00**	**247**	*e*P			**Pb**	**14 19 21.4**	**-0.2**
	baz=239								
SGST	**Jiashian**	**2.02**	**250**	*e*P			**Pb**	**14 19 21.6**	**-0.4**
	baz=248								
CHN1	**Nanshi**	**2.03**	**253**	*e*P			**Pb**	**14 19 23.1**	**+0.9**
	baz=251								
TWK	**Hsinying**	**2.04**	**255**	*e*P			**Pb**	**14 19 22.5**	**0.0**
	baz=253								
SNST	**Tainan City**	**2.05**	**254**	*e*P			**Pb**	**14 19 22.4**	**-0.1**
	baz=252								
WTK	**Tuku**	**2.06**	**267**	*e*P			**Pb**	**14 19 22.5**	**-0.3**
	baz=265								
WRL	**Guolierlin Hig**	**2.07**	**273**	*e*P			**Pb**	**14 19 23.1**	**+0.2**
	baz=271								
TSMG	**Majia**	**2.13**	**240**	*e*P			**Pn**	**14 19 22.2**	**+1.7**
	baz=233								
EAST	**Anshuo**	**2.17**	**230**	*e*P			**Pn**	**14 19 22.0**	**+0.9**
	baz=236								
SCST	**Cishan**	**2.17**	**246**	*e*P			**Pb**	**14 19 25.2**	**+0.6**
	baz=244								
MASBT	**Mashibuluo**	**2.19**	**238**	*e*P			**Pn**	**14 19 23.3**	**+1.9**
	baz=231								
SLIU	**Shizi**	**2.32**	**227**	*e*P			**Pn**	**14 19 23.9**	**+0.9**
	baz=226								
WDGT	**Dungji**	**2.79**	**259**	*e*P			**Pn**	**14 19 32.1**	**+2.6**
	baz=258								
PHUB	**P'eng-hu**	**2.83**	**265**	*e*P			**Pn**	**14 19 32.4**	**+2.3**
	baz=254								
VWUC	**VWUC**	**3.14**	**293**	*e*P			**Pn**	**14 19 35.1**	**+0.7**
	baz=289								

*SDD **29** 14:20:54.4±1.4, 18.75N×73.93W,h23km±214km,MD3.5,*
ML3.0,MW3.4
*OSPL **29** 14:20:55.9±2.5, 18.81N×74.01W,h0km±23km,ML2.8*
*SSNC **29** 14:20:57.1±1.4, 18.88N×73.89W,h5km,MD3.0,ML2.7,*
MW2.8
ISC 29 14:20:52.6±1.5,**18.80N**±0.08×**73.94W**±0.05,**h12**km±11km,
n18,σ**68**/32,**1D**,**Haiti region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MASC	**Masc**	**1.40**	**349**	*e*P			**Pg**	**14 21 19.4**	**-0.1**
MASC					*e*S		**Sb**	**14 21 35.6**	**-0.8**
MASC					IAML			14 21 40.2	
	comp=E,62nm,0.5s								
MASC					IAML			14 21 40.4	
	comp=N,63nm,0.4s								
MASC	**Masc**	**1.40**	**349**	*i* P			**Pg**	**14 21 19.5**	**0.0**
MASC					*e*S		**Sg**	**14 21 38.3**	**+0.6**
GTBY	**Guantanamo Bay**	**1.58**	**316**	*e*Pg			**Pb**	**14 21 22.1**	**+0.3**
GTBY					⇓*i*Sg		**Sg**	**14 21 43.2**	**-0.2**
GTBY					IAML			14 21 45.9	
	comp=E,79nm,0.8s								
GTBY					IAML			14 21 51.8	
	comp=N,208nm,0.6s								
GTBY	**Guantanamo Bay**	**1.58**	**316**	*e*P			**Pb**	**14 21 22.1**	**+0.3**
GTBY					*e*S		**Sb**	**14 21 42.0**	**+0.3**
GTBY					IAML			14 21 44.7	
	comp=N,98nm,0.5s								
GTBY					IAML			14 21 46.2	
	comp=N,67nm,0.5s								
GTBY	**Guantanamo Bay**	**1.58**	**316**	*i* P			**Pb**	**14 21 22.1**	**+0.3**
GTBY					IAML			14 21 38.6	
	comp=Z,38nm,2.2s								
GTBY					*e*S		**Sg**	**14 21 43.3**	**-0.2**
PAPH	**Port-au-Prince**	**1.58**	**100**	*e*Pg			**Pg**	**14 21 22.8**	**-0.2**
PAPH					IAML			14 21 45.6	
	comp=E,710nm,0.2s								
PAPH					IAML			14 21 46.6	
	comp=N,797nm,0.3s								
PAPH	**Port-au-Prince**	**1.58**	**100**	*e*P			**Pb**	**14 21 21.9**	**+0.2**
PAPH					*e*S		**Sb**	**14 21 42.0**	**+0.3**
PAPH					IAML			14 21 45.7	
	comp=E,286nm,0.2s								
PAPH					IAML			14 21 46.8	
	comp=N,337n

mbtmp3.5/11,MS2.6/2,Error ellipse: s-maj=36.5km s-min=15.9km az=142.0

ISC 29 14:22:52.4±0.8, 45°.95N±0°.09×151°.81E±0°.08, h48km, n36, σ1§76/35, mb3.4/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.86**	**257**	*i* P	**Pn**	**14 23 37.4**	**+1.9**
KUR				AMB	AMB	14 23 38.5	
	90nm,0.3s						
KUR				*i* S	**Sn**	**14 24 09.6**	**+0.9**
KUR				A	A	14 24 20.2	
	400nm,0.3s						
KUR				A	A	14 24 20.2	
	420nm,0.3s						
SHO	**Shikotan**	**4.10**	**241**	*e*P	**Pn**	**14 23 55.0**	**+2.5**
SHO				AMB	AMB	14 23 56.3	
	30nm,0.4s						
SHO				*e*S	**Sn**	**14 24 40.3**	**+1.1**
SHO				A	A	14 24 58.7	
	240nm,0.3s						
SHO				A	A	14 24 58.7	
	120nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.63**	**248**	*i* P	**Pn**	**14 24 02.7**	**+2.9**
YUK				AMB	AMB	14 24 10.6	
	100nm,0.2s						
YUK				*e*S	**Sn**	**14 24 53.9**	**+1.6**
YUK				A	A	14 25 12.0	
	320nm,0.4s						
YUK				A	A	14 25 12.0	
	190nm,0.4s						
NEM2	**Nemuro 2**	**5.04**	**241**	P	**Pn**	**14 24 06.6**	**+1.2**
NEM2				*e*S	**Sn**	**14 25 01.4**	**-0.9**
NMR	**Nemuro--Hokkai**	**5.05**	**241**	*e*P	**Pn**	**14 24 07.3**	**+1.8**
NMR				*e*S	**Sn**	**14 25 01.7**	**-0.8**
JRA	**Rausu**	**5.16**	**249**	*e*P	**Pn**	**14 24 10.7**	**+3.7**
SKR	**Severo-Kuril's**	**5.54**	**30**	*e*P	**Pn**	**14 24 14.5**	**+2.3**
SKR				AMB	AMB	14 24 15.4	
	70nm,0.6s						
SKR				*e*S	**Sn**	**14 25 14.2**	**-0.3**
SKR				A	A	14 25 18.7	
	140nm,0.8s						
SKR				A	A	14 25 18.7	
	90nm,0.8s						
JNK	**Nakash**	**5.58**	**247**	P	**Pn**	**14 24 15.2**	**+2.5**
AKK	**Akkeshi**	**5.78**	**242**	*e*P	**Pn**	**14 24 16.5**	**+0.9**
AKK				*e*S	**Sn**	**14 25 19.2**	**-1.4**
JAK	**Akkeshi**	**5.88**	**242**	*e*P	**Pn**	**14 24 18.0**	**+1.0**
JAK				*e*S	**Sn**	**14 25 20.7**	**-2.3**
JTKR	**Abashiri--Toko**	**5.95**	**253**	*e*P	**Pn**	**14 24 20.5**	**+2.7**
JAR	**Ashorobuto**	**6.32**	**248**	P	**Pn**	**14 24 25.6**	**+2.6**
YSS	**Yuzh-Sakhalins**	**6.34**	**282**	*e*P	**Pn**	**14 24 24.8**	**+1.6**
YSS				AMB	AMB	14 24 25.2	
	20nm,0.7s						
YSS				*e*S	**Sn**	**14 25 32.8**	**-1.4**
YSS				A	A	14 25 35.4	
	10.0nm,0.9s						
YSS				A	A	14 25 35.4	
	10.0nm,0.9s						
ASAJ	**Asahikawa**	**6.78**	**258**	P	**Pn**	**14 24 29.2**	**-0.1**
	8.6nm,0.7s,baz=80,slow=14,SNR=5.3						
ASAJ				S	**Sn**	**14 25 45.5**	**+0.4**
	2.3nm,0.6s,baz=48,slow=31,SNR=1.3						
JCH	**Churui**	**6.92**	**244**	P	**Pn**	**14 24 32.4**	**+1.3**
JCH				*e*S	**Sn**	**14 25 46.5**	**-2.0**
JNBK	**Urakawa-nobuka**	**7.48**	**244**	P	**Pn**	**14 24 39.4**	**+0.5**
PETK	**Petropavlovsk-**	**8.12**	**26**	P	**Pn**	**14 24 48.6**	**+1.0**
	2.2nm,0.6s,baz=184,slow=11,SNR=10						
PETK				LR	LR	14 28 15.0	
	comp=Z,36nm,20.2s,baz=142,slow=40						
MJAR	**Matsushiro Arr**	**13.88**	**232**	P	**Pn**	**14 26 07.0**	**+0.7**
	0.9nm,0.8s,baz=42,slow=7.6,SNR=2.2						
KLR	**Kul'dur**	**13.93**	**291**	LR	LR	14 30 37.4	
	comp=Z,26nm,20.8s,baz=58,slow=34						
USRK	**Ussuriysk Ar.**	**14.12**	**270**	P	Pn	14 26 05.9	-3.6
	2.9nm,0.8s,baz=81,slow=10,SNR=1.5						
KSRS	**Korea Array**	**19.70**	**253**	P	**P**	**14 27 15.7**	**-1.9**
	0.8nm,0.5s,baz=55,slow=12,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**28.95**	**150**	T	T	15 00 27.8	
	baz=339,slow=76,SNR=294						
H11N1	**WAKE ISLAND Hy**	**28.97**	**150**	T	T	15 00 29.5	
	baz=339,slow=76,SNR=232						
H11N3	**WAKE ISLAND Hy**	**28.97**	**150**	T	T	15 00 23.3	
	baz=339,slow=76,SNR=215						
H11S1	**WAKE ISLAND Hy**	**30.02**	**151**	T	T	15 01 41.1	
	baz=340,slow=76,SNR=250						
H11S3	**WAKE ISLAND Hy**	**30.02**	**151**	T	T	15 01 49.5	
	baz=340,slow=76,SNR=248						
H11S2	**WAKE ISLAND Hy**	**30.03**	**151**	T	T	15 01 43.6	
	baz=340,slow=76,SNR=210						
ILAR	**Eielson Array**	**37.74**	**38**	P	**P**	**14 30 01.7**	**-1.3**
	0.2nm,0.5s,baz=263,slow=7.2,SNR=2.7						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**46.51**	**297**	P	P	14 31 10.8	-4.0
	0.2nm,0.6s,baz=80,slow=9.5,SNR=2.2						
	0.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**51.30**	**256**	P	**P**	**14 31 50.4**	**-1.3**
	0.4nm,0.7s,baz=33,slow=6.8,SNR=1.8						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**67.47**	**198**	P	**P**	**14 33 42.3**	**-0.8**
	0.4nm,1.0s,baz=9.2,slow=6.4,SNR=1.4						
	0.4nm,1.0s						
ASAR	**Alice Springs**	**71.17**	**197**	P	**P**	**14 34 07.2**	**+1.2**
	0.5nm,1.0s,baz=7.1,slow=6.1,SNR=6.7						
	0.5nm,1.0s						
TXAR	**Lajitas Array**	**78.67**	**60**	P	**P**	**14 34 49.7**	**+0.1**
	0.1nm,0.5s,baz=292,slow=5.7,SNR=1.6						
	0.1nm,0.5s						
H03N2	**Juan Fernandez**	**139.65**	**90**	T	T	17 18 47.6	
	baz=304,slow=74,SNR=12						
H03N3	**Juan Fernandez**	**139.66**	**90**	T	T	17 18 47.6	
	baz=304,slow=74,SNR=20						
H03N1	**Juan Fernandez**	**139.66**	**90**	T	T	17 18 47.6	
	baz=304,SNR=20						

IDC 29 14:29:09.0±1.9, 6°.01N×126°.73E, h0km, mb3.6/5, mbtmp3.6/5, MS2.9/2, Error ellipse: s-maj=173.8km s-min=20.2km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.85**	**164**	P	P	14 34 52.0	+0.4
	0.3nm,0.8s,baz=344,slow=10,SNR=5.4						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**30.31**	**167**	P	P	14 35 22.1	-0.4
	0.1nm,0.5s,baz=343,slow=7.0,SNR=8.6						
	0.1nm,0.5s						
ASAJ	**Asahikawa**	**40.43**	**18**	LR	LR	14 53 20.7	
	comp=Z,11nm,21.6s,baz=223,slow=36						
MKAR	**Makanchi Array**	**55.71**	**324**	P	P	14 38 47.6	+0.2
	0.5nm,0.4s,baz=115,slow=7.9,SNR=11						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**59.84**	**327**	P	P	14 39 16.2	-0.1
	0.9nm,0.6s,baz=126,slow=7.1,SNR=9.8						
	0.9nm,0.6s						
BVAR	**Borovoye Array**	**65.43**	**326**	P	P	14 39 53.4	-0.3
	0.5nm,0.5s,baz=116,slow=6.6,SNR=4.5						
BVAR				LR	LR	15 07 57.6	
	comp=Z,14nm,22.0s,baz=327,slow=36						
	0.5nm,0.5s						

IDC 29 14:39:05.4±5.8, 31°.10S×179°.79W, h276km±48km, mb2.7/3, mbtmp3.4/4, Error ellipse: s-maj=50.8km s-min=23.3km az=52.0

ISC 29 14:39:03.7±1.6, 31°.0S±0°.1×179°.8W±0°.3, h250km, n6, σ1§63/7, mb2.8/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.67**	**198**	P	**Pn**	**14 40 54.2**	**+1.5**
	3.2nm,0.8s,baz=45,slow=20,SNR=1.5						
URZ				S	**S**	**14 42 19.7**	**-0.8**
	5.9nm,0.3s,baz=328,slow=9.7,SNR=13						
ASAR	**Alice Springs**	**41.52**	**268**	P	**P**	**14 46 26.6**	**-0.4**
	0.1nm,0.7s,baz=104,slow=7.3,SNR=1.3						
	0.1nm,0.7s						
WRA	**Warramunga Arr**	**42.56**	**274**	P	**P**	**14 46 35.0**	**-0.4**
	0.2nm,0.4s,baz=111,slow=8.1,SNR=7.5						
	0.2nm,0.4s						
QSPA	**South Pole Qui**	**59.11**	**180**	P	**P**	**14 48 36.5**	**-1.3**
	1.2nm,0.7s,baz=24,slow=0.4,SNR=17						
	1.2nm,0.7s						
FINES	**FINESS Array B**	**145.15**	**338**	PKPbc	**PKPdf**	**14 58 09.5**	**-1.0**
	1.2nm,0.5s,baz=41,slow=4.4,SNR=17						
AKASG	**Malin Array Be**	**150.80**	**321**	PKPbc	**PKPdf**	**14 58 22.2**	**+2.1**
	0.3nm,0.4s,baz=49,slow=0.9,SNR=1.6						

IDC 29 14:48:42.5±1.9, 5°.99S×142°.47E, h0km, mb3.6/2, mbtmp3.4/4, ML3.4/2, MS2.9/1, Error ellipse: s-maj=79.5km s-min=24.5km az=110.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.96**	**209**	Pn	Pn	14 52 26.6	-2.0
	0.2nm,0.3s,baz=27,slow=11,SNR=6.3						
WRA				Sn	Sn	14 55 12.8	-14
	baz=28,slow=23,SNR=1.8						
WRA				Lg	Lg	14 57 06.3	
	baz=31,slow=24,SNR=1.8						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**19.41**	**204**	P	Pn	14 53 11.7	+0.2
	0.1nm,0.3s,baz=36,slow=7.3,SNR=14						
ASAR				S	Sn	14 56 42.0	-8.0
	0.2nm,0.8s,baz=21,slow=34,SNR=1.3						
ASAR				Lg	Lg	14 58 59.7	
	baz=26,slow=32,SNR=1.9						
	0.5nm,0.7s						
JCJ	**Chichijima**	**32.89**	**360**	LR	LR	15 07 60.0	
	comp=Z,20nm,19.2s,baz=243,slow=35						
MKAR	**Makanchi Array**	**74.66**	**322**	P	P	15 00 24.1	+0.2
	1.0nm,1.1s,baz=103,slow=6.5,SNR=2.9						
	1.0nm,1.1s						
ILAR	**Eielson Array**	**87.27**	**24**	P	P	15 01 30.6	-0.2
	0.2nm,0.7s,baz=257,slow=4.9,SNR=4.9						
	0.2nm,0.7s						

VIE 29 15:13:05.1±2.0, 49°.67N×19°.41E, h0km, mb2.5/6, ml2.3/3, ms3.6/2, Error ellipse: s-maj=24.4km s-min=6.5km az=134.0, Suspected Mining induced.
IPEC 29 15:13:08.7±0.2, 50°.15N×19°.13E, h1km, ML2.6/4, Error ellipse: s-maj=2.5km s-min=1.0km az=166.0
PRU 29 15:13:09.7, 50°.17N×19°.10E, h0km

ISC 29 15:13:08.3±0.8, 50°.10N±0°.04×19°.09E±0°.02, h0km, n32, σ1§10/58, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.47**	**75**	*e*Pg	**Pg**	**15 13 16.9**	**-0.4**
OJC				*e*Sg	**Sg**	**15 13 23.0**	**-0.4**
OKC	**Ostrava-Krasne**	**0.66**	**247**	*e*PG	**Pb**	**15 13 23.0**	**+0.3**
OKC				*e*SG	**Sb**	**15 13 33.2**	**+0.7**
	comp=Z,49nm,0.5s						
LANS	**Liptovska Anna**	**0.98**	**165**	*e*PG	**Pb**	**15 13 28.3**	**+0.1**
LANS				*e*SG	**Sb**	**15 13 42.1**	**+0.3**
LANS				*e*LG	Lg	15 13 42.6	
NIE	**Niedzica**	**1.04**	**131**	*e*Pg	**Pb**	**15 13 29.1**	**-0.1**
NIE				*e*Sg	**Sb**	**15 13 44.0**	**+0.6**
MORC	**Moravsky Berou**	**1.05**	**252**	*e*Pg	**Pb**	**15 13 29.7**	**+0.3**
	baz=69						
MORC				*e*Sg	**Sb**	**15 13 43.0**	**-0.7**
	116nm,0.6s,baz=69						
MAUC	**Maruska**	**1.10**	**228**	*e*PG	**Pn**	**15 13 31.1**	**+0.1**
MAUC				*e*SG	**Sn**	**15 13 47.7**	**+0.8**
	comp=Z,145nm,0.5s						
KRLC	**Kraliky**	**1.49**	**270**	*e*PG	**Pn**	**15 13 36.0**	**-0.3**
KRLC				*e*SG	**Sn**	**15 13 57.1**	**+0.7**
	comp=Z,44nm,0.4s						
JAVC	**Velka Javorina**	**1.55**	**217**	*e*Pn	**Pg**	**15 13 38.2**	**+0.2**
	baz=36						
STHS	**Stebnicka Huta**	**1.56**	**115**	*e*PN	**Pn**	**15 13 37.2**	**-0.1**
STHS				*e*SG	**Sg**	**15 14 00.4**	**+2.1**
VYHS	**Vyhne**	**1.62**	**186**	*e*PN	**Pn**	**15 13 38.1**	**0.0**
VYHS				*e*SN	**Sg**	**15 14 00.2**	**-0.1**
DPC	**Dobruska-Polom**	**1.79**	**279**	*e*PG	**Pg**	**15 13 42.8**	**+0.1**
DPC				*e*SG	**Sg**	**15 14 05.9**	**0.0**
	comp=Z,57nm,0.6s						
VRAC	**Vranov**	**1.80**	**245**	*e*Pn	**Pb**	**15 13 41.6**	**-0.6**
	baz=62						
VRAC				*e*Sg	**Sg**	**15 14 06.7**	**+0.5**
	31nm,0.5s,baz=62						
VRAC	**Vranov**	**1.80**	**245**	*e*PN	**Pb**	**15 13 41.7**	**-0.5**
VRAC				*e*SG	**Sg**	**15 14 06.8**	**+0.5**
KECS	**Kecovo**	**1.86**	**150**	*e*PN	**Pn**	**15 13 41.0**	**-0.4**
KECS				*e*SN	**Sn**	**15 14 04.3**	**-1.3**
KECS				*e*LG	Lg	15 14 11.9	
OSTC	**Ostas**	**1.90**	**285**	*e*PG	**Pb**	**15 13 44.2**	**+0.4**
OSTC				*e*SG	**Sg**	**15 14 09.7**	**+0.5**
	comp=Z,35nm,0.8s						
CRVS	**Cervenica-Dubn**	**1.96**	**127**	*e*PG	**Pb**	**15 13 45.1**	**+0.3**
CRVS				*e*SG	**Sg**	**15 14 11.7**	**+0.5**
CHVC	**Chvalec**	**2.00**	**285**	*e*PG	**Pg**	**15 13 46.3**	**-0.4**
CHVC				*e*SG	**Sg**	**15 14 12.6**	**0.0**
	comp=Z,76nm,1.3s						
UPC	**Upice**	**2.01**	**283**	*e*PG	**Pg**	**15 13 47.5**	**+0.6**
UPC				*e*SG	**Sg**	**15 14 15.2**	**+2.3**
	comp=Z,21nm,0.4s						
KRUC	**Moravsky**	**2.04**	**240**	*e*Pn	**Pn**	**15 13 44.8**	**+0.9**
	baz=58						
KRUC				*e*Sg	**Sg**	**15 14 13.8**	**0.0**
	28nm,0.6s,baz=58						
MODS	**Modra-Piesok**	**2.10**	**215**	*e*SN	**Sn**	**15 14 12.4**	**+0.9**
GOPC	**GO Pecny, Ondr**	**2.78**	**268**	*e*PG	**Pg**	**15 14 00.4**	**-1.2**
GOPC				*e*SG	**Sg**	**15 14 37.3**	**-0.3**
	comp=Z,16nm,0.4s						
PRU	**Pruhonice**	**2.93**	**269**	*e*PG	**Pb**	**15 14 01.5**	**+0.1**
PRU				*e*SG	**Sg**	**15 14 41.9**	**-0.6**
	comp=Z,108nm,2.0s						
RONA	**Rosalia, Austr**	**3.03**	**219**	*e*Pn	**Pn**	**15 13 58.8**	**+1.3**
	0.9nm,0.2s						
RONA				*e*Sn	**Sn**	**15 14 29.4**	**-5.1**
	1.7nm,0.3s						
CONA	**Conrad Observa**	**3.04**	**226**	Pg	**Pb**	**15 14 02.0**	**-1.3**
	0.4nm,0.2s						
CONA				*e*Sg	**Sn**	**15 14 36.3**	**+1.4**
	3.9nm,0.3s						
CKRC	**Cesky Krumlov**	**3.37**	**249**	*e*PG	**Pg**	**15 14 11.8**	**-1.1**
CKRC				*e*SG	**Sg**	**15 14 56.5**	**0.0**
	comp=Z,31nm,1.0s						
BRG	**Berggiesshubel**	**3.38**	**285**	Pg	**Pg**	**15 14 12.1**	**-0.8**
BRG				Sg	**Sg**	**15 14 55.1**	**-1.5**
BRG				Amp		15 14 57.5	
	comp=Z,7.8nm,0.4s						
KHC	**Kasperske Hory**	**3.71**	**257**	*e*PN	**Pn**	**15 14 07.8**	**+0.9**
KHC				*e*PG	**Pb**	**15 14 14.8**	**+0.1**
KHC				*e*SG	**Sg**	**15 15 07.0**	**-0.5**
	comp=Z,16nm,0.6s						
CLL	**Collm**	**4.05**	**290**	*e*Sg	**Sg**	**15 15 19.0**	**+0.6**
	comp=Z,10.0nm,0.8s						
CLL				AMS	AMS	17 16 00.0	
	comp=Z,200nm,21.7s						
NKC	**Novy Kostel**	**4.27**	**274**	*e*SG	**Sg**	**15 15 24.7**	**-0.7**
	comp=Z,11nm,0.5s						
LESA	**Schwarzleotal**	**5.02**	**240**	Sg	**Sg**	**15 15 50.2**	**+0.9**
	comp=Z,4.5nm,0.4s						
WTTA	**Wattenberg**	**5.69**	**243**	*e*Sg	**Sg**	**15 16 13.8**	**+2.6**
	comp=Z,6.3nm,0.5s						
MOTA	**Moosalm**	**5.96**	**245**	Sg	**Sg**	**15 16 19.9**	**+0.3**
	comp=Z,3.4nm,0.4s						

IDC 29 15:37:36.9±1.6, 29°.88N×86°.90E, h0km, mb3.3/6, mbtmp3.3/8, ML3.3/2, MS2.7/2, Error ellipse: s-maj=58.2km s-min=20.7km az=64.0

ISC 29 15:37:41.9±1.5, 30°.0N±0°.2×87°.0E±0°.3, h35km, n8, σ1§38/8, mb3.3/6, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.81**	**134**	P	**Pn**	**15 41 21.3**	**-0.7**
	0.1nm,0.3s,baz=322,slow=12,SNR=5.1						
CMAR				LR	LR	15 49 02.7	
	comp=Z,12nm,18.3s,baz=245,slow=43						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**17.20**	**349**	P	**Pn**	**15 41 37.6**	**-1.8**
	baz=157,slow=14,SNR=4.2						
MKAR				LR	LR	15 49 17.5	
	comp=Z,42nm,18.6s,baz=250,slow=41						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**21.60**	**345**	P	**P**	**15 42 28.3**	**-0.2**
	0.5nm,0.8s,baz=160,slow=11,SNR=4.7						
	0.5nm,0.8s						
SONM	**Songino Array**	**23.30**	**35**	P	**P**	**15 42 46.8**	**+0.2**
	0.2nm,0.6s,baz=220,slow=13,SNR=3.5						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**24.03**	**357**	P	**P**	**15 42 55.8**	**+2.4**
	0.5nm,0.5s,baz=178,slow=10,SNR=3.7						
	0.5nm,0.5s						
NOA	**NORSAR Array B**	**57.45**	**326**	P	**P**	**15 47 27.3**	**+0.3**
	0.9nm,1.0s,baz=53,slow=9.0,SNR=2.0						
	0.9nm,1.0s						
WRA	**Warramunga Arr**	**67.39**	**131**	P	**P**	**15 48 34.0**	**0.0**
	0.2nm,0.7s,baz=316,slow=7.0,SNR=2.2						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**69.82**	**134**	P	**P**	**15 48 49.4**	**+0.3**
	0.4nm,0.8s,baz=324,slow=6.0,SNR=5.5						
	0.4nm,0.8s						

TAP 29 15:37:53.5, 23°.13N×121°.21E, h8km, ML1.0, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHD	**Haiduan**	**0.02**	**344**	*i* P	Pg	15 37 55.4	+0.2
	baz=343						
EHD				S	Sg	15 37 56.7	+0.4
	baz=343						
ECS	**Chishang**	**0.03**	**170**	*e*P	Pg	15 37 55.9	+0.7
	baz=171						
ECS				*e*S	Sg	15 37 57.8	+1.5
	baz=171						
FULB	**Fuli**	**0.10**	**46**	P	Pg	15 37 56.5	+0.4
	baz=43						
FULB				*i* S	Sg	15 37 59.0	+1.2
	baz=43						
ELDTW	**Lidau**	**0.19**	**289**	*i* P	Pg	15 37 57.8	+0.3
	baz=289						
ELDTW				S	Sg	15 38 00.8	+0.6
	baz=289						
LONT	**Longtian**	**0.23**	**199**	*e*S	Sg	15 38 02.5	+1.1
	baz=208						
TWF1	**Yuli**	**0.24**	**19**	*e*S	Sg	15 38 01.8	+0.2
	baz=12						
YULB	**Yu-li**	**0.28**	**16**	*i* P	Pg	15 37 58.7	-0.4
	baz=12						
YULB				*e*S	Sg	15 38 02.8	0.0
	baz=12						
ECBN	**Changbin**	**0.29**	**49**	*e*S	Sb	15 38 05.9	0.0
	baz=63						
EHYH	**Wanrong**	**0.39**	**18**	*e*S	Sg	15 38 06.7	+0.5
	baz=5.0						
STYH	**Taoyuan**	**0.41**	**276**	*e*S	Sg	15 38 07.5	+0.7
	baz=283						
SLGT	**Liugui**	**0.54**	**256**	*e*S	Sb	15 38 12.5	-0.6
	baz=252						
TPUB	**Ta-pu**	**0.56**	**288**	*e*S	Sg	15 38 12.7	+0.8
	baz=290						

TAP 29 15:37:55.2, 22°.56N×121°.00E, h9km, ML1.5, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECL	**Taimali**	**0.06**	**313**	*i* P	Pg	15 37 57.5	+0.2
	baz=317						
ECL				*i* S	Sg	15 37 59.0	+0.3
	baz=317						
TAW	**Tawu**	**0.22**	**206**	*e*S	Sg	15 38 03.8	+1.0
	baz=212						
EAST	**Anshuo**	**0.22**	**219**	*i* P	Pg	15 38 00.2	+0.4
	baz=225						
EAST				*i* S	Sg	15 38 04.2	+1.3
	baz=225						
TTN	**Taitung**	**0.24**	**34**	*e*P	Pg	15 38 01.6	+1.5
	baz=19						
TTN				*e*S	Sg	15 38 06.2	+2.9
	baz=19						
TAWH	**Dawu Township**	**0.24**	**206**	*e*P	Pg	15 38 00.5	+0.4
	baz=208						
TAWH				*e*S	Sg	15 38 04.3	+1.0
	baz=208						
TWGBT	**Beinan**	**0.27**	**16**	P	Pg	15 38 00.9	+0.2
	baz=209						
TWGBT				*i* S	Sg	15 38 05.4	+1.1
	baz=209						
TWGBT	**Beinan**	**0.27**	**16**	P	Pg	15 38 00.9	+0.3
	baz=3.0						
TWGBT				S	Sg	15 38 05.5	+1.2
	baz=3.0						
TWG	**Pinlang**	**0.27**	**14**	P	Pg	15 38 00.9	+0.3
	baz=209						
TWG				S	Sg	15 38 05.5	+1.1
	baz=209						
TWG	**Pinlang**	**0.27**	**14**	*i* P	Pg	15 38 01.1	+0.4
	baz=3.0						
TWG				*i* S	Sg	15 38 05.5	+1.1
	baz=3.0						
MASBT	**Mashibuluo**	**0.34**	**279**	P	Pg	15 38 02.3	+0.3
	baz=280						
MASBT				S	Sg	15 38 07.0	+0.4
	baz=280						
TSMG	**Majia**	**0.36**	**294**	P	Pg	15 38 02.5	+0.1
	baz=302						
TSMG				*e*S	Sg	15 38 07.1	0.0
	baz=302						
LONT	**Longtian**	**0.37**	**19**	*e*S	Sb	15 38 08.8	-0.9
	baz=5.0						
SLIU	**Shizi**	**0.39**	**209**	*e*S	Sb	15 38 09.9	-0.4
	baz=211						
SSD	**Sandimen**	**0.39**	**299**	*e*P	Pg	15 38 02.5	-0.4
	baz=306						
SSD				*e*S	Sg	15 38 08.0	-0.1
	baz=306						
SCZT	**Fangliau**	**0.40**	**242**	P	Pg	15 38 03.5	+0.5
	baz=251						
SCZT				S	Sg	15 38 09.1	+0.8
	baz=251						
SLGT	**Liugui**	**0.54**	**323**	*e*S	Sg	15 38 13.5	+0.6
	baz=327						

SKHL 29 15:41:11.8±0.1, 43°.00N×145°.90E, h59km±3km, mb4.9/3
NIED 29 15:41:11.3, 43°.03N×145°.82E, h65km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.03; $M_{\theta\theta}$0.89; $M_{\phi\phi}$-2.92; $M_{r\theta}$2.83; $M_{\theta\phi}$-0.94; $M_{r\phi}$3.69; Fault plane solution: $M_0$5.39000×10^{14} NP1:ϕ_s36.00000°, δ77.00000°, λ106.00000°. NP2:ϕ_s163.00000°, δ21.00000°, λ39.00000°.
JMA 29 15:41:11.3±0.1, 43°.0N±0°.5×145°.8E±0°.7, h65km±1km, MD3.8/40, MV4.3/40, OFF NEMURO PENINSULA
JMA Felt I J1 at OFF NEMURO PENINSULA .
IDC 29 15:41:12.7±2.4, 43°.13N×145°.83E, h77km±20km, mb3.8/17, mbtmp4.1/20, MS2.6/2, Error ellipse: s-maj=19.9km s-min=16.1km az=120.0
NEIC 29 15:41:13.0±1.2, 43°.13N±0°.07×145°.7E±0°.1, h74km±5km, mb4.3/79, Error ellipse: s-maj=14.1km s-min=10.1km az=109.0

ISC 29 15:41:11.5±0.7, 43°.03N±0°.05×145°.85E±0°.04, h67km±5km, n143, σ1§00/152, mb4.3/59, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.34**	**347**	P	**Pn**	**15 41 22.2**	**-0.4**
NEM2				S	**Sn**	**15 41 29.9**	**-0.9**
NEM2	**Nemuro 2**	**0.34**	**347**	A	A	15 41 22.2	
	comp=E,8.0nm,1.4s,comp=N,6.0nm,0.2s						
NMR	**Nemuro--Hokkai**	**0.35

comp=N,150nm,0.2s
SHO eS Sn 15 41 44.2 -1.5
SHO A A 15 41 45.8
comp=N,460nm,0.2s
SHO A A 15 41 45.8
comp=N,950nm,0.2s
JOB Onbets 1.48 266 *i* P Pn **15 41 35.8 -0.3**
JOB eS Sn 15 41 54.1 -0.6
JAR Ashorobuto 1.54 281 *i* P Pn **15 41 36.8 -0.1**
JAR S Sn 15 41 56.2 +0.1
JAR Ashorobuto 1.54 281 A A 15 41 36.8
comp=E,5.0nm,1.2s,comp=N,5.0nm,0.7s
JTKR Abashiri--Toko 1.69 304 *i* P Pn **15 41 39.3 +0.4**
JTKR S Sn 15 42 00.6 +0.9
JCH Churui 1.88 258 *i* P Pn **15 41 40.8 -0.6**
JCH S Sn 15 42 03.1 -1.0
ERM Erimo 2.23 244 Pn Pn **15 41 47.1 +0.9**
ERM Sn Sn 15 42 11.3 -1.4
JKA Kamikawa-asahi 2.59 296 Pn Pn **15 41 51.9 +0.8**
JKA Sn Sn 15 42 20.7 -0.8
ASAJ Asahikawa 2.60 296 P Pn **15 41 52.6 +1.4**
comp=N,95nm,0.4s,baz=113,slow=11,SNR=350
ASAJ S Sn **15 42 18.8 -2.8**
comp=N,73nm,0.5s,baz=115,slow=6.3,SNR=5.7
ASAJ LR LR 15 43 11.4
comp=N,92nm,21.8s,baz=110,slow=46
KUR Kuril'sk 2.64 33 *e*P Pn **15 41 52.5 +0.8**
KUR AMB AMB 15 41 53.0
comp=N,70nm,0.3s
KUR *i* S Sn **15 42 22.6 +0.1**
KUR A A 15 42 26.7
comp=N,220nm,0.3s
KUR A A 15 42 26.7
comp=N,350nm,0.3s
JTM Tenmabayashi 4.21 239 Pn Pn **15 42 13.0 -0.2**
JTM Sn Sn **15 42 56.7 -4.4**
YSS Yuzh-Sakhalins 4.49 332 Pn Pn **15 42 14.4 -2.6**
YSS Yuzh-Sakhalins 4.49 332 *i* P Pn **15 42 18.2 +1.2**
YSS AMB AMB 15 42 19.9
comp=N,20nm,0.5s
YSS *e*S Sn **15 43 07.6 -0.3**
YSS A A 15 43 11.1
comp=N,20nm,0.6s
YSS A A 15 43 11.1
comp=N,20nm,0.6s
JMM Marumori 6.44 218 Pn Pn **15 42 42.4 -1.3**
JSD Sado 7.63 232 Pn Pn **15 43 02.8 +2.8**
MJAR Matsushiro Arr 8.75 225 P Pn **15 43 18.0 +2.7**
comp=N,0.4nm,0.4s,baz=28,slow=11,SNR=1.6
KLR Kul'dur 11.57 307 P Pn **15 43 57.2 +3.6**
comp=N,0.8nm,0.5s,baz=115,slow=18,SNR=1.9
KLR LR LR 15 48 14.5
comp=N,34nm,18.1s,baz=81,slow=37
PETK Petropavlovsk- 12.80 34 P Pn **15 44 10.1 -0.3**
comp=N,1.8nm,0.8s,baz=215,slow=12,SNR=1.2
SEY Seymchan 20.30 9 P P **15 45 39.0 -2.5**
comp=N,0.8nm,0.5s,baz=83,slow=22,SNR=7.0
comp=N,0.8nm,0.5s
YAK Yakutsk 21.30 339 P P **15 45 50.5 -1.7**
comp=N,4.6nm,0.2s,baz=135,slow=4.0,SNR=7.7
comp=N,4.6nm,0.2s
HHC Hu-ho-hao-te 25.49 277 *e*P P **15 46 32.5 -1.0**
HHC pmax pmax
comp=Z,18nm,0.6s
HHC pmax pmax
comp=Z,74nm,5.0s
SONM Songino Array 27.88 294 P P **15 46 54.7 -0.2**
SONM lAmb lAmb 15 46 55.8
comp=Z,4.2nm,0.7s
SONM Songino Array 27.88 294 P P **15 46 54.6 -0.2**
comp=Z,5.2nm,0.6s,baz=86,slow=8.5,SNR=41
comp=Z,5.2nm,0.6s
H11N2 WAKE ISLAND Hy 29.21 136 T T 16 18 03.6
baz=328,slow=75,SNR=458
H11N1 WAKE ISLAND Hy 29.22 136 T T 16 18 10.1
baz=328,slow=75,SNR=415
H11N3 WAKE ISLAND Hy 29.23 136 T T 16 18 08.4
baz=328,slow=75,SNR=452
H11S1 WAKE ISLAND Hy 30.15 138 T T 16 19 15.5
baz=329,slow=76,SNR=505
H11S3 WAKE ISLAND Hy 30.15 138 T T 16 19 18.5
baz=329,slow=76,SNR=410
H11S2 WAKE ISLAND Hy 30.16 138 T T 16 19 20.3
baz=329,slow=76,SNR=419
HKPS Hong Kong Po S 33.48 242 P P **15 47 44.5 +0.2**
ANM Nome 34.72 35 P P **15 47 54.7 +0.1**
ANM lAmb lAmb 15 48 25.8
comp=Z,3.5nm,1.2s
J14K Nanvaranak Lak 35.13 38 P P **15 47 58.3 +0.2**
J14K lAmb lAmb 15 48 02.0
comp=Z,7.1nm,1.4s
F15K North Star Dit 35.31 33 P P **15 48 00.5 +0.8**
F15K lAmb lAmb 15 48 19.9
comp=Z,6.1nm,1.4s
C16K Lisburne Hills 35.82 29 P P **15 48 04.2 +0.2**
C16K lAmb lAmb 15 48 36.8
comp=Z,7.2nm,1.5s
G16K Koyuk River 36.16 34 P P **15 48 07.4 +0.5**
G16K lAmb lAmb 15 48 46.6
comp=Z,4.4nm,1.4s
N15K Kwethluk River 36.48 43 P P **15 48 10.7 +0.9**
N15K lAmb lAmb 15 48 51.1
comp=Z,4.2nm,1.1s
F17K Baldwin Pennin 36.83 32 P P **15 48 12.9 +0.3**
F17K lAmb lAmb 15 48 13.6
comp=Z,2.7nm,1.1s
C18K Utukok River 37.39 29 P P **15 48 17.1 -0.4**
C18K lAmb lAmb 15 48 46.1
comp=Z,6.3nm,1.5s
G18K Tagagawik 37.76 34 P P **15 48 20.9 +0.3**
G18K lAmb lAmb 15 48 21.9
comp=Z,2.9nm,1.1s
H18K Honhosa River 37.77 35 P P **15 48 21.0 +0.4**
H18K lAmb lAmb 15 48 22.7
comp=Z,2.7nm,0.8s
G19K Purcell Mounta 38.43 33 P P **15 48 25.6 -0.6**
G19K lAmb lAmb 15 48 27.0
comp=Z,3.5nm,1.1s
E19K Redstone River 38.58 31 P P **15 48 27.4 0.0**
H19K Roundabout Mou 38.62 34 P P **15 48 28.4 +0.7**
P18K Big Mountain, 38.93 44 P P **15 48 30.6 +0.2**
P18K lAmb lAmb 15 48 39.4
comp=Z,7.6nm,1.2s
B20K Meade River 39.12 27 P P **15 48 31.3 -0.5**
B20K lAmb lAmb 15 48 32.1
comp=Z,4.4nm,1.1s
PZH PanZhiHua 39.32 260 P P **15 48 35.5 +1.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,40nm,5.5s
J20K Nowinta River 39.48 37 P P **15 48 35.7 +0.7**
J20K lAmb lAmb 15 48 42.3
comp=Z,3.4nm,1.2s
IMAR Indian Mountai 39.77 34 P P **15 48 37.7 +0.4**
B21K Ikpikpuk River 39.91 28 P P **15 48 38.5 +0.2**
G21K Allakaket 39.91 33 P P **15 48 39.1 +0.6**
G21K lAmb lAmb 15 48 39.9
comp=Z,3.0nm,1.1s
H21K Melozitna River 40.13 34 P P **15 48 40.2 -0.2**
D22K Ayikyak River 40.48 29 P P **15 48 43.2 +0.1**
ZALV Zalesovo Beam 40.68 307 P P **15 48 44.0 -1.0**
comp=Z,1.1nm,0.3s,baz=92,slow=9.4,SNR=6.7
ZALV PcP PcP **15 50 44.9 -0.5**
comp=Z,0.6nm,0.5s,baz=64,slow=6.6,SNR=2.2
comp=Z,1.1nm,0.3s
E22K Anaktuvuk Pass 40.72 31 P P **15 48 45.4 +0.2**
C23K Itkillik River 41.32 28 P P **15 48 49.9 -0.1**
WMQ Urumqi 41.48 292 *e*P P **15 48 53.3 +1.6**
WMQ sP sP 15 49 22.0 +5.8
WMQ pmax pmax
comp=Z,19nm,0.8s
I23K Minto, Yukon-K 41.56 35 P P **15 48 53.2 +1.2**
NEA2 Nenana 41.69 36 P P **15 48 53.6 +0.4**
NEA2 lAmb lAmb 15 48 55.6
comp=Z,2.5nm,0.8s
MDM Murphy Dome 42.05 35 P P **15 48 56.8 +0.7**
WRH Wood River Hil 42.12 36 P P **15 48 58.4 +1.7**
F24K Squaw Lake 42.17 32 P P **15 48 57.5 +0.5**
DHY Denali Highway 42.52 38 P P **15 49 00.4 +0.4**
DHY lAmb lAmb 15 49 11.9
comp=Z,8.5nm,1.5s
IL31 42.63 36 P P **15 49 01.1 +0.5**
ILAR Eielson Array 42.63 36 P P **15 49 00.7 0.0**
ILAR Eielson Array 42.63 36 P P **15 49 01.1 +0.3**
comp=Z,1.1nm,0.8s,baz=277,slow=9.1,SNR=15
comp=Z,1.1nm,0.8s
E25K Arctic Village 43.05 31 P P **15 49 05.5 +1.3**
PRP Porcupine Dome 43.16 35 P P **15 49 06.2 +1.0**
PRP lAmb lAmb 15 49 07.7
comp=Z,2.9nm,0.8s
M24K Tolsona, Glenn 43.17 40 P P **15 49 06.3 +1.1**
FYU Fort Yukon 43.22 33 P P **15 49 06.8 +1.3**
FYU lAmb lAmb 15 49 07.3
comp=Z,3.1nm,0.6s
BMAR Burnt Mountain 43.44 32 P P **15 49 08.3 +0.9**
RIDG Independent Ri 43.59 37 P P **15 49 10.1 +1.5**
RIDG lAmb lAmb 15 49 35.9
comp=Z,8.2nm,1.5s
J26L Joseph Creek 44.07 36 P P **15 49 13.4 +0.9**
J26L lAmb lAmb 15 49 24.2
comp=Z,4.6nm,1.4s
MK31 Makanchi Array 44.08 298 P P **15 49 12.6 -0.1**
MK31 lAmb lAmb 15 49 13.2
comp=Z,4.8nm,1.3s
MKAR Makanchi Array 44.08 298 P P **15 49 12.5 -0.2**
comp=Z,1.5nm,0.5s,baz=81,slow=9.3,SNR=36
MKAR PcP PP **15 50 56.7 +0.4**
comp=Z,0.1nm,0.3s,baz=70,slow=1.7,SNR=1.3
comp=Z,1.5nm,0.5s
MAKZ Makanchi 44.27 298 P P **15 49 14.0 -0.2**
MAKZ lAmb lAmb 15 49 15.6
comp=Z,4.7nm,1.2s
VRDI Verde Repeater 44.58 41 P P **15 49 16.9 +0.2**
VRDI lAmb lAmb 15 49 57.1
comp=Z,5.9nm,1.4s
BERG Berg Lake 44.60 42 P P **15 49 17.3 +0.7**
BERG lAmb lAmb 15 49 50.6
comp=Z,5.5nm,1.0s
G27K Doyon Strip 44.63 33 P P **15 49 17.6 +0.7**
K27K Chicken 44.78 36 P P **15 49 18.6 +0.6**
WAX Waxell Ridge 45.00 42 P P **15 49 20.9 +1.0**
WAX lAmb lAmb 15 49 41.3
comp=Z,11nm,1.4s
L27K Beaver Creek, 45.03 38 P P **15 49 21.0 +0.9**
BCAR Beaver Creek A 45.05 38 P P **15 49 21.1 +0.9**
M27K Edge Creek, AK 45.12 39 P P **15 49 22.1 +1.2**
KURK Kurchatov 45.14 304 P P **15 49 20.5 -0.6**
ISLE Juniper Island 45.22 41 P P **15 49 22.2 +0.4**
ISLE lAmb lAmb 15 49 50.4
comp=Z,7.5nm,1.3s
KURBB Kurchatov Arra 45.23 304 P P **15 49 21.4 -0.3**
comp=Z,7.0nm,0.7s,baz=71,slow=8.7,SNR=55
KURBB PcP PcP **15 51 00.2 -0.4**
comp=Z,0.3nm,0.5s,baz=83,slow=3.7,SNR=2.3
comp=Z,7.0nm,0.7s
BARN Barnard Glacie 45.46 41 P P **15 49 24.3 +0.7**
BARN lAmb lAmb 15 49 32.5
comp=Z,7.3nm,1.4s
I28M Miner Creek 45.48 34 P P **15 49 24.7 +1.0**
I28M lAmb lAmb 15 49 26.5
comp=Z,4.0nm,0.6s
CTGM Chitina Glacie 45.63 41 P P **15 49 25.7 +0.7**
CTGM lAmb lAmb 15 49 46.4
comp=Z,6.5nm,1.5s
E29M Blow River 45.88 30 P P **15 49 27.9 +1.2**
H29M Whitestone 46.01 33 P P **15 49 29.3 +1.6**
H29M lAmb lAmb 15 49 29.5
comp=Z,5.6nm,1.4s
G29M Pine Creek 46.04 32 P P **15 49 29.4 +1.4**
G29M lAmb lAmb 15 49 30.4
comp=Z,3.2nm,1.1s
L29M L29M 46.68 37 P P **15 49 34.5 +1.5**
L29M lAmb lAmb 15 50 09.9
comp=Z,4.8nm,1.3s
G30M tAoh Zrail Nji 46.73 32 P P **15 49 33.7 +0.3**
I30M Mount Dempster 46.99 34 P P **15 49 36.3 +0.7**
I30M lAmb lAmb 15 49 38.1
comp=Z,3.9nm,0.6s
J30M Hart River 47.15 35 P P **15 49 37.5 +0.7**
M30M Minto, Yukon 47.39 38 P P **15 49 39.8 +1.2**
M30M lAmb lAmb 15 50 11.4
comp=Z,3.7nm,1.4s
G31M Satah River 47.49 32 P P **15 49 39.0 -0.2**
G31M lAmb lAmb 15 49 41.7
comp=Z,5.3nm,1.4s
H31M Peel River 47.70 33 P P **15 49 41.9 +0.9**
H31M lAmb lAmb 15 49 43.6
comp=Z,2.7nm,0.7s
BVAR Borovoye Array 49.22 309 P P **15 49 52.7 -0.1**
comp=Z,1.5nm,0.4s,baz=79,slow=8.8,SNR=13
comp=Z,1.5nm,0.4s
AAK Ala-Archa 50.81 296 P P **15 50 05.5 +0.4**
AAK lAmb lAmb 15 50 36.6
comp=Z,1.6nm,0.8s
ARSB Arslanbob 52.41 295 P P **15 50 17.5 +0.4**
EUNU Eureka 53.73 10 P P **15 50 25.6 -0.5**
EUNU lAmb lAmb 15 50 26.1
comp=Z,3.0nm,0.7s
ARU Arti 54.22 317 P P **15 50 29.3 -0.6**
SPA2 Spitsbergen Ar 55.30 349 P P **15 50 37.2 -0.3**
SPB3 Spitsbergen Ar 55.31 349 P P **15 50 37.2 -0.3**
GAR Garm 55.32 293 P P **15 50 37.7 -0.6**
GAR lAmb lAmb 15 51 04.9
comp=Z,6.2nm,1.3s
RES Resolute Bay 55.92 16 P P **15 50 41.6 -0.2**
ABKAR Akbulak array 56.77 309 P P **15 50 48.1 -0.2**
YKA Yellowknife Ar 56.92 33 P P **15 50 49.2 +0.1**
comp=Z,0.1nm,0.4s,baz=305,slow=7.2,SNR=2.2
comp=Z,0.1nm,0.4s
ARCES ARCESS Array B 59.59 339 P P **15 51 07.6 -0.1**
ARCES ARCESS Array B 59.59 339 P P **15 51 07.2 -0.4**
comp=Z,7.0nm,1.1s,baz=32,slow=7.1,SNR=6.1
comp=Z,7.0nm,1.1s
WRA Warramunga Arr 63.55 192 P P **15 51 34.5 -0.4**
comp=Z,0.4nm,0.9s,baz=9.0,slow=6.7,SNR=2.9
comp=Z,0.4nm,0.9s
FIA1 FINESS Array S 65.08 333 P P **15 51 43.7 -0.7**
FINES FINESS Array B 65.08 333 P P **15 51 43.5 -0.9**
FINES FINESS Array B 65.08 333 P P **15 51 43.8 -0.6**
comp=Z,7.4nm,0.5s,baz=44,slow=7.6,SNR=126
comp=Z,7.4nm,0.5s
ASAR Alice Springs 67.27 192 P P **15 51 59.4 +0.5**
comp=Z,0.1nm,0.6s,baz=11,slow=5.9,SNR=4.3
ASAR LR LR 16 23 25.0
comp=Z,549nm,18.3s,baz=35,slow=38
comp=Z,0.1nm,0.6s
KBZ Khabaz 69.56 311 P P **15 52 12.4 -0.6**
comp=Z,1.9nm,0.7s,baz=45,slow=8.6,SNR=4.1
comp=Z,1.9nm,0.7s
NC405 NORSAR Array S 69.73 338 P P **15 52 13.2 -0.6**
NC204 NORSAR Array S 69.85 339 P P **15 52 14.1 -0.5**
NB201 NORSAR Array S 69.89 338 P P **15 52 14.7 -0.1**
NB2 NORSAR Subarra 69.92 338 P P **15 52 14.3 -0.7**
comp=Z,2.3nm,0.7s,baz=34,slow=6.5
NOA NORSAR Array B 69.92 338 P P **15 52 14.6 -0.5**
comp=Z,1.8nm,0.7s,baz=34,slow=6.2,SNR=13
comp=Z,1.8nm,0.7s
HFS Hagfors 69.98 337 P P **15 52 15.0 -0.3**
comp=Z,3.3nm,0.6s,baz=48,slow=6.6,SNR=13
comp=Z,3.3nm,0.6s
NBO00 NORSAR Array S 70.05 339 P P **15 52 15.7 -0.1**
PDAR Pinedale Array 71.10 49 P P **15 52 22.6 -0.2**
AKASG Malin Array Be 71.59 323 P P **15 52 24.8 -0.5**
comp=Z,1.0nm,0.5s,baz=42,slow=6.6,SNR=9.0
comp=Z,1.0nm,0.5s
H03N2 Juan Fernandez 143.92 90 T T 18 41 39.9
baz=301,slow=76,SNR=3.7
H03N3 Juan Fernandez 143.93 90 T T 18 41 42.5
baz=301,slow=76,SNR=4.2
H03N1 Juan Fernandez 143.93 90 T T 18 41 41.7
baz=301,slow=76,SNR=6.3

IDC ***29*** *15:57:25.7±2.3, 16°.47S×168°.35E, h0km, mb3.7/3, mbtmp3.8/4, ML3.5/1, Error ellipse: s-maj=56.4km s-min=31.2km az=117.0*
NEIC ***29*** *15:57:50.0±2.6, 19°.1S±0°.1×169°.5E±0°.1, h220km±13km, mb4.0/6, Error ellipse: s-maj=20.6km s-min=17.3km az=160.0*

ISC 29 15:57:49.0±1.0, 19°.1S±0°.1×169°.5E±0°.1, h250km, n18,
σ2s06/18, mb3.9/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**2.67**	**231**	Pn	**Pn**	**15 58 38.3**	**+0.3**
MARNC	**Mare, Loyalty**	**2.73**	**209**		**Pn**	**15 58 38.1**	**-0.5**
PINNC	**Pines Island,**	**3.98**	**208**	Pn	**Pn**	**15 58 53.5**	**+1.0**
DZM	**Mont Dzumac**	**4.09**	**223**	Pn	**Pn**	**15 58 55.2**	**+1.3**
DZM	**Mont Dzumac**	**4.09**	**223**	Pn	**Pn**	**15 58 55.6**	**+1.6**
DZM				Sn	S	16 00 00.3	+15

baz=314,slow=23
7.2nm,0.5s

OUENC	**Ouen Island, N**	**4.12**	**216**	Pn	**Pn**	**15 58 55.4**	**+1.2**
ONTNC	**Ouen Toro**	**4.26**	**221**	Pn	**Pn**	**15 58 57.4**	**+1.6**
KOUNC	**Koumac, New Ca**	**5.07**	**252**		**Pn**	**15 59 07.0**	**+1.4**
RTZ	**Ruatahuna**	**20.53**	**163**	P	**P**	**16 02 09.0**	**+0.3**
WR0	**Warramunga Arr**	**32.88**	**263**	P	**P**	**16 03 57.9**	**-2.1**
WR0				lAmb	lAmb	16 04 04.8	

comp=Z,7.4nm,1.4s

WB0	**Warramunga Arr**	**33.03**	**263**	P	**P**	**16 03 58.6**	**-2.7**
WRA	**Warramunga Arr**	**33.07**	**263**	P	**P**	**16 03 59.0**	**-2.6**

comp=Z,0.4nm,0.8s,baz=90,slow=7.9,SNR=8.4
comp=Z,0.4nm,0.8s

AS31	**Alice Springs**	**33.36**	**256**	P	**P**	**16 04 02.5**	**-1.6**
AS31				lAmb	lAmb	16 04 02.9	

comp=Z,1.3nm,0.5s

ASAR	**Alice Springs**	**33.36**	**256**	P	**P**	**16 04 02.1**	**-1.9**
ASAR	**Alice Springs**	**33.36**	**256**	P	**P**	**16 04 02.4**	**-1.7**

comp=Z,1.8nm,0.5s,baz=80,slow=9.0,SNR=72
comp=Z,1.8nm,0.5s

DAV	**Davao City (W)**	**50.44**	**297**	P	**P**	**16 06 24.1**	**+2.3**
KEKH	**Kekaha**	**50.75**	**38**	P	**P**	**16 06 26.6**	**+2.7**
ILAR	**Eielson Array**	**90.03**	**17**	P	**P**	**16 10 16.4**	**-3.4**

comp=Z,0.4nm,0.9s,baz=212,slow=6.4,SNR=2.3
comp=Z,0.4nm,0.9s

IDC ***29*** *16:00:04.8±3.5, 47°.34N×93°.33W, h0km, mbtmp2.8/2, ML0.7/1, Error ellipse: s-maj=36.4km s-min=16.4km az=97.0*
NEIC ***29*** *16:00:04.7±1.5, 47°.44N±0°.02×93°.10W±0°.03, h0km±2km, mb_Lg2.9/23, ML2.7/6, Error ellipse: s-maj=4.2km s-min=3.1km az=237.0*

ISC 29 16:00:02.4±0.9, 47°.44N±0°.04×93°.20W±0°.04, h0km, n27,
σ1s77/21, Minnesota

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
B35A	**Bob, Littlefor**	**0.98**	**339**		**Pb**	**16 00 23.6**	**+1.2**
B35A				Sg	**Sb**	**16 00 36.5**	**+0.6**
B35A				IAML		16 00 39.0	

comp=E,217nm,1.3s

B35A				IAML		16 00 43.1	

comp=N,156nm,1.2s

EYMN	**Ely**	**1.26**	**66**		**Pg**	**16 00 25.7**	**-0.8**
EYMN				Sg	**Sg**	**16 00 42.8**	**0.0**
EYMN				IAML		16 00 48.5	

comp=N,117nm,1.9s

E38A	**The Farm, Brul**	**1.40**	**126**		**Pg**	**16 00 28.6**	**-0.7**
E38A				IAML		16 00 54.0	

comp=E,242nm,0.3s

F36A	**Milaca**	**1.60**	**188**		**Pn**	**16 00 33.0**	**+1.1**
AGMN	**Agassiz Nation**	**1.98**	**297**		**Pn**	**16 00 39.1**	**+1.9**
AGMN				lAmb_Lg		16 01 07.8	

comp=Z,60nm,1.0s

SPMN	**Marine on St.**	**2.24**	**173**		**Pn**	**16 00 42.8**	**+2.1**
SPMN				lAmb_Lg		16 01 15.0	

comp=Z,33nm,0.8s

F33A	**5 Mile Ranch,**	**2.67**	**234**		**Pn**	**16 00 49.1**	**+2.5**
G40A	**Rib Lake**	**3.01**	**135**		**Pn**	**16 00 53.8**	**+2.4**
COWI	**Conover**	**3.10**	**114**		**Pn**	**16 00 53.1**	**+0.5**
D41A	**Chassel**	**3.18**	**95**	Pn	**Pn**	**16 00 55.0**	**+1.3**
ULM	**Lac du Bonnet**	**3.32**	**329**	Pn	**Pn**	**16 00 55.9**	**+0.4**
ULM					**Sn**	**16 01 37.3**	**+1.6**
ULM				lAmb_Lg		16 01 50.7	

comp=Z,25nm,0.8s

ULM	**Lac du Bonnet**	**3.32**	**329**	Pn	**Pn**	**16 00 57.8**	**+2.2**

comp=Z,0.1nm,0.3s,baz=149,slow=12,SNR=1.7

ULM				Pg	**Pg**	**16 01 05.4**	**-0.6**

comp=Z,0.7nm,0.3s,baz=147,slow=17,SNR=7.5

ULM				Sn	**Sn**	**16 01 32.8**	**-2.9**

comp=Z,0.3nm,0.3s,baz=104,slow=21,SNR=2.1

ULM				Lg	Lg	16 01 47.2	

comp=Z,2.1nm,0.3s,baz=147,slow=15,SNR=22
comp=Z,0.8nm,0.6s

I10CA	**LAC DU BONNET**	**3.33**	**327**	I	I	16 21 30.0	

comp=Z,0.1nm,1.0s,baz=139,slow=342,SNR=4.1

I37A	**Lemond, Waseca**	**3.43**	**182**		**Pn**	**16 00 59.5**	**+2.3**
F42A	**Maple Grove Fa**	**3.88**	**114**	lAmb_Lg		16 02 05.4	

comp=Z,28nm,1.1s

E43A	**Lone Tree Farm**	**4.38**	**102**	Pn	**Pn**	**16 01 11.3**	**+1.1**
ECSD	**EROS Data Cent**	**4.42**	**214**	Pn	**Pn**	**16 01 10.6**	**-0.1**
ECSD				lAmb_Lg		16 02 23.5	

comp=Z,16nm,1.0s

I42A	**Draeger Farm,**	**4.65**	**138**	lAmb_Lg		16 02 31.6	

comp=Z,16nm,1.1s

JFWS	**Jewell Farm**	**4.99**	**154**	lAmb_Lg		16 02 38.1	

comp=Z,15nm,1.0s

E28A	**Huff**	**5.20**	**263**	lAmb_Lg		16 02 58.8	

comp=Z,23nm,1.0s

L34A	**Svendsen Farm,**	**5.92**	**204**	lAmb_Lg		16 03 19.7	

comp=Z,22nm,0.9s

N38A	**Joes South For**	**6.65**	**180**	lAmb_Lg		16 03 41.2	

comp=Z,17nm,1.0s

M44A	**Midewin, Midew**	**7.09**	**147**	lAmb_Lg		16 03 48.9	

comp=Z,18nm,1.1s

J47A	**Sumner**	**7.25**	**122**	lAmb_Lg		16 04 04.0	

comp=Z,13nm,1.0s

FFC	**Flin Flon**	**9.14**	**326**	lAmb_Lg		16 05 00.8	

comp=Z,11nm,1.3s

PDAR	**Pinedale Array**	**12.46**	**254**	Pn	**Pn**	**16 02 58.5**	**-2.7**

comp=Z,0.3nm,0.4s,baz=73,slow=12,SNR=3.5

PDAR				Lg	Lg	16 06 27.1	

baz=65,slow=31,SNR=2.2

YKA	**Yellowknife Ar**	**19.30**	**329**	Lg	Lg	16 10 01.1	

baz=134,slow=28,SNR=3.8

IDC ***29*** *16:06:41.4±0.5, 6°.27S×143°.32E, h0km, mb4.7/16, mbtmp4.7/19, ML3.4/2, MS4.2/34, Error ellipse: s-maj=24.4km s-min=12.9km az=82.0*
MOS ***29*** *16:06:41.5±1.1, 6°.35S×143°.17E, h10km, mb5.1/36, MS4.1/4, Error ellipse: s-maj=10.7km s-min=6.3km az=103.9*
NEIC ***29*** *16:06:43.5±2.3, 6°.32S±0°.05×143°.15E±0°.06, h10km±1km, mb5.0/198, Error ellipse: s-maj=11.3km s-min=6.2km az=121.0*
GCMT ***29*** *16:06:45.5±0.1, 6°.30S±0°.01×143°.13E±0°.01, h12km, MW5.0/114, Moment Tensor Solution. s62,c84; s114,c194; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-0.78±.08; Mθθ 1.12±.07; Mϕϕ-0.34±.08; Mrθ-0.94±.19; Mθϕ 3.64±.05; Mϕr 0.19±.21; Best double couple: Mo3.85200×10^16^ NP1:ϕs95.00000°, δ84.00000°, λ-16.00000°. NP2:ϕs186.00000°, δ74.00000°, λ-174.00000°. Principal axes: T 4.1770, Plg7.0000°, Azm141.0000°; N -0.6470, Plg73.0000°, Azm255.0000°; P -3.5270, Plg15.0000°, Azm49.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***29*** *16:06:46.0±0.2, 6°.5S±2°×14°.3E±°, h10km, M5.0/61, mb5.0/61, mB5.4/26, MLv5.5/7, Mw(mB)4.8/26, MwMwp5.4/2, Mwp5.6/2*

ISC 29 16:06:43.6±0.3, 6°.42S±0°.04×143°.26E±0°.04, h10km, n616,
σ1s65/558, mb5.0/170, MS4.3/49, 14C-5D, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**2.32**	**299**	P	**Pn**	**16 07 21.2**	**-0.8**
MMPI	**Merauke**	**3.50**	**234**	P	**Pn**	**16 07 39.9**	**+1.7**
JAY	**Jayapura**	**4.64**	**327**	P	**Pn**	**16 07 54.1**	**+0.2**
JAY				S	Sb	16 08 50.8	-10
PMG	**Port Moresby**	**4.88**	**128**	P	**Pn**	**16 07 58.1**	**+0.9**
PMG	**Port Moresby**	**4.88**	**128**	P	**Pn**	**16 07 58.0**	**+0.9**
PMG	**Port Moresby**	**4.88**	**128**	Pn	**Pn**	**16 07 57.6**	**+0.5**
PMG	**Port Moresby**	**4.88**	**128**	*e*P	**Pn**	**16 07 57.8**	**+0.7**
PMG				pmax	pmax		

comp=Z,141nm,0.8s

PMG	**Port Moresby**	**4.88**	**128**	Pn	**Pn**	**16 07 57.4**	**+0.3**

comp=Z,26nm,0.3s,baz=8.2,slow=3.1,SNR=118

PMG				Sn	**Sn**	**16 08 52.8**	**-0.8**

comp=Z,27nm,0.3s,baz=198,slow=23,SNR=5.7
comp=Z,143nm,0.6s

GENI	**Genyem**	**4.89**	**321**	P	**Pn**	**16 07 58.0**	**+0.7**
GENI	**Genyem**	**4.89**	**321**	P	**Pn**	**16 07 58.3**	**+1.0**
GENI				S	**Sn**	**16 08 56.9**	**+2.9**
MANU	**Manus Island**	**5.97**	**44**	P	**Pn**	**16 08 14.1**	**+1.9**
MANU	**Manus Island**	**5.97**	**44**	Pn	**Pn**	**16 08 12.8**	**+0.6**
COEN	**Coen**	**7.49**	**181**	P	**Pn**	**16 08 35.5**	**+2.4**

baz=7.5,SNR=40

COEN	**Coen**	**7.49**	**181**	P	**Pn**	**16 08 35.8**	**+2.7**

COEN	**Coen**	**7.49**	**181**	Pn		**Pn**	**16 08 34.9**	**+1.7**	
RABL	**Rabaul**	**9.14**	**76**	Pn		**Pn**	**16 08 57.0**	**+1.2**	
FAKI	**Fak Fak**	**11.51**	**287**	P		**Pn**	**16 09 26.6**	**-1.6**	
FAKI	**Fak Fak**	**11.51**	**287**	Pn		**Pn**	**16 09 25.6**	**-2.5**	
FAKI	**Fak Fak**	**11.51**	**287**	P		**Pn**	**16 09 28.0**	**-0.2**	
	comp=Z,63nm,0.7s,comp=Z,887nm								
MTSU	**Mount Surprise**	**11.69**	**175**	P		**Pn**	**16 09 33.9**	**+3.2**	
	baz=12,SNR=11								
MTSU	**Mount Surprise**	**11.69**	**175**	P		**Pn**	**16 09 33.2**	**+2.5**	
SAUI	**Saumlaki**	**11.96**	**262**	P		**Pn**	**16 09 34.3**	**-0.1**	
SAUI	**Saumlaki**	**11.96**	**262**			**Pn**	**16 09 32.8**	**-1.6**	
SAUI	**Saumlaki**	**11.96**	**262**	P		**Pn**	**16 09 34.9**	**+0.5**	
	comp=Z,531nm,0.8s,comp=Z,5μm								
KDU	**Kakadu**	**12.32**	**239**	P		**Pn**	**16 09 36.9**	**-2.4**	
	baz=12,SNR=173								
KDU	**Kakadu**	**12.32**	**239**	P		**Pn**	**16 09 37.8**	**-1.5**	
SWI	**Sorong**	**13.18**	**294**	P		**Pn**	**16 09 50.5**	**-0.5**	
	comp=Z,59nm,0.9s								
BNDI	**Bandanaira**	**13.42**	**277**	P		**Pn**	**16 09 56.7**	**+2.4**	
	comp=Z,294nm,1.2s,comp=Z,6μm								
MTN	**Manton Dam**	**13.55**	**241**	P		**Pn**	**16 09 53.6**	**-2.4**	
	baz=13,SNR=114								
MTN	**Manton Dam**	**13.55**	**241**	P		**Pn**	**16 09 53.8**	**-2.2**	
MTN	**Manton Dam**	**13.55**	**241**			**Pn**	**16 09 53.6**	**-2.4**	
DRS	**Darwin Rock St**	**13.57**	**243**	P		**Pn**	**16 09 56.4**	**0.0**	
	comp=Z,77nm,0.6s								
CTAO	**Charters Tower**	**13.90**	**168**	Pn		**Pn**	**16 10 01.2**	**+0.3**	
CTAO	**Charters Tower**	**13.90**	**168**	P		**Pn**	**16 10 01.2**	**+0.3**	
QIS	**Mount Isa**	**14.49**	**194**	P		**Pn**	**16 10 10.1**	**+1.1**	
	baz=14,SNR=11								
QIS	**Mount Isa**	**14.49**	**194**	P		**Pn**	**16 10 10.7**	**+1.6**	
WB0	**Warramunga Arr**	**15.82**	**212**	Pn		**Pn**	**16 10 24.7**	**-2.0**	
WR0	**Warramunga Arr**	**15.90**	**211**			**Pn**	**16 10 25.5**	**-2.2**	
WRAB	**Tennant Creek**	**15.98**	**212**	P		**Pn**	**16 10 25.7**	**-3.0**	
WRAB	**Tennant Creek**	**15.98**	**212**	P		**Pn**	**16 10 25.7**	**-3.0**	
WRAB				pmax		pmax			
	comp=Z,52nm,0.9s								
WB2	**Warramunga Arr**	**15.99**	**212**	Pn		**Pn**	**16 10 26.9**	**-1.9**	
WRA	**Warramunga Arr**	**15.99**	**212**	Pn		**Pn**	**16 10 26.1**	**-2.8**	
WRA	**Warramunga Arr**	**15.99**	**212**	*i* P		**Pn**	**16 10 27.2**	**-1.7**	
WRA				pmax		pmax			
	comp=Z,49nm,1.0s								
WRA	**Warramunga Arr**	**15.99**	**212**	Pn		**Pn**	**16 10 26.3**	**-2.6**	
	comp=Z,1.9nm,0.3s,baz=34,slow=13,SNR=103								
WRA				Sn		**Sn**	**16 13 17.9**	**-8.6**	
	comp=Z,0.9nm,0.3s,baz=26,slow=23,SNR=2.0								
WRA				Lg		Lg	16 15 03.9		
	comp=Z,0.2nm,0.3s,baz=35,slow=25,SNR=2.8								
WRA				LR		LR	16 16 10.6		
	comp=Z,2μm,20.4s,baz=10.0,slow=35								
NLAI	**Namlea**	**16.40**	**280**	P		**P**	**16 10 37.1**	**+0.1**	
	comp=Z,40nm,0.8s								
LBMI	**Labuha**	**16.73**	**289**	P		**P**	**16 10 41.4**	**+0.7**	
	comp=Z,66nm,1.0s,comp=Z,2μm								
HNR	**Honiara**	**16.80**	**101**	P		**Pn**	**16 10 40.5**	**+1.2**	
HNR	**Honiara**	**16.80**	**101**	P		**Pn**	**16 10 40.5**	**+1.2**	
HNR				pmax		pmax			
	comp=Z,396nm,1.6s								
HNR	**Honiara**	**16.80**	**101**	Pn		**Pn**	**16 10 40.7**	**+1.5**	
	comp=Z,53nm,0.3s,baz=162,slow=7.4,SNR=14								
KNRA	**Kununurra**	**16.93**	**236**	P		**Pn**	**16 10 39.1**	**-1.7**	
	baz=17,SNR=109								
KNRA	**Kununurra**	**16.93**	**236**	P		**Pn**	**16 10 39.3**	**-1.5**	
KNRA	**Kununurra**	**16.93**	**236**			**Pn**	**16 10 37.7**	**-3.1**	
KNRA				IAmb		IAmb	16 10 44.0		
	comp=Z,143nm,0.8s								
TNTI	**Ternate**	**17.39**	**294**	P		**P**	**16 10 48.5**	**+0.5**	
	comp=Z,47nm,1.4s								
SANI	**Sanana**	**17.75**	**283**	P		**P**	**16 10 54.5**	**+2.5**	
	comp=Z,34nm,0.7s								
SOEI	**Soe**	**19.09**	**259**	Pn		**Pn**	**16 11 06.3**	**-1.2**	
SOEI				IAmb		IAmb	16 11 14.3		
	comp=Z,114nm,1.0s								
SOEI	**Soe**	**19.09**	**259**	P		**Pn**	**16 11 09.4**	**+1.8**	
	comp=Z,310nm,1.0s,comp=Z,3μm								
AS31	**Alice Springs**	**19.36**	**207**	Pn		**Pn**	**16 11 11.1**	**+0.3**	
ASAR	**Alice Springs**	**19.36**	**207**	P		**Pn**	**16 11 11.2**	**+0.4**	
ASAR	**Alice Springs**	**19.36**	**207**	P		**Pn**	**16 11 11.2**	**+0.4**	
ASAR	**Alice Springs**	**19.36**	**207**	P		**Pn**	**16 11 12.1**	**+1.3**	
	comp=Z,70nm,0.8s,baz=32,slow=9.8,SNR=379								
ASAR				Lg		Lg	16 16 49.2		
	comp=Z,0.2nm,0.3s,baz=20,slow=28,SNR=2.0								
BATI	**Baumata**	**19.75**	**258**	P		**Pn**	**16 11 14.0**	**-1.4**	
	comp=Z,0.9nm,0.3s,baz=147,slow=16,SNR=5.1								
BATI				LR		LR	16 20 01.1		
	comp=Z,2μm,19.6s,baz=96,slow=40								
	comp=Z,18nm,0.9s								
BATI	**Baumata**	**19.75**	**258**	P		**Pn**	**16 11 17.1**	**+1.7**	
	comp=Z,61nm,1.2s,comp=Z,1μm								
GUMO	**Guam**	**19.94**	**5**	LR		LR	16 18 41.3		
	comp=Z,406nm,19.8s,baz=194,slow=36								
QLP	**Quilpie**	**20.07**	**177**	P		Pn	16 11 20.3	+1.2	
	baz=20,SNR=24								
EIDS	**Eidsvold**	**20.28**	**159**	P		Pn	16 11 22.4	+0.9	
	baz=20,SNR=5.4								
EIDS	**Eidsvold**	**20.28**	**159**	Pn		Pn	16 11 22.2	+0.6	
KMSI	**Cibinong**	**20.45**	**289**	P		Pn	16 11 23.8	+0.1	
	comp=Z,257nm,0.8s,comp=Z,3μm								
FITZ	**Fitzroy Crossi**	**20.74**	**234**	P		Pn	16 11 25.5	-1.5	
	baz=21,SNR=45								
FITZ	**Fitzroy Crossi**	**20.74**	**234**	Pn		**P**	**16 11 25.1**	**+0.5**	
MMRI	**Maumere**	**20.95**	**263**	P		Pn	16 11 44.5	+15	
LUWI	**Luwuk**	**21.12**	**284**	P		**P**	**16 11 27.9**	**-0.8**	
LUWI	**Luwuk**	**21.12**	**284**	P			16 11 30.9		
	comp=Z,181nm,1.2s								
GTOI	**Gorontalo**	**21.39**	**288**	P		**P**	**16 11 36.6**	**+4.9**	
	comp=Z,83nm,0.8s,comp=Z,794nm								
EDFI	**Ende, Flores**	**21.50**	**262**	P		**P**	**16 11 35.3**	**+2.3**	
	comp=Z,44nm,1.3s,comp=Z,608nm								
DAV	**Davao City (W)**	**22.15**	**307**	LR		LR	16 19 24.8		
	comp=Z,457nm,21.8s,baz=142,slow=34								
MRSI	**Marisa**	**22.35**	**287**	P		**P**	**16 11 43.8**	**+1.8**	
	comp=Z,42nm,1.0s,comp=Z,1μm								
BASI	**Baing, Sumba**	**22.75**	**259**	P		**P**	**16 11 48.0**	**+1.7**	
	comp=Z,137nm,1.2s								
BKSI	**Bulukumba**	**23.04**	**271**	P		**P**	**16 11 50.9**	**+1.6**	
	comp=Z,81nm,0.9s,comp=Z,1μm								
WRKA	**Warakurna**	**23.41**	**216**	P		**P**	**16 11 52.8**	**-0.2**	
	baz=23,SNR=101								
KAPI	**Kappang**	**23.43**	**272**	P		**P**	**16 11 52.5**	**-0.8**	
KAPI	**Kappang**	**23.43**	**272**	P		**P**	**16 11 52.5**	**-0.8**	
KAPI				pmax		pmax			
	comp=Z,104nm,1.1s								
TTSI	**Tana Toraja**	**23.59**	**277**	P		**P**	**16 11 57.5**	**+2.6**	
	comp=Z,52nm,1.2s,comp=Z,1μm								
TOLI2	**Tolitoli**	**23.65**	**288**	P		**P**	**16 11 53.8**	**-1.6**	
TOLI2				IAmb		IAmb	16 12 06.1		
	comp=Z,61nm,1.0s								
MPSI	**Mapaga**	**24.26**	**285**	P		**P**	**16 12 01.8**	**+0.6**	
	comp=Z,25nm,0.8s,comp=Z,701nm								
KOUNC	**Koumac, New Ca**	**24.76**	**127**	P		**P**	**16 12 07.2**	**+1.4**	
KOUNC				IAmb		IAmb	16 12 16.3		
	comp=Z,45nm,1.1s								
CMSA	**Cobar Meteorol**	**25.09**	**175**	P		**P**	**16 12 11.0**	**+2.4**	
	baz=25,SNR=10								
ARMA	**Armidale**	**25.14**	**163**	P		**P**	**16 12 11.8**	**+2.6**	
	baz=25,SNR=8.2								
ARMA	**Armidale**	**25.14**	**163**	P		**P**	**16 12 10.8**	**+1.7**	
PLAI	**Plampang**	**25.36**	**263**	P		**P**	**16 12 13.3**	**+2.0**	
	comp=Z,39nm,0.8s								
STKA	**Stephens Creek**	**25.38**	**183**	P		**P**	**16 12 13.2**	**+2.1**	
	baz=25,SNR=10								
STKA	**Stephens Creek**	**25.38**	**183**	P		**P**	**16 12 12.2**	**+1.0**	
STKA	**Stephens Creek**	**25.38**	**183**	*i* P		**P**	**16 12 11.7**	**+0.5**	
STKA	**Stephens Creek**	**25.38**	**183**	P		**P**	**16 12 12.5**	**+1.4**	
	comp=Z,13nm,1.0s,baz=357,slow=11,SNR=14								
	comp=Z,13nm,1.0s								
TWSI	**Taliwang, Sumb**	**26.24**	**263**	P		**P**	**16 12 20.8**	**+1.6**	
	comp=Z,18nm,1.1s								
BKB	**Balikpapan**	**26.79**	**280**	P		**P**	**16 12 25.9**	**+1.8**	
	comp=Z,80nm,0.5s								
KBKI	**Kotabaru**	**27.16**	**275**	P		**P**	**16 12 29.0**	**+1.4**	
	comp=Z,1μm,0.5s,comp=Z,80μm								
HTT	**Hallett**	**27.18**	**188**	P		**P**	**16 12 30.2**	**+2.6**	
	baz=27,SNR=5.6								
PSA00	**Pilbara Seismi**	**27.19**	**234**	P		**P**	**16 12 26.6**	**-1.1**	
DZM	**Mont Dzumac**	**27.27**	**127**	*e*P		**P**	**16 12 28.9**	**+0.4**	
	comp=Z,47nm,24.4s								
DZM				*e*S		**S**	**16 17 15.1**	**+7.0**	
	comp=Z,666nm,25.8s								
DZM				*e*LR		LR	16 19 35.1		
	comp=Z,2μm,23.9s								
FORT	**Forrest**	**28.12**	**209**	P		**P**	**16 12 35.3**	**-0.6**	
YNG	**Young**	**28.15**	**171**	P		**P**	**16 12 38.6**	**+2.4**	
	baz=28,SNR=6.7								
JAGI	**Jajag, Banyuwa**	**28.93**	**264**	P		**P**	**16 12 44.6**	**+1.3**	
	comp=Z,26nm,1.4s								
KKM	**Kota Kinabalu**	**29.69**	**294**	P		**P**	**16 12 49.0**	**-1.2**	
KKM				IAmb		IAmb	16 13 40.3		
	comp=Z,56nm,1.8s								
STKI	**Sintang**	**32.36**	**280**	P		P	16 13 21.8	+8.1	
KPJI	**Karang Pucung**	**34.09**	**266**	P		**P**	**16 13 29.2**	**+0.5**	
	comp=Z,23nm,1.2s								
CMJI	**Cimerak**	**34.56**	**266**	P		**P**	**16 13 34.4**	**+1.6**	
	comp=Z,47nm,0.9s								
NWAO	**Narrogin (SRO)**	**35.79**	**219**	LR		LR	16 29 10.8		
	comp=Z,1μm,19.7s,baz=24,slow=38								
JOW	**Kunigami**	**36.10**	**337**	LR		LR	16 25 38.2		
	comp=Z,532nm,21.5s,baz=116,slow=32								
PPBI	**Pangkal Pinang**	**37.24**	**275**	P		P	16 14 00.1	+4.2	
TPRI	**Tanjung Pinang**	**39.34**	**279**	P		**P**	**16 14 17.2**	**+3.7**	
	comp=Z,15nm,1.0s								
QIZ	**Qiongzhong**	**41.51**	**308**	P		**P**	**16 14 31.5**	**0.0**	
QIZ				S		**S**	**16 20 46.0**	**-1.4**	
QIZ				LR		LR			
	comp=Z,170nm,15.1s								
QIZ				LR		LR			
	comp=Z,260nm,18.5s								
QIZ				LR		LR			
	comp=Z,300nm,19.4s								
KRJI	**Kerinci**	**41.88**	**274**	P		P	16 14 44.8	+10	
TOZ	**Tahuroa Road**	**42.77**	**141**	P		**P**	**16 14 43.1**	**+1.6**	
TOZ				IAmb		IAmb	16 14 47.5		
	comp=Z,32nm,1.1s								
SSE	**Sheshan**	**42.86**	**332**	P		**P**	**16 14 43.0**	**+0.8**	
SSE				S		**S**	**16 21 05.0**	**-1.9**	
SSE				pmax		pmax			
	comp=Z,22nm,0.7s								
SSE				LR		LR			
	comp=Z,130nm,13.8s								
SSE				LR		LR			
	comp=Z,120nm,13.8s								
SSE				LR		LR			
	comp=Z,140nm,14.4s								
MJAR	**Matsushiro Arr**	**42.99**	**354**	P		**P**	**16 14 39.8**	**-3.5**	
	comp=Z,4.2nm,1.1s,baz=186,slow=9.2,SNR=4.0								
MJAR				LR		LR	16 30 34.2		
	comp=Z,214nm,20.5s,baz=177,slow=33								
	comp=Z,4.2nm,1.1s								
RAO	**Raoul Island**	**43.07**	**127**	LR		LR	16 31 56.1		
	comp=Z,416nm,18.4s,baz=78,slow=35								
MRNZ	**Matariki Terra**	**43.62**	**148**	P		**P**	**16 14 49.5**	**+1.2**	
URZ	**Urewera**	**44.10**	**141**	LR		LR	16 34 53.2		
	comp=Z,912nm,18.1s,baz=80,slow=38								
RTZ	**Ruatahuna**	**44.23**	**141**	P		**P**	**16 14 54.6**	**+1.2**	
RTZ				IAmb		IAmb	16 14 57.4		
	comp=Z,26nm,0.8s								
BKZ	**Black Stump Fm**	**44.27**	**142**	P		**P**	**16 14 53.9**	**+0.3**	
BKZ				IAmb		IAmb	16 14 58.5		
	comp=Z,20nm,1.0s								
TUWZ	**Tuamarina**	**44.29**	**147**	P		**P**	**16 14 53.8**	**+0.1**	
TCW	**Tory Channel**	**44.32**	**146**	P		**P**	**16 14 54.3**	**+0.4**	
BSWZ	**Blackbirch Sta**	**44.45**	**147**	P		**P**	**16 14 55.2**	**+0.2**	
RPZ	**Rata Peaks**	**44.45**	**151**	P		**P**	**16 14 55.6**	**+0.7**	
RPZ				IAmb		IAmb	16 14 59.6		
	comp=Z,25nm,0.9s								
RPZ	**Rata Peaks**	**44.45**	**151**	LR		LR	16 32 46.4		
	comp=Z,1μm,18.8s,baz=314,slow=35								
MRZ	**Mangatainoka R**	**44.69**	**145**	IAmb		IAmb	16 14 59.7		
	comp=Z,25nm,1.1s								
NJ2	**Nanjing**	**44.77**	**330**	*e*P		**P**	**16 14 58.0**	**+0.4**	
NJ2				sS		**sS**	**16 21 43.3**	**+2.7**	
NJ2				pmax		pmax			
	comp=Z,16nm,0.6s								
NJ2				pmax		pmax			
	comp=Z,180nm,4.3s								
NJ2				LR		LR			
	comp=Z,360nm,24.6s								
NJ2				LR		LR			
	comp=Z,410nm,16.1s								
NJ2				LR		LR			
	comp=Z,370nm,21.8s								
KSAR	**Wonju Array Be**	**45.93**	**343**	P		**P**	**16 15 05.3**	**-1.4**	
KSAR	**Wonju Array Be**	**45.93**	**343**	P		**P**	**16 15 05.3**	**-1.4**	
KSRS	**Korea Array**	**45.93**	**343**	P		**P**	**16 15 05.2**	**-1.5**	
	comp=Z,12nm,1.0s,baz=161,slow=8.8,SNR=14								
	comp=Z,12nm,1.0s								
KS19	**Wonju Array Si**	**45.99**	**343**	P		**P**	**16 15 06.7**	**-0.5**	
WHN	**Wuhan**	**46.02**	**325**	P		**P**	**16 15 10.8**	**+3.3**	
WHN				sP		**sP**	**16 15 17.8**	**+5.5**	
WHN				S		**S**	**16 21 55.0**	**+2.1**	
WHN				LR		LR			
	comp=Z,1μm,15.5s								
WHN				LR		LR			
	comp=Z,1μm,18.0s								
WHN				LR		LR			
	comp=Z,1μm,14.9s								
GYA	**Guiyang**	**48.23**	**314**	⇓P		**P**	**16 15 28.3**	**+3.2**	
GYA				S		**S**	**16 22 22.0**	**-2.9**	
GYA				pmax		pmax			
	comp=Z,13nm,1.2s								
GYA				pmax		pmax			
	comp=Z,89nm,5.4s								
GYA				LR		LR			
	comp=Z,130nm,8.7s								
GYA				LR		LR			
	comp=Z,120nm,8.5s								
GYA				LR		LR			
	comp=Z,83nm,5.0s								
PHRA	**Phrae**	**49.12**	**301**	P		**P**	**16 15 30.2**	**-1.7**	
CRAI	**Chiangrai**	**49.78**	**303**	P		**P**	**16 15 35.2**	**-1.8**	
LYN	**LuoYang**	**50.06**	**327**	*e*P		**P**	**16 15 40.5**	**+1.7**	
LYN				pP		sP	16 15 51.5	+7.9	
LYN				S		**S**	**16 22 47.5**	**-2.5**	
LYN				sS		sS	16 23 03.0	+7.2	
LYN				pmax		pmax			
	comp=Z,17nm,1.1s								
LYN				pmax		pmax			
	comp=Z,200nm,5.7s								
LYN				LR		LR			
	comp=Z,350nm,14.8s								
LYN				LR		LR			
	comp=Z,230nm,16.8s								
LYN				LR		LR			
	comp=Z,510nm,23.4s								
CM31	**Chiang Mai Arr**	**50.20**	**300**	P		**P**	**16 15 37.1**	**-3.1**	
CMAR	**Chiang Mai Arr**	**50.20**	**300**	P		**P**	**16 15 38.4**	**-1.8**	
CMAR	**Chiang Mai Arr**	**50.20**	**300**	*i* P		**P**	**16 15 41.0**	**+0.8**	
CMAR				pmax		pmax			
	comp=Z,6.0nm,1.0s								
CMAR	**Chiang Mai Arr**	**50.20**	**300**	P		**P**	**16 15 39.7**	**-0.5**	
	comp=Z,6.1nm,1.0s,baz=121,slow=5.6,SNR=20								
CMAR				LR		LR	16 35 31.3		
	comp=Z,128nm,21.9s,baz=140,slow=34								
	comp=Z,6.1nm,1.0s								
KMI	**Kunming**	**50.36**	**310**	⇓P		**P**	**16 15 42.5**	**+1.0**	
KMI				S		**S**	**16 22 57.3**	**+2.3**	
KMI				pmax		pmax			
	comp=Z,22nm,1.1s								
KMI				LR		LR			
	comp=Z,330nm,19.0s								
KMI				LR		LR			
	comp=Z,620nm,24.3s								
HNS	**HongShan**	**51.09**	**331**	⇑P		**P**	**16 15 48.0**	**+1.5**	
HNS				S		**S**	**16 23 07.3**	**+3.0**	
HNS				pmax		pmax			
	comp=Z,10.0nm,1.0s								
HNS				LR		LR			
	comp=Z,340nm,19.6s								
HNS				LR		LR			
	comp=Z,470nm,20.6s								
USA0B	**Ussuriysk Arra**	**51.40**	**350**	P		**P**	**16 15 49.0**	**+0.3**	
USA0B	**Ussuriysk Arra**	**51.40**	**350**	P		**P**	**16 15 49.0**	**+0.3**	
USA0B				pmax		pmax			
	comp=Z,16nm,1.2s								
USRK	**Ussuriysk Ar.**	**51.40**	**350**	P		**P**	**16 15 46.8**	**-1.9**	
USRK	**Ussuriysk Ar.**	**51.40**	**350**	P		**P**	**16 15 47.2**	**-1.4**	
	comp=Z,6.3nm,0.9s,baz=173,slow=6.6,SNR=17								
	comp=Z,6.3nm,0.9s								
XAN	**Xi'an**	**51.71**	**323**	P		**P**	**16 15 51.8**	**+0.5**	
XAN				pP		sP	16 15 58.8	+2.6	
XAN				pmax		pmax			
	comp=Z,24nm,1.4s								
XAN				pmax		pmax			
	comp=Z,120nm,4.1s								
XAN				LR		LR			
	comp=Z,360nm,17.4s								
XAN				LR		LR			
	comp=Z,270nm,16.7s								
XAN				LR		LR			
	comp=Z,340nm,19.4s								
PZH	**PanZhiHua**	**51.86**	**311**	P		**P**	**16 15 55.0**	**+2.4**	
PZH				S		**S**	**16 23 15.8**	**+0.2**	
PZH				pmax		pmax			
	comp=Z,10.0nm,0.5s								
PZH				pmax		pmax			
	comp=Z,90nm,4.2s								
PZH				LR		LR			
	comp=Z,210nm,24.1s								
PZH				LR		LR			
	comp=Z,230nm,22.0s								
PZH				LR		LR			
	comp=Z,350nm,23.7s								
MDJ	**Mudanjiang**	**52.27**	**348**	P		**P**	**16 15 56.5**	**+1.3**	
MDJ				pP		sP	16 15 59.3	-0.7	
MDJ				PP		**PP**	**16 17 55.3**	**+1.4**	
MDJ				ScP		**ScP**	**16 21 02.3**	**-1.6**	
MDJ				PcS		**PcS**	**16 21 07.5**	**+2.8**	
MDJ				S		**S**	**16 23 24.0**	**+3.7**	
MDJ				ScS		**ScS**	**16 25 46.5**	**+1.1**	
MDJ				pmax		pmax			
	comp=Z,6.0nm,1.0s								
MDJ				pmax		pmax			
	comp=Z,92nm,4.1s								
MDJ				LR		LR			
	comp=Z,250nm,19.9s								
MDJ				LR		LR			
	comp=Z,230nm,19.9s								
MDJ				LR		LR			
	comp=Z,360nm,23.0s								
CN2	**Changchun**	**52.52**	**344**	*e*P		**P**	**16 15 58.5**	**+1.5**	
CN2				pmax		pmax			
	comp=Z,10.0nm,0.8s								
CD2	**Chengdu**	**52.96**	**317**	P		**P**	**16 16 01.0**	**+0.4**	
CD2				S		**S**	**16 23 30.5**	**+0.2**	
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CD2				LR		LR			
	comp=Z,100nm,8.8s								
CD2				LR		LR			
	comp=Z,120nm,13.2s								
CD2				LR		LR			
	comp=Z,340nm,19.6s								
YSS	**Yuzh-Sakhalins**	**53.14**	**360**	*e*P		**P**	**16 16 02.0**	**+0.5**	
YSS				*e*S		**S**	**16 23 27.6**	**-4.4**	
YSS				*e*SS		**SS**	**16 27 08.8**	**-3.0**	
YSS				pmax		pmax			
	comp=Z,10.0nm,0.7s								
TNCH	**TengChong**	**53.58**	**307**	P		**P**	**16 16 06.5**	**+1.0**	
TNCH				pP		sP	16 16 10.0	-0.3	
TNCH				sP		pP	16 16 11.5	+2.5	
TNCH				ScP		**ScP**	**16 21 10.0**	**-0.3**	
TNCH				pmax		pmax			
	comp=Z,11nm,0.8s								
TNCH				pmax		pmax			
	comp=Z,95nm,3.7s								
BNX	**BinXian**	**53.82**	**346**	⇓P		**P**	**16 16 07.8**	**+1.2**	
BNX				pmax		pmax			
	comp=Z,23nm,1.2s								
BNX				pmax		pmax			
	comp=Z,82nm,4.4s								
HHC	**Hu-ho-hao-te**	**55.31**	**331**	*e*P		P	16 16 21.8	+4.1	
HHC				pP		sP	16 16 26.3	+3.8	
HHC				sP		pP	16 16 30.8	+10	
HHC				S		**S**	**16 24 06.8**	**+4.9**	
HHC				pmax		pmax			
	comp=Z,10.0nm,0.7s								
HHC				pmax		pmax			
	comp=Z,96nm,4.4s								
HHC				LR		LR			
	comp=Z,220nm,19.6s								
HHC				LR		LR			
	comp=Z,280nm,16.7s								
HHC				LR		LR			
	comp=Z,380nm,17.1s								
BTO	**Baotou**	**55.88**	**330**	*e*P		P	16 16 26.0	+4.2	
BTO				PP		**PP**	**16 18 33.0**	**+6.4**	
BTO				S		**S**	**16 24 12.3**	**+2.8**	
BTO				SS		**SS**	**16 27 57.3**	**+1.7**	
BTO				pmax		pmax			
	comp=Z,20nm,0.7s								
BTO				pmax		pmax			
	comp=Z,110nm,5.1s								
BTO				LR		LR			
	comp=Z,1μm,17.3s								
BTO				LR		LR			
	comp=Z,620nm,17.7s								
BTO				LR		LR			
	comp=Z,1μm,18.5s								
LZH	**Lanzhou**	**56.16**	**322**	*e*P		**P**	**16 16 26.5**	**+2.5**	
LZH				sP		sP	16 16 37.3	+8.5	
LZH				S		**S**	**16 24 09.5**	**-4.1**	
LZH				pmax		pmax			
	comp=Z,25nm,1.4s								
LZH				LR		LR			
	comp=Z,160nm,12.7s								
LZH				LR		LR			
	comp=Z,210nm,12.7s								
LZH				LR		LR			
	comp=Z,200nm,13.1s								
KLR	**Kul'dur**	**56.32**	**351**	*ce*P		**P**	**16 16 23.2**	**-1.4**	
KLR				pmax		pmax			
	comp=Z,23nm,1.7s								
RAR	**Rarotonga**	**56.95**	**111**	LR		LR	16 39 15.2		
	comp=Z,225nm,21.6s,baz=248,slow=34								
TYV	**Tymovskoe**	**57.05**	**360**	*e*P		**P**	**16 16 31.8**	**+2.0**	
TYV				pmax		pmax			
	comp=Z,6.0nm,0.8s								
TYV				pmax		pmax			
	comp=Z,100nm,3.8s								
HEH	**HeiHe**	**58.09**	**348**	*e*P		**P**	**16 16 35.5**	**-1.6**	
HEH				S		**S**	**16 24 35.0**	**-3.1**	
HEH				pmax		pmax			
	comp=Z,11nm,0.9s								
HEH				pmax		pmax			
	comp=Z,93nm,6.0s								
HEH				LR		LR			
	comp=Z,310nm,20.8s								
HEH				LR		LR			
	comp=Z,200nm,21.6s								
HEH				LR	

CIT pmax pmax
comp=Z,25nm,1.9s
PALK Pallekele 63.87 281 LR LR 16 48 02.6
comp=Z,170nm,19.9s,baz=212,slow=39
SHEM Shemya Is, Ala 64.48 20 LR LR 16 40 59.5
comp=Z,219nm,20.6s,baz=170,slow=32
MA2 Magadan 66.05 4 P **P** **16 17 29.0 -1.5**
MA2 Magadan 66.05 4*ce*P **P** **16 17 30.1 -0.3**
MA2 pmax pmax
comp=Z,49nm,1.7s
ZAK Zakamensk 66.28 333 *e*P **P** **16 17 30.5 -1.7**
ZAK pmax pmax
comp=Z,10.0nm,1.4s
PPT Papeete 66.35 106 LR LR 16 43 37.4
comp=Z,162nm,20.0s,baz=268,slow=33
PPT2 Papeete2 66.35 106 *e*P **P** **16 17 34.0 +0.7**
comp=Z,28nm,27.0s
PPT2 *e*S **S** **16 26 25.2 +1.5**
comp=Z,75nm,23.8s
PPT2 *e*LQ LQ 16 34 56.7
comp=Z,975nm,29.0s
PPT2 *e*LR LR 16 37 22.9
comp=Z,551nm,29.5s
PPT2 *e*LR LR 16 37 46.8
comp=Z,840nm,28.5s
TBI Tubuai 66.64 113 *e*LQ LQ 16 34 51.4
comp=Z,3µm,34.0s
TBI *e*LR LR 16 37 55.6
comp=Z,2µm,31.5s
IRK Irkutsk 67.20 335 *e*P P 16 17 44.0 +6.0
IRK pmax pmax
comp=Z,34nm,2.8s
MOY Mondy 68.21 333 *e*P **P** **16 17 44.0 -0.5**
MOY pmax pmax
comp=Z,16nm,1.4s
BOD Bodaibo 68.27 344 *e*P **P** **16 17 43.3 -1.2**
BOD pmax pmax
comp=Z,10.0nm,1.6s
YAK Yakutsk 69.05 353 P **P** **16 17 47.8 -1.5**
YAK IAmb IAmb 16 18 11.6
comp=Z,9.4nm,0.8s
YAK Yakutsk 69.05 353 *e*P **P** **16 17 48.3 -1.0**
YAK *e* 16 18 11.2
YAK *e* 16 20 16.5
YAK *e*PPP PPP 16 21 58.1
YAK *e*S **S** **16 26 53.5 -0.7**
YAK pmax pmax
comp=Z,11nm,1.0s
YAK pmax pmax
comp=N,8.0nm,2.0s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,123nm,7.3s
YAK pmax pmax
comp=N,79nm,7.3s
YAK pmax pmax
comp=E,94nm,7.8s
YAK smax smax
comp=E,71nm,4.1s
YAK smax smax
comp=N,60nm,5.7s
YAK MLR MLR
comp=E,86nm,19.0s
YAK Yakutsk 69.05 353 LR LR 16 45 12.5
comp=E,128nm,21.3s,baz=198,slow=34
SEY Seymchan 69.50 4*ce*P **P** **16 17 52.0 -0.1**
SEY pmax pmax
comp=Z,32nm,1.7s
WMQ Urumqi 70.72 321 *e*P **P** **16 18 02.5 +2.4**
NIKH Nikolski High 71.66 28 P **P** **16 18 06.5 +1.0**
baz=231
VNDA Vanda 71.74 176 P **P** **16 18 06.3 +0.7**
VNDA Vanda 71.74 176 P **P** **16 18 06.3 +0.7**
VNDA pmax pmax
comp=Z,6.0nm,0.9s
VNDA Vanda 71.74 176 P **P** **16 18 05.0 -0.6**
comp=Z,5.0nm,1.0s,baz=325,slow=5.3,SNR=20
VNDA LR LR 16 47 45.9
comp=Z,306nm,18.8s,baz=348,slow=34
comp=Z,5.0nm,1.0s
SBA Scott Base 72.45 175 P **P** **16 18 11.6 +1.7**
SBA Scott Base 72.45 175 P **P** **16 18 11.6 +1.7**
SBA pmax pmax
comp=Z,12nm,1.2s
UNV Unalaska Valle 73.31 28 P **P** **16 18 16.3 +1.0**
baz=233
P08K Saint George I 73.68 25 P **P** **16 18 17.9 +0.5**
baz=230
AKUT Akutan 73.83 28 P **P** **16 18 19.7 +1.4**
MK31 Makanchi Array 75.48 322 P **P** **16 18 26.3 -1.9**
MK31 Makanchi Array 75.48 322*ce*P **P** **16 18 27.4 -0.8**
MKAR Makanchi Array 75.48 322 P **P** **16 18 26.3 -1.9**
MKAR Makanchi Array 75.48 322 *i* P **P** **16 18 27.2 -1.0**
MKAR pmax pmax
comp=Z,7.0nm,0.9s
MKAR Makanchi Array 75.48 322 P **P** **16 18 26.9 -1.3**
comp=Z,6.5nm,0.9s,baz=106,slow=6.7,SNR=40
MKAR LR LR 16 50 42.1
comp=Z,102nm,21.1s,baz=138,slow=35
comp=Z,6.5nm,0.9s
MAKZ Makanchi 75.68 322 P **P** **16 18 27.5 -1.8**
MAKZ IAmb IAmb 16 18 32.6
comp=Z,21nm,1.2s
MAKZ Makanchi 75.68 322 P **P** **16 18 27.5 -1.8**
MAKZ pmax pmax
comp=Z,21nm,1.2s
BILL Bilibino 76.04 9 P **P** **16 18 29.7 -1.2**
BILL IAmb IAmb 16 18 34.0
comp=Z,16nm,1.3s
BILL Bilibino 76.04 9 *e*P **P** **16 18 29.4 -1.5**
S12K Black Hills 76.49 28 pP 16 18 36.1 -1.2
S12K Black Hills 76.49 28 P **P** **16 18 34.3 +0.6**
baz=237
KSH Kashi 76.91 313 P **P** **16 18 37.5 +0.9**
KSH pP sP 16 18 40.5 -1.0
KSH PcP **PcP** **16 18 53.5 +5.8**
KSH pmax pmax
comp=Z,11nm,1.1s
SDPT Sand Point 77.05 29 P **P** **16 18 37.7 +0.9**
baz=238
NIL Nilore 77.16 306 P **P** **16 18 37.2 -0.7**
NIL Nilore 77.16 306 P **P** **16 18 37.3 -0.7**
NIL pmax pmax
comp=Z,20nm,0.9s
CNBA Chernabura Isl 77.21 30 P **P** **16 18 36.1 -1.7**
CHNA Chernabura Isl 77.22 30 P **P** **16 18 38.7 +1.0**
baz=239
ZALV Zalesovo Beam 77.41 329 P **P** **16 18 36.6 -2.3**
ZALV Zalesovo Beam 77.41 329 P **P** **16 18 36.9 -2.0**
comp=Z,2.4nm,0.7s,baz=105,slow=6.1,SNR=9.2
comp=Z,2.4nm,0.7s
M11K Mekoryuk 77.45 23 P **P** **16 18 39.8 +0.9**
baz=232
GAMB Gambell 77.73 19 P **P** **16 18 41.2 +0.8**
baz=226
S14K Fog Glacier 77.99 29 P **P** **16 18 42.5 +0.3**
baz=239
TIXI Tiksi 78.49 355 P **P** **16 18 41.8 -2.7**
TIXI Tiksi 78.49 355*ce*P **P** **16 18 44.6 +0.1**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
TIXI Tiksi 78.49 355 LR LR 16 51 41.1
comp=Z,79nm,21.4s,baz=188,slow=34
CHGN Chignik 78.54 29 IAmb IAmb 16 18 49.0
comp=Z,12nm,0.8s
CHGN Chignik 78.54 29 P **P** **16 18 45.9 +0.8**
baz=240
M13K Dall Lake 78.60 24 P **P** **16 18 46.2 +0.9**
baz=235
O14K Tigyukauivet M 78.81 26 P **P** **16 18 46.7 +0.2**
O14K IAmb IAmb 16 19 07.5
comp=Z,19nm,0.9s
O14K Tigyukauivet M 78.81 26 P **P** **16 18 47.4 +0.9**
baz=237
N14K Kuskokwak Cree 79.00 25 P **P** **16 18 47.9 +0.4**
baz=236
AAK Ala-Archa 79.00 316 P **P** **16 18 47.7 -0.5**
AAK Ala-Archa 79.00 316*ce*P **P** **16 18 47.3 -0.9**
AAK pmax pmax
comp=Z,12nm,1.3s
AAK Ala-Archa 79.00 316 LR LR 16 58 22.0
comp=Z,68nm,18.0s,baz=115,slow=39
KURK Kurchatov 79.34 324 P **P** **16 18 48.8 -0.8**
KURK IAmb IAmb 16 18 53.3
comp=Z,18nm,1.2s
KURK Kurchatov 79.34 324*ce*P **P** **16 18 49.3 -0.3**
KURK pmax pmax
comp=Z,18nm,1.3s
M14K Bethel 79.36 24 P **P** **16 18 47.6 -1.9**
M14K IAmb IAmb 16 18 58.7
comp=Z,23nm,1.1s
M14K Bethel 79.36 24 P **P** **16 18 50.4 +0.9**
baz=236
KURBB Kurchatov Arra 79.36 324 P **P** **16 18 48.0 -1.7**
comp=Z,13nm,1.2s,baz=114,slow=4.6,SNR=20
KURBB PKKPbc **PKKPbc** **16 37 38.3 -3.8**
comp=Z,0.2nm,0.5s,baz=292,slow=4.1,SNR=2.5
KURBB LR LR 16 54 35.0
comp=Z,112nm,20.6s,baz=169,slow=36
comp=Z,13nm,1.2s
O15K Ungalikthiuk R 79.39 26 P **P** **16 18 50.1 +0.4**
baz=238
L14K Kuka Creek 79.40 23 IAmb IAmb 16 18 53.6
comp=Z,23nm,1.1s
L14K Kuka Creek 79.40 23 P **P** **16 18 50.2 +0.5**
baz=235
ARSB Arslanbob 79.65 314 P **P** **16 18 51.0 -0.8**
ARSB Arslanbob 79.65 314 P **P** **16 18 51.0 -0.8**
ARSB pmax pmax
comp=Z,5.0nm,1.2s
N15K Kwethluk River 79.81 25 IAmb IAmb 16 18 55.8
comp=Z,18nm,1.1s
N15K Kwethluk River 79.81 25 P **P** **16 18 52.3 +0.3**
baz=238
M15K Kasigluk River 79.84 24 P **P** **16 18 52.5 +0.3**
baz=237
J14K Nanvaranak Lak 79.89 22 P **P** **16 18 52.6 +0.3**
baz=234
DRK Karamyk 79.96 312 P **P** **16 18 52.0 -1.7**
L15K Ungalak Mounta 80.07 23 P **P** **16 18 53.2 -0.1**
baz=236
P16K Nushagak River 80.12 27 P **P** **16 18 53.6 0.0**
baz=240
TNA Tin City 80.14 19 P **P** **16 18 52.8 -0.9**
baz=230
ANM Nome 80.34 20 pP 16 18 57.3 -1.1
ANM Nome 80.34 20 P **P** **16 18 53.3 -1.5**
baz=232,SNR=6.1
O16K Kokwok River B 80.36 26 P **P** **16 18 53.7 -1.3**
baz=240
K15K Wolf Creek Mou 80.40 23 P **P** **16 18 54.3 -0.8**
K15K IAmb IAmb 16 18 59.1
comp=Z,18nm,1.1s
K15K Wolf Creek Mou 80.40 23 P **P** **16 18 53.5 -1.6**
baz=236
MAW Mawson 80.44 203 P **P** **16 18 54.6 -0.7**
comp=Z,1.4nm,0.4s,baz=170,slow=6.1,SNR=2.4
comp=Z,1.4nm,0.4s
N16K Nishlik Lake 80.53 25 P **P** **16 18 54.8 -1.1**
baz=239
F14K Arctic Creek 80.59 19 P **P** **16 18 55.2 -0.9**
baz=231,SNR=7.0
Q17K Contact Creek 80.70 28 P **P** **16 18 56.4 -0.6**
baz=242
M16K Timber Creek 80.73 25 IAmb IAmb 16 19 00.9
comp=Z,18nm,1.1s
M16K Timber Creek 80.73 25 P **P** **16 18 56.4 -0.5**
baz=238
BTK Batken 80.85 312 P **P** **16 18 55.5 -2.7**
BTK Batken 80.85 312 P **P** **16 18 55.5 -2.7**
BTK pmax pmax
comp=Z,7.0nm,1.0s
L16K Owhat River 80.89 24 IAmb IAmb 16 19 10.9
comp=Z,15nm,1.1s
L16K Owhat River 80.89 24 P **P** **16 18 56.5 -1.3**
baz=238
O17K Koliganek Bris 80.89 26 P **P** **16 18 56.5 -1.3**
baz=240
P17K Kvichak River 80.90 27 P **P** **16 18 56.6 -1.2**
baz=241
GAR Garm 80.93 311 IAmb IAmb 16 19 01.9
comp=Z,23nm,1.2s
G15K Niukluk 81.06 20 P **P** **16 18 57.8 -0.8**
baz=233
N17K Nushagak Hills 81.23 26 P **P** **16 18 59.4 -0.2**
N17K Nushagak Hills 81.23 26 P **P** **16 18 58.0 -1.6**
baz=240
F15K North Star Dit 81.29 19 IAmb IAmb 16 19 03.7
comp=Z,21nm,1.2s
F15K North Star Dit 81.29 19 P **P** **16 18 58.4 -1.4**
baz=233
J16K Anvik River 81.30 22 IAmb IAmb 16 19 04.3
comp=Z,14nm,1.1s
J16K Anvik River 81.30 22 P **P** **16 18 59.5 -0.5**
baz=237
OHAK Old Harbor 81.47 29 P **P** **16 19 00.3 -0.6**
baz=244
H16K Elim 81.47 21 P **P** **16 19 00.4 -0.4**
baz=235,SNR=10
P18K Big Mountain, 81.54 27 P **P** **16 19 00.4 -1.0**
baz=242
M17K Holitna River 81.56 25 IAmb IAmb 16 19 05.7
comp=Z,12nm,0.9s
M17K Holitna River 81.56 25 P **P** **16 19 00.4 -1.0**
baz=240
L17K Donlin 81.59 24 P **P** **16 19 01.7 +0.2**
baz=239
I17K Unalakleet 81.60 22 IAmb IAmb 16 19 23.0
comp=Z,18nm,1.1s
I17K Unalakleet 81.60 22 P **P** **16 19 01.7 +0.2**
baz=236
CHGR Chuyangaron 81.71 310 P **P** **16 19 01.8 -1.0**
CHGR Chuyangaron 81.71 310 P **P** **16 19 01.8 -1.0**
CHGR pmax pmax
comp=Z,27nm,1.0s
O18K Koktuh Hills 81.77 27 P **P** **16 19 01.8 -0.7**
baz=242
SIMJ Simiganj 81.83 310 P **P** **16 19 02.7 -0.7**
SIMJ IAmb IAmb 16 19 07.3
comp=Z,17nm,1.1s
N18K Kilae Creek 81.86 26 P **P** **16 19 02.3 -0.7**
baz=241
G16K Koyuk River 81.87 20 IAmb IAmb 16 19 06.7
comp=Z,24nm,1.3s
G16K Koyuk River 81.87 20 P **P** **16 19 02.3 -0.6**
baz=235
K17K Iditarod 81.89 23 P **P** **16 19 02.3 -0.8**
K17K IAmb IAmb 16 19 07.1
comp=Z,24nm,1.1s
K17K Iditarod 81.89 23 P **P** **16 19 01.8 -1.2**
baz=239
KKAR Karatay Array 81.93 315 P **P** **16 19 01.5 -2.3**
KKAR Karatay Array 81.93 315 P **P** **16 19 01.5 -2.3**
KKAR pmax pmax
comp=Z,11nm,1.2s
KDAK Kodiak Island 82.05 29 P **P** **16 19 03.5 -0.5**
baz=245
KDAK Kodiak Island 82.05 29 LR LR 16 49 06.2
comp=Z,174nm,21.9s,baz=260,slow=31
L18K Granite Mounta 82.28 24 P **P** **16 19 04.8 -0.3**
L18K IAmb IAmb 16 19 09.3
comp=Z,13nm,1.1s
L18K Granite Mounta 82.28 24 P **P** **16 19 04.1 -1.0**
baz=240
M18K Stony River 82.28 25 P **P** **16 19 04.5 -0.7**
baz=241
H17K Granite Mounta 82.47 21 IAmb IAmb 16 19 10.0
comp=Z,23nm,1.4s
H17K Granite Mounta 82.47 21 P **P** **16 19 05.2 -0.9**
baz=237
Q20K Shuyak Island 82.50 28 P **P** **16 19 05.8 -0.5**
baz=245
G17K Kiwalik Mounta 82.52 20 P **P** **16 19 05.3 -1.0**
baz=236
N19K Bonanza Creek 82.53 26 IAmb IAmb 16 19 15.3
comp=Z,10.0nm,1.0s
N19K Bonanza Creek 82.53 26 P **P** **16 19 05.9 -0.7**
baz=243
P19K Oil Pt 82.56 27 P **P** **16 19 04.8 -1.9**
baz=244
C16K Lisburne Hills 82.66 17 IAmb IAmb 16 19 27.7
comp=Z,14nm,1.2s
C16K Lisburne Hills 82.66 17 P **P** **16 19 05.4 -1.6**
baz=232
F17K Baldwin Pennin 82.84 20 P **P** **16 19 07.0 -0.9**
F17K Baldwin Pennin 82.84 20 P **P** **16 19 07.0 -0.9**
baz=236
J18K Innoko River 82.89 23 P **P** **16 19 07.1 -1.2**
baz=240
TTA Tatalina 82.90 24 P **P** **16 19 08.0 -0.5**
TTA IAmb IAmb 16 19 12.9
comp=Z,27nm,2.0s
TTA Tatalina 82.90 24 P **P** **16 19 07.2 -1.3**
baz=241
TTA Tatalina 82.90 24 P **P** **16 19 08.0 -0.5**
TTA pmax pmax
comp=Z,27nm,2.0s
D17K Noatak River 82.98 18 P **P** **16 19 08.0 -0.7**
baz=234
L19K White Mountain 83.02 25 IAmb IAmb 16 19 18.0
comp=Z,14nm,1.0s
L19K White Mountain 83.02 25 P **P** **16 19 08.2 -0.8**
baz=242
E17K Hotham Inlet 83.02 19 P **P** **16 19 08.5 -0.4**
baz=235,SNR=14
M19K Big River Lodg 83.08 25 P **P** **16 19 08.9 -0.5**
M19K IAmb IAmb 16 19 14.4
comp=Z,9.7nm,1.1s
M19K Big River Lodg 83.08 25 P **P** **16 19 08.3 -1.0**
baz=243
H18K Honhosa River 83.14 21 P **P** **16 19 08.4 -1.1**
H18K IAmb IAmb 16 19 30.1
comp=Z,12nm,1.2s
H18K Honhosa River 83.14 21 P **P** **16 19 08.5 -1.1**
baz=239
RSO Redoubt South 83.14 27 P **P** **16 19 08.2 -1.7**
C17K DeLong Mountai 83.42 17 P **P** **16 19 09.9 -1.1**
baz=234
G18K Tagagawik 83.42 21 IAmb IAmb 16 19 14.3
comp=Z,12nm,1.2s
G18K Tagagawik 83.42 21 P **P** **16 19 10.2 -0.8**
baz=238,SNR=7.6
F18K Selawik 83.46 20 P **P** **16 19 10.8 -0.3**
baz=237
QSPA South Pole Qui 83.55 180 P **P** **16 19 11.1 -0.8**
comp=Z,25nm,0.9s,baz=328,slow=1.8,SNR=52
QSPA LR LR 16 56 56.1
comp=Z,768nm,18.2s,baz=12,slow=36
comp=Z,25nm,0.9s
L20K Farewell, AK 83.56 25 P **P** **16 19 11.9 0.0**
baz=243
J19K Poorman 83.57 23 IAmb IAmb 16 19 15.7
comp=Z,14nm,1.1s
J19K Poorman 83.57 23 P **P** **16 19 11.1 -0.7**
baz=241
M20K Styx River 83.60 25 P **P** **16 19 11.6 -0.5**
baz=244
E18K Tukpahlearik C 83.61 19 P **P** **16 19 10.8 -1.1**
E18K IAmb IAmb 16 19 17.4
comp=Z,11nm,1.2s
E18K Tukpahlearik C 83.61 19 P **P** **16 19 11.0 -0.9**
baz=236
N20K Mount Spurr 83.70 26 P **P** **16 19 12.0 -0.6**
baz=245
BRSE Bradley Lake S 83.75 28 P **P** **16 19 10.7 -2.2**
baz=246
K20K Telida 83.88 24 IAmb IAmb 16 19 17.2
comp=Z,17nm,1.2s
K20K Telida 83.88 24 P **P** **16 19 12.8 -0.6**
baz=243
H19K Roundabout Mou 84.02 21 P **P** **16 19 12.2 -1.9**
baz=240,SNR=8.1
G19K Purcell Mounta 84.10 21 P **P** **16 19 13.4 -1.1**
G19K Purcell Mounta 84.10 21 P **P** **16 19 13.2 -1.2**
baz=240
C18K Utukok River 84.11 18 IAmb IAmb 16 19 34.4
comp=Z,24nm,1.5s
C18K Utukok River 84.11 18 P **P** **16 19 12.5 -2.1**
baz=236
F19K Shaleruckik Mo 84.22 20 IAmb IAmb 16 19 20.0
comp=Z,14nm,1.4s
F19K Shaleruckik Mo 84.22 20 P **P** **16 19 13.6 -1.5**
baz=239
J20K Nowinta River 84.23 23 P **P** **16 19 13.6 -1.6**
J20K IAmb IAmb 16 19 19.1
comp=Z,16nm,1.1s
J20K Nowinta River 84.23 23 P **P** **16 19 13.9 -1.2**
baz=243
SKT Skwentna 84.33 26 IAmb IAmb 16 19 50.4
comp=Z,14nm,1.6s
SKT Skwentna 84.33 26 P **P** **16 19 14.4 -1.3**
baz=245
B18K Kokolik River 84.34 17 P **P** **16 19 15.6 0.0**
baz=235
I20K Naaghedeneel 84.39 22 IAmb IAmb 16 19 19.8
comp=Z,13nm,1.1s
I20K Naaghedeneel 84.39 22 P **P** **16 19 14.6 -1.3**
baz=242
PPLA Purkeypile 84.44 25 P **P** **16 19 13.6 -2.8**
baz=244
SUA Susitna One 84.45 26 P **P** **16 19 14.8 -1.7**
SUA IAmb IAmb 16 19 20.9
comp=Z,8.8nm,1.0s
SUA Susitna One 84.45 26 P **P** **16 19 14.3 -2.1**
baz=246
SEW Seward 84.49 28 P **P** **16 19 14.1 -2.4**
baz=247
O22K Cooper Landing 84.51 27 P **P** **16 19 15.8 -0.9**
O22K Cooper Landing 84.51 27 P **P** **16 19 14.8 -1.8**
baz=247
NRIK Noril'sk 84.55 343*ce*P **P** **16 19 15.0 -1.7**
NRIK pmax pmax
comp=Z,25nm,1.0s
NRIK Noril'sk 84.55 343 P **P** **16 19 15.4 -1.2**
comp=Z,22nm,1.1s,baz=118,slow=4.7,SNR=23
NRIK LR LR 16 54 48.5
comp=Z,165nm,21.9s,baz=143,slow=34
comp=Z,22nm,1.1s
H20K Anotleneega Mo 84.57 22 P **P** **16 19 15.9 -1.0**
baz=242
CAST Castle Rocks 84.71 24 IAmb IAmb 16 19 20.3
comp=Z,9.8nm,1.1s
CAST Castle Rocks 84.71 24 P **P** **16 19 16.2 -1.5**
baz=244
E19K Redstone River 84.72 19 IAmb IAmb 16 19 26.3
comp=Z,8.9nm,0.8s
E19K Redstone River 84.72 19 P **P** **16 19 17.3 -0.3**
baz=239
RC01 Rabbit Creek A 84.75 27 P **P** **16 19 17.6 -0.2**
baz=247
CHUM Lake Minchumin 84.82 24 P **P** **16 19 17.5 -0.6**
baz=244,SNR=24
M22K Willow 84.84 26 P **P** **16 19 17.2 -1.1**
M22K Willow 84.84 26 P **P** **16 19 17.9 -0.4**
baz=246
C19K Lookout Ridge 84.85 18 P **P** **16 19 18.1 -0.2**
baz=237
BVAR Borovoye Array 84.93 325 P **P** **16 19 18.7 -0.3**
comp=Z,19nm,0.9s,baz=111,slow=6.5,SNR=23
BVAR LR LR 16 57 03.6
comp=Z,73nm,21.8s,baz=96,slow=36
comp=Z,19nm,0.9s
D19K Kuna River 84.98 18 IAmb IAmb 16 19 38.8
comp=Z,16nm,1.1s
D19K Kuna River 84.98 18 P **P** **16 19 18.8 -0.2**
baz=238
BRVK Borovoye 85.00 325 P **P** **16 19 18.5 -0.8**
BRVK Borovoye 85.00 325*ce*P **P** **16 19 19.7 +0.4**
BRVK pmax pmax
comp=Z,31nm,1.3s
F20K Avaraart Lake 85.03 20 P **P** **16 19 18.4 -0.7**
F20K Avaraart Lake 85.03 20 P **P** **16 19 19.1 0.0**
baz=241
A19K Wainwright 85.04 16 P **P** **16 19 18.6 -0.5**
baz=236
CUT Chulitna 85.04 25 P **P** **16 19 18.4 -0.9**
baz=246
PMR Palmer 85.21 26 IAmb IAmb 16 19 22.1
comp=Z,14nm,1.1s
PMR Palmer 85.21 26 P **P** **16 19 17.9 -2.2**
baz=247
IMAR Indian Mountai 85.22 21 P **P** **16 19 18.4 -1.7**
KTH Kantishna Hill 85.24 24 IAmb IAmb 16 19 45.1
comp=Z,8.8nm,1.0s
GHO Glory Hole Cre 85.37 26 P **P** **16 19 19.6 -1.5**
GHO IAmb IAmb 16 19 23.6
comp=Z,10nm,1.0s
P23K Montague Islan 85.40 28 P **P** **16 19 19.1 -2.0**
baz=249
H21K Melozitna Rive 85.42 22 P **P** **16 19 19.4 -1.7**
baz=244
KNK Knik Glacier 85.44 27 P **P** **16 19 18.9 -2.5**
baz=248
BPAW Bear Paw Mtn. 85.44 24 P **P** **16 19 19.7 -1.6**
baz=246
TRF Thorofare Moun 85.46 24 IAmb IAmb 16 20 05.7
comp=Z,14nm,1.4s
TRF Thorofare Moun 85.46 24 P **P** **16 19 19.1 -2.5**
baz=246
E20K Nigu River 85.47 19 P **P** **16 19 20.1 -1.3**

	baz=240							
I21K	**Tanana**	85.52	23	P	P	16 19 19.4	-2.2	
	baz=244							
G21K	**Allakaket**	85.55	21	IAmb	IAmb	16 19 56.7		
	comp=Z,20nm,1.9s							
G21K	**Allakaket**	85.55	21	P	P	16 19 19.8	-2.0	
	baz=243							
D20K	**Etivluk River**	85.56	19	P	P	16 19 20.4	-1.4	
	baz=240							
SML	**Sawmill**	85.64	26	P	P	16 19 21.2	-1.2	
SML	**Sawmill**	85.64	26	P	P	16 19 20.2	-2.2	
	baz=248							
F21K	**Alatna River**	85.88	20	IAmb	IAmb	16 19 59.9		
	comp=Z,19nm,2.0s							
F21K	**Alatna River**	85.88	20	P	P	16 19 22.9	-0.5	
	baz=243							
M23K	**Glacier View**	85.91	26	P	P	16 19 22.1	-1.5	
	baz=249							
MLY	**Manley**	85.93	23	IAmb	IAmb	16 19 49.4		
	comp=Z,12nm,1.1s							
MLY	**Manley**	85.93	23	P	P	16 19 21.8	-1.9	
	baz=246,SNR=10							
WAT1	**Susitna Watana**	85.94	25	P	P	16 19 22.0	-1.8	
	baz=248							
RND	**Reindeer**	86.03	25	P	P	16 19 21.9	-2.4	
RND				IAmb	IAmb	16 19 49.0		
	comp=Z,12nm,1.0s							
RND	**Reindeer**	86.03	25	P	P	16 19 21.9	-2.4	
RND				pmax	pmax			
	comp=Z,13nm,1.0s							
H22K	**Ishtalitna Cre**	86.05	22	P	P	16 19 23.0	-1.3	
	baz=245							
B20K	**Meade River**	86.06	17	IAmb	IAmb	16 19 28.1		
	comp=Z,15nm,1.2s							
B20K	**Meade River**	86.06	17	P	P	16 19 22.5	-1.6	
	baz=239							
SCM	**Sheep Creek Mo**	86.10	26	P	P	16 19 24.6	-0.1	
	baz=249							
MCK	**McKinley**	86.12	24	P	P	16 19 23.6	-1.1	
	baz=247,SNR=8.4							
WAT6	**Susitna Watana**	86.19	26	P	P	16 19 24.8	-0.5	
	baz=248,SNR=5.4							
C21K	**Knifeblade Rid**	86.36	18	P	P	16 19 25.3	-0.5	
	baz=242							
EYAK	**Cordova Ski Ar**	86.36	28	P	P	16 19 24.2	-1.6	
	baz=250							
NEA2	**Nenana**	86.41	24	P	P	16 19 23.8	-2.3	
NEA2	**Nenana**	86.41	24	P	P	16 19 24.6	-1.5	
	baz=247							
F22K	**John River**	86.46	20	P	P	16 19 25.8	-0.5	
	baz=244							
I23K	**Minto, Yukon-K**	86.51	23	P	P	16 19 25.2	-1.3	
	baz=247							
DHY	**Denali Highway**	86.53	25	IAmb	IAmb	16 19 36.8		
	comp=Z,13nm,0.8s							
DHY	**Denali Highway**	86.53	25	P	P	16 19 25.0	-1.8	
	baz=249,SNR=8.9							
KLU	**Klutina**	86.61	27	P	P	16 19 25.3	-1.9	
KLU				IAmb	IAmb	16 19 30.6		
	comp=Z,15nm,1.1s							
KLU	**Klutina**	86.61	27	P	P	16 19 25.8	-1.4	
	baz=250							
B21K	**Ikpikpuk River**	86.63	18	IAmb	IAmb	16 19 30.9		
	comp=Z,11nm,0.9s							
B21K	**Ikpikpuk River**	86.63	18	P	P	16 19 25.6	-1.4	
	baz=242							
M24K	**Tolsona, Glenn**	86.70	26	P	P	16 19 26.4	-1.2	
	baz=250							
WRH	**Wood River Hil**	86.75	24	P	P	16 19 25.5	-2.3	
WRH				IAmb	IAmb	16 19 29.9		
	comp=Z,17nm,1.2s							
E22K	**Anaktuvuk Pass**	86.86	20	P	P	16 19 27.4	-0.8	
	baz=244							
MDM	**Murphy Dome**	86.88	23	IAmb	IAmb	16 19 31.4		
	comp=Z,27nm,2.0s							
A21K	**Barrow**	86.88	16	P	P	16 19 26.3	-1.9	
	baz=240							
G23K	**Bananza Creek**	86.89	21	P	P	16 19 26.9	-1.5	
	baz=246							
D22K	**Ayikyak River**	86.90	19	P	P	16 19 26.9	-1.6	
D22K	**Ayikyak River**	86.90	19	P	P	16 19 26.4	-2.0	
	baz=244							
CCB	**Clear Creek Bu**	86.93	24	IAmb	IAmb	16 19 30.5		
	comp=Z,14nm,1.1s							
COLA	**College**	87.00	24	P	P	16 19 28.4	-0.5	
	baz=248							
BMRM	**Bremner River**	87.03	28	P	P	16 19 27.5	-1.8	
	baz=251							
COLD	**Coldfoot**	87.03	21	P	P	16 19 28.1	-0.9	
	baz=246							
HDA	**Harding Lake**	87.19	24	P	P	16 19 29.2	-0.7	
	baz=249							
A22K	**Sinclair Lake**	87.19	17	P	P	16 19 27.5	-2.2	
	baz=241							
N25K	**Chitina, Valde**	87.24	27	P	P	16 19 28.7	-1.6	
N25K				IAmb	IAmb	16 19 33.8		
	comp=Z,12nm,1.4s							
N25K	**Chitina, Valde**	87.24	27	P	P	16 19 29.6	-0.7	
	baz=251							
HARP	**HAARP**	87.25	26	P	P	16 19 28.1	-2.1	
	baz=251							
POKR	**Poker Plat Res**	87.25	23	P	P	16 19 28.0	-2.2	
	baz=249							
PAX	**Paxson**	87.31	26	P	P	16 19 28.5	-2.1	
	baz=250							
B22K	**Teshekpuk Lake**	87.33	18	P	P	16 19 29.2	-1.3	
	baz=243							
ILAR	**Eielson Array**	87.34	24	P	P	16 19 28.0	-2.6	
ILAR	**Eielson Array**	87.34	24	P	P	16 19 27.9	-2.6	
	comp=Z,5.3nm,0.9s,baz=254,slow=4.7,SNR=19							
ILAR				LR	LR	16 55 35.4		
	comp=Z,100nm,19.5s,baz=243,slow=34							
	comp=Z,5.3nm,0.9s							
H24K	**Noodor Dome**	87.35	23	P	P	16 19 28.6	-2.0	
H24K	**Noodor Dome**	87.35	23	P	P	16 19 28.8	-1.8	
	baz=248							
K24K	**Donnelly Dome**	87.46	25	P	P	16 19 30.1	-1.2	
	baz=250							
GLB	**Gilahina Butte**	87.55	27	IAmb	IAmb	16 19 41.5		
	comp=Z,12nm,1.2s							
E23K	**Chandalar**	87.58	20	P	P	16 19 30.2	-1.6	
	baz=246							
D23K	**Nanushuk River**	87.59	19	P	P	16 19 30.8	-0.9	
	baz=246							
VRDI	**Verde Repeater**	87.65	28	IAmb	IAmb	16 19 34.9		
	comp=Z,9.8nm,1.2s							
CRQM	**Cirque**	87.65	28	P	P	16 19 30.9	-1.6	
CRQE	**Cirque**	87.67	28	P	P	16 19 30.8	-1.6	
	baz=253							
G24K	**Hadweenzic Riv**	87.82	22	IAmb	IAmb	16 19 36.0		
	comp=Z,10nm,1.1s							
G24K	**Hadweenzic Riv**	87.82	22	P	P	16 19 32.2	-0.7	
	baz=249							
TOLK	**Toolik Lake Re**	87.83	20	P	P	16 19 32.2	-0.7	
	baz=246							
RIDG	**Independent Ri**	87.83	25	P	P	16 19 31.3	-1.8	
RIDG	**Independent Ri**	87.83	25	P	P	16 19 32.5	-0.5	
	baz=251,SNR=7.9							
MCARA	**McCarthy VSAT**	87.89	28	IAmb	IAmb	16 19 36.1		
	comp=Z,11nm,1.1s							
MCARA	**McCarthy VSAT**	87.89	28	P	P	16 19 32.0	-1.3	
	baz=253							
J25K	**Salcha River,**	87.90	24	P	P	16 19 31.5	-1.9	
	baz=251							
F24K	**Squaw Lake**	87.97	21	P	P	16 19 32.1	-1.6	
F24K	**Squaw Lake**	87.97	21	P	P	16 19 32.1	-1.6	
	baz=248							
C23K	**Itkillik River**	87.98	18	P	P	16 19 31.8	-1.7	
	baz=246							
ISLE	**Juniper Island**	87.98	28	IAmb	IAmb	16 19 46.8		
	comp=Z,13nm,1.1s							
MESA	**MESA**	88.05	29	P	P	16 19 33.1	-1.2	
	baz=254							
MENT	**Mentasta**	88.05	26	IAmb	IAmb	16 19 37.4		
	comp=Z,12nm,1.3s							
PRP	**Porcupine Dome**	88.14	23	P	P	16 19 34.8	+0.2	
	baz=250							
M26K	**Nabesna, AK**	88.21	27	IAmb	IAmb	16 19 38.4		
	comp=Z,16nm,1.8s							
M26K	**Nabesna, AK**	88.21	27	P	P	16 19 35.0	+0.1	
	baz=253							
L26K	**Log Cabin Wild**	88.24	26	P	P	16 19 33.3	-1.7	
L26K				IAmb	IAmb	16 19 41.4		
	comp=Z,7.5nm,1.0s							
L26K	**Log Cabin Wild**	88.24	26	P	P	16 19 35.4	+0.4	
	baz=252							
SCRK	**Sand Creek**	88.27	25	P	P	16 19 35.1	-0.1	
	baz=252							
D24K	**Happy Valley**	88.28	19	P	P	16 19 34.4	-0.6	
	baz=247							
H25L	**Birch Creek**	88.29	23	P	P	16 19 34.0	-1.1	
	baz=250							
G25K	**Bearman Lake**	88.35	22	P	P	16 19 34.1	-1.2	
	baz=250							
TABL	**Table Mountain**	88.50	29	IAmb	IAmb	16 19 53.3		
	comp=Z,13nm,1.0s							
C24K	**Franklin Bluff**	88.54	19	P	P	16 19 35.4	-0.8	
	baz=247							
CTG	**Chitna Glacier**	88.55	28	P	P	16 19 35.8	-0.9	
	baz=254,SNR=11							
CTGM	**Chitina Glacie**	88.56	28	P	P	16 19 35.4	-1.3	
J26L	**Joseph Creek**	88.60	24	IAmb	IAmb	16 19 40.0		
	comp=Z,15nm,1.2s							
J26L	**Joseph Creek**	88.60	24	P	P	16 19 36.0	-0.7	
	baz=252							
M27K	**Edge Creek, AK**	88.69	27	P	P	16 19 36.2	-1.1	
	baz=254,SNR=5.7							
F25K	**Christian Rive**	88.81	21	P	P	16 19 36.7	-0.9	
	baz=250							
L27K	**Beaver Creek,**	88.92	26	P	P	16 19 36.6	-1.6	
L27K				IAmb	IAmb	16 19 41.9		
	comp=Z,13nm,1.2s							
L27K	**Beaver Creek,**	88.92	26	P	P	16 19 37.2	-1.0	
	baz=254							
BCAR	**Beaver Creek A**	88.94	26	P	P	16 19 36.8	-1.5	
E25K	**Arctic Village**	89.01	21	IAmb	IAmb	16 19 42.8		
	comp=Z,18nm,1.4s							
E25K	**Arctic Village**	89.01	21	P	P	16 19 38.2	-0.4	
	baz=250							
I26K	**Coal Creek Min**	89.02	24	P	P	16 19 37.6	-0.9	
	baz=253							
O28M	**Mount Upton**	89.05	29	P	P	16 19 37.9	-1.2	
	baz=255							
K27K	**Chicken**	89.08	25	P	P	16 19 37.6	-1.3	
	baz=254							
BMAR	**Burnt Mountain**	89.14	22	P	P	16 19 37.4	-1.8	
D25K	**Kavik River**	89.15	20	P	P	16 19 38.4	-0.8	
	baz=250							
PNL	**Peninsula**	89.15	30	P	P	16 19 37.6	-1.7	
	baz=256							
BVCY	**Beaver Creek**	89.17	27	P	P	16 19 38.2	-1.1	
	baz=255							
YUK3	**Moose Creek**	89.18	28	P	P	16 19 38.2	-1.5	
	baz=255							
G26K	**Porcupine Rive**	89.28	22	P	P	16 19 38.9	-0.8	
	baz=252							
YUK8	**Steele Glacier**	89.38	28	P	P	16 19 39.5	-1.2	
	baz=256							
F26K	**Sheenjek River**	89.38	21	P	P	16 19 39.5	-0.8	
	baz=252							
EGAK	**Eagle**	89.67	25	P	P	16 19 39.9	-1.8	
EGAK				IAmb	IAmb	16 19 44.4		
	comp=Z,9.2nm,1.1s							
EGAK	**Eagle**	89.67	25	P	P	16 19 40.0	-1.6	
	baz=254							
O29M	**Mount Kennedy**	89.70	29	IAmb	IAmb	16 19 55.6		
	comp=Z,16nm,1.3s							
O29M	**Mount Kennedy**	89.70	29	P	P	16 19 40.6	-1.4	
	baz=257							
I27K	**Kandik River**	89.72	24	P	P	16 19 39.8	-2.1	
	baz=254							
C26K	**Camden Bay**	89.84	19	P	P	16 19 40.5	-1.8	
	baz=251							
YUK4	**Tatonduk Arm**	89.91	28	P	P	16 19 40.8	-2.3	
	baz=257							
H27K	**Steamboat Moun**	89.93	23	P	P	16 19 41.6	-1.2	
	baz=254							
YUK6	**Outpost Mounta**	89.95	29	P	P	16 19 41.1	-2.2	
	baz=257							
P29M	**Windy Craggy**	89.96	30	IAmb	IAmb	16 19 49.2		
	comp=Z,14nm,1.1s							
P29M	**Windy Craggy**	89.96	30	P	P	16 19 40.5	-2.7	
	baz=257							
G27K	**Doyon Strip**	90.04	23	IAmb	IAmb	16 19 47.5		
	comp=Z,25nm,1.9s							
G27K	**Doyon Strip**	90.04	23	P	P	16 19 41.6	-1.8	
	baz=254							
GEYT	**Alibeck**	90.08	308	P	P	16 19 46.0	+1.8	
	comp=Z,2.0nm,0.7s,baz=48,slow=2.2,SNR=5.0							
DAWY	**Dawson**	90.23	25	P	P	16 19 43.9	-0.5	
	baz=256							
M29M	**Somme Creek**	90.25	27	P	P	16 19 43.4	-1.1	
M29M	**Somme Creek**	90.25	27	P	P	16 19 43.0	-1.5	
	baz=257							
HYT	**Haines Junctio**	90.34	29	P	P	16 19 43.4	-1.6	
	baz=258							
I28M	**Miner Creek**	90.35	24	IAmb	IAmb	16 20 38.0		
	comp=Z,20nm,1.7s							
I28M	**Miner Creek**	90.35	24	P	P	16 19 44.3	-0.7	
	baz=256							
S31K	**Pelican**	90.38	32	P	P	16 19 44.0	-1.0	
	baz=259							
E27K	**Coleen River**	90.45	21	P	P	16 19 43.7	-1.6	
E27K				IAmb	IAmb	16 19 49.4		
	comp=Z,10nm,1.3s							
E27K	**Coleen River**	90.45	21	P	P	16 19 44.0	-1.2	
	baz=254							
ABKAR	**Akbulak array**	90.46	319	P	P	16 19 43.7	-1.9	
ABKAR	**Akbulak array**	90.46	319	IAmb	IAmb	16 19 46.9		
	comp=Z,6.7nm,1.4s							
L29M	**L29M**	90.56	26	IAmb	IAmb	16 19 49.7		
	comp=Z,9.8nm,1.0s							
L29M	**L29M**	90.56	26	P	P	16 19 44.4	-1.5	
	baz=257							
PLBC	**Pleasant Camp**	90.61	30	P	P	16 19 44.8	-1.3	
	baz=259							
N30M	**Aishikik Lake**	90.67	28	P	P	16 19 45.4	-1.1	
	baz=258							
SIT	**Sitka**	90.69	33	P	P	16 19 45.1	-1.4	
	baz=259							
J29N	**Klondike Camp**	90.82	25	P	P	16 19 46.0	-1.1	
	baz=257							
F28M	**Old Crow**	90.92	22	P	P	16 19 46.1	-1.4	
	baz=256							
K29M	**Barlow Dome**	90.98	26	P	P	16 19 46.7	-1.3	
K29M				IAmb	IAmb	16 20 01.8		
	comp=Z,7.2nm,0.9s							
K29M	**Barlow Dome**	90.98	26	P	P	16 19 46.7	-1.3	
	baz=258							
O30N	**Mendenhall**	91.00	29	P	P	16 19 47.5	-0.5	
	baz=259							
M30M	**Minto, Yukon**	91.04	27	P	P	16 19 47.6	-0.5	
	baz=258							
H29M	**Whitestone**	91.16	23	P	P	16 19 48.3	-0.3	
	baz=257							
N31M	**Braeburn, Yuko**	91.29	28	P	P	16 19 47.9	-1.4	
	baz=259							
E28M	**Babbage River**	91.29	21	P	P	16 19 48.3	-0.8	
	baz=256							
R32K	**Eaglecrest**	91.33	32	P	P	16 19 48.2	-1.3	
	baz=260							
G29M	**Pine Creek**	91.45	23	P	P	16 19 50.1	+0.1	
	baz=257							
WHY	**Whitehorse**	91.57	29	P	P	16 19 49.8	-0.9	
	baz=260							
CRAG	**Craig**	91.63	34	P	P	16 19 48.9	-2.0	
	baz=261							
J30M	**Hart River**	91.65	25	IAmb	IAmb	16 20 30.9		
	comp=Z,9.3nm,1.2s							
J30M	**Hart River**	91.65	25	P	P	16 19 49.6	-1.4	
	baz=259							
D28M	**Stokes Point**	91.75	20	P	P	16 19 50.3	-0.9	
	baz=257							
I30M	**Mount Dempster**	91.75	25	P	P	16 19 49.1	-2.4	
I30M				IAmb	IAmb	16 19 54.6		
	comp=Z,8.5nm,1.2s							
I30M	**Mount Dempster**	91.75	25	P	P	16 19 49.6	-1.8	
	baz=259							
E29M	**Fish River**	91.83	21	P	P	16 19 49.7	-1.9	
	baz=257							
EPYK	**Eagle Plains**	91.85	23	IAmb	IAmb	16 19 54.2		
	comp=Z,11nm,1.1s							
EPYK	**Eagle Plains**	91.85	23	P	P	16 19 51.2	-0.6	
	baz=258							
AKTO	**Aktyubinsk**	91.87	320	LR	LR	17 00 45.5		
	comp=Z,59nm,21.7s,baz=134,slow=35							
P32M	**Atlin**	91.96	30	P	P	16 19 51.0	-1.4	
	baz=261							
G30M	**tAoh Zraii Nji**	92.16	23	IAmb	IAmb	16 19 55.4		
	comp=Z,7.6nm,1.2s							
G30M	**tAoh Zraii Nji**	92.16	23	P	P	16 19 52.7	-0.5	
	baz=259							
ARU	**Arti**	92.36	326	P	P	16 19 51.1	-3.2	
ARU				IAmb	IAmb	16 20 04.2		
	comp=Z,13nm,1.4s							
ARU	**Arti**	92.36	326	*d i* P	P	16 19 54.2	-0.1	
ARU						16 23 36.0		
ARU				S	**SKSac**	16 30 27.5	-0.2	
ARU				SS	**SS**	16 37 06.8	-1.7	
ARU				pmax	pmax			
	comp=Z,9.0nm,1.3s							
ARU	**Arti**	92.36	326	LR	LR	17 03 09.5		
	comp=Z,114nm,19.8s,baz=120,slow=37							
F30M	**Barrier River**	92.45	22	P	P	16 19 54.5	0.0	
	baz=259							
V35K	**Ketchikan**	92.46	35	P	P	16 19 55.0	+0.3	
	baz=262							
P33M	**Teslin, Yukon**	92.50	30	P	P	16 19 54.1	-0.9	
	baz=262							
N32M	**Quiet Lake**	92.52	29	P	P	16 19 54.2	-0.8	
	baz=262							
FARO	**Faro, Yukon**	92.56	28	IAmb	IAmb	16 20 42.1		
	comp=Z,7.2nm,1.3s							
FARO	**Faro, Yukon**	92.56	28	P	P	16 19 54.2	-1.0	
	baz=261							
H31M	**Peel River**	92.69	24	P	P	16 19 55.3	-0.4	
	baz=261							
ELIB	**Princess Elisa**	92.81	196	*d* P	P	16 19 56.7	+0.4	
	comp=Z,3.7nm,0.8s							
G31M	**Satah River**	92.91	23	P	P	16 19 56.4	-0.2	
	baz=261							
S34M	**Telegraph Cree**	93.06	32	P	P	16 19 57.1	-0.3	
	baz=263							
F31M	**Tsiigehtchic**	93.19	23	P	P	16 19 57.6	-0.3	
	baz=261							
R33M	**Jennings River**	93.32	31	P	P	16 19 58.3	-0.5	
	baz=263							
INK	**Inuvik**	93.41	22	P	P	16 19 57.5	-1.3	
INK				IAmb	IAmb	16 20 10.8		
	comp=Z,7.2nm,1.4s							
INK	**Inuvik**	93.41	22	P	P	16 19 58.9	+0.1	
	baz=262							
INK	**Inuvik**	93.41	22	P	P	16 19 57.5	-1.3	
INK				pmax	pmax			
	comp=Z,7.0nm,1.4s							
INK	**Inuvik**	93.41	22	LR	LR	16 58 22.9		
	comp=Z,130nm,21.4s,baz=187,slow=33							
MMPY	**Sheldon Lake,**	93.57	28	P	P	16 19 59.7	-0.2	
	baz=263							
DLBC	**Dease Lake**	93.70	32	P	P	16 20 00.7	+0.2	
	baz=264							
BBB	**Bella Bella**	94.18	38	LR	LR	17 00 08.2		
	comp=Z,110nm,18.1s,baz=196,slow=34							
WTLY	**Watson Lake, Y**	94.49	30	P	P	16 20 02.2	-1.9	
WTLY				IAmb	IAmb	16 20 06.8		
	comp=Z,8.1nm,1.0s							
WTLY	**Watson Lake, Y**	94.49	30	P	P	16 20 04.3	+0.3	
	baz=265							
BELA	**Belgrano 2**	95.82	180	P	P	16 20 09.9	0.0	
A36M	**Sachs Harbour**	96.52	18	P	P	16 20 12.8	-0.3	
	baz=270							
KOTAN	**Kotaneelee Air**	96.86	30	P	P	16 20 14.8	-0.1	
	baz=269							
KIRV	**Kirov**	97.44	328	LR	LR	17 05 50.1		
	comp=Z,142nm,20.2s,baz=98,slow=36							
BELG	**Belogornoye**	98.48	322	*i* P	Pdif	16 20 21.6	-0.7	
BELG				pmax	pmax			
	comp=Z,3.0nm,1.1s							
BELG	**Belogornoye**	98.48	322	LR	LR	17 07 07.1		
	comp=Z,76nm,20.2s,baz=150,slow=37							
PINE	**Pine Mountain**	98.59	47	P	P	16 20 20.5	-2.8	
SNAA	**Sanae**	98.95	190	LR	LR	17 04 50.9		
	comp=Z,337nm,19.1s,baz=140,slow=35							
SMMC	**Simmler**	99.17	55	P	Pdif	16 20 24.7	-1.2	
	baz=269							
NVAR	**Mina Array Bea**	100.56	52	P	Pdif	16 20 32.4	+0.2	
	comp=Z,1.9nm,1.0s,baz=257,slow=4.3,SNR=7.4							
CWC	**Cottonwood Cre**	100.74	54	P	Pdif	16 20 30.7	-2.3	
	baz=270							
EDW2	**Edwards Air Fo**	100.81	56	P	Pdif	16 20 31.5	-1.7	
	baz=270							
BMO	**Blue Mountains**	101.19	46	Pdif	Pdif	16 20 35.1	+0.4	
BMO	**Blue Mountains**	101.19	46	P	Pdif	16 20 35.1	+0.4	
YKA	**Yellowknife Ar**	101.27	28	P	Pdif	16 20 32.9	-1.6	
	comp=Z,0.2nm,0.6s,baz=277,slow=4.4,SNR=5.8							
YKA				PKKPbc	**PKKPbc**	16 36 44.1	-2.5	
	comp=Z,0.3nm,0.8s,baz=97,slow=2.3,SNR=4.4							
KBZ	**Khabaz**	101.89	313	*i* P	Pdif	16 20 37.0	-0.7	
KBZ				pmax	pmax			
	comp=Z,4.0nm,1.5s							
KIV	**Kislovodsk**	102.03	313	*e* P	Pdif	16 20 37.2	-1.3	
KIV				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KIV				MLR	MLR			
	comp=Z,50nm,20.0s							
PDAR	**Pinedale Array**	106.94	47	Pdiff	Pdif	16 20 58.8	-1.8	
	comp=Z,0.4nm,0.7s,baz=290,slow=4.4,SNR=3.5							
TXAR	**Lajitas Array**	113.22	61	PKiKP	**PKiKP**	16 25 22.1	-0.3	
	comp=Z,0.2nm,0.5s,baz=321,slow=1.8,SNR=3.6							
TXAR				PKKPab	**PKKPab**	16 36 17.6	+2.3	
	comp=Z,0.8nm,0.9s,baz=72,slow=4.1,SNR=4.8							
S39A	**Bolivar**	120.12	50	PKPdf	**PKPdf**	16 25 34.0	-1.3	
PLCA	**Leso Flores**	123.74	149	PKP	**PKiKP**	16 25 42.9	+0.3	
	comp=Z,2.7nm,0.9s,baz=234,slow=2.3,SNR=7.3							
WVT	**Waverly**	124.79	50	P	**PKiKP**	16 25 44.7	+0.1	
	baz=290							
O48B	**Farmland**	125.19	44	P	**PKiKP**	16 25 45.3	0.0	
	baz=295							
PKME	**Peaks-Kenny Pk**	132.09	31	P	**PKiKP**	16 25 58.8	-0.2	
	baz=314							
TORD	**Torodi Ar. Bea**	141.57	283	PKhKP	PKPpre	16 26 11.7		
	comp=Z,1.8nm,0.9s,baz=60,slow=5.2,SNR=8.4							
LPAZ	**La Paz**	141.61	126	PKhKP	PKPpre	16 26 12.7		
	comp=Z,2.5nm,0.8s,baz=139,slow=2.3,SNR=7.0							
CPUP	**Villa Florida**	141.81	149	PKhKP	PKPpre	16 26 12.4		
	comp=Z,3.7nm,0.9s,baz=325,slow=1.2,SNR=3.1							
SDV	**Santo Domingo**	146.33	84		**PKPdf**	16 26 22.0	-2.9	
ETMB	**Extrema**	146.50	119	PKPdf	**PKPdf**	16 26 22.8	-2.1	
KIC	**Kosan Boka**	148.20	272	*ℓ e* P	**PKPbc**	16 26 31.0	-0.1	
	comp=Z,36nm,0.8s							
DBIC	**Dimbokro**	148.32	272	PKPdf	**PKPdf**	16 26 24.9	-3.1	
DBIC					**PKPbc**	16 26 29.7	-1.7	
DBIC	**Dimbokro**	148.32	272	PKHKP	PKPpre	16 26 24.9		
DBIC						16 26 29.7		
DBIC	**Dimbokro**	148.32	272	PKPbc	**PKPbc**	16 26 31.2	-0.2	
	comp=Z,30nm,0.9s,baz=80,slow=3.7,SNR=26							
LIC	**Lamto**	148.48	271	*e* P	**PKPbc**	16 26 31.5	-0.3	
	comp=Z,104nm,0.8s							
TIC	**Toumodi**	148.48	272	*ℓ e* P	**PKiKP**	16 26 32.9	-0.5	
	comp=Z,50nm,0.9s			

WRA	**Warramunga Arr**	**16.95**	**199**	P		**Pn**	**16 24 56.6**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=16,slow=13,SNR=22							
WRA				S		**Sn**	**16 28 01.9**	**-1.9**
	comp=Z,0.7nm,0.6s,baz=13,slow=23,SNR=4.3							
	comp=Z,4.7nm,0.6s							
FITZ	**Fitzroy Crossi**	**20.09**	**224**	P		**P**	**16 25 31.5**	**-0.2**
TOLI2	**Tolitoli**	**20.09**	**284**	P		**P**	**16 25 33.6**	**+1.8**
TOLI2	**Tolitoli**	**20.09**	**284**	P		**P**	**16 25 30.4**	**-1.4**
TOLI2				IAmb		IAmb	16 25 37.9	
	comp=Z,8.9nm,1.0s							
KAPI	**Kappang**	**20.47**	**266**	P		**P**	**16 25 37.3**	**+1.4**
AS01	**Alice Springs**	**20.56**	**197**	P		Pn	16 25 39.6	0.0
AS31	**Alice Springs**	**20.58**	**197**	P		**P**	**16 25 36.7**	**-0.4**
AS31				IAmb		IAmb	16 25 41.6	
	comp=Z,2.6nm,0.6s							
ASAR	**Alice Springs**	**20.58**	**197**	P		**P**	**16 25 37.0**	**0.0**
ASAR	**Alice Springs**	**20.58**	**197**	P		**P**	**16 25 38.4**	**+1.4**
	comp=Z,6.9nm,0.8s,bas=30,slow=9.2,SNR=76							
	comp=Z,6.9nm,0.8s							
WRKA	**Warakurna**	**23.95**	**208**	P		**P**	**16 26 13.5**	**+1.7**
MKAR	**Makanchi Array**	**71.67**	**322**	P		**P**	**16 32 20.4**	**+1.9**
	comp=Z,0.4nm,0.8s,baz=127,slow=3.8,SNR=3.1							
	comp=Z,0.4nm,0.8s							
VNDA	**Vanda**	**74.46**	**175**	P		**P**	**16 32 34.2**	**-0.2**
VNDA				IAmb		IAmb	16 32 41.8	
	comp=Z,2.7nm,1.4s							
VNDA	**Vanda**	**74.46**	**175**	P		**P**	**16 32 34.8**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=333,slow=7.4,SNR=6.0							
	comp=Z,0.3nm,0.5s							
N19K	**Bonanza Creek**	**81.63**	**27**	P		**P**	**16 33 12.0**	**-2.5**
N19K				IAmb		IAmb	16 33 21.6	
	comp=Z,6.0nm,1.3s							
QSPA	**South Pole Qui**	**86.04**	**180**	P		**P**	**16 33 37.2**	**+0.2**
QSPA	**South Pole Qui**	**86.04**	**180**	P		**P**	**16 33 37.2**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=310,slow=1.7,SNR=12							
	comp=Z,1.6nm,0.7s							
ILAR	**Eielson Array**	**86.28**	**24**	P		P	16 33 33.8	-4.2
	comp=Z,0.4nm,0.8s,baz=234,slow=4.3,SNR=2.9							
	comp=Z,0.4nm,0.8s							

JMA ***29*** *16:30:55.9±0.1, 39.˚8N×0.˚2×141.˚8E±0.˚4, h58km, MV3.7/35, NORTHERN IWATE PREF*
JMA Felt II J1 at NORTHERN IWATE PREF .
IDC ***29*** *16:30:56.7±2.3, 39.˚75N×141.˚82E, h70km±19km, mb3.4/10, mbtmp3.6/13, MS3.8/3, Error ellipse: s-maj=26.1km s-min=15.2km az=103.0*

ISC 29 16:30:55.6±0.8, 39.74N±0.˚04×141.˚84E±0.˚07, h59km±6km, n32, σ0.˚58/35, mb3.7/10, MS3.8/3, 16D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MIYJ	**Miyakonagasawa**	**0.17**	**185**	*i* P		**Pn**	**16 31 05.1**	**+0.3**
MIYJ				S		**Sn**	**16 31 11.4**	**+0.1**
JTH	**Tanohata**	**0.20**	**5**	*i* P		**Pn**	**16 31 05.1**	**+0.2**
JTH				S		**Sn**	**16 31 11.6**	**0.0**
JKZ	**Kuzumaki**	**0.46**	**302**	⇓*i* P		**Pn**	**16 31 07.4**	**+0.3**
JKZ				⇓S		**Sn**	**16 31 15.5**	**0.0**
JKEN	**Kujiedanarisaw**	**0.47**	**348**	⇓*i* P		**Pn**	**16 31 07.2**	**0.0**
JKEN				⇓S		**Sn**	**16 31 15.4**	**-0.1**
JOM	**Ohasama**	**0.50**	**238**	⇓*i* P		**Pn**	**16 31 07.7**	**+0.2**
JOM				⇓S		**Sn**	**16 31 16.2**	**0.0**
JANG	**Nango**	**0.68**	**338**	⇓*i* P		**Pn**	**16 31 09.3**	**-0.2**
JANG				⇓S		**Sn**	**16 31 19.3**	**-0.3**
JMK	**Ichinoseki**	**0.93**	**211**	⇓*i* P		**Pn**	**16 31 12.8**	**+0.2**
JMK				⇓*eS*		**Sn**	**16 31 25.6**	**+0.4**
JRG	**Rokugo**	**0.99**	**250**	⇓*i* P		**Pn**	**16 31 13.6**	**+0.1**
JRG				⇓*eS*		**Sn**	**16 31 27.3**	**+0.5**
JAH	**Hinai**	**1.03**	**296**	⇓*i* P		**Pn**	**16 31 14.1**	**+0.2**
JAH				⇓S		**Sn**	**16 31 28.1**	**+0.6**
JTM	**Tenmabayashi**	**1.20**	**331**	⇓*i* P		**Pn**	**16 31 16.2**	**-0.1**
JTM				⇓S		**Sn**	**16 31 31.4**	**-0.2**
JIO	**Ouri**	**1.34**	**197**	*i* P		**Pn**	**16 31 18.3**	**+0.1**
MJAR	**Matsushiro Arr**	**4.29**	**223**	P		**Pn**	**16 32 00.3**	**+1.8**
	1.6nm,0.5s,baz=30,slow=14,SNR=7.3							
ASAJ	**Asahikawa**	**4.41**	**7**	P		**Pn**	**16 32 00.8**	**+0.9**
	2.3nm,0.4s,baz=209,slow=16,SNR=9.8							
ASAJ				S		**Sn**	**16 32 51.1**	**+1.2**
	3.5nm,0.4s,baz=120,slow=14,SNR=1.8							
USRK	**Ussuriysk Ar.**	**8.58**	**304**	P		**Pn**	**16 32 57.9**	**+0.8**
	1.3nm,0.6s,baz=98,slow=13,SNR=6.8							
H11N2	**WAKE ISLAND Hy**	**29.35**	**126**	T		T	17 07 28.8	
	baz=318,slow=76,SNR=71							
H11N1	**WAKE ISLAND Hy**	**29.36**	**126**	T		T	17 07 29.1	
	baz=318,slow=76,SNR=74							
H11N3	**WAKE ISLAND Hy**	**29.37**	**126**	T		T	17 07 31.1	
	baz=318,slow=76,SNR=67							
H11S1	**WAKE ISLAND Hy**	**30.14**	**127**	T		T	17 08 30.8	
	baz=319,slow=76,SNR=21							
H11S3	**WAKE ISLAND Hy**	**30.15**	**127**	T		T	17 08 31.8	
	baz=319,slow=76,SNR=24							
H11S2	**WAKE ISLAND Hy**	**30.16**	**127**	T		T	17 08 33.5	
	baz=319,slow=76,SNR=24							
ZALV	**Zalesovo Beam**	**40.38**	**310**	P		**P**	**16 38 27.3**	**-0.2**
	1.8nm,0.5s,baz=92,slow=8.6,SNR=8.8							
	1.8nm,0.5s							
MKAR	**Makanchi Array**	**43.02**	**300**	P		**P**	**16 38 48.7**	**-0.6**
	0.6nm,0.5s,baz=85,slow=10.0,SNR=11							
	0.6nm,0.5s							
KURBB	**Kurchatov Arra**	**44.64**	**306**	P		**P**	**16 39 01.9**	**-0.3**
	1.5nm,0.5s,baz=81,slow=8.5,SNR=11							
	1.5nm,0.5s							
ILAR	**Eielson Array**	**47.04**	**34**	P		**P**	**16 39 21.6**	**+0.7**
	0.3nm,0.6s,baz=272,slow=6.7,SNR=4.4							
	0.3nm,0.6s							
BVAR	**Borovoye Array**	**49.03**	**311**	P		**P**	**16 39 36.1**	**-0.3**
	0.3nm,0.4s,baz=61,slow=7.4,SNR=4.2							
	0.3nm,0.4s							
SPITS	**Spitsbergen Ar**	**57.94**	**349**	LR		LR	17 06 24.0	
	comp=Z,87nm,21.2s,baz=14,slow=37							
WRA	**Warramunga Arr**	**59.79**	**188**	P		**P**	**16 40 53.8**	**-0.9**
	0.3nm,0.7s,baz=4.7,slow=7.0,SNR=2.2							
	0.3nm,0.7s							
ASAR	**Alice Springs**	**63.52**	**188**	P		**P**	**16 41 19.2**	**-0.6**
	0.1nm,0.3s,baz=0.0,slow=6.5,SNR=1.6							
	0.1nm,0.3s							
FINES	**FINESS Array B**	**66.58**	**332**	P		**P**	**16 41 39.1**	**-0.1**
	0.9nm,0.7s,baz=32,slow=11,SNR=5.2							
	0.9nm,0.7s							
JMIC	**Jan Mayen**	**67.54**	**350**	LR		LR	17 12 39.2	
	comp=Z,28nm,19.0s,baz=87,slow=37							
HFS	**Hagfors**	**71.76**	**336**	P		**P**	**16 42 11.4**	**0.0**
	2.0nm,0.8s,baz=37,slow=7.7,SNR=1.7							
	2.0nm,0.8s							
NOA	**NORSAR Array B**	**71.82**	**337**	P		**P**	**16 42 11.0**	**-0.7**
	0.3nm,0.7s,baz=41,slow=9.4,SNR=1.6							
NOA				LR		LR	17 17 55.0	
	comp=Z,108nm,19.8s,baz=65,slow=39							
	0.3nm,0.7s							

IDC ***29*** *16:38:30.3±0.7, 18.˚82N×147.˚30E, h0km, mb4.1/18, mbtmp4.1/19, ML3.1/1, Error ellipse: s-maj=20.6km s-min=15.5km az=80.0*
NEIC ***29*** *16:38:32.7±1.6, 18.˚86N±0.˚06×147.˚2E±0.˚1, h10km±1km, mb4.5/74, Error ellipse: s-maj=19.5km s-min=10.3km az=83.0*

ISC 29 16:38:32.1±0.5, 18.˚88N±0.˚05×147.˚18E±0.˚10, h10km, n99, σ1.˚25/86, mb4.5/53, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**5.71**	**203**	Pn		**Pn**	**16 39 58.0**	**+1.0**
GUMO	**Guam**	**5.71**	**203**	Pn		**Pn**	**16 40 00.5**	**+3.5**
	13nm,0.3s,baz=161,slow=23,SNR=13							
GUMO				Sn		**Sn**	**16 41 03.7**	**+1.0**
	18nm,0.3s,baz=0.0,slow=20,SNR=1.9							
JCJ	**Chichijima**	**9.38**	**332**	Pn		**Pn**	**16 40 47.1**	**-0.2**
JCJ				Sn		**Sn**	**16 42 28.1**	**-4.7**
PATS	**Pohnpei**	**16.15**	**136**	Pn		**Pn**	**16 42 17.4**	**-1.9**
H11S3	**WAKE ISLAND Hy**	**18.49**	**88**	T		T	17 01 49.5	
	baz=275,slow=74,SNR=41							
H11S1	**WAKE ISLAND Hy**	**18.50**	**88**	T		T	17 01 49.6	
	baz=275,slow=74,SNR=26							
H11S2	**WAKE ISLAND Hy**	**18.51**	**88**	T		T	17 01 47.2	
	baz=275,slow=74,SNR=17							
INU	**Inuyama**	**18.71**	**333**	P		**Pn**	**16 42 52.2**	**+1.1**
JGF	**Kuroka**	**18.78**	**334**	P		**P**	**16 42 52.1**	**+0.5**
JMN	**Monobe**	**18.96**	**324**	P		**P**	**16 42 54.4**	**+0.8**
JMN				IAmb		IAmb	16 43 29.4	
	comp=Z,42nm,1.4s							
MJAR	**Matsushiro Arr**	**19.28**	**338**	P		**P**	**16 42 57.0**	**0.0**
	comp=Z,0.1nm,0.3s,baz=166,slow=11,SNR=4.6							
	comp=Z,2.0nm,0.6s							
MAJO	**Matsushiro**	**19.28**	**338**			**P**	**16 42 57.8**	**+0.7**
MJB9	**Matsu-Tunnel**	**19.29**	**338**	P		**P**	**16 42 57.2**	**+0.1**
JNU	**Nakatsue**	**20.35**	**317**	P		**P**	**16 43 10.0**	**+1.3**
JNU	**Nakatsue**	**20.35**	**317**	P		Pn	16 43 10.8	+0.1
	comp=Z,8.6nm,0.9s,baz=174,slow=18,SNR=3.8							
	comp=Z,8.6nm,0.9s							
YULB	**Yu-li**	**24.54**	**285**	P		**P**	**16 43 51.0**	**-1.1**
YULB				IAmb		IAmb	16 44 21.0	
	comp=Z,15nm,1.0s							
YHNB	**Yeheng**	**24.62**	**288**	P		**P**	**16 43 51.8**	**-1.1**
SSLB	**Suanglung**	**24.89**	**286**	P		**P**	**16 43 55.4**	**+0.1**
KSRS	**Korea Array**	**25.02**	**322**	P		**P**	**16 43 57.0**	**+0.8**
	comp=Z,6.5nm,0.7s,baz=145,slow=8.7,SNR=25							
	comp=Z,6.5nm,0.7s							
KSAR	**Wonju Array Be**	**25.03**	**322**	P		**P**	**16 43 57.4**	**+1.0**
KS19	**Wonju Array Si**	**25.09**	**322**	P		**P**	**16 43 57.3**	**+0.4**
KS19				IAmb		IAmb	16 44 00.4	
	comp=Z,8.9nm,0.7s							
USRK	**Ussuriysk Ar.**	**28.27**	**337**	P		**P**	**16 44 27.2**	**+1.7**
	comp=Z,1.2nm,0.8s,baz=146,slow=11,SNR=4.7							
	comp=Z,1.2nm,0.8s							
COEN	**Coen**	**32.87**	**187**	P		**P**	**16 45 04.5**	**-1.9**
COEN				IAmb		IAmb	16 45 20.4	
	comp=Z,13nm,1.5s							
WRA	**Warramunga Arr**	**40.59**	**199**	P		**P**	**16 46 11.9**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=21,slow=8.4,SNR=6.7							
	comp=Z,1.0nm,0.5s							
SONM	**Songino Array**	**43.88**	**321**	P		**P**	**16 46 36.8**	**-2.1**
SONM	**Songino Array**	**43.88**	**321**	P		**P**	**16 46 39.8**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=141,slow=8.1,SNR=10							
	comp=Z,1.6nm,0.7s							
AS31	**Alice Springs**	**44.23**	**198**	P		**P**	**16 46 38.8**	**-2.9**
ASAR	**Alice Springs**	**44.23**	**198**	P		**P**	**16 46 39.2**	**-2.6**
ASAR	**Alice Springs**	**44.23**	**198**	P		**P**	**16 46 39.4**	**-2.4**
	comp=Z,0.7nm,0.8s,baz=4.5,slow=12,SNR=23							
	comp=Z,0.7nm,0.8s							
CMAR	**Chiang Mai Arr**	**45.58**	**278**	P		**P**	**16 46 53.8**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=71,slow=6.9,SNR=8.6							
	comp=Z,1.2nm,0.8s							
STKA	**Stephens Creek**	**50.75**	**186**	P		**P**	**16 47 32.9**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=346,slow=14,SNR=3.1							
	comp=Z,0.6nm,0.3s							
BBOO	**Buckleboo**	**52.49**	**192**	P		**P**	**16 47 42.9**	**-2.4**
N15K	**Kwethluk River**	**55.58**	**29**	P		**P**	**16 48 07.4**	**-0.2**
N15K				IAmb		IAmb	16 48 18.8	
	comp=Z,4.4nm,0.8s							
O16K	**Kokwok River B**	**56.28**	**30**	P		**P**	**16 48 12.9**	**+0.3**
O16K				IAmb		IAmb	16 48 40.5	
	comp=Z,5.8nm,1.3s							
F15K	**North Star Dit**	**56.35**	**22**	P		**P**	**16 48 14.1**	**+1.1**
M16K	**Timber Creek**	**56.44**	**28**	P		**P**	**16 48 13.6**	**-0.1**
L16K	**Owhat River**	**56.49**	**27**	P		**P**	**16 48 14.8**	**+0.7**
L16K				IAmb		IAmb	16 48 35.8	
	comp=Z,7.8nm,1.5s							
J16K	**Anvik River**	**56.69**	**25**	P		**P**	**16 48 16.2**	**+0.7**
J16K				IAmb		IAmb	16 48 40.6	
	comp=Z,7.6nm,1.5s							
N17K	**Nushagak Hills**	**57.05**	**29**	P		**P**	**16 48 18.0**	**-0.1**
N17K				IAmb		IAmb	16 48 41.5	
	comp=Z,4.4nm,1.1s							
K17K	**Iditarod**	**57.40**	**26**	P		**P**	**16 48 21.0**	**+0.5**
K17K				IAmb		IAmb	16 48 36.4	
	comp=Z,5.1nm,0.9s							
F17K	**Baldwin Pennin**	**57.92**	**22**	P		**P**	**16 48 24.8**	**+0.7**
SVW2	**Sparrevohn**	**57.99**	**29**	P		**P**	**16 48 25.6**	**+0.9**
H18K	**Honhosa River**	**58.39**	**24**	P		**P**	**16 48 27.7**	**+0.2**
H18K				IAmb		IAmb	16 48 38.0	
	comp=Z,4.7nm,1.1s							
G18K	**Tagagawik**	**58.60**	**23**	P		**P**	**16 48 31.2**	**+2.2**
G18K				IAmb		IAmb	16 48 32.2	
	comp=Z,3.0nm,0.8s							
E18K	**Tubphlearik C**	**58.62**	**21**	P		**P**	**16 48 29.8**	**+0.8**
ZAA0	**Zalesovo Array**	**58.73**	**322**	P		**P**	**16 48 29.7**	**-0.3**
ZALV	**Zalesovo Beam**	**58.73**	**322**	P		**P**	**16 48 29.4**	**-0.6**
ZALV	**Zalesovo Beam**	**58.73**	**322**	P		**P**	**16 48 29.8**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=103,slow=6.0,SNR=8.8							
	comp=Z,1.9nm,0.7s							
H19K	**Roundabout Mou**	**59.28**	**24**	IAmb		IAmb	16 48 37.3	
	comp=Z,4.0nm,0.9s							
G19K	**Purcell Mounta**	**59.29**	**23**	P		**P**	**16 48 34.0**	**+0.3**
MK31	**Makanchi Array**	**59.35**	**314**	P		**P**	**16 48 34.9**	**+0.4**
MKAR	**Makanchi Array**	**59.35**	**314**	P		**P**	**16 48 35.0**	**+0.5**
MKAR	**Makanchi Array**	**59.35**	**314**	P		**P**	**16 48 35.4**	**+1.0**
	comp=Z,2.0nm,0.8s,bas=93,slow=8.7,SNR=22							
	comp=Z,2.0nm,0.8s							
MAKZ	**Makanchi**	**59.56**	**314**	P		**P**	**16 48 35.8**	**-0.2**
MAKZ				IAmb		IAmb	16 48 37.7	
	comp=Z,3.0nm,0.8s							
J20K	**Nowinta River**	**59.68**	**26**	P		**P**	**16 48 37.7**	**+1.3**
J20K				IAmb		IAmb	16 48 42.4	
	comp=Z,2.7nm,0.8s							
D19K	**Kuna River**	**59.95**	**20**	P		**P**	**16 48 39.0**	**+0.8**
H21K	**Melozitna Rive**	**60.73**	**24**	P		**P**	**16 48 44.1**	**+0.5**
H21K				IAmb		IAmb	16 48 47.6	
	comp=Z,3.2nm,0.7s							
KTH	**Kantishna Hill**	**60.83**	**27**	IAmb		IAmb	16 48 55.1	
	comp=Z,5.3nm,0.9s							
B20K	**Meade River**	**60.94**	**19**	P		**P**	**16 48 45.9**	**+1.0**
F21K	**Alatna River**	**61.03**	**23**	IAmb		IAmb	16 49 25.9	
	comp=Z,4.7nm,1.4s							
TRF	**Thorofare Moun**	**61.08**	**27**	P		**P**	**16 48 45.6**	**-0.6**
TRF				IAmb		IAmb	16 48 57.2	
	comp=Z,5.2nm,1.0s							
NRIK	**Noril'sk**	**61.92**	**340**	P		**P**	**16 48 53.8**	**+2.3**
	comp=Z,2.9nm,0.6s,baz=51,slow=3.3,SNR=4.0							
	comp=Z,2.9nm,0.6s							
E22K	**Anaktuvuk Pass**	**61.95**	**22**	P		**P**	**16 48 52.5**	**+0.6**
E22K				IAmb		IAmb	16 48 56.0	
	comp=Z,2.7nm,0.7s							
SCM	**Sheep Creek Mo**	**62.00**	**29**	P		**P**	**16 48 52.1**	**-0.2**
KURBB	**Kurchatov Arra**	**62.12**	**318**	P		**P**	**16 48 53.8**	**+0.6**
	comp=Z,2.6nm,0.4s,baz=94,slow=7.4,SNR=29							
	comp=Z,2.6nm,0.4s							
B22K	**Teshpuk Lake**	**62.24**	**19**	IAmb		IAmb	16 48 57.8	
	comp=Z,6.3nm,1.4s							
WRH	**Wood River Hil**	**62.29**	**26**	IAmb		IAmb	16 48 56.8	
	comp=Z,3.0nm,0.8s							
MDM	**Murphy Dome**	**62.35**	**26**	IAmb		IAmb	16 49 05.3	
	comp=Z,4.2nm,1.2s							
M24K	**Tolsona, Glenn**	**62.59**	**29**	P		**P**	**16 48 58.4**	**+2.2**
IL31		**62.86**	**26**	IAmb		IAmb	16 48 59.7	
	comp=Z,4.4nm,1.1s							
ILAR	**Eielson Array**	**62.86**	**26**	P		**P**	**16 48 58.9**	**+0.9**
ILAR	**Eielson Array**	**62.86**	**26**	P		**P**	**16 48 56.5**	**-1.4**
	comp=Z,1.7nm,0.8s,baz=251,slow=5.4,SNR=18							
	comp=Z,1.7nm,0.8s							
RIDG	**Independent Ri**	**63.51**	**27**	P		**P**	**16 49 02.6**	**+0.3**
SCRK	**Sand Creek**	**63.93**	**27**	P		**P**	**16 49 05.3**	**+0.1**
SCRK				IAmb		IAmb	16 49 18.5	
	comp=Z,3.2nm,1.0s							
J26L	**Joseph Creek**	**64.21**	**27**	P		**P**	**16 49 06.6**	**-0.4**
J26L				IAmb		IAmb	16 49 17.5	
	comp=Z,3.2nm,0.8s							
D25K	**Kavik River**	**64.21**	**21**	IAmb		IAmb	16 49 18.2	
	comp=Z,4.0nm,1.1s							
GRNC	**Granite Creek**	**64.46**	**31**	P		**P**	**16 49 09.0**	**+0.1**
TABL	**Table Mountain**	**64.73**	**31**	P		**P**	**16 49 10.3**	**-0.3**
BCAR	**Beaver Creek A**	**64.75**	**28**	P		**P**	**16 49 11.0**	**+0.5**
EGAK	**Eagle**	**65.27**	**27**	P		**P**	**16 49 14.7**	**+0.9**
I28M	**Miner Creek**	**65.88**	**26**	P		**P**	**16 49 17.6**	**-0.2**
I28M				IAmb		IAmb	16 49 45.5	
	comp=Z,6.1nm,1.5s							
M29M	**Somme Creek**	**66.20**	**29**	IAmb		IAmb	16 49 31.1	
	comp=Z,5.2nm,1.1s							
L29M	**L29M**	**66.41**	**29**	P		**P**	**16 49 22.6**	**+1.3**
L29M				IAmb		IAmb	16 49 25.3	
	comp=Z,4.5nm,0.9s							
K29M	**Barlow Dome**	**66.74**	**28**	IAmb		IAmb	16 49 27.6	
	comp=Z,3.4nm,0.9s							
BVAR	**Borovoye Array**	**67.23**	**320**	P		**P**	**16 49 27.1**	**+0.6**
	comp=Z,7.3nm,0.8s,baz=88,slow=7.0,SNR=29							
	comp=Z,7.3nm,0.8s							
BRVK	**Borovoye**	**67.29**	**320**	P		**P**	**16 49 27.9**	**+0.9**
J30M	**Hart River**	**67.32**	**27**	P		**P**	**16 49 28.1**	**+1.0**
J30M				IAmb		IAmb	16 49 37.9	
	comp=Z,3.1nm,0.9s							
KK31	**Karatay Array**	**67.73**	**310**	P		**P**	**16 49 30.1**	**+0.2**
KK31				IAmb		IAmb	16 49 31.5	
	comp=Z,3.0nm,0.8s							
KKAR	**Karatay Array**	**67.73**	**310**	P		**P**	**16 49 30.1**	**+0.1**
KKAR				IAmb		IAmb	16 49 31.5	
	comp=Z,3.0nm,0.8s							
INK	**Inuvik**	**68.65**	**23**	IAmb		IAmb	16 49 38.4	
	comp=Z,2.8nm,0.7s							
SIMJ	**Simiganj**	**69.38**	**305**	P		**P**	**16 49 39.7**	**-0.8**
SIMJ				IAmb		IAmb	16 49 53.0	
	comp=Z,2.6nm,0.8s							
ABKAR	**Akbulak array**	**74.16**	**317**	P		**P**	**16 50 08.4**	**-0.5**
YKA	**Yellowknife Ar**	**77.17**	**28**	P		**P**	**16 50 25.5**	**-0.3**
	comp=Z,1.8nm,0.9s,baz=291,slow=5.7,SNR=16							
	comp=Z,1.8nm,0.9s							
J05D	**Fort Rock, OR**	**78.43**	**48**	P		**P**	**16 50 35.0**	**+1.6**
J05D				IAmb		IAmb	16 50 38.2	
	comp=Z,6.2nm,1.1s							
PINE	**Pine Mountain**	**78.50**	**48**	P		**P**	**16 50 34.4**	**+0.5**
NVAR	**Mina Array Bea**	**81.92**	**52**	P		**P**	**16 50 52.7**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=272,slow=4.7,SNR=9.3							
	comp=Z,1.5nm,0.8s							
PDAR	**Pinedale Array**	**86.69**	**46**	P		**P**	**16 51 16.9**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=253,slow=4.6,SNR=2.1							
	comp=Z,0.2nm,0.4s							
FINES	**FINESS Array B**	**87.30**	**336**	P		**P**	**16 51 17.5**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=52,slow=3.1,SNR=11							
	comp=Z,0.9nm,0.5s							
LPAZ	**La Paz**	**146.28**	**91**	PKPbc		**PKPbc**	**16 58 15.7**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=3.0,slow=4.1,SNR=4.2							

DJA 29 16:58:26.1±0.8, 0.˚5S±2.˚3×12.˚4E±.˚, h28km±7km, M3.8/14, mb4.0/5, MLv3.7/14, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KMSI	**Cibinong**	**0.91**	**334**	P		Pn	16 58 43.1	0.0
KMSI				S		Sn	16 58 55.4	+0.1
GTOI	**Gorontalo**	**1.63**	**303**	P		Pb	16 58 55.5	0.0
GTOI				S		Sb	16 59 18.2	+2.6
LUWI	**Luwuk**	**1.79**	**244**	P		Pn	16 58 55.7	+0.5
LUWI				S		Sn	16 59 17.6	+0.6
SANI	**Sanana**	**2.40**	**138**	P		Pn	16 59 03.2	-0.4
SANI				S		Sn	16 59 33.0	+0.8
MRSI	**Marisa**	**2.54**	**286**	P		Pn	16 59 05.3	-0.2
MRSI				S		Sn	16 59 36.2	+0.6
LBMI	**Labuha**	**3.14**	**97**	P		Pn	16 59 14.1	+0.3
LBMI				S		Sn	16 59 50.0	-0.5
TNTI	**Ternate**	**3.15**	**71**	P		Pn	16 59 12.9	-1.0
NLAI	**Namlea**	**4.03**	**138**	P		Pb	16 59 26.8	-.10
NLAI				S		Pn	16 59 25.6	-0.3
SGSI	**Sangihe**	**4.08**	**16**	P		Pn	16 59 26.4	-0.2
MPSI	**Mapaga**	**4.52**	**277**	P		Pn	16 59 32.0	-0.7
TTSI	**Tana Toraja**	**5.34**	**239**	P		Pn	16 59 43.9	-0.1
	16nm,1.1s,0.1nm							
BKSI	**Bulukumba**	**6.59**	**220**	P		Pn	17 00 01.5	+0.3

UPP ***29*** *17:01:18.3±0.1, 67.˚05N×20.˚95E, h0km, ML2.1, Suspected explosion*
IDC ***29*** *17:01:19.5±0.9, 67.˚04N×21.˚13E, h0km, mbtmp2.7/4, ML2.1/5, Error ellipse: s-maj=16.4km s-min=7.9km az=105.0*

ISC 29 17:01:18.8±0.8, 67.˚06N±0.˚03×20.˚92E±0.˚04, h10km, n19, σ1.˚20/23, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DUNU	**Dundret**	**0.15**	**296**	P		**Pg**	**17 01 21.8**	**-0.4**
DUNU				S		**Sg**	**17 01 24.2**	**-0.3**
MASU	**Masugnsbyn**	**0.58**	**46**	P		**Pg**	**17 01 29.4**	**-0.7**
PAJU	**Pajala**	**0.86**	**91**	P		**Pg**	**17 01 34.1**	**-1.2**
HARU	**Harads**	**0.90**	**179**	P		**Pg**	**17 01 35.1**	**-1.0**
RATU	**Laukkuluspa**	**0.93**	**327**	P		**Pg**	**17 01 35.6**	**-1.0**
KUA	**Kurravaara**	**0.93**	**346**	P		**

PBDV	**Barranco-do-Ve**	**3.90**	**337**	*e*Pn		**Pn**	**17 17 09.5**	**+1.2**
PBDV				*e*Sn		**Sn**	**17 17 52.7**	**-0.9**
PBDV				A		A	17 17 54.5	
	5.7nm,0.6s							
PBDV	**Barranco-do-Ve**	**3.90**	**337**	Pn		**Pn**	**17 17 09.9**	**+1.6**
PBDV				Sn		**Sn**	**17 17 52.7**	**-0.9**
PVAQ	**Vaqueiros**	**3.99**	**340**	*e*Pn		**Pn**	**17 17 10.6**	**+1.2**
PVAQ				*e*Sn		**Sn**	**17 17 53.4**	**-2.2**
PVAQ				A		A	17 17 58.9	
	7.9nm,0.2s							
PVAQ	**Vaqueiros**	**3.99**	**340**	Pn		**Pn**	**17 17 10.3**	**+0.9**
PVAQ				Sn		**Sn**	**17 17 54.6**	**-1.0**
PVAQ	**Vaqueiros**	**3.99**	**340**	P		**Pn**	**17 17 11.7**	**+2.3**
EBER	**Berja**	**4.13**	**38**	Pn		**Pn**	**17 17 12.3**	**+0.7**
EBER				⇑*i*Vmb_V			17 17 15.1	
	57nm,SNR=1.1							
EBER				Sn		**Sn**	**17 17 59.3**	**-0.1**
EMIN	**Mina Concepcio**	**4.14**	**353**	Pn		**Pn**	**17 17 12.1**	**+0.6**
EMIN				⇑*i*Vmb_V			17 17 12.8	
	114nm,SNR=1.3							
EMIN				Sn		**Sn**	**17 17 56.9**	**-2.4**
PFVI	**Vila Bisbo**	**4.16**	**327**	*e*Sn		**Sn**	**17 17 57.0**	**-2.7**
PFVI				A		A	17 18 05.2	
	9.2nm,0.6s							
MORF	**Marmelete**	**4.23**	**330**	*e*Pn		**Pn**	**17 17 13.5**	**+0.7**
MORF				*e*Sn		**Sn**	**17 18 00.2**	**-1.3**
MORF				A		A	17 18 01.4	
	16nm,0.1s							
MORF	**Marmelete**	**4.23**	**330**	*e*P		**Pn**	**17 17 13.4**	**+0.7**
MORF				*e*S		**Sn**	**17 17 59.4**	**-2.1**
MORF				IAML			17 18 01.7	
	comp=E,22nm,0.2s							
PCVE	**Castro Verde**	**4.29**	**338**	*e*Pn		**Pn**	**17 17 15.3**	**+1.7**
PCVE				*e*Sn		**Sn**	**17 18 02.3**	**-0.8**
PCVE				A		A	17 18 05.1	
	comp=E,5.2nm,0.2s							
PCVE	**Castro Verde**	**4.29**	**338**	Pn		**Pn**	**17 17 15.2**	**+1.6**
PCVE				Sn		**Sn**	**17 18 01.9**	**-1.3**
ECAB	**El Cabril**	**4.44**	**6**	Pn		**Pn**	**17 17 16.9**	**+1.2**
ECAB				Sn		**Sn**	**17 18 03.0**	**-3.8**
ECAB	**El Cabril**	**4.44**	**6**	Pn		**Pn**	**17 17 16.8**	**+1.2**
ECAB				⇑*i*Vmb_V			17 17 17.6	
	comp=E,171nm,SNR=1.9							
ECAB				Sn		**Sn**	**17 18 04.1**	**-2.7**
PTEO	**Sao Teotonio**	**4.46**	**331**	*e*Pn		**Pn**	**17 17 17.0**	**+1.1**
PTEO				*e*Sn		**Sn**	**17 18 06.4**	**-0.8**
PTEO				A		A	17 18 10.6	
	comp=E,9.1nm,0.6s							
MESJ	**Messejana**	**4.54**	**338**	*e*Pn		**Pn**	**17 17 18.5**	**+1.5**
MESJ				*e*Sn		**Sn**	**17 18 08.5**	**-0.7**
MESJ				A		A	17 18 11.3	
	comp=E,4.2nm,0.3s							
MESJ	**Messejana**	**4.54**	**338**	*e*P		**Pn**	**17 17 18.4**	**+1.4**
MESJ				*e*S		**Sn**	**17 18 06.7**	**-2.5**
MESJ				IAML			17 18 10.6	
	comp=E,3.2nm,0.2s							
PBAR	**Barrancos**	**4.59**	**350**	*e*Pn		**Pn**	**17 17 18.9**	**+1.3**
PBAR				*e*Sn		**Sn**	**17 18 07.7**	**-2.6**
PBAR				A		A	17 18 12.6	
	comp=E,3.7nm,0.3s							
PBAR	**Barrancos**	**4.59**	**350**	Pn		**Pn**	**17 17 18.6**	**+1.0**
EADA	**Adamuz**	**4.66**	**14**	Pn		**Pn**	**17 17 18.9**	**+0.3**
EADA				Sn		**Sn**	**17 18 08.5**	**-3.7**
EADA	**Adamuz**	**4.66**	**14**	Pn		**Pn**	**17 17 19.0**	**+0.4**
EADA				⇑*i*Vmb_V			17 17 21.5	
	comp=E,114nm,SNR=1.0							
EADA				Sn		**Sn**	**17 18 09.1**	**-3.0**
EQES	**Quesada**	**4.79**	**29**	Pn		**Pn**	**17 17 22.6**	**+2.0**
EQES				⇑*i*Vmb_V			17 17 24.2	
	comp=E,96nm,SNR=1.0							
EQES				Sn		**Sn**	**17 18 17.1**	**+1.6**
PNCL	**Nicolau / Gran**	**4.89**	**336**	*e*Pn		**Pn**	**17 17 22.9**	**+1.1**
PNCL				*e*Sn		**Sn**	**17 18 15.6**	**-2.2**
PNCL				A		A	17 18 17.5	
	comp=E,4.9nm,0.2s							
PNCL	**Nicolau / Gran**	**4.89**	**336**	Pn		**Pn**	**17 17 22.8**	**+1.1**
PNCL				Sn		**Sn**	**17 18 14.6**	**-3.2**
EVO	**Evora**	**5.13**	**342**	Sn		**Sn**	**17 18 20.1**	**-3.6**
EBAD	**Badajoz**	**5.16**	**351**	Pn		**Pn**	**17 17 26.2**	**+0.8**
EBAD	**Badajoz**	**5.16**	**351**	Pn		**Pn**	**17 17 26.2**	**+0.8**
EBAD				⇑*i*Vmb_V			17 17 26.8	
	comp=E,248nm,SNR=1.9							
EBAD				Sn		**Sn**	**17 18 21.6**	**-2.7**
PSIM	**Granatula de C**	**5.47**	**19**	Pn		**Pn**	**17 17 30.8**	**+0.9**
PSIM				Sn		**Sn**	**17 18 28.5**	**-3.8**
PMTG	**Montargil**	**5.69**	**342**	*e*Pn		**Pn**	**17 17 33.5**	**+0.7**
PMTG				*e*Sn		**Sn**	**17 18 36.2**	**-1.3**
PMTG				A		A	17 18 38.5	
	comp=E,2.6nm,0.6s							
PMRV	**Marv??o**	**5.87**	**350**	*e*Pn		**Pn**	**17 17 35.9**	**+0.6**
PMRV				*e*Sn		**Sn**	**17 18 40.5**	**-1.4**
PAB	**San Pablo**	**6.04**	**12**	Pn		**Pn**	**17 17 37.7**	**+0.1**
PAB				⇑*i*Vmb_V			17 17 38.6	
	comp=E,88nm,SNR=1.0							
PAB				Sn		**Sn**	**17 18 40.5**	**-5.7**
ETOB	**Tobarra**	**6.16**	**35**	⇑*i*Vmb_V			17 17 41.0	
ETOB	comp=E,106nm,SNR=0.8			Sn		**Sn**	**17 18 49.8**	**+0.6**
PCBR	**Castelo Branco**	**6.28**	**350**	*e*Sn		**Sn**	**17 18 49.9**	**-2.3**
EPLA	**Plasencia**	**6.40**	**360**	Pn		**Pn**	**17 17 43.1**	**+0.5**
EPLA				⇑*i*Vmb_V			17 17 43.5	
	comp=E,185nm,SNR=1.5							
EPLA				Sn		**Sn**	**17 18 50.8**	**-4.3**
GUD	**Guadarrama**	**7.14**	**12**	Pn		**Pn**	**17 17 53.6**	**+0.8**
GUD				⇑*i*Vmb_V			17 17 53.7	
	comp=E,46nm,SNR=0.7							
GUD				Sn		**Sn**	**17 19 07.1**	**-6.3**
MVO	**Moncorvo**	**7.54**	**354**	*e*Pn		**Pn**	**17 17 59.3**	**+1.0**
MVO				*e*Sn		**Sn**	**17 19 19.2**	**-4.0**

IDC 29 17:16:50.5±2.4,5°94S×130°64E,h0km,mb3.2/1,
mbtmp3.3/4,ML3.2/3,MS3.4/1,Error ellipse:
s-maj=58.2km s-min=33.2km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**8.10**	**238**	Pn	Pn	17 18 49.9	+0.4
	2.7nm,0.3s,baz=99,slow=6.0,SNR=5.6						
	5.5nm,0.3s						
WRA	**Warramunga Arr**	**14.38**	**166**	Pn	Pn	17 20 17.3	+1.8
	0.1nm,0.3s,baz=348,slow=12,SNR=1.8						
WRA				Sn	Sn	17 22 41.1	-15
	0.2nm,0.3s,baz=345,slow=22,SNR=4.0						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**17.90**	**170**	P	Pn	17 20 59.9	-1.3
	baz=358,slow=13,SNR=6.6						
	0.2nm,0.5s						
GUMO	**Guam**	**24.00**	**36**	LR	LR	17 30 52.4	
	comp=Z,105nm,21.1s,baz=246,slow=35						
MKAR	**Makanchi Array**	**67.70**	**326**	P	P	17 27 49.7	0.0
	0.1nm,0.4s,baz=116,slow=6.6,SNR=1.9						
	0.1nm,0.4s						

*DJA **29** 17:20:48.9±0.3,12°N±2°×12°6E±°,h62km±4km,M4.9/64,*
mb4.8/64,mB5.3/15,MLv5.4/1,Mw(mB)4.8/15,
MwMwp6.2/2,Mwp6.2/2

*NEIC **29** 17:20:48.1±1.8,11°68N±0°07×125°6E±0°.1,h38km±7km,*
mb4.6/152,Error ellipse: s-maj=15.3km s-min=10.0km
az=78.0

*IDC **29** 17:20:50.4±1.7,11°58N×125°64E,h62km±15km,mb4.1/28,*
mbtmp4.4/30,MS3.6/36,Error ellipse: s-maj=18.7km
s-min=8.5km az=78.0

ISC 29 17:20:49.3±0.3,11°65N±0°04×125°62E±0°06,h53km,n479,
σ1°38/425,mb4.6/131,MS3.7/41,3C,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.55**	**181**	Pn	Pn	**17 21 56.0**	**+0.4**
DAV	**Davao City (W)**	**4.55**	**181**	P	Pn	**17 21 57.1**	**+1.4**
	178nm,0.5s,baz=260,slow=2.8,SNR=6.4						
DAV				LR	LR	17 23 53.1	
	comp=Z,1μm,21.4s,baz=46,slow=41						
TGY	**Tagaytay City**	**5.18**	**299**	P	Pn	**17 22 06.5**	**+2.3**
	208nm,0.9s,baz=66,slow=1.9,SNR=11						
TGY				LR	LR	17 24 16.4	
	comp=Z,595nm,20.7s,baz=166,slow=39						
SGSI	**Sangihe**	**7.92**	**181**	P	Pn	**17 22 43.8**	**+2.0**
	250nm,0.8s						
SGSI				S	Sn	**17 24 12.8**	**+2.8**
	250nm,0.8s						
I39PW	**PALAU INFRASON**	**9.70**	**114**	I	I	18 22 00.0	

	baz=296,slow=270,SNR=1.2								
TNTI	**Ternate**	**10.95**	**171**	P		**Pn**	**17 23 23.3**	**0.0**
	45nm,1.0s								
KMSI	**Cibinong**	**11.12**	**189**	P		**Pn**	**17 23 28.6**	**+2.9**
	125nm,1.0s								
GTOI	**Gorontalo**	**11.25**	**194**	P		**Pn**	**17 23 27.0**	**-0.4**
	42nm,0.9s,286nm								
TOLI2	**Tolitoli**	**11.52**	**205**	Pn		**Pn**	**17 23 30.6**	**-0.6**
LBMI	**Labuha**	**12.35**	**171**	P		**Pn**	**17 23 43.1**	**+0.6**
	31nm,1.2s								
YULB	**Yu-li**	**12.38**	**341**	Pn		**Pn**	**17 23 39.3**	**-3.6**
TPUB	**Ta-pu**	**12.52**	**338**	Pn		**Pn**	**17 23 42.4**	**-2.5**
MPSI	**Mapaga**	**12.60**	**207**	P		**Pn**	**17 23 49.4**	**+3.6**
	11nm,1.0s								
SSLB	**Suanglung**	**12.86**	**340**	Pn		**Pn**	**17 23 47.5**	**-1.9**
LUWI	**Luwuk**	**12.93**	**193**	Pn		**Pn**	**17 23 47.6**	**-2.7**
LUWI	**Luwuk**	**12.93**	**193**	P		**Pn**	**17 23 53.6**	**+3.3**
	120nm,1.2s,2μm								
YHNB	**Yeheng**	**13.56**	**343**	Pn		**Pn**	**17 23 57.3**	**-1.8**
SANI	**Sanana**	**13.62**	**178**	P		**Pn**	**17 24 00.9**	**+1.1**
	29nm,0.7s								
SWI	**Sorong**	**13.64**	**155**	P		**Pn**	**17 24 00.2**	**+0.2**
	20nm,0.8s								
NLAI	**Namlea**	**14.87**	**174**	P		**Pn**	**17 24 16.9**	**+0.5**
	32nm,0.9s								
JOW	**Kunigami**	**15.31**	**9**	Pn		**Pn**	**17 24 21.9**	**-0.1**
JOW				IAmb		IAmb	17 24 22.7		
	comp=Z,62nm,1.3s								
JOW	**Kunigami**	**15.31**	**9**	LR		LR	17 29 31.6		
	comp=Z,221nm,19.6s,baz=202,slow=34								
BKB	**Balikpapan**	**15.48**	**215**	P		**Pn**	**17 24 26.5**	**+2.1**
	comp=Z,83nm,1.0s								
TTSI	**Tana Toraja**	**15.70**	**202**	P		**P**	**17 24 30.7**	**+0.4**
	comp=Z,79nm,1.3s,comp=Z,1μm								
FAKI	**Fak Fak**	**15.90**	**155**	Pn		**Pn**	**17 24 29.7**	**0.0**
FAKI	**Fak Fak**	**15.90**	**155**	P		**Pn**	**17 24 29.6**	**-0.2**
	comp=Z,26nm,0.9s								
MTKI	**Muara Teweh, K**	**16.44**	**221**	P		**P**	**17 24 40.3**	**+1.8**
	comp=Z,23nm,1.4s								
BNDI	**Bandanaira**	**16.62**	**165**	P		**Pn**	**17 24 37.9**	**-0.9**
	comp=Z,176nm,1.7s								
QIZ	**Qiongzhong**	**16.89**	**298**	P		**Pn**	**17 24 39.5**	**-2.6**
QIZ				S		**Sn**	**17 27 50.3**	**+1.3**
QIZ				sS		**sS**	**17 28 12.3**	**-3.1**
QIZ				pmax		pmax			
	comp=Z,130nm,7.8s								
QIZ				LR		LR			
	comp=N,680nm,12.6s								
QIZ				LR		LR			
	comp=E,140nm,17.7s								
QIZ				LR		LR			
	comp=Z,280nm,16.0s								
KAPI	**Kappang**	**17.56**	**200**			**Pn**	**17 24 51.4**	**+1.0**
KAPI				IAmb		IAmb	17 25 01.3		
	comp=Z,72nm,1.3s								
BKSI	**Bulukumba**	**17.73**	**198**	P		**P**	**17 24 55.2**	**+2.5**
	comp=Z,16nm,0.8s,comp=Z,368nm								
STKI	**Sintang**	**18.16**	**232**	P		**P**	**17 24 52.5**	**-5.0**
UBPT	**Khong Chiam**	**19.93**	**283**	P		**P**	**17 25 16.9**	**+0.1**
GENI	**Genyem**	**20.23**	**133**	P		**P**	**17 25 17.7**	**-2.5**
	comp=Z,73nm,0.9s								
SAUI	**Saumlaki**	**20.31**	**164**	P		**P**	**17 25 20.4**	**-0.6**
SAUI	**Saumlaki**	**20.31**	**164**	P		**P**	**17 25 21.2**	**+0.2**
	comp=Z,81nm,0.7s								
MMRI	**Maumere**	**20.43**	**190**	P		**P**	**17 25 23.6**	**+1.3**
	comp=Z,30nm,0.8s								
JAY	**Jayapura**	**20.57**	**132**	P		**P**	**17 25 20.5**	**-3.3**
	comp=Z,28nm,1.2s								
NJ2	**Nanjing**	**21.24**	**344**	*e*P		**P**	**17 25 32.3**	**+1.4**
NJ2				pP		**pP**	**17 25 42.3**	**-0.7**
NJ2				sP		**sP**	**17 25 47.5**	**-2.1**
NJ2				pmax		pmax			
	comp=Z,5.0nm,0.6s								
NJ2				pmax		pmax			
	comp=Z,74nm,4.3s								
SOEI	**Soe**	**21.31**	**184**	P		**P**	**17 25 32.5**	**+0.6**
SOEI	**Soe**	**21.31**	**184**	P		**P**	**17 25 32.6**	**+0.7**
	comp=Z,52nm,1.4s								
WHN	**Wuhan**	**21.51**	**333**	P		**P**	**17 25 38.3**	**+4.5**
WHN				S		**S**	**17 29 32.0**	**+2.5**
WHN				LR		LR			
	comp=Z,690nm,15.5s								
PLAI	**Plampang**	**21.79**	**201**	P		**P**	**17 25 37.7**	**+0.8**
	comp=Z,36nm,1.7s								
BATI	**Baumata**	**21.80**	**185**	P		**P**	**17 25 37.6**	**+0.6**
	comp=Z,28nm,0.8s,baz=222,slow=1.0,SNR=8.7								
BATI				LR		LR	17 35 07.6		
	comp=Z,92nm,19.5s,baz=4.0,slow=39								
	comp=Z,28nm,0.8s								
BATI	**Baumata**	**21.80**	**185**	P		**P**	**17 25 36.5**	**-0.6**
	comp=Z,59nm,0.8s								
JCJ	**Chichijima**	**21.87**	**43**	LR		LR	17 33 13.3		
	comp=Z,108nm,19.1s,baz=264,slow=34								
JNU	**Nakatsue**	**21.91**	**12**	P		**P**	**17 25 38.0**	**-0.1**
JNU				IAmb		IAmb	17 25 38.9		
	comp=Z,27nm,1.0s								
JNU	**Nakatsue**	**21.91**	**12**	P		**P**	**17 25 38.1**	**0.0**
	comp=Z,18nm,0.9s,baz=170,slow=6.6,SNR=9.9								
JNU				LR		LR	17 33 29.9		
	comp=Z,92nm,21.0s,baz=185,slow=35								
	comp=Z,18nm,0.9s								
WBSI	**Waikabubak, Su**	**22.04**	**197**	P		**P**	**17 25 41.8**	**+2.1**
	comp=Z,0.0nm,0.6s								
TWSI	**Taliwang, Sumb**	**22.04**	**204**	P		**P**	**17 25 41.4**	**+1.8**
	comp=Z,34nm,1.1s								
SRBI	**Singaraja**	**22.17**	**208**	P		**P**	**17 25 43.4**	**+2.4**
	comp=Z,29nm,1.2s								
GRJI	**Gresik**	**22.61**	**216**	P		**P**	**17 25 48.1**	**+2.4**
	comp=Z,116nm,1.3s								
BLJI	**Banyuglugur**	**22.68**	**212**	P		**P**	**17 25 48.7**	**+2.2**
	comp=Z,31nm,0.7s								
DNP	**Denpasar**	**22.70**	**208**	P		**P**	**17 25 49.5**	**+2.9**
SLVN	**Son La**	**22.91**	**298**	P		**P**	**17 25 46.8**	**-2.2**
JAGI	**Jajag, Banyuwa**	**23.02**	**210**	P		**P**	**17 25 50.7**	**+0.7**
JAGI	**Jajag, Banyuwa**	**23.02**	**210**	P		**P**	**17 25 50.9**	**+1.0**
	comp=Z,85nm,1.3s								
JMN	**Monobe**	**23.24**	**18**	P		**P**	**17 25 51.7**	**-0.3**
NGJI	**Ngawi**	**23.57**	**217**	P		**P**	**17 25 56.1**	**+0.9**
	comp=Z,51nm,1.1s								
PPBI	**Pangkal Pinang**	**23.74**	**236**	P		**P**	**17 25 59.7**	**+2.8**
ENH	**Enshi**	**23.83**	**323**	P		**P**	**17 25 56.7**	**-0.9**
ENH				IAmb		IAmb	17 26 10.9		
	comp=Z,15nm,0.7s								
PWJI	**Pagerwojo**	**23.89**	**216**	P		**P**	**17 26 01.0**	**+2.8**
	comp=Z,17nm,2.0s								
SMRI	**Semarang**	**23.94**	**220**	P		**P**	**17 26 00.7**	**+2.0**
	comp=Z,59nm,0.4s								
DSRI	**Dabo**	**24.13**	**241**	P		**P**	**17 26 02.3**	**+1.8**
	comp=Z,23nm,0.9s,comp=Z,705nm								
MMPI	**Merauke**	**24.80**	**143**	P		**P**	**17 26 05.2**	**-1.3**
	comp=Z,111nm,0.8s								
MTN	**Manton Dam**	**24.94**	**167**	P		**P**	**17 26 06.3**	**-1.5**
MTN				IAmb		IAmb	17 26 34.7		
	comp=Z,20nm,0.9s								
KPJI	**Karang Pucung**	**25.13**	**222**	P		**P**	**17 26 11.6**	**+2.1**
	comp=Z,49nm,1.0s								
PHRA	**Phrae**	**25.43**	**289**	P		**P**	**17 26 10.5**	**-1.7**
KULM	**Kulim**	**25.48**	**258**	P		**P**	**17 26 10.2**	**-2.6**
TIA	**Tai'an**	**25.63**	**344**	P		**P**	**17 26 14.0**	**+0.1**
TIA				pmax		pmax			
	comp=Z,4.0nm,0.8s								
LEM	**Lembang**	**25.65**	**225**	P		**P**	**17 26 16.3**	**+1.9**
	comp=Z,36nm,0.9s,comp=Z,2μm								
CRAI	**Chiangrai**	**25.70**	**293**	P		**P**	**17 26 15.6**	**+0.9**
CRAI				IAmb		IAmb	17 26 24.5		
	comp=Z,14nm,1.0s								
LYN	**LuoYang**	**25.75**	**334**	*e*P		**P**	**17 26 14.0**	**-1.0**
LYN				pP		pP	17 26 26.8	-1.6	
LYN				pmax		pmax			
	comp=Z,120nm,5.2s								
KSAR	**Wonju Array Be**	**25.76**	**4**	P		**P**	**17 26 14.6**	**-0.4**
KSRS	**Korea Array**	**25.78**	**4**	P		**P**	**17 26 15.4**	**+0.3**
	comp=Z,6.4nm,0.7s,baz=183,slow=10.0,SNR=23								
KSRS				LR		LR	17 35 28.4		
	comp=Z,158nm,21.8s,baz=190,slow=34								
	comp=Z,6.4nm,0.7s								
KS19	**Wonju Array Si**	**25.82**	**4**	P		**P**	**17 26 15.0**	**-0.6**
CBJI	**Citeko**	**25.91**	**227**	P		**P**	**17 26 19.3**	**+2.7**
	comp=Z,54nm,0.9s								
SBJI	**Serang**	**26.23**	**229**	P		**P**	**17 26 20.3**	**+0.8**
	comp=Z,235nm,0.9s								
BLSI	**Bandar Lampung**	**26.40**	**231**	P		**P**	**17 26 23.0**	**+2.0**
SKJI	**Sukabumi**	**26.52**	**227**	P		**P**	**17 26 24.9**	**+2.8**
	comp=Z,87nm,0.6s,comp=Z,2μm								
CM31	**Chiang Mai Arr**	**26.62**	**288**	P		**P**	**17 26 20.7**	**-2.4**
CMAR	**Chiang Mai Arr**	**26.62**	**288**	P		**P**	**17 26 21.8**	**-1.3**

CMAR	**Chiang Mai Arr**	**26.62**	**288**	P		**P**	**17 26 24.4**	**+1.4**
	comp=Z,1.2nm,0.8s,baz=97,slow=6.9,SNR=7.8							
CMAR				ScP		**ScP**	**17 33 21.5**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=81,slow=2.8,SNR=5.2							
CMAR				LR		LR	17 38 05.4	
	comp=Z,84nm,18.2s,baz=120,slow=39							
	comp=Z,1.2nm,0.8s							
XAN	**Xi'an**	**27.00**	**328**	P		**P**	**17 26 26.3**	**-0.1**
XAN				pP		pP	17 26 41.0	+1.2
XAN				pmax		pmax		
	comp=Z,39nm,1.1s							
XAN				pmax		pmax		
	comp=Z,95nm,4.0s							
MJAR	**Matsushiro Arr**	**27.26**	**23**	P		**P**	**17 26 27.0**	**-1.6**
	comp=Z,1.4nm,0.8s,baz=201,slow=9.3,SNR=5.8							
MJAR				LR		LR	17 35 32.8	
	comp=Z,149nm,21.5s,baz=210,slow=32							
KNRA	**Kununurra**	**27.33**	**173**	P		**P**	**17 26 27.5**	**-1.8**
HNS	**HongShan**	**27.45**	**341**	⇑P		**P**	**17 26 31.0**	**+0.8**
TNCH	**TengChong**	**28.89**	**301**	P		**P**	**17 26 43.8**	**+0.3**
TNCH				pP		pP	17 26 54.5	-2.5
TNCH				sP		sP	17 27 01.5	-1.8
TNCH				S		**S**	**17 31 27.8**	**-2.7**
TNCH				sS		sS	17 31 49.0	-3.7
TNCH				ScP		**ScP**	**17 33 28.5**	**-0.6**
TNCH	**TengChong**	**28.89**	**301**	ScS		ScS	17 37 20.0	-3.2
TNCH				pmax		pmax		
	comp=Z,5.0nm,0.7s							
TNCH				pmax		pmax		
	comp=Z,82nm,4.4s							
TNCH				LR		LR		
	comp=N,110nm,4.3s							
TNCH				LR		LR		
	comp=E,88nm,6.3s							
TNCH				LR		LR		
	comp=Z,120nm,11.3s							
SISI	**Saibi**	**29.35**	**246**	P		**P**	**17 26 50.1**	**+2.7**
	comp=Z,28nm,1.7s							
JMM	**Marumori**	**29.43**	**25**	P		**P**	**17 26 47.1**	**-0.7**
PBSI	**Pulau Batu**	**29.54**	**249**	P		**P**	**17 26 52.0**	**+2.9**
	comp=Z,146nm,1.1s							
FITZ	**Fitzroy Crossi**	**29.56**	**180**	P		**P**	**17 26 47.6**	**-1.6**
PMG	**Port Moresby**	**29.93**	**133**	P		**P**	**17 26 51.0**	**-1.6**
PMG				IAmb		IAmb	17 27 12.2	
	comp=Z,18nm,1.1s							
COEN	**Coen**	**30.83**	**145**	P		**P**	**17 26 59.0**	**-1.4**
LZH	**Lanzhou**	**31.29**	**325**	⇑P		**P**	**17 27 05.8**	**+1.3**
LZH				sP		sP	17 27 24.8	+0.5
LZH				pmax		pmax		
	comp=Z,14nm,1.4s							
LZH				LR		LR		
	comp=N,320nm,15.5s							
LZH				LR		LR		
	comp=E,220nm,14.4s							
LZH				LR		LR		
	comp=Z,120nm,13.1s							
HHC	**Hu-ho-hao-te**	**31.61**	**339**	*e*P		**P**	**17 27 06.8**	**-0.4**
HHC				pmax		pmax		
	comp=Z,28nm,0.5s							
HHC				pmax		pmax		
	comp=Z,100nm,5.4s							
HHC				LR		LR		
	comp=N,130nm,13.9s							
HHC				LR		LR		
	comp=E,130nm,14.3s							
HHC				LR		LR		
	comp=Z,100nm,15.3s							
WB0	**Warramunga Arr**	**32.39**	**164**	P		**P**	**17 27 12.1**	**-2.1**
WRA	**Warramunga Arr**	**32.55**	**165**	P		**P**	**17 27 13.0**	**-2.5**
WRA	**Warramunga Arr**	**32.55**	**165**	P		**P**	**17 27 13.9**	**-1.6**
	comp=Z,3.6nm,1.0s,baz=341,slow=9.9,SNR=9.9							
WRA				PcP		**PcP**	**17 30 01.2**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=345,slow=2.8,SNR=4.9							
	comp=Z,3.6nm,1.0s							
WB2	**Warramunga Arr**	**32.55**	**165**	P		**P**	**17 27 12.2**	**-3.3**
WB2				IAmb		IAmb	17 27 42.8	
	comp=Z,9.9nm,1.3s							
WR0	**Warramunga Arr**	**32.62**	**164**	P		**P**	**17 27 14.0**	**-2.1**
WR0				IAmb		IAmb	17 27 15.4	
	comp=Z,11nm,1.1s							
USA0B	**Ussuriysk Arra**	**32.89**	**8**	P		**P**	**17 27 17.6**	**-0.7**
USA0B				IAmb		IAmb	17 27 19.6	
	comp=Z,7.3nm,0.8s							
USRK	**Ussuriysk Ar.**	**32.89**	**8**	P		**P**	**17 27 17.2**	**-1.1**
USRK	**Ussuriysk Ar.**	**32.89**	**8**	P		**P**	**17 27 18.8**	**+0.5**
	comp=Z,6.6nm,0.7s,baz=195,slow=8.4,SNR=14							
USRK				LR		LR	17 39 52.9	
	comp=Z,104nm,21.7s,baz=189,slow=35							
	comp=Z,6.6nm,0.7s							
MDJ	**Mudanjiang**	**33.02**	**5**	P		**P**	**17 27 20.3**	**+0.9**
MDJ				pmax		pmax		
	comp=Z,8.0nm,1.2s							
MDJ				pmax		pmax		
	comp=

BBOO Buckleboo 45.32 168 P **P** **17 29 01.7 -0.4**
WMQ Urumqi 45.75 322 *e*P **P** **17 29 07.3 +1.8**
WMQ LR LR
comp=N,290nm,17.9s
WMQ LR LR
comp=Z,100nm,21.9s
STKA Stephens Creek 45.91 161 P **P** **17 29 06.7 -0.1**
STKA Stephens Creek 45.91 161 P **P** **17 29 06.8 +0.1**
comp=Z,18nm,0.7s,baz=340,slow=7.1,SNR=33
STKA LR LR 17 56 04.5
comp=Z,32nm,18.1s,baz=4.7,slow=46
comp=Z,18nm,0.7s
PEA0B Petropavlovsk- 48.66 25 P **P** **17 29 29.1 +1.1**
PETK Petropavlovsk- 48.66 25 P **P** **17 29 28.1 +0.2**
PETK Petropavlovsk- 48.66 25 P **P** **17 29 29.2 +1.3**
comp=Z,10nm,0.8s,baz=216,slow=6.4,SNR=8.5
comp=Z,10nm,0.8s
ARMA Armidale 48.74 150 P **P** **17 29 28.9 -0.1**
YAK Yakutsk 50.38 2 P **P** **17 29 40.7 -0.1**
YAK Yakutsk 50.38 2 LR LR 17 50 02.2
comp=Z,40nm,21.5s,baz=274,slow=35
MK31 Makanchi Array 50.55 322 P **P** **17 29 43.1 +0.6**
MK31 IAmb IAmb 17 29 55.9
comp=Z,6.3nm,0.8s
MKAR Makanchi Array 50.55 322 P **P** **17 29 43.1 +0.6**
MKAR Makanchi Array 50.55 322 P **P** **17 29 43.4 +0.9**
comp=Z,4.6nm,0.7s,baz=122,slow=7.9,SNR=58
MKAR LR LR 17 52 01.1
comp=Z,85nm,21.3s,baz=82,slow=37
comp=Z,4.6nm,0.7s
MAKZ Makanchi 50.74 322 P **P** **17 29 44.3 +0.3**
MAKZ IAmb IAmb 17 29 57.4
comp=Z,6.4nm,0.9s
MA2 Magadan 51.39 16 P **P** **17 29 49.5 +1.0**
MA2 IAmb IAmb 17 30 22.1
comp=Z,7.8nm,1.0s
KSH Kashi 51.84 311 P **P** **17 29 56.5 +4.1**
KSH pmax pmax
comp=Z,4.0nm,0.8s
DZM Mont Dzumac 52.21 130 P **P** **17 29 55.8 +0.5**
TOO Toolangi 52.39 160 P **P** **17 29 55.8 -0.5**
NIL Nilore 52.44 304 P **P** **17 29 55.2 -1.6**
NRN Naryn 52.45 314 P **P** **17 29 55.8 -1.4**
ZAA0 Zalesovo Array 53.12 331 P **P** **17 30 00.8 -0.6**
ZALV Zalesovo Beam 53.12 331 P **P** **17 30 01.1 -0.3**
ZALV Zalesovo Beam 53.12 331 P **P** **17 30 01.9 +0.4**
comp=Z,3.3nm,0.7s,baz=115,slow=6.3,SNR=16
ZALV LR LR 17 52 40.0
comp=Z,59nm,20.8s,baz=66,slow=36
comp=Z,3.3nm,0.7s
AAK Ala-Archa 53.91 315 LR LR 17 56 00.7
comp=Z,83nm,19.3s,baz=101,slow=39
KURK Kurchatov 54.58 325 P **P** **17 30 12.3 +0.2**
KURBB Kurchatov Arra 54.58 325 P **P** **17 30 12.6 +0.5**
comp=Z,6.9nm,0.6s,baz=126,slow=6.9,SNR=83
comp=Z,6.9nm,0.6s
SEY Seymchan 54.65 15 P **P** **17 30 14.7 +2.2**
comp=Z,5.2nm,0.7s,baz=218,slow=7.6,SNR=18
comp=Z,5.2nm,0.7s
BTK Batken 55.81 311 P **P** **17 30 19.1 -2.2**
BTK IAmb IAmb 17 30 50.0
comp=Z,5.8nm,1.1s
GAR Garm 55.93 309 P **P** **17 30 21.3 -1.0**
CHGR Chuyangaron 56.73 309 P **P** **17 30 27.1 -0.8**
KK31 Karatay Array 56.84 314 P **P** **17 30 26.8 -1.7**
KKAR Karatay Array 56.84 314 P **P** **17 30 26.7 -1.8**
TIXI Tiksi 59.99 1 P **P** **17 30 49.6 -0.4**
TIXI IAmb IAmb 17 30 50.8
comp=Z,5.9nm,0.8s
TIXI Tiksi 59.99 1 LR LR 17 56 53.4
comp=Z,51nm,21.5s,baz=198,slow=36
BVAR Borovoye Array 60.17 325 P **P** **17 30 51.9 +0.4**
comp=Z,3.2nm,0.6s,baz=120,slow=10,SNR=24
comp=Z,3.2nm,0.6s
BRVK Borovoye 60.25 325 P **P** **17 30 52.0 0.0**
BILL Bilibino 62.26 16 P **P** **17 31 05.7 +0.3**
BILL IAmb IAmb 17 31 07.1
comp=Z,4.5nm,0.8s
NRIK Noril'sk 62.53 346 P **P** **17 31 06.6 -0.6**
NRIK IAmb IAmb 17 31 28.9
comp=Z,9.6nm,1.3s
NRIK Noril'sk 62.53 346 P **P** **17 31 07.2 0.0**
comp=Z,2.2nm,0.5s,baz=134,slow=8.2,SNR=4.2
NRIK LR LR 17 59 10.1
comp=Z,49nm,20.9s,baz=138,slow=37
comp=Z,2.2nm,0.5s
GEYT Alibeck 65.22 306 LR LR 18 03 05.7
comp=Z,52nm,18.8s,baz=118,slow=39
ABKAR Akbulak array 65.42 319 P **P** **17 31 26.1 -0.4**
ABKAR IAmb IAmb 17 31 38.4
comp=Z,4.6nm,0.9s
ABKAR Akbulak array 65.42 319 P **P** **17 31 26.0 -0.5**
NIKH Nikolski High 66.09 37 P **P** **17 31 31.7 +0.9**
baz=257
SPIA Saint Paul Isl 66.35 32 P **P** **17 31 33.0 +0.6**
baz=254
AKTO Aktyubinsk 66.86 320 LR LR 18 02 41.9
comp=Z,65nm,19.6s,baz=93,slow=38
UNV Unalaska Valle 67.65 36 P **P** **17 31 42.1 +1.5**
baz=259
ARU Arti 67.73 326 P **P** **17 31 40.8 -0.4**
ARU IAmb IAmb 17 32 04.7
comp=Z,4.3nm,0.7s
ARU Arti 67.73 326 LR LR 18 03 11.9
comp=Z,43nm,18.8s,baz=130,slow=38
URZ Urewera 69.12 139 LR LR 18 05 08.5
comp=Z,57nm,18.1s,baz=123,slow=38
M11K Mekoryuk 69.20 30 P **P** **17 31 51.4 +1.2**
baz=257
RTZ Ruatahuna 69.23 139 P **P** **17 31 51.0 +0.2**
TNA Tin City 69.80 24 P **P** **17 31 54.7 +0.9**
baz=253
F14K Arctic Creek 70.42 24 P **P** **17 31 60.0 +2.4**
baz=255
S12K Black Hills 70.50 35 P **P** **17 31 59.2 +0.9**
baz=262
ANM Nome 70.58 25 P **P** **17 31 59.3 +0.7**
baz=256
M13K Dall Lake 70.59 30 P **P** **17 32 00.7 +2.0**
baz=259
L14K Kuka Creek 71.09 29 P **P** **17 32 03.1 +1.4**
baz=260
F15K North Star Dit 71.15 24 P **P** **17 32 04.1 +2.0**
baz=256
G15K Niukluk 71.23 25 P **P** **17 32 04.0 +1.4**
baz=257
M14K Bethel 71.33 30 P **P** **17 32 03.2 0.0**
baz=260
SDPT Sand Point 71.34 35 P **P** **17 32 03.6 +0.2**
baz=264
C16K Lisburne Hills 71.53 22 IAmb IAmb 17 32 16.0
comp=Z,10nm,1.1s
C16K Lisburne Hills 71.53 22 P **P** **17 32 05.0 +0.7**
baz=255,SNR=6.5
L15K Ungalak Mounta 71.71 29 P **P** **17 32 06.8 +1.4**
baz=260
K15K Wolf Creek Mou 71.79 28 P **P** **17 32 07.0 +1.0**
baz=260
CHNA Chernabura Isl 71.80 36 P **P** **17 32 07.1 +1.0**
baz=264
H16K Elim 71.91 26 P **P** **17 32 07.5 +0.9**
baz=259
M15K Kasigluk River 71.94 30 P **P** **17 32 08.2 +1.3**
baz=262
G16K Koyuk River 72.01 25 P **P** **17 32 08.2 +0.9**
baz=258
N15K Kwethluk River 72.16 30 IAmb IAmb 17 32 21.7
comp=Z,9.6nm,1.0s
D17K Noatak River 72.22 22 P **P** **17 32 09.6 +1.2**
baz=257,SNR=11
C17K DeLong Mountai 72.36 22 P **P** **17 32 11.4 +2.0**
baz=257
J16K Anvik River 72.38 27 P **P** **17 32 10.8 +1.3**
baz=261
I17K Unalakleet 72.44 26 P **P** **17 32 11.2 +1.4**
baz=260
E17K Hotham Inlet 72.56 23 P **P** **17 32 11.9 +1.4**
baz=258
CHGN Chignik 72.60 35 P **P** **17 32 12.3 +1.4**
baz=265
F17K Baldwin Pennin 72.66 24 P **P** **17 32 12.5 +1.4**
baz=259
L16K Owhat River 72.66 29 P **P** **17 32 12.6 +1.4**
baz=262
G17K Kiwalik Mounta 72.73 25 P **P** **17 32 12.9 +1.4**
baz=260
M16K Timber Creek 72.82 30 P **P** **17 32 14.0 +1.8**
baz=263
N16K Nishlik Lake 72.85 30 P **P** **17 32 13.6 +1.2**
baz=263
H17K Granite Mounta 72.94 25 IAmb IAmb 17 32 15.3
comp=Z,5.1nm,0.9s
H17K Granite Mounta 72.94 25 P **P** **17 32 14.5 +1.7**
baz=261
KIRV Kirov 72.95 328 LR LR 18 06 37.8
comp=Z,47nm,18.2s,baz=320,slow=38
B18K Kokolik River 73.04 21 P **P** **17 32 14.6 +1.3**
baz=258,SNR=6.8
P16K Nushagak River 73.08 32 P **P** **17 32 14.5 +0.8**
baz=264
O16K Kokwok River B 73.09 31 IAmb IAmb 17 32 26.7
comp=Z,6.0nm,0.9s
O16K Kokwok River B 73.09 31 P **P** **17 32 15.0 +1.3**
baz=264
E18K Tukpahlearik C 73.09 23 IAmb IAmb 17 32 25.1
comp=Z,7.7nm,1.1s
E18K Tukpahlearik C 73.09 23 P **P** **17 32 15.2 +1.6**
baz=260
C18K Utukok River 73.11 21 IAmb IAmb 17 32 24.8
comp=Z,5.1nm,0.9s
C18K Utukok River 73.11 21 P **P** **17 32 14.4 +0.6**
baz=259,SNR=6.3
L17K Donlin 73.27 28 P **P** **17 32 16.4 +1.6**
baz=263
F18K Selawik 73.32 24 P **P** **17 32 16.5 +1.6**
baz=261,SNR=7.9
K17K Iditarod 73.34 28 IAmb IAmb 17 32 27.4
comp=Z,11nm,1.1s
K17K Iditarod 73.34 28 P **P** **17 32 16.8 +1.6**
baz=263
A19K Wainwright 73.47 20 P **P** **17 32 17.5 +1.8**
baz=258,SNR=6.2
M17K Holitna River 73.59 29 P **P** **17 32 18.6 +1.9**
baz=264
O17K Koliganek Bris 73.61 31 P **P** **17 32 17.9 +1.1**
baz=265
G18K Tagagawik 73.61 25 IAmb IAmb 17 32 27.6
comp=Z,6.5nm,1.1s
G18K Tagagawik 73.61 25 P **P** **17 32 17.6 +0.8**
baz=262
H18K Honhosa River 73.62 25 P **P** **17 32 17.7 +0.9**
baz=262
N17K Nushagak Hills 73.63 30 IAmb IAmb 17 32 19.9
comp=Z,9.9nm,1.1s
N17K Nushagak Hills 73.63 30 P **P** **17 32 18.0 +1.1**
baz=265
C19K Lookout Ridge 73.77 21 P **P** **17 32 18.4 +0.8**
baz=260
P17K Kvichak River 73.89 32 P **P** **17 32 19.2 +0.7**
baz=264
L18K Granite Mounta 74.03 28 P **P** **17 32 20.6 +1.3**
baz=265
F19K Shaleruckik Mo 74.09 24 P **P** **17 32 20.6 +1.1**
baz=262
Q17K Contact Creek 74.12 33 P **P** **17 32 20.2 +0.2**
baz=266
J18K Innoko River 74.14 27 P **P** **17 32 20.5 +0.6**
baz=264
D19K Kuna River 74.20 22 IAmb IAmb 17 32 31.4
comp=Z,12nm,1.1s
D19K Kuna River 74.20 22 P **P** **17 32 21.8 +1.6**
baz=262
G19K Purcell Mounta 74.28 24 P **P** **17 32 22.3 +1.7**
baz=263
N18K Kilae Creek 74.28 30 P **P** **17 32 21.8 +1.0**
baz=266
M18K Stony River 74.38 29 P **P** **17 32 22.7 +1.4**
baz=266
E19K Redstone River 74.38 23 IAmb IAmb 17 32 34.5
comp=Z,8.9nm,1.0s
E19K Redstone River 74.38 23 P **P** **17 32 23.0 +1.8**
baz=263
TTA Tatalina 74.41 28 P **P** **17 32 22.8 +1.2**
baz=265
H19K Roundabout Mou 74.47 25 IAmb IAmb 17 32 33.7
comp=Z,11nm,1.1s
H19K Roundabout Mou 74.47 25 P **P** **17 32 23.4 +1.7**
baz=264
P18K Big Mountain, 74.53 31 P **P** **17 32 23.2 +1.0**
baz=267
O18K Koktuh Hills 74.56 31 P **P** **17 32 22.7 +0.3**
O18K Koktuh Hills 74.56 31 P **P** **17 32 23.9 +1.5**
baz=267,SNR=6.0
J19K Poorman 74.67 27 P **P** **17 32 23.9 +0.9**
baz=265
B20K Meade River 74.75 20 P **P** **17 32 25.5 +2.2**
baz=262
D20K Etuk River 74.77 22 P **P** **17 32 24.8 +1.3**
baz=263
E20K Nigu River 74.88 22 P **P** **17 32 25.1 +1.0**
baz=263
L19K White Mountain 74.88 29 IAmb IAmb 17 32 36.1
comp=Z,7.8nm,1.1s
L19K White Mountain 74.88 29 P **P** **17 32 25.3 +1.0**
baz=266
F20K Avaraart Lake 74.92 23 IAmb IAmb 17 32 37.1
comp=Z,5.1nm,0.8s
F20K Avaraart Lake 74.92 23 P **P** **17 32 25.7 +1.4**
baz=264,SNR=5.7
N19K Bonanza Creek 74.98 30 IAmb IAmb 17 32 37.0
comp=Z,7.8nm,1.0s
N19K Bonanza Creek 74.98 30 P **P** **17 32 26.1 +1.2**
baz=267
A21K Barrow 75.11 19 P **P** **17 32 26.9 +1.6**
baz=262
H20K Anotleneega Mo 75.12 25 P **P** **17 32 27.2 +1.7**
baz=265
I20K Naaghedeneel 75.23 26 P **P** **17 32 27.2 +1.1**
I20K IAmb IAmb 17 32 37.8
comp=Z,13nm,1.1s
I20K Naaghedeneel 75.23 26 P **P** **17 32 28.0 +1.9**
baz=266
K20K Telida 75.32 27 P **P** **17 32 28.0 +1.3**
baz=267
Q19K Cape Douglas, 75.32 32 P **P** **17 32 26.9 +0.1**
baz=268
J20K Nowinta River 75.33 26 P **P** **17 32 28.3 +1.6**
baz=266
L20K Farewell, AK 75.36 28 P **P** **17 32 28.2 +1.3**
baz=267
OHAK Old Harbor 75.47 34 P **P** **17 32 28.7 +1.1**
baz=269
C21K Knifeblade Rid 75.48 21 P **P** **17 32 29.2 +1.6**
baz=264
B21K Ikpikpuk River 75.59 21 P **P** **17 32 29.4 +1.3**
baz=265
A22K Sinclair Lake 75.61 19 P **P** **17 32 29.0 +0.8**
baz=264
M20K Styx River 75.68 29 P **P** **17 32 29.3 +0.4**
baz=268
E21K Killik River 75.71 22 P **P** **17 32 29.9 +1.0**
baz=266
G21K Allakaket 75.75 24 IAmb IAmb 17 32 42.4
comp=Z,10.0nm,1.0s
G21K Allakaket 75.75 24 P **P** **17 32 31.0 +1.8**
baz=266
F21K Alatna River 75.81 23 P **P** **17 32 31.0 +1.6**
baz=266
KDAK Kodiak Island 75.86 33 P **P** **17 32 30.4 +0.6**
baz=269
KDAK Kodiak Island 75.86 33 P **P** **17 32 30.1 +0.3**
comp=Z,2.5nm,0.6s,baz=315,slow=8.6,SNR=5.0
KDAK LR LR 18 00 21.8
comp=Z,34nm,21.0s,baz=230,slow=31
comp=Z,2.5nm,0.6s
Q20K Shuyak Island 75.97 32 P **P** **17 32 31.8 +1.4**
baz=269
H21K Melozitna Rive 75.99 25 IAmb IAmb 17 32 42.5
comp=Z,7.7nm,1.2s
H21K Melozitna Rive 75.99 25 P **P** **17 32 31.6 +1.1**
baz=267
B22K Teshekpuk Lake 76.06 20 P **P** **17 32 32.1 +1.3**
baz=266
N20K Mount Spurr 76.10 30 P **P** **17 32 31.4 +0.1**
baz=269
CHUM Lake Minchumin 76.12 27 P **P** **17 32 32.8 +1.5**
baz=268
PPLA Purkeypile 76.15 28 P **P** **17 32 32.1 +0.4**
baz=268
CAST Castle Rocks 76.21 27 IAmb IAmb 17 32 42.8
comp=Z,6.6nm,1.0s
CAST Castle Rocks 76.21 27 P **P** **17 32 32.7 +0.8**
baz=268,SNR=5.5
D22K Ayikyak River 76.21 22 P **P** **17 32 33.3 +1.6**
baz=267
I21K Tanana 76.31 26 IAmb IAmb 17 32 45.2
comp=Z,8.4nm,0.8s
I21K Tanana 76.31 26 P **P** **17 32 34.0 +1.7**
baz=268
F22K John River 76.33 23 P **P** **17 32 34.1 +1.7**
baz=267
HOM Homer 76.36 31 P **P** **17 32 33.5 +0.8**
baz=270
SKT Skwentna 76.44 29 P **P** **17 32 34.2 +1.1**
baz=269
RAYN Ar Rayn 76.47 292 P **P** **17 32 33.1 -1.0**
RAYN IAmb IAmb 17 32 49.0
comp=Z,5.0nm,0.9s
E22K Anaktuvuk Pass 76.49 22 IAmb IAmb 17 32 45.3
comp=Z,5.8nm,1.1s
E22K Anaktuvuk Pass 76.49 22 P **P** **17 32 34.8 +1.4**
baz=268
H22K Ishtalitna Cre 76.58 25 P **P** **17 32 35.4 +1.5**
baz=268
CAPN Captain Cook N 76.61 30 P **P** **17 32 35.3 +1.3**
baz=270
BPAW Bear Paw Mtn. 76.71 27 P **P** **17 32 35.7 +1.1**
baz=269,SNR=8.1
SUA Susitna One 76.81 29 IAmb IAmb 17 32 46.5
comp=Z,8.3nm,0.9s
SUA Susitna One 76.81 29 P **P** **17 32 36.0 +0.6**
baz=270
KBZ Khabaz 76.81 312 LR LR 18 10 17.8
comp=Z,58nm,18.6s,baz=138,slow=39
MLY Manley 76.83 26 P **P** **17 32 36.0 +0.7**
MLY IAmb IAmb 17 32 47.4
comp=Z,5.2nm,0.8s
MLY Manley 76.83 26 P **P** **17 32 36.2 +0.9**
baz=269,SNR=8.1
D23K Nanushuk River 76.94 22 P **P** **17 32 37.5 +1.7**
baz=268
C23K Itkillik River 76.99 21 P **P** **17 32 37.2 +1.1**
baz=268
TRF Thorofare Moun 77.02 27 IAmb IAmb 17 32 48.7
comp=Z,5.0nm,0.9s
TRF Thorofare Moun 77.02 27 P **P** **17 32 37.2 +0.7**
baz=270
CUT Chulitna 77.03 28 P **P** **17 32 37.1 +0.7**
baz=270
COLD Coldfoot 77.08 23 P **P** **17 32 37.9 +1.3**
baz=269,SNR=5.5
M22K Willow 77.11 29 P **P** **17 32 38.1 +1.3**
baz=271
G23K Bananza Creek 77.15 24 IAmb IAmb 17 32 48.6
comp=Z,6.3nm,1.1s
G23K Bananza Creek 77.15 24 P **P** **17 32 38.4 +1.3**
baz=270
RC01 Rabbit Creek A 77.30 30 P **P** **17 32 39.0 +1.0**
baz=271
E23K Chandalar 77.32 23 P **P** **17 32 39.6 +1.6**
baz=270
O22K Cooper Landing 77.32 30 P **P** **17 32 38.9 +0.9**
baz=271
TOLK Toolik Lake Re 77.34 22 IAmb IAmb 17 32 40.6
comp=Z,4.6nm,0.9s
TOLK Toolik Lake Re 77.34 22 P **P** **17 32 38.8 +0.7**
baz=270
H23K Yukon River 77.34 25 IAmb IAmb 17 32 50.3
comp=Z,11nm,1.3s
H23K Yukon River 77.34 25 P **P** **17 32 39.3 +1.1**
baz=270
I23K Minto, Yukon-K 77.42 26 P **P** **17 32 39.4 +0.9**
baz=270
SEW Seward 77.46 31 P **P** **17 32 39.5 +0.7**
baz=272
NEA2 Nenana 77.55 26 IAmb IAmb 17 32 51.9
comp=Z,6.3nm,0.8s
NEA2 Nenana 77.55 26 P **P** **17 32 39.8 +0.5**
baz=271
PMR Palmer 77.58 29 P **P** **17 32 40.6 +1.2**
baz=272
D24K Happy Valley 77.61 21 IAmb IAmb 17 32 52.4
comp=Z,9.0nm,1.1s
D24K Happy Valley 77.61 21 P **P** **17 32 41.3 +1.7**
baz=270
MCK McKinley 77.62 27 P **P** **17 32 40.5 +0.7**
baz=271,SNR=6.0
C24K Franklin Bluff 77.65 21 P **P** **17 32 41.3 +1.5**
baz=270
RND Reindeer 77.67 27 **PcP** **17 32 50.2 +0.1**
RND IAmb IAmb 17 32 51.0
comp=Z,6.8nm,1.0s
WAT1 Susitna Watana 77.82 28 P **P** **17 32 41.3 +0.4**
baz=272
GURO Guroymak-BITLI 77.86 307 P **P** **17 32 42.1 +0.4**
GURO IAmb IAmb 17 32 55.6
comp=Z,8.4nm,0.9s
MDM Murphy Dome 77.90 26 IAmb IAmb 17 32 53.0
comp=Z,4.9nm,1.0s
KNK Knik Glacier 77.91 29 P **P** **17 32 41.9 +0.5**
baz=272
SML Sawmill 77.95 29 IAmb IAmb 17 32 52.6
comp=Z,9.2nm,1.0s
SML Sawmill 77.95 29 P **P** **17 32 42.2 +0.5**
baz=272
F24K Squaw Lake 77.98 23 P **P** **17 32 41.1 -0.6**
F24K IAmb IAmb 17 32 44.3
comp=Z,5.0nm,0.8s
F24K Squaw Lake 77.98 23 P **P** **17 32 43.7 +2.0**
baz=271
H24K Noodor Dome 78.02 25 IAmb IAmb 17 32 53.7
comp=Z,6.0nm,1.1s
H24K Noodor Dome 78.02 25 P **P** **17 32 43.3 +1.3**
baz=272
G24K Hadweenzic Riv 78.16 24 IAmb IAmb 17 32 55.5
comp=Z,7.1nm,0.9s
G24K Hadweenzic Riv 78.16 24 P **P** **17 32 43.4 +0.8**
baz=272,SNR=7.7
WAT6 Susitna Watana 78.20 28 P **P** **17 32 44.1 +1.0**
baz=272
POKR Poker Plat Res 78.23 26 P **P** **17 32 44.0 +0.9**
baz=272
M23K Glacier View 78.24 29 P **P** **17 32 44.2 +1.0**
baz=273
DHY Denali Highway 78.35 28 P **P** **17 32 44.2 +0.3**
baz=273
SCM Sheep Creek Mo 78.43 29 P **P** **17 32 45.1 +0.8**
baz=273
D25K Kavik River 78.48 21 P **P** **17 32 45.4 +1.0**
D25K IAmb IAmb 17 32 57.0
comp=Z,7.2nm,0.8s
D25K Kavik River 78.48 21 P **P** **17 32 45.7 +1.3**
baz=272
ILAR Eielson Array 78.48 26 P **P** **17 32 44.5 0.0**
comp=Z,1.1nm,0.7s,baz=241,slow=6.0,SNR=15
comp=Z,1.1nm,0.7s
P23K Montague Islan 78.49 31 P **P** **17 32 44.9 +0.3**
baz=273
G25K Bearman Lake 78.70 24 P **P** **17 32 47.0 +1.4**
baz=273
E25K Arctic Village 78.83 22 P **P** **17 32 48.1 +1.7**
baz=273
F25K Christian Rive 78.83 23 P **P** **17 32 47.1 +0.6**
baz=273
M24K Tolsona, Glenn 78.96 29 P **P** **17 32 48.7 +1.5**
baz=274
C26K Camden Bay 78.96 21 P **P** **17 32 48.2 +1.2**
baz=274
PRP Porcupine Dome 79.01 25 P **P** **17 32 48.0 +0.4**
baz=274
K24K Donnelly Dome 79.02 27 P **P** **17 32 48.3 +0.8**
baz=274
Q23K Middleton Isla 79.06 31 P **P** **17 32 48.7 +1.0**
baz=274
KLU Klutina 79.12 29 P **P** **17 32 48.7 +0.6**
baz=274
J25K Salcha River, 79.14 26 P **P** **17 32 48.1 -0.1**
baz=274
PAX Paxson 79.22 28 P **P** **17 32 49.2 +0.5**
baz=274
EYAK Cordova Ski Ar 79.28 30 P **P** **17 32 49.4 +0.6**
baz=275
F26K Sheenjek River 79.40 23 P **P** **17 32 50.5 +1.0**
baz=275
HARP HAARP 79.41 28 P **P** **17 32 50.0 +0.4**
baz=275
RIDG Independent Ri 79.44 27 IAmb IAmb 17 33 00.5
comp=Z,10nm,0.9s
RIDG Independent Ri 79.44 27 P **P** **17 32 50.3 +0.5**
baz=275
G26K Porcupine Rive 79.60 24 P **P** **17 32 52.2 +1.7**
baz=275
N25K Chitina, Valde 79.74 29 P **P** **17 32 52.3 +0.8**

baz=276
SCRK **Sand Creek** 79.80 27 P P 17 32 53.1 +1.3
baz=276
BMRM **Bremner River** 79.80 30 P P 17 32 52.3 +0.5
baz=276
J26L **Joseph Creek** 79.93 26 P P 17 32 53.1 +0.6
baz=276
KAIM **Kayak Island** 80.00 31 P P 17 32 53.8 +1.0
baz=276
I26K **Coal Creek Min** 80.02 25 P P 17 32 53.1 +0.3
I26K IAmb IAmb 17 33 08.8
comp=Z,8.8nm,1.5s
I26K **Coal Creek Min** 80.02 25 P P 17 32 53.3 +0.5
baz=276
GLB **Gilahina Butte** 80.14 29 P P 17 32 52.7 -0.9
GLB IAmb IAmb 17 33 04.5
comp=Z,9.0nm,1.0s
L26K **Log Cabin Wild** 80.18 28 P P 17 32 54.8 +1.1
baz=276
E27K **Coleen River** 80.31 22 P P 17 32 55.6 +1.2
E27K IAmb IAmb 17 33 06.3
comp=Z,6.5nm,1.1s
E27K **Coleen River** 80.31 22 P P 17 32 56.0 +1.6
baz=277
D27M **Malcolm River** 80.40 21 IAmb IAmb 17 32 57.5
comp=Z,5.3nm,0.8s
D27M **Malcolm River** 80.40 21 P P 17 32 56.6 +1.7
baz=277
M26K **Nabesna, AK** 80.41 28 P P 17 32 56.0 +1.0
M26K **Nabesna, AK** 80.41 28 P P 17 32 56.5 +1.5
baz=277
G27K **Doyon Strip** 80.45 24 P P 17 32 56.6 +1.4
G27K **Doyon Strip** 80.45 24 P P 17 32 56.6 +1.4
baz=277
MCARA **McCarthy VSAT** 80.52 29 P P 17 32 56.8 +1.2
baz=277
BGLC **Bering Glacier** 80.54 30 P P 17 32 56.8 +1.1
baz=277
CRQE **Cirque** 80.56 30 P P 17 32 56.3 +0.3
baz=277
H27K **Steamboat Moun** 80.58 24 P P 17 32 57.5 +1.6
baz=277
I27K **Kandik River** 80.62 25 P P 17 32 57.5 +1.4
baz=277
K27K **Chicken** 80.63 26 P P 17 32 55.4 -0.8
K27K IAmb IAmb 17 33 07.8
comp=Z,7.1nm,1.0s
K27K **Chicken** 80.63 26 P P 17 32 57.4 +1.3
baz=277
L27K **Beaver Creek,** 80.86 27 P P 17 32 58.1 +0.6
baz=278
EGAK **Eagle** 80.92 26 P P 17 32 58.4 +0.7
baz=278
M27K **Edge Creek, AK** 80.93 28 P P 17 32 58.7 +0.7
baz=278
E28M **Babbage River** 81.01 22 P P 17 32 59.3 +1.2
baz=279
F28M **Old Crow** 81.03 23 IAmb IAmb 17 33 12.6
comp=Z,5.6nm,0.8s
F28M **Old Crow** 81.03 23 P P 17 32 59.6 +1.3
baz=279
D28M **Stokes Point** 81.18 21 P P 17 32 59.8 +0.9
baz=279
MESA **MESA** 81.19 30 P P 17 32 60.0 +0.5
baz=278
BARN **Barnard Glacie** 81.21 29 IAmb IAmb 17 33 12.8
comp=Z,6.4nm,1.0s
I28M **Miner Creek** 81.34 25 IAmb IAmb 17 33 13.5
comp=Z,9.1nm,1.2s
I28M **Miner Creek** 81.34 25 P P 17 33 00.7 +0.7
baz=279
CTG **Chitna Glacier** 81.38 30 P P 17 33 01.0 +0.6
baz=278
CTGM **Chitina Glacie** 81.39 30 IAmb IAmb 17 33 12.0
comp=Z,7.6nm,0.8s
BVCY **Beaver Creek** 81.39 28 P P 17 33 01.8 +1.5
baz=279
E29M **Blow River** 81.64 22 P P 17 33 02.0 +0.6
baz=280
YUK3 **Moose Creek** 81.68 29 P P 17 33 03.2 +1.2
baz=279
DAWY **Dawson** 81.79 26 P P 17 33 03.4 +1.0
baz=280
H29M **Whitestone** 81.84 24 IAmb IAmb 17 33 15.5
comp=Z,10nm,1.2s
H29M **Whitestone** 81.84 24 P P 17 33 03.3 +0.8
baz=280
G29M **Pine Creek** 81.86 23 P P 17 33 03.2 +0.6
G29M **Pine Creek** 81.86 23 P P 17 33 03.9 +1.3
baz=280
O28M **Mount Upton** 81.97 30 P P 17 33 04.0 +0.3
baz=279
J29N **Klondike Camp** 82.23 26 IAmb IAmb 17 33 18.4
comp=Z,11nm,1.3s
J29N **Klondike Camp** 82.23 26 P P 17 33 05.3 +0.7
baz=281
EPYK **Eagle Plains** 82.47 24 P P 17 33 06.9 +1.0
baz=282
M29M **Somme Creek** 82.49 28 IAmb IAmb 17 33 19.4
comp=Z,4.2nm,0.9s
M29M **Somme Creek** 82.49 28 P P 17 33 07.8 +1.7
baz=281
L29M **L29M** 82.52 27 IAmb IAmb 17 33 18.7
comp=Z,8.1nm,0.9s
L29M **L29M** 82.52 27 P P 17 33 07.9 +1.7
baz=281
SPITS **Spitsbergen Ar** 82.55 349 P P 17 33 07.1 +1.1
comp=Z,13nm,1.0s,baz=83,slow=8.5,SNR=6.4
comp=Z,13nm,1.0s
PNL **Peninsula** 82.55 31 P P 17 33 07.1 +0.7
baz=280
F30M **Barrier River** 82.57 22 P P 17 33 07.4 +1.0
baz=282
YUK4 **Talbot Arm** 82.61 29 P P 17 33 07.8 +0.9
baz=281
K29M **Barlow Dome** 82.64 26 P P 17 33 08.0 +1.1
baz=281
ARCES **ARCESS Array B** 82.69 340 P P 17 33 07.3 +0.4
comp=Z,5.3nm,0.7s,baz=81,slow=6.1,SNR=14
comp=Z,5.3nm,0.7s
YUK6 **Outpost Mounta** 82.82 29 P P 17 33 08.7 +0.6
baz=281
O29M **Mount Kennedy** 82.84 30 P P 17 33 08.6 +0.6
baz=281
I30M **Mount Dempster** 82.85 25 P P 17 33 09.1 +1.1
baz=282
J30M **Hart River** 83.00 26 P P 17 33 10.0 +1.2
baz=282
M30M **Minto, Yukon** 83.22 28 P P 17 33 10.9 +1.0
baz=282
INK **Inuvik** 83.24 22 P P 17 33 11.0 +1.3
baz=284
INK **Inuvik** 83.24 22 P P 17 33 10.3 +0.6
comp=Z,2.5nm,0.9s,baz=262,slow=4.3,SNR=7.5
comp=Z,2.5nm,0.9s
HYT **Haines Junctio** 83.25 29 P P 17 33 11.2 +1.1
baz=282
G31M **Satah River** 83.30 23 P P 17 33 10.9 +0.9
baz=284
N30M **Aishikik Lake** 83.32 29 IAmb IAmb 17 33 23.8
comp=Z,5.6nm,0.9s
F31M **Tsiigehtchic** 83.38 22 P P 17 33 11.1 +0.7
baz=284
P29M **Windy Craggy** 83.38 31 P P 17 33 11.3 +0.6
baz=282
MAYO **Mayo, Yukon** 83.40 26 P P 17 33 11.6 +0.9
baz=283
H31M **Peel River** 83.54 24 P P 17 33 12.1 +0.7
baz=284
P30M **Million Dollar** 83.66 30 P P 17 33 13.0 +0.8
baz=282
N31M **Braeburn, Yuko** 83.93 28 P P 17 33 14.2 +0.7
baz=283
O30N **Mendenhall** 83.94 29 P P 17 33 14.2 +0.6
baz=283
PLBC **Pleasant Camp** 84.10 31 P P 17 33 15.1 +0.8
baz=283
BRTR **Keskin Array B** 84.17 309 P P 17 33 15.6 +0.2
comp=Z,0.8nm,0.6s,baz=90,slow=4.6,SNR=2.1
comp=Z,0.8nm,0.6s
FINES **FINESS Array B** 84.38 332 P P 17 33 15.8 +0.1
comp=Z,7.0nm,1.1s,baz=60,slow=3.7,SNR=10
FINES LR LR 18 13 21.8
comp=Z,58nm,18.5s,baz=72,slow=37
comp=Z,7.0nm,1.1s
M31M **Drury Creek, Y** 84.40 28 IAmb IAmb 17 33 27.6
comp=Z,4.9nm,1.1s
M31M **Drury Creek, Y** 84.40 28 P P 17 33 17.7 +1.9
baz=284
WHY **Whitehorse** 84.55 29 P P 17 33 18.1 +1.4
baz=284
SKAG **Skagway** 84.61 30 P P 17 33 18.5 +1.6
baz=284
A36M **Sachs Harbour** 84.79 17 P P 17 33 19.8 +2.2
baz=292
FARO **Faro, Yukon** 84.86 27 P P 17 33 19.7 +1.5
baz=285
AKASG **Malin Array Be** 85.10 321 P P 17 33 19.0 -0.6
comp=Z,0.2nm,0.3s,baz=63,slow=4.8,SNR=6.5
comp=Z,0.2nm,0.3s
SIT **Sitka** 85.19 33 P P 17 33 20.9 +1.1
baz=284
N32M **Quiet Lake** 85.27 29 P P 17 33 21.5 +1.2
baz=286
R32K **Eaglecrest** 85.31 31 P P 17 33 21.7 +1.2
baz=284
P32M **Atlin** 85.38 30 P P 17 33 22.1 +1.3
baz=285
S32K **Killisnoo** 85.48 32 P P 17 33 23.0 +1.7
baz=284
P33M **Teslin, Yukon** 85.65 29 P P 17 33 23.8 +1.6
baz=286
MMPY **Sheldon Lake,** 85.69 27 P P 17 33 24.2 +1.9
baz=287
C36M **Paulatuk** 86.16 19 P P 17 33 22.7 -1.7
C36M **Paulatuk** 86.16 19 P P 17 33 26.3 +1.9
baz=293
Q32M **Nakina River** 86.27 31 P P 17 33 26.4 +1.0
baz=286
R33M **Jennings River** 86.78 30 P P 17 33 28.8 +0.9
baz=287
S34M **Telegraph Cree** 87.14 31 P P 17 33 30.6 +1.2
baz=287
MLR **Muntele Rosu** 88.47 316 LR LR 18 17 43.4
comp=Z,84nm,18.0s,baz=39,slow=39
HFS **Hagfors** 90.54 332 LR LR 18 16 06.6
comp=Z,73nm,19.3s,baz=69,slow=37
NB2 **NORSAR Subarra** 91.25 334 P P 17 33 47.9 -0.8
comp=Z,6.2nm,1.2s,baz=59,slow=4.8
NOA **NORSAR Array B** 91.25 334 P P 17 33 48.0 -0.8
comp=Z,0.4nm,0.6s,baz=64,slow=4.9,SNR=3.7
NOA LR LR 18 18 33.0
comp=Z,30nm,18.8s,baz=245,slow=38
comp=Z,0.4nm,0.6s
VNDA **Vanda** 91.37 173 P P 17 33 49.0 +0.2
VNDA **Vanda** 91.37 173 P P 17 33 48.8 -0.1
comp=Z,3.0nm,1.0s,baz=304,slow=6.2,SNR=12
VNDA LR LR 18 16 50.9
comp=Z,19nm,18.0s,baz=172,slow=37
comp=Z,3.0nm,1.0s
JMIC **Jan Mayen** 91.95 346 LR LR 18 18 18.6
comp=Z,32nm,21.0s,baz=286,slow=38
YKA **Yellowknife Ar** 92.76 24 P P 17 33 56.3 +0.6
comp=Z,0.7nm,1.0s,baz=300,slow=5.1,SNR=6.7
comp=Z,0.7nm,1.0s
GERES **GERESS Array B** 95.22 322 LR LR 18 18 34.7
comp=Z,80nm,18.1s,baz=238,slow=36
SCZ2 **Santa Cruz Isl** 103.24 51 P Pdif 17 34 44.1 +0.5
baz=294
TXAR **Lajitas Array** 117.39 48 PKP PKiKP 17 39 32.0 +2.2
comp=Z,0.2nm,0.5s,baz=257,slow=1.6,SNR=2.3
PLCA **Paso Flores** 147.72 157 PKP PKPdf 17 40 24.1 -1.5
comp=Z,1.8nm,1.1s,baz=141,slow=6.5,SNR=2.5
PLCA PKPbc PKPbc 17 40 29.0 +0.5
comp=Z,4.3nm,1.1s,baz=208,slow=5.8,SNR=5.2

*IDC **29** 17:28:13.2±1.6,29°.47N×86°.02E,h0km,mb3.7/8, mbtmp3.7/10,Error ellipse: s-maj=63.8km s-min=19.1km az=63.0*
ISC 29 17:28:18.4±1.6,29°.5N±0°.2×86°.1E±0°.4,h35km,n10, σ1s02/10,mb3.5/8,Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	16.07	130	Pn		Pn	Pn	17 32 01.1	-0.7
	1.2nm,0.9s,baz=312,slow=11,SNR=2.7								
MKAR	**Makanchi Array**	17.50	351	P		P	P	17 32 19.8	-0.8
	0.9nm,0.7s,baz=166,slow=13,SNR=3.5								
KURBB	**Kurchatov Arra**	21.84	347	P		P	P	17 33 07.3	-0.4
	1.6nm,0.8s,baz=163,slow=10,SNR=5.7								
	1.6nm,0.8s								
SONM	**Songino Array**	24.07	35	P		P	P	17 33 31.4	+0.9
	0.6nm,0.6s,baz=230,slow=9.7,SNR=4.0								
	0.6nm,0.6s								
BVAR	**Borovoye Array**	26.18	338	P		P	P	17 33 49.8	+0.3
	0.7nm,0.7s,baz=152,slow=11,SNR=3.2								
	0.7nm,0.7s								
NRIK	**Nal'sk**	39.87	1	P		P	P	17 35 48.5	+0.1
	1.0nm,0.6s,baz=207,slow=4.5,SNR=2.0								
	1.0nm,0.6s								
ARCES	**ARCESS Array B**	52.46	337	P		P	P	17 37 27.3	0.0
	4.2nm,1.0s,baz=116,slow=7.3,SNR=1.7								
	4.2nm,1.0s								
WRA	**Warramunga Arr**	67.66	131	P		P	P	17 39 11.1	-1.1
	0.9nm,0.7s,baz=322,slow=6.4,SNR=5.5								
	0.9nm,0.7s								
ASAR	**Alice Springs**	70.05	134	P		P	P	17 39 28.9	+1.9
	0.4nm,0.7s,baz=312,slow=6.6,SNR=5.2								
	0.4nm,0.7s								
YKA	**Yellowknife Ar**	86.81	9	P		P	P	17 40 58.5	-0.4
	0.1nm,0.5s,baz=333,slow=5.1,SNR=3.4								
	0.1nm,0.5s								

*IDC **29** 17:41:35.8±1.1,24°.71N×122°.29E,h0km,mb3.9/4, mbtmp3.9/5,ML3.1/1,MS3.0/4,Error ellipse: s-maj=44.7km s-min=21.2km az=66.0*
*TAP **29** 17:41:37.0,24°.78N×122°.29E,h3km,ML3.8,C*
*ASIES **29** 17:41:37.0,24°.78N×122°.29E,h3km,ML3.8,Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}=1.00; $M_{\theta\theta}$1.09; $M_{\phi\phi}$-0.10; $M_{r\theta}$-0.50; $M_{\theta\phi}$0.02; $M_{\phi r}$-0.62; Fault plane solution: $M_0$1.31647×10^{21} NP1:ϕ_s64.03000°, δ63.21000°,λ-115.44000°. NP2:ϕ_s290.57000°, δ36.28000°,λ-49.60000°. Principal axes: T Plg14.5590°, Azm172.3090°; N Plg22.5510°, Azm76.1170°; P Plg62.7060°, Azm292.5290°;*
*JMA **29** 17:41:38.1±0.1,25°.N±1°.×122°.4E±0°.4,h42km±3km, MV3.4/13,TAIWAN REGION*
ISC 29 17:41:37.1±1.1,24°.77N±0°.02×122°.35E±0°.02,h9km±8km, n153,σ0s92/270,mb4.0/4,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EOS2	**EOS2**	0.36	197	*i* P		Pb	Pb	17 41 45.5	0.0
	baz=188								
EOS2				*i* S		Sb	Sb	17 41 51.9	+0.7
	baz=188								
EGS		0.38	282	*i* P		Pb	Pb	17 41 44.9	-1.1
	baz=281								
EGS				*e*S		Sb	Sb	17 41 50.8	-1.2
	baz=281								
TWB1	**Santiao Chiao**	0.40	307	*i* P		Pb	Pb	17 41 45.2	-1.2
	baz=310								
TWB1				*i* S		Sb	Sb	17 41 50.3	-2.4
	baz=310								
NTC	**Toucheng**	0.48	281	*e*P		Pb	Pb	17 41 46.9	-0.8
	baz=280								
NTC				*e*S		Sb	Sb	17 41 54.4	-0.3
	baz=280								
TWC	**Suao**	0.48	251	P		Pb	Pb	17 41 46.4	-1.2
	baz=246								
TWC				S		Sb	Sb	17 41 53.0	-1.7
	baz=246								
EOS3	**EOS3**	0.48	183	*e*P		Pb	Pb	17 41 47.6	+0.1
	baz=176								
EOS3				*e*S		Sb	Sb	17 41 56.1	+1.5
	baz=176								
ESAO	**Su ao**	0.49	248	*e*P		Pb	Pb	17 41 46.7	-1.2
	baz=243								
ESAO				*e*S		Sb	Sb	17 41 53.8	-1.4
	baz=243								
TIPB	**Shuangxi**	0.52	294	*e*P		Pb	Pb	17 41 47.0	-1.2
	baz=294								
TIPB				*e*S		Sb	Sb	17 41 54.3	-1.6
	baz=294								
SXI1	**Grass Mountain**	0.54	308	*i* P		Pb	Pb	17 41 48.0	-0.7
	baz=310								
SXI1				S		Sb	Sb	17 41 55.7	-0.9
	baz=310								
ILA	**Ilan**	0.54	270	*e*P		Pb	Pb	17 41 48.1	-0.6
	baz=268								
ILA				*e*S		Sb	Sb	17 41 56.8	+0.2
	baz=268								
NDS	**Dongshan**	0.59	257	*e*P		Pb	Pb	17 41 48.7	-0.8
	baz=254								
NDS				*e*S		Sb	Sb	17 41 57.2	-0.7
	baz=254								
NWF	**Wu-fen Shan**	0.60	301	P		Pb	Pb	17 41 49.7	0.0
	baz=302								
NWF				S		Sb	Sb	17 41 58.1	-0.1
	baz=302								
WFSB	**Wu-fen Shan**	0.60	301	*i* P		Pb	Pb	17 41 49.8	+0.2
	baz=302								
WFSB				*i* S		Sb	Sb	17 41 58.1	-0.1
	baz=302								
EWUT	**Wuta**	0.61	238	*e*P		Pb	Pb	17 41 49.1	-0.7
	baz=234								
EWUT				*e*S		Sb	Sb	17 41 57.5	-1.0
	baz=234								
TWE	**Neicheng**	0.62	266	*e*P		Pb	Pb	17 41 49.1	-0.9
	baz=263								
TWE				*e*S		Sb	Sb	17 41 58.3	-0.5
	baz=263								
JYNG	**Yonagunijimaku**	0.63	120	P		Pg	Pg	17 41 49.9	+0.6
JYNG				S		Sg	Sg	17 41 58.4	+0.9
EOS4	**EOS4**	0.64	182	*e*P		Pb	Pb	17 41 50.6	+0.3
	baz=177								
EOS4				*e*S		Sb	Sb	17 42 00.6	+1.4
	baz=177								
ENA	**Nanau**	0.64	239	*e*P		Pb	Pb	17 41 49.7	-0.8
	baz=234								
ENA				*e*S		Sb	Sb	17 41 59.1	-0.5
	baz=234								
TNOU	**National Taiwa**	0.65	307	P		Pb	Pb	17 41 50.1	-0.4
	baz=308								
TNOU				S		Sb	Sb	17 41 59.5	-0.1
	baz=308								
YOJ	**Yonaguni jima**	0.68	116	P		Pg	Pg	17 41 51.0	+0.8
YOJ	**Yonaguni jima**	0.68	116	P		Pg	Pg	17 41 50.7	+0.6
	baz=115								
YOJ				S		Sg	Sg	17 42 00.7	+1.6
	baz=115								
YOJ	**Yonaguni jima**	0.68	116	P		Pg	Pg	17 41 50.9	+0.7
YOJ				S		Sg	Sg	17 41 59.6	+0.5
FUSB	**Fushanzhiwuyua**	0.69	270	P		Pb	Pb	17 41 50.8	-0.5
	baz=268								
FUSB				S		Sb	Sb	17 42 01.0	+0.1
	baz=268								
EAHA	**Aohua**	0.70	232	*e*P		Pb	Pb	17 41 50.9	-0.6
	baz=228								
EAHA				S		Sb	Sb	17 42 00.8	-0.5
	baz=228								
EHP	**Heping Village**	0.71	231	*e*S		Sb	Sb	17 42 02.0	+0.4
	baz=226								
ENTT	**Nioudou**	0.72	260	*e*P		Pb	Pb	17 41 51.4	-0.4
	baz=257								
ENTT				S		Sb	Sb	17 42 02.5	+0.8
	baz=257								
TWA	**Mucha**	0.72	287	*e*P		Pb	Pb	17 41 52.2	+0.4
	baz=287								
TWA				S		Sb	Sb	17 42 01.8	-0.1
	baz=287								
NHY	**Taipei**	0.76	291	*e*S		Sb	Sb	17 42 03.5	+0.7
	baz=291								
NWRT	**Kuosheng**	0.76	305	*e*S		Sb	Sb	17 42 02.7	-0.2
	baz=306								
NWLT	**Wulai**	0.77	271	*e*P		Pb	Pb	17 41 52.1	-0.5
	baz=269								
NWLT				S		Sb	Sb	17 42 02.8	-0.3
	baz=269								
NHDH	**Xindian Distri**	0.77	285	P		Pn	Pn	17 41 53.1	-1.0
	baz=284								
NHDH				S		Sb	Sb	17 42 03.7	+0.5
	baz=284								
NDT	**Datong Townshi**	0.77	258	P		Pb	Pb	17 41 52.3	-0.4
	baz=256								
NDT				S		Sb	Sb	17 42 03.0	-0.3
	baz=256								
LATG	**Datong**	0.78	253	P		Pb	Pb	17 41 51.8	-1.1
	baz=250								
LATG				S		Sb	Sb	17 42 04.5	+0.9
	baz=250								
YM01	**YM01**	0.80	298	P		Pb	Pb	17 41 53.0	-0.1
	baz=299								
YM01				S		Sb	Sb	17 42 03.9	-0.1
	baz=299								
YM08	**YM08**	0.80	302	P		Pb	Pb	17 41 52.8	-0.4
	baz=302								
YM08				S		Sb	Sb	17 42 03.5	-0.7
	baz=302								
TATO	**Taipei**	0.81	285	P		Pn	Pn	17 41 54.1	-0.5
TWY	**Chenhua**	0.85	307	P		Pb	Pb	17 41 54.2	+0.2
	baz=308								
TWY				S		Sb	Sb	17 42 05.7	+0.3
	baz=308								
ANP	**Anpu**	0.86	299	*e*P		Pb	Pb	17 41 54.5	+0.3
	baz=300								
ANP				*e*S		Sb	Sb	17 42 05.2	-0.7
	baz=300								
YHNB	**Yeheng**	0.89	264	P		Pb	Pb	17 41 54.4	-0.3
YHNB	**Yeheng**	0.89	264	*e*P		Pb	Pb	17 41 54.1	-0.5
	baz=262								
YHNB				*e*S		Sb	Sb	17 42 05.9	-0.7
	baz=262								
ETL	**Fush Village**	0.89	228	P		Pb	Pb	17 41 54.1	-0.6
	baz=224								
ETL				*e*S		Sb	Sb	17 42 06.9	+0.2
	baz=224								
PCYT	**Pengchaiyu**	0.90	344	*e*P		Pb	Pb	17 41 55.0	+0.2
	baz=347								
PCYT				*e*S		Sb	Sb	17 42 07.7	+0.9
	baz=347								
NACB	**Ninganchiao**	0.90	229	P		Pg	Pg	17 41 54.2	-0.3
NACB	**Ninganchiao**	0.90	229	P		Pg	Pg	17 41 53.9	-0.5
	baz=226								
NACB				S		Sb	Sb	17 42 07.4	+0.4
	baz=226								
NSK	**Sanguang**	0.90	265	P		Pb	Pb	17 41 54.7	-0.2
	baz=262								
NSK				*e*S		Sb	Sb	17 42 06.6	-0.4
	baz=262								
NTST	**Danshui**	0.91	296	*e*P		Pb	Pb	17 41 54.9	0.0
	baz=296								
NTST				*e*S		Sb	Sb	17 42 07.5	+0.5
	baz=296								
TWS1	**Kuangyinshan**	0.91	292	*e*P		Pb	Pb	17 41 55.1	+0.2
	baz=292								
TWS1				*e*S		Sb	Sb	17 42 07.0	-0.1
	baz=292								
NNSB	**Datong**	0.94	249	P		Pb	Pb	17 41 54.9	-0.7
	baz=247								
NNSB				S		Sb	Sb	17 42 08.7	+0.5
	baz=247								
NNS	**Nan Shan**	0.94	250	P		Pb	Pb	17 41 55.4	-0.2
	baz=247								
NNS				S		Sb	Sb	17 42 08.3	0.0
	baz=247								
ETLH	**Xiulin Townshi**	0.96	235	*e*P		Pb	Pb	17 41 55.5	-0.5
	baz=232								
ETLH				S		Sn	Sn	17 42 09.8	-0.9
	baz=232								
TWD	**Chiawan**	0.96	225	*e*P		Pb	Pb	17 41 55.7	-0.3
	baz=221								
TWD				S		Sn	Sn	17 42 10.2	-0.4
	baz=221								
HWA	**Hwalien**	1.03	221	*e*P		Pn	Pn	17 41 58.2	+0.5
	baz=217								
HWA				*e*S		Sn	Sn	17 42 14.3	+2.0
	baz=217								
NCUH	**Zhongli**	1.07	281	*e*P		Pn	Pn	17 41 58.0	-0.3
	baz=280								
NCUH				*e*S		Sn	Sn	17 42 13.3	0.0
	baz=280								
ETM	**Tongmen**	1.11	224	*e*P		Pn	Pn	17 41 58.9	0.0
	baz=221								
ETM				*e*S		Sn	Sn	17 42 15.3	+1.0
	baz=221								
NFF	**Wufeng Townshi**	1.12	263	*e*P		Pn	Pn	17 41 59.2	+0.2
	baz=262								
NFF				S		Sn	Sn	17 42 14.8	+0.2
	baz=262								
LXIB	**Xiulin Townshi**	1.13	229	*e*P		Pn	Pn	17 41 59.4	+0.2
	baz=226								
LXIB				*e*S		Sn	Sn	17 42 16.0	+1.2
	baz=226								
FUSS	**Fushou**	1.13	243	P		Pn	Pn	17 41 59.0	-0.2
	baz=240								
FUSS				S		Sn	Sn	17 42 14.5	-0.4
	baz=240								
WHF	**Hehuan Shan**	1.16	238	P		Pb	Pb	17 41 59.6	0.0
	baz=235								

WHF				*e*S		**Sn**	17 42 15.7	-0.3
	baz=235							
TWT	**Tachien**	**1.18**	**245**	*e*P		**Pn**	17 42 00.2	+0.3
TWT	baz=242			*e*S		**Sn**	17 42 16.7	+0.5
	baz=242							
TDCB	**Techi**	**1.20**	**245**	*e*P		**Pb**	17 41 59.9	-0.1
TDCB	baz=243			*e*S		**Sn**	17 42 16.6	+0.2
	baz=243							
SHUL	**Shoufeng**	**1.21**	**216**	*e*P		**Pn**	17 42 00.4	+0.3
SHUL	baz=213			*e*S		**Sn**	17 42 18.1	+1.6
	baz=213							
NSTT	**Nanjuang**	**1.23**	**264**	*e*P		**Pn**	17 42 00.4	0.0
NSTT	baz=262			S		**Sn**	17 42 18.1	+0.9
	baz=262							
SBCB	**Hsinchu**	**1.24**	**272**	*e*P		**Pn**	17 42 00.5	0.0
SBCB	baz=270			*e*S		**Sn**	17 42 17.6	+0.4
	baz=270							
HSN	**Hsinchu**	**1.25**	**272**	*e*S		**Sn**	17 42 17.4	-0.3
	baz=272							
ESL	**Shilin**	**1.26**	**221**	*e*P		**Pg**	17 42 00.8	-0.5
ESL	baz=218			*e*S		**Sn**	17 42 19.4	+1.5
	baz=218							
CHGB	**Renai**	**1.28**	**237**	*e*P		**Pn**	17 42 01.5	+0.2
CHGB	baz=234			*e*S		**Sn**	17 42 19.7	+1.1
	baz=234							
IRIF	**Iriomote-Funau**	**1.33**	**108**	P		**Pn**	17 42 00.1	-1.7
OWD	**Renai**	**1.34**	**233**	*e*P		**Pn**	17 42 02.6	+0.6
OWD	baz=231			*e*S		**Sn**	17 42 21.5	+1.5
	baz=231							
WUSB	**Renai**	**1.36**	**236**	*e*P		**Pb**	17 42 03.1	+0.4
WUSB	baz=233			*e*S		**Sn**	17 42 21.5	+1.0
	baz=233							
WARBT	**Fenglin Townsh**	**1.36**	**220**	P		**Pn**	17 42 02.1	-0.2
WARBT	baz=217			S		**Sb**	17 42 20.4	+0.2
	baz=217							
WHP	**Taichung City**	**1.36**	**249**	*e*P		**Pb**	17 42 03.6	+0.8
WHP	baz=247			S		**Sn**	17 42 21.6	+1.1
	baz=247							
NMLH	**Miaoli**	**1.43**	**261**	*e*P		**Pg**	17 42 04.5	-0.1
NMLH	baz=260			*e*S		**Sn**	17 42 24.5	+2.4
	baz=260							
NSY	**Sanyi**	**1.48**	**257**	*e*P		**Pg**	17 42 05.7	+0.2
NSY	baz=255			*e*S		**Sn**	17 42 25.5	+2.1
	baz=255							
WCS	**Beigang Elemen**	**1.48**	**242**	*e*P		**Pg**	17 42 05.0	-0.5
WCS	baz=240			*e*S		**Sn**	17 42 25.2	+1.8
	baz=240							
TWQ1	**Liyutan**	**1.49**	**254**	*e*P		**Pg**	17 42 06.0	+0.3
TWQ1	baz=252			*e*S		**Sn**	17 42 26.0	+2.4
	baz=252							
VWDT	**VWDT**	**1.49**	**228**	*e*P		**Pg**	17 42 04.9	-0.8
VWDT	baz=225			*e*S		**Sg**	17 42 25.0	0.0
	baz=225							
HATJ	**Hateruma jima**	**1.51**	**118**	S		**Sn**	17 42 21.6	-2.4
HGSD	**Ruisui**	**1.52**	**214**	*e*P		**Pn**	17 42 04.5	0.0
HGSD	baz=211			*e*S		**Sg**	17 42 25.8	-0.2
	baz=211							
EHY	**Hungye**	**1.56**	**217**	*e*P		**Pn**	17 42 04.5	-0.5
EHY	baz=214			*e*S		**Sg**	17 42 27.7	+0.3
	baz=214							
SMLT	**Sun Moon Lake**	**1.58**	**237**	*e*P		**Pg**	17 42 07.1	-0.4
SMLT	baz=234			*e*S		**Sg**	17 42 28.6	+0.5
	baz=234							
SSLB	**Suanglung**	**1.60**	**233**	P		**Pg**	17 42 07.2	-0.6
SSLB	**Suanglung**	**1.60**	**233**	P		**Pg**	17 42 07.0	-0.8
SSLB	baz=230			S		**Sg**	17 42 28.4	-0.2
	baz=230							
JKRS	**Kuro-shima**	**1.60**	**109**	P		**Pn**	17 42 04.4	-1.1
TYC	**Yuchr**	**1.60**	**238**	P		**Pg**	17 42 07.9	0.0
TYC	baz=236			*e*S		**Sg**	17 42 29.0	+0.2
	baz=236							
WDJ	**Dajia District**	**1.61**	**255**	*e*P		**Pb**	17 42 06.4	-0.5
WDJ	baz=254			*e*S		**Sg**	17 42 29.7	+0.9
	baz=254							
TCU	**Taichung**	**1.64**	**248**	*e*P		**Pg**	17 42 08.3	-0.2
TCU	baz=246			*e*S		**Sg**	17 42 30.3	+0.4
	baz=246							
YULB	**Yu-li**	**1.67**	**215**	P		**Pn**	17 42 06.4	-0.1
YULB	**Yu-li**	**1.67**	**215**	P		**Pn**	17 42 06.1	-0.3
YULB	baz=213			*e*S		**Sb**	17 42 29.3	+0.2
	baz=213							
JIJ	**Ishigaki jima**	**1.69**	**103**	P		**Pn**	17 42 05.1	-1.6
EYUL	**Yuli**	**1.69**	**214**	*e*P		**Pn**	17 42 07.4	+0.6
EYUL	baz=211			*e*S		**Sg**	17 42 30.7	-0.9
	baz=211							
TWF1	**Yuli**	**1.70**	**214**	*e*P		**Pn**	17 42 06.9	0.0
TWF1	baz=212			*e*S		**Sb**	17 42 29.9	-0.2
	baz=212							
WHYT	**Xinyi Township**	**1.73**	**232**	*e*P		**Pb**	17 42 08.9	-0.1
WHYT	baz=230			*e*S		**Sg**	17 42 33.9	+1.2
	baz=230							
WJS	**Zhushan**	**1.75**	**238**	*e*P		**Pg**	17 42 10.4	-0.2
WJS	baz=236			*e*S		**Sg**	17 42 35.6	+2.3
	baz=236							
WNT	**Mingjian**	**1.75**	**240**	*e*P		**Pb**	17 42 09.5	+0.1
WNT	baz=238			*e*S		**Sg**	17 42 34.4	+0.9
	baz=238							
CHKH	**Chenggong**	**1.79**	**209**	*e*S		**Sn**	17 42 30.8	-0.2
	baz=207							
JISG	**Ishigakijimahi**	**1.80**	**95**	P		**Pn**	17 42 06.4	-1.8
FULB	**Fuli**	**1.83**	**212**	*e*P		**Pn**	17 42 08.8	+0.1
FULB	baz=210			*e*S		**Sb**	17 42 33.8	0.0
	baz=210							
ALS	**Alishan**	**1.88**	**229**	P		**Pb**	17 42 11.6	-0.2
ALS	baz=226			*e*S		**Sg**	17 42 36.6	-1.0
	baz=226							
CHKT	**Chengkung**	**1.89**	**209**	*e*P		**Pn**	17 42 08.4	-1.0
CHKT	baz=206			*e*S		**Sn**	17 42 33.0	-0.3
	baz=206							
CHN5	**Tsauling**	**1.92**	**233**	P		**Pb**	17 42 12.4	+0.2
CHN5	baz=231			*e*S		**Sg**	17 42 38.6	-0.1
	baz=231							
EHD	**Haiduan**	**1.92**	**213**	*e*P		**Pn**	17 42 10.1	+0.2
EHD	baz=211			*e*S		**Sn**	17 42 35.1	+1.0
	baz=211							
WGK	**Gukeng**	**1.95**	**237**	P		**Pb**	17 42 13.1	+0.3
WGK	baz=235			*e*S		**Sg**	17 42 39.7	-0.1
	baz=235							
WDLH	**Douliu**	**1.97**	**237**	*e*P		**Pb**	17 42 13.4	+0.3
WDLH	baz=235			*e*S		**Sg**	17 42 40.7	+0.3
	baz=235							
ELDTW	**Lidau**	**1.98**	**218**	*e*P		**Pn**	17 42 10.5	-0.4
ELDTW	baz=216			*e*S		**Sn**	17 42 35.9	0.0
	baz=216							
WRL	**Guolierlin Hig**	**1.99**	**245**	*e*P		**Pb**	17 42 12.7	-0.8
WRL	baz=243			*e*S		**Sb**	17 42 38.6	+0.3
	baz=243							
WCKO	**Fanlu**	**2.07**	**231**	*e*P		**Pb**	17 42 14.5	-0.3
WCKO	baz=229			*e*S		**Sg**	17 42 42.6	-1.0
	baz=229							
WTK	**Tuku**	**2.08**	**239**	*e*P		**Pb**	17 42 14.0	-1.0
WTK	baz=237			*e*S		**Sg**	17 42 43.0	-1.1
	baz=237							
CHN4	**Tsaushan**	**2.13**	**229**	*e*P		**Pb**	17 42 15.5	-0.4
CHN4	baz=227			*e*S		**Sg**	17 42 44.0	-1.7
	baz=227							
STYH	**Taoyuan**	**2.14**	**222**	*e*P		**Pn**	17 42 13.8	+0.8
STYH	baz=220			*e*S		**Sb**	17 42 42.0	-0.7
	baz=220							
TPUB	**Ta-pu**	**2.14**	**227**	P		**Pb**	17 42 15.6	-0.4
TPUB	**Ta-pu**	**2.14**	**227**	P		**Pb**	17 42 15.1	-1.0
TPUB	baz=225			*e*S		**Sb**	17 42 43.3	+0.5
	baz=225							
STYT	**Tauyuan**	**2.16**	**223**	*e*S		**Sb**	17 42 43.1	-0.1
LONT	baz=220 **Longtian**	**2.16**	**211**	*e*P		**Pn**	17 42 13.0	-0.2
LONT	baz=209			*e*S		**Sn**	17 42 39.4	-0.7
	baz=209							
WTP	**Ta-pu**	**2.19**	**227**	*e*P		**Pb**	17 42 15.6	-1.3
WTP	baz=224			*e*S		**Sg**	17 42 45.3	-2.2
	baz=224							
LDUT	**Ludao**	**2.23**	**201**	*e*S		**Sn**	17 42 41.0	-0.9
WSF	baz=199 **Szhu**	**2.24**	**240**	*e*P		**Pn**	17 42 15.3	+1.0
WSF	baz=238			S		**Sb**	17 42 46.0	+0.5
	baz=238							
TWGBT	**Beinan**	**2.26**	**211**	P		**Pn**	17 42 15.4	+0.8
TWGBT	**Beinan**	**2.26**	**211**	*e*P		**Pn**	17 42 14.3	-0.3
TWGBT	baz=209			*e*S		**Sn**	17 42 42.6	0.0
	baz=209							
TWG	**Pinlang**	**2.26**	**211**	*e*P		**Pn**	17 42 14.6	0.0
TWG	baz=209			*e*S		**Sn**	17 42 41.8	-0.8
	baz=209							
TWK	**Hsinying**	**2.26**	**229**	*e*P		**Pb**	17 42 16.8	-1.3
TWK	baz=227			S		**Sg**	17 42 47.7	-2.0
	baz=227							
SNST	**Tainan City**	**2.29**	**228**	*e*P		**Pb**	17 42 17.3	-1.2
SNST	baz=226			*e*S		**Sb**	17 42 48.0	+1.2
	baz=226							
CHN1	**Nanshi**	**2.29**	**227**	*e*P		**Pb**	17 42 17.4	-1.2
CHN1	baz=225			*e*S		**Sb**	17 42 47.7	+0.7
	baz=225							
SGST	**Jiashian**	**2.33**	**224**	P		**Pn**	17 42 17.3	+1.7
SGST	baz=222			*e*S		**Sb**	17 42 47.8	-0.2
	baz=222							
ICHU	**Yijhu**	**2.35**	**234**	*e*P		**Pb**	17 42 18.8	-0.8
ICHU	baz=232			*e*S		**Sg**	17 42 50.6	-2.0
	baz=232							
SLGT	**Liugui**	**2.35**	**222**	*e*P		**Pn**	17 42 17.9	+2.0
SLGT	baz=220			*e*S		**Sb**	17 42 48.5	-0.2
	baz=220							
CHN8	**Yiju**	**2.41**	**235**	*e*P		**Pb**	17 42 18.8	-1.8
CHN8	baz=232			*e*S		**Sb**	17 42 50.8	+0.5
	baz=232							
ECL	**Taimali**	**2.51**	**211**	*e*P		**Pn**	17 42 18.1	+0.2
ECL	baz=209			*e*S		**Sn**	17 42 48.1	-0.5
	baz=209							
SCST	**Cishan**	**2.52**	**223**	*e*P		**Pb**	17 42 21.3	-1.2
SCST	baz=221			*e*S		**Sb**	17 42 54.7	+1.0
	baz=221							
MATB	**Ma-tsu**	**2.57**	**303**	*e*P		**Pn**	17 42 18.8	-0.1
MATB	baz=302			*e*S		**Sn**	17 42 50.0	-0.2
	baz=302							
TSMG	**Majia**	**2.58**	**218**	*e*P		**Pb**	17 42 21.5	-1.9
TSMG	baz=216			*e*S		**Sb**	17 42 53.8	-1.4
	baz=216							
TWM1	**Shoushan**	**2.62**	**223**	*e*P		**Pb**	17 42 22.0	-2.1
TWM1	baz=221			*e*S		**Sb**	17 42 57.1	+0.7
	baz=221							
VWUC	**VWUC**	**2.64**	**275**	*e*P		**Pn**	17 42 20.6	+0.8
VWUC	baz=274			*e*S		**Sn**	17 42 52.6	+0.7
	baz=274							
SGLT	**Jiouru**	**2.65**	**220**	*e*S		**Sb**	17 42 56.7	-0.6
MASBT	baz=218 **Mashibuluo**	**2.66**	**217**	*e*P		**Pb**	17 42 22.7	-2.1
MASBT	baz=215			*e*S		**Sb**	17 42 55.7	-1.9
	baz=215							
EAST	**Anshuo**	**2.74**	**210**	*e*P		**Pn**	17 42 21.2	0.0
EAST	baz=208			*e*S		**Sn**	17 42 54.3	-0.2
	baz=208							
PNG	**Penghu**	**2.81**	**245**	*e*S		**Sn**	17 42 58.1	+1.8
PHUB	baz=244 **P'eng-hu**	**2.82**	**244**	*e*P		**Pn**	17 42 23.6	+1.3
PHUB	baz=242			*e*S		**Sn**	17 42 57.6	+1.1
	baz=242							
SCZT	**Fangliau**	**2.86**	**214**	*e*P		**Pn**	17 42 25.0	+2.2
SCZT	baz=212			*e*S		**Sn**	17 42 59.9	+2.5
	baz=212							
WDGT	**Dungji**	**2.88**	**239**	*e*P		**Pn**	17 42 24.1	+1.0
WDGT	baz=237			*e*S		**Sn**	17 43 00.3	+2.6
	baz=237							
XPSS	**Dashiqiu**	**2.90**	**318**	*e*P		**Pn**	17 42 23.8	+0.4
XPSS	baz=318			*e*S		**Sn**	17 42 59.0	+0.6
	baz=318							
LYJJ	**Jianjiangzhen**	**2.93**	**308**	*e*P		**Pn**	17 42 24.5	+0.7
LYJJ	baz=307			*e*S		**Sn**	17 42 59.1	-0.1
	baz=307							
PTMZ	**Hoxiangcun**	**2.94**	**276**	*e*P		**Pn**	17 42 24.9	+0.9
PTMZ	baz=275			*e*S		**Sn**	17 43 00.6	+1.2
	baz=275							
MHZQ	**Yeshan**	**3.28**	**295**	*e*S		**Sn**	17 43 07.9	+0.2
KNMB	baz=294 **Chin-men Tao**	**3.61**	**266**	*e*P		**Pn**	17 42 34.2	+1.0
	baz=264							
JOW	**Kunigami**	**5.73**	**68**	Pn		**Pn**	17 43 02.9	+0.6
	1.2nm,0.3s,baz=99,slow=19,SNR=1.6							
	16nm,0.8s							
JNU	**Nakatsue**	**11.18**	**40**	LR		LR	17 49 49.0	
	comp=Z,40nm,18.6s,baz=210,slow=44							
KSRS	**Korea Array**	**13.52**	**19**	Pn		**P**	17 44 58.5	+0.3
	0.2nm,0.3s,baz=197,slow=11,SNR=11							
KSRS				LR		LR	17 50 30.7	
	comp=Z,56nm,18.5s,baz=245,slow=39							
JCJ	**Chichijima**	**18.00**	**78**	LR		LR	17 50 44.0	
	comp=Z,70nm,21.3s,baz=107,slow=30							
KLR	**Kul'dur**	**25.51**	**14**	LR		LR	17 58 22.4	
	comp=Z,31nm,18.6s,baz=176,slow=39							
SONM	**Songino Array**	**26.26**	**335**	P		**P**	17 47 13.5	+0.7
	3.5nm,1.2s,baz=149,slow=8.8,SNR=7.1							
	3.5nm,1.2s							
MKAR	**Makanchi Array**	**38.67**	**315**	P		**P**	17 49 00.8	-0.2
	0.2nm,0.5s,baz=102,slow=9.4,SNR=4.0							
	0.2nm,0.5s							
WRA	**Warramunga Arr**	**45.95**	**164**	P		**P**	17 49 59.9	-0.5
	3.2nm,0.7s,baz=346,slow=8.2,SNR=14							
	3.2nm,0.7s							
ASAR	**Alice Springs**	**49.43**	**166**	P		**P**	17 50 27.6	+0.1
	1.5nm,0.8s,baz=343,slow=8.2,SNR=23							
	1.5nm,0.8s							

*NOU **29** 17:41:56.0,37˚.15S×179˚.86W,h0km,MLv4.3/10,East of North Island, N.Z.*
*WEL **29** 17:42:07.8±0.8,37˚S±4˚×17˚9E±˚,h12km,M3.4/37, ML3.7/38,MLv3.4/37,Error ellipse: s-maj=0.0km s-min=0.0km az=103.8*

ISC 29 17:42:03.1±2.5,37˚.17S±0˚.07×179˚.42E±0˚.10,h12km±10km, n106,σ1°39/120,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.97**	**246**	P	**Sg**	17 42 33.5	-1.0
MXZ	**Matakaoa Point**	**0.97**	**246**	P	**Pn**	17 42 22.6	0.0
MXZ	**Matakaoa Point**	**0.97**	**246**	P	**Pn**	17 42 22.5	-0.1
MXZ				S	**Sg**	17 42 32.7	-1.9
WMGZ	**Waiomatatini S**	**1.03**	**231**	P	**Pn**	17 42 26.0	+2.5
WMGZ				S	**Sn**	17 42 39.1	+1.3
PKGZ	**Pakihiroa**	**1.29**	**236**	P	**Pg**	17 42 28.9	+1.0
PKGZ				S	**Sn**	17 42 44.5	+0.2
PUZ	**Puketiti**	**1.29**	**225**	P	**Pg**	17 42 29.4	+1.5
PUZ				S	**Sg**	17 42 45.8	+1.0
HAZ	**Te Kaha**	**1.43**	**245**	P	**Pb**	17 42 29.4	-0.3
HAZ				S	**Sb**	17 42 48.2	+0.2
TWGZ	**Tauwhareparae**	**1.52**	**228**	P	**Pg**	17 42 32.7	+0.3
TWGZ				S	**Sg**	17 42 52.1	-0.1
RUGZ	**Raukumara Rang**	**1.60**	**240**	P	**Pg**	17 42 33.6	-0.3
CNGZ	**Carnagh Statio**	**1.63**	**216**	P	**Pg**	17 42 35.1	+0.7
TKGZ	**Te Karaka**	**1.78**	**224**	P	**Pb**	17 42 35.8	+0.1
MWZ	**Matawai**	**1.90**	**232**	P	**Pb**	17 42 37.3	-0.4
MWZ				S	**Sn**	17 42 59.3	-0.1
RIGZ	**Rimuhau**	**2.02**	**220**	P	**Pb**	17 42 39.3	-0.5
RIGZ				S	**Sb**	17 43 04.9	-0.1
WHRZ	**Whale Island**	**2.06**	**250**	P	**Pb**	17 42 40.2	-0.4
RAGZ	**Rawiri**	**2.07**	**230**	P	**Pb**	17 42 40.0	-0.7
RAGZ				S	**Sn**	17 43 03.6	0.0
PRGZ	**Paritu Road**	**2.13**	**214**	P	**Pb**	17 42 41.0	-0.7
URZ	**Urewera**	**2.13**	**239**	P	**Pb**	17 42 40.9	-0.8
URZ	**Urewera**	**2.13**	**239**	P	**Pb**	17 42 40.7	-1.0
URZ	**Urewera**	**2.13**	**239**	P	**Pb**	17 42 40.5	-1.2
URZ				S	**Sn**	17 43 04.0	-1.0
SNGZ	**Shannon Statio**	**2.30**	**225**	P	**Pb**	17 42 42.9	-1.8
SNGZ				S	**Sn**	17 43 10.1	+0.8
MHNZ	**Mahia Peninsul**	**2.31**	**211**	P	**Pb**	17 42 43.6	-1.2
EDRZ	**Edgecumbe**	**2.33**	**245**	P	**Pn**	17 42 43.2	+1.8
OPRZ	**Ohinepanea**	**2.38**	**253**	P	**Pn**	17 42 43.0	+1.0
OPRZ				S	**Sn**	17 43 07.7	-3.4
RTZ	**Ruatahuna**	**2.41**	**232**	P	**Pn**	17 42 44.3	+1.8
MUGZ	**Murupara**	**2.47**	**237**	P	**Pn**	17 42 44.8	+1.5
RAHZ	**Arahi**	**2.54**	**226**	P	**Pn**	17 42 46.0	+1.8
RAHZ				S	**Sn**	17 43 15.1	0.0
TARZ	**Mount Tarawera**	**2.55**	**244**	P	**Pb**	17 42 46.7	-2.1
WHHZ	**Waihua**	**2.57**	**221**	P	**Pn**	17 42 46.8	+2.2
WHHZ				S	**Sn**	17 43 17.1	+1.2
TGRZ	**Tauranga**	**2.58**	**257**	P	**Pn**	17 42 45.8	+1.1
RRRZ	**Republican Roa**	**2.58**	**242**	P	**Pn**	17 42 45.3	+0.4
OMRZ	**Omania**	**2.60**	**248**	P	**Pn**	17 42 47.1	+2.1
MTHZ	**Maungataniwha**	**2.64**	**230**	P	**Pn**	17 42 47.7	+2.1
MTHZ				S	**Sn**	17 43 17.3	-0.4
HLRZ	**Highlands Stat**	**2.66**	**245**	P	**Pn**	17 42 48.0	+2.0
KARZ	**Kaharoa**	**2.66**	**250**	P	**Pn**	17 42 47.5	+1.6
PRRZ	**Plateau Road**	**2.74**	**240**	P	**Pn**	17 42 48.6	+1.6
HSRZ	**Hossack Road**	**2.77**	**245**	P	**Pn**	17 42 49.5	+2.2
ALRZ	**Allen Road**	**2.81**	**239**	P	**Pn**	17 42 49.5	+1.7
NMHZ	**Naumai**	**2.82**	**226**	P	**Pn**	17 42 50.2	+2.0
ARHZ	**Aropaoanui**	**2.83**	**222**	P	**Pn**	17 42 50.0	+1.8
KMRZ	**Kaimai**	**2.85**	**255**	P	**Pn**	17 42 49.6	+1.1
MRHZ	**Matea Rd**	**2.90**	**234**	P	**Pn**	17 42 50.8	+1.6
BKZ	**Black Stump Fm**	**3.05**	**228**	P	**Pn**	17 42 52.9	+1.7
BKZ	**Black Stump Fm**	**3.05**	**228**	P	**Pn**	17 42 53.0	+1.7
BKZ	**Black Stump Fm**	**3.05**	**228**	P	**Pn**	17 42 52.8	+1.5
CKHZ	**Cape Kidnapper**	**3.09**	**216**	P	**Pn**	17 42 52.9	+1.1
MCHZ	**McNeill Hill**	**3.12**	**223**	P	**Pn**	17 42 53.7	+1.5
KUTZ	**Kaahu Road**	**3.14**	**244**	P	**Pn**	17 42 54.1	+1.6
TOZ	**Tahuroa Road**	**3.17**	**259**	P	**Pn**	17 42 53.3	+0.5
KWHZ	**Kaweka Forest**	**3.26**	**225**	P	**Pn**	17 42 55.2	+1.0
TLZ	**Tolley Road**	**3.29**	**248**	P	**Pn**	17 42 56.3	+1.8
KAHZ	**Kahuranaki**	**3.30**	**217**	P	**Pn**	17 42 55.6	+1.0
GRZ	**Great Barrier**	**3.31**	**285**	P	**Pn**	17 42 55.9	+1.1
RITZ	**Rihia Road**	**3.34**	**236**	P	**Pn**	17 42 56.9	+1.6
RATZ	**Rangitukua**	**3.34**	**238**	P	**Pn**	17 42 57.5	+2.2
MKAZ	**Moumakai**	**3.41**	**270**	P	**Pn**	17 42 56.2	+0.1
KRHZ	**Kereru**	**3.44**	**223**	P	**Pn**	17 42 57.4	+0.8
WIAZ	**Waiheke Island**	**3.45**	**275**	P	**Pn**	17 42 57.2	+0.5
PXZ	**Pawanui**	**3.49**	**214**	P	**Pn**	17 42 57.6	+0.4
BHHZ	**Black Hill Sta**	**3.51**	**228**	P	**Pn**	17 42 58.9	+1.2
TMVZ	**Te Maari**	**3.52**	**235**	P	**Pn**	17 42 58.9	+1.1
ETVZ	**East Tongariro**	**3.52**	**235**	P	**Pn**	17 42 58.9	+1.1
NTVZ	**North Tongarir**	**3.53**	**236**	P	**Pn**	17 42 58.9	+1.1
KRVZ	**Karewarewa**	**3.55**	**236**	P	**Pn**	17 42 59.4	+1.2
OTVZ	**Oturere**	**3.57**	**235**	P	**Pn**	17 42 59.6	+1.1
NNVZ	**North Ngauruho**	**3.58**	**236**	P	**Pn**	17 43 00.5	+1.7
WTVZ	**West Tongariro**	**3.59**	**236**	P	**Pn**	17 43 00.5	+1.7
SNVZ	**South Ngauruho**	**3.60**	**235**	P	**Pn**	17 43 00.1	+1.2
ETAZ	**East Tamaki Re**	**3.60**	**272**	P	**Pn**	17 42 59.8	+1.0
NGZ	**Ngauruhoe**	**3.62**	**235**	P	**Pn**	17 43 00.3	+1.2
TUKZ	**Tukino**	**3.63**	**234**	P	**Pn**	17 43 00.6	+1.5
MBAZ	**Motutapu North**	**3.65**	**275**	P	**Pn**	17 43 00.1	+0.8
TWVZ	**Taurewa**	**3.67**	**238**	P	**Pn**	17 43 01.5	+1.7
FWVZ	**Far West T-bar**	**3.69**	**234**	P	**Pn**	17 43 01.3	+1.0
WNVZ	**Wahianoa**	**3.70**	**233**	P	**Pn**	17 43 01.1	+0.8
WPHZ	**Waipukurau**	**3.72**	**218**	P	**Pn**	17 43 00.7	+0.4
TRVZ	**Turoa**	**3.72**	**234**	P	**Pn**	17 43 01.6	+0.9
ABAZ	**Army Bay**	**3.72**	**277**	P	**Pn**	17 43 01.5	+1.1
PNHZ	**Pukenui**	**3.73**	**222**	P	**Pn**	17 43 00.8	+0.2
PRHZ	**Porangahau**	**3.78**	**214**	P	**Pn**	17 43 01.5	+0.2
AWAZ	**Awhitu Peninsu**	**3.82**	**270**	P	**Pn**	17 43 02.7	+0.9
PKVZ	**Pokaka**	**3.84**	**235**	P	**Pn**	17 43 04.0	+1.7
HIZ	**Hauiti**	**3.86**	**248**	P	**Pn**	17 43 04.8	+2.4
HIZ	**Hauiti**	**3.86**	**248**	P	**Pn**	17 43 04.7	+2.4
HIZ	**Hauiti**	**3.86**	**248**	P	**Pn**	17 43 04.7	+2.4
RVAZ	**Riverhead Bore**	**3.90**	**274**	P	**Pn**	17 43 04.0	+1.1
TSZ	**Takapari Road**	**3.96**	**222**	P	**Pn**	17 43 03.6	-0.1
ANWZ	**Angora Road**	**4.01**	**214**	P	**Pn**	17 43 04.5	+0.2
DVHZ	**Dannevirke**	**4.03**	**218**	P	**Pn**	17 43 05.0	+0.3
VRZ	**Vera Road**	**4.16**	**241**	P	**Pn**	17 43 08.4	+1.9
WCZ	**Waipu Caves**	**4.27**	**285**	P	**Pn**	17 43 08.9	+1.0
BFZ	**Birch Farm**	**4.29**	**214**	P	**Pn**	17 43 07.8	-0.5
POWZ	**Post Office Ro**	**4.30**	**220**	P	**Pn**	17 43 08.4	-0.1
PRWZ	**Pori Road**	**4.32**	**217**	P	**Pn**	17 43 09.0	+0.3
WAZ	**Wanganui**	**4.33**	**232**	P	**Pn**	17 43 10.2	+1.3
TIWZ	**Tintock**	**4.54**	**216**	P	**Pn**	17 43 12.0	+0.3
PKE	**Pukeiti**	**4.74**	**243**	P	**Pn**	17 43 18.1	+3.7
KHEZ	**Kahui Hut**	**4.76**	**242**	P	**Pn**	17 43 16.2	+1.4
KHEZ	**Kahui Hut**	**4.76**	**242**	P	**Pn**	17 43 17.5	+2.7
OUZ	**Omahuta**	**5.10**	**291**	P	**Pn**	17 43 20.7	+1.4
OUZ	**Omahuta**	**5.10**	**291**	P	**Pn**	17 43 20.8	+1.4
SNZO	**South Karori**	**5.52**

KZRT				S		Sg	17 49 18.7	+0.1	
ALIG	**Mtskhetisjvari**	**0.74**	**344**	P		Pg	17 49 20.8	-0.4	
ALIG				S		Sg	17 49 31.2	+0.4	
EAK	**Akyaka**	**0.75**	**199**	P		Pg	17 49 21.1	-0.2	
EAK				S		Sg	17 49 31.4	+0.3	
EAK				*i* AML		AML	17 49 36.0		
	comp=N,93nm,0.3s								
EAK				*i* AML		AML	17 49 37.0		
	comp=E,93nm,0.4s								
EPOS	**Posof**	**0.91**	**277**	P		Pg	17 49 23.8	-0.6	
EPOS				S		Sg	17 49 35.3	-0.9	
ABS	**Abastumani**	**0.91**	**294**	P		Pg	17 49 23.8	-0.6	
ABS				S		Sb	17 49 36.9	-0.3	
AHAN	**Ardahan-Merkez**	**1.01**	**257**	P		Pg	17 49 26.0	-0.3	
AHAN				S		Sg	17 49 39.5	0.0	
AHAN				*i* AML		AML	17 49 42.0		
	comp=E,59nm,0.4s								
BOZK	**Kars-Merkez-Bo**	**1.08**	**222**	P		Pg	17 49 27.5	-0.2	
BOZK				S		Sb	17 49 42.1	0.0	
DGRG	**David-gareji**	**1.09**	**87**	P		Pg	17 49 27.4	-0.3	
GUDG	**Gudauri**	**1.15**	**21**	P		Pg	17 49 28.2	-0.6	
GUDG	**Gudauri**	**1.15**	**21**	*e*Pg		Pg	17 49 28.3	-0.6	
GUDG				*e*Sg		Sb	17 49 44.6	+0.6	
GOLE	**Ardahan-G¶le**	**1.15**	**241**	P		Pg	17 49 28.8	-0.1	
GOLE				S		Sb	17 49 44.1	0.0	
GOLE				*i* AML		AML	17 49 45.0		
	comp=E,81nm,0.3s								
GOLE				*i* AML		AML	17 49 45.0		
	comp=N,75nm,0.4s								
TKB	**Tkibuli**	**1.18**	**324**	P		Pg	17 49 28.9	-0.7	
TKB				S		Sb	17 49 45.4	+0.5	
CHRG	**Chargali**	**1.20**	**38**	P		Pg	17 49 29.1	-0.8	
CHRG				S		Sb	17 49 45.5	+0.1	
ONI	**Oni**	**1.25**	**344**	P		Pb	17 49 29.7	-0.8	
ONI				S		Sb	17 49 47.0	+0.3	
ONI	**Oni**	**1.25**	**344**	*e*Pg		Pb	17 49 29.9	-0.7	
ONI				*e*Sg		Sb	17 49 47.1	+0.4	
MTEO	**Meteo**	**1.36**	**19**	P		Pn	17 49 32.3	-0.1	
MTEO				S		Sb	17 49 50.8	+0.3	
DIGR	**Digorskoe uzhe**	**1.52**	**350**	*e*Pg		Pb	17 49 32.1	-0.4	
DIGR				*e*Sg		Sg	17 49 56.4	+0.4	
IGDI	**IGDIR**	**1.53**	**176**	P		Pn	17 49 34.8	+0.4	
IGDI				S		Sn	17 49 55.1	+0.6	
IGDI				*i* AML		AML	17 49 56.0		
	comp=E,28nm,0.3s								
IGDI				*i* AML		AML	17 49 56.0		
	comp=N,28nm,0.3s								
DAGI	**Agillar**	**1.55**	**259**	P		Pb	17 49 35.9	+0.1	
DAGI				S		Sb	17 49 55.7	+0.1	
SHTL	**Shatili**	**1.56**	**36**	P		Pb	17 49 35.7	-0.2	
SHTL				S		Sg	17 49 56.5	-0.5	
KORR	**Kora**	**1.69**	**3**	*e*Pg		Pg	17 49 39.5	+0.1	
KORR				*e*Sg		Sg	17 50 02.6	+1.3	
DDEM	**Demirkent**	**1.72**	**254**	P		Pb	17 49 38.3	-0.3	
DDEM				S		Sn	17 49 59.4	+0.2	
DBAD	**Bademkaya**	**1.73**	**258**	P		Pb	17 49 38.8	0.0	
DBAD				S		Sb	17 50 00.5	-0.1	
DBAD				*i* AML		AML	17 50 03.0		
	comp=E,37nm,0.7s								
DBAD				*i* AML		AML	17 50 04.0		
	comp=N,28nm,0.4s								
LGD	**Lagodekhi**	**1.79**	**75**	P		Pb	17 49 39.3	-0.6	
LGD				S		Sg	17 50 04.3	-0.1	
LSNR	**Lesken**	**1.88**	**358**	*e*Pg		Pg	17 49 42.6	-0.3	
LSNR				*e*Sg		Sg	17 50 08.3	+0.9	
DVE	**Vedeno**	**2.26**	**46**	*e*Pg		Pb	17 49 48.7	+0.8	
DVE				*e*Sg		Sg	17 50 18.4	-1.1	

*KRSC **29** 17:59:50.7±1.0,55˚.15N×163˚.12E,h67^{km}±19^{km},Ml4.5*
*NEIC **29** 17:59:52.5±1.6,55˚.4N±0˚.1×162˚.6E±0˚.2,h35^{km}±2^{km},*
mb4.1/105,Error ellipse: s-maj=23.4km s-min=14.5km
az=140.0
*MOS **29** 17:59:53.8±0.8,55˚.21N×162˚.86E,h77^{km},mb4.5/18,Error*
ellipse: s-maj=6.9km s-min=4.4km az=77.7
*IDC **29** 17:59:55.4±3.0,55˚.28N×162˚.71E,h69^{km}±27^{km},mb3.9/26,*
mbtmp4.2/29,MS3.0/8,Error ellipse: s-maj=17.2km
s-min=14.5km az=142.0

ISC 29 17:59:54.5±0.7,55˚.15N±0˚.04×163˚.04E±0˚.04,h69^{km}±6^{km},
n422,σ1^{s}36/452,mb4.0/80,11C-1D,Off east coast of
Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**1.12**	**350**	PN	**Pn**	**18 00 11.8**	**-2.6**
KBG				S	**Sn**	**18 00 26.1**	**-3.2**
KBG	**Krutoberegovo**	**1.12**	**350**	*e*P	**Pn**	**18 00 11.8**	**-2.6**
KBG				*e*S	**Sn**	**18 00 26.1**	**-3.2**
TUMD	**Tumrok D**	**1.52**	**273**	*e*P	**Pn**	**18 00 18.3**	**-1.3**
TUMD				*e*S	**Sn**	**18 00 37.0**	**-1.6**
ZLN	**Zelenaya**	**1.54**	**305**	PN	**Pn**	**18 00 19.1**	**-0.9**
ZLN	**Zelenaya**	**1.54**	**305**	*e*P	**Pn**	**18 00 19.1**	**-0.9**
BZGR	**Bezymyannyi-Gr**	**1.55**	**302**	PN	**Pn**	**18 00 19.3**	**-0.9**
BZGR				S	**Sn**	**18 00 39.0**	**-0.5**
BZGR	**Bezymyannyi-Gr**	**1.55**	**302**	*e*P	**Pn**	**18 00 19.3**	**-0.9**
BZGR				*e*S	**Sn**	**18 00 39.0**	**-0.5**
BZP	**Bezymyannyi-Pe**	**1.61**	**299**	*e*P	**Pn**	**18 00 19.9**	**-1.2**
CIRR	**Tsirk**	**1.62**	**308**	PN	**Pn**	**18 00 20.3**	**-0.8**
CIRR	**Tsirk**	**1.62**	**308**	*e*P	**Pn**	**18 00 20.3**	**-0.8**
BZMR	**Bezymyannaya**	**1.65**	**299**	PN	**Pn**	**18 00 20.4**	**-1.1**
BZMR	**Bezymyannaya**	**1.65**	**299**	*e*P	**Pn**	**18 00 20.4**	**-1.1**
BZWR	**Bezymyannyi-We**	**1.66**	**300**	PN	**Pn**	**18 00 21.0**	**-0.7**
BZWR	**Bezymyannyi-We**	**1.66**	**300**	*e*P	**Pn**	**18 00 21.0**	**-0.7**
TUMR	**Tumrok**	**1.67**	**276**	PN	**Pn**	**18 00 21.0**	**-0.7**
TUMR				S	**Sn**	**18 00 41.7**	**-0.5**
TUMR	**Tumrok**	**1.67**	**276**	*e*P	**Pn**	**18 00 21.0**	**-0.7**
TUMR				*e*S	**Sn**	**18 00 41.7**	**-0.5**
BKI	**Bering**	**1.68**	**87**	*e*S	**Sn**	**18 00 39.1**	**-3.3**
SMKR	**Semkarok**	**1.69**	**329**	*e*S	**Sn**	**18 00 41.2**	**-1.4**
KMNR	**Kamenistaya**	**1.71**	**292**	PN	**Pn**	**18 00 21.8**	**-0.5**
KMNR				S	**Sn**	**18 00 43.1**	**-0.2**
KMNR	**Kamenistaya**	**1.71**	**292**	*e*P	**Pn**	**18 00 21.8**	**-0.5**
KMNR				*e*S	**Sn**	**18 00 43.1**	**-0.2**
KIRR	**Kirishev**	**1.73**	**299**	PN	**Pn**	**18 00 22.7**	**+0.1**
KIRR				S	**Sn**	**18 00 44.5**	**+0.6**
KIRR	**Kirishev**	**1.73**	**299**	*e*P	**Pn**	**18 00 22.7**	**+0.1**
KIRR				*e*S	**Sn**	**18 00 44.5**	**+0.6**
KRSR	**Krestovskiy**	**1.76**	**308**	PN	**Pn**	**18 00 21.6**	**-1.4**
KRSR				S	**Sn**	**18 00 43.1**	**-1.4**
KRSR	**Krestovskiy**	**1.76**	**308**	*e*P	**Pn**	**18 00 21.6**	**-1.4**
KRSR				*e*S	**Sn**	**18 00 43.1**	**-1.4**
KLY	**Klyuchi**	**1.78**	**312**	PN	**Pn**	**18 00 20.6**	**-2.6**
KLY				S	**Sn**	**18 00 41.8**	**-3.0**
KLY	**Klyuchi**	**1.78**	**312**	*e*P	**Pn**	**18 00 20.6**	**-2.6**
KLY				*e*S	**Sn**	**18 00 41.8**	**-3.0**
KPT	**Kopyto**	**1.80**	**298**	PN	**Pn**	**18 00 22.7**	**-0.7**
KPT				S	**Sn**	**18 00 44.1**	**-1.3**
KPT	**Kopyto**	**1.80**	**298**	*e*P	**Pn**	**18 00 22.7**	**-0.7**
KPT				*e*S	**Sn**	**18 00 44.1**	**-1.3**
SRKR	**Sorokina**	**1.84**	**326**	PN	**Pn**	**18 00 22.8**	**-1.2**
SRKR				S	**Sn**	**18 00 45.2**	**-1.1**
SRKR	**Sorokina**	**1.84**	**326**	*e*P	**Pn**	**18 00 22.8**	**-1.2**
SRKR				*e*S	**Sn**	**18 00 45.2**	**-1.1**
KOZ	**Kozyrevsk**	**2.01**	**298**	PN	**Pn**	**18 00 26.0**	**-0.3**
KOZ				S	**Sn**	**18 00 50.7**	**+0.2**
KOZ	**Kozyrevsk**	**2.01**	**298**	*e*P	**Pn**	**18 00 26.0**	**-0.3**
KOZ				*e*S	**Sn**	**18 00 50.7**	**+0.2**
SRDR	**Sredinnyy**	**2.21**	**303**	PN	**Pn**	**18 00 28.2**	**-0.8**
SRDR				S	**Sn**	**18 00 55.0**	**-0.4**
SRDR	**Sredinnyy**	**2.21**	**303**	*e*P	**Pn**	**18 00 28.2**	**-0.8**
SRDR				*e*S	**Sn**	**18 00 55.0**	**-0.4**
KII	**Karymskiy**	**2.37**	**243**	PN	**Pn**	**18 00 31.0**	**-0.2**
KII	**Karymskiy**	**2.37**	**243**	*e*P	**Pn**	**18 00 31.0**	**-0.2**
ESO	**Esso**	**2.59**	**289**	PN	**Pn**	**18 00 33.0**	**-1.0**
ESO	**Esso**	**2.59**	**289**	*e*P	**Pn**	**18 00 33.0**	**-1.0**
SPN	**Mys Shipunski**	**2.72**	**222**	PN	**Pn**	**18 00 34.1**	**-1.7**
SPN				S	**Sn**	**18 01 03.5**	**-4.1**
SPN	**Mys Shipunski**	**2.72**	**222**	*e*P	**Pn**	**18 00 34.1**	**-1.7**
SPN				*e*S	**Sn**	**18 01 03.5**	**-4.1**
NLC	**Nalytchevo**	**2.94**	**229**	PN	**Pn**	**18 00 38.0**	**-0.8**
NLC	**Nalytchevo**	**2.94**	**229**	*e*P	**Pn**	**18 00 38.0**	**-0.8**
KRER	**Koryakskii**	**3.13**	**235**	PN	**Pn**	**18 00 41.8**	**+0.2**
KRER	**Koryakskii**	**3.13**	**235**	*e*P	**Pn**	**18 00 41.8**	**+0.2**
SMAR	**Somma**	**3.13**	**234**	PN	**Pn**	**18 00 41.7**	**+0.1**
SMAR	**Somma**	**3.13**	**234**	*e*P	**Pn**	**18 00 41.7**	**+0.1**
KRX	**Arik**	**3.14**	**237**	PN	**Pn**	**18 00 41.4**	**-0.3**
KRX	**Arik**	**3.14**	**237**	*e*P	**Pn**	**18 00 41.4**	**-0.3**
UGLR	**Uglovaya**	**3.15**	**234**	PN	**Pn**	**18 00 42.1**	**+0.3**
UGLR	**Uglovaya**	**3.15**	**234**	*e*P	**Pn**	**18 00 42.1**	**+0.3**
AVH	**Avacha**	**3.16**	**235**	PN	**Pn**	**18 00 42.3**	**+0.4**
AVH	**Avacha**	**3.16**	**235**	*e*P	**Pn**	**18 00 42.3**	**+0.4**
KOK	**Koryaka**	**3.19**	**236**	PN	**Pn**	**18 00 42.3**	**0.0**
KOK	**Koryaka**	**3.19**	**236**	*e*P	**Pn**	**18 00 42.3**	**0.0**
DALK	**Dalny**	**3.30**	**232**	PN	**Pn**	**18 00 43.5**	**-0.2**
DALK				S	**Sn**	**18 01 20.0**	**-1.7**
DALK	**Dalny**	**3.30**	**232**	*e*P	**Pn**	**18 00 43.5**	**-0.2**
DALK				*e*S	**Sn**	**18 01 20.0**	**-1.7**
GNL	**Ganaly**	**3.32**	**246**	PN	**Pn**	**18 00 44.5**	**+0.4**
GNL	**Ganaly**	**3.32**	**246**	*e*P	**Pn**	**18 00 44.5**	**+0.4**
PET	**Petropavlovsk**	**3.35**	**232**		**Pn**	**18 00 43.3**	**-1.1**
PET	**Petropavlovsk**	**3.35**	**232**	*de*PN	**Pn**	**18 00 44.3**	**-0.1**
PET				pmax	pmax		
	comp=Z,67nm,0.5s						
PET	**Petropavlovsk**	**3.35**	**232**	*e*P	**Pn**	**18 00 44.4**	**-0.1**
PET				*e*S	**Sn**	**18 01 22.2**	**-0.8**
KRMR	**Karymshinskiy**	**3.72**	**233**	PN	**Pn**	**18 00 49.4**	**0.0**
KRMR				S	**Sn**	**18 01 30.7**	**-1.2**
KRMR	**Karymshinskiy**	**3.72**	**233**	*e*P	**Pn**	**18 00 49.4**	**0.0**
KRMR				*e*S	**Sn**	**18 01 30.7**	**-1.2**
PEA0B	**Petropavlovsk-**	**3.75**	**239**		**Pn**	**18 00 49.6**	**-0.3**
PEA0B	**Petropavlovsk-**	**3.75**	**239**	*i* PN	**Pn**	**18 00 50.5**	**+0.6**
PETK	**Petropavlovsk-**	**3.75**	**239**	P	**Pn**	**18 00 49.1**	**-0.8**
	comp=Z,57nm,0.6s,baz=64,slow=17,SNR=149						
PETK				S	**Sn**	**18 01 35.8**	**+3.0**
	comp=Z,13nm,0.4s,baz=79,slow=23,SNR=5.3						
PETK				LR	LR	18 02 25.8	
	comp=Z,132nm,21.8s,baz=58,slow=41						
RUS	**Russkaya**	**3.83**	**226**	PN	**Pn**	**18 00 50.2**	**-0.7**
RUS				S	**Sn**	**18 01 32.2**	**-2.3**
RUS	**Russkaya**	**3.83**	**226**	*e*P	**Pn**	**18 00 50.2**	**-0.7**
RUS				*e*S	**Sn**	**18 01 32.2**	**-2.3**
MTVR	**Mutnovka**	**3.93**	**229**	PN	**Pn**	**18 00 52.5**	**0.0**
MTVR	**Mutnovka**	**3.93**	**229**	*e*P	**Pn**	**18 00 52.5**	**0.0**
OSSR	**Ossora**	**4.11**	**0**	PN	**Pn**	**18 00 53.3**	**-1.4**
OSSR	**Ossora**	**4.11**	**0**	*e*P	**Pn**	**18 00 53.3**	**-1.4**
ASAK	**Asacha**	**4.12**	**230**	PN	**Pn**	**18 00 55.6**	**+0.6**
ASAK	**Asacha**	**4.12**	**230**	*e*P	**Pn**	**18 00 55.6**	**+0.6**
APC	**Apacha**	**4.12**	**240**	PN	**Pn**	**18 00 56.1**	**+1.2**
APC	**Apacha**	**4.12**	**240**	*e*P	**Pn**	**18 00 56.1**	**+1.2**
KDTR	**Khodutka, Kamc**	**4.47**	**224**	PN	**Pn**	**18 00 59.0**	**-0.7**
KDTR				S	**Sn**	**18 01 47.8**	**-2.6**
KDTR	**Khodutka, Kamc**	**4.47**	**224**	*e*P	**Pn**	**18 00 59.0**	**-0.7**
KDTR				*e*S	**Sn**	**18 01 47.8**	**-2.6**
PAU	**Pauzhetka**	**5.25**	**228**	PN	**Pn**	**18 01 12.3**	**+2.0**
PAU	**Pauzhetka**	**5.25**	**228**	*e*P	**Pn**	**18 01 12.3**	**+2.0**
TILK	**Tilichiki**	**5.56**	**16**	PN	**Pn**	**18 01 14.8**	**+0.3**
TILK	**Tilichiki**	**5.56**	**16**	*e*P	**Pn**	**18 01 14.8**	**+0.3**
SKR	**Severo-Kuril's**	**6.13**	**226**	*e*PN	**Pn**	**18 01 22.5**	**+0.2**
SKR				pmax	pmax		
	comp=Z,130nm,0.3s						
SKR	**Severo-Kuril's**	**6.13**	**226**	*e*P	**Pn**	**18 01 22.1**	**-0.3**
KMSK	**Kamenskaya**	**7.52**	**11**	PN	**Pn**	**18 01 41.3**	**+0.1**
KMSK	**Kamenskaya**	**7.52**	**11**	*e*P	**Pn**	**18 01 41.3**	**+0.1**
KMSK				*e*S	**Sn**	**18 03 02.4**	**-2.4**
MA2	**Magadan**	**7.97**	**309**	LR	LR	18 05 24.7	
	comp=Z,40nm,20.0s,baz=140,slow=42						
SEY	**Seymchan**	**9.53**	**329**	*ce*PN	**Pn**	**18 02 10.6**	**+1.9**
SEY				pmax	pmax		
	comp=Z,2.0nm,1.1s						
YSS	**Yuzh-Sakhalins**	**15.12**	**246**	*e*P	Pn	18 03 15.9	-8.1
YSS				MLR	MLR		
	comp=Z,200nm,14.0s						
GAMB	**Gambell**	**15.37**	**46**	P	**Pn**	**18 03 28.2**	**+1.2**
	baz=248						
NIKH	**Nikolski High**	**16.59**	**86**	P	**Pn**	**18 03 44.6**	**+2.2**
	baz=289						
JKA	**Kamikawa-asahi**	**17.17**	**238**		**Pn**	**18 03 48.7**	**-0.9**
JKA				IAmb	IAmb	18 04 19.1	
	comp=Z,32nm,1.5s						
ASAJ	**Asahikawa**	**17.17**	**238**	P	**Pn**	**18 03 48.7**	**-1.0**
ASAJ				pmax	pmax		
	comp=Z,32nm,1.5s						
ASAJ	**Asahikawa**	**17.17**	**238**	P	**Pn**	**18 03 50.0**	**+0.3**
	comp=Z,5.3nm,0.7s,baz=63,slow=11,SNR=7.5						
ASAJ				LR	LR	18 10 28.6	
	comp=Z,47nm,18.3s,baz=86,slow=37						
TNA	**Tin City**	**17.55**	**42**	P	**P**	**18 03 56.0**	**+1.7**
	baz=248						
UNV	**Unalaska Valle**	**17.67**	**82**	P	**P**	**18 03 57.7**	**+2.0**
	baz=287						
AKUT	**Akutan**	**18.00**	**80**	P	**P**	**18 04 01.2**	**+1.8**
AKUT				IAmb	IAmb	18 04 14.6	
	comp=Z,25nm,1.2s						
F14K	**Arctic Creek**	**18.14**	**43**	P	**P**	**18 04 01.5**	**+0.6**
	baz=250						
ANM	**Nome**	**18.24**	**46**	P	**P**	**18 04 02.9**	**+0.9**
ANM	**Nome**	**18.24**	**46**	P	**P**	**18 04 02.4**	**+0.5**
	baz=254						
ANM	**Nome**	**18.24**	**46**	P	**P**	**18 04 02.9**	**+0.9**
ANM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ERM	**Erimo**	**18.51**	**233**	P	**P**	**18 04 03.4**	**-1.6**
ERM	**Erimo**	**18.51**	**233**	P	**P**	**18 04 03.4**	**-1.6**
ERM				pmax	pmax		
	comp=Z,110nm,1.5s						
YAK	**Yakutsk**	**18.53**	**305**	P	**P**	**18 04 02.9**	**-2.2**
YAK				IAmb	IAmb	18 04 06.8	
	comp=Z,10nm,0.7s						
YAK	**Yakutsk**	**18.53**	**305**	*ce*P	**P**	**18 04 03.3**	**-1.8**
YAK				pmax	pmax		
	comp=Z,14nm,1.0s						
YAK	**Yakutsk**	**18.53**	**305**	P	**P**	**18 04 04.5**	**-0.6**
	comp=Z,9.4nm,0.5s,baz=120,slow=19,SNR=7.4						
M13K	**Dall Lake**	**18.53**	**60**	P	**P**	**18 04 07.0**	**+1.9**
	baz=269						
J14K	**Nanvaranak Lak**	**18.64**	**52**	P	**P**	**18 04 07.7**	**+1.4**
J14K	**Nanvaranak Lak**	**18.64**	**52**	P	**P**	**18 04 08.1**	**+1.8**
	baz=262						
F15K	**North Star Dit**	**18.88**	**43**	P	**P**	**18 04 09.0**	**+0.1**
F15K	**North Star Dit**	**18.88**	**43**	P	**Pn**	**18 04 11.1**	**+0.9**
	baz=252						
G15K	**Niukluk**	**18.91**	**45**	P	**P**	**18 04 10.7**	**+1.4**
	baz=255						
M14K	**Bethel**	**19.23**	**59**	P	**P**	**18 04 14.2**	**+1.5**
M14K				IAmb	IAmb	18 04 35.1	
	comp=Z,7.5nm,0.6s						
M14K	**Bethel**	**19.23**	**59**	P	**P**	**18 04 14.6**	**+1.9**
	baz=269						
N14K	**Kuskokwak Cree**	**19.36**	**61**	P	**P**	**18 04 16.3**	**+2.1**
	baz=272						
L15K	**Ungalak Mounta**	**19.49**	**56**	P	**P**	**18 04 17.9**	**+2.3**
	baz=267						
K15K	**Wolf Creek Mou**	**19.52**	**54**	P	**P**	**18 04 18.2**	**+2.3**
	baz=265						
H16K	**Elim**	**19.57**	**47**	P	**P**	**18 04 18.1**	**+1.6**
	baz=258						
O14K	**Tigyukauivet M**	**19.61**	**63**	P	**P**	**18 04 18.4**	**+1.6**
O14K				IAmb	IAmb	18 04 52.3	
	comp=Z,12nm,1.3s						
C16K	**Lisburne Hills**	**19.61**	**36**	P	**P**	**18 04 17.2**	**+0.3**
C16K				IAmb	IAmb	18 04 18.9	
	comp=Z,6.8nm,0.8s						
C16K	**Lisburne Hills**	**19.61**	**36**	P	**P**	**18 04 18.2**	**+1.4**
	baz=244						
S12K	**Black Hills**	**19.69**	**74**	P	**P**	**18 04 20.3**	**+2.5**
S12K	**Black Hills**	**19.69**	**74**	P	**P**	**18 04 19.9**	**+2.0**
	baz=283						
G16K	**Koyuk River**	**19.70**	**45**	P	**P**	**18 04 19.4**	**+1.5**
G16K	**Koyuk River**	**19.70**	**45**	P	**P**	**18 04 19.4**	**+1.5**
	baz=256						
M15K	**Kasigluk River**	**19.85**	**59**	P	**P**	**18 04 21.5**	**+2.0**
	baz=270						
KLR	**Kul'dur**	**19.96**	**266**	*i* P	**P**	**18 04 20.7**	**-0.2**
KLR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
KLR	**Kul'dur**	**19.96**	**266**	LR	LR	18 12 16.6	
	comp=Z,35nm,21.6s,baz=48,slow=38						
J16K	**Anvik River**	**20.05**	**51**	P	**P**	**18 04 24.0**	**+2.3**
J16K	**Anvik River**	**20.05**	**51**	P	**P**	**18 04 23.3**	**+1.6**
	baz=263						
I17K	**Unalakleet**	**20.09**	**50**		**P**	**18 04 23.7**	**+1.6**
I17K				IAmb	IAmb	18 04 25.0	
	comp=Z,7.2nm,0.8s						
I17K	**Unalakleet**	**20.09**	**50**	P	**P**	**18 04 24.3**	**+2.2**
	baz=262,SNR=5.4						
N15K	**Kwethluk River**	**20.15**	**61**	P	**P**	**18 04 24.5**	**+1.6**
N15K	**Kwethluk River**	**20.15**	**61**	P	**P**	**18 04 25.3**	**+2.4**
	baz=272						
D17K	**Noatak River**	**20.16**	**38**	P	**P**	**18 04 24.1**	**+1.4**
	baz=249,SNR=5.1						
O15K	**Ungalikthiuk R**	**20.35**	**63**	P	**P**	**18 04 26.5**	**+1.6**
	baz=275						
E17K	**Hotham Inlet**	**20.40**	**40**	P	**P**	**18 04 27.2**	**+1.8**
	baz=252,SNR=10						
G17K	**Kiwalik Mounta**	**20.42**	**45**	P	**P**	**18 04 27.8**	**+2.1**
	baz=257						
F17K	**Baldwin Pennin**	**20.42**	**42**	P	**P**	**18 04 27.2**	**+1.6**
F17K				IAmb	IAmb	18 04 28.3	
	comp=Z,7.4nm,0.7s						
F17K	**Baldwin Pennin**	**20.42**	**42**	P	**P**	**18 04 27.4**	**+1.7**
	baz=254						
C17K	**DeLong Mountai**	**20.43**	**36**	P	**P**	**18 04 27.5**	**+1.8**
	baz=247,SNR=9.2						
L16K	**Owhat River**	**20.45**	**56**		**P**	**18 04 27.1**	**+1.0**
L16K				IAmb	IAmb	18 04 42.2	
	comp=Z,6.9nm,0.6s						
L16K	**Owhat River**	**20.45**	**56**	P	**P**	**18 04 27.8**	**+1.8**
	baz=269						
H17K	**Granite Mounta**	**20.61**	**47**	P	**P**	**18 04 28.9**	**+1.1**
H17K				IAmb	IAmb	18 04 30.3	
	comp=Z,7.5nm,0.8s						
H17K	**Granite Mounta**	**20.61**	**47**	P	**P**	**18 04 29.5**	**+1.8**
	baz=260						
M16K	**Timber Creek**	**20.69**	**58**	P	**P**	**18 04 30.1**	**+1.4**
M16K				IAmb	IAmb	18 04 55.2	
	comp=Z,6.2nm,0.7s						
M16K	**Timber Creek**	**20.69**	**58**	P	**P**	**18 04 30.8**	**+2.1**
	baz=271						
N16K	**Nishlik Lake**	**20.80**	**60**	P	**P**	**18 04 32.0**	**+2.2**
	baz=273						
S14K	**Fog Glacier**	**20.93**	**71**	P	**P**	**18 04 33.6**	**+2.2**
	baz=283						
E18K	**Tukpahlearik C**	**20.95**	**40**	P	**P**	**18 04 32.5**	**+1.1**
E18K				IAmb	IAmb	18 04 33.8	
	comp=Z,5.3nm,0.7s						
E18K	**Tukpahlearik C**	**20.95**	**40**	P	**P**	**18 04 32.7**	**+1.3**
	baz=252						
L17K	**Donlin**	**21.02**	**55**	P	**P**	**18 04 34.0**	**+1.9**
	baz=269						
K17K	**Iditarod**	**21.05**	**53**	P	**P**	**18 04 33.9**	**+1.5**
K17K				IAmb	IAmb	18 04 35.5	
	comp=Z,6.6nm,0.8s						
K17K	**Iditarod**	**21.05**	**53**	P	**P**	**18 04 34.2**	**+1.7**
	baz=267						
F18K	**Selawik**	**21.08**	**42**	P	**P**	**18 04 34.5**	**+1.8**
	baz=256						
C18K	**Utukok River**	**21.16**	**36**	P	**P**	**18 04 34.2**	**+0.5**
C18K	**Utukok River**	**21.16**	**36**	P	**P**	**18 04 34.9**	**+1.2**
	baz=249						
O16K	**Kokwok River B**	**21.20**	**62**	P	**P**	**18 04 35.0**	**+1.0**
O16K	**Kokwok River B**	**21.20**	**62**	P	**P**	**18 04 35.7**	**+1.7**
	baz=275						
B18K	**Kokolik River**	**21.24**	**34**	P	**P**	**18 04 36.1**	**+1.7**
	baz=246						
CHNA	**Chernabura Isl**	**21.28**	**75**	P	**P**	**18 04 36.7**	**+1.8**
	baz=287						
CNBA	**Chernabura Isl**	**21.28**	**75**	P	**P**	**18 04 33.6**	**-1.3**
CNBA				IAmb	IAmb	18 04 40.9	
	comp=Z,11nm,1.4s						
H18K	**Honhosa River**	**21.29**	**47**	P	**P**	**18 04 36.5**	**+1.5**
H18K	**Honhosa River**	**21.29**	**47**	P	**P**	**18 04 36.6**	**+1.5**
	baz=261						
P16K	**Nushagak River**	**21.30**	**64**	P	**P**	**18 04 36.7**	**+1.6**
	baz=277						
G18K	**Tagagawik**	**21.31**	**44**	P	**P**	**18 04 36.7**	**+1.4**
G18K	**Tagagawik**	**21.31**	**44**	P	**P**	**18 04 37.1**	**+1.9**
	baz=259						
M17K	**Holitna River**	**21.43**	**57**	P	**P**	**18 04 36.2**	**-0.3**
M17K				IAmb	IAmb	18 04 41.3	
	comp=Z,6.2nm,0.8s						
M17K	**Holitna River**	**21.43**	**57**	P	**P**	**18 04 38.0**	**+1.5**
	baz=271						
CHGN	**Chignik**	**21.55**	**71**	P	**P**	**18 04 39.3**	**+1.5**
	baz=284						
N17K	**Nushagak Hills**	**21.58**	**59**	P	**P**	**18 04 38.2**	**0.0**
N17K	**Nushagak Hills**	**21.58**	**59**	P	**P**	**18 04 39.6**	**+1.5**
	baz=274						
O17K	**

J20K	**Nowinta River**	**22.99**	**50**	P	**P**	**18 04 53.6**	**+0.6**
	baz=268						
K20K	**Telida**	**23.00**	**52**	P	**P**	**18 04 52.5**	**-0.7**
K20K	**Telida**	**23.00**	**52**	P	**P**	**18 04 53.9**	**+0.7**
	baz=270						
L20K	**Farewell, AK**	**23.09**	**54**	P	**P**	**18 04 55.0**	**+0.9**
	baz=272						
IMAR	**Indian Mountai**	**23.31**	**45**	P	**P**	**18 04 56.2**	**0.0**
M20K	**Styx River**	**23.46**	**55**	P	**P**	**18 04 59.3**	**+1.6**
M20K				IAmb	IAmb	18 05 24.8	
	comp=Z,4.2nm,0.5s						
G21K	**Allakaket**	**23.48**	**44**	P	**P**	**18 04 58.3**	**+0.7**
G21K				IAmb	IAmb	18 05 00.7	
	comp=Z,4.2nm,0.9s						
G21K	**Allakaket**	**23.48**	**44**	P	**P**	**18 04 58.3**	**+0.7**
	baz=263						
C21K	**Knifeblade Rid**	**23.53**	**37**	P	**P**	**18 04 59.4**	**+1.3**
	baz=255						
Q19K	**Cape Douglas,**	**23.55**	**63**	P	**P**	**18 04 59.4**	**+1.0**
Q19K	**Cape Douglas,**	**23.55**	**63**	P	**P**	**18 04 59.1**	**+0.7**
	baz=280						
F21K	**Alatna River**	**23.59**	**42**	P	**P**	**18 04 59.4**	**+0.7**
F21K				IAmb	IAmb	18 05 00.7	
	comp=Z,6.5nm,1.2s						
F21K	**Alatna River**	**23.59**	**42**	P	**P**	**18 04 59.2**	**+0.5**
	baz=261						
H21K	**Melozitna Rive**	**23.66**	**46**	P	**P**	**18 05 00.3**	**+1.0**
H21K	**Melozitna Rive**	**23.66**	**46**	P	**P**	**18 05 00.5**	**+1.1**
	baz=265						
B21K	**Ikpikpuk River**	**23.71**	**36**	P	**P**	**18 05 00.7**	**+1.0**
B21K				IAmb	IAmb	18 05 01.8	
	comp=Z,6.8nm,0.9s						
B21K	**Ikpikpuk River**	**23.71**	**36**	P	**P**	**18 05 00.7**	**+1.0**
	baz=254						
CHUM	**Lake Minchumin**	**23.79**	**50**	P	**P**	**18 05 01.2**	**+0.7**
	baz=270						
PPLA	**Purkeypile**	**23.86**	**53**	P	**P**	**18 05 02.3**	**+1.1**
	baz=272						
O20K	**Slope Mountain**	**23.89**	**60**	P	**P**	**18 05 02.5**	**+1.0**
	baz=278						
CAST	**Castle Rocks**	**23.89**	**52**	P	**P**	**18 05 03.0**	**+1.5**
CAST	**Castle Rocks**	**23.89**	**52**	P	**P**	**18 05 02.5**	**+1.1**
	baz=271						
I21K	**Tanana**	**23.97**	**47**	P	**P**	**18 05 03.2**	**+1.1**
I21K	**Tanana**	**23.97**	**47**	P	**P**	**18 05 03.7**	**+1.6**
	baz=267						
A22K	**Sinclair Lake**	**24.02**	**33**	P	**P**	**18 05 03.5**	**+1.1**
	baz=251						
F22K	**John River**	**24.13**	**42**	P	**P**	**18 05 05.4**	**+1.9**
	baz=262						
D22K	**Ayikyak River**	**24.20**	**38**	P	**P**	**18 05 04.8**	**+0.7**
D22K				IAmb	IAmb	18 05 06.8	
	comp=Z,9.8nm,1.3s						
D22K	**Ayikyak River**	**24.20**	**38**	P	**P**	**18 05 05.5**	**+1.3**
	baz=258						
SKT	**Skwentna**	**24.21**	**55**	P	**P**	**18 05 05.0**	**+0.7**
SKT				IAmb	IAmb	18 05 07.6	
	comp=Z,5.7nm,1.0s						
SKT	**Skwentna**	**24.21**	**55**	P	**P**	**18 05 05.3**	**+1.0**
	baz=275						
Q20K	**Shuyak Island**	**24.25**	**63**	P	**P**	**18 05 05.9**	**+1.3**
	baz=282						
H22K	**Ishtalitna Cre**	**24.27**	**46**	P	**P**	**18 05 05.9**	**+1.0**
	baz=266						
B22K	**Teshekpuk Lake**	**24.30**	**35**	P	**P**	**18 05 05.2**	**+0.2**
	baz=254						
KDAK	**Kodiak Island**	**24.32**	**65**	P	**P**	**18 05 05.8**	**+0.5**
KDAK	**Kodiak Island**	**24.32**	**65**	P	**P**	**18 05 06.6**	**+1.3**
	baz=283						
KDAK	**Kodiak Island**	**24.32**	**65**	P	**P**	**18 05 05.8**	**+0.5**
KDAK				pmax	pmax		
	comp=Z,28nm,1.5s						
E22K	**Anaktuvuk Pass**	**24.37**	**40**	P	**P**	**18 05 06.7**	**+1.0**
E22K	**Anaktuvuk Pass**	**24.37**	**40**	P	**P**	**18 05 06.8**	**+1.0**
	baz=261						
BPAW	**Bear Paw Mtn.**	**24.37**	**50**	P	**P**	**18 05 06.7**	**+0.9**
BPAW				IAmb	IAmb	18 05 08.7	
	comp=Z,5.3nm,0.9s						
BPAW	**Bear Paw Mtn.**	**24.37**	**50**	P	**P**	**18 05 06.7**	**+0.9**
	baz=271,SNR=8.0						
KTH	**Kantishna Hill**	**24.41**	**51**	P	**P**	**18 05 07.3**	**+1.1**
KTH				IAmb	IAmb	18 05 09.7	
	comp=Z,4.0nm,0.7s						
MLY	**Manley**	**24.49**	**48**	P	**P**	**18 05 08.4**	**+1.5**
MLY				IAmb	IAmb	18 05 09.8	
	comp=Z,5.2nm,1.1s						
MLY	**Manley**	**24.49**	**48**	P	**P**	**18 05 08.1**	**+1.2**
	baz=269						
SUA	**Susitna One**	**24.63**	**56**	P	**P**	**18 05 08.2**	**0.0**
SUA				IAmb	IAmb	18 05 11.2	
	comp=Z,5.4nm,0.9s						
SUA	**Susitna One**	**24.63**	**56**	P	**P**	**18 05 09.1**	**+0.9**
	baz=277						
CNPM	**China Poot**	**24.66**	**61**	P	**P**	**18 05 09.1**	**+0.7**
TRF	**Thorofare Moun**	**24.70**	**51**	P	**P**	**18 05 09.6**	**+0.7**
TRF	**Thorofare Moun**	**24.70**	**51**	P	**P**	**18 05 09.6**	**+0.7**
	baz=273,SNR=7.4						
CUT	**Chulitna**	**24.77**	**54**	P	**P**	**18 05 11.0**	**+1.7**
	baz=275						
COLD	**Coldfoot**	**24.86**	**42**	P	**P**	**18 05 11.5**	**+1.4**
	baz=264,SNR=13						
BRSE	**Bradley Lake S**	**24.88**	**60**	P	**P**	**18 05 11.7**	**+1.3**
	baz=280						
G23K	**Bananza Creek**	**24.88**	**44**	P	**P**	**18 05 11.1**	**+0.7**
G23K				IAmb	IAmb	18 05 13.1	
	comp=Z,3.2nm,0.8s						
G23K	**Bananza Creek**	**24.88**	**44**	P	**P**	**18 05 12.3**	**+2.0**
	baz=266						
D23K	**Nanushuk River**	**24.92**	**38**	P	**P**	**18 05 12.5**	**+1.8**
	baz=260						
H23K	**Yukon River**	**25.02**	**46**	P	**P**	**18 05 12.7**	**+1.0**
H23K				IAmb	IAmb	18 05 15.3	
	comp=Z,5.4nm,0.9s						
H23K	**Yukon River**	**25.02**	**46**	P	**P**	**18 05 13.7**	**+2.0**
	baz=268						
I23K	**Minto, Yukon-K**	**25.08**	**47**	P	**P**	**18 05 13.0**	**+0.9**
I23K				IAmb	IAmb	18 05 15.6	
	comp=Z,3.7nm,0.8s						
I23K	**Minto, Yukon-K**	**25.08**	**47**	P	**P**	**18 05 13.7**	**+1.5**
	baz=270						
C23K	**Itkillik River**	**25.11**	**36**	P	**P**	**18 05 13.1**	**+0.7**
C23K				IAmb	IAmb	18 05 50.7	
	comp=Z,4.7nm,1.1s						
C23K	**Itkillik River**	**25.11**	**36**	P	**P**	**18 05 14.2**	**+1.8**
	baz=258						
E23K	**Chandalar**	**25.18**	**41**	P	**P**	**18 05 14.9**	**+1.8**
	baz=263						
MJAR	**Matsushiro Arr**	**25.18**	**233**	P	**P**	**18 05 13.7**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=25,slow=9.0,SNR=4.5						
MJAR				LR	LR	18 15 22.7	
	comp=Z,29nm,19.3s,baz=50,slow=37						
	comp=Z,1.6nm,0.6s						
NEA2	**Nenana**	**25.20**	**49**	P	**P**	**18 05 15.3**	**+2.0**
	baz=271						
TOLK	**Toolik Lake Re**	**25.27**	**39**	P	**P**	**18 05 14.8**	**+0.9**
TOLK				IAmb	IAmb	18 05 17.2	
	comp=Z,4.9nm,0.8s						
TOLK	**Toolik Lake Re**	**25.27**	**39**	P	**P**	**18 05 15.8**	**+1.9**
	baz=262,SNR=6.9						
MCK	**McKinley**	**25.29**	**51**	P	**P**	**18 05 16.0**	**+1.9**
	baz=273						
RND	**Reindeer**	**25.34**	**52**	P	**P**	**18 05 15.2**	**+0.5**
RND				IAmb	IAmb	18 05 32.2	
	comp=Z,8.0nm,1.4s						
RND	**Reindeer**	**25.34**	**52**	P	**P**	**18 05 15.2**	**+0.5**
RND				pmax	pmax		
	comp=Z,8.0nm,1.4s						
PMR	**Palmer**	**25.39**	**56**	P	**P**	**18 05 16.4**	**+1.5**
	baz=278						
WAT1	**Susitna Watana**	**25.52**	**53**	P	**P**	**18 05 16.9**	**+0.7**
	baz=275						
D24K	**Happy Valley**	**25.61**	**38**	P	**P**	**18 05 17.7**	**+0.7**
D24K				IAmb	IAmb	18 05 20.8	
	comp=Z,3.2nm,0.8s						
D24K	**Happy Valley**	**25.61**	**38**	P	**P**	**18 05 18.8**	**+1.9**
	baz=262						
WRH	**Wood River Hil**	**25.63**	**49**	P	**P**	**18 05 18.4**	**+1.3**
WRH				IAmb	IAmb	18 05 55.4	
	comp=Z,4.6nm,1.1s						
H24K	**Noodor Dome**	**25.70**	**46**	P	**P**	**18 05 20.4**	**+2.5**
	baz=270						
KNK	**Knik Glacier**	**25.73**	**56**	P	**P**	**18 05 19.8**	**+1.7**
	baz=278						
SML	**Sawmill**	**25.73**	**55**	P	**P**	**18 05 17.4**	**-0.8**
SML				IAmb	IAmb	18 05 34.8	
	comp=Z,3.5nm,0.9s						
SML	**Sawmill**	**25.73**	**55**	P	**P**	**18 05 19.5**	**+1.3**
	baz=278						
C24K	**Franklin Bluff**	**25.75**	**37**	P	**P**	**18 05 20.2**	**+2.0**
	baz=261,SNR=6.3						
CCB	**Clear Creek Bu**	**25.75**	**49**	P	**P**	**18 05 19.0**	**+0.8**
F24K	**Squaw Lake**	**25.77**	**42**	P	**P**	**18 05 19.7**	**+1.2**
F24K				IAmb	IAmb	18 05 49.5	
	comp=Z,8.6nm,1.5s						
F24K	**Squaw Lake**	**25.77**	**42**	P	**P**	**18 05 19.9**	**+1.4**
	baz=266						
G24K	**Hadweenzic Riv**	**25.89**	**44**	P	**P**	**18 05 20.4**	**+0.9**
G24K				IAmb	IAmb	18 05 24.7	
	comp=Z,4.4nm,0.9s						
G24K	**Hadweenzic Riv**	**25.89**	**44**	P	**P**	**18 05 20.6**	**+1.1**
	baz=268						
POKR	**Poker Plat Res**	**25.89**	**47**	P	**P**	**18 05 21.1**	**+1.6**
	baz=272						
M23K	**Glacier View**	**26.02**	**55**	P	**P**	**18 05 22.0**	**+1.2**
	baz=278						
DHY	**Denali Highway**	**26.04**	**52**	P	**P**	**18 05 21.9**	**+0.8**
DHY				IAmb	IAmb	18 05 48.6	
	comp=Z,6.1nm,1.3s						
DHY	**Denali Highway**	**26.04**	**52**	P	**P**	**18 05 21.5**	**+0.4**
	baz=276						
HDA	**Harding Lake**	**26.13**	**49**	P	**P**	**18 05 22.0**	**+0.3**
	baz=273						
ILAR	**Eielson Array**	**26.14**	**48**	P	**P**	**18 05 22.4**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=262,slow=8.4,SNR=11						
	comp=Z,0.7nm,0.6s						
SCM	**Sheep Creek Mo**	**26.20**	**55**	P	**P**	**18 05 23.1**	**+0.6**
SCM	**Sheep Creek Mo**	**26.20**	**55**	P	**P**	**18 05 23.0**	**+0.5**
	baz=278						
SCM	**Sheep Creek Mo**	**26.20**	**55**	P	**P**	**18 05 23.1**	**+0.6**
SCM				pmax	pmax		
	comp=Z,6.0nm,0.7s						
D25K	**Kavik River**	**26.50**	**38**	P	**P**	**18 05 25.8**	**+0.8**
D25K	**Kavik River**	**26.50**	**38**	P	**P**	**18 05 26.0**	**+0.9**
	baz=264						
F25K	**Christian Rive**	**26.64**	**42**	P	**P**	**18 05 27.0**	**+0.7**
	baz=268						
K24K	**Donnelly Dome**	**26.68**	**50**	P	**P**	**18 05 27.1**	**+0.3**
	baz=276						
PRP	**Porcupine Dome**	**26.68**	**47**	P	**P**	**18 05 27.2**	**+0.4**
	baz=272						
E25K	**Arctic Village**	**26.69**	**41**	P	**P**	**18 05 27.3**	**+0.6**
	baz=267						
M24K	**Tolsona, Glenn**	**26.70**	**54**	P	**P**	**18 05 28.6**	**+1.7**
M24K	**Tolsona, Glenn**	**26.70**	**54**	P	**P**	**18 05 28.0**	**+1.1**
	baz=279						
J25K	**Salcha River,**	**26.80**	**49**	P	**P**	**18 05 28.7**	**+0.9**
	baz=274						
PAX	**Paxson**	**26.91**	**52**	P	**P**	**18 05 29.2**	**+0.4**
	baz=278						
KLU	**Klutina**	**26.92**	**55**	P	**P**	**18 05 29.2**	**+0.2**
	baz=280						
BMAR	**Burnt Mountain**	**27.04**	**42**	P	**P**	**18 05 30.4**	**+0.4**
C26K	**Camden Bay**	**27.07**	**37**	P	**P**	**18 05 30.6**	**+0.5**
	baz=264						
RIDG	**Independent Ri**	**27.10**	**50**	P	**P**	**18 05 31.1**	**+0.6**
	baz=276						
Q23K	**Middleton Isla**	**27.13**	**60**	P	**P**	**18 05 31.3**	**+0.7**
	baz=284						
EYAK	**Cordova Ski Ar**	**27.18**	**57**	P	**P**	**18 05 32.3**	**+1.2**
	baz=282						
F26K	**Sheenjek River**	**27.21**	**42**	P	**P**	**18 05 32.0**	**+0.6**
	baz=269						
SCRK	**Sand Creek**	**27.45**	**50**	P	**P**	**18 05 34.4**	**+0.7**
	baz=277						
N25K	**Chitina, Valde**	**27.52**	**55**	P	**P**	**18 05 35.1**	**+0.8**
	baz=281						
BMRM	**Bremner River**	**27.64**	**56**	P	**P**	**18 05 36.2**	**+0.8**
	baz=282						
GLB	**Gilahina Butte**	**27.93**	**55**	P	**P**	**18 05 38.4**	**+0.5**
GLB				IAmb	IAmb	18 05 40.1	
	comp=Z,6.3nm,1.4s						
M26K	**Nabesna, AK**	**28.13**	**53**	P	**P**	**18 05 39.7**	**+0.1**
	baz=280						
VRDI	**Verde Repeater**	**28.14**	**56**	P	**P**	**18 05 41.1**	**+1.2**
VRDI				IAmb	IAmb	18 05 49.5	
	comp=Z,8.5nm,1.4s						
K27K	**Chicken**	**28.28**	**49**	P	**P**	**18 05 41.7**	**+0.7**
K27K	**Chicken**	**28.28**	**49**	P	**P**	**18 05 41.4**	**+0.4**
	baz=278						
H27K	**Steamboat Moun**	**28.29**	**45**	P	**P**	**18 05 41.6**	**+0.6**
	baz=274						
CRQE	**Cirque**	**28.41**	**56**	P	**P**	**18 05 43.3**	**+1.1**
	baz=283						
BGLC	**Bering Glacier**	**28.47**	**58**	P	**P**	**18 05 44.1**	**+1.5**
	baz=284						
L27K	**Beaver Creek,**	**28.54**	**51**	P	**P**	**18 05 44.5**	**+1.2**
	baz=280						
BCAR	**Beaver Creek A**	**28.56**	**51**	P	**P**	**18 05 45.0**	**+1.5**
EGAK	**Eagle**	**28.58**	**48**	P	**P**	**18 05 45.1**	**+1.6**
	baz=278						
M27K	**Edge Creek, AK**	**28.65**	**53**	P	**P**	**18 05 46.2**	**+1.9**
M27K				IAmb	IAmb	18 06 09.0	
	comp=Z,3.2nm,1.1s						
M27K	**Edge Creek, AK**	**28.65**	**53**	P	**P**	**18 05 45.6**	**+1.2**
	baz=281						
F28M	**Old Crow**	**28.85**	**42**	P	**P**	**18 05 46.8**	**+0.9**
	baz=273						
D28M	**Stokes Point**	**29.21**	**38**	P	**P**	**18 05 50.0**	**+1.0**
	baz=271						
H29M	**Whitestone**	**29.56**	**45**	P	**P**	**18 05 53.4**	**+1.1**
KSRS	**Korea Array**	**29.60**	**248**	LR	LR	18 17 19.4	
	comp=Z,22nm,20.1s,baz=50,slow=35						
G29M	**Pine Creek**	**29.62**	**43**	P	**P**	**18 05 54.8**	**+2.0**
G29M				IAmb	IAmb	18 06 15.2	
	comp=Z,3.8nm,1.1s						
M29M	**Somme Creek**	**30.18**	**52**	P	**P**	**18 05 59.6**	**+1.7**
	baz=284						
L29M	**L29M**	**30.18**	**51**	P	**P**	**18 05 59.3**	**+1.5**
L29M	**L29M**	**30.18**	**51**	P	**P**	**18 05 59.5**	**+1.6**
	baz=283						
I30M	**Mount Dempster**	**30.52**	**46**	P	**P**	**18 06 02.3**	**+1.4**
I30M				IAmb	IAmb	18 06 31.6	
	comp=Z,3.7nm,1.4s						
I30M	**Mount Dempster**	**30.52**	**46**	P	**P**	**18 06 01.5**	**+0.6**
	baz=280						
YUK6	**Outpost Mounta**	**30.61**	**55**	P	**P**	**18 06 02.6**	**+0.8**
	baz=286						
J30M	**Hart River**	**30.66**	**48**	P	**P**	**18 06 02.8**	**+0.7**
	baz=282						
M30M	**Minto, Yukon**	**30.90**	**51**	P	**P**	**18 06 04.8**	**+0.6**
	baz=284						
HYT	**Haines Junctio**	**31.04**	**55**	P	**P**	**18 06 07.4**	**+1.8**
	baz=287						
G31M	**Satah River**	**31.09**	**43**	P	**P**	**18 06 07.0**	**+1.3**
	baz=279						
INK	**Inuvik**	**31.17**	**40**	P	**P**	**18 06 07.0**	**+0.6**
INK	**Inuvik**	**31.17**	**40**	P	**P**	**18 06 07.0**	**+0.6**
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
F31M	**Tsiigehtchic**	**31.21**	**42**	P	**P**	**18 06 08.0**	**+1.3**
	baz=279						
SONM	**Songino Array**	**35.14**	**282**	P	**P**	**18 06 41.9**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=54,slow=8.4,SNR=5.9						
	comp=Z,0.4nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**35.48**	**174**	T	T	18 44 04.4	
	baz=356,slow=74,SNR=12						
H11N3	**WAKE ISLAND Hy**	**35.50**	**174**	T	T	18 44 07.3	
	baz=356,slow=74,SNR=10						
H11N1	**WAKE ISLAND Hy**	**35.50**	**174**	T	T	18 44 01.5	
	baz=356,SNR=12						
HHC	**Hu-ho-hao-te**	**36.42**	**269**	*e*P	P	18 06 47.5	-4.8
HHC				pP	pP	18 06 53.0	-16
HHC				sP	sP	18 06 54.5	-22
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,64nm,4.5s						
BTO	**Baotou**	**37.46**	**270**	*e*P	P	18 06 52.5	-8.7
BTO				pP	pP	18 07 17.5	0.0
BTO				sP	sP	18 07 29.8	+4.5
BTO				PP	**PP**	**18 08 20.8**	**-6.8**
BTO				pmax	pmax		
	comp=Z,14nm,0.9s						
BTO				pmax	pmax		
	comp=Z,210nm,4.8s						
YKA	**Yellowknife Ar**	**40.47**	**45**	P	**P**	**18 07 27.3**	**+1.4**
	comp=Z,0.1nm,0.4s,baz=298,slow=7.6,SNR=2.0						
ZALV	**Zalesovo Beam**	**43.13**	**302**	*i* P	**P**	**18 07 45.0**	**-2.7**
ZALV	**Zalesovo Beam**	**43.13**	**302**	P	**P**	**18 07 45.8**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=56,slow=6.3,SNR=3.7						
	comp=Z,0.4nm,0.4s						
SPITS	**Spitsbergen Ar**	**45.38**	**351**	P	**P**	**18 08 05.7**	**+0.3**
SPITS				pmax	pmax		
	comp=Z,39nm,1.3s						
SPITS	**Spitsbergen Ar**	**45.38**	**351**	P	**P**	**18 08 05.2**	**-0.2**
	comp=Z,3.8nm,0.6s,baz=58,slow=8.7,SNR=14						
	comp=Z,3.8nm,0.6s						
SPB2	**Spitsbergen Ar**	**45.38**	**351**	P	**P**	**18 08 05.2**	**-0.1**
KURK	**Kurchatov**	**48.12**	**302**	P	**P**	**18 08 25.0**	**-2.0**
KURK	**Kurchatov**	**48.12**	**302**	*ce*P	**P**	**18 08 25.9**	**-1.1**
KURK				pmax	pmax		
	comp=Z,13nm,1.3s						
KURBB	**Kurchatov Arra**	**48.22**	**302**	P	**P**	**18 08 26.2**	**-1.6**
	comp=Z,3.6nm,0.4s,baz=56,slow=7.8,SNR=34						
	comp=Z,3.6nm,0.4s						
MK31	**Makanchi Array**	**48.83**	**296**	P	**P**	**18 08 30.8**	**-1.8**
MK31				IAmb	IAmb	18 08 31.5	
	comp=Z,2.0nm,0.9s						
MK31	**Makanchi Array**	**48.83**	**296**	*ce*P	**P**	**18 08 31.1**	**-1.5**
MKAR	**Makanchi Array**	**48.83**	**296**	P	**P**	**18 08 30.2**	**-2.4**
MKAR	**Makanchi Array**	**48.83**	**296**	*ce*P	**P**	**18 08 30.8**	**-1.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**48.83**	**296**	P	**P**	**18 08 30.5**	**-2.0**
	comp=Z,1.3nm,0.8s,baz=49,slow=5.7,SNR=16						
	comp=Z,1.3nm,0.8s						
MAKZ	**Makanchi**	**48.98**	**296**	P	**P**	**18 08 31.7**	**-2.0**
MAKZ	**Makanchi**	**48.98**	**296**	P	**P**	**18 08 31.7**	**-2.0**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,1.2s						
BVAR	**Borovoye Array**	**50.47**	**309**	P	**P**	**18 08 43.2**	**-1.7**
	comp=Z,3.0nm,0.5s,baz=58,slow=6.9,SNR=20						
BVAR				PcP	**PcP**	**18 10 00.6**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=35,slow=5.3,SNR=2.4						
	comp=Z,3.0nm,0.5s						
BRVK	**Borovoye**	**50.49**	**309**	P	**P**	**18 08 42.9**	**-2.2**
BRVK	**Borovoye**	**50.49**	**309**	*ce*P	**P**	**18 08 44.2**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FCC	**Fort Churchill**	**50.78**	**41**	P	**P**	**18 08 48.4**	**+1.2**
FCC	**Fort Churchill**	**50.78**	**41**	P	**P**	**18 08 48.4**	**+1.2**
FCC				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ARCES	**ARCESS Array B**	**51.86**	**342**	PcP	**PcP**	**18 10 07.9**	**+0.9**
	comp=Z,4.8nm,0.9s,baz=17,slow=4.1,SNR=3.9						
ARU	**Arti**	**53.05**	**318**	P	**P**	**18 09 03.9**	**-0.2**
ARU	**Arti**	**53.05**	**318**	P	**P**	**18 09 03.4**	**-0.7**
	comp=Z,3.1nm,0.4s,baz=70,slow=15,SNR=5.3						
ARU				LR	LR	18 33 03.3	
	comp=Z,42nm,19.9s,baz=302,slow=38						
	comp=Z,3.1nm,0.4s						
AAK	**Ala-Archa**	**55.71**	**297**	*ce*P	**P**	**18 09 22.2**	**-1.6**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
AAK	**Ala-Archa**	**55.71**	**297**	P	**P**	**18 09 22.6**	**-1.2**
	comp=Z,1.9nm,0.8s,baz=97,slow=5.1,SNR=7.8						
	comp=Z,1.9nm,0.8s						
ABKAR	**Akbulak array**	**57.77**	**311**	P	**P**	**18 09 37.0**	**-1.1**
FIA1	**FINESS Array S**	**58.90**	**337**	P	**P**	**18 09 43.9**	**-1.8**
FINES	**FINESS Array B**	**58.90**	**337**	P	**P**	**18 09 44.9**	**-0.7**
FINES	**FINESS Array B**	**58.90**	**337**	*ce*P	**P**	**18 09 46.2**	**+0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**58.90**	**337**	P	**P**	**18 09 45.0**	**-0.7**
	comp=Z,1.3nm,0.4s,baz=33,slow=8.3,SNR=22						
	comp=Z,1.3nm,0.4s						
GAR	**Garm**	**60.53**	**297**	P	**P**	**18 09 56.1**	**-1.3**
CHGR	**Chuyangaron**	**61.38**	**297**	P	**P**	**18 10 01.6**	**-1.6**
CHGR	**Chuyangaron**	**61.38**	**297**	P	**P**	**18 10 01.6**	**-1.6**
CHGR				pmax	pmax		
	comp=Z,12nm,0.6s						
VSU	**Vasula**	**61.41**	**336**	*i* P	**P**	**18 10 02.0**	**-0.9**
VSU				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SIMJ	**Simiganj**	**61.46**	**297**	P	**P**	**18 10 02.0**	**-1.7**
OBN	**Obninsk**	**61.69**	**328**⇑	*e*P	**P**	**18 10 07.5**	**+2.7**
OBN				*e**PP	**sP**	**18 10 32.8**	**+4.3**
OBN				*e*		18 12 22.9	
OBN				*e*S	S	18 18 37.5	+16
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NB2	**NORSAR Subarra**	**62.02**	**345**	P	**P**	**18 10 06.6**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=18,slow=6.9						
NOA	**NORSAR Array B**	**62.02**	**345**	P	**P**	**18 10 06.7**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=19,slow=6.9,SNR=5.3						
	comp=Z,1.2nm,0.7s						
HFS	**Hagfors**	**62.50**	**343**	P	**P**	**18 10 09.1**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=57,slow=5.3,SNR=6.9						
	comp=Z,1.0nm,0.6s						
GEYT	**Alibeck**	**67.40**	**304**	P	**P**	**18 10 42.0**	**-0.3**
	comp=Z,4.9nm,0.6s,baz=57,slow=5.5,SNR=9.8						
	comp=Z,4.9nm,0.6s						
AKASG	**Malin Array Be**	**67.71**	**330**	*i* P	**P**	**18 10 43.4**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKASG	**Malin Array Be**	**67.71**	**330**	P	**P**	**18 10 43.4**	**-0.7**
	comp=Z,2.4nm,0.3s,baz=27,slow=6.8,SNR=24						
	comp=Z,2.4nm,0.3s						
TXAR	**Lajitas Array**	**68.26**	**70**	P	**P**	**18 10 50.3**	**+2.3**
	comp=Z,0.5nm,0.7s,baz=292,slow=4.5,SNR=6.8						
	comp=Z,0.5nm,0.7s						
KIV	**Kislovodsk**	**69.09**	**318**	*e*P	**P**	**18 10 54.1**	**+1.2**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KBZ	**Khabaz**	**69.20**	**318**	*ce*P	**P**	**18 10 53.1**	**-0.4**
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KBZ	**Khabaz**	**69.20**	**318**	P	**P**	**18 10 53.4**	**-0.1**
	comp=Z,4.1nm,0.8s,baz=232,slow=7.5,SNR=6.1						
	comp=Z,4.1nm,0.8s						
EKA	**Eskdalemuir Ar**	**69.30**	**352**	P	**P**	**18 10 54.4**	**+0.5**

	SNR=15								
CHMS	**Chumysh**	**7.32**	**26**	P		**Pn**	**18 11 57.2**	**+0.6**
	SNR=12								
CHMS	**Chumysh**	**7.32**	**26**	⇑P		**Pn**	**18 11 56.5**	**-0.1**
	1.5nm,0.3s								
CHMS				⇑S		**Sn**	**18 13 16.7**	**-2.9**
	15nm,0.7s								
USP	**Ospenovka**	**7.47**	**24**	P		**Pn**	**18 11 59.5**	**+0.9**
	SNR=6.9								
GEYT	**Alibeck**	**9.82**	**282**	P		**Pn**	**18 12 27.9**	**-1.3**
	2.2nm,0.7s,baz=234,slow=6.9,SNR=4.0								
MKAR	**Makanchi Array**	**13.61**	**37**	P		**Pn**	**18 13 17.5**	**+0.2**
	3.1nm,0.8s,baz=218,slow=14,SNR=18								
AB31	**Akbulak array**	**14.81**	**333**	⇓P		**Pn**	**18 13 30.7**	**-1.2**
	0.8nm,0.4s,baz=146,slow=11,SNR=42								
AB31				⇑S		**Sn**	**18 16 18.4**	**+0.9**
	0.9nm,0.7s,baz=160,slow=23,SNR=4.1								
KURBB	**Kurchatov Arra**	**15.29**	**20**	P		**Pn**	**18 13 38.0**	**+0.1**
	3.1nm,0.2s,baz=209,slow=11,SNR=5.5								
AKTO	**Aktyubinsk**	**16.49**	**331**	P		**Pn**	**18 13 54.3**	**+2.0**
	1.5nm,0.3s,baz=148,slow=6.5,SNR=6.5								
AKTO	**Aktyubinsk**	**16.49**	**331**	⇑P		**P**	**18 13 52.4**	**+1.0**
	0.8nm,0.5s								
AKTO				⇑S		**S**	**18 16 54.2**	**+0.5**
	0.9nm,0.8s								
BVAR	**Borovoye Array**	**16.51**	**0**	P		**Pn**	**18 13 53.5**	**+1.0**
	0.7nm,0.4s,baz=164,slow=10,SNR=10								
WSAR	**Wadi Sarin**	**16.64**	**221**	LR		LR	18 21 59.3		
	comp=Z,54nm,21.0s,baz=272,slow=43								
ZALV	**Zalesovo Beam**	**20.14**	**25**	P		**P**	**18 14 31.9**	**+1.1**
	2.8nm,0.5s,baz=215,slow=11,SNR=15								
	2.8nm,0.5s								
ARU	**Arti**	**21.44**	**342**	P		**P**	**18 14 45.0**	**+0.5**
	1.3nm,0.4s,baz=188,slow=15,SNR=3.7								
	1.3nm,0.4s								
FINES	**FINESS Array B**	**37.16**	**326**	P		**P**	**18 17 04.7**	**+1.2**
	1.9nm,0.8s,baz=139,slow=9.9,SNR=5.8								
	1.9nm,0.8s								
ARCES	**ARCESS Array B**	**40.92**	**338**	P		**P**	**18 17 35.8**	**+1.2**
	1.3nm,0.6s,baz=94,slow=5.0,SNR=7.1								
	1.3nm,0.6s								
HFS	**Hagfors**	**42.71**	**322**	P		**P**	**18 17 50.9**	**+1.7**
	2.1nm,0.8s,baz=106,slow=15,SNR=1.7								
	2.1nm,0.8s								
NB2	**NORSAR Subarra**	**44.03**	**323**	P		**P**	**18 18 00.9**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=96,slow=7.9								
NOA	**NORSAR Array B**	**44.03**	**323**	P		**P**	**18 17 59.6**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=97,slow=7.7,SNR=4.3								
	comp=Z,1.0nm,0.8s								
TIXI	**Tiksi**	**45.97**	**22**	P		**P**	**18 18 16.0**	**+1.2**
	comp=Z,3.6nm,0.3s,baz=289,slow=5.8,SNR=7.1								
	comp=Z,3.6nm,0.3s								
TORD	**Torodi Ar. Bea**	**65.16**	**268**	P		**P**	**18 20 30.6**	**-1.6**
	comp=Z,0.4nm,0.7s,baz=44,slow=7.4,SNR=2.7								
	comp=Z,0.4nm,0.7s								
YKA	**Yellowknife Ar**	**81.25**	**2**	P		**P**	**18 22 05.9**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=349,slow=5.6,SNR=5.2								
	comp=Z,0.2nm,0.7s								
WRA	**Warramunga Arr**	**82.47**	**121**	P		**P**	**18 22 11.2**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=266,slow=3.1,SNR=2.6								
	comp=Z,0.6nm,0.8s								
ASAR	**Alice Springs**	**84.72**	**124**	P		**P**	**18 22 23.1**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=306,slow=4.1,SNR=10.0								
	comp=Z,0.4nm,0.6s								

IDC 29 18:14:18.1±1.9, 6°59S×128°90E, h0km, mb3.8/1, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=59.5km s-min=29.9km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BATI	**Baumata**	**6.30**	**235**	Pn		Pn	18 15 52.6	+0.2
	1.5nm,0.3s,baz=18,slow=19,SNR=2.1							
	3.7nm,0.3s							
WRA	**Warramunga Arr**	**14.29**	**159**	Pn		Pn	18 17 41.4	-0.5
	0.1nm,0.3s,baz=334,slow=13,SNR=8.9							
WRA				Sn		Sn	18 20 07.1	-14
	0.1nm,0.3s,baz=334,slow=22,SNR=2.3							
	0.1nm,0.3s							
ASAR	**Alice Springs**	**17.65**	**165**	P		Pn	18 18 25.9	+0.3
	0.1nm,0.3s,baz=346,slow=9.6,SNR=8.5							
	0.2nm,0.6s							
MKAR	**Makanchi Array**	**67.29**	**327**	P		P	18 25 14.7	0.0
	0.4nm,0.4s,baz=114,slow=7.0,SNR=10							
	0.4nm,0.4s							

*IDC **29** 18:22:48.9±3.1, 36°23N×70°90E, h168km±27km, mb3.3/9, mbtmp3.7/14, Error ellipse: s-maj=25.1km s-min=19.2km az=26.0*
*NEIC **29** 18:22:52.8±1.8, 36°55N±0°07×70°92E±0°10, h196km±6km, mb4.0/25, Error ellipse: s-maj=11.4km s-min=9.6km az=100.0*
*NNC **29** 18:22:56.5±3.5, 36°94N×70°90E, h176km±47km, mb2.6, mpv3.3, Error ellipse: s-maj=32.0km s-min=23.8km az=44.0*

ISC 29 18:22:51.5±0.5, 36°54N±0°05×71°01E±0°06, h188km, n69, σ1§52/80, mb3.9/21, 3C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GAR	**Garm**	**2.52**	**348**			**Pn**	**18 23 35.9**	**+1.0**
KBL	**Kabul**	**2.56**	**219**	Pn		Pn	**18 23 36.5**	**+0.9**
CHGR	**Chuyangaron**	**2.58**	**326**	Pn		Pn	**18 23 36.3**	**+0.7**
SIMJ	**Simiganj**	**2.65**	**324**	Pn		Pn	**18 23 37.1**	**+0.7**
DRK	**Karamyk**	**3.00**	**12**	Pn		Pn	**18 23 41.8**	**+1.1**
NIL	**Nilore**	**3.42**	**147**			**Pn**	**18 23 47.8**	**+2.2**
BTK	**Batken**	**3.51**	**358**			**Pn**	**18 23 48.5**	**+1.7**
JMU	**Jammu**	**4.98**	**139**	*e*P		**Pn**	**18 24 05.5**	**+0.2**
JMU				*e*S		**Sn**	**18 25 01.8**	**-1.7**
ARSB	**Arslanbob**	**5.02**	**17**			**Pn**	**18 24 06.4**	**+0.5**
THN	**Thein Dam**	**5.65**	**135**	*e*P		**Pn**	**18 24 15.3**	**+1.3**
THN				*e*S		**Sn**	**18 25 18.4**	**-0.6**
THN				IAML			18 25 21.2	
	comp=E,132nm,0.4s							
THN				IAML			18 25 24.1	
	comp=N,97nm,0.3s							
DHRM	**DHARAMSHALA**	**6.12**	**133**	*e*P		**Pn**	**18 24 21.7**	**+1.4**
DHRM				*e*S		**Sn**	**18 25 29.2**	**-1.1**
DHRM				IAML			18 25 31.7	
	comp=N,289nm,0.3s							
DHRM				IAML			18 25 31.9	
	comp=E,195nm,0.3s							
NRN	**Naryn**	**6.24**	**37**	Pn		**Pn**	**18 24 21.6**	**-0.3**
KK31	**Karatay Array**	**6.56**	**357**	Pn		**Pn**	**18 24 26.0**	**+0.1**
KK31	**Karatay Array**	**6.56**	**357**	⇓P		**Pn**	**18 24 26.3**	**+0.4**
	comp=E,1.0nm,0.3s,baz=178,slow=13,SNR=16							
KK31				⇓S		**Sn**	**18 25 35.9**	**-4.6**
	comp=E,14nm,0.5s,baz=177,slow=17,SNR=22							
KKAR	**Karatay Array**	**6.56**	**357**	Pn		**Pn**	**18 24 26.1**	**+0.2**
AAK	**Ala-Archa**	**6.65**	**23**	Pn		**Pn**	**18 24 27.8**	**+0.6**
AAK	**Ala-Archa**	**6.65**	**23**	P		**Pn**	**18 24 28.2**	**+1.1**
	comp=E,2.2nm,0.3s,baz=167,slow=5.5,SNR=17							
AAK				S		**Sn**	**18 25 41.6**	**-1.3**
	comp=E,7.8nm,0.6s,baz=155,slow=23,SNR=11							
AAK	**Ala-Archa**	**6.65**	**23**	⇓P		**Pn**	**18 24 28.7**	**+1.5**
	comp=E,1.3nm,0.4s							
AAK				⇑S		**Sn**	**18 25 41.5**	**-1.3**
	comp=E,6.7nm,0.6s							
BHK	**Bhakra**	**6.80**	**137**	*e*P		**Pn**	**18 24 28.8**	**-0.3**
BHK				*e*S		**Sn**	**18 25 44.5**	**-1.8**
CHMS	**Chumysh**	**7.06**	**23**	⇓P		**Pn**	**18 24 31.8**	**-0.6**
	comp=E,1.0nm,0.5s							
CHMS				⇑S		**Sn**	**18 25 48.4**	**-3.9**
	comp=E,6.3nm,0.7s							
TARG	**Taragay, Kyrgy**	**7.39**	**43**	Pn		**Pn**	**18 24 38.0**	**+0.9**
SMLA	**Simla**	**7.44**	**135**	*e*P		**Pn**	**18 24 37.8**	**+0.4**
SMLA				*e*S		**Sn**	**18 25 58.2**	**-3.1**
SMLA				IAML			18 26 02.4	
	comp=E,53nm,0.2s							
SMLA				IAML			18 26 02.4	
	comp=E,51nm,0.2s							
GEYT	**Alibeck**	**10.38**	**282**	Pn		**Pn**	**18 25 14.9**	**-0.8**
GEYT	**Alibeck**	**10.38**	**282**	P		**Pn**	**18 25 14.1**	**-1.7**
	comp=E,0.7nm,0.3s,baz=107,slow=13,SNR=6.6							
GYA0B	**ALIBECK ARRAY**	**10.38**	**282**	Pn		**Pn**	**18 25 14.6**	**-1.2**
LGTI	**Lohaghat**	**10.49**	**130**	*e*P		**Pn**	**18 25 15.5**	**-1.7**
LGTI				*e*S		Sn	18 27 06.5	-7.5
MAKZ	**Makanchi**	**13.11**	**35**	Pn		**Pn**	**18 25 50.9**	**+0.3**
MKAR	**Makanchi Array**	**13.25**	**36**	P		**Pn**	**18 25 54.1**	**+1.7**
	comp=E,0.2nm,0.4s,baz=203,slow=9.7,SNR=6.5							
AB31	**Akbulak array**	**15.05**	**331**	P		**Pn**	**18 26 16.2**	**+1.6**
	comp=E,0.6nm,0.3s,baz=142,slow=12,SNR=28							
AB31				⇓S		**Sn**	**18 28 56.9**	**-5.8**
	comp=E,1.7nm,0.8s,baz=153,slow=25,SNR=5.2							
ABKAR	**Akbulak array**	**15.05**	**331**			**Pn**	**18 26 14.1**	**-0.5**
BVAR	**Borovoye Array**	**16.49**	**359**	P		**P**	**18 26 33.0**	**+1.7**
	comp=E,0.3nm,0.3s,baz=148,slow=9.3,SNR=1.7							
AKTO	**Aktyubinsk**	**16.75**	**330**	P		**P**	**18 26 36.0**	**+1.7**
	comp=E,1.7nm,0.4s,baz=137,slow=5.4,SNR=13							
AKTO	**Aktyubinsk**	**16.75**	**330**	⇑P		**P**	**18 26 34.0**	**-0.2**
	comp=E,0.5nm,0.3s							
AKTO				⇓S		**S**	**18 29 40.3**	**+1.1**
	comp=E,1.1nm,1.1s							
FINES	**FINESS Array B**	**37.45**	**326**	P		**P**	**18 29 47.5**	**+1.2**
FINES	**FINESS Array B**	**37.45**	**326**	P		**P**	**18 29 47.1**	**+0.7**
	comp=E,0.4nm,0.4s,baz=116,slow=8.7,SNR=5.8							
	comp=E,0.4nm,0.4s							
ARCES	**ARCESS Array B**	**41.11**	**338**	P		**P**	**18 30 17.9**	**+1.4**
ARCES	**ARCESS Array B**	**41.11**	**338**	P		**P**	**18 30 18.1**	**+1.6**
	comp=E,5.9nm,0.8s,baz=110,slow=6.7,SNR=9.5							
	comp=E,5.9nm,0.8s							
HFS	**Hagfors**	**43.04**	**322**	P		**P**	**18 30 33.1**	**+0.9**
	comp=E,2.0nm,0.7s,baz=89,slow=13,SNR=1.7							
	comp=E,2.0nm,0.7s							
NC405	**NORSAR Array S**	**44.12**	**323**	P		**P**	**18 30 41.7**	**+0.9**
NC303	**NORSAR Array S**	**44.30**	**323**	P		**P**	**18 30 43.3**	**+1.1**
NB201	**NORSAR Array S**	**44.32**	**323**	P		**P**	**18 30 43.2**	**+0.8**
NB2	**NORSAR Subarra**	**44.35**	**323**	P		**P**	**18 30 43.1**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=95,slow=7.9							
NOA	**NORSAR Array B**	**44.35**	**323**	P		**P**	**18 30 43.4**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=102,slow=7.6,SNR=2.0							
	comp=Z,0.5nm,0.6s							
NC204	**NORSAR Array S**	**44.59**	**323**	P		**P**	**18 30 45.0**	**+0.3**
TIXI	**Tiksi**	**45.73**	**22**	P		**P**	**18 30 54.5**	**+1.2**
SPITS	**Spitsbergen Ar**	**47.45**	**347**	P		**P**	**18 31 08.8**	**+2.1**
	comp=Z,3.8nm,0.9s,baz=120,slow=8.5,SNR=1.3							
	comp=Z,3.8nm,0.9s							
TORD	**Torodi Ar. Bea**	**65.73**	**269**	P		**P**	**18 33 14.0**	**-2.3**
TORD	**Torodi Ar. Bea**	**65.73**	**269**	P		**P**	**18 33 14.6**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=50,slow=6.4,SNR=5.8							
	comp=Z,0.2nm,0.3s							
D19K	**Kuna River**	**69.10**	**17**	P		**P**	**18 33 36.9**	**+0.3**
D19K				IAmb		IAmb	18 33 38.7	
	comp=Z,3.3nm,1.4s							
E18K	**Tukpahlearik C**	**69.28**	**19**	P		**P**	**18 33 38.5**	**+0.8**
F15K	**North Star Dit**	**69.40**	**21**	P		**P**	**18 33 39.5**	**+1.0**
F15K				IAmb		IAmb	18 34 18.4	
	comp=Z,4.3nm,1.4s							
C23K	**Itkillik River**	**69.68**	**14**	P		**P**	**18 33 41.5**	**+1.4**
C23K				IAmb		IAmb	18 34 04.5	
	comp=Z,2.5nm,1.3s							
D22K	**Ayikyak River**	**70.03**	**15**	P		**P**	**18 33 44.0**	**+1.6**
D22K				IAmb		IAmb	18 34 16.4	
	comp=Z,2.8nm,1.4s							
F21K	**Alatna River**	**71.19**	**17**	P		**P**	**18 33 50.4**	**+1.0**
F21K				IAmb		IAmb	18 34 32.4	
	comp=Z,2.9nm,1.4s							
BMAR	**Burnt Mountain**	**72.90**	**14**	P		**P**	**18 34 01.4**	**+1.9**
K17K	**Iditarod**	**73.49**	**21**	P		**P**	**18 34 04.3**	**+1.3**
K17K				IAmb		IAmb	18 34 25.8	
	comp=Z,4.0nm,1.2s							
L16K	**Owhat River**	**73.91**	**22**	P		**P**	**18 34 06.0**	**+0.5**
L16K				IAmb		IAmb	18 34 38.5	
	comp=Z,7.0nm,1.5s							
K20K	**Telida**	**74.17**	**19**	P		**P**	**18 34 08.2**	**+1.3**
K20K				IAmb		IAmb	18 34 31.1	
	comp=Z,4.0nm,1.4s							
F31M	**Tsiigehtchic**	**74.65**	**10**	P		**P**	**18 34 10.3**	**+0.8**
LBTB	**Lobatse**	**74.72**	**222**	P		**P**	**18 34 11.0**	**+0.3**
LBTB				IAmb		IAmb	18 34 31.5	
	comp=Z,5.1nm,1.1s							
KTH	**Kantishna Hill**	**74.82**	**18**	P		**P**	**18 34 11.6**	**+0.8**
KTH				IAmb		IAmb	18 34 47.4	
	comp=Z,4.2nm,1.4s							
G31M	**Satah River**	**75.06**	**10**	P		**P**	**18 34 11.5**	**-0.5**
H29M	**Whitestone**	**75.09**	**12**	P		**P**	**18 34 13.1**	**+0.9**
I28M	**Miner Creek**	**75.52**	**13**	P		**P**	**18 34 15.5**	**+0.7**
I28M				IAmb		IAmb	18 34 34.2	
	comp=Z,3.6nm,1.5s							
H31M	**Peel River**	**76.10**	**10**	P		**P**	**18 34 18.4**	**+0.4**
H31M				IAmb		IAmb	18 34 37.8	
	comp=Z,5.0nm,1.4s							
BOSA	**Boshof**	**77.79**	**220**	P		**P**	**18 34 27.6**	**-0.3**
YKA	**Yellowknife Ar**	**81.20**	**3**	P		**P**	**18 34 46.8**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=349,slow=5.8,SNR=5.7							
	comp=Z,0.3nm,0.5s							
WRA	**Warramunga Arr**	**82.00**	**122**	P		**P**	**18 34 49.5**	**-1.1**
	comp=Z,0.2nm,0.7s,baz=321,slow=6.5,SNR=1.7							
	comp=Z,0.2nm,0.7s							
ASAR	**Alice Springs**	**84.27**	**125**	P		**P**	**18 35 01.9**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=315,slow=4.8,SNR=7.1							
	comp=Z,0.2nm,0.5s							

*AFAD **29** 18:29:56.5±0.0, 36°98N×27°78E, h7km±1km, ML3.1*
*ISK **29** 18:29:56.2, 36°97N×27°77E, h10km, ML3.2/19*
*IDC **29** 18:29:57.2±3.4, 36°95N×28°05E, h0km, mb3.2/2, mbtmp3.3/4, ML3.5/2, Error ellipse: s-maj=60.9km s-min=29.0km az=40.0*
*ATH **29** 18:29:57.9, 37°00N×27°84E, h13km±2km, ML3.3/5, Error ellipse: s-maj=3.5km s-min=1.1km az=219.0*
*THE **29** 18:29:57.1, 36°99N×27°78E, h1km±1km, ML3.3/4, Error ellipse: s-maj=2.0km s-min=0.9km az=58.0*

ISC 29 18:29:57.1±0.9, 36°99N±0°02×27°80E±0°02, h9km±8km, n64, σ0§75/89, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BDRM	**Kayabasi**	**0.30**	**285**	P		**Pg**	**18 30 02.7**	**-0.3**
BDRM				S		**Sg**	**18 30 07.1**	**+0.1**
BDRM				*i* AML		AML	18 30 08.0	
	comp=E,3μm,0.4s							
MLSB	**Milas**	**0.30**	**356**	Pg		**Pg**	**18 30 02.6**	**-0.7**
MLSB				Sg		**Sg**	**18 30 08.0**	**+0.7**
DAT	**Datca**	**0.32**	**215**	Pg		**Pg**	**18 30 02.9**	**-0.6**
DAT	**Datca**	**0.32**	**215**	P		**Pg**	**18 30 02.9**	**-0.6**
DAT				S		**Sg**	**18 30 08.1**	**+0.4**
BODT	**Bodrum**	**0.40**	**280**	Pg		**Pg**	**18 30 04.4**	**-0.6**
BODT				Sg		**Sg**	**18 30 10.3**	**0.0**
BODT	**Bodrum**	**0.40**	**280**	P		**Pg**	**18 30 04.5**	**-0.6**
BODT				S		**Sg**	**18 30 10.6**	**+0.3**
TURN	**Turunc**	**0.41**	**121**	Pg		**Pg**	**18 30 04.9**	**-0.4**
TURN				Sg		**Sg**	**18 30 11.2**	**+0.5**
TURN	**Turunc**	**0.41**	**121**	P		**Pg**	**18 30 04.7**	**-0.5**
TURN				S		**Sg**	**18 30 11.6**	**+0.9**
TURN				*i* AML		AML	18 30 14.0	
	comp=E,1μm,0.4s							
TURN				*i* AML		AML	18 30 15.0	
	comp=N,1μm,0.6s							
YAZI	**Mula-Datša-**	**0.42**	**222**	P		**Pg**	**18 30 04.7**	**-0.7**
YAZI				S		**Sg**	**18 30 10.8**	**0.0**
MULA	**Mugla, Merkez-**	**0.49**	**57**	P		**Pg**	**18 30 06.5**	**-0.3**
MULA				S		**Sg**	**18 30 13.3**	**+0.1**
DDIM	**Aydin, Didim**	**0.65**	**316**	P		**Pg**	**18 30 09.4**	**-0.2**
DDIM				S		**Sg**	**18 30 18.8**	**+0.7**
NISR	**Nisiros**	**0.66**	**235**	P		**Pb**	**18 30 11.0**	**+0.2**
NISR				S		**Sb**	**18 30 20.7**	**+0.6**
	4μm,0.3s							
NISR	**Nisiros**	**0.66**	**235**	P		**Pb**	**18 30 11.0**	**+0.2**
NISR				S		**Sb**	**18 30 20.7**	**+0.6**
NISR				AML		AML	18 30 21.5	
	comp=E,10781μm,0.3s							
NISR				AML		AML	18 30 22.6	
	comp=N,5022μm,0.3s							
KLNA	**Kalymnos**	**0.67**	**267**	P		**Pb**	**18 30 11.5**	**+0.6**
KLNA				S		**Sb**	**18 30 20.7**	**+0.5**
KLNA				AML		AML	18 30 23.1	
	comp=N,8288μm,0.3s							
KLNA				AML		AML	18 30 24.5	
	comp=E,14926μm,0.2s							
DALY	**Dalyan (Mula)**	**0.70**	**104**	Pg		**Pg**	**18 30 10.6**	**-0.1**
DALY				Sg		**Sb**	**18 30 21.6**	**+0.3**
ARG	**Arkhangelos**	**0.82**	**161**	Pg		**Pg**	**18 30 11.9**	**-1.0**
ARG				Sg		**Sg**	**18 30 23.7**	**+0.2**
ARG	**Arkhangelos**	**0.82**	**161**	P		**Pb**	**18 30 13.2**	**-0.3**
ARG				S		**Sb**	**18 30 25.8**	**+1.2**
	comp=E,1μm,0.5s							
ARG	**Arkhangelos**	**0.82**	**161**	P		**Pb**	**18 30 13.2**	**-0.3**
ARG				S		**Sb**	**18 30 24.2**	**-0.4**
ARG				AML		AML	18 30 27.9	
	comp=N,3038μm,0.4s							
ARG				AML		AML	18 30 28.0	
	comp=E,2329μm,0.5s							
GCAM	**G?zelcaml?**	**0.84**	**328**	Pg		**Pg**	**18 30 12.9**	**-0.4**
GCAM				Sg		**Sb**	**18 30 25.4**	**+0.1**
GCAM	**G?zelcaml?**	**0.84**	**328**	P		**Pg**	**18 30 13.0**	**-0.3**
GCAM				S		**Sg**	**18 30 24.3**	**0.0**
GCAM				*i* AML		AML	18 30 28.0	
	comp=E,905nm,0.5s							
GCAM				*i* AML		AML	18 30 31.0	
	comp=E,1μm,0.5s							
ESEN	**Aydn-Nazilli**	**0.92**	**28**	P		**Pg**	**18 30 14.0**	**-0.8**
ESEN				S		**Sg**	**18 30 24.9**	**-1.8**
ESEN				*i* AML		AML	18 30 30.0	
	comp=E,580nm,0.4s							
SABU	**Mula-Dalaman**	**0.95**	**100**	P		**Pb**	**18 30 16.2**	**+0.4**
TAVA	**DENIZLI Tavas**	**1.01**	**62**	P		**Pg**	**18 30 16.0**	**-0.5**
DNZT	**Denizli-Tavas-**	**1.02**	**73**	P		**Pg**	**18 30 17.2**	**+0.4**
SMG	**Samos**	**1.05**	**313**	P		**Pg**	**18 30 17.0**	**-0.4**
SMG				S		**Sb**	**18 30 32.4**	**+1.0**
	comp=E,1μm,0.3s							
SMG	**Samos**	**1.05**	**313**	P		**Pg**	**18 30 17.0**	**-0.4**
SMG				S		**Sb**	**18 30 32.4**	**+1.0**
SMG				AML		AML	18 30 35.1	
	comp=N,2081μm,0.3s							
SMG				AML		AML	18 30 37.2	
	comp=E,3740μm,0.3s							
FETY	**Fethiye**	**1.09**	**109**	Pn		**Pg**	**18 30 18.0**	**-0.1**
IZMR	**zmir-demi**	**1.15**	**6**	P		**Pg**	**18 30 18.4**	**-0.8**
IZMR				S		**Sg**	**18 30 34.4**	**+0.2**
IZMR				*i* AML		AML	18 30 38.0	
	comp=E,393nm,0.4s							
IZMR				*i* AML		AML	18 30 40.0	
	comp=E,389nm,0.6s							
DNIZ	**Denizli-Tavas-**	**1.17**	**57**	P		**Pg**	**18 30 19.0**	**-0.7**
DNIZ				*i* AML		AML	18 30 41.0	
	comp=E,539nm,0.6s							
DNIZ				*i* AML		AML	18 30 42.0	
	comp=E,432nm,0.5s							
CAME	**Cameli-Denizli**	**1.20**	**92**	Pn		**Pg**	**18 30 20.2**	**-0.1**
DGB	**zmir**	**1.29**	**326**	P		**Pn**	**18 30 20.4**	**-0.9**
DGB				S		**Sb**	**18 30 37.0**	**-1.2**
APMY	**Acipayam-Deniz**	**1.29**	**68**	Pn		**Pn**	**18 30 21.6**	**+0.2**
KIRA	**zmir-Kiraz**	**1.29**	**21**	P		**Pn**	**18 30 21.0**	**-0.5**
KIRA				*i* AML		AML	18 30 45.0	
	comp=E,299nm,0.6s							
BLCB	**Balcova**	**1.52**	**337**	Pn		**Pn**	**18 30 23.1**	**-1.3**
KARP	**Karpathos**	**1.53**	**200**	Pn		**Pn**	**18 30 23.8**	**-0.9**
KARP	**Karpathos**	**1.53**	**200**	P		**Pn**	**18 30 24.1**	**-0.6**
KARP	**Karpathos**	**1.53**	**200**	P		**Pn**	**18 30 24.1**	**-0.6**
KARP				AML		AML	18 30 50.8	
	comp=E,879μm,0.2s							
KARP				AML		AML	18 30 51.1	
	comp=N,793μm,0.2s							
AKAS	**Kas**	**1.64**	**117**	Pn		**Pn**	**18 30 26.2**	**0.0**
KSL	**Kastellorizon**	**1.66**	**120**	P		**Pn**	**18 30 26.1**	**-0.3**
KSL	**Kastellorizon**	**1.66**	**120**	P		**Pn**	**18 30 26.1**	**-0.3**
KULA	**Kula-Manisa**	**1.67**	**24**	Pn		**Pn**	**18 30 25.9**	**-0.7**
URLA	**Izmir**	**1.67**	**325**	Pn		**Pn**	**18 30 25.9**	**-0.7**
ELL	**Elmali**	**1.71**	**98**	Pn		**Pn**	**18 30 27.7**	**+0.5**
APE	**Apeiranthos**	**1.82**	**273**	Pn		**Pn**	**18 30 27.8**	**-0.9**
APE	**Apeiranthos**	**1.82**	**273**	P		**Pn**	**18 30 28.0**	**-0.7**
APE	**Apeiranthos**	**1.82**	**273**	P		**Pn**	**18 30 28.0**	**-0.7**
THR3	**Thira Island,**	**2.02**	**254**	P		**Pn**	**18 30 31.6**	**+0.3**
THR3	**Thira Island,**	**2.02**	**254**	P		**Pn**	**18 30 31.6**	**+0.3**
DKL	**Dikili**	**2.19**	**341**	Pn		**Pn**	**18 30 34.2**	**+0.5**
ZKR	**Zakros**	**2.27**	**215**	Pn		**Pn**	**18 30 34.8**	**0.0**
ZKR	**Zakros**	**2.27**	**215**	P		**Pn**	**18 30 35.5**	**+0.7**
ZKR	**Zakros**	**2.27**	**215**	P		**Pn**	**18 30 35.5**	**+0.7**
PSRA	**Psara**	**2.35**	**312**	P		**Pn**	**18 30 36.5**	**+0.6**
FRMA	**Ierapetra Chan**	**2.59**	**221**	P		**Pn**	**18 30 38.7**	**-0.5**
FRMA	**Ierapetra Chan**	**2.59**	**221**	P		**Pn**	**18 30 38.7**	**-0.5**
SIGR	**SIGRI**	**2.70**	**326**	P		**Pn**	**18 30 40.6**	**0.0**
SIGR	**SIGRI**	**2.70**	**326**	P		**Pn**	**18 30 40.6**	**0.0**
IDI	**Anoyia**	**2.91**	**235**	P		**Pn**	**18 30 43.4**	**-0.2**
IDI	**Anoyia**	**2.91**	**235**	P		**P

P -5.3543, Plg48.0000°, Azm321.0000°;
BJI ***29*** *18:51:09.0±0.0, 9.°05S×159.°60E, h17km, mb5.6/98, mB5.7/66, Ms5.5/99, Ms7 5.3/96*
NEIC ***29*** *18:51:09.3, 9.°42S×159.°56E, h26km*
IPGP ***29*** *18:51:09.0, 9.°42S×159.°56E, h38km, Mw5.6, Fault plane solution: NP1:ϕs35.00000°, δ78.00000°, λ,-89.00000°. NP2:ϕs208.00000°, δ12.00000°, λ,-97.00000°.*
IDC ***29*** *18:51:10.8±2.4, 9.°38S×159.°56E, h24km±15km, mb5.2/22, mbtmp5.3/24, ML4.8/2, MS5.1/54, Error ellipse: s-maj=12.4km s-min=11.2km az=25.0*
NEIC ***29*** *18:51:12.3, 9.°42S×159.°58E, h32km*
NEIC ***29*** *18:51:12.3±1.8, 9.°42S±0.°06×159.°58E±0.°07, h32km±1km, mb5.8/469, Ms_20 5.3/257, Mwb5.5/75, Mww5.8/25, Error ellipse: s-maj=12.3km s-min=9.8km az=122.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=1.08; Mθθ=0.01; Mϕϕ=1.10; Mrθ=1.14; Mθϕ=0.42; Mϕr=1.70; Fault plane solution: M₀2.36000×10¹⁷ NP1:ϕs32.05000°, δ75.65000°, λ=82.20000°. NP2:ϕs183.10000°, δ16.29000°, λ=117.97000°. Principal axes: T 2.4002, Plg30.0000°, Azm116.0000°; N -0.0838, Plg8.0000°, Azm210.0000°; P -2.3163, Plg59.0000°, Azm313.0000°;*
GCMT ***29*** *18:51:14.3±0.1, 9.°54S±0.°01×159.°63E±0.°01, h37km, MW5.7/147, Moment Tensor Solution. s142,c269; s147,c358; Duration: 1s7 Moment tensor: Scale 10¹⁷ Nm; Mrr=1.35±.03; Mθθ=1.03±.03; Mϕϕ2.38±.03; Mrθ=2.07±.06; Mθϕ0.52±.03; Mϕr=2.96±.07; Best double couple: M₀4.17100×10¹⁷ NP1:ϕs34.00000°, δ79.00000°, λ=71.00000°. NP2:ϕs154.00000°, δ22.00000°, λ=149.00000°. Principal axes: T 4.4270, Plg31.0000°, Azm109.0000°; N -0.5130, Plg19.0000°, Azm210.0000°; P -3.9140, Plg53.0000°, Azm327.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 29 18:51:10.7±0.3, 9.°51S±0.°03×159.°61E±0.°03, h26km±1km, h26km:pP-P, n1508, σ1°35/1390, mb5.8/385, MS5.3/244, 29C-79D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.34**	**77**	Pg	**Pn**	**18 51 20.1**	**0.0**
HNR					**Sn**	**18 51 26.4**	**+0.2**
HNR	**Honiara**	**0.34**	**77**	Pn	**Pn**	**18 51 20.4**	**+0.4**
	48µm,0.3s,baz=61,slow=21,SNR=1744						
BULU	**Kimbe**	**10.02**	**293**	P	**Pn**	**18 53 36.1**	**+3.0**
KAVG	**Kavieng**	**11.13**	**308**	P	**Pn**	**18 53 50.1**	**+1.8**
KOUNC	**Koumac, New Ca**	**11.87**	**158**	P	Pn	18 54 03.2	+4.9
KOUNC	**Koumac, New Ca**	**11.87**	**158**		**Pn**	**18 54 00.4**	**+2.1**
PMG	**Port Moresby**	**12.28**	**269**	P	**Pn**	**18 54 06.1**	**+2.1**
PMG	**Port Moresby**	**12.28**	**269**	P	**Pn**	**18 54 06.5**	**+2.5**
PMG	**Port Moresby**	**12.28**	**269**		P	18 54 10.3	-5.8
PMG	**Port Moresby**	**12.28**	**269**	P	P	18 54 10.3	-5.8
PMG	**Port Moresby**	**12.28**	**269**	Pn	Pn	18 54 09.6	+5.6
	0.8nm,0.3s,baz=82,slow=9.1,SNR=46						
PMG				LR	LR	18 58 29.6	
	comp=Z,33µm,20.4s,baz=114,slow=36						
LIFNC	**LIFOU**	**13.40**	**148**	P	**Pn**	**18 54 21.9**	**+2.6**
LIFNC	**LIFOU**	**13.40**	**148**	Pn	**Pn**	**18 54 20.7**	**+1.4**
NOUC	**Port Laguerre**	**14.07**	**154**	P	**Pn**	**18 54 31.8**	**+3.3**
DZM	**Mont Dzumac**	**14.11**	**153**	P	P	**18 54 33.2**	**-3.3**
DZM	**Mont Dzumac**	**14.11**	**153**	Pn	**Pn**	**18 54 31.5**	**+2.4**
DZM	**Mont Dzumac**	**14.11**	**153**	Pn	**Pn**	**18 54 31.9**	**+2.9**
	7.5nm,0.3s,baz=325,slow=18,SNR=36						
DZM				Sn	**Sn**	**18 56 58.6**	**-6.3**
	0.9nm,0.3s,baz=308,slow=19,SNR=1.5						
DZM				LR	LR	18 59 31.1	
	comp=Z,17µm,19.2s,baz=318,slow=35 76nm,0.7s						
MANU	**Manus Island**	**14.25**	**301**	P	**Pn**	**18 54 33.5**	**+2.5**
MANU	**Manus Island**	**14.25**	**301**		**Pn**	**18 54 32.9**	**+1.9**
ONTNC	**Ouen Toro**	**14.32**	**153**	P	P	**18 54 37.0**	**-1.7**
MARNC	**Mare, Loyalty**	**14.40**	**147**	P	P	**18 54 37.0**	**-2.6**
MARNC	**Mare, Loyalty**	**14.40**	**147**		**Pn**	**18 54 34.6**	**+1.7**
OUENC	**Ouen Island, N**	**14.59**	**152**	P	P	**18 54 39.8**	**-1.9**
OUENC	**Ouen Island, N**	**14.59**	**152**	Pn	**Pn**	**18 54 36.4**	**+0.9**
PINNC	**Pines Island,**	**15.04**	**151**	P	P	**18 54 45.5**	**-1.2**
PINNC	**Pines Island,**	**15.04**	**151**	P	P	**18 54 47.2**	**+0.5**
AUCSH	**Cairns State H**	**15.35**	**240**	P	**Pn**	**18 54 47.8**	**+2.2**
AUAYR	**Ayr State High**	**15.47**	**228**	P	P	**18 54 50.1**	**-1.4**
TV1H	**Townsville Har**	**15.74**	**231**	P	P	**18 54 53.1**	**-1.4**
PATS	**Pohnpei**	**16.29**	**355**	P	**Pn**	**18 54 57.9**	**0.0**
	baz=16,SNR=16						
PATS	**Pohnpei**	**16.29**	**355**	P	**Pn**	**18 54 58.0**	**+0.1**
PATS	**Pohnpei**	**16.29**	**355**	Pn	**Pn**	**18 54 57.4**	**-0.5**
PATS				IAmb	IAmb	18 55 00.9	
	comp=Z,1µm,1.0s						
RK1H	**Rockhampton Ha**	**16.32**	**211**	P	P	**18 55 01.2**	**+0.3**
GD1S	**Gladstone Soft**	**16.37**	**208**	P	P	**18 55 01.8**	**+0.3**
CTA	**Charters Tower**	**16.64**	**229**	P	P	**18 55 04.7**	**+0.2**
CTA	**Charters Tower**	**16.64**	**229**	Pn	P	**18 55 04.4**	**-0.1**
	comp=Z,1.8nm,0.3s,baz=245,slow=0.0,SNR=3.6 comp=Z,29nm,0.9s						
CTAO	**Charters Tower**	**16.64**	**229**	P	P	**18 55 04.2**	**-0.3**
CTAO	**Charters Tower**	**16.64**	**229**	Pn	P	**18 55 03.5**	**-1.0**
CTAO	**Charters Tower**	**16.64**	**229**	P	P	**18 55 03.5**	**-1.0**
CTAO				pmax	pmax		
	comp=Z,244nm,1.2s						
COEN	**Coen**	**16.68**	**253**	P	P	**18 55 05.4**	**+0.4**
	baz=17,SNR=72						
COEN	**Coen**	**16.68**	**253**	P	P	**18 55 05.6**	**+0.6**
COEN	**Coen**	**16.68**	**253**		P	**18 55 05.1**	**+0.1**
TARA	**Tarawa**	**17.10**	**52**	P	P	**18 55 11.2**	**+1.6**
TARA	**Tarawa**	**17.10**	**52**		P	**18 55 10.5**	**+0.9**
MTSU	**Mount Surprise**	**17.13**	**238**	P	P	**18 55 11.3**	**+1.3**
	baz=17,SNR=54						
MTSU	**Mount Surprise**	**17.13**	**238**	P	P	**18 55 10.9**	**+0.9**
EIDS	**Eidsvold**	**17.73**	**206**	P	P	**18 55 18.5**	**+2.0**
	baz=18,SNR=12						
EIDS	**Eidsvold**	**17.73**	**206**	P	P	**18 55 18.5**	**+2.0**
EIDS	**Eidsvold**	**17.73**	**206**	P	P	**18 55 17.9**	**+1.3**
TABU	**Tabubil**	**18.71**	**282**	P	**Pn**	**18 55 28.8**	**+0.8**
AUWSH	**Wavell State H**	**18.84**	**198**	P	**Pn**	**18 55 32.2**	**+2.8**
YSA	**Yasawairara**	**18.89**	**114**	P	**Pn**	**18 55 32.3**	**+2.2**
MMPI	**Merauke**	**19.02**	**272**	P	**Pn**	**18 55 33.1**	**+1.5**
	comp=Z,1µm,1.4s,comp=Z,14µmcomp=Z,16µm						
FUNA	**Funafuti**	**19.37**	**89**	P	**Pn**	**18 55 37.1**	**+1.2**
FUNA	**Funafuti**	**19.37**	**89**		**Pn**	**18 55 36.6**	**+0.7**
FUNA				IAmb	IAmb	18 55 38.7	
	comp=Z,542nm,1.2s						
RMQ	**Roma**	**19.76**	**210**	P	**Pn**	**18 55 41.5**	**+1.0**
	baz=20,SNR=9.6						
RMQ	**Roma**	**19.76**	**210**	P	**Pn**	**18 55 41.2**	**+0.7**
JAY	**Jayapura**	**20.03**	**289**	P	P	**18 55 41.8**	**-0.1**
	comp=Z,1µm,1.2s,comp=Z,12µm						
GENI	**Genyem**	**20.51**	**288**	P	P	**18 55 48.0**	**+0.9**
GENI	**Genyem**	**20.51**	**288**	P	P	**18 55 46.8**	**-0.3**
	comp=Z,647nm,1.9s,comp=Z,13µmcomp=Z,14µm						
TAVE	**Taveuni**	**21.18**	**112**	P	P	**18 55 57.3**	**+2.9**
ARMA	**Armidale**	**22.09**	**199**	P	P	**18 56 06.3**	**+2.1**
	baz=22,SNR=9.0						
ARMA	**Armidale**	**22.09**	**199**	P	P	**18 56 06.7**	**+2.6**
ARMA	**Armidale**	**22.09**	**199**	P	P	**18 56 05.6**	**+1.4**
QIS	**Mount Isa**	**22.19**	**238**	P	P	**18 56 06.5**	**+1.3**
	baz=22,SNR=88						
QIS	**Mount Isa**	**22.19**	**238**	P	P	**18 56 06.8**	**+1.6**
QLP	**Quilpie**	**22.36**	**219**	P	P	**18 56 08.2**	**+1.3**
	baz=22,SNR=18						
QLP	**Quilpie**	**22.36**	**219**	P	P	**18 56 08.8**	**+1.9**
AULRC	**Lightning Ridg**	**22.61**	**207**	P	P	**18 56 10.9**	**+1.3**
AUPHS	**Peel High Scho**	**22.96**	**199**	P	P	**18 56 15.7**	**+2.4**
AUDCS	**Dubbo College**	**24.79**	**203**	P	P	**18 56 32.8**	**+2.2**
MGCD	**Mangrove Creek**	**24.85**	**197**	P	P	**18 56 33.3**	**+2.2**
	baz=25,SNR=10						
MGCD	**Mangrove Creek**	**24.85**	**197**	P	P	**18 56 33.7**	**+2.6**
INKA	**Innaminka**	**25.39**	**222**	P	P	**18 56 37.7**	**+1.6**
CMSA	**Cobar Meteorol**	**25.44**	**209**	P	P	**18 56 37.4**	**+0.9**
	baz=26,SNR=31						
CMSA	**Cobar Meteorol**	**25.44**	**209**	P	P	**18 56 37.4**	**+0.9**
SYDH	**Sydney Hard Ro**	**25.48**	**197**	P	P	**18 56 39.1**	**+2.3**
WR0	**Warramunga Arr**	**26.34**	**244**	IAmb	IAmb	18 56 46.5	
	comp=Z,348nm,1.1s						
WRAB	**Tennant Creek**	**26.50**	**244**	P	P	**18 56 46.1**	**-0.2**
WRAB				IAmb	IAmb	18 56 47.9	
	comp=Z,380nm,1.1s						
WRAB	**Tennant Creek**	**26.50**	**244**	*i* P	P	**18 56 46.2**	**0.0**
WRAB				pmax	pmax		
	comp=Z,283nm,1.1s						
WRAB				MLR	MLR		
	comp=Z,7µm,18.0s						
WB2	**Warramunga Arr**	**26.50**	**244**	IAmb	IAmb	18 56 48.0	
	comp=Z,462nm,1.1s						
WRA	**Warramunga Arr**	**26.51**	**244**	P	P	**18 56 46.5**	**+0.2**
WRA	**Warramunga Arr**	**26.51**	**244**	*i* P	P	**18 56 43.7**	**-2.6**
WRA				pmax	pmax		
	comp=Z,268nm,1.0s						
WRA	**Warramunga Arr**	**26.51**	**244**	P	P	**18 56 46.6**	**+0.2**
	comp=Z,272nm,1.0s,baz=70,slow=9.2,SNR=201						
WRA				PcP	**PcP**	**19 00 10.0**	**-1.0**
	comp=Z,4.8nm,0.8s,baz=62,slow=2.4,SNR=5.1						
WRA				ScP	**ScP**	**19 03 49.8**	**+0.3**
	comp=Z,11nm,1.3s,baz=70,slow=2.7,SNR=7.6						
WRA				LR	LR	19 07 17.6	
	comp=Z,8µm,18.6s,baz=56,slow=36 comp=Z,272nm,1.0s						
YNG	**Young**	**26.73**	**201**	P	P	**18 56 50.2**	**+2.1**
	baz=27,SNR=9.2						
YNG	**Young**	**26.73**	**201**	P	P	**18 56 50.1**	**+1.9**
KDU	**Kakadu**	**26.81**	**261**	P	P	**18 56 49.0**	**0.0**
	baz=27,SNR=58						
KDU	**Kakadu**	**26.81**	**261**	P	P	**18 56 49.0**	**0.0**
AUUHS	**Ulladulla High**	**27.05**	**197**	P	P	**18 56 53.4**	**+2.4**
GUMO	**Guam**	**27.22**	**327**	P	P	**18 56 52.3**	**-0.4**
GUMO	**Guam**	**27.22**	**327**	P	P	**18 56 50.2**	**-2.4**
GUMO	**Guam**	**27.22**	**327**	P	P	**18 56 50.2**	**-2.4**
GUMO				pmax	pmax		
	comp=Z,641nm,1.2s						
GUMO				MLR	MLR		
	comp=Z,6µm,22.0s						
GUMO	**Guam**	**27.22**	**327**	LR	LR	19 06 48.7	
	comp=Z,5µm,21.6s,baz=146,slow=35						
CNB	**Canberra Magne**	**27.34**	**198**	P	P	**18 56 56.0**	**+2.3**
	baz=28,SNR=14						
CNB	**Canberra Magne**	**27.34**	**198**	P	P	**18 56 55.0**	**+1.3**
CAN	**Canberra**	**27.46**	**199**	P	P	**18 56 56.6**	**+1.9**
STKA	**Stephens Creek**	**27.82**	**214**	P	P	**18 56 58.5**	**+0.5**
	baz=28,SNR=26						
STKA	**Stephens Creek**	**27.82**	**214**	P	P	**18 56 59.5**	**+1.5**
STKA	**Stephens Creek**	**27.82**	**214**	P	P	**18 56 58.1**	**+0.1**
STKA	**Stephens Creek**	**27.82**	**214**	*eP*	P	**18 56 58.3**	**+0.3**
STKA	**Stephens Creek**	**27.82**	**214**	P	P	**18 56 58.6**	**+0.6**
	comp=Z,30nm,0.8s,baz=17,slow=8.5,SNR=41						
STKA				PP	PnPn	18 57 34.0	-11
	comp=Z,17nm,0.7s,baz=57,slow=16,SNR=3.4						
STKA				ScP	**ScP**	**19 03 52.8**	**-0.4**
	comp=Z,5.2nm,1.0s,baz=46,slow=2.7,SNR=5.0						
STKA				LR	LR	19 07 31.9	
	comp=Z,2µm,20.1s,baz=39,slow=35 comp=Z,30nm,0.8s						
FAKI	**Fak Fak**	**27.96**	**282**	P	P	**18 56 59.6**	**+0.2**
FAKI	**Fak Fak**	**27.96**	**282**	P	P	**18 56 58.4**	**-1.0**
FAKI	**Fak Fak**	**27.96**	**282**	P	P	**18 56 58.9**	**-0.5**
	comp=Z,80nm,1.0s,comp=Z,2µmcomp=Z,7µm						
SAUI	**Saumlaki**	**28.02**	**271**	P	P	**18 57 00.8**	**+0.9**
SAUI	**Saumlaki**	**28.02**	**271**	P	P	**18 57 01.0**	**+1.1**
	comp=Z,307nm,1.4s,comp=Z,9µmcomp=Z,8µm						
MTN	**Manton Dam**	**28.12**	**261**	P	P	**18 57 00.9**	**0.0**
	baz=28,SNR=52						
MTN	**Manton Dam**	**28.12**	**261**	P	P	**18 57 00.8**	**0.0**
MTN	**Manton Dam**	**28.12**	**261**	P	P	**18 57 00.2**	**-0.6**
MTN				IAmb	IAmb	18 57 02.4	
	comp=Z,204nm,1.3s						
AS01	**Alice Springs**	**28.26**	**237**	P	P	**18 57 02.0**	**-0.1**
ASAR	**Alice Springs**	**28.30**	**237**	P	P	**18 57 01.8**	**-0.6**
	comp=Z,78nm,0.9s,baz=62,slow=10,SNR=694						
ASAR				ScP	**ScP**	**19 03 55.0**	**+0.2**
	comp=Z,7.9nm,1.1s,baz=65,slow=3.2,SNR=7.7						
ASAR				LR	LR	19 07 35.8	
	comp=Z,4µm,21.6s,baz=64,slow=35 comp=Z,78nm,0.9s						
DRS	**Darwin Rock St**	**28.32**	**261**	P	P	**18 57 03.6**	**+0.9**
AFI	**Afiamalu**	**28.35**	**102**	P	P	**18 57 04.7**	**+1.8**
AFI	**Afiamalu**	**28.35**	**102**	P	P	**18 57 02.3**	**-0.7**
AFI	**Afiamalu**	**28.35**	**102**	IAMs_20	IAMs_20	19 06 14.4	
	comp=Z,12µm,20.0s						
AFI	**Afiamalu**	**28.35**	**102**	P	P	**18 57 02.3**	**-0.7**
AFI				pmax	pmax		
	comp=Z,116nm,1.1s						
AFI				MLR	MLR		
	comp=Z,12µm,20.0s						
OUZ	**Omahuta**	**28.60**	**156**	IAMs_20	IAMs_20	19 06 40.0	
	comp=Z,11µm,20.0s						
H11S2	**WAKE ISLAND Hy**	**28.69**	**14**	T	T	19 25 51.1	
	baz=194,slow=76,SNR=380						
H11S3	**WAKE ISLAND Hy**	**28.69**	**14**	T	T	19 25 50.7	
	baz=194,slow=76,SNR=407						
H11S1	**WAKE ISLAND Hy**	**28.71**	**14**	T	T	19 25 48.3	
	baz=194,slow=76,SNR=350						
RAO	**Raoul Island**	**28.79**	**136**	LR	LR	19 07 39.9	
	comp=Z,3µm,18.5s,baz=312,slow=34						
LCRK	**Leigh Creek**	**28.84**	**221**	P	P	**18 57 07.7**	**+0.6**
OOD	**Nodnadatta**	**28.96**	**228**	P	P	**18 57 09.2**	**+1.1**
MILA	**Mila**	**29.01**	**197**	P	P	**18 57 10.8**	**+2.3**
	baz=29,SNR=5.9						
MILA	**Mila**	**29.01**	**197**	P	P	**18 57 10.7**	**+2.1**
SWI	**Sorong**	**29.48**	**285**	P	P	**18 57 12.3**	**-0.7**
	comp=Z,117nm,1.1s,comp=Z,2µmcomp=Z,5µm						
BNDI	**Bandanaira**	**29.88**	**277**	P	P	**18 57 17.8**	**+1.3**
BNDI	**Bandanaira**	**29.88**	**277**	P	P	**18 57 15.7**	**-0.8**
	comp=Z,489nm,1.2s,comp=Z,7µmcomp=Z,5µm						
H11N1	**WAKE ISLAND Hy**	**29.91**	**14**	T	T	19 27 18.4	
	baz=194,slow=76,SNR=373						
H11N3	**WAKE ISLAND Hy**	**29.92**	**14**	T	T	19 27 21.3	
	baz=194,slow=76,SNR=340						
H11N2	**WAKE ISLAND Hy**	**29.93**	**14**	T	T	19 27 20.7	
	baz=194,slow=76,SNR=338						
HTT	**Hallett**	**30.49**	**216**	P	P	**18 57 22.3**	**+0.6**
	baz=31,SNR=9.2						
HTT	**Hallett**	**30.49**	**216**	P	P	**18 57 22.9**	**+1.2**
KNRA	**Kununurra**	**30.70**	**255**	P	P	**18 57 23.9**	**+0.2**
	baz=31,SNR=142						
KNRA	**Kununurra**	**30.70**	**255**	P	P	**18 57 23.7**	**0.0**
TOO	**Toolangi**	**30.71**	**202**	P	P	**18 57 25.6**	**+2.0**
	baz=31,SNR=15						
TOO	**Toolangi**	**30.71**	**202**	P	P	**18 57 25.4**	**+1.8**
TOO	**Toolangi**	**30.71**	**202**	P	P	**18 57 24.6**	**+1.0**
TOO	**Toolangi**	**30.71**	**202**	P	P	**18 57 24.6**	**+1.0**
TOO				pmax	pmax		
	comp=Z,35nm,0.9s						
WHYH	**Whyalla**	**31.00**	**218**	P	P	**18 57 27.0**	**+0.9**
TOZ	**Tahuroa Road**	**31.54**	**155**	IAmb	IAmb	18 57 36.8	
	comp=Z,129nm,1.3s						
TOZ				IAMs_20	IAMs_20	19 08 09.8	
	comp=Z,10µm,21.0s						
MULG	**Mulgathing**	**31.55**	**225**	P	P	**18 57 31.1**	**+0.1**
ARPS	**Mount Arapiles**	**31.55**	**208**	P	P	**18 57 32.6**	**+1.6**
	baz=32,SNR=8.0						
ARPS	**Mount Arapiles**	**31.55**	**208**	P	P	**18 57 32.8**	**+1.8**
BBOO	**Buckleboo**	**31.78**	**220**	P	P	**18 57 33.1**	**+0.1**
	baz=32,SNR=32						
BBOO	**Buckleboo**	**31.78**	**220**	P	P	**18 57 33.3**	**+0.2**
BBOO	**Buckleboo**	**31.78**	**220**	P	P	**18 57 32.9**	**-0.2**
BBOO				IAmb	IAmb	18 57 35.0	
	comp=Z,120nm,0.7s						
HIZ	**Hauiti**	**31.96**	**157**	IAmb	IAmb	18 57 41.3	
	comp=Z,240nm,1.2s						
OMRZ	**Omania**	**32.22**	**155**	P	P	18 57 43.8	+6.8
KHEZ	**Kahui Hut**	**32.34**	**159**	P	P	**18 57 39.5**	**+1.6**
HAZ	**Te Kaha**	**32.55**	**153**	P	P	**18 57 42.9**	**+3.3**
RATZ	**Rangitukua**	**32.62**	**156**	P	P	18 57 46.0	+5.6
MXZ	**Matakaoa Point**	**32.63**	**152**	IAMs_20	IAMs_20	19 08 07.5	
	comp=Z,6µm,22.0s						
URZ	**Urewera**	**32.67**	**154**	LR	LR	19 08 54.3	
	comp=Z,3µm,21.1s,baz=41,slow=32						
RUGZ	**Raukumara Rang**	**32.67**	**153**	P	P	**18 57 44.6**	**+3.6**
NTVZ	**North Tongariro**	**32.79**	**157**	P	P	18 57 47.1	+5.1
NNVZ	**North Ngauruho**	**32.79**	**157**	P	P	18 57 47.8	+5.8
TMVZ	**Te Maari**	**32.81**	**157**	P	P	18 57 48.2	+6.0
SNVZ	**South Ngauruho**	**32.85**	**157**	P	P	**18 57 46.2**	**+3.7**
NLAI	**Namlea**	**32.88**	**279**	P	P	**18 57 43.2**	**+0.3**
	comp=Z,100nm,1.5s,comp=Z,3µm						
RTZ	**Ruatahuna**	**32.91**	**154**	IAmb	IAmb	18 57 58.8	
	comp=Z,137nm,0.9s						
RTZ				IAMs_20	IAMs_20	19 08 53.9	
	comp=Z,5µm,22.0s						
TRVZ	**Turoa**	**32.91**	**157**	P	P	**18 57 46.1**	**+3.0**
WNVZ	**Wahianoa**	**32.95**	**157**	P	P	**18 57 47.6**	**+4.1**
LBMI	**Labuha**	**33.14**	**284**	P	P	**18 57 46.5**	**+1.3**
	comp=Z,557nm,1.2s,comp=Z,8µm						
BKZ	**Black Stump Fm**	**33.17**	**156**	P	P	**18 57 46.4**	**+1.2**
BKZ	**Black Stump Fm**	**33.17**	**156**	IAMs_20	IAMs_20	19 09 01.9	
	comp=Z,5µm,21.0s						
QRZ	**Quartz Range**	**33.23**	**162**	P	P	**18 57 47.9**	**+2.3**
WRKA	**Warakurna**	**33.53**	**239**	P	P	**18 57 48.0**	**-0.6**
	baz=34,SNR=163						
WRKA	**Warakurna**	**33.53**	**239**	P	P	**18 57 47.8**	**-0.8**
TNTI	**Ternate**	**33.69**	**286**	P	P	**18 57 50.5**	**+0.5**
TNTI	**Ternate**	**33.69**	**286**	P	P	**18 57 49.7**	**-0.3**
TNTI				IAmb	IAmb	18 57 51.5	
	comp=Z,171nm,1.1s						
TNTI	**Ternate**	**33.69**	**286**	P	P	**18 57 50.5**	**+0.5**
	comp=Z,160nm,1.2s,comp=Z,2µmcomp=Z,2µm						
DSZ	**Denniston Nort**	**33.86**	**164**	IAMs_20	IAMs_20	19 08 48.2	
	comp=Z,5µm,22.0s						
FITZ	**Fitzroy Crossi**	**34.02**	**252**	P	P	**18 57 52.3**	**-0.5**
	baz=34,SNR=120						
FITZ	**Fitzroy Crossi**	**34.02**	**252**	P	P	**18 57 53.0**	**+0.2**
MRZ	**Mangatainoka R**	**34.11**	**158**	P	P	**18 57 52.9**	**-0.4**
THZ	**Tophouse**	**34.20**	**162**	IAmb	IAmb	18 57 56.1	
	comp=Z,106nm,1.2s						
SANI	**Sanana**	**34.23**	**280**	P	P	**18 57 54.8**	**+0.1**
SANI	**Sanana**	**34.23**	**280**	P	P	**18 57 54.2**	**-0.5**
	comp=Z,173nm,1.4s,comp=Z,4µmcomp=Z,5µm						
BFZ	**Birch Farm**	**34.37**	**157**	P	P	**18 57 57.9**	**+2.3**
BFZ	**Birch Farm**	**34.37**	**157**	IAmb	IAmb	18 58 01.7	
	comp=Z,201nm,1.4s						
BFZ				IAMs_20	IAMs_20	19 10 44.7	
	comp=Z,4µm,20.0s						
BHW	**Baring Head**	**34.51**	**160**	P	P	**18 57 56.5**	**-0.3**
BHW				IAmb	IAmb	18 58 01.5	
	comp=Z,122nm,1.2s						
INZ	**Inchbonnie**	**34.67**	**165**	P	P	**18 57 58.6**	**+0.5**
INZ				IAmb	IAmb	18 58 00.4	
	comp=Z,228nm,1.8s						
PLWZ	**Palliser**	**34.79**	**159**	P	P	**18 57 58.5**	**-0.7**
SOEI	**Soe**	**34.83**	**267**	P	P	**18 58 00.4**	**+0.3**
SOEI	**Soe**	**34.83**	**267**	P	P	**18 57 59.7**	**-0.4**
SOEI				IAmb	IAmb	18 59 14.6	
	comp=Z,166nm,1.1s						
SOEI				IAMs_20	IAMs_20	19 13 10.5	
	comp=Z,6µm,20.0s						
SOEI	**Soe**	**34.83**	**267**	P	P	**18 58 01.2**	**+1.1**
	comp=Z,121nm,1.2s,comp=Z,3µmcomp=Z,5µm						
LTZ	**Lake Taylor**	**34.95**	**164**	IAmb	IAmb	18 58 03.0	
	comp=Z,260nm,1.6s						
TAU	**Tasmania Unive**	**34.97**	**196**	P	P	**18 58 01.8**	**+1.1**
TAU	**Tasmania Unive**	**34.97**	**196**	P	P	**18 58 01.1**	**+0.4**
TAU	**Tasmania Unive**	**34.97**	**196**	P	P	**18 58 01.1**	**+0.4**
TAU				pmax	pmax		
	comp=Z,99nm,1.2s						
KHZ	**Kahutara**	**34.98**	**162**	IAmb	IAmb	18 58 02.2	
	comp=Z,149nm,1.2s						
KHZ				IAMs_20	IAMs_20	19 11 32.9	
	comp=Z,4µm,19.0s						
FOZ	**Fox Glacier**	**35.04**	**167**	IAmb	IAmb	18 58 22.3	
	comp=Z,119nm,1.1s						
GVZ	**Greta Valley S**	**35.34**	**163**	IAMs_20	IAMs_20	19 12 18.3	
	comp=Z,4µm,19.0s						
JCZ	**Jackson Bay**	**35.34**	**169**	P	P	**18 58 05.8**	**+1.8**
OXZ	**Oxford**	**35.39**	**164**	IAmb	IAmb	18 58 05.9	
	comp=Z,215nm,1.4s						
BATI	**Baumata**	**35.41**	**266**	LR	LR	19 14 24.7	
	comp=Z,6µm,18.6s,baz=107,slow=39						
BATI	**Baumata**	**35.41**	**266**	P	P	**18 58 06.1**	**+1.2**
	comp=Z,212nm,1.1s,comp=Z,4µmcomp=Z,4µm						
RPZ	**Rata Peaks**	**35.50**	**166**	P	P	**18 58 06.3**	**+1.0**
RPZ				IAMs_20	IAMs_20	19 12 58.7	
	comp=Z,4µm,18.0s						
RPZ	**Rata Peaks**	**35.50**	**166**	LR	LR	19 12 52.0	
	comp=Z,2µm,18.8s,baz=333,slow=36						
MQZ	**McQueen's Vall**	**35.91**	**164**	IAmb	IAmb	18 58 10.7	
	comp=Z,183nm,1.2s						
LBZ	**Lake Benmore**	**35.94**	**167**	IAMs_20	IAMs_20	19 10 52.1	
	comp=Z,5µm,20.0s						
WKZ	**Wanaka**	**36.11**	**169**	IAMs_20	IAMs_20	19 11 55.9	
	comp=Z,5µm,18.0s						
FORT	**Forrest**	**36.19**	**230**	P	P	**18 58 11.5**	**+0.1**
	baz=36,SNR=20						
FORT	**Forrest**	**36.19**	**230**	P	P	**18 58 12.2**	**+0.8**
FORT	**Forrest**	**36.19**	**230**	IAmb	IAmb	18 58 12.8	
	comp=Z,214nm,1.1s						
SGSI	**Sangihe**	**36.40**	**290**	P	P	**18 58 13.7**	**+0.3**
	comp=Z,2µm,1

comp=Z,645nm,1.1s,comp=Z,7µmcomp=Z,3µm
TGY Tagaytay City 44.97 301 LR LR 19 15 43.6
comp=Z,5µm,21.8s,baz=122,slow=33
BLDU Ballidu 45.08 236 P **P** **18 59 24.9 +0.1**
baz=45,SNR=25
BLDU Ballidu 45.08 236 P **P** **18 59 24.9 +0.1**
MORW Morawa 45.17 238 P **P** **18 59 25.7 +0.1**
baz=45,SNR=28
MORW Morawa 45.17 238 P **P** **18 59 25.9 +0.3**
MORW Morawa 45.17 238 P **P** **18 59 25.2 -0.4**
MORW IAmb IAmb 18 59 27.0
comp=Z,161nm,1.0s
MTKI Muara Teweh, K 45.28 278 P **P** **18 59 26.3 -0.4**
comp=Z,163nm,1.1s,comp=Z,3µmcomp=Z,4µm
GIRL Giralia 45.33 248 P **P** **18 59 28.3 +1.3**
baz=45,SNR=7.4
GIRL Giralia 45.33 248 P **P** **18 59 29.3 +2.4**
GIRL Giralia 45.33 248 P **P** **18 59 27.9 +0.9**
NWAO Narrogin (SRO) 45.44 233 P **P** **18 59 27.8 +0.1**
baz=46,SNR=24
NWAO P **P** **18 59 27.8 +0.1**
baz=46,SNR=24
NWAO Narrogin (SRO) 45.44 233 P **P** **18 59 28.3 +0.7**
NWAO Narrogin (SRO) 45.44 233 P **P** **18 59 27.4 -0.2**
NWAO IAmb IAmb 18 59 29.0
comp=Z,148nm,1.1s
NWAO Narrogin (SRO) 45.44 233 IAMs_20 IAMs_20 19 18 57.6
comp=Z,3µm,19.0s
NWAO Narrogin (SRO) 45.44 233 P **P** **18 59 27.4 -0.2**
NWAO pmax pmax
comp=Z,148nm,1.1s
NWAO MLR MLR
comp=Z,3µm,19.0s
NWAO Narrogin (SRO) 45.44 233 LR LR 19 18 22.1
comp=Z,3µm,20.3s,baz=56,slow=36
NWAO Narrogin (SRO) 45.44 233 P **P** **18 59 27.5 -0.1**
BLJI Banyuglugur 45.50 268 P **P** **18 59 27.5 -0.9**
comp=Z,313nm,1.3s,comp=Z,4µm
AUALB St Joseph's Co 45.71 230 P **P** **18 59 31.0 +1.3**
KKM Kota Kinabalu 45.92 288 P **P** **18 59 32.0 +0.2**
KKM Kota Kinabalu 45.92 288 P **P** **18 59 30.4 -1.3**
MUN Mundaring 45.92 234 P **P** **18 59 31.6 +0.1**
baz=46,SNR=22
MUN Mundaring 45.92 234 P **P** **18 59 31.8 +0.3**
RKGY Rocky Gully 46.26 231 P **P** **18 59 35.6 +1.5**
baz=46,SNR=6.7
RKGY Rocky Gully 46.26 231 P **P** **18 59 35.8 +1.7**
MTKN Mount Kenneth 46.26 235 P **P** **18 59 36.1 +2.0**
JHJ Hachijo jima 2 46.41 337 LR LR 19 19 36.1
comp=Z,2µm,18.7s,baz=101,slow=37
BWJI Bawean 46.64 271 P **P** **18 59 37.1 -0.3**
comp=Z,452nm,1.3s,comp=Z,6µmcomp=Z,4µm
GRJI Gresik 46.69 269 P **P** **18 59 37.1 -0.7**
comp=Z,205nm,1.4s,comp=Z,3µmcomp=Z,3µm
JOW Kunigami 47.22 321 P **P** **18 59 43.0 +1.3**
JOW Kunigami 47.22 321 LR LR 19 17 25.7
comp=Z,2µm,21.2s,baz=126,slow=33
PWJI Pagerwojo 47.24 268 P **P** **18 59 41.6 -0.5**
comp=Z,311nm,1.4s,comp=Z,4µm
NGJI Ngawi 47.64 269 P **P** **18 59 45.4 +0.2**
comp=Z,353nm,1.3s,comp=Z,5µmcomp=Z,5µm
UGM Wanagama 48.51 268 P **P** **18 59 52.4 +0.4**
UGM Wanagama 48.51 268 P **P** **18 59 51.9 -0.1**
comp=Z,438nm,1.3s,comp=Z,6µmcomp=Z,4µm
SMRI Semarang 48.69 269 P **P** **18 59 53.9 +0.6**
SMRI Semarang 48.69 269 P **P** **18 59 53.3 0.0**
comp=Z,664nm,1.3s,comp=Z,8µmcomp=Z,4µm
YOGI Yogyakarta 48.75 268 P **P** **18 59 54.1 +0.3**
comp=Z,944nm,1.3s,comp=Z,10µm
STKI Sintang 48.84 278 P **P** **18 59 54.1 -0.3**
comp=Z,199nm,1.8s,comp=Z,5µm
INU Inuyama 49.46 336 P **P** **18 59 59.9 +1.1**
INU Inuyama 49.46 336 P **P** **18 59 58.1 -0.7**
INU IAmb IAmb 19 00 00.4
comp=Z,230nm,1.5s
INU IAMs_20 IAMs_20 19 18 59.1
comp=Z,4µm,22.0s
INU Inuyama 49.46 336 P **P** **18 59 58.6 -0.2**
INU pP **sP** **19 00 09.7 +0.3**
JMN Monobe 49.47 332 P **P** **18 59 59.1 +0.2**
JGF Kuroka 49.54 336 P **P** **18 59 59.1 -0.4**
TWG Pinlang 49.56 311 IAMs_20 IAMs_20 19 16 41.6
comp=Z,4µm,22.0s
YULB Yu-li 49.73 312 P **P** **19 00 02.6 +1.5**
YULB Yu-li 49.73 312 P **P** **19 00 00.3 -0.8**
YULB IAmb IAmb 19 00 39.5
comp=Z,86nm,1.2s
YULB IAMs_20 IAMs_20 19 19 35.3
comp=Z,3µm,19.0s
PPT Papeete 49.93 105 LR LR 19 16 54.4
comp=Z,4µm,21.0s,baz=250,slow=31
NACB Ninganchiao 49.99 313 P **P** **19 00 03.4 +0.4**
NACB Ninganchiao 49.99 313 IAMs_20 IAMs_20 19 19 44.0
comp=Z,3µm,20.0s
MJAR Matsushiro Arr 50.03 337 P **P** **19 00 02.0 -1.1**
comp=Z,14nm,0.7s,baz=170,slow=8.8,SNR=34
MJAR LR LR 19 20 10.1
comp=Z,3µm,21.6s,baz=165,slow=35
comp=Z,14nm,0.7s
MAJO Matsushiro 50.04 337 P **P** **19 00 02.6 -0.6**
MAJO Matsushiro 50.04 337 P **P** **19 00 02.0 -1.2**
MAJO IAmb IAmb 19 00 03.8
comp=Z,256nm,1.8s
MAJO Matsushiro 50.04 337 IAMs_20 IAMs_20 19 19 58.5
comp=Z,3µm,21.0s
MAJO Matsushiro 50.04 337*d i*P **P** **19 00 02.1 -1.1**
MAJO pmax pmax
comp=Z,134nm,1.8s
MAJO MLR MLR
comp=Z,3µm,22.0s
MAJO Matsushiro 50.04 337 P **P** **19 00 02.2 -0.9**
MAJO pP **sP** **19 00 12.6 -1.2**
MJB9 Matsu-Tunnel 50.04 337 P **P** **19 00 02.6 -0.6**
MJB9 IAmb IAmb 19 00 04.8
comp=Z,250nm,1.8s
KPJI Karang Pucung 50.14 268 P **P** **19 00 04.0 -0.4**
comp=Z,196nm,0.9s,comp=Z,3µm
TPUB Ta-pu 50.17 311 P **P** **19 00 04.5 0.0**
TPUB Ta-pu 50.17 311 IAmb IAmb 19 00 05.1
comp=Z,185nm,1.3s
TPUB IAMs_20 IAMs_20 19 17 12.0
comp=Z,4µm,22.0s
SSLB Suanglung 50.22 312 P **P** **19 00 04.4 -0.4**
SSLB Suanglung 50.22 312 IAMs_20 IAMs_20 19 17 13.2
comp=Z,5µm,22.0s
KSM Kuching 50.29 280 P **P** **19 00 05.5 0.0**
JMM Marumori 50.31 341 P **P** **19 00 05.8 +0.6**
YHNB Yeheng 50.45 313 P **P** **19 00 06.7 +0.1**
YHNB Yeheng 50.45 313 IAMs_20 IAMs_20 19 17 45.1
comp=Z,4µm,22.0s
JNU Nakatsue 50.46 328 P **P** **19 00 06.4 -0.1**
JNU Nakatsue 50.46 328 LR LR 19 20 59.7
comp=Z,834nm,18.3s,baz=108,slow=36
TATO Taipei 50.55 313 P **P** **19 00 07.2 -0.1**
TATO Taipei 50.55 313 IAMs_20 IAMs_20 19 19 38.7
comp=Z,4µm,20.0s
TATO Taipei 50.55 313 P **P** **19 00 06.9 -0.3**
TATO pP **sP** **19 00 17.6 -0.4**
CMJI Cimerak 50.57 268 P **P** **19 00 06.0 -1.6**
comp=Z,301nm,1.3s,comp=Z,3µmcomp=Z,2µm
KEKH Kekaha 50.71 51 P **P** **19 00 08.0 -0.5**
KEKH IAmb IAmb 19 00 21.6
comp=Z,143nm,1.1s
JCJI Jatiwangi 50.89 269 P **P** **19 00 09.8 -0.2**
comp=Z,1µm,1.2s,comp=Z,15µm
BBJI Bungbulang 51.39 268 P **P** **19 00 14.2 +0.3**
LEM Lembang 51.49 269 P **P** **19 00 15.2 +0.4**
comp=Z,577nm,1.1s,comp=Z,6µm
KIP Kipapa 51.73 53 P **P** **19 00 17.4 +1.2**
KIP Kipapa 51.73 53 P **P** **19 00 16.7 +0.5**
KIP Kipapa 51.73 53 P **P** **19 00 16.7 +0.5**
KIP pmax pmax
comp=Z,73nm,0.9s
CBJI Citeko 52.30 269 P **P** **19 00 18.7 -1.9**
comp=Z,276nm,1.1s,comp=Z,5µm
DBJI Dramaga 52.38 269 P **P** **19 00 21.0 -0.2**
comp=Z,376nm,1.4s,comp=Z,9µmcomp=Z,3µm
SKJI Sukabumi 52.52 268 P **P** **19 00 21.7 -0.5**
comp=Z,538nm,1.3s,comp=Z,7µmcomp=Z,3µm
QZH Quanzhou 52.64 311↓*i*P **P** **19 00 23.0 +0.1**
QZH sP **pP** **19 00 31.5 +0.8**
QZH pmax pmax
comp=Z,150nm,1.7s
QZH pmax pmax
comp=Z,1µm,8.2s
QZH LR LR
comp=Z,1µm,15.8s
QZH LR LR
comp=Z,2µm,21.0s
QZH LR LR
comp=Z,3µm,27.8s
MWH Moku'aweowe 52.70 57 IAmb IAmb 19 00 36.6
comp=Z,265nm,1.4s
HPAH Hawaii Prepara 52.88 56 IAmb IAmb 19 00 38.9
comp=Z,109nm,0.9s
POHA Pohakuloa 52.89 56 P **P** **19 00 27.1 +2.0**
XMI Christmas Isla 53.06 264 P **P** **19 00 26.7 +0.5**
XMIS Christmas Isla 53.09 264 P **P** **19 00 26.4 -0.1**
PPBI Pangkal Pinang 53.64 274 P **P** **19 00 30.4 -0.1**
comp=Z,154nm,1.2s,comp=Z,6µmcomp=Z,3µm
HKPS Hong Kong Po S 54.62 306 P **P** **19 00 39.0 +1.5**
SSE Sheshan 54.65 319 P **P** **19 00 37.8 +0.3**
SSE S **S** **19 08 20.8 +4.7**
SSE pmax pmax
comp=Z,96nm,1.1s
SSE LR LR
comp=Z,380nm,18.7s
SSE LR LR
comp=Z,610nm,19.0s
YUK Yuzh-Kuril'sk 54.73 348*e*P **P** **19 00 36.1 -1.7**
YUK *e*S **S** **19 08 20.8 +4.1**
YUK pmax pmax
comp=Z,417nm,1.3s
YUK pmax pmax
comp=Z,298nm,1.5s
YUK pmax pmax
comp=E,195nm,1.2s
KASI Kota Agung 54.74 270 P **P** **19 00 37.0 -1.5**
comp=E,341nm,1.3s,comp=E,3µm
TJN Taejon 54.80 328 P **P** **19 00 39.1 +0.6**
TJN Taejon 54.80 328*ce*P **P** **19 00 38.5 0.0**
PMBI Palembang 54.85 273 P **P** **19 00 40.2 +0.9**
PMBI Palembang 54.85 273 P **P** **19 00 39.6 +0.3**
comp=E,504nm,1.1s,comp=E,5µm
DLV T Lat 55.10 292 P **P** **19 00 41.3 0.0**
LWLI Liwa 55.24 270 P **P** **19 00 40.8 -1.5**
comp=E,476nm,1.1s,comp=E,5µmcomp=E,3µm
KSRS Korea Array 55.35 329 P **P** **19 00 42.2 -0.2**
comp=E,41nm,1.1s,baz=148,slow=7.5,SNR=104
KSRS LR LR 19 25 22.5
comp=E,2µm,18.3s,baz=135,slow=37
comp=E,41nm,1.1s
KSAR Wonju Array Be 55.36 329 P **P** **19 00 42.2 -0.3**
KSAR Wonju Array Be 55.36 329 P **P** **19 00 42.2 -0.3**
KS19 Wonju Array Si 55.41 329 IAmb IAmb 19 00 44.2
comp=Z,220nm,1.4s
DSRI Dabo 55.48 276 P **P** **19 00 43.7 -0.2**
comp=Z,116nm,1.3s,comp=Z,2µmcomp=Z,3µm
KUR Kuril'sk 55.51 350 P **P** **19 00 44.3 +0.9**
KUR pmax pmax
comp=Z,936nm,4.0s
KUR MLR MLR
comp=Z,3µm,19.0s
KUR MLR MLR
comp=N,2µm,17.0s
JKA Kamikawa-asahi 55.56 345 IAmb IAmb 19 00 45.5
comp=Z,89nm,1.1s
GZH Guangzhou 55.67 306 P **P** **19 00 44.3 -0.7**
GZH sP **sP** **19 00 57.3 +1.4**
GZH S **S** **19 08 29.0 -1.0**
GZH pmax pmax
comp=Z,64nm,1.3s
GZH LR LR
comp=Z,310nm,14.0s
GZH LR LR
comp=Z,410nm,14.6s
GZH LR LR
comp=Z,1µm,18.9s
TPRI Tanjung Pinang 55.81 278 P **P** **19 00 45.9 -0.3**
comp=Z,78nm,1.4s,comp=Z,2µmcomp=Z,3µm
INCN Inchon 56.02 329 P **P** **19 00 47.8 +0.5**
INCN Inchon 56.02 329 P **P** **19 00 47.2 -0.2**
INCN Inchon 56.02 329 P **P** **19 00 47.2 -0.2**
INCN pmax pmax
comp=Z,464nm,1.4s
INCN MLR MLR
comp=Z,2µm,21.0s
INCN Inchon 56.02 329 P **P** **19 00 47.6 +0.3**
INCN pP **sP** **19 00 59.0 +0.9**
MNAI Manna 56.42 271 P **P** **19 00 51.6 +1.0**
MNAI Manna 56.42 271 P **P** **19 00 50.4 -0.2**
comp=Z,292nm,1.2s,comp=Z,4µm
MYKOM Kota Tinggi 56.65 278 IAmb IAmb 19 00 53.4
comp=Z,141nm,1.6s
QIZ Qiongzhong 56.66 300 P **P** **19 00 53.0 +0.8**
QIZ sP **pP** **19 01 01.0 +0.9**
QIZ S **S** **19 08 45.5 +2.1**
QIZ sS **pS** **19 08 53.0 +0.6**
QIZ pmax pmax
comp=Z,85nm,1.2s
QIZ LR LR
comp=Z,1µm,21.9s
QIZ LR LR
comp=Z,3µm,23.6s
QIZ LR LR
comp=Z,5µm,23.5s
QIZ Qiongzhong 56.66 300 P **P** **19 00 53.5 +1.3**
QIZ Qiongzhong 56.66 300 IAmb IAmb 19 00 54.3
comp=Z,139nm,1.3s
QIZ Qiongzhong 56.66 300 IAMs_20 IAMs_20 19 21 25.4
comp=Z,4µm,22.0s
QIZ Qiongzhong 56.66 300 P **P** **19 00 53.0 +0.8**
QIZ pP **sP** **19 01 04.1 +1.0**
NJ2 Nanjing 56.78 318↓*i*P **P** **19 00 53.3 +0.5**
NJ2 pP **pP** **19 00 57.5 -3.1**
NJ2 sP **sP** **19 01 04.0 +0.4**
NJ2 S **S** **19 08 47.5 +3.0**
NJ2 sS **sS** **19 08 58.8 +1.7**
NJ2 pmax pmax
comp=Z,140nm,1.0s
NJ2 pmax pmax
comp=Z,970nm,4.5s
NJ2 LR LR
comp=Z,2µm,21.8s
NJ2 LR LR
comp=Z,980nm,20.4s
NJ2 LR LR
comp=Z,3µm,20.0s
HJU Haeju 56.92 328 P **P** **19 00 53.8 +0.1**
HJU S **S** **19 08 46.8 +0.7**
HJU AmB
comp=Z,2µm,3.0s
HHU Hamhung 57.47 331 P **P** **19 00 57.5 0.0**
HHU AmB
comp=Z,532nm,1.6s
PYAG Pyongyang 57.66 329 P **P** **19 00 59.3 +0.5**
PYAG S **S** **19 08 56.7 +0.8**
PYAG AmB
comp=Z,793nm,1.5s
PYAG AMS AMS
comp=Z,726nm,13.4s
MSHR Mys Shultsa 58.00 335*de*P **P** **19 01 01.0 -0.2**
MSHR pmax pmax
comp=Z,35nm,1.2s
MSHR MLR MLR
comp=Z,811nm,17.0s
TEY Ternei 58.13 341↓*e*P **P** **19 01 01.5 -0.5**
TEY *e* 19 04 27.2
TEY *e* 19 08 57.2
TEY pmax pmax
comp=N,20nm,0.9s
TEY pmax pmax
comp=Z,30nm,0.9s
TEY pmax pmax
comp=E,10.0nm,0.9s
YSS Yuzh-Sakhalins 58.19 346 P **P** **19 01 03.7 +1.3**
YSS Yuzh-Sakhalins 58.19 346 P **P** **19 01 01.9 -0.5**
YSS IAmb IAmb 19 01 04.2
comp=Z,101nm,1.0s
YSS IAMs_20 IAMs_20 19 26 11.5
comp=Z,3µm,20.0s
YSS Yuzh-Sakhalins 58.19 346k *i*P **P** **19 01 02.9 +0.5**
YSS *e*PPP PPP 19 04 31.2
YSS *e*S **S** **19 09 01.6 -0.8**
YSS *e*PS **PnS** **19 09 15.6 -0.4**
YSS *e* 19 10 47.9
YSS pmax pmax
comp=Z,100nm,1.0s
YSS pmax pmax
comp=Z,900nm,4.2s
YSS pmax pmax
comp=N,500nm,3.5s
YSS pmax pmax
comp=E,200nm,4.0s
YSS Yuzh-Sakhalins 58.19 346 P **P** **19 01 03.0 +0.5**
YSS pP **sP** **19 01 13.6 -0.1**
PSTR Posyet 58.20 335*d i*P **P** **19 01 02.6 0.0**
CNSH ChangSha 58.65 311↓P **P** **19 01 06.5 +0.5**
CNSH S **S** **19 09 11.5 +2.4**
CNSH pmax pmax
comp=E,120nm,1.1s
CNSH LR LR
comp=E,1µm,23.1s
CNSH LR LR
comp=E,720nm,24.5s
CNSH LR LR
comp=E,2µm,25.5s
WHN Wuhan 58.93 314↓*i*P **P** **19 01 08.0 +0.1**
WHN sP **sP** **19 01 22.8 +4.0**
WHN PP **PP** **19 03 18.8 +0.3**
WHN PcS **PcS** **19 06 00.5 +1.6**
WHN S **S** **19 09 12.3 -0.4**
WHN pmax pmax
comp=E,320nm,1.1s
WHN pmax pmax
comp=E,2µm,2.6s
WHN LR LR
comp=E,3µm,13.7s
WHN LR LR
comp=E,2µm,13.9s
WHN LR LR
comp=E,10µm,19.9s
UBPT Khong Chiam 59.02 294 P **P** **19 01 09.3 +0.5**
UBPT Khong Chiam 59.02 294 P **P** **19 01 08.5 -0.3**
UBPT IAmb IAmb 19 01 10.6
comp=Z,133nm,1.2s
USA0B Ussuriysk Arra 59.03 337 IAmb IAmb 19 01 10.2
comp=Z,144nm,1.1s
USA0B Ussuriysk Arra 59.03 337*d i*P **P** **19 01 08.2 -0.1**
USRK Ussuriysk Ar. 59.03 337 P **P** **19 01 08.6 +0.3**
USRK Ussuriysk Ar. 59.03 337 P **P** **19 01 08.7 +0.4**
comp=Z,65nm,0.9s,baz=148,slow=6.9,SNR=83
USRK LR LR 19 24 49.3
comp=Z,2µm,20.7s,baz=142,slow=34
comp=Z,65nm,0.9s
SUJ Sinuiju 59.10 329 P **P** **19 01 09.0 +0.1**
SUJ S **S** **19 09 14.8 +0.3**
SUJ AmB
comp=Z,1µm,4.0s
SUJ AMS AMS
comp=Z,2µm,14.2s
BKNI Bangkinang 59.10 276 P **P** **19 01 10.4 +0.9**
BKNI Bangkinang 59.10 276 P **P** **19 01 09.4 -0.1**
comp=Z,271nm,1.7s,comp=Z,5µmcomp=Z,3µm
GULI GuiLin 59.12 307↓P **P** **19 01 10.5 +1.1**
GULI pmax pmax
comp=Z,130nm,1.3s
GULI LR LR
comp=Z,2µm,21.7s
GULI LR LR
comp=Z,940nm,23.9s
GULI LR LR
comp=Z,3µm,20.6s
PDSI Padang 59.44 275 P **P** **19 01 11.8 -0.1**
comp=Z,114nm,1.7s,comp=Z,2µm
DL2 Dalian 59.74 326 P **P** **19 01 13.5 +0.2**
DL2 S **S** **19 09 21.0 -1.8**
DL2 pmax pmax
comp=Z,120nm,1.2s
DL2 pmax pmax
comp=Z,710nm,9.6s
DL2 LR LR
comp=Z,1µm,25.9s
DL2 LR LR
comp=Z,1µm,24.3s
DL2 LR LR
comp=Z,2µm,25.5s
MDJ Mudanjiang 60.32 336 P **P** **19 01 17.0 -0.3**
MDJ pP pP 19 01 20.3 -4.7
MDJ PcS **PcS** **19 06 05.5 +1.0**
MDJ S **S** **19 09 30.8 +0.6**
MDJ sS pS 19 09 35.5 -4.5
MDJ ScS **ScS** **19 11 06.8 +0.5**
MDJ pmax pmax
comp=Z,95nm,1.2s
MDJ pmax pmax
comp=Z,370nm,4.1s
MDJ LR LR
comp=Z,3µm,22.7s
MDJ LR LR
comp=Z,2µm,22.3s
MDJ LR LR
comp=Z,7µm,24.0s
MDJ Mudanjiang 60.32 336 P **P** **19 01 17.7 +0.4**
MDJ Mudanjiang 60.32 336 IAmb IAmb 19 01 19.0
comp=Z,123nm,1.2s
MDJ IAMs_20 IAMs_20 19 24 51.8
comp=Z,3µm,21.0s
MDJ Mudanjiang 60.32 336 P **P** **19 01 17.5 +0.2**
UGL Uglegorsk 60.34 347*d i*P **P** **19 01 17.7 +0.4**
UGL *e*S **S** **19 09 32.2 +2.0**
UGL pmax pmax
comp=Z,1µm,4.0s
UGL pmax pmax
comp=Z,150nm,1.2s
TIA Tai'an 60.54 321 P **P** **19 01 18.0 -1.0**
TIA pmax pmax
comp=Z,32nm,1.1s
TIA pmax pmax
comp=Z,360nm,3.1s
TIA LR LR
comp=Z,330nm,14.6s
TIA LR LR
comp=Z,670nm,20.2s
TIA LR LR
comp=Z,630nm,19.5s
KULM Kulim 60.56 282 P **P** **19 01 18.1 -1.4**
KULM IAmb IAmb 19 01 20.4
comp=Z,114nm,1.3s
SISI Saibi 60.72 274 P **P** **19 01 20.1 -0.5**
comp=Z,183nm,1.1s,comp=Z,4µm
SNY Shenyang 60.85 330↓P **P** **19 01 20.5 -0.4**
SNY PP **PP** **19 03 34.8 -0.5**
SNY S **S** **19 09 35.5 -1.5**
SNY SS **SS** **19 13 33.0 -3.6**
SNY pmax pmax
comp=Z,25nm,1.2s
SNY LR LR
comp=Z,700nm,22.5s
SNY LR LR
comp=Z,950nm,24.4s
SNY LR LR
comp=Z,3µm,24.7s
CN2 Changchun 61.46 332↓P **P** **19 01 25.3 +0.3**
CN2 *es*P pP 19 01 32.0 -0.8
CN2 *eS* **S** **19 09 45.0 +0.3**
CN2 pmax pmax
comp=Z,100nm,0.6s
CN2 pmax pmax
comp=Z,1µm,3.0s
CN2 LR LR
comp=Z,500nm,17.0s
CN2 LR LR
comp=Z,400nm,17.0s
CN2 LR LR
comp=Z,800nm,18.0s
COCO West Island 61.59 261 P **P** **19 01 27.0 +0.5**
PBSI Pulau Batu 61.74 275 P **P** **19 01 27.0 -0.5**
comp=Z,221nm,1.4s,comp=Z,6µm
TYV Tymovskoe 61.90 348 *e*P **P** **19 01 28.8 +1.0**
TYV *e*S **S** **19 09 52.8 +2.8**
TYV pmax pmax
comp=Z,700nm,4.8s
TYV pmax pmax
comp=Z,62nm,1.6s
TYV smax smax
comp=N,300nm,9.5s
TYV smax smax
comp=E,300nm,9.5s
NONG Nongkai 62.10 296 P **P** **19 01 30.0 +0.2**
BNX BinXian 62.14 335↓P **P** **19 01 29.0 -0.5**
BNX pP **pP** **19 01 35.5 -1.8**
BNX sP **sP** **19 01 36.5 -3.8**
BNX S **S** **19 09 52.8 -0.4**
BNX sS **pS** **19 10 01.5 -1.6**
BNX pmax pmax
comp=E,100nm,1.2s
BNX pmax pmax

	comp=E,960nm,5.2s							
BNX				LR	LR			
	comp=E,2μm,21.8s							
BNX				LR	LR			
	comp=E,2μm,22.8s							
BNX				LR	LR			
	comp=E,4μm,23.7s							
PET	**Petropavlovsk**	**62.29 359**		P	**P**	**19 01 31.1**	**+0.7**	
PET	**Petropavlovsk**	**62.29 359**		P	**P**	**19 01 29.9**	**-0.4**	
PET	**Petropavlovsk**	**62.29 359**	*de*	P	**P**	**19 01 30.4**	**0.0**	
PET				pmax	pmax			
	comp=Z,43nm,1.3s							
PET				MLR	MLR			
	comp=Z,1μm,21.0s							
PET	**Petropavlovsk**	**62.29 359**	⇓	P	**P**	**19 01 30.4**	**0.0**	
ENH	**Enshi**	**62.30 311**		P	**P**	**19 01 30.6**	**-0.4**	
ENH	**Enshi**	**62.30 311**		P	**P**	**19 01 30.3**	**-0.7**	
PEA0B	**Petropavlovsk-**	**62.39 359**	*ce*	P	**P**	**19 01 31.5**	**+0.4**	
PETK	**Petropavlovsk-**	**62.39 359**		P	**P**	**19 01 30.9**	**-0.2**	
PETK	**Petropavlovsk-**	**62.39 359**		P	**P**	**19 01 31.2**	**+0.2**	
	comp=Z,111nm,0.9s,baz=151,slow=6.4,SNR=54							
PETK				LR	LR	19 24 58.5		
	comp=Z,1μm,21.6s,baz=177,slow=33							
	comp=Z,111nm,0.9s							
SRIT	**Nakonsritamara**	**62.40 285**		P	**P**	**19 01 31.9**	**0.0**	
SRIT	**Nakonsritamara**	**62.40 285**		P	**P**	**19 01 30.9**	**-1.0**	
SRIT				IAmb	IAmb	19 01 33.1		
	comp=Z,109nm,1.1s							
SURA	**Surathani**	**62.53 286**		P	**P**	**19 01 33.0**	**+0.3**	
LYN	**LuoYang**	**62.54 317**	⇓	P	**P**	**19 01 31.8**	**-0.6**	
LYN				pP	pP	19 01 37.5	-2.9	
LYN				S	**S**	**19 09 58.3**	**-0.4**	
LYN				sS	pS	19 10 08.5	+0.3	
LYN				pmax	pmax			
	comp=Z,150nm,1.3s							
LYN				pmax	pmax			
	comp=Z,1μm,3.7s							
LYN				LR	LR			
	comp=Z,2μm,20.6s							
LYN				LR	LR			
	comp=Z,2μm,21.1s							
LYN				LR	LR			
	comp=Z,4μm,21.4s							
GYA	**Guiyang**	**62.60 306**	⇓	*i*P	**P**	**19 01 33.3**	**+0.1**	
GYA				PcP	**PcP**	**19 02 12.3**	**+0.2**	
GYA				S	**S**	**19 10 01.0**	**+0.9**	
GYA				pmax	pmax			
	comp=Z,130nm,1.2s							
GYA				pmax	pmax			
	comp=Z,880nm,10.6s							
GYA				LR	LR			
	comp=Z,1μm,20.6s							
GYA				LR	LR			
	comp=Z,2μm,20.0s							
GYA				LR	LR			
	comp=Z,3μm,20.1s							
SLVN	**Son La**	**62.69 300**		IAmb	IAmb	19 01 35.9		
	comp=Z,143nm,1.3s							
SLVN				IAMs_20	IAMs_20	19 25 02.0		
	comp=Z,3μm,22.0s							
GSI	**Gunungsitoli**	**62.69 276**		P	**P**	**19 01 33.3**	**-0.6**	
GSI	**Gunungsitoli**	**62.69 276**		P	**P**	**19 01 32.6**	**-1.2**	
GSI				IAMs_20	IAMs_20	19 32 07.4		
	comp=Z,2μm,21.0s							
GSI	**Gunungsitoli**	**62.69 276**		P	**P**	**19 01 33.5**	**-0.4**	
	comp=Z,275nm,1.6s,comp=Z,4μmcomp=Z,4μm							
HNS	**HongShan**	**62.80 321**	⇓	P	**P**	**19 01 34.0**	**-0.1**	
HNS				pmax	pmax			
	comp=Z,210nm,1.5s							
HNS				pmax	pmax			
	comp=Z,730nm,5.7s							
HNS				LR	LR			
	comp=Z,960nm,19.1s							
HNS				LR	LR			
	comp=Z,1μm,19.1s							
HNS				LR	LR			
	comp=Z,1μm,20.7s							
KCSI	**Kotacane, Aceh**	**62.95 279**		P	**P**	**19 01 33.2**	**-2.5**	
	comp=Z,110nm,1.4s,comp=Z,2μm							
SHEM	**Shemya Is, Ala**	**63.22 10**		LR	LR	19 24 52.7		
	comp=Z,1μm,21.7s,baz=161,slow=32							
GRNR	**Gornyy**	**63.32 344**	⇓	P	**P**	**19 01 38.0**	**+0.7**	
GRNR				*e*S	**S**	**19 10 14.5**	**+6.5**	
GRNR				pmax	pmax			
	comp=E,10.0nm,1.0s							
GRNR				pmax	pmax			
	comp=N,30nm,1.2s							
GRNR				pmax	pmax			
	comp=Z,70nm,1.1s							
GRNR				smax	smax			
	comp=E,1.0nm,0.9s							
KLR	**Kul'dur**	**63.40 340**	*de*	P	**P**	**19 01 37.9**	**0.0**	
KLR				pmax	pmax			
	comp=Z,166nm,1.7s							
KLR				MLR	MLR			
	comp=Z,3μm,20.0s							
KLR	**Kul'dur**	**63.40 340**		LR	LR	19 27 07.8		
	comp=Z,3μm,21.3s,baz=149,slow=34							
BJT	**Baijiatuau**	**63.58 324**		P	**P**	**19 01 39.4**	**+0.1**	
BJT	**Baijiatuau**	**63.58 324**		IAmb	IAmb	19 01 40.5		
	comp=Z,126nm,1.4s							
BJT	**Baijiatuau**	**63.58 324**		IAMs_20	IAMs_20	19 33 01.5		
	comp=Z,1μm,18.0s							
BJT	**Baijiatuau**	**63.58 324**		P	**P**	**19 01 38.9**	**-0.3**	
BJI	**Beijing**	**63.59 324**		P	**P**	**19 01 38.8**	**-0.5**	
BJI				pmax	pmax			
	comp=Z,31nm,1.3s							
BJI				pmax	pmax			
	comp=Z,380nm,4.2s							
BJI				LR	LR			
	comp=Z,530nm,24.5s							
BJI				LR	LR			
	comp=Z,550nm,24.4s							
BJI				LR	LR			
	comp=Z,1μm,25.0s							
LHMI	**Lhok Sumawe**	**64.13 281**		P	**P**	**19 01 41.9**	**-1.5**	
	comp=Z,146nm,1.7s,comp=Z,3μmcomp=Z,3μm							
SNSI	**Sinabang, Aceh**	**64.13 277**		P	**P**	**19 01 42.2**	**-1.2**	
	comp=Z,178nm,1.1s,comp=Z,3μm							
KIWB	**Kanaga Island**	**64.32 16**		P	**P**	**19 01 44.1**	**+0.2**	
TIY	**Taiyuan**	**64.42 320**	*e*	P	**P**	**19 01 45.0**	**+0.1**	
TIY				PP	**PP**	**19 04 11.8**	**+4.9**	
TIY				S	**S**	**19 10 22.0**	**-0.2**	
TIY				pmax	pmax			
	comp=Z,53nm,1.2s							
TIY				pmax	pmax			
	comp=Z,460nm,3.6s							
TIY				LR	LR			
	comp=Z,570nm,19.9s							
TIY				LR	LR			
	comp=Z,2μm,22.7s							
TIY				LR	LR			
	comp=Z,2μm,19.6s							
MLSI	**Meulaboh, Aceh**	**64.45 279**		P	**P**	**19 01 44.2**	**-1.3**	
	comp=Z,90nm,0.9s							
ADK	**Adak**	**64.47 16**		P	**P**	**19 01 46.1**	**+1.3**	
ADK	**Adak**	**64.47 16**		P	**P**	**19 01 45.3**	**+0.5**	
ADK	**Adak**	**64.47 16**		P	**P**	**19 01 45.3**	**+0.5**	
ADK				pmax	pmax			
	comp=Z,485nm,1.3s							
ADK	**Adak**	**64.47 16**	⇓	P	**P**	**19 01 45.7**	**+0.9**	
NKL	**Nikolayevsk**	**64.47 347**	*e*	P	**P**	**19 01 40.5**	**-4.3**	
NKL			*e*	S	**S**	**19 10 24.2**	**+2.2**	
NKL				pmax	pmax			
	comp=E,133nm,1.2s							
NKL				pmax	pmax			
	comp=N,50nm,1.3s							
NKL				pmax	pmax			
	comp=Z,393nm,1.3s							
NKL				smax	smax			
	comp=E,493nm,10.0s							
NKL				smax	smax			
	comp=N,140nm,5.4s							
SRDT	**SRDT**	**64.50 291**		P	**P**	**19 01 46.6**	**+0.9**	
XAN	**Xi'an**	**64.69 315**	⇓	P	**P**	**19 01 45.8**	**-0.9**	
XAN				pP	sP	19 01 56.8	-0.9	
XAN				S	**S**	**19 10 25.0**	**-0.7**	
XAN				ScS	**SKSac**	**19 11 36.5**	**-3.4**	
XAN				SS	**SS**	**19 14 38.3**	**+1.1**	
XAN				pmax	pmax			
	comp=N,200nm,0.9s							
XAN				pmax	pmax			
	comp=N,1μm,4.0s							
XAN				LR	LR			
	comp=N,2μm,18.4s							
XAN				LR	LR			
	comp=N,2μm,17.5s							
XAN				LR	LR			
	comp=N,4μm,19.1s							
XAN	**Xi'an**	**64.69 315**	⇓	P	**P**	**19 01 46.2**	**-0.6**	
XAN				pP	**sP**	**19 01 57.0**	**-0.6**	
KMI	**Kunming**	**65.20 303**	⇓	P	**P**	**19 01 51.5**	**+1.0**	
KMI				PP	**PP**	**19 04 13.5**	**-0.7**	
KMI				pmax	pmax			
	comp=N,190nm,1.1s							
KMI				LR	LR			
	comp=N,1μm,19.5s							
KMI				LR	LR			
	comp=N,2μm,20.7s							
KMI				LR	LR			
	comp=N,3μm,25.2s							
KMI	**Kunming**	**65.20 303**	⇓	P	**P**	**19 01 51.4**	**+1.0**	
ATKA	**Atka Island**	**65.46 17**		P	**P**	**19 01 52.0**	**+0.8**	
CASY	**Casey**	**65.70 200**		P	**P**	**19 01 53.5**	**+0.9**	
CASY	**Casey**	**65.70 200**		P	**P**	**19 01 53.8**	**+1.1**	
HEH	**HeiHe**	**65.80 338**	*e*	P	**P**	**19 01 53.0**	**-0.5**	
HEH				pP	**sP**	**19 02 04.5**	**+0.3**	
HEH				S	**S**	**19 10 40.8**	**+2.3**	
HEH				sS	**sS**	**19 10 51.8**	**+0.1**	
HEH				pmax	pmax			
	comp=N,82nm,1.2s							
HEH				pmax	pmax			
	comp=N,600nm,6.2s							
HEH				LR	LR			
	comp=N,2μm,22.7s							
HEH				LR	LR			
	comp=N,2μm,20.0s							
HEH				LR	LR			
	comp=N,3μm,21.8s							
CMAR	**Chiang Mai Arr**	**65.98 295**	*i*	P	**P**	**19 01 55.7**	**+0.4**	
CMAR				pmax	pmax			
	comp=Z,101nm,1.0s							
CMAR	**Chiang Mai Arr**	**65.98 295**		P	**P**	**19 01 55.8**	**+0.4**	
	comp=Z,98nm,1.0s,baz=114,slow=4.6,SNR=259							
CMAR				LR	LR	19 28 15.3		
	comp=Z,1μm,21.6s,baz=105,slow=34							
CMAR				PKP2bc		19 30 36.4		
	comp=Z,0.6nm,0.7s,baz=288,slow=4.6,SNR=4.1							
	comp=Z,98nm,1.0s							
XLT	**XiLinHaoTe**	**66.20 327**	*e*	P	**P**	**19 01 56.8**	**+0.5**	
XLT				pP	pP	19 02 01.5	-2.8	
XLT				sP	sP	19 02 07.5	+0.3	
XLT				PcP	**PcP**	**19 02 26.3**	**-0.1**	
XLT				S	**S**	**19 10 45.3**	**+1.5**	
XLT				sS	sS	19 10 58.0	+0.7	
XLT				ScS	**SKSac**	**19 11 49.5**	**-1.5**	
XLT				SS	**SS**	**19 14 59.0**	**-1.4**	
XLT				pmax	pmax			
	comp=Z,240nm,1.2s							
XLT				pmax	pmax			
	comp=Z,740nm,4.0s							
XLT				LR	LR			
	comp=Z,130nm,17.4s							
XLT				LR	LR			
	comp=Z,1μm,20.0s							
XLT				LR	LR			
	comp=Z,2μm,18.7s							
PZH	**PanZhiHua**	**66.59 304**		P	**P**	**19 01 59.0**	**-0.3**	
PZH				pP	**sP**	**19 02 09.3**	**-0.9**	
PZH				PcP	**PcP**	**19 02 31.8**	**+3.3**	
PZH				ScP		19 06 30.3		
PZH				S	**S**	**19 10 54.5**	**+5.2**	
PZH				SKS	**SKSac**	**19 11 50.5**	**-4.3**	
PZH				pmax	pmax			
	comp=Z,80nm,1.2s							
PZH				pmax	pmax			
	comp=Z,640nm,6.2s							
PZH				LR	LR			
	comp=Z,2μm,22.4s							
PZH				LR	LR			
	comp=Z,1μm,19.6s							
PZH				LR	LR			
	comp=Z,2μm,22.8s							
HHC	**Hu-ho-hao-te**	**66.84 322**	⇓	P	**P**	**19 02 00.8**	**+0.3**	
HHC				sP	sP	19 02 10.0	-1.4	
HHC				S	**S**	**19 10 51.8**	**0.0**	
HHC				sS	sS	19 11 05.0	+0.5	
HHC				ScS	**SKSac**	**19 11 52.5**	**-3.5**	
HHC				pmax	pmax			
	comp=Z,91nm,1.1s							
HHC				pmax	pmax			
	comp=Z,380nm,4.5s							
HHC				LR	LR			
	comp=Z,1μm,22.6s							
HHC				LR	LR			
	comp=Z,900nm,21.4s							
HHC				LR	LR			
	comp=Z,2μm,23.3s							
CD2	**Chengdu**	**66.92 309**	⇓	P	**P**	**19 02 01.3**	**+0.1**	
CD2				sP	pP	19 02 08.8	-0.4	
CD2				PP	**PP**	**19 04 29.5**	**+0.6**	
CD2				S	**S**	**19 10 55.8**	**+2.8**	
CD2				pmax	pmax			
	comp=Z,300nm,1.0s							
CD2				pmax	pmax			
	comp=Z,650nm,4.0s							
CD2				LR	LR			
	comp=Z,330nm,17.0s							
CD2				LR	LR			
	comp=Z,270nm,14.5s							
CD2				LR	LR			
	comp=Z,2μm,21.3s							
BTO	**Baotou**	**67.64 321**	⇓	*i*P	**P**	**19 02 07.0**	**+1.4**	
BTO				pP	**pP**	**19 02 11.8**	**-1.8**	
BTO				sP	**sP**	**19 02 14.0**	**-2.5**	
BTO				PP	**PP**	**19 04 38.8**	**+3.7**	
BTO				S	**S**	**19 11 04.5**	**+3.1**	
BTO				sS	**pS**	**19 11 11.8**	**+0.9**	
BTO				pmax	pmax			
	comp=Z,190nm,1.7s							
BTO				pmax	pmax			
	comp=Z,2μm,8.0s							
BTO				LR	LR			
	comp=Z,2μm,22.2s							
BTO				LR	LR			
	comp=Z,2μm,24.7s							
BTO				LR	LR			
	comp=Z,4μm,23.9s							
NIKH	**Nikolski High**	**67.81 20**		P	**P**	**19 02 07.0**	**+0.8**	
NIKH	**Nikolski High**	**67.81 20**		P	**P**	**19 02 06.7**	**+0.5**	
	baz=214							
VNDA	**Vanda**	**68.00 179**		P	**P**	**19 02 08.2**	**+1.0**	
VNDA	**Vanda**	**68.00 179**		P	**P**	**19 02 08.2**	**+1.0**	
VNDA				pmax	pmax			
	comp=Z,21nm,0.8s							
VNDA	**Vanda**	**68.00 179**		P	**P**	**19 02 08.7**	**+1.5**	
	comp=Z,9.9nm,1.0s,baz=341,slow=6.4,SNR=30							
VNDA				LR	LR	19 26 13.9		
	comp=Z,2μm,21.8s,baz=354,slow=31							
	comp=Z,9.9nm,1.0s							
VNDA	**Vanda**	**68.00 179**		P	**P**	**19 02 08.7**	**+1.5**	
VNDA				pP	**sP**	**19 02 19.5**	**+1.0**	
HIA	**Hailar**	**68.17 333**		P	**P**	**19 02 09.3**	**+0.7**	
HIA	**Hailar**	**68.17 333**	⇓	P	**P**	**19 02 08.8**	**+0.2**	
HIA				pP	**sP**	**19 02 20.0**	**+0.6**	
SBA	**Scott Base**	**68.42 178**		P	**P**	**19 02 11.8**	**+2.1**	
SBA	**Scott Base**	**68.42 178**		IAMs_20	IAMs_20	19 25 17.0		
	comp=Z,1μm,22.0s							
SBA	**Scott Base**	**68.42 178**		P	**P**	**19 02 11.9**	**+2.1**	
SBA				pmax	pmax			
	comp=Z,71nm,1.4s							
SBA				MLR	MLR			
	comp=Z,2μm,22.0s							
SBA	**Scott Base**	**68.42 178**		P	**P**	**19 02 13.5**	**+3.7**	
CCD	**Concordia, Ant**	**68.64 189**		P	**P**	**19 02 13.3**	**+1.6**	
TNCH	**TengChong**	**68.68 302**	⇓	P	**P**	**19 02 12.8**	**+0.2**	
TNCH				pP	pP	19 02 18.5	-2.1	
TNCH				sP	sP	19 02 21.5	-2.1	
TNCH				PP	**PP**	**19 04 43.8**	**-0.7**	
TNCH				ScP		19 06 40.8		
TNCH				PcS		19 06 43.0		
TNCH				S	**S**	**19 11 14.5**	**-0.1**	
TNCH				sS	pS	19 11 24.5	+0.1	
TNCH				SS	**SS**	**19 15 38.0**	**-1.7**	
TNCH				pmax	pmax			
	comp=Z,180nm,1.1s							
TNCH				pmax	pmax			
	comp=Z,760nm,2.8s							
TNCH				LR	LR			
	comp=Z,330nm,21.4s							
TNCH				LR	LR			
	comp=Z,740nm,22.9s							
TNCH				LR	LR			
	comp=Z,2μm,28.4s							
ZEA	**Zeya**	**68.72 340**	*de*	P	**P**	**19 02 12.5**	**+0.6**	
ZEA			*e*			19 02 12.5		
ZEA			*e*	S	**S**	**19 11 19.0**	**+5.5**	
ZEA			*e*			19 11 53.2		
ZEA				pmax	pmax			
	comp=N,60nm,1.1s							
ZEA				pmax	pmax			
	comp=E,20nm,1.1s							
ZEA				pmax	pmax			
	comp=Z,100nm,1.2s							
ZEA				pmax	pmax			
	comp=E,100nm,3.2s							
ZEA				pmax	pmax			
	comp=N,100nm,4.3s							
ZEA				pmax	pmax			
	comp=Z,300nm,4.3s							
ZEA				smax	smax			
	comp=E,200nm,9.1s							
MA2	**Magadan**	**69.22 355**		P	**P**	**19 02 15.3**	**+0.3**	
MA2	**Magadan**	**69.22 355**		P	**P**	**19 02 13.5**	**-1.5**	
MA2				IAMs_20	IAMs_20	19 28 35.1		
	comp=Z,2μm,22.0s							
MA2	**Magadan**	**69.22 355**	*ce*	P	**P**	**19 02 14.4**	**-0.6**	
MA2				pmax	pmax			
	comp=Z,215nm,1.0s							
MA2				MLR	MLR			
	comp=Z,1μm,19.0s							
MA2	**Magadan**	**69.22 355**		LR	LR	19 31 36.1		
	comp=Z,883nm,20.2s,baz=188,slow=35							
MA2	**Magadan**	**69.22 355**	⇓	P	**P**	**19 02 14.5**	**-0.4**	
LZH	**Lanzhou**	**69.31 314**	⇓	P	**P**	**19 02 17.3**	**+1.0**	
LZH				sP	pP	19 02 24.0	-0.3	
LZH				S	**S**	**19 11 22.0**	**+0.4**	
LZH				pmax	pmax			
	comp=Z,290nm,1.5s							
LZH				pmax	pmax			
	comp=Z,380nm,4.8s							
LZH				LR	LR			
	comp=Z,1μm,15.5s							
LZH				LR	LR			
	comp=Z,1μm,15.1s							
LZH				LR	LR			
	comp=Z,2μm,14.4s							
UNV	**Unalaska Valle**	**69.33 21**		P	**P**	**19 02 16.3**	**+0.6**	
UNV	**Unalaska Valle**	**69.33 21**		P	**P**	**19 02 15.8**	**+0.1**	
	baz=216,SNR=22							
MND	**Mandalay**	**69.67 298**		P	**P**	**19 02 18.9**	**+0.4**	
AKUT	**Akutan**	**69.82 21**		P	**P**	**19 02 19.5**	**+0.8**	
AKUT	**Akutan**	**69.82 21**		IAmb	IAmb	19 02 20.0		
	comp=Z,178nm,1.3s							
P08K	**Saint George I**	**70.63 17**		P	**P**	**19 02 24.6**	**+1.0**	
	baz=212,SNR=8.1							
SPIA	**Saint Paul Isl**	**70.92 17**		P	**P**	**19 02 26.4**	**+1.0**	
SPIA	**Saint Paul Isl**	**70.92 17**		P	**P**	**19 02 25.9**	**+0.5**	
	baz=212,SNR=5.2							
FALS	**False Pass**	**71.23 22**		P	**P**	**19 02 28.1**	**+0.8**	
FALS	**False Pass**	**71.23 22**		P	**P**	**19 02 27.5**	**+0.2**	
	baz=219,SNR=17							
S12K	**Black Hills**	**72.38 22**		P	**P**	**19 02 34.2**	**-0.1**	
	baz=220,SNR=28							
S12K				S	**S**	**19 11 53.3**	**-2.9**	
	baz=220							
SEY	**Seymchan**	**72.44 357**	*de*	P	**P**	**19 02 34.5**	**+0.1**	
SEY				pmax	pmax			
	comp=Z,146nm,1.3s							
SEY				MLR	MLR			
	comp=Z,2μm,20.0s							
SEY	**Seymchan**	**72.44 357**		LR	LR	19 32 53.0		
	comp=Z,2μm,20.4s,baz=186,slow=35							
CNBA	**Chernabura Isl**	**72.65 23**		IAmb	IAmb	19 02 37.0		
	comp=Z,199nm,1.9s							
CHNA	**Chernabura Isl**	**72.66 23**		P	**P**	**19 02 35.7**	**-0.1**	
	baz=222							
SDPT	**Sand Point**	**72.70 23**		P	**P**	**19 02 36.7**	**+0.6**	
SDPT	**Sand Point**	**72.70 23**		P	**P**	**19 02 35.8**	**-0.4**	
	baz=222,SNR=26							
SDPT				S	**S**	**19 11 56.4**	**-3.4**	
	baz=222							
JORH	**JORHAT**	**72.88 302**	⇓	*i*P	**P**	**19 02 37.6**	**-0.3**	
JORH				IAmb	IAmb	19 02 40.5		
	comp=Z,140nm,0.7s							
CIT	**Chita**	**72.91 332**	*e*	P	**P**	**19 02 38.2**	**+0.7**	
CIT			*e*			19 02 44.6		
CIT			*e*			19 02 54.0		
CIT			*e*			19 07 08.8		
CIT			*e*	S	SKiKP	19 12 24.8	+15	
CIT			*e*			19 12 53.4		
CIT				pmax	pmax			
	comp=Z,495nm,1.9s							
ULN	**Ulaanbaatar**	**73.59 326**		P	**P**	**19 02 42.2**	**+0.3**	
ULN	**Ulaanbaatar**	**73.59 326**		IAMs_20	IAMs_20	19 32 52.2		
	comp=Z,2μm,22.0s							
ULN	**Ulaanbaatar**	**73.59 326**	*ce*	P	**P**	**19 02 42.3**	**+0.5**	
ULN				pmax	pmax			
	comp=Z,315nm,1.7s							
GTA	**Gaotai**	**73.70 316**	⇓	P	**P**	**19 02 43.5**	**+0.9**	
GTA				pP	pP	19 02 49.3	-1.4	
GTA				PP	**PP**	**19 05 27.8**	**+0.5**	
GTA				S	**S**	**19 12 13.5**	**+1.4**	
GTA				sS	sS	19 12 25.8	+0.7	
GTA				SKS	**SKSac**	**19 12 44.0**	**-4.0**	
GTA				pmax	pmax			
	comp=Z,140nm,1.2s							
GTA				pmax	pmax			
	comp=Z,880nm,5.3s							
GTA				LR	LR			
	comp=Z,620nm,21.8s							
GTA				LR	LR			
	comp=Z,1μm,23.3s							
GTA				LR	LR			
	comp=Z,1μm,21.4s							
S14K	**Fog Glacier**	**73.75 22**		P	**P**	**19 02 42.8**	**+0.4**	
	baz=222							
BRDH	**Bariadhala**	**73.81 297**		LR	LR	19 33 28.5		
	comp=Z,17μm,21.8s,baz=183,slow=34							
SONM	**Songino Array**	**73.94 326**		P	**P**	**19 02 44.1**	**+0.3**	
SONM				IAmb	IAmb	19 02 45.8		
	comp=Z,133nm,1.1s							
SONM	**Songino Array**	**73.94 326**		P	**P**	**19 02 44.1**	**+0.3**	
SONM				pmax	pmax			
	comp=Z,133nm,1.1s							
SONM	**Songino Array**	**73.94 326**		P	**P**	**19 02 44.3**	**+0.5**	
	comp=Z,76nm,1.0s,baz=136,slow=5.7,SNR=250							
SONM				LR	LR	19 35 22.5		
	comp=Z,1μm,19.5s,baz=116,slow=36							
	comp=Z,76nm,1.0s							
BELO	**BELONIA**	**74.15 297**	⇓	*i*P	**P**	**19 02 46.5**	**+1.1**	
CHGN	**Chignik**	**74.19 23**		IAmb	IAmb	19 02 45.7		
	comp=Z,167nm,1.6s							
CHGN	**Chignik**	**74.19 23**		P	**P**	**19 02 44.5**	**-0.4**	
	baz=223,SNR=13							
AGT	**Agartala**	**74.52 298**	⇓	*i*P	**P**	**19 02 48.5**	**+1.0**	
AGT				IAmb	IAmb	19 02 50.1		
	comp=Z,177nm,0.8s							
M11K	**Mekoryuk**	**74.77 17**		P	**P**	**19 02 49.6**	**+1.5**	
	baz=215,SNR=12							
M11K				S	**S**	**19 12 23.1**	**+0.3**	
	baz=215							
YAK	**Yakutsk**	**75.03 346**		P	**P**	**19 02 49.3**	**-0.3**	
YAK	**Yakutsk**	**75.03 346**		IAMs_20	IAMs_20	19 35 24.9		
	comp=Z,2μm,20.0s							
YAK	**Yakutsk**	**75.03 346**	*d*	*i*P	**P**	**19 02 49.8**	**+0.1**	
YAK			*e*			19 03 03.1		
YAK			*e*			19 05 37.1		
YAK			*e*	PPP	PPP	19 07 22.9		
YAK			*e*	S	**S**	**19 12 27.9**	**+2.1**	
YAK			*e*			19 13 01.8		
YAK			*e*	SS	**SS**	**19 17 16.0**	**+0.8**	
YAK				pmax	pmax			
	comp=Z,330nm,1.4s							
YAK				pmax	pmax			
	comp=N,67nm,1.4s							
YAK				pmax	pmax			
	comp=E,35nm,1.6s							
YAK				pmax	pmax			
	comp=Z,220nm,5.7s							
YAK				pmax	pmax			
	comp=N,83nm,2.8s							
YAK				pmax	pmax			
	comp=E,158nm,6.8s							
YAK				smax	smax			
	comp=N,615nm,6.4s							
YAK				smax	smax			

comp=E,453nm,6.3s
YAK MLR MLR
comp=Z,2µm,23.0s
YAK MLR MLR
comp=N,1µm,21.0s
YAK MLR MLR
comp=E,256nm,19.0s
YAK Yakutsk 75.03 346 LR LR 19 35 24.0
comp=E,1µm,19.7s,baz=155,slow=35
O14K Tigyukauivet M 75.39 20 P **P** **19 02 52.4 +0.6**
baz=220
O14K S **S** **19 12 27.6 -2.3**
baz=220
R16K Pilot Point 75.43 22 P **P** **19 02 52.3 +0.3**
baz=224
M13K Dall Lake 75.63 18 P **P** **19 02 54.4 +1.3**
baz=218,SNR=24
M13K S **S** **19 12 32.3 -0.1**
baz=218
N14K Kuskokwak Cree 75.77 19 P **P** **19 02 54.6 +0.7**
baz=220
N14K S **S** **19 12 32.8 -1.2**
baz=220
O15K Ungalikthiuk R 75.81 20 P **P** **19 02 54.6 +0.4**
baz=221
O15K S **S** **19 12 32.7 -1.8**
baz=221
GOMU GeErMu 75.92 311 P **P** **19 02 56.3 +0.5**
GOMU PP **PP** **19 05 45.5 -1.0**
GOMU SS SS 19 17 29.5 -1.0
GOMU pmax pmax
comp=E,34nm,0.9s
GOMU LR LR
comp=E,850nm,20.1s
GOMU LR LR
comp=E,760nm,20.6s
GOMU LR LR
comp=E,2µm,20.9s
GAMB Gambell 76.27 13 P **P** **19 02 57.5 +0.9**
baz=209,SNR=6.7
GAMB S **S** **19 12 38.4 -1.0**
baz=209
M14K Bethel 76.32 18 P **P** **19 02 58.1 +1.0**
baz=219,SNR=52
M14K S **S** **19 12 39.6 -0.5**
baz=219
P16K Nushagak River 76.34 21 P **P** **19 02 57.1 -0.1**
baz=223,SNR=15
LSA Lhasa 76.45 304 IAmb IAmb 19 03 01.2
comp=Z,137nm,1.1s
LSA IAMs_20 IAMs_20 19 34 21.0
comp=Z,2µm,22.0s
N15K Kwethluk River 76.47 19 IAmb IAmb 19 03 00.2
comp=Z,128nm,1.3s
N15K Kwethluk River 76.47 19 P **P** **19 02 58.9 +1.0**
baz=221
N15K S **S** **19 12 42.3 +0.4**
baz=221
Q17K Contact Creek 76.56 22 P **P** **19 02 58.6 0.0**
baz=225,SNR=31
Q17K S **S** **19 12 40.3 -2.7**
baz=225
L14K Kuka Creek 76.56 18 P **P** **19 02 59.5 +1.0**
baz=218
L14K S **S** **19 12 42.5 -0.2**
baz=218
Q16K King Salmon 76.56 22 P **P** **19 02 58.4 -0.1**
baz=224
BOD Bodaibo 76.67 337 *e*P **P** **19 02 58.9 -0.2**
BOD pmax pmax
comp=Z,47nm,1.4s
M15K Kasigluk River 76.68 19 P **P** **19 02 59.5 +0.4**
baz=220
O16K Kokwok River B 76.72 21 P **P** **19 02 59.1 -0.3**
baz=223
OHAK Old Harbor 76.85 24 P **P** **19 03 01.7 +1.6**
OHAK Old Harbor 76.85 24 IAmb IAmb 19 03 02.0
comp=Z,184nm,1.7s
OHAK Old Harbor 76.85 24 P **P** **19 03 00.5 +0.3**
baz=228
P17K Kvichak River 77.01 22 P **P** **19 03 00.5 -0.5**
baz=225
ZAK Zakamensk 77.05 327 *e*P **P** **19 03 01.2 -0.4**
ZAK pmax pmax
comp=Z,87nm,1.4s
N16K Nishlik Lake 77.14 20 P **P** **19 03 03.3 +1.5**
baz=222
N16K S **S** **19 12 49.7 +0.5**
baz=222
L15K Ungalak Mounta 77.19 18 P **P** **19 03 02.7 +0.7**
baz=219
L15K S **S** **19 12 49.0 -0.5**
baz=219
O17K Koliganek Bris 77.19 21 P **P** **19 03 02.0 0.0**
baz=224,SNR=17
J14K Nanvaranak Lak 77.43 16 IAMs_20 IAMs_20 19 40 37.5
comp=Z,1µm,20.0s
J14K Nanvaranak Lak 77.43 16 P **P** **19 03 04.6 +1.3**
baz=217
J14K S **S** **19 12 51.9 -0.1**
baz=217
M16K Timber Creek 77.48 19 P **P** **19 03 04.8 +1.2**
baz=222
BILL Bilibino 77.50 3 P **P** **19 03 03.6 0.0**
BILL Bilibino 77.50 3 *e*P **P** **19 03 03.8 +0.2**
KDAK Kodiak Island 77.51 24 P **P** **19 03 03.7 -0.1**
KDAK Kodiak Island 77.51 24 P **P** **19 03 04.4 +0.6**
baz=228
KDAK Kodiak Island 77.51 24 P **P** **19 03 03.7 -0.1**
KDAK pmax pmax
comp=Z,41nm,0.9s
IRK Irkutsk 77.55 329 *e*P **P** **19 03 03.2 -1.1**
IRK pmax pmax
comp=Z,213nm,2.3s
P18K Big Mountain, **77.59 22** IAmb IAmb 19 03 05.4
comp=Z,184nm,1.4s
P18K Big Mountain, **77.59 22** P **P** **19 03 04.2 -0.2**
baz=226,SNR=31
P18K S **S** **19 12 54.0 -0.1**
baz=226
K15K Wolf Creek Mou 77.65 17 P **P** **19 03 05.7 +1.1**
baz=219,SNR=95
K15K S **S** **19 12 55.3 +0.7**
baz=219
N17K Nushagak Hills 77.71 20 P **P** **19 03 06.3 +1.4**
baz=224,SNR=52
N17K S **S** **19 12 54.7 -0.6**
baz=224
L16K Owhat River 77.83 19 IAmb IAmb 19 03 07.7
comp=Z,132nm,1.4s
L16K Owhat River 77.83 19 P **P** **19 03 06.3 +0.8**
baz=221,SNR=49
GTK Tadong 77.84 301 *i*P **P** **19 03 06.9 +0.4**
GTK IAmb IAmb 19 03 08.7
comp=Z,115nm,0.9s
Q19K Cape Douglas, **77.87 23** P **P** **19 03 06.1 +0.3**
baz=227,SNR=12
O18K Koktuh Hills 77.92 21 P **P** **19 03 06.0 -0.1**
baz=226,SNR=12
Q20K Shuyak Island 78.14 23 P **P** **19 03 07.9 +0.6**
baz=228
SYI Shuyak Island 78.14 23 IAmb IAmb 19 03 09.3
comp=Z,212nm,1.4s
M17K Holitna River 78.26 20 IAmb IAmb 19 03 11.0
comp=Z,126nm,1.4s
M17K Holitna River 78.26 20 P **P** **19 03 09.6 +1.6**
baz=223
N18K Kilae Creek 78.27 21 IAmb IAmb 19 03 10.5
comp=Z,170nm,1.3s
N18K Kilae Creek 78.27 21 P **P** **19 03 08.9 +0.8**
baz=225
ANM Nome 78.42 15 IAmb IAmb 19 03 11.3
comp=Z,248nm,1.6s
ANM Nome 78.42 15 P **P** **19 03 09.8 +1.1**
baz=215,SNR=45
ANM S **S** **19 13 03.2 +0.4**
baz=215
O19K Port Alsworth 78.48 22 P **P** **19 03 09.3 +0.2**
baz=226
P19K Oil Pt **78.51 22** IAmb IAmb 19 03 11.5
comp=Z,144nm,0.9s
P19K Oil Pt **78.51 22** P **P** **19 03 09.8 +0.4**
baz=228,SNR=11
P19K S **S** **19 13 01.3 -2.8**
baz=228
L17K Donlin 78.52 19 P **P** **19 03 10.9 +1.5**
baz=222
TNA Tin City 78.64 13 P **P** **19 03 10.7 +0.8**
baz=213,SNR=60
TNA S **S** **19 13 05.3 +0.3**
baz=213
SVW2 Sparrevohn 78.67 20 P **P** **19 03 11.4 +1.2**
J16K Anvik River 78.69 17 IAmb IAmb 19 03 13.1
comp=Z,204nm,1.2s
J16K Anvik River 78.69 17 P **P** **19 03 11.4 +1.2**
baz=220,SNR=98
J16K S **S** **19 13 06.8 +1.1**
baz=220
ILSW Iliamna Southw 78.77 22 IAmb IAmb 19 03 11.9
comp=Z,196nm,1.3s
N19K Bonanza Creek 78.85 21 P **P** **19 03 11.7 +0.3**
baz=226
N19K S **S** **19 13 05.6 -2.2**
baz=226
M18K Stony River 78.86 20 P **P** **19 03 12.6 +1.4**
baz=225
M18K S **S** **19 13 07.5 -0.2**
baz=225
F14K Arctic Creek 78.94 14 P **P** **19 03 12.6 +1.0**
baz=214
F14K S **S** **19 13 09.1 +0.8**
baz=214
K17K Iditarod 78.95 18 IAmb IAmb 19 03 14.3
comp=Z,167nm,1.2s
K17K Iditarod 78.95 18 P **P** **19 03 12.9 +1.2**
baz=222
K17K S **S** **19 13 06.1 -2.4**
baz=222
MOY Mondy 78.96 327 *e*P **P** **19 03 11.6 -0.6**
MOY pmax pmax
comp=Z,108nm,1.7s
O20K Slope Mountain 79.03 22 P **P** **19 03 12.4 +0.1**
baz=228,SNR=7.8
O20K S **S** **19 13 07.4 -2.2**
baz=228
L18K Granite Mounta 79.10 19 P **P** **19 03 14.1 +1.6**
baz=224
L18K S **S** **19 13 10.3 +0.1**
baz=224
G15K Niukluk 79.10 15 P **P** **19 03 13.3 +0.8**
baz=217
G15K S **S** **19 13 10.0 -0.1**
baz=217
HOM Homer 79.12 23 P **P** **19 03 13.6 +0.9**
baz=229,SNR=8.9
I17K Unalakleet 79.12 17 IAmb IAmb 19 03 15.5
comp=Z,173nm,1.4s
I17K IAMs_20 IAMs_20 19 43 42.4
comp=Z,1µm,19.0s
I17K Unalakleet 79.12 17 P **P** **19 03 14.2 +1.6**
baz=220,SNR=57
I17K S **S** **19 13 11.0 +0.7**
baz=220
H16K Elim 79.28 16 P **P** **19 03 14.2 +0.6**
baz=218,SNR=27
H16K S **S** **19 13 11.9 -0.1**
baz=218
BRLK Bradley Lake 79.48 23 IAmb IAmb 19 03 16.4
comp=Z,91nm,0.9s
BRSE Bradley Lake S 79.52 23 P **P** **19 03 15.5 +0.6**
baz=230,SNR=14
BRSE S **S** **19 13 12.2 -2.5**
baz=230
F15K North Star Dit 79.53 14 IAmb IAmb 19 03 17.1
comp=Z,152nm,1.4s
F15K North Star Dit 79.53 14 P **P** **19 03 15.7 +0.8**
baz=216,SNR=67
F15K S **S** **19 13 14.4 -0.2**
baz=216
M19K Big River Lodg 79.64 20 P **P** **19 03 16.8 +1.3**
baz=226
L19K White Mountain 79.68 20 IAmb IAmb 19 03 18.8
comp=Z,155nm,1.1s
L19K White Mountain 79.68 20 P **P** **19 03 17.0 +1.2**
baz=226
L19K S **S** **19 13 16.8 +0.4**
baz=226
TTA Tatalina 79.83 19 IAmb IAmb 19 03 18.9
comp=Z,120nm,1.2s
TTA Tatalina 79.83 19 P **P** **19 03 17.5 +0.9**
baz=224,SNR=79
TTA S **S** **19 13 16.7 -1.4**
baz=224
G16K Koyuk River 79.85 15 IAmb IAmb 19 03 18.9
comp=Z,178nm,1.2s
G16K Koyuk River 79.85 15 P **P** **19 03 17.5 +0.9**
baz=218
G16K S **S** **19 13 18.3 +0.4**
baz=218
N20K Mount Spurr 79.93 22 P **P** **19 03 16.5 -0.7**
baz=228,SNR=12
J18K Innoko River 79.99 18 IAmb IAmb 19 03 19.4
comp=Z,141nm,1.5s
J18K Innoko River 79.99 18 P **P** **19 03 18.1 +0.7**
baz=224
J18K S **S** **19 13 19.1 -0.5**
baz=224
CAPN Captain Cook N 80.03 22 P **P** **19 03 19.1 +1.5**
baz=229,SNR=12
CAPN S **S** **19 13 20.2 +0.2**
baz=229
M20K Styx River 80.06 21 IAmb IAmb 19 03 20.0
comp=Z,152nm,1.5s
M20K Styx River 80.06 21 P **P** **19 03 18.6 +0.6**
baz=227,SNR=21
H17K Granite Mounta 80.15 16 IAmb IAmb 19 03 20.6
comp=Z,173nm,1.6s
H17K Granite Mounta 80.15 16 P **P** **19 03 19.1 +0.9**
baz=221
H17K S **S** **19 13 21.4 +0.3**
baz=221
L20K Farewell, AK 80.21 20 P **P** **19 03 20.0 +1.3**
baz=227
L20K S **S** **19 13 23.0 +1.0**
baz=227
SEW Seward 80.25 23 P **P** **19 03 19.5 +0.7**
baz=231,SNR=8.2
PALK Pallekele 80.35 279 P **P** **19 03 21.2 +0.8**
PALK IAmb IAmb 19 03 23.2
comp=Z,172nm,1.1s
PALK Pallekele 80.35 279 P **P** **19 03 21.2 +0.8**
PALK pmax pmax
comp=Z,172nm,1.2s
G17K Kiwalik Mounta 80.38 16 P **P** **19 03 20.5 +1.1**
baz=220,SNR=63
G17K S **S** **19 13 22.7 -0.9**
baz=220
O22K Cooper Landing 80.39 23 P **P** **19 03 20.0 +0.5**
baz=231,SNR=6.8
O22K S **S** **19 13 22.1 -1.7**
baz=231
QSPA South Pole Qui 80.48 180 IAMs_20 IAMs_20 19 35 28.6
comp=Z,963nm,19.0s
QSPA South Pole Qui 80.48 180 P **P** **19 03 22.3 +2.0**
comp=Z,25nm,0.9s,baz=25,slow=2.0,SNR=31
QSPA LR LR 19 35 47.5
comp=Z,836nm,19.4s,baz=18,slow=33
comp=Z,25nm,0.9s
JHSG JHARSUGUGA 80.57 294 *e*P **P** **19 03 21.2 -0.2**
JHSG IAmb IAmb 19 03 23.1
comp=Z,160nm,0.6s
SUA Susitna One 80.64 22 P **P** **19 03 20.9 -0.1**
baz=230,SNR=44
SUA S **S** **19 13 22.8 -3.8**
baz=230
SKT Skwentna 80.69 21 P **P** **19 03 20.2 -1.0**
baz=229,SNR=14
J19K Poorman 80.71 18 IAmb IAmb 19 03 23.8
comp=Z,181nm,1.6s
J19K Poorman 80.71 18 P **P** **19 03 22.4 +1.1**
baz=225
J19K S **S** **19 13 27.2 +0.1**
baz=225
H18K Honhosa River 80.75 17 P **P** **19 03 21.4 -0.1**
baz=222
K20K Telida 80.76 19 IAmb IAmb 19 03 24.0
comp=Z,194nm,1.5s
K20K Telida 80.76 19 P **P** **19 03 22.4 +0.9**
baz=226
RC01 Rabbit Creek A 80.77 22 IAmb IAmb 19 03 23.3
comp=Z,198nm,1.4s
RC01 Rabbit Creek A 80.77 22 P **P** **19 03 22.2 +0.6**
baz=231,SNR=30
RC01 S **S** **19 13 25.0 -2.8**
baz=231
GCSA Galena City Sc 80.88 17 P **P** **19 03 23.0 +0.9**
baz=224,SNR=10
GCSA S **S** **19 13 27.7 -0.9**
baz=224
F17K Baldwin Pennin 80.96 15 IAmb IAmb 19 03 24.8
comp=Z,198nm,1.4s
F17K Baldwin Pennin 80.96 15 P **P** **19 03 23.5 +1.0**
baz=219
F17K S **S** **19 13 29.4 -0.1**
baz=219
P23K Montague Islan 81.00 24 P **P** **19 03 23.2 +0.4**
baz=233,SNR=6.5
P23K S **S** **19 13 26.5 -3.6**
baz=233
M22K Willow 81.05 22 P **P** **19 03 23.1 +0.1**
baz=230,SNR=24
PPLA Purkeypile 81.07 20 P **P** **19 03 23.3 -0.1**
baz=228,SNR=14
Q23K Middleton Isla 81.09 25 P **P** **19 03 24.0 +0.7**
baz=234
G18K Tagagawik 81.22 16 IAmb IAmb 19 03 25.7
comp=Z,123nm,1.4s
G18K Tagagawik 81.22 16 P **P** **19 03 24.4 +0.4**
baz=222
G18K S **S** **19 13 29.9 -2.5**
baz=222
J20K Nowinta River 81.30 19 IAmb IAmb 19 03 26.9
comp=Z,270nm,1.6s
J20K Nowinta River 81.30 19 P **P** **19 03 25.3 +0.9**
baz=226
J20K S **S** **19 13 31.8 -1.4**
baz=226
PMR Palmer 81.31 22 P **P** **19 03 24.7 +0.2**
PMR Palmer 81.31 22 IAmb IAmb 19 03 26.0
comp=Z,132nm,1.1s
PMR Palmer 81.31 22 P **P** **19 03 25.0 +0.5**
baz=231,SNR=20
PMR S **S** **19 13 31.3 -2.1**
baz=231
E17K Hotham Inlet 81.31 14 P **P** **19 03 25.4 +1.0**
baz=218,SNR=178
E17K S **S** **19 13 32.5 -0.7**
baz=218
CUT Chulitna 81.42 21 P **P** **19 03 24.6 -0.4**
baz=230,SNR=21
CUT S **S** **19 13 30.6 -3.8**
baz=230
KNK Knik Glacier 81.45 23 IAmb IAmb 19 03 27.3
comp=Z,204nm,1.5s
KNK Knik Glacier 81.45 23 P **P** **19 03 26.0 +0.7**
baz=232,SNR=18
KNK S **S** **19 13 33.2 -1.7**
baz=232
CAST Castle Rocks 81.46 20 IAmb IAmb 19 03 26.3
comp=Z,164nm,1.3s
CAST Castle Rocks 81.46 20 P **P** **19 03 25.1 -0.2**
baz=228,SNR=88
CAST S **S** **19 13 31.7 -3.2**
baz=228
C16K Lisburne Hills 81.47 12 IAmb IAmb 19 03 27.2
comp=Z,250nm,1.8s
C16K IAMs_20 IAMs_20 19 41 06.2
comp=Z,1µm,19.0s
C16K Lisburne Hills 81.47 12 P **P** **19 03 25.7 +0.6**
baz=215
C16K S **S** **19 13 33.6 -1.2**
baz=215
F18K Selawik 81.49 15 P **P** **19 03 25.8 +0.5**
baz=221,SNR=77
F18K S **S** **19 13 34.0 -1.0**
baz=221
GHO Glory Hole Cre 81.50 22 IAmb IAmb 19 03 27.3
comp=Z,122nm,1.0s
D17K Noatak River 81.51 14 P **P** **19 03 26.3 +0.9**
baz=217,SNR=63
D17K S **S** **19 13 33.8 -1.4**
baz=217
H19K Roundabout Mou 81.57 17 IAmb IAmb 19 03 27.9
comp=Z,219nm,1.5s
H19K Roundabout Mou 81.57 17 P **P** **19 03 26.6 +0.9**
baz=224
H19K S **S** **19 13 35.4 -0.5**
baz=224
I20K Naaghedeneel 81.63 18 P **P** **19 03 27.4 +1.3**
baz=226
CHUM Lake Minchumin 81.69 19 P **P** **19 03 26.9 +0.5**
baz=228,SNR=86
CHUM S **S** **19 13 35.7 -1.5**
baz=228
SML Sawmill 81.75 22 IAmb IAmb 19 03 28.8
comp=Z,168nm,1.1s
SML Sawmill 81.75 22 P **P** **19 03 27.5 +0.7**
baz=232,SNR=49
SML S **S** **19 13 36.3 -1.8**
baz=232
RDOG Red Dog Mine 81.83 13 IAmb IAmb 19 03 29.4
comp=Z,186nm,1.3s
RDOG IAMs_20 IAMs_20 19 44 15.7
comp=Z,1µm,19.0s
RDOG Red Dog Mine 81.83 13 P **P** **19 03 28.2 +1.1**
baz=217,SNR=16
RDOG S **S** **19 13 37.6 -0.9**
baz=217
G19K Purcell Mounta 81.84 16 P **P** **19 03 28.0 +0.8**
baz=223,SNR=126
G19K S **S** **19 13 37.4 -1.3**
baz=223
E18K Tukpahlearik C 81.88 14 IAmb IAmb 19 03 29.5
comp=Z,95nm,1.2s
E18K Tukpahlearik C 81.88 14 P **P** **19 03 28.2 +0.8**
baz=220,SNR=90
VLK Valmikinagar 81.88 299 *e*P **P** **19 03 27.5 -0.7**
M23K Glacier View 81.97 22 P **P** **19 03 28.5 +0.5**
baz=232,SNR=11
EYAK Cordova Ski Ar 81.99 24 P **P** **19 03 28.9 +0.8**
EYAK Cordova Ski Ar 81.99 24 P **P** **19 03 28.8 +0.8**
baz=234,SNR=7.8
H20K Anotleneega Mo 82.00 17 P **P** **19 03 29.0 +0.9**
baz=225,SNR=51
TRF Thorofare Moun 82.09 20 P **P** **19 03 28.3 -0.5**
baz=230,SNR=35
C17K DeLong Mountai 82.11 13 P **P** **19 03 29.3 +0.7**
baz=217,SNR=79
SCM Sheep Creek Mo 82.14 23 IAmb IAmb 19 03 30.9
comp=Z,105nm,1.1s
SCM Sheep Creek Mo 82.14 23 P **P** **19 03 29.6 +0.6**
baz=233,SNR=19
F19K Shaleruckik Mo 82.16 16 IAmb IAmb 19 03 30.7
comp=Z,168nm,1.4s
F19K Shaleruckik Mo 82.16 16 P **P** **19 03 29.4 +0.5**
baz=222
KAIM Kayak Island 82.17 25 IAmb IAmb 19 03 33.5
comp=Z,92nm,1.2s
KAIM Kayak Island 82.17 25 P **P** **19 03 29.8 +0.8**
baz=236
VJD Vijayawada 82.25 288 *e*P **P** **19 03 31.1 +0.8**
BPAW Bear Paw Mtn. 82.28 20 IAmb IAmb 19 03 30.4
comp=Z,112nm,1.4s
BPAW Bear Paw Mtn. 82.28 20 P **P** **19 03 29.3 -0.3**
baz=229,SNR=63
WAT1 Susitna Watana 82.30 21 P **P** **19 03 30.1 +0.4**
baz=232
RAGM Ragged Mountai 82.33 24 IAmb IAmb 19 03 32.0
comp=Z,111nm,1.7s
WAT6 Susitna Watana 82.44 22 P **P** **19 03 31.0 +0.3**
baz=232,SNR=46
HMT Hamilton 82.47 25 IAmb IAmb 19 03 32.7
comp=Z,125nm,1.7s
KLU Klutina 82.47 23 IAmb IAmb 19 03 32.9
comp=Z,114nm,1.5s
KLU Klutina 82.47 23 P **P** **19 03 31.5 +0.8**
baz=234,SNR=18
I21K Tanana 82.67 19 P **P** **19 03 32.4 +0.8**
baz=228
IMAR Indian Mountai 82.68 17 P **P** **19 03 32.0 +0.4**
BMRM Bremner River 82.69 24 P **P** **19 03 32.5 +0.6**
baz=235,SNR=16
C18K Utukok River 82.69 13 IAmb IAmb 19 03 33.5
comp=Z,130nm,1.2s
C18K Utukok River 82.69 13 P **P** **19 03 32.3 +0.6**
baz=219
BERG Berg Lake 82.73 25 IAmb IAmb 19 03 34.1
comp=Z,103nm,1.2s
MCK McKinley 82.73 21 P **P** **19 03 31.8 -0.2**
baz=231,SNR=191
H21K Melozitna Rive 82.74 18 IAmb IAmb 19 03 34.2
comp=Z,204nm,1.7s
H21K Melozitna Rive 82.74 18 P **P** **19 03 32.8 +0.8**
baz=227,SNR=58

M24K	**Tolsona, Glenn**	**82.74**	**23**	P	**P**	**19 03 33.4**	**+1.3**
	baz=234,SNR=37						
E19K	**Redstone River**	**82.76**	**15**	P	**P**	**19 03 33.1**	**+1.1**
	baz=223						
F20K	**Avaraart Lake**	**82.87**	**16**	IAmb	IAmb	19 03 34.9	
	comp=Z,183nm,1.8s						
F20K	**Avaraart Lake**	**82.87**	**16**	P	**P**	**19 03 33.6**	**+1.0**
	baz=224						
DHY	**Denali Highway**	**82.88**	**21**	IAmb	IAmb	19 03 34.6	
	comp=Z,182nm,1.6s						
DHY	**Denali Highway**	**82.88**	**21**	P	**P**	**19 03 33.3**	**+0.4**
	baz=233,SNR=41						
MLY	**Manley**	**82.97**	**19**	IAmb	IAmb	19 03 34.8	
	comp=Z,125nm,1.1s						
MLY	**Manley**	**82.97**	**19**	P	**P**	**19 03 33.5**	**+0.3**
	baz=229,SNR=127						
SNH	**Sunshine Point**	**82.97**	**25**	IAmb	IAmb	19 03 37.0	
	comp=Z,52nm,0.9s						
N25K	**Chitina, Valde**	**83.06**	**23**	IAmb	IAmb	19 03 35.9	
	comp=Z,138nm,1.6s						
N25K	**Chitina, Valde**	**83.06**	**23**	P	**P**	**19 03 34.6**	**+0.8**
	baz=235,SNR=28						
WAX	**Waxell Ridge**	**83.12**	**25**	IAmb	IAmb	19 03 36.3	
	comp=Z,171nm,1.5s						
B18K	**Kokolik River**	**83.12**	**13**	P	**P**	**19 03 34.7**	**+0.9**
	baz=218						
G21K	**Allakaket**	**83.12**	**17**	P	**P**	**19 03 34.1**	**+0.2**
	baz=226						
CRQM	**Cirque**	**83.17**	**25**	IAmb	IAmb	19 03 36.4	
	comp=Z,81nm,1.2s						
ALBI	**Allahabad**	**83.17**	**297**	*e*P	**P**	**19 03 33.8**	**-1.2**
ALBI				IAmb	IAmb	19 03 36.5	
	comp=Z,51nm,0.6s						
CRQE	**Cirque**	**83.18**	**25**	P	**P**	**19 03 35.1**	**+0.6**
	baz=237,SNR=34						
NEA2	**Nenana**	**83.23**	**20**	P	**P**	**19 03 34.2**	**-0.3**
	baz=231,SNR=92						
GLB	**Gilahina Butte**	**83.28**	**24**	IAmb	IAmb	19 03 36.7	
	comp=Z,88nm,1.2s						
HARP	**HAARP**	**83.30**	**23**	P	**P**	**19 03 35.8**	**+0.9**
	baz=235,SNR=16						
D19K	**Kuna River**	**83.31**	**14**	IAmb	IAmb	19 03 36.7	
	comp=Z,116nm,1.2s						
D19K				IAMs_20	IAMs_20	19 46 20.4	
	comp=Z,1μm,19.0s						
D19K	**Kuna River**	**83.31**	**14**	P	**P**	**19 03 35.3**	**+0.4**
	baz=222						
H22K	**Ishtalitna Cre**	**83.34**	**18**	P	**P**	**19 03 35.9**	**+0.9**
	baz=229,SNR=105						
MESA	**MESA**	**83.35**	**25**	IAmb	IAmb	19 03 37.7	
	comp=Z,94nm,1.4s						
MESA	**MESA**	**83.35**	**25**	P	**P**	**19 03 36.7**	**+1.3**
	baz=238,SNR=9.8						
ISLE	**Juniper Island**	**83.41**	**25**	IAmb	IAmb	19 03 37.5	
	comp=Z,62nm,1.1s						
C19K	**Lookout Ridge**	**83.42**	**14**	IAMs_20	IAMs_20	19 47 17.7	
	comp=Z,1μm,19.0s						
C19K	**Lookout Ridge**	**83.42**	**14**	P	**P**	**19 03 36.5**	**+1.1**
	baz=220						
WRH	**Wood River Hil**	**83.49**	**20**	IAmb	IAmb	19 03 36.7	
	comp=Z,130nm,1.2s						
I23K	**Minto, Yukon-K**	**83.49**	**19**	P	**P**	**19 03 35.7**	**-0.1**
	baz=231,SNR=27						
PAX	**Paxson**	**83.51**	**22**	P	**P**	**19 03 36.4**	**+0.2**
	baz=234,SNR=18						
TIXI	**Tiksi**	**83.52**	**351**	P	**P**	**19 03 34.4**	**-1.4**
TIXI				IAmb	IAmb	19 03 36.9	
	comp=Z,174nm,1.5s						
TIXI	**Tiksi**	**83.52**	**351**	IAMs_20	IAMs_20	19 40 37.8	
	comp=Z,1μm,20.0s						
TIXI	**Tiksi**	**83.52**	**351**	*ce*P	**P**	**19 03 35.0**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,147nm,1.7s						
TIXI	**Tiksi**	**83.52**	**351**	LR	LR	19 40 39.0	
	comp=Z,891nm,20.2s,baz=160,slow=36						
MCARA	**McCarthy VSAT**	**83.56**	**24**	IAmb	IAmb	19 04 03.3	
	comp=Z,72nm,1.0s						
MCARA	**McCarthy VSAT**	**83.56**	**24**	P	**P**	**19 03 37.1**	**+0.8**
	baz=237,SNR=28						
F21K	**Alatna River**	**83.62**	**17**	IAmb	IAmb	19 03 38.3	
	comp=Z,182nm,1.8s						
F21K	**Alatna River**	**83.62**	**17**	P	**P**	**19 03 37.1**	**+0.7**
	baz=226						
E20K	**Nigu River**	**83.62**	**15**	P	**P**	**19 03 37.4**	**+0.8**
	baz=224						
CCB	**Clear Creek Bu**	**83.69**	**20**	IAmb	IAmb	19 03 37.6	
	comp=Z,90nm,1.2s						
WMQ	**Urumqi**	**83.78**	**316**	⇓*i*P	**P**	**19 03 37.8**	**-0.1**
WMQ				SKS	**SKSac**	**19 13 55.3**	**-4.0**
WMQ				sS	sS	19 14 14.0	+0.7
WMQ				pmax	pmax		
	comp=Z,100nm,2.1s						
WMQ				pmax	pmax		
	comp=Z,750nm,3.7s						
WMQ				LR	LR		
	comp=Z,640nm,16.9s						
WMQ				LR	LR		
	comp=Z,1μm,20.9s						
WMQ				LR	LR		
	comp=Z,1μm,20.9s						
COLA	**College**	**83.82**	**20**	P	**P**	**19 03 37.2**	**-0.2**
COLA	**College**	**83.82**	**20**	P	**P**	**19 03 36.8**	**-0.7**
COLA	**College**	**83.82**	**20**	P	**P**	**19 03 37.3**	**-0.2**
	baz=232						
COLA	**College**	**83.82**	**20**	*d*iP	**P**	**19 03 36.8**	**-0.7**
COLA				pmax	pmax		
	comp=Z,143nm,1.0s						
TABL	**Table Mountain**	**83.83**	**25**	IAmb	IAmb	19 03 39.9	
	comp=Z,53nm,0.8s						
HDA	**Harding Lake**	**83.84**	**21**	P	**P**	**19 03 37.7**	**0.0**
	baz=233,SNR=69						
MAW	**Mawson**	**83.84**	**203**	P	**P**	**19 03 38.9**	**+1.3**
	baz=84,SNR=18						
MAW	**Mawson**	**83.84**	**203**	P	**P**	**19 03 39.1**	**+1.5**
	comp=Z,43nm,1.0s,baz=95,slow=5.8,SNR=28						
MAW				LR	LR	19 39 13.1	
	comp=Z,417nm,18.9s,baz=90,slow=34						
	comp=Z,43nm,1.0s						
D20K	**Etivluk River**	**83.84**	**15**	P	**P**	**19 03 38.2**	**+0.6**
	baz=223						
H23K	**Yukon River**	**83.86**	**19**	P	**P**	**19 03 38.5**	**+0.7**
	baz=230						
K24K	**Donnelly Dome**	**83.89**	**21**	P	**P**	**19 03 38.6**	**+0.6**
	baz=234,SNR=31						
A19K	**Wainwright**	**83.94**	**13**	P	**P**	**19 03 38.7**	**+0.8**
	baz=219						
BARN	**Barnard Glacie**	**83.94**	**25**	IAmb	IAmb	19 03 40.5	
	comp=Z,52nm,1.0s						
CTG	**Chitna Glacier**	**84.02**	**25**	P	**P**	**19 03 39.8**	**+1.0**
	baz=238,SNR=42						
CTGM	**Chitina Glacie**	**84.02**	**25**	IAmb	IAmb	19 03 40.9	
	comp=Z,56nm,0.9s						
KOD	**Kodaikanal**	**84.04**	**281**	*e*P	**P**	**19 03 40.9**	**+0.7**
KOD				IAmb	IAmb	19 03 43.0	
	comp=Z,221nm,1.4s						
IL31		**84.08**	**20**	IAmb	IAmb	19 03 39.7	
	comp=Z,102nm,1.1s						
ILAR	**Eielson Array**	**84.08**	**20**	P	**P**	**19 03 37.9**	**-0.9**
ILAR	**Eielson Array**	**84.08**	**20**	P	**P**	**19 03 38.1**	**-0.7**
	comp=Z,54nm,1.1s,baz=255,slow=4.0,SNR=151						
ILAR				LR	LR	19 39 40.2	
	comp=Z,346nm,19.1s,baz=230,slow=35						
	comp=Z,54nm,1.1s						
POKR	**Poker Plat Res**	**84.11**	**20**	IAmb	IAmb	19 03 39.6	
	comp=Z,71nm,1.2s						
POKR	**Poker Plat Res**	**84.11**	**20**	P	**P**	**19 03 38.5**	**-0.5**
	baz=232,SNR=13						
M26K	**Nabesna, AK**	**84.13**	**23**	P	**P**	**19 03 39.8**	**+0.6**
	baz=237						
MENT	**Mentasta**	**84.15**	**23**	P	**P**	**19 03 40.6**	**+1.3**
F22K	**John River**	**84.18**	**17**	P	**P**	**19 03 40.2**	**+0.8**
	baz=228						
PNL	**Peninsula**	**84.19**	**26**	P	**P**	**19 03 40.4**	**+0.9**
PNL	**Peninsula**	**84.19**	**26**	P	**P**	**19 03 40.5**	**+0.9**
	baz=240,SNR=13						
RIDG	**Independent Ri**	**84.19**	**22**	IAmb	IAmb	19 03 41.3	
	comp=Z,136nm,1.2s						
RIDG	**Independent Ri**	**84.19**	**22**	P	**P**	**19 03 40.2**	**+0.7**
	baz=235,SNR=95						
BCPM	**Bancas Point**	**84.22**	**26**	IAmb	IAmb	19 03 42.0	
	comp=Z,159nm,1.4s						
G23K	**Bananza Creek**	**84.29**	**18**	IAmb	IAmb	19 03 42.1	
	comp=Z,69nm,1.1s						
G23K	**Bananza Creek**	**84.29**	**18**	P	**P**	**19 03 40.9**	**+0.9**
	baz=230						
E21K	**Killik River**	**84.33**	**16**	IAmb	IAmb	19 03 42.1	
	comp=Z,72nm,1.2s						
E21K	**Killik River**	**84.33**	**16**	P	**P**	**19 03 40.6**	**+0.5**
	baz=226						
L26K	**Log Cabin Wild**	**84.34**	**23**	P	**P**	**19 03 41.3**	**+1.1**
	baz=236,SNR=30						
HYB	**Hyderabad**	**84.40**	**289**	*e*P	**P**	**19 03 41.1**	**-0.4**
HYB				IVmB_BB		19 03 41.8	
	comp=Z,2μm,1.5s						
HYB				*e*pP	**pP**	**19 03 51.0**	**+1.3**
HYB				*e*PP	**PP**	**19 06 55.7**	**-1.2**
HYB				*e*SKSac	**SKSac**	**19 13 59.9**	**-4.4**
HYB				IVMs_BB	IVMs_BB	19 38 32.4	
	comp=Z,376nm,29.2s						
O28M	**Mount Upton**	**84.40**	**25**	P	**P**	**19 03 41.8**	**+0.8**
	baz=239						
H24K	**Noodor Dome**	**84.41**	**19**	P	**P**	**19 03 40.1**	**-0.4**
	baz=232						
J25K	**Salcha River,**	**84.51**	**21**	P	**P**	**19 03 41.6**	**+0.5**
	baz=234						
M27K	**Edge Creek, AK**	**84.55**	**24**	P	**P**	**19 03 42.6**	**+1.2**
	baz=238						
COLD	**Coldfoot**	**84.57**	**17**	P	**P**	**19 03 42.5**	**+1.2**
	baz=230,SNR=46						
C21K	**Knifeblade Rid**	**84.62**	**15**	P	**P**	**19 03 43.0**	**+1.4**
	baz=225						
SCRK	**Sand Creek**	**84.64**	**22**	P	**P**	**19 03 42.6**	**+0.7**
	baz=236,SNR=63						
B20K	**Meade River**	**84.66**	**14**	IAmb	IAmb	19 03 43.7	
	comp=Z,150nm,1.4s						
B20K	**Meade River**	**84.66**	**14**	P	**P**	**19 03 42.4**	**+0.8**
	baz=223						
E22K	**Anaktuvuk Pass**	**84.71**	**16**	IAmb	IAmb	19 03 44.4	
	comp=Z,206nm,1.9s						
E22K	**Anaktuvuk Pass**	**84.71**	**16**	P	**P**	**19 03 43.0**	**+0.9**
	baz=228						
YUK3	**Moose Creek**	**84.81**	**24**	P	**P**	**19 03 43.6**	**+0.8**
	baz=239,SNR=31						
S31K	**Pelican**	**84.82**	**29**	IAmb	IAmb	19 03 45.3	
	comp=Z,84nm,1.4s						
S31K	**Pelican**	**84.82**	**29**	P	**P**	**19 03 43.3**	**+0.7**
	baz=243,SNR=6.2						
SIT	**Sitka**	**84.85**	**30**	P	**P**	**19 03 43.6**	**+0.7**
	baz=244						
O29M	**Mount Kennedy**	**84.86**	**26**	IAmb	IAmb	19 03 45.6	
	comp=Z,180nm,1.6s						
O29M	**Mount Kennedy**	**84.86**	**26**	P	**P**	**19 03 44.1**	**+1.1**
	baz=241						
P29M	**Windy Craggy**	**84.90**	**27**	IAmb	IAmb	19 03 45.6	
	comp=Z,137nm,1.4s						
P29M	**Windy Craggy**	**84.90**	**27**	P	**P**	**19 03 44.4**	**+1.3**
	baz=242						
L27K	**Beaver Creek,**	**84.94**	**23**	IAmb	IAmb	19 03 45.8	
	comp=Z,77nm,1.3s						
L27K	**Beaver Creek,**	**84.94**	**23**	P	**P**	**19 03 44.3**	**+1.0**
	baz=238						
L27K				S	**S**	**19 14 08.8**	**-1.5**
	baz=238						
BCAR	**Beaver Creek A**	**84.96**	**23**	P	**P**	**19 03 44.2**	**+0.8**
BVCY	**Beaver Creek**	**84.98**	**24**	P	**P**	**19 03 44.8**	**+1.3**
	baz=239,SNR=24						
D22K	**Ayikyak River**	**84.98**	**16**	P	**P**	**19 03 44.6**	**+1.3**
	baz=227,SNR=99						
D22K				S	**SKSac**	**19 14 07.4**	**+1.6**
	baz=227						
PRP	**Porcupine Dome**	**84.99**	**20**	P	**P**	**19 03 42.4**	**-1.2**
	baz=234,SNR=19						
PRP				S	**SKSac**	**19 14 06.9**	**+0.6**
	baz=234						
B21K	**Ikpikpuk River**	**85.00**	**15**	IAmb	IAmb	19 03 45.6	
	comp=Z,116nm,1.1s						
B21K				IAMs_20	IAMs_20	19 46 37.5	
	comp=Z,966nm,20.0s						
B21K	**Ikpikpuk River**	**85.00**	**15**	P	**P**	**19 03 44.4**	**+1.1**
	baz=225,SNR=118						
B21K				S	**SKSac**	**19 14 06.6**	**+0.8**
	baz=225						
G24K	**Hadweenzic Riv**	**85.07**	**19**	P	**P**	**19 03 44.6**	**+0.8**
	baz=232						
G24K				S	**SKSac**	**19 14 07.0**	**+0.5**
	baz=232						
J26L	**Joseph Creek**	**85.09**	**21**	IAmb	IAmb	19 03 46.5	
	comp=Z,163nm,1.9s						
J26L	**Joseph Creek**	**85.09**	**21**	P	**P**	**19 03 45.0**	**+0.9**
	baz=236						
J26L				S	**S**	**19 14 10.4**	**-1.4**
	baz=236						
R31K	**City Hall, Gus**	**85.26**	**29**	P	**P**	**19 03 46.2**	**+1.3**
	baz=244						
YUK6	**Outpost Mounta**	**85.26**	**26**	P	**P**	**19 03 46.5**	**+1.3**
	baz=241,SNR=58						
E23K	**Chandalar**	**85.28**	**17**	P	**P**	**19 03 46.0**	**+1.0**
	baz=230						
CRAG	**Craig**	**85.29**	**32**	P	**P**	**19 03 45.3**	**+0.2**
	baz=246						
H25L	**Birch Creek**	**85.34**	**19**	P	**P**	**19 03 46.4**	**+1.3**
	baz=234						
YUK4	**Talbot Arm**	**85.34**	**25**	P	**P**	**19 03 47.5**	**+2.0**
	baz=241,SNR=106						
K27K	**Chicken**	**85.37**	**22**	IAmb	IAmb	19 03 48.5	
	comp=Z,132nm,1.4s						
K27K	**Chicken**	**85.37**	**22**	P	**P**	**19 03 46.7**	**+1.4**
	baz=237						
S32K	**Killisnoo**	**85.40**	**30**	IAmb	IAmb	19 03 48.2	
	comp=Z,115nm,1.7s						
S32K				IAMs_20	IAMs_20	19 42 05.2	
	comp=Z,1μm,18.0s						
S32K	**Killisnoo**	**85.40**	**30**	P	**P**	**19 03 46.7**	**+1.1**
	baz=245						
PLBC	**Pleasant Camp**	**85.44**	**27**	P	**P**	**19 03 46.9**	**+1.1**
	baz=243,SNR=20						
F24K	**Squaw Lake**	**85.45**	**18**	P	**P**	**19 03 47.1**	**+1.4**
	baz=232						
F24K				S	**S**	**19 14 11.9**	**-3.2**
	baz=232						
P30M	**Million Dollar**	**85.48**	**27**	P	**P**	**19 03 47.4**	**+1.3**
	baz=242						
LGTI	**Lohaghat**	**85.50**	**301**	*e*P	**P**	**19 03 47.0**	**+0.2**
LGTI				IAmb	IAmb	19 03 51.7	
	comp=Z,91nm,0.9s						
G25K	**Bearman Lake**	**85.54**	**19**	P	**P**	**19 03 47.1**	**+1.0**
	baz=234						
PTH	**Pithoragarh**	**85.54**	**301**	*e*P	**P**	**19 03 46.2**	**-1.1**
U33K	**Whale Pass**	**85.56**	**31**	P	**P**	**19 03 47.1**	**+0.7**
	baz=246						
D23K	**Nanushuk River**	**85.57**	**16**	P	**P**	**19 03 47.8**	**+1.5**
	baz=229,SNR=85						
HYT	**Haines Junctio**	**85.58**	**26**	P	**P**	**19 03 47.8**	**+1.2**
	baz=242,SNR=106						
TOLK	**Toolik Lake Re**	**85.67**	**17**	P	**P**	**19 03 47.8**	**+0.9**
	baz=230,SNR=49						
TOLK				S	**SKSac**	**19 14 12.4**	**+2.1**
	baz=230						
I26K	**Coal Creek Min**	**85.68**	**21**	IAmb	IAmb	19 03 49.1	
	comp=Z,152nm,1.4s						
I26K				IAMs_20	IAMs_20	19 44 16.4	
	comp=Z,982nm,20.0s						
I26K	**Coal Creek Min**	**85.68**	**21**	P	**P**	**19 03 47.6**	**+0.7**
	baz=236,SNR=48						
I26K				S	**S**	**19 14 15.2**	**-2.2**
	baz=236						
FYU	**Fort Yukon**	**85.70**	**19**	IAmb	IAmb	19 03 49.2	
	comp=Z,66nm,1.5s						
A21K	**Barrow**	**85.75**	**13**	P	**P**	**19 03 47.8**	**+0.7**
	baz=223						
A21K				S	**SKSac**	**19 14 13.4**	**+2.9**
	baz=223						
R32K	**Eaglecrest**	**85.78**	**29**	P	**P**	**19 03 48.6**	**+1.1**
	baz=244						
B22K	**Teshekpuk Lake**	**85.80**	**14**	IAmb	IAmb	19 03 48.7	
	comp=Z,72nm,1.1s						
B22K				IAMs_20	IAMs_20	19 42 31.6	
	comp=Z,1μm,21.0s						
B22K	**Teshekpuk Lake**	**85.80**	**14**	P	**P**	**19 03 48.1**	**+0.8**
	baz=226						
B22K				S	**S**	**19 14 14.8**	**-3.5**
	baz=226						
A22K	**Sinclair Lake**	**85.89**	**14**	P	**P**	**19 03 48.5**	**+0.7**
	baz=225						
A22K				S	**S**	**19 14 15.6**	**-3.6**
	baz=225						
SKAG	**Skagway**	**85.92**	**28**	P	**P**	**19 03 49.9**	**+1.8**
SKAG	**Skagway**	**85.92**	**28**	IAmb	IAmb	19 03 50.8	
	comp=Z,111nm,1.4s						
SKAG	**Skagway**	**85.92**	**28**	P	**P**	**19 03 49.4**	**+1.3**
	baz=244,SNR=24						
SKAG				S	**S**	**19 14 16.4**	**-3.5**
	baz=244						
H08S2	**Diego Garcia H**	**85.93**	**263**	P	**P**	**19 03 50.1**	**+1.1**
	baz=20,slow=5.9,SNR=26						
H08S3	**Diego Garcia H**	**85.94**	**263**	P	**P**	**19 03 50.0**	**+0.9**
	baz=20,slow=5.9,SNR=25						
H08S1	**Diego Carcia H**	**85.95**	**263**	P	**P**	**19 03 50.1**	**+1.1**
	baz=20,slow=5.9,SNR=15						
M29M	**Somme Creek**	**85.95**	**24**	IAmb	IAmb	19 03 51.0	
	comp=Z,78nm,1.4s						
M29M	**Somme Creek**	**85.95**	**24**	P	**P**	**19 03 49.6**	**+1.1**
	baz=241						
DGAR	**Diego Garcia**	**86.01**	**263**	P	**P**	**19 03 49.3**	**-0.4**
DGAR	**Diego Garcia**	**86.01**	**263**	*de*P	**P**	**19 03 50.4**	**+0.8**
DGAR				pmax	pmax		
	comp=Z,811nm,2.5s						
V35K	**Ketchikan**	**86.02**	**32**	P	**P**	**19 03 49.0**	**+0.3**
	baz=247						
N30M	**Aishikik Lake**	**86.05**	**25**	IAmb	IAmb	19 03 51.4	
	comp=Z,139nm,1.4s						
N30M	**Aishikik Lake**	**86.05**	**25**	P	**P**	**19 03 49.8**	**+0.9**
	baz=242						
WRAK	**Wrangell Islan**	**86.08**	**31**	IAMs_20	IAMs_20	19 47 02.5	
	comp=Z,1μm,18.0s						
WRAK	**Wrangell Islan**	**86.08**	**31**	P	**P**	**19 03 48.9**	**-0.1**
	baz=246						
WRAK				S	**S**	**19 14 24.2**	**+2.6**
	baz=246						
JHNI	**Jhansi**	**86.09**	**296**	⇓*i*P	**P**	**19 03 47.5**	**-2.3**
JHNI				IAmb	IAmb	19 03 49.6	
	comp=Z,162nm,1.4s						
JHNI				*i* x	x	19 04 01.1	
EGAK	**Eagle**	**86.11**	**22**	P	**P**	**19 03 50.1**	**+1.1**
	baz=238,SNR=63						
EGAK				S	**S**	**19 14 21.3**	**-0.3**
	baz=238						
O30N	**Mendenhall**	**86.16**	**26**	IAmb	IAmb	19 03 51.7	
	comp=Z,90nm,1.2s						
O30N	**Mendenhall**	**86.16**	**26**	P	**P**	**19 03 50.3**	**+0.8**
	baz=243,SNR=45						
O30N				S	**S**	**19 14 22.5**	**0.0**
	baz=243						
C23K	**Itkillik River**	**86.17**	**15**	P	**P**	**19 03 50.2**	**+1.0**
	baz=229						
F25K	**Christian Rive**	**86.18**	**18**	P	**P**	**19 03 50.7**	**+1.3**
	baz=234						
D24K	**Happy Valley**	**86.20**	**16**	IAmb	IAmb	19 03 52.0	
	comp=Z,148nm,1.5s						
D24K	**Happy Valley**	**86.20**	**16**	P	**P**	**19 03 50.4**	**+1.1**
	baz=231						
HOPS	**Hopland Field**	**86.22**	**50**	IAMs_20	IAMs_20	19 41 13.0	
	comp=Z,2μm,20.0s						
KHMM	**Horse Mountain**	**86.24**	**48**	IAmb	IAmb	19 04 04.1	
	comp=Z,86nm,1.3s						
I27K	**Kandik River**	**86.39**	**21**	P	**P**	**19 03 51.5**	**+1.0**
	baz=238						
G26K	**Porcupine Rive**	**86.39**	**19**	P	**P**	**19 03 51.9**	**+1.5**
	baz=236						
DAWY	**Dawson**	**86.40**	**23**	IAmb	IAmb	19 03 53.2	
	comp=Z,121nm,1.3s						
DAWY	**Dawson**	**86.40**	**23**	P	**P**	**19 03 51.7**	**+1.2**
	baz=240,SNR=77						
L29M	**L29M**	**86.41**	**24**	P	**P**	**19 03 51.9**	**+1.3**
	baz=241						
BMAR	**Burnt Mountain**	**86.42**	**19**	P	**P**	**19 03 51.7**	**+1.1**
AKL	**Akola**	**86.48**	**292**	*e*P	**P**	**19 03 50.8**	**-1.1**
AKL				IAmb	IAmb	19 03 52.5	
	comp=Z,83nm,1.1s						
E25K	**Arctic Village**	**86.52**	**18**	IAmb	IAmb	19 03 53.7	
	comp=Z,113nm,1.4s						
E25K	**Arctic Village**	**86.52**	**18**	P	**P**	**19 03 52.1**	**+1.2**
	baz=234,SNR=50						
C24K	**Franklin Bluff**	**86.60**	**16**	P	**P**	**19 03 52.6**	**+1.3**
	baz=231						
N31M	**Braeburn, Yuko**	**86.62**	**26**	P	**P**	**19 03 52.6**	**+1.0**
	baz=243,SNR=47						
WHY	**Whitehorse**	**86.65**	**27**	IAmb	IAmb	19 03 54.1	
	comp=Z,75nm,1.6s						
WHY	**Whitehorse**	**86.65**	**27**	P	**P**	**19 03 52.7**	**+0.8**
	baz=244,SNR=16						
RPN	**Rapa Nui**	**86.66**	**117**	LR	LR	19 34 46.1	
	comp=Z,1μm,21.6s,baz=282,slow=30						
M30M	**Minto, Yukon**	**86.70**	**25**	IAmb	IAmb	19 03 54.5	
	comp=Z,108nm,1.3s						
M30M	**Minto, Yukon**	**86.70**	**25**	P	**P**	**19 03 53.0**	**+0.9**
	baz=242,SNR=76						
F26K	**Sheenjek River**	**86.70**	**19**	P	**P**	**19 03 53.3**	**+1.4**
	baz=235						
P32M	**Atlin**	**86.71**	**28**	IAmb	IAmb	19 03 54.6	
	comp=Z,87nm,1.9s						
P32M	**Atlin**	**86.71**	**28**	P	**P**	**19 03 53.2**	**+1.0**
	baz=245,SNR=8.0						
H27K	**Steamboat Moun**	**86.75**	**20**	P	**P**	**19 03 53.6**	**+1.4**
	baz=238						
ZSN	**Zaisan**	**86.81**	**319**	*e*P	**P**	**19 03 52.4**	**-0.5**
	comp=Z,45nm,1.3s,baz=319						
ZSN				*e*S	**SKSac**	**19 14 18.5**	**+0.3**
	baz=319						
ZSN	**Zaisan**	**86.81**	**319**	*e*P	**P**	**19 03 52.4**	**-0.5**
ZSN				*e*S	**SKSac**	**19 14 18.5**	**+0.3**
ZSN				pmax	pmax		
	comp=Z,45nm,1.3s						
BBB	**Bella Bella**	**86.82**	**36**	LR	LR	19 38 50.2	
	comp=Z,378nm,18.2s,baz=269,slow=33						
I28M	**Miner Creek**	**86.90**	**21**	IAmb	IAmb	19 03 55.4	
	comp=Z,196nm,1.9s						
I28M	**Miner Creek**	**86.90**	**21**	P	**P**	**19 03 53.9**	**+0.9**
	baz=239						
SAO	**San Andreas Ge**	**86.90**	**52**	IAMs_20	IAMs_20	19 40 55.1	
	comp=Z,2μm,18.0s						
D25K	**Kavik River**	**87.00**	**17**	IAmb	IAmb	19 03 55.4	
	comp=Z,160nm,1.7s						
D25K	**Kavik River**	**87.00**	**17**	P	**P**	**19 03 53.9**	**+0.6**
	baz=233						
K29M	**Barlow Dome**	**87.01**	**23**	IAmb	IAmb	19 03 56.2	
	comp=Z,118nm,1.2s						
K29M	**Barlow Dome**	**87.01**	**23**	P	**P**	**19 03 54.6**	**+1.0**
	baz=242						
G27K	**Doyon Strip**	**87.02**	**20**	IAmb	IAmb	19 03 56.3	
	comp=Z,97nm,1.4s						
G27K	**Doyon Strip**	**87.02**	**20**	P	**P**	**19 03 54.7**	**+1.2**
	baz=238						
G27K				S	**S**	**19 14 30.6**	**+0.1**
	baz=238						
J29N	**Klondike Camp**	**87.04**	**23**	P	**P**	**19 03 55.3**	**+1.6**
	baz=241,SNR=26						
U35K	**Hyder**	**87.08**	**32**	IAMs_20	IAMs_20	19 46 42.9	
	comp=Z,1μm,19.0s						
Q32M	**Nakina River**	**87.13**	**29**	P	**P**	**19 03 54.7**	**+0.3**
	baz=246						
Q32M				S	**S**	**19 14 34.2**	**+2.0**
	baz=246						
HUMO	**Hull Mountain**	**87.27**	**46**	IAMs_20	IAMs_20	19 45 16.2	
	comp=Z,944nm,18.0s						
S34M

baz=238,SNR=15
E27K S **S** **19 14 37.9 +0.1**

baz=238
AFDM Forest Hills D 87.80 50 P **P** **19 03 57.6 -0.3**
AFDM IAmb IAmb 19 04 10.8

comp=Z,54nm,1.4s
J30M Hart River 87.81 23 IAmb IAmb 19 04 00.1

comp=Z,82nm,1.4s
J30M Hart River 87.81 23 P **P** **19 03 58.6 +1.2**

baz=243
J30M S **S** **19 14 38.3 -0.1**

baz=243
H29M Whitestone 87.85 21 IAmb IAmb 19 03 59.9

comp=Z,58nm,1.4s
H29M Whitestone 87.85 21 P **P** **19 03 58.3 +0.8**

baz=241
H29M S **S** **19 14 39.4 +1.0**

baz=241
NDI New Delhi 87.92 299 *e*P **P** **19 03 56.7 -2.0**
R33M Jennings River 87.92 29 P **P** **19 03 58.5 +0.4**

baz=248
R33M S **S** **19 14 41.6 +2.0**

baz=248
H04D Lebanon 87.93 44 IAmb IAmb 19 04 25.1

comp=Z,118nm,1.7s
I04A Tendick Farm, 87.96 45 IAmb IAmb 19 04 33.7

comp=Z,56nm,1.3s
FARO Faro, Yukon 87.99 26 P **P** **19 03 59.3 +1.1**

baz=245,SNR=16
DLBC Dease Lake 88.01 30 P **P** **19 03 59.6 +1.1**

baz=248,SNR=8.3
DLBC S **S** **19 14 42.0 +1.6**

baz=248
DLBC Dease Lake 88.01 30 LR LR 19 38 18.1

comp=Z,688nm,19.9s,baz=265,slow=32
F28M Old Crow 88.03 19 IAmb IAmb 19 04 01.0

comp=Z,88nm,1.4s
F28M Old Crow 88.03 19 P **P** **19 03 59.1 +0.8**

baz=239,SNR=45
F28M S **S** **19 14 41.2 +1.0**

baz=239
I30M Mount Dempster 88.09 22 IAmb IAmb 19 04 00.9

comp=Z,50nm,1.0s
I30M Mount Dempster 88.09 22 P **P** **19 03 59.5 +0.7**

baz=243,SNR=46
I30M S **S** **19 14 44.3 +3.2**

baz=243
G29M Pine Creek 88.31 20 P **P** **19 04 00.6 +1.0**

baz=241
G29M S **S** **19 14 39.8 -3.0**

baz=241
MK31 Makanchi Array 88.31 318 P **P** **19 03 58.4 -1.7**
MK31 Makanchi Array 88.31 318 *ce*P **P** **19 03 59.3 -0.8**
MKAR Makanchi Array 88.31 318 *i* P **P** **19 03 59.5 -0.6**
MKAR pmax pmax

comp=Z,18nm,0.8s
MKAR Makanchi Array 88.31 318 P **P** **19 03 59.4 -0.8**

comp=Z,18nm,0.8s,baz=101,slow=6.0,SNR=183
MKAR LR LR 19 44 07.2

comp=Z,941nm,20.0s,baz=95,slow=36
comp=Z,18nm,0.8s
SCI2 San Clemente I 88.36 56 P **P** **19 04 01.0 +0.4**

baz=258
KUDL Kundal 88.43 299 *e*P **P** **19 03 59.5 -1.5**
EMB Emerald Bay 88.46 50 IAmb IAmb 19 04 14.4

comp=Z,76nm,1.7s
KAD Karad 88.47 288 *e*P **P** **19 03 59.5 -2.0**
KAD IAmb IAmb 19 04 02.1

comp=Z,36nm,0.9s
EPYK Eagle Plains 88.50 21 P **P** **19 04 01.5 +0.9**

baz=242,SNR=43
EPYK S **S** **19 14 48.0 +3.3**

baz=242
MAKZ Makanchi 88.52 318 P **P** **19 03 58.9 -2.2**
MAKZ IAmb IAmb 19 04 01.2

comp=Z,48nm,1.1s
MAKZ IAMs_20 IAMs_20 19 44 11.7

comp=Z,1μm,21.0s
MAKZ Makanchi 88.52 318 P **P** **19 03 58.9 -2.2**
MAKZ pmax pmax

comp=Z,49nm,1.2s
MAKZ MLR MLR

comp=Z,1μm,21.0s
D27M Malcolm River 88.54 18 IAMs_20 IAMs_20 19 49 01.3

comp=Z,1μm,20.0s
D27M Malcolm River 88.54 18 P **P** **19 04 02.4 +1.6**

baz=238
D27M S **S** **19 14 45.1 +0.1**

baz=238
VES Vestal, Richgr 88.54 53 P **P** **19 04 02.9 +1.5**

baz=257
CIS Catalina Islan 88.56 56 P **P** **19 04 02.2 +0.6**

baz=258
OSI Osito Audit: C 88.56 55 P **P** **19 04 03.5 +1.8**

baz=256
ARVC Arvin 88.59 54 P **P** **19 04 03.4 +1.7**

baz=258
ARVC S **S** **19 14 47.2 +0.5**

baz=258
MPK Martis Peak 88.59 50 IAmb IAmb 19 04 15.3

comp=Z,110nm,1.5s
E28M Babbage River 88.65 19 P **P** **19 04 02.7 +1.4**

baz=240,SNR=120
E28M S **S** **19 14 46.5 +0.6**

baz=240
J05D Fort Rock, OR 88.66 46 IAmb IAmb 19 04 28.9

comp=Z,54nm,1.2s
GNW Green Mountain 88.68 41 P **P** **19 04 01.2 -0.6**
FMP Fort Macarthur 88.72 56 P **P** **19 04 04.1 +1.8**

baz=258
K05A Summer Lake 88.77 46 IAmb IAmb 19 04 30.8

comp=Z,96nm,1.4s
DECC Green Verdugo 88.80 55 P **P** **19 04 03.9 +1.2**

baz=258
ZALV Zalesovo Beam 88.82 325 P **P** **19 04 00.5 -1.8**
ZALV Zalesovo Beam 88.82 325 P **P** **19 04 00.7 -1.6**

comp=Z,9.2nm,0.9s,baz=108,slow=4.8,SNR=38
ZALV LR LR 19 44 31.5

comp=Z,659nm,19.8s,baz=96,slow=36
comp=Z,9.2nm,0.9s
I05D Terrebonne, OR 88.85 45 IAmb IAmb 19 04 29.3

comp=Z,52nm,1.4s
WAKR Walker 88.86 51 IAmb IAmb 19 04 16.7

comp=Z,113nm,1.7s
PNTR Pine Nut 88.87 50 IAmb IAmb 19 04 16.6

comp=Z,94nm,1.6s
G30M tAoh Zraii Nji 88.96 21 P **P** **19 04 03.4 +0.6**

baz=243
G30M S **S** **19 14 48.0 -1.0**

baz=243
ISA Isabella, Lake 88.99 54 IAmb IAmb 19 04 16.6

comp=Z,68nm,1.4s
ISA Isabella, Lake 88.99 54 P **P** **19 04 05.2 +1.5**

baz=258,SNR=9.7
ISA S **S** **19 14 49.4 -1.3**

baz=258
PINE Pine Mountain 88.99 45 IAmb IAmb 19 04 17.1

comp=Z,73nm,1.4s
MMPY Sheldon Lake, 89.03 26 IAmb IAmb 19 04 05.8

comp=Z,51nm,1.4s
MMPY Sheldon Lake, 89.03 26 P **P** **19 04 03.8 +0.6**

baz=247,SNR=25
MMPY S **S** **19 14 49.3 -0.6**

baz=247
E29M Blow River 89.07 19 IAmb IAmb 19 04 05.4

comp=Z,61nm,1.4s
E29M Blow River 89.07 19 P **P** **19 04 03.9 +0.7**

baz=241
E29M S **S** **19 14 48.8 -1.1**

baz=241
G05A Wamic 89.09 44 IAmb IAmb 19 04 40.2

comp=Z,88nm,1.6s
H31M Peel River 89.11 22 P **P** **19 04 04.0 +0.5**

baz=244
H31M S **S** **19 14 49.3 -1.1**

baz=244
YERR Yerington 89.12 50 IAmb IAmb 19 04 17.5

comp=Z,126nm,1.9s
MLAC Mammoth, Mammo 89.13 52 P **P** **19 04 05.3 +0.8**

baz=257
MLAC S **S** **19 14 54.3 +2.1**

baz=257
BHK Bhakra 89.15 302 ⇓*i*P **P** **19 04 03.2 -1.2**
PAHR Pah Rah Range 89.17 50 IAmb IAmb 19 04 17.7

comp=Z,73nm,1.5s
WTLY Watson Lake, Y 89.21 28 P **P** **19 04 05.8 +1.8**

baz=249
EDW2 Edwards Air Fo 89.21 55 P **P** **19 04 06.4 +1.8**

baz=258
EDW2 S **S** **19 14 54.7 +2.0**

baz=258
CCAC Calif City Air 89.25 54 IAmb IAmb 19 04 18.2

comp=Z,76nm,1.4s
D28M Stokes Point 89.27 18 P **P** **19 04 05.3 +1.3**

baz=240,SNR=31
SHLS Shalkode 89.33 314 *e*P **P** **19 04 03.5 -1.7**

comp=Z,55nm,1.4s,baz=314
SHLS Shalkode 89.33 314 *e*P **P** **19 04 03.4 -1.7**
SHLS pmax pmax

comp=Z,55nm,1.4s
BFSC Mount Baldy Ra 89.35 55 P **P** **19 04 06.8 +1.4**

baz=258,SNR=9.5
F30M Barrier River 89.40 20 P **P** **19 04 05.3 +0.6**

baz=243
ELS Elsinore Mount 89.41 56 IAmb IAmb 19 04 18.6

comp=Z,133nm,1.8s
CWC Cottonwood Cre 89.47 53 P **P** **19 04 07.4 +1.4**

baz=258
TIN Tinemaha, Big 89.48 52 P **P** **19 04 07.9 +1.9**

baz=258
LHV Little Huntoon 89.52 51 IAmb IAmb 19 04 19.6

comp=Z,73nm,1.3s
109C Camp Elliot, M 89.53 57 P **P** **19 04 07.9 +1.8**

baz=258
LRMC Laurel Mtn Rad 89.58 54 P **P** **19 04 08.3 +1.8**

baz=258,SNR=7.9
LRMC S **S** **19 14 58.0 +1.6**

baz=258
RYN Ryan 89.59 51 IAmb IAmb 19 04 19.7

comp=Z,75nm,1.4s
MURC Murrieta 89.59 56 P **P** **19 04 08.0 +1.5**

baz=258
G31M Satah River 89.63 21 IAmb IAmb 19 04 09.1

comp=Z,95nm,1.4s
G31M Satah River 89.63 21 P **P** **19 04 06.3 +0.6**

baz=244,SNR=23
G31M S **S** **19 14 53.8 -1.2**

baz=244
UZB Uzynbulak 89.64 314 *e*P **P** **19 04 06.3 -0.4**

comp=Z,42nm,1.1s,baz=314
UZB Uzynbulak 89.64 314 *e*P **P** **19 04 06.2 -0.4**
UZB pmax pmax

comp=Z,41nm,1.1s
NVAR Mina Array Bea 89.71 51 P **P** **19 04 06.5 -0.7**
NVAR Mina Array Bea 89.71 51 P **P** **19 04 08.6 +1.4**

comp=Z,17nm,1.1s,baz=246,slow=5.6,SNR=40
NVAR LR LR 19 38 15.7

comp=Z,668nm,20.2s,baz=262,slow=32
comp=Z,17nm,1.1s
AJM Ajmer 89.72 297 ⇓*i*P **P** **19 04 05.7 -1.5**
AJM IAmb IAmb 19 04 07.6

comp=Z,63nm,1.2s
DSP Deep Springs 89.75 52 IAmb IAmb 19 04 20.5

comp=Z,95nm,1.3s
NV11 Mina Array Sit 89.83 51 IAmb IAmb 19 04 20.5

comp=Z,104nm,1.5s
MPMC Manual Prospec 89.86 54 P **P** **19 04 09.2 +1.3**

baz=258,SNR=42
MPMC S **S** **19 14 59.5 +0.5**

baz=258
THN Thein Dam 89.93 303 ⇓*i*P **P** **19 04 06.7 -1.3**
TGTN Hyland Airport 89.94 27 P **P** **19 04 08.0 +0.5**

baz=250,SNR=7.0
TGTN S **S** **19 14 58.4 0.0**

baz=250
BBRC Big Bear Solar 89.95 55 P **P** **19 04 09.7 +1.3**

baz=259
BBRC S **S** **19 15 00.6 +0.6**

baz=259
KVN Kaiserville 90.00 50 IAmb IAmb 19 04 21.6

comp=Z,81nm,1.3s
RRX Edison Sarstow 90.01 55 P **P** **19 04 09.9 +1.5**

baz=258
F31M Tsiigehtchic 90.03 21 IAmb IAmb 19 04 10.7

comp=Z,130nm,1.8s
F31M Tsiigehtchic 90.03 21 P **P** **19 04 08.2 +0.5**

baz=245,SNR=20
F31M S **S** **19 14 56.4 -2.5**

baz=245
SATY Saty 90.06 314 *e*P **P** **19 04 08.3 -0.3**

comp=Z,50nm,1.4s,baz=314
SATY Saty 90.06 314 *e*P **P** **19 04 08.3 -0.3**
SATY pmax pmax

comp=Z,50nm,1.4s
ZHN Zhinishke 90.07 314 *e*P **P** **19 04 08.2 -0.5**

baz=314
ZHN Zhinishke 90.07 314 *e*P **P** **19 04 08.1 -0.5**
MONP2 Monument Peak 90.09 57 P **P** **19 04 10.6 +1.6**

baz=259,SNR=12
MONP2 S **S** **19 15 02.4 +1.1**

baz=259
GRAC Grapevine Rang 90.14 53 P **P** **19 04 10.7 +1.7**

baz=258
PFO Pinyon Flats O 90.20 56 P **P** **19 04 09.2 -0.2**
PFO IAmb IAmb 19 04 22.4

comp=Z,107nm,1.8s
PFO Pinyon Flats O 90.20 56 P **P** **19 04 11.0 +1.6**

baz=259
PFO Pinyon Flats O 90.20 56 P **P** **19 04 09.2 -0.2**
PFO pmax pmax

comp=Z,107nm,1.8s
PFO Pinyon Flats O 90.20 56 LR LR 19 38 23.4

comp=Z,2μm,19.6s,baz=264,slow=31
TPFO Pinon Flats 90.20 56 P **P** **19 04 11.0 +1.5**

baz=259
TPFO S **S** **19 15 03.3 +1.1**

baz=259
TARG Taragay, Kyrgy 90.20 312 IAmb IAmb 19 04 11.3

comp=Z,92nm,1.5s
GSC Goldstone, Bar 90.25 54 P **P** **19 04 11.1 +1.5**

baz=255,SNR=9.9
IKP In-Ko-Pah, Jac 90.30 57 P **P** **19 04 10.4 +0.5**

baz=259,SNR=5.5
ESJX Sierra Juarez 90.31 58 IAmb IAmb 19 04 23.7

comp=Z,154nm,1.8s
WVOR Wild Horse Val 90.32 47 IAmb IAmb 19 04 23.3

comp=Z,80nm,1.4s
WVOR IAMs_20 IAMs_20 19 44 48.2

comp=Z,829nm,18.0s
QSM Queen of Sheba 90.33 54 IAmb IAmb 19 04 22.7

comp=Z,48nm,1.1s
FURC Furnace Creek, 90.43 53 P **P** **19 04 11.6 +1.4**

baz=259,SNR=9.6
INK Inuvik 90.48 20 IAmb IAmb 19 04 12.5

comp=Z,74nm,1.7s
INK Inuvik 90.48 20 P **P** **19 04 10.2 +0.5**

baz=245,SNR=16
INK Inuvik 90.48 20 LR LR 19 41 43.1

comp=Z,484nm,20.5s,baz=187,slow=34
TDK Taldyqorghan 90.50 315 *e*P **P** **19 04 10.0 -0.4**

baz=316
TDK LR LR 19 45 17.3

comp=Z,718nm,16.7s,baz=316
TDK Taldyqorghan 90.50 315 *e*P **P** **19 04 10.0 -0.4**
TDK MLR MLR

comp=Z,718nm,17.0s
GWY Greenwater Val 90.53 54 IAmb IAmb 19 04 23.8

comp=Z,59nm,1.4s
HEC Hector,Ludlow 90.53 55 P **P** **19 04 12.2 +1.3**

baz=259,SNR=6.7
HEC S **S** **19 15 05.7 +0.7**

baz=259
SEM Semipalatinsk 90.55 321 *e*P **P** **19 04 10.3 -0.5**

comp=Z,52nm,1.4s,baz=321
SEM LR LR 19 42 36.2

comp=Z,334nm,18.0s,baz=321
SEM Semipalatinsk 90.55 321 *e*P **P** **19 04 10.3 -0.5**
SEM pmax pmax

comp=Z,52nm,1.4s
SWSC Sam W. Stewart 90.61 57 P **P** **19 04 12.4 +1.2**

baz=259
J08A Circle Bar Ran 90.64 46 IAmb IAmb 19 04 24.4

comp=Z,78nm,1.6s
BELC Belle Mtn. Jos 90.65 56 P **P** **19 04 12.9 +1.3**

baz=259,SNR=13
JMU Jammu 90.67 303 *e*P **P** **19 04 11.1 -0.3**
SHOC Shoshone, Teco 90.79 54 P **P** **19 04 13.2 +1.3**

baz=259
E08A Dider Farm, El 90.92 43 IAmb IAmb 19 04 14.6

comp=Z,54nm,1.5s
BMN Battle Mountai 90.95 49 IAmb IAmb 19 04 26.1

comp=Z,68nm,1.3s
TUQ Turquoise Moun 90.98 54 P **P** **19 04 14.7 +1.6**

baz=259
BC3 Big Chuckawall 91.03 56 P **P** **19 04 15.0 +1.7**

baz=259
MDOK Medeo 91.06 313 *e*P **P** **19 04 13.0 -0.2**

baz=314
MDOK LR LR 19 45 55.7

comp=Z,312nm,17.1s,baz=314
MDOK Medeo 91.06 313 *e*P **P** **19 04 13.0 -0.2**
MDOK MLR MLR

comp=Z,312nm,17.0s
GMRC Granite Mounta 91.07 55 P **P** **19 04 15.0 +1.5**

baz=259,SNR=12
GMRC S **S** **19 15 11.3 +1.2**

baz=259
KSH Kashi 91.11 310 P **P** **19 04 15.0 +1.4**
KSH sP sP 19 04 25.8 +1.2
KSH SKS **SKSac** **19 14 43.3 -1.0**
KSH S **ScS** **19 15 13.0 -0.4**
KSH pmax pmax

comp=Z,68nm,1.3s
KSH pmax pmax

comp=Z,730nm,4.8s
KSH LR LR

comp=Z,1μm,21.0s
KSH LR LR

comp=Z,2μm,19.8s
KSH LR LR

comp=Z,2μm,20.0s
AAA Alma-Ata 91.16 314 *e*P **P** **19 04 13.5 -0.1**

comp=Z,52nm,1.8s,baz=314
AAA Alma-Ata 91.16 314 *e*P **P** **19 04 13.5 -0.1**
AAA pmax pmax

comp=Z,52nm,1.8s
CHKK Chushkaly 91.24 314 *e*P **P** **19 04 12.8 -1.2**

baz=314
CHKK Chushkaly 91.24 314 *e*P **P** **19 04 12.7 -1.2**
IRM Iron Mountain 91.37 56 P **P** **19 04 16.5 +1.7**

baz=260,SNR=11
IRM S **S** **19 15 14.2 +1.5**

baz=260
GLA Glamis 91.44 57 P **P** **19 04 16.9 +1.8**

baz=260
GLA S **S** **19 15 15.4 +2.1**

baz=260
ULHL Ulahol 91.45 312 P **P** **19 04 15.2 0.0**

SNR=10
KOTAN Kotaneelee Air 91.46 29 P **P** **19 04 16.1 +1.6**

baz=254
NRN Naryn 91.47 312 IAmb IAmb 19 04 16.8

comp=Z,95nm,1.6s
E09A Wood Farm, Sta 91.54 43 IAmb IAmb 19 04 17.3

comp=Z,41nm,1.1s
KURK Kurchatov 91.63 321 P **P** **19 04 13.8 -1.7**
KURK Kurchatov 91.63 321 *de*P **P** **19 04 14.1 -1.4**
KURK pmax pmax

comp=Z,35nm,1.5s
KURBB Kurchatov Arra 91.67 321 P **P** **19 04 14.2 -1.5**

comp=Z,7.9nm,1.0s,baz=105,slow=3.3,SNR=62
KURBB LR LR 19 44 55.2

comp=Z,611nm,21.8s,baz=117,slow=35
comp=Z,7.9nm,1.0s
BMO Blue Mountains 91.77 45 IAmb IAmb 19 04 29.1

comp=Z,38nm,1.2s
BMO IAMs_20 IAMs_20 19 38 02.3

comp=Z,911nm,20.0s
R11B Troy Canyon, C 91.79 52 IAmb IAmb 19 04 43.4

comp=Z,42nm,1.3s
R11B IAMs_20 IAMs_20 19 44 02.5

comp=Z,983nm,18.0s
R11B Troy Canyon, C 91.79 52 P **P** **19 04 18.3 +1.5**

baz=259,SNR=19
R11B S **S** **19 15 16.7 +0.1**

baz=259
BLYC Blythe 91.81 56 IAmb IAmb 19 04 30.9

comp=Z,113nm,1.9s
V12A Nelson 91.89 54 IAmb IAmb 19 04 43.2

comp=Z,40nm,1.2s
F10A Beach Ranch, E 92.05 44 IAmb IAmb 19 04 19.6

comp=Z,36nm,0.9s
NIL Nilore 92.19 304 P **P** **19 04 17.4 -1.2**
NIL IAmb IAmb 19 04 18.2

comp=Z,24nm,0.8s
NIL Nilore 92.19 304 P **P** **19 04 17.4 -1.2**
NIL pmax pmax

comp=Z,24nm,0.9s
PDMCI Parker Dam,Lak 92.22 56 P **P** **19 04 19.8 +1.2**

baz=260,SNR=5.1
BELA Belgrano 2 92.39 177 IAmb IAmb 19 04 23.5

comp=Z,31nm,0.8s
KBK Karagaybulak 92.47 313 P **P** **19 04 18.9 -1.0**

SNR=6.9
ELK Elko 92.49 49 IAmb IAmb 19 04 33.3

comp=Z,53nm,1.4s
ELK Elko 92.49 49 LR LR 19 39 49.2

comp=Z,436nm,21.8s,baz=259,slow=32
MFID Camas Ranch 92.54 47 IAmb IAmb 19 04 33.2

comp=Z,43nm,1.4s
MFID IAMs_20 IAMs_20 19 42 20.8

comp=Z,789nm,20.0s
W13A Hualapai Mount 92.56 55 IAmb IAmb 19 04 47.9

comp=Z,45nm,1.5s
NEW Newport 92.57 42 IAMs_20 IAMs_20 19 48 08.1

comp=Z,800nm,19.0s
NEW Newport 92.57 42 P **P** **19 04 20.4 +0.4**

baz=259,SNR=11
NEW Newport 92.57 42 LR LR 19 38 00.1

comp=Z,626nm,21.8s,baz=268,slow=30
WRGLY Wrigley 92.60 26 P **P** **19 04 20.3 +0.6**

baz=254,SNR=5.4
NRIK Noril'sk 92.61 340 IAmb IAmb 19 04 19.6

comp=Z,71nm,1.6s
NRIK Noril'sk 92.61 340 *de*P **P** **19 04 17.9 -1.7**
NRIK pmax pmax

comp=Z,47nm,1.6s
NRIK MLR MLR

comp=Z,2μm,21.0s
NRIK Noril'sk 92.61 340 P **P** **19 04 18.1 -1.5**

comp=Z,11nm,1.1s,baz=119,slow=5.0,SNR=24
NRIK LR LR 19 46 54.0

comp=Z,1μm,20.3s,baz=109,slow=36
comp=Z,11nm,1.1s
CHMS Chumysh 92.67 313 P **P** **19 04 19.8 -0.8**

SNR=11
UCH Uchtor 92.71 312 P **P** **19 04 21.3 0.0**

SNR=24
PLID Pearl Lake 92.73 45 IAMs_20 IAMs_20 19 38 42.6

comp=Z,945nm,20.0s
FRU1 Bishkek 92.73 313 IAmb IAmb 19 04 21.9

comp=Z,63nm,1.5s
AAK Ala-Archa 92.80 313 P **P** **19 04 20.8 -0.5**

SNR=12
AAK Ala-Archa 92.80 313 P **P** **19 04 19.7 -1.6**
AAK IAmb IAmb 19 04 22.3

comp=Z,49nm,1.6s
AAK Ala-Archa 92.80 313 *de*P **P** **19 04 20.6 -0.7**
AAK pmax pmax

comp=Z,15nm,1.4s
AAK Ala-Archa 92.80 313 LR LR 19 46 31.0

comp=Z,1μm,21.9s,baz=94,slow=36
SGDS Sogindy 92.84 313 *e*P **P** **19 04 20.5 -1.0**

baz=313
SGDS Sogindy 92.84 313 *e*P **P** **19 04 20.4 -1.0**
SPR3 Spring Creek 3 92.87 51 IAmb IAmb 19 04 48.7

comp=Z,67nm,1.4s
USP Ospenovka 92.90 313 P **P** **19 04 21.0 -0.6**

SNR=7.1
214A Organ Pipe Nat 92.93 58 P **P** **19 04 23.3 +1.3**

baz=261
214A S **S** **19 15 29.6 +2.9**

baz=261
EKS2 Erkin-Say 93.32 313 P **P** **19 04 23.8 +0.1**

SNR=11
BTLS Baital 93.53 315 *e*P **P** **19 04 23.6 -0.9**

comp=Z,40nm,1.8s,baz=315
BTLS Baital 93.53 315 *e*P **P** **19 04 23.5 -0.9**
BTLS pmax pmax

comp=Z,40nm,1.8s
BRLDA Berland Lookou 93.54 36 IAmb IAmb 19 04 25.7

comp=Z,41nm,1.3s
HLID Hailey 93.58 47 IAmb IAmb 19 04 38.3

comp=Z,48nm,1.5s
HLID Hailey 93.58 47 P **P** **19 04 26.6 +1.6**

baz=260,SNR=16
HLID S **S** **19 15 34.4 +2.1**

baz=260
SZCU Shurtz Canyon 93.61 53 IAmb IAmb 19 04 53.1

comp=Z,54nm,1.5s
ELIB Princess Elisa 93.80 192 *d*P **P** **19 04 24.0 -1.4**

comp=Z,5.4nm,1.0s
LPIG La Paz 93.90 66 LR LR 19 40 44.1

comp=Z,2μm,19.0s,baz=229,slow=32

C36M Paulatuk 94.06 20 IAmb IAmb 19 04 27.5
comp=Z,33nm,1.0s
C36M Paulatuk 94.06 20 P P 19 04 26.4 +0.1
baz=254
DUG Dugway, Tooele 94.22 50 P P 19 04 29.0 +1.0
baz=261
DUG S S 19 15 37.6 -0.3
baz=261
DRK Karamyk 94.29 309 IAmb IAmb 19 04 29.6
comp=Z,80nm,1.4s
A36M Sachs Harbour 94.44 18 P P 19 04 28.7 +0.7
baz=253
HVU Hansel Valley 94.49 49 IAmb IAmb 19 04 56.0
comp=Z,58nm,1.3s
WUAZ Wupatki 94.66 55 P P 19 04 31.3 +1.3
baz=262
WUAZ S S 19 15 44.5 +2.5
baz=262
TUC Tucson 94.68 58 IAMs_20 IAMs_20 19 39 38.7
comp=Z,1μm,20.0s
TUC Tucson 94.68 58 P P 19 04 31.2 +1.0
baz=262
TUC S S 19 15 46.8 +4.6
baz=262
BTK Batken 95.12 310 IAmb IAmb 19 04 32.7
comp=Z,90nm,1.6s
DZA Taraz 95.14 312 eP P 19 04 31.1 -0.9
baz=312
DZA Taraz 95.14 312 eP P 19 04 31.0 -0.9
BRZS Berezniki 95.24 320 eP P 19 04 30.3 -1.9
comp=Z,28nm,1.9s,baz=320
BRZS Berezniki 95.24 320 eP P 19 04 30.3 -1.9
BRZS pmax pmax
comp=Z,28nm,1.9s
KK31 Karatay Array 95.76 313 IAmb IAmb 19 04 35.0
comp=Z,49nm,1.7s
KKAR Karatay Array 95.76 313 IAmb IAmb 19 04 35.0
comp=Z,49nm,1.7s
EDM Edmonton 95.77 37 IAmb IAmb 19 04 35.4
comp=Z,28nm,1.0s
KBL Kabul 95.78 304 P P 19 04 33.1 -2.1
KBL IAmb IAmb 19 04 34.7
comp=Z,26nm,1.0s
KBL Kabul 95.78 304 P P 19 04 33.1 -2.1
KBL pmax pmax
comp=Z,26nm,1.0s
BOZ Bozeman (W) 95.85 45 P P 19 04 35.7 +0.5
baz=262,SNR=7.2
W18A Petrified Fore 95.93 56 S S 19 15 55.8 +2.6
baz=263
IUG Iuzhnay 95.99 312 eP P 19 04 35.2 -0.8
comp=Z,38nm,1.8s,baz=312
IUG eS SKSac 19 15 11.8 +0.9
baz=312
IUG Iuzhnay 95.99 312 eP P 19 04 35.1 -0.8
IUG eS SKSac 19 15 11.8 +0.9
IUG pmax pmax
comp=Z,38nm,1.8s
FXWY Fox Creek 96.03 47 IAMs_20 IAMs_20 19 46 00.1
comp=Z,742nm,19.0s
IMW Indian Meadow 96.12 47 IAMs_20 IAMs_20 19 48 01.5
comp=Z,798nm,18.0s
CHGR Chuyangaron 96.21 308 IAmb IAmb 19 04 36.7
comp=Z,37nm,1.1s
BRLS Borolday 96.24 312 eP P 19 04 36.0 -0.9
baz=312
BRLS Borolday 96.24 312 eP P 19 04 36.0 -0.9
FLWY Flagg Ranch 96.32 46 IAmb IAmb 19 05 04.3
comp=Z,57nm,1.8s
CHM Chimkent 96.33 312 LR LR 19 46 50.9
comp=Z,284nm,21.9s,baz=312
LOHW Long Hollow 96.33 47 IAMs_20 IAMs_20 19 45 58.0
comp=Z,700nm,18.0s
SIMJ Simiganj 96.33 308 P P 19 04 35.5 -2.1
SIMJ IAmb IAmb 19 04 38.0
comp=Z,38nm,1.5s
YKA Yellowknife Ar 96.42 28 P P 19 04 36.6 -0.6
YKA Yellowknife Ar 96.42 28 P P 19 04 36.8 -0.4
comp=Z,7.0nm,0.9s,baz=264,slow=4.6,SNR=80
YKA PKKPbc PKKPbc 19 21 20.8 -4.0
comp=Z,1.8nm,1.1s,baz=68,slow=2.7,SNR=8.9
YKA LR LR 19 41 44.6
comp=Z,446nm,20.7s,baz=282,slow=32
comp=Z,7.0nm,0.9s
H17A Grant Village 96.44 46 P P 19 04 39.9 +1.8
baz=263
BW06 Boulder Array 96.99 48 P P 19 04 41.1 +0.6
baz=264
PDAR Pinedale Array 96.99 48 P P 19 04 39.8 -0.8
PDAR Pinedale Array 96.99 48 P P 19 04 41.4 +0.8
comp=Z,3.6nm,0.8s,baz=246,slow=2.6,SNR=22
PDAR LR LR 19 42 51.3
comp=Z,417nm,20.7s,baz=289,slow=32
comp=Z,3.6nm,0.8s
BVAR Borovoye Array 97.05 323 P P 19 04 38.3 -2.0
comp=Z,9.4nm,0.9s,baz=102,slow=5.0,SNR=54
BVAR LR LR 19 47 49.0
comp=Z,1μm,21.9s,baz=80,slow=35
comp=Z,9.4nm,0.9s
BRVK Borovoye 97.11 323 P P 19 04 37.6 -3.0
BRVK IAmb IAmb 19 04 40.4
comp=Z,100nm,1.9s
BRVK Borovoye 97.11 323c eP P 19 04 39.2 -1.4
BRVK pmax pmax
comp=Z,62nm,2.5s
MVCO Mesa Verde 97.17 54 IAMs_20 IAMs_20 19 40 29.3
comp=Z,2μm,21.0s
121A Cookes Peak, D 97.22 58 P Pdif 19 04 43.1 +1.2
baz=263
EGMT Eagleton 97.42 43 P Pdif 19 04 42.5 +0.3
baz=264
RLMT Red Lodge 97.45 46 IAMs_20 IAMs_20 19 44 34.6
comp=Z,873nm,20.0s
RLMT Red Lodge 97.45 46 P Pdif 19 04 43.6 +0.9
baz=264
O20A White River Ci 97.69 51 P Pdif 19 04 44.9 +1.0
baz=264
Y22D IRIS PASSCAL I 98.11 57 IAMs_20 IAMs_20 19 41 12.5
comp=Z,1μm,21.0s
Y22D IRIS PASSCAL I 98.11 57 P Pdif 19 04 47.2 +1.4
baz=264
Y22F Passcal Instru 98.11 57 P Pdif 19 04 46.7 +0.9
baz=264
SNAA Sanae 98.15 186 P Pdif 19 04 46.7 +1.6
comp=Z,3.4nm,0.8s,baz=35,slow=19,SNR=2.7
SNAA LR LR 19 45 16.9
comp=Z,1μm,21.2s,baz=168,slow=33
comp=Z,3.4nm,0.8s
EPT El Paso 98.22 59 IAMs_20 IAMs_20 19 45 44.5
comp=Z,1μm,19.0s
SMCO Snowmass 98.57 52 IAMs_20 IAMs_20 19 41 24.0
comp=Z,1μm,21.0s
ANMO Albuquerque 98.58 56 IAMs_20 IAMs_20 19 40 02.8
comp=Z,1μm,22.0s
RWWY Rawlins 98.61 49 IAMs_20 IAMs_20 19 54 39.9
comp=Z,865nm,18.0s
PMSA Palmer Station 99.06 163 LR LR 19 46 21.1
comp=Z,1μm,18.3s,baz=292,slow=33
MNTX Cornudas Mount 99.17 59 Pdiff Pdif 19 04 50.2 -0.1
baz=265
K22A Casper 99.20 48 Pdiff Pdif 19 04 50.7 +0.2
baz=266
N23A Red Feather La 99.50 50 Pdiff Pdif 19 04 52.3 +0.4
baz=266
SDCO Great Sand Dun 99.60 53 Pdiff Pdif 19 04 52.9 +0.4
baz=266
ISCO Idaho Springs 99.67 51 IAMs_20 IAMs_20 19 45 36.0
comp=Z,974nm,20.0s
ISCO Idaho Springs 99.67 51 Pdiff Pdif 19 04 53.5 +0.7
baz=266
LAO LASA Array 99.70 44 Pdiff Pdif 19 04 52.7 +0.3
baz=266
PHWY Pilot Hill 99.90 50 IAMs_20 IAMs_20 19 50 06.8
comp=Z,660nm,19.0s
Q24A Divide 99.97 52 Pdiff Pdif 19 04 54.1 0.0
baz=266
TXAR Lajitas Array 100.42 62 P Pdif 19 04 59.4 +3.3
comp=Z,0.6nm,0.8s,baz=229,slow=4.8,SNR=5.9
TXAR PKKPbc PKKPbc 19 21 12.6 0.0
comp=Z,0.5nm,0.8s,baz=119,slow=4.8,SNR=4.3
BRIGG Briggsdale 100.71 50 IAMs_20 IAMs_20 19 47 36.5
comp=Z,896nm,19.0s
RSSD Black Hills 101.10 47 IAMs_20 IAMs_20 19 43 57.4
comp=Z,774nm,21.0s
OGNE Ogallala 102.46 50 IAMs_20 IAMs_20 19 44 09.8
comp=Z,829nm,21.0s
AMTX Amarillo 102.49 56 IAMs_20 IAMs_20 19 45 43.3
comp=Z,1μm,19.0s
UNM Universidad Na 103.60 72 IAMs_20 IAMs_20 19 43 31.4
comp=Z,1μm,20.0s
JCT Junction City 103.85 61 IAMs_20 IAMs_20 19 44 34.8
comp=Z,1μm,20.0s
ARU Arti 103.97 326d iP Pdif 19 05 08.9 -2.2
ARU 19 09 23.0
ARU S SKSac 19 15 48.5 -0.8
ARU SP SP 19 18 35.2 -1.1
ARU pmax pmax
comp=Z,15nm,1.8s
ARU MLR MLR
comp=Z,1μm,20.0s
WMOK Wichita Mounta 104.87 57 IAMs_20 IAMs_20 19 45 18.3
comp=Z,1μm,21.0s
OK029 Liberty Lake 105.97 56 IAMs_20 IAMs_20 19 46 40.3
comp=Z,1μm,21.0s
OK033 Mehan 106.39 55 IAMs_20 IAMs_20 19 47 23.4
comp=Z,1μm,20.0s
ECSD EROS Data Cent 106.46 47 IAMs_20 IAMs_20 19 47 14.3
comp=Z,824nm,20.0s
OK052 Battle Ridge R 106.50 55 IAMs_20 IAMs_20 19 47 37.3
comp=Z,1μm,20.0s
AGMN Agassiz Nation 106.71 42 IAMs_20 IAMs_20 20 00 49.1
comp=Z,949nm,19.0s
KBS Kingsbay 108.80 354 IAMs_20 IAMs_20 19 56 27.0
comp=Z,807nm,20.0s
SCIA State Center 109.07 49 IAMs_20 IAMs_20 19 53 11.5
comp=Z,911nm,20.0s
MIAR Mount Ida 109.16 57 PKiKP PKiKP 19 09 38.4 -0.4
baz=272
EYMN Ely 109.65 42 PKiKP PKiKP 19 09 39.3 0.0
baz=278
JFWS Jewell Farm 111.16 48 IAMs_20 IAMs_20 20 00 33.6
comp=Z,963nm,18.0s
JFWS Jewell Farm 111.16 48 PKiKP PKiKP 19 09 42.8 +0.5
baz=277
VBMS Vicksburg 111.80 59 PKiKP PKiKP 19 09 44.5 +0.7
baz=272
PLCA Paso Flores 111.93 141 PKKPbc PKKPbc 19 20 36.6 -0.8
comp=Z,4.7nm,1.1s,baz=56,slow=7.0,SNR=6.0
APA Apatity 112.04 340⇓iPKiKP PKiKP 19 09 34.4 -8.8
APA i 19 10 31.0
APA pmax pmax
comp=Z,7.0nm,1.5s
HDIL Hopedale 112.14 50 PKiKP PKiKP 19 09 45.3 +1.0
baz=277
MAK Makhachkala 112.58 313 iP Pdif 19 05 45.5 -4.2
MAK e 19 10 28.1
MAK e 19 16 24.2
MAK ePS PS 19 20 09.3 +2.8
MAK pmax pmax
comp=Z,259nm,1.5s
OXF Oxford 112.60 57 IAMs_20 IAMs_20 19 53 07.0
comp=Z,1μm,21.0s
OXF Oxford 112.60 57 PKiKP PKiKP 19 09 46.6 +1.3
baz=274
SNET Serv Nac Est T 112.63 79 IAMs_20 IAMs_20 19 54 56.1
comp=Z,708nm,20.0s
KLMR Klimovskoe 112.66 333 eP Pdif 19 05 46.3 -3.3
KLMR pmax pmax
comp=Z,27nm,1.7s
KLMR MLR MLR
comp=Z,2μm,22.0s
DAG Danmarks Havn 112.76 360 iP PKiKP 19 09 42.4 -2.0
HQIL Hanson Quary C 113.06 49 IAMs_20 IAMs_20 19 53 25.1
comp=Z,971nm,19.0s
ARCES ARCESS Array B 113.27 344 PKiKP PKiKP 19 09 45.3 -0.3
comp=Z,3.9nm,1.0s,baz=56,slow=1.6,SNR=1.8
WVT Waverly 113.75 55 PKiKP PKiKP 19 09 48.1 +0.6
baz=276
GROC Groznyy 113.78 313 eP Pdif 19 06 03.6 +8.6
GROC i 19 09 47.1
GROC e 19 10 40.4
GROC pmax pmax
comp=Z,15nm,0.7s
SFIN Lafayette 113.83 50 PKiKP PKiKP 19 09 48.3 +0.9
baz=278
TEIG Tepich 113.90 72 IAMs_20 IAMs_20 19 48 38.3
comp=Z,808nm,21.0s
VRH Novokhopyorsk 114.70 322 ePKiKP PKiKP 19 09 46.1 -2.7
VRH pmax pmax
comp=Z,10.0nm,0.9s
WCI Wyandotte Cave 114.73 52 PKiKP PKPdf 19 09 49.2 -0.1
baz=278
GLMI Grayling 114.87 45 IAMs_20 IAMs_20 19 59 33.5
comp=Z,1μm,18.0s
O48B Farmland 115.31 50 PKiKP PKPdf 19 09 50.4 +0.1
baz=279
KBZ Khabaz 115.75 314 iPKiKP PKiKP 19 09 48.9 -2.1
P49A Miami Univ. Ec 115.76 51 IAMs_20 IAMs_20 19 54 33.8
comp=Z,1μm,20.0s
P49A Miami Univ. Ec 115.76 51 PKiKP PKiKP 19 09 51.5 +0.3
baz=279
RAYN Ar Rayn 115.78 291 PKPdf 19 09 48.5 -3.2
RAYN Ar Rayn 115.78 291 PKIKP PKPdf 19 09 48.6 -3.2
KIV Kislovodsk 115.86 314 iPKiKP PKPdf 19 09 51.5 +0.1
KIV e 19 10 54.6
KIV ePS PS 19 20 35.6 -1.2
KIV eSS SS 19 26 57.2 +2.3
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,867nm,22.0s
LPSR Galich'ya Gora 115.92 324 ePKiKP PKiKP 19 09 47.3 -3.8
LPSR pmax pmax
comp=Z,10.0nm,1.2s
AAM Ann Arbor 116.06 48 IAMs_20 IAMs_20 19 52 19.3
comp=Z,1μm,22.0s
AAM Ann Arbor 116.06 48 PKiKP PKPdf 19 09 51.6 -0.1
baz=281
VSR Storozhevoye 116.23 323 ePKiKP PKPdf 19 09 49.2 -2.5
VSR pmax pmax
comp=Z,9.0nm,1.2s
VORD Divnogorie 116.23 323 ePKiKP PKPdf 19 09 49.2 -2.5
VORD pmax pmax
comp=Z,7.0nm,0.4s
OBN Obninsk 116.32 327⇓iPKiKP PKiKP 19 09 51.9 +0.2
OBN e 19 10 56.0
OBN ePPP PPP 19 13 22.2
OBN eSS SS 19 27 20.5 +21
OBN pmax pmax
comp=Z,8.0nm,1.3s
OBN MLR MLR
comp=Z,1μm,23.0s
ACSO Alum Creek Sta 116.95 50 PKiKP PKPdf 19 09 53.3 -0.2
baz=281
ERBR Yeremizino-Bor 116.97 317 iPKiKP PKiKP 19 09 53.5 +0.1
ERBR pmax pmax
comp=Z,32nm,1.4s
ERBR MLR MLR
comp=Z,1μm,22.0s
LABN Labinsk 117.07 315 iPKiKP PKPdf 19 09 53.3 -0.3
LABN e 19 16 41.4
LABN pmax pmax
comp=Z,16nm,0.5s
LABN MLR MLR
comp=Z,2μm,22.0s
TZTN Tazewell 117.13 54 PKiKP PKPdf 19 09 53.6 -0.4
baz=279
GOGA Godfrey 117.62 57 PKiKP PKiKP 19 09 55.2 +0.2
baz=277
P52A Corning 117.71 50 PKiKP PKPdf 19 09 54.9 -0.1
baz=281
TIGA Tifton 117.74 60 PKiKP PKPdf 19 09 55.0 -0.3
baz=276
ATD Arta Tunnel 117.90 278 IAMs_20 IAMs_20 20 05 11.5
comp=Z,659nm,18.0s
SOC Sochi 118.03 314 iPKiKP PKPdf 19 09 52.9 -2.5
SOC e 19 11 07.5
SOC ePPP PPP 19 13 36.8
SOC ePS PKKPdf 19 20 48.2 +3.0
SOC eSS SS 19 27 20.7 -2.4
SOC eSSS SSS 19 31 42.7
SOC MLR MLR
comp=Z,1μm,22.0s
FINES FINESS Array B 118.06 337 PKIKP PKPdf 19 09 54.0 -1.0
FINES FINESS Array B 118.06 337 PKP PKPdf 19 09 54.0 -1.0
comp=Z,5.8nm,1.1s,baz=48,slow=2.8,SNR=6.6
O53A New Philadelph 118.28 49 IAMs_20 IAMs_20 19 54 09.3
comp=Z,1μm,20.0s
O53A New Philadelph 118.28 49 PKiKP PKiKP 19 09 56.1 +0.1
baz=282
M53A WI Miller and 118.42 48 PKiKP PKiKP 19 09 56.6 +0.2
baz=283
ERPA Erie 118.76 47 IAMs_20 IAMs_20 19 54 02.6
comp=Z,1μm,21.0s
ERPA Erie 118.76 47 PKiKP PKiKP 19 09 57.1 +0.2
baz=284
SFJD Kangerlussuaq 119.07 13 PKPdf 19 09 55.6 -1.1
SFJD Kangerlussuaq 119.07 13 PKIKP PKPdf 19 09 55.6 -1.1
SFJD Kangerlussuaq 119.07 13 iP PKPdf 19 09 53.0 -3.8
KMSC Kings Mountain 119.13 55 PKiKP PKPdf 19 09 57.9 0.0
baz=279
ICESG Greenland Ices 119.18 8 eP PKPdf 19 09 54.4 -2.9
ANN Anapa 119.29 316 iPKIKP PKPdf 19 09 56.5 -1.3
ANN e 19 11 15.1
ANN pmax pmax
comp=Z,41nm,1.0s
ANN MLR MLR
comp=Z,1μm,24.0s
MCWV Mont Chateau 119.43 50 PKiKP PKPdf 19 09 58.2 0.0
baz=283
BLA Blacksburg 119.49 53 IAMs_20 IAMs_20 19 58 17.9
comp=Z,1μm,20.0s
BLA Blacksburg 119.49 53 PKiKP PKiKP 19 09 58.7 +0.1
baz=281
DWPF Disney Wildern 119.92 63 PKiKP PKPdf 19 09 59.5 0.0
baz=275
ARPR Arapgir-MALATY 120.10 310 IAMs_20 IAMs_20 20 06 23.4
comp=Z,784nm,21.0s
DY2G Dye2 120.44 12 iP PKPdf 19 09 57.6 -2.2
KIBK Kibwezi 120.61 262 PKPdf PKPdf 19 09 59.8 -1.6
KIBK IAMs_20 IAMs_20 19 59 09.0
comp=Z,581nm,20.0s
SSPA Standing Stone 120.66 48 PKiKP PKPdf 19 10 00.7 +0.1
baz=285
M57A Sunshine Farm, 121.03 47 PKPdf 19 09 59.2 -2.1
MNK Minsk 121.08 329 iPKP PKiKP 19 10 01.2 +0.1
comp=E,2.0nm,0.6s,baz=59
MNK iPKP PKiKP 19 10 01.2 +0.1
comp=N,9.0nm,0.8s,baz=59
MNK iPKP PKiKP 19 10 01.2 +0.1
comp=Z,6.0nm,0.8s,baz=59
MNK iPP PP 19 11 30.4 -0.1
baz=59
MNK iPPP PPP 19 14 04.4
baz=59
MNK iSKS SKSdf 19 17 13.2 +1.9
baz=59
MNK iPS PS 19 21 22.4 -0.8
baz=59
MNK iSS SS 19 28 04.1 +2.8
baz=59
MNK iSSS SSS 19 32 32.3
baz=59
MNK iLQ LQ 19 55 12.6
baz=59
MNK iLR LR 19 57 21.5
baz=59
MNK iLRM MLR 20 00 45.9
comp=N,407nm,17.3s,baz=59
MNK iLRM MLR 20 02 04.8
comp=E,432nm,24.9s,baz=59
MNK iLRM MLR 20 02 09.9
comp=Z,921nm,23.2s,baz=59
MNK Minsk 121.08 329 iPKIKP PKiKP 19 10 01.1 +0.1
MNK i 19 11 30.4
MNK iPPP PPP 19 14 04.3
MNK i 19 17 13.2
MNK iPS PS 19 21 22.3 -0.8
MNK iSS SS 19 28 04.1 +2.8
MNK iSSS SSS 19 32 32.3
MNK pmax pmax
comp=N,9.0nm,0.8s
MNK pmax pmax
comp=Z,6.0nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.6s
MNK MLR MLR
comp=N,407nm,17.0s
MNK MLR MLR
comp=E,432nm,25.0s
MNK MLR MLR
comp=Z,921nm,23.0s
NACGM Naroch 121.42 330 ePKP PKiKP 19 10 02.0 +0.3
comp=Z,13nm,1.0s,baz=58
N58A Sunbury 121.46 48 PKPdf 19 10 00.3 -1.9
BINY Binghamton 121.60 46 PKiKP PKiKP 19 10 02.8 +0.2
baz=287
FURI Furi 121.75 275 IAMs_20 IAMs_20 20 03 25.7
comp=Z,605nm,21.0s
LONY Lake Ozonia 121.81 43 PKiKP PKPdf 19 10 02.8 +0.1
baz=290
BOSA Boshof 121.88 228 PKPdf PKPdf 19 10 02.5 -1.0
BOSA Boshof 121.88 228 PKIKP PKPdf 19 10 02.5 -1.0
BOSA Boshof 121.88 228 PKP PKiKP 19 10 04.2 +0.5
comp=Z,5.1nm,0.6s,baz=139,slow=1.7,SNR=18
CNNC Cliffs of the 121.88 54 PKiKP PKiKP 19 10 03.3 +0.1
baz=282
BNN Bunyan 122.05 310 PKPdf PKPdf 19 10 02.4 -1.1
AKASG Malin Array Be 122.22 325 PKPdf PKPdf 19 10 02.5 -0.7
AKASG Malin Array Be 122.22 325 PKP PKPdf 19 10 02.3 -0.9
comp=Z,7.0nm,1.0s,baz=59,slow=2.1,SNR=18
AKBB Malin Array Si 122.22 325c iPKIKP PKPdf 19 10 02.6 -0.7
J59A Piesco 122.25 44 PKPdf 19 10 01.4 -2.2
PAL Palisades 123.45 47 PKiKP PKPdf 19 10 06.1 +0.1
baz=288
BRTR Keskin Array B 123.46 312 PKP PKPdf 19 10 05.2 -1.0
comp=Z,3.1nm,0.9s,baz=71,slow=5.4,SNR=6.8
NB2 NORSAR Subarra 123.52 342 PKPdf PKPdf 19 10 04.9 -0.7
comp=Z,1.2nm,0.8s,baz=39,slow=1.9
NOA NORSAR Array B 123.52 342 PKP PKPdf 19 10 04.8 -0.7
comp=Z,2.9nm,0.9s,baz=38,slow=1.9,SNR=7.6
LBTB Lobatse 123.56 232 PKPdf PKPdf 19 10 05.4 -1.4
LBTB Lobatse 123.56 232 PKIKP PKPdf 19 10 05.4 -1.4
LBNH Lisbon 123.72 43 PKiKP PKPdf 19 10 06.8 +0.2
baz=292
L61B Northampton 123.85 45 IAMs_20 IAMs_20 19 57 33.0
comp=Z,1μm,22.0s
L61B Northampton 123.85 45 PKiKP PKiKP 19 10 07.1 +0.1
baz=290
SORM Soroca 123.89 323 ⇓P PKPdf 19 10 04.6 -1.9
SORM Soroca 123.89 323 ⇓PKIKP PKPdf 19 10 04.6 -1.9
ANTO Ankara 124.04 312 PKPdf 19 10 05.6 -1.6
ANTO Ankara 124.04 312 PKIKP PKPdf 19 10 05.6 -1.6
ANTO MLR MLR
comp=Z,500nm,22.0s
MILM Milestii Mici 124.15 321⇑iPKP PKPdf 19 10 06.0 -1.1
comp=Z,110nm,1.5s
MILM Milestii Mici 124.15 321c iPKIKP PKPdf 19 10 06.0 -1.1
MILM pmax pmax
comp=Z,110nm,1.5s
LODK Lodwar 124.32 268 PKPdf PKPdf 19 10 08.1 -0.4
IVI Ivigtut 124.48 16 PKPdf 19 10 05.7 -1.6
IVI Ivigtut 124.48 16 iP PKPdf 19 10 04.8 -2.4
HRV Adam Dziewonsk 124.61 44 IAMs_20 IAMs_20 20 16 29.0
comp=Z,545nm,19.0s
HRV Adam Dziewonsk 124.61 44 PKiKP PKiKP 19 10 08.8 +0.4
baz=291
WES Weston 124.81 44 IAMs_20 IAMs_20 20 04 18.5
comp=Z,869nm,19.0s
PKME Peaks-Kenny Pk 125.04 41 PKiKP PKiKP 19 10 09.2 0.0
baz=295
NRS Narsarsuaq 125.24 15 PKPdf 19 10 07.0 -1.7
NRS Narsarsuaq 125.24 15 PKIKP PKPdf 19 10 07.0 -1.7
NRS Narsarsuaq 125.24 15 iP PKPdf 19 10 06.8 -1.9
TPGR Topolog 125.27 319 ⇑P PKPdf 19 10 08.3 -1.0
CFR Carcaliu 125.32 319 ⇑P PKPdf 19 10 09.1 -0.2
CFR Carcaliu 125.32 319 ⇑PKIKP PKPdf 19 10 09.1 -0.2
LVV L'vov 125.55 326 ePKIKP PKPdf 19 10 08.6 -1.1
LVV e 19 12 01.8
LVV MLR MLR
comp=Z,500nm,22.0s
HARR Harsova 125.66 319 ⇓P PKPdf 19 10 07.8 -2.2
HARR Harsova 125.66 319 ⇓PKIKP PKPdf 19 10 07.8 -2.2
VRI Vrincioaia 125.91 321 ⇑P PKPdf 19 10 07.8 -2.7
VRI Vrincioaia 125.91 321 ⇑PKIKP PKPdf 19 10 07.8 -2.7
LSZ Lusaka 125.93 243 PKPdf PKPdf 19 10 11.0 -0.6
LSZ IAMs_20 IAMs_20 19 59 16.6
comp=Z,744nm,20.0s
LSZ Lusaka 125.93 243 PKIKP PKPdf 19 10 11.0 -0.6
LSZ MLR MLR
comp=Z,700nm,20.0s
PLOR Plostina 125.96 321 ⇓P PKPdf 19 10 08.0 -2.7
PLOR Plostina 125.96 321 ⇓PKIKP PKPdf 19 10 08.0 -2.7
BURAR Bucovina Array 126.00 323 ⇓P PKiKP 19 10 11.4 +0.2
BURAR Bucovina Array 126.00 323 PKPdf PKPdf 19 10 09.6 -1.2
BURAR Bucovina Array 126.00 323 ⇓PKIKP PKiKP 19 10 11.4 +0.2
BATG Bathurst New B 126.13 37 PKPdf PKPdf 19 10 10.3 -0.6
LPAZ La Paz 126.25 118 PKPdf PKPdf 19 10 11.6 -1.2
LPAZ La Paz 126.25 118 PKIKP PKPdf 19 10 11.6 -1.2

LPAZ	La Paz	126.25	118	PKP		PKPdf	19 10 12.6	-0.2	
	comp=Z,3.8nm,0.8s,baz=278,slow=2.1,SNR=11								
ROSC	El Rosal	126.34	91	PKP		PKPdf	19 10 12.3	-0.4	
	comp=Z,6.4nm,0.6s,baz=274,slow=19,SNR=4.4								
ISP	Isparta	126.35	310	IAMs_20	IAMs_20		20 13 43.8		
	comp=Z,548nm,21.0s								
KWP	Kalwaria Pacla	126.37	327	IAMs_20	IAMs_20		20 09 02.1		
	comp=Z,918nm,21.0s								
EMMW	East Machias	126.46	40	IAMs_20	IAMs_20		20 06 35.4		
	comp=Z,801nm,18.0s								
MLR	Muntele Rosu	126.56	321	⇑P		PKPdf	19 10 11.5	-0.4	
MLR	Muntele Rosu	126.56	321	PKPdf		PKPdf	19 10 10.3	-1.7	
MLR	Muntele Rosu	126.56	321	PKIKP		PKPdf	19 10 10.3	-1.7	
MLR				MLR		MLR			
	comp=Z,1μm,19.0s								
VOIR		127.15	321	⇓P		PKPdf	19 10 13.2	+0.2	
VOIR		127.15	321	⇓PKIKP		PKPdf	19 10 13.2	+0.2	
CRVS	Cervenica-Dubn	127.46	326	*e*PKIKP		PKPdf	19 10 13.7	+0.3	
CRVS				*e*			19 12 14.7		
CRVS	Cervenica-Dubn	127.46	326	*e*PKP		PKPdf	19 10 13.7	+0.3	
CRVS				*e*PP		PP	19 12 14.7	+1.3	
OJC	Ojcow	127.58	328	*e*PKP		PKPdf	19 10 13.4	-0.2	
HUMR	Humele	127.62	320	⇓P		PKPdf	19 10 13.9	0.0	
ELND	Elena	127.75	318	⇑P		PKPdf	19 10 13.9	-0.2	
NIE	Niedzica	127.79	327	*e*PKP		PKiKP	19 10 16.5	+1.9	
MBAR	Mbarara	128.12	262	*c i*PKIKP		PKiKP	19 10 17.0	+0.5	
MBAR				pmax		pmax			
	comp=Z,25nm,1.7s								
LANS	Liptovska Anna	128.39	328	*e*PKIKP		PKiKP	19 10 16.0	+0.2	
LANS	Liptovska Anna	128.39	328	*e*PKP		PKiKP	19 10 16.0	+0.2	
GZR	Gura Zlata	128.57	322	⇑P		PKPdf	19 10 15.2	-0.5	
GZR	Gura Zlata	128.57	322	⇑PKIKP		PKPdf	19 10 15.2	-0.5	
OKC	Ostrava-Krasne	128.66	329	AMS		AMS	20 04 40.0		
	comp=Z,900nm,20.8s								
SURR	Surduc	128.78	323	⇑P		PKPdf	19 10 15.9	-0.1	
SIRR	Siria	128.78	323	⇓P		PKPdf	19 10 16.1	+0.1	
MORC	Moravsky Berou	129.00	329	⇑P		PKPdf	19 10 16.5	+0.1	
MORC	Moravsky Berou	129.00	329	*e*PKP		PKPdf	19 10 16.7	+0.3	
MORC	Moravsky Berou	129.00	329	⇑PKIKP		PKPdf	19 10 16.5	+0.1	
HERR	Herculane	129.05	322	⇓P		PKPdf	19 10 15.3	-1.2	
MAUC	Maruska	129.11	329	AMS		AMS	20 07 50.0		
	comp=Z,2μm,18.2s								
VYHS	Vyhne	129.11	327	*e*PKIKP		PKPdf	19 10 16.8	+0.2	
VYHS				*e*			19 12 26.9		
VYHS	Vyhne	129.11	327	*e*PKP		PKPdf	19 10 16.8	+0.2	
VYHS				*e*PP		PP	19 12 26.8	+2.5	
BZS	Buzias	129.15	323	⇓P		PKPdf	19 10 16.9	+0.2	
BZS	Buzias	129.15	323	⇓PKIKP		PKPdf	19 10 16.9	+0.2	
OSTC	Ostas	129.16	331	AMS		AMS	20 04 10.0		
	comp=Z,2μm,26.0s								
CPSB	Cacapava Do Su	129.17	143	*e*P		PKPdf	19 10 16.9	-0.4	
KRLC	Kraliky	129.20	330	AMS		AMS	20 04 00.0		
	comp=Z,2μm,29.2s								
CHVC	Chvalec	129.22	331	AMS		AMS	20 04 30.0		
	comp=Z,2μm,21.6s								
DPC	Dobruska-Polom	129.24	330	AMS		AMS	20 04 10.0		
	comp=Z,2μm,22.2s								
UPC	Upice	129.29	331	AMS		AMS	20 04 20.0		
	comp=Z,2μm,25.0s								
BSEG	Bad Segeberg	129.34	337	*e*PKPbc		PKPdf	19 10 17.1	+0.3	
	baz=48,slow=2.6								
CPUP	Villa Florida	129.43	136	PKPdf		PKPdf	19 10 17.3	-0.6	
CPUP	Villa Florida	129.43	136	PKIKP		PKPdf	19 10 17.3	-0.6	
CPUP	Villa Florida	129.43	136	PKP		PKPdf	19 10 17.8	0.0	
	comp=Z,3.0nm,0.8s,baz=282,slow=2.0,SNR=8.0								
JAVC	Velka Javorina	129.51	328	*e*PKP		PKiKP	19 10 18.6	+0.5	
MDVR	Moldovita	129.53	322	⇑P		PKPdf	19 10 17.4	-0.2	
VRAC	Vranov	129.78	329	*e*PKP		PKPdf	19 10 17.8	0.0	
PVCC	Panska Ves	129.97	331	AMS		AMS	20 07 20.0		
	comp=Z,1μm,20.7s								
MODS	Modra-Piesok	130.01	328	*e*PKIKP		PKiKP	19 10 18.8	-0.3	
MODS	Modra-Piesok	130.01	328	*e*PKP		PKiKP	19 10 18.8	-0.3	
BRG	Berggiesshubel	130.02	332	*e*PKP		PKPdf	19 10 18.6	+0.3	
BRG				Amp			19 10 20.4		
	comp=Z,29nm,1.3s								
BRG	Berggiesshubel	130.02	332	*e*PKIKP		PKPdf	19 10 18.5	+0.3	
BRG				SS		SS	19 30 13.0	+20	
BRG				pmax		pmax			
	comp=Z,29nm,1.3s								
BRG				MLR		MLR			
	comp=Z,2μm,19.4s								
BRG				MLR		MLR			
	comp=N,861nm,19.5s								
BRG				MLR		MLR			
	comp=E,552nm,19.5s								
BRG	Berggiesshubel	130.02	332	*e*PKPbc		PKPdf	19 10 18.1	-0.1	
	baz=48,slow=2.6								
KRUC	Moravsky	130.04	329	*e*PKP		PKPdf	19 10 18.4	+0.1	
HLG	Helgoland	130.05	339	*e*PKPbc		PKiKP	19 10 19.7	+0.8	
	baz=48,slow=2.6								
CLL	Collm	130.15	333	*i*PKIKP		PKPdf	19 10 18.3	-0.1	
CLL				*i*			19 12 31.0		
CLL				pmax		pmax			
	comp=Z,19nm,1.3s								
CLL				MLR		MLR			
	comp=Z,1μm,18.8s								
CLL	Collm	130.15	333	*e*PKPbc		PKPdf	19 10 18.6	+0.2	
	baz=48,slow=2.6								
FLTG	Flechtingen	130.17	335	*e*PKPbc		PKPdf	19 10 18.7	+0.3	
	baz=48,slow=2.6								
RICC	Richard	130.18	332	AMS		AMS	20 12 50.0		
	comp=Z,2μm,21.5s								
GOPC	GO Pecny, Ondr	130.28	331	AMS		AMS	20 05 00.0		
	comp=Z,1μm,21.5s								
PRA	Prague	130.34	331	AMS		AMS	20 09 00.0		
	comp=Z,1μm,20.8s								
TREC	Trest	130.34	330	AMS		AMS	20 05 10.0		
	comp=Z,2μm,21.7s								
PRU	Pruhonice	130.34	331	AMS		AMS	20 05 10.0		
	comp=Z,1μm,23.4s								
SDV	Santo Domingo	130.44	86			PKPdf	19 10 17.2	-3.1	
HSKC	Hora Svate Kat	130.44	332	AMS		AMS	20 12 10.0		
	comp=Z,2μm,19.2s								
NRDL	Niedersach Rie	130.51	336	*e*PKPbc		PKiKP	19 10 19.8	0.0	
	baz=48,slow=2.6								
MORH	Mrgy, Hungar	130.56	325	⇓P		PKPdf	19 10 18.4	-0.9	
ZVC	Zvikov	130.88	331	AMS		AMS	20 05 00.0		
	comp=Z,900nm,20.2s								
CLZ	Clausthal	130.89	335	*e*PKPbc		PKiKP	19 10 20.7	-0.1	
	baz=48,slow=2.6								
RONA	Rosalia, Austr	130.95	328	*i* PKP		PKPdf	19 10 20.3	+0.1	
	comp=Z,16nm,1.3s,SNR=5.8								
TANN	Tannenbergstha	131.02	333	*e*PKPbc		PKPdf	19 10 20.5	+0.3	
	baz=48,slow=2.6								
CONA	Conrad Observa	131.03	328	*i* PKiKP		PKiKP	19 10 21.2	0.0	
	comp=Z,20nm,1.5s,SNR=8.0								
NKC	Novy Kostel	131.15	332	AMS		AMS	20 07 00.0		
	comp=Z,1μm,19.9s								
MOX	Moxa	131.24	333	*e*PKPbc		PKiKP	19 10 21.1	-0.4	
	baz=48,slow=2.6								
MOX				*e*L		L	20 13 25.0		
	comp=Z,939nm,18.9s								
CKRC	Cesky Krumlov	131.24	330	*e*PKPDF		PKPdf	19 10 20.5	-0.1	
CKRC				AMS		AMS	20 05 20.0		
	comp=Z,2μm,21.3s								
CKRC	Cesky Krumlov	131.24	330	*e*PKIKP		PKPdf	19 10 20.5	-0.1	
CKRC				MLR		MLR			
	comp=Z,2μm,21.3s								
GTTG	Gottingen	131.28	335	*e*PKPbc		PKiKP	19 10 22.0	+0.4	
	baz=48,slow=2.6								
WIN	Windhoek	131.36	229			PKPdf	19 10 21.2	-0.7	
WIN	Windhoek	131.36	229	PKIKP		PKPdf	19 10 21.2	-0.7	
WIN				MLR		MLR			
	comp=Z,1μm,20.0s								
KHC	Kasperske Hory	131.39	331	*e*PKPDF		PKiKP	19 10 21.5	-0.4	
KHC				AMS		AMS	20 10 00.0		
	comp=Z,2μm,20.9s								
KHC	Kasperske Hory	131.39	331	*c i*PKIKP		PKPdf	19 10 21.2	+0.3	
KHC				pmax		pmax			
	comp=Z,78nm,2.5s								
MANZ	Manzenberg	131.48	332	*e*PKPbc		PKiKP	19 10 21.8	-0.2	
	baz=48,slow=2.6								
GEC2	GERESS Array S	131.52	330	*e*PKPbc		PKPdf	19 10 21.5	+0.2	
	baz=48,slow=2.6								
GERES	GERESS Array B	131.52	330	PKP		PKPdf	19 10 21.1	-0.1	
	comp=Z,6.0nm,1.1s,baz=23,slow=4.4,SNR=12								
IBBN	Ibbenburen	131.58	337	*e*PKPbc		PKiKP	19 10 22.9	+0.8	
	baz=48,slow=2.6								
ROTZ	Rotzenmuhle	131.59	332	*e*PKPbc		PKiKP	19 10 22.0	-0.3	
	baz=48,slow=2.6								
ARSA	Arzberg	131.64	328	*e*PKiKP		PKiKP	19 10 22.3	-0.2	
	comp=Z,5.4nm,1.3s								
WET	Wettzell	131.71	331	*e*PKPbc		PKiKP	19 10 22.3	-0.2	
	baz=48,slow=2.6								
UBBA	Unterbreizbach	131.81	334	*e*PKPbc		PKiKP	19 10 22.9	+0.5	
	baz=48,slow=2.6								
GRF	Grafenberg Arr	132.10	333	*e*L		L	20 13 23.9		
	comp=Z,1μm,20.0s								
MURT	Porto Murtinho	132.11	131	*e*P		PKPdf	19 10 21.9	-1.1	
KASTN	Kahler Asten	132.17	336	*e*PKPbc		PKiKP	19 10 24.0	+0.7	
	baz=48,slow=2.6								
BBSD	Serra de San D	132.21	124	*e*P		PKPdf	19 10 22.6	-0.7	
SOKA	Soboth	132.26	327	*e*PKiKP		PKiKP	19 10 23.6	-0.1	
	comp=Z,18nm,1.6s								
BIOA	Bad Ischl, Aus	132.32	329	*e*PKiKP		PKiKP	19 10 23.8	0.0	
	comp=Z,15nm,1.5s								
TIR	Tirane	132.44	319	IAMs_20	IAMs_20		20 13 31.7		
	comp=Z,735nm,22.0s								
OBKA	Obir	132.63	327	*e*PKP		PKPdf	19 10 23.8	+0.4	
	comp=Z,12nm,1.6s								
KBA	Koelnbreinsper	132.88	329	*e*PKiKP		PKiKP	19 10 25.0	-0.2	
	comp=Z,7.6nm,1.2s								
LJU	Ljubljana	132.93	327	*e*PKPdf		PKPdf	19 10 23.5	-0.4	
MYKA	Terra Mystica	133.02	328	*e*PKiKP		PKiKP	19 10 25.4	+0.1	
	comp=Z,6.4nm,1.2s								
GBAS	Gorenja Brezov	133.05	327	*i* SKPbc		SKPbc	19 13 49.9	-0.5	
ANTJ	Antonio Joao (	133.09	132	*e*P		PKPdf	19 10 24.2	-0.8	
BDQN	Bodoquena, MS	133.47	130	*e*P		PKPdf	19 10 25.2	-0.5	
ABTA	Abfaltersbach	133.53	329	*e*PKP		PKPdf	19 10 24.3	-0.8	
	comp=Z,14nm,1.3s								
BTNL	Ternell	133.56	337	*d*PKP		PKiKP	19 10 26.3	+0.1	
WATA	Walderalm	133.59	330	*e*PKP		PKPdf	19 10 24.3	-1.0	
	comp=Z,19nm,1.8s								
WTTA	Wattenberg	133.61	330	*e*PKP		PKPdf	19 10 24.7	-0.6	
	comp=Z,13nm,1.1s								
SAML	Samuel	133.62	112	IAMs_20	IAMs_20		20 00 16.7		
	comp=Z,841nm,21.0s								
MOTA	Moosalm	133.82	331	*e*PKiKP		PKiKP	19 10 27.1	+0.1	
	comp=Z,11nm,1.2s								
SQTA	Sankt Quirin	133.85	330	PKP		PKPdf	19 10 26.1	+0.4	
	comp=Z,12nm,1.3s								
BGES	Gesves	134.12	337	*d*PKP		PKiKP	19 10 26.8	-0.5	
FETA	Feichten	134.23	330	*e*PKP		PKPdf	19 10 26.6	+0.1	
	comp=Z,13nm,1.2s								
PTLB	Pontes e Lacer	134.30	123	PKPdf		PKPdf	19 10 25.8	-1.5	
PTLB	Pontes e Lacer	134.30	123	*e*P		PKPdf	19 10 26.6	-0.7	
BMRD	Maredsous	134.31	338	*d*PKP		PKiKP	19 10 27.3	-0.4	
DAVA	Damuels	134.44	331	*e*PKP		PKPdf	19 10 26.2	-0.7	
	comp=Z,13nm,1.8s								
ECH	Echery	134.99	334			PKPdf	19 10 27.7	0.0	
ECH	Echery	134.99	334	PKIKP		PKPdf	19 10 27.7	0.0	
TIP	Timpagrande	135.59	318	IAMs_20	IAMs_20		20 19 48.2		
	comp=Z,505nm,19.0s								
CUC	Castrocucco	135.77	319	IAMs_20	IAMs_20		20 20 07.7		
	comp=Z,790nm,20.0s								
CEL	Celeste	136.65	317	IAMs_20	IAMs_20		20 14 40.3		
	comp=Z,590nm,22.0s								
SALV	Santo Antonio	136.88	126	*e*P		PKPdf	19 10 30.9	-1.2	
ITRB	Iturama	138.60	135	*e*P		PKPdf	19 10 34.3	-0.9	
VSL	Villasalto	140.04	323	IAMs_20	IAMs_20		20 13 32.2		
	comp=Z,546nm,22.0s								
KEST	Kesra	142.40	319	PKhKP		PKPpre	19 10 37.1		
	comp=Z,7.0nm,1.0s,baz=328,slow=7.6,SNR=5.4								
MAHO	Mahon	142.61	328	IAMs_20	IAMs_20		20 19 19.6		
	comp=Z,633nm,20.0s								
BDFB	Brasilia	142.95	132	PKPdf		PKPdf	19 10 38.8	-4.5	
BDFB	Brasilia	142.95	132	PKHKP		PKPpre	19 10 38.8		
BDFB	Brasilia	142.95	132	PKhKP		PKPpre	19 10 39.7		
	comp=Z,7.4nm,0.9s,baz=42,slow=2.0,SNR=7.5								
TATN	Tataouine	143.36	313	PKPdf		PKPab	19 10 36.8	-2.7	
SJMB	Sao Joao De Ma	145.26	144	*e*P		PKPbc	19 10 45.9	-0.9	
PBRG	Braganca	145.66	342	*e*PKP		PKPbc	19 10 47.5	+0.1	
PBRG				*i* LQ		LQ	19 11 06.2		
JANB	Januaria	145.97	136	*e*P		PKPdf	19 10 47.1	-1.3	
MVO	Moncorvo	146.33	342	*e*PKP		PKPbc	19 10 49.0	-0.6	
MVO				*i* LQ		LQ	19 11 07.7		
MVO	Moncorvo	146.33	342	*e*LR		LR	20 10 14.7		
	comp=Z,958nm,20.0s								
POLO	Lamas de Olo	146.37	343	*e*PKP		PKPbc	19 10 50.1	+0.4	
POLO				*i* LQ		LQ	19 11 02.6		
PVRL	Vila Real	146.44	343	*e*PKP		PKPab	19 10 50.5	-0.2	
NAN01	Guarapari, ES	146.55	144	*e*P		PKPdf	19 10 48.1	-1.2	
ESBB	Sonseca Array	146.57	337			PKPbc	19 10 49.8	-0.5	
ESDC	Sonseca Array	146.58	337	PKPdf		PKPdf	19 10 48.4	-0.4	
ESDC	Sonseca Array	146.58	337	PKPbc		PKPdf	19 10 49.4	+0.6	
	comp=Z,10.0nm,1.1s,baz=12,slow=3.5,SNR=24								
PAB	San Pablo	146.84	337			PKPdf	19 10 48.5	-0.8	
PAB	San Pablo	146.84	337	PKIKP		PKPdf	19 10 48.5	-0.8	
MCPB	Macapa, AP	146.99	106	*e*P		PKPdf	19 10 48.7	-1.5	
PVIS	Viseu	147.00	342	*e*PKP		PKPbc	19 10 51.8	+0.3	
MTE	Manteigas	147.19	342	*e*PKP		PKPbc	19 10 52.5	+0.5	
MTE	Manteigas	147.19	342	*e*LR		LR	20 10 44.9		
	comp=Z,850nm,22.0s								
MTE	Manteigas	147.19	342			PKPbc	19 10 51.7	-0.3	
SDBA	SAO DESIDERIO	147.33	131	*e*P		PKPdf	19 10 49.2	-1.6	
SMTB	Santa Maria do	147.34	123	*e*P		PKPdf	19 10 49.7	-1.1	
PCBR	Castelo Branco	147.68	341	*e*PKP		PKPbc	19 10 53.5	+0.2	
PCBR				*i* LQ		LQ	19 11 07.3		
GUA01	Guaratinga, BA	147.73	143	*e*P		PKPdf	19 10 50.1	-1.2	
PMRV	Marv??o	148.02	341	*e*PKP		PKPbc	19 10 54.2	-0.1	
PMRV				*i* LQ		LQ	19 11 07.0		
PMRV	Marv??o	148.02	341	*e*LR		LR	20 13 54.4		
	comp=Z,817nm,22.0s								
PESTR	Estremoz	148.60	341	*e*PKP		PKPbc	19 10 55.9	+0.1	
PESTR	Estremoz	148.60	341			PKPdf	19 10 51.8	-0.4	
PMTG	Montargil	148.62	342	*e*PKP		PKPbc	19 10 55.8	0.0	
PMTG				*i* LQ		LQ	19 11 15.6		
PBAR	Barrancos	149.03	339	*e*PKP		PKPdf	19 10 52.8	0.0	
EVO	Evora	149.04	341	*e*PKP		PKPbc	19 10 57.1	+0.2	
EVO				*i* LQ		LQ	19 11 10.2		
PBEJ	Beja	149.45	340	*e*PKP		PKPbc	19 10 57.3	-0.7	
PNCL	Nicolau / Gran	149.59	341	*e*PKP		PKPbc	19 10 58.4	+0.1	
PNCL				*i* LQ		LQ	19 11 10.5		
MESJ	Messejana	149.74	341	*e*PKP		PKiKP	19 10 59.3	-0.4	
MESJ	Messejana	149.74	341	PKPbc		PKPbc	19 10 57.6	-1.1	
MESJ	Messejana	149.74	341	PKP2		PKPbc	19 10 57.6	-1.1	
PCVE	Castro Verde	149.86	340	*e*PKP		PKPbc	19 10 58.0	-1.0	
PVAQ	Vaqueiros	149.96	340	*e*PKP		PKPbc	19 10 59.4	+0.2	
PVAQ	Vaqueiros	149.96	340	*e*LR		LR	20 12 14.8		
	comp=Z,1μm,22.0s								
PBDV	Barranco-do-Ve	150.18	340	*e*PKP		PKiKP	19 11 00.4	-0.3	
MORF	Marmelete	150.36	341	*e*PKP		PKiKP	19 11 01.1	0.0	
MORF	Marmelete	150.36	341	PKPbc		PKPbc	19 11 00.2	-0.1	
MORF	Marmelete	150.36	341	PKIKP		PKPbc	19 11 00.2	-0.1	
SHEL	Horse Pasture	150.83	210	PKPbc		PKiKP	19 11 03.1	+0.5	
SHEL	Horse Pasture	150.83	210	PKIKP		PKiKP	19 11 03.1	+0.5	
NBPN	Ponto Novo - B	151.77	135	*e*P		PKPdf	19 10 56.5	-1.3	
TAM	Tamanrasset	151.89	301	PKPdf		PKPdf	19 10 57.0	-0.9	
TAM				IAMs_20	IAMs_20		20 21 25.2		
	comp=Z,603nm,22.0s								
TAM	Tamanrasset	151.89	301	PKIKP		PKPdf	19 10 57.0	-0.9	
TAM				MLR		MLR			
	comp=Z,600nm,22.0s								
AVE	Averroes	153.48	335	IAMs_20	IAMs_20		20 25 04.2		
	comp=Z,735nm,21.0s								
TOA0	Torodi Ar. Sit	158.05	282	PKPdf		PKPdf	19 11 04.8	-1.6	
TORD	Torodi Ar. Bea	158.05	282	PKPdf		PKPdf	19 11 05.5	-0.8	
TORD	Torodi Ar. Bea	158.05	282	PKP		PKPdf	19 11 06.0	-0.4	
	comp=Z,8.5nm,0.9s,baz=20,slow=2.7,SNR=31								
TORD				PKPab		PKPab	19 11 39.8	-0.1	
	comp=Z,25nm,1.1s,baz=59,slow=5.5,SNR=19								
TORD				PP		PP	19 15 13.3	-6.6	
	comp=Z,4.8nm,1.2s,baz=40,slow=12,SNR=4.0								
KIC	Kosan Boka	164.19	260	⇑ *i*PKIKP		PKPdf	19 11 12.6	-0.4	
	comp=Z,51nm,1.1s								
KIC	Kosan Boka	164.19	260	⇑ *i*PKP2		PKPab	19 12 06.9	+0.2	
	comp=Z,104nm,1.0s								
DBIC	Dimbokro	164.36	261			PKPdf	19 11 11.4	-1.7	
DBIC				PKPab		PKPab	19 12 05.2	-2.2	
DBIC	Dimbokro	164.36	261	PKIKP		PKPdf	19 11 11.4	-1.7	
DBIC							19 12 05.2		
DBIC	Dimbokro	164.36	261	PKP		PKPdf	19 11 12.8	-0.2	
	comp=Z,16nm,1.0s,baz=63,slow=1.7,SNR=10								
DBIC				PKPab		PKPab	19 12 07.8	+0.3	
	comp=Z,34nm,1.0s,baz=93,slow=5.9,SNR=14								
DBIC				PP		PP	19 15 51.4	-2.4	
	comp=Z,21nm,1.1s,baz=85,slow=2.9,SNR=6.8								
LIC	Lamto	164.43	259	⇓ *e*PKIKP		PKPdf	19 11 12.1	-1.1	
	comp=Z,72nm,1.1s								
LIC	Lamto	164.43	259	⇑ *i*PKP2		PKPab	19 12 07.9	+0.1	
	comp=Z,126nm,1.0s								
TIC	Toumodi	164.52	261	⇓ *i*PKIKP		PKPdf	19 11 12.3	-1.0	
	comp=Z,35nm,1.0s								
TIC	Toumodi	164.52	261	⇑ *i*PKP2		PKPab	19 12 08.3	+0.1	
	comp=Z,66nm,1.0s								

DJA 29 18:53:32.0±0.4,1°N±3°×12°2E±°,h13km±2km,M3.8/11,
mb4.1/3,MLv3.7/11,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	Marisa	0.58	178	P	Pb	18 53 44.2	+0.2
MRSI				S	Sb	18 53 52.9	+0.7
GTOI	Gorontalo	1.17	111	P	Pn	18 53 50.7	-3.4
GTOI				S	Sb	18 54 04.5	-4.7
KMSI	Cibinong	2.12	103	P	Pn	18 54 07.4	+0.3
KMSI				S	Sn	18 54 33.7	+0.4
MPSI	Mapaga	2.15	250	P	Pn	18 54 07.8	+0.3
MPSI				S	Sn	18 54 34.2	+0.2
LUWI	Luwuk	2.25	158	P	Pn	18 54 10.0	+1.0
LUWI				S	Sn	18 54 37.3	+0.6
SGSI	Sangihe	4.45	54	P	Pn	18 54 39.6	+0.4
TTSI	Tana Toraja	4.59	207	P	Pn	18 54 41.2	+0.1
SANI	Sanana	5.11	127	P	Pn	18 54 47.4	-0.9
	4.4nm,0.7s,0.1nm						
TNTI	Ternate	5.45	93	P	Pn	18 54 53.5	+0.5

*IDC **29** 19:10:09.2±0.8,3°.75S×151°.33E,h0km,mb4.1/14,*
mbtmp4.1/14,MS4.5/6,Error ellipse: s-maj=29.7km
s-min=15.9km az=85.0
*NEIC **29** 19:10:10.2±2.7,3°.80S±0°.08×151°.46E±0°.10,h10km±1km,*
mb4.6/29,Error ellipse: s-maj=18.1km s-min=12.0km
az=59.0
*GCMT **29** 19:10:13.2±0.3,3°.65S±0°.01×151°.48E±0°.02,h12km,*
MW4.9/89,Moment Tensor Solution. s4,c4; s89,c122;
Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.40±.09;
Mθθ2.32±.07; Mϕϕ-1.92±.09; Mrθ-0.51±.24; Mrϕ0.68±.08;
Mθϕ-0.95±.29; Best double couple: M☉2.49500×10^16
NP1:ϕs304.00000°,δ63.00000°,λ-153.00000°. NP2:
ϕs304.00000°,δ63.00000°,λ-8.00000°. Principal axes: T
2.5760, Plg13.0000°, Azm169.0000°; N -0.1580,
Plg62.0000°, Azm53.0000°; P -2.4150, Plg24.0000°,
Azm264.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s. Triangular
moment-rate function
*DJA **29** 19:10:25.1±0.5,4°S±3°×15°1E±°,h102km±6km,M4.8/32,*
mB5.7/5,mb4.8/32,MLv4.6/1,Mw(mB)5.2/5

ISC 29 19:10:10.4±0.5,3°90S±0°.07×151°42E±0°.09,h10km,n86,
σ1ş75/79,mb4.6/44,MS4.3/5,1D,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	Manus Island	4.45	294	Pn	Pn	19 11 16.7	-1.3
PMG	Port Moresby	6.92	218	Pn	Pn	19 11 55.5	+3.6
PMG	Port Moresby	6.92	218	Pn	Pn	19 11 56.0	+4.2
	6.3nm,0.3s,baz=58,slow=8.0,SNR=27						
HNR	Honiara	10.09	123	LR	LR	19 16 40.2	
	comp=Z,15μm,18.9s,baz=294,slow=38						
JAY	Jayapura	10.79	277	P	Pn	19 12 49.7	+4.6
	18nm,1.1s						
GENI	Genyem	11.31	276	P	Pn

XLT sP sP 19 20 08.0 +6.7
XLT PcP **PcP** **19 20 53.3 +1.0**
XLT pmax pmax
comp=Z,7.0nm,1.2s
XLT pmax pmax
comp=Z,110nm,5.7s
HHC Hu-ho-hao-te 57.52 325 *e*P **P** **19 20 02.0 +1.8**
HHC pP pwP 19 20 06.8 +1.2
HHC sP sP 19 20 09.0 +5.3
HHC pmax pmax
comp=Z,23nm,0.5s
HHC pmax pmax
comp=Z,81nm,5.2s
HEH HeiHe 57.77 342 *e*P **P** **19 20 00.5 -1.1**
BTO Baotou 58.26 324 *e*P **P** **19 20 06.5 +1.1**
BTO pP **pwP** **19 20 10.8 0.0**
BTO sP **sP** **19 20 13.5 +4.6**
BTO PP **PP** **19 22 17.3 +2.8**
BTO pmax pmax
comp=Z,9.0nm,0.5s
BTO pmax pmax
comp=Z,350nm,9.3s
TNCH TengChong 58.83 302 P **P** **19 20 12.0 +2.2**
TNCH pP pwP 19 20 15.8 +0.6
TNCH sP sP 19 20 18.5 +5.3
TNCH pmax pmax
comp=Z,4.0nm,0.8s
TNCH pmax pmax
comp=Z,90nm,4.1s
PPT2 Papeete2 59.31 108 *e*LR LR 19 37 35.5
comp=Z,441nm,24.2s
TBI Tubuai 60.18 115 *e*LR LR 19 38 09.0
comp=Z,1µm,24.5s
GTA Gaotai 64.07 318 *e*P **P** **19 20 46.8 +1.9**
GTA pP pwP 19 20 51.5 +1.2
GTA pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 64.84 328 P **P** **19 20 48.7 -1.0**
SONM IAmb IAmb 19 20 58.0
comp=Z,6.4nm,1.4s
SONM Songino Array 64.84 328 P **P** **19 20 48.7 -1.0**
comp=Z,1.0nm,0.9s,baz=150,slow=5.7,SNR=7.3
comp=Z,1.0nm,0.9s
TAOE Nuku Hiva Isla 68.11 98 *e*LR LR 19 41 51.7
comp=Z,285nm,27.2s
VNDA Vanda 73.78 178 P **P** **19 21 45.8 +1.4**
comp=Z,0.3nm,0.8s,baz=349,slow=9.3,SNR=1.3
comp=Z,0.3nm,0.8s
G16K Koyuk River 76.84 18 P **P** **19 22 00.4 -1.8**
G16K IAmb IAmb 19 22 16.7
comp=Z,6.0nm,0.8s
MK31 Makanchi Array 78.75 319 P **P** **19 22 10.9 -2.4**
MKAR Makanchi Array 78.75 319 P **P** **19 22 12.9 -0.4**
comp=Z,1.0nm,0.9s,baz=96,slow=5.0,SNR=6.3
comp=Z,1.0nm,0.9s
MAKZ Makanchi 78.96 319 P **P** **19 22 13.7 -0.7**
ZALV Zalesovo Beam 79.65 327 P **P** **19 22 17.3 -0.7**
comp=Z,1.0nm,0.7s,baz=87,slow=6.1,SNR=3.9
comp=Z,1.0nm,0.7s
C19K Lookout Ridge 80.11 16 P **P** **19 22 20.1 -0.1**
C19K IAmb IAmb 19 22 53.7
comp=Z,7.0nm,0.9s
KSH Kashi 81.31 311 P **P** **19 22 30.0 +2.6**
KSH pP PcP 19 22 35.0 +1.4
KSH pmax pmax
comp=Z,4.0nm,1.2s
KURK Kurchatov 82.22 322 P **P** **19 22 29.0 -2.8**
KURK IAmb IAmb 19 22 41.3
comp=Z,4.4nm,1.1s
KURBB Kurchatov Arra 82.25 322 P **P** **19 22 30.8 -1.1**
comp=Z,0.7nm,0.9s,baz=101,slow=4.8,SNR=5.1
comp=Z,0.7nm,0.9s
ARSB Arslanbob 83.91 312 P **P** **19 22 39.6 -1.4**
NRIK Noril'sk 84.67 341 P **P** **19 22 43.4 -0.7**
NRIK Noril'sk 84.67 341 P **P** **19 22 43.8 -0.3**
comp=Z,2.9nm,0.8s,baz=104,slow=5.4,SNR=6.9
comp=Z,2.9nm,0.8s
MAW Mawson 85.87 203 LR LR 19 58 15.0
comp=Z,208nm,21.4s,baz=82,slow=34
QSPA South Pole Qui 86.06 180 P **P** **19 22 50.9 -0.4**
comp=Z,3.7nm,1.2s,baz=98,slow=6.9,SNR=3.1
comp=Z,3.7nm,1.2s
SIMJ Simiganj 86.50 309 P **P** **19 22 53.0 -1.0**
SIMJ IAmb IAmb 19 23 12.5
comp=Z,8.3nm,1.2s
BVAR Borovoye Array 87.70 323 P **P** **19 22 57.4 -2.0**
comp=Z,1.2nm,0.9s,baz=104,slow=4.7,SNR=4.8
comp=Z,1.2nm,0.9s
LPIG La Paz 99.12 66 LR LR 20 01 11.7
comp=Z,107nm,19.6s,baz=208,slow=31
TORD Torodi Ar. Bea 148.72 289 PKPbc **PKiKP** **19 30 00.6 0.0**
comp=Z,4.2nm,1.1s,baz=54,slow=4.5,SNR=8.4

IDC 29 19:15:43.3±2.6, 12°23S×123°56E, h0km, mb3.2/1, mbtmp3.5/3, ML3.5/2, Error ellipse: s-maj=181.1km s-min=31.0km az=50.0, South of Timor

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**12.88**	**128**	Pn	Pn	19 18 47.5	-0.4
	0.2nm,0.3s,baz=305,slow=15,SNR=16						
WRA				Sn	Sn	19 21 07.9	-4.2
	0.3nm,0.3s,baz=303,slow=21,SNR=5.8						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**15.03**	**141**	Pn	Pn	19 19 18.5	+1.3
	0.3nm,0.3s,baz=319,slow=12,SNR=16						
ASAR				Sn	Sn	19 22 03.7	-0.9
	0.2nm,0.3s,baz=315,slow=21,SNR=8.7						
	1.1nm,0.4s						
MKAR	**Makanchi Array**	**69.40**	**331**	P	P	19 26 53.1	0.0
	0.1nm,0.4s,baz=147,slow=7.1,SNR=2.4						
	0.1nm,0.4s						

*IDC **29** 19:19:20.5±0.5, 56°56N×148°52W, h0km, mb4.5/30, mbtmp4.4/35, ML4.1/5, MS3.6/5, Error ellipse: s-maj=15.2km s-min=11.3km az=23.0*
*NEIC **29** 19:19:20.2±2.1, 56°51N±0°06×148°55W±0°05, h10km±1km, mb4.6/93, ML4.4/78, ML4.0(AEIC), Error ellipse: s-maj=11.5km s-min=3.0km az=158.0*
*AEIC **29** 19:19:24.1±3.1, 56°45N±0°08×148°46W±0°10, h12km±4km, Error ellipse: s-maj=11.0km s-min=7.6km az=178.0*
*BGR **29** 19:19:32.4, 57°52N×148°54W, h27km, mb4.4*
ISC 29 19:19:21.2±0.7, 56°55N±0°06×148°51W±0°04, h9km±4km, h9km:pP-P,n372,σ1§30/350, mb4.6/102, MS3.9/3, 16C-4D, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.54**	**301**	Pn	**Pn**	**19 20 00.9**	**-1.7**
KDAK	**Kodiak Island**	**2.54**	**301**		**Sn**	**19 20 30.2**	**-3.5**
KDAK	**Kodiak Island**	**2.54**	**301**	Pn	**Pn**	**19 20 01.2**	**-1.4**
	40nm,0.3s,baz=131,slow=5.1,SNR=384						
KDAK				Sn	**Sn**	**19 20 29.5**	**-4.2**
	68nm,0.3s,baz=142,slow=20,SNR=18						
KDAK				LR	LR	19 20 42.7	
	comp=Z,732nm,21.1s,baz=171,slow=32						
	119nm,0.4s						
OHAK	**Old Harbor**	**2.71**	**286**	P	**Pn**	**19 20 03.1**	**-1.8**
OHAK	**Old Harbor**	**2.71**	**286**	Pn	**Pn**	**19 20 02.7**	**-2.2**
OHAK				IAML		19 20 39.8	
	comp=E,928nm,0.6s						
OHAK	**Old Harbor**	**2.71**	**286**		**Sn**	**19 20 33.1**	**-4.6**
OHAK	**Old Harbor**	**2.71**	**286**	P	**Pn**	**19 20 02.8**	**-2.0**
	baz=103						
OHAK				S	**Sn**	**19 20 33.2**	**-4.6**
	baz=103						
SYI	**Shuyak Island**	**2.94**	**316**	Pn	**Pn**	**19 20 07.1**	**-1.0**
SYI	**Shuyak Island**	**2.94**	**316**		**Sn**	**19 20 41.1**	**-2.4**
Q20K	**Shuyak Island**	**2.94**	**316**	P	**Pn**	**19 20 07.6**	**-0.5**
	baz=134						
Q20K				S	**Sn**	**19 20 41.1**	**-2.5**
	baz=134						
MID	**Middleton Isla**	**3.11**	**21**	P	**Pn**	**19 20 09.5**	**-0.9**
MID	**Middleton Isla**	**3.11**	**21**	Pn	**Pn**	**19 20 09.2**	**-1.2**
MID	**Middleton Isla**	**3.11**	**21**		**Sn**	**19 20 44.8**	**-2.9**
Q23K	**Middleton Isla**	**3.11**	**21**		**Sn**	**19 20 44.8**	**-2.8**
Q23K	**Middleton Isla**	**3.11**	**21**	Pn	**Pn**	**19 20 09.0**	**-1.3**
Q23K	**Middleton Isla**	**3.11**	**21**	P	**Pn**	**19 20 09.2**	**-1.1**
	baz=203						
Q23K				S	**Sn**	**19 20 44.8**	**-2.8**
	baz=203						
CNPM	**China Poot**	**3.32**	**335**	Pn	**Pn**	**19 20 12.0**	**-1.4**
BRSE	**Bradley Lake S**	**3.42**	**341**		**Pn**	**19 20 13.4**	**-1.3**
BRSE	**Bradley Lake S**	**3.42**	**341**	P	**Pn**	**19 20 13.4**	**-1.3**
	baz=159						
BRSE				S	**Sn**	**19 20 52.3**	**-3.0**
	baz=159						
BRLK	**Bradley Lake**	**3.47**	**340**		**Pn**	**19 20 13.5**	**-1.8**
P23K	**Montague Islan**	**3.51**	**9**		**Pn**	**19 20 14.8**	**-1.1**
P23K					**Sn**	**19 20 54.1**	**-3.4**
P23K	**Montague Islan**	**3.51**	**9**	P	**Pn**	**19 20 14.8**	**-1.1**
	baz=190						
P23K				S	**Sn**	**19 20 54.1**	**-3.4**
	baz=190						
HOM	**Homer**	**3.54**	**333**		**Pn**	**19 20 15.2**	**-1.1**
HOM				IAML		19 21 18.4	
	comp=N,906nm,0.8s						
HOM				IAML		19 21 24.5	
	comp=E,1µm,0.9s						
HOM	**Homer**	**3.54**	**333**	P	**Pn**	**19 20 16.1**	**-0.2**
	baz=151						
SEW	**Seward**	**3.60**	**352**	Pn	**Pn**	**19 20 15.1**	**-2.1**
SEW	**Seward**	**3.60**	**352**	P	**Pn**	**19 20 15.9**	**-1.3**
	baz=172						
Q19K	**Cape Douglas,**	**3.65**	**313**		**Pn**	**19 20 16.2**	**-1.6**
Q19K	**Cape Douglas,**	**3.65**	**313**		**Sn**	**19 20 59.5**	**-1.4**
Q19K	**Cape Douglas,**	**3.65**	**313**	P	**Pn**	**19 20 17.8**	**0.0**
	baz=129						
Q19K				S	**Sn**	**19 20 59.5**	**-1.4**
	baz=129						
O22K	**Cooper Landing**	**4.00**	**351**		**Pn**	**19 20 21.1**	**-1.5**
O22K	**Cooper Landing**	**4.00**	**351**	P	**Pn**	**19 20 21.4**	**-1.2**
	baz=171						
P19K	**Oil Pt**	**4.00**	**323**	Pn	**Pn**	**19 20 21.6**	**-1.0**
P19K				IAML		19 21 14.6	
	comp=E,806nm,0.7s						
P19K	**Oil Pt**	**4.00**	**323**	P	**Pn**	**19 20 22.4**	**-0.3**
	baz=140						
HIN	**Hinchinbrook I**	**4.00**	**14**		**Pn**	**19 20 21.7**	**-1.0**
HIN				IAML		19 21 14.0	
	comp=E,690nm,0.9s						
KAIM	**Kayak Island**	**4.02**	**31**	Pn	**Pn**	**19 20 22.1**	**-0.7**
KAIM				IAML		19 21 12.1	
	comp=E,827nm,0.9s						
KAIM	**Kayak Island**	**4.02**	**31**	P	**Pn**	**19 20 22.3**	**-0.6**
	baz=214						
KAHC	**Katmai Hardscr**	**4.08**	**304**	P	**Pn**	**19 20 23.9**	**0.0**
	baz=119						
O20K	**Slope Mountain**	**4.16**	**330**	P	**Pn**	**19 20 24.1**	**-0.8**
	baz=147						
ILSW	**Iliamna Southw**	**4.23**	**327**		**Pn**	**19 20 24.6**	**-1.3**
ILSW				IAML		19 21 15.7	
	comp=N,319nm,0.9s						
ILSW				IAML		19 21 22.7	
	comp=E,370nm,0.9s						
EYAK	**Cordova Ski Ar**	**4.27**	**19**	P	**Pn**	**19 20 25.7**	**-0.5**
EYAK	**Cordova Ski Ar**	**4.27**	**19**	Pn	**Pn**	**19 20 24.7**	**-1.5**
SUCK	**Suckling Hills**	**4.33**	**33**		**Pn**	**19 20 26.7**	**-0.4**
SUCK				IAML		19 21 26.8	
	comp=E,316nm,0.9s						
SUCK				IAML		19 21 44.9	
	comp=N,420nm,1.3s						
RAGM	**Ragged Mountai**	**4.35**	**26**		**Pn**	**19 20 26.6**	**-0.8**
Q17K	**Contact Creek**	**4.35**	**296**	P	**Pn**	**19 20 26.9**	**-0.6**
	baz=111						
HMT	**Hamilton**	**4.41**	**29**		**Pn**	**19 20 27.8**	**-0.4**
CAPN	**Captain Cook N**	**4.46**	**343**		Pn	19 20 23.4	-5.5
RSO	**Redoubt South**	**4.52**	**332**		**Pn**	**19 20 27.6**	**-2.3**
P18K	**Big Mountain,**	**4.58**	**311**	P	**Pn**	**19 20 29.4**	**-1.1**
	baz=126						
RC01	**Rabbit Creek A**	**4.60**	**353**	Pn	**Pn**	**19 20 29.3**	**-1.6**
RC01				IAML		19 21 23.9	
	comp=E,363nm,0.6s						
RC01				IAML		19 21 35.5	
	comp=N,246nm,1.1s						
RC01	**Rabbit Creek A**	**4.60**	**353**	P	**Pn**	**19 20 30.1**	**-0.8**
	baz=172						
BERG	**Berg Lake**	**4.61**	**31**	IAML		19 21 47.0	
	comp=N,504nm,0.7s						
FIS	**Fire Island**	**4.70**	**350**	IAML		19 21 34.0	
	comp=N,484nm,0.6s						
SNH	**Sunshine Point**	**4.71**	**37**	Pn	**Pn**	**19 20 31.9**	**-0.6**
SNH				IAML		19 21 28.5	
	comp=N,200nm,0.8s						
SNH				IAML		19 21 51.9	
	comp=E,244nm,1.2s						
O18K	**Koktuh Hills**	**4.86**	**316**	IAML		19 21 32.1	
	comp=N,351nm,0.8s						
O18K				IAML		19 21 32.5	
	comp=E,252nm,0.8s						
O18K	**Koktuh Hills**	**4.86**	**316**	P	**Pn**	**19 20 33.0**	**-1.3**
	baz=131						
Q16K	**King Salmon**	**4.88**	**299**	P	**Pn**	**19 20 34.1**	**-0.5**
	baz=113						
BMRM	**Bremner River**	**4.88**	**23**	P	**Pn**	**19 20 34.2**	**-0.5**
	baz=206						
KNK	**Knik Glacier**	**4.88**	**0**	IAML		19 21 42.3	
	comp=E,192nm,0.8s						
KNK	**Knik Glacier**	**4.88**	**0**	P	**Pn**	**19 20 34.0**	**-0.7**
	baz=181						
WAX	**Waxell Ridge**	**4.91**	**35**	IAML		19 21 37.6	
	comp=E,436nm,0.7s						
MESA	**MESA**	**5.02**	**41**	IAML		19 21 44.5	
	comp=N,209nm,0.8s						
MESA				IAML		19 21 49.9	
	comp=E,172nm,0.7s						
MESA	**MESA**	**5.02**	**41**	P	**Pn**	**19 20 36.5**	**-0.3**
	baz=226						
N20K	**Mount Spurr**	**5.05**	**339**	P	**Pn**	**19 20 36.5**	**-0.6**
	baz=156						
CRQM	**Cirque**	**5.07**	**31**	IAML		19 21 40.4	
	comp=N,395nm,0.9s						
CRQM				IAML		19 21 58.7	
	comp=E,215nm,1.3s						
SUA	**Susitna One**	**5.07**	**348**	IAML		19 21 36.0	
	comp=E,144nm,1.0s						
SUA	**Susitna One**	**5.07**	**348**	P	**Pn**	**19 20 36.4**	**-1.0**
	baz=166						
PMR	**Palmer**	**5.07**	**357**	P	**Pn**	**19 20 37.1**	**-0.2**
PMR	**Palmer**	**5.07**	**357**	Pn	**Pn**	**19 20 35.5**	**-1.9**
PMR				IAML		19 21 34.9	
	comp=N,169nm,0.7s						
PMR	**Palmer**	**5.07**	**357**	P	**Pn**	**19 20 36.7**	**-0.6**
	baz=176						
CRQE	**Cirque**	**5.08**	**32**	P	**Pn**	**19 20 36.9**	**-0.6**
	baz=216						
KLU	**Klutina**	**5.14**	**14**	IAML		19 21 37.6	
	comp=E,244nm,0.5s						
KLU				IAML		19 21 58.8	
	comp=N,172nm,0.7s						
KLU	**Klutina**	**5.14**	**14**	P	**Pn**	**19 20 38.0**	**-0.4**
	baz=196						
TGL	**Tana Glacier**	**5.16**	**33**	IAML		19 21 38.6	
	comp=N,143nm,0.6s						
TGL				IAML		19 21 47.3	
	comp=E,215nm,0.8s						
ISLE	**Juniper Island**	**5.19**	**36**	Pn	**Pn**	**19 20 38.5**	**-0.7**
ISLE				IAML		19 21 43.6	
	comp=E,222nm,0.8s						
ISLE				IAML		19 21 53.4	
	comp=N,254nm,1.3s						
GHO	**Glory Hole Cre**	**5.25**	**358**	Pn	**Pn**	**19 20 39.4**	**-0.4**
GHO				IAML		19 21 40.2	
	comp=E,270nm,0.7s						
GHO				IAML		19 21 51.5	
	comp=N,308nm,1.0s						
SML	**Sawmill**	**5.28**	**1**	IAML		19 21 42.8	
	comp=E,274nm,0.8s						
SML				IAML		19 21 45.4	
	comp=N,273nm,0.9s						
SML	**Sawmill**	**5.28**	**1**	P	**Pn**	**19 20 40.0**	**-0.2**
	baz=181						
M23K	**Glacier View**	**5.28**	**4**	P	**Pn**	**19 20 40.1**	**-0.1**
	baz=185						
M22K	**Willow**	**5.29**	**352**	IAML		19 21 47.6	
	comp=N,311nm,1.1s						
M22K				IAML		19 21 54.9	
	comp=E,312nm,0.8s						
N19K	**Bonanza Creek**	**5.29**	**326**	IAML		19 21 45.3	
	comp=N,148nm,0.8s						
SCM	**Sheep Creek Mo**	**5.34**	**6**	IAML		19 21 46.0	
	comp=N,263nm,0.9s						
SCM	**Sheep Creek Mo**	**5.34**	**6**	P	**Pn**	**19 20 40.6**	**-0.5**
	baz=187						
N25K	**Chitina, Valde**	**5.46**	**20**	P	**Pn**	**19 20 42.4**	**-0.3**
	baz=204						
CHGN	**Chignik**	**5.51**	**272**	Pn	**Pn**	**19 20 41.1**	**-2.2**
CHGN	**Chignik**	**5.51**	**272**	P	**Pn**	**19 20 42.3**	**-1.0**
	baz=84						
O17K	**Koliganek Bris**	**5.58**	**309**	P	**Pn**	**19 20 43.5**	**-0.8**
	baz=122						
MCARA	**McCarthy VSAT**	**5.62**	**28**	P	**Pn**	**19 20 44.5**	**-0.4**
	baz=213						
P16K	**Nushagak River**	**5.65**	**300**	P	**Pn**	**19 20 45.1**	**-0.2**
	baz=112						
N18K	**Kilae Creek**	**5.66**	**320**	P	**Pn**	**19 20 44.3**	**-1.2**
	baz=134						
SKT	**Skwentna**	**5.67**	**345**	P	**Pn**	**19 20 44.6**	**-0.9**
	baz=163						
M24K	**Tolsona, Glenn**	**5.71**	**11**	P	**Pn**	**19 20 46.3**	**+0.2**
	baz=193						
PNL	**Peninsula**	**5.75**	**53**	P	**Pn**	**19 20 46.7**	**0.0**
PNL	**Peninsula**	**5.75**	**53**	P	**Pn**	**19 20 46.5**	**-0.2**
	baz=241						
CTG	**Chitna Glacier**	**5.79**	**37**	P	**Pn**	**19 20 46.7**	**-0.6**
	baz=223						
LOGN	**Logan Glacier**	**5.80**	**39**		**Pn**	**19 20 46.4**	**-1.2**
M20K	**Styx River**	**5.86**	**338**	P	**Pn**	**19 20 47.0**	**-1.1**
	baz=154						
SVW2	**Sparrevohn**	**5.86**	**324**	P	**Pn**	**19 20 46.7**	**-1.4**
SVW2	**Sparrevohn**	**5.86**	**324**	Pn	**Pn**	**19 20 45.3**	**-2.8**
O16K	**Kokwok River B**	**5.94**	**305**	P	**Pn**	**19 20 48.8**	**-0.3**
	baz=117						
N17K	**Nushagak Hills**	**6.05**	**315**	P	**Pn**	**19 20 49.4**	**-1.3**
	baz=128						
O28M	**Mount Upton**	**6.06**	**42**	P	**Pn**	**19 20 51.0**	**-0.2**
	baz=229						
WAT6	**Susitna Watana**	**6.07**	**3**	P	**Pn**	**19 20 50.7**	**-0.4**
	baz=184						
HARP	**HAARP**	**6.11**	**15**	P	**Pn**	**19 20 51.8**	**+0.2**
	baz=198						
M19K	**Big River Lodg**	**6.16**	**333**	P	**Pn**	**19 20 50.7**	**-1.6**
	baz=148						
M18K	**Stony River**	**6.23**	**326**	P	**Pn**	**19 20 51.9**	**-1.4**
	baz=140						
WAT1	**Susitna Watana**	**6.30**	**360**	P	**Pn**	**19 20 54.1**	**-0.2**
	baz=180						
O29M	**Mount Kennedy**	**6.43**	**50**	P	**Pn**	**19 20 56.1**	**0.0**
	baz=238						
P29M	**Windy Craggy**	**6.49**	**57**	P	**Pn**	**19 20 56.2**	**-0.6**
	baz=246						
CHNA	**Chernabura Isl**	**6.50**	**259**	P	**Pn**	**19 20 54.8**	**-2.1**
	baz=70						
CNBA	**Chernabura Isl**	**6.50**	**259**	Pn	**Pn**	**19 20 54.4**	**-2.6**
M26K	**Nabesna, AK**	**6.51**	**23**	P	**Pn**	**19 20 56.9**	**-0.2**
	baz=208						
L19K	**White Mountain**	**6.52**	**333**	P	**Pn**	**19 20 55.5**	**-1.6**
	baz=148						
L20K	**Farewell, AK**	**6.55**	**338**	P	**Pn**	**19 20 56.4**	**-1.2**
	baz=153						
DHY	**Denali Highway**	**6.58**	**4**	P	**Pn**	**19 20 57.9**	**-0.2**
	baz=186						
O15K	**Ungalikthiuk R**	**6.59**	**298**	P	**Pn**	**19 20 58.0**	**-0.2**
	baz=109						
PAX	**Paxson**	**6.62**	**12**	P	**Pn**	**19 20 58.5**	**-0.3**
	baz=195						
PPLA	**Purkeypile**	**6.64**	**345**	P	**Pn**	**19 20 59.0**	**0.0**
	baz=162						
N16K	**Nishlik Lake**	**6.66**	**310**	P	**Pn**	**19 20 58.6**	**-0.6**
	baz=122						
M17K	**Holitna River**	**6.71**	**320**	P	**Pn**	**19 20 58.8**	**-0.9**
	baz=133						
M27K	**Edge Creek, AK**	**6.74**	**27**	P	**Pn**	**19 21 00.0**	**-0.2**
	baz=213						
S31K	**Pelican**	**6.81**	**73**	P	**Pn**	**19 20 59.4**	**-1.7**
	baz=263						
SDPT	**Sand Point**	**6.83**	**265**	P	**Pn**	**19 21 00.2**	**-1.2**
SDPT	**Sand Point**	**6.83**	**265**	Pn	**Pn**	**19 20 59.6**	**-1.8**
SDPT	**Sand Point**	**6.83**	**265**	P	**Pn**	**19 21 00.0**	**-1.4**
	baz=75						
MENT	**Mentasta**	**6.85**	**19**	P	**Pn**	**19 21 01.7**	**-0.1**
TRF	**Thorofare Moun**	**6.99**	**353**	P	**Pn**	**19 21 03.5**	**-0.2**
	baz=172						
M16K	**Timber Creek**	**7.04**	**314**	P	**Pn**	**19 21 04.0**	**-0.4**
	baz=125						
BVCY	**Beaver Creek**	**7.05**	**30**	P	**Pn**	**19 21 04.6**	**0.0**
	baz=217						
P30M	**Million Dollar**	**7.05**	**55**	P	**Pn**	**19 21 04.9**	**+0.4**
	baz=244						
L18K	**Granite Mounta**	**7.06**	**327**	P	**Pn**	**19 21 03.2**	**-1.4**
	baz=140						
PLBC	**Pleasant Camp**	**7.08**	**61**	P	**Pn**	**19 21 04.5**	**-0.4**
	baz=251						
CAST	**Castle Rocks**	**7.12**	**347**	P	**Pn**	**19 21 04.5**	**-1.0**
	baz=164						
HYT	**Haines Junctio**	**7.16**	**49**	Pn	**Pn**	**19 21 05.4**	**-0.7**
HYT	**Haines Junctio**	**7.16**	**49**	P	**Pn**	**19 21 05.9**	**-0.1**
	baz=238						
MCK	**McKinley**	**7.21**	**358**	P	**Pn**	**19 21 07.1**	**+0.4**
	baz=178						
SIT	**Sitka**	**7.26**	**80**	Pn	**Pn**	**19 21 03.2**	**-4.1**
SIT	**Sitka**	**7.26**	**80**	P	**Pn**	**19 21 03.7**	**-3.5**
	baz=271						
L27K	**Beaver Creek,**	**7.35**	**24**	P	**Pn**	**19 21 08.5**	**-0.1**
	baz=210						
TTA	**Tatalina**	**7.44**	**333**	P	**Pn**	**19 21 08.6**	**-1.3**
TTA	**Tatalina**	**7.44**	**333**	P	**Pn**	**19 21 08.1**	**-1.8**
	baz=146						
RIDG	**Independent Ri**	**7.45**	**13**	P	**Pn**	**19 21 09.9**	**-0.1**
	baz=196						
L17K	**Donlin**	**7.51**	**322**	P	**Pn**	**19 21 09.4**	**-1.4**
	baz=134						
SKAG	**Skagway**	**7.58**	**62**	P	**Pn**	**19 21 12.3**	**+0.5**
SKAG	**Skagway**	**7.58**	**62**	Pn	**Pn**	**19 21 11.0**	**-0.7**
SKAG	**Skagway**	**7.58**	**62**	P	**Pn**	**19 21 11.0**	**-0.7**
	baz=253						
CHUM	**Lake Minchumin**	**7.60**	**347**	P	**Pn**	**19 21 11.3**	**-0.7**
	baz=164						
S12K	**Black Hills**	**7.62**	**269**	P	**Pn**	**19 21 11.3**	**-1.1**
	baz=78						
L16K	**Owhat River**	**7.65**	**317**	P	**Pn**	**19 21 11.8**	**-0.9**
	baz=128						
S32K	**Killisnoo**	**7.66**	**77**	P	**Pn**	**19 21 11.0**	**-1.8**
	baz=269						
N30M	**Aishkik Lake**	**7.68**	**45**	P	**Pn**	**19 21 13.2**	**0.0**
	baz=235						
BPAW	**Bear Paw Mtn.**	**7.68**	**352**	P	**Pn**	**19 21 12.1**	**-1.0**
	baz=170						
O30N	**Mendenhall**	**7.73**	**52**	P	**Pn**	**19 21 13.9**	**0.0**
	baz=242						
N14K	**Kuskokwak Cree**	**7.73**	**301**	P	**Pn**	**19 21 13.9**	**+0.1**
	baz=110						
R32K	**Eaglecrest**	**7.75**	**71**	P	**Pn**	**19 21 13.2**	**-0.8**
	baz=263						
SCRK	**Sand Creek**	**7.79**	**15**	P	**Pn**	**19 21 14.9**	**+0.2**
	baz=199						
M29M	**Somme Creek**	**7.81**	**37**	P	**Pn**	**19 21 15.2**	**+0.3**
	baz=225						
JIS	**Juneau Island**	**7.82**	**71**	P	**Pn**	**19 21 14.3**	**-0.7**
K17K	**Iditarod**	**7.93**	**325**	P	**Pn**	**19 21 15.1**	**-1.3**
	baz=137						
HDA	**Harding Lake**	**7.93**	**5**	P	**Pn**	**19 21 16.4**	**0.0**
	baz=186						
J18K	**Innoko River**	**8.06**	**333**	P	**Pn**	**19 21 17.3**	**-1.0**
	baz=146						
NEA2	**Nenana**	**8.08**	**358**	P	**Pn**	**19 21 17.8**	**-0.8**
	baz=178						
M14K	**Bethel**	**8.18**	**307**	P	**Pn**	**19 21 20.0**	**0.0**
	baz=115						
N31M	**Braeburn, Yuko**	**8.22**	**48**	P	**Pn**	**19 21 20.9**	**+0.4**
	baz=238						
WHY	**Whitehorse**	**8.22**	**54**	Pn	**Pn**	**19 21 20.0**	**-0.6**
J25K	**Salcha River,**	**8.24**	**9**	P	**Pn**	**19 21 19.7**	**-1.2**
	baz=192						
ILAR	**Eielson Array**	**8.29**	**5**		**Pn**	**19 21 19.9**	**-1.5**
ILAR	**Eielson Array**	**8.29**	**5**	Pn	**Pn**	**19 21 20.4**	**-1.1**
	comp=N,0.8nm,0.3s,baz=187,slow=13,SNR=35						
ILAR				Sn	**Sn**	**19 22 50.4**	**-4.8**
	comp=N,1.3nm,0.3s,baz=188,slow=22,SNR=11						
ILAR				LR	LR	19 25 00.1	
	comp=N,169nm,20.1s,baz=251,slow=41						
	comp=N,2.7nm,0.6s						
COLA	**College**	**8.36**	**2**	P	**Pn**	**19 21 22.5**

I23K	**Minto, Yukon-K**	**8.64**	**358**	P		**Pn**	**19 21 25.2**	**-1.0**
	baz=177							
CRAG	**Craig**	**8.69**	**91**	P		**Pn**	**19 21 23.5**	**-3.4**
	baz=283							
L14K	**Kuka Creek**	**8.76**	**309**	P		**Pn**	**19 21 27.3**	**-0.5**
	baz=117							
I21K	**Tanana**	**8.83**	**350**	P		**Pn**	**19 21 28.1**	**-0.7**
	baz=168							
Q32M	**Nakina River**	**9.01**	**68**	P		**Pn**	**19 21 31.8**	**+0.2**
	baz=261							
P33M	**Teslin, Yukon**	**9.02**	**59**	P		**Pn**	**19 21 31.1**	**-0.5**
	baz=253							
PRP	**Porcupine Dome**	**9.12**	**8**	P		**Pn**	**19 21 32.2**	**-0.7**
	baz=191							
H21K	**Melozitna Rive**	**9.38**	**349**	P		**Pn**	**19 21 35.6**	**-0.7**
	baz=165							
S34M	**Telegraph Cree**	**9.52**	**74**	P		**Pn**	**19 21 37.3**	**-1.0**
	baz=269							
H19K	**Roundabout Mou**	**9.79**	**340**	P		**Pn**	**19 21 41.4**	**-0.5**
	baz=154							
T35M	**Bob Quinn**	**10.03**	**80**			**Pn**	**19 21 44.8**	**-0.6**
DLBC	**Dease Lake**	**10.12**	**72**			**Pn**	**19 21 46.1**	**-0.5**
DLBC	**Dease Lake**	**10.12**	**72**	Pn		**Pn**	**19 21 46.5**	**-0.1**
	comp=N,2.9nm,0.3s,baz=281,slow=9.5,SNR=35							
DLBC				LR		LR	19 25 12.9	
	comp=N,848nm,18.7s,baz=255,slow=35							
	comp=N,6.6nm,0.3s							
AKUT	**Akutan**	**10.13**	**263**	P		**Pn**	**19 21 44.9**	**-1.7**
AKUT	**Akutan**	**10.13**	**263**	Pn		**Pn**	**19 21 44.3**	**-2.3**
G18K	**Tagagawik**	**10.56**	**337**			**Pn**	**19 21 52.0**	**-0.6**
MMPY	**Sheldon Lake,**	**10.63**	**48**	Pn		**Pn**	**19 21 53.8**	**+0.3**
UNV	**Unalaska Valle**	**10.63**	**263**	P		**Pn**	**19 21 52.0**	**-1.6**
F21K	**Alatna River**	**10.96**	**350**	Pn		**Pn**	**19 21 57.1**	**-1.0**
E25K	**Arctic Village**	**11.70**	**5**	Pn		**Pn**	**19 22 06.8**	**-1.3**
G31M	**Satah River**	**12.36**	**27**	Pn		**Pn**	**19 22 16.5**	**-0.6**
INK	**Inuvik**	**13.63**	**24**	Pn		**Pn**	**19 22 34.3**	**0.0**
INK	**Inuvik**	**13.63**	**24**	Pn		**Pn**	**19 22 35.4**	**+1.0**
	comp=N,0.3nm,0.3s,baz=202,slow=15,SNR=20							
	comp=N,8.3nm,0.9s							
B20K	**Meade River**	**14.04**	**348**			**Pn**	**19 22 38.2**	**-1.8**
B04A	**Port Angeles**	**17.41**	**109**			**Pn**	**19 23 20.3**	**-3.8**
B04A				IAmb		IAmb	19 23 33.9	
	comp=Z,41nm,1.1s							
BRLDA	**Berland Lookou**	**17.79**	**85**			**P**	**19 23 29.9**	**+0.2**
BRLDA				IAmb		IAmb	19 23 39.7	
	comp=Z,34nm,1.1s							
YKA	**Yellowknife Ar**	**18.04**	**57**	P		**P**	**19 23 31.7**	**-0.5**
YKA	**Yellowknife Ar**	**18.04**	**57**	P		**P**	**19 23 33.2**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=269,slow=12,SNR=49							
YKA				PcP		**PcP**	**19 28 05.7**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=276,slow=1.9,SNR=5.9							
	comp=Z,16nm,1.0s							
A36M	**Sachs Harbour**	**18.27**	**23**	IAmb		IAmb	19 23 46.0	
	comp=Z,56nm,1.0s							
MXC	**Moxie City**	**20.04**	**108**	P		**P**	**19 23 53.1**	**-1.1**
MXC				IAmb		IAmb	19 24 06.8	
	comp=Z,47nm,1.4s							
EDM	**Edmonton**	**20.35**	**85**	P		**P**	**19 23 57.7**	**0.0**
EDM				IAmb		IAmb	19 24 10.9	
	comp=Z,38nm,1.1s							
D08A	**Wollman Farm,**	**20.46**	**105**	IAmb		IAmb	19 24 11.3	
	comp=Z,30nm,1.5s							
NEW	**Newport**	**20.71**	**100**	P		Pn	19 24 03.7	-0.2
	comp=Z,3.4nm,0.9s,baz=290,slow=12,SNR=5.8							
	comp=Z,3.4nm,0.9s							
HUMO	**Hull Mountain**	**21.48**	**120**	IAmb		IAmb	19 24 21.0	
	comp=Z,12nm,0.8s							
PINE	**Pine Mountain**	**21.61**	**114**	P		**P**	**19 24 11.9**	**+0.5**
PINE				IAmb		IAmb	19 24 26.3	
	comp=Z,39nm,1.4s							
J05D	**Fort Rock, OR**	**21.82**	**116**	IAmb		IAmb	19 24 28.8	
	comp=Z,20nm,1.1s							
K05A	**Summer Lake**	**22.41**	**116**	IAmb		IAmb	19 24 47.8	
	comp=Z,37nm,1.2s							
BILL	**Bilibino**	**23.34**	**318**	P		**P**	**19 24 28.6**	**-0.6**
BILL				IAmb		IAmb	19 24 31.7	
	comp=Z,24nm,0.8s							
WVOR	**Wild Horse Val**	**23.75**	**114**	IAmb		IAmb	19 24 44.4	
	comp=Z,16nm,1.1s							
AFDM	**Forest Hills D**	**25.28**	**122**	P		**P**	**19 24 48.2**	**+0.5**
PAHR	**Pah Rah Range**	**25.44**	**119**	IAmb		IAmb	19 25 18.0	
	comp=Z,15nm,1.3s							
MPK	**Martis Peak**	**25.45**	**121**	P		**P**	**19 24 49.6**	**+0.1**
MPK				IAmb		IAmb	19 24 55.4	
	comp=Z,12nm,1.1s							
FFC	**Flin Flon**	**25.94**	**74**	P		**P**	**19 24 53.1**	**-0.4**
FFC				IAmb		IAmb	19 25 30.6	
	comp=Z,10nm,1.2s							
YHL	**Hebgen Lake**	**26.04**	**101**	IAmb		IAmb	19 25 16.5	
	comp=Z,12nm,1.3s							
NVAR	**Mina Airpark**	**26.96**	**119**	P		**P**	**19 25 04.4**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=309,slow=8.7,SNR=1.2							
NVAR				PcP		**PcP**	**19 28 25.6**	**+1.0**
	comp=Z,1.1nm,0.5s,baz=349,slow=1.8,SNR=3.1							
	comp=Z,0.8nm,0.3s							
RES	**Resolute Bay**	**27.13**	**28**	P		**P**	**19 25 04.0**	**+0.1**
RES	**Resolute Bay**	**27.13**	**28**	P		**P**	**19 25 04.3**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=256,slow=10,SNR=9.6							
RES				PcP		**PcP**	**19 28 24.5**	**+0.4**
	comp=Z,3.1nm,0.9s,baz=69,slow=1.9,SNR=3.7							
	comp=Z,1.8nm,0.7s							
PDAR	**Pinedale Array**	**28.30**	**102**	P		**P**	**19 25 15.6**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=329,slow=5.0,SNR=7.2							
PDAR				PcP		**PcP**	**19 28 27.6**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=292,slow=2.4,SNR=2.6							
	comp=Z,0.7nm,0.6s							
FCC	**Fort Churchill**	**28.53**	**63**	P		**P**	**19 25 17.0**	**+0.4**
FCC				IAmb		IAmb	19 25 20.6	
	comp=Z,17nm,1.4s							
GWY	**Greenwater Val**	**29.53**	**120**	IAmb		IAmb	19 25 35.7	
	comp=Z,4.0nm,0.7s							
SRU	**San Rafael Swe**	**30.37**	**109**	IAmb		IAmb	19 25 42.8	
	comp=Z,14nm,1.2s							
RSSD	**Black Hills**	**30.43**	**95**	P		**P**	**19 25 33.6**	**-0.3**
PETK	**Petropavlovsk-**	**30.51**	**287**	P		**P**	**19 25 34.7**	**+0.3**
	comp=Z,7.3nm,1.0s,baz=91,slow=13,SNR=2.3							
	comp=Z,7.3nm,1.0s							
PKCU	**Pink Cliffs**	**30.70**	**113**	IAmb		IAmb	19 25 51.0	
	comp=Z,13nm,1.2s							
V12A	**Nelson**	**30.78**	**118**	IAmb		IAmb	19 25 47.9	
	comp=Z,6.6nm,0.8s							
O20A	**White River Ci**	**30.84**	**105**	IAmb		IAmb	19 25 46.9	
	comp=Z,6.2nm,0.8s							
ULM	**Lac du Bonnet**	**31.33**	**79**	P		**P**	**19 25 41.8**	**+0.3**
ULM				IAmb		IAmb	19 25 52.4	
	comp=Z,8.3nm,1.1s							
ULM	**Lac du Bonnet**	**31.33**	**79**	P		**P**	**19 25 41.9**	**+0.3**
	comp=Z,3.0nm,0.7s,baz=292,slow=10,SNR=3.8							
	comp=Z,3.0nm,0.7s							
W13A	**Hualapai Mount**	**31.75**	**118**	IAmb		IAmb	19 25 56.4	
	comp=Z,4.2nm,0.8s							
WUAZ	**Wupatki**	**32.67**	**114**	IAmb		IAmb	19 26 04.1	
	comp=Z,7.2nm,0.8s							
EYMN	**Ely**	**35.00**	**79**	IAmb		IAmb	19 26 15.4	
	comp=Z,13nm,0.8s							
TIXI	**Tiksi**	**35.68**	**327**	P		**P**	**19 26 19.5**	**+0.3**
TIXI				IAmb		IAmb	19 26 22.6	
	comp=Z,4.5nm,0.8s							
KULLO	**Kullorsuaq**	**36.97**	**26**	*i* P		**P**	**19 26 30.5**	**+0.3**
KULLO				IAmb		IAmb	19 26 32.5	
	comp=Z,6.8nm,0.7s							
NEEM	**North Greenlan**	**37.18**	**21**	*i* P		**P**	**19 26 31.4**	**-0.8**
NEEM				IAmb		IAmb	19 26 34.3	
	comp=Z,5.9nm,0.7s							
UPNV	**Upernavik**	**38.00**	**29**	*i* P		**P**	**19 26 38.8**	**-0.1**
UPNV				IAmb		IAmb	19 26 48.5	
	comp=Z,4.9nm,0.6s							
ELIS	**Ellis County**	**38.56**	**101**	IAmb		IAmb	19 26 46.2	
	comp=Z,14nm,0.8s							
YAK	**Yakutsk**	**39.52**	**313**	P		**P**	**19 26 51.8**	**+0.2**
NOR	**Nord**	**39.71**	**10**	*i* P		**P**	**19 26 52.5**	**-0.7**
NOR				IAmb		IAmb	19 26 55.4	
	comp=Z,3.2nm,0.7s							
R40A	**Maddies Statio**	**40.89**	**92**	P		**P**	**19 27 01.7**	**-1.6**
R40A				IAmb		IAmb	19 27 11.6	
	comp=Z,5.8nm,0.8s							
HDIL	**Hopedale**	**40.95**	**87**	P		**P**	**19 27 03.1**	**-0.8**
TXAR	**Lajitas Array**	**41.52**	**112**	P		**P**	**19 27 09.6**	**+0.8**
	comp=Z,1.3nm,0.9s,baz=319,slow=5.5,SNR=7.6							
TXAR				PcP		**PcP**	**19 29 06.4**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=223,slow=0.8,SNR=3.6							
	comp=Z,1.3nm,0.9s							
SUMG	**Summit**	**42.55**	**25**	P		**P**	**19 27 18.0**	**+1.0**
SUMG				IAmb		IAmb	19 27 19.1	
	comp=Z,21nm,0.9s							
SUMG	**Summit**	**42.55**	**25**	*i* P		**P**	**19 27 17.0**	**0.0**
SUMG				IAmb		IAmb	19 27 19.4	
	comp=Z,11nm,0.8s							
JCT	**Junction City**	**42.63**	**107**	P		**P**	**19 27 17.6**	**-0.2**
JCT				IAmb		IAmb	19 27 19.2	
	comp=Z,9.8nm,1.0s							
DAG	**Danmarks Havn**	**43.24**	**15**	*i* P		**P**	**19 27 21.4**	**-0.6**
DAG				IAmb		IAmb	19 27 23.7	
	comp=Z,12nm,0.8s							
SCHQ	**Schefferville**	**43.49**	**56**	P		**P**	**19 27 25.4**	**+1.0**
	comp=Z,6.0nm,0.8s,baz=310,slow=12,SNR=5.8							
	comp=Z,6.0nm,0.8s							
ICESG	**Greenland Ices**	**44.53**	**29**	*i* P		**P**	**19 27 31.7**	**-1.3**
ICESG				IAmb		IAmb	19 27 43.2	
	comp=Z,7.4nm,0.8s							
DBG	**Daneborg**	**44.95**	**18**	*i* P		**P**	**19 27 35.1**	**-0.7**
DBG				IAmb		IAmb	19 27 37.4	
	comp=Z,7.1nm,0.9s							
SPITS	**Spitsbergen Ar**	**45.21**	**4**	P		**P**	**19 27 38.2**	**+0.3**
	comp=Z,11nm,0.9s,baz=36,slow=11,SNR=5.1							
	comp=Z,11nm,0.9s							
IVI	**Ivigtut**	**47.12**	**41**	*i* P		**P**	**19 27 53.4**	**+0.4**
IVI				IAmb		IAmb	19 27 55.7	
	comp=Z,6.2nm,1.1s							
ISOG	**Isortoq, Green**	**47.16**	**32**	*i* P		**P**	**19 27 52.9**	**-0.3**
ISOG				IAmb		IAmb	19 28 02.8	
	comp=Z,6.3nm,0.7s							
HEH	**HeiHe**	**47.54**	**300**	*e*P		**P**	**19 27 56.5**	**0.0**
HEH				PcP		**PcP**	**19 29 26.3**	**0.0**
HEH				pmax		pmax		
	comp=Z,13nm,0.8s							
NRIK	**Noril'sk**	**48.04**	**337**	P		**P**	**19 27 59.7**	**-0.4**
NRIK	**Noril'sk**	**48.04**	**337**	P		**P**	**19 28 00.8**	**+0.8**
	comp=Z,11nm,0.6s,baz=51,slow=6.2,SNR=26							
	comp=Z,11nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**49.39**	**241**	T		T	20 21 26.7	
	baz=11,slow=74,SNR=13							
H11N3	**WAKE ISLAND Hy**	**49.39**	**241**	T		T	20 22 04.0	
	SNR=14							
H11N1	**WAKE ISLAND Hy**	**49.41**	**241**	T		T	20 21 25.8	
	baz=23,slow=74,SNR=12							
H11S1	**WAKE ISLAND Hy**	**50.53**	**240**	T		T	20 23 22.6	
	baz=29,slow=76,SNR=19							
H11S2	**WAKE ISLAND Hy**	**50.54**	**240**	T		T	20 23 26.4	
	baz=29,slow=76,SNR=14							
H11S3	**WAKE ISLAND Hy**	**50.55**	**240**	T		T	20 23 30.2	
	baz=29,slow=76,SNR=15							
BNX	**BinXian**	**50.63**	**296**	⇑P		**P**	**19 28 21.0**	**+0.8**
BNX				pmax		pmax		
	comp=Z,5.0nm,1.1s							
BNX				pmax		pmax		
	comp=Z,1μm,18.3s							
JHJ	**Hachijo jima 2**	**53.23**	**276**	LR		LR	19 47 37.8	
	comp=Z,106nm,20.5s,baz=292,slow=32							
ARCES	**ARCESS Array B**	**54.15**	**3**	P		**P**	**19 28 45.6**	**-0.4**
	comp=Z,2.9nm,0.7s,baz=355,slow=7.3,SNR=8.0							
	comp=Z,2.9nm,0.7s							
KSRS	**Korea Array**	**56.39**	**288**	P		**P**	**19 29 04.0**	**+1.4**
	comp=Z,3.5nm,0.8s,baz=50,slow=6.6,SNR=17							
KSRS				PcP		**PcP**	**19 30 00.8**	**+1.2**
	comp=Z,1.8nm,0.8s,baz=49,slow=3.2,SNR=5.1							
	comp=Z,3.5nm,0.8s							
JCJ	**Chichijima**	**56.52**	**269**	LR		LR	19 49 33.0	
	comp=Z,55nm,21.8s,baz=94,slow=32							
SONM	**Songino Array**	**58.80**	**310**	P		**P**	**19 29 19.9**	**+0.3**
SONM	**Songino Array**	**58.80**	**310**	P		**P**	**19 29 20.9**	**+1.3**
	comp=Z,8.7nm,0.8s,baz=45,slow=7.3,SNR=60							
SONM				PcP		**PcP**	**19 30 10.6**	**+1.5**
	comp=Z,3.4nm,0.9s,baz=74,slow=2.1,SNR=5.1							
	comp=Z,8.7nm,0.8s							
NC204	**NORSAR Array S**	**61.39**	**11**	P		**P**	**19 29 37.2**	**+0.1**
ZALV	**Zalesovo Beam**	**61.57**	**327**	P		**P**	**19 29 38.8**	**+0.5**
	comp=Z,9.6nm,0.7s,baz=28,slow=6.6,SNR=41							
	comp=Z,9.6nm,0.7s							
NB2	**NORSAR Subarra**	**61.67**	**11**	P		**P**	**19 29 38.6**	**-0.3**
	comp=Z,6.9nm,1.0s,baz=348,slow=6.9							
NOA	**NORSAR Array B**	**61.67**	**11**	P		**P**	**19 29 39.1**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=348,slow=6.8,SNR=10							
	comp=Z,2.9nm,0.8s							
HHC	**Hu-ho-hao-te**	**61.96**	**302**	*e*P		**P**	**19 29 41.0**	**-0.3**
HHC				pP		pwP	19 29 45.0	-3.2
HHC				sP		pP	19 29 48.8	+6.1
HHC				pmax		pmax		
	comp=Z,19nm,0.6s							
FINES	**FINESS Array B**	**62.27**	**3**	P		**P**	**19 29 43.3**	**+0.4**
	comp=Z,3.5nm,0.6s,baz=5.0,slow=8.1,SNR=35							
	comp=Z,3.5nm,0.6s							
HFS	**Hagfors**	**62.81**	**10**	P		**P**	**19 29 45.6**	**-0.9**
	comp=Z,2.5nm,0.8s,baz=349,slow=3.0,SNR=7.4							
	comp=Z,2.5nm,0.8s							
HNS	**HongShan**	**63.16**	**298**	⇓P		**P**	**19 29 50.0**	**+0.8**
HNS				pmax		pmax		
	comp=Z,17nm,1.0s							
EKA	**Eskdalemuir Ar**	**64.98**	**21**	P		**P**	**19 30 01.4**	**+0.5**
	comp=Z,3.1nm,0.9s,baz=321,slow=4.9,SNR=5.5							
	comp=Z,3.1nm,0.9s							
ARU	**Arti**	**65.27**	**344**	P		**P**	**19 30 02.7**	**0.0**
NJ2	**Nanjing**	**65.29**	**291**	*e*P		**P**	**19 30 03.8**	**+0.6**
NJ2				pmax		pmax		
	comp=Z,14nm,0.5s							
BRVK	**Borovoye**	**66.22**	**336**	P		**P**	**19 30 08.7**	**-0.2**
BVAR	**Borovoye Array**	**66.22**	**336**	P		**P**	**19 30 09.3**	**+0.4**
	comp=Z,9.8nm,0.7s,baz=31,slow=7.1,SNR=51							
BVAR				PcP		**PcP**	**19 30 40.4**	**+1.4**
	comp=Z,5.5nm,0.9s,baz=25,slow=4.9,SNR=3.8							
	comp=Z,9.8nm,0.7s							
KURK	**Kurchatov**	**66.22**	**329**	P		**P**	**19 30 08.4**	**-0.6**
KURK				IAmb		IAmb	19 30 10.2	
	comp=Z,8.4nm,1.1s							
KURBB	**Kurchatov Arra**	**66.33**	**329**	P		**P**	**19 30 09.8**	**+0.1**
	comp=Z,3.5nm,0.6s,baz=27,slow=6.1,SNR=31							
KURBB				PcP		**PcP**	**19 30 39.8**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=30,slow=4.5,SNR=7.0							
	comp=Z,3.5nm,0.6s							
LYN	**LuoYang**	**66.53**	**297**	*e*P		**P**	**19 30 11.5**	**+0.4**
LYN				pmax		pmax		
	comp=Z,28nm,0.9s							
GTA	**Gaotai**	**68.41**	**309**	P		**P**	**19 30 23.8**	**+0.6**
GTA				pP		pwP	19 30 28.8	-1.3
GTA				sP		pP	19 30 32.5	+7.9
GTA				pmax		pmax		
	comp=Z,4.0nm,1.1s							
MK31	**Makanchi Array**	**68.63**	**325**	IAmb		IAmb	19 30 25.3	
	comp=Z,4.1nm,1.0s							
MKAR	**Makanchi Array**	**68.63**	**325**	P		**P**	**19 30 24.4**	**+0.1**
	comp=Z,3.5nm,0.8s,baz=31,slow=6.1,SNR=28							
	comp=Z,3.5nm,0.8s							
XAN	**Xi'an**	**68.67**	**300**	P		**P**	**19 30 24.8**	**+0.1**
XAN				pmax		pmax		
	comp=Z,19nm,0.6s							
MAKZ	**Makanchi**	**68.71**	**325**	P		**P**	**19 30 23.9**	**-0.9**
MAKZ				IAmb		IAmb	19 30 26.0	
	comp=Z,6.9nm,1.0s							
LZH	**Lanzhou**	**69.38**	**304**	*e*P		**P**	**19 30 27.5**	**-1.8**
LZH				pP		pwP	19 30 36.0	-0.2
LZH				pmax		pmax		
	comp=Z,19nm,1.6s							
WMQ	**Urumqi**	**69.42**	**320**	*e*P		**P**	**19 30 31.0**	**+1.7**
WMQ				pmax		pmax		
	comp=Z,25nm,0.8s							
NRDL	**Niedersach Rie**	**69.91**	**14**	*e*P		**P**	**19 30 32.9**	**+0.9**
	comp=Z,3.1nm,0.8s,baz=349,slow=6.0							
NRDL				*e*pP		**pwP**	**19 30 40.6**	**+1.7**
BUG	**Bochum--Univer**	**70.53**	**16**	*e*P		**P**	**19 30 36.7**	**+0.8**
	comp=Z,6.6nm,0.6s,baz=349,slow=6.0							
BUG				*e*pP		**pwP**	**19 30 44.5**	**+1.7**
CLZ	**Clausthal**	**70.58**	**14**	*e*P		**P**	**19 30 36.8**	**+0.5**
	comp=Z,3.4nm,0.8s,baz=349,slow=6.0							
CLZ				*e*pP		**pwP**	**19 30 44.5**	**+1.3**
CLL	**Collm**	**71.43**	**12**	*i* P		**P**	**19 30 42.0**	**+0.6**
	comp=Z,6.0nm,1.1s							
CLL	**Collm**	**71.43**	**12**	*e*P		**P**	**19 30 41.8**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=349,slow=6.0							
CLL				*e*pP		**pwP**	**19 30 49.6**	**+1.4**
MOX	**Moxa**	**71.91**	**13**	*e*P		**P**	**19 30 45.0**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=349,slow=6.0							
MOX				*e*pP		**pwP**	**19 30 52.8**	**+1.5**
ABKAR	**Akbulak array**	**71.94**	**341**	IAmb		IAmb	19 30 46.1	
	comp=Z,7.1nm,0.9s							
BRG	**Berggiesshubel**	**71.97**	**12**	*e*P		**P**	**19 30 45.4**	**+0.8**
	comp=Z,3.2nm,0.9s,baz=349,slow=6.0							
BRG				*e*pP		**pwP**	**19 30 52.9**	**+1.4**
DPC	**Dobruska-Polom**	**72.73**	**10**	*e*P		**P**	**19 30 48.9**	**-0.3**
DPC				*ex*		x	19 30 58.3	
ROTZ	**Rotzenmuhle**	**72.85**	**13**	*e*P		**P**	**19 30 50.8**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=349,slow=6.0							
ROTZ				*e*pP		**pwP**	**19 30 58.5**	**+1.6**
KRLC	**Kraliky**	**73.05**	**10**	*e*P		**P**	**19 30 52.3**	**+1.2**
KRLC				*ex*		x	19 30 59.8	
AKASG	**Malin Array Be**	**73.10**	**2**	P		**P**	**19 30 51.6**	**+0.3**
	comp=Z,5.3nm,0.7s,baz=358,slow=5.8,SNR=20							
AKASG				LR		LR	20 03 33.1	
	comp=Z,1μm,22.0s,baz=52,slow=36							
	comp=Z,5.3nm,0.7s							
AKBB	**Malin Array Si**	**73.10**	**2**	P		**P**	**19 30 49.6**	**-1.7**
MORC	**Moravsky Berou**	**73.41**	**9**	*e*P		**P**	**19 30 53.7**	**+0.4**
WET	**Wettzell**	**73.55**	**13**	*e*P		**P**	**19 30 54.8**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=349,slow=6.0							
WET				*e*pP		**pwP**	**19 31 02.8**	**+1.8**
KHC	**Kasperske Hory**	**73.64**	**12**	*e*P		**P**	**19 30 55.8**	**+1.2**
KHC				*ex*		x	19 31 03.4	
VRAC	**Vranov**	**73.79**	**10**	*e*P		**P**	**19 30 56.0**	**+0.5**
MAUC	**Maruska**	**73.85**	**9**	*e*P		**P**	**19 30 57.0**	**+1.2**
MAUC				*ex*		x	19 31 04.9	
GEC2	**GERESS Array S**	**73.94**	**12**	*e*P		**P**	**19 30 57.2**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=349,slow=6.0							
GEC2				*e*pP		**pwP**	**19 31 04.9**	**+1.5**
GERES	**GERESS Array B**	**73.94**	**12**	P		**P**	**19 30 57.2**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=7.9,slow=6.8,SNR=6.9							
	comp=Z,1.7nm,0.6s							
KRUC	**Moravsky**	**74.01**	**10**	*e*P		**P**	**19 30 57.0**	**+0.2**
CKRC	**Cesky Krumlov**	**74.03**	**12**	*e*P		**P**	**19 30 57.5**	**+0.6**
CKRC				*ex*		x	19 31 05.0	
STHS	**Stebnicka Huta**	**74.06**	**7**	*e*P		**P**	**19 30 57.7**	**+0.6**
LANS	**Liptovska Anna**	**74.20**	**8**	*e*P		**P**	**19 30 59.8**	**+1.9**
JAVC	**Velka Javorina**	**74.33**	**9**	*e*P		**P**	**19 31 00.2**	**+1.5**
TARG	**Taragay, Kyrgy**	**74.59**	**326**	IAmb		IAmb	19 31 16.1	
	comp=Z,4.2nm,0.9s							
AAK	**Ala-Archa**	**74.75**	**329**	P		**P**	**19 31 01.4**	**0.0**
AAK				IAmb		IAmb	19 31 02.8	
	comp=Z,4.1nm,0.8s							
MODS	**Modra-Piesok**	**74.78**	**10**	*e*P		**P**	**19 31 02.6**	**+1.3**
VYHS	**Vyhne**	**74.80**	**9**	*e*P		**P**	**19 31 02.3**	**+0.9**
CONA	**Conrad Observa**	**75.08**	**11**	*e*pP		**P**	**19 31 04.1**	**+1.0**
	comp=Z,4.2nm,0.8s							
WATA	**Walderalm**	**75.16**	**14**	*e*pP		**P**	**19 31 03.8**	**+0.2**
	comp=Z,4.2nm,0.9s							
SQTA	**Sankt Quirin**	**75.22**	**14**	pP		**P**	**19 31 05.1**	**+1.2**
	comp=Z,5.7nm,0.8s							
WTTA	**Wattenberg**	**75.23**	**14**	pP		**P**	**19 31 05.2**	**+1.1**
	comp=Z,3.8nm,0.7s							
NRN	**Naryn**	**75.41**	**327**	IAmb		IAmb	19 31 07.7	
	comp=Z,7.8nm,1.2s							
KK31	**Karatay Array**	**75.42**	**332**	IAmb		IAmb	19 31 06.5	
	comp=Z,5.6nm,0.9s							
KKAR	**Karatay Array**	**75.42**	**332**	IAmb		IAmb	19 31 06.5	
	comp=Z,5.6nm,0.9s							
KBA	**Koelnbreinsper**	**75.63**	**13**	*e*pP		**P**	**19 31 06.8**	**+0.4**
	comp=Z,5.3nm,0.6s							
SORM	**Soroca**	**75.66**	**2**	⇑P		**P**	**19 31 05.9**	**-0.4**
GYA	**Guiyang**	**76.00**	**297**	⇑P		**P**	**19 31 09.0**	**+0.3**
GYA				pmax		pmax		
	comp=Z,12nm,0.7s							
BUR08	**Bucovina Ar. S**	**76.05**	**4**	P		**P**	**19 31 07.9**	**-0.7**
BUR08				IAmb		IAmb	19 31 10.4	
	comp=Z,3.3nm,0.8s							
BURAR	**Bucovina Array**	**76.08**	**4**	⇑P		**P**	**19 31 09.6**	**+0.8**
SOKA	**Soboth**	**76.23**	**12**	*e*pP		**P**	**19 31 09.9**	**+0.2**
	comp=Z,6.5nm,1.0s							
OBKA	**Obir**	**76.34**	**12**	*e*pP		**P**	**19 31 11.0**	**+0.7**
	comp=Z,12nm,0.7s							
MORH	**Mrgy, Hungar**	**77.04**	**9**	⇑P		**P**	**19 31 14.0**	**-0.1**
KSH	**Kashi

MYKOM **Kota Tinggi** 8.01 95 Pn **Pn** 19 39 52.5 +0.3
TPRI Tanjung Pinang 8.80 100 P Pn **Pn** 19 40 03.0 -0.1
19nm,1.1s
MNAI Manna 9.86 134 Pn **Pn** 19 40 17.0 -0.6
MNAI Manna 9.86 134 P **Pn** 19 40 18.1 +0.5
140nm,0.9s
PMBI Palembang 10.43 121 P **Pn** 19 40 24.9 -0.5
204nm,0.5s,6μm8μm
LWLI Liwa 11.11 133 P **Pn** 19 40 35.8 +1.0
57nm,0.8s,1μm
PPBI Pangkal Pinang 11.28 114 P **Pn** 19 40 37.9 +0.9
KASI Kota Agung 11.77 133 P **Pn** 19 40 44.1 +0.3
27nm,0.8s
SBJI Serang 13.38 130 P **Pn** 19 41 07.3 +1.5
86nm,0.9s
SKJI Sukabumi 14.28 132 P **Pn** 19 41 19.1 +1.0
103nm,0.4s
LEM Lembang 14.97 129 LR LR 19 48 25.8
comp=Z,324nm,18.5s,baz=188,slow=42
STKI Sintang 15.80 99 P **Pn** 19 41 38.7 +0.3
46nm,0.7s,8μm
UBPT Khong Chiam 15.80 36 P **Pn** 19 41 38.8 +0.4
UBPT Khong Chiam 15.80 36 Pn **Pn** 19 41 38.2 -0.2
PALK Pallekele 15.82 288 Pn **P** 19 41 44.0 +1.5
0.2nm,0.3s,baz=161,slow=18,SNR=1.5
PALK Sn Sn 19 44 20.7 -13
0.6nm,0.3s,baz=285,slow=4.1,SNR=5.3
CM31 Chiang Mai Arr 16.10 11 **Pn** 19 41 41.2 -1.0
CMAR Chiang Mai Arr 16.10 11 **Pn** 19 41 41.6 -0.6
CMAR Chiang Mai Arr 16.10 11 Pn **Pn** 19 41 41.8 -0.5
0.6nm,0.3s,baz=197,slow=11,SNR=55
8.3nm,0.8s
CMJI Cimerak 16.21 129 P **Pn** 19 41 44.1 +0.4
73nm,1.0s
PHRA Phrae 16.42 15 Pn **Pn** 19 41 45.7 -0.6
NONG Nongkai 16.99 24 P **P** 19 41 54.5 -0.9
CRAI Chiangrai 18.12 14 P **Pn** 19 42 06.8 -0.8
MTKI Muara Teweh, K 19.33 100 P **P** 19 42 21.8 +0.5
MND Mandalay 19.35 1 P **P** 19 42 19.6 -1.8
SLVN Son La 20.25 22 P **P** 19 42 29.1 -2.1
KKM Kota Kinabalu 20.58 80 P **P** 19 42 35.0 0.0
KKM Kota Kinabalu 20.58 80 P **P** 19 42 34.0 -1.0
SRBI Singaraja 21.99 119 P **P** 19 42 51.8 +1.7
26nm,1.1s
DNP Denpasar 22.27 120 P **P** 19 42 54.9 +1.8
248nm,1.6s
TNCH TengChong 22.50 6 ⇓P **P** 19 42 54.8 -0.8
TNCH sP pP 19 43 00.0 +0.2
TNCH S **S** 19 46 56.5 -5.8
TNCH SS **SnSn** 19 47 40.5 +9.1
TNCH pmax pmax
comp=Z,9.0nm,0.9s
TNCH pmax pmax
comp=Z,190nm,16.3s
TNCH LR LR
comp=N,180nm,16.9s
TNCH LR LR
comp=E,150nm,13.1s
TNCH LR LR
comp=Z,360nm,16.6s
KMI Kunming 23.40 16 ⇑P **P** 19 43 05.8 +0.8
KMI pmax pmax
comp=Z,14nm,0.9s
MPSI Mapaga 24.12 95 P **P** 19 43 12.1 +0.3
comp=Z,7.6nm,1.0s
PZH PanZhiHua 24.48 13 P **P** 19 43 14.0 -1.1
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,80nm,4.2s
KAPI Kappang 25.01 107 P **P** 19 43 18.7 -1.2
KAPI IAmb IAmb 19 43 20.8
comp=Z,16nm,0.9s
H08S2 Diego Garcia H 25.43 246 T T 20 09 44.9
baz=67,slow=76,SNR=3716
H08S3 Diego Garcia H 25.43 246 T T 20 09 45.1
baz=67,slow=76,SNR=2766
H08S1 Diego Carcia H 25.44 246 T T 20 09 42.2
baz=67,slow=76,SNR=1815
BKSI Bulukumba 25.46 108 P **P** 19 43 24.9 +0.9
comp=Z,30nm,1.1s
LSA Lhasa 27.37 351 P **P** 19 43 42.2 +0.5
LSA IAmb IAmb 19 43 43.9
comp=Z,15nm,0.9s
PTH Pithoragarh 30.70 333 eP **P** 19 44 12.3 +1.4
WHN Wuhan 32.88 30 P **P** 19 44 33.0 +3.1
XAN Xi'an 33.62 20 ⇓P **P** 19 44 35.0 -1.3
XAN pmax pmax
comp=Z,35nm,0.8s
LZH Lanzhou 34.18 12 eP **P** 19 44 40.5 -0.8
LZH sP sP 19 44 54.5 +6.9
LZH pmax pmax
comp=Z,20nm,1.5s
THN Thein Dam 35.25 330 eP **P** 19 44 51.1 +0.7
LYN LuoYang 35.40 24 ⇓P **P** 19 44 51.8 +0.1
LYN pmax pmax
comp=Z,44nm,0.9s
GTA Gaotai 36.87 5 P **P** 19 45 03.5 -0.8
GTA pP sP 19 45 10.5 -0.2
GTA pmax pmax
comp=Z,21nm,1.0s
BTO Baotou 39.99 17 eP **P** 19 45 31.5 +0.9
BTO pP **pP** 19 45 36.0 +0.9
BTO sP **sP** 19 45 38.5 +1.6
BTO PP **PnPn** 19 47 08.5 +2.5
BTO S **S** 19 51 38.5 +2.8
BTO sS sS 19 51 52.0 +8.8
BTO SS **SnSn** 19 54 37.0 +0.7
BTO pmax pmax
comp=Z,40nm,1.0s
BTO pmax pmax
comp=Z,540nm,10.4s
BTO LR LR
comp=N,630nm,16.5s
BTO LR LR
comp=E,430nm,16.7s
BTO LR LR
comp=Z,780nm,14.2s
HHC Hu-ho-hao-te 40.68 18 eP **P** 19 45 36.8 +0.5
HHC pP pP 19 45 40.5 -0.3
HHC pmax pmax
comp=Z,21nm,0.6s
HHC LR LR
comp=N,210nm,15.1s
HHC LR LR
comp=E,230nm,17.1s
HHC LR LR
comp=Z,260nm,14.6s
H01W3 Cape Leeuwin H 40.99 157 T T 20 29 12.2
baz=332,slow=76,SNR=275
H01W2 Cape Leeuwin H 41.01 157 T T 20 29 13.2
baz=332,slow=76,SNR=243
H01W1 Cape Leeuwin H 41.01 157 T T 20 29 16.4
baz=332,slow=76,SNR=269
KSH Kashi 41.01 336 P **P** 19 45 38.5 -0.5
KSH pmax pmax
comp=Z,5.0nm,0.8s
BJT Baijiatuau 41.60 24 P **P** 19 45 43.6 -0.1
TARG Taragay, Kyrgy 42.25 340 IAmb IAmb 19 45 59.3
comp=Z,10nm,1.0s
NRN Naryn 42.64 338 IAmb IAmb 19 46 02.1
comp=Z,8.6nm,1.0s
GAR Garm 43.12 331 IAmb IAmb 19 45 57.6
comp=Z,18nm,1.1s
CHGR Chuyangaron 43.43 329 IAmb IAmb 19 45 59.7
comp=Z,14nm,0.8s
SIMJ Simiganj 43.51 329 P **P** 19 45 58.4 -1.1
SIMJ IAmb IAmb 19 46 22.2
comp=Z,13nm,1.2s
BTK Batken 43.70 332 IAmb IAmb 19 46 05.2
comp=Z,11nm,0.9s
WRA Warramunga Arr 43.87 122 P **P** 19 46 01.4 -1.1
WRA Warramunga Arr 43.87 122 P **P** 19 46 01.5 -1.1
comp=Z,3.6nm,0.9s,baz=299,slow=9.2,SNR=16
comp=Z,3.6nm,0.9s
WRAB Tennant Creek 43.88 122 P **P** 19 46 00.6 -2.0
WRAB IAmb IAmb 19 46 02.9
comp=Z,8.9nm,1.1s
WB2 Warramunga Arr 43.88 122 P **P** 19 46 01.8 -0.8
WB2 IAmb IAmb 19 46 02.9
comp=Z,7.1nm,1.1s
WR0 Warramunga Arr 44.05 122 IAmb IAmb 19 46 04.4
comp=Z,6.8nm,0.9s
AAK Ala-Archa 44.25 337 P **P** 19 46 04.6 -0.8
AAK IAmb IAmb 19 46 20.9
comp=Z,6.9nm,1.2s

ASAR Alice Springs 45.26 127 P **P** 19 46 12.9 -0.7
comp=Z,1.1nm,0.5s,baz=300,slow=7.8,SNR=38
comp=Z,1.1nm,0.5s
KSRS Korea Array 45.53 36 P **P** 19 46 14.3 -1.1
comp=Z,3.3nm,0.8s,baz=227,slow=8.7,SNR=14
comp=Z,3.3nm,0.8s
MKAR Makanchi Array 45.63 347 P **P** 19 46 16.6 +0.5
comp=Z,6.4nm,0.7s,baz=161,slow=7.9,SNR=89
comp=Z,6.4nm,0.7s
MAKZ Makanchi 45.72 347 P **P** 19 46 16.8 0.0
SONM Songino Array 46.02 10 P **P** 19 46 18.9 -0.5
SONM IAmb IAmb 19 46 20.3
comp=Z,7.5nm,0.6s
SONM Songino Array 46.02 10 P **P** 19 46 19.5 +0.1
comp=Z,7.4nm,0.6s,baz=189,slow=9.4,SNR=50
SONM PcP **PcP** 19 47 56.1 +0.3
comp=Z,1.8nm,0.7s,baz=189,slow=4.2,SNR=5.1
comp=Z,7.4nm,0.6s
ULN Ulaanbaatar 46.17 10 P **P** 19 46 19.6 -0.9
ULN **pP** 19 46 20.0 -5.1
ULN IAmb IAmb 19 46 21.3
comp=Z,5.1nm,0.8s
KK31 Karatay Array 46.27 334 IAmb IAmb 19 46 23.2
comp=Z,7.0nm,1.1s
KKAR Karatay Array 46.27 334 IAmb IAmb 19 46 23.2
comp=Z,6.9nm,1.1s
GEYT Alibeck 49.34 320 P **P** 19 46 45.0 -0.2
GEYT IAmb IAmb 19 46 54.2
comp=Z,6.5nm,0.7s
GEYT Alibeck 49.34 320 P **P** 19 46 46.7 +1.6
comp=Z,3.3nm,0.9s,baz=133,slow=12,SNR=5.3
comp=Z,3.3nm,0.9s
KURBB Kurchatov Arra 50.10 346 P **P** 19 46 51.0 +0.4
comp=Z,4.7nm,0.6s,baz=167,slow=6.8,SNR=62
comp=Z,4.7nm,0.6s
KURK Kurchatov 50.16 346 P **P** 19 46 51.5 +0.4
KURK IAmb IAmb 19 46 52.7
comp=Z,8.1nm,1.1s
BNX BinXian 51.11 28 ⇑P **P** 19 46 56.8 -1.6
BNX pmax pmax
comp=Z,5.0nm,0.7s
ZALV Zalesovo Beam 52.03 352 P **P** 19 47 05.5 +0.3
comp=Z,17nm,0.8s,baz=180,slow=6.2,SNR=55
comp=Z,17nm,0.8s
USRK Usuriysk Ar. 52.33 32 P **P** 19 47 07.0 -0.5
comp=Z,2.4nm,0.9s,baz=228,slow=7.2,SNR=4.6
comp=Z,2.4nm,0.9s
RAYN Ar Rayn 52.95 298 **P** 19 47 13.9 +1.3
HEH HeiHe 54.52 24 eP **P** 19 47 23.0 -0.5
BVAR Borovoye Array 54.55 341 P **P** 19 47 23.7 0.0
comp=Z,3.9nm,0.8s,baz=147,slow=8.7,SNR=15
comp=Z,3.9nm,0.8s
STKA Stephens Creek 55.24 132 P **P** 19 47 29.1 0.0
comp=Z,2.5nm,0.8s,baz=332,slow=1.8,SNR=4.9
comp=Z,2.5nm,0.8s
ABKAR Akbulak array 55.71 332 IAmb IAmb 19 47 33.6
comp=Z,9.4nm,0.9s
AKTO Aktyubinsk 57.43 332 P **P** 19 47 44.1 -0.2
comp=Z,1.5nm,0.3s,baz=138,slow=4.1,SNR=13
comp=Z,1.5nm,0.3s
ARU Arti 61.44 337 P **P** 19 48 11.3 -0.6
ARU IAmb IAmb 19 48 12.6
comp=Z,8.6nm,1.0s
ARU Arti 61.44 337 P **P** 19 48 11.6 -0.4
comp=Z,2.6nm,0.5s,baz=229,slow=2.4,SNR=10
comp=Z,2.6nm,0.5s
H04N2 CROZET ISLANDS 62.15 213 T T 20 55 43.4
baz=52,slow=75,SNR=2719
H04N1 CROZET ISLANDS 62.16 213 T T 20 55 47.8
baz=52,slow=75,SNR=2620
H04N3 CROZET ISLANDS 62.17 213 T T 20 55 41.6
baz=52,slow=75,SNR=2549
KBZ Khabaz 62.19 319 P **P** 19 48 17.5 +0.3
comp=Z,2.6nm,0.8s,baz=132,slow=6.6,SNR=3.8
comp=Z,2.6nm,0.8s
H04S1 CROZET ISLANDS 62.51 212 T T 20 56 11.0
baz=50,slow=75,SNR=465
H04S3 CROZET ISLANDS 62.52 213 T T 20 56 10.1
baz=50,slow=75,SNR=476
H04S2 CROZET ISLANDS 62.53 212 T T 20 56 10.1
baz=50,slow=75,SNR=822
BELG Belogornoye 63.73 329 P **P** 19 48 26.6 -0.7
comp=Z,9.4nm,0.8s,baz=288,slow=0.7,SNR=11
comp=Z,9.4nm,0.8s
YAK Yakutsk 64.52 17 P **P** 19 48 31.0 -1.3
NRIK Noril'sk 66.92 357 P **P** 19 48 46.4 -1.3
NRIK Noril'sk 66.92 357 P **P** 19 48 47.3 -0.4
comp=Z,2.2nm,0.6s,baz=164,slow=3.8,SNR=8.0
comp=Z,2.2nm,0.6s
TIXI Tiksi 72.11 10 P **P** 19 49 17.6 -2.1
TIXI IAmb IAmb 19 49 19.4
comp=Z,6.8nm,0.8s
AKASG Malin Array Be 73.39 322 P **P** 19 49 27.1 -0.7
comp=Z,0.2nm,0.3s,baz=94,slow=4.8,SNR=6.2
comp=Z,0.2nm,0.3s
FINES FINESS Array B 78.20 333 P **P** 19 49 55.2 +0.2
comp=Z,3.2nm,0.8s,baz=103,slow=6.1,SNR=9.8
comp=Z,3.2nm,0.8s
ARCES ARCESS Array B 80.83 340 P **P** 19 50 09.7 +0.5
comp=Z,3.3nm,0.8s,baz=101,slow=6.6,SNR=7.1
comp=Z,3.3nm,0.8s
GERES GERESS Array B 82.93 319 P **P** 19 50 21.6 +0.8
comp=Z,1.0nm,0.6s,baz=76,slow=5.6,SNR=5.3
comp=Z,1.0nm,0.6s
QSPA South Pole Qui 92.48 180 LR LR 20 28 06.6
comp=Z,93nm,18.8s,baz=277,slow=33
F17K Baldwin Pennin 92.81 23 P **P** 19 51 06.2 -1.8
TXAR Lajitas Array 143.19 29 PKP PKPbc 19 57 27.9 +0.3
comp=Z,0.4nm,0.8s,baz=270,slow=1.8,SNR=4.0

NEIC ***29*** *19:48:31.0±1.2,56.46N±0.08×148.71W±0.09,h10km±1km, mb4.3/40,ML4.2/76,ML3.7(AEIC),Error ellipse: s-maj=13.8km s-min=8.3km az=169.0*
IDC ***29*** *19:48:31.2±0.7,56.44N×148.72W,h0km,mb3.9/19, mbtmp4.0/24,ML3.7/5,MS3.9/12,Error ellipse: s-maj=20.4km s-min=12.0km az=34.0*
AEIC ***29*** *19:48:35.9±2.7,56.43N±0.08×148.54W±0.09,h12km±5km, Error ellipse: s-maj=12.1km s-min=7.3km az=170.0*
ISC 29 19:48:32.1±0.5,56.49N±0.06×148.67W±0.04,h10km, n237,σ1§27/202,mb4.3/40,MS3.9/8,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.50**	**303**	Pn	**Pn**	**19 49 11.6**	**-1.2**
KDAK	**Kodiak Island**	**2.50**	**303**		**Sn**	**19 49 41.0**	**-2.2**
KDAK	**Kodiak Island**	**2.50**	**303**	S	**Sn**	**19 49 40.6**	**-2.6**
	baz=121						
KDAK	**Kodiak Island**	**2.50**	**303**	Pn	**Pn**	**19 49 12.0**	**-0.8**
	18nm,0.3s,baz=141,slow=4.9,SNR=142						
KDAK				LR	LR	19 49 40.0	
	comp=Z,561nm,21.2s,baz=132,slow=28						
KDAK				Sn	**Sn**	**19 49 40.9**	**-2.4**
	19nm,0.3s,baz=293,slow=20,SNR=6.3						
	68nm,0.4s						
OHAK	**Old Harbor**	**2.64**	**288**	Pn	**Pn**	**19 49 12.7**	**-2.0**
OHAK	**Old Harbor**	**2.64**	**288**		**Sn**	**19 49 43.0**	**-3.8**
OHAK	**Old Harbor**	**2.64**	**288**	P	**Pn**	**19 49 13.0**	**-1.7**
	baz=105						
OHAK				S	**Sn**	**19 49 44.2**	**-2.6**
	baz=105						
SYI	**Shuyak Island**	**2.93**	**318**	Pn	**Pn**	**19 49 17.9**	**-0.7**
Q20K	**Shuyak Island**	**2.93**	**318**	P	**Pn**	**19 49 18.3**	**-0.3**
	baz=136						
Q20K				S	**Sn**	**19 49 53.3**	**-0.5**
	baz=136						
Q23K	**Middleton Isla**	**3.20**	**22**		**Sn**	**19 49 58.1**	**-2.3**
Q23K	**Middleton Isla**	**3.20**	**22**		**Pn**	**19 49 21.0**	**-1.4**
Q23K				IAML		19 50 00.0	
	comp=E,540nm,0.7s						
Q23K	**Middleton Isla**	**3.20**	**22**	P	**Pn**	**19 49 21.2**	**-1.1**
	baz=204						
Q23K				S	**Sn**	**19 49 58.2**	**-2.3**
	baz=204						
MID	**Middleton Isla**	**3.20**	**22**		**Pn**	**19 49 21.1**	**-1.3**
MID				IAML		19 49 59.0	
	comp=E,491nm,0.6s						
MID				IAML		19 50 00.0	
	comp=N,437nm,0.6s						
MID	**Middleton Isla**	**3.20**	**22**		**Sn**	**19 49 58.4**	**-2.1**
CNPM	**China Poot**	**3.34**	**337**	Pn	**Pn**	**19 49 23.5**	**-0.9**
BRSE	**Bradley Lake S**	**3.44**	**342**		**Pn**	**19 49 25.1**	**-0.7**
BRSE	**Bradley Lake S**	**3.44**	**342**	P	**Pn**	**19 49 25.1**	**-0.7**
	baz=161						
BRSE				S	**Sn**	**19 50 05.9**	**-0.7**
	baz=161						
BRLK	**Bradley Lake**	**3.49**	**341**		**Pn**	**19 49 25.2**	**-1.2**
BRLK				IAML		19 50 12.2	
	comp=E,311nm,1.0s						
HOM	**Homer**	**3.55**	**335**		**Pn**	**19 49 26.3**	**-0.9**
HOM				IAML		19 50 18.5	
	comp=N,604nm,0.9s						
HOM	**Homer**	**3.55**	**335**	P	**Pn**	**19 49 27.4**	**+0.2**
	baz=153						
P23K	**Montague Islan**	**3.58**	**10**		**Pn**	**19 49 26.9**	**-0.7**
P23K					**Sn**	**19 50 07.3**	**-2.7**
P23K	**Montague Islan**	**3.58**	**10**	P	**Pn**	**19 49 26.9**	**-0.7**
	baz=192						
P23K				S	**Sn**	**19 50 07.5**	**-2.5**
	baz=192						
Q19K	**Cape Douglas,**	**3.62**	**315**		**Pn**	**19 49 27.7**	**-0.5**
Q19K	**Cape Douglas,**	**3.62**	**315**	P	**Pn**	**19 49 28.6**	**+0.4**
	baz=131						
KAKN	**Katmai Knife C**	**3.91**	**300**		**Pn**	**19 49 32.5**	**+0.4**
KCE	**Katmai Mt Cerb**	**3.94**	**299**		**Pn**	**19 49 34.9**	**+2.3**
P19K	**Oil Pt**	**3.99**	**325**	Pn	**Pn**	**19 49 33.1**	**-0.2**
P19K				IAML		19 50 28.0	
	comp=N,252nm,0.9s						
P19K				IAML		19 50 32.6	
	comp=E,269nm,0.6s						
P19K	**Oil Pt**	**3.99**	**325**	P	**Pn**	**19 49 33.5**	**+0.2**
	baz=141						
ACHA	**Angle Creek He**	**4.00**	**298**		**Pn**	**19 49 34.4**	**+0.9**
KAHC	**Katmai Hardscr**	**4.04**	**305**		**Pn**	**19 49 34.5**	**+0.4**
KAHC	**Katmai Hardscr**	**4.04**	**305**	P	**Pn**	**19 49 34.2**	**+0.1**
	baz=120						
O22K	**Cooper Landing**	**4.04**	**353**		**Pn**	**19 49 33.4**	**-0.6**
O22K	**Cooper Landing**	**4.04**	**353**	P	**Pn**	**19 49 33.7**	**-0.2**
	baz=172						
HIN	**Hinchinbrook I**	**4.08**	**15**		**Pn**	**19 49 34.0**	**-0.5**
HIN				IAML		19 50 21.0	
	comp=E,437nm,0.9s						
KAIM	**Kayak Island**	**4.12**	**31**	Pn	**Pn**	**19 49 34.1**	**-0.9**
KAIM				IAML		19 50 35.0	
	comp=E,421nm,1.1s						
KAIM	**Kayak Island**	**4.12**	**31**	P	**Pn**	**19 49 33.8**	**-1.1**
	baz=215						
O20K	**Slope Mountain**	**4.17**	**332**	P	**Pn**	**19 49 35.4**	**-0.4**
	baz=149						
ILSW	**Iliamna Southw**	**4.23**	**328**		**Pn**	**19 49 35.5**	**-1.2**
ILSW				IAML		19 50 29.7	
	comp=N,201nm,0.9s						
Q17K	**Contact Creek**	**4.29**	**297**	P	**Pn**	**19 49 37.7**	**+0.1**
	baz=112						
EYAK	**Cordova Ski Ar**	**4.35**	**19**	P	**Pn**	**19 49 37.7**	**-0.4**
	baz=202						
SUCK	**Suckling Hills**	**4.42**	**34**		**Pn**	**19 49 38.2**	**-1.0**
SUCK				IAML		19 50 50.6	
	comp=N,314nm,1.1s						
SUCK				IAML		19 51 06.6	
	comp=E,262nm,1.1s						
RAGM	**Ragged Mountai**	**4.44**	**27**		**Pn**	**19 49 38.5**	**-0.9**
CAPN	**Captain Cook N**	**4.49**	**344**		**Pn**	**19 49 40.1**	**+0.1**
HMT	**Hamilton**	**4.50**	**29**		**Pn**	**19 49 39.1**	**-1.2**
P18K	**Big Mountain,**	**4.55**	**313**	Pn	**Pn**	**19 49 39.7**	**-1.2**
P18K	**Big Mountain,**	**4.55**	**313**	P	**Pn**	**19 49 40.2**	**-0.8**
	baz=128						
RC01	**Rabbit Creek A**	**4.65**	**354**	Pn	**Pn**	**19 49 41.8**	**-0.5**
RC01				IAML		19 50 39.3	
	comp=E,224nm,1.0s						
RC01				IAML		19 50 40.5	
	comp=N,232nm,0.7s						
RC01	**Rabbit Creek A**	**4.65**	**354**	P	**Pn**	**19 49 42.3**	**0.0**
	baz=173						
FIS	**Fire Island**	**4.74**	**351**		**Pn**	**19 49 41.9**	**-1.6**
FIS				IAML		19 50 44.6	
	comp=N,302nm,1.1s						
O19K	**Port Alsworth**	**4.76**	**324**	IAML		19 50 44.1	
	comp=E,274nm,0.5s						
O19K				IAML		19 50 46.4	
	comp=N,275nm,0.5s						
SNH	**Sunshine Point**	**4.81**	**37**	IAML		19 51 14.3	
	comp=E,159nm,1.0s						
SNH				IAML		19 51 26.0	
	comp=N,118nm,1.0s						
Q16K	**King Salmon**	**4.83**	**300**	P	**Pn**	**19 49 44.8**	**+0.1**
	baz=114						
O18K	**Koktuh Hills**	**4.84**	**317**	P	**Pn**	**19 49 44.2**	**-0.7**
	baz=132						
KNK	**Knik Glacier**	**4.94**	**1**	IAML		19 50 52.1	
	comp=N,125nm,0.9s						
KNK				IAML		19 50 54.0	
	comp=E,158nm,0.9s						
KNK	**Knik Glacier**	**4.94**	**1**	P	**Pn**	**19 49 46.2**	**-0.1**
	baz=182						
P17K	**Kvichak River**	**4.96**	**306**	P	**Pn**	**19 49 47.0**	**+0.4**
	baz=120						
BMRM	**Bremner River**	**4.97**	**24**	P	**Pn**	**19 49 46.1**	**-0.6**
	baz=207						
WAX	**Waxell Ridge**	**5.01**	**35**	IAML		19 50 46.2	
	comp=E,248nm,0.8s						
WAX				IAML		19 50 47.7	
	comp=N,201nm,0.7s						
N20K	**Mount Spurr**	**5.07**	**340**	P	**Pn**	**19 49 47.5**	**-0.6**
	baz=158						
SUA	**Susitna One**	**5.11**	**349**	IAML		19 51 21.8	
	comp=E,94nm,1.0s						
SUA	**Susitna One**	**5.11**	**349**	P	**Pn**	**19 49 48.2**	**-0.5**
	baz=167						
MESA	**MESA**	**5.12**	**41**	IAML		19 50 49.9	
	comp=N,144nm,0.7s						
MESA				IAML		19 51 20.1	
	comp=E,130nm,1.2s						
MESA	**MESA**	**5.12**	**41**	P	**Pn**	**19 49 47.8**	**-1.1**
	baz=227						
PMR	**Palmer**	**5.13**	**358**	IAML		19 50 57.9	
	comp=E,100nm,0.9s						
CRQM	**Cirque**	**5.16**	**32**	IAML		19 50 50.0	
	comp=N,195nm,0.8s						
CRQM				IAML		19 50 52.0	
	comp=E,162nm,0.9s						
CRQE	**Cirque**	**5.17**	**32**	P	**Pn**	**19 49 48.7**	**-0.9**
	baz=217						
KLU	**Klutina**	**5.22**	**15**	IAML		19 50 51.2	
	comp=E,166nm,1.1s						
KLU				IAML		19 51 22.1	
	comp=N,117nm,1.2s						
KLU	**Klutina**	**5.22**	**15**	P	**Pn**	**19 49 49.8**	**-0.3**
	baz=197						
TGL	**Tana Glacier**	**5.25**	**33**	IAML		19 50 54.0	
	comp=E,132nm,0.7s						
TGL				IAML		19 51 14.0	
	comp=N,93nm,1.0s						
ISLE	**Juniper Island**	**5.29**	**36**	IAML		19 50 55.7	
	comp=N,116nm,1.1s						
ISLE				IAML		19 51 02.6	
	comp=E,132nm,0.9s						
N19K	**Bonanza Creek**	**5.29**	**327**	P	**Pn**	**19 49 51.0**	**-0.2**
	baz=143						
SML	**Sawmill**	**5.34**	**2**	IAML		19 51 05.4	
	comp=E,160nm,0.9s						
SML	**Sawmill**	**5.34**	**2**	P	**Pn**	**19 49 52.2**	**+0.4**
	baz=182						
SCM	**Sheep Creek Mo**	**5.41**	**7**	P	**Pn**	**19 49 53.1**	**+0.4**
	baz=188						
CHGN	**Chignik**	**5.42**	**272**	IAML		19 50 52.6	
	comp=E,126nm,0.8s						
CHGN				IAML		19 50 52.6	
	comp=N,115nm,0.8s						
N25K	**Chitina, Valde**	**5.55**	**21**	P	**Pn**	**19 49 54.4**	**-0.3**
	baz=204						
O17K	**Koliganek Bris**	**5.55**	**310**	P	**Pn**	**19 49 54.5**	**-0.1**
	baz=123						
TABL	**Table Mountain**	**5.59**	**42**		**Pn**	**19 49 54.4**	**-1.1**
N18K	**Kilae Creek**	**5.65**	**321**	P	**Pn**	**19 49 55.6**	**-0.4**
	baz=135						
SKT	**Skwentna**	**5.70**	**346**	P	**Pn**	**19 49 56.5**	**-0.3**
	baz=164						
MCARA	**McCarthy VSAT**	**5.71**	**28**	P	**Pn**	**19 49 56.2**	**-0.7**
	baz=213						
PNL	**Peninsula**	**5.86**	**53**	P	**Pn**	**19 49 58.0**	**-0.9**
	baz=241						
M20K	**Styx River**	**5.88**	**339**	P	**Pn**	**19 49 58.7**	**-0.5**
	baz=155						
CTG	**Chitna Glacier**	**5.89**	**37**	P	**Pn**	**19 49 58.6**	**-0.9**
	baz=224						
O16K	**Kokwok River B**	**5.89**	**306**	P	**Pn**	**19 49 59.0**	**-0.3**
	baz=118						
N17K	**Nushagak Hills**	**6.03**	**316**	P	**Pn**	**19 50 00.7**	**-0.5**
	baz=129						
WAT6	**Susitna Watana**	**6.13**	**4**	P	**Pn**	**19 50 03.0**	**+0.3**
	baz=185						
M19K	**Big River Lodg**	**6.18**	**334**	P	**Pn**	**19 50 02.3**	**-1.0**
	baz=149						

M18K Stony River 6.23 327 P Pn 19 50 02.8 -1.2
baz=141
CHNA Chernabura Isl 6.40 260 P Pn 19 50 04.2 -2.2
baz=71
CNBA Chernabura Isl 6.41 259 Pn 19 50 04.0 -2.3
L19K White Mountain 6.53 334 P Pn 19 50 07.1 -1.0
baz=149
O29M Mount Kennedy 6.54 50 P Pn 19 50 07.6 -0.7
baz=238
L20K Farewell, AK 6.57 338 P Pn 19 50 08.3 -0.4
baz=154
M26K Nabesna, AK 6.60 24 P Pn 19 50 08.7 -0.4
baz=209
P29M Windy Craggy 6.60 57 P Pn 19 50 07.3 -1.8
baz=246
N16K Nishlik Lake 6.63 311 P Pn 19 50 09.4 -0.1
baz=123
DHY Denali Highway 6.64 5 P Pn 19 50 10.3 +0.5
baz=186
M17K Holitna River 6.70 321 P Pn 19 50 09.9 -0.5
baz=134
PAX Paxson 6.70 13 P Pn 19 50 10.4 -0.1
baz=196
SDPT Sand Point 6.74 265 Pn 19 50 09.0 -1.9
SDPT Sand Point 6.74 265 P Pn 19 50 09.7 -1.2
baz=76
S31K Pelican 6.91 72 P Pn 19 50 10.2 -3.1
baz=263
YUK6 Outpost Mounta 6.98 46 P Pn 19 50 14.5 +0.1
baz=235
M16K Timber Creek 7.02 315 P Pn 19 50 14.7 -0.1
baz=126
TRF Thorofare Moun 7.03 354 P Pn 19 50 15.6 +0.4
baz=173
N15K Kwethluk River 7.05 306 P Pn 19 50 15.8 +0.5
baz=117
L18K Granite Mounta 7.06 328 P Pn 19 50 14.3 -1.0
baz=141
BVCY Beaver Creek 7.15 31 P Pn 19 50 16.4 -0.2
baz=217
CAST Castle Rocks 7.16 348 P Pn 19 50 16.9 +0.2
baz=165
PLBC Pleasant Camp 7.19 60 P Pn 19 50 16.3 -0.7
baz=251
HYT Haines Junctio 7.26 49 Pn Pn 19 50 17.6 -0.7
HYT Haines Junctio 7.26 49 P Pn 19 50 17.3 -0.9
baz=238
O14K Tigyukauivet M 7.27 298 P Pn 19 50 18.5 +0.3
baz=107
MCK McKinley 7.27 359 P Pn 19 50 18.2 -0.1
baz=179
TTA Tatalina 7.45 333 P Pn 19 50 20.0 -0.8
baz=147
L17K Donlin 7.50 323 P Pn 19 50 20.8 -0.6
baz=135
S12K Black Hills 7.54 270 Pn 19 50 20.5 -1.4
S12K Black Hills 7.54 270 P Pn 19 50 20.8 -1.2
baz=79
M15K Kasigluk River 7.56 309 P Pn 19 50 22.1 -0.1
baz=119
L16K Owhat River 7.64 318 P Pn 19 50 22.9 -0.4
baz=129
CHUM Lake Minchumin 7.64 348 P Pn 19 50 23.0 -0.3
baz=165
BPAW Bear Paw Mtn. 7.72 352 P Pn 19 50 24.0 -0.5
baz=171
S32K Killisnoo 7.76 77 P Pn 19 50 22.0 -3.0
baz=268
SCRK Sand Creek 7.86 15 P Pn 19 50 25.9 -0.6
baz=199
M29M Somme Creek 7.91 37 P Pn 19 50 26.7 -0.4
baz=226
K17K Iditarod 7.92 326 P Pn 19 50 26.5 -0.7
baz=138
J18K Innoko River 8.07 333 P Pn 19 50 28.7 -0.5
baz=147
M14K Bethel 8.14 307 P Pn 19 50 30.6 +0.4
baz=116
J20K Nowinta River 8.18 343 P Pn 19 50 30.3 -0.3
baz=158
K27K Chicken 8.24 21 P Pn 19 50 31.1 -0.5
baz=206
J19K Poorman 8.28 338 P Pn 19 50 31.2 -0.9
baz=152
ILAR Eielson Array 8.36 5 Pn Pn 19 50 32.8 -0.3
comp=N,0.4nm,0.3s,baz=182,slow=13,SNR=16
ILAR Sn Sn 19 52 03.9 -3.6
comp=N,1.1nm,0.3s,baz=185,slow=19,SNR=8.2
comp=N,2.1nm,0.7s
L29M L29M 8.49 34 P Pn 19 50 34.3 -0.7
baz=223
P32M Atlin 8.52 62 P Pn 19 50 33.8 -1.6
baz=255
M30M Minto, Yukon 8.57 40 Pn 19 50 35.4 -0.8
M30M Minto, Yukon 8.57 40 P Pn 19 50 35.4 -0.8
baz=230
MLY Manley 8.63 354 P Pn 19 50 36.7 -0.3
baz=172
U33K Whale Pass 8.65 86 P Pn 19 50 32.8 -4.4
baz=279
I23K Minto, Yukon-K 8.70 358 P Pn 19 50 37.9 +0.1
baz=178
K15K Wolf Creek Mou 8.76 317 P Pn 19 50 38.4 -0.3
baz=126
CRAG Craig 8.78 90 P Pn 19 50 35.4 -3.4
baz=283
J16K Anvik River 9.07 324 P Pn 19 50 41.9 -0.9
baz=134
P33M Teslin, Yukon 9.12 59 Pn 19 50 42.5 -1.3
P33M Teslin, Yukon 9.12 59 P Pn 19 50 41.9 -1.8
baz=253
K29M Barlow Dome 9.22 32 P Pn 19 50 44.7 -0.4
baz=222
H21K Melozitna Rive 9.41 349 P Pn 19 50 47.1 -0.5
baz=166
R33M Jennings River 9.85 65 P Pn 19 50 51.7 -2.0
baz=260
H18K Honhosa River 9.88 336 P Pn 19 50 53.6 -0.4
baz=147
I28M Miner Creek 9.93 22 P Pn 19 50 53.7 -1.0
baz=209
AKUT Akutan 10.03 264 Pn 19 50 54.1 -2.0
H17K Granite Mounta 10.09 332 Pn 19 50 55.5 -1.4
DLBC Dease Lake 10.23 71 Pn 19 50 58.4 -0.4
DLBC Dease Lake 10.23 71 Pn Pn 19 50 58.2 -0.6
comp=N,0.8nm,0.3s,baz=265,slow=12,SNR=7.2
DLBC LR LR 19 54 15.5
comp=N,1μm,18.7s,baz=290,slow=34
comp=N,2.2nm,0.3s
G19K Purcell Mounta 10.49 341 Pn Pn 19 51 01.0 -1.2
MMPY Sheldon Lake, 10.73 48 Pn 19 51 05.5 -0.2
WTLY Watson Lake, Y 11.05 63 Pn 19 51 08.9 -1.2
ANM Nome 11.51 322 Pn 19 51 15.1 -1.1
E25K Arctic Village 11.76 6 Pn 19 51 19.2 -0.5
F28M Old Crow 11.88 17 Pn 19 51 21.6 +0.3
G31M Satah River 12.45 27 Pn 19 51 29.9 +0.8
BBB Bella Bella 12.73 101 LR LR 19 55 18.8
comp=N,560nm,18.4s,baz=282,slow=32
INK Inuvik 13.72 24 Pn Pn 19 51 48.0 +1.6
comp=N,0.3nm,0.3s,baz=204,slow=14,SNR=14
INK LR LR 19 57 34.6
comp=N,726nm,18.6s,baz=198,slow=40
comp=N,12nm,1.0s
C36M Paulatuk 16.89 31 IAmb IAmb 19 52 33.2
comp=Z,18nm,1.0s
YKA Yellowknife Ar 18.14 57 P P 19 52 43.4 -0.7
comp=Z,0.1nm,0.3s,baz=263,slow=11,SNR=51
comp=Z,10nm,1.0s
MXC Moxie City 20.10 108 IAmb IAmb 19 53 09.9
comp=Z,13nm,1.1s
H04A Detroit Lake 20.40 114 IAmb IAmb 19 53 20.4
comp=Z,18nm,1.4s
EDM Edmonton 20.45 84 IAmb IAmb 19 53 45.1
comp=Z,22nm,1.4s
D08A Wollman Farm, 20.53 105 IAmb IAmb 19 53 14.5
comp=Z,16nm,1.4s
HAWA Hanford 20.63 107 IAmb IAmb 19 53 15.7
comp=Z,13nm,1.3s
NEW Newport 20.79 100 IAmb IAmb 19 53 46.1
comp=Z,12nm,1.1s
NEW Newport 20.79 100 P Pn 19 53 13.9 -1.6
comp=Z,1.2nm,0.7s,baz=314,slow=11,SNR=3.9
comp=Z,1.2nm,0.7s
I04A Tendick Farm, 20.92 116 IAmb IAmb 19 53 50.4
comp=Z,17nm,1.2s
HUMO Hull Mountain 21.53 119 P P 19 53 21.0 -0.2
HUMO IAmb IAmb 19 53 23.8
comp=Z,21nm,1.3s

PINE Pine Mountain 21.66 114 P P 19 53 22.0 -0.7
PINE IAmb IAmb 19 53 28.7
comp=Z,18nm,1.2s
SHEM Shemya Is, Ala 21.71 276 LR LR 20 02 37.6
comp=Z,174nm,18.7s,baz=126,slow=39
J05D Fort Rock, OR 21.88 115 IAmb IAmb 19 53 43.3
comp=Z,17nm,1.2s
K05A Summer Lake 22.46 116 P P 19 53 29.4 -1.9
K05A IAmb IAmb 19 53 47.1
comp=Z,15nm,1.1s
BILL Bilibino 23.32 318 P P 19 53 39.0 -0.9
WVOR Wild Horse Val 23.81 113 IAmb IAmb 19 53 59.5
comp=Z,7.1nm,0.8s
MPK Martis Peak 25.50 120 P P 19 53 59.4 -1.3
PNTR Pine Nut 25.86 120 P P 19 54 03.5 -0.4
WAKR Walker 26.40 121 P P 19 54 07.4 -1.4
ELK Elko 26.78 112 P P 19 54 12.2 -0.1
comp=Z,1.3nm,0.9s,baz=343,slow=7.9,SNR=3.4
comp=Z,1.3nm,0.9s
NVAR Mina Array Bea 27.01 119 P P 19 54 15.7 +1.5
comp=Z,1.3nm,0.8s,baz=308,slow=9.0,SNR=8.0
comp=Z,1.3nm,0.8s
MZP Montezuma Peak 28.03 119 IAmb IAmb 19 54 18.4
comp=Z,6.0nm,0.8s
PDAR Pinedale Array 28.37 102 P P 19 54 27.2 +0.7
comp=Z,0.3nm,0.7s,baz=312,slow=6.7,SNR=3.1
comp=Z,0.3nm,0.7s
FCC Fort Churchill 28.64 62 P P 19 54 28.7 +0.4
FCC IAmb IAmb 19 54 32.9
comp=Z,8.8nm,1.2s
WCT Wildcat Mounta 29.12 119 IAmb IAmb 19 55 03.9
comp=Z,5.9nm,1.4s
SEY Seymchan 29.45 307 LR LR 20 06 57.3
comp=Z,311nm,19.3s,baz=82,slow=38
GWY Greenwater Val 29.58 120 IAmb IAmb 19 54 39.1
comp=Z,4.2nm,1.0s
QSM Queen of Sheba 29.66 120 IAmb IAmb 19 54 40.0
comp=Z,5.2nm,1.1s
SRU San Rafael Swe 30.44 108 IAmb IAmb 19 54 47.0
comp=Z,5.3nm,1.0s
MA2 Magadan 31.24 301 LR LR 20 07 40.0
comp=Z,252nm,20.0s,baz=78,slow=37
ULM Lac du Bonnet 31.43 79 P P 19 54 55.1 +2.0
comp=Z,2.2nm,0.9s,baz=333,slow=6.8,SNR=2.6
comp=Z,2.2nm,0.9s
PFO Pinyon Flats O 31.77 122 LR LR 20 04 49.1
comp=Z,448nm,18.3s,baz=280,slow=31
KULLO Kullorsuaq 37.06 26 *i* P P 19 55 43.5 +1.8
KULLO IAmb IAmb 19 55 51.2
comp=Z,5.9nm,0.8s
NEEM North Greenlan 37.27 21 *i* P P 19 55 45.3 +1.6
NEEM IAmb IAmb 19 55 47.3
comp=Z,8.6nm,1.1s
YAK Yakutsk 39.49 313 P P 19 56 02.1 -0.1
TXAR Lajitas Array 41.58 112 P P 19 56 21.4 +1.4
comp=Z,0.8nm,0.9s,baz=5.7,slow=3.6,SNR=5.8
TXAR LR LR 20 12 27.2
comp=Z,124nm,19.0s,baz=328,slow=34
comp=Z,0.8nm,0.9s
SUMG Summit 42.64 25 *i* P P 19 56 30.0 +1.5
SUMG IAmb IAmb 19 56 31.9
comp=Z,11nm,0.9s
SFJD Kangerlussuaq 42.73 35 P P 19 56 28.2 -0.5
DAG Danmarks Havn 43.32 15 *i* P P 19 56 33.4 0.0
DAG IAmb IAmb 19 56 35.7
comp=Z,6.2nm,0.8s
HICK Hickman 43.91 91 P P 19 56 37.2 -1.5
ICESG Greenland Ices 44.63 29 *i* P P 19 56 44.8 +0.3
ICESG IAmb IAmb 19 56 47.6
comp=Z,5.3nm,1.0s
DBG Daneborg 45.03 18 *i* P P 19 56 47.1 -0.1
DBG IAmb IAmb 19 56 50.3
comp=Z,4.8nm,0.9s
HEH HeiHe 47.49 300 *e*P P 19 57 07.0 +0.2
HEH pmax pmax
comp=Z,6.0nm,1.3s
NRIK Noril'sk 48.05 337 P P 19 57 12.1 +1.1
comp=Z,1.8nm,0.3s,baz=40,slow=5.7,SNR=5.8
NRIK LR LR 20 20 49.8
comp=Z,256nm,18.7s,baz=326,slow=40
comp=Z,1.8nm,0.3s
H11N2 WAKE ISLAND Hy 49.28 240 T T 20 50 36.4
baz=30,slow=76,SNR=18
H11N3 WAKE ISLAND Hy 49.29 240 T T 20 50 38.8
baz=30,slow=76,SNR=19
H11N1 WAKE ISLAND Hy 49.30 240 T T 20 50 36.0
baz=30,slow=76,SNR=15
H11S1 WAKE ISLAND Hy 50.42 240 T T 20 52 43.8
baz=29,slow=76,SNR=43
H11S2 WAKE ISLAND Hy 50.44 240 T T 20 52 42.1
baz=29,slow=76,SNR=26
H11S3 WAKE ISLAND Hy 50.44 240 T T 20 52 42.9
baz=29,slow=76,SNR=33
ARCES ARCESS Array B 54.21 3 P P 19 57 58.5 +1.3
comp=Z,4.5nm,1.1s,baz=359,slow=8.1,SNR=3.5
comp=Z,4.5nm,1.1s
JCJ Chichijima 56.43 269 LR LR 20 21 44.6
comp=Z,57nm,20.2s,baz=94,slow=35
XLT XiLinHaoTe 57.44 301 *e*P P 19 58 16.5 -4.3
XLT pmax pmax
comp=Z,11nm,0.7s
XLT pmax pmax
comp=Z,130nm,4.9s
SONM Songino Array 58.77 310 P P 19 58 31.0 +0.9
SONM Songino Array 58.77 310 P P 19 58 31.8 +1.7
comp=Z,2.2nm,0.8s,baz=39,slow=7.0,SNR=15
comp=Z,2.2nm,0.8s
ZALV Zalesovo Beam 61.57 327 P P 19 58 50.1 +1.1
comp=Z,1.2nm,0.6s,baz=34,slow=7.3,SNR=6.9
comp=Z,1.2nm,0.6s
NOA NORSAR Array B 61.75 11 P P 19 58 50.9 +0.8
comp=Z,0.5nm,0.7s,baz=347,slow=6.4,SNR=2.6
comp=Z,0.5nm,0.7s
FINES FINESS Array B 62.34 3 P P 19 58 53.3 -0.7
comp=Z,2.0nm,0.7s,baz=293,slow=1.5,SNR=5.3
comp=Z,2.0nm,0.7s
KURBB Kurchatov Arra 66.34 329 P P 19 59 20.2 -0.2
comp=Z,0.5nm,0.6s,baz=30,slow=6.8,SNR=6.9
comp=Z,0.5nm,0.6s
GTA Gaotai 68.38 309 *e*P P 19 59 35.8 +2.1
GTA pP pwP 19 59 42.3 +1.2
GTA pmax pmax
comp=Z,2.0nm,1.2s
MKAR Makanchi Array 68.62 325 P P 19 59 35.0 0.0
comp=Z,0.6nm,0.9s,baz=51,slow=8.1,SNR=5.4
comp=Z,0.6nm,0.9s
WMQ Urumqi 69.41 320 *e*P P 19 59 28.3 -12
WMQ pmax pmax
comp=Z,37nm,0.7s
AKTO Aktyubinsk 71.17 342 P P 19 59 51.4 +0.8
comp=Z,1.5nm,0.7s,baz=51,slow=5.9,SNR=6.3
comp=Z,1.5nm,0.7s
AKASG Malin Array Be 73.16 1 P P 20 00 02.4 0.0
comp=Z,1.9nm,0.7s,baz=360,slow=5.9,SNR=7.2
comp=Z,1.9nm,0.7s
STHS Stebnicka Huta 74.13 7 *e*P P 20 00 08.1 -0.1
MODS Modra-Piesok 74.85 10 *e*P P 20 00 10.5 -1.9
VYHS Vyhne 74.87 9 *e*P P 20 00 12.7 +0.2
PZH PanZhiHua 78.31 300 P P 20 00 31.0 -1.4
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,6.2s
ESDC Sonseca Array 79.65 27 P P 20 00 41.5 +2.0
comp=Z,1.8nm,0.8s,baz=338,slow=6.6,SNR=8.1
comp=Z,1.8nm,0.8s
KBZ Khabaz 79.68 352 P P 20 00 42.5 +3.1
comp=Z,3.1nm,0.9s,baz=84,slow=5.1,SNR=3.8
comp=Z,3.1nm,0.9s
CMAR Chiang Mai Arr 86.49 298 P P 20 01 15.3 +0.3
comp=Z,0.6nm,0.7s,baz=15,slow=6.0,SNR=6.6
comp=Z,0.6nm,0.7s
URZ Urewera 98.74 207 LR LR 20 41 05.9
comp=Z,59nm,19.2s,baz=123,slow=32
QSPA South Pole Qui 146.28 180 PKPbc PKPab 20 08 11.1 -1.1
comp=Z,2.7nm,0.8s,baz=330,slow=0.5,SNR=12

NEIC ***29*** *20:10:16.4±1.2,56°.37N±0°.08×148°.77W±0°.05,h10km±2km, ML3.7/48,ML3.5(AEIC),Error ellipse: s-maj=13.1km s-min=4.7km az=189.0*
AEIC ***29*** *20:10:19.0±1.9,56°.2N±0°.1×148°.6W±0°.1,h12km±8km, Error ellipse: s-maj=16.7km s-min=9.3km az=169.0*
ISC 29 20:10:14.8±2.1,56°.3N±0°.1×148°.72W±0°.05,h10km,n104, σ1§06/108,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	Kodiak Island	2.57	306		Pn	20 10 57.5	+1.1
KDAK	Kodiak Island	2.57	306		Sn	20 11 26.4	-1.4
KDAK	Kodiak Island	2.57	306	S	Sn	20 11 26.9	-0.9
baz=125							
OHAK	Old Harbor	2.67	292		Pn	20 10 58.3	+0.4
OHAK					Sn	20 11 28.9	-1.4
OHAK	Old Harbor	2.67	292		Sb	20 11 34.4	-1.1
OHAK	Old Harbor	2.67	292	P	Pn	20 10 58.3	+0.4
baz=110							
OHAK				S	Sn	20 11 28.9	-1.4
baz=110							
SYI	Shuyak Island	3.04	321		Pn	20 11 04.2	+1.3
SYI					Sn	20 11 39.1	-0.1
Q20K	Shuyak Island	3.04	321	P	Pn	20 11 04.2	+1.3
baz=138							
Q20K				S	Sn	20 11 39.6	+0.4
baz=138							
MID	Middleton Isla	3.37	21		Pn	20 11 07.1	-0.3
MID					Sn	20 11 43.0	-4.4
MID	Middleton Isla	3.37	21	IAML		20 13 08.7	
comp=N,83nm,0.8s							
MID				IAML		20 13 14.2	
comp=E,85nm,0.5s							
Q23K	Middleton Isla	3.37	21		Pn	20 11 07.4	0.0
Q23K					Sn	20 11 47.6	+0.2
Q23K	Middleton Isla	3.37	21	IAML		20 13 14.2	
comp=E,81nm,0.5s							
Q23K				IAML		20 13 15.0	
comp=N,95nm,0.5s							
Q23K	Middleton Isla	3.37	21	P	Pn	20 11 07.4	0.0
baz=201							
Q23K				S	Sn	20 11 47.6	+0.2
baz=201							
CNPM	China Poot	3.49	338		Pn	20 11 09.8	+0.7
BRSE	Bradley Lake S	3.60	343		Pn	20 11 11.4	+0.7
BRSE					Sn	20 11 52.8	-0.3
BRSE	Bradley Lake S	3.60	343	P	Pn	20 11 11.4	+0.7
baz=161							
BRSE				S	Sn	20 11 52.8	-0.3
baz=161							
BRLK	Bradley Lake	3.64	342		Pn	20 11 12.2	+0.9
Q19K	Cape Douglas,	3.72	317		Pn	20 11 13.2	+0.8
Q19K	Cape Douglas,	3.72	317	IAML		20 13 29.0	
comp=E,191nm,1.1s							
Q19K				IAML		20 13 32.5	
comp=N,102nm,1.1s							
Q19K	Cape Douglas,	3.72	317	P	Pn	20 11 13.1	+0.8
baz=134							
P23K	Montague Islan	3.76	10		Pn	20 11 12.9	+0.1
P23K	Montague Islan	3.76	10	P	Pn	20 11 12.9	+0.1
baz=190							
AUCH	Augustine Cone	3.96	322		Pn	20 11 16.4	+0.8
KAKN	Katmai Knife C	3.97	303		Pn	20 11 17.3	+1.5
P19K	Oil Pt	4.12	326		Pn	20 11 18.5	+0.8
P19K	Oil Pt	4.12	326	IAML		20 14 04.3	
comp=E,129nm,0.7s							
P19K				IAML		20 14 06.0	
comp=N,146nm,0.5s							
P19K	Oil Pt	4.12	326	P	Pn	20 11 18.5	+0.8
baz=143							
HIN	Hinchinbrook I	4.25	15		Pn	20 11 20.2	+0.5
KAIM	Kayak Island	4.28	30		Pn	20 11 20.3	+0.4
KAIM	Kayak Island	4.28	30	P	Pn	20 11 20.3	+0.4
baz=212							
O20K	Slope Mountain	4.30	333		Pn	20 11 21.3	+1.0
O20K	Slope Mountain	4.30	333	P	Pn	20 11 21.3	+1.0
baz=150							
ILSW	Iliamna Southw	4.36	329	Pn	Pn	20 11 21.7	+0.5
ILSW				IAML		20 14 08.6	
comp=N,72nm,0.7s							
EYAK	Cordova Ski Ar	4.52	19		Pn	20 11 23.5	+0.3
EYAK	Cordova Ski Ar	4.52	19	P	Pn	20 11 23.5	+0.3
baz=200							
SUCK	Suckling Hills	4.58	33	Pn	Pn	20 11 24.7	+0.6
P18K	Big Mountain,	4.65	314		Pn	20 11 26.0	+1.0
P18K	Big Mountain,	4.65	314	P	Pn	20 11 26.0	+1.0
baz=130							
NICHA	Nichawak Mount	4.66	31		Pn	20 11 25.7	+0.4
HMT	Hamilton	4.67	28		Pn	20 11 27.3	+2.0
RDWB	Redoubt West	4.71	334		Pn	20 11 26.7	+0.7
RC01	Rabbit Creek A	4.82	354	Pn	Pn	20 11 28.9	+1.5
BERG	Berg Lake	4.87	31		Pn	20 11 28.3	+0.3
O18K	Koktuh Hills	4.94	319	Pn	Pn	20 11 30.0	+0.9
O18K				IAML		20 14 32.4	
comp=E,29nm,0.8s							
O18K				IAML		20 14 41.9	
comp=N,46nm,0.9s							
KNK	Knik Glacier	5.11	1	Pn	Pn	20 11 31.7	+0.2
BMRM	Bremner River	5.13	23		Pn	20 11 32.4	+0.6
BMRM	Bremner River	5.13	23	P	Pn	20 11 32.4	+0.6
baz=205							
SUA	Susitna One	5.27	349		Pn	20 11 34.4	+0.7
SUA	Susitna One	5.27	349	P	Pn	20 11 34.4	+0.7
baz=167							
CRQM	Cirque	5.33	31		Pn	20 11 35.1	+0.7
CRQM				IAML		20 14 35.3	
comp=E,102nm,0.7s							
KLU	Klutina	5.39	14		Pn	20 11 35.9	+0.6
KLU				IAML		20 14 30.2	
comp=E,98nm,0.8s							
KLU				IAML		20 14 30.4	
comp=N,72nm,0.6s							
KLU	Klutina,	5.39	14	P	Pn	20 11 36.2	+0.9
baz=196							
TGL	Tana Glacier	5.41	32		Pn	20 11 36.6	+0.9
TGL				IAML		20 14 29.4	
comp=E,80nm,1.1s							
TGL				IAML		20 14 31.2	
comp=N,76nm,0.6s							
N19K	Bonanza Creek	5.42	329		Pn	20 11 36.8	+1.0
N19K	Bonanza Creek	5.42	329	IAML		20 14 41.2	
comp=N,24nm,0.7s							
N19K				IAML		20 15 00.4	
comp=E,20nm,1.5s							
N19K	Bonanza Creek	5.42	329	P	Pn	20 11 36.8	+1.0
baz=144							
ISLE	Juniper Island	5.45	35	Pn	Pn	20 11 37.4	+1.3
GHO	Glory Hole Cre	5.47	359		Pn	20 11 37.1	+0.7
SML	Sawmill	5.51	2		Pn	20 11 37.4	+0.5
SML	Sawmill	5.51	2	P	Pn	20 11 37.4	+0.5
baz=182							
N25K	Chitina, Valde	5.72	20		Pn	20 11 41.1	+1.3
GLB	Gilahina Butte	5.73	24	Pn	Pn	20 11 40.9	+0.9
TABL	Table Mountain	5.74	41		Pn	20 11 41.2	+1.0
N18K	Kilae Creek	5.77	322		Pn	20 11 41.5	+1.1
N18K	Kilae Creek	5.77	322	P	Pn	20 11 41.5	+1.1
baz=137							
MCARA	McCarthy VSAT	5.88	28		Pn	20 11 43.4	+1.5
O16K	Kokwok River B	5.97	307		Pn	20 11 44.9	+1.7
O16K	Kokwok River B	5.97	307	P	Pn	20 11 44.9	+1.7
baz=120							
PNL	Peninsula	5.99	52		Pn	20 11 44.5	+1.0
PNL	Peninsula	5.99	52	P	Pn	20 11 44.5	+1.0
baz=238							
BARN	Barnard Glacie	6.01	35		Pn	20 11 44.6	+0.7
M20K	Styx River	6.03	340		Pn	20 11 45.2	+1.2
M20K	Styx River	6.03	340	P	Pn	20 11 45.2	+1.2
baz=156							
BCPM	Bancas Point	6.04	49		Pn	20 11 44.9	+0.8
N17K	Nushagak Hills	6.13	317	Pn	Pn	20 11 45.7	+0.4
M19K	Big River Lodg	6.32	335	Pn	Pn	20 11 48.4	+0.4
M18K	Stony River	6.36	328		Pn	20 11 49.3	+0.9
M18K	Stony River	6.36	328	P	Pn	20 11 49.3	+0.9
baz=142							
L19K	White Mountain	6.67	334	Pn	Pn	20 11 53.2	+0.4
baz=357,slow=8.3,SNR=4.3							
0.1nm,0.7s							
MKAR	Makanchi Array	56.81	325	P	P	20 08 59.6	+1.4
0.1nm,0.4s,baz=118,slow=6.8,SNR=2.0							
0.1nm,0.4s							
KURBB	Kurchatov Arra	61.01	328	P	P	20 09 26.1	-1.2
0.4nm,0.9s,baz=118,slow=6.1,SNR=4.1							
0.4nm,0.9s							

IDC 29 19:59:11.9±2.0,4°.08N×125°.92E,h0km,mb3.2/4, mbtmp3.2/4,Error ellipse: s-maj=203.3km s-min=23.9km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	25.27	161	P	P	20 04 40.4	+0.3
0.2nm,0.7s,baz=339,slow=11,SNR=4.9							
0.2nm,0.7s							
ASAR	Alice Springs	28.66	165	P	P	20 05 10.2	-0.4

O29M	Mount Kennedy	6.67	49		Pn	20 11 52.8	-0.1
O29M	Mount Kennedy baz=236	6.67	49	P	Pn	20 11 52.8	-0.1
P29M	Windy Craggy	6.72	56		Pn	20 11 53.4	0.0
P29M	Windy Craggy baz=244	6.72	56	P	Pn	20 11 53.4	0.0
M17K	Holitna River	6.81	322		Pn	20 11 56.2	+1.5
DHY	Denali Highway	6.81	5	Pn	Pn	20 11 55.8	+0.9
M27K	Edge Creek, AK	6.99	27	Pn	Pn	20 11 58.2	+0.9
S31K	Pelican	6.99	71		Pn	20 11 56.2	-1.0
S31K	Pelican baz=260	6.99	71	P	Pn	20 11 56.2	-1.0
M16K	Timber Creek	7.12	316	Pn	Pn	20 12 00.3	+1.4
N15K	Kwethluk River	7.13	307		Pn	20 11 58.9	-0.3
L18K	Granite Mounta	7.19	329	Pn	Pn	20 12 00.5	+0.7
L27K	Beaver Creek,	7.61	24	Pn	Pn	20 12 07.1	+1.5
BCAR	Beaver Creek A	7.62	24	Pn	Pn	20 12 07.2	+1.3
RIDG	Independent Ri	7.69	13		Pn	20 12 08.9	+2.0
L16K	Owhat River	7.74	319	Pn	Pn	20 12 08.1	+0.7
BPAW	Bear Paw Mtn.	7.89	353	Pn	Pn	20 12 10.2	+0.7
N30M	Aishikik Lake	7.92	45	Pn	Pn	20 12 11.3	+1.3
K17K	Iditarod	8.05	327	Pn	Pn	20 12 12.2	+0.6
M29M	Somme Creek	8.06	36	Pn	Pn	20 12 13.2	+1.2
L29M	L29M	8.65	34	Pn	Pn	20 12 22.2	+2.2
MDM	Murphy Dome	8.68	1	Pn	Pn	20 12 21.4	+1.1
K29M	Barlow Dome	9.38	32	Pn	Pn	20 12 31.7	+1.7
M31M	Drury Creek, Y	9.40	45	Pn	Pn	20 12 31.5	+1.3
MMPY	Sheldon Lake,	10.87	47	Pn	Pn	20 12 51.8	+1.5

NEIC ***29*** *20:12:07.9±2.1,56˚.33N±0˚.06×148˚.51W±0˚.07,h10km±1km, mb4.1/3,ML4.0/66,ML3.7(AEIC),Error ellipse: s-maj=11.4km s-min=5.3km az=24.0*

IDC ***29*** *20:12:08.9±1.3,56˚.36N×148˚.52W,h0km, mb3.8/6, mbtmp3.8/11,ML3.3/5,MS3.7/11,Error ellipse: s-maj=26.6km s-min=22.5km az=162.0*

AEIC ***29*** *20:12:13.5±1.6,56˚.37N±0˚.08×148˚.6W±0˚.1,h12km±4km, Error ellipse: s-maj=11.8km s-min=9.0km az=176.0*

ISC 29 20:12:09.1±0.8,56˚.42N±0˚.07×148˚.63W±0˚.05,h10km, n218,σ0s94/212,mb4.1/9,MS3.9/6,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.56	304		Pn	20 12 50.2	-0.3
KDAK	Kodiak Island	2.56	304		Sn	20 13 18.6	-3.1
KDAK	Kodiak Island 6.8nm,0.3s,baz=124,slow=4.3,SNR=15	2.56	304	Pn	Pn	20 12 50.4	-0.1
KDAK	8.6nm,0.3s,baz=154,slow=15,SNR=8.5			Sn	Sn	20 13 19.4	-2.3
KDAK	comp=Z,1μm,19.9s,baz=139,slow=44 18nm,0.3s			LR	LR	20 14 06.0	
OHAK	Old Harbor	2.69	289	P	Pn	20 12 51.7	-0.6
OHAK	Old Harbor	2.69	289		Pn	20 12 51.4	-0.9
OHAK	Old Harbor	2.69	289		Sn	20 13 21.5	-3.3
OHAK	Old Harbor baz=107	2.69	289	P	Pn	20 12 51.6	-0.7
OHAK	baz=107			S	Sn	20 13 21.5	-3.3
SYI	Shuyak Island	2.99	319		Sn	20 13 31.7	-0.7
SYI	Shuyak Island	2.99	319	Pn	Pn	20 12 56.8	+0.2
SYI	comp=E,113nm,1.0s			IAML		20 13 35.0	
SYI	comp=N,76nm,1.2s			IAML		20 13 39.3	
Q20K	Shuyak Island baz=136	3.00	319	P	Pn	20 12 56.7	+0.2
Q20K	baz=136			S	Sn	20 13 31.7	-0.8
Q23K	Middleton Isla	3.26	21	Pn	Pn	20 12 59.6	-0.5
Q23K	comp=E,373nm,0.6s			IAML		20 13 37.6	
Q23K	Middleton Isla baz=201	3.26	21	P	Pn	20 13 00.1	0.0
MID	Middleton Isla	3.26	21	P	Pn	20 12 59.9	-0.3
MID	Middleton Isla	3.26	21		Sn	20 13 36.3	-2.6
MID	Middleton Isla	3.26	21	Pn	Pn	20 12 59.7	-0.4
MID	comp=N,218nm,0.4s			IAML		20 13 37.6	
MID	comp=E,312nm,0.7s			IAML		20 13 37.6	
CNPM	China Poot	3.42	337		Pn	20 13 02.1	-0.2
CNPM	comp=E,81nm,1.0s			IAML		20 13 51.0	
CNPM	comp=N,71nm,0.8s			IAML		20 14 01.6	
CNPM	China Poot	3.42	337		Sn	20 13 42.1	-0.8
BRSE	Bradley Lake S	3.52	342		Pn	20 13 03.7	-0.1
BRSE					Sn	20 13 45.2	-0.2
BRSE	Bradley Lake S baz=160	3.52	342	P	Pn	20 13 03.7	-0.1
BRSE	baz=160			S	Sn	20 13 45.2	-0.2
BRLK	Bradley Lake	3.57	341		Pn	20 13 04.0	-0.5
BRLK	comp=N,135nm,0.9s			IAML		20 13 50.6	
BRLK	comp=E,119nm,0.8s			IAML		20 13 50.8	
BRLK	Bradley Lake	3.57	341		Sn	20 13 45.3	-1.3
HOM	Homer	3.63	335		Pn	20 13 05.7	+0.4
HOM	comp=N,305nm,1.1s			IAML		20 13 56.9	
HOM	comp=E,287nm,1.3s			IAML		20 14 06.9	
HOM	Homer baz=152	3.63	335	P	Pn	20 13 05.3	+0.1
P23K	Montague Islan	3.65	10		Sn	20 13 46.0	-2.7
P23K	Montague Islan baz=190	3.65	10	P	Pn	20 13 05.4	-0.2
P23K	baz=190			S	Sn	20 13 46.0	-2.7
Q19K	Cape Douglas,	3.69	315		Pn	20 13 06.6	+0.5
Q19K	Cape Douglas, baz=132	3.69	315	P	Pn	20 13 06.0	-0.2
SEW	Seward	3.73	354		Pn	20 13 05.8	-0.8
SEW					Sn	20 13 48.8	-1.7
SEW	Seward baz=172	3.73	354	P	Pn	20 13 06.5	0.0
SEW	baz=172			S	Sn	20 13 49.3	-1.2
KAKN	Katmai Knife C	3.96	301		Pn	20 13 10.5	+0.6
P19K	Oil Pt	4.07	325		Pn	20 13 11.6	+0.3
P19K	comp=E,144nm,0.7s			IAML		20 14 07.7	
P19K	comp=N,150nm,0.8s			IAML		20 14 14.5	
P19K	Oil Pt baz=141	4.07	325	P	Pn	20 13 11.6	+0.3
O22K	Cooper Landing	4.12	352	Pn	Pn	20 13 11.3	-0.7
O22K	Cooper Landing baz=171	4.12	352	P	Pn	20 13 11.8	-0.2
ANCK	Angle Creek	4.13	299		Pn	20 13 12.6	+0.3
HIN	Hinchinbrook I	4.15	15		Pn	20 13 12.3	-0.1
HIN	Hinchinbrook I	4.15	15		Sn	20 13 58.5	-2.4
KAIM	Kayak Island	4.17	31		Pn	20 13 12.8	+0.2
KAIM	comp=E,247nm,0.6s			IAML		20 14 06.8	
KAIM	Kayak Island baz=213	4.17	31	P	Pn	20 13 13.5	+0.8
O20K	Slope Mountain	4.24	332		Pn	20 13 14.1	+0.4
O20K	Slope Mountain baz=148	4.24	332	P	Pn	20 13 14.1	+0.4
IVE	Iliamna Volcan	4.29	329		Pn	20 13 14.1	-0.4
ILSW	Iliamna Southw	4.30	328		Pn	20 13 14.2	-0.4
ILSW	comp=E,92nm,0.8s			IAML		20 14 12.1	
CNTC	Contact Creek	4.35	298		Pn	20 13 16.1	+0.9
Q17K	Contact Creek baz=113	4.35	298	P	Pn	20 13 16.1	+0.9
EYAK	Cordova Ski Ar	4.41	19	P	Pn	20 13 16.4	+0.4
EYAK	Cordova Ski Ar	4.41	19		Pn	20 13 16.1	+0.1
EYAK	Cordova Ski Ar baz=200	4.41	19	P	Pn	20 13 16.1	+0.1
SUCK	Suckling Hills	4.47	33		Pn	20 13 17.2	+0.3
SUCK	comp=N,197nm,0.7s			IAML		20 14 20.9	
SUCK	comp=E,133nm,0.9s			IAML		20 14 27.8	
RAGM	Ragged Mountai	4.49	26		Pn	20 13 17.5	+0.3
NICHA	Nichawak Mount	4.55	31		Pn	20 13 18.1	+0.1
HMT	Hamilton	4.55	28		Pn	20 13 18.4	+0.3
CAPN	Captain Cook N	4.56	344	Pn	Pn	20 13 16.6	-1.4
RED	Redoubt Volcan	4.57	333		Pn	20 13 17.8	-0.5
RDSO	Redoubt South	4.59	334		Pn	20 13 18.1	-0.5
P18K	Big Mountain,	4.62	313		Pn	20 13 18.5	-0.4
P18K	Big Mountain, baz=128	4.62	313	P	Pn	20 13 18.4	-0.4
RDWB	Redoubt West	4.64	333		Pn	20 13 18.9	-0.5
GOAT	Goat Mountain	4.65	24		Pn	20 13 19.4	+0.1
BGLC	Bering Glacier	4.67	35		Pn	20 13 19.5	0.0
BGLC	Bering Glacier baz=218	4.67	35	P	Pn	20 13 19.5	0.0
RC01	Rabbit Creek A	4.72	353		Pn	20 13 20.3	+0.1
RC01	comp=E,107nm,0.6s			IAML		20 14 16.1	
RC01	comp=N,89nm,0.8s			IAML		20 14 19.0	
RC01	Rabbit Creek A baz=172	4.72	353	P	Pn	20 13 20.4	+0.1
NCT	North Crescent	4.73	333		Pn	20 13 20.1	-0.4
BERG	Berg Lake	4.76	31		Pn	20 13 20.8	+0.1
BERG	comp=N,173nm,0.8s			IAML		20 14 17.0	
GRIN	Grindle Hills	4.78	34		Pn	20 13 21.4	+0.3
O19K	Port Alsworth	4.83	324		Pn	20 13 22.0	+0.2
O19K	comp=N,143nm,0.5s			IAML		20 14 25.6	
O19K	comp=E,96nm,0.5s			IAML		20 14 29.7	
SNH	Sunshine Point	4.86	37		Pn	20 13 22.3	+0.1
SNH	comp=N,74nm,0.9s			IAML		20 14 41.9	
SNH	comp=E,76nm,0.9s			IAML		20 14 46.5	
O18K	Koktuh Hills	4.90	317		Pn	20 13 22.6	-0.2
O18K	Koktuh Hills baz=132	4.90	317	P	Pn	20 13 22.3	-0.4
DIV	Divide	4.96	16		Pn	20 13 23.8	+0.2
KNK	Knik Glacier	5.01	1	Pn	Pn	20 13 24.1	-0.2
KNK	comp=N,67nm,0.6s			IAML		20 14 28.8	
KNK	comp=E,93nm,0.8s			IAML		20 14 34.7	
KNK	Knik Glacier baz=180	5.01	1	P	Pn	20 13 24.4	+0.1
P17K	Kvichak River	5.02	307		Pn	20 13 24.5	+0.2
P17K	Kvichak River baz=121	5.02	307	P	Pn	20 13 24.5	+0.2
BMRM	Bremner River baz=205	5.03	23	P	Pn	20 13 24.9	+0.4
WAX	Waxell Ridge	5.06	34		Pn	20 13 24.4	-0.6
BARK	Barkley Ridge	5.14	36		Pn	20 13 26.1	0.0
N20K	Mount Spurr baz=157	5.15	340	P	Pn	20 13 26.1	-0.1
SPCR	Spurr Chakacha	5.15	340		Pn	20 13 26.1	-0.1
MESA	MESA	5.16	40		Pn	20 13 25.6	-0.9
MESA	comp=N,77nm,0.8s			IAML		20 14 38.8	
MESA	comp=E,78nm,0.9s			IAML		20 14 49.1	
MESA	MESA baz=225	5.16	40	P	Pn	20 13 26.6	+0.1
SUA	Susitna One	5.18	349	Pn	Pn	20 13 26.1	-0.6
SUA	comp=E,39nm,1.0s			IAML		20 15 05.0	
SUA	Susitna One baz=166	5.18	349	P	Pn	20 13 26.5	-0.2
PMR	Palmer	5.20	357	P	Pn	20 13 28.0	+1.2
PMR	Palmer	5.20	357		Pn	20 13 27.4	+0.6
PMR	comp=E,71nm,0.7s			IAML		20 14 32.0	
PMR	comp=N,54nm,0.7s			IAML		20 14 34.8	
CRQM	Cirque	5.21	31		Pn	20 13 27.3	+0.1
CRQE	Cirque baz=215	5.22	31	P	Pn	20 13 27.3	0.0
KLU	Klutina	5.28	14		Pn	20 13 28.3	+0.2
KLU	Klutina baz=196	5.28	14	P	Pn	20 13 28.3	+0.2
BAGL	Bagley Icefiel	5.34	37		Pn	20 13 29.1	+0.4
ISLE	Juniper Island	5.34	36		Pn	20 13 29.1	+0.2
ISLE	Juniper Island comp=N,60nm,0.8s	5.34	36	IAML		20 14 33.3	
ISLE	comp=E,69nm,0.9s			IAML		20 14 40.8	
STLK	Strandline Lak	5.36	343		Pn	20 13 29.3	+0.2
N19K	Bonanza Creek	5.37	328		Pn	20 13 28.8	-0.4
N19K	Bonanza Creek baz=143	5.37	328	P	Pn	20 13 28.8	-0.4
GHO	Glory Hole Cre	5.38	359		Pn	20 13 29.9	+0.6
SML	Sawmill	5.41	1		Pn	20 13 30.2	+0.4
SML	Sawmill baz=181	5.41	1	P	Pn	20 13 30.2	+0.4
VRDI	Verde Repeater	5.52	27		Pn	20 13 31.5	0.0
SAMH	Samovar Hills	5.57	45		Pn	20 13 32.5	+0.5
KIAG	Kiagna River	5.58	33		Pn	20 13 32.2	0.0
N25K	Chitina, Valde	5.61	20		Pn	20 13 33.0	+0.5
N25K	Chitina, Valde baz=203	5.61	20	P	Pn	20 13 33.0	+0.5
GLB	Gilahina Butte	5.62	24		Pn	20 13 32.9	+0.1
GRNC	Granite Creek	5.63	37		Pn	20 13 32.8	-0.1
TABL	Table Mountain	5.63	41		Pn	20 13 33.2	+0.2
P16K	Nushagak River	5.66	301		Pn	20 13 33.2	+0.1
P16K	Nushagak River baz=114	5.66	301	P	Pn	20 13 33.2	+0.1
YKU2	Yakutat	5.69	53	P	Pn	20 13 35.1	+1.6
PTPK	Patty Peak	5.76	31		Pn	20 13 35.1	+0.4
MCARA	McCarthy VSAT	5.77	28		Pn	20 13 35.0	+0.4
MCARA	McCarthy VSAT baz=212	5.77	28	P	Pn	20 13 35.0	+0.4
M24K	Tolsona, Glenn	5.85	11		Pn	20 13 36.5	+0.7
M24K	Tolsona, Glenn baz=193	5.85	11	P	Pn	20 13 36.5	+0.7
PNL	Peninsula	5.89	53	P	Pn	20 13 37.1	+0.8
PNL	Peninsula baz=239	5.89	53	P	Pn	20 13 36.8	+0.5
BARN	Barnard Glacie	5.90	35		Pn	20 13 37.0	+0.3
BCPM	Bancas Point	5.93	50		Pn	20 13 37.1	+0.2
CTG	Chitna Glacier baz=222	5.94	37	P	Pn	20 13 37.0	-0.1
CTGM	Chitina Glacie	5.94	37		Pn	20 13 37.0	-0.1
LOGN	Logan Glacier	5.95	39		Pn	20 13 37.4	+0.1
WAT6	Susitna Watana	6.20	4		Pn	20 13 40.7	-0.1
WAT6	Susitna Watana baz=184	6.20	4	P	Pn	20 13 40.7	-0.1
O28M	Mount Upton	6.21	42		Pn	20 13 41.3	+0.4
O28M	Mount Upton baz=228	6.21	42	P	Pn	20 13 41.3	+0.4
M19K	Big River Lodg	6.25	334		Pn	20 13 41.0	-0.3
M19K	Big River Lodg baz=149	6.25	334	P	Pn	20 13 41.0	-0.3
HARP	HAARP	6.26	15		Pn	20 13 42.6	+1.2
HARP	HAARP baz=197	6.26	15	P	Pn	20 13 42.6	+1.2
M18K	Stony River	6.30	327		Pn	20 13 41.5	-0.5
M18K	Stony River baz=141	6.30	327	P	Pn	20 13 41.5	-0.5
CHNA	Chernabura Isl baz=72	6.41	260	P	Pn	20 13 42.5	-0.9
CNBA	Chernabura Isl	6.41	260		Pn	20 13 42.6	-0.9
O29M	Mount Kennedy	6.57	49		Pn	20 13 46.3	+0.6
O29M	Mount Kennedy baz=237	6.57	49	P	Pn	20 13 46.3	+0.6
O15K	Ungalikthiuk R	6.59	299		Pn	20 13 45.9	-0.1
O15K	Ungalikthiuk R baz=111	6.59	299	P	Pn	20 13 45.9	-0.1
L19K	White Mountain	6.60	334		Pn	20 13 45.8	-0.3
L19K	White Mountain baz=148	6.60	334	P	Pn	20 13 45.8	-0.3
P29M	Windy Craggy baz=244	6.62	56	P	Pn	20 13 46.7	+0.3
DHY	Denali Highway	6.71	5		Pn	20 13 48.3	+0.6
DHY	Denali Highway baz=185	6.71	5	P	Pn	20 13 48.3	+0.6
SDPT	Sand Point	6.75	266	P	Pn	20 13 47.6	-0.5
PAX	Paxson	6.77	12		Pn	20 13 49.0	+0.6
PAX	Paxson baz=194	6.77	12	P	Pn	20 13 49.0	+0.6
S31K	Pelican	6.92	72		Pn	20 13 48.7	-1.7
S31K	Pelican baz=261	6.92	72	P	Pn	20 13 49.4	-1.0
RND	Reindeer	7.01	359		Pn	20 13 52.4	+0.5
TRF	Thorofare Moun	7.11	354		Pn	20 13 53.8	+0.6
TRF	Thorofare Moun baz=172	7.11	354	P	Pn	20 13 53.8	+0.6
BVCY	Beaver Creek	7.20	30		Pn	20 13 54.7	+0.3
BVCY	Beaver Creek baz=216	7.20	30	P	Pn	20 13 54.7	+0.3
PLBC	Pleasant Camp	7.20	60		Pn	20 13 55.0	+0.6
PLBC	Pleasant Camp baz=249	7.20	60	P	Pn	20 13 55.0	+0.6
CAST	Castle Rocks	7.24	348		Pn	20 13 54.7	-0.1
CAST	Castle Rocks baz=164	7.24	348	P	Pn	20 13 54.7	-0.1
HYT	Haines Junctio	7.30	48		Pn	20 13 56.7	+1.0
MCK	McKinley	7.34	359		Pn	20 13 56.7	+0.5
MCK	McKinley baz=178	7.34	359	P	Pn	20 13 56.7	+0.5
SKAG	Skagway	7.71	61	P	Pn	20 14 03.1	+1.9
BESE	Bessie Mountai	7.73	68		Pn	20 14 01.3	-0.4
BPAW	Bear Paw Mtn.	7.80	352		Pn	20 14 02.7	+0.2
BPAW	Bear Paw Mtn. baz=170	7.80	352	P	Pn	20 14 02.7	+0.2
N30M	Aishikik Lake	7.82	45		Pn	20 14 03.2	+0.4
N30M	Aishikik Lake baz=234	7.82	45	P	Pn	20 14 03.2	+0.4
JIS	Juneau Island	7.93	70	P	Pn	20 14 04.5	+0.3
K17K	Iditarod	8.00	326		Pn	20 14 04.5	-0.6
K17K	Iditarod baz=138	8.00	326	P	Pn	20 14 04.6	-0.6
WHY	Whitehorse	8.35	54		Pn	20 14 10.6	+0.4
J25K	Salcha River,	8.38	10		Pn	20 14 10.4	-0.1
J25K	Salcha River, baz=192	8.38	10	P	Pn	20 14 10.4	-0.1
IL31		8.43	5		Pn	20 14 11.9	+0.8
ILAR	Eielson Array comp=E,0.3nm,0.3s,baz=186,slow=14,SNR=6.1	8.43	5	Pn	Pn	20 14 10.7	-0.5
ILAR	comp=E,0.7nm,0.3s,baz=190,slow=23,SNR=8.9 comp=E,0.6nm,0.4s			Sn	Sn	20 15 43.4	-2.8
J26L	Joseph Creek	8.49	15		Pn	20 14 12.3	+0.3
J26L	Joseph Creek baz=199	8.49	15	P	Pn	20 14 12.3	+0.3
P32M	Atlin	8.53	62		Pn	20 14 12.9	+0.3
P32M	Atlin baz=254	8.53	62	P	Pn	20 14 12.9	+0.3
U33K	Whale Pass	8.64	86		Pn	20 14 12.5	-1.5
U33K	Whale Pass baz=278	8.64	86	P	Pn	20 14 12.5	-1.5
ISLZ	Isanotski Laza	8.71	265		Pn	20 14 14.8	-0.3
P33M	Teslin, Yukon	9.14	59		Pn	20 14 21.0	0.0
P33M	Teslin, Yukon baz=252	9.14	59	P	Pn	20 14 21.0	0.0
IMAR	Indian Mountai	9.91	348		Pn	20 14 32.1	+0.8
DLBC	Dease Lake comp=E,0.4nm,0.3s,baz=279,slow=6.6,SNR=6.3	10.23	71	Pn	Pn	20 14 36.1	+0.3
DLBC	comp=E,229nm,20.0s,baz=124,slow=34 comp=E,0.9nm,0.3s			LR	LR	20 17 55.2	
F21K	Alatna River	11.08	350		Pn	20 14 48.1	+0.7
G31M	Satah River	12.51	27		Pn	20 15 07.7	+0.9
BBB	Bella Bella comp=E,495nm,18.6s,baz=306,slow=31	12.69	101	LR	LR	20 18 43.9	
C23K	Itkillik River	13.50	357		Pn	20 15 21.6	+1.2
INK	Inuvik comp=E,0.1nm,0.3s,baz=201,slow=14,SNR=9.6	13.78	24	Pn	Pn	20 15 25.9	+1.8
INK	comp=E,125nm,21.5s,baz=182,slow=36 comp=E,3.2nm,0.9s			LR	LR	20 20 18.7	
C36M	Paulatuk comp=Z,4.6nm,0.8s	16.94	30	IAmb	IAmb	20 16 17.4	
YKA	Yellowknife Ar baz=266,slow=11,SNR=12	18.16	56	P	P	20 16 22.6	+1.3
YKA	comp=Z,195nm,19.5s,baz=232,slow=34 comp=Z,3.3nm,1.1s			LR	LR	20 22 22.8	
A36M	Sachs Harbour	18.41	23	P	P	20 16 21.7	-2.3
A36M	comp=Z,11nm,0.8s			IAmb	IAmb	20 16 35.7	
BILL	Bilibino	23.39	318	P	P	20 17 18.2	+0.6
BILL	comp=Z,11nm,1.2s			IAmb	IAmb	20 17 21.3	
ELK	Elko comp=Z,155nm,19.4s,baz=324,slow=32	26.74	112	LR	LR	20 26 28.9	
RES	Resolute Bay comp=Z,149nm,18.2s,baz=30,slow=35	27.27	28	LR	LR	20 27 57.9	
PFO	Pinyon Flats O comp=Z,160nm,19.0s,baz=351,slow=31	31.72	122	LR	LR	20 28 29.1	
FRB	Frobisher Bay comp=Z,320nm,20.4s,baz=36,slow=36	38.08	45	LR	LR	20 35 10.3	
HEH	HeiHe	47.55	300	eP	P	20 20 46.0	+1.8
H11N2	WAKE ISLAND Hy baz=31,slow=74,SNR=6.0	49.27	241	T	T	21 14 40.7	
H11N3	WAKE ISLAND Hy baz=31,slow=74,SNR=4.5	49.27	241	T	T	21 14 43.8	
H11N1	WAKE ISLAND Hy baz=31	49.28	241	T	T	21 14 43.0	
H11S1	WAKE ISLAND Hy baz=29,slow=76,SNR=18	50.41	240	T	T	21 16 08.3	
H11S2	WAKE ISLAND Hy baz=29,slow=76,SNR=5.8	50.42	240	T	T	21 16 08.5	
H11S3	WAKE ISLAND Hy baz=29,slow=76,SNR=7.3	50.42	240	T	T	21 16 10.2	
SONM	Songino Array comp=Z,1.3nm,0.8s,baz=51,slow=8.1,SNR=7.6 comp=Z,1.3nm,0.8s	58.83	310	P	P	20 22 10.8	+3.3
ZALV	Zalesovo Beam comp=Z,0.4nm,0.3s,baz=17,slow=5.4,SNR=4.9 comp=Z,0.4nm,0.3s	61.65	327	P	P	20 22 27.1	+0.6
HHC	Hu-ho-hao-te	61.98	302	eP	P	20 22 26.5	-2.6
HHC	comp=Z,12nm,0.5s			pmax	pmax		
HHC	comp=Z,41nm,5.0s			pmax	pmax		
BVAR	Borovoye Array comp=Z,1.5nm,0.9s,baz=38,slow=7.3,SNR=4.2 comp=Z,1.5nm,0.9s	66.31	335	P	P	20 22 59.7	+2.5
KURBB	Kurchatov Arra comp=Z,0.6nm,0.9s,baz=25,slow=5.9,SNR=4.2 comp=Z,0.6nm,0.9s	66.41	329	P	P	20 23 00.5	+2.7
MKAR	Makanchi Array	68.69	325	P	P	20 23 13.3	+0.9
MKAR	Makanchi Array comp=Z,0.6nm,0.9s,baz=74,slow=9.0,SNR=4.3 comp=Z,0.6nm,0.9s	68.69	325	P	P	20 23 13.1	+0.7
ABKAR	Akbulak array	72.05	341	P	P	20 23 33.6	+0.8
AKASG	Malin Array Be comp=Z,0.8nm,0.6s,baz=5.9,slow=5.7,SNR=5.1 comp=Z,0.8nm,0.6s	73.23	1	P	P	20 23 40.2	+0.4
PZH	PanZhiHua	78.36	300	P	P	20 24 08.3	-1.4
PZH	comp=Z,10.0nm,0.7s			pmax	pmax		
PZH	comp=Z,40nm,5.7s			pmax	pmax		
GNI	Garni comp=Z,63nm,19.7s,baz=280,slow=38	83.14	350	LR	LR	21 05 16.4	
BRTR	Keskin Array B comp=Z,131nm,20.8s,baz=214,slow=37	84.21	358	LR	LR	21 03 48.3	
QSPA	South Pole Qui comp=Z,1.0nm,0.8s,baz=99,slow=0.5,SNR=7.2	146.21	180	PKPbc	PKiKP	20 31 49.3	-1.9

IDC 29 20:30:18.6±4.1,5˚.53S×152˚.11E,h0km,mb3.0/2, mbtmp3.1/2,Error ellipse: s-maj=185.7km s-min=47.1km az=151.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.4nm,0.6s,baz=53,slow=9.8,SNR=7.0 0.4nm,0.6s	22.45	229	P	P	20 35 19.7	+0.2
ASAR	Alice Springs 0.2nm,0.6s,baz=60,slow=8.8,SNR=6.8 0.2nm,0.6s	25.15	222	P	P	20 35 45.4	-0.4
BDFB	Brasilia 1.1nm,0.3s,baz=233,slow=5.1,SNR=1.8	151.02	137	PKPbc	PKPbc	20 50 14.8	0.0

IDC ***29*** *20:37:00.0±1.8,33˚.44N×136˚.74E,h0km,mb3.2/3, mbtmp3.1/4,ML1.8/1,MS3.9/1,Error ellipse: s-maj=52.6km s-min=30.2km az=84.0*

JMA ***29*** *20:37:13.8±0.4,34˚N±2˚×13˚9E±˚,h192km±3km,MV3.2/27, S OF SURUGA BAY*

ISC 29 20:37:14.2±1.0,34˚.52N±0˚.08×138˚.88E±0˚.10,h196km±9km, n16,σ0s87/20,mb2.9/3,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZS	Izushimoda	0.20	359	eP	Pn	20 37 39.2	-0.8
JOD2	Odawara 2	0.76	13	P	Pn	20 37 41.4	-0.7
TATJ	Tateyama 2	0.97	58	eP	Pn	20 37 43.3	0.0
TATJ				eS	Sn	20 38 05.9	-0.1
JYN	Shimob	1.01	344	P	Pn	20 37 43.5	-0.2
BSO3	Boso 3	1.37	78	P	Pn	20 37 46.0	-0.1
BSO3				eS	Sn	20 38 11.6	+0.7

JRY	Ryogami san	1.49	1	P	Pn	20 37 47.8	+0.3
JHJ2	Mitsune	1.61	151	P	Pn	20 37 48.5	-0.1
BSO1	Boso 1	1.73	85	P	Pn	20 37 49.4	+0.3
BSO1				S	Sn	20 38 17.3	+1.0
JAG	Ashikaga	1.96	14	P	Pn	20 37 51.4	-0.5
MJAR	Matsushiro Arr	2.09	345	Pn	Pn	20 37 53.4	0.0
	0.1nm,0.3s,baz=213,slow=12,SNR=5.2						
MJAR				Sn	Sn	20 38 25.4	+1.4
	0.1nm,0.3s,baz=129,slow=19,SNR=4.4						
	0.7nm,0.4s						
MAT	Matsushiro	2.09	345	S	Sn	20 38 24.1	0.0
JOTO	OTAMA OYAMA	3.25	21	P	Pn	20 38 06.7	+0.1
JOTO				S	Sn	20 38 45.6	-2.2
MKAR	Makanchi Array	43.76	304	P	P	20 45 01.1	+1.0
	0.1nm,0.4s,baz=97,slow=9.3,SNR=1.6						
	0.1nm,0.4s						
KURBB	Kurchatov Arra	45.97	310	P	P	20 45 18.1	+0.7
	0.2nm,0.4s,baz=91,slow=8.4,SNR=2.7						
	0.2nm,0.4s						
BVAR	Borovoye Array	50.77	313	LR	LR	21 08 17.3	
	comp=Z,116nm,19.7s,baz=281,slow=37						
WRA	Warramunga Arr	54.33	185	P	P	20 46 19.5	-1.0
	0.3nm,0.7s,baz=360,slow=7.6,SNR=4.6						
	0.3nm,0.7s						

IDC ***29*** *20:39:45.9±1.3, 1.80N×127.66E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=116.5km s-min=19.7km az=69.0*

ISC 29 20:39:57.1±2.0, 1.8N±0.6×12.8E±*, h100km, n6, σ0s65/6, mb3.9/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.48	164	P	P	20 44 48.2	-0.2
	0.3nm,0.3s,baz=343,slow=11,SNR=13						
	0.3nm,0.3s						
ASAR	Alice Springs	25.96	168	P	P	20 45 20.7	+0.3
	0.1nm,0.3s,baz=347,slow=12,SNR=1.4						
	0.1nm,0.3s						
SONM	Songino Array	49.53	341	P	P	20 48 38.0	+0.2
	1.2nm,0.6s,baz=152,slow=8.2,SNR=12						
	1.2nm,0.6s						
MKAR	Makanchi Array	59.87	325	P	P	20 49 53.0	+0.6
	1.5nm,0.5s,baz=118,slow=8.6,SNR=24						
	1.5nm,0.5s						
KURBB	Kurchatov Arra	64.06	327	P	P	20 50 20.0	-0.2
	2.3nm,0.7s,baz=129,slow=5.9,SNR=37						
	2.3nm,0.7s						
BVAR	Borovoye Array	69.64	327	P	P	20 50 54.8	-0.8
	0.9nm,0.7s,baz=120,slow=8.8,SNR=6.2						
	0.9nm,0.7s						

IDC ***29*** *20:44:36.0±1.1, 33.94S×56.15E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=41.7km s-min=27.3km az=86.0*

ISC 29 20:44:37.5±1.1, 34.0S±0.2×56.1E±0.3, h10km, n15, σ0s49/9, mb3.9/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H04N2	CROZET ISLANDS	12.64	194	T	T	21 00 34.7	
	baz=17,slow=74,SNR=158						
H04N1	CROZET ISLANDS	12.64	194	T	T	21 00 39.5	
	baz=17,slow=74,SNR=231						
H04N3	CROZET ISLANDS	12.65	194	T	T	21 00 39.0	
	baz=17,slow=74,SNR=182						
H08S1	Diego Carcia H	30.22	34	T	T	21 22 26.1	
	baz=207,slow=76,SNR=216						
H08S2	Diego Garcia H	30.23	34	T	T	21 22 26.3	
	baz=207,slow=76,SNR=7.1						
H08S3	Diego Garcia H	30.24	34	T	T	21 22 26.5	
	baz=207,slow=76,SNR=11						
QSPA	South Pole Qui	56.23	180	P	P	20 54 18.0	+0.3
	1.1nm,0.6s,baz=284,slow=1.7,SNR=18						
	1.1nm,0.6s						
CMAR	Chiang Mai Arr	66.19	45	P	P	20 55 25.6	0.0
	0.6nm,0.6s,baz=227,slow=6.3,SNR=6.4						
	0.6nm,0.6s						
ASAR	Alice Springs	67.48	104	P	P	20 55 33.9	-0.2
	0.3nm,0.6s,baz=231,slow=5.8,SNR=7.8						
	0.3nm,0.6s						
WRA	Warramunga Arr	69.63	101	P	P	20 55 47.4	-0.1
	0.6nm,0.6s,baz=238,slow=5.4,SNR=9.2						
	0.6nm,0.6s						
MKAR	Makanchi Array	83.76	18	P	P	20 57 07.0	+0.5
	0.2nm,0.4s,baz=213,slow=5.0,SNR=2.4						
	0.2nm,0.4s						
BVAR	Borovoye Array	87.50	9	P	P	20 57 25.3	+0.3
	0.5nm,0.6s,baz=165,slow=6.2,SNR=4.0						
	0.5nm,0.6s						
INK	Inuvik	145.16	6	PKPbc	PKPbc	21 04 13.3	-0.6
	2.6nm,1.0s,baz=321,slow=2.3,SNR=6.0						
ILAR	Eielson Array	146.12	17	PKPbc	PKPdf	21 04 16.0	-0.1
	0.5nm,0.6s,baz=312,slow=3.3,SNR=9.1						
YKA	Yellowknife Ar	150.83	351	PKPbc	PKPbc	21 04 28.6	-0.8
	0.2nm,0.6s,baz=2.5,slow=2.5,SNR=5.2						

IDC ***29*** *20:52:35.9±1.1, 56.23N×149.23W, h0km, mb3.6/7, mbtmp3.6/12, ML3.7/5, MS3.2/5, Error ellipse: s-maj=23.7km s-min=16.2km az=25.0*

NEIC ***29*** *20:52:35.8±0.8, 56.30N±0.08×149.2W±0.1, h10km±2km, ML4.0/58, ML3.5(AEIC), Error ellipse: s-maj=14.6km s-min=10.1km az=153.0*

AEIC ***29*** *20:52:39.2±1.7, 56.19N±0.10×149.1W±0.1, h10km±7km, Error ellipse: s-maj=14.9km s-min=8.6km az=155.0*

ISC 29 20:52:36.4±0.7, 56.33N±0.07×149.22W±0.05, h10km, n169, σ1s04/169, mb4.1/10, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	Kodiak Island	2.34	310		Pn	20 53 14.5	-0.4
KDAK	Kodiak Island	2.34	310	Pn	Pn	20 53 14.6	-0.3
	18nm,0.3s,baz=127,slow=6.3,SNR=546						
KDAK				Sn	Sn	20 53 41.4	-2.3
	37nm,0.3s,baz=312,slow=24,SNR=30						
KDAK				LR	LR	20 53 55.9	
	comp=Z,135nm,18.4s,baz=150,slow=33						
	42nm,0.4s						
OHAK	Old Harbor	2.41	293	P	Pn	20 53 14.8	-1.1
OHAK	Old Harbor	2.41	293	Pn	Pn	20 53 14.6	-1.2
OHAK	Old Harbor	2.41	293	P	Pn	20 53 14.8	-1.1
	baz=111						
OHAK				S	Sn	20 53 42.5	-2.9
	baz=111						
SYI	Shuyak Island	2.85	324		Sn	20 53 56.3	0.0
SYI	Shuyak Island	2.85	324		Pn	20 53 21.8	-0.2
SYI				IAML		20 53 57.3	
	comp=E,365nm,0.8s						
Q20K	Shuyak Island	2.85	324	P	Pn	20 53 22.1	+0.1
	baz=142						
Q20K				S	Sn	20 53 56.3	0.0
	baz=142						
CNPM	China Poot	3.38	342	Pn	Pn	20 53 28.9	-0.3
CNPM				IAML		20 54 11.2	
	comp=N,182nm,0.4s						
CNPM	China Poot	3.38	342		Sn	20 54 08.8	-0.5
Q23K	Middleton Isla	3.46	25		Pn	20 53 29.8	-0.5
Q23K					Sn	20 54 09.5	-1.8
Q23K	Middleton Isla	3.46	25	IAML		20 54 09.6	
	comp=E,223nm,0.7s						
Q23K				IAML		20 54 09.6	
	comp=N,204nm,0.8s						
Q23K	Middleton Isla	3.46	25	P	Pn	20 53 29.8	-0.5
	baz=207						
Q23K				S	Sn	20 54 09.5	-1.8
	baz=207						
MID	Middleton Isla	3.46	25	P	Pn	20 53 30.0	-0.3
MID	Middleton Isla	3.46	25		Pn	20 53 29.8	-0.6
MID					Sn	20 54 09.3	-2.0
MID	Middleton Isla	3.46	25	IAML		20 54 09.6	
	comp=N,256nm,0.8s						
MID				IAML		20 54 19.7	
	comp=E,174nm,1.0s						
BRSE	Bradley Lake S	3.51	347		Pn	20 53 30.7	-0.4
BRSE	Bradley Lake S	3.51	347	P	Pn	20 53 30.7	-0.4
	baz=166						
BRSE				S	Sn	20 54 11.7	-0.9
	baz=166						
Q19K	Cape Douglas,	3.52	319	Pn	Pn	20 53 31.5	+0.3
Q19K	Cape Douglas,	3.52	319	P	Pn	20 53 31.6	+0.4
	baz=136						
BRLK	Bradley Lake	3.55	346		Pn	20 53 31.1	-0.5
BRLK				IAML		20 54 16.8	
	comp=E,226nm,0.5s						
HOM	Homer	3.57	340	P	Pn	20 53 32.2	+0.3
	baz=158						
KAKN	Katmai Knife C	3.73	304		Pn	20 53 34.5	+0.4
KAKN					Sn	20 54 18.4	+0.3
SEW	Seward	3.78	358	P	Pn	20 53 34.1	-0.6
	baz=178						
P23K	Montague Islan	3.80	14	P	Pn	20 53 34.6	-0.3
	baz=195						
KAHC	Katmai Hardscr	3.89	309	P	Pn	20 53 37.2	+0.9
	baz=124						
P19K	Oil Pt	3.95	329		Pn	20 53 37.7	+0.6
P19K				IAML		20 54 36.1	
	comp=E,374nm,0.5s						
P19K				IAML		20 54 36.5	
	comp=N,319nm,0.5s						
P19K	Oil Pt	3.95	329	P	Pn	20 53 37.7	+0.6
	baz=146						
Q17K	Contact Creek	4.10	301	P	Pn	20 53 39.5	+0.3
	baz=116						
O20K	Slope Mountain	4.17	336	P	Pn	20 53 40.6	+0.5
	baz=153						
O22K	Cooper Landing	4.17	357		Pn	20 53 39.8	-0.2
ILSW	Iliamna Southw	4.21	332	IAML		20 54 31.7	
	comp=N,229nm,0.7s						
ILSW				IAML		20 54 34.6	
	comp=E,149nm,0.6s						
HIN	Hinchinbrook I	4.32	18		Pn	20 53 41.8	-0.3
HIN				IAML		20 54 31.5	
	comp=N,313nm,0.5s						
HIN				IAML		20 54 37.4	
	comp=E,249nm,1.0s						
KAIM	Kayak Island	4.41	33		Pn	20 53 43.2	-0.2
KAIM				IAML		20 54 40.5	
	comp=E,297nm,0.9s						
KAIM				IAML		20 54 48.1	
	comp=N,273nm,1.0s						
KAIM	Kayak Island	4.41	33	P	Pn	20 53 43.5	+0.2
	baz=217						
P18K	Big Mountain,	4.44	316	Pn	Pn	20 53 43.4	-0.4
P18K	Big Mountain,	4.44	316	P	Pn	20 53 43.5	-0.3
	baz=131						
CAPN	Captain Cook N	4.56	348		Pn	20 53 46.2	+0.8
EYAK	Cordova Ski Ar	4.60	22	P	Pn	20 53 46.1	+0.1
EYAK	Cordova Ski Ar	4.60	22	P	Pn	20 53 46.0	0.0
	baz=205						
Q16K	King Salmon	4.65	303	P	Pn	20 53 46.9	+0.4
	baz=118						
RAGM	Ragged Mountai	4.72	29		Pn	20 53 47.5	-0.1
RAGM				IAML		20 54 56.9	
	comp=E,256nm,1.0s						
SUCK	Suckling Hills	4.73	35		Pn	20 53 47.6	-0.1
SUCK				IAML		20 54 44.7	
	comp=N,174nm,0.7s						
SUCK				IAML		20 54 56.8	
	comp=E,144nm,1.0s						
O18K	Koktuh Hills	4.75	320		Pn	20 53 47.6	-0.5
O18K				IAML		20 54 43.6	
	comp=N,106nm,0.8s						
O18K				IAML		20 54 47.1	
	comp=E,75nm,0.8s						
O18K	Koktuh Hills	4.75	320	P	Pn	20 53 47.8	-0.2
	baz=136						
RC01	Rabbit Creek A	4.78	357	Pn	Pn	20 53 48.2	-0.2
RC01				IAML		20 54 45.1	
	comp=N,64nm,0.4s						
RC01				IAML		20 54 55.5	
	comp=E,101nm,0.5s						
RC01	Rabbit Creek A	4.78	357	P	Pn	20 53 48.3	-0.1
	baz=176						
HMT	Hamilton	4.79	31		Pn	20 53 48.5	-0.1
P17K	Kvichak River	4.81	310	P	Pn	20 53 49.5	+0.6
	baz=124						
BERG	Berg Lake	5.00	33		Pn	20 53 51.2	-0.3
BERG				IAML		20 54 54.6	
	comp=N,226nm,0.6s						
KNK	Knik Glacier	5.11	4	IAML		20 54 59.2	
	comp=E,78nm,0.8s						
KNK				IAML		20 55 08.4	
	comp=N,52nm,0.6s						
KNK	Knik Glacier	5.11	4	P	Pn	20 53 53.5	+0.5
	baz=185						
CHGN	Chignik	5.12	273	Pn	Pn	20 53 52.0	-1.0
CHGN				IAML		20 54 51.9	
	comp=E,79nm,0.3s						
CHGN				IAML		20 54 52.5	
	comp=N,55nm,0.6s						
CHGN	Chignik	5.12	273	P	Pn	20 53 53.2	+0.1
	baz=86						
SNH	Sunshine Point	5.12	38	Pn	Pn	20 53 52.9	-0.3
SNH				IAML		20 54 55.6	
	comp=N,70nm,0.5s						
SNH				IAML		20 54 56.5	
	comp=E,72nm,1.3s						
N20K	Mount Spurr	5.12	344	P	Pn	20 53 52.6	-0.6
	baz=161						
SUA	Susitna One	5.21	352	IAML		20 55 06.3	
	comp=N,48nm,0.9s						
SUA	Susitna One	5.21	352	P	Pn	20 53 54.1	-0.3
	baz=171						
BMRM	Bremner River	5.23	25	P	Pn	20 53 54.7	0.0
	baz=209						
PMR	Palmer	5.28	0	P	Pn	20 53 56.3	+1.1
PMR	Palmer	5.28	0	Pn	Pn	20 53 55.5	+0.3
P16K	Nushagak River	5.43	304	P	Pn	20 53 58.0	+0.7
	baz=116						
MESA	MESA	5.44	42		Pn	20 53 57.2	-0.4
MESA	MESA	5.44	42	P	Pn	20 53 57.5	-0.1
	baz=228						
KLU	Klutina	5.45	17	P	Pn	20 53 57.9	+0.3
	baz=200						
CRQE	Cirque	5.47	33	P	Pn	20 53 57.9	-0.1
	baz=218						
SML	Sawmill	5.51	4	Pn	Pn	20 53 58.9	+0.4
SML	Sawmill	5.51	4	P	Pn	20 53 59.1	+0.7
	baz=185						
M23K	Glacier View	5.53	7	P	Pn	20 53 59.5	+0.8
	baz=188						
ISLE	Jupper Island	5.60	37	Pn	Pn	20 53 59.5	-0.3
SCM	Sheep Creek Mo	5.60	9	P	Pn	20 54 00.5	+0.8
	baz=191						
SKT	Skwentna	5.79	349	P	Pn	20 54 02.9	+0.7
	baz=167						
N25K	Chitina, Valde	5.80	22	P	Pn	20 54 02.8	+0.3
	baz=206						
SVW2	Sparrevohn	5.81	328	P	Pn	20 54 02.4	-0.2
SVW2	Sparrevohn	5.81	328	Pn	Pn	20 54 02.2	-0.4
TABL	Table Mountain	5.91	43		Pn	20 54 04.2	0.0
N17K	Nushagak Hills	5.93	318	P	Pn	20 54 04.0	-0.2
	baz=132						
MCARA	McCarthy VSAT	6.00	30	P	Pn	20 54 05.2	+0.1
	baz=215						
M24K	Tolsona, Glenn	6.00	14	P	Pn	20 54 06.1	+0.9
	baz=196						
CHNA	Chernabura Isl	6.07	260	P	Pn	20 54 04.7	-1.5
	baz=72						
CNBA	Chernabura Isl	6.07	260		Pn	20 54 04.2	-2.0
M19K	Big River Lodg	6.19	337	P	Pn	20 54 07.4	-0.3
	baz=152						
M18K	Stony River	6.20	329	P	Pn	20 54 07.4	-0.5
	baz=144						
PNL	Peninsula	6.20	53	P	Pn	20 54 08.2	+0.3
PNL	Peninsula	6.20	53	P	Pn	20 54 07.9	0.0
	baz=241						
CTG	Chitna Glacier	6.20	38	P	Pn	20 54 08.0	0.0
	baz=225						
LOGN	Logan Glacier	6.22	40		Pn	20 54 08.1	-0.2
WAT6	Susitna Watana	6.31	6	P	Pn	20 54 09.8	+0.2
	baz=187						
SDPT	Sand Point	6.42	266	P	Pn	20 54 10.2	-0.7
SDPT	Sand Point	6.42	266	Pn	Pn	20 54 09.9	-1.0
SDPT	Sand Point	6.42	266	P	Pn	20 54 10.4	-0.5
	baz=77						
HARP	HAARP	6.43	17	P	Pn	20 54 11.8	+0.7
	baz=200						
WAT1	Susitna Watana	6.53	3	P	Pn	20 54 13.0	+0.6
	baz=183						
PPLA	Purkeypile	6.75	348	P	Pn	20 54 17.0	+1.4
	baz=166						
DHY	Denali Highway	6.83	7	Pn	Pn	20 54 16.8	+0.1
DHY	Denali Highway	6.83	7	P	Pn	20 54 17.3	+0.7
	baz=189						
M26K	Nabesna, AK	6.86	25	P	Pn	20 54 17.1	+0.1
	baz=210						
M16K	Timber Creek	6.92	317	P	Pn	20 54 18.2	+0.5
	baz=129						
PAX	Paxson	6.92	14	P	Pn	20 54 18.6	+0.7
	baz=197						
L18K	Granite Mounta	7.03	330	P	Pn	20 54 18.9	-0.3
	baz=144						
O14K	Tigyukauivet M	7.07	299	P	Pn	20 54 20.2	+0.3
	baz=110						
TRF	Thorofare Moun	7.16	356	P	Pn	20 54 22.1	+0.9
	baz=175						
S12K	Black Hills	7.23	270	P	Pn	20 54 21.3	-0.7
	baz=80						
CAST	Castle Rocks	7.25	350	P	Pn	20 54 22.1	-0.2
	baz=167						
S31K	Pelican	7.25	72	P	Pn	20 54 20.1	-2.2
	baz=262						
M15K	Kasigluk River	7.42	311	P	Pn	20 54 25.0	+0.3
	baz=121						
MCK	McKinley	7.42	1	P	Pn	20 54 26.4	+1.7
	baz=181						
YUK4	Talbot Arm	7.43	43	P	Pn	20 54 27.2	+2.2
	baz=232						
BVCY	Beaver Creek	7.44	32	P	Pn	20 54 25.0	+0.1
	baz=218						
K20K	Telida	7.45	343	P	Pn	20 54 27.5	+2.4
	baz=159						
TTA	Tatalina	7.45	335	P	Pn	20 54 24.7	-0.5
PLBC	Pleasant Camp	7.53	60	P	Pn	20 54 26.1	-0.1
	baz=251						
L16K	Owhat River	7.55	320	P	Pn	20 54 26.7	+0.3
	baz=131						
HYT	Haines Junctio	7.60	49		Pn	20 54 27.5	+0.4
SIT	Sitka	7.69	79	P	Pn	20 54 24.4	-3.9
	comp=N,21nm,1.9s						
K24K	Donnelly Dome	7.69	11	P	Pn	20 54 30.6	+2.2
	baz=194						
BPAW	Bear Paw Mtn.	7.84	354	P	Pn	20 54 30.5	+0.1
	baz=173						
M14K	Bethel	8.00	309	P	Pn	20 54 34.1	+1.6
	baz=118						
SKAG	Skagway	8.03	61	P	Pn	20 54 31.8	-1.2
FALS	False Pass	8.18	265	P	Pn	20 54 34.3	-0.7
FALS	False Pass	8.18	265	P	Pn	20 54 34.5	-0.5
	baz=74						
HDA	Harding Lake	8.18	7	P	Pn	20 54 35.7	+0.6
	baz=189						
J20K	Nowinta River	8.24	345	P	Pn	20 54 36.4	+0.5
	baz=160						
JIS	Juneau Island	8.27	70	P	Pn	20 54 35.5	-0.7
NEA2	Nenana	8.29	0	P	Pn	20 54 36.2	-0.4
	baz=180						
J25K	Salcha River,	8.52	11	P	Pn	20 54 39.4	-0.4
	baz=194						
ILAR	Eielson Array	8.54	7	Pn	Pn	20 54 40.0	-0.1
	comp=N,1.1nm,0.3s,baz=187,slow=13,SNR=58						
ILAR				Sn	Sn	20 56 13.5	-2.8
	comp=N,0.8nm,0.3s,baz=186,slow=22,SNR=9.2						
ILAR				LR	LR	20 57 58.0	
	comp=N,111nm,20.6s,baz=113,slow=37						
	comp=N,2.2nm,0.4s						
COLA	College	8.60	4	P	Pn	20 54 42.1	+1.4
N31M	Braeburn, Yuko	8.65	48	P	Pn	20 54 42.3	+0.7
	baz=239						
MLY	Manley	8.76	356	P	Pn	20 54 43.5	+0.5
	baz=174						
P32M	Atlin	8.86	62	P	Pn	20 54 44.2	-0.2
	baz=255						
M30M	Minto, Yukon	8.89	40	P	Pn	20 54 44.7	-0.1
	baz=231						
U33K	Whale Pass	8.97	85	P	Pn	20 54 43.2	-2.7
	baz=278						
CRAG	Craig	9.09	89	P	Pn	20 54 43.5	-4.0
PRP	Porcupine Dome	9.39	9	P	Pn	20 54 51.8	+0.1
	baz=193						
P33M	Teslin, Yukon	9.47	59	P	Pn	20 54 52.6	-0.1
	baz=253						
H21K	Melozitna Rive	9.51	351	P	Pn	20 54 52.6	-0.7
	baz=168						
AKUT	Akutan	9.71	264	P	Pn	20 54 54.7	-1.3
IMAR	Indian Mountai	9.92	349		Pn	20 54 58.4	-0.5
R33M	Jennings River	10.19	65		Pn	20 55 02.0	-0.7
UNV	Unalaska Valle	10.21	263	P	Pn	20 55 01.0	-1.9
DLBC	Dease Lake	10.57	71	Pn	Pn	20 55 07.3	-0.6
	comp=N,0.9nm,0.3s,baz=285,slow=6.6,SNR=9.6						
DLBC				LR	LR	20 58 29.9	
	comp=N,186nm,19.8s,baz=300,slow=33						
	comp=N,2.3nm,0.3s						
SPIA	Saint Paul Isl	11.57	283	P	Pn	20 55 22.3	+0.9
NIKH	Nikolski High	11.85	262	P	Pn	20 55 24.6	-0.7
E25K	Arctic Village	11.95	7		Pn	20 55 27.1	+0.5
F28M	Old Crow	12.12	17		Pn	20 55 29.8	+0.8
TOLK	Toolik Lake Re	12.36	359		Pn	20 55 32.3	+0.1
D22K	Ayikyak River	12.69	354	Pn	Pn	20 55 34.6	-2.1
INK	Inuvik	13.98	25		Pn	20 55 54.7	+0.4
INK	Inuvik	13.98	25	Pn	Pn	20 55 56.8	+2.5
	comp=N,0.2nm,0.3s,baz=214,slow=14,SNR=4.4						
	comp=N,1.3nm,0.6s						
B22K	Teshekpuk Lake	14.18	354		Pn	20 55 56.5	-0.5
ADK	Adak	16.65	266	P	Pn	20 56 28.6	-1.0
YKA	Yellowknife Ar	18.48	56	P	Pn	20 56 54.0	+1.7
	comp=N,0.1nm,0.3s,baz=266,slow=11,SNR=5.8						
	comp=N,0.1nm,0.3s						
A36M	Sachs Harbour	18.62	23	P	P	20 56 53.1	-0.5
SHEM	Shemya Is, Ala	21.42	276	LR	LR	21 05 28.7	
	comp=N,44nm,19.2s,baz=184,slow=36						
NVAR	Mina Array Bea	27.21	118	P	P	20 58 21.8	+1.4
	comp=N,0.3nm,0.6s,baz=316,slow=11,SNR=2.2						
	comp=N,0.3nm,0.6s						
PDAR	Pinedale Array	28.64	101	P	P	20 58 33.5	+0.3
	comp=N,0.1nm,0.5s,baz=331,slow=5.4,SNR=2.1						
	comp=N,0.1nm,0.5s						
PETK	Petropavlovsk-	30.19	287	P	P	20 58 47.4	+0.8
	comp=N,3.2nm,0.8s,baz=70,slow=14,SNR=6.0						
	comp=N,3.2nm,0.8s						
ANMO	Albuquerque	35.95	108	LR	LR	21 12 52.5	
	comp=N,178nm,20.1s,baz=178,slow=34						
TXAR	Lajitas Array	41.81	111	P	P	21 00 27.8	+1.5
	comp=N,0.1nm,0.4s,baz=337,slow=6.1,SNR=1.8						
	comp=N,0.1nm,0.4s						
H11N2	WAKE ISLAND Hy	48.94	240	T	T	21 54 05.7	
	baz=34,slow=74,SNR=4.3						
H11N3	WAKE ISLAND Hy	48.94	240	T	T	21 54 14.3	
	baz=34,SNR=5.5						
H11N1	WAKE ISLAND Hy	48.96	240	T	T	21 54 07.6	
	baz=34,slow=74,SNR=4.7						
SONM	Songino Array	58.63	310	P	P	21 02 35.6	+2.2
	comp=N,1.5nm,0.8s,baz=49,slow=7.4,SNR=11						
	comp=N,1.5nm,0.8s						
HHC	Hu-ho-hao-te	61.74	302	eP	P	21 02 54.8	0.0
HHC				sP	pwP	21 03 02.5	-0.2
HHC				pmax	pmax		
	comp=Z,11nm,0.5s						
HHC				pmax	pmax		
	comp=Z,46nm,5.2s						
FINES	FINESS Array B	62.50	3	P	P	21 03 01.4	+1.9
	comp=Z,1.4nm,1.0s,baz=2.3,slow=9.5,SNR=3.7						
	comp=Z,1.4nm,1.0s						
MKAR	Makanchi Array	68.57	325	P	P	21 03 39.4	+0.4
	comp=Z,0.3nm,0.5s,baz=41,slow=6.1,SNR=8.7						
	comp=Z,0.3nm,0.5s						
WMQ	Urumqi	69.33	320	eP	P	21 03 45.5	+1.7
WMQ				PcP	PcP	21 04 06.8	-0.5
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH	PanZhiHua	78.12	300	P	P	21 04 33.8	-1.9
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,140nm,6.1s						

BJI ***29*** *20:58:37.5±0.0,

SNSI Sinabang, Aceh 0.39 96 P Pn 20 58 51.1 0.0
SNSI S Sn 20 58 57.7 -0.3
MLSI Meulaboh, Aceh 1.86 15 P Pn 20 59 10.7 -0.7
MLSI S Sn 20 59 34.9 +0.6
GSI Gunungsitoli 2.00 125 P Pb 20 59 14.8 -1.4
GSI Gunungsitoli 2.00 125 Pn 20 59 14.2 +1.1
GSI Gunungsitoli 2.00 125 P Pb 20 59 14.8 -1.4
GSI S Sn 20 59 39.1 +1.5
KCSI Kotacane, Aceh 2.12 60 P Pn 20 59 15.6 +0.7
KCSI S Sn 20 59 41.4 +0.7
LHMI Lhok Sumawe 2.94 20 P Pn 20 59 27.0 +0.9
LHMI Lhok Sumawe 2.94 20 Pn 20 59 25.3 -0.8
LHMI Lhok Sumawe 2.94 20 P Pn 20 59 26.5 +0.4
LHMI S Sn 21 00 01.9 +1.0
PBSI Pulau Batu 3.42 137 P Pn 20 59 35.0 +2.2
PBSI S Sn 21 00 12.9 +0.1
SISI Saibi 4.90 140 P Pn 20 59 55.2 +2.0
SISI S Sn 21 00 48.2 -1.2
KULM Kulim 5.48 59 Pn Pn 21 00 01.6 +0.4
BKNI Bangkinang 5.52 112 Pn 21 00 01.2 -0.5
BKNI Bangkinang 5.52 112 P Pn 21 00 02.8 +1.1
133nm,0.7s,2µm1.6nm
BKNI S Sn 21 01 04.9 +0.2
133nm,0.7s,2µm1.6nm
PDSI Padang 5.62 126 P Pn 21 00 04.7 +1.6
88nm,0.8s,0.6nm
PPSI Pulau Pagai 6.59 142 P Pn 21 00 17.9 +1.5
155nm,0.8s,0.8nm
PPSI S Sn 21 01 30.3 -0.7
155nm,0.8s,0.8nm
SRIT Nakonsritamara 7.11 31 Pn Pn 21 00 21.2 -2.4
KRJI Kerinci 7.13 129 P Pn 21 00 24.7 +0.8
240nm,0.5s,4µm1.4nm
KRJI S Sn 21 01 45.5 +1.0
240nm,0.5s,4µm1.4nm
SURA Surathani 7.62 29 P Pn 21 00 30.2 -0.3
MYKOM Kota Tinggi 7.94 95 Pn Pn 21 00 34.8 -0.1
TPRI Tanjung Pinang 8.72 100 P Pn 21 00 46.6 +0.9
31nm,0.9s
DSRI Dabo 9.12 109 P Pn 21 00 53.4 +2.3
16nm,1.0s
MNAI Manna 9.75 134 P Pn 21 01 01.5 +1.8
MNAI Manna 9.75 134 Pn 21 01 00.2 +0.4
MNAI Manna 9.75 134 P Pn 21 01 00.7 +1.0
179nm,0.5s,4µm
LWLI Liwa 10.99 132 P Pn 21 01 17.5 +0.5
228nm,0.7s,3µm
KASI Kota Agung 11.66 133 P Pn 21 01 25.6 -0.3
43nm,0.8s
SBJI Serang 13.27 130 P Pn 21 01 49.5 +1.5
119nm,1.0s,14µm
DBJI Dramaga 14.02 130 P Pn 21 01 58.8 +0.6
KSM Kuching 14.40 94 Pn Pn 21 02 03.6 +0.2
LEM Lembang 14.86 128 LR LR 21 08 49.8
comp=Z,535nm,20.2s,baz=294,slow=41
LEM Lembang 14.86 128 P Pn 21 02 09.4 -0.5
19nm,0.9s
DLV T Lat 15.61 52 Pn 21 02 17.6 -2.1
STKI Sintang 15.72 98 P Pn 21 02 21.1 +0.1
88nm,1.0s,4µm
UBPT Khong Chiam 15.84 36 P Pn 21 02 21.4 -1.1
PALK Pallekele 15.91 288 P Pn 21 02 24.5 +0.9
PALK Pallekele 15.91 288 *i* P Pn 21 02 24.5 +0.9
PALK Pallekele 15.91 288 Pn Pn 21 02 24.3 +0.7
0.2nm,0.3s,baz=253,slow=13,SNR=4.1
PALK Sn Sn 21 05 05.1 -15
0.4nm,0.3s,baz=303,slow=7.4,SNR=7.4
PALK LR LR 21 08 16.6
comp=Z,504nm,19.2s,baz=214,slow=36
3.1nm,0.7s
CM31 Chiang Mai Arr 16.18 10 Pn Pn 21 02 25.1 -1.8
CMAR Chiang Mai Arr 16.18 10 Pn Pn 21 02 24.5 -2.4
CMAR Chiang Mai Arr 16.18 10 Pn Pn 21 02 25.7 -1.2
1.1nm,0.3s,baz=196,slow=11,SNR=84
CMAR LR LR 21 09 23.2
comp=Z,286nm,20.3s,baz=205,slow=40
22nm,0.8s
PHRA Phrae 16.49 14 Pn 21 02 29.4 -1.5
SMRI Semarang 17.28 123 P Pn 21 02 41.6 +0.7
40nm,0.7s
CRAI Chiangrai 18.19 13 P Pn 21 02 50.2 -2.0
NGJI Ngawi 18.31 122 P P 21 02 54.2 +0.6
25nm,0.4s
BWJI Bawean 18.62 116 P Pn 21 02 57.7 +0.3
319nm,1.1s
GRJI Gresik 18.95 119 P Pn 21 03 01.4 0.0
98nm,1.3s
MTKI Muara Teweh, K 19.25 100 P Pn 21 03 05.5 +0.5
SLVN Son La 20.31 22 P P 21 03 13.9 -1.6
KKM Kota Kinabalu 20.53 79 P P 21 03 17.1 -0.9
QIZ Qiongzhong 21.37 39 P P 21 03 26.0 -1.0
QIZ sP pP 21 03 33.0 +0.5
QIZ S S 21 07 24.5 +0.9
QIZ pmax pmax
comp=Z,14nm,1.0s
QIZ LR LR
comp=N,410nm,12.6s
QIZ LR LR
comp=E,650nm,15.1s
QIZ LR LR
comp=Z,450nm,18.5s
TNCH TengChong 22.59 6 ⇑P P 21 03 36.5 -3.6
TNCH pP pP 21 03 41.5 -4.1
TNCH sP sP 21 03 45.3 -2.5
TNCH PP PnPn 21 04 06.8 +2.9
TNCH S S 21 07 35.5 -11
TNCH SS SnSn 21 08 25.0 +8.1
TNCH pmax pmax
comp=Z,19nm,1.0s
TNCH pmax pmax
comp=Z,61nm,3.1s
TNCH LR LR
comp=N,210nm,12.9s
TNCH LR LR
comp=E,260nm,12.5s
TNCH LR LR
comp=Z,310nm,13.8s
SHL Shillong 23.31 351 *e*P P 21 03 43.7 -3.9
SHL IAmb IAmb 21 03 48.1
comp=Z,28nm,1.1s
BOK Bokaro 23.34 336 *e*P P 21 03 47.4 -0.3
BOK IAmb IAmb 21 03 52.2
comp=Z,59nm,0.9s
KMI Kunming 23.48 16 ⇑P P 21 03 50.0 +0.7
KMI pmax pmax
comp=Z,26nm,1.0s
KMI LR LR
comp=Z,590nm,16.7s
KMI LR LR
comp=Z,260nm,12.1s
KMI LR LR
comp=Z,750nm,15.7s
TWSI Taliwang, Sumb 23.66 118 P P 21 03 51.6 +0.7
comp=Z,28nm,1.1s
MPSI Mapaga 24.05 95 P P 21 03 56.6 +1.9
comp=Z,9.6nm,0.6s
TTSI Tana Toraja 24.49 103 P P 21 04 06.4 +7.7
PZH PanZhiHua 24.56 13 P P 21 03 58.3 -1.0
PZH sP sP 21 04 07.5 +0.3
PZH S S 21 08 17.8 -1.6
PZH sS sS 21 08 28.5 +0.7
PZH SS SnSn 21 09 08.8 +3.7
PZH pmax pmax
comp=Z,20nm,0.7s
PZH pmax pmax
comp=Z,130nm,5.5s
PZH LR LR
comp=Z,480nm,14.9s
PZH LR LR
comp=Z,500nm,15.9s
PZH LR LR
comp=Z,560nm,12.9s
TOLI2 Tolitoli 24.87 93 P P 21 04 00.9 -1.2
TOLI2 IAmb IAmb 21 04 03.6
comp=Z,38nm,0.8s
KAPI Kappang 24.92 107 P P 21 04 03.4 +0.7
KAPI IAmb IAmb 21 04 04.9
comp=Z,47nm,0.9s
KAPI Kappang 24.92 107 P P 21 04 03.4 +0.7
KAPI pmax pmax
comp=Z,47nm,0.9s
BKSI Bulukumba 25.36 108 P P 21 04 07.7 +1.1
comp=Z,64nm,1.0s,comp=Z,568nm
H08S2 Diego Garcia H 25.45 247 T T 21 30 21.4
baz=67,slow=76,SNR=9925
H08S3 Diego Garcia H 25.45 247 T T 21 30 21.5
baz=67,slow=76,SNR=9024
H08S1 Diego Garcia H 25.47 247 T T 21 30 22.7
baz=67,slow=76,SNR=4652
GYA Guiyang 26.00 22 ⇓P P 21 04 11.8 -0.6
GYA S S 21 08 39.8 -2.6
GYA pmax pmax
comp=Z,22nm,1.0s
GYA pmax pmax
comp=Z,160nm,11.4s
GYA LR LR
comp=Z,280nm,22.8s
GYA LR LR
comp=Z,190nm,17.9s
GYA LR LR
comp=Z,290nm,23.0s
MRSI Marisa 26.07 94 P P 21 04 13.4 +0.3
comp=Z,43nm,1.1s
LUWI Luwuk 27.05 97 P P 21 04 21.3 -0.7
LUWI Luwuk 27.05 97 P P 21 04 22.5 +0.5
comp=Z,32nm,1.0s,comp=Z,1µm
GTOI Gorontalo 27.12 93 P P 21 04 21.6 -1.0
comp=Z,14nm,1.1s
TGY Tagaytay City 27.27 63 P P 21 04 23.8 -0.2
comp=Z,233nm,1.1s,baz=311,slow=3.9,SNR=6.4
LSA Lhasa 27.48 351 P P 21 04 26.0 -0.1
LSA IAmb IAmb 21 04 28.1
comp=Z,36nm,0.9s
LSA Lhasa 27.48 351 P P 21 04 26.0 -0.1
LSA pmax pmax
comp=Z,36nm,0.9s
CD2 Chengdu 29.26 14 P P 21 04 40.3 -1.2
CD2 pP pP 21 04 44.0 -3.4
CD2 S S 21 09 30.8 -2.7
CD2 sS sS 21 09 41.5 -0.5
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 LR LR
comp=Z,380nm,10.8s
CD2 LR LR
comp=Z,290nm,10.8s
CD2 LR LR
comp=Z,670nm,11.8s
BATI Baumata 30.34 115 LR LR 21 19 08.2
comp=Z,485nm,21.4s,baz=263,slow=40
LGTI Lohaghat 30.71 332 *e*P P 21 04 55.1 +0.7
PTH Pithoragarh 30.81 333 *e*P P 21 04 56.4 +0.9
KUDL Kundal 31.58 326 *e*P P 21 05 02.6 +0.6
WHN Wuhan 32.93 30 P P 21 05 13.0 -0.8
SMLA Simla 33.59 330 *e*P P 21 05 19.7 +0.2
SMLA IAmb IAmb 21 05 23.0
comp=Z,17nm,1.0s
GOMU GeErMu 33.60 358 P P 21 05 19.5 -0.5
GOMU pmax pmax
comp=Z,16nm,0.9s
XAN Xi'an 33.69 20 ⇑P P 21 05 18.8 -1.6
XAN pmax pmax
comp=Z,79nm,0.9s
XAN pmax pmax
comp=Z,220nm,4.1s
XAN LR LR
comp=Z,440nm,14.1s
XAN LR LR
comp=Z,390nm,13.1s
XAN LR LR
comp=Z,690nm,13.7s
LZH Lanzhou 34.26 11 ⇑P P 21 05 24.5 -1.0
LZH pP pP 21 05 30.3 -1.2
LZH pmax pmax
comp=Z,44nm,1.5s
LZH LR LR
comp=Z,130nm,14.1s
LZH LR LR
comp=Z,400nm,14.4s
LZH LR LR
comp=Z,150nm,13.1s
DHRM DHARAMSHALA 34.92 330 *e*P P 21 05 32.3 +0.8
DHRM IAmb IAmb 21 05 36.9
comp=Z,9.6nm,0.8s
THN Thein Dam 35.37 330 *e*P P 21 05 34.9 0.0
LYN LuoYang 35.46 24 ⇑P P 21 05 35.5 -0.2
LYN pP pP 21 05 40.0 -1.7
LYN sP sP 21 05 42.8 -0.8
LYN S S 21 11 10.3 +0.4
LYN pmax pmax
comp=Z,110nm,0.9s
LYN LR LR
comp=Z,360nm,12.0s
LYN LR LR
comp=Z,460nm,11.1s
LYN LR LR
comp=Z,700nm,14.6s
SWI Sorong 35.47 95 P P 21 05 36.0 -0.1
comp=Z,30nm,1.1s
NJ2 Nanjing 36.50 34 ⇑P P 21 05 43.5 -1.1
NJ2 pmax pmax
comp=Z,14nm,1.1s
FAKI Fak Fak 36.69 98 P P 21 05 45.6 -0.9
FAKI IAmb IAmb 21 05 47.2
comp=Z,22nm,1.0s
FAKI Fak Fak 36.69 98 P P 21 05 45.9 -0.7
comp=Z,24nm,1.0s
GTA Gaotai 36.96 5 ⇑P P 21 05 47.5 -1.1
GTA pP pP 21 05 53.0 -1.6
GTA PcP PcP 21 08 11.3 +1.6
GTA pmax pmax
comp=Z,49nm,0.9s
GTA LR LR
comp=Z,150nm,14.5s
GTA LR LR
comp=Z,160nm,15.3s
GTA LR LR
comp=Z,170nm,14.9s
NIL Nilore 37.59 328 P P 21 05 53.7 -0.3
NIL IAmb IAmb 21 05 54.9
comp=Z,19nm,0.9s
NIL Nilore 37.59 328 P P 21 05 53.7 -0.3
NIL pmax pmax
comp=Z,19nm,0.9s
MTN Manton Dam 38.10 114 P P 21 05 57.9 -0.6
HNS HongShan 38.83 24 ⇑P P 21 06 04.5 +0.2
HNS *e*S S 21 12 00.8 -0.3
HNS pmax pmax
comp=Z,110nm,1.0s
HNS LR LR
comp=Z,350nm,19.1s
HNS LR LR
comp=Z,230nm,14.3s
HNS LR LR
comp=Z,260nm,16.2s
TIA Tai'an 38.89 28 P P 21 06 03.8 -1.0
TIA pmax pmax
comp=Z,10.0nm,0.9s
TIA LR LR
comp=Z,130nm,12.4s
TIA LR LR
comp=Z,190nm,14.4s
TIA LR LR
comp=Z,320nm,13.3s
BTO Baotou 40.06 17 *e*P P 21 06 15.0 +0.3
BTO pP pP 21 06 19.3 -1.4
BTO sP sP 21 06 22.0 -0.5
BTO PP PnPn 21 07 51.5 +1.0
BTO S S 21 12 23.8 +4.0
BTO sS sS 21 12 30.3 +1.5
BTO pmax pmax
comp=Z,80nm,1.0s
BTO pmax pmax
comp=Z,270nm,10.2s
BTO LR LR
comp=Z,1µm,14.7s
BTO LR LR
comp=Z,660nm,14.7s
BTO LR LR
comp=Z,1µm,16.5s
HHC Hu-ho-hao-te 40.75 18 ⇑*i*P P 21 06 21.0 +0.6
HHC pP pP 21 06 26.8 +0.4
HHC sP sP 21 06 30.8 +2.6
HHC pmax pmax
comp=Z,37nm,0.9s
HHC pmax pmax
comp=Z,48nm,4.3s
HHC LR LR
comp=Z,440nm,14.7s
HHC LR LR
comp=Z,230nm,13.7s
HHC LR LR
comp=Z,270nm,15.9s
H01W3 Cape Leeuwin H 40.88 157 T T 21 49 47.8
baz=332,slow=76,SNR=682
H01W2 Cape Leeuwin H 40.89 157 T T 21 49 48.8
baz=332,slow=76,SNR=806
H01W1 Cape Leeuwin H 40.89 157 T T 21 49 45.5
baz=332,slow=76,SNR=471
KSH Kashi 41.12 336 P P 21 06 23.0 -0.5
KSH sP sP 21 06 33.3 +2.0
KSH pmax pmax
comp=Z,7.0nm,0.8s
BJI Beijing 41.68 24 P P 21 06 28.3 +0.4
BJI sP sP 21 06 35.0 -0.8
BJI pmax pmax
comp=Z,46nm,0.8s
WMQ Urumqi 41.84 351 *e*P P 21 06 30.8 +1.6
TARG Taragay, Kyrgy 42.36 340 IAmb IAmb 21 06 43.5
comp=Z,22nm,1.0s
NRN Naryn 42.76 338 IAmb IAmb 21 06 46.8
comp=Z,20nm,1.0s
DL2 Dalian 43.20 30 P P 21 06 39.3 -0.9
DL2 pmax pmax
comp=Z,60nm,0.8s
GAR Garm 43.23 331 IAmb IAmb 21 06 41.8
comp=Z,34nm,1.0s
ULHL Ulahol 43.37 339 P P 21 06 42.8 +0.9
SNR=7.8
CHGR Chuyangaron 43.55 329 IAmb IAmb 21 06 43.9
comp=Z,32nm,0.9s
SIMJ Simiganj 43.63 329 P P 21 06 43.2 -0.8
SIMJ IAmb IAmb 21 06 44.6
comp=Z,22nm,1.1s
WRA Warramunga Arr 43.77 122 P P 21 06 45.9 +0.7
comp=Z,7.8nm,1.0s,baz=300,slow=9.3,SNR=37
comp=Z,7.8nm,1.0s
WRAB Tennant Creek 43.77 122 P P 21 06 45.0 -0.2
WRAB Tennant Creek 43.77 122 *i* P P 21 06 44.3 -0.9
WRAB pmax pmax
comp=Z,11nm,1.0s
BTK Batken 43.82 332 IAmb IAmb 21 06 49.4
comp=Z,19nm,0.8s
UCH Uchtor 44.01 337 P P 21 06 48.4 +1.1
SNR=21
KBK Karagaybulak 44.21 338 P P 21 06 50.2 +1.6
SNR=15
AAK Ala-Archa 44.37 337 P P 21 06 52.4 +2.6
SNR=9.9
AAK Ala-Archa 44.37 337 P P 21 06 50.1 +0.3
AAK Ala-Archa 44.37 337 *ce*P P 21 06 50.6 +0.8
AAK pmax pmax
comp=Z,7.0nm,0.8s
TJN Taejon 44.51 37 P P 21 06 49.0 -1.9
TJN Taejon 44.51 37 *ce*P P 21 06 50.0 -0.9
HRA Herat 44.66 319 P P 21 06 50.2 -2.1
EKS2 Erkin-Say 44.67 337 P P 21 06 53.6 +1.4
SNR=11
USP Ospenovka 44.90 338 P P 21 06 54.9 +0.9
SNR=20
XLT XiLinHaoTe 44.98 21 *e*P P 21 06 54.8 +0.2
XLT sP pP 21 07 01.5 +0.8
XLT PcP PcP 21 08 35.5 -0.1
XLT PP PP 21 08 41.0 +1.1
XLT pmax pmax
comp=Z,20nm,0.9s
XLT pmax pmax
comp=Z,110nm,4.4s
XLT LR LR
comp=Z,54nm,14.5s
XLT LR LR
comp=Z,250nm,15.7s
XLT LR LR
comp=Z,610nm,14.9s
FORT Forrest 45.04 140 P P 21 06 56.6 +1.4
FORT IAmb IAmb 21 06 58.6
comp=Z,15nm,0.7s
ASAR Alice Springs 45.15 127 P P 21 06 57.1 +0.8
comp=Z,3.0nm,0.7s,baz=301,slow=8.0,SNR=52
ASAR PcP PcP 21 08 37.4 +0.7
comp=Z,1.0nm,0.8s,baz=300,slow=2.4,SNR=4.3
comp=Z,3.0nm,0.7s
AS31 Alice Springs 45.15 127 P P 21 06 56.8 +0.6
KSAR Wonju Array Be 45.53 36 P P 21 06 57.0 -2.0
KSAR Wonju Array Be 45.53 36 P P 21 06 57.0 -2.0
KS19 Wonju Array Si 45.56 36 IAmb IAmb 21 06 59.0
comp=Z,13nm,0.8s
KSRS Korea Array 45.56 36 P P 21 06 58.2 -1.0
comp=Z,8.4nm,0.8s,baz=230,slow=9.0,SNR=29
comp=Z,8.4nm,0.8s
MK31 Makanchi Array 45.74 347 IAmb IAmb 21 07 09.3
comp=Z,25nm,0.9s
MK31 Makanchi Array 45.74 347 *ce*P P 21 07 00.4 -0.1
MKAR Makanchi Array 45.74 347 P P 21 07 00.6 +0.1
comp=Z,15nm,0.7s,baz=163,slow=7.9,SNR=195
comp=Z,15nm,0.7s
MAKZ Makanchi 45.82 347 P P 21 07 00.5 -0.7
MAKZ Makanchi 45.82 347 P P 21 07 00.5 -0.7
MAKZ pmax pmax
comp=Z,25nm,0.8s
SONM Songino Array 46.10 10 IAmb IAmb 21 07 04.5
comp=Z,18nm,0.8s
SONM Songino Array 46.10 10 P P 21 07 03.3 -0.2
comp=Z,16nm,0.6s,baz=190,slow=9.1,SNR=136
SONM PcP PcP 21 08 40.3 +0.8
comp=Z,4.3nm,0.7s,baz=193,slow=3.4,SNR=6.6
comp=Z,16nm,0.6s
ULN Ulaanbaatar 46.25 10 P P 21 07 03.4 -1.2
ULN IAmb IAmb 21 07 05.5
comp=Z,10nm,0.8s
ULN Ulaanbaatar 46.25 10 *ce*P P 21 07 04.3 -0.4
ULN pmax pmax
comp=Z,13nm,0.8s
KK31 Karatay Array 46.39 334 IAmb IAmb 21 07 07.5
comp=Z,13nm,1.0s
KKAR Karatay Array 46.39 334 IAmb IAmb 21 07 07.5
comp=Z,13nm,1.0s
ZAK Zakamensk 48.16 6 *e*P P 21 07 19.1 -0.4
ZAK pmax pmax
comp=Z,9.0nm,1.1s
MOY Mondy 49.23 4 *e*P P 21 07 27.6 -0.1
GEYT Alibeck 49.45 320 IAmb IAmb 21 07 38.0
comp=Z,12nm,0.7s
GEYT Alibeck 49.45 320 P P 21 07 30.7 +1.2
comp=Z,7.2nm,0.8s,baz=134,slow=11,SNR=11
comp=Z,7.2nm,0.8s
GYA0B ALIBECK ARRAY 49.45 320 P P 21 07 29.1 -0.4
GYA0B IAmb IAmb 21 07 50.9
comp=Z,11nm,0.8s
IRK Irkutsk 50.11 7 *e*P P 21 07 33.0 -1.2
IRK pmax pmax
comp=Z,32nm,1.5s
KURBB Kurchatov Arra 50.21 346 P P 21 07 35.2 +0.2
comp=Z,11nm,0.6s,baz=167,slow=6.9,SNR=122
comp=Z,11nm,0.6s
KURK Kurchatov 50.27 346 P P 21 07 35.2 -0.2
KURK IAmb IAmb 21 07 36.9
comp=Z,17nm,1.1s
KURK Kurchatov 50.27 346 *ce*P P 21 07 35.6 +0.1
KURK pmax pmax
comp=Z,12nm,0.7s
HIA Hailar 50.88 20 IAmb IAmb 21 07 41.6
comp=Z,28nm,1.4s
BNX BinXian 51.16 28 ⇑P P 21 07 41.3 -1.0
BNX pmax pmax
comp=Z,16nm,0.7s
BNX pmax pmax
comp=Z,88nm,3.5s
MDJ Mudanjiang 51.42 30 P P 21 07 44.0 -0.2
MDJ pP pP 21 07 49.0 -1.4
MDJ sP sP 21 07 51.5 -0.7
MDJ PcS PcS 21 12 54.5 -1.8
MDJ S S 21 15 05.5 +2.5
MDJ sS sS 21 15 14.8 +2.5
MDJ ScS ScS 21 17 33.8 0.0
MDJ pmax pmax
comp=Z,11nm,1.2s
MDJ pmax pmax
comp=Z,70nm,3.8s
MDJ LR LR
comp=Z,190nm,21.0s
MDJ LR LR
comp=Z,210nm,19.2s
MDJ LR LR
comp=Z,280nm,19.2s
MJAR Matsushiro Arr 51.64 44 PcP PcP 21 09 00.9 +1.2
comp=Z,0.8nm,0.5s,baz=250,slow=3.3,SNR=7.3

ZALV	**Zalesovo Beam**	52.14	352		P		**P**	21 07 49.4	0.0
	comp=Z,28nm,0.7s,baz=182,slow=6.5,SNR=119								
	comp=Z,28nm,0.7s								
USA0B	**Ussuriysk Arra**	52.38	32		IAmb		IAmb	21 07 52.8	
	comp=Z,17nm,1.2s								
USRK	**Ussuriysk Ar.**	52.38	32		P		**P**	21 07 50.7	-0.7
	comp=Z,4.8nm,0.8s,baz=241,slow=7.9,SNR=11								
	comp=Z,4.8nm,0.8s								
RAYN	**Ar Rayn**	53.06	298		P		**P**	21 07 57.3	+0.4
RAYN	**Ar Rayn**	53.06	298		P		**P**	21 07 57.3	+0.4
RAYN					pmax		pmax		
	comp=Z,11nm,1.3s								
CTAO	**Charters Tower**	54.19	117		P		**P**	21 08 05.5	+0.3
CTAO					IAmb		IAmb	21 08 07.4	
	comp=Z,17nm,0.9s								
CTAO	**Charters Tower**	54.19	117		P		**P**	21 08 05.5	+0.3
CTAO					pmax		pmax		
	comp=Z,17nm,0.9s								
HEH	**HeiHe**	54.58	24	*e*	P		**P**	21 08 07.0	-0.5
HEH					pmax		pmax		
	comp=Z,13nm,1.4s								
HEH					pmax		pmax		
	comp=Z,160nm,4.6s								
BVAR	**Borovoye Array**	54.66	341		P		**P**	21 08 08.0	-0.1
BVAR	**Borovoye Array**	54.66	341		P		**P**	21 08 08.0	-0.1
	comp=Z,7.9nm,0.7s,baz=140,slow=8.6,SNR=54								
	comp=Z,7.9nm,0.7s								
BRVK	**Borovoye**	54.73	341		P		**P**	21 08 08.0	-0.4
BRVK					IAmb		IAmb	21 08 24.3	
	comp=Z,11nm,0.9s								
BRVK	**Borovoye**	54.73	341	*ce*	P		**P**	21 08 07.9	-0.6
BRVK					pmax		pmax		
	comp=Z,13nm,1.3s								
STKA	**Stephens Creek**	55.13	132		P		**P**	21 08 12.9	+1.2
STKA	**Stephens Creek**	55.13	132	*i*	P		**P**	21 08 12.1	+0.3
STKA	**Stephens Creek**	55.13	132		P		**P**	21 08 13.2	+1.4
	comp=Z,5.3nm,0.7s,baz=292,slow=7.5,SNR=10								
	comp=Z,5.3nm,0.7s								
KLR	**Kul'dur**	55.72	28	*ce*	P		**P**	21 08 15.5	-0.2
KLR					pmax		pmax		
	comp=Z,21nm,1.7s								
KLR	**Kul'dur**	55.72	28		P		**P**	21 08 15.8	0.0
	comp=Z,7.7nm,1.0s,baz=246,slow=7.3,SNR=22								
	comp=Z,7.7nm,1.0s								
ABKAR	**Akbulak array**	55.83	332		IAmb		IAmb	21 08 17.8	
	comp=Z,22nm,0.9s								
BOD	**Bodaibo**	57.03	11	*e*	P		**P**	21 08 24.6	-0.3
BOD					pmax		pmax		
	comp=Z,13nm,1.0s								
ZEA	**Zeya**	57.23	22	*e*	P		**P**	21 08 26.7	+0.3
ZEA				*e*				21 08 34.4	
ZEA					pmax		pmax		
	comp=Z,10.0nm,0.8s								
ASAJ	**Asahikawa**	58.44	38		P		**P**	21 08 35.6	+0.5
	comp=Z,6.5nm,1.0s,baz=164,slow=8.4,SNR=3.2								
	comp=Z,6.5nm,1.0s								
YSS	**Yuzh-Sakhalins**	60.05	35	*ce*	P		**P**	21 08 46.2	+0.1
YSS					pmax		pmax		
	comp=Z,20nm,1.2s								
GURO	**Guroymak-BITLI**	60.80	313		P		**P**	21 08 51.7	0.0
SVE	**Sverdlovsk**	61.07	339	*e*	P		**P**	21 08 52.9	0.0
SVE					pmax		pmax		
	comp=Z,31nm,0.9s								
ARU	**Arti**	61.55	337		P		**P**	21 08 55.6	-0.6
ARU					IAmb		IAmb	21 08 56.8	
	comp=Z,14nm,0.9s								
ARU	**Arti**	61.55	337	*c i*	P		**P**	21 08 55.8	-0.4
ARU					S		**S**	21 17 18.5	+1.6
ARU					SS		**SS**	21 21 17.5	-0.7
ARU					pmax		pmax		
	comp=Z,18nm,1.0s								
H04N2	**CROZET ISLANDS**	62.11	213		T		T	22 16 24.0	
	baz=52,slow=75,SNR=4697								
H04N1	**CROZET ISLANDS**	62.12	213		T		T	22 16 28.4	
	baz=52,slow=75,SNR=5642								
H04N3	**CROZET ISLANDS**	62.12	213		T		T	22 16 23.2	
	baz=52,slow=75,SNR=5637								
KBZ	**Khabaz**	62.31	319	*ce*	P		**P**	21 09 00.8	-0.7
KBZ					pmax		pmax		
	comp=Z,5.0nm,1.0s								
KBZ	**Khabaz**	62.31	319		P		**P**	21 09 02.4	+0.9
	comp=Z,3.3nm,0.8s,baz=174,slow=6.1,SNR=4.6								
	comp=Z,3.3nm,0.8s								
H04S1	**CROZET ISLANDS**	62.47	213		T		T	22 16 53.1	
	baz=50,slow=76,SNR=923								
H04S3	**CROZET ISLANDS**	62.48	213		T		T	22 16 52.9	
	baz=50,slow=76,SNR=659								
H04S2	**CROZET ISLANDS**	62.48	213		T		T	22 16 55.1	
	baz=50,slow=76,SNR=704								
KIV	**Kislovodsk**	62.54	319	*e*	P		**P**	21 09 03.2	0.0
KIV					pmax		pmax		
	comp=Z,7.0nm,1.0s								
BELG	**Belogornoye**	63.85	329	*i*	P		**P**	21 09 10.6	-0.9
BELG					pmax		pmax		
	comp=Z,4.0nm,0.8s								
YAK	**Yakutsk**	64.59	17		P		**P**	21 09 15.3	-0.9
YAK	**Yakutsk**	64.59	17	*c i*	P		**P**	21 09 14.8	-1.4
YAK				*e*	PP		**pP**	21 09 18.5	-4.1
YAK				*e*				21 09 47.2	
YAK				*e*				21 11 32.6	
YAK				*e*	PPP		PPP	21 13 07.5	
YAK				*e*	S		**S**	21 17 54.3	-0.4
YAK				*e*	SS		**sS**	21 18 05.9	+1.8
YAK				*e*				21 19 09.1	
YAK				*e*	SS		**SS**	21 22 05.5	0.0
YAK					pmax		pmax		
	comp=Z,99nm,1.2s								
YAK					pmax		pmax		
	comp=N,22nm,1.4s								
YAK					pmax		pmax		
	comp=E,19nm,1.4s								
YAK					pmax		pmax		
	comp=Z,77nm,3.5s								
YAK					pmax		pmax		
	comp=N,38nm,5.3s								
YAK					pmax		pmax		
	comp=E,34nm,2.8s								
YAK					smax		smax		
	comp=E,67nm,4.7s								
YAK					smax		smax		
	comp=N,47nm,5.6s								
YAK	**Yakutsk**	64.59	17		P		**P**	21 09 15.4	-0.9
	comp=N,69nm,0.8s,baz=215,slow=2.7,SNR=35								
MBAR	**Mbarara**	65.25	268	*i*	P		**P**	21 09 20.9	-0.8
MBAR					pmax		pmax		
	comp=Z,2.0nm,1.0s								
VRH	**Novokhopyorsk**	66.39	326	*e*	P		**P**	21 09 25.2	-2.9
VRH					pmax		pmax		
	comp=Z,20nm,0.8s								
KIRV	**Kirov**	66.65	336	*ce*	P		**P**	21 09 29.6	0.0
NRIK	**Noril'sk**	67.01	357		P		**P**	21 09 31.3	-0.4
NRIK					IAmb		IAmb	21 09 32.6	
	comp=Z,19nm,1.2s								
NRIK	**Noril'sk**	67.01	357	*ce*	P		**P**	21 09 31.2	-0.6
NRIK					pmax		pmax		
	comp=Z,18nm,1.3s								
NRIK	**Noril'sk**	67.01	357		P		**P**	21 09 31.5	-0.2
	comp=Z,5.5nm,0.8s,baz=164,slow=5.0,SNR=13								
	comp=Z,5.5nm,0.8s								
BRTR	**Keskin Array B**	67.34	312		P		**P**	21 09 34.9	+0.3
	comp=Z,1.0nm,0.8s,baz=120,slow=7.3,SNR=5.3								
	comp=Z,1.0nm,0.8s								
VORD	**Divnogorie**	67.65	325	*e*	P		**P**	21 09 33.6	-2.5
VORD					pmax		pmax		
	comp=Z,10.0nm,1.0s								
VSR	**Storozhevoye**	67.83	325	*e*	P		**P**	21 09 33.4	-3.9
VSR					pmax		pmax		
	comp=Z,10.0nm,0.8s								
VORR	**Voronezh**	68.00	326	*e*	P		**P**	21 09 36.2	-2.1
VORR					pmax		pmax		
	comp=Z,20nm,0.4s								
LPSR	**Galich'ya Gora**	68.56	327	*e*	P		**P**	21 09 39.6	-2.2
LPSR					pmax		pmax		
	comp=Z,10.0nm,0.7s								
MA2	**Magadan**	70.77	26		P		**P**	21 09 54.7	-0.6
MA2	**Magadan**	70.77	26	*ce*	P		**P**	21 09 55.3	0.0
MA2					pmax		pmax		
	comp=Z,32nm,1.7s								
OBN	**Obninsk**	70.90	328	*e*	P		**P**	21 09 56.2	0.0
OBN				*e*				21 12 39.2	
OBN				*e*	S		SKiKP	21 20 01.4	+24
OBN					pmax		pmax		
	comp=Z,18nm,1.7s								
OBN					MLR		MLR		
	comp=Z,2µm,14.0s								
KLMR	**Klimovskoe**	72.09	335	*e*	P			21 09 58.2	-5.0
KLMR					pmax		pmax		
	comp=Z,35nm,2.0s								
TIXI	**Tiksi**	72.19	10		P		**P**	21 10 02.1	-1.5
TIXI					IAmb		IAmb	21 10 03.5	
	comp=Z,16nm,0.8s								
TIXI	**Tiksi**	72.19	10	*ce*	P		**P**	21 10 02.4	-1.2
TIXI					pmax		pmax		
	comp=Z,37nm,1.7s								
TIXI	**Tiksi**	72.19	10		P		**P**	21 10 02.6	-1.1
	comp=Z,12nm,0.7s,baz=224,slow=2.7,SNR=79								
	comp=Z,12nm,0.7s								
SEY	**Seymchan**	73.12	23	*ce*	P		**P**	21 10 09.2	-0.1
SEY					pmax		pmax		
	comp=Z,19nm,1.7s								
AKASG	**Malin Array Be**	73.50	322		P		**P**	21 10 11.3	-0.5
	comp=Z,2.8nm,0.8s,baz=92,slow=4.6,SNR=12								
	comp=Z,2.8nm,0.8s								
MLR	**Muntele Rosu**	74.30	317		P		**P**	21 10 17.4	+0.6
MLR					IAmb		IAmb	21 10 40.4	
	comp=Z,18nm,1.4s								
MLR	**Muntele Rosu**	74.30	317		P		**P**	21 10 17.4	+0.6
MLR					pmax		pmax		
	comp=Z,18nm,1.4s								
BOSA	**Boshof**	74.31	240		P		**P**	21 10 19.4	+2.2
	comp=Z,3.0nm,1.1s,baz=133,slow=7.5,SNR=3.6								
	comp=Z,3.0nm,1.1s								
BUR08	**Bucovina Ar. S**	75.27	319		P		**P**	21 10 22.6	+0.2
NACGM	**Naroch**	76.11	326	*e*	P		**P**	21 10 27.9	+1.0
	comp=Z,16nm,0.8s,baz=106								
SUW	**Suwalki**	77.93	325		P		**P**	21 10 36.2	-0.9
SUW	**Suwalki**	77.93	325		P		**P**	21 10 36.2	-0.9
SUW					pmax		pmax		
	comp=Z,24nm,0.8s								
CRVS	**Cervenica-Dubn**	77.97	319	*e*	P		**P**	21 10 39.9	+2.4
CRVS	**Cervenica-Dubn**	77.97	319	*e*	P		**P**	21 10 39.9	+2.4
FINES	**FINESS Array B**	78.31	333		P		**P**	21 10 39.3	+0.2
	comp=Z,6.0nm,0.7s,baz=96,slow=7.7,SNR=23								
	comp=Z,6.0nm,0.7s								
VYHS	**Vyhne**	79.62	319	*e*	P		**P**	21 10 47.2	+0.6
VYHS	**Vyhne**	79.62	319	*e*	P		**P**	21 10 47.2	+0.6
BILL	**Bilibino**	80.45	21	*i*	P		**P**	21 10 50.6	-0.1
ARCES	**ARCESS Array B**	80.94	340		P		**P**	21 10 53.5	+0.2
	comp=Z,4.4nm,0.9s,baz=95,slow=7.4,SNR=1.9								
	comp=Z,4.4nm,0.9s								
SOKA	**Soboth**	81.98	317	*e*	P		**P**	21 11 00.5	+1.2
	comp=Z,6.1nm,1.1s								
BIOA	**Bad Ischl, Aus**	83.00	318	*e*	PcP		P	21 11 09.7	+5.1
	comp=Z,2.8nm,0.6s								
GEC2	**GERESS Array S**	83.05	319				pP	21 11 13.3	+2.2
GERES	**GERESS Array B**	83.05	319		P		**P**	21 11 05.7	+0.8
	comp=Z,3.1nm,0.8s,baz=69,slow=7.3,SNR=14								
	comp=Z,3.1nm,0.8s								
CLL	**Collm**	83.67	321	*e*	P		**P**	21 11 12.0	+4.1
CLL	**Collm**	83.67	321	*e*	Px		Px	21 11 10.0	
CLL				*e*	PP		**PP**	21 14 18.0	-2.7
ABTA	**Abfaltersbach**	83.71	317	*e*	P		**P**	21 11 09.8	+1.5
	comp=Z,4.5nm,1.1s								
CIMO	**Cimolais**	83.74	316		IAmb		IAmb	21 11 17.3	
	comp=Z,12nm,1.1s								
HFS	**Hagfors**	84.01	330		P		**P**	21 11 08.8	-0.7
	comp=Z,6.4nm,1.0s,baz=91,slow=6.4,SNR=6.9								
	comp=Z,6.4nm,1.0s								
WTTA	**Wattenberg**	84.34	317	*e*	P		**P**	21 11 12.2	+0.6
	comp=Z,10nm,1.5s								
RETA	**Reutte**	84.94	317	*e*	P		**P**	21 11 14.9	+0.4
	comp=Z,6.1nm,1.0s								
NB2	**NORSAR Subarra**	85.31	331		P		**P**	21 11 15.8	-0.3
	comp=Z,7.8nm,1.2s,baz=93,slow=5.1								
NOA	**NORSAR Array B**	85.31	331		P		**P**	21 11 15.7	-0.3
	comp=Z,2.2nm,0.9s,baz=95,slow=5.1,SNR=5.5								
	comp=Z,2.2nm,0.9s								
SPITS	**Spitsbergen Ar**	85.48	348		P		**P**	21 11 16.9	+0.3
	comp=Z,8.5nm,0.8s,baz=72,slow=9.3,SNR=2.0								
	comp=Z,8.5nm,0.8s								
KEST	**Kesra**	85.81	305		P		**P**	21 11 21.1	+1.9
	comp=Z,3.5nm,0.8s,baz=140,slow=4.2,SNR=4.4								
	comp=Z,3.5nm,0.8s								
VNDA	**Vanda**	87.29	169		P		**P**	21 11 22.4	-3.1
VNDA					IAmb		IAmb	21 12 14.7	
	comp=Z,16nm,2.0s								
VNDA	**Vanda**	87.29	169		P		**P**	21 11 22.4	-3.1
VNDA					pmax		pmax		
	comp=Z,16nm,2.0s								
SENIN	**Lac Senin/Sane**	87.30	316		P		**P**	21 11 24.7	-1.7
TNA	**Tin City**	90.33	24		P		**P**	21 11 40.7	+0.7
	baz=277								
C16K	**Lisburne Hills**	90.97	22		IAmb		IAmb	21 11 44.3	
	comp=Z,9.5nm,1.2s								
C16K	**Lisburne Hills**	90.97	22		P		**P**	21 11 43.4	+0.5
	baz=279								
NIKH	**Nikolski High**	91.20	37		P		**P**	21 11 45.0	+0.6
	baz=276								
ANM	**Nome**	91.54	25		P		**P**	21 11 46.4	+0.7
	baz=279								
F15K	**North Star Dit**	91.66	24		IAmb		IAmb	21 11 47.6	
	comp=Z,6.4nm,1.1s								
F15K	**North Star Dit**	91.66	24		P		**P**	21 11 46.9	+0.7
	baz=280								
C17K	**DeLong Mountai**	91.73	21		P		**P**	21 11 46.7	+0.2
	baz=281								
M11K	**Mekoryuk**	91.78	29		P		**P**	21 11 46.9	+0.1
	baz=278								
D17K	**Noatak River**	91.91	22		P		**P**	21 11 48.0	+0.7
	baz=281,SNR=9.0								
G15K	**Niukluk**	92.03	25		P		**P**	21 11 48.7	+0.8
	baz=280								
B18K	**Kokolik River**	92.03	20		P		**P**	21 11 49.0	+1.1
	baz=282								
A19K	**Wainwright**	92.10	19		P		**P**	21 11 49.1	+1.1
	baz=283								
QSPA	**South Pole Qui**	92.39	180		P		**P**	21 11 51.9	+2.3
	comp=Z,0.5nm,0.7s,baz=115,slow=9.4,SNR=3.1								
	comp=Z,0.5nm,0.7s								
C18K	**Utukok River**	92.41	21		P		**P**	21 11 50.3	+0.7
	baz=283								
E17K	**Hotham Inlet**	92.51	23		P		**P**	21 11 50.9	+0.8
	baz=282,SNR=6.0								
J14K	**Nanvaranak Lak**	92.65	27		P		**P**	21 11 51.4	+0.7
	baz=280								
G16K	**Koyuk River**	92.66	24		IAmb		IAmb	21 11 52.4	
	comp=Z,7.5nm,1.1s								
G16K	**Koyuk River**	92.66	24		P		**P**	21 11 51.2	+0.5
	baz=282								
H16K	**Elim**	92.86	25		P		**P**	21 11 52.3	+0.6
	baz=282								
C19K	**Lookout Ridge**	92.86	20		P		**P**	21 11 52.7	+0.9
	baz=284								
F17K	**Baldwin Pennin**	92.88	23		P		**P**	21 11 52.4	+0.6
	baz=283								
E18K	**Tukpahlearik C**	92.90	22		IAmb		IAmb	21 11 53.6	
	comp=Z,9.1nm,1.0s								
E18K	**Tukpahlearik C**	92.90	22		P		**P**	21 11 52.5	+0.6
	baz=283								
A21K	**Barrow**	93.23	18		P		**P**	21 11 53.8	+0.5
	baz=287								
L14K	**Kuka Creek**	93.31	28		IAmb		IAmb	21 11 55.6	
	comp=Z,8.9nm,1.0s								
L14K	**Kuka Creek**	93.31	28		P		**P**	21 11 54.5	+0.6
	baz=281								
G17K	**Kiwalik Mounta**	93.33	24		P		**P**	21 11 54.0	+0.1
	baz=283,SNR=6.5								
B20K	**Meade River**	93.44	19		P		**P**	21 11 54.8	+0.6
	baz=287								
F18K	**Selawik**	93.46	23		P		**P**	21 11 55.1	+0.7
	baz=284,SNR=16								
D19K	**Kuna River**	93.54	21		P		**P**	21 11 55.6	+0.8
	baz=286								
TORD	**Torodi Ar. Bea**	93.58	283		P		**P**	21 11 55.2	-0.9
	comp=Z,0.6nm,0.9s,baz=61,slow=12,SNR=3.5								
	comp=Z,0.6nm,0.9s								
K15K	**Wolf Creek Mou**	93.66	27		IAmb		IAmb	21 12 08.5	
	comp=Z,6.4nm,1.1s								
K15K	**Wolf Creek Mou**	93.66	27		P		**P**	21 11 56.3	+0.8
	baz=282								
I17K	**Unalakleet**	93.68	26		IAmb		IAmb	21 11 57.4	
	comp=Z,7.9nm,1.1s								
I17K	**Unalakleet**	93.68	26		P		**P**	21 11 56.2	+0.7
	baz=283								
H17K	**Granite Mounta**	93.76	24		IAmb		IAmb	21 11 57.5	
	comp=Z,6.5nm,0.9s								
H17K	**Granite Mounta**	93.76	24		P		**P**	21 11 56.8	+0.8
	baz=284								
M14K	**Bethel**	93.78	29		P		**P**	21 11 56.4	+0.4
	baz=282								
L15K	**Ungalak Mounta**	93.81	28		P		**P**	21 11 56.5	+0.4
	baz=282								
A22K	**Sinclair Lake**	93.83	18		P		**P**	21 11 57.0	+0.9
	baz=289								
J16K	**Anvik River**	93.86	26		P		**P**	21 11 57.2	+0.8
	baz=283								
D20K	**Etivluk River**	94.01	20		P		**P**	21 11 57.5	+0.5
	baz=287								
G18K	**Tagagawik**	94.03	23		P		**P**	21 11 57.6	+0.5
	baz=285								
N14K	**Kuskokwak Cree**	94.08	30		P		**P**	21 11 57.8	+0.4
	baz=282								
F19K	**Shaleruckik Mo**	94.12	22		P		**P**	21 11 57.8	+0.3
	baz=286								
E19K	**Redstone River**	94.15	22		P		**P**	21 11 58.2	+0.5
	baz=286								
E20K	**Nigu River**	94.29	21		P		**P**	21 11 58.8	+0.5
	baz=288								
H18K	**Honhosa River**	94.34	24		IAmb		IAmb	21 11 60.0	
	comp=Z,6.2nm,0.9s								
H18K	**Honhosa River**	94.34	24		P		**P**	21 11 59.3	+0.7
	baz=285								
M15K	**Kasigluk River**	94.40	29		P		**P**	21 11 59.3	+0.4
	baz=283								
B21K	**Ikpikpuk River**	94.40	19		IAmb		IAmb	21 12 00.4	
	comp=Z,6.9nm,0.9s								
B21K	**Ikpikpuk River**	94.40	19		P		**P**	21 11 59.5	+0.7
	baz=289								
C21K	**Knifeblade Rid**	94.50	20		P		**P**	21 12 00.1	+0.9
	baz=289								
B22K	**Teshekpuk Lake**	94.55	19		P		**P**	21 11 59.9	+0.5
	baz=290								
G19K	**Purcell Mounta**	94.58	23		P		**P**	21 11 59.7	0.0
	baz=287								
L16K	**Owhat River**	94.73	28		IAmb		IAmb	21 12 02.0	
	comp=Z,5.6nm,0.8s								
L16K	**Owhat River**	94.73	28		P		**P**	21 12 00.9	+0.5
	baz=284,SNR=5.6								
N15K	**Kwethluk River**	94.81	29		P		**P**	21 12 00.9	0.0
	baz=283								
F20K	**Avaraart Lake**	94.83	22		P		**P**	21 12 01.2	+0.4
	baz=288								
H19K	**Roundabout Mou**	95.01	23		P		**P**	21 12 02.2	+0.6
	baz=287								
K17K	**Iditarod**	95.01	26		P		**P**	21 12 02.7	+1.0
	baz=285								
GCSA	**Galena City Sc**	95.06	24		P		**P**	21 12 02.7	+0.9
	baz=287								
M16K	**Timber Creek**	95.14	28		P		**P**	21 12 03.3	+1.0
	baz=284								
L17K	**Donlin**	95.17	27		P		**P**	21 12 03.7	+1.3
	baz=285								
O15K	**Ungalikthiuk R**	95.17	30		P		**P**	21 12 02.7	+0.2
	baz=284								
D22K	**Ayikyak River**	95.30	20		IAmb		IAmb	21 12 33.4	
	comp=Z,14nm,1.7s								
D22K	**Ayikyak River**	95.30	20		P		**P**	21 12 03.3	+0.4
	baz=291								
N16K	**Nishlik Lake**	95.37	29		P		**P**	21 12 04.2	+0.8
	baz=285								
J18K	**Innoko River**	95.50	26		IAmb		IAmb	21 12 05.3	
	comp=Z,5.6nm,0.8s								
J18K	**Innoko River**	95.50	26		P		**P**	21 12 04.2	+0.3
	baz=287,SNR=8.9								
F21K	**Alatna River**	95.60	21		IAmb		IAmb	21 12 05.6	
	comp=Z,5.6nm,1.0s								
F21K	**Alatna River**	95.60	21		P		**P**	21 12 04.6	+0.3
	baz=290								
C23K	**Itkillik River**	95.63	19		P		**P**	21 12 04.7	+0.3
	baz=293								
H20K	**Anotleneega Mo**	95.64	23		P		**P**	21 12 05.6	+1.1
	baz=288								
SDPT	**Sand Point**	95.69	34		P		**P**	21 12 05.0	+0.1
	baz=283								
M17K	**Holitna River**	95.76	28		IAmb		IAmb	21 12 06.7	
	comp=Z,7.3nm,0.9s								
M17K	**Holitna River**	95.76	28		P		**P**	21 12 05.6	+0.5
	baz=286								
J19K	**Poorman**	95.81	25		P		**P**	21 12 06.5	+1.2
	baz=288								
G21K	**Allakaket**	95.84	22		P		**P**	21 12 05.9	+0.6
	baz=290								
L18K	**Granite Mounta**	95.87	27		IAmb		IAmb	21 12 07.3	
	comp=Z,5.4nm,0.9s								
L18K	**Granite Mounta**	95.87	27		P		**P**	21 12 06.6	+1.0
	baz=287								
E22K	**Anaktuvuk Pass**	95.87	20		P		**P**	21 12 06.2	+0.6
	baz=292								
IMAR	**Indian Mountai**	95.92	23		P		**P**	21 12 06.1	+0.3
O16K	**Kokwok River B**	95.93	29		P		**P**	21 12 06.4	+0.5
	baz=285								
D23K	**Nanushuk River**	95.94	19		P		**P**	21 12 06.5	+0.7
	baz=293								
TTA	**Tatalina**	95.96	26		IAmb		IAmb	21 12 08.2	
	comp=Z,4.4nm,1.1s								
TTA	**Tatalina**	95.96	26		P		**P**	21 12 06.6	+0.5
	baz=287								
F22K	**John River**	95.97	21		P		**P**	21 12 07.0	+1.0
	baz=291								
I20K	**Naaghedeneel**	96.03	24		P		**P**	21 12 07.1	+0.9
	baz=289,SNR=8.8								
N17K	**Nushagak Hills**	96.11	28		IAmb		IAmb	21 12 08.7	
	comp=Z,5.4nm,0.8s								
N17K	**Nushagak Hills**	96.11	28		P		**P**	21 12 07.3	+0.6
	baz=286								
C24K	**Franklin Bluff**	96.28	18		P		**P**	21 12 07.5	+0.2
	baz=295								
CHNA	**Chernabura Isl**	96.31	34		P		**P**	21 12 07.9	+0.2
	baz=283								
J20K	**Nowinta River**	96.37	24		IAmb		IAmb

baz=295
M20K Styx River 97.57 27 P Pdif 21 12 13.8 +0.3
baz=290
O19K Port Alsworth 97.57 28 P Pdif 21 12 13.8 +0.4
baz=288
H23K Yukon River 97.59 22 IAmb IAmb 21 14 16.3
comp=Z,14nm,1.9s
H23K Yukon River 97.59 22 P Pdif 21 12 14.0 +0.6
baz=294
PPLA Purkeypile 97.63 25 P Pdif 21 12 14.0 +0.2
baz=291
BPAW Bear Paw Mtn. 97.69 24 IAmb IAmb 21 12 15.1
comp=Z,4.5nm,0.9s
BPAW Bear Paw Mtn. 97.69 24 P Pdif 21 12 14.4 +0.5
baz=292
I23K Minto, Yukon-K 97.93 23 P Pdif 21 12 15.7 +0.8
baz=294
G24K Hadweenzic Riv 97.98 21 P Pdif 21 12 15.9 +0.7
baz=296
E25K Arctic Village 98.01 19 P Pdif 21 12 15.9 +0.6
baz=298
N20K Mount Spurr 98.22 27 P Pdif 21 12 16.5 +0.1
baz=290
TRF Thorofare Moun 98.22 25 P Pdif 21 12 16.7 +0.3
baz=292
F25K Christian Rive 98.22 20 P Pdif 21 12 16.8 +0.6
baz=297
SKT Skwentna 98.24 26 IAmb IAmb 21 12 16.7
comp=Z,7.9nm,1.2s
SKT Skwentna 98.24 26 P Pdif 21 12 16.5 +0.1
baz=291
MCK McKinley 98.67 24 P Pdif 21 12 18.4 +0.1
baz=294
F26K Sheenjek River 98.68 20 P Pdif 21 12 19.0 +0.7
baz=299
H25L Birch Creek 98.77 21 P Pdif 21 12 19.0 +0.4
baz=297
SUA Susitna One 98.78 27 IAmb IAmb 21 12 19.9
comp=Z,5.1nm,0.9s
SUA Susitna One 98.78 27 P Pdif 21 12 19.0 0.0
baz=292
Q20K Shuyak Island 99.03 30 P **Pdif** **21 12 20.2 +0.3**
baz=290
G26K Porcupine Rive 99.17 20 P **Pdif** **21 12 21.0 +0.7**
baz=299
PRP Porcupine Dome 99.22 22 P **Pdif** **21 12 21.1 +0.2**
baz=297
E27K Coleen River 99.27 19 P **Pdif** **21 12 21.3 +0.5**
baz=301
D28M Stokes Point 99.52 17 P **Pdif** **21 12 23.3 +1.4**
baz=304
E28M Babbage River 99.69 18 P **Pdif** **21 12 23.2 +0.5**
baz=303
J25K Salcha River, 99.70 23 P **Pdif** **21 12 23.0 +0.1**
baz=297
SEW Seward 99.89 28 P **Pdif** **21 12 24.5 +0.9**
baz=293
G27K Doyon Strip 99.97 20 P **Pdif** **21 12 24.9 +0.9**
baz=301
F28M Old Crow 100.13 19 P **Pdif** **21 12 25.0 +0.3**
baz=303
E29M Blow River 100.31 18 P **Pdif** **21 12 25.8 +0.4**
baz=305
J26L Joseph Creek 100.44 22 P **Pdif** **21 12 26.6 +0.4**
baz=299
M24K Tolsona, Glenn 100.50 25 P **Pdif** **21 12 26.6 +0.1**
baz=296
SCRK Sand Creek 100.53 23 P **Pdif** **21 12 27.0 +0.3**
baz=298
HARP HAARP 100.80 25 P **Pdif** **21 12 28.2 +0.4**
baz=297
G29M Pine Creek 101.12 19 P **Pdif** **21 12 29.6 +0.5**
baz=305
A36M Sachs Harbour 101.16 12 P **Pdif** **21 12 29.9 +0.7**
baz=318
Q23K Middleton Isla 101.59 28 P **Pdif** **21 12 31.9 +0.6**
baz=296
M26K Nabesna, AK 101.69 24 P **Pdif** **21 12 32.4 +0.6**
baz=299
BMRM Bremner River 101.69 26 P **Pdif** **21 12 32.2 +0.4**
baz=297
L27K Beaver Creek, 101.82 23 P **Pdif** **21 12 33.2 +0.9**
baz=300
DAWY Dawson 102.23 22 P **Pdif** **21 12 34.5 +0.4**
baz=303
K29M Barlow Dome 103.04 21 P **Pdif** **21 12 38.2 +0.4**
baz=305
CTG Chitna Glacier 103.08 25 P **Pdif** **21 12 38.2 +0.1**
baz=300
MMPY Sheldon Lake, 106.03 21 P **PKiKP** **21 17 04.4 +1.3**
baz=310
N32M Quiet Lake 106.30 22 P **PKiKP** **21 17 05.1 +1.4**
baz=308
SKAG Skagway 106.42 25 P **PKiKP** **21 17 05.0 +1.2**
baz=306
P32M Atlin 107.01 24 P **PKiKP** **21 17 06.3 +1.3**
baz=307
DLBC Dease Lake 109.22 24 P **PKiKP** **21 17 10.4 +1.2**
baz=310
U33K Whale Pass 109.36 27 P **PKiKP** **21 17 10.5 +1.1**
baz=307
WRAK Wrangell Islan 109.52 26 P **PKiKP** **21 17 11.0 +1.3**
baz=308
T35M Bob Quinn 110.07 25 P **PKiKP** **21 17 11.7 +0.9**
baz=310
V35K Ketchikan 110.52 27 P **PKiKP** **21 17 12.7 +1.2**
baz=308
NEW Newport 121.86 25 P **PKiKP** **21 17 34.5 +0.7**
baz=320
PLID Pearl Lake 124.80 27 PKPdf **PKiKP** **21 17 40.1 +0.1**
EGMT Eagleton 124.95 21 P **PKiKP** **21 17 40.3 +0.3**
baz=328
BOZ Bozeman (W) 126.27 24 P **PKiKP** **21 17 43.0 +0.2**
baz=325
ULM Lac du Bonnet 126.53 9 PKP **PKPdf** **21 17 42.5 0.0**
comp=Z,3.0nm,0.7s,baz=334,slow=2.3,SNR=6.3
HLID Hailey 126.70 27 P **PKiKP** **21 17 44.2 +0.5**
baz=321
RLMT Red Lodge 127.59 22 P **PKiKP** **21 17 46.0 +0.5**
baz=328
PDAR Pinedale Array 129.45 24 PKP **PKiKP** **21 17 49.5 +0.1**
comp=Z,0.4nm,0.7s,baz=219,slow=1.9,SNR=4.8
CWC Cottonwood Cre 129.99 36 P **PKiKP** **21 17 50.8 +0.3**
baz=313
R11B Troy Canyon, C 130.05 32 P **PKiKP** **21 17 50.9 +0.3**
baz=317
DUG Dugway, Tooele 130.06 29 PKPdf **PKPdf** **21 17 46.8 -3.0**
DUG Dugway, Tooele 130.06 29 P **PKiKP** **21 17 50.9 +0.4**
baz=321
DUG Dugway, Tooele 130.06 29 PKIKP **PKPdf** **21 17 46.8 -3.0**
RSSD Black Hills 130.30 19 P **PKiKP** **21 17 51.4 +0.4**
baz=334
MPMC Manual Prospec 130.60 36 P **PKiKP** **21 17 52.2 +0.4**
baz=314
SCZ2 Santa Cruz Isl 130.66 40 P **PKiKP** **21 17 52.1 +0.4**
baz=310
SNCC San Nicolas Is 131.21 40 P **PKiKP** **21 17 53.4 +0.5**
baz=310
LBNH Lisbon 132.26 348 P **PKiKP** **21 17 55.3 +0.7**
baz=16
GMRC Granite Mounta 132.56 36 P **PKiKP** **21 17 56.0 +0.3**
baz=315
HMU Henry Mountain 132.83 29 **PKPdf** **21 17 52.8 -2.4**
MONP2 Monument Peak 133.40 38 P **PKiKP** **21 17 57.7 +0.1**
baz=313
BC3 Big Chuckawall 133.47 37 P **PKiKP** **21 17 57.7 +0.2**
baz=314
ISCO Idaho Springs 133.54 23 P **PKiKP** **21 17 57.9 +0.1**
baz=330
GLA Glamis 134.26 37 P **PKiKP** **21 17 59.2 +0.1**
baz=315
MVCO Mesa Verde 134.48 28 P **PKiKP** **21 17 59.4 -0.2**
baz=325
BINY Binghamton 134.96 352 P **PKiKP** **21 18 00.2 0.0**
baz=11
T25A Trinidad 136.31 24 P **PKiKP** **21 18 03.1 -0.3**
baz=330
CBKS Cedar Bluff 136.47 18 P **PKiKP** **21 18 03.4 0.0**
baz=337
SSPA Standing Stone 136.75 353 P **PKiKP** **21 18 03.9 +0.1**
baz=8.9
SFIN Lafayette 137.29 3 P **PKiKP** **21 18 05.1 +0.2**
baz=356
O53A New Philadelph 137.43 357 P **PKiKP** **21 18 05.4 +0.1**
baz=4.1
O48B Farmland 137.49 1 P **PKiKP** **21 18 05.6 +0.3**
baz=358
ACSO Alum Creek Sta 137.51 359 P **PKiKP** **21 18 05.8 +0.4**
baz=1.5
TZTN Tazewell 141.20 359 P **PKiKP** **21 18 12.6 -0.5**
baz=0.7
WVT Waverly 141.46 5 P **PKiKP** **21 18 13.0 -0.6**
baz=354
TXAR Lajitas Array 143.24 29 PKP PKPbc 21 18 12.1 +0.8
comp=Z,0.9nm,0.8s,baz=300,slow=1.6,SNR=6.7
JCT Junction City 143.97 23 PKPbc 21 18 13.1 -0.1
JCT Junction City 143.97 23 PKIKP PKPbc 21 18 13.1 -0.2
HPIG 144.11 34 PKPdf **PKPab** **21 18 13.4 -0.1**
DRIO Del Rio 144.56 25 **PKPab** **21 18 13.6 -1.3**
CPUP Villa Florida 145.04 225 PKPbc **PKPbc** **21 18 16.6 0.0**
comp=Z,1.4nm,0.6s,baz=162,slow=4.8,SNR=5.0
833A Chaparral WMA, 146.04 25 P **PKPab** **21 18 20.9 +0.6**
baz=332,SNR=9.2

*NEIC **29** 20:59:52.6±1.3, 81°.7N±0°.1×50°.9W±0°.5, h10km±2km, mb4.0/39, Error ellipse: s-maj=17.9km s-min=13.2km az=8.0*
*IDC **29** 20:59:52.5±0.9, 81°.62N×51°.19W, h0km, mb3.7/11, mbtmp3.8/15, ML4.2/4, MS3.8/1, Error ellipse: s-maj=28.3km s-min=15.2km az=174.0*
*DNK **29** 20:59:56.0±1.3, 82°.04N×52°.17W, h60km±75km, ML2.9*
ISC 29 20:59:53.3±0.6, 81°.51N±0°.06×50°.95W±0°.06, h10km, n77, σ1.8 82/81, mb4.0/30, Near north coast of Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NEEM	**North Greenlan**	**4.09**	**180**	*e*		**Pb**	**21 01 02.7**	**-2.6**
	baz=352,slow=10							
NEEM				*i* P		Pn	21 01 03.1	+7.1
NEEM				*i* S		**Sb**	**21 01 51.8**	**-3.0**
NEEM				IAML			21 01 54.2	
	comp=Z,113nm,0.3s							
NOR	**Nord**	**4.99**	**72**	*i* P		**Pn**	**21 01 07.2**	**-0.8**
NOR				IAML			21 02 34.4	
	comp=Z,89nm,0.4s							
EUNU	**Eureka**	**5.80**	**274**	Pn		**Pn**	**21 01 18.6**	**-0.6**
TULEG	**Thule**	**6.00**	**223**	Pn		**Pn**	**21 01 23.7**	**+1.7**
TULEG	**Thule**	**6.00**	**223**	*i* P		**Pn**	**21 01 26.2**	**+4.2**
TULEG				IAML			21 02 38.2	
	comp=Z,107nm,0.3s							
KULLO	**Kullorsuaq**	**7.08**	**194**	*i* P		**Pn**	**21 01 40.3**	**+3.6**
KULLO				IAML			21 03 53.0	
	comp=Z,50nm,0.4s							
DAG	**Danmarks Havn**	**7.58**	**111**	*i* P		**Pn**	**21 01 46.0**	**+2.4**
DAG				*i* P		Pb	21 01 46.6	-18
DAG				*i* S		**Sn**	**21 03 06.9**	**-2.6**
DAG				IAML			21 03 14.7	
	comp=Z,45nm,0.3s							
DAG				IAML			21 03 20.8	
	comp=N,63nm,0.3s							
UPNV	**Upernavik**	**8.84**	**190**	*i* P		**Pn**	**21 02 04.1**	**+3.2**
UPNV				*e*S		**Sn**	**21 03 36.8**	**-3.6**
UPNV				IAML			21 03 58.2	
	comp=Z,19nm,0.4s							
SUMG	**Summit**	**9.37**	**156**	Pn		**Pn**	**21 02 11.9**	**+3.5**
SUMG	**Summit**	**9.37**	**156**	*i* P		**Pn**	**21 02 12.0**	**+3.6**
SUMG				*e*S		**Sn**	**21 03 55.4**	**+1.7**
SUMG				IAML			21 04 12.0	
	comp=Z,25nm,0.4s							
DBG	**Daneborg**	**9.48**	**122**	*e*P		**Pn**	**21 02 11.8**	**+2.2**
DBG				IAML			21 04 16.4	
	comp=Z,16nm,0.3s							
NUUG	**Nuugaatsiaq**	**10.04**	**184**	*e*P		**Pn**	**21 02 19.6**	**+2.4**
NUUG				*e*P			21 02 19.9	
NUUG				IAML			21 04 11.8	
	comp=Z,29nm,0.3s							
NUUG				IAML			21 04 12.8	
	comp=Z,27nm,0.3s							
KBS	**Kingsbay**	**10.48**	**71**	Pn		**Pn**	**21 02 19.2**	**-4.0**
UMMG	**Uummannaq**	**10.90**	**182**	*e*P		**Pn**	**21 02 31.6**	**+2.7**
UMMG				IAML			21 04 36.2	
	comp=Z,13nm,0.3s							
RES	**Resolute Bay**	**10.96**	**256**	Pn		**Pn**	**21 02 28.6**	**-1.1**
RES	**Resolute Bay**	**10.96**	**256**	Pn		**Pn**	**21 02 29.1**	**-0.6**
	comp=Z,1.8nm,0.3s,baz=34,slow=8.6,SNR=52							
	comp=Z,12nm,0.7s							
SPITS	**Spitsbergen Ar**	**11.63**	**71**	Pn		**Pn**	**21 02 38.1**	**-0.9**
	baz=331,slow=8.5							
	comp=Z,1.7nm,0.3s							
SPB2	**Spitsbergen Ar**	**11.64**	**71**	Pn		**Pn**	**21 02 38.8**	**-0.2**
ICESG	**Greenland Ices**	**12.76**	**161**	*e*P		**Pn**	**21 02 57.0**	**+2.3**
ICESG				IAML			21 05 16.4	
	comp=Z,9.5nm,0.4s							
SCO	**Scoresbysund**	**12.82**	**133**	Pn		**Pn**	**21 02 53.7**	**-1.5**
SCO	**Scoresbysund**	**12.82**	**133**	*e*P		**Pn**	**21 02 55.7**	**+0.5**
SCO				IAML			21 05 20.7	
	comp=Z,5.8nm,0.4s							
SFJD	**Kangerlussuaq**	**14.59**	**179**	Pn		**Pn**	**21 03 19.9**	**+0.5**
SFJD	**Kangerlussuaq**	**14.59**	**179**	Pn		**Pn**	**21 03 19.2**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=347,slow=9.6,SNR=5.2							
	comp=Z,2.0nm,0.5s							
A36M	**Sachs Harbour**	**17.76**	**281**	P		**P**	**21 03 59.6**	**-1.3**
FRB	**Frobisher Bay**	**18.43**	**205**	P		**Pn**	**21 04 08.9**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=6.0,slow=14,SNR=5.6							
	comp=Z,2.6nm,0.6s							
ARCES	**ARCESS Array B**	**20.29**	**80**	P		**P**	**21 04 28.2**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=334,slow=8.0,SNR=5.1							
	comp=Z,1.8nm,0.6s							
NRS	**Narsarsuaq**	**20.51**	**172**	P		**P**	**21 04 32.1**	**+1.1**
INK	**Inuvik**	**22.31**	**284**			**P**	**21 04 47.5**	**-2.8**
INK				IAmb		IAmb	21 04 58.5	
	comp=Z,4.2nm,0.8s							
INK	**Inuvik**	**22.31**	**284**	P		**P**	**21 04 49.3**	**-1.0**
	comp=Z,1.8nm,0.7s,baz=19,slow=14,SNR=6.4							
	comp=Z,1.8nm,0.7s							
E29M	**Blow River**	**22.86**	**288**	P		**P**	**21 04 55.0**	**-1.2**
E28M	**Babbage River**	**22.89**	**289**	P		**P**	**21 04 54.4**	**-2.1**
B22K	**Teshekpuk Lake**	**23.12**	**303**	P		**P**	**21 04 57.8**	**-1.1**
B22K				IAmb		IAmb	21 05 12.7	
	comp=Z,8.1nm,1.4s							
F31M	**Tsiigehtchic**	**23.15**	**283**	P		**P**	**21 04 58.1**	**-1.0**
F31M				IAmb		IAmb	21 05 07.3	
	comp=Z,3.3nm,0.7s							
D25K	**Kavik River**	**23.16**	**296**			**P**	**21 04 58.2**	**-1.1**
C23K	**Itkillik River**	**23.24**	**300**	P		**P**	**21 04 58.2**	**-1.8**
E27K	**Coleen River**	**23.57**	**291**	P		**P**	**21 05 02.2**	**-1.2**
E27K				IAmb		IAmb	21 05 13.2	
	comp=Z,6.3nm,1.2s							
D24K	**Happy Valley**	**23.64**	**298**	P		**P**	**21 05 02.6**	**-1.4**
G31M	**Satah River**	**23.71**	**283**	P		**P**	**21 05 03.4**	**-1.2**
G31M				IAmb		IAmb	21 05 14.6	
	comp=Z,3.5nm,0.9s							
F28M	**Old Crow**	**23.86**	**289**	P		**P**	**21 05 05.0**	**-1.2**
B20K	**Meade River**	**23.90**	**305**			**P**	**21 05 05.0**	**-1.4**
G30M	**tAoh Zrail Nji**	**23.93**	**285**	P		**P**	**21 05 05.5**	**-1.5**
B21K	**Ikpikpuk River**	**23.95**	**303**	P		**P**	**21 05 04.0**	**-2.9**
E25K	**Arctic Village**	**24.17**	**294**	P		**P**	**21 05 07.8**	**-1.4**
TOLK	**Toolik Lake Re**	**24.22**	**298**	P		**P**	**21 05 08.3**	**-1.3**
TOLK				IAmb		IAmb	21 05 37.5	
	comp=Z,2.5nm,0.6s							
G29M	**Pine Creek**	**24.25**	**287**	P		**P**	**21 05 08.1**	**-1.8**
G29M				IAmb		IAmb	21 05 25.8	
	comp=Z,5.4nm,1.3s							
D22K	**Ayikyak River**	**24.40**	**301**	P		**P**	**21 05 10.0**	**-1.2**
D22K				IAmb		IAmb	21 05 20.7	
	comp=Z,4.3nm,1.1s							
BMAR	**Burnt Mountain**	**24.69**	**293**	P		**P**	**21 05 13.0**	**-0.8**
H31M	**Peel River**	**24.76**	**282**	P		**P**	**21 05 14.0**	**-0.5**
G27K	**Doyon Strip**	**24.86**	**290**	P		**P**	**21 05 15.1**	**-0.3**
H29M	**Whitestone**	**24.95**	**286**	P		**P**	**21 05 15.6**	**-0.6**
H29M				IAmb		IAmb	21 05 16.1	
	comp=Z,4.7nm,1.2s							
YKA	**Yellowknife Ar**	**24.98**	**260**	P		**P**	**21 05 15.9**	**-0.5**
YKA	**Yellowknife Ar**	**24.98**	**260**	P		**P**	**21 05 16.9**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=18,slow=9.9,SNR=14							
	comp=Z,1.4nm,0.7s							
E22K	**Anaktuvuk Pass**	**24.99**	**299**	P		**P**	**21 05 16.4**	**-0.2**
E22K				IAmb		IAmb	21 05 25.7	
	comp=Z,2.4nm,0.8s							
D19K	**Kuna River**	**25.44**	**305**	P		**P**	**21 05 19.6**	**-1.0**
I30M	**Mount Dempster**	**25.61**	**284**	P		**P**	**21 05 21.4**	**-0.8**
I30M				IAmb		IAmb	21 05 32.9	
	comp=Z,2.8nm,0.8s							
C18K	**Utukok River**	**25.66**	**308**	P		**P**	**21 05 21.5**	**-1.2**
C18K				IAmb		IAmb	21 05 31.7	
	comp=Z,3.7nm,1.1s							
G24K	**Hadweenzic Riv**	**25.77**	**295**	P		**P**	**21 05 23.3**	**-0.3**
I28M	**Miner Creek**	**25.90**	**287**	P		**P**	**21 05 24.6**	**-0.4**
I28M				IAmb		IAmb	21 05 36.1	
	comp=Z,5.5nm,1.5s							
F21K	**Alatna River**	**26.07**	**300**	P		**P**	**21 05 25.6**	**-0.7**
F21K				IAmb		IAmb	21 05 41.1	
	comp=Z,5.3nm,1.5s							
J30M	**Hart River**	**26.21**	**283**	P		**P**	**21 05 27.4**	**-0.4**
J30M				IAmb		IAmb	21 05 56.0	
	comp=Z,4.4nm,1.1s							
NAO01	**NORSAR Array S**	**26.29**	**103**	P		**P**	**21 05 28.0**	**-0.3**
E19K	**Redstone River**	**26.32**	**303**	P		**P**	**21 05 27.1**	**-1.5**
E19K				IAmb		IAmb	21 05 39.4	
	comp=Z,2.8nm,0.8s							
I26K	**Coal Creek Min**	**26.49**	**290**	P		**P**	**21 05 29.1**	**-1.0**
I26K				IAmb		IAmb	21 05 42.5	
	comp=Z,3.8nm,0.9s							
F20K	**Avaraart Lake**	**26.52**	**302**	P		**P**	**21 05 28.4**	**-1.9**
F20K				IAmb		IAmb	21 05 39.7	
	comp=Z,2.6nm,0.8s							
PRP	**Porcupine Dome**	**26.62**	**292**	P		**P**	**21 05 30.0**	**-1.4**
PRP				IAmb		IAmb	21 05 42.8	
	comp=Z,3.5nm,0.8s							
E18K	**Tukpahlearik C**	**26.76**	**306**	P		**P**	**21 05 31.8**	**-0.7**
E18K				IAmb		IAmb	21 05 47.1	
	comp=Z,3.1nm,0.9s							
K29M	**Barlow Dome**	**27.08**	**284**	P		**P**	**21 05 34.0**	**-1.5**
K29M				IAmb		IAmb	21 05 48.7	
	comp=Z,2.2nm,0.8s							
SCHQ	**Schefferville**	**27.21**	**200**	P		**P**	**21 05 38.5**	**+1.8**
	comp=Z,0.9nm,0.4s,baz=355,slow=7.0,SNR=7.6							
	comp=Z,0.9nm,0.4s							
ILAR	**Eielson Array**	**27.52**	**293**	P		**P**	**21 05 39.7**	**+0.4**
	comp=Z,0.3nm,0.9s,baz=360,slow=8.3,SNR=4.4							
	comp=Z,0.3nm,0.9s							
FINES	**FINESS Array B**	**27.96**	**87**	P		**P**	**21 05 46.1**	**+2.9**
	comp=Z,1.5nm,0.9s,baz=358,slow=16,SNR=1.5							
FINES				PcP		**PcP**	**21 08 57.8**	**-0.1**
	comp=Z,3.1nm,1.1s,baz=35,slow=3.4,SNR=4.1							
	comp=Z,1.5nm,0.9s							
O14K	**Tigyukauivet M**	**34.73**	**302**	P		**P**	**21 06 40.2**	**-2.5**
KDAK	**Kodiak Island**	**35.02**	**294**	LR		LR	21 22 42.5	
	comp=Z,151nm,21.7s,baz=73,slow=39							
NEW	**Newport**	**39.12**	**256**	P		**P**	**21 07 21.8**	**+1.6**
	comp=Z,3.8nm,0.9s,baz=23,slow=7.7,SNR=4.5							
	comp=Z,3.8nm,0.9s							
PDAR	**Pinedale Array**	**43.44**	**246**	P		**P**	**21 07 57.0**	**+0.9**
	comp=Z,2.0nm,0.5s,baz=35,slow=6.6,SNR=2.1							
	comp=Z,2.0nm,0.5s							
NVAR	**Mina Array Bea**	**48.92**	**254**	P		**P**	**21 08 40.7**	**+1.5**
	comp=Z,2.0nm,0.4s,baz=9.9,slow=5.8,SNR=2.1							
	comp=Z,2.0nm,0.4s							
TXAR	**Lajitas Array**	**55.90**	**237**	P		**P**	**21 09 32.0**	**+1.1**
	comp=Z,1.7nm,0.9s,baz=40,slow=5.3,SNR=13							
	comp=Z,1.7nm,0.9s							
TORD	**Torodi Ar. Bea**	**71.86**	**125**	P		**P**	**21 11 17.8**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=335,slow=6.4,SNR=2.3							
	comp=Z,0.3nm,0.5s							

IDC 29 21:15:39.9±1.0, 3°.64N×129°.28E, h0km, mb3.6/8, mbtmp3.6/8, Error ellipse: s-maj=70.6km s-min=19.3km az=74.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.96**	**168**	P		P	21 20 55.9	-0.2
	1.2nm,0.8s,baz=346,slow=10,SNR=7.0							
	1.2nm,0.8s							
ASAR	**Alice Springs**	**27.52**	**171**	P		P	21 21 28.2	-0.2
	0.2nm,0.5s,baz=352,slow=8.9,SNR=2.0							
ASAR				PcP		PcP	21 24 47.4	+0.5
	0.2nm,0.7s,baz=4.8,slow=2.2,SNR=1.6							
	0.2nm,0.5s							
MJAR	**Matsushiro Arr**	**33.76**	**13**	P		P	21 22 23.1	-0.3
	2.1nm,1.0s,baz=184,slow=10,SNR=2.2							
	2.1nm,1.0s							
SONM	**Songino Array**	**48.23**	**339**	P		P	21 24 22.6	0.0
	0.3nm,0.7s,baz=159,slow=8.9,SNR=1.9							
	0.3nm,0.7s							
MKAR	**Makanchi Array**	**59.09**	**324**	P		P	21 25 42.1	-0.1
	0.4nm,0.5s,baz=112,slow=8.1,SNR=8.4							
	0.4nm,0.5s							
ZALV	**Zalesovo Beam**	**61.84**	**332**	P		P	21 26 01.0	+0.2
	0.2nm,0.8s,baz=122,slow=7.0,SNR=2.6							
	0.2nm,0.2s							
KURBB	**Kurchatov Arra**	**63.20**	**326**	P		P	21 26 09.7	-0.3
	0.7nm,0.7s,baz=125,slow=6.0,SNR=11							
	0.7nm,0.7s							
BVAR	**Borovoye Array**	**68.79**	**326**	P		P	21 26 46.1	+0.2
	0.5nm,0.6s,baz=134,slow=4.3,SNR=2.7							
	0.5nm,0.6s							

IDC 29 21:23:16.2±4.2, 53°.42N×114°.35W, h0km, mbtmp3.6/2, ML3.1/2, Error ellipse: s-maj=61.7km s-min=15.5km az=58.0, Alberta

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar**	**9.10**	**359**	Pn		Pn	21 25 25.8	-2.9
	0.9nm,0.3s,baz=178,slow=13,SNR=40							
YKA				Sn		Sn	21 27 06.0	-5.6
	0.4nm,0.3s,baz=179,slow=19,SNR=5.1							
YKA				Lg		Lg	21 27 55.5	
	0.1nm,0.3s,baz=174,slow=26,SNR=4.3							
	0.6nm,0.3s							
I10CA	**LAC DU BONNET**	**11.79**	**98**	I		I	22 30 30.0	
	0.1nm,1.1s,baz=286,slow=333,SNR=1.3							
ULM	**Lac du Bonnet**	**11.86**	**98**	Pn		Pn	21 26 03.0	-3.5
	0.5nm,0.3s,baz=297,slow=11,SNR=6.2							
	0.9nm,0.3s							

*IDC **29** 21:25:28.7±0.3, 5°.42S×151°.54E, h0km, mb5.8/32, mbtmp5.8/33, ML3.3/1, MS6.7/55, Error ellipse: s-maj=16.5km s-min=10.0km az=85.0*
*NEIC **29** 21:25:32.8, 5°.47S×151°.44E, h46km, Moment Tensor Solution. Duration: 13s6 Moment tensor: Scale 10^{19}Nm; M_{rr}2.77; $M_{\theta\theta}$-2.56; $M_{\phi\phi}$-0.22; $M_{r\theta}$0.15; $M_{\theta\phi}$-1.05; $M_{\phi r}$-0.20; Fault plane solution: M_o2.88000×10^{19} NP1: ϕ_s74.31000°, δ45.91000°, λ97.38000°. NP2: ϕ_s243.77000°, δ44.57000°, λ82.45000°. Principal axes: T 2.7962, Plg85.0000°, Azm62.0000°; N 0.1636, Plg5.0000°, Azm249.0000°; P -2.9598, Plg1.0000°, Azm159.0000°;*
*IPGP **29** 21:25:32.0, 5°.47S×151°.45E, h40km, Mw7.0, Fault plane solution: NP1: ϕ_s73.00000°, δ54.00000°, λ93.00000°. NP2: ϕ_s248.00000°, δ36.00000°, λ86.00000°.*
*NEIC **29** 21:25:32.8, 5°.47S×151°.44E, h46km*
*BJI **29** 21:25:34.0±0.0, 5°.43S×151°.38E, h33km, mb6.1/87, mB6.8/76, Ms6.9/99, Ms7 6.9/97*
*MOS **29** 21:25:35.1±1.2, 5°.37S×151°.32E, h41km, mb6.3/60, MS6.9/60, Error ellipse: s-maj=7.1km s-min=4.6km az=99.3 Broadband fault plane solution: P waves. NP1: ϕ_s75.00000°, δ47.00000°, λ114.00000°. NP2: ϕ_s222.00000°, δ48.00000°, λ66.00000°. Principal axes: T Plg72.0000°, Azm60.0000°; N Plg17.0000°, Azm238.0000°; P Plg0.0000°, Azm329.0000°;*
*NEIC **29** 21:25:36.5, 5°.52S×151°.53E, h35km*
*NEIC **29** 21:25:36.5, 5°.48S×151°.43E, h35km*
*NEIC **29** 21:25:36.8±2.1, 5°.53S±0°.06×151°.50E±0°.06, h35km±1km, mb6.3/659, Ms_20 7.0/492, Mwb6.7/52, Mwc6.9/112, Mww6.9/30, Error ellipse: s-maj=10.6km s-min=9.5km az=121.0, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}1.45; $M_{\theta\theta}$-0.94; $M_{\phi\phi}$-0.51; $M_{r\theta}$0.53; $M_{\theta\phi}$-0.36; $M_{\phi r}$0.21; Fault plane solution: M_o1.44000×10^{19} NP1: ϕ_s239.02000°, δ33.26000°, λ86.29000°. NP2: ϕ_s63.46000°, δ56.82000°, λ92.43000°. Principal axes: T 1.5694, Plg78.0000°, Azm342.0000°; N -0.3084, Plg2.0000°, Azm242.0000°; P -1.2610, Plg12.0000°, Azm152.0000°;*
*DJA **29** 21:25:38.1±0.4, 5°.52×151°.1E±°, h54km±4km, M6.7/140, mb6.2/140, mB6.8/139, MLv7.1/1, Mw6.9/154, Mw(mB)6.7/139, MwMwp6.7/126, Mwp6.6/126*
*GCMT **29** 21:25:43.8±0.0, 5°.67S×151°.60E, h42km, MW6.9/174, Moment Tensor Solution. s174,c472; s174,c842; Duration: 6s9 Moment tensor: Scale 10^{19}Nm; M_{rr}2.62±.01; $M_{\theta\theta}$-2.38±.01; $M_{\phi\phi}$-0.24±.01; $M_{r\theta}$0.66±.01; $M_{\theta\phi}$-1.04±

Triangular moment-rate function
NEIC ***29*** *21:25:57.5, 5°.34S×151°.32E, h42km, Moment Tensor Solution. Duration: 15s9 Moment tensor: Scale 10¹⁹Nm; M_{rr}2.99; $M_{\theta\theta}$-2.55; $M_{\phi\phi}$-0.43; $M_{r\theta}$-0.20; $M_{\theta\phi}$-0.95; $M_{r\phi}$-0.03; Fault plane solution: $M_0$2.96000×10¹⁹ NP1: ϕ_s249.90000°, δ46.90000°, λ91.16000°. NP2:ϕ_s68.21000°, δ43.11000°, λ88.76000°. Principal axes: T 2.9932, Plg88.0000°, Azm183.0000°; N -0.0677, Plg1.0000°, Azm69.0000°; P -2.9255, Plg2.0000°, Azm339.0000°;*

ISC 29 21:25:36.3±0.3, 5°.53S±0°.02×151°.46E±0°.03, h44km±2km, h44km:pP-P,n2737,σ1°79/2933,mb6.2/502,MS7.0/427, 233C-70D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
BULU	**Kimbe**	**1.14**	**269**	P	**Pn**		**21 25 57.2**	**+1.5**
I40PG	**Keravat**	**1.34**	**24**	Pg	**Pn**		**21 25 59.0**	**+0.5**
	baz=201,slow=112							
I40PG				I	I		21 31 30.0	
	0.1nm,0.9s,baz=196,slow=306,SNR=0.7							
RABL	**Rabaul**	**1.50**	**28**	Pn	**Pn**		**21 26 01.5**	**+0.7**
RABL				Sn	**Sn**		**21 26 22.2**	**+3.1**
KAVG	**Kavieng**	**3.00**	**347**	P	**Pn**		**21 26 24.8**	**+3.5**
MANU	**Manus Island**	**5.35**	**310**	P	**Pn**		**21 26 57.5**	**+3.8**
MANU	**Manus Island**	**5.35**	**310**	Pn	**Pn**		**21 26 56.0**	**+2.3**
MANU	**Manus Island**	**5.35**	**310**	⇓P	**Pn**		**21 26 58.0**	**+4.3**
PMG	**Port Moresby**	**5.75**	**228**	P	**Pn**		**21 27 02.3**	**+3.2**
PMG	**Port Moresby**	**5.75**	**228**	P	**Pn**		**21 27 02.2**	**+3.2**
PMG	**Port Moresby**	**5.75**	**228**	Pn	**Pn**		**21 27 00.8**	**+1.7**
PMG	**Port Moresby**	**5.75**	**228**	⇑P	**Pn**		**21 27 00.8**	**+1.7**
PMG	**Port Moresby**	**5.75**	**228**	*ce*P	**Pn**		**21 27 00.9**	**+1.7**
PMG				pmax	pmax			
	comp=Z,3μm,1.7s							
PMG	**Port Moresby**	**5.75**	**228**	Pn	**Pn**		**21 26 58.8**	**-0.3**
	comp=Z,51nm,0.3s,baz=42,slow=9.7,SNR=89							
PMG				Sn	**Sn**		**21 28 06.1**	**+2.3**
	comp=Z,878nm,0.3s,baz=0.0,slow=20,SNR=30 comp=Z,206nm,0.5s							
HNR	**Honiara**	**9.27**	**115**	P	**Pn**		**21 27 49.2**	**+1.8**
HNR	**Honiara**	**9.27**	**115**	Pn	**Pn**		**21 27 46.5**	**-0.9**
HNR	**Honiara**	**9.27**	**115**	⇓P	**Pn**		**21 27 47.6**	**+0.2**
HNR	**Honiara**	**9.27**	**115**	P	**Pn**		**21 27 46.5**	**-0.9**
HNR	**Honiara**	**9.27**	**115**	Pn	**Pn**		**21 27 47.3**	**-0.1**
	comp=Z,875nm,0.3s,baz=248,slow=7.8,SNR=51							
HNR				Sn	**Sn**		**21 29 29.3**	**-1.1**
	comp=Z,2μm,0.3s,baz=161,slow=20,SNR=1.3							
TABU	**Tabubil**	**10.19**	**271**	P	**Pn**		**21 28 03.5**	**+3.3**
JAY	**Jayapura**	**11.13**	**285**	P	**Pn**		**21 28 14.7**	**+1.7**
	comp=Z,2μm,1.4s,comp=Z,107μmcomp=Z,537μm							
MMPI	**Merauke**	**11.37**	**254**	P	**Pn**		**21 28 17.5**	**+1.3**
	comp=Z,1μm,0.9s,comp=Z,31μmcomp=Z,355μm							
GENI	**Genyem**	**11.63**	**284**	P	**Pn**		**21 28 23.6**	**+3.8**
GENI	**Genyem**	**11.63**	**284**	⇑P	**Pn**		**21 28 21.7**	**+1.9**
GENI	**Genyem**	**11.63**	**284**	P	**Pn**		**21 28 20.9**	**+1.1**
	comp=Z,2μm,1.4s,comp=Z,128μmcomp=Z,554μm							
COEN	**Coen**	**11.69**	**224**	P	**Pn**		**21 28 21.5**	**+0.9**
	baz=12,SNR=25							
COEN	**Coen**	**11.69**	**224**	P	**Pn**		**21 28 24.9**	**+4.3**
COEN	**Coen**	**11.69**	**224**	Pn	**Pn**		**21 28 18.1**	**-2.5**
COEN	**Coen**	**11.69**	**224**	⇓P	**Pn**		**21 28 21.6**	**+0.9**
PATS	**Pohnpei**	**14.06**	**29**	P	**P**		**21 28 56.8**	**-3.0**
	baz=14,SNR=4.6							
PATS	**Pohnpei**	**14.06**	**29**	P	**Pn**		**21 28 55.0**	**+2.1**
PATS	**Pohnpei**	**14.06**	**29**	Pn	**Pn**		**21 28 50.9**	**-2.0**
MTSU	**Mount Surprise**	**14.34**	**209**	P	**Pn**		**21 28 58.6**	**+1.8**
	baz=14,SNR=28							
MTSU	**Mount Surprise**	**14.34**	**209**	P	**Pn**		**21 28 58.8**	**+2.0**
TV1H	**Townsville Har**	**14.39**	**198**	P	**P**		**21 29 00.6**	**-2.8**
AUAYR	**Ayr State High**	**14.52**	**195**	P	**Pn**		**21 29 00.0**	**+1.0**
CTA	**Charters Tower**	**15.34**	**199**	Pn	**P**		**21 29 15.3**	**+1.3**
	comp=Z,3.2nm,0.3s,SNR=5.2							
CTA				LR	LR		21 34 36.9	
	comp=Z,341μm,21.1s,baz=24,slow=36							
CTAO	**Charters Tower**	**15.34**	**199**	P	**P**		**21 29 12.9**	**-1.0**
CTAO	**Charters Tower**	**15.34**	**199**	Pn	**Pn**		**21 29 10.3**	**+0.4**
CTAO	**Charters Tower**	**15.34**	**199**	⇓P	**Pn**		**21 29 09.6**	**-0.3**
CTAO	**Charters Tower**	**15.34**	**199**	P	**Pn**		**21 29 10.3**	**+0.4**
CTAO				pmax	pmax			
	comp=Z,137nm,1.6s							
RK1H	**Rockhampton Ha**	**17.78**	**183**	P	**P**		**21 29 41.1**	**+0.1**
GD1S	**Gladstone Soft**	**18.21**	**181**	P	**Pn**		**21 29 46.9**	**+1.0**
QIS	**Mount Isa**	**18.86**	**217**	P	**Pn**		**21 29 54.1**	**+0.3**
	baz=19,SNR=308							
QIS	**Mount Isa**	**18.86**	**217**	P	**Pn**		**21 29 54.7**	**+0.8**
FAKI	**Fak Fak**	**19.33**	**277**	P	**Pn**		**21 30 00.3**	**+0.8**
FAKI	**Fak Fak**	**19.33**	**277**	P	**P**		**21 29 57.5**	**-0.7**
FAKI	**Fak Fak**	**19.33**	**277**	⇑P	**P**		**21 29 57.2**	**-0.9**
FAKI	**Fak Fak**	**19.33**	**277**	P	**P**		**21 29 57.2**	**-0.9**
	comp=Z,724nm,1.4s,comp=Z,61μmcomp=Z,374μm							
KOUNC	**Koumac, New Ca**	**19.45**	**141**	P	**Pn**		**21 30 04.3**	**+3.5**
KOUNC	**Koumac, New Ca**	**19.45**	**141**	P	**P**		**21 29 58.6**	**-0.7**
KOUNC	**Koumac, New Ca**	**19.45**	**141**	⇓P	**Pn**		**21 30 00.2**	**-0.6**
EIDS	**Eidsvold**	**19.73**	**181**	P	**P**		**21 30 03.0**	**+0.6**
	baz=20,SNR=34							
EIDS	**Eidsvold**	**19.73**	**181**	P	**Pn**		**21 30 04.6**	**+0.4**
EIDS	**Eidsvold**	**19.73**	**181**	P	**P**		**21 30 02.7**	**+0.2**
EIDS	**Eidsvold**	**19.73**	**181**	⇓P	**P**		**21 30 03.0**	**+0.6**
KDU	**Kakadu**	**20.04**	**248**	P	**P**		**21 30 05.9**	**0.0**
	baz=20,SNR=169							
KDU	**Kakadu**	**20.04**	**248**	P	**P**		**21 30 06.8**	**+1.0**
GUMO	**Guam**	**20.09**	**341**	P	Pn		21 30 09.9	+1.5
GUMO	**Guam**	**20.09**	**341**	⇑P	Pn		21 30 08.7	+0.3
GUMO	**Guam**	**20.09**	**341**	P	**P**		**21 30 07.3**	**+1.0**
GUMO				pmax	pmax			
	comp=Z,7μm,1.1s							
GUMO				MLR	MLR			
	comp=Z,170μm,19.0s							
GUMO	**Guam**	**20.09**	**341**	P	**P**		**21 30 05.8**	**-0.5**
	comp=Z,4μm,1.1s,baz=172,slow=8.0,SNR=50							
GUMO				S	**S**		**21 33 47.9**	**-1.9**
	comp=Z,65nm,0.8s,baz=180,slow=20,SNR=1.0							
GUMO				ScP	**ScP**		**21 37 54.2**	**+0.5**
	comp=Z,68nm,0.6s,baz=160,slow=12,SNR=4.0							
GUMO				LR	LR		21 38 16.4	
	comp=Z,76μm,19.5s,baz=176,slow=38							
SAUI	**Saumlaki**	**20.16**	**262**	P	Pn		21 30 10.3	+0.9
SAUI	**Saumlaki**	**20.16**	**262**	P	Pn		21 30 08.5	-0.9
SAUI	**Saumlaki**	**20.16**	**262**	P	**P**		**21 30 07.5**	**+0.3**
	comp=Z,4μm,0.7s,comp=Z,90μmcomp=Z,396μm							
SWI	**Sorong**	**20.69**	**282**	P	**P**		**21 30 13.0**	**+0.1**
	comp=Z,2μm,1.3s,comp=Z,43μmcomp=Z,349μm							
RMQ	**Roma**	**21.00**	**187**	P	**P**		**21 30 17.8**	**+1.6**
	baz=21,SNR=19							
RMQ	**Roma**	**21.00**	**187**	P	**P**		**21 30 18.3**	**+2.1**
MTN	**Manton Dam**	**21.33**	**249**	P	**P**		**21 30 19.5**	**-0.3**
	baz=21,SNR=107							
MTN	**Manton Dam**	**21.33**	**249**	P	**P**		**21 30 20.7**	**+0.9**
MTN	**Manton Dam**	**21.33**	**249**	P	**P**		**21 30 19.5**	**-0.3**
MTN				IAmb	IAmb		21 30 36.4	
	comp=Z,1μm,0.7s							
MTN	**Manton Dam**	**21.33**	**249**	⇑P	**P**		**21 30 19.4**	**-0.4**
DRS	**Darwin Rock St**	**21.42**	**250**	P	**P**		**21 30 22.3**	**+1.5**
BNDI	**Bandanaira**	**21.49**	**272**	P	**P**		**21 30 23.0**	**+1.4**
BNDI	**Bandanaira**	**21.49**	**272**	P	**P**		**21 30 21.5**	**-0.1**
	comp=Z,2μm,1.2s,comp=Z,61μmcomp=Z,306μm							
LIFNC	**LIFOU**	**21.55**	**136**	P	**P**		**21 30 24.9**	**+2.8**
LIFNC	**LIFOU**	**21.55**	**136**	P	**P**		**21 30 21.4**	**-0.7**
AUWSH	**Wavell State H**	**21.81**	**176**	P	**P**		**21 30 29.2**	**+4.5**
WB0	**Warramunga Arr**	**21.82**	**228**	P	**P**		**21 30 24.9**	**-0.2**
NOUC	**Port Laguerre**	**21.86**	**140**	P	**P**		**21 30 28.9**	**+3.5**
DZM	**Mont Dzumac**	**21.93**	**140**	P	**P**		**21 30 28.0**	**+1.8**
DZM	**Mont Dzumac**	**21.93**	**140**	P	**P**		**21 30 26.0**	**-0.2**
DZM	**Mont Dzumac**	**21.93**	**140**	⇑P	**P**		**21 30 26.1**	**-0.2**
DZM	**Mont Dzumac**	**21.93**	**140**	P	**P**		**21 30 25.2**	**-1.0**
	comp=Z,66nm,0.5s,baz=326,slow=7.4,SNR=58							
DZM				S	**S**		**21 34 26.1**	**-0.1**
	comp=Z,29nm,0.9s,baz=294,slow=21,SNR=1.4 comp=Z,66nm,0.5s							
WRAB	**Tennant Creek**	**21.95**	**228**	P	**P**		**21 30 26.1**	**-0.3**
WRAB	**Tennant Creek**	**21.95**	**228**	*i*P	**P**		**21 30 26.4**	**-0.1**
WRAB				pmax	pmax			
	comp=Z,2μm,0.8s							
WRAB				MLR	MLR			
	comp=Z,148μm,22.0s							
WB2	**Warramunga Arr**	**21.96**	**228**	P	**P**		**21 30 26.1**	**-0.4**
WRA	**Warramunga Arr**	**21.97**	**228**	P	**P**		**21 30 26.0**	**-0.7**
WRA	**Warramunga Arr**	**21.97**	**228**	*i*P	**P**		**21 30 24.1**	**-2.5**
WRA				pmax	pmax			
	comp=Z,127nm,1.1s							
WRA	**Warramunga Arr**	**21.97**	**228**	P	**P**		**21 30 26.1**	**-0.5**
	comp=Z,136nm,0.6s,baz=53,slow=10,SNR=138							
WRA				PcP	**PcP**		**21 34 23.1**	**-1.3**
	comp=Z,31nm,0.7s,baz=40,slow=2.9,SNR=1.9							
WRA				S	**S**		**21 34 31.5**	**+4.6**
	comp=Z,457nm,1.2s,baz=52,slow=19,SNR=12							
WRA				ScP	**ScP**		**21 38 00.6**	**+2.2**
	comp=Z,49nm,0.8s,baz=52,slow=2.9,SNR=8.0							
WRA				LR	LR		21 39 15.0	
	comp=Z,121μm,21.1s,baz=66,slow=37							
WRA				P3KPbc			22 04 03.9	
	comp=Z,0.9nm,0.8s,baz=237,slow=2.8,SNR=3.8 comp=Z,136nm,0.6s							
I07AU	**WARRAMUNGA INZ**	**21.97**	**228**	P	**P**		**21 30 30.0**	**+3.4**
	baz=50,slow=9.4,SNR=5.5							
QLP	**Quilpie**	**22.05**	**197**	P	**P**		**21 30 27.9**	**+0.5**
	baz=22,SNR=69							
QLP	**Quilpie**	**22.05**	**197**	P	**P**		**21 30 29.7**	**+2.3**
QLP	**Quilpie**	**22.05**	**197**	⇓P	**P**		**21 30 27.9**	**+0.5**
ONTNC	**Ouen Toro**	**22.10**	**140**	P	**P**		**21 30 31.3**	**+3.3**
ONTNC	**Ouen Toro**	**22.10**	**140**	⇓P	**P**		**21 30 28.7**	**+0.7**
OUENC	**Ouen Island, N**	**22.43**	**140**	P	**P**		**21 30 34.7**	**+3.2**
OUENC	**Ouen Island, N**	**22.43**	**140**	P	**P**		**21 30 32.3**	**+0.8**
TARA	**Tarawa**	**22.50**	**73**	P	**P**		**21 30 35.8**	**+3.4**
TARA	**Tarawa**	**22.50**	**73**	P	**P**		**21 30 31.7**	**-0.7**
TARA				IAmb	IAmb		21 30 45.4	
	comp=Z,2μm,1.1s							
TARA	**Tarawa**	**22.50**	**73**	⇑P	**P**		**21 30 32.1**	**-0.3**
MARNC	**Mare, Loyalty**	**22.57**	**136**	P	**P**		**21 30 36.3**	**+3.3**
MARNC	**Mare, Loyalty**	**22.57**	**136**	P	**P**		**21 30 30.6**	**-2.4**
MARNC	**Mare, Loyalty**	**22.57**	**136**	⇓P	**P**		**21 30 33.5**	**+0.5**
GC1S	**Gold Coast 1 S**	**22.60**	**175**	P	**P**		**21 30 36.2**	**+3.0**
PINNC	**Pines Island,**	**22.96**	**139**	P	**P**		**21 30 42.0**	**+4.9**
PINNC	**Pines Island,**	**22.96**	**139**	P	**P**		**21 30 36.7**	**-0.3**
PINNC				IAmb	IAmb		21 31 01.4	
	comp=Z,975nm,1.2s							
AULRC	**Lightning Ridg**	**24.00**	**187**	P	**P**		**21 30 51.3**	**+4.3**
INKA	**Innaminka**	**24.33**	**204**	P	**P**		**21 30 52.3**	**+2.3**
NLAI	**Namlea**	**24.39**	**274**	P	**P**		**21 30 50.8**	**0.0**
	comp=Z,244nm,2.0s,comp=Z,11μm							
LBMI	**Labuha**	**24.40**	**281**	P	**P**		**21 30 51.0**	**+0.1**
	comp=Z,3μm,1.7s,comp=Z,75μmcomp=Z,242μm							
KNRA	**Kununurra**	**24.45**	**244**	P	**P**		**21 30 51.2**	**-0.1**
	baz=24,SNR=244							
KNRA	**Kununurra**	**24.45**	**244**	P	**P**		**21 30 52.8**	**+1.5**
KNRA	**Kununurra**	**24.45**	**244**	P	**P**		**21 30 50.8**	**-0.5**
AS01	**Alice Springs**	**24.69**	**221**	P	**P**		**21 30 55.1**	**+1.7**
AS31	**Alice Springs**	**24.72**	**221**	IAmb	IAmb		21 31 00.4	
	comp=Z,44nm,0.8s							
ASAR	**Alice Springs**	**24.72**	**221**	P	**P**		**21 30 53.5**	**-0.3**
ASAR	**Alice Springs**	**24.72**	**221**	P	**P**		**21 30 53.8**	**0.0**
	comp=Z,148nm,0.7s,baz=59,slow=9.0,SNR=316							
ASAR				S	**S**		**21 35 09.7**	**-3.3**
	comp=Z,13nm,0.6s,baz=37,slow=28,SNR=1.0							
ASAR				ScP	**ScP**		**21 38 08.1**	**+2.4**
	comp=Z,18nm,0.8s,baz=43,slow=0.7,SNR=4.4							
ASAR				LR	LR		21 40 37.4	
	comp=Z,146μm,20.9s,baz=86,slow=37							
ASAR				ScS	**ScS**		**21 42 00.0**	**+6.2**
	comp=Z,5.7nm,0.9s,baz=51,slow=7.3,SNR=4.2							
ASAR				P3KPbc			22 03 55.1	
	comp=Z,1.3nm,0.8s,baz=212,slow=3.3,SNR=5.8 comp=Z,148nm,0.7s							
ARMA	**Armidale**	**24.76**	**180**	P	**P**		**21 30 54.8**	**+0.8**
	baz=25,SNR=28							
ARMA	**Armidale**	**24.76**	**180**	P	**P**		**21 30 56.0**	**+1.9**
ARMA	**Armidale**	**24.76**	**180**	P	**P**		**21 30 54.7**	**+0.6**
ARMA				IAmb	IAmb		21 31 23.1	
	comp=Z,1μm,1.4s							
ARMA	**Armidale**	**24.76**	**180**	⇑P	**P**		**21 30 55.4**	**+1.3**
TNTI	**Ternate**	**24.86**	**284**	P	**P**		**21 30 57.5**	**+2.5**
TNTI	**Ternate**	**24.86**	**284**	P	**P**		**21 30 55.0**	**-0.1**
TNTI				IAmb	IAmb		21 31 17.5	
	comp=Z,2μm,1.7s							
TNTI	**Ternate**	**24.86**	**284**	⇑P	**P**		**21 30 54.1**	**-0.9**
TNTI	**Ternate**	**24.86**	**284**	P	**P**		**21 30 55.6**	**+0.6**
	comp=Z,627nm,1.7s,comp=Z,23μmcomp=Z,120μm							
AUPHS	**Peel High Scho**	**25.45**	**181**	P	**P**		**21 31 02.8**	**+2.6**
SANI	**Sanana**	**25.64**	**277**	P	**P**		**21 31 03.0**	**+0.9**
SANI	**Sanana**	**25.64**	**277**	⇑P	**P**		**21 31 00.3**	**-1.9**
SANI	**Sanana**	**25.64**	**277**	P	**P**		**21 31 00.9**	**-1.2**
	comp=Z,449nm,0.9s,comp=Z,21μmcomp=Z,176μm							
CMSA	**Cobar Meteorol**	**26.44**	**191**	P	**P**		**21 31 09.0**	**-0.1**
	baz=26,SNR=103							
CMSA	**Cobar Meteorol**	**26.44**	**191**	P	**P**		**21 31 11.8**	**+2.7**
AUDCS	**Dubbo College**	**26.70**	**185**	P	**P**		**21 31 15.3**	**+3.8**
OOD	**Oodnadatta**	**26.74**	**212**	P	**P**		**21 31 12.1**	**+0.2**
NTLH	**Newcastle Hard**	**27.23**	**180**	P	**P**		**21 31 20.2**	**+3.9**
SOEI	**Soe**	**27.27**	**259**	P	**P**		**21 31 18.5**	**+1.6**
SOEI	**Soe**	**27.27**	**259**	P	**P**		**21 31 16.5**	**-0.5**
SOEI	**Soe**	**27.27**	**259**	⇑P	**P**		**21 31 17.3**	**+0.3**
SOEI	**Soe**	**27.27**	**259**	P	**P**		**21 31 17.2**	**+0.3**
	comp=Z,2μm,1.0s,comp=Z,34μmcomp=Z,220μm							
SGSI	**Sangihe**	**27.47**	**289**	P	**P**		**21 31 19.4**	**+0.8**
	comp=Z,1μm,1.9s,comp=Z,48μmcomp=Z,183μm							
MGCD	**Mangrove Creek**	**27.55**	**181**	P	**P**		**21 31 20.0**	**+1.0**
	baz=28,SNR=32							
MGCD	**Mangrove Creek**	**27.55**	**181**	P	**P**		**21 31 22.3**	**+3.2**
FUNA	**Funafuti**	**27.69**	**98**	P	**P**		**21 31 24.9**	**+4.3**
FUNA	**Funafuti**	**27.69**	**98**	P	**P**		**21 31 20.1**	**-0.5**
FUNA	**Funafuti**	**27.69**	**98**	⇑P	**P**		**21 31 21.8**	**+1.3**
LCRK	**Leigh Creek**	**27.75**	**205**	P	**P**		**21 31 21.1**	**+0.2**
STKA	**Stephens Creek**	**27.80**	**198**	P	**P**		**21 31 21.7**	**+0.4**
	baz=28,SNR=64							
STKA	**Stephens Creek**	**27.80**	**198**	P	**P**		**21 31 23.3**	**+2.0**
STKA	**Stephens Creek**	**27.80**	**198**	P	**P**		**21 31 21.4**	**+0.1**
STKA	**Stephens Creek**	**27.80**	**198**	*c i*P	**P**		**21 31 21.3**	**0.0**
STKA	**Stephens Creek**	**27.80**	**198**	P	**P**		**21 31 20.8**	**-0.5**
	comp=Z,26nm,0.7s,baz=13,slow=12,SNR=39							
STKA				LR	LR		21 42 49.0	
	comp=Z,142μm,19.7s,baz=18,slow=37							
STKA				P3KP			22 04 50.3	
	comp=Z,5.4nm,1.1s,baz=225,slow=1.4,SNR=4.1 comp=Z,26nm,0.7s							
YSA	**Yasawairara**	**27.89**	**116**	P	**P**		**21 31 25.7**	**+3.4**
BATI	**Baumata**	**27.91**	**259**	S	**S**		**21 36 02.0**	**-1.7**
	comp=Z,57nm,0.8s,baz=21,slow=22,SNR=1.5							
BATI				LR	LR		21 44 51.2	
	comp=Z,284μm,21.7s,baz=117,slow=42							
BATI	**Baumata**	**27.91**	**259**	P	**P**		**21 31 23.5**	**+0.9**
	comp=Z,2μm,0.8s,comp=Z,35μmcomp=Z,155μm							
KMSI	**Cibinong**	**28.10**	**282**	P	**P**		**21 31 24.8**	**+0.5**
	comp=Z,2μm,1.2s,comp=Z,26μmcomp=Z,158μm							
SYDH	**Sydney Hard Ro**	**28.10**	**181**	P	**P**		**21 31 26.8**	**+2.8**
NFK	**Norfolk Island**	**28.11**	**148**	P	**P**		**21 31 27.6**	**+3.4**
FITZ	**Fitzroy Crossi**	**28.14**	**241**	P	**P**		**21 31 24.3**	**-0.3**
	baz=28,SNR=547							
FITZ	**Fitzroy Crossi**	**28.14**	**241**	P	**P**		**21 31 24.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**28.14**	**241**	IAmb	IAmb		21 31 32.4	
	comp=Z,397nm,0.8s							
DAV	**Davao City (W)**	**28.70**	**296**	P	**P**		**21 31 32.6**	**+3.0**
DAV	**Davao City (W)**	**28.70**	**296**	P	**P**		**21 31 29.6**	**+0.1**
DAV				IAmb	IAmb		21 32 08.9	
	comp=Z,2μm,1.5s							
DAV	**Davao City (W)**	**28.70**	**296**	P	**P**		**21 31 31.5**	**+1.9**
WOLH	**Wollongong Har**	**28.74**	**181**	P	**P**		**21 31 33.1**	**+3.4**
BBSI	**Bau Bau**	**28.75**	**269**	P	**P**		**21 31 31.1**	**+1.0**
	comp=Z,222nm,1.1s,comp=Z,11μmcomp=Z,130μm							
YNG	**Young**	**28.77**	**185**	P	**P**		**21 31 31.4**	**+1.3**
	baz=29,SNR=17							
YNG	**Young**	**28.77**	**185**	P	**P**		**21 31 32.6**	**+2.6**
WAKE	**Wake Island**	**28.84**	**31**	P	**P**		**21 31 31.3**	**+0.6**
LUWI	**Luwuk**	**28.98**	**278**	P	**P**		**21 31 32.8**	**+0.7**
LUWI	**Luwuk**	**28.98**	**278**	IAmb	IAmb		21 31 54.6	
	comp=Z,1μm,1.4s							
LUWI	**Luwuk**	**28.98**	**278**	P	**P**		**21 31 32.3**	**+0.2**
	comp=Z,657nm,1.1s,comp=Z,18μmcomp=Z,162μm							
GTOI	**Gorontalo**	**29.06**	**281**	P	**P**		**21 31 33.7**	**+0.9**
	comp=Z,135nm,0.7s,comp=Z,4μmcomp=Z,51μm							
MMRI	**Maumere**	**29.16**	**262**	P	**P**		**21 31 34.2**	**+0.5**
MMRI	**Maumere**	**29.16**	**262**	⇑P	**P**		**21 31 31.9**	**-1.8**
MMRI	**Maumere**	**29.16**	**262**	P	**P**		**21 31 33.7**	**0.0**
	comp=Z,1μm,1.1s,comp=Z,16μmcomp=Z,121μm							
WRKA	**Warakurna**	**29.49**	**226**	P	**P**		**21 31 36.2**	**-0.4**
	baz=30,SNR=873							
WRKA	**Warakurna**	**29.49**	**226**	P	**P**		**21 31 36.1**	**-0.4**
WRKA	**Warakurna**	**29.49**	**226**	⇑P	**P**		**21 31 36.1**	**-0.4**
MULG	**Mulgathing**	**29.58**	**212**	P	**P**		**21 31 36.8**	**-0.4**
AUUHS	**Ulladulla High**	**29.70**	**182**	P	**P**		**21 31 40.6**	**+2.4**
EDFI	**Ende, Flores**	**29.70**	**262**	P	**P**		**21 31 37.6**	**-1.0**
	comp=Z,475nm,0.8s,comp=Z,10μmcomp=Z,117μm							
CNB	**Canberra Magne**	**29.71**	**183**	P	**P**		**21 31 39.8**	**+1.5**
	baz=30,SNR=18							
CNB	**Canberra Magne**	**29.71**	**183**	P	**P**		**21 31 41.6**	**+3.2**
DGTI	**Dogotuki**	**29.71**	**113**	P	**P**		**21 31 39.8**	**+1.2**
CAN	**Canberra**	**29.74**	**184**	P	**P**		**21 31 41.1**	**+2.5**
CAN	**Canberra**	**29.74**	**184**	P	**P**		**21 31 39.0**	**+0.4**
CAN	**Canberra**	**29.74**	**184**	⇑P	**P**		**21 31 41.4**	**+2.8**
CAN	**Canberra**	**29.74**	**184**	P	**P**		**21 31 39.0**	**+0.4**
CAN				pmax	pmax			
	comp=Z,401nm,1.4s							
MRSI	**Marisa**	**30.07**	**281**	P	**P**		**21 31 41.0**	**-0.8**
	comp=Z,196nm,1.1s,comp=Z,8μmcomp=Z,128μm							
HTT	**Hallett**	**30.11**	**201**	P	**P**		**21 31 42.1**	**+0.1**
	baz=30,SNR=81							
HTT	**Hallett**	**30.11**	**201**	P	**P**		**21 31 43.7**	**+1.7**
HTT	**Hallett**	**30.11**	**201**	⇓P	**P**		**21 31 42.1**	**+0.1**
TAVE	**Taveuni**	**30.17**	**114**	P	**P**		**21 31 45.7**	**+3.1**
WHYH	**Whyalla**	**30.27**	**204**	P	**P**		**21 31 46.1**	**+2.8**
BBOO	**Buckleboo**	**30.71**	**206**	P	**P**		**21 31 46.6**	**-0.6**
	baz=31,SNR=38							
BBOO	**Buckleboo**	**30.71**	**206**	P	**P**		**21 31 49.2**	**+2.0**
AUSMG	**Snowy Mountain**	**30.86**	**184**	P	**P**		**21 31 51.8**	**+3.3**
BASI	**Baing, Sumba**	**30.93**	**259**	P	**P**		**21 31 49.3**	**-0.1**
	comp=Z,4μm,1.0s,comp=Z,43μmcomp=Z,133μm							
AUMAG	**Moama Anglican**	**31.05**	**191**	P	**P**		**21 31 52.6**	**+2.5**
BKSI	**Bulukumba**	**31.19**	**269**	P	**P**		**21 31 51.8**	**+0.1**
	comp=Z,105nm,0.9s,comp=Z,7μmcomp=Z,115μm							
TOLI2	**Tolitoli**	**31.34**	**281**	P	**P**		**21 31 53.0**	**0.0**
TOLI2	**Tolitoli**	**31.34**	**281**	P	**P**		**21 31 52.7**	**-0.2**
MILA	**Mila**	**31.45**	**184**	P	**P**		**21 31 55.9**	**+2.2**
	baz=32,SNR=11							
MILA	**Mila**	**31.45**	**184**	P	**P**		**21 31 57.8**	**+4.1**
MILA	**Mila**	**31.45**	**184**	⇓P	**P**		**21 31 56.8**	**+3.1**
GHSS	**Government Hou**	**31.57**	**200**	P	**P**		**21 31 58.3**	**+3.6**
KAPI	**Kappang**	**31.57**	**269**	P	**P**		**21 31 57.2**	**+2.2**
KAPI	**Kappang**	**31.57**	**269**	P	**P**		**21 31 54.3**	**-0.8**
KAPI	**Kappang**	**31.57**	**269**	P	**P**		**21 31 54.3**	**-0.8**
KAPI				pmax	pmax			
	comp=Z,309nm,1.3s							
KAPI	**Kappang**	**31.57**	**269**	P	**P**		**21 31 57.4**	**+2.4**
KAPI				P	**P**		**21 31 57.4**	**+2.4**

JOW **Kunigami** 39.22 326 P **P** 21 33 00.7 +0.1
JOW **Kunigami** 39.22 326 ⇑P **P** 21 33 01.6 +1.1
JOW **Kunigami** 39.22 326 P **P** 21 33 02.0 +1.5
JOW **Kunigami** 39.22 326 P **P** 21 33 00.3 -0.2
comp=Z,526nm,1.0s,baz=152,slow=8.8,SNR=43
JOW LR LR 21 46 15.6
comp=Z,256μm,21.6s,baz=126,slow=32
comp=Z,526nm,1.0s
KHEZ **Kahui Hut** 39.32 152 P **P** 21 33 02.9 +1.6
PWJI **Pagerwojo** 39.44 264 P **P** 21 33 01.0 -1.6
comp=Z,711nm,1.0s,comp=Z,11μmcomp=Z,78μm
JMJ **Miyako jima 2** 39.47 321 P **P** 21 33 04.0 +1.4
GIRL **Giralia** 39.75 241 P **P** 21 33 05.6 +0.6
baz=40,SNR=99
GIRL **Giralia** 39.75 241 P **P** 21 33 06.0 +1.0
GIRL **Giralia** 39.75 241 P **P** 21 33 05.0 0.0
GIRL **Giralia** 39.75 241 ⇓P **P** 21 33 05.7 +0.6
JAM **Amami Oshima** 39.77 329 P **P** 21 33 08.8 +3.7
NGJI **Ngawi** 39.78 265 P **P** 21 33 05.3 -0.1
comp=Z,331nm,1.1s,comp=Z,13μmcomp=Z,106μm
QRZ **Quartz Range** 39.90 155 P **P** 21 33 07.2 +1.2
QRZ IAmb IAmb 21 34 17.2
comp=Z,557nm,1.5s
QRZ IAMs_20 IAMs_20 21 47 37.7
comp=Z,218μm,20.0s
NIUE **Niue** 39.95 113 P **P** 21 33 08.1 +1.4
baz=40,SNR=9.7
NIUE **Niue** 39.95 113 P **P** 21 33 10.5 +3.8
NIUE **Niue** 39.95 113 P **P** 21 33 07.6 +0.9
NIUE IAmb IAmb 21 33 15.0
comp=Z,1μm,1.1s
NIUE **Niue** 39.95 113 ⇑P **P** 21 33 09.3 +2.6
JHJ2 **Mitsune** 39.98 345 P **P** 21 33 10.1 +3.3
JHJ2 **Mitsune** 39.98 345 P **P** 21 33 06.8 0.0
JHJ **Hachijo jima 2** 40.00 345 P **P** 21 33 03.7 -3.2
comp=Z,413nm,1.1s,baz=195,slow=12,SNR=3.9
JHJ LR LR 21 46 53.0
comp=Z,132μm,21.3s,baz=185,slow=32
comp=Z,413nm,1.1s
URZ **Urewera** 40.06 148 LR LR 21 47 48.3
comp=Z,221μm,20.3s,baz=62,slow=33
MXZ **Matakaoa Point** 40.20 146 P **P** 21 33 11.6 +3.1
MXZ **Matakaoa Point** 40.20 146 P **P** 21 33 09.0 +0.4
MXZ IAmb IAmb 21 33 39.0
comp=Z,1μm,1.9s
TKNZ **Takaka Hill** 40.26 155 P **P** 21 33 10.2 +1.2
RTZ **Ruatahuna** 40.26 149 IAmb IAmb 21 34 27.8
comp=Z,474nm,1.1s
RTZ IAMs_20 IAMs_20 21 47 37.1
comp=Z,179μm,20.0s
STKI **Sintang** 40.30 277 P **P** 21 33 10.4 +0.6
comp=Z,280nm,1.4s,comp=Z,11μmcomp=Z,93μm
DSZ **Denniston Nort** 40.37 156 P **P** 21 33 11.4 +1.4
DSZ IAMs_20 IAMs_20 21 49 29.3
comp=Z,160μm,19.0s
BKZ **Black Stump Fm** 40.42 150 P **P** 21 33 12.5 +2.0
BKZ **Black Stump Fm** 40.42 150 P **P** 21 33 11.1 +0.7
MRNZ **Matariki Terra** 40.47 155 P **P** 21 33 10.7 -0.1
NNZ **Nelson** 40.59 154 P **P** 21 33 12.5 +0.8
NNZ IAMs_20 IAMs_20 21 47 47.9
comp=Z,218μm,21.0s
YOJ **Yonaguni jima** 40.70 318 P **P** 21 33 14.7 +1.9
YOJ **Yonaguni jima** 40.70 318 P **P** 21 33 14.2 +1.4
YOJ IAmb IAmb 21 33 18.2
comp=Z,1μm,1.3s
YOJ **Yonaguni jima** 40.70 318 ⇓P **P** 21 33 14.6 +1.8
YOJ **Yonaguni jima** 40.70 318 P **P** 21 33 14.2 +1.4
YOJ pmax pmax
comp=Z,1μm,1.3s
UGM **Wanagama** 40.71 264 P **P** 21 33 14.9 +1.7
UGM **Wanagama** 40.71 264 P **P** 21 33 12.5 -0.7
UGM IAmb IAmb 21 33 49.6
comp=Z,540nm,0.9s
UGM **Wanagama** 40.71 264 P **P** 21 33 13.1 -0.1
comp=Z,656nm,1.2s,comp=Z,22μmcomp=Z,87μm
SMRI **Semarang** 40.79 266 P **P** 21 33 14.5 +0.7
SMRI **Semarang** 40.79 266 P **P** 21 33 14.5 +0.7
SMRI IAmb IAmb 21 34 24.8
comp=Z,738nm,1.2s
SMRI **Semarang** 40.79 266 P **P** 21 33 14.7 +0.9
comp=Z,601nm,0.9s,comp=Z,22μmcomp=Z,95μm
THZ **Tophouse** 40.84 155 IAMs_20 IAMs_20 21 50 34.5
comp=Z,148μm,19.0s
KLBR **Kellerberrin** 40.84 226 P **P** 21 33 12.8 -1.2
baz=41,SNR=73
KLBR **Kellerberrin** 40.84 226 P **P** 21 33 12.9 -1.1
MORW **Morawa** 40.85 231 P **P** 21 33 13.5 -0.6
baz=41,SNR=43
MORW **Morawa** 40.85 231 P **P** 21 33 13.7 -0.4
MORW **Morawa** 40.85 231 P **P** 21 33 13.6 -0.6
MORW **Morawa** 40.85 231 ⇑P **P** 21 33 13.4 -0.6
TWGBT **Beinan** 40.93 315 P **P** 21 33 16.4 +1.6
YOGI **Yogyakarta** 40.94 264 P **P** 21 33 15.2 +0.2
comp=Z,685nm,1.2s,comp=Z,13μmcomp=Z,42μm
TWG **Pinlang** 40.94 315 P **P** 21 33 13.3 -1.6
INZ **Inchbonnie** 41.06 157 P **P** 21 33 16.4 +0.8
INZ IAMs_20 IAMs_20 21 48 22.6
comp=Z,214μm,20.0s
BLDU **Ballidu** 41.10 228 P **P** 21 33 15.2 -0.9
baz=41,SNR=56
BLDU **Ballidu** 41.10 228 P **P** 21 33 15.3 -0.9
MRZ **Mangatainoka R** 41.13 152 IAMs_20 IAMs_20 21 47 58.3
comp=Z,267μm,22.0s
YULB **Yu-li** 41.15 315 P **P** 21 33 18.4 +1.8
YULB **Yu-li** 41.15 315 IAmb IAmb 21 33 39.6
comp=Z,533nm,1.2s
YULB IAMs_20 IAMs_20 21 47 07.4
comp=Z,228μm,21.0s
FOZ **Fox Glacier** 41.17 160 P **P** 21 33 18.1 +1.7
FOZ IAMs_20 IAMs_20 21 50 12.5
comp=Z,151μm,20.0s
SNZO **South Karori** 41.24 153 P **P** 21 33 20.1 +3.0
SNZO **South Karori** 41.24 153 P **P** 21 33 18.2 +1.1
SNZO IAmb IAmb 21 33 25.2
comp=Z,1μm,1.9s
SNZO **South Karori** 41.24 153 IAMs_20 IAMs_20 21 47 37.3
comp=Z,277μm,21.0s
SNZO **South Karori** 41.24 153 P **P** 21 33 16.8 -0.3
JCZ **Jackson Bay** 41.30 161 P **P** 21 33 20.6 +2.9
CMWZ **Cape Campbell** 41.38 154 P **P** 21 33 20.1 +1.9
BHW **Baring Head** 41.40 153 P **P** 21 33 19.2 +0.9
LTZ **Lake Taylor** 41.43 157 IAmb IAmb 21 34 24.2
comp=Z,559nm,1.3s
LTZ IAMs_20 IAMs_20 21 48 59.3
comp=Z,201μm,19.0s
NACB **Ninganchiao** 41.45 317 P **P** 21 33 22.2 +3.1
NACB **Ninganchiao** 41.45 317 IAmb IAmb 21 33 26.9
comp=Z,815nm,1.1s
BFZ **Birch Farm** 41.46 151 P **P** 21 33 20.8 +1.9
BFZ **Birch Farm** 41.46 151 IAmb IAmb 21 33 26.9
comp=Z,1μm,1.8s
TPUB **Ta-pu** 41.56 315 P **P** 21 33 21.7 +1.7
TPUB **Ta-pu** 41.56 315 IAmb IAmb 21 33 41.0
comp=Z,425nm,0.8s
TPUB IAMs_20 IAMs_20 21 47 21.3
comp=Z,180μm,20.0s
KHZ **Kahutara** 41.64 155 IAMs_20 IAMs_20 21 49 14.8
comp=Z,204μm,20.0s
KHZ **Kahutara** 41.64 155 ⇑P **P** 21 33 20.5 +0.2
SSLB **Suanglung** 41.65 316 P **P** 21 33 23.3 +2.6
SSLB **Suanglung** 41.65 316 IAMs_20 IAMs_20 21 47 23.5
comp=Z,254μm,21.0s
KSM **Kuching** 41.68 278 P **P** 21 33 22.2 +1.1
KSM **Kuching** 41.68 278 P **P** 21 33 20.8 -0.3
KSM **Kuching** 41.68 278 ⇑P **P** 21 33 19.9 -1.3
RPZ **Rata Peaks** 41.77 159 P **P** 21 33 21.7 +0.3
RPZ IAMs_20 IAMs_20 21 48 21.3
comp=Z,257μm,21.0s
RPZ **Rata Peaks** 41.77 159 LR LR 21 48 43.4
comp=Z,259μm,21.1s,baz=313,slow=33
OXZ **Oxford** 41.80 157 IAMs_20 IAMs_20 21 48 57.2
comp=Z,186μm,20.0s
GVZ **Greta Valley S** 41.89 156 P **P** 21 33 22.5 0.0
GVZ IAMs_20 IAMs_20 21 50 18.5
comp=Z,156μm,19.0s
JSG **Sagara** 41.90 344 P **P** 21 33 24.1 +1.6
JSG **Sagara** 41.90 344 P **P** 21 33 20.7 -1.8
JSG IAmb IAmb 21 33 39.5
comp=Z,2μm,1.6s
AMCZ **Amberley** 41.91 157 P **P** 21 33 23.8 +1.2
NWAO **Narrogin (SRO)** 41.93 225 P **P** 21 33 22.1 -0.7
baz=42,SNR=29
NWAO P **P** 21 33 22.1 -0.7
baz=42,SNR=29
NWAO **Narrogin (SRO)** 41.93 225 P **P** 21 33 24.7 +1.8

NWAO **Narrogin (SRO)** 41.93 225 P **P** 21 33 22.2 -0.7
NWAO IAmb IAmb 21 33 38.5
comp=Z,546nm,1.3s
NWAO **Narrogin (SRO)** 41.93 225 P **P** 21 33 22.2 -0.7
NWAO pmax pmax
comp=Z,545nm,1.3s
NWAO **Narrogin (SRO)** 41.93 225 LR LR 21 51 15.6
comp=Z,133μm,20.8s,baz=50,slow=37
NWAO **Narrogin (SRO)** 41.93 225 P **P** 21 33 25.8 +2.9
NWAO P **P** 21 33 25.8 +2.9
NWAO P **P** 21 33 25.8 +2.9
NWAO **Narrogin (SRO)** 41.93 225 P **P** 21 33 24.6 +1.8
YHNB **Yeheng** 41.93 317 P **P** 21 33 26.7 +3.6
YHNB **Yeheng** 41.93 317 IAmb IAmb 21 33 34.4
comp=Z,842nm,0.9s
LBZ **Lake Benmore** 42.05 160 P **P** 21 33 25.5 +1.8
LBZ IAMs_20 IAMs_20 21 50 40.7
comp=Z,197μm,20.0s
WKZ **Wanaka** 42.05 161 P **P** 21 33 25.4 +1.6
WKZ IAMs_20 IAMs_20 21 48 47.9
comp=Z,274μm,21.0s
TATO **Taipei** 42.06 317 P **P** 21 33 25.6 +1.6
TATO **Taipei** 42.06 317 P **P** 21 33 23.9 -0.1
TATO IAmb IAmb 21 33 31.3
comp=Z,691nm,1.0s
TATO **Taipei** 42.06 317 IAMs_20 IAMs_20 21 47 40.3
comp=Z,221μm,21.0s
TATO **Taipei** 42.06 317 P **P** 21 33 26.5 +2.5
TATO P **P** 21 33 26.5 +2.5
TATO **Taipei** 42.06 317 P **P** 21 33 25.9 +1.9
DCZ **Deep Cove** 42.07 163 P **P** 21 33 25.9 +2.1
MUN **Mundaring** 42.16 227 P **P** 21 33 24.3 -0.5
baz=42,SNR=90
MUN **Mundaring** 42.16 227 P **P** 21 33 24.8 0.0
JOD2 **Odawara 2** 42.21 345 P **P** 21 33 25.2 +0.1
MLZ **Mavora Lakes** 42.26 163 P **P** 21 33 27.1 +1.6
MLZ IAmb IAmb 21 34 20.5
comp=Z,722nm,1.3s
KPJI **Karang Pucung** 42.29 265 P **P** 21 33 25.2 -0.9
comp=Z,1μm,1.2s,comp=Z,14μm
JMN **Monobe** 42.44 338 P **P** 21 33 28.4 +1.4
JMN **Monobe** 42.44 338 IAmb IAmb 21 33 44.2
comp=Z,1μm,1.3s
MTKN **Mount Kenneth** 42.46 227 P **P** 21 33 29.4 +2.2
PYZ **Puysegur Point** 42.58 164 P **P** 21 33 31.5 +3.5
PYZ **Puysegur Point** 42.58 164 P **P** 21 33 29.3 +1.3
PYZ IAmb IAmb 21 33 59.1
comp=Z,595nm,1.3s
AUALB **St Joseph's Co** 42.64 222 P **P** 21 33 32.2 +3.6
WHZ **Wether Hill Ro** 42.69 163 P **P** 21 33 29.7 +0.9
CMJI **Cimerak** 42.77 265 P **P** 21 33 28.5 -1.4
comp=Z,2μm,0.9s,comp=Z,23μmcomp=Z,81μm
ODZ **Otahua Downs** 42.78 160 P **P** 21 33 31.2 +1.6
ODZ IAMs_20 IAMs_20 21 51 24.1
comp=Z,135μm,19.0s
ODZ **Otahua Downs** 42.78 160 ⇓P **P** 21 33 32.1 +2.5
INU **Inuyama** 42.87 343 P **P** 21 33 32.2 +1.8
INU **Inuyama** 42.87 343 P **P** 21 33 29.4 -1.0
INU **Inuyama** 42.87 343 P **P** 21 33 30.4 0.0
JCJI **Jatiwangi** 42.95 266 P **P** 21 33 31.5 0.0
comp=Z,934nm,0.9s,comp=Z,25μmcomp=Z,89μm
JGF **Kuroka** 43.00 343 P **P** 21 33 34.2 +2.6
RKGY **Rocky Gully** 43.04 223 P **P** 21 33 31.9 0.0
baz=43,SNR=28
RKGY **Rocky Gully** 43.04 223 P **P** 21 33 32.4 +0.5
JNU **Nakatsue** 43.11 334 P **P** 21 33 33.0 +0.5
JNU **Nakatsue** 43.11 334 P **P** 21 33 32.0 -0.5
JNU **Nakatsue** 43.11 334 P **P** 21 33 32.9 +0.4
JNU **Nakatsue** 43.11 334 P **P** 21 33 30.6 -1.9
comp=Z,94nm,0.9s,baz=137,slow=6.1,SNR=36
JNU LR LR 21 49 55.4
comp=Z,75μm,20.6s,baz=190,slow=34
comp=Z,94nm,0.9s
JWT **Wachi** 43.31 341 P **P** 21 33 35.5 +1.5
BBJI **Bungbulang** 43.56 265 P **P** 21 33 35.6 -0.8
JGN **Niukaw** 43.59 343 P **P** 21 33 37.4 +1.1
LEM **Lembang** 43.59 266 LR LR 21 55 58.3
comp=Z,27μm,20.3s,baz=90,slow=42
LEM **Lembang** 43.59 266 P **P** 21 33 36.9 0.0
comp=Z,548nm,0.8s,comp=Z,16μmcomp=Z,74μm
SYZ **Scrubby Hill** 43.62 162 P **P** 21 33 38.8 +2.5
MJAR **Matsushiro Arr** 43.65 344 P **P** 21 33 33.8 -3.0
comp=Z,110nm,1.2s,baz=163,slow=8.3,SNR=29
MJAR PcP **PP** 21 35 20.1 +1.2
comp=Z,66nm,1.0s,baz=163,slow=3.1,SNR=3.0
MJAR ScP **ScP** 21 39 14.4 +2.7
comp=Z,14nm,1.1s,baz=124,slow=1.5,SNR=4.1
MJAR LR LR 21 50 30.3
comp=Z,137μm,20.4s,baz=173,slow=34
comp=Z,110nm,1.2s
MAJO **Matsushiro** 43.65 344 P **P** 21 33 37.3 +0.6
MAJO **Matsushiro** 43.65 344 P **P** 21 33 35.3 -1.4
MAJO **Matsushiro** 43.65 344 *c* *i*P **P** 21 33 35.7 -1.0
MAJO pmax pmax
comp=Z,180nm,1.0s
MAJO **Matsushiro** 43.65 344 P **P** 21 33 36.0 -0.7
KNMB **Chin-men Tao** 43.88 314 P **P** 21 33 40.3 +1.5
KNMB IAmb IAmb 21 33 44.0
comp=Z,737nm,1.3s
QZH **Quanzhou** 44.04 315 ⇑ *i*P **P** 21 33 41.0 +1.0
QZH sP **sP** 21 33 55.5 -2.3
QZH PP **PcP** 21 35 26.5 +1.5
QZH S **S** 21 40 11.5 +2.0
QZH pmax pmax
comp=Z,630nm,1.0s
QZH pmax pmax
comp=Z,19μm,5.5s
QZH LR LR
comp=Z,90μm,21.0s
QZH LR LR
comp=Z,122μm,20.6s
QZH LR LR
comp=Z,162μm,21.3s
JMM **Marumori** 44.30 348 P **P** 21 33 44.3 +2.5
JMM **Marumori** 44.30 348 P **P** 21 33 40.8 -1.0
JMM IAmb IAmb 21 34 12.4
comp=Z,434nm,1.3s
CBJI **Citeko** 44.37 266 P **P** 21 33 42.2 -0.6
comp=Z,815nm,0.8s,comp=Z,15μmcomp=Z,94μm
DBJI **Dramaga** 44.46 266 P **P** 21 33 43.7 +0.1
comp=Z,380nm,1.0s,comp=Z,13μmcomp=Z,87μm
JOHN **Johnston Islan** 44.46 59 P **P** 21 33 47.2 +3.7
JOHN **Johnston Islan** 44.46 59 P **P** 21 33 42.4 -1.1
JOHN **Johnston Islan** 44.46 59 IAMs_20 IAMs_20 21 48 49.3
comp=Z,185μm,22.0s
JOHN **Johnston Islan** 44.46 59 ⇑P **P** 21 33 45.1 +1.6
TNG **Tangerang** 44.57 267 P **P** 21 33 44.0 -0.5
comp=Z,504nm,0.5s,comp=Z,13μmcomp=Z,92μm
SKJI **Sukabumi** 44.65 266 P **P** 21 33 44.7 -0.4
comp=Z,2μm,0.8s,comp=Z,22μmcomp=Z,77μm
JTU **Tsushima** 44.95 334 P **P** 21 33 50.4 +3.3
JTU **Tsushima** 44.95 334 P **P** 21 33 47.8 +0.6
JTU IAmb IAmb 21 34 04.6
comp=Z,437nm,1.6s
JTU **Tsushima** 44.95 334 P **P** 21 33 50.0 +2.9
JSD **Sado** 45.05 345 P **P** 21 33 50.8 +3.0
JSD **Sado** 45.05 345 P **P** 21 33 47.7 -0.1
JSD IAmb IAmb 21 34 04.5
comp=Z,607nm,1.2s
JSD **Sado** 45.05 345 ⇑P **P** 21 33 46.0 -1.9
JSD **Sado** 45.05 345 P **P** 21 33 48.7 +0.9
SBJI **Serang** 45.09 267 P **P** 21 33 48.2 -0.4
comp=Z,266nm,1.3s,comp=Z,6μm
H01W1 **Cape Leeuwin H** 45.14 225 P P 21 33 53.6 +5.2
baz=77,slow=6.4,SNR=11
H01W3 **Cape Leeuwin H** 45.15 225 P **P** 21 33 52.7 +4.1
baz=77,slow=6.4,SNR=12
H01W2 **Cape Leeuwin H** 45.16 225 P **P** 21 33 50.8 +2.2
baz=77,slow=6.4,SNR=13
JYA **Atsumi** 45.23 347 P **P** 21 33 50.9 +1.6
PPBI **Pangkal Pinang** 45.33 272 P **P** 21 33 50.7 +0.1
comp=Z,119nm,1.0s,comp=Z,9μmcomp=Z,103μm
XMI **Christmas Isla** 45.55 261 P **P** 21 33 54.2 +1.9
XMIS **Christmas Isla** 45.59 261 P **P** 21 33 54.1 +1.5
XMIS **Christmas Isla** 45.59 261 P **P** 21 33 53.3 +0.7
JOM **Ohasama** 45.75 349 P **P** 21 33 54.4 +1.0
HKC **Hong Kong Obse** 45.78 308 ⇑P **P** 21 33 56.0 +2.1
HKPS **Hong Kong Po S** 45.80 308 P **P** 21 33 56.1 +2.0
HKPS **Hong Kong Po S** 45.80 308 P **P** 21 33 55.2 +1.2
HKPS IAmb IAmb 21 34 02.4
comp=Z,568nm,1.0s
DLV **T Lat** 46.12 292 P **P** 21 33 59.5 +2.5
DLV **T Lat** 46.12 292 P **P** 21 33 57.8 +0.8
DLV IAmb IAmb 21 34 34.0
comp=Z,544nm,1.1s

MCO **Taipa Grande** 46.17 308 P **P** 21 34 00.0 +3.0
SSE **Sheshan** 46.50 323 P **P** 21 34 01.3 +1.8
SSE S **S** 21 40 46.0 +1.1
SSE pmax pmax
comp=Z,100nm,1.4s
SSE pmax pmax
comp=Z,5μm,6.5s
PMBI **Palembang** 46.62 271 P **P** 21 34 04.5 +3.8
PMBI **Palembang** 46.62 271 P **P** 21 34 03.5 +2.8
PMBI **Palembang** 46.62 271 P **P** 21 34 01.4 +0.7
comp=Z,337nm,1.0s,comp=Z,12μmcomp=Z,105μm
KASI **Kota Agung** 46.73 268 P **P** 21 33 59.6 -2.0
comp=Z,508nm,0.9s,comp=Z,7μmcomp=Z,77μm
GZH **Guangzhou** 46.85 309 P **P** 21 34 02.8 +0.5
GZH pP **pP** 21 34 16.0 +1.2
GZH PcP **PcP** 21 35 33.0 -1.8
GZH PP **PP** 21 35 54.0 +0.9
GZH S **S** 21 40 52.8 +2.7
GZH pmax pmax
comp=Z,13μm,4.8s
GZH LR LR
comp=Z,9μm,18.2s
GZH LR LR
comp=Z,16μm,17.7s
JTM **Tenmabayashi** 47.06 349 P **P** 21 34 07.1 +3.4
JTM **Tenmabayashi** 47.06 349 P **P** 21 34 02.7 -1.0
JTM IAmb IAmb 21 34 31.5
comp=Z,395nm,0.9s
JTM **Tenmabayashi** 47.06 349 ⇑P **P** 21 34 03.0 -0.7
DSRI **Dabo** 47.06 274 P **P** 21 34 04.2 0.0
comp=Z,185nm,0.8s,comp=Z,8μmcomp=Z,99μm
LWLI **Liwa** 47.19 268 P **P** 21 34 04.1 -1.2
comp=Z,652nm,0.7s,comp=Z,9μmcomp=Z,82μm
CTZ **Chatham Island** 47.29 149 P **P** 21 34 08.7 +3.3
CTZ **Chatham Island** 47.29 149 P **P** 21 34 05.6 +0.2
CTZ IAmb IAmb 21 34 14.0
comp=Z,526nm,1.2s
TPRI **Tanjung Pinang** 47.30 276 P **P** 21 34 06.3 +0.3
comp=Z,137nm,0.9s,comp=Z,8μmcomp=Z,100μm
TJN **Taejon** 47.40 333 P **P** 21 34 07.9 +1.5
TJN **Taejon** 47.40 333 P **P** 21 34 06.3 -0.1
TJN **Taejon** 47.40 333 *ce*P **P** 21 34 06.8 +0.4
QIZ **Qiongzhong** 47.70 302 P **P** 21 34 10.5 +1.4
QIZ sP **pP** 21 34 22.3 +0.6
QIZ PcP **PcP** 21 35 39.5 +1.5
QIZ PP **PP** 21 36 02.5 +1.4
QIZ S **S** 21 41 04.5 +2.1
QIZ pmax pmax
comp=Z,220nm,1.4s
QIZ pmax pmax
comp=Z,9μm,5.9s
QIZ LR LR
comp=Z,51μm,23.5s
QIZ LR LR
comp=Z,84μm,25.5s
QIZ LR LR
comp=Z,194μm,26.1s
QIZ **Qiongzhong** 47.70 302 P **P** 21 34 10.4 +1.4
QIZ **Qiongzhong** 47.70 302 P **P** 21 34 09.9 +0.9
QIZ IAmb IAmb 21 34 17.5
comp=Z,538nm,1.4s
QIZ **Qiongzhong** 47.70 302 IAMs_20 IAMs_20 21 50 54.1
comp=Z,171μm,22.0s
QIZ **Qiongzhong** 47.70 302 P **P** 21 34 10.3 +1.3
JMBI **JAMBI** 47.87 273 P **P** 21 34 10.8 +0.4
comp=Z,162nm,0.7s,comp=Z,6μm
ERM **Erimo** 47.91 352 P **P** 21 34 09.8 -0.4
ERM **Erimo** 47.91 352 *c* *i*P **P** 21 34 10.8 +0.6
ERM pmax pmax
comp=Z,189nm,1.9s
ERM MLR MLR
comp=Z,141μm,21.0s
KSRS **Korea Array** 48.06 335 P **P** 21 34 10.7 -0.8
comp=Z,112nm,1.1s,baz=153,slow=8.9,SNR=43
KSRS PcP **PcP** 21 35 38.2 -0.6
comp=Z,22nm,1.0s,baz=171,slow=3.6,SNR=1.4
KSRS ScP **ScP** 21 39 32.2 +2.2
comp=Z,9.7nm,0.9s,baz=134,slow=5.7,SNR=4.4
KSRS LR LR 21 53 01.8
comp=Z,80μm,21.5s,baz=145,slow=34
KSRS PKPPKP P'P'df 22 05 05.9 -14
comp=Z,2.5nm,0.9s,baz=358,slow=3.1,SNR=6.8
comp=Z,112nm,1.1s
KSAR **Wonju Array Be** 48.07 335 P **P** 21 34 10.6 -0.9
KSAR **Wonju Array Be** 48.07 335 P **P** 21 34 10.6 -0.9
MYKOM **Kota Tinggi** 48.10 277 P **P** 21 34 12.6 +0.4
KS19 **Wonju Array Si** 48.12 335 P **P** 21 34 11.5 -0.5
KS19 IAmb IAmb 21 34 43.0
comp=Z,361nm,1.4s
MNAI **Manna** 48.33 269 P **P** 21 34 16.2 +2.2
MNAI **Manna** 48.33 269 P **P** 21 34 13.3 -0.7
comp=Z,399nm,1.0s,comp=Z,8μmcomp=Z,81μm
NJ2 **Nanjing** 48.58 322 ⇑ *i*P **P** 21 34 17.8 +2.2
NJ2 pP **pP** 21 34 30.5 +2.4
NJ2 sP **sP** 21 34 33.3 -0.1
NJ2 ScP **ScP** 21 39 36.3 +4.0
NJ2 S **S** 21 41 21.5 +7.1
NJ2 pmax pmax
comp=Z,280nm,1.5s
NJ2 pmax pmax
comp=Z,14μm,4.7s
NJ2 LR LR
comp=Z,144μm,21.8s
NJ2 LR LR
comp=Z,58μm,24.6s
NJ2 LR LR
comp=Z,176μm,21.8s
INCN **Inchon** 48.65 334 P **P** 21 34 17.6 +1.6
INCN **Inchon** 48.65 334 P **P** 21 34 16.4 +0.4
INCN **Inchon** 48.65 334 ⇑P **P** 21 34 15.5 -0.5
INCN **Inchon** 48.65 334 P **P** 21 34 16.4 +0.4
INCN pmax pmax
comp=Z,822nm,1.2s
INCN **Inchon** 48.65 334 P **P** 21 34 17.1 +1.1
INCN P **P** 21 34 17.1 +1.1
INCN P **P** 21 34 17.1 +1.1
INCN **Inchon** 48.65 334 P **P** 21 34 17.1 +1.1
JEW **Eniwo** 48.99 350 P **P** 21 34 19.9 +1.4
JSH **Shimam** 49.05 349 P **P** 21 34 20.5 +1.5
MCQ **Macquarie Isla** 49.20 174 P **P** 21 34 22.3 +2.3
baz=49,SNR=6.1
MCQ **Macquarie Isla** 49.20 174 P **P** 21 34 22.8 +2.8
MCQ **Macquarie Isla** 49.20 174 P **P** 21 34 21.4 +1.4
MCQ **Macquarie Isla** 49.20 174 ⇓P **P** 21 34 23.4 +3.5
MCQ **Macquarie Isla** 49.20 174 P **P** 21 34 21.4 +1.4
MCQ pmax pmax
comp=Z,802nm,1.4s
HJU **Haeju** 49.51 333 P **P** 21 34 23.7 +1.1
HJU S **S** 21 41 29.6 +2.3
HJU AmB
comp=Z,12μm,4.7s
HJU AMS AMS
comp=Z,148μm,31.0s
YUK **Yuzh-Kuril'sk** 49.59 355 *d* *i*P **P** 21 34 23.0 -0.1
YUK *i* 21 35 45.4
YUK *e* 21 36 22.9
YUK *e*S **S** 21 41 29.6 +1.5
YUK *e* 21 44 14.5
YUK pmax pmax
comp=N,235nm,1.2s
YUK pmax pmax
comp=Z,484nm,1.2s
YUK pmax pmax
comp=Z,1μm,1.4s
RAR **Rarotonga** 49.72 113 P **P** 21 34 23.2 -1.3
RAR IAmb IAmb 21 34 50.2
comp=Z,383nm,1.2s
RAR **Rarotonga** 49.72 113 P **P** 21 34 23.2 -1.3
RAR pmax pmax
comp=Z,383nm,1.2s
RAR **Rarotonga** 49.72 113 LR LR 21 53 11.9
comp=Z,24μm,20.9s,baz=280,slow=34
KRJI **Kerinci** 49.99 272 P **P** 21 34 27.9 +1.1
comp=Z,533nm,1.1s,comp=Z,9μmcomp=Z,88μm
CNSH **ChangSha** 50.02 314 ⇓P **P** 21 34 28.5 +1.8
CNSH S **S** 21 41 38.8 +4.0
CNSH pmax pmax
comp=Z,220nm,1.2s
CNSH LR LR
comp=Z,25μm,34.8s
CNSH LR LR
comp=Z,50μm,28.4s
CNSH LR LR
comp=Z,101μm,29.3s
UBPT **Khong Chiam** 50.03 295 P **P** 21 34 28.2 +1.3

UBPT	Khong Chiam	50.03	295		IAmb	IAmb	21 35 31.6		
	comp=Z,459nm,1.8s								
UBPT	Khong Chiam	50.03	295	⇑	P	P	21 34 27.4	+0.5	
JKA	Kamikawa-asahi	50.05	352		P	P	21 34 27.3	+0.7	
JKA					IAmb	IAmb	21 34 53.0		
	comp=Z,878nm,1.8s								
ASAJ	Asahikawa	50.05	352		P	P	21 34 27.3	+0.7	
ASAJ					pmax	pmax			
	comp=Z,878nm,1.8s								
ASAJ	Asahikawa	50.05	352		P	P	21 34 28.0	+1.4	
ASAJ	Asahikawa	50.05	352		P	P	21 34 25.9	-0.7	
	comp=Z,51nm,1.2s,baz=198,slow=3.2,SNR=12								
ASAJ					S	S	21 41 28.9	-5.8	
	comp=Z,6.7nm,1.1s,baz=168,slow=13,SNR=1.1								
ASAJ					LR	LR	21 53 39.7		
	comp=Z,79μm,21.9s,baz=199,slow=34								
	comp=Z,51nm,1.2s								
HHU	Hamhung	50.32	336		P	P	21 34 29.6	+0.9	
HHU					pP	pP	21 34 43.4	+2.0	
HHU					S	S	21 41 40.8	+2.3	
HHU					AmB				
	comp=Z,11μm,6.6s								
HHU					AMS	AMS			
	comp=Z,28μm,26.5s								
GULI	GuiLin	50.32	309	⇑	P	P	21 34 30.8	+1.8	
GULI					S	S	21 41 43.0	+3.9	
GULI					pmax	pmax			
	comp=Z,80nm,1.2s								
GULI					LR	LR			
	comp=Z,57μm,20.6s								
GULI					LR	LR			
	comp=Z,48μm,19.5s								
GULI					LR	LR			
	comp=Z,113μm,20.1s								
PYAG	Pyongyang	50.33	334		P	P	21 34 30.0	+1.2	
PYAG					S	S	21 41 41.1	+2.5	
PYAG					AmB				
	comp=Z,1μm,2.0s								
PYAG					AMS	AMS			
	comp=Z,90μm,37.5s								
WHN	Wuhan	50.47	318	⇑	*i*P	P	21 34 31.0	+1.0	
WHN					PP	PP	21 36 26.8	+0.7	
WHN					S	S	21 41 45.0	+4.1	
WHN					pmax	pmax			
	comp=Z,980nm,1.1s								
WHN					pmax	pmax			
	comp=Z,24μm,6.4s								
WHN					LR	LR			
	comp=Z,172μm,18.9s								
WHN					LR	LR			
	comp=Z,283μm,20.4s								
WHN					LR	LR			
	comp=Z,434μm,21.4s								
KUR	Kuril'sk	50.63	357	*c*	*i*P	P	21 34 31.7	+0.8	
KUR					*e*		21 35 53.5		
KUR					*i* S	S	21 41 38.8	-3.8	
KUR					*i* *SS	sS	21 41 59.8	-3.4	
KUR					*e*SSS	SSS	21 46 50.0		
KUR					pmax	pmax			
	comp=Z,721nm,1.4s								
KUR					MLR	MLR			
	comp=Z,61μm,18.0s								
KUR					MLR	MLR			
	comp=N,25μm,17.0s								
BKNI	Bangkinang	50.68	275		P	P	21 34 33.6	+1.7	
BKNI	Bangkinang	50.68	275		P	P	21 34 32.7	+0.8	
BKNI					IAmb	IAmb	21 34 38.9		
	comp=Z,274nm,1.0s								
BKNI	Bangkinang	50.68	275	⇑	P	P	21 34 30.5	-1.4	
BKNI	Bangkinang	50.68	275		P	P	21 34 31.4	-0.5	
	comp=Z,240nm,1.0s,comp=Z,9μmcomp=Z,107μm								
PDSI	Padang	51.10	273		P	P	21 34 33.7	-1.5	
	comp=Z,173nm,0.6s,comp=Z,7μmcomp=Z,89μm								
MSHR	Mys Shultsa	51.31	341	*ce*	eP	P	21 34 36.7	+0.6	
MSHR					pmax	pmax			
	comp=Z,57nm,1.5s								
MSHR					MLR	MLR			
	comp=Z,46μm,21.0s								
PPSI	Pulau Pagai	51.37	271		P	P	21 34 35.7	-1.4	
	comp=Z,177nm,1.1s,comp=Z,8μmcomp=Z,81μm								
PSTR	Posyet	51.49	341	*d*	*i*P	P	21 34 37.5	0.0	
XMAS	Kiritimati	51.59	83		P	P	21 34 42.0	+3.3	
XMAS	Kiritimati	51.59	83		P	P	21 34 39.7	+1.0	
XMAS					IAmb	IAmb	21 34 46.0		
	comp=Z,484nm,1.1s								
XMAS	Kiritimati	51.59	83		IAMs_20	IAMs_20	21 52 22.5		
	comp=Z,164μm,22.0s								
XMAS	Kiritimati	51.59	83	⇑	P	P	21 34 41.1	+2.4	
XMAS	Kiritimati	51.59	83		P	P	21 34 40.8	+2.1	
SUJ	Sinuiju	51.75	334		P	P	21 34 40.3	+0.9	
SUJ					S	S	21 42 00.6	+2.3	
SUJ					AmB				
	comp=Z,8μm,4.9s								
SUJ					AMS	AMS			
	comp=Z,41μm,26.5s								
KULM	Kulim	51.86	281		IAmb	IAmb	21 35 57.5		
	comp=Z,333nm,1.4s								
KULM	Kulim	51.86	281	⇑	P	P	21 34 39.3	-1.4	
TEY	Ternei	52.07	347	⇑	*e*P	P	21 34 40.9	-0.8	
TEY							21 42 00.0		
DL2	Dalian	52.13	331		P	P	21 34 42.0	-0.3	
DL2					sP	pP	21 34 56.0	+1.0	
DL2					PP	PP	21 36 44.3	+3.3	
DL2					S	S	21 42 09.8	+6.3	
DL2					pmax	pmax			
	comp=Z,330nm,1.2s								
DL2					pmax	pmax			
	comp=Z,6μm,9.3s								
DL2					LR	LR			
	comp=Z,87μm,23.0s								
DL2					LR	LR			
	comp=Z,72nm,23.0s								
DL2					LR	LR			
	comp=Z,172μm,23.0s								
SISI	Saibi	52.42	273		P	P	21 34 44.3	-0.7	
	comp=Z,234nm,0.9s,comp=Z,9μmcomp=Z,79μm								
USA0B	Ussuriysk Arra	52.51	342	*c*	*i*P	P	21 34 44.3	-0.8	
USRK	Ussuriysk Ar.	52.51	342		P	P	21 34 44.1	-1.0	
USRK	Ussuriysk Ar.	52.51	342		P	P	21 34 44.4	-0.6	
	comp=Z,40nm,0.8s,baz=154,slow=7.2,SNR=48								
USRK					ScP	ScP	21 39 49.4	+0.5	
	comp=Z,1.7nm,0.7s,baz=180,slow=5.8,SNR=2.3								
USRK					S	S	21 42 03.7	-4.9	
	comp=Z,5.5nm,0.7s,baz=143,slow=14,SNR=1.4								
USRK					LR	LR	21 55 40.7		
	comp=Z,78μm,20.5s,baz=160,slow=35								
	comp=Z,40nm,0.8s								
TIA	Tai'an	52.52	325		P	P	21 34 45.3	0.0	
TIA					PP	PP	21 36 42.5	-2.1	
TIA					S	S	21 42 16.5	+7.5	
TIA					LR	LR			
	comp=Z,17μm,22.5s								
TIA					LR	LR			
	comp=Z,47μm,20.4s								
TIA					LR	LR			
	comp=Z,75μm,20.4s								
YSS	Yuzh-Sakhalins	52.82	353		P	P	21 34 48.2	+1.0	
YSS	Yuzh-Sakhalins	52.82	353		P	P	21 34 47.2	0.0	
YSS	Yuzh-Sakhalins	52.82	353	⇑	*i*P	P	21 34 47.4	+0.2	
YSS					*e*		21 36 47.9		
YSS					*e*S	S	21 42 08.3	-4.3	
YSS					pmax	pmax			
	comp=E,1μm,11.1s								
YSS					pmax	pmax			
	comp=Z,7μm,11.1s								
YSS					pmax	pmax			
	comp=N,5μm,13.6s								
YSS					smax	smax			
	comp=N,9μm,11.3s								
NONG	Nongkai	53.11	297		P	P	21 34 51.5	+1.6	
PBSI	Pulau Batu	53.37	274		P	P	21 34 51.8	-0.1	
	comp=N,216nm,0.8s,comp=N,11μmcomp=N,90μm								
SNY	Shenyang	53.55	334	⇑	P	P	21 34 52.5	-0.3	
SNY					S	S	21 42 24.3	+1.4	
SNY					SS	SKiKP	21 46 04.5	-0.3	
SNY					LR	LR			
	comp=N,14μm,19.4s								
SNY					LR	LR			
	comp=N,48μm,19.7s								
SNY					LR	LR			
	comp=N,81μm,24.8s								
SRIT	Nakonsritamara	53.57	285		P	P	21 34 55.6	+2.2	
MDJ	Mudanjiang	53.64	341		P	P	21 34 52.5	-0.9	
MDJ					PcP	PcP	21 35 56.8	-2.5	
MDJ					PP	PP	21 36 54.5	-0.1	
MDJ					PcS	PcS	21 39 55.5	-2.8	
MDJ					S	S	21 42 27.0	+3.0	
MDJ					sS	sS	21 42 44.3	+0.4	
MDJ					ScS	ScS	21 44 39.5	+0.3	
MDJ					pmax	pmax			
	comp=N,9μm,8.3s								
MDJ					LR	LR			
	comp=N,63μm,22.3s								
MDJ					LR	LR			
	comp=N,44μm,24.4s								
MDJ					LR	LR			
	comp=N,138μm,24.0s								
MDJ	Mudanjiang	53.64	341		P	P	21 34 55.4	+2.0	
MDJ	Mudanjiang	53.64	341		P	P	21 34 53.7	+0.3	
SURA	Surathani	53.68	286		P	P	21 34 55.7	+1.5	
ENH	Enshi	53.68	314		P	P	21 34 55.3	+1.3	
ENH	Enshi	53.68	314		P	P	21 34 55.8	+1.8	
SLVN	Son La	53.72	301		IAmb	IAmb	21 35 11.1		
	comp=Z,486nm,1.5s								
SLVN					IAMs_20	IAMs_20	21 54 41.5		
	comp=Z,130μm,22.0s								
GYA	Guiyang	53.78	308	⇓	*i*P	P	21 34 56.0	+1.1	
GYA					S	S	21 42 28.8	+2.0	
GYA					sS	sS	21 42 45.8	-0.9	
GYA					pmax	pmax			
	comp=Z,13μm,12.9s								
GYA					LR	LR			
	comp=Z,34μm,17.6s								
GYA					LR	LR			
	comp=Z,71μm,18.8s								
GYA					LR	LR			
	comp=Z,116μm,18.9s								
LYN	LuoYang	54.23	320	⇓	P	P	21 34 58.3	+0.5	
LYN					pP	sP	21 35 13.5	-2.2	
LYN					S	S	21 42 29.5	-2.7	
LYN					SS	SS	21 46 11.8	-3.0	
LYN					pmax	pmax			
	comp=Z,330nm,1.3s								
LYN					pmax	pmax			
	comp=Z,14μm,6.0s								
LYN					LR	LR			
	comp=Z,125μm,22.0s								
LYN					LR	LR			
	comp=Z,124μm,21.9s								
LYN					LR	LR			
	comp=Z,275μm,24.5s								
GSI	Gunungsitoli	54.24	276		P	P	21 34 59.6	+1.3	
GSI	Gunungsitoli	54.24	276		IAmb	IAmb	21 35 02.4		
	comp=Z,377nm,1.0s								
GSI	Gunungsitoli	54.24	276	⇑	P	P	21 34 57.3	-1.0	
GSI	Gunungsitoli	54.24	276		P	P	21 34 56.8	-1.5	
	comp=Z,472nm,1.1s,comp=Z,8μmcomp=Z,87μm								
COCO	West Island	54.30	259		P	P	21 35 00.6	+1.9	
COCO	West Island	54.30	259		P	P	21 34 59.7	+1.0	
COCO	West Island	54.30	259		P	P	21 34 59.7	+1.0	
COCO					pmax	pmax			
	comp=Z,999nm,0.9s								
COCO	West Island	54.30	259		P	P	21 35 01.0	+2.3	
COCO					P	P	21 35 01.0	+2.3	
COCO					P	P	21 35 01.0	+2.3	
KCSI	Kotacane, Aceh	54.37	278		P	P	21 34 57.7	-1.6	
	comp=Z,139nm,1.4s,comp=Z,6μmcomp=Z,76μm								
CN2	Changchun	54.42	337	⇑	P	P	21 34 59.5	+0.4	
CN2					*e*pP	pP	21 35 14.0	+2.1	
CN2					*e*S	S	21 42 34.0	-0.6	
CN2					pmax	pmax			
	comp=Z,80nm,1.1s								
CN2					pmax	pmax			
	comp=Z,7μm,6.0s								
CN2					LR	LR			
	comp=Z,11μm,16.0s								
CN2					LR	LR			
	comp=Z,9μm,16.0s								
CN2					LR	LR			
	comp=Z,18μm,18.0s								
HNS	HongShan	54.74	324	⇑	P	P	21 35 01.5	0.0	
HNS					S	S	21 42 37.5	-1.5	
HNS					SS	SS	21 46 16.5	-6.3	
HNS					pmax	pmax			
	comp=Z,450nm,1.4s								
HNS					LR	LR			
	comp=Z,90μm,21.2s								
HNS					LR	LR			
	comp=Z,71μm,21.2s								
HNS					LR	LR			
	comp=Z,157μm,23.0s								
UGL	Uglegorsk	54.99	352	*c*	*i*P	P	21 35 03.0	-0.1	
UGL					*e*PPP	PPP	21 38 26.3		
UGL					*e*S	S	21 42 42.5	+0.5	
UGL					pmax	pmax			
	comp=Z,7μm,7.0s								
UGL					pmax	pmax			
	comp=Z,200nm,1.1s								
UGL					pmax	pmax			
	comp=E,2μm,4.0s								
UGL					pmax	pmax			
	comp=N,3μm,6.0s								
UGL					pmax	pmax			
	comp=Z,5μm,6.0s								
UGL					smax	smax			
	comp=N,12μm,12.0s								
UGL					smax	smax			
	comp=E,6μm,12.0s								
KEKH	Kekaha	55.07	58		P	P	21 35 04.5	+0.4	
KEKH					IAmb	IAmb	21 35 35.5		
	comp=Z,288nm,0.9s								
KEKH					IAMs_20	IAMs_20	21 54 32.3		
	comp=Z,141μm,21.0s								
BNX	BinXian	55.37	340	⇑	P	P	21 35 04.8	-1.1	
BNX					pP	pP	21 35 19.8	+1.1	
BNX					sP	sP	21 35 25.5	+1.6	
BNX					PP	PP	21 37 11.3	+1.2	
BNX					S	S	21 42 45.5	-1.7	
BNX					SS	SS	21 46 34.3	+1.8	
BNX					pmax	pmax			
	comp=Z,220nm,1.2s								
BNX					LR	LR			
	comp=Z,32μm,22.0s								
BNX					LR	LR			
	comp=Z,39μm,21.3s								
BNX					LR	LR			
	comp=Z,64μm,22.7s								
LHMI	Lhok Sumawe	55.47	280		P	P	21 35 08.6	+1.4	
LHMI	Lhok Sumawe	55.47	280		P	P	21 35 07.8	+0.6	
LHMI					IAmb	IAmb	21 35 32.3		
	comp=Z,504nm,1.1s								
LHMI	Lhok Sumawe	55.47	280	⇑	P	P	21 35 06.9	-0.3	
LHMI	Lhok Sumawe	55.47	280		P	P	21 35 06.7	-0.5	
	comp=Z,337nm,1.2s,comp=Z,15μmcomp=Z,94μm								
SRDT	SRDT	55.53	291		P	P	21 35 09.8	+2.2	
SNSI	Sinabang, Aceh	55.63	277		P	P	21 35 07.5	-0.8	
	comp=Z,182nm,0.8s,comp=Z,9μmcomp=Z,88μm								
BJT	Baijiatuan	55.76	328		P	P	21 35 10.6	+1.8	
BJT	Baijiatuan	55.76	328		IAmb	IAmb	21 35 33.6		
	comp=Z,283nm,1.3s								
BJT	Baijiatuan	55.76	328		P	P	21 35 10.0	+1.3	
BJI	Beijing	55.77	328		P	P	21 35 08.5	-0.3	
BJI					pP	pP	21 35 19.5	-2.1	
BJI					sP	sP	21 35 24.3	-2.5	
BJI					S	S	21 42 53.8	+1.1	
BJI					SS	SS	21 46 31.8	-7.1	
BJI					pmax	pmax			
	comp=Z,52nm,1.4s								
BJI					LR	LR			
	comp=Z,50μm,20.8s								
BJI					LR	LR			
	comp=Z,26μm,21.2s								
BJI					LR	LR			
	comp=Z,77μm,21.4s								
MLSI	Meulaboh, Aceh	55.84	279		P	P	21 35 10.4	+0.5	
	comp=Z,280nm,0.8s,comp=Z,641nm								
SKR	Severo-Kuril's	56.13	4	*c*	*i*P	P	21 35 10.6	-0.6	
XAN	Xi'an	56.24	318	⇑	P	P	21 35 11.8	-0.6	
XAN					pP	pP	21 35 18.5	-6.7	
XAN					PP	PP	21 37 19.8	+1.7	
XAN					S	S	21 43 00.3	+1.0	
XAN					pmax	pmax			
	comp=Z,370nm,1.1s								
XAN					pmax	pmax			
	comp=Z,15μm,7.6s								
XAN					LR	LR			
	comp=Z,111μm,20.3s								
XAN					LR	LR			
	comp=Z,89μm,21.0s								
XAN					LR	LR			
	comp=Z,189μm,21.0s								
XAN	Xi'an	56.24	318		P	P	21 35 12.7	+0.3	
HON	Honolulu	56.27	60		P	P	21 35 13.2	+0.4	
HON	Honolulu	56.27	60		P	P	21 35 13.2	+0.4	
HON					pmax	pmax			
	comp=Z,2μm,1.4s								
HON					MLR	MLR			
	comp=Z,93μm,22.0s								
TIY	Taiyuan	56.29	323	*e*	P	P	21 35 14.3	+1.6	
TIY					S	S	21 42 57.3	-2.6	
TIY					pmax	pmax			
	comp=Z,110nm,0.9s								
TIY					pmax	pmax			
	comp=Z,8μm,7.5s								
TIY					LR	LR			
	comp=Z,83μm,23.4s								
TIY					LR	LR			
	comp=Z,85μm,21.3s								
TIY					LR	LR			
	comp=Z,157μm,23.4s								
KMI	Kunming	56.29	305	⇑	P	P	21 35 14.3	+1.1	
KMI					sP	pP	21 35 29.0	+2.8	
KMI					PP	PP	21 37 19.5	+0.5	
KMI					sS	sS	21 43 20.8	-0.3	
KMI					SS	SS	21 46 45.8	-2.4	
KMI					pmax	pmax			
	comp=Z,250nm,1.2s								
KMI					pmax	pmax			
	comp=Z,9μm,6.2s								
KMI					LR	LR			
	comp=Z,36μm,19.9s								
KMI					LR	LR			
	comp=Z,50μm,20.4s								
KMI					LR	LR			
	comp=Z,88μm,21.0s								
KMI	Kunming	56.29	305		P	P	21 35 14.3	+1.1	
KIP	Kipapa	56.30	60		P	P	21 35 17.0	+4.0	
KIP	Kipapa	56.30	60		P	P	21 35 13.5	+0.6	
KIP					IAmb	IAmb	21 35 19.9		
	comp=Z,412nm,0.7s								
KIP	Kipapa	56.30	60	*ce*	eP	P	21 35 13.6	+0.6	
KIP					pmax	pmax			
	comp=Z,1μm,1.7s								
KIP	Kipapa	56.30	60		P	P	21 35 15.0	+2.0	
OPA	Opana	56.40	60		P	P	21 35 14.5	+0.8	
OPA					IAMs_20	IAMs_20	21 54 48.8		
	comp=Z,103μm,21.0s								
OPA	Opana	56.40	60		P	P	21 35 14.5	+0.8	
OPA					pmax	pmax			
	comp=Z,2μm,1.6s								
OPA					MLR	MLR			
	comp=Z,103μm,21.0s								
TYV	Tymovskoe	56.67	353	*e*	P	P	21 35 16.9	+1.8	
TYV				*e*	S	S	21 43 06.2	+1.9	
TYV					pmax	pmax			
	comp=Z,2μm,4.2s								
TYV					pmax	pmax			
	comp=Z,55nm,1.5s								
TYV					smax	smax			
	comp=N,7μm,11.5s								
TYV					smax	smax			
	comp=E,3μm,11.5s								
CM31	Chiang Mai Arr	56.98	296		IAmb	IAmb	21 35 31.4		
	comp=Z,218nm,0.9s								
CM31	Chiang Mai Arr	56.98	296		P	P	21 35 19.5	+1.5	
	SNR=116								
CM31					P	P	21 35 19.5	+1.5	
	SNR=116								
CM31					P	P	21 35 19.5	+1.5	
	SNR=116								
CMAR	Chiang Mai Arr	56.98	296		P	P	21 35 17.8	-0.1	
CMAR	Chiang Mai Arr	56.98	296	*i*	P	P	21 35 18.8	+0.9	
CMAR					pmax	pmax			
	comp=Z,143nm,1.1s								
CMAR	Chiang Mai Arr	56.98	296		P	P	21 35 17.1	-0.8	
	comp=Z,107nm,1.1s,baz=114,slow=5.5,SNR=70								
CMAR					S	S	21 43 06.9	-2.7	
	comp=Z,1.0nm,0.3s,baz=176,slow=9.6,SNR=2.4								
CMAR					LR	LR	21 59 35.2		
	comp=Z,31μm,19.8s,baz=105,slow=36								
CMAR					PKPPKP	P'P'df	22 05 04.5	-5.7	
	comp=Z,2.1nm,0.4s,baz=299,slow=4.5,SNR=7.3								
CMAR					PKP2bc		22 05 19.6		
	comp=Z,21nm,1.1s,baz=287,slow=3.5,SNR=8.0								
CMAR					PKP2ab		22 05 38.5		
	comp=Z,22nm,1.0s,baz=295,slow=3.8,SNR=6.5								
	comp=Z,107nm,1.1s								
KLR	Kul'dur	57.17	345	*ce*	eP	P	21 35 17.9	-0.8	
KLR					pmax	pmax			
	comp=Z,131nm,1.0s								
KLR					MLR	MLR			
	comp=Z,60μm,19.0s								
KLR	Kul'dur	57.17	345		P	P	21 35 17.1	-1.6	
	comp=Z,72nm,0.9s,baz=178,slow=2.9,SNR=85								
KLR					ScP	ScP	21 40 11.0	+1.7	
	comp=Z,14nm,1.0s,baz=160,slow=3.1,SNR=3.3								
KLR					LR	LR	21 57 03.2		
	comp=Z,112μm,21.4s,baz=166,slow=33								
	comp=Z,72nm,0.9s								
KHLH	Kahului Airpor	57.48	61		P	P	21 35 22.4	+1.1	
KHLH					IAMs_20	IAMs_20	21 55 07.3		
	comp=Z,128μm,22.0s								
GRNR	Gornyy	57.55	349	⇑	*i*P	P	21 35 20.1	-1.2	
GRNR					*e*		21 37 24.5		
GRNR					pmax	pmax			
	comp=Z,30nm,1.0s								
HUH	Hualalai	57.57	63		P	P	21 35 22.6	+0.3	
HLK	Haleakala	57.58	61		P	P	21 35 21.9	-0.5	
HLK					IAMs_20	IAMs_20	21 54 59.1		
	comp=Z,126μm,22.0s								
KHU	Kahuku	57.62	63		P	P	21 35 22.8	+0.2	
KHU	Kahuku	57.62	63		P	P	21 35 22.8	+0.2	
KHU					pmax	pmax			
	comp=Z,2μm,1.6s								
MHA	Mahukona	57.69	62		P	P	21 35 24.0	+1.2	
MHA	Mahukona	57.69	62		P	P	21 35 24.0	+1.2	
PZH	PanZhiHua	57.70	306		P	P	21 35 23.0	0.0	
PZH					pP	pP	21 35 35.0	-1.1	
PZH					sP	sP	21 35 37.8	-3.5	
PZH					PcP	PcP	21 36 20.8	+5.1	
PZH					PcS	PcS	21 40 18.0	+0.8	
PZH					S	S	21 43 21.0	+1.9	
PZH					sS	pS	21 43 36.0	+2.4	
PZH					pmax	pmax			
	comp=Z,120nm,1.8s								
PZH					pmax	pmax			
	comp=Z,8μm,8.2s								
PZH					LR	LR			
	comp=Z,41μm,22.6s								
PZH					LR	LR			
	comp=Z,34μm,20.2s								
PZH					LR	LR			
	comp=Z,94μm,27.5s								
MWH	Moku'aweowe	57.71	63		P	P	21 35 23.8	+0.1	
MWH					IAmb	IAmb	21 36 45.6		
	comp=Z,591nm,1.3s								
MLOA	Mauna Loa Obse	57.75	63		P	P	21 35 24.0	+0.2	
AIN	Ainahou	57.80	63		P	P	21 35 24.8	+1.0	
HPAH	Hawaii Prepara	57.81	62		P	P	21 35 24.1	+0.2	
HPAH					IAMs_20	IAMs_20	21 57 12.2		
	comp=Z,110μm,20.0s								
HMH	Humu'ula Sheep	57.85	63		P	P	21 35 25.2	+0.8	
POHA	Pohakuloa	57.86	63		P	P	21 35 28.5	+4.1	
POHA	Pohakuloa	57.86	63		P	P	21 35 24.7	+0.3	
POHA	Pohakuloa	57.86	63		IAMs_20	IAMs_20	22 01 25.3		
	comp=Z,98μm,18.0s								
POHA	Pohakuloa	57.86	63	⇑	P	P	21 35 25.7	+1.3	
POHA	Pohakuloa	57.86	63		P	P	21 35 26.1	+1.7	
MLH	Mauna Loa	57.90	63		P	P	21 35 25.8	+1.1	
HLP	Hilina Pali	57.91	63		P	P	21 35 24.9	+0.4	
SDHHI	Sand Hill	57.95	63		P	P	21 35 26.0	+1.2	
WRMHI	West Rim	57.95	63		P	P	21 35 25.6	+0.7	
UWE	Uwekahuna	57.96	63		P	P	21 35 25.7	+0.7	
OBL	Observatory Le	57.97	63		P	P	21 35 25.4	+0.5	
NPH	North Pit	57.97	63		P	P	21 35 26.1	+1.2	
UWB	Uwekahuna B	57.98	63		P	P	21 35 25.6	+0.6	
KKO	Keanakako`i	57.98	63		P	P	21 35 25.5	+0.4	
KKO					IAmb	IAmb	21 35 39.5		
	comp=Z,653nm,1.3s								
SBLHI	Steaming Bluff	57.98	63		P	P	21 35 25.4	+0.3	
RSD	Rainshed	57.99	63		P	P	21 35 26.7

JCUZ	**Jacuzzi**	**58.12**	**63**	P	**P**	**21 35 27.4**	**+1.4**			
CD2	**Chengdu**	**58.20**	**312**	P	**P**	**21 35 26.5**	**+0.1**			
CD2				sP	pP	21 35 41.3	+2.1			
CD2				PP	**PP**	**21 37 36.3**	**+0.6**			
CD2				S	**S**	**21 43 26.8**	**+1.5**			
CD2				sS	pS	21 43 42.5	+2.5			
CD2				pmax	pmax					
	comp=Z,190nm,0.9s									
CD2				pmax	pmax					
	comp=Z,10µm,6.7s									
CD2				LR	LR					
	comp=Z,18µm,20.6s									
CD2				LR	LR					
	comp=Z,23µm,21.3s									
CD2				LR	LR					
	comp=Z,150µm,20.4s									
XLT	**XiLinHaoTe**	**58.63**	**331**	*e*P	**P**	**21 35 29.5**	**+0.4**			
XLT				pP	pP	21 35 40.0	-2.0			
XLT				sP	sP	21 35 44.5	-2.7			
XLT				PcP	**PcP**	**21 36 18.3**	**-0.6**			
XLT				S	**S**	**21 43 25.0**	**-5.4**			
XLT				ScS	**ScS**	**21 45 08.5**	**-7.0**			
XLT				pmax	pmax					
	comp=Z,450nm,1.2s									
XLT				pmax	pmax					
	comp=Z,10µm,6.1s									
XLT				LR	LR					
	comp=Z,74µm,23.8s									
XLT				LR	LR					
	comp=Z,152µm,24.2s									
PET	**Petropavlovsk**	**58.65**	**5***d*	*i*P	**P**	**21 35 28.0**	**-0.9**			
PET				*i* S	**S**	**21 43 28.4**	**-1.7**			
PET				pmax	pmax					
	comp=Z,87nm,1.8s									
PET				pmax	pmax					
	comp=Z,14µm,19.5s									
PET				MLR	MLR					
	comp=Z,43µm,19.0s									
PEA0B	**Petropavlovsk-**	**58.65**	**4**	IAmb	IAmb	21 36 20.7				
	comp=Z,456nm,1.2s									
PEA0B	**Petropavlovsk-**	**58.65**	**4***ce*	P	**P**	**21 35 29.2**	**+0.2**			
PETK	**Petropavlovsk-**	**58.65**	**4**	P	**P**	**21 35 28.6**	**-0.3**			
PETK	**Petropavlovsk-**	**58.65**	**4**	P	**P**	**21 35 27.6**	**-1.4**			
	comp=Z,29nm,0.6s,baz=146,slow=4.9,SNR=34									
PETK				PcP	**PcP**	**21 36 18.5**	**-0.2**			
	comp=Z,134nm,1.0s,baz=140,slow=3.2,SNR=3.2									
PETK				ScP	**ScP**	**21 40 17.1**	**+1.4**			
	comp=Z,2.7nm,0.7s,baz=142,slow=7.2,SNR=1.1									
PETK				S	**S**	**21 43 24.9**	**-5.3**			
	comp=Z,3.8nm,1.0s,baz=112,slow=27,SNR=1.7									
PETK				LR	LR	21 57 08.9				
	comp=Z,98µm,21.4s,baz=189,slow=32									
	comp=Z,29nm,0.6s									
PPT	**Papeete**	**58.79**	**107**	P	**P**	**21 35 31.6**	**+0.9**			
	comp=Z,15nm,0.4s,baz=290,slow=3.9,SNR=1.8									
PPT				LR	LR	21 55 37.8				
	comp=Z,22µm,21.2s,baz=278,slow=31									
PPT				PKP2bc		22 05 20.5				
	comp=Z,97nm,1.0s,baz=109,slow=8.8,SNR=9.3									
PPTF	**Pamatai, Papee**	**58.80**	**107**	P	**P**	**21 35 33.9**	**+3.1**			
PPTF	**Pamatai, Papee**	**58.80**	**107**	P	**P**	**21 35 32.3**	**+1.5**			
PPTF	**Pamatai, Papee**	**58.80**	**107**	P	**P**	**21 35 34.6**	**+3.9**			
HHC	**Hu-ho-hao-te**	**58.87**	**325**	⇑*i*P	**P**	**21 35 31.3**	**+0.4**			
HHC				sP	pP	21 35 46.0	+2.3			
HHC				S	**S**	**21 43 36.5**	**+2.8**			
HHC				sS	sS	21 43 54.3	-0.1			
HHC				SS	**SS**	**21 47 24.5**	**-3.5**			
HHC				pmax	pmax					
	comp=Z,260nm,1.1s									
HHC				pmax	pmax					
	comp=Z,9µm,5.3s									
HHC				LR	LR					
	comp=Z,78µm,19.1s									
HHC				LR	LR					
	comp=Z,81µm,20.1s									
HHC				LR	LR					
	comp=Z,176µm,19.2s									
NKL	**Nikolayevsk**	**59.16**	**352**	*e*P	P	21 35 26.7	-5.8			
NKL				*e*S	**S**	**21 43 42.6**	**+5.9**			
NKL				pmax	pmax					
	comp=N,62nm,1.0s									
NKL				pmax	pmax					
	comp=E,139nm,1.2s									
NKL				pmax	pmax					
	comp=Z,409nm,1.2s									
NKL				smax	smax					
	comp=E,2µm,6.7s									
NKL				smax	smax					
	comp=N,2µm,6.6s									
NKL				MLR	MLR					
	comp=E,63µm,19.0s									
NKL				MLR	MLR					
	comp=N,22µm,18.0s									
NKL				MLR	MLR					
	comp=Z,82µm,18.0s									
HEH	**HeiHe**	**59.32**	**342**	*e*P	**P**	**21 35 32.3**	**-1.4**			
HEH				ScP	**ScP**	**21 40 22.5**	**+3.7**			
HEH				S	**S**	**21 43 37.8**	**-1.2**			
HEH				pmax	pmax					
	comp=Z,30nm,0.6s									
HEH				pmax	pmax					
	comp=Z,10µm,10.2s									
HEH				LR	LR					
	comp=Z,64µm,21.6s									
HEH				LR	LR					
	comp=Z,34µm,21.2s									
HEH				LR	LR					
	comp=Z,93nm,19.9s									
BTO	**Baotou**	**59.59**	**324**	*e*P	**P**	**21 35 37.5**	**+1.6**			
BTO				pP	**pP**	**21 35 51.3**	**+2.5**			
BTO				sP	**sP**	**21 35 55.5**	**+1.6**			
BTO				PP	**PP**	**21 37 52.0**	**+4.1**			
BTO				S	**S**	**21 43 44.5**	**+1.4**			
BTO				pmax	pmax					
	comp=Z,340nm,1.0s									
BTO				pmax	pmax					
	comp=Z,22µm,9.3s									
BTO				LR	LR					
	comp=Z,216µm,22.8s									
BTO				LR	LR					
	comp=Z,163µm,21.2s									
BTO				LR	LR					
	comp=Z,286µm,22.8s									
TNCH	**TengChong**	**59.74**	**303**	⇑P	**P**	**21 35 35.5**	**-1.8**			
TNCH				pP	pP	21 35 50.8	+0.5			
TNCH				sP	sP	21 35 54.5	-1.1			
TNCH				PcP	**PcP**	**21 36 26.5**	**+2.6**			
TNCH				S	**S**	**21 43 45.8**	**+0.2**			
TNCH				sS	sS	21 44 04.5	-2.0			
TNCH				SS	**SS**	**21 47 35.0**	**-7.3**			
TNCH				pmax	pmax					
	comp=Z,290nm,2.2s									
TNCH				pmax	pmax					
	comp=Z,6µm,8.6s									
TNCH				LR	LR					
	comp=Z,14µm,22.8s									
TNCH				LR	LR					
	comp=Z,17µm,30.2s									
TNCH				LR	LR					
	comp=Z,74µm,30.9s									
MND	**Mandalay**	**60.68**	**299**	P	**P**	**21 35 44.1**	**+0.5**			
LZH	**Lanzhou**	**60.83**	**317**	⇑P	**P**	**21 35 45.0**	**+0.5**			
LZH				sP	pP	21 35 59.0	+1.6			
LZH				S	**S**	**21 43 59.8**	**+0.6**			
LZH				pmax	pmax					
	comp=Z,59nm,1.5s									
LZH				pmax	pmax					
	comp=Z,3µm,4.5s									
LZH				LR	LR					
	comp=Z,22µm,14.8s									
LZH				LR	LR					
	comp=Z,50µm,14.8s									
LZH				LR	LR					
	comp=Z,76µm,13.7s									
PBA	**Port Blair**	**60.84**	**287**	⇑*i*P	**P**	**21 35 44.3**	**-0.4**			
PBA				IAmb	IAmb	21 35 54.1				
	comp=Z,70nm,1.0s									
DGPR	**DIGLIPUR**	**61.02**	**288**	⇑*i*P	**P**	**21 35 45.8**	**-0.2**			
DGPR				IAmb	IAmb	21 35 55.4				
	comp=Z,94nm,0.9s									
DGPR				IAmb	IAmb	21 57 26.2				
	comp=Z,54µm,26.8s									
SHEM	**Shemya Is, Ala**	**61.13**	**16**	LR	LR	21 57 49.9				
	comp=Z,145µm,21.8s,baz=204,slow=32									
HIA	**Hailar**	**61.16**	**337**	IAmb	IAmb	21 35 49.8				
	comp=Z,489nm,1.5s									
HIA	**Hailar**	**61.16**	**337**	IAMs_20	IAMs_20	22 00 05.1				
	comp=Z,78µm,20.0s									
HIA	**Hailar**	**61.16**	**337**	P	**P**	**21 35 46.1**	**-0.2**			
AMKA	**Amchitka**	**61.50**	**19**	P	**P**	**21 35 50.0**	**+1.4**			
DRV	**Dumont d'Urvil**	**61.55**	**185**	P	**P**	**21 35 50.0**	**+1.4**			
ZEA	**Zeya**	**62.46**	**344**	*e*P	**P**	**21 35 54.5**	**-0.4**			
ZEA				*e*S	**S**	**21 44 21.5**	**+2.6**			
ZEA				*e*SS	**SS**	**21 48 24.4**	**+0.8**			
ZEA				pmax	pmax					
	comp=N,60nm,1.4s									
ZEA				pmax	pmax					
	comp=Z,100nm,1.4s									
ZEA				smax	smax					
	comp=E,6µm,15.5s									
KIWB	**Kanaga Island**	**63.13**	**21**	P	**P**	**21 36 00.5**	**+1.1**			
ADK	**Adak**	**63.32**	**21**	P	**P**	**21 36 03.5**	**+2.8**			
ADK	**Adak**	**63.32**	**21**	P	**P**	**21 36 02.3**	**+1.6**			
ADK				IAmb	IAmb	21 36 48.0				
	comp=Z,325nm,1.2s									
ADK	**Adak**	**63.32**	**21**	IAMs_20	IAMs_20	21 58 41.8				
	comp=Z,82µm,21.0s									
ADK	**Adak**	**63.32**	**21**	⇑P	**P**	**21 36 00.8**	**+0.2**			
ADK	**Adak**	**63.32**	**21**	P	**P**	**21 36 02.3**	**+1.6**			
ADK				pmax	pmax					
	comp=Z,325nm,1.2s									
ADK				MLR	MLR					
	comp=Z,82µm,21.0s									
ADK	**Adak**	**63.32**	**21**	P	**P**	**21 36 01.2**	**+0.6**			
JORH	**JORHAT**	**63.94**	**303**	⇑*i*P	**P**	**21 36 05.9**	**+0.6**			
JORH				*i* x	x	21 45 24.3				
JORH				IAMs_20	IAMs_20	21 53 19.2				
	comp=Z,27µm,21.3s									
ATKA	**Atka Island**	**64.51**	**23**	P	**P**	**21 36 10.4**	**+2.0**			
ATKA				IAMs_20	IAMs_20	22 00 27.2				
	comp=Z,79µm,20.0s									
MA2	**Magadan**	**64.90**	**360**	P	**P**	**21 36 12.7**	**+1.8**			
MA2	**Magadan**	**64.90**	**360**	P	**P**	**21 36 09.6**	**-1.3**			
MA2				IAmb	IAmb	21 37 07.3				
	comp=Z,322nm,1.3s									
MA2				IAMs_20	IAMs_20	21 59 59.3				
	comp=Z,103µm,22.0s									
MA2	**Magadan**	**64.90**	**360**	⇑P	**P**	**21 36 10.2**	**-0.7**			
MA2	**Magadan**	**64.90**	**360**	*ce*P	**P**	**21 36 09.8**	**-1.1**			
MA2				pmax	pmax					
	comp=Z,102nm,1.3s									
MA2				MLR	MLR					
	comp=Z,107µm,22.0s									
MA2	**Magadan**	**64.90**	**360**	S	**S**	**21 44 45.3**	**-3.7**			
	comp=Z,1.8nm,0.3s,baz=178,slow=23,SNR=1.3									
MA2				LR	LR	22 04 27.8				
	comp=Z,62µm,19.4s,baz=182,slow=36									
MA2	**Magadan**	**64.90**	**360**	P	**P**	**21 36 10.2**	**-0.7**			
BELO	**BELONIA**	**65.16**	**299**	⇑*i*P	**P**	**21 36 15.0**	**+1.7**			
BELO				*i* x	x	21 38 42.1				
GTA	**Gaotai**	**65.29**	**318**	⇑P	**P**	**21 36 14.0**	**0.0**			
GTA				sP	pP	21 36 28.8	+1.8			
GTA				S	**S**	**21 44 57.3**	**+2.5**			
GTA				sS	sS	21 45 14.3	-1.7			
GTA				SS	**SS**	**21 49 05.8**	**-2.8**			
GTA				pmax	pmax					
	comp=Z,120nm,1.0s									
GTA				pmax	pmax					
	comp=Z,8µm,8.5s									
GTA				LR	LR					
	comp=Z,27µm,20.7s									
GTA				LR	LR					
	comp=Z,52µm,21.1s									
GTA				LR	LR					
	comp=Z,77µm,21.8s									
SHL	**Shillong**	**65.53**	**301**	⇑*i*P	**P**	**21 36 15.3**	**-0.6**			
SHL				IAmb	IAmb	21 36 20.6				
	comp=Z,534nm,1.0s									
AGT	**Agartala**	**65.53**	**299**	⇑*i*P	**P**	**21 36 17.8**	**+2.1**			
CIT	**Chita**	**65.79**	**335**	*e*P	**P**	**21 36 17.3**	**+0.4**			
CIT				*e*		21 36 31.1				
CIT				*e*		21 36 41.9				
CIT				*e*		21 38 39.5				
CIT				pmax	pmax					
	comp=Z,567nm,2.8s									
ULN	**Ulaanbaatar**	**65.91**	**329**	P	**P**	**21 36 17.9**	**0.0**			
ULN				IAmb	IAmb	21 36 23.5				
	comp=Z,176nm,0.8s									
ULN	**Ulaanbaatar**	**65.91**	**329**	IAMs_20	IAMs_20	22 03 30.4				
	comp=Z,105µm,21.0s									
ULN	**Ulaanbaatar**	**65.91**	**329**	⇑P	**P**	**21 36 17.9**	**0.0**			
ULN	**Ulaanbaatar**	**65.91**	**329**	*ce*P	**P**	**21 36 17.1**	**-0.8**			
ULN				pmax	pmax					
	comp=Z,334nm,1.3s									
ULN				MLR	MLR					
	comp=Z,109µm,22.0s									
ULN	**Ulaanbaatar**	**65.91**	**329**	P	**P**	**21 36 19.0**	**+1.1**			
ULN				P	**P**	**21 36 19.0**	**+1.1**			
ULN				P	**P**	**21 36 19.0**	**+1.1**			
ULN	**Ulaanbaatar**	**65.91**	**329**	P	**P**	**21 36 18.5**	**+0.5**			
SONM	**Songino Array**	**66.23**	**329**	P	**P**	**21 36 19.8**	**-0.2**			
SONM				IAmb	IAmb	21 36 24.3				
	comp=Z,248nm,0.9s									
SONM	**Songino Array**	**66.23**	**329**	P	**P**	**21 36 19.8**	**-0.2**			
SONM				pmax	pmax					
	comp=Z,248nm,0.9s									
SONM	**Songino Array**	**66.23**	**329**	P	**P**	**21 36 19.7**	**-0.2**			
	comp=Z,226nm,0.9s,baz=146,slow=6.4,SNR=182									
SONM				S	**S**	**21 45 06.0**	**0.0**			
	comp=Z,3.8nm,1.1s,baz=177,slow=5.9,SNR=1.9									
SONM				LR	LR	22 03 52.0				
	comp=Z,92µm,21.2s,baz=130,slow=35									
SONM				PKPPKP	**P'P'df**	**22 04 45.6**	**-7.5**			
	comp=Z,1.7nm,1.1s,baz=247,slow=2.6,SNR=4.5									
SONM				P4KPbc		22 13 07.6				
	comp=Z,0.2nm,0.5s,baz=165,slow=6.0,SNR=1.6									
	comp=Z,226nm,0.9s									
CASY	**Casey**	**66.94**	**197**	P	**P**	**21 36 24.6**	**+0.7**			
CASY				IAmb	IAmb	21 36 28.3				
	comp=Z,250nm,1.1s									
CASY	**Casey**	**66.94**	**197**	IAMs_20	IAMs_20	22 03 07.2				
	comp=Z,104µm,20.0s									
CASY	**Casey**	**66.94**	**197**	P	**P**	**21 36 24.6**	**+0.7**			
NIKH	**Nikolski High**	**67.23**	**25**	P	**P**	**21 36 28.6**	**+2.6**			
NIKH	**Nikolski High**	**67.23**	**25**	P	**P**	**21 36 27.1**	**+1.1**			
NIKH				IAmb	IAmb	21 37 01.3				
	comp=Z,204nm,0.9s									
NIKH	**Nikolski High**	**67.23**	**25**	P	**P**	**21 36 25.3**	**-0.6**			
	baz=224									
NIKH				S	**S**	**21 45 14.7**	**-2.8**			
	baz=224									
GOMU	**GeErMu**	**67.27**	**313**	P	**P**	**21 36 27.3**	**+0.2**			
GOMU				PP	**PP**	**21 38 55.5**	**-0.3**			
GOMU				S	**S**	**21 45 15.3**	**-4.2**			
GOMU				SS	**SS**	**21 49 38.0**	**-1.9**			
GOMU				pmax	pmax					
	comp=Z,89nm,1.0s									
GOMU				LR	LR					
	comp=Z,42µm,20.0s									
GOMU				LR	LR					
	comp=Z,73µm,20.2s									
GOMU				LR	LR					
	comp=Z,146µm,21.0s									
LSA	**Lhasa**	**67.55**	**305**	IAmb	IAmb	21 36 36.5				
	comp=Z,154nm,0.8s									
LSA	**Lhasa**	**67.55**	**305**	P	**P**	**21 36 28.7**	**-0.4**			
LSA	**Lhasa**	**67.55**	**305**	P	**P**	**21 36 29.7**	**+0.6**			
LSA				P	**P**	**21 36 29.7**	**+0.6**			
LSA	**Lhasa**	**67.55**	**305**	P	**P**	**21 36 29.5**	**+0.4**			
TAOE	**Nuku Hiva Isla**	**67.86**	**97**	P	**P**	**21 36 32.2**	**+1.3**			
TAOE	**Nuku Hiva Isla**	**67.86**	**97**	P	**P**	**21 36 31.4**	**+0.5**			
TAOE				IAmb	IAmb	21 37 02.9				
	comp=Z,387nm,1.0s									
TAOE	**Nuku Hiva Isla**	**67.86**	**97**	⇑P	**P**	**21 36 33.6**	**+2.7**			
SEY	**Seymchan**	**68.27**	**0***c*	*i*P	**P**	**21 36 32.1**	**-0.2**			
SEY				pmax	pmax					
	comp=Z,76nm,2.0s									
SEY				MLR	MLR					
	comp=Z,65µm,19.0s									
SEY	**Seymchan**	**68.27**	**0**	S	**S**	**21 45 26.2**	**-3.5**			
	comp=Z,2.0nm,0.8s,baz=191,slow=13,SNR=1.4									
SEY				LR	LR	22 06 38.4				
	comp=Z,47µm,19.5s,baz=185,slow=36									
UNV	**Unalaska Valle**	**68.84**	**25**	P	**P**	**21 36 38.2**	**+2.2**			
UNV	**Unalaska Valle**	**68.84**	**25**	P	**P**	**21 36 37.0**	**+1.0**			
UNV	**Unalaska Valle**	**68.84**	**25**	P	**P**	**21 36 35.3**	**-0.7**			
	baz=226,SNR=7.0									
UNV				S	**S**	**21 45 33.1**	**-3.6**			
	baz=226									
GTK	**Tadong**	**68.88**	**302**	⇑*i*P	**P**	**21 36 37.0**	**-0.1**			
GTK				IAmb	IAmb	21 36 42.2				
	comp=Z,572nm,1.5s									
AKUT	**Akutan**	**69.35**	**25**	P	**P**	**21 36 42.1**	**+2.9**			
AKUT	**Akutan**	**69.35**	**25**	IAmb	IAmb	21 37 25.9				
	comp=Z,310nm,1.2s									
ZAK	**Zakamensk**	**69.42**	**329**	*e*P	**P**	**21 36 39.7**	**-0.2**			
ZAK				pmax	pmax					
	comp=Z,413nm,1.3s									
YAK	**Yakutsk**	**69.42**	**349**	P	**P**	**21 36 38.4**	**-1.1**			
YAK				IAmb	IAmb	21 36 50.7				
	comp=Z,236nm,0.7s									
YAK	**Yakutsk**	**69.42**	**349**	*c i*P	**P**	**21 36 38.2**	**-1.3**			
YAK				*e**PP	**pP**	**21 36 53.6**	**+1.0**			
YAK				*e*		21 37 01.0				
YAK				*e*		21 39 11.8				
YAK				*e*PPP	PPP	21 40 53.2				
YAK				*e*S	**S**	**21 45 44.1**	**+0.8**			
YAK				*e*		21 46 33.5				
YAK				*e*SS	**SS**	**21 50 10.1**	**-1.3**			
YAK				pmax	pmax					
	comp=Z,291nm,1.1s									
YAK				pmax	pmax					
	comp=N,175nm,1.8s									
YAK				pmax	pmax					
	comp=E,34nm,1.0s									
YAK				pmax	pmax					
	comp=Z,2µm,6.7s									
YAK				pmax	pmax					
	comp=N,910nm,4.0s									
YAK				pmax	pmax					
	comp=E,823nm,6.2s									
YAK				smax	smax					
	comp=N,16µm,12.4s									
YAK				smax	smax					
	comp=E,4µm,10.7s									
YAK				MLR	MLR					
	comp=Z,29µm,19.0s									
YAK				MLR	MLR					
	comp=N,18µm,14.0s									
YAK	**Yakutsk**	**69.42**	**349**	LR	LR	22 05 10.3				
	comp=N,52µm,21.6s,baz=150,slow=34									
YAK	**Yakutsk**	**69.42**	**349**	P	**P**	**21 36 39.4**	**-0.1**			
P08K	**Saint George I**	**69.62**	**22**	P	**P**	**21 36 40.2**	**-0.6**			
	baz=222									
P08K				S	**S**	**21 45 44.9**	**-0.9**			
	baz=222									
SPIA	**Saint Paul Isl**	**69.80**	**21**	P	**P**	**21 36 46.1**	**+4.2**			
SPIA	**Saint Paul Isl**	**69.80**	**21**	P	**P**	**21 36 42.2**	**+0.3**			
	baz=221,SNR=8.1									
SPIA				S	**S**	**21 45 46.5**	**-1.5**			
	baz=221									
BOD	**Bodaibo**	**70.00**	**340**	*e*P	**P**	**21 36 42.0**	**-1.1**			
BOD				pmax	pmax					
	comp=Z,238nm,1.3s									
IRK	**Irkutsk**	**70.09**	**331**	*e*P	**P**	**21 36 42.3**	**-1.6**			
IRK				*e*S	SKiKP	21 46 15.3	-11			
IRK				pmax	pmax					
	comp=Z,470nm,1.4s									
BOK	**Bokaro**	**70.20**	**298**	⇑*i*P	**P**	**21 36 46.3**	**+1.2**			
BOK				*i* x	x	21 46 41.0				
EVN	**Everest**	**70.58**	**302**	⇑P	**P**	**21 36 47.8**	**-0.4**			
FALS	**False Pass**	**70.85**	**26**	P	**P**	**21 36 52.2**	**+3.8**			
FALS	**False Pass**	**70.85**	**26**	P	**P**	**21 36 50.0**	**+1.6**			
FALS				IAmb	IAmb	21 37 13.4				
	comp=Z,224nm,1.1s									
FALS	**False Pass**	**70.85**	**26**	P	**P**	**21 36 47.5**	**-0.8**			
	baz=228									
VIS	**Vishakhapatnam**	**71.06**	**291**	⇑*i*P	**P**	**21 36 50.4**	**-0.1**			
VIS				IAmb	IAmb	21 36 57.1				
	comp=Z,379nm,1.1s									
MOY	**Mondy**	**71.35**	**330**	*e*P	**P**	**21 36 51.1**	**-0.6**			
MOY				pmax	pmax					
	comp=Z,508nm,3.0s									
CCD	**Concordia, Ant**	**71.37**	**187**	P	**P**	**21 36 52.1**	**+0.3**			
JHSG	**JHARSUGUGA**	**71.57**	**295**	*e*P	**P**	**21 36 53.2**	**-0.3**			
JHSG				IAmb	IAmb	21 36 58.1				
	comp=Z,951nm,1.2s									
PALK	**Pallekele**	**71.73**	**279**	P	**P**	**21 36 55.2**	**+0.5**			
PALK	**Pallekele**	**71.73**	**279**	⇑P	**P**	**21 36 54.8**	**+0.1**			
PALK	**Pallekele**	**71.73**	**279**	*c i*P	**P**	**21 36 54.6**	**-0.1**			
PALK				pmax	pmax					
	comp=Z,151nm,1.1s									
PALK	**Pallekele**	**71.73**	**279**	LR	LR	22 10 07.5				
	comp=Z,18µm,21.6s,baz=212,slow=37									
PALK	**Pallekele**	**71.73**	**279**	P	**P**	**21 36 55.8**	**+1.1**			
PALK	**Pallekele**	**71.73**	**279**	P	**P**	**21 36 55.0**	**+0.4**			
S12K	**Black Hills**	**71.99**	**26**	P	**P**	**21 36 54.5**	**-0.8**			
	baz=229,SNR=32									
S12K				S	**S**	**21 46 11.4**	**-2.1**			
	baz=229									
MALK	**Mahakanadarawa**	**72.05**	**281**	⇑P	**P**	**21 36 55.6**	**-0.9**			
VNDA	**Vanda**	**72.16**	**178**	IAmb	IAmb	21 37 00.7				
	comp=Z,336nm,1.2s									
VNDA	**Vanda**	**72.16**	**178**	P	**P**	**21 36 55.5**	**-0.5**			
	comp=Z,135nm,0.9s,baz=332,slow=8.0,SNR=53									
VNDA				S	**S**	**21 46 08.6**	**-6.3**			
	comp=Z,2.1nm,1.1s,baz=27,slow=2.3,SNR=1.6									
	comp=Z,135nm,0.9s									
SDPT	**Sand Point**	**72.46**	**26**	P	**P**	**21 36 59.8**	**+1.8**			
SDPT	**Sand Point**	**72.46**	**26**	P	**P**	**21 36 57.7**	**-0.4**			
	baz=231,SNR=20									
SDPT				S	**S**	**21 46 15.0**	**-3.7**			
	baz=231									
CNBA	**Chernabura Isl**	**72.53**	**27**	IAmb	IAmb	21 37 33.3				
	comp=Z,554nm,1.6s									
CHNA	**Chernabura Isl**	**72.53**	**27**	P	**P**	**21 36 58.4**	**-0.1**			
	baz=232,SNR=20									
CHNA				S	**S**	**21 46 17.2**	**-2.4**			
	baz=232									
SBA	**Scott Base**	**72.73**	**177**	P	**P**	**21 37 00.8**	**+1.4**			
SBA				IAmb	IAmb	21 37 05.3				
	comp=Z,382nm,1.2s									
SBA	**Scott Base**	**72.73**	**177**	P	**P**	**21 37 00.8**	**+1.4**			
SBA				pmax	pmax					
	comp=Z,382nm,1.2s									
VLK	**Valmikinagar**	**72.91**	**301**	⇑*i*P	**P**	**21 37 01.7**	**+0.4**			
MDRS	**Chennai**	**73.09**	**285**	⇑*i*P	**P**	**21 37 02.9**	**+0.3**			
MDRS				IAmb	IAmb	21 37 05.8				
	comp=Z,123nm,1.1s									
VAR	**Varanasi**	**73.12**	**298**	⇑

baz=233
O15K Ungalikthiuk R 75.16 24 P **P** **21 37 14.2 +0.4**
baz=231
O15K S **S** **21 46 48.4 -0.7**
baz=231
KOD Kodaikanal 75.33 282⇑ *i*P **P** **21 37 15.1 -1.0**
M14K Bethel 75.36 22 IAmb IAmb 21 37 50.3
comp=Z,417nm,1.4s
M14K IAMs_20 IAMs_20 22 07 40.3
comp=Z,56µm,20.0s
M14K Bethel 75.36 22 P **P** **21 37 15.3 +0.4**
baz=228,SNR=53
M14K S **S** **21 46 51.6 +0.3**
baz=228
WMQ Urumqi 75.37 318⇑ *i*P **P** **21 37 15.3 -0.2**
WMQ pP PcP 21 37 27.3 -1.3
WMQ S **S** **21 46 50.0 -2.3**
WMQ SS **SS** **21 51 38.3 -5.1**
WMQ pmax pmax
comp=Z,190nm,1.3s
WMQ pmax pmax
comp=Z,8µm,6.3s
WMQ LR LR
comp=Z,43µm,24.3s
WMQ LR LR
comp=Z,21µm,24.3s
WMQ LR LR
comp=Z,50µm,24.0s
HYB Hyderabad 75.47 289 *e*P **P** **21 37 14.9 -1.7**
HYB IVmB_BB 21 37 22.1
comp=Z,4µm,1.6s
HYB *e*S **S** **21 46 56.9 +2.7**
HYB IVMs_BB IVMs_BB 22 03 54.1
comp=Z,10µm,32.3s
HYB Hyderabad 75.47 289⇑ *i*P **P** **21 37 16.2 -0.4**
HYB IAmb IAmb 21 37 21.3
comp=Z,169nm,0.6s
L14K Kuka Creek 75.50 21 IAMs_20 IAMs_20 22 06 46.8
comp=Z,76µm,21.0s
L14K Kuka Creek 75.50 21 P **P** **21 37 15.5 -0.2**
baz=228
L14K S **S** **21 46 54.1 +1.3**
baz=228
TRD Trivandrum 75.58 280⇑ *i*P **P** **21 37 17.9 +0.7**
TRD IAmb IAmb 21 37 24.7
comp=Z,158nm,1.1s
N15K Kwethluk River 75.69 23 IAMs_20 IAMs_20 22 06 00.8
comp=Z,108µm,22.0s
N15K Kwethluk River 75.69 23 P **P** **21 37 16.9 0.0**
baz=230
N15K S **S** **21 46 55.2 +0.2**
baz=230
M15K Kasigluk River 75.80 22 P **P** **21 37 17.3 -0.2**
baz=230
M15K S **S** **21 46 55.2 -0.9**
baz=230
P16K Nushagak River 75.81 24 P **P** **21 37 17.4 -0.1**
baz=232,SNR=21
P16K S **S** **21 46 55.0 -1.3**
baz=232
O16K Kokwok River B 76.11 24 P **P** **21 37 18.9 -0.3**
baz=232
O16K S **S** **21 46 59.2 -0.4**
baz=232
Q16K King Salmon 76.15 25 P **P** **21 37 19.0 -0.4**
baz=234
Q16K S **S** **21 46 58.3 -1.7**
baz=234
L15K Ungalak Mounta 76.15 21 P **P** **21 37 19.6 +0.2**
baz=229
L15K S **S** **21 46 59.7 -0.3**
baz=229
J14K Nanvaranak Lak 76.16 20 IAMs_20 IAMs_20 22 06 18.3
comp=Z,84µm,21.0s
J14K Nanvaranak Lak 76.16 20 P **P** **21 37 19.6 +0.1**
baz=226
J14K S **S** **21 47 02.4 +2.3**
baz=226
Q17K Contact Creek 76.23 26 P **P** **21 37 19.7 -0.4**
baz=234,SNR=75
Q17K S **S** **21 46 57.8 -3.5**
baz=234
N16K Nishlik Lake 76.39 23 P **P** **21 37 21.0 +0.1**
baz=231
N16K S **S** **21 47 04.7 +2.0**
baz=231
LGTI Lohaghat 76.54 302⇑ *i*P **P** **21 37 22.5 +0.2**
K15K Wolf Creek Mou 76.55 21 IAmb IAmb 21 37 55.6
comp=Z,245nm,1.0s
K15K IAMs_20 IAMs_20 22 06 09.5
comp=Z,66µm,21.0s
K15K Wolf Creek Mou 76.55 21 P **P** **21 37 22.0 +0.3**
baz=228
K15K S **S** **21 47 05.2 +0.8**
baz=228
P17K Kvichak River 76.55 25 P **P** **21 37 21.5 -0.2**
baz=234,SNR=22
P17K S **S** **21 47 00.9 -3.5**
baz=234
PTH Pithoragarh 76.59 302⇑ *i*P **P** **21 37 22.1 -0.7**
O17K Koliganek Bris 76.62 24 P **P** **21 37 22.1 -0.1**
baz=233,SNR=36
O17K S **S** **21 47 05.2 0.0**
baz=233
M16K Timber Creek 76.66 22 IAmb IAmb 21 37 30.9
comp=Z,204nm,0.8s
M16K IAMs_20 IAMs_20 22 06 40.6
comp=Z,69µm,22.0s
M16K Timber Creek 76.66 22 P **P** **21 37 22.7 +0.4**
baz=231
M16K S **S** **21 47 06.2 +0.6**
baz=231
OHAK Old Harbor 76.80 27 P **P** **21 37 24.9 +1.7**
OHAK Old Harbor 76.80 27 P **P** **21 37 23.0 -0.1**
baz=237,SNR=28
OHAK S **S** **21 47 04.9 -2.3**
baz=237
TNA Tin City 76.86 16 P **P** **21 37 24.1 +0.8**
TNA Tin City 76.86 16 P **P** **21 37 23.5 +0.2**
baz=222,SNR=23
TNA S **S** **21 47 07.9 +0.4**
baz=222
TNA Tin City 76.86 16⇑P **P** **21 37 23.4 0.0**
ANM Nome 76.86 18 IAmb IAmb 21 38 13.0
comp=Z,345nm,1.4s
ANM Nome 76.86 18 P **P** **21 37 23.9 +0.5**
baz=224,SNR=51
ANM S **S** **21 47 07.9 +0.2**
baz=224
L16K Owhat River 76.90 22 IAMs_20 IAMs_20 22 10 52.0
comp=Z,55µm,20.0s
L16K Owhat River 76.90 22 P **P** **21 37 23.3 -0.4**
baz=230,SNR=74
L16K S **S** **21 47 07.7 -0.5**
baz=230
N17K Nushagak Hills 77.04 23 IAMs_20 IAMs_20 22 09 49.7
comp=Z,93nm,20.0s
N17K Nushagak Hills 77.04 23 P **P** **21 37 24.8 +0.3**
baz=233
N17K S **S** **21 47 12.3 +2.5**
baz=233
P18K Big Mountain, 77.17 25 P **P** **21 37 24.9 -0.4**
baz=235,SNR=22
P18K S **S** **21 47 07.0 -4.3**
baz=235
PTCN Pitcairn Islan 77.23 114 P **P** **21 37 26.3 -0.1**
PTCN IAmb IAmb 21 38 07.6
comp=Z,427nm,1.1s
F14K Arctic Creek 77.24 17 P **P** **21 37 26.2 +0.7**
baz=223
F14K S **S** **21 47 12.3 +0.5**
baz=223
KDAK Kodiak Island 77.42 27 P **P** **21 37 27.8 +1.1**
KDAK IAmb IAmb 21 38 07.5
comp=Z,220nm,1.1s
KDAK Kodiak Island 77.42 27 P **P** **21 37 26.5 -0.2**
baz=238
KDAK S **S** **21 47 12.7 -1.3**
baz=238
KDAK Kodiak Island 77.42 27*c* *i*P **P** **21 37 26.2 -0.5**
KDAK pmax pmax
comp=Z,275nm,3.1s
KDAK Kodiak Island 77.42 27 LR LR 22 06 21.1
comp=Z,20µm,21.9s,baz=254,slow=32
O18K Koktuh Hills 77.44 25 P **P** **21 37 26.3 -0.5**
baz=235,SNR=29
O18K S **S** **21 47 12.4 -1.8**
baz=235

M17K Holitna River 77.47 23 IAMs_20 IAMs_20 22 07 07.1
comp=Z,66µm,21.0s
M17K Holitna River 77.47 23 P **P** **21 37 26.5 -0.4**
baz=232
M17K S **S** **21 47 17.0 +2.5**
baz=232
AKL Akola 77.51 293 *e*P **P** **21 37 26.8 -1.2**
J16K Anvik River 77.52 20 P **P** **21 37 27.8 +0.7**
J16K IAmb IAmb 21 38 16.5
comp=Z,333nm,1.2s
J16K IAMs_20 IAMs_20 22 07 01.2
comp=Z,70µm,21.0s
J16K Anvik River 77.52 20 P **P** **21 37 27.3 +0.2**
baz=229
J16K S **S** **21 47 17.5 +2.6**
baz=229
G15K Niukluk 77.57 18 P **P** **21 37 27.3 -0.1**
baz=226,SNR=37
G15K S **S** **21 47 16.1 +0.8**
baz=226
Q19K Cape Douglas, 77.58 26 IAmb IAmb 21 37 38.6
comp=Z,331nm,0.8s
Q19K IAMs_20 IAMs_20 22 12 58.0
comp=Z,70µm,19.0s
Q19K Cape Douglas, 77.58 26 P **P** **21 37 27.6 0.0**
baz=236,SNR=30
Q19K S **S** **21 47 13.6 -2.1**
baz=236
L17K Donlin 77.60 22 P **P** **21 37 27.3 -0.3**
baz=232
L17K S **S** **21 47 17.6 +1.7**
baz=232
N18K Kilae Creek 77.65 24 P **P** **21 37 27.8 -0.1**
baz=234
N18K S **S** **21 47 18.4 +2.0**
baz=234
H16K Elim 77.89 19 P **P** **21 37 28.3 -0.8**
baz=227,SNR=50
H16K S **S** **21 47 19.3 +0.5**
baz=227
I17K Unalakleet 77.89 20 IAmb IAmb 21 38 18.6
comp=Z,294nm,1.3s
I17K IAMs_20 IAMs_20 22 07 10.8
comp=Z,87µm,22.0s
I17K Unalakleet 77.89 20 P **P** **21 37 29.1 0.0**
baz=229,SNR=66
I17K S **S** **21 47 21.4 +2.7**
baz=229
F15K North Star Dit 77.90 17 P **P** **21 37 29.4 +0.2**
baz=225
F15K S **S** **21 47 19.8 +0.9**
baz=225
Q20K Shuyak Island 77.95 26 P **P** **21 37 29.6 0.0**
baz=238
Q20K S **S** **21 47 18.1 -1.5**
baz=238
SYI Shuyak Island 77.95 26 P **P** **21 37 30.2 +0.6**
SYI IAmb IAmb 21 38 22.3
comp=Z,504nm,1.6s
SYI IAMs_20 IAMs_20 22 06 39.9
comp=Z,72µm,22.0s
K17K Iditarod 77.97 21 IAmb IAmb 21 38 32.7
comp=Z,242nm,1.1s
K17K Iditarod 77.97 21 P **P** **21 37 29.1 -0.5**
baz=231,SNR=102
K17K S **S** **21 47 21.4 +1.7**
baz=231
O19K Port Alsworth 78.00 24 IAmb IAmb 21 38 01.7
comp=Z,497nm,1.9s
O19K Port Alsworth 78.00 24 P **P** **21 37 29.9 0.0**
baz=236
O19K S **S** **21 47 18.8 -1.4**
baz=236
SVW2 Sparrevohn 78.01 23 P **P** **21 37 32.2 +2.2**
M18K Stony River 78.15 23 P **P** **21 37 30.7 0.0**
baz=234
M18K S **S** **21 47 24.5 +2.8**
baz=234
P19K Oil Pt 78.16 25 IAmb IAmb 21 37 37.4
comp=Z,348nm,0.8s
P19K Oil Pt 78.16 25 P **P** **21 37 30.1 -0.7**
baz=237,SNR=62
P19K S **S** **21 47 20.3 -1.7**
baz=237
L18K Granite Mounta 78.25 22 IAMs_20 IAMs_20 22 07 42.7
comp=Z,72µm,22.0s
L18K Granite Mounta 78.25 22 P **P** **21 37 31.0 -0.2**
baz=233
L18K S **S** **21 47 25.7 +2.9**
baz=233
N19K Bonanza Creek 78.29 24 IAmb IAmb 21 38 04.2
comp=Z,1µm,2.5s
N19K IAMs_20 IAMs_20 22 08 16.7
comp=Z,95µm,20.0s
N19K Bonanza Creek 78.29 24 P **P** **21 37 30.5 -1.1**
baz=235
N19K S **S** **21 47 23.6 +0.2**
baz=235
G16K Koyuk River 78.36 18 P **P** **21 37 31.2 -0.6**
baz=227,SNR=96
G16K S **S** **21 47 25.2 +1.3**
baz=227
H08S2 Diego Garcia H 78.38 263 P **P** **21 37 33.2 +0.6**
baz=32,slow=6.7,SNR=74
ILSW Iliamna Southw 78.38 25 IAmb IAmb 21 38 32.5
comp=Z,330nm,1.4s
H08S3 Diego Garcia H 78.39 263 P **P** **21 37 33.3 +0.6**
baz=32,slow=6.7,SNR=85
H08S1 Diego Garcia H 78.39 263 P **P** **21 37 34.7 +2.0**
baz=32,slow=6.7,SNR=72
DGAR Diego Garcia 78.43 264 P **P** **21 37 34.3 +1.0**
DGAR Diego Garcia 78.43 264*ce*P **P** **21 37 34.4 +1.2**
DGAR pmax pmax
comp=Z,1µm,1.5s
DGAR MLR MLR
comp=Z,19µm,22.0s
DGAR Diego Garcia 78.43 264 P **P** **21 37 34.2 +1.0**
TIXI Tiksi 78.44 353 P **P** **21 37 31.4 -0.6**
TIXI Tiksi 78.44 353⇑P **P** **21 37 30.1 -2.0**
TIXI Tiksi 78.44 353 P **P** **21 37 31.4 -0.6**
TIXI pmax pmax
comp=Z,103nm,1.2s
TIXI Tiksi 78.44 353 LR LR 22 10 46.0
comp=Z,35µm,20.7s,baz=170,slow=35
KAAM Kaadhehdhoo 78.56 272 P **P** **21 37 34.9 +0.9**
KAAM IAmb IAmb 21 37 40.9
comp=Z,456nm,1.1s
KAAM Kaadhehdhoo 78.56 272⇑P **P** **21 37 35.6 +1.6**
KAAM Kaadhehdhoo 78.56 272 P **P** **21 37 36.4 +2.4**
SNR=18
ZSN Zaisan 78.57 321 *e*P **P** **21 37 32.6 -0.8**
comp=Z,138nm,1.1s,baz=321
ZSN *e*S **S** **21 47 27.1 +0.1**
baz=321
ZSN Zaisan 78.57 321 *e*P **P** **21 37 32.5 -0.8**
ZSN *e*S **S** **21 47 27.0 +0.1**
ZSN pmax pmax
comp=Z,138nm,1.1s
DDI Dehra Dun 78.59 302⇑ *i*P **P** **21 37 34.5 +0.6**
DDI IAmb IAmb 21 37 39.8
comp=Z,241nm,0.8s
DDI *i* x x 21 48 26.9
O20K Slope Mountain 78.65 25 P **P** **21 37 33.4 -0.1**
baz=237,SNR=12
O20K S **S** **21 47 24.7 -2.6**
baz=237
H17K Granite Mounta 78.83 19 IAmb IAmb 21 38 23.6
comp=Z,318nm,1.2s
H17K IAMs_20 IAMs_20 22 08 32.8
comp=Z,71µm,20.0s
H17K Granite Mounta 78.83 19 P **P** **21 37 34.5 +0.1**
baz=230
HOM Homer 78.84 26 P **P** **21 37 36.0 +1.5**
HOM IAMs_20 IAMs_20 22 13 53.2
comp=Z,56µm,19.0s
HOM Homer 78.84 26 P **P** **21 37 34.9 +0.4**
baz=238
HOM S **S** **21 47 28.9 -0.3**
baz=238
L19K White Mountain 78.93 23 P **P** **21 37 34.9 -0.1**
L19K IAMs_20 IAMs_20 22 07 51.5
comp=Z,89µm,21.0s
L19K White Mountain 78.93 23 P **P** **21 37 34.9 -0.1**
baz=235
TTA Tatalina 78.93 22 P **P** **21 37 34.9 -0.2**
TTA Tatalina 78.93 22 P **P** **21 37 34.4 -0.7**
baz=234,SNR=92

TTA Tatalina 78.93 22⇓P **P** **21 37 37.0 +2.0**
TTA ⇑P **PcP** **21 37 41.8 -1.8**
TTA Tatalina 78.93 22 P **P** **21 37 34.9 -0.2**
TTA pmax pmax
comp=Z,126nm,1.0s
NDI New Delhi 78.94 301 *e*P **P** **21 37 34.7 -1.1**
CNPM China Poot 78.94 26 IAmb IAmb 21 38 21.3
comp=Z,524nm,0.9s
CNPM IAMs_20 IAMs_20 22 12 44.2
comp=Z,93µm,20.0s
M19K Big River Lodg 78.95 23 IAmb IAmb 21 38 28.6
comp=Z,1µm,2.2s
M19K IAMs_20 IAMs_20 22 09 32.0
comp=Z,78µm,20.0s
M19K Big River Lodg 78.95 23 P **P** **21 37 34.7 -0.4**
baz=235
G17K Kiwalik Mounta 78.97 18 P **P** **21 37 35.1 0.0**
baz=229
J18K Innoko River 79.00 21 P **P** **21 37 35.1 -0.2**
J18K IAMs_20 IAMs_20 22 10 52.3
comp=Z,70µm,20.0s
J18K Innoko River 79.00 21 P **P** **21 37 35.4 +0.1**
baz=233
HMDM Hanimaadhoo 79.07 278 P **P** **21 37 38.1 +1.3**
HMDM IAmb IAmb 21 37 42.4
comp=Z,385nm,1.2s
HMDM Hanimaadhoo 79.07 278⇑P **P** **21 37 37.1 +0.3**
HMDM Hanimaadhoo 79.07 278 P **P** **21 37 38.7 +1.9**
SNR=23
BHGR Bahadurgarh 79.18 300⇑ *i*P **P** **21 37 37.4 +0.3**
BRLK Bradley Lake 79.22 26 IAmb IAmb 21 38 21.8
comp=Z,354nm,1.4s
BRLK IAMs_20 IAMs_20 22 13 01.1
comp=Z,61µm,19.0s
BRSE Bradley Lake S 79.27 26 P **P** **21 37 35.9 -1.0**
baz=239,SNR=33
MNCY Minicoy 79.40 279⇑ *i*P **P** **21 37 39.8 +1.2**
MNCY IAmb IAmb 21 37 45.4
comp=Z,527nm,1.0s
F17K Baldwin Pennin 79.41 17 P **P** **21 37 37.6 +0.1**
F17K IAmb IAmb 21 38 38.9
comp=Z,280nm,1.1s
F17K Baldwin Pennin 79.41 17 P **P** **21 37 37.1 -0.4**
baz=228
N20K Mount Spurr 79.42 24 P **P** **21 37 37.4 -0.4**
baz=237,SNR=16
M20K Styx River 79.43 23 IAmb IAmb 21 38 11.6
comp=Z,757nm,1.8s
M20K IAMs_20 IAMs_20 22 09 25.8
comp=Z,84µm,20.0s
M20K Styx River 79.43 23 P **P** **21 37 37.1 -0.8**
baz=236
KUDL Kundal 79.45 300⇑ *i*P **P** **21 37 36.5 -2.0**
L20K Farewell, AK 79.47 23 P **P** **21 37 37.6 -0.3**
baz=236
H18K Honhosa River 79.48 19 IAMs_20 IAMs_20 22 07 28.8
comp=Z,75µm,22.0s
H18K Honhosa River 79.48 19 P **P** **21 37 37.3 -0.6**
baz=231
SMLA Simla 79.52 303⇑ *i*P **P** **21 37 38.3 -0.6**
SMLA IAmb IAmb 21 37 43.0
comp=Z,394nm,1.2s
C16K Lisburne Hills 79.55 15 P **P** **21 37 37.6 -0.6**
baz=224,SNR=37
KKR Kurukshetra 79.55 302⇑ *i*P **P** **21 37 40.3 +1.2**
KAD Karad 79.56 289⇑ *i*P **P** **21 37 38.3 -1.1**
GOA Goa 79.62 287⇑ *i*P **P** **21 37 39.2 -0.5**
GOA IAmb IAmb 21 37 45.8
comp=Z,471nm,1.3s
CAPN Captain Cook N 79.63 25 P **P** **21 37 40.0 +1.2**
CAPN Captain Cook N 79.63 25 P **P** **21 37 38.5 -0.2**
baz=238
E17K Hotham Inlet 79.67 17 P **P** **21 37 38.4 -0.5**
baz=227,SNR=190
J19K Poorman 79.70 21 P **P** **21 37 39.0 -0.2**
J19K IAMs_20 IAMs_20 22 11 03.0
comp=Z,62µm,20.0s
J19K Poorman 79.70 21 P **P** **21 37 37.9 -1.2**
baz=234,SNR=82
GCSA Galena City Sc 79.72 20 P **P** **21 37 38.1 -1.1**
baz=232,SNR=16
D17K Noatak River 79.74 16 P **P** **21 37 38.5 -0.8**
baz=226,SNR=72
G18K Tagagawik 79.85 19 P **P** **21 37 39.4 -0.5**
G18K IAMs_20 IAMs_20 22 11 53.8
comp=Z,73µm,20.0s
G18K Tagagawik 79.85 19 P **P** **21 37 39.1 -0.8**
baz=231
K20K Telida 79.90 22 IAmb IAmb 21 38 38.2
comp=Z,938nm,1.9s
K20K IAMs_20 IAMs_20 22 09 04.1
comp=Z,64µm,21.0s
K20K Telida 79.90 22 P **P** **21 37 38.9 -1.3**
baz=235
MK31 Makanchi Array 80.00 319*c* *i*P **P** **21 37 40.1 -1.1**
MKAR Makanchi Array 80.00 319 P **P** **21 37 40.0 -1.1**
MKAR Makanchi Array 80.00 319 *i* P **P** **21 37 40.2 -1.0**
MKAR pmax pmax
comp=Z,105nm,0.9s
MKAR Makanchi Array 80.00 319 P **P** **21 37 39.5 -1.7**
comp=Z,104nm,0.9s,baz=99,slow=7.1,SNR=123
MKAR PKiKP **PKiKP** **21 43 11.8 +0.6**
comp=Z,8.1nm,0.9s,baz=192,slow=0.6,SNR=5.3
MKAR S **S** **21 47 36.8 -5.3**
comp=Z,1.3nm,0.9s,baz=133,slow=2.8,SNR=2.2
MKAR PKKPbc **PKKPbc** **21 56 26.5 -1.6**
comp=Z,3.4nm,0.7s,baz=250,slow=2.8,SNR=12
MKAR PKPPKP P'P'df 22 04 19.7 -10
comp=Z,0.6nm,0.7s,baz=225,slow=1.0,SNR=2.6
MKAR LR LR 22 11 50.9
comp=Z,72µm,21.9s,baz=103,slow=35
comp=Z,104nm,0.9s
F18K Selawik 80.00 18 P **P** **21 37 39.8 -0.8**
baz=230,SNR=36
SEW Seward 80.02 26 P **P** **21 37 40.8 -0.1**
SEW IAmb IAmb 21 38 32.5
comp=Z,413nm,1.2s
SEW Seward 80.02 26 P **P** **21 37 39.8 -1.1**
baz=240,SNR=13
RDOG Red Dog Mine 80.04 16 IAmb IAmb 21 38 30.4
comp=Z,397nm,1.2s
RDOG Red Dog Mine 80.04 16 P **P** **21 37 39.8 -1.1**
baz=226
POO Poona 80.07 290⇑ *i*P **P** **21 37 41.7 -0.4**
POO IAmb IAmb 21 37 45.6
comp=Z,290nm,1.1s
O22K Cooper Landing 80.09 25 IAmb IAmb 21 38 15.0
comp=Z,407nm,0.8s
O22K IAMs_20 IAMs_20 22 10 35.4
comp=Z,54µm,20.0s
O22K Cooper Landing 80.09 25 P **P** **21 37 41.2 -0.1**
baz=240,SNR=14
SKT Skwentna 80.12 24 IAMs_20 IAMs_20 22 11 25.0
comp=Z,71µm,20.0s
SKT Skwentna 80.12 24 P **P** **21 37 39.8 -1.7**
baz=238,SNR=29
PAF Port-aux-Franc 80.13 221 P **P** **21 37 42.7 +0.9**
PAF IAmb IAmb 21 37 47.2
comp=Z,541nm,1.1s
PAF Port-aux-Franc 80.13 221 P **P** **21 37 42.7 +0.9**
PAF pmax pmax
comp=Z,541nm,1.1s
PAF MLR MLR
comp=Z,24µm,19.0s
SUA Susitna One 80.16 24 IAmb IAmb 21 38 13.3
comp=Z,428nm,1.6s
SUA IAMs_20 IAMs_20 22 14 42.3
comp=Z,51µm,20.0s
SUA Susitna One 80.16 24 P **P** **21 37 40.9 -0.9**
baz=239,SNR=42
MAKZ Makanchi 80.20 319 P **P** **21 37 41.4 -0.9**
MAKZ IAmb IAmb 21 37 49.1
comp=Z,341nm,1.2s
MAKZ Makanchi 80.20 319 P **P** **21 37 41.4 -0.9**
MAKZ pmax pmax
comp=Z,341nm,1.3s
BHK Bhakra 80.21 303⇑ *i*P **P** **21 37 42.4 -0.3**
BHK IAmb IAmb 21 37 45.6
comp=Z,172nm,1.1s
FIS Fire Island 80.22 25 IAmb IAmb 21 38 30.1
comp=Z,448nm,0.9s
E18K Tukpahlearik C 80.25 17 IAmb IAmb 21 38 43.5
comp=Z,262nm,1.2s
E18K IAMs_20 IAMs_20 22 09 08.3
comp=Z,97µm,21.0s
E18K Tukpahlearik C 80.25 17 P **P** **21 37 41.1 -1.0**
baz=228

C17K DeLong Mountai 80.26 15 P **P** **21 37 41.6 -0.5**
baz=226
J20K Nowinta River 80.34 21 IAmb IAmb 21 38 31.6
comp=Z,341nm,1.1s
J20K IAMs_20 IAMs_20 22 11 41.8
comp=Z,55µm,20.0s
J20K Nowinta River 80.34 21 P **P** **21 37 42.1 -0.5**
baz=235
H19K Roundabout Mou 80.34 19 IAmb IAmb 21 38 31.5
comp=Z,492nm,1.4s
H19K IAMs_20 IAMs_20 22 09 30.7
comp=Z,87µm,21.0s
H19K Roundabout Mou 80.34 19 P **P** **21 37 42.0 -0.5**
baz=233
PPLA Purkeypile 80.35 23 P **P** **21 37 43.5 +0.6**
PPLA IAmb IAmb 21 38 44.8
comp=Z,662nm,1.8s
PPLA Purkeypile 80.35 23 P **P** **21 37 41.7 -1.1**
baz=237,SNR=14
RC01 Rabbit Creek A 80.39 25 IAMs_20 IAMs_20 22 09 31.3
comp=Z,76µm,21.0s
RC01 Rabbit Creek A 80.39 25 P **P** **21 37 42.1 -0.8**
baz=240,SNR=43
DHRM DHARAMSHALA 80.49 304⇑ *i*P **P** **21 37 43.1 -1.3**
G19K Purcell Mounta 80.51 19 IAMs_20 IAMs_20 22 07 49.1
comp=Z,90µm,22.0s
G19K Purcell Mounta 80.51 19 P **P** **21 37 42.4 -1.0**
baz=232
M22K Willow 80.57 24 IAmb IAmb 21 38 34.8
comp=Z,470nm,1.2s
M22K IAMs_20 IAMs_20 22 15 14.0
comp=Z,52µm,20.0s
M22K Willow 80.57 24 P **P** **21 37 43.2 -0.6**
baz=239,SNR=9.4
I20K Naaghedeneel 80.58 21 IAmb IAmb 21 38 45.1
comp=Z,616nm,1.3s
I20K Naaghedeneel 80.58 21 P **P** **21 37 43.0 -0.8**
baz=235
CAST Castle Rocks 80.68 22 IAMs_20 IAMs_20 22 09 06.7
comp=Z,76µm,21.0s
CAST Castle Rocks 80.68 22 P **P** **21 37 44.0 -0.4**
baz=237,SNR=84
F19K Shaleruckik Mo 80.72 18 P **P** **21 37 43.7 -0.9**
baz=231
AJM Ajmer 80.73 298⇑ *i*P **P** **21 37 44.2 -1.3**
AJM IAmb IAmb 21 37 49.1
comp=Z,552nm,1.6s
AJM *i* x x 21 40 51.3
SHLS Shalkode 80.80 315 *e*P **P** **21 37 43.4 -2.4**
comp=Z,131nm,1.2s,baz=315
SHLS *e*S **S** **21 47 47.5 -3.4**
baz=315
SHLS Shalkode 80.80 315 *e*P **P** **21 37 43.3 -2.4**
SHLS *e*S **S** **21 47 47.4 -3.4**
SHLS pmax pmax
comp=Z,131nm,1.2s
CHUM Lake Minchumin 80.84 22 P **P** **21 37 45.4 +0.1**
baz=237,SNR=94
CUT Chulitna 80.84 24 P **P** **21 37 45.3 0.0**
CUT IAmb IAmb 21 39 03.0
comp=Z,585nm,1.4s
CUT IAMs_20 IAMs_20 22 10 00.3
comp=Z,56µm,20.0s
CUT Chulitna 80.84 24 P **P** **21 37 44.5 -0.8**
baz=239,SNR=6.9
H20K Anotleneega Mo 80.84 20 P **P** **21 37 45.2 -0.1**
baz=234
P23K Montague Islan 80.86 26 P **P** **21 37 45.9 +0.5**
baz=242
PMR Palmer 80.90 25 P **P** **21 37 48.1 +2.5**
PMR Palmer 80.90 25 P **P** **21 37 45.8 +0.2**
baz=240,SNR=20
C18K Utukok River 80.91 16 P **P** **21 37 46.0 +0.3**
baz=228,SNR=42
THN Thein Dam 81.01 304⇑ *e*P **P** **21 37 46.1 -0.7**
ZALV Zalesovo Beam 81.02 327 P **P** **21 37 45.2 -1.2**
ZALV Zalesovo Beam 81.02 327 P **P** **21 37 44.4 -2.0**
comp=Z,55nm,0.4s,baz=110,slow=5.4,SNR=86
ZALV ScS S 21 48 01.7 +9.4
comp=Z,1.8nm,0.7s,baz=120,slow=14,SNR=3.5
ZALV PKKPbc **PKKPbc** **21 56 24.2 -1.9**
comp=Z,3.5nm,0.6s,baz=308,slow=2.8,SNR=6.8
ZALV PKPPKP **P'P'df** **22 04 28.9 +1.7**
comp=Z,8.0nm,1.1s,baz=266,slow=2.4,SNR=3.9
ZALV LR LR 22 13 23.1
comp=Z,72µm,20.6s,baz=107,slow=36
comp=Z,55nm,0.4s
GHO Glory Hole Cre 81.07 25 P **P** **21 37 47.6 +0.9**
GHO IAmb IAmb 21 38 43.5
comp=Z,365nm,1.2s
GHO IAMs_20 IAMs_20 22 15 00.3
comp=Z,47µm,19.0s
Q23K Middleton Isla 81.08 27 P **P** **21 37 48.0 +1.5**
Q23K IAmb IAmb 21 38 38.7
comp=Z,378nm,1.3s
Q23K Middleton Isla 81.08 27 P **P** **21 37 46.9 +0.4**
baz=243
MID Middleton Isla 81.08 27 P **P** **21 37 46.9 +0.3**
MID IAmb IAmb 21 38 38.7
comp=Z,374nm,1.3s
MID Middleton Isla 81.08 27 P **P** **21 37 46.9 +0.3**
MID pmax pmax
comp=Z,374nm,1.3s
KNK Knik Glacier 81.09 25 P **P** **21 37 46.7 0.0**
KNK IAmb IAmb 21 38 42.3
comp=Z,275nm,1.1s
KNK IAMs_20 IAMs_20 22 10 11.8
comp=Z,77µm,20.0s
KNK Knik Glacier 81.09 25 P **P** **21 37 45.1 -1.6**
baz=241
UZB Uzynbulak 81.10 315 *e*P **P** **21 37 46.6 -0.8**
comp=Z,161nm,1.3s,baz=315
UZB *e*S **S** **21 47 53.5 -0.6**
baz=315
UZB Uzynbulak 81.10 315 *e*P **P** **21 37 46.5 -0.8**
UZB *e*S **S** **21 47 53.4 -0.6**
UZB pmax pmax
comp=Z,161nm,1.3s
KTH Kantishna Hill 81.19 22 IAMs_20 IAMs_20 22 09 33.3
comp=Z,87µm,21.0s
B18K Kokolik River 81.23 15 P **P** **21 37 45.9 -1.4**
baz=227
E19K Redstone River 81.28 18 IAmb IAmb 21 38 27.1
comp=Z,281nm,1.0s
E19K Redstone River 81.28 18 P **P** **21 37 46.5 -1.0**
baz=232
SML Sawmill 81.33 25 P **P** **21 37 48.7 +0.7**
SML IAmb IAmb 21 38 39.7
comp=Z,481nm,1.1s
SML IAMs_20 IAMs_20 22 11 50.2
comp=Z,58µm,20.0s
SML Sawmill 81.33 25 P **P** **21 37 46.8 -1.2**
baz=241,SNR=36
PRZ Przheval'sk 81.36 314 IAmb IAmb 21 37 53.4
comp=Z,487nm,1.2s
TRF Thorofare Moun 81.38 23 IAMs_20 IAMs_20 22 13 24.3
comp=Z,77µm,20.0s
TRF Thorofare Moun 81.38 23 P **P** **21 37 47.4 -1.0**
baz=239,SNR=34
HIN Hinchinbrook I 81.45 26 IAmb IAmb 21 38 40.4
comp=Z,364nm,1.2s
HIN IAMs_20 IAMs_20 22 13 54.4
comp=Z,62µm,19.0s
BPAW Bear Paw Mtn. 81.45 22 IAMs_20 IAMs_20 22 11 42.3
comp=Z,62µm,20.0s
BPAW Bear Paw Mtn. 81.45 22 P **P** **21 37 47.7 -0.9**
baz=238,SNR=29
F20K Avaraart Lake 81.49 18 P **P** **21 37 48.0 -0.6**
baz=233,SNR=139
SATY Saty 81.51 315⇑ *i*P **P** **21 37 48.8 -0.8**
comp=Z,148nm,1.5s,baz=315
SATY *e*S **S** **21 47 58.1 -0.2**
baz=315
SATY Saty 81.51 315 *c i*P **P** **21 37 48.7 -0.8**
SATY *e*S **S** **21 47 58.1 -0.2**
SATY pmax pmax
comp=Z,148nm,1.5s
ZHN Zhinishke 81.52 315 *e*P **P** **21 37 48.5 -1.1**
baz=315
ZHN *e*S **S** **21 47 57.6 -0.7**
baz=315
ZHN Zhinishke 81.52 315 *e*P **P** **21 37 48.4 -1.1**
ZHN *e*S **S** **21 47 57.6 -0.7**
M23K Glacier View 81.58 25 P **P** **21 37 48.1 -1.2**
baz=241
H21K Melozitna Rive 81.65 20 IAMs_20 IAMs_20 22 09 27.3
comp=Z,58µm,22.0s
H21K Melozitna Rive 81.65 20 P **P** **21 37 48.8 -0.8**
baz=236
C19K Lookout Ridge 81.65 16 P **P** **21 37 48.2 -1.3**
baz=229
D19K Kuna River 81.67 17 P **P** **21 37 48.4 -1.2**
baz=231
I21K Tanana 81.67 21 IAmb IAmb 21 38 42.4
comp=Z,282nm,1.1s
I21K Tanana 81.67 21 P **P** **21 37 48.5 -1.2**
baz=237
JMU Jammu 81.74 304⇑ *i*P **P** **21 37 50.9 +0.2**
WAT1 Susitna Watana 81.75 24 P **P** **21 37 49.0 -1.2**
baz=240
SCM Sheep Creek Mo 81.76 25 IAmb IAmb 21 38 46.5
comp=Z,422nm,1.4s
SCM IAMs_20 IAMs_20 22 10 42.6
comp=Z,60µm,21.0s
SCM Sheep Creek Mo 81.76 25 P **P** **21 37 49.2 -1.1**
baz=242
EYAK Cordova Ski Ar 81.85 26 P **P** **21 37 53.7 +3.0**
EYAK Cordova Ski Ar 81.85 26 P **P** **21 37 51.6 +0.9**
EYAK IAmb IAmb 21 38 28.0
comp=Z,247nm,1.2s
EYAK Cordova Ski Ar 81.85 26 P **P** **21 37 49.2 -1.5**
baz=243
G21K Allakaket 81.90 19 IAmb IAmb 21 39 26.9
comp=Z,564nm,1.9s
G21K IAMs_20 IAMs_20 22 10 07.8
comp=Z,88µm,21.0s
G21K Allakaket 81.90 19 P **P** **21 37 49.5 -1.3**
baz=235
RND Reindeer 81.91 23 P **P** **21 37 50.3 -0.7**
RND IAMs_20 IAMs_20 22 13 12.4
comp=Z,71µm,20.0s
RND Reindeer 81.91 23 P **P** **21 37 50.3 -0.7**
RND pmax pmax
comp=Z,141nm,0.9s
RND MLR MLR
comp=Z,71µm,20.0s
WAT6 Susitna Watana 81.95 24 P **P** **21 37 50.2 -1.2**
baz=241,SNR=46
A19K Wainwright 81.99 15 P **P** **21 37 50.2 -1.0**
baz=228
MLY Manley 82.04 21 P **P** **21 37 51.3 -0.4**
MLY IAMs_20 IAMs_20 22 14 17.6
comp=Z,48µm,20.0s
MLY Manley 82.04 21 P **P** **21 37 51.0 -0.7**
baz=238,SNR=130
TDK Taldyqorghan 82.04 317⇑ *i*P **P** **21 37 51.4 -0.8**
baz=317
TDK LR LR 22 09 41.1
comp=Z,24µm,22.6s,baz=317
TDK Taldyqorghan 82.04 317 *c i*P **P** **21 37 51.3 -0.8**
MCK McKinley 82.04 23 P **P** **21 37 51.5 -0.2**
MCK IAmb IAmb 21 38 39.0
comp=Z,332nm,1.1s
MCK McKinley 82.04 23 P **P** **21 37 50.9 -0.8**
baz=240,SNR=79
MCK McKinley 82.04 23 P **P** **21 37 51.5 -0.2**
MCK pmax pmax
comp=Z,332nm,1.1s
BWN Browne 82.06 22 IAmb IAmb 21 38 29.3
comp=Z,710nm,1.5s
BWN IAMs_20 IAMs_20 22 10 02.1
comp=Z,74µm,21.0s
E20K Nigu River 82.08 17 P **P** **21 37 51.0 -0.8**
baz=233
DIV Divide 82.10 26 P **P** **21 37 52.6 +0.5**
DIV IAmb IAmb 21 38 44.2
comp=Z,403nm,1.4s
KAIM Kayak Island 82.17 27 P **P** **21 37 53.1 +0.7**
KAIM IAmb IAmb 21 38 44.8
comp=Z,534nm,1.6s
KAIM IAMs_20 IAMs_20 22 07 33.6
comp=Z,57µm,22.0s
KAIM Kayak Island 82.17 27 P **P** **21 37 52.0 -0.4**
baz=245
KLU Klutina 82.20 25 P **P** **21 37 53.4 +0.8**
KLU IAmb IAmb 21 38 44.7
comp=Z,447nm,1.2s
KLU Klutina 82.20 25 P **P** **21 37 51.5 -1.2**
baz=243
D20K Etivluk River 82.24 17 P **P** **21 37 51.5 -1.1**
baz=232
RAGM Ragged Mountai 82.26 27 IAmb IAmb 21 38 26.4
comp=Z,601nm,1.4s
RAGM IAMs_20 IAMs_20 22 14 30.8
comp=Z,56µm,20.0s
H22K Ishtalitna Cre 82.27 20 P **P** **21 37 52.1 -0.7**
baz=238
F21K Alatna River 82.31 19 IAMs_20 IAMs_20 22 09 18.6
comp=Z,97µm,22.0s
F21K Alatna River 82.31 19 P **P** **21 37 52.6 -0.4**
baz=235
DHY Denali Highway 82.33 24 IAMs_20 IAMs_20 22 11 25.7
comp=Z,56µm,20.0s
DHY Denali Highway 82.33 24 P **P** **21 37 53.0 -0.4**
baz=242,SNR=42
M24K Tolsona, Glenn 82.37 25 IAMs_20 IAMs_20 22 12 19.8
comp=Z,52µm,20.0s
M24K Tolsona, Glenn 82.37 25 P **P** **21 37 53.6 +0.1**
baz=243
KSH Kashi 82.39 311 P **P** **21 37 55.0 +0.8**
KSH pP pP 21 38 08.0 +0.4
KSH S **S** **21 48 06.8 -0.7**
KSH sS pS 21 48 27.0 +3.0
KSH SS **SS** **21 53 35.5 +6.4**
KSH pmax pmax
comp=Z,130nm,1.4s
KSH pmax pmax
comp=Z,12µm,7.5s
KSH LR LR
comp=Z,41µm,23.5s
KSH LR LR
comp=Z,37µm,25.0s
KSH LR LR
comp=Z,63µm,24.5s
HMT Hamilton 82.42 27 IAmb IAmb 21 38 45.9
comp=Z,604nm,1.5s
HMT IAMs_20 IAMs_20 22 12 34.1
comp=Z,59µm,21.0s
NEA2 Nenana 82.42 22 IAMs_20 IAMs_20 22 10 19.9
comp=Z,63µm,21.0s
NEA2 Nenana 82.42 22 P **P** **21 37 52.6 -1.0**
baz=240,SNR=28
SEM Semipalatinsk 82.43 322 *e*P **P** **21 37 53.3 -1.0**
comp=Z,146nm,1.4s,baz=322
SEM *e*S **S** **21 48 07.4 -0.3**
baz=322
SEM LR LR 22 09 54.5
comp=Z,22µm,20.4s,baz=322
SEM Semipalatinsk 82.43 322 *e*P **P** **21 37 53.2 -1.0**
SEM *e*S **S** **21 48 07.3 -0.3**
SEM pmax pmax
comp=Z,146nm,1.4s
SEM MLR MLR
comp=Z,22µm,20.0s
MDOK Medeo 82.50 315 *e*P **P** **21 37 54.3 -0.5**
baz=315
MDOK *e*S **S** **21 48 08.8 +0.3**
baz=315
MDOK LR LR 22 10 51.5
comp=Z,17µm,19.4s,baz=315
MDOK Medeo 82.50 315 *e*P **P** **21 37 54.2 -0.5**
MDOK *e*S **S** **21 48 08.7 +0.3**
MDOK MLR MLR
comp=Z,17µm,19.0s
SUCK Suckling Hills 82.53 27 P **P** **21 37 55.4 +1.1**
SUCK IAmb IAmb 21 38 30.5
comp=Z,295nm,1.3s
SUCK IAMs_20 IAMs_20 22 07 43.0
comp=Z,60µm,22.0s
TNSS Tian-Shan 82.54 315 *e*P **P** **21 37 54.5 -0.7**
baz=315
TNSS Tian-Shan 82.54 315 *e*P **P** **21 37 54.5 -0.7**
BMRM Bremner River 82.54 26 P **P** **21 37 55.0 +0.7**
BMRM IAmb IAmb 21 38 46.5
comp=Z,503nm,1.4s
BMRM Bremner River 82.54 26 P **P** **21 37 53.9 -0.5**
baz=244
I23K Minto, Yukon-K 82.60 21 P **P** **21 37 54.0 -0.5**
baz=240,SNR=50
AAA Alma-Ata 82.60 315 *e*P **P** **21 37 54.8 -0.3**
comp=Z,146nm,0.9s,baz=315
AAA LR LR 22 11 48.5
comp=Z,30µm,21.3s,baz=315
AAA Alma-Ata 82.60 315 *e*P **P** **21 37 54.8 -0.3**
AAA pmax pmax
comp=Z,146nm,0.9s
BERG Berg Lake 82.70 27 P **P** **21 37 55.6 +0.4**
BERG IAmb IAmb 21 38 54.0
comp=Z,251nm,1.0s
BERG IAMs_20 IAMs_20 22 12 41.5
comp=Z,52µm,21.0s
CHKK Chushkaly 82.72 315 *e*P **P** **21 37 55.4 -0.3**
CHKK Chushkaly 82.72 315 *e*P **P** **21 37 55.3 -0.3**
WRH Wood River Hil 82.73 22 P **P** **21 37 54.1 -1.1**
WRH IAMs_20 IAMs_20 22 12 03.1
comp=Z,74µm,20.0s
BGLC Bering Glacier 82.77 27 P **P** **21 37 55.9 +0.4**
baz=246
N25K Chitina, Valde 82.82 26 P **P** **21 37 56.5 +0.6**
N25K IAmb IAmb 21 38 34.4
comp=Z,467nm,1.6s
N25K Chitina, Valde 82.82 26 P **P** **21 37 55.5 -0.3**
baz=244,SNR=32
ULHL Ulahol 82.85 314 P **P** **21 37 56.1 -0.5**
SNR=87
E21K Killik River 82.85 18 IAMs_20 IAMs_20 22 10 22.1
comp=Z,92µm,22.0s
E21K Killik River 82.85 18 P **P** **21 37 54.7 -1.1**
baz=235
H23K Yukon River 82.88 21 IAmb IAmb 21 39 23.0
comp=Z,337nm,1.5s
H23K Yukon River 82.88 21 P **P** **21 37 54.9 -1.1**
baz=239
F22K John River 82.89 19 P **P** **21 37 55.5 -0.5**
baz=237
B20K Meade River 82.89 16 P **P** **21 37 55.4 -0.4**
baz=232
MDM Murphy Dome 82.92 22 IAMs_20 IAMs_20 22 12 54.0
comp=Z,48µm,20.0s
CCB Clear Creek Bu 82.92 22 P **P** **21 37 55.4 -0.8**
CCB IAMs_20 IAMs_20 22 12 28.2
comp=Z,73µm,20.0s
HARP HAARP 82.93 25 P **P** **21 37 56.5 +0.2**
baz=244,SNR=25
SNH Sunshine Point 83.00 27 P **P** **21 37 57.6 +0.8**
SNH IAmb IAmb 21 38 48.6
comp=Z,534nm,1.3s
SNH IAMs_20 IAMs_20 22 16 39.5
comp=Z,49µm,19.0s
COLA College 83.02 22 P **P** **21 37 56.0 -0.7**
COLA IAMs_20 IAMs_20 22 08 50.5
comp=Z,64µm,22.0s
COLA College 83.02 22 P **P** **21 37 56.3 -0.4**
baz=241
COLA College 83.02 22⇑ P **P** **21 37 55.0 -1.7**
COLA College 83.02 22 *c i*P **P** **21 37 56.2 -0.4**
COLA pmax pmax
comp=Z,104nm,1.0s
C21K Knifeblade Rid 83.03 17 P **P** **21 37 56.7 0.0**
baz=234,SNR=41
PAX Paxson 83.06 24 P **P** **21 37 57.7 +0.6**
PAX Paxson 83.06 24 P **P** **21 37 57.0 0.0**
baz=243,SNR=18
PAX Paxson 83.06 24 P **P** **21 37 57.7 +0.6**
PAX pmax pmax
comp=Z,129nm,1.2s
GLB Gilahina Butte 83.09 26 IAmb IAmb 21 38 49.3
comp=Z,524nm,1.3s
CRQM Cirque 83.10 27 IAmb IAmb 21 38 49.6
comp=Z,344nm,1.1s
WAX Waxell Ridge 83.11 27 IAmb IAmb 21 38 57.2
comp=Z,180nm,0.9s
WAX IAMs_20 IAMs_20 22 17 01.2
comp=Z,48µm,19.0s
CRQE Cirque 83.12 27 P **P** **21 37 56.9 -0.6**
baz=246,SNR=38
HDA Harding Lake 83.14 23 P **P** **21 37 56.2 -1.1**
baz=242,SNR=43
VRDI Verde Repeater 83.16 26 IAmb IAmb 21 38 49.1
comp=Z,275nm,1.1s
G23K Bananza Creek 83.17 20 IAMs_20 IAMs_20 22 09 20.5
comp=Z,66µm,22.0s
G23K Bananza Creek 83.17 20 P **P** **21 37 57.0 -0.5**
baz=239,SNR=89
TGL Tana Glacier 83.24 27 IAmb IAmb 21 38 50.1
comp=Z,304nm,1.3s
NIL Nilore 83.28 305 P **P** **21 37 57.9 -0.9**
NIL IAmb IAmb 21 38 04.9
comp=Z,357nm,0.8s
NIL Nilore 83.28 305 P **P** **21 37 57.9 -0.9**
NIL pmax pmax
comp=Z,357nm,0.9s
POKR Poker Plat Res 83.29 22 IAmb IAmb 21 39 23.2
comp=Z,290nm,1.7s
POKR IAMs_20 IAMs_20 22 18 32.9
comp=Z,47µm,19.0s
POKR Poker Plat Res 83.29 22 P **P** **21 37 57.0 -1.1**
baz=241,SNR=18
K24K Donnelly Dome 83.31 23 P **P** **21 37 57.7 -0.6**
baz=243,SNR=32
ILAR Eielson Array 83.33 22 P **P** **21 37 57.0 -1.3**
ILAR Eielson Array 83.33 22 P **P** **21 37 55.9 -2.5**
comp=Z,48nm,0.8s,baz=252,slow=5.0,SNR=92
ILAR PKiKP **PKiKP** **21 43 16.0 0.0**
comp=Z,2.6nm,0.8s,baz=235,slow=3.2,SNR=2.4
ILAR S **S** **21 48 11.8 -4.0**
comp=Z,1.6nm,1.1s,baz=245,slow=3.9,SNR=2.6
ILAR ScS **ScS** **21 48 32.7 +3.4**
comp=Z,2.2nm,1.1s,baz=218,slow=5.6,SNR=4.3
ILAR PKKPbc **PKKPbc** **21 56 19.1 -2.0**
comp=Z,1.0nm,0.9s,baz=11,slow=1.8,SNR=2.5
ILAR PKPPKP P'P'df 22 04 14.4 -7.9
comp=Z,1.5nm,1.0s,baz=344,slow=2.6,SNR=3.2
ILAR LR LR 22 12 21.7
comp=Z,76µm,20.0s,baz=246,slow=34
comp=Z,48nm,0.8s
IL03 Eielson Array 83.34 22 P **P** **21 37 58.2 -0.2**
E22K Anaktuvuk Pass 83.35 18 P **P** **21 37 57.1 -1.3**
baz=237
B21K Ikpikpuk River 83.36 17 IAmb IAmb 21 39 10.9
comp=Z,1µm,2.6s
B21K Ikpikpuk River 83.36 17 P **P** **21 37 58.1 -0.2**
baz=234
COLD Coldfoot 83.38 19 P **P** **21 37 59.7 +1.2**
COLD IAmb IAmb 21 39 25.9
comp=Z,240nm,1.4s
COLD Coldfoot 83.38 19 P **P** **21 37 58.8 +0.3**
baz=238,SNR=15
ISLE Juniper Island 83.40 27 IAmb IAmb 21 38 50.8
comp=Z,353nm,1.3s
MESA MESA 83.41 27 P **P** **21 37 59.7 +0.6**
MESA IAmb IAmb 21 38 36.6
comp=Z,332nm,1.5s
MESA MESA 83.41 27 P **P** **21 37 58.5 -0.6**
baz=247,SNR=10
MCARA McCarthy VSAT 83.41 26 P **P** **21 37 59.7 +0.9**
MCARA IAmb IAmb 21 38 49.1
comp=Z,290nm,1.0s
MCARA McCarthy VSAT 83.41 26 P **P** **21 37 58.1 -0.7**
baz=246,SNR=46
H24K Noodor Dome 83.48 21 IAMs_20 IAMs_20 22 10 00.8
comp=Z,72µm,22.0s
H24K Noodor Dome 83.48 21 P **P** **21 37 58.9 -0.3**
baz=241,SNR=60
D22K Ayikyak River 83.49 18 IAmb IAmb 21 38 55.6
comp=Z,300nm,1.3s
D22K Ayikyak River 83.49 18 P **P** **21 37 58.5 -0.6**
baz=236
KURK Kurchatov 83.52 322 P **P** **21 37 58.3 -1.3**
KURK IAmb IAmb 21 38 02.5
comp=Z,489nm,1.2s
KURK Kurchatov 83.52 322 *c i*P **P** **21 37 58.6 -1.0**
KURK pmax pmax
comp=Z,483nm,1.2s
KURK MLR MLR
comp=Z,48µm,19.0s
KURK Kurchatov 83.52 322 P **P** **21 37 59.3 -0.3**
KURK P P **21 37 59.3 -0.3**
KURBB Kurchatov Arra 83.55 322 P **P** **21 37 58.0 -1.7**
comp=Z,173nm,1.1s,baz=105,slow=3.9,SNR=62
KURBB S **S** **21 48 10.8 -7.5**
comp=Z,0.7nm,0.6s,baz=101,slow=15,SNR=1.8
KURBB PKKP **PKKPdf** **21 56 09.2 -2.2**
comp=Z,0.6nm,0.4s,baz=287,slow=8.0,SNR=4.1
KURBB PKKPbc **PKKPbc** **21 56 18.6 -1.5**
comp=Z,3.9nm,0.7s,baz=294,slow=3.0,SNR=14
KURBB PKPPKP **P'P'df** **22 04 18.5 -4.3**
comp=Z,1.9nm,1.0s,baz=270,slow=3.1,SNR=4.6
KURBB LR LR 22 15 48.7
comp=Z,53µm,19.3s,baz=100,slow=36

	comp=Z,173nm,1.1s								
RIDG	**Independent Ri**	**83.65**	**24**	IAmb	IAmb	21 39 29.9			
	comp=Z,368nm,1.3s								
RIDG				IAMs_20	IAMs_20	22 17 03.5			
	comp=Z,65µm,19.0s								
RIDG	**Independent Ri**	**83.65**	**24**	P	**P**	**21 37 59.0**	**-1.1**		
	baz=244								
MENT	**Mentasta**	**83.76**	**25**	P	**P**	**21 38 03.1**	**+2.5**		
J25K	**Salcha River,**	**83.84**	**23**	IAmb	IAmb	21 38 45.1			
	comp=Z,191nm,0.8s								
J25K	**Salcha River,**	**83.84**	**23**	P	**P**	**21 37 59.7**	**-1.3**		
	baz=243								
M26K	**Nabesna, AK**	**83.84**	**25**	P	**P**	**21 38 00.3**	**-0.8**		
	baz=246								
A21K	**Barrow**	**83.84**	**15**	P	**P**	**21 38 00.7**	**0.0**		
	baz=232								
KBK	**Karagaybulak**	**83.87**	**314**	P	**P**	**21 38 01.4**	**-0.4**		
	SNR=116								
TABL	**Table Mountain**	**83.88**	**27**	IAmb	IAmb	21 38 34.2			
	comp=Z,174nm,1.0s								
TABL				IAMs_20	IAMs_20	22 17 26.7			
	comp=Z,47µm,20.0s								
BARN	**Barnard Glacie**	**83.89**	**27**	IAmb	IAmb	21 38 52.5			
	comp=Z,317nm,1.4s								
L26K	**Log Cabin Wild**	**83.95**	**25**	IAMs_20	IAMs_20	22 10 18.5			
	comp=Z,67µm,22.0s								
L26K	**Log Cabin Wild**	**83.95**	**25**	P	**P**	**21 38 00.9**	**-0.7**		
	baz=245,SNR=42								
CTG	**Chitna Glacier**	**83.99**	**27**	P	**P**	**21 38 01.3**	**-0.7**		
	baz=247,SNR=49								
CTGM	**Chitina Glacie**	**84.00**	**27**	IAmb	IAmb	21 38 51.8			
	comp=Z,208nm,0.9s								
E23K	**Chandalar**	**84.00**	**19**	P	**P**	**21 38 00.9**	**-0.9**		
	baz=239,SNR=72								
G24K	**Hadweenzic Riv**	**84.04**	**20**	IAmb	IAmb	21 38 50.1			
	comp=Z,458nm,1.7s								
G24K				IAMs_20	IAMs_20	22 10 32.6			
	comp=Z,58µm,21.0s								
G24K	**Hadweenzic Riv**	**84.04**	**20**	P	**P**	**21 38 00.9**	**-1.1**		
	baz=241								
A22K	**Sinclair Lake**	**84.08**	**15**	P	**P**	**21 38 02.3**	**+0.3**		
	baz=234,SNR=50								
UCH	**Uchtor**	**84.09**	**313**	P	**P**	**21 38 03.3**	**0.0**		
	SNR=269								
CHMS	**Chumysh**	**84.09**	**314**	P	**P**	**21 38 02.2**	**-0.6**		
	SNR=109								
SCRK	**Sand Creek**	**84.10**	**24**	IAMs_20	IAMs_20	22 16 20.2			
	comp=Z,46µm,19.0s								
SCRK	**Sand Creek**	**84.10**	**24**	P	**P**	**21 38 01.1**	**-1.3**		
	baz=245,SNR=44								
JASL	**Jaisalmer**	**84.10**	**298**	*e*P	**P**	**21 38 00.4**	**-2.7**		
B22K	**Teshekpuk Lake**	**84.11**	**16**	P	**P**	**21 38 02.8**	**+0.6**		
B22K	**Teshekpuk Lake**	**84.11**	**16**	P	**P**	**21 38 01.4**	**-0.7**		
	baz=235								
FRU1	**Bishkek**	**84.14**	**314**	IAmb	IAmb	21 38 09.8			
	comp=Z,232nm,1.0s								
D23K	**Nanushuk River**	**84.15**	**18**	P	**P**	**21 38 01.6**	**-0.8**		
	baz=238								
PRP	**Porcupine Dome**	**84.19**	**22**	IAMs_20	IAMs_20	22 14 13.5			
	comp=Z,52µm,20.0s								
PRP	**Porcupine Dome**	**84.19**	**22**	P	**P**	**21 38 01.1**	**-1.8**		
	baz=243,SNR=18								
AAK	**Ala-Archa**	**84.19**	**314**	P	**P**	**21 38 03.0**	**-0.4**		
	SNR=143								
AAK	**Ala-Archa**	**84.19**	**314**	P	**P**	**21 38 03.0**	**-0.4**		
AAK				IAmb	IAmb	21 38 13.0			
	comp=Z,160nm,0.9s								
AAK	**Ala-Archa**	**84.19**	**314**	*i* P	**P**	**21 38 02.5**	**-1.0**		
	SNR=242								
AAK	**Ala-Archa**	**84.19**	**314**	*c i*P	**P**	**21 38 03.1**	**-0.4**		
AAK				pmax	pmax				
	comp=Z,253nm,1.4s								
AAK				MLR	MLR				
	comp=Z,27µm,19.0s								
AAK	**Ala-Archa**	**84.19**	**314**	P	**P**	**21 38 02.4**	**-1.0**		
	comp=Z,161nm,1.1s,baz=122,slow=5.9,SNR=74								
AAK				S	S	21 48 13.2	-12		
	comp=Z,1.8nm,0.8s,baz=151,slow=18,SNR=2.0								
AAK				LR	LR	22 16 50.6			
	comp=Z,38µm,20.2s,baz=100,slow=37								
	comp=Z,161nm,1.1s								
AAK	**Ala-Archa**	**84.19**	**314**	P	**P**	**21 38 04.2**	**+0.7**		
AAK				P	**P**	**21 38 04.2**	**+0.7**		
SGDS	**Sogindy**	**84.28**	**315**	*e*P	**P**	**21 38 02.9**	**-0.9**		
	comp=Z,131nm,1.4s,baz=314								
SGDS				*e*S	**SKSac**	**21 48 22.6**	**-1.5**		
	baz=314								
SGDS	**Sogindy**	**84.28**	**315**	*e*P	**P**	**21 38 02.8**	**-0.9**		
SGDS				*e*S	**SKSac**	**21 48 22.6**	**-1.5**		
SGDS				pmax	pmax				
	comp=Z,131nm,1.4s								
F24K	**Squaw Lake**	**84.30**	**20**	IAmb	IAmb	21 39 06.8			
	comp=Z,169nm,1.0s								
F24K				IAMs_20	IAMs_20	22 11 02.4			
	comp=Z,63µm,21.0s								
F24K	**Squaw Lake**	**84.30**	**20**	P	**P**	**21 38 02.2**	**-1.0**		
	baz=241,SNR=130								
M27K	**Edge Creek, AK**	**84.30**	**25**	IAMs_20	IAMs_20	22 11 34.8			
	comp=Z,58µm,22.0s								
M27K	**Edge Creek, AK**	**84.30**	**25**	P	**P**	**21 38 01.8**	**-1.7**		
	baz=247								
TOLK	**Toolik Lake Re**	**84.32**	**18**	P	**P**	**21 38 01.8**	**-1.6**		
	baz=239,SNR=80								
USP	**Ospenovka**	**84.33**	**314**	P	**P**	**21 38 03.6**	**-0.4**		
	SNR=291								
MAW	**Mawson**	**84.39**	**203**	P	**P**	**21 38 04.8**	**+1.2**		
MAW	**Mawson**	**84.39**	**203**	P	**P**	**21 38 03.0**	**-0.7**		
MAW	**Mawson**	**84.39**	**203**	P	**P**	**21 38 03.0**	**-0.7**		
	comp=Z,102nm,1.0s,baz=96,slow=7.3,SNR=21								
MAW				PKKPbc	**PKKPbc**	**21 56 17.4**	**-0.9**		
	comp=Z,4.1nm,0.6s,baz=16,slow=2.0,SNR=9.5								
MAW				LR	LR	22 12 38.2			
	comp=Z,65µm,21.9s,baz=88,slow=34								
	comp=Z,102nm,1.0s								
BCPM	**Bancas Point**	**84.40**	**28**	P	**P**	**21 38 05.4**	**+1.6**		
BCPM				IAmb	IAmb	21 39 15.2			
	comp=Z,266nm,1.2s								
PNL	**Peninsula**	**84.41**	**28**	P	**P**	**21 38 05.8**	**+1.8**		
PNL	**Peninsula**	**84.41**	**28**	P	**P**	**21 38 03.3**	**-0.6**		
	baz=249								
H25L	**Birch Creek**	**84.42**	**21**	P	**P**	**21 38 03.0**	**-0.9**		
	baz=243,SNR=22								
QSPA	**South Pole Qui**	**84.44**	**180**	P	**P**	**21 38 04.1**	**-0.1**		
QSPA				IAmb	IAmb	21 38 27.6			
	comp=Z,455nm,1.2s								
QSPA	**South Pole Qui**	**84.44**	**180**	P	**P**	**21 38 03.8**	**-0.4**		
	comp=Z,165nm,0.9s,baz=11,slow=1.2,SNR=52								
QSPA				S	**SKSac**	**21 48 20.3**	**-4.0**		
	comp=Z,2.6nm,1.0s,baz=246,slow=12,SNR=1.2								
QSPA				PKKPbc	**PKKPbc**	**21 56 15.7**	**-3.2**		
	comp=Z,19nm,1.0s,baz=263,slow=3.7,SNR=8.6								
QSPA				PKPPKP	P'P'df	22 04 13.2	-8.8		
	comp=Z,3.7nm,0.9s,baz=274,slow=3.9,SNR=3.4								
QSPA				LR	LR	22 13 39.4			
	comp=Z,20µm,21.3s,baz=20,slow=34								
	comp=Z,165nm,0.9s								
O28M	**Mount Upton**	**84.44**	**27**	P	**P**	**21 38 02.4**	**-2.0**		
	baz=248								
J26L	**Joseph Creek**	**84.49**	**23**	P	**P**	**21 38 03.2**	**-1.1**		
	baz=245								
G25K	**Bearman Lake**	**84.55**	**21**	P	**P**	**21 38 04.2**	**-0.3**		
	baz=242,SNR=64								
L27K	**Beaver Creek,**	**84.60**	**25**	IAmb	IAmb	21 38 37.9			
	comp=Z,215nm,1.4s								
L27K				IAMs_20	IAMs_20	22 16 02.7			
	comp=Z,52µm,20.0s								
L27K	**Beaver Creek,**	**84.60**	**25**	P	**P**	**21 38 04.0**	**-0.9**		
	baz=247								
BCAR	**Beaver Creek A**	**84.62**	**25**	P	**P**	**21 38 04.0**	**-1.0**		
C23K	**Itkillik River**	**84.63**	**17**	IAmb	IAmb	21 38 58.1			
	comp=Z,206nm,1.0s								
C23K	**Itkillik River**	**84.63**	**17**	P	**P**	**21 38 04.2**	**-0.6**		
	baz=238								
BHUJ	**Bhuj**	**84.67**	**294**	⇑*i*P	**P**	**21 38 07.1**	**+1.1**		
BHUJ				*i* x	x	21 41 19.1			
BHUJ				*ex*	x	21 48 26.9			
YUK3	**Moose Creek**	**84.69**	**26**	P	**P**	**21 38 05.2**	**-0.4**		
	baz=248,SNR=54								
EKS2	**Erkin-Say**	**84.72**	**314**	P	**P**	**21 38 05.9**	**-0.2**		
	SNR=333								
BVCY	**Beaver Creek**	**84.76**	**26**	P	**P**	**21 38 05.6**	**-0.1**		
	baz=248,SNR=82								
FYU	**Fort Yukon**	**84.77**	**21**	IAmb	IAmb	21 39 25.4			
	comp=Z,567nm,1.8s								
D24K	**Happy Valley**	**84.82**	**18**	P	**P**	**21 38 05.3**	**-0.5**		
	baz=240								
K27K	**Chicken**	**84.89**	**24**	IAmb	IAmb	21 38 59.5			
	comp=Z,195nm,1.2s								
K27K				IAMs_20	IAMs_20	22 15 17.1			
	comp=Z,62µm,20.0s								
K27K	**Chicken**	**84.89**	**24**	P	**P**	**21 38 05.7**	**-0.6**		
	baz=246								
I26K	**Coal Creek Min**	**84.99**	**23**	IAmb	IAmb	21 39 32.1			
	comp=Z,524nm,2.0s								
I26K	**Coal Creek Min**	**84.99**	**23**	P	**P**	**21 38 05.8**	**-0.9**		
	baz=245								
ARSB	**Arslanbob**	**85.02**	**312**	P	**P**	**21 38 07.3**	**-0.3**		
ARSB				IAmb	IAmb	21 38 11.7			
	comp=Z,216nm,1.3s								
ARSB	**Arslanbob**	**85.02**	**312**	P	**P**	**21 38 07.3**	**-0.3**		
ARSB				pmax	pmax				
	comp=Z,216nm,1.3s								
O29M	**Mount Kennedy**	**85.02**	**28**	IAmb	IAmb	21 39 02.3			
	comp=Z,183nm,1.0s								
O29M				IAMs_20	IAMs_20	22 18 06.9			
	comp=Z,49µm,20.0s								
O29M	**Mount Kennedy**	**85.02**	**28**	P	**P**	**21 38 06.9**	**-0.2**		
	baz=250,SNR=37								
BTLS	**Baital**	**85.05**	**316**	⇑*i*P	**P**	**21 38 06.8**	**-0.7**		
	comp=Z,158nm,0.9s,baz=316								
BTLS				*e*S	**SKSac**	**21 48 27.3**	**-1.5**		
	baz=316								
BTLS	**Baital**	**85.05**	**316**	*c i*P	**P**	**21 38 06.8**	**-0.7**		
BTLS				*e*S	**SKSac**	**21 48 27.2**	**-1.5**		
BTLS				pmax	pmax				
	comp=Z,158nm,0.9s								
F25K	**Christian Rive**	**85.09**	**20**	P	**P**	**21 38 06.9**	**-0.4**		
	baz=243,SNR=63								
C24K	**Franklin Bluff**	**85.14**	**18**	P	**P**	**21 38 06.7**	**-0.7**		
	baz=240								
P29M	**Windy Craggy**	**85.19**	**29**	IAmb	IAmb	21 38 54.4			
	comp=Z,568nm,1.8s								
P29M	**Windy Craggy**	**85.19**	**29**	P	**P**	**21 38 07.3**	**-0.6**		
	baz=251								
YUK6	**Outpost Mounta**	**85.34**	**27**	P	**P**	**21 38 08.8**	**-0.1**		
	baz=250								
YUK4	**Talbot Arm**	**85.35**	**27**	P	**P**	**21 38 08.7**	**-0.1**		
	baz=250,SNR=75								
E25K	**Arctic Village**	**85.36**	**20**	IAMs_20	IAMs_20	22 12 06.4			
	comp=Z,60µm,21.0s								
E25K	**Arctic Village**	**85.36**	**20**	P	**P**	**21 38 08.5**	**-0.1**		
	baz=243,SNR=31								
BMAR	**Burnt Mountain**	**85.39**	**20**	P	**P**	**21 38 08.1**	**-0.7**		
S31K	**Pelican**	**85.39**	**31**	IAmb	IAmb	21 38 39.0			
	comp=Z,367nm,1.4s								
S31K	**Pelican**	**85.39**	**31**	P	**P**	**21 38 09.5**	**+0.6**		
	baz=252								
G26K	**Porcupine Rive**	**85.46**	**21**	P	**P**	**21 38 08.3**	**-0.7**		
	baz=244								
DRK	**Karamyk**	**85.54**	**310**	IAmb	IAmb	21 39 26.9			
	comp=Z,270nm,1.4s								
EGAK	**Eagle**	**85.55**	**23**	IAmb	IAmb	21 38 13.2			
	comp=Z,135nm,1.0s								
EGAK				IAMs_20	IAMs_20	22 11 56.6			
	comp=Z,53µm,22.0s								
EGAK	**Eagle**	**85.55**	**23**	P	**P**	**21 38 09.9**	**+0.4**		
	baz=247,SNR=127								
EGAK	**Eagle**	**85.55**	**23**	⇑P	**P**	**21 38 08.8**	**-0.7**		
SIT	**Sitka**	**85.59**	**32**	P	**P**	**21 38 12.8**	**+3.0**		
SIT	**Sitka**	**85.59**	**32**	P	**P**	**21 38 11.4**	**+1.6**		
SIT				IAmb	IAmb	21 38 32.3			
	comp=Z,152nm,1.1s								
SIT	**Sitka**	**85.59**	**32**	P	**P**	**21 38 10.0**	**+0.2**		
	baz=253								
SIT	**Sitka**	**85.59**	**32**	P	**P**	**21 38 11.4**	**+1.6**		
SIT				pmax	pmax				
	comp=Z,152nm,1.1s								
F26K	**Sheenjek River**	**85.65**	**20**	P	**P**	**21 38 09.6**	**-0.5**		
	baz=244								
D25K	**Kavik River**	**85.66**	**18**	P	**P**	**21 38 09.7**	**-0.4**		
D25K	**Kavik River**	**85.66**	**18**	P	**P**	**21 38 10.5**	**+0.4**		
	baz=242,SNR=122								
HYT	**Haines Junctio**	**85.69**	**28**	IAmb	IAmb	21 39 00.4			
	comp=Z,152nm,0.8s								
HYT	**Haines Junctio**	**85.69**	**28**	P	**P**	**21 38 10.1**	**-0.4**		
	baz=251,SNR=95								
I27K	**Kandik River**	**85.70**	**23**	P	**P**	**21 38 09.7**	**-0.7**		
	baz=247								
P30M	**Million Dollar**	**85.72**	**28**	P	**P**	**21 38 10.3**	**-0.2**		
	baz=251								
R31K	**City Hall, Gus**	**85.78**	**30**	P	**P**	**21 38 11.4**	**+0.6**		
	baz=252								
PLBC	**Pleasant Camp**	**85.79**	**29**	P	**P**	**21 38 10.3**	**-0.5**		
	baz=252,SNR=12								
M29M	**Somme Creek**	**85.81**	**26**	IAMs_20	IAMs_20	22 17 03.7			
	comp=Z,52µm,20.0s								
M29M	**Somme Creek**	**85.81**	**26**	P	**P**	**21 38 11.1**	**+0.1**		
	baz=250								
H27K	**Steamboat Moun**	**85.98**	**22**	P	**P**	**21 38 11.0**	**-0.8**		
	baz=247								
DAWY	**Dawson**	**85.99**	**24**	IAmb	IAmb	21 39 07.4			
	comp=Z,249nm,1.4s								
DAWY	**Dawson**	**85.99**	**24**	P	**P**	**21 38 11.7**	**-0.2**		
	baz=249,SNR=88								
N30M	**Aishikik Lake**	**86.09**	**27**	IAmb	IAmb	21 38 48.0			
	comp=Z,265nm,1.6s								
N30M	**Aishikik Lake**	**86.09**	**27**	P	**P**	**21 38 11.3**	**-1.1**		
	baz=251								
S32K	**Killisnoo**	**86.10**	**31**	P	**P**	**21 38 13.5**	**+1.1**		
S32K				IAmb	IAmb	21 38 42.6			
	comp=Z,175nm,1.1s								
S32K	**Killisnoo**	**86.10**	**31**	P	**P**	**21 38 12.4**	**0.0**		
	baz=254								
DIB	**Dawson Inlet,**	**86.11**	**36**	P	**P**	**21 38 13.6**	**+1.0**		
DIB				IAmb	IAmb	21 38 39.1			
	comp=Z,310nm,1.4s								
H02S1	**DAWSON INLET T**	**86.11**	**36**	P	**P**	**21 38 13.7**	**+1.1**		
G27K	**Doyon Strip**	**86.16**	**21**	IAmb	IAmb	21 38 27.7			
	comp=Z,547nm,2.4s								
G27K	**Doyon Strip**	**86.16**	**21**	P	**P**	**21 38 11.9**	**-0.7**		
	baz=246								
L29M	**L29M**	**86.18**	**25**	IAMs_20	IAMs_20	22 16 33.5			
	comp=Z,46µm,20.0s								
L29M	**L29M**	**86.18**	**25**	P	**P**	**21 38 12.7**	**-0.1**		
	baz=250								
NRIK	**Noril'sk**	**86.22**	**341**	IAmb	IAmb	21 38 27.8			
	comp=Z,164nm,1.1s								
NRIK	**Noril'sk**	**86.22**	**341**	*c i*P	**P**	**21 38 12.3**	**-0.4**		
NRIK				pmax	pmax				
	comp=Z,141nm,0.9s								
NRIK				MLR	MLR				
	comp=Z,52µm,21.0s								
NRIK	**Noril'sk**	**86.22**	**341**	P	**P**	**21 38 10.6**	**-2.2**		
	comp=Z,68nm,0.8s,baz=121,slow=5.5,SNR=37								
NRIK				S	S	21 48 26.0	-18		
	comp=Z,1.6nm,0.5s,baz=190,slow=4.5,SNR=1.3								
NRIK				ScS	**ScS**	**21 48 55.8**	**+2.9**		
	comp=Z,7.2nm,0.9s,baz=328,slow=22,SNR=6.6								
NRIK				LR	LR	22 16 47.9			
	comp=Z,46µm,20.7s,baz=116,slow=36								
	comp=Z,68nm,0.8s								
BESE	**Bessie Mountai**	**86.27**	**30**	P	**P**	**21 38 13.9**	**+0.6**		
BESE				IAmb	IAmb	21 39 05.4			
	comp=Z,536nm,1.6s								
I28M	**Miner Creek**	**86.28**	**23**	P	**P**	**21 38 13.3**	**0.0**		
I28M				IAmb	IAmb	21 38 46.2			
	comp=Z,482nm,1.9s								
I28M	**Miner Creek**	**86.28**	**23**	P	**P**	**21 38 13.1**	**-0.2**		
	baz=248								
SKAG	**Skagway**	**86.30**	**29**	P	**P**	**21 38 16.4**	**+3.1**		
SKAG	**Skagway**	**86.30**	**29**	P	**P**	**21 38 14.8**	**+1.5**		
SKAG	**Skagway**	**86.30**	**29**	P	**P**	**21 38 13.7**	**+0.4**		
	baz=253								
CRAG	**Craig**	**86.33**	**34**	P	**P**	**21 38 17.0**	**+3.5**		
CRAG	**Craig**	**86.33**	**34**	P	**P**	**21 38 14.6**	**+1.1**		
CRAG	**Craig**	**86.33**	**34**	P	**P**	**21 38 14.8**	**+1.2**		
	baz=255								
O30N	**Mendenhall**	**86.33**	**28**	IAmb	IAmb	21 38 46.7			
	comp=Z,236nm,1.4s								
O30N				IAMs_20	IAMs_20	22 18 56.6			
	comp=Z,49µm,19.0s								
O30N	**Mendenhall**	**86.33**	**28**	P	**P**	**21 38 13.5**	**0.0**		
	baz=252,SNR=79								
R32K	**Eaglecrest**	**86.36**	**31**	P	**P**	**21 38 14.8**	**+1.1**		
R32K				IAmb	IAmb	21 39 24.5			
	comp=Z,275nm,1.6s								
R32K	**Eaglecrest**	**86.36**	**31**	P	**P**	**21 38 13.9**	**+0.2**		
	baz=254								
ROCAM	**Rodrigues Isla**	**86.36**	**251**	P	**P**	**21 38 16.2**	**+1.7**		
BTK	**Batken**	**86.39**	**311**	IAmb	IAmb	21 39 15.8			
	comp=Z,270nm,1.4s								
C26K	**Camden Bay**	**86.39**	**18**	P	**P**	**21 38 13.8**	**+0.2**		
	baz=243								
JIS	**Juneau Island**	**86.42**	**31**	P	P	21 38 19.2	+5.3		
JIS	**Juneau Island**	**86.42**	**31**	P	**P**	**21 38 15.4**	**+1.4**		
U33K	**Whale Pass**	**86.50**	**33**	P	**P**	**21 38 16.2**	**+1.8**		
U33K	**Whale Pass**	**86.50**	**33**	P	**P**	**21 38 14.7**	**+0.3**		
	baz=255								
DZA	**Taraz**	**86.53**	**314**	*e*P	**P**	**21 38 14.1**	**-0.8**		
	comp=Z,161nm,1.1s,baz=314								
DZA	**Taraz**	**86.53**	**314**	*e*P	**P**	**21 38 14.1**	**-0.8**		
DZA				pmax	pmax				
	comp=Z,161nm,1.1s								
M30M	**Minto, Yukon**	**86.58**	**26**	IAmb	IAmb	21 38 48.0			
	comp=Z,159nm,1.2s								
M30M				IAMs_20	IAMs_20	22 17 28.2			
	comp=Z,52µm,20.0s								
M30M	**Minto, Yukon**	**86.58**	**26**	P	**P**	**21 38 14.7**	**-0.1**		
	baz=251,SNR=96								
GAR	**Garm**	**86.59**	**310**	IAmb	IAmb	21 38 47.9			
	comp=Z,322nm,1.3s								
J29N	**Klondike Camp**	**86.61**	**24**	IAmb	IAmb	21 38 53.1			
	comp=Z,420nm,1.6s								
J29N				IAMs_20	IAMs_20	22 11 07.7			
	comp=Z,77µm,22.0s								
J29N	**Klondike Camp**	**86.61**	**24**	P	**P**	**21 38 14.9**	**0.0**		
	baz=250,SNR=43								
K29M	**Barlow Dome**	**86.69**	**25**	IAmb	IAmb	21 38 46.4			
	comp=Z,148nm,0.9s								
K29M	**Barlow Dome**	**86.69**	**25**	P	**P**	**21 38 15.8**	**+0.4**		
	baz=250								
N31M	**Braeburn, Yuko**	**86.70**	**27**	P	**P**	**21 38 15.8**	**+0.4**		
	baz=252,SNR=68								
E27K	**Coleen River**	**86.73**	**20**	IAmb	IAmb	21 38 46.3			
	comp=Z,144nm,1.1s								
E27K				IAMs_20	IAMs_20	22 12 15.7			
	comp=Z,73µm,22.0s								
E27K	**Coleen River**	**86.73**	**20**	P	**P**	**21 38 15.7**	**+0.3**		
	baz=246								
T33K	**Petersburg**	**86.77**	**32**	P	**P**	**21 38 15.9**	**+0.2**		
	baz=255								
WHY	**Whitehorse**	**86.87**	**28**	IAmb	IAmb	21 38 37.3			
	comp=Z,236nm,1.3s								
WHY	**Whitehorse**	**86.87**	**28**	P	**P**	**21 38 16.1**	**-0.1**		
	baz=253,SNR=46								
KBL	**Kabul**	**86.88**	**305**	P	**P**	**21 38 15.0**	**-2.0**		
KBL	**Kabul**	**86.88**	**305**	P	**P**	**21 38 15.0**	**-2.0**		
KBL				pmax	pmax				
	comp=Z,63nm,0.9s								
KBL	**Kabul**	**86.88**	**305**	P	**P**	**21 38 16.3**	**-0.8**		
	SNR=37								
WRAK	**Wrangell Islan**	**86.99**	**33**	P	**P**	**21 38 18.9**	**+2.1**		
WRAK				IAmb	IAmb	21 38 55.5			
	comp=Z,278nm,1.3s								
WRAK	**Wrangell Islan**	**86.99**	**33**	P	**P**	**21 38 17.4**	**+0.7**		
	baz=255,SNR=8.2								
BRZS	**Berezniki**	**87.02**	**321**	⇑*i*P	**P**	**21 38 16.1**	**-1.0**		
	comp=Z,104nm,1.7s,baz=321								
BRZS	**Berezniki**	**87.02**	**321**	*c i*P	**P**	**21 38 16.1**	**-1.0**		
BRZS				pmax	pmax				
	comp=Z,104nm,1.7s								
F28M	**Old Crow**	**87.11**	**21**	IAMs_20	IAMs_20	22 12 55.8			
	comp=Z,51µm,22.0s								
F28M	**Old Crow**	**87.11**	**21**	P	**P**	**21 38 17.6**	**+0.4**		
	baz=248,SNR=120								
P32M	**Atlin**	**87.12**	**29**	IAmb	IAmb	21 38 38.6			
	comp=Z,135nm,1.1s								
P32M				IAMs_20	IAMs_20	22 14 26.6			
	comp=Z,71µm,20.0s								
P32M	**Atlin**	**87.12**	**29**	P	**P**	**21 38 17.3**	**-0.2**		
	baz=254,SNR=26								
V35K	**Ketchikan**	**87.12**	**34**	IAmb	IAmb	21 38 55.0			
	comp=Z,224nm,1.1s								
V35K				IAMs_20	IAMs_20	22 12 20.4			
	comp=Z,76µm,20.0s								
V35K	**Ketchikan**	**87.12**	**34**	P	**P**	**21 38 17.7**	**+0.3**		
	baz=256								
KK31	**Karatay Array**	**87.16**	**314**	IAmb	IAmb	21 38 21.3			
	comp=Z,240nm,1.3s								
KKAR	**Karatay Array**	**87.16**	**314**	IAmb	IAmb	21 38 21.3			
	comp=Z,238nm,1.3s								
H29M	**Whitestone**	**87.16**	**22**	IAmb	IAmb	21 39 42.0			
	comp=Z,260nm,1.4s								
H29M	**Whitestone**	**87.16**	**22**	P	**P**	**21 38 18.2**	**+0.7**		
	baz=250,SNR=24								
MAYO	**Mayo, Yukon**	**87.30**	**25**	P	**P**	**21 38 19.7**	**+1.5**		
MAYO	**Mayo, Yukon**	**87.30**	**25**	P	**P**	**21 38 18.8**	**+0.6**		
	baz=252								
IUG	**luzhnay**	**87.34**	**313**	⇑*i*P	**P**	**21 38 18.1**	**-0.9**		
	comp=Z,134nm,1.1s,baz=313								
IUG				*e*S	**SKSac**	**21 48 42.6**	**-0.9**		
	baz=313								
IUG	**luzhnay**	**87.34**	**313**	*c i*P	**P**	**21 38 18.1**	**-0.9**		
IUG				*e*S	**SKSac**	**21 48 42.5**	**-0.9**		
IUG	

FARO S **S** 21 49 02.0 +0.1
baz=254
E29M Blow River 88.09 20 IAmb IAmb 21 39 11.3
E29M comp=Z,564nm,2.2s IAMs_20 IAMs_20 22 13 08.5
E29M Blow River 88.09 20 P **P** 21 38 21.1 -0.7
baz=250
D28M Stokes Point 88.13 19 P **P** 21 38 21.9 -0.1
baz=249
U35K Hyder 88.14 34 P **P** 21 38 23.5 +1.3
U35K IAmb IAmb 21 39 35.4
comp=Z,350nm,1.1s
U35K Hyder 88.14 34 P **P** 21 38 22.4 +0.1
baz=257
U35K S **S** 21 49 05.1 +2.0
baz=257
HOLB Holberg 88.18 39 P **P** 21 38 23.0 +0.3
G30M tAoh Zraii Nji 88.23 22 IAmb IAmb 21 39 10.6
comp=Z,253nm,1.3s
G30M IAMs_20 IAMs_20 22 14 55.3
comp=Z,80µm,20.0s
G30M tAoh Zraii Nji 88.23 22 P **P** 21 38 22.9 +0.3
baz=252
G30M S **S** 21 49 02.8 -1.0
baz=252
T35M Bob Quinn 88.25 32 P **P** 21 38 23.9 +1.1
T35M IAmb IAmb 21 39 19.8
comp=Z,184nm,1.2s
T35M Bob Quinn 88.25 32 P **P** 21 38 23.1 +0.2
baz=257,SNR=20
T35M S **S** 21 49 07.2 +2.9
baz=257
R33M Jennings River 88.43 30 IAmb IAmb 21 38 45.2
comp=Z,202nm,1.2s
R33M Jennings River 88.43 30 P **P** 21 38 23.7 -0.1
baz=256
R33M S **S** 21 49 08.1 +2.0
baz=256
BBB Bella Bella 88.48 37 P **P** 21 38 25.1 +1.2
BBB Bella Bella 88.48 37 LR LR 22 10 44.2
comp=Z,56µm,21.4s,baz=264,slow=31
F30M Barrier River 88.58 21 P **P** 21 38 24.0 -0.2
baz=252,SNR=66
F30M S **S** 21 49 05.5 -1.6
baz=252
H31M Peel River 88.59 23 P **P** 21 38 23.9 -0.4
H31M IAmb IAmb 21 39 22.9
comp=Z,250nm,1.3s
H31M IAMs_20 IAMs_20 22 16 43.1
comp=Z,55µm,20.0s
H31M Peel River 88.59 23 P **P** 21 38 23.9 -0.4
baz=253,SNR=71
H31M S **S** 21 49 06.6 -0.6
baz=253
DLBC Dease Lake 88.69 31 IAmb IAmb 21 38 48.6
comp=Z,205nm,1.3s
DLBC Dease Lake 88.69 31 P **P** 21 38 25.1 +0.1
baz=257,SNR=39
DLBC S **S** 21 49 10.5 +2.0
baz=257
DLBC Dease Lake 88.69 31 LR LR 22 11 39.6
comp=Z,130µm,21.0s,baz=265,slow=31
G31M Satah River 88.94 22 IAmb IAmb 21 39 28.9
comp=Z,399nm,1.5s
G31M IAMs_20 IAMs_20 22 15 13.2
comp=Z,64µm,20.0s
G31M Satah River 88.94 22 P **P** 21 38 26.5 +0.7
baz=253,SNR=70
BVAR Borovoye Array 89.02 323 P **P** 21 38 24.2 -2.3
comp=Z,71nm,0.7s,baz=110,slow=5.6,SNR=72
BVAR PKiKP **PKiKP** 21 43 26.4 +0.9
comp=Z,3.2nm,0.5s,baz=126,slow=2.3,SNR=6.4
BVAR S **SKSac** 21 48 49.1 -3.6
comp=Z,1.7nm,0.8s,baz=66,slow=3.7,SNR=1.9
BVAR ScS **ScS** 21 49 19.1 +2.4
comp=Z,3.8nm,1.0s,baz=142,slow=7.3,SNR=3.6
BVAR PKKPbc **PKKPbc** 21 56 05.4 -1.6
comp=Z,2.4nm,0.7s,baz=298,slow=3.1,SNR=4.7
BVAR LR LR 22 20 32.5
comp=Z,33µm,18.9s,baz=82,slow=37
comp=Z,71nm,0.7s
MMPY Sheldon Lake, 89.05 27 IAmb IAmb 21 39 19.1
comp=Z,166nm,1.3s
MMPY Sheldon Lake, 89.05 27 P **P** 21 38 26.1 -0.4
baz=256,SNR=49
MMPY S **S** 21 49 12.7 +0.9
baz=256
BRVK Borovoye 89.09 323 P **P** 21 38 25.0 -1.8
BRVK IAmb IAmb 21 38 32.4
comp=Z,187nm,1.1s
BRVK Borovoye 89.09 323 *c i*P **P** 21 38 25.1 -1.8
BRVK pmax pmax
comp=Z,190nm,1.2s
BRVK MLR MLR
comp=Z,60µm,22.0s
BRVK Borovoye 89.09 323 P **P** 21 38 25.8 -1.0
BRVK P **P** 21 38 25.8 -1.0
F31M Tsiigehtchic 89.29 22 IAmb IAmb 21 39 16.2
comp=Z,248nm,1.3s
F31M IAMs_20 IAMs_20 22 15 17.3
comp=Z,71µm,20.0s
F31M Tsiigehtchic 89.29 22 P **P** 21 38 26.5 -0.9
baz=254,SNR=55
KMPM Mount Pierce 89.31 49 P **P** 21 38 29.0 +0.7
KMPM IAmb IAmb 21 38 34.5
comp=Z,202nm,0.8s
JCC Jacoby Creek, 89.43 49 P **P** 21 38 28.0 -0.7
JCC IAmb IAmb 21 39 02.2
comp=Z,162nm,1.2s
KRPM Rodgers 89.48 49 P **P** 21 38 30.2 +1.1
OZB Mount Ozzard 89.57 41 P **P** 21 38 31.1 +1.8
OZB IAmb IAmb 21 38 36.7
comp=Z,115nm,1.0s
KMRM Mail Ridge 89.59 50 P **P** 21 38 30.6 +0.9
KMRM IAmb IAmb 21 38 39.9
comp=Z,257nm,1.1s
INK Inuvik 89.61 21 P **P** 21 38 28.6 -0.2
INK IAmb IAmb 21 39 23.4
comp=Z,229nm,1.4s
INK Inuvik 89.61 21 P **P** 21 38 28.0 -0.9
baz=254,SNR=51
INK Inuvik 89.61 21 P **P** 21 38 28.7 -0.2
INK pmax pmax
comp=Z,229nm,1.5s
INK Inuvik 89.61 21 LR LR 22 20 30.4
comp=Z,37µm,18.1s,baz=252,slow=37
KRMB Red Mountain 89.61 48 P **P** 21 38 30.7 +0.9
KRMB IAmb IAmb 21 38 34.3
comp=Z,362nm,1.4s
KCPM Cahto Peak 89.62 50 P **P** 21 38 30.6 +0.7
KCPM IAmb IAmb 21 38 35.6
comp=Z,232nm,1.0s
WTLY Watson Lake, Y 89.66 30 P **P** 21 38 30.7 +1.3
WTLY IAmb IAmb 21 39 22.6
comp=Z,356nm,1.4s
WTLY Watson Lake, Y 89.66 30 P **P** 21 38 28.6 -0.8
baz=258,SNR=5.2
WTLY S **S** 21 49 19.4 +2.0
baz=258
KHMM Horse Mountain 89.66 49 P **P** 21 38 31.2 +1.2
KHMM IAmb IAmb 21 38 36.3
comp=Z,123nm,0.8s
KSXB Camp Six Broad 89.68 48 P **P** 21 38 30.6 +0.5
KSXB IAmb IAmb 21 38 42.2
comp=Z,226nm,1.2s
CBB Campbell River 89.82 40 IAmb IAmb 21 38 38.2
comp=Z,158nm,1.1s
HOPS Hopland Field 89.92 51 P **P** 21 38 32.0 +0.9
HOPS IAmb IAmb 21 39 03.7
comp=Z,355nm,1.8s
L02F Cave Junction 89.94 48 P **P** 21 38 31.8 +0.7
L02F IAmb IAmb 21 38 35.4
comp=Z,157nm,1.1s
K02D Willamette Mer 89.95 47 IAmb IAmb 21 38 35.2
comp=Z,364nm,1.2s
MCCM Marconi Confer 89.97 52 P **P** 21 38 32.6 +1.3
C03A Quillayute Air 90.03 42 P **P** 21 38 33.0 +1.6
C03A IAmb IAmb 21 38 39.8
comp=Z,313nm,1.1s
TGTN Hyland Airport 90.19 28 P **P** 21 38 31.4 -0.5
baz=259,SNR=41
TGTN S **S** 21 49 22.7 +0.4
baz=259
HEBO Mount Hebo 90.21 45 P **P** 21 38 33.7 +1.2
HEBO IAmb IAmb 21 38 42.1
comp=Z,465nm,1.4s

I03D Drain, OR 90.31 46 IAmb IAmb 21 38 40.6
comp=Z,266nm,0.9s
DBO Dodson Butte 90.31 47 IAmb IAmb 21 38 37.0
comp=Z,256nm,1.2s
RADR Rader Ridge 90.34 44 IAmb IAmb 21 38 42.1
comp=Z,259nm,0.9s
NLWA Neilton Lookou 90.42 43 IAmb IAmb 21 38 37.3
comp=Z,198nm,1.2s
NLWA IAMs_20 IAMs_20 22 14 46.0
comp=Z,55µm,20.0s
CLRS Cowichan Lake 90.44 41 IAmb IAmb 21 38 36.9
comp=Z,150nm,1.3s
F03A Seaside 90.44 44 IAmb IAmb 21 38 37.2
comp=Z,376nm,1.3s
COR Corvallis 90.45 45 P **P** 21 38 34.7 +1.3
COR Corvallis 90.45 45 P **P** 21 38 34.7 +1.3
COR pmax pmax
comp=Z,689nm,1.7s
COR MLR MLR
comp=Z,83µm,21.0s
WISH Wishkah 90.45 43 IAmb IAmb 21 38 54.6
comp=Z,249nm,1.1s
YBH Yreka Blue Hor 90.53 48 P **P** 21 38 34.2 +0.2
YBH IAMs_20 IAMs_20 22 20 54.0
comp=Z,54µm,18.0s
YBH Yreka Blue Hor 90.53 48 P **P** 21 38 34.2 +0.2
YBH pmax pmax
comp=Z,385nm,1.3s
YBH MLR MLR
comp=Z,54µm,18.0s
G03D McMinnville, O 90.56 45 IAmb IAmb 21 39 06.4
comp=Z,298nm,1.3s
B04A Port Angeles 90.75 42 IAmb IAmb 21 39 02.8
comp=Z,175nm,1.1s
F04D Rainier, OR 90.84 44 P **P** 21 38 37.1 +1.9
F04D IAmb IAmb 21 39 00.5
comp=Z,127nm,0.9s
SAO San Andreas Ge 90.94 53 P **P** 21 38 36.5 +0.6
SAO San Andreas Ge 90.94 53 P **P** 21 38 36.5 +0.6
SAO pmax pmax
comp=Z,92nm,1.1s
SAO MLR MLR
comp=Z,88µm,21.0s
GNW Green Mountain 91.15 42 IAmb IAmb 21 38 40.3
comp=Z,140nm,1.1s
ORV Oroville 91.20 51 IAmb IAmb 21 38 40.8
comp=Z,198nm,1.3s
ORV IAMs_20 IAMs_20 22 11 11.9
comp=Z,65µm,22.0s
TOAD Toad River Com 91.23 31 P **P** 21 38 37.0 +0.2
baz=261,SNR=16
F04A Amboy 91.23 44 IAmb IAmb 21 38 45.8
comp=Z,185nm,1.0s
BBGB Big Mountain B 91.25 54 IAmb IAmb 21 38 48.1
comp=Z,212nm,0.9s
H04A Detroit Lake 91.25 45 IAMs_20 IAMs_20 22 12 56.2
comp=Z,64µm,21.0s
PMPB Monarch Peak 91.41 54 P **P** 21 38 38.9 +0.8
CMB Columbia Colle 91.91 52 IAmb IAmb 21 38 44.4
comp=Z,348nm,1.5s
SMMC Simmler 91.97 55 P **P** 21 38 41.7 +0.9
baz=265
KOTAN Kotaneelee Air 92.00 30 P **P** 21 38 40.9 +0.6
baz=262,SNR=15
KOTAN S **S** 21 49 38.7 -0.1
baz=262
PKM Mcpherson Peak 92.08 55 P **P** 21 38 41.9 +0.4
baz=265,SNR=93
PKM S S 21 49 50.4 +9.4
baz=265
SBC Santa Barbara 92.12 56 P **P** 21 38 41.8 +0.4
baz=265
SBC S **S** 21 49 48.6 +7.7
baz=265
SCZ2 Santa Cruz Isl 92.15 56 P **P** 21 38 42.7 +1.1
baz=265
SCZ2 S **S** 21 49 48.7 +7.5
baz=265
SNCC San Nicolas Is 92.17 57 P **P** 21 38 42.9 +1.1
baz=265
SNCC S **S** 21 49 46.9 +5.4
baz=265
FLDN Fort Liard 92.30 30 P **P** 21 38 43.1 +1.4
FLDN IAmb IAmb 21 39 11.6
comp=Z,197nm,1.3s
FLDN Fort Liard 92.30 30 P **P** 21 38 42.5 +0.9
baz=263
FLDN S **S** 21 49 45.3 +3.9
baz=263
VOG Valley Oaks Go 92.56 54 P **P** 21 38 44.1 +0.7
baz=265
LTY Liberty 92.57 43 IAmb IAmb 21 38 48.7
comp=Z,102nm,1.1s
NGCH Negor - Chabah 92.62 295 P **P** 21 38 44.9 +1.0
SNR=11
WRGLY Wrigley 92.67 27 IAmb IAmb 21 39 29.9
comp=Z,75nm,0.9s
WRGLY Wrigley 92.67 27 P **P** 21 38 44.2 +0.9
baz=263,SNR=23
WRGLY S **S** 21 49 46.4 +1.8
baz=263
VES Vestal, Richgr 92.76 54 P **P** 21 38 44.6 +0.3
baz=265,SNR=11
MXC Moxie City 92.77 44 P **P** 21 38 45.4 +1.2
ARVC Arvin 92.91 55 P **P** 21 38 45.2 +0.1
baz=265
OSI Osito Audit: C 92.95 56 P **P** 21 38 46.1 +0.7
baz=265
OSI S **S** 21 49 56.0 +7.5
baz=265
F07A Phinny Hill Vi 92.96 44 P **P** 21 38 45.8 +0.8
SCI2 San Clemente I 92.97 57 P **P** 21 38 45.6 +0.2
baz=265
SCI2 S S 21 49 58.0 +10
baz=265
E07A Sunnyside 93.07 44 IAmb IAmb 21 38 49.3
comp=Z,341nm,1.5s
MLAC Mammoth, Mammo 93.10 53 P **P** 21 38 46.2 0.0
baz=265
CIS Catalina Islan 93.11 57 P **P** 21 38 46.1 +0.1
baz=265,SNR=44
CIS S **S** 21 49 58.0 +8.2
baz=265
A36M Sachs Harbour 93.14 18 IAmb IAmb 21 39 50.2
comp=Z,82nm,0.9s
A36M Sachs Harbour 93.14 18 P **P** 21 38 45.8 +0.5
baz=262
C36M Paulatuk 93.18 21 IAmb IAmb 21 39 08.8
comp=Z,167nm,1.4s
C36M IAMs_20 IAMs_20 22 17 58.0
comp=Z,51µm,21.0s
C36M Paulatuk 93.18 21 P **P** 21 38 45.0 -0.4
baz=263
FMP Fort Macarthur 93.23 57 P **P** 21 38 46.0 -0.5
baz=266
FMP S **S** 21 49 58.9 +8.1
baz=266
ISA Isabella, Lake 93.24 55 IAmb IAmb 21 38 50.6
comp=Z,220nm,1.4s
ISA Isabella, Lake 93.24 55 P **P** 21 38 46.6 -0.1
baz=266,SNR=69
ISA S **S** 21 49 56.8 +5.8
baz=266
DECC Green Verdugo 93.24 56 P **P** 21 38 47.1 +0.4
baz=266,SNR=14
DECC S **S** 21 49 59.6 +8.6
baz=266
HAWA Hanford 93.28 44 IAmb IAmb 21 38 50.3
comp=Z,261nm,1.4s
HAWA IAMs_20 IAMs_20 22 12 36.5
comp=Z,56µm,22.0s
RER Riviere de l'E 93.33 248 P **P** 21 38 48.0 +0.6
RER IAmb IAmb 21 39 04.2
comp=Z,186nm,1.2s
PASC Pasadena Art C 93.36 56 IAMs_20 IAMs_20 22 12 41.3
comp=Z,71µm,22.0s
TIN Tinemaha, Big 93.54 53 P **P** 21 38 49.2 +1.2
baz=266,SNR=8.4
B08A Colville Reser 93.56 42 P **P** 21 38 48.5 +0.6
EDW2 Edwards Air Fo 93.57 55 P **P** 21 38 48.4 +0.2
baz=266,SNR=107
EDW2 S S 21 50 03.1 +9.2
baz=266
NVAR Mina Array Bea 93.58 52 P **P** 21 38 48.3 -0.1
NVAR Mina Array Bea 93.58 52 P **P** 21 38 47.0 -1.4
comp=Z,76nm,0.7s,baz=261,slow=6.0,SNR=116
NVAR S **SKSac** 21 49 17.3 -2.6
comp=Z,0.2nm,0.5s,baz=218,slow=11,SNR=0.8

NVAR PKKPbc **PKKPdf** 21 55 53.2 -0.7
comp=Z,1.2nm,0.7s,baz=54,slow=4.6,SNR=3.0
NVAR LR LR 22 16 51.0
comp=Z,84µm,18.8s,baz=266,slow=33
comp=Z,76nm,0.7s
CWC Cottonwood Cre 93.61 54 P **P** 21 38 48.6 0.0
baz=266
CWC S **S** 21 50 02.0 +7.5
baz=266
WVOR Wild Horse Val 93.62 48 IAMs_20 IAMs_20 22 19 11.7
comp=Z,51µm,19.0s
D08A Wollman Farm, 93.74 43 IAmb IAmb 21 39 10.5
comp=Z,96nm,1.1s
BFSC Mount Baldy Ra 93.80 56 P **P** 21 38 49.5 +0.2
baz=266,SNR=66
BFSC S **S** 21 50 01.1 +5.0
baz=266
LRMC Laurel Mtn Rad 93.87 55 P **P** 21 38 49.7 +0.1
baz=266,SNR=284
LRMC S **S** 21 50 04.9 +8.2
baz=266
JLN Jalan Bani Buh 93.95 292 P **P** 21 38 49.6 -0.5
SNR=24
ELS Elsinore Mount 93.95 57 IAmb IAmb 21 38 54.4
comp=Z,242nm,1.4s
LCH Last Change Ra 94.02 53 IAmb IAmb 21 38 54.2
comp=Z,200nm,1.5s
MPMC Manual Prospec 94.06 54 P **P** 21 38 50.8 +0.2
baz=266,SNR=271
MPMC S **S** 21 50 05.8 +7.3
baz=266
MURC Murrieta 94.14 57 P **P** 21 38 51.4 +0.6
baz=266,SNR=14
MURC S **S** 21 50 07.3 +8.4
baz=266
109C Camp Elliot, M 94.17 57 P **P** 21 38 52.1 +1.1
109C IAmb IAmb 21 38 55.8
comp=Z,286nm,1.2s
109C IAMs_20 IAMs_20 22 12 32.8
comp=Z,65µm,22.0s
109C Camp Elliot, M 94.17 57 P **P** 21 38 52.0 +1.1
baz=266
109C S **S** 21 50 07.1 +8.0
baz=266
TJX Tijuana 94.19 58 P **P** 21 38 53.0 +2.0
GRAC Grapevine Rang 94.22 53 P **P** 21 38 51.8 +0.6
GRAC Grapevine Rang 94.22 53 P **P** 21 38 51.9 +0.8
baz=266,SNR=21
GRAC S S 21 50 08.7 +9.1
baz=266
C09A Chrisman Ranch 94.23 43 P **P** 21 38 51.7 +0.8
C09A IAmb IAmb 21 38 54.2
comp=Z,138nm,1.2s
GMN Gold Mountain 94.33 53 P **P** 21 38 52.1 +0.3
GMN IAmb IAmb 21 38 55.7
comp=Z,218nm,1.5s
WBK Wadi Bani Khal 94.39 292 P **P** 21 38 51.7 -0.4
SNR=30
RRX Edison Barstow 94.39 56 P **P** 21 38 52.4 +0.5
baz=266
BBRC Big Bear Solar 94.41 56 P **P** 21 38 52.5 +0.2
baz=266
CCX Cicese 94.47 59 P **P** 21 38 54.2 +1.9
CCX IAmb IAmb 21 39 21.9
comp=Z,110nm,1.2s
Q09A Carvers 94.48 52 P **P** 21 38 53.4 +0.9
CBX Cerro Bola 94.50 58 P **P** 21 38 53.9 +1.3
BAR Barrett 94.52 58 P **P** 21 38 52.9 +0.3
BMN Battle Mountai 94.55 50 IAmb IAmb 21 38 56.7
comp=Z,253nm,1.5s
TKX Tecate 94.57 58 P **P** 21 38 54.6 +1.8
TKX IAmb IAmb 21 38 57.6
comp=Z,352nm,1.7s
FURC Furnace Creek, 94.59 54 P **P** 21 38 53.3 +0.6
baz=266,SNR=78
BMO Blue Mountains 94.73 46 IAmb IAmb 21 38 56.8
comp=Z,284nm,1.3s
BMO IAMs_20 IAMs_20 22 13 54.2
comp=Z,76µm,22.0s
MONP2 Monument Peak 94.74 58 P **P** 21 38 54.7 +0.9
baz=266,SNR=96
WSAR Wadi Sarin 94.74 293 P **P** 21 38 52.2 -1.5
comp=Z,65nm,1.1s,baz=116,slow=7.4,SNR=43
WSAR S **SKSac** 21 49 22.6 -3.7
comp=Z,2.4nm,0.9s,baz=130,slow=16,SNR=1.5
WSAR LR LR 22 26 14.2
comp=Z,5µm,18.4s,baz=105,slow=38
comp=Z,65nm,1.1s
WSAR Wadi Sarin 94.74 293 P **P** 21 38 52.8 -0.9
SNR=37
PFO Pinyon Flats O 94.75 57 P **P** 21 38 54.2 +0.5
PFO IAmb IAmb 21 39 01.1
comp=Z,171nm,1.1s
PFO Pinyon Flats O 94.75 57 P **P** 21 38 54.3 +0.5
baz=266,SNR=73
PFO Pinyon Flats O 94.75 57 P **P** 21 38 54.2 +0.5
PFO pmax pmax
comp=Z,171nm,1.1s
PFO Pinyon Flats O 94.75 57 LR LR 22 13 55.2
comp=Z,82µm,21.4s,baz=276,slow=31
TPFO Pinon Flats 94.76 57 P **P** 21 38 54.1 +0.3
baz=266,SNR=99
PMD Palm Desert 94.83 57 IAmb IAmb 21 38 58.3
comp=Z,211nm,1.2s
F10A Beach Ranch, E 94.85 44 IAmb IAmb 21 38 57.2
comp=Z,272nm,1.4s
HEC Hector,Ludlow 94.93 56 P **P** 21 38 54.8 +0.3
baz=267,SNR=86
IKP In-Ko-Pah, Jac 94.99 58 P **P** 21 38 55.9 +1.1
baz=267,SNR=32
RMX La Rumorosa 95.01 58 P **P** 21 38 56.4 +1.4
NEW Newport 95.03 42 IAmb IAmb 21 38 57.9
comp=Z,179nm,1.3s
NEW Newport 95.03 42 P **P** 21 38 53.9 -0.7
baz=267,SNR=56
NEW Newport 95.03 42 LR LR 22 16 24.8
comp=Z,72µm,20.1s,baz=272,slow=32
SVE Sverdlovsk 95.03 327 *e*P **P** 21 38 52.2 -2.1
SVE *e* 21 42 46.6
SVE *e*S **SKSac** 21 49 24.3 -2.1
SVE *e* 21 51 26.1
SVE *e*SS **SS** 21 56 37.9 +6.2
SVE pmax pmax
comp=Z,78nm,1.2s
SVE MLR MLR
comp=Z,110µm,23.0s
SVE MLR MLR
comp=E,87µm,21.0s
SVE MLR MLR
comp=N,24µm,20.0s
SHOC Shoshone, Teco 95.04 55 P **P** 21 38 55.3 +0.4
baz=267,SNR=46
ESJX Sierra Juarez 95.09 58 P **P** 21 38 56.8 +1.4
ABKAR Akbulak array 95.14 319 P **P** 21 38 53.5 -1.4
ABKAR Akbulak array 95.14 319 P **P** 21 38 52.2 -2.8
YUH Yuha Desert 95.15 58 IAmb IAmb 21 39 01.3
comp=Z,124nm,1.0s
BELC Belle Mtn. Jos 95.16 56 P **P** 21 38 56.2 +0.5
baz=267,SNR=124
JMDO Jabal Madar 95.17 292 P **P** 21 38 55.6 -0.1
SNR=13
VTX Valle De La Tr 95.19 59 IAmb IAmb 21 39 01.2
comp=Z,171nm,1.2s
MHTO MHTO 95.20 291 P **P** 21 38 55.5 -0.4
SNR=24
MHTO P **P** 21 38 55.5 -0.4
SNR=24
BIDO Bidbid 95.22 293 P **P** 21 38 55.4 -0.6
SNR=53
SMDO Samad 95.27 293 P **P** 21 38 56.0 -0.3
SNR=15
SWSC Sam W. Stewart 95.27 58 P **P** 21 38 56.8 +0.8
baz=267,SNR=21
TUQ Turquoise Moun 95.30 55 P **P** 21 38 56.5 +0.2
baz=267,SNR=54
GMRC Granite Mounta 95.48 56 P **P** 21 38 57.5 +0.4
baz=267,SNR=142
MSEY Mahe Island 95.49 265 P **P** 21 38 57.4 0.0
MSEY IAmb IAmb 21 39 01.7
comp=Z,138nm,1.6s
MSEY Mahe Island 95.49 265 P **P** 21 38 57.4 0.0
MSEY pmax pmax
comp=Z,138nm,1.6s
MSEY Mahe Island 95.49 265 P **P** 21 38 58.0 +0.6
DQM DQM 95.53 289 P **P** 21 38 57.3 -0.1
SNR=7.9
S11A Rachel 95.55 53 P **P** 21 38 57.5 +0.1

S11A IAmb IAmb 21 39 14.9
comp=Z,143nm,0.9s
BC3 Big Chuckawall 95.59 57 P **P** **21 38 58.5 +0.9**
baz=267,SNR=144
JASK Jask - Hormozg 95.61 295 P **P** **21 38 58.9 +1.3**
SNR=39
CPBX Cerro Prieto 95.66 58 P **P** **21 38 59.8 +2.0**
RPN Rapa Nui 95.66 118 P **P** **21 38 58.3 +0.4**
RPN IAmb IAmb 21 40 13.5
comp=Z,266nm,1.2s
RPN Rapa Nui 95.66 118 P **P** **21 38 58.3 +0.4**
RPN pmax pmax
comp=Z,266nm,1.3s
RPN Rapa Nui 95.66 118 LR LR 22 14 38.4
comp=Z,19µm,21.7s,baz=270,slow=31
PLID Pearl Lake 95.67 45 P **P** **21 38 56.9 -1.0**
PLID IAMs_20 IAMs_20 22 14 34.9
comp=Z,52µm,21.0s
R11B Troy Canyon, C 95.71 52 IAmb IAmb 21 39 02.2
comp=Z,171nm,1.2s
R11B Troy Canyon, C 95.71 52 P **P** **21 38 58.1 0.0**
baz=268,SNR=170
MFID Camas Ranch 95.73 47 IAMs_20 IAMs_20 22 20 21.7
comp=Z,56µm,19.0s
ELIB Princess Elisa 95.78 194 *d*P **P** **21 38 57.1 -0.6**
comp=Z,52nm,1.2s
IRM Iron Mountain 95.88 56 P **P** **21 38 59.5 +0.8**
baz=267,SNR=150
SHPR Sheep Range 95.97 54 IAmb IAmb 21 39 03.9
comp=Z,271nm,1.6s
HOQ Hoqain 95.97 293 P **P** **21 38 59.5 +0.1**
SNR=40
SFX San Felipe 95.97 59 P **P** **21 39 00.6 +1.5**
SFX IAmb IAmb 21 39 06.3
comp=Z,80nm,0.9s
GEYT Alibeck 95.99 307 P **P** **21 38 58.1 -1.1**
GEYT Alibeck 95.99 307 P **P** **21 38 58.1 -1.1**
GEYT pmax pmax
comp=Z,52nm,1.4s
GEYT Alibeck 95.99 307 P **P** **21 38 56.7 -2.5**
comp=Z,21nm,1.2s,baz=113,slow=3.3,SNR=20
GEYT PP **PP** **21 42 50.8 -1.3**
comp=Z,13nm,1.0s,baz=64,slow=3.4,SNR=3.2
GEYT S **SKSac** **21 49 30.2 -2.2**
comp=Z,1.1nm,0.7s,baz=160,slow=17,SNR=1.1
GEYT PKKPbc **PKKPbc** **21 55 45.9 -2.4**
comp=Z,1.7nm,0.7s,baz=282,slow=5.0,SNR=2.6
GEYT LR LR 22 24 01.6
comp=Z,33µm,21.1s,baz=86,slow=37
comp=Z,21nm,1.2s
GYA0B ALIBECK ARRAY 95.99 307 P **P** **21 38 59.3 +0.1**
BSY Bisya 96.03 292 P **P** **21 38 59.5 -0.2**
SNR=12
ELK Elko 96.07 50 IAMs_20 IAMs_20 22 15 02.7
comp=Z,53µm,21.0s
ELK Elko 96.07 50 LR LR 22 15 04.3
comp=Z,53µm,21.5s,baz=257,slow=31
WTNK Soaring Height 96.08 54 P **P** **21 39 00.7 +1.0**
GLA Glamis 96.09 57 P **P** **21 39 00.6 +0.8**
GLA Glamis 96.09 57 P **P** **21 39 00.7 +1.0**
baz=267,SNR=17
GLA Glamis 96.09 57 P **P** **21 39 00.6 +0.8**
GLA pmax pmax
comp=Z,709nm,2.1s
ARU Arti 96.17 326 P **P** **21 38 57.7 -1.8**
ARU Arti 96.17 326 *d* P **P** **21 38 56.9 -2.6**
ARU 21 42 49.7
ARU S **SKSac** **21 49 30.6 -1.8**
ARU SS **SS** **21 56 44.2 -3.6**
ARU pmax pmax
comp=Z,76nm,0.9s
ARU MLR MLR
comp=Z,148µm,22.0s
ARU Arti 96.17 326 P **P** **21 38 56.5 -3.0**
comp=Z,28nm,0.6s,baz=107,slow=2.7,SNR=27
ARU PP **PP** **21 42 50.5 -2.4**
comp=Z,16nm,0.8s,baz=70,slow=10,SNR=3.3
ARU PKiKP **PKiKP** **21 43 38.1 +0.5**
comp=Z,3.4nm,0.5s,baz=27,slow=2.3,SNR=1.2
ARU S **SKSac** **21 49 30.9 -1.5**
comp=Z,1.5nm,0.6s,baz=101,slow=5.9,SNR=7.2
ARU LR LR 22 21 51.1
comp=Z,141µm,21.9s,baz=89,slow=35
comp=Z,28nm,0.6s
V12A Nelson 96.19 55 P **P** **21 39 00.8 +0.5**
Q12A Willow Creek R 96.33 51 P **P** **21 39 01.2 +0.4**
NEE2 Needles Airpor 96.34 56 P **P** **21 39 01.6 +0.8**
baz=268,SNR=14
BLYC Blythe 96.37 57 P **P** **21 39 00.8 -0.2**
AKTO Aktyubinsk 96.42 320 P **P** **21 38 58.5 -2.2**
comp=Z,31nm,1.1s,baz=72,slow=4.8,SNR=35
AKTO PP **PP** **21 42 56.9 +1.9**
comp=Z,35nm,1.2s,baz=114,slow=8.9,SNR=4.8
AKTO PKiKP **PKiKP** **21 43 38.5 +0.2**
comp=Z,14nm,1.0s,baz=85,slow=9.9,SNR=1.8
AKTO LR LR 22 22 11.7
comp=Z,72µm,21.6s,baz=81,slow=35
comp=Z,31nm,1.1s
ARQ Aragi 96.68 293 P **P** **21 39 02.1 -0.6**
SNR=24
YKA Yellowknife Ar 96.69 28 *i* P **P** **21 39 03.7 +2.0**
YKA pmax pmax
comp=Z,5.0nm,0.8s
YKA Yellowknife Ar 96.69 28 P **P** **21 39 00.7 -1.0**
comp=Z,20nm,1.2s,baz=273,slow=4.6,SNR=49
YKA PP **PP** **21 42 53.0 -3.6**
comp=Z,0.5nm,0.6s,baz=278,slow=4.8,SNR=2.3
YKA PKiKP **PKiKP** **21 43 37.7 -0.7**
comp=Z,4.2nm,0.9s,baz=271,slow=1.7,SNR=5.4
YKA PKKPbc **PKKPbc** **21 55 43.4 -3.9**
comp=Z,3.4nm,0.9s,baz=91,slow=3.1,SNR=10
YKA PKPPKP **P'P'df** **22 03 54.9 -2.8**
comp=Z,0.6nm,0.8s,baz=69,slow=3.4,SNR=4.9
YKA LR LR 22 16 40.6
comp=Z,55µm,22.0s,baz=286,slow=32
comp=Z,20nm,1.2s
YKAB2 New Yellowknif 96.69 28 P **P** **21 39 02.4 +0.7**
PDMCI Parker Dam,Lak 96.71 56 P **P** **21 39 03.3 +0.8**
baz=268,SNR=32
SPR3 Spring Creek 3 96.71 51 IAmb IAmb 21 39 09.3
comp=Z,166nm,0.9s
SOHO SOHO 96.72 294 *i* P **P** **21 39 00.8 -1.9**
SNR=25
SOHO SOHO 96.72 294 P **P** **21 39 02.2 -0.5**
HLID Hailey 96.76 47 IAMs_20 IAMs_20 22 20 03.0
comp=Z,61µm,19.0s
HLID Hailey 96.76 47 P **P** **21 39 02.9 +0.1**
baz=269,SNR=74
W13A Hualapai Mount 96.95 55 IAmb IAmb 21 39 08.5
comp=Z,243nm,1.4s
113A Mohawk Valley, 96.97 58 IAmb IAmb 21 39 10.1
comp=Z,254nm,1.9s
MDH Madha 96.99 295 *i* P **P** **21 39 01.9 -2.0**
SNR=13
MDH Madha 96.99 295 P **P** **21 39 03.5 -0.5**
SNR=10.0
UOSS Minazif 97.06 294 P **P** **21 39 02.4 -1.8**
UOSS IAmb IAmb 21 39 09.2
comp=Z,81nm,1.2s
UOSS Minazif 97.06 294 *i* P **P** **21 39 02.1 -2.2**
SNR=14
UOSS Minazif 97.06 294 P **P** **21 39 03.8 -0.5**
PSUT Pine Spring 97.07 52 IAmb IAmb 21 39 08.4
comp=Z,161nm,1.3s
HATD Hatta, Dubai 97.12 294 *i* P **P** **21 39 02.2 -2.4**
SNR=16
HATD Hatta, Dubai 97.12 294 P **P** **21 39 04.3 -0.2**
SNR=25
MASF Masafi 97.12 295 P **P** **21 39 04.3 -0.3**
SNR=72
MSFE Esma-Masafi 97.12 295 *i* P **P** **21 39 02.7 -1.9**
SNR=33
MSO Missoula 97.14 44 IAMs_20 IAMs_20 22 14 44.1
comp=Z,51µm,22.0s
SHME Shamm 97.17 295 *i* P **P** **21 39 02.3 -2.4**
SNR=12
SHME Shamm 97.17 295 P **P** **21 39 04.3 -0.4**
SNR=14
ASHO Ashiyiah 97.18 294 *i* P **P** **21 39 03.2 -1.7**
SNR=31
ASHO Ashiyiah 97.18 294 P **P** **21 39 04.1 -0.8**
SNR=17
PIX Pinacate 97.19 59 P Pdif 21 39 06.0 +1.2
SHAO Shalim 97.22 287 P **P** **21 39 05.0 -0.2**
ALNE Al Ain 97.43 293 *i* P **P** **21 39 03.8 -2.2**
SNR=15
ALNE Al Ain 97.43 293 P **P** **21 39 05.6 -0.4**
SNR=28
CCUT Cedar City 97.44 53 P Pdif 21 39 06.7 +0.6
CCUT IAmb IAmb 21 39 10.7
comp=Z,234nm,1.5s
LCMT Little Creek M 97.52 54 IAmb IAmb 21 39 10.8
comp=Z,199nm,1.4s
NAZ Nazwa, Dubai 97.55 294 *i* P **P** **21 39 02.9 -3.6**
SNR=9.0
NAZ Nazwa, Dubai 97.55 294 P **P** **21 39 06.5 0.0**
SNR=15
UMQ Umm Al-Quwin 97.57 295 *i* P **P** **21 39 04.6 -2.0**
SNR=6.4
UMQ Umm Al-Quwin 97.57 295 P Pdif 21 39 07.3 +0.7
SNR=5.5
FAQ Al Faqa, Dubai 97.60 294 *i* P **P** **21 39 04.7 -2.0**
SNR=8.7
FAQ Al Faqa, Dubai 97.60 294 P **P** **21 39 06.2 -0.5**
SNR=13
Y14A Wickenburg 97.64 57 P Pdif 21 39 08.1 +1.2
Y14A IAmb IAmb 21 39 11.6
comp=Z,192nm,1.8s
SZCU Shurtz Canyon 97.66 53 IAmb IAmb 21 39 11.5
comp=Z,210nm,1.5s
214A Organ Pipe Nat 97.75 59 P Pdif 21 39 08.7 +1.3
214A IAmb IAmb 21 39 14.5
comp=Z,104nm,1.1s
214A Organ Pipe Nat 97.75 59 P **P** **21 39 06.8 -0.5**
baz=268,SNR=33
ASUD Al Ashush, Dub 97.84 294 *i* P **P** **21 39 05.4 -2.3**
SNR=23
ASUD Al Ashush, Dub 97.84 294 P **P** **21 39 07.2 -0.5**
SNR=17
DMTO DMTO 97.85 287 P **P** **21 39 07.3 -0.6**
MCMT McKenzie Canyo 97.90 46 P Pdif 21 39 08.8 +0.8
UMZA Um Al Zommool 97.91 292 P **P** **21 39 07.7 -0.4**
DUG Dugway, Tooele 97.91 50 IAMs_20 IAMs_20 22 17 03.4
comp=Z,48µm,22.0s
DUG Dugway, Tooele 97.91 50 P **P** **21 39 07.8 -0.1**
baz=269,SNR=44
HVU Hansel Valley 97.95 49 IAmb IAmb 21 39 15.7
comp=Z,147nm,1.0s
SRIG Santa Rosalia 98.10 63 P Pdif 21 39 09.7 +0.8
SRIG IAmb IAmb 21 39 29.2
comp=Z,340nm,2.2s
AJN Ajban 98.15 294 *i* P **P** **21 39 06.8 -2.3**
SNR=9.1
AJN Ajban 98.15 294 P **P** **21 39 08.6 -0.6**
SNR=8.5
LRM Limekiln Ridge 98.18 45 P Pdif 21 39 09.3 +0.1
SPUT South Promonto 98.19 49 IAmb IAmb 21 39 14.5
comp=Z,222nm,1.7s
LYMT Lyon Mountain 98.28 43 P Pdif 21 39 10.5 +0.9
U15A North Rim 98.28 54 IAmb IAmb 21 39 14.7
comp=Z,211nm,1.5s
MVU Marysvale 98.36 52 P Pdif 21 39 11.0 +0.8
MVU IAmb IAmb 21 39 20.8
comp=Z,138nm,1.0s
MTPU Mount Cierson 98.38 52 IAmb IAmb 21 39 15.4
comp=Z,259nm,1.6s
NLU North Lily Min 98.47 51 IAmb IAmb 21 39 14.3
comp=Z,95nm,1.4s
RBK Rabkut 98.54 287 P **P** **21 39 10.9 -0.2**
SNR=8.9
HRY Holter Researc 98.59 44 P Pdif 21 39 11.5 +0.6
DOK Doka 98.67 288 P **P** **21 39 11.4 -0.2**
SNR=10
CTU Camp Tracy 98.72 50 P Pdif 21 39 12.2 +0.5
BOZ Bozeman (W) 98.76 45 IAMs_20 IAMs_20 22 15 35.6
comp=Z,58µm,22.0s
BOZ Bozeman (W) 98.76 45 P **P** **21 39 11.2 -0.4**
baz=271,SNR=69
MPU Maple Canyon 98.81 50 P Pdif 21 39 14.0 +1.9
HWUT Hardware Ranch 98.86 49 IAMs_20 IAMs_20 22 19 29.4
comp=Z,49µm,20.0s
QLMT Earthquake Lak 98.91 46 P Pdif 21 39 13.2 +0.8
X16A Lo Mia Camp, P 98.95 56 P Pdif 21 39 14.2 +1.4
WHFO Wadi Hawf 98.98 287 P **P** **21 39 12.1 -1.0**
SNR=6.4
TCUT Toone Canyon 98.98 49 IAmb IAmb 21 39 28.7
comp=Z,63nm,1.0s
WUAZ Wupatki 99.01 55 IAmb IAmb 21 39 18.0
comp=Z,213nm,1.4s
WUAZ IAMs_20 IAMs_20 22 15 41.9
comp=Z,64µm,22.0s
WUAZ Wupatki 99.01 55 Pdiff **Pdif** **21 39 13.4 +0.4**
baz=270
MZWR Madinat Zayed 99.12 293 P **Pdif** **21 39 13.0 -0.6**
TMUT Trail Mountain 99.14 51 IAmb IAmb 21 39 21.0
comp=Z,110nm,0.9s
Q16A Castle Valley 99.18 52 IAmb IAmb 21 39 42.5
comp=Z,75nm,1.0s
AHID Auburn Hatcher 99.19 48 IAmb IAmb 21 39 20.3
comp=Z,71nm,1.1s
AHID IAMs_20 IAMs_20 22 16 42.0
comp=Z,53µm,21.0s
FXWY Fox Creek 99.22 47 IAMs_20 IAMs_20 22 18 05.1
comp=Z,55µm,20.0s
NVL N'lazarevskaya 99.27 193 *e*P **Pdif** **21 39 06.6 -6.6**
NVL *e**PP **pP** **21 39 21.5 -4.9**
NVL pmax pmax
comp=Z,103nm,2.0s
NVL MLR MLR
comp=Z,33µm,19.0s
IMW Indian Meadow 99.28 47 IAMs_20 IAMs_20 22 21 53.5
comp=Z,56µm,19.0s
TPAW Teton Pass 99.28 47 IAmb IAmb 21 39 16.9
comp=Z,86nm,1.2s
TPAW IAMs_20 IAMs_20 22 26 04.5
comp=Z,47µm,18.0s
HSIG 99.29 62 P **Pdif** **21 39 15.8 +1.6**
HSIG IAmb IAmb 21 39 35.4
comp=Z,107nm,1.6s
YFT Old Faithful 99.34 46 P **Pdif** **21 39 15.7 +1.3**
YFT IAmb IAmb 21 39 24.2
comp=Z,74nm,0.8s
ABTO Aybut 99.40 287 P **Pdif** **21 39 14.3 -0.7**
SNR=16
MOOW Moose Ponds 99.43 47 IAMs_20 IAMs_20 22 17 51.4
comp=Z,58µm,21.0s
SNOW Snow King Moun 99.43 47 P **Pdif** **21 39 15.0 +0.2**
SNOW IAmb IAmb 21 39 18.5
comp=Z,79nm,1.2s
SNOW IAMs_20 IAMs_20 22 23 27.4
comp=Z,52µm,18.0s
YNM Yellowstone No 99.43 46 P **Pdif** **21 39 15.5 +0.7**
YNM IAmb IAmb 21 39 19.6
comp=Z,120nm,1.3s
YNR Norris Junctio 99.45 46 P **Pdif** **21 39 15.3 +0.5**
YNR IAmb IAmb 21 39 19.7
comp=Z,103nm,1.4s
FLWY Flagg Ranch 99.45 46 IAMs_20 IAMs_20 22 18 44.1
comp=Z,65µm,20.0s
BSUT Blindstream Ca 99.48 50 P **Pdif** **21 39 14.6 -0.7**
TUC Tucson 99.48 58 P **Pdif** **21 39 15.6 +0.5**
TUC Tucson 99.48 58 Pdiff **Pdif** **21 39 14.9 -0.2**
baz=269
TUC Tucson 99.48 58 P **Pdif** **21 39 15.6 +0.5**
TUC pmax pmax
comp=Z,33nm,1.3s
TUC MLR MLR
comp=Z,62µm,18.0s
P17A Butcher Ranch, 99.51 51 P **Pdif** **21 39 14.7 -0.4**
P17A IAmb IAmb 21 39 34.5
comp=Z,100nm,1.0s
HMU Henry Mountain 99.52 53 P **Pdif** **21 39 14.4 -1.0**
HMU IAmb IAmb 21 39 25.2
comp=Z,86nm,0.7s
H17A Grant Village 99.53 46 P **Pdif** **21 39 15.0 -0.3**
H17A IAmb IAmb 21 39 35.8
comp=Z,62nm,1.0s
H17A Grant Village 99.53 46 Pdiff **Pdif** **21 39 15.6 +0.3**
baz=272
LOHW Long Hollow 99.53 47 P **Pdif** **21 39 14.8 -0.5**
LOHW IAMs_20 IAMs_20 22 20 03.2
comp=Z,51µm,20.0s
LKWY Lake 99.65 46 Pdif **Pdif** **21 39 16.7 +0.9**
LKWY Lake 99.65 46 P **Pdif** **21 39 16.7 +0.9**
LKWY pmax pmax
comp=Z,43nm,1.0s
SRU San Rafael Swe 99.68 51 Pdif **Pdif** **21 39 15.8 -0.1**
SRU San Rafael Swe 99.68 51 P **Pdif** **21 39 15.8 -0.1**
SRU pmax pmax
comp=Z,51nm,0.8s
LPIG La Paz 99.74 67 LR LR 22 17 00.7
comp=Z,60µm,20.8s,baz=278,slow=31
YMP Mirror Lake Pl 99.82 46 Pdif **Pdif** **21 39 16.8 +0.1**
YMP IAmb IAmb 21 39 57.9
comp=Z,83nm,1.2s
P18A Preston Nutter 99.89 51 Pdif **Pdif** **21 39 16.8 -0.3**
EGMT Eagleton 99.96 42 IAMs_20 IAMs_20 22 24 10.3
comp=Z,54µm,18.0s
EGMT Eagleton 99.96 42 Pdiff **Pdif** **21 39 17.6 +0.7**
baz=273
TROLL Troll, Antarti 100.02 189 ⇑P **Pdif** **21 39 18.9 +2.2**
comp=Z,1µm,0.8s
TROLL ⇑x x 21 55 35.8
comp=Z,385nm,0.8s
GHWR Ruwais 100.05 293 P **Pdif** **21 39 17.2 -0.5**
SLBS Sierra La Lagu 100.06 67 Pdif **Pdif** **21 39 17.9 +0.1**
JRN Qarnain Island 100.10 294 P **Pdif** **21 39 17.4 -0.4**
SNR=7.6
X18A Snowflake 100.18 56 Pdif **Pdif** **21 39 19.0 +0.7**
BW06 Boulder Array 100.32 48 Pdiff **Pdif** **21 39 18.5 -0.3**
baz=272
PD31 Pinedale Array 100.32 48 Pdif **Pdif** **21 39 18.3 -0.5**
PDAR Pinedale Array 100.32 48 Pdif **Pdif** **21 39 18.5 -0.3**
PDAR Pinedale Array 100.32 48 P **Pdif** **21 39 17.6 -1.2**
comp=Z,29nm,0.8s,baz=248,slow=2.4,SNR=77
PDAR S **SKSac** **21 49 53.8 -0.9**
comp=Z,0.9nm,0.9s,baz=28,slow=4.1,SNR=2.1
PDAR PKKPbc **PKKPbc** **21 55 34.9 -1.9**
comp=Z,1.9nm,0.7s,baz=111,slow=5.1,SNR=9.4
PDAR PKKP **PKKPdf** **21 55 40.6 -1.2**
comp=Z,5.0nm,0.9s,baz=97,slow=7.4,SNR=7.2
PDAR PKPPKP **P'P'df** **22 03 49.5 -3.1**
comp=Z,1.1nm,0.7s,baz=259,slow=1.8,SNR=5.5
W18A Petrified Fore 100.35 55 **Pdif** **21 39 20.3 +1.3**
W18A Petrified Fore 100.35 55 Pdiff **Pdif** **21 39 19.0 0.0**
baz=270
RDMU Red Mountain 100.38 50 Pdif **Pdif** **21 39 19.7 +0.6**
RLMT Red Lodge 100.44 45 Pdif **Pdif** **21 39 20.0 +0.8**
RLMT IAMs_20 IAMs_20 22 16 42.0
comp=Z,50µm,22.0s
RLMT Red Lodge 100.44 45 Pdiff **Pdif** **21 39 19.1 -0.1**
baz=273
EUNU Eureka 100.73 9 Pdif **Pdif** **21 39 20.7 +1.1**
319A Douglas 100.75 59 Pdif **Pdif** **21 39 22.2 +1.4**
PV05 Paradox Valley 100.81 52 Pdif **Pdif** **21 39 22.2 +1.1**
PV10 Paradox Valley 100.85 52 Pdif **Pdif** **21 39 22.1 +0.8**
PV14 Lion Creek, Pa 100.87 52 Pdif **Pdif** **21 39 21.7 +0.4**
PV23 Carpenter Ridg 100.87 52 Pdif **Pdif** **21 39 21.8 +0.3**
PV21 Cone Mtn., Par 100.90 52 Pdif **Pdif** **21 39 21.7 +0.3**
PV19 Morning Glory 100.90 52 Pdif **Pdif** **21 39 21.4 0.0**
DUN6 Lazy B Ranch 100.91 58 Pdif **Pdif** **21 39 22.3 +0.8**
PV20 West Nyswonger 100.91 52 Pdif **Pdif** **21 39 21.5 0.0**
PV17 East Wray Mesa 100.92 52 Pdif **Pdif** **21 39 21.5 0.0**
PV16 Nyswonger Mesa 100.95 52 Pdif **Pdif** **21 39 21.5 -0.1**
PV04 Paradox Valley 100.96 52 Pdif **Pdif** **21 39 21.4 -0.2**
PV18 Skein Mesa, Pa 100.96 52 Pdif **Pdif** **21 39 20.6 -1.1**
KIRV Kirov 100.97 329 *i* P **Pdif** **21 39 20.7 -0.2**
KIRV Kirov 100.97 329 P **Pdif** **21 39 18.5 -2.4**
comp=Z,44nm,0.6s,baz=89,slow=3.0,SNR=22
KIRV PKiKP **PKiKP** **21 43 45.7 -0.4**
comp=Z,12nm,0.8s,baz=93,slow=7.5,SNR=2.1
KIRV S **SKSac** **21 49 50.5 -6.0**
comp=Z,3.2nm,0.6s,baz=27,slow=18,SNR=1.3
PV11 David Mesa, Pa 100.99 52 Pdif **Pdif** **21 39 21.8 0.0**
PV03 Paradox Valley 101.01 52 Pdif **Pdif** **21 39 21.9 0.0**
PV12 Saucer Basin, 101.04 52 Pdif **Pdif** **21 39 21.8 -0.3**
PV22 Blue Mesa, Par 101.05 52 Pdif **Pdif** **21 39 21.8 -0.3**
PV02 Paradox Valley 101.10 52 Pdif **Pdif** **21 39 22.2 -0.2**
SNAA Sanae 101.13 188 Pdif **Pdif** **21 39 23.0 +1.4**
SNAA Sanae 101.13 188 ⇑P **Pdif** **21 39 21.2 -0.4**
comp=Z,223nm,1.0s
SNAA ⇑x x 21 55 28.9
comp=Z,161nm,0.8s
SNAA Sanae 101.13 188 P **Pdif** **21 39 23.0 +1.4**
SNAA MLR MLR
comp=Z,89µm,20.0s
SNAA Sanae 101.13 188 Pdiff **Pdif** **21 39 18.5 -3.0**
comp=Z,3.9nm,1.0s,baz=244,slow=18,SNR=2.8
SNAA PP **PP** **21 43 33.5 +3.5**
comp=Z,26nm,1.1s,baz=189,slow=6.7,SNR=3.6
SNAA S **SKSac** **21 49 52.3 -4.8**
comp=Z,2.9nm,0.9s,baz=70,slow=15,SNR=1.6
SNAA PKKPbc **PKKPbc** **21 55 32.4 -2.6**
comp=Z,9.4nm,0.9s,baz=261,slow=4.2,SNR=7.2
SLWR Sila 101.14 293 P **Pdif** **21 39 22.1 -0.4**
PV07 Paradox Valley 101.16 52 Pdif **Pdif** **21 39 22.3 -0.3**
PV01 Paradox Valley 101.23 52 Pdif **Pdif** **21 39 23.1 +0.1**
PV15 Paradox Valley 101.29 52 Pdif **Pdif** **21 39 22.6 -0.6**
MVCO Mesa Verde 101.31 53 Pdif **Pdif** **21 39 23.4 +0.1**
MVCO IAMs_20 IAMs_20 22 18 45.9
comp=Z,56µm,21.0s
MVCO Mesa Verde 101.31 53 Pdiff **Pdif** **21 39 23.4 +0.1**
baz=272
O20A White River Ci 101.41 50 Pdif **Pdif** **21 39 24.1 +0.5**
O20A White River Ci 101.41 50 Pdiff **Pdif** **21 39 23.8 +0.1**
baz=272
RES Resolute Bay 101.44 14 Pdif **Pdif** **21 39 23.1 +0.4**
RES Resolute Bay 101.44 14 P **Pdif** **21 39 23.1 +0.4**
ABPO Ambohimpanom 101.57 249 Pdif **Pdif** **21 39 24.2 -0.6**
ABPO Ambohimpanom 101.57 249 P **Pdif** **21 39 24.2 -0.6**
TRNA Turayna 101.58 294 P **Pdif** **21 39 24.3 -0.2**
SNR=5.1
SHMA Al-Shehemyia 101.82 295 P **Pdif** **21 39 25.4 0.0**
SNR=5.7
SMRA Abu-Samra 101.94 294 P **Pdif** **21 39 25.4 -0.7**
SNR=11
121A Cookes Peak, D 102.01 58 Pdif **Pdif** **21 39 27.2 +0.8**
121A Cookes Peak, D 102.01 58 Pdiff **Pdif** **21 39 25.3 -1.1**
baz=271
121A Cookes Peak, D 102.01 58 P **Pdif** **21 39 25.6 -0.8**
baz=271
RWWY Rawlins 102.11 49 Pdif **Pdif** **21 39 26.3 -0.5**
RWWY IAMs_20 IAMs_20 22 18 41.6
comp=Z,44µm,22.0s
VNA3 Neumayer Olymp 102.37 186 ⇑P **Pdif** **21 39 26.8 -0.2**
comp=Z,9.9nm,0.7s
VNA3 ⇑x x 21 55 28.0
comp=Z,11nm,0.9s
VNA2 Neumayer--Watz 102.41 187 ⇑P **Pdif** **21 39 28.3 +1.1**
comp=Z,12nm,0.7s,baz=164,slow=4.6
SMCO Snowmass 102.44 51 Pdif **Pdif** **21 39 28.8 +0.3**
LAO LASA Array 102.45 44 Pdif **Pdif** **21 39 27.8 -0.1**
LAO IAMs_20 IAMs_20 22 20 10.2
comp=Z,36µm,20.0s
LAO LASA Array 102.45 44 Pdiff **Pdif** **21 39 28.0 +0.1**
baz=275
LAO LASA Array 102.45 44 P **Pdif** **21 39 28.9 +0.9**
baz=275
K22A Casper 102.56 48 Pdif **Pdif** **21 39 29.0 +0.3**
K22A Casper 102.56 48 Pdiff **Pdif** **21 39 29.2 +0.5**
baz=274
K22A Casper 102.56 48 P **Pdif** **21 39 29.2 +0.5**
baz=274
LENM Lemitar 102.65 56 Pdif **Pdif** **21 39 30.2 +0.9**
Y22A Socorro 102.66 57 P **Pdif** **21 39 29.5 +0.1**
baz=272
Y22D IRIS PASSCAL I 102.70 56 Pdif **Pdif** **21 39 30.6 +1.2**
Y22D IAMs_20 IAMs_20 22 17 32.5
comp=Z,41µm,22.0s
Y22D IRIS PASSCAL I 102.70 56 Pdiff **Pdif** **21 39 30.6 +1.2**
baz=272
Y22F Passcal Instru 102.70 56 Pdiff **Pdif** **21 39 31.1 +1.7**
baz=272
BELG Belogornoye 102.79 322 *c i* P **Pdif** **21 39 27.5 -1.7**
BELG pmax pmax
comp=Z,15nm,1.1s
BELG Belogornoye 102.79 322 Pdiff **Pdif** **21 39 26.4 -2.7**
comp=Z,72nm,1.1s,baz=158,slow=0.8,SNR=19
BELG S **SKSac** **21 49 59.3 -6.1**
comp=Z,7.8nm,0.9s,baz=38,slow=17,SNR=1.4
CRNM Carthage 102.86 57 Pdif **Pdif** **21 39 33.0 +2.8**
BNM Barren Site 102.94 56 Pdif **Pdif** **21 39 31.5 +0.9**
ANMO Albuquerque 103.05 56 Pdif **Pdif** **21 39 32.1 +1.1**
ANMO Albuquerque 103.05 56 Pdiff **Pdif** **21 39 31.4 +0.4**
baz=272
ANMO Albuquerque 103.05 56 P **Pdif** **21 39 32.1 +1.1**
ANMO MLR MLR
comp=Z,28µm,20.0s
EPT El Paso 103.11 59 Pdif **Pdif** **21 39 33.0 +1.7**
EPT IAMs_20 IAMs_20 22 23 46.7
comp=Z,39µm,19.0s
N23A Red Feather La 103.12 49 Pdif **Pdif** **21 39 31.3 0.0**
N23A Red Feather La 103.12 49 Pdiff **Pdif** **21 39 31.7 +0.4**
baz=274
HOPEN Hopen 103.40 349 *e*P **Pdif** **21 39 33.5 +2.1**
HOPEN IVmB_BB 21 39 39.9
comp=Z,2µm,2.7s
HOPEN *e*PP **PP** **21 43 49.0 +1.8**

HOPEN eSP SP 21 52 53.5 +2.4
HOPEN IVMs_BB IVMs_BB 22 25 42.9
comp=Z,24µm,22.7s
ISCO Idaho Springs 103.45 51 Pdiff Pdif 21 39 33.6 +0.7
baz=274
ISCO Idaho Springs 103.45 51 P Pdif 21 39 33.5 +0.7
baz=274
PHWY Pilot Hill 103.45 49 Pdif Pdif 21 39 33.0 +0.1
PHWY IAMs_20 IAMs_20 22 23 28.1
comp=Z,48µm,20.0s
DGMT Dagmar 103.62 42 Pdif Pdif 21 39 34.0 +0.9
DGMT Dagmar 103.62 42 IAMs_20 IAMs_20 22 23 18.1
comp=Z,51µm,20.0s
DGMT Dagmar 103.62 42 Pdiff Pdif 21 39 33.5 +0.4
baz=277
DGMT Dagmar 103.62 42 P Pdif 21 39 33.8 +0.8
baz=277
SDCO Great Sand Dun 103.67 53 Pdif Pdif 21 39 34.8 +0.9
SDCO Great Sand Dun 103.67 53 Pdiff Pdif 21 39 33.8 -0.1
baz=274
SDCO Great Sand Dun 103.67 53 P Pdif 21 39 34.2 +0.3
baz=274
SPA0 Spitsbergen Ar 103.83 351 ePdif **Pdif 21 39 31.7 -1.6**
SPA0 IVmBBB 21 39 41.3
comp=Z,1µm,3.8s
SPA0 ePP **PKiKP 21 43 53.3 +2.4**
SPA0 eSP SP 21 52 58.0 +2.6
SPA0 eSS **SS 21 58 39.6 +6.2**
SPA0 IVMs_BB IVMs_BB 22 22 43.5
comp=Z,14µm,27.6s
SPITS Spitsbergen Ar 103.83 351 Pdiff **Pdif 21 39 31.2 -2.2**
comp=Z,7.4nm,0.9s,baz=147,slow=3.4,SNR=5.6
SPITS PKiKP **PP 21 43 48.5 -1.8**
comp=Z,10nm,0.8s,baz=28,slow=6.5,SNR=8.4
SPITS PKKPbc **PKKPbc 21 55 25.4 -1.8**
comp=Z,4.8nm,0.7s,baz=131,slow=6.3,SNR=11
SPITS PKKP **PKKPdf 21 55 33.0 -2.6**
comp=Z,12nm,0.9s,baz=143,slow=5.0,SNR=5.3
Q24A Divide 103.87 51 Pdif Pdif 21 39 34.8 0.0
Q24A Divide 103.87 51 Pdiff Pdif 21 39 34.8 0.0
baz=274
KBS Kingsbay 103.90 353 eP **Pdif 21 39 33.3 -0.3**
KBS IVmB_BB 21 39 37.4
comp=Z,578nm,3.9s
KBS ePP **PP 21 43 51.2 +0.3**
KBS eSP SP 21 52 58.5 +2.3
KBS eSS **SS 21 58 41.2 +6.9**
KBS IVMs_BB IVMs_BB 22 21 22.8
comp=Z,14µm,30.6s
MAK Makhachkala 103.95 313c iP **Pdif 21 39 25.7 -8.9**
MAK i 21 43 55.3
MAK ePPP PPP 21 46 02.3
MAK e 21 50 07.4
MAK e 21 50 51.2
MAK eSS SS 21 58 36.1 -0.9
MAK pmax pmax
comp=Z,303nm,1.3s
MAK pmax pmax
comp=Z,1µm,2.2s
MNTX Cornudas Mount 104.08 59 Pdiff Pdif 21 39 36.1 +0.6
baz=272
MNTX Cornudas Mount 104.08 59 P Pdif 21 39 37.6 +2.1
baz=272
RSSD Black Hills 104.24 46 IAMs_20 IAMs_20 22 26 15.7
comp=Z,41µm,19.0s
RSSD Black Hills 104.24 46 Pdiff Pdif 21 39 36.7 +0.6
baz=276
RSSD Black Hills 104.24 46 P Pdif 21 39 36.4 +0.2
baz=276
BRIGG Briggsdale 104.37 50 IAMs_20 IAMs_20 22 21 16.5
comp=Z,47µm,21.0s
T25A Trinidad 104.58 53 Pdiff Pdif 21 39 39.4 +1.6
baz=274
PMSA Palmer Station 105.12 165 eP **Pdif 21 39 40.5 +1.2**
GROC Groznyy 105.17 313 eP **Pdif 21 39 37.0 -3.0**
GROC e 21 50 17.2
GROC e 21 50 59.8
GROC pmax pmax
comp=Z,71nm,1.5s
KLMR Klimovskoe 105.39 332 eP **Pdif 21 39 38.0 -2.6**
KLMR 21 43 59.5
KLMR SP SP 21 53 14.1 +1.6
KLMR SS **SKKPbc 21 59 04.8 +2.8**
KLMR pmax pmax
comp=Z,65nm,1.5s
KLMR MLR MLR
comp=Z,64µm,21.0s
APA Apatity 105.54 339↓ iP **Pdif 21 39 35.7 -5.4**
APA i 21 44 06.0
APA i 21 50 21.0
APA i 21 50 55.0
APA i PS **PS 21 53 11.0 -8.9**
TX31 Lajitas Ar. Si 105.65 61 P Pdif 21 39 42.3 -0.3
baz=272
TXAR Lajitas Array 105.65 61 Pdiff Pdif 21 39 45.3 +2.7
comp=Z,2.5nm,0.8s,baz=260,slow=3.5,SNR=18
TXAR PKiKP **PKiKP 21 43 54.0 -1.7**
comp=Z,1.3nm,1.0s,baz=258,slow=6.1,SNR=4.0
TXAR PKKPbc **PKKPbc 21 55 16.6 -3.7**
comp=Z,2.0nm,1.0s,baz=84,slow=4.7,SNR=4.1
TXAR PKKP **PKKPdf 21 55 28.9 -2.6**
comp=Z,3.2nm,0.8s,baz=104,slow=3.8,SNR=4.1
TXAR PKKPab **PKKPab 21 55 37.7 +1.0**
comp=Z,5.7nm,0.9s,baz=117,slow=5.2,SNR=9.7
TXAR PKPPKP **P'P'df 22 03 41.0 -2.3**
comp=Z,1.1nm,1.0s,baz=113,slow=2.3,SNR=3.9
VADS Vadso 105.71 342 IVmB_BB 21 39 42.3
comp=Z,2µm,4.3s
VADS eP **Pdif 21 39 42.5 +0.7**
VADS ePP **PP 21 44 01.0 -3.4**
VADS eSP SP 21 53 18.8 +3.5
VADS eSS **SS 21 58 58.2 -1.2**
VADS IVMs_BB IVMs_BB 22 28 40.9
comp=Z,16µm,21.1s
TULEG Thule 105.72 9 IAMs_20 IAMs_20 22 27 26.7
comp=Z,34µm,21.0s
KSCO Kaye Shedlock' 105.82 51 Pdiff Pdif 21 39 44.9 +1.7
baz=276
KSCO Kaye Shedlock' 105.82 51 P Pdif 21 39 44.8 +1.7
baz=276
BJO1 Bjornoya 105.83 348 eP **Pdif 21 39 42.2 0.0**
BJO1 ePP **PP 21 44 04.0 -1.1**
BJO1 eSP SP 21 53 19.8 +3.4
BJO1 eSS **SS 21 59 00.7 -0.1**
BJO1 IVMs_BB IVMs_BB 22 27 18.1
comp=Z,22µm,19.8s
OGNE Ogallala 106.06 49 IAMs_20 IAMs_20 22 23 26.2
comp=Z,57µm,20.0s
OGNE Ogallala 106.06 49 Pdiff Pdif 21 39 45.5 +1.3
baz=277
OGNE Ogallala 106.06 49 P Pdif 21 39 43.9 -0.3
baz=277
MSTX Muleshoe 106.14 56 Pdiff Pdif 21 39 45.7 +1.0
baz=274
MSTX Muleshoe 106.14 56 P Pdif 21 39 42.7 -2.0
baz=274
E28A Huff 106.24 43 P Pdif 21 39 42.0 -2.8
baz=279
GNI Garni 106.31 310 PKiKP PKiKP 21 43 57.4 +0.6
comp=Z,30nm,1.0s,baz=172,slow=4.3,SNR=5.0
KEV Kevo 106.60 343 IAMs_20 IAMs_20 22 33 31.3
comp=Z,33µm,20.0s
VRH Novokhopyorsk 106.61 322 eP **Pdif 21 39 43.8 -2.4**
VRH eSS SS 21 59 28.6 +16
VRH pmax pmax
comp=Z,10.0nm,0.9s
VRH MLR MLR
comp=Z,41µm,23.0s
MDND Maddock 106.76 42 Pdiff Pdif 21 39 47.9 +0.9
baz=280
MDND Maddock 106.76 42 P Pdif 21 39 47.9 +0.9
baz=280
GOF Gofitskoye 106.88 315ce eP **Pdif 21 39 48.1 +0.5**
AMTX Amarillo 106.97 55 IAMs_20 IAMs_20 22 20 56.5
comp=Z,33µm,21.0s
AMTX Amarillo 106.97 55 Pdiff Pdif 21 39 49.9 +1.5
baz=275
AMTX Amarillo 106.97 55 P Pdif 21 39 49.2 +0.9
baz=275
HAMF Hammerfest 107.07 344 eP **Pdif 21 39 48.4 +0.6**
HAMF IVmB_BB 21 39 52.2
comp=Z,1µm,2.5s
HAMF ePP **PP 21 44 15.9 +1.6**
HAMF eSKSac **SKSac 21 50 27.5 +3.4**
HAMF eSP **SP 21 53 32.6 +3.3**
HAMF eSS **SS 21 59 26.1 +8.3**
HAMF IVMs_BB IVMs_BB 22 29 15.0
comp=Z,14µm,20.3s
NEEM North Greenlan 107.13 5 i P **PKiKP 21 43 58.5 +1.1**
NEEM IAmb IAmb 21 44 20.4
comp=Z,15nm,0.8s
NEEM IAMs_20 IAMs_20 22 22 25.8
comp=Z,47µm,25.6s
ARA0 ARCESS Array S 107.16 343 eP **Pdif 21 39 48.6 +0.3**
ARA0 IVmBBB 21 40 02.2
comp=Z,3µm,3.9s
ARA0 ePP **PP 21 44 17.5 +2.4**
ARA0 eSKSac **SKSac 21 50 23.1 -1.5**
ARA0 eSP **SP 21 53 35.8 +5.5**
ARA0 eSS **SS 21 59 24.8 +5.7**
ARA0 IVMs_BB IVMs_BB 22 29 54.9
comp=Z,14µm,24.3s
ARCES ARCESS Array B 107.16 343 Pdiff **Pdif 21 39 49.2 +0.9**
comp=Z,3.5nm,0.6s,baz=39,slow=7.2,SNR=6.4
ARCES PKiKP **PKiKP 21 43 56.9 -0.4**
comp=Z,10nm,0.6s,baz=101,slow=1.0,SNR=30
ARCES PKKPbc **PKKPbc 21 55 12.2 -4.6**
comp=Z,2.3nm,0.8s,baz=208,slow=4.1,SNR=5.0
ARCES PKKP **PKKPab 21 55 28.0 -1.2**
comp=Z,6.7nm,1.1s,baz=321,slow=1.3,SNR=5.3
KBZ Khabaz 107.19 314 Pdiff **Pdif 21 39 50.1 +1.2**
comp=Z,9.0nm,1.2s,baz=344,slow=3.5,SNR=3.7
KBZ PP **PP 21 44 16.2 0.0**
comp=Z,8.6nm,0.9s,baz=54,slow=7.1,SNR=4.6
KBZ PKKPbc **PKKPbc 21 55 13.3 -2.5**
comp=Z,4.1nm,1.1s,baz=325,slow=3.9,SNR=2.5
KBZ PKKP **PKKPab 21 55 29.5 +0.1**
comp=Z,8.4nm,0.9s,baz=233,slow=0.7,SNR=5.9
KIV Kislovodsk 107.31 314 i P **Pdif 21 39 46.7 -2.9**
KIV e 21 44 13.4
KIV e 21 50 23.1
KIV ePS **PS 21 53 36.7 -2.6**
KIV eSS SS 21 59 18.4 -4.5
KIV pmax pmax
comp=Z,26nm,1.0s
KIV MLR MLR
comp=Z,23µm,21.0s
K30B Basset 107.62 47 P Pdif 21 39 49.5 -1.5
baz=279
SUSD Miller 107.80 45 Pdiff Pdif 21 39 52.3 +0.5
baz=280
SUSD Miller 107.80 45 P Pdif 21 39 49.4 -2.4
baz=280
MOS Moscow 107.84 327 i P **Pdif 21 39 50.1 -1.5**
MOS pmax pmax
comp=Z,66nm,1.4s
LPSR Galich'ya Gora 107.97 324 eP **Pdif 21 39 51.5 -0.7**
LPSR eSS SS 21 59 50.5 +20
LPSR pmax pmax
comp=Z,20nm,1.1s
LPSR MLR MLR
comp=Z,56µm,25.0s
VORR Voronezh 108.03 323 eP **Pdif 21 39 50.9 -1.6**
VORR pmax pmax
comp=Z,7.0nm,0.9s
VORR MLR MLR
comp=Z,20µm,18.0s
CBKS Cedar Bluff 108.08 51 Pdiff Pdif 21 39 54.1 +0.9
baz=278
CBKS Cedar Bluff 108.08 51 P Pdif 21 39 53.5 +0.4
baz=278
KTK1 Kautokeino 108.13 343 eP **Pdif 21 39 55.0 +2.4**
KTK1 IVmBBB 21 39 57.4
comp=Z,2µm,3.7s
KTK1 ePP **PP 21 44 22.9 +0.7**
KTK1 eSKSac **SKSac 21 50 27.8 -1.0**
KTK1 eSP **SP 21 53 42.6 +2.5**
KTK1 eSS **SS 21 59 34.6 +2.4**
KTK1 IVMs_BB IVMs_BB 22 26 46.6
comp=Z,10µm,28.5s
VORD Divnogorie 108.15 322 eP **Pdif 21 39 51.2 -1.9**
VORD pmax pmax
comp=Z,7.0nm,0.8s
VORD MLR MLR
comp=Z,29µm,24.0s
VSR Storozhevoye 108.17 322 eP **Pdif 21 39 50.7 -2.5**
VSR eSS SS 21 59 37.1 +3.3
VSR pmax pmax
comp=Z,10.0nm,1.2s
VSR MLR MLR
comp=Z,31µm,20.0s
JOF Joensuu 108.29 335 eP **PKiKP 21 44 03.2 +3.8**
ERBR Yeremizino-Bor 108.53 316 i P **Pdif 21 39 55.2 +0.3**
ERBR i 21 44 26.3
ERBR e 21 50 30.7
ERBR i SS SS 21 59 43.7 +4.5
ERBR pmax pmax
comp=Z,47nm,1.1s
ERBR MLR MLR
comp=Z,59µm,24.0s
ERBR MLR MLR
comp=E,48µm,20.0s
LABN Labinsk 108.58 315 i P **Pdif 21 39 55.1 0.0**
LABN i 21 44 29.8
LABN e 21 50 29.1
LABN i PS **PS 21 53 54.4 +2.3**
LABN eSSS SSS 22 03 43.9
LABN pmax pmax
comp=Z,50nm,1.3s
LABN MLR MLR
comp=E,65µm,22.0s
LABN MLR MLR
comp=Z,64µm,21.0s
LABN MLR MLR
comp=N,55µm,20.0s
DAG Danmarks Havn 108.60 358 i P **PKiKP 21 44 01.7 +2.0**
DAG IAmb IAmb 21 44 36.5
comp=Z,4.0nm,0.8s
DAG IAMs_20 IAMs_20 22 24 02.9
comp=Z,44µm,24.0s
JETT Jettan, Norway 108.62 344 eP **Pdif 21 39 55.6 +0.8**
JETT IVmB_BB 21 39 57.8
comp=Z,2µm,3.7s
JETT ePP **PP 21 44 29.1 +3.4**
JETT eSKSac **SKSac 21 50 30.4 -0.5**
JETT eSP **SP 21 53 47.6 +2.5**
JETT IVMs_BB IVMs_BB 22 29 25.9
comp=Z,20µm,21.8s
D32B Dogwood Acres, 108.62 42 P Pdif 21 39 55.4 +0.2
baz=282
ULM Lac du Bonnet 108.64 39 Pdiff Pdif 21 39 54.5 -0.8
comp=Z,4.6nm,0.8s,baz=308,slow=5.3,SNR=3.8
ULM PKiKP **PKiKP 21 44 00.2 -0.3**
comp=Z,11nm,0.8s,baz=269,slow=2.8,SNR=10
ULM PP **PP 21 44 23.6 -2.9**
comp=Z,6.4nm,0.8s,baz=276,slow=4.9,SNR=3.1
ULM PKKPbc **PKKPbc 21 55 10.7 -0.9**
comp=Z,8.0nm,1.1s,baz=30,slow=0.4,SNR=4.1
ULM PKKP **PKKPab 21 55 23.8 +0.9**
comp=Z,5.1nm,0.9s,baz=38,slow=3.1,SNR=3.9
ABTX Abilene, Hawle 108.87 58 Pdiff Pdif 21 39 57.7 +0.9
baz=276
ABTX Abilene, Hawle 108.87 58 P Pdif 21 39 56.8 +0.1
baz=276
BGNE Belgrade 108.90 48 Pdiff Pdif 21 39 56.9 +0.1
baz=280
BGNE Belgrade 108.90 48 P Pdif 21 39 57.8 +1.1
baz=280
JCT Junction City 108.93 60 Pdiff Pdif 21 39 58.4 +1.3
baz=275
JCT Junction City 108.93 60 P Pdif 21 39 58.3 +1.3
baz=275
R32A Long Quarter, 108.93 51 P Pdif 21 39 58.3 +1.4
baz=278
TRO Tromso 108.98 344 eP **Pdif 21 39 56.6 +0.3**
TRO IVmBBB 21 40 07.5
comp=Z,1µm,3.3s
TRO ePP PP 21 44 19.2 -9.0
TRO eSKSac **SKSac 21 50 35.3 +3.0**
TRO eSP **SP 21 53 50.4 +1.7**
TRO eSS **SS 21 59 44.5 +1.0**
TRO IVMs_BB IVMs_BB 22 27 38.0
comp=Z,16µm,22.9s
U32A Winter Ranch, 108.98 54 P Pdif 21 39 57.5 +0.3
baz=277
AGMN Agassiz Nation 109.12 41 IAMs_20 IAMs_20 22 25 44.4
comp=Z,56µm,20.0s
AGMN Agassiz Nation 109.12 41 Pdiff Pdif 21 39 57.5 +0.1
baz=284
AGMN Agassiz Nation 109.12 41 P Pdif 21 39 56.8 -0.7
baz=284
OK035 E0210 Rd and N 109.17 53 IAMs_20 IAMs_20 22 23 20.6
comp=Z,49µm,21.0s
OK038 West end E0370 109.17 53 IAMs_20 IAMs_20 22 27 31.7
comp=Z,40µm,19.0s
WMOK Wichita Mounta 109.36 55 IAMs_20 IAMs_20 22 23 00.7
comp=Z,44µm,22.0s
WMOK Wichita Mounta 109.36 55 Pdiff Pdif 21 40 01.3 +2.4
baz=277
WMOK Wichita Mounta 109.36 55 P Pdif 21 40 00.4 +1.6
baz=277
F33A 5 Mile Ranch, 109.38 43 P Pdif 21 39 58.6 0.0
baz=282
833A Chaparral WMA, 109.45 62 Pdiff Pdif 21 40 01.2 +1.8
baz=274
833A Chaparral WMA, 109.45 62 P Pdif 21 40 00.2 +0.8
baz=274
SOC Sochi 109.49 314 i P **Pdif 21 39 53.4 -5.8**
SOC ePPP PPP 21 46 50.7
SOC e 21 50 26.8
SOC ePS **PS 21 53 49.1 -12**
SOC eSS SS 21 59 43.5 -8.6
SOC MLR MLR
comp=Z,31µm,21.0s
N33B J Bar K, Exete 109.53 49 P Pdif 21 39 59.4 -0.1
baz=280
OK032 Salt Plains WL 109.55 53 IAMs_20 IAMs_20 22 23 51.8
comp=Z,46µm,20.0s
ECSD EROS Data Cent 109.59 46 IAMs_20 IAMs_20 22 30 19.4
comp=Z,42µm,20.0s
KAN05 Bluff City Nor 109.78 53 Pdif Pdif 21 40 02.6 +1.9
KAN17 Caldwell West 109.87 53 Pdif Pdif 21 40 02.5 +1.4
PLPT Palo Pinto 109.96 57 Pdif Pdif 21 40 03.1 +1.5
KAN09 Caldwell North 109.97 53 Pdif Pdif 21 40 02.6 +1.1
UNM Universidad Na 110.07 72 IAMs_20 IAMs_20 22 24 46.6
comp=Z,30µm,20.0s
L34A Svendsen Farm, 110.11 47 Pdif Pdif 21 40 03.0 +0.9
L34A Svendsen Farm, 110.11 47 P Pdif 21 40 01.4 -0.7
baz=281
KSU1 Kansas State U 110.45 50 Pdif Pdif 21 40 04.9 +1.3
KSU1 Kansas State U 110.45 50 Pdiff Pdif 21 40 03.5 -0.1
baz=280
KSU1 Kansas State U 110.45 50 P Pdif 21 40 02.5 -1.1
baz=280
B35A Bob, Littlefor 110.48 40 Pdif Pdif 21 40 04.2 +0.7
B35A Bob, Littlefor 110.48 40 P Pdif 21 40 03.9 +0.3
baz=285
OK048 Pawnee Station 110.61 53 IAMs_20 IAMs_20 22 26 27.9
comp=Z,30µm,20.0s
OK033 Mehan 110.67 54 IAMs_20 IAMs_20 22 28 18.5
comp=Z,43µm,19.0s
WHTX Lake Whitney, 110.78 58 Pdiff Pdif 21 40 05.4 +0.2
baz=277
WHTX Lake Whitney, 110.78 58 P Pdif 21 40 04.9 -0.3
baz=277
Z35A Perchaven, San 110.79 57 P Pdif 21 40 05.9 +0.6
baz=277
OK052 Battle Ridge R 110.79 54 IAMs_20 IAMs_20 22 27 17.6
comp=Z,46µm,19.0s
735A Kenedy 110.80 61 P Pdif 21 40 05.0 -0.4
baz=275
435B Jarrell 110.80 59 Pdiff Pdif 21 40 06.6 +1.2
baz=276
435B Jarrell 110.80 59 P Pdif 21 40 07.2 +1.9
baz=276
ANN Anapa 110.84 316 i P **Pdif 21 40 05.0 -0.1**
ANN i 21 44 04.7
ANN e 21 44 24.0
ANN i 21 44 41.9
ANN e 21 50 42.3
ANN i PS **PS 21 54 08.1 -5.9**
ANN i SS SS 22 00 11.0 +1.0
ANN pmax pmax
comp=Z,34nm,1.2s
ANN MLR MLR
comp=N,15µm,23.0s
ANN MLR MLR
comp=Z,35µm,22.0s
ANN MLR MLR
comp=E,35µm,21.0s
N35A Tabor 110.86 48 P Pdif 21 40 04.2 -1.2
baz=281
T35B Sooner Cattle 110.88 53 P Pdif 21 40 06.0 +0.4
baz=279
DBG Daneborg 111.11 358 i P **PKiKP 21 44 04.6 +0.1**
DBG IAMs_20 IAMs_20 22 24 35.1
comp=Z,41µm,23.6s
STEI Steigen 111.11 344 eP **Pdif 21 40 05.1 -0.7**
STEI IVmB_BB 21 40 05.3
comp=Z,1µm,3.0s
STEI ePP **PP 21 44 43.4 -0.2**
STEI ePP **PP 21 44 46.1 +2.4**
STEI eSP SP 21 54 10.7 +1.5
STEI eSS **SS 22 00 16.2 +4.1**
STEI IVMs_BB IVMs_BB 22 29 41.0
comp=Z,18µm,24.0s
FINES FINESS Array B 111.15 335 Pdiff **Pdif 21 40 04.9 -1.3**
comp=Z,8.8nm,0.7s,baz=60,slow=3.6,SNR=27
FINES PKiKP **PKiKP 21 44 04.3 -0.6**
comp=Z,18nm,0.7s,baz=54,slow=2.4,SNR=20
FINES PKKPbc **PKKPbc 21 55 00.7 -3.0**
comp=Z,3.5nm,1.0s,baz=247,slow=5.3,SNR=3.6
FINES PKKPab **PKKPab 21 55 08.6 -3.0**
comp=Z,1.9nm,0.8s,baz=205,slow=2.9,SNR=3.8
FINES PKKP **PKKPdf 21 55 17.1 -4.6**
comp=Z,2.3nm,0.6s,baz=151,slow=3.2,SNR=4.2
F36A Milaca 111.26 43 P Pdif 21 40 06.7 -0.4
baz=285
KEF Keuruu 111.28 336 eP **PKiKP 21 44 05.7 +0.6**
FAUS Fauske 111.47 343 eP **Pdif 21 40 08.9 +1.4**
FAUS IVmB_BB 21 40 19.3
comp=Z,1µm,3.5s
FAUS ePP **PP 21 44 39.9 -6.3**
FAUS eSKSac **SKSac 21 50 40.2 -2.5**
FAUS eSP **SP 21 54 17.0 +4.5**
FAUS eSS **SS 22 00 14.5 -2.3**
FAUS IVMs_BB IVMs_BB 22 34 53.9
comp=Z,15µm,19.5s
TUL3 Leonard 111.61 54 IAMs_20 IAMs_20 22 27 06.4
comp=Z,40µm,20.0s
TUL3 Leonard 111.61 54 Pdiff Pdif 21 40 10.5 +1.6
baz=279
TUL3 Leonard 111.61 54 P Pdif 21 40 09.7 +0.8
baz=279
VAF Ylistaro 111.67 338 eP **PKiKP 21 44 07.2 +1.4**
SPMN Marine on St. 111.91 43 Pdiff Pdif 21 40 09.2 -0.8
baz=285
SPMN Marine on St. 111.91 43 P Pdif 21 40 08.4 -1.6
baz=285
EYMN Ely 112.03 40 Pdiff Pdif 21 40 10.0 -0.4
baz=287
EYMN Ely 112.03 40 P Pdif 21 40 08.6 -1.9
baz=287
X37A Clayton 112.16 55 P Pdif 21 40 13.4 +2.1
baz=279,SNR=5.6
237A Washetta, Mont 112.17 58 P Pdif 21 40 14.8 +3.4
baz=278
E38A The Farm, Brul 112.38 42 P Pdif 21 40 11.5 -0.5
baz=286
DESE Dese 112.43 280 ePdif **Pdif 21 40 21.4 +8.1**
DESE eSKSac SKSac 21 51 02.9 +13
SCIA State Center 112.43 47 Pdiff Pdif 21 40 12.1 -0.2
baz=283
SCIA State Center 112.43 47 P Pdif 21 40 13.0 +0.7
baz=283
MEF Metsahovi 112.48 334 eP **PKiKP 21 44 10.9 +3.4**
MOR8 Moi Rana 112.53 343 eP **Pdif 21 40 08.0 -4.3**
MOR8 IVmB_BB 21 40 15.6
comp=Z,1µm,3.7s
MOR8 ePP **PP 21 44 51.4 -2.5**
MOR8 eSKSac **SKSac 21 50 46.5 -0.6**
MOR8 eSP **SP 21 54 25.4 +2.9**
MOR8 eSS **SS 22 00 38.4 +7.2**
MOR8 IVMs_BB IVMs_BB 22 28 40.5
comp=Z,18µm,23.8s
K38A Parkersburg 112.57 46 P Pdif 21 40 13.3 +0.3
baz=284
U38A Gravette 112.65 53 P Pdif 21 40 13.4 0.0
baz=280
N38A Joes South For 112.66 48 P Pdif 21 40 13.4 0.0
baz=283
Z38A Mt. Pleasant 112.68 56 P Pdif 21 40 13.5 -0.1
baz=279
P38A Dawn 112.69 49 P Pdif 21 40 11.7 -1.9
baz=282
SUMG Summit 112.74 3 IAMs_20 IAMs_20 22 29 13.8
comp=Z,35µm,22.0s
STOK Stokkvaagen 112.84 343 eP **Pdif 21 40 12.9 -0.7**

STOK *e*PP **PP** 21 44 55.8 -0.2
STOK *e*SP SP 21 54 27.7 +2.6
STOK IVMs_BB IVMs_BB 22 32 19.8
comp=Z,16µm,22.3s
HHAR Hobbs 113.03 53 P **Pdif** **21 40 15.5 +0.3**
baz=280
KIBK Kibwezi 113.04 265 *e*P **Pdif** **21 40 19.1 +3.3**
SIM Simferopol' 113.08 317 *i* PKIKP **PKiKP** **21 44 09.1 0.0**
SIM *e* 21 45 07.0
SIM *e*SP SP 21 54 26.0 -2.8
SIM pmax pmax
comp=Z,51nm,1.1s
RAF Rauma 113.15 336 *e*P **PKiKP** **21 44 09.9 +1.2**
NATX Nacogdoches 113.17 58 IAMs_20 IAMs_20 22 34 10.8
comp=Z,37µm,18.0s
NATX Nacogdoches 113.17 58 Pdiff **Pdif** **21 40 16.0 +0.2**
baz=278
S39A Bolivar 113.25 51 P **Pdif** **21 40 15.9 -0.2**
baz=282
FURI Furi 113.30 277 *e*Pdif **Pdif** **21 40 24.8 +7.6**
FURI *e*SKSac SKSac 21 51 06.5 +13
MNK Minsk 113.50 328 *i* P **Pdif** **21 40 18.4 +1.6**
MNK *i* 21 45 03.3
MNK *i* PPP PPP 21 47 27.1
MNK *i* 21 51 18.2
MNK *i* PS **PS** **21 54 40.3 +2.2**
MNK *i* SS SS 22 00 46.8 +2.2
MNK *i* SSS SSS 22 05 00.3
MNK pmax pmax
comp=Z,29nm,1.0s
MNK pmax pmax
comp=E,12nm,1.0s
MNK pmax pmax
comp=N,9.0nm,0.9s
MNK MLR MLR
comp=N,25µm,21.0s
MNK MLR MLR
comp=Z,59µm,21.0s
MNK MLR MLR
comp=E,21µm,21.0s
MIAR Mount Ida 113.63 55 Pdiff **Pdif** **21 40 19.6 +1.7**
baz=280
MIAR Mount Ida 113.63 55 P **Pdif** **21 40 17.6 -0.3**
baz=280
G40A Rib Lake 113.67 43 P **Pdif** **21 40 18.9 +1.1**
baz=287
ASF Jabal al Asfar 113.68 303 PKiKP **PKiKP** **21 44 10.3 -0.4**
comp=E,20nm,1.2s,baz=94,slow=0.0,SNR=5.4
I40A Norwalk 113.77 44 P **Pdif** **21 40 17.8 -0.5**
baz=286
L40A Anamosa 113.83 46 P **Pdif** **21 40 17.9 -0.6**
baz=285
P40A Paris 113.83 49 P **Pdif** **21 40 17.5 -1.1**
baz=283
U40A Yellville 113.88 53 P **Pdif** **21 40 16.7 -2.2**
baz=281
U40A P **Pdif** **21 40 16.7 -2.2**
baz=281
ISAL Salakas 113.93 330 *e*P **PKiKP** **21 44 15.1 +4.7**
R40A Maddies Statio 113.94 51 P **Pdif** **21 40 19.9 +0.8**
baz=282
COWI Conover 114.13 42 P **Pdif** **21 40 20.3 +0.4**
baz=288
D41A Chassel 114.19 40 P **Pdif** **21 40 20.4 +0.3**
baz=289
AKASG Malin Array Be 114.30 324 Pdiff **Pdif** **21 40 18.5 -1.9**
comp=E,1.0nm,0.6s,baz=61,slow=3.1,SNR=6.2
AKASG PKP PKPdf 21 44 09.4 -1.7
comp=E,11nm,0.5s,baz=63,slow=2.3,SNR=27
AKASG PP **PP** **21 45 03.5 -3.5**
comp=E,6.4nm,0.7s,baz=49,slow=2.5,SNR=1.0
AKASG PKKPbc **PKKPbc** **21 54 50.7 -2.2**
comp=E,1.7nm,0.5s,baz=259,slow=4.3,SNR=9.2
AKASG PKKP **PKKPdf** **21 55 09.6 -6.0**
comp=E,1.3nm,0.5s,baz=263,slow=4.0,SNR=4.9
JFWS Jewell Farm 114.30 45 IAMs_20 IAMs_20 22 25 44.9
comp=Z,49µm,22.0s
JFWS Jewell Farm 114.30 45 Pdiff **Pdif** **21 40 19.5 -1.2**
baz=286
JFWS Jewell Farm 114.30 45 P **Pdif** **21 40 18.8 -1.8**
baz=286
KIEV Kiev 114.31 324 IAMs_20 IAMs_20 22 32 58.5
comp=Z,45µm,22.0s
NSS Namsos 114.42 342 *e*P **Pdif** **21 40 17.7 -3.0**
NSS IVmBBB 21 40 21.9
comp=Z,870nm,3.2s
NSS *e*PKPdf **PKiKP** **21 44 09.7 -1.3**
NSS *e*SP SP 21 54 43.9 +4.2
NSS IVMs_BB IVMs_BB 22 31 08.2
comp=Z,22µm,21.8s
N41A Harden Midland 114.44 48 P **Pdif** **21 40 20.9 -0.4**
baz=284
SLIT Slitere, Latvi 114.76 333 *e*P PKPdf 21 44 13.1 +1.2
CCM Cathedral Cave 114.78 51 Pdiff **Pdif** **21 40 23.7 +0.9**
baz=283
CCM Cathedral Cave 114.78 51 P **Pdif** **21 40 23.8 +0.9**
baz=283,SNR=9.8
BRTR Keskin Array B 114.78 311 PKP **PKiKP** **21 44 11.8 -1.0**
comp=Z,17nm,0.9s,baz=107,slow=1.5,SNR=22
BRTR PKKPbc **PKKPbc** **21 54 46.4 -4.7**
comp=Z,2.2nm,1.0s,baz=69,slow=4.1,SNR=3.8
BRTR PKKP **PKKPdf** **21 55 14.7 +0.1**
comp=Z,7.0nm,1.2s,baz=146,slow=2.8,SNR=3.8
MMAI Mount Meron Ar 114.78 304 PKP PKPdf 21 44 12.7 -0.1
comp=Z,9.7nm,0.7s,baz=76,slow=6.1,SNR=7.5
MOPA Mopani 114.82 241 *i* P **PKiKP** **21 44 16.2 +3.1**
MOPA Mopani 114.82 241 *i* P **PKiKP** **21 44 16.2 +3.1**
I42A Draeger Farm, 114.95 44 P **Pdif** **21 40 23.7 +0.1**
baz=287
L42A Oliver, Polo 114.96 46 P **Pdif** **21 40 24.1 +0.5**
baz=286
SCO Scoresbysund 114.99 358 *i* P PKPdf 21 44 14.0 +2.0
SCO IAMs_20 IAMs_20 22 25 00.8
comp=Z,42µm,28.3s
PABE Paberze 115.05 330 IAMs_20 IAMs_20 22 35 19.5
comp=Z,46µm,20.0s
PABE Paberze 115.05 330 *e*P **PKPdf** **21 44 15.6 +3.1**
LCAR Lake Charles 115.28 53 P **Pdif** **21 40 24.8 -0.4**
baz=282,SNR=15
ANTO Ankara 115.38 312 ⇑P **PKPdf** **21 44 15.4 +1.6**
ANTO Ankara 115.38 312 P **PKPdf** **21 44 15.6 +1.8**
ANTO Ankara 115.38 312 ⇑PKIKP **PKPdf** **21 44 15.4 +1.6**
PURM Purcari 115.41 319 ⇓P **PKPdf** **21 44 14.9 +1.5**
FVM French Village 115.42 51 P **Pdif** **21 40 25.9 +0.2**
baz=284,SNR=9.2
E43A Lone Tree Farm 115.44 41 P **Pdif** **21 40 26.4 +0.8**
baz=290
UPP Uppsala 115.50 336 *e*P **PKPdf** **21 44 14.3 +1.1**
HDIL Hopedale 115.63 48 Pdiff **Pdif** **21 40 27.5 +0.9**
baz=286
HDIL Hopedale 115.63 48 P **Pdif** **21 40 26.8 +0.2**
baz=286
PBMO Poplar Bluff 115.70 52 P **Pdif** **21 40 29.2 +2.2**
baz=283
P43A Skaggs, Pawnee 115.70 49 P **Pdif** **21 40 26.5 -0.5**
baz=285
K43A Burlington 115.71 45 P **Pdif** **21 40 26.0 -0.9**
baz=287
143A Socs Landing, 115.74 56 P **Pdif** **21 40 30.6 +3.4**
baz=280
PBUR Paburge 115.78 331 *e*P **PKPdf** **21 44 17.0 +3.2**
SORM Soroca 115.80 321 ⇑P **PKPdf** **21 44 14.4 +0.2**
SORM Soroca 115.80 321 ⇑PKIKP **PKPdf** **21 44 14.4 +0.2**
TBLU Trondheim 115.87 342 *e*P **Pdif** **21 40 30.4 +3.3**
TBLU IVmB_BB 21 40 35.9
comp=Z,741nm,3.1s
TBLU *e*PP **PP** **21 45 16.2 -1.2**
TBLU *e*SKSac **SKSac** **21 51 01.4 +1.3**
TBLU *e*SP **SP** **21 54 52.5 -0.4**
TBLU *e*SS **SS** **22 01 15.6 +0.5**
TBLU IVMs_BB IVMs_BB 22 32 08.7
comp=Z,20µm,24.0s
KIS Kishinev 115.93 320 ⇑ *i*P **Pdif** **21 40 26.6 -1.2**
comp=Z,330nm,16.1s
KIS Kishinev 115.93 320 ⇑ *i*PKP **PKiKP** **21 44 14.0 -0.5**
comp=Z,210nm,3.8s
KIS Kishinev 115.93 320 *e*PP PP 21 45 17.0 -1.6
comp=Z,2µm,13.0s
KIS *e*SKS **SKSdf** **21 51 19.0 -4.2**
KIS Kishinev 115.93 320 LRM MLR 22 35 24.0
comp=Z,12µm,21.0s
KIS Kishinev 115.93 320*c* *i*P **Pdif** **21 40 26.6 -1.2**
KIS *i* 21 44 14.0
KIS *e* 21 45 17.0
KIS *e* 21 51 19.0
KIS *i* PS **PKKPab** **21 54 50.0 -0.7**

KIS *e*PPS PPS 21 56 16.0
KIS pmax pmax
comp=Z,210nm,3.8s
KIS pmax pmax
comp=Z,2µm,13.0s
KIS Kishinev 115.93 320 *e*PPS PPS 21 56 16.0
KIS Kishinev 115.93 320 *e*L L 22 25 07.0
MILM Milestii Mici 115.96 320 ⇓P **PKPdf** **21 44 15.8 +1.2**
MILM Milestii Mici 115.96 320 ⇑P **Pdif** **21 40 26.0 -1.9**
comp=Z,2µm,30.6s
MILM Milestii Mici 115.96 320 *i* PKP **PKPdf** **21 44 15.0 +0.5**
comp=Z,140nm,1.2s
MILM Milestii Mici 115.96 320 *e*PP PP 21 45 18.0 -0.8
MILM *e*SKS **SKSdf** **21 51 18.0 -5.2**
MILM Milestii Mici 115.96 320 LRM MLR 22 35 27.0
comp=Z,29µm,21.0s
MILM Milestii Mici 115.96 320 *i* P **Pdif** **21 40 26.0 -1.9**
MILM *i* 21 44 15.0
MILM *e* 21 45 18.0
MILM *e* 21 51 18.0
MILM *e*PS **PS** **21 54 58.0 -2.9**
MILM *e*PPS PPS 21 56 14.0
MILM pmax pmax
comp=Z,140nm,1.2s
MILM Milestii Mici 115.96 320 *e*PPS PPS 21 56 14.0
MILM Milestii Mici 115.96 320 *e*L L 22 25 22.0
ICESG Greenland Ices 116.10 4 *i* P **PKPdf** **21 44 15.6 +0.9**
ICESG IAmb IAmb 21 44 20.8
comp=Z,15nm,0.8s
ICESG IAMs_20 IAMs_20 22 28 56.1
comp=Z,41µm,23.6s
L44A Lake County Fo 116.17 45 IAMs_20 IAMs_20 22 37 18.3
comp=Z,32µm,19.0s
L44A Lake County Fo 116.17 45 Pdiff **Pdif** **21 40 29.3 +0.4**
baz=287
SUW Suwalki 116.18 329 *e*PKP **PKiKP** **21 44 16.4 +1.6**
SUW *e*PP **PP** **21 45 20.6 +0.6**
SUW *e*PS **PS** **21 55 00.4 -2.1**
SUW *e*SS SS 22 02 03.3 +44
SUW Suwalki 116.18 329 *e*P **PKiKP** **21 44 17.5 +2.8**
LODK Lodwar 116.28 271 *e*Pdif **Pdif** **21 40 36.8 +6.6**
LODK *e*SKSac SKSac 21 51 18.0 +14
M44A Midewin, Midew 116.30 46 P **Pdif** **21 40 29.4 -0.2**
baz=287
HQIL Hanson Quary C 116.32 46 IAMs_20 IAMs_20 22 35 33.4
comp=Z,43µm,19.0s
O44A Mansfield 116.34 48 P **Pdif** **21 40 28.6 -1.2**
baz=286,SNR=7.2
S44A Carbondale 116.39 51 P **Pdif** **21 40 30.1 0.0**
baz=284
LEOM Leova 116.48 320 ⇓P **PKiKP** **21 44 17.1 +1.6**
LEOM Leova 116.48 320 ⇓PKIKP **PKiKP** **21 44 17.1 +1.6**
MUSN Musina, Limpop 116.55 242 *i* P **PKiKP** **21 44 18.7 +2.2**
MUSN Musina, Limpop 116.55 242 *i* P **PKiKP** **21 44 18.7 +2.2**
VBMS Vicksburg 116.56 57 IAMs_20 IAMs_20 22 30 20.7
comp=Z,47µm,20.0s
VBMS Vicksburg 116.56 57 PKiKP **PKiKP** **21 44 16.6 +0.5**
baz=281
I45A Fountain 116.74 43 P **Pdif** **21 40 32.0 +0.6**
baz=290
I45A P **Pdif** **21 40 32.0 +0.6**
baz=290
SFJD Kangerlussuaq 116.78 10 **PKiKP** **21 44 16.5 +1.0**
SFJD Kangerlussuaq 116.78 10 IAMs_20 IAMs_20 22 34 09.9
comp=Z,37µm,21.0s
SFJD Kangerlussuaq 116.78 10 PKIKP **PKiKP** **21 44 16.5 +1.0**
SFJD MLR MLR
comp=Z,37µm,21.0s
SFJD Kangerlussuaq 116.78 10 *i* P **PKiKP** **21 44 15.9 +0.4**
SFJD IAMs_20 IAMs_20 22 33 49.0
comp=Z,39µm,21.3s
HFS Hagfors 116.85 338 Pdiff **Pdif** **21 40 30.5 -1.1**
comp=Z,3.4nm,0.9s,baz=327,slow=2.4,SNR=1.3
HFS PKP **PKPdf** **21 44 14.7 -1.1**
comp=Z,9.9nm,0.7s,baz=103,slow=4.6,SNR=25
CCIG Comitan 116.86 75 IAMs_20 IAMs_20 22 24 52.6
comp=Z,35µm,21.0s
TPGR Topolog 116.95 318 ⇑P **PKiKP** **21 44 17.5 +0.9**
BIR Birlad 116.96 320 ⇑P **PKiKP** **21 44 18.2 +1.7**
BIR Birlad 116.96 320 ⇑PKIKP **PKiKP** **21 44 18.2 +1.7**
OLIL Olney 117.00 49 P **PKPdf** **21 44 16.8 0.0**
baz=286,SNR=7.3
OXF Oxford 117.01 54 IAMs_20 IAMs_20 22 35 07.3
comp=Z,33µm,19.0s
OXF Oxford 117.01 54 PKiKP **PKiKP** **21 44 17.2 +0.3**
baz=283
OXF Oxford 117.01 54 P **Pdif** **21 40 34.4 +1.6**
baz=283
CFR Carcaliu 117.03 318 ⇓P **PKiKP** **21 44 18.0 +1.4**
NEGRR Negrea 117.06 319 ⇑P **PKiKP** **21 44 18.5 +1.8**
EFOR EFORIE 117.08 317 ⇓P **PKiKP** **21 44 18.3 +1.5**
TIRR Tirgusor 117.09 318 ⇑P **PKiKP** **21 44 17.2 +0.4**
TIRR Tirgusor 117.09 318 ⇑PKIKP **PKiKP** **21 44 17.2 +0.4**
NB2 NORSAR Subarra117.13 340 P **Pdif** **21 40 33.7 +0.8**
comp=Z,1.7nm,0.8s,baz=48,slow=5.1
NB2 NORSAR Subarra117.13 340 PKPdf **PKPdf** **21 44 15.2 -1.2**
comp=Z,28nm,1.2s,baz=44,slow=1.9
NB2 PKKP **PKKPbc** **21 54 40.4 -3.0**
comp=Z,30nm,1.7s,baz=224,slow=3.8
NB2 NORSAR Subarra117.13 340 PKPdf **PKPdf** **21 44 15.2 -1.2**
baz=44,slow=1.9
NOA NORSAR Array B117.13 340 PKIKP **PKPdf** **21 44 15.0 -1.5**
NOA NORSAR Array B117.13 340 Pdiff **Pdif** **21 40 32.1 -0.7**
comp=Z,1.2nm,0.8s,baz=48,slow=4.7,SNR=5.1
NOA PKP **PKPdf** **21 44 15.0 -1.5**
comp=Z,16nm,0.9s,baz=48,slow=2.0,SNR=29
NOA PKKPbc **PKKPbc** **21 54 40.2 -3.2**
comp=Z,3.0nm,1.0s,baz=42,slow=3.5,SNR=6.2
DOMB Dombas 117.13 341 *e*P **Pdif** **21 40 35.4 +2.5**
DOMB IVmB_BB 21 40 38.1
comp=Z,790nm,3.8s
DOMB *e*PP **PP** **21 45 24.8 -1.6**
DOMB *e*SP SP 21 55 00.5 -4.0
DOMB *e*SS **SS** **22 01 33.0 +1.4**
DOMB IVMs_BB IVMs_BB 22 32 52.7
comp=Z,16µm,22.7s
MFTR Murfatlar 117.19 317 ⇑P **PKiKP** **21 44 18.7 +1.7**
MANR Mangalia 117.20 317 ⇑P **PKiKP** **21 44 18.3 +1.3**
MOL Molde 117.21 342 *e*P **Pdif** **21 40 36.4 +3.3**
MOL *e*PP **PP** **21 45 27.8 +1.0**
MOL *e*SP SP 21 55 06.1 +1.0
MOL *e*SS **SS** **22 01 31.9 -0.6**
MOL IVMs_BB IVMs_BB 22 25 30.4
comp=Z,10µm,29.2s
NC602 NORSAR Array S 117.23 339 *e*P **Pdif** **21 40 33.6 +0.4**
NC602 IVmBBB 21 40 45.0
comp=Z,773nm,3.4s
NC602 *e*PP **PP** **21 45 26.0 -1.0**
NC602 *e*SP SP 21 55 10.6 +5.3
NC602 *e*SS **SS** **22 01 35.5 +2.7**
NC602 IVMs_BB IVMs_BB 22 31 10.6
comp=Z,14µm,24.1s
SFIN Lafayette 117.28 47 PKiKP **PKPdf** **21 44 17.3 0.0**
baz=287
SFIN Lafayette 117.28 47 P **PKPdf** **21 44 17.0 -0.3**
baz=287,SNR=6.6
HARR Harsova 117.33 318 ⇑P **PKiKP** **21 44 18.0 +0.8**
HARR Harsova 117.33 318 ⇑PKIKP **PKiKP** **21 44 18.0 +0.8**
P46A Rosedale 117.43 48 P **PKiKP** **21 44 17.8 +0.2**
baz=287,SNR=17
TESR Tescani 117.49 320 ⇑P **PKiKP** **21 44 17.9 +0.4**
GLMI Grayling 117.55 42 PKiKP **PKiKP** **21 44 18.0 +0.3**
baz=291
GLMI Grayling 117.55 42 P **Pdif** **21 40 34.9 -0.1**
baz=291
PSN Preselentsi 117.57 317 *e*P **PKiKP** **21 44 19.7 +1.9**
ICOR Ion Corvin 117.63 317 ⇑P **PKiKP** **21 44 18.0 +0.2**
AKN Aaknes 117.68 342 *e*P **Pdif** **21 40 37.0 +1.8**
AKN IVmB_BB 21 40 58.3
comp=Z,2µm,3.4s
AKN *e*PP **PP** **21 45 31.5 +1.4**
AKN *e*SKSac **SKSac** **21 51 05.5 -1.4**
AKN *e*PS **PS** **21 55 18.1 +2.2**
AKN *e*SS **SS** **22 01 41.2 +2.5**
AKN IVMs_BB IVMs_BB 22 28 26.6
comp=Z,11µm,25.2s
VRI Vrincioaia 117.69 320 ⇓P **PKiKP** **21 44 18.2 +0.2**
VRI Vrincioaia 117.69 320 ⇓PKIKP **PKiKP** **21 44 18.2 +0.2**
146A Union 117.69 56 P **PKiKP** **21 44 18.6 +0.3**
baz=282,SNR=5.8
LVV L'vov 117.69 324 *e*P **Pdif** **21 40 34.8 -0.8**
LVV *e* 21 44 18.2
LVV *e* 21 45 30.2
LVV *e*SS SS 22 01 47.2 +7.4

LVV MLR MLR
comp=Z,28µm,25.0s
PLOR Plostina 117.75 320 ⇑P **PKiKP** **21 44 18.5 +0.4**
PLOR Plostina 117.75 320 ⇑PKIKP **PKiKP** **21 44 18.5 +0.4**
AMRR Amara 117.76 318 ⇑P **PKPdf** **21 44 17.9 -0.1**
AMRR Amara 117.76 318 ⇑PKIKP **PKPdf** **21 44 17.9 -0.1**
WVT Waverly 117.89 52 **PKPdf** **21 44 17.9 -0.7**
WVT Waverly 117.89 52 IAMs_20 IAMs_20 22 27 51.3
comp=Z,47µm,21.0s
WVT Waverly 117.89 52 PKiKP **PKiKP** **21 44 18.7 +0.1**
baz=284
WVT Waverly 117.89 52 P **PKPdf** **21 44 17.8 -0.7**
baz=284,SNR=8.8
WVT Waverly 117.89 52 PKIKP **PKPdf** **21 44 17.9 -0.7**
WVT MLR MLR
comp=Z,48µm,21.0s
DY2G Dye2 117.92 8 *i* P **PKPdf** **21 44 17.9 -0.2**
DY2G IAMs_20 IAMs_20 22 27 37.6
comp=Z,64µm,26.0s
BURAR Bucovina Array 117.94 322 ⇑P **PKiKP** **21 44 19.6 +1.1**
BURAR Bucovina Array 117.94 322 **PKiKP** **21 44 19.3 +0.7**
BURAR Bucovina Array 117.94 322 ⇑PKIKP **PKiKP** **21 44 19.6 +1.1**
PLAL Pickwick Lake 117.97 53 IAMs_20 IAMs_20 22 29 04.7
comp=Z,33µm,20.0s
TURR Turia 118.07 320 ⇑P **PKiKP** **21 44 19.6 +0.9**
OSL Oslo 118.08 339 *e*P **Pdif** **21 40 35.8 -1.2**
OSL *e*PP **PP** **21 45 36.5 +3.6**
OSL *e*SP SP 21 55 18.1 +5.0
OSL *e*SS **SS** **22 01 45.7 +1.9**
ISR Istrita 118.09 319 ⇑P **PKiKP** **21 44 19.7 +0.9**
ISR Istrita 118.09 319 ⇑PKIKP **PKiKP** **21 44 19.7 +0.9**
BOSA Boshof 118.12 234 *i* P **PKiKP** **21 44 22.3 +2.8**
BOSA Boshof 118.12 234 PKP **PKPdf** **21 44 19.2 -0.2**
comp=Z,8.4nm,0.6s,baz=107,slow=2.6,SNR=25
BOSA SKP 21 47 52.8
comp=Z,4.0nm,0.7s,baz=204,slow=2.2,SNR=1.9
BOSA PKKPbc **PKKPbc** **21 54 36.6 -2.5**
comp=Z,22nm,0.9s,baz=296,slow=2.9,SNR=15
BOSA Boshof 118.12 234 *i* P **PKiKP** **21 44 22.3 +2.8**
NEHR Nehoiu 118.14 319 ⇑P **PKiKP** **21 44 19.3 +0.4**
N47A Urbana 118.15 46 P **PKPdf** **21 44 18.2 -0.8**
baz=288,SNR=12
N47A P **PKPdf** **21 44 18.2 -0.8**
baz=288,SNR=12
LEHL Lehliu 118.15 318 ⇓P **PKiKP** **21 44 19.6 +0.8**
OZUR 118.20 320 ⇑P **PKiKP** **21 44 19.9 +0.9**
PRD Provadia 118.23 317 *e*P **PKiKP** **21 44 21.2 +2.2**
T47A Sharon Grove 118.23 51 P **Pdif** **21 40 39.4 +1.2**
baz=286
BOSR Bodos 118.29 320 ⇑P **PKiKP** **21 44 20.2 +1.0**
BLWY Bulawayo 118.33 244 *i* P **PKiKP** **21 44 20.8 +0.7**
BLWY Bulawayo 118.33 244 *i* P **PKiKP** **21 44 20.8 +0.7**
MLR Muntele Rosu 118.34 319 ⇑P **PKiKP** **21 44 20.9 +1.5**
MLR Muntele Rosu 118.34 319 PKP **PKPdf** **21 44 17.7 -1.7**
comp=Z,57nm,1.2s,baz=8.3,slow=4.5,SNR=28
MLR PKKPbc **PKKPbc** **21 54 36.2 -2.6**
comp=Z,2.2nm,0.8s,baz=309,slow=6.5,SNR=2.1
H03S2 Juan Fernandez 118.38 133 T T 23 53 40.6
baz=238,slow=74
SKAR Skarslia 118.38 340 *e*P **Pdif** **21 40 38.6 +0.2**
SKAR IVmB_BB 21 40 51.1
comp=Z,616nm,3.0s
SKAR *e*PKPdf **PKPdf** **21 44 18.5 -0.4**
SKAR *e*PP **PP** **21 45 33.6 -1.4**
SKAR *e*SKSac **SKSac** **21 51 08.3 -1.2**
SKAR *e*SP **SP** **21 55 16.6 +0.7**
SKAR *e*SS **SS** **22 01 53.2 +5.3**
SKAR IVMs_BB IVMs_BB 22 33 58.8
comp=Z,16µm,23.7s
Z47A Carrollton 118.38 55 P **PKPdf** **21 44 19.2 -0.4**
baz=283
KRI Karoi 118.39 248 *i* P **PKiKP** **21 44 23.0 +2.7**
KRI Karoi 118.39 248 *i* P **PKiKP** **21 44 23.0 +2.7**
H03S1 Juan Fernandez 118.39 133 T T 23 53 39.1
baz=238,slow=74
H03S3 Juan Fernandez 118.40 133 T T 23 53 31.6
baz=238,slow=74
SULR 118.45 318 ⇑P **PKiKP** **21 44 20.6 +1.2**
WCI Wyandotte Cave 118.51 49 **PKPdf** **21 44 18.9 -0.8**
WCI Wyandotte Cave 118.51 49 PKiKP **PKPdf** **21 44 19.5 -0.2**
baz=287
WCI Wyandotte Cave 118.51 49 P **Pdif** **21 40 40.9 +1.4**
baz=287
WCI Wyandotte Cave 118.51 49 PKIKP **PKPdf** **21 44 18.9 -0.8**
WCI MLR MLR
comp=Z,70µm,22.0s
DOPR Dopca 118.51 320 ⇓P **PKiKP** **21 44 20.8 +1.2**
STRU Stroemstad 118.54 338 *e*P **PKiKP** **21 44 21.0 +1.8**
KWP Kalwaria Pacla 118.54 325 *e*PKP **PKiKP** **21 44 20.6 +1.1**
KWP *e*PP **PP** **21 45 36.7 +0.1**
KWP *e*PS **PS** **21 55 29.1 +4.9**
KWP *e*SS SS 22 02 31.0 +40
H03N3 Juan Fernandez 118.57 133 T T 23 53 59.7
baz=251,slow=79
H03N2 Juan Fernandez 118.57 133 T T 23 53 54.2
baz=251,slow=79
H03N1 Juan Fernandez 118.58 133 T T 23 53 57.3
baz=251,slow=79
KONO Kongsberg 118.68 339 **PKiKP** **21 44 21.2 +1.8**
KONO Kongsberg 118.68 339 IAMs_20 IAMs_20 22 38 39.1
comp=Z,35µm,21.0s
KONO Kongsberg 118.68 339 *e*P **Pdif** **21 40 41.0 +1.3**
KONO IVmBBB 21 40 48.7
comp=Z,806nm,4.0s
KONO *e*PKPdf **PKiKP** **21 44 21.4 +2.0**
KONO *e*PP **PP** **21 45 38.4 +1.3**
KONO *e*SP SP 21 55 20.0 +1.5
KONO *e*SS **SS** **22 01 56.1 +4.4**
KONO IVMs_BB IVMs_BB 22 35 33.0
comp=Z,11µm,22.5s
KONO Kongsberg 118.68 339 ⇑PKIKP **PKiKP** **21 44 20.7 +1.3**
L48A N Adams 118.69 45 P **PKPdf** **21 44 19.3 -0.7**
baz=290,SNR=29
L48A P **PKPdf** **21 44 19.3 -0.7**
baz=290,SNR=29
ARCR ARCALIA 118.70 322 ⇑P **PKiKP** **21 44 20.9 +1.0**
HYA Hoyanger 118.70 342 *e*P **Pdif** **21 40 42.6 +2.9**
HYA IVmB_BB 21 40 49.4
comp=Z,2µm,3.8s
HYA *e*PP **PP** **21 45 39.0 +1.9**
HYA *e*SP SP 21 55 19.7 +1.1
HYA *e*SS **SS** **22 01 58.7 +6.9**
HYA IVMs_BB IVMs_BB 22 35 40.2
comp=Z,14µm,20.3s
FOO Floro 118.72 342 *e*P **Pdif** **21 40 41.4 +1.6**
FOO IVmBBB 21 40 50.9
comp=Z,2µm,3.5s
FOO *e*PKPdf **PKiKP** **21 44 20.9 +1.4**
FOO *e*PP **PP** **21 45 36.6 -0.7**
FOO *e*SP SP 21 55 20.7 +2.0
FOO *e*SS **SS** **22 01 55.7 +3.7**
FOO IVMs_BB IVMs_BB 22 31 59.6
comp=Z,10µm,20.6s
O48B Farmland 118.73 47 IAMs_20 IAMs_20 22 32 08.4
comp=Z,36µm,21.0s
O48B Farmland 118.73 47 PKiKP **PKPdf** **21 44 19.9 -0.1**
baz=289
O48B Farmland 118.73 47 P **PKPdf** **21 44 20.0 -0.1**
baz=289,SNR=19
V48A Smith Brothers 118.78 52 P **Pdif** **21 40 41.4 +0.7**
baz=285
P48A Milroy 118.79 48 P **Pdif** **21 40 39.6 -1.1**
baz=288
P48A P **Pdif** **21 40 39.6 -1.1**
baz=288
KULA Kula-Manisa 118.84 311 P **PKiKP** **21 44 21.6 +1.1**
X48A Hartselle 118.92 54 P **Pdif** **21 40 41.7 +0.3**
baz=284
VOIR 118.94 320 ⇓P **PKiKP** **21 44 21.3 +0.8**
VOIR 118.94 320 ⇓PKIKP **PKiKP** **21 44 21.3 +0.8**
BMR Baia Mare 118.97 322 ⇑P **PKPdf** **21 44 20.3 0.0**
BMR Baia Mare 118.97 322 ⇑PKIKP **PKPdf** **21 44 20.3 0.0**
I49A Point Hope 119.07 42 **PKPdf** **21 44 20.2 -0.4**
I49A Point Hope 119.07 42 P **PKPdf** **21 44 19.8 -0.8**
baz=292
I49A P **PKPdf** **21 44 19.8 -0.8**
baz=292
AAM Ann Arbor 119.11 44 PKiKP **PKiKP** **21 44 21.3 +0.5**
baz=291
AAM Ann Arbor 119.11 44 P **PKPdf** **21 44 20.5 -0.3**
baz=291
NUUK Nuuk 119.12 11 *i* P **PKiKP** **21 44 20.4 +0.2**
NUUK IAMs_20 IAMs_20 22 33 26.0
comp=Z,68µm,21.7s

DEL Delary 119.17 335 eP PKiKP 21 44 23.2 +2.7
N49A Columbus Grove 119.22 46 P Pdif 21 40 43.5 +1.0
baz=290
N49A P Pdif 21 40 43.5 +1.0
baz=290
SUE Sulen 119.23 342 eP Pdif 21 40 38.8 -3.3
SUE IVmB_BB 21 41 12.2
comp=Z,2µm,2.8s
SUE ePP PP 21 45 42.3 +1.6
SUE eSP SP 21 55 23.1 -0.2
SUE eSS SS 22 02 01.3 +2.8
SUE IVMs_BB IVMs_BB 22 33 47.6
comp=Z,8µm,24.4s
LBTB Lobatse 119.27 237 PKPdf 21 44 21.1 -0.5
LBTB Lobatse 119.27 237 i P PKiKP 21 44 25.9 +4.2
LBTB Lobatse 119.27 237 PKiKP PKPdf 21 44 21.2 -0.5
LBTB Lobatse 119.27 237 i P PKiKP 21 44 25.9 +4.2
P49A Miami Univ. Ec 119.28 47 PKiKP PKPdf 21 44 21.1 -0.1
baz=289
P49A Miami Univ. Ec 119.28 47 P PKPdf 21 44 19.7 -1.5
baz=289,SNR=23
LRAL Lakeview Retre 119.30 55 IAMs_20 IAMs_20 22 36 29.9
comp=Z,41µm,19.0s
LRAL Lakeview Retre 119.30 55 PKiKP PKiKP 21 44 21.7 +0.3
baz=284
LRAL Lakeview Retre 119.30 55 P PKPdf 21 44 20.3 -1.1
baz=284,SNR=22
CJR Cluj-Napoca 119.33 321 ⇑P PKiKP 21 44 21.7 +0.5
CJR Cluj-Napoca 119.33 321 ⇑PKiKP PKiKP 21 44 21.7 +0.5
CBBR Cluj-Babes-Bol 119.33 322 ⇑P PKPdf 21 44 20.1 -1.0
R49A Shelbyville 119.33 49 P PKPdf 21 44 20.2 -1.1
baz=288,SNR=7.0
R49A P PKPdf 21 44 20.2 -1.1
baz=288,SNR=7.0
COPA Copaceanca 119.35 318 ⇑P PKPdf 21 44 20.8 -0.3
HUMR Humele 119.35 319 ⇑P PKiKP 21 44 22.3 +1.1
O49A Covington 119.35 47 P Pdif 21 40 43.4 +0.2
baz=289
O49A P Pdif 21 40 43.4 +0.2
baz=289
ELND Elena 119.36 317 ⇑P PKPdf 21 44 21.2 -0.1
U49A Red Boiling Sp 119.38 51 P Pdif 21 40 43.1 -0.3
baz=286
STHS Stebnicka Huta 119.48 325 ePKiKP PKPdf 21 44 21.2 -0.1
STHS Stebnicka Huta 119.48 325 ePKP PKPdf 21 44 21.2 -0.1
ODD1 Odda 119.51 341 eP Pdif 21 40 43.1 -0.4
ODD1 ePKPdf PKPdf 21 44 19.6 -1.5
ODD1 ePP PP 21 45 41.2 -1.7
ODD1 eSP SP 21 55 27.8 +1.8
ODD1 eSS SS 22 02 06.5 +4.0
ODD1 IVMs_BB IVMs_BB 22 35 06.2
comp=Z,13µm,24.6s
MESR Meseneti 119.53 322 ⇓P PKiKP 21 44 21.5 0.0
BSD Bornholm Skovb 119.57 333 i P PKiKP 21 44 24.9 +3.6
BSD IAMs_20 IAMs_20 22 36 47.6
comp=Z,39µm,20.8s
BSD Bornholm Skovb 119.57 333 eP PKPdf 21 44 21.0 -0.2
BER Bergen 119.57 341 eP Pdif 21 40 45.4 +1.8
BER ePKPdf PKiKP 21 44 21.3 +0.2
BER ePP PP 21 45 45.9 +2.7
BER eSP SP 21 55 28.8 +2.4
BER eSS SS 22 02 06.4 +3.4
BER IVMs_BB IVMs_BB 22 36 13.8
comp=Z,18µm,22.7s
Y49A Blount Mountai 119.58 54 P PKPdf 21 44 21.4 -0.5
baz=284
CRVS Cervenica-Dubn 119.61 324 i P Pdif 21 40 46.4 +2.3
CRVS e 21 44 22.6
CRVS e 21 45 47.3
CRVS e 21 55 28.9
CRVS Cervenica-Dubn 119.61 324 ePKP PKiKP 21 44 22.6 +1.0
CRVS ePP PP 21 45 47.3 +3.3
CRVS e 21 55 28.9
CRVS eSS SS 22 02 49.0 +44
CRVS Cervenica-Dubn 119.61 324 ePDIFF Pdif 21 40 46.4 +2.3
ISOG Isortoq, Green 119.63 5 i P PKiKP 21 44 22.0 +0.9
ISOG IAMs_20 IAMs_20 22 31 26.1
comp=Z,77µm,23.2s
MARR Marisel-Cluj 119.64 322 ⇑P PKiKP 21 44 23.1 +1.3
ANGG Ammassalik, Gr 119.67 4 i P PKiKP 21 44 21.3 +0.2
ANGG IAMs_20 IAMs_20 22 33 52.2
comp=Z,24µm,21.4s
LOT Lotru 119.76 320 ⇑P PKiKP 21 44 22.1 0.0
DRGR 119.84 322 ⇑P PKPdf 21 44 22.1 0.0
DRGR 119.84 322 ⇑PKiKP PKPdf 21 44 22.1 0.0
M50A Fremont 119.86 45 P PKPdf 21 44 22.0 -0.2
baz=291,SNR=7.4
M50A P PKPdf 21 44 22.0 -0.2
baz=291,SNR=7.4
OJC Ojcow 119.89 326 ePKP PKPdf 21 44 21.9 -0.2
OJC ePP PP 21 45 35.5 -10
OJC ePS PS 21 55 38.9 +2.6
OJC eSS SS 22 02 43.5 +35
BLS5 Blasjo 119.94 340 eP Pdif 21 40 47.1 +1.7
BLS5 IVmB_BB 21 41 05.4
comp=Z,1µm,4.0s
BLS5 ePP PP 21 45 47.9 +2.1
BLS5 eSP SP 21 55 34.3 +4.5
BLS5 eSS SKKSdf 22 02 11.1 -3.3
BLS5 IVMs_BB IVMs_BB 22 36 27.7
comp=Z,18µm,23.7s
T50A Nancy 119.96 50 P Pdif 21 40 45.4 -0.5
baz=287
T50A P Pdif 21 40 45.4 -0.5
baz=287
R50A Paris 119.97 49 P Pdif 21 40 47.2 +1.3
baz=288
R50A P Pdif 21 40 47.2 +1.3
baz=288
ALN Alexandroupoli 119.97 315 P PKiKP 21 44 22.6 +0.1
PLCA Paso Flores 119.99 144 PKP PKPdf 21 44 21.1 -1.5
comp=Z,16nm,0.5s,baz=240,slow=2.1,SNR=34
PLCA PKKPbc PKKPbc 21 54 29.9 -2.7
comp=Z,10nm,0.9s,baz=34,slow=3.9,SNR=12
PLCA SKKPbc SKKPbc 21 58 21.1 +4.3
comp=Z,13nm,1.2s,baz=75,slow=4.5,SNR=3.8
NIE Niedzica 120.02 325 ePKP PKiKP 21 44 23.8 +1.4
NIE ePP PP 21 45 47.4 +0.6
NIE ePS PS 21 55 39.5 +2.0
NIE eSS SS 22 02 51.9 +42
HOPE Hope Point 120.04 175 PKPdf 21 44 21.7 -0.5
HOPE Hope Point 120.04 175 PKiKP PKPdf 21 44 21.7 -0.5
LTVH Ltavrtes, Hu 120.06 323 ⇑P PKiKP 21 44 23.7 +1.2
HOMB Homborsund 120.07 338 ePKPdf PKiKP 21 44 22.6 +0.4
HOMB ePP PP 21 45 48.0 +1.4
HOMB eSP SP 21 55 33.0 +2.1
HOMB eSS SKKSdf 22 02 14.4 +0.4
HOMB IVMs_BB IVMs_BB 22 34 33.2
comp=Z,17µm,25.4s
W50A Signal Mountai 120.11 52 P Pdif 21 40 47.2 +0.5
baz=286
DEV Deva 120.12 321 ⇑P PKiKP 21 44 23.2 +0.5
DEV Deva 120.12 321 ⇑PKiKP PKiKP 21 44 23.2 +0.5
LSZ Lusaka 120.13 249 PKPdf 21 44 23.5 -0.1
LSZ Lusaka 120.13 249 PKiKP PKPdf 21 44 23.5 -0.1
LSZ MLR MLR
comp=Z,23µm,22.0s
EZN Ezine 120.14 313 P PKiKP 21 44 22.9 0.0
RDO Rodhopi 120.25 315 P PKiKP 21 44 23.6 +0.6
TEIG Tepich 120.27 70 IAMs_20 IAMs_20 22 31 13.7
comp=Z,31µm,21.0s
COP Copenhagen 120.29 335 i P PKiKP 21 44 26.0 +3.4
COP IAMs_20 IAMs_20 22 37 05.1
comp=Z,100µm,21.8s
ACSO Alum Creek Sta 120.31 46 IAMs_20 IAMs_20 22 35 13.1
comp=Z,32µm,20.0s
ACSO Alum Creek Sta 120.31 46 PKiKP PKiKP 21 44 23.7 +0.5
baz=290
ACSO Alum Creek Sta 120.31 46 P PKPdf 21 44 22.2 -1.0
baz=290,SNR=23
PRK Paraskevi 120.38 313 P PKPdf 21 44 22.6 -0.7
GZR Gura Zlata 120.41 320 ⇓P PKiKP 21 44 24.5 +1.1
GZR Gura Zlata 120.41 320 ⇓PKiKP PKiKP 21 44 24.5 +1.1
Q51A Peebles 120.46 48 P Pdif 21 40 47.3 -0.8
baz=289
Q51A P Pdif 21 40 47.3 -0.8
baz=289
SMTH Samothraki Isl 120.49 314 P PKPdf 21 44 22.3 -1.2
MBAR Mbarara 120.50 266 PKiKP 21 44 25.2 +0.6
MBAR Mbarara 120.50 266 PKiKP PKiKP 21 44 25.2 +0.6
MBAR Mbarara 120.50 266 ePdif Pdif 21 40 55.3 +6.3
MBAR eSKSac SKSac 21 51 36.1 +17
N51A Ashland 120.50 45 P PKPdf 21 44 22.2 -1.3
baz=291,SNR=20
N51A P PKPdf 21 44 22.2 -1.3
baz=291,SNR=20
P51A Williamsport 120.51 47 P Pdif 21 40 48.7 +0.4
baz=290
P51A P Pdif 21 40 48.7 +0.4
baz=290
RZN Rozhen 120.60 316 eP PKiKP 21 44 25.3 +1.3
LLD Lille Linde 120.62 334 i P PKiKP 21 44 26.0 +2.7
LANS Liptovska Anna 120.62 325 ePKiKP PKiKP 21 44 24.2 +0.6
LANS Liptovska Anna 120.62 325 ePKP PKiKP 21 44 24.2 +0.6
BAIL Bailesti 120.63 319 ⇑P PKiKP 21 44 24.8 +1.1
MPEP Malo Peshtene 120.64 318 eP PKPdf 21 44 23.5 -0.2
X51A Calhoun 120.64 53 P PKPdf 21 44 23.2 -0.8
baz=286,SNR=8.2
X51A P PKPdf 21 44 23.2 -0.8
baz=286,SNR=8.2
SURR Surduc 120.67 321 ⇓P PKiKP 21 44 24.3 +0.6
SIGR SIGRI 120.69 313 P PKiKP 21 44 24.2 +0.2
VALD Valchedram 120.70 318 eP PKPdf 21 44 23.8 0.0
S51A Beattyville 120.72 49 P PKPdf 21 44 23.1 -0.9
baz=288,SNR=30
S51A P PKPdf 21 44 23.1 -0.9
baz=288,SNR=30
SIRR Siria 120.72 322 ⇑P PKPdf 21 44 23.5 -0.2
RAC Raciborz 120.84 327 ePDIFF Pdif 21 40 49.2 -0.3
RAC ePKPDF PKiKP 21 44 24.2 +0.3
RAC ePP PP 21 45 52.8 +0.5
RAC Raciborz 120.84 327 eP Pdif 21 40 49.2 -0.3
HERR Herculane 120.86 320 ⇑P PKiKP 21 44 25.3 +1.1
LIA Limnos Island 120.94 314 P PKPdf 21 44 23.2 -1.1
M52A Chesterland 120.99 44 P PKPdf 21 44 23.6 -0.8
baz=292,SNR=7.1
M52A P PKPdf 21 44 23.6 -0.8
baz=292,SNR=7.1
OKC Ostrava-Krasne 121.00 327 ePKPDF PKiKP 21 44 25.6 +1.3
OKC ePP PP 21 45 54.1 +0.7
OKC ePS PS 21 55 44.9 -1.2
OKC eSS SS 22 03 10.8 +49
OKC AMS AMS 22 36 30.0
comp=Z,40µm,20.9s
OKC Ostrava-Krasne 121.00 327 ePKiKP PKiKP 21 44 25.6 +1.3
OKC e 21 45 54.1
OKC ePS PS 21 55 44.9 -1.2
OKC MLR MLR
comp=Z,40µm,20.9s
PSZ Piszkesteto 121.00 324 ⇑P PKiKP 21 44 25.1 +0.6
PSZ Piszkesteto 121.00 324 IAMs_20 IAMs_20 22 39 52.7
comp=Z,41µm,21.0s
PSZ Piszkesteto 121.00 324 ⇑PKiKP PKiKP 21 44 25.1 +0.6
THAS Thassos island 121.02 315 P PKPdf 21 44 24.5 0.0
KAVA Kavala 121.02 315 P PKPdf 21 44 24.5 0.0
BZS Buzias 121.05 321 ⇓P PKPdf 21 44 24.2 -0.2
BZS Buzias 121.05 321 ⇓PKiKP PKPdf 21 44 24.2 -0.2
TZTN Tazewell 121.09 50 PKiKP PKiKP 21 44 25.7 +0.8
baz=288
TZTN Tazewell 121.09 50 P PKPdf 21 44 24.3 -0.5
baz=288,SNR=15
MUD Monsted U'grnd 121.11 337 i P PKiKP 21 44 27.5 +3.3
MUD IAMs_20 IAMs_20 22 36 35.3
comp=Z,51µm,24.1s
P52A Corning 121.13 47 IAMs_20 IAMs_20 22 42 46.9
comp=Z,31µm,19.0s
P52A Corning 121.13 47 PKiKP PKPdf 21 44 24.7 0.0
baz=291
O52A Adamsville 121.17 46 P PKPdf 21 44 24.4 -0.4
baz=291,SNR=13
O52A P PKPdf 21 44 24.4 -0.4
baz=291,SNR=13
TKL Tuckaleechee C 121.18 51 P PKPdf 21 44 24.4 -0.6
baz=287,SNR=27
W52A Murphy 121.23 52 P PKiKP 21 44 25.4 +0.2
baz=287,SNR=7.4
152A Waverly Hall 121.25 55 P PKPdf 21 44 24.9 -0.3
baz=285,SNR=6.6
AMBH Ambrzfalva 121.26 322 ⇑P PKiKP 21 44 25.8 +1.0
V52A Sevierville 121.27 51 P PKPdf 21 44 24.6 -0.5
baz=287,SNR=24
Q52A Bidwell 121.27 47 P PKPdf 21 44 24.0 -1.1
baz=290,SNR=10
Q52A P PKPdf 21 44 24.0 -1.1
baz=290,SNR=10
VTS Vitosha 121.28 317 eP PKiKP 21 44 26.8 +1.5
VYHS Vyhne 121.32 325 i P Pdif 21 40 55.5 +3.8
VYHS e 21 44 24.4
VYHS e 21 45 59.4
VYHS e 21 55 52.1
VYHS Vyhne 121.32 325 ePKP PKPdf 21 44 24.4 -0.4
VYHS ePP PP 21 45 59.4 +3.7
VYHS e 21 55 52.1
VYHS eSS SS 22 03 17.8 +51
VYHS Vyhne 121.32 325 ePDIFF Pdif 21 40 55.5 +3.8
NVR Nevrokopi 121.34 316 P PKiKP 21 44 26.2 +0.9
MMB Musomishta 121.35 316 eP PKiKP 21 44 26.1 +0.8
MDVR Moldovita 121.36 320 ⇓P PKiKP 21 44 26.0 +0.8
MORC Moravsky Berou 121.36 327 ⇓P PKiKP 21 44 25.3 +0.3
MORC Moravsky Berou 121.36 327 ePDIFF Pdif 21 40 49.8 -2.1
MORC Moravsky Berou 121.36 327 ePKP PKiKP 21 44 25.5 +0.4
MORC ePP PP 21 45 57.8 +1.9
MORC ePS PS 21 55 47.3 -2.1
MORC Moravsky Berou 121.36 327 ⇓PKiKP PKiKP 21 44 25.3 +0.3
MAUC Maruska 121.43 326 ePKPDF PKiKP 21 44 25.8 +0.6
MAUC ePP PP 21 45 59.0 +2.6
MAUC ePS PS 21 55 49.8 -0.2
MAUC eSS SS 22 03 12.5 +45
MAUC AMS AMS 22 38 40.0
comp=Z,84µm,20.2s
KOKK Kokkinochori, 121.45 315 P PKPdf 21 44 24.6 -0.7
BANR Banloc 121.45 321 ⇓P PKiKP 21 44 26.4 +1.1
Y52A Lilburn 121.46 54 P PKPdf 21 44 25.3 -0.3
baz=286,SNR=15
Y52A P PKPdf 21 44 25.3 -0.3
baz=286,SNR=15
M53A WI Miller and 121.50 44 IAMs_20 IAMs_20 22 37 02.3
comp=Z,44µm,20.0s
M53A WI Miller and 121.50 44 PKiKP PKiKP 21 44 26.0 +0.4
baz=293
O53A New Philadelph 121.57 46 IAMs_20 IAMs_20 22 36 37.4
comp=Z,36µm,20.0s
O53A New Philadelph 121.57 46 PKiKP PKiKP 21 44 26.1 +0.4
baz=292
KRLC Kraliky 121.61 327 ePKPDF PKiKP 21 44 27.0 +1.5
KRLC ePP PP 21 45 59.0 +1.4
KRLC ePS PS 21 55 50.3 -1.3
KRLC eSS SS 22 03 10.2 +40
KRLC AMS AMS 22 37 10.0
comp=Z,58µm,21.4s
KRLC Kraliky 121.61 327 ePKiKP PKiKP 21 44 27.0 +1.5
KRLC e 21 45 59.0
KRLC ePS PS 21 55 50.3 -1.3
KRLC MLR MLR
comp=Z,58µm,21.4s
N53A Lisbon 121.63 45 P PKPdf 21 44 25.2 -0.4
baz=292,SNR=45
N53A P PKPdf 21 44 25.2 -0.4
baz=292,SNR=45
TGUH Tegucigalpa,Un 121.63 77 IAMs_20 IAMs_20 22 26 06.3
comp=Z,43µm,22.0s
OSTC Ostas 121.64 328 ePKPDF PKiKP 21 44 27.7 +2.2
OSTC ePP PP 21 45 59.6 +1.9
OSTC ePS PS 21 55 49.8 -2.0
OSTC eSS SS 22 03 14.5 +44
OSTC AMS AMS 22 36 30.0
comp=Z,83µm,22.8s
OSTC Ostas 121.64 328 ePKiKP PKiKP 21 44 27.7 +2.2
OSTC e 21 45 59.6
OSTC ePS PS 21 55 49.8 -2.0
OSTC MLR MLR
comp=Z,83µm,22.8s
OUR Ouranopolis 121.64 315 P PKPdf 21 44 25.5 -0.2
KKB Krupnik 121.66 316 eP PKiKP 21 44 26.9 +1.0
LRW Lerwick 121.68 344 eP PKPdf 21 44 24.3 -0.8
LRW IAMs_20 IAMs_20 22 34 40.5
comp=Z,57µm,23.9s
DPC Dobruska-Polom 121.70 328 ePKPDF PKiKP 21 44 28.0 +2.3
DPC ePP PP 21 46 00.1 +1.9
DPC ePS PS 21 55 51.9 -0.5
DPC eSS SS 22 03 19.9 +49
DPC AMS AMS 22 36 20.0
comp=Z,67µm,22.5s
DPC Dobruska-Polom 121.70 328 ePKiKP PKiKP 21 44 28.0 +2.3
DPC e 21 46 00.1
DPC ePS PS 21 55 51.9 -0.5
DPC MLR MLR
comp=Z,67µm,22.5s
ERPA Erie 121.70 43 PKiKP PKiKP 21 44 25.9 0.0
baz=294
ERPA Erie 121.70 43 P PKPdf 21 44 25.4 -0.3
baz=294
CHVC Chvalec 121.70 328 ePKPDF PKiKP 21 44 26.1 +0.4
CHVC ePP PP 21 45 59.6 +1.4
CHVC ePS PS 21 55 49.0 -3.4
CHVC eSS SS 22 03 19.9 +49
CHVC AMS AMS 22 36 20.0
comp=Z,79µm,22.7s
CHVC Chvalec 121.70 328 ePKiKP PKiKP 21 44 26.1 +0.4
CHVC e 21 45 59.6
CHVC ePS PS 21 55 49.0 -3.4
CHVC MLR MLR
comp=Z,79µm,22.7s
P53A Whipple 121.72 46 P PKPdf 21 44 25.4 -0.5
baz=291,SNR=35
P53A P PKPdf 21 44 25.4 -0.5
baz=291,SNR=35
RUE Ruedersdorf 121.72 331 eP PKiKP 21 44 27.9 +2.3
UPC Upice 121.77 328 ePKPDF PKiKP 21 44 27.1 +1.3
UPC ePP PP 21 46 04.0 +5.4
UPC ePS PS 21 55 51.9 -1.1
UPC eSS SS 22 03 22.3 +50
UPC AMS AMS 22 36 30.0
comp=Z,84µm,22.9s
UPC Upice 121.77 328 ePKiKP PKiKP 21 44 27.1 +1.3
UPC e 21 46 04.0
UPC ePS PS 21 55 51.9 -1.1
UPC MLR MLR
comp=Z,84µm,22.9s
JAVC Velka Javorina 121.78 326 ePDIFF Pdif 21 40 53.2 -0.7
JAVC Velka Javorina 121.78 326 ePKP PKiKP 21 44 27.7 +1.8
JAVC ePP PP 21 46 02.0 +3.1
JAVC ePS PS 21 55 54.0 +0.7
BOVS Bovan 121.87 319 ⇑P PKiKP 21 44 26.1 0.0
SOH Sokhos 121.90 315 P PKPdf 21 44 24.9 -1.3
V53A Saluda 121.93 51 P Pdif 21 40 56.5 +1.7
baz=288
V53A P Pdif 21 40 56.5 +1.7
baz=288
SRO Srobarova 121.97 325 ePKiKP PKiKP 21 44 26.3 +0.1
SRO Srobarova 121.97 325 ePKP PKiKP 21 44 26.3 +0.1
SCHQ Schefferville 122.01 25 PKP PKPdf 21 44 24.6 -1.4
comp=Z,20nm,1.0s,baz=11,slow=2.5,SNR=14
SCHQ PKKPbc PKKPab 21 54 22.4 -1.5
comp=Z,7.0nm,0.8s,baz=135,slow=4.3,SNR=5.9
PAIG Paliouri 122.01 314 P PKPdf 21 44 26.2 -0.2
GOGA Godfrey 122.06 54 PKiKP PKiKP 21 44 27.1 +0.2
baz=286
GOGA Godfrey 122.06 54 P PKPdf 21 44 26.7 0.0
baz=286,SNR=12
PAMR Moraine State 122.09 44 P PKPdf 21 44 25.6 -0.9
baz=293
SMOL Smolenice 122.11 326 ePKiKP PKiKP 21 44 28.5 +2.0
SMOL e 21 46 04.9
J54A Appleton 122.12 41 P PKPdf 21 44 26.1 -0.4
baz=296,SNR=6.3
J54A P PKPdf 21 44 26.1 -0.4
baz=296,SNR=6.3
VRAC Vranov 122.13 327 ⇓P PKPdf 21 44 26.3 -0.1
VRAC Vranov 122.13 327 ePDIFF Pdif 21 40 54.7 -0.7
VRAC Vranov 122.13 327 ePKP PKiKP 21 44 27.7 +1.1
VRAC ePP PP 21 46 03.6 +2.4
VRAC ePS PS 21 55 51.3 -5.0
VRAC Vranov 122.13 327 PKP PKPdf 21 44 25.5 -0.9
comp=Z,55nm,1.1s,baz=62,slow=1.9,SNR=32
PAOC Oil Creek Stat 122.15 44 P PKPdf 21 44 25.7 -1.0
baz=294
HORT Hortiatis 122.17 315 P PKPdf 21 44 24.2 -2.6
O54A Avella 122.19 45 P PKPdf 21 44 26.6 -0.2
baz=292,SNR=44
O54A P PKPdf 21 44 26.6 -0.2
baz=292,SNR=44
THE Thessaloniki 122.25 315 P PKPdf 21 44 26.8 0.0
VAY Valandovo 122.25 316 i P PKPdf 21 44 25.1 -1.8
MODS Modra-Piesok 122.27 326 ePKiKP PKiKP 21 44 27.0 +0.1
MODS e 21 55 50.4
MODS Modra-Piesok 122.27 326 ePKP PKiKP 21 44 27.0 +0.1
MODS e 21 55 50.4
MODS eSS SS 22 03 26.0 +47
Q54A Coxs Mills 122.31 47 P PKPdf 21 44 26.5 -0.5
baz=291,SNR=41
Q54A P PKPdf 21 44 26.5 -0.5
baz=291,SNR=41
UPAO U. Pittsburgh 122.33 45 P PKPdf 21 44 26.3 -0.7
baz=293
STIP Stip 122.36 317 i P PKiKP 21 44 27.4 +0.1
S54A Dingess, Beckl 122.37 48 P PKPdf 21 44 26.3 -0.9
baz=290
S54A P PKPdf 21 44 26.3 -0.9
baz=290
KRUC Moravsky 122.38 327 ePDIFF Pdif 21 40 54.7 -1.7
KRUC Moravsky 122.38 327 ePKP PKiKP 21 44 27.0 0.0
KRUC ePP PP 21 46 04.9 +2.1
KRUC ePS PS 21 55 55.3 -3.1
FRGS Fruska Gora 122.39 321 ⇑P PKPdf 21 44 26.7 -0.4
FRGS Fruska Gora 122.39 321 ⇑P PKPdf 21 44 25.8 -1.2
U54A Nelsons Funny 122.42 50 P PKPdf 21 44 26.9 -0.5
baz=289,SNR=6.4
U54A P PKPdf 21 44 26.9 -0.5
baz=289,SNR=6.4
ZST Bratislava 122.46 325 ePKiKP PKiKP 21 44 29.5 +2.3
ZST e 21 46 07.4
ZST Bratislava 122.46 325 ePKP PKiKP 21 44 29.5 +2.3
ZST ePP PP 21 46 07.4 +4.0
TIGA Tifton 122.48 56 PKiKP PKiKP 21 44 27.8 +0.1
baz=285
DION Dionisos Attik 122.50 312 P PKiKP 21 44 28.1 +0.5
PVCC Panska Ves 122.51 329 ePKPDF PKiKP 21 44 28.6 +1.4
PVCC ePP PP 21 46 05.6 +2.0
PVCC ePS PS 21 55 57.7 -1.8
PVCC eSS SS 22 03 49.4 +68
PVCC AMS AMS 22 38 30.0
comp=Z,53µm,20.2s
PVCC Panska Ves 122.51 329 ePKiKP PKiKP 21 44 28.6 +1.4
PVCC e 21 46 05.6
PVCC ePS PS 21 55 57.7 -1.8
PVCC MLR MLR
comp=Z,53µm,20.2s
WVNY West Valley, N 122.52 42 P PKPdf 21 44 26.6 -0.8
baz=295,SNR=33
IVI Ivigtut 122.52 11 i P PKPdf 21 44 26.5 -0.2
IVI IAMs_20 IAMs_20 22 34 53.0
comp=Z,55µm,21.7s
PTL Penteli 122.56 312 P PKiKP 21 44 28.1 +0.3
NEO Neokhori 122.57 314 P PKPdf 21 44 26.5 -1.0
MORH Mrgy, Hungar 122.59 323 ⇑P PKPdf 21 44 26.9 -0.4
BRG Berggiesshubel 122.62 329 i PKP PKiKP 21 44 27.4 0.0
BRG Amp 21 44 28.4
comp=Z,13nm,0.9s
BRG Berggiesshubel 122.62 329 P PKiKP 21 44 29.6 +2.2
BRG Amp 21 44 31.3
comp=Z,137nm,1.2s
BRG Berggiesshubel 122.62 329 PP PP 21 46 12.0 +7.7
BRG Berggiesshubel 122.62 329 i PKiKP PKiKP 21 44 27.4 0.0
BRG 21 46 12.0
BRG 21 48 44.0
BRG SP SP 21 55 52.0 -2.2
BRG PS PS 21 56 03.0 +2.6
BRG pmax pmax
comp=Z,137nm,1.2s
J55A Hilton 122.67 41 P PKPdf 21 44 25.7 -1.8
baz=296,SNR=9.8
J55A P PKPdf 21 44 25.7 -1.8
baz=296,SNR=9.8
IDI Anoyia 122.69 309 P PKiKP 21 44 29.4 +1.2
IDI Anoyia 122.69 309 PKP PKPdf 21 44 27.2 -0.8
comp=Z,3.5nm,0.9s,baz=139,slow=3.5,SNR=19
IDI PKKPbc PKKPab 21 54 21.0 -0.5
comp=Z,0.4nm,0.9s,baz=234,slow=5.8,SNR=2.5
RICC Richard 122.74 329 ePKPDF PKiKP 21 44 29.8 +2.1
RICC ePP PP 21 46 05.6 +0.4
RICC ePS PS 21 55 57.7 -3.8
RICC eSS SS 22 03 02.7 +18
RICC AMS AMS 22 39 00.0
comp=Z,50µm,20.6s
TREC Trest 122.74 327 ePKPDF PKiKP 21 44 27.9 +0.1
TREC ePP PP 21 46 07.3 +2.0
TREC ePS PS 21 56 02.5 +0.8
TREC eSS SS 22 03 28.8 +44
TREC AMS AMS 22 36 30.0
comp=Z,78µm,23.7s
TREC Trest 122.74 327 ePKiKP PKiKP 21 44 27.9 +0.1

TREC				*e*			21 46 07.3		
TREC				*e*PS	**PS**		**21 56 02.5**	**+0.8**	
TREC				MLR	MLR				
	comp=Z,78µm,23.7s								
SKO	**Skopje**	**122.75**	**317**	*i* P	**PKPdf**		**21 44 26.9**	**-0.9**	
GOPC	**GO Pecny, Ondr**	**122.76**	**328**	*e*PKPDF	**PKPdf**		**21 44 27.5**	**-0.1**	
GOPC				*e*PP	**PP**		**21 46 07.2**	**+1.9**	
GOPC				*e*PS	**PS**		**21 56 00.6**	**-1.1**	
GOPC				*e*SS	SS		22 03 29.7	+45	
GOPC				AMS	AMS		22 38 10.0		
	comp=Z,68µm,21.2s								
GOPC	**GO Pecny, Ondr**	**122.76**	**328**	*e*PKIKP	**PKPdf**		**21 44 27.5**	**-0.1**	
GOPC				*e*			21 46 07.2		
GOPC				*e*PS	**PS**		**21 56 00.6**	**-1.1**	
GOPC				MLR	MLR				
	comp=Z,68µm,21.2s								
MCWV	**Mont Chateau**	**122.77**	**46**	IAMs_20	IAMs_20		22 30 33.0		
	comp=Z,47µm,22.0s								
MCWV	**Mont Chateau**	**122.77**	**46**	PKiKP	**PKPdf**		**21 44 27.8**	**0.0**	
	baz=293								
MCWV	**Mont Chateau**	**122.77**	**46**	P	**PKiKP**		**21 44 28.1**	**+0.1**	
	baz=293,SNR=5.9								
LIT	**Litokhoron**	**122.79**	**315**	P	**PKPdf**		**21 44 27.5**	**-0.4**	
HODGE	**Hodges**	**122.79**	**53**	P	**PKPdf**		**21 44 27.6**	**-0.5**	
	baz=287,SNR=22								
M55A	**Ridgway**	**122.80**	**43**	P	**PKPdf**		**21 44 27.6**	**-0.3**	
	baz=294,SNR=29								
M55A				P	**PKPdf**		**21 44 27.6**	**-0.3**	
	baz=294,SNR=29								
CLL	**Collm**	**122.83**	**330**	*e*P	**Pdif**		**21 40 59.0**	**+0.7**	
CLL				*e*			21 44 27.0		
CLL				*e*			21 44 41.0		
CLL				pmax	pmax				
	comp=Z,64nm,0.8s								
CLL				MLR	MLR				
	comp=Z,68µm,22.9s								
PRU	**Pruhonice**	**122.84**	**328**	*e*PKPDF	**PKPdf**		**21 44 27.4**	**-0.3**	
PRU				*e*PP	**PP**		**21 46 11.9**	**+6.0**	
PRU				*e*PS	**PS**		**21 56 02.3**	**-0.1**	
PRU				*e*SS	SS		22 03 31.3	+46	
PRU				AMS	AMS		22 38 10.0		
	comp=Z,76µm,22.0s								
PRU	**Pruhonice**	**122.84**	**328**	*e*PKIKP	**PKPdf**		**21 44 27.4**	**-0.3**	
PRU				*e*			21 46 11.9		
PRU				*e*PS	**PS**		**21 56 02.3**	**-0.1**	
PRU				MLR	MLR				
	comp=Z,76µm,22.0s								
PRA	**Prague**	**122.85**	**328**	*e*PP	**PP**		**21 46 08.9**	**+3.0**	
PRA				*e*PS	**PS**		**21 56 01.9**	**-0.6**	
PRA				*e*SS	SS		22 03 32.2	+47	
PRA				AMS	AMS		22 34 00.0		
TEKS	**Tekeris**	**122.85**	**321**	⇑*i*P	**PKPdf**		**21 44 26.3**	**-1.6**	
PSDB	**Penn State Uni**	**122.95**	**44**	P	**PKiKP**		**21 44 28.7**	**+0.2**	
	baz=294								
PAULI	**Pauline**	**122.96**	**52**	P	**PKiKP**		**21 44 28.9**	**+0.3**	
	baz=288,SNR=16								
HSKC	**Hora Svate Kat**	**123.04**	**329**	*e*PKPDF	**PKiKP**		**21 44 28.3**	**0.0**	
HSKC				*e*PP	**PP**		**21 46 10.0**	**+2.8**	
HSKC				*e*PS	**PS**		**21 56 04.1**	**-0.1**	
HSKC				*e*SS	SS		22 03 34.6	+46	
HSKC				AMS	AMS		22 38 40.0		
NRS	**Narsarsuaq**	**123.06**	**10**	IAMs_20	IAMs_20		22 34 07.1		
	comp=Z,39µm,22.0s								
NRS	**Narsarsuaq**	**123.06**	**10**	*i* P	**PKPdf**		**21 44 26.5**	**-1.2**	
NRS				IAMs_20	IAMs_20		22 32 38.0		
	comp=Z,56µm,24.8s								
R55A	**Marlinton**	**123.08**	**47**	P	**PKPdf**		**21 44 28.1**	**-0.6**	
	baz=292,SNR=53								
R55A				P	**PKPdf**		**21 44 28.1**	**-0.6**	
	baz=292,SNR=53								
V55A	**Taylorsville**	**123.10**	**50**	P	**PKPdf**		**21 44 28.6**	**0.0**	
	baz=289,SNR=19								
V55A				P	**PKPdf**		**21 44 28.6**	**0.0**	
	baz=289,SNR=19								
SJES	**Sjenica**	**123.16**	**319**	⇑*i*P	**PKPdf**		**21 44 27.7**	**-1.0**	
RONA	**Rosalia, Austr**	**123.18**	**325**	*i* PKP	**PKPdf**		**21 44 28.1**	**-0.4**	
	comp=Z,50nm,1.0s,SNR=54								
RONA				*e*PKKP	**PKKPbc**		**21 54 22.5**	**+1.9**	
	comp=Z,14nm,1.1s								
KMSC	**Kings Mountain**	**123.24**	**51**	PKiKP	**PKiKP**		**21 44 29.4**	**+0.3**	
	baz=289								
KMSC	**Kings Mountain**	**123.24**	**51**	P	**PKPdf**		**21 44 28.6**	**-0.3**	
	baz=289,SNR=29								
BLA	**Blacksburg**	**123.24**	**49**	PKiKP	**PKiKP**		**21 44 29.2**	**0.0**	
	baz=291								
BLA	**Blacksburg**	**123.24**	**49**	P	**PKPdf**		**21 44 29.0**	**0.0**	
	baz=291,SNR=29								
BBLS	**Lazi&#263i**	**123.25**	**320**	⇑*i*P	**PKPdf**		**21 44 27.9**	**-0.9**	
255A	**Hazlehurst**	**123.27**	**55**	P	**PKiKP**		**21 44 29.5**	**+0.3**	
	baz=286								
J56A	**Wolcott**	**123.29**	**41**	P	**PKPdf**		**21 44 28.3**	**-0.4**	
	baz=297,SNR=14								
J56A				P	**PKPdf**		**21 44 28.3**	**-0.4**	
	baz=297,SNR=14								
FNA	**Florina**	**123.29**	**316**	*i* P	**PKPdf**		**21 44 27.5**	**-1.4**	
FNA	**Florina**	**123.29**	**316**	P	**PKPdf**		**21 44 28.4**	**-0.5**	
CONA	**Conrad Observa**	**123.30**	**326**	*i* PKP	**PKPdf**		**21 44 28.6**	**-0.2**	
	comp=Z,35nm,1.2s,SNR=20								
CONA				*e*PKKP	**PKKPbc**		**21 54 22.1**	**+2.0**	
	comp=Z,14nm,1.3s								
KRND	**KRANIDI**	**123.32**	**312**	P	**PKPdf**		**21 44 28.4**	**-0.6**	
L56A	**Greenwood**	**123.33**	**42**	P	**PKPdf**		**21 44 28.8**	**-0.2**	
	baz=296,SNR=44								
L56A				P	**PKPdf**		**21 44 28.8**	**-0.2**	
	baz=296,SNR=44								
THL	**Klokotos Trika**	**123.33**	**314**	P	**PKPdf**		**21 44 27.5**	**-1.4**	
ZVC	**Zvikov**	**123.35**	**328**	AMS	AMS		22 38 30.0		
	comp=Z,38µm,21.2s								
RUDO	**Rudo**	**123.39**	**320**	⇑*i*P	**PKPdf**		**21 44 26.3**	**-2.7**	
IVA	**Berane**	**123.39**	**319**	*e*PKP	**PKPdf**		**21 44 27.4**	**-1.7**	
HAPS	**Han Pijesak,BI**	**123.44**	**320**	⇑*i*P	**PKPdf**		**21 44 28.2**	**-1.0**	
PVY	**Plav**	**123.47**	**318**	*e*PKP	**PKPdf**		**21 44 28.1**	**-1.2**	
BCI	**Bajram Curri**	**123.50**	**318**	*i* P	**PKPdf**		**21 44 28.7**	**-0.6**	
OHR	**Ohrid**	**123.55**	**317**	*i* P	**PKiKP**		**21 44 30.0**	**+0.3**	
JSC	**Jenkinsville**	**123.57**	**52**	P	**PKPdf**		**21 44 29.3**	**-0.2**	
	baz=288,SNR=9.5								
KPRO	**Kipourio**	**123.64**	**315**	P	**PKPdf**		**21 44 28.8**	**-0.8**	
KOME	**Kolasin**	**123.65**	**319**	*e*PKP	**PKPdf**		**21 44 28.0**	**-1.6**	
CKRC	**Cesky Krumlov**	**123.65**	**327**	*e*PKPDF	**PKPdf**		**21 44 28.7**	**-0.6**	
CKRC				*e*PP	**PP**		**21 46 12.2**	**+0.8**	
CKRC				*e*PS	**PS**		**21 56 10.7**	**+1.0**	
CKRC				*e*SS	SS		22 03 45.1	+49	
CKRC				AMS	AMS		22 37 50.0		
	comp=Z,81µm,21.8s								
CKRC	**Cesky Krumlov**	**123.65**	**327**	*e*PKIKP	**PKPdf**		**21 44 28.7**	**-0.6**	
CKRC				*e*			21 46 12.2		
CKRC				*e*PS	**PS**		**21 56 10.7**	**+1.0**	
CKRC				MLR	MLR				
	comp=Z,81µm,21.8s								
NEST	**Nestorio**	**123.67**	**316**	P	**PKiKP**		**21 44 30.4**	**+0.4**	
GUR	**Goura**	**123.72**	**312**	P	**PKPdf**		**21 44 29.7**	**-0.2**	
WCNY	**West Carthage**	**123.73**	**39**	P	**PKPdf**		**21 44 29.4**	**-0.2**	
	baz=299,SNR=26								
EVR	**Evrytania**	**123.73**	**314**	P	**PKiKP**		**21 44 31.0**	**+0.8**	
SSPA	**Standing Stone**	**123.75**	**44**		**PKPdf**		**21 44 29.2**	**-0.5**	
SSPA	**Standing Stone**	**123.75**	**44**	PKiKP	**PKiKP**		**21 44 30.0**	**0.0**	
	baz=295								
SSPA	**Standing Stone**	**123.75**	**44**	P	**PKPdf**		**21 44 29.2**	**-0.5**	
	baz=295,SNR=58								
K57A	**Scipio Center**	**123.76**	**41**	P	**PKPdf**		**21 44 29.5**	**-0.2**	
	baz=297,SNR=31								
PUK	**Puka**	**123.76**	**318**	*i* P	**PKPdf**		**21 44 28.5**	**-1.3**	
KBN	**Korca**	**123.77**	**316**	*i* P	**PKiKP**		**21 44 31.2**	**+1.1**	
NKC	**Novy Kostel**	**123.77**	**330**	*e*PKPDF	**PKPdf**		**21 44 29.3**	**-0.2**	
NKC				*e*PP	**PP**		**21 46 14.9**	**+2.8**	
NKC				*e*PS	**PS**		**21 56 09.7**	**-1.0**	
NKC				*e*SS	SS		22 03 44.5	+47	
NKC				AMS	AMS		22 37 20.0		
NKC	**Novy Kostel**	**123.77**	**330**	*e*PKIKP	**PKPdf**		**21 44 29.3**	**-0.2**	
NKC				*e*			21 46 14.9		
NKC				*e*PS	**PS**		**21 56 09.7**	**-1.0**	
NKC				MLR	MLR				
	comp=E,41µm,24.7s								
ANX	**Ano Chora**	**123.78**	**313**	P	**PKPdf**		**21 44 29.1**	**-0.9**	
J57A	**Williamstown**	**123.78**	**40**	P	**PKPdf**		**21 44 29.6**	**-0.1**	
	baz=298,SNR=27								
J57A				P	**PKPdf**		**21 44 29.6**	**-0.1**	
	baz=298,SNR=27								
BIGH	**Upper Bighouse**	**123.82**	**345**	*e*P	**PKPdf**		**21 44 28.9**	**-0.3**	
BIGH				IAMs_20	IAMs_20		22 35 50.9		
	comp=Z,40µm,26.1s								
KLV	**Kalavryta, Ach**	**123.82**	**313**	P	**PKPdf**		**21 44 30.1**	**+0.1**	
A052A	**Srbac**	**123.83**	**322**	*e*P	**PKiKP**		**21 44 31.8**	**+1.8**	
EFP	**Efpalio**	**123.85**	**313**	P	**PKPdf**		**21 44 30.1**	**+0.1**	
KHC	**Kasperske Hory**	**123.86**	**328**	*e*PKPDF	**PKPdf**		**21 44 29.8**	**+0.1**	
KHC				*e*PP	**PP**		**21 46 11.9**	**-0.9**	
KHC				*e*PS	**PS**		**21 56 12.7**	**+1.2**	
KHC				*e*SS	SS		22 03 44.5	+46	
KHC				AMS	AMS		22 39 00.0		
	comp=Z,72µm,20.8s								
KHC	**Kasperske Hory**	**123.86**	**328**	*e*PKIKP	**PKPdf**		**21 44 29.8**	**+0.1**	
KHC				*e*			21 46 11.9		
KHC				*e*PS	**PS**		**21 56 12.7**	**+1.2**	
KHC				MLR	MLR				
	comp=Z,72µm,20.8s								
ARSA	**Arzberg**	**123.87**	**325**	*i* PKiKP	**PKiKP**		**21 44 31.3**	**+1.3**	
	comp=Z,18nm,0.8s,SNR=12								
ARSA				*e*PKKP	**PKKPbc**		**21 54 19.6**	**+1.8**	
	comp=Z,8.8nm,1.3s								
UPM	**Unac-Piva**	**123.88**	**320**	*e*PKP	**PKPdf**		**21 44 28.2**	**-2.0**	
KOGS	**Kog**	**123.89**	**324**	*i* PKPdf	**PKiKP**		**21 44 31.2**	**+1.1**	
KOGS				*i* pPKPdf	**pPKPdf**		**21 44 43.4**	**-0.4**	
KOGS				*i* PP	**PP**		**21 46 16.1**	**+3.0**	
KOGS				*e*			22 03 58.9		
GERES	**GERESS Array B**	**123.96**	**328**		**PKPdf**		**21 44 28.9**	**-1.1**	
GERES	**GERESS Array B**	**123.96**	**328**	Pdiff	**Pdif**		**21 41 03.0**	**-0.6**	
	comp=Z,1.1nm,0.8s,baz=54,slow=6.8,SNR=4.5								
GERES				PKP	**PKPdf**		**21 44 28.4**	**-1.6**	
	comp=Z,25nm,0.6s,baz=46,slow=4.2,SNR=44								
GERES				SKP			21 48 03.9		
	comp=Z,3.4nm,0.6s,baz=60,slow=2.6,SNR=3.3								
GERES				PKKPbc	**PKKPbc**		**21 54 16.9**	**-0.7**	
	comp=Z,1.0nm,0.8s,baz=304,slow=2.1,SNR=4.0								
M57A	**Sunshine Farm,**	**123.97**	**43**	P	**PKPdf**		**21 44 29.8**	**-0.4**	
	baz=296,SNR=33								
M57A				P	**PKPdf**		**21 44 29.8**	**-0.4**	
	baz=296,SNR=33								
JTS	**Las Juntas de**	**123.98**	**81**		**PKiKP**		**21 44 32.1**	**+0.9**	
JTS	**Las Juntas de**	**123.98**	**81**	PKIKP	**PKiKP**		**21 44 32.1**	**+0.9**	
BMNY	**Brushton-Moira**	**124.02**	**38**	P	**PKPdf**		**21 44 29.0**	**-1.1**	
	baz=300,SNR=44								
MOSL	**Moslavina**	**124.03**	**323**	*i* P	**PKPdf**		**21 44 29.9**	**-0.2**	
PVO	**Paravola**	**124.05**	**314**	P	**PKPdf**		**21 44 30.4**	**0.0**	
BIRD	**Birdtown, Kers**	**124.08**	**52**	P	**PKPdf**		**21 44 30.7**	**+0.1**	
	baz=289,SNR=8.4								
LONY	**Lake Ozonia**	**124.08**	**38**	PKiKP	**PKPdf**		**21 44 30.3**	**0.0**	
	baz=300								
TIR	**Tirana**	**124.09**	**317**	*i* P	**PKiKP**		**21 44 32.5**	**+1.8**	
TIR	**Tirane**	**124.09**	**317**	P	**PKPdf**		**21 44 30.4**	**0.0**	
LSK	**Leskovik**	**124.09**	**316**	*i* P	**PKPdf**		**21 44 29.3**	**-1.2**	
LSK	**Leskovik**	**124.09**	**316**	P	**PKiKP**		**21 44 31.0**	**+0.2**	
SLATY	**Slatina**	**124.10**	**322**	*e*P	**PKPdf**		**21 44 28.9**	**-1.4**	
P57A	**Homestead Farm**	**124.14**	**45**	P	**PKiKP**		**21 44 30.7**	**-0.1**	
	baz=294,SNR=19								
P57A				P	**PKiKP**		**21 44 30.7**	**-0.1**	
	baz=294,SNR=19								
LOBO	**Lobor**	**124.15**	**324**	*i* P	**PKPdf**		**21 44 29.5**	**-0.9**	
DRME	**Dracevica, Mon**	**124.17**	**318**	*e*PKP	**PKPdf**		**21 44 29.1**	**-1.4**	
DRO	**Drossia**	**124.17**	**313**	P	**PKiKP**		**21 44 31.4**	**+0.5**	
CEME	**Cevo**	**124.18**	**319**	*e*PKP	**PKPdf**		**21 44 28.5**	**-2.1**	
T57A	**Hurt**	**124.19**	**49**	P	**PKPdf**		**21 44 30.7**	**0.0**	
	baz=291,SNR=21								
T57A				P	**PKPdf**		**21 44 30.7**	**0.0**	
	baz=291,SNR=21								
BLY	**Banja Luka**	**124.21**	**322**	*e*P	**PKPdf**		**21 44 29.6**	**-0.9**	
ULC	**Ulcinj**	**124.23**	**318**	*e*PKP	**PKPdf**		**21 44 29.9**	**-0.8**	
MOA	**Molln**	**124.23**	**326**	*i* PKiKP	**PKiKP**		**21 44 31.6**	**+0.8**	
	comp=Z,16nm,0.8s,SNR=14								
MOA				*e*PKKP	**PKKPab**		**21 54 15.3**	**+0.7**	
	comp=Z,15nm,1.5s								
A051A	**Mrakovica**	**124.25**	**322**	⇑*i*P	**PKPdf**		**21 44 29.4**	**-1.2**	
BRY	**Bratogost**	**124.26**	**319**	⇑*i*P	**PKPdf**		**21 44 29.5**	**-1.3**	
BRY	**Bratogost**	**124.26**	**319**	*e*PKP	**PKPdf**		**21 44 29.0**	**-1.8**	
J58A	**Remsen**	**124.26**	**40**	P	**PKPdf**		**21 44 30.1**	**-0.5**	
	baz=299,SNR=43								
J58A				P	**PKPdf**		**21 44 30.1**	**-0.5**	
	baz=299,SNR=43								
W57A	**Gilead**	**124.27**	**51**	P	**PKPdf**		**21 44 30.3**	**-0.6**	
	baz=290,SNR=18								
W57A				P	**PKPdf**		**21 44 30.3**	**-0.6**	
	baz=290,SNR=18								
BUM	**Brajici-Budva**	**124.31**	**319**	*e*PKP	**PKPdf**		**21 44 30.2**	**-0.6**	
RLS	**Riolos of Patr**	**124.31**	**313**	P	**PKiKP**		**21 44 31.4**	**+0.2**	
BINY	**Binghamton**	**124.35**	**42**	PKiKP	**PKiKP**		**21 44 31.2**	**0.0**	
	baz=297								
BINY	**Binghamton**	**124.35**	**42**	P	**PKPdf**		**21 44 31.0**	**+0.1**	
	baz=297,SNR=23								
NEVS	**Nevesinje**	**124.35**	**320**	⇑*i*P	**PKiKP**		**21 44 32.4**	**+1.2**	
MCD	**Coleburn Disti**	**124.43**	**344**	*e*P	**PKPdf**		**21 44 29.9**	**-0.6**	
MGRS	**Mrkonjic Grad**	**124.44**	**322**	⇑*i*P	**PKiKP**		**21 44 32.2**	**+0.9**	
SOKA	**Soboth**	**124.47**	**325**	*i* PKP	**PKPdf**		**21 44 30.3**	**-0.7**	
	comp=Z,50nm,1.3s,SNR=38								
SOKA				*e*PKKP	**PKKPbc**		**21 54 17.7**	**+2.2**	
	comp=Z,8.7nm,1.6s								
N58A	**Sunbury**	**124.47**	**43**	P	**PKPdf**		**21 44 30.6**	**-0.5**	
	baz=296,SNR=39								
N58A				P	**PKPdf**		**21 44 30.6**	**-0.5**	
	baz=296,SNR=39								
HCY	**Herceg Novi**	**124.50**	**319**	⇑*i*P	**PKPdf**		**21 44 28.8**	**-2.3**	
HCY	**Herceg Novi**	**124.50**	**319**	*e*PKP	**PKPdf**		**21 44 29.8**	**-1.3**	
IGT	**Igoumenitsa**	**124.54**	**315**	*i* P	**PKPdf**		**21 44 30.7**	**-0.6**	
IGT	**Igoumenitsa**	**124.54**	**315**	P	**PKPdf**		**21 44 30.7**	**-0.6**	
PYL	**PYLOS**	**124.55**	**312**	P	**PKPdf**		**21 44 30.4**	**-1.0**	
FRNY	**Flat Rock**	**124.58**	**38**	P	**PKPdf**		**21 44 30.9**	**-0.2**	
	baz=301,SNR=42								
LKD2	**Lefkada island**	**124.61**	**314**	*i* P	**PKPdf**		**21 44 29.5**	**-1.9**	
LKD2	**Lefkada island**	**124.61**	**314**	P	**PKPdf**		**21 44 30.4**	**-1.1**	
NYDR	**Nydri-Lefkada**	**124.61**	**314**	P	**PKiKP**		**21 44 32.3**	**+0.6**	
DBRK	**Dubrovnik**	**124.62**	**319**	*i* P	**PKPdf**		**21 44 31.1**	**-0.2**	
SRN	**Sarande**	**124.62**	**316**	*i* P	**PKPdf**		**21 44 29.8**	**-1.6**	
SRN	**Sarande**	**124.62**	**316**	P	**PKPdf**		**21 44 31.0**	**-0.4**	
NCB	**Newcomb**	**124.63**	**39**	P	**PKiKP**		**21 44 31.6**	**-0.1**	
	baz=300,SNR=55								
BIOA	**Bad Ischl, Aus**	**124.67**	**327**	*e*PKP	**PKPdf**		**21 44 30.7**	**-0.6**	
	comp=Z,19nm,0.9s,SNR=23								
BIOA				*e*PKKP	**PKKPbc**		**21 54 15.2**	**+0.5**	
	comp=Z,14nm,1.7s								
EVGI	**Lefkada island**	**124.68**	**314**	P	**PKPdf**		**21 44 31.7**	**+0.1**	
J59A	**Piesco**	**124.71**	**40**	P	**PKPdf**		**21 44 31.6**	**0.0**	
	baz=300,SNR=55								
J59A				P	**PKPdf**		**21 44 31.6**	**0.0**	
	baz=300,SNR=55								
V58A	**Windy Hill, Pi**	**124.73**	**50**	P	**PKPdf**		**21 44 31.6**	**-0.2**	
	baz=291,SNR=13								
V58A				P	**PKPdf**		**21 44 31.6**	**-0.2**	
	baz=291,SNR=13								
GRFO	**Grafenberg**	**124.73**	**330**		**PKiKP**		**21 44 31.5**	**-0.1**	
GRFO	**Grafenberg**	**124.73**	**330**	PKIKP	**PKiKP**		**21 44 31.5**	**-0.1**	
GRFO				MLR	MLR				
	comp=Z,56µm,22.0s								
A050A	**Klekovaca**	**124.75**	**322**	⇑*i*P	**PKPdf**		**21 44 29.8**	**-1.8**	
KSPA	**Keystone Colle**	**124.79**	**42**	P	**PKiKP**		**21 44 31.9**	**-0.1**	
	baz=297,SNR=15								
STON	**Ston**	**124.82**	**320**	*i* P	**PKPdf**		**21 44 30.2**	**-1.4**	
STON	**Ston**	**124.82**	**320**	⇑*i*P	**PKPdf**		**21 44 30.7**	**-1.0**	
OBKA	**Obir**	**124.84**	**325**	*i* PKP	**PKPdf**		**21 44 31.1**	**-0.6**	
	comp=Z,17nm,0.8s,SNR=11								
OBKA	**Obir**	**124.84**	**325**	⇑*i*P	**PKPdf**		**21 44 31.1**	**-0.6**	
KEK	**Kerkira**	**124.84**	**315**	P	**PKPdf**		**21 44 28.8**	**-3.0**	
R58B	**Mineral**	**124.84**	**47**	P	**PKPdf**		**21 44 31.8**	**-0.1**	
	baz=293,SNR=18								
R58B				P	**PKPdf**		**21 44 31.8**	**-0.1**	
	baz=293,SNR=18								
LEWI	**Lewis, Hebride**	**124.87**	**346**	*e*P	**PKPdf**		**21 44 30.9**	**-0.4**	
LEWI				IAMs_20	IAMs_20		22 42 50.6		
	comp=Z,35µm,22.0s								
RICI	**Ricice**	**124.87**	**321**	*i* P	**PKPdf**		**21 44 30.8**	**-1.1**	
VLS	**Valsamata**	**124.90**	**313**	P	**PKPdf**		**21 44 31.4**	**-0.6**	
LTHK	**Lithakia**	**124.91**	**313**	P	**PKPdf**		**21 44 31.4**	**-0.6**	
Y58A	**Scranton**	**124.94**	**52**	P	**PKPdf**		**21 44 32.2**	**0.0**	
	baz=289,SNR=6.8								
Y58A				P	**PKPdf**		**21 44 32.2**	**0.0**	
	baz=289,SNR=6.8								
L59A	**Walton**	**124.97**	**41**	P	**PKPdf**		**21 44 32.2**	**+0.1**	
	baz=298,SNR=26								
L59A				P	**PKPdf**		**21 44 32.2**	**+0.1**	
	baz=298,SNR=26								
BOJS	**Bojanci**	**124.98**	**324**	*e*Pdiff	**Pdif**		**21 41 09.0**	**+0.9**	
BOJS				*i* PKPdf	**PKiKP**		**21 44 33.9**	**+1.6**	
SDMD	**Soldier's Deli**	**124.99**	**45**	P	**PKPdf**		**21 44 31.7**	**-0.5**	
	baz=295,SNR=22								
LJU	**Ljubljana**	**125.11**	**324**	*e*Pdiff	**Pdif**		**21 41 09.9**	**+1.2**	
LJU				*i*			21 44 31.9		
LJU				*i* PKPdf	**PKiKP**		**21 44 34.0**	**+1.4**	
LJU				*i* pPKPdf	**pPKPdf**		**21 44 46.3**	**+0.2**	
LJU				*i*			21 45 35.5		
LJU				*i* PP	**PP**		**21 46 23.3**	**+2.0**	
LJU				*e*			21 47 45.6		
LJU				*e*			21 49 19.3		
LJU				*e*PS	**PS**		**21 56 15.1**	**-7.6**	
LJU				*e*SKKPbc	SKKPbc		21 57 50.6	-10	
LJU				*e*			22 04 15.8		
LJU				*e*			22 09 11.0		
CBN	**Corbin Frederi**	**125.11**	**46**	IAMs_20	IAMs_20		22 39 06.1		
	comp=Z,35µm,20.0s								
CBN	**Corbin Frederi**	**125.11**	**46**	PKiKP	**PKiKP**		**21 44 32.6**	**-0.1**	
	baz=294								
CBN	**Corbin Frederi**	**125.11**	**46**	P	**PKPdf**		**21 44 32.0**	**-0.4**	
	baz=294,SNR=5.2								
DWPF	**Disney Wildern**	**125.12**	**59**	IAMs_20	IAMs_20		22 35 08.6		
	comp=Z,36µm,21.0s								
DWPF	**Disney Wildern**	**125.12**	**59**	PKiKP	**PKiKP**		**21 44 34.0**	**+1.0**	
	baz=284								
HCNY	**Howe Caverns**	**125.15**	**40**	P	**PKPdf**		**21 44 31.6**	**-0.7**	
	baz=299,SNR=19								
KBA	**Koelnbreinsper**	**125.19**	**326**	*i* PKP	**PKPdf**		**21 44 31.5**	**-1.1**	
	comp=Z,40nm,0.9s,SNR=25								
ACCN	**Adirondack Com**	**125.28**	**39**	P	**PKPdf**		**21 44 32.1**	**-0.5**	
	baz=300,SNR=15								
MYKA	**Terra Mystica**	**125.28**	**325**	*e*PKP	**PKPdf**		**21 44 32.0**	**-0.6**	
	comp=Z,21nm,0.8s,SNR=14								
CEY	**Cerknica**	**125.34**	**324**	⇑*i*P	**PKPdf**		**21 44 32.4**	**-0.3**	
LESA	**Schwarzleotal**	**125.36**	**327**	*e*PKP	**PKPdf**		**21 44 32.1**	**-0.6**	
	comp=Z,30nm,0.5s								
LSTV	**Lastovo**	**125.39**	**320**	*i* P	**PKPdf**		**21 44 30.5**	**-2.3**	
MCVT	**Middlebury Col**	**125.41**	**38**	P	**PKiKP**		**21 44 33.2**	**0.0**	
	baz=301,SNR=31								
W59A	**Clinton**	**125.46**	**50**	P	**PKiKP**		**21 44 33.7**	**+0.2**	
	baz=291,SNR=5.7								
T59A	**Double "B" Far**	**125.46**	**48**	P	**PKiKP**		**21 44 33.5**	**0.0**	
	baz=293,SNR=35								
T59A				P	**PKiKP**		**21 44 33.5**	**0.0**	
	baz=293,SNR=35								
HVAR	**Hvar**	**125.46**	**321**	*i* P	**PKPdf**		**21 44 30.9**	**-2.0**	
MORI	**Morici**	**125.58**	**322**	*i* P	**PKPdf**		**21 44 33.2**	**+0.1**	
SCTE	**Santa Cesarea**	**125.60**	**316**	*i* P	**PKPdf**		**21 44 31.1**	**-2.2**	
INVG	**Invergeldie, C**	**125.65**	**344**	*e*P	**PKPdf**		**21 44 32.3**	**-0.6**	
INVG				IAMs_20	IAMs_20		22 36 46.6		
	comp=Z,50µm,24.1s								
GEDE	**Greenville**	**125.66**	**44**	P	**PKiKP**		**21 44 33.7**	**-0.1**	
	baz=296,SNR=26								
NVLJ	**Novalja**	**125.72**	**323**	*i* P	**PKPdf**		**21 44 30.9**	**-2.4**	
PSUB	**Penn St. - Bra**	**125.74**	**44

comp=Z,15µm,20.0s
PKME Peaks-Kenny Pk 126.89 35 PKiKP **PKiKP 21 44 36.0 0.0**
baz=306
PKME Peaks-Kenny Pk 126.89 35 P **PKPdf 21 44 35.2 -0.4**
baz=306,SNR=19
DAVA Damuels 126.94 328 *i* PKP **PKPdf 21 44 34.8 -1.0**
comp=Z,5.3nm,0.5s,SNR=17
KESW Keswick, Cumbr 126.94 342 *e*P **PKiKP 21 44 37.2 +1.3**
KESW IAMs_20 IAMs_20 22 40 59.0
comp=Z,42µm,24.3s
HPK Haverah Park 126.99 340 *e*P **PKPdf 21 44 35.4 -0.1**
HPK IAMs_20 IAMs_20 22 41 21.5
comp=Z,41µm,22.0s
BCLA Clavier 127.04 333 *d*PKPdf **PKPdf 21 44 35.4 -0.3**
BCLA *d*PKiKP **PKiKP 21 44 37.6 +1.4**
HRV Adam Dziewonsk 127.06 39 **PKiKP 21 44 36.3 -0.2**
HRV Adam Dziewonsk 127.06 39 PKiKP **PKiKP 21 44 36.7 +0.2**
baz=302
HRV Adam Dziewonsk 127.06 39 P **PKPdf 21 44 35.3 -0.7**
baz=302,SNR=19
HRV Adam Dziewonsk 127.06 39 PKiKP **PKiKP 21 44 36.3 -0.2**
HRV MLR MLR
comp=Z,46µm,19.0s
BFO Black Forest 127.06 330 **PKPdf 21 44 35.7 -0.2**
BFO Black Forest 127.06 330 PKiKP **PKPdf 21 44 35.7 -0.2**
F64A Sherman 127.07 34 P **PKPdf 21 44 35.5 -0.4**
baz=307,SNR=14
F64A P **PKPdf 21 44 35.5 -0.4**
baz=307,SNR=14
BGES Gesves 127.16 334 *d*PKP **PKiKP 21 44 37.6 +1.1**
BGES *dp*PKP **pPKPdf 21 44 50.0 +0.2**
UNH University of 127.17 38 P **PKPdf 21 44 34.7 -1.4**
baz=303,SNR=15
TIP Timpagrande 127.19 316 ⇑P **PKPdf 21 44 36.5 0.0**
TIP Timpagrande 127.19 316 IAMs_20 IAMs_20 22 43 18.5
comp=Z,32µm,22.0s
GAL1 Galloway 127.19 343 *e*P **PKPdf 21 44 35.4 -0.5**
GAL1 IAMs_20 IAMs_20 22 38 20.0
comp=Z,39µm,25.2s
WLF Walferdange 127.19 332 *d*PKPdf **PKPdf 21 44 36.0 0.0**
WLF *d*PKiKP **PKiKP 21 44 38.2 +1.7**
RCHB Rochefort 127.26 333 *d*PKPdf **PKPdf 21 44 35.2 -1.0**
WES Weston 127.27 39 P **PKPdf 21 44 36.3 -0.1**
baz=302,SNR=17
M63A Gales Ferry 127.31 41 P **PKPdf 21 44 36.4 -0.1**
baz=301,SNR=16
M63A P **PKPdf 21 44 36.4 -0.1**
baz=301,SNR=16
WIN Windhoek 127.36 236 IAMs_20 IAMs_20 22 34 28.5
comp=Z,44µm,22.0s
BMRD Maredsous 127.36 334 *d*PKPdf **PKPdf 21 44 34.1 -2.2**
BMRD *d*PKiKP **PKiKP 21 44 37.9 +1.0**
LBWR Ladybower, Pea 127.48 340 *e*P **PKiKP 21 44 37.0 0.0**
LBWR IAMs_20 IAMs_20 22 31 58.2
comp=Z,41µm,29.8s
DOU Dourbes 127.59 334 *d*PKPdf **PKPdf 21 44 36.6 -0.2**
DOU *d*PKPab **PKiKP 21 44 38.7 +1.4**
IOMK Kirk Michael 127.67 342 *e*P **PKiKP 21 44 38.4 +1.0**
IOMK IAMs_20 IAMs_20 22 40 24.1
comp=Z,73µm,24.9s
WIM Isle of Man 127.80 342 *e*P **PKiKP 21 44 38.6 +1.0**
L64A Middleborough 127.81 39 P **PKPdf 21 44 37.6 +0.2**
baz=302,SNR=15
L64A P **PKPdf 21 44 37.6 +0.2**
baz=302,SNR=15
CWF Charnwood Fore 127.89 339 *e*P **PKPdf 21 44 36.7 -0.5**
CWF IAMs_20 IAMs_20 22 41 18.2
comp=Z,66µm,22.9s
STNC Stoke 127.90 340 *e*P **PKiKP 21 44 39.5 +1.6**
STNC IAMs_20 IAMs_20 22 43 24.6
comp=Z,39µm,21.8s
G65A Princeton 127.91 34 P **PKiKP 21 44 38.0 -0.1**
baz=308,SNR=16
G65A P **PKiKP 21 44 38.0 -0.1**
baz=308,SNR=16
M65A Busby, Falmout 128.13 40 PKiKP **PKiKP 21 44 39.0 +0.3**
baz=302
EMMW East Machias 128.27 35 P **PKiKP 21 44 38.7 -0.2**
baz=307,SNR=9.1
ILTH Belurgan, Co L 128.38 343 PKP **PKiKP 21 44 39.7 +0.9**
WPS Cemaes, Angles 128.38 342 *e*P **PKiKP 21 44 39.7 +0.9**
WPS IAMs_20 IAMs_20 22 40 54.0
comp=Z,41µm,24.4s
FOEL Foel Wyfa 128.40 341 *e*P **PKiKP 21 44 39.3 +0.4**
FOEL IAMs_20 IAMs_20 22 42 13.4
comp=Z,36µm,22.9s
WLF1 Llynfaes 128.45 342 *e*P **PKiKP 21 44 39.7 +0.8**
WLF1 IAMs_20 IAMs_20 22 41 53.2
comp=Z,79µm,23.0s
YLL Llanberis 128.50 341 *e*P **PKiKP 21 44 40.0 +1.0**
HLM1 Long Mynd 128.61 340 *e*P **PKPdf 21 44 38.4 -0.3**
HLM1 IAMs_20 IAMs_20 22 32 45.1
comp=Z,44µm,30.1s
STRD Stroud 128.98 339 *e*P **PKiKP 21 44 40.7 +0.7**
STRD IAMs_20 IAMs_20 22 42 34.3
comp=Z,56µm,25.0s
WOL Wolverton 129.01 338 *e*P **PKiKP 21 44 41.0 +0.9**
SWN1 Swindon 129.06 339 *e*P **PKPdf 21 44 39.4 -0.1**
SWN1 IAMs_20 IAMs_20 22 42 03.2
comp=Z,70µm,22.4s
MCH1 Michaelchurch 129.08 340 *e*P **PKiKP 21 44 40.2 0.0**
MCH1 IAMs_20 IAMs_20 22 43 39.0
comp=Z,35µm,21.4s
DSB Dublin 129.08 343 PKP **PKiKP 21 44 41.1 +0.9**
MONM Monmouth 129.15 340 *e*P **PKiKP 21 44 40.9 +0.5**
MONM IAMs_20 IAMs_20 22 42 30.2
comp=Z,46µm,23.6s
IGLA Glengowla, Co 129.75 345 PKP **PKPdf 21 44 39.8 -0.9**
IWEX Carrickbyrne, 129.96 343 PKP **PKPdf 21 44 40.1 -1.1**
LOR Lormes 129.97 332 PKHKP PKPpre 21 44 22.0
CLF Chambon-Foret 130.15 333 IAMs_20 IAMs_20 22 44 11.8
comp=Z,40µm,21.0s
SBD Saint Breward 130.86 340 *e*P **PKiKP 21 44 43.8 -0.1**
LVC Limon Verde 131.62 127 **PKiKP 21 44 46.7 0.0**
LVC Limon Verde 131.62 127 IAMs_20 IAMs_20 22 31 46.0
comp=Z,34µm,21.0s
LVC Limon Verde 131.62 127 PKiKP **PKiKP 21 44 46.7 0.0**
LVC MLR MLR
comp=Z,34µm,21.0s
VSL Villasalto 131.93 320 IAMs_20 IAMs_20 22 45 17.4
comp=Z,23µm,21.0s
PB16 IPOC Station P 133.16 121 PKPdf **PKiKP 21 44 50.7 +0.5**
KEST Kesra 134.01 316 PKPdf **PKiKP 21 44 51.4 +0.6**
KEST Kesra 134.01 316 PKhKP PKPpre 21 44 35.4
KEST comp=Z,8.4nm,1.0s,baz=218,slow=0.9,SNR=5.1 PKP **PKPdf 21 44 48.7 -0.8**
KEST comp=Z,98nm,1.0s,baz=46,slow=3.5,SNR=20 SKPbc **SKPab 21 48 16.7 -1.4**
comp=Z,20nm,0.9s,baz=341,slow=4.8,SNR=3.1
CZSB Cruzeiro do Su 134.02 106 **PKiKP 21 44 51.1 -0.2**
ROSC El Rosal 134.41 89 PKP **PKPdf 21 44 49.0 -2.2**
comp=Z,35nm,0.5s,baz=304,slow=5.0,SNR=18
ROSC PP **PP 21 47 22.9 -1.0**
comp=Z,7.3nm,0.5s,baz=227,slow=19,SNR=1.0
TATN Tataouine 134.73 311 PKPdf **PKiKP 21 44 52.5 +0.2**
TRIS Tristan da Cun 135.00 198 IAMs_20 IAMs_20 22 41 46.6
comp=Z,21µm,20.0s
LPAZ La Paz 135.24 120 PKPdf **PKiKP 21 44 55.4 +0.9**
LPAZ La Paz 135.24 120 PKiKP **PKiKP 21 44 55.4 +0.9**
LPAZ La Paz 135.24 120 PKhKP PKPpre 21 44 40.8
comp=Z,2.9nm,0.5s,baz=220,slow=2.4,SNR=9.6
GRTK Grand Turk 135.83 65 IAMs_20 IAMs_20 22 56 19.6
comp=Z,29µm,20.0s
SDDR Presa de Saban 136.28 68 IAMs_20 IAMs_20 22 46 19.7
comp=Z,32µm,19.0s
CPUP Villa Florida 137.79 140 PKPdf **PKiKP 21 44 59.9 +1.2**
CPUP Villa Florida 137.79 140 PKiKP **PKiKP 21 44 59.9 +1.2**
CPUP Villa Florida 137.79 140 PKhKP PKPpre 21 44 49.1
comp=Z,5.7nm,0.7s,baz=254,slow=2.1,SNR=14
CPUP PKP **PKPdf 21 44 55.8 -0.9**
comp=Z,42nm,0.9s,baz=241,slow=2.3,SNR=22
SDV Santo Domingo 138.12 83 PKPpre 21 44 50.0
SDV IAMs_20 IAMs_20 22 36 56.5
comp=Z,27µm,22.0s
PBRG Braganca 138.98 335 *e*PKP **PKiKP 21 45 00.0 -0.7**
CART Cartagena 139.40 326 IAMs_20 IAMs_20 22 53 28.4
comp=Z,28µm,21.0s
ESDC Sonseca Array 139.42 330 PKPpre 21 44 52.1
ESDC Sonseca Array 139.42 330 PKhKP PKPpre 21 44 49.5
comp=Z,6.3nm,1.0s,baz=16,slow=3.3,SNR=11
ESDC PKP **PKPdf 21 44 57.3 -2.1**
comp=Z,14nm,1.1s,baz=26,slow=2.5,SNR=13
ESDC PP **PP 21 47 52.3 -0.6**
comp=Z,29nm,1.0s,baz=26,slow=6.8,SNR=14
PGAV Gavieira, Arco 139.47 337 *e*SS SS 22 06 31.5 +23

PGAV Gavieira, Arco 139.47 337 *e*LR LR 22 42 00.3
comp=Z,28µm,20.0s
HATO Hato, Curacao 139.56 78 IAMs_20 IAMs_20 22 37 14.3
comp=Z,26µm,22.0s
MVO Moncorvo 139.63 335 *e*PKP **PKiKP 21 45 01.6 -0.5**
MVO Moncorvo 139.63 335 *e*PP PP 21 48 02.6 +8.5
MVO eLQ LQ 21 48 53.1
MVO Moncorvo 139.63 335 *e*SS SS 22 07 02.4 +52
MVO Moncorvo 139.63 335 *e*LR LR 22 36 42.9
comp=Z,24µm,22.0s
PAB San Pablo 139.70 331 ⇑PKiKP **PKPdf 21 45 00.1 +0.2**
PVRL Vila Real 139.83 335 *e*PKP **PKiKP 21 45 03.1 +0.6**
PVRL eLQ LQ 21 48 37.5
PVIS Viseu 140.37 335 *e*PKP **PKPdf 21 44 58.0 -3.1**
PVIS eLQ LQ 21 48 40.4
MTE Manteigas 140.48 335 *e*PKP **PKPdf 21 44 59.8 -1.5**
MTE Manteigas 140.48 335 *e*PP **PP 21 48 02.6 +3.2**
MTE eLQ LQ 21 48 38.5
MTE Manteigas 140.48 335 *e*SS SS 22 07 52.5 +92
MTE Manteigas 140.48 335 *e*LR LR 22 37 06.0
comp=Z,32µm,22.0s
BAUV El Baul 140.68 83 *e*P PKPdf 21 44 51.6 -11
CELP Cerrillos 140.83 68 PKPpre 21 44 57.8
PCBR Castelo Branco 140.92 334 *e*PKP **PKiKP 21 45 04.9 +0.2**
PCBR eLQ LQ 21 48 39.3
PCAS Casmilo, Conde 141.18 335 *e*PKP **PKiKP 21 45 04.5 -0.7**
PCAS Casmilo, Conde 141.18 335 *e*PP **PP 21 48 06.2 +2.7**
PCAS eLQ LQ 21 48 40.1
PMRV Marv??o 141.22 334 *e*PKP **PKiKP 21 45 05.3 0.0**
PMRV Marv??o 141.22 334 *e*PP **PP 21 48 06.4 +2.6**
PMRV eLQ LQ 21 48 41.4
PMRV Marv??o 141.22 334 *e*SS SS 22 07 16.3 +47
PMRV Marv??o 141.22 334 *e*LR LR 22 37 02.7
comp=Z,31µm,20.0s
PESTR Estremoz 141.76 333 *e*PKP **PKiKP 21 45 06.0 -0.5**
PESTR Estremoz 141.76 333 *e*PP **PP 21 48 09.4 +2.2**
PESTR *i* LQ LQ 21 49 01.0
PESTR Estremoz 141.76 333 **PKPdf 21 45 02.6 -1.0**
PMTG Montargil 141.88 334 *e*PKP **PKPdf 21 45 03.1 -0.7**
PMTG Montargil 141.88 334 *e*PP PP 21 48 17.2 +9.4
PMTG *i* LQ LQ 21 49 01.9
PBAR Barrancos 142.07 332 *e*PKP **PKPdf 21 44 58.5 -5.6**
PBAR Barrancos 142.07 332 *e*PP **PP 21 48 13.3 +4.3**
PBAR *i* LQ LQ 21 49 02.5
EVO Evora 142.23 333 *e*PKP **PKPdf 21 44 58.0 -6.4**
EVO Evora 142.23 333 *e*PP **PP 21 48 11.0 +1.1**
EVO *i* LQ LQ 21 49 02.7
EKNA AfricaArray - 142.25 270 ||*e*P **PKPdf 21 45 04.5 -0.7**
PACT Alcochete 142.39 334 *e*PKP **PKPdf 21 45 00.7 -4.0**
PACT *i* LQ LQ 21 49 03.5
LIS Lisbon 142.57 335 *e*PKP **PKPdf 21 45 03.3 -1.7**
LIS Lisbon 142.57 335 *e*P **PKPdf 21 45 01.7 -3.3**
LIS IAMs_20 IAMs_20 22 50 32.2
comp=E,46µm,19.2s
LIS Lisbon 142.57 335 *e*PKiKP **PKPdf 21 45 01.7 -3.3**
PBEJ Beja 142.57 333 *e*PKP **PKPdf 21 45 01.9 -3.1**
PBEJ Beja 142.57 333 *e*PP **PP 21 48 14.4 +2.3**
PBEJ *i* LQ LQ 21 49 03.2
SAML Samuel 142.59 112 PKPpre 21 45 01.2
SAML Samuel 142.59 112 PKHKP PKPpre 21 45 01.2
SAML MLR MLR
comp=Z,20µm,22.0s
PNCL Nicolau / Gran 142.80 333 *e*PKP **PKPdf 21 45 00.1 -5.3**
PNCL Nicolau / Gran 142.80 333 *e*PP PP 21 48 22.1 +8.7
PNCL eLQ LQ 21 48 44.9
MESJ Messejana 142.89 333 *e*PKP **PKPdf 21 45 04.9 -0.7**
MESJ *i* LQ LQ 21 49 03.2
MESJ Messejana 142.89 333 *e*P **PKPdf 21 45 02.3 -3.3**
MESJ *e*PP **PP 21 48 12.2 -1.7**
MESJ IAMs_20 IAMs_20 22 50 39.6
comp=Z,35µm,21.9s
MESJ Messejana 142.89 333 *e*PKiKP **PKPdf 21 45 02.3 -3.3**
MESJ *e* 21 48 12.2
TAM Tamanrasset 142.92 301 PKPpre 21 45 02.2
TAM Tamanrasset 142.92 301 PKiKP **PKPdf 21 45 02.2 -4.1**
PCVE Castro Verde 142.98 332 *e*PKP **PKPdf 21 45 01.9 -3.9**
PCVE Castro Verde 142.98 332 *e*PP **PP 21 48 18.8 +4.3**
PCVE *i* LQ LQ 21 49 04.6
PVAQ Vaqueiros 143.01 332 *e*PKP PKPab 21 45 01.3 +0.2
PVAQ Vaqueiros 143.01 332 *e*PP **PP 21 48 17.0 +2.3**
PVAQ *i* LQ LQ 21 49 05.1
PVAQ Vaqueiros 143.01 332 *e*SS SS 22 07 40.2 +50
PVAQ Vaqueiros 143.01 332 *e*LR LR 22 38 35.1
comp=Z,33µm,22.0s
PBDV Barranco-do-Ve 143.24 332 *e*PKP PKPbc 21 45 03.7 +0.4
PBDV Barranco-do-Ve 143.24 332 *e*PP PP **21 48 18.6 +2.5**
PTEO Sao Teotonio 143.36 333 *e*PKP PKPbc 21 45 03.7 +0.1
MORF Marmelete 143.52 333 *e*PKP PKPab 21 45 03.1 -0.1
MORF Marmelete 143.52 333 *e*P PKPbc 21 45 03.7 -0.4
MORF IAMs_20 IAMs_20 22 48 24.4
comp=Z,41µm,27.2s
MORF Marmelete 143.52 333 *e*PKiKP PKPab 21 45 03.6 +0.4
VILB Vilhena 143.58 120 PKPbc 21 45 04.9 0.0
PFVI Vila Bisbo 143.74 333 *e*PKP PKPbc 21 45 04.9 +0.2
PFVI Vila Bisbo 143.74 333 *e*PP **PP 21 48 22.9 +3.8**
PCRV Puerto La Cruz 143.96 80 *e*P PKPab 21 44 59.3 -6.2
SABA Saba 144.02 68 IAMs_20 IAMs_20 22 44 31.9
comp=Z,33µm,21.0s
SMRT St. Maarten 144.06 67 IAMs_20 IAMs_20 22 44 57.8
comp=Z,33µm,21.0s
MDT Midelt 144.86 324 PKP **PKPab 21 45 07.1 -1.3**
comp=Z,24nm,0.5s,baz=69,slow=3.9,SNR=40
MBFL Flemmings, Mon 145.20 69 *e*P **PKPbc 21 45 09.5 -0.4**
CRUV Carupano 145.29 79 *e*P **PKPbc 21 45 09.0 -1.2**
ANBD Bethesda, Anti 145.53 68 *e*P **PKPdf 21 45 08.1 -2.6**
H07N1 FLORES T-PHASB 145.91 4 *e*PKP **PKiKP 21 45 13.9 -1.1**
CBE Ff, Capester 145.93 69 *e*P **PKPdf 21 45 11.6 +0.2**
ABD La Joyeuse, An 145.94 69 IAMs_20 IAMs_20 22 46 12.8
comp=Z,35µm,21.0s
ABD La Joyeuse, An 145.94 69 *e*P **PKPdf 21 45 11.7 +0.3**
H07S1 FLORES T-PHASB 146.21 4 *e*PKP **PKiKP 21 45 17.1 +1.5**
GDSD La Dsirade Is 146.37 69 IAMs_20 IAMs_20 22 46 44.2
comp=Z,30µm,21.0s
SVN Savane Anatole 146.62 71 *e*P **PKPab 21 45 15.9 +0.5**
SRBC Serra Branca 146.64 359 *e*PKP **PKPbc 21 45 13.8 +0.2**
GRW Mount Saint Ca 146.64 76 *e*P **PKPbc 21 45 13.8 -0.6**
PGRA Graciosa 146.64 359 *e*PKP **PKiKP 21 45 23.8 +7.3**
PGRA Graciosa 146.64 359 eLQ LQ 22 26 32.9
PGRA eLR LR 22 34 18.1
GRHS Sauteurs 146.65 76 *e*P **PKPdf 21 45 12.9 +0.2**
GRGR Grenville 146.65 76 IAMs_20 IAMs_20 22 59 52.2
comp=Z,26µm,21.0s
GRGR Grenville 146.65 76 *e*P **PKPdf 21 45 12.1 -0.6**
FDF Fort de France 146.66 72 IAMs_20 IAMs_20 22 55 48.3
comp=Z,23µm,20.0s
BIM Bigot 146.79 72 IAMs_20 IAMs_20 22 46 35.6
comp=Z,23µm,21.0s
BIM Bigot 146.79 72 *e*P **PKPab 21 45 15.4 -0.6**
GCMP Grenada, Carri 146.82 76 *e*P **PKPdf 21 45 11.9 -1.0**
SVB Belmont 146.86 74 *e*P **PKPab 21 45 15.9 -0.4**
PAGU Agualva, Azore 146.89 358 *e*PKP **PKiKP 21 45 16.7 -0.3**
PAGU Agualva, Azore 146.89 358 eLQ LQ 22 27 02.5
PAGU eLR LR 22 36 09.1
PSBA Serra de Santa 146.89 358 *e*PKP **PKiKP 21 45 17.1 +0.1**
PSCM Serra do Cume 146.95 358 *e*PKP **PKiKP 21 45 16.8 -0.3**
ROSA Rosais 146.96 360 *e*PKP **PKiKP 21 45 17.7 +0.6**
ROSA Rosais 146.96 360 eLQ LQ 22 26 32.9
ROSA eLR LR 22 35 32.6
SLBI Saint Lucia, B 146.98 73 *e*P **PKPbc 21 45 15.1 -0.2**
ADH Angra Heroismo 147.00 358 *e*PKP **PKPab 21 45 15.9 -0.2**
MPOM Morne Pois Mar 147.00 72 IAMs_20 IAMs_20 22 56 16.2
comp=Z,25µm,21.0s
MPOM Morne Pois Mar 147.00 72 *e*P **PKiKP 21 45 17.4 -0.4**
PMAN Manadas 147.04 359 *e*PKP **PKiKP 21 45 17.3 0.0**
PCED Cedros 147.05 0 *e*PKP **PKPab 21 45 16.6 +0.3**
TRN Trinidad (W) 147.09 79 *e*P **PKPbc 21 45 15.2 -0.4**
CALA Caldeira 147.09 0 *e*PKP **PKiKP 21 45 17.3 -0.2**
CALA Caldeira 147.09 0 eLQ LQ 22 26 59.4
CALA eLR LR 22 36 18.6
HOR Horta 147.15 0 *e*PKP **PKiKP 21 45 17.3 -0.2**
PICO Pico 147.18 360 *e*PKP **PKiKP 21 45 17.8 +0.1**
PICO Pico 147.18 360 eLQ LQ 22 26 15.8
PICO eLR LR 22 35 37.8
PPNO Prainha do Nor 147.20 360 *e*PKP **PKiKP 21 45 17.8 +0.1**
PCAN Candelaria 147.21 360 *e*PKP **PKiKP 21 45 17.9 +0.2**
PID Ribeirinha 147.23 359 *e*PKP **PKiKP 21 45 17.9 +0.2**
PSET Sete Cidades 147.75 356 *e*PKP **PKiKP 21 45 18.8 0.0**
PSET Sete Cidades 147.75 356 eLQ LQ 22 26 36.1
PSET eLR LR 22 34 42.4
BART Pico Bartolome 147.75 355 *e*PKP **PKiKP 21 45 18.7 -0.2**
BART Pico Bartolome 147.75 355 *e*LR LR 22 35 45.3

PCALD Caldeiras da R 147.76 355 *e*PKP **PKiKP 21 45 17.9 -0.9**
PGRON Lagoa das Cont 147.78 355 *e*PKP **PKPab 21 45 19.6 +0.3**
CMLA Cha da Macela 147.79 356 *e*PKP **PKPab 21 45 19.2 -0.1**
CMLA Cha da Macela 147.79 356 eLQ LQ 22 26 54.8
CMLA eLR LR 22 34 17.8
CMLA Cha da Macela 147.79 356 **PKPab 21 45 20.0 +0.7**
CMLA Cha da Macela 147.79 356 PKP2 **PKPab 21 45 20.0 +0.7**
PDA Ponta Delgada 147.82 356 *e*PKP **PKiKP 21 45 18.3 -0.6**
BCHC Barbados, Cave 148.43 74 *e*P **PKPdf 21 45 16.1 +0.5**
BBGH Gun Hill 148.50 74 IAMs_20 IAMs_20 22 53 59.0
comp=Z,31µm,22.0s
BBGH Gun Hill 148.50 74 *e*P **PKPbc 21 45 19.1 -0.3**
PSMN Pico do Norte, 148.51 355 *e*PKP **PKiKP 21 45 19.8 -0.6**
PSMN Pico do Norte, 148.51 355 eLQ LQ 22 27 02.5
PSMN eLR LR 22 34 44.6
PSMA Santa Maria 148.52 355 *e*PKP **PKiKP 21 45 19.9 -0.5**
SHEL Horse Pasture 148.94 226 **PKPbc 21 45 20.1 -0.4**
SHEL Horse Pasture 148.94 226 PKP2 **PKPbc 21 45 20.1 -0.4**
TORD Torodi Ar. Bea 149.24 286 **PKPdf 21 45 15.7 -1.3**
TORD PKPab **PKiKP 21 45 24.0 +1.5**
TORD Torodi Ar. Bea 149.24 286 PKP **PKPdf 21 45 15.9 -1.1**
comp=Z,40nm,1.0s,baz=27,slow=3.5,SNR=80
TORD PKPbc **PKPbc 21 45 19.4 -1.9**
comp=Z,418nm,1.1s,baz=48,slow=2.6,SNR=58
PMPST Porto Santo, M 150.32 339 *e*PKP **PKPdf 21 45 20.4 +2.2**
PMPS Porto Santo 150.34 339 *e*PKP **PKiKP 21 45 26.0 +1.8**
PMAR Madeira 150.84 340 *e*PKP **PKPdf 21 45 21.7 +2.4**
PMOZ Porto Moniz, M 150.85 340 *e*PKP **PKPbc 21 45 22.1 -2.7**
PMOZ Porto Moniz, M 150.85 340 *e*SS SS 22 09 18.2 +60
PMOZ Porto Moniz, M 150.85 340 *e*LR LR 22 39 35.9
comp=Z,15µm,20.0s
FUL Funchal 150.91 339 *e*PKP **PKPbc 21 45 22.2 -2.6**
BDFB Brasilia 151.47 138 PKP **PKPdf 21 45 19.7 -0.9**
comp=Z,32nm,1.0s,baz=178,slow=0.6,SNR=17
BDFB PKPbc **PKPbc 21 45 26.9 +0.1**
comp=Z,134nm,0.6s,baz=206,slow=1.1,SNR=43
MDP Montagnes des 156.00 90 PKP **PKPdf 21 45 26.6 -0.4**
comp=Z,39nm,1.1s,baz=316,slow=1.7,SNR=6.9
MDP PKPab **PKPab 21 45 51.5 -2.8**
comp=Z,20nm,0.7s,baz=242,slow=5.8,SNR=9.0
KIC Kosan Boka 156.31 273 ⇑*e*PKiKP **PKPdf 21 45 29.0 +1.6**
comp=Z,164nm,1.1s
DBIC Dimbokro 156.42 274 PKP **PKPdf 21 45 26.8 -0.7**
comp=Z,75nm,1.1s,baz=52,slow=1.5,SNR=26
DBIC PKPab **PKPab 21 45 57.0 +0.8**
comp=Z,89nm,1.0s,baz=172,slow=4.3,SNR=6.9
TIC Toumodi 156.58 274 ⇑*e*PKiKP **PKPdf 21 45 29.2 +1.4**
comp=Z,168nm,1.2s
LIC Lamto 156.60 273 ⇑*e*PKiKP **PKPdf 21 45 29.2 +1.4**
comp=Z,186nm,1.1s
RCBR Riachuelo 166.54 147 PKP **PKPdf 21 45 37.5 -0.6**
comp=Z,33nm,1.1s,baz=199,slow=1.8,SNR=11

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*BJI **29** 21:38:31.9±0.0, 5.°80S×152.°01E, h36km, mb5.0/66*
*MOS **29** 21:38:35.9±0.8, 5.°36S×151.°45E, h36km, mb5.4/55, Error ellipse: s-maj=9.5km s-min=6.0km az=100.0*
*DJA **29** 21:38:35.8±1.0, 5.°S±3.°×15.°2E±.°, h32km±8km, M6.1/33, mB7.1/3, mb5.3/33, MLv6.4/1, Mw(mB)7.0/3*
*NEIC **29** 21:38:38.1±1.5, 5.°60S±0.°05×151.°58E±0.°06, h35km±1km, mb5.3/210, Error ellipse: s-maj=11.5km s-min=7.7km az=118.0*
*IDC **29** 21:38:39.0±1.7, 5.°44S×151.°54E, h52km±14km, mb4.7/30, mbtmp4.9/31, ML3.1/1, Error ellipse: s-maj=12.8km s-min=9.3km az=89.0*

ISC 29 21:38:38.6±0.4, **5.°50S**±0.°04×**151.°57E**±0.°04, **h46**km±3km, **h46**km:**pP-P, n870,** σ1°16/886, **mb5.2**/189, **15C-6D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BULU	**Kimbe**	**1.25**	**268**	P	**Pn**	**21 39 00.5**	**+0.9**
RABL	**Rabaul**	**1.43**	**24**	Pn	**Pn**	**21 39 02.5**	**+0.5**
RABL				Sn	**Sn**	**21 39 23.5**	**+3.9**
KAVG	**Kavieng**	**3.00**	**345**	P	**Pn**	**21 39 26.7**	**+3.1**
MANU	**Manus Island**	**5.42**	**309**	P	Pn	21 40 02.1	+5.2
MANU	**Manus Island**	**5.42**	**309**	Pn	Pn	21 40 01.7	+4.7
PMG	**Port Moresby**	**5.85**	**228**	P	**Pn**	**21 40 05.0**	**+2.2**
PMG	**Port Moresby**	**5.85**	**228**	P	**Pn**	**21 40 05.2**	**+2.4**
PMG	**Port Moresby**	**5.85**	**228**		**Pn**	**21 40 02.6**	**-0.2**
PMG				Sn	**Sn**	**21 41 09.9**	**+1.3**
PMG	**Port Moresby**	**5.85**	**228**	*i* P	**Pn**	**21 40 01.3**	**-1.5**
PMG	**Port Moresby**	**5.85**	**228**	P	**Pn**	**21 40 05.2**	**+2.4**
	35nm,0.3s,baz=37,slow=16,SNR=24						
PMG				S	**Sn**	**21 41 09.8**	**+1.3**
	538nm,0.5s,baz=301,slow=20,SNR=16						
	334nm,0.7s						
HNR	**Honiara**	**9.18**	**116**		**Pn**	**21 40 47.1**	**-1.4**
HNR	**Honiara**	**9.18**	**116**	P	**Pn**	**21 40 47.1**	**-1.4**
HNR	**Honiara**	**9.18**	**116**	P	**Pn**	**21 40 50.2**	**+1.8**
	2µm,0.8s,baz=209,slow=13,SNR=5.8						
HNR				S	**Sn**	**21 42 33.6**	**+3.1**
	6µm,1.0s,baz=300,slow=22,SNR=3.6						
JAY	**Jayapura**	**11.24**	**285**	P	**Pn**	**21 41 19.7**	**+3.0**
	60nm,1.0s						
GENI	**Genyem**	**11.74**	**284**	P	**Pn**	**21 41 27.2**	**+3.7**
GENI	**Genyem**	**11.74**	**284**	P	**Pn**	**21 41 26.6**	**+3.1**
COEN	**Coen**	**11.79**	**224**	P	**Pn**	**21 41 24.9**	**+0.6**
COEN	**Coen**	**11.79**	**224**	Pn	**Pn**	**21 41 24.4**	**+0.1**
PATS	**Pohnpei**	**13.98**	**29**	P	**P**	**21 41 59.0**	**-2.0**
	baz=14,SNR=3.0						
MTSU	**Mount Surprise**	**14.42**	**209**	P	**Pn**	**21 42 01.7**	**+1.6**
	baz=14,SNR=5.1						
TV1H	**Townsville Har**	**14.45**	**198**	P	**Pn**	**21 42 02.0**	**+1.6**
CTA	**Charters Tower**	**15.40**	**199**	P	**P**	**21 42 16.5**	**-0.2**
	17nm,0.8s,baz=323,slow=0.0,SNR=2.8						
CTAO	**Charters Tower**	**15.40**	**199**	P	**P**	**21 42 17.3**	**+0.6**
CTAO	**Charters Tower**	**15.40**	**199**	P	**P**	**21 42 17.3**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,51nm,1.1s						
QIS	**Mount Isa**	**18.95**	**217**	P	**Pn**	**21 42 57.2**	**+0.1**
	baz=19,SNR=9.1						
QIS	**Mount Isa**	**18.95**	**217**	P	**Pn**	**21 42 57.4**	**+0.3**
QIS	**Mount Isa**	**18.95**	**217**	P	**Pn**	**21 42 57.6**	**+0.5**
FAKI	**Fak Fak**	**19.44**	**277**	P	**Pn**	**21 43 02.8**	**-0.1**
FAKI	**Fak Fak**	**19.44**	**277**	P	**P**	**21 43 02.0**	**+0.5**
FAKI	**Fak Fak**	**19.44**	**277**	P	**Pn**	**21 43 06.1**	**+3.2**
	comp=Z,49nm,1.1s						
EIDS	**Eidsvold**	**19.77**	**181**	P	**Pn**	**21 43 06.0**	**-0.6**
	baz=20,SNR=7.3						
EIDS	**Eidsvold**	**19.77**	**181**	P	**P**	**21 43 05.7**	**+0.8**
GUMO	**Guam**	**20.10**	**341**	P	Pn	21 43 11.9	+1.3
GUMO	**Guam**	**20.10**	**341**	P	Pn	21 43 10.6	0.0
GUMO	**Guam**	**20.10**	**341**	P	Pn	21 43 10.6	0.0
GUMO				pmax	pmax		
	comp=Z,1µm,1.1s						
GUMO	**Guam**	**20.10**	**341**	P	Pn	21 43 10.4	-0.3
	comp=Z,580nm,1.0s,baz=166,slow=7.8,SNR=14						
KDU	**Kakadu**	**20.16**	**248**	P	**P**	**21 43 08.9**	**-0.2**
	baz=20,SNR=10						
KDU	**Kakadu**	**20.16**	**248**	P	**P**	**21 43 09.0**	**-0.2**
KDU	**Kakadu**	**20.16**	**248**	P	**P**	**21 43 10.2**	**+1.0**
SAUI	**Saumlaki**	**20.28**	**262**	P	**P**	**21 43 10.5**	**-0.1**
SWI	**Sorong**	**20.79**	**282**	P	Pn	21 43 20.0	+1.0
	comp=Z,247nm,1.0s						
MTN	**Manton Dam**	**21.45**	**249**	P	**P**	**21 43 24.0**	**+0.9**
	baz=21,SNR=11						
MTN	**Manton Dam**	**21.45**	**249**	P	**P**	**21 43 24.4**	**+1.3**
MTN	**Manton Dam**	**21.45**	**249**	P	**P**	**21 43 24.6**	**+1.5**
MTN	**Manton Dam**	**21.45**	**249**	P	**P**	**21 43 24.1**	**

WRAB pmax pmax
comp=Z,177nm,0.9s
WB2 Warramunga Arr 22.06 228 P **P** **21 43 28.5 -1.2**
WRA Warramunga Arr 22.07 228 *i* P **P** **21 43 31.8 +2.0**
WRA pmax pmax
comp=Z,176nm,0.7s
WRA Warramunga Arr 22.07 228 P **P** **21 43 28.9 -0.9**
comp=Z,176nm,0.7s,baz=52,slow=10,SNR=95
WRA PcP **PcP** **21 47 26.6 +0.1**
comp=Z,10.0nm,1.0s,baz=31,slow=2.0,SNR=6.0
WRA ScP **ScP** **21 50 59.8 -0.5**
comp=Z,3.5nm,0.9s,baz=20,slow=1.7,SNR=4.6
QLP Quilpie 22.11 198 P **P** **21 43 31.1 +1.0**
baz=22,SNR=3.5
QLP Quilpie 22.11 198 P **P** **21 43 31.1 +1.0**
QLP Quilpie 22.11 198 P **P** **21 43 32.3 +2.2**
GC1S Gold Coast 1 S 22.62 176 P **P** **21 43 36.8 +1.3**
AULRC Lightning Ridg 24.05 188 P **P** **21 43 50.3 +0.8**
INKA Innaminka 24.40 204 P **P** **21 43 54.5 +1.8**
LBMI Labuha 24.51 281 P **P** **21 43 55.8 +1.9**
comp=Z,213nm,1.1s
KNRA Kununurra 24.57 244 P **P** **21 43 54.2 -0.2**
baz=25,SNR=72
KNRA Kununurra 24.57 244 P **P** **21 43 54.4 0.0**
KNRA Kununurra 24.57 244 P **P** **21 43 56.4 +2.0**
KNRA Kununurra 24.57 244 P **P** **21 43 54.1 -0.3**
AS01 Alice Springs 24.78 221 P **P** **21 43 57.1 +0.7**
AS01 Alice Springs 24.78 221 P **P** **21 43 58.1 +1.7**
ARMA Armidale 24.79 180 P **P** **21 43 56.2 -0.2**
baz=25,SNR=6.0
ARMA Armidale 24.79 180 P **PKiKP** **21 55 15.2 +1.3**
baz=25,SNR=9.8
ARMA Armidale 24.79 180 P **P** **21 43 57.5 +1.1**
ARMA Armidale 24.79 180 P **P** **21 43 56.0 -0.4**
ARMA IAmb IAmb 21 44 18.1
comp=Z,177nm,2.0s
AS31 Alice Springs 24.82 222 P **P** **21 43 56.5 -0.1**
AS31 IAmb IAmb 21 43 59.6
comp=Z,43nm,0.7s
ASAR Alice Springs 24.82 222 P **P** **21 43 56.1 -0.5**
ASAR Alice Springs 24.82 222 P **P** **21 43 56.6 0.0**
comp=Z,146nm,0.8s,baz=55,slow=9.0,SNR=105
ASAR PcP **PcP** **21 47 32.8 +0.6**
comp=Z,8.4nm,1.0s,baz=56,slow=2.3,SNR=2.4
ASAR S **S** **21 48 20.2 +3.9**
comp=Z,5.6nm,1.1s,baz=33,slow=14,SNR=2.9
ASAR ScP **ScP** **21 51 07.5 -0.1**
comp=Z,2.1nm,0.8s,baz=52,slow=4.8,SNR=4.8
comp=Z,146nm,0.8s
TNTI Ternate 24.96 284 P **P** **21 44 01.3 +3.3**
comp=Z,69nm,1.4s
AUPHS Peel High Scho 25.48 181 P **P** **21 44 04.2 +1.7**
SANI Sanana 25.75 277 P **P** **21 44 08.4 +3.2**
comp=Z,47nm,1.2s
CMSA Cobar Meteorol 26.49 191 P **P** **21 44 11.3 -0.3**
baz=26,SNR=16
CMSA Cobar Meteorol 26.49 191 P **P** **21 44 10.9 -0.7**
CMSA Cobar Meteorol 26.49 191 P **P** **21 44 11.8 +0.2**
AUDCS Dubbo College 26.74 186 P **P** **21 44 15.8 +1.9**
OOD Oodnadatta 26.83 212 P **P** **21 44 14.9 +0.2**
SOEI Soe 27.38 259 P **P** **21 44 20.5 +0.4**
SOEI Soe 27.38 259 P **P** **21 44 20.9 +0.8**
SOEI Soe 27.38 259 P **P** **21 44 23.5 +3.4**
comp=Z,170nm,1.1s
SGSI Sangihe 27.57 289 P **P** **21 44 25.1 +3.5**
comp=Z,187nm,0.7s
MGCD Mangrove Creek 27.58 181 P **P** **21 44 22.5 +1.2**
baz=28,SNR=6.4
MGCD Mangrove Creek 27.58 181 P **P** **21 44 22.7 +1.3**
LCRK Leigh Creek 27.82 205 P **P** **21 44 23.4 -0.2**
LCRK Leigh Creek 27.82 205 P **P** **21 44 23.8 +0.2**
STKA Stephens Creek 27.86 198 P **P** **21 44 24.0 0.0**
baz=28,SNR=6.4
STKA Stephens Creek 27.86 198 P **P** **21 44 24.1 +0.2**
STKA Stephens Creek 27.86 198 P **P** **21 44 21.8 -2.2**
STKA Stephens Creek 27.86 198 *i* P **P** **21 44 23.2 -0.7**
STKA Stephens Creek 27.86 198 P **P** **21 44 23.7 -0.2**
comp=Z,22nm,0.8s,baz=19,slow=11,SNR=7.5
comp=Z,22nm,0.8s
BATI Baumata 28.03 259 P **P** **21 44 26.2 +0.5**
comp=Z,152nm,1.0s,baz=89,slow=7.8,SNR=10
comp=Z,152nm,1.0s
BATI Baumata 28.03 259 P **P** **21 44 27.2 +1.5**
comp=Z,123nm,0.8s
FITZ Fitzroy Crossi 28.25 241 P **P** **21 44 27.1 -0.4**
baz=26,SNR=32
FITZ Fitzroy Crossi 28.25 241 P **P** **21 44 27.2 -0.4**
FITZ Fitzroy Crossi 28.25 241 P **P** **21 44 26.5 -1.1**
FITZ IAmb IAmb 21 44 31.0
comp=Z,36nm,0.8s
BBSI Bau Bau 28.87 269 P **P** **21 44 36.3 +3.1**
comp=Z,37nm,2.6s
LUWI Luwuk 29.09 278 P **P** **21 44 35.5 +0.4**
LUWI IAmb IAmb 21 44 54.1
comp=Z,86nm,1.2s
LUWI Luwuk 29.09 278 P **P** **21 44 37.1 +2.0**
comp=Z,56nm,1.4s
MMRI Maumere 29.27 262 P **P** **21 44 36.6 -0.1**
MMRI Maumere 29.27 262 P **P** **21 44 37.5 +0.7**
comp=Z,76nm,1.6s
WRKA Warakurna 29.59 227 P **P** **21 44 39.0 -0.5**
baz=30,SNR=40
DGTI Dogotuki 29.62 114 P **P** **21 44 42.7 +2.9**
CAN Canberra 29.77 184 P **P** **21 44 41.8 +0.8**
CAN IAmb IAmb 21 44 45.3
comp=Z,87nm,1.7s
CAN Canberra 29.77 184 P **P** **21 44 41.8 +0.8**
CAN pmax pmax
comp=Z,87nm,1.7s
TAVE Taveuni 30.07 114 P **P** **21 44 45.8 +2.0**
MRSI Marisa 30.18 280 P **P** **21 44 48.3 +3.5**
comp=Z,31nm,0.8s
HTT Hallett 30.18 201 P **P** **21 44 44.6 0.0**
baz=30,SNR=9.0
BBOO Buckleboo 30.79 206 P **P** **21 44 49.6 -0.4**
baz=31,SNR=8.3
BBOO Buckleboo 30.79 206 P **P** **21 44 48.3 -1.6**
BASI Baing, Sumba 31.05 259 P **P** **21 44 55.4 +3.0**
comp=Z,150nm,0.7s
TOLI2 Tolitoli 31.44 281 P **P** **21 44 56.2 +0.2**
TOLI2 Tolitoli 31.44 281 P **P** **21 44 55.7 -0.2**
ARPS Mount Arapiles 32.38 195 P **P** **21 45 04.3 +0.5**
FORT Forrest 33.48 218 P **P** **21 45 13.0 -0.6**
baz=34,SNR=21
FORT Forrest 33.48 218 P **P** **21 45 12.5 -1.1**
MBWA Marble Bar 34.56 240 P **P** **21 45 23.0 -0.1**
MBWA Marble Bar 34.56 240 P **P** **21 45 22.6 -0.6**
MBWA Marble Bar 34.56 240 P **P** **21 45 22.6 -0.6**
MBWA sP **sP** **21 45 40.1 -1.0**
PSA00 Pilbara Seismi 34.62 239 P **P** **21 45 23.3 -0.4**
PSA00 Pilbara Seismi 34.62 239 P **P** **21 45 23.2 -0.4**
PSA00 IAmb IAmb 21 45 27.5
comp=Z,38nm,0.9s
KKM Kota Kinabalu 37.11 287 P **P** **21 45 43.5 -1.6**
KKM IAmb IAmb 21 46 11.3
comp=Z,89nm,2.0s
JAGI Jajag, Banyuwa 37.25 263 P **P** **21 45 43.8 -2.4**
JAGI IAmb IAmb 21 45 44.6
comp=Z,54nm,1.0s
TAU Tasmania Unive 37.45 185 P **P** **21 45 48.6 +1.1**
TAU Tasmania Unive 37.45 185 P **P** **21 45 48.6 +1.1**
TAU pmax pmax
comp=Z,140nm,1.7s
MEEK Meekatharra 37.81 233 P **P** **21 45 50.4 -0.4**
baz=38,SNR=67
MEEK Meekatharra 37.81 233 P **P** **21 45 50.9 0.0**
KMBL Kambalda 37.91 224 P **P** **21 45 50.9 -0.7**
baz=38,SNR=6.6
KMBL Kambalda 37.91 224 P **P** **21 45 51.4 -0.2**
TOZ Tahuroa Road 38.79 149 P **P** **21 45 59.8 +1.0**
TOZ IAmb IAmb 21 46 01.6
comp=Z,48nm,1.2s
JOW Kunigami 39.26 326 P **P** **21 46 04.9 +1.9**
JOW Kunigami 39.26 326 P **P** **21 46 03.8 +0.9**
comp=Z,76nm,0.9s,baz=148,slow=10,SNR=9.0
comp=Z,76nm,0.9s
GIRL Giralia 39.86 241 P **P** **21 46 08.3 +0.2**
baz=40,SNR=11
GIRL Giralia 39.86 241 P **P** **21 46 08.2 +0.2**
RTZ Ruatahuna 40.22 149 P **P** **21 46 10.3 -0.5**
RTZ IAmb IAmb 21 46 13.3
comp=Z,70nm,0.9s
TKNZ Takaka Hill 40.23 155 P **P** **21 46 11.3 +0.5**
DSZ Denniston Nort 40.35 156 P **P** **21 46 11.5 -0.4**
DSZ IAmb IAmb 21 47 01.9
comp=Z,61nm,1.2s
MRNZ Matariki Terra 40.45 155 P **P** **21 46 13.8 +1.2**
THZ Tophouse 40.81 155 P **P** **21 46 14.3 -1.4**
UGM Wanagama 40.83 264 P **P** **21 46 16.1 -0.1**
KLBR Kellerberrin 40.94 226 P **P** **21 46 15.6 -1.3**
baz=41,SNR=5.4
TCW Tory Channel 40.95 154 P **P** **21 46 17.0 +0.3**
MORW Morawa 40.96 231 P **P** **21 46 15.9 -1.1**
baz=41,SNR=21
TUWZ Tuamarina 40.98 154 P **P** **21 46 17.3 +0.3**
INZ Inchbonnie 41.04 158 P **P** **21 46 16.4 -1.1**
MRZ Mangatainoka R 41.10 152 P **P** **21 46 17.6 -0.4**
BSWZ Blackbirch Sta 41.18 154 P **P** **21 46 18.6 -0.1**
YULB Yu-li 41.21 315 P **P** **21 46 21.2 +2.0**
LTZ Lake Taylor 41.41 157 P **P** **21 46 20.2 -0.4**
LTZ IAmb IAmb 21 46 22.5
comp=Z,55nm,1.3s
BFZ Birch Farm 41.43 151 P **P** **21 46 20.5 -0.2**
BFZ IAmb IAmb 21 46 25.7
comp=Z,159nm,2.0s
NACB Ninganchiao 41.51 316 P **P** **21 46 24.4 +2.8**
NACB Ninganchiao 41.51 316 IAmb IAmb 21 46 25.6
comp=Z,48nm,0.9s
KHZ Kahutara 41.62 155 P **P** **21 46 21.7 -0.5**
TPUB Ta-pu 41.62 315 P **P** **21 46 24.2 +1.7**
TPUB Ta-pu 41.62 315 P **P** **21 46 23.2 +0.6**
TPUB IAmb IAmb 21 46 40.0
comp=Z,52nm,1.0s
PLWZ Palliser 41.67 153 P **P** **21 46 22.0 -0.7**
SSLB Suanglung 41.70 315 P **P** **21 46 24.9 +1.7**
SSLB Suanglung 41.70 315 P **P** **21 46 24.5 +1.2**
RPZ Rata Peaks 41.75 159 P **P** **21 46 22.9 -0.5**
OXZ Oxford 41.78 157 P **P** **21 46 22.9 -0.7**
GVZ Greta Valley S 41.87 156 P **P** **21 46 24.4 +0.1**
GVZ IAmb IAmb 21 46 28.3
comp=Z,124nm,1.7s
YHNB Yeheng 41.99 317 P **P** **21 46 29.0 +3.4**
YHNB Yeheng 41.99 317 P **P** **21 46 27.1 +1.5**
YHNB IAmb IAmb 21 46 28.2
comp=Z,90nm,1.1s
NWAO Narrogin (SRO) 42.03 225 P **P** **21 46 26.4 +0.7**
NWAO Narrogin (SRO) 42.03 225 P **P** **21 46 26.5 +0.7**
NWAO pmax pmax
comp=Z,181nm,1.7s
LBZ Lake Benmore 42.03 160 P **P** **21 46 25.0 -0.6**
TATO Taipei 42.12 317 P **P** **21 46 26.7 +0.2**
MLZ Mavora Lakes 42.25 163 P **P** **21 46 27.2 -0.2**
MLZ IAmb IAmb 21 46 28.5
comp=Z,58nm,1.2s
MUN Mundaring 42.27 227 P **P** **21 46 27.1 -0.6**
baz=42,SNR=11
MUN Mundaring 42.27 227 P **P** **21 46 27.2 -0.5**
MQZ McQueen's Vall 42.34 157 P **P** **21 46 28.1 0.0**
MQZ IAmb IAmb 21 46 29.1
comp=Z,64nm,1.3s
JMN Monobe 42.46 338 P **P** **21 46 29.6 +0.4**
JMN Monobe 42.46 338 P **P** **21 46 29.5 +0.3**
JMN IAmb IAmb 21 46 41.6
comp=Z,89nm,1.2s
WHZ Wether Hill Ro 42.68 163 P **P** **21 46 30.1 -0.7**
WHZ IAmb IAmb 21 47 06.3
comp=Z,111nm,1.7s
JGF Kuroka 43.01 343 P **P** **21 46 34.5 +0.9**
JNU Nakatsue 43.14 334 P **P** **21 46 36.7 +2.0**
JNU Nakatsue 43.14 334 P **P** **21 46 35.5 +0.7**
JNU IAmb IAmb 21 46 50.7
comp=Z,32nm,0.9s
JNU Nakatsue 43.14 334 P **P** **21 46 34.2 -0.5**
comp=Z,28nm,0.8s,baz=100,slow=3.4,SNR=10
comp=Z,28nm,0.8s
RKGY Rocky Gully 43.14 223 P **P** **21 46 34.2 -0.5**
baz=43,SNR=5.8
MJAR Matsushiro Arr 43.65 344 P **P** **21 46 36.0 -2.8**
comp=Z,4.6nm,0.8s,baz=166,slow=9.0,SNR=9.5
MJAR PcP **PcP** **21 48 24.2 -1.3**
comp=Z,4.0nm,0.7s,baz=154,slow=4.6,SNR=5.2
comp=Z,4.6nm,0.8s
MAJO Matsushiro 43.65 344 *i* P **P** **21 46 38.0 -0.8**
MAJO pmax pmax
comp=Z,7.0nm,0.9s
KNMB Chin-men Tao 43.95 314 P **P** **21 46 42.2 +0.9**
KNMB IAmb IAmb 21 46 44.7
comp=Z,63nm,0.9s
QZH Quanzhou 44.10 315 ⇓ *i* P **P** **21 46 43.8 +1.3**
QZH pmax pmax
comp=Z,110nm,1.0s
XMIS Christmas Isla 45.71 261 P **P** **21 46 55.1 -0.5**
HKPS Hong Kong Po S 45.87 308 P **P** **21 46 58.4 +1.7**
HKPS Hong Kong Po S 45.87 308 P **P** **21 46 59.2 +2.5**
DLV T Lat 46.22 292 P **P** **21 47 00.4 +0.6**
DLV T Lat 46.22 292 P **P** **21 46 59.0 -0.7**
DLV IAmb IAmb 21 47 24.3
comp=Z,45nm,1.1s
CTZ Chatham Island 47.25 149 P **P** **21 47 08.4 +1.2**
CTZ Chatham Island 47.25 149 P **P** **21 47 07.6 +0.4**
TJN Taejon 47.43 333 P **P** **21 47 10.9 +2.3**
TJN Taejon 47.43 333 *ce* P **P** **21 47 07.5 -1.1**
QIZ Qiongzhong 47.78 302 P **P** **21 47 12.5 +0.8**
QIZ pmax pmax
comp=Z,26nm,1.1s
QIZ Qiongzhong 47.78 302 P **P** **21 47 12.5 +0.8**
QIZ IAmb IAmb 21 47 14.1
comp=Z,30nm,1.1s
QIZ Qiongzhong 47.78 302 P **P** **21 47 12.7 +1.0**
QIZ pP **pP** **21 47 25.1 +0.4**
QIZ sP **sP** **21 47 30.1 -0.2**
KSRS Korea Array 48.08 335 P **P** **21 47 13.3 -0.3**
comp=Z,4.8nm,0.9s,baz=154,slow=8.2,SNR=12
KSRS PcP **PcP** **21 48 40.5 -0.3**
comp=Z,2.2nm,0.8s,baz=151,slow=4.7,SNR=5.2
comp=Z,4.8nm,0.9s
KSAR Wonju Array Be 48.09 335 P **P** **21 47 13.7 -0.1**
KSAR Wonju Array Be 48.09 335 P **P** **21 47 13.7 -0.1**
NJ2 Nanjing 48.63 322 *eP* **P** **21 47 20.3 +2.3**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
INCN Inchon 48.67 333 P **P** **21 47 19.9 +1.6**
INCN Inchon 48.67 333 P **P** **21 47 19.2 +0.9**
ASAJ Asahikawa 50.05 352 P **P** **21 47 27.6 -1.0**
comp=Z,4.9nm,1.0s,baz=129,slow=10,SNR=2.1
comp=Z,4.9nm,1.0s
WHN Wuhan 50.52 317 P **P** **21 47 33.3 +0.8**
PSTR Posyet 51.51 340 *i* P **P** **21 47 38.9 -0.7**
KULM Kulim 51.96 281 P **P** **21 47 42.5 -1.1**
USA0B Ussuriysk Arra 52.52 342 *i* P **P** **21 47 45.9 -1.2**
USRK Ussuriysk Ar. 52.52 342 P **P** **21 47 46.3 -0.8**
USRK Ussuriysk Ar. 52.52 342 P **P** **21 47 46.3 -0.8**
USRK Ussuriysk Ar. 52.52 342 P **P** **21 47 46.5 -0.6**
comp=Z,4.2nm,0.8s,baz=173,slow=8.6,SNR=6.4
comp=Z,4.2nm,0.8s
YSS Yuzh-Sakhalins 52.80 352 *eP* **P** **21 47 48.9 -0.3**
YSS pmax pmax
comp=Z,10.0nm,0.9s
NONG Nongkai 53.20 297 P **P** **21 47 53.6 +1.0**
MDJ Mudanjiang 53.66 341 P **P** **21 47 58.0 +2.5**
MDJ pmax pmax
comp=Z,7.0nm,1.0s
ENH Enshi 53.74 314 P **P** **21 47 56.0 -0.5**
ENH IAmb IAmb 21 47 57.6
comp=Z,37nm,1.1s
SLVN Son La 53.80 301 P **P** **21 47 57.5 +0.4**
SLVN IAmb IAmb 21 47 59.9
comp=Z,33nm,1.4s
GYA Guiyang 53.85 308 ⇑ P **P** **21 47 59.0 +1.5**
GYA pmax pmax
comp=Z,16nm,1.0s
LYN LuoYang 54.28 320 *eP* **P** **21 48 00.0 -0.2**
LYN pmax pmax
comp=Z,29nm,1.0s
CN2 Changchun 54.44 337 *eP* **P** **21 48 03.0 +1.7**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
HNS HongShan 54.78 324 ⇓ P **P** **21 48 04.0 +0.2**
HNS pmax pmax
comp=Z,33nm,1.3s
BNX BinXian 55.38 340 ⇑ P **P** **21 48 06.8 -1.2**
BNX pmax pmax
comp=Z,20nm,1.0s
SRDT SRDT 55.63 291 P **P** **21 48 12.1 +1.8**
BJT Baijiatuau 55.80 327 P **P** **21 48 11.2 +0.1**
BJT IAmb IAmb 21 48 42.2
comp=Z,45nm,1.9s
BJT Baijiatuau 55.80 327 P **P** **21 48 11.2 +0.1**
BJT pmax pmax
comp=Z,45nm,1.9s
PHRA Phrae 55.94 297 P **P** **21 48 12.6 +0.1**
KIP Kipapa 56.19 60 *ce* P **P** **21 48 12.5 -1.7**
KIP pmax pmax
comp=Z,92nm,1.7s
XAN Xi'an 56.29 317 P **P** **21 48 14.5 -0.3**
XAN pP pP 21 48 24.5 -3.7
XAN pmax pmax
comp=Z,24nm,1.0s
KMI Kunming 56.37 305 ⇑ P **P** **21 48 16.5 +0.7**
KMI pP pP 21 48 28.3 -0.8
KMI pmax pmax
comp=Z,27nm,1.5s
CRAI Chiangrai 56.42 299 P **P** **21 48 16.2 +0.2**
CRAI IAmb IAmb 21 48 35.5
comp=Z,32nm,1.0s
CMAR Chiang Mai Arr 57.07 296 P **P** **21 48 20.5 -0.1**
CMAR Chiang Mai Arr 57.07 296 P **P** **21 48 21.4 +0.7**
comp=Z,8.3nm,0.8s,baz=120,slow=5.2,SNR=20
CMAR PKP2bc 22 18 23.1
comp=Z,1.5nm,0.3s,baz=289,slow=4.0,SNR=12
comp=Z,8.3nm,0.8s
KLR Kul'dur 57.18 345 *ce* P **P** **21 48 19.1 -1.6**
KLR pmax pmax
comp=Z,20nm,1.7s
KLR Kul'dur 57.18 345 P **P** **21 48 19.1 -1.6**
comp=Z,7.0nm,0.8s,baz=144,slow=3.9,SNR=16
comp=Z,7.0nm,0.8s
PZH PanZhiHua 57.78 306 P **P** **21 48 25.3 -0.3**
PZH pmax pmax
comp=Z,10.0nm,1.7s
CD2 Chengdu 58.27 312 P **P** **21 48 29.3 +0.4**
CD2 pmax pmax
comp=Z,10.0nm,0.3s
PEA0B Petropavlovsk- 58.62 4 *i* P **P** **21 48 30.9 +0.1**
PETK Petropavlovsk- 58.62 4 P **P** **21 48 31.6 +0.8**
comp=Z,9.2nm,0.8s,baz=166,slow=5.9,SNR=12
comp=Z,9.2nm,0.8s
XLT XiLinHaoTe 58.66 331 ⇓ *i* P **P** **21 48 31.5 +0.1**
XLT pP pP 21 48 42.5 -2.1
XLT sP sP 21 48 47.0 -3.0
XLT PcP **PcP** **21 49 20.3 -0.7**
XLT pmax pmax
comp=Z,42nm,1.0s
HHC Hu-ho-hao-te 58.91 325 ⇓ *i* P **P** **21 48 33.8 +0.6**
HHC pP pP 21 48 43.5 -3.1
HHC pmax pmax
comp=Z,24nm,0.5s
HEH HeiHe 59.33 342 *eP* **P** **21 48 34.5 -1.3**
HEH pmax pmax
comp=Z,13nm,0.8s
BTO Baotou 59.64 324 *eP* **P** **21 48 39.5 +1.3**
BTO pP **pP** **21 48 49.8 -1.8**
BTO sP **sP** **21 48 54.0 -3.1**
BTO pmax pmax
comp=Z,30nm,1.5s
TNCH TengChong 59.82 303 ⇑ P **P** **21 48 39.3 -0.6**
TNCH pP pP 21 48 51.5 -1.8
TNCH sP sP 21 48 56.0 -2.7
MND Mandalay 60.77 299 P **P** **21 48 45.9 -0.3**
LZH Lanzhou 60.88 317 ⇓ P **P** **21 48 47.8 +0.9**
LZH sP pP 21 49 02.0 +1.6
LZH pmax pmax
comp=Z,28nm,1.4s
HIA Hailar 61.18 337 P **P** **21 48 48.0 -0.4**
HIA IAmb IAmb 21 48 48.9
comp=Z,21nm,0.9s
HIA Hailar 61.18 337 *i* P **P** **21 48 47.5 -1.0**
HIA pmax pmax
comp=Z,18nm,0.9s
HIA Hailar 61.18 337 P **P** **21 48 47.8 -0.7**
HIA pP **pP** **21 49 00.2 -1.6**
DRV Dumont d'Urvil 61.59 185 P **P** **21 48 51.1 +0.2**
ZEA Zeya 62.46 344 *eP* **P** **21 48 56.4 -0.6**
ZEA pmax pmax
comp=Z,20nm,0.8s
MA2 Magadan 64.87 360 *ce* P **P** **21 49 12.7 0.0**
MA2 pmax pmax
comp=Z,11nm,1.3s
MA2 Magadan 64.87 360 P **P** **21 49 12.9 +0.2**
comp=Z,6.3nm,0.5s,baz=160,slow=9.4,SNR=7.5
comp=Z,6.3nm,0.5s
GTA Gaotai 65.34 318 P **P** **21 49 16.5 +0.1**
GTA pP pP 21 49 26.5 -3.5
GTA pmax pmax
comp=Z,7.0nm,0.9s
ULN Ulaanbaatar 65.95 329 P **P** **21 49 19.2 -0.9**
ULN IAmb IAmb 21 49 21.5
comp=Z,20nm,1.1s
ULN Ulaanbaatar 65.95 329 *ce* P **P** **21 49 19.3 -0.9**
ULN pmax pmax
comp=Z,25nm,1.3s
ULN Ulaanbaatar 65.95 329 P **P** **21 49 20.4 +0.3**
ULN pP **pP** **21 49 32.9 -0.8**
SONM Songino Array 66.27 329 P **P** **21 49 22.1 -0.1**
SONM IAmb IAmb 21 49 23.4
comp=Z,34nm,1.3s
SONM Songino Array 66.27 329 P **P** **21 49 22.1 -0.1**
SONM pmax pmax
comp=Z,34nm,1.3s
SONM Songino Array 66.27 329 P **P** **21 49 22.2 +0.1**
comp=Z,9.7nm,0.7s,baz=160,slow=4.2,SNR=21
SONM PKP2bc 22 17 57.7
comp=Z,1.1nm,0.9s,baz=289,slow=4.4,SNR=5.8
comp=Z,9.7nm,0.7s
CASY Casey 67.00 197 P **P** **21 49 26.0 -0.3**
CASY IAmb IAmb 21 49 27.4
comp=Z,40nm,1.1s
GOMU GeErMu 67.33 313 P **P** **21 49 29.5 0.0**
GOMU pmax pmax
comp=Z,6.0nm,0.7s
SEY Seymchan 68.24 0 *i* P **P** **21 49 34.0 -0.2**
SEY pmax pmax
comp=Z,3.0nm,1.0s
SEY Seymchan 68.24 0 P **P** **21 49 34.4 +0.2**
comp=Z,1.6nm,0.5s,baz=127,slow=10,SNR=6.8
comp=Z,1.6nm,0.5s
UNV Unalaska Valle 68.76 25 P **P** **21 49 39.5 +1.9**
baz=225
YAK Yakutsk 69.42 349 *ce* P **P** **21 49 39.5 -2.0**
YAK pmax pmax
comp=Z,21nm,1.0s
YAK Yakutsk 69.42 349 P **P** **21 49 40.0 -1.4**
comp=Z,6.9nm,0.3s,baz=18,slow=0.9,SNR=4.2
comp=Z,6.9nm,0.3s
ZAK Zakamensk 69.46 329 *eP* **P** **21 49 41.2 -1.0**
ZAK pmax pmax
comp=Z,30nm,1.2s
SPIA Saint Paul Isl 69.74 21 P **P** **21 49 45.8 +2.2**
baz=221
IRK Irkutsk 70.12 331 *eP* **P** **21 49 44.2 -1.9**
IRK pmax pmax
comp=Z,37nm,1.6s
MOY Mondy 71.38 329 *eP* **P** **21 49 53.5 -0.4**
MOY pmax pmax
comp=Z,39nm,1.5s
CCD Concordia, Ant 71.42 187 P **P** **21 49 54.5 +0.5**
S12K Black Hills 71.92 26 P **P** **21 49 58.1 +1.2**
baz=229
VNDA Vanda 72.18 178 P **P** **21 49 58.3 +0.2**
VNDA IAmb IAmb 21 49 59.9
comp=Z,41nm,1.0s
VNDA Vanda 72.18 178 P **P** **21 49 58.3 +0.2**
VNDA pmax pmax
comp=Z,41nm,1.0s
VNDA Vanda 72.18 178 P **P** **21 49 58.7 +0.5**
comp=Z,28nm,0.9s,baz=328,slow=6.7,SNR=52
comp=Z,28nm,0.9s
SDPT Sand Point 72.38 26 P **P** **21 49 59.7 +0.1**
SDPT IAmb IAmb 21 50 49.1
comp=Z,23nm,1.0s
SDPT Sand Point 72.38 26 P **P** **21 50 00.9 +1.3**
baz=231
CHNA Chernabura Isl 72.45 27 P **P** **21 50 00.7 +0.6**
baz=232
SBA Scott Base 72.75 177 P **P** **21 50 03.0 +1.5**
SBA IAmb IAmb 21 50 04.5
comp=Z,54nm,1.2s
SBA Scott Base 72.75 177 P **P** **21 50 03.0 +1.5**
SBA pmax pmax
comp=Z,54nm,1.2s
S14K Fog Glacier 73.38 26 P **P** **21 50 06.9 +1.3**
baz=231
M11K Mekoryuk 73.53 20 P **P** **21 50 08.2 +2.0**
baz=224
CHGN Chignik 73.89 26 P **P** **21 50 09.9 +1.4**

baz=232
BILL Bilibino 74.10 6 P **P** 21 50 10.1 +0.5
BILL Bilibino 74.10 6 *e*P **P** 21 50 09.1 -0.4
M13K Dall Lake 74.56 21 P **P** 21 50 14.2 +1.9
baz=227
O14K Tigyukauivet M 74.57 23 P **P** 21 50 13.0 +0.6
baz=229
N14K Kuskokwak Cree 74.85 22 P **P** 21 50 15.4 +1.4
baz=229
R16K Pilot Point 75.02 26 P **P** 21 50 15.8 +0.7
baz=233
O15K Ungalikthiuk R 75.08 24 P **P** 21 50 16.5 +1.1
baz=230
M14K Bethel 75.30 22 P **P** 21 50 17.8 +1.2
baz=228
WMQ Urumqi 75.43 318 *e*P **P** 21 50 18.8 +1.0
WMQ sP sP 21 50 37.3 +0.3
WMQ pmax pmax
comp=Z,24nm,1.3s
L14K Kuka Creek 75.43 21 P **P** 21 50 17.5 +0.1
L14K IAmb IAmb 21 50 21.3
comp=Z,22nm,0.9s
L14K Kuka Creek 75.43 21 P **P** 21 50 18.5 +1.2
baz=227
N15K Kwethluk River 75.61 23 P **P** 21 50 19.6 +1.1
baz=230
M15K Kasigluk River 75.73 22 P **P** 21 50 20.3 +1.3
baz=229
P16K Nushagak River 75.73 24 P **P** 21 50 20.7 +1.6
baz=232
O16K Kokwok River B 76.04 24 P **P** 21 50 21.9 +1.1
baz=232
L15K Ungalak Mounta 76.08 21 P **P** 21 50 22.6 +1.5
baz=228
J14K Nanvaranak Lak 76.10 20 P **P** 21 50 22.5 +1.4
J14K Nanvaranak Lak 76.10 20 P **P** 21 50 22.7 +1.6
baz=226
Q17K Contact Creek 76.16 26 P **P** 21 50 22.7 +1.0
baz=234
N16K Nishlik Lake 76.32 23 P **P** 21 50 24.2 +1.7
baz=231
K15K Wolf Creek Mou 76.48 21 P **P** 21 50 23.9 +0.6
K15K IAmb IAmb 21 50 27.8
comp=Z,19nm,0.8s
K15K Wolf Creek Mou 76.48 21 P **P** 21 50 24.8 +1.5
baz=228
O17K Koliganek Bris 76.55 24 P **P** 21 50 25.3 +1.5
baz=233
M16K Timber Creek 76.59 22 P **P** 21 50 24.8 +0.8
M16K IAmb IAmb 21 50 39.3
comp=Z,21nm,0.8s
M16K Timber Creek 76.59 22 P **P** 21 50 25.1 +1.1
baz=231
OHAK Old Harbor 76.72 27 P **P** 21 50 25.8 +1.0
baz=237
TNA Tin City 76.80 16 P **P** 21 50 26.5 +1.5
baz=222
ANM Nome 76.80 18 P **P** 21 50 25.9 +0.8
ANM Nome 76.80 18 P **P** 21 50 26.6 +1.4
baz=224
ANM Nome 76.80 18 P **P** 21 50 25.9 +0.8
ANM pmax pmax
comp=Z,15nm,1.3s
L16K Owhat River 76.84 22 P **P** 21 50 26.2 +0.9
L16K Owhat River 76.84 22 P **P** 21 50 26.7 +1.4
baz=230
N17K Nushagak Hills 76.97 23 P **P** 21 50 27.2 +1.1
N17K Nushagak Hills 76.97 23 P **P** 21 50 27.5 +1.4
baz=233
P18K Big Mountain, 77.09 25 P **P** 21 50 27.7 +0.8
baz=235
F14K Arctic Creek 77.18 17 P **P** 21 50 29.0 +1.8
baz=223
KDAK Kodiak Island 77.35 27 P **P** 21 50 30.2 +1.9
baz=238
O18K Koktuh Hills 77.37 24 P **P** 21 50 30.0 +1.6
baz=235
M17K Holitna River 77.41 23 P **P** 21 50 30.4 +1.9
baz=232
J16K Anvik River 77.46 20 P **P** 21 50 29.9 +1.1
baz=229
Q19K Cape Douglas, 77.50 26 P **P** 21 50 30.2 +1.0
baz=236
G15K Niukluk 77.51 18 P **P** 21 50 31.1 +2.0
baz=225
L17K Donlin 77.54 22 P **P** 21 50 31.3 +2.0
baz=231
N18K Kilae Creek 77.58 24 P **P** 21 50 31.4 +1.9
N18K IAmb IAmb 21 50 43.4
comp=Z,72nm,2.0s
N18K Kilae Creek 77.58 24 P **P** 21 50 31.2 +1.7
baz=234
I17K Unalakleet 77.82 20 P **P** 21 50 32.1 +1.4
I17K Unalakleet 77.82 20 P **P** 21 50 32.8 +2.0
baz=229,SNR=6.8
H16K Elim 77.82 19 P **P** 21 50 32.7 +1.9
baz=227
F15K North Star Dit 77.84 17 P **P** 21 50 32.2 +1.4
F15K North Star Dit 77.84 17 P **P** 21 50 33.0 +2.1
baz=225
Q20K Shuyak Island 77.88 26 P **P** 21 50 33.2 +2.0
baz=238
K17K Iditarod 77.90 21 P **P** 21 50 32.1 +0.9
K17K IAmb IAmb 21 50 46.8
comp=Z,16nm,0.8s
K17K Iditarod 77.90 21 P **P** 21 50 33.3 +2.0
baz=231
O19K Port Alsworth 77.93 24 P **P** 21 50 33.6 +2.2
baz=236
SVW2 Sparrevohn 77.94 23 P **P** 21 50 34.6 +3.0
SVW2 Sparrevohn 77.94 23 P **P** 21 50 32.9 +1.3
M18K Stony River 78.08 23 P **P** 21 50 34.4 +2.1
baz=234
P19K Oil Pt 78.08 25 P **P** 21 50 33.7 +1.3
baz=237
L18K Granite Mounta 78.19 22 P **P** 21 50 33.8 +0.9
L18K IAmb IAmb 21 50 48.1
comp=Z,17nm,0.8s
L18K Granite Mounta 78.19 22 P **P** 21 50 34.9 +2.0
baz=233
N19K Bonanza Creek 78.22 24 P **P** 21 50 34.7 +1.4
baz=235
G16K Koyuk River 78.30 18 P **P** 21 50 34.1 +0.7
G16K Koyuk River 78.30 18 P **P** 21 50 35.1 +1.7
baz=227
O20K Slope Mountain 78.57 25 P **P** 21 50 36.1 +1.0
baz=237
ZSN Zaisan 78.62 321 *e*P **P** 21 50 34.6 -1.0
comp=Z,20nm,1.3s,baz=320
ZSN Zaisan 78.62 321 *e*P **P** 21 50 34.6 -1.0
ZSN pmax pmax
comp=Z,20nm,1.3s
HOM Homer 78.76 26 P **P** 21 50 38.1 +2.0
baz=238
H17K Granite Mounta 78.77 19 P **P** 21 50 38.1 +2.0
baz=229
L19K White Mountain 78.86 23 P **P** 21 50 37.6 +1.0
L19K IAmb IAmb 21 50 51.4
comp=Z,23nm,0.8s
L19K White Mountain 78.86 23 P **P** 21 50 38.4 +1.8
baz=235
TTA Tatalina 78.86 22 P **P** 21 50 39.5 +2.8
TTA Tatalina 78.86 22 P **P** 21 50 38.0 +1.3
baz=233
CNPM China Poot 78.87 26 P **P** 21 50 37.3 +0.6
CNPM IAmb IAmb 21 50 49.6
comp=Z,42nm,0.8s
M19K Big River Lodg 78.88 23 P **P** 21 50 38.4 +1.7
baz=235
G17K Kiwalik Mounta 78.90 18 P **P** 21 50 38.7 +1.9
baz=229
J18K Innoko River 78.93 21 P **P** 21 50 38.4 +1.4
J18K IAmb IAmb 21 50 51.4
comp=Z,16nm,0.8s
J18K Innoko River 78.93 21 P **P** 21 50 38.7 +1.7
baz=233
BRSE Bradley Lake S 79.20 26 P **P** 21 50 40.1 +1.6
baz=239
F17K Baldwin Pennin 79.35 17 P **P** 21 50 39.4 +0.2
F17K Baldwin Pennin 79.35 17 P **P** 21 50 40.8 +1.7
baz=228
N20K Mount Spurr 79.35 24 P **P** 21 50 41.1 +1.7
baz=237
M20K Styx River 79.36 23 P **P** 21 50 40.4 +1.0
baz=236
L20K Farewell, AK 79.40 23 P **P** 21 50 41.2 +1.6
baz=236

H18K Honhosa River 79.41 19 P **P** 21 50 41.3 +1.8
baz=231
C16K Lisburne Hills 79.49 15 P **P** 21 50 42.1 +2.2
baz=224
CAPN Captain Cook N 79.56 25 P **P** 21 50 42.2 +1.8
baz=238
E17K Hotham Inlet 79.61 17 P **P** 21 50 41.8 +1.2
baz=232
J19K Poorman 79.64 21 P **P** 21 50 41.3 +0.5
J19K Poorman 79.64 21 P **P** 21 50 42.1 +1.3
baz=234
D17K Noatak River 79.69 16 P **P** 21 50 42.7 +1.8
baz=226
G18K Tagagawik 79.79 19 P **P** 21 50 42.2 +0.6
G18K Tagagawik 79.79 19 P **P** 21 50 43.0 +1.4
baz=230
K20K Telida 79.83 22 P **P** 21 50 42.5 +0.6
K20K Telida 79.83 22 P **P** 21 50 43.5 +1.6
baz=235
F18K Selawik 79.94 18 P **P** 21 50 43.8 +1.5
baz=229
SEW Seward 79.94 26 P **P** 21 50 43.8 +1.3
baz=240
RDOG Red Dog Mine 79.98 16 P **P** 21 50 44.0 +1.4
baz=226
O22K Cooper Landing 80.02 25 P **P** 21 50 44.4 +1.5
baz=240
SKT Skwentna 80.05 24 P **P** 21 50 44.1 +1.0
baz=238
MK31 Makanchi Array 80.05 319 P **P** 21 50 42.4 -1.1
MK31 Makanchi Array 80.05 319 *ce*P **P** 21 50 42.9 -0.6
MKAR Makanchi Array 80.05 319 P **P** 21 50 42.1 -1.4
MKAR Makanchi Array 80.05 319 P **P** 21 50 42.9 -0.6
comp=Z,8.5nm,0.9s,baz=97,slow=7.7,SNR=24
MKAR PKKPbc **PKKPbc** 22 09 27.3 -2.7
comp=Z,1.2nm,0.9s,baz=298,slow=3.1,SNR=2.9
MKAR PKPPKP **P'P'df** 22 17 32.3 +0.8
comp=Z,0.4nm,0.8s,baz=338,slow=3.4,SNR=2.6
comp=Z,8.5nm,0.9s
SUA Susitna One 80.09 24 P **P** 21 50 44.1 +0.7
baz=239
E18K Tukpahlearik C 80.19 17 P **P** 21 50 43.6 -0.2
E18K Tukpahlearik C 80.19 17 P **P** 21 50 44.9 +1.1
baz=228
C17K DeLong Mountai 80.20 15 P **P** 21 50 44.9 +1.1
baz=226
MAKZ Makanchi 80.26 319 P **P** 21 50 44.0 -0.5
MAKZ Makanchi 80.26 319 P **P** 21 50 44.1 -0.5
MAKZ pmax pmax
comp=Z,20nm,1.1s
J20K Nowinta River 80.27 21 P **P** 21 50 45.0 +0.8
J20K IAmb IAmb 21 50 58.7
comp=Z,18nm,0.8s
J20K Nowinta River 80.27 21 P **P** 21 50 45.9 +1.7
baz=235
H19K Roundabout Mou 80.28 19 P **P** 21 50 44.4 +0.3
H19K Roundabout Mou 80.28 19 P **P** 21 50 45.4 +1.2
baz=233
PPLA Purkeypile 80.28 23 P **P** 21 50 45.8 +1.2
baz=237
RC01 Rabbit Creek A 80.32 25 P **P** 21 50 45.2 +0.7
baz=240
G19K Purcell Mounta 80.45 19 P **P** 21 50 46.2 +1.1
baz=232
M22K Willow 80.50 24 P **P** 21 50 46.5 +1.1
baz=239
I20K Naaghedeneel 80.51 21 P **P** 21 50 46.7 +1.2
baz=235
CAST Castle Rocks 80.61 22 P **P** 21 50 46.2 +0.1
CAST Castle Rocks 80.61 22 P **P** 21 50 46.9 +0.8
baz=237
F19K Shaleruckik Mo 80.66 18 P **P** 21 50 47.5 +1.3
F19K Shaleruckik Mo 80.66 18 P **P** 21 50 47.6 +1.3
baz=231
CUT Chulitna 80.77 24 P **P** 21 50 47.5 +0.5
baz=239
CHUM Lake Minchumin 80.78 22 P **P** 21 50 47.9 +1.0
baz=237
H20K Anotleneega Mo 80.78 20 P **P** 21 50 48.1 +1.1
baz=234
PMR Palmer 80.82 25 P **P** 21 50 48.4 +1.2
baz=240
C18K Utukok River 80.85 16 P **P** 21 50 48.9 +1.5
baz=228
SHLS Shalkode 80.86 315 *e*P **P** 21 50 45.5 -2.5
comp=Z,21nm,1.7s,baz=315
SHLS Shalkode 80.86 315 *e*P **P** 21 50 45.5 -2.5
SHLS pmax pmax
comp=Z,21nm,1.7s
Q23K Middleton Isla 81.00 27 P **P** 21 50 49.6 +1.5
baz=243
KNK Knik Glacier 81.02 25 P **P** 21 50 48.9 +0.6
baz=241
ZALV Zalesovo Beam 81.06 327 P **P** 21 50 46.5 -2.2
ZALV Zalesovo Beam 81.06 327 P **P** 21 50 46.9 -1.7
comp=Z,5.0nm,0.5s,baz=112,slow=5.0,SNR=14
comp=Z,5.0nm,0.5s
UZB Uzynbulak 81.16 315 *e*P **P** 21 50 48.7 -1.0
comp=Z,19nm,1.1s,baz=315
UZB Uzynbulak 81.16 315 *e*P **P** 21 50 48.7 -1.0
UZB pmax pmax
comp=Z,19nm,1.1s
B18K Kokolik River 81.18 15 P **P** 21 50 50.3 +1.4
baz=227
E19K Redstone River 81.22 18 P **P** 21 50 49.9 +0.7
E19K IAmb IAmb 21 51 03.9
comp=Z,18nm,0.8s
E19K Redstone River 81.22 18 P **P** 21 50 50.2 +1.0
baz=232
SML Sawmill 81.26 25 P **P** 21 50 48.8 -0.8
SML IAmb IAmb 21 51 09.2
comp=Z,19nm,0.9s
SML Sawmill 81.26 25 P **P** 21 50 50.1 +0.5
baz=241
TRF Thorofare Moun 81.31 23 P **P** 21 50 50.3 +0.3
baz=239
BPAW Bear Paw Mtn. 81.39 22 P **P** 21 50 50.8 +0.6
baz=238
F20K Avaraart Lake 81.43 18 P **P** 21 50 51.5 +1.2
baz=233
IMAR Indian Mountai 81.45 20 P **P** 21 50 51.0 +0.5
M23K Glacier View 81.51 25 P **P** 21 50 52.0 +1.1
baz=241
SATY Saty 81.57 315 *e*P **P** 21 50 50.9 -1.0
comp=Z,22nm,1.3s,baz=315
SATY Saty 81.57 315 *e*P **P** 21 50 50.8 -1.0
SATY pmax pmax
comp=Z,22nm,1.3s
ZHN Zhinishke 81.58 315 *e*P **P** 21 50 50.9 -1.0
comp=Z,16nm,1.2s,baz=315
ZHN Zhinishke 81.58 315 *e*P **P** 21 50 50.8 -1.0
ZHN pmax pmax
comp=Z,16nm,1.2s
H21K Melozitna Rive 81.58 20 P **P** 21 50 52.2 +1.0
baz=236
C19K Lookout Ridge 81.59 16 P **P** 21 50 52.6 +1.4
C19K Lookout Ridge 81.59 16 P **P** 21 50 52.2 +0.9
baz=229
I21K Tanana 81.61 21 P **P** 21 50 51.7 +0.4
I21K Tanana 81.61 21 P **P** 21 50 52.1 +0.8
baz=237
D19K Kuna River 81.61 17 P **P** 21 50 51.9 +0.6
baz=231
WAT1 Susitna Watana 81.67 24 P **P** 21 50 51.4 -0.4
baz=240
SCM Sheep Creek Mo 81.69 25 P **P** 21 50 51.9 0.0
baz=242
EYAK Cordova Ski Ar 81.78 26 P **P** 21 50 52.8 +0.5
baz=243
G21K Allakaket 81.83 19 P **P** 21 50 52.9 +0.4
G21K Allakaket 81.83 19 P **P** 21 50 53.1 +0.6
baz=235
RND Reindeer 81.84 23 P **P** 21 50 52.5 -0.2
RND IAmb IAmb 21 51 05.9
comp=Z,18nm,0.8s
RND Reindeer 81.84 23 P **P** 21 50 52.5 -0.2
RND pmax pmax
comp=Z,18nm,0.8s
WAT6 Susitna Watana 81.88 24 P **P** 21 50 53.1 +0.1
baz=241
A19K Wainwright 81.94 15 P **P** 21 50 53.8 +0.8
baz=228
MLY Manley 81.97 21 P **P** 21 50 53.1 -0.2
MLY IAmb IAmb 21 51 07.2
comp=Z,17nm,0.8s
MLY Manley 81.97 21 P **P** 21 50 53.7 +0.3
baz=238,SNR=7.8

MCK McKinley 81.97 23 P **P** 21 50 52.5 -0.8
baz=240,SNR=6.4
E20K Nigu River 82.02 17 P **P** 21 50 53.9 +0.4
baz=233
TDK Taldyqorghan 82.10 317 *e*P **P** 21 50 53.5 -0.9
comp=Z,12nm,0.9s,baz=317
TDK Taldyqorghan 82.10 317 *e*P **P** 21 50 53.5 -0.9
TDK pmax pmax
comp=Z,12nm,0.9s
KLU Klutina 82.13 25 P **P** 21 50 54.9 +0.6
baz=243
D20K Etivluk River 82.18 17 P **P** 21 50 55.2 +0.9
baz=232
H22K Ishtalitna Cre 82.21 20 P **P** 21 50 55.6 +1.1
baz=237
F21K Alatna River 82.24 19 P **P** 21 50 55.8 +1.1
baz=235
DHY Denali Highway 82.26 24 P **P** 21 50 55.4 +0.3
baz=241
M24K Tolsona, Glenn 82.30 25 P **P** 21 50 55.4 +0.3
baz=243
NEA2 Nenana 82.36 22 P **P** 21 50 54.6 -0.7
NEA2 Nenana 82.36 22 P **P** 21 50 55.5 +0.2
baz=240
BMRM Bremner River 82.47 26 P **P** 21 50 56.6 +0.6
baz=244
SEM Semipalatinsk 82.48 322 *e*P **P** 21 50 55.3 -1.2
baz=222
SEM Semipalatinsk 82.48 322 *e*P **P** 21 50 55.3 -1.2
I23K Minto, Yukon-K 82.53 21 P **P** 21 50 57.1 +1.0
baz=239
MDOK Medeo 82.56 315 *e*P **P** 21 50 56.4 -0.7
baz=315
MDOK Medeo 82.56 315 *e*P **P** 21 50 56.3 -0.7
TNSS Tian-Shan 82.60 315 *e*P **P** 21 50 56.7 -0.9
baz=314
TNSS Tian-Shan 82.60 315 *e*P **P** 21 50 56.7 -0.9
BGLC Bering Glacier 82.70 27 P **P** 21 50 58.4 +1.3
baz=245
N25K Chitina, Valde 82.75 26 P **P** 21 50 58.3 +0.8
baz=244
CHKK Chushkaly 82.78 315 *e*P **P** 21 50 57.5 -0.5
baz=315
CHKK Chushkaly 82.78 315 *e*P **P** 21 50 57.4 -0.5
E21K Killik River 82.79 18 P **P** 21 50 58.5 +1.0
baz=235
H23K Yukon River 82.81 21 P **P** 21 50 58.7 +1.0
H23K Yukon River 82.81 21 P **P** 21 50 58.7 +1.0
baz=239
F22K John River 82.82 19 P **P** 21 50 58.9 +1.2
baz=236
B20K Meade River 82.83 16 P **P** 21 50 58.6 +1.0
baz=231
CCB Clear Creek Bu 82.86 22 P **P** 21 50 57.2 -0.7
HARP HAARP 82.86 25 P **P** 21 50 57.9 -0.1
baz=244
COLA College 82.95 22 P **P** 21 50 58.1 -0.2
COLA College 82.95 22 P **P** 21 50 58.5 +0.1
baz=241
COLA College 82.95 22 *i* P **P** 21 50 57.4 -0.9
COLA pmax pmax
comp=Z,14nm,0.9s
C21K Knifeblade Rid 82.97 17 P **P** 21 50 59.4 +1.0
baz=234
PAX Paxson 82.98 24 P **P** 21 50 58.6 -0.1
baz=243
CRQE Cirque 83.04 27 P **P** 21 50 59.9 +0.8
baz=246
HDA Harding Lake 83.07 23 P **P** 21 50 59.6 +0.7
baz=242
G23K Bananza Creek 83.11 20 P **P** 21 50 60.0 +0.8
G23K Bananza Creek 83.11 20 P **P** 21 50 60.0 +0.8
baz=239
POKR Poker Plat Res 83.22 22 P **P** 21 51 00.1 +0.3
baz=241
K24K Donnelly Dome 83.24 23 P **P** 21 50 59.9 0.0
baz=243
IL31 83.26 22 P **P** 21 50 58.5 -1.5
ILAR Eielson Array 83.26 22 P **P** 21 50 58.2 -1.8
ILAR Eielson Array 83.26 22 P **P** 21 50 58.2 -1.8
ILAR Eielson Array 83.26 22 P **P** 21 50 58.5 -1.4
comp=Z,6.6nm,0.8s,baz=253,slow=5.3,SNR=25
comp=Z,6.6nm,0.8s
E22K Anaktuvuk Pass 83.28 18 P **P** 21 51 01.1 +1.0
baz=237
B21K Ikpikpuk River 83.30 17 P **P** 21 51 01.0 +1.0
baz=234
COLD Coldfoot 83.32 19 P **P** 21 51 01.2 +1.0
baz=238
MESA MESA 83.33 27 P **P** 21 51 00.9 +0.3
baz=247
MCARA McCarthy VSAT 83.34 26 P **P** 21 51 01.1 +0.7
baz=246
NIL Nilore 83.36 305 P **P** 21 51 00.1 -1.1
NIL Nilore 83.36 305 P **P** 21 51 00.1 -1.1
NIL pmax pmax
comp=Z,152nm,2.0s
H24K Noodor Dome 83.41 21 P **P** 21 51 01.4 +0.6
baz=241
D22K Ayikyak River 83.43 18 P **P** 21 51 01.8 +1.0
baz=236
KURK Kurchatov 83.57 322 P **P** 21 51 00.5 -1.3
KURK IAmb IAmb 21 51 02.3
comp=Z,37nm,1.2s
KURK Kurchatov 83.57 322 *ce*P **P** 21 51 01.3 -0.5
KURK pmax pmax
comp=Z,39nm,1.3s
RIDG Independent Ri 83.58 24 P **P** 21 51 02.0 +0.3
baz=244
KURBB Kurchatov Arra 83.59 322 P **P** 21 51 00.4 -1.5
comp=Z,12nm,1.1s,baz=108,slow=4.4,SNR=16
KURBB PKPPKP **P'P'df** 22 17 26.2 +1.5
comp=Z,0.1nm,0.3s,baz=310,slow=3.3,SNR=4.2
comp=Z,12nm,1.1s
J25K Salcha River, 83.77 23 P **P** 21 51 02.0 -0.7
J25K IAmb IAmb 21 51 42.6
comp=Z,21nm,1.0s
J25K Salcha River, 83.77 23 P **P** 21 51 02.3 -0.4
baz=243,SNR=12
M26K Nabesna, AK 83.77 25 P **P** 21 51 03.5 +0.8
baz=246
A21K Barrow 83.79 15 P **P** 21 51 02.6 +0.1
baz=232
BARN Barnard Glacie 83.81 27 P **P** 21 51 03.6 +0.5
L26K Log Cabin Wild 83.88 25 P **P** 21 51 03.0 -0.2
L26K Log Cabin Wild 83.88 25 P **P** 21 51 04.0 +0.8
baz=245
CTG Chitna Glacier 83.92 27 P **P** 21 51 04.3 +0.7
baz=247
KBK Karagaybulak 83.94 314 P **P** 21 51 04.1 -0.1
SNR=8.3
E23K Chandalar 83.94 19 P **P** 21 51 04.1 +0.6
baz=239
G24K Hadweenzic Riv 83.98 20 P **P** 21 51 04.1 +0.5
G24K IAmb IAmb 21 51 16.8
comp=Z,34nm,1.6s
G24K Hadweenzic Riv 83.98 20 P **P** 21 51 04.3 +0.7
baz=241
A22K Sinclair Lake 84.02 15 P **P** 21 51 04.4 +0.7
baz=234
SCRK Sand Creek 84.03 24 P **P** 21 51 04.3 +0.2
baz=244
B22K Teshekpuk Lake 84.05 16 P **P** 21 51 04.7 +0.8
baz=235
D23K Nanushuk River 84.09 18 P **P** 21 51 05.1 +1.0
baz=238
PRP Porcupine Dome 84.12 22 P **P** 21 51 04.1 -0.5
baz=243
UCH Uchtor 84.15 313 P **P** 21 51 05.8 +0.1
SNR=7.5
CHMS Chumysh 84.16 314 P **P** 21 51 04.5 -0.6
SNR=8.8
M27K Edge Creek, AK 84.23 25 P **P** 21 51 05.7 +0.6
baz=246
F24K Squaw Lake 84.24 20 P **P** 21 51 05.6 +0.6
F24K IAmb IAmb 21 51 19.7
comp=Z,15nm,0.7s
F24K Squaw Lake 84.24 20 P **P** 21 51 06.2 +1.2
baz=240
TOLK Toolik Lake Re 84.26 18 P **P** 21 51 06.4 +1.3
baz=239
AAK Ala-Archa 84.26 314 P **P** 21 51 05.8 0.0
SNR=6.3
AAK Ala-Archa 84.26 314 P **P** 21 51 05.2 -0.5
AAK Ala-Archa 84.26 314 *ce*P **P** 21 51 05.1 -0.7
AAK pmax pmax
comp=Z,38nm,2.5s

PNL	Peninsula	84.33	28	P		P		21 51 06.7	+1.1		
	baz=249										
SGDS	Sogindy	84.34	315	*e*P		P		21 51 05.0	-1.1		
	comp=Z,14nm,1.4s,baz=314										
SGDS	Sogindy	84.34	315	*e*P		P		21 51 05.0	-1.1		
SGDS				pmax		pmax					
	comp=Z,13nm,1.4s										
O28M	Mount Upton	84.36	27	P		P		21 51 07.0	+0.9		
	baz=248										
USP	Ospenovka	84.39	314	P		P		21 51 05.8	-0.6		
	SNR=14										
J26L	Joseph Creek	84.42	23	P		P		21 51 06.5	+0.5		
	baz=245										
MAW	Mawson	84.46	203	P		P		21 51 05.9	-0.2		
	comp=Z,15nm,1.0s,baz=83,slow=5.6,SNR=6.6										
	comp=Z,15nm,1.0s										
QSPA	South Pole Qui	84.47	180	P		P		21 51 05.9	-0.4		
QSPA	South Pole Qui	84.47	180	P		P		21 51 05.8	-0.4		
	comp=Z,34nm,0.9s,baz=358,slow=1.6,SNR=24										
	comp=Z,34nm,0.9s										
G25K	Bearman Lake	84.49	21	P		P		21 51 07.4	+1.3		
	baz=242										
L27K	Beaver Creek,	84.53	25	P		P		21 51 07.4	+0.8		
	baz=246										
C23K	Itkillik River	84.57	17	P		P		21 51 07.6	+1.1		
	baz=238										
YUK3	Moose Creek	84.62	26	P		P		21 51 07.7	+0.4		
	baz=248										
BVCY	Beaver Creek	84.69	26	P		P		21 51 08.3	+0.9		
	baz=247										
D24K	Happy Valley	84.75	18	P		P		21 51 08.6	+1.1		
D24K				IAmb		IAmb		21 51 21.8			
	comp=Z,13nm,0.8s										
D24K	Happy Valley	84.75	18	P		P		21 51 08.3	+0.8		
	baz=240										
EKS2	Erkin-Say	84.78	314	P		P		21 51 08.3	-0.1		
	SNR=11										
K27K	Chicken	84.82	24	P		P		21 51 09.0	+1.1		
	baz=246										
I26K	Coal Creek Min	84.92	23	P		P		21 51 09.1	+0.7		
	baz=245										
F25K	Christian Rive	85.03	20	P		P		21 51 09.6	+0.6		
	baz=243										
C24K	Franklin Bluff	85.08	18	P		P		21 51 10.2	+1.1		
	baz=240										
ARSB	Arslanbob	85.08	312	P		P		21 51 09.4	-0.6		
ARSB	Arslanbob	85.08	312	P		P		21 51 09.4	-0.6		
ARSB				pmax		pmax					
	comp=Z,15nm,1.2s										
BTLS	Baital	85.11	316	*e*P		P		21 51 09.1	-0.7		
	comp=Z,14nm,0.9s,baz=316										
BTLS	Baital	85.11	316	*e*P		P		21 51 09.0	-0.7		
BTLS				pmax		pmax					
	comp=Z,14nm,0.9s										
P29M	Windy Craggy	85.11	29	P		P		21 51 09.6	+0.1		
	baz=250										
YUK6	Outpost Mounta	85.26	27	P		P		21 51 10.6	+0.1		
	baz=250										
YUK4	Talbot Arm	85.27	27	P		P		21 51 12.2	+1.7		
	baz=250										
E25K	Arctic Village	85.30	20	P		P		21 51 11.0	+0.7		
	baz=243										
S31K	Pelican	85.31	31	P		P		21 51 11.0	+0.5		
	baz=252										
G26K	Porcupine Rive	85.39	21	P		P		21 51 12.1	+1.4		
	baz=244,SNR=8.9										
EGAK	Eagle	85.48	23	P		P		21 51 11.3	+0.1		
EGAK				IAmb		IAmb		21 51 32.5			
	comp=Z,15nm,0.9s										
EGAK	Eagle	85.48	23	P		P		21 51 12.2	+1.0		
	baz=247										
F26K	Sheenjek River	85.59	20	P		P		21 51 12.8	+1.0		
	baz=244										
D25K	Kavik River	85.60	18	P		P		21 51 11.8	+0.1		
D25K	Kavik River	85.60	18	P		P		21 51 13.0	+1.2		
	baz=242										
HYT	Haines Junctio	85.62	28	P		P		21 51 12.7	+0.6		
HYT				IAmb		IAmb		21 51 27.9			
	comp=Z,18nm,0.8s										
HYT	Haines Junctio	85.62	28	P		P		21 51 13.4	+1.3		
	baz=251										
I27K	Kandik River	85.63	23	P		P		21 51 13.0	+0.9		
	baz=246										
P30M	Million Dollar	85.64	28	P		P		21 51 13.9	+1.7		
	baz=251										
PLBC	Pleasant Camp	85.71	29	P		P		21 51 14.0	+1.5		
	baz=252										
M29M	Somme Creek	85.74	26	P		P		21 51 13.7	+1.0		
	baz=250										
H27K	Steamboat Moun	85.91	22	P		P		21 51 14.6	+1.2		
	baz=247										
DAWY	Dawson	85.92	24	P		P		21 51 14.7	+1.2		
	baz=249										
S32K	Killisnoo	86.01	31	P		P		21 51 15.4	+1.5		
	baz=253										
N30M	Aishikik Lake	86.02	27	P		P		21 51 15.4	+1.4		
	baz=251										
G27K	Doyon Strip	86.10	21	P		P		21 51 15.0	+0.8		
	baz=246										
L29M	L29M	86.11	25	P		P		21 51 15.2	+0.7		
	baz=250										
I28M	Miner Creek	86.21	23	P		P		21 51 15.7	+0.7		
	baz=248										
SKAG	Skagway	86.22	29	P		P		21 51 15.3	+0.4		
	baz=253										
NRIK	Noril'sk	86.23	341	*ce*P		P		21 51 14.2	-0.6		
NRIK				pmax		pmax					
	comp=Z,9.0nm,1.0s										
NRIK	Noril'sk	86.23	341	P		P		21 51 14.0	-0.8		
	comp=Z,6.7nm,0.6s,baz=138,slow=5.4,SNR=5.0										
	comp=Z,6.7nm,0.6s										
O30N	Mendenhall	86.25	28	P		P		21 51 16.7	+1.5		
	baz=252										
C26K	Camden Bay	86.33	18	P		P		21 51 16.9	+1.6		
	baz=243										
U33K	Whale Pass	86.41	33	P		P		21 51 17.0	+1.1		
	baz=255										
M30M	Minto, Yukon	86.51	26	P		P		21 51 17.5	+1.1		
	baz=251										
J29N	Klondike Camp	86.54	24	P		P		21 51 17.7	+1.2		
	baz=250										
DZA	Taraz	86.59	313	*e*P		P		21 51 16.4	-0.9		
	comp=Z,11nm,0.8s,baz=314										
DZA	Taraz	86.59	313	*e*P		P		21 51 16.3	-0.9		
DZA				pmax		pmax					
	comp=Z,11nm,0.8s										
K29M	Barlow Dome	86.62	25	P		P		21 51 17.4	+0.3		
K29M				IAmb		IAmb		21 51 56.8			
	comp=Z,16nm,0.9s										
K29M	Barlow Dome	86.62	25	P		P		21 51 17.9	+0.9		
	baz=250,SNR=5.3										
N31M	Braeburn, Yuko	86.62	27	P		P		21 51 18.0	+1.0		
	baz=252										
E27K	Coleen River	86.67	20	P		P		21 51 18.2	+1.1		
	baz=246										
WHY	Whitehorse	86.79	28	P		P		21 51 18.8	+0.9		
	baz=253										
P32M	Atlin	87.04	29	P		P		21 51 19.9	+0.8		
	baz=254										
F28M	Old Crow	87.05	21	P		P		21 51 19.8	+0.9		
	baz=248										
BRZS	Berezniki	87.07	321	*e*P		P		21 51 18.2	-1.2		
	comp=Z,14nm,1.4s,baz=321										
BRZS	Berezniki	87.07	321	*e*P		P		21 51 18.2	-1.2		
BRZS				pmax		pmax					
	comp=Z,14nm,1.4s										
KK31	Karatay Array	87.22	314	P		P		21 51 19.3	-1.0		
KK31				IAmb		IAmb		21 51 20.5			
	comp=Z,15nm,1.2s										
KK31	Karatay Array	87.22	314	P		P		21 51 19.3	-1.0		
KK31				pmax		pmax					
	comp=Z,15nm,1.3s										
KKAR	Karatay Array	87.22	314	P		P		21 51 19.3	-1.0		
KKAR				IAmb		IAmb		21 51 20.5			
	comp=Z,15nm,1.2s										
KKAR	Karatay Array	87.22	314	P		P		21 51 19.3	-1.0		
KKAR				pmax		pmax					
	comp=Z,15nm,1.3s										
D27M	Malcolm River	87.30	19	P		P		21 51 21.2	+1.0		
D27M	Malcolm River	87.30	19	P		P		21 51 20.7	+0.5		
	baz=247										
J30M	Hart River	87.35	24	P		P		21 51 21.2	+0.7		
J30M				IAmb		IAmb		21 51 34.3			
	comp=Z,16nm,0.8s										
J30M	Hart River	87.35	24	P		P		21 51 21.3	+0.7		
	baz=251,SNR=8.7										
IUG	Iuzhnay	87.41	313	*e*P		P		21 51 20.4	-0.9		
	baz=313										
IUG	Iuzhnay	87.41	313	*e*P		P		21 51 20.3	-1.0		
M31M	Drury Creek, Y	87.46	27	P		P		21 51 21.5	+0.5		
	baz=253										
G29M	Pine Creek	87.47	22	P		P		21 51 21.5	+0.6		
	baz=250										
E28M	Babbage River	87.53	20	P		P		21 51 21.9	+0.7		
	baz=248										
I30M	Mount Dempster	87.54	24	P		P		21 51 21.7	+0.3		
	baz=251										
Q32M	Nakina River	87.59	30	P		P		21 51 21.9	0.0		
	baz=255										
P33M	Teslin, Yukon	87.65	29	P		P		21 51 22.1	+0.1		
	baz=255										
BRLS	Borolday	87.70	313	*e*P		P		21 51 21.7	-0.9		
	baz=313										
BRLS	Borolday	87.70	313	*e*P		P		21 51 21.6	-0.9		
CHM	Chimkent	87.75	313	*e*P		P		21 51 22.0	-0.8		
	comp=Z,20nm,2.1s,baz=313										
CHM	Chimkent	87.75	313	*e*P		P		21 51 22.0	-0.8		
CHM				pmax		pmax					
	comp=Z,20nm,2.1s										
N32M	Quiet Lake	87.77	28	P		P		21 51 23.6	+1.0		
N32M				IAmb		IAmb		21 51 54.5			
	comp=Z,26nm,1.2s										
N32M	Quiet Lake	87.77	28	P		P		21 51 23.7	+1.2		
	baz=254										
EPYK	Eagle Plains	87.77	23	P		P		21 51 23.8	+1.3		
	baz=251										
S34M	Telegraph Cree	87.92	31	P		P		21 51 24.0	+0.8		
	baz=256										
FARO	Faro, Yukon	87.94	27	P		P		21 51 24.6	+1.3		
	baz=254										
E29M	Blow River	88.02	20	P		P		21 51 25.1	+1.6		
	baz=250										
D28M	Stokes Point	88.07	19	P		P		21 51 24.5	+0.8		
	baz=249										
G30M	tAoh Zraii Nji	88.16	22	P		P		21 51 24.8	+0.5		
	baz=251										
T35M	Bob Quinn	88.17	32	P		P		21 51 25.0	+0.5		
	baz=257										
R33M	Jennings River	88.35	30	P		P		21 51 25.6	+0.2		
	baz=256										
F30M	Barrier River	88.52	21	P		P		21 51 26.6	+0.7		
	baz=252										
H31M	Peel River	88.52	23	P		P		21 51 26.9	+1.0		
	baz=253										
DLBC	Dease Lake	88.61	31	P		P		21 51 27.0	+0.5		
	baz=257										
G31M	Satah River	88.87	22	P		P		21 51 28.5	+1.0		
	baz=253										
MMPY	Sheldon Lake,	88.98	27	P		P		21 51 29.0	+0.8		
	baz=256										
BVAR	Borovoye Array	89.06	323	P		P		21 51 27.2	-1.5		
	comp=Z,7.0nm,0.7s,baz=94,slow=6.5,SNR=11										
	comp=Z,7.0nm,0.7s										
BRVK	Borovoye	89.13	323	*ce*P		P		21 51 27.3	-1.8		
BRVK				pmax		pmax					
	comp=Z,34nm,2.5s										
F31M	Tsiigehtchic	89.22	22	P		P		21 51 30.1	+1.0		
	baz=254										
TGTN	Hyland Airport	90.11	28	P		P		21 51 34.5	+1.0		
	baz=259										
I03D	Drain, OR	90.20	46	P		P		21 51 34.4	+0.1		
I03D				IAmb		IAmb		21 51 47.7			
	comp=Z,25nm,0.9s										
DBO	Dodson Butte	90.21	47	P		P		21 51 34.7	+0.3		
DBO				IAmb		IAmb		21 51 36.8			
	comp=Z,34nm,1.4s										
NLWA	Neilton Lookou	90.33	43	P		P		21 51 34.9	0.0		
NLWA				IAmb		IAmb		21 51 37.0			
	comp=Z,19nm,1.1s										
HUMO	Hull Mountain	90.35	47	P		P		21 51 35.3	+0.2		
E03A	Lebam	90.42	43	P		P		21 51 35.5	+0.2		
YBH	Yreka Blue Hor	90.43	48	P		P		21 51 35.6	+0.1		
YBH	Yreka Blue Hor	90.43	48	P		P		21 51 35.6	+0.1		
YBH				pmax		pmax					
	comp=Z,38nm,1.3s										
BUCK	Buck Mountain	90.53	46	P		P		21 51 36.8	+0.9		
I04A	Tendick Farm,	90.89	46	P		P		21 51 37.4	-0.2		
ORV	Oroville	91.09	51	P		P		21 51 37.9	-0.7		
ORV				IAmb		IAmb		21 51 40.7			
	comp=Z,13nm,1.1s										
ORV	Oroville	91.09	51	P		P		21 51 37.9	-0.7		
ORV				pmax		pmax					
	comp=Z,13nm,1.1s										
J05D	Fort Rock, OR	91.69	47	P		P		21 51 41.9	+0.4		
CMB	Columbia Colle	91.81	52	P		P		21 51 42.7	+0.7		
CMB				IAmb		IAmb		21 51 43.6			
	comp=Z,18nm,1.1s										
CMB	Columbia Colle	91.81	52	P		P		21 51 42.7	+0.7		
CMB				pmax		pmax					
	comp=Z,18nm,1.2s										
PKM	Mcpherson Peak	91.97	55	P		P		21 51 42.9	-0.1		
	baz=265										
SCZ2	Santa Cruz Isl	92.04	56	P		P		21 51 43.3	+0.2		
	baz=265										
SNCC	San Nicolas Is	92.06	57	P		P		21 51 43.5	+0.3		
	baz=265										
EMB	Emerald Bay	92.12	51	P		P		21 51 43.1	-0.6		
EMB				IAmb		IAmb		21 51 57.4			
	comp=Z,18nm,1.0s										
MPK	Martis Peak	92.20	51	P		P		21 51 44.2	+0.1		
PNTR	Pine Nut	92.52	51	P		P		21 51 46.4	+1.0		
WAKR	Walker	92.59	52	P		P		21 51 46.0	+0.2		
WAKR				IAmb		IAmb		21 51 47.8			
	comp=Z,24nm,1.1s										
CIS	Catalina Islan	93.00	57	P		P		21 51 49.1	+1.5		
	baz=265										
ISA	Isabella, Lake	93.13	55	P		P		21 51 49.1	+1.0		
	baz=265										
PASC	Pasadena Art C	93.25	56	P		P		21 51 49.4	+0.7		
LHV	Little Huntoon	93.30	52	P		P		21 51 49.7	+1.0		
RYN	Ryan	93.32	52	P		P		21 51 49.7	+0.6		
PNT	Penticton	93.35	41	P		P		21 51 46.4	-2.4		
PNT				pmax		pmax					
	comp=Z,31nm,0.9s										
EDW2	Edwards Air Fo	93.46	55	P		P		21 51 51.2	+1.5		
	baz=266,SNR=9.5										
CCAC	Calif City Air	93.46	55	P		P		21 51 49.5	-0.2		
NVAR	Mina Array Bea	93.47	52	P		P		21 51 50.1	+0.2		
NVAR						pP		21 52 02.6	-1.1		
NVAR	Mina Array Bea	93.47	52	P		P		21 51 50.5	+0.6		
	comp=Z,22nm,0.9s,baz=256,slow=6.3,SNR=34										
	comp=Z,22nm,0.9s										
G08A	Pilot Rock	93.49	45	P		P		21 51 49.7	0.0		
G08A				IAmb		IAmb		21 51 51.6			
	comp=Z,18nm,1.2s										
CWC	Cottonwood Cre	93.51	54	P		P		21 51 49.8	-0.2		
	baz=266										
E08A	Dider Farm, El	93.51	44	P		P		21 51 49.8	+0.2		
E08A				IAmb		IAmb		21 51 51.8			
	comp=Z,14nm,1.0s										
WVOR	Wild Horse Val	93.51	48	P		P		21 51 49.9	0.0		
WVOR				IAmb		IAmb		21 51 51.4			
	comp=Z,22nm,1.2s										
WVOR	Wild Horse Val	93.51	48	P		P		21 51 49.9	0.0		
WVOR				pmax		pmax					
	comp=Z,23nm,1.2s										
NV11	Mina Array Sit	93.59	52	P		P		21 51 50.3	-0.1		
DSP	Deep Springs	93.66	53	P		P		21 51 50.7	+0.3		
KVN	Kaiserville	93.68	51	P		P		21 51 50.4	-0.4		
KVN				IAmb		IAmb		21 51 52.4			
	comp=Z,21nm,1.1s										
KVN	Kaiserville	93.68	51	P		P		21 51 50.4	-0.4		
KVN				pmax		pmax					
	comp=Z,21nm,1.1s										
BFSC	Mount Baldy Ra	93.69	56	P		P		21 51 52.0	+1.1		
	baz=266,SNR=5.1										
LRMC	Laurel Mtn Rad	93.76	55	P		P		21 51 52.7	+1.5		
	baz=266,SNR=11										
MPMC	Manual Prospec	93.96	54	P		P		21 51 53.1	+0.9		
	baz=266,SNR=8.2										
MURC	Murrieta	94.03	57	P		P		21 51 53.5	+1.1		
	baz=266										
GRAC	Grapevine Rang	94.12	53	P		P		21 51 53.7	+1.0		
	baz=266										
MZP	Montezuma Peak	94.15	53	P		P		21 51 53.2	+0.1		
MZP				IAmb		IAmb		21 51 54.7			
	comp=Z,14nm,0.9s										
TPH	Tonopah	94.30	52	P		P		21 51 53.7	0.0		
TPH	Tonopah	94.30	52	P		P		21 51 53.7	0.0		
TPH				pmax		pmax					
	comp=Z,71nm,1.0s										
BAR	Barrett	94.41	58			P		21 51 54.3	+0.2		
BMN	Battle Mountai	94.44	50	P		P		21 51 54.5	+0.3		
BMN				IAmb		IAmb		21 52 09.7			
	comp=Z,14nm,1.3s										
BMN	Battle Mountai	94.44	50	P		P		21 51 54.5	+0.3		
BMN				pmax		pmax					
	comp=Z,14nm,1.3s										
QSM	Queen of Sheba	94.45	54	P		P		21 51 54.7	+0.6		
QSM				IAmb		IAmb		21 51 56.0			
	comp=Z,18nm,0.9s										
FURC	Furnace Creek,	94.49	54	P		P		21 51 55.3	+1.1		
	baz=266										
GWY	Greenwater Val	94.63	54	P		P		21 51 54.7	-0.4		
GWY				IAmb		IAmb		21 51 56.7			
	comp=Z,10nm,1.0s										
MONP2	Monument Peak	94.63	58	P		P		21 51 56.7	+1.3		
	baz=266,SNR=5.2										
BMO	Blue Mountains	94.63	46			P		21 51 55.1	+0.2		
BMO				IAmb		IAmb		21 52 07.5			
	comp=Z,27nm,1.4s										
BMO	Blue Mountains	94.63	46	P		P		21 51 55.1	+0.2		
BMO				pmax		pmax					
	comp=Z,27nm,1.5s										
PFO	Pinyon Flats O	94.64	57	P		P		21 51 54.8	-0.5		
PFO				IAmb		IAmb		21 52 10.0			
	comp=Z,21nm,1.1s										
PFO	Pinyon Flats O	94.64	57	P		P		21 51 56.6	+1.3		
	baz=266,SNR=6.8										
PFO	Pinyon Flats O	94.64	57	P		P		21 51 54.8	-0.5		
PFO				pmax		pmax					
	comp=Z,21nm,1.2s										
TPFO	Pinon Flats	94.65	57	P		P		21 51 56.6	+1.3		
	baz=266,SNR=5.7										
WCT	Wildcat Mounta	94.70	54	P		P		21 51 55.2	-0.2		
PMD	Palm Desert	94.72	57	P		P		21 51 56.0	+0.5		
PMD				IAmb		IAmb		21 51 57.6			
	comp=Z,16nm,1.1s										
HEC	Hector,Ludlow	94.82	56	P		P		21 51 57.1	+1.1		
	baz=267										
WSAR	Wadi Sarin	94.84	293	P		P		21 51 54.9	-1.3		
	comp=Z,5.5nm,1.0s,baz=102,slow=7.7,SNR=4.0										
	comp=Z,5.5nm,1.0s										
IKP	In-Ko-Pah, Jac	94.88	58	P		P		21 51 57.6	+1.3		
	baz=266										
SHOC	Shoshone, Teco	94.93	55	P		P		21 51 57.6	+1.2		
	baz=267										
NEW	Newport	94.93	42	P		P		21 51 57.1	+1.0		
	baz=267										
ESJX	Sierra Juarez	94.98	58	P		P		21 51 56.9	0.0		
ESJX				IAmb		IAmb		21 51 59.9			
	comp=Z,12nm,1.2s										
BRLDA	Berland Lookou	95.01	36	P		P		21 51 56.1	-0.3		
YUH	Yuha Desert	95.04	58	P		P		21 51 57.0	+0.1		
BELC	Belle Mtn. Jos	95.05	56	P		P		21 51 58.6	+1.5		
	baz=267,SNR=7.9										
SWSC	Sam W. Stewart	95.16	57	P		P		21 51 58.4	+0.9		
	baz=267										
TUQ	Turquoise Moun	95.19	55	P		P		21 51 58.6	+0.9		
	baz=267										
GMRC	Granite Mounta	95.37	56	P		P		21 52 00.0	+1.4		
	baz=267,SNR=6.8										
BC3	Big Chuckawall	95.48	57	P		P		21 52 00.9	+1.8		
	baz=267,SNR=6.9										
R11B	Troy Canyon, C	95.60	52	P		P		21 52 00.5	+0.9		
	baz=267,SNR=8.2										
IRM	Iron Mountain	95.77	56	P		P		21 52 02.0	+1.8		
	baz=267,SNR=11										
ELIB	Princess Elisa	95.83	194	*d*P		P		21 51 58.3	-1.6		
	comp=Z,5.9nm,1.1s										
SHPR	Sheep Range	95.86	54	P		P		21 52 00.5	-0.3		
SHPR				IAmb		IAmb		21 52 03.2			
	comp=Z,9.5nm,1.1s										
GLA	Glamis	95.98	57	P		P		21 52 01.5	+0.3		
GLA	Glamis	95.98	57	P		P		21 52 02.3	+1.0		
	baz=267										
GLA	Glamis	95.98	57	P		P		21 52 01.5	+0.3		
GLA				pmax		pmax					
	comp=Z,67nm,2.0s										
V12A	Nelson	96.08	55	P		P		21 52 01.9	+0.1		
V12A				IAmb		IAmb		21 52 04.0			
	comp=Z,14nm,1.1s										
ARU	Arti	96.21	326	*i* P		P		21 51 59.3	-2.4		
ARU				pmax		pmax					
	comp=Z,7.0nm,1.1s										
ARU	Arti	96.21	326	P		P		21 52 00.7	-1.0		
	comp=Z,3.6nm,0.8s,baz=146,slow=3.6,SNR=3.4										
	comp=Z,3.6nm,0.8s										
Q12A	Willow Creek R	96.22	51	P		P		21 52 02.7	+0.3		
Q12A				IAmb		IAmb		21 52 18.6			
	comp=Z,14nm,1.0s										
NEE2	Needles Airpor	96.23	56	P		P		21 52 03.4	+1.1		
	baz=268										
BLYC	Blythe	96.26	57	P		P		21 52 02.7	+0.2		
BLYC				IAmb		IAmb		21 52 21.8			
	comp=Z,15nm,1.1s										
PDMCI	Parker Dam,Lak	96.60	56	P		P		21 52 04.8	+0.8		
	baz=268										
SPR3	Spring Creek 3	96.61	51	P		P		21 52 04.1	-0.2		
SPR3				IAmb		IAmb		21 52 06.1			
	comp=Z,19nm,1.1s										
YKA	Yellowknife Ar	96.61	28	P		P		21 52 03.8	+0.4		
	comp=Z,0.5nm,0.7s,baz=272,slow=4.8,SNR=2.2										
YKA				PKKPbc		PKKPbc		22 08 45.7	-3.8		
	comp=Z,0.7nm,1.0s,baz=87,slow=3.4,SNR=5.5										
	comp=Z,0.5nm,0.7s										
HLID	Hailey	96.66	47	P		P		21 52 04.3	0.0		
HLID	Hailey	96.66	47	P		P		21 52 04.6	+0.3		
	baz=269										
W13A	Hualapai Mount	96.

W18A	Petrified Fore	100.24	55	P	Pdif	21 52 21.0	+0.4
	baz=270						
RLMT	Red Lodge	100.33	45	P	Pdif	21 52 21.4	+0.6
	baz=272						
MVCO	Mesa Verde	101.21	53	P	Pdif	21 52 25.4	+0.5
	baz=272						
K22A	Casper	102.46	48	P	Pdif	21 52 30.6	+0.3
	baz=274						
Y22F	Passcal Instru	102.59	56	P	Pdif	21 52 30.6	-0.3
	baz=272						
N23A	Red Feather La	103.01	49	P	Pdif	21 52 34.0	+1.2
	baz=274						
ISCO	Idaho Springs	103.34	51	P	Pdif	21 52 34.6	+0.2
	baz=274						
MNTX	Cornudas Mount	103.96	59	P	Pdif	21 52 38.3	+1.4
	baz=272						
RSSD	Black Hills	104.14	46	P	Pdif	21 52 39.0	+1.3
	baz=276						
T25A	Trinidad	104.47	53	P	Pdif	21 52 40.3	+0.9
	baz=274						
TXAR	Lajitas Array	105.54	61	PKKP		22 08 39.1	
	comp=Z,1.0nm,1.0s,baz=116,slow=4.2,SNR=4.0						
833A	Chaparral WMA,	109.34	62	P	PKiKP	21 57 04.8	+0.3
	baz=274						
TUL3	Leonard	111.51	54	P	PKiKP	21 57 08.8	+0.4
	baz=279						
EYMN	Ely	111.94	40	P	PKiKP	21 57 08.9	0.0
	baz=287						
JFWS	Jewell Farm	114.20	45	P	PKiKP	21 57 14.3	+1.0
	baz=286						
AKASG	Malin Array Be	114.34	324	PKP	PKPdf	21 57 11.4	-1.8
	comp=Z,0.6nm,0.4s,baz=56,slow=1.5,SNR=4.3						
HDIL	Hopedale	115.52	48	P	PKiKP	21 57 16.1	+0.2
	baz=286						
L44A	Lake County Fo	116.06	45	P	PKiKP	21 57 17.3	+0.4
	baz=287						
OXF	Oxford	116.90	54	P	PKiKP	21 57 19.3	+0.6
	baz=282						
NB2	NORSAR Subarra	117.14	340	PKPdf	PKPdf	21 57 16.3	-2.2
	comp=Z,0.9nm,0.7s,baz=44,slow=1.9						
NOA	NORSAR Array B	117.14	340	PKP	PKPdf	21 57 16.5	-2.0
	comp=Z,3.6nm,1.1s,baz=63,slow=2.0,SNR=4.3						
WVT	Waverly	117.78	52	P	PKPdf	21 57 20.5	+0.1
	baz=284						
WCI	Wyandotte Cave	118.40	49	P	PKPdf	21 57 21.1	-0.4
	baz=287						
O48B	Farmland	118.63	47	P	PKPdf	21 57 21.7	-0.2
	baz=288						
P49A	Miami Univ. Ec	119.18	47	P	PKPdf	21 57 22.8	-0.2
	baz=288						
LRAL	Lakeview Retre	119.19	55	P	PKPdf	21 57 23.1	-0.1
	baz=283						
PLCA	Paso Flores	119.95	144	PKP	PKPdf	21 57 22.7	-1.8
	comp=Z,1.9nm,0.6s,baz=65,slow=1.6,SNR=3.4						
PLCA				PKKPbc	PKKPbc	22 07 32.6	-2.1
	comp=Z,0.8nm,0.8s,baz=322,slow=5.0,SNR=3.2						
ACSO	Alum Creek Sta	120.21	46	P	PKPdf	21 57 24.9	0.0
	baz=290						
VLDQ	Val d'Or	120.54	36		PKPdf	21 57 23.9	-1.4
TZTN	Tazewell	120.99	50	P	PKPdf	21 57 26.2	-0.4
	baz=288						
P52A	Corning	121.03	47	P	PKPdf	21 57 25.9	-0.6
	baz=290						
M53A	WI Miller and	121.40	44	P	PKPdf	21 57 27.2	0.0
	baz=293						
O53A	New Philadelph	121.47	46	P	PKPdf	21 57 27.5	+0.2
	baz=292						
KRLC	Kraliky	121.64	328	*e*PKPDF	PKPdf	21 57 27.6	+0.1
KRLC	Kraliky	121.64	328	*e*PKIKP	PKPdf	21 57 27.6	+0.1
TIGA	Tifton	122.38	56	P	PKPdf	21 57 29.4	0.0
	baz=285						
BRG	Berggiesshubel	122.66	330	*e*PKP	PKPdf	21 57 28.9	-0.4
BRG				Amp		21 57 31.0	
	comp=Z,8.0nm,1.1s						
BRG	Berggiesshubel	122.66	330	P	PKiKP	21 57 35.0	+5.5
BRG	Berggiesshubel	122.66	330	*e*PKIKP	PKPdf	21 57 28.9	-0.4
BRG						21 57 35.0	
BRG				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MCWV	Mont Chateau	122.67	46	P	PKPdf	21 57 29.0	-0.7
	baz=292						
TREC	Trest	122.78	327	*e*PKPDF	PKPdf	21 57 28.6	-1.0
TREC	Trest	122.78	327	*e*PKIKP	PKPdf	21 57 28.6	-1.0
CLL	Collm	122.86	330	*e*PKIKP	PKPdf	21 57 29.0	-0.7
CLL				*e*		21 59 11.0	
CLL				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CLL	Collm	122.86	330	*e*PKPdf	PKPdf	21 57 29.0	-0.7
	comp=Z,9.0nm,1.1s						
CLL				*e*PP	PP	21 59 11.0	+3.1
CLL				*e*SKPdf	SKPdf	22 01 01.0	-0.5
CLL				*e*PPP	PPP	22 01 49.0	
CLL				*e*PKKPbc	PKKPab	22 07 19.0	-3.3
CLL				*e*pPKKPbc		22 07 32.0	
KMSC	Kings Mountain	123.13	51	P	PKPdf	21 57 30.6	-0.1
	baz=288						
BLA	Blacksburg	123.14	49	P	PKPdf	21 57 30.4	-0.4
	baz=290						
RONA	Rosalia, Austr	123.22	325	*e*PKP	PKPdf	21 57 30.0	-0.5
	comp=Z,1.9nm,0.5s						
CONA	Conrad Observa	123.34	326	*i* PKP	PKPdf	21 57 30.6	-0.2
	comp=Z,0.9nm,0.4s						
FNA	Florina	123.35	316		PKPdf	21 57 29.7	-1.3
FNA	Florina	123.35	316	PKIKP	PKPdf	21 57 29.7	-1.3
WBO	Williamsburg	123.37	38		PKPdf	21 57 30.6	-0.2
SSPA	Standing Stone	123.65	44		PKPdf	21 57 31.3	-0.3
SSPA	Standing Stone	123.65	44	P	PKPdf	21 57 31.2	-0.3
	baz=295						
CKRC	Cesky Krumlov	123.69	327	*e*PKPDF	PKPdf	21 57 31.0	-0.4
CKRC	Cesky Krumlov	123.69	327	*e*PKIKP	PKPdf	21 57 31.0	-0.4
M57A	Sunshine Farm,	123.87	43		PKPdf	21 57 31.9	-0.1
KHC	Kasperske Hory	123.89	328	*e*PKPDF	PKPdf	21 57 31.4	-0.4
KHC	Kasperske Hory	123.89	328	*e*PKIKP	PKPdf	21 57 31.4	-0.4
LONY	Lake Ozonia	123.99	38	P	PKPdf	21 57 31.6	-0.5
	baz=300						
GERES	GERESS Array B	124.00	328	PKP	PKPdf	21 57 31.2	-0.9
	comp=Z,2.8nm,0.7s,baz=66,slow=3.9,SNR=6.1						
J58A	Remsen	124.17	40		PKPdf	21 57 32.1	-0.4
BINY	Binghamton	124.25	42	P	PKPdf	21 57 32.8	+0.1
	baz=297						
SOKA	Soboth	124.51	325	*i* PKP	PKPdf	21 57 32.4	-0.7
	comp=Z,4.8nm,0.9s						
LESA	Schwarzleotal	125.39	327	*e*PKP	PKPdf	21 57 34.0	-0.7
LBNH	Lisbon	125.82	38	P	PKPdf	21 57 35.4	-0.2
	baz=302						
ABTA	Abfaltersbach	125.89	326	*e*PKP	PKPdf	21 57 35.1	-0.7
J61A	Chester	125.90	39		PKPdf	21 57 36.0	+0.2
WATA	Walderalm	126.04	327	*e*PKP	PKPdf	21 57 35.6	-0.5
	comp=Z,0.6nm,0.2s						
STAL	STALIGIAL	126.06	326		PKPdf	21 57 35.5	-0.5
PAL	Palisades	126.19	42	P	PKPdf	21 57 36.3	-0.1
	baz=298						
L61B	Northampton	126.28	40	P	PKPdf	21 57 36.3	-0.2
	baz=300						
MOTA	Moosalm	126.29	328	*e*PKP	PKPdf	21 57 35.6	-1.0
SQTA	Sankt Quirin	126.31	327	*e*PKP	PKPdf	21 57 36.0	-0.6
	comp=Z,7.1nm,0.9s						
EKA	Eskdalemuir Ar	126.33	342	PKP	PKPdf	21 57 35.4	-0.8
	comp=Z,3.3nm,0.9s,baz=14,slow=3.5,SNR=8.3						
FETA	Feichten	126.69	327	*i* PKP	PKPdf	21 57 35.7	-1.7
	comp=Z,5.4nm,0.9s						
PKME	Peaks-Kenny Pk	126.80	35	P	PKPdf	21 57 37.6	+0.2
	baz=306						
HRV	Adam Dziewonsk	126.96	39	P	PKPdf	21 57 37.9	+0.1
	baz=302						
DAVA	Damuels	126.98	328	*e*PKP	PKPdf	21 57 37.4	-0.5
	comp=Z,6.9nm,1.0s						
AC05	El Transito	127.22	133		PKiKP	21 57 39.5	+0.1
TUE	Stuetta	127.78	328		PKPdf	21 57 39.5	0.0
ZCCA	Zocca	128.18	325		PKiKP	21 57 41.2	+0.5
KEST	Kesra	134.07	316	PKP	PKPdf	21 57 51.8	+0.2
	comp=Z,10nm,1.0s,baz=194,slow=2.9,SNR=4.8						
LPAZ	La Paz	135.15	120	PKP	PKPdf	21 57 54.9	+0.1
	comp=Z,6.3nm,1.0s,baz=170,slow=2.2,SNR=3.8						
CPUP	Villa Florida	137.74	140	PKIKP	PKPdf	21 57 58.0	-0.6
CPUP	Villa Florida	137.74	140	PKP	PKPdf	21 57 58.0	-0.6
	comp=Z,5.2nm,0.8s,baz=304,slow=2.2,SNR=4.4						
SDV	Santo Domingo	138.01	83		PKPdf	21 57 59.7	0.0
ESDC	Sonseca Array	139.45	331	PP	PP	22 00 54.0	-1.2
	comp=Z,1.5nm,0.9s,baz=12,slow=7.6,SNR=5.1						
BIM	Bigot	146.67	72		PKPdf	21 58 15.0	+0.3
MPOM	Morne Pois Mar	146.88	72		PKPbc	21 58 16.9	0.0
BOAV	Boa Vista	147.84	94		PKPbc	21 58 20.1	+0.4
SHEL	Horse Pasture	149.04	226		PKiKP	21 58 23.6	-0.5
SHEL	Horse Pasture	149.04	226	PKP2	PKiKP	21 58 23.6	-0.5
TOA0	Torodi Ar. Sit	149.35	286		PKPbc	21 58 22.2	-1.3
TORD	Torodi Ar. Bea	149.35	286		PKPbc	21 58 21.8	-1.8
TORD	Torodi Ar. Bea	149.35	286	PKPbc	PKPbc	21 58 22.2	-1.3
	comp=Z,23nm,1.0s,baz=76,slow=2.4,SNR=46						
BDFB	Brasilia	151.41	138		PKPbc	21 58 28.5	-0.1
BDFB	Brasilia	151.41	138	PKIKP	PKPbc	21 58 28.5	-0.1
BDFB	Brasilia	151.41	138	PKP	PKPdf	21 58 22.7	+0.2
	comp=Z,4.8nm,0.7s,baz=174,slow=8.2,SNR=3.4						
BDFB				PKPbc	PKPbc	21 58 28.3	-0.3
	comp=Z,28nm,0.8s,baz=188,slow=1.7,SNR=21						
BDFB				PKPab	PKPab	21 58 37.2	+0.5
	comp=Z,36nm,0.9s,baz=192,slow=3.2,SNR=5.4						
DBIC	Dimbokro	156.53	274	PKP	PKPdf	21 58 29.1	-0.5
	comp=Z,7.6nm,1.1s,baz=196,slow=2.7,SNR=3.4						
DBIC				PKPab	PKPab	21 58 57.7	-0.9
	comp=Z,3.1nm,0.9s,baz=122,slow=4.7,SNR=3.1						

IDC ***29*** *21:41:21.0±0.9, 5.41S×151.62E, h0km, mb4.3/9, mbtmp4.4/10, ML2.7/1, Error ellipse: s-maj=31.4km s-min=19.6km az=107.0*
NEIC ***29*** *21:41:26.0±2.9, 5.71S±0.07×151.6E±0.1, h10km±1km, mb4.7/14, Error ellipse: s-maj=27.1km s-min=6.7km az=113.0*

ISC 29 21:41:29.3±0.6, 5.57S±0.09×151.5E±0.1, h57km, n28, σ1s30/30, mb4.5/15, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.52	26			Pn	Pn	21 41 54.5	+0.2
RABL						Sg	Sn	21 42 15.9	+2.8
PMG	Port Moresby	5.75	228			Pn	Pn	21 42 51.8	-0.3
PMG						Sn	Sn	21 43 55.9	-0.8
PMG	Port Moresby	5.75	228			Pn	Pn	21 42 52.2	+0.1
	11nm,0.3s,baz=29,slow=12,SNR=1.2								
PMG						Sn	Sn	21 43 58.3	+1.6
	15nm,0.3s,baz=117,slow=23,SNR=2.1								
	60nm,0.5s								
WB0	Warramunga Arr	21.82	228	P		P	P	21 46 19.0	+2.0
WB0						IAmb	IAmb	21 46 20.6	
	comp=Z,36nm,1.1s								
WR0	Warramunga Arr	21.83	228	P		P	P	21 46 18.4	+1.3
WR0						IAmb	IAmb	21 46 20.2	
	comp=Z,42nm,1.0s								
DZM	Mont Dzumac	21.86	140	P		P	P	21 46 16.6	-0.9
DZM						IAmb	IAmb	21 46 20.7	
	comp=Z,38nm,1.3s								
DZM	Mont Dzumac	21.86	140	P		P	P	21 46 16.5	-0.9
	comp=Z,9.2nm,0.6s,baz=333,slow=16,SNR=2.3								
	comp=Z,9.2nm,0.6s								
WRAB	Tennant Creek	21.95	228	P		P	P	21 46 20.2	+1.8
WRAB						IAmb	IAmb	21 46 21.2	
	comp=Z,31nm,0.8s								
WB2	Warramunga Arr	21.96	228	P		P	P	21 46 20.4	+1.9
WRA	Warramunga Arr	21.97	228	P		P	P	21 46 18.2	-0.3
	comp=Z,24nm,0.6s,baz=53,slow=9.9,SNR=6.8								
	comp=Z,24nm,0.6s								
KNRA	Kununurra	24.47	244	P		P	P	21 46 43.7	+0.5
AS31	Alice Springs	24.71	222	P		P	P	21 46 46.1	+0.7
AS31						IAmb	IAmb	21 46 47.6	
	comp=Z,16nm,1.4s								
ASAR	Alice Springs	24.71	222	P		P	P	21 46 46.5	+1.1
ASAR	Alice Springs	24.71	222	P		P	P	21 46 45.9	+0.4
	comp=Z,17nm,0.8s,baz=55,slow=8.7,SNR=6.9								
	comp=Z,17nm,0.8s								
FITZ	Fitzroy Crossi	28.15	242	P		P	P	21 47 16.0	-0.5
BBOO	Buckleboo	30.69	206	P		P	P	21 47 38.1	-0.6
BBOO						IAmb	IAmb	21 47 38.6	
	comp=Z,5.5nm,0.7s								
MBWA	Marble Bar	34.47	240	P		P	P	21 48 13.8	+1.9
MBWA						IAmb	IAmb	21 48 32.0	
	comp=Z,35nm,1.4s								
PSA00	Pilbara Seismi	34.52	240	P		P	P	21 48 14.0	+1.6
PETK	Petropavlovsk-	58.70	4	P		P	P	21 51 18.1	-2.8
	comp=Z,7.8nm,1.1s,baz=163,slow=10,SNR=2.6								
	comp=Z,7.8nm,1.1s								
SONM	Songino Array	66.30	329	P		P	P	21 52 11.7	-0.1
	comp=Z,2.1nm,1.0s,baz=138,slow=6.0,SNR=2.8								
	comp=Z,2.1nm,1.0s								
VNDA	Vanda	72.11	178	P		P	P	21 52 48.2	+1.0
VNDA						IAmb	IAmb	21 52 48.9	
	comp=Z,3.7nm,0.8s								
VNDA	Vanda	72.11	178	P		P	P	21 52 47.8	+0.6
	comp=Z,3.2nm,0.8s,baz=324,slow=9.9,SNR=3.9								
	comp=Z,3.2nm,0.8s								
MKAR	Makanchi Array	80.06	319	P		P	P	21 53 32.8	-0.2
	comp=Z,0.3nm,0.5s,baz=98,slow=6.8,SNR=1.0								
	comp=Z,0.3nm,0.5s								
ILAR	Eielson Array	83.36	22	P		P	P	21 53 48.7	-1.2
	comp=Z,0.7nm,0.6s,baz=257,slow=5.1,SNR=2.5								
	comp=Z,0.7nm,0.6s								
QSPA	South Pole Qui	84.39	180	P		P	P	21 53 56.5	+1.1
QSPA						IAmb	IAmb	21 54 06.0	
	comp=Z,7.9nm,1.1s								
J26L	Joseph Creek	84.52	23	P		P	P	21 54 01.8	+5.8
BVAR	Borovoye Array	89.08	323	P		P	P	21 54 17.8	-0.5
	comp=Z,0.8nm,0.6s,baz=125,slow=9.0,SNR=1.9								
	comp=Z,0.8nm,0.6s								
TORD	Torodi Ar. Bea	149.30	286	PKPbc		PKPbc	PKPbc	22 01 12.7	-0.1
	comp=Z,3.2nm,0.6s,baz=89,slow=2.6,SNR=10								

IDC ***29*** *21:44:44.4±0.9, 5.48S×151.54E, h0km, mb4.2/10, mbtmp4.2/11, ML2.6/1, Error ellipse: s-maj=36.2km s-min=19.5km az=118.0*
NEIC ***29*** *21:44:48.8±2.8, 5.72S±0.05×151.57E±0.09, h10km±1km, mb4.6/19, Error ellipse: s-maj=17.2km s-min=6.3km az=114.0*

ISC 29 21:44:52.2±0.6, 5.68S±0.06×151.56E±0.07, h57km, n37, σ1s39/43, mb4.4/19, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.59	22			Pn	Pn	21 45 17.8	-0.4
RABL						Sg	Sn	21 45 40.1	+2.4
MANU	Manus Island	5.52	311			Pn	Pn	21 46 13.0	+1.0
MANU						Sn	Sn	21 47 12.8	-1.4
PMG	Port Moresby	5.72	229			Pn	Pn	21 46 15.0	+0.3
PMG						Sn	Sn	21 47 21.1	+2.0
PMG	Port Moresby	5.72	229			Pn	Pn	21 46 14.1	-0.6
	11nm,0.3s,baz=17,slow=11,SNR=7.2								
PMG						Sn	Sn	21 47 19.1	0.0
	9.8nm,0.3s,baz=323,slow=15,SNR=3.0								
	44nm,0.6s								
CTAO	Charters Tower	15.23	199	P		P	P	21 48 28.7	+1.0
FAKI	Fak Fak	19.45	277	P		P	P	21 49 13.4	-1.0
FAKI						IAmb	IAmb	21 49 17.3	
	comp=Z,26nm,1.5s								
EIDS	Eidsvold	19.59	181	P		P	P	21 49 15.2	-0.5
EIDS						IAmb	IAmb	21 49 54.6	
	comp=Z,22nm,1.2s								
MTN	Manton Dam	21.37	249	P		P	P	21 49 33.6	-1.5
MTN						IAmb	IAmb	21 49 37.1	
	comp=Z,26nm,1.3s								
DZM	Mont Dzumac	21.75	140	P		P	P	21 49 36.3	-2.9
DZM						IAmb	IAmb	21 49 59.5	
	comp=Z,30nm,1.3s								
WB0	Warramunga Arr	21.80	228	P		P	P	21 49 39.4	-0.3
WB0						IAmb	IAmb	21 49 49.5	
	comp=Z,32nm,1.2s								
WR0	Warramunga Arr	21.80	228	P		P	P	21 49 40.7	+1.0
WRAB	Tennant Creek	21.93	228	P		P	P	21 49 41.5	+0.4
WRAB						IAmb	IAmb	21 49 53.3	
	comp=Z,13nm,0.8s								
WB2	Warramunga Arr	21.93	228	P		P	P	21 49 41.4	+0.3
WB2						IAmb	IAmb	21 49 53.5	
	comp=Z,9.0nm,0.8s								
WRA	Warramunga Arr	21.94	228	P		P	P	21 49 40.7	-0.6
	comp=Z,4.5nm,0.5s,baz=52,slow=10,SNR=8.0								
WRA				PcP		PcP	PcP	21 53 38.9	+0.3
	comp=Z,0.5nm,0.5s,baz=50,slow=2.1,SNR=2.8								
	comp=Z,4.5nm,0.5s								
KNRA	Kununurra	24.48	244	P		P	P	21 50 06.2	0.0
KNRA						IAmb	IAmb	21 50 10.4	
	comp=Z,23nm,0.9s								
AS31	Alice Springs	24.67	222	P		P	P	21 50 09.5	+1.5
ASAR	Alice Springs	24.68	222	P		P	P	21 50 09.0	+1.0
ASAR	Alice Springs	24.68	222	P		P	P	21 50 08.9	+0.9
	comp=Z,3.4nm,0.6s,baz=56,slow=8.5,SNR=12								
ASAR				PcP		PcP	PcP	21 53 45.4	+1.1
	comp=Z,0.3nm,0.5s,baz=27,slow=2.4,SNR=2.4								
	comp=Z,3.4nm,0.6s								
SOEI	Soe	27.34	260	P		P	P	21 50 32.6	+0.3
FITZ	Fitzroy Crossi	28.16	242	P		P	P	21 50 38.6	-0.8
FORT	Forrest	33.33	219	P		P	P	21 51 24.6	-0.3
FORT						IAmb	IAmb	21 51 47.1	
	comp=Z,16nm,1.1s								
MBWA	Marble Bar	34.47	240	P		P	P	21 51 36.0	+1.1
PSA00	Pilbara Seismi	34.52	240	P		P	P	21 51 37.1	+1.8
PSA00				IAmb		IAmb	IAmb	21 51 38.4	
	comp=Z,21nm,1.4s								
MORW	Morawa	40.84	231	P		P	P	21 52 31.1	+2.5
MORW				IAmb		IAmb	IAmb	21 52 45.3	
	comp=Z,24nm,1.2s								
TPUB	Ta-pu	41.74	315	P		P	P	21 52 36.1	0.0
CMAR	Chiang Mai Arr	57.14	296	P		P	P	21 54 33.3	-0.2
	comp=Z,0.4nm,0.4s,baz=123,slow=5.7,SNR=2.4								
	comp=Z,0.4nm,0.4s								
PETK	Petropavlovsk-	58.79	4	P		P	P	21 54 44.7	+0.2
	comp=Z,4.4nm,1.0s,baz=161,slow=6.5,SNR=5.2								
	comp=Z,4.4nm,1.0s								
SONM	Songino Array	66.41	329	P		P	P	21 55 35.0	-0.6
	comp=Z,1.5nm,0.6s,baz=142,slow=5.3,SNR=8.8								
	comp=Z,1.5nm,0.6s								
MKAR	Makanchi Array	80.17	319	P		P	P	21 56 55.8	-0.8
	comp=Z,0.9nm,0.6s,baz=101,slow=7.0,SNR=5.6								
	comp=Z,0.9nm,0.6s								
ZALV	Zalesovo Beam	81.20	327	P		P	P	21 56 59.5	-2.3
	comp=Z,1.4nm,0.4s,baz=116,slow=5.7,SNR=5.5								
	comp=Z,1.4nm,0.4s								
IL31		83.43	22	P		P	P	21 57 17.7	+4.5
ILAR	Eielson Array	83.43	22	P		P	P	21 57 12.4	-0.8
	comp=Z,1.0nm,0.6s,baz=249,slow=5.5,SNR=16								
	comp=Z,1.0nm,0.6s								
BVAR	Borovoye Array	89.20	323	P		P	P	21 57 40.3	-1.5
	comp=Z,1.2nm,0.7s,baz=129,slow=5.7,SNR=2.0								
	comp=Z,1.2nm,0.7s								
NVAR	Mina Array Bea	93.59	52	P		P	P	21 58 03.4	+0.6
	comp=Z,0.9nm,0.5s,baz=263,slow=5.0,SNR=2.6								
	comp=Z,0.9nm,0.5s								
GERES	GERESS Array B	124.14	328	PKP	PKPdf		PKPdf	22 03 43.1	-1.6
	comp=Z,0.5nm,0.6s,baz=28,slow=4.4,SNR=2.4								
TORD	Torodi Ar. Bea	149.38	286	PKPbc	PKPbc		PKPbc	22 04 34.9	-1.0
	comp=Z,4.2nm,0.5s,baz=88,slow=2.5,SNR=37								
BDFB	Brasilia	151.29	138	PKPbc	PKiKP		PKiKP	22 04 41.3	+0.2
	comp=Z,2.0nm,0.4s,baz=135,slow=2.9,SNR=3.7								

MOS ***29*** *21:49:51.6±0.9, 5.47S×151.66E, h21km, mb5.1/28, Error ellipse: s-maj=9.7km s-min=6.9km az=96.8*
BJI ***29*** *21:49:52.5±0.0, 5.60S×151.70E, h31km, mb4.8/44*
IDC ***29*** *21:49:54.5±2.3, 5.44S×151.65E, h33km±16km, mb4.4/20, mbtmp4.7/21, ML3.1/1, Error ellipse: s-maj=15.8km s-min=10.7km az=96.0*
NEIC ***29*** *21:49:55.7±1.4, 5.53S±0.05×151.66E±0.04, h35km±1km, mb5.1/163, Error ellipse: s-maj=11.4km s-min=3.3km az=141.0*
DJA ***29*** *21:50:00.3±0.5, 6˚S±3˚×15˚2E±˚, h74km±4km, M5.5/42, mB6.1/2, mb5.0/42, MLv5.7/2, Mw(mB)5.7/2*

ISC 29 21:49:57.5±0.3, 5.55S±0.04×151.64E±0.05, h57km, n459, σ1s32/465, mb5.0/139, 8C-4D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.44	21			Pn	Pn	21 50 20.1	-1.3
MANU	Manus Island	5.50	309			Pn	Pn	21 51 18.1	+1.1
PMG	Port Moresby	5.87	229			Pn	Pn	21 51 22.4	+0.4
PMG	Port Moresby	5.87	229	*i* P			Pn	21 51 21.1	-0.9
PMG	Port Moresby	5.87	229	Pn			Pn	21 51 20.6	-1.3
	30nm,0.3s,baz=35,slow=11,SNR=39								
PMG						Sn	Sn	21 52 29.6	+1.6
	65nm,0.3s,baz=28,slow=17,SNR=14								
	217nm,0.8s								
HNR	Honiara	9.10	116	Pn			Pn	21 52 05.4	-0.8
HNR	Honiara	9.10	116	P			Pn	21 52 05.4	-0.8
HNR	Honiara	9.10	116	Pn			Pn	21 52 04.0	-2.2
	329nm,0.3s,baz=201,slow=6.9,SNR=6.5								
HNR				Sn			Sn	21 53 48.1	+0.9
	39nm,0.3s,baz=180,slow=8.1,SNR=1.2								
JAY	Jayapura	11.31	285	P			Pn	21 52 37.9	+1.3
COEN	Coen	11.80	224	P			Pn	21 52 43.4	+0.1
	baz=12,SNR=7.4								
COEN				S			Sn	21 54 50.2	-3.4
	baz=12								
COEN	Coen	11.80	224	Pn			Pn	21 52 42.4	-0.9
GENI	Genyem	11.81	284	P			Pn	21 52 45.3	+2.0
	83nm,1.1s								
PATS	Pohnpei	13.99	29	Pn			Pn	21 53 10.6	-2.3
MTSU	Mount Surprise	14.41	209	P			Pn	21 53 18.0	-0.5
	baz=14,SNR=11								
CTAO	Charters Tower	15.38	199	Pn			Pn	21 53 30.1	-0.9
CTAO	Charters Tower	15.38	199	P			Pn	21 53 30.1	-0

STKA **Stephens Creek** 27.83 199 *i* P **P** 21 55 42.5 +0.9
STKA **Stephens Creek** 27.83 199 P **P** 21 55 41.2 -0.5
comp=Z,6.0nm,0.6s,baz=16,slow=13,SNR=12
comp=Z,6.0nm,0.6s
BATI **Baumata** 28.09 259 P **P** 21 55 44.0 -0.2
comp=Z,77nm,0.8s
FITZ **Fitzroy Crossi** 28.29 242 P **P** 21 55 45.4 -0.4
baz=28,SNR=96
FITZ **Fitzroy Crossi** 28.29 242 P **P** 21 55 45.0 -0.8
MSVF **Nonsavu** 28.51 117 *ce* P P 21 55 53.9 +6.0
BBSI **Bau Bau** 28.93 269 P **P** 21 55 53.4 +1.7
comp=Z,25nm,0.8s
WRKA **Warakurna** 29.61 227 P **P** 21 55 57.5 -0.1
baz=30,SNR=39
EDFI **Ende, Flores** 29.88 262 P **P** 21 55 59.1 -1.1
comp=Z,28nm,1.2s
HTT **Hallett** 30.16 201 P **P** 21 56 02.6 +0.3
baz=30,SNR=12
BBOO **Buckleboo** 30.77 206 P **P** 21 56 07.5 -0.2
baz=31,SNR=13
BASI **Baing, Sumba** 31.10 259 P **P** 21 56 10.9 0.0
comp=Z,147nm,0.7s
BKSI **Bulukumba** 31.37 269 P **P** 21 56 13.2 0.0
comp=Z,7.8nm,1.0s
ARPS **Mount Arapiles** 32.35 195 P **P** 21 56 22.5 +1.0
baz=32,SNR=7.9
FORT **Forrest** 33.49 219 P **P** 21 56 31.4 -0.1
baz=34,SNR=40
FORT **Forrest** 33.49 219 P **P** 21 56 30.8 -0.8
MBWA **Marble Bar** 34.60 240 P **P** 21 56 40.3 -1.0
MBWA IAmb IAmb 21 56 45.3
comp=Z,35nm,0.9s
MBWA **Marble Bar** 34.60 240 P **P** 21 56 41.1 -0.3
PSA00 **Pilbara Seismi** 34.66 240 P **P** 21 56 41.2 -0.6
PSA00 IAmb IAmb 21 56 43.0
comp=Z,19nm,1.1s
PSA00 **Pilbara Seismi** 34.66 240 P **P** 21 56 41.1 -0.6
PSA00 IAmb IAmb 21 56 45.5
comp=Z,46nm,1.1s
MEEK **Meekatharra** 37.84 233 P **P** 21 57 08.9 0.0
baz=38,SNR=63
KMBL **Kambalda** 37.92 224 P **P** 21 57 09.6 0.0
baz=38,SNR=10
TOZ **Tahuroa Road** 38.72 149 P **P** 21 57 16.6 +0.5
GIRL **Giralia** 39.90 241 P **P** 21 57 25.7 -0.5
baz=40,SNR=6.3
RTZ **Ruatahuna** 40.15 149 P **P** 21 57 28.4 +0.3
RTZ IAmb IAmb 21 57 40.8
comp=Z,25nm,0.8s
STKI **Sintang** 40.48 277 P **P** 21 57 32.2 +1.0
TCW **Tory Channel** 40.87 154 P **P** 21 57 34.0 0.0
UGM **Wanagama** 40.89 264 P **P** 21 57 35.6 +1.0
comp=Z,90nm,2.2s
TUWZ **Tuamarina** 40.91 154 P **P** 21 57 33.6 -0.6
KLBR **Kellerberrin** 40.96 227 P **P** 21 57 34.6 -0.3
baz=41,SNR=13
MORW **Morawa** 40.98 231 P **P** 21 57 34.7 -0.4
baz=41,SNR=3.6
MRZ **Mangatainoka R** 41.03 152 P **P** 21 57 35.0 -0.3
MRZ IAmb IAmb 21 58 32.7
comp=Z,42nm,1.4s
BSWZ **Blackbirch Sta** 41.11 154 P **P** 21 57 35.6 -0.4
BLDU **Ballidu** 41.22 229 P **P** 21 57 36.6 -0.4
baz=41,SNR=8.4
MUN **Mundaring** 42.28 227 P **P** 21 57 45.2 -0.5
baz=42,SNR=5.6
KPJI **Karang Pucung** 42.47 265 P P 21 58 00.0 +13
JGF **Kuroka** 43.07 343 P **P** 21 57 52.6 +0.6
MJAR **Matsushiro Arr** 43.72 344 P **P** 21 57 55.0 -2.2
comp=Z,2.9nm,0.6s,baz=166,slow=8.9,SNR=9.3
comp=Z,2.9nm,0.6s
MAJO **Matsushiro** 43.72 344 *ce* P **P** 21 57 58.7 +1.5
MAJO pmax pmax
comp=Z,31nm,2.5s
MAJO **Matsushiro** 43.72 344 P **P** 21 57 56.9 -0.3
QIZ **Qiongzhong** 47.86 302 P **P** 21 58 31.3 +1.1
QIZ pP **pP** 21 58 42.3 -3.2
KSRS **Korea Array** 48.16 335 P **P** 21 58 31.4 -0.6
comp=Z,1.9nm,0.7s,baz=149,slow=8.3,SNR=9.1
KSRS PcP **PcP** 21 59 58.6 -0.2
comp=Z,1.2nm,0.7s,baz=150,slow=5.6,SNR=1.8
comp=Z,1.9nm,0.7s
KSAR **Wonju Array Be** 48.16 335 P **P** 21 58 32.8 +0.7
KSAR **Wonju Array Be** 48.16 335 P **P** 21 58 32.8 +0.7
NJ2 **Nanjing** 48.71 322 *e* P **P** 21 58 38.8 +2.4
NJ2 pmax pmax
comp=Z,12nm,0.5s
INCN **Inchon** 48.74 333 P **P** 21 58 37.4 +0.7
INCN **Inchon** 48.74 333 P **P** 21 58 37.4 +0.7
INCN pmax pmax
comp=Z,62nm,1.5s
JKA **Kamikawa-asahi** 50.10 352 P **P** 21 58 48.0 +1.1
ASAJ **Asahikawa** 50.10 352 P **P** 21 58 48.0 +1.2
ASAJ pmax pmax
comp=Z,81nm,2.0s
WHN **Wuhan** 50.60 317 P **P** 21 58 53.5 +2.6
USRK **Ussuriysk Ar.** 52.59 342 P **P** 21 59 05.4 -0.1
comp=Z,4.3nm,0.8s,baz=165,slow=6.6,SNR=5.8
comp=Z,4.3nm,0.8s
YSS **Yuzh-Sakhalins** 52.86 352 *e* P **P** 21 59 07.6 +0.2
ENH **Enshi** 53.83 314 P **P** 21 59 14.5 -0.4
ENH IAmb IAmb 21 59 26.7
comp=Z,22nm,1.1s
SLVN **Son La** 53.88 301 P **P** 21 59 15.1 -0.4
LYN **LuoYang** 54.36 320 *e* P P 21 59 28.5 +10
LYN pmax pmax
comp=Z,25nm,0.7s
CN2 **Changchun** 54.51 337 *e* P P 21 59 25.5 +5.9
CN2 pmax pmax
comp=Z,10.0nm,0.7s
HNS **HongShan** 54.86 324 ⇓P **P** 21 59 22.5 +0.3
HNS pmax pmax
comp=Z,9.0nm,1.4s
BNX **BinXian** 55.45 340 ⇓P **P** 21 59 25.0 -1.3
BNX pmax pmax
comp=Z,6.0nm,1.0s
PHRA **Phrae** 56.02 297 P **P** 21 59 28.9 -2.0
XAN **Xi'an** 56.37 317 P **P** 21 59 32.5 -0.7
XAN pP pP 21 59 43.3 -5.6
XAN pmax pmax
comp=Z,13nm,1.2s
KMI **Kunming** 56.45 305 ⇓P **P** 21 59 35.5 +1.3
KMI pP pP 21 59 45.5 -4.3
KMI pmax pmax
comp=Z,11nm,0.9s
CMAR **Chiang Mai Arr** 57.15 296 *i* P **P** 21 59 39.7 +0.7
CMAR pmax pmax
comp=Z,3.0nm,0.4s
CMAR **Chiang Mai Arr** 57.15 296 P **P** 21 59 39.1 +0.1
comp=Z,2.6nm,0.4s,baz=117,slow=5.5,SNR=14
CMAR PKP2bc 22 29 40.8
comp=Z,1.1nm,0.3s,baz=300,slow=3.9,SNR=6.0
comp=Z,2.6nm,0.4s
KLR **Kul'dur** 57.24 345 *i* P **P** 21 59 39.8 +0.8
KLR pmax pmax
comp=Z,4.0nm,0.9s
PZH **PanZhiHua** 57.86 306 P **P** 21 59 46.3 +2.3
PZH pmax pmax
comp=Z,10.0nm,0.6s
CD2 **Chengdu** 58.35 312 P **P** 21 59 49.5 +2.3
CD2 pmax pmax
comp=Z,10.0nm,0.6s
PET **Petropavlovsk** 58.65 5 *i* P **P** 21 59 49.6 +0.9
PET pmax pmax
comp=Z,31nm,1.0s
PEA0B **Petropavlovsk-** 58.66 4 P **P** 21 59 48.6 -0.2
PEA0B **Petropavlovsk-** 58.66 4 P **P** 21 59 48.6 -0.2
PEA0B pmax pmax
comp=Z,163nm,1.8s
PETK **Petropavlovsk-** 58.66 4 P **P** 21 59 49.5 +0.7
PETK **Petropavlovsk-** 58.66 4 P **P** 21 59 49.5 +0.7
PETK **Petropavlovsk-** 58.66 4 P **P** 21 59 47.4 -1.4
comp=Z,3.3nm,0.6s,baz=154,slow=6.0,SNR=8.5
comp=Z,3.3nm,0.6s
HHC **Hu-ho-hao-te** 58.99 325 *e* P **P** 21 59 54.0 +2.5
HHC pmax pmax
comp=Z,13nm,1.0s
HEH **HeiHe** 59.40 342 *e* P **P** 21 59 52.5 -1.5
HIA **Hailar** 61.25 337 *i* P **P** 22 00 06.4 -0.3
HIA pmax pmax
comp=Z,6.0nm,0.9s
DRV **Dumont d'Urvil** 61.55 185 P **P** 22 00 09.5 +1.1
MA2 **Magadan** 64.92 360 *ce* P **P** 22 00 31.8 +1.0
MA2 **Magadan** 64.92 360 P **P** 22 00 31.8 +1.0
GTA **Gaotai** 65.42 318 P **P** 22 00 34.5 -0.2
GTA pP pP 22 00 45.5 -5.2
GTA pmax pmax
comp=Z,4.0nm,1.0s
ULN **Ulaanbaatar** 66.02 329 P **P** 22 00 38.5 +0.1
ULN **Ulaanbaatar** 66.02 329 *ce* P **P** 22 00 38.9 +0.5
ULN pmax pmax
comp=Z,5.0nm,1.0s
ULN **Ulaanbaatar** 66.02 329 P **P** 22 00 38.3 -0.1
ULN pP **pP** 22 00 49.6 -4.8
SONM **Songino Array** 66.34 329 P **P** 22 00 40.1 -0.3
SONM IAmb IAmb 22 00 52.6
comp=Z,22nm,1.6s
SONM **Songino Array** 66.34 329 P **P** 22 00 40.1 -0.3
SONM pmax pmax
comp=Z,22nm,1.6s
SONM **Songino Array** 66.34 329 P **P** 22 00 40.5 0.0
comp=Z,3.5nm,0.5s,baz=142,slow=5.4,SNR=25
comp=Z,3.5nm,0.5s
LSA **Lhasa** 67.71 305 P **P** 22 00 49.1 -0.7
LSA **Lhasa** 67.71 305 P **P** 22 00 49.2 -0.7
LSA pmax pmax
comp=Z,6.0nm,0.7s
LSA **Lhasa** 67.71 305 P **P** 22 00 50.0 +0.2
LSA pP **pP** 22 01 01.2 -4.5
SEY **Seymchan** 68.29 0 *i* P **P** 22 00 51.9 -0.3
SEY pmax pmax
comp=Z,3.0nm,1.0s
AKUT **Akutan** 69.29 25 P **P** 22 00 59.7 +1.1
YAK **Yakutsk** 69.48 349 *ce* P **P** 22 01 00.0 +0.4
YAK pmax pmax
comp=Z,15nm,0.7s
ZAK **Zakamensk** 69.53 329 *e* P **P** 22 00 59.2 -1.2
ZAK pmax pmax
comp=Z,14nm,1.0s
CCD **Concordia, Ant** 71.38 187 P **P** 22 01 12.4 +0.9
CCD pP **pP** 22 01 23.7 -2.5
MOY **Mondy** 71.46 329 *e* P **P** 22 01 11.7 -0.4
MOY pmax pmax
comp=Z,21nm,3.2s
VNDA **Vanda** 72.13 178 P **P** 22 01 16.1 +0.5
VNDA **Vanda** 72.13 178 P **P** 22 01 16.1 +0.5
VNDA pmax pmax
comp=Z,14nm,1.1s
VNDA **Vanda** 72.13 178 P **P** 22 01 16.4 +0.8
comp=Z,9.5nm,0.9s,baz=330,slow=7.7,SNR=28
comp=Z,9.5nm,0.9s
SBA **Scott Base** 72.70 177 P **P** 22 01 20.2 +1.2
SBA **Scott Base** 72.70 177 P **P** 22 01 20.2 +1.2
SBA pmax pmax
comp=Z,16nm,1.2s
BILL **Bilibino** 74.14 6 P **P** 22 01 28.9 +1.4
BILL **Bilibino** 74.14 6 *i* P **P** 22 01 29.1 +1.6
M13K **Dall Lake** 74.58 21 P **P** 22 01 32.1 +2.0
baz=227
O14K **Tigyukauivet M** 74.59 23 P **P** 22 01 32.8 +2.6
baz=229
O15K **Ungalikthiuk R** 75.10 24 P **P** 22 01 35.3 +2.0
baz=230
M14K **Bethel** 75.32 22 P **P** 22 01 37.6 +3.2
baz=228
L14K **Kuka Creek** 75.45 21 P **P** 22 01 35.8 +0.6
L14K IAmb IAmb 22 01 39.4
comp=Z,15nm,0.8s
L14K **Kuka Creek** 75.45 21 P **P** 22 01 38.0 +2.8
baz=227
WMQ **Urumqi** 75.51 318 *e* P **P** 22 01 38.5 +2.5
N15K **Kwethluk River** 75.63 23 P **P** 22 01 36.1 -0.2
N15K **Kwethluk River** 75.63 23 P **P** 22 01 39.7 +3.4
baz=230
M15K **Kasigluk River** 75.75 22 P **P** 22 01 39.5 +2.6
baz=229
O16K **Kokwok River B** 76.06 24 P **P** 22 01 41.9 +3.2
baz=232
J14K **Nanvaranak Lak** 76.12 20 P **P** 22 01 39.5 +0.5
Q17K **Contact Creek** 76.17 26 P **P** 22 01 39.6 +0.1
baz=234
K15K **Wolf Creek Mou** 76.50 21 P **P** 22 01 41.0 -0.1
K15K IAmb IAmb 22 01 45.5
comp=Z,15nm,0.7s
K15K **Wolf Creek Mou** 76.50 21 P **P** 22 01 43.1 +1.9
baz=228
O17K **Koliganek Bris** 76.57 24 P **P** 22 01 42.9 +1.3
baz=233
M16K **Timber Creek** 76.61 22 P **P** 22 01 43.0 +1.2
M16K IAmb IAmb 22 01 46.2
comp=Z,14nm,0.8s
M16K **Timber Creek** 76.61 22 P **P** 22 01 45.3 +3.4
baz=231
L16K **Owhat River** 76.86 22 P **P** 22 01 43.9 +0.7
L16K **Owhat River** 76.86 22 P **P** 22 01 44.6 +1.5
baz=230
N17K **Nushagak Hills** 76.99 23 **P** 22 01 44.9 +1.0
N17K **Nushagak Hills** 76.99 23 P **P** 22 01 47.0 +3.1
baz=233
M17K **Holitna River** 77.42 23 P **P** 22 01 48.0 +1.6
M17K **Holitna River** 77.42 23 P **P** 22 01 50.4 +4.1
baz=232
J16K **Anvik River** 77.48 20 P **P** 22 01 47.6 +0.9
J16K IAmb IAmb 22 04 39.9
comp=Z,55nm,1.9s
J16K **Anvik River** 77.48 20 P **P** 22 01 48.3 +1.7
baz=229
Q19K **Cape Douglas,** 77.52 26 P **P** 22 01 47.0 0.0
L17K **Donlin** 77.56 22 P **P** 22 01 50.8 +3.7
baz=231
I17K **Unalakleet** 77.84 20 P **P** 22 01 49.3 +0.7
I17K **Unalakleet** 77.84 20 P **P** 22 01 50.8 +2.2
baz=229
K17K **Iditarod** 77.92 21 P **P** 22 01 49.7 +0.6
K17K **Iditarod** 77.92 21 P **P** 22 01 52.1 +3.0
baz=231
SVW2 **Sparrevohn** 77.96 23 P **P** 22 01 49.5 +0.1
P19K **Oil Pt** 78.10 25 P **P** 22 01 50.8 +0.6
baz=236
L18K **Granite Mounta** 78.20 22 P **P** 22 01 50.2 -0.5
L18K IAmb IAmb 22 04 46.0
comp=Z,43nm,1.6s
L18K **Granite Mounta** 78.20 22 P **P** 22 01 54.6 +4.0
baz=233
G16K **Koyuk River** 78.33 18 P **P** 22 01 52.1 +0.8
G16K IAmb IAmb 22 04 39.3
comp=Z,54nm,1.9s
G16K **Koyuk River** 78.33 18 P **P** 22 01 52.8 +1.5
baz=227
TIXI **Tiksi** 78.48 353 P **P** 22 01 51.1 -0.9
TIXI **Tiksi** 78.48 353 *ce* P **P** 22 01 52.3 +0.3
H17K **Granite Mounta** 78.79 19 P **P** 22 01 54.6 +0.7
H17K **Granite Mounta** 78.79 19 P **P** 22 01 57.2 +3.4
baz=229
L19K **White Mountain** 78.88 23 P **P** 22 01 55.0 +0.6
L19K IAmb IAmb 22 01 58.9
comp=Z,12nm,0.7s
L19K **White Mountain** 78.88 23 P **P** 22 01 57.3 +2.9
baz=235
TTA **Tatalina** 78.88 22 P **P** 22 01 53.6 -0.9
TTA IAmb IAmb 22 04 44.6
comp=Z,34nm,1.8s
TTA **Tatalina** 78.88 22 P **P** 22 01 55.9 +1.4
baz=233
TTA **Tatalina** 78.88 22 P **P** 22 01 53.6 -0.9
TTA pmax pmax
comp=Z,34nm,1.8s
CNPM **China Poot** 78.88 26 P **P** 22 01 54.2 -0.3
M19K **Big River Lodg** 78.89 23 P **P** 22 01 55.6 +1.1
M19K **Big River Lodg** 78.89 23 P **P** 22 01 55.7 +1.2
baz=235
G17K **Kiwalik Mounta** 78.93 18 P **P** 22 01 56.1 +1.5
baz=229
J18K **Innoko River** 78.95 21 P **P** 22 01 55.5 +0.8
J18K **Innoko River** 78.95 21 P **P** 22 01 57.1 +2.3
baz=233
BRLK **Bradley Lake** 79.16 26 P **P** 22 01 55.9 -0.2
BRLK IAmb IAmb 22 01 56.0
comp=Z,33nm,1.4s
F17K **Baldwin Pennin** 79.37 17 P **P** 22 01 58.0 +1.0
F17K **Baldwin Pennin** 79.37 17 P **P** 22 01 58.6 +1.6
baz=228
M20K **Styx River** 79.37 23 P **P** 22 01 57.7 +0.5
M20K **Styx River** 79.37 23 P **P** 22 02 00.4 +3.2
baz=236
L20K **Farewell, AK** 79.42 23 P **P** 22 02 00.8 +3.4
baz=235
H18K **Honhosa River** 79.44 19 P **P** 22 02 00.5 +3.0
baz=231
E17K **Hotham Inlet** 79.64 17 P **P** 22 02 00.0 +1.6
baz=227
J19K **Poorman** 79.66 21 P **P** 22 02 02.0 +3.4
baz=234
G18K **Tagagawik** 79.81 19 P **P** 22 01 59.8 +0.3
G18K IAmb IAmb 22 04 50.6
comp=Z,52nm,2.0s
G18K **Tagagawik** 79.81 19 P **P** 22 02 01.8 +2.3
baz=230
K20K **Telida** 79.85 22 P **P** 22 02 00.7 +1.0
K20K **Telida** 79.85 22 P **P** 22 02 02.5 +2.9
baz=235
SUA **Susitna One** 80.11 24 P **P** 22 02 00.4 -0.8
SUA **Susitna One** 80.11 24 P **P** 22 02 02.3 +1.1
baz=238
MK31 **Makanchi Array** 80.13 319 P **P** 22 02 00.7 -0.9
MK31 IAmb IAmb 22 04 32.7
comp=Z,40nm,1.9s
MK31 **Makanchi Array** 80.13 319 *i* P **P** 22 02 01.1 -0.5
MKAR **Makanchi Array** 80.13 319 P **P** 22 02 01.2 -0.4
MKAR **Makanchi Array** 80.13 319 P **P** 22 02 01.2 -0.4
MKAR **Makanchi Array** 80.13 319 P **P** 22 02 00.7 -0.9
comp=Z,1.9nm,0.5s,baz=99,slow=7.7,SNR=40
comp=Z,1.9nm,0.5s
E18K **Tukpahlearik C** 80.22 17 P **P** 22 02 01.3 -0.3
E18K IAmb IAmb 22 04 54.8
comp=Z,23nm,1.6s
E18K **Tukpahlearik C** 80.22 17 P **P** 22 02 03.1 +1.6
baz=228
C17K **DeLong Mountai** 80.23 15 P **P** 22 02 03.0 +1.4
baz=226
J20K **Nowinta River** 80.29 21 P **P** 22 02 02.5 +0.5
H19K **Roundabout Mou** 80.30 19 P **P** 22 02 01.8 -0.3
H19K IAmb IAmb 22 04 55.9
comp=Z,55nm,1.9s
H19K **Roundabout Mou** 80.30 19 P **P** 22 02 05.7 +3.7
baz=233
MAKZ **Makanchi** 80.34 319 P **P** 22 02 01.6 -1.1
MAKZ IAmb IAmb 22 04 32.3
comp=Z,24nm,1.5s
MAKZ **Makanchi** 80.34 319 P **P** 22 02 01.6 -1.1
MAKZ pmax pmax
comp=Z,24nm,1.5s
G19K **Purcell Mounta** 80.47 19 P **P** 22 02 03.5 +0.5
G19K IAmb IAmb 22 04 50.4
comp=Z,40nm,1.6s
G19K **Purcell Mounta** 80.47 19 P **P** 22 02 04.4 +1.4
baz=232
CAST **Castle Rocks** 80.63 22 P **P** 22 02 04.8 +0.9
CAST IAmb IAmb 22 04 59.1
comp=Z,41nm,1.9s
CAST **Castle Rocks** 80.63 22 P **P** 22 02 06.4 +2.5
baz=237
F19K **Shaleruckik Mo** 80.68 18 P **P** 22 02 04.0 -0.1
F19K **Shaleruckik Mo** 80.68 18 P **P** 22 02 05.2 +1.1
baz=231
KNK **Knik Glacier** 81.03 25 P **P** 22 02 09.0 +3.0
baz=241
ZAA0 **Zalesovo Array** 81.13 327 IAmb IAmb 22 04 36.5
comp=Z,60nm,2.0s
ZALV **Zalesovo Beam** 81.13 327 P **P** 22 02 04.9 -1.9
comp=Z,4.9nm,0.4s,baz=114,slow=6.5,SNR=27
comp=Z,4.9nm,0.4s
E19K **Redstone River** 81.24 18 P **P** 22 02 08.4 +1.3
baz=232
SML **Sawmill** 81.28 25 P **P** 22 02 08.9 +1.5
SML IAmb IAmb 22 02 11.5
comp=Z,12nm,0.6s
SML **Sawmill** 81.28 25 P **P** 22 02 10.3 +2.9
baz=241
F20K **Avaraart Lake** 81.45 18 P **P** 22 02 09.6 +1.4
F20K **Avaraart Lake** 81.45 18 P **P** 22 02 09.6 +1.4
baz=233
PRZ **Przheval'sk** 81.50 314 P **P** 22 02 08.2 -1.0
PRZ IAmb IAmb 22 02 21.6
comp=Z,16nm,0.9s
PRZ **Przheval'sk** 81.50 314 P **P** 22 02 08.3 -1.0
PRZ pmax pmax
comp=Z,16nm,0.9s
C19K **Lookout Ridge** 81.62 16 P **P** 22 02 09.4 +0.3
C19K IAmb IAmb 22 04 55.0
comp=Z,43nm,1.8s
C19K **Lookout Ridge** 81.62 16 P **P** 22 02 10.5 +1.4
baz=229
D19K **Kuna River** 81.64 17 P **P** 22 02 08.8 -0.3
D19K **Kuna River** 81.64 17 P **P** 22 02 09.6 +0.4
baz=231
WAT1 **Susitna Watana** 81.69 24 P **P** 22 02 11.0 +1.5
baz=240
TARG **Taragay, Kyrgy** 81.73 313 P **P** 22 02 08.9 -1.9
TARG **Taragay, Kyrgy** 81.73 313 P **P** 22 02 08.9 -1.9
TARG pmax pmax
comp=Z,5.0nm,0.9s
G21K **Allakaket** 81.86 19 P **P** 22 02 10.7 +0.4
G21K IAmb IAmb 22 04 49.8
comp=Z,38nm,1.9s
RND **Reindeer** 81.86 23 P **P** 22 02 10.0 -0.5
RND **Reindeer** 81.86 23 P **P** 22 02 10.0 -0.5
RND pmax pmax
comp=Z,85nm,1.8s
A19K **Wainwright** 81.97 15 P **P** 22 02 11.9 +1.1
baz=228
MLY **Manley** 81.99 21 P **P** 22 02 10.6 -0.5
MLY IAmb IAmb 22 04 50.8
comp=Z,52nm,2.0s
MLY **Manley** 81.99 21 P **P** 22 02 11.7 +0.6
baz=238
E20K **Nigu River** 82.05 17 P **P** 22 02 12.5 +1.2
baz=232
KLU **Klutina** 82.14 25 P **P** 22 02 12.5 +0.5
DHY **Denali Highway** 82.28 24 P **P** 22 02 13.9 +1.1
DHY IAmb IAmb 22 04 48.3
comp=Z,27nm,1.6s
M24K **Tolsona, Glenn** 82.32 25 P **P** 22 02 14.5 +1.6
baz=243
NEA2 **Nenana** 82.38 22 P **P** 22 02 12.8 -0.3
NEA2 IAmb IAmb 22 04 50.5
comp=Z,21nm,1.4s
CRQM **Cirque** 83.04 27 P **P** 22 02 17.8 +0.9
CRQM IAmb IAmb 22 02 41.2
comp=Z,10nm,0.7s
VRDI **Verde Repeater** 83.10 26 P **P** 22 02 17.2 +0.1
VRDI IAmb IAmb 22 05 00.8
comp=Z,40nm,1.7s
G23K **Bananza Creek** 83.13 20 P **P** 22 02 18.0 +1.1
baz=238
IL31 83.28 22 P **P** 22 02 17.6 -0.1
IL31 IAmb IAmb 22 04 52.8
comp=Z,43nm,1.8s
ILAR **Eielson Array** 83.28 22 P **P** 22 02 17.6 -0.2
ILAR **Eielson Array** 83.28 22 P **P** 22 02 17.6 -0.2
ILAR **Eielson Array** 83.28 22 P **P** 22 02 15.2 -2.5
comp=Z,1.6nm,0.7s,baz=255,slow=4.7,SNR=14
comp=Z,1.6nm,0.7s
E22K **Anaktuvuk Pass** 83.31 18 P **P** 22 02 18.6 +0.7
E22K IAmb IAmb 22 05 06.2
comp=Z,36nm,1.9s
H24K **Noodor Dome** 83.43 21 P **P** 22 02 18.3 -0.3
baz=241
NIL **Nilore** 83.44 305 P **P** 22 02 18.7 -0.6
NIL IAmb IAmb 22 02 30.3
comp=Z,18nm,0.8s
NIL **Nilore** 83.44 305 P **P** 22 02 18.7 -0.6
NIL pmax pmax
comp=Z,18nm,0.8s
D22K **Ayikyak River** 83.46 18 P **P** 22 02 19.3 +0.7
D22K IAmb IAmb 22 04 54.8
comp=Z,15nm,1.4s
KURK **Kurchatov** 83.64 322 P **P** 22 02 18.4 -1.5
KURK **Kurchatov** 83.64 322 *i* P **P** 22 02 18.3 -1.6
KURK pmax pmax
comp=Z,8.0nm,1.1s
KURBB **Kurchatov Arra** 83.67 322 P **P** 22 02 18.6 -1.4
comp=Z,2.8nm,0.8s,baz=113,slow=4.0,SNR=14
comp=Z,2.8nm,0.8s
J25K **Salcha River,** 83.79 23 P **P** 22 02 20.0 -0.5
J25K IAmb IAmb 22 02 32.4
comp=Z,8.4nm,0.6s
BARN **Barnard Glacie** 83.82 27 P **P** 22 02 21.5 +0.6
CTG **Chitna Glacier** 83.93 27 P **P** 22 02 21.9 +0.5
baz=247
CTGM **Chitina Glacie** 83.93 27 P **P** 22 02 20.8 -0.6
CTGM IAmb IAmb 22 02 44.5
comp=Z,8.5nm,0.8s
KBK **Karagaybulak** 84.02 314 P **P** 22 02 22.1 -0.2
SNR=5.2
SCRK **Sand Creek** 84.05 24 P **P** 22 02 22.4 +0.5
baz=244

D23K	Nanushuk River	84.11	18	P		P		22 02 23.4	+1.5	
	baz=238									
UCH	Uchtor	84.23	313	P		P		22 02 24.4	+0.7	
	SNR=8.7									
CHMS	Chumysh	84.24	314	P		P		22 02 23.1	-0.1	
	SNR=5.0									
M27K	Edge Creek, AK	84.24	25	P		P		22 02 22.6	-0.3	
M27K				IAmb		IAmb		22 02 37.2		
	comp=Z,10nm,0.8s									
F24K	Squaw Lake	84.26	20	P		P		22 02 23.0	+0.3	
F24K	Squaw Lake	84.26	20	P		P		22 02 24.2	+1.4	
	baz=240									
AAK	Ala-Archa	84.34	314	P		P		22 02 23.7	-0.1	
	SNR=5.8									
AAK	Ala-Archa	84.34	314	P		P		22 02 22.9	-1.0	
AAK				IAmb		IAmb		22 02 35.6		
	comp=Z,8.5nm,0.8s									
AAK	Ala-Archa	84.34	314	*ce*P		P		22 02 24.0	+0.1	
AAK				pmax		pmax				
	comp=Z,14nm,0.8s									
QSPA	South Pole Qui	84.42	180	P		P		22 02 24.0	+0.3	
	comp=Z,19nm,0.9s,baz=355,slow=2.7,SNR=42									
	comp=Z,19nm,0.9s									
MAW	Mawson	84.44	203	P		P		22 02 22.9	-0.7	
	comp=Z,4.8nm,0.9s,baz=53,slow=5.1,SNR=3.8									
	comp=Z,4.8nm,0.9s									
USP	Ospenovka	84.47	314	P		P		22 02 24.2	-0.2	
	SNR=9.7									
C23K	Itkillik River	84.60	17	P		P		22 02 25.6	+1.3	
	baz=238									
K27K	Chicken	84.83	24	P		P		22 02 26.7	+1.0	
K27K				IAmb		IAmb		22 04 51.0		
	comp=Z,17nm,1.4s									
EKS2	Erkin-Say	84.86	314	P		P		22 02 26.5	0.0	
	SNR=11									
C24K	Franklin Bluff	85.11	18	P		P		22 02 28.0	+1.1	
	baz=240									
ARSB	Arslanbob	85.16	312	P		P		22 02 27.6	-0.4	
ARSB				IAmb		IAmb		22 04 26.2		
	comp=Z,29nm,2.0s									
ARSB	Arslanbob	85.16	312	P		P		22 02 27.7	-0.4	
ARSB				pmax		pmax				
	comp=Z,29nm,2.0s									
EGAK	Eagle	85.50	23	P		P		22 02 29.4	+0.5	
HYT	Haines Junctio	85.63	28	P		P		22 02 30.3	+0.5	
HYT	Haines Junctio	85.63	28	P		P		22 02 32.7	+2.8	
	baz=250									
H27K	Steamboat Moun	85.93	22	P		P		22 02 33.8	+2.6	
	baz=246									
DAWY	Dawson	85.94	24	P		P		22 02 31.2	0.0	
DAWY				IAmb		IAmb		22 02 55.8		
	comp=Z,18nm,1.6s									
DAWY	Dawson	85.94	24	P		P		22 02 34.2	+2.9	
	baz=249									
G27K	Doyon Strip	86.11	21	P		P		22 02 32.5	+0.4	
G27K				IAmb		IAmb		22 04 49.6		
	comp=Z,23nm,1.8s									
G27K	Doyon Strip	86.11	21	P		P		22 02 33.3	+1.3	
	baz=246									
I28M	Miner Creek	86.23	23	P		P		22 02 33.0	+0.2	
I28M	Miner Creek	86.23	23	P		P		22 02 33.6	+0.8	
	baz=248									
NRIK	Noril'sk	86.29	341	*i* P		P		22 02 33.0	+0.2	
NRIK				pmax		pmax				
	comp=Z,4.0nm,0.9s									
NRIK	Noril'sk	86.29	341	P		P		22 02 33.4	+0.5	
	comp=Z,4.0nm,0.8s,baz=127,slow=4.1,SNR=6.2									
	comp=Z,4.0nm,0.8s									
M30M	Minto, Yukon	86.52	26	P		P		22 02 35.7	+1.6	
	baz=251									
N31M	Braeburn, Yuko	86.63	27	P		P		22 02 35.9	+1.2	
K29M	Barlow Dome	86.63	25	P		P		22 02 34.2	-0.6	
K29M				IAmb		IAmb		22 02 58.8		
	comp=Z,9.1nm,0.8s									
K29M	Barlow Dome	86.63	25	P		P		22 02 35.7	+1.0	
	baz=250									
E27K	Coleen River	86.69	20	P		P		22 02 34.9	0.0	
E27K				IAmb		IAmb		22 02 39.8		
	comp=Z,5.0nm,0.6s									
E27K	Coleen River	86.69	20	P		P		22 02 35.6	+0.7	
	baz=246									
F28M	Old Crow	87.07	21	P		P		22 02 36.5	-0.2	
F28M				IAmb		IAmb		22 04 48.6		
	comp=Z,34nm,2.0s									
KKAR	Karatay Array	87.30	314	P		P		22 02 37.4	-1.0	
KKAR	Karatay Array	87.30	314	P		P		22 02 37.4	-1.0	
KKAR				pmax		pmax				
	comp=Z,4.0nm,0.9s									
J30M	Hart River	87.36	24	P		P		22 02 38.0	-0.3	
J30M				IAmb		IAmb		22 02 53.2		
	comp=Z,7.3nm,0.8s									
J30M	Hart River	87.36	24	P		P		22 02 39.2	+0.9	
	baz=251									
G29M	Pine Creek	87.49	22	P		P		22 02 40.3	+1.6	
G29M	Pine Creek	87.49	22	P		P		22 02 40.8	+2.1	
	baz=250									
I30M	Mount Dempster	87.55	24	P		P		22 02 40.7	+1.5	
	baz=251									
E28M	Babbage River	87.56	20	P		P		22 02 39.3	+0.3	
E28M				IAmb		IAmb		22 03 33.2		
	comp=Z,23nm,1.8s									
H31M	Peel River	88.54	23	P		P		22 02 44.1	+0.3	
H31M				IAmb		IAmb		22 05 58.3		
	comp=Z,34nm,1.9s									
H31M	Peel River	88.54	23	P		P		22 02 43.5	-0.2	
	baz=253									
G31M	Satah River	88.89	22	P		P		22 02 46.4	+1.1	
G31M	Satah River	88.89	22	P		P		22 02 45.9	+0.6	
	baz=253									
BVAR	Borovoye Array	89.14	323	P		P		22 02 44.9	-1.9	
	comp=Z,2.5nm,0.6s,baz=114,slow=7.2,SNR=9.3									
	comp=Z,2.5nm,0.6s									
KMPM	Mount Pierce	89.18	49	P		P		22 02 46.2	-1.2	
BRVK	Borovoye	89.21	323	*i* P		P		22 02 47.1	0.0	
BRVK				pmax		pmax				
	comp=Z,10.0nm,1.6s									
HUMO	Hull Mountain	90.34	47	P		P		22 02 52.2	-0.5	
HUMO				IAmb		IAmb		22 02 55.1		
	comp=Z,12nm,0.9s									
L04D	Klamath Falls	90.77	48	P		P		22 02 54.4	-0.4	
H04A	Detroit Lake	91.14	45	P		P		22 02 56.3	-0.1	
H04A				IAmb		IAmb		22 02 57.3		
	comp=Z,12nm,1.2s									
AFDM	Forest Hills D	91.42	51	P		P		22 02 57.4	-0.4	
AFDM				IAmb		IAmb		22 03 00.1		
	comp=Z,4.5nm,0.8s									
J05D	Fort Rock, OR	91.67	47	P		P		22 02 59.0	0.0	
I05D	Terrebonne, OR	91.70	46	P		P		22 02 58.8	-0.3	
I05D				IAmb		IAmb		22 03 01.0		
	comp=Z,9.8nm,0.9s									
CMB	Columbia Colle	91.78	52	P		P		22 02 58.9	-0.7	
CMB				IAmb		IAmb		22 04 30.8		
	comp=Z,24nm,1.9s									
CMB	Columbia Colle	91.78	52	P		P		22 02 58.9	-0.7	
CMB				pmax		pmax				
	comp=Z,24nm,2.0s									
K05A	Summer Lake	91.86	47	P		P		22 02 58.2	-1.7	
PINE	Pine Mountain	91.93	46	P		P		22 02 59.8	-0.6	
EMB	Emerald Bay	92.09	51	P		P		22 02 59.8	-1.4	
EMB				IAmb		IAmb		22 03 02.9		
	comp=Z,14nm,1.3s									
MPK	Martis Peak	92.18	51	P		P		22 02 59.7	-1.9	
PNTR	Pine Nut	92.50	51	P		P		22 03 03.2	+0.1	
PNTR				IAmb		IAmb		22 03 05.5		
	comp=Z,14nm,1.2s									
PAHR	Pah Rah Range	92.72	51	P		P		22 03 04.2	+0.2	
PAHR				IAmb		IAmb		22 04 32.2		
	comp=Z,20nm,1.7s									
YERR	Yerington	92.77	51	P		P		22 03 04.1	-0.1	
YERR				IAmb		IAmb		22 03 05.9		
	comp=Z,6.1nm,1.0s									
MDPB	Devils Postpil	92.78	53	P		P		22 03 04.2	-0.2	
MDPB				IAmb		IAmb		22 03 06.7		
	comp=Z,5.9nm,1.0s									
I07A	Izee	92.99	46	P		P		22 03 04.8	-0.3	
I07A				IAmb		IAmb		22 03 06.6		
	comp=Z,12nm,1.2s									
A36M	Sachs Harbour	93.10	18	P		P		22 03 05.7	+0.9	
A36M	Sachs Harbour	93.10	18	P		P		22 03 07.5	+2.7	
	baz=262									
LHV	Little Huntoon	93.28	52	P		P		22 03 05.9	-0.4	
LHV				IAmb		IAmb		22 03 27.1		
	comp=Z,12nm,1.0s									
RYN	Ryan	93.30	52	P		P		22 03 05.2	-1.5	
RYN				IAmb		IAmb		22 04 14.6		
	comp=Z,9.0nm,1.2s									
PNT	Penticton	93.34	41	P		P		22 03 03.2	-3.2	
PNT				pmax		pmax				
	comp=Z,14nm,1.2s									
EDW2	Edwards Air Fo	93.43	55	P		P		22 03 08.3	+1.0	
	baz=266									
NVAR	Mina Array Bea	93.45	52	P		P		22 03 07.9	+0.4	
NVAR	Mina Array Bea	93.45	52	P		P		22 03 07.2	-0.3	
	comp=Z,3.5nm,0.7s,baz=256,slow=7.3,SNR=22									
	comp=Z,3.5nm,0.7s									
G08A	Pilot Rock	93.48	45	P		P		22 03 07.0	-0.3	
CWC	Cottonwood Cre	93.48	54	P		P		22 03 08.2	+0.6	
	baz=266									
WVOR	Wild Horse Val	93.50	48	P		P		22 03 06.7	-0.8	
WVOR				IAmb		IAmb		22 03 09.6		
	comp=Z,12nm,1.4s									
WVOR	Wild Horse Val	93.50	48	P		P		22 03 06.7	-0.8	
WVOR				pmax		pmax				
	comp=Z,12nm,1.4s									
NV11	Mina Array Sit	93.57	52	P		P		22 03 07.1	-0.8	
NV11				IAmb		IAmb		22 03 09.3		
	comp=Z,14nm,1.2s									
DSP	Deep Springs	93.64	53	P		P		22 03 08.8	+0.8	
DSP				IAmb		IAmb		22 03 10.2		
	comp=Z,9.3nm,1.1s									
KVN	Kaiserville	93.66	51	P		P		22 03 08.8	+0.4	
KVN				IAmb		IAmb		22 03 10.5		
	comp=Z,8.9nm,1.2s									
KVN	Kaiserville	93.66	51	P		P		22 03 08.8	+0.4	
KVN				pmax		pmax				
	comp=Z,9.0nm,1.2s									
BFSC	Mount Baldy Ra	93.66	56	P		P		22 03 10.5	+2.0	
	baz=266									
J08A	Circle Bar Ran	93.68	47	P		P		22 03 08.5	+0.2	
LRMC	Laurel Mtn Rad	93.73	55	P		P		22 03 10.2	+1.4	
	baz=266									
MPMC	Manual Prospec	93.93	54	P		P		22 03 10.7	+1.0	
	baz=266									
MZP	Montezuma Peak	94.12	53	P		P		22 03 10.1	-0.6	
MZP				IAmb		IAmb		22 05 06.1		
	comp=Z,6.1nm,0.6s									
TPH	Tonopah	94.28	52	P		P		22 03 09.9	-1.3	
TPH	Tonopah	94.28	52	P		P		22 03 10.0	-1.3	
TPH				pmax		pmax				
	comp=Z,22nm,0.9s									
QSM	Queen of Sheba	94.42	54	P		P		22 03 11.6	-0.2	
QSM				IAmb		IAmb		22 03 13.5		
	comp=Z,11nm,1.2s									
GWY	Greenwater Val	94.60	54	P		P		22 03 13.0	+0.3	
GWY				IAmb		IAmb		22 04 27.4		
	comp=Z,10nm,1.2s									
MONP2	Monument Peak	94.60	58	P		P		22 03 14.8	+1.9	
	baz=266									
PFO	Pinyon Flats O	94.61	57	*ce*P		P		22 03 13.1	+0.3	
BMO	Blue Mountains	94.62	46	P		P		22 03 11.9	-0.6	
BMO				IAmb		IAmb		22 03 25.6		
	comp=Z,4.6nm,0.9s									
BMO	Blue Mountains	94.62	46	P		P		22 03 11.9	-0.6	
BMO				pmax		pmax				
	comp=Z,5.0nm,0.9s									
TPFO	Pinon Flats	94.62	57	P		P		22 03 14.7	+1.9	
	baz=266									
WCT	Wildcat Mounta	94.67	54	P		P		22 03 13.1	+0.2	
WCT				IAmb		IAmb		22 03 14.7		
	comp=Z,15nm,1.2s									
SHOC	Shoshone, Teco	94.90	55	P		P		22 03 15.5	+1.6	
	baz=267									
BRLDA	Berland Lookou	95.01	36	P		P		22 03 13.9	-0.2	
BELC	Belle Mtn. Jos	95.02	56	P		P		22 03 16.6	+1.9	
	baz=267									
GMRC	Granite Mounta	95.34	56	P		P		22 03 18.1	+1.9	
	baz=267									
BC3	Big Chickawall	95.45	57	P		P		22 03 18.0	+1.4	
	baz=267									
R11B	Troy Canyon, C	95.58	52	P		P		22 03 16.8	-0.4	
R11B	Troy Canyon, C	95.58	52	P		P		22 03 18.4	+1.2	
	baz=267									
IRM	Iron Mountain	95.74	56	P		P		22 03 19.8	+2.0	
	baz=267									
ELIB	Princess Elisa	95.80	194	*d*P		P		22 03 16.8	-0.7	
	comp=Z,4.1nm,1.2s									
SHPR	Sheep Range	95.83	54	P		P		22 03 17.8	-0.6	
V12A	Nelson	96.05	55	P		P		22 03 17.8	-1.5	
V12A				IAmb		IAmb		22 03 54.0		
	comp=Z,9.3nm,1.4s									
SPR3	Spring Creek 3	96.58	51	P		P		22 03 21.2	-0.7	
SPR3				IAmb		IAmb		22 03 23.6		
	comp=Z,10nm,1.2s									
YKA	Yellowknife Ar	96.62	28	P		P		22 03 21.7	+0.6	
	comp=Z,0.6nm,0.7s,baz=274,slow=4.7,SNR=6.2									
	comp=Z,0.6nm,0.7s									
HVU	Hansel Valley	97.83	49	P		P		22 03 27.7	+0.5	
HVU	Hansel Valley	97.83	49	P		P		22 03 27.7	+0.5	
HVU				pmax		pmax				
	comp=Z,25nm,1.9s									
H17A	Grant Village	99.42	46	P		Pdif		22 03 36.6	+2.2	
	baz=272									
PDAR	Pinedale Array	100.20	48	P		Pdif		22 03 36.9	-1.1	
	comp=Z,0.7nm,0.4s,baz=202,slow=1.9,SNR=6.1									
ARCES	ARCESS Array B	107.23	343	PKiKP		PKiKP		22 08 15.6	-1.4	
	comp=Z,5.5nm,1.1s,baz=90,slow=1.8,SNR=8.9									
FINES	FINESS Array B	111.25	335	PKiKP		PKiKP		22 08 23.3	-1.3	
	comp=Z,0.5nm,0.4s,baz=93,slow=4.7,SNR=7.7									
AKASG	Malin Array Be	114.42	324	PKP		PKPdf		22 08 29.9	-1.2	
	comp=Z,0.7nm,0.3s,baz=57,slow=2.2,SNR=6.0									
NB2	NORSAR Subarra	117.21	340	PKPdf		PKPdf		22 08 34.5	-1.7	
	comp=Z,0.4nm,0.6s,baz=44,slow=1.9									
NOA	NORSAR Array B	117.21	340	PKP		PKPdf		22 08 35.1	-1.1	
	comp=Z,0.7nm,0.7s,baz=45,slow=1.9,SNR=2.3									
PLCA	Paso Flores	119.87	144	PKP		PKPdf		22 08 42.2	+0.2	
	comp=Z,1.2nm,0.8s,baz=278,slow=4.9,SNR=6.7									
LANS	Liptovska Anna	120.74	326	*e*PKiKP		PKiKP		22 08 44.1	+0.6	
LANS	Liptovska Anna	120.74	326	*e*PKP		PKiKP		22 08 44.1	+0.6	
VYHS	Vyhne	121.44	325	*e*PKiKP		PKPdf		22 08 44.6	-0.1	
VYHS	Vyhne	121.44	325	*e*PKP		PKPdf		22 08 44.6	-0.1	
MORC	Moravsky Berou	121.48	327	*e*PKP		PKPdf		22 08 44.8	+0.1	
KRLC	Kraliky	121.72	328	*e*PKPDF		PKPdf		22 08 45.2	0.0	
KRLC	Kraliky	121.72	328	*e*PKiKP		PKPdf		22 08 45.2	0.0	
CHVC	Chvalec	121.81	328	*e*PKPDF		PKiKP		22 08 45.8	+0.3	
CHVC	Chvalec	121.81	328	*e*PKiKP		PKiKP		22 08 45.8	+0.3	
SCHQ	Schefferville	121.95	25	PKP		PKPdf		22 08 45.4	-0.1	
	comp=Z,0.5nm,0.4s,baz=40,slow=7.7,SNR=1.5									
MODS	Modra-Piesok	122.38	326	*e*PKiKP		PKiKP		22 08 47.2	+0.5	
MODS	Modra-Piesok	122.38	326	*e*PKP		PKiKP		22 08 47.2	+0.5	
KRUC	Moravsky	122.50	327	*e*PKP		PKPdf		22 08 45.9	-0.8	
CLL	Collm	122.93	330	*e*PKiKP		PKPdf		22 08 46.0	-1.4	
CLL				pmax		pmax				
	comp=Z,4.0nm,0.6s									
CLL	Collm	122.93	330	*e*PKPdf		PKPdf		22 08 47.0	-0.4	
	comp=Z,4.0nm,0.6s									
RONA	Rosalia, Austr	123.30	325	*e*PKP		PKPdf		22 08 48.4	+0.1	
	comp=Z,0.3nm,0.2s									
CONA	Conrad Observa	123.42	326	*e*PKiKP		PKiKP		22 08 49.2	+0.3	
	comp=Z,0.6nm,0.3s									
FNA	Florina	123.43	316	PKPdf		PKPdf		22 08 48.2	-0.6	
FNA	Florina	123.43	316	PKiKP		PKPdf		22 08 48.2	-0.6	
CKRC	Cesky Krumlov	123.76	327	*e*PKPDF		PKPdf		22 08 49.2	+0.1	
CKRC	Cesky Krumlov	123.76	327	*e*PKiKP		PKPdf		22 08 49.2	+0.1	
KHC	Kasperske Hory	123.97	328	*e*PKPDF		PKPdf		22 08 49.0	-0.5	
KHC	Kasperske Hory	123.97	328	*e*PKiKP		PKPdf		22 08 49.0	-0.5	
GERES	GERESS Array B	124.07	328	PKP		PKPdf		22 08 49.5	-0.3	
	comp=Z,1.7nm,0.5s,baz=47,slow=3.3,SNR=18									
KBA	Koelnbreinsper	125.31	326	*e*PKP		PKPdf		22 08 51.4	-1.0	
	comp=Z,1.2nm,0.7s									
LESA	Schwarzleotal	125.47	327	*e*PKP		PKPdf		22 08 51.8	-0.7	
	comp=Z,1.7nm,0.4s									
ABTA	Abfaltersbach	125.96	326	*e*PKP		PKPdf		22 08 52.4	-1.2	
	comp=Z,2.1nm,0.7s									
WATA	Walderalm	126.12	327	*e*PKP		PKPdf		22 08 54.0	+0.2	
	comp=Z,1.3nm,0.4s									
WTTA	Wattenberg	126.13	327	*e*PKP		PKPdf		22 08 53.6	-0.3	
	comp=Z,3.1nm,0.4s									
MOTA	Moosalm	126.37	328	*i* PKP		PKPdf		22 08 53.7	-0.6	
	comp=Z,2.8nm,0.4s									
SQTA	Sankt Quirin	126.39	327	*e*PKP		PKPdf		22 08 54.0	-0.3	
	comp=Z,1.1nm,0.3s									
EKA	Eskdalemuir Ar	126.40	342	PKP		PKPdf		22 08 53.6	-0.3	
	comp=Z,1.1nm,0.4s,baz=15,slow=2.6,SNR=11									
FETA	Feichten	126.77	327	*e*PKP		PKPdf		22 08 55.2	0.0	
	comp=Z,1.4nm,0.5s									
DAVA	Damuels	127.05	328	*e*PKP		PKPdf		22 08 55.6	-0.1	
	comp=Z,1.7nm,0.3s									
TUE	Stuetta	127.85	328			PKPdf		22 08 57.3	0.0	
KEST	Kesra	134.15	316	PKP		PKPdf		22 09 08.1	-1.2	
	comp=Z,3.6nm,0.8s,baz=139,slow=2.2,SNR=6.5									
LPAZ	La Paz	135.07	120	PKP		PKiKP		22 09 13.5	-0.2	
	comp=Z,1.7nm,0.7s,baz=205,slow=1.9,SNR=7.5									
CPUP	Villa Florida	137.66	140	PKP		PKPdf		22 09 16.4	+0.3	
	comp=Z,2.4nm,0.8s,baz=263,slow=1.7,SNR=5.0									
SDV	Santo Domingo	137.95	83	PKPdf		PKPdf		22 09 17.0	-0.1	
PTLB	Pontes e Lacer	143.06	125			PKPbc		22 09 24.1	+1.1	
PTLB				pPKPdf		PKiKP		22 09 35.0	+5.7	
BOAV	Boa Vista	147.77	94			PKPbc		22 09 37.8	+0.6	
TOA0	Torodi Ar. Sit	149.42	286	PKPdf		PKPdf		22 09 36.6	-0.3	
TOA0				PKPbc		PKPbc		22 09 41.3	0.0	
TORD	Torodi Ar. Bea	149.42	286	PKPdf		PKPdf		22 09 36.6	-0.3	
TORD	Torodi Ar. Bea	149.42	286	PKP		PKPdf		22 09 36.1	-0.8	
	comp=Z,11nm,0.7s,baz=116,slow=3.4,SNR=50									
TORD				PKPbc		PKPbc		22 09 40.8	-0.5	
	comp=Z,7.9nm,0.5s,baz=103,slow=3.3,SNR=28									
TORD				PKPab		PKPab		22 09 46.6	+0.4	
	comp=Z,9.8nm,0.8s,baz=59,slow=4.1,SNR=6.1									
BDFB	Brasilia	151.33	138	PKPbc		PKPbc		22 09 46.2	+0.2	
	comp=Z,11nm,0.7s,baz=245,slow=1.5,SNR=14									

NAO ***29*** *22:02:33.5±7.8, 79°.77N×3°.40E, ML2.9*
BER ***29*** *22:02:37.3±2.9, 79°.56N×3°.37E, h10km, mb(Pn)3.4, ML2.9(NAO), Confirmed Earthquake*
DNK ***29*** *22:02:38.3±0.7, 79°.54N×2°.50E, h15km, ML1.8*
FCIAR ***29*** *22:02:39.0, 79°.51N×4°.25E, h10km, station ZFI2 has station magnitude of 3.50 station OMEGA has station magnitude of 3.30*
KOLA ***29*** *22:02:41.3, 79°.79N×7°.02E, h0km, ML1.9, Error ellipse: s-maj=70.9km s-min=23.7km az=60.0, Greenland sea*

ISC 29 22:02:33.3±1.7, 79°.63N±0°.06×3°.63E±0°.04, h15km±12km, n33, σ2s67/61, 2C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBS	Kingsbay	1.71	110	P		Pg	22 03 04.8	-1.2
KBS				S		Sn	22 03 23.6	-0.4
KBS	Kingsbay	1.71	110	*e*P		Pg	22 03 05.1	-0.9
KBS				*e*S		Sn	22 03 24.2	+0.3
KBS				IAML			22 03 34.6	
	comp=Z,17nm,0.2s							
KBS	Kingsbay	1.71	110	Pn		Pg	22 03 05.3	-0.7
KBS	Kingsbay	1.71	110	⇑*i*P		Pg	22 03 05.2	-0.9
KBS	Kingsbay	1.71	110	*e*P		Pb	22 03 04.5	+0.2
KBS				*e*S		Sn	22 03 24.3	+0.4
BRBB	Barentsburg B	2.57	122	P		Pb	22 03 18.1	-0.8
BRBB				S		Sn	22 03 47.0	+2.0
BRBB	Barentsburg B	2.57	122	*e*P		Pb	22 03 18.3	-0.6
BRBB				*e*S		Sn	22 03 46.1	+1.0
BRBB	Barentsburg B	2.57	122	Pn		Pb	22 03 18.4	-0.6
BRBB				Sn		Sb	22 03 48.7	-1.5
BRBA	Barentsburg A	2.59	122	*e*P		Pb	22 03 18.7	-0.7
BRBA				*e*S		Sn	22 03 46.9	+1.2
BRBA				IAML			22 03 52.4	
	comp=Z,11nm,0.2s							
BRBA	Barentsburg A	2.59	122	Pn		Pb	22 03 18.6	-0.7
BRBA				Sn		Sb	22 03 48.6	-2.3
SPA0	Spitsbergen Ar	2.86	114	Pn		Pb	22 03 21.9	-2.1
	baz=314,slow=12							
SPA0				Sn		Sb	22 03 56.6	-2.1
	baz=306,slow=28							
SPA0	Spitsbergen Ar	2.86	114	Pn		Pb	22 03 21.9	-2.1
	baz=314,slow=12							
SPA0				Sn		Sb	22 03 56.6	-2.1
	baz=306,slow=28							
SPA0	Spitsbergen Ar	2.86	114	⇑*i*P		Pb	22 03 21.8	-2.2
SPA0				*i* S		Sn	22 03 53.4	+1.0
SPITS	Spitsbergen Ar	2.86	114	P		Pb	22 03 21.5	-2.4
SPITS				S		Sn	22 03 54.0	+1.7
HSPB	Hornsund (broa	3.58	132	*e*P		Pn	22 03 31.2	+3.1
HSPB				*e*S		Sn	22 04 09.0	-0.9
HSPB				IAML			22 04 11.4	
	comp=Z,7.3nm,0.3s							
HSPB	Hornsund (broa	3.58	132	Pn		Pn	22 03 31.3	+3.3
HSPB				Sn		Sn	22 04 09.1	-0.9
NOR	Nord	3.85	310	*i* P		Pn	22 03 35.0	+3.3
NOR				IAML			22 04 16.1	
	comp=Z,0.8nm,0.3s							
NOR	Nord	3.85	310	*i* P		Pn	22 03 35.0	+3.3
NOR				IAML			22 04

WR0	**Warramunga Arr**	**21.90**	**228**	P	**P**	**22 09 08.6**	**-1.0**
WRAB	**Tennant Creek**	**22.03**	**228**	P	**P**	**22 09 10.6**	**-0.4**
WRAB				IAmb	IAmb	22 09 48.4	
	comp=Z,5.7nm,1.1s						
WB2	**Warramunga Arr**	**22.03**	**228**	P	**P**	**22 09 10.6**	**-0.4**
WB2				IAmb	IAmb	22 09 13.7	
	comp=Z,8.4nm,1.3s						
WRA	**Warramunga Arr**	**22.04**	**228**	P	**P**	**22 09 10.7**	**-0.4**
	comp=Z,2.7nm,0.4s,baz=53,slow=9.9,SNR=11						
	comp=Z,2.7nm,0.4s						
KNRA	**Kununurra**	**24.59**	**244**	P	**P**	**22 09 36.5**	**+0.4**
KNRA				IAmb	IAmb	22 09 49.4	
	comp=Z,24nm,1.4s						
AS31	**Alice Springs**	**24.77**	**222**	P	**P**	**22 09 38.3**	**+0.6**
ASAR	**Alice Springs**	**24.77**	**222**	P	**P**	**22 09 38.3**	**+0.7**
ASAR	**Alice Springs**	**24.77**	**222**	P	**P**	**22 09 38.0**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=55,slow=9.4,SNR=24						
	comp=Z,1.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**28.27**	**242**	P	**P**	**22 10 08.7**	**-0.5**
FITZ				IAmb	IAmb	22 10 11.9	
	comp=Z,2.9nm,1.4s						
FORT	**Forrest**	**33.42**	**219**	P	**P**	**22 10 53.9**	**-0.6**
JCJ	**Chichijima**	**33.83**	**345**	P	**P**	**22 10 59.0**	**+0.9**
QSPA	**South Pole Qui**	**84.31**	**180**	P	**P**	**22 16 47.7**	**+1.0**
QSPA				IAmb	IAmb	22 16 59.2	
	comp=Z,3.6nm,1.2s						
TORD	**Torodi Ar. Bea**	**149.49**	**286**	PKPbc	**PKPbc**	**22 24 03.1**	**-1.9**
	comp=Z,0.2nm,0.4s,baz=90,slow=1.4,SNR=1.1						

IDC 29 22:11:13.5±4.0, 5.71S×151.44E, h0km, mb3.3/2, mbtmp3.4/2, Error ellipse: s-maj=148.9km s-min=54.6km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.83**	**228**	P	P	22 16 08.3	+0.6
	1.0nm,0.7s,baz=52,slow=9.9,SNR=10						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**24.57**	**222**	P	P	22 16 34.9	-0.5
	0.7nm,0.7s,baz=58,slow=8.8,SNR=6.7						
	0.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**149.28**	**286**	PKPbc	PKPbc	22 31 04.9	-0.4
	0.5nm,0.7s,baz=71,slow=3.3,SNR=2.5						

IDC 29 22:11:43.0±3.8, 5.44S×152.21E, h0km, mb3.6/2, mbtmp3.7/2, Error ellipse: s-maj=164.2km s-min=50.1km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.58**	**229**	P	P	22 16 45.3	0.0
	1.7nm,0.6s,baz=53,slow=10.0,SNR=7.4						
	1.7nm,0.6s						
ASAR	**Alice Springs**	**25.28**	**222**	P	P	22 17 11.0	-0.3
	0.9nm,0.7s,baz=56,slow=9.7,SNR=5.0						
	0.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**149.93**	**287**	PKPbc	PKPbc	22 31 36.3	-0.2
	0.6nm,0.9s,baz=83,slow=1.2,SNR=5.4						

NEIC ***29*** *22:14:50.8±0.3, 5.75S±0.06×151.59E±0.07, h10km±2km, mb4.2/7, Error ellipse: s-maj=14.9km s-min=4.9km az=128.0*

IDC ***29*** *22:14:56.9±4.9, 5.66S×151.58E, h67km±42km, mb3.6/7, mbtmp3.9/8, ML2.1/1, Error ellipse: s-maj=32.2km s-min=28.0km az=74.0*

ISC 29 22:14:55.1±0.7, 5.68S±0.07×151.63E±0.09, h57km, n21, σ1s29/22, mb4.0/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.57**	**20**	Pn	**Pn**	**22 15 19.9**	**-0.9**
RABL				Sn	**Sn**	**22 15 41.0**	**+0.9**
MANU	**Manus Island**	**5.58**	**310**	Pn	**Pn**	**22 16 13.9**	**-1.8**
PMG	**Port Moresby**	**5.77**	**230**		**Pn**	**22 16 15.3**	**-3.0**
PMG	**Port Moresby**	**5.77**	**230**	P	**Pn**	**22 16 19.9**	**+1.7**
	3.4nm,0.3s,baz=12,slow=7.0,SNR=5.7						
	11nm,0.3s						
HNR	**Honiara**	**9.05**	**115**	Pn	**Pn**	**22 17 01.3**	**-1.9**
CTAO	**Charters Tower**	**15.24**	**200**	P	**P**	**22 18 30.2**	**-0.6**
DZM	**Mont Dzumac**	**21.70**	**140**	P	**P**	**22 19 42.8**	**+1.3**
	7.2nm,1.0s,baz=210,slow=16,SNR=1.6						
	7.2nm,1.0s						
WB0	**Warramunga Arr**	**21.84**	**229**	P	**P**	**22 19 43.1**	**0.0**
WB0				IAmb	IAmb	22 19 46.7	
	comp=Z,8.1nm,1.1s						
WR0	**Warramunga Arr**	**21.85**	**228**	P	**P**	**22 19 42.8**	**-0.4**
WR0				IAmb	IAmb	22 20 01.1	
	comp=Z,12nm,0.6s						
WRAB	**Tennant Creek**	**21.98**	**228**	P	**P**	**22 19 44.1**	**-0.4**
WRAB				IAmb	IAmb	22 19 47.8	
	comp=Z,7.8nm,0.9s						
WB2	**Warramunga Arr**	**21.98**	**228**	P	**P**	**22 19 43.6**	**-1.0**
WB2				IAmb	IAmb	22 19 47.5	
	comp=Z,7.6nm,0.6s						
WRA	**Warramunga Arr**	**21.99**	**228**	P	**P**	**22 19 44.8**	**+0.1**
	comp=Z,7.2nm,0.6s,baz=53,slow=9.8,SNR=52						
	comp=Z,7.2nm,0.6s						
OUENC	**Ouen Island, N**	**22.20**	**140**	P	**P**	**22 19 45.7**	**-1.2**
AS31	**Alice Springs**	**24.72**	**222**	P	**P**	**22 20 11.0**	**-0.3**
AS31				IAmb	IAmb	22 20 14.8	
	comp=Z,1.4nm,0.6s						
ASAR	**Alice Springs**	**24.72**	**222**	P	**P**	**22 20 12.2**	**+0.9**
	comp=Z,3.0nm,0.6s,baz=57,slow=8.7,SNR=38						
	comp=Z,3.0nm,0.6s						
SONM	**Songino Array**	**66.45**	**329**	P	**P**	**22 25 39.6**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=128,slow=3.1,SNR=2.6						
	comp=Z,0.3nm,0.5s						
VNDA	**Vanda**	**72.00**	**178**	P	**P**	**22 26 13.3**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=13,slow=5.0,SNR=2.9						
	comp=Z,0.7nm,0.8s						
ILAR	**Eielson Array**	**83.41**	**22**	P	**P**	**22 27 16.6**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=176,slow=30,SNR=1.7						
	comp=Z,0.2nm,0.6s						
QSPA	**South Pole Qui**	**84.28**	**180**	P	**P**	**22 27 22.3**	**+1.6**
QSPA	**South Pole Qui**	**84.28**	**180**	P	**P**	**22 27 22.0**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=127,slow=2.9,SNR=2.1						
	comp=Z,1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**149.45**	**286**	PKPbc	**PKPbc**	**22 34 38.4**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=174,slow=3.2,SNR=15						

MOS ***29*** *22:15:20.5±0.9, 5.48S×151.55E, h10km, mb5.1/50, Error ellipse: s-maj=9.2km s-min=6.1km az=101.0*

BJI ***29*** *22:15:21.3±0.0, 5.73S×152.03E, h37km, mb5.0/56*

NEIC ***29*** *22:15:21.9±1.6, 5.64S±0.05×151.60E±0.07, h10km±1km, mb5.0/251, Error ellipse: s-maj=12.0km s-min=7.6km az=116.0*

IDC ***29*** *22:15:27.2±1.6, 5.47S×151.54E, h51km±13km, mb4.6/21, mbtmp4.8/23, ML3.8/2, Error ellipse: s-maj=14.1km s-min=9.5km az=101.0*

DJA ***29*** *22:15:28.1±0.4, 6.3S×15.2E±°, h52km±4km, M5.4/33, mB6.2/3, mb5.1/33, MLv5.5/2, Mw(mB)5.9/3*

ISC 29 22:15:27.8±0.3, 5.63S±0.04×151.58E±0.05, h57km, n758, σ0s95/760, mb4.9/197, 20C-2D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I40PG	**Keravat**	**1.39**	**18**	P	**Pn**	**22 15 50.7**	**-0.2**
	baz=191,slow=21,SNR=0.6						
I40PG				I	I	22 24 30.0	
	baz=207,slow=311,SNR=0.7						
RABL	**Rabaul**	**1.54**	**22**	Pn	**Pn**	**22 15 52.6**	**-0.4**
RABL				Sn	**Sn**	**22 16 13.2**	**+1.2**
MANU	**Manus Island**	**5.51**	**310**	Pn	**Pn**	**22 16 49.7**	**+2.4**
PMG	**Port Moresby**	**5.77**	**229**	Pn	**Pn**	**22 16 51.5**	**+0.6**
PMG				Sn	**Sn**	**22 17 56.5**	**+0.7**
PMG	**Port Moresby**	**5.77**	**229**	*i* P	**Pn**	**22 16 48.9**	**-2.0**
PMG	**Port Moresby**	**5.77**	**229**	P	**Pn**	**22 16 52.6**	**+1.7**
	29nm,0.3s,baz=33,slow=8.3,SNR=28						
PMG				S	**Sn**	**22 17 56.9**	**+1.1**
	254nm,0.4s,baz=305,slow=17,SNR=8.5						
	220nm,0.7s						
HNR	**Honiara**	**9.12**	**115**	Pn	**Pn**	**22 17 35.9**	**-0.9**
HNR	**Honiara**	**9.12**	**115**	P	**Pn**	**22 17 35.9**	**-0.9**
HNR	**Honiara**	**9.12**	**115**	P	**Pn**	**22 17 38.3**	**+1.5**
	2um,0.6s,baz=183,slow=2.1,SNR=11						
JAY	**Jayapura**	**11.28**	**285**	P	**Pn**	**22 18 06.5**	**+0.1**
	45nm,1.6s						
COEN	**Coen**	**11.71**	**224**	P	**Pn**	**22 18 12.2**	**0.0**
	baz=12,SNR=6.8						
COEN	**Coen**	**11.71**	**224**	Pn	**Pn**	**22 18 10.5**	**-1.7**
GENI	**Genyem**	**11.77**	**284**	P	**Pn**	**22 18 14.2**	**+1.1**
	149nm,1.3s						
PATS	**Pohnpei**	**14.09**	**29**	Pn	**Pn**	**22 18 44.0**	**-0.5**
MTSU	**Mount Surprise**	**14.31**	**209**	P	**Pn**	**22 18 48.1**	**+0.5**
	baz=14,SNR=4.9						
CTA	**Charters Tower**	**15.28**	**199**	P	**P**	**22 19 03.0**	**-0.9**
	1.7nm,0.3s,baz=85,slow=0.0,SNR=5.6						
	6.8nm,0.5s						
CTAO	**Charters Tower**	**15.28**	**199**	P	**Pn**	**22 19 01.9**	**+1.8**
CTAO	**Charters Tower**	**15.28**	**199**	P	**Pn**	**22 19 01.9**	**+1.8**
CTAO				pmax	pmax		
	comp=Z,19nm,1.6s						
QIS	**Mount Isa**	**18.86**	**217**	P	**Pn**	**22 19 45.0**	**+0.5**
	baz=19,SNR=22						
FAKI	**Fak Fak**	**19.46**	**277**		**Pn**	**22 19 51.1**	**-0.7**
FAKI	**Fak Fak**	**19.46**	**277**	P	**P**	**22 19 50.5**	**+0.4**
EIDS	**Eidsvold**	**19.64**	**181**	P	**Pn**	**22 19 54.2**	**+0.5**
	baz=20,SNR=5.5						
EIDS	**Eidsvold**	**19.64**	**181**	P	**P**	**22 19 52.4**	**+0.5**
EIDS				IAmb	IAmb	22 19 57.0	
	comp=Z,170nm,1.9s						
KDU	**Kakadu**	**20.11**	**248**	P	**P**	**22 19 57.0**	**-0.2**
	baz=20,SNR=19						
GUMO	**Guam**	**20.22**	**341**	P	**P**	**22 19 58.3**	**+0.1**
GUMO	**Guam**	**20.22**	**341**	P	**P**	**22 19 58.3**	**+0.1**
GUMO				pmax	pmax		
	comp=Z,534nm,1.3s						
GUMO	**Guam**	**20.22**	**341**	P	**P**	**22 19 58.0**	**-0.2**
	comp=Z,131nm,0.6s,baz=182,slow=9.2,SNR=7.5						
	comp=Z,131nm,0.6s						
SAUI	**Saumlaki**	**20.27**	**262**	P	**P**	**22 19 58.9**	**0.0**
SAUI	**Saumlaki**	**20.27**	**262**	P	Pn	22 20 00.9	-0.4
	comp=Z,136nm,1.0s						
SWI	**Sorong**	**20.82**	**282**	P	**P**	**22 20 05.7**	**+0.8**
	comp=Z,67nm,1.1s						
LIFNC	**LIFOU**	**21.40**	**136**	P	**P**	**22 20 10.2**	**-0.7**
MTN	**Manton Dam**	**21.41**	**249**	P	**P**	**22 20 11.2**	**+0.1**
	baz=21,SNR=14						
MTN	**Manton Dam**	**21.41**	**249**	P	**P**	**22 20 10.3**	**-0.7**
MTN				IAmb	IAmb	22 20 15.6	
	comp=Z,94nm,1.1s						
DZM	**Mont Dzumac**	**21.77**	**140**	P	**P**	**22 20 13.8**	**-1.2**
DZM	**Mont Dzumac**	**21.77**	**140**	P	**P**	**22 20 16.3**	**+1.3**
	comp=Z,12nm,0.6s,baz=329,slow=8.2,SNR=12						
	comp=Z,12nm,0.6s						
WB0	**Warramunga Arr**	**21.84**	**228**	P	**P**	**22 20 15.8**	**0.0**
WB0				IAmb	IAmb	22 20 19.9	
	comp=Z,48nm,0.7s						
WR0	**Warramunga Arr**	**21.85**	**228**	P	**P**	**22 20 15.7**	**-0.1**
WR0				IAmb	IAmb	22 20 19.9	
	comp=Z,45nm,0.6s						
WRAB	**Tennant Creek**	**21.98**	**228**	P	**P**	**22 20 17.1**	**-0.1**
WRAB	**Tennant Creek**	**21.98**	**228**	*i* P	**P**	**22 20 16.7**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,40nm,0.9s						
WB2	**Warramunga Arr**	**21.98**	**228**	P	**P**	**22 20 17.2**	**0.0**
QLP	**Quilpie**	**21.99**	**198**	P	**P**	**22 20 18.7**	**+1.5**
	baz=22,SNR=6.4						
WRA	**Warramunga Arr**	**21.99**	**228**	P	**P**	**22 20 16.9**	**-0.4**
WRA	**Warramunga Arr**	**21.99**	**228**	P	**P**	**22 20 16.9**	**-0.4**
WRA	**Warramunga Arr**	**21.99**	**228**	P	**P**	**22 20 17.9**	**+0.5**
	comp=Z,56nm,0.6s,baz=53,slow=9.9,SNR=72						
WRA				S	**S**	**22 24 14.7**	**-2.3**
	comp=Z,15nm,1.1s,baz=53,slow=20,SNR=13						
WRA				ScP	**ScP**	**22 27 48.5**	**+1.6**
	comp=Z,1.0nm,0.5s,baz=47,slow=2.9,SNR=8.8						
	comp=Z,56nm,0.6s						
KNRA	**Kununurra**	**24.52**	**244**	P	**P**	**22 20 42.4**	**+0.3**
	baz=25,SNR=35						
KNRA	**Kununurra**	**24.52**	**244**	P	**P**	**22 20 41.8**	**-0.4**
LBMI	**Labuha**	**24.54**	**281**	P	**P**	**22 20 43.7**	**+1.3**
	comp=Z,101nm,1.3s						
ARMA	**Armidale**	**24.66**	**180**	P	**P**	**22 20 44.3**	**+0.8**
	baz=25,SNR=10.0						
AS31	**Alice Springs**	**24.73**	**222**	P	**P**	**22 20 45.0**	**+0.9**
AS31				IAmb	IAmb	22 20 48.0	
	comp=Z,14nm,0.6s						
ASAR	**Alice Springs**	**24.73**	**222**	P	**P**	**22 20 44.4**	**+0.3**
ASAR	**Alice Springs**	**24.73**	**222**	P	**P**	**22 20 45.0**	**+1.0**
	comp=Z,40nm,0.8s,baz=58,slow=8.7,SNR=99						
ASAR				PcP	**PcP**	**22 24 20.2**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=46,slow=2.7,SNR=2.3						
ASAR				S	**S**	**22 25 05.0**	**+2.7**
	comp=Z,0.9nm,0.9s,baz=36,slow=21,SNR=2.2						
ASAR				ScP	**ScP**	**22 27 56.5**	**+2.3**
	comp=Z,1.2nm,0.6s,baz=44,slow=2.5,SNR=8.3						
	comp=Z,40nm,0.8s						
SANI	**Sanana**	**25.77**	**277**	P	**P**	**22 20 56.5**	**+2.9**
	comp=Z,22nm,1.1s						
CMSA	**Cobar Meteorol**	**26.36**	**191**	P	**P**	**22 20 59.3**	**+0.6**
	baz=26,SNR=24						
SOEI	**Soe**	**27.37**	**260**	P	**P**	**22 21 08.3**	**+0.2**
SOEI	**Soe**	**27.37**	**260**	P	**P**	**22 21 12.3**	**+4.2**
	comp=Z,101nm,1.0s						
STKA	**Stephens Creek**	**27.74**	**198**	P	**P**	**22 21 12.1**	**+1.0**
	baz=28,SNR=7.2						
STKA	**Stephens Creek**	**27.74**	**198**	P	**P**	**22 21 11.2**	**+0.1**
STKA	**Stephens Creek**	**27.74**	**198**	*i* P	**P**	**22 21 11.2**	**+0.1**
STKA	**Stephens Creek**	**27.74**	**198**	P	**P**	**22 21 11.9**	**+0.8**
	comp=Z,4.0nm,0.6s,baz=24,slow=13,SNR=9.7						
	comp=Z,4.0nm,0.6s						
BATI	**Baumata**	**28.01**	**259**	P	**P**	**22 21 14.9**	**+1.1**
	comp=Z,85nm,0.9s						
FITZ	**Fitzroy Crossi**	**28.20**	**242**	P	**P**	**22 21 15.1**	**-0.3**
	baz=28,SNR=52						
FITZ	**Fitzroy Crossi**	**28.20**	**242**	P	**P**	**22 21 14.9**	**-0.4**
FITZ				IAmb	IAmb	22 21 18.1	
	comp=Z,45nm,1.4s						
MMRI	**Maumere**	**29.26**	**262**	P	**P**	**22 21 24.7**	**-0.1**
MMRI	**Maumere**	**29.26**	**262**	P	**P**	**22 21 26.3**	**+1.4**
	comp=Z,45nm,1.3s						
WRKA	**Warakurna**	**29.51**	**227**	P	**P**	**22 21 27.1**	**+0.1**
	baz=30,SNR=35						
EDFI	**Ende, Flores**	**29.81**	**262**	P	**P**	**22 21 27.7**	**-2.1**
	comp=Z,26nm,0.8s,comp=Z,3μm						
HTT	**Hallett**	**30.07**	**201**	P	**P**	**22 21 32.6**	**+0.8**
	baz=30,SNR=9.1						
BBOO	**Buckleboo**	**30.68**	**206**	P	**P**	**22 21 37.3**	**+0.2**
	baz=31,SNR=8.7						
BASI	**Baing, Sumba**	**31.03**	**260**	P	**P**	**22 21 42.7**	**+2.2**
	comp=Z,150nm,0.9s						
FORT	**Forrest**	**33.39**	**219**	P	**P**	**22 22 01.1**	**+0.1**
	baz=34,SNR=21						
FORT	**Forrest**	**33.39**	**219**	P	**P**	**22 22 00.7**	**-0.3**
MBWA	**Marble Bar**	**34.51**	**240**	P	**P**	**22 22 10.1**	**-0.7**
PSA00	**Pilbara Seismi**	**34.56**	**240**	P	**P**	**22 22 10.8**	**-0.5**
PSA00				IAmb	IAmb	22 22 14.8	
	comp=Z,28nm,1.1s						
PSA00	**Pilbara Seismi**	**34.56**	**240**	P	**P**	**22 22 10.5**	**-0.8**
PSA00				IAmb	IAmb	22 22 14.9	
	comp=Z,61nm,1.1s						
TGY	**Tagaytay City**	**36.17**	**303**	P	**P**	**22 22 24.4**	**-0.9**
	comp=Z,69nm,0.4s,baz=61,slow=6.8,SNR=5.0						
MEEK	**Meekatharra**	**37.74**	**233**	P	**P**	**22 22 39.1**	**+0.7**
	baz=38,SNR=17						
KMBL	**Kambalda**	**37.82**	**224**	P	**P**	**22 22 39.8**	**+0.9**
	baz=38,SNR=6.0						
TOZ	**Tahuroa Road**	**38.68**	**149**	P	**P**	**22 22 46.2**	**+0.2**
TOZ				IAmb	IAmb	22 22 60.0	
	comp=Z,56nm,1.8s						
GIRL	**Giralia**	**39.80**	**241**	P	**P**	**22 22 56.2**	**+0.5**
	baz=40,SNR=7.7						
RTZ	**Ruatahuna**	**40.11**	**149**	P	**P**	**22 22 59.0**	**+0.9**
RTZ				IAmb	IAmb	22 23 01.4	
	comp=Z,14nm,0.6s						
TKNZ	**Takaka Hill**	**40.11**	**155**	P	**P**	**22 22 58.0**	**0.0**
TCW	**Tory Channel**	**40.83**	**154**	P	**P**	**22 23 03.7**	**-0.2**
KLBR	**Kellerberrin**	**40.86**	**227**	P	**P**	**22 23 04.6**	**+0.3**
	baz=41,SNR=6.7						
TUWZ	**Tuamarina**	**40.86**	**154**	P	**P**	**22 23 04.3**	**+0.2**
MORW	**Morawa**	**40.88**	**231**	P	**P**	**22 23 04.7**	**+0.1**
	baz=41,SNR=5.8						
BLDU	**Ballidu**	**41.12**	**229**	P	**P**	**22 23 06.8**	**+0.3**
	baz=41,SNR=14						
PLWZ	**Palliser**	**41.56**	**153**	P	**P**	**22 23 09.5**	**-0.5**
OXZ	**Oxford**	**41.66**	**157**	P	**P**	**22 23 11.4**	**+0.6**
OXZ				IAmb	IAmb	22 23 46.9	
	comp=Z,79nm,2.0s						
KSM	**Kuching**	**41.81**	**279**	P	**P**	**22 23 11.2**	**-1.2**
NWAO	**Narrogin (SRO)**	**41.95**	**225**	P	**P**	**22 23 13.3**	**+0.1**
	baz=42,SNR=4.4						
NWAO				P	**P**	**22 23 13.3**	**+0.1**
	baz=42,SNR=4.4						
MUN	**Mundaring**	**42.18**	**227**	P	**P**	**22 23 15.8**	**+0.6**
	baz=42,SNR=9.8						
KPJI	**Karang Pucung**	**42.40**	**265**	P	P	22 23 30.1	+13
JGF	**Kuroka**	**43.13**	**343**	P	**P**	**22 23 22.4**	**-0.4**
JNU	**Nakatsue**	**43.25**	**334**	P	**P**	**22 23 23.9**	**+0.1**
JNU				IAmb	IAmb	22 23 25.8	
	comp=Z,33nm,1.0s						
MJAR	**Matsushiro Arr**	**43.77**	**344**	P	**P**	**22 23 26.8**	**-1.2**
	comp=Z,5.3nm,0.9s,baz=168,slow=8.5,SNR=9.6						
MJAR				PcP	**PcP**	**22 25 13.3**	**-0.6**
	comp=Z,3.4nm,0.7s,baz=159,slow=3.3,SNR=6.4						
	comp=Z,5.3nm,0.9s						
MAJO	**Matsushiro**	**43.78**	**344**	P	**P**	**22 23 27.5**	**-0.4**
MAJO				IAmb	IAmb	22 23 28.4	
	comp=Z,34nm,1.5s						
MAJO	**Matsushiro**	**43.78**	**344**	P	**P**	**22 23 27.5**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,34nm,1.5s						
MJB9	**Matsu-Tunnel**	**43.78**	**344**	P	**P**	**22 23 27.5**	**-0.5**
MJB9				IAmb	IAmb	22 23 29.4	
	comp=Z,32nm,1.5s						
TJN	**Taejon**	**47.54**	**333**	*ce*P	**P**	**22 23 57.9**	**+0.3**
QIZ	**Qiongzhong**	**47.85**	**302**	P	**P**	**22 24 01.5**	**+1.1**
QIZ				pmax	pmax		
	comp=Z,14nm,1.8s						
KSRS	**Korea Array**	**48.20**	**335**	P	**P**	**22 24 02.6**	**-0.1**
	comp=Z,5.5nm,0.7s,baz=151,slow=8.4,SNR=19						
KSRS				PcP	**PcP**	**22 25 28.7**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=179,slow=2.8,SNR=4.1						
	comp=Z,5.5nm,0.7s						
NJ2	**Nanjing**	**48.73**	**322**	*e*P	**P**	**22 24 09.5**	**+2.6**
NJ2				pmax	pmax		
	comp=Z,17nm,0.6s						
INCN	**Inchon**	**48.79**	**334**	P	**P**	**22 24 07.1**	**-0.1**
INCN	**Inchon**	**48.79**	**334**	P	**P**	**22 24 07.1**	**-0.1**
INCN				pmax	pmax		
	comp=Z,28nm,0.8s						
WHN	**Wuhan**	**50.62**	**318**	P	**P**	**22 24 21.5**	**+0.2**
WHN				pmax	pmax		
	comp=Z,51nm,1.0s						
MSHR	**Mys Shultsa**	**51.45**	**341**	*i* P	**P**	**22 24 27.8**	**+0.6**
MSHR				pmax	pmax		
	comp=Z,5.0nm,1.1s						
PSTR	**Posyet**	**51.63**	**341**	*i* P	**P**	**22 24 29.1**	**+0.5**
USA0B	**Ussuriysk Arra**	**52.65**	**342**	P	**P**	**22 24 35.4**	**-0.7**
USA0B				IAmb	IAmb	22 24 37.3	
	comp=Z,19nm,1.5s						
USA0B	**Ussuriysk Arra**	**52.65**	**342**	*i* P	**P**	**22 24 36.7**	**+0.6**
USRK	**Ussuriysk Ar.**	**52.65**	**342**	P	**P**	**22 24 35.5**	**-0.6**
USRK	**Ussuriysk Ar.**	**52.65**	**342**	P	**P**	**22 24 35.6**	**-0.5**
	comp=Z,3.5nm,0.5s,baz=179,slow=9.0,SNR=23						
USRK				PcP	**PcP**	**22 25 45.3**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=140,slow=4.2,SNR=1.2						
	comp=Z,3.5nm,0.5s						
TIA	**Tai'an**	**52.67**	**325**	P	**P**	**22 24 36.5**	**0.0**
TIA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
YSS	**Yuzh-Sakhalins**	**52.93**	**352**	*i* P	**P**	**22 24 38.9**	**+0.7**
YSS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SLVN	**Son La**	**53.87**	**301**	P	**P**	**22 24 45.4**	**-0.3**
LYN	**LuoYang**	**54.38**	**320**	⇓P	**P**	**22 24 49.8**	**+0.8**
LYN				pmax	pmax		
	comp=Z,24nm,0.6s						
CN2	**Changchun**	**54.56**	**337**	*e*P	P	22 24 56.5	+6.3
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HNS	**HongShan**	**54.89**	**324**	⇑P	**P**	**22 24 53.0**	**+0.3**
HNS				pmax	pmax		
	comp=Z,15nm,0.8s						
BNX	**BinXian**	**55.50**	**340**	⇑P	**P**	**22 24 56.0**	**-0.9**
BNX				pmax	pmax		
	comp=Z,17nm,0.6s						
PHRA	**Phrae**	**56.00**	**297**	P	**P**	**22 25 01.1**	**0.0**
KIP	**Kipapa**	**56.24**	**60**	*i* P	**P**	**22 25 00.1**	**-2.6**
KIP				pmax	pmax		
	comp=Z,59nm,0.9s						
XAN	**Xi'an**	**56.39**	**317**	P	**P**	**22 25 03.5**	**-0.1**
XAN				pP	pP	22 25 15.8	-3.6
XAN				pmax	pmax		
	comp=Z,27nm,0.7s						
KMI	**Kunming**	**56.45**	**305**	⇑P	**P**	**22 25 05.5**	**+1.1**
KMI				pmax	pmax		
	comp=Z,14nm,1.0s						
CRAI	**Chiangrai**	**56.49**	**299**	P	**P**	**22 25 04.6**	**+0.1**
CRAI				IAmb	IAmb	22 25 08.0	
	comp=Z,12nm,0.8s						
CMAR	**Chiang Mai Arr**	**57.13**	**296**	*ce*P	**P**	**22 25 10.1**	**+1.0**
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**57.13**	**296**	P	**P**	**22 25 09.8**	**+0.6**
	comp=Z,5.3nm,0.6s,baz=111,slow=5.4,SNR=26						
	comp=Z,5.3nm,0.6s						
KLR	**Kul'dur**	**57.30**	**345**	*ce*P	**P**	**22 25 08.1**	**-1.6**
KLR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
PZH	**PanZhiHua**	**57.86**	**306**	P	**P**	**22 25 14.3**	**+0.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CD2	**

comp=Z,9.0nm,0.9s
FALS **False Pass** 70.89 26 P P 22 26 40.3 +1.7
baz=228
MOY **Mondy** 71.50 330 *e*P P 22 26 42.3 -0.3
MOY pmax pmax
comp=Z,16nm,1.3s
S12K **Black Hills** 72.03 26 P P 22 26 46.5 +0.9
baz=229
VNDA **Vanda** 72.06 178 P P 22 26 45.8 +0.4
VNDA **Vanda** 72.06 178 P P 22 26 45.8 +0.4
VNDA pmax pmax
comp=Z,6.0nm,0.9s
VNDA **Vanda** 72.06 178 P P 22 26 47.0 +1.6
comp=Z,3.9nm,0.7s,baz=322,slow=6.7,SNR=22
comp=Z,3.9nm,0.7s
SDPT **Sand Point** 72.49 26 P P 22 26 47.9 -0.4
SDPT **Sand Point** 72.49 26 P P 22 26 48.9 +0.6
baz=231
CNBA **Chernabura Isl** 72.56 27 P P 22 26 49.0 +0.4
CNBA IAmb IAmb 22 27 16.4
comp=Z,35nm,1.9s
CHNA **Chernabura Isl** 72.56 27 P P 22 26 49.3 +0.6
baz=232
S14K **Fog Glacier** 73.49 26 P P 22 26 56.0 +1.7
baz=231
M11K **Mekoryuk** 73.65 20 P P 22 26 57.9 +2.9
baz=224
CHGN **Chignik** 74.00 26 P P 22 26 58.3 +1.2
baz=232
BILL **Bilibino** 74.22 6 P P 22 26 57.8 -0.5
BILL **Bilibino** 74.22 6 *e*P P 22 26 59.6 +1.4
GAMB **Gambell** 74.50 16 P P 22 27 02.5 +2.6
baz=218
M13K **Dall Lake** 74.68 21 P P 22 27 02.5 +1.5
baz=227
O14K **Tigyukauivet M** 74.68 23 P P 22 27 01.2 +0.2
O14K IAmb IAmb 22 27 10.2
comp=Z,26nm,1.4s
O14K **Tigyukauivet M** 74.68 23 P P 22 27 02.3 +1.2
baz=229
R16K **Pilot Point** 75.13 26 P P 22 27 04.8 +1.2
baz=233
O15K **Ungalikthiuk R** 75.20 24 P P 22 27 05.3 +1.3
baz=230
M14K **Bethel** 75.41 22 P P 22 27 04.4 -0.8
M14K **Bethel** 75.41 22 P P 22 27 06.2 +1.0
baz=228
WMQ **Urumqi** 75.53 318 *e*P P 22 27 08.5 +2.1
L14K **Kuka Creek** 75.55 21 P P 22 27 05.8 -0.2
L14K IAmb IAmb 22 27 08.3
comp=Z,8.6nm,0.7s
L14K **Kuka Creek** 75.55 21 P P 22 27 06.8 +0.8
baz=227
N15K **Kwethluk River** 75.73 23 P P 22 27 08.4 +1.3
baz=230
M15K **Kasigluk River** 75.84 22 P P 22 27 08.7 +1.0
baz=229
P16K **Nushagak River** 75.85 24 P P 22 27 09.2 +1.4
baz=232
O16K **Kokwok River B** 76.15 24 P P 22 27 11.0 +1.5
baz=232
L15K **Ungalak Mounta** 76.20 21 P P 22 27 10.8 +1.1
baz=228
J14K **Nanvaranak Lak** 76.22 20 P P 22 27 10.4 +0.6
J14K **Nanvaranak Lak** 76.22 20 P P 22 27 11.5 +1.7
baz=226
Q17K **Contact Creek** 76.27 26 P P 22 27 11.2 +0.8
baz=234
N16K **Nishlik Lake** 76.43 23 P P 22 27 12.7 +1.6
baz=231
P17K **Kvichak River** 76.58 25 P P 22 27 13.1 +1.2
baz=234
K15K **Wolf Creek Mou** 76.60 21 P P 22 27 12.0 +0.1
K15K IAmb IAmb 22 27 14.8
comp=Z,13nm,1.1s
K15K **Wolf Creek Mou** 76.60 21 P P 22 27 12.8 +0.9
baz=228
O17K **Koliganek Bris** 76.66 24 P P 22 27 13.9 +1.5
baz=233
M16K **Timber Creek** 76.70 22 P P 22 27 12.9 +0.3
M16K IAmb IAmb 22 27 15.9
comp=Z,10nm,0.7s
M16K **Timber Creek** 76.70 22 P P 22 27 13.8 +1.2
baz=231
OHAK **Old Harbor** 76.83 27 P P 22 27 14.7 +1.3
baz=237
TNA **Tin City** 76.92 16 P P 22 27 15.0 +1.3
baz=222
ANM **Nome** 76.92 18 P P 22 27 13.3 -0.5
ANM IAmb IAmb 22 27 16.2
comp=Z,21nm,1.8s
ANM **Nome** 76.92 18 P P 22 27 14.9 +1.1
baz=224
ANM **Nome** 76.92 18 P P 22 27 13.3 -0.5
ANM pmax pmax
comp=Z,21nm,1.8s
L16K **Owhat River** 76.95 22 P P 22 27 13.7 -0.3
L16K **Owhat River** 76.95 22 P P 22 27 15.0 +1.1
baz=230
N17K **Nushagak Hills** 77.08 23 P P 22 27 15.3 +0.6
N17K IAmb IAmb 22 28 43.1
comp=Z,29nm,1.9s
N17K **Nushagak Hills** 77.08 23 P P 22 27 15.8 +1.0
baz=233
P18K **Big Mountain,** 77.20 25 P P 22 27 16.4 +0.9
baz=235
F14K **Arctic Creek** 77.30 17 P P 22 27 17.5 +1.6
baz=223
KDAK **Kodiak Island** 77.46 27 P P 22 27 19.8 +2.9
baz=237
M17K **Holitna River** 77.52 23 P P 22 27 18.6 +1.5
M17K **Holitna River** 77.52 23 P P 22 27 18.7 +1.5
baz=232
J16K **Anvik River** 77.57 20 P P 22 27 18.7 +1.3
baz=229
Q19K **Cape Douglas,** 77.61 26 P P 22 27 17.3 -0.5
Q19K **Cape Douglas,** 77.61 26 P P 22 27 19.3 +1.5
baz=236
G15K **Niukluk** 77.63 18 P P 22 27 18.8 +1.1
baz=225
L17K **Donlin** 77.65 22 P P 22 27 18.4 +0.5
baz=231
N18K **Kilae Creek** 77.69 24 P P 22 27 20.3 +2.1
baz=234
I17K **Unalakleet** 77.94 20 P P 22 27 19.0 -0.4
I17K **Unalakleet** 77.94 20 P P 22 27 20.7 +1.2
baz=229
H16K **Elim** 77.94 19 P P 22 27 20.0 +0.5
baz=227
F15K **North Star Dit** 77.96 17 P P 22 27 20.8 +1.2
baz=225
K17K **Iditarod** 78.01 21 P P 22 27 21.1 +1.1
K17K IAmb IAmb 22 27 24.2
comp=Z,7.9nm,0.8s
K17K **Iditarod** 78.01 21 P P 22 27 21.7 +1.8
baz=231
SVW2 **Sparrevohn** 78.06 23 P P 22 27 21.3 +1.1
M18K **Stony River** 78.19 23 P P 22 27 21.7 +0.8
baz=234
P19K **Oil Pt** 78.19 25 P P 22 27 22.1 +1.1
baz=236
L18K **Granite Mounta** 78.30 22 P P 22 27 21.3 -0.2
L18K IAmb IAmb 22 27 25.4
comp=Z,5.3nm,0.6s
L18K **Granite Mounta** 78.30 22 P P 22 27 22.5 +1.0
baz=233
G16K **Koyuk River** 78.42 18 P P 22 27 22.2 +0.1
G16K **Koyuk River** 78.42 18 P P 22 27 22.7 +0.7
baz=227
TIXI **Tiksi** 78.55 353 P P 22 27 21.6 -1.1
TIXI **Tiksi** 78.55 353 *ce*P P 22 27 22.3 -0.4
TIXI pmax pmax
comp=Z,7.0nm,1.3s
O20K **Slope Mountain** 78.69 25 P P 22 27 24.6 +0.8
baz=237
HOM **Homer** 78.88 26 P P 22 27 25.6 +0.9
baz=238
H17K **Granite Mounta** 78.89 19 P P 22 27 26.3 +1.6
baz=229
L19K **White Mountain** 78.97 23 P P 22 27 25.3 +0.1
L19K IAmb IAmb 22 27 29.1
comp=Z,6.8nm,0.7s
L19K **White Mountain** 78.97 23 P P 22 27 26.2 +0.9
baz=235
TTA **Tatalina** 78.98 22 P P 22 27 25.6 +0.3
TTA **Tatalina** 78.98 22 P P 22 27 26.1 +0.8
baz=233
TTA **Tatalina** 78.98 22 P P 22 27 25.6 +0.3
TTA pmax pmax
comp=Z,3.0nm,0.8s
CNPM **China Poot** 78.98 26 P P 22 27 26.4 +1.1
M19K **Big River Lodg** 78.99 23 P P 22 27 25.9 +0.6
M19K **Big River Lodg** 78.99 23 P P 22 27 25.9 +0.6
baz=235
G17K **Kiwalik Mounta** 79.02 18 P P 22 27 26.4 +1.0
baz=229
J18K **Innoko River** 79.05 21 P P 22 27 25.5 -0.1
J18K **Innoko River** 79.05 21 P P 22 27 26.5 +0.9
baz=233
BRSE **Bradley Lake S** 79.31 26 P P 22 27 27.4 +0.3
baz=239
N20K **Mount Spurr** 79.47 24 P P 22 27 28.5 +0.5
baz=237
F17K **Baldwin Pennin** 79.47 17 P P 22 27 28.0 +0.2
F17K **Baldwin Pennin** 79.47 17 P P 22 27 28.8 +1.0
baz=228
M20K **Styx River** 79.47 23 P P 22 27 28.4 +0.3
M20K IAmb IAmb 22 27 47.3
comp=Z,28nm,2.0s
M20K **Styx River** 79.47 23 P P 22 27 28.5 +0.5
baz=236
L20K **Farewell, AK** 79.52 23 P P 22 27 28.7 +0.5
baz=235
H18K **Honhosa River** 79.53 19 P P 22 27 28.9 +0.7
baz=231
C16K **Lisburne Hills** 79.61 15 P P 22 27 28.5 0.0
C16K IAmb IAmb 22 27 58.7
comp=Z,20nm,1.9s
C16K **Lisburne Hills** 79.61 15 P P 22 27 28.8 +0.2
baz=224
E17K **Hotham Inlet** 79.73 17 P P 22 27 30.1 +0.9
baz=227
J19K **Poorman** 79.75 21 P P 22 27 29.7 +0.2
J19K **Poorman** 79.75 21 P P 22 27 30.4 +1.0
baz=234
GCSA **Galena City Sc** 79.77 20 P P 22 27 30.7 +1.3
baz=232
D17K **Noatak River** 79.80 16 P P 22 27 30.3 +0.7
baz=226
G18K **Tagagawik** 79.91 19 P P 22 27 30.1 -0.1
G18K **Tagagawik** 79.91 19 P P 22 27 31.0 +0.8
baz=230
K20K **Telida** 79.94 22 P P 22 27 31.0 +0.5
K20K **Telida** 79.94 22 P P 22 27 31.2 +0.7
baz=235
SEW **Seward** 80.05 26 P P 22 27 32.1 +1.0
baz=240
F18K **Selawik** 80.05 18 P P 22 27 32.3 +1.3
baz=229
RDOG **Red Dog Mine** 80.10 16 P P 22 27 30.9 -0.4
RDOG IAmb IAmb 22 27 34.6
comp=Z,8.5nm,0.5s
RDOG **Red Dog Mine** 80.10 16 P P 22 27 31.8 +0.6
baz=226
MK31 **Makanchi Array** 80.15 319 P P 22 27 31.1 -0.9
MK31 **Makanchi Array** 80.15 319 *ce*P P 22 27 31.6 -0.4
MKAR **Makanchi Array** 80.15 319 P P 22 27 31.0 -1.0
MKAR **Makanchi Array** 80.15 319 P P 22 27 31.1 -0.8
comp=Z,4.8nm,0.6s,baz=100,slow=7.4,SNR=70
comp=Z,4.8nm,0.6s
SKT **Skwentna** 80.16 24 P P 22 27 32.6 +0.9
baz=238
SUA **Susitna One** 80.20 24 P P 22 27 32.2 +0.2
SUA IAmb IAmb 22 27 39.2
comp=Z,35nm,2.0s
SUA **Susitna One** 80.20 24 P P 22 27 32.8 +0.8
baz=238
E18K **Tukpahlearik C** 80.31 17 P P 22 27 32.4 +0.1
E18K **Tukpahlearik C** 80.31 17 P P 22 27 32.4 +0.1
baz=228
C17K **DeLong Mountai** 80.32 15 P P 22 27 32.7 +0.3
baz=226
MAKZ **Makanchi** 80.36 319 P P 22 27 32.0 -1.1
MAKZ IAmb IAmb 22 27 33.7
comp=Z,18nm,1.3s
MAKZ **Makanchi** 80.36 319 P P 22 27 32.0 -1.1
MAKZ pmax pmax
comp=Z,18nm,1.3s
J20K **Nowinta River** 80.39 21 P P 22 27 33.4 +0.5
J20K **Nowinta River** 80.39 21 P P 22 27 33.9 +1.1
baz=235
H19K **Roundabout Mou** 80.39 19 P P 22 27 33.1 +0.3
H19K IAmb IAmb 22 27 36.4
comp=Z,24nm,2.0s
H19K **Roundabout Mou** 80.39 19 P P 22 27 33.3 +0.5
baz=233
PPLA **Purkeypile** 80.40 23 P P 22 27 33.8 +0.8
baz=237
RC01 **Rabbit Creek A** 80.43 25 P P 22 27 33.3 +0.2
RC01 **Rabbit Creek A** 80.43 25 P P 22 27 34.6 +1.5
baz=240
G19K **Purcell Mounta** 80.56 19 P P 22 27 34.0 +0.3
G19K **Purcell Mounta** 80.56 19 P P 22 27 34.1 +0.3
baz=232
CAST **Castle Rocks** 80.72 22 P P 22 27 33.9 -0.8
CAST **Castle Rocks** 80.72 22 P P 22 27 35.1 +0.4
baz=237,SNR=9.8
F19K **Shaleruckik Mo** 80.78 18 P P 22 27 34.8 -0.1
F19K IAmb IAmb 22 27 37.9
comp=Z,6.4nm,0.6s
F19K **Shaleruckik Mo** 80.78 18 P P 22 27 35.0 +0.1
baz=231
CHUM **Lake Minchumin** 80.89 22 P P 22 27 36.5 +1.0
baz=237,SNR=11
H20K **Anotleneega Mo** 80.90 20 P P 22 27 36.2 +0.6
baz=234
PMR **Palmer** 80.94 25 P P 22 27 37.0 +1.3
baz=240
C18K **Utukok River** 80.97 16 P P 22 27 36.4 +0.4
C18K **Utukok River** 80.97 16 P P 22 27 37.0 +1.1
baz=228
Q23K **Middleton Isla** 81.11 27 P P 22 27 37.7 +1.0
baz=243
GHO **Glory Hole Cre** 81.11 24 P P 22 27 36.6 -0.2
KNK **Knik Glacier** 81.13 25 P P 22 27 37.7 +0.8
baz=241
ZAA0 **Zalesovo Array** 81.16 327 P P 22 27 35.5 -1.7
ZAA0 IAmb IAmb 22 27 37.2
comp=Z,9.1nm,0.8s
ZALV **Zalesovo Beam** 81.16 327 P P 22 27 35.2 -1.9
ZALV **Zalesovo Beam** 81.16 327 P P 22 27 35.4 -1.8
comp=Z,5.7nm,0.5s,baz=111,slow=5.8,SNR=32
comp=Z,5.7nm,0.5s
B18K **Kokolik River** 81.30 15 P P 22 27 38.4 +0.8
baz=227
E19K **Redstone River** 81.33 18 P P 22 27 38.0 +0.2
E19K IAmb IAmb 22 27 42.5
comp=Z,8.8nm,0.7s
E19K **Redstone River** 81.33 18 P P 22 27 38.3 +0.4
baz=232
SML **Sawmill** 81.37 25 P P 22 27 37.9 -0.3
SML IAmb IAmb 22 27 40.7
comp=Z,11nm,0.7s
SML **Sawmill** 81.37 25 P P 22 27 39.1 +0.9
baz=241
TRF **Thorofare Moun** 81.42 23 P P 22 27 38.6 0.0
TRF IAmb IAmb 22 27 40.3
comp=Z,22nm,1.7s
TRF **Thorofare Moun** 81.42 23 P P 22 27 39.6 +1.0
baz=239
BPAW **Bear Paw Mtn.** 81.50 22 P P 22 27 38.0 -0.8
BPAW **Bear Paw Mtn.** 81.50 22 P P 22 27 39.7 +0.9
baz=238
PRZ **Przheval'sk** 81.52 314 P P 22 27 40.1 +0.5
PRZ IAmb IAmb 22 27 41.5
comp=Z,15nm,1.1s
PRZ **Przheval'sk** 81.52 314 P P 22 27 40.1 +0.5
PRZ pmax pmax
comp=Z,15nm,1.1s
F20K **Avaraart Lake** 81.55 18 P P 22 27 39.0 +0.1
F20K IAmb IAmb 22 27 42.7
comp=Z,5.7nm,0.6s
F20K **Avaraart Lake** 81.55 18 P P 22 27 39.7 +0.8
baz=233
IMAR **Indian Mountai** 81.56 20 P P 22 27 39.5 +0.4
M23K **Glacier View** 81.62 25 P P 22 27 40.2 +0.7
baz=241
H21K **Melozitna Rive** 81.70 20 P P 22 27 40.6 +0.8
baz=236
C19K **Lookout Ridge** 81.71 16 P P 22 27 39.9 0.0
C19K IAmb IAmb 22 27 43.3
comp=Z,7.3nm,0.6s
C19K **Lookout Ridge** 81.71 16 P P 22 27 40.7 +0.9
baz=229
I21K **Tanana** 81.72 21 P P 22 27 40.5 +0.5
I21K **Tanana** 81.72 21 P P 22 27 40.4 +0.5
baz=237
D19K **Kuna River** 81.73 17 P P 22 27 39.2 -0.7
D19K IAmb IAmb 22 27 43.1
comp=Z,5.1nm,0.6s
D19K **Kuna River** 81.73 17 P P 22 27 40.1 +0.2
baz=231
TARG **Taragay, Kyrgy** 81.74 313 P P 22 27 40.0 -1.1
TARG **Taragay, Kyrgy** 81.74 313 P P 22 27 40.0 -1.1
TARG pmax pmax
comp=Z,6.0nm,1.1s
WAT1 **Susitna Watana** 81.79 24 P P 22 27 40.6 +0.3
baz=240
SCM **Sheep Creek Mo** 81.80 25 P P 22 27 40.0 -0.5
SCM IAmb IAmb 22 28 09.6
comp=Z,16nm,1.2s
SCM **Sheep Creek Mo** 81.80 25 P P 22 27 40.8 +0.3
baz=242
SCM **Sheep Creek Mo** 81.80 25 P P 22 27 40.0 -0.5
SCM pmax pmax
comp=Z,16nm,1.2s
EYAK **Cordova Ski Ar** 81.89 26 P P 22 27 42.0 +1.2
baz=243
G21K **Allakaket** 81.95 19 P P 22 27 40.1 -1.0
G21K **Allakaket** 81.95 19 P P 22 27 41.2 +0.2
baz=235
RND **Reindeer** 81.96 23 P P 22 27 40.0 -1.3
RND IAmb IAmb 22 27 41.8
comp=Z,6.6nm,0.6s
RND **Reindeer** 81.96 23 P P 22 27 40.0 -1.3
RND pmax pmax
comp=Z,7.0nm,0.6s
WAT6 **Susitna Watana** 81.99 24 P P 22 27 41.6 0.0
baz=241
A19K **Wainwright** 82.06 15 P P 22 27 41.5 0.0
baz=228
MLY **Manley** 82.09 21 P P 22 27 41.0 -0.9
MLY IAmb IAmb 22 27 44.8
comp=Z,9.6nm,0.6s
MLY **Manley** 82.09 21 P P 22 27 41.5 -0.4
baz=238,SNR=37
MCK **McKinley** 82.09 23 P P 22 27 42.1 +0.2
baz=240,SNR=9.7
E20K **Nigu River** 82.14 17 P P 22 27 42.7 +0.6
baz=232
KAIM **Kayak Island** 82.21 27 P P 22 27 43.4 +0.8
baz=244
KLU **Klutina** 82.24 25 P P 22 27 42.9 +0.1
KLU **Klutina** 82.24 25 P P 22 27 43.8 +0.9
baz=243
D20K **Etivluk River** 82.30 17 P P 22 27 43.3 +0.4
baz=232
H22K **Ishtalitna Cre** 82.32 20 P P 22 27 43.9 +0.8
baz=237
F21K **Alatna River** 82.36 19 P P 22 27 43.1 -0.1
F21K **Alatna River** 82.36 19 P P 22 27 43.5 +0.2
baz=235
DHY **Denali Highway** 82.38 24 P P 22 27 43.5 -0.1
DHY **Denali Highway** 82.38 24 P P 22 27 44.3 +0.7
baz=241
M24K **Tolsona, Glenn** 82.41 25 P P 22 27 43.8 +0.1
M24K **Tolsona, Glenn** 82.41 25 P P 22 27 44.5 +0.9
baz=243
NEA2 **Nenana** 82.47 22 P P 22 27 43.1 -0.7
NEA2 IAmb IAmb 22 27 46.0
comp=Z,5.8nm,0.6s
NEA2 **Nenana** 82.47 22 P P 22 27 43.5 -0.4
baz=240,SNR=9.1
I23K **Minto, Yukon-K** 82.65 21 P P 22 27 44.7 0.0
I23K IAmb IAmb 22 27 46.9
comp=Z,5.1nm,0.6s
I23K **Minto, Yukon-K** 82.65 21 P P 22 27 44.4 -0.3
baz=239,SNR=9.7
BERG **Berg Lake** 82.73 27 P P 22 27 46.1 +0.8
BERG IAmb IAmb 22 27 49.2
comp=Z,12nm,0.9s
WRH **Wood River Hil** 82.78 22 P P 22 27 44.5 -0.9
WRH IAmb IAmb 22 27 47.5
comp=Z,4.7nm,0.6s
N25K **Chitina, Valde** 82.86 26 P P 22 27 46.6 +0.6
baz=244
H23K **Yukon River** 82.93 21 P P 22 27 46.6 +0.4
H23K IAmb IAmb 22 27 49.2
comp=Z,3.9nm,0.6s
H23K **Yukon River** 82.93 21 P P 22 27 46.6 +0.4
baz=239
F22K **John River** 82.94 19 P P 22 27 46.7 +0.5
baz=236
B20K **Meade River** 82.95 16 P P 22 27 46.5 +0.3
B20K IAmb IAmb 22 29 22.4
comp=Z,20nm,1.9s
B20K **Meade River** 82.95 16 P P 22 27 46.3 +0.1
baz=231
MDM **Murphy Dome** 82.97 22 P P 22 27 48.0 +1.5
MDM IAmb IAmb 22 27 57.6
comp=Z,15nm,1.7s
HARP **HAARP** 82.97 25 P P 22 27 47.1 +0.6
baz=244
CCB **Clear Creek Bu** 82.97 22 P P 22 27 45.9 -0.6
CCB IAmb IAmb 22 27 48.2
comp=Z,5.3nm,0.6s
NRN **Naryn** 82.98 313 P P 22 27 46.8 -0.6
NRN **Naryn** 82.98 313 P P 22 27 46.8 -0.6
NRN pmax pmax
comp=Z,5.0nm,1.2s
C21K **Knifeblade Rid** 83.09 17 P P 22 27 47.7 +0.7
baz=234
PAX **Paxson** 83.10 24 P P 22 27 48.2 +0.9
baz=243
WAX **Waxell Ridge** 83.14 27 P P 22 27 48.4 +0.9
WAX IAmb IAmb 22 28 17.3
comp=Z,6.8nm,0.9s
CRQE **Cirque** 83.15 27 P P 22 27 48.2 +0.6
baz=246
HDA **Harding Lake** 83.18 23 P P 22 27 47.5 0.0
HDA IAmb IAmb 22 27 50.3
comp=Z,5.3nm,0.6s
HDA **Harding Lake** 83.18 23 P P 22 27 47.5 0.0
baz=242,SNR=6.2
VRDI **Verde Repeater** 83.19 26 P P 22 27 47.4 -0.5
G23K **Bananza Creek** 83.22 20 P P 22 27 47.6 -0.2
G23K IAmb IAmb 22 27 50.8
comp=Z,4.9nm,0.7s
G23K **Bananza Creek** 83.22 20 P P 22 27 48.3 +0.5
baz=238
POKR **Poker Plat Res** 83.34 22 P P 22 27 47.6 -0.7
POKR IAmb IAmb 22 27 49.1
comp=Z,5.1nm,0.5s
POKR **Poker Plat Res** 83.34 22 P P 22 27 48.3 -0.1
baz=241
K24K **Donnelly Dome** 83.35 23 P P 22 27 49.5 +1.0
baz=243
IL31 83.38 22 P P 22 27 47.0 -1.5
IL31 IAmb IAmb 22 27 50.5
comp=Z,7.8nm,0.6s
ILAR **Eielson Array** 83.38 22 P P 22 27 47.5 -1.0
ILAR **Eielson Array** 83.38 22 P P 22 27 47.5 -1.0
ILAR **Eielson Array** 83.38 22 P P 22 27 47.0 -1.6
comp=Z,5.7nm,0.6s,baz=250,slow=5.0,SNR=78
comp=Z,5.7nm,0.6s
E22K **Anaktuvuk Pass** 83.40 18 P P 22 27 49.0 +0.3
E22K **Anaktuvuk Pass** 83.40 18 P P 22 27 49.0 +0.3
baz=237
B21K **Ikpikpuk River** 83.42 17 P P 22 27 49.0 +0.4
B21K **Ikpikpuk River** 83.42 17 P P 22 27 49.0 +0.4
baz=234
ISLE **Juniper Island** 83.43 27 P P 22 27 49.9 +0.8
COLD **Coldfoot** 83.43 19 P P 22 27 49.9 +1.1
baz=238
NIL **Nilore** 83.44 305 P P 22 27 48.6 -0.9
NIL **Nilore** 83.44 305 P P 22 27 48.7 -0.9
NIL pmax pmax
comp=Z,18nm,0.7s
MESA **MESA** 83.44 27 P P 22 27 50.0 +0.8
baz=247
MCARA **McCarthy VSAT** 83.45 26 P P 22 27 50.0 +1.0
baz=246
H24K **Noodor Dome** 83.53 21 P P 22 27 49.5 +0.1
H24K IAmb IAmb 22 27 52.8
comp=Z,5.7nm,0.6s
H24K **Noodor Dome** 83.53 21 P P 22 27 49.8 +0.5
baz=241
D22K **Ayikyak River** 83.55 18 P P 22 27 50.0 +0.6
D22K IAmb IAmb 22 27 52.2

comp=Z,6.9nm,1.1s
D22K **Ayikyak River** 83.55 18 P P 22 27 50.2 +0.8
baz=236
KURK **Kurchatov** 83.67 322 P P 22 27 49.1 -1.2
KURK **Kurchatov** 83.67 322 *ce*P P 22 27 49.7 -0.6
KURK pmax pmax
comp=Z,14nm,1.0s
RIDG **Independent Ri** 83.69 24 P P 22 27 50.1 -0.1
RIDG **Independent Ri** 83.69 24 P P 22 27 50.9 +0.6
baz=244
KURBB **Kurchatov Arra** 83.70 322 P P 22 27 48.9 -1.5
comp=Z,21nm,1.3s,baz=108,slow=4.4,SNR=36
comp=Z,21nm,1.3s
GRNC **Granite Creek** 83.75 27 IAmb IAmb 22 28 05.2
comp=Z,20nm,1.7s
MENT **Mentasta** 83.80 25 P P 22 27 50.6 -0.2
MENT IAmb IAmb 22 27 52.3
comp=Z,4.6nm,0.6s
J25K **Salcha River,** 83.88 23 P P 22 27 51.0 -0.3
J25K **Salcha River,** 83.88 23 P P 22 27 51.5 +0.3
baz=243
A21K **Barrow** 83.91 15 P P 22 27 52.5 +1.4
baz=232
TABL **Table Mountain** 83.91 27 P P 22 27 52.5 +0.9
BARN **Barnard Glacie** 83.92 27 P P 22 27 52.1 +0.5
BARN IAmb IAmb 22 27 54.2
comp=Z,7.8nm,0.6s
L26K **Log Cabin Wild** 83.99 25 P P 22 27 52.2 +0.5
L26K IAmb IAmb 22 27 56.3
comp=Z,5.5nm,0.7s
L26K **Log Cabin Wild** 83.99 25 P P 22 27 52.5 +0.7
baz=245
CTG **Chitna Glacier** 84.03 27 P P 22 27 53.0 +0.9
baz=247
CTGM **Chitina Glacie** 84.03 27 P P 22 27 52.8 +0.7
CTGM IAmb IAmb 22 28 12.6
comp=Z,5.2nm,0.8s
E23K **Chandalar** 84.06 19 P P 22 27 52.7 +0.7
baz=239
G24K **Hadweenzic Riv** 84.09 20 P P 22 27 53.2 +1.0
G24K IAmb IAmb 22 27 55.1
comp=Z,4.3nm,0.7s
G24K **Hadweenzic Riv** 84.09 20 P P 22 27 52.7 +0.5
baz=241
A22K **Sinclair Lake** 84.14 15 P P 22 27 52.7 +0.4
baz=233
SCRK **Sand Creek** 84.14 24 P P 22 27 52.3 -0.4
SCRK IAmb IAmb 22 28 09.1
comp=Z,23nm,2.0s
SCRK **Sand Creek** 84.14 24 P P 22 27 52.9 +0.3
baz=244
D23K **Nanushuk River** 84.20 18 P P 22 27 53.5 +0.8
baz=238
PRP **Porcupine Dome** 84.23 22 P P 22 27 53.1 0.0
baz=243
UCH **Uchtor** 84.25 313 P P 22 27 54.4 +0.3
SNR=11
CHMS **Chumysh** 84.25 314 P P 22 27 53.9 +0.4
SNR=6.8
M27K **Edge Creek, AK** 84.34 25 P P 22 27 54.5 +0.9
M27K IAmb IAmb 22 27 56.5
comp=Z,9.7nm,0.8s
M27K **Edge Creek, AK** 84.34 25 P P 22 27 54.7 +1.0
baz=246
QSPA **South Pole Qui** 84.34 180 P P 22 27 54.4 +0.7
comp=Z,4.5nm,0.7s,baz=302,slow=0.6,SNR=20
comp=Z,4.5nm,0.7s
MAW **Mawson** 84.35 203 P P 22 27 50.5 -3.0
comp=Z,8.2nm,0.7s,baz=96,slow=22,SNR=14
AAK **Ala-Archa** 84.35 314 P P 22 27 55.0 +0.7
SNR=5.5
AAK **Ala-Archa** 84.35 314 P P 22 27 54.3 +0.1
AAK IAmb IAmb 22 27 55.4
comp=Z,6.9nm,0.8s
AAK **Ala-Archa** 84.35 314 *ce*P P 22 27 54.7 +0.5
AAK pmax pmax
comp=Z,7.0nm,0.7s
F24K **Squaw Lake** 84.35 20 P P 22 27 54.2 +0.7
F24K **Squaw Lake** 84.35 20 P P 22 27 54.7 +1.2
baz=240
TOLK **Toolik Lake Re** 84.38 18 P P 22 27 54.3 +0.7
TOLK IAmb IAmb 22 28 11.2
comp=Z,4.3nm,0.7s
TOLK **Toolik Lake Re** 84.38 18 P P 22 27 54.1 +0.5
baz=239
PNL **Peninsula** 84.44 28 P P 22 27 54.7 +0.6
baz=249
H25L **Birch Creek** 84.47 21 P P 22 27 55.0 +1.0
baz=242
O28M **Mount Upton** 84.47 27 P P 22 27 55.1 +0.6
baz=248
USP **Ospenovka** 84.49 314 P P 22 27 54.5 -0.3
SNR=18
J26L **Joseph Creek** 84.53 23 P P 22 27 55.0 +0.4
J26L IAmb IAmb 22 27 59.2
comp=Z,4.0nm,0.6s
J26L **Joseph Creek** 84.53 23 P P 22 27 55.5 +0.9
baz=245
G25K **Bearman Lake** 84.60 21 P P 22 27 55.7 +1.0
baz=242
L27K **Beaver Creek,** 84.64 25 P P 22 27 55.9 +0.8
L27K **Beaver Creek,** 84.64 25 P P 22 27 55.9 +0.8
baz=246
BCAR **Beaver Creek A** 84.66 25 P P 22 27 55.3 +0.2
C23K **Itkillik River** 84.69 17 P P 22 27 56.4 +1.3
baz=238
YUK3 **Moose Creek** 84.73 26 P P 22 27 56.9 +1.1
baz=248
BVCY **Beaver Creek** 84.80 26 P P 22 27 57.2 +1.4
baz=247
FYU **Fort Yukon** 84.82 21 P P 22 27 56.1 +0.3
FYU IAmb IAmb 22 27 59.2
comp=Z,7.2nm,0.6s
D24K **Happy Valley** 84.87 18 P P 22 27 56.7 +0.7
D24K **Happy Valley** 84.87 18 P P 22 27 57.2 +1.1
baz=240
EKS2 **Erkin-Say** 84.87 314 P P 22 27 56.5 -0.3
SNR=20
K27K **Chicken** 84.93 24 P P 22 27 56.8 +0.4
K27K IAmb IAmb 22 27 58.8
comp=Z,21nm,1.9s
K27K **Chicken** 84.93 24 P P 22 27 58.0 +1.6
baz=246
I26K **Coal Creek Min** 85.03 23 P P 22 27 57.7 +0.8
baz=245
F25K **Christian Rive** 85.15 20 P P 22 27 58.4 +0.9
baz=243
ARSB **Arslanbob** 85.17 312 P P 22 27 57.9 -0.5
ARSB **Arslanbob** 85.17 312 P P 22 27 57.9 -0.5
ARSB pmax pmax
comp=Z,6.0nm,1.2s
C24K **Franklin Bluff** 85.20 18 P P 22 27 59.0 +1.4
baz=240
P29M **Windy Craggy** 85.22 29 P P 22 27 59.4 +1.4
baz=250
YUK6 **Outpost Mounta** 85.37 27 P P 22 27 60.0 +0.9
baz=250
YUK4 **Talbot Arm** 85.38 27 P P 22 27 59.8 +0.8
baz=250
E25K **Arctic Village** 85.42 20 P P 22 27 59.3 +0.4
E25K **Arctic Village** 85.42 20 P P 22 27 59.7 +0.9
baz=243
S31K **Pelican** 85.42 31 P P 22 27 59.3 +0.3
baz=252
BMAR **Burnt Mountain** 85.44 20 P P 22 27 58.8 -0.2
G26K **Porcupine Rive** 85.50 21 P P 22 28 00.3 +1.1
baz=244
EGAK **Eagle** 85.59 23 P P 22 27 59.8 +0.1
EGAK **Eagle** 85.59 23 P P 22 28 00.2 +0.4
baz=247,SNR=7.8
F26K **Sheenjek River** 85.70 20 P P 22 28 01.2 +0.9
baz=244
D25K **Kavik River** 85.72 18 P P 22 27 59.9 -0.4
D25K **Kavik River** 85.72 18 P P 22 28 00.5 +0.2
baz=242
HYT **Haines Junctio** 85.72 28 P P 22 28 01.3 +0.7
HYT IAmb IAmb 22 28 03.9
comp=Z,6.0nm,0.6s
HYT **Haines Junctio** 85.72 28 P P 22 28 01.2 +0.7
baz=250
I27K **Kandik River** 85.74 23 P P 22 28 01.8 +1.3
baz=246
P30M **Million Dollar** 85.75 28 P P 22 28 02.4 +1.7
baz=251
M29M **Somme Creek** 85.85 26 P P 22 28 02.0 +0.8
M29M **Somme Creek** 85.85 26 P P 22 28 02.3 +1.1
baz=250

H27K **Steamboat Moun** 86.03 22 P P 22 28 03.2 +1.3
baz=246
DAWY **Dawson** 86.03 24 P P 22 28 03.0 +1.0
DAWY **Dawson** 86.03 24 P P 22 28 03.3 +1.3
baz=249
S32K **Killisnoo** 86.12 31 P P 22 28 03.7 +1.3
baz=253
N30M **Aishikik Lake** 86.12 27 P P 22 28 03.6 +1.0
baz=251
G27K **Doyon Strip** 86.21 21 P P 22 28 02.5 -0.3
G27K **Doyon Strip** 86.21 21 P P 22 28 03.6 +0.8
baz=246
L29M **L29M** 86.22 25 P P 22 28 03.8 +0.9
L29M IAmb IAmb 22 28 06.4
comp=Z,6.4nm,0.6s
L29M **L29M** 86.22 25 P P 22 28 04.3 +1.3
baz=250
I28M **Miner Creek** 86.33 23 P P 22 28 04.3 +0.9
I28M IAmb IAmb 22 28 05.4
comp=Z,4.0nm,0.6s
I28M **Miner Creek** 86.33 23 P P 22 28 04.1 +0.6
baz=248
NRIK **Noril'sk** 86.35 341 P P 22 28 02.3 -1.1
NRIK IAmb IAmb 22 28 06.2
comp=Z,6.0nm,0.7s
NRIK **Noril'sk** 86.35 341 *ce*P P 22 28 02.8 -0.6
NRIK **Noril'sk** 86.35 341 P P 22 28 02.1 -1.2
comp=Z,5.7nm,0.6s,baz=106,slow=4.1,SNR=12
comp=Z,5.7nm,0.6s
O30N **Mendenhall** 86.36 28 P P 22 28 05.2 +1.5
baz=252
C26K **Camden Bay** 86.45 18 P P 22 28 05.6 +1.8
baz=243
BTK **Batken** 86.55 311 P P 22 28 04.6 -0.5
BTK IAmb IAmb 22 28 41.7
comp=Z,11nm,1.4s
BTK **Batken** 86.55 311 P P 22 28 04.6 -0.5
BTK pmax pmax
comp=Z,11nm,1.5s
M30M **Minto, Yukon** 86.62 26 P P 22 28 05.6 +0.7
M30M IAmb IAmb 22 28 19.5
comp=Z,24nm,1.9s
M30M **Minto, Yukon** 86.62 26 P P 22 28 06.3 +1.4
baz=251
J29N **Klondike Camp** 86.65 24 P P 22 28 05.9 +0.8
J29N IAmb IAmb 22 28 09.7
comp=Z,5.9nm,0.5s
J29N **Klondike Camp** 86.65 24 P P 22 28 06.9 +1.9
baz=250
K29M **Barlow Dome** 86.73 25 P P 22 28 05.2 -0.3
K29M IAmb IAmb 22 28 08.9
comp=Z,5.8nm,0.7s
K29M **Barlow Dome** 86.73 25 P P 22 28 06.7 +1.2
baz=250
N31M **Braeburn, Yuko** 86.73 27 P P 22 28 07.9 +2.4
baz=252
GAR **Garm** 86.75 310 P P 22 28 05.7 -0.5
E27K **Coleen River** 86.78 20 P P 22 28 05.2 -0.4
E27K IAmb IAmb 22 28 07.9
comp=Z,5.6nm,0.5s
E27K **Coleen River** 86.78 20 P P 22 28 06.7 +1.1
baz=246
WHY **Whitehorse** 86.90 28 P P 22 28 07.5 +1.1
baz=253
P32M **Atlin** 87.15 29 P P 22 28 08.2 +0.6
baz=254
F28M **Old Crow** 87.16 21 P P 22 28 07.1 -0.3
F28M **Old Crow** 87.16 21 P P 22 28 08.4 +1.0
baz=248
H29M **Whitestone** 87.21 22 P P 22 28 08.4 +0.7
baz=249
KK31 **Karatay Array** 87.31 314 P P 22 28 07.4 -1.3
KK31 **Karatay Array** 87.31 314 P P 22 28 07.4 -1.3
KK31 pmax pmax
comp=Z,3.0nm,0.9s
KKAR **Karatay Array** 87.31 314 P P 22 28 07.9 -0.8
KKAR **Karatay Array** 87.31 314 P P 22 28 07.9 -0.8
KKAR pmax pmax
comp=Z,3.0nm,0.9s
MAYO **Mayo, Yukon** 87.33 25 P P 22 28 09.5 +1.2
baz=252
D27M **Malcolm River** 87.42 19 P P 22 28 08.5 -0.1
D27M **Malcolm River** 87.42 19 P P 22 28 10.0 +1.4
baz=247
J30M **Hart River** 87.46 24 P P 22 28 09.2 +0.1
J30M IAmb IAmb 22 28 29.2
comp=Z,4.6nm,0.7s
J30M **Hart River** 87.46 24 P P 22 28 09.9 +0.9
baz=251
M31M **Drury Creek, Y** 87.57 27 P P 22 28 10.3 +0.8
baz=253
CHGR **Chuyangaron** 87.58 309 P P 22 28 09.2 -1.0
CHGR IAmb IAmb 22 28 13.1
comp=Z,9.9nm,0.9s
CHGR **Chuyangaron** 87.58 309 P P 22 28 09.2 -1.0
CHGR pmax pmax
comp=Z,10.0nm,0.9s
G29M **Pine Creek** 87.58 22 P P 22 28 09.8 +0.4
baz=250
I30M **Mount Dempster** 87.65 24 P P 22 28 09.5 -0.4
I30M IAmb IAmb 22 28 31.2
comp=Z,13nm,1.6s
I30M **Mount Dempster** 87.65 24 P P 22 28 10.6 +0.6
baz=251
E28M **Babbage River** 87.65 20 P P 22 28 09.8 +0.1
E28M IAmb IAmb 22 28 13.7
comp=Z,5.0nm,0.7s
E28M **Babbage River** 87.65 20 P P 22 28 10.4 +0.6
baz=248
SIMJ **Simiganj** 87.70 309 P P 22 28 10.4 -0.4
SIMJ IAmb IAmb 22 29 36.2
comp=Z,8.9nm,1.5s
P33M **Teslin, Yukon** 87.75 29 P P 22 28 11.2 +0.7
baz=255
S34M **Telegraph Cree** 88.02 31 P P 22 28 13.0 +1.3
baz=256
FARO **Faro, Yukon** 88.05 27 P P 22 28 12.4 +0.7
baz=254
E29M **Blow River** 88.14 20 P P 22 28 12.3 +0.3
E29M **Blow River** 88.14 20 P P 22 28 13.4 +1.4
baz=250
R33M **Jennings River** 88.45 30 P P 22 28 15.1 +1.3
baz=256
F30M **Barrier River** 88.63 21 P P 22 28 14.7 +0.3
baz=252
H31M **Peel River** 88.64 23 P P 22 28 14.8 +0.3
H31M **Peel River** 88.64 23 P P 22 28 14.5 0.0
baz=253
DLBC **Dease Lake** 88.71 31 P P 22 28 16.0 +1.0
baz=257
G31M **Satah River** 88.99 22 P P 22 28 16.4 +0.4
baz=253
MMPY **Sheldon Lake,** 89.09 27 P P 22 28 17.4 +0.7
baz=256
BVAR **Borovoye Array** 89.17 323 P P 22 28 15.3 -1.9
comp=Z,7.4nm,0.6s,baz=110,slow=5.6,SNR=27
comp=Z,7.4nm,0.6s
BRVK **Borovoye** 89.24 323 P P 22 28 15.9 -1.7
BRVK IAmb IAmb 22 28 17.6
comp=Z,5.3nm,0.8s
BRVK **Borovoye** 89.24 323 *ce*P P 22 28 16.8 -0.7
BRVK pmax pmax
comp=Z,6.0nm,0.8s
F31M **Tsiigehtchic** 89.33 22 P P 22 28 18.9 +1.3
baz=254
INK **Inuvik** 89.65 21 P P 22 28 20.2 +1.1
baz=254
WTLY **Watson Lake, Y** 89.69 30 P P 22 28 20.3 +0.8
baz=258
TGTN **Hyland Airport** 90.22 28 P P 22 28 23.2 +1.2
baz=259
HUMO **Hull Mountain** 90.43 47 P P 22 28 23.2 -0.2
YBH **Yreka Blue Hor** 90.51 48 P P 22 28 24.0 +0.1
YBH IAmb IAmb 22 28 26.8
comp=Z,11nm,1.2s
YBH **Yreka Blue Hor** 90.51 48 P P 22 28 24.0 +0.1
YBH pmax pmax
comp=Z,11nm,1.2s
H04D **Lebanon** 90.83 46 P P 22 28 25.5 +0.3
L04D **Klamath Falls** 90.87 48 P P 22 28 25.1 -0.5
I04A **Tendick Farm,** 90.97 46 P P 22 28 25.5 -0.5
GNW **Green Mountain** 91.14 42 P P 22 28 26.1 -0.4
GNW IAmb IAmb 22 28 30.8
comp=Z,4.0nm,0.8s
ORV **Oroville** 91.17 51 P P 22 28 26.5 -0.4
ORV IAmb IAmb 22 28 30.1
comp=Z,4.3nm,0.9s
ORV **Oroville** 91.17 51 P P 22 28 26.5 -0.4
ORV pmax pmax
comp=Z,4.0nm,1.0s
AFDM **Forest Hills D** 91.51 51 P P 22 28 28.0 -0.5
AFDM IAmb IAmb 22 28 31.4
comp=Z,10nm,1.3s
J05D **Fort Rock, OR** 91.77 47 P P 22 28 29.8 +0.1
I05D **Terrebonne, OR** 91.80 46 P P 22 28 29.3 -0.5
CMB **Columbia Colle** 91.88 52 P P 22 28 29.8 -0.5
CMB **Columbia Colle** 91.88 52 P P 22 28 29.8 -0.5
CMB pmax pmax
comp=Z,3.0nm,0.8s
K05A **Summer Lake** 91.96 47 P P 22 28 31.0 +0.3
PINE **Pine Mountain** 92.03 46 P P 22 28 31.4 +0.3
PKM **Mcpherson Peak** 92.04 55 P P 22 28 32.0 +0.8
baz=265
EMB **Emerald Bay** 92.19 51 P P 22 28 32.2 +0.3
EMB IAmb IAmb 22 28 34.8
comp=Z,7.5nm,1.0s
MPK **Martis Peak** 92.28 51 P P 22 28 32.2 -0.2
PNTR **Pine Nut** 92.59 51 P P 22 28 34.2 +0.5
WAKR **Walker** 92.67 52 P P 22 28 33.9 -0.2
WAKR IAmb IAmb 22 28 36.7
comp=Z,5.5nm,0.6s
WRGLY **Wrigley** 92.71 27 P P 22 28 35.0 +1.6
baz=263
PAHR **Pah Rah Range** 92.81 51 P P 22 28 34.7 0.0
PAHR IAmb IAmb 22 28 36.9
comp=Z,5.2nm,0.8s
YERR **Yerington** 92.86 51 P P 22 28 35.5 +0.5
YERR IAmb IAmb 22 28 37.2
comp=Z,5.3nm,0.7s
MDPB **Devils Postpil** 92.87 53 P P 22 28 34.8 -0.3
CIS **Catalina Islan** 93.06 57 P P 22 28 36.0 +0.2
baz=265
I07A **Izee** 93.09 46 P P 22 28 35.1 -0.7
I07A IAmb IAmb 22 28 38.4
comp=Z,5.6nm,0.8s
A36M **Sachs Harbour** 93.19 18 P P 22 28 34.9 -0.6
A36M **Sachs Harbour** 93.19 18 P P 22 28 36.0 +0.5
baz=262
ISA **Isabella, Lake** 93.20 55 P P 22 28 35.5 -1.0
ISA **Isabella, Lake** 93.20 55 P P 22 28 36.9 +0.5
baz=265
ISA **Isabella, Lake** 93.20 55 P P 22 28 35.5 -1.0
ISA pmax pmax
comp=Z,4.0nm,1.0s
C36M **Paulatuk** 93.23 21 P P 22 28 36.1 +0.5
C36M **Paulatuk** 93.23 21 P P 22 28 35.6 -0.1
baz=263
LHV **Little Huntoon** 93.38 52 P P 22 28 36.7 -0.3
RYN **Ryan** 93.39 52 P P 22 28 37.5 +0.1
RYN IAmb IAmb 22 28 40.2
comp=Z,7.2nm,1.0s
PNT **Penticton** 93.44 41 P P 22 28 34.2 -3.0
PNT pmax pmax
comp=Z,10.0nm,0.8s
EDW2 **Edwards Air Fo** 93.53 55 P P 22 28 38.9 +0.9
baz=266,SNR=5.1
NVAR **Mina Array Bea** 93.55 52 P P 22 28 38.9 +0.7
NVAR **Mina Array Bea** 93.55 52 P P 22 28 39.8 +1.6
comp=Z,6.5nm,0.7s,baz=258,slow=6.4,SNR=39
comp=Z,6.5nm,0.7s
CWC **Cottonwood Cre** 93.58 54 P P 22 28 39.3 +1.0
baz=266
G08A **Pilot Rock** 93.58 45 P P 22 28 37.2 -0.8
G08A IAmb IAmb 22 28 41.0
comp=Z,12nm,1.5s
WVOR **Wild Horse Val** 93.59 48 P P 22 28 38.1 -0.1
WVOR **Wild Horse Val** 93.59 48 P P 22 28 38.1 -0.1
WVOR pmax pmax
comp=Z,19nm,1.7s
NV11 **Mina Array Sit** 93.66 52 P P 22 28 38.2 -0.5
NV11 IAmb IAmb 22 28 40.7
comp=Z,6.9nm,0.8s
DSP **Deep Springs** 93.73 53 P P 22 28 39.8 +1.0
DSP IAmb IAmb 22 28 42.1
comp=Z,8.3nm,1.0s
KVN **Kaiserville** 93.75 51 P P 22 28 38.1 -0.9
KVN **Kaiserville** 93.75 51 P P 22 28 38.2 -0.9
KVN pmax pmax
comp=Z,7.0nm,0.6s
BFSC **Mount Baldy Ra** 93.76 56 P P 22 28 40.8 +1.7
baz=266
J08A **Circle Bar Ran** 93.78 47 P P 22 28 39.5 +0.6
J08A IAmb IAmb 22 28 41.5
comp=Z,6.3nm,0.7s
LRMC **Laurel Mtn Rad** 93.83 55 P P 22 28 40.9 +1.5
baz=266,SNR=8.4
MPMC **Manual Prospec** 94.02 54 P P 22 28 41.7 +1.3
baz=266,SNR=7.8
MURC **Murrieta** 94.09 57 P P 22 28 41.8 +1.2
baz=266
MZP **Montezuma Peak** 94.22 53 P P 22 28 41.3 -0.1
E09A **Wood Farm, Sta** 94.23 44 P P 22 28 41.6 +0.8
E09A IAmb IAmb 22 29 34.0
comp=Z,12nm,1.5s
TPH **Tonopah** 94.37 52 P P 22 28 42.3 +0.3
TPH **Tonopah** 94.37 52 P P 22 28 42.3 +0.3
TPH pmax pmax
comp=Z,63nm,1.5s
BMN **Battle Mountai** 94.52 50 P P 22 28 42.7 +0.2
BMN IAmb IAmb 22 28 48.5
comp=Z,6.5nm,1.4s
BMN **Battle Mountai** 94.52 50 P P 22 28 42.7 +0.2
BMN pmax pmax
comp=Z,7.0nm,1.4s
QSM **Queen of Sheba** 94.52 54 P P 22 28 43.5 +1.1
FURC **Furnace Creek,** 94.56 54 P P 22 28 44.5 +1.9
baz=266
MONP2 **Monument Peak** 94.69 58 P P 22 28 45.1 +1.5
baz=266,SNR=6.6
GWY **Greenwater Val** 94.69 54 P P 22 28 44.0 +0.6
GWY IAmb IAmb 22 28 45.7
comp=Z,4.7nm,0.6s
PFO **Pinyon Flats O** 94.71 57 P P 22 28 45.5 +2.0
baz=266
TPFO **Pinon Flats** 94.71 57 P P 22 28 44.8 +1.3
baz=266
WCT **Wildcat Mounta** 94.77 54 P P 22 28 43.2 -0.4
PMD **Palm Desert** 94.78 57 P P 22 28 43.4 -0.2
PMD IAmb IAmb 22 28 47.1
comp=Z,3.7nm,0.8s
F10A **Beach Ranch, E** 94.83 44 P P 22 28 43.1 -0.7
F10A IAmb IAmb 22 28 45.2
comp=Z,4.8nm,1.1s
RMX **La Rumorosa** 94.97 58 P P 22 28 44.7 0.0
SHOC **Shoshone, Teco** 95.00 55 P P 22 28 45.7 +1.0
baz=267
NEW **Newport** 95.02 42 P P 22 28 44.5 0.0
NEW IAmb IAmb 22 28 47.0
comp=Z,6.8nm,1.3s
NEW **Newport** 95.02 42 P P 22 28 45.6 +1.1
baz=267
NEW **Newport** 95.02 42 P P 22 28 44.5 0.0
NEW pmax pmax
comp=Z,7.0nm,1.3s
BRLDA **Berland Lookou** 95.11 36 P P 22 28 45.1 +0.2
BELC **Belle Mtn. Jos** 95.11 56 P P 22 28 46.1 +0.7
baz=267
SWSC **Sam W. Stewart** 95.22 58 P P 22 28 46.8 +1.1
baz=267
TUQ **Turquoise Moun** 95.26 55 P P 22 28 47.3 +1.3
baz=267
ABKAR **Akbulak array** 95.29 319 P P 22 28 43.4 -2.2
GMRC **Granite Mounta** 95.44 56 P P 22 28 48.9 +2.1
baz=267,SNR=5.3
BC3 **Big Chuckawall** 95.55 57 P P 22 28 49.4 +2.1
baz=267
R11B **Troy Canyon, C** 95.67 52 P P 22 28 48.4 +0.5
R11B IAmb IAmb 22 28 50.8
comp=Z,5.2nm,1.3s
R11B **Troy Canyon, C** 95.67 52 P P 22 28 50.0 +2.1
baz=267,SNR=5.4
ELIB **Princess Elisa** 95.71 194 *d*P P 22 28 48.2 +0.9
comp=Z,2.3nm,1.1s
IRM **Iron Mountain** 95.83 56 P P 22 28 50.6 +2.1
baz=267
SHPR **Sheep Range** 95.93 54 P P 22 28 49.0 -0.1
SHPR IAmb IAmb 22 28 52.0
comp=Z,3.1nm,0.9s
V12A **Nelson** 96.14 55 P P 22 28 50.1 +0.1
V12A IAmb IAmb 22 28 52.9
comp=Z,3.7nm,0.8s
Q12A **Willow Creek R** 96.29 51 P P 22 28 51.3 +0.7

Q12A					IAmb	IAmb	22 28 53.2	
	comp=Z,5.1nm,0.9s							
ARU	**Arti**	**96.32**	**326**		P	**P**	**22 28 47.2**	**-2.9**
ARU	**Arti**	**96.32**	**326**	*i*	P	**P**	**22 28 46.7**	**-3.4**
ARU					pmax	pmax		
	comp=Z,3.0nm,1.0s							
PDMCI	**Parker Dam,Lak**	**96.67**	**56**		P	**P**	**22 28 53.8**	**+1.5**
	baz=268							
SPR3	**Spring Creek 3**	**96.68**	**51**		P	**P**	**22 28 51.9**	**-0.7**
SPR3					IAmb	IAmb	22 28 55.0	
	comp=Z,4.7nm,0.8s							
YKA	**Yellowknife Ar**	**96.72**	**28**	*ce*	P	**P**	**22 28 52.0**	**+0.2**
YKA	**Yellowknife Ar**	**96.72**	**28**		P	**P**	**22 28 50.6**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=275,slow=4.7,SNR=6.8							
	comp=Z,0.3nm,0.7s							
HLID	**Hailey**	**96.74**	**47**		P	**P**	**22 28 52.8**	**+0.2**
HLID	**Hailey**	**96.74**	**47**		P	**P**	**22 28 53.9**	**+1.3**
	baz=269							
W13A	**Hualapai Mount**	**96.91**	**55**		P	**P**	**22 28 53.8**	**+0.2**
PSUT	**Pine Spring**	**97.04**	**52**		P	**P**	**22 28 53.6**	**-0.6**
PSUT					IAmb	IAmb	22 28 59.6	
	comp=Z,4.9nm,1.2s							
CCUT	**Cedar City**	**97.40**	**53**		P	**P**	**22 28 55.1**	**-0.7**
CCUT					IAmb	IAmb	22 28 58.7	
	comp=Z,2.4nm,0.8s							
214A	**Organ Pipe Nat**	**97.70**	**59**		P	Pdif	22 28 57.2	+0.2
214A					IAmb	IAmb	22 29 02.1	
	comp=Z,3.9nm,0.8s							
214A	**Organ Pipe Nat**	**97.70**	**59**		P	Pdif	22 28 58.2	+1.1
	baz=268							
KNB	**Kanab**	**97.82**	**54**		P	**P**	**22 28 57.0**	**-0.7**
KNB	**Kanab**	**97.82**	**54**		P	**P**	**22 28 57.0**	**-0.7**
KNB					pmax	pmax		
	comp=Z,15nm,1.5s							
DUG	**Dugway, Tooele**	**97.88**	**50**		P	Pdif	22 28 59.1	+1.2
	baz=269							
HVU	**Hansel Valley**	**97.92**	**49**		P	**P**	**22 28 57.8**	**-0.1**
HVU					IAmb	IAmb	22 29 00.7	
	comp=Z,4.7nm,1.0s							
HVU	**Hansel Valley**	**97.92**	**49**		P	**P**	**22 28 57.8**	**-0.1**
HVU					pmax	pmax		
	comp=Z,5.0nm,1.0s							
SPUT	**South Promonto**	**98.17**	**49**		P	**P**	**22 28 57.9**	**-1.1**
SPUT					IAmb	IAmb	22 29 01.2	
	comp=Z,3.6nm,1.1s							
U15A	**North Rim**	**98.24**	**54**		P	Pdif	22 28 59.8	+0.1
U15A					IAmb	IAmb	22 29 02.6	
	comp=Z,2.3nm,0.7s							
MTPU	**Mount Pierson**	**98.34**	**52**		P	**P**	**22 29 00.0**	**-0.2**
MTPU					IAmb	IAmb	22 29 03.4	
	comp=Z,3.2nm,0.7s							
BOZ	**Bozeman (W)**	**98.74**	**45**		P	Pdif	22 29 02.9	+1.3
	baz=271							
WUAZ	**Wupatki**	**98.97**	**55**		P	Pdif	22 29 03.8	+1.0
	baz=270							
TMUT	**Trail Mountain**	**99.11**	**51**		P	**Pdif**	**22 29 03.6**	**0.0**
AHID	**Auburn Hatcher**	**99.16**	**48**		P	**Pdif**	**22 29 03.5**	**0.0**
AHID					IAmb	IAmb	22 29 08.0	
	comp=Z,3.4nm,0.8s							
TUC	**Tucson**	**99.43**	**58**		P	**Pdif**	**22 29 05.6**	**+0.8**
	baz=269							
H17A	**Grant Village**	**99.51**	**46**		P	**Pdif**	**22 29 05.8**	**+0.7**
	baz=271							
EGMT	**Eagleton**	**99.95**	**42**		P	**Pdif**	**22 29 07.8**	**+1.0**
	baz=273							
PD31	**Pinedale Array**	**100.30**	**48**		Pdif	**Pdif**	**22 29 07.9**	**-0.8**
PDAR	**Pinedale Array**	**100.30**	**48**		P	**Pdif**	**22 29 08.3**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=238,slow=2.9,SNR=7.2							
MVCO	**Mesa Verde**	**101.28**	**53**		P	**Pdif**	**22 29 14.3**	**+1.1**
	baz=272							
O20A	**White River Ci**	**101.38**	**50**		P	**Pdif**	**22 29 14.6**	**+1.1**
	baz=272							
121A	**Cookes Peak, D**	**101.96**	**58**		P	**Pdif**	**22 29 16.5**	**+0.3**
	baz=271							
N23A	**Red Feather La**	**103.09**	**49**		P	**Pdif**	**22 29 22.0**	**+0.9**
	baz=274							
ISCO	**Idaho Springs**	**103.42**	**51**		P	**Pdif**	**22 29 23.0**	**+0.3**
	baz=274							
ARCES	**ARCESS Array B**	**107.29**	**343**		PKiKP	**PKiKP**	**22 33 46.5**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=59,slow=1.7,SNR=9.0							
WMOK	**Wichita Mounta**	**109.31**	**55**		P	**PKiKP**	**22 33 52.7**	**+0.5**
	baz=277							
833A	**Chaparral WMA,**	**109.39**	**62**		P	**PKiKP**	**22 33 52.8**	**+0.4**
	baz=274							
FINES	**FINESS Array B**	**111.29**	**335**	*c i*	PKiKP	**PKiKP**	**22 33 56.0**	**+1.0**
FINES					pmax	pmax		
	comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**111.29**	**335**		Pdiff	**Pdif**	**22 29 53.6**	**-3.2**
	comp=Z,1.2nm,0.7s,baz=64,slow=4.4,SNR=3.9							
FINES					PKiKP	**PKiKP**	**22 33 54.3**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=0.0,slow=2.9,SNR=7.6							
AKASG	**Malin Array Be**	**114.45**	**324**		PKP	PKPdf	22 34 00.5	-0.8
	comp=Z,1.6nm,0.6s,baz=73,slow=1.4,SNR=4.6							
CCM	**Cathedral Cave**	**114.75**	**51**		P	PKPdf	22 34 02.2	-0.2
	baz=283							
HFS	**Hagfors**	**116.99**	**338**		PKP	**PKPdf**	**22 34 04.5**	**-1.5**
	comp=Z,1.0nm,0.6s,baz=72,slow=6.7,SNR=5.3							
NB2	**NORSAR Subarra**	**117.26**	**340**		PKPdf	**PKPdf**	**22 34 05.6**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=44,slow=1.9							
NOA	**NORSAR Array B**	**117.26**	**340**		PKP	**PKPdf**	**22 34 05.2**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=52,slow=2.1,SNR=3.9							
SFIN	**Lafayette**	**117.26**	**47**		P	**PKiKP**	**22 34 07.5**	**+0.4**
	baz=287							
WVT	**Waverly**	**117.85**	**52**		P	**PKPdf**	**22 34 08.2**	**-0.2**
	baz=284							
BOSA	**Boshof**	**118.16**	**233**		PKP	**PKiKP**	**22 34 09.9**	**+0.5**
	comp=Z,1.5nm,0.5s,baz=118,slow=1.2,SNR=11							
WCI	**Wyandotte Cave**	**118.48**	**49**		P	**PKPdf**	**22 34 09.3**	**-0.3**
	baz=286							
O48B	**Farmland**	**118.72**	**47**		P	**PKPdf**	**22 34 09.8**	**-0.1**
	baz=288							
AAM	**Ann Arbor**	**119.10**	**44**		P	**PKPdf**	**22 34 10.2**	**-0.4**
	baz=291							
LRAL	**Lakeview Retre**	**119.25**	**55**		P	**PKPdf**	**22 34 10.1**	**-1.1**
	baz=283							
P49A	**Miami Univ. Ec**	**119.26**	**48**		P	**PKPdf**	**22 34 10.2**	**-0.8**
	baz=288							
PLCA	**Paso Flores**	**119.84**	**144**		PKP	**PKPdf**	**22 34 12.1**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=233,slow=3.6,SNR=6.8							
ACSO	**Alum Creek Sta**	**120.29**	**46**		P	**PKPdf**	**22 34 12.8**	**-0.1**
	baz=290							
LANS	**Liptovska Anna**	**120.77**	**325**	*e*	PKiKP	**PKiKP**	**22 34 14.8**	**+1.0**
LANS	**Liptovska Anna**	**120.77**	**325**	*e*	PKP	**PKiKP**	**22 34 14.8**	**+1.0**
TZTN	**Tazewell**	**121.06**	**50**		P	**PKPdf**	**22 34 14.1**	**-0.5**
	baz=288							
P52A	**Corning**	**121.11**	**47**		P	**PKPdf**	**22 34 13.8**	**-0.7**
	baz=290							
VYHS	**Vyhne**	**121.47**	**325**	*e*	PKiKP	**PKPdf**	**22 34 15.0**	**0.0**
VYHS	**Vyhne**	**121.47**	**325**	*e*	PKP	**PKPdf**	**22 34 15.0**	**0.0**
M53A	**WI Miller and**	**121.48**	**44**		P	**PKPdf**	**22 34 15.0**	**-0.2**
	baz=293							
MORC	**Moravsky Berou**	**121.51**	**327**	*e*	PKP	**PKiKP**	**22 34 16.2**	**+1.0**
O53A	**New Philadelph**	**121.55**	**46**		P	**PKPdf**	**22 34 15.1**	**-0.3**
	baz=292							
ERPA	**Erie**	**121.69**	**43**		P	**PKPdf**	**22 34 15.2**	**-0.5**
	baz=294							
KRLC	**Kraliky**	**121.75**	**327**	*e*	PKPDF	**PKiKP**	**22 34 15.9**	**+0.2**
KRLC	**Kraliky**	**121.75**	**327**	*e*	PKiKP	**PKiKP**	**22 34 15.9**	**+0.2**
JAVC	**Velka Javorina**	**121.93**	**326**	*e*	PKP	**PKiKP**	**22 34 16.8**	**+0.7**
GOGA	**Godfrey**	**122.03**	**54**		P	**PKiKP**	**22 34 17.0**	**+0.3**
	baz=286							
SCHQ	**Schefferville**	**122.05**	**25**		PKP	**PKPdf**	**22 34 15.6**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=80,slow=18,SNR=1.6							
SRO	**Srobarova**	**122.12**	**325**	*e*	PKiKP	**PKiKP**	**22 34 17.6**	**+1.2**
SRO	**Srobarova**	**122.12**	**325**	*e*	PKP	**PKiKP**	**22 34 17.6**	**+1.2**
VRAC	**Vranov**	**122.28**	**327**	*e*	PKP	**PKiKP**	**22 34 17.2**	**+0.5**
MODS	**Modra-Piesok**	**122.41**	**326**	*e*	PKiKP	**PKiKP**	**22 34 18.1**	**+1.1**
MODS	**Modra-Piesok**	**122.41**	**326**	*e*	PKP	**PKiKP**	**22 34 18.1**	**+1.1**
TIGA	**Tifton**	**122.44**	**56**		P	**PKiKP**	**22 34 18.1**	**+0.6**
	baz=285							
KRUC	**Moravsky**	**122.53**	**327**	*e*	PKP	**PKiKP**	**22 34 17.2**	**0.0**
MCWV	**Mont Chateau**	**122.75**	**46**		P	**PKiKP**	**22 34 18.4**	**+0.5**
	baz=292							
BRG	**Berggiesshubel**	**122.77**	**329**	*e*	PKiKP	**PKiKP**	**22 34 17.6**	**-0.1**
BRG					Amp		22 34 19.5	
	comp=Z,6.8nm,1.1s							
BRG					Amp		22 39 39.0	
	comp=N,34nm,22.0s							
BRG					Amp		22 39 40.0	
	comp=E,38nm,20.4s							
BRG					Amp		22 39 43.0	
	comp=Z,61nm,20.5s							
BRG	**Berggiesshubel**	**122.77**	**329**	*e*	PKiKP	**PKiKP**	**22 34 17.5**	**-0.1**
BRG					pmax	pmax		
	comp=Z,7.0nm,1.1s							
BRG					MLR	MLR		
	comp=N,34μm,22.0s							
BRG					MLR	MLR		
	comp=E,38μm,20.4s							
BRG					MLR	MLR		
	comp=Z,61μm,20.5s							
TREC	**Trest**	**122.89**	**327**	*e*	PKPDF	**PKiKP**	**22 34 18.0**	**+0.1**
TREC	**Trest**	**122.89**	**327**	*e*	PKiKP	**PKiKP**	**22 34 18.0**	**+0.1**
CLL	**Collm**	**122.97**	**330**	*e*	PKiKP	**PKiKP**	**22 34 18.0**	**0.0**
CLL	**Collm**	**122.97**	**330**	*e*	PKPdf	**PKiKP**	**22 34 18.0**	**0.0**
KMSC	**Kings Mountain**	**123.21**	**51**		P	**PKiKP**	**22 34 19.2**	**+0.3**
	baz=288							
BLA	**Blacksburg**	**123.22**	**49**		P	**PKiKP**	**22 34 19.2**	**+0.2**
	baz=290							
RONA	**Rosalia, Austr**	**123.33**	**325**	*e*	PKiKP	**PKiKP**	**22 34 19.6**	**+0.7**
	comp=Z,5.0nm,1.0s							
CONA	**Conrad Observa**	**123.45**	**326**	*e*	PKP	**PKPdf**	**22 34 19.0**	**+0.1**
	comp=Z,5.1nm,1.3s							
SSPA	**Standing Stone**	**123.74**	**44**		P	**PKiKP**	**22 34 20.3**	**+0.5**
	baz=295							
CKRC	**Cesky Krumlov**	**123.80**	**327**	*e*	PKPDF	**PKPdf**	**22 34 19.6**	**+0.1**
CKRC	**Cesky Krumlov**	**123.80**	**327**	*e*	PKiKP	**PKPdf**	**22 34 19.6**	**+0.1**
NKC	**Novy Kostel**	**123.92**	**330**	*e*	PKPDF	**PKiKP**	**22 34 20.1**	**+0.2**
NKC	**Novy Kostel**	**123.92**	**330**	*e*	PKiKP	**PKiKP**	**22 34 20.1**	**+0.2**
KHC	**Kasperske Hory**	**124.00**	**328**	*e*	PKPDF	**PKiKP**	**22 34 20.4**	**+0.2**
KHC	**Kasperske Hory**	**124.00**	**328**	*c i*	PKiKP	**PKPdf**	**22 34 18.1**	**-1.8**
KHC					pmax	pmax		
	comp=Z,15nm,1.3s							
LONY	**Lake Ozonia**	**124.09**	**38**		P	**PKiKP**	**22 34 20.7**	**+0.3**
	baz=300							
GERES	**GERESS Array B**	**124.11**	**328**		PKP	**PKPdf**	**22 34 20.1**	**0.0**
	comp=Z,2.8nm,0.6s,baz=42,slow=4.2,SNR=12							
BINY	**Binghamton**	**124.34**	**42**		P	**PKiKP**	**22 34 21.2**	**+0.2**
	baz=297							
SOKA	**Soboth**	**124.61**	**325**	*e*	PKiKP	**PKiKP**	**22 34 21.8**	**+0.2**
	comp=Z,6.3nm,1.1s							
BIOA	**Bad Ischl, Aus**	**124.82**	**327**	*e*	PKiKP	**PKiKP**	**22 34 23.0**	**+1.1**
	comp=Z,5.1nm,1.2s							
CBN	**Corbin Frederi**	**125.09**	**47**		P	**PKiKP**	**22 34 22.5**	**0.0**
	baz=294							
LESA	**Schwarzleotal**	**125.50**	**327**	*e*	PKP	**PKPdf**	**22 34 22.5**	**-0.4**
	comp=Z,1.7nm,0.5s							
LBNH	**Lisbon**	**125.91**	**38**		P	**PKiKP**	**22 34 24.3**	**+0.2**
	baz=302							
ABTA	**Abfaltersbach**	**126.00**	**326**	*e*	PKiKP	**PKiKP**	**22 34 24.4**	**+0.1**
	comp=Z,1.1nm,1.3s							
WATA	**Walderalm**	**126.15**	**327**	*e*	PKP	**PKPdf**	**22 34 24.3**	**+0.1**
	comp=Z,6.2nm,0.8s							
WTTA	**Wattenberg**	**126.17**	**327**	*e*	PKiKP	**PKiKP**	**22 34 24.8**	**+0.1**
	comp=Z,7.7nm,0.7s							
PAL	**Palisades**	**126.28**	**42**		P	**PKiKP**	**22 34 25.6**	**+0.7**
	baz=298							
L61B	**Northampton**	**126.37**	**40**		P	**PKiKP**	**22 34 25.5**	**+0.5**
	baz=300							
MOTA	**Moosalm**	**126.40**	**327**	*e*	PKP	**PKPdf**	**22 34 24.7**	**0.0**
	comp=Z,6.1nm,0.7s							
SQTA	**Sankt Quirin**	**126.42**	**327**	*e*	PKP	**PKPdf**	**22 34 24.7**	**+0.1**
	comp=Z,4.4nm,0.7s							
EKA	**Eskdalemuir Ar**	**126.45**	**342**		PKP	**PKPdf**	**22 34 24.1**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=15,slow=2.8,SNR=10							
FETA	**Feichten**	**126.80**	**327**	*e*	PKiKP	**PKiKP**	**22 34 26.1**	**+0.1**
	comp=Z,8.9nm,1.0s							
PKME	**Peaks-Kenny Pk**	**126.90**	**35**		P	**PKiKP**	**22 34 26.5**	**+0.5**
	baz=306							
HRV	**Adam Dziewonsk**	**127.06**	**39**		P	**PKiKP**	**22 34 26.7**	**+0.3**
	baz=302							
DAVA	**Damuels**	**127.09**	**328**	*e*	PKiKP	**PKiKP**	**22 34 26.5**	**0.0**
	comp=Z,5.6nm,1.0s							
KEST	**Kesa**	**134.16**	**316**		PKP	**PKPdf**	**22 34 39.4**	**-0.2**
	comp=Z,6.1nm,1.0s,baz=309,slow=2.4,SNR=5.7							
LPAZ	**La Paz**	**135.09**	**120**		PKP	**PKPdf**	**22 34 42.7**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=274,slow=1.7,SNR=7.5							
CPUP	**Villa Florida**	**137.64**	**140**		PKP	**PKPdf**	**22 34 46.5**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=320,slow=3.0,SNR=3.9							
ESDC	**Sonseca Array**	**139.56**	**330**		PKP	**PKPdf**	**22 34 48.3**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=5.6,slow=2.8,SNR=4.2							
TORD	**Torodi Ar. Bea**	**149.39**	**286**		PKPbc	**PKPbc**	**22 35 10.9**	**-0.6**
	comp=Z,4.0nm,0.5s,baz=66,slow=1.9,SNR=52							
BDFB	**Brasilia**	**151.31**	**138**		PKPbc	**PKiKP**	**22 35 17.2**	**+0.5**
	comp=Z,9.8nm,0.5s,baz=226,slow=1.8,SNR=18							
DBIC	**Dimbokro**	**156.55**	**274**		PKPbc	PKPdf	22 35 27.2	+10
	comp=Z,2.6nm,0.6s,baz=85,slow=1.6,SNR=5.4							
DBIC					PKPab	**PKPab**	**22 35 45.4**	**-1.2**
	comp=Z,3.9nm,0.5s,baz=97,slow=4.2,SNR=7.0							

IDC ***29*** *22:23:23.5±1.8, 5°32N×125°90E, h0km, mb3.8/4, mbtmp3.8/4, ML5.0/1, Error ellipse: s-maj=136.7km s-min=20.8km az=68.0, Mindanao*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**15.59**	**188**	Pn	Pn	22 27 06.5	+1.7
	6.7nm,0.3s,baz=0.6,slow=2.5,SNR=8.9						
WRA	**Warramunga Arr**	**26.45**	**162**	P		22 29 02.8	+0.4
	0.9nm,0.3s,baz=337,slow=9.4,SNR=22						
	0.9nm,0.3s						
ASAR	**Alice Springs**	**29.86**	**165**	P		22 29 31.9	-0.9
	0.4nm,0.3s,baz=347,slow=7.6,SNR=8.4						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**55.78**	**325**	P		22 33 02.4	+0.1
	0.4nm,0.3s,baz=123,slow=8.2,SNR=9.9						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**59.96**	**327**	P		22 33 31.4	-0.2
	0.3nm,0.4s,baz=136,slow=6.5,SNR=1.4						
	0.3nm,0.4s						

IDC ***29*** *22:25:34.1±0.9, 3°75S×151°10E, h0km, mb4.0/16, mbtmp4.0/17, ML2.2/1, Error ellipse: s-maj=34.6km s-min=15.8km az=100.0*

ISC 29 22:25:39.5±0.8, 3°8S±0°1×151°1E±0°2, h35km, n18, σ0s95/18, mb3.9/16, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.82**	**215**	P	Pn	**Pn**	**22 27 17.7**	**+0.6**
	2.7nm,0.3s,baz=76,slow=9.4,SNR=6.5						
	18nm,0.7s						
WRA	**Warramunga Arr**	**22.91**	**224**	P		**P**	**22 30 40.0**	**-0.6**
	5.5nm,1.1s,baz=49,slow=9.9,SNR=12						
	5.5nm,1.1s						
ASAR	**Alice Springs**	**25.82**	**218**	P		**P**	**22 31 08.1**	**+0.4**
	4.5nm,1.0s,baz=56,slow=8.1,SNR=17						
	4.5nm,1.0s						
STKA	**Stephens Creek**	**29.34**	**197**	P		**P**	**22 31 37.9**	**-1.3**
	1.8nm,0.8s,baz=9.7,slow=10.0,SNR=3.0						
	1.8nm,0.8s						
USRK	**Ussuriysk Ar.**	**50.74**	**342**	P		**P**	**22 34 36.5**	**+0.6**
	0.7nm,0.6s,baz=152,slow=9.8,SNR=5.0						
	0.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**55.89**	**295**	P		**P**	**22 35 13.8**	**-0.5**
	1.7nm,0.4s,baz=118,slow=5.7,SNR=8.5						
	1.7nm,0.4s						
PETK	**Petropavlovsk-**	**56.94**	**5**	P		**P**	**22 35 21.8**	**+0.7**
	2.0nm,0.6s,baz=168,slow=7.4,SNR=1.6						
	2.0nm,0.6s						
SONM	**Songino Array**	**64.55**	**328**	P		**P**	**22 36 14.1**	**+0.9**
	1.2nm,1.0s,baz=114,slow=17,SNR=1.8						
	1.2nm,1.0s						
VNDA	**Vanda**	**73.92**	**178**	P		**P**	**22 37 11.2**	**+0.6**
	0.7nm,0.8s,baz=135,slow=15,SNR=1.7						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**78.43**	**319**	P		**P**	**22 37 36.3**	**-0.6**
	0.5nm,0.9s,baz=95,slow=8.6,SNR=4.1						
	0.5nm,0.9s						
ZALV	**Zalesovo Beam**	**79.35**	**327**	P		**P**	**22 37 42.6**	**+1.0**
	0.3nm,0.8s,baz=104,slow=11,SNR=4.7						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**81.86**	**22**	P		**P**	**22 37 55.4**	**+0.5**
	1.3nm,0.8s,baz=246,slow=5.8,SNR=3.2						
	1.3nm,0.8s						
KURBB	**Kurchatov Arra**	**81.94**	**322**	P		**P**	**22 37 55.7**	**+0.1**
	0.3nm,0.5s,baz=99,slow=18,SNR=1.2						
	0.3nm,0.5s						
NRIK	**Noril'sk**	**84.44**	**341**	P		**P**	**22 38 07.5**	**-0.6**
	1.4nm,0.7s,baz=98,slow=4.7,SNR=1.8						
	1.4nm,0.7s						
QSPA	**South Pole Qui**	**86.18**	**180**	P		**P**	**22 38 18.2**	**+1.1**
	2.2nm,0.9s,baz=358,slow=4.6,SNR=5.2						
	2.2nm,0.9s						
BVAR	**Borovoye Array**	**87.40**	**323**	P		**P**	**22 38 21.6**	**-1.5**
	0.4nm,0.5s,baz=102,slow=4.9,SNR=2.2						
	0.4nm,0.5s						
YKA	**Yellowknife Ar**	**95.32**	**28**	P		**P**	**22 38 58.2**	**-1.5**
	0.1nm,0.6s,baz=274,slow=4.7,SNR=3.9						
	0.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**148.35**	**289**	PKPbc	**PKPbc**	**22 45 22.3**	**-1.0**
	1.3nm,1.1s,baz=76,slow=6.1,SNR=4.6						

IDC ***29*** *22:27:31.9±0.7, 3°77S×151°30E, h0km, mb4.2/19, mbtmp4.2/20, ML1.8/1, Error ellipse: s-maj=26.0km s-min=15.5km az=97.0*

NEIC ***29*** *22:27:40.4±1.5, 3°70S±0°08×151°1E±0°1, h29km±5km, mb4.8/167, Error ellipse: s-maj=15.9km s-min=11.5km az=74.0*

DJA ***29*** *22:27:46.5±1.2, 4°S±5°×15°1E±°, h50km±9km, M4.6/23, mB5.7/2, mb4.8/23, MLv4.5/1, Mw(mB)5.2/2*

ISC 29 22:27:40.9±0.4, 3°89S±0°06×151°07E±0°07, h35km, n476, σ1s38/456, mb4.8/123, 1C-3D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAVG	**Kavieng**	**1.32**	**349**	P	Pn	22 27 53.2	-10
MANU	**Manus Island**	**4.12**	**296**	P	**Pn**	**22 28 39.3**	**-2.1**
MANU	**Manus Island**	**4.12**	**296**	Pn	**Pn**	**22 28 40.6**	**-0.8**
PMG	**Port Moresby**	**6.72**	**215**	Pn	Pn	22 29 19.5	+2.4
PMG	**Port Moresby**	**6.72**	**215**	Pn	**Pn**	**22 29 15.3**	**-1.7**
	1.0nm,0.3s,baz=316,slow=12,SNR=1.4						
	20nm,0.9s						
TABU	**Tabubil**	**9.91**	**262**	P	Pn	22 30 05.1	+4.1
MTSU	**Mount Surprise**	**15.63**	**205**	P	P	22 31 28.8	+6.4
TV1H	**Townsville Har**	**15.84**	**195**	P	P	22 31 30.9	+6.2
CTAO	**Charters Tower**	**16.77**	**196**	P	P	22 31 41.4	+6.3
CTAO	**Charters Tower**	**16.77**	**196**		**P**	**22 31 34.4**	**-0.8**
FAKI	**Fak Fak**	**18.81**	**272**	P	**Pn**	**22 31 59.6**	**+1.2**
	25nm,1.1s						
SWI	**Sorong**	**20.01**	**278**	P	**P**	**22 32 10.6**	**-0.2**
	29nm,1.1s						
KDU	**Kakadu**	**20.36**	**243**	P	Pn	22 32 19.1	+2.4
BNDI	**Bandanaira**	**21.11**	**268**	P	**P**	**22 32 22.7**	**-0.1**
	125nm,1.4s						
MTN	**Manton Dam**	**21.62**	**244**	P	P	22 32 33.9	+5.8
WB0	**Warramunga Arr**	**22.66**	**225**	P	**P**	**22 32 41.0**	**+1.6**
WB0				IAmb	IAmb	22 32 45.5	
	comp=Z,36nm,1.1s						
WR0	**Warramunga Arr**	**22.69**	**224**	P	**P**	**22 32 40.5**	**+0.9**
WRAB	**Tennant Creek**	**22.80**	**224**	P	**P**	**22 32 40.3**	**-0.6**
WB2	**Warramunga Arr**	**22.81**	**224**	P	**P**	**22 32 41.5**	**+0.6**
WRA	**Warramunga Arr**	**22.82**	**224**	P	**P**	**22 32 41.8**	**+0.9**
WRA	**Warramunga Arr**	**22.82**	**224**	P	**P**	**22 32 38.1**	**-2.9**
	comp=Z,4.6nm,1.0s,baz=49,slow=10,SNR=6.6						
	comp=Z,4.6nm,1.0s						
NOUC	**Port Laguerre**	**23.37**	**142**	P	**P**	**22 32 48.9**	**+2.4**
DZM	**Mont Dzumac**	**23.43**	**142**	P	**P**	**22 32 49.5**	**+2.3**
DZM	**Mont Dzumac**	**23.43**	**142**	P	**P**	**22 32 47.5**	**+0.3**
DZM	**Mont Dzumac**	**23.43**	**142**	P	**P**	**22 32 44.0**	**-3.2**
	comp=Z,28nm,1.0s,baz=329,slow=17,SNR=2.3						
	comp=Z,28nm,1.0s						
QLP	**Quilpie**	**23.50**	**195**	P	P	22 32 51.5	+3.8
QUENC	**Quen Island, N**	**23.94**	**142**	P	**P**	**22 32 51.9**	**0.0**
SANI	**Sanana**	**25.11**	**273**	P	**P**	**22 33 02.1**	**-0.6**
SANI	**Sanana**	**25.11**	**273**	P	**P**	**22 33 06.9**	**+4.2**
	comp=Z,32nm,1.2s						
AS01	**Alice Springs**	**25.69**	**219**	P	P	22 33 13.2	+5.3
AS31	**Alice Springs**	**25.72**	**219**	P	**P**	**22 33 10.2**	**+2.0**
ASAR	**Alice Springs**	**25.72**	**219**	P	**P**	**22 33 09.4**	**+1.3**
ASAR	**Alice Springs**	**25.72**	**219**	P	**P**	**22 33 06.8**	**-1.4**
	comp=Z,4.8nm,1.0s,baz=57,slow=8.3,SNR=4.8						
	comp=Z,4.8nm,1.0s						
SOEI	**Soe**	**27.23**	**256**	P	**P**	**22 33 23

comp=Z,15nm,1.5s
GTA Gaotai 63.82 318 P P 22 38 13.0 +3.0
GTA pP sP 22 38 25.0 +1.2
GTA pmax pmax
comp=Z,5.0nm,1.4s
ULN Ulaanbaatar 64.32 329 P P 22 38 12.8 -0.3
ULN lAmb lAmb 22 38 17.1
comp=Z,15nm,1.4s
ULN Ulaanbaatar 64.32 329 P P 22 38 16.2 +3.1
SONM Songino Array 64.64 328 P P 22 38 14.3 -0.9
SONM lAmb lAmb 22 38 19.1
comp=Z,14nm,1.5s
SONM Songino Array 64.64 328 P P 22 38 10.9 -4.3
comp=Z,0.5nm,0.5s,baz=125,slow=7.4,SNR=3.4
comp=Z,0.5nm,0.5s
NIKH Nikolski High 65.92 25 P P 22 38 23.4 +0.3
baz=225
LSA Lhasa 66.30 305 P P 22 38 26.7 0.0
UNV Unalaska Valle 67.53 26 P P 22 38 34.3 +0.9
baz=227
YAK Yakutsk 67.75 349 P P 22 38 33.3 -1.3
SPIA Saint Paul Isl 68.43 21 P P 22 38 39.3 +0.3
baz=222
FALS False Pass 69.56 26 P P 22 38 46.4 +0.4
baz=229
S12K Black Hills 70.69 26 P P 22 38 53.6 +0.6
baz=230
SDPT Sand Point 71.18 27 P P 22 38 55.5 -0.4
SDPT Sand Point 71.18 27 P P 22 38 56.4 +0.5
baz=232
CNBA Chernabura Isl 71.26 28 P P 22 38 56.6 +0.2
CNBA lAmb lAmb 22 38 58.5
comp=Z,18nm,1.2s
CHNA Chernabura Isl 71.27 28 P P 22 38 57.1 +0.6
baz=233
S14K Fog Glacier 72.16 26 P P 22 39 02.9 +0.9
baz=233
BILL Bilibino 72.56 6 P P 22 39 04.7 +0.7
CHGN Chignik 72.68 27 P P 22 39 01.9 -3.0
CHGN lAmb lAmb 22 39 17.4
comp=Z,15nm,1.2s
CHGN Chignik 72.68 27 P P 22 39 05.7 +0.7
baz=234
GAMB Gambell 72.99 16 P P 22 39 07.3 +0.7
baz=219
M13K Dall Lake 73.26 22 P P 22 39 09.3 +1.1
baz=228
N14K Kuskokwak Cree 73.56 23 P P 22 39 11.1 +1.1
baz=230
R16K Pilot Point 73.80 26 P P 22 39 12.6 +1.1
baz=234
VNDA Vanda 73.80 178 P P 22 39 12.3 +1.0
O15K Ungalikthiuk R 73.82 24 P P 22 39 12.4 +0.7
baz=232
WMQ Urumqi 73.91 318 *e*P P 22 39 16.0 +3.4
WMQ pmax pmax
comp=Z,16nm,1.7s
M14K Bethel 74.00 22 P P 22 39 12.8 +0.2
M14K lAmb lAmb 22 39 15.0
comp=Z,11nm,1.1s
M14K Bethel 74.00 22 P P 22 39 13.4 +0.8
baz=229
L14K Kuka Creek 74.12 21 P P 22 39 12.4 -0.9
L14K lAmb lAmb 22 39 15.8
comp=Z,13nm,1.1s
L14K Kuka Creek 74.12 21 P P 22 39 14.1 +0.7
baz=228
N15K Kwethluk River 74.34 23 P P 22 39 13.8 -0.8
N15K lAmb lAmb 22 39 19.1
comp=Z,10nm,1.0s
N15K Kwethluk River 74.34 23 P P 22 39 15.4 +0.7
baz=231
M15K Kasigluk River 74.44 22 P P 22 39 16.0 +0.8
baz=231
P16K Nushagak River 74.49 25 P P 22 39 16.0 +0.5
baz=234
J14K Nanvaranak Lak 74.76 20 P P 22 39 17.9 +0.9
baz=227
L15K Ungalak Mounta 74.78 21 P P 22 39 18.2 +1.0
baz=230
O16K Kokwok River B 74.78 24 P P 22 39 18.5 +1.3
baz=233
Q17K Contact Creek 74.94 26 P P 22 39 18.2 -0.1
baz=236
N16K Nishlik Lake 75.04 23 P P 22 39 19.1 +0.4
baz=232
K15K Wolf Creek Mou 75.16 21 P P 22 39 17.8 -1.6
K15K lAmb lAmb 22 39 22.0
comp=Z,10nm,1.0s
K15K Wolf Creek Mou 75.16 21 P P 22 39 19.7 +0.3
baz=229
P17K Kvichak River 75.23 25 P P 22 39 20.3 +0.5
baz=235
O17K Koliganek Bris 75.30 24 P P 22 39 20.6 +0.4
baz=234
M16K Timber Creek 75.31 23 P P 22 39 19.2 -1.1
M16K lAmb lAmb 22 39 24.7
comp=Z,11nm,0.9s
M16K Timber Creek 75.31 23 P P 22 39 20.4 +0.2
baz=232
TNA Tin City 75.40 16 P P 22 39 21.9 +1.3
baz=222
ANM Nome 75.43 18 P P 22 39 22.1 +1.2
baz=225
L16K Owhat River 75.54 22 P P 22 39 20.5 -1.0
L16K Owhat River 75.54 22 P P 22 39 22.4 +0.9
baz=232
OHAK Old Harbor 75.54 28 P P 22 39 22.5 +0.9
baz=238
N17K Nushagak Hills 75.70 24 P P 22 39 22.5 -0.1
baz=234
F14K Arctic Creek 75.80 17 P P 22 39 24.1 +1.1
baz=224
P18K Big Mountain, 75.86 25 P P 22 39 24.7 +1.2
baz=236
M17K Holitna River 76.12 23 P P 22 39 26.0 +1.1
baz=234
O18K Koktuh Hills 76.12 25 P P 22 39 25.9 +0.9
baz=236
J16K Anvik River 76.13 20 P P 22 39 24.5 -0.4
J16K Anvik River 76.13 20 P P 22 39 25.8 +0.9
baz=230
G15K Niukluk 76.14 18 P P 22 39 25.9 +1.0
baz=226
KDAK Kodiak Island 76.15 27 P P 22 39 25.8 +0.7
baz=239
L17K Donlin 76.24 22 P P 22 39 26.6 +1.1
baz=232
Q19K Cape Douglas, 76.28 26 P P 22 39 26.0 +0.1
baz=238
N18K Kilae Creek 76.31 24 P P 22 39 24.5 -1.5
N18K lAmb lAmb 22 39 29.1
comp=Z,16nm,1.2s
N18K Kilae Creek 76.31 24 P P 22 39 26.3 +0.2
baz=235
F15K North Star Dit 76.46 17 P P 22 39 25.3 -1.4
F15K lAmb lAmb 22 39 42.1
comp=Z,31nm,2.0s
F15K North Star Dit 76.46 17 P P 22 39 27.5 +0.7
baz=226
H16K Elim 76.47 19 P P 22 39 27.5 +0.7
baz=228
I17K Unalakleet 76.48 20 P P 22 39 26.9 0.0
I17K Unalakleet 76.48 20 P P 22 39 27.8 +1.0
baz=230
K17K Iditarod 76.59 21 P P 22 39 26.8 -0.7
K17K Iditarod 76.59 21 P P 22 39 28.8 +1.2
baz=232
SVW2 Sparrevohn 76.68 24 P P 22 39 27.1 -1.0
SVW2 lAmb lAmb 22 39 31.0
comp=Z,10nm,1.1s
M18K Stony River 76.80 23 P P 22 39 29.8 +1.1
baz=235
P19K Oil Pt 76.85 26 P P 22 39 30.1 +1.0
baz=238
L18K Granite Mounta 76.89 22 P P 22 39 27.8 -1.4
L18K lAmb lAmb 22 39 33.6
comp=Z,18nm,1.2s
L18K Granite Mounta 76.89 22 P P 22 39 30.2 +1.0
baz=234
G16K Koyuk River 76.94 18 P P 22 39 28.1 -1.4
G16K lAmb lAmb 22 39 31.9
comp=Z,25nm,1.9s
G16K Koyuk River 76.94 18 P P 22 39 30.0 +0.6
baz=228
N19K Bonanza Creek 76.96 24 P P 22 39 27.3 -2.4
N19K lAmb lAmb 22 39 32.2
comp=Z,14nm,1.4s
N19K Bonanza Creek 76.96 24 P P 22 39 30.4 +0.6
baz=236
ILSW Iliamna Southw 77.07 25 P P 22 39 28.8 -1.6
ILSW lAmb lAmb 22 39 33.1
comp=Z,22nm,1.2s
O20K Slope Mountain 77.34 25 P P 22 39 32.9 +1.0
baz=238
H17K Granite Mounta 77.42 19 P P 22 39 31.3 -0.8
H17K lAmb lAmb 22 39 34.8
comp=Z,8.0nm,0.8s
H17K Granite Mounta 77.42 19 P P 22 39 33.1 +0.9
baz=230
G17K Kiwalik Mounta 77.55 19 P P 22 39 34.0 +1.2
baz=230
TTA Tatalina 77.56 22 P P 22 39 31.6 -1.5
TTA lAmb lAmb 22 39 35.6
comp=Z,11nm,1.1s
TTA Tatalina 77.56 22 P P 22 39 34.0 +0.9
baz=235
L19K White Mountain 77.58 23 P P 22 39 30.7 -2.5
L19K lAmb lAmb 22 39 35.8
comp=Z,15nm,1.0s
L19K White Mountain 77.58 23 P P 22 39 33.8 +0.7
baz=236
M19K Big River Lodg 77.60 23 P P 22 39 31.9 -1.3
M19K lAmb lAmb 22 39 37.4
comp=Z,11nm,1.1s
M19K Big River Lodg 77.60 23 P P 22 39 34.2 +0.9
baz=236
J18K Innoko River 77.62 21 P P 22 39 30.8 -2.6
J18K lAmb lAmb 22 39 35.6
comp=Z,8.1nm,1.0s
J18K Innoko River 77.62 21 P P 22 39 34.3 +1.0
baz=234
CNPM China Poot 77.65 26 P P 22 39 33.1 -0.5
F17K Baldwin Pennin 77.98 18 P P 22 39 33.3 -1.8
F17K Baldwin Pennin 77.98 18 P P 22 39 36.3 +1.1
baz=229
H18K Honhosa River 78.07 19 P P 22 39 36.3 +0.5
baz=232
C16K Lisburne Hills 78.08 15 P P 22 39 34.9 -0.8
C16K Lisburne Hills 78.08 15 P P 22 39 36.4 +0.7
baz=225
M20K Styx River 78.09 24 P P 22 39 34.1 -1.9
M20K lAmb lAmb 22 39 38.6
comp=Z,14nm,1.1s
M20K Styx River 78.09 24 P P 22 39 36.9 +0.8
baz=238
N20K Mount Spurr 78.10 24 P P 22 39 36.8 +0.7
baz=238
L20K Farewell, AK 78.12 23 P P 22 39 36.8 +0.7
baz=237
E17K Hotham Inlet 78.23 17 P P 22 39 37.7 +1.1
baz=228,SNR=6.7
D17K Noatak River 78.29 16 P P 22 39 37.9 +1.0
baz=227
GCSA Galena City Sc 78.33 20 P P 22 39 38.1 +0.9
baz=233
J19K Poorman 78.33 21 P P 22 39 36.4 -0.8
J19K lAmb lAmb 22 39 40.0
comp=Z,12nm,1.2s
J19K Poorman 78.33 21 P P 22 39 38.2 +1.0
baz=235,SNR=7.3
G18K Tagagawik 78.44 19 P P 22 39 34.2 -3.6
G18K Tagagawik 78.44 19 P P 22 39 39.0 +1.2
baz=232
MK31 Makanchi Array 78.51 319 P P 22 39 37.2 -1.4
MKAR Makanchi Array 78.51 319 P P 22 39 36.5 -2.2
MKAR Makanchi Array 78.51 319 P P 22 39 35.7 -2.9
comp=Z,1.0nm,0.8s,baz=114,slow=6.2,SNR=6.4
comp=Z,1.0nm,0.8s
K20K Telida 78.53 22 P P 22 39 37.5 -0.9
K20K lAmb lAmb 22 39 41.2
comp=Z,10.0nm,1.0s
K20K Telida 78.53 22 P P 22 39 39.6 +1.2
baz=236
F18K Selawik 78.57 18 P P 22 39 40.0 +1.6
baz=230
RDOG Red Dog Mine 78.58 16 P P 22 39 38.6 0.0
RDOG lAmb lAmb 22 39 41.1
comp=Z,11nm,1.1s
RDOG Red Dog Mine 78.58 16 P P 22 39 39.8 +1.3
baz=227
MAKZ Makanchi 78.72 319 P P 22 39 39.4 -0.4
MAKZ lAmb lAmb 22 39 43.5
comp=Z,8.6nm,1.1s
SEW Seward 78.72 26 P P 22 39 40.0 +0.6
baz=241
SKT Skwentna 78.78 24 P P 22 39 39.9 +0.1
baz=239
O22K Cooper Landing 78.79 26 P P 22 39 40.1 +0.3
C17K DeLong Mountai 78.80 16 P P 22 39 41.1 +1.4
baz=227
E18K Tukpahlearik C 78.81 17 P P 22 39 37.5 -2.3
E18K Tukpahlearik C 78.81 17 P P 22 39 40.9 +1.1
baz=229
SUA Susitna One 78.84 25 P P 22 39 39.6 -0.7
SUA Susitna One 78.84 25 P P 22 39 40.4 +0.2
baz=240
FIS Fire Island 78.90 25 P P 22 39 40.5 +0.1
H19K Roundabout Mou 78.94 20 P P 22 39 38.3 -2.2
H19K lAmb lAmb 22 39 43.1
comp=Z,18nm,1.1s
H19K Roundabout Mou 78.94 20 P P 22 39 41.4 +0.9
baz=234
J20K Nowinta River 78.96 21 P P 22 39 37.7 -3.0
J20K lAmb lAmb 22 39 44.2
comp=Z,28nm,1.5s
J20K Nowinta River 78.96 21 P P 22 39 41.7 +1.0
baz=236
PPLA Purkeypile 79.00 23 P P 22 39 41.6 +0.4
baz=238
RC01 Rabbit Creek A 79.08 25 P P 22 39 40.8 -0.6
RC01 lAmb lAmb 22 39 43.7
comp=Z,14nm,1.0s
RC01 Rabbit Creek A 79.08 25 P P 22 39 41.5 +0.1
baz=241
G19K Purcell Mounta 79.09 19 P P 22 39 40.1 -1.3
G19K lAmb lAmb 22 39 44.0
comp=Z,13nm,1.1s
G19K Purcell Mounta 79.09 19 P P 22 39 42.4 +1.0
baz=233
I20K Naaghedeneel 79.19 21 P P 22 39 40.9 -1.0
I20K lAmb lAmb 22 39 44.8
comp=Z,23nm,1.1s
I20K Naaghedeneel 79.19 21 P P 22 39 43.4 +1.5
baz=236
M22K Willow 79.25 24 P P 22 39 41.4 -0.9
M22K Willow 79.25 24 P P 22 39 42.9 +0.6
baz=240
F19K Shaleruckik Mo 79.30 18 P P 22 39 41.6 -0.9
F19K lAmb lAmb 22 39 44.6
comp=Z,7.7nm,0.9s
F19K Shaleruckik Mo 79.30 18 P P 22 39 43.6 +1.2
baz=232
CAST Castle Rocks 79.32 23 P P 22 39 42.3 -0.4
CAST lAmb lAmb 22 39 44.9
comp=Z,8.2nm,1.0s
CAST Castle Rocks 79.32 23 P P 22 39 43.7 +1.0
baz=238,SNR=7.4
ZAA0 Zalesovo Array 79.44 327 P P 22 39 42.7 -0.8
ZALV Zalesovo Beam 79.44 327 P P 22 39 41.8 -1.7
ZALV Zalesovo Beam 79.44 327 P P 22 39 39.4 -4.1
comp=Z,0.6nm,0.6s,baz=101,slow=6.0,SNR=2.0
comp=Z,0.6nm,0.6s
H20K Anotleneega Mo 79.45 20 P P 22 39 44.7 +1.3
baz=235
C18K Utukok River 79.45 16 P P 22 39 43.1 -0.2
C18K Utukok River 79.45 16 P P 22 39 44.0 +0.6
baz=229
CHUM Lake Minchumin 79.48 22 P P 22 39 44.4 +0.9
baz=238,SNR=8.2
CUT Chulitna 79.51 24 P P 22 39 43.3 -0.5
CUT Chulitna 79.51 24 P P 22 39 44.1 +0.4
baz=240
PMR Palmer 79.58 25 P P 22 39 41.9 -2.2
PMR lAmb lAmb 22 39 45.7
comp=Z,8.5nm,1.0s
PMR Palmer 79.58 25 P P 22 39 44.6 +0.5
baz=241
P23K Montague Islan 79.58 27 P P 22 39 45.4 +1.2
baz=243
GHO Glory Hole Cre 79.75 25 P P 22 39 45.4 +0.2
GHO lAmb lAmb 22 39 47.4
comp=Z,14nm,1.2s
B18K Kokolik River 79.77 15 P P 22 39 46.5 +1.5
baz=228
KNK Knik Glacier 79.78 25 P P 22 39 45.5 +0.3
KNK lAmb lAmb 22 39 48.8
comp=Z,14nm,1.2s
KNK Knik Glacier 79.78 25 P P 22 39 46.2 +0.9
baz=242
KTH Kantishna Hill 79.84 23 P P 22 39 44.6 -1.0
KTH lAmb lAmb 22 39 47.2
comp=Z,15nm,1.2s
E19K Redstone River 79.85 18 P P 22 39 42.8 -2.7
E19K lAmb lAmb 22 39 48.1
comp=Z,15nm,0.9s
E19K Redstone River 79.85 18 P P 22 39 46.6 +1.1
baz=233
PRZ Przheval'sk 79.95 314 P P 22 39 46.4 -0.4
PRZ lAmb lAmb 22 39 52.0
comp=Z,21nm,1.1s
SML Sawmill 80.02 25 P P 22 39 46.1 -0.4
SML lAmb lAmb 22 39 48.5
comp=Z,16nm,0.9s
SML Sawmill 80.02 25 P P 22 39 47.9 +1.3
baz=242,SNR=5.1
TRF Thorofare Moun 80.03 23 P P 22 39 47.2 +0.5
baz=240
F20K Avaraart Lake 80.07 19 P P 22 39 45.9 -0.7
F20K lAmb lAmb 22 39 49.5
comp=Z,11nm,1.2s
F20K Avaraart Lake 80.07 19 P P 22 39 47.8 +1.2
baz=234,SNR=7.5
BPAW Bear Paw Mtn. 80.09 22 P P 22 39 45.5 -1.4
BPAW Bear Paw Mtn. 80.09 22 P P 22 39 47.8 +0.9
baz=239
IMAR Indian Mountai 80.11 20 P P 22 39 45.6 -1.3
TARG Taragay, Kyrgy 80.19 313 P P 22 39 46.9 -1.5
C19K Lookout Ridge 80.19 16 P P 22 39 45.8 -1.6
C19K lAmb lAmb 22 39 50.1
comp=Z,10.0nm,1.0s
C19K Lookout Ridge 80.19 16 P P 22 39 48.7 +1.3
baz=230
D19K Kuna River 80.22 17 P P 22 39 46.6 -0.9
D19K Kuna River 80.22 17 P P 22 39 48.6 +1.1
baz=232
H21K Melozitna Rive 80.26 20 P P 22 39 47.0 -0.8
H21K Melozitna Rive 80.26 20 P P 22 39 48.8 +1.1
baz=237
M23K Glacier View 80.27 25 P P 22 39 48.5 +0.6
baz=242
I21K Tanana 80.29 21 P P 22 39 46.7 -1.2
I21K lAmb lAmb 22 39 51.7
comp=Z,14nm,1.1s
I21K Tanana 80.29 21 P P 22 39 49.1 +1.2
baz=238
WAT1 Susitna Watana 80.41 24 P P 22 39 48.9 +0.3
baz=242
SCM Sheep Creek Mo 80.45 25 P P 22 39 48.1 -0.8
SCM lAmb lAmb 22 39 51.6
comp=Z,12nm,1.0s
SCM Sheep Creek Mo 80.45 25 P P 22 39 49.8 +0.9
baz=243
G21K Allakaket 80.49 20 P P 22 39 48.1 -0.9
G21K lAmb lAmb 22 39 58.7
comp=Z,17nm,1.8s
G21K Allakaket 80.49 20 P P 22 39 49.8 +0.8
baz=236
A19K Wainwright 80.52 15 P P 22 39 50.2 +1.2
baz=229
EYAK Cordova Ski Ar 80.57 27 P P 22 39 50.1 +0.6
baz=244
RND Reindeer 80.57 23 P P 22 39 48.5 -1.0
RND lAmb lAmb 22 39 51.2
comp=Z,12nm,1.0s
WAT6 Susitna Watana 80.63 24 P P 22 39 50.2 +0.2
baz=242,SNR=7.5
E20K Nigu River 80.64 17 P P 22 39 50.9 +1.0
baz=234
MLY Manley 80.66 21 P P 22 39 49.5 -0.5
MLY lAmb lAmb 22 39 52.5
comp=Z,9.3nm,1.0s
MLY Manley 80.66 21 P P 22 39 50.7 +0.7
baz=239,SNR=5.9
MCK McKinley 80.69 23 P P 22 39 50.6 +0.5
baz=241,SNR=8.0
BWN Browne 80.71 22 P P 22 39 50.2 0.0
D20K Etivluk River 80.79 17 P P 22 39 52.0 +1.4
baz=233
H22K Ishtalitna Cre 80.88 21 P P 22 39 52.1 +1.0
baz=238
F21K Alatna River 80.89 19 P P 22 39 50.1 -1.1
F21K Alatna River 80.89 19 P P 22 39 51.8 +0.7
baz=236
KLU Klutina 80.90 26 P P 22 39 51.3 -0.1
KLU lAmb lAmb 22 39 53.8
comp=Z,13nm,1.0s
KLU Klutina 80.90 26 P P 22 39 52.7 +1.3
baz=244,SNR=6.5
DHY Denali Highway 81.00 24 P P 22 39 51.5 -0.5
DHY Denali Highway 81.00 24 P P 22 39 53.2 +1.2
baz=243,SNR=5.6
KSH Kashi 81.03 311 P P 22 39 57.5 +4.9
KSH pmax pmax
comp=Z,7.0nm,1.2s
M24K Tolsona, Glenn 81.06 25 P P 22 39 52.9 +0.7
M24K lAmb lAmb 22 39 54.8
comp=Z,17nm,1.1s
M24K Tolsona, Glenn 81.06 25 P P 22 39 53.5 +1.3
baz=244
NEA2 Nenana 81.06 22 P P 22 39 51.9 -0.2
NEA2 lAmb lAmb 22 39 53.7
comp=Z,9.4nm,1.0s
NEA2 Nenana 81.06 22 P P 22 39 52.6 +0.5
baz=241,SNR=5.4
I23K Minto, Yukon-K 81.23 22 P P 22 39 54.1 +1.2
baz=240
BMRM Bremner River 81.25 26 P P 22 39 53.7 +0.5
baz=246
WRH Wood River Hil 81.38 23 P P 22 39 53.1 -0.6
WRH lAmb lAmb 22 39 54.8
comp=Z,10.0nm,1.1s
BERG Berg Lake 81.42 27 P P 22 39 53.2 -0.9
BERG lAmb lAmb 22 39 56.5
comp=Z,11nm,1.0s
B20K Meade River 81.42 16 P P 22 39 52.5 -1.3
B20K Meade River 81.42 16 P P 22 39 54.8 +1.0
baz=232
NRN Naryn 81.44 313 P P 22 39 56.7 +1.8
F22K John River 81.47 19 P P 22 39 55.7 +1.5
baz=238
H23K Yukon River 81.50 21 P P 22 39 55.6 +1.2
baz=240
N25K Chitina, Valde 81.52 26 P P 22 39 54.2 -0.5
N25K Chitina, Valde 81.52 26 P P 22 39 55.7 +1.1
baz=245
MDM Murphy Dome 81.56 22 P P 22 39 54.3 -0.4
MDM lAmb lAmb 22 39 56.4
comp=Z,13nm,1.6s
C21K Knifeblade Rid 81.59 17 P P 22 39 56.1 +1.3
baz=235
HARP HAARP 81.62 25 P P 22 39 56.5 +1.4
baz=245
PAX Paxson 81.73 24 P P 22 39 57.0 +1.2
baz=244
G23K Bananza Creek 81.77 20 P P 22 39 54.2 -1.7
G23K Bananza Creek 81.77 20 P P 22 39 57.1 +1.2
baz=240
HDA Harding Lake 81.79 23 P P 22 39 54.9 -1.0
HDA Harding Lake 81.79 23 P P 22 39 56.9 +1.0
baz=243
GLB Gilahina Butte 81.80 26 P P 22 39 57.2 +1.1
CRQM Cirque 81.82 27 P P 22 39 55.5 -0.9
CRQM lAmb lAmb 22 40 18.2
comp=Z,8.8nm,1.1s
CRQE Cirque 81.84 27 P P 22 39 57.5 +1.1
baz=247
VRDI Verde Repeater 81.87 26 P P 22 39 56.7 +0.1
B21K Ikpikpuk River 81.91 17 P P 22 39 57.5 +1.2
baz=235
E22K Anaktuvuk Pass 81.92 19 P P 22 39 56.1 -0.6
E22K lAmb lAmb 22 40 00.3
comp=Z,17nm,1.6s
E22K Anaktuvuk Pass 81.92 19 P P 22 39 57.7 +1.1
baz=238
TGL Tana Glacier 81.96 27 P P 22 39 56.8 -0.3
TGL lAmb lAmb 22 39 59.2
comp=Z,14nm,1.3s
K24K Donnelly Dome 81.97 24 P P 22 39 58.2 +1.3
baz=244

IL31		81.97	22	P		P	22 39 55.7	-1.1
ILAR	Eielson Array	81.97	22	P		P	22 39 55.9	-1.0
ILAR	Eielson Array	81.97	22	P		P	22 39 51.5	-5.4
	comp=Z,0.8nm,0.6s,baz=251,slow=4.5,SNR=7.7							
	comp=Z,0.8nm,0.6s							
COLD	Coldfoot	81.98	20	P		P	22 39 57.8	+0.9
	baz=239							
KURK	Kurchatov	81.99	322	P		P	22 39 57.5	+0.3
KURK				IAmb		IAmb	22 40 00.5	
	comp=Z,8.3nm,1.1s							
KURBB	Kurchatov Arra	82.02	322	P		P	22 39 53.4	-4.0
	comp=Z,0.6nm,0.2s,baz=113,slow=4.6,SNR=3.1							
	comp=Z,0.6nm,0.2s							
D22K	Ayikyak River	82.06	18	P		P	22 39 58.8	+1.5
	baz=237							
H24K	Noodor Dome	82.10	21	P		P	22 39 58.9	+1.3
	baz=242							
MCARA	McCarthy VSAT	82.12	26	P		P	22 39 58.9	+1.1
	baz=247							
MESA	MESA	82.14	28	P		P	22 39 59.1	+1.0
	baz=248							
RIDG	Independent Ri	82.32	24	P		P	22 39 59.1	+0.3
	baz=245							
A21K	Barrow	82.37	15	P		P	22 39 59.4	+0.6
	baz=233							
J25K	Salcha River,	82.49	23	IAmb		IAmb	22 40 01.2	
	comp=Z,7.5nm,0.8s							
J25K	Salcha River,	82.49	23	P		P	22 39 60.0	+0.3
	baz=244							
M26K	Nabesna, AK	82.54	25	P		P	22 40 00.9	+1.0
	baz=247							
E23K	Chandalar	82.59	19	P		P	22 40 01.6	+1.4
	baz=240							
A22K	Sinclair Lake	82.61	15	P		P	22 40 00.9	+0.8
	baz=234							
L26K	Log Cabin Wild	82.64	25	P		P	22 39 59.9	-0.5
L26K	Log Cabin Wild	82.64	25	P		P	22 40 01.5	+1.1
	baz=246							
G24K	Hadweenzic Riv	82.66	21	P		P	22 40 01.6	+1.2
	baz=242							
B22K	Teshekpuk Lake	82.66	16	P		P	22 40 01.4	+1.2
	baz=236							
CTG	Chitna Glacier	82.72	27	P		P	22 40 02.1	+1.0
	baz=248							
D23K	Nanushuk River	82.72	18	P		P	22 40 02.6	+1.9
	baz=239							
CTGM	Chitina Glacie	82.72	27	P		P	22 40 01.2	+0.1
CTGM				IAmb		IAmb	22 40 03.5	
	comp=Z,7.3nm,1.0s							
SCRK	Sand Creek	82.77	24	P		P	22 40 01.8	+0.7
SCRK	Sand Creek	82.77	24	P		P	22 40 02.2	+1.0
	baz=246							
PRP	Porcupine Dome	82.83	22	P		P	22 40 01.4	-0.1
	baz=244							
TOLK	Toolik Lake Re	82.90	19	P		P	22 40 02.6	+0.9
	baz=240							
F24K	Squaw Lake	82.90	20	P		P	22 39 59.6	-2.2
F24K	Squaw Lake	82.90	20	P		P	22 40 03.1	+1.4
	baz=242							
M27K	Edge Creek, AK	83.00	26	P		P	22 40 01.6	-0.9
M27K				IAmb		IAmb	22 40 05.1	
	comp=Z,12nm,1.0s							
M27K	Edge Creek, AK	83.00	26	P		P	22 40 03.8	+1.3
	baz=248							
H25L	Birch Creek	83.05	21	P		P	22 40 03.4	+1.0
	baz=244							
J26L	Joseph Creek	83.15	23	P		P	22 40 02.2	-0.9
J26L	Joseph Creek	83.15	23	P		P	22 40 04.1	+0.9
	baz=246							
PNL	Peninsula	83.17	29	P		P	22 40 04.0	+0.8
	baz=250							
G25K	Bearman Lake	83.17	21	P		P	22 40 04.5	+1.5
	baz=243							
O28M	Mount Upton	83.17	27	P		P	22 40 04.1	+0.5
	baz=250							
C23K	Itkillik River	83.19	17	P		P	22 40 04.4	+1.3
	baz=239							
L27K	Beaver Creek,	83.29	25	P		P	22 40 04.9	+1.1
	baz=248							
D24K	Happy Valley	83.39	18	P		P	22 40 02.9	-1.3
D24K				IAmb		IAmb	22 40 06.9	
	comp=Z,8.3nm,1.1s							
D24K	Happy Valley	83.39	18	P		P	22 40 05.3	+1.2
	baz=240							
YUK3	Moose Creek	83.41	26	P		P	22 40 05.3	+0.6
	baz=249							
BVCY	Beaver Creek	83.46	26	P		P	22 40 05.4	+0.7
	baz=249							
YUK8	Steele Glacier	83.55	27	P		P	22 40 05.9	+0.4
	baz=250							
K27K	Chicken	83.56	24	P		P	22 40 05.2	+0.1
K27K				IAmb		IAmb	22 40 11.0	
	comp=Z,18nm,1.6s							
K27K	Chicken	83.56	24	P		P	22 40 06.7	+1.6
	baz=247							
ARSB	Arslanbob	83.64	312	P		P	22 40 05.8	-0.4
I26K	Coal Creek Min	83.64	23			P	22 40 04.5	-1.0
I26K	Coal Creek Min	83.64	23	P		P	22 40 06.5	+1.0
	baz=246							
F25K	Christian Rive	83.70	20	P		P	22 40 07.1	+1.3
	baz=244							
C24K	Franklin Bluff	83.71	18	P		P	22 40 06.9	+1.2
	baz=241							
O29M	Mount Kennedy	83.77	28	P		P	22 40 07.8	+1.4
	baz=251							
E25K	Arctic Village	83.96	20	P		P	22 40 08.6	+1.4
	baz=244							
BMAR	Burnt Mountain	84.00	20	P		P	22 40 06.6	-0.8
YUK6	Outpost Mounta	84.07	28	P		P	22 40 08.8	+0.7
	baz=251							
YUK4	Talbot Arm	84.08	27	P		P	22 40 09.2	+1.1
	baz=251							
G26K	Porcupine Rive	84.08	21	P		P	22 40 09.3	+1.6
	baz=246							
DRK	Karamyk	84.19	310	P		P	22 40 07.4	-1.9
EGAK	Eagle	84.21	23	P		P	22 40 05.5	-2.9
EGAK				IAmb		IAmb	22 40 10.2	
	comp=Z,24nm,1.9s							
EGAK	Eagle	84.21	23	P		P	22 40 09.9	+1.5
	baz=248							
D25K	Kavik River	84.24	18	P		P	22 40 07.4	-1.1
D25K				IAmb		IAmb	22 40 11.0	
	comp=Z,8.4nm,1.3s							
D25K	Kavik River	84.24	18	P		P	22 40 09.6	+1.1
	baz=243							
F26K	Sheenjek River	84.26	20	P		P	22 40 10.3	+1.6
	baz=245							
I27K	Kandik River	84.34	23	P		P	22 40 10.4	+1.2
	baz=248							
SIT	Sitka	84.41	32	P		P	22 40 10.9	+1.4
	baz=254							
HYT	Haines Junctio	84.43	28	P		P	22 40 08.8	-1.0
HYT	Haines Junctio	84.43	28	P		P	22 40 10.9	+1.1
	baz=252							
P30M	Million Dollar	84.47	29	P		P	22 40 10.5	+0.5
	baz=252							
M29M	Somme Creek	84.52	26	P		P	22 40 11.3	+1.1
	baz=251							
NRIK	Noril'sk	84.55	341	P		P	22 40 09.6	-0.5
NRIK	Noril'sk	84.55	341	P		P	22 40 06.2	-3.8
	comp=Z,1.6nm,0.4s,baz=109,slow=6.1,SNR=4.4							
	comp=Z,1.6nm,0.4s							
PLBC	Pleasant Camp	84.56	29	P		P	22 40 11.5	+1.2
	baz=253							
H27K	Steamboat Moun	84.62	22	P		P	22 40 12.4	+1.9
	baz=248							
DAWY	Dawson	84.67	24	P		P	22 40 12.0	+1.2
	baz=250							
G27K	Doyon Strip	84.79	22	P		P	22 40 13.2	+1.8
	baz=248							
N30M	Aishikik Lake	84.82	27	P		P	22 40 13.2	+1.5
	baz=252							
S32K	Killisnoo	84.91	31	P		P	22 40 13.2	+1.1
	baz=255							
I28M	Miner Creek	84.94	23	P		P	22 40 13.4	+1.1
	baz=249							
C26K	Camden Bay	84.97	18	P		P	22 40 14.2	+2.1
	baz=244							
BTK	Batken	85.04	311	P		P	22 40 11.6	-1.7
SKAG	Skagway	85.07	29	P		P	22 40 14.0	+1.2
	baz=254							
O30N	Mendenhall	85.08	28	P		P	22 40 13.4	+0.4
	baz=253							
CRAG	Craig	85.19	34	P		P	22 40 14.7	+1.2
	baz=256							
GAR	Garm	85.25	309	P		P	22 40 14.0	-0.5
E27K	Coleen River	85.34	20	P		P	22 40 13.8	-0.3
E27K				IAmb		IAmb	22 40 24.9	
	comp=Z,18nm,2.0s							
E27K	Coleen River	85.34	20	P		P	22 40 15.8	+1.7
	baz=248							
K29M	Barlow Dome	85.38	25	P		P	22 40 13.6	-0.9
K29M				IAmb		IAmb	22 40 17.2	
	comp=Z,6.7nm,1.0s							
K29M	Barlow Dome	85.38	25	P		P	22 40 15.9	+1.4
	baz=252							
N31M	Braeburn, Yuko	85.43	27	P		P	22 40 15.7	+1.0
	baz=253							
WHY	Whitehorse	85.62	28	P		P	22 40 16.4	+0.7
WHY				IAmb		IAmb	22 40 18.8	
	comp=Z,9.8nm,1.4s							
WHY	Whitehorse	85.62	28	P		P	22 40 16.5	+0.7
	baz=254							
F28M	Old Crow	85.73	21	P		P	22 40 14.9	-1.1
F28M	Old Crow	85.73	21	P		P	22 40 17.4	+1.4
	baz=249							
KK31	Karatay Array	85.75	314	P		P	22 40 14.5	-2.2
KKAR	Karatay Array	85.75	314	P		P	22 40 15.6	-1.1
WRAK	Wrangell Islan	85.83	33	P		P	22 40 18.0	+1.3
	baz=257							
P32M	Atlin	85.90	30	P		P	22 40 17.9	+0.8
	baz=255							
D27M	Malcolm River	85.96	19	P		P	22 40 15.9	-1.3
D27M				IAmb		IAmb	22 40 20.1	
	comp=Z,6.5nm,1.1s							
D27M	Malcolm River	85.96	19	P		P	22 40 19.0	+1.8
	baz=248							
QSPA	South Pole Qui	86.07	180	P		P	22 40 18.1	+0.2
QSPA	South Pole Qui	86.07	180	P		P	22 40 14.4	-3.5
	comp=Z,1.3nm,0.9s,baz=12,slow=0.5,SNR=2.2							
	comp=Z,1.3nm,0.9s							
CHGR	Chuyangaron	86.10	309	P		P	22 40 17.6	-1.0
J30M	Hart River	86.10	24	P		P	22 40 17.0	-1.1
J30M				IAmb		IAmb	22 40 20.8	
	comp=Z,6.8nm,1.0s							
J30M	Hart River	86.10	24	P		P	22 40 19.4	+1.4
	baz=253							
G29M	Pine Creek	86.17	22	P		P	22 40 19.3	+1.1
	baz=251							
E28M	Babbage River	86.20	20	P		P	22 40 16.8	-1.5
E28M				IAmb		IAmb	22 40 21.0	
	comp=Z,5.7nm,1.1s							
E28M	Babbage River	86.20	20	P		P	22 40 19.7	+1.4
	baz=249							
SIMJ	Simiganj	86.21	309	P		P	22 40 17.9	-1.4
SIMJ				IAmb		IAmb	22 40 23.3	
	comp=Z,9.6nm,0.9s							
M31M	Drury Creek, Y	86.26	27	P		P	22 40 19.9	+1.1
	baz=254							
I30M	Mount Dempster	86.28	24	P		P	22 40 17.9	-1.0
I30M				IAmb		IAmb	22 40 21.1	
	comp=Z,6.5nm,1.2s							
I30M	Mount Dempster	86.28	24	P		P	22 40 20.1	+1.2
	baz=252							
Q32M	Nakina River	86.47	30	P		P	22 40 21.2	+1.2
	baz=257							
EPYK	Eagle Plains	86.49	23	P		P	22 40 19.5	-0.3
EPYK				IAmb		IAmb	22 40 22.0	
	comp=Z,7.7nm,0.9s							
EPYK	Eagle Plains	86.49	23	P		P	22 40 21.2	+1.4
	baz=252							
P33M	Teslin, Yukon	86.49	29	P		P	22 40 21.2	+1.2
	baz=256							
N32M	Quiet Lake	86.59	28	P		P	22 40 22.0	+1.5
	baz=256							
E29M	Blow River	86.70	21	P		P	22 40 22.2	+1.4
	baz=251							
D28M	Stokes Point	86.73	20	P		P	22 40 22.1	+1.2
	baz=250							
FARO	Faro, Yukon	86.74	27	P		P	22 40 19.4	-1.8
FARO	Faro, Yukon	86.74	27	P		P	22 40 22.2	+1.1
	baz=255							
S34M	Telegraph Cree	86.81	32	P		P	22 40 21.0	-0.5
S34M	Telegraph Cree	86.81	32	P		P	22 40 22.7	+1.2
	baz=258							
G30M	tAoh Zraii Nji	86.86	22	P		P	22 40 22.7	+1.1
	baz=253							
T35M	Bob Quinn	87.09	33	P		P	22 40 24.3	+1.3
	baz=258							
F30M	Barrier River	87.21	22	P		P	22 40 24.8	+1.5
	baz=253							
R33M	Jennings River	87.22	30	P		P	22 40 23.2	-0.5
R33M	Jennings River	87.22	30	P		P	22 40 25.0	+1.4
	baz=258							
H31M	Peel River	87.25	23	P		P	22 40 24.8	+1.3
	baz=254							
BVAR	Borovoye Array	87.48	323	P		P	22 40 21.1	-3.8
	comp=Z,0.7nm,0.5s,baz=64,slow=6.8,SNR=10.0							
	comp=Z,0.7nm,0.5s							
DLBC	Dease Lake	87.50	31	P		P	22 40 25.9	+0.9
	baz=259							
BRVK	Borovoye	87.55	323	P		P	22 40 25.7	+0.5
BRVK				IAmb		IAmb	22 40 27.8	
	comp=Z,4.5nm,1.0s							
G31M	Satah River	87.58	22	P		P	22 40 25.2	+0.2
G31M				IAmb		IAmb	22 40 27.0	
	comp=Z,8.7nm,0.9s							
G31M	Satah River	87.58	22	P		P	22 40 26.2	+1.2
	baz=254							
MMPY	Sheldon Lake,	87.78	27	P		P	22 40 27.1	+0.9
	baz=257							
F31M	Tsiigehtchic	87.92	22	P		P	22 40 25.8	-0.9
F31M				IAmb		IAmb	22 40 40.6	
	comp=Z,6.8nm,1.2s							
F31M	Tsiigehtchic	87.92	22	P		P	22 40 27.9	+1.3
	baz=255							
INK	Inuvik	88.23	21	P		P	22 40 26.7	-1.3
INK				IAmb		IAmb	22 40 29.9	
	comp=Z,4.7nm,1.1s							
INK	Inuvik	88.23	21	P		P	22 40 29.0	+0.9
	baz=255							
WTLY	Watson Lake, Y	88.44	30	P		P	22 40 28.7	-0.6
WTLY	Watson Lake, Y	88.44	30	P		P	22 40 30.3	+1.0
	baz=260							
TGTN	Hyland Airport	88.94	28	P		P	22 40 32.5	+0.8
	baz=260							
TOAD	Toad River Com	90.03	31	P		P	22 40 37.8	+0.9
	baz=263							
KOTAN	Kotaneelee Air	90.79	30	P		P	22 40 41.2	+0.9
	baz=264							
J05D	Fort Rock, OR	90.96	47	P		P	22 40 41.4	-0.3
J05D				IAmb		IAmb	22 40 44.7	
	comp=Z,11nm,1.4s							
I05D	Terrebonne, OR	90.97	46	P		P	22 40 40.2	-1.4
A36M	Sachs Harbour	91.71	18	P		P	22 40 45.7	+1.5
	baz=263							
C36M	Paulatuk	91.79	21	P		P	22 40 45.1	+0.4
	baz=264							
CIS	Catalina Islan	92.55	57	P		P	22 40 49.6	+0.5
	baz=267							
NVAR	Mina Array Bea	92.88	52	P		P	22 40 45.8	-5.0
	comp=Z,0.2nm,0.3s,baz=254,slow=6.3,SNR=1.5							
	comp=Z,0.2nm,0.3s							
BFSC	Mount Baldy Ra	93.22	56	P		P	22 40 52.4	+0.1
	baz=268							
YKA	Yellowknife Ar	95.43	28	P		P	22 40 57.8	-3.8
	comp=Z,3.1nm,1.2s,baz=275,slow=4.8,SNR=3.2							
	comp=Z,3.1nm,1.2s							
ELIB	Princess Elisa	97.26	194	*dp*P		pP	22 41 18.1	-2.3
HALT	Halls	116.06	52			PKPdf	22 46 19.4	-1.3
GERES	GERESS Array B	122.37	328	PKP		PKPdf	22 46 30.5	-2.1
	comp=Z,0.8nm,0.7s,baz=57,slow=3.6,SNR=1.4							
TORD	Torodi Ar. Bea	148.38	289	PKPbc		PKPdf	22 47 21.6	+0.4
	comp=Z,13nm,1.0s,baz=69,slow=4.0,SNR=17							
DBIC	Dimbokro	155.87	278	PKPab		PKPab	22 47 57.2	-2.2
	comp=Z,4.6nm,0.8s,baz=121,slow=17,SNR=3.5							

*HEL **29** 22:27:50.3±0.3, 67.18N×20.58E, h0km, ML1.4, Suspected explosion*
*UPP **29** 22:27:50.4±0.1, 67.18N×20.67E, h0km, ML2.7, Suspected explosion*

ISC 29 22:27:49.6±1.0, 67.21N±0.03×20.79E±0.03, h0km, n15, σ0.94/22, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.12	225	P	Pg	22 27 52.0	+0.1
DUNU				S	Sg	22 27 53.1	-0.3
MASU	Masugnsbyn	0.53	61	P	Pb	22 28 01.4	-0.5
KUA	Kurravaara	0.77	347	P	Pb	22 28 05.5	-0.4
RATU	Laukkuluspa	0.77	324	P	Pg	22 28 04.3	-0.2
SALU	Saltoluokta	0.90	282	P	Pg	22 28 06.8	-0.1
HEF	Hetta	1.63	41	PG	Pb	22 28 20.8	+0.2
	baz=225						
HEF				MSG		22 28 41.1	
	comp=Z,1.5nm,0.2s						
HEF				SN	Sg	22 28 42.6	+0.7
KIF	Kilpisjarvi	1.81	0	PG	Pb	22 28 23.9	+0.3
KIF				MSG		22 28 46.3	
	comp=Z,3.1nm,0.2s						
TOF	Tornio	1.81	127	PG	Pb	22 28 23.8	+0.2
	baz=300						
TOF				MSG		22 28 45.8	
	comp=Z,2.0nm,0.2s						
TOF				SG	Sg	22 28 49.1	+1.5
KTK1	Kautokeino	2.03	26	PG	Pb	22 28 28.1	+0.7
KTK1				SG	Sg	22 28 55.0	+0.1
RNF	Rovaniemi	2.15	104	PG	Pb	22 28 29.7	+0.4
	baz=300						
RNF				SG	Sg	22 28 58.9	+0.4
SGF	Sodankyl	2.24	81	PG	Pb	22 28 31.4	+0.5
	baz=262						
SGF				SG	Sg	22 29 01.5	0.0
RANF	Ranua	2.68	114	PG	Pg	22 28 40.5	-0.4
	baz=287						
RANF				SG	Sg	22 29 14.5	-1.0
KMNF	Kaamanen	3.03	47	SB	Sb	22 29 19.7	-2.2
KEV	Kevo	3.44	39	SN	Sn	22 29 27.8	+2.1
MSF	Maaselka	3.55	108	SB	Sb	22 29 35.4	-1.3

*IDC **29** 22:33:44.9±0.8, 3.43S×68.12E, h0km, mb4.0/11, mbtmp4.0/11, Error ellipse: s-maj=23.5km s-min=22.7km az=66.0*
*NEIC **29** 22:33:47.8±1.4, 3.35S±0.09×68.05E±0.04, h10km±1km, mb4.6/27, Error ellipse: s-maj=14.8km s-min=5.8km az=187.0*

ISC 29 22:33:47.5±0.5, 3.36S±0.08×68.08E±0.08, h15km, n47, σ0.69/41, mb4.4/20, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	Diego Garcia	5.92	133	Pn	Pn	22 35 15.2	+0.3
H08S3	Diego Garcia H	6.09	134	T	T	22 41 26.8	
	baz=320,slow=80						
H08S1	Diego Garcia H	6.10	134	T	T	22 41 23.1	
	baz=320,slow=80						
H08S2	Diego Garcia H	6.11	134	T	T	22 41 28.7	
	baz=320,slow=80						
KAAM	Kaadhehdhoo	6.22	52		Pn	22 35 17.6	-1.4
HMDM	Hanimaadhoo	11.28	27	Pn	Pn	22 36 27.7	-0.7
PALK	Pallekele	16.44	50	Pn	Pn	22 37 37.7	-0.2
RER	Riviere de l'E	21.38	213	P	P	22 38 34.5	-0.3
ABPO	Ambohimpanom	25.65	231	P	P	22 39 16.4	-0.8
ABPO				IAmb	IAmb	22 39 56.5	
	comp=Z,13nm,1.4s						
FOMA	Nahampoana Res	29.57	221	P	P	22 39 52.3	+0.2
KULM	Kulim	33.65	75	P	P	22 40 28.2	+0.1
KULM				IAmb	IAmb	22 40 30.9	
	comp=Z,13nm,1.2s						
IPM	Ipoh	33.82	77	P	P	22 40 30.2	+0.6
IPM				IAmb	IAmb	22 40 53.4	
	comp=Z,18nm,1.5s						
CM31	Chiang Mai Arr	37.34	53	P	P	22 41 00.8	+1.1
CM31				IAmb	IAmb	22 41 04.7	
	comp=Z,17nm,1.5s						
CMAR	Chiang Mai Arr	37.34	53	P	P	22 41 00.2	+0.5
CMAR	Chiang Mai Arr	37.34	53	P	P	22 41 01.0	+1.2
	comp=Z,0.9nm,0.3s,baz=245,slow=9.8,SNR=14						
	comp=Z,0.9nm,0.3s						
MBAR	Mbarara	37.42	273	P	P	22 40 59.4	-1.3
KBL	Kabul	37.71	1	P	P	22 41 03.2	+0.3
KBL				IAmb	IAmb	22 41 31.2	
	comp=Z,3.4nm,0.5s						
PHRA	Phrae	38.39	54	P	P	22 41 08.9	+0.2
CRAI	Chiangrai	39.42	52	P	P	22 41 16.3	-0.9
LSA	Lhasa	39.61	32	P	P	22 41 20.3	+1.1
LSA				IAmb	IAmb	22 41 22.5	
	comp=Z,29nm,1.5s						
LSZ	Lusaka	41.02	251	P	P	22 41 30.7	-0.1
LSZ				IAmb	IAmb	22 41 34.7	
	comp=Z,9.1nm,0.9s						
GAR	Garm	42.20	3	P	P	22 41 40.6	+0.6
H04N2	CROZET ISLANDS	44.94	196	T	T	23 30 36.4	
	baz=24,slow=76						
H04N1	CROZET ISLANDS	44.94	196	T	T	23 30 37.4	
	baz=24,slow=76						
H04N3	CROZET ISLANDS	44.95	196	T	T	23 30 38.6	
	baz=24,slow=76						
BOSA	Boshof	47.82	234	P	P	22 42 25.3	+0.3
	comp=Z,2.6nm,0.8s,baz=57,slow=7.4,SNR=6.3						
	comp=Z,2.6nm,0.8s						
MK31	Makanchi Array	51.49	12	P	P	22 42 52.4	-0.2
MKAR	Makanchi Array	51.49	12	P	P	22 42 52.3	-0.2
	comp=Z,0.9nm,0.7s,baz=200,slow=8.3,SNR=8.6						
	comp=Z,0.9nm,0.7s						
KAPI	Kappang	51.55	94	P	P	22 42 53.0	-0.5
KBZ	Khabaz	52.06	337	P	P	22 42 57.2	+0.5
	comp=Z,2.0nm,0.8s,baz=151,slow=10,SNR=2.2						
	comp=Z,2.0nm,0.8s						
ABKAR	Akbulak array	52.88	353	P	P	22 43 03.1	+0.4
KURBB	Kurchatov Arra	54.52	8	P	P	22 43 15.1	+0.4
	comp=Z,1.5nm,0.8s,baz=204,slow=7.7,SNR=9.3						
	comp=Z,1.5nm,0.8s						
KURK	Kurchatov	54.62	8	P	P	22 43 15.9	+0.5
KURK				IAmb	IAmb	22 43 17.3	
	comp=Z,5.1nm,1.1s						
ZAA0	Zalesovo Array	58.79	11	P	P	22 43 44.9	-0.2
ZAA0				IAmb	IAmb	22 43 46.2	
	comp=Z,2.4nm,0.8s						
ZALV	Zalesovo Beam	58.79	11	P	P	22 43 45.1	0.0
ZALV	Zalesovo Beam	58.79	11	P	P	22 43 43.8	-1.3
	comp=Z,2.2nm,0.7s,baz=203,slow=8.1,SNR=9.1						
	comp=Z,2.2nm,0.7s						
SONM	Songino Array	61.01	29	P	P	22 44 01.3	+0.7
SONM	Songino Array	61.01	29	P	P	22 44 01.0	+0.4
	comp=Z,5.4nm,1.1s,baz=229,slow=5.5,SNR=25						
	comp=Z,5.4nm,1.1s						
ULN	Ulaanbaatar	61.34	29	P	P	22 44 03.1	+0.2
AKASG	Malin Array Be	63.30	333	P	P	22 44 15.9	+0.2
	comp=Z,0.2nm,0.3s,baz=137,slow=5.4,SNR=1.5						
	comp=Z,0.2nm,0.3s						
ASAR	Alice Springs	66.54	114	P	P	22 44 36.0	-1.5
	comp=Z,0.6nm,0.8s,baz=284,slow=6.1,SNR=6.9						
	comp=Z,0.6nm,0.8s						
WRA	Warramunga Arr	66.55	110	P	P	22 44 37.2	-0.4
	comp=Z,1.0nm,1.0s,baz=284,slow=6.2,SNR=5.0						
	comp=Z,1.0nm,1.0s						
ESDC	Sonseca Array	78.44	311	P	P	22 45 48.4	+0.2
	comp=Z,1.6nm,0.9s,baz=79,slow=5.0,SNR=5.2						
	comp=Z,1.6nm,0.9s						
YKA	Yellowknife Ar	120.97	1	PKP	PKPdf	22 52 38.1	-1.1
	comp=Z,0.2nm,0.7s,baz=320,slow=2.8,SNR=2.2						
PDAR	Pinedale Array	140.71	357	PKP	PKPdf	22 53 17.7	+0.3
	comp=Z,0.1nm,0.5s,baz=2.3,slow=4.5,SNR=1.8						
NVAR	Mina Array Bea	144.61	9	PKP	PKPdf	22 53 24.4	0.0
	comp=Z,0.2nm,0.3s,baz=348,slow=4.0,SNR=2.4						
TXAR	Lajitas Array	153.01	344	PKPbc	PKiKP	22 53 45.6	+0.1
	comp=Z

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.60**	**21**	Pn	**Pn**	**22 44 40.9**	**+0.7**
RABL				Sn	**Sn**	**22 45 01.9**	**+2.2**
MANU	**Manus Island**	**5.57**	**311**		**Pn**	**22 45 37.5**	**+2.7**
PMG	**Port Moresby**	**5.74**	**230**		**Pn**	**22 45 37.7**	**+0.6**
PMG				Sn	**Sn**	**22 46 44.6**	**+2.8**
PMG	**Port Moresby**	**5.74**	**230**	P	**Pn**	**22 45 39.4**	**+2.3**
	6.3nm,0.3s,baz=28,slow=10,SNR=18						
PMG				S	**Sn**	**22 46 43.4**	**+1.6**
	104nm,0.7s,baz=154,slow=20,SNR=10						
	46nm,0.6s						
HNR	**Honiara**	**9.07**	**115**	P	**Pn**	**22 46 26.2**	**+3.4**
	422nm,0.5s,baz=191,slow=7.3,SNR=2.1						
WB0	**Warramunga Arr**	**21.81**	**229**	P	**P**	**22 49 02.8**	**-0.8**
WB0				IAmb	IAmb	22 49 06.8	
	comp=Z,21nm,0.8s						
WR0	**Warramunga Arr**	**21.82**	**228**	P	**P**	**22 49 03.3**	**-0.4**
WR0				IAmb	IAmb	22 49 07.0	
	comp=Z,23nm,0.9s						
WRAB	**Tennant Creek**	**21.94**	**228**	P	**P**	**22 49 04.5**	**-0.6**
WB2	**Warramunga Arr**	**21.95**	**228**	P	**P**	**22 49 04.8**	**-0.3**
WRA	**Warramunga Arr**	**21.95**	**228**	P	**P**	**22 49 04.5**	**-0.8**
WRA	**Warramunga Arr**	**21.95**	**228**	P	**P**	**22 49 05.0**	**-0.3**
	comp=Z,24nm,0.7s,baz=53,slow=9.8,SNR=101						
	comp=Z,24nm,0.7s						
PINNC	**Pines Island,**	**22.73**	**139**	P	**P**	**22 49 11.7**	**-1.8**
KNRA	**Kununurra**	**24.50**	**244**	P	**P**	**22 49 30.2**	**-0.5**
KNRA				IAmb	IAmb	22 49 35.0	
	comp=Z,12nm,0.7s						
ARMA	**Armidale**	**24.59**	**180**	P	**P**	**22 49 30.6**	**-0.8**
AS31	**Alice Springs**	**24.68**	**222**	P	**P**	**22 49 32.7**	**+0.5**
ASAR	**Alice Springs**	**24.68**	**222**	P	**P**	**22 49 32.4**	**+0.1**
ASAR	**Alice Springs**	**24.68**	**222**	P	**P**	**22 49 32.5**	**+0.3**
	comp=Z,14nm,0.7s,baz=56,slow=9.3,SNR=100						
	comp=Z,14nm,0.7s						
STKA	**Stephens Creek**	**27.67**	**199**	P	**P**	**22 49 58.9**	**-0.2**
	comp=Z,2.9nm,0.9s,baz=29,slow=13,SNR=3.5						
	comp=Z,2.9nm,0.9s						
FITZ	**Fitzroy Crossi**	**28.18**	**242**	P	**P**	**22 50 03.1**	**-0.7**
BBOO	**Buckleboo**	**30.62**	**206**	P	**P**	**22 50 23.8**	**-1.5**
BBOO				IAmb	IAmb	22 50 26.7	
	comp=Z,12nm,1.2s						
FORT	**Forrest**	**33.34**	**219**	P	**P**	**22 50 48.6**	**-0.6**
MBWA	**Marble Bar**	**34.49**	**240**	P	**P**	**22 50 58.3**	**-1.0**
MBWA				IAmb	IAmb	22 51 03.4	
	comp=Z,9.1nm,0.9s						
PSA00	**Pilbara Seismi**	**34.55**	**240**	P	**P**	**22 50 59.1**	**-0.7**
RTZ	**Ruatahuna**	**40.03**	**149**	P	**P**	**22 51 46.1**	**-0.1**
RTZ				IAmb	IAmb	22 51 48.0	
	comp=Z,20nm,1.2s						
CRAI	**Chiangrai**	**56.54**	**299**	P	**P**	**22 53 55.1**	**+1.3**
CRAI				IAmb	IAmb	22 54 12.0	
	comp=Z,10nm,1.3s						
CMAR	**Chiang Mai Arr**	**57.19**	**296**	P	**P**	**22 53 56.8**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=120,slow=5.3,SNR=4.3						
	comp=Z,0.7nm,0.3s						
KLR	**Kul'dur**	**57.38**	**345**	P	**P**	**22 53 57.8**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=77,slow=4.2,SNR=4.7						
	comp=Z,0.9nm,0.7s						
PETK	**Petropavlovsk-**	**58.81**	**4**	P	**P**	**22 54 08.8**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=169,slow=8.2,SNR=1.5						
	comp=Z,1.2nm,0.6s						
SONM	**Songino Array**	**66.46**	**329**	P	**P**	**22 55 00.3**	**0.0**
	comp=Z,2.0nm,0.6s,baz=145,slow=5.2,SNR=16						
	comp=Z,2.0nm,0.6s						
VNDA	**Vanda**	**71.98**	**178**	P	**P**	**22 55 34.6**	**+0.6**
	comp=Z,3.2nm,0.8s,baz=319,slow=6.4,SNR=18						
	comp=Z,3.2nm,0.8s						
TTA	**Tatalina**	**79.04**	**22**	P	**P**	**22 56 16.0**	**+1.2**
M19K	**Big River Lodg**	**79.05**	**23**	P	**P**	**22 56 15.1**	**+0.4**
M19K				IAmb	IAmb	22 56 16.8	
	comp=Z,6.8nm,1.4s						
J18K	**Innoko River**	**79.11**	**21**	P	**P**	**22 56 15.6**	**+0.6**
BRLK	**Bradley Lake**	**79.32**	**26**	P	**P**	**22 56 17.3**	**+1.0**
H18K	**Honhosa River**	**79.59**	**19**	P	**P**	**22 56 19.6**	**+1.9**
J19K	**Poorman**	**79.82**	**21**	P	**P**	**22 56 20.7**	**+1.9**
J19K				IAmb	IAmb	22 56 31.5	
	comp=Z,11nm,1.5s						
G18K	**Tagagawik**	**79.97**	**19**	P	**P**	**22 56 21.5**	**+1.8**
K20K	**Telida**	**80.01**	**22**	P	**P**	**22 56 21.3**	**+1.4**
K20K				IAmb	IAmb	22 56 32.7	
	comp=Z,8.4nm,1.2s						
MKAR	**Makanchi Array**	**80.22**	**319**	P	**P**	**22 56 20.8**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=98,slow=7.4,SNR=5.3						
	comp=Z,0.3nm,0.5s						
H19K	**Roundabout Mou**	**80.46**	**19**	P	**P**	**22 56 23.5**	**+1.3**
RC01	**Rabbit Creek A**	**80.49**	**25**	P	**P**	**22 56 24.0**	**+1.5**
RC01				IAmb	IAmb	22 56 39.0	
	comp=Z,9.9nm,1.2s						
G19K	**Purcell Mounta**	**80.63**	**19**	P	**P**	**22 56 24.9**	**+1.7**
G19K				IAmb	IAmb	22 56 36.2	
	comp=Z,10nm,1.3s						
ZALV	**Zalesovo Beam**	**81.24**	**327**	P	**P**	**22 56 25.4**	**-1.3**
	comp=Z,1.6nm,0.7s,baz=93,slow=7.4,SNR=6.8						
	comp=Z,1.6nm,0.7s						
E19K	**Redstone River**	**81.40**	**18**	P	**P**	**22 56 27.9**	**+0.7**
F20K	**Avaraart Lake**	**81.61**	**18**	P	**P**	**22 56 29.8**	**+1.5**
IMAR	**Indian Mountai**	**81.63**	**20**	P	**P**	**22 56 29.7**	**+1.2**
SCM	**Sheep Creek Mo**	**81.86**	**25**	P	**P**	**22 56 31.2**	**+1.3**
SCM				IAmb	IAmb	22 56 34.4	
	comp=Z,4.6nm,1.1s						
RND	**Reindeer**	**82.02**	**23**	P	**P**	**22 56 31.3**	**+0.6**
RND				IAmb	IAmb	22 56 42.1	
	comp=Z,4.6nm,0.9s						
MLY	**Manley**	**82.15**	**21**	P	**P**	**22 56 32.7**	**+1.4**
MLY				IAmb	IAmb	22 56 43.4	
	comp=Z,9.2nm,1.4s						
CCB	**Clear Creek Bu**	**83.03**	**22**	P	**P**	**22 56 36.8**	**+0.9**
CCB				IAmb	IAmb	22 56 46.9	
	comp=Z,8.7nm,1.4s						
ILAR	**Eielson Array**	**83.44**	**22**	P	**P**	**22 56 39.3**	**+1.3**
ILAR	**Eielson Array**	**83.44**	**22**	P	**P**	**22 56 36.6**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=248,slow=4.8,SNR=12						
	comp=Z,0.5nm,0.5s						
J25K	**Salcha River,**	**83.94**	**23**	P	**P**	**22 56 40.7**	**+0.1**
J25K				IAmb	IAmb	22 56 52.6	
	comp=Z,5.0nm,0.9s						
QSPA	**South Pole Qui**	**84.26**	**180**	P	**P**	**22 56 41.8**	**-0.6**
	comp=Z,3.2nm,0.8s,baz=21,slow=1.3,SNR=17						
	comp=Z,3.2nm,0.8s						
M27K	**Edge Creek, AK**	**84.40**	**25**	P	**P**	**22 56 44.4**	**+1.3**
M27K				IAmb	IAmb	22 56 56.5	
	comp=Z,4.8nm,0.9s						
NRIK	**Noril'sk**	**86.43**	**341**	P	**P**	**22 56 51.7**	**-1.1**
	comp=Z,1.0nm,0.4s,baz=124,slow=5.3,SNR=4.1						
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**89.24**	**323**	P	**P**	**22 57 06.2**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=95,slow=7.4,SNR=4.8						
	comp=Z,0.8nm,0.6s						
LTY	**Liberty**	**92.60**	**43**	P	**P**	**22 57 22.5**	**-0.1**
NVAR	**Mina Array Bea**	**93.58**	**52**	P	**P**	**22 57 27.0**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=253,slow=5.7,SNR=4.3						
	comp=Z,0.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**149.43**	**286**	PKPbc	**PKPbc**	**23 03 59.6**	**-1.3**
	comp=Z,2.1nm,0.6s,baz=93,slow=2.9,SNR=18						
BDFB	**Brasilia**	**151.24**	**138**	PKPbc	**PKPbc**	**23 04 04.7**	**-0.6**
	comp=Z,3.0nm,0.7s,baz=160,slow=5.6,SNR=5.6						

JMA ***29*** *22:44:49.8±0.3,25°N±3°×122°5E±0°7,h169km±3km, MV2.7/12,NW OFF ISHIGAKIJIMA IS*
TAP ***29*** *22:44:49.0,25°10N×122°49E,h176km,ML3.3,C*
ISC 29 22:44:50.1±2.3,25°03N±0°08×122°43E±0°04, h170km±13km,n64,σ0561/103,Taiwan region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.40**	**267**	*eP*	**Pn**	**22 45 13.4**	**0.0**
	baz=251						
EGS		**0.49**	**248**	*eS*	**Sn**	**22 45 32.6**	**+0.8**
	baz=242						
TIPB	**Shuangxi**	**0.56**	**264**	*eP*	**Pn**	**22 45 13.9**	**-0.1**
	baz=247						
TIPB				*eS*	**Sn**	**22 45 31.8**	**-0.5**
	baz=247						
NTC	**Toucheng**	**0.58**	**252**	*eP*	**Pn**	**22 45 14.5**	**+0.4**
	baz=239						
NTC				*eS*	**Sn**	**22 45 32.6**	**+0.1**
	baz=239						
EOS2	**EOS2**	**0.64**	**197**	*eP*	**Pn**	**22 45 14.1**	**-0.2**
	baz=199						
EOS2				*eS*	**Sn**	**22 45 32.6**	**-0.3**
	baz=199						
TWC	**Suao**	**0.68**	**232**	P	**Pn**	**22 45 14.4**	**-0.3**
	baz=234						
TWC				*eS*	**Sn**	**22 45 32.7**	**-0.8**
	baz=234						
JYNG	**Yonagunijimaku**	**0.74**	**141**	P	**Pn**	**22 45 15.2**	**+0.1**
JYNG				*eS*	**Sn**	**22 45 34.9**	**+0.7**
EOS3	**EOS3**	**0.75**	**188**	*eP*	**Pn**	**22 45 14.6**	**-0.4**
	baz=192						
EOS3				*eS*	**Sn**	**22 45 33.9**	**-0.1**
	baz=192						
TWE	**Neicheng**	**0.76**	**246**	*eP*	**Pn**	**22 45 15.2**	**0.0**
	baz=242						
TWE				*eS*	**Sn**	**22 45 34.2**	**-0.1**
	baz=242						
NDS	**Dongshan**	**0.76**	**239**	*eP*	**Pn**	**22 45 15.4**	**+0.2**
	baz=234						
NDS				*eS*	**Sn**	**22 45 34.4**	**0.0**
	baz=234						
YM01	**YM01**	**0.79**	**278**	*eP*	**Pn**	**22 45 15.3**	**-0.1**
	baz=265						
FUSB	**Fushanzhiwuyua**	**0.81**	**251**	P	**Pn**	**22 45 15.4**	**-0.2**
	baz=247						
FUSB				S	**Sn**	**22 45 35.5**	**+0.4**
	baz=247						
EWUT	**Wuta**	**0.83**	**226**	*eP*	**Pn**	**22 45 16.0**	**+0.4**
	baz=221						
EWUT				S	**Sn**	**22 45 35.5**	**+0.3**
	baz=221						
TAP	**Taipei**	**0.84**	**271**	*eS*	**Sn**	**22 45 34.7**	**-0.5**
	baz=261						
ENA	**Nanau**	**0.87**	**226**	*eS*	**Sn**	**22 45 35.6**	**-0.1**
	baz=221						
ENTT	**Nioudou**	**0.88**	**244**	P	**Pn**	**22 45 16.3**	**+0.3**
	baz=240						
ENTT				S	**Sn**	**22 45 36.6**	**+0.8**
	baz=240						
NWLT	**Wulai**	**0.88**	**253**	*eP*	**Pn**	**22 45 15.7**	**-0.3**
	baz=249						
NWLT				*eS*	**Sn**	**22 45 34.7**	**-1.1**
	baz=249						
EOS4	**EOS4**	**0.91**	**187**	*eP*	**Pn**	**22 45 15.5**	**-0.3**
	baz=193						
EOS4				*eS*	**Sn**	**22 45 35.1**	**-0.5**
	baz=193						
NDT	**Datong Townshi**	**0.94**	**243**	*eP*	**Pn**	**22 45 16.9**	**+0.5**
	baz=240						
NDT				*eS*	**Sn**	**22 45 36.8**	**+0.2**
	baz=240						
EHP	**Heping Village**	**0.96**	**221**	*eS*	**Sn**	**22 45 37.2**	**+0.4**
	baz=219						
LATG	**Datong**	**0.96**	**239**	*i* P	**Pn**	**22 45 17.2**	**+0.5**
	baz=242						
LATG				*i* S	**Sn**	**22 45 38.1**	**+1.0**
	baz=242						
YHNB	**Yeheng**	**1.03**	**250**	*i* P	**Pn**	**22 45 16.8**	**-0.3**
	baz=238						
YHNB				*i* S	**Sn**	**22 45 37.1**	**-0.8**
	baz=238						
NSK	**Sanguang**	**1.04**	**250**	*eP*	**Pn**	**22 45 17.0**	**-0.2**
	baz=238						
NSK				*eS*	**Sn**	**22 45 37.5**	**-0.5**
	baz=238						
NNSB	**Datong**	**1.13**	**238**	P	**Pn**	**22 45 17.9**	**-0.1**
	baz=239						
NNSB				S	**Sn**	**22 45 39.5**	**0.0**
	baz=239						
NNS	**Nan Shan**	**1.13**	**239**	P	**Pn**	**22 45 17.9**	**-0.2**
	baz=240						
NNS				S	**Sn**	**22 45 39.9**	**+0.4**
	baz=240						
ETL	**Fush Village**	**1.14**	**220**	P	**Pn**	**22 45 17.7**	**-0.3**
	baz=215						
ETL				S	**Sn**	**22 45 39.5**	**0.0**
	baz=215						
NACB	**Ninganchiao**	**1.15**	**222**	P	**Pn**	**22 45 17.6**	**-0.4**
	baz=219						
NACB				*i* S	**Sn**	**22 45 39.2**	**-0.3**
	baz=219						
ETLH	**Xiulin Townshi**	**1.19**	**227**	*eP*	**Pn**	**22 45 18.8**	**+0.3**
	baz=232						
ETLH				*eS*	**Sn**	**22 45 40.4**	**0.0**
	baz=232						
TWD	**Chiawan**	**1.22**	**219**	*i* P	**Pn**	**22 45 18.9**	**+0.2**
	baz=214						
TWD				S	**Sn**	**22 45 40.6**	**0.0**
	baz=214						
NFF	**Wufeng Townshi**	**1.26**	**252**	*eS*	**Sn**	**22 45 40.2**	**-1.2**
	baz=249						
FUSS	**Fushou**	**1.33**	**234**	*eS*	**Sn**	**22 45 44.1**	**+1.1**
	baz=227						
HSN	**Hsinchu**	**1.35**	**261**	*eS*	**Sn**	**22 45 41.6**	**-1.0**
	baz=252						
NSTT	**Nanjuang**	**1.36**	**253**	*eS*	**Sn**	**22 45 42.4**	**-0.5**
	baz=245						
IRIF	**Iriomote-Funau**	**1.37**	**120**	*eP*	**Pn**	**22 45 20.0**	**0.0**
IRIF				*eS*	**Sn**	**22 45 43.6**	**+0.6**
LXIB	**Xiulin Townshi**	**1.37**	**223**	P	**Pn**	**22 45 19.7**	**-0.5**
	baz=222						
LXIB				S	**Sn**	**22 45 42.9**	**-0.5**
	baz=222						
TWT	**Tachien**	**1.38**	**236**	*eP*	**Pn**	**22 45 21.6**	**+1.3**
	baz=237						
TWT				*eS*	**Sn**	**22 45 44.9**	**+1.3**
	baz=237						
WHF	**Hehuan Shan**	**1.38**	**231**	P	**Pn**	**22 45 21.0**	**+0.4**
	baz=223						
WHF				S	**Sn**	**22 45 44.9**	**+0.8**
	baz=223						
TDCB	**Techi**	**1.40**	**236**	*eP*	**Pn**	**22 45 20.9**	**+0.4**
	baz=240						
TDCB				*eS*	**Sn**	**22 45 43.8**	**+0.1**
	baz=240						
SHUL	**Shoufeng**	**1.47**	**213**	*eP*	**Pn**	**22 45 21.1**	**+0.1**
	baz=208						
SHUL				*eS*	**Sn**	**22 45 45.4**	**+0.6**
	baz=208						
CHGB	**Renai**	**1.50**	**230**	P	**Pn**	**22 45 22.5**	**+0.9**
	baz=225						
CHGB				S	**Sn**	**22 45 46.8**	**+1.1**
	baz=225						
WHP	**Taichung City**	**1.55**	**241**	*eP*	**Pn**	**22 45 22.0**	**+0.2**
	baz=243						
WHP				*eS*	**Sn**	**22 45 46.4**	**+0.1**
	baz=243						
OWD	**Renai**	**1.57**	**227**	*eP*	**Pn**	**22 45 22.5**	**+0.3**
	baz=224						
OWD				*eS*	**Sn**	**22 45 47.5**	**+0.7**
	baz=224						
HATJ	**Hateruma jima**	**1.58**	**128**	*eS*	**Sn**	**22 45 47.5**	**+0.8**
WUSB	**Renai**	**1.58**	**229**	*eP*	**Pn**	**22 45 23.3**	**+1.0**
	baz=228						
WUSB				*eS*	**Sn**	**22 45 48.2**	**+1.1**
	baz=228						
WARBT	**Fenglin Townsh**	**1.62**	**216**	P	**Pn**	**22 45 21.8**	**-0.7**
	baz=223						
WARBT				S	**Sn**	**22 45 46.6**	**-0.9**
	baz=223						
JKRS	**Kuro-shima**	**1.64**	**119**	S	**Sn**	**22 45 48.1**	**+0.4**
TWQ1	**Liyutan**	**1.66**	**246**	*eS*	**Sn**	**22 45 47.9**	**-0.2**
	baz=237						
JIJ	**Ishigaki jima**	**1.69**	**113**	P	**Pn**	**22 45 22.8**	**-0.4**
JIJ				S	**Sn**	**22 45 49.1**	**+0.4**
WCS	**Beigang Elemen**	**1.69**	**235**	*eS*	**Sn**	**22 45 48.2**	**-0.5**
	baz=233						
VWDT	**VWDT**	**1.73**	**223**	P	**Pn**	**22 45 24.0**	**+0.3**
	baz=216						
VWDT				*eS*	**Sn**	**22 45 49.8**	**+0.2**
	baz=216						
JISG	**Ishigakijimahi**	**1.76**	**104**	P	**Pn**	**22 45 24.0**	**+0.1**
JISG				*eS*	**Sn**	**22 45 49.3**	**-0.8**
HGSD	**Ruisui**	**1.79**	**211**	*eS*	**Sn**	**22 45 51.1**	**+0.5**
	baz=205						
SMLT	**Sun Moon Lake**	**1.81**	**231**	*eP*	**Pn**	**22 45 25.4**	**+0.8**
	baz=229						
SMLT				S	**Sn**	**22 45 51.6**	**+0.5**
	baz=229						
TYC	**Yuchr**	**1.82**	**232**	*eS*	**Sn**	**22 45 51.6**	**+0.4**
	baz=231						
EHY	**Hungye**	**1.83**	**214**	*eS*	**Sn**	**22 45 50.0**	**-1.3**
	baz=213						
SSLB	**Suanglung**	**1.83**	**228**	*eS*	**Sn**	**22 45 51.8**	**+0.3**
	baz=233						
YULB	**Yu-li**	**1.93**	**213**	*eP*	**Pn**	**22 45 24.8**	**-1.1**
	baz=212						
YULB				*eS*	**Sn**	**22 45 51.9**	**-1.5**
	baz=212						
WHYT	**Xinyi Township**	**1.96**	**228**	*eS*	**Sn**	**22 45 54.3**	**+0.3**
	baz=232						
TWF1	**Yuli**	**1.97**	**212**	*eS*	**Sn**	**22 45 52.9**	**-1.2**
	baz=218						
JTJ	**Tarama**	**2.10**	**100**	S	**Sn**	**22 45 56.5**	**-0.1**
ALS	**Alishan**	**2.12**	**225**	*eS*	**Sn**	**22 45 57.9**	**+0.2**
	baz=230						
CHN5	**Tsauling**	**2.15**	**229**	*eS*	**Sn**	**22 45 58.3**	**+0.5**
	baz=233						
ELDTW	**Lidau**	**2.25**	**215**	*eS*	**Sn**	**22 45 59.4**	**-0.5**
	baz=211						
CHN4	**Tsaushan**	**2.37**	**225**	*eS*	**Sn**	**22 46 02.5**	**+0.3**
	baz=224						

NEIC ***29*** *22:47:23.4±1.6,5°63S±0°06×151°76E±0°10,h10km±1km, mb4.5/107,Error ellipse: s-maj=17.4km s-min=9.1km az=109.0*
IDC ***29*** *22:47:28.8±3.8,5°56S×151°61E,h64km±34km,mb4.0/15, mbtmp4.3/16,ML2.1/1,Error ellipse: s-maj=24.2km s-min=13.5km az=88.0*
ISC 29 22:47:28.2±0.5,5°60S±0°05×151°73E±0°07,h57km,n149, σ1936/151,mb4.4/69,New Britain region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.46**	**17**	Pn	**Pn**	**22 47 50.4**	**-2.0**
RABL				Sn	**Sn**	**22 48 09.9**	**-0.6**
MANU	**Manus Island**	**5.61**	**309**	Pn	**Pn**	**22 48 51.4**	**+2.3**
PMG	**Port Moresby**	**5.90**	**230**		**Pn**	**22 48 52.1**	**-1.0**
PMG	**Port Moresby**	**5.90**	**230**	P	**Pn**	**22 48 53.8**	**+0.7**
	3.4nm,0.3s,baz=28,slow=9.7,SNR=7.4						
PMG				S	**Sn**	**22 49 58.4**	**-1.1**
	22nm,0.4s,baz=345,slow=20,SNR=1.5						
	121nm,1.0s						
CTAO	**Charters Tower**	**15.36**	**200**	Pn	**Pn**	**22 50 59.8**	**-1.7**
QIS	**Mount Isa**	**18.97**	**217**	P	**Pn**	**22 51 46.1**	**-0.1**
FAKI	**Fak Fak**	**19.61**	**277**	P	**P**	**22 51 51.0**	**-1.1**
EIDS	**Eidsvold**	**19.67**	**182**	P	**P**	**22 51 52.7**	**+0.1**
EIDS				IAmb	IAmb	22 52 05.6	
	comp=Z,35nm,1.4s						
KDU	**Kakadu**	**20.26**	**248**	P	**P**	**22 51 58.1**	**-1.1**
MTN	**Manton Dam**	**21.55**	**249**	P	**P**	**22 52 13.5**	**+0.4**
MTN	**Manton Dam**	**21.55**	**249**	P	**P**	**22 52 12.9**	**-0.2**
MTN				IAmb	IAmb	22 52 15.4	
	comp=Z,22nm,1.1s						
DZM	**Mont Dzumac**	**21.70**	**140**	P	**P**	**22 52 14.7**	**+0.1**
DZM				IAmb	IAmb	22 52 54.7	
	comp=Z,23nm,1.1s						
DZM	**Mont Dzumac**	**21.70**	**140**	P	**P**	**22 52 15.0**	**+0.3**
	comp=Z,4.6nm,0.6s,baz=284,slow=20,SNR=1.7						
	comp=Z,4.6nm,0.6s						
WB0	**Warramunga Arr**	**21.97**	**229**	P	**P**	**22 52 17.1**	**-0.5**
WR0	**Warramunga Arr**	**21.98**	**228**	P	**P**	**22 52 17.6**	**0.0**
WRAB	**Tennant Creek**	**22.11**	**228**	P	**P**	**22 52 19.8**	**+0.8**
WB2	**Warramunga Arr**	**22.11**	**228**	P	**P**	**22 52 18.5**	**-0.5**
WRA	**Warramunga Arr**	**22.12**	**228**	P	**P**	**22 52 19.2**	**0.0**
WRA	**Warramunga Arr**	**22.12**	**228**	P	**P**	**22 52 18.1**	**-1.0**
	comp=Z,66nm,0.8s,baz=52,slow=9.9,SNR=89						
KNRA	**Kununurra**	**24.67**	**244**	P	**P**	**22 52 43.4**	**-0.5**
KNRA	**Kununurra**	**24.67**	**244**	P	**P**	**22 52 43.4**	**-0.5**
ARMA	**Armidale**	**24.69**	**180**	P	**P**	**22 52 45.6**	**+1.5**
ARMA	**Armidale**	**24.69**	**180**	P	**P**	**22 52 44.3**	**+0.2**
ARMA				IAmb	IAmb	22 52 58.2	
	comp=Z,22nm,1.5s						
AS01	**Alice Springs**	**24.81**	**222**	P	**P**	**22 52 45.4**	**+0.1**
AS31	**Alice Springs**	**24.84**	**222**	P	**P**	**22 52 45.8**	**+0.3**
AS31				IAmb	IAmb	22 52 48.1	
	comp=Z,15nm,0.8s						
ASAR	**Alice Springs**	**24.85**	**222**	P	**P**	**22 52 45.6**	**+0.1**
ASAR	**Alice Springs**	**24.85**	**222**	P	**P**	**22 52 45.3**	**-0.3**
	comp=Z,41nm,0.8s,baz=58,slow=8.5,SNR=86						
	comp=Z,41nm,0.8s						
CMSA	**Cobar Meteorol**	**26.42**	**192**	P	**P**	**22 52 59.9**	**+0.3**
OOD	**Oodnadatta**	**26.83**	**213**	P	**P**	**22 53 03.4**	**0.0**
SOEI	**Soe**	**27.52**	**260**	P	**P**	**22 53 09.6**	**-0.3**
STKA	**Stephens Creek**	**27.81**	**199**	P	**P**	**22 53 11.8**	**-0.4**
STKA	**Stephens Creek**	**27.81**	**199**	P	**P**	**22 53 11.7**	**-0.4**
	comp=Z,6.3nm,0.9s,baz=7.9,slow=11,SNR=6.4						
	comp=Z,6.3nm,0.9s						
FITZ	**Fitzroy Crossi**	**28.34**	**242**	P	**P**	**22 53 16.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**28.34**	**242**	P	**P**	**22 53 16.2**	**-0.9**
FITZ				IAmb	IAmb	22 53 16.8	
	comp=Z,6.2nm,0.7s						
WRKA	**Warakurna**	**29.64**	**227**	P	**P**	**22 53 27.8**	**-0.7**
MULG	**Mulgathing**	**29.66**	**212**	P	**P**	**22 53 28.1**	**-0.5**
HTT	**Hallett**	**30.15**	**202**	P	**P**	**22 53 33.0**	**+0.1**
FORT	**Forrest**	**33.50**	**219**	P	**P**	**22 54 01.7**	**-0.7**
JCJ	**Chichijima**	**33.79**	**345**	P	**P**	**22 54 04.9**	**0.0**
MBWA	**Marble Bar**	**34.65**	**240**	P	**P**	**22 54 11.6**	**-0.8**
PSA00	**Pilbara Seismi**	**34.71**	**240**	P	**P**	**22 54 11.9**	**-1.1**
RTZ	**Ruatahuna**	**40.05**	**149**	P	**P**	**22 54 58.4**	**+0.3**
RTZ				IAmb	IAmb	22 55 00.5	
	comp=Z,11nm,0.8s						
TCW	**Tory Channel**	**40.79**	**154**	P	**P**	**22 55 04.7**	**+0.7**
TUWZ	**Tuamarina**	**40.82**	**154**	P	**P**	**22 55 04.7**	**+0.4**
LTZ	**Lake Taylor**	**41.26**	**157**	P	**P**	**22 55 09.1**	**+1.2**
LTZ				IAmb	IAmb	22 55 25.1	
	comp=Z,17nm,1.5s						
BFZ	**Birch Farm**	**41.27**	**151**	P	**P**	**22 55 07.3**	**-0.7**
PLWZ	**Palliser**	**41.51**	**153**	P	**P**	**22 55 09.7**	**-0.3**
MLZ	**Mavora Lakes**	**42.11**	**163**	P	**P**	**22 55 14.7**	**-0.1**
MJAR	**Matsushiro Arr**	**43.79**	**344**	P	**P**	**22 55 27.1**	**-1.4**
	comp=Z,1.3nm,0.6s,baz=338,slow=9.3,SNR=4.1						
	comp=Z,1.3nm,0.6s						
KSRS	**Korea Array**	**48.24**	**334**	P	**P**	**22 56 02.8**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=153,slow=7

J18K	**Innoko River**	**78.97**	**21**	P	**P**	**22 59 27.4**	**+1.8**
M20K	**Styx River**	**79.39**	**23**	P	**P**	**22 59 30.0**	**+2.0**
M20K				IAmb	IAmb	22 59 49.9	
	comp=Z,5.7nm,1.1s						
F17K	**Baldwin Pennin**	**79.40**	**17**	P	**P**	**22 59 29.3**	**+1.5**
H18K	**Honhosa River**	**79.46**	**19**	P	**P**	**22 59 30.5**	**+2.3**
J19K	**Poorman**	**79.68**	**21**	P	**P**	**22 59 30.7**	**+1.3**
G18K	**Tagagawik**	**79.84**	**19**	P	**P**	**22 59 30.9**	**+0.6**
K20K	**Telida**	**79.86**	**22**	P	**P**	**22 59 33.4**	**+2.9**
K20K				IAmb	IAmb	22 59 45.5	
	comp=Z,5.3nm,1.2s						
SUA	**Susitna One**	**80.12**	**24**	P	**P**	**22 59 33.2**	**+1.2**
SUA				IAmb	IAmb	22 59 34.5	
	comp=Z,4.5nm,1.0s						
E18K	**Tukpahlearik C**	**80.25**	**17**	P	**P**	**22 59 33.9**	**+1.5**
E18K				IAmb	IAmb	22 59 48.4	
	comp=Z,6.8nm,1.5s						
J20K	**Nowinta River**	**80.31**	**21**	P	**P**	**22 59 35.1**	**+2.3**
J20K				IAmb	IAmb	22 59 48.4	
	comp=Z,4.9nm,1.0s						
H19K	**Roundabout Mou**	**80.32**	**19**	P	**P**	**22 59 34.4**	**+1.6**
H19K				IAmb	IAmb	22 59 36.5	
	comp=Z,8.0nm,1.4s						
RC01	**Rabbit Creek A**	**80.34**	**25**	P	**P**	**22 59 34.7**	**+1.6**
RC01				IAmb	IAmb	22 59 46.8	
	comp=Z,5.8nm,1.0s						
G19K	**Purcell Mounta**	**80.49**	**19**	P	**P**	**22 59 34.7**	**+0.9**
G19K				IAmb	IAmb	22 59 58.6	
	comp=Z,7.0nm,1.4s						
CAST	**Castle Rocks**	**80.64**	**22**	P	**P**	**22 59 36.4**	**+1.7**
CAST				IAmb	IAmb	22 59 57.3	
	comp=Z,4.1nm,1.1s						
F19K	**Shaleruckik Mo**	**80.71**	**18**	P	**P**	**22 59 35.8**	**+0.9**
C18K	**Utukok River**	**80.91**	**16**	P	**P**	**22 59 38.1**	**+2.1**
GHO	**Glory Hole Cre**	**81.03**	**24**	P	**P**	**22 59 38.8**	**+2.0**
KNK	**Knik Glacier**	**81.04**	**25**	P	**P**	**22 59 38.4**	**+1.5**
KTH	**Kantishna Hill**	**81.15**	**22**	P	**P**	**22 59 37.7**	**+0.2**
KTH				IAmb	IAmb	22 59 50.5	
	comp=Z,4.4nm,1.0s						
E19K	**Redstone River**	**81.26**	**18**	P	**P**	**22 59 39.4**	**+1.5**
E19K				IAmb	IAmb	23 00 00.1	
	comp=Z,3.9nm,0.9s						
SML	**Sawmill**	**81.29**	**25**	P	**P**	**22 59 39.7**	**+1.5**
SML				IAmb	IAmb	23 00 09.7	
	comp=Z,6.0nm,0.9s						
TRF	**Thorofare Moun**	**81.34**	**23**	P	**P**	**22 59 40.4**	**+1.8**
TRF				IAmb	IAmb	23 00 22.4	
	comp=Z,8.0nm,1.5s						
BPAW	**Bear Paw Mtn.**	**81.42**	**22**	P	**P**	**22 59 40.0**	**+1.1**
F20K	**Avaraart Lake**	**81.48**	**18**	P	**P**	**22 59 40.4**	**+1.4**
IMAR	**Indian Mountai**	**81.49**	**20**	P	**P**	**22 59 39.8**	**+0.7**
H21K	**Melozitna Rive**	**81.62**	**20**	P	**P**	**22 59 41.0**	**+1.2**
C19K	**Lookout Ridge**	**81.65**	**16**	P	**P**	**22 59 41.7**	**+1.8**
C19K				IAmb	IAmb	23 00 02.7	
	comp=Z,7.2nm,1.3s						
D19K	**Kuna River**	**81.66**	**17**	P	**P**	**22 59 41.2**	**+1.2**
G21K	**Allakaket**	**81.88**	**19**	P	**P**	**22 59 42.5**	**+1.4**
MLY	**Manley**	**82.01**	**21**	P	**P**	**22 59 42.0**	**+0.1**
M24K	**Tolsona, Glenn**	**82.33**	**25**	P	**P**	**22 59 45.1**	**+1.5**
I23K	**Minto, Yukon-K**	**82.57**	**21**	P	**P**	**22 59 47.7**	**+2.9**
H23K	**Yukon River**	**82.85**	**21**	P	**P**	**22 59 47.0**	**+0.8**
B20K	**Meade River**	**82.88**	**16**	P	**P**	**22 59 47.5**	**+1.2**
B20K				IAmb	IAmb	23 00 17.8	
	comp=Z,4.1nm,1.3s						
CCB	**Clear Creek Bu**	**82.89**	**22**	P	**P**	**22 59 48.1**	**+1.7**
CCB				IAmb	IAmb	22 59 59.6	
	comp=Z,3.3nm,1.1s						
IL31		**83.30**	**22**	P	**P**	**22 59 49.6**	**+1.1**
IL31				IAmb	IAmb	23 00 10.3	
	comp=Z,2.8nm,1.1s						
ILAR	**Eielson Array**	**83.30**	**22**	P	**P**	**22 59 49.1**	**+0.6**
ILAR	**Eielson Array**	**83.30**	**22**	P	**P**	**22 59 46.9**	**-1.6**
	comp=Z,1.1nm,0.6s,baz=249,slow=4.5,SNR=15						
	comp=Z,1.1nm,0.6s						
E22K	**Anaktuvuk Pass**	**83.33**	**18**	P	**P**	**22 59 50.1**	**+1.3**
E22K				IAmb	IAmb	23 00 07.5	
	comp=Z,2.9nm,1.1s						
H24K	**Noodor Dome**	**83.45**	**21**	P	**P**	**22 59 49.9**	**+0.5**
D22K	**Ayikyak River**	**83.48**	**18**	P	**P**	**22 59 50.5**	**+1.1**
D22K				IAmb	IAmb	23 00 26.6	
	comp=Z,8.2nm,1.5s						
CTGM	**Chitina Glacie**	**83.94**	**27**	P	**P**	**22 59 52.6**	**+0.5**
M27K	**Edge Creek, AK**	**84.25**	**25**	P	**P**	**22 59 54.5**	**+0.8**
F24K	**Squaw Lake**	**84.28**	**20**	P	**P**	**22 59 54.8**	**+1.2**
F24K				IAmb	IAmb	23 00 17.6	
	comp=Z,3.1nm,1.1s						
TOLK	**Toolik Lake Re**	**84.30**	**18**	P	**P**	**22 59 54.3**	**+0.7**
TOLK				IAmb	IAmb	23 00 12.6	
	comp=Z,3.7nm,1.1s						
QSPA	**South Pole Qui**	**84.37**	**180**	P	**P**	**22 59 54.7**	**+0.5**
QSPA	**South Pole Qui**	**84.37**	**180**	P	**P**	**22 59 54.3**	**+0.1**
	comp=Z,5.8nm,0.7s,baz=313,slow=1.5,SNR=33						
	comp=Z,5.8nm,0.7s						
L27K	**Beaver Creek,**	**84.56**	**25**	P	**P**	**22 59 57.4**	**+2.3**
L27K				IAmb	IAmb	23 00 19.9	
	comp=Z,4.3nm,1.4s						
BCAR	**Beaver Creek A**	**84.57**	**25**	P	**P**	**22 59 56.5**	**+1.4**
C23K	**Itkillik River**	**84.62**	**17**	P	**P**	**22 59 57.1**	**+1.9**
D24K	**Happy Valley**	**84.80**	**18**	P	**P**	**22 59 57.3**	**+1.2**
D24K				IAmb	IAmb	23 00 00.2	
	comp=Z,4.9nm,1.3s						
BMAR	**Burnt Mountain**	**85.36**	**20**	P	**P**	**22 59 59.9**	**+0.9**
EGAK	**Eagle**	**85.51**	**23**	P	**P**	**23 00 00.8**	**+1.1**
EGAK				IAmb	IAmb	23 00 10.6	
	comp=Z,3.7nm,1.2s						
HYT	**Haines Junctio**	**85.63**	**28**	P	**P**	**23 00 02.4**	**+1.8**
HYT				IAmb	IAmb	23 00 05.1	
	comp=Z,3.2nm,1.0s						
D25K	**Kavik River**	**85.64**	**18**	P	**P**	**23 00 00.6**	**+0.2**
D25K				IAmb	IAmb	23 00 17.8	
	comp=Z,5.3nm,1.4s						
M29M	**Somme Creek**	**85.76**	**26**	P	**P**	**23 00 02.6**	**+1.5**
M29M				IAmb	IAmb	23 00 23.5	
	comp=Z,4.8nm,1.4s						
DAWY	**Dawson**	**85.95**	**24**	P	**P**	**23 00 05.1**	**+3.1**
DAWY				IAmb	IAmb	23 00 43.0	
	comp=Z,3.8nm,1.4s						
G27K	**Doyon Strip**	**86.13**	**21**	P	**P**	**23 00 04.4**	**+1.6**
L29M	**L29M**	**86.13**	**25**	P	**P**	**23 00 04.9**	**+2.0**
L29M				IAmb	IAmb	23 00 44.0	
	comp=Z,4.6nm,1.2s						
K29M	**Barlow Dome**	**86.64**	**25**	P	**P**	**23 00 06.0**	**+0.5**
K29M				IAmb	IAmb	23 00 21.5	
	comp=Z,4.9nm,1.1s						
E27K	**Coleen River**	**86.71**	**20**	P	**P**	**23 00 06.9**	**+1.3**
E27K				IAmb	IAmb	23 00 09.7	
	comp=Z,1.7nm,0.7s						
F28M	**Old Crow**	**87.09**	**21**	P	**P**	**23 00 08.8**	**+1.4**
H29M	**Whitestone**	**87.13**	**22**	P	**P**	**23 00 07.9**	**+0.2**
H29M				IAmb	IAmb	23 00 42.0	
	comp=Z,6.0nm,1.4s						
J30M	**Hart River**	**87.38**	**24**		**P**	**23 00 10.8**	**+1.8**
J30M				IAmb	IAmb	23 00 25.1	
	comp=Z,3.4nm,0.9s						
G29M	**Pine Creek**	**87.50**	**22**	P	**P**	**23 00 10.6**	**+1.1**
I30M	**Mount Dempster**	**87.57**	**24**	P	**P**	**23 00 10.9**	**+0.9**
E28M	**Babbage River**	**87.58**	**20**	P	**P**	**23 00 12.2**	**+2.4**
E28M				IAmb	IAmb	23 00 45.0	
	comp=Z,2.6nm,1.2s						
E29M	**Blow River**	**88.06**	**20**	P	**P**	**23 00 13.7**	**+1.6**
H31M	**Peel River**	**88.55**	**23**	P	**P**	**23 00 15.0**	**+0.5**
H31M				IAmb	IAmb	23 00 55.4	
	comp=Z,5.3nm,1.2s						
G31M	**Satah River**	**88.91**	**22**	P	**P**	**23 00 17.0**	**+0.9**
NVAR	**Mina Array Bea**	**93.41**	**52**	P	**P**	**23 00 38.4**	**+0.4**
	comp=Z,0.3nm,0.2s,baz=254,slow=6.2,SNR=6.0						
	comp=Z,0.3nm,0.2s						
YKA	**Yellowknife Ar**	**96.62**	**28**	P	**P**	**23 00 52.0**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=263,slow=4.3,SNR=3.6						
	comp=Z,0.1nm,0.3s						
TORD	**Torodi Ar. Bea**	**149.53**	**286**	PKPbc	**PKPdf**	**23 07 10.2**	**+2.5**
	comp=Z,5.7nm,0.6s,baz=82,slow=2.0,SNR=12						
BDFB	**Brasilia**	**151.23**	**137**	PKPbc	**PKPbc**	**23 07 16.4**	**-0.1**
	comp=Z,3.6nm,0.6s,baz=161,slow=2.5,SNR=7.8						

IDC 29 22:49:18.2±4.0, 5.°00S×151.°81E, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=150.6km s-min=54.9km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.58**	**227**	P	P	22 54 20.0	-0.4
	2.4nm,0.5s,baz=52,slow=9.8,SNR=3.6						
	2.4nm,0.5s						
ASAR	**Alice Springs**	**25.35**	**221**	P	P	22 54 47.4	+0.3
	2.3nm,0.5s,baz=56,slow=8.8,SNR=4.3						
	2.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**149.42**	**287**	PKPbc	PKPbc	23 09 09.9	-0.5
	2.0nm,0.8s,baz=104,slow=1.6,SNR=1.4						

IDC ***29*** *22:51:18.0±0.5, 5.°72S×151.°66E, h0km, mb4.8/16, mbtmp4.8/17, ML2.8/1, MS5.2/2, Error ellipse: s-maj=19.6km s-min=11.0km az=109.0*

NEIC ***29*** *22:51:20.7±1.2, 5.°90S±0.°06×151.°85E±0.°07, h10km±1km, mb5.7/358, Ms_20 5.4/21, Error ellipse: s-maj=11.8km s-min=10.0km az=283.0*

BJI ***29*** *22:51:21.0±0.0, 5.°90S×151.°90E, h31km, mb4.9/21, mB5.9/5, Ms5.5/4, Ms7 5.4/4*

MOS ***29*** *22:51:21.9±1.0, 5.°90S×151.°73E, h33km, mb5.5/14, Error ellipse: s-maj=11.7km s-min=8.2km az=62.8*

DJA ***29*** *22:51:25.7±0.7, 6.°S±3.°×15.°2E±.°, h35km±7km, M5.5/40, mB5.9/10, mb5.2/40, MLv5.9/1, Mw(mB)5.4/10*

ISC 29 22:51:24.2±0.3, 5.°89S±0.°04×151.°83E±0.°04, h36km, n796, σ1s08/769, mb5.5/161, MS5.4/15, 4C-2D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I40PG	**Keravat**	**1.59**	**6**	Pn	**Pn**	**22 51 48.9**	**-0.9**
	baz=177,slow=21						
I40PG				I	I	23 02 50.0	
	baz=228,slow=315,SNR=2.3						
RABL	**Rabaul**	**1.72**	**11**		**Pn**	**22 51 51.2**	**-0.4**
KAVG	**Kavieng**	**3.44**	**343**	P	**Pn**	**22 52 18.1**	**+2.8**
PMG	**Port Moresby**	**5.80**	**233**		**Pn**	**22 52 47.2**	**-0.5**
PMG	**Port Moresby**	**5.80**	**233**	Pn	**Pn**	**22 52 44.9**	**-2.9**
	16nm,0.3s,baz=47,slow=9.1,SNR=54						
PMG				Sn	**Sn**	**22 53 51.2**	**-1.9**
	12nm,0.3s,baz=64,slow=13,SNR=3.7						
	104nm,0.7s						
MANU	**Manus Island**	**5.87**	**310**	P	**Pn**	**22 52 52.5**	**+3.8**
MANU	**Manus Island**	**5.87**	**310**	Pn	**Pn**	**22 52 49.4**	**+0.7**
HNR	**Honiara**	**8.78**	**114**	P	**Pn**	**22 53 33.2**	**+4.5**
HNR	**Honiara**	**8.78**	**114**		**Pn**	**22 53 27.6**	**-1.1**
HNR	**Honiara**	**8.78**	**114**	Pn	**Pn**	**22 53 29.6**	**+0.9**
	226nm,0.3s,baz=254,slow=6.3,SNR=10						
HNR				Sn	**Sn**	**22 55 07.8**	**+1.3**
	184nm,0.3s,baz=232,slow=16,SNR=1.6						
JAY	**Jayapura**	**11.59**	**286**	P	**Pn**	**22 54 10.1**	**+2.8**
	41nm,1.9s						
COEN	**Coen**	**11.70**	**226**	P	**Pn**	**22 54 10.1**	**+1.4**
	baz=12,SNR=6.6						
COEN	**Coen**	**11.70**	**226**	P	**Pn**	**22 54 10.0**	**+1.3**
COEN	**Coen**	**11.70**	**226**		**Pn**	**22 54 07.7**	**-1.0**
GENI	**Genyem**	**12.08**	**285**	P	**Pn**	**22 54 16.4**	**+2.4**
GENI	**Genyem**	**12.08**	**285**	P	**Pn**	**22 54 16.6**	**+2.6**
	92nm,1.2s						
TV1H	**Townsville Har**	**14.17**	**200**	P	**Pn**	**22 54 45.3**	**+2.9**
MTSU	**Mount Surprise**	**14.21**	**210**	P	**Pn**	**22 54 44.2**	**+1.2**
	baz=14,SNR=15						
MTSU	**Mount Surprise**	**14.21**	**210**	P	**Pn**	**22 54 44.5**	**+1.4**
CTAO	**Charters Tower**	**15.12**	**201**	P	**Pn**	**22 54 56.9**	**+1.6**
CTAO	**Charters Tower**	**15.12**	**201**	P	**P**	**22 54 58.1**	**-1.9**
CTAO	**Charters Tower**	**15.12**	**201**	P	**P**	**22 54 58.1**	**-1.9**
CTAO				pmax	pmax		
	comp=Z,36nm,1.1s						
QIS	**Mount Isa**	**18.80**	**218**	P	**P**	**22 55 39.4**	**-1.3**
	baz=19,SNR=40						
QIS	**Mount Isa**	**18.80**	**218**	P	**P**	**22 55 40.7**	**-0.1**
KOUNC	**Koumac, New Ca**	**18.93**	**141**	P	**Pn**	**22 55 45.5**	**+2.4**
EIDS	**Eidsvold**	**19.38**	**182**	P	**P**	**22 55 46.7**	**-0.4**
	baz=19,SNR=6.8						
EIDS	**Eidsvold**	**19.38**	**182**	P	**P**	**22 55 46.4**	**-0.7**
EIDS	**Eidsvold**	**19.38**	**182**	P	**P**	**22 55 46.2**	**-0.9**
FAKI	**Fak Fak**	**19.75**	**278**	P	**P**	**22 55 50.7**	**-0.5**
FAKI	**Fak Fak**	**19.75**	**278**	P	**P**	**22 55 51.2**	**0.0**
FAKI	**Fak Fak**	**19.75**	**278**	P	**P**	**22 55 51.5**	**+0.3**
	comp=Z,41nm,2.2s						
KDU	**Kakadu**	**20.25**	**249**	P	**P**	**22 55 55.0**	**-1.7**
	baz=20,SNR=28						
KDU	**Kakadu**	**20.25**	**249**	P	**P**	**22 55 57.0**	**+0.3**
SAUI	**Saumlaki**	**20.49**	**263**	P	Pn	22 56 00.5	-1.1
SAUI	**Saumlaki**	**20.49**	**263**		**P**	**22 55 59.0**	**-0.2**
SAUI				IAmb	IAmb	22 56 03.3	
	comp=Z,368nm,1.5s						
SAUI	**Saumlaki**	**20.49**	**263**	P	**P**	**22 55 59.2**	**0.0**
	comp=Z,179nm,1.5s						
GUMO	**Guam**	**20.55**	**340**	P	**P**	**22 56 00.6**	**+0.7**
GUMO	**Guam**	**20.55**	**340**		**P**	**22 55 59.7**	**-0.2**
GUMO				IAmb	IAmb	22 56 01.3	
	comp=Z,358nm,1.0s						
GUMO	**Guam**	**20.55**	**340**	P	**P**	**22 55 59.7**	**-0.2**
GUMO				pmax	pmax		
	comp=Z,358nm,1.0s						
GUMO	**Guam**	**20.55**	**340**	P	**P**	**22 55 59.4**	**-0.4**
	comp=Z,143nm,0.6s,baz=174,slow=8.3,SNR=6.1						
RMQ	**Roma**	**20.69**	**188**	P	**P**	**22 56 02.2**	**+0.9**
SWI	**Sorong**	**21.13**	**283**	P	**P**	**22 56 09.2**	**+3.0**
	comp=Z,44nm,1.3s,comp=Z,2μm						
NOUC	**Port Laguerre**	**21.34**	**140**	P	**P**	**22 56 11.3**	**+2.9**
DZM	**Mont Dzumac**	**21.41**	**140**	P	**P**	**22 56 09.5**	**+0.3**
DZM	**Mont Dzumac**	**21.41**	**140**	P	**P**	**22 56 07.6**	**-1.6**
DZM	**Mont Dzumac**	**21.41**	**140**	P	**P**	**22 56 09.8**	**+0.6**
	comp=Z,22nm,1.0s,baz=274,slow=12,SNR=3.1						
	comp=Z,22nm,1.0s						
AUWSH	**Wavell State H**	**21.42**	**177**	P	**P**	**22 56 08.9**	**-0.3**
MTN	**Manton Dam**	**21.55**	**250**	P	**P**	**22 56 09.0**	**-1.7**
	baz=22,SNR=29						
MTN	**Manton Dam**	**21.55**	**250**	P	**P**	**22 56 10.6**	**-0.1**
MTN	**Manton Dam**	**21.55**	**250**	P	**P**	**22 56 09.2**	**-1.5**
MTN				IAmb	IAmb	22 56 14.3	
	comp=Z,223nm,1.2s						
DRS	**Darwin Rock St**	**21.65**	**251**	P	**P**	**22 56 14.2**	**+2.4**
QLP	**Quilpie**	**21.82**	**199**	P	**P**	**22 56 13.0**	**-0.4**
	baz=22,SNR=31						
QLP	**Quilpie**	**21.82**	**199**	P	**P**	**22 56 13.0**	**-0.4**
WB0	**Warramunga Arr**	**21.86**	**229**	P	**P**	**22 56 12.6**	**-1.4**
WR0	**Warramunga Arr**	**21.86**	**229**	P	**P**	**22 56 12.7**	**-1.3**
BNDI	**Banadara**	**21.88**	**273**	P	**P**	22 56 33.8	+20
WRAB	**Tennant Creek**	**21.99**	**229**	P	**P**	**22 56 14.0**	**-1.4**
WRAB	**Tennant Creek**	**21.99**	**229**	*i* P	**P**	**22 56 13.7**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,73nm,1.0s						
WB2	**Warramunga Arr**	**22.00**	**229**	P	**P**	**22 56 13.3**	**-2.2**
WRA	**Warramunga Arr**	**22.00**	**229**	P	**P**	**22 56 13.2**	**-2.4**
WRA	**Warramunga Arr**	**22.00**	**229**	*e*P	**P**	**22 56 13.7**	**-1.8**
WRA				pmax	pmax		
	comp=Z,30nm,0.9s						
WRA	**Warramunga Arr**	**22.00**	**229**	P	**P**	**22 56 13.7**	**-1.8**
	comp=Z,31nm,0.9s,baz=52,slow=9.5,SNR=31						
WRA				S	**S**	**23 00 13.7**	**-2.9**
	comp=Z,22nm,1.2s,baz=53,slow=19,SNR=7.8						
WRA				ScP	**ScP**	**23 03 51.2**	**+3.1**
	comp=Z,2.0nm,0.8s,baz=51,slow=2.8,SNR=5.7						
	comp=Z,31nm,0.9s						
GC1S	**Gold Coast 1 S**	**22.21**	**176**	P	**P**	**22 56 19.1**	**+1.5**
TARA	**Tarawa**	**22.26**	**72**	P	**P**	**22 56 19.4**	**+1.1**
TARA	**Tarawa**	**22.26**	**72**	P	**P**	**22 56 17.0**	**-1.3**
TARA				IAmb	IAmb	22 56 25.1	
	comp=Z,471nm,1.6s						
PINNC	**Pines Island,**	**22.44**	**139**	IAMs_20	IAMs_20	23 04 44.8	
	comp=Z,8μm,19.0s						
AULRC	**Lightning Ridg**	**23.70**	**188**	P	**P**	**22 56 31.9**	**-0.9**
INKA	**Innaminka**	**24.15**	**205**	P	**P**	**22 56 38.0**	**+0.9**
ARMA	**Armidale**	**24.40**	**180**	P	**P**	**22 56 39.6**	**+0.1**
	baz=24,SNR=7.7						
ARMA	**Armidale**	**24.40**	**180**	P	**P**	**22 56 39.1**	**-0.4**
ARMA	**Armidale**	**24.40**	**180**	P	**P**	**22 56 37.3**	**-2.1**
ARMA				IAmb	IAmb	22 56 42.4	
	comp=Z,184nm,1.6s						
ARMA				IAMs_20	IAMs_20	23 06 22.7	
	comp=Z,12μm,18.0s						
KNRA	**Kununurra**	**24.63**	**245**	P	**P**	**22 56 40.8**	**-0.8**
	baz=24,SNR=34						
KNRA	**Kununurra**	**24.63**	**245**	P	**P**	**22 56 42.2**	**+0.6**
KNRA	**Kununurra**	**24.63**	**245**	P	**P**	**22 56 40.9**	**-0.8**
KNRA				IAmb	IAmb	22 56 45.0	
	comp=Z,254nm,1.4s						
AS01	**Alice Springs**	**24.67**	**222**	P	**P**	**22 56 41.6**	**-0.3**
AS31	**Alice Springs**	**24.70**	**222**	P	**P**	**22 56 41.3**	**-0.9**
ASAR	**Alice Springs**	**24.70**	**222**	P	**P**	**22 56 41.4**	**-0.8**
	comp=Z,86nm,0.9s,baz=56,slow=9.2,SNR=86						
ASAR				S	**S**	**23 01 06.7**	**+4.9**
	comp=Z,9.2nm,1.1s,baz=45,slow=18,SNR=7.4						
ASAR				ScP	**ScP**	**23 03 58.5**	**+3.3**
	comp=Z,2.2nm,1.1s,baz=35,slow=3.4,SNR=5.1						
	comp=Z,86nm,0.9s						
LBMI	**Labuha**	**24.84**	**281**	P	**P**	**22 56 45.6**	**+2.1**
	comp=Z,101nm,1.3s						
AUPHS	**Peel High Scho**	**25.09**	**182**	P	**P**	**22 56 46.0**	**+0.4**
SANI	**Sanana**	**26.06**	**277**	P	**P**	**22 56 56.8**	**+2.2**
	comp=Z,28nm,1.0s						
CMSA	**Cobar Meteorol**	**26.16**	**192**	P	**P**	**22 56 54.1**	**-1.2**
	baz=26,SNR=18						
CMSA	**Cobar Meteorol**	**26.16**	**192**	P	**P**	**22 56 54.1**	**-1.2**
AUDCS	**Dubbo College**	**26.38**	**186**	P	**P**	**22 56 58.3**	**+1.1**
LHI	**Lord Howe Isla**	**26.38**	**166**	P	**P**	**22 56 57.1**	**-0.1**
LHI				IAmb	IAmb	22 57 04.7	
	comp=Z,138nm,1.0s						
OOD	**Oodnadatta**	**26.64**	**213**	P	**P**	**22 56 58.7**	**-1.0**
MGCD	**Mangrove Creek**	**27.19**	**181**	P	**P**	**22 57 06.9**	**+2.4**
FUNA	**Funafuti**	**27.27**	**97**	P	**P**	**22 57 05.2**	**-0.3**
FUNA				IAmb	IAmb	22 57 19.2	
	comp=Z,402nm,1.8s						
SOEI	**Soe**	**27.57**	**260**	P	**P**	**22 57 08.7**	**+0.4**
SOEI	**Soe**	**27.57**	**260**	P	**P**	**22 57 08.4**	**+0.1**
SOEI				IAmb	IAmb	22 57 47.6	
	comp=Z,301nm,1.4s						
SOEI	**Soe**	**27.57**	**260**	P	**P**	**22 57 10.0**	**+1.7**
	comp=Z,120nm,1.1s,comp=Z,3μm						
STKA	**Stephens Creek**	**27.57**	**199**	P	**P**	**22 57 06.5**	**-1.4**
	baz=28,SNR=28						
STKA	**Stephens Creek**	**27.57**	**199**	P	**P**	**22 57 07.1**	**-0.9**
STKA	**Stephens Creek**	**27.57**	**199**	P	**P**	**22 57 06.5**	**-1.4**
STKA	**Stephens Creek**	**27.57**	**199**	*e*P	**P**	**22 57 06.2**	**-1.8**
STKA				pmax	pmax		
	comp=Z,29nm,0.9s						
STKA	**Stephens Creek**	**27.57**	**199**	P	**P**	**22 57 07.4**	**-0.6**
	comp=Z,29nm,0.9s,baz=31,slow=11,SNR=32						
	comp=Z,29nm,0.9s						
LCRK	**Leigh Creek**	**27.58**	**206**	P	**P**	**22 57 07.0**	**-1.1**
MSVF	**Nonsavu**	**28.18**	**117**	P	**P**	**22 57 16.6**	**+2.9**
MSVF	**Nonsavu**	**28.18**	**117**	P	**P**	**22 57 12.8**	**-0.9**
MSVF				IAmb	IAmb	22 57 50.8	
	comp=Z,118nm,1.5s						
MSVF	**Nonsavu**	**28.18**	**117**	P	**P**	**22 57 12.8**	**-0.9**
MSVF				pmax	pmax		
	comp=Z,118nm,1.5s						
BATI	**Baumata**	**28.21**	**259**	P	**P**	**22 57 14.6**	**+0.7**
	comp=Z,64nm,1.2s,comp=Z,2μm						
FITZ	**Fitzroy Crossi**	**28.30**	**242**	P	**P**	**22 57 13.2**	**-1.4**
	baz=28,SNR=24						
FITZ	**Fitzroy Crossi**	**28.30**	**242**	P	**P**	**22 57 13.1**	**-1.5**
FITZ	**Fitzroy Crossi**	**28.30**	**242**	P	**P**	**22 57 13.6**	**-1.0**
DGTI	**Dogotuki**	**29.23**	**113**	P	**P**	**22 57 23.8**	**+0.8**
MULG	**Mulgathing**	**29.47**	**212**	P	**P**	**22 57 23.4**	**-1.5**
MMRI	**Maumere**	**29.48**	**263**	P	**P**	**22 57 23.5**	**-1.7**
MMRI	**Maumere**	**29.48**	**263**	P	**P**	**22 57 23.3**	**-1.9**
MMRI				IAmb	IAmb	22 57 35.1	
	comp=Z,94nm,1.0s						
MMRI	**Maumere**	**29.48**	**263**	P	**P**	**22 57 25.1**	**-0.1**
	comp=Z,97nm,1.0s						
WRKA	**Warakurna**	**29.52**	**227**	P	**P**	**22 57 24.0**	**-1.5**
	baz=30,SNR=18						
WRKA	**Warakurna**	**29.52**	**227**	P	**P**	**22 57 23.8**	**-1.6**
TAVE	**Taveuni**	**29.68**	**114**	P	**P**	**22 57 28.2**	**+1.3**
HTT	**Hallett**	**29.91**	**202**	P	**P**	**22 57 27.9**	**-1.0**
	baz=30,SNR=4.9						
HTT	**Hallett**	**29.91**	**202**	P	**P**	**22 57 27.5**	**-1.4**
EDFI	**Ende, Flores**	**30.02**	**263**	P	**P**	**22 57 27.9**	**-2.3**
	comp=Z,86nm,1.3s						
BBOO	**Buckleboo**	**30.55**	**207**	P	**P**	**22 57 33.3**	**-1.2**
	baz=31,SNR=8.5						
BBOO	**Buckleboo**	**30.55**	**207**	P	**P**	**22 57 33.2**	**-1.3**
BBOO	**Buckleboo**	**30.55**	**207**	P	**P**	**22 57 33.0**	**-1.5**
BASI	**Baing, Sumba**	**31.23**	**260**	P	**P**	**22 57 41.8**	**+1.1**
	comp=Z,243nm,1.9s,comp=Z,4μm						
TTSI	**Tana Toraja**	**32.04**	**274**	P	P	22 57 58.3	+11
TOO	**Toolangi**	**32.06**	**190**	IAMs_20	IAMs_20	23 12 58.6	
	comp=Z,9μm,18.0s						
ARPS	**Mount Arapiles**	**32.07**	**195**	P	**P**	**22 57 47.6**	**-0.2**
	baz=32

MUN Mundaring 42.19 227 P P 22 59 12.3 -1.4
baz=42,SNR=3.7
YHNB Yeheng 42.45 317 P P 22 59 14.3 -1.7
YHNB IAmb IAmb 22 59 43.1
comp=Z,142nm,1.4s
KPJI Karang Pucung 42.63 266 P P 22 59 19.4 +1.9
comp=Z,71nm,1.0s
BBJI Bungbulang 43.90 265 P P 22 59 28.1 +0.2
MJAR Matsushiro Arr 44.10 344 P P 22 59 24.5 -4.6
comp=Z,4.1nm,1.1s,baz=190,slow=20,SNR=3.2
MJAR PcP PP 23 01 12.5 +0.2
comp=Z,6.3nm,1.0s,baz=168,slow=3.3,SNR=8.3
comp=Z,4.1nm,1.1s
JSD Sado 45.49 345 P P 22 59 37.6 -2.5
CTZ Chatham Island 46.79 149 P P 22 59 51.3 +1.1
CTZ Chatham Island 46.79 149 P P 22 59 49.0 -1.2
LWLI Liwa 47.55 269 P P 23 00 00.9 +4.0
comp=Z,65nm,1.0s
KSRS Korea Array 48.55 335 eP P 23 00 02.6 -1.3
KSRS pmax pmax
comp=Z,2.0nm,0.9s
KSRS Korea Array 48.55 335 P P 23 00 01.1 -2.9
comp=Z,1.0nm,0.5s,baz=141,slow=6.0,SNR=10
KSRS PcP PcP 23 01 28.3 -1.1
comp=Z,1.7nm,0.7s,baz=154,slow=2.6,SNR=5.1
comp=Z,1.0nm,0.5s
KSAR Wonju Array Be 48.55 334 P P 23 00 03.1 -0.8
KSAR Wonju Array Be 48.55 334 P P 23 00 03.2 -0.8
NJ2 Nanjing 49.09 322 eP P 23 00 08.5 +0.2
NJ2 pP pP 23 00 18.0 -0.3
NJ2 pmax pmax
comp=Z,12nm,0.5s
WHN Wuhan 50.99 317 P P 23 00 22.5 -0.1
PSTR Posyet 51.96 340 i P P 23 00 29.6 -0.1
USRK Ussuriysk Ar. 52.97 342 P P 23 00 33.9 -3.3
comp=Z,0.6nm,0.3s,baz=160,slow=6.1,SNR=5.4
comp=Z,0.6nm,0.3s
USA0B Ussuriysk Arra 52.97 342 i P P 23 00 37.8 +0.6
NONG Nongkai 53.60 297 P P 23 00 43.3 +1.0
MDJ Mudanjiang 54.11 341 P P 23 00 53.5 +8.0
MDJ pmax pmax
comp=Z,5.0nm,1.1s
MDJ pmax pmax
comp=Z,2µm,6.1s
LYN LuoYang 54.74 320 ⇑P P 23 00 48.8 -1.5
LYN pmax pmax
comp=Z,13nm,0.8s
HNS HongShan 55.25 324 ⇑P P 23 00 52.5 -1.4
HNS pmax pmax
comp=Z,17nm,1.5s
BNX BinXian 55.84 340 ⇑P P 23 00 55.8 -2.2
BNX pmax pmax
comp=Z,14nm,1.2s
XAN Xi'an 56.76 317 P P 23 01 11.5 +6.6
XAN pP sP 23 01 21.8 +1.4
XAN pmax pmax
comp=Z,43nm,0.9s
KLR Kul'dur 57.62 345 i P P 23 01 07.3 -3.3
KLR pmax pmax
comp=Z,12nm,1.3s
KLR Kul'dur 57.62 345 P P 23 01 07.7 -2.9
comp=Z,3.2nm,0.9s,baz=161,slow=6.3,SNR=12
comp=Z,3.2nm,0.9s
PZH PanZhiHua 58.22 306 P P 23 01 19.5 +4.1
PZH pmax pmax
comp=Z,30nm,1.0s
PETK Petropavlovsk- 58.98 4 P P 23 01 18.5 -1.5
comp=Z,12nm,1.1s,baz=158,slow=9.3,SNR=4.4
PETK PcP PcP 23 02 08.0 -0.9
comp=Z,8.4nm,1.0s,baz=164,slow=5.9,SNR=3.6
comp=Z,12nm,1.1s
HHC Hu-ho-hao-te 59.38 325 eP P 23 01 26.3 +3.1
HHC pP pwP 23 01 35.8 -2.0
HHC pmax pmax
comp=Z,30nm,1.0s
HHC LR LR
comp=Z,2µm,20.2s
HHC LR LR
comp=Z,2µm,20.0s
HHC LR LR
comp=Z,3µm,18.6s
HEH HeiHe 59.78 342 eP P 23 01 23.0 -2.6
HEH pmax pmax
comp=Z,9.0nm,1.0s
TNCH TengChong 60.24 303 ⇑P P 23 01 31.8 +2.3
TNCH pP pwP 23 01 43.0 -1.1
TNCH sP sP 23 01 47.0 +2.1
TNCH S S 23 09 45.3 +3.7
TNCH sS sS 23 09 57.3 -1.9
TNCH pmax pmax
comp=Z,86nm,1.1s
TNCH LR LR
comp=Z,690nm,17.3s
TNCH LR LR
comp=Z,590nm,17.8s
TNCH LR LR
comp=Z,1µm,20.3s
MA2 Magadan 65.26 359 P P 23 02 02.6 +0.6
MA2 Magadan 65.26 359 P P 23 02 00.8 -1.2
comp=Z,2.8nm,0.3s,baz=205,slow=13,SNR=3.9
comp=Z,2.8nm,0.3s
NIKH Nikolski High 67.40 25 P P 23 02 15.8 -0.1
baz=223
P08K Saint George I 69.82 22 P P 23 02 30.7 -0.2
baz=221
YAK Yakutsk 69.85 349 i P P 23 02 30.7 -0.2
YAK pmax pmax
comp=Z,51nm,0.8s
SPIA Saint Paul Isl 70.01 21 P P 23 02 31.3 -0.7
baz=220
FALS False Pass 71.02 25 P P 23 02 37.5 -0.7
baz=228
VNDA Vanda 71.78 178 P P 23 02 43.1 +0.6
VNDA Vanda 71.78 178 P P 23 02 43.1 +0.6
VNDA pmax pmax
comp=Z,27nm,1.4s
VNDA Vanda 71.78 178 P P 23 02 42.2 -0.3
comp=Z,8.0nm,1.1s,baz=326,slow=6.4,SNR=12
comp=Z,8.0nm,1.1s
S12K Black Hills 72.16 25 IAmb IAmb 23 02 46.1
comp=Z,73nm,1.4s
S12K Black Hills 72.16 25 P P 23 02 44.6 -0.5
baz=229,SNR=5.8
SBA Scott Base 72.35 177 P P 23 02 47.6 +1.7
SBA IAmb IAmb 23 03 43.1
comp=Z,51nm,1.6s
SBA Scott Base 72.35 177 P P 23 02 47.6 +1.7
SBA pmax pmax
comp=Z,51nm,1.6s
SDPT Sand Point 72.62 26 P P 23 02 47.5 -0.3
SDPT IAmb IAmb 23 02 48.4
comp=Z,88nm,1.3s
SDPT Sand Point 72.62 26 P P 23 02 47.0 -0.8
baz=230,SNR=8.1
CNBA Chernabura Isl 72.68 27 P P 23 02 48.0 -0.2
CNBA IAmb IAmb 23 02 49.1
comp=Z,100nm,1.4s
CHNA Chernabura Isl 72.68 27 P P 23 02 47.8 -0.4
baz=231,SNR=14
S14K Fog Glacier 73.61 26 P P 23 02 53.4 -0.4
baz=231
M11K Mekoryuk 73.81 20 P P 23 02 54.8 +0.1
baz=224
CHGN Chignik 74.12 26 P P 23 02 55.9 -0.7
CHGN IAmb IAmb 23 03 11.0
comp=Z,59nm,1.3s
CHGN Chignik 74.12 26 P P 23 02 56.1 -0.5
baz=232
BILL Bilibino 74.46 6 P P 23 02 58.3 -0.2
BILL Bilibino 74.46 6 i P P 23 02 54.1 -4.3
GAMB Gambell 74.69 16 P P 23 03 00.2 +0.5
baz=218
O14K Tigyukauivet M 74.83 23 P P 23 03 01.0 +0.3
baz=229
M13K Dall Lake 74.83 21 P P 23 03 01.5 +0.8
M13K Dall Lake 74.83 21 P P 23 03 01.4 +0.8
baz=226
N14K Kuskokwak Cree 75.11 22 P P 23 03 02.3 0.0
baz=228
R16K Pilot Point 75.26 26 P P 23 03 03.2 0.0
baz=233
O15K Ungalikthiuk R 75.34 23 P P 23 03 04.0 +0.3
baz=230
M14K Bethel 75.56 21 P P 23 03 05.3 +0.4
M14K Bethel 75.56 21 P P 23 03 05.1 +0.2
baz=228,SNR=14

L14K Kuka Creek 75.71 21 P P 23 03 05.4 -0.3
L14K Kuka Creek 75.71 21 P P 23 03 06.1 +0.5
baz=227
N15K Kwethluk River 75.88 23 P 23 03 06.4 -0.3
N15K Kwethluk River 75.88 23 P P 23 03 07.2 +0.4
baz=230
WMQ Urumqi 75.89 318 eP P 23 03 09.3 +2.0
P16K Nushagak River 75.98 24 P P 23 03 07.0 -0.3
baz=232,SNR=5.5
M15K Kasigluk River 76.00 22 P P 23 03 07.5 +0.1
baz=229
O16K Kokwok River B 76.29 24 P P 23 03 08.9 -0.2
baz=232
Q16K King Salmon 76.32 25 P P 23 03 08.6 -0.6
baz=233
L15K Ungalak Mounta 76.36 21 P P 23 03 09.5 +0.1
baz=228
J14K Nanvaranak Lak 76.38 19 P P 23 03 10.2 +0.7
J14K Nanvaranak Lak 76.38 19 P P 23 03 10.0 +0.5
baz=226,SNR=22
Q17K Contact Creek 76.40 25 P P 23 03 09.2 -0.7
baz=234,SNR=25
N16K Nishlik Lake 76.58 23 P P 23 03 11.6 +0.9
baz=231
P17K Kvichak River 76.72 25 P P 23 03 10.5 -1.0
baz=233
K15K Wolf Creek Mou 76.75 20 IAmb IAmb 23 03 13.9
comp=Z,117nm,1.3s
K15K Wolf Creek Mou 76.75 20 P P 23 03 12.2 +0.5
baz=228,SNR=31
O17K Koliganek Bris 76.80 24 P P 23 03 12.0 +0.1
baz=233
M16K Timber Creek 76.85 22 P 23 03 13.0 +0.7
M16K IAmb IAmb 23 03 14.5
comp=Z,90nm,1.2s
M16K Timber Creek 76.85 22 P P 23 03 13.0 +0.7
baz=231
OHAK Old Harbor 76.95 27 P P 23 03 13.3 +0.5
OHAK Old Harbor 76.95 27 P P 23 03 12.6 -0.3
OHAK IAmb IAmb 23 03 14.5
comp=Z,60nm,1.2s
OHAK Old Harbor 76.95 27 P P 23 03 13.0 +0.2
baz=237
ANM Nome 77.10 18 P P 23 03 13.4 -0.1
ANM IAmb IAmb 23 05 15.9
comp=Z,68nm,1.0s
ANM Nome 77.10 18 P P 23 03 14.1 +0.6
baz=224,SNR=20
ANM Nome 77.10 18 P P 23 03 13.4 -0.1
ANM pmax pmax
comp=Z,68nm,1.0s
TNA Tin City 77.10 16 P P 23 03 13.4 -0.1
baz=221
L16K Owhat River 77.10 22 P P 23 03 13.7 +0.1
L16K Owhat River 77.10 22 P P 23 03 14.2 +0.6
baz=230,SNR=26
N17K Nushagak Hills 77.23 23 P P 23 03 14.8 +0.5
N17K Nushagak Hills 77.23 23 P P 23 03 15.5 +1.1
baz=232,SNR=13
P18K Big Mountain, 77.34 25 P P 23 03 14.3 -0.8
baz=234,SNR=9.7
F14K Arctic Creek 77.48 17 P P 23 03 16.0 +0.3
baz=223
KDAK Kodiak Island 77.58 27 P P 23 03 16.2 -0.1
KDAK IAmb IAmb 23 06 09.5
comp=Z,113nm,1.1s
KDAK Kodiak Island 77.58 27 P P 23 03 16.5 +0.1
baz=237
KDAK Kodiak Island 77.58 27 P P 23 03 16.2 -0.1
KDAK pmax pmax
comp=Z,113nm,1.2s
O18K Koktuh Hills 77.62 24 P P 23 03 16.2 -0.4
baz=234,SNR=8.2
M17K Holitna River 77.67 22 P P 23 03 17.4 +0.6
M17K Holitna River 77.67 22 P P 23 03 18.0 +1.2
baz=232,SNR=18
J16K Anvik River 77.73 20 P P 23 03 17.8 +0.7
J16K Anvik River 77.73 20 P P 23 03 18.0 +0.9
baz=229
Q19K Cape Douglas, 77.74 26 P P 23 03 16.7 -0.6
Q19K Cape Douglas, 77.74 26 P P 23 03 16.9 -0.4
baz=236,SNR=5.6
L17K Donlin 77.80 22 P P 23 03 18.5 +0.9
baz=231
G15K Niukluk 77.81 18 P P 23 03 17.7 +0.2
baz=225
N18K Kilae Creek 77.83 23 P P 23 03 18.1 +0.3
N18K IAmb IAmb 23 03 20.3
comp=Z,146nm,1.4s
N18K Kilae Creek 77.83 23 P P 23 03 18.6 +0.8
baz=234,SNR=26
I17K Unalakleet 78.10 19 P P 23 03 19.6 +0.4
I17K IAmb IAmb 23 05 27.5
comp=Z,83nm,1.1s
I17K Unalakleet 78.10 19 P P 23 03 20.2 +1.1
baz=228,SNR=26
H16K Elim 78.11 18 P P 23 03 19.6 +0.4
baz=227,SNR=13
Q20K Shuyak Island 78.11 26 P P 23 03 19.6 +0.3
baz=237
SYI Shuyak Island 78.11 26 P P 23 03 19.2 -0.1
F15K North Star Dit 78.14 17 P P 23 03 19.5 +0.2
F15K IAmb IAmb 23 05 11.8
comp=Z,114nm,1.1s
F15K North Star Dit 78.14 17 P P 23 03 19.8 +0.4
baz=224,SNR=25
K17K Iditarod 78.17 21 P 23 03 20.2 +0.7
K17K Iditarod 78.17 21 P P 23 03 20.4 +0.8
baz=231
O19K Port Alsworth 78.18 24 P P 23 03 19.1 -0.5
O19K IAmb IAmb 23 05 56.2
comp=Z,61nm,1.2s
O19K Port Alsworth 78.18 24 P P 23 03 19.1 -0.5
baz=235
SVW2 Sparrevohn 78.20 23 P P 23 03 21.2 +1.4
SVW2 Sparrevohn 78.20 23 P P 23 03 20.3 +0.5
SVW2 IAmb IAmb 23 05 49.5
comp=Z,51nm,1.1s
P19K Oil Pt 78.32 25 P P 23 03 20.2 -0.3
P19K Oil Pt 78.32 25 P P 23 03 20.2 -0.3
baz=236,SNR=6.8
M18K Stony River 78.34 23 P P 23 03 21.5 +1.0
baz=234
L18K Granite Mounta 78.45 22 P P 23 03 21.9 +0.8
L18K IAmb IAmb 23 03 23.7
comp=Z,84nm,1.2s
L18K Granite Mounta 78.45 22 P P 23 03 22.2 +1.0
baz=232
N19K Bonanza Creek 78.47 24 P P 23 03 21.0 -0.4
N19K Bonanza Creek 78.47 24 P P 23 03 21.6 +0.2
baz=235
ILSW Iliamna Southw 78.55 25 IAmb IAmb 23 03 22.5
comp=Z,75nm,1.2s
G16K Koyuk River 78.59 18 P P 23 03 21.9 0.0
G16K Koyuk River 78.59 18 P P 23 03 22.3 +0.4
baz=227
O20K Slope Mountain 78.82 25 P P 23 03 22.8 -0.5
baz=237,SNR=5.3
HOM Homer 79.00 26 P P 23 03 23.7 -0.5
HOM Homer 79.00 26 P P 23 03 24.4 +0.2
baz=238
H17K Granite Mounta 79.05 19 P P 23 03 24.5 +0.1
H17K Granite Mounta 79.05 19 P P 23 03 24.9 +0.5
baz=229
CNPM China Poot 79.11 26 P P 23 03 25.1 +0.3
L19K White Mountain 79.12 23 P P 23 03 25.3 +0.5
L19K White Mountain 79.12 23 P P 23 03 25.5 +0.6
baz=234
TTA Tatalina 79.13 22 P P 23 03 25.4 +0.4
TTA Tatalina 79.13 22 P P 23 03 25.3 +0.4
baz=233
TTA Tatalina 79.13 22 P P 23 03 25.4 +0.4
TTA pmax pmax
comp=Z,61nm,1.2s
M19K Big River Lodg 79.13 23 P P 23 03 25.5 +0.6
M19K IAmb IAmb 23 03 38.7
comp=Z,47nm,1.1s
M19K Big River Lodg 79.13 23 P P 23 03 25.7 +0.8
baz=235
G17K Kiwalik Mounta 79.19 18 P P 23 03 25.8 +0.7
baz=228,SNR=33
J18K Innoko River 79.20 21 P P 23 03 25.4 +0.1
J18K IAmb IAmb 23 05 35.8
comp=Z,72nm,1.0s
J18K Innoko River 79.20 21 P P 23 03 25.5 +0.3
baz=232

BRLK Bradley Lake 79.39 26 P P 23 03 26.5 +0.2
BRLK IAmb IAmb 23 06 01.6
comp=Z,63nm,1.0s
BRSE Bradley Lake S 79.44 26 P P 23 03 26.6 0.0
baz=238,SNR=7.3
N20K Mount Spurr 79.60 24 P P 23 03 26.5 -1.1
baz=237,SNR=7.4
M20K Styx River 79.61 23 P P 23 03 27.9 +0.2
M20K IAmb IAmb 23 03 29.6
comp=Z,75nm,1.3s
M20K Styx River 79.61 23 P P 23 03 28.0 +0.3
baz=236,SNR=23
F17K Baldwin Pennin 79.64 17 P P 23 03 28.3 +0.8
F17K IAmb IAmb 23 05 14.0
comp=Z,89nm,0.8s
F17K Baldwin Pennin 79.64 17 P P 23 03 28.1 +0.6
baz=228,SNR=40
L20K Farewell, AK 79.66 23 P P 23 03 28.5 +0.6
baz=235
H18K Honhosa River 79.69 19 P P 23 03 27.8 -0.1
baz=230
C16K Lisburne Hills 79.80 15 P P 23 03 28.3 -0.1
baz=223
CAPN Captain Cook N 79.80 25 P P 23 03 28.9 +0.4
CAPN Captain Cook N 79.80 25 P P 23 03 29.3 +0.8
baz=238
J19K Poorman 79.91 21 P P 23 03 29.7 +0.6
baz=233
E17K Hotham Inlet 79.91 17 P P 23 03 29.5 +0.5
baz=227,SNR=78
GCSA Galena City Sc 79.93 20 P P 23 03 29.5 +0.3
baz=232
D17K Noatak River 79.99 16 P P 23 03 30.0 +0.6
baz=226,SNR=36
G18K Tagagawik 80.08 18 P P 23 03 29.7 -0.3
G18K Tagagawik 80.08 18 P P 23 03 30.2 +0.2
baz=230
K20K Telida 80.10 22 P P 23 03 30.5 +0.3
K20K Telida 80.10 22 P P 23 03 30.6 +0.5
baz=235
SEW Seward 80.18 26 P P 23 03 30.6 +0.1
baz=240,SNR=13
F18K Selawik 80.23 18 P P 23 03 30.9 +0.2
baz=229,SNR=13
O22K Cooper Landing 80.26 25 P P 23 03 31.1 +0.1
O22K IAmb IAmb 23 06 13.4
comp=Z,130nm,1.1s
O22K Cooper Landing 80.26 25 P P 23 03 30.9 0.0
baz=239,SNR=8.2
RDOG Red Dog Mine 80.28 16 P P 23 03 31.5 +0.5
RDOG Red Dog Mine 80.28 16 P P 23 03 31.0 0.0
baz=226
SKT Skwentna 80.30 24 P P 23 03 30.0 -1.2
baz=237,SNR=9.0
SUA Susitna One 80.34 24 P P 23 03 30.8 -0.8
baz=238,SNR=12
FIS Fire Island 80.39 25 P P 23 03 32.2 +0.5
E18K Tukpahlearik C 80.49 17 P P 23 03 32.5 +0.3
baz=228
C17K DeLong Mountai 80.51 15 P P 23 03 32.4 +0.1
baz=225,SNR=22
J20K Nowitna River 80.54 21 P P 23 03 33.3 +0.8
baz=235
PPLA Purkeypile 80.54 23 P P 23 03 32.0 -0.7
baz=237,SNR=9.9
H19K Roundabout Mou 80.56 19 P P 23 03 33.0 +0.5
H19K Roundabout Mou 80.56 19 P P 23 03 33.0 +0.5
baz=232
RC01 Rabbit Creek A 80.56 25 P P 23 03 32.4 -0.2
baz=239,SNR=29
G19K Purcell Mounta 80.73 19 P P 23 03 34.0 +0.5
baz=232,SNR=40
M22K Willow 80.75 24 P P 23 03 32.8 -0.7
baz=239,SNR=8.2
I20K Naaghedeneel 80.79 20 P P 23 03 34.3 +0.6
I20K IAmb IAmb 23 05 33.3
comp=Z,117nm,1.0s
I20K Naaghedeneel 80.79 20 P P 23 03 34.3 +0.6
baz=234
CAST Castle Rocks 80.87 22 P P 23 03 33.8 -0.5
baz=237,SNR=23
F19K Shaleruckik Mo 80.95 18 P P 23 03 34.6 0.0
baz=231
P23K Montague Islan 81.02 26 P P 23 03 35.3 +0.2
baz=241,SNR=6.2
CUT Chulitna 81.03 24 P P 23 03 34.2 -0.9
CUT Chulitna 81.03 24 P P 23 03 34.6 -0.5
baz=238
CHUM Lake Minchumin 81.04 22 P P 23 03 35.4 +0.3
baz=236,SNR=25
H20K Anotleneega Mo 81.06 20 P P 23 03 35.6 +0.3
baz=234,SNR=24
PMR Palmer 81.07 25 P P 23 03 35.3 0.0
PMR Palmer 81.07 25 P P 23 03 35.0 -0.4
baz=240,SNR=14
C18K Utukok River 81.16 16 P P 23 03 35.7 -0.1
baz=227
Q23K Middleton Isla 81.23 27 P P 23 03 36.8 +0.6
baz=242
GHO Glory Hole Cre 81.25 24 P P 23 03 36.2 -0.2
GHO IAmb IAmb 23 05 55.6
comp=Z,95nm,0.9s
KNK Knik Glacier 81.26 25 P P 23 03 36.3 -0.1
KNK Knik Glacier 81.26 25 P P 23 03 36.7 +0.3
baz=240,SNR=17
B18K Kokolik River 81.49 15 P P 23 03 37.6 +0.2
baz=227
SML Sawmill 81.51 25 P P 23 03 38.0 +0.3
SML Sawmill 81.51 25 P P 23 03 37.6 -0.1
baz=240,SNR=21
E19K Redstone River 81.51 18 IAmb IAmb 23 03 39.5
comp=Z,72nm,1.1s
E19K Redstone River 81.51 18 P P 23 03 38.0 +0.4
baz=231
TRF Thorofare Moun 81.57 23 P P 23 03 37.0 -1.2
baz=238,SNR=12
HIN Hinchinbrook I 81.61 26 P P 23 03 38.0 -0.3
HIN IAmb IAmb 23 03 39.9
comp=Z,122nm,1.2s
BPAW Bear Paw Mtn. 81.65 22 P P 23 03 37.6 -0.8
baz=238,SNR=20
F20K Avararaart Lake 81.72 18 P P 23 03 38.9 +0.2
F20K Avararaart Lake 81.72 18 P P 23 03 39.3 +0.7
baz=233
IMAR Indian Mountai 81.73 20 P P 23 03 38.4 -0.4
M23K Glacier View 81.75 25 P P 23 03 39.0 0.0
baz=241,SNR=10
H21K Melozitna Rive 81.86 20 P P 23 03 39.8 +0.3
baz=236,SNR=12
I21K Tanana 81.88 21 P P 23 03 40.2 +0.7
baz=237
C19K Lookout Ridge 81.90 16 P P 23 03 40.1 +0.4
C19K IAmb IAmb 23 05 04.0
comp=Z,61nm,0.7s
C19K Lookout Ridge 81.90 16 P P 23 03 39.6 -0.1
baz=229
D19K Kuna River 81.91 17 P P 23 03 39.7 0.0
baz=230
WAT1 Susitna Watana 81.93 24 P P 23 03 39.6 -0.4
baz=240
SCM Sheep Creek Mo 81.94 25 P P 23 03 40.3 +0.2
SCM Sheep Creek Mo 81.94 25 P P 23 03 40.1 0.0
baz=241,SNR=16
SCM Sheep Creek Mo 81.94 25 P P 23 03 40.3 +0.2
SCM pmax pmax
comp=Z,120nm,0.9s
EYAK Cordova Ski Ar 82.01 26 P P 23 03 40.9 +0.6
EYAK Cordova Ski Ar 82.01 26 P P 23 03 40.7 +0.4
baz=243,SNR=8.6
RND Reindeer 82.10 23 IAmb IAmb 23 03 41.4
comp=Z,82nm,1.2s
G21K Allakaket 82.11 19 P P 23 03 40.7 -0.1
baz=235
WAT6 Susitna Watana 82.13 24 P P 23 03 40.7 -0.4
baz=241,SNR=29
MCK McKinley 82.23 23 P P 23 03 40.6 -0.9
baz=240,SNR=58
MLY Manley 82.24 21 P P 23 03 41.5 -0.1
baz=238,SNR=48
A19K Wainwright 82.25 15 P P 23 03 41.7 +0.4
baz=227
E20K Nigu River 82.32 17 P P 23 03 42.4 +0.5
baz=232
KAIM Kayak Island 82.33 27 P P 23 03 42.5 +0.4
KAIM IAmb IAmb 23 03 53.7
comp=Z,78nm,1.1s
KAIM Kayak Island 82.33 27 P P 23 03 42.5 +0.4

baz=244
KLU **Klutina** 82.37 25 P P 23 03 42.6 +0.3
baz=243,SNR=42
D20K **Etivluk River** 82.47 17 P P 23 03 42.6 0.0
baz=232
H22K **Ishtalitna Cre** 82.48 20 P P 23 03 43.0 +0.2
baz=237
DHY **Denali Highway** 82.52 24 P P 23 03 43.1 -0.1
baz=241,SNR=22
F21K **Alatna River** 82.53 19 P P 23 03 43.2 +0.2
baz=235
M24K **Tolsona, Glenn** 82.55 25 P P 23 03 43.6 +0.4
M24K **Tolsona, Glenn** 82.55 25 P P 23 03 43.7 +0.5
baz=242,SNR=28
HMT **Hamilton** 82.58 27 P P 23 03 43.6 +0.2
NEA2 **Nenana** 82.62 22 P P 23 03 42.4 -1.1
baz=239,SNR=35
SUCK **Suckling Hills** 82.68 27 P P 23 03 43.9 0.0
BMRM **Bremner River** 82.70 26 P P 23 03 44.1 0.0
baz=244,SNR=28
I23K **Minto, Yukon-K** 82.80 21 P P 23 03 44.0 -0.3
baz=239,SNR=13
BERG **Berg Lake** 82.85 27 P P 23 03 45.0 +0.3
BGLC **Bering Glacier** 82.92 27 P P 23 03 46.2 +1.2
baz=245
WRH **Wood River Hil** 82.93 22 IAmb IAmb 23 03 45.4
comp=Z,62nm,1.2s
N25K **Chitina, Valde** 82.99 26 IAmb IAmb 23 03 47.6
comp=Z,128nm,1.6s
N25K **Chitina, Valde** 82.99 26 P P 23 03 46.0 +0.5
baz=244,SNR=26
H23K **Yukon River** 83.08 21 P P 23 03 46.0 +0.1
baz=239
E21K **Killik River** 83.09 18 P P 23 03 46.3 +0.4
E21K **Killik River** 83.09 18 P P 23 03 46.1 +0.3
baz=234
HARP **HAARP** 83.10 25 P P 23 03 46.3 +0.2
baz=243,SNR=9.4
F22K **John River** 83.11 19 P P 23 03 46.5 +0.5
baz=236,SNR=23
CCB **Clear Creek Bu** 83.12 22 IAmb IAmb 23 03 46.2
comp=Z,58nm,1.2s
B20K **Meade River** 83.13 16 P P 23 03 45.9 -0.1
baz=231
SNH **Sunshine Point** 83.15 27 P P 23 03 47.0 +0.7
COLA **College** 83.22 22 P P 23 03 45.9 -0.6
COLA **College** 83.22 22 P P 23 03 45.8 -0.7
COLA **College** 83.22 22 P P 23 03 45.5 -1.0
baz=240
COLA **College** 83.22 22 P P 23 03 45.8 -0.7
COLA pmax pmax
comp=Z,151nm,0.9s
PAX **Paxson** 83.23 24 P P 23 03 46.5 -0.3
baz=243,SNR=14
GLB **Gilahina Butte** 83.25 26 P P 23 03 47.3 +0.4
CRQM **Cirque** 83.26 27 IAmb IAmb 23 03 48.9
comp=Z,84nm,1.1s
WAX **Waxell Ridge** 83.26 27 P P 23 03 47.4 +0.5
WAX IAmb IAmb 23 03 49.0
comp=Z,77nm,1.1s
C21K **Knifeblade Rid** 83.27 17 P P 23 03 47.3 +0.6
baz=234
CRQE **Cirque** 83.28 27 P P 23 03 47.5 +0.4
baz=245,SNR=37
VRDI **Verde Repeater** 83.32 26 P P 23 03 47.9 +0.5
VRDI IAmb IAmb 23 03 49.0
comp=Z,93nm,1.3s
HDA **Harding Lake** 83.33 23 P P 23 03 46.1 -1.1
baz=241,SNR=22
G23K **Bananza Creek** 83.38 20 P P 23 03 47.8 +0.4
G23K **Bananza Creek** 83.38 20 P P 23 03 47.8 +0.4
baz=238
TGL **Tana Glacier** 83.39 27 P P 23 03 47.6 -0.1
POKR **Poker Plat Res** 83.49 22 P P 23 03 46.7 -1.3
baz=241,SNR=8.1
K24K **Donnelly Dome** 83.50 23 P P 23 03 48.0 -0.1
baz=242,SNR=13
ILAR **Eielson Array** 83.53 22 P P 23 03 47.3 -0.9
ILAR **Eielson Array** 83.53 22 eP P 23 03 47.1 -1.0
ILAR pmax pmax
comp=Z,35nm,1.1s
ILAR **Eielson Array** 83.53 22 P P 23 03 47.1 -1.0
comp=Z,37nm,1.1s,baz=255,slow=5.0,SNR=93
comp=Z,37nm,1.1s
ISLE **Juniper Island** 83.55 27 P P 23 03 48.2 -0.3
MESA **MESA** 83.56 27 P P 23 03 48.7 0.0
MESA **MESA** 83.56 27 P P 23 03 49.3 +0.7
baz=246,SNR=8.1
MCARA **McCarthy VSAT** 83.57 26 P P 23 03 48.8 +0.3
MCARA IAmb IAmb 23 03 50.3
comp=Z,89nm,1.3s
MCARA **McCarthy VSAT** 83.57 26 P P 23 03 48.8 +0.3
baz=245,SNR=26
E22K **Anaktuvuk Pass** 83.57 18 P P 23 03 49.0 +0.6
baz=236
B21K **Ikpikpuk River** 83.60 16 P P 23 03 48.6 +0.2
baz=234,SNR=15
COLD **Coldfoot** 83.60 19 P P 23 03 48.9 +0.5
baz=238,SNR=16
H24K **Noodor Dome** 83.68 21 P P 23 03 48.6 -0.4
baz=240
D22K **Ayikyak River** 83.73 17 P P 23 03 49.9 +0.7
D22K **Ayikyak River** 83.73 17 P P 23 03 49.6 +0.5
baz=236
RIDG **Independent Ri** 83.83 24 P P 23 03 49.7 -0.1
baz=243
GRNC **Granite Creek** 83.87 27 P P 23 03 50.4 +0.1
MENT **Mentasta** 83.94 25 P P 23 03 50.9 +0.6
MENT **Mentasta** 83.94 25 P P 23 03 50.6 +0.3
M26K **Nabesna, AK** 84.01 25 P P 23 03 51.0 +0.3
baz=245
J25K **Salcha River,** 84.03 23 P P 23 03 50.3 -0.5
baz=243
TABL **Table Mountain** 84.03 27 P P 23 03 51.2 +0.1
TABL IAmb IAmb 23 03 52.9
comp=Z,70nm,1.2s
KURK **Kurchatov** 84.03 322 *i* P P 23 03 52.2 +1.2
QSPA **South Pole Qui** 84.08 180 P P 23 03 51.6 +0.5
QSPA IAmb IAmb 23 03 55.0
comp=Z,73nm,1.2s
QSPA **South Pole Qui** 84.08 180 P P 23 03 50.9 -0.2
comp=Z,32nm,1.0s,baz=346,slow=1.9,SNR=24
comp=Z,32nm,1.0s
A21K **Barrow** 84.10 15 P P 23 03 50.8 -0.1
baz=232
L26K **Log Cabin Wild** 84.13 25 P P 23 03 51.6 +0.3
L26K **Log Cabin Wild** 84.13 25 P P 23 03 51.7 +0.3
baz=245,SNR=7.7
CTG **Chitna Glacier** 84.15 27 P P 23 03 52.1 +0.5
baz=247,SNR=32
CTGM **Chitina Glacie** 84.15 27 P P 23 03 52.0 +0.4
MAW **Mawson** 84.20 203 P P 23 03 49.5 -2.1
baz=84,SNR=5.9
MAW **Mawson** 84.20 203 P P 23 03 52.5 +0.9
MAW **Mawson** 84.20 203 P P 23 03 51.0 -0.5
comp=Z,7.3nm,0.9s,baz=53,slow=7.0,SNR=5.5
comp=Z,7.3nm,0.9s
E23K **Chandalar** 84.23 19 P P 23 03 52.2 +0.4
baz=238
G24K **Hadweenzic Riv** 84.25 20 P P 23 03 52.2 +0.4
baz=241
SCRK **Sand Creek** 84.28 24 P P 23 03 52.0 -0.2
baz=244,SNR=28
A22K **Sinclair Lake** 84.33 15 P P 23 03 52.2 +0.1
baz=233
B22K **Teshekpuk Lake** 84.35 16 P P 23 03 52.0 -0.2
baz=235,SNR=16
D23K **Nanushuk River** 84.38 18 P P 23 03 53.3 +0.9
baz=237
PRP **Porcupine Dome** 84.39 22 P P 23 03 50.9 -1.8
baz=243,SNR=6.1
M27K **Edge Creek, AK** 84.47 25 P P 23 03 53.3 +0.1
M27K **Edge Creek, AK** 84.47 25 P P 23 03 53.9 +0.7
baz=246
F24K **Squaw Lake** 84.52 20 IAmb IAmb 23 03 55.3
comp=Z,62nm,1.1s
F24K **Squaw Lake** 84.52 20 P P 23 03 53.9 +0.7
baz=240
BCPM **Bancas Point** 84.54 28 P P 23 03 53.7 +0.3
TOLK **Toolik Lake Re** 84.55 18 P P 23 03 53.8 +0.4
baz=238
PNL **Peninsula** 84.55 28 P P 23 03 54.5 +1.0
PNL **Peninsula** 84.55 28 P P 23 03 54.0 +0.5
baz=249,SNR=13
O28M **Mount Upton** 84.59 27 P P 23 03 54.7 +0.7
baz=248
H25L **Birch Creek** 84.63 21 P P 23 03 54.1 +0.5
baz=242,SNR=13
J26L **Joseph Creek** 84.68 23 P P 23 03 54.4 +0.3
J26L **Joseph Creek** 84.68 23 P P 23 03 54.4 +0.3
baz=244
G25K **Bearman Lake** 84.76 21 P P 23 03 54.9 +0.5
baz=242
L27K **Beaver Creek,** 84.78 25 P P 23 03 55.2 +0.6
baz=246
BCAR **Beaver Creek A** 84.79 25 P P 23 03 54.8 +0.1
YUK3 **Moose Creek** 84.85 26 P P 23 03 55.8 +0.6
baz=248,SNR=29
C23K **Itkillik River** 84.87 17 P P 23 03 55.3 +0.5
baz=237
BVCY **Beaver Creek** 84.93 26 P P 23 03 56.2 +0.8
baz=247,SNR=14
YUK8 **Steele Glacier** 84.98 27 P P 23 03 56.8 +0.8
baz=248
D24K **Happy Valley** 85.05 18 P P 23 03 56.6 +0.8
baz=239
K27K **Chicken** 85.07 24 P P 23 03 56.9 +1.0
baz=246
O29M **Mount Kennedy** 85.16 28 IAmb IAmb 23 03 59.3
comp=Z,72nm,1.3s
O29M **Mount Kennedy** 85.16 28 P P 23 03 57.7 +1.0
baz=249
I26K **Coal Creek Min** 85.18 22 P P 23 03 56.5 0.0
baz=245
F25K **Christian Rive** 85.31 20 P P 23 03 57.9 +0.7
baz=242
P29M **Windy Craggy** 85.33 29 P P 23 03 58.6 +1.2
P29M IAmb IAmb 23 03 59.8
comp=Z,78nm,1.3s
P29M **Windy Craggy** 85.33 29 P P 23 03 58.4 +1.0
baz=250
C24K **Franklin Bluff** 85.37 18 P P 23 03 58.0 +0.6
baz=239
YUK6 **Outpost Mounta** 85.49 27 P P 23 03 59.2 +0.8
baz=249,SNR=12
YUK4 **Talbot Arm** 85.50 27 P P 23 03 59.9 +1.4
baz=249,SNR=30
S31K **Pelican** 85.52 31 P P 23 03 59.6 +1.3
S31K **Pelican** 85.52 31 P P 23 03 59.1 +0.8
baz=252,SNR=8.3
E25K **Arctic Village** 85.58 19 P P 23 03 59.0 +0.5
baz=242
BMAR **Burnt Mountain** 85.60 20 P P 23 03 58.8 +0.2
G26K **Porcupine Rive** 85.66 21 P P 23 03 59.7 +0.8
baz=244
SIT **Sitka** 85.70 32 P P 23 04 00.8 +1.6
SIT **Sitka** 85.70 32 P P 23 03 59.6 +0.4
SIT IAmb IAmb 23 04 01.7
comp=Z,63nm,1.2s
SIT **Sitka** 85.70 32 P P 23 03 59.9 +0.6
baz=252
SIT **Sitka** 85.70 32 P P 23 03 59.6 +0.4
SIT pmax pmax
comp=Z,63nm,1.2s
EGAK **Eagle** 85.73 23 IAmb IAmb 23 04 01.1
comp=Z,62nm,1.1s
EGAK **Eagle** 85.73 23 P P 23 03 59.9 +0.6
baz=247,SNR=50
HYT **Haines Junctio** 85.84 28 P P 23 03 59.9 -0.2
HYT **Haines Junctio** 85.84 28 P P 23 04 01.1 +1.0
baz=250,SNR=50
P30M **Million Dollar** 85.86 28 P P 23 04 01.4 +1.3
baz=251
F26K **Sheenjek River** 85.86 20 P P 23 04 00.8 +0.9
baz=244
D25K **Kavik River** 85.89 18 P P 23 04 00.2 +0.2
baz=242,SNR=44
I27K **Kandik River** 85.89 22 P P 23 04 00.8 +0.7
baz=246
PLBC **Pleasant Camp** 85.93 29 P P 23 04 01.1 +0.8
baz=251,SNR=17
M29M **Somme Creek** 85.97 26 P P 23 04 00.8 +0.2
M29M **Somme Creek** 85.97 26 P P 23 04 01.5 +0.8
baz=249,SNR=34
DAWY **Dawson** 86.17 24 P P 23 04 02.1 +0.6
baz=248,SNR=58
H27K **Steamboat Moun** 86.18 22 P P 23 04 02.1 +0.6
baz=246
S32K **Killisnoo** 86.21 31 P P 23 04 02.1 +0.4
S32K IAmb IAmb 23 04 04.3
comp=Z,45nm,1.1s
S32K **Killisnoo** 86.21 31 P P 23 04 02.8 +1.1
baz=253
N30M **Aishikik Lake** 86.24 27 P P 23 04 02.8 +0.9
baz=250
L29M **L29M** 86.35 25 P P 23 04 03.4 +0.9
baz=250,SNR=45
G27K **Doyon Strip** 86.36 21 IAmb IAmb 23 05 39.1
comp=Z,68nm,0.9s
G27K **Doyon Strip** 86.36 21 P P 23 04 02.8 +0.4
baz=246
CRAG **Craig** 86.42 33 P P 23 04 04.0 +1.1
baz=254
SKAG **Skagway** 86.43 29 P P 23 04 04.4 +1.6
SKAG **Skagway** 86.43 29 P P 23 04 03.7 +0.9
SKAG IAmb IAmb 23 04 05.4
comp=Z,70nm,1.2s
SKAG **Skagway** 86.43 29 P P 23 04 03.9 +1.1
baz=252,SNR=8.2
I28M **Miner Creek** 86.47 23 P P 23 04 03.3 +0.2
baz=248
O30N **Mendenhall** 86.48 28 P P 23 04 03.9 +0.8
baz=252,SNR=41
R32K **Eaglecrest** 86.48 31 P P 23 04 03.0 -0.1
R32K IAmb IAmb 23 05 29.7
comp=Z,24nm,0.6s
R32K **Eaglecrest** 86.48 31 P P 23 04 04.2 +1.1
baz=253
JIS **Juneau Island** 86.55 31 P P 23 04 04.8 +1.4
JIS **Juneau Island** 86.55 31 P P 23 04 04.2 +0.8
JIS IAmb IAmb 23 06 31.3
comp=Z,31nm,1.1s
U33K **Whale Pass** 86.60 33 P P 23 04 04.0 +0.4
U33K **Whale Pass** 86.60 33 P P 23 04 04.5 +0.8
baz=254
C26K **Camden Bay** 86.62 18 P P 23 04 04.6 +1.1
baz=243
M30M **Minto, Yukon** 86.75 26 IAmb IAmb 23 04 06.6
comp=Z,69nm,1.2s
M30M **Minto, Yukon** 86.75 26 P P 23 04 05.2 +0.8
baz=251,SNR=50
J29N **Klondike Camp** 86.79 24 P P 23 04 05.3 +0.7
J29N **Klondike Camp** 86.79 24 P P 23 04 05.7 +1.1
baz=249,SNR=31
N31M **Braeburn, Yuko** 86.85 27 P P 23 04 06.0 +1.1
baz=252,SNR=29
K29M **Barlow Dome** 86.86 25 P P 23 04 05.9 +0.9
baz=250,SNR=106
T33K **Petersburg** 86.88 32 P P 23 04 06.3 +1.3
baz=254
E27K **Coleen River** 86.95 20 P P 23 04 05.9 +0.7
baz=246
WHY **Whitehorse** 87.01 28 IAmb IAmb 23 04 08.1
comp=Z,68nm,1.2s
WHY **Whitehorse** 87.01 28 P P 23 04 06.6 +0.8
baz=252,SNR=32
WRAK **Wrangell Islan** 87.10 33 P P 23 04 07.3 +1.2
WRAK **Wrangell Islan** 87.10 33 P P 23 04 07.4 +1.2
baz=255,SNR=5.3
V35K **Ketchikan** 87.22 34 P P 23 04 06.6 -0.1
V35K **Ketchikan** 87.22 34 P P 23 04 07.6 +0.9
baz=256
P32M **Atlin** 87.26 29 P P 23 04 07.2 +0.3
P32M IAmb IAmb 23 04 09.3
comp=Z,45nm,1.1s
P32M **Atlin** 87.26 29 P P 23 04 07.9 +0.9
baz=254,SNR=16
F28M **Old Crow** 87.32 21 P P 23 04 07.6 +0.6
baz=248
H29M **Whitestone** 87.36 22 P P 23 04 07.5 +0.3
baz=249,SNR=9.3
MAYO **Mayo, Yukon** 87.47 25 P P 23 04 09.1 +1.3
MAYO **Mayo, Yukon** 87.47 25 P P 23 04 08.6 +0.8
baz=252,SNR=6.0
D27M **Malcolm River** 87.58 19 P P 23 04 09.1 +0.8
baz=247
J30M **Hart River** 87.60 24 P P 23 04 09.6 +1.1
baz=251
M31M **Drury Creek, Y** 87.69 27 P P 23 04 09.2 +0.3
baz=253,SNR=46
G29M **Pine Creek** 87.73 22 P P 23 04 09.4 +0.3
baz=249,SNR=45
I30M **Mount Dempster** 87.79 24 P P 23 04 09.6 +0.1
baz=251,SNR=49
Q32M **Nakina River** 87.80 30 P P 23 04 10.2 +0.4
Q32M IAmb IAmb 23 04 12.5
comp=Z,64nm,1.4s
Q32M **Nakina River** 87.80 30 P P 23 04 10.9 +1.2
baz=255
GRNB **Grenville Isla** 87.80 35 P P 23 04 10.3 +0.7
E28M **Babbage River** 87.81 20 P P 23 04 09.9 +0.5
baz=248,SNR=57
P33M **Teslin, Yukon** 87.86 29 P P 23 04 10.3 +0.5
baz=254,SNR=17
N32M **Quiet Lake** 87.99 28 P P 23 04 11.1 +0.6
N32M **Quiet Lake** 87.99 28 P P 23 04 11.4 +0.9
baz=254
EPYK **Eagle Plains** 88.03 22 P P 23 04 10.7 +0.2
baz=251,SNR=48
S34M **Telegraph Cree** 88.11 31 P P 23 04 11.4 +0.4
S34M **Telegraph Cree** 88.11 31 P P 23 04 12.6 +1.6
baz=256,SNR=15
FARO **Faro, Yukon** 88.17 27 P P 23 04 11.6 +0.3
baz=254,SNR=42
E29M **Blow River** 88.30 20 P P 23 04 12.1 +0.5
baz=250,SNR=17
D28M **Stokes Point** 88.35 19 P P 23 04 12.3 +0.4
baz=249,SNR=41
T35M **Bob Quinn** 88.36 32 P P 23 04 12.1 -0.1
T35M **Bob Quinn** 88.36 32 P P 23 04 13.8 +1.5
baz=257
G30M **tAoh Zraii Nji** 88.42 22 P P 23 04 12.1 -0.2
baz=251,SNR=37
R33M **Jennings River** 88.56 30 IAmb IAmb 23 04 16.0
comp=Z,75nm,1.4s
R33M **Jennings River** 88.56 30 P P 23 04 14.5 +1.2
baz=256
H31M **Peel River** 88.78 23 P P 23 04 14.1 +0.1
baz=253,SNR=22
F30M **Barrier River** 88.79 21 P P 23 04 14.0 +0.1
baz=252,SNR=36
DLBC **Dease Lake** 88.81 31 P P 23 04 14.9 +0.6
DLBC IAmb IAmb 23 04 17.2
comp=Z,87nm,1.4s
DLBC **Dease Lake** 88.81 31 P P 23 04 15.7 +1.3
baz=257,SNR=17
G31M **Satah River** 89.14 22 P P 23 04 15.7 +0.1
baz=253,SNR=29
MMPY **Sheldon Lake,** 89.21 27 IAmb IAmb 23 04 18.6
comp=Z,75nm,1.4s
MMPY **Sheldon Lake,** 89.21 27 P P 23 04 16.9 +0.7
baz=258,SNR=28
KMPM **Mount Pierce** 89.26 49 P P 23 04 17.6 +0.6
KMPM IAmb IAmb 23 04 26.2
comp=Z,29nm,1.1s
F31M **Tsiigehtchic** 89.48 22 P P 23 04 16.9 -0.3
baz=253,SNR=28
WTLY **Watson Lake, Y** 89.79 29 P P 23 04 19.2 +0.3
WTLY IAmb IAmb 23 04 21.5
comp=Z,67nm,1.2s
WTLY **Watson Lake, Y** 89.79 29 P P 23 04 19.9 +1.0
baz=258,SNR=14
J01E **Myrtle Point** 89.79 47 P P 23 04 18.8 -0.4
J01E IAmb IAmb 23 04 21.9
comp=Z,92nm,1.7s
INK **Inuvik** 89.81 21 P P 23 04 18.3 -0.4
INK **Inuvik** 89.81 21 P P 23 04 18.3 -0.4
baz=254,SNR=40
INK **Inuvik** 89.81 21 P P 23 04 18.3 -0.4
INK pmax pmax
comp=Z,132nm,1.0s
TGTN **Hyland Airport** 90.33 28 P P 23 04 22.5 +1.1
baz=258,SNR=14
HUMO **Hull Mountain** 90.43 47 P P 23 04 22.0 -0.2
HUMO IAmb IAmb 23 05 00.7
comp=Z,45nm,1.8s
YBH **Yreka Blue Hor** 90.50 48 P P 23 04 22.1 -0.6
YBH **Yreka Blue Hor** 90.50 48 P P 23 04 22.1 -0.6
YBH pmax pmax
comp=Z,29nm,1.5s
E03A **Lebam** 90.53 43 P P 23 04 22.9 +0.4
E03A IAmb IAmb 23 04 25.2
comp=Z,39nm,1.3s
H04D **Lebanon** 90.83 45 P P 23 04 23.4 -0.7
H04D IAmb IAmb 23 04 38.1
comp=Z,49nm,1.5s
L04D **Klamath Falls** 90.86 48 P P 23 04 23.7 -0.7
L04D IAmb IAmb 23 04 40.0
comp=Z,64nm,1.7s
I04A **Tendick Farm,** 90.97 46 P P 23 04 24.0 -0.8
I04A IAmb IAmb 23 04 52.0
comp=Z,59nm,1.9s
ORV **Oroville** 91.14 51 P P 23 04 24.9 -0.7
ORV **Oroville** 91.14 51 P P 23 04 24.9 -0.7
ORV pmax pmax
comp=Z,8.0nm,1.3s
GNW **Green Mountain** 91.16 42 P P 23 04 25.3 -0.2
F04A **Amboy** 91.23 44 P P 23 04 26.1 +0.2
H04A **Detroit Lake** 91.24 45 P P 23 04 25.4 -0.6
H04A IAmb IAmb 23 04 39.4
comp=Z,34nm,1.6s
TOAD **Toad River Com** 91.34 31 P P 23 04 26.6 +0.4
baz=261
AFDM **Forest Hills D** 91.48 51 P P 23 04 27.2 -0.1
D05A **Enumclaw** 91.68 43 P 23 04 28.0 +0.1
D05A IAmb IAmb 23 07 32.7
comp=Z,54nm,1.2s
HOOD **Mount Hood Mea** 91.70 45 P P 23 04 28.1 -0.2
HOOD IAmb IAmb 23 07 41.1
comp=Z,35nm,1.4s
LON **Longmire** 91.75 43 P P 23 04 28.3 0.0
LON IAmb IAmb 23 07 36.5
comp=Z,16nm,0.9s
LON **Longmire** 91.75 43 P P 23 04 28.3 0.0
LON pmax pmax
comp=Z,16nm,0.9s
J05D **Fort Rock, OR** 91.76 47 P P 23 04 28.2 -0.4
J05D IAmb IAmb 23 04 42.8
comp=Z,72nm,1.7s
I05D **Terrebonne, OR** 91.81 46 P P 23 04 28.8 +0.2
I05D IAmb IAmb 23 04 42.6
comp=Z,22nm,1.2s
CMB **Columbia Colle** 91.84 52 P P 23 04 28.7 -0.3
CMB **Columbia Colle** 91.84 52 P P 23 04 28.7 -0.3
CMB pmax pmax
comp=Z,18nm,1.6s
K05A **Summer Lake** 91.95 47 P P 23 04 29.4 -0.2
K05A IAmb IAmb 23 04 50.4
comp=Z,50nm,1.5s
PKM **Mcpherson Peak** 91.98 55 P P 23 04 31.4 +1.5
baz=264
PINE **Pine Mountain** 92.03 46 P P 23 04 29.6 -0.3
PINE IAmb IAmb 23 04 44.0
comp=Z,39nm,1.4s
SCZ2 **Santa Cruz Isl** 92.04 56 P P 23 04 31.6 +1.7
baz=264
SNCC **San Nicolas Is** 92.06 57 P P 23 04 30.3 +0.3
baz=264
KOTAN **Kotaneelee Air** 92.13 30 P P 23 04 30.7 +1.0
baz=262,SNR=6.9
EMB **Emerald Bay** 92.16 51 P P 23 04 30.3 -0.3
MPK **Martis Peak** 92.25 51 P P 23 04 30.8 -0.3
MPK IAmb IAmb 23 04 45.6
comp=Z,23nm,1.2s
BCW **Bitter Crk WRg** 92.31 55 P P 23 04 30.3 -1.0
BCW IAmb IAmb 23 04 46.6
comp=Z,17nm,1.1s
G06A **Carlson Farm,** 92.40 45 P P 23 04 31.0 -0.4
G06A IAmb IAmb 23 05 21.9
comp=Z,33nm,1.7s
FLDN **Fort Liard** 92.43 30 P P 23 04 31.1 0.0
PNTR **Pine Nut** 92.56 51 P P 23 04 31.2 -1.3
LTY **Liberty** 92.58 43 P P 23 04 31.6 -0.6
WAKR **Walker** 92.63 52 P P 23 04 31.6 -1.2
MXC **Moxie City** 92.77 44 P P 23 04 32.7 -0.3
MXC IAmb IAmb 23 07 35.7
comp=Z,22nm,1.0s
PAHR **Pah Rah Range** 92.78 51 P P 23 04 34.3 +0.8
WRGLY **Wrigley** 92.83 27 P P 23 04 33.2 +0.4
WRGLY **Wrigley** 92.83 27 P P 23 04 33.5 +0.7
baz=263
YERR **Yerington** 92.83 51 P P 23 04 33.2 -0.5
MDPB **Devils Postpil** 92.83 53 P P 23 04 33.7 -0.2
F07A **Phinny Hill Vi** 92.96 44 P P 23 04 32.9 -1.0
F07A IAmb IAmb 23 07 39.3
comp=Z,17nm,1.0s
E07A **Sunnyside** 93.07 44 P P 23 04 33.6 -0.8
E07A IAmb IAmb 23 04 48.2
comp=Z,46nm,1.9s
I07A **Izee** 93.09 46 P P 23 04 33.8 -0.9

I07A IAmb IAmb 23 04 48.7
comp=Z,35nm,1.6s
ISA Isabella, Lake 93.14 55 P **P** **23 04 34.4 -0.7**
ISA Isabella, Lake 93.14 55 P **P** **23 04 34.4 -0.7**
ISA pmax pmax
comp=Z,8.0nm,1.3s
PASC Pasadena Art C 93.25 56 P **P** **23 04 35.2 -0.3**
HAWA Hanford 93.28 44 P **P** **23 04 35.7 +0.3**
HAWA IAmb IAmb 23 04 38.9
comp=Z,27nm,1.7s
LHV Little Huntoon 93.34 52 P **P** **23 04 35.6 -0.2**
RYN Ryan 93.36 52 P **P** **23 04 36.0 -0.1**
A36M Sachs Harbour 93.37 18 P **P** **23 04 35.1 -0.1**
baz=261,SNR=14
C36M Paulatuk 93.38 21 P **P** **23 04 34.7 -0.6**
C36M Paulatuk 93.38 21 P **P** **23 04 34.5 -0.8**
baz=262
EDW2 Edwards Air Fo 93.47 55 P **P** **23 04 37.8 +1.2**
baz=265
PNT Penticton 93.48 41 P P 23 04 31.2 -5.0
PNT pmax pmax
comp=Z,8.0nm,1.0s
NVAR Mina Array Bea 93.51 52 P **P** **23 04 37.1 +0.2**
NVAR Mina Array Bea 93.51 52 P **P** **23 04 37.4 +0.5**
comp=Z,8.7nm,1.1s,baz=259,slow=6.0,SNR=20
comp=Z,8.7nm,1.1s
CWC Cottonwood Cre 93.53 54 P **P** **23 04 37.9 +1.0**
baz=265
G08A Pilot Rock 93.58 45 P **P** **23 04 36.6 -0.3**
G08A IAmb IAmb 23 04 51.5
comp=Z,24nm,1.5s
WVOR Wild Horse Val 93.58 48 P **P** **23 04 36.9 -0.1**
WVOR IAmb IAmb 23 04 51.1
comp=Z,23nm,1.4s
WVOR Wild Horse Val 93.58 48 P **P** **23 04 36.9 -0.1**
WVOR pmax pmax
comp=Z,23nm,1.4s
E08A Dider Farm, El 93.61 44 P **P** **23 04 36.9 +0.1**
E08A IAmb IAmb 23 07 37.3
comp=Z,25nm,1.3s
NV11 Mina Array Sit 93.63 52 P **P** **23 04 37.4 0.0**
DSP Deep Springs 93.69 53 P **P** **23 04 37.8 +0.4**
BFSC Mount Baldy Ra 93.69 56 P **P** **23 04 38.6 +0.9**
baz=265
KVN Kaiserville 93.72 51 P **P** **23 04 38.2 +0.4**
KVN Kaiserville 93.72 51 P **P** **23 04 38.2 +0.4**
KVN pmax pmax
comp=Z,13nm,1.3s
D08A Wollman Farm, 93.75 43 P **P** **23 04 37.9 +0.3**
D08A IAmb IAmb 23 07 34.0
comp=Z,19nm,1.1s
LRMC Laurel Mtn Rad 93.77 55 P **P** **23 04 38.5 +0.4**
baz=266
J08A Circle Bar Ran 93.78 47 P **P** **23 04 36.5 -1.3**
ELS Elsinore Mount 93.84 57 P **P** **23 04 37.7 -0.6**
MPMC Manual Prospec 93.97 54 P **P** **23 04 39.8 +0.8**
baz=266
GRAC Grapevine Rang 94.14 53 P **P** **23 04 37.6 -2.0**
GRAC IAmb IAmb 23 05 07.7
comp=Z,40nm,1.6s
E09A Wood Farm, Sta 94.24 44 P **P** **23 04 38.8 -0.9**
E09A IAmb IAmb 23 07 36.8
comp=Z,23nm,1.0s
C09A Chrisman Ranch 94.25 43 **P** **23 04 40.3 +0.5**
GMN Gold Mountain 94.25 53 P **P** **23 04 38.8 -1.6**
TPH Tonopah 94.33 52 P **P** **23 04 40.5 -0.2**
TPH IAmb IAmb 23 05 05.7
comp=Z,37nm,1.2s
TPH Tonopah 94.33 52 P **P** **23 04 40.5 -0.2**
TPH pmax pmax
comp=Z,37nm,1.2s
QSM Queen of Sheba 94.47 54 P **P** **23 04 40.9 -0.2**
BMN Battle Mountai 94.50 50 P **P** **23 04 40.9 -0.4**
BMN Battle Mountai 94.50 50 P **P** **23 04 40.9 -0.4**
BMN pmax pmax
comp=Z,15nm,1.6s
FURC Furnace Creek, 94.51 54 P **P** **23 04 41.8 +0.7**
baz=266
MONP2 Monument Peak 94.62 58 P **P** **23 04 42.3 +0.2**
baz=266
PFO Pinyon Flats O 94.64 57 P **P** **23 04 40.9 -1.2**
PFO Pinyon Flats O 94.64 57 P **P** **23 04 41.9 -0.2**
baz=266
PFO Pinyon Flats O 94.64 57 P **P** **23 04 40.9 -1.2**
PFO pmax pmax
comp=Z,7.0nm,1.2s
GWY Greenwater Val 94.64 54 P **P** **23 04 41.6 -0.5**
TPFO Pinon Flats 94.64 57 P **P** **23 04 41.8 -0.3**
baz=266
PMD Palm Desert 94.71 57 P **P** **23 04 40.3 -1.9**
WCT Wildcat Mounta 94.72 54 P **P** **23 04 41.9 -0.4**
BMO Blue Mountains 94.72 46 P **P** **23 04 41.9 -0.3**
BMO IAmb IAmb 23 04 55.7
comp=Z,27nm,1.6s
BMO Blue Mountains 94.72 46 P **P** **23 04 41.9 -0.3**
BMO pmax pmax
comp=Z,27nm,1.6s
HEC Hector,Ludlow 94.83 56 P **P** **23 04 42.7 -0.1**
baz=266
F10A Beach Ranch, E 94.84 44 P **P** **23 04 42.3 -0.4**
IKP In-Ko-Pah, Jac 94.87 58 P **P** **23 04 43.5 +0.5**
baz=266
NEW Newport 95.05 42 P **P** **23 04 44.4 +0.9**
baz=267
BELC Belle Mtn. Jos 95.05 56 P **P** **23 04 44.0 +0.1**
baz=266
BRLDA Berland Lookou 95.17 36 P **P** **23 04 44.8 +0.7**
GMRC Granite Mounta 95.38 56 P **P** **23 04 45.9 +0.4**
baz=267
BC3 Big Chuckawall 95.48 57 P **P** **23 04 46.7 +0.8**
baz=267
ELIB Princess Elisa 95.52 194 *d*P **P** **23 04 45.0 -0.3**
comp=Z,5.5nm,1.2s
HILA High Level 95.58 32 P **P** **23 04 45.4 -0.2**
R11B Troy Canyon, C 95.64 52 P **P** **23 04 47.4 +0.8**
R11B Troy Canyon, C 95.64 52 P **P** **23 04 47.6 +1.0**
baz=267
PLID Pearl Lake 95.66 45 P **P** **23 04 45.8 -0.8**
MFID Camas Ranch 95.70 47 **P** **23 04 45.7 -1.0**
MFID IAmb IAmb 23 05 00.7
comp=Z,21nm,1.6s
SHPR Sheep Range 95.88 54 P **P** **23 04 47.5 -0.2**
ELK Elko 96.02 50 P **P** **23 04 48.1 -0.2**
ELK Elko 96.02 50 P **P** **23 04 48.1 -0.2**
ELK pmax pmax
comp=Z,2.0nm,0.8s
V12A Nelson 96.09 55 P **P** **23 04 49.0 +0.4**
Q12A Willow Creek R 96.26 51 P **P** **23 04 49.8 +0.4**
SPR3 Spring Creek 3 96.65 52 P **P** **23 04 51.1 -0.2**
SPR3 IAmb IAmb 23 05 05.7
comp=Z,20nm,1.5s
HLID Hailey 96.74 47 **P** **23 04 51.4 -0.1**
YKA Yellowknife Ar 96.83 28 P **P** **23 04 51.5 +0.3**
YKA Yellowknife Ar 96.83 28 *e*P **P** **23 04 51.6 +0.4**
YKA pmax pmax
comp=Z,3.0nm,1.0s
YKA Yellowknife Ar 96.83 28 P **P** **23 04 51.0 -0.2**
comp=Z,3.2nm,1.0s,baz=274,slow=4.6,SNR=32
comp=Z,3.2nm,1.0s
PSUT Pine Spring 97.00 52 P **P** **23 04 52.1 -0.7**
CCUT Cedar City 97.36 53 P **P** **23 04 53.8 -0.7**
LCMT Little Creek M 97.44 54 P **P** **23 04 54.5 -0.2**
BPMT Black Pine Rid 97.48 44 P **P** **23 04 53.8 -1.1**
EDM Edmonton 97.57 37 **P** **23 04 53.9 -0.9**
EDM Edmonton 97.57 37 P **P** **23 04 53.9 -0.9**
EDM pmax pmax
comp=Z,76nm,0.9s
SZCU Shurtz Canyon 97.58 53 P **P** **23 04 52.9 -2.6**
KNB Kanab 97.78 54 P Pdif 23 04 56.6 +0.2
KNB IAmb IAmb 23 05 26.0
comp=Z,26nm,1.6s
KNB Kanab 97.78 54 P Pdif 23 04 56.6 +0.2
KNB pmax pmax
comp=Z,26nm,1.6s
DUG Dugway, Tooele 97.85 50 P Pdif 23 04 56.7 +0.1
baz=269
HVU Hansel Valley 97.91 49 P **P** **23 04 55.7 -1.1**
HVU Hansel Valley 97.91 49 P **P** **23 04 55.7 -1.1**
HVU pmax pmax
comp=Z,7.0nm,1.1s
U15A North Rim 98.19 54 P **P** **23 04 57.6 -0.7**
LYMT Lyon Mountain 98.28 44 P **P** **23 04 57.2 -1.2**
MTPU Mount Pierson 98.31 53 P **P** **23 04 58.4 -0.5**
MTPU IAmb IAmb 23 05 14.3
comp=Z,17nm,1.5s

BOZ Bozeman (W) 98.75 45 P Pdif 23 05 00.8 +0.3
baz=270
X16A Lo Mia Camp, P 98.84 56 P **P** **23 05 00.1 -1.1**
WUAZ Wupatki 98.92 55 P **P** **23 05 01.0 -0.4**
YHL Hebgen Lake 99.07 46 P **Pdif** **23 05 01.5 -0.6**
YHL IAmb IAmb 23 07 46.4
comp=Z,12nm,1.0s
TMUT Trail Mountain 99.08 51 P **Pdif** **23 04 59.9 -2.4**
Q16A Castle Valley 99.11 52 P **Pdif** **23 05 02.6 +0.3**
HMU Henry Mountain 99.44 53 P **Pdif** **23 05 03.2 -0.7**
P17A Butcher Ranch, 99.44 51 P **Pdif** **23 05 01.6 -2.2**
SRU San Rafael Swe 99.61 51 **Pdif** **23 05 03.9 -0.6**
SRU San Rafael Swe 99.61 51 P **Pdif** **23 05 03.9 -0.6**
SRU pmax pmax
comp=Z,17nm,1.9s
P18A Preston Nutter 99.83 51 Pdif **Pdif** **23 05 04.2 -1.4**
EGMT Eagleton 99.98 42 P **Pdif** **23 05 06.3 +0.5**
baz=272
X18A Snowflake 100.07 56 Pdif **Pdif** **23 05 05.2 -1.5**
PD31 Pinedale Array 100.29 48 Pdif **Pdif** **23 05 06.2 -1.3**
PDAR Pinedale Array 100.29 48 Pdif **Pdif** **23 05 06.0 -1.5**
PDAR Pinedale Array 100.29 48 P **Pdif** **23 05 07.5 0.0**
comp=Z,1.8nm,1.0s,baz=182,slow=2.7,SNR=10.0
121A Cookes Peak, D 101.89 58 P **Pdif** **23 05 15.0 +0.2**
baz=271
APA Apatity 106.01 339 ⇓*i*P **Pdif** **23 05 26.5 -5.5**
APA pmax pmax
comp=Z,14nm,0.9s
L44A Lake County Fo 116.15 46 P **PKiKP** **23 10 04.2 +0.3**
baz=287
CRVS Cervenica-Dubn 120.12 324 *e*PKIKP **PKiKP** **23 10 11.6 +0.1**
CRVS Cervenica-Dubn 120.12 324 *e*PKP **PKiKP** **23 10 11.6 +0.1**
BLA Blacksburg 123.20 49 P **PKPdf** **23 10 17.5 -0.2**
baz=290
CLL Collm 123.33 330 *e*PP PP 23 11 55.0 -2.8
CLL *e*SKPdf **SKiKP** **23 13 51.0 +0.1**
CLL Collm 123.33 330 *e* 23 11 55.0
SSPA Standing Stone 123.75 44 P **PKPdf** **23 10 18.5 -0.1**
baz=294
GERES GERESS Array B 124.46 328 *e*PKIKP **PKiKP** **23 10 22.3 +2.1**
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 124.46 328 PKP **PKPdf** **23 10 18.8 -1.1**
comp=Z,0.5nm,0.5s,baz=75,slow=5.7,SNR=3.9
PAL Palisades 126.31 42 P **PKPdf** **23 10 23.2 -0.3**
baz=298
PKME Peaks-Kenny Pk 126.97 36 P **PKPdf** **23 10 24.4 -0.3**
baz=305
DAVOX Davos/Dischmat 127.77 328 PKP **PKPdf** **23 10 26.3 0.0**
comp=Z,3.2nm,1.0s,baz=23,slow=13,SNR=3.7
KEST Kesra 134.53 316 PKP **PKPdf** **23 10 38.3 -1.1**
comp=Z,1.6nm,0.7s,baz=233,slow=1.5,SNR=3.5
LPAZ La Paz 134.74 120 PKPdf **PKPdf** **23 10 41.2 +0.3**
LPAZ La Paz 134.74 120 PKP **PKPdf** **23 10 40.5 -0.4**
comp=Z,2.3nm,1.0s,baz=39,slow=1.1,SNR=5.0
SAML Samuel 142.11 113 PKPdf **PKPdf** **23 10 53.1 -0.6**
SAML Samuel 142.11 113 PKIKP **PKPdf** **23 10 53.1 -0.6**
PTLB Pontes e Lacer 142.71 125 PKPdf **PKPdf** **23 10 53.3 -1.4**
BOAV Boa Vista 147.55 95 **PKPdf** **23 11 04.2 +1.0**
TOA0 Torodi Ar. Sit 149.70 286 **PKPbc** **23 11 10.6 -0.7**
TORD Torodi Ar. Bea 149.70 286 **PKPbc** **23 11 09.9 -1.4**
TORD Torodi Ar. Bea 149.70 286 PKPbc **PKPbc** **23 11 10.8 -0.5**
comp=Z,9.1nm,0.8s,baz=94,slow=2.4,SNR=18
BDFB Brasilia 150.95 138 PKPbc **PKPbc** **23 11 14.2 -0.2**
comp=Z,2.6nm,0.7s,baz=118,slow=4.4,SNR=3.4
DBIC Dimbokro 156.81 273 PKPab **PKPab** **23 11 44.7 -1.9**
comp=Z,3.8nm,0.7s,baz=71,slow=8.3,SNR=3.6

*BJI **29** 22:54:11.0±0.0,38.°60N×69.°90E,h10km,mb5.6/86, mB5.8/22,ML5.6/4,Ms5.3/47,Ms7 5.1/45*
*IDC **29** 22:54:11.0±0.3,38.°56N×69.°97E,h0km,mb5.5/42, mbtmp5.5/50,ML4.5/8,Error ellipse: s-maj=8.2km s-min=6.6km az=155.0*
*MOS **29** 22:54:11.4±1.0,38.°65N×69.°95E,h9km,mb5.8/109, MS5.0/22,Error ellipse: s-maj=3.2km s-min=2.7km az=82.3*
MOS Felt (IV) at Rogun;(II-III) at Dushanbe.
*NEIC **29** 22:54:12.6±1.4,38.°72N±0.°05×69.°98E±0.°04,h5km±1km, mb5.7/541,Error ellipse: s-maj=8.0km s-min=5.4km az=344.0*
*NNC **29** 22:54:15.8±2.1,38.°76N×69.°62E,h23km±12km,mb5.3, mpv5.2,Error ellipse: s-maj=15.9km s-min=8.1km az=160.0*
*BGR **29** 22:54:15.6,37.°43N×69.°33E,h10km,mb5.0*
ISC 29 22:54:13.5±0.4,**38.°68N**±0.°02×**69.°92E**±0.°02,**h14**km±2km, **h14**km:**pP-P,n1821,**σ**1934**/1835,**mb5.6**/574,**MS5.1**/26, **151C-65D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.45**	**45**		**Pg**	**22 54 21.1**	**-1.3**
CHGR	**Chuyangaron**	**0.59**	**268**		**Pg**	**22 54 24.4**	**-0.8**
CHGR	**Chuyangaron**	**0.59**	**268**	PG	**Pg**	**22 54 24.4**	**-0.8**
SIMJ	**Simiganj**	**0.71**	**268**		**Pg**	**22 54 26.6**	**-0.8**
SIMJ				Sg	**Sg**	**22 54 36.9**	**+0.2**
BTK	**Batken**	**1.54**	**27**	Pn	**Pn**	**22 54 41.1**	**+0.5**
BTK	**Batken**	**1.54**	**27**	PN	**Pn**	**22 54 41.1**	**+0.5**
DRK	**Karamyk**	**1.67**	**61**		**Pn**	**22 54 42.8**	**+0.2**
OHH	**Osh**	**2.88**	**49**	*e*PN	**Pn**	**22 55 00.7**	**+1.7**
OHH				*i* S	**Sn**	**22 55 36.5**	**+3.0**
TRKS	**Terek-Say**	**2.99**	**18**	*i* PN	**Pn**	**22 55 02.3**	**+1.6**
TRKS				*i* S	**Sn**	**22 55 38.7**	**+2.2**
SFK	**Sufi-Kurgan**	**3.08**	**63**	*i* PN	**Pn**	**22 55 03.6**	**+1.6**
SFK				*i* S	**Sn**	**22 55 41.2**	**+2.5**
IUG	**luzhnay**	**3.46**	**1**	*e*Pn	**Pn**	**22 55 10.3**	**+3.2**
baz=1.1							
IUG				*e*Pg	**Pg**	**22 55 19.9**	**+0.1**
baz=1.1							
IUG				*e*Sn	**Sn**	**22 55 51.1**	**+3.2**
baz=1.1							
IUG	**luzhnay**	**3.46**	**1**	*e*PN	**Pn**	**22 55 10.2**	**+3.2**
IUG				*e*		22 55 19.8	
IUG				*e*		22 55 51.0	
ARK	**Arkit**	**3.48**	**26**	*i* PN	**Pn**	**22 55 09.8**	**+2.4**
ARK				*i* S	**Sn**	**22 55 51.8**	**+3.4**
ARSB	**Arslanbob**	**3.54**	**41**		**Pn**	**22 55 09.2**	**+1.1**
ARSB	**Arslanbob**	**3.54**	**41**	*i* PN	**Pn**	**22 55 10.0**	**+1.9**
CHM	**Chimkent**	**3.64**	**356**	*e*Pn	**Pn**	**22 55 12.6**	**+3.1**
baz=356							
CHM				*e*Pg	**Pg**	**22 55 21.4**	**-1.8**
baz=356							
CHM				*e*Sn	**Sn**	**22 55 55.8**	**+3.7**
baz=356							
CHM				LR	LR	22 56 11.4	
baz=356							
CHM	**Chimkent**	**3.64**	**356**	*e*PN	**Pn**	**22 55 12.5**	**+3.1**
CHM				*e*		22 55 21.4	
CHM				*e*		22 55 55.8	
KBL	**Kabul**	**4.19**	**190**	Pn	**Pn**	**22 55 19.4**	**+2.2**
KBL	**Kabul**	**4.19**	**190**	PN	**Pn**	**22 55 19.4**	**+2.2**
KBL	**Kabul**	**4.19**	**190**	P	**Pn**	**22 55 20.3**	**+3.0**
SNR=631							
MNAS	**Manas**	**4.28**	**27**	*e*PN	**Pn**	**22 55 20.7**	**+2.4**
MNAS				*i* S	**Sn**	**22 56 10.8**	**+2.7**
DZA	**Taraz**	**4.34**	**14**	*e*Pn	**Pn**	**22 55 22.3**	**+3.2**
baz=14							
DZA				*e*Sn	**Sn**	**22 56 13.0**	**+3.6**
baz=14							
DZA	**Taraz**	**4.34**	**14**	*e*PN	**Pn**	**22 55 22.2**	**+3.2**
DZA				*e*		22 56 13.0	
BRLS	**Borolday**	**4.34**	**359**	*e*Pn	**Pn**	**22 55 18.0**	**-1.1**
baz=357							
BRLS				*e*Pg	**Pb**	**22 55 29.8**	**+0.2**
baz=357							
BRLS				*e*Sn	**Sn**	**22 56 06.5**	**-3.0**
baz=357							
BRLS	**Borolday**	**4.34**	**359**	*e*PN	**Pn**	**22 55 17.9**	**-1.1**
BRLS				*e*		22 55 29.7	
KK31	**Karatay Array**	**4.44**	**6**	Pn	**Pn**	**22 55 22.8**	**+2.4**
KK31	**Karatay Array**	**4.44**	**6**	PN	**Pn**	**22 55 22.8**	**+2.4**
KK31	**Karatay Array**	**4.44**	**6**	⇑Pn	**Pn**	**22 55 23.5**	**+3.1**
53nm,0.3s,baz=197,slow=13,SNR=5668							
KK31				⇑Pg	**Pg**	**22 55 37.4**	**-1.1**
131nm,0.4s,baz=190,slow=15,SNR=13							
KK31				⇑Lg	Lg	22 56 33.1	
10μm,1.1s,baz=193,slow=29,SNR=6.0							
KKAR	**Karatay Array**	**4.44**	**6**	Pn	**Pn**	**22 55 21.9**	**+1.5**
KKAR	**Karatay Array**	**4.44**	**6**	PN	**Pn**	**22 55 21.9**	**+1.5**
ARLS	**Aral**	**4.63**	**45**	*i* PN	**Pn**	**22 55 25.0**	**+1.8**
ARLS				*i* S	**Sn**	**22 56 18.6**	**+1.8**
KSH	**Kashi**	**4.79**	**78**	Pn	**Pn**	**22 55 23.0**	**-2.3**
KSH				Sn	**Sn**	**22 56 12.3**	**-8.3**
KSH				smax	smax		
comp=N,15μm,0.8s							
KSH				smax	smax		
comp=E,12μm,1.0s							
KSH				LR	LR		
comp=N,70μm,4.0s							
KSH				LR	LR		
comp=E,49μm,5.6s							
KSH				LR	LR		
comp=Z,42μm,6.3s							
EKS2	**Erkin-Say**	**4.94**	**35**	P	**Pn**	**22 55 29.9**	**+2.5**
SNR=965							
UCH	**Uchtor**	**4.98**	**43**	P	**Pn**	**22 55 30.7**	**+2.5**
SNR=2032							
UCH	**Uchtor**	**4.98**	**43**	*i* PN	**Pn**	**22 55 30.2**	**+1.9**
UCH				*i* S	**Sn**	**22 56 27.5**	**+1.6**
AAK	**Ala-Archa**	**5.26**	**40**	P	**Pn**	**22 55 34.4**	**+2.5**
SNR=596							
AAK	**Ala-Archa**	**5.26**	**40**	Pn	**Pn**	**22 55 33.5**	**+1.6**
AAK	**Ala-Archa**	**5.26**	**40**	*i* P	**Pn**	**22 55 34.4**	**+2.5**
SNR=865							
AAK	**Ala-Archa**	**5.26**	**40**	*i* PN	**Pn**	**22 55 34.1**	**+2.2**
AAK				MLR	MLR		
comp=Z,4μm,9.0s							
AAK	**Ala-Archa**	**5.26**	**40**	Pn	**Pn**	**22 55 34.4**	**+2.5**
comp=Z,60nm,0.3s,baz=194,slow=7.2,SNR=152							
AAK				Sn	**Sn**	**22 56 36.6**	**+4.1**
comp=Z,106nm,0.3s,baz=265,slow=11,SNR=5.0							
AAK				Lg	Lg	22 56 59.7	
comp=Z,103nm,0.3s,baz=139,slow=19,SNR=3.8							
comp=Z,918nm,0.6s							
AAK	**Ala-Archa**	**5.26**	**40**	P	**Pn**	**22 55 35.2**	**+3.3**
AAK	**Ala-Archa**	**5.26**	**40**	⇑Pn	**Pn**	**22 55 34.4**	**+2.5**
comp=Z,276nm,0.5s							
AAK				⇑Sn	**Sn**	**22 56 36.4**	**+4.0**
comp=Z,2μm,0.7s							
AAK				⇓Lg	Lg	22 57 07.3	
comp=Z,2μm,0.9s							
NRN	**Naryn**	**5.42**	**58**	Pn	**Pn**	**22 55 34.7**	**+0.6**
NRN	**Naryn**	**5.42**	**58**	PN	**Pn**	**22 55 34.7**	**+0.6**
FRU1	**Bishkek**	**5.46**	**39**		**Pn**	**22 55 37.2**	**+2.7**
FRU1	**Bishkek**	**5.46**	**39**	PN	**Pn**	**22 55 37.2**	**+2.7**
KBK	**Karagaybulak**	**5.51**	**42**	P	**Pn**	**22 55 38.4**	**+3.2**
SNR=658							
KBK	**Karagaybulak**	**5.51**	**42**	*i* PN	**Pn**	**22 55 37.4**	**+2.1**
KBK				*i* S	**Sn**	**22 56 39.9**	**+1.4**
CHMS	**Chumysh**	**5.66**	**39**	P	**Pn**	**22 55 39.5**	**+2.3**
SNR=431							
CHMS	**Chumysh**	**5.66**	**39**	*i* PN	**Pn**	**22 55 39.2**	**+2.0**
CHMS				*i* S	**Sn**	**22 56 43.2**	**+1.3**
CHMS	**Chumysh**	**5.66**	**39**	⇑Pn	**Pn**	**22 55 39.8**	**+2.6**
comp=Z,338nm,0.6s							
CHMS				⇑Sn	**Sn**	**22 56 47.2**	**+5.3**
comp=Z,2μm,0.8s							
CHMS				⇑Lg	Lg	22 57 18.2	
comp=Z,2μm,0.8s							
NIL	**Nilore**	**5.70**	**151**		**Pn**	**22 55 40.3**	**+2.5**
NIL	**Nilore**	**5.70**	**151**	PN	**Pn**	**22 55 40.3**	**+2.5**
NIL	**Nilore**	**5.70**	**151**	P	**Pn**	**22 55 41.0**	**+3.2**
USP	**Ospenovka**	**5.74**	**36**	P	**Pn**	**22 55 40.5**	**+2.1**
SNR=33							
USP	**Ospenovka**	**5.74**	**36**	*i* PN	**Pn**	**22 55 40.2**	**+1.9**
USP				*i* S	**Sn**	**22 56 45.3**	**+1.2**
SGDS	**Sogindy**	**5.95**	**35**	*e*PN	**Pn**	**22 55 42.6**	**+1.4**
baz=35							
SGDS	**Sogindy**	**5.95**	**35**	*e*PN	**Pn**	**22 55 42.5**	**+1.4**
ULHL	**Ulahol**	**5.99**	**52**	P	**Pn**	**22 55 43.8**	**+1.9**
SNR=152							
ULHL	**Ulahol**	**5.99**	**52**	*e*PN	**Pn**	**22 55 43.7**	**+1.8**
ULHL				*i* S	**Sn**	**22 56 51.2**	**+0.7**
KDJ	**Kajisay**	**6.53**	**56**	*i* PN	**Pn**	**22 55 51.1**	**+1.9**
KDJ				*i* S	**Sn**	**22 57 03.7**	**+0.2**
TARG	**Taragay, Kyrgy**	**6.76**	**61**		**Pn**	**22 55 53.4**	**+0.8**
TARG	**Taragay, Kyrgy**	**6.76**	**61**	PN	**Pn**	**22 55 53.4**	**+0.8**
KASK	**Kaskelen**	**6.81**	**46**	⇓Pn	**Pn**	**22 55 57.2**	**+4.2**
KASK				⇑Lg	Lg	22 57 58.3	
TNSS	**Tian-Shan**	**6.88**	**49**	*e*Pn	**Pn**	**22 55 56.3**	**+2.0**
baz=49							
TNSS	**Tian-Shan**	**6.88**	**49**	*e*PN	**Pn**	**22 55 56.2**	**+2.0**
AAA	**Alma-Ata**	**6.96**	**47**	*e*Pn	**Pn**	**22 55 57.7**	**+2.5**
baz=47							
AAA				LR	LR	22 57 51.4	
comp=Z,5μm,7.1s,baz=47							
AAA	**Alma-Ata**	**6.96**	**47**	*e*PN	**Pn**	**22 55 57.6**	**+2.5**
AAA				MLR	MLR		
comp=Z,5μm,7.0s							
KNDC	**Almaty**	**7.00**	**47**	⇑Pn	**Pn**	**22 55 59.8**	**+4.2**
comp=Z,145nm,0.6s							
KNDC				⇓Lg	Lg	22 57 59.4	
comp=Z,3μm,1.1s							
MDOK	**Medeo**	**7.01**	**48**	*e*Pn	**Pn**	**22 55 58.2**	**+2.3**
baz=48							
MDOK				LR	LR	22 58 19.4	
comp=Z,5μm,6.7s,baz=48							
MDOK	**Medeo**	**7.01**	**48**	*e*PN	**Pn**	**22 55 58.1**	**+2.3**
MDOK				MLR	MLR		
comp=Z,5μm,7.0s							
MDOK	**Medeo**	**7.01**	**48**	Pn	**Pn**	**22 55 58.8**	**+2.9**
comp=Z,140nm,0.6s							
MDOK				Lg	Lg	22 58 02.5	
comp=Z,1μm,1.1s							
BTLS	**Baital**	**7.06**	**25**	*e*Pn	**Pn**	**22 55 57.6**	**+1.2**
baz=24							
BTLS	**Baital**	**7.06**	**25**	*e*PN	**Pn**	**22 55 57.5**	**+1.2**
ANVS	**Anan'yevo**	**7.17**	**53**	*i* PN	**Pn**	**22 55 59.9**	**+1.8**
ANVS				*i* S	**Sn**	**22 57 19.0**	**-0.4**
JMU	**Jammu**	**7.20**	**144**	*e*P	**Pn**	**22 56 00.4**	**+2.1**
JMU				*e*S	**Sn**	**22 57 21.8**	**+1.9**
CHKK	**Chushkaly**	**7.42**	**44**	*e*Pn	**Pn**	**22 56 02.1**	**+0.7**
baz=44							
CHKK	**Chushkaly**	**7.42**	**44**	*e*P	**Pn**	**22 56 02.0**	**+0.7**
PRZ	**Przheval'sk**	**7.49**	**57**	Pn	**Pn**	**22 56 04.8**	**+2.4**
PRZ	**Przheval'sk**	**7.49**	**57**	P	**Pn**	**22 56 04.8**	**+2.4**
HRA	**Herat**	**7.52**	**238**	Pn	**Pn**	**22 56 03.1**	**+0.2**
SATY	**Saty**	**7.78**	**53**	*e*Pn	**Pn**	**22 56 07.4**	**+1.1**
baz=53							
SATY	**Saty**	**7.78**	**53**	*e*P	**Pn**	**22 56 07.3**	**+1.0**
THN	**Thein Dam**	**7.82**	**141**	*e*P	**Pn**	**22 56 08.7**	**+1.8**
THN				*e*S	**Sn**	**22 57 36.2**	**+1.0**
ZHN	**Zhinishke**	**7.85**	**53**	*e*Pn	**Pn**	**22 56 08.6**	**+1.3**
baz=53							
ZHN	**Zhinishke**	**7.85**	**53**	*e*P	**Pn**	**22 56 08.6**	**+1.3**
ARXS	**Arharly**	**8.11**	**45**	*i* P	**Pn**	**22 56 10.6**	**-0.3**
UZB	**Uzynbulak**	**8.21**	**54**	*e*Pn	**Pn**	**22 56 13.7**	**+1.4**
baz=54							
UZB	**Uzynbulak**	**8.21**	**54**	*e*P	**Pn**	**22 56 13.6**	**+1.4**
DHRM	**DHARAMSHALA**	**8.26**	**139**	*e*P	**Pn**	**22 56 13.6**	**+0.5**
DHRM				IAmb	IAmb	22 56 19.7	
comp=Z,549nm,0.5s							
SHLS	**Shalkode**	**8.49**	**55**	*e*Pn	Pn	22 56 21.3	+5.1
baz=56							
SHLS	**Shalkode**	**8.49**	**55**	*e*P	Pn	22 56 21.3	+5.1
PDGK	**Podgornoye**	**8.60**	**54**	P	**Pn**	**22 56 18.3**	**+0.7**
PDGK	**Podgornoye**	**8.60**	**54**	⇑Pn	**Pn**	**22 56 18.3**	**+0.7**
comp=Z,14nm,0.6s							
PDGK				⇑Lg	Lg	22 58 53.2	
comp=Z,909nm,1.1s							
TDK	**Taldyqorghan**	**8.94**	**42**	*e*Pn	**Pn**	**22 56 22.9**	**+0.6**
baz=42							
TDK				LR	LR	22 59 32.2	
baz=42							
TDK	**Taldyqorghan**	**8.94**	**42**	*e*P	**Pn**	**22 56 22.8**	**+0.6**
BHK	**Bhakra**	**8.99**	**142**	*e*P	**Pn**	**22 56 24.9**	**+1.9**
BHK				*ex*	x	22 58 12.1	
GEYT	**Alibeck**	**9.31**	**269**	Pn	**Pn**	**22 56 24.3**	**-2.9**
GEYT	**Alibeck**	**9.31**	**269**	P	**Pn**	**22 56 24.3**	**-2.9**
GEYT	**Alibeck**	**9.31**	**269**	Pn	**Pn**	**22 56 24.6**	**-2.6**
comp=Z,11nm,0.3s,baz=100,slow=9.1,SNR=70							
GEYT				Sn	**Sn**	**22 58 06.1**	**-5.6**
comp=Z,14nm,0.3s,baz=336,slow=36,SNR=1.0							
GEYT				Lg	Lg

BRZS	**Berezniki**	**11.47**	**9**	*e*Pn		**Pn**	**22 56 56.6**	**-0.1**
	baz=9.0									
BRZS	**Berezniki**	**11.47**	**9**	*e*P		**Pn**	**22 56 56.6**	**-0.1**
NDI	**New Delhi**	**11.68**	**147**	*e*P		**Pn**	**22 57 00.0**	**+0.3**
MAKZ	**Makanchi**	**12.01**	**44**			**Pn**	**22 57 04.5**	**+0.3**
MAKZ	**Makanchi**	**12.01**	**44**	P		**Pn**	**22 57 04.5**	**+0.3**
MAKZ	**Makanchi**	**12.01**	**44**	⇑Pn		**Pn**	**22 57 03.5**	**-0.7**
	comp=Z,31nm,0.6s									
MAKZ				⇑Lg		Lg	23 00 39.3			
	comp=Z,187nm,0.8s									
MK31	**Makanchi Array**	**12.17**	**44**			**Pn**	**22 57 06.7**	**+0.2**
MK31	**Makanchi Array**	**12.17**	**44**	*ce*P		**Pn**	**22 57 06.5**	**+0.1**
MK31	**Makanchi Array**	**12.17**	**44**	⇑Pn		**Pn**	**22 57 05.3**	**-1.1**
	comp=Z,25nm,0.6s,baz=228,slow=13,SNR=471									
MK31				⇑Lg		Lg	23 00 49.5			
	comp=Z,225nm,1.1s,baz=274,slow=27,SNR=3.8									
MKAR	**Makanchi Array**	**12.17**	**44**	Pn		**Pn**	**22 57 06.6**	**+0.2**
MKAR	**Makanchi Array**	**12.17**	**44**	*i* P		**Pn**	**22 57 06.8**	**+0.4**
MKAR				pmax		pmax				
	comp=Z,168nm,1.0s									
MKAR	**Makanchi Array**	**12.17**	**44**	Pn		**Pn**	**22 57 06.8**	**+0.4**
	comp=Z,3.6nm,0.3s,baz=229,slow=11,SNR=182									
MKAR				Lg		Lg	23 00 33.4			
	comp=Z,1.5nm,0.3s,baz=239,slow=20,SNR=1.4									
	comp=Z,172nm,1.0s									
PTH	**Pithoragarh**	**12.47**	**134**	*e*P		**Pn**	**22 57 08.3**	**-2.5**
AB31	**Akbulak array**	**12.76**	**329**	P		**Pn**	**22 57 13.9**	**-0.6**
AB31				SN		**Sn**	**22 59 30.8**	**-5.5**
AB31	**Akbulak array**	**12.76**	**329**	⇑Pn		**Pn**	**22 57 13.9**	**-0.6**
	comp=Z,61nm,0.5s,baz=141,slow=12,SNR=2613									
AB31				⇓Sn		**Sn**	**22 59 30.8**	**-5.5**
	comp=Z,1μm,0.8s,baz=151,slow=22,SNR=11									
ABKAR	**Akbulak array**	**12.76**	**329**	Pn		**Pn**	**22 57 12.7**	**-1.7**
AJM	**Ajmer**	**12.80**	**161**	*e*P		**Pn**	**22 57 14.6**	**-0.5**
KURBB	**Kurchatov Arra**	**13.41**	**24**	Pn		**Pn**	**22 57 20.6**	**-2.6**
	comp=Z,0.6nm,0.3s,baz=214,slow=12,SNR=57									
KURBB				Lg		Lg	23 01 15.8			
	comp=Z,1.8nm,0.3s,baz=197,slow=31,SNR=4.8									
	comp=Z,31nm,0.8s									
KURBB	**Kurchatov Arra**	**13.41**	**24**	⇓Pn		**Pn**	**22 57 24.7**	**+1.5**
	comp=Z,42nm,0.6s									
KURBB				⇑Lg		Lg	23 01 24.4			
	comp=Z,591nm,0.8s									
KURK	**Kurchatov**	**13.52**	**24**	Pn		**Pn**	**22 57 22.3**	**-2.4**
KURK	**Kurchatov**	**13.52**	**24**	*ce*P		**Pn**	**22 57 21.8**	**-2.9**
KURK				pmax		pmax				
	comp=Z,54nm,1.3s									
KURK				MLR		MLR				
	comp=Z,5μm,13.0s									
KURK	**Kurchatov**	**13.52**	**24**	P		**Pn**	**22 57 24.0**	**-0.7**
KURK	**Kurchatov**	**13.52**	**24**	⇓Pn		**Pn**	**22 57 26.8**	**+2.1**
	comp=Z,1.9nm,0.4s									
KURK				⇑Lg		Lg	23 01 23.3			
	comp=Z,1μm,1.1s									
SEM	**Semipalatinsk**	**13.83**	**29**	*e*Pn		**Pn**	**22 57 28.1**	**-1.1**
	baz=29									
SEM				LR		LR	23 02 27.7			
	comp=Z,2μm,8.5s,baz=29									
SEM	**Semipalatinsk**	**13.83**	**29**	*e*P		**Pn**	**22 57 28.1**	**-1.1**
SEM				MLR		MLR				
	comp=Z,2μm,8.0s									
ZSN	**Zaisan**	**13.99**	**46**	*e*Pn		**Pn**	**22 57 30.6**	**-0.6**
	baz=46									
ZSN	**Zaisan**	**13.99**	**46**	*e*P		**Pn**	**22 57 30.5**	**-0.6**
WMQ	**Urumqi**	**14.32**	**63**	*e*P		**Pn**	**22 57 33.8**	**-2.0**
WMQ				pP		P	22 57 42.3	-0.6
WMQ				PP		**PnPn**	**22 57 51.5**	**+7.9**
WMQ				pmax		pmax				
	comp=Z,590nm,1.3s									
WMQ				pmax		pmax				
	comp=Z,3μm,11.8s									
WMQ				LR		LR				
	comp=Z,7μm,12.1s									
WMQ				LR		LR				
	comp=Z,4μm,8.1s									
WMQ				LR		LR				
	comp=Z,4μm,17.7s									
BVA0	**Borovoye Array**	**14.35**	**1**	P		**Pn**	**22 57 33.9**	**-2.1**
BVA0				SN		**Sn**	**23 00 11.3**	**-3.5**
BVA0	**Borovoye Array**	**14.35**	**1**	⇓Pn		**Pn**	**22 57 33.9**	**-2.1**
	comp=Z,17nm,0.6s,baz=170,slow=12,SNR=190									
BVA0				⇓Sn		**Sn**	**23 00 11.3**	**-3.5**
	comp=Z,73nm,0.7s,baz=168,slow=24,SNR=4.3									
BVAR	**Borovoye Array**	**14.35**	**1**	Pn		**Pn**	**22 57 34.5**	**-1.5**
	comp=Z,1.1nm,0.3s,baz=170,slow=13,SNR=82									
BVAR				Sn		**Sn**	**23 00 09.2**	**-5.7**
	comp=Z,0.3nm,0.3s,baz=161,slow=24,SNR=2.2									
BVAR				Lg		Lg	23 01 38.6			
	comp=Z,0.7nm,0.3s,baz=166,slow=29,SNR=1.6									
	comp=Z,68nm,0.7s									
BRVK	**Borovoye**	**14.38**	**1**	Pn		**Pn**	**22 57 34.8**	**-1.6**
BRVK	**Borovoye**	**14.38**	**1**	*ce*P		**Pn**	**22 57 34.5**	**-2.0**
BRVK				pmax		pmax				
	comp=Z,109nm,1.3s									
BRVK				MLR		MLR				
	comp=Z,3μm,13.0s									
BRVK	**Borovoye**	**14.38**	**1**	⇑Pn		**Pn**	**22 57 35.0**	**-1.5**
	comp=Z,20nm,0.5s									
BRVK				⇓Sn		**Sn**	**23 00 14.3**	**-1.3**
	comp=Z,92nm,0.7s									
AKTO	**Aktyubinsk**	**14.47**	**328**	Pn		**Pn**	**22 57 37.2**	**-0.5**
	comp=Z,9.0nm,0.3s,baz=136,slow=13,SNR=203									
AKTO				Sn		**Sn**	**23 00 13.4**	**-4.4**
	comp=Z,9.2nm,0.3s,baz=151,slow=11,SNR=3.7									
	comp=Z,143nm,0.7s									
AKTO	**Aktyubinsk**	**14.47**	**328**	⇑Pn		**Pn**	**22 57 37.2**	**-0.5**
	comp=Z,86nm,0.6s									
AKTO				⇓Sn		**Sn**	**23 00 15.6**	**-2.2**
	comp=Z,283nm,0.9s									
NGCH	**Negor - Chabah**	**15.22**	**212**	P		**Pn**	**22 57 45.8**	**-2.2**
BHUJ	**Bhuj**	**15.38**	**181**	*ex*		**Pn**	**22 57 47.5**	**-2.7**
BHUJ				IAmb		IAmb	22 57 49.6			
	comp=Z,99nm,0.5s									
VLK	**Valmikinagar**	**16.27**	**130**	*e*P		**Pn**	**22 57 56.7**	**-4.8**
VLK				*i* x		x	22 58 05.2			
VLK				IAmb		IAmb	22 58 06.5			
	comp=Z,2μm,1.0s									
JASK	**Jask - Hormozg**	**16.32**	**222**	P		**Pn**	**22 58 02.4**	**+0.1**
	SNR=13									
SHME	**Shamm**	**17.12**	**227**	*i* P		**Pn**	**22 58 11.9**	**-0.5**
	SNR=14									
SHME	**Shamm**	**17.12**	**227**	P		**Pn**	**22 58 12.9**	**+0.6**
	SNR=13									
BANOM	**Banah**	**17.13**	**226**	P		**P**	**22 58 13.9**	**-0.3**
VAR	**Varanasi**	**17.34**	**136**	*e*P		**Pn**	**22 58 15.0**	**-0.1**
VAR				IAmb		IAmb	22 58 18.8			
MAK	**Makhachkala**	**17.48**	**291**	*e*P		**Pn**	**22 58 15.9**	**-0.8**
MAK				*e*S		**Sn**	**23 01 32.9**	**+1.9**
MAK				pmax		pmax				
	comp=Z,436nm,1.5s									
MAK				MLR		MLR				
	comp=Z,10μm,14.0s									
MDH	**Madha**	**17.62**	**225**	*i* P		**Pn**	**22 58 15.4**	**-3.2**
	SNR=12									
MDH	**Madha**	**17.62**	**225**	P		**Pn**	**22 58 17.3**	**-1.3**
	SNR=20									
MASF	**Masafi**	**17.64**	**225**	P		**Pn**	**22 58 18.8**	**-0.1**
	SNR=27									
MSFE	**Esma-Masafi**	**17.65**	**225**	*i* P		**Pn**	**22 58 18.1**	**-0.9**
	SNR=12									
UMQ	**Umm Al-Quwin**	**17.80**	**227**	P		**P**	**22 58 21.5**	**0.0**
	SNR=6.9									
UOSS	**Minazif**	**17.95**	**224**			**Pn**	**22 58 19.6**	**-3.1**
UOSS	**Minazif**	**17.95**	**224**	P		**Pn**	**22 58 19.6**	**-3.1**
UOSS	**Minazif**	**17.95**	**224**	P		**Pn**	**22 58 21.5**	**-1.2**
HATD	**Hatta, Dubai**	**18.09**	**224**	P		**Pn**	**22 58 22.7**	**-1.6**
HATD	**Hatta, Dubai**	**18.09**	**224**	P		**P**	**22 58 25.3**	**+0.6**
	SNR=12									
BIDO	**Bidbid**	**18.15**	**217**	P		**Pn**	**22 58 24.7**	**-0.4**
	SNR=8.7									
WSAR	**Wadi Sarin**	**18.16**	**215**	P		**Pn**	**22 58 24.0**	**-1.3**
	comp=Z,1.9nm,0.3s,baz=42,slow=3.9,SNR=26									
	comp=Z,30nm,0.9s									
WSAR	**Wadi Sarin**	**18.16**	**215**	P		**Pn**	**22 58 24.7**	**-0.6**
	SNR=14									
NAZ	**Nazwa, Dubai**	**18.22**	**226**	*i* P		**P**	**22 58 27.0**	**+0.9**
	SNR=15									
NAZ	**Nazwa, Dubai**	**18.22**	**226**	P		**P**	**22 58 27.4**	**+1.3**
	SNR=33									
NAZ				P		**P**	**22 58 27.4**	**+1.3**
	SNR=33									
ASHO	**Ashiyiah**	**18.24**	**224**	*i* P		**Pn**	**22 58 26.1**	**-0.1**
	SNR=58									
ASHO	**Ashiyiah**	**18.24**	**224**	P		**P**	**22 58 26.5**	**+0.1**
	SNR=40									
ZALV	**Zalesovo Beam**	**18.35**	**29**	P		**Pn**	**22 58 25.7**	**-1.7**
ZALV				pmax		pmax				
	comp=Z,162nm,0.6s									
ZALV	**Zalesovo Beam**	**18.35**	**29**	P		**Pn**	**22 58 25.8**	**-1.6**
	comp=Z,16nm,0.3s,baz=226,slow=12,SNR=307									
ZALV				S		**S**	**23 01 56.1**	**-0.6**
	comp=Z,53nm,1.0s,baz=231,slow=9.1,SNR=4.5									
ZALV				Lg		Lg	23 03 58.2			
	comp=Z,0.6nm,0.3s,baz=168,slow=36,SNR=1.0									
	comp=Z,161nm,0.6s									
SOHO	**SOHO**	**18.43**	**222**	P		**P**	**22 58 26.3**	**-2.2**
SOHO	**SOHO**	**18.43**	**222**	P		**P**	**22 58 26.6**	**-1.9**
FAQ	**Al Faqa, Dubai**	**18.45**	**225**	*i* P		**P**	**22 58 28.4**	**-0.3**
	SNR=40									
FAQ	**Al Faqa, Dubai**	**18.45**	**225**	P		**Pn**	**22 58 29.7**	**+0.9**
	SNR=20									
HOQ	**Hoqain**	**18.49**	**219**	P		**Pn**	**22 58 30.0**	**+0.7**
	SNR=11									
HOQ				P		**Pn**	**22 58 30.0**	**+0.7**
	SNR=11									
WBK	**Wadi Bani Khal**	**18.56**	**213**	P		**P**	**22 58 30.1**	**+0.2**
	SNR=30									
SMDO	**Samad**	**18.58**	**216**	P		**P**	**22 58 30.0**	**-0.3**
	SNR=24									
ASUD	**Al Ashush, Dub**	**18.69**	**226**	*i* P		**Pn**	**22 58 31.8**	**+0.1**
	SNR=36									
ASUD	**Al Ashush, Dub**	**18.69**	**226**	P		**Pn**	**22 58 32.7**	**+1.0**
	SNR=30									
GROC	**Groznyy**	**18.75**	**292**	*e*P		**Pn**	**22 58 34.1**	**+1.8**
GROC				*e*S		**S**	**23 02 05.7**	**+0.8**
GROC				pmax		pmax				
	comp=Z,956nm,1.0s									
JLN	**Jalan Bani Buh**	**18.78**	**212**	P		**Pn**	**22 58 32.9**	**0.0**
	SNR=26									
ALNE	**Al Ain**	**18.91**	**224**	*i* P		**P**	**22 58 33.8**	**0.0**
	SNR=106									
ALNE	**Al Ain**	**18.91**	**224**	P		**P**	**22 58 34.1**	**+0.4**
	SNR=30									
ALNE				P		**P**	**22 58 34.1**	**+0.4**
	SNR=30									
AJN	**Ajban**	**18.93**	**226**	*i* P		**P**	**22 58 33.1**	**-0.9**
	SNR=21									
AJN	**Ajban**	**18.93**	**226**	P		**Pn**	**22 58 34.4**	**-0.2**
	SNR=26									
ARQ	**Araqi**	**19.09**	**221**	P		**Pn**	**22 58 36.6**	**0.0**
	SNR=34									
JMDO	**Jabal Madar**	**19.15**	**215**	P		**Pn**	**22 58 37.3**	**0.0**
	SNR=14									
SVE	**Sverdlovsk**	**19.16**	**344**	*ce*P		**P**	**22 58 36.3**	**0.0**
SVE				*e*S		**Sn**	**23 02 02.7**	**-8.8**
SVE				pmax		pmax				
	comp=Z,229nm,0.9s									
SVE				MLR		MLR				
	comp=Z,5μm,9.0s									
BSY	**Bisya**	**19.25**	**218**	P		**P**	**22 58 38.0**	**+0.5**
	SNR=23									
ARU	**Arti**	**19.29**	**341**	P		**P**	**22 58 37.2**	**-0.5**
ARU				IAmb		IAmb	22 58 41.5			
	comp=Z,338nm,0.9s									
ARU	**Arti**	**19.29**	**341**	*c* iP		**P**	**22 58 37.4**	**-0.3**
ARU				S		**Sn**	**23 02 15.0**	**+0.4**
ARU				pmax		pmax				
	comp=Z,384nm,0.9s									
ARU	**Arti**	**19.29**	**341**	P		**P**	**22 58 37.6**	**0.0**
	comp=Z,8.5nm,0.3s,baz=159,slow=5.5,SNR=107									
ARU				Sn		**Sn**	**23 02 06.0**	**-8.6**
	comp=Z,3.1nm,0.3s,baz=163,slow=24,SNR=1.5									
ARU				Lg		Lg	23 04 29.8			
	comp=Z,1.0nm,0.3s,baz=163,slow=19,SNR=2.4									
	comp=Z,328nm,0.8s									
GTK	**Tadong**	**19.30**	**120**	*e*P		**P**	**22 58 34.2**	**-4.0**
GTK				IAmb		IAmb	22 58 39.2			
	comp=Z,236nm,1.4s									
GNI	**Garni**	**19.49**	**282**			**P**	**22 58 40.5**	**+0.3**
GNI				IAmb		IAmb	22 59 04.7			
	comp=Z,386nm,0.9s									
GNI	**Garni**	**19.49**	**282**	P		**Pn**	**22 58 43.2**	**+1.8**
GNI	**Garni**	**19.49**	**282**	*ce*P		**Pn**	**22 58 41.9**	**+0.4**
GNI				pmax		pmax				
	comp=Z,641nm,1.3s									
GNI				MLR		MLR				
	comp=Z,3μm,15.0s									
GNI	**Garni**	**19.49**	**282**	P		**Pn**	**22 58 43.5**	**+2.1**
	comp=Z,272nm,0.9s,baz=1.6,slow=2.3,SNR=82									
GNI				S		**Sn**	**23 02 19.8**	**-0.2**
	comp=Z,36nm,1.1s,baz=242,slow=23,SNR=1.3									
GNI	**Garni**	**19.49**	**282**	P		**Pn**	**22 58 43.4**	**+2.0**
LSA	**Lhasa**	**19.68**	**111**			**P**	**22 58 42.6**	**-0.1**
LSA				IAmb		IAmb	22 58 50.1			
	comp=Z,312nm,0.9s									
LSA	**Lhasa**	**19.68**	**111**	P		**P**	**22 58 42.7**	**-0.1**
LSA	**Lhasa**	**19.68**	**111**	P		**P**	**22 58 42.6**	**-0.1**
LSA				pmax		pmax				
	comp=Z,312nm,0.9s									
LSA	**Lhasa**	**19.68**	**111**	P		**P**	**22 58 43.0**	**+0.2**
JRN	**Qarnain Island**	**19.91**	**231**	P		**P**	**22 58 44.8**	**+0.2**
	SNR=21									
GOMU	**GeErMu**	**19.91**	**89**	P		**P**	**22 58 45.0**	**-0.1**
GOMU				pP		pP	22 58 49.0	-0.8
GOMU				pmax		pmax				
	comp=Z,81nm,0.6s									
BOK	**Bokaro**	**20.12**	**133**	*e*P		**P**	**22 58 46.7**	**-0.3**
MZWR	**Madinat Zayed**	**20.18**	**227**	P		**P**	**22 58 47.9**	**+0.3**
UMZA	**Um Al Zommool**	**20.31**	**223**	P		**P**	**22 58 49.3**	**+0.3**
POO	**Poona**	**20.37**	**169**	*e*P		**P**	**22 58 50.5**	**+0.8**
MHTO	**MHTO**	**20.42**	**214**	P		**P**	**22 58 50.8**	**+0.6**
	SNR=20									
ONI	**Oni**	**20.43**	**289**			Pn	22 58 52.5	+0.1
ONI	**Oni**	**20.43**	**289**	P		Pn	22 58 52.5	+0.1
ONI				pmax		pmax				
	comp=Z,487nm,0.7s									
SHMA	**Al-Shehemyia**	**20.45**	**237**	P		**P**	**22 58 51.2**	**+0.6**
	SNR=13									
GHWR	**Ruwais**	**20.62**	**230**	P		**P**	**22 58 52.6**	**+0.2**
SAKB	**Bahrain**	**20.65**	**238**	P		**P**	**22 58 53.5**	**+0.8**
BELG	**Belogornoye**	**20.66**	**319**	*i* P		**P**	**22 58 52.7**	**+0.1**
BELG				pmax		pmax				
	comp=Z,313nm,1.4s									
BELG				MLR		MLR				
	comp=Z,770nm,14.0s									
BELG	**Belogornoye**	**20.66**	**319**	P		**P**	**22 58 52.5**	**-0.1**
	comp=Z,594nm,0.7s,baz=312,slow=1.3,SNR=83									
BELG				S		**S**	**23 02 41.6**	**-1.4**
	comp=Z,176nm,0.8s,baz=140,slow=21,SNR=4.2									
	comp=Z,594nm,0.7s									
KBD	**Kabd**	**20.69**	**249**	P		Pn	22 58 54.5	-1.0
KARS	**Kars**	**20.73**	**284**			**P**	**22 58 54.8**	**+1.2**
KARS	**Kars**	**20.73**	**284**	P		**P**	**22 58 54.8**	**+1.2**
KARS				pmax		pmax				
	comp=Z,591nm,0.8s									
PYA1	**Pyatigorsk**	**20.79**	**294**	*i* P		**P**	**22 58 54.2**	**+0.1**
KBZ	**Khabaz**	**20.90**	**293**	*ce*P		**P**	**22 58 55.4**	**+0.1**
KBZ				pmax		pmax				
	comp=Z,173nm,0.8s									
KBZ	**Khabaz**	**20.90**	**293**	P		**P**	**22 58 55.0**	**-0.2**
	comp=Z,111nm,0.7s,baz=118,slow=7.2,SNR=51									
	comp=Z,111nm,0.7s									
GOF	**Gofitskoye**	**20.94**	**296**	*ce*P		Pn	22 58 57.2	-1.2
MZR	**Muzera**	**21.01**	**227**	*i* P		**P**	**22 58 56.1**	**-0.5**
	SNR=11									
MZR	**Muzera**	**21.01**	**227**	P		**P**	**22 58 57.3**	**+0.7**
	SNR=7.2									
KVAR	**Kislovodsk Arr**	**21.06**	**293**	S		**S**	**23 02 46.5**	**-4.8**
	comp=Z,73nm,0.7s,baz=96,slow=18,SNR=4.3									
KIV	**Kislovodsk**	**21.07**	**293**	P		**P**	**22 58 57.5**	**+0.2**
KIV				IAmb		IAmb	22 59 05.8			
	comp=Z,306nm,0.7s									
KIV	**Kislovodsk**	**21.07**	**293**	P		**P**	**22 58 57.4**	**+0.2**
KIV	**Kislovodsk**	**21.07**	**293**	*e*P		**P**	**22 58 57.1**	**-0.2**
KIV				*e*S		**S**	**23 02 52.2**	**+0.8**
KIV				pmax		pmax				
	comp=Z,112nm,4.1s									
KIV				pmax		pmax				
	comp=Z,312nm,1.0s									
KIV				MLR		MLR				
	comp=Z,3μm,14.0s									
KIV	**Kislovodsk**	**21.07**	**293**	P		**P**	**22 58 57.8**	**+0.6**
SHA1	**Shidzhatmaz**	**21.07**	**293**	*i* P		**P**	**22 58 58.4**	**+1.0**
TRNA	**Turayna**	**21.07**	**234**	P		**P**	**22 58 57.4**	**+0.1**
	SNR=48									
SLWR	**Sila**	**21.26**	**232**	P		**P**	**22 58 59.0**	**-0.2**
SMRA	**Abu-Samra**	**21.32**	**235**	P		**P**	**22 58 60.0**	**+0.1**
	SNR=101									
DQM	**DQM**	**21.54**	**213**	P		**P**	**22 59 02.8**	**+0.5**
	SNR=7.5									
DQM				P		**P**	**22 59 02.8**	**+0.5**
	SNR=7.5									
GURO	**Guroymak-BITLI**	**21.76**	**278**	P		**P**	**22 59 06.8**	**+2.0**
HYB	**Hyderabad**	**22.49**	**158**	*e*P		**P**	**22 59 11.9**	**-0.8**
HYB				IVmB_BB			22 59 17.2			
	comp=Z,3μm,1.2s									
HYB				*e*S		**S**	**23 03 22.2**	**+3.1**
HYB				IVMs_BB		IVMs_BB	23 06 47.9			
	comp=Z,2μm,3.9s									
HYB	**Hyderabad**	**22.49**	**158**	*e*P		**P**	**22 59 12.4**	**-0.2**
LABN	**Labinsk**	**22.54**	**295**	*e*P		**P**	**22 59 15.3**	**+2.4**
LABN				*e*			22 59 36.7			
LABN				*e*PPP		PPP	22 59 47.3			
LABN				*e*S		**S**	**23 03 23.0**	**+3.5**
LABN				*e*SS		**SnSn**	**23 03 56.7**	**+8.3**
LABN				*e*SSS		SSS	23 04 09.1			
LABN				pmax		pmax				
	comp=N,152nm,0.9s									
LABN				pmax		pmax				
	comp=E,68nm,0.9s									
LABN				pmax		pmax				
	comp=Z,718nm,0.8s									
LABN				MLR		MLR				
	comp=Z,7μm,16.0s									
SHL	**Shillong**	**22.67**	**119**	*e*P		**P**	**22 59 13.5**	**-1.1**
ERBR	**Yeremizino-Bor**	**22.82**	**297**	*e*P		**P**	**22 59 17.5**	**+1.6**
ERBR				*e*			22 59 41.8			
ERBR				*e*PPP		PPP	22 59 49.6			
ERBR				*e*S		**S**	**23 03 27.7**	**+3.1**
ERBR				*e*SS		**SnSn**	**23 04 00.1**	**+4.7**
ERBR				*e*SSS		SSS	23 04 16.3			
ERBR				pmax		pmax				
	comp=Z,596nm,0.8s									
ERBR				MLR		MLR				
	comp=Z,4μm,16.0s									
GTA	**Gaotai**	**23.19**	**79**	⇑P		**P**	**22 59 19.8**	**-0.1**
GTA				pP		sP	22 59 26.5	-0.2
GTA				sP		pP	22 59 29.3	+4.6
GTA				pmax		pmax				
	comp=Z,290nm,1.0s									
GTA				pmax		pmax				
	comp=Z,1μm,4.9s									
GTA				LR		LR				
	comp=Z,3μm,17.8s									
GTA				LR		LR				
	comp=Z,3μm,18.9s									
GTA				LR		LR				
	comp=Z,6μm,17.5s									
SOC	**Sochi**	**23.20**	**292**	*e*P		**P**	**22 59 19.9**	**+0.1**
SOC				*e*S		**S**	**23 03 32.0**	**+0.9**
SOC				*e*SSS		SSS	23 04 20.6			
SOC				pmax		pmax				
	comp=Z,313nm,0.7s									
SOC				MLR		MLR				
	comp=Z,3μm,12.0s									
KTUT	**Trabzon**	**23.21**	**285**	⇓P		**P**	**22 59 23.1**	**+3.1**
GOA	**Goa**	**23.36**	**170**	*e*P		**P**	**22 59 22.0**	**+0.5**
AGT	**Agartala**	**23.38**	**123**	*e*P		**P**	**22 59 21.4**	**-0.3**
AGT				IAmb		IAmb	22 59 28.1			
	comp=Z,1μm,1.7s									
VRH	**Novokhopyorsk**	**23.39**	**312**	*e*P		**P**	**22 59 21.9**	**+0.3**
VRH				pmax		pmax				
	comp=Z,770nm,0.6s									
JORH	**JORHAT**	**23.61**	**113**	*e*P		**P**	**22 59 23.3**	**-0.7**
JORH				IAmb		IAmb	22 59 24.8			
	comp=Z,198nm,0.7s									
KIRV	**Kirov**	**23.90**	**333**	*ce*P		**P**	**22 59 26.7**	**+0.2**
KIRV	**Kirov**	**23.90**	**333**	P		**P**	**22 59 27.2**	**+0.7**
	comp=Z,102nm,0.6s,baz=129,slow=4.5,SNR=48									
KIRV				S		**S**	**23 03 42.2**	**0.0**
	comp=Z,17nm,0.9s,baz=81,slow=23,SNR=1.0									
	comp=Z,102nm,0.6s									
VIS	**Vishakhapatnam**	**23.94**	**147**	*e*P		**P**	**22 59 26.6**	**-0.6**
VJD	**Vijayawada**	**24.01**	**154**	*e*P		**P**	**22 59 27.9**	**+0.1**
VJD				IAmb		IAmb	22 59 32.5			
	comp=Z,161nm,0.7s									
SHAO	**Shalim**	**24.06**	**215**	*i* P		**P**	**22 59 28.2**	**-0.2**
	SNR=9.9									
SHAO	**Shalim**	**24.06**	**215**	P		**P**	**22 59 28.6**	**+0.2**
DOK	**Doka**	**24.25**	**219**	P		**P**	**22 59 29.7**	**-0.4**
	SNR=21									
ARPR	**Arapgir-MALATY**	**24.52**	**281**	P		**P**	**22 59 34.5**	**+1.8**
DMTO	**DMTO**	**24.64**	**216**	P		**P**	**22 59 33.3**	**-0.3**
VORD	**Divnogorie**	**24.76**	**310**	*e*P		**P**	**22 59 34.8**	**+0.4**
VORD				pmax		pmax				
	comp=Z,110nm,0.8s									
ANN	**Anapa**	**24.89**	**295**	*d* iP		**P**	**22 59 36.5**	**+0.8**
ANN				*i*			23 00 11.5			
ANN

comp=Z,162nm,0.8s
OBN Obninsk 27.74 317 *ce* P **P 23 00 01.2 -0.1**
OBN *e* 23 00 54.1
OBN pmax pmax
comp=Z,379nm,1.7s
OBN MLR MLR
comp=Z,3μm,12.0s
OBN Obninsk 27.74 317 P **P 23 00 01.7 +0.5**
comp=Z,135nm,0.7s,baz=100,slow=7.1,SNR=21
comp=Z,135nm,0.7s
SONM Songino Array 27.88 59 P **P 23 00 02.6 -0.2**
SONM Songino Array 27.88 59 P **P 23 00 02.6 -0.2**
SONM pmax pmax
comp=Z,107nm,1.4s
SONM Songino Array 27.88 59 P **P 23 00 03.1 +0.3**
comp=Z,74nm,1.2s,baz=263,slow=9.1,SNR=125
SONM PcP **PcP 23 03 18.7 +0.4**
comp=Z,12nm,0.8s,baz=217,slow=2.5,SNR=3.9
comp=Z,74nm,1.2s
MND Mandalay 27.92 119 P **P 23 00 01.9 -1.3**
BR131 Keskin Array S 28.01 284 P **P 23 00 05.3 +1.1**
BR131 Keskin Array S 28.01 284 *c i* P **P 23 00 05.0 +0.9**
BR131 Keskin Array S 28.01 284 P **P 23 00 05.7 +1.6**
SNR=27
BRTR Keskin Array B 28.01 284 P **P 23 00 05.2 +1.1**
BRTR Keskin Array B 28.01 284 *i* P **P 23 00 05.4 +1.3**
BRTR pmax pmax
comp=Z,38nm,0.8s
BRTR Keskin Array B 28.01 284 P **P 23 00 05.4 +1.3**
comp=Z,37nm,0.8s,baz=101,slow=6.7,SNR=34
comp=Z,37nm,0.8s
ULN Ulaanbaatar 28.32 59 P **P 23 00 06.5 -0.3**
ULN IAmb IAmb 23 00 08.2
comp=Z,80nm,0.9s
ULN Ulaanbaatar 28.32 59 *ce* P **P 23 00 06.8 0.0**
ULN pmax pmax
comp=Z,79nm,0.8s
ULN Ulaanbaatar 28.32 59 P **P 23 00 07.3 +0.5**
MMAI Mount Meron Ar 28.43 269 P **P 23 00 07.2 -0.7**
comp=Z,6.9nm,0.9s,baz=324,slow=32,SNR=2.2
MMAI PcP **PcP 23 03 20.1 +0.2**
comp=Z,5.2nm,0.6s,baz=81,slow=7.8,SNR=5.7
comp=Z,6.9nm,0.9s
ANTO Ankara 28.63 284 ⇑P **P 23 00 11.3 +1.7**
ANTO Ankara 28.63 284 P **P 23 00 11.5 +1.9**
ANTO IAmb IAmb 23 00 14.5
comp=Z,96nm,1.0s
ANTO Ankara 28.63 284 P **P 23 00 11.5 +1.9**
ANTO pmax pmax
comp=Z,96nm,1.0s
ANTO Ankara 28.63 284 P **P 23 00 11.3 +1.7**
BR231 Keskin MP Arra 28.65 284 P **P 23 00 11.2 +1.5**
BR231 IAmb IAmb 23 00 14.7
comp=Z,101nm,1.1s
CD2 Chengdu 28.73 95 P **P 23 00 11.3 +0.8**
CD2 pmax pmax
comp=Z,90nm,1.1s
CD2 pmax pmax
comp=Z,300nm,3.7s
CD2 LR LR
comp=Z,2μm,11.4s
CD2 LR LR
comp=Z,3μm,9.2s
CD2 LR LR
comp=Z,3μm,13.0s
GHAJ Ghor Haditha 28.96 266 P **P 23 00 12.1 -0.4**
KLMR Klimovskoe 29.16 329 *eP* **P 23 00 11.8 -2.1**
KLMR pmax pmax
comp=Z,108nm,1.3s
PZH PanZhiHua 29.29 105 P **P 23 00 16.5 +0.9**
PZH pmax pmax
comp=Z,50nm,1.1s
MDUB Mudurnu 29.74 286 P **P 23 00 20.7 +1.3**
PURM Purcari 30.23 298 ⇓P **P 23 00 25.3 +1.7**
BTO Baotou 30.76 74 *eP* **P 23 00 27.8 -0.6**
BTO pP **pP 23 00 32.0 -1.4**
BTO sP **sP 23 00 35.0 -0.5**
BTO PP **PnPn 23 01 29.3 +1.0**
BTO S **S 23 05 29.3 -1.9**
BTO sS **sS 23 05 45.3 +5.8**
BTO SS **ScP 23 07 07.8 -0.1**
BTO pmax pmax
comp=Z,320nm,0.9s
BTO pmax pmax
comp=Z,2μm,11.5s
BTO LR LR
comp=Z,8μm,15.2s
BTO LR LR
comp=Z,4μm,11.6s
BTO LR LR
comp=Z,9μm,15.4s
ISP Isparta 30.79 281 P **P 23 00 27.8 -0.9**
ISP IAmb IAmb 23 00 32.9
comp=Z,57nm,0.9s
ISP Isparta 30.79 281 *ce* P **P 23 00 29.7 +1.0**
ISP pmax pmax
comp=Z,63nm,1.0s
KMI Kunming 30.80 106 ⇑P **P 23 00 29.5 +0.5**
KMI pmax pmax
comp=Z,120nm,0.9s
KMI pmax pmax
comp=Z,1.0nm,2.6s
AKASG Malin Array Be 30.93 306 P **P 23 00 29.9 +0.2**
AKASG Malin Array Be 30.93 306 P **P 23 00 29.9 +0.2**
comp=Z,47nm,0.7s,baz=79,slow=7.4,SNR=155
AKASG PcP **PcP 23 03 25.7 -0.1**
comp=Z,6.3nm,0.6s,baz=73,slow=3.1,SNR=4.3
comp=Z,47nm,0.7s
AKBB Malin Array Si 30.93 306 P **P 23 00 29.6 -0.1**
AKBB Malin Array Si 30.93 306 *ce* P **P 23 00 29.8 +0.1**
AKBB pmax pmax
comp=Z,106nm,0.9s
KIS Kishinev 30.96 299 ⇑ *iP* **P 23 00 30.5 +0.5**
comp=Z,180nm,1.4s
KIS Kishinev 30.96 299 *c iP* **P 23 00 30.5 +0.5**
KIS pmax pmax
comp=Z,180nm,1.4s
MILM Milestii Mici 30.97 299 ⇑P **P 23 00 31.5 +1.4**
MILM Milestii Mici 30.97 299 ⇑ *iP* **P 23 00 30.7 +0.7**
comp=Z,430nm,1.2s
MILM Milestii Mici 30.97 299 *c iP* **P 23 00 30.7 +0.7**
MILM pmax pmax
comp=Z,430nm,1.2s
TLCR 31.00 295 ⇓P **P 23 00 32.6 +2.2**
TLCR 31.00 295 P **P 23 00 32.5 +2.2**
MANR Mangalia 31.25 293 ⇓P **P 23 00 34.4 +1.8**
TPGR Topolog 31.30 295 ⇓P **P 23 00 34.5 +1.5**
SORM Soroca 31.30 301 ⇑P **P 23 00 33.9 +0.9**
SORM Soroca 31.30 301 P **P 23 00 33.9 +0.9**
TIRR Tirgusor 31.33 294 ⇑P **P 23 00 34.2 +1.0**
TIRR Tirgusor 31.33 294 P **P 23 00 33.5 +0.3**
TIRR IAmb IAmb 23 00 37.7
comp=Z,90nm,0.9s
TIRR Tirgusor 31.33 294 P **P 23 00 33.6 +0.3**
TIRR pmax pmax
comp=Z,90nm,0.9s
MFTR Murfatlar 31.34 294 ⇓P **P 23 00 35.0 +1.6**
LEOM Leova 31.36 298 ⇑P **P 23 00 35.1 +1.6**
LEOM Leova 31.36 298 P **P 23 00 35.0 +1.6**
CFR Carcaliu 31.48 296 ⇑P **P 23 00 35.6 +1.1**
CFR Carcaliu 31.48 296 P **P 23 00 35.6 +1.1**
VLDR Vladesti 31.49 297 ⇑P **P 23 00 36.3 +1.6**
TATR Tatarca 31.52 296 ⇓P **P 23 00 36.5 +1.6**
ELL Elmali 31.54 279 P **P 23 00 35.2 -0.1**
ELL Elmali 31.54 279 P **P 23 00 35.3 -0.1**
ELL pmax pmax
comp=Z,224nm,0.8s
SCTR Scanteiesti 31.55 296 ⇑P **P 23 00 37.1 +1.9**
TLBR Topalu 31.58 294 ⇑P **P 23 00 37.6 +2.1**
XAN Xi'an 31.59 86 P **P 23 00 35.8 +0.1**
XAN pP pP 23 00 41.0 +0.3
XAN PcP **PcP 23 03 28.0 0.0**
XAN S **S 23 05 45.8 +1.7**
XAN pmax pmax
comp=Z,130nm,0.8s
XAN LR LR
comp=Z,6μm,16.5s
XAN LR LR
comp=Z,4μm,16.7s
XAN LR LR
comp=Z,5μm,18.2s
PSN Preselentsi 31.59 293 *eP* **P 23 00 37.0 +1.4**
VARL Varlezi 31.65 297 ⇑P **P 23 00 37.9 +1.9**
HARR Harsova 31.65 295 ⇓P **P 23 00 37.7 +1.6**
HARR Harsova 31.65 295 P **P 23 00 37.7 +1.6**

VASR Vaslui 31.67 298 ⇑P **P 23 00 37.8 +1.5**
SLCR Slobozia Conac 31.72 296 ⇓P **P 23 00 38.7 +2.1**
IZVR Izvoarele 31.72 296 ⇓P **P 23 00 39.1 +2.4**
TUDR 31.79 296 ⇑P **P 23 00 39.4 +2.1**
ICOR Ion Corvin 31.79 294 ⇑P **P 23 00 39.3 +2.0**
HHC Hu-ho-hao-te 31.87 73 ⇑ *iP* **P 23 00 38.8 +0.5**
HHC pP pP 23 00 42.5 -0.7
HHC PP **PnPn 23 01 43.5 +0.7**
HHC pmax pmax
comp=Z,67nm,1.1s
HHC LR LR
comp=Z,2μm,15.2s
HHC LR LR
comp=Z,2μm,16.7s
HHC LR LR
comp=Z,4μm,18.8s
GHRR 31.95 297 ⇓P **P 23 00 41.1 +2.4**
KULA Kula-Manisa 32.05 283 P **P 23 00 40.9 +1.1**
CRAI Chiangrai 32.06 116 P **P 23 00 39.6 -0.3**
AMRR Amara 32.08 295 ⇑P **P 23 00 42.0 +2.1**
AMRR Amara 32.08 295 P **P 23 00 42.0 +2.1**
PANC Panciu 32.14 297 ⇑P **P 23 00 43.0 +2.7**
NRIK Noril'sk 32.15 12 P **P 23 00 40.3 +0.1**
NRIK IAmb IAmb 23 00 41.9
comp=Z,106nm,1.1s
NRIK Noril'sk 32.15 12 P **P 23 00 40.3 +0.1**
NRIK pmax pmax
comp=Z,105nm,1.2s
NRIK Noril'sk 32.15 12 P **P 23 00 40.8 +0.5**
comp=Z,59nm,1.0s,baz=202,slow=6.1,SNR=60
comp=Z,59nm,1.0s
PRD Provadia 32.17 292 *eP* **P 23 00 42.4 +1.7**
ODBI Odobesti 32.21 297 ⇓P **P 23 00 43.7 +2.7**
CM31 Chiang Mai Arr 32.28 120 P **P 23 00 42.0 +0.1**
CM31 Chiang Mai Arr 32.28 120 P **P 23 00 42.5 +0.6**
SNR=7.9
CMAR Chiang Mai Arr 32.28 120 P **P 23 00 41.3 -0.6**
comp=Z,3.6nm,0.7s,baz=313,slow=8.9,SNR=25
CMAR PcP **PcP 23 03 29.9 -0.1**
comp=Z,9.1nm,0.9s,baz=296,slow=4.5,SNR=5.1
CMAR P3KPbc 23 32 08.4
comp=Z,0.8nm,0.3s,baz=144,slow=3.6,SNR=6.2
MNK Minsk 32.36 313 *i* P **P 23 00 42.8 +0.6**
comp=E,31nm,1.1s,baz=102
MNK *i* P **P 23 00 42.8 +0.6**
comp=N,30nm,0.8s,baz=102
MNK *i* P **P 23 00 42.8 +0.6**
comp=Z,68nm,0.8s,baz=102
MNK *i* PP **PnPn 23 01 49.6 +0.8**
baz=102
MNK *i* PPP PPP 23 01 59.4
baz=102
MNK *i* S **S 23 05 58.1 +2.4**
baz=102
MNK *i* SS **SnSn 23 07 52.0 +4.1**
baz=102
MNK *i* SSS SSS 23 08 07.3
baz=102
MNK *i* LQ LQ 23 11 22.4
baz=102
MNK *i* LR LR 23 13 30.1
baz=102
MNK *i* LRM MLR 23 15 17.0
comp=E,1μm,19.0s,baz=102
MNK *i* LRM MLR 23 15 30.5
comp=N,3μm,17.7s,baz=102
MNK *i* LRM MLR 23 15 39.0
comp=Z,5μm,21.4s,baz=102
MNK Minsk 32.36 313 *i* P **P 23 00 42.8 +0.6**
MNK *i* 23 01 49.6
MNK *i* 23 03 29.8
MNK *i* S **S 23 05 58.1 +2.4**
MNK *i* SS **SnSn 23 07 51.9 +4.1**
MNK pmax pmax
comp=Z,68nm,0.8s
MNK pmax pmax
comp=E,31nm,1.1s
MNK pmax pmax
comp=N,30nm,0.8s
MNK MLR MLR
comp=E,1μm,19.0s
MNK MLR MLR
comp=N,3μm,18.0s
MNK MLR MLR
comp=Z,5μm,21.0s
VRI Vrincioaia 32.43 297 ⇑P **P 23 00 45.1 +2.0**
VRI Vrincioaia 32.43 297 P **P 23 00 45.0 +2.0**
TESR Tescani 32.46 298 ⇓P **P 23 00 44.6 +1.4**
BISRR Bisoca 32.46 296 ⇑P **P 23 00 45.9 +2.6**
PLOR Plostina 32.49 297 ⇓P **P 23 00 45.8 +2.3**
PLOR Plostina 32.49 297 P **P 23 00 45.8 +2.3**
ISR Istrita 32.61 296 ⇓P **P 23 00 47.2 +2.6**
ISR Istrita 32.61 296 P **P 23 00 47.1 +2.6**
PUL Pulkovo 32.64 323 *ce* P **P 23 00 45.6 +1.0**
PUL pmax pmax
comp=Z,135nm,0.5s
PUL MLR MLR
comp=Z,4μm,16.0s
PRAR RASCA 32.73 300 ⇓P **P 23 00 46.9 +1.4**
PALK Pallekele 32.75 160 P **P 23 00 45.5 -0.5**
PALK IAmb IAmb 23 00 49.8
comp=Z,114nm,1.4s
PALK Pallekele 32.75 160 *i* P **P 23 00 46.2 +0.2**
PALK pmax pmax
comp=Z,81nm,1.1s
PALK Pallekele 32.75 160 P **P 23 00 46.2 +0.2**
PALK P **P 23 00 46.2 +0.2**
RAZG Razgrad 32.78 293 ⇑P **P 23 00 48.8 +2.7**
COVR Voineasa-Covas 32.80 297 ⇑P **P 23 00 48.7 +2.5**
SULR 32.85 295 ⇑P **P 23 00 49.1 +2.5**
TURR Turia 32.92 297 ⇓P **P 23 00 48.6 +1.3**
CIT Chita 32.92 52 *eP* **P 23 00 47.4 +0.1**
CIT *e* 23 02 01.3
CIT *e* 23 03 28.1
CIT *e* 23 06 04.8
CIT pmax pmax
comp=Z,318nm,1.2s
MLR Muntele Rosu 33.00 296 ⇑P **P 23 00 50.9 +2.7**
MLR Muntele Rosu 33.00 296 P **P 23 00 50.5 +2.4**
MLR Muntele Rosu 33.00 296 P **P 23 00 50.5 +2.4**
MLR pmax pmax
comp=Z,496nm,0.9s
MLR Muntele Rosu 33.00 296 P **P 23 00 48.6 +0.5**
comp=Z,392nm,0.9s,baz=62,slow=2.8,SNR=219
VALR Valaam 33.03 326 *i* P **P 23 00 48.1 +0.1**
VALR pmax pmax
comp=Z,44nm,0.9s
VALR MLR MLR
comp=Z,4μm,20.0s
ARG Arkhangelos 33.06 279 P **P 23 00 48.6 0.0**
ARG Arkhangelos 33.06 279 P **P 23 00 48.6 0.0**
ARG pmax pmax
comp=Z,207nm,1.3s
NACGM Naroch 33.07 314 *eP* **P 23 00 49.0 +0.6**
GYA Guiyang 33.07 101 ⇓P **P 23 00 49.5 +0.6**
GYA pmax pmax
comp=Z,55nm,1.5s
OZUR 33.08 297 ⇓P **P 23 00 50.1 +1.5**
SGRR Singureni 33.09 294 ⇑P **P 23 00 50.8 +2.1**
PHRA Phrae 33.13 119 P **P 23 00 48.1 -1.1**
BOSR Bodos 33.16 297 ⇑P **P 23 00 51.5 +2.0**
SZH Strazhitsa 33.20 292 *eP* **P 23 00 51.8 +2.1**
TIY Taiyuan 33.21 78 *eP* **P 23 00 50.5 +0.5**
TIY pmax pmax
comp=Z,69nm,0.8s
ELND Elena 33.32 292 ⇑P **P 23 00 52.5 +1.7**
DOPR Dopca 33.36 297 ⇑P **P 23 00 53.2 +2.1**
BURAR Bucovina Array 33.41 300 ⇓P **P 23 00 53.3 +1.6**
BURAR Bucovina Array 33.41 300 P **P 23 00 52.5 +0.8**
BURAR IAmb IAmb 23 00 56.3
comp=Z,117nm,0.8s
BUR08 Bucovina Ar. S 33.42 300 P **P 23 00 52.5 +0.8**
BUR08 IAmb IAmb 23 00 56.1
comp=Z,111nm,0.9s
ENH Enshi 33.48 92 P **P 23 00 51.9 -0.4**
ALN Alexandroupoli 33.52 288 P **P 23 00 52.4 -0.1**
ALN Alexandroupoli 33.52 288 P **P 23 00 52.9 +0.4**
ALN IAmb IAmb 23 00 57.6
comp=Z,92nm,1.1s
ALN Alexandroupoli 33.52 288 P **P 23 00 52.9 +0.4**
ALN pmax pmax
comp=Z,92nm,1.1s
EZN Ezine 33.53 286 P **P 23 00 53.9 +1.3**
JOF Joensuu 33.55 329 *eP* **P 23 00 53.7 +1.2**

ISAL Salakas 33.57 315 *eP* **P 23 00 54.4 +1.6**
VOIR 33.63 296 ⇑P **P 23 00 56.0 +2.4**
VOIR 33.63 296 P **P 23 00 56.0 +2.4**
COPA Copaceanca 33.64 294 ⇑P **P 23 00 55.5 +2.0**
MTUR Matau 33.64 296 ⇑P **P 23 00 56.2 +2.5**
MTUR Matau 33.64 296 P **P 23 00 56.2 +2.5**
HUMR Humele 33.77 295 ⇑P **P 23 00 56.4 +1.8**
RDO Rodhopi 33.85 289 P **P 23 00 56.4 +1.0**
RDO IAmb IAmb 23 00 59.9
comp=Z,68nm,0.9s
SLVN Son La 33.89 111 P **P 23 00 55.6 -0.3**
SLVN IAmb IAmb 23 01 00.9
comp=Z,86nm,1.0s
TGMR Targu Mures 33.93 298 ⇓P **P 23 00 58.7 +2.7**
VSU Vasula 33.95 320 *ce* P **P 23 00 56.2 +0.2**
VSU pmax pmax
comp=Z,333nm,1.7s
VSU MLR MLR
comp=Z,5μm,17.0s
SMTH Samothraki Isl 33.99 287 P **P 23 00 57.5 +0.9**
ARCR ARCALIA 34.01 299 ⇑P **P 23 00 59.2 +2.5**
KARP Karpathos 34.01 278 P **P 23 00 57.3 +0.4**
LYN LuoYang 34.18 84 ⇑ *iP* **P 23 00 59.5 +1.2**
LYN pP pP 23 01 03.3 0.0
LYN sP sP 23 01 07.0 +1.6
LYN S **S 23 06 23.5 -0.8**
LYN pmax pmax
comp=Z,98nm,0.7s
LYN LR LR
comp=Z,5μm,13.2s
LYN LR LR
comp=Z,5μm,15.7s
LYN LR LR
comp=Z,4μm,18.7s
LVV L'vov 34.20 304 *eP* **P 23 00 58.7 +0.4**
LVV *e* 23 02 16.8
LVV *eS* **S 23 06 21.3 -2.9**
LVV *eSS* **SnSn 23 08 29.8 -2.7**
LVV MLR MLR
comp=Z,3μm,16.0s
VLAD Vladila 34.24 294 ⇑P **P 23 01 00.4 +1.7**
BOD Bodaibo 34.24 41 *eP* **P 23 00 58.8 +0.2**
BOD pmax pmax
comp=Z,262nm,0.9s
LOT Lotru 34.53 296 ⇓P **P 23 01 03.2 +1.8**
CJR Cluj-Napoca 34.55 299 ⇑P **P 23 01 03.9 +2.4**
CJR Cluj-Napoca 34.55 299 P **P 23 01 03.9 +2.4**
BMR Baia Mare 34.57 300 ⇑P **P 23 01 03.4 +1.8**
BMR Baia Mare 34.57 300 P **P 23 01 03.4 +1.8**
XLT XiLinHaoTe 34.72 66 *eP* **P 23 01 03.5 +0.5**
XLT sP sP 23 01 10.5 +0.4
XLT PcP **PcP 23 03 36.0 -0.6**
XLT pmax pmax
comp=Z,28nm,1.2s
PABE Paberze 34.76 314 P **P 23 01 03.7 +0.6**
PABE IAmb IAmb 23 01 07.0
comp=Z,116nm,0.7s
PABE Paberze 34.76 314 *eP* **P 23 01 04.3 +1.2**
MPEP Malo Peshtene 34.80 293 *eP* **P 23 01 05.5 +1.9**
APE Apeiranthos 34.82 282 ⇑P **P 23 01 04.7 +0.8**
APE Apeiranthos 34.82 282 *i* P **P 23 01 04.9 +1.0**
APE pmax pmax
comp=Z,59nm,0.9s
VSVD Vaisvydziai 34.87 315 *eP* **P 23 01 05.3 +1.3**
MARR Marisel-Cluj 34.88 299 ⇓P **P 23 01 06.9 +2.5**
MESR Meseseni 34.97 299 ⇓P **P 23 01 07.2 +2.2**
VALD Valchedram 34.98 293 *eP* **P 23 01 07.0 +1.9**
BAIL Bailesti 34.99 294 ⇑P **P 23 01 07.3 +2.0**
SUW Suwalki 35.01 311 *eP* **P 23 01 06.3 +1.1**
SUW Suwalki 35.01 311 P **P 23 01 05.4 +0.2**
SUW IAmb IAmb 23 01 10.2
comp=Z,129nm,0.8s
SUW Suwalki 35.01 311 P **P 23 01 05.4 +0.2**
SUW pmax pmax
comp=Z,129nm,0.8s
SUW Suwalki 35.01 311 *eP* **P 23 01 06.1 +0.9**
SRE Strehaia 35.01 295 ⇓P **P 23 01 06.7 +1.2**
SRE Strehaia 35.01 295 P **P 23 01 06.6 +1.2**
HNS HongShan 35.04 78 ⇑P **P 23 01 06.5 +0.8**
HNS pmax pmax
comp=Z,87nm,1.1s
KWP Kalwaria Pacla 35.05 304 *eP* **P 23 01 07.1 +1.3**
KWP Kalwaria Pacla 35.05 304 P **P 23 01 06.8 +1.1**
KWP Kalwaria Pacla 35.05 304 P **P 23 01 06.8 +1.1**
KWP pmax pmax
comp=Z,237nm,1.2s
DEV Deva 35.10 297 ⇑P **P 23 01 08.4 +2.2**
DEV Deva 35.10 297 P **P 23 01 08.3 +2.2**
MMB Musomishta 35.10 290 *eP* **P 23 01 02.9 -3.4**
LVZ Lovozero 35.12 338 P **P 23 01 06.3 +0.2**
LVZ IAmb IAmb 23 01 31.9
comp=Z,54nm,0.8s
LVZ Lovozero 35.12 338 *ce* P **P 23 01 05.9 -0.2**
LVZ pmax pmax
comp=Z,125nm,1.7s
DRGR 35.15 299 ⇑P **P 23 01 08.7 +2.0**
DRGR 35.15 299 P **P 23 01 08.7 +2.0**
FIA1 FINESS Array S 35.20 325 P **P 23 01 07.1 +0.3**
FINES FINESS Array B 35.20 325 P **P 23 01 07.5 +0.7**
comp=Z,80nm,0.7s,baz=106,slow=10,SNR=288
comp=Z,80nm,0.7s
GZR Gura Zlata 35.23 296 ⇑P **P 23 01 08.8 +1.4**
PUNG Punghina 35.26 295 ⇓P **P 23 01 08.9 +1.4**
VTS Vitosha 35.28 292 *eP* **P 23 01 11.7 +3.7**
APA Apatity 35.29 337 ⇓ *iP* **P 23 01 02.9 -4.6**
APA *i* 23 02 27.2
APA *i S* **S 23 06 32.0 -8.7**
APA pmax pmax
comp=Z,20nm,0.6s
APA MLR MLR
comp=Z,6μm,15.0s
BJT Baijiatuau 35.48 73 P **P 23 01 10.0 +0.5**
BJT IAmb IAmb 23 01 11.0
comp=Z,72nm,0.7s
BJT Baijiatuau 35.48 73 P **P 23 01 10.0 +0.5**
BJT pmax pmax
comp=Z,72nm,0.7s
BJI Beijing 35.48 73 P **P 23 01 09.5 0.0**
BJI pmax pmax
comp=Z,50nm,0.7s
KKB Krupnik 35.50 290 *eP* **P 23 01 11.1 +1.4**
HERR Herculane 35.55 296 ⇓P **P 23 01 10.9 +0.9**
MEF Metsahovi 35.60 322 *eP* **P 23 01 11.2 +1.0**
SURR Surduc 35.65 297 ⇓P **P 23 01 12.9 +2.1**
LTVH Ltavrtes, Hu 35.67 300 ⇑P **P 23 01 13.4 +2.4**
IDI Anoyia 35.85 279 P **P 23 01 13.8 +0.9**
IDI Anoyia 35.85 279 P **P 23 01 12.1 -0.8**
comp=Z,0.6nm,0.9s,baz=17,slow=11,SNR=8.8
CRVS Cervenica-Dubn 35.88 303 *eP* **P 23 01 13.8 +0.9**
CRVS pmax pmax
comp=Z,72nm,0.9s
CRVS Cervenica-Dubn 35.88 303 *eP* **P 23 01 13.8 +0.9**
ATH Athens Observa 35.95 284 P **P 23 01 14.7 +1.1**
PBUR Paburge 35.98 315 *eP* **P 23 01 14.6 +1.0**
KEF Keuruu 35.98 326 *eP* **P 23 01 14.8 +1.2**
STHS Stebnicka Huta 36.01 303 *eP* **P 23 01 14.0 0.0**
STHS pmax pmax
comp=Z,32nm,0.8s
STHS Stebnicka Huta 36.01 303 *eP* **P 23 01 14.0 0.0**
VAY Valandovo 36.01 290 *i* P **P 23 01 15.2 +1.1**
BZS Buzias 36.02 297 ⇑P **P 23 01 16.3 +2.3**
BZS Buzias 36.02 297 P **P 23 01 16.3 +2.3**
SLIT Slitere, Latvi 36.05 318 *eP* **P 23 01 14.5 +0.4**
MDVR Moldovita 36.05 296 ⇑P **P 23 01 15.7 +1.2**
STIP Stip 36.22 290 *i* P **P 23 01 15.6 -0.3**
BOVS Bovan 36.22 294 ⇑P **P 23 01 17.5 +1.7**
ATD Arta Tunnel 36.23 229 P **P 23 01 17.7 +1.5**
ATD Arta Tunnel 36.23 229 P **P 23 01 18.6 +2.4**
TIM Timisoara 36.28 297 ⇓P **P 23 01 19.0 +2.7**
TIM Timisoara 36.28 297 P **P 23 01 19.0 +2.7**
LIT Litokhoron 36.34 288 P **P 23 01 17.6 +0.7**
LIT IAmb IAmb 23 01 21.1
comp=Z,67nm,0.9s
LIT Litokhoron 36.34 288 P **P 23 01 17.6 +0.7**
LIT pmax pmax
comp=Z,67nm,0.9s
BANR Banloc 36.38 297 ⇑P **P 23 01 19.7 +2.6**
GULI GuiLin 36.52 99 ⇑P **P 23 01 19.0 +0.4**
KECS Kecovo 36.55 302 *eP* **P 23 01 20.1 +1.6**
KECS pmax pmax
comp=Z,38nm,0.7s
KECS Kecovo 36.55 302 *eP* **P 23 01 20.1 +1.6**
AMBH Ambrzfalva 36.56 298 ⇓P **P 23 01 20.9 +2.2**

NIE	Niedzica	36.62	304	*e*P	P	23 01 22.4	+3.1
SKO	Skopje	36.71	291	*i* P	P	23 01 21.3	+1.3
HIA	Hailar	36.77	57	P	P	23 01 21.0	+0.5
HIA	Hailar	36.77	57	P	P	23 01 21.0	+0.5
HIA	Hailar	36.77	57	P	P	23 01 21.0	+0.5
HIA				pmax	pmax		
	comp=Z,40nm,0.9s						
OJC	Ojcow	36.92	305	*e*P	P	23 01 22.9	+1.2
OJC	Ojcow	36.92	305	P	P	23 01 22.1	+0.4
OJC				IAmb	IAmb	23 01 25.8	
	comp=Z,182nm,0.9s						
OJC	Ojcow	36.92	305	P	P	23 01 22.2	+0.4
OJC				pmax	pmax		
	comp=Z,182nm,0.9s						
PSZ	Piszkesteto	36.98	301	⇑P	P	23 01 24.2	+1.9
PSZ	Piszkesteto	36.98	301	P	P	23 01 23.2	+0.9
PSZ	Piszkesteto	36.98	301	P	P	23 01 23.2	+0.9
PSZ				pmax	pmax		
	comp=Z,80nm,1.0s						
FNA	Florina	37.01	289	P	P	23 01 22.9	+0.3
FNA	Florina	37.01	289	P	P	23 01 22.9	+0.3
FNA				IAmb	IAmb	23 01 26.4	
	comp=Z,113nm,0.7s						
FNA	Florina	37.01	289	P	P	23 01 23.0	+0.3
FNA				pmax	pmax		
	comp=Z,113nm,0.7s						
RAF	Rauma	37.07	323	*e*P	P	23 01 23.4	+0.7
CNSH	ChangSha	37.10	93	⇑P	P	23 01 23.3	-0.1
CNSH				pmax	pmax		
	comp=Z,58nm,0.9s						
EVR	Evrytania	37.14	286	P	P	23 01 25.1	+1.2
ANX	Ano Chora	37.14	285	P	P	23 01 24.2	+0.3
WHN	Wuhan	37.17	89	P	P	23 01 24.8	+0.8
WHN				pP	pP	23 01 28.5	-0.5
WHN				pmax	pmax		
	comp=Z,520nm,0.9s						
LANS	Liptovska Anna	37.18	303	*e*P	P	23 01 26.0	+2.0
LANS				pmax	pmax		
	comp=Z,25nm,0.9s						
LANS	Liptovska Anna	37.18	303	*e*P	P	23 01 26.0	+2.0
EFP	Efpalio	37.20	285	P	P	23 01 24.2	0.0
VAF	Ylistaro	37.23	326	P	P	23 01 24.7	+0.6
VAF	Ylistaro	37.23	326	*e*P	P	23 01 25.3	+1.2
TIA	Tai'an	37.24	79	P	P	23 01 25.0	+0.4
TIA				pmax	pmax		
	comp=Z,92nm,0.9s						
FRGS	Fruska Gora	37.34	296	⇑P	P	23 01 27.1	+1.7
FRGS	Fruska Gora	37.34	296	*e*P	P	23 01 27.0	+1.7
OHR	Ohrid	37.36	290	*i* P	P	23 01 25.9	+0.3
SGF	Sodankyl	37.47	334	P	P	23 01 28.6	+2.5
SJES	Sjenica	37.53	293	*e*P	P	23 01 28.7	+1.6
TEKS	Tekeris	37.63	296	*e*P	P	23 01 29.1	+1.3
VYHS	Vyhne	37.64	302	*e*P	P	23 01 29.4	+1.5
VYHS				pmax	pmax		
	comp=Z,94nm,1.4s						
VYHS	Vyhne	37.64	302	*e*P	P	23 01 29.4	+1.5
AAL	Aland	37.72	321	*e*P	P	23 01 28.5	+0.2
PUK	Puka	37.83	291	P	P	23 01 30.0	+0.5
PUK				IAmb	IAmb	23 01 33.4	
	comp=Z,107nm,0.8s						
BBLS	Lazi&#263i	37.83	294	*e*P	P	23 01 30.9	+1.3
RUDO	Rudo	37.90	294	*e*P	P	23 01 30.5	+0.4
VADS	Vadso	37.97	339	*e*P	P	23 01 30.9	+0.5
VADS				IAmb	IAmb	23 01 31.9	
	comp=Z,32nm,0.8s						
TIR	Tirane	38.00	290	P	P	23 01 30.8	-0.1
TIR	Tirane	38.00	290	P	P	23 01 30.8	-0.1
TIR				pmax	pmax		
	comp=Z,45nm,0.6s						
OKC	Ostrava-Krasne	38.00	304	*e*P	P	23 01 33.0	+2.1
OKC	Ostrava-Krasne	38.00	304	*e*P	P	23 01 33.0	+2.1
MORH	Mrgy, Hungar	38.01	298	⇑P	P	23 01 32.6	+1.6
SRO	Srobarova	38.05	301	*e*P	P	23 01 33.8	+2.5
SRO				pmax	pmax		
	comp=Z,125nm,1.0s						
SRO	Srobarova	38.05	301	*e*P	P	23 01 33.8	+2.5
EVGI	Lefkada island	38.09	286	P	P	23 01 31.8	+0.1
IGT	Igoumenitsa	38.09	287	P	P	23 01 29.0	-2.7
KAAM	Kaadhehdhoo	38.11	175	P	P	23 01 32.3	+0.3
KAAM				IAmb	IAmb	23 01 36.6	
	comp=Z,154nm,1.3s						
KAAM	Kaadhehdhoo SNR=8.5	38.11	175	P	P	23 01 33.0	+1.0
HAPS	Han Pijesak,BI	38.12	295	*e*P	P	23 01 33.5	+1.5
DRAG	Dragano-Lefkad	38.13	286	P	P	23 01 31.9	-0.2
MAUC	Maruska	38.24	304	*e*P	P	23 01 34.6	+1.7
UPM	Unac-Piva	38.31	294	*e*P	P	23 01 35.7	+1.9
DRME	Dracevica, Mon	38.31	292	*e*P	P	23 01 33.0	-0.6
JAVC	Velka Javorina	38.38	303	*e*P	P	23 01 36.4	+2.2
MORC	Moravsky Berou	38.40	304	⇑P	P	23 01 35.8	+1.5
MORC	Moravsky Berou	38.40	304	P	P	23 01 35.2	+0.9
MORC	Moravsky Berou	38.40	304	*e*P	P	23 01 35.4	+1.1
MORC	Moravsky Berou	38.40	304	P	P	23 01 35.2	+0.9
MORC				pmax	pmax		
	comp=Z,48nm,0.9s						
DMLN	Damoulianata-K	38.41	285	P	P	23 01 34.2	-0.3
VLO	Vlora	38.48	289	P	P	23 01 35.5	+0.6
VLO	Vlora	38.48	289	P	P	23 01 35.5	+0.6
VLO				pmax	pmax		
	comp=Z,298nm,0.8s						
SMOL	Smolenice	38.57	302	*e*P	P	23 01 37.3	+1.6
SMOL				pmax	pmax		
	comp=Z,21nm,0.9s						
DOB	Doboj	38.61	296	*e*P	P	23 01 39.5	+3.5
BRY	Bratogost	38.63	293	*e*P	P	23 01 37.4	+1.0
MODS	Modra-Piesok	38.69	302	*e*P	P	23 01 38.3	+1.6
MODS				pmax	pmax		
	comp=Z,141nm,1.3s						
MODS	Modra-Piesok	38.69	302	*e*P	P	23 01 38.3	+1.6
HCY	Herceg Novi	38.76	292	*e*P	P	23 01 37.1	-0.2
ARA0	ARCESS Array S	38.80	337	*e*P	P	23 01 38.1	+0.7
ARA0				IAmb	IAmb	23 01 38.6	
	comp=Z,55nm,0.8s						
ARCES	ARCESS Array B	38.80	337	P	P	23 01 37.4	0.0
ARCES	ARCESS Array B	38.80	337	P	P	23 01 37.4	0.0
ARCES				pmax	pmax		
	comp=Z,66nm,1.0s						
ARCES	ARCESS Array B comp=Z,50nm,0.8s,baz=108,slow=7.4,SNR=83	38.80	337	P	P	23 01 38.1	+0.8
	comp=Z,50nm,0.8s						
TREB	Trebinje	38.80	293	*e*P	P	23 01 38.5	+0.8
ZST	Bratislava	38.82	302	*e*P	P	23 01 38.9	+1.1
ZST				pmax	pmax		
	comp=Z,132nm,1.3s						
ZST	Bratislava	38.82	302	*e*P	P	23 01 38.9	+1.1
UPP	Uppsala	38.83	320	*e*P	P	23 01 38.4	+0.7
NEVS	Nevesinje	38.87	294	*e*P	P	23 01 40.0	+1.7
KRLC	Kraliky	38.87	305	*e*P	P	23 01 39.4	+1.2
KRLC	Kraliky	38.87	305	*e*P	P	23 01 39.4	+1.2
A052A	Srbac	38.95	297	*e*P	P	23 01 39.5	+0.6
DBRK	Dubrovnik	38.96	293	*i* P	P	23 01 37.8	-1.2
UBPT	Khong Chiam	38.97	117	P	P	23 01 38.0	-1.3
VRAC	Vranov	39.05	304	⇑P	P	23 01 41.3	+1.6
VRAC	Vranov	39.05	304	*e*P	P	23 01 41.2	+1.5
VRAC	Vranov	39.05	304	P	P	23 01 41.3	+1.6
VRAC	Vranov comp=Z,69nm,0.8s,baz=84,slow=9.0,SNR=52	39.05	304	P	P	23 01 41.8	+2.1
	comp=Z,69nm,0.8s						
VIKU	Vikbolandet	39.12	318	*e*P	P	23 01 39.6	-0.5
DPC	Dobruska-Polom	39.15	305	*e*P	P	23 01 41.9	+1.4
DPC	Dobruska-Polom	39.15	305	*e*P	P	23 01 41.9	+1.4
SLATY	Slatina	39.15	296	*e*P	P	23 01 38.4	-2.2
OSTC	Ostas	39.20	306	*e*P	P	23 01 41.9	+0.9
OSTC	Ostas	39.20	306	*e*P	P	23 01 41.9	+0.9
KRUC	Moravsky	39.20	303	*e*P	P	23 01 42.4	+1.4
STON	Ston	39.24	293	*i* P	P	23 01 41.6	+0.3
STON	Ston	39.24	293	*e*P	P	23 01 41.2	-0.1
BLY	Banja Luka	39.25	296	*e*P	P	23 01 42.5	+1.1
KTK1	Kautokeino	39.27	336	*e*P	P	23 01 41.6	+0.3
KTK1				IAmb	IAmb	23 01 41.7	
	comp=Z,46nm,0.6s						
CHVC	Chvalec	39.30	306	*e*P	P	23 01 43.2	+1.4
CHVC	Chvalec	39.30	306	*e*P	P	23 01 43.2	+1.4
UPC	Upice	39.33	306	*e*P	P	23 01 43.4	+1.4
UPC	Upice	39.33	306	*e*P	P	23 01 43.4	+1.4
SCTE	Santa Cesarea	39.34	289	P	P	23 01 41.3	-0.8
SCTE				IAmb	IAmb	23 01 44.2	
	comp=Z,89nm,0.8s						
MGRS	Mrkonjic Grad	39.38	296	*e*P	P	23 01 44.0	+1.5
SRKY	Kupres RS	39.38	295	*e*P	P	23 01 44.0	+1.3
A051A	Mrakovica	39.39	297	*e*P	P	23 01 43.2	+0.5
MOSL	Moslavina	39.40	298	*i* P	P	23 01 43.6	+0.9
RONA	Rosalia, Austr comp=Z,40nm,0.9s,SNR=43	39.41	301	*i* pP	P	23 01 44.2	+1.4
RICI	Ricice	39.52	294	*i* P	P	23 01 44.0	+0.3
KALN	Kalnik	39.52	299	*i* P	P	23 01 44.7	+0.9
PRIJ	Prijedor	39.53	297	*e*P	P	23 01 44.2	+0.4
KOGS	Kog	39.62	299	*i* P	P	23 01 45.7	+1.2
SURA	Surathani	39.67	130	P	P	23 01 45.0	-0.2
CONA	Conrad Observa comp=Z,47nm,1.1s,SNR=75	39.68	301	*i* pP	P	23 01 46.4	+1.3
QIZ	Qiongzhong	39.69	108	P	P	23 01 45.5	+0.1
QIZ				S	S	23 07 46.8	-1.7
QIZ				pmax	pmax		
	comp=Z,130nm,0.7s						
QIZ				LR	LR		
	comp=Z,2μm,17.7s						
QIZ				LR	LR		
	comp=Z,1μm,20.2s						
QIZ				LR	LR		
	comp=Z,2μm,16.0s						
QIZ	Qiongzhong	39.69	108	P	P	23 01 45.4	+0.1
QIZ	Qiongzhong	39.69	108	P	P	23 01 45.0	-0.4
QIZ				IAmb	IAmb	23 01 46.9	
	comp=Z,98nm,0.8s						
A050A	Klekovaca	39.75	296	*e*P	P	23 01 46.8	+1.1
TREC	Trest	39.77	304	*e*P	P	23 01 47.4	+1.7
TREC	Trest	39.77	304	*e*P	P	23 01 47.4	+1.7
LOBO	Lobor	39.79	299	*i* P	P	23 01 46.9	+1.1
LSTV	Lastovo	39.84	293	*i* P	P	23 01 46.7	+0.3
DL2	Dalian	39.85	73	P	P	23 01 46.5	0.0
DL2				pmax	pmax		
	comp=Z,220nm,0.9s						
BSD	Bornholm Skovb	39.88	313	*i* P	P	23 01 47.0	+0.5
BSD				IAmb	IAmb	23 01 48.6	
	comp=Z,62nm,0.7s						
HAMF	Hammerfest	39.88	338	*e*P	P	23 01 47.0	+0.7
HAMF				IAmb	IAmb	23 01 47.6	
	comp=Z,92nm,0.7s						
PTJ	Puntijarka	39.90	298	P	P	23 01 47.9	+1.0
ZAG	Zagreb	39.90	298	P	P	23 01 48.1	+1.3
ARSA	Arzberg comp=Z,18nm,0.9s,SNR=22	39.99	300	*i* pP	P	23 01 48.8	+1.2
GZH	Guangzhou	39.99	100	P	P	23 01 45.5	-2.3
GZH				S	S	23 07 49.5	-3.5
GZH				pmax	pmax		
	comp=Z,56nm,0.8s						
GZH				LR	LR		
	comp=Z,930nm,9.9s						
GZH				LR	LR		
	comp=Z,630nm,12.2s						
GZH				LR	LR		
	comp=Z,870nm,10.8s						
NJ2	Nanjing	40.07	84	⇑*i* P	P	23 01 49.0	+0.7
NJ2				pP	pP	23 01 51.8	-1.6
NJ2				sP	sP	23 01 54.5	-0.9
NJ2				PcP	PcP	23 03 53.0	0.0
NJ2				pmax	pmax		
	comp=Z,110nm,0.8s						
SRIT	Nakonsritamara	40.11	131	P	P	23 01 48.5	-0.3
GOPC	GO Pecny, Ondr	40.17	305	*e*P	P	23 01 49.6	+0.6
GOPC	GO Pecny, Ondr	40.17	305	*e*P	P	23 01 49.6	+0.6
PVCC	Panska Ves	40.25	306	*e*P	P	23 01 51.1	+1.4
PVCC	Panska Ves	40.25	306	*e*P	P	23 01 51.1	+1.4
OZLJ	Ozalj	40.29	298	*i* P	P	23 01 51.2	+1.2
PLIT	Plitvice	40.31	297	*i* P	P	23 01 51.2	+0.9
PRU	Pruhonice	40.32	305	*e*P	P	23 01 51.6	+1.4
PRU	Pruhonice	40.32	305	*e*P	P	23 01 51.6	+1.4
PRA	Prague	40.38	305	*e*P	P	23 01 52.2	+1.5
PRA	Prague	40.38	305	*e*P	P	23 01 52.2	+1.5
SOKA	Soboth comp=Z,35nm,1.2s,SNR=44	40.41	300	*i* pP	P	23 01 52.5	+1.4
JETT	Jettan, Norway	40.42	336	*e*P	P	23 01 51.4	+0.5
JETT				IAmb	IAmb	23 01 56.9	
	comp=Z,75nm,1.1s						
BOJS	Bojanci	40.46	298	*i* PcP	PcP	23 03 54.4	+0.3
DEL	Delary	40.50	315	*e*P	P	23 01 52.2	+0.6
SNY	Shenyang	40.52	68	⇑P	P	23 01 51.5	-0.5
SNY				pmax	pmax		
	comp=Z,47nm,0.9s						
RICC	Richard	40.55	306	*e*P	P	23 01 54.0	+1.9
CKRC	Cesky Krumlov	40.59	303	*e*P	P	23 01 53.8	+1.2
CKRC	Cesky Krumlov	40.59	303	*e*P	P	23 01 53.8	+1.2
RUE	Ruedersdorf	40.61	309	*e*P	P	23 01 53.6	+1.1
RUE	Ruedersdorf comp=Z,50nm,1.0s,baz=84,slow=8.1	40.61	309	*e*P	P	23 01 53.2	+0.7
BRG	Berggiesshubel	40.62	306	⇑*i* P	P	23 01 54.0	+1.2
BRG				Amp		23 01 57.3	
	comp=Z,86nm,0.9s						
BRG	Berggiesshubel	40.62	306	P	P	23 02 00.2	+7.5
BRG				Amp		23 02 00.9	
	comp=Z,41nm,0.8s						
BRG	Berggiesshubel	40.62	306	⇑*i* P	P	23 01 53.9	+1.2
BRG						23 02 00.1	
BRG				pmax	pmax		
	comp=Z,86nm,0.9s						
BRG	Berggiesshubel comp=Z,60nm,0.8s,baz=84,slow=8.1	40.62	306	*e*P	P	23 01 53.9	+1.2
MOA	Molln comp=Z,16nm,0.8s,SNR=35	40.75	302	*i* pP	P	23 01 54.8	+0.9
OBKA	Obir comp=Z,37nm,1.2s,SNR=16	40.77	300	*i* pP	P	23 01 56.1	+2.0
OBKA	Obir	40.77	300	*e*P	P	23 01 55.1	+1.0
RGN	Rugen	40.80	312	P	P	23 01 53.5	-0.6
RGN	Rugen	40.80	312	*e*P	P	23 01 54.7	+0.6
FURI	Furi	40.81	232	P	P	23 01 56.2	+1.2
HFS	Hagfors comp=Z,119nm,0.5s,baz=98,slow=11,SNR=568	40.83	320	P	P	23 01 54.8	+0.5
	comp=Z,119nm,0.5s						
TIP	Timpagrande	40.85	288	⇑P	P	23 01 55.6	+0.8
TIP	Timpagrande	40.85	288	P	P	23 01 54.5	-0.4
LJU	Ljubljana	40.86	299	*i* P	P	23 01 55.7	+0.9
LJU				*i* PcP	PcP	23 03 56.1	+0.8
SGRT	San Giovanni R comp=Z,149nm,0.8s	40.91	292	IAmb	IAmb	23 01 59.0	
TRO	Tromso	40.93	335	*e*P	P	23 01 55.0	+0.1
TRO				IAmb	IAmb	23 01 58.0	
	comp=Z,318nm,2.0s						
HSKC	Hora Svate Kat	40.97	306	*e*P	P	23 01 56.9	+1.3
CEY	Cerknica	40.99	298	*e*P	P	23 01 56.9	+1.1
GEC2	GERESS Array S	40.99	303	P	P	23 01 56.9	+1.0
GEC2	GERESS Array S comp=Z,19nm,0.8s,baz=84,slow=8.1	40.99	303	*e*P	P	23 01 56.9	+1.0
GERES	GERESS Array B	40.99	303	P	P	23 01 56.6	+0.7
GERES	GERESS Array B comp=Z,15nm,0.7s,baz=63,slow=9.1,SNR=33	40.99	303	P	P	23 01 57.2	+1.3
GERES				PP	PP	23 03 31.4	+1.1
	comp=Z,5.7nm,0.9s,baz=81,slow=13,SNR=1.8						
GERES				PcP	PcP	23 03 55.9	0.0
	comp=Z,15nm,1.0s,baz=63,slow=6.1,SNR=3.8						
	comp=Z,15nm,0.7s						
KHC	Kasperske Hory	41.03	304	P	P	23 01 57.1	+0.9
KHC	Kasperske Hory	41.03	304	*e*P	P	23 01 57.5	+1.3
KHC	Kasperske Hory	41.03	304	*ce*P	P	23 01 55.6	-0.6
KHC				pmax	pmax		
	comp=Z,211nm,1.7s						
HKPS	Hong Kong Po S	41.05	100	P	P	23 01 57.7	+1.1
HKPS	Hong Kong Po S	41.05	100	P	P	23 01 56.1	-0.5
HKPS				IAmb	IAmb	23 01 58.7	
	comp=Z,154nm,1.1s						
CLL	Collm	41.17	307	P	P	23 01 57.4	+0.2
CLL	Collm	41.17	307	*i* P	P	23 01 57.9	+0.7
CLL				*i*		23 02 04.2	
CLL				*i*		23 03 56.1	
CLL				pmax	pmax		
	comp=Z,64nm,1.1s						
CLL	Collm	41.17	307	*i* P	P	23 01 57.9	+0.7
	comp=Z,64nm,1.1s						
CLL				*ex*	x	23 03 30.0	
CLL				*e*PP	PnPn	23 03 36.0	-0.6
CLL				*i* x	x	23 03 44.8	
CLL				*i* PcP	PcP	23 03 56.1	-0.1
	comp=Z,29nm,0.9s						
CLL				*e*PPP	PPP	23 04 01.0	
CLL				*e*PPPP		23 04 09.0	
CLL	Collm comp=Z,36nm,0.9s,baz=84,slow=8.1	41.17	307	*e*P	P	23 01 57.9	+0.7
BIOA	Bad Ischl, Aus comp=Z,12nm,0.6s,SNR=24	41.20	301	*i* pP	P	23 01 58.4	+0.9
ZEA	Zeya	41.27	49	*e*P	P	23 01 58.9	+0.9
ZEA				pmax	pmax		
	comp=N,30nm,1.1s						
ZEA				pmax	pmax		
	comp=E,40nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,80nm,1.1s						
COP	Copenhagen	41.30	314	*i* P	P	23 02 01.0	+2.8
COP				IAmb	IAmb	23 02 03.0	
	comp=Z,186nm,1.1s						
CUC	Castrocucco	41.32	290	P	P	23 01 59.3	+0.6
LHMI	Lhok Sumawe	41.35	137	P	P	23 01 57.5	-1.5
LHMI				IAmb	IAmb	23 02 01.4	
	comp=Z,72nm,0.7s						
LHMI	Lhok Sumawe comp=Z,109nm,0.9s	41.35	137	P	P	23 01 58.2	-0.9
MYKA	Terra Mystica comp=Z,29nm,0.8s,SNR=11	41.37	300	*i* pP	P	23 02 00.3	+1.3
CADS	Cadrg	41.37	299	*e*P	P	23 01 59.8	+0.8
CN2	Changchun	41.41	64	⇑P	P	23 01 59.0	-0.3
CN2				*es*P	sP	23 02 06.0	-0.4
CN2				*e*S	S	23 08 12.0	-1.6
CN2				pmax	pmax		
	comp=Z,20nm,0.7s						
CN2				pmax	pmax		
	comp=Z,800nm,4.0s						
CN2				LR	LR		
	comp=Z,900nm,14.0s						
CN2				LR	LR		
	comp=Z,800nm,14.0s						
CN2				LR	LR		
	comp=Z,1μm,16.0s						
PRED	Cave del Predi	41.45	300	P	P	23 01 58.6	-1.1
FAUS	Fauske	41.47	332	*e*P	P	23 01 59.9	+0.4
FAUS				IAmb	IAmb	23 02 03.4	
	comp=Z,80nm,1.1s						
KBA	Koelnbreinsper comp=Z,19nm,0.6s,SNR=5.9	41.49	301	*i* pP	P	23 02 01.1	+1.0
WET	Wettzell comp=Z,25nm,1.1s,baz=84,slow=8.1	41.49	304	*e*P	P	23 02 01.1	+1.1
MOR8	Moi Rana	41.50	330	*e*P	P	23 01 59.4	-0.3
MOR8				IAmb	IAmb	23 02 02.3	
	comp=Z,126nm,1.1s						
SABO	M.te Sabotino	41.51	299	P	P	23 02 01.2	+1.0
SABO				IAmb	IAmb	23 02 04.5	
	comp=Z,366nm,0.9s						
TANN	Tannenbergstha comp=Z,16nm,0.9s,baz=84,slow=8.1	41.60	306	*e*P	P	23 02 02.1	+1.2
NKC	Novy Kostel	41.63	305	*e*P	P	23 02 02.3	+1.2
NKC	Novy Kostel	41.63	305	*e*P	P	23 02 02.3	+1.2
STEI	Steigen	41.64	332	*e*P	P	23 02 01.1	+0.2
STEI				IAmb	IAmb	23 02 07.7	
	comp=Z,149nm,1.6s						
HEH	HeiHe	41.65	55	*e*P	P	23 02 01.3	+0.1
HEH				ScP	ScP	23 07 48.0	+0.5
HEH				pmax	pmax		
	comp=Z,430nm,0.9s						
RJOB	Jochberg baz=84,slow=8.1	41.75	302	*e*P	P	23 02 01.4	-0.7
CEL	Celeste	41.77	287	P	P	23 02 02.6	+0.2
CEL				IAmb	IAmb	23 02 07.1	
	comp=Z,277nm,1.6s						
ROTZ	Rotzenmuhle comp=Z,4.6nm,1.0s,baz=84,slow=8.1	41.84	305	*e*P	P	23 02 04.3	+1.5
MLSI	Meulaboh, Aceh comp=Z,82nm,0.9s	41.88	138	P	P	23 02 01.7	-1.7
MANZ	Manzenberg comp=Z,5.7nm,1.0s,baz=84,slow=8.1	41.88	305	*e*P	P	23 02 04.6	+1.5
LESA	Schwarzleotal comp=Z,5.1nm,0.3s	41.88	301	*e*P	P	23 01 53.8	-9.4
LESA				*ep*P	pP	23 02 06.7	-1.5
	comp=Z,32nm,1.0s						
NC405	NORSAR Array S	41.89	322	P	P	23 02 02.9	-0.1
NC602	NORSAR Array S	41.95	321	P	P	23 02 03.4	-0.1
NC602				IAmb	IAmb	23 02 06.7	
	comp=Z,95nm,0.8s						
NC602	NORSAR Array S	41.95	321	*e*P	P	23 02 03.2	-0.3
NC602				IAmb	IAmb	23 02 06.4	
	comp=Z,110nm,0.9s						
NEUB	Neuenburg comp=Z,34nm,0.9s,baz=84,slow=8.1	41.95	307	*e*P	P	23 02 04.6	+1.0
PAOL	Paolisi	41.95	291	P	P	23 02 03.9	+0.1
STRU	Stroemstad	42.03	319	*e*P	P	23 02 03.2	-0.9
NC303	NORSAR Array S	42.07	322	P	P	23 02 04.7	+0.2
KONS	Konsvik	42.09	330	*e*P	P	23 02 04.9	+0.4
NB201	NORSAR Array S	42.09	322	P	P	23 02 04.4	-0.3
NB201				IAmb	IAmb	23 02 08.0	
	comp=Z,102nm,0.8s						
STOK	Stokkvaagen	42.09	330	*e*P	P	23 02 04.7	+0.1
STOK				IAmb	IAmb	23 02 05.7	
	comp=Z,37nm,1.1s						
MOX	Moxa comp=Z,25nm,1.0s,baz=84,slow=8.1	42.11	306	*e*P	P	23 02 06.1	+1.1
NB2	NORSAR Subarra comp=Z,146nm,0.8s,baz=94,slow=8.6	42.13	322	P	P	23 02 05.1	+0.1
NB2				PP	PP	23 03 40.5	-1.9
	comp=Z,15nm,0.8s,baz=122,slow=8.6						
NB2	NORSAR Subarra baz=94,slow=8.6	42.13	322	P	P	23 02 05.1	+0.1
NOA	NORSAR Array B comp=Z,66nm,0.7s,baz=95,slow=8.2,SNR=236	42.13	322	P	P	23 02 04.9	-0.1
NOA				PP	PP	23 03 40.8	-1.6
	comp=Z,22nm,0.9s,baz=93,slow=11,SNR=5.1						
	comp=Z,66nm,0.7s						
FLTG	Flechtingen comp=Z,56nm,1.0s,baz=84,slow=8.1	42.17	309	*e*P	P	23 02 06.0	+0.7
INTR	Introdacqua	42.17	293	P	P	23 02 05.0	-0.7
NSS	Namsos	42.20	327	*e*P	P	23 02 05.5	+0.1
NSS				IAmb	IAmb	23 02 08.2	
	comp=Z,41nm,0.9s						
CIMO	Cimolais	42.24	300	P	P	23 02 06.0	-0.1
CIMO				IAmb	IAmb	23 02 10.5	
	comp=Z,80nm,1.0s						
NAO01	NORSAR Array S comp=Z,126nm,0.9s	42.27	321	IAmb	IAmb	23 02 09.3	
OSL	Oslo	42.30	320	*e*P	P	23 02 06.5	+0.2
OSL				IAmb	IAmb	23 02 09.4	
	comp=Z,111nm,0.9s						
LOF	Lofoten	42.31	332	*e*P	P	23 02 06.2	-0.1
LOF				IAmb	IAmb	23 02 11.8	
	comp=Z,73nm,1.2s						
GUMA	Gualdo di Mace	42.32	295	P	P	23 02 07.5	+0.7
GUMA				IAmb	IAmb	23 02 11.3	
	comp=Z,186nm,0.8s						
NBO00	NORSAR Array S comp=Z,150nm,0.8s	42.34	322	IAmb	IAmb	23 02 09.9	
BNX	BinXian	42.36	61	⇑P	P	23 02 06.8	-0.2
BNX		

comp=E,97nm,1.1s
YAK smax smax
comp=E,207nm,2.4s
YAK smax smax
comp=N,89nm,1.8s
YAK MLR MLR
comp=Z,3µm,10.0s
YAK MLR MLR
comp=N,3µm,18.0s
YAK MLR MLR
comp=E,1µm,14.0s
YAK Yakutsk 42.72 37 P **P 23 02 09.3 -0.3**
comp=E,369nm,0.7s,baz=263,slow=2.6,SNR=121
YAK S **S 23 08 33.7 +1.3**
comp=E,12nm,0.6s,baz=128,slow=23,SNR=8.7
comp=E,369nm,0.7s
CLZ Clausthal 42.75 308 *e*P **P 23 02 11.3 +1.1**
comp=E,100nm,1.4s,baz=84,slow=8.1
TBLU Trondheim 42.78 325 *e*P **P 23 02 10.2 0.0**
CTI Castel Tesino 42.83 299 P **P 23 02 10.3 -0.7**
CTI Castel Tesino 42.83 299 P **P 23 02 10.3 -0.7**
CTI pmax pmax
comp=Z,40nm,0.7s
NRDL Niedersach Rie 42.84 309 *e*P **P 23 02 12.5 +1.7**
comp=Z,71nm,1.2s,baz=84,slow=8.1
KONO Kongsberg 42.86 320 P **P 23 02 11.1 +0.2**
KONO IAmb IAmb 23 02 14.3
comp=Z,99nm,0.8s
KONO Kongsberg 42.86 320 *e*P **P 23 02 11.1 +0.2**
KONO Kongsberg 42.86 320*ce*P **P 23 02 10.9 0.0**
KONO pmax pmax
comp=Z,113nm,0.8s
SSRD Sdr. Stenderup 42.90 313 *i* P **P 23 02 12.3 +1.1**
SSRD IAmb IAmb 23 02 16.2
comp=Z,648nm,2.2s
SQTA Sankt Quirin 42.90 301 *i* pP **P 23 02 12.1 +0.5**
comp=Z,21nm,0.7s,SNR=5.9
BJO1 Bjornoya 42.93 342 *e*P **P 23 02 11.3 0.0**
BJO1 IAmb IAmb 23 02 15.6
comp=Z,71nm,0.7s
MOTA Moosalm 42.95 301 *i* P **P 23 02 12.1 +0.1**
comp=Z,36nm,0.8s,SNR=7.1
TEOL Teolo 42.96 298 P **P 23 02 12.5 +0.5**
TEOL IAmb IAmb 23 02 16.6
comp=Z,153nm,0.8s
CESX Cesi 42.97 294 P **P 23 02 12.6 +0.5**
CESX IAmb IAmb 23 02 16.4
comp=Z,130nm,1.0s
GTTG Gottingen 43.04 308 *e*P **P 23 02 13.9 +1.4**
comp=Z,171nm,1.3s,baz=84,slow=8.1
QZH Quanzhou 43.10 94⇑ *i*P **P 23 02 13.3 +0.1**
QZH pmax pmax
comp=Z,65nm,1.3s
MUD Monsted U'grnd 43.11 315 *i* P **P 23 02 14.3 +1.4**
MUD IAmb IAmb 23 02 17.6
comp=Z,146nm,1.3s
UBBA Unterbreizbach 43.11 307 *e*P **P 23 02 13.9 +0.9**
comp=Z,8.6nm,0.8s,baz=84,slow=8.1
KNMB Chin-men Tao 43.18 95 P **P 23 02 13.1 -0.8**
KNMB IAmb IAmb 23 02 15.1
comp=Z,148nm,1.0s
DOMB Dombas 43.23 323 *e*P **P 23 02 14.3 +0.4**
DOMB IAmb IAmb 23 02 17.2
comp=Z,100nm,0.9s
KCSI Kotacane, Aceh 43.23 137 P **P 23 02 13.4 -1.0**
comp=Z,41nm,0.9s
RAFF Raffo Rosso 43.26 286 P **P 23 02 15.7 +1.3**
RAFF IAmb IAmb 23 02 19.2
comp=Z,132nm,0.9s
FETA Feichten 43.26 301 *i* pP **P 23 02 15.1 +0.5**
comp=Z,25nm,1.0s,SNR=5.7
KULM Kulim 43.37 132 P **P 23 02 15.1 -0.4**
DLV T Lat 43.38 117 P **P 23 02 16.2 +0.4**
DLV T Lat 43.38 117 P **P 23 02 15.9 +0.1**
DLV IAmb IAmb 23 02 20.1
comp=Z,236nm,1.9s
HOMB Homborsund 43.42 318 *e*P **P 23 02 15.7 +0.3**
HOMB IAmb IAmb 23 02 16.5
comp=Z,152nm,1.2s
SNSI Sinabang, Aceh 43.42 140 P **P 23 02 14.8 -1.1**
comp=Z,439nm,1.0s,comp=Z,4µm
SKAR Skarslia 43.53 321 *e*P **P 23 02 17.3 +0.9**
UBR Ueberruh 43.55 302 *e*P **P 23 02 16.3 -0.4**
comp=Z,50nm,1.0s,baz=84,slow=8.1
ZCCA Zocca 43.67 297 P **P 23 02 19.4 +1.7**
ZCCA IAmb IAmb 23 02 31.0
comp=Z,119nm,0.9s
OSSC Osservatorio P 43.68 296 P **P 23 02 18.6 +0.7**
SALO Salr 43.69 299 P **P 23 02 18.7 +0.9**
SALO IAmb IAmb 23 02 22.4
comp=Z,138nm,0.9s
DAVA Damuels 43.77 302 *i* pP **P 23 02 19.3 +0.6**
comp=Z,18nm,0.5s,SNR=7.0
DAVOX Davos/Dischmat 43.88 301 P **P 23 02 19.8 +0.2**
comp=Z,31nm,0.6s,baz=104,slow=5.3,SNR=31
DAVOX PcP **PcP 23 04 06.0 +0.4**
baz=236,slow=3.6
comp=Z,31nm,0.6s
STU Stuttgart 43.95 304 P **P 23 02 21.0 +1.2**
STU Stuttgart 43.95 304 P **P 23 02 21.0 +1.2**
STU pmax pmax
comp=Z,69nm,1.4s
MOL Molde 43.96 324 *e*P **P 23 02 20.6 +0.9**
MOL IAmb IAmb 23 02 23.4
comp=Z,37nm,0.8s
PRMA PARMA 44.03 298 P **P 23 02 21.3 +0.8**
PRMA IAmb IAmb 23 02 25.7
comp=Z,114nm,1.0s
INCN Inchon 44.04 73 P **P 23 02 20.7 -0.1**
INCN Inchon 44.04 73 P **P 23 02 20.6 -0.1**
INCN IAmb IAmb 23 02 21.5
comp=Z,102nm,0.8s
INCN Inchon 44.04 73 P **P 23 02 20.6 -0.2**
INCN pmax pmax
comp=Z,102nm,0.8s
INCN Inchon 44.04 73 P **P 23 02 21.0 +0.2**
KASTN Kahler Asten 44.05 307 *e*P **P 23 02 21.5 +0.9**
comp=Z,5.8nm,0.9s,baz=84,slow=8.1
TIXI Tiksi 44.09 23 P **P 23 02 20.6 0.0**
TIXI Tiksi 44.09 23*ce*P **P 23 02 20.2 -0.4**
TIXI pmax pmax
comp=Z,363nm,1.0s
SNART Snartemo 44.10 318 *e*P **P 23 02 21.5 +0.6**
SNART IAmb IAmb 23 02 25.5
comp=Z,277nm,1.1s
MDJ Mudanjiang 44.12 62 P **P 23 02 20.5 -0.8**
MDJ PcP **PP 23 04 05.0 +1.1**
MDJ S **S 23 08 55.5 +2.0**
MDJ ScS **ScS 23 12 20.0 +0.6**
MDJ pmax pmax
comp=Z,33nm,0.8s
MDJ pmax pmax
comp=Z,2µm,7.2s
MDJ LR LR
comp=Z,2µm,18.9s
MDJ LR LR
comp=Z,2µm,16.8s
MDJ LR LR
comp=Z,3µm,21.6s
MDJ Mudanjiang 44.12 62 P **P 23 02 21.2 -0.1**
TNS Taunus Mts 44.18 306 *e*P **P 23 02 22.9 +1.2**
comp=Z,9.4nm,0.8s,baz=84,slow=8.1
AKN Aaknes 44.20 323 *e*P **P 23 02 22.6 +0.9**
AKN IAmb IAmb 23 02 24.9
comp=Z,66nm,0.9s
IPM Ipoh 44.24 132 P **P 23 02 21.6 -1.0**
IBBN Ibbenburen 44.30 309 *e*P **P 23 02 23.7 +1.1**
comp=Z,44nm,1.0s,baz=84,slow=8.1
TUE Stuetta 44.30 300 P **P 23 02 23.1 +0.1**
ODD1 Odda 44.36 320 *e*P **P 23 02 24.0 +0.9**
BLS5 Blasjo 44.46 319 *e*P **P 23 02 25.0 +1.2**
BLS5 IAmb IAmb 23 02 28.0
comp=Z,172nm,1.1s
HYA Hoyanger 44.57 322 *e*P **P 23 02 25.5 +0.9**
HYA IAmb IAmb 23 02 28.5
comp=Z,123nm,1.1s
KLR Kul'dur 44.58 55*ce*P **P 23 02 24.6 -0.3**
KLR pmax pmax
comp=Z,125nm,1.3s
KLR MLR MLR
comp=Z,4µm,18.0s
KLR Kul'dur 44.58 55 P **P 23 02 25.0 +0.1**
comp=Z,71nm,0.9s,baz=283,slow=9.0,SNR=62
comp=Z,71nm,0.9s
BFO Black Forest 44.59 303 P **P 23 02 25.6 +0.5**
BFO IAmb IAmb 23 02 29.2
comp=Z,100nm,1.6s
BFO Black Forest 44.59 303 P **P 23 02 25.6 +0.5**
BFO pmax pmax
comp=Z,100nm,1.6s
BFO Black Forest 44.59 303 *e*P **P 23 02 25.6 +0.5**
comp=Z,15nm,0.9s,baz=84,slow=8.1
MSSA Maissana 44.69 297 P **P 23 02 26.5 +0.5**
MSSA IAmb IAmb 23 02 30.0
comp=Z,126nm,1.1s
BUG Bochum--Univer 44.72 308 *e*P **P 23 02 27.1 +1.1**
comp=Z,22nm,1.0s,baz=84,slow=8.1
HSPB Hornsund (broa 44.81 345 *e*P **P 23 02 26.7 +0.4**
KS19 Wonju Array Si 44.96 73 P **P 23 02 27.7 -0.4**
KS19 IAmb IAmb 23 02 32.8
comp=Z,108nm,1.1s
TJN Taejon 44.98 74 P **P 23 02 27.3 -0.9**
TJN Taejon 44.98 74 P **P 23 02 26.9 -1.3**
TJN Taejon 44.98 74*ce*P **P 23 02 27.5 -0.7**
AHRW Bad Neuenahr-A 44.99 307 *e*P **P 23 02 28.6 +0.5**
comp=Z,20nm,0.8s,baz=84,slow=8.1
KSAR Wonju Array Be 44.99 73 P **P 23 02 27.8 -0.5**
KSAR Wonju Array Be 44.99 73 P **P 23 02 27.8 -0.5**
BER Bergen 45.00 321 *e*P **P 23 02 28.9 +0.8**
BER IAmb IAmb 23 02 31.6
comp=Z,118nm,0.7s
GSI Gunungsitoli 45.00 139 P **P 23 02 28.7 +0.1**
GSI Gunungsitoli 45.00 139 P **P 23 02 27.8 -0.8**
GSI Gunungsitoli 45.00 139 P **P 23 02 28.3 -0.3**
comp=Z,173nm,1.2s
KSRS Korea Array 45.02 73 P **P 23 02 28.1 -0.4**
comp=Z,71nm,0.9s,baz=284,slow=6.5,SNR=112
KSRS PcP **PcP 23 04 08.6 -0.8**
comp=Z,14nm,0.9s,baz=291,slow=3.3,SNR=4.3
comp=Z,71nm,0.9s
ASK Askoy 45.07 321 *e*P **P 23 02 29.3 +0.7**
KMY Karmoy 45.09 319 *e*P **P 23 02 29.6 +0.9**
FOO Floro 45.12 322 *e*P **P 23 02 29.6 +0.6**
MSEY Mahe Island 45.16 201 P **P 23 02 29.2 -0.7**
MSEY Mahe Island 45.16 201 P **P 23 02 29.2 -0.7**
MSEY pmax pmax
comp=Z,34nm,1.1s
MSEY Mahe Island 45.16 201 P **P 23 02 31.0 +1.2**
SPB2 Spitsbergen Ar 45.17 346 P **P 23 02 28.6 -0.7**
SPB2 IAmb IAmb 23 02 52.0
comp=Z,48nm,0.8s
SPA0 Spitsbergen Ar 45.17 346 *e*P **P 23 02 29.9 +0.7**
SPITS Spitsbergen Ar 45.17 346 P **P 23 02 29.2 -0.1**
SPITS pmax pmax
comp=Z,114nm,1.5s
SPITS Spitsbergen Ar 45.17 346 P **P 23 02 30.2 +1.0**
comp=Z,11nm,0.6s,baz=130,slow=11,SNR=24
SPITS PcP **PcP 23 04 09.7 +0.4**
comp=Z,10nm,0.6s,baz=88,slow=11,SNR=2.0
comp=Z,11nm,0.6s
SUE Sulen 45.27 322 *e*P **P 23 02 30.7 +0.6**
ECH Echery 45.38 303 P **P 23 02 32.5 +1.2**
ECH Echery 45.38 303 P **P 23 02 32.5 +1.2**
ECH pmax pmax
comp=Z,14nm,0.9s
YHNB Yeheng 45.41 92 P **P 23 02 33.3 +1.4**
YHNB Yeheng 45.41 92 P **P 23 02 31.4 -0.5**
YHNB IAmb IAmb 23 02 34.2
comp=Z,65nm,0.8s
PSTR Posyet 45.48 65 *i* P **P 23 02 32.8 +0.7**
PGF Pioggiola 45.53 295 P **P 23 02 36.1 +3.4**
SSLB Suanglung 45.54 94 P **P 23 02 34.4 +1.6**
SSLB Suanglung 45.54 94 P **P 23 02 33.4 +0.5**
TPUB Ta-pu 45.54 94 P **P 23 02 34.2 +1.3**
BTNL Ternell 45.58 307 *d*P **P 23 02 32.5 -0.3**
BTNL *d*x x 23 02 35.8
MEM Membach 45.65 307 *d*P **P 23 02 34.0 +0.7**
MEM *d*PP **PP 23 04 18.6 -1.5**
BHOU Houvegnez 45.70 306 *d*P **P 23 02 35.5 +1.8**
BHOU *d*PP **PP 23 04 21.5 +0.9**
SENIN Lac Senin/Sane 45.71 301 P **P 23 02 34.2 +0.1**
WLF Walferdange 45.74 306 P **P 23 02 34.6 +0.5**
WLF IAmb IAmb 23 02 38.2
comp=Z,59nm,1.0s
WLF Walferdange 45.74 306 *d*P **P 23 02 34.5 +0.5**
WLF *d*PP **PP 23 04 20.3 -0.7**
WLF Walferdange 45.74 306 P **P 23 02 34.6 +0.5**
WLF pmax pmax
comp=Z,59nm,1.0s
WLF Walferdange 45.74 306 *e*P **P 23 02 35.5 +1.4**
comp=Z,42nm,0.9s,baz=84,slow=8.1
MSHR Mys Shultsa 45.75 65*ce*P **P 23 02 34.6 +0.3**
MSHR pmax pmax
comp=Z,77nm,1.3s
NACB Ninganchiao 45.84 93 P **P 23 02 36.4 +1.2**
NACB Ninganchiao 45.84 93 P **P 23 02 34.6 -0.6**
NACB IAmb IAmb 23 02 47.9
comp=Z,101nm,1.2s
USA0B Ussuriysk Arra 45.89 62 P **P 23 02 33.9 -1.4**
USA0B Ussuriysk Arra 45.89 62 *i* P **P 23 02 34.9 -0.4**
USRK Ussuriysk Ar. 45.89 62 P **P 23 02 34.6 -0.7**
comp=Z,28nm,0.8s,baz=277,slow=7.6,SNR=19
comp=Z,28nm,0.8s
DGAR Diego Garcia 45.92 176*ce*P **P 23 02 35.4 -0.4**
DGAR pmax pmax
comp=Z,149nm,1.7s
BSTI Sart Tilman 45.93 307 *d*P **P 23 02 35.6 0.0**
YULB Yu-li 46.01 94 P **P 23 02 37.9 +1.3**
YULB Yu-li 46.01 94 P **P 23 02 36.4 -0.2**
YULB IAmb IAmb 23 02 39.2
comp=Z,77nm,0.9s
BCLA Clavier 46.12 307 *d*P **P 23 02 36.9 -0.2**
BCLA *d*x x 23 02 39.9
BCLA *d*PcP **PcP 23 04 12.4 -0.6**
BCLA *d*PP **PP 23 04 24.1 -1.0**
TWG Pinlang 46.14 95 P **P 23 02 37.6 +0.1**
TWGBT Beinan 46.14 95 P **P 23 02 38.7 +1.1**
VSL Villasalto 46.20 291 P **P 23 02 37.9 0.0**
RCHB Rochefort 46.22 306 *d*P **P 23 02 38.9 +1.0**
RCHB *d*PP **PP 23 04 26.7 +0.5**
BGES Gesves 46.27 307 *d*P **P 23 02 38.7 +0.4**
BGES *d*PP **PP 23 04 27.6 +0.9**
KBS Kingsbay 46.29 347 *e*P **P 23 02 38.8 +0.7**
KBS Kingsbay 46.29 347 *i* P **P 23 02 37.6 -0.5**
BNI Bardonecchia 46.46 299 P **P 23 02 40.2 +0.2**
BNI IAmb IAmb 23 02 44.7
comp=Z,77nm,1.1s
BNI Bardonecchia 46.46 299 P **P 23 02 40.2 +0.2**
BNI pmax pmax
comp=Z,77nm,1.1s
BMRD Maredsous 46.48 307 *d*P **P 23 02 41.7 +1.8**
BMRD *d*PP **PP 23 04 29.6 +0.6**
DOU Dourbes 46.63 306 *d*P **P 23 02 41.9 +0.7**
DOU *d*PcP **PcP 23 04 13.8 -1.0**
DOU *d*PP **PP 23 04 31.7 +1.1**
ORIF Oris-en-Rattie 47.04 299 P **P 23 02 47.4 +2.9**
LODK Lodwar 47.13 231 P **P 23 02 47.0 +1.5**
LODK IAmb IAmb 23 02 53.9
comp=Z,49nm,1.3s
LODK Lodwar 47.13 231 P **P 23 02 47.6 +2.1**
SNR=23
JTU Tsushima 47.21 76 P **P 23 02 46.1 +0.3**
JTU Tsushima 47.21 76 P **P 23 02 45.9 0.0**
JTU IAmb IAmb 23 02 47.4
comp=Z,65nm,1.1s
GRNR Gornyy 47.24 52⇑ *i*P **P 23 02 46.3 +0.4**
GRNR pmax pmax
comp=E,20nm,0.9s
GRNR pmax pmax
comp=Z,40nm,0.9s
KEST Kesra 47.56 286 P **P 23 02 49.6 +0.9**
KEST Kesra 47.56 286 P **P 23 02 48.7 0.0**
comp=Z,60nm,1.0s,baz=340,slow=3.3,SNR=31
comp=Z,60nm,1.0s
KEST Kesra 47.56 286 P **P 23 02 50.4 +1.7**
SNR=26
BKNI Bangkinang 47.66 136 P **P 23 02 48.3 -1.2**
SSB Saint Sauveur 47.85 300 P **P 23 02 51.3 +0.6**
SSB IAmb IAmb 23 02 55.8
comp=Z,77nm,1.2s
SSB Saint Sauveur 47.85 300 P **P 23 02 51.3 +0.6**
SSB pmax pmax
comp=Z,77nm,1.2s
TATN Tataouine 47.93 282 P **P 23 02 51.6 +0.1**
TATN IAmb IAmb 23 02 56.2
comp=Z,113nm,1.2s
SISI Saibi 48.02 139 P **P 23 02 51.7 -0.6**
comp=Z,92nm,1.4s
LRW Lerwick 48.26 321 *e*P **P 23 02 54.0 +0.5**
LRW IAmb IAmb 23 02 56.9
comp=Z,229nm,0.8s
PDSI Padang 48.39 137 P **P 23 02 53.9 -1.2**
comp=Z,78nm,0.7s
ELMS Elmsett, Ipswi 48.43 310 *e*P **P 23 02 55.8 +0.8**
ELMS IAmb IAmb 23 02 58.6
comp=Z,226nm,0.8s
WACR West Acre 48.51 311 *e*P **P 23 02 56.2 +0.6**
WACR IAmb IAmb 23 02 59.2
comp=Z,269nm,0.8s
CLF Chambon-Foret 48.62 304 P **P 23 02 56.9 +0.4**
TEY Ternei 48.81 60⇑ *e*P **P 23 02 56.9 -1.2**
TEY pmax pmax
comp=N,10.0nm,1.0s
TEY pmax pmax
comp=E,20nm,1.0s
TEY pmax pmax
comp=Z,30nm,1.0s
JNU Nakatsue 48.91 77 P **P 23 02 59.5 +0.5**
JNU Nakatsue 48.91 77 P **P 23 02 59.0 0.0**
JNU Nakatsue 48.91 77 P **P 23 02 59.2 +0.2**
comp=Z,178nm,0.9s,baz=305,slow=3.8,SNR=24
comp=Z,178nm,0.9s
GDLE Glaisdale, N Y 49.00 313 *e*P **P 23 03 00.4 +1.0**
GDLE IAmb IAmb 23 03 00.7
comp=Z,127nm,1.1s
DRUM Mains of Drumt 49.44 317 *e*P **P 23 03 03.0 +0.3**
DRUM IAmb IAmb 23 03 06.0
comp=Z,140nm,0.8s
EDMD Edmundbyers 49.57 314 *e*P **P 23 03 04.0 +0.2**
EDMD IAmb IAmb 23 03 07.6
comp=Z,264nm,1.2s
MCD Coleburn Disti 49.72 317 *e*P **P 23 03 05.0 +0.2**
MCD IAmb IAmb 23 03 06.1
comp=Z,217nm,0.7s
JOW Kunigami 49.73 86 P **P 23 03 05.2 -0.2**
JOW Kunigami 49.73 86 P **P 23 03 05.0 -0.4**
JOW Kunigami 49.73 86 P **P 23 03 05.3 -0.2**
comp=Z,190nm,0.7s,baz=296,slow=6.4,SNR=45
comp=Z,190nm,0.7s
LBWR Ladybower, Pea 49.75 312 *e*P **P 23 03 04.9 -0.3**
LBWR IAmb IAmb 23 03 08.4
comp=Z,80nm,0.9s
BIGH Upper Bighouse 49.89 319 *e*P **P 23 03 06.0 -0.1**
BIGH IAmb IAmb 23 03 07.4
comp=Z,170nm,0.8s
KRJI Kerinci 49.91 137 P **P 23 03 10.4 +3.5**
comp=Z,248nm,0.9s,comp=Z,10µm
EDI Edinburgh 50.02 315 *e*P **P 23 03 07.2 +0.1**
EDI IAmb IAmb 23 03 10.3
comp=Z,134nm,0.8s
EKA Eskdalemuir Ar 50.13 315 P **P 23 03 08.2 +0.2**
comp=Z,110nm,0.8s,baz=84,slow=7.2,SNR=176
EKA PcP **PcP 23 04 27.3 0.0**
comp=Z,18nm,0.9s,baz=92,slow=3.4,SNR=2.4
comp=Z,110nm,0.8s
EKB Eskdalemuir 50.15 315 P **P 23 03 08.3 +0.2**
ESK Eskdalemuir 50.16 315 *e*P **P 23 03 08.2 -0.1**
ESK IAmb IAmb 23 03 11.4
comp=Z,106nm,0.8s
ESK Eskdalemuir 50.16 315 P **P 23 03 08.5 +0.3**
ESK IAmb IAmb 23 03 11.6
comp=Z,103nm,0.8s
ESK Eskdalemuir 50.16 315 P **P 23 03 08.5 +0.3**
ESK pmax pmax
comp=Z,103nm,0.8s
SWN1 Swindon 50.25 309 *e*P **P 23 03 09.0 +0.1**
KESW Keswick, Cumbr 50.27 314 *e*P **P 23 03 09.7 +0.6**
KESW IAmb IAmb 23 03 10.5
comp=Z,171nm,0.8s
KIBK Kibwezi 50.29 223 P **P 23 03 10.1 +0.3**
KIBK Kibwezi 50.29 223 P **P 23 03 11.6 +1.8**
SNR=18
DSRI Dabo 50.32 132 P **P 23 03 10.6 +0.7**
comp=Z,29nm,1.2s,comp=Z,3µm
INVG Invergeldie, C 50.38 316 *e*P **P 23 03 09.6 -0.3**
INVG IAmb IAmb 23 03 12.9
comp=Z,93nm,0.8s
STRD Stroud 50.40 310 *e*P **P 23 03 10.2 +0.1**
STRD IAmb IAmb 23 03 11.8
comp=Z,81nm,0.9s
LINV Loch Inver, As 50.63 318 *e*P **P 23 03 12.0 +0.3**
LINV IAmb IAmb 23 03 15.3
comp=Z,226nm,0.9s
HLM1 Long Mynd 50.64 311 *e*P **P 23 03 11.9 -0.1**
HLM1 IAmb IAmb 23 03 14.7
comp=Z,63nm,1.0s
PGBU Glenifferbraes 50.76 315 *e*P **P 23 03 12.9 +0.2**
PGBU IAmb IAmb 23 03 16.1
comp=Z,247nm,0.8s
MONM Monmouth 50.77 310 *e*P **P 23 03 12.7 -0.2**
MONM IAmb IAmb 23 03 15.9
comp=Z,114nm,1.0s
NEWG New Galloway 50.78 314 *e*P **P 23 03 13.4 +0.6**
NEWG IAmb IAmb 23 03 16.4
comp=Z,187nm,0.8s
MCH1 Michaelchurch 50.85 310 *e*P **P 23 03 13.4 -0.1**
MCH1 IAmb IAmb 23 03 16.6
comp=Z,136nm,1.0s
JMN Monobe 50.93 75 P **P 23 03 14.9 +0.5**
JMN Monobe 50.93 75 P **P 23 03 14.2 -0.2**
JMN IAmb IAmb 23 03 15.8
comp=Z,146nm,1.1s
CEST Esterri de Car 50.95 298 P **P 23 03 15.3 +0.8**
CEST IAmb IAmb 23 03 19.1
comp=Z,68nm,1.3s
LLW Llanuwchllyn 51.02 312 *e*P **P 23 03 14.8 +0.1**
TYV Tymovskoe 51.05 51 *e*P **P 23 03 16.0 +1.0**
TYV *e*S **S 23 10 32.9 +1.1**
TYV pmax pmax
comp=Z,28nm,0.9s
TYV pmax pmax
comp=Z,100nm,2.4s
TYV smax smax
comp=N,300nm,7.1s
TYV smax smax
comp=E,400nm,7.1s
GAL1 Galloway 51.11 314 *e*P **P 23 03 15.6 +0.2**
GAL1 IAmb IAmb 23 03 18.7
comp=Z,128nm,0.9s
LAWE Loch Awe, Argy 51.15 316 *e*P **P 23 03 15.8 +0.1**
LAWE IAmb IAmb 23 03 19.1
comp=Z,143nm,0.9s
UGL Uglegorsk 51.19 53 *e*P **P 23 03 15.9 -0.2**
UGL pmax pmax
comp=Z,290nm,1.0s
WIM Isle of Man 51.27 313 *e*P **P 23 03 17.2 +0.6**
WLF1 Llynfaes 51.33 312 *e*P **P 23 03 17.8 +0.7**
WLF1 IAmb IAmb 23 03 20.4
comp=Z,164nm,1.0s
LEWI Lewis, Hebride 51.49 319 *e*P **P 23 03 18.2 0.0**
LEWI IAmb IAmb 23 03 21.8
comp=Z,148nm,1.1s
NOR Nord 51.50 349 *i* P **P 23 03 17.3 -0.7**
NOR IAmb IAmb 23 03 22.8
comp=Z,7.4nm,0.7s
CLGH Cloghs, Cushen 51.83 315 *e*P **P 23 03 21.1 +0.3**
CLGH IAmb IAmb 23 03 23.7
comp=Z,82nm,0.8s
ILTH Belurgan, Co L 52.24 314 P **P 23 03 23.9 +0.1**
ILTH Belurgan, Co L 52.24 314 *e*P **P 23 03 23.7 -0.2**
SBD Saint Breward 52.27 309 *e*P **P 23 03 24.0 -0.1**
KSM Kuching 52.28 125 P **P 23 03 24.7 +0.1**
YSS Yuzh-Sakhalins 52.29 56 P **P 23 03 24.6 +0.3**
YSS Yuzh-Sakhalins 52.29 56 P **P 23 03 23.9 -0.4**
YSS Yuzh-Sakhalins 52.29 56*ce*P **P 23 03 24.1 -0.2**
YSS pmax pmax
comp=Z,267nm,1.3s
DAG Danmarks Havn 52.39 343 *i* P **P 23 03 24.0 -0.7**
DAG IAmb IAmb 23 03 27.2
comp=Z,44nm,0.7s
DSB Dublin 52.48 313 P **P 23 03 26.2 +0.5**
DSB Dublin 52.48 313 IAmb IAmb 23 03 29.2
comp=Z,81nm,1.1s
PPBI Pangkal Pinang 52.58 132 P **P 23 03 29.6 +2.8**
INU Inuyama 52.59 71 P **P 23 03 26.4 -0.4**
INU Inuyama 52.59 71 IAmb IAmb 23 03 27.4
comp=Z,90nm,0.9s
JGF Kuroka 52.74 71 P **P 23 03 27.5 -0.4**
KKM Kota Kinabalu 52.92 116 P **P 23 03 30.7 +1.2**
KKM Kota Kinabalu 52.92 116 P **P 23 03 30.0 +0.5**
IWEX Carrickbyrne, 52.97 312 P **P 23 03 30.0 +0.7**
MJB9 Matsu-Tunnel 52.97 70 P **P 23 03 29.7 +0.1**
MJB9 IAmb IAmb 23 03 30.8
comp=Z,66nm,0.9s
MAJO Matsushiro 52.98 70 P **P 23 03 29.0 -0.6**

MAJO Matsushiro 52.98 70 P **P** **23 03 28.8 -0.8**
MAJO IAmb IAmb 23 03 29.8
comp=Z,68nm,0.9s

MAJO Matsushiro 52.98 70 P **P** **23 03 28.8 -0.8**
MAJO pmax pmax
comp=Z,68nm,0.9s

MJAR Matsushiro Arr 52.98 70 P **P** **23 03 29.1 -0.6**
comp=Z,51nm,1.0s,baz=292,slow=8.9,SNR=72
MJAR PcP **PcP** **23 04 38.4 +0.1**
comp=Z,13nm,1.0s,baz=280,slow=5.7,SNR=1.5
MJAR PKPPKP **P'P'df** **23 33 56.4 -3.9**
comp=Z,2.9nm,0.9s,baz=286,slow=9.7,SNR=5.5

SEY Seymchan 53.10 35 *ce*P **P** **23 03 30.6 +0.5**
SEY pmax pmax
comp=Z,28nm,1.0s

MBAR Mbarara 53.12 232 P **P** **23 03 31.8 +0.8**
MBAR IAmb IAmb 23 03 38.7
comp=Z,53nm,0.9s

MBAR Mbarara 53.12 232 ⇑ *i*P **P** **23 03 32.2 +1.2**
MBAR IAmb IAmb 23 03 38.5
comp=Z,58nm,0.9s

MBAR Mbarara 53.12 232 *ce*P **P** **23 03 31.9 +0.9**
MBAR pmax pmax
comp=Z,62nm,1.0s

MBAR Mbarara 53.12 232 P **P** **23 03 32.3 +1.3**
MBAR P **P** **23 03 32.3 +1.3**

JKA Kamikawa-asahi 53.16 59 IAmb IAmb 23 03 39.8
comp=Z,94nm,1.1s

MA2 Magadan 53.19 39 P **P** **23 03 30.6 -0.2**
MA2 Magadan 53.19 39 P **P** **23 03 30.1 -0.7**
MA2 IAmb IAmb 23 03 31.8
comp=Z,58nm,0.9s

MA2 Magadan 53.19 39 *ce*P **P** **23 03 30.4 -0.4**
MA2 pmax pmax
comp=Z,65nm,1.0s

MA2 Magadan 53.19 39 P **P** **23 03 30.8 0.0**
comp=Z,38nm,0.8s,baz=297,slow=8.7,SNR=20
MA2 PcP **PcP** **23 04 38.6 -0.1**
comp=Z,30nm,0.8s,baz=344,slow=1.7,SNR=4.4
comp=Z,38nm,0.8s

DBG Daneborg 53.24 340 *i*P **P** **23 03 30.4 -0.6**
DBG IAmb IAmb 23 03 35.0
comp=Z,13nm,0.7s

JTM Tenmabayashi 53.34 64 P **P** **23 03 31.6 -0.6**
JTM Tenmabayashi 53.34 64 IAmb IAmb 23 03 32.3
comp=Z,106nm,0.9s

LWLI Liwa 53.76 136 P **P** **23 03 34.8 -0.8**
comp=Z,96nm,0.8s

STKI Sintang 54.10 125 P **P** **23 03 39.2 +1.1**
comp=Z,62nm,1.7s

IGLA Glengowla, Co 54.15 313 P **P** **23 03 38.5 +0.6**
IGLA Glengowla, Co 54.15 313 *eP* **P** **23 03 38.2 +0.3**
JMM Marumori 54.31 67 P **P** **23 03 38.7 -0.6**
KASI Kota Agung 54.42 136 P **P** **23 03 37.3 -3.0**
comp=Z,83nm,0.9s

SCO Scoresbysund 54.71 336 P **P** **23 03 42.8 +1.0**
SCO Scoresbysund 54.71 336 P **P** **23 03 42.8 +1.0**
SCO pmax pmax
comp=Z,31nm,1.1s

SCO Scoresbysund 54.71 336 *i*P **P** **23 03 42.4 +0.6**
SCO IAmb IAmb 23 03 45.1
comp=Z,10nm,0.9s

VAL Valentia 55.13 312 P **P** **23 03 45.7 +0.6**
ESBB Sonseca Array 55.70 296 IAmb IAmb 23 03 53.2
comp=Z,73nm,1.1s

ESDC Sonseca Array 55.70 296 P **P** **23 03 49.7 +0.3**
ESDC IAmb IAmb 23 03 53.1
comp=Z,53nm,1.1s

ESDC Sonseca Array 55.70 296 P **P** **23 03 49.9 +0.5**
comp=Z,41nm,0.8s,baz=58,slow=7.4,SNR=103
comp=Z,41nm,0.8s

PAB San Pablo 56.02 296 P **P** **23 03 52.4 +0.6**
PAB IAmb IAmb 23 03 55.6
comp=Z,87nm,1.2s

PAB San Pablo 56.02 296 P **P** **23 03 52.4 +0.6**
PAB pmax pmax
comp=Z,87nm,1.2s

BORG Borgarnes 56.29 329 P **P** **23 03 54.2 +1.0**
comp=Z,23nm,0.8s,baz=87,slow=5.5,SNR=12
comp=Z,23nm,0.8s

TAM Tamanrasset 56.50 274 P **P** **23 03 56.5 +1.0**
TAM Tamanrasset 56.50 274 P **P** **23 03 56.5 +1.0**
TAM pmax pmax
comp=Z,21nm,0.9s

PBRG Braganca 56.74 300 *eP* **P** **23 03 59.2 +2.4**
comp=Z,65nm,1.7s

BILL Bilibino 57.03 26 P **P** **23 03 58.7 +0.3**
BILL IAmb IAmb 23 04 00.1
comp=Z,80nm,1.2s

BILL Bilibino 57.03 26 *eP* **P** **23 03 58.9 +0.5**
MTKI Muara Teweh, K 57.09 123 P **P** **23 04 00.4 +0.9**
comp=Z,57nm,0.8s,comp=Z,11μm

MVO Moncorvo 57.20 299 *eP* **P** **23 04 01.1 +0.9**
comp=Z,47nm,2.3s

PVRL Vila Real 57.63 299 *eP* **P** **23 04 04.3 +1.2**
comp=Z,54nm,1.3s

POLO Lamas de Olo 57.64 299 *eP* **P** **23 04 04.1 +0.8**
comp=Z,62nm,1.4s

MTE Manteigas 57.88 298 *eP* **P** **23 04 06.3 +1.3**
comp=Z,144nm,1.5s

MTE Manteigas 57.88 298 P **P** **23 04 05.3 +0.4**
MTE IAmb IAmb 23 04 10.0
comp=Z,111nm,1.3s

PVIS Viseu 57.99 299 *eP* **P** **23 04 06.9 +1.2**
PCBR Castelo Branco 58.08 298 *eP* **P** **23 04 07.0 +0.8**
comp=Z,44nm,1.4s

PMRV Marv??o 58.20 297 *eP* **P** **23 04 08.5 +1.4**
comp=Z,152nm,1.3s

PBAR Barrancos 58.51 296 *eP* **P** **23 04 10.4 +1.1**
comp=Z,178nm,1.5s

COI Coimbra 58.56 298 P **P** **23 04 10.2 +0.6**
COI Coimbra 58.56 298 P **P** **23 04 10.2 +0.6**
COI pmax pmax
comp=Z,179nm,0.9s

PESTR Estremoz 58.59 297 *eP* **P** **23 04 10.8 +1.0**
comp=Z,162nm,1.5s

PESTR Estremoz 58.59 297 P **P** **23 04 09.8 0.0**
PESTR IAmb IAmb 23 04 16.5
comp=Z,38nm,0.9s

BKB Balikpapan 58.65 121 P **P** **23 04 10.9 +0.4**
BKB Balikpapan 58.65 121 P **P** **23 04 10.6 +0.1**
BKB Balikpapan 58.65 121 P **P** **23 04 11.7 +1.2**
comp=Z,155nm,0.8s

PCAS Casmilo, Conde 58.69 298 *eP* **P** **23 04 11.3 +0.8**
comp=Z,84nm,1.5s

NEEM North Greenlan 58.72 347 *i*P **P** **23 04 09.4 -1.1**
NEEM IAmb IAmb 23 04 15.1
comp=Z,86nm,0.9s

SUMG Summit 58.72 340 *i*P **P** **23 04 11.0 +0.3**
SUMG IAmb IAmb 23 04 14.3
comp=Z,126nm,0.9s

PMTG Montargil 58.94 297 *eP* **P** **23 04 13.1 +0.8**
PEA0B Petropavlovsk- 59.01 45 P **P** **23 04 12.3 -0.2**
PEA0B IAmb IAmb 23 04 25.7
comp=Z,53nm,1.1s

PEA0B Petropavlovsk- 59.01 45 *ce*P **P** **23 04 12.4 -0.2**
PETK Petropavlovsk- 59.01 45 P **P** **23 04 11.3 -1.2**
PETK Petropavlovsk- 59.01 45 P **P** **23 04 11.6 -0.9**
comp=Z,34nm,1.1s,baz=323,slow=2.2,SNR=12
comp=Z,34nm,1.1s

EVO Evora 59.03 297 *eP* **P** **23 04 14.0 +1.1**
comp=Z,74nm,1.3s

PBEJ Beja 59.16 296 *eP* **P** **23 04 14.9 +1.1**
comp=Z,111nm,1.2s

PVAQ Vaqueiros 59.34 295 *eP* **P** **23 04 15.8 +0.8**
comp=Z,152nm,1.3s

PVAQ Vaqueiros 59.34 295 P **P** **23 04 15.4 +0.4**
PVAQ IAmb IAmb 23 04 19.0
comp=Z,82nm,1.0s

PCVE Castro Verde 59.46 296 *eP* **P** **23 04 16.8 +0.9**
comp=Z,54nm,1.4s

MESJ Messejana 59.49 296 *eP* **P** **23 04 17.3 +1.2**
comp=Z,154nm,1.3s

MESJ Messejana 59.49 296 P **P** **23 04 16.8 +0.7**
MESJ IAmb IAmb 23 04 20.3
comp=Z,75nm,1.0s

MESJ Messejana 59.49 296 *eP* **P** **23 04 17.0 +0.9**
MESJ IAmb IAmb 23 04 20.1
comp=Z,67nm,1.0s

MESJ Messejana 59.49 296 P **P** **23 04 16.8 +0.7**
MESJ pmax pmax
comp=Z,75nm,1.0s

PACT Alcochete 59.50 297 *eP* **P** **23 04 17.9 +1.8**
comp=Z,361nm,1.7s

MPSI Mapaga 59.54 117 P **P** **23 04 17.5 +0.8**
comp=Z,200nm,1.1s

PBDV Barranco-do-Ve 59.56 295 *eP* **P** **23 04 17.9 +1.3**
comp=Z,214nm,1.1s

PET Petropavlovsk 59.57 44 P **P** **23 04 14.8 -1.6**
PET IAmb IAmb 23 04 15.7
comp=Z,77nm,1.0s

PET Petropavlovsk 59.57 44 *ce*P **P** **23 04 15.4 -1.0**
PET pmax pmax
comp=Z,124nm,1.7s

PNCL Nicolau / Gran 59.59 296 *eP* **P** **23 04 18.2 +1.5**
comp=Z,98nm,1.3s

TOLI2 Tolitoli 59.61 116 P **P** **23 04 16.6 -0.5**
TOLI2 IAmb IAmb 23 04 25.6
comp=Z,64nm,1.0s

PTEO Sao Teotonio 59.98 296 *eP* **P** **23 04 20.8 +1.3**
comp=Z,143nm,1.2s

PFVI Vila Bisbo 60.25 295 *eP* **P** **23 04 22.8 +1.5**
comp=Z,226nm,1.4s

PFVI Vila Bisbo 60.25 295 P **P** **23 04 21.6 +0.3**
EUNU Eureka 60.77 355 P **P** **23 04 25.3 +1.0**
EUNU IAmb IAmb 23 04 31.0
comp=Z,29nm,0.8s

ICESG Greenland Ices 60.87 337 *i*P **P** **23 04 25.2 -0.2**
ICESG IAmb IAmb 23 04 28.8
comp=Z,45nm,0.8s

RER Riviere de l'E 60.99 195 P **P** **23 04 28.0 +1.5**
RER Riviere de l'E 60.99 195 P **P** **23 04 27.9 +1.5**
AVE Averroes 61.06 291 P **P** **23 04 26.8 -0.1**
AVE IAmb IAmb 23 04 30.2
comp=Z,58nm,0.7s

ABPO Ambohimpanom 61.21 205 P **P** **23 04 28.6 +0.5**
ABPO IAmb IAmb 23 04 29.3
comp=Z,85nm,1.8s

ABPO Ambohimpanom 61.21 205 *eP* **P** **23 04 28.2 +0.1**
ABPO IAmb IAmb 23 04 29.9
comp=Z,250nm,2.5s

ABPO Ambohimpanom 61.21 205 P **P** **23 04 28.6 +0.5**
ABPO pmax pmax
comp=Z,85nm,1.8s

KULLO Kullorsuaq 61.75 346 *i*P **P** **23 04 29.2 -1.7**
KULLO IAmb IAmb 23 04 32.7
comp=Z,60nm,0.8s

TTSI Tana Toraja 61.93 120 P **P** **23 04 31.8 -1.1**
comp=Z,144nm,1.0s

ANGG Ammassalik, Gr 62.08 333 *i*P **P** **23 04 34.2 +1.0**
ANGG IAmb IAmb 23 04 35.2
comp=Z,61nm,0.8s

TULEG Thule 62.14 350 *i*P **P** **23 04 31.2 -2.3**
TULEG IAmb IAmb 23 04 35.1
comp=Z,43nm,0.8s

UPNV Upernavik 62.80 344 *i*P **P** **23 04 37.1 -0.9**
UPNV IAmb IAmb 23 04 39.5
comp=Z,37nm,0.7s

NUUG Nuugaatsiaq 63.01 343 *i*P **P** **23 04 37.9 -1.5**
NUUG IAmb IAmb 23 04 46.0
comp=Z,15nm,0.7s

KAPI Kappang 63.33 122 P **P** **23 04 41.7 -0.6**
KAPI Kappang 63.33 122 P **P** **23 04 41.7 -0.6**
KAPI IAmb IAmb 23 04 42.2
comp=Z,47nm,1.0s

KAPI Kappang 63.33 122 P **P** **23 04 41.7 -0.6**
KAPI pmax pmax
comp=Z,47nm,1.0s

UMMG Uummannaq 63.34 342 *i*P **P** **23 04 40.0 -1.6**
UMMG IAmb IAmb 23 04 43.6
comp=Z,22nm,0.9s

BKSI Bulukumba 63.80 121 P **P** **23 04 44.9 -0.5**
comp=Z,59nm,1.8s

DY2G Dye2 64.44 336 *i*P **P** **23 04 48.1 -1.0**
DY2G IAmb IAmb 23 04 52.6
comp=Z,157nm,0.7s

TNTI Ternate 64.57 111 P **P** **23 04 51.5 +1.1**
TNTI Ternate 64.57 111 P **P** **23 04 50.2 -0.3**
TNTI Ternate 64.57 111 P **P** **23 04 51.6 +1.1**
comp=Z,204nm,1.7s,comp=Z,3μm

PLAI Plampang 64.91 126 P **P** **23 04 53.0 +0.4**
PLAI Plampang 64.91 126 P **P** **23 04 53.2 +0.6**
comp=Z,67nm,1.1s

TOA0 Torodi Ar. Sit 64.94 267 P **P** **23 04 52.5 -0.4**
TOA0 Torodi Ar. Sit 64.94 267 P **P** **23 04 52.8 -0.2**
SNR=13

TORD Torodi Ar. Bea 64.94 267 P **P** **23 04 52.5 -0.4**
TORD Torodi Ar. Bea 64.94 267 P **P** **23 04 51.5 -1.4**
comp=Z,22nm,0.6s,baz=48,slow=5.5,SNR=94
comp=Z,22nm,0.6s

A19K Wainwright 65.33 17 P **P** **23 04 55.6 +1.0**
baz=318

SFJD Kangerlussuaq 65.41 338 P **P** **23 04 55.5 +0.4**
SFJD Kangerlussuaq 65.41 338 P **P** **23 04 55.5 +0.4**
SFJD pmax pmax
comp=Z,86nm,0.9s

SFJD Kangerlussuaq 65.41 338 *i*P **P** **23 04 55.1 -0.1**
SFJD IAmb IAmb 23 04 56.8
comp=Z,52nm,0.8s

A21K Barrow 65.43 15 P **P** **23 04 55.8 +0.5**
baz=321,SNR=11

SANI Sanana 65.52 114 P **P** **23 04 56.0 -0.6**
SANI Sanana 65.52 114 P **P** **23 04 55.8 -0.8**
comp=Z,130nm,1.0s

BBSI Bau Bau 65.58 120 P **P** **23 04 58.7 +1.7**
comp=Z,96nm,1.3s

LBMI Labuha 65.63 112 P **P** **23 05 00.6 +3.2**
comp=Z,141nm,1.9s

C16K Lisburne Hills 65.69 20 P **P** **23 04 56.1 -0.8**
C16K IAmb IAmb 23 04 58.1
comp=Z,80nm,0.9s

C16K Lisburne Hills 65.69 20 P **P** **23 04 57.2 +0.2**
baz=315

B18K Kokolik River 65.79 18 P **P** **23 04 58.7 +1.2**
baz=318,SNR=24

A22K Sinclair Lake 66.01 15 P **P** **23 04 59.8 +0.8**
baz=323

C17K DeLong Mountai 66.10 19 P **P** **23 05 00.3 +0.6**
baz=317,SNR=17

B20K Meade River 66.35 16 P **P** **23 05 01.8 +0.6**
B20K IAmb IAmb 23 05 02.8
comp=Z,128nm,0.8s

B20K Meade River 66.35 16 P **P** **23 05 01.9 +0.8**
baz=321,SNR=36

LSZ Lusaka 66.38 225 P **P** **23 05 02.6 +0.4**
LSZ Lusaka 66.38 225 P **P** **23 05 02.6 +0.4**
LSZ pmax pmax
comp=Z,25nm,1.0s

LSZ Lusaka 66.38 225 P **P** **23 05 02.9 +0.7**
RES Resolute Bay 66.46 356 P **P** **23 05 02.4 +0.6**
RES IAmb IAmb 23 05 03.5
comp=Z,38nm,1.1s

RES Resolute Bay 66.46 356 P **P** **23 05 02.4 +0.6**
RES pmax pmax
comp=Z,38nm,1.2s

C18K Utukok River 66.47 18 P **P** **23 05 01.6 -0.5**
C18K IAmb IAmb 23 05 03.4
comp=Z,81nm,0.8s

C18K Utukok River 66.47 18 P **P** **23 05 02.4 +0.4**
baz=318

RDOG Red Dog Mine 66.48 19 P **P** **23 05 01.9 -0.2**
RDOG IAmb IAmb 23 05 03.2
comp=Z,37nm,1.0s

RDOG Red Dog Mine 66.48 19 P **P** **23 05 01.9 -0.2**
baz=317,SNR=6.6

C19K Lookout Ridge 66.50 17 P **P** **23 05 02.9 +0.7**
C19K Lookout Ridge 66.50 17 P **P** **23 05 02.9 +0.7**
baz=320

D17K Noatak River 66.70 19 P **P** **23 05 03.7 +0.3**
baz=317,SNR=37

B22K Teshekpuk Lake 66.86 15 P **P** **23 05 04.5 +0.1**
B22K IAmb IAmb 23 05 06.1
comp=Z,165nm,0.8s

B22K Teshekpuk Lake 66.86 15 P **P** **23 05 05.2 +0.8**
baz=324,SNR=47

FOMA Nahampoana Res 66.87 203 P **P** **23 05 05.2 +0.2**
FOMA Nahampoana Res 66.87 203 P **P** **23 05 06.2 +1.2**
SNR=7.5

TNA Tin City 66.88 23 P **P** **23 05 05.2 +0.7**
baz=314,SNR=14

KRI Karoi 66.89 222 ⇑ *i*P **P** **23 05 05.5 +0.1**
GAMB Gambell 66.90 25 P **P** **23 05 04.8 0.0**
baz=312

NLAI Namlea 67.14 114 P **P** **23 05 09.9 +2.9**
comp=Z,37nm,1.0s

B21K Ikpikpuk River 67.20 15 P **P** **23 05 06.8 +0.2**
B21K IAmb IAmb 23 05 08.4
comp=Z,132nm,0.9s

B21K Ikpikpuk River 67.20 15 P **P** **23 05 07.3 +0.7**
baz=323,SNR=40

D19K Kuna River 67.32 17 P **P** **23 05 08.0 +0.5**
D19K IAmb IAmb 23 05 08.7
comp=Z,132nm,0.8s

D19K Kuna River 67.32 17 P **P** **23 05 07.8 +0.4**
baz=321

EDFI Ende, Flores 67.38 123 P **P** **23 05 06.2 -2.4**
comp=Z,40nm,0.8s

F14K Arctic Creek 67.41 22 P **P** **23 05 08.7 +0.6**
baz=315

E17K Hotham Inlet 67.48 19 P **P** **23 05 08.5 0.0**
baz=318,SNR=11

D20K Etivluk River 67.49 17 P **P** **23 05 09.0 +0.5**
baz=322

C21K Knifeblade Rid 67.53 16 P **P** **23 05 09.5 +0.7**
baz=323

NRS Narsarsuaq 67.54 332 *i*P **P** **23 05 08.1 -0.8**
NRS IAmb IAmb 23 05 11.7
comp=Z,50nm,0.8s

E18K Tukpahlearik C 67.54 19 P **P** **23 05 08.5 -0.3**
E18K IAmb IAmb 23 05 10.1
comp=Z,70nm,0.8s

E18K Tukpahlearik C 67.54 19 P **P** **23 05 09.2 +0.3**
baz=319

MMRI Maumere 67.66 122 P **P** **23 05 08.3 -1.9**
MMRI Maumere 67.66 122 P **P** **23 05 08.1 -2.2**
MMRI IAmb IAmb 23 05 08.6
comp=Z,77nm,1.0s

MMRI Maumere 67.66 122 P **P** **23 05 08.4 -1.8**
comp=Z,90nm,1.4s,comp=Z,6μm

F15K North Star Dit 67.73 21 P **P** **23 05 10.8 +0.8**
baz=316,SNR=33

BASI Baing, Sumba 67.75 125 P **P** **23 05 09.9 -0.9**
comp=Z,395nm,0.9s,comp=Z,4μm

C23K Itkillik River 67.82 14 P **P** **23 05 10.7 +0.2**
C23K IAmb IAmb 23 05 12.6
comp=Z,149nm,0.8s

C23K Itkillik River 67.82 14 P **P** **23 05 11.5 +1.0**
baz=327

E20K Nigu River 67.95 17 P **P** **23 05 11.8 +0.3**
baz=322

F17K Baldwin Pennin 68.12 20 P **P** **23 05 12.0 -0.4**
F17K Baldwin Pennin 68.12 20 P **P** **23 05 12.9 +0.5**
baz=319,SNR=16

PMAR Madeira 68.20 295 *eP* **P** **23 05 15.1 +1.3**
comp=Z,418nm,1.2s

D22K Ayikyak River 68.20 15 P **P** **23 05 13.7 +0.7**
baz=325,SNR=17

FUL Funchal 68.22 295 *eP* **P** **23 05 14.9 +1.2**
comp=Z,178nm,1.3s

C24K Franklin Bluff 68.27 14 P **P** **23 05 14.3 +1.0**
baz=328

E21K Killik River 68.29 16 P **P** **23 05 13.6 +0.1**
baz=324,SNR=18

E19K Redstone River 68.34 18 P **P** **23 05 13.6 -0.3**
E19K IAmb IAmb 23 05 14.9
comp=Z,94nm,1.4s

E19K Redstone River 68.34 18 P **P** **23 05 13.9 0.0**
baz=322

PMOZ Porto Moniz, M 68.35 295 *eP* **P** **23 05 17.1 +2.5**
comp=Z,206nm,1.1s

PMOZ Porto Moniz, M 68.35 295 P **P** **23 05 15.1 +0.5**
ANM Nome 68.35 22 P **P** **23 05 14.8 +0.9**
baz=316,SNR=17

F18K Selawik 68.41 19 P **P** **23 05 14.4 +0.1**
baz=320,SNR=22

G15K Niukluk 68.43 22 P **P** **23 05 14.8 +0.4**
baz=317,SNR=19

IVI Ivigtut 68.52 333 IAmb IAmb 23 05 29.6
comp=Z,30nm,0.9s

IVI Ivigtut 68.52 333 *i*P **P** **23 05 15.4 +0.4**
IVI IAmb IAmb 23 05 30.3
comp=Z,17nm,0.7s

SWI Sorong 68.53 109 P **P** **23 05 15.3 -0.5**
comp=Z,109nm,1.5s

D23K Nanushuk River 68.54 15 P **P** **23 05 15.7 +0.7**
baz=327

G16K Koyuk River 68.61 21 P **P** **23 05 15.9 +0.4**
G16K IAmb IAmb 23 05 17.3
comp=Z,52nm,1.0s

G16K Koyuk River 68.61 21 P **P** **23 05 16.2 +0.7**
baz=318

F19K Shaleruckik Mo 68.70 18 P **P** **23 05 16.0 -0.1**
F19K IAmb IAmb 23 05 21.2
comp=Z,52nm,1.4s

F19K Shaleruckik Mo 68.70 18 P **P** **23 05 15.6 -0.5**
baz=322

D24K Happy Valley 68.73 14 P **P** **23 05 16.5 +0.2**
D24K IAmb IAmb 23 05 17.9
comp=Z,61nm,1.1s

D24K Happy Valley 68.73 14 P **P** **23 05 16.9 +0.7**
baz=328

C26K Camden Bay 68.76 12 P **P** **23 05 17.7 +1.3**
baz=331

G17K Kiwalik Mounta 68.99 20 P **P** **23 05 18.2 +0.3**
baz=320,SNR=12

E22K Anaktuvuk Pass 69.00 15 P **P** **23 05 18.0 0.0**
E22K IAmb IAmb 23 05 19.3
comp=Z,91nm,0.9s

E22K Anaktuvuk Pass 69.00 15 P **P** **23 05 18.3 +0.3**
baz=326

F20K Avaraart Lake 69.02 17 P **P** **23 05 17.7 -0.4**
F20K IAmb IAmb 23 05 19.0
comp=Z,34nm,1.1s

F20K Avaraart Lake 69.02 17 P **P** **23 05 17.8 -0.3**
baz=323

TOLK Toolik Lake Re 69.03 14 P **P** **23 05 17.7 -0.5**
TOLK IAmb IAmb 23 05 19.8
comp=Z,154nm,0.8s

TOLK Toolik Lake Re 69.03 14 P **P** **23 05 18.7 +0.5**
baz=328,SNR=36

D25K Kavik River 69.03 13 P **P** **23 05 19.0 +0.8**
D25K IAmb IAmb 23 05 20.2
comp=Z,103nm,0.9s

D25K Kavik River 69.03 13 P **P** **23 05 19.0 +0.8**
baz=330,SNR=26

A36M Sachs Harbour 69.11 5 P **P** **23 05 18.3 -0.3**
A36M IAmb IAmb 23 05 20.1
comp=Z,258nm,0.7s

A36M Sachs Harbour 69.11 5 P **P** **23 05 19.1 +0.5**
baz=347,SNR=53

H16K Elim 69.21 21 P **P** **23 05 19.7 +0.5**
baz=319,SNR=24

G18K Tagagawik 69.22 19 P **P** **23 05 18.7 -0.6**
G18K Tagagawik 69.22 19 P **P** **23 05 19.1 -0.3**
baz=321

F21K Alatna River 69.40 17 P **P** **23 05 20.6 +0.2**
F21K IAmb IAmb 23 05 21.7
comp=Z,60nm,0.9s

F21K Alatna River 69.40 17 P **P** **23 05 20.7 +0.2**
baz=325,SNR=27

G19K Purcell Mounta 69.42 19 P **P** **23 05 20.6 0.0**
G19K IAmb IAmb 23 05 21.7
comp=Z,81nm,0.9s

G19K Purcell Mounta 69.42 19 P **P** **23 05 20.8 +0.2**
baz=322,SNR=21

F22K John River 69.45 16 P **P** **23 05 21.4 +0.7**
baz=326,SNR=40

E23K Chandalar 69.52 15 P **P** **23 05 21.8 +0.5**
baz=328

H17K Granite Mounta 69.63 20 P **P** **23 05 21.7 -0.2**
H17K IAmb IAmb 23 05 23.4
comp=Z,56nm,0.9s

H17K Granite Mounta 69.63 20 P **P** **23 05 22.2 +0.3**
baz=320

BATI Baumata 69.76 122 P **P** **23 05 22.3 -1.1**
comp=Z,136nm,1.0s

SOEI Soe 69.83 121 P **P** **23 05 22.6 -1.3**
SOEI Soe 69.83 121 P **P** **23 05 23.2 -0.7**
comp=Z,124nm,0.9s

H18K Honhosa River 69.87 20 P **P** **23 05 23.8 +0.4**
H18K IAmb IAmb 23 05 24.6
comp=Z,28nm,0.8s

H18K Honhosa River 69.87 20 P **P** **23 05 23.6 +0.2**
baz=322

G21K Allakaket 69.97 17 P **P** **23 05 24.0 0.0**
G21K IAmb IAmb 23 05 24.8
comp=Z,47nm,0.9s

G21K Allakaket 69.97 17 P **P** **23 05 23.7 -0.3**
baz=325

D27M Malcolm River 70.00 11 P **P** **23 05 24.3 +0.2**
D27M IAmb IAmb 23 05 27.9
comp=Z,53nm,0.8s

D27M Malcolm River 70.00 11 P **P** **23 05 25.3 +1.1**
baz=335

H19K Roundabout Mou 70.07 19 P **P** **23 05 24.6 +0.1**
H19K IAmb IAmb 23 05 25.9
comp=Z,54nm,0.9s

H19K Roundabout Mou 70.07 19 P **P** **23 05 24.9 +0.4**

baz=323
COLD Coldfoot 70.10 15 P P 23 05 25.0 +0.2
COLD Coldfoot 70.10 15 P P 23 05 25.4 +0.6
baz=328,SNR=73
I17K Unalakleet 70.22 21 P P 23 05 26.4 +0.9
baz=320,SNR=25
E25K Arctic Village 70.23 13 P P 23 05 25.6 0.0
E25K IAmb IAmb 23 05 27.1
comp=Z,68nm,0.9s
E25K Arctic Village 70.23 13 P P 23 05 26.2 +0.7
baz=331,SNR=17
J14K Nanvaranak Lak 70.24 23 IAmb IAmb 23 05 27.4
comp=Z,92nm,1.1s
J14K Nanvaranak Lak 70.24 23 P P 23 05 26.5 +0.9
baz=318,SNR=25
D28M Stokes Point 70.24 10 P P 23 05 26.8 +1.2
baz=336,SNR=19
F24K Squaw Lake 70.32 14 P P 23 05 25.9 -0.3
F24K IAmb IAmb 23 05 27.8
comp=Z,32nm,0.8s
F24K Squaw Lake 70.32 14 P P 23 05 26.8 +0.7
baz=329,SNR=9.5
IMAR Indian Mountai 70.35 17 P P 23 05 26.0 -0.3
H20K Anotleneega Mo 70.48 18 P P 23 05 27.4 +0.3
baz=324,SNR=36
G23K Bananza Creek 70.58 16 P P 23 05 27.6 -0.1
G23K IAmb IAmb 23 05 29.8
comp=Z,56nm,0.9s
G23K Bananza Creek 70.58 16 P P 23 05 28.2 +0.5
baz=328
GCSA Galena City Sc 70.58 19 P P 23 05 28.2 +0.5
baz=323,SNR=9.7
FAKI Fak Fak 70.64 110 P P 23 05 29.0 +0.2
FAKI Fak Fak 70.64 110 P P 23 05 28.8 -0.1
FAKI Fak Fak 70.64 110 P P 23 05 28.7 -0.1
comp=Z,74nm,1.5s
F25K Christian Rive 70.68 14 P P 23 05 29.5 +1.2
baz=331
J16K Anvik River 70.71 22 P P 23 05 29.5 +0.9
baz=320
E28M Babbage River 70.79 11 P P 23 05 29.4 +0.5
E28M IAmb IAmb 23 05 31.0
comp=Z,63nm,0.8s
E28M Babbage River 70.79 11 P P 23 05 30.1 +1.1
baz=336,SNR=24
H21K Melozitna Rive 70.84 17 IAmb IAmb 23 05 30.6
comp=Z,62nm,1.0s
H21K Melozitna Rive 70.84 17 P P 23 05 29.6 +0.2
baz=326,SNR=20
E27K Coleen River 70.86 12 P P 23 05 29.7 +0.3
E27K IAmb IAmb 23 05 31.4
comp=Z,91nm,0.9s
E27K Coleen River 70.86 12 P P 23 05 30.4 +1.0
baz=334
F26K Sheenjek River 70.86 13 P P 23 05 30.3 +0.8
baz=332
H22K Ishtalitna Cre 70.97 17 P P 23 05 30.5 +0.4
baz=327,SNR=7.3
BMAR Burnt Mountain 71.02 13 P P 23 05 31.5 +1.1
G24K Hadweenzic Riv 71.11 15 IAmb IAmb 23 05 32.8
comp=Z,82nm,0.9s
G24K Hadweenzic Riv 71.11 15 P P 23 05 31.9 +0.9
baz=330
M11K Mekoryuk 71.12 26 P P 23 05 32.5 +1.4
baz=317,SNR=11
I20K Naaghedeneel 71.15 18 P P 23 05 31.8 +0.6
baz=325
K15K Wolf Creek Mou 71.20 23 IAmb IAmb 23 05 33.7
comp=Z,56nm,1.1s
K15K Wolf Creek Mou 71.20 23 P P 23 05 32.6 +1.1
baz=320,SNR=9.5
E29M Blow River 71.23 11 P P 23 05 32.1 +0.5
E29M IAmb IAmb 23 05 33.7
comp=Z,102nm,0.8s
E29M Blow River 71.23 11 P P 23 05 32.8 +1.2
baz=337,SNR=49
G25K Bearman Lake 71.32 14 P P 23 05 33.5 +1.3
baz=331
MUSN Musina, Limpop 71.33 219⇑ *i*P P 23 05 33.4 +0.6
MUSN IAmb IAmb 23 05 34.8
comp=Z,30nm,1.3s
I21K Tanana 71.43 17 P P 23 05 33.3 +0.4
I21K IAmb IAmb 23 05 34.4
comp=Z,47nm,0.9s
I21K Tanana 71.43 17 P P 23 05 33.3 +0.4
baz=326
H23K Yukon River 71.44 16 IAmb IAmb 23 05 35.0
comp=Z,65nm,0.9s
H23K Yukon River 71.44 16 P P 23 05 33.8 +0.9
baz=328
J19K Poorman 71.52 19 IAmb IAmb 23 05 35.1
comp=Z,65nm,1.1s
J19K Poorman 71.52 19 P P 23 05 34.0 +0.6
baz=324
L14K Kuka Creek 71.57 24 IAmb IAmb 23 05 35.8
comp=Z,71nm,1.1s
L14K Kuka Creek 71.57 24 P P 23 05 34.5 +0.8
baz=319
G26K Porcupine Rive 71.59 13 P P 23 05 34.7 +0.9
baz=333,SNR=6.4
MOPA Mopani 71.63 217⇑ *i*P P 23 05 35.3 +0.7
MOPA IAmb IAmb 23 05 39.5
comp=Z,88nm,1.0s
F28M Old Crow 71.65 12 P P 23 05 35.1 +0.9
F28M IAmb IAmb 23 05 36.2
comp=Z,73nm,1.0s
F28M Old Crow 71.65 12 P P 23 05 34.9 +0.7
baz=336,SNR=26
J18K Innoko River 71.65 20 P P 23 05 34.8 +0.5
baz=323
FYU Fort Yukon 71.67 14 IAmb IAmb 23 05 36.6
comp=Z,107nm,0.9s
L15K Ungalak Mounta 71.68 23 P P 23 05 35.1 +0.7
baz=320
MPHEP Siloam, Limpop 71.70 218⇑ *i*P P 23 05 35.8 +0.7
MPHEP IAmb IAmb 23 05 42.2
comp=Z,33nm,1.1s
J20K Nowinta River 71.74 19 IAmb IAmb 23 05 36.4
comp=Z,79nm,0.9s
J20K Nowinta River 71.74 19 P P 23 05 35.3 +0.5
baz=325
H24K Noodor Dome 71.78 15 P P 23 05 35.4 +0.4
H24K IAmb IAmb 23 05 36.9
comp=Z,52nm,0.8s
H24K Noodor Dome 71.78 15 P P 23 05 35.7 +0.7
baz=330,SNR=19
C36M Paulatuk 71.79 5 P P 23 05 34.9 0.0
C36M Paulatuk 71.79 5 P P 23 05 35.0 +0.1
baz=348,SNR=53
K17K Iditarod 71.81 21 P P 23 05 35.5 +0.2
K17K Iditarod 71.81 21 P P 23 05 35.9 +0.7
baz=322
H25L Birch Creek 71.82 14 P P 23 05 36.4 +1.2
baz=331,SNR=9.2
MLY Manley 71.85 17 IAmb IAmb 23 05 36.8
comp=Z,53nm,1.0s
MLY Manley 71.85 17 P P 23 05 35.8 +0.3
baz=328,SNR=18
INK Inuvik 71.89 9 P P 23 05 35.9 +0.4
INK Inuvik 71.89 9 P P 23 05 36.2 +0.7
baz=341,SNR=31
INK Inuvik 71.89 9 P P 23 05 35.9 +0.4
INK pmax pmax
comp=Z,132nm,1.0s
SPIA Saint Paul Isl 71.94 30 P P 23 05 36.8 +0.7
baz=314
I23K Minto, Yukon-K 72.06 16 P P 23 05 36.5 -0.1
I23K IAmb IAmb 23 05 38.4
comp=Z,84nm,0.9s
I23K Minto, Yukon-K 72.06 16 P P 23 05 37.4 +0.8
baz=329,SNR=25
M13K Dall Lake 72.06 25 P P 23 05 38.2 +1.5
baz=319
G27K Doyon Strip 72.09 13 P P 23 05 38.0 +1.1
baz=334
M14K Bethel 72.25 24 P P 23 05 38.9 +1.1
baz=320,SNR=31
F30M Barrier River 72.25 10 P P 23 05 38.7 +0.9
baz=339,SNR=18
L16K Owhat River 72.27 22 P P 23 05 39.0 +1.1
L16K IAmb IAmb 23 05 40.0
comp=Z,96nm,1.0s
L16K Owhat River 72.27 22 P P 23 05 39.0 +1.1
baz=321,SNR=34
L17K Donlin 72.28 22 P P 23 05 39.0 +1.0
baz=322
TTA Tatalina 72.28 20 P P 23 05 37.9 -0.2
TTA IAmb IAmb 23 05 39.7
comp=Z,61nm,1.2s
TTA Tatalina 72.28 20 P P 23 05 38.7 +0.6
baz=324
TTA Tatalina 72.28 20 P P 23 05 37.9 -0.2
TTA pmax pmax
comp=Z,61nm,1.2s
K20K Telida 72.44 19 IAmb IAmb 23 05 40.7
comp=Z,74nm,1.0s
K20K Telida 72.44 19 P P 23 05 39.6 +0.6
baz=325
CHUM Lake Minchumin 72.44 18 P P 23 05 39.5 +0.6
baz=326,SNR=14
MDM Murphy Dome 72.46 16 P P 23 05 39.1 -0.1
MDM IAmb IAmb 23 05 40.6
comp=Z,98nm,1.2s
POKR Poker Plat Res 72.50 16 IAmb IAmb 23 05 41.1
comp=Z,122nm,0.9s
POKR Poker Plat Res 72.50 16 P P 23 05 40.1 +0.8
baz=330,SNR=32
PRP Porcupine Dome 72.54 15 IAmb IAmb 23 05 44.0
comp=Z,25nm,0.8s
PRP Porcupine Dome 72.54 15 P P 23 05 40.4 +0.8
baz=332,SNR=12
BPAW Bear Paw Mtn. 72.58 18 IAmb IAmb 23 05 40.8
comp=Z,67nm,1.0s
BPAW Bear Paw Mtn. 72.58 18 P P 23 05 39.7 -0.1
baz=328,SNR=24
G29M Pine Creek 72.58 11 P P 23 05 40.6 +0.8
baz=337,SNR=12
NEA2 Nenana 72.60 17 IAmb IAmb 23 05 41.0
comp=Z,108nm,1.0s
NEA2 Nenana 72.60 17 P P 23 05 40.1 +0.2
baz=329,SNR=44
HOED Hoedspruit, Li 72.61 217⇑ *i*P P 23 05 40.8 +0.3
HOED IAmb IAmb 23 05 47.3
comp=Z,20nm,0.9s
COLA College 72.62 16 P P 23 05 40.5 +0.5
COLA College 72.62 16 P P 23 05 40.8 +0.8
COLA College 72.62 16 P P 23 05 40.4 +0.5
COLA IAmb IAmb 23 05 41.8
comp=Z,151nm,0.8s
COLA College 72.62 16 P P 23 05 40.3 +0.4
baz=330
P08K Saint George I 72.62 30 P P 23 05 41.3 +1.2
baz=315
H27K Steamboat Moun 72.64 13 P P 23 05 41.1 +1.0
baz=335
L18K Granite Mounta 72.66 21 P P 23 05 40.1 -0.2
L18K IAmb IAmb 23 05 42.0
comp=Z,57nm,1.1s
L18K Granite Mounta 72.66 21 P P 23 05 40.9 +0.6
baz=323
F31M Tsiigehtchic 72.68 9 P P 23 05 41.0 +0.6
F31M IAmb IAmb 23 05 41.8
comp=Z,107nm,0.8s
F31M Tsiigehtchic 72.68 9 P P 23 05 40.9 +0.6
baz=341,SNR=28
M15K Kasigluk River 72.69 23 P P 23 05 41.4 +0.9
baz=321
G30M tAoh Zraii Nji 72.78 10 P P 23 05 41.1 +0.1
G30M IAmb IAmb 23 05 43.0
comp=Z,113nm,1.1s
G30M tAoh Zraii Nji 72.78 10 P P 23 05 41.4 +0.4
baz=339,SNR=28
BWN Browne 72.87 17 IAmb IAmb 23 05 43.3
comp=Z,161nm,0.9s
CAST Castle Rocks 72.89 18 IAmb IAmb 23 05 43.2
comp=Z,117nm,1.1s
CAST Castle Rocks 72.89 18 P P 23 05 42.1 +0.4
baz=327,SNR=43
IL31 72.91 16 IAmb IAmb 23 05 42.5
comp=Z,58nm,0.9s
ILAR Eielson Array 72.91 16 P P 23 05 41.3 -0.5
comp=Z,40nm,0.9s,baz=323,slow=4.7,SNR=53
comp=Z,40nm,0.9s
IL03 Eielson Array 72.92 16 P P 23 05 41.5 -0.3
M16K Timber Creek 72.96 23 P P 23 05 43.0 +0.9
M16K IAmb IAmb 23 05 44.3
comp=Z,46nm,1.0s
M16K Timber Creek 72.96 23 P P 23 05 43.3 +1.1
baz=322
N14K Kuskokwak Cree 72.97 24 P P 23 05 43.2 +1.1
baz=320
KTH Kantishna Hill 73.06 18 IAmb IAmb 23 05 43.8
comp=Z,106nm,1.0s
G31M Satah River 73.11 10 P P 23 05 42.8 0.0
G31M IAmb IAmb 23 05 44.2
comp=Z,95nm,1.0s
G31M Satah River 73.11 10 P P 23 05 43.1 +0.3
baz=340,SNR=18
M17K Holitna River 73.11 22 P P 23 05 44.2 +1.3
baz=323,SNR=24
PILG Pilgrimsrest, 73.16 217⇑ *i*P P 23 05 44.4 +0.5
PILG IAmb IAmb 23 05 44.8
comp=Z,27nm,0.7s
H29M Whitestone 73.17 12 P P 23 05 43.9 +0.6
H29M IAmb IAmb 23 05 45.2
comp=Z,87nm,0.9s
H29M Whitestone 73.17 12 P P 23 05 44.0 +0.8
baz=337,SNR=14
I26K Coal Creek Min 73.18 14 P P 23 05 43.3 0.0
I26K IAmb IAmb 23 05 44.9
comp=Z,44nm,0.9s
I26K Coal Creek Min 73.18 14 P P 23 05 44.0 +0.7
baz=334
I27K Kandik River 73.19 13 P P 23 05 44.2 +0.7
baz=335
L19K White Mountain 73.20 20 P P 23 05 43.7 +0.2
L19K IAmb IAmb 23 05 45.4
comp=Z,81nm,1.1s
L19K White Mountain 73.20 20 P P 23 05 44.2 +0.7
baz=325
L20K Farewell, AK 73.21 20 P P 23 05 44.1 +0.5
baz=326
HDA Harding Lake 73.22 16 IAmb IAmb 23 05 44.2
comp=Z,32nm,0.9s
HDA Harding Lake 73.22 16 P P 23 05 42.7 -0.8
baz=331,SNR=14
EPYK Eagle Plains 73.28 11 P P 23 05 43.2 -0.7
EPYK IAmb IAmb 23 05 45.1
comp=Z,59nm,1.1s
EPYK Eagle Plains 73.28 11 P P 23 05 44.1 +0.2
baz=338,SNR=6.0
N15K Kwethluk River 73.29 24 IAmb IAmb 23 05 46.6
comp=Z,88nm,1.1s
N15K Kwethluk River 73.29 24 P P 23 05 45.5 +1.5
baz=321,SNR=21
TRF Thorofare Moun 73.30 18 IAmb IAmb 23 05 51.7
comp=Z,18nm,0.8s
TRF Thorofare Moun 73.30 18 P P 23 05 44.3 0.0
baz=328,SNR=7.0
PPLA Purkeypile 73.30 19 P P 23 05 43.7 -0.5
PPLA Purkeypile 73.30 19 P P 23 05 44.2 -0.1
baz=327,SNR=7.9
J25K Salcha River, 73.37 15 P P 23 05 43.9 -0.7
J25K IAmb IAmb 23 05 45.4
comp=Z,39nm,0.9s
J25K Salcha River, 73.37 15 P P 23 05 44.4 -0.1
baz=332
MCK McKinley 73.37 17 P P 23 05 44.6 +0.1
baz=329
SAUI Saumlaki 73.42 115 P P 23 05 46.4 +1.0
SAUI Saumlaki 73.42 115 P P 23 05 45.9 +0.5
SAUI Saumlaki 73.42 115 P P 23 05 46.2 +0.8
comp=Z,202nm,0.4s
WTBG Waterberg Wild 73.43 219⇑ *i*P P 23 05 45.4 0.0
WTBG IAmb IAmb 23 05 46.0
comp=Z,177nm,2.6s
N16K Nishlik Lake 73.45 23 P P 23 05 46.2 +1.2
baz=322
M18K Stony River 73.50 21 P P 23 05 46.0 +0.7
baz=324
M19K Big River Lodg 73.55 20 P P 23 05 45.8 +0.2
M19K IAmb IAmb 23 05 47.5
comp=Z,62nm,1.3s
M19K Big River Lodg 73.55 20 P P 23 05 46.5 +0.9
baz=325
O14K Tigyukauivet M 73.62 25 IAmb IAmb 23 05 48.0
comp=Z,68nm,0.9s
O14K Tigyukauivet M 73.62 25 P P 23 05 46.9 +0.9
baz=321
I28M Miner Creek 73.63 13 P P 23 05 45.4 -0.7
I28M IAmb IAmb 23 05 47.4
comp=Z,45nm,0.8s
I28M Miner Creek 73.63 13 P P 23 05 46.4 +0.3
baz=336
RND Reindeer 73.67 17 P P 23 05 45.6 -0.7
RND IAmb IAmb 23 05 58.9
comp=Z,40nm,0.9s
RND Reindeer 73.67 17 P P 23 05 45.6 -0.7
RND pmax pmax
comp=Z,40nm,0.9s
LEPH Lephalale, Lim 73.67 220⇑ *i*P P 23 05 47.0 +0.3
LEPH IAmb IAmb 23 05 47.3
comp=Z,24nm,0.8s
DULL Dullstroom, Mp 73.78 217⇑ *i*P P 23 05 48.0 +0.4
DULL IAmb IAmb 23 05 54.6
comp=Z,38nm,1.0s
J26L Joseph Creek 73.83 14 P P 23 05 46.9 -0.4
J26L IAmb IAmb 23 05 48.5
comp=Z,74nm,0.9s
J26L Joseph Creek 73.83 14 P P 23 05 47.6 +0.3
baz=333,SNR=31
N17K Nushagak Hills 73.89 22 P P 23 05 48.6 +1.0
N17K IAmb IAmb 23 05 49.9
comp=Z,57nm,1.1s
N17K Nushagak Hills 73.89 22 P P 23 05 48.9 +1.3
baz=323,SNR=14
SVW2 Sparrevohn 73.89 21 P P 23 05 48.3 +0.7
M20K Styx River 73.91 20 P P 23 05 47.7 0.0
baz=326,SNR=6.6
DBIC Dimbokro 73.98 266 P P 23 05 47.9 -0.9
DBIC Dimbokro 73.98 266⇑ *i*P P 23 05 48.3 -0.4
DBIC Dimbokro 73.98 266 P P 23 05 47.9 -0.9
DBIC pmax pmax
comp=Z,43nm,1.3s
DBIC Dimbokro 73.98 266 P P 23 05 48.4 -0.4
comp=Z,13nm,0.7s,baz=48,slow=7.2,SNR=13
comp=Z,13nm,0.7s
K24K Donnelly Dome 74.00 16 P P 23 05 48.0 -0.3
baz=332,SNR=32
MTLB Matlabas, Limp 74.01 220⇑ *i*P P 23 05 49.3 +0.6
MTLB IAmb IAmb 23 05 49.5
comp=Z,20nm,0.8s
EGAK Eagle 74.03 13 P P 23 05 48.5 +0.2
EGAK IAmb IAmb 23 05 49.7
comp=Z,51nm,1.1s
EGAK Eagle 74.03 13 P P 23 05 48.5 +0.2
baz=335,SNR=9.9
KIC Kosan Boka 74.08 265⇑ *i*P P 23 05 48.9 -0.5
comp=Z,25nm,0.6s
TIC Toumodi 74.12 266⇑ *i*P P 23 05 49.2 -0.5
comp=Z,18nm,0.8s
N18K Kilae Creek 74.14 22 P P 23 05 49.4 +0.3
N18K Kilae Creek 74.14 22 P P 23 05 49.9 +0.8
baz=324,SNR=10
O15K Ungalikthiuk R 74.15 24 P P 23 05 49.9 +0.8
baz=322
H31M Peel River 74.15 10 P P 23 05 49.3 +0.2
baz=340,SNR=14
CUT Chulitna 74.19 18 IAmb IAmb 23 05 51.3
comp=Z,76nm,0.9s
CUT Chulitna 74.19 18 P P 23 05 48.6 -0.7
baz=328
SCRK Sand Creek 74.21 15 IAmb IAmb 23 05 51.0
comp=Z,79nm,0.9s
SCRK Sand Creek 74.21 15 P P 23 05 50.0 +0.5
baz=333,SNR=38
WAT1 Susitna Watana 74.24 17 P P 23 05 48.8 -0.9
baz=330
SKT Skwentna 74.24 19 IAmb IAmb 23 05 50.2
comp=Z,149nm,0.9s
SKT Skwentna 74.24 19 P P 23 05 49.3 -0.3
baz=327,SNR=48
RIDG Independent Ri 74.25 15 P P 23 05 49.2 -0.5
RIDG IAmb IAmb 23 05 50.5
comp=Z,75nm,1.0s
RIDG Independent Ri 74.25 15 P P 23 05 49.3 -0.4
baz=332
DHY Denali Highway 74.29 17 IAmb IAmb 23 05 50.8
comp=Z,46nm,0.8s
DHY Denali Highway 74.29 17 P P 23 05 49.7 -0.4
baz=330,SNR=23
O16K Kokwok River B 74.36 23 IAmb IAmb 23 05 52.7
comp=Z,112nm,1.0s
O16K Kokwok River B 74.36 23 P P 23 05 51.5 +1.1
baz=323
LIC Lamto 74.39 265⇑ *i*P P 23 05 50.5 -0.7
comp=Z,55nm,1.0s
CRLN Carolina, Mapu 74.39 217 *e*P P 23 05 51.2 +0.1
CRLN IAmb IAmb 23 05 58.1
comp=Z,15nm,0.8s
I30M Mount Dempster 74.41 11 P P 23 05 50.4 -0.3
I30M IAmb IAmb 23 05 52.5
comp=Z,69nm,0.9s
I30M Mount Dempster 74.41 11 P P 23 05 51.0 +0.3
baz=339,SNR=25
N19K Bonanza Creek 74.43 21 IAmb IAmb 23 05 54.6
comp=Z,55nm,1.0s
N19K Bonanza Creek 74.43 21 P P 23 05 51.5 +0.7
baz=325
RUST Rust De Winter 74.47 218 *e*P P 23 05 51.9 +0.4
RUST IAmb IAmb 23 05 52.5
comp=Z,21nm,0.8s
O17K Koliganek Bris 74.52 23 P P 23 05 52.0 +0.8
baz=324,SNR=12
K27K Chicken 74.54 14 P P 23 05 52.1 +0.8
K27K IAmb IAmb 23 05 53.2
comp=Z,88nm,0.9s
K27K Chicken 74.54 14 P P 23 05 52.0 +0.7
baz=334
WAT6 Susitna Watana 74.64 17 P P 23 05 51.4 -0.7
baz=330,SNR=10.0
N20K Mount Spurr 74.72 20 P P 23 05 52.1 -0.4
baz=327,SNR=14
M22K Willow 74.79 18 IAmb IAmb 23 05 53.2
comp=Z,136nm,1.0s
M22K Willow 74.79 18 P P 23 05 52.1 -0.6
baz=329,SNR=12
NHAM Northam, North 74.79 220⇑ *i*P P 23 05 54.0 +0.6
NHAM IAmb IAmb 23 06 00.0
comp=Z,19nm,0.8s
PAX Paxson 74.80 16 P P 23 05 52.7 -0.3
PAX IAmb IAmb 23 05 53.9
comp=Z,80nm,1.0s
PAX Paxson 74.80 16 P P 23 05 52.9 0.0
baz=332,SNR=29
PAX Paxson 74.80 16 P P 23 05 52.7 -0.3
PAX pmax pmax
comp=Z,79nm,1.0s
J29N Klondike Camp 74.83 12 IAmb IAmb 23 05 55.0
comp=Z,70nm,1.0s
J29N Klondike Camp 74.83 12 P P 23 05 53.7 +0.6
baz=338,SNR=18
TSWA Tswaing Meteor 74.84 219 *e*P P 23 05 54.1 +0.5
TSWA IAmb IAmb 23 06 02.2
comp=Z,35nm,1.1s
P16K Nushagak River 74.84 23 P P 23 05 54.4 +1.3
baz=323,SNR=32
SUA Susitna One 74.88 19 IAmb IAmb 23 05 54.3
comp=Z,80nm,1.1s
SUA Susitna One 74.88 19 P P 23 05 52.9 -0.5
baz=328,SNR=19
O19K Port Alsworth 74.98 21 P P 23 05 54.3 +0.5
baz=326
DAWY Dawson 74.99 13 P P 23 05 53.8 -0.2
DAWY IAmb IAmb 23 05 55.4
comp=Z,66nm,1.0s
DAWY Dawson 74.99 13 P P 23 05 54.5 +0.5
baz=337,SNR=21
O18K Koktuh Hills 75.01 22 P P 23 05 54.9 +0.7
O18K IAmb IAmb 23 05 56.2
comp=Z,96nm,0.9s
O18K Koktuh Hills 75.01 22 P P 23 05 55.1 +0.9
baz=325,SNR=30
J30M Hart River 75.02 11 P P 23 05 54.0 -0.3
J30M Hart River 75.02 11 P P 23 05 54.9 +0.7
baz=339
NYAT Nyati, Northwe 75.04 219⇑ *i*P P 23 05 55.3 +0.5
NYAT IAmb IAmb 23 06 10.6
comp=Z,44nm,1.1s
PMR Palmer 75.17 18 P P 23 05 54.8 -0.1
PMR Palmer 75.17 18 IAmb IAmb 23 05 55.8
comp=Z,65nm,0.9s
PMR Palmer 75.17 18 P P 23 05 54.8 -0.1
baz=329,SNR=27
SML Sawmill 75.17 18 P P 23 05 55.0 -0.1
SML Sawmill 75.17 18 P P 23 05 55.0 -0.1
baz=330,SNR=33
P17K Kvichak River 75.19 23 P P 23 05 56.2 +1.1
baz=324,SNR=38
L26K Log Cabin Wild 75.19 15 IAmb IAmb 23 05 56.9
comp=Z,53nm,1.1s

L26K	**Log Cabin Wild**	**75.19**	**15**	P		**P**		**23 05 55.6**	**+0.5**
	baz=334,SNR=6.5								
MENT	**Mentasta**	**75.20**	**15**	P		**P**		**23 05 56.2**	**+1.0**
MENT	**Mentasta**	**75.20**	**15**	P		**P**		**23 05 55.9**	**+0.7**
FIS	**Fire Island**	**75.28**	**19**	P		**P**		**23 05 55.8**	**+0.2**
FIS				IAmb		IAmb		23 05 57.8	
	comp=Z,99nm,0.9s								
M23K	**Glacier View**	**75.33**	**17**	P		**P**		**23 05 55.7**	**-0.2**
	baz=330,SNR=60								
CAPN	**Captain Cook N**	**75.36**	**19**	P		**P**		**23 05 56.0**	**-0.1**
CAPN				IAmb		IAmb		23 06 02.9	
	comp=Z,86nm,0.8s								
CAPN	**Captain Cook N**	**75.36**	**19**	P		**P**		**23 05 56.7**	**+0.6**
	baz=328								
HARP	**HAARP**	**75.38**	**16**	P		**P**		**23 05 57.4**	**+1.2**
	baz=332,SNR=31								
P18K	**Big Mountain,**	**75.39**	**22**	P		**P**		**23 05 56.1**	**-0.2**
P18K				IAmb		IAmb		23 05 57.9	
	comp=Z,62nm,0.9s								
P18K	**Big Mountain,**	**75.39**	**22**	P		**P**		**23 05 56.8**	**+0.5**
	baz=325,SNR=22								
SCM	**Sheep Creek Mo**	**75.39**	**17**	P		**P**		**23 05 56.5**	**+0.2**
	baz=331,SNR=23								
M24K	**Tolsona, Glenn**	**75.41**	**17**	P		**P**		**23 05 57.5**	**+1.0**
	baz=332,SNR=25								
HRAO	**HartRAO**	**75.42**	**219**	*e*P		**P**		**23 05 57.3**	**+0.3**
RC01	**Rabbit Creek A**	**75.45**	**19**	IAmb		IAmb		23 05 57.4	
	comp=Z,83nm,1.0s								
RC01	**Rabbit Creek A**	**75.45**	**19**	P		**P**		**23 05 56.4**	**-0.3**
	baz=329,SNR=29								
L27K	**Beaver Creek,**	**75.46**	**14**	P		**P**		**23 05 57.2**	**+0.5**
L27K				IAmb		IAmb		23 05 58.7	
	comp=Z,55nm,0.9s								
L27K	**Beaver Creek,**	**75.46**	**14**	P		**P**		**23 05 57.7**	**+0.9**
	baz=335								
BCAR	**Beaver Creek A**	**75.47**	**14**	P		**P**		**23 05 57.5**	**+0.7**
KNK	**Knik Glacier**	**75.49**	**18**	P		**P**		**23 05 57.3**	**+0.4**
	baz=330,SNR=34								
NIKH	**Nikolski High**	**75.50**	**32**	P		**P**		**23 05 57.6**	**+0.5**
	baz=316								
K29M	**Barlow Dome**	**75.52**	**12**	P		**P**		**23 05 57.6**	**+0.5**
K29M				IAmb		IAmb		23 05 58.9	
	comp=Z,78nm,1.0s								
K29M	**Barlow Dome**	**75.52**	**12**	P		**P**		**23 05 57.8**	**+0.7**
	baz=338,SNR=18								
Q16K	**King Salmon**	**75.54**	**23**	P		**P**		**23 05 57.9**	**+0.8**
	baz=324,SNR=9.5								
O20K	**Slope Mountain**	**75.55**	**20**	P		**P**		**23 05 56.8**	**-0.5**
	baz=327,SNR=6.5								
MBWA	**Marble Bar**	**75.64**	**133**	P		**P**		**23 05 57.6**	**-0.5**
MBWA	**Marble Bar**	**75.64**	**133**	P		**P**		**23 05 57.7**	**-0.5**
MBWA	**Marble Bar**	**75.64**	**133**	P		**P**		**23 05 59.5**	**+1.3**
LBTB	**Lobatse**	**75.74**	**221**	P		**P**		**23 05 59.2**	**+0.4**
LBTB	**Lobatse**	**75.74**	**221**	*e*P		**P**		**23 05 58.1**	**-0.7**
LBTB				IAmb		IAmb		23 06 05.1	
	comp=Z,59nm,1.1s								
LBTB	**Lobatse**	**75.74**	**221**	P		**P**		**23 05 59.2**	**+0.4**
LBTB				pmax		pmax			
	comp=Z,32nm,0.9s								
P19K	**Oil Pt**	**75.74**	**21**	P		**P**		**23 05 57.4**	**-0.9**
P19K				IAmb		IAmb		23 05 59.5	
	comp=Z,53nm,1.1s								
P19K	**Oil Pt**	**75.74**	**21**	P		**P**		**23 05 57.9**	**-0.4**
	baz=326								
UNV	**Unalaska Valle**	**75.82**	**31**	P		**P**		**23 05 57.8**	**-1.0**
UNV	**Unalaska Valle**	**75.82**	**31**	P		**P**		**23 05 57.6**	**-1.3**
UNV				IAmb		IAmb		23 06 01.4	
	comp=Z,37nm,0.8s								
UNV	**Unalaska Valle**	**75.82**	**31**	P		**P**		**23 05 57.6**	**-1.3**
	baz=318								
M26K	**Nabesna, AK**	**75.83**	**15**	P		**P**		**23 05 59.2**	**+0.4**
M26K				IAmb		IAmb		23 06 00.6	
	comp=Z,35nm,1.1s								
M26K	**Nabesna, AK**	**75.83**	**15**	P		**P**		**23 05 59.4**	**+0.6**
	baz=334								
NWCL	**Newcastle**	**75.93**	**216**	⇑*i*P		**P**		**23 06 00.2**	**+0.4**
NWCL				IAmb		IAmb		23 06 11.3	
	comp=Z,20nm,0.8s								
O22K	**Cooper Landing**	**75.98**	**19**	P		**P**		**23 05 59.3**	**-0.3**
	baz=329,SNR=6.1								
KLU	**Klutina**	**76.01**	**17**	IAmb		IAmb		23 06 01.6	
	comp=Z,75nm,0.9s								
KLU	**Klutina**	**76.01**	**17**	P		**P**		**23 06 00.4**	**+0.5**
	baz=332,SNR=26								
MAYO	**Mayo, Yukon**	**76.01**	**12**	P		**P**		**23 06 00.5**	**+0.7**
MAYO	**Mayo, Yukon**	**76.01**	**12**	P		**P**		**23 06 00.4**	**+0.6**
	baz=339								
PSA00	**Pilbara Seismi**	**76.03**	**133**	P		**P**		**23 05 59.9**	**-0.5**
PSA00	**Pilbara Seismi**	**76.03**	**133**	P		**P**		**23 05 59.8**	**-0.5**
PSA00	**Pilbara Seismi**	**76.03**	**133**	IAmb		IAmb		23 06 00.6	
	comp=Z,28nm,1.0s								
M27K	**Edge Creek, AK**	**76.09**	**15**	P		**P**		**23 06 00.8**	**+0.4**
M27K	**Edge Creek, AK**	**76.09**	**15**	P		**P**		**23 06 01.3**	**+0.9**
	baz=335								
L29M	**L29M**	**76.10**	**13**	P		**P**		**23 06 00.9**	**+0.5**
L29M				IAmb		IAmb		23 06 02.4	
	comp=Z,98nm,1.1s								
L29M	**L29M**	**76.10**	**13**	P		**P**		**23 06 01.2**	**+0.9**
	baz=338,SNR=17								
S12K	**Black Hills**	**76.10**	**27**	P		**P**		**23 05 59.9**	**-0.6**
	baz=321,SNR=7.3								
Q17K	**Contact Creek**	**76.11**	**23**	P		**P**		**23 05 59.7**	**-0.9**
	baz=325,SNR=24								
R16K	**Pilot Point**	**76.15**	**24**	P		**P**		**23 06 01.1**	**+0.5**
	baz=324								
HOM	**Homer**	**76.17**	**20**	P		**P**		**23 06 00.9**	**+0.1**
	baz=328								
N25K	**Chitina, Valde**	**76.20**	**16**	P		**P**		**23 06 01.8**	**+0.8**
	baz=333,SNR=9.9								
Q19K	**Cape Douglas,**	**76.23**	**22**	P		**P**		**23 06 00.6**	**-0.5**
	baz=326								
BVCY	**Beaver Creek**	**76.24**	**14**	P		**P**		**23 06 02.1**	**+1.0**
	baz=336,SNR=15								
DRS	**Darwin Rock St**	**76.25**	**118**	P		**P**		**23 06 01.4**	**-0.4**
FALS	**False Pass**	**76.25**	**29**	P		**P**		**23 06 00.2**	**-1.1**
FALS	**False Pass**	**76.25**	**29**	P		**P**		**23 06 00.4**	**-0.9**
	baz=320								
GENI	**Genyem**	**76.34**	**105**	P		**P**		**23 06 03.1**	**+0.7**
GENI	**Genyem**	**76.34**	**105**	P		**P**		**23 06 03.0**	**+0.7**
	comp=Z,318nm,1.1s								
BRSE	**Bradley Lake S**	**76.35**	**20**	P		**P**		**23 06 00.7**	**-1.1**
	baz=328,SNR=7.4								
DIV	**Divide**	**76.36**	**17**	P		**P**		**23 06 02.1**	**+0.2**
DIV				IAmb		IAmb		23 06 03.3	
	comp=Z,60nm,0.8s								
SEW	**Seward**	**76.37**	**19**	P		**P**		**23 06 01.1**	**-0.7**
SEW				IAmb		IAmb		23 06 02.7	
	comp=Z,71nm,1.2s								
SEW	**Seward**	**76.37**	**19**	P		**P**		**23 06 01.4**	**-0.4**
	baz=329,SNR=8.3								
PRYS	**Parys**	**76.45**	**218**	⇑*i*P		**P**		**23 06 02.7**	**-0.1**
PRYS				IAmb		IAmb		23 06 17.8	
	comp=Z,42nm,1.5s								
S14K	**Fog Glacier**	**76.52**	**26**	P		**P**		**23 06 02.3**	**-0.7**
	baz=322								
M29M	**Somme Creek**	**76.66**	**13**	P		**P**		**23 06 04.3**	**+0.7**
M29M				IAmb		IAmb		23 06 05.7	
	comp=Z,49nm,0.9s								
M29M	**Somme Creek**	**76.66**	**13**	P		**P**		**23 06 04.5**	**+0.9**
	baz=338,SNR=15								
JAY	**Jayapura**	**76.69**	**104**	P		**P**		**23 06 04.9**	**+0.4**
	comp=Z,34nm,1.2s								
MTN	**Manton Dam**	**76.70**	**119**	P		**P**		**23 06 03.4**	**-1.0**
MCARA	**McCarthy VSAT**	**76.74**	**16**	P		**P**		**23 06 04.4**	**+0.4**
MCARA				IAmb		IAmb		23 06 06.1	
	comp=Z,43nm,0.9s								
MCARA	**McCarthy VSAT**	**76.74**	**16**	P		**P**		**23 06 04.3**	**+0.4**
	baz=334,SNR=14								
BMRM	**Bremner River**	**76.77**	**16**	P		**P**		**23 06 04.0**	**-0.2**
BMRM				IAmb		IAmb		23 06 06.5	
	comp=Z,104nm,1.1s								
BMRM	**Bremner River**	**76.77**	**16**	P		**P**		**23 06 04.9**	**+0.7**
	baz=333,SNR=26								
VRDI	**Verde Repeater**	**76.79**	**16**	IAmb		IAmb		23 06 06.5	
	comp=Z,46nm,1.1s								
M30M	**Minto, Yukon**	**76.82**	**12**	IAmb		IAmb		23 06 06.0	
	comp=Z,47nm,1.1s								
M30M	**Minto, Yukon**	**76.82**	**12**	P		**P**		**23 06 04.4**	**0.0**
	baz=339,SNR=20								
HIN	**Hinchinbrook I**	**76.84**	**18**	P		**P**		**23 06 05.2**	**+0.7**
HIN				IAmb		IAmb		23 06 06.0	
	comp=Z,34nm,0.9s								
Q20K	**Shuyak Island**	**76.85**	**21**	P		**P**		**23 06 04.0**	**-0.6**
	baz=327								
FITZ	**Fitzroy Crossi**	**76.88**	**126**	P		**P**		**23 06 05.3**	**+0.1**
EYAK	**Cordova Ski Ar**	**76.89**	**17**	P		**P**		**23 06 05.7**	**+1.0**
EYAK	**Cordova Ski Ar**	**76.89**	**17**	P		**P**		**23 06 05.1**	**+0.3**
EYAK				IAmb		IAmb		23 06 06.6	
	comp=Z,68nm,0.9s								
EYAK	**Cordova Ski Ar**	**76.89**	**17**	P		**P**		**23 06 05.3**	**+0.6**
	baz=332,SNR=17								
CHGN	**Chignik**	**76.89**	**25**	IAmb		IAmb		23 06 04.9	
	comp=Z,27nm,0.7s								
CHGN	**Chignik**	**76.89**	**25**	P		**P**		**23 06 03.8**	**-1.1**
	baz=323,SNR=7.8								
YUK3	**Moose Creek**	**76.90**	**14**	P		**P**		**23 06 05.6**	**+0.5**
	baz=336,SNR=52								
SDPT	**Sand Point**	**76.94**	**27**	P		**P**		**23 06 04.9**	**-0.2**
SDPT	**Sand Point**	**76.94**	**27**	P		**P**		**23 06 04.2**	**-0.9**
	baz=322								
P23K	**Montague Islan**	**76.98**	**18**	P		**P**		**23 06 05.6**	**+0.3**
	baz=331,SNR=12								
KNRA	**Kununurra**	**77.12**	**122**	P		**P**		**23 06 06.5**	**-0.2**
RAGM	**Ragged Mountai**	**77.28**	**17**	P		**P**		**23 06 08.0**	**+0.9**
RAGM				IAmb		IAmb		23 06 17.1	
	comp=Z,44nm,0.9s								
CRQM	**Cirque**	**77.28**	**16**	IAmb		IAmb		23 06 08.8	
	comp=Z,58nm,1.0s								
CRQE	**Cirque**	**77.30**	**16**	P		**P**		**23 06 07.8**	**+0.6**
	baz=334,SNR=13								
BARN	**Barnard Glacie**	**77.32**	**15**	IAmb		IAmb		23 06 09.9	
	comp=Z,66nm,1.1s								
TGL	**Tana Glacier**	**77.35**	**16**	P		**P**		**23 06 07.8**	**+0.3**
TGL				IAmb		IAmb		23 06 09.6	
	comp=Z,58nm,1.0s								
SNKL	**Senekal, Frees**	**77.38**	**217**	⇑*i*P		**P**		**23 06 08.3**	**+0.2**
SNKL				IAmb		IAmb		23 06 08.7	
	comp=Z,35nm,0.8s								
CTG	**Chitna Glacier**	**77.47**	**15**	P		**P**		**23 06 08.8**	**+0.6**
	baz=335,SNR=26								
CTGM	**Chitina Glacie**	**77.47**	**15**	IAmb		IAmb		23 06 10.2	
	comp=Z,90nm,1.0s								
KDAK	**Kodiak Island**	**77.50**	**22**	P		**P**		**23 06 08.5**	**+0.3**
KDAK	**Kodiak Island**	**77.50**	**22**	P		**P**		**23 06 08.1**	**-0.1**
	baz=327								
KDAK	**Kodiak Island**	**77.50**	**22**	P		**P**		**23 06 08.5**	**+0.3**
KDAK				pmax		pmax			
	comp=Z,113nm,1.2s								
KDU	**Kakadu**	**77.52**	**117**	P		**P**		**23 06 08.6**	**-0.3**
M31M	**Drury Creek, Y**	**77.56**	**11**	IAmb		IAmb		23 06 10.3	
	comp=Z,104nm,1.1s								
M31M	**Drury Creek, Y**	**77.56**	**11**	P		**P**		**23 06 09.1**	**+0.5**
	baz=341,SNR=30								
ISLE	**Juniper Island**	**77.59**	**16**	IAmb		IAmb		23 06 10.9	
	comp=Z,79nm,1.2s								
GRNC	**Granite Creek**	**77.60**	**15**	IAmb		IAmb		23 06 11.7	
	comp=Z,69nm,0.9s								
MMPY	**Sheldon Lake,**	**77.61**	**10**	P		**P**		**23 06 09.3**	**+0.4**
MMPY	**Sheldon Lake,**	**77.61**	**10**	P		**P**		**23 06 09.9**	**+1.0**
	baz=343,SNR=7.8								
WAX	**Waxell Ridge**	**77.62**	**16**	IAmb		IAmb		23 06 13.4	
	comp=Z,53nm,1.1s								
YUK4	**Talbot Arm**	**77.64**	**14**	P		**P**		**23 06 09.9**	**+0.7**
	baz=338,SNR=20								
SWZ	**Schweizer**	**77.66**	**220**	*e*P		**P**		**23 06 10.1**	**+0.5**
SWZ				IAmb		IAmb		23 06 10.8	
	comp=Z,44nm,0.9s								
CHNA	**Chernabura Isl**	**77.66**	**27**	P		**P**		**23 06 08.3**	**-0.9**
	baz=322,SNR=34								
LOGN	**Logan Glacier**	**77.67**	**15**	IAmb		IAmb		23 06 11.2	
	comp=Z,79nm,1.0s								
CNBA	**Chernabura Isl**	**77.67**	**27**	IAmb		IAmb		23 06 09.6	
	comp=Z,68nm,0.8s								
FARO	**Faro, Yukon**	**77.69**	**11**	IAmb		IAmb		23 06 11.0	
	comp=Z,60nm,1.1s								
FARO	**Faro, Yukon**	**77.69**	**11**	P		**P**		**23 06 09.9**	**+0.5**
	baz=342,SNR=17								
Q23K	**Middleton Isla**	**77.73**	**18**	P		**P**		**23 06 10.1**	**+0.6**
	baz=332								
MID	**Middleton Isla**	**77.74**	**18**	P		**P**		**23 06 09.4**	**-0.1**
MID				IAmb		IAmb		23 06 10.9	
	comp=Z,67nm,0.9s								
MID	**Middleton Isla**	**77.74**	**18**	P		**P**		**23 06 09.4**	**-0.1**
MID				pmax		pmax			
	comp=Z,67nm,0.9s								
KAIM	**Kayak Island**	**77.75**	**17**	P		**P**		**23 06 09.5**	**-0.1**
KAIM				IAmb		IAmb		23 06 11.9	
	comp=Z,131nm,1.5s								
KAIM	**Kayak Island**	**77.75**	**17**	P		**P**		**23 06 09.6**	**0.0**
	baz=333								
SUCK	**Suckling Hills**	**77.76**	**17**	P		**P**		**23 06 10.7**	**+1.0**
OHAK	**Old Harbor**	**77.76**	**22**	P		**P**		**23 06 09.8**	**+0.1**
OHAK				IAmb		IAmb		23 06 11.2	
	comp=Z,93nm,1.0s								
OHAK	**Old Harbor**	**77.76**	**22**	P		**P**		**23 06 09.9**	**+0.1**
	baz=327,SNR=24								
N30M	**Aishikik Lake**	**77.81**	**13**	IAmb		IAmb		23 06 12.1	
	comp=Z,46nm,0.9s								
N30M	**Aishikik Lake**	**77.81**	**13**	P		**P**		**23 06 10.6**	**+0.5**
	baz=339,SNR=14								
SNH	**Sunshine Point**	**77.87**	**16**	P		**P**		**23 06 11.1**	**+0.8**
WRGLY	**Wrigley**	**77.87**	**6**	P		**P**		**23 06 10.5**	**+0.3**
WRGLY	**Wrigley**	**77.87**	**6**	P		**P**		**23 06 11.1**	**+0.9**
	baz=349,SNR=19								
O28M	**Mount Upton**	**77.88**	**15**	P		**P**		**23 06 10.9**	**+0.2**
	baz=336,SNR=12								
TABL	**Table Mountain**	**77.99**	**15**	P		**P**		**23 06 11.1**	**-0.1**
N31M	**Braeburn, Yuko**	**78.01**	**12**	P		**P**		**23 06 11.5**	**+0.4**
N31M				IAmb		IAmb		23 06 13.3	
	comp=Z,100nm,0.9s								
N31M	**Braeburn, Yuko**	**78.01**	**12**	P		**P**		**23 06 11.5**	**+0.4**
	baz=340,SNR=24								
MESA	**MESA**	**78.06**	**16**	P		**P**		**23 06 12.3**	**+0.8**
MESA				IAmb		IAmb		23 06 16.0	
	comp=Z,70nm,1.1s								
MESA	**MESA**	**78.06**	**16**	P		**P**		**23 06 12.4**	**+0.8**
	baz=335,SNR=9.4								
YUK6	**Outpost Mounta**	**78.07**	**14**	P		**P**		**23 06 12.3**	**+0.6**
	baz=338,SNR=9.4								
HYT	**Haines Junctio**	**78.33**	**13**	P		**P**		**23 06 13.9**	**+0.8**
HYT				IAmb		IAmb		23 06 15.2	
	comp=Z,56nm,0.9s								
HYT	**Haines Junctio**	**78.33**	**13**	P		**P**		**23 06 14.2**	**+1.2**
	baz=338,SNR=20								
WIN	**Windhoek**	**78.48**	**229**	P		**P**		**23 06 14.0**	**-0.3**
WIN	**Windhoek**	**78.48**	**229**	P		**P**		**23 06 14.0**	**-0.3**
WIN				pmax		pmax			
	comp=Z,78nm,1.9s								
O29M	**Mount Kennedy**	**78.62**	**14**	P		**P**		**23 06 14.0**	**-0.6**
O29M	**Mount Kennedy**	**78.62**	**14**	P		**P**		**23 06 15.0**	**+0.4**
	baz=338								
O30N	**Mendenhall**	**78.63**	**13**	P		**P**		**23 06 15.0**	**+0.4**
O30N				IAmb		IAmb		23 06 16.3	
	comp=Z,61nm,1.0s								
O30N	**Mendenhall**	**78.63**	**13**	P		**P**		**23 06 15.1**	**+0.5**
	baz=340,SNR=20								
BCPM	**Bancas Point**	**78.74**	**15**	P		**P**		**23 06 15.4**	**+0.3**
BCPM				IAmb		IAmb		23 06 17.2	
	comp=Z,70nm,1.0s								
N32M	**Quiet Lake**	**78.76**	**11**	P		**P**		**23 06 15.2**	**0.0**
N32M	**Quiet Lake**	**78.76**	**11**	P		**P**		**23 06 14.9**	**-0.3**
	baz=342								
TABU	**Tabubil**	**78.87**	**106**	P		**P**		**23 06 16.7**	**+0.1**
BOSA	**Boshof**	**78.88**	**219**	IAmb		IAmb		23 06 22.9	
	comp=Z,34nm,0.9s								
BOSA	**Boshof**	**78.88**	**219**	⇑*i*P		**P**		**23 06 16.6**	**+0.2**
BOSA				IAmb		IAmb		23 06 22.6	
	comp=Z,33nm,0.9s								
BOSA	**Boshof**	**78.88**	**219**	P		**P**		**23 06 16.6**	**+0.2**
	comp=Z,23nm,0.8s,baz=27,slow=5.3,SNR=43								
	comp=Z,23nm,0.8s								
WHY	**Whitehorse**	**78.94**	**12**	P		**P**		**23 06 16.2**	**-0.2**
	baz=340,SNR=14								
TGTN	**Hyland Airport**	**79.05**	**9**	P		**P**		**23 06 18.0**	**+1.2**
	baz=346,SNR=15								
PNL	**Peninsula**	**79.05**	**15**	P		**P**		**23 06 17.8**	**+0.9**
PNL	**Peninsula**	**79.05**	**15**	P		**P**		**23 06 17.7**	**+0.9**
	baz=337,SNR=8.6								
P30M	**Million Dollar**	**79.09**	**13**	P		**P**		**23 06 18.2**	**+1.1**
	baz=339								
YKA	**Yellowknife Ar**	**79.10**	**2**	P		**P**		**23 06 17.1**	**+0.1**
YKA	**Yellowknife Ar**	**79.10**	**2**	*i* P		**P**		**23 06 17.2**	**+0.1**
YKA				pmax		pmax			
	comp=Z,46nm,0.9s								
YKA	**Yellowknife Ar**	**79.10**	**2**	P		**P**		**23 06 17.3**	**+0.3**
	comp=Z,43nm,0.8s,baz=349,slow=6.0,SNR=260								
YKA				S		**S**		**23 16 15.4**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=228,slow=52,SNR=2.9								
YKA				PKKPbc		**PKKPbc**		**23 25 07.6**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=165,slow=2.1,SNR=5.3								
	comp=Z,43nm,0.8s								
YKAB2	**New Yellowknif**	**79.17**	**2**	P		**P**		**23 06 17.2**	**-0.2**
P29M	**Windy Craggy**	**79.40**	**14**	P		**P**		**23 06 19.1**	**+0.3**
P29M	**Windy Craggy**	**79.40**	**14**	P		**P**		**23 06 19.1**	**+0.3**
	baz=338,SNR=5.8								
P33M	**Teslin, Yukon**	**79.70**	**11**	IAmb		IAmb		23 06 21.7	
	comp=Z,79nm,1.1s								
P33M	**Teslin, Yukon**	**79.70**	**11**	P		**P**		**23 06 20.6**	**+0.1**
	baz=342,SNR=30								
SCHQ	**Schefferville**	**79.75**	**336**	IAmb		IAmb		23 06 22.0	
	comp=Z,66nm,0.8s								
SCHQ	**Schefferville**	**79.75**	**336**	P		**P**		**23 06 21.0**	**+0.3**
	comp=Z,62nm,0.8s,baz=31,slow=5.2,SNR=95								
	comp=Z,62nm,0.8s								
PLBC	**Pleasant Camp**	**79.82**	**13**	P		**P**		**23 06 21.8**	**+0.8**
	baz=339,SNR=22								
MORW	**Morawa**	**79.98**	**140**	P		**P**		**23 06 21.3**	**-0.9**
MORW	**Morawa**	**79.98**	**140**	IAmb		IAmb		23 06 22.0	
	comp=Z,66nm,1.2s								
SKAG	**Skagway**	**80.00**	**13**	P		**P**		**23 06 23.2**	**+1.2**
SKAG	**Skagway**	**80.00**	**13**	P		**P**		**23 06 22.8**	**+0.9**
	baz=340,SNR=8.5								
P32M	**Atlin**	**80.15**	**12**	P		**P**		**23 06 22.4**	**-0.5**
P32M	**Atlin**	**80.15**	**12**	P		**P**		**23 06 23.1**	**+0.2**
	baz=341,SNR=6.7								
WTLY	**Watson Lake, Y**	**80.36**	**9**	P		**P**		**23 06 23.5**	**-0.4**
WTLY	**Watson Lake, Y**	**80.36**	**9**	P		**P**		**23 06 24.5**	**+0.6**
	baz=345								
HVD	**Gariep Dam**	**80.41**	**218**	*e*P		**P**		**23 06 24.6**	**0.0**
UPI	**Upington**	**80.71**	**222**	*e*P		**P**		**23 06 25.5**	**-0.7**
UPI				IAmb		IAmb		23 06 28.4	
	comp=Z,41nm,1.0s								
R33M	**Jennings River**	**80.75**	**11**	P		**P**		**23 06 25.9**	**-0.3**
R33M	**Jennings River**	**80.75**	**11**	P		**P**		**23 06 26.7**	**+0.5**
	baz=344								
FLDN	**Fort Liard**	**80.82**	**7**	P		**P**		**23 06 27.7**	**+1.3**
FLDN				IAmb		IAmb		23 06 28.8	
	comp=Z,55nm,0.7s								
FLDN	**Fort Liard**	**80.82**	**7**	P		**P**		**23 06 27.2**	**+0.9**
	baz=349								
KOTAN	**Kotaneelee Air**	**80.87**	**7**	P		**P**		**23 06 27.3**	**+0.6**
	baz=349								
DRLN	**Deer Lake**	**80.87**	**328**	P		**P**		**23 06 27.3**	**+0.4**
BESE	**Bessie Mountai**	**80.91**	**13**	P		**P**		**23 06 27.8**	**+0.8**
Q32M	**Nakina River**	**80.98**	**11**	IAmb		IAmb		23 06 29.2	
	comp=Z,88nm,1.6s								
Q32M	**Nakina River**	**80.98**	**11**	P		**P**		**23 06 27.9**	**+0.4**
	baz=343								
KEIM	**Keimoes**	**81.13**	**222**	*e*P		**P**		**23 06 29.5**	**+1.0**
KEIM				IAmb		IAmb		23 06 30.2	
	comp=Z,35nm,1.1s								
S31K	**Pelican**	**81.25**	**14**	P		**P**		**23 06 29.5**	**+0.8**
	baz=340								
R32K	**Eaglecrest**	**81.26**	**13**	P		**P**		**23 06 29.3**	**+0.6**
R32K	**Eaglecrest**	**81.26**	**13**	P		**P**		**23 06 29.7**	**+0.9**
	baz=341								
JIS	**Juneau Island**	**81.28**	**13**	P		**P**		**23 06 29.2**	**+0.4**
JIS	**Juneau Island**	**81.28**	**13**	P		**P**		**23 06 29.6**	**+0.8**
AUGR	**Augrabies**	**81.38**	**223**	*e*P		**P**		**23 06 29.9**	**+0.2**
AUGR				IAmb		IAmb		23 06 35.2	
	comp=Z,6.4nm,0.8s								
MANU	**Manus Island**	**81.50**	**99**	P		**P**		**23 06 30.8**	**+0.1**
MANU	**Manus Island**	**81.50**	**99**	P		**P**		**23 06 30.0**	**-0.7**
MANU				IAmb		IAmb		23 06 32.0	
	comp=Z,43nm,0.8s								
BLDU	**Ballidu**	**81.58**	**141**	P		**P**		**23 06 29.3**	**-1.4**
DLBC	**Dease Lake**	**81.81**	**10**	P		**P**		**23 06 32.0**	**+0.2**
DLBC	**Dease Lake**	**81.81**	**10**	P		**P**		**23 06 32.6**	**+0.9**
	baz=344,SNR=10								
FCC	**Fort Churchill**	**82.00**	**352**	IAmb		IAmb		23 06 34.4	
	comp=Z,97nm,1.0s								
TOAD	**Toad River Com**	**82.01**	**8**	P		**P**		**23 06 33.4**	**+0.6**
	baz=348,SNR=16								
S32K	**Killisnoo**	**82.01**	**13**	P		**P**

MATJ IAmb IAmb 23 07 04.5
comp=Z,104nm,1.3s
GBN Guysborough 85.58 328 P **P** **23 06 51.4 +0.2**
CER Ceres 85.71 220 *e*P **P** **23 06 53.0 +1.1**
CER IAmb IAmb 23 06 54.2
comp=Z,50nm,1.2s
BATG Bathurst New B 85.83 332 P **P** **23 06 52.5 0.0**
BATG IAmb IAmb 23 06 57.0
comp=Z,63nm,1.0s
COEN Coen 86.00 111 P **P** **23 06 53.6 -0.1**
COEN Coen 86.00 111 IAmb IAmb 23 06 54.5
comp=Z,41nm,0.8s
PMG Port Moresby 86.02 105 P **P** **23 06 53.7 -0.1**
PMG Port Moresby 86.02 105 P **P** **23 06 52.5 -1.3**
PMG IAmb IAmb 23 06 54.8
comp=Z,70nm,0.9s
PMG Port Moresby 86.02 105 P **P** **23 06 52.5 -1.3**
PMG pmax pmax
comp=Z,70nm,0.9s
PMG Port Moresby 86.02 105 P **P** **23 06 53.8 0.0**
comp=Z,60nm,0.7s,baz=21,slow=4.0,SNR=23
comp=Z,60nm,0.7s
ASAR Alice Springs 86.20 124 P **P** **23 06 53.2 -1.3**
ASAR Alice Springs 86.20 124 P **P** **23 06 53.3 -1.3**
ASAR Alice Springs 86.20 124 P **P** **23 06 53.7 -0.8**
comp=Z,43nm,0.8s,baz=311,slow=4.9,SNR=399
comp=Z,43nm,0.8s
AS01 Alice Springs 86.23 124 P **P** **23 06 54.3 -0.4**
LMN Caledonia Moun 86.54 330 P **P** **23 06 57.0 +1.0**
FFC Flin Flon 86.70 355 P **P** **23 06 56.9 +0.3**
FFC IAmb IAmb 23 06 58.1
comp=Z,78nm,1.1s
FFC Flin Flon 86.70 355 P **P** **23 06 56.9 +0.3**
FFC pmax pmax
comp=Z,78nm,1.1s
PQI Presque Isle 87.06 332 P **P** **23 06 59.1 +0.6**
PQI IAmb IAmb 23 07 02.8
comp=Z,29nm,0.9s
LDAQ Lac Daran 87.06 335 P **P** **23 06 59.4 +0.8**
LDAQ IAmb IAmb 23 07 03.0
comp=Z,37nm,1.2s
HAL Halifax 87.06 329 P **P** **23 06 59.6 +1.0**
HAL Halifax 87.06 329 P **P** **23 06 59.6 +1.0**
HAL pmax pmax
comp=Z,28nm,1.0s
D62A Allapoint, All 87.08 333 P **P** **23 06 58.9 +0.3**
D62A IAmb IAmb 23 07 03.1
comp=Z,50nm,1.5s
LMQ La Malbaie 87.12 334 P **P** **23 06 59.6 +0.9**
BRLDA Berland Lookou 87.38 4 P **P** **23 07 00.2 +0.2**
BRLDA IAmb IAmb 23 07 01.9
comp=Z,47nm,1.1s
FORT Forrest 87.79 133 P **P** **23 07 02.0 0.0**
QIS Mount Isa 87.86 118 P **P** **23 07 02.2 -0.5**
F64A Sherman 87.87 332 P **P** **23 07 03.9 +1.5**
F64A IAmb IAmb 23 07 21.7
comp=Z,48nm,1.8s
PKME Peaks-Kenny Pk 88.72 333 P **P** **23 07 07.4 +0.9**
baz=31
VLDQ Val d'Or 88.84 339 P **P** **23 07 07.4 +0.4**
G62A West of Eustis 89.21 333 P **P** **23 07 10.3 +1.5**
WVL Waterville 89.46 332 P **P** **23 07 10.1 +0.2**
MTSU Mount Surprise 89.57 114 P **P** **23 07 11.2 +0.4**
TRQ Mont Tremblant 89.67 336 P **P** **23 07 11.1 +0.1**
OOD Oodnadatta 90.24 126 P **P** **23 07 13.2 -0.4**
LBNH Lisbon 90.55 334 P **P** **23 07 15.6 +0.6**
baz=29
ULM Lac du Bonnet 90.56 351 IAmb IAmb 23 07 15.8
comp=Z,34nm,0.9s
ULM Lac du Bonnet 90.56 351 P **P** **23 07 14.7 -0.2**
comp=Z,21nm,0.8s,baz=7.0,slow=5.2,SNR=41
comp=Z,21nm,0.8s
FRNY Flat Rock 90.59 335 P **P** **23 07 15.3 +0.1**
MULG Mulgathing 90.98 129 P **P** **23 07 16.5 -0.5**
WBO Williamsburg 90.99 336 P **P** **23 07 17.3 +0.3**
LONY Lake Ozonia 91.11 335 IAmb IAmb 23 07 20.3
comp=Z,26nm,0.9s
LONY Lake Ozonia 91.11 335 P **P** **23 07 18.1 +0.5**
baz=27,SNR=18
HNH Hanover 91.14 334 P **P** **23 07 17.6 -0.1**
J61A Chester 91.55 334 P **P** **23 07 20.1 +0.4**
OZB Mount Ozzard 91.67 10 P **P** **23 07 20.6 +0.4**
HRV Adam Dziewonsk 91.93 333 P **P** **23 07 21.9 +0.4**
baz=29
CLRS Cowichan Lake 91.99 9 IAmb IAmb 23 07 38.7
comp=Z,32nm,1.2s
TV1H Townsville Har 92.08 113 P **P** **23 07 22.4 0.0**
B35A Bob, Littefor 92.12 349 IAmb IAmb 23 07 23.2
comp=Z,26nm,1.1s
DELO Deloro Mine 92.15 337 IAmb IAmb 23 07 24.0
comp=Z,24nm,0.8s
EYMN Ely 92.17 348 P **P** **23 07 22.4 -0.2**
baz=14,SNR=13
CTAO Charters Tower 92.22 114 P **P** **23 07 22.9 -0.2**
CTAO Charters Tower 92.22 114 P **P** **23 07 23.2 +0.2**
CTAO IAmb IAmb 23 07 24.2
comp=Z,38nm,0.8s
CTAO Charters Tower 92.22 114 P **P** **23 07 23.2 +0.2**
CTAO pmax pmax
comp=Z,38nm,0.8s
L61B Northampton 92.38 333 P **P** **23 07 23.8 +0.2**
baz=28
AGMN Agassiz Nation 92.48 351 IAmb IAmb 23 07 25.1
comp=Z,30nm,0.9s
AGMN Agassiz Nation 92.48 351 P **P** **23 07 24.1 +0.1**
baz=11,SNR=17
D41A Chassel 92.49 345 IAmb IAmb 23 07 25.2
comp=Z,33nm,0.8s
E43A Lone Tree Farm 92.83 344 IAmb IAmb 23 07 26.6
comp=Z,25nm,0.9s
DGMT Dagmar 93.07 356 IAmb IAmb 23 07 29.0
comp=Z,46nm,1.1s
DGMT Dagmar 93.07 356 P **P** **23 07 27.5 +0.9**
baz=4.5,SNR=5.8
NEW Newport 93.20 5 IAmb IAmb 23 07 29.1
comp=Z,22nm,0.9s
NEW Newport 93.20 5 P **P** **23 07 27.9 +0.6**
baz=354
MDND Maddock 93.34 353 P **P** **23 07 28.5 +0.6**
baz=8.1
GNW Green Mountain 93.38 9 IAmb IAmb 23 07 30.7
comp=Z,31nm,1.1s
NLWA Neilton Lookou 93.42 9 IAmb IAmb 23 07 31.1
comp=Z,34nm,1.1s
COWI Conover 93.53 346 IAmb IAmb 23 07 29.7
comp=Z,26nm,0.8s
F42A Maple Grove Fa 93.65 345 IAmb IAmb 23 07 30.5
comp=Z,40nm,0.8s
LCRK Leigh Creek 93.67 126 P **P** **23 07 28.9 -0.6**
EGMT Eagleton 93.67 360 IAmb IAmb 23 07 31.7
comp=Z,22nm,0.9s
EGMT Eagleton 93.67 360 P **P** **23 07 29.9 +0.4**
baz=0.2,SNR=13
BINY Binghamton 93.73 335 P **P** **23 07 30.3 +0.5**
baz=26
GLMI Grayling 93.76 342 P **P** **23 07 30.0 +0.2**
baz=20
BBOO Buckleboo 93.96 129 P **P** **23 07 30.0 -0.8**
BBOO Buckleboo 93.96 129 IAmb IAmb 23 07 30.8
comp=Z,40nm,1.1s
F36A Milaca 94.53 348 IAmb IAmb 23 07 34.3
comp=Z,23nm,0.8s
G40A Rib Lake 94.53 346 IAmb IAmb 23 07 34.6
comp=Z,37nm,0.8s
LAO LASA Array 94.94 357 IAmb IAmb 23 07 37.9
comp=Z,38nm,0.9s
LAO LASA Array 94.94 357 P **P** **23 07 36.7 +1.4**
baz=3.0,SNR=7.4
F33A 5 Mile Ranch, 94.95 350 IAmb IAmb 23 07 36.7
comp=Z,28nm,1.1s
QLP Quilpie 95.03 120 P **P** **23 07 35.9 +0.1**
SPMN Marine on St. 95.03 348 P **P** **23 07 35.8 +0.1**
baz=13,SNR=11
WHYH Whyalla 95.04 129 P **P** **23 07 35.1 -0.6**
ERPA Erie 95.04 338 IAmb IAmb 23 07 38.4
comp=Z,23nm,1.1s
ERPA Erie 95.04 338 P **P** **23 07 36.4 +0.6**
baz=23
SSPA Standing Stone 95.75 336 P **P** **23 07 39.2 +0.1**
baz=25
M53A WI Miller and 95.87 338 P **P** **23 07 39.7 +0.1**
baz=23
BOZ Bozeman (W) 96.09 1 P **P** **23 07 41.5 +0.8**
baz=359,SNR=16
HTT Hallett 96.13 128 P **P** **23 07 40.4 -0.4**
I37A Lemond, Waseca 96.31 348 IAmb IAmb 23 07 43.0
comp=Z,25nm,0.9s
RLMT Red Lodge 96.57 359 IAmb IAmb 23 07 45.1
comp=Z,16nm,1.1s
RLMT Red Lodge 96.57 359 P **P** **23 07 43.8 +0.8**
baz=0.6,SNR=11
SUSD Miller 96.64 352 P **P** **23 07 43.5 +0.4**
baz=8.7
STKA Stephens Creek 96.77 126 P **P** **23 07 42.5 -1.1**
comp=Z,4.2nm,0.8s,baz=287,slow=21,SNR=6.7
comp=Z,4.2nm,0.8s
JFWS Jewell Farm 96.81 345 P **P** **23 07 43.9 +0.1**
baz=15,SNR=7.3
L44A Lake County Fo 97.03 344 P Pdif 23 07 45.1 +0.2
baz=17
ECSD EROS Data Cent 97.06 350 IAmb IAmb 23 07 49.2
comp=Z,22nm,0.8s
O53A New Philadelph 97.12 338 P Pdif 23 07 45.7 +0.3
baz=22
I04A Tendick Farm, 97.15 9 IAmb IAmb 23 07 49.2
comp=Z,20nm,1.4s
MCWV Mont Chateau 97.26 337 P Pdif 23 07 46.3 +0.3
baz=23
H17A Grant Village 97.30 0 IAmb IAmb 23 07 50.0
comp=Z,14nm,1.1s
H17A Grant Village 97.30 0 P Pdif 23 07 48.9 +2.4
baz=360,SNR=9.2
RSSD Black Hills 97.39 356 P Pdif 23 07 47.8 +0.9
RSSD IAmb IAmb 23 07 48.5
comp=Z,22nm,1.3s
RSSD Black Hills 97.39 356 P Pdif 23 07 47.1 +0.3
baz=4.7
RSSD Black Hills 97.39 356 P Pdif 23 07 47.8 +1.0
RSSD pmax pmax
comp=Z,22nm,1.3s
FLWY Flagg Ranch 97.61 0 IAmb IAmb 23 07 50.8
comp=Z,12nm,1.1s
ACSO Alum Creek Sta 97.64 339 P Pdif 23 07 47.9 +0.2
baz=21
J05D Fort Rock, OR 97.79 8 IAmb IAmb 23 07 53.3
comp=Z,12nm,1.1s
P52A Corning 97.96 339 P **P** **23 07 48.9 -0.2**
baz=22
HLID Hailey 98.04 3 P Pdif 23 07 49.8 +0.2
baz=356
O48B Farmland 98.19 341 P Pdif 23 07 50.6 +0.5
baz=19
SCIA State Center 98.33 347 P Pdif 23 07 50.9 +0.2
baz=13
K05A Summer Lake 98.38 8 IAmb IAmb 23 07 53.5
comp=Z,15nm,1.2s
SFIN Lafayette 98.55 342 P Pdif 23 07 52.7 +0.9
baz=18
P49A Miami Univ. Ec 98.76 340 P Pdif 23 07 53.5 +0.8
baz=20
HDIL Hopedale 98.88 344 IAmb IAmb 23 07 54.9
comp=Z,12nm,0.7s
HDIL Hopedale 98.88 344 P Pdif 23 07 54.0 +0.8
baz=16
PDAR Pinedale Array 98.93 360 P Pdif 23 07 54.1 +0.4
comp=Z,1.6nm,0.9s,baz=46,slow=2.5,SNR=10
PDAR PKiKP **PKiKP** **23 12 24.2 -0.1**
comp=Z,0.6nm,0.5s,baz=88,slow=2.3,SNR=5.5
comp=Z,1.6nm,0.9s
P48A Milroy 99.01 341 IAmb IAmb 23 07 56.4
comp=Z,15nm,1.1s
CMSA Cobar Meteorol 99.19 123 P **Pdif** **23 07 54.2 -0.3**
BLA Blacksburg 99.68 336 P **Pdif** **23 07 57.8 +0.9**
baz=23
N23A Red Feather La 100.71 357 P **Pdif** **23 08 00.3 -1.4**
baz=3.2
TZTN Tazewell 101.24 338 P **Pdif** **23 08 03.0 -0.8**
baz=21
DUG Dugway, Tooele 101.46 2 P **Pdif** **23 08 05.4 +0.5**
baz=356
O20A White River Ci 101.54 359 P **Pdif** **23 08 05.8 +0.5**
baz=1.4
KSU1 Kansas State U 101.61 349 P **Pdif** **23 08 05.9 +0.5**
baz=11
CCM Cathedral Cave 101.69 345 P **Pdif** **23 08 06.0 +0.2**
baz=15
KMSC Kings Mountain 101.87 336 P **Pdif** **23 08 07.0 +0.4**
baz=22
CBKS Cedar Bluff 102.29 352 P **Pdif** **23 08 09.2 +0.7**
baz=8.2
WVT Waverly 102.77 342 P **Pdif** **23 08 10.8 +0.3**
baz=18
NVAR Mina Array Bea 102.89 7 Pdiff **Pdif** **23 08 11.7 +0.3**
comp=Z,1.1nm,0.8s,baz=340,slow=4.2,SNR=4.4
NVAR PKiKP **PKiKP** **23 12 31.6 0.0**
comp=Z,1.4nm,0.7s,baz=35,slow=3.3,SNR=4.2
R11B Troy Canyon, C 103.17 4 P **Pdif** **23 08 12.7 +0.1**
baz=356
MNTX Cornudas Mount 109.84 356 P **PKiKP** **23 12 44.9 +0.5**
baz=3.8
TXAR Lajitas Array 112.07 354 Pdiff **Pdif** **23 08 53.5 +1.3**
comp=Z,0.4nm,0.7s,baz=6.9,slow=2.3,SNR=5.5
TXAR PKiKP **PKiKP** **23 12 49.8 +1.1**
comp=Z,0.5nm,0.8s,baz=326,slow=4.6,SNR=4.0
TXAR PKKPbc **PKKPbc** **23 23 39.9 +0.4**
comp=Z,1.9nm,0.8s,baz=184,slow=5.8,SNR=17
ELIB Princess Elisa 115.07 194 *d*PKiKP **PKiKP** **23 12 53.4 +0.3**
SDV Santo Domingo 120.11 313 **PKPdf** **23 13 04.2 -0.5**
ROSC El Rosal 125.50 314 PKP **PKiKP** **23 13 15.5 -0.1**
comp=Z,32nm,0.7s,baz=139,slow=7.7,SNR=21
LCR2 La Lucha 2 126.04 328 **PKiKP** **23 13 16.5 0.0**
VNDA Vanda 127.83 164 PKP **PKPdf** **23 13 17.4 +0.2**
comp=Z,2.2nm,0.9s,baz=266,slow=5.3,SNR=9.1
QSPA South Pole Qui 128.48 180 PKP **PKPdf** **23 13 18.6 -0.3**
comp=Z,12nm,0.8s,baz=282,slow=1.2,SNR=46
SAML Samuel 128.65 293 PKPdf **PKiKP** **23 13 21.2 -0.1**
SAML Samuel 128.65 293 PKiKP **PKiKP** **23 13 21.2 -0.1**
SBA Scott Base 128.91 164 PKPdf **PKiKP** **23 13 20.8 +0.8**
SBA Scott Base 128.91 164 PKiKP **PKiKP** **23 13 20.8 +0.8**
CPUP Villa Florida 134.40 269 PKiKP **PKPdf** **23 13 31.0 -0.2**
CPUP Villa Florida 134.40 269 PKP **PKPdf** **23 13 31.0 -0.2**
comp=Z,13nm,0.7s,baz=64,slow=1.8,SNR=30
CPUP PP **PP** **23 16 04.4 +0.6**
comp=Z,4.5nm,1.0s,baz=160,slow=3.3,SNR=3.7
ITQB Itaqui 135.41 265 PKPdf **PKPdf** **23 13 33.7 +0.7**
LPAZ La Paz 137.09 289 PKP **PKPdf** **23 13 37.0 -0.2**
comp=Z,12nm,0.8s,baz=9.4,slow=1.9,SNR=28
PPT Papeete 139.72 70 PKiKP **PKPdf** **23 13 41.0 -0.3**
PPT Papeete 139.72 70 PKP **PKPdf** **23 13 41.0 -0.3**
comp=Z,30nm,0.6s,baz=282,slow=7.2,SNR=1.4
LVC Limon Verde 141.47 282 **PKPdf** **23 13 42.3 -2.5**
LVC Limon Verde 141.47 282 PKiKP **PKPdf** **23 13 42.3 -2.5**
GO02 Mina Guanaco 143.38 279 PKPdf **PKPdf** **23 13 48.2 +0.1**
LCO Las Campanas 146.12 275 PKPdf **PKPbc** **23 13 53.5 -0.1**
LCO Las Campanas 146.12 275 PKP2 **PKPbc** **23 13 53.5 -0.1**
PLCA Paso Flores 149.69 253 PKP **PKPdf** **23 13 58.2 +0.3**
comp=Z,13nm,1.1s,baz=98,slow=1.6,SNR=14
PLCA PKPbc **PKPbc** **23 14 03.0 +0.4**
comp=Z,34nm,0.9s,baz=102,slow=3.5,SNR=16
GO08 Villa O'Higgin 151.36 238 **PKiKP** **23 14 06.8 +0.1**

DJA 29 22:55:24.1±0.4, 1°N±4°×12°3E±°, h10km, M4.2/10, mb4.5/1, MLv4.0/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
GTOI	**Gorontalo**	**0.73**	**189**	P	P	Pg	22 55 37.4	-0.8
GTOI				S	S	Sg	22 55 44.3	-3.5
KMSI	**Cibinong**	**1.15**	**133**	P	P	Pb	22 55 46.1	-0.1
MRSI	**Marisa**	**1.48**	**234**	P	P	Pb	22 55 51.7	0.0
LUWI	**Luwuk**	**2.41**	**189**	P	P	Pn	22 56 04.2	+0.5
SGSI	**Sangihe**	**3.33**	**46**	P	P	Pn	22 56 14.0	-2.3
MPSI	**Mapaga**	**3.39**	**253**	P	P	Pn	22 56 17.8	+0.7
SANI	**Sanana**	**4.43**	**140**	P	P	Pn	22 56 31.4	0.0
LBMI	**Labuha**	**4.80**	**114**	P	P	Pn	22 56 36.0	-0.5
TTSI	**Tana Toraja**	**5.49**	**217**	P	P	Pn	22 56 46.8	+0.8

IDC 29 22:57:32.9±3.2, 5.75S×152.36E, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=93.6km s-min=51.4km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.49**	**230**	P	P	P	23 02 34.2	0.0
	2.2nm,0.5s,baz=53,slow=9.9,SNR=9.1							
	2.2nm,0.5s							
ASAR	**Alice Springs**	**25.16**	**223**	P	P	P	23 03 00.1	-0.1
	1.4nm,0.7s,baz=57,slow=8.7,SNR=9.0							
	1.4nm,0.7s							
STKA	**Stephens Creek**	**27.88**	**200**	P	P	P	23 03 24.2	-0.3
	1.0nm,0.5s,baz=8.1,slow=14,SNR=2.9							
	1.0nm,0.5s							
TORD	**Torodi Ar. Bea**	**150.17**	**286**	PKPbc	PKPbc		23 17 26.9	-0.1
	3.2nm,1.1s,baz=68,slow=3.8,SNR=1.6							

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*STR **29** 23:00:30.9±1.5, 42°N±14°×1°2E±°, h10km, MLv3.9/12, Error ellipse: s-maj=0.0km s-min=0.0km az=8.6, preliminary*
*ROM **29** 23:00:43.0±0.1, 43°.032N±0°.004×11°.575E±0°.004, h8km, ML2.9/114, Error ellipse: s-maj=0.4km s-min=0.3km az=182.0*
*LDG **29** 23:00:42.0±1.1, 43°.03N×11°.58E, h9km, Ml2.5/3, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*

ISC 29 23:00:43.2±0.9, 43°.02N±0°.02×11°.57E±0°.01, h18km±3km, n140, σ1$53/181, 20C-12D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SF11	**Podere del Sol**	**0.17**	**153**	⇑P	P	**Pb**	**23 00 47.4**	**-0.1**
SF11				S	S	**Sb**	**23 00 50.1**	**-0.1**
ARCI	**Arcidosso**	**0.18**	**203**	⇑P	P	**Pb**	**23 00 47.7**	**-0.1**
ARCI				S	S	**Sg**	**23 00 51.0**	**-0.2**
ARCI				AML	AML			
	comp=E,5890μm,0.3s							
ARCI				AML	AML			
	comp=N,11350μm,0.6s							
ARCI				AML	AML			
	comp=E,3850μm,0.7s							
ARCI				AML	AML			
	comp=N,7076μm,0.4s							
SF04	**Casetta**	**0.19**	**161**	⇑P	P	**Pb**	**23 00 48.0**	**0.0**
SF04				S	S	**Sb**	**23 00 50.9**	**-0.3**
SF04				AML	AML			
	comp=E,37700μm,0.2s							
SF04				AML	AML			
	comp=N,34550μm,0.2s							
SF04				AML	AML			
	comp=E,37750μm,0.2s							
SF04				AML	AML			
	comp=E,23617μm,0.3s							
SF01	**Poggio Pratacc**	**0.21**	**182**	⇑P	P	**Pb**	**23 00 48.2**	**-0.1**
SF01				S	S	**Sb**	**23 00 51.6**	**0.0**
SF01				AML	AML			
	comp=N,14715μm,0.3s							
SF01				AML	AML			
	comp=N,14680μm,0.3s							
SF01				AML	AML			
	comp=E,15550μm,0.4s							
SF01				AML	AML			
	comp=N,14670μm,0.3s							
SF03	**Valle Cupa**	**0.23**	**159**	⇑P	P	**Pb**	**23 00 48.6**	**-0.1**
SF03				S	S	**Sb**	**23 00 52.0**	**-0.4**
MCIV	**Monte Civitell**	**0.25**	**163**	⇑P	P	**Pg**	**23 00 49.0**	**0.0**
MCIV				S	S	**Sg**	**23 00 52.7**	**-0.2**
MCIV				AML	AML			
	comp=E,6580μm,0.6s							
MCIV				AML	AML			
	comp=N,6560μm,0.4s							
MCIV				AML	AML			
	comp=N,6560μm,0.4s							
MCIV				AML	AML			
	comp=N,6560μm,1.6s							
MCIV				AML	AML			
	comp=E,5006μm,1.3s							
MCIV				AML	AML			
	comp=N,5380μm,2.2s							
SACS	**San Casciano d**	**0.30**	**124**	⇑P	P	**Pb**	**23 00 50.8**	**+0.8**
SACS				S	S	**Sb**	**23 00 55.3**	**+0.6**
SACS				AML	AML			
	comp=N,1885μm,1.1s							
SACS				AML	AML			
	comp=N,1905μm,1.6s							
SACS				AML	AML			
	comp=N,1910μm,1.6s							
SACS				AML	AML			
	comp=N,1910μm,0.4s							
SACS				AML	AML			
	comp=E,2350μm,1.6s							
SACS				AML	AML			
	comp=E,2230μm,1.6s							
SACS				AML	AML			
	comp=E,1160μm,1.7s							
FROS	**Frosini**	**0.36**	**302**	⇑P	P	**Pg**	**23 00 50.6**	**-0.2**
FROS				AML	AML			
	comp=E,3715μm,0.8s							
FROS				AML	AML			
	comp=N,4325μm,1.1s							
FROS				AML	AML			
	comp=N,4325μm,1.1s							
FROS				AML	AML			
	comp=E,3715μm,1.2s							
FROS				AML	AML			
	comp=N,4325μm,0.9s							
FROS				AML	AML			
	comp=E,2835μm,0.5s							
FROS	**Frosini**	**0.36**	**302**	P	P	**Pg**	**23 00 50.5**	**-0.3**
FROS				S	S	**Sg**	**23 00 55.1**	**-0.9**
RIBO	**Ribolla Roccas**	**0.39**	**260**	⇓P	P	**Pg**	**23 00 51.5**	**+0.1**
RIBO				S	S	**Sb**	**23 00 57.3**	**-0.1**
RIBO	**Ribolla Roccas**	**0.39**	**260**	AML	AML			
	comp=E,12021μm,0.6s							
MGAB	**Montegabbione**	**0.41**	**105**	⇓P	P	**Pg**	**23 00 51.4**	**-0.3**
MGAB				S	S	**Sb**	**23 00 58.4**	**+0.5**
MGAB				AML	AML			
	comp=N,3315μm,0.8s							
MGAB				AML	AML			
	comp=E,4295μm,0.6s							
MGAB				AML	AML			
	comp=E,3855μm,0.6s							
MGAB				AML	AML			
	comp=N,3205μm,0.2s							
MGAB				AML	AML			
	comp=N,3315μm,1.2s							
MGAB				AML	AML			
	comp=E,2977μm,0.4s							
MGAB				AML	AML			
	comp=E,2722μm,0.4s							
MGAB				AML	AML			
	comp=N,2956μm,0.2s							
CAFI	**Castiglion Fio**	**0.42**	**43**	⇑P	P	**Pg**	**23 00 51.1**	**-0.8**
CAFI				S	S	**Sg**	**23 00 57.5**	**-0.3**
CAFI				AML	AML			
	comp=N,1640μm,0.4s							
CAFI				AML	AML			
	comp=N,1685μm,0.5s							
CAFI				AML	AML			
	comp=E,2905μm,0.5s							
CAFI				AML	AML			
	comp=E,2795μm,0.5s							
CAFI				AML	AML			
	comp=N,1085μm,0.7s							
CAFI				AML	AML			
	comp=E,1950μm,0.6s							
CAFI				AML	AML			
	comp=N,1102μm,0.7s							
CAFI				AML	AML			
	comp=E,2042μm,0.6s							
LATE	**Laterza**	**0.44**	**157**	⇑P	P	**Pb**	**23 00 52.6**	**+0.1**
LATE				S	S	**Sb**	**23 00 58.8**	**+0.1**
LATE				AML	AML			
	comp=E,3275μm,1.5s							
LATE				AML	AML			
	comp=N,5415μm,0.4s							
LATE				AML	AML			
	comp=E,3275μm,0.5s							
TRIF	**Trifonti**	**0.50**	**281**	P	P	**Pb**	**23 00 53.5**	**0.0**
TRIF				S	S	**Sb**	**23 01 00.7**	**+0.2**
TRIF				AML	AML			
	comp=E,1940μm,0.9s							
TRIF				AML	AML			
	comp=N,1240μm,0.6s							
TRIF				AML	AML			
	comp=E,1940μm,0.9s							
TRIF				AML	AML			
	comp=N,814μm,1.8s							
TRIF				AML	AML			
	comp=E,1153μm,0.6s							
OSSC	**Osservatorio P**	**0.56**	**335**	⇑P	P	**Pg**	**23 00 53.5**	**-0.9**
OSSC				S	S	**Sg**	**23 01 01.9**	**0.0**
OSSC				AML	AML			
	comp=E,1310μm,0.7s							
OSSC				AML	AML			
	comp=E,1285μm,0.5s							
OSSC				AML	AML			
	comp=N,1265μm,0.5s							
OSSC				AML	AML			

OSSC comp=E,1285μm,1.5s AML AML
OSSC comp=N,1295μm,0.8s AML AML
OSSC comp=E,1310μm,0.8s AML AML
OSSC comp=E,995μm,0.4s AML AML
OSSC comp=E,847μm,0.4s AML AML
OSSC comp=N,988μm,0.4s AML AML
OSSC comp=N,841μm,0.4s AML AML
OSSC Osservatorio P 0.56 335 P **Pg** 23 00 53.5 -0.9
OSSC S **Sg** 23 01 01.2 -0.7
CASP Castiglione de 0.57 247 ⇑P **Pg** 23 00 54.7 +0.1
CASP S **Sb** 23 01 03.1 +0.7
CASP AML AML
CASP comp=E,1835μm,0.5s AML AML
CASP comp=N,1735μm,1.6s AML AML
CASP comp=E,1835μm,1.5s AML AML
CASP comp=N,1735μm,0.4s AML AML
CASP comp=N,1095μm,1.8s AML AML
ATVA AVT- Monte Val 0.58 63 ⇑P **Pb** 23 00 53.8 -1.1
ATVA S **Sg** 23 01 02.3 -0.3
ATMI Monte Miggiano 0.60 58 P **Pb** 23 00 54.5 -0.6
ATMI S **Sb** 23 01 03.3 +0.1
ATMI AML AML
ATMI comp=N,9685μm,1.3s AML AML
ATMI comp=N,9685μm,0.7s AML AML
ATMI comp=E,7655μm,0.4s AML AML
ATMI comp=E,5472μm,0.3s AML AML
CDCA Citt' di Caste 0.65 47 P **Pb** 23 00 55.4 -0.6
CDCA S **Sg** 23 01 05.1 +0.3
CDCA AML AML
CDCA comp=N,4522μm,0.2s AML AML
CRE Caprese Michel 0.66 24 ⇑P **Pb** 23 00 55.9 -0.4
CRE S **Sg** 23 01 05.4 +0.3
CRE AML AML
CRE comp=E,821μm,0.5s AML AML
CRE comp=N,1355μm,1.2s AML AML
CRE comp=E,225μm,0.1s AML AML
CRE comp=N,84μm,0.1s AML AML
MAON Monte Argentar 0.67 209 ⇓P **Pg** 23 00 56.9 +0.4
MAON AML AML
MAON comp=N,796μm,0.9s AML AML
MAON comp=E,810μm,1.0s AML AML
MAON comp=N,796μm,1.1s AML AML
MAON comp=E,669μm,0.6s AML AML
MAON Monte Argentar 0.67 209 P **Pg** 23 00 56.9 +0.4
ATLO AVT- Montelove 0.68 64 ⇑P **Pb** 23 00 55.7 -0.8
ATLO S **Sb** 23 01 05.1 -0.5
SSP9 Sansepolcro 0.69 36 ⇓P **Pb** 23 00 56.4 -0.3
SSP9 S **Sg** 23 01 06.4 +0.5
SSP9 AML AML
SSP9 comp=N,1390μm,0.5s AML AML
SSP9 comp=N,1385μm,0.5s AML AML
SSP9 comp=E,1600μm,0.4s AML AML
SSP9 comp=E,599μm,0.6s AML AML
SSP9 comp=N,650μm,0.7s AML AML
BADI Badiali 0.69 45 P **Pb** 23 00 56.2 -0.6
BADI S **Sg** 23 01 06.3 +0.2
BADI AML AML
BADI comp=E,1370μm,1.1s AML AML
BADI comp=N,1365μm,0.5s AML AML
BADI comp=E,1163μm,1.0s AML AML
ATVO AVT- Monte Val 0.71 59 P **Pb** 23 00 56.4 -0.7
ATVO S **Sg** 23 01 07.0 +0.4
ATVO AML AML
ATVO comp=N,1220μm,0.4s AML AML
ATVO comp=E,2025μm,1.3s AML AML
ATVO comp=E,2025μm,0.7s AML AML
ATVO comp=N,1220μm,1.6s AML AML
ATVO comp=N,526μm,0.5s AML AML
ATVO comp=E,964μm,0.0s AML AML
MAGO Bibbona 0.72 291 P **Pg** 23 00 57.4 +0.1
MAGO AML AML
MAGO comp=E,510μm,0.8s AML AML
MAGO comp=N,474μm,1.2s AML AML
MAGO comp=E,510μm,0.8s AML AML
MAGO comp=E,510μm,1.2s AML AML
MAGO comp=N,474μm,0.8s AML AML
ATPI Pietralunga - 0.74 54 ⇑P **Pb** 23 00 57.0 -0.7
ATPI S **Sb** 23 01 07.4 -0.1
ATPI AML AML
ATPI comp=N,1720μm,0.6s AML AML
ATPI comp=E,1425μm,0.6s AML AML
MOMA Monte Martano 0.76 106 P **Pg** 23 00 58.2 0.0
MOMA S **Sn** 23 01 09.6 -0.7
MOMA AML AML
MOMA comp=N,946μm,0.3s AML AML
MOMA comp=E,1510μm,0.7s AML AML
MOMA comp=N,824μm,0.9s AML AML
MOMA comp=E,1475μm,0.7s AML AML
MOMA comp=N,825μm,0.9s AML AML
MOMA comp=N,946μm,0.3s AML AML
MOMA comp=E,1510μm,1.3s AML AML
MOMA comp=E,1475μm,1.3s AML AML
ATPC Poggio Castell 0.79 54 P **Pb** 23 00 57.9 -0.6
PARC Parchiule 0.80 37 ⇑P **Pb** 23 00 58.0 -0.5
PARC S **Sg** 23 01 09.7 +0.4
PARC AML AML
PARC comp=E,1180μm,0.5s AML AML
PARC comp=N,1660μm,0.5s AML AML
ATCC AVT- Casa Cast 0.80 78 ⇓P **Pb** 23 00 58.2 -0.3
ATCC S **Sg** 23 01 09.6 +0.2
ATCC AML AML
ATCC comp=E,2940μm,0.6s AML AML
ATCC comp=N,3370μm,0.6s AML AML
ATCC comp=E,2940μm,1.4s AML AML
APEC Apecchio 0.82 49 ⇓P **Pb** 23 00 58.5 -0.5
APEC S **Sg** 23 01 10.3 +0.2
APEC AML AML
APEC comp=E,1750μm,0.5s AML AML
APEC comp=N,1330μm,0.3s AML AML
APEC comp=E,1750μm,1.5s AML AML
RUFI Rufina 0.82 357 ⇓P **Pb** 23 00 58.6 -0.4
RUFI AML AML
RUFI comp=N,602μm,0.6s AML AML
RUFI comp=N,601μm,0.6s AML AML
RUFI comp=E,366μm,1.3s AML AML
RUFI Rufina 0.82 357 P **Pb** 23 00 58.6 -0.4
ATBU Serra di Buran 0.85 57 P **Pb** 23 00 59.1 -0.3

CESX Cesi 0.85 119 P **Pn** 23 01 00.4 +0.1
CESX AML AML
CESX comp=E,374μm,0.3s AML AML
CESX comp=N,324μm,0.5s AML AML
CESX comp=E,374μm,1.7s AML AML
PIEI Pieia 0.87 53 ⇑P **Pb** 23 00 59.5 -0.4
PIEI AML AML
PIEI comp=E,750μm,1.2s AML AML
PIEI comp=N,828μm,1.1s AML AML
PIEI comp=E,750μm,0.8s AML AML
CRMI Carmignano 0.89 330 P **Pb** 23 01 00.0 -0.1
CRMI AML AML
CRMI comp=E,220μm,1.0s AML AML
CRMI comp=N,280μm,1.5s AML AML
CRMI comp=N,103μm,1.5s AML AML
CRMI comp=N,280μm,0.5s AML AML
CRMI comp=E,87μm,0.6s AML AML
CRMI comp=N,103μm,0.5s AML AML
CRMI comp=E,220μm,1.0s AML AML
SFI Santa Sofia 0.91 13 P **Pb** 23 01 00.1 -0.4
SFI AML AML
SFI comp=N,678μm,0.8s AML AML
SFI comp=N,650μm,0.8s AML AML
SFI comp=N,650μm,1.2s AML AML
SFI comp=N,678μm,1.2s AML AML
SFI comp=E,620μm,0.6s AML AML
SFI comp=E,604μm,0.7s AML AML
ATSC Scheggia e Pas 0.91 63 P **Pb** 23 01 00.3 -0.2
FOSV Fossato di Vic 0.91 72 P **Pb** 23 01 00.2 -0.3
FOSV S **Sg** 23 01 12.9 -0.1
FOSV AML AML
FOSV comp=E,784μm,0.6s AML AML
FOSV comp=N,660μm,0.4s AML AML
FOSV comp=N,660μm,1.6s AML AML
NARO Abbazia di Nar 0.94 51 P **Pb** 23 01 00.5 -0.6
NARO AML AML
NARO comp=E,310μm,1.3s AML AML
NARO comp=E,310μm,0.7s AML AML
NARO comp=N,401μm,0.8s AML AML
CPGN Carpegna, Ital 0.95 35 ⇓P **Pn** 23 01 01.8 -0.1
CESI CESI - Serrava 0.98 90 P **Pb** 23 01 01.8 +0.1
CESI AML AML
CESI comp=N,681μm,0.7s AML AML
CESI comp=N,681μm,1.3s AML AML
CESI comp=E,437μm,0.7s AML AML
CESI comp=E,411μm,0.8s AML AML
SSFR Montelago di S 0.98 64 P **Pb** 23 01 01.1 -0.5
SSFR S **Sn** 23 01 15.3 -0.2
SSFR AML AML
SSFR comp=N,1305μm,0.6s AML AML
SSFR comp=E,1064μm,1.1s AML AML
SSFR comp=E,1050μm,1.1s AML AML
SSFR comp=N,1455μm,0.6s AML AML
FRON Frontone 0.98 59 P **Pb** 23 01 01.3 -0.3
ARRO Arrone 0.98 116 P **Pg** 23 01 02.5 +0.2
ARRO AML AML
ARRO comp=E,245μm,1.0s AML AML
ARRO comp=E,245μm,1.0s AML AML
ARRO comp=N,258μm,0.6s AML AML
MPPT Montemurlo 1.00 340 P **Pb** 23 01 02.1 0.0
MPPT AML AML
MPPT comp=E,283μm,1.6s AML AML
MPPT comp=N,209μm,1.5s AML AML
MPPT comp=N,209μm,0.5s AML AML
MPPT comp=N,191μm,0.4s AML AML
MPPT comp=E,229μm,5.1s AML AML
TOLF Tolfa 1.00 162 ⇓P **Pg** 23 01 03.1 +0.4
TOLF AML AML
TOLF comp=E,230μm,1.5s AML AML
TOLF comp=N,324μm,1.1s AML AML
TOLF comp=N,324μm,0.9s AML AML
TOLF comp=E,230μm,0.5s AML AML
SNTG Esanatoglia 1.03 76 ⇑P **Pb** 23 01 02.5 0.0
SNTG S **Sn** 23 01 17.5 +0.8
SNTG AML AML
SNTG comp=E,710μm,0.8s AML AML
SNTG comp=N,874μm,0.4s AML AML
SNTG comp=N,794μm,0.5s AML AML
SNTG comp=E,728μm,0.8s AML AML
CELB S.Piero in Cam 1.04 255 ⇓P **Pb** 23 01 02.8 +0.1
CELB S **Sn** 23 01 17.0 0.0
CELB AML AML
CELB comp=E,435μm,0.4s AML AML
CELB comp=N,373μm,0.9s AML AML
CELB comp=N,373μm,1.1s AML AML
CELB S.Piero in Cam 1.04 255 P **Pb** 23 01 02.8 +0.1
PII Pisa 1.04 313 P **Pb** 23 01 02.5 -0.2
PII AML AML
PII comp=N,234μm,1.5s AML AML
PII comp=E,217μm,0.7s AML AML
PII comp=N,234μm,0.5s AML AML
PII Pisa 1.04 313 P **Pb** 23 01 02.6 0.0
SRES S.Oreste - Sor 1.04 138 P **Pb** 23 01 02.6 -0.1
SEI Scarperia 1.05 351 P **Pg** 23 01 03.4 -0.1
MPAG Monte Paganucc 1.06 54 P **Pn** 23 01 03.1 -0.1
LMD Lutirano 1.06 5 ⇑P **Pb** 23 01 03.0 -0.2
LMD AML AML
LMD comp=N,340μm,0.8s AML AML
LMD comp=N,340μm,1.2s AML AML
LMD comp=E,421μm,1.3s AML AML
LMD Lutirano 1.06 5 P **Pb** 23 01 02.9 -0.2
MTCR Monte La Croce 1.09 338 P **Pb** 23 01 03.4 -0.2
MTCR AML AML
MTCR comp=E,236μm,1.5s AML AML
MTCR comp=E,236μm,0.5s AML AML
MTCR comp=N,300μm,0.7s AML AML
MTCR Monte La Croce 1.09 338 P **Pn** 23 01 03.7 0.0
ARVD Arcevia 1.11 64 ⇓P **Pb** 23 01 04.1 +0.3
ARVD AML AML
ARVD comp=E,333μm,0.7s AML AML
ARVD comp=N,338μm,1.2s AML AML
ARVD comp=N,338μm,0.8s AML AML
ARVD comp=E,333μm,1.3s AML AML
BRIS BRISIGHELLA 1.13 358 P **Pg** 23 01 06.2 +1.0
NRCA Norcia 1.15 99 P **Pb** 23 01 04.5 -0.1
LNSS Leonessa 1.16 111 P **Pn** 23 01 04.6 0.0
EL6 Elcito 1.16 74 P **Pb** 23 01 05.0 +0.3
POPM Popiglio 1.19 330 P **Pn** 23 01 05.0 0.0

MC2 Monte Cornacci 1.19 95 P **Pg** 23 01 06.0 -0.3
MAIM Mastiano 1.19 319 ⇓P **Pb** 23 01 05.6 +0.3
CSP1 Cessapalombo 1.20 86 P **Pb** 23 01 05.8 +0.4
CSP1 AML AML
CSP1 comp=E,240μm,0.6s AML AML
CSP1 comp=N,155μm,1.5s AML AML
COR1 Corinaldo 1.21 59 P **Pg** 23 01 06.2 -0.3
COR1 AML AML
COR1 comp=E,561μm,0.8s AML AML
COR1 comp=N,834μm,1.2s AML AML
COR1 comp=N,834μm,0.8s AML AML
CING Cingoli 1.24 73 P **Pb** 23 01 05.8 -0.2
BDI Bagni Di Lucca 1.26 326 P **Pb** 23 01 06.3 -0.2
BDI Bagni Di Lucca 1.26 326 P **Pb** 23 01 06.3 -0.2
CARD Cardoso 1.28 322 P **Pn** 23 01 06.0 -0.3
CARD AML AML
CARD comp=E,150μm,0.8s AML AML
CARD comp=N,129μm,0.9s AML AML
CARD Cardoso 1.28 322 P **Pb** 23 01 07.0 +0.2
GUMA Gualdo di Mace 1.29 87 P **Pb** 23 01 07.5 +0.5
MMO1 Montemonaco 1.29 95 P **Pg** 23 01 07.6 -0.5
RM33 Pellescritta (1.31 112 P **Pn** 23 01 06.7 0.0
MTCE Montecelio 1.32 139 P **Pb** 23 01 07.6 +0.2
SMA1 SAN MARTINO 1.35 106 P **Pb** 23 01 08.3 +0.3
SMA1 AML AML
SMA1 comp=E,558μm,0.6s AML AML
SMA1 comp=N,392μm,0.4s AML AML
SMA1 comp=N,392μm,1.6s AML AML
MTRZ Monterenzio 1.36 357 P **Pn** 23 01 07.7 +0.3
FIAM Fiamignano 1.36 123 P **Pb** 23 01 08.3 +0.1
MF5 Montefalcone A 1.38 91 P **Pb** 23 01 09.2 +0.6
ZCCA Zocca 1.40 342 P **Pb** 23 01 09.3 +0.4
VLC Villacollemand 1.43 323 P **Pb** 23 01 09.4 0.0
CAMP Campotosto 1.44 109 P **Pb** 23 01 09.8 +0.4
SARO Sassorosso 1.44 324 P **Pn** 23 01 08.8 +0.3
CERT Cerreto 1.49 135 P **Pb** 23 01 09.8 -0.6
GSCL Gusciola 1.51 332 P **Pb** 23 01 10.6 -0.1
EQUI Equi 1.54 318 P **Pb** 23 01 10.9 -0.4
FIU Minerbio Fiu 1.62 358 P **Pg** 23 01 13.9 -0.5
MORSI Morsiglia 1.62 268 Pg **Pb** 23 01 11.8 -0.8
SMPL Sampolo 1.93 242 Pg **Pb** 23 01 16.9 -0.9
SMPL Sg **Sb** 23 01 41.2 -0.3
PGF Pioggiola 1.95 257 *e*P **Pn** 23 01 16.1 +0.6
PGF Pioggiola 1.95 257 Pg **Pn** 23 01 16.9 +1.3
PGF Sg **Sb** 23 01 41.8 -0.5
AJAC Base Areonaval 2.35 243 Pn **Pn** 23 01 19.2 -1.6
AJAC Sg **Sb** 23 01 52.1 -1.4
BRJN Brijuni 2.46 39 *e*Pn **Pn** 23 01 22.7 +0.4
BRJN Sn **Sn** 23 01 49.3 -2.6
DUGI Dugi Otok 2.71 68 *e*Pn **Pn** 23 01 27.6 +1.7
SMRN Sveta Marina 2.75 42 *e*Pn **Pn** 23 01 26.6 +0.3
VIRC Vir 2.83 62 *e*Pn **Pn** 23 01 28.9 +1.4
NVLJ Novalja 2.84 56 *e*Pn **Pn** 23 01 29.0 +1.4
RABC Rab 2.89 52 *e*Pn **Pn** 23 01 29.7 +1.3
SAOF Saorge 3.08 290 Sg Sg 23 02 37.8 +16
RIY Rijeka 3.11 41 *e*Pn **Pn** 23 01 32.0 +0.6
MORI Morici 3.13 73 *e*Pn **Pn** 23 01 33.3 +1.7
SBF Sospel 3.13 287 *e*P **Pn** 23 01 32.2 +0.5
SBF *e*Sn **Sn** 23 02 03.8 -4.8
comp=N,8.3nm,0.4s
SPIF crte de Spivo 3.32 290 Pn **Pn** 23 01 37.2 +2.8
SPIF Sg Sg 23 02 40.3 +10
CALF Calern 3.47 284 Pn **Pn** 23 01 38.4 +2.0
CALF Sg **Sg** 23 02 42.0 +7.4
BOJS Bojanci 3.63 45 *i* P **Pg** 23 01 52.9 +0.2
KIJV Kijevo 3.65 73 *e*Pn **Pn** 23 01 41.1 +2.3
SALSA La sagne 3.66 285 Pn **Pn** 23 01 41.0 +2.0
LMR La Mourre 3.72 277 *e*P **Pn** 23 01 39.2 -0.5
LMR *e*Sn **Sn** 23 02 18.0 -5.0
comp=N,4.2nm,0.7s
SURF Saint Ours 3.75 295 Pn **Pn** 23 01 44.0 +3.7
JAUF Jausiers 3.77 294 Pn **Pn** 23 01 43.6 +3.0
JAUF Sg **Sg** 23 02 42.1 -2.1
ABTA Abfaltersbach 3.79 10 *e*Pn **Pn** 23 01 42.3 +1.6
comp=N,4.0nm,0.6s
TRIGF Trigance 3.84 283 Pn **Pn** 23 01 43.0 +1.6
MBDF Montbardon 3.87 298 *e*P **Pn** 23 01 44.0 +2.1
MBDF *e*Sn **Sn** 23 02 20.8 -6.2
comp=N,2.6nm,0.6s
CREF Crivoux 3.90 295 Pn **Pn** 23 01 46.5 +4.2
CREF Sn **Sb** 23 02 42.0 +3.7
RRL Rocca Remolon 3.94 300 Sn **Sb** 23 02 40.8 +1.1
RRL Rocca Remolon 3.94 300 Pn **Pb** 23 01 49.5 -2.8
FETA Feichten 4.05 352 *e*Pn **Pn** 23 01 47.6 +3.2
comp=N,7.1nm,0.7s
SQTA Sankt Quirin 4.21 357 *e*Pn **Pn** 23 01 49.5 +2.9
comp=N,4.7nm,0.4s
KBA Koelnbreinsper 4.25 17 *e*Pn **Pn** 23 01 48.9 +1.7
comp=N,1.7nm,0.4s
LPG La Plagne 4.26 307 *e*P **Pn** 23 01 50.8 +3.4
DIX Grande Dixence 4.27 317 Pn Pb 23 01 52.7 -5.2
DIX Sn **Sn** 23 02 35.6 -1.4
LPL La Plagne 4.28 307 *e*P **Pn** 23 01 51.0 +3.3
WATA Walderalm 4.32 0 *e*Pn **Pn** 23 01 51.5 +3.4
comp=N,1.0nm,0.3s
MOTA Moosalm 4.34 356 *e*P **Pn** 23 01 51.5 +3.1
comp=N,2.4nm,0.6s
DAVA Damuels 4.43 345 *e*P **Pn** 23 01 53.8 +4.1
comp=N,5.0nm,0.5s
SMRF Simiane la Rot 4.47 284 *e*P **Pn** 23 01 51.9 +1.8
ORIF Oris-en-Rattie 4.53 297 *e*P **Pn** 23 01 53.1 +2.2
LASF Ste Croix 5.71 283 *e*P **Pn** 23 02 08.3 +1.2
SMF Signal de Mont 6.58 306 *e*P **Pn** 23 02 21.8 +2.7
LOR Lormes 6.91 311 *e*P **Pn** 23 02 27.1 +3.5
CAF Calviac 7.12 289 *e*P **Pn** 23 02 28.9 +2.4
BGF Bois d'Agland 7.15 303 *e*P **Pn** 23 02 29.0 +2.2

TAP 29 23:02:25.9, 23°38N×120°49E, h6km±1km, ML0.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHN4	**Tsaushan**	**0.10**	**107**	*e*P		Pg	23 02 28.9	+0.8
	baz=107						
TWK	**Hsinying**	**0.11**	**182**	*e*P		Pg	23 02 29.2	+0.9
	baz=174						
TWK				*e*S		Sg	23 02 32.3	+2.3
	baz=174						
WCKO	**Fanlu**	**0.12**	**60**	P		Pg	23 02 29.1	+0.7
	baz=62						
WCKO				S		Sg	23 02 31.7	+1.5
	baz=62						
TPUB	**Ta-pu**	**0.15**	**122**	P		Pg	23 02 29.7	+0.8
	baz=122						
TPUB				S		Sg	23 02 32.6	+1.6
	baz=122						
TPUB	**Ta-pu**	**0.15**	**122**	P		Pg	23 02 32.1	+3.1
SNST	**Tainan City**	**0.16**	**178**	*e*P		Pg	23 02 30.1	+1.0
	baz=170						
SNST				S		Sg	23 02 33.1	+1.8
	baz=170						
WTP	**Ta-pu**	**0.17**	**140**	*e*P		Pg	23 02 30.4	+0.9
	baz=138						
WTP				S		Sg	23 02 34.1	+2.3
	baz=138						

DJA 29 23:03:05.6±0.6, 1°N±5°×12°3E±°, h10km, M4.3/6, mb5.0/1, MLv3.9/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.63**	**190**	P		Pg	23 03 17.5	-0.3
GTOI				S		Sg	23 03 24.7	-1.4
KMSI	**Cibinong**	**1.10**	**128**	P		Pb	23 03 26.1	-0.6
KMSI				S		Sb	23 03 41.1	0.0
MRSI	**Marisa**	**1.41**	**237**	P		Pb	23 03 32.0	-0.1
LUWI	**Luwuk**	**2.31**	**189**	P		Pn	23 03 44.7	+0.9
LBMI	**Labuha**	**4.77**	**113**	P		Pn	23 04 16.8	-0.8
TTSI	**Tana Toraja**	**5.40**	**218**	P		Pn	23 04 26.6	+0.3

*BJI **29** 23:17:30.1±0.0, 36°45N×140°77E, h60km, mb5.2/80, mB5.5/19, Ms4.7/13, Ms7 4.8/13*
*BGR **29** 23:17:32.9, 36°86N×141°15E, h33km, mb5.3*
*NEIC **29** 23:17:32.8, 36°40N×140°81E, h54km*

MOS ***29*** *23:17:32.5±0.9, 36.59N×140.56E, h51km, mb5.6/69, MS5.2/4, Error ellipse: s-maj=6.4km s-min=3.6km az=115.5*

NIED ***29*** *23:17:33.7, 36.44N×140.62E, h56km, MW5.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr3.52; Mθθ0.33; Mφφ-3.85; Mrθ0.33; Mθφ-0.91; Mφr2.40; Fault plane solution: Mo4.49000×10^16 NP1:ϕs9.00000°, δ61.00000°, λ88.00000°. NP2:ϕs195.00000°, δ29.00000°, λ95.00000°.*

NEIC ***29*** *23:17:33.2±2.7, 36.44N±0.05×140.77E±0.09, h40km±5km, mb5.0/440, Mwr5.0/19 Error ellipse: s-maj=10.3km s-min=6.7km az=103.0, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr2.93; Mθθ0.03; Mφφ-2.95; Mrθ-0.39; Mθφ-1.06; Mφr1.76; Fault plane solution: Mo3.61000×10^16 NP1:ϕs213.53000°, δ33.77000°, λ116.51000°. NP2:ϕs2.56000°, δ60.17000°, λ73.38000°. Principal axes: T 3.5397, Plg70.0000°, Azm236.0000°; N 0.1311, Plg14.0000°, Azm11.0000°; P -3.6708, Plg14.0000°, Azm105.0000°;*

IDC ***29*** *23:17:33.9±1.3, 36.43N×140.58E, h56km±11km, mb4.9/37, mbtmp5.2/42, MS4.4/1 Error ellipse: s-maj=11.2km s-min=7.7km az=90.0*

JMA ***29*** *23:17:33.7±0.1, 36.4N±0.2×140.6E±0.5, h56km, MD5.1/40, MV5.3/40, NORTHERN IBARAKI PREF*

JMA Felt IV J1 at NORTHERN IBARAKI PREF .

ISC 29 23:17:33.1±0.3, 36.45N±0.03×140.66E±0.04, h51km±2km, h51km:pP-P, n1428, σ1.935/1275, mb5.1/443, MS4.9/7, 92C-51D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHYU	**Hitachinakayam**	**0.12**	**209**	*i* P	**Pn**	**23 17 42.3**	**+1.2**
JHYU				S	**Sn**	**23 17 48.3**	**+1.5**
JHYU	**Hitachinakayam**	**0.12**	**209**	A	A	23 17 42.3	
	comp=E,1μm,0.7s,comp=N,1μm,0.3s						
JHO	**Hitachi**	**0.18**	**335**	*i* P	**Pn**	**23 17 42.5**	**+1.1**
JHO				*i* S	**Sn**	**23 17 48.7**	**+1.3**
JHO	**Hitachi**	**0.18**	**335**	A	A	23 17 42.5	
	comp=E,873nm,0.8s,comp=N,285nm,0.6s						
JYT	**Yasato**	**0.44**	**240**	⇓*i* P	**Pn**	**23 17 44.4**	**+0.7**
JYT				⇓S	**Sn**	**23 17 51.8**	**+0.5**
JYT	**Yasato**	**0.44**	**240**	A	A	23 17 44.4	
	comp=E,1μm,0.5s,comp=N,419nm,0.3s						
JIHU	**Itakohorinouch**	**0.50**	**193**	A	A	23 17 45.0	
	comp=E,683nm,2.1s,comp=N,309nm,1.2s						
JFFD	**Fukushimafurud**	**0.64**	**353**	A	A	23 17 47.0	
	comp=E,283nm,1.4s,comp=N,128nm,0.7s						
ONAJ	**Iwakimizuishiy**	**0.66**	**10**	*i* P	**Pn**	**23 17 46.9**	**+0.5**
ONAJ				S	**Sn**	**23 17 56.7**	**+0.6**
ONAJ	**Iwakimizuishiy**	**0.66**	**10**	A	A	23 17 46.9	
	comp=E,238nm,2.0s,comp=N,135nm,0.3s						
JSB	**Shiboa**	**0.79**	**311**	A	A	23 17 48.7	
	comp=E,195nm,0.9s,comp=N,182nm,1.9s						
JSMT	**Sammumatsuo**	**0.82**	**192**	A	A	23 17 49.2	
	comp=E,301nm,0.3s,comp=N,113nm,0.3s						
JFK	**Kawauchi**	**0.93**	**11**	P	**Pn**	**23 17 50.2**	**+0.2**
JFK				S	**Sn**	**23 18 02.3**	**-0.1**
JFK	**Kawauchi**	**0.93**	**11**	A	A	23 17 50.2	
	comp=E,62nm,1.8s,comp=N,49nm,2.6s						
JAG	**Ashikaga**	**0.97**	**269**	⇓P	**Pn**	**23 17 51.1**	**+0.6**
JAG				⇓S	**Sn**	**23 18 03.1**	**-0.2**
JAG	**Ashikaga**	**0.97**	**269**	A	A	23 17 51.1	
	comp=E,154nm,0.7s,comp=N,113nm,0.7s						
TOK	**Tokyo**	**1.06**	**224**	A	A	23 17 52.0	
	comp=E,249nm,0.7s,comp=N,172nm,0.5s						
JCN	**Nagara**	**1.10**	**200**	A	A	23 17 52.8	
	comp=E,178nm,1.5s,comp=N,104nm,1.8s						
JOTO	**OTAMA OYAMA**	**1.14**	**347**	P	**Pn**	**23 17 53.7**	**+0.9**
JOTO				*i* S	**Sn**	**23 18 08.8**	**+1.5**
JOTO	**OTAMA OYAMA**	**1.14**	**347**	A	A	23 17 53.7	
	comp=E,138nm,1.4s,comp=N,114nm,2.0s						
JKT	**Katashina**	**1.18**	**286**	⇓P	**Pn**	**23 17 54.2**	**+0.8**
JKT				⇓S	**Sn**	**23 18 09.3**	**+0.9**
JKT	**Katashina**	**1.18**	**286**	A	A	23 17 54.2	
	comp=E,102nm,0.4s,comp=N,130nm,0.4s						
JFY	**Yanaizu**	**1.22**	**322**	⇓P	**Pn**	**23 17 54.8**	**+0.9**
JFY	**Yanaizu**	**1.22**	**322**	A	A	23 17 54.8	
	comp=E,71nm,2.2s,comp=N,49nm,2.5s						
JHU	**Hanno**	**1.27**	**242**	A	A	23 17 55.0	
	comp=E,31nm,1.9s,comp=N,43nm,3.5s						
JMST	**Minamisoumatoc**	**1.28**	**8**	A	A	23 17 55.9	
	comp=E,59nm,0.4s,comp=N,41nm,2.3s						
JKUC	**kamogawauchiur**	**1.34**	**196**	A	A	23 17 56.3	
	comp=E,48nm,3.9s,comp=N,48nm,3.1s						
JMM	**Marumori**	**1.42**	**4**	P	**Pn**	**23 17 57.6**	**+1.1**
JMM	**Marumori**	**1.42**	**4**		**Pn**	**23 17 57.4**	**+0.9**
JMM				Sn	**Sn**	**23 18 14.5**	**+0.5**
JMM	**Marumori**	**1.42**	**4**	⇓*i* P	**Pn**	**23 17 57.4**	**+0.9**
JMM				⇓S	**Sn**	**23 18 14.8**	**+0.8**
JMM	**Marumori**	**1.42**	**4**	A	A	23 17 57.4	
	comp=E,92nm,1.5s,comp=N,115nm,0.7s						
JSGW	**Sagamiharawaka**	**1.45**	**235**	A	A	23 17 57.5	
	comp=E,88nm,1.6s,comp=N,71nm,1.6s						
JRY	**Ryogami san**	**1.49**	**254**	A	A	23 17 58.0	
	comp=E,31nm,0.5s,comp=N,50nm,1.5s						
JUON	**Uonuma**	**1.49**	**301**	A	A	23 17 58.3	
	comp=E,20nm,1.1s,comp=N,20nm,2.9s						
JYAR	**Yonezawaarcadi**	**1.52**	**344**	A	A	23 17 59.0	
	comp=E,92nm,1.5s,comp=N,79nm,1.4s						
JGK	**Kuni**	**1.63**	**275**	A	A	23 18 00.2	
	comp=E,57nm,2.6s,comp=N,47nm,1.7s						
JNS	**Sasagawa**	**1.74**	**322**	A	A	23 18 01.9	
	comp=E,37nm,0.9s,comp=N,30nm,0.7s						
JOD2	**Odawara 2**	**1.74**	**228**	A	A	23 18 01.8	
	comp=E,64nm,1.9s,comp=N,95nm,1.9s						
JYS	**Shirataka**	**1.83**	**345**	A	A	23 18 03.5	
	comp=E,86nm,1.4s,comp=N,68nm,1.8s						
JIZZ	**Izumozaki**	**1.90**	**305**	A	A	23 18 04.2	
	comp=E,59nm,3.2s,comp=N,63nm,3.0s						
JOU	**Okura**	**1.91**	**0**	A	A	23 18 04.8	
	comp=E,39nm,1.6s,comp=N,44nm,1.1s						
JYN	**Shimob**	**1.96**	**242**	A	A	23 18 04.9	
	comp=E,57nm,1.7s,comp=N,79nm,2.4s						
JIKH	**Ishinomakikobu**	**1.96**	**19**	A	A	23 18 05.5	
	comp=E,19nm,1.2s,comp=N,10.0nm,2.3s						
MJAR	**Matsushiro Arr**	**1.98**	**273**	P	**Pn**	**23 18 05.2**	**+1.0**
	comp=N,3μm,0.6s,baz=95,slow=9.2,SNR=3472						
MJAR				S	**Sn**	**23 18 19.7**	**-8.1**
	comp=N,7μm,0.8s,baz=94,slow=10,SNR=26						
MJAR				LR	LR	23 19 03.3	
	comp=N,9μm,21.8s,baz=94,slow=47						
MAJO	**Matsushiro**	**1.98**	**273**	P	**Pn**	**23 18 06.1**	**+1.9**
MAJO	**Matsushiro**	**1.98**	**273**		**Pn**	**23 18 05.7**	**+1.5**
MAJO	**Matsushiro**	**1.98**	**273**	*i* P	**Pn**	**23 18 03.9**	**-0.3**
MJB9	**Matsu-Tunnel**	**1.98**	**273**		**Pn**	**23 18 06.1**	**+1.9**
JIM2	**Oshima 3**	**2.00**	**210**	A	A	23 18 05.5	
	comp=E,48nm,1.5s,comp=N,40nm,2.1s						
JHTM	**Izuhatsuma**	**2.01**	**223**	A	A	23 18 05.5	
	comp=E,83nm,1.2s,comp=N,94nm,1.4s						
JFNN	**Fujinakano**	**2.04**	**233**	A	A	23 18 05.9	
	comp=E,42nm,2.8s,comp=N,61nm,1.8s						
JNG	**Nsakai**	**2.07**	**270**	A	A	23 18 06.4	
	comp=E,13nm,2.1s,comp=N,20nm,1.8s						
JJN	**Nakama**	**2.11**	**289**	A	A	23 18 07.0	
	comp=E,39nm,2.4s,comp=N,26nm,3.2s						
JNT	**Takato**	**2.12**	**255**	A	A	23 18 07.2	
	comp=E,26nm,4.0s,comp=N,47nm,1.3s						
JOFO	**Osakifurukawao**	**2.16**	**5**	A	A	23 18 08.2	
	comp=E,122nm,5.0s,comp=N,75nm,3.0s						
JIZS	**Izushimoda**	**2.26**	**221**	A	A	23 18 09.1	
	comp=E,22nm,2.6s,comp=N,20nm,2.7s						
JSD	**Sado**	**2.49**	**310**	P	**Pn**	**23 18 13.1**	**+2.0**
JSD	**Sado**	**2.49**	**310**		**Pn**	**23 18 12.1**	**+1.1**
JSD	**Sado**	**2.49**	**310**	A	A	23 18 12.4	
	comp=E,9.0nm,2.4s,comp=N,10.0nm,3.8s						
JNY	**Yasuok**	**2.52**	**245**	A	A	23 18 12.7	
	comp=E,45nm,1.2s,comp=N,47nm,2.0s						
JSG	**Sagara**	**2.69**	**229**	P	**Pn**	**23 18 17.4**	**+3.6**
JSG	**Sagara**	**2.69**	**229**		**Pn**	**23 18 13.2**	**-0.6**
JSG	**Sagara**	**2.69**	**229**	A	A	23 18 15.1	
	comp=E,45nm,3.6s,comp=N,48nm,1.8s						
JGN	**Niukaw**	**2.71**	**266**	A	A	23 18 15.4	
	comp=E,9.0nm,2.0s,comp=N,8.0nm,1.6s						
JGF	**Kuroka**	**2.81**	**253**	P	**Pn**	**23 18 18.5**	**+2.9**
JGF	**Kuroka**	**2.81**	**253**		**Pn**	**23 18 16.9**	**+1.3**
JGF	**Kuroka**	**2.81**	**253**	A	A	23 18 16.8	
	comp=E,32nm,1.8s,comp=N,15nm,1.9s						
JAO	**Obara**	**3.01**	**248**	A	A	23 18 19.6	
	comp=E,20nm,1.5s,comp=N,28nm,1.4s						
INU	**Inuyama**	**3.16**	**251**	P	**Pn**	**23 18 22.9**	**+2.6**
INU	**Inuyama**	**3.16**	**251**		**Pn**	**23 18 21.2**	**+0.9**
JYTA	**Yamagatataniai**	**3.29**	**256**	A	A	23 18 23.7	
	comp=E,11nm,1.4s,comp=N,14nm,1.9s						
JAA	**Atsumi**	**3.40**	**239**	A	A	23 18 25.1	
	comp=E,10.0nm,1.9s,comp=N,12nm,4.0s						
JHJ	**Hachijo jima 2**	**3.40**	**193**	P	**Pn**	**23 18 24.6**	**+1.0**
	comp=N,524nm,0.3s,baz=356,slow=16,SNR=45						
JHJ				S	**Sn**	**23 19 02.3**	**-0.4**
	comp=N,2μm,0.4s,baz=66,slow=20,SNR=13						
JHJ2	**Mitsune**	**3.40**	**192**	P	**Pn**	**23 18 26.3**	**+2.6**
JHJ2	**Mitsune**	**3.40**	**192**		**Pn**	**23 18 23.3**	**-0.4**
JIE	**Ise**	**3.83**	**239**	A	A	23 18 31.2	
	comp=E,7.0nm,2.8s,comp=N,8.0nm,3.8s						
JFM	**Mihama**	**3.90**	**258**	A	A	23 18 32.2	
	comp=E,7.0nm,1.5s,comp=N,13nm,1.7s						
JTM	**Tenmabayashi**	**4.34**	**4**	P	**Pn**	**23 18 38.8**	**+2.3**
JTM	**Tenmabayashi**	**4.34**	**4**	Pn	**Pn**	**23 18 36.9**	**+0.3**
ERM	**Erimo**	**5.88**	**18**	P	**Pn**	**23 18 58.2**	**+0.6**
ERM	**Erimo**	**5.88**	**18**	Pn	**Pn**	**23 18 57.5**	**-0.2**
ERM	**Erimo**	**5.88**	**18**	*ce*P	**Pn**	**23 18 57.8**	**+0.2**
ERM				pmax	pmax		
	comp=Z,151nm,0.6s						
JEM	**Erimo**	**5.88**	**18**	P	**Pn**	**23 18 58.1**	**+0.4**
JMN	**Monobe**	**6.19**	**246**	P	**Pn**	**23 19 03.4**	**+1.5**
JMN	**Monobe**	**6.19**	**246**	Pn	**Pn**	**23 19 02.5**	**+0.5**
ASAJ	**Asahikawa**	**7.80**	**10**	P	**Pn**	**23 19 23.3**	**-0.6**
	comp=Z,53nm,0.5s,baz=201,slow=11,SNR=34						
ASAJ				S	**Sn**	**23 20 52.4**	**+1.6**
	comp=Z,73nm,0.7s,baz=202,slow=19,SNR=2.2						
JKA	**Kamikawa-asahi**	**7.80**	**10**	Pn	**Pn**	**23 19 22.5**	**-1.4**
NMR	**Nemuro--Hokkai**	**7.93**	**28**	*e*P	**Pn**	**23 19 23.0**	**-2.7**
NMR				*e*S	**Sn**	**23 20 46.0**	**-7.9**
NMR				pmax	pmax		
	comp=Z,272nm,0.5s						
NMR				pmax	pmax		
	comp=E,121nm,0.2s						
NMR				pmax	pmax		
	comp=N,173nm,0.4s						
RUSJ	**Misakicho**	**8.41**	**23**	*e*P	**Pn**	**23 19 32.7**	**+0.5**
RUSJ				*e*S	**Sn**	**23 21 01.5**	**-4.2**
YUK	**Yuzh-Kuril'sk**	**8.55**	**26**	*e*P	**Pn**	**23 19 33.2**	**-1.0**
YUK				*e*S	**Sn**	**23 21 01.2**	**-8.0**
YUK				pmax	pmax		
	comp=E,137nm,0.2s						
YUK				pmax	pmax		
	comp=Z,436nm,0.2s						
YUK				pmax	pmax		
	comp=N,12nm,0.1s						
JNU	**Nakatsue**	**8.71**	**250**	P	**Pn**	**23 19 38.7**	**+2.3**
JNU	**Nakatsue**	**8.71**	**250**		**Pn**	**23 19 37.0**	**+0.6**
JNU	**Nakatsue**	**8.71**	**250**	P	**Pn**	**23 19 37.9**	**+1.5**
	comp=N,92nm,0.9s,baz=58,slow=11,SNR=29						
TEY	**Ternei**	**9.11**	**342**	*e*P	**Pn**	**23 19 44.1**	**+2.3**
JCJ	**Chichijima**	**9.42**	**172**	Pn	**Pn**	**23 19 42.9**	**-3.2**
JCJ	**Chichijima**	**9.42**	**172**	P	Pn	23 19 39.9	-6.3
	comp=N,266nm,0.3s,baz=350,slow=12,SNR=57						
JCJ				S	Sn	23 21 16.4	-14
	comp=N,569nm,0.6s,baz=299,slow=19,SNR=9.4						
PSTR	**Posyet**	**9.81**	**312**	*i* P	**Pn**	**23 19 51.7**	**+0.3**
USA0B	**Ussuriysk Arra**	**10.18**	**322**		**Pn**	**23 19 59.0**	**+2.5**
USA0B	**Ussuriysk Arra**	**10.18**	**322**	*i* P	**Pn**	**23 19 56.7**	**+0.2**
USRK	**Ussuriysk Ar.**	**10.18**	**322**		**Pn**	**23 19 58.7**	**+2.2**
USRK	**Ussuriysk Ar.**	**10.18**	**322**	P	**Pn**	**23 19 58.1**	**+1.7**
	comp=N,91nm,0.8s,baz=140,slow=11,SNR=112						
KSRS	**Korea Array**	**10.24**	**279**	P	**Pn**	**23 20 01.6**	**+4.3**
	comp=N,88nm,0.9s,baz=92,slow=14,SNR=188						
KSRS				LR	LR	23 23 45.0	
	comp=N,2μm,19.7s,baz=70,slow=36						
KSRS				PcP	**PcP**	**23 26 01.9**	**-0.2**
	comp=N,2.3nm,0.8s,baz=92,slow=0.5,SNR=4.9						
KSRS				ScP	**ScP**	**23 29 29.8**	**-0.3**
	comp=N,0.5nm,0.3s,baz=85,slow=1.3,SNR=6.5						
KSAR	**Wonju Array Be**	**10.28**	**279**	Pn	**Pn**	**23 20 00.5**	**+2.7**
KSAR	**Wonju Array Be**	**10.28**	**279**	P	**Pn**	**23 20 00.5**	**+2.7**
KS19	**Wonju Array Si**	**10.29**	**280**		**Pn**	**23 19 59.7**	**+1.7**
KUR	**Kuril'sk**	**10.33**	**30**	*e*P	**Pn**	**23 19 57.9**	**-0.6**
KUR				*e*S	**Sn**	**23 21 45.9**	**-6.8**
KUR				pmax	pmax		
	comp=Z,99nm,0.6s						
YSS	**Yuzh-Sakhalins**	**10.61**	**8**	P	**Pn**	**23 20 03.5**	**+1.2**
YSS	**Yuzh-Sakhalins**	**10.61**	**8**		**Pn**	**23 20 01.2**	**-1.1**
YSS	**Yuzh-Sakhalins**	**10.61**	**8**	*e*P	**Pn**	**23 20 01.2**	**-1.1**
YSS				*e*S	**Sn**	**23 21 55.3**	**-4.3**
YSS				pmax	pmax		
	comp=Z,50nm,0.8s						
TJN	**Taejon**	**10.72**	**274**	P	**Pn**	**23 20 07.0**	**+3.1**
TJN	**Taejon**	**10.72**	**274**		**Pn**	**23 20 05.8**	**+2.0**
TJN	**Taejon**	**10.72**	**274**	*i* P	**Pn**	**23 20 05.4**	**+1.5**
INCN	**Inchon**	**11.27**	**279**		**Pn**	**23 20 12.6**	**+1.1**
INCN	**Inchon**	**11.27**	**279**	P	**Pn**	**23 20 12.6**	**+1.1**
MDJ	**Mudanjiang**	**11.71**	**318**	P	Pn	23 20 22.3	+4.9
MDJ				pP		23 20 30.0	
MDJ				pmax	pmax		
	comp=Z,130nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,2μm,4.2s						
MDJ	**Mudanjiang**	**11.71**	**318**		**Pn**	**23 20 19.6**	**+2.1**
BNX	**BinXian**	**13.62**	**317**	⇓P	**Pn**	**23 20 43.5**	**0.0**
BNX				pmax	pmax		
	comp=Z,31nm,1.2s						
CN2	**Changchun**	**13.75**	**307**	*e*P	**Pn**	**23 20 46.0**	**+0.8**
CN2				*e*pP	P	23 20 55.8	+3.4
CN2				*e*S	**Sn**	**23 23 16.3**	**0.0**
CN2				pmax	pmax		
	comp=Z,20nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,500nm,13.0s						
CN2				LR	LR		
	comp=Z,400nm,13.0s						
CN2				LR	LR		
	comp=Z,600nm,14.0s						
JOW	**Kunigami**	**14.24**	**231**	P	**Pn**	**23 20 54.6**	**+2.6**
JOW	**Kunigami**	**14.24**	**231**		**Pn**	**23 20 51.6**	**-0.3**
JOW	**Kunigami**	**14.24**	**231**	P	**P**	**23 20 57.8**	**-0.2**
	comp=Z,90nm,0.8s,baz=33,slow=13,SNR=11						
SNY	**Shenyang**	**14.30**	**297**	⇓P	**Pn**	**23 20 54.3**	**+1.7**
SNY				pmax	pmax		
	comp=Z,280nm,0.8s						
KLR	**Kul'dur**	**14.33**	**336**	*ce*P	**Pn**	**23 20 54.8**	**+1.8**
KLR				pmax	pmax		
	comp=Z,28nm,2.5s						
KLR	**Kul'dur**	**14.33**	**336**	P	**Pn**	**23 20 52.4**	**-0.6**
	comp=Z,8.2nm,1.0s,baz=146,slow=13,SNR=14						
TYV	**Tymovskoe**	**14.48**	**5**	*e*P	**Pn**	**23 20 55.2**	**+0.3**
TYV				*e*S	**Sn**	**23 23 33.9**	**0.0**
TYV				pmax	pmax		
	comp=Z,100nm,2.8s						
TYV				pmax	pmax		
	comp=Z,45nm,0.8s						
TYV				smax	smax		
	comp=N,800nm,6.7s						
TYV				smax	smax		
	comp=E,500nm,6.7s						
GRNR	**Gornyy**	**14.63**	**349**	⇓*i* P	Pn	23 20 50.6	-6.4
GRNR				pmax	pmax		
	comp=N,5.0nm,0.7s						
GRNR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
DL2	**Dalian**	**15.27**	**285**	P	**P**	**23 21 07.3**	**-2.0**
DL2				pmax	pmax		
	comp=Z,86nm,0.8s						
HEH	**HeiHe**	**16.79**	**329**	*e*P	**Pn**	**23 21 21.0**	**-3.5**
NJ2	**Nanjing**	**18.55**	**263**	⇑P	**P**	**23 21 44.5**	**-1.0**
NJ2				sP	**pP**	**23 22 00.0**	**+2.9**
NJ2				pmax	pmax		
	comp=Z,55nm,0.7s						
TIA	**Tai'an**	**18.96**	**276**	P	**P**	**23 21 48.5**	**-1.6**
TIA				pmax	pmax		
	comp=Z,58nm,0.9s						
BJI	**Beijing**	**19.55**	**288**	P	**P**	**23 21 56.0**	**-0.4**
BJI				pP	**pP**	**23 22 05.8**	**-2.2**
BJI				pmax	pmax		
	comp=Z,27nm,0.5s						
BJT	**Baijiatuau**	**19.55**	**288**	P	**P**	**23 21 55.7**	**-0.8**
BJT	**Baijiatuau**	**19.55**	**288**	P	**P**	**23 21 55.6**	**-0.8**
BJT				lAmb	lAmb	23 22 07.1	
	comp=Z,70nm,0.6s						
BJT	**Baijiatuau**	**19.55**	**288**	P	**P**	**23 21 55.6**	**-0.9**
BJT				pmax	pmax		
	comp=Z,71nm,0.6s						
ZEA	**Zeya**	**19.65**	**336**	*e*P	**P**	**23 21 54.5**	**-2.9**
ZEA				pmax	pmax		
	comp=N,20nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,40nm,0.8s						
HIA	**Hailar**	**19.90**	**317**	P	**P**	**23 22 00.7**	**+0.5**
HIA	**Hailar**	**19.90**	**317**		**P**	**23 21 59.8**	**-0.4**
HIA	**Hailar**	**19.90**	**317**	*i* P	**P**	**23 22 00.1**	**-0.1**
XLT	**XiLinHaoTe**	**20.16**	**299**	*e*P	**P**	**23 22 01.0**	**-2.1**
XLT				pP	pP	23 22 14.3	-0.5
XLT				sP	sP	23 22 20.8	-0.5
XLT				PP	**PnPn**	**23 22 23.5**	**+2.4**
XLT				pmax	pmax		
	comp=Z,68nm,0.9s						
YHNB	**Yeheng**	**20.30**	**240**	P	**P**	**23 22 03.1**	**-1.6**
YHNB				lAmb	lAmb	23 22 12.0	
	comp=Z,42nm,0.9s						
PETK	**Petropavlovsk-**	**20.49**	**30**	P	**P**	**23 22 06.8**	**+0.2**
PETK	**Petropavlovsk-**	**20.49**	**30**	P	**P**	**23 22 06.8**	**+0.2**
PETK	**Petropavlovsk-**	**20.49**	**30**	P	Pn	23 22 08.1	-1.1
	comp=Z,12nm,0.9s,baz=219,slow=4.3,SNR=7.4						
	comp=Z,12nm,0.9s						
HNS	**HongShan**	**20.75**	**280**	⇑P	**P**	**23 22 06.5**	**-3.0**
HNS				pmax	pmax		
	comp=Z,170nm,1.0s						
SSLB	**Suanglung**	**21.16**	**239**	P	**P**	**23 22 12.6**	**-1.4**
SSLB	**Suanglung**	**21.16**	**239**	P	**P**	**23 22 12.9**	**-1.2**
SSLB				lAmb	lAmb	23 22 21.5	
	comp=Z,47nm,1.0s						
YULB	**Yu-li**	**21.19**	**237**	P	**P**	**23 22 12.7**	**-1.6**
YULB				lAmb	lAmb	23 22 26.2	
	comp=Z,51nm,1.0s						
TPUB	**Ta-pu**	**21.70**	**238**	P	**P**	**23 22 18.9**	**-1.0**
TPUB	**Ta-pu**	**21.70**	**238**	P	**P**	**23 22 17.9**	**-2.0**
TPUB				lAmb	lAmb	23 22 24.6	
	comp=Z,112nm,1.0s						
TWGBT	**Beinan**	**21.72**	**237**	P	**P**	**23 22 20.5**	**+0.5**
TWG	**Pinlang**	**21.73**	**237**	P	**P**	**23 22 18.6**	**-1.5**
TWG				lAmb	lAmb	23 22 28.4	
	comp=Z,146nm,1.3s						
QZH	**Quanzhou**	**22.12**	**245**	*e*P	**P**	**23 22 21.0**	**-3.3**
TIY	**Taiyuan**	**22.52**	**282**	*e*P	**P**	**23 22 30.5**	**+1.9**
TIY				pmax	pmax		
	comp=Z,52nm,0.5s						
WHN	**Wuhan**	**22.68**	**263**	P	**P**	**23 22 27.8**	**-2.5**
WHN				pmax	pmax		
	comp=Z,160nm,0.6s						
LYN	**LuoYang**	**23.00**	**274**	⇓P	**P**	**23 22 30.3**	**-3.2**
LYN				pmax	pmax		
	comp=Z,39nm,1.1s						
HHC	**Hu-ho-hao-te**	**23.09**	**290**	⇑P	**P**	**23 22 34.3**	**-0.2**
HHC				pP	pP	23 22 44.0	-2.6
HHC				sP	sP	23 22 50.8	-2.1
HHC				PP	**PnPn**	**23 23 03.0**	**+1.7**
HHC				sS	Sn	23 27 00.5	-1.3
HHC				pmax	pmax		
	comp=Z,31nm,0.8s						
HHC				pmax	pmax		
	comp=Z,390nm,5.1s						
HHC				LR	LR		
	comp=Z,1μm,17.7s						
HHC				LR	LR		
	comp=Z,1μm,19.6s						
HHC				LR	LR		
	comp=Z,3μm,15.1s						
MA2	**Magadan**	**24.05**	**13**	P	**P**	**23 22 43.4**	**+0.2**
MA2	**Magadan**	**24.05**	**13**	P	**P**	**23 22 43.2**	**-0.9**
MA2				lAmb	lAmb	23 22 53.9	
	comp=Z,46nm,0.7s						
MA2	**Magadan**	**24.05**	**13**	*ce*P	**P**	**23 22 43.6**	**+0.4**
MA2				pmax	pmax		
	comp=Z,100nm,1.7s						
BTO	**Baotou**	**24.26**	**289**	*e*P	**P**	**23 22 43.3**	**-2.2**
BTO				pP	**pP**	**23 22 57.5**	**-1.0**
BTO				sP	**sP**	**23 23 05.0**	**+0.4**
BTO				PP	**PnPn**	**23 23 20.5**	**+3.2**
BTO				pmax	pmax		
	comp=Z,29nm,0.4s						
BTO				pmax	pmax		
	comp=Z,2μm,11.7s						
CIT	**Chita**	**24.69**	**318**	*e*P	**P**	**23 22 46.4**	**-2.8**
CIT				*e*		23 23 03.3	
CIT				*e*		23 23 28.3	
CIT				*e*		23 26 24.6	
CIT				*e*		23 28 01.2	
CIT				pmax	pmax		
	comp=Z,86nm,1.3s						
CNSH	**ChangSha**	**24.78**	**259**	⇓P	**P**	**23 22 50.0**	**-0.1**
XAN	**Xi'an**	**25.98**	**274**	P	**P**	**23 23 00.5**	**-0.5**
XAN				pP	pP	23 23 12.3	-1.7
XAN				pmax	pmax		
	comp=Z,100nm,0.5s						
XAN				LR	LR		
	comp=Z,2μm,17.7s						
XAN				LR	LR		
	comp=Z,3μm,17.5s						
XAN				LR	LR		
	comp=Z,4μm,20.8s						
YAK	**Yakutsk**	**26.51**	**348**	P	**P**	**23 23 04.4**	**-1.0**
YAK	**Yakutsk**	**26.51**	**348**	*e*P	**P**	**23 23 04.6**	**-0.9**
YAK				*e**PP	**pP**	**23 23 17.6**	**-1.0**
YAK				*e*		23 23 45.5	
YAK				*e*		23 26 29.2	
YAK				*e*S	**S**	**23 27 33.7**	**-2.1**
YAK				*e**SS	**

ZAK pmax pmax
comp=Z,12nm,1.2s
GYA Guiyang 30.53 261 ⇓P **P 23 23 40.5 -1.3**
GYA pmax pmax
comp=Z,110nm,1.0s
CD2 Chengdu 31.07 271 P **P 23 23 44.8 -1.7**
CD2 pmax pmax
comp=Z,30nm,0.7s
MOY Mondy 31.86 311 *e*P **P 23 23 52.3 -0.9**
MOY pmax pmax
comp=Z,12nm,1.3s
QIZ Qiongzhong 32.14 246 P **P 23 23 57.5 +1.7**
QIZ pmax pmax
comp=Z,11nm,0.9s
GTA Gaotai 32.16 288 P **P 23 23 54.5 -1.5**
GTA PcP **PcP 23 26 45.0 +1.0**
GTA pmax pmax
comp=Z,21nm,0.8s
KMI Kunming 34.28 262 ⇑P **P 23 24 13.3 -1.4**
KMI sP sP 23 24 31.5 -2.5
KMI PcP **PcP 23 26 50.5 +0.3**
KMI pmax pmax
comp=Z,48nm,1.0s
KMI Kunming 34.28 262 P **P 23 24 13.5 -1.2**
PZH PanZhiHua 34.44 264 P **P 23 24 14.8 -1.2**
PZH pmax pmax
comp=Z,40nm,0.6s
BILL Bilibino 34.76 17 P **P 23 24 18.0 -0.1**
BILL Bilibino 34.76 17 *e*P **P 23 24 18.8 +0.7**
BILL Bilibino 34.76 17 P **P 23 24 17.9 -0.1**
BILL pP **pP 23 24 30.5 -0.8**
SLVN Son La 35.29 255 IAmb IAmb 23 24 24.3
comp=Z,47nm,1.6s
TIXI Tiksi 35.80 354 P **P 23 24 26.6 -0.3**
TIXI Tiksi 35.80 354 *ce*P **P 23 24 26.4 -0.6**
TIXI pmax pmax
comp=Z,48nm,0.8s
TIXI Tiksi 35.80 354 P **P 23 24 26.5 -0.4**
GOMU GeErMu 36.67 284 P **P 23 24 35.3 0.0**
GOMU PcP **PcP 23 26 58.3 +1.0**
GOMU pmax pmax
comp=Z,23nm,0.5s
KKM Kota Kinabalu 37.64 222 P **P 23 24 44.3 +0.9**
KKM Kota Kinabalu 37.64 222 IAmb IAmb 23 25 11.5
comp=Z,18nm,1.0s
TNCH TengChong 37.70 264 ⇑P **P 23 24 43.5 -0.4**
TNCH pP pP 23 24 57.3 0.0
TNCH sP sP 23 25 01.3 -2.0
TNCH PP **PnPn 23 26 17.3 +5.2**
TNCH S **S 23 30 28.5 -2.3**
TNCH sS sS 23 30 51.0 -2.2
TNCH pmax pmax
comp=Z,64nm,1.1s
TNCH pmax pmax
comp=Z,460nm,7.1s
TNCH LR LR
comp=Z,720nm,18.3s
TNCH LR LR
comp=Z,570nm,19.5s
TNCH LR LR
comp=Z,2μm,25.3s
UBPT Khong Chiam 37.74 245 P **P 23 24 44.0 -0.1**
UBPT Khong Chiam 37.74 245 P **P 23 24 44.0 -0.1**
UBPT IAmb IAmb 23 24 48.3
comp=Z,20nm,0.8s
NONG Nongkai 37.75 251 P **P 23 24 44.5 +0.3**
DLV T Lat 37.86 238 P **P 23 24 44.9 -0.5**
DLV T Lat 37.86 238 IAmb IAmb 23 24 47.7
comp=Z,39nm,1.0s
SWI Sorong 38.14 195 P **P 23 24 46.9 -0.5**
comp=Z,93nm,0.9s
CRAI Chiangrai 38.66 256 P **P 23 24 51.8 0.0**
CRAI IAmb IAmb 23 24 53.0
comp=Z,31nm,0.8s
GENI Genyem 38.84 181 P **P 23 24 54.9 +1.6**
LBMI Labuha 38.88 201 P **P 23 24 53.5 -0.1**
comp=Z,72nm,0.9s
PHRA Phrae 39.74 254 P **P 23 25 00.5 -0.4**
MRSI Marisa 39.78 210 P **P 23 25 01.3 +0.1**
comp=Z,54nm,0.9s
FAKI Fak Fak 39.95 193 P **P 23 25 02.4 -0.1**
FAKI Fak Fak 39.95 193 P **P 23 25 02.4 -0.1**
FAKI Fak Fak 39.95 193 P **P 23 25 02.6 +0.1**
comp=Z,65nm,0.7s
WMQ Urumqi 40.57 297 *e*P **P 23 25 07.8 +0.2**
WMQ PcP **PcP 23 27 09.5 +0.5**
WMQ pmax pmax
comp=Z,62nm,1.1s
WMQ Urumqi 40.57 297 P **P 23 25 08.2 +0.6**
SANI Sanana 40.67 203 P **P 23 25 07.3 -1.2**
SANI Sanana 40.67 203 P **P 23 25 06.9 -1.6**
comp=Z,115nm,0.8s
CM31 Chiang Mai Arr 40.77 255 P **P 23 25 09.3 -0.1**
SNR=6.3
CMAR Chiang Mai Arr 40.77 255 P **P 23 25 08.6 -0.8**
CMAR Chiang Mai Arr 40.77 255 P **P 23 25 09.1 -0.3**
comp=Z,3.2nm,0.4s,baz=44,slow=8.4,SNR=28
CMAR PcP **PcP 23 27 10.8 +0.9**
comp=Z,6.9nm,1.0s,baz=15,slow=2.3,SNR=8.6
comp=Z,3.2nm,0.4s
MPSI Mapaga 40.77 213 P **P 23 25 13.2 +3.9**
comp=Z,16nm,0.9s
LUWI Luwuk 40.84 208 P **P 23 25 09.2 -0.7**
LUWI IAmb IAmb 23 25 20.8
comp=Z,36nm,0.8s
MND Mandalay 41.09 262 P **P 23 25 11.3 -0.7**
M11K Mekoryuk 41.09 37 P **P 23 25 14.0 +2.5**
baz=259
NLAI Namlea 41.47 201 P **P 23 25 17.4 +2.4**
comp=Z,50nm,0.8s
TNA Tin City 41.66 29 P **P 23 25 18.2 +2.1**
baz=251
LSA Lhasa 41.66 275 P **P 23 25 17.4 +0.2**
LSA IAmb IAmb 23 25 19.0
comp=Z,34nm,0.9s
LSA Lhasa 41.66 275 P **P 23 25 17.4 +0.2**
LSA pmax pmax
comp=Z,34nm,0.9s
LSA Lhasa 41.66 275 P **P 23 25 18.4 +1.2**
LSA Lhasa 41.66 275 P **P 23 25 17.6 +0.5**
ZAA0 Zalesovo Array 41.86 313 P **P 23 25 17.8 -0.1**
ZALV Zalesovo Beam 41.86 313 P **P 23 25 17.3 -0.6**
ZALV Zalesovo Beam 41.86 313 P **P 23 25 18.1 +0.2**
comp=Z,78nm,0.6s,baz=94,slow=7.1,SNR=236
ZALV PcP **PcP 23 27 12.0 -0.9**
comp=Z,8.0nm,0.7s,baz=92,slow=3.5,SNR=4.3
comp=Z,78nm,0.6s
BNDI Bandanaira 41.98 196 P **P 23 25 19.4 +0.1**
ZSN Zaisan 42.09 303 *e*P **P 23 25 20.2 +0.2**
comp=Z,28nm,0.6s,baz=303
ZSN Zaisan 42.09 303 *e*P **P 23 25 20.2 +0.2**
ZSN pmax pmax
comp=Z,28nm,0.6s
F14K Arctic Creek 42.27 30 P **P 23 25 23.6 +2.5**
baz=253,SNR=8.2
ANM Nome 42.41 31 P **P 23 25 23.4 +1.2**
ANM Nome 42.41 31 P **P 23 25 24.7 +2.4**
baz=255,SNR=6.5
ANM Nome 42.41 31 P **P 23 25 23.5 +1.2**
ANM pmax pmax
comp=Z,13nm,1.2s
M13K Dall Lake 42.49 38 P **P 23 25 24.4 +1.4**
M13K IAmb IAmb 23 25 27.0
comp=Z,23nm,0.8s
M13K Dall Lake 42.49 38 P **P 23 25 25.9 +2.9**
baz=262,SNR=10
J14K Nanvaranak Lak 42.79 34 P **P 23 25 26.4 +1.1**
J14K Nanvaranak Lak 42.79 34 P **P 23 25 27.5 +2.1**
baz=259,SNR=6.0
L14K Kuka Creek 42.95 36 P **P 23 25 28.2 +1.6**
L14K Kuka Creek 42.95 36 P **P 23 25 29.1 +2.4**
baz=261
F15K North Star Dit 43.00 30 P **P 23 25 28.7 +1.6**
F15K North Star Dit 43.00 30 P **P 23 25 29.4 +2.3**
baz=255,SNR=7.1
SRDT SRDT 43.06 250 P **P 23 25 28.3 +0.2**
G15K Niukluk 43.07 31 P **P 23 25 29.8 +2.2**
baz=256,SNR=13
M14K Bethel 43.22 37 P **P 23 25 30.4 +1.6**
M14K IAmb IAmb 23 25 32.1
comp=Z,30nm,0.8s
M14K Bethel 43.22 37 P **P 23 25 31.3 +2.5**
baz=262,SNR=16
N14K Kuskokwak Cree 43.26 38 P **P 23 25 31.1 +2.0**
baz=264

O14K Tigyukauivet M 43.40 39 P **P 23 25 32.7 +2.3**
baz=265
C16K Lisburne Hills 43.49 26 P **P 23 25 31.6 +0.6**
C16K Lisburne Hills 43.49 26 P **P 23 25 32.3 +1.4**
baz=251
NRIK Noril'sk 43.55 336 P **P 23 25 30.8 -0.6**
NRIK IAmb IAmb 23 25 32.7
comp=Z,55nm,1.4s
NRIK Noril'sk 43.55 336 *ce*P **P 23 25 30.9 -0.5**
NRIK pmax pmax
comp=Z,30nm,1.1s
NRIK Noril'sk 43.55 336 P **P 23 25 30.9 -0.5**
comp=Z,13nm,0.7s,baz=117,slow=10,SNR=26
NRIK PcP **PcP 23 27 17.8 -0.4**
comp=Z,12nm,0.9s,baz=110,slow=2.9,SNR=3.8
comp=Z,13nm,0.7s
BKB Balikpapan 43.55 216 P **P 23 25 32.6 +0.6**
BKB Balikpapan 43.55 216 P **P 23 25 31.6 -0.4**
BKB Balikpapan 43.55 216 P **P 23 25 33.2 +1.2**
comp=Z,169nm,0.9s
L15K Ungalak Mounta 43.57 36 P **P 23 25 33.6 +1.9**
baz=262
K15K Wolf Creek Mou 43.64 35 P **P 23 25 33.2 +1.0**
K15K Wolf Creek Mou 43.64 35 P **P 23 25 34.7 +2.5**
baz=261,SNR=9.5
SDPT Sand Point 43.64 45 P **P 23 25 32.3 0.0**
SDPT Sand Point 43.64 45 P **P 23 25 32.2 -0.1**
SDPT IAmb IAmb 23 25 33.6
comp=Z,18nm,0.8s
SDPT Sand Point 43.64 45 P **P 23 25 32.7 +0.4**
baz=270
H16K Elim 43.74 32 P **P 23 25 34.8 +1.8**
baz=258,SNR=9.3
M15K Kasigluk River 43.83 37 P **P 23 25 35.9 +2.1**
baz=264,SNR=12
G16K Koyuk River 43.85 30 P **P 23 25 35.0 +1.1**
G16K Koyuk River 43.85 30 P **P 23 25 35.6 +1.7**
baz=257
MK31 Makanchi Array 43.92 302 P **P 23 25 34.5 -0.2**
MK31 IAmb IAmb 23 25 36.4
comp=Z,48nm,0.9s
MK31 Makanchi Array 43.92 302 *ce*P **P 23 25 34.6 -0.2**
MKAR Makanchi Array 43.92 302 P **P 23 25 34.3 -0.5**
MKAR Makanchi Array 43.92 302 *ce*P **P 23 25 34.5 -0.2**
MKAR pmax pmax
comp=Z,70nm,1.0s
MKAR Makanchi Array 43.92 302 P **P 23 25 35.3 +0.6**
comp=Z,66nm,1.0s,baz=86,slow=9.6,SNR=172
MKAR PcP **PcP 23 27 18.8 -1.1**
comp=Z,7.0nm,0.8s,baz=81,slow=8.7,SNR=2.9
comp=Z,66nm,1.0s
N15K Kwethluk River 44.08 38 P **P 23 25 36.1 +0.4**
N15K IAmb IAmb 23 25 38.9
comp=Z,22nm,0.8s
N15K Kwethluk River 44.08 38 P **P 23 25 38.1 +2.4**
baz=265,SNR=15
MAKZ Makanchi 44.13 303 P **P 23 25 36.4 0.0**
MAKZ Makanchi 44.13 303 P **P 23 25 36.4 0.0**
MAKZ pmax pmax
comp=Z,60nm,1.0s
MAKZ Makanchi 44.13 303 P **P 23 25 36.4 0.0**
O15K Ungalikthiuk R 44.13 40 P **P 23 25 38.4 +2.2**
baz=266,SNR=14
D17K Noatak River 44.13 27 P **P 23 25 38.0 +1.9**
baz=254,SNR=33
CHNA Chernabura Isl 44.15 46 P **P 23 25 37.1 +0.7**
baz=271,SNR=9.4
CNBA Chernabura Isl 44.15 46 P **P 23 25 36.4 0.0**
CNBA IAmb IAmb 23 25 43.1
comp=Z,16nm,0.9s
S14K Fog Glacier 44.17 44 P **P 23 25 37.5 +0.8**
baz=269
J16K Anvik River 44.21 34 P **P 23 25 38.1 +1.3**
J16K Anvik River 44.21 34 P **P 23 25 38.8 +2.1**
baz=261,SNR=8.3
MTKI Muara Teweh, K 44.24 219 P **P 23 25 39.2 +1.6**
comp=Z,103nm,0.9s
I17K Unalakleet 44.26 33 P **P 23 25 38.2 +1.1**
I17K Unalakleet 44.26 33 P **P 23 25 39.0 +1.8**
baz=260,SNR=5.3
RDOG Red Dog Mine 44.30 27 P **P 23 25 38.5 +1.1**
RDOG IAmb IAmb 23 25 40.3
comp=Z,29nm,1.4s
RDOG Red Dog Mine 44.30 27 P **P 23 25 39.2 +1.7**
baz=254
C17K DeLong Mountai 44.32 26 P **P 23 25 39.5 +1.9**
baz=253
E17K Hotham Inlet 44.45 28 P **P 23 25 40.7 +2.1**
baz=256,SNR=21
F17K Baldwin Pennin 44.52 29 P **P 23 25 40.6 +1.4**
F17K IAmb IAmb 23 25 41.8
comp=Z,10nm,0.7s
F17K Baldwin Pennin 44.52 29 P **P 23 25 41.2 +2.0**
baz=257
L16K Owhat River 44.52 36 P **P 23 25 40.4 +1.1**
L16K IAmb IAmb 23 25 42.1
comp=Z,13nm,0.8s
L16K Owhat River 44.52 36 P **P 23 25 41.3 +2.0**
baz=264,SNR=12
G17K Kiwalik Mounta 44.57 31 P **P 23 25 41.7 +2.1**
baz=259,SNR=10
GTK Tadong 44.67 274 *e*P **P 23 25 40.5 -0.7**
M16K Timber Creek 44.71 37 P **P 23 25 42.6 +1.8**
M16K IAmb IAmb 23 25 43.7
comp=Z,15nm,0.8s
M16K Timber Creek 44.71 37 P **P 23 25 43.0 +2.2**
baz=265,SNR=11
KSM Kuching 44.71 226 P **P 23 25 41.5 +0.1**
KSM Kuching 44.71 226 P **P 23 25 41.2 -0.2**
KSM IAmb IAmb 23 25 42.5
comp=Z,36nm,0.8s
N16K Nishlik Lake 44.76 38 P **P 23 25 43.6 +2.4**
baz=266,SNR=20
H17K Granite Mounta 44.77 31 P **P 23 25 42.7 +1.5**
H17K Granite Mounta 44.77 31 P **P 23 25 43.5 +2.3**
baz=260,SNR=6.1
SEM Semipalatinsk 44.82 308 *e*P **P 23 25 42.8 +0.6**
comp=Z,23nm,0.9s,baz=308
SEM Semipalatinsk 44.82 308 *e*P **P 23 25 42.7 +0.6**
SEM pmax pmax
comp=Z,23nm,0.9s
E18K Tukpahlearik C 44.99 28 P **P 23 25 44.2 +1.3**
E18K IAmb IAmb 23 26 05.7
comp=Z,15nm,1.1s
E18K Tukpahlearik C 44.99 28 P **P 23 25 45.3 +2.4**
baz=257
O16K Kokwok River B 45.04 39 P **P 23 25 44.8 +1.4**
O16K Kokwok River B 45.04 39 P **P 23 25 45.6 +2.1**
baz=267,SNR=12
B18K Kokolik River 45.05 25 P **P 23 25 45.5 +2.1**
baz=254
SAUI Saumlaki 45.06 193 P **P 23 25 44.6 +0.5**
SAUI Saumlaki 45.06 193 P **P 23 25 45.3 +1.2**
SAUI Saumlaki 45.06 193 P **P 23 25 48.3 +4.2**
comp=Z,92nm,0.6s,comp=Z,8μm
C18K Utukok River 45.07 26 IAmb IAmb 23 25 45.6
comp=Z,23nm,0.6s
C18K Utukok River 45.07 26 P **P 23 25 45.3 +1.7**
baz=255
P16K Nushagak River 45.07 40 P **P 23 25 46.5 +2.8**
baz=268,SNR=9.0
L17K Donlin 45.12 35 P **P 23 25 46.6 +2.6**
baz=264
K17K Iditarod 45.18 35 P **P 23 25 46.5 +2.0**
K17K IAmb IAmb 23 25 47.9
comp=Z,26nm,0.8s
K17K Iditarod 45.18 35 P **P 23 25 47.0 +2.5**
baz=264,SNR=23
F18K Selawik 45.18 29 P **P 23 25 46.3 +1.9**
baz=259,SNR=10
STKI Sintang 45.20 223 P **P 23 25 45.8 +0.6**
comp=Z,41nm,0.5s,comp=Z,8μm
G18K Tagagawik 45.45 30 P **P 23 25 47.4 +0.8**
G18K IAmb IAmb 23 25 48.9
comp=Z,10nm,0.8s
G18K Tagagawik 45.45 30 P **P 23 25 48.4 +1.7**
baz=260,SNR=19
H18K Honhosa River 45.46 31 P **P 23 25 48.0 +1.3**
H18K IAmb IAmb 23 25 49.0
comp=Z,12nm,0.7s
H18K Honhosa River 45.46 31 P **P 23 25 48.9 +2.2**
baz=261
M17K Holitna River 45.47 37 P **P 23 25 48.9 +2.1**
M17K IAmb IAmb 23 25 50.7
comp=Z,23nm,0.8s
M17K Holitna River 45.47 37 P **P 23 25 49.5 +2.7**
baz=266,SNR=20
A19K Wainwright 45.52 24 P **P 23 25 49.3 +2.2**
baz=254
N17K Nushagak Hills 45.54 38 P **P 23 25 49.5 +2.1**
N17K IAmb IAmb 23 25 50.9
comp=Z,12nm,0.8s
N17K Nushagak Hills 45.54 38 P **P 23 25 49.9 +2.5**
baz=267
O17K Koliganek Bris 45.55 39 P **P 23 25 49.8 +2.2**
baz=268,SNR=9.5
KAPI Kappang 45.66 210 P **P 23 25 49.3 +0.5**
KAPI Kappang 45.66 210 P **P 23 25 49.2 +0.5**
KAPI Kappang 45.66 210 P **P 23 25 49.3 +0.5**
KAPI pmax pmax
comp=Z,68nm,1.2s
KAPI Kappang 45.66 210 P **P 23 25 49.4 +0.6**
C19K Lookout Ridge 45.74 26 P **P 23 25 50.6 +1.6**
C19K IAmb IAmb 23 25 52.0
comp=Z,34nm,1.1s
C19K Lookout Ridge 45.74 26 P **P 23 25 50.7 +1.8**
baz=256
Q16K King Salmon 45.76 40 P **P 23 25 51.0 +1.9**
baz=269
BKSI Bulukumba 45.79 209 P **P 23 25 49.6 -0.2**
comp=Z,34nm,0.9s
KURK Kurchatov 45.82 308 P **P 23 25 49.3 -0.5**
KURK Kurchatov 45.82 308 *ce*P **P 23 25 49.1 -0.6**
KURK pmax pmax
comp=Z,99nm,1.0s
KURK Kurchatov 45.82 308 P **P 23 25 49.4 -0.3**
KURK Kurchatov 45.82 308 P **P 23 25 49.2 -0.5**
P17K Kvichak River 45.88 40 P **P 23 25 52.4 +2.3**
baz=269,SNR=7.1
L18K Granite Mounta 45.88 35 P **P 23 25 51.8 +1.7**
L18K Granite Mounta 45.88 35 P **P 23 25 52.6 +2.6**
baz=266,SNR=13
KURBB Kurchatov Arra 45.89 308 P **P 23 25 50.1 -0.2**
comp=Z,44nm,0.5s,baz=82,slow=7.8,SNR=312
comp=Z,44nm,0.5s
F19K Shaleruckik Mo 45.96 29 IAmb IAmb 23 26 28.9
comp=Z,26nm,1.6s
F19K Shaleruckik Mo 45.96 29 P **P 23 25 51.9 +1.3**
baz=260,SNR=11
J18K Innoko River 45.97 34 P **P 23 25 51.8 +1.0**
J18K Innoko River 45.97 34 P **P 23 25 52.5 +1.7**
baz=265,SNR=5.5
GCSA Galena City Sc 46.03 32 P **P 23 25 52.7 +1.5**
baz=263
SURA Surathani 46.04 244 P **P 23 25 52.8 +0.9**
G19K Purcell Mounta 46.12 30 P **P 23 25 53.0 +1.1**
G19K Purcell Mounta 46.12 30 P **P 23 25 53.1 +1.1**
baz=262,SNR=12
D19K Kuna River 46.13 27 P **P 23 25 53.1 +1.1**
D19K IAmb IAmb 23 25 59.3
comp=Z,19nm,0.8s
D19K Kuna River 46.13 27 P **P 23 25 53.5 +1.4**
baz=258
Q17K Contact Creek 46.16 41 P **P 23 25 52.1 -0.3**
baz=270,SNR=7.5
N18K Kilae Creek 46.19 38 P **P 23 25 54.5 +2.0**
N18K IAmb IAmb 23 25 56.1
comp=Z,16nm,0.9s
N18K Kilae Creek 46.19 38 P **P 23 25 55.2 +2.7**
baz=268,SNR=12
TTA Tatalina 46.24 34 P **P 23 25 53.2 +0.2**
TTA Tatalina 46.24 34 P **P 23 25 54.3 +1.3**
baz=266
TTA Tatalina 46.24 34 P **P 23 25 53.2 +0.2**
TTA pmax pmax
comp=Z,5.0nm,0.9s
M18K Stony River 46.25 36 P **P 23 25 55.4 +2.5**
baz=267,SNR=13
E19K Redstone River 46.27 28 P **P 23 25 54.8 +1.7**
E19K IAmb IAmb 23 25 58.5
comp=Z,17nm,0.7s
E19K Redstone River 46.27 28 P **P 23 25 54.7 +1.7**
baz=260
H19K Roundabout Mou 46.30 31 P **P 23 25 54.7 +1.4**
H19K IAmb IAmb 23 25 56.2
comp=Z,20nm,0.9s
H19K Roundabout Mou 46.30 31 P **P 23 25 55.3 +2.0**
baz=263,SNR=25
SVW2 Sparrevohn 46.35 37 P **P 23 25 54.6 +0.8**
SVW2 Sparrevohn 46.35 37 P **P 23 25 55.1 +1.3**
SVW2 IAmb IAmb 23 25 57.2
comp=Z,16nm,0.8s
SRIT Nakonsritamara 46.45 244 P **P 23 25 56.1 +1.0**
SRIT Nakonsritamara 46.45 244 IAmb IAmb 23 25 57.5
comp=Z,39nm,1.1s
P18K Big Mountain, 46.50 39 P **P 23 25 56.1 +1.1**
P18K IAmb IAmb 23 25 58.8
comp=Z,15nm,0.9s
P18K Big Mountain, 46.50 39 P **P 23 25 56.8 +1.8**
baz=270,SNR=10
J19K Poorman 46.50 33 P **P 23 25 55.9 +1.0**
J19K IAmb IAmb 23 25 57.5
comp=Z,17nm,1.1s
J19K Poorman 46.50 33 P **P 23 25 56.7 +1.8**
baz=265
O18K Koktuh Hills 46.51 39 IAmb IAmb 23 25 59.1
comp=Z,11nm,0.8s
O18K Koktuh Hills 46.51 39 P **P 23 25 56.8 +1.8**
baz=270
SHLS Shalkode 46.57 298 *e*P **P 23 25 53.5 -2.5**
comp=Z,32nm,1.0s,baz=298
SHLS Shalkode 46.57 298 *e*P **P 23 25 53.4 -2.5**
SHLS pmax pmax
comp=Z,32nm,1.0s
D20K Etivluk River 46.72 26 P **P 23 25 58.5 +1.9**
baz=260
L19K White Mountain 46.74 36 P **P 23 25 58.6 +1.8**
baz=268,SNR=6.4
B20K Meade River 46.77 25 IAmb IAmb 23 26 19.3
comp=Z,24nm,0.8s
B20K Meade River 46.77 25 P **P 23 25 58.7 +1.8**
baz=258,SNR=30
F20K Avaraart Lake 46.79 29 P **P 23 25 58.9 +1.8**
baz=262
E20K Nigu River 46.79 27 P **P 23 25 58.9 +1.7**
baz=261
N19K Bonanza Creek 46.88 37 P **P 23 25 59.8 +1.7**
N19K Bonanza Creek 46.88 37 P **P 23 26 00.1 +2.0**
baz=269
UZB Uzynbulak 46.89 298 *e*P **P 23 25 58.3 -0.2**
comp=Z,26nm,1.0s,baz=298
UZB Uzynbulak 46.89 298 *e*P **P 23 25 58.2 -0.2**
UZB pmax pmax
comp=Z,26nm,1.0s
TDK Taldyqorghan 46.91 301 *e*P **P 23 25 58.8 +0.4**
comp=Z,32nm,0.7s,baz=301
TDK Taldyqorghan 46.91 301 *e*P **P 23 25 58.8 +0.4**
TDK pmax pmax
comp=Z,32nm,0.7s
M19K Big River Lodg 46.95 36 P **P 23 26 00.1 +1.7**
M19K Big River Lodg 46.95 36 P **P 23 26 00.4 +1.9**
baz=268
H20K Anotleneega Mo 46.95 31 P **P 23 26 00.2 +1.8**
baz=264,SNR=9.0
O19K Port Alsworth 46.96 38 P **P 23 25 59.2 +0.7**
O19K IAmb IAmb 23 26 04.5
comp=Z,13nm,0.9s
O19K Port Alsworth 46.96 38 P **P 23 26 00.1 +1.6**
baz=270
I20K Naaghedeneel 47.06 32 P **P 23 26 00.5 +1.3**
I20K IAmb IAmb 23 26 02.4
comp=Z,26nm,1.1s
I20K Naaghedeneel 47.06 32 P **P 23 26 01.3 +2.1**
baz=266,SNR=6.4
K20K Telida 47.15 34 P **P 23 26 01.4 +1.4**
K20K IAmb IAmb 23 26 03.2
comp=Z,18nm,0.7s
K20K Telida 47.15 34 P **P 23 26 02.5 +2.5**
baz=267,SNR=21
J20K Nowinta River 47.16 33 P **P 23 26 01.7 +1.6**
J20K IAmb IAmb 23 26 03.2
comp=Z,14nm,0.9s
J20K Nowinta River 47.16 33 P **P 23 26 02.2 +2.2**
baz=266,SNR=17
L20K Farewell, AK 47.20 35 P **P 23 26 02.6 +2.2**
baz=268,SNR=8.4
A21K Barrow 47.23 23 P **P 23 26 02.5 +2.0**
baz=257
WUS Wushi 47.23 295 P **P 23 26 01.7 +0.6**
WUS pP **pP 23 26 14.2 -0.7**
ZHN Zhinishke 47.30 298 *e*P **P 23 26 01.6 0.0**
comp=Z,19nm,1.3s,baz=298

ZHN	**Zhinishke**		47.30	298	*e*P		P		23 26 01.6	0.0
ZHN					pmax		pmax			
	comp=Z,19nm,1.3s									
Q19K	**Cape Douglas,**		47.32	40	P		P		23 26 02.7	+1.2
	baz=272									
SATY	**Saty**		47.35	298	*e*P		P		23 26 02.1	+0.1
	comp=Z,17nm,1.1s,baz=298									
SATY	**Saty**		47.35	298	*e*P		P		23 26 02.1	+0.1
SATY					pmax		pmax			
	comp=Z,17nm,1.1s									
C21K	**Knifeblade Rid**		47.44	26	P		P		23 26 04.2	+2.0
	baz=261									
P19K	**Oil Pt**		47.51	39	P		P		23 26 04.6	+1.7
	baz=271									
M20K	**Styx River**		47.54	36	P		P		23 26 04.8	+1.6
M20K	**Styx River**		47.54	36	P		P		23 26 05.2	+2.0
	baz=269									
B21K	**Ikpikpuk River**		47.57	25	IAmb		IAmb		23 26 05.7	
	comp=Z,22nm,0.7s									
B21K	**Ikpikpuk River**		47.57	25	P		P		23 26 05.2	+2.0
	baz=261,SNR=35									
OHAK	**Old Harbor**		47.59	42	P		P		23 26 04.5	+1.0
	baz=274									
G21K	**Allakaket**		47.60	30	P		P		23 26 05.4	+1.9
	baz=265									
E21K	**Killik River**		47.63	27	P		P		23 26 05.1	+1.4
E21K					IAmb		IAmb		23 26 06.2	
	comp=Z,12nm,0.9s									
E21K	**Killik River**		47.63	27	P		P		23 26 05.5	+1.7
	baz=263									
F21K	**Alatna River**		47.68	29	P		P		23 26 05.3	+1.2
F21K	**Alatna River**		47.68	29	P		P		23 26 05.8	+1.7
	baz=264									
A22K	**Sinclair Lake**		47.69	24	P		P		23 26 05.9	+1.9
	baz=259									
RSO	**Redoubt South**		47.73	38	P		P		23 26 06.1	+1.3
O20K	**Slope Mountain**		47.81	38	P		P		23 26 06.8	+1.6
	baz=272									
H21K	**Melozitna River**		47.82	31	P		P		23 26 06.3	+1.1
H21K	**Melozitna River**		47.82	31	P		P		23 26 06.9	+1.7
	baz=266									
KDAK	**Kodiak Island**		47.94	42	P		P		23 26 07.0	+0.9
KDAK					IAmb		IAmb		23 26 08.0	
	comp=Z,26nm,0.8s									
KDAK	**Kodiak Island**		47.94	42	P		P		23 26 07.3	+1.2
	baz=274									
KDAK	**Kodiak Island**		47.94	42	P		P		23 26 07.1	+0.9
KDAK					pmax		pmax			
	comp=Z,26nm,0.8s									
KDAK	**Kodiak Island**		47.94	42	P		P		23 26 06.6	+0.5
KDAK					pP		pP		23 26 17.4	-2.4
CHUM	**Lake Minchumin**		47.95	33	P		P		23 26 08.5	+2.4
	baz=268,SNR=7.6									
Q20K	**Shuyak Island**		47.99	40	P		P		23 26 07.7	+1.2
	baz=273									
N20K	**Mount Spurr**		47.99	37	P		P		23 26 08.8	+2.2
	baz=271,SNR=16									
PPLA	**Purkeypile**		47.99	35	P		P		23 26 09.5	+2.8
	baz=269,SNR=6.5									
CAST	**Castle Rocks**		48.05	34	IAmb		IAmb		23 26 10.7	
	comp=Z,9.8nm,0.8s									
CAST	**Castle Rocks**		48.05	34	P		P		23 26 09.2	+2.2
	baz=269,SNR=16									
MMRI	**Maumere**		48.08	205	P		P		23 26 08.0	+0.3
MMRI	**Maumere**		48.08	205	P		P		23 26 07.8	+0.1
MMRI	**Maumere**		48.08	205	P		P		23 26 07.7	+0.1
	comp=Z,127nm,1.1s									
B22K	**Teshekpuk Lake**		48.09	25	IAmb		IAmb		23 26 29.0	
	comp=Z,14nm,0.7s									
B22K	**Teshekpuk Lake**		48.09	25	P		P		23 26 08.5	+1.4
	baz=261									
I21K	**Tanana**		48.14	32	P		P		23 26 09.4	+1.8
	baz=267									
D22K	**Ayikyak River**		48.16	27	IAmb		IAmb		23 26 10.7	
	comp=Z,35nm,1.1s									
D22K	**Ayikyak River**		48.16	27	P		P		23 26 09.4	+1.6
	baz=263									
CHKK	**Chushkaly**		48.16	300	*e*P		P		23 26 07.9	-0.2
	baz=300									
CHKK	**Chushkaly**		48.16	300	*e*P		P		23 26 07.9	-0.2
F22K	**John River**		48.21	28	P		P		23 26 10.2	+2.1
	baz=265,SNR=16									
MDOK	**Medeo**		48.29	299	*e*P		P		23 26 09.2	-0.1
	baz=299									
MDOK	**Medeo**		48.29	299	*e*P		P		23 26 09.2	-0.1
SKT	**Skwentna**		48.30	36	P		P		23 26 10.5	+1.5
	baz=271									
IPM	**Ipoh**		48.32	238	P		P		23 26 09.1	-0.6
EDFI	**Ende, Flores**		48.37	205	P		P		23 26 09.0	-1.1
	comp=Z,68nm,1.0s									
TNSS	**Tian-Shan**		48.39	298	*e*P		P		23 26 10.7	+0.3
	baz=298									
TNSS	**Tian-Shan**		48.39	298	*e*P		P		23 26 10.7	+0.3
E22K	**Anaktuvuk Pass**		48.40	28	IAmb		IAmb		23 26 12.6	
	comp=Z,25nm,1.1s									
E22K	**Anaktuvuk Pass**		48.40	28	P		P		23 26 11.3	+1.7
	baz=265									
H22K	**Ishtalitna Cre**		48.42	31	P		P		23 26 12.1	+2.3
	baz=267,SNR=11									
VLK	**Valmikinagar**		48.48	276	*e*P		P		23 26 10.7	-0.1
SOEI	**Soe**		48.48	202	P		P		23 26 10.6	-0.3
SOEI	**Soe**		48.48	202	P		P		23 26 11.0	+0.1
	comp=Z,141nm,1.1s									
BPAW	**Bear Paw Mtn.**		48.54	33	P		P		23 26 12.6	+1.9
	baz=269,SNR=8.1									
KTH	**Kantishna Hill**		48.57	34	IAmb		IAmb		23 26 28.4	
	comp=Z,31nm,1.3s									
MLY	**Manley**		48.66	32	IAmb		IAmb		23 26 14.3	
	comp=Z,10nm,0.7s									
MLY	**Manley**		48.66	32	P		P		23 26 13.8	+2.1
	baz=269,SNR=18									
SUA	**Susitna One**		48.69	37	IAmb		IAmb		23 26 16.3	
	comp=Z,9.2nm,0.8s									
SUA	**Susitna One**		48.69	37	P		P		23 26 13.2	+1.2
	baz=272,SNR=8.6									
BRLK	**Bradley Lake**		48.70	39	IAmb		IAmb		23 26 15.7	
	comp=Z,13nm,0.8s									
BRSE	**Bradley Lake S**		48.77	39	P		P		23 26 14.4	+1.8
	baz=273									
TRF	**Thorofare Moun**		48.85	34	IAmb		IAmb		23 26 17.0	
	comp=Z,11nm,0.9s									
TRF	**Thorofare Moun**		48.85	34	P		P		23 26 14.6	+1.3
	baz=270,SNR=8.0									
CUT	**Chulitna**		48.88	35	P		P		23 26 14.8	+1.4
	baz=272									
D23K	**Nanushuk River**		48.88	27	P		P		23 26 14.8	+1.5
	baz=265									
COLD	**Coldfoot**		48.95	29	P		P		23 26 15.2	+1.4
	baz=267									
C23K	**Itkillik River**		48.98	25	IAmb		IAmb		23 26 16.9	
	comp=Z,33nm,1.1s									
C23K	**Itkillik River**		48.98	25	P		P		23 26 15.9	+1.9
	baz=265,SNR=23									
G23K	**Bananza Creek**		49.00	30	P		P		23 26 16.2	+1.9
	baz=268									
BATI	**Baumata**		49.09	202	P		P		23 26 15.4	-0.1
	comp=Z,211nm,0.9s,comp=Z,2µm									
H23K	**Yukon River**		49.18	31	IAmb		IAmb		23 26 19.0	
	comp=Z,15nm,0.9s									
H23K	**Yukon River**		49.18	31	P		P		23 26 17.6	+2.0
	baz=269									
RC01	**Rabbit Creek A**		49.19	37	IAmb		IAmb		23 26 17.6	
	comp=Z,16nm,1.1s									
RC01	**Rabbit Creek A**		49.19	37	P		P		23 26 16.9	+1.1
	baz=273,SNR=9.3									
E23K	**Chandalar**		49.22	28	P		P		23 26 18.0	+2.0
	baz=267,SNR=33									
O22K	**Cooper Landing**		49.23	38	P		P		23 26 17.5	+1.4
	baz=274									
I23K	**Minto, Yukon-K**		49.25	32	IAmb		IAmb		23 27 40.6	
	comp=Z,11nm,0.8s									
I23K	**Minto, Yukon-K**		49.25	32	P		P		23 26 18.2	+2.1
	baz=270,SNR=6.9									
TOLK	**Toolik Lake Re**		49.26	27	IAmb		IAmb		23 26 19.1	
	comp=Z,13nm,1.1s									
TOLK	**Toolik Lake Re**		49.26	27	P		P		23 26 18.5	+2.2
	baz=267,SNR=8.6									
NEA2	**Nenana**		49.38	32	IAmb		IAmb		23 26 20.1	
	comp=Z,17nm,1.0s									
NEA2	**Nenana**		49.38	32	P		P		23 26 19.1	+2.0
	baz=271									
SEW	**Seward**		49.39	38	P		P		23 26 18.1	+0.9
	baz=274									
MCK	**McKinley**		49.45	33	P		P		23 26 19.0	+1.3
	baz=272,SNR=13									
PMR	**Palmer**		49.45	36	P		P		23 26 19.0	+1.3
PMR	**Palmer**		49.45	36	IAmb		IAmb		23 26 35.0	
	comp=Z,12nm,1.0s									
PMR	**Palmer**		49.45	36	P		P		23 26 18.8	+1.1
	baz=273									
KDU	**Kakadu**		49.48	191	P		P		23 26 18.7	+0.3
DRS	**Darwin Rock St**		49.48	193	P		P		23 26 18.7	+0.3
RND	**Reindeer**		49.50	34	IAmb		IAmb		23 26 20.2	
	comp=Z,13nm,0.8s									
GHO	**Glory Hole Cre**		49.54	36	IAmb		IAmb		23 26 35.3	
	comp=Z,18nm,1.0s									
D24K	**Happy Valley**		49.56	26	IAmb		IAmb		23 26 21.3	
	comp=Z,30nm,1.1s									
D24K	**Happy Valley**		49.56	26	P		P		23 26 20.3	+1.8
	baz=267,SNR=25									
C24K	**Franklin Bluff**		49.64	26	P		P		23 26 20.5	+1.5
	baz=267									
WAT1	**Susitna Watana**		49.66	35	P		P		23 26 20.3	+1.0
	baz=273									
BRZS	**Berezniki**		49.69	308	*e*P		P		23 26 19.2	-0.6
	comp=Z,10nm,0.7s,baz=308									
BRZS	**Berezniki**		49.69	308	*e*P		P		23 26 19.1	-0.7
BRZS					pmax		pmax			
	comp=Z,10.0nm,0.7s									
MDM	**Murphy Dome**		49.73	32	IAmb		IAmb		23 26 22.7	
	comp=Z,26nm,0.8s									
KNK	**Knik Glacier**		49.79	37	IAmb		IAmb		23 26 45.7	
	comp=Z,11nm,0.8s									
KNK	**Knik Glacier**		49.79	37	P		P		23 26 21.7	+1.4
	baz=274									
WRH	**Wood River Hil**		49.80	32	IAmb		IAmb		23 27 41.6	
	comp=Z,13nm,0.8s									
SML	**Sawmill**		49.82	36	IAmb		IAmb		23 26 42.6	
	comp=Z,14nm,0.8s									
SML	**Sawmill**		49.82	36	P		P		23 26 22.3	+1.7
	baz=274,SNR=6.9									
MTN	**Manton Dam**		49.85	192	P		P		23 26 21.2	0.0
MTN	**Manton Dam**		49.85	192	P		P		23 26 21.4	+0.2
F24K	**Squaw Lake**		49.86	28	P		P		23 26 22.7	+1.9
	baz=269,SNR=6.5									
H24K	**Noodor Dome**		49.86	31	IAmb		IAmb		23 26 23.7	
	comp=Z,8.8nm,0.8s									
H24K	**Noodor Dome**		49.86	31	P		P		23 26 23.0	+2.2
	baz=271,SNR=11									
COLA	**College**		49.89	32	P		P		23 26 23.0	+2.0
COLA					IAmb		IAmb		23 26 24.2	
	comp=Z,16nm,0.8s									
COLA	**College**		49.89	32	P		P		23 26 22.6	+1.7
	baz=272									
COLA	**College**		49.89	32	*i* P		P		23 26 22.2	+1.2
COLA	**College**		49.89	32	P		P		23 26 22.7	+1.7
COLA					sP		sP		23 26 39.4	-1.2
BTLS	**Baital**		49.91	302	*e*P		P		23 26 21.1	-0.3
	comp=Z,20nm,1.2s,baz=302									
BTLS	**Baital**		49.91	302	*e*P		P		23 26 21.1	-0.3
BTLS					pmax		pmax			
	comp=Z,20nm,1.2s									
PLAI	**Plampang**		49.91	210	P		P		23 26 20.5	-1.3
PLAI	**Plampang**		49.91	210	P		P		23 26 20.4	-1.3
	comp=Z,118nm,1.1s									
SGDS	**Sogindy**		49.91	300	pmax		pmax			
	comp=Z,12nm,1.0s									
G24K	**Hadweenzic Riv**		50.02	30	IAmb		IAmb		23 26 26.6	
	comp=Z,17nm,1.4s									
G24K	**Hadweenzic Riv**		50.02	30	P		P		23 26 23.5	+1.5
	baz=270									
WAT6	**Susitna Watana**		50.05	35	P		P		23 26 23.5	+1.0
	baz=274									
POKR	**Poker Plat Res**		50.06	32	P		P		23 26 24.2	+1.9
	baz=272,SNR=27									
PPBI	**Pangkal Pinang**		50.09	228	P		P		23 26 24.3	+1.2
	comp=Z,82nm,1.0s									
KSH	**Kashi**		50.09	294	P		P		23 26 30.5	+7.4
KSH					pmax		pmax			
	comp=Z,260nm,0.8s									
M23K	**Glacier View**		50.11	36	P		P		23 26 23.9	+1.2
	baz=274,SNR=6.6									
BASI	**Baing, Sumba**		50.12	206	P		P		23 26 25.2	+1.9
	comp=Z,137nm,1.3s									
DHY	**Denali Highway**		50.18	34	IAmb		IAmb		23 27 00.7	
	comp=Z,9.3nm,0.9s									
DHY	**Denali Highway**		50.18	34	P		P		23 26 24.6	+1.1
	baz=273									
COEN	**Coen**		50.19	177	P		P		23 26 24.7	+0.9
COEN	**Coen**		50.19	177	P		P		23 26 24.9	+1.1
TWSI	**Taliwang, Sumb**		50.20	211	P		P		23 26 22.8	-1.1
	comp=Z,130nm,1.0s									
AAK	**Ala-Archa**		50.23	299	*c*eP		P		23 26 22.2	-2.0
AAK					pmax		pmax			
	comp=Z,62nm,0.6s									
SCM	**Sheep Creek Mo**		50.29	36	IAmb		IAmb		23 27 03.0	
	comp=Z,21nm,1.1s									
SCM	**Sheep Creek Mo**		50.29	36	P		P		23 26 25.3	+1.1
	baz=274									
HDA	**Harding Lake**		50.30	33	IAmb		IAmb		23 26 25.9	
	comp=Z,16nm,0.7s									
HDA	**Harding Lake**		50.30	33	P		P		23 26 25.2	+1.1
	baz=273,SNR=18									
IL31			50.31	32	IAmb		IAmb		23 26 26.0	
	comp=Z,17nm,0.7s									
ILAR	**Eielson Array**		50.31	32	P		P		23 26 25.2	+1.0
	comp=Z,14nm,0.7s,baz=271,slow=6.4,SNR=152									
	comp=Z,14nm,0.7s									
SRBI	**Singaraja**		50.34	214	P		P		23 26 25.4	+0.5
	comp=Z,72nm,0.9s,comp=Z,2µm									
P23K	**Montague Islan**		50.43	38	P		P		23 26 26.5	+1.4
	baz=276									
D25K	**Kavik River**		50.44	26	IAmb		IAmb		23 26 27.3	
	comp=Z,11nm,0.7s									
D25K	**Kavik River**		50.44	26	P		P		23 26 26.6	+1.3
	baz=269,SNR=25									
PTH	**Pithoragarh**		50.45	281	*e*P		P		23 26 26.0	0.0
LGTI	**Lohaghat**		50.47	280	*e*P		P		23 26 27.0	+1.1
LGTI					IAmb		IAmb		23 26 29.1	
	comp=Z,28nm,0.8s									
BVAR	**Borovoye Array**		50.52	313	P		P		23 26 25.9	-0.1
	comp=Z,10nm,0.5s,baz=87,slow=8.3,SNR=45									
BVAR					PcP		PcP		23 27 43.3	0.0
	comp=Z,6.9nm,0.6s,baz=65,slow=3.6,SNR=3.7									
	comp=Z,10nm,0.5s									
ABJI	**Asem Bagus**		50.53	215	P		P		23 26 27.4	+1.0
	comp=Z,75nm,1.1s									
G25K	**Bearman Lake**		50.56	29	P		P		23 26 28.2	+2.2
	baz=272									
BRVK	**Borovoye**		50.58	313	P		P		23 26 26.2	-0.2
BRVK					IAmb		IAmb		23 26 31.7	
	comp=Z,23nm,0.9s									
BRVK	**Borovoye**		50.58	313	*c*eP		P		23 26 26.2	-0.2
BRVK					pmax		pmax			
	comp=Z,23nm,1.0s									
BRVK	**Borovoye**		50.58	313	P		P		23 26 26.3	0.0
BRVK	**Borovoye**		50.58	313	P		P		23 26 26.1	-0.2
GRJI	**Gresik**		50.59	217	P		P		23 26 27.5	+0.6
	comp=Z,380nm,0.9s,comp=Z,3µm									
H25L	**Birch Creek**		50.69	30	P		P		23 26 29.6	+2.6
	baz=272,SNR=9.5									
F25K	**Christian Rive**		50.72	28	P		P		23 26 29.9	+2.5
	baz=271,SNR=18									
E25K	**Arctic Village**		50.74	28	P		P		23 26 29.8	+2.4
	baz=271,SNR=10									
M24K	**Tolsona, Glenn**		50.81	36	P		P		23 26 30.0	+1.9
	baz=275									
PRP	**Porcupine Dome**		50.85	31	IAmb		IAmb		23 26 31.1	
	comp=Z,11nm,0.8s									
PRP	**Porcupine Dome**		50.85	31	P		P		23 26 29.5	+1.1
	baz=273,SNR=24									
K24K	**Donnelly Dome**		50.85	33	P		P		23 26 29.4	+1.0
	baz=274,SNR=12									
C26K	**Camden Bay**		50.96	25	P		P		23 26 31.3	+2.3
	baz=270,SNR=14									
J25K	**Salcha River,**		50.97	32	IAmb		IAmb		23 26 32.6	
	comp=Z,26nm,1.9s									
J25K	**Salcha River,**		50.97	32	P		P		23 26 29.8	+0.5
	baz=274									
KLU	**Klutina**		50.99	36	IAmb		IAmb		23 26 47.6	
	comp=Z,12nm,0.8s									
KLU	**Klutina**		50.99	36	P		P		23 26 31.0	+1.5
	baz=276,SNR=6.2									
ALBI	**Allahabad**		51.03	275	*e*P		P		23 26 28.7	-1.4
PAX	**Paxson**		51.06	34	P		P		23 26 31.6	+1.7
	baz=275									
JAGI	**Jajag, Banyuwa**		51.16	215	P		P		23 26 29.4	-1.7
JAGI	**Jajag, Banyuwa**		51.16	215			pP		23 26 40.7	-4.2
JAGI	**Jajag, Banyuwa**		51.16	215	P		P		23 26 42.5	+11
EYAK	**Cordova Ski Ar**		51.18	37	P		P		23 26 32.6	+1.8
	baz=277									
HARP	**HAARP**		51.26	35	P		P		23 26 33.1	+1.7
	baz=276									
RIDG	**Independent Ri**		51.27	33	IAmb		IAmb		23 27 00.0	
	comp=Z,8.5nm,0.7s									
RIDG	**Independent Ri**		51.27	33	P		P		23 26 32.0	+0.5
	baz=275									
F26K	**Sheenjek River**		51.29	28	P		P		23 26 34.2	+2.7
	baz=272,SNR=26									
BKNI	**Bangkinang**		51.36	235	P		P		23 26 33.4	+0.7
BKNI	**Bangkinang**		51.36	235	P		P		23 26 33.3	+0.6
	comp=Z,181nm,0.9s,comp=Z,2µm									
G26K	**Porcupine Rive**		51.47	29	P		P		23 26 35.4	+2.6
	baz=273,SNR=11									
NGJI	**Ngawi**		51.48	218	P		P		23 26 36.5	+2.9
	comp=Z,78nm,0.9s									
N25K	**Chitina, Valde**		51.61	36	IAmb		IAmb		23 27 14.7	
	comp=Z,14nm,1.4s									
N25K	**Chitina, Valde**		51.61	36	P		P		23 26 35.8	+1.6
	baz=277									
SCRK	**Sand Creek**		51.62	33	IAmb		IAmb		23 26 36.3	
	comp=Z,16nm,0.8s									
SCRK	**Sand Creek**		51.62	33	P		P		23 26 35.3	+1.0
	baz=276,SNR=20									
BMRM	**Bremner River**		51.69	37	P		P		23 26 36.3	+1.7
	baz=278									
MLSI	**Meulaboh, Aceh**		51.71	242	P		P		23 26 39.9	+4.5
	comp=Z,39nm,0.7s									
SMRI	**Semarang**		51.73	220	P		P		23 26 36.6	+1.2
J26L	**Joseph Creek**		51.76	32	P		P		23 26 36.4	+1.2
	baz=276,SNR=5.5									
I26K	**Coal Creek Min**		51.85	31	P		P		23 26 36.8	+1.0
	baz=275									
MENT	**Mentasta**		51.86	34	P		P		23 26 37.3	+1.4
MENT	**Mentasta**		51.86	34	IAmb		IAmb		23 27 11.9	
	comp=Z,19nm,1.0s									
PWJI	**Pagerwojo**		51.88	217	P		P		23 26 35.5	-1.0
	comp=Z,220nm,0.9s									
L26K	**Log Cabin Wild**		52.01	34	IAmb		IAmb		23 26 40.1	
	comp=Z,17nm,0.8s									
L26K	**Log Cabin Wild**		52.01	34	P		P		23 26 39.3	+2.2
	baz=277,SNR=11									
BERG	**Berg Lake**		52.21	37	IAmb		IAmb		23 26 59.5	
	comp=Z,23nm,1.0s									
E27K	**Coleen River**		52.22	28	P		P		23 26 40.2	+1.7
	baz=274									
M26K	**Nabesna, AK**		52.26	35	IAmb		IAmb		23 27 15.6	
	comp=Z,14nm,1.2s									
M26K	**Nabesna, AK**		52.26	35	P		P		23 26 40.9	+2.0
	baz=278,SNR=8.2									
G27K	**Doyon Strip**		52.32	29	P		P		23 26 41.3	+2.0
	baz=275,SNR=5.1									
D27M	**Malcolm River**		52.37	26	P		P		23 26 41.7	+2.1
	baz=274,SNR=7.6									
DZA	**Taraz**		52.39	300	*e*P		P		23 26 40.2	+0.1
	comp=Z,22nm,0.8s,baz=300									
DZA	**Taraz**		52.39	300	*e*P		P		23 26 40.2	+0.1
DZA					pmax		pmax			
	comp=Z,22nm,0.8s									
MCARA	**McCarthy VSAT**		52.39	36	IAmb		IAmb		23 26 58.4	
	comp=Z,12nm,0.8s									
MCARA	**McCarthy VSAT**		52.39	36	P		P		23 26 42.0	+2.2
	baz=278,SNR=9.6									
UGM	**Wanagama**		52.42	219	P		P		23 26 40.1	-0.5
UGM	**Wanagama**		52.42	219	P		P		23 26 40.7	+0.1
	comp=Z,302nm,1.2s									
H27K	**Steamboat Moun**		52.43	30	P		P		23 26 42.6	+2.6
	baz=276,SNR=15									
CRQM	**Cirque**		52.43	37	IAmb		IAmb		23 27 14.4	
	comp=Z,17nm,1.0s									
CRQE	**Cirque**		52.45	37	P		P		23 26 42.6	+2.1
	baz=279									
K27K	**Chicken**		52.45	33	IAmb		IAmb		23 26 43.1	
	comp=Z,17nm,1.0s									
K27K	**Chicken**		52.45	33	P		P		23 26 41.8	+1.6
	baz=277									
BGLC	**Bering Glacier**		52.46	38	P		P		23 26 41.5	+1.2
	baz=279									
I27K	**Kandik River**		52.46	31	P		P		23 26 41.8	+1.4
	baz=276									
BHK	**Bhakra**		52.67	284	*e*P		P		23 26 42.9	+0.5
L27K	**Beaver Creek,**		52.70	34	IAmb		IAmb		23 26 45.3	
	comp=Z,17nm,1.1s									
L27K	**Beaver Creek,**		52.70	34	P		P		23 26 44.2	+2.1
	baz=278,SNR=16									
EGAK	**Eagle**		52.75	32	P		P		23 26 43.5	+1.0
	baz=277,SNR=11									
KPJI	**Karang Pucung**		52.76	221	P		P		23 26 42.4	-0.6
	comp=Z,136nm,1.0s									
M27K	**Edge Creek, AK**		52.78	35	IAmb		IAmb		23 26 45.9	
	comp=Z,16nm,1.1s									
M27K	**Edge Creek, AK**		52.78	35	P		P		23 26 45.0	+2.1
	baz=279,SNR=10									
THN	**Thein Dam**		52.81	286	*e*P		P		23 26 38.4	-4.9
THN					*i* x		x		23 26 43.2	
F28M	**Old Crow**		52.92	28

baz=282,SNR=8.1
K29M Barlow Dome 54.47 33 IAmb IAmb 23 26 58.5
comp=Z,11nm,0.9s
K29M Barlow Dome 54.47 33 P **P** **23 26 57.5 +2.3**
baz=281,SNR=12
F30M Barrier River 54.47 28 P **P** **23 26 57.2 +2.2**
baz=280,SNR=31
I30M Mount Dempster 54.68 31 P **P** **23 26 58.6 +1.9**
baz=281,SNR=76
YUK6 Outpost Mounta 54.69 36 P **P** **23 26 59.5 +2.5**
baz=283,SNR=6.8
O29M Mount Kennedy 54.73 37 IAmb IAmb 23 27 16.4
comp=Z,22nm,1.1s
O29M Mount Kennedy 54.73 37 P **P** **23 26 59.5 +2.4**
baz=283,SNR=9.5
J30M Hart River 54.83 32 P **P** **23 26 59.9 +2.0**
baz=282,SNR=10.0
M30M Minto, Yukon 55.06 34 P **P** **23 27 01.7 +2.4**
baz=283,SNR=7.5
HYT Haines Junctio 55.12 36 IAmb IAmb 23 27 29.6
comp=Z,45nm,1.6s
HYT Haines Junctio 55.12 36 P **P** **23 27 02.7 +2.7**
baz=283,SNR=8.8
INK Inuvik 55.18 27 IAmb IAmb 23 27 02.4
comp=Z,16nm,0.9s
INK Inuvik 55.18 27 P **P** **23 27 01.4 +1.4**
baz=282,SNR=21
G31M Satah River 55.18 29 IAmb IAmb 23 27 02.4
comp=Z,17nm,0.9s
G31M Satah River 55.18 29 P **P** **23 27 01.5 +1.4**
baz=282,SNR=17
SVE Sverdlovsk 55.19 319 *de*P **P** **23 27 00.4 +0.1**
SVE pmax pmax
comp=Z,52nm,0.9s
F31M Tsiigehtchic 55.28 28 IAmb IAmb 23 27 03.8
comp=Z,61nm,1.8s
F31M Tsiigehtchic 55.28 28 P **P** **23 27 02.1 +1.4**
baz=282,SNR=11
P29M Windy Craggy 55.30 38 IAmb IAmb 23 27 04.9
comp=Z,19nm,0.9s
P29M Windy Craggy 55.30 38 P **P** **23 27 04.0 +2.9**
baz=284,SNR=8.1
H31M Peel River 55.39 30 P **P** **23 27 03.6 +1.9**
baz=282,SNR=31
P30M Million Dollar 55.56 37 P **P** **23 27 05.3 +2.3**
baz=284
N31M Braeburn, Yuko 55.78 35 IAmb IAmb 23 27 39.0
comp=Z,13nm,1.0s
N31M Braeburn, Yuko 55.78 35 P **P** **23 27 06.6 +2.1**
baz=284
O30N Mendenhall 55.81 36 P **P** **23 27 06.6 +1.8**
baz=284
PLBC Pleasant Camp 56.02 38 P **P** **23 27 08.1 +1.9**
baz=285,SNR=7.1
FITZ Fitzroy Crossi 56.08 197 P **P** **23 27 07.8 +0.7**
AJM Ajmer 56.22 280 *e*P **P** **23 27 08.0 -0.2**
M31M Drury Creek, Y 56.23 34 IAmb IAmb 23 27 33.2
comp=Z,12nm,1.2s
M31M Drury Creek, Y 56.23 34 P **P** **23 27 09.8 +2.0**
baz=285,SNR=6.5
WRAB Tennant Creek 56.39 187 P **P** **23 27 09.0 -0.3**
WRAB Tennant Creek 56.39 187 *i* P **P** **23 27 07.7 -1.6**
WRAB pmax pmax
comp=Z,38nm,0.9s
ARU Arti 56.40 319 P **P** **23 27 08.7 -0.3**
ARU Arti 56.40 319 *c i* P **P** **23 27 08.7 -0.3**
ARU 23 28 04.9
ARU S **S** **23 34 57.2 +1.5**
ARU SS **SS** **23 38 42.5 -0.2**
ARU pmax pmax
comp=Z,73nm,0.8s
ARU Arti 56.40 319 P **P** **23 27 08.7 -0.3**
comp=Z,47nm,0.6s,baz=82,slow=4.3,SNR=86
comp=Z,47nm,0.6s
ARU Arti 56.40 319 P **P** **23 27 08.7 -0.3**
ARU pP **pP** **23 27 21.4 -1.6**
WRA Warramunga Arr 56.40 187 P **P** **23 27 09.3 -0.1**
comp=Z,42nm,0.6s,baz=2.3,slow=7.4,SNR=210
comp=Z,42nm,0.6s
WHY Whitehorse 56.41 36 P **P** **23 27 11.6 +2.4**
baz=286,SNR=5.1
S31K Pelican 56.49 39 P **P** **23 27 11.3 +1.8**
baz=286
SKAG Skagway 56.52 38 P **P** **23 27 11.5 +1.7**
baz=286
FARO Faro, Yukon 56.70 34 P **P** **23 27 12.7 +1.6**
baz=286,SNR=6.4
QIS Mount Isa 56.71 181 P **P** **23 27 11.6 +0.1**
A36M Sachs Harbour 57.02 22 P **P** **23 27 14.9 +1.7**
baz=286,SNR=35
AKL Akola 57.11 273 *e*P **P** **23 27 14.4 -0.2**
N32M Quiet Lake 57.12 35 P **P** **23 27 16.0 +1.8**
baz=287
R32K Eaglecrest 57.27 39 P **P** **23 27 17.3 +2.2**
baz=287
P32M Atlin 57.28 37 P **P** **23 27 17.4 +2.1**
baz=287
MMPY Sheldon Lake, 57.52 33 IAmb IAmb 23 27 42.1
comp=Z,22nm,1.6s
MMPY Sheldon Lake, 57.52 33 P **P** **23 27 19.1 +2.2**
baz=287,SNR=6.0
P33M Teslin, Yukon 57.52 36 IAmb IAmb 23 27 20.4
comp=Z,16nm,1.1s
P33M Teslin, Yukon 57.52 36 P **P** **23 27 18.9 +1.9**
baz=287,SNR=7.5
HYB Hyderabad 57.58 268 *e*P **P** **23 27 17.8 -0.2**
Q32M Nakina River 58.18 38 P **P** **23 27 23.6 +1.8**
baz=289
C36M Paulatuk 58.21 25 IAmb IAmb 23 27 23.6
comp=Z,20nm,0.8s
C36M Paulatuk 58.21 25 P **P** **23 27 22.7 +1.2**
baz=289,SNR=29
R33M Jennings River 58.67 37 P **P** **23 27 27.2 +2.1**
baz=289
JASL Jaisalmer 58.97 282 *e*P **P** **23 27 26.9 -0.7**
S34M Telegraph Cree 59.09 38 P **P** **23 27 29.2 +1.4**
baz=290
TGTN Hyland Airport 59.20 34 P **P** **23 27 30.7 +2.0**
baz=290,SNR=9.4
DLBC Dease Lake 59.46 38 IAmb IAmb 23 27 33.7
comp=Z,9.4nm,0.8s
DLBC Dease Lake 59.46 38 P **P** **23 27 32.7 +2.2**
baz=290,SNR=5.2
WTLY Watson Lake, Y 59.46 36 P **P** **23 27 31.6 +1.2**
baz=290
T35M Bob Quinn 59.87 39 IAmb IAmb 23 27 37.2
comp=Z,13nm,0.8s
T35M Bob Quinn 59.87 39 P **P** **23 27 35.3 +2.0**
baz=291,SNR=5.7
AS31 Alice Springs 60.13 187 P **P** **23 27 35.3 -0.1**
AS31 IAmb IAmb 23 27 36.5
comp=Z,8.6nm,0.9s
ASAR Alice Springs 60.13 187 P **P** **23 27 35.2 -0.2**
ASAR Alice Springs 60.13 187 P **P** **23 27 35.3 -0.1**
comp=Z,25nm,0.8s,baz=1.2,slow=8.8,SNR=172
comp=Z,25nm,0.8s
KIRV Kirov 60.35 323 *ce*P **P** **23 27 36.3 -0.1**
KIRV Kirov 60.35 323 P **P** **23 27 36.5 +0.1**
comp=Z,145nm,0.6s,baz=66,slow=2.9,SNR=73
comp=Z,145nm,0.6s
HOPEN Hopen 60.46 346 *e*P **P** **23 27 38.0 +1.0**
HOPEN IAmb IAmb 23 27 38.4
comp=Z,62nm,0.9s
MBWA Marble Bar 60.62 202 P **P** **23 27 39.0 +0.3**
MBWA Marble Bar 60.62 202 P **P** **23 27 39.0 +0.3**
MBWA Marble Bar 60.62 202 P **P** **23 27 38.9 +0.2**
WRGLY Wrigley 60.66 31 IAmb IAmb 23 27 41.4
comp=Z,27nm,1.1s
WRGLY Wrigley 60.66 31 P **P** **23 27 40.0 +1.5**
baz=293
PSA00 Pilbara Seismi 60.97 202 P **P** **23 27 41.1 0.0**
PSA00 Pilbara Seismi 60.97 202 P **P** **23 27 41.3 +0.2**
PSA00 Pilbara Seismi 60.97 202 IAmb IAmb 23 27 43.4
comp=Z,11nm,0.8s
SPA0 Spitsbergen Ar 60.98 349 *e*P **P** **23 27 40.9 +0.4**
SPA0 IAmb IAmb 23 27 42.1
comp=Z,37nm,1.0s
SPB2 Spitsbergen Ar 60.98 349 P **P** **23 27 41.2 +0.7**
SPITS Spitsbergen Ar 60.98 349 P **P** **23 27 41.2 +0.7**
SPITS pmax pmax
comp=Z,30nm,0.9s
SPITS Spitsbergen Ar 60.98 349 P **P** **23 27 40.8 +0.3**
comp=Z,6.0nm,0.5s,baz=81,slow=10,SNR=29
comp=Z,6.0nm,0.5s
KBS Kingsbay 61.13 350 P **P** **23 27 42.8 +1.4**
KBS Kingsbay 61.13 350 *e*P **P** **23 27 42.8 +1.4**
KBS IAmb IAmb 23 27 43.2
comp=Z,60nm,0.9s
KBS Kingsbay 61.13 350 *ce*P **P** **23 27 43.2 +1.7**
KBS pmax pmax
comp=Z,52nm,1.0s
KBS Kingsbay 61.13 350 *i* P **P** **23 27 41.6 +0.1**
KAD Karad 61.16 271 *e*P **P** **23 27 42.3 -0.4**
NOR Nord 61.59 356 *i* P **P** **23 27 43.3 -1.3**
NOR IAmb IAmb 23 27 45.7
comp=Z,9.5nm,0.6s
TOAD Toad River Com 61.62 36 P **P** **23 27 46.6 +1.4**
baz=294,SNR=6.6
KOTAN Kotaneelee Air 61.65 34 P **P** **23 27 46.9 +1.6**
baz=294
PALK Pallekele 61.65 257 P **P** **23 27 46.2 +0.2**
PALK Pallekele 61.65 257 P **P** **23 27 46.2 +0.2**
PALK pmax pmax
comp=Z,36nm,1.0s
PALK Pallekele 61.65 257 P **P** **23 27 45.9 -0.1**
comp=Z,28nm,0.9s,baz=147,slow=6.5,SNR=18
comp=Z,28nm,0.9s
PALK Pallekele 61.65 257 P **P** **23 27 46.3 +0.2**
PALK Pallekele 61.65 257 P **P** **23 27 46.1 +0.1**
WRKA Warakurna 62.26 193 P **P** **23 27 49.9 +0.1**
KOD Kodaikanal 62.46 262 *e*P **P** **23 27 51.8 0.0**
QLP Quilpie 62.79 176 P **P** **23 27 53.2 0.0**
BJO1 Bjornoya 62.87 345 *e*P **P** **23 27 53.3 0.0**
VADS Vadso 62.89 339 *e*P **P** **23 27 53.5 +0.1**
APA Apatity 62.97 336 ⇓ *i* P **P** **23 27 52.2 -1.8**
APA pmax pmax
comp=Z,36nm,0.8s
RES Resolute Bay 63.31 14 P **P** **23 27 56.4 +0.3**
RES Resolute Bay 63.31 14 P **P** **23 27 56.4 +0.3**
RES pmax pmax
comp=Z,23nm,0.7s
KEV Kevo 63.77 339 P **P** **23 27 59.5 +0.3**
BELG Belogornoye 63.81 317 P **P** **23 27 59.4 -0.3**
comp=Z,147nm,0.8s,baz=157,slow=1.3,SNR=61
comp=Z,147nm,0.8s
INKA Innaminka 63.85 180 P **P** **23 28 01.0 +0.8**
KLMR Klimovskoe 63.92 328 *e*P **P** **23 27 57.6 -2.8**
KLMR *e**PP **pP** **23 28 13.4 -1.3**
KLMR *e* 23 30 18.5
KLMR pmax pmax
comp=Z,107nm,1.5s
OOD Oodnadatta 64.07 185 P **P** **23 28 02.1 +0.5**
HAMF Hammerfest 64.17 341 *e*P **P** **23 28 01.9 +0.1**
HAMF IAmb IAmb 23 28 02.4
comp=Z,43nm,0.9s
ARA0 ARCESS Array S 64.33 339 *e*P **P** **23 28 03.3 +0.4**
ARCES ARCESS Array B 64.33 339 P **P** **23 28 03.1 +0.1**
comp=Z,22nm,0.8s,baz=58,slow=8.6,SNR=50
comp=Z,22nm,0.8s
YKA Yellowknife Ar 64.61 30 P **P** **23 28 05.5 +0.6**
comp=Z,3.4nm,0.8s,baz=304,slow=7.2,SNR=52
comp=Z,3.4nm,0.8s
KTK1 Kautokeino 65.29 339 *e*P **P** **23 28 09.5 +0.4**
KTK1 IAmb IAmb 23 28 10.1
comp=Z,36nm,0.9s
JETT Jettan, Norway 65.73 341 *e*P **P** **23 28 12.2 +0.2**
JETT IAmb IAmb 23 28 12.9
comp=Z,19nm,0.8s
TRO Tromso 66.07 341 *e*P **P** **23 28 14.2 +0.1**
TRO IAmb IAmb 23 28 22.4
comp=Z,992nm,3.2s
NEEM North Greenlan 66.14 3 *i* P **P** **23 28 14.5 -0.4**
NEEM IAmb IAmb 23 28 17.0
comp=Z,46nm,0.8s
JOF Joensuu 66.19 332 *e*P **P** **23 28 15.2 +0.1**
DAG Danmarks Havn 66.30 355 *i* P **P** **23 28 15.0 -0.5**
LCRK Leigh Creek 66.59 182 P **P** **23 28 18.7 +0.9**
MULG Mulgathing 66.67 186 P **P** **23 28 19.0 +0.6**
VALR Valaam 67.24 331 *i* P **P** **23 28 21.5 -0.2**
NGCH Negor - Chabah 67.38 285 P **P** **23 28 24.4 +1.2**
NLWA Neilton Lookou 67.55 47 IAmb IAmb 23 28 27.8
comp=Z,17nm,1.0s
VRH Novokhopyorsk 67.61 318 *c i* P **P** **23 28 23.3 -0.9**
VRH pmax pmax
comp=Z,95nm,0.6s
BRLDA Berland Lookou 67.68 39 IAmb IAmb 23 28 26.8
comp=Z,15nm,0.9s
CMSA Cobar Meteorol 67.80 175 P **P** **23 28 26.5 +1.0**
FORT Forrest 67.92 192 P **P** **23 28 26.6 +0.3**
FORT Forrest 67.92 192 P **P** **23 28 26.5 +0.3**
STKA Stephens Creek 67.98 179 P **P** **23 28 27.0 +0.4**
STKA Stephens Creek 67.98 179 P **P** **23 28 27.0 +0.4**
STKA Stephens Creek 67.98 179 P **P** **23 28 27.0 +0.4**
comp=Z,14nm,0.8s,baz=351,slow=7.5,SNR=23
comp=Z,14nm,0.8s
OBN Obninsk 68.20 323 ⇓ P **P** **23 28 27.4 -0.5**
OBN Obninsk 68.20 323 P **P** **23 28 27.6 -0.3**
OBN Obninsk 68.20 323 *c i* P **P** **23 28 27.3 -0.5**
OBN *e* 23 28 50.7
OBN *e* 23 30 58.6
OBN pmax pmax
comp=Z,115nm,1.7s
OBN MLR MLR
comp=Z,1μm,17.0s
OBN Obninsk 68.20 323 P **P** **23 28 27.4 -0.5**
STEI Steigen 68.22 341 *e*P **P** **23 28 27.9 +0.1**
STEI IAmb IAmb 23 28 28.0
comp=Z,37nm,0.7s
LPSR Galich'ya Gora 68.36 320 *e*P **P** **23 28 27.1 -1.8**
LPSR pmax pmax
comp=Z,90nm,0.9s
PUL Pulkovo 68.38 329 *ce*P **P** **23 28 29.5 +0.6**
PUL pmax pmax
comp=Z,75nm,0.6s
LOF Lofoten 68.52 341 *e*P **P** **23 28 29.3 -0.4**
FAUS Fauske 68.59 340 *e*P **P** **23 28 30.4 +0.3**
FAUS IAmb IAmb 23 28 31.0
comp=Z,50nm,0.8s
KULLO Kullorsuaq 68.61 5 *i* P **P** **23 28 29.4 -0.8**
KULLO IAmb IAmb 23 28 31.5
comp=Z,16nm,0.8s
VORR Voronezh 68.71 319 *e*P **P** **23 28 29.4 -1.7**
VORR pmax pmax
comp=Z,70nm,1.0s
DBG Daneborg 68.78 355 *i* P **P** **23 28 30.8 -0.5**
DBG IAmb IAmb 23 28 33.2
comp=Z,2.8nm,0.8s
DBG IAML 23 28 33.2
comp=Z,3.0nm,0.8s
VSR Storozhevoye 68.97 319 *e*P **P** **23 28 31.1 -1.7**
VSR pmax pmax
comp=Z,70nm,0.9s
BBOO Buckleboo 69.04 184 P **P** **23 28 33.8 +0.6**
BBOO Buckleboo 69.04 184 IAmb IAmb 23 28 34.5
comp=Z,26nm,0.8s
VORD Divnogorie 69.04 318 *e*P **P** **23 28 31.4 -1.8**
VORD pmax pmax
comp=Z,50nm,1.0s
KEF Keuruu 69.04 333 *e*P **P** **23 28 32.5 -0.5**
FINES FINESS Array B 69.05 332 P **P** **23 28 32.9 -0.2**
comp=Z,62nm,0.9s,baz=58,slow=7.2,SNR=108
comp=Z,62nm,0.9s
F04A Amboy 69.15 48 IAmb IAmb 23 28 51.4
comp=Z,20nm,0.8s
MORW Morawa 69.16 203 P **P** **23 28 34.0 -0.1**
MORW Morawa 69.16 203 P **P** **23 28 34.2 +0.1**
MORW IAmb IAmb 23 28 35.4
comp=Z,17nm,0.8s
VAF Ylistaro 69.26 335 *e*P **P** **23 28 34.9 +0.5**
GROC Groznyy 69.30 309 *e*P **P** **23 28 35.0 0.0**
GROC *e**PP **pP** **23 28 49.2 -0.1**
GROC *e* 23 28 58.1
GROC *e* 23 31 07.8
GROC pmax pmax
comp=Z,16nm,0.8s
HTT Hallett 69.54 182 P **P** **23 28 37.4 +1.0**
JASK Jask - Hormozg 69.65 288 P **P** **23 28 38.5 +1.1**
MOR8 Moi Rana 69.70 340 *e*P **P** **23 28 35.8 -1.3**
MOR8 IAmb IAmb 23 28 36.5
comp=Z,82nm,0.9s
KONS Konsvik 69.83 340 *e*P **P** **23 28 37.8 +0.1**
KONS IAmb IAmb 23 28 38.9
comp=Z,28nm,1.0s
H04A Detroit Lake 69.94 49 IAmb IAmb 23 28 55.9
comp=Z,13nm,0.9s
STOK Stokkvaagen 69.98 340 *e*P **P** **23 28 38.5 -0.2**
GOF Gofitskoye 70.03 312 *c i* P **P** **23 28 39.3 -0.1**
MXC Moxie City 70.07 46 IAmb IAmb 23 28 42.3
comp=Z,9.0nm,0.7s
EDM Edmonton 70.18 38 P **P** **23 28 41.5 +1.2**
EDM IAmb IAmb 23 28 42.1
comp=Z,18nm,0.9s
EDM Edmonton 70.18 38 P **P** **23 28 41.5 +1.2**
EDM pmax pmax
comp=Z,18nm,0.9s
I04A Tendick Farm, 70.27 50 IAmb IAmb 23 28 58.0
comp=Z,9.3nm,0.8s
JLN Jalan Bani Buh 70.40 283 P **P** **23 28 42.1 0.0**
JLN P **P** **23 28 42.1 0.0**
WSAR Wadi Sarin 70.43 285 P **P** **23 28 42.5 +0.2**
comp=Z,19nm,0.7s,baz=88,slow=6.8,SNR=22
comp=Z,19nm,0.7s
WSAR Wadi Sarin 70.43 285 P **P** **23 28 42.8 +0.5**
SNR=6.2
MEF Metsahovi 70.46 332 *e*P **P** **23 28 42.0 +0.3**
WBK Wadi Bani Khal 70.50 284 P **P** **23 28 43.3 +0.5**
SNR=9.5
D08A Wollman Farm, 70.61 45 pP pP 23 28 55.9 -1.5
HAWA Hanford 70.61 46 pP 23 28 59.3 +1.9
I05D Terrebonne, OR 70.64 49 sP 23 28 59.8 -3.5
VSU Vasula 70.65 329 *ce*P **P** **23 28 42.9 0.0**
VSU pmax pmax
comp=Z,99nm,1.0s
BIDO Bidbid 70.68 285 P **P** **23 28 44.7 +0.9**
SNR=12
BIDO P **P** **23 28 44.7 +0.9**
SNR=12
KBZ Khabaz 70.82 310 *ce*P **P** **23 28 44.7 +0.4**
KBZ Khabaz 70.82 310 P **P** **23 28 44.4 +0.1**
comp=Z,42nm,0.9s,baz=44,slow=3.3,SNR=54
comp=Z,42nm,0.9s
KIV Kislovodsk 70.83 311 ⇑ P **P** **23 28 44.6 +0.2**
KIV Kislovodsk 70.83 311 P **P** **23 28 44.8 +0.2**
KIV Kislovodsk 70.83 311 *e*P **P** **23 28 44.7 +0.2**
KIV pmax pmax
comp=Z,124nm,1.1s
KIV Kislovodsk 70.83 311 P **P** **23 28 44.9 +0.4**
KIV Kislovodsk 70.83 311 P **P** **23 28 44.6 +0.2**
E08A Dider Farm, El 70.84 46 IAmb IAmb 23 28 46.7
comp=Z,9.4nm,0.9s
RAF Rauma 70.92 333 *e*P **P** **23 28 44.7 +0.2**
NEW Newport 70.97 44 P **P** **23 28 46.6 +1.4**
baz=304
SMDO Samad 70.98 285 P **P** **23 28 46.5 +0.8**
SNR=9.1
SMDO P **P** **23 28 46.5 +0.8**
SNR=9.1
KLBR Kellerberrin 71.01 201 P **P** **23 28 45.1 -0.3**
MDH Madha 71.15 288 *i* P **P** **23 28 45.4 -1.2**
SNR=7.9
MDH Madha 71.15 288 P **P** **23 28 45.7 -0.8**
SNR=5.5
L04D Klamath Falls 71.17 51 IAmb IAmb 23 29 13.2
comp=Z,24nm,1.2s
PINE Pine Mountain 71.18 49 IAmb IAmb 23 29 04.2
comp=Z,18nm,0.8s
MASF Masafi 71.22 288 P **P** **23 28 47.6 +0.5**
SNR=16
MSFE Esma-Masafi 71.22 288 *i* P **P** **23 28 47.2 +0.1**
SNR=24
SUMG Summit 71.27 360 *i* P **P** **23 28 47.0 0.0**
SUMG IAmb IAmb 23 28 49.5
comp=Z,22nm,0.9s
HOQ Hoqain 71.28 286 P **P** **23 28 47.5 0.0**
SNR=10
HOQ P **P** **23 28 47.5 0.0**
SNR=10
JMDO Jabal Madar 71.31 284 P **P** **23 28 47.7 +0.1**
SNR=7.0
JMDO P **P** **23 28 47.7 +0.1**
SNR=7.0
E09A Wood Farm, Sta 71.35 46 IAmb IAmb 23 28 49.9
comp=Z,12nm,0.9s
UOSS Minazif 71.41 288 P **P** **23 28 47.9 -0.3**
UOSS Minazif 71.41 288 *i* P **P** **23 28 47.7 -0.4**
SNR=25
UOSS Minazif 71.41 288 P **P** **23 28 48.2 +0.1**
UOSS Minazif 71.41 288 P **P** **23 28 47.8 -0.4**
HATD Hatta, Dubai 71.53 288 *i* P **P** **23 28 48.7 -0.2**
SNR=38
HATD Hatta, Dubai 71.53 288 P **P** **23 28 49.2 +0.3**
SNR=19
GNI Garni 71.57 307 P **P** **23 28 50.0 +0.9**
GNI Garni 71.57 307 *ce*P **P** **23 28 50.3 +1.2**
GNI pmax pmax
comp=Z,49nm,1.3s
GNI Garni 71.57 307 P **P** **23 28 50.0 +0.9**
comp=Z,20nm,0.9s,baz=70,slow=12,SNR=13
comp=Z,20nm,0.9s
GNI Garni 71.57 307 P **P** **23 28 49.9 +0.9**
GNI Garni 71.57 307 P **P** **23 28 50.0 +0.9**
SOHO SOHO 71.59 287 *i* P **P** **23 28 48.7 -0.5**
SNR=30
SOHO SOHO 71.59 287 P **P** **23 28 49.3 +0.1**
SOHO P **P** **23 28 49.3 +0.1**
NSS Namsos 71.61 339 *e*P **P** **23 28 48.6 -0.1**
ASHO Ashiyiah 71.66 287 *i* P **P** **23 28 49.5 -0.3**
SNR=33
ASHO Ashiyiah 71.66 287 P **P** **23 28 50.0 +0.3**
SNR=18
K05A Summer Lake 71.78 50 IAmb IAmb 23 29 20.8
comp=Z,20nm,1.2s
NAZ Nazwa, Dubai 71.80 288 *i* P **P** **23 28 50.0 -0.5**
SNR=9.8
NAZ Nazwa, Dubai 71.80 288 P **P** **23 28 50.5 0.0**
SNR=7.4
NAZ P **P** **23 28 50.5 0.0**
SNR=7.4
BSY Bisya 71.81 285 P **P** **23 28 50.9 +0.3**
SNR=10
KAAM Kaadhehdhoo 71.86 257 P **P** **23 28 52.1 +1.1**
I07A Izee 71.89 48 pP pP 23 29 03.4 -1.9
FAQ Al Faqa, Dubai 71.98 288 *i* P **P** **23 28 50.8 -0.8**
SNR=20
FAQ Al Faqa, Dubai 71.98 288 P **P** **23 28 51.5 -0.2**
SNR=7.4
ARQ Araqi 72.02 286 P **P** **23 28 52.3 +0.4**
SNR=12
ARQ P **P** **23 28 52.3 +0.4**
SNR=12
AAL Aland 72.13 333 *e*P **P** **23 28 51.6 -0.2**
MHTO MHTO 72.16 283 P **P** **23 28 52.8 +0.1**
SNR=18
MHTO P **P** **23 28 52.8 +0.1**
SNR=18
ALNE Al Ain 72.23 287 *i* P **P** **23 28 53.0 -0.1**
SNR=49
ALNE Al Ain 72.23 287 P **P** **23 28 53.2 +0.1**
SNR=12
ASUD Al Ashush, Dub 72.25 288 *i* P **P** **23 28 53.3 +0.1**
SNR=17
ASUD Al Ashush, Dub 72.25 288 P **P** **23 28 54.0 +0.8**
SNR=6.0
NWAO Narrogin (SRO) 72.41 201 P **P** **23 28 53.9 +0.2**
AJN Ajban 72.55 288 *i* P **P** **23 28 54.0 -0.9**
SNR=6.4
AJN Ajban 72.55 288 P **P** **23 28 54.9 -0.1**
SCO Scoresbysund 72.63 354 IAmb IAmb 23 28 56.4
comp=Z,19nm,0.8s
SCO Scoresbysund 72.63 354 *i* P **P** **23 28 55.4 +0.7**
SCO IAmb IAmb 23 28 56.7
comp=Z,10nm,0.7s
MNK Minsk 72.64 326 *i* P **P** **23 28 55.6 +0.6**
MNK *i* *PP **PcP** **23 29 12.1 -0.1**
MNK *i* 23 31 37.4
MNK *i* PPP PPP 23 33 21.8
MNK *i* S **S** **23 38 16.2 +0.3**
MNK *i* *SS **sS** **23 38 44.6 +4.2**
MNK *i* 23 38 57.2
MNK *i* SS **SS** **23 42 57.2 +2.3**
MNK pmax pmax
comp=Z,99nm,0.9s
MNK pmax pmax
comp=E,20nm,1.1s
MNK pmax pmax
comp=N,38nm,1.0s
MNK MLR MLR
comp=N,755nm,18.0s
MNK MLR MLR
comp=E,486nm,19.0s
MNK MLR MLR
comp=Z,2μm,18.0s
ISAL Salakas 72.74 327 *e*P **P** **23 28 57.5 +1.9**
UMMG Uummannaq 72.78 4 *i* P **P** **23 28 55.4 -0.2**
UMMG IAmb IAmb 23 28 57.0
comp=Z,9.3nm,0.7s
SOC Sochi 72.83 312 *e*P **P** **23 28 54.3 -2.1**
SOC *e*S **S** **23 38 16.5 -2.0**

SOC eSS SS 23 42 58.0 -0.5
SOC pmax pmax
comp=Z,40nm,0.7s
SOC MLR MLR
comp=Z,994nm,19.0s
SLIT Slitere, Latvi 72.99 330 eP P 23 28 57.0 0.0
DQM DQM 73.06 282 P P 23 28 58.0 -0.1
SNR=5.6
DQM P P 23 28 58.0 -0.1
SNR=5.6
TBLU Trondheim 73.08 339 eP P 23 28 56.5 -0.9
UPP Uppsala 73.21 334 eP P 23 28 58.4 +0.2
PLID Pearl Lake 73.40 46 IAmb IAmb 23 29 25.4
comp=Z,36nm,2.0s
UMZA Um Al Zommool 73.41 286 P P 23 28 59.6 -0.5
PABE Paberze 73.71 328 eP P 23 29 01.8 +0.5
MZWR Madinat Zayed 73.83 288 P P 23 29 01.9 -0.6
JRN Qarnain Island 73.98 289 P P 23 29 02.6 -0.8
SNR=6.2
PBUR Paburge 74.22 329 eP P 23 29 04.7 +0.5
EMB Emerald Bay 74.35 53 pP 23 29 18.9 -1.2
EMB IAmb IAmb 23 29 28.2
comp=Z,10.0nm,0.8s
DOMB Dombas 74.37 339 eP P 23 29 04.9 -0.2
DOMB IAmb IAmb 23 29 05.9
comp=Z,38nm,0.7s
HFS Hagfors 74.37 335 P P 23 29 04.9 -0.2
comp=Z,40nm,0.8s,baz=53,slow=7.4,SNR=37
comp=Z,40nm,0.8s
AKASG Malin Array Be 74.39 322 ceP P 23 29 04.9 -0.4
AKASG pmax pmax
comp=Z,38nm,0.6s
AKASG Malin Array Be 74.39 322 P P 23 29 04.9 -0.4
comp=Z,39nm,0.6s,baz=46,slow=6.0,SNR=145
comp=Z,39nm,0.6s
AKBB Malin Array Si 74.39 322 ceP P 23 29 04.8 -0.5
MOL Molde 74.39 339 eP P 23 29 05.8 +0.7
NB2 NORSAR Subarra 74.49 337 P P 23 29 05.6 -0.2
comp=Z,58nm,0.8s,baz=39,slow=5.9
NB2 NORSAR Subarra 74.49 337 P P 23 29 05.6 -0.2
baz=39,slow=5.9
NOA NORSAR Array B 74.49 337 P P 23 29 05.8 0.0
comp=Z,40nm,0.7s,baz=39,slow=5.8,SNR=175
comp=Z,40nm,0.7s
GHWR Ruwais 74.49 288 P P 23 29 05.9 -0.5
VIKU Vikbolandet 74.52 333 eP P 23 29 06.3 +0.4
FFC Flin Flon 74.52 32 P P 23 29 06.7 +0.7
FFC IAmb IAmb 23 29 07.7
comp=Z,19nm,0.9s
FFC Flin Flon 74.52 32 P P 23 29 06.7 +0.7
FFC pmax pmax
comp=Z,19nm,1.0s
MZR Muzera 74.55 287 P P 23 29 06.6 -0.2
PNTR Pine Nut 74.61 53 P P 23 29 09.2 +2.1
PNTR pP 23 29 23.7 +2.1
PNTR IAmb IAmb 23 29 32.0
comp=Z,16nm,1.2s
NC602 NORSAR Array S 74.62 337 eP P 23 29 06.2 -0.2
NC602 IAmb IAmb 23 29 06.9
comp=Z,78nm,1.4s
ICESG Greenland Ices 74.77 0 iP P 23 29 07.7 0.0
ICESG IAmb IAmb 23 29 10.0
comp=Z,14nm,0.9s
FCC Fort Churchill 74.79 26 IAmb IAmb 23 29 09.0
comp=Z,37nm,1.4s
AKN Aaknes 74.86 339 eP P 23 29 08.3 +0.5
AKN IAmb IAmb 23 29 10.1
comp=Z,36nm,1.0s
YERR Yerington 74.90 53 IAmb IAmb 23 29 11.2
comp=Z,10nm,0.8s
SHMA Al-Shehemyia 74.91 291 P P 23 29 08.2 -0.6
SUW Suwalki 75.05 327 eP P 23 29 08.8 -0.3
SUW Suwalki 75.05 327 eP P 23 29 09.7 +0.6
EGMT Eagleton 75.11 41 IAmb IAmb 23 29 11.8
comp=Z,16nm,0.9s
EGMT Eagleton 75.11 41 P P 23 29 10.8 +1.1
baz=308
SAKB Bahrain 75.16 291 P P 23 29 09.8 -0.4
HLID Hailey 75.21 47 P P 23 29 11.7 +1.2
baz=306
SIM Simferopol' 75.32 315 eP P 23 29 10.5 -0.3
SIM pmax pmax
comp=Z,97nm,0.8s
TRNA Turayna 75.33 290 P P 23 29 10.7 -0.6
SNR=7.5
SLWR Sila 75.33 289 P P 23 29 10.9 -0.3
BMN Battle Mountai 75.35 50 IAmb IAmb 23 29 13.9
comp=Z,8.3nm,0.7s
OSL Oslo 75.49 336 eP P 23 29 12.1 +0.6
KBD Kabd 75.50 296 P P 23 29 12.0 -0.2
BOZ Bozeman (W) 75.58 44 IAmb IAmb 23 29 14.8
comp=Z,13nm,1.0s
BOZ Bozeman (W) 75.58 44 P P 23 29 13.7 +1.2
baz=308
KVN Kaiserville 75.59 52 IAmb IAmb 23 29 15.2
comp=Z,9.2nm,0.7s
SMRA Abu-Samra 75.62 290 P P 23 29 12.1 -0.8
SNR=7.5
SHAO Shalim 75.62 282 iP P 23 29 13.0 0.0
SNR=7.5
SHAO Shalim 75.62 282 P P 23 29 13.2 +0.1
SKAR Skarslia 75.67 338 eP P 23 29 13.3 +0.7
LHV Little Huntoon 75.80 53 IAmb IAmb 23 29 46.1
comp=Z,15nm,1.1s
NVAR Mina Array Bea 75.82 53 P P 23 29 15.7 +1.6
comp=Z,5.6nm,0.7s,baz=302,slow=5.2,SNR=42
comp=Z,5.8nm,0.7s
FOO Floro 75.88 340 eP P 23 29 13.5 -0.1
FOO IAmb IAmb 23 29 14.8
comp=Z,27nm,0.6s
HYA Hoyanger 75.90 339 eP P 23 29 13.9 0.0
HYA IAmb IAmb 23 29 15.0
comp=Z,68nm,1.1s
STRU Stroemstad 76.04 336 eP P 23 29 15.2 +0.6
KONO Kongsberg 76.08 337 eP P 23 29 14.9 0.0
KONO Kongsberg 76.08 337 ceP P 23 29 15.6 +0.7
KONO pmax pmax
comp=Z,54nm,2.5s
DMTO DMTO 76.33 282 P P 23 29 16.8 -0.2
SUE Sulen 76.40 340 eP P 23 29 17.1 +0.4
SORM Soroca 76.46 320 ⇑P P 23 29 16.6 -0.7
SORM Soroca 76.46 320 P P 23 29 16.5 -0.7
DOK Doka 76.47 283 P P 23 29 17.2 -0.6
SNR=5.6
DOK P P 23 29 17.2 -0.6
SNR=5.6
SFJD Kangerlussuaq 76.52 5 P P 23 29 18.2 +1.0
SFJD IAmb IAmb 23 29 19.0
comp=Z,29nm,0.9s
SFJD Kangerlussuaq 76.52 5 P P 23 29 18.2 +1.0
SFJD pmax pmax
comp=Z,29nm,1.0s
SFJD Kangerlussuaq 76.52 5 iP P 23 29 17.1 -0.1
SFJD IAmb IAmb 23 29 19.2
comp=Z,16nm,0.8s
PURM Purcari 76.68 318 ⇓P P 23 29 18.0 -0.5
ASK Askoy 76.74 339 eP P 23 29 19.5 +0.9
BER Bergen 76.78 339 eP P 23 29 19.6 +0.8
ODD1 Odda 76.78 338 eP P 23 29 19.6 +0.6
PKM Mcpherson Peak 76.87 56 P P 23 29 21.2 +1.1
baz=305
H17A Grant Village 76.91 44 IAmb IAmb 23 29 24.4
comp=Z,14nm,0.8s
H17A Grant Village 76.91 44 P P 23 29 23.6 +3.4
baz=308
KIS Kishinev 76.94 319 eP P 23 29 19.0 -1.0
comp=Z,30nm,0.6s
KIS Kishinev 76.94 319 eP P 23 29 19.0 -1.0
KIS pmax pmax
comp=Z,30nm,0.6s
MILM Milestii Mici 77.00 319 ⇑P P 23 29 19.5 -0.9
MILM Milestii Mici 77.00 319 ⇑iP P 23 29 19.4 -0.9
comp=Z,67nm,1.0s
MILM Milestii Mici 77.00 319 ceiP P 23 29 19.4 -0.9
MILM pmax pmax
comp=Z,67nm,1.0s
IMW Indian Meadow 77.01 45 IAmb IAmb 23 29 24.0
comp=Z,8.8nm,0.8s
FLWY Flagg Ranch 77.03 44 IAmb IAmb 23 29 24.4
comp=Z,14nm,1.1s
RBK Rabkut 77.03 282 P P 23 29 20.4 -0.7
CWC Cottonwood Cre 77.12 54 P P 23 29 23.0 +1.6
baz=306
WHFO Wadi Hawf 77.14 283 P P 23 29 21.0 -0.7
SNR=5.4
RLMT Red Lodge 77.18 43 P P 23 29 23.3 +1.6
baz=309
MOOW Moose Ponds 77.21 45 IAmb IAmb 23 29 47.8
comp=Z,16nm,1.6s
BLS5 Blasjo 77.23 338 eP P 23 29 22.2 +0.8
BLS5 IAmb IAmb 23 29 22.9
comp=Z,46nm,1.0s
HVU Hansel Valley 77.25 47 IAmb IAmb 23 29 24.7
comp=Z,8.5nm,0.8s
GRAC Grapevine Rang 77.26 53 P P 23 29 24.0 +2.0
baz=306
DY2G Dye2 77.26 3 iP P 23 29 21.1 -0.7
DY2G IAmb IAmb 23 29 23.6
comp=Z,18nm,0.7s
ISA Isabella, Lake 77.31 55 P P 23 29 23.3 +0.9
baz=306
LVV L'vov 77.49 324 eP P 23 29 22.2 -0.8
LEOM Leova 77.58 319 ⇑P P 23 29 23.7 +0.1
LEOM Leova 77.58 319 P P 23 29 23.6 +0.1
R11B Troy Canyon, C 77.60 51 IAmb IAmb 23 29 48.2
comp=Z,38nm,1.9s
R11B Troy Canyon, C 77.60 51 P P 23 29 25.3 +1.2
baz=307
Q12A Willow Creek R 77.66 51 IAmb IAmb 23 29 49.8
comp=Z,23nm,1.3s
DGMT Dagmar 77.67 38 P P 23 29 25.0 +0.9
baz=312
MPMC Manual Prospec 77.73 54 P P 23 29 25.9 +1.0
baz=306
KMY Karmoy 77.77 338 eP P 23 29 25.2 +0.8
LAO LASA Array 77.81 40 IAmb IAmb 23 29 27.3
comp=Z,12nm,0.9s
LAO LASA Array 77.81 40 P P 23 29 26.5 +1.5
baz=311
ABTO Aybut 77.83 283 P P 23 29 25.0 -0.5
SNR=7.5
WCT Wildcat Mounta 77.86 53 PcP 23 29 36.5 +1.2
SNART Snartemo 77.87 337 eP P 23 29 25.8 +0.8
FURC Furnace Creek, 77.90 54 P P 23 29 27.0 +1.5
baz=306
S11A Rachel 77.92 52 IAmb IAmb 23 29 52.3
comp=Z,21nm,1.0s
CCAC Calif City Air 77.92 55 IAmb IAmb 23 29 27.9
comp=Z,8.6nm,0.8s
LRMC Laurel Mtn Rad 77.94 55 P P 23 29 27.2 +1.2
baz=306
SPR3 Spring Creek 3 77.99 50 IAmb IAmb 23 29 51.4
comp=Z,13nm,1.3s
BIR Birlad 78.04 319 ⇓P P 23 29 27.1 +0.9
BIR Birlad 78.04 319 P P 23 29 27.1 +0.9
PRAR RASCA 78.05 321 ⇑P P 23 29 25.9 -0.3
VLDR Vladesti 78.08 319 ⇓P P 23 29 26.7 +0.3
EDW2 Edwards Air Fo 78.09 55 P P 23 29 28.0 +1.3
baz=306
TLCR 78.11 318 ⇑P P 23 29 26.6 0.0
TLCR 78.11 318 P P 23 29 26.5 0.0
BORG Borgarnes 78.14 352 P P 23 29 29.1 +2.7
BORG Borgarnes 78.14 352 P P 23 29 29.1 +2.7
BORG pmax pmax
comp=Z,55nm,1.0s
VARL Varlezi 78.16 319 ⇑P P 23 29 27.1 +0.3
COP Copenhagen 78.17 333 iP P 23 29 26.8 +0.1
COP IAmb IAmb 23 29 28.2
comp=Z,118nm,0.7s
GWY Greenwater Val 78.19 54 IAmb IAmb 23 29 51.3
comp=Z,45nm,1.9s
QSM Queen of Sheba 78.19 54 IAmb IAmb 23 29 29.4
comp=Z,9.4nm,0.8s
DUG Dugway, Tooele 78.19 49 IAmb IAmb 23 29 29.9
comp=Z,11nm,0.9s
DUG Dugway, Tooele 78.19 49 P P 23 29 28.7 +1.4
baz=308
KWP Kalwaria Pacla 78.25 324 eP P 23 29 28.1 +0.8
BURAR Bucovina Array 78.39 321 ⇓P P 23 29 28.4 +0.2
BURAR Bucovina Array 78.39 321 P P 23 29 28.4 +0.2
TESR Tescani 78.39 320 ⇓P P 23 29 28.0 -0.1
TCUT Toone Canyon 78.46 47 IAmb IAmb 23 29 31.4
comp=Z,12nm,0.8s
CFR Carcaliu 78.48 318 ⇑P P 23 29 28.3 -0.3
CFR Carcaliu 78.48 318 P P 23 29 28.3 -0.3
BW06 Boulder Array 78.50 45 P P 23 29 30.2 +1.0
baz=309
PDAR Pinedale Array 78.50 45 P P 23 29 30.1 +1.0
comp=Z,3.9nm,0.7s,baz=266,slow=2.5,SNR=40
comp=Z,3.9nm,0.7s
TPGR Topolog 78.53 318 ⇓P P 23 29 29.1 +0.2
PANC Panciu 78.55 319 ⇑P P 23 29 29.9 +0.9
ODBI Odobesti 78.67 319 ⇓P P 23 29 31.1 +1.5
BFSC Mount Baldy Ra 78.69 56 P P 23 29 31.5 +1.3
baz=306
MUD Monsted U'grnd 78.73 335 iP P 23 29 28.8 -0.9
MUD IAmb IAmb 23 29 31.4
comp=Z,21nm,0.8s
VRI Vrincioaia 78.78 319 ⇑P P 23 29 30.6 +0.3
VRI Vrincioaia 78.78 319 P P 23 29 30.5 +0.3
BR131 Keskin Array S 78.78 311 IAmb IAmb 23 29 32.3
comp=Z,26nm,0.9s
BR131 Keskin Array S 78.78 311 P P 23 29 30.9 +0.3
SNR=8.7
BRTR Keskin Array B 78.78 311 ceP P 23 29 30.6 0.0
BRTR pmax pmax
comp=Z,22nm,1.0s
BRTR Keskin Array B 78.78 311 P P 23 29 30.6 0.0
comp=Z,21nm,0.9s,baz=65,slow=4.5,SNR=40
comp=Z,21nm,0.9s
TIRR Tirgutor 78.80 317 ⇑P P 23 29 29.9 -0.5
TIRR Tirgusor 78.80 317 P P 23 29 29.8 -0.5
PLOR Plostina 78.83 319 ⇓P P 23 29 30.8 +0.2
PLOR Plostina 78.83 319 P P 23 29 30.8 +0.2
HARR Harsova 78.91 318 ⇓P P 23 29 31.3 +0.3
HARR Harsova 78.91 318 P P 23 29 31.3 +0.3
TLBR Topalu 78.94 318 ⇑P P 23 29 31.5 +0.3
BISRR Bisoca 79.00 319 ⇓P P 23 29 32.3 +0.8
MPU Maple Canyon 79.02 48 IAmb IAmb 23 29 34.3
comp=Z,9.6nm,0.8s
TURR Turia 79.02 320 ⇑P P 23 29 32.8 +1.1
COVR Voineasa-Covas 79.06 320 ⇓P P 23 29 32.6 +0.7
STHS Stebnicka Huta 79.08 325 eP P 23 29 32.3 +0.4
STHS pmax pmax
comp=Z,28nm,1.2s
STHS Stebnicka Huta 79.08 325 eP P 23 29 32.3 +0.4
OZUR 79.12 320 ⇑P P 23 29 33.1 +0.9
ARCR ARCALIA 79.18 321 ⇑P P 23 29 33.5 +1.1
OJC Ojcow 79.18 326 eP P 23 29 32.8 +0.4
BOSR Bodos 79.19 320 ⇑P P 23 29 33.6 +1.0
ANTO Ankara 79.20 312 ⇑P P 23 29 33.2 +0.4
ANTO Ankara 79.20 312 P P 23 29 33.2 +0.4
ANTO Ankara 79.20 312 P P 23 29 33.4 +0.6
HEC Hector,Ludlow 79.22 55 P P 23 29 34.8 +1.8
baz=307
NUUK Nuuk 79.22 5 iP P 23 29 32.5 +0.2
NUUK IAmb IAmb 23 29 34.7
comp=Z,30nm,0.8s
SSRD Sdr. Stenderup 79.34 334 iP P 23 29 33.1 0.0
SSRD IAmb IAmb 23 29 35.0
comp=Z,59nm,0.7s
CRVS Cervenica-Dubn 79.34 324 eP P 23 29 33.9 +0.6
CRVS pmax pmax
comp=Z,36nm,1.0s
CRVS Cervenica-Dubn 79.34 324 eP P 23 29 33.9 +0.6
ICOR Ion Corvin 79.35 318 ⇓P P 23 29 33.9 +0.5
ISR Istrita 79.37 319 ⇑P P 23 29 34.0 +0.4
ISR Istrita 79.37 319 P P 23 29 33.9 +0.4
TCRU Three Creeks R 79.39 50 IAmb IAmb 23 29 37.2
comp=Z,9.3nm,0.6s
DOPR Dopca 79.41 320 ⇑P P 23 29 34.6 +0.9
MLR Muntele Rosu 79.44 319 ⇑P P 23 29 34.2 +0.1
MLR Muntele Rosu 79.44 319 P P 23 29 34.1 +0.1
NIE Niedzica 79.52 325 eP P 23 29 35.7 +1.4
MVU Marysvale 79.60 50 IAmb IAmb 23 29 38.1
comp=Z,24nm,0.8s
GMRC Granite Mounta 79.69 54 P P 23 29 36.9 +1.3
baz=307
PLAR PLOIESTI 79.78 319 ⇑P P 23 29 36.3 +0.6
SULR 79.81 319 ⇓P P 23 29 36.2 +0.3
CJR Cluj-Napoca 79.81 321 ⇓P P 23 29 36.8 +0.8
CJR Cluj-Napoca 79.81 321 P P 23 29 36.7 +0.8
MESR Meseseni 79.84 322 ⇑P P 23 29 37.0 +1.0
PFO Pinyon Flats O 79.87 56 P P 23 29 37.9 +1.3
baz=307
TPFO Pinon Flats 79.87 56 P P 23 29 36.8 +0.2
baz=307
P17A Butcher Ranch, 79.89 48 IAmb IAmb 23 29 39.1
comp=Z,17nm,0.8s
RDMU Red Mountain 79.89 47 IAmb IAmb 23 29 39.1
comp=Z,19nm,0.8s
MTPU Mount Pierson 79.91 50 IAmb IAmb 23 29 40.0
comp=Z,9.3nm,0.8s
BELC Belle Mtn. Jos 79.94 55 P P 23 29 37.6 +0.6
baz=307
VOIR 79.94 320 ⇑P P 23 29 36.8 +0.1
VOIR 79.94 320 P P 23 29 36.8 +0.1
Q16A Castle Valley 79.98 49 IAmb IAmb 23 30 01.7
comp=Z,14nm,1.1s
MARR Marisel-Cluj 80.08 322 ⇑P P 23 29 37.9 +0.5
P18A Preston Nutter 80.09 48 IAmb IAmb 23 29 41.4
comp=Z,11nm,0.8s
RUE Ruedersdorf 80.09 330 eP P 23 29 37.9 +0.7
RUE Ruedersdorf 80.09 330 eP P 23 29 37.6 +0.4
comp=Z,52nm,1.1s,baz=38,slow=5.2
LANS Liptovska Anna 80.10 325 eP P 23 29 38.5 +1.1
LANS pmax pmax
comp=Z,16nm,0.8s
LANS Liptovska Anna 80.10 325 eP P 23 29 38.5 +1.1
KECS Kecovo 80.10 324 eP P 23 29 38.1 +0.7
KECS pmax pmax
comp=Z,21nm,1.1s
KECS Kecovo 80.10 324 eP P 23 29 38.0 +0.7
KNB Kanab 80.14 51 IAmb IAmb 23 30 02.8
comp=Z,12nm,1.0s
OKC Ostrava-Krasne 80.20 326 eP P 23 29 38.9 +1.0
OKC Ostrava-Krasne 80.20 326 eP P 23 29 38.9 +1.0
DRGR 80.20 322 ⇑P P 23 29 38.3 +0.2
DRGR 80.20 322 P P 23 29 38.3 +0.2
SRU San Rafael Swe 80.25 48 IAmb IAmb 23 29 40.8
comp=Z,17nm,0.8s
K22A Casper 80.29 44 P P 23 29 39.3 +0.6
baz=311
BSEG Bad Segeberg 80.30 333 eP P 23 29 38.5 +0.2
comp=Z,39nm,0.9s,baz=38,slow=5.2
RAYN Ar Rayn 80.31 292 P P 23 29 38.9 -0.1
RAYN IAmb IAmb 23 29 40.0
comp=Z,31nm,0.8s
RAYN Ar Rayn 80.31 292 iP P 23 29 39.0 -0.1
SNR=27
RAYN Ar Rayn 80.31 292 P P 23 29 38.9 -0.1
RAYN pmax pmax
comp=Z,31nm,0.8s
RAYN Ar Rayn 80.31 292 P P 23 29 39.2 +0.1
ULM Lac du Bonnet 80.32 33 P P 23 29 38.6 +0.1
comp=Z,4.9nm,0.7s,baz=321,slow=8.0,SNR=12
comp=Z,4.9nm,0.7s
MONP2 Monument Peak 80.32 56 P P 23 29 39.8 +0.6
baz=307
MDND Maddock 80.34 36 P P 23 29 39.5 +0.8
baz=315
RAZG Razgrad 80.42 318 ⇓P P 23 29 39.7 +0.5
BC3 Big Chuckawall 80.51 55 P P 23 29 40.9 +0.9
baz=308
MORC Moravsky Berou 80.51 327 ⇑P P 23 29 40.0 +0.3
MORC Moravsky Berou 80.51 327 IAmb IAmb 23 29 41.2
comp=Z,40nm,1.1s
MORC Moravsky Berou 80.51 327 eP P 23 29 39.9 +0.3
MORC Moravsky Berou 80.51 327 P P 23 29 39.9 +0.3
OSTC Ostas 80.52 328 eP P 23 29 40.4 +0.7
OSTC Ostas 80.52 328 eP P 23 29 40.4 +0.7
CHVC Chvalec 80.57 328 eP P 23 29 40.3 +0.4
CHVC Chvalec 80.57 328 eP P 23 29 40.3 +0.4
LOT Lotru 80.59 320 ⇑P P 23 29 40.3 0.0
DPC Dobruska-Polom 80.63 328 eP P 23 29 41.2 +0.9
DPC Dobruska-Polom 80.63 328 eP P 23 29 41.2 +0.9
KRLC Kraliky 80.63 327 eP P 23 29 40.7 +0.4
KRLC Kraliky 80.63 327 eP P 23 29 40.7 +0.4
UPC Upice 80.64 328 eP P 23 29 41.1 +0.8
UPC Upice 80.64 328 eP P 23 29 41.1 +0.8
RSSD Black Hills 80.67 41 P P 23 29 41.6 +0.8
RSSD IAmb IAmb 23 30 02.1
comp=Z,28nm,1.9s
RSSD Black Hills 80.67 41 P P 23 29 41.4 +0.6
baz=312
RSSD Black Hills 80.67 41 P P 23 29 41.6 +0.8
RSSD pmax pmax
comp=Z,28nm,1.9s
IKP In-Ko-Pah, Jac 80.68 56 P P 23 29 41.9 +1.0
baz=307
MAUC Maruska 80.69 326 eP P 23 29 41.2 +0.6
SWSC Sam W. Stewart 80.71 56 P P 23 29 41.9 +0.9
baz=308
DEV Deva 80.73 321 ⇑P P 23 29 41.6 +0.7
DEV Deva 80.73 321 P P 23 29 41.5 +0.7
PSZ Piszkesteto 80.78 324 ⇓P P 23 29 41.6 +0.4
PSZ Piszkesteto 80.78 324 P P 23 29 41.5 +0.4
U15A North Rim 80.84 51 IAmb IAmb 23 30 06.6
comp=Z,38nm,1.8s
HMU Henry Mountain 80.86 49 IAmb IAmb 23 29 44.2
comp=Z,14nm,0.7s
VYHS Vyhne 80.86 325 eP P 23 29 42.0 +0.5
VYHS pmax pmax
comp=Z,33nm,1.2s
VYHS Vyhne 80.86 325 eP P 23 29 42.0 +0.5
O20A White River Ci 80.95 46 IAmb IAmb 23 29 44.3
comp=Z,12nm,0.9s
O20A White River Ci 80.95 46 P P 23 29 43.2 +0.8
baz=310
PDMCI Parker Dam,Lak 80.97 54 P P 23 29 43.8 +1.5
baz=308
SIRR Siria 81.09 322 ⇓P P 23 29 43.0 +0.2
JAVC Velka Javorina 81.13 326 eP P 23 29 44.2 +1.2
GZR Gura Zlata 81.14 321 ⇑P P 23 29 43.2 +0.1
GZR Gura Zlata 81.14 321 P P 23 29 43.2 +0.1
ELND Elena 81.19 318 ⇑P P 23 29 43.4 +0.1
FLTG Flechtingen 81.21 331 eP P 23 29 43.1 -0.1
comp=Z,38nm,0.8s,baz=38,slow=5.2
SURR Surduc 81.22 322 ⇑P P 23 29 43.6 +0.2
PVCC Panska Ves 81.24 329 eP P 23 29 44.3 +0.8
PVCC Panska Ves 81.24 329 eP P 23 29 44.3 +0.8
BRG Berggiesshubel 81.24 329 ⇑iP P 23 29 43.7 +0.2
BRG Amp 23 29 45.3
comp=Z,20nm,0.8s
BRG Berggiesshubel 81.24 329 ⇑iP P 23 29 43.6 +0.2
BRG 23 29 59.4
BRG pmax pmax
comp=Z,20nm,0.8s
BRG Berggiesshubel 81.24 329 eP P 23 29 43.8 +0.3
comp=Z,24nm,1.0s,baz=38,slow=5.2
VLAD Vladila 81.25 319 ⇑P P 23 29 43.5 -0.2
VRAC Vranov 81.28 327 ⇓P P 23 29 44.1 +0.3
VRAC Vranov 81.28 327 eP P 23 29 44.2 +0.5
VRAC Vranov 81.28 327 P P 23 29 44.0 +0.3
CLL Collm 81.30 330 ⇑iP P 23 29 43.4 -0.3
CLL e*PP pP 23 29 58.0 -0.5
CLL pmax pmax
comp=Z,65nm,0.9s
CLL Collm 81.30 330 ⇑iP P 23 29 43.4 -0.3
comp=Z,65nm,0.9s
CLL epP pP 23 29 58.0 -0.5
CLL Collm 81.30 330 eP P 23 29 44.0 +0.2
comp=Z,42nm,0.8s,baz=38,slow=5.2
SMOL Smolenice 81.49 326 eP P 23 29 45.8 +1.0
SMOL pmax pmax
comp=Z,26nm,1.2s
NRDL Niedersach Rie 81.51 332 eP P 23 29 44.9 +0.2
comp=Z,15nm,0.8s,baz=38,slow=5.2
KRUC Moravsky 81.55 327 eP P 23 29 45.4 +0.3
BZS Buzias 81.57 322 ⇑P P 23 29 44.9 -0.4
BZS Buzias 81.57 322 P P 23 29 44.9 -0.4
ASSE Asse, Remlinge 81.58 331 eP P 23 29 45.3 +0.2
comp=Z,8.6nm,0.9s,baz=38,slow=5.2
SRO Srobarova 81.59 325 eP P 23 29 46.4 +1.1
SRO pmax pmax
comp=Z,39nm,0.8s
SRO Srobarova 81.59 325 eP P 23 29 46.4 +1.1
GOPC GO Pecny, Ondr 81.61 328 eP P 23 29 46.3 +0.8
GOPC GO Pecny, Ondr 81.61 328 eP P 23 29 46.3 +0.8
PRA Prague 81.64 328 eP P 23 29 46.2 +0.6
PRA Prague 81.64 328 eP P 23 29 46.2 +0.6
HSKC Hora Svate Kat 81.66 329 eP P 23 29 46.3 +0.6
MODS Modra-Piesok 81.66 326 eP P 23 29 46.6 +0.9
MODS pmax pmax
comp=Z,59nm,1.0s
MODS Modra-Piesok 81.66 326 eP P 23 29 46.6 +0.9
PRU Pruhonice 81.66 328 eP P 23 29 46.1 +0.4
PRU Pruhonice 81.66 328 eP P 23 29 46.1 +0.4
HERR Herculane 81.68 321 ⇑P P 23 29 45.1 -0.7
AGMN Agassiz Nation 81.76 34 P P 23 29 45.9 -0.3
baz=317
N23A Red Feather La 81.77 45 IAmb IAmb 23 29 49.4
comp=Z,11nm,0.9s
N23A Red Feather La 81.77 45 P P 23 29 47.7 +0.9
baz=312

TREC	Trest		81.77	327	*e*P	P	23 29 46.9	+0.6		
TREC	Trest		81.77	327	*e*P	P	23 29 46.9	+0.6		
MMAI	Mount Meron Ar		81.81	305	P	P	23 29 47.6	+0.7		
	comp=Z,28nm,0.8s,baz=46,slow=6.2,SNR=13									
	comp=Z,28nm,0.8s									
PUNG	Punghina		81.83	320	⇑P	P	23 29 46.7	+0.1		
NEUB	Neuenburg		81.87	330	*e*P	P	23 29 47.0	+0.2		
	comp=Z,47nm,0.8s,baz=38,slow=5.2									
ISP	Isparta		81.87	311	*ce*P	P	23 29 47.3	+0.1		
ISP					pmax	pmax				
	comp=Z,24nm,0.7s									
CLZ	Clausthal		81.92	331	*e*P	P	23 29 47.1	0.0		
	comp=Z,30nm,0.9s,baz=38,slow=5.2									
WUAZ	Wupatki		82.00	52		sP	23 30 04.1	-4.2		
WUAZ	Wupatki		82.00	52	P	P	23 29 49.2	+1.2		
	baz=309									
MDVR	Moldovita		82.11	321	⇑P	P	23 29 47.8	-0.4		
TANN	Tannenbergstha		82.20	330	*e*P	P	23 29 48.7	+0.1		
	comp=Z,6.1nm,0.8s,baz=38,slow=5.2									
GTTG	Gottingen		82.31	331	*e*P	P	23 29 49.1	+0.1		
	comp=Z,27nm,0.8s,baz=38,slow=5.2									
NKC	Novy Kostel		82.35	329	*e*P	P	23 29 49.6	+0.3		
NKC	Novy Kostel		82.35	329	*e*P	P	23 29 49.6	+0.3		
MOX	Moxa		82.37	330	*e*P	P	23 29 49.5	+0.1		
	comp=Z,11nm,0.8s,baz=38,slow=5.2									
IVI	Ivigtut		82.42	4	*i* P	P	23 29 48.3	-1.1		
IVI					IAmb	IAmb	23 29 50.7			
	comp=Z,12nm,0.8s									
IBBN	Ibbenburen		82.54	333	*e*P	P	23 29 50.0	-0.2		
	comp=Z,42nm,0.8s,baz=38,slow=5.2									
RDO	Rodhopi		82.58	316	P	P	23 29 50.4	-0.2		
MORH	Mrgy, Hungar		82.60	324	⇓P	P	23 29 50.1	-0.5		
RONA	Rosalia, Austr		82.60	326	*i* P	P	23 29 51.5	+0.8		
	comp=Z,9.9nm,0.6s,SNR=13									
NRS	Narsarsuaq		82.61	3	*i* P	P	23 29 48.7	-1.7		
NRS					IAmb	IAmb	23 29 51.1			
	comp=Z,8.0nm,1.0s									
CONA	Conrad Observa		82.63	326	*i* P	P	23 29 51.5	+0.6		
	comp=Z,6.9nm,0.6s,SNR=9.2									
CKRC	Cesky Krumlov		82.64	328	*e*P	P	23 29 51.2	+0.3		
CKRC	Cesky Krumlov		82.64	328	*e*P	P	23 29 51.2	+0.3		
MANZ	Manzenberg		82.68	329	*e*P	P	23 29 51.5	+0.4		
	comp=Z,3.8nm,0.7s,baz=38,slow=5.2									
ISCO	Idaho Springs		82.69	45	P	P	23 29 53.2	+1.5		
	baz=312									
MVCO	Mesa Verde		82.69	49	IAmb	IAmb	23 29 53.5			
	comp=Z,7.3nm,0.8s									
MVCO	Mesa Verde		82.69	49	P	P	23 29 53.0	+1.3		
	baz=311									
KHC	Kasperske Hory		82.72	328	*e*P	P	23 29 51.6	+0.2		
KHC	Kasperske Hory		82.72	328	*ce*P	P	23 29 51.5	+0.2		
KHC					pmax	pmax				
	comp=Z,93nm,1.3s									
INVG	Invergeldie, C		82.75	341	*e*P	P	23 29 50.2	-1.0		
FRGS	Fruska Gora		82.79	322	⇑P	P	23 29 51.9	+0.1		
FRGS	Fruska Gora		82.79	322	⇑*i*P	P	23 29 51.7	0.0		
ROTZ	Rotzenmuhle		82.81	329	*e*P	P	23 29 52.3	+0.6		
	comp=Z,3.4nm,0.7s,baz=38,slow=5.2									
UBBA	Unterbreizbach		82.87	331	*e*P	P	23 29 51.8	0.0		
	comp=Z,5.9nm,0.7s,baz=38,slow=5.2									
GEC2	GERESS Array S		82.89	328	IAmb	IAmb	23 29 52.6			
	comp=Z,14nm,0.6s									
GEC2	GERESS Array S		82.89	328	P	P	23 29 52.3	0.0		
	comp=Z,9.6nm,0.7s,baz=38,slow=5.2									
GERES	GERESS Array B		82.89	328	P	P	23 29 52.1	-0.1		
	comp=Z,11nm,0.6s,baz=40,slow=8.1,SNR=63									
	comp=Z,11nm,0.6s									
WET	Wettzell		83.01	328	*e*P	P	23 29 53.1	+0.3		
	comp=Z,13nm,0.9s,baz=38,slow=5.2									
SUSD	Miller		83.07	38	P	P	23 29 53.2	+0.1		
	baz=316									
KASTN	Kahler Asten		83.18	332	*e*P	P	23 29 53.6	0.0		
	comp=Z,12nm,0.8s,baz=38,slow=5.2									
GRF	Grafenberg Arr		83.27	330	*e*P	P	23 29 54.3	+0.1		
	comp=Z,49nm,0.8s,baz=38,slow=5.2									
GRFO	Grafenberg		83.27	330	P	P	23 29 54.8	+0.7		
GRFO	Grafenberg		83.27	330	P	P	23 29 54.8	+0.7		
GRFO					pmax	pmax				
	comp=Z,65nm,0.9s									
ARSA	Arzberg		83.29	326	*i* P	P	23 29 54.4	+0.1		
	comp=Z,8.2nm,0.9s,SNR=7.1									
214A	Organ Pipe Nat		83.30	55	P	P	23 29 55.8	+1.2		
	baz=309									
NVR	Nevrokopi		83.36	317	P	P	23 29 55.4	+0.6		
F33A	5 Mile Ranch,		83.36	36	IAmb	IAmb	23 29 56.0			
	comp=Z,9.9nm,0.8s									
TEKS	Tekeris		83.37	322	*e*P	P	23 29 54.0	-0.7		
MOA	Molln		83.40	327	*i* P	P	23 29 55.5	+0.7		
	comp=Z,9.0nm,0.9s,SNR=6.8									
PGBU	Glenifferbraes		83.41	341	*e*P	P	23 29 55.1	+0.4		
PGBU					IAmb	IAmb	23 29 56.0			
	comp=Z,56nm,0.8s									
BUG	Bochum--Univer		83.42	333	*e*P	P	23 29 54.7	0.0		
	comp=Z,16nm,0.8s,baz=38,slow=5.2									
EKA	Eskdalemuir Ar		83.48	340	P	P	23 29 55.1	+0.1		
	comp=Z,10nm,0.7s,baz=32,slow=4.6,SNR=24									
	comp=Z,10nm,0.7s									
ESK	Eskdalemuir		83.50	340	*e*P	P	23 29 55.4	+0.2		
KOKK	Kokkinochori,		83.65	317	P	P	23 29 55.3	-0.9		
KALN	Kalnik		83.69	325	*i* P	P	23 29 55.4	-1.0		
BIOA	Bad Ischl, Aus		83.79	327	*i* P	P	23 29 57.2	+0.4		
	comp=Z,8.9nm,0.5s,SNR=16									
GROS	Grobnik		83.89	325	*i* P	P	23 29 57.0	-0.4		
GROS					*i*		23 32 22.6			
OGNE	Ogallala		83.92	43	P	P	23 29 57.8	+0.1		
	baz=314									
BBLS	Lazi&#263i		83.92	322	⇑*i*P	P	23 29 58.0	+0.4		
MOSL	Moslavina		83.94	324	*i* P	P	23 29 56.8	-0.8		
SOKA	Soboth		83.94	326	*i* P	P	23 29 57.7	0.0		
	comp=Z,24nm,1.0s,SNR=18									
TNS	Taunus Mts		83.95	331	*e*P	P	23 29 57.7	+0.1		
	comp=Z,8.2nm,0.7s,baz=38,slow=5.2									
EYMN	Ely		83.95	32	P	P	23 29 58.0	+0.3		
	baz=320									
HAPS	Han Pijesak,Bl		83.99	322	⇑*i*P	P	23 29 58.3	+0.3		
OUR	Ouranopolis		83.99	317	P	P	23 29 57.1	-0.8		
STIP	Stip		84.02	319	*i* P	P	23 29 57.2	-0.9		
SJES	Sjenica		84.07	321	⇑*i*P	P	23 29 58.5	+0.1		
VAY	Valandovo		84.08	318	*i* P	P	23 29 58.6	+0.3		
RUDO	Rudo		84.12	321	⇑*i*P	P	23 29 58.2	-0.4		
RJOB	Jochberg		84.12	328	*e*P	P	23 29 58.5	-0.1		
	comp=Z,18nm,0.9s,baz=38,slow=5.2									
SDCO	Great Sand Dun		84.13	47	P	P	23 29 59.9	+0.8		
	baz=312									
AHRW	Bad Neuenahr-A		84.22	332	*e*P	P	23 29 59.2	+0.3		
	comp=Z,17nm,0.9s,baz=38,slow=5.2									
SKO	Skopje		84.22	319	*i* P	P	23 29 59.9	+0.8		
HPK	Haverah Park		84.25	339	*e*P	P	23 29 58.7	-0.3		
OBKA	Obir		84.28	326	*e*P	P	23 29 59.6	+0.1		
	comp=Z,6.5nm,0.7s									
OBKA	Obir		84.28	326	*e*P	P	23 29 58.3	-1.2		
A051A	Mrakovica		84.31	324	⇑*i*P	P	23 29 59.3	-0.3		
BLY	Banja Luka		84.37	323	⇑*i*P	P	23 29 59.5	-0.3		
KBA	Koelnbreinsper		84.39	327	*i* P	P	23 29 59.9	-0.2		
	comp=Z,8.0nm,0.6s,SNR=8.3									
TUC	Tucson		84.41	54	P	P	23 30 01.9	+1.5		
TUC	Tucson		84.41	54	P	P	23 30 01.7	+1.4		
	baz=310									
TUC	Tucson		84.41	54	P	P	23 30 01.9	+1.5		
TUC					pmax	pmax				
	comp=Z,6.0nm,0.9s									
LESA	Schwarzleotal		84.42	327	*e*P	P	23 30 00.3	+0.2		
	comp=Z,10nm,0.6s									
FUR	Furstenfeldbru		84.44	329	*e*P	P	23 30 00.2	+0.1		
	comp=Z,49nm,0.8s,baz=38,slow=5.2									
BEBN	Eben Emael		84.52	333	*d*P	P	23 30 00.2	-0.2		
	comp=Z,41nm,0.8s									
A251A	Rujevac		84.53	324	*i* P	P	23 30 00.6	0.0		
BTNL	Ternell		84.53	333	*d*P	P	23 29 59.8	-0.7		
	comp=Z,16nm,0.9s									
MEM	Membach		84.56	333	*d*P	P	23 29 59.8	-0.8		
	comp=Z,22nm,0.9s									
LJU	Ljubljana		84.65	326	*i* P	P	23 30 00.7	-0.4		
LJU					*i*		23 32 29.1			
UPM	Unac-Piva		84.65	321	⇑*i*P	P	23 30 02.4	+0.9		
MGRS	Mrkonjic Grad		84.66	323	⇑*i*P	P	23 30 01.7	+0.4		
BSTI	Sart Tilman		84.74	333	*d*P	P	23 30 01.2	-0.3		
	comp=Z,4.5nm,0.9s									
ECSD	EROS Data Cent		84.75	38	IAmb	IAmb	23 30 02.9			
	comp=Z,7.5nm,0.8s									
LBWR	Ladybower, Pea		84.76	338	*e*P	P	23 30 01.9	+0.3		
LBWR					IAmb	IAmb	23 30 02.7			
	comp=Z,76nm,1.0s									
BHOU	Houvegnez		84.77	333	*d*P	P	23 30 01.5	-0.2		
	comp=Z,12nm,1.0s									
PRED	Cave del Predi		84.78	326	IAmb	IAmb	23 30 02.9			
	comp=Z,14nm,0.8s									
STU	Stuttgart		84.81	330	*e*P	P	23 30 02.2	+0.3		
	comp=Z,103nm,0.9s,baz=38,slow=5.2									
A050A	Klekovaca		84.88	323	⇑*i*P	P	23 30 02.1	-0.4		
SRKY	Kupres RS		84.88	323	⇑*i*P	P	23 30 01.9	-0.6		
CEY	Cerknica		84.92	325	*i* P	P	23 30 01.9	-0.7		
CEY	Cerknica		84.92	325	⇑*i*P	P	23 30 01.9	-0.7		
WATA	Walderalm		84.96	328	*i* P	P	23 30 02.7	-0.2		
	comp=Z,7.0nm,0.5s,SNR=6.6									
BCLA	Clavier		84.97	333	*d*P	P	23 30 02.3	-0.4		
	comp=Z,14nm,0.9s									
LIT	Litokhoron		84.98	317	P	P	23 30 01.8	-1.2		
WTTA	Wattenberg		84.99	328	*e*P	P	23 30 03.0	-0.1		
	comp=Z,6.1nm,0.6s									
ABTA	Abfaltersbach		85.01	327	*i* P	P	23 30 02.5	-0.6		
	comp=Z,6.0nm,0.7s,SNR=5.6									
PLIT	Plitvice		85.02	324	*i* P	P	23 30 02.1	-1.0		
ELMS	Elmsett, Ipswi		85.05	336	*e*P	P	23 30 03.1	+0.1		
ELMS					IAmb	IAmb	23 30 03.6			
	comp=Z,65nm,0.7s									
BRY	Bratogost		85.05	321	⇑*i*P	P	23 30 02.2	-1.3		
BGES	Gesves		85.08	333	*d*P	P	23 30 01.1	-2.2		
	comp=Z,15nm,1.0s									
FNA	Florina		85.10	318	P	P	23 30 03.0	-0.6		
FNA	Florina		85.10	318	IAmb	IAmb	23 30 04.1			
	comp=Z,12nm,1.1s									
MOTA	Moosalm		85.15	328	*i* P	P	23 30 03.7	-0.2		
	comp=Z,3.2nm,0.4s,SNR=6.0									
OHR	Ohrid		85.17	319	*i* P	P	23 30 04.1	+0.1		
T25A	Trinidad		85.18	47	IAmb	IAmb	23 30 06.4			
	comp=Z,13nm,0.8s									
T25A	Trinidad		85.18	47	P	P	23 30 05.8	+1.5		
	baz=313									
RETA	Reutte		85.18	329	*i* P	P	23 30 04.0	+0.1		
	comp=Z,6.7nm,0.4s,SNR=8.2									
SQTA	Sankt Quirin		85.20	328	*e*P	P	23 30 03.8	-0.4		
	comp=Z,5.2nm,0.5s									
CWF	Charnwood Fore		85.21	338	*e*P	P	23 30 03.5	-0.3		
CWF					IAmb	IAmb	23 30 04.5			
	comp=Z,28nm,0.8s									
RCHB	Rochefort		85.21	333	*d*P	P	23 30 03.2	-0.7		
	comp=Z,22nm,1.0s									
DRME	Dracevica, Mon		85.25	321	*e*P	P	23 30 04.2	0.0		
BMRD	Maredsous		85.26	333	*d*P	P	23 30 03.2	-0.9		
	comp=Z,24nm,1.1s									
WLF	Walferdange		85.28	332	*d*P	P	23 30 03.8	-0.4		
	comp=Z,12nm,1.2s									
WLF	Walferdange		85.28	332	*e*P	P	23 30 04.9	+0.7		
	baz=38,slow=5.2									
TREB	Trebinje		85.28	321	⇑*i*P	P	23 30 03.2	-1.2		
KIJV	Kijevo		85.30	323	*i* P	P	23 30 04.0	-0.5		
UBR	Ueberruh		85.31	329	*e*P	P	23 30 04.4	-0.1		
	comp=Z,15nm,1.2s,baz=38,slow=5.2									
RICI	Ricice		85.32	323	*i* P	P	23 30 03.9	-0.7		
CIMO	Cimolais		85.38	327	IAmb	IAmb	23 30 04.3			
	comp=Z,23nm,1.2s									
HCY	Herceg Novi		85.41	321	⇑*i*P	P	23 30 04.4	-0.7		
ANMO	Albuquerque		85.42	49	P	P	23 30 07.1	+1.5		
	baz=312									
DOU	Dourbes		85.49	333	*d*P	P	23 30 04.8	-0.5		
	comp=Z,10.0nm,1.2s									
STON	Ston		85.50	322	*i* P	P	23 30 04.2	-1.3		
STON	Ston		85.50	322	⇑*i*P	P	23 30 04.3	-1.1		
BFO	Black Forest		85.51	330	P	P	23 30 05.4	-0.1		
BFO	Black Forest		85.51	330	P	P	23 30 05.4	-0.1		
BFO					pmax	pmax				
	comp=Z,52nm,1.0s									
BFO	Black Forest		85.51	330	*e*P	P	23 30 05.6	+0.1		
	comp=Z,32nm,0.9s,baz=38,slow=5.2									
KBN	Korca		85.53	319	P	P	23 30 04.8	-1.0		
NEST	Nestorio		85.54	318	P	P	23 30 05.1	-0.8		
FETA	Feichten		85.56	328	*i* P	P	23 30 05.7	-0.3		
	comp=Z,11nm,1.0s									
SMRN	Sveta Marina		85.58	325	*i* P	P	23 30 04.0	-1.8		
WLF1	Llynfaes		85.62	340	*e*P	P	23 30 05.7	-0.2		
WLF1					IAmb	IAmb	23 30 07.6			
	comp=Z,145nm,1.2s									
DAVA	Damuels		85.71	329	*i* P	P	23 30 06.5	-0.2		
	comp=Z,20nm,0.8s,SNR=8.8									
VIRC	Vir		85.72	324	*i* P	P	23 30 05.5	-1.1		
MORI	Morici		85.73	324	*i* P	P	23 30 05.8	-0.9		
HLM1	Long Mynd		85.87	339	*e*P	P	23 30 06.7	-0.5		
DUGI	Dugi Otok		85.95	324	*i* P	P	23 30 06.7	-1.0		
LSK	Leskovik		85.97	318	P	P	23 30 07.5	-0.5		
SCHQ	Schefferville		86.06	16	P	P	23 30 08.4	+0.3		
	comp=Z,7.1nm,1.0s,baz=347,slow=7.6,SNR=5.7									
	comp=Z,7.1nm,1.0s									
121A	Cookes Peak, D		86.19	52	P	P	23 30 10.1	+0.8		
	baz=311									
HMNX	Herstmonceux		86.31	336	*e*P	P	23 30 09.9	+0.6		
STRD	Stroud		86.31	338	*e*P	P	23 30 09.5	+0.2		
STRD					IAmb	IAmb	23 30 10.3			
	comp=Z,138nm,0.8s									
ANX	Ano Chora		86.35	316	P	P	23 30 09.1	-0.8		
MCH1	Michaelchurch		86.36	338	*e*P	P	23 30 09.7	+0.1		
MCH1					IAmb	IAmb	23 30 10.5			
	comp=Z,45nm,0.7s									
SWN1	Swindon		86.43	338	*e*P	P	23 30 10.3	+0.4		
MONM	Monmouth		86.45	338	*e*P	P	23 30 10.0	0.0		
MONM					IAmb	IAmb	23 30 10.9			
	comp=Z,53nm,0.8s									
G40A	Rib Lake		86.59	33	IAmb	IAmb	23 31 24.2			
	comp=Z,16nm,1.3s									
RTBA	Rita Blanca		86.64	46	IAmb	IAmb	23 30 13.1			
	comp=Z,8.8nm,1.0s									
CBKS	Cedar Bluff		86.67	43	P	P	23 30 11.9	+0.5		
	baz=315									
KSTL	Kastelli Herak		86.82	312	P	P	23 30 19.5	+7.4		
RSBS	Rosebush, Pemb		86.91	339	*e*P	P	23 30 12.1	-0.1		
RSBS					IAmb	IAmb	23 30 13.0			
	comp=Z,27nm,0.9s									
NYDR	Nydri-Lefkada		86.94	317	P	P	23 30 10.8	-1.8		
SCIA	State Center		87.78	37	P	P	23 30 17.4	+0.8		
	baz=319									
KSU1	Kansas State U		88.14	41	IAmb	IAmb	23 30 19.4			
	comp=Z,13nm,0.8s									
KSU1	Kansas State U		88.14	41	P	P	23 30 18.4	-0.1		
	baz=317									
MNTX	Cornudas Mount		88.27	51	P	P	23 30 19.4	+0.2		
	baz=313									
AMTX	Amarillo		88.33	47	IAmb	IAmb	23 30 21.5			
	comp=Z,11nm,0.9s									
AMTX	Amarillo		88.33	47	P	P	23 30 20.5	+1.0		
	baz=314									
JFWS	Jewell Farm		88.40	35	P	P	23 30 20.2	+0.6		
	baz=321									
ELIS	Ellis County		88.80	45	IAmb	IAmb	23 30 23.8			
	comp=Z,15nm,0.9s									
SMWD	Samnorwood		89.02	46	IAmb	IAmb	23 30 24.7			
	comp=Z,7.7nm,0.9s									
VLDQ	Val d'Or		89.20	24	IAmb	IAmb	23 30 23.6			
	comp=Z,12nm,0.8s									
GLMI	Grayling		89.32	30	P	P	23 30 25.2	+1.3		
	baz=325									
DKNS	Dickens		89.63	47	IAmb	IAmb	23 30 28.1			
	comp=Z,12nm,0.8s									
WMOK	Wichita Mounta		90.12	45	P	P	23 30 28.7	+0.9		
	baz=316									
APMT	Aspermont		90.35	47	IAmb	IAmb	23 30 30.4			
	comp=Z,9.7nm,0.9s									
HDIL	Hopedale		90.69	36	P	P	23 30 30.3	-0.1		
	baz=322									
SGCY	Sterling City		90.74	49	pP	pP	23 30 46.8	+1.1		
S39A	Bolivar		90.91	40	IAmb	IAmb	23 30 32.0			
	comp=Z,4.4nm,0.8s									
TUL3	Leonard		90.93	43	P	P	23 30 32.0	+0.5		
	baz=318									
TX31	Lajitas Ar. Si		90.95	52	IAmb	IAmb	23 30 33.8			
	comp=Z,6.1nm,0.9s									
TXAR	Lajitas Array		90.95	52	P	P	23 30 32.9	+0.9		
	comp=Z,3.7nm,0.7s,baz=297,slow=3.2,SNR=57									
	comp=Z,3.7nm,0.7s									
ABTX	Abilene, Hawle		91.13	47	IAmb	IAmb	23 30 34.4			
	comp=Z,8.2nm,1.1s									
ABTX	Abilene, Hawle		91.13	47	P	P	23 30 33.1	+0.6		
	baz=316									
U38A	Gravette		91.30	41	IAmb	IAmb	23 30 34.3			
	comp=Z,6.1nm,0.8s									
HHAR	Hobbs		91.65	41	IAmb	IAmb	23 31 11.0			
	comp=Z,8.9nm,1.2s									
CCM	Cathedral Cave		91.69	38	P	P	23 30 35.5	+0.5		
	baz=321									
SFIN	Lafayette		91.85	34	P	P	23 30 36.0	+0.3		
	baz=323									
JCT	Junction City		92.56	49	P	P	23 30 39.7	+0.4		
	baz=316									
O48B	Farmland		92.82	33	P	P	23 30 40.7	+0.4		
	baz=325									
CEST	Esterri de Car		93.05	331	IAmb	IAmb	23 30 42.4			
	comp=Z,27nm,1.1s									
MIAR	Mount Ida		93.16	42	IAmb	IAmb	23 30 43.5			
	comp=Z,6.6nm,0.8s									
MIAR	Mount Ida		93.16	42	P	P	23 30 42.7	+0.8		
	baz=319									
LONY	Lake Ozonia		93.22	24	P	P	23 30 42.2	+0.2		
	baz=332									
M53A	WI Miller and		93.73	30	P	P	23 30 45.7	+1.3		
	baz=328									
ACSO	Alum Creek Sta		93.79	32	P	P	23 30 45.6	+0.9		
	baz=326									
WCI	Wyandotte Cave		93.95	35	P	P	23 30 45.2	-0.3		
	baz=324									
PKME	Peaks-Kenny Pk		94.28	21	P	P	23 30 46.9	+0.1		
	baz=336									
O53A	New Philadelph		94.52	31	P	P	23 30 47.7	-0.3		
	baz=327									
P52A	Corning		94.65	32	P	P	23 30 48.7	+0.1		
	baz=327									
WVT	Waverly		94.89	37	P	P	23 30 49.9	+0.1		
	baz=323									
KEST	Kesra		95.11	322	P	P	23 30 50.2	-0.7		
	comp=Z,5.7nm,0.9s,baz=0.0,slow=2.0,SNR=12									
	comp=Z,5.7nm,0.9s									
OXF	Oxford		95.38	39	P	P	23 30 52.1	+0.1		
	baz=322									
SSPA	Standing Stone		95.52	28	P	P	23 30 52.5	-0.1		
	baz=330									
ESDC	Sonseca Array		97.54	333	P	P	23 31 01.2	-0.6		
	comp=Z,1.9nm,0.8s,baz=20,slow=3.8,SNR=8.8									
	comp=Z,1.9nm,0.8s									
TORD	Torodi Ar. Bea		117.31	314	PKP	PKPdf	23 36 12.8	-0.5		
	comp=Z,1.6nm,0.6s,baz=35,slow=1.5,SNR=12									
BOSA	Boshof		125.87	259	PKP	PKPdf	23 36 29.4	-0.1		
	comp=Z,3.6nm,0.7s,baz=78,slow=3.1,SNR=13									
SDV	Santo Domingo		126.16	39	PKPdf	PKPdf	23 36 30.7	0.0		
QSPA	South Pole Qui		126.19	180	PKP	PKPdf	23 36 28.8	0.0		
	comp=Z,9.5nm,1.0s,baz=313,slow=1.7,SNR=20									
DBIC	Dimbokro		126.29	316	PKP	PKPdf	23 36 30.0	-0.6		
	comp=Z,7.4nm,0.8s,baz=61,slow=2.4,SNR=5.9									
ELIB	Princess Elisa		132.64	202	*d*PKPdf	PKPdf	23 36 39.9	-1.2		
SNAA	Sanae		140.01	197	PKHKP	PKPpre	23 36 46.8			
	comp=Z,2.7nm,0.9s,baz=324,slow=2.0,SNR=6.5									
LPAZ	La Paz		147.51	59		PKPdf	23 37 11.4	+1.3		
LPAZ	La Paz		147.51	59	PKP2	PKPdf	23 37 11.4	+1.3		
LPAZ	La Paz		147.51	59	PKPbc	PKPbc	23 37 13.2	+0.5		
	comp=Z,6.6nm,0.7s,baz=335,slow=3.4,SNR=27									
H03N2	Juan Fernandez		147.56	97	T	T	02 22 22.6			
	baz=291,slow=76									
H03N3	Juan Fernandez		147.57	97	T	T	02 22 22.5			
	baz=291,slow=76									
H03N1	Juan Fernandez		147.58	97	T	T	02 22 21.8			
	baz=291,slow=76									
PLCA	Paso Flores		155.30	110	PKP	PKPdf	23 37 20.6	+0.1		
	comp=Z,0.7nm,0.5s,baz=239,slow=10.0,SNR=3.2									
PLCA					PKPab	PKPab	23 37 45.6	-0.4		
	comp=Z,1.6nm,0.7s,baz=284,slow=1.3,SNR=3.7									
BDF

CHMS	**Chumysh**	**5.06**	**37**	⇓Pg		**Pb**	**23 21 59.1**	**+2.3**	
	1.7nm,0.3s								
CHMS				Lg		Lg	23 22 13.8		
	282nm,0.3s								
CHMS				⇑Lg		Lg	23 23 09.2		
	21nm,0.7s								
USP	**Ospenovka**	**5.16**	**34**	P		**Pb**	**23 21 57.9**	**-0.6**	
	SNR=14								
SGDS	**Sogindy**	**5.36**	**33**	Pg		**Pg**	**23 22 07.2**	**-4.3**	
	8.5nm,1.2s								
SGDS				Lg		Lg	23 23 17.5		
	12nm,0.7s								
ULHL	**Ulahol**	**5.37**	**51**	P		**Pb**	**23 22 02.4**	**+0.2**	
	SNR=8.6								
KST	**Kastek**	**5.71**	**44**	*eP*		**Pg**	**23 22 14.3**	**-3.7**	
	2.0nm,0.3s								
KST				*eS*		**Sg**	**23 23 29.7**	**-2.2**	
	11nm,0.6s								
KST	**Kastek**	**5.71**	**44**	Pg		**Pg**	**23 22 16.6**	**-1.4**	
	4.8nm,0.7s								
KST				Lg		Lg	23 23 34.0		
	16nm,1.0s								
DGS	**Degeres**	**5.74**	**41**	*eP*		**Pg**	**23 22 16.8**	**-1.9**	
	6.6nm,0.8s								
DGS				*eS*		**Sg**	**23 23 34.7**	**+1.7**	
	16nm,0.8s								
DGS	**Degeres**	**5.74**	**41**	Pg		**Pg**	**23 22 16.8**	**-1.9**	
	6.6nm,0.8s								
DGS				Lg		Lg	23 23 34.7		
	16nm,0.8s								
KRBS	**Karabastau**	**6.03**	**38**	*eP*		**Pg**	**23 22 21.2**	**-2.9**	
	3.7nm,0.5s								
KRBS				*eS*		**Sg**	**23 23 41.8**	**-0.4**	
	6.4nm,0.5s								
KRBS	**Karabastau**	**6.03**	**38**	Pg		**Pg**	**23 22 19.9**	**-4.2**	
	3.7nm,1.0s								
KRBS				Lg		Lg	23 23 39.6		
	6.1nm,1.1s								
MDOK	**Medeo**	**6.39**	**48**	*eP*		**Pg**	**23 22 27.5**	**-3.5**	
	5.2nm,0.9s								
MDOK				*eS*		**Sg**	**23 23 52.5**	**-1.2**	
	3.0nm,1.6s								
MDOK	**Medeo**	**6.39**	**48**	Pg		**Pg**	**23 22 27.5**	**-3.5**	
	5.2nm,0.9s								
MDOK				Lg		Lg	23 23 52.5		
	3.0nm,1.6s								
KOTS	**Kotyrbulak**	**6.47**	**47**	*eP*		**Pg**	**23 22 29.1**	**-3.4**	
	5.9nm,0.8s								
KOTS				*eS*		**Sg**	**23 23 55.5**	**-0.8**	
	5.7nm,0.7s								
KOTS	**Kotyrbulak**	**6.47**	**47**	Pg		**Pg**	**23 22 29.1**	**-3.4**	
	5.9nm,0.8s								
KOTS				Lg		Lg	23 23 55.5		
	5.7nm,0.7s								
KTBS	**Karatobe**	**6.54**	**42**	*eP*		**Pg**	**23 22 29.6**	**-4.4**	
	3.8nm,0.7s								
KTBS				*eS*		**Sg**	**23 23 57.0**	**-1.7**	
	7.0nm,1.1s								
KTBS	**Karatobe**	**6.54**	**42**	Pg		**Pg**	**23 22 29.6**	**-4.4**	
	3.8nm,0.7s								
KTBS				Lg		Lg	23 23 57.0		
	7.0nm,1.1s								
GEYT	**Alibeck**	**9.84**	**267**	Pn		Pn	23 22 41.8	-7.7	
	0.6nm,0.3s,baz=125,slow=7.2,SNR=2.6								
GEYT				Sn		Sn	23 24 24.1	-16	
	1.0nm,0.3s,baz=110,slow=21,SNR=2.1								
	0.9nm,0.3s								
MKAR	**Makanchi Array**	**11.56**	**44**	Pn		Pn	23 23 23.4	+10	
	0.1nm,0.3s,baz=233,slow=14,SNR=4.7								
	0.4nm,0.6s								
AB31	**Akbulak array**	**12.75**	**327**	Pn		**Pn**	**23 23 29.3**	**+0.2**	
	2.0nm,0.5s,baz=140,slow=13,SNR=78								
AB31				⇓Sn		**Sn**	**23 25 56.2**	**+5.6**	
	5.6nm,0.6s,baz=146,slow=23,SNR=9.9								
KURBB	**Kurchatov Arra**	**12.88**	**23**	Pn		**P**	**23 23 38.9**	**-2.6**	
	baz=220,slow=12,SNR=6.2								
	0.3nm,0.7s								
BVAR	**Borovoye Array**	**14.00**	**359**	Pn		**P**	**23 23 51.5**	**-2.5**	
	baz=166,slow=12,SNR=15								
	2.2nm,0.6s								
AKTO	**Aktyubinsk**	**14.46**	**326**	Pn		**Pn**	**23 23 53.6**	**+1.1**	
	0.5nm,0.3s,baz=144,slow=12,SNR=9.2								
	2.2nm,0.5s								
AKTO	**Aktyubinsk**	**14.46**	**326**	⇑Pn		**Pn**	**23 23 55.2**	**+2.7**	
	1.2nm,0.5s								
AKTO				⇑Sn		**Sn**	**23 26 39.9**	**+7.5**	
	1.4nm,0.6s								
ZALV	**Zalesovo Beam**	**17.79**	**28**	P		**P**	**23 24 42.0**	**+5.9**	
	0.9nm,0.4s,baz=219,slow=10,SNR=3.6								
ARU	**Arti**	**19.14**	**339**	P		**Pn**	**23 24 54.0**	**+2.2**	
	0.3nm,0.3s,baz=141,slow=6.5,SNR=5.4								
	1.0nm,0.3s								
BELG	**Belogornoye**	**20.76**	**318**	P		Pn	23 25 10.9	0.0	
	11nm,0.9s,baz=157,slow=18,SNR=6.0								
	11nm,0.9s								
FINES	**FINESS Array B**	**35.22**	**324**	P		**P**	**23 27 23.0**	**+1.2**	
	1.3nm,0.7s,baz=110,slow=8.0,SNR=9.4								
	1.3nm,0.7s								
HFS	**Hagfors**	**40.90**	**320**	P		**P**	**23 28 10.2**	**+0.6**	
	2.1nm,0.4s,baz=104,slow=11,SNR=17								
	2.1nm,0.4s								
NB2	**NORSAR Subarra**	**42.18**	**321**	P		**P**	**23 28 20.5**	**+0.2**	
	comp=Z,3.8nm,1.1s,baz=95,slow=8.6								
NOA	**NORSAR Array B**	**42.18**	**321**	P		**P**	**23 28 20.8**	**+0.5**	
	comp=Z,0.4nm,0.4s,baz=100,slow=8.1,SNR=7.1								
	comp=Z,0.4nm,0.4s								
EKA	**Eskdalemuir Ar**	**50.26**	**314**	P		**P**	**23 29 22.8**	**-1.0**	
	comp=Z,1.5nm,0.7s,baz=62,slow=7.5,SNR=3.6								
	comp=Z,1.5nm,0.7s								
TORD	**Torodi Ar. Bea**	**65.48**	**267**	P		**P**	**23 31 06.9**	**-4.4**	
	comp=Z,0.7nm,0.8s,baz=50,slow=5.5,SNR=5.3								
	comp=Z,0.7nm,0.8s								
INK	**Inuvik**	**71.46**	**9**	P		**P**	**23 31 50.8**	**+3.1**	
	comp=Z,1.0nm,0.6s,baz=338,slow=6.2,SNR=3.8								
	comp=Z,1.0nm,0.6s								
YKA	**Yellowknife Ar**	**78.73**	**2**	P		**P**	**23 32 32.0**	**+2.2**	
	comp=Z,0.3nm,0.6s,baz=349,slow=6.1,SNR=3.7								
	comp=Z,0.3nm,0.6s								
WRA	**Warramunga Arr**	**83.60**	**122**	P		**P**	**23 32 56.5**	**+0.2**	
	comp=Z,0.6nm,0.8s,baz=324,slow=4.6,SNR=3.5								
	comp=Z,0.6nm,0.8s								
ASAR	**Alice Springs**	**85.97**	**125**	P		**P**	**23 33 06.5**	**-1.7**	
	comp=Z,0.6nm,0.8s,baz=326,slow=4.5,SNR=4.1								
	comp=Z,0.6nm,0.8s								

IDC 29 23:21:42.7±3.8, 5°26S×151°66E, h0km, mb3.2/2, mbtmp3.3/2, Error ellipse: s-maj=146.0km s-min=53.3km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.29**	**228**	P	P	23 26 42.3	+0.4
	0.5nm,0.6s,baz=52,slow=10.0,SNR=3.3						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**25.05**	**221**	P	P	23 27 08.6	-0.4
	0.4nm,0.5s,baz=54,slow=8.9,SNR=4.5						
	0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**149.36**	**287**	PKPbc	PKPbc	23 41 34.3	-0.4
	0.8nm,0.8s,baz=97,slow=4.5,SNR=4.2						

*SOME **29** 23:24:39.2, 38.88N×70.57E, h10km, MS4.2*
*IDC **29** 23:24:40.9±0.6, 38.49N×69.93E, h0km, mb4.4/21, mbtmp4.4/27, ML3.5/6, MS4.8/1, Error ellipse: s-maj=14.0km s-min=10.3km az=157.0*
*MOS **29** 23:24:42.6±1.1, 38.65N×69.94E, h15km, mb4.8/30, Error ellipse: s-maj=5.8km s-min=4.0km az=72.5*
MOS Felt (III) at Rogun.
*NEIC **29** 23:24:43.7±1.8, 38.69N±0.03×69.91E±0.02, h5km±1km, mb4.6/115, Error ellipse: s-maj=6.1km s-min=2.8km az=333.0*
*NNC **29** 23:24:44.6±3.0, 38.98N×70.74E, h0km, mb4.7, mpv4.3, Error ellipse: s-maj=23.0km s-min=13.3km az=1.0*

ISC 29 23:24:42.2±0.8, 38.69N±0.03×69.98E±0.02, h3km±5km, n295, σ2§10/288, mb4.6/109, MS4.8/3, 8C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**0.41**	**40**	Pg	**Pg**	**23 24 50.7**	**+0.7**
GAR				Sg	**Sb**	**23 24 58.7**	**-0.1**
CHGR	**Chuyangaron**	**0.64**	**267**	Pg	**Pg**	**23 24 54.3**	**-0.2**
CHGR				Sg	**Sg**	**23 25 03.0**	**+0.1**
CHGR	**Chuyangaron**	**0.64**	**267**	PG	**Pg**	**23 24 54.3**	**-0.2**
CHGR						23 25 03.0	
SIMJ	**Simiganj**	**0.76**	**268**	Pg	**Pg**	**23 24 56.5**	**-0.3**
SIMJ				Sg	**Sb**	**23 25 06.9**	**-2.1**

BTK	**Batken**	**1.51**	**25**	Pn		**Pb**	**23 25 11.8**	**+0.9**	
BTK				Sn		**Sg**	**23 25 33.1**	**+2.3**	
BTK	**Batken**	**1.51**	**25**	*i* PN		**Pb**	**23 25 11.1**	**+0.2**	
BTK				*i* S		**Sg**	**23 25 32.4**	**+1.6**	
DRK	**Karamyk**	**1.62**	**60**			**Pb**	**23 25 13.5**	**+0.6**	
DRK				Sg		**Sg**	**23 25 37.7**	**+3.4**	
OHH	**Osh**	**2.84**	**49**	*e*PN		**Pn**	**23 25 30.0**	**+1.6**	
TRKS	**Terek-Say**	**2.97**	**17**	*i* PN		**Pn**	**23 25 31.6**	**+1.2**	
SFK	**Sufi-Kurgan**	**3.04**	**63**	*i* PN		**Pn**	**23 25 32.5**	**+1.2**	
IUG	**Iuzhnay**	**3.45**	**1**	*eP*		**Pb**	**23 25 40.4**	**-3.6**	
	265nm,0.6s								
IUG				*eS*		**Sb**	**23 26 24.7**	**-1.7**	
	3μm,0.9s								
IUG	**Iuzhnay**	**3.45**	**1**	Pg		**Pb**	**23 25 40.4**	**-3.6**	
	265nm,0.6s								
IUG				Lg		Lg	23 26 24.7		
	3μm,0.9s								
ARK	**Arkit**	**3.46**	**25**	*i* PN		**Pn**	**23 25 38.9**	**+1.9**	
ARK				*i* S		**Sn**	**23 26 20.8**	**+2.3**	
ARSB	**Arslanbob**	**3.50**	**40**	Pn		**Pn**	**23 25 40.5**	**+2.9**	
ARSB				Sn		**Sn**	**23 26 21.9**	**+2.3**	
ARSB	**Arslanbob**	**3.50**	**40**	PN		**Pn**	**23 25 40.5**	**+2.9**	
ARSB							23 26 21.9		
CHM	**Chimkent**	**3.64**	**356**	*eP*		**Pb**	**23 25 43.3**	**-3.8**	
	236nm,0.8s								
CHM				*eS*		**Sb**	**23 26 29.4**	**-2.2**	
	824nm,0.8s								
KBL	**Kabul**	**4.21**	**191**	Pn		**Pn**	**23 25 49.4**	**+2.0**	
KBL				Sn		**Sn**	**23 26 37.8**	**+0.6**	
KBL	**Kabul**	**4.21**	**191**	PN		**Pn**	**23 25 49.4**	**+2.0**	
KBL							23 26 37.8		
MNAS	**Manas**	**4.25**	**26**	*i* PN		**Pn**	**23 25 50.1**	**+2.2**	
MNAS				*i* S		**Sn**	**23 26 40.0**	**+1.9**	
DZA	**Taraz**	**4.32**	**13**	*eP*		**Pn**	**23 25 53.1**	**+4.4**	
	552nm,0.7s								
DZA				*eS*		**Sb**	**23 26 46.2**	**-5.1**	
	994nm,0.8s								
DZA	**Taraz**	**4.32**	**13**	Pg		**Pn**	**23 25 53.1**	**+4.4**	
	552nm,0.7s								
DZA				Lg		Lg	23 26 46.2		
	994nm,0.8s								
BRLS	**Borolday**	**4.34**	**359**	*eP*		**Pn**	**23 25 52.3**	**+3.3**	
	32nm,1.0s								
BRLS				*eS*		**Sn**	**23 26 45.2**	**+5.1**	
	241nm,0.5s								
BRLS	**Borolday**	**4.34**	**359**	Pg		**Pn**	**23 25 52.3**	**+3.3**	
	32nm,1.0s								
BRLS				Lg		Lg	23 26 45.2		
	241nm,0.5s								
KK31	**Karatay Array**	**4.43**	**5**	Pn		**Pn**	**23 25 53.0**	**+2.8**	
KK31	**Karatay Array**	**4.43**	**5**	PN		**Pn**	**23 25 53.0**	**+2.8**	
KK31	**Karatay Array**	**4.43**	**5**	Pn		**Pn**	**23 25 50.9**	**+0.7**	
	14nm,0.4s,baz=199,slow=15,SNR=86								
KK31				Pg		**Pb**	**23 26 04.0**	**+3.5**	
	69nm,0.5s,baz=196,slow=17,SNR=9.2								
KK31				⇓Lg		Lg	23 27 01.6		
	165nm,0.6s,baz=199,slow=31,SNR=7.3								
KKAR	**Karatay Array**	**4.43**	**5**	Pn		**Pn**	**23 25 52.8**	**+2.6**	
KKAR	**Karatay Array**	**4.43**	**5**	PN		**Pn**	**23 25 52.8**	**+2.6**	
ARLS	**Aral**	**4.59**	**45**	*i* PN		**Pn**	**23 25 54.3**	**+1.7**	
KSH	**Kashi**	**4.74**	**78**	Pn		**Pn**	**23 25 53.0**	**-1.6**	
KSH				Sn		**Sn**	**23 26 46.0**	**-4.0**	
KSH				pmax	pmax				
	comp=Z,36nm,0.5s								
KSH				smax	smax				
	comp=N,490nm,0.8s								
KSH				smax	smax				
	comp=E,470nm,0.9s								
MRKS	**Merke**	**4.74**	**30**	*eP*		Pn	23 25 59.7	+5.0	
	comp=E,48nm,1.1s								
MRKS				*eS*		**Sb**	**23 26 58.0**	**-5.5**	
	comp=E,215nm,0.7s								
MRKS	**Merke**	**4.74**	**30**	Pg		Pn	23 25 59.7	+5.0	
	comp=E,48nm,1.1s								
MRKS				Lg		Lg	23 26 58.0		
	comp=E,215nm,0.7s								
EKS2	**Erkin-Say**	**4.91**	**35**	P		Pn	23 26 02.4	+5.5	
	SNR=26								
EKS2	**Erkin-Say**	**4.91**	**35**	*i* PN		**Pn**	**23 25 58.8**	**+1.9**	
EKS2				*i* S		**Sn**	**23 26 55.2**	**+1.0**	
UCH	**Uchtor**	**4.94**	**43**	P		**Pn**	**23 26 01.4**	**+3.7**	
	SNR=36								
UCH	**Uchtor**	**4.94**	**43**	*i* PN		**Pn**	**23 25 59.5**	**+1.8**	
UCH				*i* S		**Sn**	**23 26 56.2**	**+0.6**	
AAK	**Ala-Archa**	**5.23**	**40**	P		Pn	23 26 06.7	+5.4	
	SNR=11								
AAK	**Ala-Archa**	**5.23**	**40**	Pn		**Pn**	**23 26 03.4**	**+2.1**	
AAK	**Ala-Archa**	**5.23**	**40**	*i* P		Pn	23 26 06.7	+5.4	
	SNR=11								
AAK	**Ala-Archa**	**5.23**	**40**	*i* PN		**Pn**	**23 26 04.2**	**+2.8**	
AAK	**Ala-Archa**	**5.23**	**40**	Pn		**Pn**	**23 26 05.8**	**+4.4**	
	comp=E,6.6nm,0.3s,baz=217,slow=11,SNR=17								
AAK				Sn		**Sn**	**23 27 09.3**	**+7.1**	
	comp=E,7.6nm,0.3s,baz=238,slow=15,SNR=2.3								
AAK				Lg		Lg	23 27 30.7		
	comp=E,7.7nm,0.3s,baz=342,slow=20,SNR=1.9								
	comp=E,39nm,0.6s								
AAK	**Ala-Archa**	**5.23**	**40**	⇑Pg		**Pn**	**23 26 05.7**	**+4.3**	
	comp=E,20nm,0.5s								
AAK				⇓Lg		Lg	23 27 11.5		
	comp=E,174nm,0.7s								
NRN	**Naryn**	**5.37**	**57**	Pn		**Pn**	**23 26 05.3**	**+1.8**	
NRN	**Naryn**	**5.37**	**57**	PN		**Pn**	**23 26 05.3**	**+1.8**	
FRU1	**Bishkek**	**5.42**	**39**			**Pn**	**23 26 07.5**	**+3.6**	
FRU1	**Bishkek**	**5.42**	**39**	PN		**Pn**	**23 26 07.5**	**+3.6**	
KBK	**Karagaybulak**	**5.47**	**42**	P		**Pn**	**23 26 09.0**	**+4.2**	
	SNR=8.0								
KBK	**Karagaybulak**	**5.47**	**42**	*i* PN		**Pn**	**23 26 06.6**	**+1.9**	
KBK				*i* S		**Sn**	**23 27 08.6**	**+0.3**	
CHMS	**Chumysh**	**5.62**	**39**	P		Pn	23 26 12.7	+6.0	
	SNR=21								
CHMS	**Chumysh**	**5.62**	**39**	*e*PN		**Pn**	**23 26 08.4**	**+1.7**	
CHMS				*i* S		**Sn**	**23 27 11.9**	**+0.1**	
CHMS	**Chumysh**	**5.62**	**39**	⇑Pg		Pb	23 26 16.7	-4.2	
	comp=E,8.9nm,0.4s								
CHMS				Lg		Lg	23 26 29.4		
	comp=E,824nm,0.8s								
CHMS				⇑Lg		Lg	23 27 22.9		
	comp=E,178nm,0.9s								
NIL	**Nilore**	**5.68**	**151**			**Pn**	**23 26 10.4**	**+2.9**	
NIL	**Nilore**	**5.68**	**151**	PN		**Pn**	**23 26 10.4**	**+2.9**	
USP	**Ospenovka**	**5.71**	**35**	P		Pn	23 26 13.7	+5.8	
	SNR=10.0								
USP	**Ospenovka**	**5.71**	**35**	*i* PN		**Pn**	**23 26 09.8**	**+1.9**	
USP				*i* S		**Sn**	**23 27 14.2**	**+0.3**	
SGDS	**Sogindy**	**5.91**	**35**	*eP*		**Pb**	**23 26 22.2**	**-3.8**	
	comp=E,12nm,1.0s,baz=300								
SGDS	**Sogindy**	**5.91**	**35**	Pg		Pb	23 26 21.8	-4.1	
	comp=E,22nm,0.6s								
SGDS				Lg		Lg	23 27 35.6		
	comp=E,48nm,0.7s								
SGDS	**Sogindy**	**5.91**	**35**	*eP*		**Pb**	**23 26 22.1**	**-3.8**	
ULHL	**Ulahol**	**5.95**	**51**	P		**Pn**	**23 26 13.7**	**+2.3**	
	SNR=16								
ULHL	**Ulahol**	**5.95**	**51**	*i* PN		**Pn**	**23 26 12.9**	**+1.6**	
ULHL				*i* S		**Sn**	**23 27 19.7**	**-0.4**	
KST	**Kastek**	**6.28**	**44**	*eP*		Pb	23 26 27.2	-5.1	
	comp=E,28nm,3.7s								
KST				*eS*		**Sb**	**23 27 44.3**	**-3.5**	
	comp=E,88nm,1.2s								
KST	**Kastek**	**6.28**	**44**	Pg		Pb	23 26 27.2	-5.1	
	comp=E,28nm,3.7s								
KST				Lg		Lg	23 27 44.3		
	comp=E,88nm,1.2s								
DGS	**Degeres**	**6.32**	**42**	*eP*		Pb	23 26 27.8	-5.0	
	comp=E,49nm,0.5s								
DGS				*eS*		**Sb**	**23 27 45.5**	**-3.3**	
	comp=E,42nm,0.8s								
DGS	**Degeres**	**6.32**	**42**	Pg		Pb	23 26 27.8	-5.0	
	comp=E,49nm,0.5s								
DGS				Lg		Lg	23 27 45.5		
	comp=E,42nm,0.8s								
KRBS	**Karabastau**	**6.59**	**39**	*eP*		**Pb**	**23 26 33.8**	**-3.6**	
	comp=E,13nm,0.4s								
KRBS				*eS*		**Sb**	**23 27 56.0**	**-0.6**	
	comp=E,26nm,0.6s								
KRBS	**Karabastau**	**6.59**	**39**	Pg		**Pb**	**23 26 35.3**	**-2.1**	
	comp=E,18nm,0.6s								
KRBS				Lg		Lg	23 27 58.8		
	comp=E,44nm,1.0s								
MTBS	**Maitube**	**6.60**	**46**	*eP*		**Pb**	**23 26 33.9**	**-3.7**	
	comp=E,12nm,0.8s								
MTBS				*eS*		**Sb**	**23 27 55.8**	**-1.0**	
	comp=E,40nm,0.9s								
IZV	**Izvestkoviy**	**6.64**	**47**	*eP*		Pb	23 26 34.3	-4.0	
	comp=E,17nm,0.6s								

IZV				*eS*		**Sb**	**23 27 56.3**	**-1.8**	
	comp=E,55nm,0.8s								
TNSS	**Tian-Shan**	**6.84**	**48**	*eP*		**Pb**	**23 26 38.5**	**-3.3**	
	comp=E,13nm,1.3s								
TNSS				*eS*		**Sb**	**23 28 04.3**	**+0.3**	
	comp=E,13nm,0.9s								
TNSS	**Tian-Shan**	**6.84**	**48**	Pg		**Pb**	**23 26 38.5**	**-3.3**	
	comp=E,13nm,1.3s								
TNSS				Lg		Lg	23 28 04.3		
	comp=E,13nm,0.9s								
MDOK	**Medeo**	**6.97**	**48**	*eP*		**Pb**	**23 26 41.4**	**-2.6**	
	comp=E,36nm,1.0s								
MDOK				*eS*		**Sb**	**23 28 09.2**	**+1.6**	
	comp=E,28nm,1.6s								
MDOK	**Medeo**	**6.97**	**48**	Pg		**Pb**	**23 26 41.4**	**-2.6**	
	comp=E,36nm,1.0s								
MDOK				Lg		Lg	23 28 09.2		
	comp=E,28nm,1.6s								
BTLS	**Baital**	**7.03**	**24**	*eP*		**Pb**	**23 26 44.2**	**-0.7**	
	comp=E,21nm,0.5s								
BTLS				*eS*		**Sb**	**23 28 13.9**	**+4.7**	
	comp=E,59nm,0.9s								
KOTS	**Kotyrbulak**	**7.05**	**48**	*eP*		**Pb**	**23 26 42.0**	**-3.3**	
	comp=E,32nm,0.7s								
KOTS				*eS*		**Sb**	**23 28 10.1**	**+0.2**	
	comp=E,48nm,0.9s								
KOTS	**Kotyrbulak**	**7.05**	**48**	Pg		**Pb**	**23 26 42.0**	**-3.3**	
	comp=E,32nm,0.7s								
KOTS				Lg		Lg	23 28 10.1		
	comp=E,48nm,0.9s								
KTBS	**Karatobe**	**7.12**	**43**	*eP*		**Pb**	**23 26 43.6**	**-2.8**	
	comp=E,16nm,0.8s								
KTBS				*eS*		**Sb**	**23 28 12.3**	**+0.6**	
	comp=E,37nm,0.7s								
KTBS	**Karatobe**	**7.12**	**43**	Pg		Pb	23 26 41.9	-4.5	
	comp=E,16nm,1.1s								
KTBS				Lg		Lg	23 28 10.3		
	comp=E,23nm,0.5s								
HRA	**Herat**	**7.56**	**238**	Pn		**Pn**	**23 26 34.1**	**+0.6**	
GEYT	**Alibeck**	**9.36**	**269**	Pn		**Pn**	**23 26 55.2**	**-2.7**	
	comp=E,0.8nm,0.3s,baz=89,slow=14,SNR=1.8								
GEYT				Sn		**Sn**	**23 28 37.4**	**-6.2**	
	comp=E,6.9nm,0.3s,baz=126,slow=43,SNR=7.1								
	comp=E,4.5nm,0.6s								
GYA0B	**ALIBECK ARRAY**	**9.36**	**269**	Pn		**Pn**	**23 26 57.5**	**-0.4**	
MK31	**Makanchi Array**	**12.13**	**44**	*i* P		**Pn**	**23 27 36.2**	**+0.3**	
MKAR	**Makanchi Array**	**12.13**	**44**	Pn		**Pn**	**23 27 37.8**	**+2.0**	
	comp=E,0.2nm,0.3s,baz=233,slow=14,SNR=3.1								
MKAR				Lg		Lg	23 31 06.4		
	comp=E,0.3nm,0.3s,baz=254,slow=24,SNR=2.7								
	comp=E,6.0nm,0.9s								
AB31	**Akbulak array**	**12.79**	**329**	⇑Pn		**Pn**	**23 27 47.8**	**+3.1**	
	comp=E,6.3nm,0.5s,baz=76,slow=9.0,SNR=11								
AB31				⇓Sn		**Sn**	**23 30 15.1**	**+7.6**	
	comp=E,62nm,0.8s,baz=146,slow=22,SNR=11								
WMQ	**Urumqi**	**14.27**	**63**	*eP*		**P**	**23 28 12.3**	**-0.3**	
WMQ				pP		Pn	23 28 20.0	+15	
WMQ				sP			23 28 25.0		
WMQ				pmax	pmax				
	comp=Z,35nm,0.9s								
WMQ				pmax	pmax				
	comp=Z,800nm,11.6s								
WMQ				LR	LR				
	comp=N,3μm,17.3s								
WMQ				LR	LR				
	comp=E,2μm,14.1s								
WMQ				LR	LR				
	comp=Z,4μm,24.9s								
BVAR	**Borovoye Array**	**14.34**	**1**	Pn		**Pn**	**23 28 05.5**	**-0.4**	
	comp=Z,0.3nm,0.3s,baz=166,slow=13,SNR=7.0								
BVAR				Sn		**Sn**	**23 30 38.2**	**-7.2**	
	baz=184,slow=16								
BVAR				Lg		Lg	23 32 20.2		
	comp=Z,0.1nm,0.3s,baz=182,slow=28,SNR=2.7								
	comp=Z,7.7nm,0.5s								
BRVK	**Borovoye**	**14.37**	**1**	Pn		**Pn**	**23 28 06.3**	**-0.1**	
BRVK	**Borovoye**	**14.37**	**1**	P		**Pn**	**23 28 06.3**	**-0.1**	
AKTO	**Aktyubinsk**	**14.49**	**328**	Sn		**Sn**	**23 30 41.2**	**-7.8**	
	comp=Z,0.4nm,0.3s,baz=155,slow=14,SNR=2.3								
AKTO	**Aktyubinsk**	**14.49**	**328**	⇓Pn		**P**	**23 28 13.2**	**-1.7**	
	comp=Z,0.8nm,0.3s								
AKTO				⇓Sn		Sn	23 30 57.2	+8.2	
	comp=Z,29nm,0.9s								
SHME	**Shamm**	**17.16**	**227**	*i* P		**P**	**23 28 44.8**	**+0.1**	
	SNR=28								
SHME	**Shamm**	**17.16**	**227**	P		**P**	**23 28 45.1**	**+0.4**	
	SNR=14								
ZAA0	**Zalesovo

BRTR	**Keskin Array B**	**28.06 284**	P	**P**	**23 30 35.8 +0.9**				
BRTR	**Keskin Array B**	**28.06 284**	*i* P	**P**	**23 30 37.5 +2.6**				
BRTR			pmax	pmax					
	comp=Z,9.0nm,1.1s								
ULN	**Ulaanbaatar**	**28.27 59**	P	**P**	**23 30 36.0 -0.7**				
ULN	**Ulaanbaatar**	**28.27 59**	P	**P**	**23 30 36.0 -0.7**				
ULN			pmax	pmax					
	comp=Z,5.0nm,1.2s								
PZH	**PanZhiHua**	**29.24 105**	P	**P**	**23 30 46.8 +1.3**				
PZH			pmax	pmax					
	comp=Z,10.0nm,1.0s								
BTO	**Baotou**	**30.71 74**	*e*P	P	23 30 53.3 -5.0				
BTO			pP	pP	23 30 57.8 -2.2				
BTO			sP	sP	23 31 00.3 -0.3				
BTO			PP	**PnPn**	**23 31 53.8 -3.9**				
BTO			pmax	pmax					
	comp=Z,19nm,0.4s								
BTO			pmax	pmax					
	comp=Z,5µm,16.4s								
AKASG	**Malin Array Be**	**30.97 306**	*e*P	**P**	**23 31 02.1 +1.7**				
AKASG			pmax	pmax					
	comp=Z,5.0nm,0.7s								
AKASG	**Malin Array Be**	**30.97 306**	P	**P**	**23 31 00.3 -0.1**				
	comp=Z,4.3nm,0.8s,baz=80,slow=7.5,SNR=10								
	comp=Z,4.3nm,0.8s								
AKBB	**Malin Array Si**	**30.97 306**	P	**P**	**23 31 00.9 +0.5**				
AKBB			IAmb	IAmb	23 31 04.2				
	comp=Z,9.7nm,0.8s								
AKBB	**Malin Array Si**	**30.97 306**	P	**P**	**23 31 00.9 +0.5**				
AKBB			pmax	pmax					
	comp=Z,10.0nm,0.8s								
HHC	**Hu-ho-hao-te**	**31.82 73**	⇑P	**P**	**23 31 09.8 +1.6**				
HHC			pP	sP	23 31 14.8 +4.3				
HHC			pmax	pmax					
	comp=Z,10.0nm,0.6s								
CRAI	**Chiangrai**	**32.02 116**	P	**P**	**23 31 10.9 +1.0**				
CMAR	**Chiang Mai Arr**	**32.24 120**	P	**P**	**23 31 14.4 +2.6**				
CMAR	**Chiang Mai Arr**	**32.24 120**	*i* P	**P**	**23 31 12.1 +0.2**				
CMAR	**Chiang Mai Arr**	**32.24 120**	P	**P**	**23 31 10.6 -1.3**				
	comp=Z,0.5nm,0.4s,baz=292,slow=3.9,SNR=4.9								
	comp=Z,0.5nm,0.4s								
MNK	**Minsk**	**32.40 313**	*i* P	**P**	**23 31 12.3 -0.6**				
	comp=E,6.0nm,1.1s,baz=102								
MNK			*i* P	**P**	**23 31 12.3 -0.6**				
	comp=N,15nm,0.9s,baz=102								
MNK			*i* P	**P**	**23 31 12.3 -0.6**				
	comp=Z,9.0nm,1.0s,baz=102								
MNK			*i* PP	**PnPn**	**23 32 18.9 -0.4**				
	baz=102								
MNK			*i* PPP	PPP	23 32 28.6				
	baz=102								
MNK			*i* S	**S**	**23 36 27.2 -0.5**				
	baz=102								
MNK			*i* SS	**SnSn**	**23 38 20.6 +1.1**				
	baz=102								
MNK			*i* SSS	SSS	23 38 35.9				
	baz=102								
MNK			*i* LQ	LQ	23 41 50.6				
	baz=102								
MNK			*i* LR	LR	23 43 25.0				
	baz=102								
MNK			*i* LRM	MLR	23 45 17.8				
	comp=E,474nm,18.8s,baz=102								
MNK			*i* LRM	MLR	23 45 21.2				
	comp=Z,2µm,17.6s,baz=102								
MNK			*i* LRM	MLR	23 45 38.4				
	comp=N,2µm,20.2s,baz=102								
MNK	**Minsk**	**32.40 313**	*i* P	**P**	**23 31 12.3 -0.6**				
MNK			*i*		23 32 18.8				
MNK			*i* S	**S**	**23 36 27.1 -0.5**				
MNK			*i* SS	**SnSn**	**23 38 20.5 +1.1**				
MNK			pmax	pmax					
	comp=N,15nm,0.9s								
MNK			pmax	pmax					
	comp=E,6.0nm,1.0s								
MNK			pmax	pmax					
	comp=Z,9.0nm,1.0s								
MNK			MLR	MLR					
	comp=E,474nm,19.0s								
MNK			MLR	MLR					
	comp=Z,2µm,18.0s								
MNK			MLR	MLR					
	comp=N,2µm,20.0s								
MLR	**Muntele Rosu**	**33.05 296**	P	**P**	**23 31 21.1 +2.3**				
MLR			IAmb	IAmb	23 31 24.5				
	comp=Z,53nm,1.1s								
MLR	**Muntele Rosu**	**33.05 296**	P	**P**	**23 31 21.1 +2.3**				
MLR			pmax	pmax					
	comp=Z,53nm,1.1s								
BURAR	**Bucovina Array**	**33.45 300**	P	**P**	**23 31 22.9 +0.6**				
BURAR			IAmb	IAmb	23 31 26.1				
	comp=Z,7.3nm,1.1s								
BUR08	**Bucovina Ar. S**	**33.46 300**	P	**P**	**23 31 21.8 -0.6**				
SLVN	**Son La**	**33.84 111**	P	**P**	**23 31 27.5 +1.5**				
SLVN			IAmb	IAmb	23 31 28.1				
	comp=Z,12nm,1.4s								
RDO	**Rodhopi**	**33.90 289**	P	**P**	**23 31 27.2 +1.0**				
RDO			IAmb	IAmb	23 31 30.2				
	comp=Z,12nm,1.1s								
LYN	**LuoYang**	**34.13 84**	*e*P	P	23 31 32.0 +3.8				
LYN			pmax	pmax					
	comp=Z,16nm,0.9s								
BOD	**Bodaibo**	**34.20 41**	*e*P	**P**	**23 31 28.7 +0.1**				
BOD			pmax	pmax					
	comp=Z,12nm,1.4s								
LVV	**L'vov**	**34.23 304**	*e*P	**P**	**23 31 31.3 +2.3**				
SUW	**Suwalki**	**35.04 311**	P	**P**	**23 31 35.7 -0.2**				
SUW	**Suwalki**	**35.04 311**	P	**P**	**23 31 35.7 -0.2**				
SUW			pmax	pmax					
	comp=Z,18nm,1.0s								
FINES	**FINESS Array B**	**35.22 325**	P	**P**	**23 31 37.1 -0.3**				
	comp=Z,6.9nm,0.7s,baz=106,slow=10,SNR=6.1								
	comp=Z,6.9nm,0.7s								
OJC	**Ojcow**	**36.96 305**	P	**P**	**23 31 53.0 +0.6**				
OJC	**Ojcow**	**36.96 305**	P	**P**	**23 31 53.0 +0.6**				
OJC			pmax	pmax					
	comp=Z,28nm,1.4s								
PSZ	**Piszkesteto**	**37.02 301**	P	**P**	**23 31 53.7 +0.7**				
PSZ	**Piszkesteto**	**37.02 301**	P	**P**	**23 31 53.7 +0.7**				
PSZ			pmax	pmax					
	comp=Z,5.0nm,0.9s								
FNA	**Florina**	**37.06 289**	P	**P**	**23 31 53.6 +0.2**				
FNA	**Florina**	**37.06 289**	P	**P**	**23 31 53.6 +0.2**				
FNA			pmax	pmax					
	comp=Z,3.0nm,1.0s								
WHN	**Wuhan**	**37.12 89**	P	**P**	**23 31 55.0 +1.1**				
VYHS	**Vyhne**	**37.68 302**	*e*P	P	23 32 02.5 +3.9				
VYHS	**Vyhne**	**37.68 302**	*e*P	P	23 32 02.5 +3.9				
TIR	**Tirane**	**38.04 290**	P	**P**	**23 32 01.3 -0.4**				
TIR			IAmb	IAmb	23 32 03.4				
	comp=Z,14nm,0.9s								
TIR	**Tirane**	**38.04 290**	P	**P**	**23 32 01.3 -0.4**				
TIR			pmax	pmax					
	comp=Z,14nm,0.9s								
JAVC	**Velka Javorina**	**38.42 303**	*e*P	P	23 32 08.8 +4.0				
MORC	**Moravsky Berou**	**38.44 304**	P	**P**	**23 32 05.6 +0.6**				
MORC	**Moravsky Berou**	**38.44 304**	*e*P	**P**	**23 32 07.6 +2.6**				
MORC	**Moravsky Berou**	**38.44 304**	P	**P**	**23 32 05.6 +0.6**				
MORC			pmax	pmax					
	comp=Z,8.0nm,1.1s								
ARCES	**ARCESS Array B**	**38.81 337**	*e*P	**P**	**23 32 09.5 +1.7**				
ARCES			pmax	pmax					
	comp=Z,5.0nm,0.9s								
ARCES	**ARCESS Array B**	**38.81 337**	P	**P**	**23 32 08.1 +0.2**				
	comp=Z,5.1nm,0.8s,baz=121,slow=9.6,SNR=6.7								
	comp=Z,5.1nm,0.8s								
RONA	**Rosalia, Austr**	**39.45 301**	*i* pP	pP	23 32 15.9 +0.7				
	comp=Z,1.5nm,0.5s								
CONA	**Conrad Observa**	**39.72 301**	*e*pP	pP	23 32 17.9 +0.5				
	comp=Z,2.8nm,0.7s								
NJ2	**Nanjing**	**40.02 84**	*e*P	**P**	**23 32 17.3 -1.0**				
NJ2			pmax	pmax					
	comp=Z,14nm,0.5s								
ARSA	**Arzberg**	**40.03 300**	*e*pP	pP	23 32 20.9 +0.9				
	comp=Z,1.4nm,0.5s								
SRIT	**Nakonsritamara**	**40.08 131**	P	**P**	**23 32 17.6 -1.3**				
SRIT			IAmb	IAmb	23 32 19.8				
	comp=Z,18nm,1.4s								
SOKA	**Soboth**	**40.45 300**	*e*P	**P**	**23 32 21.4 -0.5**				
	comp=Z,4.4nm,0.8s								
BRG	**Berggiesshubel**	**40.66 306**	*i* P	**P**	**23 32 26.5 +3.1**				
BRG			Amp		23 32 28.8				
	comp=Z,5.7nm,0.9s								
BRG	**Berggiesshubel**	**40.66 306**	*i* P	**P**	**23 32 26.4 +3.1**				
BRG			pmax	pmax					
	comp=Z,6.0nm,0.9s								

HFS	**Hagfors**	**40.85 320**	P	**P**	**23 32 25.1 +0.3**				
	comp=Z,14nm,0.7s,baz=97,slow=10,SNR=15								
	comp=Z,14nm,0.7s								
GEC2	**GERESS Array S**	**41.03 303**	P	**P**	**23 32 27.2 +0.6**				
GERES	**GERESS Array B**	**41.03 303**	P	**P**	**23 32 27.0 +0.4**				
GERES	**GERESS Array B**	**41.03 303**	P	**P**	**23 32 27.0 +0.4**				
KHC	**Kasperske Hory**	**41.07 304**	*e*P	**P**	**23 32 30.0 +3.1**				
KHC	**Kasperske Hory**	**41.07 304**	*e*P	**P**	**23 32 30.0 +3.1**				
CLL	**Collm**	**41.21 307**	P	**P**	**23 32 28.7 +0.8**				
CLL	**Collm**	**41.21 307**	P	**P**	**23 32 28.7 +0.8**				
CLL			pmax	pmax					
	comp=Z,12nm,1.3s								
CLL	**Collm**	**41.21 307**	*e*P	**P**	**23 32 28.0 +0.1**				
CLL			*i* x	x	23 32 33.7				
CUC	**Castrocucco**	**41.36 290**	P	**P**	**23 32 29.2 -0.2**				
CUC			IAmb	IAmb	23 32 34.3				
	comp=Z,10nm,0.9s								
PRED	**Cave del Predi**	**41.49 300**	P	**P**	**23 32 31.8 +1.4**				
PRED			IAmb	IAmb	23 32 34.4				
	comp=Z,17nm,1.3s								
SABO	**M.te Sabotino**	**41.55 299**	P	**P**	**23 32 31.4 +0.6**				
SABO			IAmb	IAmb	23 32 35.4				
	comp=Z,57nm,1.3s								
HEH	**HeiHe**	**41.60 55**	*e*P	**P**	**23 32 31.5 +0.3**				
HEH			pmax	pmax					
	comp=Z,18nm,0.8s								
CEL	**Celeste**	**41.82 287**	P	**P**	**23 32 33.1 -0.1**				
CEL			IAmb	IAmb	23 32 40.5				
	comp=Z,9.7nm,0.9s								
NC405	**NORSAR Array S**	**41.92 322**	P	**P**	**23 32 34.2 +0.6**				
NC405			IAmb	IAmb	23 32 40.2				
	comp=Z,19nm,1.1s								
NC602	**NORSAR Array S**	**41.97 321**	P	**P**	**23 32 35.3 +1.2**				
NC303	**NORSAR Array S**	**42.09 322**	P	**P**	**23 32 35.1 +0.1**				
NB201	**NORSAR Array S**	**42.12 322**	P	**P**	**23 32 36.0 +0.8**				
NB201			IAmb	IAmb	23 32 37.8				
	comp=Z,17nm,1.1s								
NB2	**NORSAR Subarra**	**42.15 322**	P	**P**	**23 32 35.4 -0.2**				
	comp=Z,6.3nm,0.7s,baz=94,slow=8.6								
NOA	**NORSAR Array B**	**42.15 322**	P	**P**	**23 32 35.5 -0.1**				
	comp=Z,6.9nm,0.7s,baz=96,slow=8.2,SNR=22								
	comp=Z,6.9nm,0.7s								
CIMO	**Cimolais**	**42.28 300**	P	**P**	**23 32 37.1 +0.3**				
CIMO			IAmb	IAmb	23 32 40.2				
	comp=Z,12nm,1.2s								
NAO01	**NORSAR Array S**	**42.30 321**	P	**P**	**23 32 37.8 +1.1**				
NAO01			IAmb	IAmb	23 32 56.6				
	comp=Z,22nm,1.1s								
BNX	**BinXian**	**42.31 61**	⇑P	**P**	**23 32 39.8 +2.8**				
BNX			pmax	pmax					
	comp=Z,3.0nm,1.4s								
NBO00	**NORSAR Array S**	**42.37 322**	P	**P**	**23 32 37.9 +0.6**				
NC204	**NORSAR Array S**	**42.39 322**	P	**P**	**23 32 38.1 +0.6**				
NC204			IAmb	IAmb	23 32 41.5				
	comp=Z,16nm,0.9s								
GRA1	**Grafenberg Arr**	**42.52 305**	P	**P**	**23 32 39.9 +1.1**				
GRA1			IAmb	IAmb	23 32 43.2				
	comp=Z,17nm,1.1s								
GRF	**Grafenberg Arr**	**42.52 305**	P	**P**	**23 32 39.9 +1.1**				
GRF			pmax	pmax					
	comp=Z,17nm,1.1s								
GRFO	**Grafenberg**	**42.52 305**	P	**P**	**23 32 39.2 +0.5**				
GRFO			IAmb	IAmb	23 32 43.2				
	comp=Z,18nm,1.1s								
GRFO	**Grafenberg**	**42.52 305**	P	**P**	**23 32 39.2 +0.5**				
GRFO			pmax	pmax					
	comp=Z,18nm,1.1s								
NRCA	**Norcia**	**42.58 294**	P	**P**	**23 32 39.1 -0.2**				
YAK	**Yakutsk**	**42.68 37**	*i* P	**P**	**23 32 39.9 +0.1**				
YAK			pmax	pmax					
	comp=Z,13nm,0.9s								
YAK	**Yakutsk**	**42.68 37**	LR	LR	23 51 13.3				
	comp=Z,1µm,20.6s,baz=328,slow=37								
KONO	**Kongsberg**	**42.89 320**	P	**P**	**23 32 42.1 +0.6**				
KONO	**Kongsberg**	**42.89 320**	P	**P**	**23 32 42.1 +0.6**				
KONO			pmax	pmax					
	comp=Z,45nm,1.5s								
TEOL	**Teolo**	**43.00 298**	P	**P**	**23 32 42.3 -0.4**				
TEOL			IAmb	IAmb	23 32 46.4				
	comp=Z,23nm,1.2s								
CESX	**Cesi**	**43.01 294**	P	**P**	**23 32 43.2 +0.4**				
CESX			IAmb	IAmb	23 32 47.3				
	comp=Z,25nm,1.3s								
FUORN	**Ofenpass-Fuorn**	**43.69 300**	P	**P**	**23 32 49.6 +1.1**				
TIXI	**Tiksi**	**44.06 23**	P	**P**	**23 32 50.5 -0.3**				
TIXI			IAmb	IAmb	23 32 54.2				
	comp=Z,12nm,0.7s								
TIXI	**Tiksi**	**44.06 23**	P	**P**	**23 32 50.5 -0.3**				
TIXI			pmax	pmax					
	comp=Z,12nm,0.7s								
KLR	**Kul'dur**	**44.54 55**	*i* P	**P**	**23 32 54.8 -0.1**				
KLR			pmax	pmax					
	comp=Z,6.0nm,1.3s								
KSAR	**Wonju Array Be**	**44.94 73**	P	**P**	**23 32 57.6 -0.7**				
KSAR	**Wonju Array Be**	**44.94 73**	P	**P**	**23 32 57.6 -0.7**				
KSRS	**Korea Array**	**44.97 73**	P	**P**	**23 32 58.4 -0.1**				
	comp=Z,2.7nm,0.8s,baz=274,slow=6.2,SNR=8.3								
	comp=Z,2.7nm,0.8s								
YULB	**Yu-li**	**45.96 94**	P	**P**	**23 33 08.6 +2.0**				
LODK	**Lodwar**	**47.17 231**	P	**P**	**23 33 16.7 +0.5**				
KEST	**Kesra**	**47.61 286**	P	**P**	**23 33 20.4 +1.0**				
KEST			IAmb	IAmb	23 33 38.3				
	comp=Z,6.4nm,1.1s								
KEST	**Kesra**	**47.61 286**	P	**P**	**23 33 20.6 +1.2**				
	comp=Z,4.6nm,1.0s,baz=63,slow=9.0,SNR=5.0								
	comp=Z,4.6nm,1.0s								
SSB	**Saint Sauveur**	**47.89 300**	P	**P**	**23 33 23.2 +1.8**				
SSB			IAmb	IAmb	23 33 30.1				
	comp=Z,10nm,1.2s								
SSB	**Saint Sauveur**	**47.89 300**	P	**P**	**23 33 23.2 +1.8**				
SSB			pmax	pmax					
	comp=Z,10.0nm,1.2s								
TATN	**Tataouine**	**47.98 282**	P	**P**	**23 33 22.9 +0.6**				
JOW	**Kunigami**	**49.68 86**	P	**P**	**23 33 36.0 +0.6**				
EKA	**Eskdalemuir Ar**	**50.16 315**	P	**P**	**23 33 38.5 -0.1**				
	comp=Z,5.4nm,0.8s,baz=79,slow=7.0,SNR=10								
	comp=Z,5.4nm,0.8s								
KIBK	**Kibwezi**	**50.33 223**	P	**P**	**23 33 40.5 0.0**				
KSM	**Kuching**	**52.24 125**	P	**P**	**23 33 54.6 -0.1**				
KSM			IAmb	IAmb	23 33 55.0				
	comp=Z,7.6nm,1.0s								
DAG	**Danmarks Havn**	**52.40 343**	*i* P	**P**	**23 33 55.0 -0.1**				
DAG			IAmb	IAmb	23 34 00.7				
	comp=Z,2.7nm,0.7s								
KKM	**Kota Kinabalu**	**52.88 116**	P	**P**	**23 34 00.6 +1.0**				
MJB9	**Matsushiro-Tunnel**	**52.92 70**	P	**P**	**23 34 01.1 +1.5**				
MAJO	**Matsushiro**	**52.93 70**	P	**P**	**23 33 60.0 +0.3**				
MAJO	**Matsushiro**	**52.93 70**	P	**P**	**23 34 00.0 +0.3**				
MAJO			pmax	pmax					
	comp=Z,25nm,1.3s								
MJA0	**Matsu Arr-Jizo**	**52.96 70**	*e*P	**P**	**23 33 59.8 -0.1**				
MJA0			pmax	pmax					
	comp=Z,3.0nm,0.9s								
MBAR	**Mbarara**	**53.16 232**	P	**P**	**23 33 59.9 -1.8**				
MBAR			IAmb	IAmb	23 34 06.3				
	comp=Z,7.6nm,1.2s								
MBAR	**Mbarara**	**53.16 232**	P	**P**	**23 33 59.9 -1.8**				
MBAR			pmax	pmax					
	comp=Z,8.0nm,1.2s								
ESDC	**Sonseca Array**	**55.74 296**	P	**P**	**23 34 20.9 +0.7**				
ESDC			IAmb	IAmb	23 34 22.8				
	comp=Z,8.0nm,1.4s								
ESDC	**Sonseca Array**	**55.74 296**	P	**P**	**23 34 19.9 -0.2**				
	comp=Z,4.7nm,1.1s,baz=59,slow=6.8,SNR=9.1								
	comp=Z,4.7nm,1.1s								
BILL	**Bilibino**	**57.01 26**	*i* P	**P**	**23 34 28.7 0.0**				
NEEM	**North Greenlan**	**58.72 347**	*i* P	**P**	**23 34 39.8 -1.2**				
NEEM			IAmb	IAmb	23 34 44.1				
	comp=Z,3.3nm,1.1s								
SUMG	**Summit**	**58.73 340**	P	**P**	**23 34 41.8 +0.6**				
SUMG	**Summit**	**58.73 340**	P	**P**	**23 34 41.8 +0.6**				
SUMG			pmax	pmax					
	comp=Z,12nm,1.1s								
SUMG	**Summit**	**58.73 340**	*i* P	**P**	**23 34 40.7 -0.5**				
SUMG			IAmb	IAmb	23 34 49.2				
	comp=Z,6.4nm,0.8s								
DY2G	**Dye2**	**64.45 336**	*i* P	**P**	**23 35 17.3 -2.4**				
DY2G			IAmb	IAmb	23 35 21.1				
	comp=Z,8.0nm,0.7s								
TORD	**Torodi Ar. Bea**	**64.99 267**	P	**P**	**23 35 22.7 -1.0**				
TORD			IAmb	IAmb	23 35 26.0				
	comp=Z,5.4nm,1.1s								
TORD	**Torodi Ar. Bea**	**64.99 267**	P	**P**	**23 35 22.9 -0.8**				
	comp=Z,4.0nm,1.1s,baz=50,slow=5.6,SNR=17								
	comp=Z,4.0nm,1.1s								

SFJD	**Kangerlussuaq**	**65.43 338**	*i* P	P	23 35 18.6 -7.1				
SFJD			IAML		23 35 28.9				
	comp=Z,5.7nm,0.8s								
SFJD			IAmb	IAmb	23 35 28.9				
	comp=Z,5.7nm,0.8s								
C16K	**Lisburne Hills**	**65.67 20**	IAmb	IAmb	23 35 30.9				
	comp=Z,2.6nm,0.8s								
C18K	**Utukok River**	**66.45 18**	IAmb	IAmb	23 35 33.3				
	comp=Z,3.6nm,0.8s								
RES	**Resolute Bay**	**66.46 356**	P	**P**	**23 35 32.4 +0.1**				
	comp=Z,0.8nm,0.8s,baz=16,slow=8.2,SNR=2.8								
	comp=Z,0.8nm,0.8s								
E18K	**Tukpahlearik C**	**67.52 19**	IAmb	IAmb	23 35 42.8				
	comp=Z,3.4nm,0.7s								
F15K	**North Star Dit**	**67.71 21**	IAmb	IAmb	23 35 42.3				
	comp=Z,7.7nm,1.2s								
F17K	**Baldwin Pennin**	**68.09 20**	IAmb	IAmb	23 35 47.5				
	comp=Z,4.8nm,0.9s								
D22K	**Ayikyak River**	**68.18 15**	IAmb	IAmb	23 35 51.9				
	comp=Z,3.7nm,0.8s								
E19K	**Redstone River**	**68.32 18**	IAmb	IAmb	23 35 51.6				
	comp=Z,3.2nm,0.9s								
E22K	**Anaktuvuk Pass**	**68.98 16**	IAmb	IAmb	23 35 49.2				
	comp=Z,3.7nm,0.9s								
D25K	**Kavik River**	**69.02 13**	IAmb	IAmb	23 35 57.3				
	comp=Z,4.8nm,0.9s								
F21K	**Alatna River**	**69.38 17**	IAmb	IAmb	23 35 51.7				
	comp=Z,3.4nm,0.9s								
G19K	**Purcell Mounta**	**69.39 19**	IAmb	IAmb	23 35 51.6				
	comp=Z,4.0nm,0.8s								
J16K	**Anvik River**	**70.69 22**	IAmb	IAmb	23 36 00.3				
	comp=Z,4.4nm,0.8s								
E28M	**Babbage River**	**70.78 11**	IAmb	IAmb	23 36 04.5				
	comp=Z,3.2nm,0.7s								
H21K	**Melozitna Rive**	**70.82 17**	IAmb	IAmb	23 36 07.8				
	comp=Z,5.3nm,1.2s								
G24K	**Hadweenzic Riv**	**71.09 15**	IAmb	IAmb	23 36 02.3				
	comp=Z,5.4nm,1.0s								
E29M	**Blow River**	**71.22 11**	IAmb	IAmb	23 36 03.6				
	comp=Z,3.6nm,0.8s								
F28M	**Old Crow**	**71.64 12**	P	**P**	**23 36 05.5 +0.9**				
K17K	**Iditarod**	**71.79 21**	IAmb	IAmb	23 36 06.8				
	comp=Z,6.1nm,0.8s								
INK	**Inuvik**	**71.87 9**	IAmb	IAmb	23 36 07.2				
	comp=Z,4.4nm,0.8s								
INK	**Inuvik**	**71.87 9**	P	**P**	**23 36 06.0 +0.1**				
INK	**Inuvik**	**71.87 9**	P	**P**	**23 36 06.0 +0.1**				
	comp=Z,4.9nm,0.9s,baz=345,slow=6.5,SNR=17								
	comp=Z,4.9nm,0.9s								
I23K	**Minto, Yukon-K**	**72.03 16**	IAmb	IAmb	23 36 12.7				
	comp=Z,4.2nm,0.9s								
POKR	**Poker Plat Res**	**72.48 16**	P	**P**	**23 36 09.7 +0.1**				
POKR			IAmb	IAmb	23 36 11.0				
	comp=Z,4.3nm,0.7s								
NEA2	**Nenana**	**72.58 17**	IAmb	IAmb	23 36 13.8				
	comp=Z,4.2nm,0.9s								
F31M	**Tsiigehtchic**	**72.67 9**	P	**P**	**23 36 10.9 +0.3**				
F31M			IAmb	IAmb	23 36 12.2				
	comp=Z,5.5nm,0.9s								
G30M	**tAoh Zraii Nji**	**72.77 10**	IAmb	IAmb	23 36 19.5				
	comp=Z,4.6nm,1.1s								
CAST	**Castle Rocks**	**72.86 18**	P	**P**	**23 36 12.3 +0.4**				
CAST			IAmb	IAmb	23 36 13.0				
	comp=Z,5.9nm,1.1s								
IL31		**72.89 16**	P	**P**	**23 36 10.8 -1.3**				
ILAR	**Eielson Array**	**72.89 16**	P	**P**	**23 36 10.6 -1.5**				
ILAR	**Eielson Array**	**72.89 16**	P	**P**	**23 36 11.7 -0.5**				
	comp=Z,1.7nm,0.8s,baz=323,slow=4.9,SNR=17								
	comp=Z,1.7nm,0.8s								
KTH	**Kantishna Hill**	**73.03 18**	P	**P**	**23 36 12.9 -0.2**				
KTH			IAmb	IAmb	23 36 14.2				
	comp=Z,6.3nm,1.0s								
G31M	**Satah River**	**73.09 10**	P	**P**	**23 36 14.0 +0.8**				
SKT	**Skwentna**	**74.22 19**	IAmb	IAmb	23 36 20.1				
	comp=Z,5.0nm,0.8s								
SML	**Sawmill**	**75.15 18**	P	**P**	**23 36 25.4 -0.1**				
SML			IAmb	IAmb	23 36 45.1				
	comp=Z,7.5nm,1.0s								
SCM	**Sheep Creek Mo**	**75.37 17**	IAmb	IAmb	23 36 30.2				
	comp=Z,8.2nm,0.9s								
BCAR	**Beaver Creek A**	**75.45 14**	P	**P**	**23 36 26.9 -0.2**				
MBWA	**Marble Bar**	**75.61 133**	P	**P**	**23 36 29.2 +0.8**				
CTGM	**Chitina Glacie**	**77.45 15**	P	**P**	**23 36 39.6 +1.0**				
CTGM			IAmb	IAmb	23 36 40.5				
	comp=Z,5.5nm,1.2s								
BERG	**Berg Lake**	**77.47 16**	P	**P**	**23 36 38.1 -0.4**				
BERG			IAmb	IAmb	23 36 45.3				
	comp=Z,6.4nm,0.8s								
M31M	**Drury Creek, Y**	**77.54 11**	P	**P**	**23 36 38.

EKS2	**Erkin-Say**	**4.50**	**34**	P		**Pb**	**23 33 23.8**	**+0.5**
	SNR=11							
UCH	**Uchtor**	**4.53**	**43**	P		**Pb**	**23 33 23.4**	**-0.5**
	SNR=14							
AAK	**Ala-Archa**	**4.82**	**39**	P		**Pb**	**23 33 27.1**	**-1.6**
	SNR=10							
AAK	**Ala-Archa**	**4.82**	**39**	Pn		**Pb**	**23 33 27.0**	**-1.6**
	5.9nm,0.3s,baz=223,slow=9.9,SNR=20							
AAK				Sn		**Sb**	**23 34 30.3**	**+3.9**
	2.8nm,0.3s,baz=236,slow=18,SNR=2.6							
AAK	**Ala-Archa**	**4.82**	**39**	⇑Pg		**Pb**	**23 33 30.8**	**+2.2**
	11nm,0.3s							
	8.7nm,0.3s							
AAK				⇓Lg		Lg	23 34 31.3	
	28nm,0.5s							
KBK	**Karagaybulak**	**5.06**	**42**	P		**Pb**	**23 33 29.3**	**-3.5**
	SNR=6.7							
CHMS	**Chumysh**	**5.21**	**38**	P		**Pb**	**23 33 33.7**	**-1.6**
	SNR=6.2							
CHMS	**Chumysh**	**5.21**	**38**	Pg		Pn	23 33 03.8	-18
	62nm,0.6s							
CHMS				⇓Pg		**Pb**	**23 33 39.4**	**+4.1**
	4.4nm,0.4s							
CHMS				Lg		Lg	23 33 49.3	
	380nm,0.6s							
CHMS				⇑Lg		Lg	23 34 46.6	
	73nm,0.9s							
SGDS	**Sogindy**	**5.51**	**34**	Pg		**Pg**	**23 33 45.5**	**-4.6**
	7.4nm,0.7s							
SGDS				Lg		Lg	23 35 01.1	
	25nm,0.8s							
KST	**Kastek**	**5.87**	**44**	*e*P		Pb	23 33 51.6	+5.0
	6.5nm,1.4s							
KST				*e*S		**Sg**	**23 35 11.3**	**-1.5**
	18nm,1.3s							
KST	**Kastek**	**5.87**	**44**	Pg		Pb	23 33 51.6	+5.0
	6.5nm,1.4s							
KST				Lg		Lg	23 35 11.3	
	18nm,1.3s							
DGS	**Degeres**	**5.90**	**42**	*e*P		**Pg**	**23 33 53.1**	**-4.5**
	12nm,0.9s							
DGS				*e*S		**Sg**	**23 35 13.6**	**-0.4**
	25nm,0.8s							
DGS	**Degeres**	**5.90**	**42**	Pg		**Pg**	**23 33 53.1**	**-4.5**
	12nm,0.9s							
DGS				Lg		Lg	23 35 13.5	
	25nm,0.8s							
KRBS	**Karabastau**	**6.18**	**38**	*e*P		Pg	23 33 57.8	-5.1
	5.3nm,0.6s							
KRBS				*e*S		**Sg**	**23 35 22.0**	**-0.9**
	9.6nm,0.4s							
KRBS	**Karabastau**	**6.18**	**38**	Pg		Pg	23 33 57.8	-5.1
	5.3nm,0.6s							
KRBS				Lg		Lg	23 35 22.0	
	9.6nm,0.4s							
TNSS	**Tian-Shan**	**6.42**	**49**	*e*P		Pg	23 34 02.2	-5.3
	4.8nm,0.9s							
TNSS				*e*S		**Sg**	**23 35 29.1**	**-1.5**
	4.4nm,0.8s							
TNSS	**Tian-Shan**	**6.42**	**49**	Pg		Pg	23 34 02.2	-5.3
	4.8nm,0.9s							
TNSS				Lg		Lg	23 35 29.1	
	4.4nm,0.8s							
KTBS	**Karatobe**	**6.71**	**43**	*e*P		Pg	23 34 07.2	-5.7
	4.8nm,0.8s							
KTBS				*e*S		**Sg**	**23 35 38.8**	**-0.9**
	13nm,0.9s							
KTBS	**Karatobe**	**6.71**	**43**	Pg		Pg	23 34 07.3	-5.7
	4.8nm,0.8s							
KTBS				Lg		Lg	23 35 38.8	
	13nm,0.9s							
GEYT	**Alibeck**	**9.67**	**268**	Pn		Pn	23 34 15.9	-7.1
	1.2nm,0.3s,baz=106,slow=8.1,SNR=7.8							
GEYT				Sn		Sn	23 35 57.0	-14
	1.4nm,0.3s,baz=76,slow=12,SNR=2.0							
	2.4nm,0.4s							
MKAR	**Makanchi Array**	**11.72**	**44**	Pn		Pn	23 34 58.2	+7.2
	0.1nm,0.3s,baz=236,slow=16,SNR=2.6							
MKAR				Lg		Lg	23 38 21.8	
	0.2nm,0.3s,baz=243,slow=24,SNR=2.6							
	2.0nm,0.9s							
AB31	**Akbulak array**	**12.71**	**327**	⇑Pn		**Pn**	**23 35 06.8**	**+2.3**
	4.3nm,0.3s,baz=169,slow=9.5,SNR=225							
AB31				⇓Sn		**Sn**	**23 37 29.4**	**+3.8**
	20nm,0.8s,baz=149,slow=22,SNR=8.5							
KURBB	**Kurchatov Arra**	**13.00**	**24**	Pn		**P**	**23 35 15.7**	**-3.2**
	baz=214,slow=13,SNR=1.4							
KURBB				Lg		Lg	23 38 56.5	
	baz=208,slow=32,SNR=4.1							
BVAR	**Borovoye Array**	**14.06**	**0**	Pn		**Pn**	**23 35 26.4**	**+3.5**
	0.1nm,0.3s,baz=166,slow=13,SNR=12							
	2.7nm,0.5s							
AKTO	**Aktyubinsk**	**14.42**	**327**	Pn		**Pn**	**23 35 27.3**	**-0.5**
	1.5nm,0.3s,baz=144,slow=11,SNR=13							
AKTO				Sn		**Sn**	**23 38 00.6**	**-6.7**
	0.6nm,0.3s,baz=144,slow=19,SNR=3.9							
	3.8nm,0.4s							
AKTO	**Aktyubinsk**	**14.42**	**327**	⇓Pn		**P**	**23 35 32.6**	**-2.0**
	0.6nm,0.3s							
AKTO				⇑Sn		**Sn**	**23 38 15.3**	**+8.0**
	7.9nm,0.8s							
ZALV	**Zalesovo Beam**	**17.93**	**29**	P		**P**	**23 36 17.5**	**+4.0**
	2.1nm,0.5s,baz=217,slow=12,SNR=4.1							
ARU	**Arti**	**19.15**	**340**	Sn		**Sn**	**23 39 54.9**	**-6.8**
	0.1nm,0.3s,baz=279,slow=22,SNR=1.4							
BELG	**Belogornoye**	**20.69**	**318**	P		**P**	**23 36 43.1**	**-0.6**
	20nm,0.7s,baz=76,slow=4.2,SNR=9.1							
	20nm,0.7s							
SONM	**Songino Array**	**27.42**	**59**	P		**P**	**23 37 53.2**	**+3.8**
	0.3nm,0.5s,baz=273,slow=10.0,SNR=2.6							
	0.3nm,0.5s							
AKASG	**Malin Array Be**	**31.06**	**306**	P		**P**	**23 38 22.3**	**+0.8**
	0.2nm,0.3s,baz=81,slow=6.8,SNR=6.6							
	0.2nm,0.3s							
FINES	**FINESS Array B**	**35.18**	**324**	P		**P**	**23 38 57.5**	**+0.2**
	1.6nm,0.7s,baz=111,slow=8.4,SNR=8.7							
	1.6nm,0.7s							
HFS	**Hagfors**	**40.84**	**320**	P		**P**	**23 39 45.3**	**+0.2**
	3.4nm,0.4s,baz=99,slow=9.2,SNR=22							
	3.4nm,0.4s							
NB2	**NORSAR Subarra**	**42.13**	**321**	P		**P**	**23 39 55.7**	**+0.1**
	comp=Z,1.8nm,0.5s,baz=94,slow=8.6							
NOA	**NORSAR Array B**	**42.13**	**321**	P		**P**	**23 39 55.8**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=105,slow=7.8,SNR=9.3							
	comp=Z,0.9nm,0.4s							
EKA	**Eskdalemuir Ar**	**50.19**	**314**	P		**P**	**23 40 58.2**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=77,slow=6.6,SNR=4.5							
	comp=Z,1.2nm,0.6s							
ESDC	**Sonseca Array**	**55.90**	**296**	P		**P**	**23 41 40.5**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=55,slow=7.2,SNR=2.0							
	comp=Z,0.6nm,0.6s							
TORD	**Torodi Ar. Bea**	**65.31**	**267**	P		**P**	**23 42 42.9**	**-3.1**
	comp=Z,1.0nm,0.8s,baz=52,slow=7.2,SNR=7.1							
	comp=Z,1.0nm,0.8s							
ILAR	**Eielson Array**	**72.54**	**16**	P		**P**	**23 43 32.0**	**+1.8**
	comp=Z,0.6nm,0.8s,baz=311,slow=5.1,SNR=7.2							
	comp=Z,0.6nm,0.8s							
YKA	**Yellowknife Ar**	**78.81**	**2**	P		**P**	**23 44 07.7**	**+1.7**
	comp=Z,0.6nm,0.8s,baz=350,slow=6.1,SNR=10							
	comp=Z,0.6nm,0.8s							
WRA	**Warramunga Arr**	**83.71**	**122**	P		**P**	**23 44 31.8**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=320,slow=4.9,SNR=5.6							
	comp=Z,0.8nm,0.8s							
ASAR	**Alice Springs**	**86.06**	**125**	P		**P**	**23 44 44.0**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=310,slow=4.6,SNR=11							
	comp=Z,0.7nm,0.6s							

IDC 29 23:37:24.8±1.8,2°.01N×126°.51E,h0km,mb3.4/4, mbtmp3.4/4,Error ellipse: s-maj=177.7km s-min=21.4km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.13**	**161**	P		P		23 42 33.0	+0.2
	1.5nm,0.7s,baz=340,slow=11,SNR=24								
	1.5nm,0.7s								
ASAR	**Alice Springs**	**26.52**	**165**	P		P		23 43 04.2	-0.1
	0.2nm,0.4s,baz=346,slow=7.3,SNR=4.5								
	0.2nm,0.4s								
MKAR	**Makanchi Array**	**58.84**	**326**	P		P		23 47 25.4	0.0
	0.2nm,0.3s,baz=122,slow=7.5,SNR=8.6								
	0.2nm,0.3s								
KURBB	**Kurchatov Arra**	**63.06**	**328**	P		P		23 47 53.7	-0.2
	0.2nm,0.6s,baz=123,slow=6.8,SNR=5.4								
	0.2nm,0.6s								

*IDC **29** 23:55:32.2±0.9, 18°.12N×126°.80W, h0km, mb3.6/7,*

mbtmp3.7/9, ML3.0/2, Error ellipse: s-maj=26.4km s-min=21.8km az=72.0

*NEIC **29** 23:55:36.7±2.4, 18°.00N±0°.03×68°.13W±0°.03, h35km±2km, ML4.0/34, Md4.0/16(RSPR), Error ellipse: s-maj=7.0km s-min=3.1km az=44.0*

*RSPR **29** 23:55:37.2, 18°.03N×68°.15W, h56km±3km, MD4.0/16*

*SDD **29** 23:55:37.4±2.5, 18°.04N×68°.11W, h31km±15km, MD3.6, ML3.7, MW4.0*

*OSPL **29** 23:55:37.1±3.0, 17°.92N×68°.07W, h0km±28km, ML3.8*

ISC 29 23:55:36.5±1.0,17°.94N±0°.04×68°.09W±0°.02,h27km±9km, n104,σ1°63/121,mb3.8/7,37C-12D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.63**	**334**	⇓*e*P		**Pb**		**23 55 48.3**	**-0.8**
PCDR	**Punta Cana, DR**	**0.63**	**334**	Pn		**Pb**		**23 55 48.2**	**-0.8**
PCDR	**Punta Cana, DR**	**0.63**	**334**			**Sn**		**23 55 57.1**	**-1.9**
PCDR	**Punta Cana, DR**	**0.63**	**334**	IAML				23 55 58.2	
	comp=N,12μm,0.8s								
PCDR	**Punta Cana, DR**	**0.63**	**334**	⇑*e*Pg		**Pb**		**23 55 48.1**	**-0.9**
PCDR				⇑*e*Sg		**Sn**		**23 55 57.4**	**-1.6**
PCDR				IAML				23 55 57.9	
	comp=N,11μm,0.8s								
PCDR				IAML				23 55 59.8	
	comp=E,3μm,1.2s								
PCDR	**Punta Cana, DR**	**0.63**	**334**	*i* P		**Pb**		**23 55 48.3**	**-0.8**
PCDR				*e*S		**Sn**		**23 55 57.0**	**-1.9**
PCDR				IAML				23 56 01.2	
	comp=Z,4μm,0.8s								
SADR	**Isla Saona**	**0.70**	**291**	⇑*e*Pg		**Pb**		**23 55 49.8**	**-0.4**
SADR				⇑*e*		**Pb**		**23 55 49.8**	**-0.4**
SADR				⇑*e*Pg		**Pb**		**23 55 49.8**	**-0.4**
SADR				*e*Sg		**Sb**		**23 55 58.5**	**-0.9**
SADR				⇑*e*Sg		**Sn**		**23 55 59.7**	**-0.9**
SADR				IAML				23 56 00.6	
	comp=E,4μm,0.5s								
SADR				IAML				23 56 04.2	
	comp=N,6μm,0.6s								
IDE	**Isla Desecheo**	**0.73**	**53**	⇓*e*P		**Pb**		**23 55 50.0**	**-0.7**
IDE	**Isla Desecheo**	**0.73**	**53**	*e*S		**Sb**		**23 56 00.3**	**-0.1**
IDE	**Isla Desecheo**	**0.73**	**53**			**Pb**		**23 55 50.0**	**-0.7**
IDE						**Sb**		**23 56 00.3**	**-0.1**
CRPR	**Cabo Rojo, PR**	**0.94**	**86**	⇓*e*P		**Pn**		**23 55 53.9**	**0.0**
CRPR	**Cabo Rojo, PR**	**0.94**	**86**	*e*S		**Sb**		**23 56 08.8**	**+2.7**
CRPR	**Cabo Rojo, PR**	**0.94**	**86**			**Pn**		**23 55 53.3**	**-0.6**
CRPR	**Cabo Rojo, PR**	**0.94**	**86**			**Sb**		**23 56 08.8**	**+2.7**
CRPR	**Cabo Rojo, PR**	**0.94**	**86**	⇑*e*Pg		**Pn**		**23 55 53.6**	**-0.3**
CRPR				⇑*e*Sg		**Sb**		**23 56 09.1**	**+2.9**
CRPR				IAML				23 56 09.1	
	comp=E,1μm,1.1s								
CRPR				IAML				23 56 15.4	
	comp=N,1μm,0.7s								
CRPR	**Cabo Rojo, PR**	**0.94**	**86**	*i* P		**Pn**		**23 55 53.5**	**-0.3**
CRPR				IAML				23 56 10.7	
	comp=Z,2μm,1.1s								
PRSN	**Puerto Rico Se**	**0.94**	**73**			**Pn**		**23 55 53.0**	**-0.9**
PRSN				IAML				23 56 11.1	
	comp=N,3μm,0.3s								
PRSN				IAML				23 56 11.4	
	comp=E,3μm,0.4s								
PRSN	**Puerto Rico Se**	**0.94**	**73**	⇑*e*Pg		**Pn**		**23 55 53.6**	**-0.4**
PRSN				⇓*e*Sg		**Sb**		**23 56 07.3**	**+1.0**
PRSN				IAML				23 56 11.0	
	comp=N,3μm,0.2s								
PRSN				IAML				23 56 11.3	
	comp=E,3μm,0.3s								
LSP	**Las Mesas**	**0.98**	**76**	⇑*e*P		**Pn**		**23 55 54.6**	**0.0**
LSP	**Las Mesas**	**0.98**	**76**	*e*S		**Sn**		**23 56 07.7**	**0.0**
LSP	**Las Mesas**	**0.98**	**76**			**Pn**		**23 55 54.6**	**0.0**
LSP						**Sn**		**23 56 07.7**	**0.0**
MLPR	**Magueyes Islan**	**1.00**	**88**	⇓*e*P		**Pn**		**23 55 54.6**	**-0.2**
MLPR	**Magueyes Islan**	**1.00**	**88**	*e*S		**Sn**		**23 56 08.6**	**+0.7**
MLPR	**Magueyes Islan**	**1.00**	**88**			**Pn**		**23 55 53.8**	**-0.9**
MLPR	**Magueyes Islan**	**1.00**	**88**			**Sn**		**23 56 08.6**	**+0.7**
MLPR	**Magueyes Islan**	**1.00**	**88**	⇑*e*Pg		**Pn**		**23 55 54.1**	**-0.6**
MLPR				IAML				23 56 13.4	
	comp=N,1μm,0.4s								
MLPR				IAML				23 56 14.6	
	comp=E,1μm,0.8s								
AGPR	**Aguadilla, PR**	**1.07**	**61**	⇓*e*P		**Pn**		**23 55 55.5**	**-0.2**
AGPR	**Aguadilla, PR**	**1.07**	**61**	*e*S		**Sb**		**23 56 10.0**	**0.0**
AGPR	**Aguadilla, PR**	**1.07**	**61**			**Pn**		**23 55 54.7**	**-1.0**
AGPR				IAML				23 56 11.9	
	comp=N,2μm,0.5s								
AGPR				IAML				23 56 17.0	
	comp=E,3μm,0.5s								
AGPR	**Aguadilla, PR**	**1.07**	**61**			**Sb**		**23 56 10.0**	**0.0**
AGPR	**Aguadilla, PR**	**1.07**	**61**	⇑*e*Pg		**Pn**		**23 55 55.0**	**-0.7**
AGPR				⇑*e*Sg		**Sb**		**23 56 10.4**	**+0.5**
AGPR				IAML				23 56 13.3	
	comp=N,2μm,0.7s								
AGPR				IAML				23 56 16.9	
	comp=E,3μm,0.2s								
AGPR	**Aguadilla, PR**	**1.07**	**61**	*i* P		**Pn**		**23 55 55.6**	**-0.2**
AGPR				*e*S		**Sb**		**23 56 10.4**	**+0.5**
AGPR				IAML				23 56 12.1	
	comp=Z,1μm,0.6s								
GBPR	**Guanica, Bosqu**	**1.15**	**88**	⇑*e*P		**Pn**		**23 55 57.4**	**+0.5**
GBPR	**Guanica, Bosqu**	**1.15**	**88**			**Pn**		**23 55 57.4**	**+0.5**
AOPR	**Arecibo Observ**	**1.33**	**72**	⇑*e*P		**Pn**		**23 55 59.3**	**-0.1**
AOPR	**Arecibo Observ**	**1.33**	**72**	*e*S		**Sn**		**23 56 16.4**	**+0.1**
AOPR	**Arecibo Observ**	**1.33**	**72**			**Pn**		**23 55 58.8**	**-0.6**
AOPR	**Arecibo Observ**	**1.33**	**72**			**Sn**		**23 56 16.4**	**+0.1**
AOPR	**Arecibo Observ**	**1.33**	**72**	⇑*e*Pg		**Pn**		**23 55 59.3**	**-0.1**
AOPR				⇑*e*Sg		**Sn**		**23 56 16.7**	**+0.4**
AOPR				IAML				23 56 21.7	
	comp=E,7μm,0.3s								
AOPR				IAML				23 56 21.7	
	comp=N,5μm,0.3s								
UUPR	**Utuado, UPR, P**	**1.34**	**76**	⇑*e*P		**Pn**		**23 55 59.0**	**-0.4**
UUPR	**Utuado, UPR, P**	**1.34**	**76**	*e*S		**Sn**		**23 56 16.5**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.34**	**76**			**Pn**		**23 55 58.6**	**-0.9**
UUPR	**Utuado, UPR, P**	**1.34**	**76**			**Sn**		**23 56 16.5**	**+0.1**
MIDR	**Miches**	**1.38**	**319**	*e*Pg		**Pn**		**23 55 58.4**	**-1.6**
MIDR				⇓*e*Pg		**Pb**		**23 55 58.5**	**-3.1**
MIDR				⇑*e*Sg		**Sn**		**23 56 14.9**	**-2.4**
MIDR				⇑*e*Sg		**Sn**		**23 56 15.0**	**-2.4**
MIDR				IAML				23 56 18.0	
	comp=N,364nm,0.4s								
MIDR				IAML				23 56 18.0	
	comp=N,364nm,0.4s								
MIDR				IAML				23 56 18.0	
	comp=N,649nm,0.4s								
MIDR				IAML				23 56 18.7	
	comp=E,376nm,0.5s								
MIDR				IAML				23 56 18.7	
	comp=E,737nm,0.5s								
OBIP	**Obispado Ponce**	**1.42**	**86**	⇑*e*P		**Pn**		**23 55 59.2**	**-1.3**
OBIP	**Obispado Ponce**	**1.42**	**86**	*e*S		**Sn**		**23 56 16.8**	**-1.5**
OBIP	**Obispado Ponce**	**1.42**	**86**			**Pn**		**23 55 58.7**	**-1.8**
OBIP	**Obispado Ponce**	**1.42**	**86**			**Sn**		**23 56 16.8**	**-1.5**
CELP	**Cerrillos**	**1.44**	**84**	⇑*e*P		**Pn**		**23 56 00.6**	**-0.4**
CELP	**Cerrillos**	**1.44**	**84**	*e*S		**Sn**		**23 56 19.1**	**+0.1**
CELP	**Cerrillos**	**1.44**	**84**			**Pn**		**23 55 59.7**	**-1.2**
CELP				IAML				23 56 23.6	
	comp=E,984nm,0.5s								
CELP				IAML				23 56 32.2	
	comp=N,1μm,0.5s								
CELP	**Cerrillos**	**1.44**	**84**			**Sn**		**23 56 19.1**	**+0.1**
CELP	**Cerrillos**	**1.44**	**84**	⇑*e*Pg		**Pn**		**23 56 00.5**	**-0.4**
CELP				IAML				23 56 31.9	
	comp=N,1μm,0.7s								
EMPR	**Esperanza - Ma**	**1.58**	**70**	⇓*e*P		**Pn**		**23 56 04.2**	**+1.4**
EMPR	**Esperanza - Ma**	**1.58**	**70**	*e*S		**Sb**		**23 56 24.7**	**+0.2**
EMPR	**Esperanza - Ma**	**1.58**	**70**			**Pn**		**23 56 02.5**	**-0.2**
EMPR	**Esperanza - Ma**	**1.58**	**70**			**Sb**		**23 56 24.7**	**+0.2**
SMDR	**Samana, DR**	**1.70**	**322**	⇑*e*Pg		**Pn**		**23 56 04.2**	**-0.2**
SMDR				IAML				23 56 28.8	
	comp=N,510nm,0.4s								
SDD	**Santo Domingo**	**1.81**	**287**	⇑*e*P		**Pn**		**23 56 06.8**	**+1.0**
SDD	**Santo Domingo**	**1.81**	**287**			**Pn**		**23 56 05.7**	**-0.2**
SDD	**Santo Domingo**	**1.81**	**287**			**Sb**		**23 56 30.2**	**-1.0**
SDD	**Santo Domingo**	**1.81**	**287**	IAML				23 56 37.3	
	comp=N,1μm,0.4s								
SDD				IAML				23 56 41.8	
	comp=E,2μm,0.9s								
SDD	**Santo Domingo**	**1.81**	**287**	⇑*e*Pg		**Pn**		**23 56 06.8**	**+1.0**
SDD				⇑*e*Sg		**Sb**		**23 56 29.8**	**-1.3**
SDD				IAML				23 56 35.9	
	comp=N,120nm,0.6s								
SDD				IAML				23 56 39.6	
	comp=E,107nm,0.5s								
SDD	**Santo Domingo**	**1.81**	**287**	*i* P		**Pb**		**23 56 07.8**	**-1.1**
SDD				*e*S		**Sb**		**23 56 30.8**	**-0.3**
IGPR	**InterUniversit**	**1.89**	**89**	⇑*e*P		**Pn**		**23 56 06.1**	**-0.9**
IGPR	**InterUniversit**	**1.89**	**89**	*e*S		**Sn**		**23 56 30.2**	**+0.3**
IGPR	**InterUniversit**	**1.89**	**89**	Pn		**Pn**		**23 56 05.8**	**-1.2**
IGPR				IAML				23 56 36.8	
	comp=N,954nm,0.3s								
IGPR				IAML				23 56 37.6	
	comp=E,1μm,0.3s								
IGPR	**InterUniversit**	**1.89**	**89**			**Sn**		**23 56 30.2**	**+0.3**
GCPR	**Guaynabo City**	**1.94**	**79**	⇓*e*P		**Pn**		**23 56 07.8**	**0.0**
GCPR	**Guaynabo City**	**1.94**	**79**	*e*S		**Sn**		**23 56 30.9**	**-0.4**
GCPR	**Guaynabo City**	**1.94**	**79**	Pn		**Pn**		**23 56 07.1**	**-0.6**
GCPR				IAML				23 56 35.7	
	comp=E,706nm,0.8s								
GCPR	**Guaynabo City**	**1.94**	**79**			**Sn**		**23 56 30.9**	**-0.4**
HUMP	**Col San Antoni**	**2.14**	**84**	⇓*e*P		**Pn**		**23 56 10.9**	**+0.4**
HUMP	**Col San Antoni**	**2.14**	**84**	*e*S		**Sn**		**23 56 36.6**	**+0.4**
HUMP	**Col San Antoni**	**2.14**	**84**			**Pn**		**23 56 08.8**	**-1.6**
HUMP				IAML				23 56 44.5	
	comp=N,739nm,0.2s								
HUMP				IAML				23 56 45.9	
	comp=E,939nm,0.2s								
HUMP	**Col San Antoni**	**2.14**	**84**			**Sn**		**23 56 36.6**	**+0.4**
NADR	**Nagua**	**2.19**	**310**	⇑*e*Pg		**Pn**		**23 56 12.6**	**+1.5**
NADR				IAML				23 56 44.3	
	comp=N,5μm,0.3s								
NADR				IAML				23 56 51.0	
	comp=E,3μm,0.3s								
BANI	**BANI**	**2.20**	**282**	⇑*e*Pg		**Pb**		**23 56 13.9**	**-1.9**
BANI				IAML				23 56 50.0	
	comp=E,896nm,0.4s								
BANI				IAML				23 56 59.0	
	comp=N,1μm,0.7s								
LONA1	**Toro Cenizo, N**	**2.21**	**311**	*i* P		**Pb**		**23 56 14.4**	**-1.4**
LOBA2	**Hotel Casa Bon**	**2.86**	**273**	IAML				23 56 56.7	
	comp=E,36nm,0.6s								
LOBA2				IAML				23 56 56.8	
	comp=N,29nm,0.2s								
SC01	**Santiago de Io**	**2.90**	**301**			**Pn**		**23 56 23.8**	**+2.8**
SC01	**Santiago de Io**	**2.90**	**301**	⇑*e*Pg		**Pb**		**23 56 25.2**	**-2.4**
SC01				IAML				23 57 05.2	
	comp=E,820nm,0.8s								
SC01				IAML				23 57 13.7	
	comp=N,1μm,0.5s								
SC01	**Santiago de Io**	**2.90**	**301**	*i* P		**Pb**		**23 56 24.9**	**-2.8**
SC01				IAML				23 57 10.7	
	comp=Z,422nm,0.3s								
PODR	**Polo**	**3.04**	**275**	⇓*e*Pg		**Pb**		**23 56 28.0**	**-2.2**
PODR				IAML				23 57 14.8	
	comp=N,137nm,0.4s								
PODR				IAML				23 57 19.1	
	comp=N,208nm,0.6s								
SDDR	**Presa de Saban**	**3.21**	**289**	⇑*e*P		**Pb**		**23 56 29.6**	**-3.3**
SDDR	**Presa de Saban**	**3.21**	**289**	*e*S		**Sb**		**23 57 08.7**	**-2.8**
SDDR	**Presa de Saban**	**3.21**	**289**	Pn		**Pn**		**23 56 27.9**	**+2.7**
SDDR				IAML				23 57 15.3	
	comp=N,644nm,0.7s								
SDDR				IAML				23 57 16.8	
	comp=N,528nm,0.9s								
SDDR	**Presa de Saban**	**3.21**	**289**	⇑*e*Pg		**Pb**		**23 56 29.5**	**-3.3**
SDDR				IAML				23 57 15.1	
	comp=E,552nm,0.7s								
SDDR				IAML				23 57 19.6	
	comp=N,400nm,1.1s								
SDDR	**Presa de Saban**	**3.21**	**289**	*i* P		**Pb**		**23 56 29.5**	**-3.3**
SDDR				IAML				23 57 15.9	
	comp=Z,255nm,0.8s								
NEDR	**Neiba UASD**	**3.21**	**280**	⇓*e*Pg		**Pb**		**23 56 29.5**	**-3.3**
NEDR				IAML				23 57 22.3	
	comp=E,178nm,1.1s								
NEDR				IAML				23 57 32.2	
	comp=N,141nm,0.6s								
REDR	**Restauracion**	**3.36**	**292**	⇑*e*Pg		**Pb**		**23 56 35.3**	**-0.2**
REDR				⇑*e*Sg		**Sb**		**23 57 18.8**	**+2.9**
REDR				IAML				23 57 25.2	
	comp=N,259nm,0.8s								
REDR				IAML				23 57 26.9	
	comp=E,286nm,0.2s								
JIDR	**Jimani**	**3.62**	**279**	⇑*e*Pg		Pn		23 56 34.9	+4.2

*KRNET **30** 00:05:47.4±0.1, 41°.61N×79°.08E, h15km, mb2.4*
ISC 30 00:05:45.3±2.0, 41°.55N±0°.07×79°.13E±0°.05, h7km±11km, n49, σ1§47/86, 11C-17D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.01**	**280**	⇓*e*P	**Pb**	**00 06 05.8**	**+0.4**
	baz=77						
TARG				⇓*e*S	**Sg**	**00 06 19.2**	**+1.3**
	baz=77						
PRZ	**Przheval'sk**	**1.08**	**330**	⇑*e*P	**Pg**	**00 06 06.8**	**+0.8**
	baz=31						
PRZ				⇑*e*S	**Sn**	**00 06 21.0**	**-1.3**
	baz=31						
KDJ	**Kajisay**	**1.57**	**292**	⇓*e*P	**Pb**	**00 06 15.5**	**+0.8**
	baz=91						
KDJ				⇓*e*S	**Sg**	**00 06 36.0**	**+0.2**
	baz=91						
UZB	**Uzynbulak**	**1.59**	**357**	*e*P	**Pn**	**00 06 14.7**	**+0.7**
	7.5nm,0.1s						
UZB				*e*S	**Sb**	**00 06 35.0**	**-0.6**
	30nm,0.1s						
UZB	**Uzynbulak**	**1.59**	**357**	P	**Pn**	**00 06 14.7**	**+0.7**
	7.5nm,0.2s						
UZB				S	**Sb**	**00 06 35.0**	**-0.6**
	30nm,0.2s						
SATY	**Saty**	**1.60**	**341**	*e*P	**Pb**	**00 06 15.2**	**0.0**
	7.1nm,0.2s						
SATY				*e*S	**Sg**	**00 06 35.9**	**-0.8**
	69nm,0.1s						
SATY	**Saty**	**1.60**	**341**	P	**Pb**	**00 06 15.2**	**0.0**
	7.1nm,0.2s						
SATY				S	**Sg**	**00 06 35.9**	**-0.8**
	69nm,0.1s						
SHLS	**Shalkode**	**1.62**	**9**	*e*P	**Pb**	**00 06 16.2**	**+0.6**
	68nm,0.2s						
SHLS				*e*S	**Sg**	**00 06 37.7**	**+0.3**
	90nm,0.3s						
SHLS	**Shalkode**	**1.62**	**9**	P	**Pb**	**00 06 16.2**	**+0.6**
	68nm,0.2s						
SHLS				S	**Sg**	**00 06 37.7**	**+0.3**
	90nm,0.3s						
ANVS	**Anan'yevo**	**1.64**	**319**	⇑*e*P	**Pb**	**00 06 16.8**	**+0.8**
	baz=19						
ANVS				⇑*i*S	**Sg**	**00 06 38.2**	**+0.1**
	baz=19						
ZHN	**Zhinishke**	**1.69**	**342**	*e*P	**Pb**	**00 06 17.1**	**+0.2**
	7.0nm,0.1s						
ZHN				*e*S	**Sg**	**00 06 39.2**	**-0.6**
	242nm,0.2s						
ZHN	**Zhinishke**	**1.69**	**342**	P	**Pb**	**00 06 17.1**	**+0.2**
	7.0nm,0.1s						
ZHN				S	**Sg**	**00 06 39.2**	**-0.6**
	242nm,0.2s						
PDGK	**Podgornoye**	**1.79**	**8**	P	**Pn**	**00 06 17.6**	**+0.8**
	9.0nm,0.3s						
PDGK				S	**Sn**	**00 06 39.9**	**0.0**
	19nm,0.3s						
PDGK	**Podgornoye**	**1.79**	**8**	⇑P	**Pn**	**00 06 17.5**	**+0.7**
	13nm,0.6s						
PDGK				⇑S	**Sn**	**00 06 39.8**	**0.0**
	85nm,0.6s						
KURS	**Kuram**	**2.06**	**340**	*e*P	**Pb**	**00 06 23.6**	**+0.5**
	15nm,0.7s						
KURS				*e*S	**Sg**	**00 06 50.0**	**-1.5**
	24nm,0.2s						
KURS	**Kuram**	**2.06**	**340**	Pg	**Pb**	**00 06 23.6**	**+0.5**
	15nm,0.7s						
KURS				Lg	Lg	00 06 50.1	
	23nm,0.3s						
TNSS	**Tian-Shan**	**2.20**	**313**	*e*P	**Pb**	**00 06 27.0**	**+1.4**
	11nm,0.5s						
TNSS				*e*S	**Sg**	**00 06 56.3**	**+0.4**
	37nm,0.4s						
TNSS	**Tian-Shan**	**2.20**	**313**	Pg	**Pb**	**00 06 26.6**	**+1.0**
	11nm,0.5s						
TNSS				Lg	Lg	00 06 55.5	
	37nm,0.4s						
MDOK	**Medeo**	**2.23**	**317**	*e*P	**Pb**	**00 06 27.0**	**+1.0**
	4.5nm,0.3s						
MDOK				*e*S	**Sg**	**00 06 56.6**	**-0.3**
	40nm,0.5s						
MDOK	**Medeo**	**2.23**	**317**	Pg	**Pb**	**00 06 26.6**	**+0.6**
	3.0nm,0.5s						
MDOK				Pg	**Pb**	**00 06 27.0**	**+1.0**
	4.5nm,0.3s						
MDOK				Lg	Lg	00 06 56.6	
	40nm,0.5s						
MDOK				Lg	Lg	00 06 56.8	
	36nm,0.6s						
KOTS	**Kotyrbulak**	**2.25**	**319**	*e*P	**Pb**	**00 06 27.5**	**+1.2**
	12nm,0.3s						
KOTS				*e*S	**Sg**	**00 06 57.4**	**-0.2**
	53nm,0.2s						
KOTS	**Kotyrbulak**	**2.25**	**319**	Pg	**Pb**	**00 06 27.5**	**+1.2**
	12nm,0.4s						
KOTS				Lg	Lg	00 06 57.4	
	57nm,0.6s						
ULHL	**Ulahol**	**2.27**	**289**	⇑*e*P	**Pb**	**00 06 27.2**	**+0.5**
	baz=88						
ULHL				⇑*e*S	**Sb**	**00 06 56.4**	**+1.4**
	baz=88						
NRN	**Naryn**	**2.36**	**268**	⇓*e*P	**Pb**	**00 06 29.1**	**+0.8**
	baz=66						
NRN				⇓*e*S	**Sb**	**00 06 59.6**	**+1.9**
	baz=66						
IZV	**Izvestkoviy**	**2.39**	**309**	*e*P	**Pg**	**00 06 31.6**	**+0.6**
	3.0nm,0.2s						
IZV				*e*S	**Sg**	**00 07 04.2**	**+2.2**
	33nm,0.4s						
MTBS	**Maitube**	**2.55**	**309**	*e*P	**Pg**	**00 06 33.5**	**-0.6**
	4.0nm,0.3s						
MTBS				*e*S	**Sg**	**00 07 07.1**	**-0.1**
	18nm,0.3s						
MTBS	**Maitube**	**2.55**	**309**	Pg	**Pg**	**00 06 33.5**	**-0.6**
	4.0nm,0.3s						
MTBS				Lg	Lg	00 07 07.1	
	18nm,0.3s						
BOOM	**Boomskoye usch**	**2.56**	**293**	⇓*e*P	**Pb**	**00 06 31.1**	**-0.5**
	baz=92						
BOOM				⇓*e*S	**Sb**	**00 07 03.9**	**+0.6**
	baz=92						
BLB	**Baldybastay**	**2.59**	**349**	Pg	**Pb**	**00 06 32.2**	**+0.1**
	12nm,0.2s						
BLB				Lg	Lg	00 07 04.7	
	31nm,0.5s						
KST	**Kastek**	**2.78**	**303**	*e*P	**Pg**	**00 06 38.4**	**-0.2**
	2.5nm,0.2s						
KST				*e*S	**Sg**	**00 07 15.4**	**+0.7**
	19nm,0.4s						
KST	**Kastek**	**2.78**	**303**	Pg	**Pb**	**00 06 36.4**	**+1.0**
	2.7nm,0.3s						
KST				Lg	Lg	00 07 12.1	
	18nm,0.6s						
CHKK	**Chushkaly**	**2.79**	**326**	*e*P	**Pb**	**00 06 37.4**	**+2.0**
	5.0nm,0.2s						
CHKK				*e*S	**Sg**	**00 07 13.9**	**-1.0**
	154nm,0.3s						
CHKK	**Chushkaly**	**2.79**	**326**	Pg	**Pb**	**00 06 37.4**	**+2.0**
	5.0nm,0.2s						
CHKK				Lg	Lg	00 07 13.9	
	155nm,0.5s						
KNOS	**Konyrlen**	**2.81**	**1**	Pg	**Pb**	**00 06 35.6**	**-0.2**
	4.1nm,0.3s						
KNOS				Lg	Lg	00 07 11.1	
	23nm,0.2s						
KTBS	**Karatobe**	**2.82**	**321**	*e*P	**Pb**	**00 06 38.0**	**+2.1**
	2.0nm,0.2s						
KTBS				*e*S	**Sg**	**00 07 14.7**	**-1.1**
	36nm,0.2s						
KTBS	**Karatobe**	**2.82**	**321**	Pg	**Pb**	**00 06 38.0**	**+2.1**
	2.0nm,0.3s						
KTBS				Lg	Lg	00 07 14.7	
	36nm,0.2s						
DJR	**Jarkent**	**2.82**	**10**	*e*P	**Pb**	**00 06 36.1**	**+0.1**
	2.6nm,0.2s						
DJR				*e*S	**Sb**	**00 07 11.5**	**+0.8**
	85nm,0.2s						
DJR	**Jarkent**	**2.82**	**10**	Pg	**Pb**	**00 06 36.1**	**+0.1**
	2.6nm,0.4s						
DJR				Lg	Lg	00 07 11.0	
	86nm,0.6s						
ARXS	**Arharly**	**2.83**	**341**	*e*P	**Pb**	**00 06 37.2**	**+1.1**
	2.6nm,0.3s						
ARXS				*e*S	**Sg**	**00 07 13.3**	**-2.8**
	26nm,0.2s						
ARXS	**Arharly**	**2.83**	**341**	Pg	**Pb**	**00 06 37.2**	**+1.1**
	2.6nm,0.3s						
ARXS				Lg	Lg	00 07 13.3	
	26nm,0.2s						
DGS	**Degeres**	**3.01**	**305**	*e*P	**Pg**	**00 06 42.0**	**-0.9**
DGS				*e*S	**Sg**	**00 07 21.6**	**-0.3**
	12nm,0.3s						
KBK	**Karagaybulak**	**3.30**	**291**	⇓*e*P	**Pb**	**00 06 41.7**	**-2.6**
	baz=90						
KBK				⇓*e*S	**Sb**	**00 07 21.2**	**-3.6**
	baz=90						
KRBS	**Karabastau**	**3.33**	**311**	*e*P	**Pb**	**00 06 47.0**	**+2.3**
	1.2nm,0.2s						
KRBS				*e*S	**Sg**	**00 07 30.2**	**-2.1**
	5.9nm,0.3s						
KRBS	**Karabastau**	**3.33**	**311**	Pg	**Pb**	**00 06 47.0**	**+2.3**
	1.2nm,0.3s						
KRBS				Lg	Lg	00 07 30.2	
	7.8nm,0.4s						
UCH	**Uchtor**	**3.51**	**283**	⇓*e*P	**Pn**	**00 06 44.8**	**+4.1**
	baz=82						
UCH				⇓*e*S	**Sb**	**00 07 26.8**	**-4.3**
	baz=82						
ARLS	**Aral**	**3.62**	**276**	⇓*e*P	**Pb**	**00 06 46.4**	**-3.2**
	baz=75						
ARLS				⇓*e*S	**Sb**	**00 07 28.9**	**-4.8**
	baz=75						
MRKS	**Merke**	**4.55**	**287**	*e*P	**Pg**	**00 07 11.1**	**-1.4**
	0.4nm,0.1s						
MRKS				*e*S	**Sg**	**00 08 12.1**	**+0.7**
	3.0nm,0.4s						
MAKZ	**Makanchi**	**5.64**	**20**	⇓Pn	**Pn**	**00 07 09.8**	**+0.4**
	1.9nm,1.2s						
MAKZ				⇑Sn	**Sn**	**00 08 14.8**	**+0.3**
	0.7nm,0.4s						
MAKZ				⇓Lg	Lg	00 08 36.5	
	1.2nm,0.8s						
MK31	**Makanchi Array**	**5.71**	**22**	⇑Pn	**Pn**	**00 07 11.8**	**+1.4**
	0.1nm,0.2s,baz=208,slow=15,SNR=11						
MK31				⇑Sn	**Sn**	**00 08 15.1**	**-1.1**
	2.1nm,0.8s,baz=149,slow=39,SNR=3.8						
MK31				⇓Lg	Lg	00 08 42.8	
	1.4nm,0.7s,baz=200,slow=29						

*STR **30** 00:11:23.7±1.4, 47°.N±8°×1°.2E±1°.1, h10km, MLv3.2/17, Error ellipse: s-maj=0.0km s-min=0.0km az=63.5, preliminary*
*LDG **30** 00:11:28.0±0.2, 46°.93N×11°.22E, h5km, Ml2.6/25, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*VIE **30** 00:11:29.2±0.1, 46°.90N×11°.27E, h9km, mb2.1/18, ml2.9/21, Error ellipse: s-maj=0.7km s-min=0.6km az=149.0*
*ROM **30** 00:11:29.4±0.1, 46°.919N±0°.004×11°.239E±0°.005, h11km, ML2.7/75, Error ellipse: s-maj=0.5km s-min=0.3km az=137.0*
*PRU **30** 00:11:31.4, 46°.97N×11°.34E, h10km*
*BGR **30** 00:11:31.2±0.3, 47°.02N×11°.24E, h5km, ML2.6/13, Error ellipse: s-maj=5.6km s-min=2.2km az=178.0*
ISC 30 00:11:29.2±0.8, 46°.93N±0°.01×11°.26E±0°.01, h11km±6km, n154, σ1§53/225, 10C-6D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSI	**Rosskopf**	**0.10**	**93**	⇑P	**Pg**	**00 11 32.4**	**+0.3**
ROSI				S	**Sg**	**00 11 34.4**	**+0.1**
ROSI				AML	AML		
	comp=N,7395μm,0.3s						
ROSI				AML	AML		
	comp=E,5985μm,1.0s						
ROSI				AML	AML		
	comp=E,5985μm,1.0s						
SQTA	**Sankt Quirin**	**0.29**	**353**	*i* Pg	**Pb**	**00 11 36.0**	**-0.5**
	comp=E,104nm,0.1s,SNR=479						
SQTA				*e*Sg	**Sb**	**00 11 40.3**	**-1.1**
	comp=E,270nm,0.1s						
FETA	**Feichten**	**0.38**	**284**	*i* Pg	**Pg**	**00 11 36.8**	**+0.1**
	comp=E,23nm,0.1s,SNR=183						
FETA				*i* Sg	**Sg**	**00 11 42.1**	**+0.3**
	comp=E,105nm,0.1s						
BRES	**Bressanone**	**0.40**	**126**	AML	AML		
	comp=N,986μm,1.0s						
BRES				AML	AML		
	comp=E,760μm,0.2s						
BRES				AML	AML		
	comp=N,987μm,1.0s						
BRES				AML	AML		
	comp=E,760μm,0.2s						
BRES				AML	AML		
	comp=N,986μm,1.0s						
WTTA	**Wattenberg**	**0.42**	**38**	*i* Pg	**Pb**	**00 11 38.0**	**-0.7**
	comp=N,11nm,0.1s,SNR=77						
WTTA				*i* Sg	**Sb**	**00 11 44.0**	**-1.2**
	comp=N,85nm,0.1s						
WTTA	**Wattenberg**	**0.42**	**38**	⇑P	**Pb**	**00 11 38.0**	**-0.7**
WTTA				S	**Sb**	**00 11 43.9**	**-1.2**
WTTA				AML	AML		
	comp=N,594μm,0.3s						
WTTA				AML	AML		
	comp=E,595μm,0.4s						
WTTA	**Wattenberg**	**0.42**	**38**	*e*Pg	**Pb**	**00 11 38.0**	**-0.7**
MOTA	**Moosalm**	**0.42**	**345**	*i* Pg	**Pb**	**00 11 38.4**	**-0.5**
	comp=E,33nm,0.1s,SNR=242						
MOTA				*i* Sg	**Sb**	**00 11 44.4**	**-0.9**
	comp=E,91nm,0.1s						
BOSI	**Bolzano**	**0.44**	**175**	⇓P	**Pg**	**00 11 37.9**	**0.0**
BOSI				S	**Sg**	**00 11 43.7**	**0.0**
BOSI				AML	AML		
	comp=E,2270μm,0.9s						
BOSI				AML	AML		
	comp=N,2800μm,0.9s						
BOSI				AML	AML		
	comp=E,2270μm,1.1s						
BOSI				AML	AML		
	comp=N,2664μm,0.4s						
BOSI				AML	AML		
	comp=N,2800μm,1.1s						
WATA	**Walderalm**	**0.46**	**28**	*e*Pg	**Pb**	**00 11 38.8**	**-0.6**
	comp=N,10.0nm,0.1s,SNR=78						
WATA				*e*Sg	**Sb**	**00 11 45.4**	**-0.8**
	comp=N,97nm,0.1s						
OZOL	**Ozolo**	**0.55**	**195**	⇑*e*Pg	**Pg**	**00 11 39.7**	**-0.3**
OZOL				*e*Sg	**Sg**	**00 11 46.8**	**-0.4**
OZOL	**Ozolo**	**0.55**	**195**	⇑P	**Pg**	**00 11 39.7**	**-0.3**
OZOL				S	**Sg**	**00 11 46.8**	**-0.4**
OZOL				AML	AML		
	comp=E,3605μm,0.5s						
OZOL				AML	AML		
	comp=N,2550μm,0.3s						
OZOL				AML	AML		
	comp=N,2430μm,0.3s						
OZOL				AML	AML		
	comp=E,3920μm,0.5s						
OZOL				AML	AML		
	comp=E,3610μm,0.5s						
OZOL				AML	AML		
	comp=N,2425μm,0.3s						
PART	**Garmisch-Parte**	**0.57**	**350**	*e*Pg	**Pb**	**00 11 40.7**	**-0.6**
MOSI	**Grossmontoni**	**0.58**	**237**	⇑P	**Pg**	**00 11 40.2**	**-0.4**
MOSI				S	**Sg**	**00 11 48.1**	**-0.2**
MOSI				AML	AML		
	comp=E,954μm,1.2s						
MOSI				AML	AML		
	comp=N,1037μm,1.0s						
MOSI				AML	AML		
	comp=E,954μm,0.8s						
CARE	**Lago del Cares**	**0.64**	**218**	⇑*e*Pg	**Pg**	**00 11 41.1**	**-0.6**
CARE				*e*Sg	**Sg**	**00 11 49.4**	**-0.8**
CARE	**Lago del Cares**	**0.64**	**218**	⇑P	**Pg**	**00 11 41.1**	**-0.6**
CARE				S	**Sg**	**00 11 49.4**	**-0.8**
CARE				AML	AML		
	comp=E,699μm,0.5s						
CARE				AML	AML		
	comp=N,596μm,0.4s						
CARE				AML	AML		
	comp=N,596μm,0.4s						
CARE				AML	AML		
	comp=E,700μm,0.5s						
CARE				AML	AML		
	comp=N,596μm,1.6s						
RETA	**Reutte**	**0.65**	**329**	*i* Pg	**Pg**	**00 11 41.8**	**0.0**
	comp=N,2.0nm,0.1s,SNR=12						
RETA				*e*Sg	**Sb**	**00 11 51.9**	**+0.2**
	comp=N,15nm,0.1s						
ZIAN	**Ziano**	**0.69**	**162**	⇑*e*Pg	**Pg**	**00 11 42.2**	**-0.3**
ZIAN	**Ziano**	**0.69**	**162**	⇓P	**Pg**	**00 11 42.5**	**-0.1**
ZIAN				S	**Sg**	**00 11 51.2**	**-0.4**
ZIAN				AML	AML		
	comp=E,918μm,0.4s						
ZIAN				AML	AML		
	comp=E,970μm,0.4s						
ZIAN				AML	AML		
	comp=N,944μm,0.4s						
ZIAN				AML	AML		
	comp=N,976μm,0.4s						
ZIAN				AML	AML		
	comp=E,970μm,0.4s						
ZIAN				AML	AML		
	comp=E,918μm,0.4s						
AFL	**Alpe Faloria**	**0.75**	**122**	⇓*e*Pg	**Pg**	**00 11 43.9**	**+0.2**
AFL				*e*Sg	**Sb**	**00 11 55.1**	**+0.4**
FUORN	**Ofenpass-Fuorn**	**0.76**	**246**	P	**Pg**	**00 11 43.1**	**-0.7**
FUORN				S	**Sg**	**00 11 52.9**	**-0.9**
FUORN				AML	AML		
	comp=N,184μm,0.5s						
FUORN				AML	AML		
	comp=E,188μm,0.7s						
BRMO	**Bormio**	**0.77**	**233**	P	**Pg**	**00 11 43.5**	**-0.5**
BRMO				S	**Sg**	**00 11 52.5**	**-1.5**
BRMO				AML	AML		
	comp=N,244μm,1.5s						
BRMO				AML	AML		
	comp=N,239μm,0.2s						
BRMO				AML	AML		
	comp=E,281μm,0.3s						
OBER	**Oberstdorf**	**0.81**	**306**	*e*Pg	**Pb**	**00 11 45.3**	**-0.1**
AGOR	**Agordo**	**0.85**	**140**	*e*Pg	**Pg**	**00 11 45.3**	**-0.2**
FAU	**Forcella Aurin**	**0.86**	**145**	⇓*e*Pg	**Pg**	**00 11 45.4**	**-0.4**
GAGG	**Gaggia**	**0.88**	**194**	*e*Pg	**Pg**	**00 11 45.8**	**-0.3**
GAGG	**Gaggia**	**0.88**	**194**	P	**Pg**	**00 11 45.7**	**-0.3**
GAGG				S	**Sg**	**00 11 57.2**	**-0.4**
GAGG				AML	AML		
	comp=E,406μm,1.3s						
GAGG				AML	AML		
	comp=E,510μm,1.4s						
GAGG				AML	AML		
	comp=N,389μm,1.3s						
GAGG				AML	AML		
	comp=N,471μm,1.4s						
GAGG				AML	AML		
	comp=N,337μm,0.5s						
GAGG				AML	AML		
	comp=E,325μm,0.5s						
GAGG				AML	AML		
	comp=E,406μm,0.7s						
GAGG				AML	AML		
	comp=N,389μm,0.7s						
ABTA	**Abfaltersbach**	**0.88**	**102**	*i* Pg	**Pg**	**00 11 45.9**	**-0.3**
	comp=N,0.8nm,0.1s,SNR=30						
ABTA				*e*Sg	**Sg**	**00 11 57.7**	**+0.1**
	comp=N,30nm,0.1s						
PANI	**Panarotta**	**0.89**	**177**	*e*Pg	**Pg**	**00 11 46.0**	**-0.4**
PANI	**Panarotta**	**0.89**	**177**	P	**Pg**	**00 11 45.9**	**-0.4**
PANI				S	**Sg**	**00 11 57.1**	**-0.7**
PANI				AML	AML		
	comp=E,452μm,0.6s						
PANI				AML	AML		
	comp=N,947μm,0.3s						
PANI				AML	AML		
	comp=N,948μm,0.3s						
PANI				AML	AML		
	comp=E,452μm,1.4s						
PANI				AML	AML		
	comp=N,948μm,0.3s						
CTI	**Castel Tesino**	**0.93**	**163**	⇓P	**Pg**	**00 11 46.5**	**-0.6**
CTI				S	**Sg**	**00 11 58.5**	**-0.6**
CTI				AML	AML		
	comp=N,1032μm,0.1s						
CTI				AML	AML		
	comp=E,1083μm,0.3s						
DAVOX	**Davos/Dischmat**	**0.96**	**261**	⇑P	**Pg**	**00 11 47.2**	**-0.6**
DAVOX				S	**Sg**	**00 11 59.1**	**-1.2**
DAVOX				AML	AML		
	comp=E,105μm,0.5s						
DAVOX				AML	AML		
	comp=N,156μm,0.4s						
DAVOX				AML	AML		
	comp=N,156μm,1.6s						
DAVOX				AML	AML		
	comp=E,105μm,0.5s						
DAVOX				AML	AML		
	comp=E,105μm,0.5s						
BERNI	**Berninapass**	**1.00**	**239**	P	**Pg**	**00 11 47.4**	**-1.1**
BERNI				S	**Sg**	**00 12 00.9**	**-0.7**
BERNI				AML	AML		
	comp=E,88μm,0.3s						
BERNI				AML	AML		
	comp=N,101μm,0.8s						
LUSI	**Trento, Gardas**	**1.00**	**193**	P	**Pg**	**00 11 48.0**	**-0.5**
LUSI				S	**Sg**	**00 12 00.6**	**-0.8**
LUSI				AML	AML		
	comp=E,613μm,0.4s						
LUSI				AML	AML		
	comp=N,988μm,1.1s						
DAVA	**Damuels**	**1.01**	**291**	*e*Pg	**Pn**	**00 11 49.5**	**+0.1**
	comp=N,4.1nm,0.2s,SNR=19						
DAVA				*e*Sg	**Sn**	**00 12 04.5**	**+0.7**
	comp=N,114nm,0.4s						
DAVA	**Damuels**	**1.01**	**291**	*e*Pg	**Pn**	**00 11 49.6**	**+0.1**
DAVA				*e*Pn	**Pb**	**00 11 50.7**	**+1.9**
MABI	**Malga Bissina**	**1.02**	**211**	P	**Pg**	**00 11 48.0**	**-0.9**
MABI				S	**Sg**	**00 12 00.6**	**-1.6**
MABI				AML	AML		
	comp=E,145μm,0.9s						
MABI				AML	AML		
	comp=N,190μm,0.8s						
MABI				AML	AML		
	comp=E,145μm,1.1s						
DOSS	**Dosso del Somm**	**1.05**	**183**	⇓P	**Pg**	**00 11 49.0**	**-0.5**
DOSS				S	**Sg**	**00 12 02.1**	**-1.1**
DOSS				AML	AML		
	comp=E,910μm,1.2s						
DOSS				AML	AML		
	comp=E,1155μm,0.3s						
DOSS				AML	AML		
	comp=N,980μm,1.2s						
DOSS				AML	AML		
	comp=N,1080μm,0.3s						
DOSS				AML	AML		
	comp=E,910μm,0.8s						
DOSS				AML	AML		
	comp=N,980μm,0.8s						
LESA	**Schwarzleotal**	**1.08**	**63**	*i* Pg	**Pg**	**00 11 49.6**	**-0.4**
	comp=N,19nm,0.1s						
LESA				*e*Sg	**Sb**	**00 12 04.1**	**-0.1**
	comp=N,24nm,0.1s						
UBR	**Ueberruh**	**1.08**	**314**	*e*Pg	**Pn**	**00 11 50.8**	**+0.4**
UBR				*e*Pn	**Pb**	**00 11 51.9**	**+1.9**
FVI	**Forni Avoltri**	**1.10**	**107**	P	**Pg**	**00 11 50.0**	**-0.3**
FVI				S	**Sg**	**00 12 03.9**	**-0.6**
FVI				AML	AML		
	comp=N,314μm,1.5s						
FVI				AML	AML		
	comp=E,332μm,0.9s						
FVI				AML	AML		
	comp=N,314μm,0.5s						
FVI				AML	AML		
	comp=E,332μm,1.1s						
FVI				AML	AML		
	comp=E,216μm,0.2s						
VARA	**Varagna**	**1.14**	**193**	P	**Pb**	**00 11 50.7**	**-0.3**
VARA				S	**Sb**	**00 12 05.7**	**-0.2**
VARA				AML	AML		
	comp=E,655μm,0.3s						
VARA				AML	AML		
	comp=N,932μm,0.9s						
VARA				AML	AML		
	comp=E,984μm,0.9s						
VARA				AML	AML		
	comp=E,654μm,0.3s						
VARA				AML	AML		
	comp=N,686μm,0.3s						
STAL	**STALIGIAL**	**1.21**	**124**	P	**Pn**	**00 11 51.9**	**-0.1**
STAL				AML	AML		
	comp=E,367μm,1.4s						
STAL				AML	AML		
	comp=N,413μm,0.2s						
STAL				AML	AML		
	comp=N,402μm,0.8s						
STAL				AML	AML		
	comp=E,269μm,0.2s						
STAL				AML	AML		
	comp=E,367μm,0.6s						

STAL					AML	AML		
	comp=N,402µm,1.2s							
FUR	**Furstenfeldbru**	**1.23**	**0**	*e*Pn	**Pg**		**00 11 54.5**	**+1.6**
POLC	**Polcenigo**	**1.25**	**136**		AML	AML		
	comp=E,491µm,1.3s							
POLC					AML	AML		
	comp=N,484µm,0.6s							
MBAL	**Monte Baldo -**	**1.27**	**193**	P	**Pn**		**00 11 52.9**	**-0.1**
MBAL				S	**Sb**		**00 12 09.1**	**-0.5**
MBAL					AML	AML		
	comp=E,694µm,1.4s							
MBAL					AML	AML		
	comp=N,756µm,0.5s							
MBAL					AML	AML		
	comp=E,694µm,0.6s							
PLONS	**Plons/SG**	**1.29**	**276**	P	**Pn**		**00 11 53.6**	**+0.3**
PLONS	**Plons/SG**	**1.29**	**276**	*e*Pn	**Pg**		**00 11 55.0**	**+0.9**
ROVR	**Rover Verones**	**1.29**	**186**	P	**Pn**		**00 11 53.2**	**-0.1**
ROVR					AML	AML		
	comp=N,753µm,0.2s							
ROVR					AML	AML		
	comp=E,279µm,0.2s							
ROVR					AML	AML		
	comp=E,670µm,0.2s							
ROVR					AML	AML		
	comp=N,1795µm,0.2s							
RJOB	**Jochberg**	**1.32**	**52**	*e*Pn	**Pg**		**00 11 54.3**	**-0.1**
SALO	**Salr**	**1.41**	**202**	P	**Pn**		**00 11 55.6**	**+0.7**
SALO					AML	AML		
	comp=E,256µm,0.3s							
SALO					AML	AML		
	comp=N,236µm,0.6s							
SALO					AML	AML		
	comp=N,246µm,0.6s							
SALO					AML	AML		
	comp=E,264µm,0.3s							
ZONE	**Zone**	**1.41**	**215**	P	**Pn**		**00 11 55.2**	**+0.3**
ZONE				S	**Sn**		**00 12 12.8**	**-0.7**
ZONE					AML	AML		
	comp=E,226µm,0.2s							
ZONE					AML	AML		
	comp=N,189µm,0.8s							
ZONE					AML	AML		
	comp=N,190µm,0.8s							
ZONE					AML	AML		
	comp=N,150µm,0.3s							
ZONE					AML	AML		
	comp=N,190µm,1.2s							
KBA	**Koelnbreinsper**	**1.43**	**83**	*e*Pg	**Pb**		**00 11 55.8**	**-0.2**
	comp=N,4.2nm,0.1s,SNR=53							
KBA				*e*Sn	**Sn**		**00 12 13.8**	**-0.4**
	comp=N,5.9nm,0.1s							
KBA	**Koelnbreinsper**	**1.43**	**83**	*e*Pn	**Pb**		**00 11 55.8**	**-0.2**
GEPF	**Gemona**	**1.45**	**116**	⇑P	**Pb**		**00 11 56.9**	**+0.7**
GEPF					AML	AML		
	comp=E,206µm,0.5s							
GEPF					AML	AML		
	comp=N,190µm,0.3s							
PTCC	**Patocco-Chiusa**	**1.53**	**109**	P	**Pb**		**00 11 57.8**	**+0.1**
PTCC					AML	AML		
	comp=E,122µm,0.3s							
PTCC					AML	AML		
	comp=N,148µm,1.1s							
PTCC					AML	AML		
	comp=N,148µm,0.9s							
VINO	**Villanova**	**1.55**	**115**	P	**Pb**		**00 11 58.3**	**+0.4**
VINO					AML	AML		
	comp=E,166µm,1.0s							
VINO					AML	AML		
	comp=N,172µm,0.8s							
MDI	**Monti di Nese**	**1.58**	**223**	P	**Pn**		**00 11 58.1**	**+0.9**
MDI					AML	AML		
	comp=E,105µm,0.3s							
MDI					AML	AML		
	comp=N,90µm,1.2s							
MDI					AML	AML		
	comp=N,90µm,0.8s							
TEOL	**Teolo**	**1.60**	**170**	P	**Pn**		**00 11 58.6**	**+1.1**
TEOL					AML	AML		
	comp=N,414µm,0.6s							
TEOL					AML	AML		
	comp=E,656µm,0.3s							
MYKA	**Terra Mystica**	**1.66**	**100**	*e*Pg	**Pb**		**00 12 00.1**	**+0.2**
	comp=E,1.4nm,0.2s							
MYKA				*e*Sg	**Sg**		**00 12 22.4**	**-0.3**
	comp=E,5.2nm,0.1s							
WILA	**Wila**	**1.68**	**288**	*e*Pg	**Pg**		**00 12 02.0**	**+0.6**
ROBS	**Robic**	**1.70**	**113**	*i* Pn	**Pb**		**00 12 01.0**	**+0.6**
ROBS				*e*Sn	**Sg**		**00 12 24.3**	**+0.5**
BIOA	**Bad Ischl, Aus**	**1.79**	**64**	*e*Pg	**Pg**		**00 12 03.2**	**-0.2**
	comp=E,3.3nm,0.1s							
BIOA				*e*Sg	**Sg**		**00 12 28.6**	**+2.0**
	comp=E,64nm,0.4s							
NORI	**Noordlinger Ri**	**1.84**	**347**	*e*Pg	**Pg**		**00 12 04.8**	**+0.4**
NORI				*e*Sg	**Sb**		**00 12 25.9**	**0.0**
GUT	**Gutenstein**	**1.85**	**309**	P	**Pg**		**00 12 03.9**	**-0.7**
GUT	**Gutenstein**	**1.85**	**309**	S	**Sg**		**00 12 29.7**	**+1.2**
FUSIO	**Fusio**	**1.85**	**256**	AML	AML			
	comp=E,69µm,1.3s							
FUSIO					AML	AML		
	comp=E,69µm,0.7s							
FUSIO					AML	AML		
	comp=N,80µm,1.5s							
FUSIO					AML	AML		
	comp=N,80µm,0.5s							
ZUR	**Degenried**	**1.88**	**284**	P	**Pb**		**00 12 04.5**	**+0.9**
ZUR	**Degenried**	**1.88**	**284**	S	**Sg**		**00 12 31.1**	**+1.5**
BNALP	**Bannalp**	**1.95**	**269**	AML	AML			
	comp=N,119µm,0.3s							
BNALP					AML	AML		
	comp=E,44µm,0.5s							
GORS	**Gorjuse**	**1.98**	**107**	*i* Pn	**Pb**		**00 12 06.3**	**+1.0**
GORS				*e*Sn	**Sg**		**00 12 33.7**	**+0.8**
GORS				IAML			00 12 35.4	
	comp=E,14nm,0.3s							
SLE	**Schleitheim**	**2.06**	**295**	P	**Pb**		**00 12 05.7**	**-0.9**
SLE	**Schleitheim**	**2.06**	**295**	S	**Sg**		**00 12 35.6**	**+0.3**
SLE	**Schleitheim**	**2.06**	**295**	*e*Pg	**Pg**		**00 12 08.6**	**-0.1**
SLE				*e*Sg	**Sg**		**00 12 35.5**	**+0.2**
TRI	**Trieste**	**2.12**	**124**	AML	AML			
	comp=N,55µm,0.9s							
TRI					AML	AML		
	comp=E,93µm,0.4s							
TRI					AML	AML		
	comp=N,63µm,1.3s							
TRI					AML	AML		
	comp=N,63µm,0.7s							
SULZ	**Cheisacher**	**2.23**	**287**	P	**Pn**		**00 12 07.6**	**+1.5**
SULZ	**Cheisacher**	**2.23**	**287**	S	**Sg**		**00 12 41.5**	**+0.7**
SULZ	**Cheisacher**	**2.23**	**287**	*e*Sg	**Sg**		**00 12 40.6**	**-0.2**
MOA	**Molln**	**2.24**	**65**	*e*Pg	**Pg**		**00 12 11.6**	**-0.5**
	comp=N,21nm,0.5s							
MOA				*e*Sg	**Sg**		**00 12 41.7**	**+0.7**
	comp=N,18nm,0.2s							
MOA	**Molln**	**2.24**	**65**	*e*Pg	**Pg**		**00 12 10.8**	**-1.3**
OBKA	**Obir**	**2.30**	**99**	*i* Pg	**Pb**		**00 12 11.5**	**+0.7**
	comp=N,1.7nm,0.2s							
OBKA				*e*Sg	**Sg**		**00 12 44.4**	**+1.3**
	comp=N,6.0nm,0.3s							
OBKA	**Obir**	**2.30**	**99**	*e*Sg	**Sg**		**00 12 46.0**	**+2.9**
WET	**Wettzell**	**2.46**	**26**	*e*Pn	**Pn**		**00 12 10.6**	**+1.3**
BALST	**Balsthal**	**2.47**	**281**	P	**Pb**		**00 12 12.1**	**-1.5**
BALST	**Balsthal**	**2.47**	**281**	S	**Sg**		**00 12 48.3**	**-0.1**
BALST	**Balsthal**	**2.47**	**281**	*e*Sg	**Sg**		**00 12 48.0**	**-0.5**
GEC2	**GERESS Array S**	**2.52**	**40**	*e*Pn	**Pn**		**00 12 11.6**	**+1.5**
GEC2				*e*Sg	**Sg**		**00 12 49.7**	**-0.5**
ENDD	**Endenburg**	**2.52**	**289**	P	**Pb**		**00 12 12.6**	**-1.8**
OPP	**Oppenau**	**2.60**	**308**	P	**Pn**		**00 12 13.5**	**+2.3**
SOKA	**Soboth**	**2.60**	**94**	Pg	**Pb**		**00 12 16.7**	**+0.8**
	comp=N,1.5nm,0.2s							
SOKA				Sg	**Sg**		**00 12 52.7**	**-0.1**
	comp=N,2.4nm,0.3s							
KHC	**Kasperske Hory**	**2.69**	**34**	*e*PN	**Pn**		**00 12 13.7**	**+1.2**
KHC				*e*PG	**Pg**		**00 12 19.5**	**-1.3**
KHC				*e*SN	**Sb**		**00 12 47.2**	**-3.2**
KHC				*e*SG	**Sg**		**00 12 55.3**	**-0.3**
	comp=N,13nm,0.3s							
VOGT	**Vogtsburg - To**	**2.69**	**297**	P	**Pb**		**00 12 15.1**	**-2.3**
VOGT	**Vogtsburg - To**	**2.69**	**297**	S	**Sg**		**00 12 57.0**	**+1.4**
BABA	**Baden-Baden-Ne**	**2.73**	**312**	P	**Pn**		**00 12 14.6**	**+1.6**
GRF	**Grafenberg Arr**	**2.76**	**359**	*e*Pn	**Pn**		**00 12 14.1**	**+0.7**
CKRC	**Cesky Krumlov**	**2.79**	**46**	*e*PN	**Pn**		**00 12 14.7**	**+0.9**
CKRC				*e*PG	**Pg**		**00 12 21.1**	**-1.5**
BOURR	**Bourrignon**	**2.79**	**281**	P	**Pn**		**00 12 16.3**	**+2.5**
DIX	**Grande Dixence**	**2.79**	**254**	P	**Pb**		**00 12 17.9**	**-1.4**
ROTZ	**Rotzenmuhle**	**2.90**	**12**	*e*Pn	**Pn**		**00 12 15.5**	**+0.1**
ARSA	**Arzberg**	**2.93**	**82**	Pg	**Pb**		**00 12 23.3**	**+1.8**
	comp=N,0.5nm,0.2s							
MOF	**Molkenrain**	**2.95**	**290**	P	**Pn**		**00 12 18.5**	**+2.4**
AIGLE	**Aigle**	**3.03**	**260**	P	**Pn**		**00 12 19.5**	**+2.4**
ECH	**Echery**	**3.06**	**296**	P	**Pn**		**00 12 19.8**	**+2.3**
CDF	**Champ du Feu**	**3.07**	**300**	*e*P	**Pn**		**00 12 19.5**	**+1.7**
CDF				*e*Sg	**Sg**		**00 13 07.4**	**-0.5**
	comp=N,5.1nm,0.4s							
MANZ	**Manzenberg**	**3.11**	**10**	*e*Pn	**Pn**		**00 12 18.6**	**+0.4**
HINF	**Hinteralfeld**	**3.12**	**288**	*e*P	**Pn**		**00 12 20.5**	**+2.1**
HINF				*e*Sn	**Sn**		**00 12 56.4**	**+0.7**
	comp=N,3.6nm,0.3s							
LEMB	**Lembach**	**3.15**	**313**	P	**Pn**		**00 12 20.4**	**+1.6**
CHMF	**Charmoille**	**3.17**	**277**	P	**Pn**		**00 12 21.7**	**+2.7**
RONF	**Ronchamp**	**3.23**	**286**	P	**Pn**		**00 12 22.4**	**+2.5**
CIEL	**Dossenheim-sur**	**3.24**	**307**	P	**Pn**		**00 12 22.6**	**+2.6**
CONA	**Conrad Observa**	**3.28**	**71**	*i* Pn	**Pn**		**00 12 23.3**	**+2.8**
	comp=N,0.2nm,0.1s							
CONA				*e*Pg	**Pg**		**00 12 31.6**	**-0.3**
	comp=N,1.5nm,0.2s							
CONA				*i* Sn	**Sn**		**00 13 03.1**	**+3.5**
	comp=N,2.3nm,0.2s							
CONA				*e*Sg	**Sg**		**00 13 14.4**	**0.0**
	comp=N,3.6nm,0.2s							
NKC	**Novy Kostel**	**3.39**	**13**	*e*SG	**Sg**		**00 13 17.2**	**-0.9**
	comp=N,15nm,0.4s							
LPG	**La Plagne**	**3.44**	**247**	*e*P	**Pb**		**00 12 27.5**	**-2.9**
LPG				*e*Sn	**Sn**		**00 13 04.0**	**0.0**
	comp=N,1.9nm,0.3s							
RSL	**Roselend**	**3.45**	**250**	P	**Pn**		**00 12 26.9**	**+3.9**
LPL	**La Plagne**	**3.45**	**247**	*e*P	**Pb**		**00 12 27.4**	**-3.0**
LPL				*e*Sn	**Sn**		**00 13 05.0**	**+1.0**
	comp=N,2.1nm,0.3s							
HAU	**Haudompre**	**3.50**	**290**	*e*P	**Pn**		**00 12 25.7**	**+2.1**
HAU				*e*Sn	**Sn**		**00 13 05.4**	**+0.4**
HAU				*e*Sg	**Sg**		**00 13 21.7**	**+0.1**
	comp=N,11nm,0.4s							
RONA	**Rosalia, Austr**	**3.51**	**76**	*i* Pn	**Pn**		**00 12 26.3**	**+2.6**
	comp=N,0.4nm,0.1s							
RONA				*e*Sg	**Sg**		**00 13 21.1**	**-0.7**
	comp=N,4.5nm,0.3s							
CABF	**La Chapelle**	**3.57**	**267**	*e*P	**Pn**		**00 12 27.5**	**+2.9**
CABF				*e*Sn	**Sn**		**00 13 09.2**	**+2.4**
CABF				*e*Sg	**Sg**		**00 13 25.5**	**+1.7**
	comp=N,3.2nm,0.3s							
TREC	**Trest**	**3.69**	**49**	*e*PN	**Pn**		**00 12 28.3**	**+2.2**
TREC				*e*PG	**Pg**		**00 12 37.7**	**-2.1**
TREC				*e*SG	**Sg**		**00 13 26.7**	**-0.8**
	comp=N,8.9nm,0.6s							
PRU	**Pruhonice**	**3.75**	**34**	*e*SG	**Sg**		**00 13 27.6**	**-2.1**
	comp=N,7.6nm,0.3s							
PRA	**Prague**	**3.78**	**33**	*e*SG	**Sg**		**00 13 29.2**	**-1.3**
	comp=N,16nm,0.9s							
GOPC	**GO Pecny, Ondr**	**3.79**	**37**	*e*PN	**Pn**		**00 12 29.0**	**+1.4**
MBDF	**Montbardon**	**3.84**	**237**	*e*P	**Pn**		**00 12 31.7**	**+3.4**
MBDF				*e*Sn	**Sn**		**00 13 15.8**	**+2.3**
	comp=N,3.3nm,0.4s							
KRUC	**Moravsky**	**4.05**	**56**	*e*PN	**Pn**		**00 12 31.9**	**+0.8**
KRUC				*e*			00 12 43.5	
KRUC	**Moravsky**	**4.05**	**56**	*e*SN	**Sn**		**00 13 19.3**	**+0.8**
KRUC				*e*			00 13 38.3	
PAGF	**Fort de Pagny**	**4.07**	**295**	*e*Sg	**Sg**		**00 13 39.2**	**-0.7**
	comp=N,1.4nm,0.2s							
SBF	**Sospel**	**4.09**	**223**	*e*Sn	**Sn**		**00 13 23.4**	**+3.9**
	comp=N,2.1nm,0.3s							
ORIF	**Oris-en-Rattie**	**4.26**	**244**	*e*P	**Pn**		**00 12 38.0**	**+3.9**
ORIF				*e*Sn	**Sn**		**00 13 26.6**	**+2.7**
	comp=N,1.7nm,0.3s							
ORIF	**Oris-en-Rattie**	**4.26**	**244**	P	**Pn**		**00 12 38.8**	**+4.7**
VRAC	**Vranov**	**4.29**	**54**	*e*PN	**Pn**		**00 12 35.2**	**+0.8**
VRAC				*e*SN	**Sn**		**00 13 26.4**	**+2.0**
VRAC				*e*			00 13 45.6	
MODS	**Modra-Piesok**	**4.31**	**68**	*e*PN	**Pn**		**00 12 31.8**	**-2.9**
MODS				*e*SN	**Sn**		**00 13 21.2**	**-3.8**
BRG	**Berggiesshubel**	**4.32**	**23**	*e*P	**Pg**		**00 12 51.0**	**-0.9**
BRG				Amp			00 12 52.8	
	comp=Z,1.3nm,0.3s							
BRG	**Berggiesshubel**	**4.32**	**23**	*e*Sg	**Sg**		**00 13 47.4**	**-0.4**
BRG				Amp			00 13 50.9	
	comp=Z,4.4nm,0.4s							
SFTF	**Sexfontaines**	**4.40**	**289**	*e*Sg	**Sg**		**00 13 51.6**	**+1.2**
	comp=Z,1.8nm,0.2s							
CALF	**Calern**	**4.41**	**225**	P	**Pn**		**00 12 39.5**	**+3.3**
MEZF	**Maizieres J'vi**	**4.48**	**293**	*e*Sg	**Sg**		**00 13 52.0**	**-0.8**
	comp=Z,1.2nm,0.2s							
CLL	**Collm**	**4.52**	**14**	*e*Sn	**Sn**		**00 13 30.0**	**-0.1**
CLL				*e*Sg	**Sg**		**00 13 53.0**	**-1.4**
	comp=Z,8.0nm,0.6s							
PGF	**Pioggiola**	**4.67**	**201**	*e*Sn	**Sn**		**00 13 36.5**	**+2.5**
	comp=Z,2.9nm,0.3s							
KRLC	**Kraliky**	**4.83**	**47**	*e*SG	**Sg**		**00 14 03.4**	**-0.8**
SRO	**Srobarova**	**4.87**	**77**	*e*SN	**Sn**		**00 13 36.3**	**-2.4**
LMR	**La Mourre**	**4.93**	**225**	*e*Sn	**Sn**		**00 13 44.0**	**+3.9**
	comp=Z,0.3nm,0.3s							
SMRF	**Simiane la Rot**	**4.97**	**236**	*e*Sn	**Sn**		**00 13 43.0**	**+1.6**
	comp=Z,1.3nm,0.4s							
VIVF	**Saint-Julien-l**	**5.05**	**248**	*e*P	**Pn**		**00 12 46.6**	**+1.8**
VIVF				*e*Sn	**Sn**		**00 13 38.8**	**-4.4**
	comp=Z,0.9nm,0.3s							
MORC	**Moravsky Berou**	**5.06**	**54**	*e*PN	**Pn**		**00 12 45.7**	**+0.7**
MORC				*e*SN	**Sn**		**00 13 43.6**	**+0.1**
LOR	**Lormes**	**5.07**	**276**	*e*Sg	**Sg**		**00 14 10.5**	**-1.3**
	comp=Z,1.1nm,0.3s							
SMF	**Signal de Mont**	**5.11**	**269**	*e*P	**Pn**		**00 12 47.5**	**+1.9**
SMF				*e*Sn	**Sn**		**00 13 45.1**	**+0.6**
	comp=Z,1.0nm,0.3s							
SSF	**Saint Saulge**	**5.31**	**274**	*e*Sn	**Sn**		**00 13 49.1**	**-0.4**
	comp=Z,2.3nm,0.5s							
VYHS	**Vyhne**	**5.34**	**70**	*e*PN	**Pn**		**00 12 49.9**	**+1.0**
VYHS				*e*SN	**Sn**		**00 13 45.1**	**-5.3**
AVF	**Avril sur Loir**	**5.43**	**271**	*e*P	**Pn**		**00 12 51.8**	**+1.8**
AVF				*e*Sn	**Sn**		**00 13 52.8**	**+0.4**
	comp=Z,0.7nm,0.3s							
BGF	**Bois d'Agland**	**5.80**	**269**	*e*P	**Pn**		**00 12 56.8**	**+1.7**
BGF				*e*Sn	**Sn**		**00 14 01.7**	**+0.1**
	comp=Z,3.2nm,0.3s							
HYF	**Humbligny**	**5.90**	**276**	*e*Sn	**Sn**		**00 14 04.2**	**+0.2**
	comp=Z,4.4nm,0.2s							
TCF	**Toulx Ste Croi**	**6.27**	**267**	*e*P	**Pn**		**00 13 03.9**	**+2.3**
TCF				*e*Sn	**Sn**		**00 14 13.0**	**-0.3**
	comp=Z,1.1nm,0.2s							
CAF	**Calviac**	**6.72**	**256**	*e*P	**Pn**		**00 13 10.4**	**+2.6**
SGMF	**Saint Gilles**	**9.43**	**283**	*e*Sn	**Sn**		**00 15 27.4**	**-3.5**
	comp=Z,1.0nm,0.1s							

*IDC **30** 00:16:55.6±2.2, 37.°47N×141.°74E, h0km, mb3.5/5, mbtmp3.4/6, ML2.2/1, Error ellipse: s-maj=43.3km s-min=31.9km az=76.0*
*JMA **30** 00:17:06.3±0.1, 37.°3N±0.°2×141.°2E±0.°5, h62km, MV3.4/37, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 30 00:17:05.1±1.4, **37.°30N**±0.°07×**141.°3E**±0.°1, **h61**km±8km, **n18**, σ1°**10**/**23**, **mb3.6**/5, **1D**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.35**	**281**	P	**Pn**	**00 17 16.2**	**+0.4**
JFK				S	**Sn**	**00 17 23.2**	**-0.2**
ONAJ	**Iwakimizuishiy**	**0.45**	**245**	P	**Pn**	**00 17 17.1**	**+0.4**
ONAJ				S	**Sn**	**00 17 24.9**	**-0.1**
JMST	**Minamisoumatoc**	**0.54**	**322**	P	**Pn**	**00 17 18.2**	**+0.6**
JMST				eS	**Sn**	**00 17 26.6**	**0.0**
JFFD	**Fukushimafurud**	**0.63**	**251**	P	**Pn**	**00 17 18.8**	**+0.2**
JFFD				S	**Sn**	**00 17 28.0**	**-0.4**
JMM	**Marumori**	**0.70**	**324**	P	**Pn**	**00 17 20.0**	**+0.6**
JMM				S	**Sn**	**00 17 30.2**	**+0.4**
JOTO	**OTAMA OYAMA**	**0.82**	**289**	*i* P	**Pn**	**00 17 21.2**	**+0.3**
JOTO				S	**Sn**	**00 17 31.7**	**-0.7**
JIO	**Ouri**	**1.16**	**1**	S	**Sn**	**00 17 41.1**	**+1.0**
JOU	**Okura**	**1.18**	**335**	⇓P	**Pn**	**00 17 26.1**	**+0.5**
JFY	**Yanaizu**	**1.28**	**275**	P	**Pn**	**00 17 26.8**	**-0.1**
JFY				S	**Sn**	**00 17 42.1**	**-1.1**
MJAR	**Matsushiro Arr**	**2.60**	**254**	Pn	**Pn**	**00 17 45.2**	**+0.5**
	0.3nm,0.3s,baz=82,slow=16,SNR=6.1						
MJAR				Sn	**Sn**	**00 18 19.1**	**+4.1**
	0.6nm,0.3s,baz=51,slow=29,SNR=5.3 1.6nm,0.3s						
SONM	**Songino Array**	**27.57**	**304**	P	**P**	**00 22 45.9**	**-0.5**
	0.3nm,0.5s,baz=101,slow=7.7,SNR=3.8 0.3nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.35**	**121**	T	T	00 53 11.8	
	baz=314,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**28.36**	**121**	T	T	00 53 12.2	
	baz=314,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**28.37**	**121**	T	T	00 53 13.2	
	baz=314,slow=75,SNR=16						
ZALV	**Zalesovo Beam**	**41.68**	**312**	P	**P**	**00 24 47.5**	**+0.1**
	0.5nm,0.4s,baz=74,slow=13,SNR=1.7 0.5nm,0.4s						
MKAR	**Makanchi Array**	**43.91**	**302**	P	**P**	**00 25 05.0**	**-0.7**
	0.2nm,0.7s,baz=99,slow=9.1,SNR=2.9 0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**45.77**	**308**	P	**P**	**00 25 19.5**	**-0.9**
	0.4nm,0.4s,baz=81,slow=7.8,SNR=7.8 0.4nm,0.4s						
WRA	**Warramunga Arr**	**57.31**	**188**	P	**P**	**00 26 46.5**	**-0.2**
	0.6nm,1.1s,baz=2.4,slow=7.2,SNR=2.2 0.6nm,1.1s						

*NEIC **30** 00:30:03.8±2.1, 5.°79S±0.°09×151.°7E±0.°2, h10km±2km, mb4.2/10, Error ellipse: s-maj=28.7km s-min=5.6km az=118.0*
*IDC **30** 00:30:13.2±5.8, 5.°67S×151.°40E, h94km±48km, mb3.5/6, mbtmp3.9/7, Error ellipse: s-maj=50.9km s-min=26.6km az=99.0*
ISC 30 00:30:08.3±0.9, **5.°65S**±0.°09×**151.°7E**±0.°1, **h57**km, **n22**, σ0°**96**/**24**, **mb4.0**/12, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.53**	**18**	Pn	**Pn**	**00 30 33.0**	**-0.4**
RABL				Sn	**Sn**	**00 30 53.3**	**+1.1**
MANU	**Manus Island**	**5.60**	**310**	Pn	**Pn**	**00 31 29.3**	**+0.2**
PMG	**Port Moresby**	**5.83**	**230**	Pn	**Pn**	**00 31 31.3**	**-0.9**
PMG	**Port Moresby**	**5.83**	**230**	P	**Pn**	**00 31 33.1**	**+0.9**
	25nm,0.8s,baz=33,slow=13,SNR=8.8						
PMG				S	**Sn**	**00 32 38.6**	**+0.7**
	8.7nm,0.3s,baz=179,slow=19,SNR=1.8						
COEN	**Coen**	**11.76**	**225**	Pn	**Pn**	**00 32 51.6**	**-1.8**
WB0	**Warramunga Arr**	**21.90**	**229**	P	**P**	**00 34 56.4**	**-0.5**
WB0				IAmb	IAmb	00 34 59.5	
	comp=Z,4.4nm,0.7s						
WR0	**Warramunga Arr**	**21.91**	**228**	P	**P**	**00 34 57.9**	**+0.9**
WR0				IAmb	IAmb	00 34 59.5	
	comp=Z,4.5nm,0.7s						
WRAB	**Tennant Creek**	**22.03**	**228**	P	**P**	**00 34 59.2**	**+0.9**
WRAB				IAmb	IAmb	00 35 00.7	
	comp=Z,7.9nm,0.7s						
WB2	**Warramunga Arr**	**22.04**	**228**	P	**P**	**00 34 58.5**	**+0.1**
WB2				IAmb	IAmb	00 35 00.8	
	comp=Z,8.9nm,0.6s						
WRA	**Warramunga Arr**	**22.05**	**228**	P	**P**	**00 34 57.0**	**-1.5**
WRA	**Warramunga Arr**	**22.05**	**228**	P	**P**	**00 34 57.5**	**-1.0**
	comp=Z,6.9nm,0.6s,baz=52,slow=10.0,SNR=72 comp=Z,6.9nm,0.6s						
KNRA	**Kununurra**	**24.60**	**244**	P	**P**	**00 35 23.1**	**-0.3**
KNRA				IAmb	IAmb	00 35 29.1	
	comp=Z,20nm,1.2s						
AS31	**Alice Springs**	**24.77**	**222**	P	**P**	**00 35 25.2**	**+0.2**
ASAR	**Alice Springs**	**24.77**	**222**	P	**P**	**00 35 25.4**	**+0.4**
ASAR	**Alice Springs**	**24.77**	**222**	P	**P**	**00 35 25.1**	**+0.1**
	comp=Z,4.2nm,0.6s,baz=59,slow=8.6,SNR=74 comp=Z,4.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**28.27**	**242**	P	**P**	**00 35 56.0**	**-0.6**
FITZ				IAmb	IAmb	00 36 00.8	
	comp=Z,1.1nm,0.6s						
TOLI2	**Tolitoli**	**31.58**	**281**	P	**P**	**00 36 26.3**	**+0.5**
FORT	**Forrest**	**33.43**	**219**	P	**P**	**00 36 40.4**	**-1.4**
SONM	**Songino Array**	**66.45**	**329**	P	**P**	**00 40 51.0**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=134,slow=6.2,SNR=2.5 comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**80.23**	**319**	P	**P**	**00 42 14.4**	**+1.5**
	comp=Z,0.1nm,0.4s,baz=127,slow=7.1,SNR=2.5 comp=Z,0.1nm,0.4s						
ILAR	**Eielson Array**	**83.36**	**22**	P	**P**	**00 42 30.2**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=247,slow=4.6,SNR=5.7 comp=Z,0.2nm,0.5s						
QSPA	**South Pole Qui**	**84.31**	**180**	P	**P**	**00 42 34.5**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=27,slow=9.0,SNR=7.2 comp=Z,0.9nm,0.7s						

*SJA **30** 00:38:15.0±0.6, 23.°71S×66.°75W, h225km±4km, ML3.7, MW3.7*
*GUC **30** 00:38:17.6±0.6, 23.°70S×67.°11W, h240km±12km, ML4.1*
*VAO **30** 00:38:17.7±0.5, 23.°40S×66.°73W, h214km±11km, mb3.6*
ISC 30 00:38:15.4±0.8, **23.°70S**±0.°04×**66.°82W**±0.°05, **h223**km±9km, **n43**, σ1°**26**/**76**, **8C**, **Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.57**	**131**	*e*P	**Pn**	**00 38 52.2**	**+0.3**
SLA				*e*S	**S**	**00 39 18.9**	**-1.5**
YJA	**Yavi**	**1.94**	**39**	*e*P	**Pn**	**00 38 55.8**	**+0.2**
YJA				*e*S	**S**	**00 39 25.9**	**-0.9**
LVC

PB02	**IPOC Station P**	**3.71 309**	*eP*	**Pn**	**00 39 15.0**	**+0.3**
PB02			*i* S	**S**	**00 39 58.5**	**-2.6**
AC02	**Maricunga**	**3.76 213**	*eP*	**Pn**	**00 39 16.6**	**+1.0**
AC02			*eS*	**S**	**00 40 06.5**	**+3.7**
PB08	**IPOC Station P**	**4.16 328**	*eP*	**Pn**	**00 39 21.9**	**+1.5**
PB08			*eS*	**S**	**00 40 11.2**	**-0.2**
PB08			IAML		00 40 12.8	
	comp=Z,39nm,0.6s					
PB08	**IPOC Station P**	**4.16 328**	*eP*	**Pn**	**00 39 21.8**	**+1.5**
PB08			*i* S	**S**	**00 40 10.8**	**-0.6**
PX03	**IPOC Station P**	**4.20 321**	*eP*	**Pn**	**00 39 20.5**	**-0.1**
PX03			*i* S	**S**	**00 40 09.5**	**-2.4**
AC01	**Pan de Azucar**	**4.21 234**	*eP*	**Pn**	**00 39 20.4**	**-0.2**
AC01			*eS*	**S**	**00 40 09.9**	**-2.1**
AC01			IAML		00 40 10.3	
	comp=Z,56nm,0.3s					
TA01	**Diego Aracena**	**4.41 314**	*eP*	**Pn**	**00 39 23.9**	**+0.8**
TA01			*eS*	**S**	**00 40 15.2**	**-1.2**
TA01			IAML		00 40 15.9	
	comp=Z,36nm,0.5s					
GO01	**Chusmiza**	**4.58 331**	*eP*	**Pn**	**00 39 26.7**	**+1.0**
GO01			*eS*	**S**	**00 40 21.3**	**+0.2**
PB11	**IPOC Station P**	**4.73 326**	*eP*	**Pn**	**00 39 27.0**	**-0.2**
PB11			*eS*	**S**	**00 40 22.1**	**-1.7**
PB11			IAML		00 40 22.9	
	comp=Z,49nm,0.5s					
GO03	**Copiap**	**4.95 218**	*eP*	**Pn**	**00 39 30.0**	**+0.1**
GO03			*eS*	**S**	**00 40 26.1**	**-2.6**
BBSD	**Serra de San D**	**8.71 43**	*eP*	**Pn**	**00 40 16.6**	**-1.2**
MURT	**Porto Murtinho**	**8.74 78**	*eP*	**Pn**	**00 40 18.5**	**+0.4**
CRSM	**Crissiumal (Br**	**12.13 111**	*eP*	**P**	**00 41 04.8**	**-0.1**
RODS	**Rosario do Sul**	**12.29 125**	*eP*	**P**	**00 41 07.5**	**+0.9**
ALGR	**Alto Alegre (B**	**13.37 115**	*eP*	**P**	**00 41 19.6**	**+0.8**
ARAG	**Araguaiana, MT**	**16.20 63**	*eP*	**Pn**	**00 41 51.5**	**+0.3**
VAO	**Valinhos**	**18.24 92**	*eP*	**Pn**	**00 42 13.9**	**-1.3**
IPMB	**Ipameri, GO**	**18.29 75**	*eP*	**P**	**00 42 14.1**	**+1.1**
SNDB	**Serra Nova Dou**	**18.80 54**	*eP*	**P**	**00 42 18.8**	**+0.3**

*IDC **30** 00:39:16.8±3.0,3.°91N×76.°78W,h147km±23km,mb3.2/5, mbtmp3.8/7,Error ellipse: s-maj=36.0km s-min=24.7km az=24.0*

ISC 30 00:39:17.3±1.1,4.°0N±0.°2×76.°7W±0.°1,h150km,n9, σ1§36/11,mb3.2/5,Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.55**	**70**	P	**Pn**	**00 39 57.9**	**-1.5**
	116nm,0.4s,baz=347,slow=4.7,SNR=62						
ROSC				S	**Sn**	**00 40 34.1**	**+2.5**
	73nm,0.4s,baz=320,slow=20,SNR=13						
SDV	**Santo Domingo**	**7.78**	**51**	P	**Pn**	**00 41 06.9**	**-1.0**
	6.4nm,0.3s,baz=225,slow=10.0,SNR=20						
SDV				S	**Sn**	**00 42 34.0**	**-0.8**
	2.3nm,0.5s,baz=227,slow=21,SNR=1.7						
NVAR	**Mina Array Bea**	**51.06**	**318**	P	**P**	**00 48 05.6**	**+1.0**
	0.4nm,0.8s,baz=145,slow=6.5,SNR=2.9						
	0.4nm,0.8s						
YKA	**Yellowknife Ar**	**64.76**	**342**	P	**P**	**00 49 39.1**	**-0.2**
	0.3nm,0.5s,baz=134,slow=6.4,SNR=9.8						
	0.3nm,0.5s						
DBIC	**Dimbokro**	**71.55**	**84**	P	**P**	**00 50 23.4**	**+0.7**
	2.6nm,0.7s,baz=263,slow=9.5,SNR=4.4						
	2.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**77.84**	**77**	P	**P**	**00 50 59.1**	**+0.3**
	0.3nm,0.5s,baz=284,slow=5.4,SNR=4.7						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**78.05**	**336**	P	**P**	**00 50 59.5**	**+0.5**
	0.2nm,0.6s,baz=108,slow=5.0,SNR=2.4						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**144.54**	**234**	PKP	**PKPab**	**00 58 34.0**	**-1.6**
	0.7nm,0.6s,baz=115,slow=3.7,SNR=15						
WRA	**Warramunga Arr**	**145.82**	**240**	PKPbc	**PKPdf**	**00 58 38.7**	**-0.4**
	0.7nm,0.6s,baz=112,slow=2.9,SNR=11						

IDC 30 00:42:56.3±3.9,5.°33S×151.°81E,h0km,mb3.4/2, mbtmp3.5/2,Error ellipse: s-maj=140.9km s-min=52.8km az=118.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.36**	**228**	P	P	00 47 56.0	-0.1
	0.9nm,0.5s,baz=52,slow=9.9,SNR=16						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**25.10**	**222**	P	P	00 48 23.0	+0.1
	0.7nm,0.7s,baz=57,slow=8.8,SNR=13						
	0.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**149.52**	**287**	PKPbc	PKPbc	01 02 48.3	-0.5
	0.4nm,0.8s,baz=90,slow=2.9,SNR=2.0						

*IDC **30** 00:43:11.4±10.0,23.°72S×179.°76W,h434km±97km, mb3.3/3,mbtmp4.2/4,Error ellipse: s-maj=75.2km s-min=25.6km az=43.0*
*NEIC **30** 00:43:18±1.2,24.°2S±0.°2×180.°0E±0.°3,h484km±20km, mb4.1/22,Error ellipse: s-maj=37.4km s-min=23.7km az=60.0*

ISC 30 00:43:17.7±1.4,24.°1S±0.°1×180.°0W±0.°2,h500km,n34, σ1§12/35,mb4.0/11,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.33**	**189**	P	**P**	**00 46 21.3**	**+0.6**
	7.3nm,0.4s,baz=193,slow=1.4,SNR=12						
URZ				S	**S**	**00 48 51.0**	**-0.6**
	2.5nm,0.6s,baz=286,slow=22,SNR=2.0						
HIZ	**Hauiti**	**15.03**	**196**	P	**P**	**00 46 26.9**	**-1.1**
BKZ	**Black Stump Fm**	**15.32**	**191**	P	**P**	**00 46 31.7**	**+0.6**
BKZ				IAmb	IAmb	00 46 38.4	
	comp=Z,4.6nm,0.6s						
BFZ	**Birch Farm**	**16.84**	**190**	P	**P**	**00 46 46.2**	**-0.7**
MRZ	**Mangatainoka R**	**16.93**	**192**	P	**P**	**00 46 45.3**	**-2.5**
TCW	**Tory Channel**	**17.73**	**194**	P	**P**	**00 46 55.8**	**+0.4**
SNZO	**South Karori**	**17.73**	**193**	P	**P**	**00 46 55.9**	**+0.5**
TUWZ	**Tuamarina**	**18.02**	**195**	P	**P**	**00 46 58.3**	**+0.3**
THZ	**Tophouse**	**18.59**	**197**	P	**P**	**00 47 03.6**	**+0.3**
THZ				IAmb	IAmb	00 47 07.0	
	comp=Z,9.6nm,1.2s						
KHZ	**Kahutara**	**19.05**	**195**	P	**P**	**00 47 08.2**	**+0.8**
LTZ	**Lake Taylor**	**19.71**	**197**	P	**P**	**00 47 14.1**	**+0.5**
LTZ				IAmb	IAmb	00 47 16.1	
	comp=Z,4.5nm,0.6s						
INZ	**Inchbonnie**	**19.89**	**199**	P	**P**	**00 47 16.4**	**+1.3**
INZ				IAmb	IAmb	00 47 23.3	
	comp=Z,5.6nm,0.9s						
FOZ	**Fox Glacier**	**21.13**	**201**	P	**P**	**00 47 27.9**	**+1.5**
WHZ	**Wether Hill Ro**	**23.84**	**201**	P	**P**	**00 47 48.2**	**-2.5**
WHZ				IAmb	IAmb	00 47 59.4	
	comp=Z,11nm,1.1s						
ARMA	**Armidale**	**25.99**	**250**	P	**P**	**00 48 10.3**	**+0.2**
ARMA				IAmb	IAmb	00 48 28.4	
	comp=Z,6.5nm,1.1s						
CTAO	**Charters Tower**	**31.52**	**271**	P	**P**	**00 48 59.5**	**+1.2**
CTAO				IAmb	IAmb	00 49 09.1	
	comp=Z,6.4nm,1.1s						
COEN	**Coen**	**36.19**	**279**	P	**P**	**00 49 38.1**	**+0.4**
BBOO	**Buckleboo**	**39.41**	**247**	P	**P**	**00 50 03.7**	**-0.1**
BBOO				IAmb	IAmb	00 50 16.8	
	comp=Z,6.9nm,1.1s						
AS31	**Alice Springs**	**42.04**	**261**	P	**P**	**00 50 25.2**	**0.0**
ASAR	**Alice Springs**	**42.05**	**261**	P	**P**	**00 50 25.1**	**-0.1**
ASAR	**Alice Springs**	**42.05**	**261**	P	**P**	**00 50 25.1**	**0.0**
	comp=Z,1.1nm,0.5s,baz=96,slow=7.2,SNR=24						
	comp=Z,1.1nm,0.5s						
WB2	**Warramunga Arr**	**42.42**	**266**	P	**P**	**00 50 27.8**	**-0.3**
WB2				IAmb	IAmb	00 50 28.6	
	comp=Z,3.0nm,0.7s						
WB0	**Warramunga Arr**	**42.43**	**267**	P	**P**	**00 50 27.8**	**-0.4**
WB0				IAmb	IAmb	00 50 28.6	
	comp=Z,4.5nm,0.8s						
WRA	**Warramunga Arr**	**42.44**	**266**	P	**P**	**00 50 28.2**	**0.0**
WRA	**Warramunga Arr**	**42.44**	**266**	P	**P**	**00 50 27.7**	**-0.5**
	comp=Z,2.9nm,0.6s,baz=97,slow=8.3,SNR=78						
	comp=Z,2.9nm,0.6s						
FORT	**Forrest**	**46.28**	**250**	P	**P**	**00 50 57.3**	**-0.5**
KNRA	**Kununurra**	**48.73**	**270**	P	**P**	**00 51 16.5**	**+0.1**
KNRA				IAmb	IAmb	00 51 18.7	
	comp=Z,3.4nm,0.5s						
FAKI	**Fak Fak**	**50.68**	**287**	P	**P**	**00 51 30.4**	**-0.5**
FAKI				IAmb	IAmb	00 51 42.7	
	comp=Z,7.4nm,1.1s						
FITZ	**Fitzroy Crossi**	**50.86**	**266**	P	**P**	**00 51 31.6**	**-0.5**
QSPA	**South Pole Qui**	**65.98**	**180**	P	**P**	**00 53 15.4**	**+1.6**

QSPA	**South Pole Qui**	**65.98**	**180**	P	**P**	**00 53 15.4**	**+1.6**
	comp=Z,1.2nm,0.7s,baz=44,slow=8.6,SNR=6.2						
	comp=Z,1.2nm,0.7s						
HFS	**Hagfors**	**142.75**	**349**	PKP	**PKPdf**	**01 01 50.1**	**-3.1**
	comp=Z,1.7nm,0.4s,baz=48,slow=2.2,SNR=14						
AKASG	**Malin Array Be**	**145.16**	**327**	PKP	**PKPdf**	**01 01 57.8**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=37,slow=3.7,SNR=5.1						
MMAI	**Mount Meron Ar**	**147.82**	**294**	PKPbc	**PKPbc**	**01 02 07.7**	**+1.3**
	comp=Z,3.9nm,0.6s,baz=64,slow=6.6,SNR=5.2						

*TEH **30** 00:54:45.6,37.°29N×57.°14E,h10km±58km,ML2.8*
*IDC **30** 00:54:45.2±3.0,37.°26N×57.°13E,h0km,mb3.2/3, mbtmp3.4/4,ML2.9/1,Error ellipse: s-maj=23.6km s-min=21.2km az=32.0*

ISC 30 00:54:45.6±1.1,37.°28N±0.°06×57.°15E±0.°04,h10km,n15, σ0§83/13,Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ISFR	**Sfrayin**	**0.72**	**108**	Pg	**Pg**	**00 54 59.1**	**-0.4**
MRVT	**Maraveh tapeh**	**0.92**	**294**	Pg	**Pg**	**00 55 02.9**	**-0.3**
SBZV	**Sabzevar**	**0.97**	**157**	Pg	**Pg**	**00 55 03.6**	**-0.6**
GEYT	**Alibeck**	**1.00**	**50**	Pg	**Pg**	**00 55 04.4**	**-0.5**
	23nm,0.3s,baz=230,slow=17,SNR=173						
GEYT				Lg	Lg	00 55 19.7	
	31nm,0.3s,baz=16,slow=17,SNR=8.0						
IEMG	**Emamgholi**	**1.21**	**83**	Pg	**Pb**	**00 55 08.5**	**-0.2**
IMND	**Minoodasht**	**1.39**	**269**	Pg	**Pg**	**00 55 12.0**	**-0.2**
IAKL	**Akhelmad**	**1.46**	**117**	Pg	**Pg**	**00 55 14.1**	**+0.5**
IPAY	**Payeh**	**1.70**	**119**	Pg	**Pb**	**00 55 17.4**	**+0.4**
IKRD	**Kardeh**	**1.96**	**104**	Pn	**Pb**	**00 55 21.4**	**-0.2**
IMOG	**Moghan**	**2.12**	**123**	Pn	**Pb**	**00 55 24.6**	**+0.4**
IMYA	**Miami**	**2.55**	**111**	Pn	**Pb**	**00 55 29.6**	**-1.9**
BVAR	**Borovoye Array**	**18.25**	**26**	P	**P**	**00 58 59.8**	**+0.8**
	baz=201,slow=11,SNR=4.2						
	1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**20.27**	**42**	P	Pn	00 59 23.5	+0.4
	0.3nm,0.2s,baz=243,slow=12,SNR=2.2						
	0.3nm,0.2s						
MKAR	**Makanchi Array**	**20.88**	**55**	P	Pn	00 59 29.4	-0.9
	0.4nm,0.6s,baz=242,slow=11,SNR=5.9						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**25.30**	**40**	P	**P**	**01 00 13.1**	**+1.0**
	0.4nm,0.4s,baz=255,slow=11,SNR=1.5						
	0.4nm,0.4s						

*NEIC **30** 00:55:10.8±1.9,5.°61S±0.°05×151.°96E±0.°08,h10km±1km, mb4.6/19,Error ellipse: s-maj=13.7km s-min=8.1km az=109.0*
*IDC **30** 00:55:12.2±2.8,5.°35S×151.°75E,h34km±20km,mb4.1/13, mbtmp4.4/14,ML2.7/1,MS3.8/1,Error ellipse: s-maj=21.5km s-min=16.8km az=107.0*

ISC 30 00:55:13.6±0.5,5.°56S±0.°05×151.°91E±0.°07,h45km,n44, σ1§17/48,mb4.4/22,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.39**	**11**		**Pn**	**00 55 37.2**	**+0.7**
RABL				Sn	**Sn**	**00 55 55.8**	**+2.0**
MANU	**Manus Island**	**5.72**	**307**		**Pn**	**00 56 38.2**	**+2.1**
PMG	**Port Moresby**	**6.06**	**231**		**Pn**	**00 56 42.0**	**+1.2**
PMG				Sn	**Sn**	**00 57 49.2**	**+0.3**
PMG	**Port Moresby**	**6.06**	**231**	Pn	**Pn**	**00 56 41.0**	**+0.3**
	13nm,0.3s,baz=38,slow=6.4,SNR=35						
PMG				Sn	**Sn**	**00 57 49.8**	**+1.0**
	20nm,0.3s,baz=308,slow=22,SNR=9.8						
	71nm,0.4s						
HNR	**Honiara**	**8.85**	**116**	Pn	**Pn**	**00 57 18.4**	**-0.5**
HNR	**Honiara**	**8.85**	**116**	Pn	**Pn**	**00 57 18.8**	**-0.1**
	88nm,0.3s,baz=308,slow=3.9,SNR=1.7						
COEN	**Coen**	**11.98**	**225**	Pn	**Pn**	**00 58 01.5**	**-0.4**
CTAO	**Charters Tower**	**15.45**	**200**	P	**P**	**00 58 52.6**	**+0.2**
EIDS	**Eidsvold**	**19.71**	**182**	P	**Pn**	**00 59 41.6**	**+0.5**
GUMO	**Guam**	**20.27**	**340**	LR	LR	01 07 52.1	
	comp=Z,271nm,19.6s,baz=122,slow=38						
DZM	**Mont Dzumac**	**21.61**	**141**	P	**P**	**00 59 58.3**	**-1.8**
DZM				IAmb	IAmb	01 00 06.5	
	comp=Z,10nm,0.9s						
DZM	**Mont Dzumac**	**21.61**	**141**	P	**P**	**01 00 02.0**	**+2.0**
	comp=Z,7.7nm,0.6s,baz=321,slow=3.4,SNR=8.1						
	comp=Z,7.7nm,0.6s						
WB0	**Warramunga Arr**	**22.13**	**229**	P	**P**	**01 00 05.0**	**-0.5**
WB0				IAmb	IAmb	01 00 08.1	
	comp=Z,18nm,0.7s						
WR0	**Warramunga Arr**	**22.14**	**228**	P	**P**	**01 00 06.1**	**+0.5**
WR0				IAmb	IAmb	01 00 08.2	
	comp=Z,21nm,0.7s						
WRAB	**Tennant Creek**	**22.26**	**229**	P	**P**	**01 00 07.2**	**+0.3**
WB2	**Warramunga Arr**	**22.27**	**228**	P	**P**	**01 00 06.5**	**-0.5**
WRA	**Warramunga Arr**	**22.27**	**229**	P	**P**	**01 00 07.2**	**+0.1**
WRA	**Warramunga Arr**	**22.27**	**229**	P	**P**	**01 00 06.1**	**-1.0**
	comp=Z,23nm,0.7s,baz=52,slow=9.9,SNR=97						
WRA				ScP	**ScP**	**01 07 36.4**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=46,slow=2.6,SNR=2.7						
	comp=Z,23nm,0.7s						
ARMA	**Armidale**	**24.73**	**181**	P	**P**	**01 00 30.6**	**-0.4**
ARMA				IAmb	IAmb	01 00 34.9	
	comp=Z,7.4nm,1.1s						
KNRA	**Kununurra**	**24.84**	**244**		**P**	**01 00 31.4**	**-0.6**
AS31	**Alice Springs**	**24.99**	**222**	P	**P**	**01 00 34.0**	**+0.7**
AS31				IAmb	IAmb	01 00 36.3	
	comp=Z,8.5nm,0.7s						
ASAR	**Alice Springs**	**24.99**	**222**	P	**P**	**01 00 33.9**	**+0.6**
ASAR	**Alice Springs**	**24.99**	**222**	P	**P**	**01 00 33.7**	**+0.3**
	comp=Z,25nm,0.7s,baz=58,slow=8.6,SNR=220						
ASAR				ScP	**ScP**	**01 07 44.0**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=54,slow=4.7,SNR=2.4						
	comp=Z,25nm,0.7s						
SOEI	**Soe**	**27.70**	**260**	P	**P**	**01 00 59.5**	**+1.5**
SOEI				IAmb	IAmb	01 01 18.9	
	comp=Z,16nm,1.1s						
STKA	**Stephens Creek**	**27.90**	**199**	P	**P**	**01 01 00.3**	**+0.9**
STKA	**Stephens Creek**	**27.90**	**199**	P	**P**	**01 01 2.2**	**+1.7**
	comp=Z,1.8nm,0.5s,baz=5.5,slow=11,SNR=5.5						
	comp=Z,1.8nm,0.5s						
FITZ	**Fitzroy Crossi**	**28.51**	**242**	P	**P**	**01 01 04.2**	**-0.9**
FITZ				IAmb	IAmb	01 01 07.9	
	comp=Z,3.6nm,0.7s						
BBOO	**Buckleboo**	**30.88**	**207**	P	**P**	**01 01 25.4**	**-0.4**
BBOO				IAmb	IAmb	01 01 43.4	
	comp=Z,6.2nm,1.1s						
FORT	**Forrest**	**33.64**	**219**	P	**P**	**01 01 49.7**	**-0.4**
MBWA	**Marble Bar**	**34.82**	**241**	P	**P**	**01 01 59.3**	**-1.2**
MBWA				IAmb	IAmb	01 02 05.1	
	comp=Z,12nm,1.1s						
TUWZ	**Tuamarina**	**40.77**	**154**	P	**P**	**01 02 51.5**	**+1.1**
SONM	**Songino Array**	**66.50**	**328**	P	**P**	**01 05 57.4**	**-1.4**
	comp=Z,0.8nm,0.5s,baz=147,slow=4.3,SNR=9.1						
	comp=Z,0.8nm,0.5s						
MKAR	**Makanchi Array**	**80.32**	**319**	P	**P**	**01 07 18.2**	**-1.9**
	comp=Z,0.6nm,0.8s,baz=101,slow=6.4,SNR=5.7						
	comp=Z,0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**81.29**	**327**	P	**P**	**01 07 22.6**	**-2.4**
	comp=Z,0.8nm,0.4s,baz=95,slow=8.7,SNR=5.2						
	comp=Z,0.8nm,0.4s						
ILAR	**Eielson Array**	**83.20**	**22**	P	**P**	**01 07 33.2**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=259,slow=4.8,SNR=7.9						
	comp=Z,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**83.85**	**322**	P	**P**	**01 07 36.6**	**-1.8**
	comp=Z,1.0nm,0.2s,baz=112,slow=4.0,SNR=2.7						
	comp=Z,1.0nm,0.2s						
QSPA	**South Pole Qui**	**84.40**	**180**	P	**P**	**01 07 42.1**	**+0.9**
	comp=Z,2.3nm,0.8s,baz=1.0,slow=3.4,SNR=6.3						
	comp=Z,2.3nm,0.8s						
BVAR	**Borovoye Array**	**89.32**	**323**	P	**P**	**01 08 04.8**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=111,slow=7.9,SNR=2.6						
	comp=Z,0.5nm,0.5s						
J05D	**Fort Rock, OR**	**91.49**	**47**	P	**P**	**01 08 17.2**	**+1.5**
J05D				IAmb	IAmb	01 08 18.8	
	comp=Z,4.1nm,0.8s						
K05A	**Summer Lake**	**91.68**	**47**	P	**P**	**01 08 18.1**	**+1.5**
K05A				IAmb	IAmb	01 08 19.4	
	comp=Z,3.3nm,0.8s						
NVAR	**Mina Array Bea**	**93.25**	**52**	P	**P**	**01 08 25.5**	**+1.5**
	comp=Z,1.5nm,0.6s,baz=255,slow=6.3,SNR=13						
	comp=Z,1.5nm,0.6s						
PDAR	**Pinedale Array**	**100.02**	**48**	P	**Pdif**	**01 08 55.2**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=236,slow=1.6,SNR=6.1						
	comp=Z,0.5nm,0.7s						
GERES	**GERESS Array B**	**124.23**	**328**	PKP	**PKPdf**	**01 14 06.8**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=45,slow=4.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**149.68**	**287**	PKPbc	**PKPbc**	**01 14 57.8**	**-1.7**
	comp=Z,1.5nm,0.6s,baz=79,slow=2.1,SNR=13						

*SSNC **30** 01:09:44.6±0.9,19.°62N×77.°87W,h26km±7km,MD3.3, ML2.9,MW3.4*
*JSN **30** 01:09:46.2±0.5,18.°61N×78.°37W,h15km,MD3.8*

ISC 30 01:09:40.8±1.4,19.°56N±0.°05×77.°85W±0.°06,h10km,n13, σ2§06/22,1C,Cuba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PILO	**Pilon**	**0.54**	**50**	*eP*	**Pb**	**01 09 54.0**	**+1.5**
PILO				*eS*	**Sb**	**01 10 01.4**	**+1.2**
PILO				IAML		01 10 02.8	
	comp=N,2μm,0.4s						
PILO				IAML		01 10 03.4	
	comp=E,2μm,0.5s						
CHIV	**Chivirico**	**1.41**	**73**	*eP*	**Pn**	**01 10 06.4**	**-0.1**
CHIV				*eS*	**Sn**	**01 10 21.9**	**-3.3**
CHIV				IAML		01 10 24.2	
	comp=N,124nm,0.2s						
CHIV				IAML		01 10 24.4	
	comp=E,115nm,0.1s						
STH	**Stony Hill**	**1.78**	**146**	*i* P	**Pn**	**01 10 12.6**	**+1.0**
STH				*i* S	**Sn**	**01 10 31.9**	**-2.4**
GWJ	**Greenwich**	**1.82**	**144**	*iP*	**Pn**	**01 10 13.1**	**+0.7**
HOJ	**Hope**	**1.87**	**146**	*i* P	**Pn**	**01 10 13.3**	**+0.4**
MARVS	**Santiago de Cu**	**1.89**	**76**	*eP*	**Pn**	**01 10 12.3**	**-0.8**
MARVS				*eS*	**Sn**	**01 10 33.3**	**-3.6**
MARVS				IAML		01 10 36.8	
	comp=N,60nm,0.2s						
MARVS				IAML		01 10 36.9	
	comp=E,65nm,0.2s						
RCC	**Rio Carpintero**	**2.07**	**78**	*eP*	**Pn**	**01 10 15.9**	**+0.3**
RCC				*eS*	**Sn**	**01 10 39.0**	**-2.5**
RCC				IAML		01 10 41.2	
	comp=E,22nm,0.3s						
RCC				IAML		01 10 41.4	
	comp=N,27nm,0.1s						
PINC	**Pinares de May**	**2.14**	**64**	*eP*	**Pn**	**01 10 17.8**	**+1.2**
SABCS	**La Quijada**	**2.51**	**71**	*eP*	**Pn**	**01 10 22.2**	**+0.5**
SABCS				*eS*	**Sn**	**01 10 50.4**	**-2.2**
SABCS				IAML		01 11 08.9	
	comp=E,81nm,0.6s						
SABCS				IAML		01 11 15.7	
	comp=N,78nm,1.5s						
GTMO	**Guantanamo**	**2.60**	**78**	*eP*	**Pn**	**01 10 24.7**	**+1.8**
GTBY	**Guantanamo Bay**	**2.60**	**82**	*eP*	**Pn**	**01 10 23.9**	**+0.9**
GTBY				*eS*	**Sn**	**01 10 53.0**	**-1.7**
GTBY				IAML		01 10 55.5	
	comp=N,62nm,0.6s						
GTBY				IAML		01 10 56.8	
	comp=N,32nm,0.4s						
CAIB	**Caibarien**	**3.29**	**333**	*eP*	**Pn**	**01 10 33.8**	**+1.5**
CAIB				*eS*	**Sn**	**01 11 07.3**	**-4.2**
CAIB				IAML		01 11 17.1	
	comp=N,46nm,0.7s						
CAIB				IAML		01 11 18.9	
	comp=E,37nm,0.9s						
MASC	**Masc**	**3.46**	**79**	*eP*	**Pn**	**01 10 36.9**	**+2.2**
MASC				*eS*	**Sn**	**01 11 15.2**	**-0.6**
MASC				IAML		01 11 16.8	
	comp=E,28nm,1.1s						
MASC				IAML		01 11 19.1	
	comp=N,28nm,1.1s						

*IDC **30** 01:20:47.4±3.1,5.°69S×151.°29E,h50km±26km,mb3.5/8, mbtmp3.8/9,ML2.3/1,Error ellipse: s-maj=45.8km s-min=19.7km az=121.0*

ISC 30 01:20:48.2±0.9,5.°7S±0.°2×151.°3E±0.°2,h57km,n11, σ0§66/14,mb3.7/8,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.51**	**228**	P	**Pn**	**01 22 08.3**	**+0.6**
	6.0nm,0.3s,baz=48,slow=7.6,SNR=13						
PMG				S	**Sn**	**01 23 09.1**	**-0.7**
	57nm,0.4s,baz=320,slow=23,SNR=4.1						
	20nm,0.3s						
WRA	**Warramunga Arr**	**21.73**	**228**	P	**P**	**01 25 34.1**	**-0.8**
	1.5nm,0.5s,baz=54,slow=10,SNR=17						
WRA				PcP	**PcP**	**01 29 34.4**	**+0.3**
	0.5nm,0.6s,baz=48,slow=2.1,SNR=5.5						
WRA				ScP	**ScP**	**01 33 06.5**	**-0.2**
	0.8nm,0.8s,baz=53,slow=11,SNR=6.9						
	1.5nm,0.5s						
ASAR	**Alice Springs**	**24.48**	**221**	P	**P**	**01 26 02.0**	**-0.2**
	1.0nm,0.4s,baz=57,slow=8.5,SNR=21						
	1.0nm,0.4s						
STKA	**Stephens Creek**	**27.58**	**198**	P	**P**	**01 26 30.6**	**+0.5**
	1.8nm,0.7s,baz=27,slow=6.8,SNR=2.5						
	1.8nm,0.7s						
SONM	**Songino Array**	**66.29**	**329**	P	**P**	**01 31 31.5**	**+0.8**
	0.2nm,0.5s,baz=142,slow=7.3,SNR=2.0						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**80.01**	**319**	P	**P**	**01 32 51.6**	**0.0**
	0.1nm,0.5s,baz=101,slow=9.

	28nm,0.1s							
SEM				*e*S	**Sg**	**01 52 54.2**	**-1.6**	
	183nm,0.2s							
KURK	**Kurchatov**	**2.65**	**284**	⇑Pn	**Pb**	**01 52 52.6**	**-1.0**	
	2.4nm,0.4s							
KURK				⇑Sn	**Sn**	**01 53 24.0**	**+1.9**	
	35nm,0.5s							
KURBB	**Kurchatov Arra**	**2.69**	**282**	⇑Pn	**Pb**	**01 52 53.2**	**-1.1**	
	3.0nm,0.3s							
KURBB				⇓Sn	**Sn**	**01 53 25.3**	**+2.2**	
	22nm,0.3s							
ZSN	**Zaisan**	**3.05**	**151**	*e*P	**Pb**	**01 53 00.6**	**+0.2**	
	2.9nm,0.3s							
ZSN				*e*S	**Sb**	**01 53 37.6**	**-0.6**	
	19nm,0.3s							
MK31	**Makanchi Array**	**3.35**	**184**	Pn	**Pn**	**01 52 59.4**	**+0.5**	
	0.3nm,0.2s,baz=12,slow=16,SNR=21							
MK31				⇓Pg	**Pb**	**01 53 07.2**	**+1.7**	
	0.4nm,0.2s,baz=6.7,slow=17,SNR=6.5							
MK31				⇓Lg	Lg	01 53 41.1		
	4.4nm,0.3s,baz=18,slow=30,SNR=12							
MAKZ	**Makanchi**	**3.36**	**188**	⇑Pg	**Pb**	**01 53 04.0**	**-1.6**	
	1.5nm,0.3s							
MAKZ				⇑Lg	Lg	01 53 41.0		
	8.2nm,0.5s							
DJR	**Jarkent**	**6.12**	**200**	*e*P	**Pb**	**01 53 52.0**	**-0.8**	
	0.4nm,0.1s							
DJR				*e*S	**Sb**	**01 55 06.6**	**0.0**	
	0.8nm,0.1s							
DJR	**Jarkent**	**6.12**	**200**	Pg	**Pb**	**01 53 52.0**	**-0.8**	
	0.6nm,0.2s							
DJR				Lg	Lg	01 55 06.6		
	2.1nm,0.8s							
KNOS	**Konyrlen**	**6.24**	**204**	Pg	**Pb**	**01 53 53.0**	**-1.9**	
KNOS				Lg	Lg	01 55 09.4		
ARXS	**Arharly**	**6.78**	**211**	*e*P	**Pb**	**01 54 03.8**	**-0.1**	
	0.6nm,0.2s							
ARXS				*e*S	**Sb**	**01 55 27.1**	**+1.7**	
	4.5nm,0.5s							
OTUK	**Ortayu**	**7.03**	**258**	Pg	**Pb**	**01 54 10.4**	**+2.2**	
	0.3nm,0.3s							
OTUK				Lg	Lg	01 55 39.1		
	0.6nm,0.5s							
OTUK	**Ortayu**	**7.03**	**258**	⇑Sn	**Sn**	**01 55 05.8**	**-4.1**	
	2.1nm,1.1s							
OTUK				⇓Lg	Lg	01 55 36.5		
	2.6nm,0.8s							
KTBS	**Karatobe**	**7.61**	**215**	Pg	**Pb**	**01 54 19.9**	**+1.8**	
	1.1nm,0.6s							
KTBS				Lg	Lg	01 55 54.3		
	4.7nm,0.8s							

IDC 30 01:56:24.7±3.3,5°27S×152°17E,h0km,mb3.7/2, mbtmp3.8/3,ML1.8/1,Error ellipse: s-maj=126.3km s-min=45.9km az=124.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.45**	**230**	Pn	Pn	01 58 01.9	+0.9
	1.1nm,0.3s,baz=256,slow=11,SNR=1.4						
PMG				Sn	Sn	01 59 07.4	-8.0
	2.4nm,0.3s,baz=174,slow=4.5,SNR=2.3						
	6.4nm,0.5s						
WRA	**Warramunga Arr**	**22.67**	**228**	P	P	02 01 27.6	-0.3
	1.4nm,0.6s,baz=53,slow=10,SNR=13						
	1.4nm,0.6s						
ASAR	**Alice Springs**	**25.38**	**222**	P	P	02 01 53.7	-0.3
	1.5nm,0.8s,baz=61,slow=8.8,SNR=19						
	1.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**149.84**	**287**	PKPbc	PKPbc	02 16 18.0	0.0
	0.7nm,1.0s,baz=63,slow=2.8,SNR=2.4						

*IDC **30** 02:00:21.7±0.5,5°48S×151°54E,h0km,mb4.4/21, mbtmp4.4/23,ML2.5/1,MS4.4/37,Error ellipse: s-maj=20.4km s-min=13.5km az=97.0*
*NEIC **30** 02:00:23.7±1.5,5°66S±0°05×151°69E±0°07,h10km±1km, mb4.9/127,Error ellipse: s-maj=12.8km s-min=7.1km az=108.0*
*DJA **30** 02:00:34.2±1.2,6°S±5°×15°1E±1°0,h89km±8km,M5.2/19, mb5.1/19,mB5.4/7,MLv5.6/1,Mw(mB)4.9/7*
ISC 30 02:00:29.5±0.3,5°69S±0°04×151°68E±0°05,h57km,n231, σ1§97/218,mb4.8/91,MS4.4/47,1C-2D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.57**	**18**		**Pn**	**02 00 51.6**	**-3.4**
RABL				Sg	**Sn**	**02 01 12.2**	**-2.1**
MANU	**Manus Island**	**5.62**	**310**	Pn	**Pn**	**02 01 48.5**	**-2.1**
PMG	**Port Moresby**	**5.80**	**230**		**Pn**	**02 01 52.4**	**-0.6**
PMG	**Port Moresby**	**5.80**	**230**	Pn	**Pn**	**02 01 50.7**	**-2.3**
	8.4nm,0.3s,baz=32,slow=10.0,SNR=42						
PMG				Sn	**Sn**	**02 02 55.7**	**-2.6**
	15nm,0.3s,baz=343,slow=19,SNR=8.0						
	189nm,0.8s						
HNR	**Honiara**	**9.00**	**115**	Pn	**Pn**	**02 02 34.9**	**-1.9**
HNR	**Honiara**	**9.00**	**115**	Pn	**Pn**	**02 02 37.6**	**+0.7**
	522nm,0.6s,baz=73,slow=1.5,SNR=2.0						
HNR				LR	LR	02 06 33.4	
	comp=Z,6μm,18.7s,baz=282,slow=40						
COEN	**Coen**	**11.73**	**225**	Pn	**Pn**	**02 03 12.4**	**-1.8**
GENI	**Genyem**	**11.88**	**285**	P	**Pn**	**02 03 19.8**	**+3.5**
	49nm,1.5s,4μm						
PATS	**Pohnpei**	**14.10**	**28**	Pn	**Pn**	**02 03 44.6**	**-1.8**
CTAO	**Charters Tower**	**15.25**	**200**		**Pn**	**02 04 02.2**	**+0.7**
FAKI	**Fak Fak**	**19.57**	**277**	P	**P**	**02 04 52.7**	**-0.2**
FAKI	**Fak Fak**	**19.57**	**277**	P	**Pn**	**02 04 53.6**	**-1.1**
	21nm,1.7s						
EIDS	**Eidsvold**	**19.58**	**182**	P	**P**	**02 04 51.8**	**-1.1**
GUMO	**Guam**	**20.31**	**341**	P	**P**	**02 04 57.4**	**-3.6**
	32nm,0.3s,baz=158,slow=19,SNR=1.3						
GUMO				LR	LR	02 13 47.6	
	comp=Z,518nm,18.2s,baz=139,slow=40						
	32nm,0.3s						
SAUI	**Saumlaki**	**20.36**	**262**	P	**P**	**02 05 01.4**	**-0.1**
SAUI	**Saumlaki**	**20.36**	**262**	P	**P**	**02 05 02.0**	**+0.5**
	225nm,0.8s,46μm						
MTN	**Manton Dam**	**21.47**	**249**	P	**P**	**02 05 12.2**	**-1.2**
MTN				IAmb	IAmb	02 05 20.1	
	comp=Z,58nm,1.1s						
DZM	**Mont Dzumac**	**21.66**	**140**	P	**P**	**02 05 13.4**	**-2.1**
DZM				IAmb	IAmb	02 05 34.2	
	comp=Z,112nm,1.9s						
DZM	**Mont Dzumac**	**21.66**	**140**	*e*P	P	02 05 32.2	+17
	comp=Z,385nm,27.4s						
DZM				*e*S	**S**	**02 09 17.5**	**+5.0**
	comp=Z,911nm,25.6s						
DZM				*e*LR	LR	02 10 40.7	
	comp=Z,1μm,23.4s						
WB0	**Warramunga Arr**	**21.87**	**229**	P	**P**	**02 05 17.5**	**-0.3**
WB0				IAmb	IAmb	02 05 26.5	
	comp=Z,56nm,0.8s						
WR0	**Warramunga Arr**	**21.88**	**228**	P	**P**	**02 05 17.7**	**-0.2**
WR0				IAmb	IAmb	02 05 26.5	
	comp=Z,49nm,0.7s						
WRAB	**Tennant Creek**	**22.01**	**228**	P	**P**	**02 05 19.4**	**+0.2**
WB2	**Warramunga Arr**	**22.01**	**228**	P	**P**	**02 05 18.3**	**-0.9**
WB2				IAmb	IAmb	02 05 27.8	
	comp=Z,58nm,0.7s						
WRA	**Warramunga Arr**	**22.02**	**228**	P	**P**	**02 05 17.7**	**-1.7**
WRA	**Warramunga Arr**	**22.02**	**228**	P	**P**	**02 05 18.1**	**-1.2**
	comp=Z,8.1nm,0.5s,baz=53,slow=9.8,SNR=39						
WRA				S	**S**	**02 09 18.2**	**-1.0**
	comp=Z,5.1nm,1.1s,baz=52,slow=20,SNR=5.3						
WRA				ScP	**ScP**	**02 12 54.0**	**+5.3**
	comp=Z,1.0nm,0.9s,baz=41,slow=2.5,SNR=3.6						
WRA				LR	LR	02 14 02.3	
	comp=Z,575nm,21.1s,baz=69,slow=37						
	comp=Z,8.1nm,0.5s						
KNRA	**Kununurra**	**24.58**	**244**	P	**P**	**02 05 43.3**	**-1.1**
ARMA	**Armidale**	**24.60**	**180**	P	**P**	**02 05 43.6**	**-1.0**
AS31	**Alice Springs**	**24.74**	**222**	P	**P**	**02 05 44.7**	**-1.1**
ASAR	**Alice Springs**	**24.74**	**222**	P	**P**	**02 05 45.7**	**-0.1**
ASAR	**Alice Springs**	**24.74**	**222**	P	**P**	**02 05 46.0**	**+0.1**
	comp=Z,8.1nm,0.7s,baz=61,slow=8.6,SNR=58						
ASAR				ScP	**ScP**	**02 13 04.2**	**+8.2**
	comp=Z,0.4nm,0.6s,baz=39,slow=3.7,SNR=2.7						
ASAR				LR	LR	02 16 21.5	
	comp=Z,376nm,20.0s,baz=56,slow=39						
	comp=Z,8.1nm,0.7s						
SOEI	**Soe**	**27.45**	**260**	P	**P**	**02 06 11.0**	**+0.5**
SOEI	**Soe**	**27.45**	**260**	P	**P**	**02 06 10.6**	**+0.1**
	comp=Z,80nm,0.7s						
STKA	**Stephens Creek**	**27.71**	**199**	P	**P**	**02 06 12.0**	**-0.5**
STKA	**Stephens Creek**	**27.71**	**199**	P	**P**	**02 06 13.8**	**+1.3**
	comp=Z,3.3nm,0.8s,baz=360,slow=14,SNR=5.1						
	comp=Z,3.3nm,0.8s						
BATI	**Baumata**	**28.10**	**259**	LR	LR	02 19 51.0	
	comp=Z,1μm,21.2s,baz=108,slow=42						
BATI	**Baumata**	**28.10**	**259**	P	**P**	**02 06 15.6**	**-0.6**
	comp=Z,64nm,0.9s,comp=Z,1μm						
FITZ	**Fitzroy Crossi**	**28.25**	**242**	P	**P**	**02 06 16.1**	**-1.4**
FITZ				IAmb	IAmb	02 06 26.3	
	comp=Z,19nm,0.8s						
MMRI	**Maumere**	**29.35**	**263**	P	P	02 06 34.6	+7.3
EDFI	**Ende, Flores**	**29.90**	**262**	P	**P**	**02 06 30.3**	**-2.0**
	comp=Z,20nm,0.7s						
BBOO	**Buckleboo**	**30.66**	**206**	P	**P**	**02 06 36.9**	**-1.8**
FORT	**Forrest**	**33.40**	**219**		**P**	**02 07 01.5**	**-1.2**
MBWA	**Marble Bar**	**34.56**	**241**	P	**P**	**02 07 12.0**	**-1.0**
PSA00	**Pilbara Seismi**	**34.62**	**240**		**P**	**02 07 13.6**	**+0.2**
TGY	**Tagaytay City**	**36.29**	**303**	LR	LR	02 19 50.8	
	comp=Z,725nm,22.0s,baz=92,slow=32						
JOW	**Kunigami**	**39.48**	**326**	LR	LR	02 21 07.9	
	comp=Z,786nm,21.3s,baz=110,slow=32						
URZ	**Urewera**	**39.81**	**148**	LR	LR	02 23 23.7	
	comp=Z,282nm,18.3s,baz=118,slow=34						
NWAO	**Narrogin (SRO)**	**41.97**	**225**	LR	LR	02 25 52.0	
	comp=Z,530nm,21.9s,baz=50,slow=36						
LEM	**Lembang**	**43.80**	**266**	LR	LR	02 31 35.8	
	comp=Z,146nm,18.4s,baz=98,slow=43						
MJAR	**Matsushiro Arr**	**43.86**	**344**	LR	LR	02 25 34.4	
	comp=Z,425nm,20.2s,baz=173,slow=35						
QIZ	**Qiongzhong**	**47.97**	**302**	P	**P**	**02 09 03.3**	**+0.4**
QIZ				S	**S**	**02 15 57.0**	**0.0**
QIZ				sS	**sS**	**02 16 18.3**	**-2.2**
QIZ	**Qiongzhong**	**47.97**	**302**	SS	SS	02 19 33.0	+6.4
QIZ				pmax	pmax		
	comp=Z,130nm,10.9s						
QIZ				LR	LR		
	comp=N,180nm,16.8s						
QIZ				LR	LR		
	comp=E,340nm,18.5s						
QIZ				LR	LR		
	comp=Z,610nm,19.3s						
KSRS	**Korea Array**	**48.30**	**335**	P	**P**	**02 09 04.1**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=151,slow=9.7,SNR=6.8						
	comp=Z,1.1nm,0.5s						
NJ2	**Nanjing**	**48.84**	**322**	*e*P	**P**	**02 09 10.8**	**+1.4**
NJ2				pP	**pP**	**02 09 20.0**	**-4.6**
NJ2				sP	**sP**	**02 09 24.3**	**-7.0**
NJ2				pmax	pmax		
	comp=Z,16nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,130nm,4.9s						
NJ2				LR	LR		
	comp=N,500nm,21.2s						
NJ2				LR	LR		
	comp=E,410nm,23.3s						
NJ2				LR	LR		
	comp=Z,720nm,21.0s						
USRK	**Ussuriysk Ar.**	**52.74**	**342**	LR	LR	02 28 19.6	
	comp=Z,323nm,22.0s,baz=183,slow=32						
CN2	**Changchun**	**54.66**	**337**	*e*P	**P**	**02 09 57.0**	**+4.4**
CN2				*e*S	**S**	**02 17 35.8**	**+7.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,10.0s						
CN2				LR	LR		
	comp=E,200nm,10.0s						
CN2				LR	LR		
	comp=Z,100nm,12.0s						
HNS	**HongShan**	**55.00**	**324**	⇓P	**P**	**02 09 54.5**	**-0.6**
HNS				*e*S	**S**	**02 17 35.0**	**+1.8**
HNS				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HNS				LR	LR		
	comp=N,370nm,19.1s						
HNS				LR	LR		
	comp=E,170nm,17.5s						
HNS				LR	LR		
	comp=Z,450nm,19.1s						
BNX	**BinXian**	**55.60**	**340**	⇓P	**P**	**02 10 01.0**	**+1.7**
BNX				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BNX				pmax	pmax		
	comp=Z,90nm,6.0s						
XAN	**Xi'an**	**56.50**	**317**	P	**P**	**02 10 10.0**	**+3.9**
XAN				pP	pP	02 10 21.8	+0.1
XAN				pmax	pmax		
	comp=Z,13nm,0.9s						
XAN				LR	LR		
	comp=N,420nm,17.9s						
XAN				LR	LR		
	comp=E,470nm,19.1s						
XAN				LR	LR		
	comp=Z,700nm,21.6s						
KMI	**Kunming**	**56.57**	**305**	⇑P	**P**	**02 10 06.5**	**-0.4**
KMI				sP	pP	02 10 20.5	-1.8
KMI				pmax	pmax		
	comp=Z,15nm,0.6s						
KMI				LR	LR		
	comp=N,150nm,19.8s						
KMI				LR	LR		
	comp=E,270nm,19.3s						
KMI				LR	LR		
	comp=Z,380nm,21.1s						
CMAR	**Chiang Mai Arr**	**57.25**	**296**	P	**P**	**02 10 11.1**	**-0.5**
CMAR	**Chiang Mai Arr**	**57.25**	**296**	P	**P**	**02 10 10.5**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=111,slow=5.4,SNR=4.8						
CMAR				LR	LR	02 34 55.5	
	comp=Z,105nm,18.9s,baz=100,slow=36						
	comp=Z,0.9nm,0.3s						
KLR	**Kul'dur**	**57.39**	**345**	P	**P**	**02 10 10.5**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=124,slow=3.0,SNR=4.4						
KLR				LR	LR	02 31 56.2	
	comp=Z,313nm,20.9s,baz=170,slow=33						
	comp=Z,0.7nm,0.4s						
PZH	**PanZhiHua**	**57.98**	**306**	P	**P**	**02 10 19.0**	**+2.3**
PZH				S	**S**	**02 18 15.5**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,6.3s						
PZH				LR	LR		
	comp=N,210nm,20.8s						
PZH				LR	LR		
	comp=E,710nm,19.8s						
PZH				LR	LR		
	comp=Z,350nm,20.8s						
CD2	**Chengdu**	**58.48**	**312**	P	**P**	**02 10 20.5**	**+0.5**
CD2				S	**S**	**02 18 22.8**	**+3.3**
CD2				LR	LR		
	comp=N,400nm,20.0s						
CD2				LR	LR		
	comp=E,450nm,22.2s						
CD2				LR	LR		
	comp=Z,630nm,21.0s						
PPT2	**Papeete2**	**58.53**	**107**	*e*LR	LR	02 27 31.4	
	comp=Z,2μm,33.8s						
PETK	**Petropavlovsk-**	**58.80**	**4**	P	**P**	**02 10 21.8**	**0.0**
PETK	**Petropavlovsk-**	**58.80**	**4**	P	**P**	**02 10 20.8**	**-1.0**
	comp=Z,1.9nm,0.6s,baz=164,slow=6.9,SNR=8.0						
	comp=Z,1.9nm,0.6s						
XLT	**XiLinHaoTe**	**58.88**	**331**	*e*P	**P**	**02 10 21.3**	**-1.3**
XLT				pP	pP	02 10 28.8	-9.5
XLT				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,120nm,4.7s						
XLT				LR	LR		
	comp=N,22nm,18.0s						
XLT				LR	LR		
	comp=E,230nm,15.9s						
HHC	**Hu-ho-hao-te**	**59.12**	**325**	*e*P	**P**	**02 10 27.0**	**+2.6**
HHC				S	**S**	**02 18 32.3**	**+4.6**
HHC				sS	pS	02 18 49.0	+3.5
HEH	**HeiHe**	**59.55**	**342**	*e*P	**P**	**02 10 23.5**	**-3.5**
BTO	**Baotou**	**59.85**	**324**	*e*P	P	02 10 34.8	+5.4
BTO				pP	pP	02 10 47.5	+2.3
BTO				sP	sP	02 10 53.5	+1.8
BTO				PP	**PP**	**02 14 44.8**	**+2.6**
BTO				S	S	02 18 48.5	+11
LZH	**Lanzhou**	**61.10**	**317**	*e*P	**P**	**02 10 36.0**	**-2.1**
LZH				sP	pP	02 10 55.0	+1.4
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
SHEM	**Shemya Is, Ala**	**61.23**	**15**	LR	LR	02 32 44.3	
	comp=Z,464nm,21.5s,baz=106,slow=32						
MA2	**Magadan**	**65.06**	**359**	LR	LR	02 39 41.5	
	comp=Z,211nm,19.3s,baz=182,slow=36						
GTA	**Gaotai**	**65.56**	**318**	*e*P	P	02 11 12.5	+5.0
GTA				sP	sP	02 11 27.5	-2.0
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GTA				LR	LR		
	comp=N,120nm,18.9s						
GTA				LR	LR		
	comp=E,200nm,17.8s						
GTA				LR	LR		
	comp=Z,240nm,19.6s						
ULN	**Ulaanbaatar**	**66.17**	**329**	P	**P**	**02 11 11.6**	**+0.3**
SONM	**Songino Array**	**66.49**	**329**	P	**P**	**02 11 13.1**	**-0.2**
SONM				lAmb	lAmb	02 11 20.6	
	comp=Z,6.0nm,0.7s						
SONM	**Songino Array**	**66.49**	**329**	P	**P**	**02 11 12.9**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=145,slow=5.3,SNR=14						
SONM				LR	LR	02 40 10.1	
	comp=Z,304nm,19.6s,baz=134,slow=36						
	comp=Z,2.0nm,0.5s						
SEY	**Seymchan**	**68.43**	**0**	LR	LR	02 36 50.6	
	comp=Z,297nm,21.9s,baz=196,slow=32						
YAK	**Yakutsk**	**69.63**	**349**	LR	LR	02 40 14.8	
	comp=Z,139nm,21.2s,baz=176,slow=34						
VNDA	**Vanda**	**71.99**	**178**	P	**P**	**02 11 48.4**	**+1.7**
VNDA				lAmb	lAmb	02 11 55.0	
	comp=Z,13nm,1.1s						
VNDA	**Vanda**	**71.99**	**178**	P	**P**	**02 11 48.4**	**+1.7**
	comp=Z,0.7nm,0.6s,baz=331,slow=5.8,SNR=6.1						
	comp=Z,0.7nm,0.6s						
SBA	**Scott Base**	**72.56**	**177**	P	**P**	**02 11 50.2**	**+0.2**
SBA				lAmb	lAmb	02 11 59.6	
	comp=Z,18nm,1.3s						
WMQ	**Urumqi**	**75.64**	**318**	*e*P	**P**	**02 12 10.5**	**+1.8**
WMQ				LR	LR		
	comp=Z,200nm,24.2s						
K15K	**Wolf Creek Mou**	**76.62**	**20**	P	**P**	**02 12 13.6**	**-0.2**
K15K				lAmb	lAmb	02 12 36.3	
	comp=Z,12nm,1.1s						
KDAK	**Kodiak Island**	**77.47**	**27**	LR	LR	02 46 45.0	
	comp=Z,78nm,18.4s,baz=221,slow=36						
K17K	**Iditarod**	**78.04**	**21**	P	**P**	**02 12 21.1**	**-0.6**
K17K				lAmb	lAmb	02 12 49.6	
	comp=Z,8.4nm,1.1s						
L18K	**Granite Mounta**	**78.32**	**22**	P	**P**	**02 12 23.6**	**+0.3**
TIXI	**Tiksi**	**78.63**	**353**	LR	LR	02 48 30.5	
	comp=Z,94nm,19.1s,baz=172,slow=37						
L19K	**White Mountain**	**78.99**	**23**	P	**P**	**02 12 26.9**	**-0.1**
L19K				lAmb	lAmb	02 12 35.1	
	comp=Z,5.9nm,0.7s						
CNPM	**China Poot**	**79.00**	**26**	P	**P**	**02 12 26.9**	**-0.2**
MK31	**Makanchi Array**	**80.26**	**319**	P	**P**	**02 12 34.0**	**-0.3**
MKAR	**Makanchi Array**	**80.26**	**319**	P	**P**	**02 12 32.9**	**-1.4**
MKAR	**Makanchi Array**	**80.26**	**319**	P	**P**	**02 12 33.2**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=99,slow=7.5,SNR=9.4						
	comp=Z,0.5nm,0.5s						
J20K	**Nowinta River**	**80.41**	**21**	P	**P**	**02 12 33.8**	**-0.8**
MAKZ	**Makanchi**	**80.47**	**319**	P	**P**	**02 12 34.6**	**-0.8**
CAST	**Castle Rocks**	**80.75**	**22**	P	**P**	**02 12 35.4**	**-1.1**
KTH	**Kantishna Hill**	**81.26**	**22**	P	**P**	**02 12 37.0**	**-2.2**
ZAA0	**Zalesovo Array**	**81.27**	**327**	P	**P**	**02 12 37.6**	**-1.8**
ZAA0				lAmb	lAmb	02 15 14.0	
	comp=Z,14nm,0.9s						
ZALV	**Zalesovo Beam**	**81.27**	**327**	P	**P**	**02 12 37.7**	**-1.7**
ZALV	**Zalesovo Beam**	**81.27**	**327**	P	**P**	**02 12 37.3**	**-2.2**
	comp=Z,2.3nm,0.5s,baz=102,slow=6.2,SNR=8.5						
ZALV				LR	LR	02 48 25.4	
	comp=Z,190nm,20.1s,baz=90,slow=36						
	comp=Z,2.3nm,0.5s						
E19K	**Redstone River**	**81.37**	**18**	P	**P**	**02 12 39.4**	**-0.3**
E19K				lAmb	lAmb	02 13 27.9	
	comp=Z,7.3nm,0.9s						
SML	**Sawmill**	**81.39**	**25**	P	**P**	**02 12 39.8**	**-0.2**
SML				lAmb	lAmb	02 12 46.9	
	comp=Z,11nm,0.7s						
IMAR	**Indian Mountai**	**81.59**	**20**	P	**P**	**02 12 41.1**	**+0.2**
I21K	**Tanana**	**81.75**	**21**	P	**P**	**02 12 41.9**	**+0.2**
D19K	**Kuna River**	**81.76**	**17**	P	**P**	**02 12 41.3**	**-0.5**
D19K				lAmb	lAmb	02 13 40.1	
	comp=Z,11nm,1.4s						
RND	**Reindeer**	**81.98**	**23**	P	**P**	**02 12 42.8**	**-0.3**
RND				lAmb	lAmb	02 12 49.2	
	comp=Z,7.4nm,0.8s						
MLY	**Manley**	**82.11**	**21**	P	**P**	**02 12 42.7**	**-1.0**
MLY				lAmb	lAmb	02 12 50.8	
	comp=Z,5.9nm,0.8s						
KLU	**Klutina**	**82.25**	**25**	P	**P**	**02 12 44.9**	**+0.3**
KLU				lAmb	lAmb	02 13 46.4	
	comp=Z,12nm,1.1s						
DHY	**Denali Highway**	**82.40**	**24**	P	**P**	**02 12 46.0**	**+0.6**
I23K	**Minto, Yukon-K**	**82.67**	**21**	P	**P**	**02 12 46.4**	**-0.1**
WRH	**Wood River Hil**	**82.80**	**22**	P	**P**	**02 12 46.0**	**-1.2**
WRH				lAmb	lAmb	02 13 11.8	
	comp=Z,8.1nm,1.2s						
B20K	**Meade River**	**82.98**	**16**	P	**P**	**02 12 48.3**	**+0.2**
CCB	**Clear Creek Bu**	**82.99**	**22**	P	**P**	**02 12 47.0**	**-1.3**
GLB	**Gilahina Butte**	**83.14**	**26**	P	**P**	**02 12 49.4**	**+0.3**
GLB				lAmb	lAmb	02 13 19.2	
	comp=Z,6.1nm,1.0s						
HDA	**Harding Lake**	**83.20**	**23**	P	**P**	**02 12 49.3**	**0.0**
HDA				lAmb	lAmb	02 12 55.3	
	comp=Z,3.8nm,0.6s						
G23K	**Bananza Creek**	**83.25**	**20**	P	**P**	**02 12 50.4**	**+0.8**
IL31		**83.40**	**22**	P	**P**	**02 12 48.5**	**-1.8**
IL31				lAmb	lAmb	02 12 56.2	
	comp=Z,5.4nm,0.7s						
ILAR	**Eielson Array**	**83.40**	**22**	P	**P**	**02 12 49.7**	**-0.6**
ILAR	**Eielson Array**	**83.40**	**22**	P	**P**	**02 12 49.0**	**-1.3**
	comp=Z,1.9nm,0.6s,baz=246,slow=5.2,SNR=51						
	comp=Z,1.9nm,0.6s						
H24K	**Noodor Dome**	**83.55**	**21**	P	**P**	**02 12 50.6**	**-0.5**
D22K	**Ayikyak River**	**83.58**	**18**	P	**P**	**02 12 51.3**	**0.0**
RIDG	**Independent Ri**	**83.72**	**24**	P	**P**	**02 12 52.3**	**+0.2**
KURK	**Kurchatov**	**83.78**	**322**	P	**P**	**02 12 51.1**	**-1.5**
KURK				lAmb	lAmb	02 14 22.2	
	comp=Z,6.4nm,0.9s						
KURBB	**Kurchatov Arra**	**83.81**	**322**	P	**P**	**02 12 50.9**	**-1.8**
	comp=Z,6.1nm,1.3s,baz=100,slow=5.7,SNR=13						
KURBB				LR	LR	02 50 51.4	
	comp=Z,226nm,19.6s,baz=154,slow=36						
	comp=Z,6.1nm,1.3s						
J25K	**Salcha River,**	**83.90**	**23**	P	**P**	**02 12 52.8**	**-0.2**
L26K	**Log Cabin Wild**	**84.01**	**25**	P	**P**	**02 12 54.6**	**+1.0**
L26K

comp=Z,131nm,20.4s,baz=124,slow=36
comp=Z,2.3nm,0.6s
J29N Klondike Camp 86.67 24 P **P** **02 13 08.2 +1.3**
J29N IAmb IAmb 02 13 41.6
comp=Z,4.2nm,0.8s
K29M Barlow Dome 86.75 25 P **P** **02 13 08.3 +1.0**
K29M IAmb IAmb 02 13 15.2
comp=Z,6.0nm,0.7s
E27K Coleen River 86.81 20 P **P** **02 13 07.5 +0.1**
D27M Malcolm River 87.45 19 P **P** **02 13 10.4 -0.1**
J30M Hart River 87.48 24 P **P** **02 13 11.6 +0.7**
J30M IAmb IAmb 02 13 41.5
comp=Z,4.6nm,0.8s
I30M Mount Dempster 87.67 24 P **P** **02 13 11.8 +0.1**
I30M IAmb IAmb 02 13 20.3
comp=Z,9.5nm,1.5s
E28M Babbage River 87.68 20 P **P** **02 13 11.8 +0.3**
E28M IAmb IAmb 02 16 08.7
comp=Z,20nm,2.0s
BBB Bella Bella 88.48 37 LR LR 02 45 27.9
comp=Z,236nm,21.9s,baz=301,slow=31
DLBC Dease Lake 88.72 31 LR LR 02 46 44.2
comp=Z,417nm,20.5s,baz=284,slow=31
G31M Satah River 89.01 22 P **P** **02 13 18.1 +0.3**
G31M IAmb IAmb 02 13 33.6
comp=Z,22nm,1.9s
BVAR Borovoye Array 89.28 323 P **P** **02 13 17.8 -1.6**
comp=Z,1.9nm,0.8s,baz=107,slow=5.9,SNR=10.0
comp=Z,1.9nm,0.8s
BRVK Borovoye 89.35 323 P **P** **02 13 18.5 -1.2**
F31M Tsiigehtchic 89.36 22 P **P** **02 13 18.1 -1.4**
INK Inuvik 89.68 21 LR LR 02 55 15.2
comp=Z,122nm,18.1s,baz=184,slow=37
AFDM Forest Hills D 91.48 51 P **P** **02 13 30.1 +0.1**
AFDM IAmb IAmb 02 13 39.2
comp=Z,7.2nm,1.1s
J05D Fort Rock, OR 91.74 47 P **P** **02 13 31.8 +0.5**
MPK Martis Peak 92.24 51 P **P** **02 13 32.5 -1.4**
PAHR Pah Rah Range 92.78 51 P **P** **02 13 36.4 +0.2**
PAHR IAmb IAmb 02 13 44.6
comp=Z,5.8nm,1.0s
YERR Yerington 92.83 51 P **P** **02 13 37.0 +0.5**
YERR IAmb IAmb 02 13 45.0
comp=Z,5.1nm,0.9s
MDPB Devils Postpil 92.83 53 P **P** **02 13 37.3 +0.6**
I07A Izee 93.07 46 P **P** **02 13 37.8 +0.4**
A36M Sachs Harbour 93.23 18 P **P** **02 13 37.2 -0.1**
A36M IAmb IAmb 02 16 53.4
comp=Z,4.6nm,0.8s
C36M Paulatuk 93.25 21 P **P** **02 13 36.8 -0.7**
C36M IAmb IAmb 02 13 42.5
comp=Z,4.2nm,1.1s
LHV Little Huntoon 93.34 52 P **P** **02 13 38.5 0.0**
RYN Ryan 93.36 52 P **P** **02 13 40.5 +1.6**
RYN IAmb IAmb 02 13 47.5
comp=Z,5.8nm,0.9s
NVAR Mina Array Bea 93.51 52 P **P** **02 13 40.0 +0.3**
NVAR Mina Array Bea 93.51 52 P **P** **02 13 41.1 +1.4**
comp=Z,2.0nm,0.7s,baz=260,slow=5.8,SNR=20
NVAR LR LR 02 51 16.8
comp=Z,371nm,19.1s,baz=272,slow=33
comp=Z,2.0nm,0.7s
G08A Pilot Rock 93.55 45 P **P** **02 13 40.2 +0.6**
G08A IAmb IAmb 02 13 48.3
comp=Z,9.5nm,1.2s
WVOR Wild Horse Val 93.56 48 P **P** **02 13 39.5 -0.2**
NV11 Mina Array Sit 93.63 52 P **P** **02 13 40.1 0.0**
NV11 IAmb IAmb 02 13 48.4
comp=Z,5.2nm,0.8s
KVN Kaiserville 93.72 51 P **P** **02 13 40.0 -0.6**
KVN IAmb IAmb 02 13 49.0
comp=Z,4.0nm,0.8s
J08A Circle Bar Ran 93.75 47 P **P** **02 13 40.3 -0.2**
J08A IAmb IAmb 02 13 48.7
comp=Z,5.4nm,0.8s
LCH Last Change Ra 93.94 53 P **P** **02 13 38.5 -3.1**
LCH IAmb IAmb 02 13 40.6
comp=Z,3.6nm,0.8s
MZP Montezuma Peak 94.18 53 P **P** **02 13 41.4 -1.4**
MZP IAmb IAmb 02 13 51.0
comp=Z,4.3nm,0.8s
TPH Tonopah 94.33 52 P **P** **02 13 43.9 +0.4**
QSM Queen of Sheba 94.48 54 P **P** **02 13 43.2 -0.7**
QSM IAmb IAmb 02 13 52.6
comp=Z,5.8nm,0.7s
GWY Greenwater Val 94.65 54 P **P** **02 13 44.5 -0.5**
GWY IAmb IAmb 02 13 53.3
comp=Z,3.5nm,0.9s
PFO Pinyon Flats O 94.66 57 LR LR 02 48 49.2
comp=Z,260nm,20.9s,baz=292,slow=31
BMO Blue Mountains 94.69 46 P **P** **02 13 45.4 +0.6**
BMO IAmb IAmb 02 13 53.3
comp=Z,7.2nm,1.1s
WCT Wildcat Mounta 94.73 54 P **P** **02 13 44.5 -0.6**
F10A Beach Ranch, E 94.81 44 P **P** **02 13 45.9 +0.6**
F10A IAmb IAmb 02 13 52.8
comp=Z,11nm,1.4s
NEW Newport 95.00 42 P **P** **02 13 46.1 0.0**
comp=Z,1.4nm,0.7s,baz=293,slow=15,SNR=3.6
NEW LR LR 02 51 29.3
comp=Z,280nm,19.7s,baz=250,slow=32
comp=Z,1.4nm,0.7s
BRLDA Berland Lookou 95.11 36 P **P** **02 13 47.0 +0.5**
R11B Troy Canyon, C 95.64 52 P **P** **02 13 49.0 -0.4**
SHPR Sheep Range 95.89 54 P **P** **02 13 50.5 -0.1**
ELK Elko 96.01 50 LR LR 02 51 22.1
comp=Z,241nm,20.1s,baz=271,slow=32
V12A Nelson 96.10 55 P **P** **02 13 51.5 0.0**
GEYT Alibeck 96.27 307 LR LR 02 59 35.7
comp=Z,132nm,20.7s,baz=32,slow=37
ARU Arti 96.43 326 LR LR 02 56 54.2
comp=Z,438nm,21.5s,baz=86,slow=35
SPR3 Spring Creek 3 96.64 51 P **P** **02 13 54.0 -0.1**
SPR3 IAmb IAmb 02 14 02.7
comp=Z,3.7nm,0.8s
AKTO Aktyubinsk 96.68 320 LR LR 02 58 20.3
comp=Z,218nm,19.5s,baz=240,slow=36
HLID Hailey 96.72 47 P **P** **02 13 54.0 -0.2**
HLID IAmb IAmb 02 14 03.2
comp=Z,2.4nm,0.8s
YKA Yellowknife Ar 96.73 28 P **P** **02 13 54.2 +0.7**
comp=Z,0.2nm,0.8s,baz=271,slow=5.3,SNR=4.8
comp=Z,0.2nm,0.8s
W13A Hualapai Mount 96.86 55 P **P** **02 13 55.0 -0.1**
W13A IAmb IAmb 02 14 02.9
comp=Z,7.0nm,1.5s
CCUT Cedar City 97.36 53 P **P** **02 13 57.2 -0.1**
CCUT IAmb IAmb 02 14 00.3
comp=Z,5.6nm,1.3s
LCMT Little Creek M 97.44 54 P Pdif 02 13 57.7 +0.1
EDM Edmonton 97.50 37 P Pdif 02 13 57.6 +0.2
KNB Kanab 97.78 54 P **P** **02 13 58.9 -0.2**
KNB IAmb IAmb 02 14 09.0
comp=Z,6.4nm,1.2s
HVU Hansel Valley 97.89 49 P **P** **02 13 58.5 -1.0**
HVU IAmb IAmb 02 14 07.7
comp=Z,3.6nm,0.9s
U15A North Rim 98.20 54 P **P** **02 14 01.1 0.0**
U15A IAmb IAmb 02 14 09.2
comp=Z,3.7nm,1.1s
MOOW Moose Ponds 99.38 47 **Pdif** **02 14 06.3 +0.1**
LPIG La Paz 99.60 67 LR LR 02 51 32.9
comp=Z,194nm,21.3s,baz=295,slow=31
PDAR Pinedale Array 100.27 48 P **Pdif** **02 14 10.7 +0.5**
comp=Z,0.6nm,0.7s,baz=247,slow=3.1,SNR=6.5
FINES FINESS Array B 111.39 335 Pdiff **Pdif** **02 14 55.5 -3.4**
comp=Z,1.1nm,0.9s,baz=78,slow=6.4,SNR=1.8
NOA NORSAR Array B 117.36 340 PKP **PKPdf** **02 19 07.7 -0.7**
comp=Z,0.4nm,0.7s,baz=47,slow=1.9,SNR=2.1
BOSA Boshof 118.20 233 PKP **PKPdf** **02 19 10.8 -0.3**
comp=Z,4.1nm,1.2s,baz=51,slow=6.5,SNR=2.8
PLCA Paso Flores 119.73 144 PKP **PKiKP** **02 19 14.1 +0.3**
comp=Z,1.4nm,0.8s,baz=56,slow=2.0,SNR=3.2
SADO Sadowa 121.13 40 PKP **PKPdf** **02 19 15.7 -0.5**
comp=Z,2.7nm,0.8s,baz=304,slow=3.6,SNR=2.3
SCHQ Schefferville 122.06 25 PKP **PKPdf** **02 19 16.7 -0.9**
comp=Z,1.0nm,0.8s,baz=277,slow=8.1,SNR=1.2
TREC Trest 123.00 327 *e*PKPDF **PKPdf** **02 19 19.5 -0.1**
TREC *ep*PKP **PKiKP** **02 19 25.0 +5.2**
CLL Collm 123.08 330 *e*PKPdf **PKPdf** **02 19 19.0 -0.6**
CLL *ex* x 02 19 25.0
CONA Conrad Observa 123.56 326 *e*PKiKP **PKiKP** **02 19 26.2 +5.1**
comp=Z,0.7nm,0.3s
CKRC Cesky Krumlov 123.90 327 *e*PKPDF **PKiKP** **02 19 21.6 0.0**
CKRC *ep*PKP **PKPdf** **02 19 27.0 +5.6**
KHC Kasperske Hory 124.11 328 *e*PKPDF **PKiKP** **02 19 22.0 -0.1**
KHC *ep*PKP **PKPdf** **02 19 27.4 +5.6**
ARSA Arzberg 124.13 325 *e*PKiKP **PKiKP** **02 19 26.1 +4.0**
comp=Z,1.0nm,0.4s
GERES GERESS Array B 124.21 328 PKP **PKPdf** **02 19 21.7 -0.3**
comp=Z,1.1nm,0.5s,baz=48,slow=3.8,SNR=8.3
SOKA Soboth 124.72 325 *e*PKiKP **PKiKP** **02 19 26.7 +3.3**
comp=Z,0.7nm,0.5s
KBA Koelnbreinsper 125.45 326 *e*PKiKP **PKiKP** **02 19 29.1 +4.1**
comp=Z,1.8nm,0.7s
LESA Schwarzleotal 125.61 327 *e*PKiKP **PKiKP** **02 19 29.6 +4.5**
comp=Z,2.3nm,0.5s
ABTA Abfaltersbach 126.10 326 *e*PKiKP **PKiKP** **02 19 30.6 +4.4**
comp=Z,1.1nm,0.5s
MOTA Moosalm 126.51 327 *e*PKiKP **PKiKP** **02 19 31.8 +4.7**
comp=Z,2.3nm,0.5s
SQTA Sankt Quirin 126.53 327 *e*PKiKP **PKiKP** **02 19 32.4 +5.3**
comp=Z,1.6nm,0.6s
EKA Eskdalemuir Ar 126.55 342 PKP **PKPdf** **02 19 26.1 -0.1**
comp=Z,0.7nm,0.4s,baz=12,slow=3.1,SNR=6.5
FETA Feichten 126.91 327 *e*PKP **PKiKP** **02 19 27.5 -0.3**
comp=Z,1.8nm,0.6s
LPAZ La Paz 134.97 120 PKP **PKiKP** **02 19 45.4 -0.1**
comp=Z,1.3nm,0.8s,baz=329,slow=4.4,SNR=4.7
TORD Torodi Ar. Bea 149.50 286 PKPbc **PKPbc** **02 20 12.9 -0.6**
comp=Z,7.6nm,0.7s,baz=93,slow=3.8,SNR=44
BDFB Brasilia 151.20 138 PKPbc **PKiKP** **02 20 18.4 +0.2**
comp=Z,4.4nm,0.6s,baz=319,slow=2.6,SNR=7.3

*CATAC **30** 02:04:13.9±1.1, 12°.02N×88°.47W, h99km±48km, ML3.2*
*SNET **30** 02:04:14.3±0.9, 12°.05N×88°.61W, h14km±7km, ML3.5*
ISC 30 02:04:10.3±3.1, 11°.9N±0°.1×88°.52W±0°.07, h10km±18km, n27, σ0°76/35, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.54**	**26**	*e*P		**Pb**	**Pb**	**02 04 39.0**	**-0.1**
CNCH				*e*S		**Sg**	**Sg**	**02 04 59.7**	**-0.3**
CNCH	**Conchagua**	**1.54**	**26**	*i*P		**Pb**	**Pb**	**02 04 39.1**	**0.0**
CNCH				*i*S		**Sb**	**Sb**	**02 04 58.4**	**-0.3**
CNCH				IAML				02 05 07.4	
	comp=Z,320nm,1.0s								
VSM	**San Miguel**	**1.56**	**9**	*e*P		**Pb**	**Pb**	**02 04 39.7**	**+0.2**
RANC	**El Ranchito**	**1.56**	**8**	*e*P		**Pb**	**Pb**	**02 04 39.5**	**0.0**
RANC	**El Ranchito**	**1.56**	**8**	*i*P		**Pb**	**Pb**	**02 04 39.5**	**0.0**
RANC				IAML				02 05 07.2	
	comp=Z,150nm,1.0s								
BLLM	**Bellamira**	**1.57**	**10**	*e*P		**Pb**	**Pb**	**02 04 39.6**	**-0.1**
PACA	**Pacayal**	**1.59**	**7**	*e*P		**Pb**	**Pb**	**02 04 39.9**	**-0.1**
PACA				*e*S		**Sb**	**Sb**	**02 05 00.3**	**+0.1**
PACA				IAML				02 05 05.3	
	comp=Z,1μm,0.3s								
PACA	**Pacayal**	**1.59**	**7**	*i*P		**Pb**	**Pb**	**02 04 40.4**	**+0.5**
PACA				IAML				02 05 05.1	
	comp=Z,1μm,1.0s								
TECA	**Tecapa**	**1.60**	**1**	*e*P		**Pb**	**Pb**	**02 04 39.9**	**-0.3**
TECA				*e*S		**Sb**	**Sb**	**02 05 00.2**	**-0.5**
LFRS	**El Faro**	**1.81**	**343**	*e*P		**Pn**	**Pb**	**02 04 42.5**	**+0.8**
SCLA	**Alcaldia de Sa**	**1.82**	**354**	*e*P		**Pb**	**Pb**	**02 04 43.1**	**-0.7**
SCLA	**Alcaldia de Sa**	**1.82**	**354**	*i*P		**Pb**	**Pb**	**02 04 43.3**	**-0.5**
LOMA	**Loma Larga**	**1.86**	**340**	*e*P		**Pn**	**Pb**	**02 04 43.2**	**+0.7**
LOMA	**Loma Larga**	**1.86**	**340**	*i*P		**Pn**	**Pb**	**02 04 43.2**	**+0.7**
LOMA				*i*S		**Sn**	**Sb**	**02 05 06.3**	**+0.1**
LOMA				IAML				02 05 08.8	
	comp=Z,290nm,1.0s								
PAVA	**Las Pavas**	**1.86**	**347**	*e*P		**Pb**	**Pb**	**02 04 43.7**	**-0.9**
PMON	**Piamonte**	**1.98**	**337**	*e*P		**Pn**	**Pb**	**02 04 45.0**	**+0.9**
PMON	**Piamonte**	**1.98**	**337**	*i*S		**Sn**	**Sb**	**02 05 09.0**	**0.0**
JAYA	**Jayaque - finc**	**1.98**	**333**	*e*P		**Pn**	**Pb**	**02 04 44.7**	**+0.5**
JAYA				*e*S		**Sn**	**Sb**	**02 05 07.1**	**-2.1**
JAYA				IAML				02 05 12.4	
	comp=Z,235nm,0.2s								
JAYA	**Jayaque - finc**	**1.98**	**333**	*i*P		**Pn**	**Pb**	**02 04 44.7**	**+0.5**
JAYA				*i*S		**Sn**	**Sb**	**02 05 08.6**	**-0.6**
JAYA				IAML				02 05 12.1	
	comp=Z,630nm,1.0s								
SNJE	**San Jose**	**2.24**	**332**	*e*P		**Pn**	**Pb**	**02 04 48.6**	**+0.8**
R4DEC	**Barrio San Lui**	**2.24**	**83**	*i*P		**Sg**	**Sg**	**02 05 22.4**	**0.0**
NUBE	**Las Nubes**	**2.35**	**329**	*e*P		**Pn**	**Pb**	**02 04 50.0**	**+0.7**
NUBE	**Las Nubes**	**2.35**	**329**	*i*P		**Pn**	**Pb**	**02 04 50.2**	**+0.9**
NUBE				*i*S		**Sn**	**Sb**	**02 05 18.8**	**+0.4**
NUBE				IAML				02 05 20.3	
	comp=Z,120nm,1.0s								
LIMN	**Finca el Limon**	**2.41**	**61**	*i*P		**Pn**	**Pb**	**02 04 50.4**	**+0.4**
LIMN				IAML				02 05 23.0	
	comp=Z,34nm,1.0s								
TGUH	**Tegucigalpa,Un**	**2.48**	**29**	*e*P		**Pn**	**Pb**	**02 04 52.9**	**+1.9**
MTO3	**Montecristo**	**2.63**	**342**	*e*P		**Pn**	**Pb**	**02 04 54.4**	**+1.2**
RCPN	**Sur Rio San Ju**	**2.88**	**55**	*i*P		**Pn**	**Pb**	**02 04 55.9**	**-0.6**
RCPN				IAML				02 04 57.3	
	comp=Z,0.5nm,1.0s								

*IDC **30** 02:10:52.6±0.7, 38°.53N×69°.93E, h0km, mb4.2/25, mbtmp4.2/35, ML3.6/10, MS4.1/2, Error ellipse: s-maj=12.6km s-min=8.8km az=156.0*
*MOS **30** 02:10:53.7±1.3, 38°.73N×69°.85E, h11km, mb4.6/20, Error ellipse: s-maj=5.6km s-min=3.6km az=72.9*
*NNC **30** 02:10:53.4±1.2, 38°.65N×69°.65E, h0km, mb4.9, mpv4.6, Error ellipse: s-maj=12.2km s-min=6.8km az=159.0*
*NEIC **30** 02:10:54.9, 38°.72N×69°.93E, h10km*
*NEIC **30** 02:10:54.8±1.2, 38°.71N±0°.05×69°.92E±0°.06, h10km±1km, mb4.5/38, Mwr4.2/20, Error ellipse: s-maj=8.4km s-min=6.6km az=142.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr0.06; Mθθ-0.97; Mφφ0.91; Mrθ-2.22; Mθφ-0.87; Mφr1.34; Fault plane solution: Mo2.89000×10¹⁵ NP1:φ=27.44000°, δ=26.03000°, λ=0.03000°. NP2:φ=297.42000°, δ=89.99000°, λ=116.03000°. Principal axes: T 3.0192, Plg39.0000°, Azm231.0000°; N -0.2789, Plg26.0000°, Azm117.0000°; P -2.7403, Plg39.0000°, Azm4.0000°;*
ISC 30 02:10:54.4±0.3, 38°.71N±0°.03×69°.88E±0°.03, h10km, n247, σ2s15/262, mb4.4/60, MS4.0/4, 41C-23D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.45**	**50**				**Pg**	**02 11 02.0**	**-1.2**
CHGR	**Chuyangaron**	**0.57**	**265**	Pg		**Pg**	**Pg**	**02 11 05.3**	**-0.2**
CHGR	**Chuyangaron**	**0.57**	**265**	*i* PG		**Pg**	**Pg**	**02 11 05.0**	**-0.5**
SIMJ	**Simiganj**	**0.69**	**266**	Pg		**Pg**	**Pg**	**02 11 07.7**	**0.0**
BTK	**Batken**	**1.53**	**28**	Pn		**Pn**	**Pn**	**02 11 22.3**	**+0.4**
BTK	**Batken**	**1.53**	**28**	PG		**Pn**	**Pn**	**02 11 22.3**	**+0.4**
DRK	**Karamyk**	**1.68**	**62**			**Pn**	**Pn**	**02 11 24.1**	**0.0**
OHH	**Osh**	**2.88**	**50**	*e*PN		**Pn**	**Pn**	**02 11 40.4**	**-0.1**
OHH				*i*S		**Sn**	**Sn**	**02 12 15.8**	**+0.5**
TRKS	**Terek-Say**	**2.98**	**19**	*i* PN		**Pn**	**Pn**	**02 11 42.5**	**+0.6**
TRKS				*i*S		**Sn**	**Sn**	**02 12 19.2**	**+1.5**
SFK	**Sufi-Kurgan**	**3.09**	**64**	*i* PN		**Pn**	**Pn**	**02 11 42.9**	**-0.6**
SFK				*i*S		**Sn**	**Sn**	**02 12 19.9**	**-0.8**
IUG	**luzhnay**	**3.43**	**2**	*i* PN		**Pn**	**Pn**	**02 11 51.3**	**+3.2**
IUG	**luzhnay**	**3.43**	**2**	Pg		**Pg**	**Pg**	**02 11 59.3**	**-1.0**
	1μm,0.5s								
IUG				Lg		Lg	Lg	02 12 45.0	
	2μm,1.0s								
ARK	**Arkit**	**3.47**	**27**	*i* PN		**Pn**	**Pn**	**02 11 49.8**	**+1.2**
ARK				*i*S		**Sn**	**Sn**	**02 12 31.9**	**+2.1**
ARSB	**Arslanbob**	**3.53**	**41**			**Pn**	**Pn**	**02 11 49.3**	**-0.2**
ARSB	**Arslanbob**	**3.53**	**41**	*i* PN		**Pn**	**Pn**	**02 11 50.0**	**+0.5**
ARSB				*i*S		**Sn**	**Sn**	**02 12 32.3**	**+0.9**
KBL	**Kabul**	**4.22**	**189**			**Pn**	**Pn**	**02 12 00.3**	**+1.4**
KBL	**Kabul**	**4.22**	**189**	PN		**Pn**	**Pn**	**02 12 00.3**	**+1.4**
MNAS	**Manas**	**4.27**	**27**	*e*PN		**Pn**	**Pn**	**02 12 00.9**	**+1.3**
MNAS				*i*S		**Sn**	**Sn**	**02 12 51.1**	**+1.6**
BRLS	**Boroldoy**	**4.32**	**360**	*i* PN		**Pn**	**Pn**	**02 11 59.9**	**-0.2**
BRLS	**Boroldoy**	**4.32**	**360**	Pg		**Pb**	**Pb**	**02 12 12.0**	**+1.7**
	273nm,0.7s								
BRLS				Lg		Lg	Lg	02 13 06.9	
	172nm,0.7s								
KK31	**Karatay Array**	**4.41**	**6**	Pn		**Pn**	**Pn**	**02 12 03.6**	**+2.1**
KK31	**Karatay Array**	**4.41**	**6**	*e*PN		**Pn**	**Pn**	**02 12 04.8**	**+3.3**
KK31				*i*				02 12 17.1	
KK31	**Karatay Array**	**4.41**	**6**	⇑Pn		**Pn**	**Pn**	**02 12 04.2**	**+2.8**
	16nm,0.3s,baz=196,slow=17,SNR=684								
KK31				⇑Pg		**Pg**	**Pg**	**02 12 17.3**	**-1.7**
	114nm,0.7s,baz=195,slow=15,SNR=10.0								
KK31				⇓Lg		Lg	Lg	02 13 14.2	
	99nm,0.5s,baz=185,slow=29,SNR=4.9								
KKAR	**Karatay Array**	**4.41**	**6**	Pn		**Pn**	**Pn**	**02 12 03.4**	**+1.9**
KKAR	**Karatay Array**	**4.41**	**6**	PN		**Pn**	**Pn**	**02 12 03.4**	**+1.9**
ARLS	**Aral**	**4.63**	**46**	*i* PN		**Pn**	**Pn**	**02 12 04.9**	**+0.3**
ARLS				*i*S		**Sn**	**Sn**	**02 12 58.2**	**-0.3**

MRKS Merke 4.76 31 Pg **Pg** **02 12 22.7 -3.0**
184nm,0.8s
MRKS Lg Lg 02 13 25.2
203nm,0.7s
KSH Kashi 4.81 78 Pn **Pn** **02 12 04.3 -2.7**
KSH Sn **Sn** **02 12 57.5 -5.3**
KSH pmax pmax
comp=Z,16nm,0.6s
KSH smax smax
comp=N,390nm,1.0s
KSH smax smax
comp=E,360nm,1.1s
EKS2 Erkin-Say 4.93 36 P **Pn** **02 12 13.3 +4.6**
SNR=68
EKS2 Erkin-Say 4.93 36 *i* PN **Pn** **02 12 09.6 +0.9**
EKS2 *i* S **Sn** **02 13 06.3 +0.4**
UCH Uchtor 4.98 44 P **Pn** **02 12 12.1 +2.4**
SNR=116
UCH Uchtor 4.98 44 *i* PN **Pn** **02 12 10.0 +0.3**
UCH *i* S **Sn** **02 13 07.2 -0.3**
AAK Ala-Archa 5.26 40 P Pn 02 12 18.3 +5.0
SNR=139
AAK Ala-Archa 5.26 40 Pn **Pn** **02 12 14.8 +1.6**
AAK Ala-Archa 5.26 40 *ce*PN **Pn** **02 12 15.9 +2.7**
AAK pmax pmax
comp=Z,81nm,0.6s
AAK Ala-Archa 5.26 40 Pn **Pn** **02 12 16.5 +3.2**
comp=Z,8.8nm,0.3s,baz=217,slow=8.7,SNR=106
AAK Sn **Sn** **02 13 19.5 +5.5**
comp=Z,2.0nm,0.3s,baz=298,slow=10,SNR=1.7
AAK Lg Lg 02 13 45.0
comp=Z,6.5nm,0.3s,baz=343,slow=23,SNR=3.8
comp=Z,98nm,0.6s
NRN Naryn 5.42 58 Pn **Pn** **02 12 15.1 -0.5**
NRN Naryn 5.42 58 PN **Pn** **02 12 15.1 -0.5**
FRU1 Bishkek 5.46 40 PN **Pn** **02 12 19.9 +4.1**
KBK Karagaybulak 5.51 43 P **Pn** **02 12 19.7 +3.0**
SNR=59
KBK Karagaybulak 5.51 43 *i* PN **Pn** **02 12 17.3 +0.6**
KBK *i* S **Sn** **02 13 19.3 -0.9**
CHMS Chumysh 5.65 39 P Pn 02 12 23.6 +5.0
SNR=52
CHMS Chumysh 5.65 39 *e*PN **Pn** **02 12 19.3 +0.8**
CHMS *i* S **Sn** **02 13 22.9 -0.6**
CHMS Chumysh 5.65 39 ⇑Pn **Pn** **02 12 20.9 +2.4**
comp=Z,106nm,0.8s
CHMS ⇓Sn **Sn** **02 13 30.0 +6.5**
comp=Z,189nm,1.0s
CHMS ⇓Lg Lg 02 13 58.3
comp=Z,231nm,1.0s
USP Ospenovka 5.74 36 P Pn 02 12 24.7 +5.0
SNR=16
USP Ospenovka 5.74 36 *i* PN **Pn** **02 12 20.6 +0.9**
USP *i* S **Sn** **02 13 25.1 -0.5**
NIL Nilore 5.74 151 PN **Pn** **02 12 22.6 +2.9**
BOOM Boomskoye usch 5.96 49 *e*PN **Pn** **02 12 23.1 +0.3**
BOOM *i* S **Sn** **02 13 31.8 +0.6**
ULHL Ulahol 6.00 52 P Pn 02 12 29.9 +6.5
SNR=27
TKM2 Tokmak 2 6.04 44 P **Pn** **02 12 26.1 +2.1**
SNR=16
TKM2 Tokmak 2 6.04 44 PN **Pn** **02 12 28.2 +4.2**
TKM2 Tokmak 2 6.04 44 ⇓Pn **Pn** **02 12 25.9 +1.9**
comp=Z,62nm,0.8s
TKM2 ⇑Sn **Sn** **02 13 39.4 +6.1**
comp=Z,88nm,0.8s
TKM2 ⇓Lg Lg 02 14 10.1
comp=Z,112nm,1.1s
KST Kastek 6.32 45 Pg **Pg** **02 12 51.3 -4.2**
comp=Z,26nm,1.0s
KST Lg Lg 02 14 13.5
comp=Z,82nm,1.1s
DGS Degeres 6.35 43 Pg **Pg** **02 12 51.9 -4.2**
comp=Z,47nm,0.6s
DGS Lg Lg 02 14 15.0
comp=Z,103nm,1.0s
KRBS Karabastau 6.62 39 Pg **Pg** **02 12 59.1 -2.1**
comp=Z,39nm,0.9s
KRBS Lg Lg 02 14 26.9
comp=Z,48nm,0.8s
MTBS Maitube 6.64 46 Pg Pg 02 12 56.3 -5.2
comp=Z,15nm,0.9s
MTBS Lg Lg 02 14 22.7
comp=Z,38nm,1.1s
TARG Taragay, Kyrgy 6.77 61 **Pn** **02 12 33.8 -0.4**
TARG Taragay, Kyrgy 6.77 61 PN **Pn** **02 12 33.8 -0.4**
TNSS Tian-Shan 6.88 49 Pg **Pg** **02 13 02.0 -4.2**
comp=Z,18nm,0.8s
TNSS Lg Lg 02 14 32.7
comp=Z,4.8nm,1.0s
MDOK Medeo 7.01 48 ⇑Pn **Pn** **02 12 40.7 +3.4**
comp=Z,38nm,0.7s
MDOK Lg Lg 02 14 40.6
comp=Z,101nm,0.9s
BTLS Baital 7.05 25 *i* PN **Pn** **02 12 40.9 +3.3**
BTLS Baital 7.05 25 Pg **Pg** **02 13 05.9 -3.4**
BTLS Lg Lg 02 14 38.8
comp=Z,60nm,0.9s
KOTS Kotyrbulak 7.09 48 Pg **Pg** **02 13 06.2 -4.1**
comp=Z,44nm,0.9s
KOTS Lg Lg 02 14 40.3
comp=Z,124nm,0.7s
KTBS Karatobe 7.16 44 Pg Pg 02 13 06.4 -5.0
comp=Z,24nm,0.7s
KTBS Lg Lg 02 14 39.5
comp=Z,44nm,0.6s
HRA Herat 7.51 237 Pn **Pn** **02 12 44.1 -0.1**
SATY Saty 7.78 53 Pg **Pg** **02 13 19.4 -3.9**
comp=Z,31nm,0.9s
SATY Lg Lg 02 15 01.7
comp=Z,47nm,1.8s
ZHN Zhinishke 7.86 53 Pg Pg 02 13 19.4 -5.4
comp=Z,9.9nm,0.4s
ZHN Lg Lg 02 15 02.4
comp=Z,25nm,0.8s
THN Thein Dam 7.86 141 *e*P **Pn** **02 12 51.5 +2.8**
THN *e*S **Sn** **02 14 20.5 +2.6**
THN IAML 02 15 11.1
comp=E,77nm,0.6s
THN IAML 02 15 12.3
comp=N,60nm,0.9s
DHRM DHARAMSHALA 8.30 139 *e*P **Pn** **02 12 56.9 +1.8**
DHRM IAML 02 14 39.6
comp=N,106nm,0.7s
DHRM IAML 02 14 42.0
comp=E,119nm,0.4s
SHLS Shalkode 8.50 55 Pg **Pg** **02 13 34.8 -2.4**
comp=E,12nm,0.6s
SHLS Lg Lg 02 15 27.9
comp=E,22nm,0.8s
PDGK Podgornoye 8.60 55 P Pn 02 13 04.1 +5.0
PDGK Podgornoye 8.60 55 Pg Pg 02 13 32.3 -6.8
comp=E,6.0nm,0.9s
PDGK Lg Lg 02 15 25.0
comp=E,14nm,1.0s
PDGK Podgornoye 8.60 55 ⇑Pn Pn 02 13 04.1 +5.0
comp=E,20nm,1.1s
PDGK ⇑Lg Lg 02 15 33.8
comp=E,52nm,1.2s
GEYT Alibeck 9.28 269 Pn **Pn** **02 13 06.4 -1.9**
GEYT Alibeck 9.28 269 Pn **Pn** **02 13 07.7 -0.6**
comp=E,3.3nm,0.3s,baz=90,slow=12,SNR=29
GEYT Sn **Sn** **02 14 50.0 -2.7**
comp=E,4.2nm,0.3s,baz=193,slow=12,SNR=6.5
GEYT Lg Lg 02 15 56.8
comp=E,0.5nm,0.3s,baz=54,slow=10,SNR=1.0
comp=E,4.4nm,0.3s
GYA0 ALIBECK ARRAY 9.28 269 P **Pn** **02 13 06.1 -2.2**
GYA0 SN **Sn** **02 14 47.2 -5.5**
GYA0B ALIBECK ARRAY 9.28 269 Pn **Pn** **02 13 06.4 -1.9**
GYA0B ALIBECK ARRAY 9.28 269 ⇓Pn **Pn** **02 13 06.1 -2.1**
GYA0B ⇓Sn **Sn** **02 14 47.2 -5.5**
GYA0B ⇑Lg Lg 02 15 41.7
SMLA Simla 9.64 140 *e*P **Pn** **02 13 15.4 +2.2**
SMLA *e*S **Sn** **02 15 01.3 -0.3**
SMLA IAML 02 15 12.2
comp=N,59nm,1.1s
SMLA IAML 02 15 12.6
comp=E,42nm,0.6s
OTUK Ortayu 9.70 10 P **Pn** **02 13 14.3 +0.4**
OTUK Ortayu 9.70 10 Pg Sn 02 13 55.6 -67
comp=E,4.1nm,0.5s
OTUK Lg Lg 02 16 03.5
comp=E,23nm,1.1s
OTUK Ortayu 9.70 10 ⇑Pn **Pn** **02 13 14.4 +0.4**
comp=E,27nm,1.1s

OTUK ⇓Lg Lg 02 16 01.6
comp=E,104nm,1.2s
KUDL Kundal 11.89 150 *e*P **Pn** **02 13 43.5 -0.5**
KUDL *e*S **Sn** **02 15 49.8 -7.0**
MK31 Makanchi Array 12.17 44 Pn **Pn** **02 13 47.5 -0.3**
MK31 Makanchi Array 12.17 44 *ce*P **Pn** **02 13 50.9 +3.1**
MK31 Makanchi Array 12.17 44 ⇓Pn **Pn** **02 13 48.8 +1.0**
comp=E,3.6nm,0.7s
MKAR Makanchi Array 12.17 44 **Pn** **02 13 46.0 -1.8**
MKAR Makanchi Array 12.17 44 *ce*P **Pn** **02 13 49.2 +1.4**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 12.17 44 Pn **Pn** **02 13 49.3 +1.5**
comp=Z,0.2nm,0.3s,baz=220,slow=11,SNR=9.0
MKAR Lg Lg 02 17 23.3
comp=Z,0.2nm,0.3s,baz=251,slow=27,SNR=3.0
comp=Z,2.6nm,0.8s
AB31 Akbulak array 12.73 329 P **Pn** **02 13 54.2 -1.2**
AB31 Akbulak array 12.73 329 ⇑Pn **Pn** **02 13 54.0 -1.4**
comp=Z,5.0nm,0.5s,baz=159,slow=11,SNR=204
AB31 ⇓Sn **Sn** **02 16 15.4 -1.6**
comp=Z,19nm,0.7s,baz=142,slow=24,SNR=6.6
AB31 ⇓Lg Lg 02 17 35.2
comp=Z,24nm,0.9s
ABKAR Akbulak array 12.73 329 **Pn** **02 13 54.3 -1.1**
ABKAR Akbulak array 12.73 329 **Pn** **02 13 54.0 -1.4**
KURBB Kurchatov Arra 13.39 24 P **Pn** **02 14 02.5 -1.9**
KURBB Kurchatov Arra 13.39 24 Pn **Pn** **02 14 03.5 -0.9**
comp=Z,0.1nm,0.3s,baz=214,slow=12,SNR=14
KURBB Sn **Sn** **02 16 29.9 -3.4**
baz=205,slow=12,SNR=2.6
KURBB Lg Lg 02 17 57.3
comp=Z,0.1nm,0.3s,baz=213,slow=32,SNR=5.3
comp=Z,2.2nm,0.7s
KURBB Kurchatov Arra 13.39 24 ⇑Pn **Pn** **02 14 05.3 +0.9**
comp=Z,7.0nm,0.7s
KURBB ⇓Lg Lg 02 18 02.7
comp=Z,33nm,1.1s
KURK Kurchatov 13.50 24 *i* P **Pn** **02 14 05.9 0.0**
KURK Kurchatov 13.50 24 ⇑Pn **Pn** **02 14 04.6 -1.3**
comp=Z,9.5nm,1.1s
KURK ⇑Lg Lg 02 18 02.7
comp=Z,61nm,1.2s
BVA0 Borovoye Array 14.32 1 *i* P **Pn** **02 14 17.3 +0.2**
BVA0 Borovoye Array 14.32 1 ⇓Pn **Pn** **02 14 17.0 -0.2**
comp=Z,12nm,0.8s,baz=170,slow=12,SNR=31
BVAR Borovoye Array 14.32 1 Pn **Pn** **02 14 16.1 -1.0**
comp=Z,0.3nm,0.3s,baz=164,slow=13,SNR=16
comp=Z,10.0nm,0.6s
WMQ Urumqi 14.33 63 *e*P **P** **02 14 21.5 -3.1**
WMQ sP Pn 02 14 30.5 +13
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ LR LR
comp=N,300nm,11.7s
WMQ LR LR
comp=Z,140nm,14.3s
BRVK Borovoye 14.35 1 Pn **Pn** **02 14 17.3 -0.2**
BRVK Borovoye 14.35 1 *ce*P **Pn** **02 14 16.5 -1.0**
BRVK pmax pmax
comp=Z,25nm,1.7s
BRVK Borovoye 14.35 1 ⇑Pn **Pn** **02 14 17.1 -0.4**
comp=Z,14nm,0.9s
AKTO Aktyubinsk 14.43 328 Pn **Pn** **02 14 18.6 0.0**
comp=Z,1.2nm,0.3s,baz=136,slow=12,SNR=22
AKTO Sn **Sn** **02 16 53.2 -5.4**
comp=Z,0.3nm,0.3s,baz=233,slow=15,SNR=2.3
comp=Z,10.0nm,0.6s
AKTO Aktyubinsk 14.43 328 ⇑Pn **Pn** **02 14 18.2 -0.4**
comp=Z,17nm,0.7s
AKTO ⇓Sn **Sn** **02 16 57.2 -1.4**
comp=Z,31nm,0.9s
MAK Makhachkala 17.44 291 *e*P **Pn** **02 14 53.1 -4.6**
MAK *e*S **Sn** **02 18 03.4 -8.4**
MAK pmax pmax
comp=Z,346nm,1.4s
MAK MLR MLR
comp=Z,147nm,14.0s
UOSS Minazif 17.95 224 P **Pn** **02 15 04.8 +0.6**
WSAR Wadi Sarin 18.17 215 P **Pn** **02 15 04.3 -2.5**
comp=Z,0.1nm,0.3s,baz=31,slow=14,SNR=2.2
comp=Z,2.7nm,0.8s
ZAA0 Zalesovo Array 18.34 29 P **Pn** **02 15 07.7 -1.0**
ZALV Zalesovo Beam 18.34 29 **Pn** **02 15 08.0 -0.7**
ZALV Zalesovo Beam 18.34 29 P **Pn** **02 15 07.8 -1.0**
comp=Z,0.7nm,0.3s,baz=225,slow=12,SNR=12
comp=Z,3.6nm,0.5s
GROC Groznyy 18.71 292 *e*P **P** **02 15 11.8 -1.2**
GROC pmax pmax
comp=Z,39nm,1.0s
GROC MLR MLR
comp=Z,875nm,14.0s
SVE Sverdlovsk 19.13 344 *e*P **Pn** **02 15 18.4 +0.1**
SVE *e*S **S** **02 18 53.5 -0.7**
SVE pmax pmax
comp=Z,19nm,1.0s
SVE MLR MLR
comp=Z,340nm,10.0s
ARU Arti 19.26 341 P **P** **02 15 19.4 +0.6**
ARU Arti 19.26 341 *d* iP **P** **02 15 18.7 -0.1**
ARU S **Sn** **02 18 55.4 -0.1**
ARU pmax pmax
comp=Z,18nm,0.9s
ARU Arti 19.26 341 P **P** **02 15 18.9 +0.1**
comp=Z,0.5nm,0.3s,baz=157,slow=4.7,SNR=13
comp=Z,13nm,0.7s
GNI Garni 19.46 282 P **P** **02 15 22.1 +0.7**
GNI IAmb IAmb 02 16 00.8
comp=Z,30nm,1.3s
GNI Garni 19.46 282 *ce*P **Pn** **02 15 24.7 +2.2**
GNI pmax pmax
comp=Z,26nm,1.7s
GNI Garni 19.46 282 P **Pn** **02 15 22.6 0.0**
comp=Z,0.3nm,0.3s,baz=170,slow=17,SNR=4.0
comp=Z,7.2nm,0.6s
GOMU GeErMu 19.94 89 P **Pn** **02 15 30.5 +2.0**
GOMU pP sP 02 15 34.0 +2.1
GOMU sP pP 02 15 36.0 +5.7
GOMU S **S** **02 19 05.8 -5.6**
GOMU pmax pmax
comp=Z,5.0nm,0.4s
GOMU LR LR
comp=N,160nm,15.7s
GOMU LR LR
comp=E,220nm,16.3s
GOMU LR LR
comp=Z,470nm,17.1s
ONI Oni 20.39 289 P **P** **02 15 31.5 +0.1**
ONI IAmb IAmb 02 15 38.4
comp=Z,21nm,0.7s
ONI Oni 20.39 289 P **P** **02 15 31.5 +0.1**
ONI pmax pmax
comp=Z,21nm,0.7s
BELG Belogornoye 20.63 319 *d* iP **P** **02 15 34.1 +0.4**
BELG pmax pmax
comp=Z,8.0nm,0.8s
BELG Belogornoye 20.63 319 P Pn 02 15 35.3 -0.7
comp=Z,48nm,0.9s,baz=192,slow=1.9,SNR=27
comp=Z,48nm,0.9s
KBZ Khabaz 20.86 293 *ce*P Pn 02 15 39.8 +0.9
KBZ pmax pmax
comp=Z,6.0nm,0.8s
KBZ Khabaz 20.86 293 P Pn 02 15 38.1 -0.8
comp=Z,6.4nm,0.8s,baz=143,slow=8.3,SNR=11
comp=Z,6.4nm,0.8s
KVAR Kislovodsk Arr 21.03 293 P **P** **02 15 39.7 +1.4**
comp=Z,2.1nm,0.5s,baz=1.4,slow=15,SNR=1.8
comp=Z,2.1nm,0.5s
KIV Kislovodsk 21.03 293 P **P** **02 15 39.2 +0.9**
KIV IAmb IAmb 02 16 01.4
comp=Z,15nm,0.7s
KIV Kislovodsk 21.03 293 *e*P **P** **02 15 40.8 +2.4**
KIV *e*S **S** **02 19 35.5 +2.9**
KIV pmax pmax
comp=Z,14nm,1.0s
SHA1 Shidzhatmaz 21.04 293 *i* P **P** **02 15 41.9 +3.3**
GTA Gaotai 23.21 79 *e*P **P** **02 16 03.5 +1.9**
GTA pP sP 02 16 08.5 +1.8
GTA pmax pmax
comp=Z,8.0nm,1.4s
GTA LR LR
comp=N,100nm,18.5s
GTA LR LR
comp=E,120nm,18.5s
GTA LR LR
comp=Z,200nm,17.8s
VRH Novokhopyorsk 23.35 311 *e*P **P** **02 16 07.7 +4.9**
VRH pmax pmax
comp=Z,40nm,0.7s
KIRV Kirov 23.87 333 *ce*P **P** **02 16 09.5 +1.8**
KIRV Kirov 23.87 333 P **P** **02 16 07.5 -0.2**
comp=Z,10nm,0.6s,baz=108,slow=3.2,SNR=4.8
comp=Z,10nm,0.6s
ARPR Arapgir-MALATY 24.49 281 P **P** **02 16 14.9 +0.9**
VSR Storozhevoye 24.87 310 *e*P **P** **02 16 17.2 +0.2**
VSR pmax pmax
comp=Z,7.0nm,0.7s
MOY Mondy 25.25 49 *e*P **P** **02 16 22.0 +1.4**
MOY pmax pmax
comp=Z,14nm,1.4s
LPSR Galich'ya Gora 25.47 313 *e*P **P** **02 16 27.9 +5.5**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
RAYN Ar Rayn 25.68 241 P **P** **02 16 25.4 +0.8**
RAYN IAmb IAmb 02 16 28.6
comp=Z,20nm,1.4s
RAYN Ar Rayn 25.68 241 P **P** **02 16 25.5 +0.8**
RAYN pmax pmax
comp=Z,20nm,1.4s
ZAK Zakamensk 26.28 53 *e*P **P** **02 16 30.1 +0.1**
ZAK pmax pmax
comp=Z,7.0nm,0.9s
OBN Obninsk 27.70 317 *i* P **P** **02 16 45.7 +3.2**
OBN pmax pmax
comp=Z,5.0nm,0.9s
SONM Songino Array 27.89 59 P **P** **02 16 44.3 -0.2**
comp=Z,3.2nm,1.2s,baz=256,slow=7.9,SNR=10
comp=Z,3.2nm,1.2s
BRTR Keskin Array B 27.98 284 P **P** **02 16 47.0 +1.6**
BRTR Keskin Array B 27.98 284 P **P** **02 16 47.0 +1.6**
comp=Z,1.5nm,0.6s,baz=100,slow=8.6,SNR=3.4
comp=Z,1.5nm,0.6s
ULN Ulaanbaatar 28.33 59 *ce*P **P** **02 16 49.2 +0.8**
ULN pmax pmax
comp=Z,4.0nm,1.3s
EIL Elat 30.12 263 LR LR 02 30 18.8
comp=Z,174nm,21.1s,baz=290,slow=39
AKASG Malin Array Be 30.90 306 P **P** **02 17 11.3 +0.4**
comp=Z,1.7nm,0.7s,baz=81,slow=7.4,SNR=13
comp=Z,1.7nm,0.7s
AKBB Malin Array Si 30.90 306 *ce*P **P** **02 17 13.0 +2.1**
AKBB pmax pmax
comp=Z,5.0nm,0.9s
SORM Soroca 31.27 301 ⇑P **P** **02 17 14.3 +0.1**
SORM Soroca 31.27 301 ⇑P **P** **02 17 14.3 +0.1**
HHC Hu-ho-hao-te 31.89 73 SS **S** **02 22 32.0 +1.2**
HHC pmax pmax
comp=Z,8.0nm,0.7s
HHC pmax pmax
comp=Z,74nm,5.9s
HHC LR LR
comp=N,330nm,19.1s
HHC LR LR
comp=E,370nm,18.3s
HHC LR LR
comp=Z,640nm,18.3s
NRIK Noril'sk 32.13 12 *ce*P **P** **02 17 21.9 +0.3**
NRIK pmax pmax
comp=Z,3.0nm,1.0s
NRIK Noril'sk 32.13 12 P **P** **02 17 22.2 +0.6**
comp=Z,1.3nm,0.4s,baz=180,slow=3.6,SNR=2.2
comp=Z,1.3nm,0.4s
CMAR Chiang Mai Arr 32.32 120 P **P** **02 17 23.0 -0.8**
CMAR Chiang Mai Arr 32.32 120 P **P** **02 17 23.0 -0.8**
comp=Z,1.8nm,0.3s,baz=316,slow=7.6,SNR=2.0
comp=Z,1.8nm,0.3s
VRI Vrincioaia 32.40 297 ⇑P **P** **02 17 26.8 +2.6**
VRI Vrincioaia 32.40 297 ⇑P **P** **02 17 26.8 +2.6**
PLOR Plostina 32.45 297 ⇑P **P** **02 17 27.9 +3.2**
PLOR Plostina 32.45 297 ⇑P **P** **02 17 27.9 +3.2**
MLR Muntele Rosu 32.97 296 ⇑P **P** **02 17 32.0 +2.7**
MLR Muntele Rosu 32.97 296 P **P** **02 17 29.5 +0.2**
MLR IAmb IAmb 02 17 35.5
comp=Z,8.6nm,1.0s
MLR Muntele Rosu 32.97 296 P **P** **02 17 29.5 +0.2**
MLR pmax pmax
comp=Z,9.0nm,1.0s
MLR Muntele Rosu 32.97 296 P **P** **02 17 30.7 +1.4**
comp=Z,7.4nm,1.0s,baz=101,slow=8.4,SNR=7.6
comp=Z,7.4nm,1.0s
BURAR Bucovina Array 33.37 300 ⇓P **P** **02 17 33.1 +0.2**
BURAR Bucovina Array 33.37 300 ⇓P **P** **02 17 33.1 +0.2**
BUR08 Bucovina Ar. S 33.38 300 P **P** **02 17 33.3 +0.4**
VOIR 33.60 296 ⇓P **P** **02 17 35.8 +1.0**
VOIR 33.60 296 ⇓P **P** **02 17 35.8 +1.0**
ARCR ARCALIA 33.98 299 ⇑P **P** **02 17 39.4 +1.4**
MARR Marisel-Cluj 34.85 299 ⇓P **P** **02 17 46.0 +0.3**
DRGR 35.12 299 ⇑P **P** **02 17 48.6 +0.6**
DRGR 35.12 299 ⇑P **P** **02 17 48.6 +0.6**
FINES FINESS Array B 35.16 325 P **P** **02 17 48.4 +0.4**
FINES FINESS Array B 35.16 325 *ce*P **P** **02 17 50.7 +2.7**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 35.16 325 P **P** **02 17 48.8 +0.8**
comp=Z,2.5nm,0.6s,baz=109,slow=10,SNR=13
comp=Z,2.5nm,0.6s
GZR Gura Zlata 35.20 296 ⇑P **P** **02 17 47.1 -1.5**
BZS Buzias 35.98 297 ⇓P **P** **02 17 56.5 +1.2**
BZS Buzias 35.98 297 ⇓P **P** **02 17 56.5 +1.2**
VYHS Vyhne 37.60 302 *e*P **P** **02 18 13.3 +4.2**
VYHS Vyhne 37.60 302 *e*P **P** **02 18 13.3 +4.2**
SRO Srobarova 38.01 301 *e*P P 02 18 19.0 +6.5
SRO Srobarova 38.01 301 *e*P P 02 18 19.0 +6.5
MODS Modra-Piesok 38.65 302 *e*P **P** **02 18 22.1 +4.2**
MODS Modra-Piesok 38.65 302 *e*P **P** **02 18 22.1 +4.2**
ARCES ARCESS Array B 38.77 337 P **P** **02 18 18.9 +0.3**
comp=Z,1.5nm,0.7s,baz=103,slow=8.2,SNR=7.3
comp=Z,1.5nm,0.7s
HFS Hagfors 40.79 320 P **P** **02 18 36.1 +0.5**
comp=Z,5.6nm,0.5s,baz=103,slow=11,SNR=23
comp=Z,5.6nm,0.5s
CLL Collm 41.13 307 *e*P **P** **02 18 38.0 -0.5**
CLL Collm 41.13 307 *e*P **P** **02 18 38.0 -0.5**
HEH HeiHe 41.65 55 *e*P **P** **02 18 43.3 +0.5**
HEH pmax pmax
comp=Z,10.0nm,0.7s
NC303 NORSAR Array S 42.03 322 P **P** **02 18 46.4 +0.7**
NB2 NORSAR Subarra 42.09 322 P **P** **02 18 46.2 -0.1**
comp=Z,4.1nm,0.7s,baz=95,slow=8.6
NOA NORSAR Array B 42.09 322 P **P** **02 18 46.5 +0.2**
comp=Z,2.5nm,0.6s,baz=95,slow=8.1,SNR=14
comp=Z,2.5nm,0.6s
BNX BinXian 42.37 61 ⇑P **P** **02 18 47.3 -1.4**
BNX pmax pmax
comp=Z,2.0nm,0.5s
BNX pmax pmax
comp=Z,100nm,5.5s
YAK Yakutsk 42.71 37 *i* P **P** **02 18 55.1 +3.9**
YAK pmax pmax
comp=Z,10.0nm,0.9s
DAVOX Davos/Dischmat 43.84 301 P **P** **02 19 02.4 +1.6**
comp=Z,1.3nm,0.5s,baz=132,slow=12,SNR=2.3
comp=Z,1.3nm,0.5s
TIXI Tiksi 44.07 23 P **P** **02 19 01.2 -0.9**
TIXI Tiksi 44.07 23 P **P** **02 19 01.2 -0.9**
TIXI pmax pmax
comp=Z,9.0nm,0.8s
KLR Kul'dur 44.59 55 *ce*P **P** **02 19 09.1 +2.5**
KLR pmax pmax
comp=Z,6.0nm,1.4s
KSRS Korea Array 45.03 73 P **P** **02 19 09.1 -1.1**
comp=Z,0.9nm,0.5s,baz=288,slow=5.1,SNR=5.1
comp=Z,0.9nm,0.5s
SPITS Spitsbergen Ar 45.14 346 P **P** **02 19 11.0 +0.4**
SPITS Spitsbergen Ar 45.14 346 P **P** **02 19 11.0 +0.4**
comp=Z,6.1nm,0.9s,baz=102,slow=6.1,SNR=1.8
comp=Z,6.1nm,0.9s
MSHR Mys Shultsa 45.77 65 *ce*P **P** **02 19 19.4 +3.4**
MSHR pmax pmax
comp=Z,5.0nm,1.3s
DGAR Diego Garcia 45.95 176 *ce*P **P** **02 19 20.4 +2.8**
EKA Eskdalemuir Ar 50.09 315 P **P** **02 19 49.7 +0.4**
comp=Z,2.4nm,0.6s,baz=76,slow=6.0,SNR=3.4
comp=Z,2.4nm,0.6s
DAG Danmarks Havn 52.36 343 *i* P **P** **02 20 08.6 +2.5**
DAG IAmb IAmb 02 20 15.1
comp=Z,1.9nm,0.6s
ESDC Sonseca Array 55.66 296 P **P** **02 20 31.5 +0.7**
comp=Z,1.6nm,0.9s,baz=57,slow=7.2,SNR=5.3
comp=Z,1.6nm,0.9s
BILL Bilibino 57.02 26 *i* P **P** **02 20 42.7 +2.8**
BILL pmax pmax
comp=Z,2.0nm,1.2s
SUMG Summit 58.68 340 P **P** **02 20 52.1 0.0**
SUMG Summit 58.68 340 P **P** **02 20 52.1 0.0**
SUMG pmax pmax
comp=Z,6.0nm,0.9s
SUMG Summit 58.68 340 *i* P **P** **02 20 52.0 0.0**
SUMG IAmb IAmb 02 20 58.6
comp=Z,4.0nm,0.8s
NEEM North Greenlan 58.69 347 *i* P **P** **02 20 53.4 +1.5**
NEEM IAmb IAmb 02 21 04.1
comp=Z,1.6nm,0.6s
ISOG Isortoq, Green 62.54 334 *i* P **P** **02 21 14.3 -3.6**
ISOG IAmb IAmb 02 21 18.8
comp=Z,37nm,0.9s
TORD Torodi Ar. Bea 64.92 267 P **P** **02 21 34.8 +0.5**
comp=Z,1.6nm,0.6s,baz=59,slow=4.8,SNR=1.1
comp=Z,1.6nm,0.6s
B20K Meade River 66.33 16 P **P** **02 21 43.1 +0.5**
C18K Utukok River 66.45 18 P **P** **02 21 43.6 0.0**
C18K IAmb IAmb 02 22 08.0
comp=Z,3.8nm,1.1s
B22K Teshekpuk Lake 66.83 15 P **P** **02 21 46.2 +0.3**
B21K Ikpikpuk River 67.18 15 P **P** **02 21 48.6 +0.6**
B21K IAmb IAmb 02 21 50.8
comp=Z,4.5nm,1.1s
D19K Kuna River 67.30 17 P **P** **02 21 49.0 +0.1**
D19K IAmb IAmb 02 21 49.9
comp=Z,3.9nm,0.9s
E18K Tukpahlearik C 67.52 19 P **P** **02 21 50.4 +0.1**
E18K IAmb IAmb 02 22 28.9
comp=Z,4.1nm,1.2s
C23K Itkillik River 67.80 14 P **P** **02 21 52.8 +0.9**
C23K IAmb IAmb 02 21 53.6
comp=Z,3.7nm,0.9s
F17K Baldwin Pennin 68.10 20 P **P** **02 21 54.4 +0.5**
F17K IAmb IAmb 02 22 16.4
comp=Z,5.8nm,1.2s
D22K Ayikyak River 68.18 15 P **P** **02 21 55.0 +0.5**
D22K IAmb IAmb 02 21 59.3
comp=Z,5.7nm,1.2s
E22K Anaktuvuk Pass 68.98 15 P **P** **02 21 59.8 +0.2**
E22K IAmb IAmb 02 22 03.3
comp=Z,3.7nm,1.1s
TOLK Toolik Lake Re 69.01 14 P **P** **02 22 00.1 +0.4**
TOLK IAmb IAmb 02 22 22.1
comp=Z,4.1nm,0.9s
D25K Kavik River 69.01 13 P **P** **02 22 00.5 +0.8**
D25K IAmb IAmb 02 22 01.3
comp=Z,3.0nm,0.9s
A36M Sachs Harbour 69.09 5 P **P** **02 22 00.4 +0.4**
G19K Purcell Mounta 69.40 19 P **P** **02 22 02.0 -0.1**
G19K IAmb IAmb 02 22 04.7
comp=Z,6.2nm,1.4s
E28M Babbage River 70.77 11 P **P** **02 22 11.2 +0.8**
E27K Coleen River 70.83 12 P **P** **02 22 11.4 +0.5**
E29M Blow River 71.21 11 P **P** **02 22 14.0 +0.9**
C36M Paulatuk 71.76 5 P **P** **02 22 16.2 -0.2**
INK Inuvik 71.86 9 P **P** **02 22 17.6 +0.6**
INK IAmb IAmb 02 22 20.7
comp=Z,5.7nm,1.1s
INK Inuvik 71.86 9 P **P** **02 22 17.6 +0.6**
INK pmax pmax
comp=Z,6.0nm,1.1s
NEA2 Nenana 72.58 17 P **P** **02 22 21.6 +0.3**
NEA2 IAmb IAmb 02 22 24.0
comp=Z,5.5nm,1.2s
CAST Castle Rocks 72.87 18 P **P** **02 22 23.4 +0.2**
CAST IAmb IAmb 02 22 27.5
comp=Z,5.3nm,1.2s
ILAR Eielson Array 72.89 16 P **P** **02 22 22.6 -0.6**
comp=Z,1.1nm,0.9s,baz=324,slow=5.1,SNR=13
comp=Z,1.1nm,0.9s
SKT Skwentna 74.22 19 P **P** **02 22 30.7 -0.4**
I30M Mount Dempster 74.39 11 P **P** **02 22 32.5 +0.3**
YKA Yellowknife Ar 79.08 2 P **P** **02 22 58.8 +0.3**
comp=Z,1.4nm,0.8s,baz=348,slow=5.9,SNR=14
comp=Z,1.4nm,0.8s
SCHQ Schefferville 79.72 336 P **P** **02 23 02.4 +0.2**
comp=Z,1.8nm,0.7s,baz=14,slow=4.2,SNR=1.7
comp=Z,1.8nm,0.7s
WRA Warramunga Arr 83.91 121 P **P** **02 23 22.8 -1.8**
comp=Z,1.4nm,0.9s,baz=326,slow=4.6,SNR=1.8
comp=Z,1.4nm,0.9s
ASAR Alice Springs 86.24 124 P **P** **02 23 37.0 +0.7**
comp=Z,0.7nm,0.7s,baz=310,slow=5.0,SNR=5.8
comp=Z,0.7nm,0.7s
SADO Sadowa 92.33 338 LR LR 03 07 25.1
comp=Z,158nm,19.6s,baz=305,slow=37
PLCA Paso Flores 149.67 253 PKPbc **PKiKP** **02 30 46.0 +0.8**
comp=Z,1.2nm,0.8s,baz=0.0,slow=7.1,SNR=3.8

IDC 30 02:13:54.0±1.8, 6.38°S×142.94°E, h0km, mb3.9/2, mbtmp3.7/4, ML3.2/2, Error ellipse: s-maj=82.0km s-min=24.4km az=112.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.86**	**211**	Pn	**Pn**	**Pn**	02 17 36.9	-1.9
	0.1nm,0.3s,baz=32,slow=13,SNR=4.9							
WRA				Lg	Lg	Lg	02 22 17.0	
	baz=31,slow=30							
	0.5nm,0.7s							
ASAR	**Alice Springs**	**19.26**	**206**	P		Pn	02 18 21.2	0.0
	0.1nm,0.3s,baz=37,slow=8.9,SNR=15							
ASAR				Lg	Lg	Lg	02 24 02.6	
	baz=23,slow=31,SNR=1.9							
	2.4nm,0.9s							
BVAR	**Borovoye Array**	**84.72**	**325**	P		P	02 26 30.6	+0.8
	1.3nm,0.8s,baz=99,slow=6.6,SNR=6.9							
	1.3nm,0.8s							
ILAR	**Eielson Array**	**87.43**	**24**	P		P	02 26 42.1	-0.9
	0.4nm,0.8s,baz=252,slow=5.9,SNR=5.2							
	0.4nm,0.8s							

*IDC **30** 02:14:32.8±1.5, 5.89°S×152.13°E, h0km, mb3.9/4, mbtmp4.0/5, ML2.1/1, Error ellipse: s-maj=79.6km s-min=24.1km az=125.0*

ISC 30 02:14:38.6±1.4, 5.9°S±0.3×151.9°E±0.3, h36km, n6, σ0.8s76/7, mb3.9/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.88**	**233**	Pn	**Pn**	**Pn**	**02 16 03.8**	**+0.7**
	2.8nm,0.3s,baz=62,slow=8.7,SNR=6.1							
PMG				Sn	**Sn**	**Sn**	**02 17 08.3**	**-1.0**
	1.4nm,0.3s,baz=320,slow=22,SNR=1.8							
	16nm,0.5s							
WRA	**Warramunga Arr**	**22.08**	**229**	P		**P**	**02 19 31.4**	**+0.6**
	3.4nm,1.0s,baz=54,slow=10.0,SNR=10							
	3.4nm,1.0s							
ASAR	**Alice Springs**	**24.77**	**223**	P		**P**	**02 19 57.7**	**+0.5**
	3.8nm,0.9s,baz=56,slow=9.2,SNR=13							
	3.8nm,0.9s							
STKA	**Stephens Creek**	**27.63**	**199**	P		**P**	**02 20 22.4**	**-0.4**
	2.0nm,0.8s,baz=41,slow=9.3,SNR=2.9							
	2.0nm,0.8s							
ILAR	**Eielson Array**	**83.47**	**22**	P		**P**	**02 27 02.0**	**-0.2**
	0.7nm,0.7s,baz=246,slow=5.4,SNR=12							
	0.7nm,0.7s							
TORD	**Torodi Ar. Bea**	**149.76**	**286**	PKPbc		**PKPbc**	**02 34 25.5**	**-0.3**
	0.4nm,0.7s,baz=98,slow=2.7,SNR=2.3							

IDC 30 02:15:43.1±2.3, 5.76°S×151.94°E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=142.5km s-min=31.4km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.18**	**229**	P		P	02 20 41.1	+0.1
	1.5nm,0.6s,baz=53,slow=9.9,SNR=8.4							
	1.5nm,0.6s							
ASAR	**Alice Springs**	**24.87**	**222**	P		P	02 21 07.5	-0.2
	1.3nm,0.8s,baz=57,slow=8.9,SNR=5.0							
	1.3nm,0.8s							
ILAR	**Eielson Array**	**83.36**	**22**	P		P	02 28 11.9	+0.1
	0.3nm,0.8s,baz=256,slow=5.7,SNR=1.7							
	0.3nm,0.8s							
TORD	**Torodi Ar. Bea**	**149.77**	**286**	PKPbc		PKPbc	02 35 35.7	-0.4
	1.0nm,0.7s,baz=80,slow=2.1,SNR=9.9							

LJU 30 02:16:53.6, 46.13°N×13.59°E, h16km, ML0.7, Austria

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DRE	**Drenchia**	**0.05**	**42**	*e*Pg		Pg	02 16 56.0	-0.7

IDC ***30*** *02:22:35.8±0.5,5.′43S×151.′75E,h0km,mb4.5/18, mbtmp4.5/19,ML2.6/1,MS3.7/5,Error ellipse: s-maj=20.0km s-min=14.3km az=102.0*

NEIC ***30*** *02:22:41.6±1.6,5.′61S±0.′08×151.′5E±0.′1,h35km±2km, mb4.7/128,Error ellipse: s-maj=20.4km s-min=9.7km az=122.0*

DJA ***30*** *02:22:48.0±1.5,6.′S±5.′×15.′2E±1.′3,h96km±10km,M5.0/12, mB5.6/3,mb4.9/12,MLv5.1/1,Mw(mB)5.0/3*

ISC 30 02:22:44.0±0.4,5.′48S±0.′07×151.′55E±0.′08,h57km,n179, σ0s72/176,mb4.6/76,MS3.9/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.42**	**26**	Pn	**Pn**	**02 23 06.4**	**-1.2**
RABL				Sn	**Sn**	**02 23 27.6**	**+2.3**
MANU	**Manus Island**	**5.39**	**309**		**Pn**	**02 23 58.7**	**-3.1**
PMG	**Port Moresby**	**5.84**	**228**		**Pn**	**02 24 06.3**	**-1.8**
PMG	**Port Moresby**	**5.84**	**228**	Pn	**Pn**	**02 24 08.3**	**+0.3**
	11nm,0.3s,baz=38,slow=9.3,SNR=41						
PMG				Sn	**Sn**	**02 25 14.3**	**+0.6**
	19nm,0.3s,baz=138,slow=18,SNR=9.9						
MTN	**Manton Dam**	**21.43**	**249**	P	**P**	**02 27 28.7**	**+1.2**
MTN				IAmb	IAmb	02 27 32.8	
	comp=Z,22nm,0.5s						
DZM	**Mont Dzumac**	**21.90**	**140**	P	**P**	**02 27 30.8**	**-1.8**
	comp=Z,7.4nm,0.8s,baz=301,slow=12,SNR=2.3						
DZM				LR	LR	02 33 35.3	
	comp=Z,129nm,21.6s,baz=344,slow=30						
	comp=Z,7.4nm,0.8s						
WB0	**Warramunga Arr**	**21.91**	**228**	P	**P**	**02 27 32.2**	**-0.4**
WB0				IAmb	IAmb	02 27 40.2	
	comp=Z,18nm,0.8s						
WR0	**Warramunga Arr**	**21.93**	**227**	P	**P**	**02 27 32.8**	**0.0**
WRAB	**Tennant Creek**	**22.05**	**228**	P	**P**	**02 27 35.0**	**+0.9**
WRAB				IAmb	IAmb	02 27 41.5	
	comp=Z,21nm,0.8s						
WB2	**Warramunga Arr**	**22.05**	**228**	P	**P**	**02 27 34.2**	**+0.1**
WB2				IAmb	IAmb	02 27 38.1	
	comp=Z,24nm,0.6s						
WRA	**Warramunga Arr**	**22.06**	**228**	P	**P**	**02 27 34.6**	**+0.3**
WRA	**Warramunga Arr**	**22.06**	**228**	P	**P**	**02 27 34.4**	**+0.1**
	comp=Z,14nm,0.5s,baz=53,slow=10.0,SNR=118						
WRA				S	**S**	**02 31 35.1**	**+0.6**
	comp=Z,7.9nm,1.2s,baz=54,slow=18,SNR=7.9						
	comp=Z,14nm,0.5s						
KNRA	**Kununurra**	**24.55**	**244**	P	**P**	**02 27 59.2**	**+0.6**
AS31	**Alice Springs**	**24.81**	**221**	P	**P**	**02 28 01.5**	**+0.6**
ASAR	**Alice Springs**	**24.81**	**221**	P	**P**	**02 28 01.3**	**+0.3**
ASAR	**Alice Springs**	**24.81**	**221**	P	**P**	**02 28 01.6**	**+0.6**
	comp=Z,16nm,0.8s,baz=61,slow=8.5,SNR=83						
ASAR				S	**S**	**02 32 20.2**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=38,slow=19,SNR=3.4						
	comp=Z,16nm,0.8s						
STKA	**Stephens Creek**	**27.87**	**198**	P	**P**	**02 28 27.9**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=6.2,slow=12,SNR=5.3						
	comp=Z,1.9nm,0.7s						
BATI	**Baumata**	**28.01**	**259**	P	**P**	**02 28 30.5**	**+0.6**
	comp=Z,36nm,0.7s,baz=148,slow=2.0,SNR=8.9						
	comp=Z,36nm,0.7s						
BATI	**Baumata**	**28.01**	**259**	P	**P**	**02 28 32.1**	**+2.2**
	comp=Z,39nm,0.8s						
FITZ	**Fitzroy Crossi**	**28.24**	**241**	P	**P**	**02 28 31.6**	**-0.2**
FITZ				IAmb	IAmb	02 28 36.1	
	comp=Z,14nm,1.1s						
FORT	**Forrest**	**33.48**	**218**	P	**P**	**02 29 16.6**	**-1.3**
MBWA	**Marble Bar**	**34.55**	**240**	P	**P**	**02 29 27.8**	**+0.5**
NWAO	**Narrogin (SRO)**	**42.02**	**225**	LR	LR	02 48 17.4	
	comp=Z,35nm,19.1s,baz=50,slow=36						
SKJI	**Sukabumi**	**44.74**	**266**	P	P	02 30 58.9	+6.8
CMAR	**Chiang Mai Arr**	**57.04**	**296**	P	**P**	**02 32 26.4**	**+1.8**
	comp=Z,1.1nm,0.3s,baz=109,slow=5.7,SNR=6.0						
	comp=Z,1.1nm,0.3s						
PETK	**Petropavlovsk-**	**58.60**	**4**	P	**P**	**02 32 35.0**	**+0.2**
	comp=Z,2.4nm,0.6s,baz=160,slow=6.0,SNR=5.2						
	comp=Z,2.4nm,0.6s						
XLT	**XiLinHaoTe**	**58.63**	**331**	*e*P	P	02 32 43.5	+8.1
XLT				pmax	pmax		
	comp=Z,14nm,0.5s						
HEH	**HeiHe**	**59.31**	**342**	*e*P	**P**	**02 32 38.8**	**-1.0**
BTO	**Baotou**	**59.61**	**324**	*e*P	P	02 32 48.5	+6.3
BTO				pP	sP	02 33 06.8	+2.3
BTO				sP	PcP	02 33 14.3	-15
BTO				PP	PP	02 35 07.8	+13
BTO				S	S	02 41 02.0	+14
SHEM	**Shemya Is, Ala**	**61.07**	**15**	LR	LR	02 55 02.7	
	comp=Z,98nm,19.9s,baz=211,slow=32						
ULN	**Ulaanbaatar**	**65.92**	**329**	P	**P**	**02 33 24.2**	**0.0**
ULN				IAmb	IAmb	02 33 26.3	
	comp=Z,5.7nm,1.1s						
SONM	**Songino Array**	**66.24**	**329**	P	**P**	**02 33 27.1**	**+0.9**
SONM				IAmb	IAmb	02 33 28.1	
	comp=Z,9.8nm,1.4s						
SONM	**Songino Array**	**66.24**	**329**	P	**P**	**02 33 27.3**	**+1.1**
	comp=Z,3.2nm,0.6s,baz=137,slow=4.9,SNR=19						
SONM				LR	LR	03 00 56.4	
	comp=Z,79nm,21.9s,baz=266,slow=35						
	comp=Z,3.2nm,0.6s						
VNDA	**Vanda**	**72.20**	**178**	P	**P**	**02 34 02.8**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=341,slow=6.2,SNR=5.9						
	comp=Z,0.9nm,0.6s						
M14K	**Bethel**	**75.29**	**22**	P	**P**	**02 34 21.3**	**+0.6**
M14K				IAmb	IAmb	02 34 22.8	
	comp=Z,6.1nm,0.8s						
L14K	**Kuka Creek**	**75.43**	**21**	P	**P**	**02 34 21.9**	**+0.4**
K15K	**Wolf Creek Mou**	**76.47**	**21**	P	**P**	**02 34 28.4**	**+1.0**
K15K				IAmb	IAmb	02 34 29.9	
	comp=Z,5.6nm,0.8s						
M16K	**Timber Creek**	**76.58**	**22**	P	**P**	**02 34 28.9**	**+0.8**
M16K				IAmb	IAmb	02 34 30.1	
	comp=Z,5.3nm,0.7s						
K17K	**Iditarod**	**77.89**	**21**	P	**P**	**02 34 36.4**	**+1.0**
SVW2	**Sparrevohn**	**77.94**	**23**	P	**P**	**02 34 36.9**	**+1.2**
SVW2				IAmb	IAmb	02 34 38.3	
	comp=Z,7.2nm,1.2s						
L18K	**Granite Mounta**	**78.18**	**22**	P	**P**	**02 34 37.8**	**+0.8**
G16K	**Koyuk River**	**78.30**	**18**	P	**P**	**02 34 38.0**	**+0.4**
L19K	**White Mountain**	**78.85**	**23**	P	**P**	**02 34 41.2**	**+0.5**
J18K	**Innoko River**	**78.92**	**21**	P	**P**	**02 34 40.8**	**-0.3**
F17K	**Baldwin Pennin**	**79.34**	**17**	P	**P**	**02 34 43.1**	**-0.1**
F17K				IAmb	IAmb	02 34 46.1	
	comp=Z,4.1nm,0.7s						
G18K	**Tagagawik**	**79.78**	**19**	P	**P**	**02 34 45.1**	**-0.6**
MK31	**Makanchi Array**	**80.02**	**319**		**P**	**02 34 47.6**	**+0.1**
MKAR	**Makanchi Array**	**80.02**	**319**		**P**	**02 34 47.3**	**-0.2**
MKAR	**Makanchi Array**	**80.02**	**319**	P	**P**	**02 34 47.9**	**+0.4**
	comp=Z,2.7nm,0.7s,baz=100,slow=7.2,SNR=22						
	comp=Z,2.7nm,0.7s						
SUA	**Susitna One**	**80.09**	**24**	P	**P**	**02 34 47.8**	**+0.3**
E18K	**Tukpahlearik C**	**80.19**	**17**	P	**P**	**02 34 48.1**	**+0.2**
MAKZ	**Makanchi**	**80.23**	**319**	P	**P**	**02 34 48.4**	**-0.1**
J20K	**Nowinta River**	**80.27**	**21**	P	**P**	**02 34 48.8**	**+0.5**
G19K	**Purcell Mounta**	**80.44**	**19**	P	**P**	**02 34 50.4**	**+1.2**
CAST	**Castle Rocks**	**80.60**	**22**	P	**P**	**02 34 50.3**	**+0.1**
F19K	**Shaleruckik Mo**	**80.65**	**18**	P	**P**	**02 34 49.9**	**-0.4**
ZAA0	**Zalesovo Array**	**81.03**	**327**	P	**P**	**02 34 52.2**	**-0.4**
ZALV	**Zalesovo Beam**	**81.03**	**327**	P	**P**	**02 34 51.9**	**-0.7**
	comp=Z,3.9nm,0.4s,baz=109,slow=4.8,SNR=15						
	comp=Z,3.9nm,0.4s						
E19K	**Redstone River**	**81.21**	**18**	P	**P**	**02 34 53.6**	**+0.3**
E19K				IAmb	IAmb	02 34 55.7	
	comp=Z,5.1nm,0.7s						
SML	**Sawmill**	**81.26**	**25**		**P**	**02 34 53.5**	**-0.2**
SML				IAmb	IAmb	02 34 55.2	
	comp=Z,5.1nm,0.6s						
F20K	**Avaraart Lake**	**81.42**	**18**	P	**P**	**02 34 54.6**	**+0.2**
C19K	**Lookout Ridge**	**81.58**	**16**	P	**P**	**02 34 55.5**	**+0.1**
C19K				IAmb	IAmb	02 34 58.4	
	comp=Z,4.0nm,0.8s						
D19K	**Kuna River**	**81.60**	**17**	P	**P**	**02 34 54.8**	**-0.6**
RND	**Reindeer**	**81.84**	**23**	P	**P**	**02 34 55.7**	**-1.2**
MLY	**Manley**	**81.96**	**21**		**P**	**02 34 56.9**	**-0.6**
MLY				IAmb	IAmb	02 34 59.3	
	comp=Z,3.5nm,0.7s						
DHY	**Denali Highway**	**82.26**	**24**	P	**P**	**02 34 59.3**	**+0.1**
CCB	**Clear Creek Bu**	**82.85**	**22**	P	**P**	**02 35 00.9**	**-1.1**
G23K	**Bananza Creek**	**83.10**	**20**	P	**P**	**02 35 03.1**	**-0.2**
IL31		**83.26**	**22**	P	**P**	**02 35 02.3**	**-1.7**
ILAR	**Eielson Array**	**83.26**	**22**	P	**P**	**02 35 02.2**	**-1.9**
	comp=Z,1.8nm,0.7s,baz=246,slow=5.1,SNR=28						
	comp=Z,1.8nm,0.7s						
E22K	**Anaktuvuk Pass**	**83.28**	**18**	P	**P**	**02 35 04.4**	**+0.2**
H24K	**Noodor Dome**	**83.41**	**21**	P	**P**	**02 35 04.6**	**-0.3**
D22K	**Ayikyak River**	**83.42**	**18**	P	**P**	**02 35 04.9**	**0.0**
D22K				IAmb	IAmb	02 35 07.4	
	comp=Z,3.5nm,0.7s						
KURK	**Kurchatov**	**83.54**	**322**		**P**	**02 35 05.6**	**-0.2**
KURK				IAmb	IAmb	02 35 07.2	
	comp=Z,6.9nm,1.1s						
KURBB	**Kurchatov Arra**	**83.56**	**322**	P	**P**	**02 35 06.1**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=111,slow=4.2,SNR=24						
	comp=Z,2.2nm,0.7s						
J25K	**Salcha River,**	**83.76**	**23**	P	**P**	**02 35 06.0**	**-0.8**
J25K				IAmb	IAmb	02 35 07.4	
	comp=Z,3.1nm,0.6s						
BARN	**Barnard Glacie**	**83.81**	**27**	P	**P**	**02 35 07.7**	**+0.5**
BARN				IAmb	IAmb	02 35 25.4	
	comp=Z,10nm,1.4s						
M27K	**Edge Creek, AK**	**84.22**	**25**	P	**P**	**02 35 09.8**	**+0.5**
M27K				IAmb	IAmb	02 35 12.0	
	comp=Z,5.1nm,0.8s						
AAK	**Ala-Archa**	**84.23**	**314**		**P**	**02 35 10.3**	**+0.5**
AAK				IAmb	IAmb	02 35 13.9	
	comp=Z,4.9nm,1.1s						
F24K	**Squaw Lake**	**84.23**	**20**	P	**P**	**02 35 09.0**	**-0.1**
F24K				IAmb	IAmb	02 35 13.2	
	comp=Z,3.8nm,0.8s						
TOLK	**Toolik Lake Re**	**84.25**	**18**	P	**P**	**02 35 09.3**	**+0.2**
TOLK				IAmb	IAmb	02 35 11.1	
	comp=Z,2.7nm,0.7s						
QSPA	**South Pole Qui**	**84.48**	**180**	P	**P**	**02 35 10.0**	**-0.5**
QSPA				IAmb	IAmb	02 35 35.4	
	comp=Z,8.3nm,1.1s						
QSPA	**South Pole Qui**	**84.48**	**180**	P	**P**	**02 35 10.0**	**-0.5**
	comp=Z,3.3nm,0.9s,baz=315,slow=4.3,SNR=18						
	comp=Z,3.3nm,0.9s						
ARSB	**Arslanbob**	**85.05**	**312**	P	**P**	**02 35 15.1**	**+1.2**
EGAK	**Eagle**	**85.47**	**23**	P	**P**	**02 35 16.3**	**+1.0**
EGAK				IAmb	IAmb	02 35 50.4	
	comp=Z,7.9nm,1.4s						
D25K	**Kavik River**	**85.59**	**18**	P	**P**	**02 35 15.2**	**-0.6**
D25K				IAmb	IAmb	02 35 17.1	
	comp=Z,2.8nm,0.8s						
HYT	**Haines Junctio**	**85.61**	**28**		**P**	**02 35 17.1**	**+0.9**
HYT				IAmb	IAmb	02 35 19.6	
	comp=Z,4.9nm,0.9s						
G27K	**Doyon Strip**	**86.09**	**21**	P	**P**	**02 35 18.7**	**+0.3**
NRIK	**Noril'sk**	**86.20**	**341**	P	**P**	**02 35 18.0**	**-0.8**
	comp=Z,1.9nm,0.5s,baz=117,slow=4.3,SNR=3.8						
	comp=Z,1.9nm,0.5s						
K29M	**Barlow Dome**	**86.61**	**25**	P	**P**	**02 35 21.6**	**+0.5**
K29M				IAmb	IAmb	02 35 49.4	
	comp=Z,5.1nm,1.1s						
E27K	**Coleen River**	**86.66**	**20**	P	**P**	**02 35 21.7**	**+0.6**
E27K				IAmb	IAmb	02 35 23.0	
	comp=Z,4.2nm,0.7s						
F28M	**Old Crow**	**87.04**	**21**		**P**	**02 35 22.6**	**-0.4**
F28M				IAmb	IAmb	02 35 29.1	
	comp=Z,2.6nm,0.8s						
D27M	**Malcolm River**	**87.29**	**19**	P	**P**	**02 35 24.6**	**+0.4**
D27M				IAmb	IAmb	02 35 26.9	
	comp=Z,4.4nm,0.7s						
J30M	**Hart River**	**87.34**	**24**	P	**P**	**02 35 25.5**	**+0.8**
J30M				IAmb	IAmb	02 35 38.4	
	comp=Z,4.4nm,1.2s						
E28M	**Babbage River**	**87.53**	**20**	P	**P**	**02 35 25.2**	**-0.1**
E28M				IAmb	IAmb	02 35 27.1	
	comp=Z,2.9nm,0.7s						
EPYK	**Eagle Plains**	**87.77**	**23**	P	**P**	**02 35 27.5**	**+1.0**
EPYK				IAmb	IAmb	02 35 27.8	
	comp=Z,4.2nm,0.6s						
DLBC	**Dease Lake**	**88.60**	**31**	LR	LR	03 09 40.6	
	comp=Z,73nm,18.7s,baz=276,slow=32						
G31M	**Satah River**	**88.87**	**22**	P	**P**	**02 35 31.8**	**+0.1**
G31M				IAmb	IAmb	02 35 32.3	
	comp=Z,2.4nm,0.8s						
BVAR	**Borovoye Array**	**89.04**	**323**	P	**P**	**02 35 32.0**	**-0.8**
	comp=Z,3.4nm,0.7s,baz=104,slow=6.3,SNR=19						
	comp=Z,3.4nm,0.7s						
BRVK	**Borovoye**	**89.10**	**323**	P	**P**	**02 35 32.4**	**-0.6**
BRVK				IAmb	IAmb	02 35 33.6	
	comp=Z,3.2nm,0.8s						
INK	**Inuvik**	**89.53**	**21**	P	**P**	**02 35 34.6**	**-0.1**
INK				IAmb	IAmb	02 35 38.0	
	comp=Z,4.7nm,1.2s						
K02D	**Willamette Mer**	**89.85**	**47**	P	**P**	**02 35 37.2**	**+0.2**
HUMO	**Hull Mountain**	**90.36**	**47**	P	**P**	**02 35 39.4**	**+0.2**
E03A	**Lebam**	**90.43**	**43**		**P**	**02 35 40.1**	**+0.7**
YBH	**Yreka Blue Hor**	**90.44**	**48**		**P**	**02 35 40.4**	**+0.7**
I04A	**Tendick Farm,**	**90.90**	**46**	P	**P**	**02 35 40.6**	**-1.1**
GNW	**Green Mountain**	**91.06**	**42**	P	**P**	**02 35 42.8**	**+0.5**
GNW				IAmb	IAmb	02 35 44.0	
	comp=Z,5.0nm,0.8s						
AFDM	**Forest Hills D**	**91.45**	**51**	P	**P**	**02 35 43.3**	**-1.1**
J05D	**Fort Rock, OR**	**91.69**	**47**	P	**P**	**02 35 46.2**	**+0.6**
I05D	**Terrebonne, OR**	**91.73**	**46**	P	**P**	**02 35 45.8**	**+0.2**
CMB	**Columbia Colle**	**91.82**	**52**	P	**P**	**02 35 46.8**	**+0.7**
CMB				IAmb	IAmb	02 35 48.1	
	comp=Z,4.1nm,1.1s						
K05A	**Summer Lake**	**91.89**	**47**	P	**P**	**02 35 45.8**	**-0.7**
PINE	**Pine Mountain**	**91.96**	**46**	P	**P**	**02 35 47.3**	**+0.5**
EMB	**Emerald Bay**	**92.13**	**51**	P	**P**	**02 35 48.1**	**+0.3**
EMB				IAmb	IAmb	02 35 49.9	
	comp=Z,5.0nm,0.9s						
MPK	**Martis Peak**	**92.21**	**51**	P	**P**	**02 35 48.6**	**+0.4**
PNTR	**Pine Nut**	**92.53**	**51**	P	**P**	**02 35 49.2**	**-0.4**
WAKR	**Walker**	**92.60**	**52**	P	**P**	**02 35 50.3**	**+0.3**
WAKR				IAmb	IAmb	02 35 51.8	
	comp=Z,4.4nm,0.8s						
PAHR	**Pah Rah Range**	**92.75**	**51**	P	**P**	**02 35 50.8**	**+0.3**
PAHR				IAmb	IAmb	02 35 52.5	
	comp=Z,4.3nm,1.0s						
YERR	**Yerington**	**92.80**	**51**	P	**P**	**02 35 51.3**	**+0.5**
YERR				IAmb	IAmb	02 35 52.3	
	comp=Z,4.1nm,0.8s						
MDPB	**Devils Postpil**	**92.81**	**53**	P	**P**	**02 35 51.3**	**+0.2**
I07A	**Izee**	**93.02**	**46**	P	**P**	**02 35 51.8**	**+0.1**
A36M	**Sachs Harbour**	**93.07**	**18**	P	**P**	**02 35 51.2**	**+0.1**
HAWA	**Hanford**	**93.18**	**44**	P	**P**	**02 35 52.5**	**+0.3**
HAWA				IAmb	IAmb	02 35 53.5	
	comp=Z,3.2nm,0.8s						
LHV	**Little Huntoon**	**93.31**	**52**	P	**P**	**02 35 53.7**	**+0.7**
RYN	**Ryan**	**93.33**	**52**	P	**P**	**02 35 52.2**	**-1.0**
NVAR	**Mina Array Bea**	**93.48**	**52**	P	**P**	**02 35 53.7**	**-0.3**
NVAR	**Mina Array Bea**	**93.48**	**52**	P	**P**	**02 35 55.0**	**+1.0**
	comp=Z,4.9nm,0.7s,baz=255,slow=6.6,SNR=41						
	comp=Z,4.9nm,0.7s						
G08A	**Pilot Rock**	**93.50**	**45**	P	**P**	**02 35 53.2**	**-0.6**
G08A				IAmb	IAmb	02 35 55.1	
	comp=Z,5.7nm,1.1s						
WVOR	**Wild Horse Val**	**93.52**	**48**	P	**P**	**02 35 54.3**	**+0.3**
NV11	**Mina Array Sit**	**93.60**	**52**	P	**P**	**02 35 54.8**	**+0.3**
DSP	**Deep Springs**	**93.67**	**53**	P	**P**	**02 35 55.1**	**+0.5**
KVN	**Kaiserville**	**93.69**	**51**	P	**P**	**02 35 55.0**	**+0.1**
KVN				IAmb	IAmb	02 35 56.4	
	comp=Z,4.6nm,0.9s						
J08A	**Circle Bar Ran**	**93.71**	**47**	P	**P**	**02 35 54.4**	**-0.4**
MZP	**Montezuma Peak**	**94.16**	**53**	P	**P**	**02 35 57.3**	**+0.1**
MZP				IAmb	IAmb	02 35 58.7	
	comp=Z,3.9nm,0.8s						
TPH	**Tonopah**	**94.31**	**52**	P	**P**	**02 35 58.1**	**+0.3**
QSM	**Queen of Sheba**	**94.46**	**54**	P	**P**	**02 35 58.8**	**+0.5**
BMO	**Blue Mountains**	**94.64**	**46**	P	**P**	**02 35 58.8**	**-0.2**
BMO				IAmb	IAmb	02 35 59.5	
	comp=Z,3.3nm,0.9s						
WCT	**Wildcat Mounta**	**94.71**	**54**	P	**P**	**02 36 00.0**	**+0.5**
F10A	**Beach Ranch, E**	**94.75**	**44**	P	**P**	**02 35 58.9**	**-0.6**
F10A				IAmb	IAmb	02 36 00.3	
	comp=Z,4.7nm,0.8s						
PLID	**Pearl Lake**	**95.58**	**45**	P	**P**	**02 36 03.3**	**-0.2**
PLID				IAmb	IAmb	02 36 04.7	
	comp=Z,2.3nm,0.8s						
R11B	**Troy Canyon, C**	**95.61**	**52**	P	**P**	**02 36 04.1**	**+0.3**
R11B				IAmb	IAmb	02 36 06.4	
	comp=Z,2.3nm,1.0s						
SHPR	**Sheep Range**	**95.87**	**54**	P	**P**	**02 36 05.2**	**+0.2**
SHPR				IAmb	IAmb	02 36 07.5	
	comp=Z,3.7nm,1.3s						
ELK	**Elko**	**95.97**	**50**	P	**P**	**02 36 05.5**	**0.0**
V12A	**Nelson**	**96.09**	**55**	P	**P**	**02 36 06.6**	**+0.7**
V12A				IAmb	IAmb	02 36 07.9	
	comp=Z,3.1nm,0.9s						
YKA	**Yellowknife Ar**	**96.61**	**28**	P	**P**	**02 36 07.1**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=276,slow=4.9,SNR=7.0						
	comp=Z,0.3nm,0.6s						
SPR3	**Spring Creek 3**	**96.62**	**51**	P	**P**	**02 36 08.1**	**-0.4**
HLID	**Hailey**	**96.67**	**47**	P	**P**	**02 36 08.1**	**-0.3**
HLID				IAmb	IAmb	02 36 10.7	
	comp=Z,2.5nm,0.8s						
W13A	**Hualapai Mount**	**96.85**	**55**	P	**P**	**02 36 09.6**	**+0.1**
W13A				IAmb	IAmb	02 36 11.6	
	comp=Z,2.9nm,1.0s						
EDM	**Edmonton**	**97.42**	**37**	P	**P**	**02 36 11.6**	**+0.2**
KNB	**Kanab**	**97.76**	**54**	P	**P**	**02 36 13.8**	**+0.3**
HVU	**Hansel Valley**	**97.85**	**49**	P	**P**	**02 36 14.2**	**+0.3**
HVU				IAmb	IAmb	02 36 15.5	
	comp=Z,3.8nm,0.9s						
BOZ	**Bozeman (W)**	**98.66**	**45**	P	**P**	**02 36 17.4**	**0.0**
BOZ				IAmb	IAmb	02 36 18.4	
	comp=Z,2.8nm,1.1s						
TMUT	**Trail Mountain**	**99.05**	**51**	P	**Pdif**	**02 36 20.1**	**+0.7**
TMUT				IAmb	IAmb	02 36 21.4	
	comp=Z,3.3nm,0.8s						
PDAR	**Pinedale Array**	**100.23**	**48**	P	**Pdif**	**02 36 23.6**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=262,slow=3.0,SNR=14						
FINES	**FINESS Array B**	**111.15**	**335**	PKiKP	**PKiKP**	**02 41 10.2**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=50,slow=3.0,SNR=7.9						
AKASG	**Malin Array Be**	**114.31**	**324**	PKiKP	PKPdf	02 41 16.8	-0.5
	comp=Z,0.2nm,0.3s,baz=60,slow=2.6,SNR=6.0						
BRTR	**Keskin Array B**	**114.82**	**311**	PKP	**PKiKP**	**02 41 18.4**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=270,slow=0.1,SNR=2.3						
NB2	**NORSAR Subarra**	**117.12**	**340**	PKPdf	**PKPdf**	**02 41 21.4**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=44,slow=1.9						
NOA	**NORSAR Array B**	**117.12**	**340**	PKP	**PKPdf**	**02 41 21.9**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=48,slow=1.8,SNR=7.2						
CLL	**Collm**	**122.83**	**330**	*i* PKPdf	**PKPdf**	**02 41 34.0**	**+0.3**
	comp=Z,5.0nm,0.6s						
RONA	**Rosalia, Austr**	**123.20**	**325**	*i* PKiKP	**PKiKP**	**02 41 35.8**	**+1.0**
	comp=Z,0.5nm,0.3s						
CONA	**Conrad Observa**	**123.31**	**326**	*e*PKP	**PKPdf**	**02 41 35.2**	**+0.4**
	comp=Z,2.1nm,0.7s						
GERES	**GERESS Array B**	**123.97**	**328**	PKP	**PKPdf**	**02 41 36.3**	**+0.3**
	comp=Z,3.6nm,0.5s,baz=47,slow=3.5,SNR=25						
MOA	**Molln**	**124.25**	**326**	*i* PKP	**PKPdf**	**02 41 36.5**	**-0.1**
	comp=Z,1.1nm,0.4s						
KBA	**Koelnbreinsper**	**125.20**	**326**	*e*PKP	**PKPdf**	**02 41 38.3**	**-0.3**
	comp=Z,1.0nm,0.5s						
LESA	**Schwarzleotal**	**125.36**	**327**	*e*PKP	**PKPdf**	**02 41 38.7**	**-0.1**
	comp=Z,3.0nm,0.4s						
ABTA	**Abfaltersbach**	**125.86**	**326**	*e*PKP	**PKPdf**	**02 41 39.5**	**-0.2**
	comp=Z,2.3nm,0.6s						
WATA	**Walderalm**	**126.02**	**327**	*e*PKP	**PKPdf**	**02 41 40.3**	**+0.2**
	comp=Z,1.6nm,0.5s						
WTTA	**Wattenberg**	**126.03**	**327**	*e*PKP	**PKPdf**	**02 41 40.0**	**-0.1**
	comp=Z,3.9nm,0.4s						
MOTA	**Moosalm**	**126.26**	**328**	*i* PKP	**PKPdf**	**02 41 40.6**	**0.0**
	comp=Z,3.5nm,0.4s,SNR=6.3						
SQTA	**Sankt Quirin**	**126.28**	**327**	*e*PKP	**PKPdf**	**02 41 40.8**	**+0.2**
	comp=Z,2.7nm,0.5s						
EKA	**Eskdalemuir Ar**	**126.31**	**342**	PKP	**PKPdf**	**02 41 40.1**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=18,slow=2.8,SNR=8.2						
FETA	**Feichten**	**126.66**	**327**	*i* PKiKP	**PKiKP**	**02 41 42.0**	**+0.1**
	comp=Z,2.1nm,0.5s,SNR=4.9						
DAVA	**Damuels**	**126.95**	**328**	*e*PKiKP	**PKiKP**	**02 41 42.5**	**+0.1**
	comp=Z,2.5nm,0.4s						
KEST	**Kesra**	**134.04**	**316**	PKP	**PKPdf**	**02 41 56.2**	**+0.6**
	comp=Z,3.8nm,0.9s,baz=195,slow=2.8,SNR=7.2						
ESDC	**Sonseca Array**	**139.42**	**331**	PKP	**PKiKP**	**02 42 07.3**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=353,slow=2.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**149.32**	**287**	PKPbc	**PKPbc**	**02 42 27.6**	**+0.1**
	comp=Z,6.0nm,0.4s,baz=86,slow=2.4,SNR=94						
BDFB	**Brasilia**	**151.44**	**138**	PKPbc	**PKPbc**	**02 42 32.3**	**-0.4**
	comp=Z,4.9nm,0.6s,baz=202,slow=3.2,SNR=11						
DBIC	**Dimbokro**	**156.51**	**274**	PKPab	**PKPab**	**02 43 03.2**	**+0.6**
	com

EVO				A	A	02 27 09.6	
	comp=N,7.2nm,0.1s						
ESPR	**Espera**	**1.99**	**87**	Sn	**Sn**	**02 27 09.8**	**+2.4**
ESPR	**Espera**	**1.99**	**87**	Pn	**Pn**	**02 26 43.3**	**+0.3**
ESPR				Sn	**Sn**	**02 27 07.5**	**+0.2**
ESPR				*i* Vmb_Lg		02 27 23.2	
PESTR	**Estremoz**	**2.17**	**15**	*e*Sg	**Sg**	**02 27 20.8**	**+0.7**
PESTR				A	A	02 27 22.1	
	comp=N,3.9nm,0.6s						
PESTR	**Estremoz**	**2.17**	**15**	P	**Pg**	**02 26 50.9**	**-1.1**
PESTR	**Estremoz**	**2.17**	**15**	S	**Sg**	**02 27 20.0**	**-0.1**
EBAD	**Badajoz**	**2.23**	**27**	Pn	**Pn**	**02 26 47.4**	**+1.0**
EBAD				Sg	**Sg**	**02 27 20.1**	**-2.2**
EBAD	**Badajoz**	**2.23**	**27**	Pn	**Pn**	**02 26 46.7**	**+0.4**
EBAD				Sn	**Sn**	**02 27 12.3**	**-1.1**
EBAD				Sg	**Sg**	**02 27 22.0**	**-0.3**
EBAD				*i* Vmb_Lg		02 27 26.6	
PMTG	**Montargil**	**2.29**	**2**	*e*Sg	**Sg**	**02 27 25.3**	**+1.3**
PMTG				A	A	02 27 27.9	
	comp=N,5.0nm,0.6s						
ECAB	**El Cabril**	**2.66**	**60**	Pn	**Pn**	**02 26 53.6**	**+1.4**
ECAB				Sg	**Sg**	**02 27 33.7**	**-2.1**
ECAB	**El Cabril**	**2.66**	**60**	Pn	**Pn**	**02 26 52.5**	**+0.3**
ECAB				Sn	**Sn**	**02 27 23.9**	**0.0**
ECAB				Sg	**Sg**	**02 27 34.6**	**-1.2**
ECAB				*i* Vmb_Lg		02 27 39.1	
PMRV	**Marv??o**	**2.75**	**15**	*e*Pn	**Pn**	**02 26 54.0**	**+0.5**
PMRV	**Marv??o**	**2.75**	**15**	*e*Pg	**Pg**	**02 27 02.9**	**-0.2**
PMRV				*e*Sg	**Sg**	**02 27 38.3**	**-0.4**
PMRV				A	A	02 27 40.8	
	comp=N,3.1nm,0.3s						
EADA	**Adamuz**	**3.29**	**64**	Pn	**Pn**	**02 27 02.3**	**+1.4**
EADA	**Adamuz**	**3.29**	**64**	Pn	**Pn**	**02 27 01.8**	**+0.8**
EADA				Sn	**Sn**	**02 27 39.6**	**-0.1**
EADA				Sg	**Sg**	**02 27 54.9**	**-1.2**
EADA				*i* Vmb_Lg		02 28 01.1	
EPLA	**Plasencia**	**3.73**	**28**	Pn	**Pn**	**02 27 07.2**	**+0.3**
EPLA				Sn	**Sn**	**02 27 49.1**	**-1.2**
EPLA				Sg	**Sg**	**02 28 07.4**	**-2.7**
EPLA				*i* Vmb_Lg		02 28 12.2	
PSIM	**Granatula de C**	**4.16**	**59**	Pn	**Pn**	**02 27 12.9**	**0.0**
PSIM				Sn	**Sn**	**02 27 59.1**	**-1.9**
PSIM				Sg	**Sg**	**02 28 22.4**	**-1.5**
PAB	**San Pablo**	**4.18**	**47**	Pn	**Pn**	**02 27 14.4**	**+1.2**
PAB				Sn	**Sn**	**02 27 59.5**	**-2.1**
PAB				Sg	**Sg**	**02 28 23.8**	**-0.8**
PAB				*i* Vmb_Lg		02 28 25.1	
MD31	**MD31**	**4.88**	**142**	P	**Pn**	**02 27 23.2**	**+0.4**
MD31	**MD31**	**4.88**	**142**	S	**Sn**	**02 28 17.0**	**-1.9**
MDT	**Midelt**	**5.00**	**141**	P	**Pn**	**02 27 25.3**	**+0.7**
MDT	**Midelt**	**5.00**	**141**	S	**Sn**	**02 28 20.8**	**-1.1**
OUZM	**OUZ**	**6.00**	**167**	P	Pn	02 27 44.2	+6.0
OUZM	**OUZ**	**6.00**	**167**	S	**Sn**	**02 28 49.5**	**+3.0**

IDC 30 02:30:08.2±18.0,**5°.72S**×**151°.01E,h170**km±157km,
mb2.9/2,**mbtmp3.4**/2,**Error ellipse: s-maj=128.7km s-min=86.1km az=128.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.51**	**227**	P	P	02 34 43.7	-0.3
	0.7nm,0.7s,baz=53,slow=10,SNR=4.6 0.7nm,0.7s						
ASAR	**Alice Springs**	**24.28**	**221**	P	P	02 35 10.1	0.0
	0.8nm,0.7s,baz=57,slow=9.3,SNR=6.5 0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**148.87**	**286**	PKPbc	PKPbc	02 49 36.4	-0.4
	1.3nm,1.0s,baz=93,slow=1.9,SNR=5.7						

*IDC **30** 02:32:20.4±5.1,5°.44S×151°.60E,h60km±44km,mb3.8/10, mbtmp4.1/11,ML1.8/1,MS3.3/2,Error ellipse: s-maj=35.4km s-min=24.3km az=103.0*
ISC 30 02:32:19.4±0.8,**5°.60S**±0°.08×**151°.8E**±0°.1,**h50**km,**n24,**
σ1**963**/24,**mb4.0**/10,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BULU	**Kimbe**	**1.50**	**272**	P	**Pn**	**02 32 42.9**	**-1.0**
KAVG	**Kavieng**	**3.16**	**341**	P	**Pn**	**02 33 08.8**	**+2.1**
MANU	**Manus Island**	**5.67**	**308**	P	**Pn**	**02 33 44.7**	**+3.5**
PMG	**Port Moresby**	**5.97**	**230**	P	**Pn**	**02 33 47.5**	**+2.2**
PMG	**Port Moresby**	**5.97**	**230**	P	**Pn**	**02 33 46.6**	**+1.4**
	1.7nm,0.3s,baz=40,slow=10,SNR=10						
PMG				S	**Sn**	**02 34 51.9**	**-0.4**
	48nm,0.6s,baz=197,slow=17,SNR=8.6						
PMG				LR	LR	02 36 01.2	
	comp=Z,168nm,18.1s,baz=30,slow=37 58nm,1.0s						
QIS	**Mount Isa**	**19.02**	**217**	P	**Pn**	**02 36 39.8**	**+1.3**
KDU	**Kakadu**	**20.34**	**248**	P	**P**	**02 36 50.8**	**-1.0**
WRA	**Warramunga Arr**	**22.19**	**228**	P	**P**	**02 37 11.0**	**-0.6**
	5.1nm,0.5s,baz=53,slow=10.0,SNR=62 5.1nm,0.5s						
INKA	**Innaminka**	**24.41**	**204**	P	**P**	**02 37 34.7**	**+1.4**
KNRA	**Kununurra**	**24.74**	**244**	P	**P**	**02 37 38.4**	**+1.9**
AS01	**Alice Springs**	**24.87**	**222**	P	**P**	**02 37 38.7**	**+1.1**
ASAR	**Alice Springs**	**24.90**	**222**	P	**P**	**02 37 37.9**	**-0.1**
	2.7nm,0.6s,baz=61,slow=8.4,SNR=52 2.7nm,0.6s						
STKA	**Stephens Creek**	**27.84**	**199**	LR	LR	02 50 19.8	
	comp=Z,69nm,19.2s,baz=2.7,slow=39						
SONM	**Songino Array**	**66.48**	**328**	P	**P**	**02 43 03.5**	**-0.5**
	0.7nm,0.5s,baz=150,slow=4.3,SNR=6.8 0.7nm,0.5s						
MKAR	**Makanchi Array**	**80.28**	**319**	P	**P**	**02 44 23.7**	**-1.4**
	0.4nm,0.5s,baz=98,slow=7.3,SNR=5.7 0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**81.27**	**327**	P	**P**	**02 44 28.0**	**-2.1**
	0.7nm,0.4s,baz=134,slow=4.3,SNR=4.1 0.7nm,0.4s						
ILAR	**Eielson Array**	**83.26**	**22**	P	**P**	**02 44 38.4**	**-2.0**
	0.5nm,0.7s,baz=246,slow=5.2,SNR=11 0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**83.82**	**322**	P	**P**	**02 44 41.8**	**-1.7**
	0.8nm,0.8s,baz=99,slow=4.6,SNR=5.8 0.8nm,0.8s						
QSPA	**South Pole Qui**	**84.37**	**180**	P	**P**	**02 44 46.7**	**+0.5**
	2.0nm,1.0s,baz=313,slow=0.8,SNR=6.0 2.0nm,1.0s						
BVAR	**Borovoye Array**	**89.29**	**323**	P	**P**	**02 45 08.1**	**-2.1**
	1.1nm,0.7s,baz=101,slow=6.2,SNR=5.8 1.1nm,0.7s						
NVAR	**Mina Array Bea**	**93.34**	**52**	P	**P**	**02 45 31.0**	**+1.4**
	1.7nm,0.8s,baz=252,slow=7.7,SNR=12 1.7nm,0.8s						
PDAR	**Pinedale Array**	**100.11**	**48**	P	**Pdif**	**02 46 00.0**	**-0.2**
	0.4nm,0.5s,baz=263,slow=3.9,SNR=4.5						
GERES	**GERESS Array B**	**124.21**	**328**	PKP	**PKPdf**	**02 51 12.2**	**-0.7**
	1.1nm,0.6s,baz=45,slow=4.1,SNR=6.3						
TORD	**Torodi Ar. Bea**	**149.61**	**286**	PKPbc	**PKPbc**	**02 52 03.9**	**-0.7**
	1.5nm,0.4s,baz=84,slow=2.5,SNR=27						

IDC 30 02:48:47.8±3.1,**5°.53S**×**151°.41E,h0**km,**mb3.6**/2,
mbtmp3.6/3,**ML1.6**/1,**Error ellipse: s-maj=121.9km s-min=41.1km az=126.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.71**	**227**	Pn	Pn	02 50 13.8	0.0
	1.2nm,0.3s,baz=211,slow=17,SNR=1.9						
PMG				Sn	Sn	02 51 20.8	+0.7
	0.9nm,0.3s,baz=162,slow=20,SNR=1.8 3.2nm,0.5s						
WRA	**Warramunga Arr**	**21.93**	**228**	P	P	02 53 43.2	+0.1
	1.1nm,0.4s,baz=52,slow=10.0,SNR=17 1.1nm,0.4s						
ASAR	**Alice Springs**	**24.68**	**221**	P	P	02 54 10.8	+0.1
	0.8nm,0.6s,baz=56,slow=9.0,SNR=15 0.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**149.20**	**286**	PKPbc	PKPbc	03 08 38.8	-0.7
	0.3nm,0.6s,baz=95,slow=3.3,SNR=1.9						

*IDC **30** 02:51:41.8±1.6,12°.64N×144°.84E,h49km±13km,mb3.6/13, mbtmp3.9/13,Error ellipse: s-maj=27.2km s-min=15.6km az=102.0*
*NEIC **30** 02:51:46.1±0.8,13°.14N±0°.09×144°.59E±0°.07,h59km±6km, mb4.3/39,Error ellipse: s-maj=14.1km s-min=8.5km az=154.0*
ISC 30 02:51:44.9±0.6,**13°.01N**±0°.10×**144°.6E**±0°.1,**h54**km,**n62,**
σ1**900**/59,**mb4.2**/32,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.63**	**24**		**Pn**	**02 51 58.2**	**+0.1**
GUMO				Sn	**Sn**	**02 52 07.0**	**-0.5**
GUMO	**Guam**	**0.63**	**24**	P	**Pn**	**02 51 59.0**	**+0.9**
	631nm,0.4s,baz=148,slow=6.6,SNR=38						
GUMO				S	**Sn**	**02 52 11.9**	**+4.4**
	3µm,0.5s,baz=34,slow=23,SNR=14						
FAKI	**Fak Fak**	**20.02**	**219**	P	**P**	**02 56 15.2**	**+1.7**
FAKI				IAmb	IAmb	02 56 16.7	
	comp=Z,28nm,1.3s						
H11N1	**WAKE ISLAND Hy**	**22.39**	**70**	T	T	03 19 48.6	
	baz=256,slow=74,SNR=6.3						
H11N2	**WAKE ISLAND Hy**	**22.40**	**70**	T	T	03 19 51.3	
	baz=256,slow=74,SNR=5.0						
H11N3	**WAKE ISLAND Hy**	**22.41**	**70**	T	T	03 19 50.0	
	baz=256,slow=74,SNR=7.6						
MJAR	**Matsushiro Arr**	**24.13**	**347**	P	**P**	**02 56 56.2**	**+0.4**
	comp=Z,1.1nm,0.2s,baz=161,slow=8.5,SNR=4.8 comp=Z,1.1nm,0.2s						
WB0	**Warramunga Arr**	**34.08**	**197**	P	**P**	**02 58 24.8**	**+0.3**
WB2	**Warramunga Arr**	**34.26**	**197**	P	**P**	**02 58 27.2**	**+1.2**
WB2				IAmb	IAmb	02 59 00.1	
	comp=Z,4.4nm,1.1s						
WRA	**Warramunga Arr**	**34.27**	**197**	P	**P**	**02 58 26.8**	**+0.7**
WRA	**Warramunga Arr**	**34.27**	**197**	P	P	02 58 21.1	-5.0
	comp=Z,0.9nm,0.7s,baz=22,slow=9.6,SNR=11 comp=Z,0.9nm,0.7s						
ASAR	**Alice Springs**	**37.92**	**196**	P	P	02 58 51.3	-6.0
	comp=Z,0.3nm,0.7s,baz=21,slow=10,SNR=7.0 comp=Z,0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**44.19**	**283**	P	**P**	**02 59 49.7**	**+0.7**
	comp=Z,1.5nm,0.3s,baz=81,slow=5.9,SNR=5.0 comp=Z,1.5nm,0.3s						
BBOO	**Buckleboo**	**46.28**	**190**	P	**P**	**03 00 05.9**	**+0.6**
GSI	**Gunungsitoli**	**47.99**	**260**	P	**P**	**03 00 18.3**	**-0.6**
MKAR	**Makanchi Array**	**61.73**	**316**	P	**P**	**03 01 58.7**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=91,slow=9.8,SNR=4.1 comp=Z,0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**64.90**	**320**	P	**P**	**03 02 18.4**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=96,slow=4.4,SNR=2.7 comp=Z,0.6nm,0.5s						
G19K	**Purcell Mounta**	**65.64**	**22**	P	**P**	**03 02 22.9**	**-0.2**
M20K	**Styx River**	**65.68**	**27**	P	**P**	**03 02 23.8**	**+0.2**
K20K	**Telida**	**65.77**	**26**	P	**P**	**03 02 24.0**	**-0.1**
K20K				IAmb	IAmb	03 02 26.3	
	comp=Z,3.8nm,1.0s						
CAST	**Castle Rocks**	**66.63**	**26**	P	**P**	**03 02 29.2**	**-0.4**
CAST				IAmb	IAmb	03 02 42.6	
	comp=Z,2.9nm,0.8s						
B20K	**Meade River**	**67.27**	**18**	P	**P**	**03 02 33.2**	**-0.2**
B20K				IAmb	IAmb	03 02 38.3	
	comp=Z,3.1nm,0.9s						
TRF	**Thorofare Moun**	**67.41**	**26**	P	**P**	**03 02 33.2**	**-1.5**
TRF				IAmb	IAmb	03 03 01.5	
	comp=Z,4.0nm,1.0s						
KNK	**Knik Glacier**	**67.69**	**29**	P	**P**	**03 02 36.0**	**-0.3**
MLY	**Manley**	**67.69**	**24**	P	**P**	**03 02 36.1**	**-0.3**
MLY				IAmb	IAmb	03 02 59.0	
	comp=Z,2.5nm,1.0s						
E22K	**Anaktuvuk Pass**	**68.30**	**21**	P	**P**	**03 02 39.8**	**-0.3**
E22K				IAmb	IAmb	03 03 04.1	
	comp=Z,2.4nm,0.9s						
B22K	**Teshekpuk Lake**	**68.57**	**19**	P	**P**	**03 02 41.7**	**+0.1**
B22K				IAmb	IAmb	03 02 56.6	
	comp=Z,2.5nm,0.7s						
IL31		**69.20**	**25**	P	**P**	**03 02 44.6**	**-1.0**
ILAR	**Eielson Array**	**69.20**	**25**	P	**P**	**03 02 43.8**	**-1.9**
	comp=Z,0.9nm,0.7s,baz=253,slow=5.3,SNR=13 comp=Z,0.9nm,0.7s						
D24K	**Happy Valley**	**69.66**	**21**	P	**P**	**03 02 48.8**	**+0.4**
D24K				IAmb	IAmb	03 03 19.0	
	comp=Z,3.3nm,0.9s						
J25K	**Salcha River,**	**69.80**	**26**	P	**P**	**03 02 48.5**	**-1.0**
BVAR	**Borovoye Array**	**70.22**	**322**	P	**P**	**03 02 51.9**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=89,slow=9.3,SNR=5.0 comp=Z,0.7nm,0.5s						
SCRK	**Sand Creek**	**70.26**	**26**	P	**P**	**03 02 52.2**	**-0.2**
J26L	**Joseph Creek**	**70.54**	**26**	P	**P**	**03 02 53.5**	**-0.5**
J26L				IAmb	IAmb	03 03 12.1	
	comp=Z,4.2nm,1.1s						
BMAR	**Burnt Mountain**	**70.73**	**23**	P	**P**	**03 02 54.7**	**-0.4**
I26K	**Coal Creek Min**	**70.86**	**25**	P	**P**	**03 02 55.4**	**-0.4**
I26K				IAmb	IAmb	03 03 34.5	
	comp=Z,3.5nm,1.1s						
BCAR	**Beaver Creek A**	**71.08**	**28**	P	**P**	**03 02 57.3**	**0.0**
I28M	**Miner Creek**	**72.22**	**25**	P	**P**	**03 03 04.0**	**-0.1**
I28M				IAmb	IAmb	03 03 14.9	
	comp=Z,3.6nm,1.2s						
M29M	**Somme Creek**	**72.52**	**28**	P	**P**	**03 03 05.0**	**-1.0**
H29M	**Whitestone**	**72.95**	**24**	P	**P**	**03 03 08.2**	**-0.2**
H29M				IAmb	IAmb	03 03 39.4	
	comp=Z,8.5nm,1.5s						
M30M	**Minto, Yukon**	**73.30**	**28**	P	**P**	**03 03 10.9**	**+0.4**
M30M				IAmb	IAmb	03 03 47.5	
	comp=Z,4.4nm,1.4s						
J30M	**Hart River**	**73.65**	**26**	P	**P**	**03 03 12.5**	**-0.2**
H31M	**Peel River**	**74.56**	**25**	P	**P**	**03 03 17.3**	**-0.5**
H31M				IAmb	IAmb	03 03 38.8	
	comp=Z,7.5nm,1.4s						
G31M	**Satah River**	**74.64**	**24**	P	**P**	**03 03 18.4**	**+0.2**
G31M				IAmb	IAmb	03 03 38.5	
	comp=Z,5.2nm,1.1s						
INK	**Inuvik**	**75.00**	**22**	P	**P**	**03 03 20.9**	**+0.6**
R33M	**Jennings River**	**76.08**	**32**	P	**P**	**03 03 26.9**	**+0.1**
DLBC	**Dease Lake**	**76.61**	**33**	P	**P**	**03 03 30.4**	**+0.6**
DLBC				IAmb	IAmb	03 03 36.3	
	comp=Z,6.4nm,1.3s						
ABKAR	**Akbulak array**	**76.80**	**318**	P	**P**	**03 03 30.1**	**-0.8**
ABKAR	**Akbulak array**	**76.80**	**318**	P	**P**	**03 03 30.2**	**-0.6**
ABKAR				IAmb	IAmb	03 03 30.7	
	comp=Z,2.7nm,1.4s						
A36M	**Sachs Harbour**	**77.78**	**19**	P	**P**	**03 03 35.6**	**-0.3**
A36M				IAmb	IAmb	03 03 52.8	
	comp=Z,3.2nm,0.9s						
F03A	**Seaside**	**82.05**	**45**	P	**P**	**03 03 58.6**	**-1.0**
YKA	**Yellowknife Ar**	**83.49**	**27**	P	**P**	**03 04 05.6**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=291,slow=5.8,SNR=8.2 comp=Z,0.3nm,0.6s						
PINE	**Pine Mountain**	**84.30**	**47**	P	**P**	**03 04 12.3**	**+0.8**
K05A	**Summer Lake**	**84.56**	**48**	P	**P**	**03 04 12.2**	**-0.7**
SPITS	**Spitsbergen Ar**	**84.58**	**351**	P	**P**	**03 04 11.7**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=60,slow=8.5,SNR=1.5 comp=Z,3.1nm,0.7s						
RES	**Resolute Bay**	**85.17**	**13**	P	**P**	**03 04 15.1**	**+0.2**
RES				IAmb	IAmb	03 04 31.4	
	comp=Z,1.9nm,0.9s						
NVAR	**Mina Array Bea**	**87.49**	**51**	P	**P**	**03 04 25.9**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=280,slow=5.4,SNR=2.7 comp=Z,0.4nm,0.7s						
FINES	**FINESS Array B**	**91.57**	**335**	P	**P**	**03 04 44.4**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=72,slow=6.2,SNR=5.9 comp=Z,0.6nm,0.6s						
PDAR	**Pinedale Array**	**92.56**	**45**	P	**P**	**03 04 49.0**	**-2.0**
	comp=Z,0.2nm,0.5s,baz=268,slow=2.7,SNR=2.1 comp=Z,0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**134.97**	**304**	PKP	**PKPdf**	**03 10 57.0**	**-2.0**
	comp=Z,0.5nm,0.7s,baz=38,slow=5.5,SNR=3.5						
DBIC	**Dimbokro**	**143.90**	**301**	PKP	**PKPab**	**03 11 12.4**	**-0.1**
	comp=Z,5.8nm,0.6s,baz=59,slow=2.4,SNR=7.8						
LPAZ	**La Paz**	**148.19**	**100**	PKPbc	**PKPdf**	**03 11 24.0**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=342,slow=3.2,SNR=2.6						

IDC 30 02:59:12.7±2.2,**5°.29S**×**152°.36E,h0**km,**mb3.6**/4,
mbtmp3.6/4,**Error ellipse: s-maj=99.5km s-min=27.7km az=121.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.79**	**229**	P	P	03 04 15.9	-1.3
	2.0nm,0.5s,baz=53,slow=9.9,SNR=24 2.0nm,0.5s						
ASAR	**Alice Springs**	**25.49**	**222**	P	P	03 04 43.2	+0.3
	0.9nm,0.5s,baz=57,slow=9.0,SNR=23 0.9nm,0.5s						
ILAR	**Eielson Array**	**82.78**	**22**	P	P	03 11 37.6	-0.8
	0.2nm,1.0s,baz=255,slow=3.5,SNR=1.5 0.2nm,1.0s						
KURBB	**Kurchatov Arra**	**83.91**	**322**	P	P	03 11 44.3	-0.2
	0.1nm,0.2s,baz=105,slow=3.3,SNR=3.7 0.1nm,0.2s						
TORD	**Torodi Ar. Bea**	**150.04**	**287**	PKPbc	PKiKP	03 19 08.0	+0.7
	0.2nm,0.8s,baz=60,slow=4.3,SNR=1.4						

*IDC **30** 03:11:15.2±1.3,5°.35S×151°.62E,h0km,mb3.9/7, mbtmp3.9/8,ML2.1/1,MS3.3/1,Error ellipse: s-maj=53.4km s-min=19.5km az=125.0*
*NEIC **30** 03:11:23.1±1.9,5°.56S±0°.04×151°.52E±0°.05,h35km±2km, mb4.3/22,Error ellipse: s-maj=10.1km s-min=5.1km az=49.0*
ISC 30 03:11:24.0±0.7,**5°.5S**±0°.1×**151°.5E**±0°.1,**h57**km,**n37,**
σ1**920**/38,**mb4.1**/19,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.46**	**28**		**Pn**	**03 11 47.5**	**-0.7**
RABL				Sn	**Sn**	**03 12 06.8**	**+0.4**
PMG	**Port Moresby**	**5.79**	**228**		**Pn**	**03 12 45.8**	**-1.5**
PMG	**Port Moresby**	**5.79**	**228**	Pn	**Pn**	**03 12 47.2**	**-0.1**
	3.2nm,0.3s,baz=37,slow=10,SNR=7.7						
PMG				Sn	**Sn**	**03 13 52.9**	**+0.5**
	4.0nm,0.3s,baz=136,slow=20,SNR=6.8 30nm,0.9s						
COEN	**Coen**	**11.73**	**224**	Pn	**Pn**	**03 14 06.9**	**-1.8**
MTN	**Manton Dam**	**21.36**	**249**	P	**P**	**03 16 07.2**	**+0.4**
MTN				IAmb	IAmb	03 16 25.6	
	comp=Z,7.8nm,1.0s						
WB0	**Warramunga Arr**	**21.86**	**228**	P	**P**	**03 16 10.9**	**-1.1**
WR0	**Warramunga Arr**	**21.87**	**227**	P	**P**	**03 16 12.7**	**+0.6**
WRAB	**Tennant Creek**	**21.99**	**228**	P	**P**	**03 16 12.5**	**-1.1**
WRAB				IAmb	IAmb	03 16 16.1	
	comp=Z,4.7nm,0.6s						
WB2	**Warramunga Arr**	**22.00**	**228**	P	**P**	**03 16 12.4**	**-1.1**
WB2				IAmb	IAmb	03 16 16.1	
	comp=Z,4.4nm,0.6s						
WRA	**Warramunga Arr**	**22.01**	**228**	P	**P**	**03 16 14.7**	**+1.0**
WRA	**Warramunga Arr**	**22.01**	**228**	P	**P**	**03 16 14.1**	**+0.4**
	comp=Z,3.1nm,0.6s,baz=53,slow=9.9,SNR=54 comp=Z,3.1nm,0.6s						
KNRA	**Kununurra**	**24.49**	**244**	P	**P**	**03 16 39.0**	**+0.9**
KNRA				IAmb	IAmb	03 16 45.2	
	comp=Z,25nm,1.5s						
AS31	**Alice Springs**	**24.76**	**221**	P	**P**	**03 16 41.2**	**+0.7**
ASAR	**Alice Springs**	**24.76**	**221**	P	**P**	**03 16 40.8**	**+0.3**
ASAR	**Alice Springs**	**24.76**	**221**	P	**P**	**03 16 40.0**	**-0.5**
	comp=Z,3.6nm,0.7s,baz=59,slow=8.6,SNR=50 comp=Z,3.6nm,0.7s						
STKA	**Stephens Creek**	**27.83**	**198**	LR	LR	03 27 55.1	
	comp=Z,54nm,19.3s,baz=233,slow=36						
FITZ	**Fitzroy Crossi**	**28.17**	**241**	P	**P**	**03 17 13.1**	**+1.8**
FITZ				IAmb	IAmb	03 17 14.0	
	comp=Z,2.1nm,0.5s						
MORW	**Morawa**	**40.89**	**231**	P	**P**	**03 19 01.6**	**+0.8**
KHZ	**Kahutara**	**41.66**	**155**	P	**P**	**03 19 07.2**	**+0.4**
SONM	**Songino Array**	**66.22**	**329**	P	**P**	**03 22 06.8**	**+0.7**
SONM	**Songino Array**	**66.22**	**329**	P	**P**	**03 22 05.9**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=140,slow=5.0,SNR=4.6 comp=Z,0.7nm,0.6s						
LSA	**Lhasa**	**67.55**	**305**	P	**P**	**03 22 16.5**	**+1.2**
J14K	**Nanvaranak Lak**	**76.13**	**20**	P	**P**	**03 23 07.4**	**+2.0**
J14K				IAmb	IAmb	03 23 13.2	
	comp=Z,9.5nm,1.4s						
K15K	**Wolf Creek Mou**	**76.51**	**21**	P	**P**	**03 23 08.1**	**+0.5**
K15K				IAmb	IAmb	03 23 09.4	
	comp=Z,8.4nm,1.4s						
O18K	**Koktuh Hills**	**77.40**	**25**	P	**P**	**03 23 13.6**	**+0.8**
M17K	**Holitna River**	**77.44**	**23**	P	**P**	**03 23 14.1**	**+1.2**
M17K				IAmb	IAmb	03 23 19.3	
	comp=Z,6.5nm,1.4s						
M20K	**Styx River**	**79.39**	**23**	P	**P**	**03 23 25.4**	**+1.6**
M20K				IAmb	IAmb	03 23 55.3	
	comp=Z,3.6nm,1.2s						
MKAR	**Makanchi Array**	**79.99**	**319**	P	**P**	**03 23 26.6**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=96,slow=4.3,SNR=2.2 comp=Z,0.3nm,0.7s						
TRF	**Thorofare Moun**	**81.34**	**23**	P	**P**	**03 23 34.5**	**+0.1**
TRF				IAmb	IAmb	03 24 06.3	
	comp=Z,6.8nm,1.5s						
IMAR	**Indian Mountai**	**81.47**	**20**	P	**P**	**03 23 34.9**	**+0.1**
MLY	**Manley**	**82.00**	**21**	P	**P**	**03 23 37.9**	**+0.3**
MLY				IAmb	IAmb	03 24 19.4	
	comp=Z,2.4nm,1.4s						
ILAR	**Eielson Array**	**83.30**	**22**	P	**P**	**03 23 41.6**	**-2.7**
	comp=Z,0.7nm,0.7s,baz=247,slow=5.5,SNR=15 comp=Z,0.7nm,0.7s						
MESA	**MESA**	**83.37**	**27**	P	**P**	**03 23 47.9**	**+2.9**
KURBB	**Kurchatov Arra**	**83.54**	**322**	P	**P**	**03 23 44.2**	**-1.6**
	comp=Z,0.4nm,0.7s,baz=99,slow=3.1,SNR=1.4 comp=Z,0.4nm,0.7s						
C23K	**Itkillik River**	**84.60**	**17**	P	**P**	**03 23 52.4**	**+1.6**
C23K				IAmb	IAmb	03 23 54.2	
	comp=Z,5.9nm,1.4s						
NVAR	**Mina Array Bea**	**93.54**	**52**	P	**P**	**03 24 34.3**	**0.0**
	comp=Z,0.9nm,0.8s,baz=251,slow=7.8,SNR=6.2 comp=Z,0.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**149.26**	**286**	PKPbc	**PKPbc**	**03 31 06.4**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=73,slow=2.1,SNR=26						

*SOME **30** 03:15:10.5,39°.48N×76°.80E,h5km*
*NNC **30** 03:15:12.6±1.0,39°.53N×76°.82E,h0km,mb4.3,mpv4.0, Error ellipse: s-maj=6.8km s-min=5.3km az=162.0*
*KRNET **30** 03:15:15.1±0.1,39°.59N×76°.62E,mb3.

TNSS					*e*S	**Sg**	03 17 04.7	**-2.7**
	79nm,0.7s								
TNSS	**Tian-Shan**	**3.44**	**3**	Pg		**Pb**	**03 16 16.8**	**-1.3**
	26nm,0.4s								
TNSS				Lg		Lg	03 17 04.7		
	80nm,1.1s								
AAK	**Ala-Archa**	**3.46**	**332**	⇓Pg		**Pb**	**03 16 20.5**	**+2.3**
	12nm,0.5s								
AAK				⇓Lg		Lg	03 17 06.5		
	92nm,0.5s								
AAK	**Ala-Archa**	**3.46**	**332**	⇑*i*P		**Pn**	**03 16 12.4**	**+1.6**
	baz=33								
AAK				⇑*i*S		**Sn**	**03 16 54.0**	**+2.1**
	baz=33								
KST	**Kastek**	**3.49**	**351**	*e*P		**Pb**	**03 16 17.9**	**-0.7**
	13nm,0.3s								
KST				*e*S		**Sg**	**03 17 06.2**	**-2.5**
	76nm,0.6s								
KST	**Kastek**	**3.49**	**351**	Pg		**Pb**	**03 16 17.9**	**-0.7**
	13nm,0.8s								
KST				Lg		Lg	03 17 06.2		
	76nm,0.6s								
MTBS	**Maitube**	**3.54**	**357**	*e*P		**Pb**	**03 16 18.2**	**-1.3**
	28nm,0.3s								
MTBS				*e*S		**Sb**	**03 17 07.1**	**+4.6**
	47nm,0.2s								
MTBS	**Maitube**	**3.54**	**357**	Pg		**Pb**	**03 16 18.2**	**-1.3**
	26nm,0.5s								
MTBS				Lg		Lg	03 17 07.1		
	47nm,0.5s								
FRU1	**Bishkek**	**3.56**	**335**	⇑*i*P		**Pn**	**03 16 14.0**	**+1.8**
	baz=36								
FRU1				⇑*i*S		**Sn**	**03 16 57.0**	**+2.6**
	baz=36								
MDOK	**Medeo**	**3.58**	**4**	*e*P		**Pb**	**03 16 19.1**	**-1.1**
	25nm,0.3s								
MDOK				*e*S		**Sg**	**03 17 08.7**	**-2.9**
	136nm,0.4s								
MDOK	**Medeo**	**3.58**	**4**	Pg		**Pb**	**03 16 19.0**	**-1.1**
	28nm,0.7s								
MDOK				Pg		Pg	03 16 19.1	-6.2	
	26nm,0.4s								
MDOK				Lg		Lg	03 17 08.3		
	98nm,0.7s								
MDOK				Lg		Lg	03 17 08.7		
	129nm,0.7s								
KNDC	**Almaty**	**3.63**	**3**	⇑Pg		**Pb**	**03 16 20.2**	**-0.8**
	46nm,0.5s								
KNDC				⇓Lg		Lg	03 17 11.2		
	970nm,1.0s								
KOTS	**Kotyrbulak**	**3.65**	**5**	*e*P		**Pb**	**03 16 20.9**	**-0.6**
	24nm,0.3s								
KOTS				*e*S		**Sg**	**03 17 11.6**	**-2.4**
	197nm,0.3s								
KOTS	**Kotyrbulak**	**3.65**	**5**	Pg		**Pb**	**03 16 20.9**	**-0.6**
	24nm,0.3s								
KOTS				Lg		Lg	03 17 11.6		
	197nm,0.5s								
SATY	**Saty**	**3.70**	**20**	*e*P		**Pb**	**03 16 21.7**	**-0.5**
	23nm,0.4s								
SATY				*e*S		**Sg**	**03 17 13.6**	**-1.8**
	55nm,0.3s								
CHMS	**Chumysh**	**3.70**	**337**	⇑Lg		Lg	03 17 13.4		
	60nm,0.5s								
CHMS	**Chumysh**	**3.70**	**337**	⇑*i*P		**Pn**	**03 16 15.4**	**+1.4**
	baz=38								
CHMS				⇑*i*S		**Sn**	**03 16 59.5**	**+1.9**
	baz=38								
DGS	**Degeres**	**3.71**	**350**	*e*P		**Pb**	**03 16 22.4**	**+0.1**
	28nm,0.4s								
DGS				*e*S		**Sg**	**03 17 14.2**	**-1.6**
	78nm,0.4s								
DGS	**Degeres**	**3.71**	**350**	Pg		**Pb**	**03 16 22.4**	**+0.1**
	28nm,0.6s								
DGS				Lg		Lg	03 17 14.2		
	78nm,0.4s								
EKS2	**Erkin-Say**	**3.77**	**325**	⇑*i*P		**Pn**	**03 16 16.3**	**+1.3**
	baz=26								
EKS2				⇑*i*S		**Sn**	**03 17 01.2**	**+1.7**
	baz=26								
DRK	**Karamyk**	**3.78**	**270**	⇓*e*P		**Pn**	**03 16 16.4**	**+1.1**
	baz=70								
DRK				⇓*e*S		**Sn**	**03 17 00.7**	**+0.8**
	baz=70								
ZHN	**Zhinishke**	**3.81**	**20**	*e*P		**Pb**	**03 16 23.3**	**-0.8**
	7.6nm,0.2s								
ZHN				*e*S		**Sg**	**03 17 15.4**	**-3.6**
	26nm,0.3s								
ZHN	**Zhinishke**	**3.81**	**20**	Pg		**Pb**	**03 16 23.3**	**-0.8**
	7.6nm,0.3s								
ZHN				Lg		Lg	03 17 15.4		
	26nm,0.3s								
UZB	**Uzynbulak**	**3.96**	**26**	*e*P		**Pb**	**03 16 23.9**	**-2.8**
	24nm,0.4s								
UZB				*e*S		**Sb**	**03 17 16.4**	**+1.7**
	26nm,0.5s								
UZB	**Uzynbulak**	**3.96**	**26**	Pg		**Pb**	**03 16 23.9**	**-2.8**
	24nm,0.7s								
UZB				Lg		Lg	03 17 16.4		
	27nm,0.7s								
USP	**Ospenovka**	**4.02**	**337**	⇑*i*P		**Pn**	**03 16 20.0**	**+1.6**
	baz=37								
USP				⇑*i*S		**Sn**	**03 17 07.2**	**+1.7**
	baz=37								
KURS	**Kuram**	**4.05**	**16**	*e*P		**Pb**	**03 16 27.4**	**-0.7**
	17nm,0.7s								
KURS				*e*S		**Sg**	**03 17 22.9**	**-3.7**
	22nm,0.6s								
KURS	**Kuram**	**4.05**	**16**	Pg		**Pb**	**03 16 27.4**	**-0.7**
	17nm,0.7s								
KURS				Lg		Lg	03 17 22.9		
	22nm,0.6s								
MRKS	**Merke**	**4.09**	**321**	*e*P		**Pb**	**03 16 29.1**	**+0.3**
	17nm,0.3s								
MRKS				*e*S		**Sg**	**03 17 25.5**	**-2.5**
	78nm,0.3s								
MRKS	**Merke**	**4.09**	**321**	Pg		**Pb**	**03 16 29.1**	**+0.3**
	16nm,0.6s								
MRKS				Lg		Lg	03 17 25.5		
	107nm,0.7s								
KTBS	**Karatobe**	**4.11**	**0**	*e*P		**Pb**	**03 16 28.5**	**-0.7**
	18nm,0.3s								
KTBS				*e*S		**Sb**	**03 17 24.8**	**+5.7**
	101nm,0.8s								
KTBS	**Karatobe**	**4.11**	**0**	Pg		**Pb**	**03 16 28.5**	**-0.7**
	18nm,0.4s								
KTBS				Lg		Lg	03 17 24.8		
	101nm,0.8s								
SHLS	**Shalkode**	**4.13**	**30**	*e*P		**Pb**	**03 16 31.8**	**+2.2**
	25nm,0.3s								
SHLS				*e*S		**Sg**	**03 17 30.7**	**+1.4**
	40nm,0.5s								
KRBS	**Karabastau**	**4.17**	**350**	*e*P		**Pb**	**03 16 31.0**	**+0.8**
	20nm,0.5s								
KRBS				*e*S		**Sg**	**03 17 28.7**	**-1.8**
	60nm,0.5s								
KRBS	**Karabastau**	**4.17**	**350**	Pg		**Pb**	**03 16 31.0**	**+0.8**
	20nm,0.7s								
KRBS				Lg		Lg	03 17 28.7		
	60nm,0.9s								
ARK	**Arkit**	**4.21**	**303**	⇑*i*P		**Pn**	**03 16 22.4**	**+1.4**
	baz=4.0								
ARK				⇑*i*S		**Sn**	**03 17 11.3**	**+1.0**
	baz=4.0								
CHKK	**Chushkaly**	**4.26**	**3**	*e*P		**Pb**	**03 16 31.1**	**-0.6**
	14nm,0.2s								
CHKK				*e*S		**Sg**	**03 17 29.5**	**-4.0**
	60nm,0.6s								
CHKK	**Chushkaly**	**4.26**	**3**	Pg		**Pb**	**03 16 31.1**	**-0.6**
	12nm,0.3s								
CHKK				Lg		Lg	03 17 29.5		
	60nm,0.6s								
MNAS	**Manas**	**4.28**	**314**	⇓*e*P		**Pn**	**03 16 23.4**	**+1.3**
	baz=14								
MNAS				⇓*i*S		**Sn**	**03 17 13.4**	**+1.3**
	baz=14								
PDGK	**Podgornoye**	**4.29**	**29**	Pg		**Pb**	**03 16 30.8**	**-1.4**
	11nm,0.6s								
PDGK				Lg		Lg	03 17 28.9		
	12nm,0.8s								
PDGK	**Podgornoye**	**4.29**	**29**	⇑Pg		**Pb**	**03 16 30.6**	**-1.6**
	19nm,0.7s								
PDGK				⇑Lg		Lg	03 17 29.2		
	42nm,0.7s								
BTK	**Batken**	**4.54**	**278**	⇑*i*P		**Pn**	**03 16 26.7**	**+1.1**
	baz=78								
BTK				⇑*i*S		**Sn**	**03 17 19.0**	**+0.6**
	baz=78								

ARXS	**Arharly**	**4.69**	**10**	*e*P		**Pb**	**03 16 38.7**	**-0.4**
	16nm,0.5s								
ARXS				*e*S		**Sg**	**03 17 42.6**	**-4.8**
	26nm,0.5s								
ARXS	**Arharly**	**4.69**	**10**	Pg		**Pb**	**03 16 38.7**	**-0.4**
	16nm,0.5s								
ARXS				Lg		Lg	03 17 42.6		
	26nm,0.5s								
BLB	**Baldybastay**	**4.70**	**16**	Pg		**Pb**	**03 16 39.2**	**0.0**
	34nm,0.5s								
BLB				Lg		Lg	03 17 43.0		
	17nm,0.4s								
KNOS	**Konyrlen**	**5.11**	**21**	Pg		**Pb**	**03 16 46.8**	**+0.5**
	8.4nm,0.6s								
KNOS				Lg		Lg	03 17 56.5		
	9.6nm,0.6s								
DJR	**Jarkent**	**5.27**	**25**	*e*P		**Pb**	**03 16 49.0**	**+0.1**
	6.9nm,0.3s								
DJR				*e*S		**Sg**	**03 18 00.3**	**-5.6**
	22nm,0.5s								
DJR	**Jarkent**	**5.27**	**25**	Pg		**Pb**	**03 16 49.1**	**+0.1**
	7.1nm,0.7s								
DJR				Lg		Lg	03 18 00.3		
	22nm,0.8s								
IUG	**Iuzhnay**	**5.65**	**299**	*e*P		**Pg**	**03 17 00.2**	**-4.6**
	33nm,0.4s								
IUG				*e*S		**Sg**	**03 18 18.9**	**+0.9**
	40nm,0.5s								
BTLS	**Baital**	**5.78**	**341**	*e*P		**Pb**	**03 16 58.3**	**+0.7**
	2.1nm,0.4s								
BTLS				*e*S		**Sg**	**03 18 16.5**	**-5.7**
	20nm,0.8s								
KK31	**Karatay Array**	**5.82**	**309**	⇑Pg		**Pb**	**03 17 00.1**	**+1.9**
	2.4nm,0.6s,baz=125,slow=16,SNR=11								
KK31				⇑Lg		Lg	03 18 19.9		
	9.5nm,0.6s,baz=127,slow=28,SNR=9.6								
KAPS	**Kapalarasan**	**6.02**	**18**	*e*P		**Pb**	**03 17 04.0**	**+2.3**
	6.5nm,0.4s								
KAPS				*e*S		**Sg**	**03 18 25.8**	**-4.1**
	11nm,0.3s								
BRLS	**Boroldav**	**6.19**	**306**	*e*P		**Pb**	**03 17 06.5**	**+1.9**
	3.6nm,0.3s								
BRLS				*e*S		**Sg**	**03 18 29.8**	**-5.6**
	8.6nm,0.3s								
BRLS	**Boroldav**	**6.19**	**306**	Pg		**Pb**	**03 17 06.5**	**+1.9**
	3.6nm,0.5s								
BRLS				Lg		Lg	03 18 29.8		
	8.8nm,0.6s								
OTUK	**Ortayu**	**9.20**	**342**	Pg		Pn	03 18 01.4	+32	
	0.2nm,0.8s								
OTUK				Lg		Lg	03 20 04.4		
	3.7nm,0.6s								

*IDC **30** 03:22:48.0±1.2,5°.60S×151°.82E,h0km,mb3.9/5, mbtmp3.9/6,ML1.8/1,Error ellipse: s-maj=52.5km s-min=23.4km az=124.0*

ISC 30 03:22:54.5±1.2,5°.6S±0°.2×151°.8E±0°.3,h45km,n7,σ0s91/8, mb4.0/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.93**	**231**	Pn	**Pn**	**03 24 19.5**	**-0.3**
	1.4nm,0.3s,baz=42,slow=16,SNR=2.0						
PMG				Sn	**Sn**	**03 25 27.5**	**+1.0**
	3.2nm,0.3s,baz=319,slow=23,SNR=3.7						
	6.8nm,0.6s						
WRA	**Warramunga Arr**	**22.14**	**228**	P	**P**	**03 27 45.5**	**-1.1**
	4.5nm,0.5s,baz=52,slow=9.9,SNR=82						
	4.5nm,0.5s						
ASAR	**Alice Springs**	**24.86**	**222**	P	**P**	**03 28 13.2**	**0.0**
	3.5nm,0.7s,baz=59,slow=8.6,SNR=59						
	3.5nm,0.7s						
ILAR	**Eielson Array**	**83.31**	**22**	P	**P**	**03 35 16.9**	**+0.6**
	0.2nm,0.6s,baz=239,slow=5.2,SNR=4.9						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**83.84**	**322**	P	**P**	**03 35 19.5**	**+0.2**
	0.3nm,0.7s,baz=94,slow=4.7,SNR=2.1						
	0.3nm,0.7s						
QSPA	**South Pole Qui**	**84.33**	**180**	P	**P**	**03 35 21.9**	**+0.2**
	1.1nm,0.7s,baz=85,slow=1.7,SNR=8.0						
	1.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**149.59**	**286**	PKPbc	**PKPbc**	**03 42 39.0**	**-1.2**
	0.4nm,0.6s,baz=100,slow=1.6,SNR=4.4						

IDC 30 03:32:56.0±5.1,5°.43S×150°.95E,h0km,mb2.8/2, mbtmp2.9/2,Error ellipse: s-maj=230.4km s-min=57.4km az=118.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.66**	**227**	P	P	03 37 49.6	+1.2
	0.3nm,1.0s,baz=51,slow=10,SNR=1.3						
	0.3nm,1.0s						
ASAR	**Alice Springs**	**24.46**	**220**	P	P	03 38 15.9	-1.0
	0.1nm,0.3s,baz=54,slow=9.5,SNR=2.0						
	0.1nm,0.3s						
TORD	**Torodi Ar. Bea**	**148.74**	**286**	PKPbc	PKPbc	03 52 46.0	-0.5
	0.1nm,0.3s,baz=89,slow=3.3,SNR=1.7						

*SJA **30** 03:34:46.5±0.6,24°.12S×67°.18W,h197km±5km,ML3.8, MW3.8*
*IDC **30** 03:34:47.2±1.4,24°.05S×67°.01W,h168km±16km,mb3.5/2, mbtmp3.9/7,Error ellipse: s-maj=20.7km s-min=18.0km az=132.0*
*NEIC **30** 03:34:47.4±1.6,24°.19S±0°.05×67°.3W±0°.1,h190km±9km, mb4.3/10,Error ellipse: s-maj=16.9km s-min=4.7km az=107.0*
*VAO **30** 03:34:48.7±0.5,23°.89S×67°.27W,h206km±5km,mb3.8*
*GUC **30** 03:34:49.2±0.7,24°.12S×67°.46W,h201km±5km,ML4.2*

ISC 30 03:34:47.4±0.6,24°.09S±0°.04×67°.25W±0°.04,h189km±7km, n108,σ1s24/126,mb4.2/4,5C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.42**	**323**		**Pn**	**03 35 21.2**	**+1.5**
AF01	**San Pedro de A**	**1.42**	**323**	*e*P	**Pn**	**03 35 21.3**	**+1.5**
AF01				*e*S	**Sn**	**03 35 45.9**	**+1.0**
SLA	**San Lorenzo**	**1.71**	**112**	*e*P	**Pn**	**03 35 22.1**	**-0.1**
SLA				*e*S	**Sn**	**03 35 47.9**	**-1.4**
LVC	**Limon Verde**	**2.13**	**314**		**Pn**	**03 35 27.5**	**+0.6**
LVC	**Limon Verde**	**2.13**	**314**	*e*P	**Pn**	**03 35 27.8**	**+1.0**
LVC				*e*S	**Sn**	**03 35 58.1**	**+0.6**
LVC				IAML		03 35 59.5	
	comp=Z,207nm,0.8s						
LVC	**Limon Verde**	**2.13**	**314**	P	**Pn**	**03 35 28.0**	**+1.2**
	comp=Z,44nm,0.4s,baz=136,slow=7.0,SNR=244						
LVC				S	**Sn**	**03 35 57.5**	**0.0**
	comp=Z,114nm,0.4s,baz=199,slow=8.1,SNR=7.6						
LVC	**Limon Verde**	**2.13**	**314**	*e*P	**Pn**	**03 35 27.9**	**+1.0**
LVC				*e*S	**Sn**	**03 35 57.2**	**-0.3**
LVC				IAML		03 35 59.6	
	comp=Z,1μm,0.2s						
LVC	**Limon Verde**	**2.13**	**314**	*e*P	**Pn**	**03 35 28.1**	**+1.2**
PB15	**IPOC Station P**	**2.22**	**293**		**Pn**	**03 35 28.5**	**+0.7**
PB15	**IPOC Station P**	**2.22**	**293**	*e*P	**Pn**	**03 35 28.9**	**+1.1**
PB15	**IPOC Station P**	**2.22**	**293**	⇑*i*P	**Pn**	**03 35 28.9**	**+1.1**
PB15				*e*S	**Sn**	**03 35 58.8**	**-0.3**
FSA	**Cafayete**	**2.31**	**151**	*e*P	**Pn**	**03 35 28.7**	**0.0**
GO02	**Mina Guanaco**	**2.38**	**243**	Pn	**Pn**	**03 35 29.4**	**-0.2**
GO02	**Mina Guanaco**	**2.38**	**243**	*e*P	**Pn**	**03 35 30.4**	**+0.7**
GO02				*e*S	**Sn**	**03 36 03.0**	**+0.5**
GO02	**Mina Guanaco**	**2.38**	**243**	⇑*i*P	**Pn**	**03 35 30.3**	**+0.7**
GO02				*e*S	**Sn**	**03 36 02.1**	**-0.4**
GO02				IAML		03 36 03.3	
	comp=N,483nm,0.4s						
YJA	**Yavi**	**2.49**	**40**	*e*P	**Pn**	**03 35 31.5**	**+0.5**
YJA				*e*S	**Sn**	**03 36 05.2**	**+0.4**
PB06	**IPOC Station P**	**2.54**	**302**		**Pn**	**03 35 32.0**	**+0.7**
PB06	**IPOC Station P**	**2.54**	**302**	*e*P	**Pn**	**03 35 32.3**	**+1.0**
PB06				IAML		03 36 08.5	
	comp=Z,507nm,0.2s						
PB06	**IPOC Station P**	**2.54**	**302**	⇑*i*P	**Pn**	**03 35 32.4**	**+1.1**
PB06				*e*S	**Sn**	**03 36 04.9**	**-0.6**
PB06				IAML		03 36 06.3	
	comp=E,986nm,0.3s						
PB14	**IPOC Station P**	**2.93**	**259**	Pn	**Pn**	**03 35 35.8**	**-0.1**
PB14	**IPOC Station P**	**2.93**	**259**	*e*P	**Pn**	**03 35 36.5**	**+0.5**
PB14				IAML		03 36 16.5	
	comp=Z,76nm,0.6s						
PB14	**IPOC Station P**	**2.93**	**259**	*e*P	**Pn**	**03 35 36.3**	**+0.3**
PB14				*e*S	**Sn**	**03 36 11.7**	**-2.0**
PB09	**IPOC Station P**	**2.94**	**321**		**Pn**	**03 35 37.0**	**+1.1**
PB09	**IPOC Station P**	**2.94**	**321**	*e*P	**Pn**	**03 35 37.5**	**+1.6**
PB09				IAML		03 36 20.3	
	comp=Z,230nm,0.4s						
PB09	**IPOC Station P**	**2.94**	**321**	⇓*i*P	**Pn**	**03 35 37.5**	**+1.6**
PB09				*e*S	**Sn**	**03 36 14.2**	**+0.5**
PB09				IAML		03 36 16.4	
	comp=N,309nm,0.4s						
PB05	**IPOC Station P**	**2.98**	**294**		**Pn**	**03 35 36.6**	**+0.2**
PB05	**IPOC Station P**	**2.98**	**294**	*e*P	**Pn**	**03 35 37.1**	**+0.7**
PB05				IAML		03 36 22.9	
	comp=Z,134nm,0.2s						
PB05	**IPOC Station P**	**2.98**	**294**	⇑*i*P	**Pn**	**03 35 36.9**	**+0.5**
PB05				*e*S	**Sn**	**03 36 12.6**	**-2.1**
PB05				IAML		03 36 14.8	
	comp=E,269nm,0.4s						
PB10	**IPOC Station P**	**3.08**	**280**	Pn	**Pn**	**03 35 37.6**	**+0.1**
PB10	**IPOC Station P**	**3.08**	**280**	*e*P	**Pn**	**03 35 38.3**	**+0.8**
PB10				IAML		03 36 22.2	
	comp=Z,120nm,0.3s						
PB10	**IPOC Station P**	**3.08**	**280**	⇑*i*P	**Pn**	**03 35 38.4**	**+0.9**
PB10				*e*S	**Sn**	**03 36 14.7**	**-1.9**
PB10				IAML		03 36 19.9	
	comp=N,186nm,0.2s						
PB04	**IPOC Station P**	**3.19**	**303**		**Pn**	**03 35 39.4**	**+0.3**
PB04	**IPOC Station P**	**3.19**	**303**	*e*P	**Pn**	**03 35 39.9**	**+0.9**
PB04				IAML		03 36 22.1	
	comp=Z,452nm,0.2s						
PB04	**IPOC Station P**	**3.19**	**303**	*e*P	**Pn**	**03 35 39.6**	**+0.6**
PB04				*e*S	**Sn**	**03 36 17.9**	**-1.4**
PB04				IAML		03 36 20.6	
	comp=N,481nm,0.2s						
AC02	**Maricunga**	**3.22**	**212**	*e*P	**Pn**	**03 35 40.1**	**+0.6**
AC02	**Maricunga**	**3.22**	**212**	*e*P	**Pn**	**03 35 40.1**	**+0.6**
PB07	**IPOC Station P**	**3.39**	**314**		**Pn**	**03 35 41.8**	**+0.4**
PB07	**IPOC Station P**	**3.39**	**314**	*e*P	**Pn**	**03 35 41.9**	**+0.6**
PB07				IAML		03 36 26.8	
	comp=Z,320nm,0.2s						
PB07	**IPOC Station P**	**3.39**	**314**	*e*P	**Pn**	**03 35 42.0**	**+0.6**
AC01	**Pan de Azucar**	**3.66**	**235**	Pn	**Pn**	**03 35 43.6**	**-0.9**
AC01	**Pan de Azucar**	**3.66**	**235**	*e*P	**Pn**	**03 35 43.9**	**-0.7**
AC01				*e*S	**Sn**	**03 36 27.4**	**-2.0**
AC01				IAML		03 36 27.9	
	comp=Z,82nm,0.2s						
PB01	**IPOC Station P**	**3.68**	**325**		**Pn**	**03 35 45.1**	**+0.2**
PB01	**IPOC Station P**	**3.68**	**325**	*e*P	**Pn**	**03 35 45.3**	**+0.4**
PB01				IAML		03 36 31.2	
	comp=Z,180nm,0.1s						
PB02	**IPOC Station P**	**3.69**	**318**		**Pn**	**03 35 45.3**	**+0.2**
PB02	**IPOC Station P**	**3.69**	**318**	*e*P	**Pn**	**03 35 45.5**	**+0.4**
PB02				*e*S	**Sn**	**03 36 28.6**	**-1.6**
PATCX	**Punta Patache**	**4.22**	**320**	Pn	**Pn**	**03 35 52.3**	**+0.5**
AC06	**Mina Casimiro**	**4.29**	**220**		**Pn**	**03 35 50.6**	**-1.8**
PB08	**IPOC Station P**	**4.31**	**335**		**Pn**	**03 35 54.1**	**+0.9**
PB08	**IPOC Station P**	**4.31**	**335**	*e*P	**Pn**	**03 35 54.4**	**+1.2**
PB08				*e*S	**Sn**	**03 36 40.1**	**-4.6**
PB08				IAML		03 36 48.3	
	comp=Z,49nm,0.3s						
GO03	**Copiap**	**4.41**	**217**		**Pn**	**03 35 50.3**	**-3.6**
TA01	**Diego Aracena**	**4.44**	**322**	Pn	**Pn**	**03 35 55.6**	**+1.3**
TA02	**Huaiquique**	**4.65**	**324**	Pn	**Pn**	**03 35 57.3**	**+0.2**
GO01	**Chusmiza**	**4.76**	**337**		**Pn**	**03 35 59.8**	**+0.8**
PB11	**IPOC Station P**	**4.86**	**332**	Pn	**Pn**	**03 35 59.6**	**-0.3**
AC04	**Llanos de Chal**	**5.35**	**219**	Pn	**Pn**	**03 36 00.1**	**-5.9**
LCO	**Las Campanas**	**5.79**	**212**	Pn	**Pn**	**03 36 09.6**	**-2.5**
PB16	**IPOC Station P**	**6.11**	**339**		**Pn**	**03 36 16.0**	**-0.5**
CO03	**El Pedregal**	**7.38**	**204**	Pn	**Pn**	**03 36 31.0**	**-1.6**
LPAZ	**La Paz**	**7.81**	**354**		**Pn**	**03 36 39.7**	**+0.9**
LPAZ	**La Paz**	**7.81**	**354**	P	**Pn**	**03 36 40.0**	**+1.2**
LPAZ	comp=Z,2.3nm,0.3s,baz=172,slow=6.3,SNR=23			S	**Sn**	**03 38 03.6**	**-3.5**
	comp=Z,2.5nm,0.8s,baz=175,slow=4.1,SNR=2.3						
MURT	**Porto Murtinho**	**9.21**	**77**	*e*P	**Pn**	**03 36 55.3**	**-1.2**
CPUP	**Villa Florida**	**9.25**	**106**	P	**Pn**	**03 36 53.9**	**-3.1**
	comp=Z,0.7nm,0.7s,baz=311,slow=10,SNR=1.2						
CPUP	**Villa Florida**	**9.25**	**106**	*e*P	**Pn**	**03 36 59.4**	**+2.4**
BBSD	**Serra de San D**	**9.26**	**43**	*e*P	**Pn**	**03 36 55.9**	**-1.4**
PTLB	**Pontes e Lacer**	**11.49**	**43**	Pn	**Pn**	**03 37 24.4**	**-1.8**
PTLB	**Pontes e Lacer**	**11.49**	**43**	*e*P	**Pn**	**03 37 25.4**	**-0.8**
RODS	**Rosario do Sul**	**12.39**	**123**	*e*P	**P**	**03 37 40.2**	**-1.8**
ALGR	**Alto Alegre (B**	**13.57**	**113**	*e*P	**P**	**03 37 55.0**	**-0.2**
CPSB	**Cacapava Do Su**	**13.79**	**120**	*e*P	**P**	**03 37 57.1**	**-0.4**
PTGB	**Pitanga**	**13.85**	**96**	*e*P	**P**	**03 37 58.8**	**+0.5**
ITAB	**Concordia**	**13.98**	**106**	*e*P	**P**	**03 37 59.1**	**-0.6**
LDASE	**Londrina, Braz**	**14.79**	**91**	*e*P	**P**	**03 38 09.3**	**+0.7**
PCMB	**Pacaembu**	**14.94**	**84**	*e*P	**P**	**03 38 10.8**	**+0.5**
SAML	**Samuel**	**15.55**	**15**	*e*P	**Pn**	**03 38 14.5**	**-2.4**
ARAG	**Araguaiana, MT**	**16.73**	**63**	*e*P	**Pn**	**03 38 31.4**	**+0.3**
PLCA	**Paso Flores**	**16.82**	**189**	P	**Pn**	**03 38 31.6**	**-0.4**
PLCA				IAmb	IAmb	03 38 43.8	
	comp=Z,9.6nm,1.4s						
PLCA	**Paso Flores**	**16.82**	**189**	P	**Pn**	**03 38 32.2**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=347,slow=9.2,SNR=4.7						
PLCA	**Paso Flores**	**16.82**	**189**	*e*P	**Pn**	**03 38 32.6**	**+0.5**
LL04	**Puerto Octay**	**17.32**	**193**	P	**Pn**	**03 38 37.1**	**-0.7**
LL04				IAmb	IAmb	03 38 37.7	
	comp=Z,11nm,1.2s						
BB19B	**Bebedouro**	**17.55**	**84**	*e*P	**P**	**03 38 39.3**	**+0.2**
RCLB	**Rio Claro- Sao**	**18.19**	**89**	*e*P	**P**	**03 38 46.9**	**+0.7**
VAO	**Valinhos**	**18.63**	**91**	*e*P	**P**	**03 38 49.9**	**-0.9**
IPMB	**Ipameri, GO

RAO S **S** **03 51 36.9 -6.2**
145nm,0.3s,baz=119,slow=21,SNR=1.4
GLKZ Green Lake 7.80 173 P **P** **03 50 03.0 -2.6**
GLKZ S **S** **03 51 39.4 -3.8**
NIUE Niue 8.91 76 P **P** **03 50 14.6 -1.4**
AFI Afiamalu 10.25 44 P **P** **03 50 24.7 -4.1**
AFI S **S** **03 52 21.0 -4.5**
MARNC Mare, Loyalty 12.02 268 P **P** **03 50 42.3 -2.9**
MARNC Mare, Loyalty 12.02 268 P **P** **03 50 42.6 -2.6**
LIFNC LIFOU 12.80 271 P **P** **03 50 49.5 -2.9**
OUENC Ouen Island, N 13.11 263 P **P** **03 50 53.2 -2.1**
DZM Mont Dzumac 13.47 265 P **P** **03 50 57.3 -1.6**
DZM Mont Dzumac 13.47 265 P **P** **03 50 57.2 -1.6**
DZM Mont Dzumac 13.47 265 P **P** **03 50 57.6 -1.2**
DZM Mont Dzumac 13.47 265 P **P** **03 50 55.9 -2.9**
28nm,0.6s,baz=81,slow=18,SNR=25
NOUC Port Laguerre 13.61 265 P **P** **03 50 58.5 -1.4**
OUZ Omahuta 15.11 204 P **P** **03 51 16.7 +3.2**
GRZ Great Barrier 15.46 197 P **P** **03 51 19.5 +2.9**
WCZ Waipu Caves 15.50 200 P **P** **03 51 21.2 +4.2**
KOUNC Koumac, New Ca 15.57 270 P **P** **03 51 18.8 +0.8**
KOUNC Koumac, New Ca 15.57 270 P **P** **03 51 18.1 +0.2**
WIAZ Waiheke Island 16.05 197 P **P** **03 51 25.2 +3.1**
MXZ Matakaoa Point 16.17 188 P **P** **03 51 24.5 +1.4**
MXZ Matakaoa Point 16.17 188 P **P** **03 51 24.4 +1.2**
ETAZ East Tamaki Re 16.26 197 P **P** **03 51 27.5 +3.5**
MKAZ Moumakai 16.34 197 P **P** **03 51 27.6 +3.0**
KBAZ Karaka Road Bo 16.40 197 P **P** **03 51 29.3 +4.0**
WMGZ Waiomatatini S 16.41 187 P **P** **03 51 26.8 +1.4**
HAZ Te Kaha 16.43 189 P **P** **03 51 26.4 +0.9**
HAZ S **S** **03 54 03.1 -4.1**
AWAZ Awhitu Peninsu 16.45 198 P **P** **03 51 28.9 +3.2**
PKGZ Pakihiroa 16.52 188 P **P** **03 51 26.8 +0.4**
RUGZ Raukumara Rang 16.65 189 P **P** **03 51 27.8 +0.1**
RUGZ S **S** **03 54 07.4 -3.6**
TWGZ Tauwhareparae 16.82 188 P **P** **03 51 30.7 +1.6**
TWGZ S **S** **03 54 14.3 +0.7**
TOZ Tahuroa Road 16.84 195 P **P** **03 51 32.0 +2.7**
URZ Urewera 17.03 190 P **P** **03 51 31.5 +0.5**
11nm,0.3s,baz=323,slow=2.7,SNR=20
URZ S **S** **03 54 13.3 -3.6**
2.8nm,0.5s,baz=321,slow=23,SNR=1.7
URZ Urewera 17.03 190 P **P** **03 51 31.3 +0.4**
URZ S **S** **03 54 13.1 -3.8**
MWZ Matawai 17.03 189 P **P** **03 51 31.2 +0.2**
MWZ S **S** **03 54 16.7 -0.4**
RTZ Ruatahuna 17.40 190 P **P** **03 51 34.1 -0.3**
RTZ IAmb IAmb 03 52 06.6
comp=Z,29nm,1.5s
HIZ Hauiti 17.75 196 P **P** **03 51 39.2 +1.7**
TCW Tory Channel 20.44 195 P **P** **03 52 04.2 +2.5**
PLWZ Palliser 20.58 192 P **P** **03 52 03.0 0.0**
EIDS Eidsvold 27.63 256 P **P** **03 53 05.4 +0.1**
ARMA Armidale 27.74 245 P **P** **03 53 07.8 +1.4**
ARMA Armidale 27.74 245 P **P** **03 53 07.5 +1.1**
ARMA Armidale 27.74 245 P **P** **03 53 07.3 +1.0**
MGCD Mangrove Creek 28.84 240 P P 03 53 17.4 +1.7
AULRC Lightning Ridg 30.71 248 P **P** **03 53 32.5 +0.9**
CNB Canberra Magne 30.85 237 P **P** **03 53 34.3 +1.5**
TV1H Townsville Har 32.04 268 P **P** **03 53 42.9 -0.2**
CTAO Charters Tower 32.41 266 P **P** **03 53 46.2 0.0**
CTAO Charters Tower 32.41 266 P **P** **03 53 46.3 0.0**
CMSA Cobar Meteorol 32.96 245 P **P** **03 53 51.3 +0.7**
CMSA Cobar Meteorol 32.96 245 P **P** **03 53 51.2 +0.7**
QLP Quilpie 33.82 254 P **P** **03 53 58.1 +0.3**
MTSU Mount Surprise 34.56 269 P **P** **03 54 04.3 +0.2**
PMG Port Moresby 34.62 285 P **P** **03 54 04.3 -0.3**
PMG Port Moresby 34.62 285 P **P** **03 54 03.9 -0.6**
28nm,0.6s,baz=86,slow=3.6,SNR=7.9
comp=Z,24nm,0.7s
STKA Stephens Creek 36.46 245 P **P** **03 54 20.6 +1.0**
STKA Stephens Creek 36.46 245 P **P** **03 54 20.5 +1.0**
STKA Stephens Creek 36.46 245 P **P** **03 54 20.5 +1.0**
STKA Stephens Creek 36.46 245 P **P** **03 54 20.1 +0.6**
comp=Z,8.8nm,0.5s,baz=92,slow=10,SNR=30
comp=Z,8.8nm,0.5s
COEN Coen 36.67 275 P **P** **03 54 21.7 +0.3**
COEN Coen 36.67 275 P **P** **03 54 18.7 -2.7**
COEN Coen 36.67 275 P **P** **03 54 21.7 +0.3**
INKA Innaminka 36.94 252 P **P** **03 54 24.7 +1.3**
INKA Innaminka 36.94 252 P **P** **03 54 24.8 +1.3**
QIS Mount Isa 38.51 264 P **P** **03 54 35.9 -0.3**
QIS Mount Isa 38.51 264 P **P** **03 54 35.7 -0.5**
HTT Hallett 38.88 243 P **P** **03 54 39.8 +0.7**
LCRK Leigh Creek 39.23 248 P **P** **03 54 42.7 +0.9**
LCRK Leigh Creek 39.23 248 P **P** **03 54 42.4 +0.6**
WHYH Whyalla 39.97 244 P **P** **03 54 48.6 +1.0**
BBOO Buckleboo 41.22 244 P **P** **03 54 57.7 +0.2**
OOD Oodnadatta 41.42 252 P **P** **03 55 00.2 +1.1**
OOD Oodnadatta 41.42 252 P **P** **03 55 00.4 +1.3**
MULG Mulgathing 42.82 248 P **P** **03 55 10.5 +0.5**
WR0 Warramunga Arr 43.30 263 P **P** **03 55 13.5 -0.4**
WR0 IAmb IAmb 03 55 14.9
comp=Z,6.8nm,0.6s
AS31 Alice Springs 43.33 258 P **P** **03 55 14.5 +0.4**
ASAR Alice Springs 43.33 258 P **P** **03 55 14.2 +0.2**
comp=Z,24nm,0.8s,baz=97,slow=7.8,SNR=416
ASAR PcP **PcP** **03 56 48.4 +0.9**
comp=Z,2.1nm,0.7s,baz=106,slow=4.3,SNR=6.6
ASAR ScP **ScP** **03 59 45.5 +7.2**
comp=Z,1.8nm,0.8s,baz=106,slow=4.2,SNR=8.8
ASAR S **S** **04 00 55.6 -1.5**
comp=Z,2.9nm,0.9s,baz=94,slow=15,SNR=20
comp=Z,24nm,0.8s
WB0 Warramunga Arr 43.47 264 P **P** **03 55 14.8 -0.4**
WB2 Warramunga Arr 43.48 263 P **P** **03 55 14.8 -0.4**
WRA Warramunga Arr 43.49 263 P **P** **03 55 14.6 -0.7**
WRA Warramunga Arr 43.49 263 P **P** **03 55 14.8 -0.6**
comp=Z,12nm,0.5s,baz=97,slow=7.4,SNR=221
WRA PcP **PcP** **03 56 49.9 +1.9**
comp=Z,1.3nm,0.8s,baz=89,slow=3.5,SNR=2.8
WRA ScP **ScP** **03 59 45.5 +6.6**
comp=Z,0.5nm,0.7s,baz=95,slow=3.7,SNR=4.8
WRA S **S** **04 00 54.3 -5.0**
comp=Z,1.8nm,0.9s,baz=102,slow=16,SNR=8.5
comp=Z,12nm,0.5s
FORT Forrest 47.99 247 P **P** **03 55 49.5 +0.5**
FORT Forrest 47.99 247 P **P** **03 55 49.3 +0.3**
MTN Manton Dam 48.19 272 P **P** **03 55 50.5 -0.2**
KNRA Kununurra 49.61 267 P **P** **03 56 00.7 -0.4**
KNRA IAmb IAmb 03 56 01.7
comp=Z,11nm,0.5s
FITZ Fitzroy Crossi 51.92 263 P **P** **03 56 18.7 +1.0**
SOEI Soe 55.55 273 P **P** **03 56 44.0 +0.7**
SOEI IAmb IAmb 03 56 49.8
comp=Z,18nm,0.6s
VNDA Vanda 56.83 185 P P 03 56 54.5 +3.7
comp=Z,0.8nm,0.6s,baz=5.6,slow=6.0,SNR=8.5
VNDA ScP **ScP** **04 00 41.2 +5.9**
comp=Z,0.4nm,0.8s,baz=19,slow=7.5,SNR=1.5
comp=Z,0.8nm,0.6s
QSPA South Pole Qui 68.57 180 P P 03 58 09.3 +3.0
QSPA South Pole Qui 68.57 180 P P 03 58 09.7 +3.5
comp=Z,8.2nm,0.9s,baz=348,slow=0.6,SNR=32
comp=Z,8.2nm,0.9s
MJAR Matsushiro Arr 70.43 325 P **P** **03 58 18.1 +0.6**
comp=Z,3.6nm,0.7s,baz=155,slow=5.8,SNR=9.5
comp=Z,3.6nm,0.7s
KSRS Korea Array 76.98 319 P **P** **03 58 55.1 +0.8**
comp=Z,1.4nm,0.9s,baz=139,slow=6.5,SNR=2.6
comp=Z,1.4nm,0.9s
PETK Petropavlovsk- 76.98 346 P **P** **03 58 54.6 +0.6**
comp=Z,7.4nm,0.7s,baz=115,slow=6.7,SNR=13
comp=Z,7.4nm,0.7s
CNBA Chernabura Isl 77.82 11 P **P** **03 58 59.2 +0.9**
CNBA IAmb IAmb 03 58 59.9
comp=Z,6.8nm,0.5s
SDPT Sand Point 78.17 11 P **P** **03 59 01.2 +0.9**
SDPT IAmb IAmb 03 59 01.8
comp=Z,15nm,0.8s
BELA Belgrano 2 78.70 173 P P 03 59 05.7 +2.8
BELA IAmb IAmb 03 59 07.0
comp=Z,11nm,1.0s
USRK Ussuriysk Ar. 79.24 326 P **P** **03 59 07.8 +1.6**
USRK Ussuriysk Ar. 79.24 326 P **P** **03 59 07.2 +1.0**
comp=Z,8.4nm,1.0s,baz=113,slow=4.3,SNR=10
comp=Z,8.4nm,1.0s
CHGN Chignik 79.44 12 P **P** **03 59 08.5 +1.6**
CHGN IAmb IAmb 03 59 11.9
comp=Z,12nm,1.0s
ISA Isabella, Lake 80.74 46 P **P** **03 59 16.6 +2.3**
CMB Columbia Colle 80.87 43 P **P** **03 59 16.8 +1.9**
AFDM Forest Hills D 81.04 42 P **P** **03 59 17.7 +2.0**

ORV Oroville 81.08 41 P **P** **03 59 18.3 +2.5**
MDPB Devils Postpil 81.47 44 P **P** **03 59 19.7 +1.5**
EMB Emerald Bay 81.60 42 P **P** **03 59 20.3 +1.4**
YBH Yreka Blue Hor 81.69 39 P **P** **03 59 21.0 +2.0**
YBH IAmb IAmb 03 59 23.7
comp=Z,9.0nm,1.0s
WAKR Walker 81.75 43 P **P** **03 59 21.6 +2.1**
WAKR IAmb IAmb 03 59 23.9
comp=Z,10nm,1.0s
MPK Martis Peak 81.84 42 P **P** **03 59 21.7 +1.6**
MPK IAmb IAmb 03 59 24.3
comp=Z,13nm,0.9s
PNTR Pine Nut 81.99 43 P **P** **03 59 22.9 +2.1**
QSM Queen of Sheba 81.99 46 P **P** **03 59 22.9 +2.4**
DSP Deep Springs 82.05 45 P **P** **03 59 23.1 +2.4**
HUMO Hull Mountain 82.09 38 P **P** **03 59 22.5 +1.6**
HUMO IAmb IAmb 03 59 25.7
comp=Z,14nm,1.2s
YERR Yerington 82.15 43 P **P** **03 59 23.2 +1.7**
YERR IAmb IAmb 03 59 25.5
comp=Z,7.5nm,0.9s
LCH Last Change Ra 82.18 45 P **P** **03 59 23.8 +2.1**
LHV Little Huntoon 82.20 44 P P 03 59 24.3 +2.8
L04D Klamath Falls 82.23 39 P P 03 59 24.3 +2.5
L04D IAmb IAmb 03 59 26.0
comp=Z,16nm,0.9s
GRAC Grapevine Rang 82.23 45 P P 03 59 24.5 +2.7
GWY Greenwater Val 82.25 46 P P 03 59 24.8 +2.8
RYN Ryan 82.40 43 P **P** **03 59 25.0 +2.2**
NVAR Mina Array Bea 82.43 44 P **P** **03 59 25.1 +2.1**
NVAR Mina Array Bea 82.43 44 P P 03 59 26.1 +3.1
comp=Z,4.7nm,0.8s,baz=226,slow=8.1,SNR=28
comp=Z,4.7nm,0.8s
113A Mohawk Valley, 82.44 51 P **P** **03 59 25.4 +2.6**
GMN Gold Mountain 82.47 45 P **P** **03 59 25.1 +1.8**
PAHR Pah Rah Range 82.48 42 P **P** **03 59 25.0 +1.9**
PAHR IAmb IAmb 03 59 27.2
comp=Z,7.7nm,0.9s
NV11 Mina Array Sit 82.53 44 P **P** **03 59 24.8 +1.4**
O16K Kokwok River B 82.61 11 P **P** **03 59 23.8 +0.8**
O16K IAmb IAmb 03 59 24.3
comp=Z,6.8nm,0.7s
WCT Wildcat Mounta 82.61 46 P **P** **03 59 25.7 +2.0**
HSIG 82.64 55 P **P** **03 59 26.4 +2.5**
BNX BinXian 82.67 325 ⇓P **P** **03 59 25.0 +1.3**
BNX pmax pmax
comp=Z,9.0nm,0.8s
BNX pmax pmax
comp=Z,110nm,5.2s
N15K Kwethluk River 82.83 9 P P 03 59 26.5 +2.3
KVN Kaiserville 82.92 43 P **P** **03 59 27.1 +1.7**
TPH Tonopah 82.93 45 P **P** **03 59 27.2 +1.7**
P18K Big Mountain, 82.94 12 P **P** **03 59 25.2 +0.4**
P18K IAmb IAmb 03 59 26.4
comp=Z,5.7nm,0.7s
M14K Bethel 83.12 8 P **P** **03 59 26.9 +1.3**
M14K IAmb IAmb 03 59 28.2
comp=Z,8.6nm,0.8s
I04A Tendick Farm, 83.14 38 P **P** **03 59 27.4 +1.3**
I04A IAmb IAmb 03 59 29.6
comp=Z,6.1nm,0.7s
V12A Nelson 83.23 48 P **P** **03 59 28.8 +1.9**
K05A Summer Lake 83.36 39 IAmb IAmb 03 59 32.0
comp=Z,16nm,0.9s
O18K Koktuh Hills 83.38 12 P **P** **03 59 28.5 +1.6**
M16K Timber Creek 83.82 10 IAmb IAmb 03 59 32.7
comp=Z,26nm,1.5s
PINE Pine Mountain 83.98 38 IAmb IAmb 03 59 35.0
comp=Z,14nm,1.0s
I05D Terrebonne, OR 84.08 38 IAmb IAmb 03 59 34.5
comp=Z,6.6nm,0.9s
TUC Tucson 84.38 52 P **P** **03 59 34.5 +2.0**
N19K Bonanza Creek 84.40 12 IAmb IAmb 03 59 33.8
comp=Z,7.7nm,0.9s
M17K Holitna River 84.43 10 IAmb IAmb 03 59 35.6
comp=Z,8.8nm,0.9s
K15K Wolf Creek Mou 84.67 8 IAmb IAmb 03 59 35.8
comp=Z,6.2nm,0.7s
319A Douglas 85.04 54 IAmb IAmb 03 59 40.9
comp=Z,14nm,1.1s
J08A Circle Bar Ran 85.17 40 IAmb IAmb 03 59 40.4
comp=Z,13nm,1.3s
GNW Green Mountain 85.27 34 IAmb IAmb 03 59 40.3
comp=Z,5.5nm,0.7s
U15A North Rim 85.37 48 IAmb IAmb 03 59 42.0
comp=Z,8.5nm,0.7s
M19K Big River Lodg 85.43 11 IAmb IAmb 03 59 39.0
comp=Z,4.7nm,0.7s
L19K White Mountain 85.60 11 IAmb IAmb 03 59 40.5
comp=Z,8.7nm,0.9s
HEH HeiHe 85.64 329 *e*P **P** **03 59 39.0 +1.0**
HEH pmax pmax
comp=Z,8.0nm,0.6s
PKCU Pink Cliffs 85.87 47 P **P** **03 59 41.6 +1.7**
PKCU IAmb IAmb 03 59 45.0
comp=Z,12nm,1.1s
G08A Pilot Rock 86.01 38 IAmb IAmb 03 59 44.2
comp=Z,17nm,1.3s
PMR Palmer 86.22 14 IAmb IAmb 03 59 42.3
comp=Z,5.7nm,0.6s
E07A Sunnyside 86.26 36 IAmb IAmb 03 59 45.3
comp=Z,10nm,0.9s
J18K Innoko River 86.48 10 IAmb IAmb 03 59 44.4
comp=Z,7.4nm,0.8s
E08A Dider Farm, El 86.66 37 IAmb IAmb 03 59 47.0
comp=Z,6.7nm,0.8s
TROLL Troll, Antarti 86.73 180 ⇑P **P** **03 59 45.4 +2.3**
comp=Z,164nm,0.6s
MFID Camas Ranch 86.79 41 IAmb IAmb 03 59 47.8
comp=Z,5.9nm,0.9s
K20K Telida 86.83 11 IAmb IAmb 03 59 45.8
comp=Z,10nm,1.2s
KLU Klutina 86.88 15 IAmb IAmb 03 59 46.2
comp=Z,4.5nm,0.7s
TGL Tana Glacier 87.05 17 IAmb IAmb 03 59 47.4
comp=Z,13nm,1.1s
SEY Seymchan 87.12 347 P **P** **03 59 46.2 +1.5**
comp=Z,5.2nm,0.7s,baz=131,slow=6.0,SNR=17
comp=Z,5.2nm,0.7s
J19K Poorman 87.16 10 IAmb IAmb 03 59 47.7
comp=Z,5.3nm,0.9s
E09A Wood Farm, Sta 87.19 37 IAmb IAmb 03 59 49.3
comp=Z,13nm,1.2s
VNA3 Neumayer Olymp 87.21 177 ⇑P **P** **03 59 47.8 +2.5**
comp=Z,5.7nm,0.4s
VRDI Verde Repeater 87.28 16 IAmb IAmb 03 59 48.6
comp=Z,16nm,1.4s
GRNC Granite Creek 87.33 17 IAmb IAmb 03 59 48.9
comp=Z,13nm,1.1s
M24K Tolsona, Glenn 87.35 15 P **P** **03 59 48.0 +2.1**
M24K IAmb IAmb 03 59 49.1
comp=Z,8.5nm,0.8s
MCARA McCarthy VSAT 87.53 16 IAmb IAmb 03 59 50.3
comp=Z,11nm,1.2s
TMUT Trail Mountain 87.56 46 IAmb IAmb 03 59 52.3
comp=Z,5.3nm,0.8s
J20K Nowinta River 87.57 11 IAmb IAmb 03 59 48.9
comp=Z,4.9nm,0.7s
KTH Kantishna Hill 87.60 12 IAmb IAmb 03 59 48.3
comp=Z,8.1nm,0.8s
PLID Pearl Lake 87.61 39 IAmb IAmb 03 59 51.5
comp=Z,9.2nm,1.3s
LOGN Logan Glacier 87.61 18 IAmb IAmb 03 59 50.2
comp=Z,8.5nm,0.8s
HLID Hailey 87.73 41 IAmb IAmb 03 59 52.6
comp=Z,6.2nm,0.9s
SPUT South Promonto 87.77 44 IAmb IAmb 03 59 52.6
comp=Z,6.2nm,1.1s
HVU Hansel Valley 87.81 43 IAmb IAmb 03 59 52.8
comp=Z,11nm,1.4s
C09A Chrisman Ranch 87.86 36 IAmb IAmb 03 59 52.2
comp=Z,9.7nm,0.9s
SRU San Rafael Swe 87.93 46 IAmb IAmb 03 59 53.3
comp=Z,11nm,1.2s
P17A Butcher Ranch, 87.96 46 IAmb IAmb 03 59 53.9
comp=Z,7.3nm,1.2s
VHRN Van Horn 88.04 56 IAmb IAmb 03 59 54.6
comp=Z,4.0nm,0.8s
I20K Naaghedeneel 88.09 10 IAmb IAmb 03 59 51.9
comp=Z,8.6nm,0.8s
M26K Nabesna, AK 88.39 16 IAmb IAmb 03 59 53.8
comp=Z,5.9nm,0.9s
TX31 Lajitas Ar. Si 88.43 58 IAmb IAmb 03 59 56.7
comp=Z,6.3nm,0.9s
TXAR Lajitas Array 88.43 58 P P 03 59 54.9 +3.2
TXAR Lajitas Array 88.43 58 P P 03 59 55.6 +3.9
comp=Z,7.3nm,0.8s,baz=214,slow=6.0,SNR=34
comp=Z,7.3nm,0.8s
H19K Roundabout Mou 88.46 9 IAmb IAmb 03 59 53.5
comp=Z,4.9nm,0.8s
G18K Tagagawik 88.50 8 IAmb IAmb 03 59 52.8
comp=Z,4.8nm,1.0s
HWUT Hardware Ranch 88.50 44 IAmb IAmb 03 59 55.4
comp=Z,3.6nm,0.7s
MENT Mentasta 88.66 15 P **P** **03 59 53.6 +1.7**
MENT IAmb IAmb 03 59 54.8
comp=Z,6.0nm,0.9s
F17K Baldwin Pennin 88.70 7 IAmb IAmb 03 59 54.5
comp=Z,4.8nm,0.9s
L26K Log Cabin Wild 88.82 15 IAmb IAmb 03 59 55.5
comp=Z,3.0nm,0.6s
NEA2 Nenana 88.90 12 IAmb IAmb 03 59 55.0
comp=Z,2.8nm,0.7s
ALPN Alpine 88.90 57 IAmb IAmb 03 59 58.3
comp=Z,4.5nm,0.7s
G19K Purcell Mounta 88.95 9 IAmb IAmb 03 59 55.7
comp=Z,6.9nm,0.9s
MLY Manley 88.97 12 IAmb IAmb 03 59 54.4
comp=Z,3.6nm,0.6s
RIDG Independent Ri 89.07 14 IAmb IAmb 03 59 56.3
comp=Z,4.9nm,0.8s
H21K Melozitna Rive 89.17 11 IAmb IAmb 03 59 57.8
comp=Z,3.7nm,0.7s
L27K Beaver Creek, 89.24 16 IAmb IAmb 03 59 57.5
comp=Z,3.4nm,0.9s
PLCA Paso Flores 89.31 134 P P 03 59 59.6 +3.9
comp=Z,2.4nm,0.8s,baz=214,slow=7.0,SNR=4.9
comp=Z,2.4nm,0.8s
IMAR Indian Mountai 89.31 10 P **P** **03 59 56.5 +1.7**
I23K Minto, Yukon-K 89.33 12 IAmb IAmb 03 59 56.8
comp=Z,2.9nm,0.6s
AHID Auburn Hatcher 89.38 43 IAmb IAmb 04 00 00.6
comp=Z,5.2nm,0.8s
MDM Murphy Dome 89.39 13 IAmb IAmb 03 59 56.9
comp=Z,5.9nm,0.8s
SCRK Sand Creek 89.47 15 IAmb IAmb 03 59 58.5
comp=Z,4.4nm,1.0s
F19K Shaleruckik Mo 89.50 8 IAmb IAmb 03 59 58.0
comp=Z,4.2nm,0.8s
IL31 89.51 13 IAmb IAmb 03 59 58.3
comp=Z,3.4nm,0.7s
ILAR Eielson Array 89.51 13 P **P** **03 59 57.0 +1.2**
ILAR Eielson Array 89.51 13 P **P** **03 59 56.5 +0.8**
comp=Z,2.3nm,0.6s,baz=215,slow=5.1,SNR=58
comp=Z,2.3nm,0.6s
CMAR Chiang Mai Arr 89.51 290 P **P** **03 59 58.6 +1.7**
comp=Z,2.4nm,0.6s,baz=136,slow=2.5,SNR=16
comp=Z,2.4nm,0.6s
M29M Somme Creek 89.64 18 IAmb IAmb 03 59 59.7
comp=Z,5.9nm,0.8s
N31M Braeburn, Yuko 89.68 19 P P 03 59 59.1 +2.5
N31M IAmb IAmb 04 00 00.5
comp=Z,6.8nm,1.2s
J25K Salcha River, 89.70 14 IAmb IAmb 03 59 58.6
comp=Z,4.2nm,0.9s
E18K Tukpahlearik C 89.71 7 IAmb IAmb 03 59 59.3
comp=Z,5.3nm,0.8s
G21K Allakaket 89.84 10 IAmb IAmb 03 59 59.8
comp=Z,6.1nm,0.8s
BILL Bilibino 89.93 355 P **P** **03 59 59.3 +1.6**
BILL IAmb IAmb 04 00 00.1
comp=Z,5.8nm,0.9s
O20A White River Ci 89.97 46 IAmb IAmb 04 00 02.1
comp=Z,4.3nm,0.9s
K27K Chicken 89.98 15 IAmb IAmb 04 00 01.2
comp=Z,4.5nm,0.9s
F20K Avaraart Lake 89.99 9 IAmb IAmb 04 00 00.5
comp=Z,4.2nm,0.9s
IMW Indian Meadow 90.05 42 IAmb IAmb 04 00 03.3
comp=Z,6.1nm,1.1s
M30M Minto, Yukon 90.22 18 IAmb IAmb 04 00 02.7
comp=Z,5.2nm,0.7s
PD31 Pinedale Array 90.37 44 IAmb IAmb 04 00 04.0
comp=Z,3.9nm,1.1s
PDAR Pinedale Array 90.37 44 P **P** **04 00 03.0 +2.4**
PDAR Pinedale Array 90.37 44 P P 04 00 03.2 +2.6
comp=Z,1.9nm,0.8s,baz=209,slow=3.1,SNR=19
comp=Z,1.9nm,0.8s
YHL Hebgen Lake 90.38 41 IAmb IAmb 04 00 05.1
comp=Z,2.6nm,0.8s
PRP Porcupine Dome 90.44 13 IAmb IAmb 04 00 02.2
comp=Z,8.0nm,1.4s
DAWY Dawson 90.69 16 IAmb IAmb 04 00 03.7
comp=Z,3.1nm,0.7s
EGAK Eagle 90.82 15 IAmb IAmb 04 00 04.4
comp=Z,3.8nm,0.7s
K29M Marlow Dome 91.01 17 IAmb IAmb 04 00 06.1
comp=Z,3.9nm,1.0s
D19K Kuna River 91.03 8 IAmb IAmb 04 00 05.2
comp=Z,5.0nm,0.8s
J29N Klondike Camp 91.31 16 IAmb IAmb 04 00 07.4
comp=Z,4.5nm,0.7s
C19K Lookout Ridge 91.44 7 IAmb IAmb 04 00 07.0
comp=Z,4.4nm,0.7s
E22K Anaktuvuk Pass 91.59 10 IAmb IAmb 04 00 08.6
comp=Z,6.0nm,1.4s
I30M Mount Dempster 92.41 17 IAmb IAmb 04 00 11.8
comp=Z,3.5nm,0.9s
B20K Meade River 92.58 7 IAmb IAmb 04 00 12.4
comp=Z,3.1nm,0.8s
H29M Whitestone 92.68 15 IAmb IAmb 04 00 13.0
comp=Z,3.5nm,0.8s
YKA Yellowknife Ar 97.83 25 P **P** **04 00 35.5 +1.9**
comp=Z,0.3nm,0.6s,baz=248,slow=4.4,SNR=8.4
comp=Z,0.3nm,0.6s
ZALV Zalesovo Beam 110.64 321 PKiKP **PKiKP** **04 05 27.0 +0.4**
comp=Z,0.6nm,0.4s,baz=116,slow=3.4,SNR=4.1
MKAR Makanchi Array 111.16 313 PKiKP **PKiKP** **04 05 28.3 +0.4**
comp=Z,0.5nm,0.4s,baz=97,slow=1.7,SNR=8.4
KURBB Kurchatov Arra 114.10 317 PKiKP **PKiKP** **04 05 33.7 +0.4**
comp=Z,0.4nm,0.5s,baz=95,slow=1.8,SNR=7.9
BVAR Borovoye Array 119.20 320 PKP **PKiKP** **04 05 44.2 +1.0**
comp=Z,2.7nm,0.3s,baz=116,slow=2.0,SNR=15
SCHQ Scheiterville 120.07 38 PKP **PKiKP** **04 05 45.7 +0.8**
comp=Z,1.6nm,0.9s,baz=144,slow=2.8,SNR=1.6
SPITS Spitsbergen Ar 122.80 356 PKP **PKiKP** **04 05 50.4 +0.8**
comp=Z,8.7nm,0.7s,baz=72,slow=6.3,SNR=10
BOSA Boshof 124.93 206 PKP **PKiKP** **04 05 57.4 +1.8**
comp=Z,3.5nm,1.1s,baz=160,slow=19,SNR=3.5
ARU Arti 125.45 325 PKP **PKiKP** **04 05 56.4 +1.0**
comp=Z,4.5nm,0.3s,baz=70,slow=2.2,SNR=7.5
GEYT Alibeck 128.47 302 PKP **PKiKP** **04 06 03.6 +1.5**
comp=Z,1.5nm,0.7s,baz=132,slow=4.4,SNR=3.8
KIRV Kirov 129.32 330 PKP **PKiKP** **04 06 02.5 -0.6**
comp=Z,6.7nm,0.5s,baz=342,slow=6.5,SNR=4.4
ARCES ARCESS Array B 129.71 349 PKP **PKiKP** **04 06 04.3 +0.6**
comp=Z,3.0nm,0.5s,baz=23,slow=1.4,SNR=28
FINES FINESS Array B 136.44 343 PKP **PKiKP** **04 06 15.5 -2.0**
comp=Z,1.8nm,0.6s,baz=104,slow=2.9,SNR=4.9
NB2 NORSAR Subarra139.84 352 PKP **PKPdf** **04 06 16.1 -5.8**
comp=Z,3.2nm,1.0s,baz=13,slow=4.0
NOA NORAR Array B 139.84 352 PKhKP PKPpre 04 06 16.6
comp=Z,0.6nm,0.6s,baz=6.1,slow=1.3,SNR=7.2
HFS Hagfors 140.36 350 PKhKP PKPpre 04 06 17.6
comp=Z,1.8nm,0.4s,baz=82,slow=3.1,SNR=18
AKASG Malin Array Be 143.39 330 **PKiKP** **04 06 28.1 -3.9**
AKASG Malin Array Be 143.39 330 PKP **PKiKP** **04 06 27.9 -4.0**
comp=Z,18nm,0.7s,baz=42,slow=4.3,SNR=94
MBAR Mbarara 143.54 237 **PKiKP** **04 06 31.7 -2.0**
EKA Eskdalemuir Ar 146.08 4 PKPbc **PKPab** **04 06 36.5 -1.1**
comp=Z,7.7nm,0.7s,baz=341,slow=2.6,SNR=17
BRTR Keskin Array B 146.75 311 **PKiKP** **04 06 36.3 -3.2**
BRTR Keskin Array B 146.75 311 PKPbc **PKPab** **04 06 39.0 -2.1**
comp=Z,4.0nm,0.7s,baz=136,slow=4.6,SNR=14
BSEG Bad Segeberg 146.84 350 *e*PKPbc **PKPab** **04 06 39.6 -1.1**
baz=17,slow=2.4
BUR08 Bucovina Ar. S 147.41 329 **PKiKP** **04 06 38.3 -2.3**
BURAR Bucovina Array 147.42 329 **PKiKP** **04 06 38.8 -1.7**
MMAI Mount Meron Ar 147.42 298 PKPbc **PKPab** **04 06 41.7 -2.3**
comp=Z,14nm,0.8s,baz=50,slow=5.6,SNR=6.1
RUE Ruedersdorf 147.52 345 *e*PKPbc **PKPab** **04 06 41.1 -2.4**
baz=17,slow=2.4
MDUB Mudunnu 148.12 313 PKPdf **PKPbc** **04 06 38.9 -2.2**
FLTG Flechtingen 148.21 348 *e*PKPbc **PKPab** **04 06 42.6 -3.7**
baz=17,slow=2.4
FLTG *e*PKPab PKiKP 04 06 47.5 +5.7
baz=17,slow=2.4
NRDL Niedersach Rie 148.26 349 *e*PKPbc **PKPab** **04 06 42.7 -3.7**
baz=17,slow=2.4
MLR Muntele Rosu 148.50 325 PKPdf **PKPbc** **04 06 37.8 -4.1**
ASSE Asse, Remlinge 148.50 348 *e*PKPbc **PKPab** **04 06 43.6 -3.9**
baz=17,slow=2.4
ASSE *e*PKPab PKiKP 04 06 48.8 +6.4
baz=17,slow=2.4

OSTC	**Ostas**	**148.61**	**341**⇑	*e*PKP	**PKPab**	**04 06 44.3**	**-3.8**
OSTC				*e*PKPAB	PKiKP	04 06 50.3	+7.5
UPC	**Upice**	**148.71**	**341**⇑	*e*PKP	**PKPab**	**04 06 44.2**	**-4.4**
UPC				*e*PKPAB	PKiKP	04 06 50.4	+7.4
DPC	**Dobruska-Polom**	**148.76**	**341**⇑	*e*PKP	**PKPab**	**04 06 44.6**	**-4.2**
CLL	**Collm**	**148.79**	**345**	*e*PKPbc	**PKPab**	**04 06 44.4**	**-4.4**
	baz=17,slow=2.4						
CLL				*e*PKPab	PKiKP	04 06 50.5	+7.4
	baz=17,slow=2.4						
CLZ	**Clausthal**	**148.84**	**349**	*e*PKPbc	**PKPab**	**04 06 44.2**	**-4.9**
	baz=17,slow=2.4						
BRG	**Berggiesshubel**	**148.96**	**344**	*e*PKPbc	**PKPab**	**04 06 45.0**	**-4.6**
	baz=17,slow=2.4						
PVCC	**Panska Ves**	**149.11**	**343**⇑	*e*PKP	**PKPab**	**04 06 45.3**	**-4.9**
MAUC	**Maruska**	**149.12**	**338**⇑	*e*PKP	**PKPab**	**04 06 45.7**	**-4.6**
NEUB	**Neuenburg**	**149.16**	**347**	*e*PKPbc	**PKPab**	**04 06 45.0**	**-5.4**
	baz=17,slow=2.4						
NEUB				*e*PKPab	PKiKP	04 06 52.0	+8.1
	baz=17,slow=2.4						
GTTG	**Gottingen**	**149.19**	**349**	*e*PKPbc	**PKPab**	**04 06 45.1**	**-5.4**
	baz=17,slow=2.4						
HSKC	**Hora Svate Kat**	**149.33**	**344**⇑	*e*PKP	**PKPab**	**04 06 45.7**	**-5.5**
PRA	**Prague**	**149.56**	**343**⇑	*e*PKP	**PKPab**	**04 06 46.1**	**-6.0**
VRAC	**Vranov**	**149.58**	**340**	PKPbc	**PKPab**	**04 06 46.0**	**-6.2**
	comp=Z,4.9nm,0.8s,baz=6.1,slow=1.7,SNR=4.8						
GOPC	**GO Pecny, Ondr**	**149.60**	**342**⇑	*e*PKP	**PKPab**	**04 06 46.4**	**-5.9**
PRU	**Pruhonice**	**149.60**	**343**⇑	*e*PKP	**PKPab**	**04 06 46.2**	**-6.0**
BUG	**Bochum--Univer**	**149.71**	**352**	*e*PKPbc	**PKPab**	**04 06 46.4**	**-6.2**
	baz=17,slow=2.4						
MOX	**Moxa**	**149.72**	**346**	*e*PKPbc	**PKPab**	**04 06 46.7**	**-6.0**
	baz=17,slow=2.4						
TANN	**Tannenbergstha**	**149.75**	**345**	*e*PKPbc	**PKPab**	**04 06 46.6**	**-6.4**
	baz=17,slow=2.4						
KASTN	**Kahler Asten**	**149.78**	**351**	*e*PKPbc	**PKPab**	**04 06 46.7**	**-6.3**
	baz=17,slow=2.4						
UBBA	**Unterbreizbach**	**149.88**	**349**	*e*PKPbc	**PKPab**	**04 06 46.9**	**-6.3**
	baz=17,slow=2.4						
NKC	**Novy Kostel**	**149.92**	**345**⇑	*e*PKP	**PKiKP**	**04 06 46.8**	**+1.3**
TREC	**Trest**	**149.94**	**341**⇑	*e*PKP	**PKPab**	**04 06 47.0**	**-6.8**
MANZ	**Manzenberg**	**150.23**	**345**	*e*PKPbc	**PKPab**	**04 06 48.1**	**-6.9**
	baz=17,slow=2.4						
ROTZ	**Rotzenmuhle**	**150.41**	**345**	*e*PKPbc	**PKiKP**	**04 06 48.3**	**+1.7**
	baz=17,slow=2.4						
AHRW	**Bad Neuenahr-A**	**150.62**	**352**	*e*PKPbc	**PKiKP**	**04 06 49.0**	**+2.1**
	baz=17,slow=2.4						
KHC	**Kasperske Hory**	**150.65**	**343**⇑	*e*PKP	**PKiKP**	**04 06 48.5**	**+1.4**
KHC				*e*PKPAB	**PKPab**	**04 06 58.5**	**+1.8**
GRF	**Grafenberg Arr**	**150.71**	**346**	*e*PKPbc	**PKiKP**	**04 06 49.0**	**+1.8**
	baz=17,slow=2.4						
GRF				*e*PKPab	**PKPab**	**04 06 59.1**	**+2.2**
	baz=17,slow=2.4						
TNS	**Taunus Mts**	**150.73**	**350**	*e*PKPbc	**PKiKP**	**04 06 49.1**	**+1.9**
	baz=17,slow=2.4						
WET	**Wettzell**	**150.82**	**344**	*e*PKPbc	**PKiKP**	**04 06 49.2**	**+1.8**
	baz=17,slow=2.4						
WET				*e*PKPab	**PKPab**	**04 06 59.8**	**+2.4**
	baz=17,slow=2.4						
GEC2	**GERESS Array S**	**150.87**	**343**	*e*PKPbc	**PKiKP**	**04 06 49.5**	**+1.8**
	baz=17,slow=2.4						
GERES	**GERESS Array B**	**150.87**	**343**	PKPbc	**PKiKP**	**04 06 49.1**	**+1.5**
	comp=Z,5.3nm,0.7s,baz=35,slow=4.9,SNR=28						
CONA	**Conrad Observa**	**151.02**	**339**	*e*PKiKP	**PKiKP**	**04 06 49.7**	**+1.8**
	comp=Z,5.9nm,0.6s						
RONA	**Rosalia, Austr**	**151.07**	**338**	*i* PKiKP	**PKiKP**	**04 06 49.8**	**+1.8**
	comp=Z,9.3nm,0.5s,SNR=13						
RDO	**Rodhopi**	**151.44**	**319**		**PKiKP**	**04 06 50.2**	**+1.3**
WLF	**Walferdange**	**151.59**	**353**	*e*PKPbc	**PKiKP**	**04 06 51.3**	**+2.3**
	baz=17,slow=2.4						
MOA	**Molln**	**151.60**	**341**	*e*PKP	**PKiKP**	**04 06 50.4**	**+1.3**
	comp=Z,2.5nm,0.5s						
BIOA	**Bad Ischl, Aus**	**151.93**	**342**	*e*PKP	**PKiKP**	**04 06 51.3**	**+1.5**
	comp=Z,1.2nm,0.3s						
STU	**Stuttgart**	**152.00**	**348**	*e*PKPbc	**PKiKP**	**04 06 51.5**	**+1.7**
	baz=17,slow=2.4						
STU				*e*PKPab	**PKPab**	**04 07 03.7**	**+1.3**
	baz=17,slow=2.4						
FUR	**Furstenfeldbru**	**152.13**	**345**	*e*PKPbc	**PKiKP**	**04 06 52.2**	**+2.0**
	baz=17,slow=2.4						
FUR				*e*PKPab	**PKPab**	**04 07 05.0**	**+2.0**
	baz=17,slow=2.4						
RJOB	**Jochberg**	**152.13**	**343**	*e*PKPbc	**PKiKP**	**04 06 52.2**	**+2.0**
	baz=17,slow=2.4						
RJOB				*e*PKPab	**PKPab**	**04 07 05.3**	**+2.2**
	baz=17,slow=2.4						
LESA	**Schwarzleotal**	**152.45**	**343**	*e*PKP	**PKiKP**	**04 06 52.5**	**+1.6**
	comp=Z,1.2nm,0.3s						
KBA	**Koelnbreinsper**	**152.57**	**341**	*e*PKP	**PKiKP**	**04 06 52.1**	**+0.7**
	comp=Z,1.5nm,0.4s						
BFO	**Black Forest**	**152.58**	**349**	*e*PKPbc	**PKiKP**	**04 06 53.1**	**+2.0**
	baz=17,slow=2.4						
BFO				*e*PKPab	**PKPab**	**04 07 05.9**	**+1.0**
	baz=17,slow=2.4						
UBR	**Ueberruh**	**152.85**	**346**	*e*PKPbc	**PKiKP**	**04 06 53.7**	**+1.9**
	baz=17,slow=2.4						
WTTA	**Wattenberg**	**152.88**	**344**	*i* PKP	**PKiKP**	**04 06 53.5**	**+1.6**
	comp=Z,3.0nm,0.3s,SNR=5.0						
MOTA	**Moosalm**	**152.93**	**345**	*e*PKP	**PKiKP**	**04 06 53.3**	**+1.3**
	comp=Z,4.9nm,0.8s						
SQTA	**Sankt Quirin**	**153.02**	**344**	*e*PKP	**PKiKP**	**04 06 53.0**	**+0.8**
	comp=Z,3.8nm,0.6s						
ABTA	**Abfaltersbach**	**153.11**	**342**	*i* PKP	**PKiKP**	**04 06 53.3**	**+1.0**
	comp=Z,2.7nm,0.5s,SNR=4.7						
FETA	**Feichten**	**153.33**	**345**	*e*PKP	**PKiKP**	**04 06 54.5**	**+1.7**
	comp=Z,2.0nm,0.7s						
ESDC	**Sonseca Array**	**161.41**	**12**	PKPab	**PKPab**	**04 07 44.6**	**+1.2**
	comp=Z,3.4nm,1.1s,baz=331,slow=4.4,SNR=6.2						
KEST	**Kesra**	**164.02**	**334**	PKPab	**PKPab**	**04 07 55.9**	**+0.7**
	comp=Z,3.6nm,0.8s,baz=334,slow=4.0,SNR=5.9						
DBIC	**Dimbokro**	**164.23**	**158**	PKP	**PKPdf**	**04 06 59.4**	**+1.4**
	comp=Z,3.6nm,0.8s,baz=166,slow=4.8,SNR=3.5						
TORD	**Torodi Ar. Bea**	**171.66**	**185**	PKP	**PKPdf**	**04 07 04.2**	**+1.3**
	comp=Z,1.7nm,0.9s,baz=5.5,slow=0.2,SNR=8.8						
TORD				PKPab	**PKPab**	**04 08 31.3**	**+2.1**
	comp=Z,0.8nm,0.8s,baz=149,slow=3.1,SNR=3.8						

*NOU **30** 03:50:35.1,45˚.09S×167˚.32E,h26km,MLv3.7/8,South Island, New Zealand*
*WEL **30** 03:50:36.0±0.7,45˚S±4˚×16˚7E±˚, h28km±4km,M3.4/11, ML3.6/13,MLv3.4/11,Error ellipse: s-maj=0.0km s-min=0.0km az=115.3*

ISC 30 03:50:35.6±1.6**, 45.10S**±0.04×**167.35E**±0.05**, h27**km±16**km, n52,**σ1⁄**11/62, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.40**	**201**	P	**Pn**	**03 50 45.6**	**+0.2**
DCZ				S	**Sn**	**03 50 52.4**	**+0.3**
MSZ	**Milford Sound**	**0.59**	**44**	P	**Pn**	**03 50 48.6**	**+0.5**
MSZ				S	**Sn**	**03 50 57.3**	**+0.6**
MLZ	**Mavora Lakes**	**0.61**	**117**	P	**Pn**	**03 50 48.9**	**+0.5**
MLZ				S	**Sn**	**03 50 58.2**	**+0.9**
MOSS	**Mossburn Schoo**	**0.85**	**133**	P	**Pn**	**03 50 52.4**	**+0.7**
MOSS				S	**Sn**	**03 51 05.2**	**+1.9**
WHZ	**Wether Hill Ro**	**0.90**	**152**	P	**Pb**	**03 50 53.0**	**+0.4**
WHZ				S	**Sn**	**03 51 05.2**	**+0.6**
RRKS	**Rarakau**	**1.06**	**175**	P	**Pb**	**03 50 55.3**	**+0.2**
PYZ	**Puysegur Point**	**1.17**	**203**	P	**Pn**	**03 50 55.6**	**-0.5**
PYZ	**Puysegur Point**	**1.17**	**203**	P	**Pb**	**03 50 57.2**	**+0.1**
WKZ	**Wanaka**	**1.21**	**78**	P	**Pb**	**03 50 57.9**	**0.0**
EAZ	**Earnscleugh**	**1.39**	**96**	P	**Pb**	**03 51 00.1**	**-0.7**
EAZ				S	**Sn**	**03 51 16.3**	**-0.4**
JCZ	**Jackson Bay**	**1.45**	**46**	P	**Pn**	**03 51 00.0**	**0.0**
JCZ	**Jackson Bay**	**1.45**	**46**	P	**Pn**	**03 51 00.2**	**+0.2**
APZ	**The Paps**	**1.79**	**166**	P	**Pn**	**03 51 05.0**	**+0.3**
APZ				S	**Sn**	**03 51 27.0**	**+0.4**
TUZ	**Tuapeka**	**1.82**	**119**	P	**Pn**	**03 51 05.4**	**+0.4**
TUZ				S	**Sn**	**03 51 25.7**	**-1.5**
SYZ	**Scrubby Hill**	**1.91**	**140**	P	**Pn**	**03 51 06.4**	**+0.1**
SYZ	**Scrubby Hill**	**1.91**	**140**	P	**Pn**	**03 51 06.6**	**+0.3**
SYZ				S	**Sn**	**03 51 29.5**	**+0.1**
LBZ	**Lake Benmore**	**2.14**	**72**	P	**Pn**	**03 51 09.4**	**-0.1**
LBZ				S	**Sn**	**03 51 34.3**	**-0.9**
ODZ	**Otahua Downs**	**2.33**	**90**	P	**Pn**	**03 51 11.8**	**-0.3**
ODZ	**Otahua Downs**	**2.33**	**90**	P	**Pn**	**03 51 12.1**	**0.0**
FOZ	**Fox Glacier**	**2.36**	**49**	P	**Pn**	**03 51 11.6**	**-0.9**
HHSZ	**Highcliff Hill**	**2.42**	**110**	P	**Pn**	**03 51 13.7**	**+0.4**
TMZ	**Timaru**	**2.70**	**76**	P	**Pn**	**03 51 16.4**	**-0.8**
GCSZ	**Gaunt Creek Bo**	**2.78**	**51**	P	**Pn**	**03 51 17.6**	**-0.7**
ARCZ	**Arundel**	**2.97**	**69**	P	**Pn**	**03 51 19.8**	**-1.1**
RPZ	**Rata Peaks**	**2.99**	**64**	P	**Pn**	**03 51 20.3**	**-0.9**
RPZ	**Rata Peaks**	**2.99**	**64**	P	**Pn**	**03 51 20.4**	**-0.8**
WVZ	**Waitaha Valley**	**3.17**	**52**	P	**Pn**	**03 51 22.7**	**-0.9**
MHCZ	**Mount Hutt**	**3.41**	**64**	P	**Pn**	**03 51 25.7**	**-1.2**
WACZ	**Wakanui South**	**3.41**	**72**	P	**Pn**	**03 51 25.9**	**-1.0**

INZ	**Inchbonnie**	**3.79**	**53**	P	**Pn**	**03 51 31.5**	**-0.6**
OXZ	**Oxford**	**3.81**	**64**	P	**Pn**	**03 51 30.9**	**-1.5**
MQZ	**McQueen's Vall**	**4.05**	**72**	P	**Pn**	**03 51 34.1**	**-1.6**
AKCZ	**Akaroa Harbour**	**4.16**	**75**	P	**Pn**	**03 51 36.0**	**-1.2**
LTZ	**Lake Taylor**	**4.24**	**59**	P	**Pn**	**03 51 36.9**	**-1.4**
GVZ	**Greta Valley S**	**4.62**	**65**	P	**Pn**	**03 51 42.0**	**-1.5**
DSZ	**Denniston Nort**	**4.66**	**46**	P	**Pn**	**03 51 42.9**	**-1.3**
KHZ	**Kahutara**	**5.22**	**61**	P	**Pn**	**03 51 52.0**	**+0.2**
KHZ	**Kahutara**	**5.22**	**61**	P	**Pn**	**03 51 51.6**	**-0.2**
THZ	**Tophouse**	**5.24**	**52**	P	**Pn**	**03 51 51.0**	**-1.1**
MRNZ	**Matariki Terra**	**5.41**	**49**	P	**Pn**	**03 51 54.1**	**-0.3**
QRZ	**Quartz Range**	**5.71**	**43**	P	**Pn**	**03 51 57.7**	**-0.9**
QRZ	**Quartz Range**	**5.71**	**43**	P	**Pn**	**03 51 57.3**	**-1.2**
TKNZ	**Takaka Hill**	**5.78**	**47**	P	**Pn**	**03 51 58.6**	**-0.8**
NNZ	**Nelson**	**5.87**	**51**	P	**Pn**	**03 52 00.9**	**+0.2**
TUWZ	**Tuamarina**	**6.05**	**55**	P	**Pn**	**03 52 04.6**	**+1.4**
DUWZ	**D'Urville Isla**	**6.45**	**51**	P	**Pn**	**03 52 09.6**	**+0.9**
KHEZ	**Kahui Hut**	**7.62**	**43**	P	**Pn**	**03 52 25.1**	**+0.3**
KHEZ	**Kahui Hut**	**7.62**	**43**	P	**Pn**	**03 52 24.1**	**-0.7**
PKE	**Pukeiti**	**7.68**	**42**	P	**Pn**	**03 52 25.1**	**-0.6**
OTVZ	**Oturere**	**8.56**	**49**	P	**Pn**	**03 52 41.6**	**+3.8**
TKGZ	**Te Karaka**	**10.28**	**53**	P	**Pn**	**03 53 04.5**	**+3.3**
WMGZ	**Waiomatatini S**	**11.03**	**53**	P	**Pn**	**03 53 13.8**	**+2.3**

*IDC **30** 03:56:44.6±1.5,5˚.92S×152˚.08E,h0km,mb4.0/4, mbtmp4.1/5,ML2.0/1,Error ellipse: s-maj=73.4km s-min=27.2km az=131.0*
*NEIC **30** 03:56:46.4±1.2,5˚.95S±0˚.04×152˚.1E±0˚.1,h10km±1km, mb4.5/17,Error ellipse: s-maj=24.7km s-min=6.7km az=278.0*

ISC 30 03:56:45.6±0.8**, 5˚.9S**±0˚.1×**152˚.1E**±0˚.2**, h10**km**, n24,** σ0⁄**76**/24**, mb4.4/7, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.73**	**2**	Pn	**Pn**	**03 57 16.4**	**+0.5**
PMG	**Port Moresby**	**5.99**	**235**	Pn	**Pn**	**03 58 15.1**	**+0.6**
PMG	**Port Moresby**	**5.99**	**235**	Pn	**Pn**	**03 58 15.8**	**+1.3**
	2.6nm,0.3s,baz=44,slow=4.8,SNR=8.6 22nm,0.7s						
COEN	**Coen**	**11.87**	**227**	Pn	**Pn**	**03 59 35.1**	**0.0**
MTN	**Manton Dam**	**21.79**	**250**	P	**P**	**04 01 37.4**	**-0.6**
WB0	**Warramunga Arr**	**22.04**	**230**	P	**P**	**04 01 41.4**	**+0.7**
WR0	**Warramunga Arr**	**22.04**	**229**	P	**P**	**04 01 41.0**	**+0.3**
WB2	**Warramunga Arr**	**22.17**	**229**	P	**P**	**04 01 42.2**	**0.0**
WRA	**Warramunga Arr**	**22.18**	**229**	P	**P**	**04 01 42.3**	**+0.1**
	0.6nm,0.5s,baz=55,slow=10,SNR=19 0.6nm,0.5s						
ASAR	**Alice Springs**	**24.85**	**223**	P	**P**	**04 02 08.7**	**+0.1**
	3.6nm,0.6s,baz=53,slow=9.1,SNR=28 3.6nm,0.6s						
KNRA	**Kununurra**	**24.86**	**245**	P	**P**	**04 02 08.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**28.52**	**243**	P	**P**	**04 02 40.2**	**-1.4**
KHZ	**Kahutara**	**41.00**	**156**	P	**P**	**04 04 28.2**	**-0.7**
KHZ				IAmb	IAmb	04 04 52.0	
	comp=Z,21nm,1.4s						
MORW	**Morawa**	**41.10**	**232**	P	**P**	**04 04 29.5**	**-0.5**
NWAO	**Narrogin (SRO)**	**42.10**	**226**	P	**P**	**04 04 37.8**	**-0.3**
ILAR	**Eielson Array**	**83.46**	**22**	P	**P**	**04 09 14.1**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=244,slow=5.1,SNR=5.5 comp=Z,1.9nm,0.7s						
H24K	**Noodor Dome**	**83.62**	**21**	P	**P**	**04 09 14.8**	**+0.7**
J25K	**Salcha River,**	**83.96**	**23**	P	**P**	**04 09 16.8**	**+0.9**
QSPA	**South Pole Qui**	**84.03**	**180**	P	**P**	**04 09 16.6**	**+0.3**
QSPA	**South Pole Qui**	**84.03**	**180**	P	**P**	**04 09 17.0**	**+0.7**
	comp=Z,1.6nm,0.9s,baz=323,slow=4.0,SNR=2.8 comp=Z,1.6nm,0.9s						
G24K	**Hadweenzic Riv**	**84.20**	**20**	P	**P**	**04 09 16.6**	**-0.3**
G24K				IAmb	IAmb	04 09 35.4	
	comp=Z,5.2nm,1.3s						
J26L	**Joseph Creek**	**84.61**	**23**	P	**P**	**04 09 20.0**	**+0.8**
BCAR	**Beaver Creek A**	**84.72**	**25**	P	**P**	**04 09 20.8**	**+1.0**
I26K	**Coal Creek Min**	**85.12**	**22**	P	**P**	**04 09 22.8**	**+1.2**
I26K				IAmb	IAmb	04 09 59.4	
	comp=Z,5.3nm,1.5s						

*IDC **30** 03:56:49.0±0.9,5˚.79S×152˚.01E,h0km,mb4.1/10, mbtmp4.1/11,ML2.5/1,Error ellipse: s-maj=37.6km s-min=18.7km az=111.0*
*NEIC **30** 03:56:49.2±1.9,5˚.88S±0˚.08×151˚.9E±0˚.1,h10km±1km, mb4.6/45,Error ellipse: s-maj=20.6km s-min=11.1km az=113.0*

ISC 30 03:56:49.3±0.5**, 5˚.80S**±0˚.07×**151˚.92E**±0˚.09**, h10**km**, n69,** σ1⁄**34**/69**, mb4.5**/32**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.62**	**9**	Pn	**Pn**	**03 57 18.4**	**+0.4**
MANU	**Manus Island**	**5.88**	**309**	Pn	**Pn**	**03 58 17.1**	**+0.5**
PMG	**Port Moresby**	**5.92**	**233**		**Pn**	**03 58 16.3**	**-0.9**
PMG	**Port Moresby**	**5.92**	**233**	Pn	**Pn**	**03 58 21.1**	**+4.0**
	7.5nm,0.3s,baz=48,slow=8.9,SNR=15						
PMG				Sn	**Sn**	**03 59 25.4**	**+0.2**
	11nm,0.3s,baz=318,slow=23,SNR=11 62nm,0.7s						
COEN	**Coen**	**11.82**	**226**	Pn	**Pn**	**03 59 36.7**	**-1.5**
MTN	**Manton Dam**	**21.66**	**250**	P	**P**	**04 01 39.5**	**-0.8**
MTN				IAmb	IAmb	04 01 57.7	
	comp=Z,11nm,0.8s						
WB0	**Warramunga Arr**	**21.98**	**229**	P	**P**	**04 01 42.1**	**-1.6**
WB0				IAmb	IAmb	04 01 46.8	
	comp=Z,6.2nm,0.7s						
WR0	**Warramunga Arr**	**21.99**	**229**	P	**P**	**04 01 41.7**	**-2.1**
WR0				IAmb	IAmb	04 01 47.3	
	comp=Z,8.1nm,0.9s						
WB2	**Warramunga Arr**	**22.12**	**229**	P	**P**	**04 01 43.1**	**-2.1**
WB2				IAmb	IAmb	04 02 07.3	
	comp=Z,6.2nm,0.7s						
WRA	**Warramunga Arr**	**22.13**	**229**	P	**P**	**04 01 47.4**	**+2.1**
	comp=Z,4.5nm,0.7s,baz=54,slow=10.0,SNR=17 comp=Z,4.5nm,0.7s						
KNRA	**Kununurra**	**24.75**	**245**	P	**P**	**04 02 10.0**	**-1.3**
KNRA				IAmb	IAmb	04 02 32.3	
	comp=Z,15nm,0.8s						
AS31	**Alice Springs**	**24.82**	**222**	P	**P**	**04 02 12.3**	**+0.4**
ASAR	**Alice Springs**	**24.82**	**222**	P	**P**	**04 02 09.4**	**-2.6**
ASAR	**Alice Springs**	**24.82**	**222**	P	**P**	**04 02 13.4**	**+1.4**
	comp=Z,8.9nm,0.9s,baz=52,slow=9.3,SNR=23 comp=Z,8.9nm,0.9s						
STKA	**Stephens Creek**	**27.68**	**199**	P	**P**	**04 02 39.1**	**+1.4**
	comp=Z,2.0nm,0.7s,baz=325,slow=13,SNR=4.3 comp=Z,2.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**28.41**	**242**	P	**P**	**04 02 43.9**	**-0.5**
FITZ				IAmb	IAmb	04 02 49.7	
	comp=Z,2.9nm,0.7s						
FORT	**Forrest**	**33.46**	**219**	P	**P**	**04 03 27.7**	**-1.1**
MXZ	**Matakaoa Point**	**39.72**	**146**	P	**P**	**04 04 20.5**	**-1.5**
GIRL	**Giralia**	**40.02**	**241**	P	**P**	**04 04 24.4**	**-0.4**
LBZ	**Lake Benmore**	**41.63**	**160**	P	**P**	**04 04 36.0**	**-1.7**
LBZ				IAmb	IAmb	04 04 45.9	
	comp=Z,15nm,1.1s						
SONM	**Songino Array**	**66.71**	**328**	P	**P**	**04 07 42.1**	**+1.3**
SONM	**Songino Array**	**66.71**	**328**	P	**P**	**04 07 43.2**	**+2.5**
	comp=Z,0.5nm,0.6s,baz=138,slow=5.9,SNR=3.0 comp=Z,0.5nm,0.6s						
VNDA	**Vanda**	**71.87**	**178**	P	**P**	**04 08 13.8**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=75,slow=1.6,SNR=3.3 comp=Z,0.6nm,0.6s						
CNBA	**Chernabura Isl**	**72.56**	**27**	P	**P**	**04 08 18.4**	**+1.9**
CNBA				IAmb	IAmb	04 08 28.9	
	comp=Z,10nm,1.3s						
J20K	**Nowinta River**	**80.43**	**21**	P	**P**	**04 09 01.8**	**+0.8**
J20K				IAmb	IAmb	04 09 08.9	
	comp=Z,5.6nm,1.1s						
CAST	**Castle Rocks**	**80.76**	**22**	P	**P**	**04 09 03.8**	**+1.0**
E19K	**Redstone River**	**81.40**	**18**	P	**P**	**04 09 06.7**	**+0.6**
E19K				IAmb	IAmb	04 09 20.8	
	comp=Z,4.1nm,0.8s						
TRF	**Thorofare Moun**	**81.45**	**23**	P	**P**	**04 09 07.4**	**+0.7**
TRF				IAmb	IAmb	04 09 22.7	
	comp=Z,7.1nm,1.5s						
D19K	**Kuna River**	**81.80**	**17**	P	**P**	**04 09 07.9**	**-0.3**
RND	**Reindeer**	**81.99**	**23**	P	**P**	**04 09 09.7**	**+0.4**
NEA2	**Nenana**	**82.51**	**22**	P	**P**	**04 09 13.6**	**+1.6**
NEA2				IAmb	IAmb	04 09 14.7	
	comp=Z,3.8nm,0.9s						
SUCK	**Suckling Hills**	**82.56**	**27**	P	**P**	**04 09 12.8**	**+0.5**
CCB	**Clear Creek Bu**	**83.01**	**22**	P	**P**	**04 09 15.5**	**+0.9**
CCB				IAmb	IAmb	04 09 16.9	
	comp=Z,3.5nm,0.9s						
HDA	**Harding Lake**	**83.22**	**23**	P	**P**	**04 09 16.1**	**+0.5**

HDA				IAmb	IAmb	04 09 18.7		
	comp=Z,1.7nm,0.8s							
ILAR	**Eielson Array**	**83.41**	**22**	P	**P**	**04 09 16.8**	**+0.1**
ILAR	**Eielson Array**	**83.41**	**22**	P	**P**	**04 09 17.9**	**+1.2**
	comp=Z,1.9nm,0.7s,baz=247,slow=5.4,SNR=32 comp=Z,1.9nm,0.7s							
H24K	**Noodor Dome**	**83.57**	**21**	P	**P**	**04 09 19.2**	**+1.7**
H24K				IAmb	IAmb	04 09 45.0		
	comp=Z,3.8nm,1.3s							
J25K	**Salcha River,**	**83.91**	**23**	P	**P**	**04 09 21.2**	**+1.9**
J25K				IAmb	IAmb	04 09 22.6		
	comp=Z,5.2nm,0.8s							
KURBB	**Kurchatov Arra**	**84.04**	**322**	P	**P**	**04 09 21.6**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=109,slow=4.4,SNR=4.5 comp=Z,0.5nm,0.7s							
QSPA	**South Pole Qui**	**84.16**	**180**	P	**P**	**04 09 20.2**	**-0.5**
QSPA				IAmb	IAmb	04 09 22.8		
	comp=Z,4.2nm,0.9s							
QSPA	**South Pole Qui**	**84.16**	**180**	P	**P**	**04 09 21.8**	**+1.1**
	comp=Z,5.4nm,1.0s,baz=303,slow=1.0,SNR=11 comp=Z,5.4nm,1.0s							
SCRK	**Sand Creek**	**84.17**	**24**	P	**P**	**04 09 21.6**	**+0.8**
MAW	**Mawson**	**84.31**	**203**	P	**P**	**04 09 20.5**	**-0.7**
MAW				IAmb	IAmb	04 09 51.4		
	comp=Z,2.4nm,1.2s							
F24K	**Squaw Lake**	**84.41**	**20**	IAmb	IAmb	04 09 26.2		
	comp=Z,3.4nm,0.8s							
F24K	**Squaw Lake**	**84.41**	**20**	P	**P**	**04 09 21.6**	**-0.1**	
F24K				IAmb	IAmb	04 09 26.2		
	comp=Z,3.4nm,0.8s							
F24K	**Squaw Lake**	**84.41**	**20**	P	**P**	**04 09 22.0**	**+0.3**	
TOLK	**Toolik Lake Re**	**84.44**	**18**	P	**P**	**04 09 21.8**	**-0.1**	
TOLK				IAmb	IAmb	04 09 26.3		
	comp=Z,3.8nm,1.1s							
TOLK	**Toolik Lake Re**	**84.44**	**18**	P	**P**	**04 09 24.2**	**+2.3**	
J26L	**Joseph Creek**	**84.56**	**23**	P	**P**	**04 09 24.6**	**+2.0**	
J26L				IAmb	IAmb	04 09 30.6		
	comp=Z,5.3nm,1.4s							
BMAR	**Burnt Mountain**	**85.48**	**20**	P	**P**	**04 09 26.1**	**-1.1**	
BMAR	**Burnt Mountain**	**85.48**	**20**	P	**P**	**04 09 26.3**	**-0.8**	
EGAK	**Eagle**	**85.62**	**23**	P	**P**	**04 09 27.9**	**+0.1**	
EGAK				IAmb	IAmb	04 09 31.9		
	comp=Z,4.4nm,1.1s							
HYT	**Haines Junctio**	**85.72**	**28**	P	**P**	**04 09 28.8**	**+0.2**	
L29M	**L29M**	**86.24**	**25**	P	**P**	**04 09 30.1**	**-0.9**	
L29M				IAmb	IAmb	04 09 35.7		
	comp=Z,5.3nm,0.9s							
G27K	**Doyon Strip**	**86.25**	**21**	P	**P**	**04 09 32.1**	**+1.2**	
I28M	**Miner Creek**	**86.36**	**23**	P	**P**	**04 09 30.4**	**-1.2**	
I28M				IAmb	IAmb	04 09 45.1		
	comp=Z,8.3nm,1.4s							
K29M	**Barlow Dome**	**86.75**	**25**	P	**P**	**04 09 33.6**	**0.0**	
E27K	**Coleen River**	**86.84**	**20**	P	**P**	**04 09 33.8**	**0.0**	
E27K				IAmb	IAmb	04 09 42.0

LNBQ3				*e*S	**Sn**	**04 09 39.6**	**-0.7**
OCHAL	**Ojochal**	**0.69**	**288**	*i* P	Pn	04 09 39.2	+6.7
OCHAL				*i* S	**Sn**	**04 09 43.1**	**+0.1**
DVD	**David**	**0.69**	**130**	*e*P	**Pn**	**04 09 32.3**	**-0.2**
DVD				*e*S	**Sn**	**04 09 42.6**	**-0.4**
PLAN	**Los Planes de**	**0.72**	**253**	*i* P	**Pn**	**04 09 32.9**	**0.0**
PLAN				*i* S	**Sn**	**04 09 43.5**	**-0.2**
PLAN				IAML		04 09 45.4	
	comp=Z,250nm,1.0s						
LOCO3	**Loma Colorada,**	**0.73**	**130**	*e*P	**Pn**	**04 09 36.2**	**+3.2**
LIMO3	**Limones**	**0.79**	**171**	*e*P	**Pn**	**04 09 32.6**	**-1.1**
CDM	**Cerro de Muert**	**1.02**	**311**	*i* P	**Pn**	**04 09 37.6**	**+0.5**
CDM				*i* S	**Sn**	**04 09 52.8**	**+1.9**
CDM				IAML		04 09 53.9	
	comp=Z,33nm,1.0s						
LCR2	**La Lucha 2**	**1.32**	**310**	*i* P	**Pn**	**04 09 41.5**	**+0.7**
LCR2				*i* S	**Sn**	**04 09 51.5**	**-6.2**
LCR2				IAML		04 10 00.6	
	comp=Z,35nm,1.0s						
JACO	**JACO, Garabito**	**1.83**	**295**	*i* P	**Pn**	**04 09 48.8**	**+1.4**

IDC 30 04:23:01.2±4.1, 5.70S×151.80E, h0km, mb3.3/2, mbtmp3.4/2, Error ellipse: s-maj=162.6km s-min=54.4km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.10**	**229**	P	P	04 27 58.1	-0.3
	0.6nm,0.5s,baz=53,slow=9.9,SNR=8.2						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**24.81**	**222**	P	P	04 28 25.6	+0.2
	0.3nm,0.4s,baz=57,slow=9.1,SNR=11						
	0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**149.62**	**286**	PKPbc	PKPbc	04 42 53.4	-0.5
	0.3nm,0.5s,baz=98,slow=4.4,SNR=2.6						

AFAD ***30*** *04:27:30.9±0.0, 34.67N×27.78E, h10km±3km, MW4.3*
IDC ***30*** *04:27:35.9±0.7, 35.18N×27.72E, h0km, mb4.1/20, mbtmp3.9/30, ML3.6/9, MS3.2/8, Error ellipse: s-maj=15.2km s-min=13.0km az=2.0*
NAO ***30*** *04:27:36.1, 35.02N×27.89E, h10km, mb4.3*
NEIC ***30*** *04:27:38.0±1.5, 34.96N±0.05×27.78E±0.06, h10km±1km, mb4.2/22, Error ellipse: s-maj=10.0km s-min=6.0km az=218.0*
ISK ***30*** *04:27:39.6, 35.20N×27.79E, h8km, ML3.6/19*
GII ***30*** *04:27:39.7±0.4, 34.883N±0.003×27.800E±0.001, h30km, Md3.7/2, Mws3.9/3, confirmed*
NIC ***30*** *04:27:39.5, 35.07N×27.90E, h18km±2km, Ml3.7/7*
ATH ***30*** *04:27:43.1, 35.20N×27.58E, h11km±2km, ML3.6/4, Manual Solution by A.Papageorgiou This location: 2020/05/29 14:38:11 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
BGR ***30*** *04:28:25.1, 38.40N×25.06E, h33km*

ISC 30 04:27:38.4±0.8, 35.02N±0.03×27.82E±0.02, h16km±5km, n201, σ1§51/223, mb4.2/26, MS3.3/5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.76**	**314**	Pg	**Pb**	**04 27 52.2**	**-1.0**
KARP	**Karpathos**	**0.76**	**314**	P	**Pb**	**04 27 52.2**	**-1.0**
KARP	**Karpathos**	**0.76**	**314**	Pg	**Pb**	**04 27 52.4**	**-0.8**
KARP				Sg	**Sb**	**04 28 02.9**	**-0.4**
KARP	**Karpathos**	**0.76**	**314**	P	**Pb**	**04 27 52.3**	**-1.0**
KARP				S	**Sn**	**04 28 05.6**	**0.0**
KARP				AML	AML	04 28 13.9	
	19nm,1.0s						
KARP				AML	AML	04 28 16.9	
	18nm,0.9s						
KARP	**Karpathos**	**0.76**	**314**	P	**Pb**	**04 27 52.2**	**-1.0**
KARP	**Karpathos**	**0.76**	**314**	P	**Pb**	**04 27 52.8**	**-0.4**
KARP				S	**Sg**	**04 27 59.1**	**-4.1**
ARG	**Arkhangelos**	**1.22**	**12**	Pg	**Pg**	**04 28 00.3**	**-1.6**
ARG				Sg	**Sg**	**04 28 14.7**	**-3.2**
ARG	**Arkhangelos**	**1.22**	**12**	P	**Pn**	**04 28 00.8**	**0.0**
ARG	**Arkhangelos**	**1.22**	**12**		**Pn**	**04 28 00.6**	**-0.2**
ARG	**Arkhangelos**	**1.22**	**12**	P	**Pn**	**04 28 00.8**	**0.0**
ARG				S	**Sn**	**04 28 16.6**	**-0.4**
ARG				AML	AML	04 28 33.1	
	3.0nm,0.8s						
ARG				AML	AML	04 28 37.6	
	4.1nm,1.0s						
ARG	**Arkhangelos**	**1.22**	**12**	P	**Pn**	**04 28 04.0**	**+3.2**
ARG				S	**Sn**	**04 28 18.8**	**+1.8**
ZKR	**Zakros**	**1.32**	**275**	Pn	**Pg**	**04 28 04.6**	**+0.8**
ZKR				Sn	**Sg**	**04 28 22.3**	**+1.2**
ZKR	**Zakros**	**1.32**	**275**	P	**Pg**	**04 28 04.2**	**+0.4**
ZKR	**Zakros**	**1.32**	**275**	P	**Pb**	**04 28 03.9**	**+1.1**
ZKR				S	**Sg**	**04 28 22.6**	**+1.5**
ZKR				AML	AML	04 28 35.5	
	4.5nm,0.8s						
ZKR				AML	AML	04 28 36.3	
	1.6nm,0.7s						
ZKR	**Zakros**	**1.32**	**275**	P	**Pg**	**04 28 04.4**	**+0.5**
ZKR				S	**Sb**	**04 28 19.3**	**-0.3**
YAZI	**Mula-Dat§a-**	**1.69**	**350**	P	**Pb**	**04 28 08.1**	**-1.0**
YAZI				S	**Sg**	**04 28 33.0**	**+0.2**
YAZI				*i* AML	AML	04 28 39.0	
	comp=N,252nm,0.7s						
YAZI				*i* AML	AML	04 28 46.0	
	comp=E,355nm,1.1s						
FRMA	**Ierapetra Chan**	**1.72**	**270**	P	**Pn**	**04 28 08.8**	**+1.2**
FRMA				S	**Sn**	**04 28 27.6**	**-1.6**
DAT	**Datca**	**1.72**	**353**	Pn	**Pn**	**04 28 07.9**	**+0.1**
DAT	**Datca**	**1.72**	**353**	P	**Pn**	**04 28 08.8**	**-0.9**
DAT	**Datca**	**1.72**	**353**	P	**Pb**	**04 28 08.2**	**-1.5**
DAT				S	**Sg**	**04 28 37.2**	**+3.4**
DAT				*i* AML	AML	04 28 48.0	
	comp=N,534nm,1.1s						
DAT				*i* AML	AML	04 28 48.0	
	comp=E,549nm,1.2s						
TURN	**Turunc**	**1.79**	**11**	Pn	**Pb**	**04 28 09.1**	**-1.6**
TURN	**Turunc**	**1.79**	**11**	P	**Pb**	**04 28 10.2**	**-0.5**
TURN				S	**Sg**	**04 28 37.7**	**+1.8**
IZZE	**Mula-Seydike**	**1.82**	**38**	P	**Pn**	**04 28 08.3**	**-0.7**
KSL	**Kastellorizon**	**1.83**	**51**	P	**Pn**	**04 28 09.3**	**+0.2**
KSL				AML	AML	04 29 20.8	
	1.1nm,1.4s						
KSL				AML	AML	04 29 25.8	
	1.6nm,1.8s						
KSL	**Kastellorizon**	**1.83**	**51**	P	**Pg**	**04 28 16.4**	**+2.9**
AKAS	**Kas**	**1.89**	**50**	Pn	**Pn**	**04 28 10.5**	**+0.4**
AKAS	**Kas**	**1.89**	**50**	P	**Pn**	**04 28 09.9**	**-0.2**
FETY	**Fethiye**	**1.91**	**32**	Pn	**Pn**	**04 28 11.0**	**+0.7**
FETY	**Fethiye**	**1.91**	**32**	P	**Pn**	**04 28 10.8**	**+0.5**
DALY	**Dalyan (Mula)**	**1.92**	**20**	Pn	**Pn**	**04 28 11.2**	**+0.8**
SABU	**Mula-Dalaman**	**2.03**	**27**	P	**Pn**	**04 28 12.5**	**+0.6**
SABU				S	**Sg**	**04 28 48.7**	**+5.1**
SABU				*i* AML	AML	04 29 01.0	
	comp=N,321nm,1.1s						
SABU				*i* AML	AML	04 29 07.0	
	comp=E,404nm,1.0s						
BDRM	**Kayabasi**	**2.07**	**352**	P	**Pn**	**04 28 12.9**	**+0.5**
BDRM				S	**Sg**	**04 28 44.8**	**-0.1**
BDRM				*i* AML	AML	04 28 52.0	
	comp=E,327nm,0.6s						
BODT	**Bodrum**	**2.08**	**349**	Pn	**Pn**	**04 28 13.2**	**+0.5**
BODT	**Bodrum**	**2.08**	**349**	P	**Pb**	**04 28 13.9**	**-1.9**
CAME	**Cameli-Denizli**	**2.27**	**32**	Pn	**Pn**	**04 28 16.4**	**+1.1**
MULA	**Mugla, Merkez-**	**2.27**	**10**	P	**Pb**	**04 28 17.9**	**-1.1**
KSTL	**Kastelli Herak**	**2.27**	**278**	P	**Pb**	**04 28 18.4**	**-0.6**
MLSB	**Milas**	**2.27**	**359**	Pn	**Pn**	**04 28 15.9**	**+0.6**
SNT5	**Nea Kammeni, S**	**2.41**	**306**	P	**Pn**	**04 28 18.7**	**+1.6**
THR3	**Thira Island,**	**2.41**	**306**	P	**Pn**	**04 28 19.1**	**+1.9**
THR3	**Thira Island,**	**2.41**	**306**	P	**Pn**	**04 28 19.1**	**+1.9**
ELL	**Elmali**	**2.42**	**44**	Pn	**Pn**	**04 28 19.2**	**+1.8**
ELL	**Elmali**	**2.42**	**44**	Pn	**Pn**	**04 28 18.4**	**+1.0**
ELL	**Elmali**	**2.42**	**44**	P	**Pn**	**04 28 17.8**	**+0.4**
ELL				AML	AML	04 29 29.2	
	2.7nm,1.0s						
ELL				AML	AML	04 29 36.1	
	1.8nm,1.3s						
IDI	**Anoyia**	**2.42**	**277**	P	**Pn**	**04 28 20.4**	**+3.1**
IDI	**Anoyia**	**2.42**	**277**		**Pn**	**04 28 17.4**	**0.0**
IDI	**Anoyia**	**2.42**	**277**	Pn	**Pb**	**04 28 20.8**	**-0.8**
	0.2nm,0.3s,baz=108,slow=16,SNR=43						
IDI				Sn	**Sn**	**04 28 48.1**	**+1.4**
	0.2nm,0.3s,baz=90,slow=17,SNR=6.7						
IDI	**Anoyia**	**2.42**	**277**	P	**Pn**	**04 28 20.0**	**+2.7**
DNZT	**Denizli-Tavas-**	**2.46**	**23**	P	**Pn**	**04 28 19.1**	**+1.2**
DNZT				S	**Sb**	**04 28 49.7**	**-2.6**
DDIM	**Aydin, Didim**	**2.48**	**349**	P	**Pn**	**04 28 17.9**	**-0.2**
TAVA	**DENIZLI_Tavas**	**2.60**	**19**	P	**Pn**	**04 28 20.8**	**+1.0**
GCAM	**G?zelcaml?**	**2.72**	**350**	Pn	**Pn**	**04 28 22.4**	**+1.0**
GCAM	**G?zelcaml?**	**2.72**	**350**	P	**Pn**	**04 28 21.5**	**+0.1**
APMY	**Acipayam-Deniz**	**2.73**	**26**	Pn	**Pn**	**04 28 22.6**	**+1.0**
APE	**Apeiranthos**	**2.77**	**318**	Pn	**Pn**	**04 28 23.8**	**+1.7**
SMG	**Samos**	**2.80**	**344**	P	**Pn**	**04 28 23.7**	**+1.2**
ESEN	**Aydn-Nazilli**	**2.81**	**9**	P	**Pn**	**04 28 23.2**	**+0.6**
ESEN				S	**Sb**	**04 29 01.9**	**-0.3**
ESEN				*i* AML	AML	04 29 08.0	
	comp=E,110nm,1.0s						
ESEN				*i* AML	AML	04 29 22.0	
	comp=N,99nm,1.1s						
KORT	**Korkueli**	**2.85**	**45**	Pn	**Pn**	**04 28 25.7**	**+2.4**
GVD	**Gavdhos**	**3.08**	**268**	P	**Pn**	**04 28 29.4**	**+3.1**
IMMV	**Iera Moni Meta**	**3.18**	**279**	P	**Pn**	**04 28 31.4**	**+3.7**
IMMV	**Iera Moni Meta**	**3.18**	**279**	P	**Pn**	**04 28 29.9**	**+2.2**
BLCB	**Balcova**	**3.42**	**350**	Pn	**Pn**	**04 28 32.3**	**+1.3**
URLA	**Izmir**	**3.48**	**344**	Pn	**Pn**	**04 28 33.7**	**+1.8**
ISP	**Isparta**	**3.55**	**37**	Pn	**Pn**	**04 28 34.6**	**+1.7**
KULA	**Kula-Manisa**	**3.55**	**11**	Pn	**Pn**	**04 28 34.3**	**+1.3**
KULA	**Kula-Manisa**	**3.55**	**11**	P	**Pn**	**04 28 32.9**	**-0.1**
AKMS	**Akamas**	**3.70**	**89**	P	**Pn**	**04 28 35.3**	**+0.4**
AKMS				S	**Sn**	**04 29 18.8**	**+0.5**
AKMS				AML	AML	04 29 30.8	
	0.4nm,1.1s						
AKMS				AML	AML	04 29 36.6	
	0.4nm,0.9s						
NATA	**Nata**	**3.91**	**92**	P	**Pn**	**04 28 38.1**	**+0.4**
ALFC	**Alefka**	**3.92**	**87**	P	**Pn**	**04 28 37.5**	**-0.4**
ALFC				S	**Sn**	**04 29 23.7**	**+0.1**
ALFC				AML	AML	04 29 35.5	
	0.3nm,0.7s						
ALFC				AML	AML	04 29 37.2	
	0.4nm,0.6s						
TROD	**Troodos**	**4.14**	**90**	P	**Pn**	**04 28 40.9**	**-0.2**
VLI	**Velia**	**4.32**	**295**	P	**Pn**	**04 28 45.0**	**+1.6**
KRND	**KRANIDI**	**4.46**	**303**	P	**Pn**	**04 28 48.0**	**+2.7**
ASGA	**Asgata**	**4.46**	**91**	P	**Pn**	**04 28 46.6**	**+1.2**
CSS	**Mathiatis**	**4.52**	**89**	Pn	**Pn**	**04 28 45.3**	**-0.9**
CSS	**Mathiatis**	**4.52**	**89**	P	**Pn**	**04 28 45.9**	**-0.3**
ALN	**Alexandroupoli**	**6.04**	**347**	Pn	**Pn**	**04 29 07.8**	**+0.9**
RDO	**Rodhopi**	**6.38**	**344**	Pn	**Pn**	**04 29 12.3**	**+0.7**
BR131	**Keskin Array S**	**6.60**	**43**	Pn	**Pn**	**04 29 15.6**	**+0.8**
BRTR	**Keskin Array B**	**6.60**	**43**	Pn	**Pn**	**04 29 16.0**	**+1.2**
BRTR	**Keskin Array B**	**6.60**	**43**	P	**Pn**	**04 29 14.8**	**0.0**
	0.4nm,0.3s,baz=211,slow=14,SNR=7.4						
BRTR				Sn	**Sn**	**04 30 29.8**	**+0.1**
	0.2nm,0.3s,baz=205,slow=16,SNR=2.7						
	2.1nm,0.7s						
MMAI	**Mount Meron Ar**	**6.60**	**105**	Pn	**Pn**	**04 29 14.1**	**-0.8**
	2.9nm,0.3s,baz=309,slow=15,SNR=3.0						
MMAI				Sn	**Sn**	**04 30 30.9**	**+1.1**
	2.9nm,0.3s,baz=313,slow=31,SNR=1.6						
	1.4nm,0.3s						
SALP	**Salfit**	**6.82**	**113**	P	**Pn**	**04 29 17.7**	**-0.1**
KZIT	**Kziot**	**6.88**	**125**	P	**Pn**	**04 29 17.8**	**-0.8**
KZIT	**Kziot**	**6.88**	**125**	S	**Sn**	**04 30 34.9**	**-1.6**
KZIT	**Kziot**	**6.88**	**125**	P	**Pn**	**04 29 17.7**	**-0.8**
AMAZ	**Amatzia**	**6.88**	**118**	P	**Pn**	**04 29 18.7**	**+0.1**
HMDT	**Nahal Hemdat**	**6.99**	**111**	P	**Pn**	**04 29 20.2**	**+0.1**
QRNJ	**Al-Qirein**	**6.99**	**110**	P	**Pn**	**04 29 21.2**	**+1.1**
YTIR	**Yattir**	**7.12**	**119**	P	**Pn**	**04 29 21.3**	**-0.6**
YTIR	**Yattir**	**7.12**	**119**	P	**Pn**	**04 29 20.9**	**-1.0**
DSI	**Dead Sea**	**7.20**	**116**	P	**Pn**	**04 29 23.1**	**+0.1**
DSI	**Dead Sea**	**7.20**	**116**	S	**Sn**	**04 30 43.4**	**-1.0**
DSI	**Dead Sea**	**7.20**	**116**	P	**Pn**	**04 29 22.7**	**-0.3**
MSBI	**Mazada**	**7.32**	**118**	P	**Pn**	**04 29 24.3**	**-0.2**
MSBI	**Mazada**	**7.32**	**118**	P	**Pn**	**04 29 24.1**	**-0.4**
LISJ	**El Lisan**	**7.45**	**118**	P	**Pn**	**04 29 26.4**	**+0.1**
GHAJ	**Ghor Haditha**	**7.47**	**118**		**Pn**	**04 29 26.6**	**-0.1**
GHAJ	**Ghor Haditha**	**7.47**	**118**	P	**Pn**	**04 29 27.7**	**+1.0**
GHAJ	**Ghor Haditha**	**7.47**	**118**	P	**Pn**	**04 29 27.4**	**+0.7**
KRMI	**Paran Flat**	**7.60**	**128**	P	**Pn**	**04 29 28.0**	**-0.5**
KRMI	**Paran Flat**	**7.60**	**128**	S	**Sn**	**04 30 52.0**	**-2.4**
ZFRI	**Zfri**	**7.62**	**124**	P	**Pn**	**04 29 27.9**	**-0.9**
ZFRI	**Zfri**	**7.62**	**124**	P	**Pn**	**04 29 27.9**	**-0.9**
PRNI	**Paran**	**7.63**	**126**	P	**Pn**	**04 29 27.6**	**-1.4**
PRNI	**Paran**	**7.63**	**126**	S	**Sn**	**04 30 53.0**	**-2.2**
HRFI	**Mount Harif**	**7.86**	**127**	S	**Sn**	**04 30 58.7**	**-2.0**
HRFI	**Mount Harif**	**7.86**	**127**	P	**Pn**	**04 29 31.2**	**-0.9**
MBRI	**Mt Berech**	**7.94**	**129**	P	**Pn**	**04 29 33.0**	**-0.2**
MBRI	**Mt Berech**	**7.94**	**129**	P	**Pn**	**04 29 32.6**	**-0.6**
EIL	**Elat**	**8.05**	**130**	Pn	**Pn**	**04 29 33.5**	**-1.1**
	1.5nm,0.3s,baz=338,slow=6.1,SNR=14						
EIL				Sn	Sn	04 31 01.1	-4.2
	0.6nm,0.3s,baz=13,slow=19,SNR=1.3						
EIL	**Elat**	**8.05**	**130**	P	**Pn**	**04 29 33.8**	**-0.8**
EIL	**Elat**	**8.05**	**130**	S	**Sn**	**04 31 03.0**	**-2.3**
EIL	**Elat**	**8.05**	**130**	P	**Pn**	**04 29 34.2**	**-0.5**
AQBJ	**Aqaba**	**8.07**	**129**	P	**Pn**	**04 29 35.4**	**+0.5**
ASF	**Jabal al Asfar**	**8.08**	**108**	Pn	**Pn**	**04 29 35.2**	**0.0**
	0.2nm,0.3s,baz=205,slow=0.1,SNR=2.6						
ASF				LR	LR	04 33 50.6	
	comp=Z,142nm,21.6s,baz=333,slow=46						
	1.7nm,0.4s						
TIP	**Timpagrande**	**9.77**	**298**		**Pn**	**04 29 57.8**	**-0.5**
CEL	**Celeste**	**10.12**	**292**		**Pn**	**04 30 02.2**	**-0.8**
MLR	**Muntele Rosu**	**10.56**	**353**	Pn	**Pn**	**04 30 06.5**	**-2.6**
	0.1nm,0.3s,baz=119,slow=20,SNR=1.2						
	1.2nm,0.7s						
CUC	**Castrocucco**	**10.75**	**301**	Pn	**Pn**	**04 30 11.3**	**-0.3**
RAFF	**Raffo Rosso**	**11.11**	**285**	Pn	**Pn**	**04 30 16.5**	**-0.1**
KVAR	**Kislovodsk Arr**	**14.53**	**48**	Pn	**Pn**	**04 31 06.7**	**+3.3**
	baz=257,slow=18						
	2.6nm,0.6s						
KBZ	**Khabaz**	**14.53**	**49**	Pn	**Pn**	**04 31 06.5**	**+3.3**
	0.1nm,0.3s,baz=264,slow=14,SNR=1.5						
KBZ				LR	LR	04 37 03.1	
	comp=Z,44nm,19.1s,baz=222,slow=39						
	0.7nm,0.5s						
CRVS	**Cervenica-Dubn**	**14.65**	**343**	*e*P	**P**	**04 31 15.1**	**+4.0**
VYHS	**Vyhne**	**15.03**	**336**	*e*P	**P**	**04 31 18.5**	**+3.2**
KEST	**Kesra**	**15.10**	**278**	Pn	**Pn**	**04 31 13.9**	**+2.9**
	0.1nm,0.3s,baz=128,slow=19,SNR=6.3						
ARSA	**Arzberg**	**15.31**	**327**	*e*Pn	**P**	**04 31 18.0**	**-0.6**
	5.3nm,1.2s						
RONA	**Rosalia, Austr**	**15.32**	**329**	Pn	**Pn**	**04 31 16.1**	**+2.2**
	4.5nm,1.1s						
OSSC	**Osservatorio P**	**15.38**	**308**	Pn	**Pn**	**04 31 14.5**	**-0.1**
LANI	**Liptovska Anna**	**15.41**	**339**	*e*P	**P**	**04 31 24.7**	**+5.1**
MODS	**Modra-Piesok**	**15.47**	**333**	*e*P	**P**	**04 31 24.0**	**+3.7**
AKASG	**Malin Array Be**	**15.71**	**3**	Pn	**Pn**	**04 31 16.2**	**-2.6**
	0.3nm,0.5s,baz=185,slow=13,SNR=1.4						
AKASG				LR	LR	04 38 23.7	
	comp=Z,53nm,19.2s,baz=221,slow=42						
MAUC	**Maruska**	**16.12**	**336**	*e*P	**P**	**04 31 29.6**	**+2.2**
CIMO	**Cimolais**	**16.20**	**319**	Pn	**Pn**	**04 31 24.9**	**-0.4**
CIMO				IAmb	IAmb	04 31 29.6	
	comp=Z,19nm,1.5s						
KBA	**Koelnbreinsper**	**16.23**	**322**	*e*Pn	**P**	**04 31 30.0**	**+1.2**
	comp=Z,15nm,1.2s						
OJC	**Ojcow**	**16.28**	**341**	Pn	**P**	**04 31 27.7**	**-1.5**
CTI	**Castel Tesino**	**16.48**	**317**	Pn	**Pn**	**04 31 30.1**	**+1.2**
CTI				IAmb	IAmb	04 31 44.1	
	comp=Z,23nm,1.5s						
VRAC	**Vranov**	**16.50**	**333**	Pn	**Pn**	**04 31 27.5**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=182,slow=8.8,SNR=1.5						
	comp=Z,0.9nm,0.5s						
BIOA	**Bad Ischl, Aus**	**16.51**	**324**	*e*Pn	**P**	**04 31 33.1**	**+1.3**
	comp=Z,9.5nm,1.3s						
LESA	**Schwarzleotal**	**16.80**	**322**	*i* Pn	**P**	**04 31 34.5**	**-0.6**
	comp=Z,5.2nm,0.8s						
CKRC	**Cesky Krumlov**	**17.03**	**328**	*e*P	**Pn**	**04 31 36.6**	**+0.8**
WTTA	**Wattenberg**	**17.23**	**320**	*i* Pn	**P**	**04 31 42.0**	**+2.1**
	comp=Z,16nm,1.3s						
WATA	**Walderalm**	**17.31**	**320**	*i* Pn	**P**	**04 31 43.0**	**+2.3**
	comp=Z,15nm,1.2s						
GEC2	**GERESS Array S**	**17.32**	**327**		**P**	**04 31 40.6**	**-0.2**
GEC2				IAmb	IAmb	04 32 00.9	
	comp=Z,19nm,1.4s						
GERES	**GERESS Array B**	**17.32**	**327**	Pn	**Pn**	**04 31 39.2**	**-0.2**
GERES	**GERESS Array B**	**17.32**	**327**	P	**Pn**	**04 31 36.5**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=131,slow=13,SNR=4.4						
	comp=Z,1.3nm,0.8s						
SQTA	**Sankt Quirin**	**17.43**	**319**	*e*Pn	**P**	**04 31 43.0**	**+0.9**
	comp=Z,1.4nm,0.3s						
DPC	**Dobruska-Polom**	**17.47**	**335**	*e*P	**P**	**04 31 42.7**	**+0.3**
MOTA	**Moosalm**	**17.56**	**320**	*e*Pn	**P**	**04 31 45.4**	**+1.8**
	comp=Z,16nm,1.3s						
FETA	**Feichten**	**17.57**	**318**	*e*Pn	**P**	**04 31 44.7**	**+1.1**
	comp=Z,29nm,1.2s						
KHC	**Kasperske Hory**	**17.58**	**328**		**P**	**04 31 43.7**	**+0.1**
KHC				IAmb	IAmb	04 31 59.2	
	comp=Z,20nm,1.2s						
KHC	**Kasperske Hory**	**17.58**	**328**	*e*P	**Pn**	**04 31 43.1**	**+0.4**
OSTC	**Ostas**	**17.68**	**335**	*e*P	**P**	**04 31 45.9**	**+1.2**
RETA	**Reutte**	**17.83**	**319**	*e*Pn	**P**	**04 31 49.1**	**+2.6**
	comp=Z,13nm,1.2s						
PRU	**Pruhonice**	**17.84**	**331**	*e*P	**Pn**	**04 31 45.9**	**+0.1**
DAVOX	**Davos/Dischmat**	**17.90**	**316**	P	**Pn**	**04 31 45.7**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=173,slow=15,SNR=1.7						
	comp=Z,1.0nm,0.7s						
DAVA	**Damuels**	**18.19**	**318**	*e*Pn	**P**	**04 31 53.0**	**+2.5**
	comp=Z,1.7nm,0.4s						
GRF	**Grafenberg Arr**	**19.06**	**325**	*e*P	**P**	**04 32 00.2**	**+0.4**
	comp=Z,3.9nm,0.8s,baz=139,slow=12						
RAYN	**Ar Rayn**	**19.18**	**122**	P	**P**	**04 32 02.1**	**+0.7**
SENIN	**Lac Senin/Sane**	**19.19**	**312**	P	**P**	**04 32 02.2**	**+0.6**
SUW	**Suwalki**	**19.27**	**352**	P	**Pn**	**04 32 03.1**	**-0.1**
CLL	**Collm**	**19.48**	**331**	P	**Pn**	**04 32 05.5**	**-0.2**
CLL				IAmb	IAmb	04 32 10.8	
	comp=Z,12nm,1.2s						
CLL	**Collm**	**19.48**	**331**	*e*P	**P**	**04 32 04.0**	**-0.5**
	comp=Z,5.0nm,1.0s						
CLL				*i* (sP)	**sP**	**04 32 09.6**	**-0.7**
	comp=Z,12nm,1.2s						
CLL				*i* x	x	04 32 17.2	
CLL				*e*S	**S**	**04 35 47.0**	**+3.0**
BFO	**Black Forest**	**19.65**	**319**	P	**Pn**	**04 32 07.5**	**-0.2**
BFO				IAmb	IAmb	04 32 17.4	
	comp=Z,17nm,1.3s						
NACGM	**Naroch**	**19.90**	**358**	*e*P	**P**	**04 32 07.5**	**-1.5**
	comp=Z,8.0nm,0.8s,baz=178						
TAM	**Tamanrasset**	**22.95**	**244**	P	**P**	**04 32 43.4**	**+1.1**
TAM				IAmb	IAmb	04 33 00.4	
	comp=Z,7.3nm,1.1s						
GEYT	**Alibeck**	**24.48**	**74**	P	**P**	**04 32 57.1**	**+0.3**
	comp=Z,2.2nm,0.2s,baz=267,slow=16,SNR=7.5						
	comp=Z,2.2nm,0.2s						
ESDC	**Sonseca Array**	**25.62**	**290**	P	**P**	**04 33 06.3**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=79,slow=9.3,SNR=13						
	comp=Z,1.5nm,0.7s						
FINES	**FINESS Array B**	**26.47**	**358**	P	**P**	**04 33 11.9**	**-2.5**
	comp=Z,3.3nm,0.9s,baz=196,slow=3.4,SNR=5.5						
FINES				PcP	**PcP**	**04 36 37.9**	**-1.2**
	comp=Z,1.5nm,0.9s,baz=228,slow=5.4,SNR=2.6						
	comp=Z,3.3nm,0.9s						
UOSS	**Minazif**	**26.47**	**105**	P	**P**	**04 33 16.3**	**+1.4**
UOSS				IAmb	IAmb	04 33 20.0	
	comp=Z,6.8nm,0.9s						
HFS	**Hagfors**	**26.76**	**344**	P	**P**	**04 33 15.2**	**-1.9**
	comp=Z,6.4nm,0.8s,baz=148,slow=7.0,SNR=8.1						
	comp=Z,6.4nm,0.8s						
ATD	**Arta Tunnel**	**27.08**	**146**	P	**P**	**04 33 18.6**	**-1.8**
ABKAR	**Akbulak array**	**27.50**	**49**	P	**P**	**04 33 25.4**	**+1.5**
NB2	**NORSAR Subarra**	**28.14**	**343**	P	**P**	**04 33 28.2**	**-1.3**
	comp=Z,4.0nm,1.1s,baz=150,slow=9.3						
NOA	**NORSAR Array B**	**28.14**	**343**	P	**P**	**04 33 28.3**	**-1.3**
	comp=Z,1.3nm,0.6s,baz=145,slow=9.4,SNR=7.5						
	comp=Z,1.3nm,0.6s						
WSAR	**Wadi Sarin**	**29.24**	**105**	LR	LR	04 49 34.8	
	comp=Z,76nm,19.5s,baz=348,slow=45						
ARU	**Arti**	**29.90**	**35**	LR	LR	04 49 02.0	
	comp=Z,35nm,18.4s,baz=183,slow=43						
TOA0	**Torodi Ar. Sit**	**

	6.1nm,0.7s							
KSRS	**Korea Array**	**11.25**	**267**	Pn	**Pn**	**04 37 37.9**	**+3.7**
	0.1nm,0.3s,baz=77,slow=16,SNR=1.7							
	0.8nm,0.6s							
SONM	**Songino Array**	**27.23**	**301**	P	**P**	**04 40 36.4**	**+0.7**
	0.3nm,0.4s,baz=124,slow=8.8,SNR=2.2							
	0.3nm,0.4s							
H11N2	**WAKE ISLAND Hy**	**28.71**	**125**	T	T	05 11 16.9		
	baz=317,slow=76,SNR=111							
H11N1	**WAKE ISLAND Hy**	**28.72**	**125**	T	T	05 11 18.6		
	baz=317,slow=76,SNR=137							
H11N3	**WAKE ISLAND Hy**	**28.73**	**125**	T	T	05 11 21.0		
	baz=317,slow=76,SNR=108							
H11S1	**WAKE ISLAND Hy**	**29.49**	**127**	T	T	05 12 20.4		
	baz=319,slow=76,SNR=49							
H11S3	**WAKE ISLAND Hy**	**29.49**	**127**	T	T	05 12 14.7		
	baz=319,slow=76,SNR=52							
H11S2	**WAKE ISLAND Hy**	**29.50**	**127**	T	T	05 12 21.7		
	baz=319,slow=76,SNR=43							
ZALV	**Zalesovo Beam**	**41.07**	**311**	P	**P**	**04 42 34.2**	**-0.6**
	1.1nm,0.3s,baz=96,slow=7.9,SNR=5.3							
	1.1nm,0.3s							
MKAR	**Makanchi Array**	**43.60**	**301**	P	**P**	**04 42 55.2**	**-0.3**
	2.0nm,0.7s,baz=84,slow=9.4,SNR=24							
	2.0nm,0.7s							
KURBB	**Kurchatov Arra**	**45.29**	**307**	P	**P**	**04 43 08.2**	**-0.6**
	2.3nm,0.6s,baz=82,slow=8.4,SNR=18							
	2.3nm,0.6s							
BVAR	**Borovoye Array**	**49.72**	**311**	P	**P**	**04 43 42.5**	**-0.8**
	1.2nm,0.5s,baz=68,slow=7.7,SNR=8.9							
	1.2nm,0.5s							
WRA	**Warramunga Arr**	**58.99**	**189**	P	**P**	**04 44 50.3**	**-0.5**
	0.4nm,0.8s,baz=5.1,slow=7.0,SNR=2.6							
	0.4nm,0.8s							
FINES	**FINESS Array B**	**67.41**	**332**	P	**P**	**04 45 45.7**	**-0.4**
	1.3nm,0.8s,baz=29,slow=6.5,SNR=4.0							
	1.3nm,0.8s							

MEX 30 04:42:16.1±0.7,15°84N×95°00W,h16km±11km,MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.81**	**27**	*eP*	Pb	04 42 28.6	-3.2
NILT				*eS*	Sb	04 42 38.1	-4.3
HUIG	**Huatulco**	**1.07**	**266**	*eP*	Pb	04 42 32.5	-3.8
HUIG				*eS*	Sb	04 42 45.5	-4.6
CARR	**Arriaga**	**1.12**	**69**	*eP*	Pb	04 42 32.4	-4.6
CARR				*eS*	Sb	04 42 44.7	-6.7
CMIG	**Matias Romero**	**1.25**	**5**	*eP*	Pn	04 42 35.1	-3.8
CMIG				*eS*	Sb	04 42 50.1	-5.1
UXUV	**UXUV**	**1.68**	**29**	*eP*	Pn	04 42 41.7	-3.1
UXUV				*eS*	Sn	04 43 01.6	-4.5
PCIG		**1.72**	**94**	*eP*	Pn	04 42 40.5	-4.8
PCIG				*eS*	Sn	04 43 00.7	-6.2
NEUV	**Arroyo Zacate**	**2.02**	**338**	*eP*	Pn	04 42 46.2	-3.2
NEUV				*eS*	Sn	04 43 09.3	-5.0
TGIG		**2.03**	**62**	*eP*	Pn	04 42 46.6	-3.0
TGIG				*eS*	Sn	04 43 08.6	-6.1
VHO	**Vista Hermosa**	**2.07**	**307**	*eP*	Pn	04 42 45.9	-4.4
VHO				*eS*	Sn	04 43 09.9	-6.0
PEIG	**Puerto Escondi**	**2.08**	**275**	*eS*	Sn	04 43 08.7	-7.1
YOIG	**Yosondua**	**2.65**	**293**	*eS*	Sn	04 43 21.7	-8.6
PATR	**El Naranjo**	**2.76**	**105**	*eP*	Pn	04 42 56.5	-3.3
PATR				*eS*	Sn	04 43 23.2	-10
PAVE	**Pavencul**	**2.79**	**103**	*eP*	Pn	04 42 57.8	-2.6
PAVE				*eS*	Sn	04 43 27.3	-6.5
CHUJ	**Union Juarez**	**2.88**	**105**	*eP*	Pn	04 42 56.6	-4.9
CHUJ				*eS*	Sn	04 43 27.6	-8.5
TXIG	**Tlaxiaco**	**3.01**	**298**	*eS*	Sn	04 43 33.3	-5.9
PNIG	**Pinotepa**	**3.06**	**281**	*eS*	Sn	04 43 30.6	-9.5

MEX 30 04:42:19.4±0.4,16°25N×98°04W,h5km±10km,MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.16**	**329**	*i P*	Pg	04 42 22.3	-0.4
PNIG				*i S*	Sg	04 42 25.0	+0.1
YOIG	**Yosondua**	**0.77**	**38**	*eP*	Pg	04 42 33.0	-1.1
YOIG				*i S*	Sg	04 42 43.6	-0.6
PEIG	**Puerto Escondi**	**0.89**	**106**	*eP*	Pg	04 42 35.6	-1.0
PEIG				*eS*	Sg	04 42 46.4	-1.8
PEIG	**Puerto Escondi**	**0.89**	**106**	*eP*	Sg	04 42 46.4	-1.9
TXIG	**Tlaxiaco**	**1.03**	**15**	*i P*	Pg	04 42 37.8	-1.4
TXIG				*i S*	Sg	04 42 50.1	-2.5
MGIG	**Malinaltepec**	**1.13**	**330**	*eP*	Pg	04 42 36.9	-4.2
MGIG				*eS*	Sg	04 42 51.2	-4.6
CRIG	**Cruz Grande**	**1.15**	**295**	*eP*	Pg	04 42 38.2	-3.3
CRIG				*i S*	Sg	04 42 51.7	-4.8
HLIG	**Huajuapan de L**	**1.58**	**8**	*eP*	Pn	04 42 48.0	-0.4
HLIG				*eS*	Sn	04 43 05.1	-4.3
FTIG	**Fresnillo de T**	**1.65**	**357**	*eP*	Sn	04 42 47.0	-2.2
FTIG				*eS*	Sn	04 43 07.6	-3.2

IDC 30 04:46:09.7±3.0,5°34S×151°92E,h0km,mb3.4/2, mbtmp3.5/3,ML1.4/1,MS2.9/1,Error ellipse: s-maj=137.7km s-min=39.5km az=127.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.21**	**229**	Pn	Pn	04 47 42.9	+0.1
	0.5nm,0.3s,baz=66,slow=20,SNR=1.6						
PMG				Sn	Sn	04 48 53.8	-0.8
	0.7nm,0.3s,baz=112,slow=23,SNR=1.7						
	2.7nm,0.5s						
WRA	**Warramunga Arr**	**22.43**	**228**	P	P	04 51 10.5	0.0
	0.4nm,0.4s,baz=53,slow=10.0,SNR=5.4						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**25.16**	**222**	P	P	04 51 37.3	+0.3
	0.8nm,0.7s,baz=57,slow=8.8,SNR=13						
	0.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**57.32**	**296**	LR	LR	05 19 22.7	
	comp=Z,11nm,21.1s,baz=195,slow=35						
TORD	**Torodi Ar. Bea**	**149.63**	**287**	PKPbc	PKPbc	05 06 01.9	-0.6
	0.2nm,0.4s,baz=77,slow=2.2,SNR=4.5						

*IDC **30** 04:48:22.0±0.7,5°67S×151°55E,h0km,mb4.1/13, mbtmp4.1/14,ML2.4/1,MS3.6/14,Error ellipse: s-maj=32.8km s-min=16.4km az=109.0*
*NEIC **30** 04:48:24.7±1.4,5°87S±0°08×151°17E±0°1,h10km±1km, mb4.5/44,Error ellipse: s-maj=18.9km s-min=10.9km az=116.0*
ISC 30 04:48:28.4±0.5,5°84S±0°07×151°61E±0°09,h41km,n88, σ0°94/79,mb4.2/33,MS3.6/13,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BULU	**Kimbe**	**1.32**	**283**	P	**Pn**	**04 48 50.5**	**+0.1**
RABL	**Rabaul**	**1.73**	**19**		**Pn**	**04 48 55.0**	**-1.0**
KAVG	**Kavieng**	**3.33**	**346**	P	**Pn**	**04 49 21.6**	**+3.6**
PMG	**Port Moresby**	**5.66**	**231**		**Pn**	**04 49 49.9**	**-0.2**
PMG	**Port Moresby**	**5.66**	**231**	Pn	**Pn**	**04 49 50.4**	**+0.4**
	6.4nm,0.3s,baz=41,slow=9.2,SNR=21						
PMG				Sn	**Sn**	**04 50 53.8**	**0.0**
	4.2nm,0.3s,baz=119,slow=18,SNR=3.0						
	104nm,0.9s						
MANU	**Manus Island**	**5.67**	**312**	P	Pn	04 49 55.3	+5.1
MANU	**Manus Island**	**5.67**	**312**	Pn	Pn	04 49 55.1	+5.0
HNR	**Honiara**	**9.00**	**114**	LR	LR	04 53 35.6	
	comp=Z,3μm,21.1s,baz=181,slow=34						
COEN	**Coen**	**11.58**	**225**	Pn	**Pn**	**04 51 11.3**	**+0.1**
QIS	**Mount Isa**	**18.71**	**217**	P	**Pn**	**04 52 45.5**	**+1.2**
EIDS	**Eidsvold**	**19.43**	**181**	P	**Pn**	**04 52 51.5**	**0.0**
EIDS				IAmb	IAmb	04 53 18.3	
	comp=Z,42nm,1.4s						
KDU	**Kakadu**	**20.07**	**249**	P	**P**	**04 52 59.1**	**+0.6**
MTN	**Manton Dam**	**21.36**	**250**	P	**P**	**04 53 12.4**	**-0.1**
DZM	**Mont Dzumac**	**21.59**	**140**	LR	LR	05 01 06.1	
	comp=Z,176nm,18.1s,baz=16,slow=35						
WB0	**Warramunga Arr**	**21.73**	**229**	P	**P**	**04 53 15.3**	**-1.0**
WB0				IAmb	IAmb	04 53 34.5	
	comp=Z,17nm,1.1s						
WR0	**Warramunga Arr**	**21.73**	**228**	P	**P**	**04 53 15.8**	**-0.6**
WR0				IAmb	IAmb	04 53 21.8	
	comp=Z,16nm,1.0s						
QLP	**Quilpie**	**21.80**	**198**	P	**P**	**04 53 18.5**	**+1.5**
WB2	**Warramunga Arr**	**21.86**	**229**	P	**P**	**04 53 17.4**	**-0.5**
WRA	**Warramunga Arr**	**21.87**	**229**	P	**P**	**04 53 16.6**	**-1.3**
WRA	**Warramunga Arr**	**21.87**	**229**	P	**P**	**04 53 16.9**	**-1.1**
	comp=Z,8.0nm,1.1s,baz=54,slow=10,SNR=18						
WRA				PcP	**PcP**	**04 57 17.1**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=50,slow=2.1,SNR=1.3						
	comp=Z,8.0nm,1.1s						
INKA	**Innaminka**	**24.11**	**204**	P	**P**	**04 53 40.2**	**-0.2**
KNRA	**Kununurra**	**24.45**	**245**	P	**P**	**04 53 44.1**	**+0.5**
KNRA				IAmb	IAmb	04 54 26.0	
	comp=Z,20nm,1.1s						
AS01	**Alice Springs**	**24.56**	**222**	P	**P**	**04 53 45.1**	**+0.5**
AS31	**Alice Springs**	**24.59**	**222**	P	**P**	**04 53 45.2**	**+0.2**
ASAR	**Alice Springs**	**24.59**	**222**	P	**P**	**04 53 44.6**	**-0.3**
ASAR	**Alice Springs**	**24.59**	**222**	P	**P**	**04 53 44.9**	**0.0**
	comp=Z,8.5nm,1.0s,baz=56,slow=9.2,SNR=54						
ASAR				PcP	**PcP**	**04 57 22.9**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=31,slow=3.8,SNR=2.0						
	comp=Z,8.5nm,1.0s						
OOD	**Oodnadatta**	**26.56**	**213**	P	**P**	**04 54 03.3**	**+0.6**
STKA	**Stephens Creek**	**27.55**	**199**	P	**P**	**04 54 11.4**	**-0.2**
STKA	**Stephens Creek**	**27.55**	**199**	P	**P**	**04 54 11.8**	**+0.3**
	comp=Z,3.8nm,1.0s,baz=11,slow=13,SNR=4.3						
STKA				LR	LR	05 04 12.1	
	comp=Z,109nm,20.0s,baz=18,slow=34						
	comp=Z,3.8nm,1.0s						
BATI	**Baumata**	**28.00**	**259**	LR	LR	05 08 30.8	
	comp=Z,120nm,18.6s,baz=89,slow=43						
FITZ	**Fitzroy Crossi**	**28.12**	**242**	P	**P**	**04 54 16.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**28.12**	**242**	P	**P**	**04 54 15.8**	**-1.0**
FORT	**Forrest**	**33.24**	**219**	P	**P**	**04 55 01.3**	**-0.5**
MBWA	**Marble Bar**	**34.43**	**241**	P	**P**	**04 55 12.4**	**+0.1**
BKB	**Balikpapan**	**34.93**	**276**	P	**P**	**04 55 16.7**	**-0.1**
LTZ	**Lake Taylor**	**41.09**	**157**	P	**P**	**04 56 09.6**	**+1.3**
LTZ				IAmb	IAmb	04 56 17.0	
	comp=Z,12nm,1.2s						
BFZ	**Birch Farm**	**41.12**	**151**	P	**P**	**04 56 08.9**	**+0.4**
KHZ	**Kahutara**	**41.30**	**155**	P	**P**	**04 56 10.1**	**+0.2**
RPZ	**Rata Peaks**	**41.43**	**159**	LR	LR	05 11 25.3	
	comp=Z,116nm,18.8s,baz=127,slow=33						
NWAO	**Narrogin (SRO)**	**41.82**	**225**	LR	LR	05 13 46.5	
	comp=Z,97nm,18.2s,baz=252,slow=36						
MJAR	**Matsushiro Arr**	**43.98**	**344**	LR	LR	05 13 39.0	
	comp=Z,33nm,20.4s,baz=122,slow=35						
ASAJ	**Asahikawa**	**50.38**	**352**	LR	LR	05 18 34.1	
	comp=Z,25nm,18.9s,baz=124,slow=36						
PETK	**Petropavlovsk-**	**58.95**	**4**	P	**P**	**04 58 22.9**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=156,slow=7.9,SNR=2.1						
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**66.57**	**329**	P	**P**	**04 59 14.6**	**+0.1**
SONM				IAmb	IAmb	04 59 15.3	
	comp=Z,4.5nm,1.4s						
SONM	**Songino Array**	**66.57**	**329**	P	**P**	**04 59 14.2**	**-0.4**
	comp=Z,2.3nm,1.1s,baz=136,slow=6.3,SNR=8.7						
	comp=Z,2.3nm,1.1s						
VNDA	**Vanda**	**71.85**	**178**	P	**P**	**04 59 47.7**	**+1.1**
VNDA	**Vanda**	**71.85**	**178**	P	**P**	**04 59 48.2**	**+1.6**
	comp=Z,1.2nm,1.1s,baz=344,slow=1.9,SNR=2.3						
	comp=Z,1.2nm,1.1s						
CNBA	**Chernabura Isl**	**72.73**	**27**	P	**P**	**04 59 53.1**	**+1.0**
CNBA				IAmb	IAmb	05 00 32.8	
	comp=Z,8.0nm,1.4s						
L14K	**Kuka Creek**	**75.73**	**21**	P	**P**	**05 00 10.8**	**+1.4**
L14K				IAmb	IAmb	05 00 12.1	
	comp=Z,2.4nm,0.8s						
K15K	**Wolf Creek Mou**	**76.78**	**21**	P	**P**	**05 00 16.2**	**+0.8**
KDAK	**Kodiak Island**	**77.63**	**27**	P	**P**	**05 00 20.7**	**+0.4**
J16K	**Anvik River**	**77.76**	**20**	P	**P**	**05 00 22.0**	**+1.1**
J16K				IAmb	IAmb	05 00 52.2	
	comp=Z,8.0nm,1.5s						
L18K	**Granite Mounta**	**78.48**	**22**	P	**P**	**05 00 26.3**	**+1.4**
L18K				IAmb	IAmb	05 00 28.3	
	comp=Z,4.8nm,1.1s						
CNPM	**China Poot**	**79.16**	**26**	P	**P**	**05 00 29.6**	**+0.9**
F17K	**Baldwin Pennin**	**79.66**	**17**	P	**P**	**05 00 31.8**	**+0.5**
F17K				IAmb	IAmb	05 00 44.4	
	comp=Z,4.4nm,1.1s						
G18K	**Tagagawik**	**80.10**	**19**	P	**P**	**05 00 33.5**	**-0.2**
MKAR	**Makanchi Array**	**80.33**	**319**	P	**P**	**05 00 35.3**	**-0.1**
MKAR	**Makanchi Array**	**80.33**	**319**	P	**P**	**05 00 34.6**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=100,slow=7.9,SNR=3.5						
MKAR				LR	LR	05 36 27.8	
	comp=Z,18nm,18.5s,baz=77,slow=36						
	comp=Z,0.5nm,0.8s						
MAKZ	**Makanchi**	**80.53**	**319**	P	**P**	**05 00 35.4**	**-1.2**
MAKZ				IAmb	IAmb	05 00 37.2	
	comp=Z,2.9nm,0.6s						
F19K	**Shaleruckik Mo**	**80.97**	**18**	P	**P**	**05 00 38.7**	**+0.4**
E19K	**Redstone River**	**81.53**	**18**	P	**P**	**05 00 42.1**	**+0.8**
E19K				IAmb	IAmb	05 01 02.2	
	comp=Z,4.0nm,1.1s						
SML	**Sawmill**	**81.55**	**25**	P	**P**	**05 00 42.1**	**+0.5**
TRF	**Thorofare Moun**	**81.61**	**23**	P	**P**	**05 00 42.5**	**+0.5**
TRF				IAmb	IAmb	05 00 43.9	
	comp=Z,2.2nm,0.8s						
IMAR	**Indian Mountai**	**81.75**	**20**	P	**P**	**05 00 43.3**	**+0.8**
C19K	**Lookout Ridge**	**81.91**	**16**	P	**P**	**05 00 43.3**	**-0.1**
D19K	**Kuna River**	**81.92**	**17**	P	**P**	**05 00 43.4**	**-0.1**
MLY	**Manley**	**82.27**	**21**	P	**P**	**05 00 45.5**	**+0.1**
MLY				IAmb	IAmb	05 00 47.3	
	comp=Z,5.1nm,1.4s						
I23K	**Minto, Yukon-K**	**82.83**	**21**	P	**P**	**05 00 48.8**	**+0.7**
I23K				IAmb	IAmb	05 00 51.1	
	comp=Z,2.5nm,1.2s						
ILAR	**Eielson Array**	**83.56**	**22**	P	**P**	**05 00 51.0**	**-0.9**
	comp=Z,1.9nm,0.9s,baz=257,slow=5.0,SNR=9.3						
ILAR				LR	LR	05 32 20.1	
	comp=Z,33nm,21.5s,baz=189,slow=32						
	comp=Z,1.9nm,0.9s						
D22K	**Ayikyak River**	**83.74**	**18**	P	**P**	**05 00 53.5**	**+0.7**
D22K				IAmb	IAmb	05 00 55.6	
	comp=Z,1.7nm,0.9s						
KURBB	**Kurchatov Arra**	**83.88**	**322**	P	**P**	**05 00 52.0**	**-1.9**
	comp=Z,0.9nm,0.9s,baz=109,slow=4.5,SNR=6.3						
	comp=Z,0.9nm,0.9s						
J25K	**Salcha River,**	**84.06**	**23**	P	**P**	**05 00 55.2**	**+0.5**
J25K				IAmb	IAmb	05 00 55.4	
	comp=Z,3.0nm,0.7s						
BARN	**Barnard Glacie**	**84.09**	**27**	P	**P**	**05 00 55.5**	**+0.5**
BARN				IAmb	IAmb	05 00 57.1	
	comp=Z,4.0nm,0.8s						
QSPA	**South Pole Qui**	**84.13**	**180**	P	**P**	**05 00 55.2**	**+0.1**
QSPA	**South Pole Qui**	**84.13**	**180**	P	**P**	**05 00 55.2**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=283,slow=0.7,SNR=7.3						
	comp=Z,1.0nm,0.7s						
B22K	**Teshekpuk Lake**	**84.36**	**16**	P	**P**	**05 00 56.1**	**+0.2**
B22K				IAmb	IAmb	05 01 29.7	
	comp=Z,4.8nm,1.4s						
M27K	**Edge Creek, AK**	**84.52**	**25**	P	**P**	**05 00 58.3**	**+1.2**
F24K	**Squaw Lake**	**84.54**	**20**	P	**P**	**05 00 57.9**	**+0.9**
F24K				IAmb	IAmb	05 00 58.9	
	comp=Z,1.7nm,0.8s						
C23K	**Itkillik River**	**84.88**	**17**	P	**P**	**05 01 00.1**	**+1.6**
C23K				IAmb	IAmb	05 01 21.4	
	comp=Z,5.0nm,1.4s						
BVAR	**Borovoye Array**	**89.36**	**323**	P	**P**	**05 01 18.7**	**-1.9**
	comp=Z,1.2nm,0.8s,baz=99,slow=7.9,SNR=5.0						
BVAR				LR	LR	05 43 03.2	
	comp=Z,23nm,18.8s,baz=358,slow=37						
	comp=Z,1.2nm,0.8s						
NVAR	**Mina Array Bea**	**93.65**	**52**	P	**P**	**05 01 40.9**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=256,slow=6.5,SNR=6.4						
	comp=Z,0.5nm,0.7s						
PFO	**Pinyon Flats O**	**94.80**	**57**	LR	LR	05 35 57.9	
	comp=Z,23nm,21.7s,baz=309,slow=30						
ELK	**Elko**	**96.16**	**50**	LR	LR	05 39 44.8	
	comp=Z,43nm,19.9s,baz=258,slow=32						
ARU	**Arti**	**96.51**	**326**	LR	LR	05 44 24.0	
	comp=Z,30nm,21.6s,baz=117,slow=35						
YKA	**Yellowknife Ar**	**96.89**	**28**	P	**P**	**05 01 54.9**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=271,slow=5.1,SNR=7.4						
	comp=Z,0.4nm,0.8s						
NOA	**NORSAR Array B**	**117.47**	**340**	PKP	**PKPdf**	**05 07 09.2**	**-0.4**
	comp=Z,0.2nm,0.8s,baz=46,slow=2.1,SNR=2.2						
GERES	**GERESS Array B**	**124.30**	**328**	PKP	**PKPdf**	**05 07 20.3**	**-2.8**
	comp=Z,0.8nm,0.6s,baz=82,slow=1.9,SNR=3.8						
TORD	**Torodi Ar. Bea**	**149.47**	**286**	PKPbc	**PKPbc**	**05 08 13.2**	**-1.1**
	comp=Z,4.9nm,0.8s,baz=51,slow=2.6,SNR=29						

*NEIC **30** 05:00:43.1±1.1,35°55N±0°01×97°78W±0°01,h5km±2km, Error ellipse: s-maj=3.0km s-min=2.8km az=210.0*
TUL 30 05:00:43.3±1.1,35°54N±0°01×97°80W±0°02,h6km±2km, ML2.1,mb_Lg2.2/10(NEIC),ML2.1/40(NEIC),Error ellipse: s-maj=2.5km s-min=1.7km az=65.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCSW	**OKLAHOMA CITY**	**0.33**	**114**	Pg	Pg	05 00 50.4	+0.8
ADOK	**Arcadia Dam**	**0.37**	**72**	Pg	Pg	05 00 49.6	-0.9
ADOK				Sg	Sg	05 00 55.1	-0.2
OK029	**Liberty Lake**	**0.38**	**47**	Pg	Pg	05 00 50.7	-0.1
OK029				Sg	Sg	05 00 56.6	+0.8
OK029				IAML		05 00 59.5	
	139nm,0.5s						
OK029				IAML		05 00 59.5	
	173nm,0.4s						
FNO	**Franklin**	**0.43**	**130**	Pg	Pg	05 00 51.7	0.0
FNO				Sg	Sg	05 00 58.0	+0.8
OK033	**Mehan**	**0.87**	**54**	Pg	Pg	05 00 59.1	-0.8
OK033				IAML		05 01 14.3	
	60nm,0.4s						
OK033				IAML		05 01 15.1	
	65nm,0.1s						
OK052	**Battle Ridge R**	**0.93**	**60**	Pg	Pg	05 01 00.5	-0.7
OK052				IAML		05 01 16.5	
	82nm,0.3s						
OK052				IAML		05 01 16.7	
	77nm,0.2s						
DEOK	**Depew**	**1.10**	**74**	Pg	Pg	05 01 03.5	-1.0
DEOK				IAmb_Lg		05 01 20.6	
	comp=Z,5.0nm,0.8s						
DEOK				IAML		05 01 24.5	
	comp=N,64nm,0.3s						
OK048	**Pawnee Station**	**1.12**	**38**	Pg	Pg	05 01 04.3	-0.5
OK048				IAML		05 01 21.2	
	comp=N,39nm,0.2s						
OK048				IAML		05 01 23.9	
	comp=N,33nm,0.4s						
U32A	**Winter Ranch,**	**1.28**	**311**		Pn	05 01 07.1	-0.8
U32A				IAML		05 01 31.0	
	comp=E,45nm,0.3s						
OK032	**Salt Plains WL**	**1.31**	**345**		Pn	05 01 07.8	-0.3
BLOK	**Blackwell**	**1.31**	**21**		Pn	05 01 07.6	-0.7
GC02	**Grant County #**	**1.31**	**358**		Pn	05 01 07.1	-1.2
ELIS	**Ellis County**	**1.42**	**292**		Pn	05 01 09.3	-0.4
KAN13	**South Haven SW**	**1.50**	**10**		Pn	05 01 10.7	-0.1
KAN13				IAmb_Lg		05 01 30.2	
	comp=Z,4.3nm,0.9s						
KAN01	**Argonia South**	**1.61**	**1**		Pn	05 01 11.7	-0.7
KAN01				IAmb_Lg		05 01 37.0	
	comp=Z,8.0nm,0.9s						
TUL3	**Leonard**	**1.68**	**77**		Pn	05 01 12.1	-1.1
TUL3				IAmb_Lg		05 01 39.5	
	comp=Z,7.7nm,1.0s						
HALT	**Halls**	**6.89**	**84**	IAmb_Lg		05 04 32.6	
	comp=Z,50nm,0.9s						
SIUC	**Southern Illin**	**7.24**	**70**	IAmb_Lg		05 04 39.4	
	comp=Z,8.5nm,0.7s						

TRN 30 05:08:44.4,16°87N×61°00W,h22km,MD3.6,North-east of Guadeloupe.,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABD	**La Joyeuse, An**	**0.61**	**230**	*eP*	Pn	05 08 58.9	+1.2
ANBD	**Bethesda, Anti**	**0.75**	**284**	*eP*	Pn	05 09 01.2	+1.6
ANBD				*eS*	Sn	05 09 12.3	+2.0
ANDO	**Antigua, Disas**	**0.83**	**287**	*eP*	Pn	05 09 02.4	+1.7
ANDO				*eS*	Sn	05 09 15.0	+2.8
CBE	**Ff, Capester**	**0.98**	**216**	*eP*	Pn	05 09 04.3	+1.4
CBE				*eS*	Sn	05 09 18.8	+2.6
MBFL	**Flemmings, Mon**	**1.16**	**264**	*eP*	Pb	05 09 07.6	+1.7
MBFL				*eS*	Sn	05 09 24.2	+3.7
SVN	**Savane Anatole**	**2.02**	**184**	*eS*	Sb	05 09 44.3	-1.0
BIM	**Bigot**	**2.34**	**182**	*eP*	Pb	05 09 23.8	-2.1
BIM				*eS*	Sn	05 09 51.0	+1.4
MPOM	**Morne Pois Mar**	**2.42**	**177**	*eP*	Pn	05 09 23.8	+1.2
MPOM				*eS*	Sn	05 09 53.7	+2.3

IDC 30 05:23:34.9±26.0,18°65S×177°45W,h496km±227km, mb3.2/5,mbtmp4.1/5,Error ellipse: s-maj=232.2km s-min=26.6km az=40.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.11**	**193**	P	P	05 27 33.3	-1.3
	2.1nm,0.3s,baz=18,slow=2.3,SNR=1.8						
	2.1nm,0.3s						
STKA	**Stephens Creek**	**39.08**	**242**	P	P	05 30 18.6	-0.1
	1.4nm,0.3s,baz=60,slow=7.6,SNR=6.7						
	1.4nm,0.3s						
WRA	**Warramunga Arr**	**45.40**	**260**	P	P	05 31 08.7	-0.1
	1.0nm,0.4s,baz=98,slow=7.0,SNR=34						
WRA				PcP	PcP	05 32 36.6	-1.3
	0.4nm,0.9s,baz=94,slow=3.3,SNR=1.6						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**45.47**	**255**	P	P	05 31 09.6	+0.3
	2.7nm,0.7s,baz=92,slow=7.2,SNR=17						
ASAR				PcP	PcP	05 32 36.8	-1.4
	0.2nm,0.5s,baz=113,slow=3.3,SNR=1.4						
	2.7nm,0.7s

PB07				*e*S	**S**	**06 03 29.7**	**-2.4**	
PB01	**IPOC Station P**	**3.32**	**314**	*e*P	**Pn**	**06 02 53.0**	**+0.9**	
PB01				*e*S	**S**	**06 03 34.1**	**-0.8**	
PB01				IAML		06 03 34.4		
	comp=Z,124nm,0.2s							
PB01	**IPOC Station P**	**3.32**	**314**	*e*P	**Pn**	**06 02 53.1**	**+1.1**	
PB14	**IPOC Station P**	**3.39**	**248**	*e*P	**Pn**	**06 02 54.2**	**+1.2**	
PB14				*e*S	**S**	**06 03 35.3**	**-1.4**	
PB14				IAML		06 03 36.3		
	comp=Z,88nm,0.1s							
PB14	**IPOC Station P**	**3.39**	**248**	*e*P	**Pn**	**06 02 54.0**	**+1.0**	
PB14				*e*S	**S**	**06 03 34.9**	**-1.8**	
PB02	**IPOC Station P**	**3.42**	**307**	*e*P	**Pn**	**06 02 54.1**	**+0.8**	
PB02				*e*S	**S**	**06 03 34.8**	**-2.3**	
PB02				IAML		06 03 36.1		
	comp=Z,272nm,0.2s							
PB02	**IPOC Station P**	**3.42**	**307**	*e*P	**Pn**	**06 02 54.1**	**+0.8**	
PB08	**IPOC Station P**	**3.83**	**327**	*e*P	**Pn**	**06 03 00.5**	**+2.1**	
PB08				*e*S	**S**	**06 03 46.6**	**+0.3**	
PB08				IAML		06 03 49.3		
	comp=Z,55nm,0.4s							
AC02	**Maricunga**	**3.96**	**210**	*e*P	**Pn**	**06 03 00.9**	**+1.0**	
AC02				*e*S	**S**	**06 03 51.8**	**+2.6**	
TA01	**Diego Aracena**	**4.11**	**313**	*e*P	**Pn**	**06 03 02.9**	**+1.5**	
TA01				*e*S	**S**	**06 03 49.2**	**-2.6**	
TA01				IAML		06 03 52.5		
	comp=Z,34nm,0.2s							
GO01	**Chusmiza**	**4.26**	**330**	*e*P	**Pn**	**06 03 06.1**	**+2.5**	
GO01				*e*S	**S**	**06 03 56.3**	**+0.5**	
AC01	**Pan de Azucar**	**4.31**	**230**	*e*P	**Pn**	**06 03 04.1**	**+0.4**	
AC01				*e*S	**S**	**06 03 52.0**	**-4.1**	
AC01				IAML		06 03 54.5		
	comp=Z,42nm,0.2s							
PB11	**IPOC Station P**	**4.41**	**325**	*e*P	**Pn**	**06 03 05.6**	**+0.4**	
PB11				*e*S	**S**	**06 03 56.2**	**-2.5**	
PB11				IAML		06 03 59.0		
	comp=Z,75nm,0.4s							
GO03	**Copiap**	**5.13**	**215**	*e*P	**Pn**	**06 03 14.5**	**+0.5**	
GO03				*e*S	**S**	**06 04 12.7**	**-2.0**	
CYA	**Choya**	**5.13**	**169**	*e*P	**Pn**	**06 03 11.5**	**-2.5**	
CYA				*e*S	S	06 04 03.9	-11	
VCA	**Vinchina**	**5.44**	**192**	*e*P	**Pn**	**06 03 22.1**	**+4.1**	
VCA				IAML		06 05 01.6		
	comp=Z,12nm,3.3s							

*DJA **30** 06:05:26.9±0.5, 7°S±4°×10°3E±°, h10km, M4.5/8, mb4.5/2, MLv4.5/8*
*IDC **30** 06:05:29.9±3.1, 6°92S×101°74E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=125.6km s-min=22.8km az=53.0*

ISC 30 06:05:33.9±1.4, 6°7S±0°1×102°73E±0°08, h24km, n23, σ1°8⁄7, mb3.7/7, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KASI	**Kota Agung**	**2.14**	**56**	P		**Pn**	**Pn**	**06 06 08.4**	**+0.4**
KASI				S		**Sn**	**Sn**	**06 06 34.1**	**+0.3**
LWLI	**Liwa**	**2.17**	**38**	P		**Pn**	**Pn**	**06 06 09.9**	**+1.3**
LWLI				S		**Sb**	**Sb**	**06 06 38.9**	**-0.1**
MNAI	**Manna**	**2.38**	**5**	P		**Pn**	**Pn**	**06 06 12.6**	**+1.2**
MNAI				S		**Sb**	**Sb**	**06 06 44.2**	**-0.8**
PPSI	**Pulau Pagai**	**4.79**	**325**	P		**Pn**	**Pn**	**06 06 44.0**	**-0.6**
	148nm,1.4s,0.7nm								
CMJI	**Cimerak**	**5.77**	**101**	P		**Pn**	**Pn**	**06 06 56.4**	**-1.6**
SISI	**Saibi**	**6.49**	**326**	P		**Pn**	**Pn**	**06 07 06.8**	**-1.1**
CMAR	**Chiang Mai Arr**	**25.32**	**352**	P		**P**	**P**	**06 10 59.7**	**+0.8**
	1.3nm,0.3s,baz=180,slow=8.6,SNR=9.7 1.3nm,0.3s								
H01W3	**Cape Leeuwin H**	**29.91**	**161**	T		T	T	06 42 58.4	
	baz=335								
H01W2	**Cape Leeuwin H**	**29.93**	**161**	T		T	T	06 42 59.6	
	baz=335								
H01W1	**Cape Leeuwin H**	**29.93**	**161**	T		T	T	06 43 02.4	
	baz=335								
H08S2	**Diego Garcia H**	**30.01**	**266**	T		T	T	06 43 02.2	
	baz=88,slow=75,SNR=7.5								
H08S3	**Diego Garcia H**	**30.02**	**266**	T		T	T	06 43 02.2	
	baz=88,slow=75,SNR=4.0								
H08S1	**Diego Carcia H**	**30.03**	**266**	T		T	T	06 43 03.9	
	baz=88,slow=75,SNR=6.2								
WRA	**Warramunga Arr**	**33.36**	**116**	P		P	P	06 12 17.3	+6.8
	0.4nm,0.9s,baz=287,slow=11,SNR=2.6 0.4nm,0.9s								
ASAR	**Alice Springs**	**34.34**	**123**	P		P	P	06 12 25.5	+6.4
	0.3nm,0.8s,baz=301,slow=7.3,SNR=2.3 0.3nm,0.8s								
SONM	**Songino Array**	**54.44**	**3**	P		**P**	**P**	**06 15 00.0**	**+0.7**
	1.1nm,0.7s,baz=170,slow=7.8,SNR=6.3 1.1nm,0.7s								
MKAR	**Makanchi Array**	**56.31**	**343**	P		**P**	**P**	**06 15 12.8**	**+0.1**
	0.4nm,0.5s,baz=143,slow=8.1,SNR=3.9 0.4nm,0.5s								
H04N2	**CROZET ISLANDS**	**58.74**	**219**	T		T	T	07 19 29.2	
	baz=64,slow=75,SNR=10								
H04N1	**CROZET ISLANDS**	**58.75**	**219**	T		T	T	07 19 29.8	
	baz=64,slow=75,SNR=3.3								
H04N3	**CROZET ISLANDS**	**58.76**	**219**	T		T	T	07 19 30.4	
	baz=64,slow=75,SNR=10.0								
KURBB	**Kurchatov Arra**	**60.85**	**343**	P		**P**	**P**	**06 15 42.8**	**-1.4**
	0.2nm,0.3s,baz=155,slow=6.2,SNR=1.5 0.2nm,0.3s								
BVAR	**Borovoye Array**	**65.55**	**339**	P		**P**	**P**	**06 16 13.9**	**-1.4**
	0.4nm,0.5s,baz=126,slow=7.3,SNR=2.8 0.4nm,0.5s								
TXAR	**Lajitas Array**	**146.48**	**45**	PKPbc		**PKPbc**	**PKPbc**	**06 25 14.4**	**+0.5**
	0.2nm,0.7s,baz=318,slow=2.6,SNR=2.0								

*NNC **30** 06:09:45.9±8.7, 51°78N×82°11E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=88.2km s-min=38.3km az=9.0, Suspected Mining explosion.*
*IDC **30** 06:09:47.8±1.6, 51°68N×82°20E, h0km, mbtmp2.9/4, ML1.8/3, Error ellipse: s-maj=17.8km s-min=14.2km az=46.0*

ISC 30 06:09:38.3±1.2, 51°21N±0°08×83°05E±0°09, h0km, n8, σ0°40⁄8, 3C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KURK	**Kurchatov**	**2.85**	**262**	⇑Pg		**Pb**	**Pb**	**06 10 30.1**	**+0.2**
	2.3nm,0.5s								
KURK				⇓Lg		Lg	Lg	06 11 02.4	
	9.7nm,0.5s								
KURBB	**Kurchatov Arra**	**2.92**	**260**	Pn		**Pb**	**Pb**	**06 10 30.8**	**-0.5**
	0.1nm,0.3s,baz=65,slow=16,SNR=14								
KURBB				Lg		Lg	Lg	06 11 05.6	
	0.7nm,0.3s,baz=66,slow=32,SNR=29 0.7nm,0.4s								
KURBB	**Kurchatov Arra**	**2.92**	**260**	⇑Pg		**Pb**	**Pb**	**06 10 31.8**	**+0.5**
	4.2nm,0.7s								
KURBB				⇓Lg		Lg	Lg	06 11 06.1	
	31nm,0.7s								
ZALV	**Zalesovo Beam**	**2.94**	**21**	Pn		**Pb**	**Pb**	**06 10 31.9**	**+0.2**
	0.8nm,0.3s,baz=218,slow=15,SNR=9.5								
ZALV				Sn		**Sn**	**Sn**	**06 11 01.9**	**-0.4**
	1.3nm,0.3s,baz=218,slow=20,SNR=4.8								
ZALV				Lg		Lg	Lg	06 11 10.4	
	1.1nm,0.3s,baz=216,slow=28,SNR=6.1 3.8nm,0.4s								
I46RU	**ZALESOVO INFRA**	**2.95**	**21**	I		I	I	06 24 00.0	
	0.1nm,0.7s,baz=213,slow=318,SNR=1.8								
MK31	**Makanchi Array**	**4.45**	**187**	⇓Pn		**Pg**	**Pg**	**06 11 03.3**	**-0.2**
	3.4nm,0.5s,baz=6.6,slow=15,SNR=44								
MK31				⇑Lg		Lg	Lg	06 12 22.5	
	2.7nm,0.5s,baz=19,slow=30,SNR=4.7								
MKAR	**Makanchi Array**	**4.45**	**187**	Pn		**Pg**	**Pg**	**06 11 03.7**	**+0.2**
	3.7nm,0.5s,baz=1.8,slow=12,SNR=56								
MKAR				Lg		Lg	Lg	06 12 21.5	
	0.6nm,0.3s,baz=359,slow=32,SNR=3.3								
BVAR	**Borovoye Array**	**8.01**	**288**	Pn		**Pn**	**Pn**	**06 11 35.8**	**0.0**
	baz=96,slow=14,SNR=4.3								
BVAR				Sn		Sn	Sn	06 12 52.6	-14
	baz=102,slow=27,SNR=3.6 0.5nm,0.4s								

IDC 30 06:16:55.5±2.1, 6°00S×142°62E, h0km, mb3.4/2, mbtmp3.3/4, ML3.2/2, MS3.0/1, Error ellipse: s-maj=91.1km s-min=32.5km az=107.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**16.03**	**209**	Pn		Pn	Pn	06 20 40.3	-2.2
	0.1nm,0.3s,baz=28,slow=11,SNR=3.6								
WRA				Sn		Sn	Sn	06 23 31.0	-10
	baz=22,slow=23,SNR=1.1								
WRA				Lg		Lg	Lg	06 25 16.5	
	baz=37,slow=28,SNR=2.8 0.3nm,0.6s								
ASAR	**Alice Springs**	**19.47**	**205**	P		Pn	Pn	06 21 24.7	-0.5
	0.1nm,0.3s,baz=34,slow=9.1,SNR=11 0.7nm,0.7s								
KLR	**Kul'dur**	**55.81**	**351**	LR		LR	LR	06 47 15.7	
	comp=Z,14nm,20.4s,baz=293,slow=33								
MKAR	**Makanchi Array**	**74.76**	**322**	P		P	P	06 28 37.9	+0.4
	0.1nm,0.4s,baz=134,slow=4.2,SNR=1.9 0.1nm,0.4s								
ILAR	**Eielson Array**	**87.22**	**24**	P		P	P	06 29 43.2	-0.3
	0.2nm,0.8s,baz=246,slow=6.8,SNR=2.2 0.2nm,0.8s								

IDC 30 06:21:31.3±3.7, 15°84S×176°14W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=165.4km s-min=77.2km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
STKA	**Stephens Creek**	**41.53**	**240**	P		P	P	06 29 20.2	-0.4
	1.4nm,0.6s,baz=100,slow=6.1,SNR=5.0 1.4nm,0.6s								
WRA	**Warramunga Arr**	**47.17**	**257**	P		P	P	06 30 06.0	0.0
	0.3nm,0.4s,baz=90,slow=7.1,SNR=15								
WRA				PcP		PcP	PcP	06 31 37.8	0.0
	0.2nm,0.5s,baz=98,slow=3.6,SNR=2.0 0.3nm,0.4s								
ASAR	**Alice Springs**	**47.46**	**252**	P		P	P	06 30 08.2	-0.1
	4.3nm,0.6s,baz=88,slow=8.2,SNR=103								
ASAR				PcP		PcP	PcP	06 31 38.4	-0.4
	0.4nm,0.5s,baz=103,slow=3.9,SNR=6.5 4.3nm,0.6s								

*SJA **30** 06:28:46.5±0.9, 23°41S×66°53W, h239km±5km, ML3.5, MW3.5*
*GUC **30** 06:28:49.5±0.6, 23°45S×66°88W, h245km±8km, ML3.5*

ISC 30 06:28:47.0±2.0, 23°44S±0°04×66°61W±0°06, h234km±16km, n32, σ1°19⁄54, 7C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
AF01	**San Pedro de A**	**1.53**	**288**	*e*P		**Pn**	**Pn**	**06 29 25.9**	**+1.6**
YJA	**Yavi**	**1.61**	**39**	*e*P		**Pn**	**Pn**	**06 29 25.5**	**+0.3**
YJA				*e*S		**S**	**S**	**06 29 53.6**	**-1.4**
SLA	**San Lorenzo**	**1.62**	**142**	*e*P		**Pn**	**Pn**	**06 29 25.8**	**+0.9**
SLA				*e*S		**S**	**S**	**06 29 54.3**	**-0.4**
LVC	**Limon Verde**	**2.28**	**291**	*e*P		**Pn**	**Pn**	**06 29 32.2**	**+1.0**
LVC				*e*S		**S**	**S**	**06 30 05.2**	**-0.6**
LVC	**Limon Verde**	**2.28**	**291**	⇑*i*P		**Pn**	**Pn**	**06 29 32.2**	**+1.0**
LVC				*e*S		**S**	**S**	**06 30 04.1**	**-1.7**
LVC				IAML				06 30 09.3	
	92nm,0.4s								
PB15	**IPOC Station P**	**2.64**	**274**	*e*P		**Pn**	**Pn**	**06 29 36.0**	**+1.2**
PB15				*e*S		**S**	**S**	**06 30 12.2**	**0.0**
PB15				IAML				06 30 19.1	
	comp=Z,198nm,0.2s								
PB15	**IPOC Station P**	**2.64**	**274**	⇑*i*P		**Pn**	**Pn**	**06 29 36.0**	**+1.2**
PB15				*e*S		**S**	**S**	**06 30 10.9**	**-1.3**
FSA	**Cafayete**	**2.72**	**168**	*e*P		**Pn**	**Pn**	**06 29 36.3**	**+0.7**
FSA				*e*S		**S**	**S**	**06 30 12.5**	**-1.3**
PB06	**IPOC Station P**	**2.83**	**284**	*e*P		**Pn**	**Pn**	**06 29 37.9**	**+1.1**
PB06				*e*S		**S**	**S**	**06 30 16.2**	**+0.4**
PB06				IAML				06 30 18.9	
	comp=Z,47nm,0.2s								
PB06	**IPOC Station P**	**2.83**	**284**	⇑*i*P		**Pn**	**Pn**	**06 29 37.9**	**+1.1**
PB06				*e*S		**S**	**S**	**06 30 14.2**	**-1.5**
PB06				IAML				06 30 20.1	
	comp=N,99nm,0.4s								
PB09	**IPOC Station P**	**2.93**	**303**	*e*P		**Pn**	**Pn**	**06 29 39.4**	**+1.4**
PB09				*e*S		**S**	**S**	**06 30 17.8**	**-0.1**
PB09				IAML				06 30 20.0	
	comp=Z,54nm,0.8s								
PB09	**IPOC Station P**	**2.93**	**303**	⇑*i*P		**Pn**	**Pn**	**06 29 39.5**	**+1.5**
PB09				*e*S		**S**	**S**	**06 30 17.4**	**-0.5**
PB09				IAML				06 30 20.5	
	comp=E,52nm,0.3s								
GO02	**Mina Guanaco**	**3.22**	**237**	*e*P		**Pn**	**Pn**	**06 29 42.4**	**+1.2**
GO02				*e*S		**S**	**S**	**06 30 23.9**	**0.0**
GO02	**Mina Guanaco**	**3.22**	**237**	⇑*i*P		**Pn**	**Pn**	**06 29 42.2**	**+1.0**
GO02				*e*S		**S**	**S**	**06 30 22.7**	**-1.1**
PB05	**IPOC Station P**	**3.36**	**279**	*e*P		**Pn**	**Pn**	**06 29 43.6**	**+0.9**
PB05				IAML				06 30 29.7	
	comp=Z,22nm,0.5s								
PB05	**IPOC Station P**	**3.36**	**279**	*e*P		**Pn**	**Pn**	**06 29 43.3**	**+0.6**
PB05				*e*S		**S**	**S**	**06 30 23.7**	**-2.8**
PB04	**IPOC Station P**	**3.45**	**288**	*e*P		**Pn**	**Pn**	**06 29 44.7**	**+0.9**
PB04				*e*S		**S**	**S**	**06 30 27.9**	**-0.5**
PB04				IAML				06 30 30.8	
	comp=Z,96nm,0.2s								
PB04	**IPOC Station P**	**3.45**	**288**	⇑*i*P		**Pn**	**Pn**	**06 29 44.6**	**+0.9**
PB04				*e*S		**S**	**S**	**06 30 26.3**	**-2.1**
PB07	**IPOC Station P**	**3.48**	**299**	*e*P		**Pn**	**Pn**	**06 29 45.0**	**+0.8**
PB07				IAML				06 30 28.2	
	comp=Z,139nm,0.4s								
PB07	**IPOC Station P**	**3.48**	**299**	⇑*i*P		**Pn**	**Pn**	**06 29 45.0**	**+0.8**
PB01	**IPOC Station P**	**3.58**	**311**	*e*P		**Pn**	**Pn**	**06 29 45.9**	**+0.7**
PB01				*e*S		**S**	**S**	**06 30 29.7**	**-1.4**
PB01				IAML				06 30 31.8	
	comp=Z,94nm,0.1s								
PB01	**IPOC Station P**	**3.58**	**311**	*e*P		**Pn**	**Pn**	**06 29 46.0**	**+0.7**
PB14	**IPOC Station P**	**3.67**	**250**	*e*P		**Pn**	**Pn**	**06 29 47.1**	**+0.7**
PB14				*e*S		**S**	**S**	**06 30 32.8**	**-0.5**
PB14				IAML				06 30 35.4	
	comp=Z,40nm,0.3s								
PB02	**IPOC Station P**	**3.70**	**304**	*e*P		**Pn**	**Pn**	**06 29 47.3**	**+0.6**
PB02				*e*S		**S**	**S**	**06 30 32.8**	**-1.0**
PB02				IAML				06 30 33.6	
	comp=Z,93nm,0.2s								
PB02	**IPOC Station P**	**3.70**	**304**	*e*P		**Pn**	**Pn**	**06 29 47.4**	**+0.6**
PB08	**IPOC Station P**	**4.05**	**324**	*e*P		**Pn**	**Pn**	**06 29 52.9**	**+1.9**
PB08				*e*S		**S**	**S**	**06 30 42.3**	**+0.7**
PB08				IAML				06 30 45.2	
	comp=Z,20nm,0.2s								
PB08	**IPOC Station P**	**4.05**	**324**	*e*P		**Pn**	**Pn**	**06 29 52.9**	**+1.9**
AC02	**Maricunga**	**4.08**	**214**	*e*P		**Pn**	**Pn**	**06 29 52.4**	**+0.9**
TA01	**Diego Aracena**	**4.38**	**310**	*e*P		**Pn**	**Pn**	**06 29 55.2**	**+0.6**
TA01				*e*S		**S**	**S**	**06 30 46.6**	**-1.6**
TA01				IAML				06 30 49.5	
	comp=Z,18nm,0.7s								
GO01	**Chusmiza**	**4.46**	**327**	*e*P		**Pn**	**Pn**	**06 29 57.6**	**+1.5**
AC01	**Pan de Azucar**	**4.52**	**233**	*e*P		**Pn**	**Pn**	**06 29 56.4**	**+0.1**
AC01				IAML				06 30 57.8	
	comp=Z,12nm,2.0s								
PB11	**IPOC Station P**	**4.63**	**322**	*e*P		**Pn**	**Pn**	**06 29 58.1**	**+0.1**
PB11				*e*S		**S**	**S**	**06 30 51.9**	**-2.2**
PB11				IAML				06 30 55.3	
	comp=Z,48nm,0.4s								

*NEIC **30** 06:31:46.7±2.2, 5°75S±0°09×151°68E±0°1, h10km±1km, mb4.3/17, Error ellipse: s-maj=24.4km s-min=11.0km az=119.0*
*IDC **30** 06:31:50.2±2.6, 5°47S×151°49E, h48km±21km, mb3.8/12, mbtmp4.1/13, ML2.3/1, MS3.1/2, Error ellipse: s-maj=27.9km s-min=15.9km az=106.0*

ISC 30 06:31:51.3±0.6, 5°62S±0°07×151°61E±0°10, h57km, n41, σ1°14⁄45, mb4.2/20, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
RABL	**Rabaul**	**1.52**	**21**			**Pn**	**Pn**	**06 32 16.0**	**-0.3**
MANU	**Manus Island**	**5.53**	**310**			**Pn**	**Pn**	**06 33 13.5**	**+2.4**
PMG	**Port Moresby**	**5.80**	**229**			**Pn**	**Pn**	**06 33 14.9**	**+0.2**
PMG	**Port Moresby**	**5.80**	**229**	P		**Pn**	**Pn**	**06 33 15.0**	**+0.3**
	5.5nm,0.3s,baz=30,slow=6.8,SNR=13								
PMG				S		**Sn**	**Sn**	**06 34 19.6**	**-0.4**
	19nm,0.3s,baz=22,slow=16,SNR=8.7								
PMG				LR		LR	LR	06 35 42.2	
	comp=Z,88nm,18.9s,baz=338,slow=40 18nm,0.3s								
COEN	**Coen**	**11.73**	**224**	Pn		**Pn**	**Pn**	**06 34 36.3**	**+0.3**
MTN	**Manton Dam**	**21.44**	**249**	P		**P**	**P**	**06 36 35.2**	**+0.3**
DZM	**Mont Dzumac**	**21.75**	**140**	LR		LR	LR	06 44 04.7	
	comp=Z,85nm,19.7s,baz=346,slow=34								
WB0	**Warramunga Arr**	**21.87**	**228**	P		**P**	**P**	**06 36 39.4**	**-0.2**
WB0				IAmb		IAmb	IAmb	06 36 42.7	
	comp=Z,12nm,0.8s								
WRA	**Warramunga Arr**	**22.02**	**228**	P		**P**	**P**	**06 36 41.2**	**+0.1**
WRA	**Warramunga Arr**	**22.02**	**228**	P		**P**	**P**	**06 36 40.8**	**-0.4**
	comp=Z,14nm,0.6s,baz=53,slow=9.8,SNR=76								
WRA				PcP		**PcP**	**PcP**	**06 40 36.8**	**-1.1**
	comp=Z,0.4nm,0.9s,baz=36,slow=1.6,SNR=2.2								
WRA				ScP		**ScP**	**ScP**	**06 44 10.2**	**-0.3**
	comp=Z,0.5nm,1.0s,baz=53,slow=2.1,SNR=2.5 comp=Z,14nm,0.6s								
KNRA	**Kununurra**	**24.55**	**244**	P		**P**	**P**	**06 37 05.6**	**-0.3**
KNRA				IAmb		IAmb	IAmb	06 37 10.3	
	comp=Z,10nm,0.9s								
ARMA	**Armidale**	**24.66**	**180**	P		**P**	**P**	**06 37 06.2**	**-0.7**
ARMA				IAmb		IAmb	IAmb	06 37 09.1	
	comp=Z,14nm,1.4s								
AS31	**Alice Springs**	**24.75**	**222**	P		**P**	**P**	**06 37 08.5**	**+0.8**
AS31				IAmb		IAmb	IAmb	06 37 10.8	
	comp=Z,4.7nm,1.0s								
ASAR	**Alice Springs**	**24.75**	**222**	P		**P**	**P**	**06 37 08.8**	**+1.0**
ASAR	**Alice Springs**	**24.75**	**222**	P		**P**	**P**	**06 37 08.4**	**+0.6**
	comp=Z,6.2nm,0.5s,baz=59,slow=8.9,SNR=109								
ASAR				PcP		**PcP**	**PcP**	**06 40 43.9**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=48,slow=1.4,SNR=2.4								
ASAR				ScP		**ScP**	**ScP**	**06 44 19.8**	**+2.0**
	comp=Z,0.3nm,0.7s,baz=36,slow=1.7,SNR=1.7 comp=Z,6.2nm,0.5s								
STKA	**Stephens Creek**	**27.75**	**199**	P		**P**	**P**	**06 37 34.8**	**0.0**
	comp=Z,1.4nm,0.7s,baz=327,slow=7.1,SNR=3.2 comp=Z,1.4nm,0.7s								
FITZ	**Fitzroy Crossi**	**28.23**	**242**	P		**P**	**P**	**06 37 38.6**	**-0.5**
DAV	**Davao City (W)**	**28.88**	**296**	P		**P**	**P**	**06 37 42.3**	**-2.7**
	comp=Z,88nm,0.4s,baz=79,slow=16,SNR=2.2								
BBOO	**Buckleboo**	**30.69**	**206**	P		**P**	**P**	**06 38 00.4**	**-0.4**
FORT	**Forrest**	**33.41**	**219**	P		**P**	**P**	**06 38 24.6**	**0.0**
MBWA	**Marble Bar**	**34.54**	**240**	P		**P**	**P**	**06 38 34.0**	**-0.5**
PETK	**Petropavlovsk-**	**58.74**	**4**	P		**P**	**P**	**06 41 43.5**	**+0.3**
	comp=Z,6.1nm,1.1s,baz=165,slow=7.3,SNR=1.3 comp=Z,6.1nm,1.1s								
SONM	**Songino Array**	**66.39**	**329**	P		**P**	**P**	**06 42 34.2**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=152,slow=4.8,SNR=3.8 comp=Z,0.4nm,0.5s								
VNDA	**Vanda**	**72.06**	**178**	P		**P**	**P**	**06 43 10.0**	**+1.1**
VNDA				IAmb		IAmb	IAmb	06 43 27.3	
	comp=Z,2.5nm,1.4s								
VNDA	**Vanda**	**72.06**	**178**	P		**P**	**P**	**06 43 10.1**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=319,slow=6.0,SNR=6.2 comp=Z,1.3nm,0.8s								
SBA	**Scott Base**	**72.63**	**177**	P		**P**	**P**	**06 43 14.5**	**+2.2**
SBA				IAmb		IAmb	IAmb	06 43 36.3	
	comp=Z,4.3nm,1.2s								
MKAR	**Makanchi Array**	**80.17**	**319**	P		**P**	**P**	**06 43 54.3**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=127,slow=4.3,SNR=1.6 comp=Z,0.1nm,0.3s								
ZALV	**Zalesovo Beam**	**81.18**	**327**	P		**P**	**P**	**06 43 59.5**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=141,slow=9.3,SNR=1.7 comp=Z,1.0nm,0.3s								
ILAR	**Eielson Array**	**83.36**	**22**	P		**P**	**P**	**06 44 10.4**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=262,slow=5.5,SNR=7.5 comp=Z,0.2nm,0.5s								
M27K	**Edge Creek, AK**	**84.32**	**25**	P		**P**	**P**	**06 44 18.9**	**+1.8**
M27K				IAmb		IAmb	IAmb	06 44 43.1	
	comp=Z,4.2nm,1.4s								
QSPA	**South Pole Qui**	**84.34**	**180**	P		**P**	**P**	**06 44 17.6**	**+0.4**
QSPA				IAmb		IAmb	IAmb	06 44 45.6	
	comp=Z,1.8nm,1.1s								
QSPA	**South Pole Qui**	**84.34**	**180**	P		**P**	**P**	**06 44 17.8**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=345,slow=4.0,SNR=3.1 comp=Z,1.3nm,0.8s								
BCAR	**Beaver Creek A**	**84.64**	**25**	P		**P**	**P**	**06 44 19.8**	**+1.2**
BMAR	**Burnt Mountain**	**85.42**	**20**	P		**P**	**P**	**06 44 23.4**	**+1.0**
R32K	**Eaglecrest**	**86.36**	**31**	P		**P**	**P**	**06 44 29.4**	**+2.2**
K29M	**Barlow Dome**	**86.71**	**25**	P		**P**	**P**	**06 44 29.8**	**+0.9**
J30M	**Hart River**	**87.45**	**24**	P		**P**	**P**	**06 44 34.5**	**+2.0**
J30M				IAmb		IAmb	IAmb	06 44 38.5	
	comp=Z,2.6nm,1.4s								
BVAR	**Borovoye Array**	**89.19**	**323**	P		**P**	**P**	**06 44 39.4**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=90,slow=8.6,SNR=1.8 comp=Z,0.3nm,0.4s								
NVAR	**Mina Array Bea**	**93.52**	**52**	P		**P**	**P**	**06 45 01.1**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=259,slow=4.0,SNR=3.6 comp=Z,0.5nm,0.8s								
TORD	**Torodi Ar. Bea**	**149.42**	**286**	PKPbc		**PKPbc**	**PKPbc**	**06 51 34.1**	**-1.0**
	comp=Z,1.4nm,0.4s,baz=76,slow=2.1,SNR=15								
BDFB	**Brasilia**	**151.29**	**138**	PKPbc		**PKPbc**	**PKP

KURBB ⇓Sn Sn 06 52 12.6 +0.2
10.0nm,0.8s
KURBB ⇑Lg Lg 06 53 00.5
23nm,1.1s
MK31 Makanchi Array 8.61 221 ⇓Pn Pn 06 50 50.7 -0.2
0.5nm,0.6s,baz=34,slow=12,SNR=4.6
MK31 ⇑Lg Lg 06 53 20.6
5.1nm,0.9s,baz=44,slow=28,SNR=4.3

IDC ***30*** *06:50:00.2±2.0,4˚.74S×144˚.44E,h85km±18km,mb4.0/21, mbtmp4.4/23,MS3.4/1,Error ellipse: s-maj=19.0km s-min=11.8km az=76.0*
NEIC ***30*** *06:50:03.8±1.2, 4˚.79S±0˚.08×144˚.2E±0˚.1,h109km±2km, mb4.5/46, Error ellipse: s-maj=16.3km s-min=10.9km az=116.0*
DJA ***30*** *06:50:04.0±1.0,5˚S±5˚×14˚4E±˚,h112km±8km,M4.6/13, mB5.4/6,mb4.8/13,MLv4.4/1,Mw(mB)4.9/6*
ISC 30 06:50:02.3±0.4, 4.90S±0.05×144.26E±0.06, h100km, n350, σ0s87/349, mb4.5/49, 2C, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TABU	**Tabubil**	**3.04**	**263**	P		**Pn**	**06 50 49.9**	**+1.2**
MANU	**Manus Island**	**4.21**	**48**	Pn		**Pn**	**06 51 05.4**	**+1.0**
JAY	**Jayapura**	**4.26**	**304**	P		**Pn**	**06 51 05.8**	**+0.7**
GENI	**Genyem**	**4.68**	**299**	P		Pn	06 51 28.3	+18
PMG	**Port Moresby**	**5.32**	**147**			**Pn**	**06 51 20.2**	**+0.7**
PMG	**Port Moresby**	**5.32**	**147**	P		**Pn**	**06 51 18.7**	**-0.7**
	15nm,0.3s,baz=22,slow=5.8,SNR=10							
PMG				S		**Sn**	**06 52 19.2**	**-0.3**
	32nm,0.4s,baz=326,slow=23,SNR=8.0							
PMG				LR		LR	06 53 53.6	
	comp=Z,334nm,19.3s,baz=328,slow=44							
RABL	**Rabaul**	**7.92**	**85**	Pn		**Pn**	**06 51 56.8**	**+2.1**
COEN	**Coen**	**9.06**	**187**	Pn		**Pn**	**06 52 12.9**	**+2.6**
FAKI	**Fak Fak**	**12.14**	**279**	P		**Pn**	**06 52 53.9**	**+1.9**
FAKI	**Fak Fak**	**12.14**	**279**	Pn		**Pn**	**06 52 50.5**	**-1.5**
KDU	**Kakadu**	**13.97**	**236**	P		**Pn**	**06 53 16.9**	**+0.9**
DRS	**Darwin Rock St**	**15.17**	**240**	P		**Pn**	**06 53 32.1**	**+0.8**
MTN	**Manton Dam**	**15.17**	**238**	P		**Pn**	**06 53 31.9**	**+0.6**
MTN	**Manton Dam**	**15.17**	**238**	Pn		**Pn**	**06 53 31.0**	**-0.3**
MTN				IAmb		IAmb	06 53 33.0	
	comp=Z,32nm,1.1s							
QIS	**Mount Isa**	**16.21**	**196**	P		**P**	**06 53 47.8**	**+2.2**
WB0	**Warramunga Arr**	**17.62**	**212**	P		**Pn**	**06 54 01.7**	**+0.1**
WB0				IAmb		IAmb	06 54 03.1	
	comp=Z,27nm,1.0s							
WRA	**Warramunga Arr**	**17.80**	**212**	P		**P**	**06 54 03.1**	**0.0**
WRA	**Warramunga Arr**	**17.80**	**212**	P		**Pn**	**06 54 03.8**	**0.0**
	comp=Z,22nm,0.9s,baz=46,slow=12,SNR=71							
WRA				S		**Sn**	**06 57 16.2**	**-6.0**
	comp=Z,0.9nm,0.6s,baz=30,slow=23,SNR=1.4							
WRA				ScP		**ScP**	**07 02 05.2**	**+3.1**
	comp=Z,1.8nm,1.0s,baz=24,slow=2.4,SNR=3.8							
KNRA	**Kununurra**	**18.61**	**234**	P		**P**	**06 54 12.5**	**+0.5**
KNRA	**Kununurra**	**18.61**	**234**			**P**	**06 54 11.6**	**-0.4**
SOEI	**Soe**	**20.40**	**255**	P		**P**	**06 54 32.7**	**+1.1**
SOEI	**Soe**	**20.40**	**255**			**P**	**06 54 32.2**	**+0.6**
SOEI	**Soe**	**20.40**	**255**	P		Pn	06 54 33.3	-1.3
	comp=Z,204nm,1.0s,comp=Z,2μm							
BATI	**Baumata**	**21.08**	**254**	P		**P**	**06 54 40.9**	**+2.0**
	comp=Z,63nm,0.7s,baz=81,slow=1.3,SNR=4.5							
	comp=Z,63nm,0.7s							
BATI	**Baumata**	**21.08**	**254**	P		**P**	**06 54 40.2**	**+1.4**
	comp=Z,74nm,0.8s							
AS31	**Alice Springs**	**21.16**	**207**	P		**P**	**06 54 40.4**	**+0.8**
ASAR	**Alice Springs**	**21.16**	**207**	P		**P**	**06 54 40.9**	**+1.2**
	comp=Z,7.7nm,0.7s,baz=30,slow=13,SNR=64							
	comp=Z,7.7nm,0.7s							
DAV	**Davao City (W)**	**22.11**	**302**	P		**P**	**06 54 51.4**	**+1.6**
	comp=Z,85nm,0.5s,baz=221,slow=9.3,SNR=1.2							
FITZ	**Fitzroy Crossi**	**22.43**	**233**	P		**P**	**06 54 52.8**	**-0.3**
EDFI	**Ende, Flores**	**22.73**	**259**	P		**P**	**06 54 54.3**	**-2.0**
	comp=Z,29nm,1.2s							
INKA	**Innaminka**	**22.96**	**188**	P		**P**	**06 55 03.1**	**+4.8**
BASI	**Baing, Sumba**	**24.05**	**256**	P		**P**	**06 55 09.7**	**+1.2**
	comp=Z,179nm,1.4s							
OOD	**Oodnadatta**	**24.18**	**199**	P		**P**	**06 55 12.6**	**+3.1**
WRKA	**Warakurna**	**25.21**	**216**	P		**P**	**06 55 21.4**	**+2.4**
STKA	**Stephens Creek**	**26.95**	**185**	P		**P**	**06 55 34.2**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=322,slow=18,SNR=1.4							
	comp=Z,0.7nm,0.3s							
DZM	**Mont Dzumac**	**27.44**	**131**	*e*LR		LR	07 02 26.3	
	comp=Z,55nm,26.4s							
MBWA	**Marble Bar**	**28.77**	**234**	P		**P**	**06 55 50.8**	**0.0**
MBWA				IAmb		IAmb	06 55 52.5	
	comp=Z,10nm,0.8s							
PSA00	**Pilbara Seismi**	**28.89**	**233**	P		**P**	**06 55 52.3**	**+0.4**
PSA00				IAmb		IAmb	06 55 54.2	
	comp=Z,12nm,0.9s							
FORT	**Forrest**	**29.92**	**209**	P		**P**	**06 56 01.5**	**+0.6**
FORT				IAmb		IAmb	06 56 03.3	
	comp=Z,15nm,0.9s							
GIRL	**Giralia**	**33.95**	**236**	P		**P**	**06 56 36.7**	**+0.3**
MORW	**Morawa**	**35.94**	**225**	P		**P**	**06 56 54.3**	**+0.9**
NACB	**Ninganchiao**	**36.37**	**324**	P		**P**	**06 56 56.3**	**-0.7**
NWAO	**Narrogin (SRO)**	**37.59**	**219**	P		**P**	**06 57 08.3**	**+1.0**
MJAR	**Matsushiro Arr**	**41.61**	**353**	P		**P**	**06 57 37.0**	**-3.6**
	comp=Z,1.0nm,0.5s,baz=186,slow=4.6,SNR=3.0							
	comp=Z,1.0nm,0.5s							
NJ2	**Nanjing**	**43.99**	**328**	*e*P		**P**	**06 58 01.5**	**+1.6**
NJ2				pP		**pP**	**06 58 24.3**	**+1.0**
NJ2				sP		**sP**	**06 58 36.0**	**+1.3**
NJ2				pmax		pmax		
	comp=Z,13nm,0.5s							
NJ2				pmax		pmax		
	comp=Z,98nm,3.8s							
KSRS	**Korea Array**	**44.80**	**341**	P		**P**	**06 58 04.4**	**-1.8**
	comp=Z,5.4nm,0.9s,baz=158,slow=9.3,SNR=15							
	comp=Z,5.4nm,0.9s							
USRK	**Ussuriysk Ar.**	**50.11**	**349**	P		**P**	**06 58 45.6**	**-1.6**
	comp=Z,1.5nm,0.4s,baz=192,slow=14,SNR=7.3							
	comp=Z,1.5nm,0.4s							
HNS	**HongShan**	**50.28**	**329**	⇑P		**P**	**06 58 48.3**	**-0.4**
HNS				pmax		pmax		
	comp=Z,8.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**50.33**	**299**	P		**P**	**06 58 49.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**50.33**	**299**	P		**P**	**06 58 50.8**	**+1.4**
	comp=Z,1.3nm,0.3s,baz=123,slow=5.5,SNR=9.6							
	comp=Z,1.3nm,0.3s							
PZH	**PanZhiHua**	**51.65**	**309**	P		**P**	**06 59 00.8**	**+1.5**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,80nm,4.9s							
BNX	**BinXian**	**52.61**	**345**	⇑P		**P**	**06 59 04.8**	**-1.1**
BNX				pmax		pmax		
	comp=Z,7.0nm,1.0s							
BNX				pmax		pmax		
	comp=Z,61nm,6.5s							
HHC	**Hu-ho-hao-te**	**54.49**	**330**	*e*P		**P**	**06 59 21.8**	**+1.9**
HHC				pmax		pmax		
	comp=Z,11nm,0.7s							
HHC				pmax		pmax		
	comp=Z,77nm,4.4s							
HHC				LR		LR		
	comp=N,130nm,14.5s							
HHC				LR		LR		
	comp=E,110nm,14.8s							
HHC				LR		LR		
	comp=Z,140nm,15.0s							
PEA0B	**Petropavlovsk-**	**58.90**	**9**	P		**P**	**06 59 50.4**	**-0.4**
PETK	**Petropavlovsk-**	**58.90**	**9**	P		**P**	**06 59 49.9**	**-0.8**
PETK	**Petropavlovsk-**	**58.90**	**9**	P		**P**	**06 59 49.4**	**-1.3**
	comp=Z,7.0nm,0.8s,baz=165,slow=7.0,SNR=16							
	comp=Z,7.0nm,0.8s							
SONM	**Songino Array**	**62.14**	**332**	P		**P**	**07 00 12.8**	**-0.3**
SONM	**Songino Array**	**62.14**	**332**	P		**P**	**07 00 11.8**	**-1.2**
	comp=Z,0.7nm,0.7s,baz=169,slow=9.1,SNR=5.0							
	comp=Z,0.7nm,0.7s							
MA2	**Magadan**	**64.48**	**4**	P		**P**	**07 00 27.0**	**-1.1**
MA2				IAmb		IAmb	07 00 28.8	
	comp=Z,7.5nm,0.8s							
MA2	**Magadan**	**64.48**	**4**	P		**P**	**07 00 26.9**	**-1.2**
	comp=Z,6.5nm,0.7s,baz=168,slow=6.0,SNR=7.3							
	comp=Z,6.5nm,0.7s							
PPT2	**Papeete2**	**65.83**	**107**	*e*LR		LR	07 20 28.0	
	comp=Z,49nm,28.0s							
WMQ	**Urumqi**	**70.19**	**320**	*e*P		**P**	**07 01 06.3**	**+1.8**
WMQ				LR		LR		
	comp=Z,140nm,22.1s							
P08K	**Saint George I**	**71.90**	**25**	P		**P**	**07 01 15.3**	**+0.8**
	baz=229							
VNDA	**Vanda**	**73.17**	**176**	P		**P**	**07 01 22.1**	**+0.4**
	comp=Z,0.6nm,1.0s,baz=0.3,slow=3.0,SNR=1.4							
	comp=Z,0.6nm,1.0s							
S12K	**Black Hills**	**74.69**	**28**	P		**P**	**07 01 31.3**	**+0.4**
	baz=236							
MK31	**Makanchi Array**	**74.92**	**321**	P		**P**	**07 01 31.9**	**-0.6**
MKAR	**Makanchi Array**	**74.92**	**321**	P		**P**	**07 01 31.5**	**-1.0**
MKAR	**Makanchi Array**	**74.92**	**321**	P		**P**	**07 01 32.2**	**-0.3**
	comp=Z,1.4nm,0.3s,baz=97,slow=9.0,SNR=50							
	comp=Z,1.4nm,0.3s							
SDPT	**Sand Point**	**75.25**	**29**	P		**P**	**07 01 34.2**	**+0.1**
	baz=238							
CHNA	**Chernabura Isl**	**75.41**	**30**	P		**P**	**07 01 35.3**	**+0.2**
	baz=239							
M11K	**Mekoryuk**	**75.67**	**23**	P		**P**	**07 01 36.8**	**+0.4**
	baz=232							
S14K	**Fog Glacier**	**76.19**	**28**	P		**P**	**07 01 40.1**	**+0.5**
	baz=238							
ZALV	**Zalesovo Beam**	**76.64**	**328**	P		**P**	**07 01 40.5**	**-1.6**
	comp=Z,1.8nm,0.4s,baz=108,slow=4.8,SNR=6.1							
	comp=Z,1.8nm,0.4s							
CHGN	**Chignik**	**76.74**	**29**	P		**P**	**07 01 42.2**	**-0.3**
CHGN				IAmb		IAmb	07 01 43.1	
	comp=Z,12nm,0.9s							
CHGN	**Chignik**	**76.74**	**29**	P		**P**	**07 01 42.8**	**+0.2**
	baz=240							
M13K	**Dall Lake**	**76.82**	**24**	P		**P**	**07 01 43.8**	**+0.9**
	baz=234							
O14K	**Tigyukauivet M**	**77.02**	**25**	P		**P**	**07 01 44.9**	**+0.9**
	baz=236							
N14K	**Kuskokwak Cree**	**77.22**	**25**	P		**P**	**07 01 45.9**	**+0.7**
	baz=236							
M14K	**Bethel**	**77.57**	**24**	P		**P**	**07 01 47.0**	**-0.1**
M14K				IAmb		IAmb	07 01 48.6	
	comp=Z,6.4nm,0.8s							
M14K	**Bethel**	**77.57**	**24**	P		**P**	**07 01 47.7**	**+0.7**
	baz=235							
O15K	**Ungalikthiuk R**	**77.60**	**26**	P		**P**	**07 01 47.6**	**+0.3**
	baz=238							
L14K	**Kuka Creek**	**77.63**	**23**	P		**P**	**07 01 47.6**	**+0.2**
L14K				IAmb		IAmb	07 01 48.9	
	comp=Z,6.5nm,0.9s							
L14K	**Kuka Creek**	**77.63**	**23**	P		**P**	**07 01 48.0**	**+0.7**
	baz=235							
R16K	**Pilot Point**	**77.78**	**28**	P		**P**	**07 01 48.9**	**+0.6**
	baz=240							
N15K	**Kwethluk River**	**78.02**	**25**	P		**P**	**07 01 50.5**	**+0.8**
	baz=237							
J14K	**Nanvaranak Lak**	**78.12**	**22**	P		**P**	**07 01 50.9**	**+0.8**
	baz=234							
L15K	**Ungalak Mounta**	**78.29**	**23**	P		**P**	**07 01 51.3**	**+0.3**
	baz=236							
P16K	**Nushagak River**	**78.33**	**27**	P		**P**	**07 01 51.7**	**+0.4**
	baz=239							
TNA	**Tin City**	**78.39**	**18**	P		**P**	**07 01 51.9**	**+0.4**
	baz=229							
O16K	**Kokwok River B**	**78.57**	**26**	P		**P**	**07 01 52.9**	**+0.2**
O16K				IAmb		IAmb	07 01 53.8	
	comp=Z,12nm,1.1s							
O16K	**Kokwok River B**	**78.57**	**26**	P		**P**	**07 01 53.2**	**+0.6**
	baz=239							
ANM	**Nome**	**78.59**	**20**	P		**P**	**07 01 53.1**	**+0.4**
	baz=232							
K15K	**Wolf Creek Mou**	**78.62**	**23**	P		**P**	**07 01 53.4**	**+0.5**
	baz=236							
AAK	**Ala-Archa**	**78.64**	**315**	P		**P**	**07 01 52.3**	**-1.3**
	comp=Z,2.1nm,0.8s,baz=120,slow=1.8,SNR=5.4							
	comp=Z,2.1nm,0.8s							
KURK	**Kurchatov**	**78.71**	**324**	P		**P**	**07 01 53.1**	**-0.5**
KURK				IAmb		IAmb	07 01 54.3	
	comp=Z,9.1nm,1.3s							
KURBB	**Kurchatov Arra**	**78.73**	**324**	P		**P**	**07 01 52.4**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=112,slow=4.4,SNR=7.9							
	comp=Z,0.7nm,0.4s							
N16K	**Nishlik Lake**	**78.74**	**25**	P		**P**	**07 01 54.1**	**+0.5**
	baz=238							
F14K	**Arctic Creek**	**78.85**	**19**	P		**P**	**07 01 54.8**	**+0.7**
	baz=230							
Q17K	**Contact Creek**	**78.91**	**28**	P		**P**	**07 01 54.1**	**-0.5**
	baz=241							
M16K	**Timber Creek**	**78.95**	**25**	P		**P**	**07 01 55.2**	**+0.4**
	baz=238							
O17K	**Kvichak River**	**79.10**	**26**	P		**P**	**07 01 55.9**	**+0.3**
	baz=240							
P17K	**Kvichak River**	**79.11**	**27**	P		**P**	**07 01 56.4**	**+0.8**
	baz=241							
L16K	**Owhat River**	**79.11**	**24**	P		**P**	**07 01 55.3**	**-0.2**
L16K	**Owhat River**	**79.11**	**24**	P		**P**	**07 01 55.9**	**+0.4**
	baz=238							
G15K	**Niukluk**	**79.30**	**20**	P		**P**	**07 01 56.8**	**+0.3**
	baz=233							
ARSB	**Arslanbob**	**79.33**	**313**	P		**P**	**07 01 56.0**	**-1.4**
N17K	**Nushagak Hills**	**79.44**	**25**	P		**P**	**07 01 57.9**	**+0.5**
	baz=240							
J16K	**Anvik River**	**79.53**	**22**	P		**P**	**07 01 58.4**	**+0.6**
	baz=236							
F15K	**North Star Dit**	**79.54**	**19**	P		**P**	**07 01 58.1**	**+0.3**
	baz=232							
OHAK	**Old Harbor**	**79.67**	**29**	P		**P**	**07 01 59.0**	**+0.4**
	baz=244							
H16K	**Elim**	**79.71**	**21**	P		**P**	**07 01 59.1**	**+0.3**
	baz=234,SNR=6.8							
M17K	**Holitna River**	**79.78**	**25**	P		**P**	**07 01 59.7**	**+0.5**
	baz=240							
L17K	**Donlin**	**79.81**	**24**	P		**P**	**07 01 59.9**	**+0.5**
	baz=239							
I17K	**Unalakleet**	**79.83**	**22**	P		**P**	**07 02 00.0**	**+0.6**
	baz=236,SNR=5.2							
N18K	**Kilae Creek**	**80.07**	**26**	P		**P**	**07 02 01.6**	**+0.7**
	baz=241							
K17K	**Iditarod**	**80.11**	**23**	P		**P**	**07 02 01.1**	**+0.2**
K17K				IAmb		IAmb	07 02 03.3	
	comp=Z,11nm,1.0s							
K17K	**Iditarod**	**80.11**	**23**	P		**P**	**07 02 01.8**	**+0.8**
	baz=238							
G16K	**Koyuk River**	**80.11**	**20**	P		**P**	**07 02 01.3**	**+0.4**
	baz=234							
KDAK	**Kodiak Island**	**80.25**	**29**	P		**P**	**07 02 02.2**	**+0.4**
	baz=244							
Q19K	**Cape Douglas,**	**80.26**	**28**	P		**P**	**07 02 02.3**	**+0.4**
	baz=243							
SVW2	**Sparrevohn**	**80.41**	**25**	P		**P**	**07 02 03.2**	**+0.6**
SVW2				IAmb		IAmb	07 02 04.4	
	comp=Z,7.2nm,0.9s							
M18K	**Stony River**	**80.50**	**25**	P		**P**	**07 02 03.9**	**+0.9**
	baz=241							
L18K	**Granite Mounta**	**80.50**	**24**	P		**P**	**07 02 03.7**	**+0.7**
	baz=240							
H17K	**Granite Mounta**	**80.70**	**21**	P		**P**	**07 02 04.7**	**+0.6**
	baz=237							
N19K	**Bonanza Creek**	**80.74**	**26**	P		**P**	**07 02 04.8**	**+0.2**
	baz=242							
G17K	**Kiwalik Mounta**	**80.76**	**20**	P		**P**	**07 02 04.7**	**+0.3**
	baz=236							
C16K	**Lisburne Hills**	**80.93**	**17**	P		**P**	**07 02 05.4**	**+0.2**
	baz=231							
F17K	**Baldwin Pennin**	**81.09**	**19**	P		**P**	**07 02 06.6**	**+0.5**
F17K				IAmb		IAmb	07 02 07.1	
	comp=Z,5.9nm,0.9s							
F17K	**Baldwin Pennin**	**81.09**	**19**	P		**P**	**07 02 06.7**	**+0.6**
	baz=235							
J18K	**Innoko River**	**81.11**	**23**	P		**P**	**07 02 06.9**	**+0.6**
	baz=240							
TTA	**Tatalina**	**81.12**	**24**	P		**P**	**07 02 06.7**	**+0.2**
TTA	**Tatalina**	**81.12**	**24**	P		**P**	**07 02 06.9**	**+0.4**
	baz=241,SNR=6.0							
L19K	**White Mountain**	**81.23**	**25**	P		**P**	**07 02 07.5**	**+0.5**
L19K				IAmb		IAmb	07 02 08.5	
	comp=Z,7.3nm,0.8s							
L19K	**White Mountain**	**81.23**	**25**	P		**P**	**07 02 07.3**	**+0.3**
	baz=242							
D17K	**Noatak River**	**81.25**	**18**	P		**P**	**07 02 07.5**	**+0.6**
	baz=233,SNR=11							
E17K	**Hotham Inlet**	**81.27**	**19**	P		**P**	**07 02 07.7**	**+0.6**
	baz=235,SNR=17							
M19K	**Big River Lodg**	**81.29**	**25**	P		**P**	**07 02 07.7**	**+0.4**
	baz=242							
H18K	**Honhosa River**	**81.37**	**21**	P		**P**	**07 02 07.6**	**-0.1**
	baz=238							
RDOG	**Red Dog Mine**	**81.51**	**18**	P		**P**	**07 02 08.3**	**0.0**
RDOG				IAmb		IAmb	07 02 09.7	
	comp=Z,12nm,0.8s							
RDOG	**Red Dog Mine**	**81.51**	**18**	P		**P**	**07 02 08.3**	**0.0**
	baz=233							
KK31	**Karatay Array**	**81.58**	**315**	P		**P**	**07 02 09.0**	**-0.3**
KKAR	**Karatay Array**	**81.58**	**315**	P		**P**	**07 02 08.0**	**-1.2**
G18K	**Tagagawik**	**81.67**	**20**	P		**P**	**07 02 09.2**	**0.0**
	baz=238,SNR=14							
C17K	**DeLong Mountai**	**81.69**	**17**	P		**P**	**07 02 09.4**	**+0.1**
	baz=233,SNR=7.9							
GCSA	**Galena City Sc**	**81.70**	**22**	P		**P**	**07 02 09.6**	**+0.3**
	baz=240,SNR=7.0							
F18K	**Selawik**	**81.71**	**20**	P		**P**	**07 02 09.7**	**+0.4**
	baz=237							
L20K	**Farewell, AK**	**81.77**	**24**	P		**P**	**07 02 10.2**	**+0.3**
	baz=243							
J19K	**Poorman**	**81.80**	**23**	P		**P**	**07 02 10.4**	**+0.5**
	baz=241							
M20K	**Styx River**	**81.81**	**25**	P		**P**	**07 02 10.4**	**+0.3**
	baz=243							
E18K	**Tukpahlearik C**	**81.86**	**19**	P		**P**	**07 02 09.9**	**-0.2**
E18K				IAmb		IAmb	07 02 12.1	
	comp=Z,8.5nm,0.9s							
E18K	**Tukpahlearik C**	**81.86**	**19**	P		**P**	**07 02 10.4**	**+0.2**
	baz=236,SNR=14							
N20K	**Mount Spurr**	**81.91**	**26**	P		**P**	**07 02 11.0**	**+0.3**
	baz=244							
K20K	**Telida**	**82.10**	**24**	P		**P**	**07 02 11.8**	**+0.3**
	baz=242							
H19K	**Roundabout Mou**	**82.25**	**21**	P		**P**	**07 02 12.7**	**+0.4**
	baz=240							
G19K	**Purcell Mounta**	**82.34**	**21**	P		**P**	**07 02 12.2**	**-0.6**
G19K				IAmb		IAmb	07 02 14.2	
	comp=Z,13nm,1.0s							
G19K	**Purcell Mounta**	**82.34**	**21**	P		**P**	**07 02 13.2**	**+0.4**
	baz=239,SNR=14							
C18K	**Utukok River**	**82.38**	**18**	P		**P**	**07 02 12.4**	**-0.6**
C18K				IAmb		IAmb	07 02 13.9	
	comp=Z,5.8nm,1.0s							
C18K	**Utukok River**	**82.38**	**18**	P		**P**	**07 02 13.1**	**+0.1**
	baz=235,SNR=5.6							
J20K	**Nowinta River**	**82.46**	**23**	P		**P**	**07 02 13.9**	**+0.6**
	baz=242							
F19K	**Shaleruckik Mo**	**82.47**	**20**	P		**P**	**07 02 12.6**	**-0.7**
F19K				IAmb		IAmb	07 02 14.3	
	comp=Z,5.7nm,1.0s							
F19K	**Shaleruckik Mo**	**82.47**	**20**	P		**P**	**07 02 13.3**	**0.0**
	baz=238,SNR=7.2							
SKT	**Skwentna**	**82.54**	**25**	P		**P**	**07 02 13.2**	**-0.7**
	baz=245							
B18K	**Kokolik River**	**82.61**	**17**	P		**P**	**07 02 13.5**	**-0.5**
	baz=234,SNR=5.5							
I20K	**Naaghedeneel**	**82.62**	**22**	P		**P**	**07 02 13.7**	**-0.5**
	baz=242							
PPLA	**Purkeypile**	**82.66**	**24**	P		**P**	**07 02 13.8**	**-0.9**
	baz=244							
SUA	**Susitna One**	**82.66**	**26**	P		**P**	**07 02 13.4**	**-1.2**
	baz=246							
SEW	**Seward**	**82.69**	**28**	P		**P**	**07 02 14.2**	**-0.4**
	baz=247							
O22K	**Cooper Landing**	**82.72**	**27**	P		**P**	**07 02 14.4**	**-0.3**
	baz=247							
H20K	**Anotleneega Mo**	**82.81**	**22**	P		**P**	**07 02 15.2**	**0.0**
	baz=241,SNR=6.6							
CAST	**Castle Rocks**	**82.93**	**24**	P		**P**	**07 02 15.1**	**-0.8**
	baz=244,SNR=8.0							
RC01	**Rabbit Creek A**	**82.95**	**27**	P		**P**	**07 02 15.5**	**-0.5**
	baz=247							
E19K	**Redstone River**	**82.97**	**19**	P		**P**	**07 02 16.2**	**+0.2**
E19K				IAmb		IAmb	07 02 17.4	
	comp=Z,11nm,0.9s							
E19K	**Redstone River**	**82.97**	**19**	P		**P**	**07 02 16.1**	**+0.2**
	baz=239,SNR=18							
CHUM	**Lake Minchumin**	**83.04**	**24**	P		**P**	**07 02 16.3**	**-0.1**
	baz=244,SNR=22							
M22K	**Willow**	**83.05**	**26**	P		**P**	**07 02 16.6**	**+0.1**
	baz=246							
C19K	**Lookout Ridge**	**83.12**	**17**	P		**P**	**07 02 17.0**	**+0.3**
	baz=236							
D19K	**Kuna River**	**83.23**	**18**	P		**P**	**07 02 17.6**	**+0.2**
	baz=238							
CUT	**Chulitna**	**83.25**	**25**	P		**P**	**07 02 17.1**	**-0.4**
	baz=246							
F20K	**Avaraart Lake**	**83.27**	**20**	P		**P**	**07 02 17.6**	**+0.1**
	baz=240							
A19K	**Wainwright**	**83.31**	**16**	P		**P**	**07 02 17.6**	**0.0**
	baz=235							
NRIK	**Noril'sk**	**83.41**	**343**	P		**P**	**07 02 17.5**	**-0.7**
	comp=Z,3.3nm,0.7s,baz=122,slow=5.5,SNR=6.6							
	comp=Z,3.3nm,0.7s							
PMR	**Palmer**	**83.42**	**26**	P		**P**	**07 02 17.7**	**-0.6**
	baz=247,SNR=6.2							
P23K	**Montague Islan**	**83.60**	**28**	P		**P**	**07 02 18.9**	**-0.5**
	baz=249							
H21K	**Melozitna Rive**	**83.65**	**22**	P		**P**	**07 02 19.5**	**0.0**
	baz=243							
KNK	**Knik Glacier**	**83.65**	**27**	P		**P**	**07 02 19.1**	**-0.5**
	baz=248							
BPAW	**Bear Paw Mtn.**	**83.66**	**24**	P		**P**	**07 02 19.2**	**-0.4**
	baz=245,SNR=7.0							
TRF	**Thorofare Moun**	**83.67**	**24**	P		**P**	**07 02 19.7**	**-0.2**
	baz=246							
E20K	**Nigu River**	**83.72**	**19**	P		**P**	**07 02 19.8**	**-0.1**
	baz=240							
G21K	**Allakaket**	**83.79**	**21**	P		**P**	**07 02 20.4**	**+0.2**
	baz=242							
D20K	**Etivluk River**	**83.82**	**18**	P		**P**	**07 02 20.4**	**0.0**
	baz=239							
SML	**Sawmill**	**83.85**	**26**	P		**P**	**07 02 20.2**	**-0.5**
	baz=248,SNR=7.0							
M23K	**Glacier View**	**

baz=249
N25K Chitina, Valde 85.45 27 P P 07 02 28.5 -0.2
baz=251
A22K Sinclair Lake 85.46 17 P P 07 02 28.5 +0.1
baz=241
HARP HAARP 85.46 26 P P 07 02 28.5 -0.2
baz=251
POKR Poker Plat Res 85.47 23 P P 07 02 28.8 +0.1
baz=248
PAX Paxson 85.52 26 P P 07 02 28.8 -0.3
baz=250
ILAR Eielson Array 85.56 24 P P 07 02 27.4 -1.8
comp=Z,5.6nm,0.8s,baz=253,slow=5.2,SNR=64
comp=Z,5.6nm,0.8s
H24K Noodor Dome 85.57 22 P P 07 02 29.3 +0.1
baz=248
B22K Teshekpuk Lake 85.60 17 P P 07 02 29.2 0.0
baz=242
E23K Chandalar 85.82 20 P P 07 02 30.8 +0.3
baz=246
D23K Nanushuk River 85.84 19 P P 07 02 30.8 +0.3
baz=245
CRQE Cirque 85.87 28 P P 07 02 31.2 +0.3
baz=252
RIDG Independent Ri 86.04 25 P P 07 02 31.3 -0.3
RIDG Independent Ri 86.04 25 P P 07 02 31.5 -0.1
baz=251,SNR=8.7
G24K Hadweenzic Riv 86.05 22 P P 07 02 31.6 0.0
baz=248
TOLK Toolik Lake Re 86.07 20 P P 07 02 31.4 -0.3
TOLK Toolik Lake Re 86.07 20 P P 07 02 31.9 +0.3
baz=246
MCARA McCarthy VSAT 86.10 27 P P 07 02 31.6 -0.3
baz=252
J25K Salcha River, 86.12 24 P P 07 02 31.5 -0.5
baz=250,SNR=15
F24K Squaw Lake 86.21 21 P P 07 02 32.3 0.0
baz=248
C23K Itkillik River 86.23 18 P P 07 02 33.1 +0.8
baz=245
PRP Porcupine Dome 86.37 23 P P 07 02 33.1 -0.2
baz=250
L26K Log Cabin Wild 86.45 26 P P 07 02 33.7 +0.1
baz=252,SNR=11
SCRK Sand Creek 86.48 25 P P 07 02 33.8 0.0
baz=252
H25L Birch Creek 86.51 22 P P 07 02 34.1 +0.3
baz=250
D24K Happy Valley 86.53 19 P P 07 02 34.3 +0.6
baz=247
G25K Bearman Lake 86.58 22 P P 07 02 34.5 +0.4
baz=249
BARN Barnard Glacie 86.63 28 P P 07 02 34.5 -0.3
CTG Chitna Glacier 86.76 28 P P 07 02 35.5 +0.2
baz=254,SNR=6.3
C24K Franklin Bluff 86.79 19 P P 07 02 35.4 +0.3
baz=247
J26L Joseph Creek 86.82 24 P P 07 02 35.5 0.0
baz=252
M27K Edge Creek, AK 86.90 27 P P 07 02 36.0 +0.1
baz=254
F25K Christian Rive 87.04 21 P P 07 02 37.2 +0.8
baz=250
L27K Beaver Creek, 87.12 26 P P 07 02 37.5 +0.7
baz=254
I26K Coal Creek Min 87.24 24 P P 07 02 37.5 +0.2
baz=252
O28M Mount Upton 87.25 28 P P 07 02 37.6 -0.2
baz=255
E25K Arctic Village 87.25 21 P P 07 02 37.9 +0.5
baz=250
K27K Chicken 87.30 25 P P 07 02 38.2 +0.5
baz=253
PNL Peninsula 87.35 30 P P 07 02 38.2 +0.2
baz=256
BVCY Beaver Creek 87.37 27 P P 07 02 38.2 +0.2
baz=254,SNR=7.2
YUK3 Moose Creek 87.38 27 P P 07 02 38.4 0.0
baz=255,SNR=6.8
D25K Kavik River 87.40 19 P P 07 02 38.5 +0.4
baz=249
G26K Porcupine Rive 87.51 22 P P 07 02 39.2 +0.7
baz=252
F26K Sheenjek River 87.61 21 P P 07 02 39.8 +0.7
baz=251
EGAK Eagle 87.89 24 P P 07 02 40.5 +0.1
EGAK IAmb IAmb 07 02 41.4
comp=Z,6.0nm,0.9s
EGAK Eagle 87.89 24 P P 07 02 40.2 -0.2
baz=254,SNR=5.6
O29M Mount Kennedy 87.90 29 P P 07 02 40.8 0.0
baz=256
I27K Kandik River 87.94 24 P P 07 02 41.0 +0.2
baz=254,SNR=8.6
C26K Camden Bay 88.09 19 P P 07 02 41.7 +0.4
baz=250
YUK4 Talbot Arm 88.12 28 P P 07 02 42.4 +0.6
baz=256,SNR=7.6
H27K Steamboat Moun 88.15 23 P P 07 02 42.1 +0.4
baz=254
P29M Windy Craggy 88.16 30 P P 07 02 42.0 +0.2
baz=257
G27K Doyon Strip 88.27 22 P P 07 02 43.0 +0.8
baz=254
DAWY Dawson 88.44 25 P P 07 02 43.3 +0.1
baz=256,SNR=7.4
M29M Somme Creek 88.46 27 P P 07 02 43.9 +0.6
baz=256
HYT Haines Junctio 88.54 29 P P 07 02 44.2 +0.4
baz=257,SNR=6.1
I28M Miner Creek 88.57 24 P P 07 02 44.1 +0.3
baz=255
P30M Million Dollar 88.65 29 P P 07 02 44.6 +0.4
baz=258
E27K Coleen River 88.68 21 P P 07 02 45.1 +1.0
baz=254
L29M L29M 88.76 26 P P 07 02 44.9 +0.2
baz=257
PLBC Pleasant Camp 88.81 30 P P 07 02 45.1 +0.2
baz=258
N30M Aishikik Lake 88.87 28 P P 07 02 45.6 +0.3
baz=258
J29N Klondike Camp 89.04 25 P P 07 02 46.4 +0.5
baz=257
F28M Old Crow 89.16 22 P P 07 02 46.2 -0.2
F28M IAmb IAmb 07 02 47.8
comp=Z,2.8nm,0.8s
F28M Old Crow 89.16 22 P P 07 02 46.9 +0.5
baz=255
K29M Barlow Dome 89.19 26 P P 07 02 47.0 +0.2
baz=257
D27M Malcolm River 89.20 20 P P 07 02 47.2 +0.6
baz=254
O30N Mendenhall 89.20 29 P P 07 02 47.1 +0.3
baz=259
M30M Minto, Yukon 89.25 27 P P 07 02 47.1 +0.2
baz=258
SKAG Skagway 89.33 30 P P 07 02 47.5 +0.3
baz=259
S32K Killisnoo 89.36 32 P P 07 02 48.1 +0.6
baz=260
N31M Braeburn, Yuko 89.49 28 P P 07 02 48.5 +0.4
baz=259
E28M Babbage River 89.53 21 P P 07 02 49.1 +1.0
baz=256
G29M Pine Creek 89.68 23 P P 07 02 48.9 0.0
baz=257
WHY Whitehorse 89.77 29 P P 07 02 49.4 -0.1
baz=260
J30M Hart River 89.86 25 P P 07 02 50.2 +0.3
baz=258
I30M Mount Dempster 89.97 24 P P 07 02 50.4 +0.1
baz=258
D28M Stokes Point 89.99 20 P P 07 02 50.5 +0.3
baz=256
E29M Blow River 90.06 21 P P 07 02 50.4 -0.2
baz=257
EPYK Eagle Plains 90.07 23 P P 07 02 50.6 -0.1
baz=258
M31M Drury Creek, Y 90.27 28 P P 07 02 51.5 -0.2
baz=260
G30M tAoh Zraii Nji 90.39 23 P P 07 02 51.8 -0.3
baz=258
F30M Barrier River 90.68 22 P P 07 02 53.5 +0.1
baz=259
P33M Teslin, Yukon 90.70 30 P P 07 02 53.6 -0.2
baz=262
N32M Quiet Lake 90.72 29 P P 07 02 53.7 -0.2
baz=261
FARO Faro, Yukon 90.76 28 P P 07 02 54.2 +0.2
baz=261
Q32M Nakina River 90.80 31 P P 07 02 53.8 -0.6
baz=262
H31M Peel River 90.91 24 P P 07 02 54.2 -0.5
baz=260
G31M Satah River 91.13 23 P P 07 02 55.5 0.0
baz=260
S34M Telegraph Cree 91.25 32 P P 07 02 56.2 -0.1
baz=263
AKTO Aktyubinsk 91.34 320 P P 07 02 55.4 -1.6
comp=Z,1.0nm,0.6s,baz=118,slow=4.5,SNR=5.0
comp=Z,1.0nm,0.6s
F31M Tsiigehtchic 91.42 22 P P 07 02 56.5 -0.4
baz=261
INK Inuvik 91.64 22 P P 07 02 57.6 -0.2
baz=261
WTLY Watson Lake, Y 92.69 30 P P 07 03 02.6 -0.3
baz=265
TOAD Toad River Com 94.42 31 P P 07 03 10.7 -0.3
baz=268
KOTAN Kotaneelee Air 95.06 30 P P 07 03 14.0 +0.2
baz=269
YKA Yellowknife Ar 99.47 28 P Pdif 07 03 32.6 -1.0
comp=Z,0.1nm,0.4s,baz=283,slow=5.3,SNR=5.4
comp=Z,0.1nm,0.4s
ARCES ARCESS Array B 104.36 341 PKiKP PKiKP 07 08 10.8 -0.4
comp=Z,1.5nm,0.9s,baz=90,slow=2.4,SNR=5.1
JFWS Jewell Farm 118.86 43 P PKPdf 07 08 38.7 -0.7
baz=292
MIAR Mount Ida 119.06 53 P PKPdf 07 08 39.5 -0.5
baz=285
GERES GERESS Array B 119.45 325 PKP PKPdf 07 08 39.6 -0.8
comp=Z,0.6nm,0.5s,baz=64,slow=3.1,SNR=4.8
CCM Cathedral Cave 119.84 49 P PKPdf 07 08 40.8 -0.6
baz=289
HDIL Hopedale 120.40 45 P PKPdf 07 08 42.0 -0.4
baz=292
SFIN Lafayette 122.02 45 P PKPdf 07 08 44.9 -0.6
baz=294
WVT Waverly 123.06 50 P PKPdf 07 08 47.1 -0.6
baz=290
EKA Eskdalemuir Ar 123.32 338 PKP PKPdf 07 08 46.4 -1.1
comp=Z,0.7nm,0.5s,baz=18,slow=2.9,SNR=4.6
WCI Wyandotte Cave 123.43 47 P PKPdf 07 08 47.5 -0.8
baz=293
P49A Miami Univ. Ec 124.03 45 P PKPdf 07 08 48.8 -0.6
baz=295
SCHQ Schefferville 124.26 21 PKP PKPdf 07 08 48.8 -0.6
comp=Z,1.4nm,0.9s,baz=329,slow=5.9,SNR=1.4
PLCA Paso Flores 124.51 148 PKP PKiKP 07 08 51.1 +0.4
comp=Z,0.4nm,0.4s,baz=228,slow=2.2,SNR=6.3
M53A WI Miller and 125.90 41 P PKPdf 07 08 52.4 -0.6
baz=300
TZTN Tazewell 126.11 48 P PKPdf 07 08 52.8 -0.7
baz=294
O53A New Philadelph 126.12 42 P PKPdf 07 08 52.6 -0.8
baz=299
MCWV Mont Chateau 127.32 42 P PKPdf 07 08 55.4 -0.3
baz=300
GOGA Godfrey 127.39 51 P PKPdf 07 08 55.1 -0.9
baz=292
LONY Lake Ozonia 127.86 35 P PKPdf 07 08 56.2 -0.4
baz=308
SSPA Standing Stone 128.12 40 P PKPdf 07 08 56.4 -0.8
baz=302
KMSC Kings Mountain 128.32 48 P PKPdf 07 08 56.9 -0.9
baz=295
BINY Binghamton 128.46 38 P PKPdf 07 08 57.3 -0.6
baz=305
LBNH Lisbon 129.57 33 P PKPdf 07 08 59.1 -0.8
baz=310
L61B Northampton 130.28 36 P PKPdf 07 09 00.6 -0.7
baz=308
PKME Peaks-Kenny Pk 130.28 31 P PKPdf 07 09 00.3 -0.8
baz=314
HRV Adam Dziewonsk 130.89 35 P PKPdf 07 09 01.0 -1.4
baz=310
DWPF Disney Wildern 130.89 57 P PKPdf 07 09 01.6 -1.2
baz=290
LPAZ La Paz 141.66 124 PKhKP PKPpre 07 09 19.3
comp=Z,0.7nm,0.4s,baz=270,slow=3.0,SNR=2.3
TORD Torodi Ar. Bea 142.17 285 PKhKP PKPpre 07 09 19.5
comp=Z,0.5nm,0.4s,baz=72,slow=3.1,SNR=8.4
DBIC Dimbokro 149.22 275 PKPbc PKPbc 07 09 38.8 -1.7
comp=Z,2.0nm,0.7s,baz=125,slow=3.5,SNR=1.4

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*BJI **30** 07:01:08.8±0.0, 3°.63S×131°.34E, h30km, mb4.8/66, mB5.1/32, Ms4.5/41, Ms7 4.3/45*

*IDC **30** 07:01:09.1±0.5, 3°.30S×131°.13E, h0km, mb4.7/21, mbtmp4.8/23, ML2.5/1, MS4.2/48, Error ellipse: s-maj=23.0km s-min=11.2km az=80.0*

*GCMT **30** 07:01:11.1±0.3, 3°.14S±0°.02×130°.94E±0°.04, h24km±1km, MW5.0/60, Moment Tensor Solution. s30,c35; s60,c76; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.70±.28; $M_{\theta\theta}$-2.10±.15; $M_{\phi\phi}$-1.60±.19; $M_{r\theta}$-1.92±.18; $M_{\theta\phi}$1.53±.11; $M_{\phi r}$1.17±.27; Best double couple: $M_0$4.20100×10^{16} NP1:χ_{θ}306.00000°, δ61.00000°, λ86.00000°. NP2: ϕ_s134.00000°, δ29.00000°, λ97.00000°. Principal axes: T 4.3620, Plg74.0000°, Azm206.0000°; N -0.3220, Plg4.0000°, Azm308.0000°; P -4.0400, Plg16.0000°, Azm39.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MOS **30** 07:01:12.1±0.8, 3°.34S×130°.98E, h33km, mb5.2/33 Error ellipse: s-maj=10.8km s-min=5.9km az=104.4*

*DJA **30** 07:01:13.0±0.4, 3°.5±2°×13°.1E±°, h27km±3km, M5.1/60, mb5.2/60, mB5.6/28, MLv5.1/12, Mw5.0/18, Mw(mB)5.1/28, MwMwp4.9/1, Mwp5.2/1*

*NEIC **30** 07:01:14.2±1.4, 3°.37S±0°.06×130°.97E±0°.05, h32km±1km, mb5.2/91, Error ellipse: s-maj=9.0km s-min=7.8km az=163.0*

ISC 30 07:01:13.8±0.4, **3°.42S**±0°.03×**130°.95E**±0°.04, **h33**km±1km, **h33**km:**pP-P, n645,** σ1§**25**/673, **mb5.0**/114, **MS4.2**/65, **13C-10D, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	1.39	69	P	Pn	07 01 37.0	+0.2
FAKI	Fak Fak	1.39	69	Pn	Pn	07 01 36.3	-0.5
FAKI	Fak Fak	1.39	69	P	Pn	07 01 37.0	+0.2
BNDI	Bandanaira	1.52	223	P	Pn	07 01 40.0	+1.4
BNDI	Bandanaira	1.52	223	P	Pn	07 01 40.6	+2.0
SWI	Sorong	2.55	7	P	Pn	07 01 51.0	-1.9
SWI				S	Sn	07 02 20.1	-2.7
NLAI	Namlea	3.85	272	P	Pn	07 02 12.9	+2.2
LBMI	Labuha	4.41	309	P	Pn	07 02 17.7	-0.8
LBMI				S	Sn	07 03 06.7	-2.1
SAUI	Saumlaki	4.55	176	P	Pn	07 02 22.1	+1.7
SAUI	Saumlaki	4.55	176	Pn	Pn	07 02 20.5	+0.1
SAUI	Saumlaki	4.55	176	P	Pn	07 02 21.9	+1.5
SANI	Sanana	5.14	285	P	Pn	07 02 26.9	-1.5
SANI	Sanana	5.14	285	P	Pn	07 02 27.1	-1.3
	362nm,0.7s,4μm1.5nm						
SANI				S	Sn	07 03 22.0	-4.6
	362nm,0.7s,4μm1.5nm						
TNTI	Ternate	5.49	319	P	Pn	07 02 34.4	+1.1
TNTI	Ternate	5.49	319	Pn	Pn	07 02 32.2	-1.0
LUWI	Luwuk	8.50	286	P	Pn	07 03 13.8	-0.9
LUWI	Luwuk	8.50	286	Pn	Pn	07 03 13.1	-1.6
LUWI	Luwuk	8.50	286	P	Pn	07 03 21.0	+6.3
BBSI	Bau Bau	8.60	256	P	Pn	07 03 18.1	+2.0
	203nm,1.1s,4μm						
SGSI	Sangihe	8.89	322	P	Pn	07 03 20.0	0.0
	256nm,0.7s						
GTOI	Gorontalo	8.90	297	P	Pn	07 03 21.6	+1.5
	75nm,1.1s,738nm						
DRS	Darwin Rock St	8.96	180	P	Pn	07 03 20.4	-0.5
SOEI	Soe	9.15	226	Pn	Pn	07 03 26.6	+2.9
GENI	Genyem	9.24	85	P	Pn	07 03 26.5	+1.7
GENI	Genyem	9.24	85	P	Pn	07 03 23.5	-1.3
	246nm,0.8s,3μm						
KDU	Kau	9.34	171	P	Pn	07 03 24.8	-1.3
	baz=9.3,SNR=76						
KDU	Kakadu	9.34	171	P	Pn	07 03 26.4	+0.3
MTN	Manton Dam	9.37	179	P	Pn	07 03 25.8	-0.7
	baz=9.3,SNR=57						
MTN	Manton Dam	9.37	179	P	Pn	07 03 25.9	-0.7
MTN	Manton Dam	9.37	179	Pn	Pn	07 03 25.0	-1.6
JAY	Jayapura	9.78	85	P	Pn	07 03 31.8	-0.5
	58nm,1.1s						
MRSI	Marisa	9.80	293	P	Pn	07 03 23.7	-8.8
BATI	Baumata	9.89	227	Pn	Pn	07 03 36.4	+2.6
	233nm,0.6s,baz=112,slow=5.4,SNR=18						
BATI				LR	LR	07 07 41.6	
	comp=Z,4μm,21.5s,baz=50,slow=39						
BATI	Baumata	9.89	227	P	Pn	07 03 37.5	+3.8
	404nm,1.2s,5μm						
MMRI	Maumere	10.10	239	Pn	Pn	07 03 39.0	+2.5
TABU	Tabubil	10.41	101	P	Pn	07 03 42.1	+1.2
EDFI	Ende, Flores	10.62	240	P	Pn	07 03 47.4	+3.6
	100nm,1.0s,2μm						
BKSI	Bulukumba	10.96	260	P	Pn	07 03 50.1	+1.7
	96nm,1.4s,2μm						
TOLI2	Tolitoli	11.11	294	Pn	Pn	07 03 52.5	+2.1
TTSI	Tana Toraja	11.12	272	P	Pn	07 03 52.4	+1.8
	36nm,1.5s						
KAPI	Kappang	11.28	262	Pn	Pn	07 03 53.9	+1.1
KAPI	Kappang	11.28	262	P	Pn	07 03 53.9	+1.1
KAPI	Kappang	11.28	262	P	Pn	07 03 55.5	+2.7
KAPI				P	Pn	07 03 55.5	+2.7
DAV	Davao City (W)	11.71	333	LR	LR	07 09 11.0	
	comp=Z,2μm,20.9s,baz=128,slow=41						
KNRA	Kununurra	12.37	190	P	Pn	07 04 05.0	-2.7
	baz=12,SNR=105						
KNRA	Kununurra	12.37	190	Pn	Pn	07 04 04.2	-3.6
PLAI	Plampang	14.15	247	P	Pn	07 04 32.4	+0.3
PLAI	Plampang	14.15	247	P	Pn	07 04 32.4	+0.3
	220nm,1.2s,2μm						
TWSI	Taliwang, Sumb	14.95	249	P	Pn	07 04 41.5	-1.3
	77nm,1.1s						
FITZ	Fitzroy Crossi	15.49	199	P	Pn	07 04 46.8	-3.1
	baz=16,SNR=15						
FITZ	Fitzroy Crossi	15.49	199		Pn	07 04 47.1	-2.8
COEN	Coen	15.98	132	P	Pn	07 04 54.7	-1.6
	baz=16,SNR=26						
COEN	Coen	15.98	132		Pn	07 04 53.1	-3.1
MTKI	Muara Teweh, K	16.23	278	P	Pn	07 04 59.8	+0.4
SRBI	Singaraja	16.33	253	P	Pn	07 05 00.0	-0.7
	117nm,1.2s,1μm						
WB0	Warramunga Arr	16.60	169		Pn	07 04 59.6	-4.5
WRAB	Tennant Creek	16.75	169	ce	P Pn	07 05 02.7	-3.3
WRA	Warramunga Arr	16.76	169		Pn	07 05 03.5	-2.6
WRA	Warramunga Arr	16.76	169	P	Pn	07 05 03.5	-2.6
WRA				pmax	pmax		
	comp=Z,12nm,0.9s						
WRA	Warramunga Arr	16.76	169	Pn	Pn	07 05 00.6	-5.5
	comp=Z,1.1nm,0.3s,baz=355,slow=13,SNR=27						
WRA				Sn	Sn	07 08 00.6	-11
	comp=Z,3.3nm,0.3s,baz=352,slow=23,SNR=6.6						
WC3	Warramunga Arr	16.78	169	P	Pn	07 05 00.7	-5.7
	baz=17						
PMG	Port Moresby	17.17	111		Pn	07 05 09.5	-1.8
PMG	Port Moresby	17.17	111	di	P Pn	07 05 12.0	+0.7
PMG				pmax	pmax		
	comp=Z,43nm,1.1s						
PMG	Port Moresby	17.17	111	P	Pn	07 05 09.4	-1.8
	comp=Z,0.6nm,0.3s,baz=288,slow=13,SNR=4.0						
PMG				LR	LR	07 14 13.7	
	comp=Z,1μm,18.6s,baz=256,slow=46						
	comp=Z,26nm,0.9s						
ABJI	Asem Bagus	17.19	255	P	Pn	07 05 10.8	-0.8
	comp=Z,125nm,1.1s,comp=Z,2μm						
JAGI	Jajag, Banyuwa	17.44	253	P	Pn	07 05 14.9	+0.2
JAGI	Jajag, Banyuwa	17.44	253	Pn	Pn	07 05 14.0	-0.7
JAGI	Jajag, Banyuwa	17.44	253	P	Pn	07 05 12.3	-2.4
	comp=Z,64nm,1.0s						
KKM	Kota Kinabalu	17.46	303	P	Pn	07 05 15.7	+0.7
KKM	Kota Kinabalu	17.46	303	Pn	Pn	07 05 13.9	-1.1
BLJI	Banyuglugur	17.80	255	P	Pn	07 05 19.2	+0.1
	comp=Z,184nm,1.1s,comp=Z,2μm						
GRJI	Gresik	18.72	259	P	P	07 05 28.0	-1.8
	comp=Z,204nm,1.0s						
QIS	Mount Isa	19.01	154	P	P	07 05 31.9	-1.1
	baz=19,SNR=32						
QIS	Mount Isa	19.01	154	P	P	07 05 33.4	+0.4
PWJI	Pagerwojo	19.59	256	P	P	07 05 36.9	-2.4
	comp=Z,54nm,1.0s						
MTSU	Mount Surprise	19.63	139	P	P	07 05 40.1	+0.3
	baz=20,SNR=27						
MTSU	Mount Surprise	19.63	139	P	Pn	07 05 41.8	+0.5
STKI	Sintang	19.77	280	P	P	07 05 42.5	+1.2
NGJI	Ngawi	19.79	258	P	P	07 05 41.9	+0.4
	comp=Z,180nm,1.1s						
TGY	Tagaytay City	20.04	331	P	P	07 05 44.2	0.0
	comp=Z,84nm,0.3s,baz=79,slow=5.2,SNR=4.0						
TGY				LR	LR	07 16 02.2	
	comp=Z,376nm,18.1s,baz=60,slow=45						
	comp=Z,84nm,0.3s						
AS31	Alice Springs	20.33	172	P	P	07 05 47.0	-0.4
AS31				IAmb	IAmb	07 05 52.3	
	comp=Z,56nm,0.6s						
ASAR	Alice Springs	20.34	172	P	P	07 05 46.4	-1.0
ASAR	Alice Springs	20.34	172	P	P	07 05 48.0	+0.6
	comp=Z,164nm,0.8s,baz=351,slow=10,SNR=1359						
ASAR				S	S	07 09 26.7	-7.1
	comp=Z,12nm,0.8s,baz=358,slow=26,SNR=5.4						
	comp=Z,164nm,0.8s						
ASPA	Alice Springs	20.34	172	P	P	07 05 48.2	+0.8
	baz=20						
AS01	Alice Springs	20.34	172	P	P	07 05 48.3	+0.9
SMRI	Semarang	20.74	259	P	P	07 05 52.5	+0.7
SMRI	Semarang	20.74	259	P	P	07 05 51.0	-0.9
SMRI				IAmb	IAmb	07 05 51.8	
	comp=Z,160nm,1.0s						
SMRI	Semarang	20.74	259	P	P	07 05 50.7	-1.1
	comp=Z,159nm,1.0s						
MBWA	Marble Bar	20.74	211	P	P	07 05 49.6	-2.2
MBWA				IAmb	IAmb	07 05 51.3	
	comp=Z,97nm,1.2s						
PSA00	Pilbara Seismi	21.03	210	P	P	07 05 53.1	-1.8
PSA00	Pilbara Seismi	21.03	210	P	P	07 05 52.4	-2.5
PSA00				IAmb	IAmb	07 05 54.6	
	comp=Z,205nm,1.2s						
RABL	Rabaul	21.18	93	P	P	07 05 57.7	+1.0
KSM	Kuching	21.20	283	P	P	07 05 57.0	+0.2
KSM				IAmb	IAmb	07 06 01.7	
	comp=Z,82nm,0.9s						
WRKA	Warakurna	21.65	187	P	P	07 06 01.1	-0.5
	baz=22,SNR=327						
WRKA	Warakurna	21.65	187	P	P	07 06 01.1	-0.5
GUMO	Guam	21.82	39	P	P	07 06 05.1	+1.7
GUMO	Guam	21.82	39	P	P	07 06 03.6	+0.2
GUMO	Guam	21.82	39	P	P	07 06 03.6	+0.2
GUMO				pmax	pmax		
	comp=Z,636nm,1.3s						
GUMO	Guam	21.82	39	P	P	07 06 03.6	+0.2
	comp=Z,223nm,0.9s,baz=194,slow=9.5,SNR=6.5						
TV1H	Townsville Har	22.09	137	P	P	07 06 08.1	+1.9
KPJI	Karang Pucung	22.26	259	P	P	07 06 06.0	-2.2
	comp=Z,81nm,1.1s,comp=Z,85μm						
CTAO	Charters Tower	22.30	139	P	P	07 06 10.4	+1.8
CTAO	Charters Tower	22.30	139	P	P	07 06 09.3	+0.7
CTAO				IAmb	IAmb	07 06 22.9	
	comp=Z,58nm,1.1s						
CTAO	Charters Tower	22.30	139	P	P	07 06 09.3	+0.7
CTAO				pmax	pmax		
	comp=Z,58nm,1.1s						
LEM	Lembang	23.48	261	LR	LR	07 17 55.2	
	comp=Z,2μm,19.0s,baz=98,slow=42						
LEM	Lembang	23.48	261	P	P	07 06 17.1	-3.9
OOD	Oodnadatta	24.66	170	P	P	07 06 32.5	+0.9
PPBI	Pangkal Pinang	24.82	272	P	P	07 06 34.0	+0.8
	comp=Z,59nm,1.3s						
GIRL	Giralia	25.06	219	P	P	07 06 35.1	-0.2
	baz=25,SNR=4.3						
GIRL	Giralia	25.06	219	P	P	07 06 34.4	-0.9
INKA	Innaminka	25.94	160	P	P	07 06 44.7	+1.5
MEEK	Meekatharra	25.94	206	P	P	07 06 42.1	-1.2
	baz=26,SNR=16						
MEEK	Meekatharra	25.94	206	P	P	07 06 41.9	-1.4
QLP	Quilpie	26.32	152	P	P	07 06 47.9	+1.2
	baz=26,SNR=11						
QLP	Quilpie	26.32	152	P	P	07 06 48.5	+1.8
KASI	Kota Agung	26.45	264	P	P	07 06 45.8	-2.2
	comp=Z,65nm,1.1s						
DSRI	Dabo	26.51	276	P	P	07 06 48.8	+0.2
	comp=Z,50nm,0.8s						
TPRI	Tanjung Pinang	26.76	279	P	P	07 06 51.5	+0.7
	comp=Z,142nm,1.1s						
MULG	Mulgathing	26.88	174	P	P	07 06 52.7	+1.0
FORT	Forrest	27.36	185	P	P	07 06 55.9	0.0
	baz=27,SNR=38						
FORT	Forrest	27.36	185	P	P	07 06 55.9	0.0
FORT	Forrest	27.36	185	P	P	07 06 55.7	-0.3
FORT				IAmb	IAmb	07 07 27.8	
	comp=Z,64nm,0.8s						

MYKOM **Kota Tinggi** 27.58 280 P **P** 07 06 58.0 -0.1
MYKOM IAmb IAmb 07 07 04.0
comp=Z,113nm,1.5s
LCRK Leigh Creek 27.75 166 P **P** **07 07 00.1 +0.6**
KMBL Kambalda 29.09 196 P **P** **07 07 10.7 -0.7**
baz=29,SNR=12
KMBL Kambalda 29.09 196 P **P** **07 07 10.7 -0.7**
MORW Morawa 29.18 208 P **P** **07 07 11.3 -1.0**
baz=29,SNR=5.2
MORW Morawa 29.18 208 P **P** **07 07 10.9 -1.3**
BBOO Buckleboo 29.63 171 P **P** **07 07 16.6 +0.4**
baz=30,SNR=7.6
BBOO Buckleboo 29.63 171 P **P** **07 07 16.4 +0.2**
BBOO IAmb IAmb 07 08 11.4
comp=Z,81nm,1.6s
STKA Stephens Creek 30.03 162 P **P** **07 07 20.5 +0.8**
baz=30,SNR=10
STKA Stephens Creek 30.03 162 P **P** **07 07 20.0 +0.2**
STKA Stephens Creek 30.03 162 P **P** **07 07 19.6 -0.2**
STKA Stephens Creek 30.03 162⇓ *eP* **P** **07 07 20.0 +0.2**
STKA Stephens Creek 30.03 162 P **P** **07 07 20.2 +0.4**
comp=Z,20nm,0.8s,baz=337,slow=9.1,SNR=24
STKA LR LR 07 20 36.7
comp=Z,989nm,20.9s,baz=331,slow=39
comp=Z,20nm,0.8s
BKNI Bangkinang 30.12 277 P **P** **07 07 21.0 +0.2**
JOW Kunigami 30.18 355 LR LR 07 17 58.6
comp=Z,1µm,21.8s,baz=185,slow=34
BLDU Ballidu 30.22 205 P **P** **07 07 21.0 -0.4**
baz=30,SNR=5.3
BLDU Ballidu 30.22 205 P **P** **07 07 20.5 -0.9**
QIZ Qiongzhong 30.48 318 P **P** **07 07 25.5 +1.7**
QIZ S **S** **07 12 22.5 -0.6**
QIZ sS **sS** **07 12 40.5 +1.8**
QIZ LR LR
comp=Z,300nm,20.2s
QIZ LR LR
comp=Z,280nm,18.5s
QIZ LR LR
comp=Z,340nm,21.0s
AULRC Lightning Ridg 30.51 150 P **P** **07 07 24.7 +0.7**
PDSI Padang 30.57 274 P **P** **07 07 23.7 -1.0**
comp=Z,62nm,1.3s
KLBR Kellerberrin 30.66 202 P **P** **07 07 24.6 -0.7**
baz=31,SNR=22
KLBR Kellerberrin 30.66 202 P **P** **07 07 24.6 -0.7**
HTT Hallett 30.78 167 P **P** **07 07 26.7 +0.3**
baz=31,SNR=5.0
HTT Hallett 30.78 167 P **P** **07 07 27.6 +1.2**
IPM Ipoh 30.91 284 P **P** **07 07 28.0 +0.2**
IPM Ipoh 30.91 284 P **P** **07 07 27.8 +0.1**
IPM IAmb IAmb 07 07 36.1
comp=Z,66nm,1.4s
CMSA Cobar Meteorol 31.23 155 P **P** **07 07 31.0 +0.7**
baz=31,SNR=22
CMSA Cobar Meteorol 31.23 155 P **P** **07 07 31.6 +1.3**
UBPT Khong Chiam 31.33 307 P **P** **07 07 31.7 +0.3**
KULM Kulim 31.48 286 P **P** **07 07 31.9 -0.9**
KULM IAmb IAmb 07 07 42.9
comp=Z,78nm,1.8s
MUN Mundaring 31.61 204 P **P** **07 07 32.9 -0.8**
baz=32,SNR=9.8
MUN Mundaring 31.61 204 P **P** **07 07 33.1 -0.6**
SISI Saibi 31.90 273 P **P** **07 07 35.4 -1.1**
comp=Z,87nm,1.1s
NWAO Narrogin (SRO) 32.05 202 P **P** **07 07 36.8 -0.7**
baz=32,SNR=9.0
NWAO P **P** **07 07 36.8 -0.7**
baz=32,SNR=9.0
NWAO Narrogin (SRO) 32.05 202 P **P** **07 07 36.9 -0.7**
NWAO Narrogin (SRO) 32.05 202 P **P** **07 07 36.9 -0.7**
NWAO pmax pmax
comp=Z,100nm,1.7s
NWAO Narrogin (SRO) 32.05 202 LR LR 07 23 08.3
comp=Z,545nm,18.8s,baz=32,slow=41
JCJ Chichijima 32.21 19 LR LR 07 18 56.9
comp=Z,408nm,19.6s,baz=114,slow=33
AUDCS Dubbo College 33.12 152 P **P** **07 07 48.7 +1.7**
ARMA Armidale 33.22 146 P **P** **07 07 48.3 +0.3**
baz=33,SNR=5.7
ARMA Armidale 33.22 146 P **P** **07 07 49.5 +1.5**
ARMA Armidale 33.22 146 P **P** **07 07 49.0 +1.1**
SRIT Nakonsritamara 33.46 291 P **P** **07 07 51.3 +1.2**
SRIT Nakonsritamara 33.46 291 P **P** **07 07 49.5 -0.6**
SRIT IAmb IAmb 07 08 08.1
comp=Z,31nm,1.0s
SURA Surathani 33.63 292 P **P** **07 07 51.6 0.0**
RKGY Rocky Gully 33.65 201 P **P** **07 07 51.9 +0.4**
baz=34
GSI Gunungsitoli 33.69 277 P **P** **07 07 51.3 -0.8**
ARPS Mount Arapiles 34.67 165 P **P** **07 08 02.1 +1.7**
baz=35,SNR=14
ARPS Mount Arapiles 34.67 165 P **P** **07 08 01.7 +1.3**
NONG Nongkai 34.74 309 P **P** **07 08 01.5 +0.4**
YNG Young 34.76 154 P **P** **07 08 03.1 +1.9**
baz=35,SNR=22
YNG Young 34.76 154 P **P** **07 08 02.6 +1.4**
MLSI Meulaboh, Aceh 35.35 282 P **P** **07 08 06.0 -0.5**
comp=Z,26nm,0.5s
SSE Sheshan 35.56 346 P **P** **07 08 07.5 -0.5**
SSE S **S** **07 13 42.8 +1.1**
SSE pmax pmax
comp=Z,8.0nm,0.6s
SSE pmax pmax
comp=Z,51nm,3.6s
SSE LR LR
comp=Z,170nm,18.4s
SSE LR LR
comp=Z,110nm,19.5s
CAN Canberra 35.88 154 P **P** **07 08 11.5 +0.6**
CAN Canberra 35.88 154 P **P** **07 08 11.2 +0.3**
CAN Canberra 35.88 154 P **P** **07 08 11.2 +0.3**
CAN pmax pmax
comp=Z,70nm,1.0s
CAN Canberra 35.88 154 P **P** **07 08 12.7 +1.8**
CAN pP **pP** **07 08 19.7 -0.6**
WOLH Wollongong Har 35.98 151 P **P** **07 08 13.7 +2.1**
BRAT Ballarat 36.00 162 P **P** **07 08 11.9 +0.2**
CNB Canberra Magne 36.04 154 P **P** **07 08 13.3 +1.1**
baz=36,SNR=4.7
CNB Canberra Magne 36.04 154 P **P** **07 08 12.8 +0.6**
SLVN Son La 36.15 314 P **P** **07 08 13.4 +0.1**
SLVN IAmb IAmb 07 08 31.7
comp=Z,31nm,1.6s
JNU Nakatsue 36.34 360 P **P** **07 08 13.4 -1.3**
JNU Nakatsue 36.34 360 LR LR 07 21 07.0
comp=Z,354nm,21.4s,baz=175,slow=33
TOO Toolangi 36.52 160 P **P** **07 08 17.6 +1.4**
baz=37,SNR=7.6
TOO Toolangi 36.52 160 P **P** **07 08 16.5 +0.3**
TOO Toolangi 36.52 160 P **P** **07 08 16.5 +0.3**
TOO IAmb IAmb 07 08 26.4
comp=Z,40nm,1.1s
TOO Toolangi 36.52 160 P **P** **07 08 16.5 +0.3**
TOO pmax pmax
comp=Z,40nm,1.1s
GEXS Deakin Univers 36.71 162 P **P** **07 08 18.5 +0.7**
NJ2 Nanjing 37.10 343 *eP* **P** **07 08 24.0 +2.9**
NJ2 pP **pP** **07 08 32.8 +2.1**
NJ2 sP **sP** **07 08 36.0 +1.4**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
NJ2 pmax pmax
comp=Z,120nm,3.9s
PHRA Phrae 37.28 307 P **P** **07 08 23.4 +0.5**
JHJ Hachijo jima 2 37.29 12 LR LR 07 22 54.1
comp=Z,778nm,18.5s,baz=222,slow=35
WHN Wuhan 37.31 336 P **P** **07 08 24.0 +1.1**
WHN sP **sP** **07 08 37.5 +1.1**
WHN S **S** **07 14 12.0 +3.5**
WHN pmax pmax
comp=Z,76nm,1.1s
WHN LR LR
comp=Z,1µm,22.7s
CRAI Chiangrai 38.12 309 P **P** **07 08 29.6 -0.4**
CM31 Chiang Mai Arr 38.29 306 P **P** **07 08 31.7 +0.2**
CMAR Chiang Mai Arr 38.29 306 P **P** **07 08 31.1 -0.4**
CMAR Chiang Mai Arr 38.29 306 P **P** **07 08 32.5 +1.0**
comp=Z,2.0nm,0.3s,baz=132,slow=7.0,SNR=25
CMAR ScP **ScP** **07 14 34.8 +3.9**
comp=Z,0.9nm,0.3s,baz=167,slow=2.2,SNR=11
comp=Z,2.0nm,0.3s
DZM Mont Dzumac 39.10 121 *eS* **S** **07 14 39.4 +3.2**
comp=Z,115nm,26.9s
ENH Enshi 39.28 330 P **P** **07 08 39.1 -0.6**

KMI Kunming 39.43 318 ⇓P **P** **07 08 42.5 +1.3**
KMI S **S** **07 14 42.0 +0.8**
KMI pmax pmax
comp=Z,25nm,1.1s
KMI LR LR
comp=Z,320nm,15.4s
KMI LR LR
comp=Z,140nm,18.6s
KMI LR LR
comp=Z,250nm,24.9s
TJN Taejon 39.73 355 P **P** **07 08 43.1 -0.1**
TJN Taejon 39.73 355 *ceP* **P** **07 08 42.9 -0.3**
MAJO Matsushiro 40.32 9 P **P** **07 08 46.1 -2.1**
MAJO Matsushiro 40.32 9 P **P** **07 08 46.1 -2.1**
MAJO pmax pmax
comp=Z,16nm,0.9s
MAJO Matsushiro 40.32 9 P **P** **07 08 45.9 -2.3**
MAJO pP pP 07 08 53.4 -4.3
MJAR Matsushiro Arr 40.32 9 P **P** **07 08 46.0 -2.2**
MJAR Matsushiro Arr 40.32 9 P **P** **07 08 46.0 -2.2**
comp=Z,10nm,0.8s,baz=188,slow=9.0,SNR=18
MJAR LR LR 07 23 19.7
comp=Z,240nm,20.9s,baz=204,slow=33
comp=Z,10nm,0.8s
MJB9 Matsu-Tunnel 40.33 9 P **P** **07 08 47.2 -1.0**
KSAR Wonju Array Be 40.75 356 P **P** **07 08 51.1 -0.6**
KSAR Wonju Array Be 40.75 356 P **P** **07 08 51.1 -0.6**
KSRS Korea Array 40.76 356 P **P** **07 08 50.9 -0.8**
comp=Z,4.7nm,0.7s,baz=177,slow=9.6,SNR=16
KSRS LR LR 07 25 07.3
comp=Z,366nm,21.3s,baz=185,slow=35
comp=Z,4.7nm,0.7s
KS19 Wonju Array Si 40.81 356 P **P** **07 08 51.5 -0.7**
KS19 IAmb IAmb 07 10 20.5
comp=Z,94nm,1.9s
PZH PanZhiHua 41.02 318 P P 07 09 01.8 +7.6
PZH S **S** **07 15 03.0 -1.7**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,120nm,5.2s
PZH LR LR
comp=N,210nm,17.6s
PZH LR LR
comp=E,260nm,18.2s
PZH LR LR
comp=Z,230nm,19.4s
TIA Tai'an 41.49 343 P **P** **07 08 57.0 -0.8**
TIA pmax pmax
comp=Z,5.0nm,0.7s
TIA LR LR
comp=Z,160nm,19.9s
TIA LR LR
comp=Z,130nm,15.1s
TIA LR LR
comp=Z,200nm,22.7s
LYN LuoYang 41.58 337 ⇑P **P** **07 08 58.3 -0.2**
LYN sP sP 07 09 12.5 +0.4
LYN S **S** **07 15 15.8 +3.2**
LYN pmax pmax
comp=Z,21nm,0.8s
LYN LR LR
comp=Z,330nm,22.0s
LYN LR LR
comp=Z,480nm,23.7s
LYN LR LR
comp=Z,460nm,22.0s
MND Mandalay 42.41 308 P **P** **07 09 05.7 +0.1**
XAN Xi'an 42.65 333 P **P** **07 09 06.3 -1.1**
XAN S **S** **07 15 29.8 +1.2**
XAN pmax pmax
comp=Z,20nm,0.8s
XAN pmax pmax
comp=Z,140nm,4.1s
XAN LR LR
comp=Z,290nm,14.1s
XAN LR LR
comp=Z,190nm,13.4s
XAN LR LR
comp=Z,300nm,13.6s
XAN Xi'an 42.65 333 P **P** **07 09 06.1 -1.3**
CD2 Chengdu 42.87 325 P **P** **07 09 11.5 +2.3**
CD2 pP pP 07 09 21.8 +3.0
CD2 sP sP 07 09 25.8 +3.0
CD2 S **S** **07 15 27.8 -4.0**
CD2 pmax pmax
comp=Z,10.0nm,0.1s
CD2 LR LR
comp=Z,330nm,18.6s
CD2 LR LR
comp=Z,300nm,21.4s
CD2 LR LR
comp=Z,280nm,18.4s
HNS HongShan 43.33 341 ⇑P **P** **07 09 12.3 -0.4**
HNS S **S** **07 15 38.0 -0.2**
HNS pmax pmax
comp=Z,10.0nm,1.2s
HNS LR LR
comp=Z,250nm,19.9s
HNS LR LR
comp=Z,300nm,19.9s
HNS LR LR
comp=Z,260nm,20.6s
TIY Taiyuan 44.38 339 *eP* **P** **07 09 20.5 -0.8**
TIY pmax pmax
comp=Z,17nm,0.7s
BJI Beijing 45.32 344 P **P** **07 09 28.5 -0.1**
BJI pmax pmax
comp=Z,8.0nm,1.1s
PSTR Posyet 45.85 360 *ceP* **P** **07 09 32.8 0.0**
LZH Lanzhou 46.76 330 ⇑P **P** **07 09 40.8 +0.5**
LZH sP sP 07 09 55.0 +1.1
LZH sS sS 07 16 50.5 +6.2
LZH pmax pmax
comp=Z,26nm,1.3s
LZH LR LR
comp=Z,290nm,16.1s
LZH LR LR
comp=Z,310nm,15.8s
LZH LR LR
comp=Z,250nm,15.8s
CN2 Changchun 47.26 355 *eP* **P** **07 09 43.5 -0.3**
CN2 *eS* **S** **07 16 33.3 -1.6**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,200nm,11.5s
CN2 LR LR
comp=Z,300nm,15.0s
USA0B Ussuriysk Arra 47.41 1 P **P** **07 09 44.6 -0.4**
USA0B IAmb IAmb 07 10 00.0
comp=Z,16nm,0.9s
USA0B Ussuriysk Arra 47.41 1 *d* iP **P** **07 09 44.7 -0.3**
USRK Ussuriysk Ar. 47.41 1 P **P** **07 09 44.2 -0.8**
USRK Ussuriysk Ar. 47.41 1 P **P** **07 09 44.5 -0.4**
comp=Z,9.1nm,0.7s,baz=193,slow=7.5,SNR=21
USRK LR LR 07 28 07.7
comp=Z,182nm,21.6s,baz=185,slow=34
comp=Z,9.1nm,0.7s
HHC Hu-ho-hao-te 47.48 340 *eP* **P** **07 09 48.8 +3.0**
HHC S **S** **07 16 38.3 -0.1**
HHC sS sS 07 16 58.3 +4.0
HHC SS **SS** **07 20 02.0 -4.7**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,86nm,4.0s
HHC LR LR
comp=Z,170nm,17.6s
HHC LR LR
comp=Z,210nm,16.8s
HHC LR LR
comp=Z,320nm,17.1s
BTO Baotou 47.81 338 *eP* **P** **07 09 52.0 +3.7**
BTO pP **sP** **07 10 01.8 -0.2**
BTO sP pP 07 10 07.3 +9.2
BTO S S 07 16 50.5 +7.4
BTO SS **SS** **07 20 12.5 +0.4**
BTO pmax pmax
comp=Z,14nm,0.5s
BTO pmax pmax
comp=Z,330nm,5.5s
BTO LR LR
comp=Z,250nm,12.6s
BTO LR LR
comp=Z,490nm,13.5s
BTO LR LR
comp=Z,170nm,10.4s
MDJ Mudanjiang 47.83 359 P **P** **07 09 48.5 +0.3**
MDJ sP pP 07 09 59.0 +1.1
MDJ PcP **PcP** **07 11 15.5 -1.2**
MDJ PP **PP** **07 11 42.5 +2.1**
MDJ ScP **ScP** **07 15 05.3 -3.5**
MDJ PcS **PcS** **07 15 11.5 -0.6**
MDJ S **S** **07 16 45.3 +2.3**
MDJ sS sS 07 16 59.8 +0.9
MDJ SS **SS** **07 20 04.5 -7.5**
MDJ pmax pmax
comp=Z,19nm,0.9s
MDJ pmax pmax
comp=Z,67nm,7.0s
MDJ Mudanjiang 47.83 359 P **P** **07 09 48.5 +0.3**
MDJ Mudanjiang 47.83 359 P **P** **07 09 48.1 -0.1**
ASAJ Asahikawa 48.46 11 P **P** **07 09 52.1 -0.9**
comp=Z,5.4nm,0.6s,baz=195,slow=14,SNR=5.2
ASAJ LR LR 07 31 21.2
comp=Z,199nm,18.7s,baz=238,slow=38
comp=Z,5.4nm,0.6s
XLT XiLinHaoTe 48.96 346 *eP* **P** **07 09 56.8 -0.3**
XLT pmax pmax
comp=Z,10.0nm,0.8s
BNX BinXian 49.04 357 ⇑P **P** **07 09 56.8 -0.7**
BNX S **S** **07 17 02.3 +2.3**
BNX pmax pmax
comp=Z,8.0nm,1.0s
BNX pmax pmax
comp=Z,110nm,3.8s
BNX LR LR
comp=Z,280nm,19.8s
BNX LR LR
comp=Z,200nm,15.4s
BNX LR LR
comp=Z,490nm,23.9s
LSA Lhasa 50.35 314 P **P** **07 10 06.7 -1.6**
YSS Yuzh-Sakhalins 51.23 10⇓ *eP* **P** **07 10 13.1 -1.0**
YSS pmax pmax
comp=Z,16nm,1.1s
PALK Pallekele 51.26 282 LR LR 07 34 02.9
comp=Z,428nm,20.3s,baz=211,slow=38
PALK Pallekele 51.26 282 P **P** **07 10 17.7 +2.7**
PALK P **P** **07 10 17.7 +2.7**
GTA Gaotai 51.35 329 P **P** **07 10 15.8 +0.4**
GTA pP pP 07 10 23.3 -1.9
GTA sP sP 07 10 28.0 -1.1
GTA pmax pmax
comp=Z,9.0nm,1.2s
GTA LR LR
comp=Z,130nm,19.3s
GTA LR LR
comp=Z,470nm,18.9s
GTA LR LR
comp=Z,210nm,18.9s
GOMU GeErMu 51.88 323 P P 07 10 28.3 +8.7
GOMU S **S** **07 17 41.3 +0.7**
GOMU pmax pmax
comp=Z,4.0nm,0.5s
GOMU LR LR
comp=N,150nm,15.8s
GOMU LR LR
comp=E,140nm,15.5s
GOMU LR LR
comp=Z,250nm,16.1s
KLR Kul'dur 52.44 1 *d* iP **P** **07 10 22.9 -0.2**
KLR pmax pmax
comp=Z,12nm,1.0s
KLR Kul'dur 52.44 1 P **P** **07 10 23.2 +0.1**
comp=Z,9.2nm,0.9s,baz=189,slow=5.4,SNR=23
KLR LR LR 07 32 21.2
comp=Z,199nm,20.1s,baz=208,slow=36
comp=Z,9.2nm,0.9s
JCZ Jackson Bay 52.46 146 P **P** **07 10 24.7 +1.1**
RPZ Rata Peaks 53.53 144 LR LR 07 33 56.0
comp=Z,360nm,19.9s,baz=316,slow=37
HEH HeiHe 53.54 357 *eP* **P** **07 10 31.0 -0.2**
HEH sP **sP** **07 10 45.0 +0.1**
HEH S **S** **07 18 02.0 0.0**
HEH pmax pmax
comp=Z,31nm,1.2s
HEH pmax pmax
comp=Z,160nm,3.7s
HEH LR LR
comp=Z,320nm,19.6s
HEH LR LR
comp=Z,200nm,18.8s
HEH LR LR
comp=Z,450nm,18.3s
TYV Tymovskoe 54.99 9 *eP* **P** **07 10 42.2 +0.5**
TYV *eS* **S** **07 18 25.7 +4.2**
TYV pmax pmax
comp=Z,6.0nm,1.2s
TYV pmax pmax
comp=Z,100nm,4.0s
TYV smax smax
comp=N,100nm,6.6s
TYV smax smax
comp=E,100nm,6.6s
ULN Ulaanbaatar 55.19 341 P **P** **07 10 43.6 +0.1**
ULN IAmb IAmb 07 10 52.9
comp=Z,41nm,1.4s
ULN Ulaanbaatar 55.19 341 *d* iP **P** **07 10 43.7 +0.2**
ULN pmax pmax
comp=Z,11nm,1.0s
ULN Ulaanbaatar 55.19 341 P **P** **07 10 44.2 +0.7**
ULN P **P** **07 10 44.2 +0.7**
ULN Ulaanbaatar 55.19 341 P **P** **07 10 44.1 +0.6**
ULN pP **pP** **07 10 51.7 -1.7**
SONM Songino Array 55.39 340 P **P** **07 10 44.3 -0.6**
SONM IAmb IAmb 07 10 54.1
comp=Z,22nm,1.3s
SONM Songino Array 55.39 340 P **P** **07 10 44.3 -0.6**
SONM pmax pmax
comp=Z,22nm,1.3s
SONM Songino Array 55.39 340 P **P** **07 10 45.4 +0.5**
comp=Z,5.5nm,1.0s,baz=159,slow=7.6,SNR=20
SONM LR LR 07 36 28.8
comp=Z,175nm,20.6s,baz=174,slow=38
comp=Z,5.5nm,1.0s
HYB Hyderabad 55.67 294 *eP* **P** **07 10 47.0 -0.3**
ZEA Zeya 57.03 357 *eP* **P** **07 10 56.7 +0.4**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
KAAM Kaadhehdhoo 58.05 273 P **P** **07 11 04.0 -0.2**
KAAM Kaadhehdhoo 58.05 273 P **P** **07 11 05.1 +0.9**
DGAR Diego Garcia 58.34 263 P **P** **07 11 07.0 +0.7**
DGAR Diego Garcia 58.34 263 P **P** **07 11 07.0 +0.7**
DGAR pmax pmax
comp=Z,107nm,0.9s
DGAR Diego Garcia 58.34 263 P **P** **07 11 07.7 +1.4**
ZAK Zakamensk 58.63 340 *eP* **P** **07 11 07.7 0.0**
ZAK pmax pmax
comp=Z,9.0nm,1.3s
MOY Mondy 60.50 339 *eP* **P** **07 11 21.4 +0.8**
MOY pmax pmax
comp=Z,27nm,2.2s
PETK Petropavlovsk- 60.65 18 P **P** **07 11 20.8 -0.7**
comp=Z,7.2nm,0.9s,baz=205,slow=6.6,SNR=6.1
PETK LR LR 07 33 59.7
comp=Z,163nm,21.4s,baz=193,slow=33
comp=Z,7.2nm,0.9s
PET Petropavlovsk 60.87 19 P **P** **07 11 23.2 +0.3**
WMQ Urumqi 60.96 325 *eP* **P** **07 11 24.8 +0.9**
WMQ pP sP 07 11 39.8 +2.1
WMQ pmax pmax
comp=Z,17nm,1.1s
WMQ LR LR
comp=Z,360nm,22.3s
WMQ LR LR
comp=Z,130nm,24.9s
BOD Bodaibo 62.55 350 *eP* **P** **07 11 34.1 0.0**
BOD pmax pmax
comp=Z,15nm,1.9s
MA2 Magadan 64.72 11 P **P** **07 11 48.6 +0.1**
MA2 Magadan 64.72 11 P **P** **07 11 47.9 -0.5**
MA2 IAmb IAmb 07 11 57.8
comp=Z,16nm,1.2s
MA2 Magadan 64.72 11 *d* iP **P** **07 11 48.6 +0.1**
MA2 pmax pmax
comp=Z,12nm,1.4s

MA2 **Magadan** 64.72 11 LR LR 07 40 29.5
comp=Z,111nm,19.2s,baz=206,slow=37
YAK **Yakutsk** 65.27 359 P P 07 11 51.7 -0.2
YAK **Yakutsk** 65.27 359 eP P 07 11 51.7 -0.2
YAK e 07 12 24.0
YAK e 07 14 15.1
YAK ePPP PPP 07 15 46.6
YAK eS S 07 20 35.9 +2.8
YAK e 07 21 46.7
YAK eSS SS 07 24 49.5 +3.0
YAK pmax pmax
comp=Z,33nm,0.7s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,144nm,5.4s
YAK pmax pmax
comp=N,47nm,3.8s
YAK pmax pmax
comp=E,58nm,3.8s
YAK smax smax
comp=E,26nm,1.8s
YAK smax smax
comp=N,15nm,1.5s
YAK **Yakutsk** 65.27 359 LR LR 07 40 36.0
comp=N,105nm,20.1s,baz=198,slow=36
YAK **Yakutsk** 65.27 359 P P 07 11 51.9 0.0
MK31 **Makanchi Array** 65.79 326 P P 07 11 55.7 0.0
MK31 **Makanchi Array** 65.79 326 eP P 07 11 56.0 +0.3
MKAR **Makanchi Array** 65.79 326 P P 07 11 55.7 0.0
MKAR **Makanchi Array** 65.79 326 P P 07 11 56.2 +0.5
comp=N,8.0nm,0.9s,baz=123,slow=7.8,SNR=55
MKAR LR LR 07 42 07.7
comp=N,167nm,21.8s,baz=120,slow=37
comp=N,8.0nm,0.9s
PRZ **Przheval'sk** 65.84 320 P P 07 11 57.1 +0.7
PRZ **Przheval'sk** 65.84 320 P P 07 11 57.1 +0.7
PRZ pmax pmax
comp=Z,85nm,1.2s
MAKZ **Makanchi** 65.98 325 P P 07 11 56.5 -0.4
MAKZ **Makanchi** 65.98 325 P P 07 11 56.5 -0.4
MAKZ pmax pmax
comp=Z,65nm,1.1s
MAKZ **Makanchi** 65.98 325 P P 07 11 56.6 -0.3
MAKZ pP pP 07 12 03.8 -3.2
KSH **Kashi** 66.07 316 P P 07 12 01.5 +3.7
KSH sP sP 07 12 15.5 +3.8
KSH pmax pmax
comp=Z,7.0nm,0.9s
SHEM **Shemya Is, Ala** 66.67 27 LR LR 07 37 53.1
comp=Z,118nm,20.4s,baz=148,slow=33
SEY **Seymchan** 68.13 10 eP P 07 12 11.0 +0.8
SEY pmax pmax
comp=Z,17nm,0.9s
SEY **Seymchan** 68.13 10 LR LR 07 42 19.4
comp=Z,90nm,19.0s,baz=18,slow=36
AAK **Ala-Archa** 68.46 319 P P 07 12 12.7 -0.3
AAK IAmb IAmb 07 12 31.1
comp=Z,27nm,1.2s
AAK **Ala-Archa** 68.46 319 ceP P 07 12 13.6 +0.6
AAK pmax pmax
comp=Z,5.0nm,1.3s
AAK pmax pmax
comp=Z,50nm,2.5s
AAK **Ala-Archa** 68.46 319 LR LR 07 46 11.8
comp=Z,41nm,18.9s,baz=105,slow=40
ZAA0 **Zalesovo Array** 68.83 333 P P 07 12 14.0 -0.7
ZAA0 IAmb IAmb 07 12 30.9
comp=Z,22nm,1.2s
ZALV **Zalesovo Beam** 68.83 333 P P 07 12 14.2 -0.6
ZALV **Zalesovo Beam** 68.83 333 iP P 07 12 14.5 -0.2
ZALV pmax pmax
comp=Z,3.0nm,0.6s
ZALV **Zalesovo Beam** 68.83 333 P P 07 12 14.5 -0.2
comp=Z,1.3nm,0.4s,baz=100,slow=6.2,SNR=9.9
comp=Z,1.3nm,0.4s
ARSB **Arslanbob** 68.91 317 P P 07 12 15.7 -0.1
ARSB **Arslanbob** 68.91 317 P P 07 12 15.7 -0.1
ARSB pmax pmax
comp=Z,11nm,1.0s
KBL **Kabul** 69.23 309 P P 07 12 18.2 +0.2
KBL P P 07 12 18.2 +0.2
RAR **Rarotonga** 69.46 111 LR LR 07 42 20.5
comp=Z,39nm,20.9s,baz=24,slow=36
GAR **Garm** 69.86 314 P P 07 12 21.3 -0.3
KURBB **Kurchatov Arra** 69.99 328 P P 07 12 22.4 +0.4
comp=Z,5.6nm,0.9s,baz=124,slow=5.7,SNR=30
comp=Z,5.6nm,0.9s
KURK **Kurchatov** 69.99 328 P P 07 12 22.1 +0.1
KURK **Kurchatov** 69.99 328 P P 07 12 22.1 +0.1
KURK pmax pmax
comp=Z,65nm,1.0s
KURK **Kurchatov** 69.99 328 P P 07 12 22.5 +0.5
KURK P P 07 12 22.5 +0.5
KURK **Kurchatov** 69.99 328 P P 07 12 22.5 +0.5
KURK pP pP 07 12 30.0 -2.1
SIMJ **Simiganj** 70.68 313 P P 07 12 26.6 -0.1
SIMJ IAmb IAmb 07 12 44.2
comp=Z,22nm,1.1s
KK31 **Karatay Array** 71.31 318 P P 07 12 30.4 +0.1
KK31 IAmb IAmb 07 12 48.0
comp=Z,28nm,1.1s
KK31 **Karatay Array** 71.31 318 P P 07 12 30.4 +0.1
KK31 pmax pmax
comp=Z,28nm,1.2s
KKAR **Karatay Array** 71.31 318 P P 07 12 30.4 +0.1
KKAR IAmb IAmb 07 12 48.0
comp=Z,28nm,1.1s
KKAR **Karatay Array** 71.31 318 P P 07 12 30.4 +0.1
KKAR pmax pmax
comp=Z,28nm,1.2s
CCD **Concordia, Ant** 71.76 182 P P 07 12 33.9 +1.1
CCD pP pP 07 12 41.5 -1.6
NGCH **Negor - Chabah** 73.35 298 P P 07 12 44.5 +1.7
JLN **Jalan Bani Buh** 74.28 294 P P 07 12 48.4 +0.1
JLN P P 07 12 48.4 +0.1
HRA **Herat** 74.54 307 P P 07 12 49.5 -0.3
WBK **Wadi Bani Khal** 74.77 294 P P 07 12 52.2 +1.0
WBK P P 07 12 52.2 +1.0
TIXI **Tiksi** 74.94 359 P P 07 12 50.4 -0.7
TIXI IAmb IAmb 07 12 57.8
comp=Z,31nm,1.8s
TIXI **Tiksi** 74.94 359 ceP P 07 12 50.8 -0.3
TIXI **Tiksi** 74.94 359 LR LR 07 45 41.2
comp=Z,160nm,20.5s,baz=198,slow=36
WSAR **Wadi Sarin** 75.19 295 LR LR 07 49 21.1
comp=Z,66nm,20.3s,baz=120,slow=38
WSAR **Wadi Sarin** 75.19 295 P P 07 12 54.3 +0.8
SNR=6.9
MHTO **MHTO** 75.41 293 P P 07 12 55.3 +0.4
MHTO P P 07 12 55.3 +0.4
BILL **Bilibino** 75.43 13 eP P 07 12 51.7 -2.3
BILL pmax pmax
comp=Z,5.0nm,1.7s
JMDO **Jabal Madar** 75.51 294 P P 07 12 54.7 -0.8
JMDO P P 07 12 54.7 -0.8
BVAR **Borovoye Array** 75.57 327 P P 07 12 55.6 +0.5
comp=Z,6.6nm,0.9s,baz=123,slow=7.3,SNR=30
BVAR LR LR 07 49 51.0
comp=Z,62nm,20.3s,baz=112,slow=39
comp=Z,6.6nm,0.9s
DQM **DQM** 75.63 291 P P 07 12 58.7 +2.6
BRVK **Borovoye** 75.64 327 P P 07 12 55.5 0.0
BRVK **Borovoye** 75.64 327 ciP P 07 12 55.9 +0.5
BRVK pmax pmax
comp=Z,10.0nm,1.1s
BRVK **Borovoye** 75.64 327 P P 07 12 56.0 +0.5
BRVK P P 07 12 56.0 +0.5
SMDO **Samad** 75.68 295 P P 07 12 56.8 +0.3
SMDO P P 07 12 56.8 +0.3
BIDO **Bidbid** 75.69 295 P P 07 12 58.0 +1.5
SNR=6.9
VNDA **Vanda** 75.87 173 P P 07 12 57.1 +0.7
VNDA **Vanda** 75.87 173 P P 07 12 57.1 +0.7
VNDA pmax pmax
comp=Z,6.0nm,1.0s
VNDA **Vanda** 75.87 173 P P 07 12 57.4 +0.9
comp=Z,3.1nm,0.8s,baz=323,slow=7.3,SNR=15
VNDA LR LR 07 48 14.4
comp=Z,224nm,18.7s,baz=344,slow=37
comp=Z,3.1nm,0.8s
JASK **Jask - Hormozg** 76.35 297 P P 07 13 02.4 +2.2
BSY **Bisya** 76.40 294 P P 07 13 01.2 +0.7
BSY P P 07 13 01.2 +0.7
HOQ **Hoqain** 76.44 295 P P 07 13 01.7 +0.9
SNR=7.6
HOQ P P 07 13 01.7 +0.9
SNR=7.6
SBA **Scott Base** 76.74 173 P P 07 13 03.0 +1.6
SBA IAmb IAmb 07 13 11.5
comp=Z,21nm,1.4s
SBA **Scott Base** 76.74 173 P P 07 13 03.0 +1.6
SBA pmax pmax
comp=Z,21nm,1.4s
ARQ **Araqi** 77.11 295 P P 07 13 05.3 +0.8
SNR=7.4
ARQ P P 07 13 05.3 +0.8
SNR=7.4
SOHO **SOHO** 77.23 296 P P 07 13 05.9 +0.7
UOSS **Minazif** 77.67 296 P P 07 13 06.7 -0.9
UOSS IAmb IAmb 07 13 26.5
comp=Z,35nm,1.4s
UOSS **Minazif** 77.67 296 P P 07 13 07.9 +0.3
UOSS P P 07 13 07.9 +0.3
HATD **Hatta, Dubai** 77.71 296 P P 07 13 08.4 +0.6
SNR=7.9
DMTO **DMTO** 77.75 289 P P 07 13 08.6 +0.5
ASHO **Ashiyiah** 77.75 296 P P 07 13 09.9 +1.8
ASHO P P 07 13 09.9 +1.8
MASF **Masafi** 77.78 297 P P 07 13 09.7 +1.5
SNR=10
MASF P P 07 13 09.7 +1.5
SNR=10
ALNE **Al Ain** 77.93 295 P P 07 13 09.9 +0.9
SNR=9.4
ALNE P P 07 13 09.9 +0.9
SNR=9.4
FAQ **Al Faqa, Dubai** 78.18 296 P P 07 13 11.5 +1.0
UMZA **Um Al Zommool** 78.25 294 P P 07 13 11.3 +0.5
UMZA P P 07 13 11.3 +0.5
NRIK **Noril'sk** 78.34 346 P P 07 13 10.2 -0.2
NRIK **Noril'sk** 78.34 346 ceP P 07 13 10.7 +0.4
NRIK pmax pmax
comp=Z,8.0nm,1.0s
NRIK **Noril'sk** 78.34 346 P P 07 13 10.5 +0.2
comp=Z,6.7nm,0.9s,baz=136,slow=5.9,SNR=8.9
NRIK LR LR 07 50 52.8
comp=Z,302nm,19.4s,baz=142,slow=38
comp=Z,6.7nm,0.9s
ASUD **Al Ashush, Dub** 78.40 296 P P 07 13 12.5 +0.8
ASUD P P 07 13 12.5 +0.8
RBK **Rabkut** 78.42 289 P P 07 13 12.7 +0.7
RBK P P 07 13 12.7 +0.7
MAW **Mawson** 78.61 201 P P 07 13 12.3 +1.3
comp=Z,12nm,1.0s,baz=76,slow=8.5,SNR=7.4
MAW LR LR 07 48 31.0
comp=Z,110nm,18.0s,baz=67,slow=36
comp=Z,12nm,1.0s
DOK **Doka** 78.64 290 P P 07 13 13.1 +0.1
DOK P P 07 13 13.1 +0.1
GEYT **Alibeck** 78.65 310 P P 07 13 13.0 +0.2
GEYT IAmb IAmb 07 13 32.1
comp=Z,36nm,1.2s
GEYT **Alibeck** 78.65 310 P P 07 13 13.0 +0.2
GEYT pmax pmax
comp=Z,36nm,1.2s
GEYT **Alibeck** 78.65 310 P P 07 13 13.7 +0.9
comp=Z,5.6nm,0.8s,baz=151,slow=3.4,SNR=10
comp=Z,5.6nm,0.8s
GYA0B **ALIBECK ARRAY** 78.65 310 P P 07 13 13.2 +0.3
GYA0B IAmb IAmb 07 13 32.1
comp=Z,35nm,1.2s
WHFO **Wadi Hawf** 78.88 289 P P 07 13 14.2 -0.2
WHFO P P 07 13 14.2 -0.2
PPT2 **Papeete2** 78.95 107 eS S 07 23 05.2 -6.6
comp=Z,43nm,26.5s
PPT2 **Papeete2** 78.95 107 eLQ LQ 07 34 21.7
comp=Z,303nm,28.8s
PPT2 eLR LR 07 37 45.6
comp=Z,193nm,24.2s
PPT2 eLR LR 07 37 50.9
comp=Z,176nm,32.0s
PPT **Papeete** 78.95 107 LR LR 07 45 00.8
comp=Z,58nm,21.4s,baz=264,slow=33
FALS **False Pass** 79.06 32 P P 07 13 15.6 +1.1
baz=248
TBI **Tubuai** 79.10 113 eSS SS 07 28 29.4 +10
comp=Z,447nm,36.2s
TBI eLR LR 07 37 43.9
comp=Z,918nm,30.5s
ABTO **Aybut** 79.26 288 P P 07 13 16.7 +0.1
ABTO P P 07 13 16.7 +0.1
M11K **Mekoryuk** 79.93 27 P P 07 13 20.4 +1.2
baz=244
S12K **Black Hills** 80.09 32 P P 07 13 21.1 +0.9
baz=249
ABKAR **Akbulak array** 80.32 321 P P 07 13 20.7 -0.9
JRN **Qarnain Island** 80.67 296 P P 07 13 24.4 +0.4
JRN P P 07 13 24.4 +0.4
SDPT **Sand Point** 80.81 33 P P 07 13 24.2 +0.2
SDPT **Sand Point** 80.81 33 P P 07 13 23.5 -0.6
SDPT IAmb IAmb 07 13 25.1
comp=Z,31nm,0.9s
SDPT **Sand Point** 80.81 33 P P 07 13 24.0 0.0
baz=250,SNR=5.5
CNBA **Chernabura Isl** 81.12 33 P P 07 13 25.8 +0.1
CHNA **Chernabura Isl** 81.12 33 P P 07 13 25.8 +0.1
baz=251,SNR=6.7
M13K **Dall Lake** 81.23 27 P P 07 13 26.8 +0.6
baz=247
TNA **Tin City** 81.56 22 P P 07 13 28.5 +0.7
baz=242
S14K **Fog Glacier** 81.61 32 P P 07 13 29.4 +0.9
baz=251,SNR=5.9
O14K **Tigyukauivet M** 81.77 29 P P 07 13 30.5 +1.5
baz=249,SNR=5.5
N14K **Kuskokwak Cree** 81.81 28 P P 07 13 29.5 +0.3
baz=248
AKTO **Aktyubinsk** 81.84 322 LR LR 07 53 28.0
comp=Z,118nm,21.7s,baz=124,slow=38
L14K **Kuka Creek** 81.89 26 P P 07 13 30.4 +0.7
L14K IAmb IAmb 07 13 32.3
comp=Z,17nm,0.9s
L14K **Kuka Creek** 81.89 26 P P 07 13 30.6 +1.0
baz=247,SNR=13
M14K **Bethel** 81.99 27 P P 07 13 30.5 +0.3
M14K IAmb IAmb 07 13 32.2
comp=Z,15nm,0.9s
M14K **Bethel** 81.99 27 P P 07 13 31.0 +0.8
baz=248,SNR=8.8
J14K **Nanvaranak Lak** 82.06 25 P P 07 13 31.2 +0.7
baz=246
ANM **Nome** 82.08 23 P P 07 13 31.3 +0.7
baz=245
F14K **Arctic Creek** 82.11 22 P P 07 13 31.7 +0.9
baz=244
TRNA **Turayna** 82.12 295 P P 07 13 31.3 -0.3
SVE **Sverdlovsk** 82.22 329 eP P 07 13 32.6 +1.1
SVE pmax pmax
comp=Z,27nm,1.3s
CHGN **Chignik** 82.22 32 P P 07 13 32.2 +0.8
baz=252
O15K **Ungalikthiuk R** 82.44 29 P P 07 13 33.6 +1.0
baz=250
SMRA **Abu-Samra** 82.47 295 P P 07 13 34.0 +0.5
SNR=5.8
L15K **Ungalak Mounta** 82.55 26 P P 07 13 34.2 +1.1
baz=248,SNR=8.2
M15K **Kasigluk River** 82.56 27 P P 07 13 33.9 +0.8
baz=249
N15K **Kwethluk River** 82.65 28 P P 07 13 34.6 +0.9
baz=250
K15K **Wolf Creek Mou** 82.76 26 P P 07 13 35.5 +1.3
baz=248,SNR=9.2
G15K **Niukluk** 82.78 23 P P 07 13 35.2 +1.0
baz=246
F15K **North Star Dit** 82.84 22 P P 07 13 35.2 +0.6
baz=245,SNR=7.2
R16K **Pilot Point** 83.05 31 P P 07 13 36.6 +0.9
baz=252
ARU **Arti** 83.19 328 ciP P 07 13 36.3 -0.2
ARU 07 16 42.3
ARU S S 07 23 55.1 +0.8
ARU SS SS 07 29 17.8 -1.4
ARU pmax pmax
comp=Z,9.0nm,1.2s
ARU **Arti** 83.19 328 LR LR 07 53 01.1
comp=Z,76nm,20.4s,baz=116,slow=37
P16K **Nushagak River** 83.29 30 P P 07 13 37.6 +0.6
baz=252,SNR=10.0
VOI **Vohitsoka** 83.32 248 P P 07 13 46.1 +7.9
VOI **Vohitsoka** 83.32 248 P P 07 13 38.4 +0.3
VOI IAmb IAmb 07 13 47.4
comp=Z,16nm,0.9s
VOI **Vohitsoka** 83.32 248 P P 07 13 38.5 +0.3
H16K **Elim** 83.34 23 P P 07 13 37.9 +0.7
baz=248,SNR=9.6
N16K **Nishlik Lake** 83.37 28 P P 07 13 38.2 +0.8
baz=251
Q16K **Kokwok River B** 83.41 29 P P 07 13 38.4 +0.8
Q16K **Kokwok River B** 83.41 29 P P 07 13 38.2 +0.6
baz=252
L16K **Owhat River** 83.46 27 P P 07 13 38.6 +0.8
L16K **Owhat River** 83.46 27 P P 07 13 38.5 +0.7
baz=250,SNR=9.4
M16K **Timber Creek** 83.46 27 P P 07 13 38.6 +0.7
baz=251
J16K **Anvik River** 83.51 25 P P 07 13 39.4 +1.3
baz=249
G16K **Koyuk River** 83.59 23 P P 07 13 39.2 +0.8
baz=247
I17K **Unalakleet** 83.69 24 P P 07 13 40.2 +1.3
I17K IAmb IAmb 07 13 42.1
comp=Z,20nm,1.2s
I17K **Unalakleet** 83.69 24 P P 07 13 40.2 +1.3
baz=249,SNR=10
C16K **Lisburne Hills** 83.70 20 P P 07 13 39.2 +0.3
C16K IAmb IAmb 07 13 40.8
comp=Z,15nm,0.9s
C16K **Lisburne Hills** 83.70 20 P P 07 13 39.8 +0.9
baz=244
Q16K **King Salmon** 83.84 30 P P 07 13 40.7 +0.9
baz=253
O17K **Koliganek Bris** 83.95 29 P P 07 13 41.4 +1.1
baz=253,SNR=9.7
P17K **Kvichak River** 84.10 30 P P 07 13 41.4 +0.3
baz=253
Q17K **Contact Creek** 84.11 31 P P 07 13 41.1 -0.2
baz=254,SNR=8.8
L17K **Donlin** 84.12 26 P P 07 13 42.3 +1.1
baz=251
N17K **Nushagak Hills** 84.13 28 P P 07 13 42.3 +1.0
baz=252
D17K **Noatak River** 84.23 21 P P 07 13 42.9 +1.3
baz=246,SNR=24
M17K **Holitna River** 84.28 27 P P 07 13 43.4 +1.4
baz=252
G17K **Kiwalik Mounta** 84.29 23 P P 07 13 43.0 +1.0
baz=249,SNR=23
K17K **Iditarod** 84.31 26 P P 07 13 43.0 +0.9
baz=251
H17K **Granite Mounta** 84.38 24 P P 07 13 43.8 +1.3
baz=250
F17K **Baldwin Pennin** 84.41 22 P P 07 13 43.6 +1.1
baz=248,SNR=7.0
RDOG **Red Dog Mine** 84.44 20 P P 07 13 43.6 +0.9
baz=246
E17K **Hotham Inlet** 84.44 21 P P 07 13 43.8 +1.1
baz=248,SNR=11
C17K **DeLong Mountai** 84.51 20 P P 07 13 43.9 +0.8
baz=246
N18K **Kilae Creek** 84.79 28 P P 07 13 45.7 +1.0
baz=254
L18K **Granite Mounta** 84.87 27 P P 07 13 46.1 +1.2
baz=253
O18K **Koktuh Hills** 84.89 29 P P 07 13 46.5 +1.4
baz=254
E18K **Tukpahlearik C** 85.01 21 P P 07 13 46.6 +1.0
baz=249
M18K **Stony River** 85.05 27 P P 07 13 46.8 +0.9
baz=254
SVW2 **Sparrevohn** 85.05 28 P P 07 13 48.2 +2.3
SVW2 **Sparrevohn** 85.05 28 P P 07 13 47.2 +1.2
SVW2 IAmb IAmb 07 13 57.0
comp=Z,15nm,1.2s
H18K **Honhosa River** 85.07 24 P P 07 13 46.6 +0.7
baz=251,SNR=7.8
G18K **Tagagawik** 85.20 23 P P 07 13 47.6 +1.0
baz=251
J18K **Innoko River** 85.23 25 P P 07 13 47.7 +0.9
baz=253,SNR=13
C18K **Utukok River** 85.25 20 P P 07 13 47.6 +0.8
baz=248
B18K **Kokolik River** 85.32 19 P P 07 13 48.1 +1.0
baz=247
TTA **Tatalina** 85.38 26 P P 07 13 48.0 +0.4
TTA IAmb IAmb 07 13 49.5
comp=Z,14nm,1.0s
TTA **Tatalina** 85.38 26 P P 07 13 48.0 +0.4
baz=253,SNR=17
TTA **Tatalina** 85.38 26 P P 07 13 48.1 +0.4
TTA pmax pmax
comp=Z,14nm,1.0s
N19K **Bonanza Creek** 85.49 28 P P 07 13 49.1 +0.8
baz=255
GCSA **Galena City Sc** 85.55 24 P P 07 13 49.1 +0.8
baz=252,SNR=6.4
L19K **White Mountain** 85.68 27 P P 07 13 49.7 +0.6
baz=254,SNR=12
KDAK **Kodiak Island** 85.69 31 LR LR 07 47 10.8
comp=Z,143nm,21.4s,baz=260,slow=32
M19K **Big River Lodg** 85.82 27 P P 07 13 50.5 +0.8
baz=255
F19K **Shaleruckik Mo** 85.85 22 P P 07 13 50.9 +1.1
baz=251
J19K **Poorman** 85.85 25 P P 07 13 50.9 +1.0
baz=254
A19K **Wainwright** 85.88 18 P P 07 13 50.3 +0.5
baz=248
G19K **Purcell Mounta** 85.89 23 P P 07 13 50.9 +0.9
baz=252
H19K **Roundabout Mou** 85.95 23 P P 07 13 51.1 +0.8
baz=253
C19K **Lookout Ridge** 85.96 20 P P 07 13 51.1 +0.7
baz=250
L20K **Farewell, AK** 86.20 27 P P 07 13 52.2 +0.5
baz=255,SNR=12
O20K **Slope Mountain** 86.20 29 P P 07 13 52.2 +0.4
baz=256
E19K **Redstone River** 86.24 22 P P 07 13 52.6 +0.8
baz=252
D19K **Kuna River** 86.26 20 P P 07 13 52.3 +0.5
baz=251
K20K **Telida** 86.34 26 P P 07 13 53.1 +0.8
baz=255
M20K **Styx River** 86.39 27 P P 07 13 53.3 +0.7
baz=256,SNR=11
J20K **Nowinta River** 86.52 25 P P 07 13 54.1 +1.0
baz=255
QSPA **South Pole Qui** 86.54 180 P P 07 13 53.1 -0.3
QSPA **South Pole Qui** 86.54 180 P P 07 13 54.0 +0.6
comp=Z,7.5nm,1.0s,baz=334,slow=4.4,SNR=16
QSPA LR LR 07 53 07.6
comp=Z,303nm,20.2s,baz=354,slow=36
comp=Z,7.5nm,1.0s
I20K **Naaghedeneel** 86.55 24 P P 07 13 54.6 +1.4
baz=255
H20K **Anotleneega Mo** 86.57 24 P P 07 13 54.3 +0.9
baz=254
HOM **Homer** 86.59 30 P P 07 13 53.7 +0.2
baz=257
N20K **Mount Spurr** 86.66 28 P P 07 13 53.6 -0.4
baz=257
F20K **Avaraart Lake** 86.68 22 P P 07 13 54.2 +0.3
baz=253
D20K **Etivluk River** 86.85 20 P P 07 13 54.5 -0.3
baz=252
BRSE **Bradley Lake S** 87.05 30 P P 07 13 55.5 -0.3
baz=256
PPLA **Purkeypile** 87.06 27 P P 07 13 56.0 0.0
baz=257
B20K **Meade River** 87.07 19 P P 07 13 55.9 +0.2
baz=252
SKT **Skwentna** 87.15 27 P P 07 13 55.8 -0.5
SKT **Skwentna** 87.15 27 P P 07 13 56.4 +0.1
baz=257,SNR=6.7
RAYN **Ar Rayn** 87.18 294 P P 07 13 56.7 -0.6
RAYN **Ar Rayn** 87.18 294 P P 07 13 56.7 -0.6
RAYN pmax pmax
comp=Z,29nm,1.0s
RAYN **Ar Rayn** 87.18 294 P P 07 13 58.3 +0.9
CAST **Castle Rocks** 87.22 26 P P 07 13 56.6 0.0
CAST IAmb IAmb 07 14 13.7
comp=Z,14nm,1.4s
CAST **Castle Rocks** 87.22 26 P P 07 13 56.8 +0.2
baz=257
CHUM **Lake Minchumin** 87.23 26 P P 07 13 56.6 0.0

baz=257,SNR=14
G21K Allakaket 87.38 23 P P 07 13 57.5 +0.2
baz=255
SUA Susitna One 87.41 28 P P
SUA IAmb IAmb 07 14 01.5
comp=Z,21nm,1.1s
SUA Susitna One 87.41 28 P P 07 13 58.1 +0.4
baz=258,SNR=7.4
H21K Melozitna Rive 87.45 24 P P 07 13 57.7 0.0
baz=256
MAK Makhachkala 87.51 313 *e*P **P**
MAK *e* 07 17 17.5
MAK *e*PPP PPP 07 19 15.9
MAK *e*SSS SSS 07 33 55.2
F21K Alatna River 87.57 22 P P 07 13 58.4 +0.2
baz=255
C21K Knifeblade Rid 87.61 20 P P 07 13 59.0 +0.6
baz=254
A21K Barrow 87.65 18 P P 07 13 58.9 +0.5
baz=252
O22K Cooper Landing 87.70 29 P P 07 13 58.9 -0.1
baz=259
E21K Killik River 87.71 21 P P 07 13 58.9 0.0
baz=255
M22K Willow 87.76 28 P P 07 13 59.6 +0.5
baz=259,SNR=6.8
SEW Seward 87.76 30 P P 07 13 59.3 +0.1
baz=259
B21K Ikpikpuk River 87.80 20 P P 07 13 59.6 +0.4
baz=254
RC01 Rabbit Creek A 87.81 29 P P 07 13 59.4 0.0
baz=259,SNR=5.7
BPAW Bear Paw Mtn. 87.85 25 P P 07 14 00.0 +0.4
baz=258
TRF Thorofare Moun 88.02 26 P P 07 14 00.8 +0.1
baz=258
A22K Sinclair Lake 88.06 18 P P 07 14 01.6 +1.1
baz=254
H22K Ishtalitna Cre 88.08 24 P P 07 14 01.1 +0.5
baz=257
F22K John River 88.13 22 P P 07 14 01.5 +0.6
baz=257
MLY Manley 88.15 25 P P 07 14 01.3 +0.2
baz=258
PMR Palmer 88.19 28 P P 07 14 01.8 +0.6
PMR Palmer 88.19 28 P P 07 14 01.4 +0.2
baz=260,SNR=7.2
D22K Ayikyak River 88.27 21 P P 07 14 02.1 +0.5
baz=256
B22K Teshekpuk Lake 88.39 19 P P 07 14 01.7 -0.2
baz=255
E22K Anaktuvuk Pass 88.41 21 P P 07 14 02.4 +0.1
baz=257
KNK Knik Glacier 88.47 28 P P 07 14 02.6 -0.1
KNK Knik Glacier 88.47 28 P P 07 14 02.9 +0.2
baz=260,SNR=5.8
SML Sawmill 88.60 28 P P 07 14 03.5 +0.2
baz=260,SNR=6.0
BELG Belogornoye 88.61 322 LR LR 07 58 27.4
comp=Z,31nm,20.1s,baz=88,slow=39
MCK McKinley 88.67 26 P P 07 14 02.9 -0.6
baz=260
WAT1 Susitna Watana 88.68 27 P P 07 14 03.4 -0.2
baz=260
I23K Minto, Yukon-K 88.75 25 P P 07 14 04.0 +0.2
baz=259
P23K Montague Islan 88.75 30 P P 07 14 04.0 +0.1
baz=261
NEA2 Nenana 88.77 25 P P 07 14 04.1 +0.2
baz=260
G23K Bananza Creek 88.78 23 P P 07 14 04.8 +0.8
baz=259
H23K Yukon River 88.80 24 P P 07 14 04.8 +0.7
baz=259
COLD Coldfoot 88.82 22 P P 07 14 04.8 +0.7
baz=258
M23K Glacier View 88.88 28 P P 07 14 04.9 +0.3
baz=261
D23K Nanushuk River 89.00 21 P P 07 14 05.4 +0.4
baz=258
WAT6 Susitna Watana 89.00 27 P P 07 14 05.7 +0.4
baz=261
SCM Sheep Creek Mo 89.08 28 P P 07 14 05.9 +0.3
baz=261
E23K Chandalar 89.20 22 P P 07 14 06.2 +0.2
baz=259
C23K Itkillik River 89.20 20 P P 07 14 06.6 +0.7
baz=258
DHY Denali Highway 89.25 27 P P
DHY IAmb IAmb 07 14 10.0
comp=Z,6.0nm,0.8s
DHY Denali Highway 89.25 27 P P 07 14 06.6 +0.2
baz=261,SNR=7.7
TOLK Toolik Lake Re 89.33 21 P P 07 14 06.9 +0.3
baz=259
H24K Noodor Dome 89.48 24 P P 07 14 07.5 +0.2
baz=261
POKR Poker Plat Res 89.54 25 P P 07 14 08.0 +0.4
baz=261
HDA Harding Lake 89.64 25 P P 07 14 08.4 +0.4
baz=261
EYAK Cordova Ski Ar 89.65 29 P P 07 14 08.6 +0.5
baz=262
M24K Tolsona, Glenn 89.66 28 P P 07 14 08.3 +0.1
baz=262
D24K Happy Valley 89.69 21 P P 07 14 08.8 +0.7
baz=260
KLU Klutina 89.69 28 P P 07 14 08.3 -0.2
baz=262
ILAR Eielson Array 89.72 25 P P 07 14 07.2 -1.1
comp=Z,1.4nm,0.8s,baz=271,slow=3.9,SNR=13
ILAR LR LR 07 49 12.2
comp=Z,94nm,21.2s,baz=254,slow=32
comp=Z,1.4nm,0.8s
F24K Squaw Lake 89.75 22 P P 07 14 08.6 +0.1
baz=260
G24K Hadweenzic Riv 89.78 23 P P 07 14 08.8 +0.1
baz=261
C24K Franklin Bluff 89.83 20 P P 07 14 09.4 +0.6
baz=260
K24K Donnelly Dome 90.06 26 P P 07 14 10.6 +0.6
baz=262
PAX Paxson 90.09 27 P P 07 14 10.2 -0.1
baz=263
BMRM Bremner River 90.26 29 P P 07 14 10.4 -0.6
baz=264
G25K Bearman Lake 90.33 23 P P 07 14 11.0 -0.2
baz=262
N25K Chitina, Valde 90.33 28 P P 07 14 11.3 -0.1
baz=264
J25K Salcha River, 90.34 25 P P 07 14 11.5 0.0
baz=263
H25L Birch Creek 90.37 24 P P 07 14 11.9 +0.5
baz=262
PRP Porcupine Dome 90.39 24 P P 07 14 11.8 +0.1
baz=263
RIDG Independent Ri 90.47 26 P P 07 14 11.9 0.0
baz=263
D25K Kavik River 90.58 21 P P 07 14 12.8 +0.4
baz=262
F25K Christian Rive 90.61 22 P P 07 14 12.8 +0.2
baz=263
E25K Arctic Village 90.71 22 P P 07 14 13.0 0.0
baz=263
BGLC Bering Glacier 90.82 30 P P 07 14 13.8 +0.2
baz=265
SCRK Sand Creek 90.87 26 P P 07 14 14.1 +0.2
baz=264
CRQE Cirque 90.97 29 P P 07 14 14.3 -0.1
baz=265
BMAR Burnt Mountain 91.00 23 P P 07 14 14.4 0.0
L26K Log Cabin Wild 91.06 27 P P 07 14 14.9 +0.2
baz=265
MCARA McCarthy VSAT 91.06 29 P P 07 14 15.0 +0.3
baz=265
KIV Kislovodsk 91.09 314 *e*P **P 07 14 14.7 -0.7**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,46nm,20.0s
J26L Joseph Creek 91.11 26 P P 07 14 15.3 +0.4
baz=264
C26K Camden Bay 91.16 20 P P 07 14 15.5 +0.5
baz=263
M26K Nabesna, AK 91.17 28 P P 07 14 15.5 +0.3
baz=265
F26K Sheenjek River 91.19 22 P P 07 14 15.9 +0.6
baz=264

G26K Porcupine Rive 91.26 23 P P 07 14 16.1 +0.6
baz=264
I26K Coal Creek Min 91.36 25 P P 07 14 17.1 +1.1
baz=265
M27K Edge Creek, AK 91.68 28 P P 07 14 18.2 +0.5
baz=266
K27K Chicken 91.72 26 P P 07 14 18.2 +0.5
baz=266
L27K Beaver Creek, 91.76 27 P P 07 14 18.3 +0.4
baz=266
CTG Chitna Glacier 91.84 29 P P 07 14 18.8 +0.3
baz=266
I27K Kandik River 92.02 25 P P 07 14 19.5 +0.3
baz=266
G27K Doyon Strip 92.08 23 P P 07 14 19.9 +0.5
baz=266
H27K Steamboat Moun 92.10 24 P P 07 14 19.8 +0.4
baz=266
BVCY Beaver Creek 92.16 28 P P 07 14 20.4 +0.6
baz=267
EGAK Eagle 92.16 25 P P 07 14 19.9 +0.2
baz=267
ELIB Princess Elisa 92.17 197 *d*P **P 07 14 21.5 +1.7**
comp=Z,12nm,1.1s
E27K Coleen River 92.20 22 P P 07 14 20.1 +0.2
baz=266
YUK3 Moose Creek 92.31 28 P P 07 14 21.0 +0.2
baz=267
O28M Mount Upton 92.40 29 P P 07 14 21.0 -0.2
baz=267
D27M Malcolm River 92.49 21 P P 07 14 21.4 +0.1
baz=267
I28M Miner Creek 92.71 25 P P 07 14 22.8 +0.4
baz=268
KIBK Kibwezi 92.76 268 P P 07 14 24.0 +0.3
KIBK IAmb IAmb 07 14 45.9
comp=Z,10nm,1.2s
F28M Old Crow 92.82 23 P P 07 14 23.2 +0.5
baz=268
DAWY Dawson 92.90 26 P P 07 14 23.4 +0.2
DAWY IAmb IAmb 07 14 41.0
comp=Z,15nm,1.2s
DAWY Dawson 92.90 26 P P 07 14 23.1 -0.1
baz=268
E28M Babbage River 92.98 22 P P 07 14 23.4 -0.1
E28M IAmb IAmb 07 14 40.4
comp=Z,21nm,1.7s
E28M Babbage River 92.98 22 P P 07 14 24.0 +0.6
baz=268
O29M Mount Kennedy 93.18 30 P P 07 14 24.7 0.0
baz=269
M29M Somme Creek 93.28 28 P P 07 14 25.4 +0.4
baz=269
D28M Stokes Point 93.28 21 P P 07 14 25.4 +0.7
baz=269
YUK6 Outpost Mounta 93.30 29 P P 07 14 25.2 -0.2
baz=269
H29M Whitestone 93.38 24 P P 07 14 25.3 0.0
baz=269
J29N Klondike Camp 93.42 26 P P 07 14 25.6 0.0
baz=269
L29M L29M 93.44 27 P P 07 14 25.7 0.0
baz=269
G29M Pine Creek 93.52 23 P P 07 14 25.9 -0.1
baz=270
E29M Blow River 93.58 22 P P 07 14 26.1 -0.1
baz=270
P29M Windy Craggy 93.59 31 P P 07 14 26.4 -0.1
baz=269
KLMR Klimovskoe 93.66 331 *e*P **P 07 14 25.7 -1.0**
KLMR pmax pmax
comp=Z,27nm,1.7s
HYT Haines Junctio 93.71 29 P P 07 14 26.9 -0.2
baz=270
K29M Barlow Dome 93.72 26 P P 07 14 26.9 -0.3
baz=270
N30M Aishikik Lake 93.92 29 P P 07 14 28.1 +0.1
baz=270
P30M Million Dollar 93.98 30 P P 07 14 27.9 -0.4
baz=270
EPYK Eagle Plains 94.04 24 P P 07 14 28.5 0.0
baz=271
M30M Minto, Yukon 94.05 28 P P 07 14 28.5 0.0
baz=270
I30M Mount Dempster 94.20 25 P P 07 14 29.2 -0.1
baz=271
G30M tAoh Zraii Nji 94.23 23 P P 07 14 29.7 +0.4
baz=271
J30M Hart River 94.23 26 P P 07 14 29.2 -0.3
baz=271
PLBC Pleasant Camp 94.29 31 P P 07 14 29.9 +0.3
baz=271
F30M Baker River 94.38 23 P P 07 14 30.8 +0.9
baz=272
MAYO Mayo, Yukon 94.45 27 P P 07 14 30.8 +0.5
baz=271
G31M Satah River 95.00 23 P P 07 14 32.8 +0.1
baz=273
H31M Peel River 95.03 24 P P 07 14 32.9 0.0
baz=273
F31M Tsiigehtchic 95.18 23 P P 07 14 33.9 +0.4
baz=274
INK Inuvik 95.20 22 P P 07 14 32.5 -1.1
INK IAmb IAmb 07 14 50.4
comp=Z,11nm,1.3s
INK Inuvik 95.20 22 P P 07 14 34.0 +0.4
baz=274
INK Inuvik 95.20 22 P P 07 14 32.5 -1.1
INK pmax pmax
comp=Z,11nm,1.3s
ASF Jabal al Asfar 95.23 302 LR LR 08 02 58.1
comp=Z,115nm,21.1s,baz=53,slow=39
FARO Faro, Yukon 95.67 28 P P 07 14 36.1 +0.1
baz=274
MMAI Mount Meron Ar 96.50 303 LR LR 08 04 06.0
comp=Z,89nm,20.4s,baz=68,slow=39
EIL Elat 96.89 299 LR LR 08 06 27.2
comp=Z,90nm,18.1s,baz=65,slow=40
A36M Sachs Harbour 97.49 18 P P 07 14 44.0 +0.1
baz=282
DLBC Dease Lake 97.62 32 LR LR 07 54 32.6
comp=Z,135nm,21.3s,baz=284,slow=33
SPITS Spitsbergen Ar 98.25 349 LR LR 08 01 40.1
comp=Z,155nm,20.9s,baz=20,slow=37
ARCES ARCESS Array B 98.56 340 LR LR 08 04 22.8
comp=Z,106nm,22.0s,baz=78,slow=38
SNAA Sanae 99.35 193 LR LR 08 01 30.8
comp=Z,210nm,18.1s,baz=105,slow=36
BBB Bella Bella 99.39 38 LR LR 07 53 40.7
comp=Z,93nm,20.7s,baz=307,slow=32
BOSA Boshof 102.08 240 P **Pdif 07 15 06.3 +0.7**
comp=Z,1.9nm,0.9s,baz=108,slow=3.2,SNR=3.8
YKA Yellowknife Ar 104.14 26 Pdiff **Pdif 07 15 12.6 -1.2**
comp=Z,0.2nm,0.8s,baz=296,slow=4.8,SNR=2.8
YKA PP **PKiKP 07 19 28.9 -1.7**
comp=Z,0.2nm,0.9s,baz=292,slow=8.2,SNR=4.1
CRVS Cervenica-Dubn 105.32 320 *e*PP PKiKP 07 19 42.2 +8.9
TORD Torodi Ar. Bea 128.95 284 PKP **PKPdf 07 20 19.9 +0.6**
comp=Z,1.2nm,0.8s,baz=40,slow=2.8,SNR=5.6
OXF Oxford 131.42 45 P **PKPdf 07 20 23.0 -0.4**
baz=301
WCI Wyandotte Cave 131.48 40 P **PKPdf 07 20 22.9 -0.5**
baz=306
PLCA Paso Flores 131.86 158 PKP **PKiKP 07 20 26.1 +0.9**
comp=Z,2.0nm,1.0s,baz=180,slow=3.0,SNR=2.8
PAL Palisades 136.40 27 P **PKPdf 07 20 32.3 -0.3**
baz=323
LVC Limon Verde 147.67 144 PKPbc **PKPbc 07 20 56.4 +0.1**
comp=Z,9.3nm,0.9s,baz=243,slow=2.3,SNR=5.0
CPUP Villa Florida 149.36 165 PKPbc **PKPbc 07 21 01.1 +0.9**
comp=Z,9.3nm,1.1s,baz=144,slow=2.3,SNR=7.2
LPAZ La Paz 152.81 137 PKPbc **PKiKP 07 21 10.5 +1.0**
comp=Z,5.8nm,0.8s,baz=229,slow=1.2,SNR=11

IDC 30 07:18:28.8±3.0, 5°.81S×152°.49E, h0km, mb4.4/2, mbtmp4.4/3, ML2.2/1, Error ellipse: s-maj=130.0km s-min=41.7km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.38**	**236**	Pn	Pn	07 20 04.6	+0.5
	3.2nm,0.3s,baz=36,slow=14,SNR=8.1						
PMG				Sn	Sn	07 21 09.9	-7.8
	5.9nm,0.3s,baz=136,slow=16,SNR=9.3						
	23nm,0.8s						
WRA	**Warramunga Arr**	**22.55**	**230**	P	P	07 23 29.7	-1.1
	8.0nm,0.5s,baz=54,slow=9.9,SNR=59						
ASAR	**Alice Springs**	**25.20**	**223**	P	P	07 23 57.0	+0.5
	5.0nm,0.7s,baz=59,slow=8.8,SNR=66						
	5.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.31**	**286**	PKPbc	PKPbc	07 38 22.9	-0.3
	0.8nm,0.4s,baz=84,slow=2.4,SNR=10.0						

SJA ***30*** *07:23:49.4±0.7, 30°.63S×71°.98W, h10km±2km, ML4.4, MW4.1*
IDC ***30*** *07:23:50.2±0.6, 30°.70S×71°.61W, h0km, mb4.2/10, mbtmp4.0/14, ML3.8/4, MS3.7/12, Error ellipse: s-maj=25.0km s-min=18.0km az=92.0*
GUC ***30*** *07:23:54.5±0.8, 30°.68S×71°.70W, h36km±1km, ML4.5*
NEIC ***30*** *07:23:55.5±1.8, 30°.61S±0°.04×71°.63W±0°.06, h30km±2km, mb4.5/14, Mwr4.3/61, Error ellipse: s-maj=7.4km s-min=4.4km az=65.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.23; $M_{\theta\theta}$0.45; $M_{\phi\phi}$-2.69; $M_{r\theta}$1.32; $M_{\theta\phi}$0.10; $M_{\phi r}$-1.66; Fault plane solution: M_o3.27000×10^{15} NP1:ϕ_s155.39000°, δ66.33000°, λ67.81000°. NP2:ϕ_s20.85000°, δ32.00000°, λ130.76000°. Principal axes: T 3.2835, Plg62.0000°, Azm31.0000°; N -0.0265, Plg20.0000°, Azm165.0000°; P -3.2570, Plg18.0000°, Azm262.0000°:*
NEIC ***30*** *07:23:55.6, 30°.60S×71°.57W, h26km*
VAO ***30*** *07:23:56.9±2.8, 30°.40S×71°.19W, h12km±15km, mb4.3*
ISC 30 07:23:53.2±0.8, 30°.64S±0°.02×71°.80W±0°.04, h23km±5km, n166, σ1°.75/207, mb4.3/14, MS3.8/8, 4C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.15**	**105**		**Pb**	**07 24 00.0**	**+1.6**
CO06				Sg	**Sb**	**07 24 04.0**	**+2.6**
CO06	**Fray Jorge**	**0.15**	**105**	*e*P	**Pb**	**07 23 59.9**	**+1.8**
CO06				*e*S	**Sb**	**07 24 03.5**	**+2.1**
CO06				IAML		07 24 05.1	
	comp=E,71μm,0.2s						
CO05	**La Serena**	**0.86**	**34**		**Pb**	**07 24 09.5**	**0.0**
CO05	**La Serena**	**0.86**	**34**	⇓*i*P	**Pb**	**07 24 09.8**	**+0.3**
CO05				*i* S	**Sb**	**07 24 21.5**	**+0.8**
CO05				IAML		07 24 25.8	
	comp=E,15μm,0.8s						
CO02	**Combarbal**	**0.89**	**130**		**Pb**	**07 24 09.7**	**-0.4**
CO02				Sg	**Sb**	**07 24 20.1**	**-1.5**
CO02	**Combarbal**	**0.89**	**130**	*e*P	**Pb**	**07 24 08.9**	**-1.1**
CO02				*e*S	**Sb**	**07 24 21.2**	**-0.4**
CO02				IAML		07 24 22.3	
	comp=Z,10μm,0.2s						
CO02	**Combarbal**	**0.89**	**130**	⇓*i*P	**Pb**	**07 24 09.7**	**-0.4**
CO02				*i* S	**Sb**	**07 24 20.5**	**-1.1**
CO02				IAML		07 24 22.1	
	comp=N,40μm,0.5s						
CO03	**El Pedregal**	**0.98**	**102**		**Pb**	**07 24 10.6**	**-1.0**
CO03					**Sb**	**07 24 22.4**	**-1.7**
CO03	**El Pedregal**	**0.98**	**102**	*e*P	Pb	07 24 05.3	-6.3
CO03				*e*P	**Pb**	**07 24 10.8**	**-0.8**
CO03				*e*S	**Sb**	**07 24 23.1**	**-0.9**
CO03				IAML		07 24 23.6	
	comp=Z,8μm,0.3s						
CO03	**El Pedregal**	**0.98**	**102**	⇓*i*P	**Pb**	**07 24 10.8**	**-0.8**
CO03				*i* S	**Sb**	**07 24 22.6**	**-1.5**
CO03				IAML		07 24 23.6	
	comp=N,28μm,0.5s						
GO04	**Tololo Observa**	**0.98**	**62**		**Pb**	**07 24 11.3**	**-0.4**
GO04	**Tololo Observa**	**0.98**	**62**	*e*P	**Pb**	**07 24 10.9**	**-0.7**
GO04				IAML		07 24 27.3	
	comp=Z,43μm,0.5s						
GO04	**Tololo Observa**	**0.98**	**62**	⇓*i*P	**Pb**	**07 24 11.5**	**-0.2**
GO04				*i* S	**Sb**	**07 24 24.0**	**-0.3**
CO01	**Juntas del Tor**	**1.61**	**66**		**Pn**	**07 24 21.0**	**+0.5**
CO01	**Juntas del Tor**	**1.61**	**66**	*e*P	**Pn**	**07 24 21.5**	**+1.0**
CO01				*e*S	**Sb**	**07 24 43.4**	**+0.9**
CO01	**Juntas del Tor**	**1.61**	**66**	⇓*i*P	**Pn**	**07 24 21.4**	**+0.9**
CO01				*i* S	**Sn**	**07 24 41.6**	**+0.8**
LCO	**Las Campanas**	**1.88**	**31**		**Pn**	**07 24 24.9**	**+0.7**
LCO	**Las Campanas**	**1.88**	**31**	*e*P	**Pn**	**07 24 25.1**	**+1.0**
LCO				*e*S	**Sb**	**07 24 52.4**	**+2.2**
LCO				IAML		07 24 56.6	
	comp=Z,5μm,0.9s						
LCO	**Las Campanas**	**1.88**	**31**	⇑*i*P	**Pn**	**07 24 25.2**	**+1.0**
LCO				*i* S	**Sb**	**07 24 50.7**	**+0.5**
VA06	**Catapilco**	**1.97**	**168**	Pn	**Pb**	**07 24 27.1**	**-1.2**
VA06	**Catapilco**	**1.97**	**168**	⇑*i*P	**Pn**	**07 24 25.9**	**+0.8**
VA06				*i* S	**Sn**	**07 24 50.6**	**+1.6**
VA06				IAML		07 24 57.1	
	comp=E,8μm,0.6s						
AROD	**Rodeo**	**2.06**	**77**	*e*P	**Pb**	**07 24 29.7**	**-0.5**
AROD				*e*S	**Sb**	**07 24 57.1**	**+1.5**
AC05	**El Transito**	**2.23**	**37**		**Pn**	**07 24 30.5**	**+1.6**
AC05	**El Transito**	**2.23**	**37**	*e*P	**Pn**	**07 24 25.3**	**-3.6**
AC05				*e*P	**Pb**	**07 24 30.2**	**-2.7**
AC05				*e*S	**Sb**	**07 25 00.3**	**+0.1**
AC05				IAML		07 25 07.8	
	comp=Z,2μm,0.9s						
AC05	**El Transito**	**2.23**	**37**	*e*P	**Pb**	**07 24 31.1**	**-1.9**
AC05				IAML		07 25 09.4	
	comp=E,5μm,0.3s						
ACCO	**Cerro Coronel**	**2.36**	**90**	*e*P	**Pb**	**07 24 34.1**	**-1.1**
ACCO				*e*P	**Pn**	**07 24 34.3**	**+3.5**
ACCO				*e*S	**Sb**	**07 25 05.9**	**+1.9**
DOCA	**Reserva Natura**	**2.36**	**98**	*e*P	**Pn**	**07 24 32.9**	**+2.0**
DOCA				*e*S	**Sn**	**07 25 00.8**	**+1.5**
DOCA				IAML		07 25 14.3	
	comp=Z,1μm,1.2s						
ACDV	**Cuesta del Vie**	**2.36**	**79**	*e*P	**Pb**	**07 24 34.3**	**-0.9**
ACDV				*e*S	**Sn**	**07 25 00.8**	**+1.7**
ACDV				*e*S	**Sb**	**07 25 06.2**	**+2.3**
ACDV				IAML		07 25 06.8	
	comp=Z,1μm,0.5s						
VA03	**San Esteban**	**2.37**	**154**		**Pn**	**07 24 32.4**	**+1.6**
VA03	**San Esteban**	**2.37**	**154**	*e*P	**Pn**	**07 24 31.9**	**+1.1**
VA03				*e*S	**Sb**	**07 25 03.1**	**-1.1**
VA03				IAML		07 25 13.0	
	comp=Z,2μm,0.3s						
VA03	**San Esteban**	**2.37**	**154**	⇑*i*P	**Pn**	**07 24 32.3**	**+1.5**
VA03				*i* S	**Sn**	**07 25 00.9**	**+1.7**
VA03				IAML		07 25 10.6	
	comp=E,4μm,0.5s						
VA01	**Torpederas**	**2.38**	**177**		**Pn**	**07 24 32.1**	**+1.3**
VA01	**Torpederas**	**2.38**	**177**	*e*P	**Pn**	**07 24 32.1**	**+1.3**
VA01				*e*S	**Sn**	**07 24 59.8**	**+0.5**
ROCH	**El Roble**	**2.42**	**164**	*e*P	**Pn**	**07 24 32.7**	**+1.1**
ROCH				*i* S	**Sn**	**07 25 01.6**	**+1.0**
ROCH				IAML		07 25 09.0	
	comp=N,3μm,0.5s						
RTLS	**Leoncito**	**2.44**	**119**	*e*P	**Pb**	**07 24 35.3**	**-1.3**
RTLS				*e*S	**Sb**	**07 25 07.8**	**+1.5**
RTLS				IAML		07 25 17.5	
	comp=Z,4μm,0.4s						
AC04	**Llanos de Chal**	**2.50**	**15**		**Pn**	**07 24 32.9**	**+0.4**
AC04	**Llanos de Chal**	**2.50**	**15**	*e*P	**Pn**	**07 24 33.0**	**+0.5**
AC04				*e*S	**Sb**	**07 25 05.3**	**-2.6**
AC04				IAML		07 25 16.8	
	comp=Z,2μm,0.9s						
AC04	**Llanos de Chal**	**2.50**	**15**	*e*P	**Pn**	**07 24 33.1**	**+0.6**
AC04				IAML		07 25 17.4	
	comp=E,2μm,0.8s						
PEL	**Peldehue**	**2.67**	**160**	Pn	**Pn**	**07 24 36.2**	**+1.3**
PEL	**Peldehue**	**2.67**	**160**	*e*P	**Pn**	**07 24 36.2**	**+1.3**
PEL				*e*S	**Sn**	**07 25 07.6**	**+1.0**
PEL				IAML		07 25 17.5	
	comp=E,2μm,0.2s						
MT02	**Curacav**	**2.67**	**168**		**Pn**	**07 24 36.8**	**+1.9**
MT02	**Curacav**	**2.67**	**168**	*e*P	**Pn**	**07 24 35.5**	**+0.6**
MT02				*e*S	**Sb**	**07 25 11.8**	**-1.0**
MT02				IAML		07 25 18.9	
	comp=Z,996nm,0.7s						
MT02	**Curacav**	**2.67**	**168**	*e*P	**Pn**	**07 24 35.5**	**+0.6**
MT02				IAML		07 25 18.9	
	comp=N,974nm,0.6s						
MT10	**Hacienda Santa**	**2.84**	**158**	⇑*i*P	**Pn**	**07 24 38.8**	**+1.6**
MT10				*i* S	**Sn**	**07 25 11.9**	**+1.1**
MT10				IAML		07 25 23.8	
	comp=N,5μm,0.6s						
MT05	**Renca**	**2.89**	**162**		**Pn**	**07 24 40.5**	**+2.6**
MT05	**Renca**	**2.89**	**162**	*e*P	**Pn**	**07 24 40.2**	**+2.3**
MT05				*e*S	**Sn**	**07 25 15.3**	**+3.3**
MT05				IAML		07 25 30.5	
	comp=Z,1μm,0.5s						
MT05	**Renca**	**2.89**	**162**	*e*P	**Pn**	**07 24 39.7**	**+1.8**

MT05				*i* S		**Sn**	**07 25 13.3 +1.3**
MT05				IAML			07 25 30.3
	comp=E,2μm,0.3s						
SJA	**San Juan**	**2.92**	**109**	*eP*		**Pn**	**07 24 40.0 +1.8**
SJA				*eS*		**Sn**	**07 25 14.8 +2.2**
SJA				IAML			07 25 45.6
	comp=Z,922nm,1.4s						
MT14	**Cerro Cal¡n**	**2.95**	**159**	*eP*		**Pn**	**07 24 40.4 +1.6**
MT14				*i* S		**Sn**	**07 25 14.6 +1.1**
MT14				IAML			07 25 30.1
	comp=E,3μm,0.3s						
MT16	**CCHEN**	**2.99**	**159**			**Pn**	**07 24 41.3 +2.1**
MT16	**CCHEN**	**2.99**	**159**	*eP*		**Pn**	**07 24 40.9 +1.7**
MT16				*i* S		**Sn**	**07 25 15.0 +0.6**
MT16				IAML			07 25 28.9
	comp=N,957nm,0.5s						
VA05	**Santo Domingo**	**3.02**	**177**			**Pn**	**07 24 40.5 +1.0**
VA05	**Santo Domingo**	**3.02**	**177**	*eP*		**Pn**	**07 24 40.0 +0.5**
VA05				*i* S		**Sn**	**07 25 15.6 +0.6**
VA05				IAML			07 25 28.2
	comp=E,2μm,0.3s						
RTCV	**Cerro Valdivia**	**3.05**	**114**	*eP*		**Pb**	**07 24 44.5 -2.3**
RTCV				*eS*		**Sb**	**07 25 25.1 +1.5**
MT03	**Universidad Ad**	**3.05**	**159**			**Pn**	**07 24 42.2 +2.1**
MT03	**Universidad Ad**	**3.05**	**159**	*eP*		**Pn**	**07 24 41.3 +1.1**
MT03				*eS*		**Sb**	**07 25 22.3 -1.5**
MT03				IAML			07 25 30.1
	comp=Z,1μm,0.4s						
MT03	**Universidad Ad**	**3.05**	**159**	*eP*		**Pn**	**07 24 41.8 +1.6**
MT03				*i* S		**Sn**	**07 25 17.2 +1.2**
MT03				IAML			07 25 36.0
	comp=E,2μm,0.5s						
MT04	**Ro Olivares**	**3.10**	**153**	*eP*		**Pn**	**07 24 43.4 +2.5**
MT04				*eS*		**Sn**	**07 25 20.7 +3.3**
MT04				IAML			07 25 30.9
	comp=E,1μm,0.4s						
MT15	**Las Vizcachas**	**3.15**	**160**	*eP*		**Pn**	**07 24 43.0 +1.5**
MT15				*i* S		**Sn**	**07 25 19.6 +1.2**
MT15				IAML			07 25 38.3
	comp=N,3μm,0.3s						
MT08	**Bocatoma Ro**	**3.18**	**152**			**Pn**	**07 24 45.1 +3.1**
MT08	**Bocatoma Ro**	**3.18**	**152**	*eP*		**Pn**	**07 24 45.7 +3.6**
MT08				*i* S		**Sb**	**07 25 25.1 -2.5**
MT09	**Talagante**	**3.21**	**168**			**Pn**	**07 24 43.4 +1.1**
MT09	**Talagante**	**3.21**	**168**	*eP*		**Pn**	**07 24 43.6 +1.3**
MT09				*i* S		**Sn**	**07 25 20.4 +0.5**
MT09				IAML			07 25 40.5
	comp=E,1μm,0.3s						
MT01	**Popeta**	**3.25**	**172**			**Pn**	**07 24 45.3 +2.5**
MT01	**Popeta**	**3.25**	**172**	*eP*		**Pn**	**07 24 43.7 +0.9**
MT01				*eS*		**Sn**	**07 25 25.3 +4.5**
MT01				IAML			07 25 47.4
	comp=Z,494nm,0.6s						
MT01	**Popeta**	**3.25**	**172**	*eP*		**Pn**	**07 24 43.6 +0.8**
MT01				*eS*		**Sn**	**07 25 20.8 0.0**
MT01				IAML			07 25 38.3
	comp=E,718nm,0.2s						
MT12	**Pirque**	**3.26**	**161**	*eP*		**Pn**	**07 24 44.4 +1.4**
MT12				*i* S		**Sn**	**07 25 22.1 +0.9**
MT12				IAML			07 25 37.3
	comp=E,2μm,0.5s						
ARCO	**CERRO ARCO**	**3.29**	**133**	*eP*		**Pb**	**07 24 48.2 -2.8**
ARCO				*eS*		**Sb**	**07 25 37.7 +7.1**
ARCO				IAML			07 25 40.6
	comp=Z,704nm,0.4s						
GO03	**Copiap**	**3.33**	**25**			**Pn**	**07 24 44.8 +0.9**
GO03	**Copiap**	**3.33**	**25**	*eP*		**Pn**	**07 24 45.3 +1.4**
GO03				*eS*		**Sn**	**07 25 26.3 +3.6**
GO03				IAML			07 25 40.4
	comp=Z,1μm,0.8s						
LMEL	**Las Melosas**	**3.48**	**158**			**Pn**	**07 24 48.7 +2.7**
BO04	**La Punta**	**3.49**	**164**			**Pn**	**07 24 47.6 +1.4**
AC06	**Mina Casimiro**	**3.50**	**22**			**Pn**	**07 24 46.9 +0.6**
AAGR	**Agrelo**	**3.51**	**135**	*eP*		**Pn**	**07 24 45.3 -1.2**
AAGR				*eP*		**Pb**	**07 24 51.1 -3.7**
AAGR				*eP*			07 24 51.5
AAGR				*eS*		**Sb**	**07 25 44.0 +6.9**
AAGR				IAML			07 25 51.7
	comp=Z,544nm,1.4s						
AVFE	**Valle Fertil**	**3.74**	**91**	*eP*		**Pn**	**07 24 52.1 +2.5**
AVFE				IAML			07 25 54.5
	comp=Z,536nm,1.0s						
BO01	**Tunca**	**3.79**	**171**			**Pn**	**07 24 52.0 +1.7**
BO02	**Sierra Bellavi**	**4.23**	**169**	Pn		**Pn**	**07 24 58.6 +2.3**
GO05	**Huala**	**4.36**	**181**	Pn		**Pn**	**07 24 57.7 -0.4**
GO05	**Huala**	**4.36**	**181**	IAML			07 26 18.6
	comp=Z,191nm,0.9s						
ACHE	**Chepes**	**4.45**	**98**	*eP*		**Pn**	**07 25 01.9 +2.6**
ACHE				*eS*		**Sb**	**07 25 59.9 -4.0**
ACHE				*eS*		Sn	07 26 00.3 +10
AC02	**Maricunga**	**4.45**	**32**	Pn		**Pn**	**07 25 01.0 +1.2**
AC02	**Maricunga**	**4.45**	**32**	*eP*		**Pn**	**07 25 01.4 +1.6**
AC02				*eS*		**Sn**	**07 25 54.0 +2.9**
AC01	**Pan de Azucar**	**4.59**	**14**	Pn		**Pn**	**07 25 00.6 -0.7**
AC01	**Pan de Azucar**	**4.59**	**14**	*eP*		**Pn**	**07 25 00.6 -0.7**
AC01				*eS*		**Sb**	**07 26 08.3 +0.2**
AC01				IAML			07 26 21.8
	comp=Z,279nm,1.2s						
AC01	**Pan de Azucar**	**4.59**	**14**	*eP*		**Pn**	**07 25 00.4 -0.9**
H03N1	**Juan Fernandez**	**6.65**	**243**	Pn		**Pn**	**07 25 30.2 +0.9**
	baz=117,slow=18						
H03N1				T		T	07 32 23.8
	baz=71,slow=72,SNR=5513						
H03N3	**Juan Fernandez**	**6.67**	**243**	Pn		**Pn**	**07 25 30.0 +0.4**
	baz=117,slow=18						
H03N3				T		T	07 32 26.9
	baz=71,slow=72,SNR=4495						
H03N2	**Juan Fernandez**	**6.67**	**243**	Pn		**Pn**	**07 25 30.2 +0.7**
	baz=117,slow=18						
H03N2				T		T	07 32 25.8
	baz=71,slow=72,SNR=4382						
VA04	**Juan Fernndez**	**6.67**	**241**			**Pn**	**07 25 28.9 -0.9**
LVC	**Limon Verde**	**8.40**	**19**	Pn		**Pn**	**07 25 52.5 -1.5**
	comp=Z,0.3nm,0.3s,baz=173,slow=10.0,SNR=2.0						
LVC				Sn		**Sn**	**07 27 30.1 +1.9**
	comp=Z,0.9nm,0.3s,baz=194,slow=19,SNR=1.3						
LVC				LR		LR	07 29 22.5
	comp=Z,333nm,20.8s,baz=210,slow=40						
	comp=Z,7nm,0.9s						
LVC	**Limon Verde**	**8.40**	**19**	*eP*		**Pn**	**07 25 52.4 -1.5**
GO06	**Curarrehue**	**8.93**	**178**	Pn		**Pn**	**07 26 03.8 +2.9**
PLCA	**Paso Flores**	**10.12**	**175**	Pn		**Pn**	**07 26 16.7 -0.5**
	comp=Z,0.2nm,0.3s,baz=355,slow=12,SNR=8.1						
PLCA				LR		LR	07 30 39.1
	comp=Z,354nm,20.2s,baz=350,slow=41						
	comp=Z,0.4nm,0.4s						
LL04	**Puerto Octay**	**10.26**	**183**	Pn		**Pn**	**07 26 19.4 +0.4**
PSAL	**Palomas, Salto**	**12.20**	**96**	*eP*		**Pn**	**07 26 44.5 -1.1**
ITQB	**Itaqui**	**13.17**	**90**	*eP*		**Pn**	**07 26 55.4 -3.4**
CPUP	**Villa Florida**	**13.43**	**75**			**Pn**	**07 27 00.8 -1.5**
CPUP	**Villa Florida**	**13.43**	**75**	Pn		**Pn**	**07 27 00.3 -2.0**
	comp=Z,0.2nm,0.3s,baz=248,slow=10,SNR=5.9						
CPUP				LR		LR	07 32 40.1
	comp=Z,439nm,19.6s,baz=255,slow=40						
	comp=Z,1.0nm,0.4s						
TBOT	**Tacuaremb**	**13.63**	**98**	*eP*		**Pn**	**07 27 03.1 -1.9**
RODS	**Rosario do Sul**	**14.32**	**93**	*eP*		**Pn**	**07 27 12.5 -2.1**
LPAZ	**La Paz**	**14.67**	**14**	Pn		**Pn**	**07 27 20.4 +0.5**
	comp=Z,0.1nm,0.3s,baz=183,slow=8.0,SNR=8.3						
	comp=Z,3.1nm,0.8s						
LPAZ	**La Paz**	**14.67**	**14**	*eP*		**Pn**	**07 27 19.9 -0.1**
CRSM	**Crissiumal (Br**	**15.84**	**83**	*eP*		**Pn**	**07 27 32.6 -2.1**
ITAB	**Concordia**	**17.55**	**84**			**Pn**	**07 27 56.5 +0.2**
ITAB				IAmb		IAmb	07 28 11.7
	comp=Z,52nm,1.4s						
ITAB	**Concordia**	**17.55**	**84**	*eP*		**Pn**	**07 27 53.3 -3.0**
AQDB	**Aquidauana**	**17.68**	**59**	*eP*		**Pn**	**07 27 56.4 -1.6**
CNLB	**Canela**	**18.20**	**91**	*eP*		**Pn**	**07 28 03.5 -0.9**
PTGB	**Pitanga**	**18.44**	**76**	*eP*		**P**	**07 28 05.7 -1.5**
TRCB	**Terra Rica**	**18.80**	**70**	*eP*		**P**	**07 28 10.3 -0.9**
PTLB	**Pontes e Lacer**	**19.06**	**40**	P		**P**	**07 28 13.8 -0.2**
PTLB	**Pontes e Lacer**	**19.06**	**40**	*eP*		**P**	**07 28 13.7 -0.2**
NNA	**Nana**	**19.14**	**345**	LR		LR	07 34 00.2
	comp=Z,107nm,21.5s,baz=163,slow=32						
RVDE	**Rio Verde (Bra**	**19.15**	**57**	*eP*		**P**	**07 28 14.7 -0.3**
LDASE	**Londrina, Braz**	**19.77**	**74**	*eP*		**P**	**07 28 20.0 -1.8**
PCMB	**Pacaembu**	**20.49**	**69**	*eP*		**P**	**07 28 28.8 -0.8**
VILB	**Vilhena**	**20.60**	**34**	P		**P**	**07 28 30.8 -0.1**
VILB				IAmb		IAmb	07 28 43.1
	comp=Z,14nm,0.8s						
VILB	**Vilhena**	**20.60**	**34**	*eP*		**P**	**07 28 30.4 -0.5**
SALV	**Santo Antonio**	**20.80**	**49**	*eP*		**P**	**07 28 32.4 -0.5**
ETMB	**Extrema**	**21.36**	**15**	P		**P**	**07 28 39.7 +0.7**
ETMB				IAmb		IAmb	07 28 56.5
	comp=Z,14nm,1.1s						
ETMB	**Extrema**	**21.36**	**15**	*eP*		**P**	**07 28 39.7 +0.7**
ITRB	**Iturama**	**22.21**	**66**	*eP*		**P**	**07 28 48.6 +0.5**
SAML	**Samuel**	**23.03**	**22**	P		**P**	**07 28 57.0 +0.2**
SAML	**Samuel**	**23.03**	**22**	*eP*		**P**	**07 28 57.4 +0.6**
VAO	**Valinhos**	**23.40**	**77**	*eP*		**P**	**07 28 58.6 -2.0**
PDRB	**Porto dos Gac**	**23.53**	**40**	*eP*		**P**	**07 29 01.0 -0.8**
ATAH	**Atahualpa**	**24.18**	**344**	LR		LR	07 37 43.0
	comp=Z,107nm,18.2s,baz=169,slow=34						
TBTG	**Tabatinga, AM**	**26.37**	**4**	*eP*		**P**	**07 29 32.1 +4.4**
BDFB	**Brasilia**	**26.40**	**61**	P		**P**	**07 29 27.1 -1.0**
BDFB				IAmb		IAmb	07 29 41.1
	comp=Z,9.4nm,0.8s						
BDFB	**Brasilia**	**26.40**	**61**	P		**P**	**07 29 27.2 -1.0**
	comp=Z,3.3nm,0.7s,baz=194,slow=9.9,SNR=5.2						
BDFB				LR		LR	07 40 56.2
	comp=Z,304nm,19.6s,baz=251,slow=39						
	comp=Z,3.3nm,0.7s						
SNDB	**Serra Nova Dou**	**26.56**	**50**	*eP*		**P**	**07 29 27.5 -2.1**
RPN	**Rapa Nui**	**32.95**	**267**	LR		LR	07 40 00.7
	comp=Z,189nm,19.4s,baz=39,slow=29						
PMSA	**Palmer Station**	**34.50**	**174**	LR		LR	07 43 31.6
	comp=Z,171nm,20.4s,baz=301,slow=34						
BOAV	**Boa Vista**	**34.56**	**20**	P		**P**	**07 30 39.7 -0.5**
BOAV				IAmb		IAmb	07 30 53.6
	comp=Z,13nm,1.5s						
BAUV	**El Baul**	**39.52**	**6**	P		**P**	**07 31 21.8 -0.4**
BAUV				IAmb		IAmb	07 31 23.1
	comp=Z,12nm,0.9s						
MDP	**Montagnes des**	**39.98**	**31**	LR		LR	07 48 33.4
	comp=Z,106nm,19.7s,baz=190,slow=37						
SNAA	**Sanae**	**54.63**	**159**	P		**P**	**07 33 19.4 -0.3**
QSPA	**South Pole Qui**	**59.59**	**180**	P		**P**	**07 33 55.7 +0.8**
	comp=Z,1.7nm,0.8s,baz=150,slow=7.0,SNR=3.8						
	comp=Z,1.7nm,0.8s						
TXAR	**Lajitas Array**	**66.92**	**330**	P		**P**	**07 34 45.8 +1.9**
	comp=Z,0.6nm,0.8s,baz=141,slow=8.1,SNR=4.9						
	comp=Z,0.6nm,0.8s						
DBIC	**Dimbokro**	**73.93**	**72**	P		**P**	**07 35 26.9 0.0**
	comp=Z,3.3nm,0.4s,baz=224,slow=7.1,SNR=14						
	comp=Z,3.3nm,0.4s						
MAW	**Mawson**	**76.34**	**164**	P		**P**	**07 35 40.4 +0.5**
	comp=Z,4.0nm,0.6s,baz=231,slow=8.8,SNR=6.4						
	comp=Z,4.0nm,0.6s						
ECSD	**EROS Data Cent**	**77.42**	**342**	P		**P**	**07 35 47.4 +1.1**
ECSD				IAmb		IAmb	07 35 48.6
	comp=Z,4.6nm,0.9s						
RAR	**Rarotonga**	**77.83**	**253**	LR		LR	07 59 55.9
	comp=Z,27nm,21.9s,baz=217,slow=28						
HWUT	**Hardware Ranch**	**80.71**	**331**	P		**P**	**07 36 05.8 +1.2**
HWUT				IAmb		IAmb	07 36 06.9
	comp=Z,2.6nm,0.8s						
NVAR	**Mina Array Bea**	**81.25**	**325**	P		**P**	**07 36 09.3 +1.8**
	comp=Z,0.7nm,0.8s,baz=145,slow=6.1,SNR=5.4						
	comp=Z,0.7nm,0.8s						
BOSA	**Boshof**	**81.46**	**118**	P		**P**	**07 36 09.0 +0.1**
	comp=Z,2.0nm,0.7s,baz=189,slow=6.0,SNR=4.2						
	comp=Z,2.0nm,0.7s						
ELK	**Elko**	**81.61**	**328**	P		**P**	**07 36 11.1 +1.6**
TOA0	**Torodi Ar. Sit**	**82.88**	**70**	P		**P**	**07 36 16.5 +0.2**
TORD	**Torodi Ar. Bea**	**82.88**	**70**	P		**P**	**07 36 16.2 -0.1**
TORD	**Torodi Ar. Bea**	**82.88**	**70**	P		**P**	**07 36 16.4 +0.1**
	comp=Z,1.2nm,0.4s,baz=283,slow=6.2,SNR=32						
	comp=Z,1.2nm,0.4s						
ULM	**Lac du Bonnet**	**83.31**	**345**	P		**P**	**07 36 18.9 +1.2**
	comp=Z,1.5nm,0.7s,baz=113,slow=4.7,SNR=3.3						
	comp=Z,1.5nm,0.7s						
SCHQ	**Schefferville**	**85.23**	**3**	LR		LR	08 15 52.1
	comp=Z,81nm,21.9s,baz=354,slow=37						
ESDC	**Sonseca Array**	**94.10**	**46**	LR		LR	08 18 58.6
	comp=Z,67nm,18.6s,baz=58,slow=35						
YKA	**Yellowknife Ar**	**98.95**	**341**	P		Pdif	07 37 32.9 +1.9
	comp=Z,0.1nm,0.8s,baz=133,slow=3.5,SNR=2.5						
	comp=Z,0.1nm,0.8s						
ASAR	**Alice Springs**	**120.64**	**208**	PKP		**PKPdf**	**07 42 42.7 -1.0**
	comp=Z,0.1nm,0.4s,baz=113,slow=1.6,SNR=1.6						
WRA	**Warramunga Arr**	**123.78**	**210**	PKP		**PKPdf**	**07 42 48.9 -0.9**
	comp=Z,0.5nm,0.7s,baz=155,slow=1.7,SNR=7.1						
H11S2	**WAKE ISLAND Hyl**	**25.96**	**271**	T		T	10 01 41.6
	baz=115,slow=74,SNR=87						
H11S1	**WAKE ISLAND Hyl**	**25.97**	**271**	T		T	10 01 37.8
	baz=115,slow=74,SNR=121						
H11S3	**WAKE ISLAND Hyl**	**25.97**	**271**	T		T	10 01 36.9
	baz=115,slow=74,SNR=90						
H11N3	**WAKE ISLAND Hyl**	**26.28**	**273**	T		T	10 02 03.6
	baz=116,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hyl**	**26.30**	**273**	T		T	10 02 06.2
	baz=116,slow=75,SNR=9.7						
H11N2	**WAKE ISLAND Hyl**	**26.30**	**273**	T		T	10 02 02.1
	baz=116,slow=75,SNR=27						
BVAR	**Borovoye Array**	**144.63**	**40**	PKP		**PKPdf**	**07 43 27.3 -0.1**
	comp=Z,1.3nm,0.5s,baz=293,slow=3.9,SNR=9.2						
KURBB	**Kurchatov Arra**	**150.22**	**39**	PKPbc		**PKPbc**	**07 43 42.6 +0.8**
	comp=Z,1.1nm,0.3s,baz=298,slow=3.1,SNR=7.7						
ZALV	**Zalesovo Beam**	**151.24**	**29**	PKPbc		**PKPbc**	**07 43 44.8 +0.6**
	comp=Z,4.0nm,0.6s,baz=306,slow=3.5,SNR=11						
ZALV				PKPab		**PKPab**	**07 43 52.9 +0.8**
	comp=Z,9.3nm,0.9s,baz=277,slow=3.7,SNR=11						
MKAR	**Makanchi Array**	**154.30**	**44**	PKPbc		**PKiKP**	**07 43 51.9 +0.6**
	comp=Z,0.2nm,0.4s,baz=267,slow=2.9,SNR=2.0						
SONM	**Songino Array**	**162.77**	**4**	PKPab		**PKPab**	**07 44 43.2 +1.2**
	comp=Z,0.3nm,0.7s,baz=345,slow=4.3,SNR=3.7						

HEL 30 07:29:06.9±0.2, 67.60N×33.87E, h0km, ML1.2,
Suspected explosion, Baltic
States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVZ	**Lovozero**	**0.42**	**45**	PG	Pg	07 29 14.7	-0.3
	baz=225						
LVZ				SG	Sg	07 29 19.6	-0.9
VRF	**Varrio**	**1.63**	**277**	PG	Pn	07 29 36.2	-0.7
VRF				SG	Sn	07 29 55.8	-2.8
VRF				MSG		07 29 55.9	
	comp=Z,1.8nm,0.2s						
OLKF	**Oulanka, Finla**	**2.18**	**236**	PG	Pn	07 29 45.5	+1.1
OLKF				MSG		07 30 11.4	
	comp=Z,0.7nm,0.2s						
OLKF				SG	Sb	07 30 13.8	-0.9
KU6	**Riekki**	**2.23**	**227**	PG	Pb	07 29 47.1	-1.0
	baz=45						
KU6				MSG		07 30 13.0	
	comp=Z,0.8nm,0.2s						
KU6				SG	Sb	07 30 15.8	-0.4
RAJF	**Raja-Jooseppi**	**2.27**	**295**	PB	Pn	07 29 46.3	+0.7
RAJF				SN	Sn	07 30 13.4	-0.7
MSF	**Maaselka**	**2.56**	**231**	PG	Pb	07 29 51.9	-1.7
MSF				SG	Sb	07 30 26.4	+0.8
SGF	**Sodankyl**	**2.83**	**270**	PG	Pb	07 29 56.2	-2.0
SGF				SB	Sb	07 30 30.6	-2.6
KMNF	**Kaamanen**	**2.98**	**305**	SB	Sb	07 30 36.0	-1.7
RANF	**Ranua**	**3.22**	**244**	SG	Sb	07 30 45.6	+1.0
RNF	**Rovaniemi**	**3.23**	**256**	SN	Sn	07 30 38.4	+0.5
KEV	**Kevo**	**3.31**	**314**	SB	Sb	07 30 45.4	-1.7
ARA0	**ARCESS Array S**	**3.63**	**306**	PN	Pn	07 30 02.3	-2.0
	baz=122						
ARA0				SG	Sb	07 30 57.2	+0.8

HEL 30 07:30:00.9±0.4, 67.83N×20.25E, h0km, ML1.0,
Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LANU	**Lannavaara**	**0.69**	**71**	PB	Sg	07 30 21.7	-1.4
LANU	**Lannavaara**	**0.69**	**71**	PG	Pg	07 30 13.5	-0.7
	baz=256						
LANU				SG	Sg	07 30 21.7	-1.4
KIF	**Kilpisjarvi**	**1.20**	**9**	PN	Pn	07 30 24.8	-0.1
KIF				MSG		07 30 38.2	
	comp=Z,1.5nm,0.2s						
KIF				SG	Sg	07 30 38.8	-0.5
PAJU	**Pajala**	**1.37**	**125**	PG	Pg	07 30 25.3	-1.8
PAJU				SB	Sg	07 30 43.8	-1.0
HEF	**Hetta**	**1.40**	**64**	MSG		07 30 43.1	
	comp=Z,0.7nm,0.2s						
HEF				SG	Sg	07 30 45.1	-0.7
KTK1	**Kautokeino**	**1.62**	**42**	PN	Pn	07 30 31.0	+0.3
KTK1				SN	Sb	07 30 52.7	+0.1
TRO	**Tromso**	**1.87**	**346**	SG	Sn	07 30 58.9	+0.5
KALU	**Kalix**	**2.33**	**147**	PG	Pn	07 30 41.3	+0.9
KALU				SG	Sb	07 31 12.3	-0.6
TOF	**Tornio**	**2.38**	**136**	MSG		07 31 11.4	
	comp=Z,0.4nm,0.2s						
TOF				SG	Sb	07 31 14.4	0.0
RNF	**Rovaniemi**	**2.56**	**116**	PG	Pb	07 30 45.9	-1.6
RNF				SG	Sb	07 31 19.8	+0.3
KEV	**Kevo**	**3.12**	**49**	PN	Pn	07 30 50.8	-0.5
KEV				MSG		07 31 32.6	
	comp=Z,0.4nm,0.2s						
RANF	**Ranua**	**3.15**	**122**	PN	Pn	07 30 50.3	-1.4

*IDC **30** 07:30:35.0±0.8, 29.54N×130.67E, h0km, mb3.9/17, mbtmp3.9/19, ML3.6/2, MS3.4/1, Error ellipse: s-maj=25.3km s-min=17.5km az=78.0*
*JMA **30** 07:30:39.6±0.1, 29.4N±0.6×130.7E±0.9, h57km±3km, MV3.6/34, NEAR AMAMI-OSHIMA ISLAND*
*NIED **30** 07:30:39.6, 29.43N×130.73E, h57km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.83; Mθθ-0.89; Mφφ0.06; Mrθ0.62; Mrφ-0.12; Mθφ0.67; Fault plane solution: M₀1.25000×10¹⁵ NP1:φs57.00000°, δ69.00000°, λ69.00000°. NP2:φs283.00000°, δ29.00000°, λ132.00000°.*
*NEIC **30** 07:30:41.0±1.3, 29.39N±0.06×130.6E±0.1, h40km±8km, mb4.4/40 Error ellipse: s-maj=13.7km s-min=9.2km az=101.0*

ISC 30 07:30:37.7±0.7, 29.39N±0.03×130.78E±0.05, h20km±6km, n91, σ1¶14/99, mb4.3/35, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYAK	**Yakushimahirau**	**0.88**	**345**	*i* P		**Pn**	**07 30 55.3 +0.4**
JYAK				*eS*		**Sn**	**07 31 07.7 +0.6**
JNN	**Nakanoshima**	**0.91**	**300**	P		**Pn**	**07 30 55.7 +0.5**
JNN				S		**Sn**	**07 31 08.1 +0.4**
JMTN	**Minamitane**	**1.01**	**6**	P		**Pn**	**07 30 57.4 +0.7**
JKC	**Kuchinoerabu**	**1.18**	**335**	P		**Pb**	**07 30 59.6 +0.2**
JTN	**Tanegashima 3**	**1.27**	**8**	P		**Pb**	**07 31 01.1 +0.1**
JZK	**Kikaishima**	**1.28**	**214**	*eP*		**Pb**	**07 31 02.0 +0.9**
JTAJ	**Takarajima**	**1.40**	**261**	*eP*		**Pb**	**07 31 03.3 +0.3**
JAM	**Amamí Oshima**	**1.42**	**227**	P		**Pb**	**07 31 03.4 +0.1**
JTSR	**Tashiro 2**	**1.78**	**4**	P		**Pn**	**07 31 08.4 +1.2**
JTSR				S		**Sn**	**07 31 29.4 +0.2**
JAMN	**Amaminishikomi**	**1.81**	**231**	P		**Pb**	**07 31 09.4 -0.8**
JAMN				S		**Sb**	**07 31 32.1 -0.3**
JSU	**Suzuyama**	**2.13**	**353**	P		**Pn**	**07 31 12.7 +0.6**
JSU				*eS*		**Sn**	**07 31 38.2 +0.2**
JNAR	**Kushima--Naru**	**2.17**	**11**	P		**Pb**	**07 31 14.6 -1.7**
JTK	**Tokunoshima**	**2.27**	**226**	P		**Pn**	**07 31 15.8 +1.9**
JOKE	**Okinoerabujima**	**2.80**	**224**	P		**Pn**	**07 31 22.8 +1.4**
JYRO	**Yoronjima**	**3.12**	**222**	P		**Pn**	**07 31 26.8 +1.0**
JOW	**Kunigami**	**3.37**	**222**	Pn		**Pn**	**07 31 29.9 +0.7**
JOW	**Kunigami**	**3.37**	**222**	P		**Pn**	**07 31 30.6 +1.4**
JOW				*eS*		**Sn**	**07 32 08.9 +0.2**
JOW	**Kunigami**	**3.37**	**222**	Pn		**Pn**	**07 31 30.4 +1.2**
	7.1nm,0.3s,baz=69,slow=8.6,SNR=21						
JOW				Sn		**Sn**	**07 32 08.7 0.0**
	11nm,0.3s,baz=225,slow=23,SNR=5.6						
	17nm,0.3s						
JIH	**Iheya**	**3.41**	**227**	*eP*		**Pn**	**07 31 30.7 +0.9**
JKDJ	**Kitadaitoujima**	**3.46**	**172**	P		**Pn**	**07 31 31.6 +1.3**
JMZ	**Minamidaito 2**	**3.58**	**174**	Pn		**Pn**	**07 31 31.9 -0.1**
JMZ	**Minamidaito 2**	**3.58**	**174**	P		**Pn**	**07 31 32.1 +0.1**
JMZ				*eS*		**Sn**	**07 32 11.4 -2.2**
JNU	**Nakatsue**	**3.72**	**1**			**Pn**	**07 31 35.3 +1.3**
JNU	**Nakatsue**	**3.72**	**1**	Pn		**Pn**	**07 31 35.7 +1.7**
	6.4nm,0.3s,baz=222,slow=7.6,SNR=26						
JNU				Sn		**Sn**	**07 32 16.1 -1.2**
	1.6nm,0.3s,baz=64,slow=22,SNR=1.3						
JNTH	**Nagotoyohara**	**3.76**	**221**	*eP*		**Pn**	**07 31 35.6 +1.1**
JMN	**Monobe**	**5.07**	**31**	Pn		**Pn**	**07 31 52.8 +0.2**
INU	**Inuyama**	**7.95**	**40**	Pn		**Pn**	**07 32 35.3 +3.3**
JGF	**Kuroka**	**8.32**	**40**	Pn		**Pn**	**07 32 40.0 +2.8**
KSRS	**Korea Array**	**8.39**	**344**	Pn		**Pn**	**07 32 39.5 +1.5**
	0.3nm,0.3s,baz=159,slow=15,SNR=4.8						
KLR	**Kul'dur**	**19.83**	**2**	P		**P**	**07 35 06.2 -

J26L	**Joseph Creek**	**62.05**	**29**	P	**P**	**07 40 57.0**	**+0.4**
J26L				IAmb	IAmb	07 41 37.9	
	comp=Z,4.1nm,1.4s						
M26K	**Nabesna, AK**	**62.69**	**32**	P	**P**	**07 41 01.5**	**+0.7**
M26K				IAmb	IAmb	07 41 07.6	
	comp=Z,5.7nm,1.4s						
BCAR	**Beaver Creek A**	**63.10**	**31**	P	**P**	**07 41 05.0**	**+1.5**
M27K	**Edge Creek, AK**	**63.21**	**31**	P	**P**	**07 41 05.2**	**+0.8**
I28M	**Miner Creek**	**63.38**	**28**	P	**P**	**07 41 06.6**	**+1.2**
I28M				IAmb	IAmb	07 41 28.1	
	comp=Z,3.3nm,1.4s						
G29M	**Pine Creek**	**63.80**	**26**	P	**P**	**07 41 10.2**	**+2.1**
G29M				IAmb	IAmb	07 41 10.4	
	comp=Z,5.2nm,1.2s						
H29M	**Whitestone**	**63.83**	**27**	P	**P**	**07 41 10.0**	**+1.8**
G30M	**tAoh Zraii Nji**	**64.47**	**26**	P	**P**	**07 41 13.2**	**+0.7**
G30M				IAmb	IAmb	07 41 15.3	
	comp=Z,5.2nm,1.2s						
L29M	**L29M**	**64.71**	**30**	P	**P**	**07 41 15.8**	**+1.8**
L29M				IAmb	IAmb	07 41 51.7	
	comp=Z,3.9nm,1.4s						
INK	**Inuvik**	**65.10**	**24**	P	**P**	**07 41 17.2**	**+0.8**
A36M	**Sachs Harbour**	**66.52**	**19**	P	**P**	**07 41 26.5**	**+1.0**
FINES	**FINESS Array B**	**71.23**	**331**	P	**P**	**07 41 53.9**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=73,slow=6.0,SNR=7.1						
	comp=Z,0.8nm,0.6s						
RES	**Resolute Bay**	**72.02**	**12**	P	**P**	**07 42 00.2**	**+0.7**
AKASG	**Malin Array Be**	**74.59**	**320**	P	**P**	**07 42 14.9**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=61,slow=6.1,SNR=3.0						
	comp=Z,0.4nm,0.3s						
YKA	**Yellowknife Ar**	**74.71**	**26**	P	**P**	**07 42 16.1**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=306,slow=6.0,SNR=4.9						
	comp=Z,0.3nm,0.8s						
BRTR	**Keskin Array B**	**76.87**	**308**	P	**P**	**07 42 27.8**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=105,slow=5.5,SNR=3.1						
	comp=Z,0.7nm,0.7s						
HFS	**Hagfors**	**77.07**	**333**	P	**P**	**07 42 27.7**	**-1.4**
	comp=Z,1.8nm,0.8s,baz=81,slow=8.9,SNR=1.9						
	comp=Z,1.8nm,0.8s						
NOA	**NORSAR Array B**	**77.47**	**334**	P	**P**	**07 42 30.0**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=50,slow=5.7,SNR=2.1						
	comp=Z,0.4nm,0.6s						
NVAR	**Mina Array Bea**	**86.70**	**47**	P	**P**	**07 43 21.5**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=316,slow=4.1,SNR=4.5						
	comp=Z,0.4nm,0.7s						

*NNC **30** 07:32:26.1±0.9, 44°.41N×81°.13E, h0km, mb3.5, mpv3.3,*
Error ellipse: s-maj=8.0km s-min=4.1km az=117.0
*SOME **30** 07:32:27.9, 44°.30N×81°.12E, h20km*
ISC 30 07:32:25.8±1.4, 44°.33N±0°.04×81°.18E±0°.05, h8km±11km, n32, σ1°892/52, 3C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.00**	**271**	*e*P	**Pb**	**07 32 45.8**	**+0.4**
DJR	22nm,0.1s			*e*S	**Sb**	**07 32 58.9**	**+0.2**
	52nm,0.3s						
KNOS	**Konyrlen**	**1.44**	**272**	P	**Pg**	**07 32 53.5**	**+0.2**
KNOS	87nm,0.1s			S	**Sg**	**07 33 12.3**	**+0.3**
	50nm,0.3s						
PDGK	**Podgornoye**	**1.58**	**231**	P	**Pb**	**07 32 55.7**	**+0.4**
PDGK	9.2nm,0.2s			S	**Sn**	**07 33 15.6**	**+0.7**
	49nm,0.4s						
PDGK	**Podgornoye**	**1.58**	**231**	⇓P	**Pb**	**07 32 55.6**	**+0.4**
PDGK	5.4nm,0.3s			⇑S	**Sg**	**07 33 17.7**	**+1.2**
	24nm,0.5s						
KAPS	**Kapalarasan**	**1.61**	**307**	*e*P	**Pb**	**07 32 55.6**	**-0.3**
KAPS	48nm,0.3s			*e*S	**Sn**	**07 33 15.5**	**-0.2**
	59nm,0.3s						
KAPS	**Kapalarasan**	**1.61**	**307**	P	**Pb**	**07 32 55.6**	**-0.3**
KAPS	48nm,0.3s			S	**Sn**	**07 33 15.5**	**-0.2**
	59nm,0.3s						
SHLS	**Shalkode**	**1.71**	**227**	*e*P	**Pn**	**07 32 54.9**	**-1.1**
SHLS	13nm,0.2s			*e*S	**Sn**	**07 33 14.1**	**-3.9**
	111nm,0.4s						
SHLS	**Shalkode**	**1.71**	**227**	P	**Pn**	**07 32 54.9**	**-1.1**
SHLS	13nm,0.2s			S	**Sn**	**07 33 14.1**	**-3.9**
	111nm,0.4s						
UZB	**Uzynbulak**	**1.96**	**234**	*e*P	**Pg**	**07 33 03.7**	**+0.3**
UZB	5.7nm,0.2s			*e*S	**Sg**	**07 33 28.8**	**+0.1**
	40nm,0.2s						
ZHN	**Zhinishke**	**2.30**	**241**	*e*P	**Pb**	**07 33 07.8**	**+0.2**
ZHN	6.1nm,0.2s			*e*S	**Sb**	**07 33 37.3**	**+1.0**
	96nm,0.2s						
ZHN	**Zhinishke**	**2.30**	**241**	Pg	**Pb**	**07 33 07.8**	**+0.2**
ZHN	6.1nm,0.2s			Lg	Lg	07 33 37.3	
	96nm,0.2s						
ARXS	**Arharly**	**2.41**	**268**	*e*P	**Pb**	**07 33 10.4**	**+0.9**
ARXS	16nm,0.2s			*e*S	**Sb**	**07 33 41.0**	**+1.6**
	52nm,0.3s						
ARXS	**Arharly**	**2.41**	**268**	Pg	**Pb**	**07 33 10.4**	**+0.9**
ARXS	15nm,0.3s			Lg	Lg	07 33 41.0	
	52nm,0.4s						
MAKZ	**Makanchi**	**2.54**	**12**	⇓Pg	**Pb**	**07 33 11.6**	**-0.1**
MAKZ	1.7nm,0.5s			⇑Lg	Lg	07 33 41.0	
	3.8nm,0.4s						
MK31	**Makanchi Array**	**2.59**	**17**	⇓Pg	**Pb**	**07 33 11.6**	**-0.9**
	0.8nm,0.3s,baz=200,slow=16,SNR=10						
MK31				⇑Lg	Lg	07 33 43.1	
	0.9nm,0.2s,baz=200,slow=26,SNR=29						
KOTS	**Kotyrbulak**	**3.14**	**251**	*e*P	**Pb**	**07 33 23.2**	**+1.2**
KOTS	4.4nm,0.2s			*e*S	**Sb**	**07 34 03.6**	**+3.1**
	25nm,0.2s						
KOTS	**Kotyrbulak**	**3.14**	**251**	Pg	**Pb**	**07 33 23.2**	**+1.2**
KOTS	4.4nm,0.2s			Lg	Lg	07 34 03.6	
	29nm,0.6s						
MDOK	**Medeo**	**3.21**	**250**	*e*P	**Pb**	**07 33 23.0**	**-0.2**
MDOK	2.0nm,0.2s			*e*S	**Sb**	**07 34 02.5**	**0.0**
	3.4nm,0.3s						
MDOK	**Medeo**	**3.21**	**250**	Pg	**Pg**	**07 33 26.7**	**-0.7**
MDOK	2.2nm,0.4s			Lg	Lg	07 34 07.9	
	6.1nm,0.5s						
KTBS	**Karatobe**	**3.30**	**261**	*e*P	**Pb**	**07 33 25.8**	**+1.1**
KTBS	3.2nm,0.2s			*e*S	**Sb**	**07 34 07.3**	**+2.3**
	21nm,0.3s						
KTBS	**Karatobe**	**3.30**	**261**	Pg	**Pb**	**07 33 25.8**	**+1.1**
KTBS	3.3nm,0.4s			Lg	Lg	07 34 07.3	
	21nm,0.5s						
TNSS	**Tian-Shan**	**3.33**	**249**	*e*P	**Pb**	**07 33 27.4**	**+2.0**
TNSS	1.9nm,0.2s			*e*S	**Sg**	**07 34 09.8**	**-2.9**
	4.5nm,0.1s						
TNSS	**Tian-Shan**	**3.33**	**249**	Pg	**Pb**	**07 33 27.3**	**+2.0**
TNSS	1.9nm,0.3s			Lg	Lg	07 34 09.8	
	4.5nm,0.3s						
MTBS	**Maitube**	**3.65**	**252**	*e*P	**Pb**	**07 33 32.6**	**+2.1**
MTBS	3.3nm,0.1s			*e*S	**Sb**	**07 34 18.5**	**+3.6**
	11nm,0.2s						
MTBS	**Maitube**	**3.65**	**252**	Pg	**Pb**	**07 33 32.6**	**+2.1**
MTBS	3.3nm,0.3s			Lg	Lg	07 34 18.5	
	11nm,0.2s						
KST	**Kastek**	**4.00**	**253**	*e*P	**Pb**	**07 33 38.0**	**+1.5**
KST	2.8nm,0.3s			*e*S	**Sb**	**07 34 28.5**	**+3.5**
	14nm,0.5s						
KST	**Kastek**	**4.00**	**253**	Pg	**Pb**	**07 33 38.0**	**+1.5**
KST	2.8nm,0.7s			Lg	Lg	07 34 28.5	
	14nm,0.8s						
KRBS	**Karabastau**	**4.02**	**263**	*e*P	**Pb**	**07 33 39.0**	**+2.1**
KRBS	1.9nm,0.3s			*e*S	**Sg**	**07 34 30.3**	**-4.6**
	6.7nm,0.3s						
KRBS	**Karabastau**	**4.02**	**263**	Pg	**Pb**	**07 33 39.0**	**+2.1**
	2.0nm,0.6s						
KRBS				Lg	Lg	07 34 30.3	
	6.7nm,0.7s						
ZSN	**Zaisan**	**4.05**	**38**	*e*P	**Pb**	**07 33 38.7**	**+1.3**
	3.5nm,0.2s						
ZSN				*e*S	**Sb**	**07 34 29.4**	**+3.0**
	6.7nm,0.2s						
DGS	**Degeres**	**4.06**	**256**	*e*P	**Pb**	**07 33 39.2**	**+1.6**
	1.1nm,0.3s						
DGS				*e*S	**Sb**	**07 34 30.5**	**+3.5**
	4.4nm,0.4s						
DGS	**Degeres**	**4.06**	**256**	Pg	**Pb**	**07 33 39.2**	**+1.6**
	1.1nm,0.4s						
DGS				Lg	Lg	07 34 30.5	
	4.4nm,0.4s						

IDC 30 08:04:38.9±2.9, 5°.43S×151°.89E, h0km, mb4.1/2, mbtmp4.1/3, ML1.4/1, Error ellipse: s-maj=116.9km s-min=39.6km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.13**	**230**	Pn	Pn	08 06 11.1	+0.2
	0.6nm,0.3s,baz=233,slow=20,SNR=1.5						
PMG				Sn	Sn	08 07 22.9	+1.1
	2.6nm,0.3s,baz=288,slow=22,SNR=4.1						
	4.0nm,0.5s						
WRA	**Warramunga Arr**	**22.35**	**228**	P	P	08 09 38.8	+0.1
	3.9nm,0.5s,baz=52,slow=9.9,SNR=39						
	3.9nm,0.5s						
ASAR	**Alice Springs**	**25.08**	**222**	P	P	08 10 05.2	-0.1
	3.7nm,0.7s,baz=58,slow=8.8,SNR=62						
	3.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**149.63**	**287**	PKPbc	PKPbc	08 24 31.2	-0.4
	0.5nm,0.8s,baz=92,slow=2.9,SNR=4.1						

*CATAC **30** 08:14:06.3±0.6, 12°.77N×88°.61W, h29km±5km, ML3.7*
*SNET **30** 08:14:07.5±1.4, 12°.90N×88°.57W, h49km, ML3.6*
ISC 30 08:14:05.3±1.3, 12°.80N±0°.04×88°.60W±0°.03, h15km±9km, n73, σ0°889/108, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.52**	**3**	*i*P	Pg	08 14 09.2	-6.5
ALJI				*i*S	**Sg**	**08 14 18.4**	**-4.3**
LCY	**Lacayo**	**0.69**	**26**	*e*P	**Pn**	**08 14 20.5**	**-0.1**
TECA	**Tecapa**	**0.70**	**8**	*e*P	**Pn**	**08 14 20.6**	**-0.2**
TECA				*e*S	**Sn**	**08 14 30.9**	**-0.6**
RANC	**El Ranchito**	**0.70**	**26**	*i*P	**Pn**	**08 14 20.7**	**-0.1**
RANC				*i*S	**Sn**	**08 14 32.0**	**+0.6**
RANC				IAML		08 14 34.8	
	comp=Z,2μm,1.0s						
VSM	**San Miguel**	**0.70**	**27**	*e*P	**Pn**	**08 14 20.9**	**0.0**
PACA	**Pacayal**	**0.72**	**22**	*e*P	**Pn**	**08 14 21.2**	**+0.2**
PACA	**Pacayal**	**0.72**	**22**	*i*P	**Pn**	**08 14 21.2**	**+0.2**
PACA				*i*S	**Sn**	**08 14 32.3**	**+0.5**
PACA				IAML		08 14 33.8	
	comp=Z,19μm,1.0s						
BLLM	**Bellamira**	**0.73**	**29**	⇑*e*P	**Pn**	**08 14 21.1**	**-0.1**
BLLM				*e*S	**Sn**	**08 14 32.1**	**0.0**
TECO	**Alcaldia de Te**	**0.75**	**347**	*e*P	**Pn**	**08 14 21.2**	**-0.2**
TECO	**Alcaldia de Te**	**0.75**	**347**	*i*P	**Pn**	**08 14 21.3**	**-0.2**
TECO				*i*S	**Sn**	**08 14 31.9**	**-0.7**
TECO				IAML		08 14 34.6	
	comp=Z,2μm,1.0s						
CNRM	**Centro Naciona**	**0.79**	**32**	*i*P	**Pn**	**08 14 22.0**	**+0.1**
CNRM				*i*S	**Sn**	**08 14 34.2**	**+0.7**
CNRM				IAML		08 14 36.2	
	comp=Z,29μm,1.0s						
PQSS	**Presa 15 de Se**	**0.82**	**3**	*e*P	**Pn**	**08 14 22.3**	**0.0**
PQSS	**Presa 15 de Se**	**0.82**	**3**	*i*P	**Pn**	**08 14 22.3**	**0.0**
PQSS				*i*S	**Sn**	**08 14 34.4**	**+0.2**
PQSS				IAML		08 14 34.6	
	comp=Z,5μm,1.0s						
SNVI	**San Vicente**	**0.84**	**344**	*e*P	**Pg**	**08 14 22.4**	**+0.7**
SNVI				*e*S	**Sg**	**08 14 33.8**	**+1.0**
UESV	**Universidad de**	**0.85**	**348**	*i*P	**Pg**	**08 14 22.6**	**+0.7**
UESV				*i*S	**Sn**	**08 14 34.6**	**-0.4**
UESV				IAML		08 14 40.5	
	comp=Z,2μm,1.0s						
LCND	**La Caada**	**0.86**	**54**	*e*P	**Pb**	**08 14 22.2**	**+0.3**
LCND	**La Caada**	**0.86**	**54**	*i*P	**Pb**	**08 14 22.2**	**+0.3**
LCND				*i*P	**Pb**	**08 14 22.3**	**+0.3**
LCND				*i*S	**Sn**	**08 14 34.8**	**-0.3**
LCND				IAML		08 14 38.8	
	comp=Z,1μm,1.0s						
COEG	**Centro de Oper**	**0.86**	**342**	*e*P	**Pg**	**08 14 22.6**	**+0.6**
COEG	**Centro de Oper**	**0.86**	**342**	*i*P	**Pg**	**08 14 22.6**	**+0.6**
COEG				*i*S	**Sn**	**08 14 34.8**	**-0.5**
COEG				IAML		08 14 39.5	
	comp=Z,3μm,1.0s						
CNCH	**Conchagua**	**0.88**	**58**	*e*P	**Pg**	**08 14 22.8**	**+0.3**
CNCH	**Conchagua**	**0.88**	**58**	*i*P	**Pb**	**08 14 22.6**	**+0.2**
CNCH				*i*S	**Sn**	**08 14 36.5**	**+0.5**
CNCH				IAML		08 14 39.5	
	comp=Z,4μm,1.0s						
SJTE	**Alcalda de S**	**0.90**	**334**	*e*P	**Pb**	**08 14 23.0**	**+0.4**
SJTE	**Alcalda de S**	**0.90**	**334**	*i*P	**Pb**	**08 14 23.1**	**+0.4**
SJTE				*i*S	**Sg**	**08 14 35.2**	**+0.5**
SJTE				IAML		08 14 40.1	
	comp=Z,3μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.90**	**352**	*e*P	**Pn**	**08 14 23.7**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.90**	**352**	*i*P	**Pn**	**08 14 23.8**	**+0.2**
SCLA				*i*S	**Sn**	**08 14 36.8**	**+0.4**
SCLA				IAML		08 14 39.5	
	comp=Z,1μm,1.0s						
PAVA	**Las Pavas**	**0.96**	**340**	*e*P	**Pg**	**08 14 24.3**	**+0.3**
PAVA	**Las Pavas**	**0.96**	**340**	*i*P	**Pg**	**08 14 24.5**	**+0.5**
PAVA				*i*S	**Sn**	**08 14 38.2**	**+0.3**
PAVA				IAML		08 14 38.8	
	comp=Z,6μm,1.0s						
LALI	**Alcalda de L**	**0.98**	**314**	*i*P	**Pb**	**08 14 23.9**	**-0.1**
LALI				*i*S	**Sb**	**08 14 36.8**	**+0.1**
LALI				IAML		08 14 40.8	
	comp=Z,350nm,1.0s						
PANCS	**Alcalda de**	**0.98**	**325**	*i*P	**Pb**	**08 14 24.5**	**+0.4**
PANCS				*i*S	**Sb**	**08 14 36.9**	**0.0**
PANCS				IAML		08 14 37.7	
	comp=Z,3μm,1.0s						
LOMA	**Loma Larga**	**1.01**	**327**	*e*P	**Pb**	**08 14 24.5**	**-0.1**
LOMA	**Loma Larga**	**1.01**	**327**	*i*P	**Pb**	**08 14 24.8**	**+0.3**
LOMA				*i*S	**Sg**	**08 14 38.3**	**+0.3**
LOMA				IAML		08 14 40.1	
	comp=Z,2μm,1.0s						
UDBS	**Universidad Do**	**1.06**	**329**	*i*P	**Pb**	**08 14 25.5**	**+0.1**
UDBS				*i*S	**Sg**	**08 14 40.0**	**+0.4**
UDBS				IAML		08 14 41.0	
	comp=Z,3μm,1.0s						
IGN	**Direccin Gen**	**1.06**	**329**	*i*P	**Pb**	**08 14 25.4**	**-0.1**
IGN				*i*S	**Sb**	**08 14 39.8**	**+0.6**
IGN				IAML		08 14 40.4	
	comp=Z,10μm,1.0s						
UTEC	**Universidad Te**	**1.07**	**327**	*i*P	**Pn**	**08 14 26.1**	**+0.3**
UTEC				*i*S	**Sb**	**08 14 39.9**	**+0.5**
UTEC				IAML		08 14 45.2	
	comp=Z,2μm,1.0s						
SNET	**Serv Nac Est T**	**1.07**	**325**	*e*P	**Pb**	**08 14 25.0**	**-0.6**
SNET	**Serv Nac Est T**	**1.07**	**325**	*i*P	**Pb**	**08 14 25.6**	**-0.1**
SNET				*i*S	**Sb**	**08 14 39.8**	**+0.3**
SNET				IAML		08 14 40.7	
	comp=Z,3μm,1.0s						
SEMO	**Seminario San**	**1.08**	**326**	*i*P	**Pg**	**08 14 26.6**	**+0.3**
SEMO				*i*S	**Sb**	**08 14 40.3**	**+0.5**
SEMO				IAML		08 14 42.3	
	comp=Z,4μm,1.0s						
PIC2	**El Picacho**	**1.14**	**326**	*e*P	**Pb**	**08 14 25.7**	**-1.1**
PMON	**Piamonte**	**1.14**	**323**	*i*P	**Pn**	**08 14 26.6**	**-0.3**
PMON				*i*S	**Sb**	**08 14 41.6**	**+0.1**
PMON				IAML		08 14 45.0	
	comp=Z,2μm,1.0s						
JAYA	**Jayaque - finc**	**1.18**	**316**	*e*P	**Pn**	**08 14 26.6**	**-0.8**
JAYA				*e*S	**Sb**	**08 14 41.1**	**-1.7**
JAYA	**Jayaque - finc**	**1.18**	**316**	*i*P	**Pn**	**08 14 26.7**	**-0.8**
JAYA				*i*S	**Sb**	**08 14 41.4**	**-1.4**
JAYA				IAML		08 14 42.1	
	comp=Z,5μm,1.0s						
QUEZ	**Alcaldia de Qu**	**1.22**	**328**	*i*P	**Pb**	**08 14 28.5**	**+0.4**
QUEZ				*i*S	**Sn**	**08 14 44.4**	**+0.3**
QUEZ				IAML		08 14 49.8	
	comp=Z,5μm,1.0s						
CEDA	**San Andres**	**1.26**	**322**	*e*P	**Pn**	**08 14 28.1**	**-0.3**
CEDA	**San Andres**	**1.26**	**322**	*i*P	**Pn**	**08 14 28.7**	**+0.3**
CEDA				*i*S	**Sb**	**08 14 44.4**	**-0.5**
CEDA				IAML		08 14 46.5	
	comp=Z,2μm,1.0s						
CEVE	**Cerro Verde**	**1.43**	**316**	*e*P	**Pn**	**08 14 30.5**	**-0.4**
CEVE	**Cerro Verde**	**1.43**	**316**	*i*P	**Pn**	**08 14 31.0**	**+0.1**
CEVE				*i*S	**Sn**	**08 14 49.2**	**-0.3**
CEVE				IAML		08 14 52.1	
	comp=Z,1μm,1.0s						
SBLS	**San Blas**	**1.43**	**316**	*e*P	**Pn**	**08 14 31.1**	**+0.1**
SNJE	**San Jose**	**1.44**	**317**	*e*P	**Pn**	**08 14 30.5**	**-0.6**
RTR	**El Retiro**	**1.49**	**317**	*e*P	**Pn**	**08 14 31.8**	**+0.1**
UNIC	**Universidad Ca**	**1.49**	**322**	*i*P	**Pn**	**08 14 31.0**	**-0.7**
UNIC				*i*S	**Sn**	**08 14 50.6**	**-0.3**
UNIC				IAML		08 14 53.2	
	comp=Z,360nm,1.0s						
NUBE	**Las Nubes**	**1.59**	**314**	*e*P	**Pn**	**08 14 32.5**	**-0.5**
NUBE	**Las Nubes**	**1.59**	**314**	*i*P	**Pn**	**08 14 32.6**	**-0.5**
NUBE				*i*S	**Sn**	**08 14 51.9**	**-1.5**
NUBE				IAML		08 14 53.7	
	comp=Z,1μm,1.0s						
MTO3	**Montecristo**	**1.75**	**335**	*e*P	**Pn**	**08 14 35.2**	**-0.2**
MTO3	**Montecristo**	**1.75**	**335**	*i*P	**Pn**	**08 14 35.4**	**0.0**
MTO3				*i*S	**Sb**	**08 14 58.8**	**-0.4**
MTO3				IAML		08 15 00.5	
	comp=Z,270nm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.80**	**46**	*i*P	**Pn**	**08 14 36.0**	**+0.1**
TGUH				IAML		08 14 54.6	
	comp=Z,310nm,1.0s						
PLRN	**Geotermica Pol**	**1.80**	**97**	*i*P	**Pn**	**08 14 34.9**	**-0.9**
PLRN				*i*S	**Sn**	**08 14 55.9**	**-2.5**
PLRN				IAML		08 14 57.3	
	comp=Z,420nm,1.0s						
ESQI	**Esquipulas**	**1.89**	**338**	*i*P	**Pn**	**08 14 37.8**	**+0.6**
ESQI				IAML		08 15 14.4	
	comp=Z,300nm,1.0s						
MACN	**El Madrono**	**1.91**	**100**	*i*P	**Pn**	**08 14 36.3**	**-1.0**
MACN				IAML		08 15 08.8	
	comp=Z,220nm,1.0s						
MOMN	**Momotombo**	**2.05**	**101**	*i*P	**Pn**	**08 14 37.3**	**-2.0**
COPN	**Copaltepe**	**2.06**	**107**	*i*P	**Pn**	**08 14 39.6**	**+0.3**
COPN				IAML		08 15 05.4	
	comp=Z,190nm,1.0s						
LIMN	**Finca el Limon**	**2.19**	**83**	*i*P	**Pn**	**08 14 40.7**	**-0.6**
LIMN				IAML		08 15 13.9	
	comp=Z,120nm,1.0s						
BRAN	**Las Pilas**	**2.20**	**92**	*i*P	**Pn**	**08 14 42.0**	**+0.7**
BRAN				*i*S	**Sn**	**08 15 07.9**	**-0.3**
BRAN				IAML		08 15 10.4	
	comp=Z,340nm,1.0s						
TISN	**Laguna Tiscapa**	**2.37**	**106**	*i*P	**Pn**	**08 14 42.8**	**-0.9**
WILN	**Americas 2**	**2.44**	**105**	*i*P	**Pn**	**08 14 42.6**	**-2.0**
RB213	**Mirador 2 Volc**	**2.51**	**109**	*i*P	**Pn**	**08 14 43.1**	**-2.5**
RCPN	**Sur Rio San Ju**	**2.54**	**73**	*i*P	**Pn**	**08 14 45.7**	**-0.5**
BOAB	**BOACO BROADBAN**	**2.88**	**97**	*i*P	**Pn**	**08 14 49.8**	**-0.9**
BOAB				IAML		08 14 53.7	
	comp=Z,36nm,1.0s						
HZTE	**Horizontes, Gu**	**3.60**	**125**	*i*P	**Pn**	**08 15 01.2**	**+0.6**
ORTG	**Ortega, Santa**	**3.92**	**128**	*i*P	**Pn**	**08 15 05.9**	**+0.9**
SAJU	**San Juanillo,**	**3.92**	**134**	*i*P	**Pn**	**08 15 05.2**	**+0.1**
JACO	**JACO, Garabito**	**4.97**	**128**	*i*P	**Pn**	**08 15 21.4**	**+2.0**
LCR2	**La Lucha 2**	**5.44**	**124**	*i*P	**Pn**	**08 15 28.4**	**+2.3**
RIMA	**Rio Macho**	**5.54**	**123**	*i*P	**Pn**	**08 15 29.8**	**+2.4**

IDC 30 08:22:48.2±3.4, 53°.85N×88°.17E, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=30.6km s-min=19.1km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.99**	**274**	I	I	08 36 40.0	
	0.2nm,0.7s,baz=91,slow=344,SNR=2.5						
ZALV	**Zalesovo Beam**	**1.99**	**274**	Pg	Pn	08 23 24.0	+0.9
	3.1nm,0.3s,baz=88,slow=14,SNR=23						
ZALV				Lg	Lg	08 23 51.5	
	3.1nm,0.3s,baz=90,slow=17,SNR=15						
KURBB	**Kurchatov Arra**	**6.75**	**245**	Pn	Pn	08 24 29.1	+0.7
	0.2nm,0.3s,baz=60,slow=13,SNR=6.9						
KURBB				Lg	Lg	08 26 20.8	
	baz=60,slow=32,SNR=5.5						
	1.1nm,0.4s						
MKAR	**Makanchi Array**	**8.00**	**210**	Pn	Pn	08 24 46.8	+1.1
	0.1nm,0.3s,baz=23,slow=12,SNR=4.6						
MKAR				Lg	Lg	08 27 02.6	
	0.1nm,0.3s,baz=29,slow=27,SNR=6.4						
	0.3nm,0.4s						

*UCR **30** 08:25:22.9±0.3, 10°.43N×87°.37W, h35km±266km, MW3.8*
*SNET **30** 08:25:27.5±1.1, 10°.77N×87°.37W, h35km±999km, ML3.8*
ISC 30 08:25:25.4±1.7, 10°.61N±0°.09×87°.33W±0°.08, h35km, n58, σ1°905/65, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**1.71**	**86**	*e*P	**Pn**	**08 25 51.8**	**-0.9**
HZTE				*e*S	**Sn**	**08 26 13.7**	**+0.4**
LCRUZ	**La Cruz**	**1.73**	**74**	*e*P	**Pn**	**08 25 53.1**	**+0.1**
SACU	**Santa Cruz**	**1.75**	**101**	*e*P	**Pn**	**08 25 51.4**	**-1.8**
ALIBA	**Liberia Airpor**	**1.75**	**90**	*e*P	**Pn**	**08 25 53.5**	**+0.2**
ALIBA				*e*S	**Sn**	**08 26 15.8**	**+1.4**
JUD3	**Juan Diaz 3**	**1.81**	**104**	*e*P	**Pn**	**08 25 51.6**	**-2.6**
ERIA	**Liberia**	**1.85**	**89**	*e*P	**Pn**	**08 25 54.2**	**-0.5**
ERIA				*e*S	**Sn**	**08 26 17.2**	**+0.2**
GB1A	**Borinquen Arri**	**1.91**	**84**	*e*P	**Pn**	**08 25 54.7**	**-0.8**
NICO	**Nicoya**	**1.91**	**104**	*e*P	**Pn**	**08 25 53.5**	**-1.9**
VRLE	**La Escondida,**	**1.94**	**85**	*e*P	**Pn**	**08 25 54.8**	**-1.1**
CMARA	**Lajas Hojancha**	**1.96**	**107**	*e*P	**Pn**	**08 25 54.3**	**-2.0**
CNGN	**Cerro Negro**	**1.98**	**18**	*e*P	**Pn**	**08 25 56.2**	**-0.2**
CNGN				*e*S	**Sn**	**08 26 19.6**	**-0.5**
CRIN	**San Cristobal**	**2.10**	**7**	*e

*NEIC **30** 08:31:54.5±2.2,63°.51N±0°.03×151°.32W±0°.04,h5km±6km, Error ellipse: s-maj=4.4km s-min=2.1km az=162.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr2.23; Mθθ-1.35; Mφφ-0.87; Mrθ-0.06; Mθφ-1.98; Mrφ2.03; Fault plane solution: M₀3.44000×10¹⁴ NP1:φ20.39000°, δ65.12000°, λ57.93000°. NP2:φ256.51000°, δ39.76000°, λ138.86000°. Principal axes: T 3.4410, Plg57.0000°, Azm246.0000°; N 0.0001, Plg29.0000°, Azm35.0000°; P -3.4410, Plg14.0000°, Azm133.0000°;*

*AEIC **30** 08:31:54.4±2.3,63°.52N±0°.04×151°.31W±0°.07,h10km±4km, ML3.6,ML3.8/190(NEIC),Mwr3.6/88(NEIC) Error ellipse: s-maj=5.5km s-min=4.4km az=168.0*

*IDC **30** 08:31:54.5±0.8,63°.70N×151°.48W,h0km,mb3.8/7, mbtmp3.7/11,ML3.1/4,MS3.4/3,Error ellipse: s-maj=15.9km s-min=11.4km az=134.0*

*NEIC **30** 08:31:56.3,63°.64N×151°.43W,h17km*

ISC 30 08:31:54.1±1.0,63°.50N±0°.02×151°.31W±0°.02,h6km±7km, n410,σ1$05/388,mb3.8/7,MS3.2/3,Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTH	**Kantishna Hill**	**0.18**	**73**	Pg	**Pg**	**08 31 57.9**	**+0.2**
CAST	**Castle Rocks**	**0.36**	**257**	Pg	**Pg**	**08 32 01.0**	**0.0**
CAST	**Castle Rocks**	**0.36**	**257**		**Sg**	**08 32 06.5**	**+0.8**
CAST	**Castle Rocks**	**0.36**	**257**	IAML		08 32 06.9	
	comp=E,17μm,0.4s						
CAST				IAML		08 32 07.0	
	comp=N,10μm,0.3s						
CAST	**Castle Rocks**	**0.36**	**257**	P	**Pg**	**08 32 01.2**	**+0.2**
	baz=74						
CAST				S	**Sg**	**08 32 06.5**	**+0.8**
	baz=74						
TRF	**Thorofare Moun**	**0.46**	**96**	Pg	**Pg**	**08 32 03.4**	**+0.3**
TRF	**Thorofare Moun**	**0.46**	**96**		**Sg**	**08 32 09.4**	**+0.4**
TRF	**Thorofare Moun**	**0.46**	**96**	IAML		08 32 12.4	
	comp=N,3μm,1.1s						
TRF				IAML		08 32 15.4	
	comp=E,4μm,1.5s						
TRF	**Thorofare Moun**	**0.46**	**96**	P	**Pg**	**08 32 03.3**	**+0.3**
	baz=279						
TRF				S	**Sg**	**08 32 09.4**	**+0.4**
	baz=279						
CHUM	**Lake Minchumin**	**0.59**	**311**		**Pb**	**08 32 06.3**	**-0.5**
CHUM					**Sb**	**08 32 14.5**	**-0.9**
CHUM	**Lake Minchumin**	**0.59**	**311**	P	**Pb**	**08 32 06.3**	**-0.5**
	baz=129						
CHUM				S	**Sb**	**08 32 14.5**	**-0.9**
	baz=129						
BPAW	**Bear Paw Mtn.**	**0.62**	**13**	Pg	**Pg**	**08 32 06.3**	**+0.3**
BPAW	**Bear Paw Mtn.**	**0.62**	**13**	P	**Pg**	**08 32 06.5**	**+0.5**
	baz=194						
PPLA	**Purkeypile**	**0.72**	**214**		**Pg**	**08 32 08.1**	**+0.1**
PPLA					**Sg**	**08 32 17.4**	**0.0**
PPLA	**Purkeypile**	**0.72**	**214**	P	**Pg**	**08 32 08.0**	**+0.1**
	baz=32						
PPLA				S	**Sg**	**08 32 17.4**	**0.0**
	baz=32						
BWN	**Browne**	**1.06**	**50**		**Pn**	**08 32 16.0**	**+0.5**
BWN	**Browne**	**1.06**	**50**		**Sn**	**08 32 30.7**	**+0.1**
BWN	**Browne**	**1.06**	**50**	IAML		08 32 31.6	
	comp=N,2μm,1.1s						
BWN				IAML		08 32 32.6	
	comp=E,2μm,0.7s						
MCK	**McKinley**	**1.09**	**77**		**Pg**	**08 32 14.3**	**-0.6**
MCK	**McKinley**	**1.09**	**77**	P	**Pg**	**08 32 14.4**	**-0.5**
	baz=260						
RND	**Reindeer**	**1.11**	**94**		**Pg**	**08 32 14.1**	**-1.2**
RND				IAML		08 32 33.1	
	comp=N,1μm,0.9s						
CUT	**Chulitna**	**1.20**	**156**		**Pg**	**08 32 16.4**	**-0.6**
CUT	**Chulitna**	**1.20**	**156**	P	**Pg**	**08 32 16.8**	**-0.2**
	baz=337						
K20K	**Telida**	**1.25**	**265**		**Pg**	**08 32 17.7**	**-0.3**
K20K					**Sg**	**08 32 34.1**	**0.0**
K20K	**Telida**	**1.25**	**265**	IAML		08 32 36.1	
	comp=E,2μm,0.4s						
K20K				IAML		08 32 36.4	
	comp=N,3μm,0.5s						
K20K	**Telida**	**1.25**	**265**	P	**Pg**	**08 32 17.7**	**-0.3**
	baz=81						
K20K				S	**Sg**	**08 32 34.1**	**0.0**
	baz=81						
WAT7	**Susitna Watana**	**1.30**	**120**		**Pn**	**08 32 18.2**	**-0.7**
WAT1	**Susitna Watana**	**1.42**	**117**		**Pn**	**08 32 20.3**	**-0.2**
WAT1	**Susitna Watana**	**1.42**	**117**	P	**Pn**	**08 32 20.3**	**-0.2**
	baz=300						
J20K	**Nowinta River**	**1.43**	**300**		**Pb**	**08 32 21.2**	**+0.1**
J20K	**Nowinta River**	**1.43**	**300**	P	**Pn**	**08 32 20.6**	**+0.1**
	baz=117						
NEA2	**Nenana**	**1.48**	**41**		**Pn**	**08 32 19.2**	**-2.0**
NEA2	**Nenana**	**1.48**	**41**	P	**Pn**	**08 32 19.9**	**-1.3**
	baz=223						
SKT	**Skwentna**	**1.53**	**184**	Pn	**Pn**	**08 32 22.1**	**+0.1**
SKT				IAML		08 32 44.9	
	comp=N,2μm,0.7s						
SKT	**Skwentna**	**1.53**	**184**	P	**Pn**	**08 32 22.3**	**+0.3**
	baz=3.6						
L20K	**Farewell, AK**	**1.56**	**230**		**Pn**	**08 32 21.6**	**-0.8**
L20K	**Farewell, AK**	**1.56**	**230**	P	**Pn**	**08 32 21.7**	**-0.6**
	baz=47						
MLY	**Manley**	**1.56**	**9**	Pn	**Pn**	**08 32 21.5**	**-0.8**
MLY				IAML		08 32 45.2	
	comp=N,1μm,0.7s						
MLY				IAML		08 32 45.4	
	comp=E,936nm,0.6s						
MLY	**Manley**	**1.56**	**9**	P	**Pn**	**08 32 22.1**	**-0.3**
	baz=190						
WRH	**Wood River Hil**	**1.72**	**54**	Pn	**Pn**	**08 32 23.7**	**-0.8**
DHY	**Denali Highway**	**1.83**	**102**		**Pn**	**08 32 27.0**	**+0.8**
DHY				IAML		08 32 55.7	
	comp=E,844nm,0.7s						
DHY				IAML		08 32 56.2	
	comp=N,838nm,0.8s						
DHY	**Denali Highway**	**1.83**	**102**	P	**Pn**	**08 32 26.5**	**+0.3**
	baz=286						
M20K	**Styx River**	**1.83**	**208**		**Pn**	**08 32 25.9**	**-0.2**
M20K	**Styx River**	**1.83**	**208**	IAML		08 32 59.5	
	comp=N,691nm,0.7s						
M20K				IAML		08 32 59.7	
	comp=E,895nm,0.7s						
M20K	**Styx River**	**1.83**	**208**	P	**Pn**	**08 32 25.8**	**-0.3**
	baz=26						
M22K	**Willow**	**1.84**	**162**		**Pn**	**08 32 27.2**	**+1.0**
M22K	**Willow**	**1.84**	**162**	P	**Pn**	**08 32 26.1**	**-0.1**
	baz=343						
I23K	**Minto, Yukon-K**	**1.86**	**26**		**Pn**	**08 32 25.7**	**-0.8**
I23K				IAML		08 32 56.7	
	comp=N,755nm,0.8s						
I23K	**Minto, Yukon-K**	**1.86**	**26**	P	**Pn**	**08 32 26.1**	**-0.4**
	baz=208						
WAT6	**Susitna Watana**	**1.87**	**118**		**Pn**	**08 32 26.6**	**-0.1**
WAT6	**Susitna Watana**	**1.87**	**118**	P	**Pn**	**08 32 26.6**	**-0.1**
	baz=302						
I20K	**Naaghedeneel**	**1.90**	**315**		**Pn**	**08 32 27.2**	**+0.2**
I20K	**Naaghedeneel**	**1.90**	**315**	P	**Pn**	**08 32 27.2**	**+0.2**
	baz=131						
CCB	**Clear Creek Bu**	**1.92**	**52**		**Pn**	**08 32 25.7**	**-1.6**
J19K	**Poorman**	**1.98**	**286**		**Pn**	**08 32 27.5**	**-0.6**
J19K	**Poorman**	**1.98**	**286**	P	**Pn**	**08 32 27.9**	**-0.2**
	baz=102						
MDM	**Murphy Dome**	**1.99**	**41**		**Pn**	**08 32 26.7**	**-1.6**
STLK	**Strandline Lak**	**2.02**	**187**		**Pn**	**08 32 29.1**	**+0.3**
COLA	**College**	**2.05**	**46**	P	**Pn**	**08 32 29.8**	**+0.8**
COLA	**College**	**2.05**	**46**		**Pn**	**08 32 27.7**	**-1.3**
COLA	**College**	**2.05**	**46**	IAML		08 33 04.6	
	comp=N,1μm,0.4s						
GHO	**Glory Hole Cre**	**2.06**	**146**		**Pn**	**08 32 29.7**	**+0.5**
GHO				IAML		08 33 03.0	
	comp=E,596nm,1.0s						
GHO				IAML		08 33 05.3	
	comp=N,850nm,0.6s						
SUA	**Susitna One**	**2.06**	**172**		**Pn**	**08 32 29.8**	**+0.4**
SUA				IAML		08 33 01.3	
	comp=E,664nm,1.7s						
SUA	**Susitna One**	**2.06**	**172**	P	**Pn**	**08 32 29.8**	**+0.4**
	baz=353						
L19K	**White Mountain**	**2.10**	**232**		**Pn**	**08 32 28.6**	**-1.1**
L19K	**White Mountain**	**2.10**	**232**	IAML		08 33 06.0	
	comp=N,679nm,0.9s						
L19K				IAML		08 33 12.3	
	comp=E,902nm,1.0s						
L19K	**White Mountain**	**2.10**	**232**	P	**Pn**	**08 32 28.9**	**-0.9**
	baz=49						
HDA	**Harding Lake**	**2.13**	**63**		**Pn**	**08 32 29.1**	**-1.1**
HDA				IAML		08 33 05.8	
	comp=N,661nm,0.7s						
HDA	**Harding Lake**	**2.13**	**63**	P	**Pn**	**08 32 29.2**	**-1.1**
	baz=247						
M19K	**Big River Lodg**	**2.14**	**223**		**Pn**	**08 32 30.1**	**-0.2**
M19K				IAML		08 33 06.1	
	comp=E,868nm,0.5s						
M19K				IAML		08 33 06.6	
	comp=N,732nm,0.5s						
M19K	**Big River Lodg**	**2.14**	**223**	P	**Pn**	**08 32 29.5**	**-0.8**
	baz=40						
PMR	**Palmer**	**2.17**	**151**		**Pn**	**08 32 31.4**	**+0.8**
PMR				IAML		08 33 06.0	
	comp=E,384nm,0.7s						
PMR				IAML		08 33 07.6	
	comp=N,608nm,1.2s						
PMR	**Palmer**	**2.17**	**151**	P	**Pn**	**08 32 31.0**	**+0.4**
	baz=333						
SML	**Sawmill**	**2.19**	**140**	Pn	**Pn**	**08 32 31.6**	**+0.6**
SML				IAML		08 33 07.8	
	comp=E,841nm,1.0s						
SML				IAML		08 33 09.0	
	comp=N,598nm,0.9s						
SML	**Sawmill**	**2.19**	**140**	P	**Pn**	**08 32 31.1**	**+0.1**
	baz=323						
TTA	**Tatalina**	**2.21**	**257**		**Pn**	**08 32 30.4**	**-0.8**
TTA	**Tatalina**	**2.21**	**257**	IAML		08 33 06.5	
	comp=E,562nm,0.6s						
TTA				IAML		08 33 06.5	
	comp=N,612nm,0.6s						
TTA	**Tatalina**	**2.21**	**257**	P	**Pn**	**08 32 30.5**	**-0.8**
	baz=72						
SPNN	**North Nagishla**	**2.24**	**197**		**Pn**	**08 32 32.6**	**+0.8**
SPCG	**Spurr Capps Gl**	**2.24**	**189**		**Pn**	**08 32 32.2**	**+0.4**
H21K	**Melozitna Rive**	**2.26**	**344**		**Pn**	**08 32 32.1**	**+0.1**
H21K	**Melozitna Rive**	**2.26**	**344**	IAML		08 33 07.6	
	comp=N,663nm,0.9s						
H21K	**Melozitna Rive**	**2.26**	**344**	P	**Pn**	**08 32 32.1**	**+0.1**
	baz=163						
SPCP	**Crater Peak Br**	**2.28**	**190**		**Pn**	**08 32 32.9**	**+0.6**
SPBG	**Spurr Blockage**	**2.30**	**193**		**Pn**	**08 32 33.8**	**+1.1**
SPCN	**Chakachatna No**	**2.32**	**190**		**Pn**	**08 32 33.6**	**+0.8**
IL31		**2.32**	**55**		**Pn**	**08 32 32.0**	**-0.8**
ILAR	**Eielson Array**	**2.32**	**55**		**Pn**	**08 32 32.1**	**-0.7**
ILAR	**Eielson Array**	**2.32**	**55**	Pn	**Pn**	**08 32 31.9**	**-1.0**
	comp=N,1.6nm,0.3s,baz=243,slow=14,SNR=57						
ILAR				Lg	Lg	08 33 05.4	
	comp=N,23nm,0.3s,baz=241,slow=29,SNR=58						
	comp=N,4.5nm,0.5s						
POKR	**Poker Plat Res**	**2.34**	**44**		**Pn**	**08 32 32.2**	**-0.9**
POKR	**Poker Plat Res**	**2.34**	**44**	P	**Pn**	**08 32 32.5**	**-0.6**
	baz=228						
N20K	**Mount Spurr**	**2.35**	**191**	P	**Pn**	**08 32 34.3**	**+1.1**
	baz=9.8						
SPCR	**Spurr Chakacha**	**2.35**	**191**		**Pn**	**08 32 34.3**	**+1.1**
M23K	**Glacier View**	**2.38**	**134**		**Pn**	**08 32 33.8**	**+0.1**
M23K	**Glacier View**	**2.38**	**134**	P	**Pn**	**08 32 33.8**	**+0.1**
	baz=318						
H22K	**Ishtalitna Cre**	**2.40**	**359**		**Pn**	**08 32 33.9**	**-0.1**
H22K	**Ishtalitna Cre**	**2.40**	**359**	P	**Pn**	**08 32 33.8**	**-0.1**
	baz=179						
FIS	**Fire Island**	**2.42**	**167**		**Pb**	**08 32 36.8**	**-1.1**
J18K	**Innoko River**	**2.42**	**272**		**Pn**	**08 32 34.0**	**-0.3**
J18K	**Innoko River**	**2.42**	**272**	IAML		08 33 18.6	
	comp=E,688nm,0.6s						
J18K				IAML		08 33 22.8	
	comp=N,478nm,0.9s						
J18K	**Innoko River**	**2.42**	**272**	P	**Pn**	**08 32 34.0**	**-0.3**
	baz=86						
H23K	**Yukon River**	**2.46**	**17**		**Pn**	**08 32 34.5**	**-0.2**
H23K	**Yukon River**	**2.46**	**17**	IAML		08 33 13.1	
	comp=E,330nm,0.6s						
H23K	**Yukon River**	**2.46**	**17**	P	**Pn**	**08 32 34.5**	**-0.2**
	baz=199						
KNK	**Knik Glacier**	**2.48**	**146**		**Pn**	**08 32 36.6**	**+1.6**
KNK				IAML		08 33 11.3	
	comp=E,688nm,0.8s						
KNK				IAML		08 33 14.7	
	comp=N,442nm,1.3s						
KNK	**Knik Glacier**	**2.48**	**146**	P	**Pn**	**08 32 36.1**	**+1.1**
	baz=329						
SCM	**Sheep Creek Mo**	**2.48**	**131**		**Pn**	**08 32 36.1**	**+1.0**
SCM				IAML		08 33 12.6	
	comp=E,534nm,0.8s						
SCM				IAML		08 33 21.5	
	comp=N,672nm,1.5s						
SCM	**Sheep Creek Mo**	**2.48**	**131**	P	**Pn**	**08 32 35.2**	**+0.1**
	baz=314						
K24K	**Donnelly Dome**	**2.49**	**80**		**Pn**	**08 32 34.9**	**-0.2**
K24K	**Donnelly Dome**	**2.49**	**80**	P	**Pn**	**08 32 34.9**	**-0.2**
	baz=266						
H20K	**Anotleneega Mo**	**2.53**	**324**		**Pn**	**08 32 35.8**	**+0.2**
H20K	**Anotleneega Mo**	**2.53**	**324**	P	**Pn**	**08 32 35.9**	**+0.2**
	baz=140						
RC01	**Rabbit Creek A**	**2.53**	**162**	Pn	**Pn**	**08 32 37.2**	**+1.6**
RC01	**Rabbit Creek A**	**2.53**	**162**	P	**Pn**	**08 32 35.8**	**+0.1**
	baz=344						
PAX	**Paxson**	**2.70**	**99**		**Pn**	**08 32 38.9**	**+0.8**
PAX	**Paxson**	**2.70**	**99**	P	**Pn**	**08 32 38.4**	**+0.3**
	baz=284						
IMAR	**Indian Mountai**	**2.70**	**338**		**Pn**	**08 32 37.8**	**-0.2**
M24K	**Tolsona, Glenn**	**2.74**	**118**		**Pn**	**08 32 40.4**	**+1.7**
M24K	**Tolsona, Glenn**	**2.74**	**118**	P	**Pn**	**08 32 38.6**	**0.0**
	baz=303						
CAPN	**Captain Cook N**	**2.74**	**178**		**Pb**	**08 32 41.9**	**-1.6**
GCSA	**Galena City Sc**	**2.74**	**300**		**Pn**	**08 32 38.9**	**+0.3**
H24K	**Noodor Dome**	**2.77**	**31**	P	**Pn**	**08 32 38.3**	**-0.7**
	baz=214						
L18K	**Granite Mounta**	**2.78**	**245**		**Pn**	**08 32 38.4**	**-0.7**
L18K	**Granite Mounta**	**2.78**	**245**	P	**Pn**	**08 32 38.4**	**-0.7**
	baz=60						
J25K	**Salcha River,**	**2.84**	**64**		**Pn**	**08 32 39.1**	**-0.9**
J25K	**Salcha River,**	**2.84**	**64**	P	**Pn**	**08 32 39.1**	**-0.9**
	baz=250						
RIDG	**Independent Ri**	**2.90**	**82**		**Pn**	**08 32 42.1**	**+1.3**
RIDG				IAML		08 33 35.5	
	comp=E,253nm,1.5s						
RIDG				IAML		08 33 37.6	
	comp=N,256nm,0.8s						
RIDG	**Independent Ri**	**2.90**	**82**	P	**Pn**	**08 32 40.6**	**-0.2**
	baz=268						
M18K	**Stony River**	**2.91**	**228**		**Pn**	**08 32 39.6**	**-1.2**
M18K	**Stony River**	**2.91**	**228**	P	**Pn**	**08 32 40.2**	**-0.7**
	baz=44						
RDT	**Redoubt**	**2.98**	**190**		**Pn**	**08 32 43.1**	**+1.1**
DFR	**Drift River**	**2.99**	**193**		**Pn**	**08 32 43.6**	**+1.5**
H19K	**Roundabout Mou**	**3.01**	**315**	P	**Pn**	**08 32 42.3**	**0.0**
	baz=130						
HARP	**HAARP**	**3.02**	**109**		**Pn**	**08 32 44.4**	**+1.9**
HARP	**HAARP**	**3.02**	**109**	P	**Pn**	**08 32 43.9**	**+1.4**
	baz=294						
NCT	**North Crescent**	**3.05**	**195**		**Pn**	**08 32 44.2**	**+1.4**
SLKM	**Skilak Lake**	**3.05**	**170**		**Pn**	**08 32 43.3**	**+0.5**
N19K	**Bonanza Creek**	**3.08**	**210**	P	**Pn**	**08 32 43.1**	**-0.2**
	baz=27						
RDWB	**Redoubt West**	**3.11**	**194**		**Pn**	**08 32 44.5**	**+0.7**
O22K	**Cooper Landing**	**3.12**	**165**		**Pn**	**08 32 47.0**	**+3.2**
O22K	**Cooper Landing**	**3.12**	**165**	P	**Pn**	**08 32 44.7**	**+0.9**
	baz=347						
SVW2	**Sparrevohn**	**3.13**	**222**	P	**Pn**	**08 32 44.8**	**+0.9**
RED	**Redoubt Volcan**	**3.17**	**193**		**Pn**	**08 32 45.6**	**+1.1**
G21K	**Allakaket**	**3.17**	**344**		**Pn**	**08 32 45.1**	**+0.7**
G21K	**Allakaket**	**3.17**	**344**	P	**Pn**	**08 32 45.1**	**+0.7**
	baz=162						
KLU	**Klutina**	**3.21**	**126**		**Pn**	**08 32 47.2**	**+2.2**
KLU				IAML		08 33 31.1	
	comp=N,303nm,1.1s						
KLU				IAML		08 33 33.1	
	comp=E,286nm,0.8s						
KLU	**Klutina**	**3.21**	**126**	P	**Pn**	**08 32 46.1**	**+1.0**
	baz=312						
PRP	**Porcupine Dome**	**3.22**	**48**		**Pn**	**08 32 44.9**	**-0.4**
PRP	**Porcupine Dome**	**3.22**	**48**	P	**Pn**	**08 32 44.7**	**-0.5**
	baz=234						
G23K	**Bananza Creek**	**3.27**	**9**		**Pn**	**08 32 45.6**	**-0.3**
G23K	**Bananza Creek**	**3.27**	**9**	P	**Pn**	**08 32 45.9**	**+0.1**
	baz=190						
K17K	**Iditarod**	**3.27**	**259**	P	**Pn**	**08 32 45.3**	**-0.6**
	baz=73						
SCRK	**Sand Creek**	**3.29**	**78**		**Pn**	**08 32 46.5**	**+0.3**
SCRK	**Sand Creek**	**3.29**	**78**	P	**Pn**	**08 32 45.8**	**-0.4**
	baz=265						
MENT	**Mentasta**	**3.48**	**96**	P	**Pn**	**08 32 51.8**	**+3.0**
MENT	**Mentasta**	**3.48**	**96**		**Pn**	**08 32 51.2**	**+2.4**
MENT				IAML		08 33 47.1	
	comp=E,209nm,0.9s						
MENT				IAML		08 33 54.0	
	comp=N,199nm,1.2s						
L17K	**Donlin**	**3.49**	**250**		**Pn**	**08 32 48.0**	**-0.8**
L17K	**Donlin**	**3.49**	**250**	P	**Pn**	**08 32 48.3**	**-0.5**
	baz=64						
O20K	**Slope Mountain**	**3.49**	**191**		**Pn**	**08 32 50.1**	**+1.2**
O20K	**Slope Mountain**	**3.49**	**191**	P	**Pn**	**08 32 50.1**	**+1.2**
	baz=9.7						
H18K	**Honhosa River**	**3.49**	**302**		**Pn**	**08 32 49.2**	**+0.4**
H18K	**Honhosa River**	**3.49**	**302**	IAML		08 33 48.8	
	comp=N,250nm,0.8s						
H18K				IAML		08 33 49.0	
	comp=E,262nm,0.5s						
H18K	**Honhosa River**	**3.49**	**302**	P	**Pn**	**08 32 48.8**	**-0.1**
	baz=115						
DIV	**Divide**	**3.51**	**130**		**Pn**	**08 32 50.0**	**+0.8**
SEW	**Seward**	**3.52**	**165**		**Pn**	**08 32 51.2**	**+1.9**
SEW	**Seward**	**3.52**	**165**	P	**Pn**	**08 32 51.2**	**+1.9**
	baz=346						
M17K	**Holitna River**	**3.54**	**236**	P	**Pn**	**08 32 48.6**	**-0.9**
	baz=50						
N18K	**Kilae Creek**	**3.56**	**219**		**Pn**	**08 32 49.3**	**-0.5**
N18K	**Kilae Creek**	**3.56**	**219**	IAML		08 33 55.0	
	comp=E,197nm,0.9s						
N18K				IAML		08 33 57.8	
	comp=N,241nm,0.8s						
N18K	**Kilae Creek**	**3.56**	**219**	P	**Pn**	**08 32 49.3**	**-0.5**
	baz=35						
J26L	**Joseph Creek**	**3.56**	**70**		**Pn**	**08 32 49.6**	**-0.2**
J26L	**Joseph Creek**	**3.56**	**70**	IAML		08 33 49.7	
	comp=N,122nm,0.8s						
J26L	**Joseph Creek**	**3.56**	**70**	P	**Pn**	**08 32 49.6**	**-0.2**
	baz=257						
IVE	**Iliamna Volcan**	**3.59**	**194**		**Pn**	**08 32 51.1**	**+0.8**
G24K	**Hadweenzic Riv**	**3.60**	**25**		**Pn**	**08 32 49.8**	**-0.5**
G24K	**Hadweenzic Riv**	**3.60**	**25**	P	**Pn**	**08 32 50.0**	**-0.4**
	baz=209						
O19K	**Port Alsworth**	**3.61**	**205**	P	**Pn**	**08 32 50.0**	**-0.5**
	baz=22						
G19K	**Purcell Mounta**	**3.62**	**320**		**Pn**	**08 32 50.8**	**+0.1**
G19K	**Purcell Mounta**	**3.62**	**320**	P	**Pn**	**08 32 50.8**	**+0.1**
	baz=134						
H25L	**Birch Creek**	**3.63**	**38**		**Pn**	**08 32 50.3**	**-0.5**
H25L	**Birch Creek**	**3.63**	**38**	P	**Pn**	**08 32 50.3**	**-0.5**
	baz=223						
N25K	**Chitina, Valde**	**3.64**	**118**	P	**Pn**	**08 32 51.5**	**+0.5**
	baz=305						
BRLK	**Bradley Lake**	**3.75**	**177**		**Pn**	**08 32 54.3**	**+1.8**
BRLK				IAML		08 33 59.5	
	comp=E,111nm,1.4s						
COLD	**Coldfoot**	**3.77**	**7**		**Pn**	**08 32 53.0**	**+0.2**
COLD	**Coldfoot**	**3.77**	**7**	P	**Pn**	**08 32 53.0**	**+0.2**
	baz=188						
BRSE	**Bradley Lake S**	**3.78**	**176**		**Pn**	**08 32 54.5**	**+1.6**
BRSE	**Bradley Lake S**	**3.78**	**176**	P	**Pn**	**08 32 54.5**	**+1.6**
	baz=356						
F21K	**Alatna River**	**3.85**	**347**		**Pn**	**08 32 54.7**	**+0.9**
F21K	**Alatna River**	**3.85**	**347**	IAML		08 33 57.0	
	comp=N,114nm,0.6s						
F21K				IAML		08 34 05.5	
	comp=E,109nm,0.8s						
F21K	**Alatna River**	**3.85**	**347**	P	**Pn**	**08 32 54.7**	**+0.9**
	baz=165						
HIN	**Hinchinbrook I**	**3.85**	**142**		**Pn**	**08 32 55.2**	**+1.3**
G25K	**Bearman Lake**	**3.95**	**32**		**Pn**	**08 32 54.4**	**-0.8**
G25K	**Bearman Lake**	**3.95**	**32**	P	**Pn**	**08 32 55.0**	**-0.1**
	baz=216						
EYAK	**Cordova Ski Ar**	**3.95**	**136**	P	**Pn**	**08 32 57.6**	**+2.4**
EYAK	**Cordova Ski Ar**	**3.95**	**136**		**Pn**	**08 32 56.6**	**+1.4**
EYAK	**Cordova Ski Ar**	**3.95**	**136**	P	**Pn**	**08 32 55.9**	**+0.7**
	baz=321						
M26K	**Nabesna, AK**	**3.96**	**102**		**Pn**	**08 32 57.3**	**+2.0**
M26K	**Nabesna, AK**	**3.96**	**102**	IAML		08 34 04.8	
	comp=E,116nm,1.1s						
M26K				IAML		08 34 06.5	
	comp=N,111nm,1.1s						
M26K	**Nabesna, AK**	**3.96**	**102**	P	**Pn**	**08 32 56.0**	**+0.7**
	baz=290						
G18K	**Tagagawik**	**3.96**	**311**		**Pn**	**08 32 56.0**	**+0.6**
G18K	**Tagagawik**	**3.96**	**311**	IAML		08 34 03.5	
	comp=N,143nm,0.9s						
P19K	**Oil Pt**	**3.97**	**194**		**Pn**	**08 32 58.3**	**+2.9**
P19K				IAML		08 34 17.7	
	comp=N,148nm,0.9s						
P19K				IAML		08 34 20.7	
	comp=E,137nm,0.8s						
P23K	**Montague Islan**	**3.98**	**150**		**Pn**	**08 32 56.7**	**+1.2**
P23K	**Montague Islan**	**3.98**	**150**	P	**Pn**	**08 32 56.3**	**+0.8**
	baz=334						
I26K	**Coal Creek Min**	**3.98**	**59**		**Pn**	**08 32 55.1**	**-0.4**
I26K	**Coal Creek Min**	**3.98**	**59**	IAML		08 34 04.3	
	comp=N,138nm,0.9s						
I26K				IAML		08 34 10.2	
	comp=E,180nm,0.9s						
I26K	**Coal Creek Min**	**3.98**	**59**	P	**Pn**	**08 32 55.3**	**-0.3**
	baz=247						
CNPM	**China Poot**	**3.99**	**179**		**Pn**	**08 32 58.4**	**+2.7**
CNPM				IAML		08 33 56.6	
	comp=E,109nm,0.9s						
CNPM				IAML		08 34 08.8	
	comp=N,90nm,0.7s						
FYU	**Fort Yukon**	**4.01**	**37**		**Pn**	**08 32 55.3**	**-0.7**
FYU				IAML		08 34 12.9	
	comp=N,108nm,1.2s						
FYU				IAML		08 35 01.3	
	comp=E,90nm,1.0s						
F20K	**Avaraart Lake**	**4.02**	**334**		**Pn**	**08 32 57.0**	**+0.9**
F20K				IAML		08 34 05.5	
	comp=N,150nm,0.9s						
F20K				IAML		08 34 06.0	
	comp=E,158nm,0.8s						
F20K	**Avaraart Lake**	**4.02**	**334**	P

F19K Shaleruckik Mo 4.32 324 Pn 08 33 00.7 +0.5
F19K Shaleruckik Mo 4.32 324 IAML 08 34 15.3
comp=E,123nm,1.1s
F19K IAML 08 34 19.1
comp=N,117nm,0.8s
BCAR Beaver Creek A 4.32 92 Pn 08 33 00.5 +0.1
M16K Timber Creek 4.35 239 P **Pn 08 32 59.9 -0.8**
baz=52
MCARA McCarthy VSAT 4.40 115 Pn 08 33 03.9 +2.5
MCARA IAML 08 34 22.6
comp=N,126nm,1.4s
MCARA IAML 08 34 23.9
comp=E,124nm,1.2s
MCARA McCarthy VSAT 4.40 115 P **Pn 08 33 03.1 +1.8**
baz=303
RAGM Ragged Mountai 4.42 132 Pn 08 33 04.3 +2.6
M27K Edge Creek, AK 4.46 101 P **Pn 08 33 04.1 +1.8**
baz=289
G17K Kiwalik Mounta 4.51 301 Pn 08 33 03.7 +0.9
G17K Kiwalik Mounta 4.51 301 P **Pn 08 33 03.7 +0.9**
baz=112
P18K Big Mountain, 4.53 206 Pn 08 33 03.4 +0.2
P18K IAML 08 34 24.6
comp=N,60nm,1.0s
P18K IAML 08 34 26.0
comp=E,85nm,0.9s
P18K Big Mountain, 4.53 206 P **Pn 08 33 03.6 +0.4**
baz=23
HMT Hamilton 4.60 130 Pn 08 33 06.0 +1.9
EGAK Eagle 4.63 69 Pn 08 33 04.5 0.0
EGAK IAML 08 34 22.1
comp=E,103nm,0.9s
EGAK Eagle 4.63 69 P **Pn 08 33 04.3 -0.2**
baz=259
E23K Chandalar 4.63 8 Pn 08 33 05.4 +0.8
E23K Chandalar 4.63 8 P **Pn 08 33 05.4 +0.8**
baz=190
N16K Nishlik Lake 4.64 233 Pn 08 33 03.7 -1.0
O17K Koliganek Bris 4.65 219 Pn 08 33 03.9 -0.8
E22K Anaktuvuk Pass 4.66 358 Pn 08 33 06.3 +1.3
E22K Anaktuvuk Pass 4.66 358 P **Pn 08 33 06.3 +1.3**
baz=177
E19K Redstone River 4.68 331 P **Pn 08 33 06.5 +1.4**
baz=145
I27K Kandik River 4.69 59 Pn 08 33 04.6 -0.7
G26K Porcupine Rive 4.69 39 Pn 08 33 04.8 -0.5
G26K Porcupine Rive 4.69 39 P **Pn 08 33 05.0 -0.3**
baz=226
F18K Selawik 4.71 315 Pn 08 33 06.8 +1.3
F18K Selawik 4.71 315 P **Pn 08 33 06.8 +1.3**
baz=127
Q19K Cape Douglas, 4.72 195 Pn 08 33 07.5 +1.7
Q19K Cape Douglas, 4.72 195 P **Pn 08 33 07.6 +1.7**
baz=13
PTPK Patty Peak 4.73 115 Pn 08 33 08.4 +2.3
F25K Christian Rive 4.74 27 Pn 08 33 06.0 0.0
F25K Christian Rive 4.74 27 P **Pn 08 33 06.0 0.0**
baz=212
BERG Berg Lake 4.75 128 Pn 08 33 08.9 +2.7
K15K Wolf Creek Mou 4.83 260 Pn 08 33 07.0 -0.3
K15K Wolf Creek Mou 4.83 260 IAML 08 34 37.7
comp=N,92nm,0.8s
K15K IAML 08 34 37.9
comp=E,60nm,1.4s
K15K Wolf Creek Mou 4.83 260 P **Pn 08 33 07.2 0.0**
baz=71
BMAR Burnt Mountain 4.84 32 Pn 08 33 06.7 -0.8
TGL Tana Glacier 4.84 121 Pn 08 33 08.7 +1.2
TGL Tana Glacier 4.84 121 IAML 08 34 36.1
comp=E,57nm,0.9s
KAIM Kayak Island 4.86 134 Pn 08 33 09.1 +1.5
KAIM Kayak Island 4.86 134 IAML 08 34 49.8
comp=E,61nm,2.1s
KAIM IAML 08 34 50.9
comp=N,71nm,2.4s
KAIM Kayak Island 4.86 134 P **Pn 08 33 09.1 +1.5**
baz=321
KHIT Khitrov Hills 4.88 125 Pn 08 33 09.2 +1.1
BVCY Beaver Creek 4.89 98 Pn 08 33 09.5 +1.3
BVCY Beaver Creek 4.89 98 P **Pn 08 33 09.5 +1.3**
baz=288
KIAG Kiagna River 4.92 118 Pn 08 33 10.0 +1.3
H16K Elim 4.93 288 Pn 08 33 09.2 +0.6
H16K Elim 4.93 288 P **Pn 08 33 09.6 +1.0**
baz=98
P17K Kvichak River 4.97 212 Pn 08 33 09.3 +0.1
P17K Kvichak River 4.97 212 P **Pn 08 33 09.5 +0.3**
baz=27
H27K Steamboat Moun 4.99 52 Pn 08 33 09.1 -0.4
H27K Steamboat Moun 4.99 52 P **Pn 08 33 09.4 -0.1**
baz=241
L15K Ungalak Mounta 5.04 253 Pn 08 33 09.7 -0.5
L15K Ungalak Mounta 5.04 253 P **Pn 08 33 09.9 -0.3**
baz=64
O16K Kokwok River B 5.09 223 Pn 08 33 10.4 -0.3
O16K Kokwok River B 5.09 223 IAML 08 34 45.4
comp=N,68nm,1.0s
O16K IAML 08 34 53.6
comp=E,76nm,1.1s
O16K Kokwok River B 5.09 223 P **Pn 08 33 11.1 +0.4**
baz=36
YUK2 White River 5.13 105 Pn 08 33 13.3 +1.9
BARN Barnard Glacie 5.13 114 Pn 08 33 13.9 +2.4
BARN Barnard Glacie 5.13 114 IAML 08 34 43.3
comp=N,43nm,1.7s
G16K Koyuk River 5.14 297 Pn 08 33 12.3 +0.8
G16K Koyuk River 5.14 297 IAML 08 34 56.1
comp=E,53nm,1.3s
G16K Koyuk River 5.14 297 P **Pn 08 33 12.2 +0.6**
baz=106
F17K Baldwin Pennin 5.15 309 Pn 08 33 13.0 +1.4
F17K Baldwin Pennin 5.15 309 IAML 08 34 41.2
comp=N,86nm,1.2s
F17K Baldwin Pennin 5.15 309 P **Pn 08 33 13.0 +1.4**
baz=120
F26K Sheenjek River 5.15 32 Pn 08 33 11.8 0.0
F26K Sheenjek River 5.15 32 P **Pn 08 33 11.7 0.0**
baz=219
E20K Nigu River 5.18 339 Pn 08 33 14.1 +2.0
E20K Nigu River 5.18 339 P **Pn 08 33 13.7 +1.6**
baz=155
BARK Barkley Ridge 5.19 123 Pn 08 33 14.0 +1.6
E25K Arctic Village 5.21 24 Pn 08 33 12.2 -0.3
E25K Arctic Village 5.21 24 P **Pn 08 33 12.6 +0.2**
baz=210
TOLK Toolik Lake Re 5.21 7 Pn 08 33 13.7 +1.1
TOLK IAML 08 34 17.8
comp=N,76nm,1.0s
TOLK IAML 08 34 40.4
comp=E,71nm,0.8s
TOLK Toolik Lake Re 5.21 7 P **Pn 08 33 13.7 +1.1**
baz=189
SNH Sunshine Point 5.21 126 Pn 08 33 14.1 +1.5
SNH Sunshine Point 5.21 126 IAML 08 34 38.1
comp=E,58nm,1.5s
SNH IAML 08 34 51.7
comp=N,56nm,1.7s
G27K Doyon Strip 5.25 47 Pn 08 33 11.9 -1.1
G27K Doyon Strip 5.25 47 P **Pn 08 33 13.3 +0.2**
baz=235
BAGL Bagley Icefiel 5.29 121 Pn 08 33 14.9 +1.4
I28M Miner Creek 5.29 63 Pn 08 33 13.2 -0.5
I28M IAML 08 34 49.3
comp=N,44nm,1.5s
I28M IAML 08 34 52.6
comp=E,55nm,1.4s
I28M Miner Creek 5.29 63 P **Pn 08 33 14.4 +0.7**
baz=254
YUK3 Moose Creek 5.30 104 Pn 08 33 16.8 +2.9
YUK3 Moose Creek 5.30 104 P **Pn 08 33 16.1 +2.3**
baz=294
CTG Chitna Glacier 5.31 114 P **Pn 08 33 16.1 +2.1**
baz=303
DAWY Dawson 5.32 79 Pn 08 33 14.1 +0.1
D22K Ayikyak River 5.43 355 P **Pn 08 33 16.8 +1.3**
baz=174
D23K Nanushuk River 5.50 2 Pn 08 33 18.3 +1.9
D23K Nanushuk River 5.50 2 P **Pn 08 33 17.9 +1.5**
baz=183
E18K Tukpahlearik C 5.52 320 P **Pn 08 33 18.4 +1.7**
baz=131
KAKN Katmai Knife C 5.53 201 Pn 08 33 18.5 +1.6
MESA MESA 5.54 123 Pn 08 33 19.0 +1.8
MESA MESA 5.54 123 P **Pn 08 33 18.3 +1.1**
baz=311
J14K Nanvaranak Lak 5.61 268 P **Pn 08 33 17.8 -0.1**
baz=77
D20K Etivluk River 5.66 340 Pn 08 33 19.8 +1.2
D20K Etivluk River 5.66 340 P **Pn 08 33 19.8 +1.2**
baz=155
E17K Hotham Inlet 5.69 314 Pn 08 33 20.1 +1.2
E17K Hotham Inlet 5.69 314 P **Pn 08 33 19.9 +0.9**
baz=124
ANCK Angle Creek 5.70 203 Pn 08 33 20.5 +1.3
M14K Bethel 5.71 246 Pn 08 33 18.8 -0.4
M14K Bethel 5.71 246 P **Pn 08 33 19.2 0.0**
baz=56
CNTC Contact Creek 5.71 205 Pn 08 33 19.7 +0.3
Q17K Contact Creek 5.71 205 P **Pn 08 33 19.7 +0.3**
baz=21
L14K Kuka Creek 5.71 253 Pn 08 33 19.1 -0.2
L14K Kuka Creek 5.71 253 P **Pn 08 33 19.4 +0.1**
baz=63
D19K Kuna River 5.73 334 P **Pn 08 33 20.9 +1.2**
baz=148
G15K Niukluk 5.75 291 Pn 08 33 20.5 +0.6
G15K Niukluk 5.75 291 P **Pn 08 33 20.5 +0.6**
baz=99
D24K Happy Valley 5.77 9 Pn 08 33 22.3 +2.2
D24K Happy Valley 5.77 9 P **Pn 08 33 21.7 +1.6**
baz=191
KDAK Kodiak Island 5.77 187 Pn 08 33 21.2 +1.0
KDAK Kodiak Island 5.77 187 Pn **Pn 08 33 21.4 +1.3**
comp=E,0.4nm,0.3s,baz=344,slow=18,SNR=17
KDAK Sn **Sn 08 34 26.6 0.0**
comp=E,1.0nm,0.3s,baz=154,slow=23,SNR=2.0
comp=E,2.9nm,0.6s
J29N Klondike Camp 5.84 75 Pn 08 33 22.5 +1.2
C21K Knifeblade Rid 5.85 348 Pn 08 33 23.0 +1.7
C21K Knifeblade Rid 5.85 348 P **Pn 08 33 23.0 +1.7**
baz=164
K29M Barlow Dome 6.15 81 Pn 08 33 25.9 +0.4
F15K North Star Dit 6.15 297 Pn 08 33 26.2 +0.8
F15K North Star Dit 6.15 297 P **Pn 08 33 26.2 +0.8**
baz=105
D25K Kavik River 6.17 17 Pn 08 33 27.6 +1.9
D25K Kavik River 6.17 17 P **Pn 08 33 27.6 +1.9**
baz=201
ANM Nome 6.27 286 P **Pn 08 33 27.3 +0.3**
baz=93
F28M Old Crow 6.29 44 Pn 08 33 26.6 -0.6
F28M Old Crow 6.29 44 P **Pn 08 33 27.0 -0.3**
baz=234
B21K Ikpikpuk River 6.29 349 Pn 08 33 27.9 +0.8
B21K Ikpikpuk River 6.29 349 P **Pn 08 33 28.0 +0.8**
baz=166
C24K Franklin Bluff 6.33 8 Pn 08 33 29.0 +1.2
C24K Franklin Bluff 6.33 8 P **Pn 08 33 29.0 +1.2**
baz=191
K13K Kusilvak Mount 6.33 262 Pn 08 33 27.1 -0.7
K13K Kusilvak Mount 6.33 262 P **Pn 08 33 27.6 -0.3**
baz=70
OHAK Old Harbor 6.37 190 P **Pn 08 33 31.4 +3.0**
O14K Tigyukauivet M 6.40 233 Pn 08 33 28.9 +0.2
O14K Tigyukauivet M 6.40 233 P **Pn 08 33 28.9 +0.2**
baz=44
D17K Noatak River 6.44 316 Pn 08 33 29.9 +0.6
D17K Noatak River 6.44 316 P **Pn 08 33 29.9 +0.6**
baz=125
M13K Dall Lake 6.46 247 Pn 08 33 30.2 +0.6
M13K Dall Lake 6.46 247 P **Pn 08 33 30.2 +0.6**
baz=56
C19K Lookout Ridge 6.54 333 Pn 08 33 31.4 +0.7
C19K Lookout Ridge 6.54 333 P **Pn 08 33 31.4 +0.7**
baz=145
C18K Utukok River 6.54 327 Pn 08 33 31.5 +0.7
C18K Utukok River 6.54 327 P **Pn 08 33 31.5 +0.7**
baz=137
G29M Pine Creek 6.55 53 P **Pn 08 33 30.8 0.0**
baz=245
YUK6 Outpost Mounta 6.57 107 Pn 08 33 32.3 +0.9
YUK6 Outpost Mounta 6.57 107 P **Pn 08 33 32.3 +0.9**
baz=299
RDOG Red Dog Mine 6.60 319 P **Pn 08 33 32.2 +0.6**
baz=128
J30M Hart River 6.67 74 P **Pn 08 33 33.1 +0.5**
baz=268
I30M Mount Dempster 6.71 68 P **Pn 08 33 32.9 -0.2**
baz=262
F14K Arctic Creek 6.78 294 Pn 08 33 35.0 +1.0
F14K Arctic Creek 6.78 294 P **Pn 08 33 34.9 +1.0**
baz=100
EPYK Eagle Plains 6.83 59 Pn 08 33 34.0 -0.7
PNL Peninsula 6.86 119 P **Pn 08 33 37.8 +2.7**
B22K Teshekpuk Lake 6.92 354 P **Pn 08 33 36.5 +0.6**
baz=172
C26K Camden Bay 6.92 19 Pn 08 33 37.7 +1.8
C26K Camden Bay 6.92 19 P **Pn 08 33 37.1 +1.2**
baz=204
B20K Meade River 6.93 343 Pn 08 33 36.5 +0.5
B20K Meade River 6.93 343 P **Pn 08 33 36.5 +0.5**
baz=158
HYT Haines Junctio 7.00 106 P **Pn 08 33 38.7 +1.6**
baz=299
E29M Blow River 7.34 42 Pn 08 33 41.8 +0.1
H31M Peel River 7.63 65 Pn 08 33 44.4 -1.3
INK Inuvik 8.71 49 Pn 08 34 00.2 -0.2
INK Inuvik 8.71 49 Pn **Pn 08 34 00.3 0.0**
comp=E,0.3nm,0.3s,baz=233,slow=12,SNR=14
INK Lg Lg 08 36 26.7
comp=E,0.1nm,0.3s,baz=138,slow=15,SNR=1.5
comp=E,1.6nm,0.6s
JIS Juneau Island 9.75 115 P **Pn 08 34 16.2 +1.5**
SIT Sitka 10.21 122 P **Pn 08 34 23.7 +2.7**
DLBC Dease Lake 11.48 106 Lg Lg 08 38 06.0
comp=E,0.2nm,0.3s,baz=154,slow=16,SNR=6.7
A36M Sachs Harbour 12.90 38 Pn 08 34 56.8 -0.9
YKA Yellowknife Ar 16.55 77 Pn **Pn 08 35 46.9 +0.4**
comp=E,0.1nm,0.3s,baz=292,slow=11,SNR=6.5
comp=E,0.7nm,1.1s
NEW Newport 24.09 113 LR LR 08 46 40.7
comp=E,48nm,21.1s,baz=345,slow=36
PDAR Pinedale Array 31.67 111 LR LR 08 50 19.3
comp=E,44nm,18.8s,baz=29,slow=35
NRIK Noril'sk 41.13 332 P **P 08 39 39.2 +0.9**
comp=E,1.1nm,0.3s,baz=59,slow=4.8,SNR=1.5
comp=E,1.1nm,0.3s
TXAR Lajitas Array 45.61 115 P **P 08 40 16.8 +1.7**
comp=E,0.4nm,0.6s,baz=331,slow=5.7,SNR=5.4
comp=E,0.4nm,0.6s
FINES FINESS Array B 55.36 2 P **P 08 41 28.3 +0.2**
comp=E,0.5nm,0.6s,baz=354,slow=11,SNR=1.7
comp=E,0.5nm,0.6s
BVAR Borovoye Array 59.34 332 P **P 08 41 56.3 -0.1**
comp=E,1.6nm,0.7s,baz=36,slow=5.4,SNR=6.8
comp=E,1.6nm,0.7s
KURBB Kurchatov Arra 59.69 326 P **P 08 41 58.7 -0.1**
comp=E,0.6nm,0.9s,baz=22,slow=6.5,SNR=4.6
comp=E,0.6nm,0.9s
MKAR Makanchi Array 62.19 321 P **P 08 42 14.8 -1.1**
comp=E,0.3nm,0.5s,baz=60,slow=7.4,SNR=3.9
comp=E,0.3nm,0.5s
ESDC Sonseca Array 73.93 26 P **P 08 43 30.3 +0.6**
comp=E,2.3nm,1.1s,baz=335,slow=5.7,SNR=4.3
comp=E,2.3nm,1.1s
TGY Tagaytay City 76.50 274 LR LR 09 18 15.9
comp=E,60nm,21.5s,baz=214,slow=36
QSPA South Pole Qui 153.31 180 PKPbc **PKPbc 08 51 50.7 -0.6**
comp=E,1.3nm,0.9s,baz=190,slow=0.6,SNR=5.9

*TEH **30** 08:42:35.1,33˚.79N×45˚.58E,h10km,ML2.9*
*ISN **30** 08:42:35.4±0.6,33˚.76N×45˚.58E,h11km±3km,ML3.0*
ISC 30 08:42:34.9±1.0,33˚.78N±0˚.04×45˚.56E±0˚.06,h10km,n10,
σ0s66/14,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.56**	**106**	Pg	**Pg**	**08 42 45.7**	**-0.2**
KGS1	**Ghasr-e-Shirin**	**0.73**	**2**	Pg	**Pg**	**08 42 48.7**	**-0.3**
KGS1				Sg	**Sb**	**08 43 00.4**	**+0.7**
IBDR	**Badra**	**0.73**	**155**	*e*Pg	**Pg**	**08 42 49.0**	**-0.1**
IBDR				*e*Sg	**Sg**	**08 42 59.5**	**+0.8**
IBDR				AML	AML	08 43 08.0	
	comp=N,634nm,0.4s						
IBDR				AML	AML	08 43 09.7	
	comp=E,508nm,0.7s						
IGHG	**Ghaleghazi**	**1.00**	**56**	Pg	**Pg**	**08 42 53.9**	**-0.3**
BHD	**Baghdad**	**1.11**	**243**	*e*Pg	**Pn**	**08 42 57.0**	**+0.6**
BHD				*e*Sg	**Sn**	**08 43 12.0**	**+0.2**
BHD				AML	AML	08 43 21.9	
	comp=E,395nm,0.8s						
IDHR	**Dehrash**	**1.15**	**37**	Pg	**Pg**	**08 42 56.1**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.33**	**68**	Pg	**Pg**	**08 43 00.8**	**+0.3**
IKFM	**Kafar-mosalman**	**1.93**	**97**	Pn	**Pb**	**08 43 10.3**	**+0.2**
RAFI	**Al-Rafai**	**2.10**	**167**	*e*Pn	**Pb**	**08 43 12.0**	**-1.1**
RAFI				*e*Sn	**Sb**	**08 43 39.0**	**-0.3**
IDOB	**Doab**	**2.18**	**89**	Pn	**Pb**	**08 43 13.8**	**-0.8**

*IDC **30** 08:48:52.7±0.8,4˚.28N×95˚.81E,h0km,mb4.0/15,*
mbtmp4.0/16,ML4.3/1,MS3.5/26,Error ellipse:
s-maj=34.0km s-min=15.0km az=56.0
*DJA **30** 08:48:55.3±0.6,5˚N±3˚×9˚6E±˚,h10km,M4.7/12,mb4.7/3,*
mB5.4/2,MLv4.7/12,Mw(mB)4.8/2
*NEIC **30** 08:48:59.0±2.0,4˚.70N±0˚.05×96˚.35E±0˚.09,h27km±6km,*
mb4.4/26,Error ellipse: s-maj=12.5km s-min=7.6km
az=84.0
ISC 30 08:48:56.5±0.5,4˚.65N±0˚.03×96˚29E±0˚.06,h10km,n88,
σ1s64/62,mb4.4/27,MS3.5/25,1C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.40**	**163**	P	**Pg**	**08 49 04.3**	**0.0**
MLSI				S	**Sg**	**08 49 11.3**	**+1.7**
LHMI	**Lhok Sumawe**	**0.87**	**49**		**Pg**	**08 49 13.7**	**+0.3**
LHMI	**Lhok Sumawe**	**0.87**	**49**	P	**Pg**	**08 49 14.0**	**+0.7**
LHMI				S	**Sb**	**08 49 26.5**	**+1.0**
KCSI	**Kotacane, Aceh**	**1.85**	**127**	P	**Pn**	**08 49 30.8**	**+2.4**
KCSI				S	**Sb**	**08 49 55.4**	**+1.6**
SNSI	**Sinabang, Aceh**	**2.23**	**179**	P	**Pn**	**08 49 33.7**	**+0.2**
GSI	**Gunungsitoli**	**3.56**	**159**	Pn	**Pn**	**08 49 51.8**	**-0.1**
GSI	**Gunungsitoli**	**3.56**	**159**	P	**Pn**	**08 49 51.3**	**-0.6**
KULM	**Kulim**	**4.39**	**81**	Pn	**Pn**	**08 50 03.0**	**-0.2**
IPM	**Ipoh**	**4.72**	**92**		**Pn**	**08 50 07.1**	**-0.8**
PBSI	**Pulau Batu**	**5.08**	**157**	P	**Pn**	**08 50 12.4**	**-0.3**
	94nm,1.6s,0.6nm						
SRIT	**Nakonsritamara**	**5.12**	**40**		**Pn**	**08 50 12.1**	**-1.2**
BKNI	**Bangkinang**	**6.40**	**132**	Pn	**Pn**	**08 50 30.2**	**-0.7**
CM31	**Chiang Mai Arr**	**13.97**	**10**	Pn	**Pn**	**08 52 18.3**	**+3.7**
CMAR	**Chiang Mai Arr**	**13.97**	**10**	Pn	**Pn**	**08 52 15.7**	**+1.1**
CMAR	**Chiang Mai Arr**	**13.97**	**10**	Pn	**Pn**	**08 52 17.9**	**+3.3**
	0.4nm,0.3s,baz=203,slow=13,SNR=12						
CMAR				Lg	Lg	08 56 30.9	
	1.2nm,0.3s,baz=195,slow=27,SNR=4.6						
CMAR				LR	LR	08 58 33.1	
	comp=Z,121nm,19.2s,baz=205,slow=40						
	1.0nm,0.2s						
PHRA	**Phrae**	**14.29**	**15**		**Pn**	**08 52 17.6**	**-1.5**
KSM	**Kuching**	**14.35**	**102**	Pn	**Pn**	**08 52 18.0**	**-1.8**
PALK	**Pallekele**	**15.72**	**280**		**Pn**	**08 52 39.8**	**+1.5**
PALK				IAmb	IAmb	08 52 45.3	
	comp=Z,22nm,1.1s						
PALK	**Pallekele**	**15.72**	**280**	Pn	**Pn**	**08 52 41.1**	**+2.9**
	comp=Z,1.6nm,0.3s,baz=194,slow=9.2,SNR=12						
PALK				Sn	Sn	08 55 19.8	-13
	comp=Z,0.8nm,0.3s,baz=223,slow=13,SNR=2.4						
PALK				LR	LR	08 58 07.5	
	comp=Z,201nm,20.2s,baz=204,slow=36						
CRAI	**Chiangrai**	**15.99**	**14**	Pn	**Pn**	**08 52 41.6**	**-0.1**
QIZ	**Qiongzhong**	**19.48**	**42**	P	**P**	**08 53 22.5**	**-1.2**
QIZ				S	**Sn**	**08 57 02.3**	**-1.3**
QIZ				sS	**pS**	**08 57 18.3**	**+0.3**
QIZ				pmax	pmax		
	comp=Z,140nm,4.5s						
QIZ				LR	LR		
	comp=N,370nm,16.8s						
QIZ				LR	LR		
	comp=E,280nm,14.1s						
QIZ				LR	LR		
	comp=Z,150nm,15.5s						
KKM	**Kota Kinabalu**	**19.89**	**85**	P	**P**	**08 53 29.1**	**+0.8**
KKM				IAmb	IAmb	08 53 36.8	
	comp=Z,22nm,1.4s						
PZH	**PanZhiHua**	**22.35**	**13**	P	**P**	**08 53 55.3**	**+0.4**
PZH				pmax	pmax		
	comp=Z,20nm,0.6s						
PZH				pmax	pmax		
	comp=Z,90nm,4.3s						
KAPI	**Kappang**	**25.32**	**112**	P	**P**	**08 54 22.8**	**-0.9**
H08S2	**Diego Garcia H**	**26.70**	**243**	T	T	09 21 50.9	
	baz=61,slow=75,SNR=314						
H08S3	**Diego Garcia H**	**26.70**	**243**	T	T	09 21 51.0	
	baz=61,slow=75,SNR=316						
H08S1	**Diego Carcia H**	**26.72**	**243**	T	T	09 21 52.1	
	baz=61,slow=75,SNR=278						
DAV	**Davao City (W)**	**29.23**	**84**	LR	LR	09 08 11.7	
	comp=Z,62nm,18.1s,baz=180,slow=39						
XAN	**Xi'an**	**31.51**	**20**	P	**P**	**08 55 23.5**	**+4.6**
XAN				pmax	pmax		
	comp=Z,11nm,0.6s						
NIL	**Nilore**	**35.95**	**326**		**P**	**08 55 56.3**	**-1.2**
HNS	**HongShan**	**36.70**	**25**	⇑P	**P**	**08 56 07.5**	**+3.8**
HNS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
FITZ	**Fitzroy Crossi**	**36.73**	**129**	P	P	08 56 01.5	-2.7
KNRA	**Kununurra**	**37.97**	**123**	P	P	08 56 12.2	-2.6
KNRA				IAmb	IAmb	08 56 21.1	
	comp=Z,13nm,1.1s						
HHC	**Hu-ho-hao-te**	**38.57**	**19**	*e*P	**P**	**08 56 21.5**	**+1.8**
HHC				pmax	pmax		
	comp=Z,11nm,0.6s						
HHC				pmax	pmax		
	comp=Z,59nm,5.0s						
HHC				LR	LR		
	comp=N,99nm,17.6s						
HHC				LR	LR		
	comp=E,270nm,18.4s						
HHC				LR	LR		
	comp=Z,110nm,18.3s						
WMQ	**Urumqi**	**39.74**	**350**	*e*P	**P**	**08 56 31.8**	**+2.4**
WMQ				pP	sP	08 56 38.0	+3.9
WMQ				pmax	pmax		
	comp=Z,22nm,0.7s						
TARG	**Taragay, Kyrgy**	**40.45**	**339**	P	**P**	**08 56 35.1**	**-0.6**
TARG				IAmb	IAmb	08 57 14.0	
	comp=Z,3.8nm,0.7s						
DRK	**Karamyk**	**41.15**	**331**	P	**P**	**08 56 40.5**	**-0.9**
CHGR	**Chuyangaron**	**41.87**	**328**	P	**P**	**08 56 44.9**	**-2.2**
CHGR				IAmb	IAmb	08 57 03.8	
	comp=Z,11nm,0.9s						
SIMJ	**Simiganj**	**41.95**	**328**	P	**P**	**08 56 45.5**	**-2.4**
SIMJ				IAmb	IAmb	08 57 13.3	
	comp=Z,6.0nm,1.0s						
ARSB	**Arslanbob**	**42.06**	**334**	P	**P**	**08 56 47.3**	**-1.3**
NWAO	**Narrogin (SRO)**	**42.32**	**153**	LR	LR	09 13 03.7	
	comp=Z,64nm,19.8s,baz=226,slow=34						
JNU	**Nakatsue**	**42.91**	**44**	P	**P**	**08 56 53.4**	**-2.2**
JNU	**Nakatsue**	**42.91**	**44**	LR	LR	09 15 43.6	
	comp=Z,68nm,20.8s,baz=226,slow=37						
KSRS	**Korea Array**	**43.60**	**37**	P	**P**	**08 57 04.3**	**+3.3**
	comp=Z,0.9nm,0.5s,baz=215,slow=8.0,SNR=4.0						
KSRS				LR	LR	09 17 54.8	
	comp=Z,58nm,18.1s,baz=215,slow=40						
	comp=Z,0.9nm,0.5s						
MKAR	**Makanchi Array**	**43.70**	**346**	P	**P**	**08 57 00.7**	**-1.0**
MKAR	**Makanchi Array**	**43.70**	**346**	P	**P**	**08 57 01.3**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=147,slow=6.9,SNR=3.8						
MKAR				LR	LR	09 17 59.7	
	comp=Z,49nm,21.6s,baz=179,slow=40						
	comp=Z,0.7nm,0.5s						
SONM	**Songino Array**	**43.89**	**10**	P	**P**	**08 57 02.6**	**-0.8**
SONM	**Songino Array**	**43.89**	**10**	P	**P**	**08 57 03.3**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=191,slow=9.3,SNR=5.6						

IDC 30 08:37:20.5±1.5,1˚.46N×125˚.40E,h0km,mb3.7/5,
mbtmp3.7/5,Error ellipse: s-maj=185.9km
s-min=20.0km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.01**	**158**	P	P	08 42 27.0	-0.2
	2.0nm,0.6s,baz=336,slow=10,SNR=13						
	2.0nm,0.6s						
ASAR	**Alice Springs**	**26.31**	**162**	P	P	08 42 58.1	0.0
	0.2nm,0.4s,baz=344,slow=7.9,SNR=6.2						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**58.68**	**327**	P	P	08 47 19.9	0.0
	0.4nm,0.4s,baz=122,slow=7.7,SNR=7.2						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**62.95**	**329**	P	P	08 47 48.4	-0.4
	0.9nm,0.6s,baz=128,slow=6.3,SNR=10.0						
	0.9nm,0.6s						
BVAR	**Borovoye Array**	**68.51**	**328**	P	P	08 48 25.4	+0.7
	0.4nm,0.4s,baz=122,slow=7.0,SNR=2.7						
	0.4nm,0.4s						

SONM LR LR 09 19 03.7
comp=Z,63nm,18.2s,baz=158,slow=41
comp=Z,0.8nm,0.5s
WB0 Warramunga Arr 44.63 124 P **P** **08 57 08.4 -1.2**
WB0 IAmb IAmb 08 57 12.6
comp=Z,5.2nm,1.0s
WRA Warramunga Arr 44.67 124 P **P** **08 57 10.1 +0.2**
WRA Warramunga Arr 44.67 124 P **P** **08 57 08.2 -1.7**
comp=Z,2.9nm,0.9s,baz=302,slow=9.2,SNR=15
comp=Z,2.9nm,0.9s
AS31 Alice Springs 46.23 129 P **P** **08 57 21.4 -0.9**
AS31 IAmb IAmb 08 57 27.1
comp=Z,1.1nm,0.7s
ASAR Alice Springs 46.23 129 P **P** **08 57 21.1 -1.1**
comp=Z,5.0nm,0.9s,baz=304,slow=7.4,SNR=28
ASAR LR LR 09 18 41.8
comp=Z,60nm,19.2s,baz=302,slow=39
comp=Z,5.0nm,0.9s
GEYT Alibeck 48.02 319 P P 08 57 32.8 -3.2
GEYT IAmb IAmb 08 57 48.0
comp=Z,3.4nm,0.8s
GEYT Alibeck 48.02 319 P **P** **08 57 34.2 -1.8**
comp=Z,0.9nm,0.4s,baz=41,slow=4.6,SNR=3.7
GEYT LR LR 09 19 22.9
comp=Z,80nm,20.1s,baz=198,slow=38
comp=Z,0.9nm,0.4s
GYA0B ALIBECK ARRAY 48.02 319 P P 08 57 33.4 -2.6
GYA0B IAmb IAmb 08 57 48.0
comp=Z,4.6nm,0.8s
KURBB Kurchatov Arra 48.19 345 P **P** **08 57 36.9 -0.1**
comp=Z,0.6nm,0.5s,baz=157,slow=7.1,SNR=3.3
KURBB LR LR 09 21 11.4
comp=Z,32nm,18.8s,baz=176,slow=40
comp=Z,0.6nm,0.5s
KURK Kurchatov 48.25 345 P **P** **08 57 37.9 +0.4**
GUMO Guam 48.70 76 LR LR 09 18 01.9
comp=Z,14nm,21.1s,baz=243,slow=36
ZALV Zalesovo Beam 50.03 351 P **P** **08 57 50.9 -0.2**
ZALV Zalesovo Beam 50.03 351 P **P** **08 57 51.3 +0.2**
comp=Z,1.7nm,0.4s,baz=168,slow=7.4,SNR=2.8
ZALV LR LR 09 21 05.9
comp=Z,36nm,19.4s,baz=84,slow=38
comp=Z,1.7nm,0.4s
USRK Ussuriysk Ar. 50.35 33 LR LR 09 20 54.5
comp=Z,58nm,19.8s,baz=202,slow=38
BVAR Borovoye Array 52.72 341 P **P** **08 58 10.4 -0.9**
comp=Z,1.5nm,0.8s,baz=134,slow=8.5,SNR=5.9
comp=Z,1.5nm,0.8s
STKA Stephens Creek 56.35 133 P **P** **08 58 37.3 -0.7**
STKA Stephens Creek 56.35 133 P **P** **08 58 36.6 -1.4**
comp=Z,2.8nm,0.7s,baz=312,slow=6.2,SNR=7.9
STKA LR LR 09 25 05.9
comp=Z,35nm,19.4s,baz=269,slow=38
comp=Z,2.8nm,0.7s
ASAJ Asahikawa 56.51 39 LR LR 09 24 48.0
comp=Z,58nm,18.5s,baz=72,slow=38
GNI Garni 58.21 315 LR LR 09 27 53.2
comp=Z,27nm,18.6s,baz=138,slow=40
H04N2 CROZET ISLANDS 64.13 213 T T 10 09 24.5
baz=49,slow=75,SNR=67
H04N1 CROZET ISLANDS 64.14 213 T T 10 09 25.1
baz=49,slow=75,SNR=66
H04N3 CROZET ISLANDS 64.15 213 T T 10 09 26.7
baz=49,slow=75,SNR=71
H04S1 CROZET ISLANDS 64.50 212 T T 10 09 17.3
baz=48,slow=74,SNR=3.1
H04S3 CROZET ISLANDS 64.51 212 T T 10 09 17.7
baz=48,SNR=3.8
H04S2 CROZET ISLANDS 64.52 212 T T 10 09 43.2
baz=48,slow=74
KIRV Kirov 64.82 335 LR LR 09 29 47.9
comp=Z,56nm,19.5s,baz=113,slow=38
BRTR Keskin Array B 66.14 311 P P 08 59 41.8 -2.8
comp=Z,0.5nm,0.5s,baz=134,slow=7.6,SNR=2.6
BRTR LR LR 09 29 52.3
comp=Z,24nm,20.2s,baz=172,slow=37
comp=Z,0.5nm,0.5s
MA2 Magadan 68.65 26 LR LR 09 35 38.3
comp=Z,25nm,18.6s,baz=268,slow=40
TIXI Tiksi 69.98 10 LR LR 09 33 00.1
comp=Z,39nm,21.0s,baz=228,slow=38
LSZ Lusaka 70.26 252 LR LR 09 27 26.7
comp=Z,65nm,19.2s,baz=184,slow=33
LBTB Lobatse 74.62 243 LR LR 09 31 14.7
comp=Z,32nm,18.1s,baz=98,slow=34
FINES FINESS Array B 76.54 332 P P 09 00 44.2 -2.6
comp=Z,0.3nm,0.4s,baz=101,slow=6.0,SNR=4.9
comp=Z,0.3nm,0.4s
ARCES ARCESS Array B 79.00 340 P **P** **09 00 59.0 -1.4**
comp=Z,1.2nm,0.7s,baz=98,slow=7.0,SNR=9.0
comp=Z,1.2nm,0.7s
VRAC Vranov 79.77 319 LR LR 09 42 05.6
comp=Z,20nm,18.1s,baz=178,slow=40
GERES GERESS Array B 81.64 319 P P 09 01 12.7 -2.4
comp=Z,0.3nm,0.5s,baz=61,slow=6.9,SNR=2.6
comp=Z,0.3nm,0.5s
HFS Hagfors 82.30 330 P **P** **09 01 16.1 -2.1**
comp=Z,4.5nm,1.0s,baz=101,slow=7.5,SNR=2.3
comp=Z,4.5nm,1.0s
NOA NORSAR Array B 83.57 331 LR LR 09 43 14.9
comp=Z,33nm,19.1s,baz=105,slow=39
URZ Urewera 85.67 129 LR LR 09 42 33.3
comp=Z,40nm,18.1s,baz=304,slow=38
NVAR Mina Array Bea 126.48 34 PKP **PKPdf** **09 08 01.2 +0.5**
comp=Z,0.4nm,0.7s,baz=267,slow=2.6,SNR=4.7
TXAR Lajitas Array 141.16 28 PKP **PKPdf** **09 08 28.5 +0.3**
comp=Z,0.2nm,0.6s,baz=229,slow=1.0,SNR=2.2

TAP 30 08:59:10.3, 24°.50N×121°.95E, h16km, ML2.5, 1C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESAO	**Su ao**	**0.13**	**308**	P	Pb	08 59 14.5	+0.1
	baz=307						
ESAO				S	Sg	08 59 16.5	+0.1
	baz=307						
TWC	**Suao**	**0.15**	**319**	⇑*i*P	Pb	08 59 14.8	+0.1
	baz=322						
TWC				*i* S	Sg	08 59 17.1	+0.3
	baz=322						
EWUT	**Wuta**	**0.17**	**252**	*i* P	Pb	08 59 15.2	0.0
	baz=251						
EWUT				*i* S	Sb	08 59 19.5	+1.2
	baz=251						
ENA	**Nanau**	**0.20**	**250**	*i* P	Pb	08 59 15.7	-0.1
	baz=249						
ENA				S	Sb	08 59 20.0	+0.6
	baz=249						
NDS	**Dongshan**	**0.26**	**302**	*e*P	Pb	08 59 16.3	-0.3
	baz=302						
NDS				*e*S	Sg	08 59 20.2	+0.5
	baz=302						
EAHA	**Aohua**	**0.26**	**229**	*i* P	Pb	08 59 16.5	-0.1
	baz=229						
EAHA				S	Sb	08 59 21.1	+0.2
	baz=229						
EOS2	**EOS2**	**0.27**	**107**	*i* P	Pb	08 59 16.9	+0.2
	baz=107						
EOS2				*i* S	Sb	08 59 21.3	+0.3
	baz=107						
TWE	**Neicheng**	**0.34**	**311**	*i* P	Pb	08 59 18.4	+0.3
	baz=311						
TWE				*i* S	Sb	08 59 23.2	-0.2
	baz=311						
EGS		**0.35**	**357**	P	Pb	08 59 18.3	+0.2
	baz=358						
EGS				S	Sb	08 59 23.6	+0.1
	baz=358						
NTC	**Toucheng**	**0.37**	**342**	*e*P	Pg	08 59 17.9	0.0
	baz=342						
NTC				*e*S	Sb	08 59 23.8	-0.4
	baz=342						
ENTT	**Nioudou**	**0.38**	**292**	*i* P	Pb	08 59 19.7	+1.0
	baz=291						
ENTT				*i* S	Sb	08 59 24.7	+0.2
	baz=291						
LATG	**Datong**	**0.39**	**276**	P	Pb	08 59 19.1	+0.1
	baz=275						
LATG				S	Sb	08 59 24.6	-0.3
	baz=275						
EOS3	**EOS3**	**0.39**	**122**	P	Pb	08 59 19.1	+0.3
	baz=122						
EOS3				S	Sb	08 59 25.0	+0.3
	baz=122						
NDT	**Datong Townshi**	**0.41**	**285**	P	Pb	08 59 19.7	+0.4
	baz=284						
NDT				S	Sb	08 59 25.3	-0.1
	baz=284						
FUSB	**Fushanzhiwuyua**	**0.42**	**308**	P	Pb	08 59 20.2	+0.6
	baz=308						
FUSB				S	Sb	08 59 25.5	-0.3
	baz=308						
ETL	**Fush Village**	**0.45**	**222**	*e*P	Pb	08 59 20.1	+0.1
	baz=221						
ETL				S	Sb	08 59 26.5	0.0
	baz=221						
NACB	**Ninganchiao**	**0.46**	**225**	P	Pb	08 59 19.9	-0.2
	baz=225						
NACB				S	Sb	08 59 26.3	-0.4
	baz=225						
TIPB	**Shuangxi**	**0.49**	**346**	P	Pb	08 59 20.8	+0.2
	baz=346						
TIPB				S	Sb	08 59 28.3	+0.7
	baz=346						
NWLT	**Wulai**	**0.49**	**304**	*e*P	Pb	08 59 21.1	+0.4
	baz=304						
NWLT				*e*S	Sb	08 59 27.7	-0.1
	baz=304						
EOS4	**EOS4**	**0.50**	**138**	P	Pb	08 59 21.2	+0.6
	baz=138						
EOS4				S	Sb	08 59 27.5	0.0
	baz=138						
TWB1	**Santiao Chiao**	**0.51**	**4**	*e*P	Pb	08 59 21.5	+0.5
	baz=4.0						
TWB1				*e*S	Sb	08 59 28.7	+0.5
	baz=4.0						
ETLH	**Xiulin Townshi**	**0.52**	**236**	P	Pg	08 59 20.9	+0.2
	baz=236						
ETLH				S	Sb	08 59 28.8	+0.3
	baz=236						
NNSB	**Datong**	**0.52**	**263**	*e*P	Pb	08 59 21.6	+0.3
	baz=262						
NNSB				*e*S	Sb	08 59 29.6	+0.8
	baz=262						
TWD	**Chiawan**	**0.53**	**218**	P	Pg	08 59 21.0	+0.2
	baz=217						
TWD				S	Sb	08 59 28.6	-0.1
	baz=217						
NNS	**Nan Shan**	**0.53**	**264**	P	Pb	08 59 21.9	+0.5
	baz=263						
NNS				S	Sb	08 59 30.0	+1.0
	baz=263						
YHNB	**Yeheng**	**0.55**	**288**	*e*P	Pb	08 59 22.7	+0.9
	baz=288						
YHNB				*e*S	Sb	08 59 29.9	+0.4
	baz=288						
NSK	**Sanguang**	**0.57**	**288**	*e*P	Pb	08 59 22.9	+0.9
	baz=288						
NSK				*e*S	Sb	08 59 29.8	-0.2
	baz=288						
NWF	**Wu-fen Shan**	**0.59**	**345**	*e*P	Pn	08 59 23.5	-0.8
	baz=344						
NWF				*e*S	Sb	08 59 31.2	+0.6
	baz=344						
WFSB	**Wu-fen Shan**	**0.59**	**345**	*e*P	Pn	08 59 23.6	-0.6
	baz=344						
WFSB				*e*S	Sb	08 59 31.1	+0.5
	baz=344						
SXI1	**Grass Mountain**	**0.60**	**353**	*e*P	Pg	08 59 22.3	+0.1
	baz=353						
SXI1				*e*S	Sb	08 59 31.2	+0.4
	baz=353						
TNOU	**National Taiwa**	**0.67**	**346**	*e*P	Pn	08 59 24.9	-0.4
	baz=345						
TNOU				*e*S	Sb	08 59 33.7	+0.9
	baz=345						
ETM	**Tongmen**	**0.68**	**218**	*e*P	Pb	08 59 24.4	+0.6
	baz=218						
ETM				*e*S	Sb	08 59 33.0	+0.1
	baz=218						
LXIB	**Xiulin Townshi**	**0.68**	**226**	P	Pb	08 59 24.1	0.0
	baz=226						
LXIB				*e*S	Sb	08 59 33.5	+0.2
	baz=226						
FUSS	**Fushou**	**0.69**	**249**	*e*P	Pb	08 59 24.7	+0.5
	baz=248						
FUSS				*e*S	Sb	08 59 33.9	+0.2
	baz=248						
WHF	**Hehuan Shan**	**0.72**	**241**	P	Pb	08 59 25.2	+0.4
	baz=240						
WHF				S	Sb	08 59 35.5	+0.9
	baz=240						
YM01	**YM01**	**0.73**	**332**	*e*P	Pn	08 59 26.7	+0.6
	baz=331						
TWT	**Tachien**	**0.75**	**251**	*e*P	Pn	08 59 26.4	-0.1
	baz=251						
YM08	**YM08**	**0.76**	**334**	*e*P	Pn	08 59 26.9	+0.3
	baz=334						
TDCB	**Techi**	**0.77**	**252**	*e*P	Pb	08 59 26.0	+0.6
	baz=251						
TDCB				*e*S	Sb	08 59 36.4	+0.7
	baz=251						
NFF	**Wufeng Townshi**	**0.77**	**280**	*e*P	Pn	08 59 26.7	0.0
	baz=279						
NFF				*e*S	Sb	08 59 36.3	+0.5
	baz=279						
CHGB	**Renai**	**0.83**	**239**	P	Pn	08 59 27.6	-0.1
	baz=238						
CHGB				S	Sb	08 59 38.8	+1.0
	baz=238						
NSTT	**Nanjuang**	**0.88**	**279**	*e*P	Pn	08 59 28.4	+0.3
	baz=278						
OWD	**Renai**	**0.89**	**233**	*e*P	Pn	08 59 28.5	0.0
	baz=232						
OWD				*e*S	Sg	08 59 40.3	+0.8
	baz=232						
WUSB	**Renai**	**0.91**	**237**	P	Pn	08 59 28.9	+0.2
	baz=236						
WUSB				*e*S	Sg	08 59 40.8	+0.7
	baz=236						
WARBT	**Fenglin Townsh**	**0.93**	**214**	*e*P	Pn	08 59 28.8	-0.1
	baz=213						
WARBT				*e*S	Sb	08 59 40.0	-0.4
	baz=213						
WHP	**Taichung City**	**0.94**	**257**	P	Pn	08 59 30.6	+1.5
	baz=256						
WHP				*e*S	Sn	08 59 43.1	+0.7
	baz=256						
VWDT	**VWDT**	**1.05**	**225**	*e*P	Pg	08 59 31.3	+0.7
	baz=225						

JMA 30 08:59:25.1±0.1, 24°.3N±0°.3×123°.8E±0°.4, h17km±1km, MV0.8/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.09**	**346**	P	Pg	08 59 28.5	-0.1
IRIF				*e*S	Sg	08 59 31.1	+0.2
HATJ	**Hateruma jima**	**0.20**	**166**	P	Pg	08 59 29.8	-0.2
HATJ				*e*S	Sg	08 59 33.2	+0.1
JKRS	**Kuro-shima**	**0.23**	**93**	P	Pg	08 59 30.5	0.0
JKRS				*e*S	Sg	08 59 34.3	+0.1
JIJ	**Ishigaki jima**	**0.37**	**72**	P	Pg	08 59 32.7	-0.2
JIJ				*e*S	Sg	08 59 37.8	-0.3
JISG	**Ishigakijimahi**	**0.61**	**56**	*e*P	Pg	08 59 37.1	-0.1
JYNG	**Yonagunijimaku**	**0.76**	**285**	*e*S	Sb	08 59 50.1	+0.1

IDC 30 09:01:06.9±2.1, 6°.05S×130°.44E, h0km, mb4.0/1, mbtmp3.7/3, ML3.8/2, Error ellipse: s-maj=96.3km s-min=31.3km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.32**	**165**	Pn	Pn	09 04 31.2	+0.1
	0.4nm,0.3s,baz=345,slow=12,SNR=13						
WRA				Sn	Sn	09 06 58.2	-13
	0.4nm,0.3s,baz=330,slow=24,SNR=7.9						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**17.83**	**170**	P	Pn	09 05 16.4	-0.2
	0.3nm,0.3s,baz=353,slow=11,SNR=25						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**67.68**	**326**	P	P	09 12 06.1	+0.1
	0.6nm,0.3s,baz=109,slow=8.1,SNR=5.6						
	0.6nm,0.3s						

IDC 30 09:04:36.9±2.5, 54°.02N×86°.49E, h0km, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=20.0km s-min=11.5km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.99**	**267**	I	I	09 12 20.0	
	0.1nm,1.0s,baz=84,slow=345,SNR=2.5						
ZALV	**Zalesovo Beam**	**0.99**	**267**	Pg	Pg	09 04 54.5	-1.3
	2.2nm,0.3s,baz=84,slow=16,SNR=8.9						
ZALV				Lg	Lg	09 05 09.8	
	3.5nm,0.3s,baz=87,slow=30,SNR=12						
KURBB	**Kurchatov Arra**	**5.95**	**238**	Pn	Pn	09 06 07.4	+1.3
	0.2nm,0.3s,baz=56,slow=14,SNR=7.9						
KURBB				Lg	Lg	09 07 46.5	
	baz=46,slow=28,SNR=2.1						
	1.5nm,0.4s						
MKAR	**Makanchi Array**	**7.71**	**202**	Pn	Pn	09 06 31.5	+1.1
	0.2nm,0.3s,baz=26,slow=14,SNR=6.3						
MKAR				Sn	Sn	09 07 57.3	-1.1
	0.1nm,0.3s,baz=16,slow=26,SNR=2.8						
MKAR				Lg	Lg	09 08 41.8	
	0.1nm,0.3s,baz=23,slow=32,SNR=5.7						
	0.3nm,0.3s						

IDC 30 09:15:58.1±2.4, 4°.96N×126°.29E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=181.4km s-min=29.4km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.98**	**162**	P	P	09 21 33.0	+0.2
	0.4nm,0.5s,baz=343,slow=10,SNR=6.9						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**29.40**	**166**	P	P	09 22 03.2	-0.2
	0.2nm,0.6s,baz=341,slow=7.8,SNR=4.5						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**56.30**	**325**	P	P	09 25 40.6	-0.1
	0.2nm,0.6s,baz=114,slow=7.9,SNR=2.2						
	0.2nm,0.6s						

*KRNET **30** 09:33:08.0±0.1, 40°.61N×69°.13E, mb2.5*
*ISU **30** 09:33:22.2, 40°.97N×69°.69E, h27km*
ISC 30 09:33:10.7±3.3, 40°.57N±0°.09×69°.2E±0°.2, h17km±12km, n8, σ1°.86/15, 11C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHMG	**Chimgan**	**1.17**	**33**	P	**Pg**	**09 33 35.0**	**+1.7**
CHMG				S	**Sb**	**09 33 44.2**	**-3.2**
CHRV	**Charvak**	**1.22**	**28**	P	**Pg**	**09 33 36.2**	**+1.8**
CHRV				S	**Sb**	**09 33 46.3**	**-2.6**
BTK	**Batken**	**1.36**	**111**	⇑*e*P	**Pn**	**09 33 34.0**	**-0.9**
	baz=12						
BTK				⇑*e*S	**Sg**	**09 33 53.0**	**-1.6**
	baz=12						
TRKS	**Terek-Say**	**1.77**	**56**	⇑*e*P	**Pn**	**09 33 40.4**	**-0.3**
	baz=60						
TRKS				⇑*e*S	**Sn**	**09 34 04.1**	**+1.2**
	baz=60						
ARK	**Arkit**	**2.44**	**59**	⇑*e*P	**Pn**	**09 33 50.3**	**+0.5**
	baz=60						
ARK				⇑*e*S	**Sn**	**09 34 21.2**	**+1.9**
	baz=60						
KK31	**Karatay Array**	**2.73**	**21**	⇑Pn	**Pg**	**09 34 02.4**	**-0.5**
	0.6nm,0.2s,baz=195,slow=17,SNR=4.7						
KK31				Lg	Lg	09 34 34.5	
	0.5nm,0.2s,baz=195,slow=28,SNR=10						
OHH	**Osh**	**2.75**	**90**	⇑*e*P	**Pn**	**09 33 54.8**	**+0.7**
	baz=91						
OHH				⇑*e*S	**Sn**	**09 34 28.9**	**+1.9**
	baz=91						
MNAS	**Manas**	**3.15**	**51**	⇑*e*P	**Pn**	**09 34 00.3**	**+0.6**
	baz=52						
MNAS				⇑*e*S	**Sn**	**09 34 37.9**	**+1.0**
	baz=52						

*AEIC **30** 09:46:39.4±0.8, 51°.6N±0°.1×178°.91E±0°.05, h67km±6km, Error ellipse: s-maj=17.6km s-min=2.4km az=168.0*
NEIC 30 09:46:39.4±0.7, 51°.6N±0°.1×178°.85E±0°.05, h73km±6km, mb3.6/4, ML3.3(AEIC), Error ellipse: s-maj=19.6km s-min=2.6km az=169.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.34**	**124**		Pn	09 46 50.8	-0.3
AMKA					Sn	09 46 59.4	-0.3
LSSE	**Little Sitkin**	**0.41**	**334**		Pn	09 46 51.5	-0.2
LSPA	**Little Sitkin**	**0.43**	**336**		Pn	09 46 51.8	-0.1
LSPA					Sn	09 47 01.0	0.0
LSNW	**Little Sitkin**	**0.45**	**333**		Pn	09 46 51.9	-0.2
CESW	**Semis' Southwe**	**0.55**	**53**		Pn	09 46 52.5	-0.5
CERB	**Semis' Cerberu**	**0.60**	**53**		Pn	09 46 53.2	-0.3
CERB					Sn	09 47 03.9	0.0
CEAP	**Semis' Anvil P**	**0.63**	**46**		Pn	09 46 53.5	-0.2
CEAP					Sn	09 47 04.2	-0.1
CEPE	**Semis' Perret**	**0.64**	**51**		Pn	09 46 53.5	-0.3
GANO	**Gareloi North**	**1.48**	**79**		Pn	09 47 04.1	0.0
GANE	**Gareloi Northe**	**1.50**	**79**		Pn	09 47 04.4	+0.1
TANO	**Tanaga North**	**1.91**	**78**		Pn	09 47 10.2	+0.3
TASE	**Tanaga Southea**	**1.95**	**81**		Pn	09 47 10.7	+0.2
TAFP	**Tanaga Falls P**	**2.00**	**79**		Pn	09 47 10.9	-0.1
TAFP					Sn	09 47 34.2	-0.9
KICM	**Kanaga Island**	**2.48**	**80**		Pn	09 47 17.9	+0.4
KIWB	**Kanaga Island**	**2.50**	**82**		Pn	09 47 18.1	+0.2
KIWB	**Kanaga Island**	**2.50**	**82**		Sn	09 47 47.5	+0.2
KIRH	**Kanaga Island**	**2.54**	**81**		Pn	09 47 18.7	+0.3
ADK	**Adak**	**2.79**	**82**		Pn	09 47 21.9	+0.2
GSCK	**Great Sitkin C**	**3.13**	**80**		Pn	09 47 26.3	0.0
GSMY	**Great Sitkin M**	**3.20**	**79**		Pn	09 47 27.2	-0.1
GSTR	**Great Sitkin T**	**3.20**	**79**	Pn	Pn	09 47 27.4	+0.1
ATKA	**Atka Island**	**4.35**	**79**		Pn	09 47 43.8	+0.8
CNBA	**Chernabura Isl**	**13.32**	**67**	Pn	Pn	09 49 43.0	-2.0
L27K	**Beaver Creek,**	**23.73**	**46**	P	P	09 51 45.2	+0.7
BCAR	**Beaver Creek A**	**23.75**	**46**	P	P	09 51 42.9	-1.8
EGAK	**Eagle**	**24.38**	**42**	P	P	09 51 49.2	-1.1
EGAK				IAmb	IAmb	09 52 03.6	
	comp=Z,3.7nm,1.4s						
DAWY	**Dawson**	**24.98**	**44**	P	P	09 51 54.6	-1.2
DAWY				IAmb	IAmb	09 52 17.1	
	comp=Z,4.0nm,1.5s						
HYT	**Haines Junctio**	**25.52**	**52**	P	P	09 52 00.9	0.0

*NEIC **30** 10:01:33.8±1.9, 10°.2S±0°.1×162°.3E±0°.1, h10km±2km, mb4.3/12, Error ellipse: s-maj=28.7km s-min=14.2km az=33.0*
*IDC **30** 10:01:38.7±1.6, 10°.66S×161°.50E, h0km, mb3.7/4, mbtmp3.7/4, MS3.9/1, Error ellipse: s-maj=35.8km s-min=32.9km az=101.0*
ISC 30 10:01:33.8±1.4, 10°.2S±0°.2×162°.2E±0°.1, h10km, n22, σ1°.98/21, mb4.0/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.30**	**289**	Pn	**Pn**	**10 02 13.1**	**+1.4**
HNR	**Honiara**	**2.30**	**289**	Pn	**Pn**	**10 02 13.6**	**+1.8**
	1μm,0.3s,baz=157,slow=10,SNR=11						
HNR				Sn	**Sn**	**10 02 35.5**	**-4.6**
	2μm,0.3s,baz=112,slow=19,SNR=13						
LIFNC	**LIFOU**	**11.60**	**156**	Pn	**Pn**	**10 04 17.8**	**-1.7**
DZM	**Mont Dzumac**	**12.50**	**161**	Pn	**Pn**	**10 04 30.6**	**-1.3**
AFI	**Afiamalu**	**25.76**	**101**	P	**P**	**10 07 02.8**	**-2.2**
WB0	**Warramunga Arr**	**28.41**	**247**	P	**P**	**10 07 30.4**	**+1.7**
WB0				IAmb	IAmb	10 07 44.7	
	comp=Z,2.9nm,1.1s						
WRAB	**Tennant Creek**	**28.49**	**247**	P	**P**	**10 07 30.6**	**+1.1**
WRAB				IAmb	IAmb	10 07 48.8	
	comp=Z,4.2nm,1.4s						
WB2	**Warramunga Arr**	**28.49**	**247**	P	**P**	**10 07 29.4**	**-0.1**
WB2				IAmb	IAmb	10 07 49.8	
	comp=Z,4.0nm,1.4s						
WRA	**Warramunga Arr**	**28.50**	**247**	P	**P**	**10 07 27.9**	**-1.7**
WRA	**Warramunga Arr**	**28.50**	**247**	P	**P**	**10 07 29.7**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=76,slow=9.3,SNR=4.5						
	comp=Z,0.7nm,0.8s						
AS31	**Alice Springs**	**30.07**	**240**	P	**P**	**10 07 41.9**	**-1.7**
ASAR	**Alice Springs**	**30.07**	**240**	P	**P**	**10 07 42.9**	**-0.7**
ASAR	**Alice Springs**	**30.07**	**240**	P	**P**	**10 07 42.5**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=64,slow=10,SNR=5.7						
	comp=Z,0.4nm,0.8s						
FAKI	**Fak Fak**	**30.55**	**282**	P	**P**	**10 07 48.4**	**+0.6**
BBOO	**Buckleboo**	**32.92**	**223**	P	**P**	**10 08 09.1**	**+0.6**
KNRA	**Kununurra**	**32.96**	**257**	P	**P**	**10 08 10.2**	**+1.3**
KNRA				IAmb	IAmb	10 08 29.5	
	comp=Z,14nm,1.4s						
FITZ	**Fitzroy Crossi**	**36.20**	**253**	P	**P**	**10 08 37.9**	**+0.9**

SOEI	**Soe**	**37.30 267**	P	**P**	**10 08 46.6**	**+0.1**
SOEI			IAmb	IAmb	10 09 14.7	
	comp=Z,18nm,1.2s					
BATI	**Baumata**	**37.86 266**	LR	LR	10 24 32.3	
	comp=Z,178nm,19.1s,baz=88,slow=37					
QSPA	**South Pole Qui**	**79.80 180**	P	**P**	**10 13 42.8**	**+0.6**
QSPA			IAmb	IAmb	10 13 49.4	
	comp=Z,2.8nm,1.2s					
QSPA	**South Pole Qui**	**79.80 180**	P	**P**	**10 13 46.6**	**+4.5**
	comp=Z,1.7nm,1.1s,baz=315,slow=1.4,SNR=2.9					
	comp=Z,1.7nm,1.1s					
ILAR	**Eielson Array**	**83.88 20**	P	P	10 14 13.1	+10
	comp=Z,0.6nm,1.0s,baz=241,slow=4.7,SNR=4.8					
	comp=Z,0.6nm,1.0s					

*IDC **30** 10:04:17.3±0.6,5.°82S×151.°75E,h0km,mb4.2/14, mbtmp4.2/15,ML3.0/1,MS3.6/14,Error ellipse: s-maj=24.1km s-min=15.3km az=108.0*

*NEIC **30** 10:04:20.2±1.4,5.°88S±0.°05×151.°83E±0.°07,h10km±1km, mb4.8/144,Error ellipse: s-maj=11.1km s-min=8.0km az=100.0*

ISC 30 10:04:23.5±0.4,5.°96S±0.°05×151.°86E±0.°07,h36km,n403, σ0s87/368,mb4.7/93,MS3.7/14,1C-1D,New Britain region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.78 10**		**Pn**	**10 04 50.5**	**-1.4**
RABL			Sn	**Sn**	**10 05 11.6**	**-1.7**
PMG	**Port Moresby**	**5.78 233**	P	**Pn**	**10 05 48.7**	**+1.9**
PMG	**Port Moresby**	**5.78 233**	P	**Pn**	**10 05 48.6**	**+1.8**
PMG	**Port Moresby**	**5.78 233**	Pn	**Pn**	**10 05 47.7**	**+0.9**
PMG			Sn	**Sn**	**10 06 53.5**	**+1.6**
PMG	**Port Moresby**	**5.78 233**	Pn	**Pn**	**10 05 46.0**	**-0.8**
	24nm,0.3s,baz=56,slow=6.1,SNR=52					
PMG			Sn	**Sn**	**10 06 51.2**	**-0.7**
	31nm,0.3s,baz=124,slow=22,SNR=15					
	99nm,0.4s					
MANU	**Manus Island**	**5.93 311**	Pn	Pn	10 05 52.5	+3.6
HNR	**Honiara**	**8.73 114**	Pn	**Pn**	**10 06 26.1**	**-1.2**
HNR	**Honiara**	**8.73 114**	Pn	**Pn**	**10 06 26.3**	**-1.0**
	198nm,0.3s,baz=325,slow=3.0,SNR=3.3					
COEN	**Coen**	**11.67 226**	Pn	**Pn**	**10 07 04.9**	**-2.7**
EIDS	**Eidsvold**	**19.32 182**	P	**P**	**10 08 45.6**	**-0.1**
GUMO	**Guam**	**20.62 340**	LR	LR	10 15 26.3	
	comp=Z,58nm,20.0s,baz=160,slow=33					
LIFNC	**LIFOU**	**20.97 136**	P	**P**	**10 09 03.0**	**-0.7**
DZM	**Mont Dzumac**	**21.34 140**	P	**P**	**10 09 06.7**	**-1.1**
DZM			IAmb	IAmb	10 09 11.1	
	comp=Z,36nm,1.3s					
DZM	**Mont Dzumac**	**21.34 140**	*e*LR	LR	10 14 26.4	
	comp=Z,264nm,25.9s					
DZM	**Mont Dzumac**	**21.34 140**	LR	LR	10 16 48.7	
	comp=Z,285nm,18.0s,baz=25,slow=35					
MTN	**Manton Dam**	**21.55 250**	P	**P**	**10 09 09.2**	**-0.8**
MTN	**Manton Dam**	**21.55 250**	P	**P**	**10 09 08.6**	**-1.4**
WB0	**Warramunga Arr**	**21.83 229**	P	**P**	**10 09 12.2**	**-0.8**
WR0	**Warramunga Arr**	**21.84 229**	P	**P**	**10 09 11.5**	**-1.5**
WRAB	**Tennant Creek**	**21.96 229**	P	**P**	**10 09 13.1**	**-1.3**
WB2	**Warramunga Arr**	**21.97 229**	P	**P**	**10 09 13.1**	**-1.4**
WRA	**Warramunga Arr**	**21.98 229**	P	**P**	**10 09 13.6**	**-1.0**
WRA	**Warramunga Arr**	**21.98 229**	P	**P**	**10 09 12.9**	**-1.6**
	comp=Z,6.4nm,0.6s,baz=54,slow=9.8,SNR=28					
WRA			ScP	**ScP**	**10 16 51.6**	**+4.3**
	comp=Z,0.5nm,1.0s,baz=50,slow=2.7,SNR=6.3					
WRA			LR	LR	10 18 38.1	
	comp=Z,203nm,18.4s,baz=102,slow=39					
	comp=Z,6.4nm,0.6s					
INKA	**Innaminka**	**24.10 205**	P	**P**	**10 09 36.0**	**+0.1**
KNRA	**Kununurra**	**24.63 245**	P	**P**	**10 09 39.8**	**-1.0**
KNRA	**Kununurra**	**24.63 245**	P	**P**	**10 09 40.9**	**0.0**
KNRA			IAmb	IAmb	10 09 58.5	
	comp=Z,19nm,1.0s					
AS31	**Alice Springs**	**24.66 223**	P	**P**	**10 09 41.8**	**+0.6**
ASAR	**Alice Springs**	**24.67 223**	P	**P**	**10 09 40.5**	**-0.7**
ASAR	**Alice Springs**	**24.67 223**	P	**P**	**10 09 41.0**	**-0.2**
	comp=Z,10nm,0.8s,baz=54,slow=9.2,SNR=107					
ASAR			ScP	**ScP**	**10 16 59.5**	**+5.1**
	comp=Z,0.6nm,0.8s,baz=61,slow=3.6,SNR=5.8					
	comp=Z,10nm,0.8s					
CMSA	**Cobar Meteorol**	**26.09 192**	P	**P**	**10 09 56.3**	**+2.3**
STKA	**Stephens Creek**	**27.51 199**	P	**P**	**10 10 05.4**	**-1.4**
STKA	**Stephens Creek**	**27.51 199**	P	**P**	**10 10 05.7**	**-1.1**
	comp=Z,4.7nm,0.8s,baz=15,slow=9.5,SNR=8.5					
STKA			LR	LR	10 22 01.2	
	comp=Z,132nm,18.3s,baz=27,slow=38					
	comp=Z,4.7nm,0.8s					
LCRK	**Leigh Creek**	**27.53 206**	P	**P**	**10 10 07.2**	**+0.2**
SOEI	**Soe**	**27.58 260**	P	**P**	**10 10 04.7**	**-3.0**
SOEI			IAmb	IAmb	10 10 34.6	
	comp=Z,14nm,0.7s					
FITZ	**Fitzroy Crossi**	**28.29 242**	P	**P**	**10 10 12.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**28.29 242**	P	**P**	**10 10 12.8**	**-1.1**
MULG	**Mulgathing**	**29.43 213**	P	**P**	**10 10 22.9**	**-0.9**
WRKA	**Warakurna**	**29.49 227**	P	**P**	**10 10 23.5**	**-1.0**
BBOO	**Buckleboo**	**30.50 207**	P	**P**	**10 10 33.7**	**+0.4**
FORT	**Forrest**	**33.30 219**	P	**P**	**10 10 57.2**	**-0.7**
FORT	**Forrest**	**33.30 219**	P	**P**	**10 10 57.3**	**-0.7**
PSA00	**Pilbara Seismi**	**34.64 240**	P	**P**	**10 11 10.5**	**+0.8**
MEEK	**Meekatharra**	**37.76 233**	P	**P**	**10 11 35.7**	**-0.7**
TUWZ	**Tuamarina**	**40.44 154**	P	**P**	**10 12 00.4**	**+1.9**
CMWZ	**Cape Campbell**	**40.82 154**	P	**P**	**10 12 02.5**	**+0.9**
PYZ	**Puysegur Point**	**42.06 165**	P	**P**	**10 12 11.3**	**-0.5**
LEM	**Lembang**	**43.96 266**	LR	LR	10 35 27.0	
	comp=Z,69nm,18.9s,baz=6.0,slow=43					
NJ2	**Nanjing**	**49.17 322**	*e*P	**P**	**10 13 09.3**	**+1.2**
NJ2			pP	**sP**	**10 13 24.8**	**+1.3**
NJ2			sP	pwP	10 13 32.3	+10
NJ2			pmax	pmax		
	comp=Z,17nm,0.5s					
NJ2			pmax	pmax		
	comp=Z,210nm,5.8s					
HNS	**HongShan**	**55.32 324**	⇓P	**P**	**10 13 50.0**	**-3.7**
HNS			pmax	pmax		
	comp=Z,10.0nm,0.9s					
BNX	**BinXian**	**55.91 340**	⇑P	**P**	**10 13 58.0**	**+0.2**
BNX			pmax	pmax		
	comp=Z,4.0nm,0.4s					
BNX			pmax	pmax		
	comp=Z,98nm,7.4s					
XAN	**Xi'an**	**56.82 317**	P	**P**	**10 14 01.3**	**-3.3**
XAN			pmax	pmax		
	comp=Z,7.0nm,0.8s					
CMAR	**Chiang Mai Arr**	**57.53 296**	LR	LR	10 37 36.4	
	comp=Z,7.5nm,20.9s,baz=305,slow=35					
KLR	**Kul'dur**	**57.70 345**	P	**P**	**10 14 07.8**	**-2.6**
	comp=Z,1.0nm,0.6s,baz=223,slow=4.7,SNR=4.3					
	comp=Z,1.0nm,0.6s					
PZH	**PanZhiHua**	**58.28 306**	P	**P**	**10 14 17.0**	**+1.9**
PZH			pmax	pmax		
	comp=Z,20nm,0.5s					
PZH			pmax	pmax		
	comp=Z,60nm,4.6s					
PPT2	**Papeete2**	**58.28 107**	*e*LR	LR	10 31 29.5	
	comp=Z,25nm,22.2s					
TBI	**Tubuai**	**58.95 114**	*e*LR	LR	10 31 41.6	
	comp=Z,705nm,36.2s					
HHC	**Hu-ho-hao-te**	**59.45 325**	*e*P	**P**	**10 14 25.0**	**+2.0**
HHC			pmax	pmax		
	comp=Z,7.0nm,0.6s					
HHC			pmax	pmax		
	comp=Z,110nm,4.5s					
HEH	**HeiHe**	**59.85 342**	*e*P	**P**	**10 14 24.5**	**-0.9**
LZH	**Lanzhou**	**61.41 317**	*e*P	**P**	**10 14 39.3**	**+2.7**
LZH			pmax	pmax		
	comp=Z,18nm,1.2s					
SHEM	**Shemya Is, Ala**	**61.44 15**	LR	LR	10 39 30.1	
	comp=Z,62nm,18.6s,baz=130,slow=34					
SONM	**Songino Array**	**66.81 329**	P	**P**	**10 15 10.4**	**-1.3**
SONM	**Songino Array**	**66.81 329**	P	**P**	**10 15 10.0**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=145,slow=6.8,SNR=5.8					
SONM			LR	LR	10 44 20.3	
	comp=Z,47nm,18.8s,baz=180,slow=36					
	comp=Z,0.4nm,0.3s					
SPIA	**Saint Paul Isl**	**70.06 21**	P	**P**	**10 15 32.3**	**+0.7**
	baz=221					
VNDA	**Vanda**	**71.71 178**	P	**P**	**10 15 41.0**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=331,slow=6.4,SNR=6.8					
	comp=Z,0.9nm,0.6s					
PALK	**Pallekele**	**72.20 280**	LR	LR	10 51 20.4	
	comp=Z,31nm,18.1s,baz=222,slow=39					
S14K	**Fog Glacier**	**73.66 26**	P	**P**	**10 15 54.3**	**+0.9**
	baz=231					
O14K	**Tigyukauivet M**	**74.88 23**	P	**P**	**10 16 00.6**	**+0.3**
O14K			IAmb	IAmb	10 16 27.1	
	comp=Z,15nm,1.4s					
O14K	**Tigyukauivet M**	**74.88 23**	P	**P**	**10 16 01.1**	**+0.8**
	baz=229					
M13K	**Dall Lake**	**74.89 21**	P	**P**	**10 16 01.3**	**+1.1**
	baz=227					
M14K	**Bethel**	**75.62 21**	P	**P**	**10 16 04.8**	**+0.3**
M14K			IAmb	IAmb	10 16 05.9	
	comp=Z,4.9nm,0.9s					
M14K	**Bethel**	**75.62 21**	P	**P**	**10 16 05.7**	**+1.2**
	baz=228					
L14K	**Kuka Creek**	**75.76 21**	P	**P**	**10 16 05.4**	**+0.1**
L14K	**Kuka Creek**	**75.76 21**	P	**P**	**10 16 06.3**	**+1.0**
	baz=227					
N15K	**Kwethluk River**	**75.93 23**	P	**P**	**10 16 06.1**	**-0.3**
N15K			IAmb	IAmb	10 16 07.7	
	comp=Z,8.1nm,1.1s					
N15K	**Kwethluk River**	**75.93 23**	P	**P**	**10 16 07.3**	**+0.9**
	baz=230					
M15K	**Kasigluk River**	**76.05 22**	P	**P**	**10 16 07.5**	**+0.5**
	baz=229					
SII	**Sitkinak Islan**	**76.22 27**	P	**P**	**10 16 09.1**	**+1.0**
	baz=236					
L15K	**Ungalak Mounta**	**76.41 21**	P	**P**	**10 16 09.8**	**+0.8**
	baz=228					
J14K	**Nanvaranak Lak**	**76.44 19**	IAmb	IAmb	10 16 11.4	
	comp=Z,4.8nm,0.9s					
J14K	**Nanvaranak Lak**	**76.44 19**	P	**P**	**10 16 09.9**	**+0.8**
	baz=226					
Q17K	**Contact Creek**	**76.45 25**	P	**P**	**10 16 09.8**	**+0.3**
	baz=234					
N16K	**Nishlik Lake**	**76.63 23**	P	**P**	**10 16 11.1**	**+0.8**
	baz=231					
K15K	**Wolf Creek Mou**	**76.81 20**	P	**P**	**10 16 11.6**	**+0.3**
K15K			IAmb	IAmb	10 16 12.8	
	comp=Z,8.9nm,0.9s					
K15K	**Wolf Creek Mou**	**76.81 20**	P	**P**	**10 16 11.9**	**+0.6**
	baz=228					
O17K	**Koliganek Bris**	**76.86 24**	P	**P**	**10 16 12.0**	**+0.5**
	baz=233					
M16K	**Timber Creek**	**76.91 22**	IAmb	IAmb	10 16 13.5	
	comp=Z,10.0nm,0.9s					
M16K	**Timber Creek**	**76.91 22**	P	**P**	**10 16 12.3**	**+0.5**
	baz=231					
ANM	**Nome**	**77.16 18**	P	**P**	**10 16 14.0**	**+0.8**
ANM	**Nome**	**77.16 18**	P	**P**	**10 16 13.8**	**+0.6**
	baz=224					
L16K	**Owhat River**	**77.16 22**	P	**P**	**10 16 13.4**	**+0.2**
L16K	**Owhat River**	**77.16 22**	P	**P**	**10 16 13.7**	**+0.5**
	baz=230					
TNA	**Tin City**	**77.16 16**	P	**P**	**10 16 13.5**	**+0.4**
	baz=221					
N17K	**Nushagak Hills**	**77.28 23**	P	**P**	**10 16 12.8**	**-1.1**
N17K	**Nushagak Hills**	**77.28 23**	P	**P**	**10 16 14.7**	**+0.7**
	baz=232					
P18K	**Big Mountain,**	**77.39 25**	P	**P**	**10 16 14.1**	**-0.6**
P18K			IAmb	IAmb	10 16 33.8	
	comp=Z,13nm,1.4s					
P18K	**Big Mountain,**	**77.39 25**	P	**P**	**10 16 14.9**	**+0.2**
	baz=234					
KDAK	**Kodiak Island**	**77.63 27**	P	**P**	**10 16 16.4**	**+0.5**
	baz=237					
KDAK	**Kodiak Island**	**77.63 27**	LR	LR	10 44 50.1	
	comp=Z,37nm,21.4s,baz=234,slow=31					
O18K	**Koktuh Hills**	**77.67 24**	P	**P**	**10 16 16.4**	**+0.2**
O18K			IAmb	IAmb	10 16 36.7	
	comp=Z,5.3nm,1.1s					
O18K	**Koktuh Hills**	**77.67 24**	P	**P**	**10 16 16.4**	**+0.2**
	baz=234					
M17K	**Holitna River**	**77.72 22**	P	**P**	**10 16 17.6**	**+1.2**
M17K			IAmb	IAmb	10 16 18.3	
	comp=Z,7.5nm,0.9s					
M17K	**Holitna River**	**77.72 22**	P	**P**	**10 16 17.3**	**+0.9**
	baz=232					
J16K	**Anvik River**	**77.79 20**	P	**P**	**10 16 17.9**	**+1.1**
J16K			IAmb	IAmb	10 16 18.7	
	comp=Z,9.9nm,1.4s					
J16K	**Anvik River**	**77.79 20**	P	**P**	**10 16 17.7**	**+0.9**
	baz=229					
Q19K	**Cape Douglas,**	**77.80 26**	P	**P**	**10 16 17.1**	**+0.2**
L17K	**Donlin**	**77.86 22**	P	**P**	**10 16 17.7**	**+0.5**
	baz=231					
G15K	**Niukluk**	**77.86 18**	P	**P**	**10 16 17.7**	**+0.5**
	baz=225					
N18K	**Kilae Creek**	**77.88 23**	P	**P**	**10 16 17.8**	**+0.4**
	baz=234					
I17K	**Unalakleet**	**78.16 19**	P	**P**	**10 16 19.4**	**+0.6**
I17K			IAmb	IAmb	10 16 20.7	
	comp=Z,7.6nm,1.0s					
I17K	**Unalakleet**	**78.16 19**	P	**P**	**10 16 19.4**	**+0.6**
	baz=229					
Q20K	**Shuyak Island**	**78.16 26**	P	**P**	**10 16 19.3**	**+0.4**
	baz=237					
H16K	**Elim**	**78.17 18**	P	**P**	**10 16 19.1**	**+0.3**
	baz=227					
F15K	**North Star Dit**	**78.19 17**	P	**P**	**10 16 19.1**	**+0.1**
F15K	**North Star Dit**	**78.19 17**	P	**P**	**10 16 19.4**	**+0.4**
	baz=224					
K17K	**Iditarod**	**78.22 21**	P	**P**	**10 16 19.5**	**+0.3**
K17K			IAmb	IAmb	10 16 20.9	
	comp=Z,8.1nm,0.9s					
K17K	**Iditarod**	**78.22 21**	P	**P**	**10 16 19.6**	**+0.4**
	baz=231					
SVW2	**Sparrevohn**	**78.25 23**	P	**P**	**10 16 20.5**	**+1.1**
SVW2			IAmb	IAmb	10 16 21.8	
	comp=Z,4.2nm,0.8s					
P19K	**Oil Pt**	**78.38 25**	P	**P**	**10 16 20.2**	**+0.1**
P19K	**Oil Pt**	**78.38 25**	P	**P**	**10 16 20.3**	**+0.1**
	baz=236					
M18K	**Stony River**	**78.39 23**	P	**P**	**10 16 20.5**	**+0.4**
	baz=234					
L18K	**Granite Mounta**	**78.50 22**	P	**P**	**10 16 21.4**	**+0.7**
L18K			IAmb	IAmb	10 16 22.6	
	comp=Z,7.8nm,0.9s					
L18K	**Granite Mounta**	**78.50 22**	P	**P**	**10 16 21.1**	**+0.4**
	baz=233					
N19K	**Bonanza Creek**	**78.52 24**	P	**P**	**10 16 21.2**	**+0.2**
	baz=235					
G16K	**Koyuk River**	**78.65 18**	P	**P**	**10 16 22.1**	**+0.6**
G16K			IAmb	IAmb	10 16 22.8	
	comp=Z,5.3nm,0.9s					
G16K	**Koyuk River**	**78.65 18**	P	**P**	**10 16 21.8**	**+0.4**
	baz=227					
H17K	**Granite Mounta**	**79.11 19**	P	**P**	**10 16 24.9**	**+0.9**
H17K	**Granite Mounta**	**79.11 19**	P	**P**	**10 16 24.5**	**+0.5**
	baz=229					
CNPM	**China Poot**	**79.16 26**	P	**P**	**10 16 24.8**	**+0.4**
L19K	**White Mountain**	**79.17 23**	P	**P**	**10 16 24.8**	**+0.4**
L19K			IAmb	IAmb	10 16 25.8	
	comp=Z,7.8nm,0.9s					
L19K	**White Mountain**	**79.17 23**	P	**P**	**10 16 24.8**	**+0.4**
	baz=234					
TTA	**Tatalina**	**79.19 22**	P	**P**	**10 16 24.8**	**+0.2**
TTA	**Tatalina**	**79.19 22**	P	**P**	**10 16 25.2**	**+0.6**
	baz=233					
M19K	**Big River Lodg**	**79.19 23**	P	**P**	**10 16 24.9**	**+0.4**
M19K	**Big River Lodg**	**79.19 23**	P	**P**	**10 16 25.1**	**+0.6**
	baz=235					
G17K	**Kiwalik Mounta**	**79.25 18**	P	**P**	**10 16 25.2**	**+0.4**
	baz=228					
J18K	**Innoko River**	**79.26 21**	P	**P**	**10 16 25.3**	**+0.4**
J18K	**Innoko River**	**79.26 21**	P	**P**	**10 16 25.2**	**+0.4**
	baz=232,SNR=6.4					
BRLK	**Bradley Lake**	**79.44 26**	P	**P**	**10 16 26.4**	**+0.4**
BRSE	**Bradley Lake S**	**79.49 26**	P	**P**	**10 16 26.4**	**+0.2**
	baz=239					
N20K	**Mount Spurr**	**79.66 24**	P	**P**	**10 16 27.4**	**+0.2**
	baz=237					
M20K	**Styx River**	**79.67 23**	P	**P**	**10 16 27.7**	**+0.4**
M20K	**Styx River**	**79.67 23**	P	**P**	**10 16 27.4**	**+0.2**
	baz=236					
F17K	**Baldwin Pennin**	**79.70 17**	P	**P**	**10 16 27.8**	**+0.6**
F17K			IAmb	IAmb	10 16 29.0	
	comp=Z,6.1nm,0.9s					
F17K	**Baldwin Pennin**	**79.70 17**	P	**P**	**10 16 27.6**	**+0.4**
	baz=228,SNR=6.3					
L20K	**Farewell, AK**	**79.72 23**	P	**P**	**10 16 27.7**	**+0.3**
	baz=235					
H18K	**Honhosa River**	**79.75 19**	P	**P**	**10 16 28.0**	**+0.5**
	baz=231					
J19K	**Poorman**	**79.97 21**	P	**P**	**10 16 29.0**	**+0.3**
J19K	**Poorman**	**79.97 21**	P	**P**	**10 16 29.0**	**+0.3**
	baz=233					
E17K	**Hotham Inlet**	**79.97 17**	P	**P**	**10 16 29.0**	**+0.4**
	baz=227,SNR=13					
GCSA	**Galena City Sc**	**79.99 20**	P	**P**	**10 16 29.0**	**+0.2**
	baz=232					
D17K	**Noatak River**	**80.05 16**	P	**P**	**10 16 29.3**	**+0.3**
	baz=226					
G18K	**Tagagawik**	**80.14 18**	P	**P**	**10 16 29.3**	**-0.3**
G18K	**Tagagawik**	**80.14 18**	P	**P**	**10 16 29.6**	**+0.1**
	baz=230					
K20K	**Telida**	**80.15 22**	P	**P**	**10 16 30.0**	**+0.2**
K20K	**Telida**	**80.15 22**	P	**P**	**10 16 30.0**	**+0.2**
	baz=235					
F18K	**Selawik**	**80.29 18**	P	**P**	**10 16 30.4**	**+0.1**
	baz=229					
SUA	**Susitna One**	**80.39 24**	P	**P**	**10 16 30.2**	**-1.0**
SUA			IAmb	IAmb	10 16 34.7	
	comp=Z,13nm,1.3s					
SUA	**Susitna One**	**80.39 24**	P	**P**	**10 16 30.9**	**-0.3**
	baz=238					
E18K	**Tukpahlearik C**	**80.55 17**	P	**P**	**10 16 31.8**	**0.0**
E18K	**Tukpahlearik C**	**80.55 17**	P	**P**	**10 16 32.1**	**+0.4**
	baz=228					
C17K	**DeLong Mountai**	**80.57 15**	P	**P**	**10 16 32.4**	**+0.5**
	baz=226					
MKAR	**Makanchi Array**	**80.58 319**	P	**P**	**10 16 31.1**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=96,slow=4.9,SNR=4.9					
	comp=Z,0.8nm,0.8s					
PPLA	**Purkeypile**	**80.60 23**	P	**P**	**10 16 32.4**	**+0.1**
	baz=237					
J20K	**Nowinta River**	**80.60 21**	P	**P**	**10 16 32.8**	**+0.7**
J20K			IAmb	IAmb	10 16 33.5	
	comp=Z,7.1nm,0.9s					
J20K	**Nowinta River**	**80.60 21**	P	**P**	**10 16 32.5**	**+0.4**
	baz=235					
H19K	**Roundabout Mou**	**80.61 19**	P	**P**	**10 16 32.6**	**+0.5**
H19K			IAmb	IAmb	10 16 33.8	
	comp=Z,7.6nm,1.0s					
H19K	**Roundabout Mou**	**80.61 19**	P	**P**	**10 16 32.4**	**+0.3**
	baz=232,SNR=9.1					
RC01	**Rabbit Creek A**	**80.61 25**	P	**P**	**10 16 32.2**	**-0.1**
RC01			IAmb	IAmb	10 16 33.2	
	comp=Z,12nm,1.2s					
RC01	**Rabbit Creek A**	**80.61 25**	P	**P**	**10 16 32.2**	**-0.1**
	baz=239					
G19K	**Purcell Mounta**	**80.79 19**	P	**P**	**10 16 33.3**	**+0.2**
G19K	**Purcell Mounta**	**80.79 19**	P	**P**	**10 16 33.6**	**+0.5**
	baz=232					
I20K	**Naaghedeneel**	**80.84 20**	IAmb	IAmb	10 16 35.9	
	comp=Z,11nm,1.1s					
I20K	**Naaghedeneel**	**80.84 20**	P	**P**	**10 16 33.8**	**+0.5**
	baz=234					
CAST	**Castle Rocks**	**80.92 22**		**P**	**10 16 33.2**	**-0.7**
CAST			IAmb	IAmb	10 16 34.1	
	comp=Z,6.7nm,1.0s					
CAST	**Castle Rocks**	**80.92 22**	P	**P**	**10 16 33.5**	**-0.4**
	baz=237,SNR=6.6					
F19K	**Shaleruckik Mo**	**81.01 18**	P	**P**	**10 16 33.6**	**-0.6**
F19K			IAmb	IAmb	10 16 34.9	
	comp=Z,5.0nm,0.8s					
F19K	**Shaleruckik Mo**	**81.01 18**	P	**P**	**10 16 34.0**	**-0.2**
	baz=231,SNR=6.9					
CHUM	**Lake Minchumin**	**81.10 22**	P	**P**	**10 16 34.9**	**+0.1**
	baz=236,SNR=11					
H20K	**Anotleneega Mo**	**81.12 20**	P	**P**	**10 16 35.0**	**+0.1**
	baz=234					
PMR	**Palmer**	**81.12 25**	P	**P**	**10 16 34.0**	**-0.9**
PMR			IAmb	IAmb	10 16 35.2	
	comp=Z,6.9nm,1.1s					
PMR	**Palmer**	**81.12 25**	P	**P**	**10 16 34.9**	**0.0**
	baz=240					
KNK	**Knik Glacier**	**81.31 25**	P	**P**	**10 16 34.6**	**-1.4**
KNK			IAmb	IAmb	10 16 49.3	
	comp=Z,17nm,1.4s					
KTH	**Kantishna Hill**	**81.44 22**	P	**P**	**10 16 36.0**	**-0.7**
KTH			IAmb	IAmb	10 16 36.3	
	comp=Z,7.0nm,1.0s					
B18K	**Kokolik River**	**81.55 15**	P	**P**	**10 16 37.3**	**+0.3**
	baz=227					
SML	**Sawmill**	**81.56 25**	P	**P**	**10 16 37.4**	**+0.1**
SML	**Sawmill**	**81.56 25**	P	**P**	**10 16 37.0**	**-0.3**
	baz=240					
E19K	**Redstone River**	**81.57 18**	P	**P**	**10 16 37.5**	**+0.3**
E19K			IAmb	IAmb	10 16 38.4	
	comp=Z,9.4nm,0.8s					
E19K	**Redstone River**	**81.57 18**	P	**P**	**10 16 37.4**	**+0.3**
	baz=231					
ZALV	**Zalesovo Beam**	**81.59 327**	P	**P**	**10 16 35.8**	**-1.8**
	comp=Z,1.3nm,0.6s,baz=132,slow=6.2,SNR=3.6					
	comp=Z,1.3nm,0.6s					
TRF	**Thorofare Moun**	**81.62 23**	P	**P**	**10 16 36.4**	**-1.4**
TRF			IAmb	IAmb	10 16 47.8	
	comp=Z,7.7nm,1.2s					
TRF	**Thorofare Moun**	**81.62 23**	P	**P**	**10 16 37.1**	**-0.7**
	baz=238					
BPAW	**Bear Paw Mtn.**	**81.70 22**	P	**P**	**10 16 37.2**	**-0.8**
BPAW	**Bear Paw Mtn.**	**81.70 22**	P	**P**	**10 16 37.6**	**-0.4**
	baz=238					
F20K	**Avaraart Lake**	**81.78 18**	P	**P**	**10 16 38.6**	**+0.3**
F20K	**Avaraart Lake**	**81.78 18**	P	**P**	**10 16 38.3**	**0.0**
	baz=233					
IMAR	**Indian Mountai**	**81.78 20**	P	**P**	**10 16 38.4**	**0.0**
M23K	**Glacier View**	**81.80 25**	P	**P**	**10 16 38.5**	**-0.1**
	baz=241					
H21K	**Melozitna Rive**	**81.92 20**	P	**P**	**10 16 39.0**	**-0.1**
	baz=236					
C19K	**Lookout Ridge**	**81.96 16**	P	**P**	**10 16 39.3**	**+0.1**
	baz=229					
D19K	**Kuna River**	**81.97 17**	P	**P**	**10 16 39.1**	**-0.2**
	baz=230					
WAT1	**Susitna Watana**	**81.98 24**	P	**P**	**10 16 38.9**	**-0.6**
	baz=240					
SCM	**Sheep Creek Mo**	**81.99 25**	P	**P**	**10 16 39.1**	**-0.5**
	baz=241					
EYAK	**Cordova Ski Ar**	**82.06 26**	P	**P**	**10 16 39.5**	**-0.4**
	baz=243					
RND	**Reindeer**	**82.15 23**		**P**	**10 16 39.2**	**-1.2**
RND			IAmb	IAmb	10 16 40.3	
	comp=Z,8.0nm,0.9s					
G21K	**Allakaket**	**82.17 19**	P	**P**	**10 16 40.1**	**-0.3**
	baz=235					
WAT6	**Susitna Watana**	**82.18 24**	P	**P**	**10 16 40.0**	**-0.8**
	baz=241					
MCK	**McKinley**	**82.29 23**	P	**P**	**10 16 40.4**	**-0.7**
	baz=240,SNR=10					
MLY	**Manley**	**82.30 21**		**P**	**10 16 40.2**	**-0.9**
MLY			IAmb	IAmb	10 16 41.6	

COLA	College	83.27	22	P	P	10 16 44.8	-1.3
COLA	College	83.27	22	P	P	10 16 45.5	-0.6
	baz=241						
PAX	Paxson	83.29	24	P	P	10 16 44.7	-1.7
PAX	Paxson	83.29	24	P	P	10 16 45.9	-0.5
	baz=243						
GLB	Gilahina Butte	83.31	26	P	P	10 16 46.1	-0.4
GLB				IAmb	IAmb	10 16 47.4	
	comp=Z,7.5nm,1.1s						
CRQE	Cirque	83.33	27	P	P	10 16 46.1	-0.6
	baz=245						
C21K	Knifeblade Rid	83.33	17	P	P	10 16 46.1	-0.3
	baz=234						
VRDI	Verde Repeater	83.37	26	P	P	10 16 46.8	-0.1
VRDI				IAmb	IAmb	10 16 47.9	
	comp=Z,6.3nm,1.1s						
HDA	Harding Lake	83.38	23	P	P	10 16 46.4	-0.3
	baz=242						
G23K	Bananza Creek	83.44	20	IAmb	IAmb	10 16 48.0	
	comp=Z,5.7nm,0.9s						
G23K	Bananza Creek	83.44	20	P	P	10 16 46.5	-0.5
	baz=238						
POKR	Poker Plat Res	83.54	22	P	P	10 16 47.2	-0.4
	baz=241						
K24K	Donnelly Dome	83.55	23	P	P	10 16 47.1	-0.5
	baz=243						
IL31		83.58	22	P	P	10 16 45.9	-1.8
IL31				IAmb	IAmb	10 16 47.3	
	comp=Z,5.7nm,0.8s						
ILAR	Eielson Array	83.58	22	P	P	10 16 45.9	-1.8
	comp=Z,4.6nm,0.8s,baz=252,slow=5.3,SNR=54						
	comp=Z,4.6nm,0.8s						
ISLE	Juniper Island	83.60	27	P	P	10 16 48.3	+0.2
MESA	MESA	83.61	27	P	P	10 16 47.8	-0.4
	baz=246						
MCARA	McCarthy VSAT	83.62	26	P	P	10 16 47.9	-0.1
	baz=245						
E22K	Anaktuvuk Pass	83.63	18	IAmb	IAmb	10 16 48.9	
	comp=Z,4.9nm,0.9s						
E22K	Anaktuvuk Pass	83.63	18	P	P	10 16 48.0	0.0
	baz=237						
COLD	Coldfoot	83.66	19	P	P	10 16 48.3	+0.2
	baz=238,SNR=6.4						
B21K	Ikpikpuk River	83.66	16	P	P	10 16 48.1	+0.1
	baz=234						
H24K	Noodor Dome	83.74	21	P	P	10 16 48.7	+0.1
	baz=240						
D22K	Ayikyak River	83.78	17		P	10 16 49.0	+0.3
D22K				IAmb	IAmb	10 16 50.6	
	comp=Z,7.0nm,0.9s						
D22K	Ayikyak River	83.78	17	P	P	10 16 49.0	+0.3
	baz=236						
RIDG	Independent Ri	83.89	24	IAmb	IAmb	10 16 49.9	
	comp=Z,6.4nm,1.0s						
RIDG	Independent Ri	83.89	24	P	P	10 16 49.1	-0.3
	baz=244						
MENT	Mentasta	83.99	25	IAmb	IAmb	10 16 50.4	
	comp=Z,4.0nm,0.8s						
QSPA	South Pole Qui	84.01	180	P	P	10 16 50.7	+0.6
QSPA	South Pole Qui	84.01	180	P	P	10 16 50.3	+0.2
	comp=Z,4.4nm,1.0s,baz=324,slow=2.9,SNR=8.5						
	comp=Z,4.4nm,1.0s						
M26K	Nabesna, AK	84.06	25	P	P	10 16 50.0	-0.3
	baz=245						
J25K	Salcha River,	84.08	23	P	P	10 16 50.1	-0.3
	baz=243						
BARN	Barnard Glacie	84.09	27	P	P	10 16 51.1	+0.4
KURBB	Kurchatov Arra	84.13	322	P	P	10 16 48.8	-2.0
	comp=Z,0.7nm,0.7s,baz=110,slow=4.1,SNR=9.0						
	comp=Z,0.7nm,0.7s						
L26K	Log Cabin Wild	84.18	25		P	10 16 51.0	+0.1
L26K				IAmb	IAmb	10 16 51.8	
	comp=Z,3.6nm,0.8s						
L26K	Log Cabin Wild	84.18	25	P	P	10 16 50.8	0.0
	baz=245,SNR=5.3						
CTG	Chitna Glacier	84.20	27	P	P	10 16 51.0	-0.1
	baz=247,SNR=5.3						
CTGM	Chitina Glacie	84.20	27	P	P	10 16 51.3	+0.2
E23K	Chandalar	84.28	19	P	P	10 16 51.6	+0.2
	baz=239						
G24K	Hadweenzic Riv	84.31	20	IAmb	IAmb	10 16 52.9	
	comp=Z,5.9nm,0.9s						
G24K	Hadweenzic Riv	84.31	20	P	P	10 16 51.4	0.0
	baz=241						
SCRK	Sand Creek	84.34	24	P	P	10 16 51.7	0.0
	baz=244,SNR=5.1						
A22K	Sinclair Lake	84.39	15	P	P	10 16 51.7	+0.1
	baz=233						
B22K	Teshekpuk Lake	84.41	16	P	P	10 16 51.9	+0.1
	baz=235						
D23K	Nanushuk River	84.44	18	P	P	10 16 52.2	+0.2
	baz=238						
PRP	Porcupine Dome	84.44	22	P	P	10 16 52.0	-0.3
	baz=243						
M27K	Edge Creek, AK	84.52	25	P	P	10 16 52.7	-0.1
	baz=246						
F24K	Squaw Lake	84.57	20	P	P	10 16 53.0	+0.2
	baz=240						
PNL	Peninsula	84.60	28	P	P	10 16 53.0	0.0
	baz=249						
TOLK	Toolik Lake Re	84.60	18	P	P	10 16 53.0	+0.1
TOLK				IAmb	IAmb	10 16 53.9	
	comp=Z,5.0nm,0.8s						
TOLK	Toolik Lake Re	84.60	18	P	P	10 16 53.0	+0.1
	baz=239						
O28M	Mount Upton	84.64	27	P	P	10 16 53.3	-0.3
	baz=248						
H25L	Birch Creek	84.68	21	P	P	10 16 53.3	+0.1
	baz=242						
J26L	Joseph Creek	84.73	23	IAmb	IAmb	10 16 54.4	
	comp=Z,4.6nm,1.0s						
J26L	Joseph Creek	84.73	23	P	P	10 16 53.6	-0.1
	baz=245						
G25K	Bearman Lake	84.82	21	P	P	10 16 54.3	+0.4
	baz=242						
L27K	Beaver Creek,	84.83	25	IAmb	IAmb	10 16 55.3	
	comp=Z,3.2nm,0.8s						
L27K	Beaver Creek,	84.83	25	P	P	10 16 54.2	0.0
	baz=246						
BCAR	Beaver Creek A	84.85	25		P	10 16 54.3	0.0
YUK3	Moose Creek	84.90	26	P	P	10 16 54.5	-0.3
	baz=248						
C23K	Itkillik River	84.93	17	IAmb	IAmb	10 16 55.6	
	comp=Z,6.3nm,0.9s						
C23K	Itkillik River	84.93	17	P	P	10 16 54.6	+0.2
	baz=238						
BVCY	Beaver Creek	84.98	26	P	P	10 16 55.3	+0.3
	baz=247						
FYU	Fort Yukon	85.03	21	IAmb	IAmb	10 16 56.1	
	comp=Z,7.6nm,1.0s						
D24K	Happy Valley	85.10	18	P	P	10 16 56.0	+0.7
D24K				IAmb	IAmb	10 16 56.7	
	comp=Z,7.7nm,0.9s						
D24K	Happy Valley	85.10	18	P	P	10 16 55.7	+0.4
	baz=239						
K27K	Chicken	85.12	24	IAmb	IAmb	10 16 57.3	
	comp=Z,5.1nm,0.9s						
K27K	Chicken	85.12	24	P	P	10 16 55.9	+0.4
	baz=246						
O29M	Mount Kennedy	85.21	28	P	P	10 16 56.5	+0.2
	baz=249						
I26K	Coal Creek Min	85.23	22	P	P	10 16 56.3	+0.2
	baz=245						
F25K	Christian Rive	85.36	20	P	P	10 16 57.0	+0.2
	baz=242						
P29M	Windy Craggy	85.37	29	P	P	10 16 57.1	+0.2
	baz=250						
C24K	Franklin Bluff	85.43	18	P	P	10 16 57.2	+0.3
	baz=239						
YUK6	Outpost Mounta	85.54	27	P	P	10 16 58.1	+0.1
	baz=250						
YUK4	Talbot Arm	85.55	27	P	P	10 16 58.6	+0.6
	baz=249,SNR=6.3						
S31K	Pelican	85.56	31	P	P	10 16 58.1	+0.3
	baz=252						
E25K	Arctic Village	85.64	19	P	P	10 16 58.3	+0.2
	baz=242						
BMAR	Burnt Mountain	85.65	20		P	10 16 58.8	+0.6
G26K	Porcupine Rive	85.72	21	P	P	10 16 59.0	+0.6
	baz=244						
EGAK	Eagle	85.79	23	P	P	10 16 58.0	-0.8
EGAK	Eagle	85.79	23	P	P	10 16 59.4	+0.5
	baz=247,SNR=8.4						
HYT	Haines Junctio	85.89	28	P	P	10 17 00.0	+0.4
	baz=250,SNR=7.6						
P30M	Million Dollar	85.91	28	P	P	10 16 59.9	+0.2
	baz=251						
F26K	Sheenjek River	85.92	20	P	P	10 17 00.0	+0.5
	baz=244						
I27K	Kandik River	85.94	22	P	P	10 16 59.8	+0.1
	baz=246						
D25K	Kavik River	85.94	18	IAmb	IAmb	10 17 00.3	
	comp=Z,5.2nm,0.9s						
D25K	Kavik River	85.94	18	P	P	10 16 59.5	-0.2
	baz=242						
PLBC	Pleasant Camp	85.98	29	P	P	10 17 00.0	+0.1
	baz=251						
M29M	Somme Creek	86.03	26	IAmb	IAmb	10 17 01.7	
	comp=Z,5.7nm,0.8s						
M29M	Somme Creek	86.03	26	P	P	10 17 00.5	+0.3
	baz=249						
DAWY	Dawson	86.22	24		P	10 17 01.6	+0.5
DAWY	Dawson	86.22	24	P	P	10 17 01.7	+0.5
	baz=248,SNR=8.4						
H27K	Steamboat Moun	86.23	22	P	P	10 17 01.4	+0.3
	baz=246,SNR=12						
S32K	Killisnoo	86.26	31	P	P	10 17 02.1	+0.9
	baz=253						
N30M	Aishikik Lake	86.30	27	P	P	10 17 02.2	+0.7
	baz=251						
L29M	L29M	86.40	25	P	P	10 17 02.8	+0.8
	baz=250						
G27K	Doyon Strip	86.42	21	P	P	10 17 02.5	+0.5
	baz=246						
CRAG	Craig	86.47	33	P	P	10 17 03.3	+0.9
	baz=254						
SKAG	Skagway	86.48	29	P	P	10 17 03.1	+0.8
	baz=252						
R32K	Eaglecrest	86.53	31	P	P	10 17 03.3	+0.7
	baz=253						
I28M	Miner Creek	86.53	23	P	P	10 17 03.3	+0.7
	baz=248						
O30N	Mendenhall	86.53	28	P	P	10 17 03.2	+0.5
O30N	Mendenhall	86.53	28	P	P	10 17 03.2	+0.5
	baz=252						
U33K	Whale Pass	86.64	33	P	P	10 17 04.0	+0.8
	baz=254						
C26K	Camden Bay	86.68	18	P	P	10 17 04.0	+0.9
	baz=243						
M30M	Minto, Yukon	86.80	26	P	P	10 17 04.3	+0.4
M30M				IAmb	IAmb	10 17 05.4	
	comp=Z,7.8nm,1.1s						
M30M	Minto, Yukon	86.80	26	P	P	10 17 04.8	+0.9
	baz=251,SNR=6.7						
J29N	Klondike Camp	86.84	24	P	P	10 17 05.4	+1.2
J29N	Klondike Camp	86.84	24	P	P	10 17 05.0	+0.8
	baz=250,SNR=8.8						
N31M	Braeburn, Yuko	86.90	27	P	P	10 17 05.4	+1.0
	baz=252						
K29M	Barlow Dome	86.92	25	P	P	10 17 05.0	+0.4
	baz=250						
E27K	Coleen River	87.00	20	IAmb	IAmb	10 17 06.2	
	comp=Z,6.7nm,0.8s						
E27K	Coleen River	87.00	20	P	P	10 17 05.5	+0.7
	baz=246						
WHY	Whitehorse	87.06	28	IAmb	IAmb	10 17 06.9	
	comp=Z,6.3nm,0.9s						
WHY	Whitehorse	87.06	28	P	P	10 17 06.0	+0.7
	baz=253						
WRAK	Wrangell Islan	87.14	33	P	P	10 17 06.5	+0.9
	baz=255						
V35K	Ketchikan	87.26	34	P	P	10 17 07.2	+1.0
	baz=256						
P32M	Atlin	87.30	29	P	P	10 17 06.9	+0.5
	baz=254						
F28M	Old Crow	87.38	21	IAmb	IAmb	10 17 07.8	
	comp=Z,5.0nm,0.9s						
F28M	Old Crow	87.38	21	P	P	10 17 07.0	+0.4
	baz=248						
MAYO	Mayo, Yukon	87.52	25	P	P	10 17 08.7	+1.3
MAYO	Mayo, Yukon	87.52	25	P	P	10 17 08.1	+0.7
	baz=252,SNR=9.0						
D27M	Malcolm River	87.64	19	IAmb	IAmb	10 17 09.4	
	comp=Z,4.1nm,0.8s						
D27M	Malcolm River	87.64	19	P	P	10 17 08.5	+0.6
	baz=247						
J30M	Hart River	87.65	24	P	P	10 17 08.7	+0.5
	baz=251						
M31M	Drury Creek, Y	87.74	27	P	P	10 17 08.9	+0.4
M31M	Drury Creek, Y	87.74	27	P	P	10 17 08.7	+0.2
	baz=253,SNR=6.9						
G29M	Pre Creek	87.79	22	P	P	10 17 08.8	+0.2
	baz=250						
I30M	Mount Dempster	87.84	24	IAmb	IAmb	10 17 10.0	
	comp=Z,6.8nm,1.0s						
I30M	Mount Dempster	87.84	24	P	P	10 17 09.1	+0.1
	baz=251						
Q32M	Nakina River	87.85	30	P	P	10 17 09.2	-0.1
	baz=255						
E28M	Babbage River	87.87	20		P	10 17 09.6	+0.6
E28M				IAmb	IAmb	10 17 10.3	
	comp=Z,9.2nm,1.4s						
E28M	Babbage River	87.87	20	P	P	10 17 09.2	+0.3
	baz=248						
P33M	Teslin, Yukon	87.91	29	P	P	10 17 09.5	+0.1
	baz=254						
N32M	Quiet Lake	88.04	28	P	P	10 17 10.2	+0.2
	baz=254						
EPYK	Eagle Plains	88.09	22	P	P	10 17 10.4	+0.3
	baz=251						
S34M	Telegraph Cree	88.16	31	P	P	10 17 11.2	+0.7
	baz=256						
FARO	Faro, Yukon	88.22	27		P	10 17 11.1	+0.4
FARO	Faro, Yukon	88.22	27	P	P	10 17 10.9	+0.1
	baz=254,SNR=7.8						
E29M	Blow River	88.35	20	P	P	10 17 11.8	+0.6
	baz=250						
D28M	Stokes Point	88.41	19	P	P	10 17 11.9	+0.5
	baz=249						
G30M	tAoh Zraii Nji	88.48	22	IAmb	IAmb	10 17 12.5	
	comp=Z,7.3nm,1.2s						
G30M	tAoh Zraii Nji	88.48	22	P	P	10 17 11.8	-0.1
	baz=251						
R33M	Jennings River	88.61	30	P	P	10 17 12.9	+0.1
	baz=256						
H31M	Peel River	88.83	23	IAmb	IAmb	10 17 14.4	
	comp=Z,3.9nm,0.8s						
H31M	Peel River	88.83	23	P	P	10 17 13.7	+0.2
	baz=253						
F30M	Bear River	88.84	21	P	P	10 17 13.8	+0.2
	baz=252						
G31M	Satah River	89.19	22		P	10 17 15.2	+0.1
G31M				IAmb	IAmb	10 17 15.8	
	comp=Z,5.2nm,0.8s						
G31M	Satah River	89.19	22	P	P	10 17 15.6	+0.4
	baz=253						
F31M	Tsiigehtchic	89.54	22	P	P	10 17 17.2	+0.4
	baz=254						
BVAR	Borovoye Array	89.60	323	P	P	10 17 16.3	-1.1
	comp=Z,0.5nm,0.5s,baz=90,slow=2.9,SNR=3.7						
	comp=Z,0.5nm,0.5s						
WTLY	Watson Lake, Y	89.84	29	P	P	10 17 18.8	+0.4
	baz=258						
INK	Inuvik	89.86	21	P	P	10 17 17.8	-0.5
INK				IAmb	IAmb	10 17 18.7	
	comp=Z,8.5nm,1.3s						
INK	Inuvik	89.86	21	P	P	10 17 19.0	+0.7
	baz=254						
TGTN	Hyland Airport	90.38	28	P	P	10 17 22.1	+1.2
	baz=258						
PKM	Mcpherson Peak	92.00	55	P	P	10 17 29.6	+0.3
	baz=264						
KOTAN	Kotaneelee Air	92.18	30	P	P	10 17 29.9	+0.7
	baz=262						
VES	Vestal, Richgr	92.69	54	P	P	10 17 32.6	+0.4
	baz=265						
WRGLY	Wrigley	92.88	27	P	P	10 17 32.1	-0.2
FMP	Fort Macarthur	93.14	57	P	P	10 17 34.6	+0.3
	baz=265						
A36M	Sachs Harbour	93.43	18	P	P	10 17 34.0	-0.8
A36M				IAmb	IAmb	10 17 34.8	
	comp=Z,4.6nm,0.8s						
A36M	Sachs Harbour	93.43	18	P	P	10 17 35.1	+0.4
	baz=262						
C36M	Paulatuk	93.44	21	P	P	10 17 34.9	+0.1
C36M				IAmb	IAmb	10 17 35.4	
	comp=Z,6.5nm,1.2s						
NVAR	Mina Array Bea	93.53	52	P	P	10 17 37.1	+0.8
NVAR	Mina Array Bea	93.53	52	P	P	10 17 36.9	+0.6
	comp=Z,0.9nm,0.8s,baz=240,slow=8.3,SNR=6.3						
	comp=Z,0.9nm,0.8s						
MPMC	Manual Prospec	93.99	54	P	P	10 17 38.7	+0.3
	baz=266						
NEW	Newport	95.08	42	LR	LR	10 55 33.3	
	comp=Z,46nm,19.1s,baz=266,slow=32						
R11B	Troy Canyon, C	95.66	52	P	P	10 17 46.6	+0.6
	baz=267						
ELK	Elko	96.05	50	LR	LR	10 56 53.6	
	comp=Z,76nm,19.1s,baz=292,slow=33						
ARU	Arti	96.75	326	LR	LR	11 01 45.0	
	comp=Z,29nm,20.3s,baz=184,slow=36						
YKA	Yellowknife Ar	96.88	28	P	P	10 17 50.6	-0.1
	comp=Z,0.6nm,0.8s,baz=280,slow=5.1,SNR=11						
YKA				LR	LR	10 55 21.8	
	comp=Z,33nm,20.5s,baz=308,slow=32						
	comp=Z,0.6nm,0.8s						
PDAR	Pinedale Array	100.32	48	P	Pdif	10 18 06.5	-0.4
	comp=Z,0.1nm,0.5s,baz=264,slow=3.6,SNR=1.6						
TORD	Torodi Ar. Bea	149.75	286	PKPbc	PKPbc	10 24 09.4	-1.3
	comp=Z,3.2nm,0.7s,baz=60,slow=3.9,SNR=18						

*IDC **30** 10:08:51.6±1.1, 34°.30S×55°.56E, h0km, mb3.7/5, mbtmp3.7/5, MS3.3/2, Error ellipse: s-maj=41.8km s-min=32.6km az=30.0*

ISC 30 10:08:54.1±1.1, 34°.3S±0°.2×55°.5E±0°.2, h16km, n11, σ0s66/6, mb3.8/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H04N2	CROZET ISLANDS	12.20	192	T	T	10 24 30.0	
	baz=14,slow=75,SNR=136						
H04N1	CROZET ISLANDS	12.20	192	T	T	10 24 34.6	
	baz=14,slow=75,SNR=138						
H04N3	CROZET ISLANDS	12.21	192	T	T	10 24 37.1	
	baz=14,slow=75,SNR=157						
LSZ	Lusaka	31.04	301	LR	LR	10 26 12.4	
	comp=Z,40nm,18.4s,baz=139,slow=34						
MAW	Mawson	33.64	175	LR	LR	10 25 57.5	
	comp=Z,68nm,19.9s,baz=228,slow=30						
QSPA	South Pole Qui	55.90	180	P	P	10 18 31.3	+0.3
	0.6nm,0.7s,baz=2.4,slow=8.2,SNR=1.7						
	0.6nm,0.7s						
CMAR	Chiang Mai Arr	66.78	45	P	P	10 19 45.5	+0.5
	0.4nm,0.3s,baz=233,slow=7.5,SNR=1.3						
	0.4nm,0.3s						
ASAR	Alice Springs	67.88	104	P	P	10 19 51.8	-0.4
	0.6nm,0.8s,baz=227,slow=5.7,SNR=6.2						
	0.6nm,0.8s						
TORD	Torodi Ar. Bea	69.54	303	P	P	10 20 02.0	-0.4
	0.4nm,0.8s,baz=138,slow=5.1,SNR=2.4						
	0.4nm,0.8s						
WRA	Warramunga Arr	70.06	101	P	P	10 20 05.0	-0.7
	0.9nm,0.9s,baz=239,slow=5.2,SNR=7.4						
	0.9nm,0.9s						
YKA	Yellowknife Ar	151.08	351	PKPbc	PKiKP	10 28 46.4	+0.3
	0.1nm,0.6s,baz=16,slow=2.4,SNR=1.7						

*TEH **30** 10:10:48.1, 38°.41N×45°.33E, h4km±88km, ML2.7*
*AZER **30** 10:10:48.8, 38°.48N×45°.40E, h10km, ml2.5*

ISC 30 10:10:47.7±1.7, 38°.41N±0°.04×45°.32E±0°.06, h1km±14km, n19, σ0s69/26, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISHB	Shabestar	0.27	118	Pg	Pg	10 10 52.9	0.0
IMRD	Marand	0.43	44	Pg	Pg	10 10 56.5	+0.5
IMRD				Sg	Sg	10 11 02.5	+0.9
ITBZ	Tabriz	0.68	105	Pg	Pg	10 11 00.7	0.0
ORD	Ordubad	0.74	45	P	Pg	10 11 02.5	+0.5
ORD				S	Sg	10 11 12.7	+1.1
NAX	Nakhchivan	0.78	10	P	Pg	10 11 03.5	+0.8
NAX				S	Sb	10 11 14.9	-0.4
IAZR	Azarshahr	0.90	144	Pg	Pg	10 11 05.7	+0.8
SBZ	Shahbuz	1.01	10	P	Pb	10 11 07.9	-0.1
SBZ				S	Sb	10 11 22.1	+0.3
MAKU	Maku	1.07	333	Pg	Pg	10 11 08.4	+0.2
IHRS	Heris	1.36	93	Pg	Pg	10 11 13.9	+0.2
HYR	Heyderabad	1.36	345	S	Sn	10 11 33.3	+0.7
QRD	Qoradiz	1.88	55	S	Sg	10 11 47.7	-0.6
IHSH	Hashtrud	1.89	125	Pn	Pb	10 11 22.7	-0.5
ISRB	Sarab	1.94	107	Pn	Pb	10 11 24.1	+0.1
GRMI	Germi	2.06	78	Pn	Pb	10 11 25.4	-0.5
AGDM	Agdam	2.19	39	S	Sg	10 11 57.3	-1.0
GDB	GEDABAY	2.34	8	P	Pb	10 11 29.4	-1.3
GDB				S	Sg	10 12 01.8	-1.0
YRD	Yardimli	2.34	77	P	Pb	10 11 30.3	-0.6
YRD				S	Sg	10 12 02.4	-0.7
GANJ	Ganja	2.37	19	S	Sb	10 12 01.4	+0.5
LRK	Lerik	2.38	83	P	Pb	10 11 31.3	-0.2
LRK				S	Sg	10 12 03.8	-0.5

*JMA **30** 10:16:16.8±0.1, 36°.6N±0°.3×141°.1E±0°.7, h53km±1km, MV3.3/39, E OFF IBARAKI PREF*
*IDC **30** 10:16:21.0±1.6, 34°.95N×137°.06E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=34.9km s-min=16.1km az=125.0*

ISC 30 10:16:14.9±1.6, 36°.50N±0°.07×141°.2E±0°.1, h56km±10km, n15, σ0s99/25, mb3.4/3, 14D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	Hitachi	0.51	283	⇓P	Pn	10 16 27.1	+0.5
JHO				⇓S	Sn	10 16 34.4	-0.6
JHYU	Hitachinakayam	0.51	252	⇓iP	Pn	10 16 27.6	+1.0
JHYU				⇓S	Sn	10 16 35.2	+0.2
ONAJ	Iwakimizuishiy	0.67	333	⇓iP	Pn	10 16 29.0	+0.3
ONAJ				⇓S	Sn	10 16 37.8	-0.8
JFFD	Fukushimafurud	0.77	320	⇓iP	Pn	10 16 30.2	+0.4
JFFD				⇓S	Sn	10 16 39.7	-1.0
JYT	Yasato	0.84	251	⇓iP	Pn	10 16 31.4	+0.7
JYT				⇓S	Sn	10 16 41.8	-0.5
JFK	Kawauchi	0.90	344	⇓iP	Pn	10 16 31.9	+0.4
JFK				⇓S	Sn	10 16 43.0	-0.7
JOTO	OTAMA OYAMA	1.25	328	iP	Pn	10 16 37.7	+1.5
JOTO				S	Sn	10 16 52.9	+0.8
JAG	Ashikaga	1.40	267	⇓iP	Pn	10 16 38.8	+0.8
JAG				⇓eS	Sn	10 16 55.0	-0.4
JMM	Marumori	1.40	347	iP	Pn	10 16 39.2	+1.2
JMM				eS	Sn	10 16 55.7	+0.3
JFY	Yanaizu	1.49	308	eP	Pn	10 16 40.4	+1.0
JKT	Katashina	1.58	280	P	Pn	10 16 41.9	+1.3
JKT				S	Sn	10 17 00.3	+0.3
MJAR	Matsushiro Arr	2.40	272	Pn	Pn	10 16 52.0	+0.3
	0.6nm,0.3s,baz=215,slow=16,SNR=25						
MJAR				Lg	Lg	10 17 20.7	
	0.6nm,0.3s,baz=169,slow=18,SNR=9.2						
MKAR	Makanchi Array	44.24	303	P	P	10 24 16.1	-2.6
	0.1nm,0.3s,baz=83,slow=12,SNR=1.1						
	0.1nm,0.3s						
KURBB	Kurchatov Arra	46.18	308	P	P	10 24 34.7	+0.8
	0.5nm,0.7s,baz=84,slow=7.5,SNR=5.2						
	0.5nm,0.7s						
WRA	Warramunga Arr	56.51	188	P	P	10 25 51.6	+0.2
	0.4nm,1.0s,baz=349,slow=8.1,SNR=1.8						
	0.4nm,1.0s						

JMA 30 10:16:47.5±0.1, 35°.0N±0°.1×137°.6E±0°.1, h13km, MV0.6/17, NE AICHI PREF, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSSY	Shinshiroyabe	0.11	228	P	Pg	10 16 50.6	0.0
JSSY				eS	Sg	10 16 52.8	-0.1
HMMJ	Hamamatsu 2	0.16	145	P	Pg	10 16 51.5	+0.1
HMMJ				eS	Sg	10 16 53.9	-0.2
JHMK	Hamakita	0.21	144

HEF				SG	Sn	10 30 25.6	-1.0		
TOF	**Tornio**	**1.83**	**124**	PG	Pn	10 30 05.9	+0.1		
TOF				MSG		10 30 27.8			
	comp=Z,0.5nm,0.2s								
TOF				SG	Sn	10 30 30.1	+0.5		
KIF	**Kilpisjarvi**	**1.86**	**2**	PG	Pb	10 30 07.2	-0.6		
KIF				MSG		10 30 29.6			
	comp=Z,1.3nm,0.2s								
KIF				SN	Sb	10 30 31.6	0.0		
KTK1	**Kautokeino**	**2.11**	**27**	SG	Sb	10 30 38.2	-0.7		
RNF	**Rovaniemi**	**2.20**	**102**	PG	Pn	10 30 12.1	+1.2		
RNF				SG	Sb	10 30 41.2	-0.3		
SGF	**Sodankyl**	**2.31**	**80**	SG	Sb	10 30 44.0	-0.7		
KMNF	**Kaamanen**	**3.12**	**47**	SN	Sn	10 31 01.6	+0.3		
VRF	**Varrio**	**3.52**	**76**	PB	Pb	10 30 33.9	-2.3		
VRF				SG	Sb	10 31 20.6	+1.3		
HEMU	**Hemsoen**	**4.63**	**195**	SG	Sg	10 31 58.4	-3.3		

HEL 30 10:30:51.9±0.1, 67°68N × 33°74E, h0km, ML1.5,
Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LVZ	**Lovozero**	**0.41**	**57**	*e*P		Pg	10 30 59.1	-0.6
LVZ				*e*S		Sg	10 31 05.1	0.0
VRF	**Varrio**	**1.58**	**275**	*e*P		Pn	10 31 20.0	-1.0
VRF				*e*S		Sn	10 31 40.0	-2.2
VRF				MSG			10 31 44.8	
	comp=Z,3.1nm,0.2s							
OLKF	**Oulanka, Finla**	**2.18**	**233**	*e*PG		Pb	10 31 30.8	-1.3
OLKF				MSG			10 31 56.9	
	comp=Z,2.5nm,0.2s							
OLKF				*e*SG		Sb	10 31 59.1	-0.6
RAJF	**Raja-Jooseppi**	**2.19**	**294**	*e*PG		Pn	10 31 30.8	+1.3
KU6	**Riekki**	**2.25**	**224**	SG		Pb	10 31 31.4	-2.0
KU6	**Riekki**	**2.25**	**224**	*e*PB		Pn	10 31 31.4	+1.0
KU6				MSG			10 31 57.5	
	comp=Z,1.5nm,0.2s							
KU6				*e*SG		Sb	10 32 01.0	-0.6
MSF	**Maaselka**	**2.57**	**229**	*e*PG		Pb	10 31 37.4	-1.4
MSF				*e*SG		Sb	10 32 11.6	+0.7
SGF	**Sodankyl**	**2.78**	**268**	*e*PB		Pb	10 31 40.4	-1.9
SGF				*e*SB		Sb	10 32 15.9	-0.9
KMNF	**Kaamanen**	**2.90**	**304**	*e*P		Pn	10 31 39.3	+0.1
KMNF				*e*S		Sn	10 32 14.3	-0.4
RNF	**Rovaniemi**	**3.20**	**254**	*e*P		Pn	10 31 43.2	-0.2
KEV	**Kevo**	**3.22**	**313**	*e*P		Pn	10 31 44.0	+0.4
ARA0	**ARCESS Array S**	**3.55**	**306**	*e*P		Pn	10 31 47.9	-0.3

*IDC **30** 10:32:12.1±2.2, 37°82N × 142°54E, h0km, mb3.4/2,*
mbtmp3.4/5, ML2.8/3, Error ellipse: s-maj=40.5km
s-min=29.4km az=93.0
*JMA **30** 10:32:21.1±0.1, 38°0N±0°3 × 141°8E±0°6, h44km, MV3.5/40,*
SE OFF MIYAGI PREF
ISC 30 10:32:17.8±1.8, 37°95N±0°05 × 142°02E±0°08, h28km±11km,
n25, σ1°914/32, 7D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JIKH	**Ishinomakikobu**	**0.57**	**310**	⇓*i*P		**Pn**	**10 32 30.8**	**+0.8**
JIKH				⇓S		**Sb**	**10 32 37.7**	**+0.7**
JIO	**Ouri**	**0.73**	**314**	⇓*i*P		**Pn**	**10 32 32.9**	**+0.7**
JIO				⇓S		**Sb**	**10 32 41.1**	**-0.5**
JMST	**Minamisoumatoc**	**0.92**	**256**	*i* P		**Pn**	**10 32 35.6**	**+0.7**
JMST				S		**Sb**	**10 32 46.1**	**-1.0**
JKMT	**Kesennumamotoy**	**0.96**	**334**	*i* P		**Pb**	**10 32 36.3**	**+0.4**
JKMT				S		**Sb**	**10 32 47.2**	**-1.0**
JMM	**Marumori**	**0.97**	**266**	*i* P		**Pb**	**10 32 36.3**	**+0.2**
JMM				S		**Sb**	**10 32 47.1**	**-1.5**
JFK	**Kawauchi**	**1.08**	**238**	P		**Pb**	**10 32 38.1**	**+0.3**
JOU	**Okura**	**1.15**	**292**	P		**Pb**	**10 32 38.8**	**-0.2**
JOU				S		**Sn**	**10 32 51.5**	**-1.2**
OFUJ	**Ofunato**	**1.16**	**347**	*i* P		**Pb**	**10 32 39.5**	**+0.1**
OFUJ				S		**Sn**	**10 32 52.6**	**-0.5**
JMK	**Ichinoseki**	**1.18**	**328**	P		**Pb**	**10 32 39.5**	**-0.1**
JMK				S		**Sn**	**10 32 53.0**	**-0.6**
JOTO	**OTAMA OYAMA**	**1.39**	**254**	*i* P		**Pb**	**10 32 43.0**	**-0.2**
JOTO				S		**Sn**	**10 32 58.9**	**+0.1**
JYS	**Shirataka**	**1.56**	**281**	P		**Pb**	**10 32 45.3**	**-0.8**
JYS				*e*S		**Sn**	**10 33 02.6**	**-0.5**
JYK	**Kaneyama**	**1.62**	**307**	*i* P		**Pn**	**10 32 45.5**	**+1.0**
JOM	**Ohasama**	**1.62**	**340**	⇓*i*P		**Pb**	**10 32 46.3**	**-0.9**
JOM				⇓*e*S		**Sn**	**10 33 05.5**	**+0.9**
JRG	**Rokugo**	**1.81**	**324**	⇓*i*P		**Pb**	**10 32 48.8**	**-1.4**
MJAR	**Matsushiro Arr**	**3.35**	**246**	Pn		**Pn**	**10 33 10.3**	**+2.0**
	0.3nm,0.3s,baz=63,slow=11,SNR=14							
MJAR				Sn		**Sb**	**10 33 55.6**	**-1.1**
	baz=80,slow=15,SNR=1.4							
	2.6nm,0.5s							
ASAJ	**Asahikawa**	**6.18**	**4**	Pn		**Pn**	**10 33 46.9**	**-0.2**
	0.2nm,0.3s,baz=156,slow=10.0,SNR=1.4							
ASAJ				Sn		**Sn**	**10 34 56.4**	**-0.4**
	0.2nm,0.3s,baz=214,slow=31,SNR=1.4							
	1.8nm,0.6s							
USRK	**Ussuriysk Ar.**	**9.81**	**313**	Pn		**Pn**	**10 34 40.5**	**+3.5**
	0.2nm,0.3s,baz=124,slow=14,SNR=4.4							
	1.4nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**28.22**	**123**	T		T	11 08 25.6	
	baz=316,slow=75,SNR=18							
H11N1	**WAKE ISLAND Hy**	**28.23**	**123**	T		T	11 08 27.3	
	baz=316,slow=75,SNR=21							
H11N3	**WAKE ISLAND Hy**	**28.24**	**123**	T		T	11 08 26.7	
	baz=316,slow=75,SNR=22							
H11S1	**WAKE ISLAND Hy**	**28.97**	**125**	T		T	11 09 23.9	
	baz=318,slow=76,SNR=16							
H11S3	**WAKE ISLAND Hy**	**28.97**	**125**	T		T	11 09 23.9	
	baz=318,slow=76,SNR=17							
H11S2	**WAKE ISLAND Hy**	**28.99**	**125**	T		T	11 09 25.7	
	baz=318,slow=76,SNR=11							
KURBB	**Kurchatov Arra**	**45.82**	**307**	P		**P**	**10 40 37.9**	**+0.9**
	0.3nm,0.5s,baz=81,slow=8.7,SNR=2.7							
	0.3nm,0.5s							
WRA	**Warramunga Arr**	**58.03**	**189**	P		**P**	**10 42 06.5**	**-1.8**
	0.3nm,0.9s,baz=8.2,slow=7.6,SNR=2.1							
	0.3nm,0.9s							

*SJA **30** 10:41:55.6±0.6, 30°57S × 72°01W, h11km, ML3.5, MW3.3*
*GUC **30** 10:42:00.8±0.6, 30°67S × 71°67W, h35km±1km, ML3.6*
ISC 30 10:42:01.7±1.3, 30°65S±0°02 × 71°80W±0°05, h19km±3km,
n55, σ2°01/77, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.14**	**101**	⇑*i*P		**Pg**	**10 42 05.9**	**-0.1**
CO06				*i* S		**Sg**	**10 42 09.4**	**+0.5**
CO06				IAML			10 42 10.0	
	comp=E,22μm,0.4s							
CO05	**La Serena**	**0.87**	**34**	⇑*i*P		Pb	10 42 16.0	-2.2
CO05				*i* S		**Sb**	**10 42 27.4**	**-2.0**
CO02	**Combarbal**	**0.88**	**129**	*e*P		Pb	10 42 15.5	-2.9
CO02				*e*S		**Sb**	**10 42 27.0**	**-2.9**
CO02				IAML			10 42 27.1	
	comp=Z,2μm,0.2s							
CO02	**Combarbal**	**0.88**	**129**	⇓*i*P		Pb	10 42 15.5	-2.9
CO02				*i* S		**Sb**	**10 42 26.4**	**-3.5**
CO02				IAML			10 42 27.6	
	comp=N,9μm,0.2s							
CO03	**El Pedregal**	**0.97**	**102**	*e*P		Pb	10 42 16.6	-3.3
CO03				*e*S		**Sb**	**10 42 28.9**	**-3.6**
CO03				IAML			10 42 29.7	
	comp=Z,1μm,0.3s							
CO03	**El Pedregal**	**0.97**	**102**	⇓*i*P		Pb	10 42 16.7	-3.3
CO03				*i* S		**Sb**	**10 42 28.3**	**-4.2**
CO03				IAML			10 42 29.0	
	comp=E,6μm,0.1s							
GO04	**Tololo Observa**	**0.98**	**61**	*e*P		Pb	10 42 12.5	-7.8
GO04				*e*P			10 42 16.9	
GO04				IAML			10 42 32.7	
	comp=Z,5μm,0.5s							
GO04	**Tololo Observa**	**0.98**	**61**	*e*P		Pb	10 42 17.4	-2.8
GO04				*i* S		**Sb**	**10 42 29.9**	**-3.0**
CO01	**Juntas del Tor**	**1.62**	**66**	*e*P		Pn	10 42 22.0	-7.4
CO01				*e*P			10 42 27.5	
CO01				*e*S		**Sn**	**10 42 48.2**	**-1.6**
CO01				IAML			10 42 49.9	
	comp=Z,345nm,0.2s							
CO01	**Juntas del Tor**	**1.62**	**66**	*e*P		**Pn**	**10 42 27.3**	**-2.1**
CO01				*i* S		**Sn**	**10 42 47.6**	**-2.2**
LCO	**Las Campanas**	**1.89**	**31**	*e*P		Pn	10 42 30.6	-2.6
LCO				*e*S		**Sn**	**10 42 57.0**	**+0.4**
LCO				IAML			10 43 03.5	
	comp=Z,646nm,0.4s							
LCO	**Las Campanas**	**1.89**	**31**	*e*P		**Pn**	**10 42 31.2**	**-2.0**
LCO				*i* S		**Sn**	**10 42 56.1**	**-0.4**
AROD	**Rodeo**	**2.06**	**77**	*e*P		**Pn**	**10 42 35.7**	**+0.1**
AROD				*e*S		**Sn**	**10 43 02.6**	**+1.6**
AC05	**El Transito**	**2.24**	**37**	*e*P		**Pn**	**10 42 36.2**	**-1.6**
AC05				*e*S		**Sn**	**10 43 06.6**	**+1.6**
AC05				IAML			10 43 20.1	
	comp=Z,115nm,0.3s							
AC05	**El Transito**	**2.24**	**37**	*e*P		**Pn**	**10 42 36.9**	**-1.0**
AC05				IAML			10 43 14.3	
	comp=N,256nm,0.2s							
ACCO	**Cerro Coronel**	**2.35**	**89**	*e*P		**Pn**	**10 42 40.1**	**+0.5**
ACCO				*e*S		**Sb**	**10 43 12.7**	**+0.2**
DOCA	**Reserva Natura**	**2.35**	**98**	*e*P		**Pn**	**10 42 39.8**	**+0.1**
DOCA				*e*S		**Sb**	**10 43 12.1**	**-0.4**
DOCA				IAML			10 43 13.7	
	comp=Z,99nm,0.8s							
ACDV	**Cuesta del Vie**	**2.36**	**79**	*e*P		**Pn**	**10 42 40.4**	**+0.8**
ACDV				*e*S		**Sb**	**10 43 11.9**	**-0.6**
ACDV				IAML			10 43 12.2	
	comp=Z,107nm,0.4s							
VA03	**San Esteban**	**2.36**	**154**	*e*P		**Pn**	**10 42 38.2**	**-1.3**
VA03				IAML			10 43 18.7	
	comp=Z,395nm,0.5s							
VA03	**San Esteban**	**2.36**	**154**	*e*P		**Pn**	**10 42 38.3**	**-1.3**
VA03				*i* S		**Sn**	**10 43 04.9**	**-3.1**
VA03				IAML			10 43 16.2	
	comp=N,659nm,0.4s							
VA01	**Torpederas**	**2.37**	**177**	*e*P		**Pn**	**10 42 38.8**	**-0.7**
VA01				*i* S		**Sn**	**10 43 07.7**	**-0.4**
ROCH	**El Roble**	**2.41**	**164**	*e*P		**Pn**	**10 42 39.3**	**-1.0**
ROCH				*i* S		**Sn**	**10 43 09.6**	**+0.1**
ROCH				IAML			10 43 22.5	
	comp=N,380nm,0.5s							
RTLS	**Leoncito**	**2.43**	**119**	*e*P		**Pn**	**10 42 41.2**	**+0.6**
RTLS				*e*S		**Sb**	**10 43 15.3**	**+0.7**
RTLS				IAML			10 43 22.7	
	comp=Z,506nm,0.7s							
AC04	**Llanos de Chal**	**2.52**	**15**	*e*P		Pn	10 42 38.5	-3.0
AC04				*e*S		**Sn**	**10 43 12.5**	**+0.8**
AC04				IAML			10 43 26.9	
	comp=Z,88nm,0.2s							
AC04	**Llanos de Chal**	**2.52**	**15**	*e*P		Pn	10 42 39.1	-2.4
AC04				IAML			10 43 27.9	
	comp=E,161nm,0.2s							
PEL	**Peldehue**	**2.66**	**159**	*e*P		**Pn**	**10 42 42.1**	**-1.5**
PEL				*i* S		**Sn**	**10 43 14.3**	**-1.1**
PEL				IAML			10 43 23.4	
	comp=E,252nm,0.3s							
MT02	**Curacav**	**2.66**	**168**	*e*P		**Pn**	**10 42 42.7**	**-0.8**
MT02				*e*S		**Sb**	**10 43 22.0**	**+0.9**
MT02				IAML			10 43 24.1	
	comp=Z,124nm,0.5s							
MT02	**Curacav**	**2.66**	**168**	*e*P		**Pn**	**10 42 43.0**	**-0.6**
MT02				*i* S		**Sn**	**10 43 14.6**	**-0.7**
MT02				IAML			10 43 24.7	
	comp=N,112nm,0.4s							
MT10	**Hacienda Santa**	**2.83**	**158**	*e*P		**Pn**	**10 42 44.5**	**-1.4**
MT10				*i* S		**Sn**	**10 43 18.6**	**-1.0**
MT14	**Cerro Cal¡n**	**2.94**	**159**	*e*P		**Pn**	**10 42 48.2**	**+0.7**
MT14				*e*S		**Sn**	**10 43 20.8**	**-1.5**
MT14				IAML			10 43 32.3	
	comp=E,326nm,0.5s							
MT16	**CCHEN**	**2.98**	**159**	*e*P		**Pn**	**10 42 49.6**	**+1.7**
VA05	**Santo Domingo**	**3.00**	**177**	*e*P		Pn	10 42 46.0	-2.2
RTCV	**Cerro Valdivia**	**3.04**	**114**	*e*P		**Pn**	**10 42 49.3**	**+0.5**
MT03	**Universidad Ad**	**3.04**	**159**	*e*P		**Pn**	**10 42 48.4**	**-0.5**
MT03				*e*S		**Sn**	**10 43 27.5**	**+2.7**
MT03				IAML			10 43 35.8	
	comp=Z,143nm,0.4s							
MT03	**Universidad Ad**	**3.04**	**159**	*e*P		**Pn**	**10 42 48.3**	**-0.6**
MT03				*i* S		**Sn**	**10 43 23.2**	**-1.6**
MT03				IAML			10 43 38.6	
	comp=N,313nm,0.3s							
MT04	**Ro Olivares**	**3.09**	**153**	*e*P		**Pn**	**10 42 49.8**	**+0.1**
MT15	**Las Vizcachas**	**3.14**	**160**	*e*P		**Pn**	**10 42 49.3**	**-0.9**
MT08	**Bocatoma Ro**	**3.17**	**152**	*e*P		**Pn**	**10 42 51.7**	**+0.9**
ASAL	**Salagasta**	**3.18**	**128**	*e*P		**Pn**	**10 42 52.2**	**+1.4**
ASAL				*e*S		**Sn**	**10 43 33.0**	**+4.7**
ASAL				IAML			10 43 45.5	
	comp=Z,53nm,0.7s							
MT09	**Talagante**	**3.19**	**168**	*e*P		**Pn**	**10 42 49.8**	**-1.2**
MT01	**Popeta**	**3.24**	**172**	*e*P		**Pn**	**10 42 50.4**	**-1.1**
MT01				*e*S		**Sn**	**10 43 32.5**	**+2.9**
MT01				IAML			10 43 42.4	
	comp=Z,52nm,0.3s							
MT01	**Popeta**	**3.24**	**172**	*e*P		**Pn**	**10 42 51.1**	**-0.4**
MT12	**Pirque**	**3.25**	**161**	*e*P		**Pn**	**10 42 50.6**	**-1.1**
ARCO	**CERRO ARCO**	**3.28**	**133**	*e*P		**Pn**	**10 42 54.2**	**+2.1**
ARCO				*e*S		**Sg**	**10 43 44.6**	**-2.4**
ARCO				IAML			10 43 44.8	
	comp=Z,85nm,0.5s							
GO03	**Copiap**	**3.34**	**25**	*e*P		Pn	10 42 50.8	-2.0
GO03				*e*S		**Sb**	**10 43 43.3**	**+2.8**
GO03				IAML			10 43 44.4	
	comp=Z,86nm,0.3s							
AAGR	**Agrelo**	**3.50**	**135**	*e*P		**Pn**	**10 42 57.2**	**+1.9**
AAGR				*e*S		**Sn**	**10 43 38.8**	**+2.6**
AAGR				IAML			10 43 39.7	
	comp=Z,74nm,3.2s							
AVFE	**Valle Fertil**	**3.74**	**91**	*e*P		**Pn**	**10 42 58.2**	**-0.3**
AVFE				*e*S		**Sn**	**10 43 46.5**	**+4.5**
AVFE				IAML			10 43 53.9	
	comp=Z,58nm,0.4s							
BO01	**Tunca**	**3.78**	**171**	*e*P		**Pn**	**10 42 58.5**	**-0.4**
BO01				*e*S		**Sn**	**10 43 45.5**	**+2.6**
BO01				IAML			10 44 08.9	
	comp=Z,28nm,0.7s							
BO02	**Sierra Bellavi**	**4.22**	**169**	*e*P		**Pn**	**10 43 05.0**	**-0.1**
BO02				IAML			10 44 08.7	
	comp=Z,54nm,0.5s							
GO05	**Huala**	**4.35**	**181**	*e*P		Pn	10 43 04.5	-2.3
GO05				*e*S		**Sb**	**10 44 13.5**	**+3.8**
ACLC	**CERRO LA CRUZ**	**4.37**	**75**	*e*P		**Pn**	**10 43 07.3**	**+0.1**
ACHE	**Chepes**	**4.44**	**98**	*e*S		**Sn**	**10 44 05.0**	**+5.6**
AC02	**Maricunga**	**4.46**	**32**	*e*S		**Sb**	**10 44 17.8**	**+4.5**
APLL	**PUNTA DE LOS L**	**4.55**	**88**	*e*S		**Sn**	**10 44 04.0**	**+2.0**
AC01	**Pan de Azucar**	**4.61**	**14**	*e*S		**Sb**	**10 44 16.0**	**-1.0**

*JMA **30** 10:42:46.0±0.1, 24°5N±0°8 × 122°2E±0°2, h75km±1km,*
MV2.3/8, TAIWAN REGION
*TAP **30** 10:42:46.1, 24°63N × 122°16E, h75km, ML3.0, B*
ISC 30 10:42:46.3±1.4, 24°61N±0°03 × 122°18E±0°03, h73km±7km,
n80, σ0°77/134, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EOS2	**EOS2**	**0.20**	**165**	*i* P		**Pn**	**10 42 57.8**	**+0.7**
	baz=161							
EOS2				*i* S		**Sn**	**10 43 06.7**	**+1.7**
	baz=161							
TWC	**Suao**	**0.30**	**270**	P		**Pn**	**10 42 57.5**	**-0.3**
	baz=266							
TWC				*e*S		**Sn**	**10 43 05.0**	**-1.2**
	baz=266							
ESAO	**Su ao**	**0.30**	**264**	P		**Pn**	**10 42 57.5**	**-0.3**
	baz=260							
EGS		**0.32**	**317**	P		**Pn**	**10 42 58.0**	**0.0**
	baz=318							
EGS				*e*S		**Sn**	**10 43 06.8**	**+0.3**
	baz=318							
EOS3	**EOS3**	**0.35**	**158**	P		**Pn**	**10 42 58.7**	**+0.8**
	baz=156							
EOS3				S		**Sn**	**10 43 08.2**	**+1.7**
	baz=156							
EWUT	**Wuta**	**0.40**	**246**	P		**Pn**	**10 42 58.5**	**0.0**
	baz=242							
EWUT				*e*S		**Sn**	**10 43 07.5**	**0.0**
	baz=242							
NDS	**Dongshan**	**0.42**	**273**	P		**Pn**	**10 42 58.9**	**+0.2**
	baz=271							
TWB1	**Santiao Chiao**	**0.43**	**337**	P		**Pn**	**10 42 58.4**	**-0.4**
	baz=339							
TWB1				*e*S		**Sn**	**10 43 07.1**	**-0.9**
	baz=339							
ENA	**Nanau**	**0.43**	**246**	*i* P		**Pn**	**10 42 58.8**	**0.0**
	baz=241							
ENA				S		**Sn**	**10 43 08.1**	**0.0**
	baz=241							
TWE	**Neicheng**	**0.48**	**284**	P		**Pn**	**10 42 59.2**	**+0.1**
	baz=282							
TWE				*e*S		**Sn**	**10 43 08.4**	**-0.2**
	baz=282							
TIPB	**Shuangxi**	**0.48**	**319**	P		**Pn**	**10 42 59.0**	**-0.3**
	baz=319							
TIPB				S		**Sn**	**10 43 08.1**	**-0.7**
	baz=319							
EAHA	**Aohua**	**0.48**	**235**	P		**Pn**	**10 42 59.1**	**-0.1**
	baz=232							
EAHA				*e*S		**Sn**	**10 43 08.9**	**+0.1**
	baz=232							
EOS4	**EOS4**	**0.50**	**165**	*e*P		**Pn**	**10 42 59.9**	**+0.8**
	baz=163							
EOS4				*e*S		**Sn**	**10 43 09.0**	**+0.6**
	baz=163							
SXI1	**Grass Mountain**	**0.56**	**331**	P		**Pn**	**10 42 59.7**	**-0.3**
	baz=331							
SXI1				*e*S		**Sn**	**10 43 09.9**	**-0.2**
	baz=331							
ENTT	**Nioudou**	**0.56**	**273**	P		**Pn**	**10 43 00.3**	**+0.4**
	baz=271							
ENTT				*e*S		**Sn**	**10 43 10.7**	**+0.7**
	baz=271							
FUSB	**Fushanzhiwuyua**	**0.56**	**286**	P		**Pn**	**10 43 00.1**	**0.0**
	baz=284							
FUSB				*e*S		**Sn**	**10 43 09.8**	**-0.3**
	baz=284							
NWF	**Wu-fen Shan**	**0.58**	**322**	P		**Pn**	**10 43 00.2**	**-0.1**
	baz=322							
NWF				*e*S		**Sn**	**10 43 10.0**	**-0.6**
	baz=322							
WFSB	**Wu-fen Shan**	**0.58**	**322**	P		**Pn**	**10 43 00.2**	**0.0**
	baz=322							
WFSB				*e*S		**Sn**	**10 43 09.8**	**-0.7**
	baz=322							
LATG	**Datong**	**0.60**	**263**	*e*P		**Pn**	**10 43 00.6**	**+0.1**
	baz=261							
LATG				*e*S		**Sn**	**10 43 11.1**	**+0.2**
	baz=261							
NDT	**Datong Townshi**	**0.60**	**270**	P		**Pn**	**10 43 00.9**	**+0.4**
	baz=267							
NDT				S		**Sn**	**10 43 11.6**	**+0.7**
	baz=267							
NWLT	**Wulai**	**0.64**	**285**	*e*P		**Pn**	**10 43 01.1**	**+0.3**
	baz=284							
NWLT				*e*S		**Sn**	**10 43 11.7**	**+0.3**
	baz=284							
ETL	**Fush Village**	**0.67**	**228**	P		**Pn**	**10 43 00.5**	**-0.7**
	baz=226							
ETL				*e*S		**Sn**	**10 43 11.8**	**-0.4**
	baz=226							
NACB	**Ninganchiao**	**0.68**	**231**	P		**Pn**	**10 43 00.8**	**-0.5**
	baz=228							
NACB				*e*S		**Sn**	**10 43 11.5**	**-0.8**
	baz=228							
NHDH	**Xindian Distri**	**0.69**	**301**	*e*P		**Pn**	**10 43 01.0**	**-0.3**
	baz=300							
NHDH				*e*S		**Sn**	**10 43 11.5**	**-0.9**
	baz=300							
JYNG	**Yonagunijimaku**	**0.72**	**102**	P		**Pn**	**10 43 01.6**	**0.0**
JYNG				S		**Sn**	**10 43 13.2**	**+0.2**
YHNB	**Yeheng**	**0.73**	**275**	P		**Pn**	**10 43 02.1**	**+0.2**
	baz=273							
YHNB				*e*S		**Sn**	**10 43 13.2**	**-0.1**
	baz=273							
NNSB	**Datong**	**0.74**	**256**	P		**Pn**	**10 43 02.0**	**-0.1**
	baz=254							
NNSB				S		**Sn**	**10 43 13.2**	**-0.5**
	baz=254							
TWD	**Chiawan**	**0.75**	**225**	*e*P		**Pn**	**10 43 01.5**	**-0.4**
	baz=222							
TWD				*e*S		**Sn**	**10 43 12.9**	**-0.6**
	baz=222							
NSK	**Sanguang**	**0.75**	**275**	P		**Pn**	**10 43 02.2**	**+0.2**
	baz=273							
NSK				*e*S		**Sn**	**10 43 13.7**	**0.0**
	baz=273							
ETLH	**Xiulin Townshi**	**0.75**	**238**	P		**Pn**	**10 43 01.7**	**-0.4**
	baz=235							
ETLH				*e*S		**Sn**	**10 43 13.1**	**-0.7**
	baz=235							
NNS	**Nan Shan**	**0.75**	**257**	P		**Pn**	**10 43 02.1**	**0.0**
	baz=255							
NNS				*e*S		**Sn**	**10 43 13.2**	**-0.6**
	baz=255							
YM01	**YM01**	**0.77**	**314**	P		**Pn**	**10 43 01.9**	**-0.4**
	baz=314							
YM01				*e*S		**Sn**	**10 43 13.2**	**-0.9**
	baz=314							
YOJ	**Yonaguni jima**	**0.78**	**101**	*i* P		**Pn**	**10 43 02.2**	**0.0**
	baz=101							
YOJ				S		**Sn**	**10 43 14.4**	**+0.3**
	baz=101							
YOJ	**Yonaguni jima**	**0.78**	**101**	*e*S		**Sn**	**10 43 14.3**	**+0.2**
YM08	**YM08**	**0.79**	**317**	*e*S		**Sn**	**10 43 12.9**	**-1.5**
	baz=317							
HWA	**Hwalien**	**0.82**	**220**	*e*P		**Pn**	**10 43 01.4**	**-1.4**
	baz=217							
TWS1	**Kuangyinshan**	**0.84**	**306**	*e*P		**Pn**	**10 43 03.0**	**-0.1**
	baz=305							
TWS1				*e*S		**Sn**	**10 43 16.0**	**+0.4**
	baz=305							
ETM	**Tongmen**	**0.89**	**224**	*e*P		**Pn**	**10 43 03.1**	**-0.6**
	baz=222							
ETM				*e*S		**Sn**	**10 43 15.3**	**-1.3**
	baz=222							
LXIB	**Xiulin Townshi**	**0.91**	**230**	P		**Pn**	**10 43 03.3**	**-0.7**
	baz=228							
LXIB				*e*S		**Sn**	**10 43 16.0**	**-1.1**
	baz=228							
FUSS	**Fushou**	**0.92**	**247**	*e*P		**Pn**	**10 43 04.4**	**+0.1**
	baz

	baz=243							
WCS				*e*S		**Sn**	**10 43 26.4**	**+1.3**
	baz=243							
NSY	**Sanyi**	**1.30 262**		*e*S		**Sn**	**10 43 26.3**	**+0.6**
	baz=260							
TWQ1	**Liyutan**	**1.30 259**		*e*S		**Sn**	**10 43 26.1**	**+0.3**
	baz=257							
HGSD	**Ruisui**	**1.31 212**		*e*P		**Pn**	**10 43 08.9**	**0.0**
	baz=210							
EHY	**Hungye**	**1.35 216**		*e*P		**Pn**	**10 43 08.5**	**-0.9**
	baz=214							
SMLT	**Sun Moon Lake**	**1.37 238**		*e*P		**Pn**	**10 43 11.2**	**+1.4**
	baz=236							
SMLT				*e*S		**Sn**	**10 43 28.9**	**+1.5**
	baz=236							
SSLB	**Suanglung**	**1.38 234**		*e*P		**Pn**	**10 43 10.2**	**+0.3**
	baz=232							
TYC	**Yuchr**	**1.39 240**		*e*P		**Pn**	**10 43 10.5**	**+0.5**
	baz=238							
TYC				*e*S		**Sn**	**10 43 29.0**	**+1.2**
	baz=238							
IRIF	**Iriomote-Funau**	**1.44 101**	P			**Pn**	**10 43 10.5**	**-0.1**
YULB	**Yu-li**	**1.45 214**		*e*P		**Pn**	**10 43 09.1**	**-1.7**
	baz=212							
EYUL	**Yuli**	**1.48 212**		*e*P		**Pn**	**10 43 10.7**	**-0.4**
	baz=211							
TWF1	**Yuli**	**1.49 213**		*e*P		**Pn**	**10 43 09.7**	**-1.5**
	baz=211							
WHYT	**Xinyi Township**	**1.51 233**		*e*P		**Pn**	**10 43 12.8**	**+1.2**
	baz=232							
WHYT				*e*S		**Sn**	**10 43 32.0**	**+1.4**
	baz=232							
FULB	**Fuli**	**1.62 210**		*e*P		**Pn**	**10 43 12.3**	**-0.6**
	baz=209							
FULB				*e*S		**Sn**	**10 43 32.6**	**-0.6**
	baz=209							
ALS	**Alishan**	**1.66 229**		*e*P		**Pn**	**10 43 14.9**	**+1.1**
	baz=227							
EHD	**Haiduan**	**1.70 212**		*e*P		**Pn**	**10 43 13.8**	**-0.3**
	baz=210							
WDLH	**Douliu**	**1.75 239**		*e*S		**Sn**	**10 43 37.3**	**+1.0**
	baz=237							
ELDTW	**Lidau**	**1.77 217**		*e*S		**Sn**	**10 43 34.9**	**-1.9**
	baz=215							
JIJ	**Ishigaki jima**	**1.81 97**		*e*S		**Sn**	**10 43 37.0**	**-0.7**
CHN4	**Tsaushan**	**1.91 229**		*e*P		**Pn**	**10 43 18.6**	**+1.7**
	baz=228							
TPUB	**Ta-pu**	**1.92 228**		*e*P		**Pn**	**10 43 17.7**	**+0.7**
	baz=226							
JISG	**Ishigakijimahi**	**1.94 90**	P			**Pn**	**10 43 17.3**	**+0.1**
JISG				*e*S		**Sn**	**10 43 41.3**	**+0.5**
LDUT	**Ludao**	**2.03 199**		*e*P		**Pn**	**10 43 16.8**	**-1.6**
	baz=197							
TWK	**Hsinying**	**2.04 229**		*e*P		**Pn**	**10 43 19.2**	**+0.5**
	baz=228							
SNST	**Tainan City**	**2.07 228**		*e*P		**Pn**	**10 43 19.5**	**+0.6**
	baz=227							
CHN1	**Nanshi**	**2.07 227**		*e*S		**Sn**	**10 43 44.9**	**+1.0**
	baz=226							

IDC 30 11:13:24.0±2.3, 51°23N×94°35E, h0km, mbtmp2.8/3, ML2.1/3, Error ellipse: s-maj=37.2km s-min=19.0km az=17.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**6.41**	**299**	Pg	Pb	11 15 20.5	+4.0
	0.2nm,0.3s,baz=112,slow=16,SNR=4.6						
ZALV				Lg	Lg	11 16 44.3	
	0.3nm,0.3s,baz=115,slow=22,SNR=3.5						
SONM	**Songino Array**	**8.54**	**109**	Pg	Pg	11 16 00.3	-7.2
	baz=300,slow=18						
SONM				Lg	Lg	11 17 55.0	
	0.1nm,0.3s,baz=296,slow=33,SNR=3.7						
MKAR	**Makanchi Array**	**9.08**	**245**	Pn	Pn	11 15 36.1	-0.3
	baz=63,slow=11,SNR=1.8						
MKAR				Lg	Lg	11 18 15.9	
	0.1nm,0.3s,baz=57,slow=29,SNR=2.2						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**10.01**	**273**	Pn	Pn	11 15 49.1	+0.1
	baz=81,slow=12,SNR=1.6						
KURBB				Lg	Lg	11 18 43.7	
	baz=84,slow=30,SNR=1.4						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**14.81**	**286**	Pn	Pn	11 16 52.6	-2.0
	baz=74,slow=16,SNR=2.0						
	0.3nm,0.5s						

*IDC **30** 11:21:54.2±8.6, 14°69S×166°71E, h98km±82km, mb3.3/4, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=66.6km s-min=32.6km az=162.0*

*NOU **30** 11:21:56.5, 14°74S×167°52E, h111km, MLv4.6/6, Vanuatu Islands*

ISC 30 11:21:54.7±1.5, 14°7S±0°1×166°7E±0°2, h100km, n8, σ1§57/8, mb3.3/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOUNC	**Koumac, New Ca**	**6.28**	**201**	P	Pn	11 23 29.3	+4.4
DZM	**Mont Dzumac**	**7.38**	**182**	P	**Pn**	**11 23 42.0**	**+2.1**
	28nm,1.6s						
DZM	**Mont Dzumac**	**7.38**	**182**	P	**Pn**	**11 23 39.3**	**-0.6**
	0.6nm,0.3s,baz=75,slow=16,SNR=9.4						
DZM				S	**Sn**	**11 25 00.3**	**-1.9**
	6.2nm,0.9s,baz=90,slow=20,SNR=1.5						
	20nm,1.2s						
OUENC	**Ouen Island, N**	**7.72**	**179**	P	**Pn**	**11 23 46.3**	**+1.8**
STKA	**Stephens Creek**	**28.59**	**229**	P	**P**	**11 27 42.1**	**+0.5**
	0.9nm,0.4s,baz=63,slow=10,SNR=4.6						
	0.9nm,0.4s						
WRA	**Warramunga Arr**	**31.27**	**256**	P	**P**	**11 28 05.1**	**-0.2**
	0.2nm,0.6s,baz=84,slow=9.3,SNR=2.1						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**32.14**	**249**	P	**P**	**11 28 12.6**	**-0.5**
	0.7nm,0.9s,baz=78,slow=9.3,SNR=16						
	0.7nm,0.9s						
NVAR	**Mina Array Bea**	**87.67**	**49**	P	**P**	**11 34 32.0**	**-0.6**
	0.1nm,0.5s,baz=224,slow=4.7,SNR=1.9						
	0.1nm,0.5s						

*IDC **30** 11:35:57.6±1.5, 61°57N×150°27W, h41km±14km, mb3.8/24, mbtmp3.9/29, ML3.5/5, MS3.0/17, Error ellipse: s-maj=12.5km s-min=9.0km az=100.0*

*NEIC **30** 11:36:00.2±1.8, 61°57N±0°03×149°96W±0°05, h54km±4km, Error ellipse: s-maj=4.0km s-min=3.2km az=180.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; M_{rr}-1.53; $M_{\theta\theta}$0.92; $M_{\phi\phi}$0.62; $M_{r\theta}$0.52; $M_{\theta\phi}$0.81; $M_{r\theta}$0.12; Fault plane solution: $M_0$1.65000×10¹⁵ NP1: ϕ_s238.68000°, δ54.05000°, λ-79.88000°. NP2:ϕ_s41.77000°, δ37.16000°, λ-103.62000°. Principal axes: T 1.6585, Plg9.0000°, Azm321.0000°; N -0.0222, Plg8.0000°, Azm53.0000°; P -1.6363, Plg78.0000°, Azm186.0000°;*

*NEIC **30** 11:36:00.7, 61°55N×149°95W, h47km*

*AEIC **30** 11:36:00.7±1.4, 61°55N±0°02×149°94W±0°05, h48km±3km, ML4.0, mb4.3/89(NEIC), ML4.2/218(NEIC), Mwr4.1/143(NEIC), Error ellipse: s-maj=3.6km s-min=2.9km az=141.0*

*PPT **30** 11:36:03.7±0.3, 61°90N×150°34W, h10km, mb4.6/7, MLv4.6/8, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 30 11:35:59.7±0.6, 61°56N±0°03×149°98W±0°03, h55km±5km, n585, σ0§91/601, mb4.2/66, MS2.9/13, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
M22K	**Willow**	**0.21**	**341**	Pn	**Pn**	**11 36 08.1**	**-0.5**
M22K					**Sn**	**11 36 15.0**	**0.0**
M22K	**Willow**	**0.21**	**341**	P	**Pn**	**11 36 07.9**	**-0.7**
	baz=157						
M22K				S	**Sn**	**11 36 15.0**	**0.0**
	baz=157						
SUA	**Susitna One**	**0.38**	**256**		**Pn**	**11 36 09.8**	**-0.4**
SUA					**Sn**	**11 36 18.0**	**+0.3**
SUA				IAML		11 36 18.3	
	comp=E,17μm,1.0s						
SUA				IAML		11 36 19.1	
	comp=N,16μm,0.9s						
SUA	**Susitna One**	**0.38**	**256**	P	**Pn**	**11 36 09.8**	**-0.4**
	baz=77						
SUA				S	**Sn**	**11 36 18.0**	**+0.3**
	baz=77						
PMR	**Palmer**	**0.41**	**85**	P	**Pn**	**11 36 09.9**	**-0.4**
PMR	**Palmer**	**0.41**	**85**		**Pn**	**11 36 09.4**	**-0.8**
PMR					**Sn**	**11 36 17.4**	**-0.5**
PMR				IAML		11 36 18.0	
	comp=E,21μm,0.5s						
PMR				IAML		11 36 18.2	
	comp=N,14μm,0.3s						
PMR	**Palmer**	**0.41**	**85**	P	**Pn**	**11 36 09.8**	**-0.4**
	baz=264						
PMR				S	**Sn**	**11 36 17.3**	**-0.5**
	baz=264						
FIS	**Fire Island**	**0.43**	**196**		**Pn**	**11 36 11.2**	**+0.7**
FIS					**Sn**	**11 36 18.8**	**+0.5**
RC01	**Rabbit Creek A**	**0.48**	**166**		**Pn**	**11 36 10.7**	**-0.5**
RC01				IAML		11 36 20.3	
	comp=E,12μm,0.3s						
RC01				IAML		11 36 20.5	
	comp=N,21μm,0.4s						
RC01	**Rabbit Creek A**	**0.48**	**166**	P	**Pn**	**11 36 10.8**	**-0.3**
	baz=348						
GHO	**Glory Hole Cre**	**0.55**	**66**		**Pn**	**11 36 11.6**	**-0.4**
GHO					**Sn**	**11 36 20.9**	**+0.1**
KNK	**Knik Glacier**	**0.74**	**101**		**Pn**	**11 36 14.4**	**+0.2**
KNK					**Sn**	**11 36 25.9**	**+1.1**
KNK	**Knik Glacier**	**0.74**	**101**	P	**Pn**	**11 36 14.2**	**0.0**
	baz=282						
KNK				S	**Sn**	**11 36 25.7**	**+0.9**
	baz=282						
SML	**Sawmill**	**0.82**	**72**		**Pn**	**11 36 15.0**	**-0.3**
SML					**Sn**	**11 36 26.8**	**0.0**
SML				IAML		11 36 28.5	
	comp=E,7μm,0.6s						
SML	**Sawmill**	**0.82**	**72**	P	**Pn**	**11 36 14.9**	**-0.4**
	baz=252						
SML				S	**Sn**	**11 36 26.7**	**0.0**
	baz=252						
SKT	**Skwentna**	**0.85**	**300**		**Pn**	**11 36 15.3**	**-0.4**
SKT					**Sn**	**11 36 27.6**	**+0.3**
SKT	**Skwentna**	**0.85**	**300**	P	**Pn**	**11 36 15.4**	**-0.3**
	baz=119						
SKT				S	**Sn**	**11 36 27.6**	**+0.3**
	baz=119						
CUT	**Chulitna**	**0.86**	**351**		**Pn**	**11 36 15.6**	**-0.1**
CUT					**Sn**	**11 36 28.0**	**+0.5**
CUT	**Chulitna**	**0.86**	**351**	P	**Pn**	**11 36 15.6**	**-0.1**
	baz=170						
CUT				S	**Sn**	**11 36 27.8**	**+0.3**
	baz=170						
STLK	**Strandline Lak**	**0.89**	**267**		**Pn**	**11 36 16.4**	**+0.2**
STLK					**Sn**	**11 36 28.8**	**+0.5**
CAPN	**Captain Cook N**	**0.98**	**216**		**Pn**	**11 36 19.0**	**+1.8**
CAPN	**Captain Cook N**	**0.98**	**216**	P	**Pn**	**11 36 18.9**	**+1.6**
	baz=36						
SPCG	**Spurr Capps Gl**	**1.02**	**256**		**Pn**	**11 36 18.4**	**+0.5**
SPCG					**Sn**	**11 36 32.2**	**+0.8**
SLKM	**Skilak Lake**	**1.06**	**187**		**Pn**	**11 36 18.2**	**-0.2**
SPCP	**Crater Peak Br**	**1.09**	**255**		**Pn**	**11 36 19.4**	**+0.5**
O22K	**Cooper Landing**	**1.09**	**173**		**Pn**	**11 36 18.6**	**-0.1**
O22K	**Cooper Landing**	**1.09**	**173**	P	**Pn**	**11 36 18.6**	**-0.1**
	baz=354						
M23K	**Glacier View**	**1.10**	**77**		**Pn**	**11 36 19.1**	**+0.2**
M23K	**Glacier View**	**1.10**	**77**	P	**Pn**	**11 36 19.1**	**+0.2**
	baz=258						
SPCN	**Chakachatna No**	**1.11**	**253**		**Pn**	**11 36 19.7**	**+0.6**
N20K	**Mount Spurr**	**1.13**	**252**	P	**Pn**	**11 36 19.8**	**+0.3**
	baz=71						
SPCR	**Spurr Chakacha**	**1.13**	**252**		**Pn**	**11 36 19.8**	**+0.3**
SPBG	**Spurr Blockage**	**1.19**	**256**		**Pn**	**11 36 20.7**	**+0.5**
SCM	**Sheep Creek Mo**	**1.29**	**77**		**Pn**	**11 36 21.8**	**+0.3**
SCM	**Sheep Creek Mo**	**1.29**	**77**	P	**Pn**	**11 36 22.1**	**+0.5**
	baz=258						
SPNN	**North Nagishla**	**1.32**	**263**		**Pn**	**11 36 22.8**	**+0.8**
WAT7	**Susitna Watana**	**1.38**	**22**		**Pn**	**11 36 23.4**	**+0.6**
WAT1	**Susitna Watana**	**1.44**	**27**		**Pn**	**11 36 24.1**	**+0.5**
WAT1	**Susitna Watana**	**1.44**	**27**	P	**Pn**	**11 36 24.1**	**+0.5**
	baz=208						
WAT6	**Susitna Watana**	**1.47**	**45**		**Pn**	**11 36 24.2**	**+0.2**
WAT6	**Susitna Watana**	**1.47**	**45**	P	**Pn**	**11 36 24.2**	**+0.2**
	baz=226						
SEW	**Seward**	**1.48**	**170**		**Pn**	**11 36 23.6**	**-0.5**
SEW	**Seward**	**1.48**	**170**	P	**Pn**	**11 36 24.3**	**+0.3**
	baz=351						
M20K	**Styx River**	**1.54**	**284**		**Pn**	**11 36 25.4**	**+0.6**
M20K				IAML		11 36 47.6	
	comp=E,4μm,0.5s						
M20K				IAML		11 36 47.6	
	comp=N,4μm,0.8s						
M20K	**Styx River**	**1.54**	**284**	P	**Pn**	**11 36 26.1**	**+1.2**
	baz=101						
RDT	**Redoubt**	**1.54**	**231**		**Pn**	**11 36 25.1**	**+0.2**
DFR	**Drift River**	**1.64**	**235**		**Pn**	**11 36 26.8**	**+0.6**
RDJH	**Redoubt Jeurge**	**1.68**	**236**		**Pn**	**11 36 27.4**	**+0.5**
PPLA	**Purkeypile**	**1.70**	**323**		**Pn**	**11 36 27.3**	**+0.2**
PPLA	**Purkeypile**	**1.70**	**323**	P	**Pn**	**11 36 27.3**	**+0.2**
	baz=141						
RSO	**Redoubt South**	**1.74**	**232**		**Pn**	**11 36 28.2**	**+0.4**
NCT	**North Crescent**	**1.75**	**236**		**Pn**	**11 36 28.3**	**+0.5**
RDWB	**Redoubt West**	**1.76**	**234**		**Pn**	**11 36 28.3**	**+0.4**
RED	**Redoubt Volcan**	**1.78**	**231**		**Pn**	**11 36 28.5**	**+0.3**
BRLK	**Bradley Lake**	**1.86**	**194**		**Pn**	**11 36 29.1**	**-0.1**
BRLK				IAML		11 36 57.7	
	comp=N,1μm,0.3s						
BRLK				IAML		11 36 58.3	
	comp=E,2μm,0.5s						
BRSE	**Bradley Lake S**	**1.86**	**192**		**Pn**	**11 36 28.9**	**-0.3**
BRSE	**Bradley Lake S**	**1.86**	**192**	P	**Pn**	**11 36 28.9**	**-0.3**
	baz=12						
M24K	**Tolsona, Glenn**	**1.89**	**71**		**Pn**	**11 36 30.5**	**+0.9**
M24K				IAML		11 36 58.5	
	comp=N,3μm,0.7s						
M24K				IAML		11 36 58.5	
	comp=E,3μm,0.8s						
M24K	**Tolsona, Glenn**	**1.89**	**71**	P	**Pn**	**11 36 30.5**	**+0.9**
	baz=254						
TRF	**Thorofare Moun**	**1.90**	**356**		**Pn**	**11 36 30.5**	**+0.5**
TRF				IAML		11 36 58.0	
	comp=N,2μm,0.6s						
TRF				IAML		11 37 08.3	
	comp=E,2μm,0.7s						
TRF	**Thorofare Moun**	**1.90**	**356**	P	**Pn**	**11 36 30.4**	**+0.4**
	baz=175						
RND	**Reindeer**	**1.93**	**15**		**Pn**	**11 36 30.6**	**+0.4**
RND				IAML		11 36 57.4	
	comp=N,1μm,0.5s						
RND				IAML		11 37 07.0	
	comp=E,2μm,0.6s						
KLU	**Klutina**	**1.94**	**90**		**Pn**	**11 36 30.4**	**0.0**
KLU				IAML		11 36 59.4	
	comp=N,2μm,0.4s						
KLU				IAML		11 37 05.1	
	comp=E,2μm,0.6s						
KLU	**Klutina**	**1.94**	**90**	P	**Pn**	**11 36 30.2**	**-0.1**
	baz=274						
DHY	**Denali Highway**	**1.95**	**37**		**Pn**	**11 36 31.0**	**+0.5**
DHY				IAML		11 37 00.2	
	comp=E,1μm,0.9s						
DHY				IAML		11 37 00.3	
	comp=N,1μm,0.5s						
DHY	**Denali Highway**	**1.95**	**37**	P	**Pn**	**11 36 30.9**	**+0.5**
	baz=219						
O20K	**Slope Mountain**	**1.97**	**222**		**Pn**	**11 36 31.3**	**+0.5**
O20K	**Slope Mountain**	**1.97**	**222**	P	**Pn**	**11 36 31.3**	**+0.5**
	baz=40						
P23K	**Montague Islan**	**2.01**	**140**		**Pn**	**11 36 30.2**	**-1.1**
P23K	**Montague Islan**	**2.01**	**140**	P	**Pn**	**11 36 30.2**	**-1.1**
	baz=322						
KTH	**Kantishna Hill**	**2.05**	**348**		**Pn**	**11 36 32.5**	**+0.7**
KTH				IAML		11 36 59.6	
	comp=N,3μm,0.6s						
HIN	**Hinchinbrook I**	**2.06**	**123**		**Pn**	**11 36 31.4**	**-0.4**
HIN				IAML		11 37 07.5	
	comp=E,2μm,0.9s						
HIN				IAML		11 37 08.6	
	comp=N,2μm,0.5s						
L20K	**Farewell, AK**	**2.06**	**298**		**Pn**	**11 36 32.3**	**+0.4**
L20K	**Farewell, AK**	**2.06**	**298**	P	**Pn**	**11 36 32.3**	**+0.4**
	baz=115						
DIV	**Divide**	**2.07**	**100**		**Pn**	**11 36 31.8**	**-0.3**
HOM	**Homer**	**2.08**	**204**		**Pn**	**11 36 32.7**	**+0.6**
HOM	**Homer**	**2.08**	**204**	P	**Pn**	**11 36 32.6**	**+0.5**
	baz=23						
CAST	**Castle Rocks**	**2.11**	**333**		**Pn**	**11 36 32.6**	**0.0**
CAST				IAML		11 37 17.6	
	comp=N,1μm,0.6s						
CAST	**Castle Rocks**	**2.11**	**333**	P	**Pn**	**11 36 32.6**	**0.0**
	baz=151						
M19K	**Big River Lodg**	**2.13**	**281**		**Pn**	**11 36 33.2**	**+0.4**
M19K				IAML		11 37 19.3	
	comp=E,1μm,0.8s						
M19K	**Big River Lodg**	**2.13**	**281**	P	**Pn**	**11 36 33.3**	**+0.5**
	baz=98						
CNPM	**China Poot**	**2.13**	**198**	Pn	**Pn**	**11 36 32.8**	**-0.1**
CNPM				IAML		11 37 06.3	
	comp=E,1μm,0.5s						
CNPM				IAML		11 37 06.6	
	comp=N,2μm,0.5s						
IVE	**Iliamna Volcan**	**2.15**	**225**		**Pn**	**11 36 33.5**	**+0.3**
ILSW	**Iliamna Southw**	**2.22**	**226**		**Pn**	**11 36 34.6**	**+0.4**
MCK	**McKinley**	**2.23**	**12**		**Pn**	**11 36 35.4**	**+1.1**
MCK	**McKinley**	**2.23**	**12**	P	**Pn**	**11 36 35.2**	**+0.9**
	baz=192						
EYAK	**Cordova Ski Ar**	**2.29**	**114**	P	**Pn**	**11 36 35.4**	**+0.4**
EYAK	**Cordova Ski Ar**	**2.29**	**114**		**Pn**	**11 36 34.5**	**-0.5**
EYAK	**Cordova Ski Ar**	**2.29**	**114**	P	**Pn**	**11 36 34.5**	**-0.5**
	baz=298						
N19K	**Bonanza Creek**	**2.31**	**253**		**Pn**	**11 36 36.0**	**+0.6**
N19K	**Bonanza Creek**	**2.31**	**253**	P	**Pn**	**11 36 35.9**	**+0.6**
	baz=69						
L19K	**White Mountain**	**2.39**	**287**		**Pn**	**11 36 37.2**	**+0.8**
L19K				IAML		11 37 06.6	
	comp=N,1μm,0.6s						
L19K				IAML		11 37 07.7	
	comp=E,1μm,0.5s						
L19K	**White Mountain**	**2.39**	**287**	P	**Pn**	**11 36 37.3**	**+0.8**
	baz=103						
HARP	**HAARP**	**2.43**	**68**		**Pn**	**11 36 38.0**	**+1.1**
HARP	**HAARP**	**2.43**	**68**	P	**Pn**	**11 36 37.9**	**+0.9**
	baz=251						
P19K	**Oil Pt**	**2.50**	**221**		**Pn**	**11 36 38.7**	**+0.8**
P19K				IAML		11 37 29.8	
	comp=N,2μm,0.6s						
P19K	**Oil Pt**	**2.50**	**221**	P	**Pn**	**11 36 38.7**	**+0.8**
	baz=39						
O19K	**Port Alsworth**	**2.53**	**239**		**Pn**	**11 36 38.4**	**+0.2**
O19K	**Port Alsworth**	**2.53**	**239**	P	**Pn**	**11 36 38.2**	**0.0**
	baz=56						
PAX	**Paxson**	**2.54**	**54**		**Pn**	**11 36 39.7**	**+1.2**
PAX	**Paxson**	**2.54**	**54**	P	**Pn**	**11 36 39.3**	**+0.8**
	baz=238						
CHUM	**Lake Minchumin**	**2.57**	**336**		**Pn**	**11 36 39.0**	**+0.2**
CHUM	**Lake Minchumin**	**2.57**	**336**	P	**Pn**	**11 36 39.0**	**+0.2**
	baz=154						
N25K	**Chitina, Valde**	**2.57**	**87**	Pn	**Pn**	**11 36 38.9**	**-0.1**
N25K				IAML		11 37 19.2	
	comp=N,1μm,0.4s						
N25K				IAML		11 37 19.8	
	comp=E,1μm,0.5s						
N25K	**Chitina, Valde**	**2.57**	**87**	P	**Pn**	**11 36 39.0**	**0.0**
	baz=271						
BPAW	**Bear Paw Mtn.**	**2.59**	**350**		**Pn**	**11 36 39.2**	**0.0**
BPAW				IAML		11 37 26.1	
	comp=E,772nm,0.5s						
BPAW				IAML		11 37 26.4	
	comp=N,931nm,0.6s						
BPAW	**Bear Paw Mtn.**	**2.59**	**350**	P	**Pn**	**11 36 39.1**	**-0.1**
	baz=169						
K20K	**Telida**	**2.62**	**315**		**Pn**	**11 36 39.8**	**+0.2**
K20K				IAML		11 37 35.6	
	comp=E,759nm,0.8s						
K20K	**Telida**	**2.62**	**315**	P	**Pn**	**11 36 39.7**	**+0.1**
	baz=132						
BWN	**Browne**	**2.63**	**5**		**Pn**	**11 36 40.2**	**+0.5**
BMRM	**Bremner River**	**2.66**	**101**		**Pn**	**11 36 39.2**	**-1.0**
BMRM	**Bremner River**	**2.66**	**101**	P	**Pn**	**11 36 39.3**	**-0.9**
	baz=285						
WACK	**Wrangell Chich**	**2.72**	**78**		**Pn**	**11 36 41.3**	**+0.2**
GOAT	**Goat Mountain**	**2.73**	**109**		**Pn**	**11 36 40.5**	**-0.7**
SVW2	**Sparrevohn**	**2.74**	**263**	P	**Pn**	**11 36 41.7**	**+0.5**
SVW2	**Sparrevohn**	**2.74**	**263**		**Pn**	**11 36 41.4**	**+0.2**
WASW	**Wrangell South**	**2.79**	**80**		**Pn**	**11 36 42.0**	**+0.2**
Q23K	**Middleton Isla**	**2.79**	**138**	Pn	**Pn**	**11 36 43.5**	**+1.6**
Q23K				IAML		11 37 43.0	
	comp=N,726nm,0.9s						
Q23K	**Middleton Isla**	**2.79**	**138**	P	**Pn**	**11 36 42.8**	**+0.9**
	baz=322						
MID	**Middleton Isla**	**2.79**	**138**	P	**Pn**	**11 36 42.6**	**+0.7**
MID	**Middleton Isla**	**2.79**	**138**		**Pn**	**11 36 43.1**	**+1.2**
MID				IAML		11 37 40.0	
	comp=N,680nm,0.6s						
MID				IAML		11 37 42.7	
	comp=E,574nm,0.9s						
M18K	**Stony River**	**2.80**	**271**		**Pn**	**11 36 42.4**	**+0.4**
M18K	**Stony River**	**2.80**	**271**	P	**Pn**	**11 36 42.2**	**+0.2**
	baz=86						
RAGM	**Ragged Mountai**	**2.84**	**112**	Pn	**Pn**	**11 36 41.8**	**-0.8**
GLB	**Gilahina Butte**	**2.96**	**90**		**Pn**	**11 36 44.0**	**-0.2**
GLB				IAML		11 37 30.8	
	comp=E,677nm,0.6s						
K24K	**Donnelly Dome**	**2.97**	**39**		**Pn**	**11 36 45.4**	**+1.0**
K24K	**Donnelly Dome**	**2.97**	**39**	P	**Pn**	**11 36 45.4**	**+1.0**
	baz=222						
N18K	**Kilae Creek**	**3.00**	**256**	Pn	**Pn**	**11 36 45.1**	**+0.3**
N18K	**Kilae Creek**	**3.00**	**256**	P	**Pn**	**11 36 44.9**	**+0.1**
	baz=71						
HMT	**Hamilton**	**3.05**	**111**		**Pn**	**11 36 44.6**	**-0.8**
WRH	**Wood River Hil**	**3.05**	**16**		**Pn**	**11 36 45.8**	**+0.4**
WRH				IAML		11 37 37.4	
	comp=N,700nm,0.6s						
WRH				IAML		11 37 37.7	
	comp=E,788nm,1.0s						
NEA2	**Nenana**	**3.07**	**7**		**Pn**	**11 36 45.5**	**-0.3**
NEA2	**Nenana**	**3.07**	**7**	P	**Pn**	**11 36 45.4**	**-0.3**
	baz=188						
O18K	**Koktuh Hills**	**3.09**	**239**		**Pn**	**11 36 45.9**	**-0.1**
O18K				IAML		11 37 54.3	
	comp=N,441nm,1.0s						
O18K	**Koktuh Hills**	**3.09**	**239**	P	**Pn**	**11 36 45.7**	**-0.2**
	baz=54						
TTA	**Tatalina**	**3.14**	**299**	Pn	**Pn**	**11 36 46.9**	**+0.1**
TTA				IAML		11 37 38.5	
	comp=N,510nm,1.2s						
TTA				IAML		11 37 39.8	
	comp=E,424nm,0.5s						
TTA	**Tatalina**	**3.14**	**299**	P	**Pn**	**11 36 46.8**	**+0.1**
	baz=113						
VRDI	**Verde Repeater**	**3.16**	**93**		**Pn**	**11 36 46.5**	**-0.6**
VRDI				IAML		11 37 34.1	
	comp=N,518nm,0.7s						
HDA	**Harding Lake**	**3.18**	**24**		**Pn**	**11 36 47.9**	**+0.7**
HDA				IAML		11 37 43.3	
	comp=E,871nm,0.7s						
HDA	**Harding Lake**	**3.18**	**24**	P	**Pn**	**

MCARA **McCarthy VSAT** 3.34 90 P Pn 11 36 49.2 -0.2
baz=276
SUCK Suckling Hills 3.38 113 Pn 11 36 48.5 -1.5
SUCK IAML 11 37 52.5
comp=E,528nm,0.7s
SUCK IAML 11 37 56.4
comp=N,661nm,0.5s
P18K Big Mountain, 3.39 232 Pn Pn 11 36 50.0 -0.1
P18K Big Mountain, 3.39 232 P Pn 11 36 49.8 -0.3
baz=48
M26K Nabesna, AK 3.40 73 Pn 11 36 51.7 +1.4
M26K Nabesna, AK 3.40 73 P Pn 11 36 50.0 -0.3
baz=258
CRQM Cirque 3.41 101 Pn 11 36 50.4 -0.2
L26K Log Cabin Wild 3.43 62 Pn Pn 11 36 52.2 +1.6
L26K IAML 11 37 48.4
comp=N,557nm,0.7s
L26K IAML 11 37 50.0
comp=E,517nm,0.8s
CRQE Cirque 3.43 101 P Pn 11 36 50.2 -0.6
baz=287
KHIT Khitrov Hills 3.46 106 Pn 11 36 50.2 -1.0
COLA College 3.46 15 P Pn 11 36 51.5 +0.4
COLA College 3.46 15 Pn Pn 11 36 51.4 +0.4
GRIN Grindle Hills 3.49 109 Pn 11 36 50.5 -1.0
MLY Manley 3.50 355 Pn 11 36 51.5 -0.1
MLY Manley 3.50 355 P Pn 11 36 51.6 -0.1
baz=174
MDM Murphy Dome 3.50 12 Pn 11 36 51.8 +0.2
MDM IAML 11 37 54.8
comp=E,376nm,0.8s
IL31 3.52 22 Pn 11 36 52.0 +0.2
ILAR Eielson Array 3.52 22 P Pn 11 36 51.9 +0.1
comp=E,7.2nm,0.3s,baz=206,slow=14,SNR=337
ILAR S Sn 11 37 30.8 -1.3
comp=E,34nm,0.5s,baz=276,slow=26,SNR=1.7
ILAR LR LR 11 38 29.7
comp=E,287nm,18.4s,baz=168,slow=43
comp=E,26nm,0.4s
TGL Tana Glacier 3.56 100 Pn 11 36 51.6 -0.8
J19K Poorman 3.56 316 Pn 11 36 52.1 -0.4
J19K IAML 11 38 07.5
comp=E,622nm,0.9s
J19K IAML 11 38 10.7
comp=N,422nm,0.8s
J19K Poorman 3.56 316 P Pn 11 36 52.4 -0.1
baz=131
M17K Holitna River 3.58 271 Pn 11 36 53.1 +0.3
M17K IAML 11 38 03.2
comp=N,652nm,0.7s
M17K IAML 11 38 04.7
comp=E,716nm,0.9s
M17K Holitna River 3.58 271 P Pn 11 36 53.0 +0.3
baz=84
I23K Minto, Yukon-K 3.61 4 Pn 11 36 53.6 +0.4
I23K IAML 11 37 56.0
comp=E,390nm,0.7s
I23K IAML 11 38 03.2
comp=N,509nm,0.8s
I23K Minto, Yukon-K 3.61 4 P Pn 11 36 53.5 +0.4
baz=184
PTPK Patty Peak 3.63 93 Pn 11 36 53.5 -0.1
WAX Waxell Ridge 3.64 105 Pn 11 36 53.1 -0.5
N17K Nushagak Hills 3.66 257 Pn 11 36 53.9 +0.2
N17K Nushagak Hills 3.66 257 P Pn 11 36 53.9 +0.2
baz=71
J18K Innoko River 3.66 304 Pn 11 36 54.2 +0.3
J18K IAML 11 37 55.0
comp=N,318nm,1.1s
J18K Innoko River 3.66 304 P Pn 11 36 54.2 +0.3
baz=118
SCRK Sand Creek 3.67 46 Pn 11 36 54.3 +0.2
SCRK Sand Creek 3.67 46 P Pn 11 36 54.0 -0.1
baz=231
J25K Salcha River, 3.71 32 Pn 11 36 55.6 +1.1
J25K IAML 11 37 46.2
comp=E,382nm,0.8s
J25K IAML 11 37 48.3
comp=N,449nm,0.5s
KIAG Kiagna River 3.74 96 Pn 11 36 54.3 -0.7
POKR Poker Plat Res 3.75 17 Pn 11 36 55.0 0.0
POKR IAML 11 38 05.8
comp=E,377nm,1.1s
POKR Poker Plat Res 3.75 17 P Pn 11 36 55.2 +0.2
baz=199
SNH Sunshine Point 3.75 108 Pn 11 36 54.6 -0.5
SNH IAML 11 38 02.8
comp=E,325nm,0.9s
SNH IAML 11 38 02.8
comp=N,386nm,1.1s
BARK Barkley Ridge 3.83 104 Pn 11 36 55.5 -0.6
ISLE Juniper Island 3.83 101 Pn 11 36 55.9 -0.4
ISLE IAML 11 38 02.3
comp=E,518nm,0.8s
I20K Naaghedeneel 3.84 330 Pn 11 36 56.3 +0.1
I20K Naaghedeneel 3.84 330 P Pn 11 36 56.2 +0.1
baz=146
KAHC Katmai Hardscr 3.85 223 Pn 11 36 56.5 -0.1
KAHC Katmai Hardscr 3.85 223 P Pn 11 36 56.5 -0.1
baz=39
M27K Edge Creek, AK 3.91 75 Pn 11 36 58.7 +1.4
O17K Koliganek Bris 3.93 246 Pn 11 36 57.8 +0.3
O17K Koliganek Bris 3.93 246 P Pn 11 36 57.6 +0.1
baz=60
BAGL Bagley Icefiel 3.98 102 Pn 11 36 57.8 -0.4
L17K Donlin 3.99 282 Pn 11 36 58.5 +0.2
L17K Donlin 3.99 282 P Pn 11 36 58.5 +0.2
baz=95
P17K Kvichak River 3.99 236 Pn 11 36 58.6 +0.3
P17K Kvichak River 3.99 236 P Pn 11 36 58.4 +0.1
baz=51
KDAK Kodiak Island 4.01 200 Pn 11 36 57.4 -1.2
KDAK Kodiak Island 4.01 200 P Pn 11 36 57.2 -1.4
comp=E,3.4nm,0.3s,baz=52,slow=6.4,SNR=59
KDAK S Sn 11 37 39.9 -4.3
comp=E,41nm,0.4s,baz=54,slow=7.4,SNR=3.6
KDAK LR LR 11 38 30.0
comp=E,70nm,21.7s,baz=43,slow=38
comp=E,12nm,0.3s
BARN Barnard Glacie 4.04 93 Pn 11 36 59.6 +0.4
BARN IAML 11 38 06.0
comp=N,264nm,0.5s
BARN IAML 11 38 06.5
comp=E,454nm,0.8s
GRNC Granite Creek 4.07 98 Pn 11 36 59.2 -0.5
GRNC Granite Creek 4.07 98 IAML 11 38 04.0
comp=E,258nm,1.0s
GRNC IAML 11 38 10.0
comp=N,266nm,0.6s
K17K Iditarod 4.08 290 Pn 11 36 59.7 +0.2
K17K IAML 11 37 48.2
comp=E,270nm,1.3s
K17K IAML 11 38 14.6
comp=N,304nm,0.9s
K17K Iditarod 4.08 290 P Pn 11 36 59.8 +0.3
baz=103
L27K Beaver Creek, 4.09 65 Pn 11 37 00.3 +0.6
L27K Beaver Creek, 4.09 65 P Pn 11 36 59.9 +0.1
baz=252
BCAR Beaver Creek A 4.11 65 Pn 11 37 00.7 +0.7
J26L Joseph Creek 4.15 42 Pn 11 37 01.6 +1.0
J26L IAML 11 37 58.2
comp=E,295nm,0.6s
J26L IAML 11 37 58.6
comp=N,415nm,0.6s
KAKN Katmai Knife C 4.15 220 Pn 11 37 00.8 +0.2
MESA MESA 4.16 106 Pn Pn 11 37 00.6 -0.3
MESA MESA 4.16 106 P Pn 11 37 00.2 -0.6
baz=293
CTG Chitna Glacier 4.21 94 P Pn 11 37 01.4 -0.1
baz=282
CTGM Chitina Glacie 4.22 94 Pn 11 37 01.8 +0.3
CTGM IAML 11 38 07.0
comp=N,238nm,0.8s
KELA Mount Kelaz 4.26 225 Pn 11 37 02.4 +0.3
H23K Yukon River 4.29 2 Pn 11 37 03.1 +0.7
H23K IAML 11 38 21.0
comp=E,218nm,1.2s
H23K Yukon River 4.29 2 P Pn 11 37 03.1 +0.7
baz=182
H21K Melozitna Rive 4.30 344 Pn 11 37 02.8 +0.2
H21K IAML 11 38 08.3
comp=E,178nm,0.8s
H21K Melozitna Rive 4.30 344 P Pn 11 37 02.8 +0.2
baz=162
ACHA Angle Creek He 4.30 221 Pn 11 37 02.8 +0.1

YUK2 White River 4.36 83 Pn 11 37 03.5 +0.1
M16K Timber Creek 4.37 267 Pn 11 37 04.1 +0.6
M16K IAML 11 38 18.9
comp=N,174nm,0.8s
M16K Timber Creek 4.37 267 P Pn 11 37 03.7 +0.3
baz=79
ANCK Angle Creek 4.37 222 Pn 11 37 03.9 +0.3
BVCY Beaver Creek 4.38 75 Pn 11 37 04.7 +1.0
BVCY Beaver Creek 4.38 75 P Pn 11 37 04.7 +1.0
baz=263
K27K Chicken 4.39 52 Pn Pn 11 37 05.7 +1.9
H24K Noodor Dome 4.40 11 Pn 11 37 05.3 +1.4
H24K Noodor Dome 4.40 11 P Pn 11 37 04.6 +0.8
baz=193
H22K Ishtalitna Cre 4.40 352 Pn 11 37 04.0 +0.2
H22K Ishtalitna Cre 4.40 352 P Pn 11 37 04.0 +0.2
baz=171
LOGN Logan Glacier 4.41 96 Pn 11 37 03.8 -0.3
LOGN IAML 11 38 19.6
comp=N,272nm,0.7s
N16K Nishlik Lake 4.42 260 Pn 11 37 04.1 0.0
N16K Nishlik Lake 4.42 260 P Pn 11 37 04.1 0.0
baz=72
CNTC Contact Creek 4.44 225 Pn 11 37 04.9 +0.3
PRP Porcupine Dome 4.45 25 Pn 11 37 05.3 +0.7
PRP IAML 11 38 23.5
comp=N,266nm,0.6s
PRP IAML 11 38 23.8
comp=E,194nm,0.7s
PRP Porcupine Dome 4.45 25 P Pn 11 37 04.6 0.0
baz=208
TABL Table Mountain 4.45 101 Pn 11 37 04.5 -0.2
TABL IAML 11 38 23.4
comp=E,207nm,0.7s
TABL IAML 11 38 26.9
comp=N,202nm,0.9s
Q17K Contact Creek 4.45 225 P Pn 11 37 04.9 +0.3
baz=40
O16K Kokwok River B 4.46 247 Pn 11 37 05.1 +0.4
O16K IAML 11 38 41.9
comp=N,165nm,1.4s
O16K Kokwok River B 4.46 247 P Pn 11 37 05.0 +0.2
baz=60
GCSA Galena City Sc 4.47 319 Pn 11 37 05.2 +0.3
GCSA Galena City Sc 4.47 319 P Pn 11 37 05.3 +0.4
baz=132
H20K Anotleneega Mo 4.52 333 Pn 11 37 05.6 +0.1
H20K Anotleneega Mo 4.52 333 P Pn 11 37 05.6 +0.1
baz=149
L16K Owhat River 4.54 276 Pn 11 37 06.0 +0.3
L16K IAML 11 38 29.2
comp=N,242nm,1.1s
L16K IAML 11 38 50.6
comp=E,147nm,0.9s
L16K Owhat River 4.54 276 P Pn 11 37 05.9 +0.2
baz=88
YUK3 Moose Creek 4.54 83 Pn 11 37 05.6 -0.5
YUK3 Moose Creek 4.54 83 P Pn 11 37 05.6 -0.5
baz=271
OHAK Old Harbor 4.67 203 P Pn 11 37 06.6 -0.9
OHAK Old Harbor 4.67 203 Pn 11 37 07.3 -0.2
OHAK Old Harbor 4.67 203 P Pn 11 37 07.1 -0.4
baz=20
P16K Nushagak River 4.72 241 Pn 11 37 09.0 +0.7
P16K Nushagak River 4.72 241 P Pn 11 37 09.0 +0.7
baz=54
IMAR Indian Mountai 4.75 341 Pn 11 37 08.4 -0.2
O28M Mount Upton 4.80 95 Pn 11 37 09.5 -0.2
O28M Mount Upton 4.80 95 P Pn 11 37 09.0 -0.7
baz=284
I26K Coal Creek Min 4.85 36 Pn 11 37 11.7 +1.6
I26K IAML 11 38 15.2
comp=N,268nm,0.7s
I26K IAML 11 38 40.5
comp=E,258nm,1.0s
H19K Roundabout Mou 4.92 327 Pn 11 37 11.4 +0.4
H19K IAML 11 38 45.2
comp=E,204nm,1.1s
H19K IAML 11 38 50.0
comp=N,176nm,1.2s
H19K Roundabout Mou 4.92 327 P Pn 11 37 11.0 0.0
baz=141
H25L Birch Creek 5.07 19 Pn 11 37 15.0 +2.0
EGAK Eagle 5.14 47 Pn 11 37 14.6 +0.7
EGAK IAML 11 38 40.7
comp=N,191nm,0.6s
EGAK IAML 11 38 52.1
comp=N,212nm,0.8s
EGAK Eagle 5.14 47 P Pn 11 37 14.2 +0.2
baz=235
N15K Kwethluk River 5.14 259 Pn 11 37 14.8 +0.8
N15K IAML 11 38 43.1
comp=N,183nm,1.1s
N15K IAML 11 38 43.5
comp=E,197nm,0.8s
N15K Kwethluk River 5.14 259 P Pn 11 37 14.3 +0.3
baz=70
G23K Bananza Creek 5.17 360 Pn 11 37 16.0 +1.5
G23K Bananza Creek 5.17 360 P Pn 11 37 14.8 +0.3
baz=180
G21K Allakaket 5.21 344 Pn 11 37 16.2 +1.2
G21K IAML 11 38 16.1
comp=E,134nm,0.5s
G21K IAML 11 38 16.1
comp=N,126nm,0.7s
G21K Allakaket 5.21 344 P Pn 11 37 15.2 +0.2
baz=161
H18K Honhosa River 5.22 317 Pn 11 37 15.5 +0.4
H18K IAML 11 38 15.8
comp=E,105nm,0.6s
H18K IAML 11 39 00.9
comp=N,130nm,1.1s
H18K Honhosa River 5.22 317 P Pn 11 37 15.3 +0.2
baz=130
J16K Anvik River 5.23 294 Pn 11 37 15.7 +0.4
J16K IAML 11 38 49.0
comp=N,92nm,0.8s
J16K Anvik River 5.23 294 P Pn 11 37 15.5 +0.2
baz=105
M15K Kasigluk River 5.26 265 Pn 11 37 15.9 +0.2
M15K Kasigluk River 5.26 265 P Pn 11 37 15.9 +0.2
baz=76
G24K Hadweenzic Riv 5.28 11 Pn 11 37 17.5 +1.6
G24K IAML 11 38 55.1
comp=E,117nm,1.1s
G24K IAML 11 38 58.8
comp=N,136nm,1.1s
G24K Hadweenzic Riv 5.28 11 P Pn 11 37 16.3 +0.4
baz=193
BCPM Bancas Point 5.32 103 Pn 11 37 17.4 +0.9
BCPM IAML 11 38 46.1
comp=E,118nm,1.2s
BCPM IAML 11 38 53.5
comp=N,148nm,0.9s
O15K Ungalikthiuk R 5.44 248 Pn 11 37 18.6 +0.5
O15K Ungalikthiuk R 5.44 248 P Pn 11 37 18.6 +0.5
baz=60
FYU Fort Yukon 5.44 20 Pn 11 37 20.3 +2.2
YUK4 Talbot Arm 5.44 87 P Pn 11 37 18.6 +0.3
baz=276
I17K Unalakleet 5.45 300 Pn 11 37 18.9 +0.6
I17K Unalakleet 5.45 300 P Pn 11 37 18.8 +0.6
baz=110
SII Sitkinak Islan 5.46 205 Pn Pn 11 37 18.9 +0.4
DAWY Dawson 5.47 58 Pn 11 37 20.3 +1.8
L15K Ungalak Mounta 5.49 276 Pn 11 37 19.1 +0.2
L15K Ungalak Mounta 5.49 276 P Pn 11 37 19.1 +0.2
baz=86
G25K Bearman Lake 5.50 16 Pn 11 37 19.5 +0.7
G25K Bearman Lake 5.50 16 P Pn 11 37 19.5 +0.7
baz=200
M29M Somme Creek 5.50 76 Pn 11 37 19.8 +0.8
M29M Somme Creek 5.50 76 P Pn 11 37 19.5 +0.4
baz=266
K15K Wolf Creek Mou 5.51 283 Pn 11 37 19.8 +0.7
K15K Wolf Creek Mou 5.51 283 P Pn 11 37 19.5 +0.4
baz=93
I27K Kandik River 5.51 39 Pn 11 37 20.4 +1.2
PNL Peninsula 5.54 105 P Pn 11 37 19.6 0.0
comp=N,44nm,0.5s
PNL Peninsula 5.54 105 Pn 11 37 19.0 -0.6
PNL Peninsula 5.54 105 P Pn 11 37 19.3 -0.3
baz=295
G19K Purcell Mounta 5.57 329 Pn 11 37 19.5 -0.4
G19K Purcell Mounta 5.57 329 P Pn 11 37 19.7 -0.2
baz=142

H17K Granite Mounta 5.62 311 Pn 11 37 21.4 +0.8
H17K Granite Mounta 5.62 311 P Pn 11 37 21.2 +0.6
baz=122
COLD Coldfoot 5.69 359 Pn 11 37 22.6 +1.0
COLD Coldfoot 5.69 359 P Pn 11 37 21.8 +0.3
baz=179
O29M Mount Kennedy 5.70 98 Pn 11 37 21.4 -0.4
O29M Mount Kennedy 5.70 98 P Pn 11 37 21.5 -0.4
baz=288
L29M L29M 5.74 69 Pn 11 37 22.8 +0.6
G18K Tagagawik 5.81 322 Pn 11 37 23.6 +0.4
G18K Tagagawik 5.81 322 P Pn 11 37 23.5 +0.4
baz=134
YUK7 Dusty Glacier 5.84 95 Pn 11 37 23.6 -0.2
M14K Bethel 5.86 267 Pn 11 37 24.8 +1.0
M14K Bethel 5.86 267 P Pn 11 37 24.3 +0.4
baz=77
F21K Alatna River 5.89 347 Pn 11 37 25.7 +1.5
F21K Alatna River 5.89 347 P Pn 11 37 24.6 +0.4
baz=163
I28M Miner Creek 5.95 45 Pn 11 37 25.0 -0.2
I28M Miner Creek 5.95 45 P Pn 11 37 25.5 +0.3
baz=233
N14K Kuskokwak Cree 5.97 259 Pn 11 37 26.0 +0.6
N14K Kuskokwak Cree 5.97 259 P Pn 11 37 26.0 +0.6
baz=69
H27K Steamboat Moun 5.99 35 Pn 11 37 26.0 +0.4
H27K Steamboat Moun 5.99 35 P Pn 11 37 26.0 +0.4
baz=222
G26K Porcupine Rive 6.04 24 Pn 11 37 26.8 +0.4
G26K Porcupine Rive 6.04 24 P Pn 11 37 26.8 +0.4
baz=209
F22K John River 6.05 352 Pn 11 37 27.1 +0.6
F22K John River 6.05 352 P Pn 11 37 27.0 +0.6
baz=170
F20K Avaraart Lake 6.05 338 Pn 11 37 26.8 +0.3
F20K Avaraart Lake 6.05 338 P Pn 11 37 26.8 +0.3
baz=153
O14K Tigyukauivet M 6.05 253 Pn 11 37 26.8 +0.3
O14K Tigyukauivet M 6.05 253 P Pn 11 37 27.0 +0.5
baz=63
F24K Squaw Lake 6.05 8 Pn 11 37 27.4 +0.9
F24K Squaw Lake 6.05 8 P Pn 11 37 27.0 +0.4
baz=189
HYT Haines Junctio 6.08 91 Pn 11 37 27.2 +0.2
HYT Haines Junctio 6.08 91 P Pn 11 37 27.0 0.0
baz=282
J29N Klondike Camp 6.09 56 Pn Pn 11 37 27.7 +0.6
L14K Kuka Creek 6.10 274 Pn 11 37 28.2 +1.1
L14K Kuka Creek 6.10 274 P Pn 11 37 27.9 +0.7
baz=82
N30M Aishikik Lake 6.17 85 Pn 11 37 27.4 -0.8
N30M Aishikik Lake 6.17 85 P Pn 11 37 27.2 -1.0
baz=276
K29M Barlow Dome 6.17 63 Pn Pn 11 37 29.5 +1.3
G17K Kiwalik Mounta 6.20 314 Pn 11 37 28.6 +0.2
G17K Kiwalik Mounta 6.20 314 P Pn 11 37 28.6 +0.2
baz=125
M30M Minto, Yukon 6.28 75 Pn 11 37 28.8 -0.9
F19K Shaleruckik Mo 6.29 331 Pn 11 37 29.5 -0.3
F19K Shaleruckik Mo 6.29 331 P Pn 11 37 29.4 -0.3
baz=144
P29M Windy Craggy 6.33 102 Pn 11 37 30.4 -0.1
P29M Windy Craggy 6.33 102 P Pn 11 37 30.3 -0.1
baz=293
BMAR Burnt Mountain 6.34 19 Pn 11 37 31.4 +1.0
F25K Christian Rive 6.34 15 Pn 11 37 31.6 +1.1
F25K Christian Rive 6.34 15 P Pn 11 37 31.0 +0.5
baz=199
H16K Elim 6.36 304 Pn 11 37 31.4 +0.6
H16K Elim 6.36 304 P Pn 11 37 31.1 +0.3
baz=113
G27K Doyon Strip 6.40 31 Pn 11 37 31.8 +0.5
G27K Doyon Strip 6.40 31 P Pn 11 37 32.0 +0.8
baz=218
J14K Nanvaranak Lak 6.47 287 Pn 11 37 33.0 +0.7
J14K Nanvaranak Lak 6.47 287 P Pn 11 37 32.9 +0.6
baz=95
P30M Million Dollar 6.52 97 Pn 11 37 32.2 -0.9
E23K Chandalar 6.53 1 Pn 11 37 34.0 +0.9
E23K Chandalar 6.53 1 P Pn 11 37 33.7 +0.6
baz=181
F18K Selawik 6.60 324 Pn 11 37 34.4 +0.5
F18K Selawik 6.60 324 P Pn 11 37 34.4 +0.5
baz=136
M13K Dall Lake 6.61 266 Pn 11 37 35.2 +1.1
M13K Dall Lake 6.61 266 P Pn 11 37 35.0 +0.9
baz=74
F26K Sheenjek River 6.65 20 Pn 11 37 35.6 +0.9
F26K Sheenjek River 6.65 20 P Pn 11 37 35.6 +0.9
baz=205
E22K Anaktuvuk Pass 6.65 354 Pn 11 37 36.5 +1.8
E19K Redstone River 6.69 335 Pn 11 37 35.5 +0.2
E19K Redstone River 6.69 335 P Pn 11 37 35.5 +0.2
baz=149
G16K Koyuk River 6.74 310 Pn 11 37 36.1 +0.2
G16K Koyuk River 6.74 310 P Pn 11 37 36.1 +0.2
baz=119
O30N Mendenhall 6.76 91 Pn 11 37 35.9 -0.4
E25K Arctic Village 6.85 14 Pn 11 37 38.4 +1.0
E25K Arctic Village 6.85 14 P Pn 11 37 38.3 +0.9
baz=198
J30M Hart River 6.89 58 Pn 11 37 39.9 +1.8
F17K Baldwin Pennin 6.96 320 Pn 11 37 39.3 +0.4
F17K Baldwin Pennin 6.96 320 P Pn 11 37 39.1 +0.2
baz=129
TOLK Toolik Lake Re 7.12 1 Pn 11 37 42.4 +1.3
TOLK Toolik Lake Re 7.12 1 P Pn 11 37 41.4 +0.3
baz=181
G15K Niukluk 7.21 305 Pn 11 37 42.6 +0.3
G15K Niukluk 7.21 305 P Pn 11 37 42.2 -0.1
baz=112
E20K Nigu River 7.22 341 Pn 11 37 43.5 +0.9
E20K Nigu River 7.22 341 P Pn 11 37 42.6 0.0
baz=156
VNFG Fog Glacier, M 7.24 227 Pn 11 37 44.0 +1.1
WHY Whitehorse 7.37 90 Pn Pn 11 37 44.1 -0.5
M31M Drury Creek, Y 7.39 78 Pn 11 37 45.1 +0.2
D22K Ayikyak River 7.44 352 Pn 11 37 47.7 +2.2
E18K Tukpahlearik C 7.45 327 Pn 11 37 46.3 +0.7
E18K Tukpahlearik C 7.45 327 P Pn 11 37 45.4 -0.3
baz=137
F28M Old Crow 7.46 31 Pn 11 37 47.1 +1.2
G29M Pine Creek 7.47 39 Pn 11 37 46.8 +0.8
SKAG Skagway 7.53 100 P Pn 11 37 47.1 +0.4
SKAG Skagway 7.53 100 Pn 11 37 46.0 -0.7
E27K Coleen River 7.54 25 Pn 11 37 47.8 +0.9
E27K Coleen River 7.54 25 P Pn 11 37 46.8 -0.1
baz=212
E17K Hotham Inlet 7.55 322 Pn 11 37 47.4 +0.3
E17K Hotham Inlet 7.55 322 P Pn 11 37 47.4 +0.3
baz=132
EPYK Eagle Plains 7.56 45 Pn Pn 11 37 48.5 +1.3
ANM Nome 7.61 300 Pn 11 37 48.9 +1.1
ANM Nome 7.61 300 P Pn 11 37 48.1 +0.3
baz=106
D24K Happy Valley 7.64 3 Pn Pn 11 37 49.9 +1.7
D20K Etivluk River 7.70 342 Pn 11 37 49.2 +0.1
D20K Etivluk River 7.70 342 P Pn 11 37 49.2 +0.1
baz=156
F15K North Star Dit 7.74 309 Pn 11 37 50.9 +1.4
F15K North Star Dit 7.74 309 P Pn 11 37 49.5 0.0
baz=116
D19K Kuna River 7.76 337 Pn 11 37 51.2 +1.3
D19K Kuna River 7.76 337 P Pn 11 37 50.3 +0.4
baz=150
S31K Pelican 7.82 111 Pn Pn 11 37 49.6 -1.0
FARO Faro, Yukon 7.88 78 Pn 11 37 51.7 +0.1
C21K Knifeblade Rid 7.89 347 Pn 11 37 52.6 +1.0
C21K Knifeblade Rid 7.89 347 P Pn 11 37 52.1 +0.5
baz=163
D25K Kavik River 7.94 9 Pn 11 37 54.5 +2.2
M11K Mekoryuk 7.98 269 Pn 11 37 53.5 +0.7
M11K Mekoryuk 7.98 269 P Pn 11 37 53.5 +0.7
baz=74
G30M tAoh Zraii Nji 8.07 42 Pn Pn 11 37 56.6 +2.4
H31M Peel River 8.14 52 Pn Pn 11 37 57.5 +2.4
P32M Atlin 8.25 97 Pn Pn 11 37 56.7 +0.1
F14K Arctic Creek 8.29 305 Pn 11 37 57.5 +0.5
F14K Arctic Creek 8.29 305 P Pn 11 37 57.5 +0.5
baz=111
B21K Ikpikpuk River 8.32 349 Pn Pn 11 37 57.9 +0.4
C23K Itkillik River 8.32 358 Pn Pn 11 37 58.9 +1.5
E28M Babbage River 8.32 27 Pn Pn 11 37 58.7 +1.2

D17K Noatak River 8.33 323 Pn Pn 11 37 57.7 +0.1
D17K Noatak River 8.33 323 P Pn 11 37 57.5 -0.1
baz=131
P33M Teslin, Yukon 8.47 92 Pn Pn 11 38 00.8 +1.1
JIS Juneau Island 8.49 106 P Pn 11 37 59.3 -0.6
JIS Juneau Island 8.49 106 Pn Pn 11 37 59.7 -0.2
RDOG Red Dog Mine 8.52 325 Pn Pn 11 38 01.9 +1.7
C18K Utukok River 8.53 331 Pn Pn 11 38 02.5 +2.0
E29M Blow River 8.54 31 Pn Pn 11 38 01.9 +1.4
C19K Lookout Ridge 8.56 336 Pn Pn 11 38 02.5 +1.6
C19K Lookout Ridge 8.56 336 P Pn 11 38 00.9 +0.1
baz=148
D27M Malcolm River 8.57 22 Pn Pn 11 38 03.1 +2.1
SIT Sitka 8.74 115 P Pn 11 38 02.0 -1.3
B22K Teshekpuk Lake 8.93 352 Pn Pn 11 38 06.8 +1.0
TNA Tin City 8.94 304 Pn Pn 11 38 07.7 +1.8
TNA Tin City 8.94 304 P Pn 11 38 06.4 +0.4
baz=108
B20K Meade River 8.97 344 Pn Pn 11 38 06.9 +0.5
F31M Tsiigehtchic 9.13 43 Pn Pn 11 38 10.6 +2.0
C16K Lisburne Hills 9.35 323 Pn Pn 11 38 13.3 +1.7
INK Inuvik 9.69 39 Pn Pn 11 38 18.5 +2.3
INK Inuvik 9.69 39 P Pn 11 38 16.9 +0.7
comp=N,0.3nm,0.3s,baz=238,slow=9.5,SNR=24
INK S Sn 11 39 58.4 -5.0
comp=N,2.6nm,0.6s,baz=162,slow=28,SNR=1.4
INK LR LR 11 42 16.8
comp=N,64nm,19.6s,baz=0.0,slow=39
comp=N,1.3nm,0.5s
U33K Whale Pass 10.28 115 Pn Pn 11 38 24.2 -0.2
DLBC Dease Lake 10.46 99 P Pn 11 38 26.1 -0.7
comp=N,0.1nm,0.3s,baz=327,slow=20,SNR=1.8
comp=N,0.9nm,0.4s
CRAG Craig 10.70 117 P Pn 11 38 29.8 -0.2
DIB Dawson Inlet, 12.58 124 Pn Pn 11 38 55.9 +0.2
C36M Paulatuk 13.19 43 Pn Pn 11 39 02.6 -1.3
A36M Sachs Harbour 14.15 32 Pn Pn 11 39 16.9 0.0
BBB Bella Bella 15.12 118 LR LR 11 44 34.6
comp=N,22nm,20.1s,baz=341,slow=34
YKA Yellowknife Ar 16.50 71 Pn Pn 11 39 48.6 +1.5
YKA Yellowknife Ar 16.50 71 P Pn 11 39 46.1 -1.0
comp=N,0.2nm,0.3s,baz=280,slow=11,SNR=12
YKA PcP PcP 11 44 32.7 -2.5
comp=N,0.2nm,0.6s,baz=272,slow=2.0,SNR=3.9
comp=N,0.2nm,0.3s
EDM Edmonton 21.17 97 P P 11 40 41.0 +0.9
NEW Newport 22.79 111 LR LR 11 50 10.4
comp=N,43nm,18.5s,baz=324,slow=37
RES Resolute Bay 23.19 34 P P 11 41 01.8 +0.6
RES Resolute Bay 23.19 34 P P 11 40 59.9 -1.3
comp=N,0.7nm,0.7s,baz=340,slow=7.7,SNR=2.9
comp=N,0.7nm,0.7s
K02D Willamette Mer 24.56 128 P P 11 41 15.6 +1.4
K02D IAmb IAmb 11 41 24.8
comp=Z,6.6nm,1.1s
PINE Pine Mountain 24.69 123 P P 11 41 16.9 +1.4
PINE IAmb IAmb 11 41 19.3
comp=Z,8.4nm,1.4s
J05D Fort Rock, OR 25.00 124 P P 11 41 19.3 +1.1
I07A Izee 25.04 120 P P 11 41 19.6 +1.0
BMO Blue Mountains 25.34 116 P P 11 41 22.4 +1.1
K05A Summer Lake 25.60 124 P P 11 41 26.4 +2.6
K05A IAmb IAmb 11 41 28.5
comp=Z,9.0nm,1.2s
FFC Flin Flon 25.71 83 P P 11 41 23.3 -1.1
PLID Pearl Lake 25.72 114 P P 11 41 23.8 -1.1
BPMT Black Pine Rid 25.82 109 P P 11 41 26.2 +0.4
LYMT Lyon Mountain 25.94 107 P P 11 41 27.9 +1.0
EGMT Eagleton 26.35 102 P P 11 41 31.4 +1.0
EGMT IAmb IAmb 11 41 32.4
comp=Z,5.4nm,0.9s
FCC Fort Churchill 27.23 71 P P 11 41 38.9 +0.9
FCC IAmb IAmb 11 41 39.4
comp=Z,6.9nm,0.9s
BOZ Bozeman (W) 27.28 108 P P 11 41 40.1 +1.3
HLID Hailey 27.62 114 P P 11 41 43.0 +1.1
YHH Holmes Hill 28.25 108 P P 11 41 49.6 +1.9
PETK Petropavlovsk- 28.73 277 LR LR 11 53 56.9
comp=Z,22nm,18.8s,baz=107,slow=38
TPAW Teton Pass 29.22 110 P P 11 41 57.9 +1.6
TPAW IAmb IAmb 11 41 58.3
comp=Z,3.8nm,0.8s
KVN Kaiserville 29.84 124 P P 11 42 03.6 +2.0
NVAR Mina Array Bea 30.30 125 P P 11 42 06.7 +0.9
comp=Z,1.0nm,0.7s,baz=316,slow=9.6,SNR=8.9
NVAR PcP PcP 11 45 04.8 0.0
comp=Z,0.5nm,0.6s,baz=312,slow=3.0,SNR=6.5
NVAR LR LR 11 52 28.8
comp=Z,31nm,21.3s,baz=224,slow=32
comp=Z,1.0nm,0.7s
PD31 Pinedale Array 30.41 109 P P 11 42 08.4 +1.6
PDAR Pinedale Array 30.41 109 P P 11 42 08.3 +1.6
PDAR Pinedale Array 30.41 109 P P 11 42 08.1 +1.3
comp=Z,0.6nm,0.6s,baz=320,slow=5.2,SNR=9.8
PDAR PcP PcP 11 45 04.3 -0.7
comp=Z,0.3nm,0.6s,baz=48,slow=2.2,SNR=3.5
PDAR LR LR 11 53 51.4
comp=Z,28nm,20.7s,baz=318,slow=35
comp=Z,0.6nm,0.6s
ULM Lac du Bonnet 31.42 86 P P 11 42 16.1 +0.8
ULM IAmb IAmb 11 42 16.9
comp=Z,3.5nm,0.8s
ULM Lac du Bonnet 31.42 86 P P 11 42 15.5 +0.2
comp=Z,2.1nm,0.6s,baz=322,slow=11,SNR=5.3
ULM PcP PcP 11 45 06.4 -0.9
comp=Z,2.3nm,0.7s,baz=315,slow=3.7,SNR=4.7
comp=Z,2.1nm,0.6s
R11B Troy Canyon, C 31.45 122 P P 11 42 17.7 +1.8
BSUT Blindstream Ca 31.67 113 P P 11 42 19.1 +1.1
BSUT IAmb IAmb 11 42 20.5
comp=Z,2.3nm,0.8s
P18A Preston Nutter 32.64 114 P P 11 42 29.4 +3.0
MSU Marysvale 32.73 117 P P 11 42 29.8 +2.6
AGMN Agassiz Nation 32.76 89 P P 11 42 28.0 +1.0
AGMN IAmb IAmb 11 42 29.1
comp=Z,4.1nm,0.8s
SRU San Rafael Swe 32.95 115 P P 11 42 31.2 +2.2
SRU IAmb IAmb 11 42 31.6
comp=Z,3.7nm,0.8s
QSM Queen of Sheba 33.00 126 P P 11 42 30.9 +1.7
CCUT Cedar City 33.05 120 P P 11 42 32.0 +2.1
LCMT Little Creek M 33.55 120 P P 11 42 36.0 +1.8
KNB Kanab 33.73 119 P P 11 42 36.6 +0.8
KNB IAmb IAmb 11 43 03.2
comp=Z,2.4nm,0.7s
FRB Frobisher Bay 35.11 50 LR LR 11 56 42.1
comp=Z,43nm,18.6s,baz=194,slow=35
PMD Palm Desert 35.23 127 P P 11 42 49.9 +1.3
PFO Pinyon Flats O 35.23 127 LR LR 11 54 51.6
comp=Z,23nm,19.7s,baz=290,slow=32
WUAZ Wupatki 35.61 119 P P 11 42 54.2 +2.2
WUAZ IAmb IAmb 11 42 54.9
comp=Z,3.4nm,0.8s
F36A Milaca 35.62 90 P P 11 42 54.2 +2.3
F36A IAmb IAmb 11 43 19.5
comp=Z,2.3nm,0.8s
YAK Yakutsk 35.70 307 LR LR 11 57 03.4
comp=Z,20nm,20.8s,baz=288,slow=36
YUH Yuha Desert 36.29 127 P P 11 42 59.6 +1.9
YUH IAmb IAmb 11 43 26.1
comp=Z,3.2nm,1.1s
SDCO Great Sand Dun 36.29 110 P P 11 42 59.8 +1.8
CBX Cerro Bola 36.31 128 P P 11 42 59.6 +1.7
CBX IAmb IAmb 11 43 28.5
comp=Z,7.3nm,1.0s
SUMG Summit 38.35 27 P P 11 43 16.1 +0.9
SUMG IAmb IAmb 11 43 37.0
comp=Z,7.5nm,1.5s
E43A Lone Tree Farm 38.37 84 P P 11 43 16.1 +1.0
E43A IAmb IAmb 11 43 25.4
comp=Z,15nm,1.5s
TUC Tucson 38.63 121 P P 11 43 18.3 +0.8
TUC IAmb IAmb 11 43 20.6
comp=Z,4.3nm,1.5s
H43A Windswept, Lux 39.40 86 P P 11 43 25.5 +1.8
L40A Anamosa 39.56 92 P P 11 43 25.7 +0.5
L40A IAmb IAmb 11 43 48.1
comp=Z,9.3nm,1.2s
SPITS Spitsbergen Ar 40.26 4 P P 11 43 29.9 -0.7
comp=Z,8.0nm,0.9s,baz=17,slow=6.1,SNR=18
comp=Z,8.0nm,0.9s
SPB2 Spitsbergen Ar 40.26 4 P P 11 43 30.4 -0.2
KAN13 South Haven SW 40.58 103 P P 11 43 34.2 +0.6
KAN13 IAmb IAmb 11 43 34.7
comp=Z,6.0nm,0.8s

P40A Paris 41.13 95 P P 11 43 38.5 +0.3
P40A IAmb IAmb 11 43 57.5
comp=Z,8.0nm,1.4s
SCHQ Schefferville 41.48 60 P P 11 43 41.1 +0.2
SCHQ IAmb IAmb 11 43 48.8
comp=Z,4.7nm,1.2s
SCHQ Schefferville 41.48 60 P P 11 43 40.2 -0.6
comp=Z,0.9nm,0.6s,baz=355,slow=6.5,SNR=4.2
comp=Z,0.9nm,0.6s
WMOK Wichita Mounta 41.83 106 P P 11 43 45.4 +1.4
WMOK IAmb IAmb 11 43 45.5
comp=Z,2.6nm,0.8s
W35A Tecumseh 42.38 104 P P 11 43 48.2 -0.2
W35A IAmb IAmb 11 43 49.4
comp=Z,5.3nm,0.8s
VHRN Van Horn 42.40 116 P P 11 43 51.1 +2.4
VHRN IAmb IAmb 11 43 51.5
comp=Z,4.1nm,0.9s
RLO Rose Lookout 42.41 101 P P 11 43 48.6 -0.1
RLO IAmb IAmb 11 44 05.1
comp=Z,8.0nm,1.1s
U38A Gravette 42.49 100 P P 11 43 49.1 -0.2
U38A IAmb IAmb 11 43 49.1
comp=Z,4.2nm,0.6s
KLR Kul'dur 43.38 291 LR LR 12 01 57.2
comp=Z,24nm,19.6s,baz=305,slow=36
TX31 Lajitas Ar. Si 44.22 115 P P 11 44 04.9 +1.5
TXAR Lajitas Array 44.22 115 P P 11 44 04.8 +1.5
TXAR Lajitas Array 44.22 115 P P 11 44 04.7 +1.3
comp=Z,1.5nm,0.9s,baz=336,slow=6.5,SNR=13
TXAR PcP PP 11 45 46.8 -0.3
comp=Z,0.4nm,0.6s,baz=40,slow=2.0,SNR=4.8
comp=Z,1.5nm,0.9s
JCT Junction City 44.94 110 P P 11 44 10.0 +1.0
JCT IAmb IAmb 11 44 11.6
comp=Z,5.3nm,0.8s
L56A Greenwood 46.02 80 P P 11 44 17.5 0.0
D62A Allapoint, All 46.17 69 P P 11 44 19.7 +1.2
E62A Clayton Lake 46.31 70 P P 11 44 20.5 +0.9
E62A IAmb IAmb 11 44 29.3
comp=Z,14nm,1.4s
U49A Red Boiling Sp 46.53 92 P P 11 44 21.8 +0.3
U49A IAmb IAmb 11 44 47.7
comp=Z,11nm,1.4s
T50A Nancy 46.57 91 P P 11 44 22.4 +0.6
SLBS Sierra La Lagu 46.63 126 P P 11 44 24.4 +2.0
SLBS IAmb IAmb 11 44 51.5
comp=Z,5.6nm,1.1s
PLAL Pickwick Lake 46.67 95 P P 11 44 23.0 +0.4
PLAL IAmb IAmb 11 44 23.6
comp=Z,5.6nm,0.9s
S51A Beattyville 46.67 89 P P 11 44 22.7 +0.1
S51A IAmb IAmb 11 44 43.6
comp=Z,11nm,1.1s
SSPA Standing Stone 47.03 82 P P 11 44 26.7 +1.4
BATG Bathurst New B 47.35 67 P P 11 44 27.9 +0.2
BATG IAmb IAmb 11 44 36.3
comp=Z,5.0nm,1.1s
F64A Sherman 47.41 70 P P 11 44 28.9 +0.8
TZTN Tazewell 47.57 90 P P 11 44 30.6 +1.0
X48A Hartselle 47.59 95 P P 11 44 30.6 +0.9
X48A IAmb IAmb 11 44 41.1
comp=Z,5.3nm,1.0s
P57A Homestead Farm 47.88 83 P P 11 44 32.7 +0.8
146A Union 48.12 98 P P 11 44 35.4 +1.6
Z47A Carrollton 48.13 97 P P 11 44 34.6 +0.8
FPAL Fort Paine 48.20 93 P P 11 44 35.1 +0.6
FPAL IAmb IAmb 11 44 35.4
comp=Z,5.6nm,0.8s
U54A Nelsons Funny 48.42 88 P P 11 44 37.1 +0.9
ARCES ARCESS Array B 49.16 2 P P 11 44 40.7 -0.7
comp=Z,2.3nm,0.9s,baz=2.1,slow=7.2,SNR=5.9
ARCES PcP PcP 11 46 01.6 -2.2
comp=Z,2.5nm,0.8s,baz=339,slow=2.0,SNR=5.5
comp=Z,2.3nm,0.9s
MJB9 Matsu-Tunnel 50.15 275 P P 11 44 49.7 +0.3
MJB9 IAmb IAmb 11 44 49.8
comp=Z,5.2nm,0.9s
MAJO Matsushiro 50.15 275 P P 11 44 48.7 -0.7
MAJO IAmb IAmb 11 44 48.8
comp=Z,5.3nm,0.9s
GBN Guysborough 50.79 65 P P 11 44 54.6 +0.6
JGF Kuroka 51.31 275 P P 11 44 58.0 -0.2
JGF IAmb IAmb 11 45 01.7
comp=Z,6.6nm,1.0s
KSRS Korea Array 54.27 284 P P 11 45 19.7 -0.1
comp=Z,1.8nm,0.7s,baz=31,slow=6.4,SNR=7.7
KSRS LR LR 12 07 38.2
comp=Z,11nm,22.0s,baz=0.0,slow=35
comp=Z,1.8nm,0.7s
SONM Songino Array 55.06 307 P P 11 45 26.2 +0.7
SONM IAmb IAmb 11 45 26.7
comp=Z,2.3nm,0.8s
SONM Songino Array 55.06 307 P P 11 45 25.8 +0.2
comp=Z,2.0nm,0.7s,baz=29,slow=7.3,SNR=15
SONM LR LR 12 10 11.4
comp=Z,26nm,21.1s,baz=352,slow=37
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 56.88 11 P P 11 45 36.9 -1.4
comp=Z,0.2nm,0.5s,baz=350,slow=7.3,SNR=1.8
comp=Z,0.2nm,0.5s
ZALV Zalesovo Beam 56.97 325 P P 11 45 39.5 +0.5
ZALV Zalesovo Beam 56.97 325 P P 11 45 37.7 -1.3
comp=Z,0.9nm,0.4s,baz=39,slow=8.3,SNR=3.9
comp=Z,0.9nm,0.4s
FINES FINESS Array B 57.28 2 P P 11 45 41.2 +0.1
FINES FINESS Array B 57.28 2 P P 11 45 40.7 -0.3
comp=Z,0.7nm,0.5s,baz=6.0,slow=9.6,SNR=9.2
comp=Z,0.7nm,0.5s
HFS Hagfors 57.98 10 P P 11 45 44.9 -1.1
comp=Z,0.9nm,0.5s,baz=46,slow=6.4,SNR=7.2
comp=Z,0.9nm,0.5s
HHC Hu-ho-hao-te 58.76 299 eP P 11 45 54.0 +2.1
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,96nm,5.9s
TEIG Tepich 59.01 105 P P 11 45 54.0 +0.3
BBSR BB Station 59.92 77 P P 11 45 59.1 -0.7
EKA Eskdalemuir Ar 60.55 21 P P 11 46 03.4 -0.4
comp=Z,0.7nm,0.4s,baz=328,slow=5.8,SNR=7.2
comp=Z,0.7nm,0.4s
BVAR Borovoye Array 61.36 334 P P 11 46 08.3 -1.0
comp=Z,1.5nm,0.5s,baz=25,slow=7.2,SNR=10
comp=Z,1.5nm,0.5s
KURBB Kurchatov Arra 61.66 327 P P 11 46 09.6 -1.8
comp=Z,0.8nm,0.4s,baz=29,slow=6.7,SNR=7.1
comp=Z,0.8nm,0.4s
MTO3 Montecristo 63.60 110 P P 11 46 24.9 -0.1
MTO3 IAmb IAmb 11 46 40.5
comp=Z,7.8nm,1.2s
MKAR Makanchi Array 64.11 323 P P 11 46 26.6 -1.1
MKAR Makanchi Array 64.11 323 P P 11 46 25.0 -2.8
comp=Z,0.6nm,0.5s,baz=43,slow=5.5,SNR=4.8
comp=Z,0.6nm,0.5s
AKTO Aktyubinsk 66.13 341 P P 11 46 38.8 -1.9
comp=Z,1.6nm,0.6s,baz=38,slow=4.0,SNR=3.0
comp=Z,1.6nm,0.6s
ABKAR Akbulak array 66.96 339 P P 11 46 45.7 -0.3
ABKAR IAmb IAmb 11 46 45.8
comp=Z,1.9nm,0.7s
AKASG Malin Array Be 68.09 1 P P 11 46 51.7 -1.4
comp=Z,1.5nm,0.4s,baz=2.9,slow=6.4,SNR=8.4
comp=Z,1.5nm,0.4s
JTS Las Juntas de 69.22 107 LR LR 12 24 14.9
comp=Z,40nm,19.7s,baz=68,slow=42
AAK Ala-Archa 70.10 327 P P 11 47 04.5 -1.4
comp=Z,1.3nm,0.5s,baz=346,slow=12,SNR=3.6
comp=Z,1.3nm,0.5s
BURAR Bucovina Array 71.11 3 P P 11 47 12.7 +0.8
BURAR IAmb IAmb 11 47 12.7
comp=Z,1.2nm,0.6s
OBIP Obispado Ponce 71.16 87 P P 11 47 11.3 -1.2
MLR Muntele Rosu 73.25 3 LR LR 12 22 20.7
comp=Z,16nm,18.6s,baz=140,slow=38
CHGR Chuyangaron 75.20 329 P P 11 47 35.6 -0.6
PZH PanZhiHua 75.22 298 P P 11 47 39.5 +3.0
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,6.1s
ESDC Sonseca Array 75.41 26 P P 11 47 38.3 +1.0
ESDC Sonseca Array 75.41 26 P P 11 47 37.5 +0.2
comp=Z,1.2nm,0.9s,baz=348,slow=6.2,SNR=4.5
comp=Z,1.2nm,0.9s
BAUV El Baul 78.35 93 P P 11 47 53.1 -1.0
PPT2 Papeete2 78.88 180 eLR LR 12 12 51.3
comp=Z,30nm,24.2s
BRTR Keskin Array B 79.02 357 P P 11 47 57.2 -0.5
comp=Z,0.8nm,0.8s,baz=2.0,slow=5.7,SNR=3.8
BRTR LR LR 12 26 17.3
comp=Z,19nm,20.1s,baz=152,slow=38
comp=Z,0.8nm,0.8s
CMAR Chiang Mai Arr 83.52 297 P P 11 48 20.6 -1.0
comp=Z,1.2nm,0.7s,baz=0.4,slow=6.2,SNR=8.3
comp=Z,1.2nm,0.7s
QSPA South Pole Qui 151.37 180 PKPbc PKPbc 11 55 44.9 -0.6
comp=Z,4.6nm,0.7s,baz=38,slow=0.0,SNR=42

NEIC ***30*** *12:09:26.4±1.7,38.72N±0.04×69.93E±0.06,h10km±1km, mb4.4/37, Error ellipse: s-maj=8.6km s-min=5.3km az=307.0*
NNC ***30*** *12:09:27.4±1.4,38.74N×69.28E, h0km, mb4.3, mpv3.7, Error ellipse: s-maj=12.4km s-min=9.6km az=172.0*
IDC ***30*** *12:09:31.8±2.9,38.73N×70.08E, h63km±24km, mb3.5/12, mbtmp3.7/17, ML3.1/5, MS2.8/2, Error ellipse: s-maj=25.0km s-min=16.4km az=8.0*

ISC 30 12:09:26.5±0.5, 38.76N±0.05×69.90E±0.04, h13km, n98, σ1.56/99, mb4.3/30, 4C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
GAR	Garm	0.41	53		Pg	Pg	12 09 33.4	-1.2
CHGR	Chuyangaron	0.59	261	Pg	Pg	Pg	12 09 36.8	-1.2
SIMJ	Simīganj	0.70	262	Pg	Pg	Pg	12 09 38.9	-1.3
BTK	Batken	1.48	28	Pn	Pn	Pn	12 09 53.3	+0.3
DRK	Karamyk	1.65	63		Pn	Pn	12 09 55.1	-0.3
ARSB	Arslanbob	3.49	42			Pn	12 10 22.8	+2.3
KBL	Kabul	4.26	190	Pn	Pn	Pn	12 10 32.8	+1.5
KK31	Karatay Array	4.37	6	Pn	Pn	Pn	12 10 35.6	+3.1
KK31	Karatay Array	4.37	6	⇑Pn	Pn	Pn	12 10 36.1	+3.5
	4.6nm,0.5s,baz=194,slow=14,SNR=42							
KK31				⇑Pg	Pg	Pg	12 10 48.7	-1.4
	10.0nm,0.5s,baz=195,slow=14,SNR=8.9							
KK31				⇓Lg	Lg		12 11 49.2	
	51nm,0.8s,baz=211,slow=30,SNR=3.7							
KKAR	Karatay Array	4.37	6	Pn	Pn	Pn	12 10 35.3	+2.7
KSH	Kashi	4.78	79	Pn	Pn	Pn	12 10 34.3	-4.0
KSH				Sn	Sn	Sn	12 11 28.5	-5.2
KSH				pmax	pmax			
	comp=Z,13nm,0.5s							
KSH				smax	smax			
	comp=N,110nm,0.7s							
KSH				smax	smax			
	comp=E,69nm,0.6s							
EKS2	Erkin-Say	4.89	36	P	Pn		12 10 45.4	+5.6
	SNR=9.7							
UCH	Uchtor	4.94	44	P	Pn		12 10 45.5	+4.8
	SNR=24							
AAK	Ala-Archa	5.22	41	P	Pn	Pn	12 10 48.0	+3.6
	SNR=12							
AAK	Ala-Archa	5.22	41	Pn	Pn	Pn	12 10 47.5	+3.1
AAK	Ala-Archa	5.22	41	P	Pn	Pn	12 10 47.7	+3.4
	comp=E,1.6nm,0.3s,baz=217,slow=8.5,SNR=16							
	comp=E,5.4nm,0.3s							
NRN	Naryn	5.39	58			Pn	12 10 47.3	+0.5
FRU1	Bishkek	5.41	40	Pn	Pn	Pn	12 10 47.8	+0.8
USP	Ospenovka	5.69	36	P	Pn	Pn	12 10 54.9	+4.1
	SNR=9.3							
NIL	Nilore	5.77	151	Pn	Pn	Pn	12 10 52.2	+0.4
BOOM	Boomskoye usch	5.92	49			Pn	12 10 55.2	+1.2
ULHL	Ulahol	5.96	52	P	Pn		12 11 01.2	+6.6
	SNR=9.9							
TARG	Taragay, Kyrgy	6.74	61	Pn	Pn	Pn	12 11 05.3	-0.1
HRA	Herat	7.55	237	Pn	Pn	Pn	12 11 17.7	+1.3
DHRM	DHARAMSHALA	8.33	139	eP	Pn	Pn	12 11 27.8	+0.7
DHRM				eS	Sn	Sn	12 12 58.4	-2.7
GEYT	Alibeck	9.30	269	Pn	Pn	Pn	12 11 40.8	+0.6
GEYT	Alibeck	9.30	269	P	Pn		12 11 46.6	+6.4
	comp=E,0.5nm,0.3s,baz=98,slow=17,SNR=2.1							
GEYT				S	Sn		12 13 20.5	-4.2
	comp=E,3.6nm,0.4s,baz=116,slow=17,SNR=5.4							
	comp=E,1.2nm,0.4s							
GYA0B	ALIBECK ARRAY	9.30	269		Pn	Pn	12 11 40.8	+0.6
MK31	Makanchi Array	12.13	45	Pn	Pn	Pn	12 12 19.1	+0.1
MKAR	Makanchi Array	12.13	45	Pn	Pn	Pn	12 12 19.6	+0.6
MKAR	Makanchi Array	12.13	45	P	Pn	Pn	12 12 19.0	0.0
	comp=E,0.1nm,0.3s,baz=224,slow=12,SNR=5.7							
	comp=E,0.6nm,0.7s							
AB31	Akbulak array	12.70	329	⇑Pn	Pn	Pn	12 12 26.3	-0.3
	comp=E,2.8nm,0.5s,baz=148,slow=11,SNR=111							
AB31				⇓Sn	Sn	Sn	12 14 45.8	-2.0
	comp=E,7.0nm,0.6s,baz=151,slow=22,SNR=13							
ABKAR	Akbulak array	12.70	329		Pn	Pn	12 12 26.4	-0.3
KURBB	Kurchatov Arra	13.35	24	P	Pn	Pn	12 12 36.3	+0.9
	baz=214,slow=12,SNR=4.5							
KURBB				Lg	Lg		12 16 22.0	
	baz=213,slow=30,SNR=4.4							
	comp=E,0.2nm,0.4s							
KURK	Kurchatov	13.46	24	Pn	Pn	Pn	12 12 34.6	-2.4
BVAR	Borovoye Array	14.28	1	P	Pn	Pn	12 12 47.8	-0.4
	comp=E,1.5nm,0.5s,baz=163,slow=13,SNR=9.7							
WMQ	Urumqi	14.30	64	eP	Pn	Pn	12 12 51.8	+3.2
BRVK	Borovoye	14.31	1	Pn	Pn	Pn	12 12 47.7	-0.9
AKTO	Aktyubinsk	14.40	328	P	Pn	Pn	12 12 50.5	+0.6
	comp=E,2.9nm,0.5s,baz=154,slow=9.4,SNR=9.7							
AKTO				S	Sn	Sn	12 15 26.3	-3.0
	comp=E,1.8nm,0.5s,baz=178,slow=16,SNR=2.2							
AKTO	Aktyubinsk	14.40	328	⇑Pn	Pn	Pn	12 12 49.2	-0.8
	comp=E,6.6nm,0.8s							
AKTO				⇓Sn	Sn	Sn	12 15 28.8	-0.6
	comp=E,4.0nm,0.8s							
ZAA0	Zalesovo Array	18.29	29	P	Pn	Pn	12 13 38.5	-1.3
ZALV	Zalesovo Beam	18.29	29		Pn	Pn	12 13 39.3	-0.5
ZALV	Zalesovo Beam	18.29	29	P	Pn	Pn	12 13 39.0	-0.8
	comp=E,0.2nm,0.3s,baz=229,slow=12,SNR=7.9							
	comp=E,1.4nm,0.5s							
ARU	Arti	19.22	341	LR	LR		12 22 21.7	
	comp=E,32nm,21.6s,baz=256,slow=40							
ONI	Oni	20.39	289	P	P		12 14 03.1	+0.1
BELG	Belogornoye	20.60	319	P	P		12 14 06.3	+1.2
	comp=E,14nm,0.8s,baz=129,slow=6.5,SNR=5.5							
	comp=E,14nm,0.8s							
KBZ	Khabaz	20.86	292	P	P		12 14 10.6	+2.6
	comp=E,2.1nm,0.7s,baz=90,slow=9.1,SNR=2.8							
KBZ				LR	LR		12 24 16.2	
	comp=E,30nm,19.6s,baz=126,slow=42							
	comp=E,2.1nm,0.7s							
SONM	Songino Array	27.85	59	P	P		12 15 14.6	-1.2
	comp=E,0.2nm,0.4s,baz=264,slow=5.8,SNR=2.0							
	comp=E,0.2nm,0.4s							
PZH	PanZhiHua	29.32	105	P	P		12 15 31.0	+2.0
PZH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
PZH				pmax	pmax			
	comp=Z,80nm,5.4s							
HHC	Hu-ho-hao-te	31.86	73	eP	P		12 15 52.5	+1.2
HHC				pmax	pmax			
	comp=Z,13nm,0.7s							
HHC				pmax	pmax			
	comp=Z,90nm,5.7s							
FINES	FINESS Array B	35.13	325	P	P		12 16 19.0	-0.4
FINES	FINESS Array B	35.13	325	P	P		12 16 19.8	+0.4
	comp=E,1.6nm,0.7s,baz=131,slow=6.4,SNR=4.0							
	comp=E,1.6nm,0.7s							
ARCES	ARCESS Array B	38.73	337	P	P		12 16 50.9	+1.0
	comp=E,1.8nm,0.9s,baz=110,slow=7.8,SNR=1.8							
	comp=E,1.8nm,0.9s							
HFS	Hagfors	40.77	320	P	P		12 17 07.4	+0.4
	comp=E,1.8nm,0.5s,baz=108,slow=9.5,SNR=10							
	comp=E,1.8nm,0.5s							
NC405	NORSAR Array S	41.83	322	P	P		12 17 14.2	-1.5
NC405				IAmb	IAmb		12 17 16.8	
	comp=Z,13nm,1.3s							
NC303	NORSAR Array S	42.00	322	P	P		12 17 17.9	+0.8
NB201	NORSAR Array S	42.03	322	P	P		12 17 17.7	+0.4
NB2	NORSAR Subarra	42.06	322	P	P		12 17 18.0	+0.4
	comp=E,1.0nm,0.6s,baz=95,slow=8.6							
NOA	NORSAR Array B	42.06	322	P	P		12 17 17.2	-0.5
	comp=E,0.8nm,0.7s,baz=95,slow=8.2,SNR=7.8							
	comp=E,0.8nm,0.7s							
NC204	NORSAR Array S	42.30	322	P	P		12 17 20.1	+0.5
TIXI	Tiksi	44.03	23	P	P		12 17 33.4	+0.1
ANGG	Ammassalik, Gr	62.01	333	P	P		12 19 47.0	+1.1
TORD	Torodi Ar. Bea	64.93	267	P	P		12 20 04.9	-1.2
	comp=Z,0.3nm,0.6s,baz=47,slow=5.3,SNR=2.2							
	comp=Z,0.3nm,0.6s							
B20K	Meade River	66.28	16	P	P		12 20 14.7	+0.8
B20K				IAmb	IAmb		12 20 15.6	
	comp=Z,2.5nm,1.1s							
B22K	Teshekpuk Lake	66.79	15	P	P		12 20 18.4	+1.2
B22K				IAmb	IAmb		12 20 18.5	

	comp=Z,2.8nm,0.9s							
B21K	**Ikpikpuk River**	**67.13**	**15**	P	**P**		12 20 19.8	+0.5
B21K				IAmb	IAmb		12 20 25.4	
	comp=Z,3.6nm,1.4s							
D19K	**Kuna River**	**67.25**	**17**	P	**P**		12 20 20.8	+0.6
D19K				IAmb	IAmb		12 20 21.4	
	comp=Z,2.3nm,1.0s							
E18K	**Tukpahlearik C**	**67.48**	**19**	P	**P**		12 20 21.9	+0.3
E18K				IAmb	IAmb		12 20 25.6	
	comp=Z,4.4nm,1.3s							
C23K	**Itkillik River**	**67.75**	**14**	P	**P**		12 20 24.8	+1.5
C23K				IAmb	IAmb		12 20 32.0	
	comp=Z,3.6nm,1.3s							
F17K	**Baldwin Pennin**	**68.05**	**20**	P	**P**		12 20 25.7	+0.5
F17K				IAmb	IAmb		12 20 31.1	
	comp=Z,4.4nm,1.4s							
TOLK	**Toolik Lake Re**	**68.96**	**14**	P	**P**		12 20 31.5	+0.6
TOLK				IAmb	IAmb		12 20 38.5	
	comp=Z,1.6nm,0.9s							
D25K	**Kavik River**	**68.97**	**13**	P	**P**		12 20 31.2	+0.2
A36M	**Sachs Harbour**	**69.04**	**5**	P	**P**		12 20 31.9	+0.7
A36M				IAmb	IAmb		12 20 32.8	
	comp=Z,3.4nm,0.8s							
F21K	**Alatna River**	**69.33**	**17**	P	**P**		12 20 33.8	+0.5
F21K				IAmb	IAmb		12 20 41.3	
	comp=Z,3.9nm,1.4s							
G19K	**Purcell Mounta**	**69.35**	**19**	P	**P**		12 20 33.6	+0.3
IMAR	**Indian Mountai**	**70.29**	**17**	P	**P**		12 20 38.8	-0.3
J16K	**Anvik River**	**70.65**	**22**	P	**P**		12 20 42.5	+1.1
J16K				IAmb	IAmb		12 20 52.6	
	comp=Z,6.8nm,1.4s							
E28M	**Babbage River**	**70.72**	**11**	P	**P**		12 20 42.6	+0.9
BMAR	**Burnt Mountain**	**70.95**	**13**	P	**P**		12 20 43.2	0.0
E29M	**Blow River**	**71.16**	**11**	P	**P**		12 20 45.5	+1.1
E29M				IAmb	IAmb		12 21 02.0	
	comp=Z,2.6nm,1.2s							
J18K	**Innoko River**	**71.59**	**20**	P	**P**		12 20 47.8	+0.8
FYU	**Fort Yukon**	**71.60**	**14**	P	**P**		12 20 47.8	+0.8
FYU				IAmb	IAmb		12 21 16.4	
	comp=Z,3.6nm,1.2s							
J20K	**Nowinta River**	**71.68**	**19**	P	**P**		12 20 47.5	0.0
J20K				IAmb	IAmb		12 20 48.0	
	comp=Z,6.2nm,1.4s							
C36M	**Paulatuk**	**71.72**	**5**	P	**P**		12 20 47.5	-0.2
K17K	**Iditarod**	**71.75**	**21**	P	**P**		12 20 48.8	+0.7
INK	**Inuvik**	**71.82**	**9**	P	**P**		12 20 49.1	+0.8
INK				IAmb	IAmb		12 20 50.4	
	comp=Z,4.9nm,1.4s							
MDM	**Murphy Dome**	**72.40**	**16**	P	**P**		12 20 51.4	-0.5
F31M	**Tsiigehtchic**	**72.61**	**9**	P	**P**		12 20 53.7	+0.7
F31M				IAmb	IAmb		12 21 03.1	
	comp=Z,8.0nm,1.5s							
ILAR	**Eielson Array**	**72.85**	**16**	P	**P**		12 20 54.0	-0.6
ILAR	**Eielson Array**	**72.85**	**16**	P	**P**		12 20 54.2	-0.3
	comp=Z,0.4nm,0.9s,baz=317,slow=5.1,SNR=5.4							
	comp=Z,0.4nm,0.9s							
H29M	**Whitestone**	**73.10**	**12**	P	**P**		12 20 56.7	+0.6
H29M				IAmb	IAmb		12 20 57.0	
	comp=Z,2.8nm,1.1s							
SUA	**Susitna One**	**74.81**	**19**	P	**P**		12 21 06.4	+0.2
KNK	**Knik Glacier**	**75.42**	**18**	P	**P**		12 21 11.1	+1.5
K29M	**Barlow Dome**	**75.45**	**12**	P	**P**		12 21 09.7	-0.2
PSA00	**Pilbara Seismi**	**76.09**	**133**	P	**P**		12 21 13.9	0.0
YKA	**Yellowknife Ar**	**79.03**	**2**	P	**P**		12 21 28.9	-0.9
	comp=Z,0.4nm,0.8s,baz=350,slow=6.1,SNR=9.1							
	comp=Z,0.4nm,0.8s							
WRA	**Warramunga Arr**	**83.92**	**121**	P	**P**		12 21 54.5	-1.8
	comp=Z,0.7nm,0.9s,baz=323,slow=4.8,SNR=5.7							
	comp=Z,0.7nm,0.9s							
ASAR	**Alice Springs**	**86.25**	**124**	P	**P**		12 22 06.0	-1.9
	comp=Z,0.6nm,0.8s,baz=313,slow=5.1,SNR=11							
	comp=Z,0.6nm,0.8s							

*IDC **30** 12:38:42.9±2.3, 17°.35N×122°.52E, h58km±23km, mb3.7/14, mbtmp4.0/15, ML4.5/2, MS3.1/12, Error ellipse: s-maj=21.2km s-min=12.7km az=90.0*

*NEIC **30** 12:38:42.8±1.9, 17°.33N±0°.09×122°.5E±0°.1, h47km±8km, mb4.3/52, Error ellipse: s-maj=17.8km s-min=12.5km az=83.0*

ISC 30 12:38:40.3±0.5, 17°.34N±0°.06×122°.58E±0°.09, h31km, n95, σ1§12/83, mb4.3/38, MS3.1/9, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**3.59**	**206**	P	**Pn**	**12 39 35.8**	**+1.9**
	235nm,0.3s,baz=326,slow=2.9,SNR=11						
TGY				S	**Sn**	**12 40 17.9**	**+2.6**
	316nm,0.4s,baz=52,slow=14,SNR=4.3						
TGY				LR	LR	12 41 24.4	
	comp=Z,267nm,20.1s,baz=89,slow=45						
TWG	**Pinlang**	**5.64**	**346**	Pn	**Pn**	**12 40 00.2**	**-1.8**
YULB	**Yu-li**	**6.14**	**349**	Pn	**Pn**	**12 40 09.6**	**+0.7**
TPUB	**Ta-pu**	**6.21**	**343**	Pn	**Pn**	**12 40 11.3**	**+1.4**
SSLB	**Suanglung**	**6.59**	**347**	Pn	**Pn**	**12 40 15.9**	**+0.7**
NACB	**Ninganchiao**	**6.86**	**352**	Pn	**Pn**	**12 40 20.0**	**+1.1**
YOJ	**Yonaguni jima**	**7.10**	**3**	Pn	**Pn**	**12 40 23.4**	**+1.4**
YHNB	**Yeheng**	**7.38**	**351**	Pn	**Pn**	**12 40 26.3**	**+0.3**
JOW	**Kunigami**	**10.82**	**28**	Pn	**Pn**	**12 41 14.1**	**+1.0**
JOW	**Kunigami**	**10.82**	**28**	P	**Pn**	**12 41 13.6**	**+0.5**
	3.2nm,0.3s,baz=130,slow=26,SNR=6.6						
JOW				S	Sn	12 43 05.7	-7.5
	12nm,0.6s,baz=209,slow=29,SNR=1.5						
JOW				LR	LR	12 45 02.4	
	comp=Z,118nm,21.5s,baz=328,slow=35						
	9.4nm,0.4s						
JNU	**Nakatsue**	**17.40**	**24**	LR	LR	12 49 13.3	
	comp=Z,31nm,19.5s,baz=194,slow=36						
KSRS	**Korea Array**	**20.59**	**12**	P	**P**	**12 43 17.6**	**+0.9**
	2.8nm,0.5s,baz=198,slow=11,SNR=15						
KSRS				LR	LR	12 52 00.0	
	comp=Z,56nm,19.3s,baz=185,slow=39						
	2.8nm,0.5s						
CRAI	**Chiangrai**	**21.22**	**281**	P	**P**	**12 43 24.7**	**+1.0**
PHRA	**Phrae**	**21.30**	**277**	P	**P**	**12 43 25.6**	**+1.0**
CM31	**Chiang Mai Arr**	**22.52**	**276**	P	**P**	**12 43 38.9**	**+1.2**
CMAR	**Chiang Mai Arr**	**22.52**	**276**	P	**P**	**12 43 39.0**	**+1.3**
CMAR	**Chiang Mai Arr**	**22.52**	**276**	P	**P**	**12 43 38.5**	**+0.8**
	1.6nm,0.3s,baz=95,slow=7.3,SNR=7.5						
CMAR				LR	LR	12 51 44.7	
	comp=Z,26nm,21.8s,baz=110,slow=35						
	1.6nm,0.3s						
MJAR	**Matsushiro Arr**	**23.60**	**33**	LR	LR	12 54 03.9	
	comp=Z,35nm,18.9s,baz=183,slow=39						
SRIT	**Nakonsritamara**	**24.00**	**252**	P	**P**	**12 43 52.7**	**+0.3**
SRIT				IAmb	IAmb	12 43 55.8	
	comp=Z,10nm,1.2s						
ASAJ	**Asahikawa**	**31.59**	**28**	LR	LR	12 57 00.6	
	comp=Z,26nm,20.6s,baz=320,slow=35						
KLR	**Kul'dur**	**32.67**	**11**	LR	LR	12 58 57.2	
	comp=Z,37nm,19.2s,baz=300,slow=37						
SONM	**Songino Array**	**33.19**	**340**	P	**P**	**12 45 14.4**	**+0.1**
SONM	**Songino Array**	**33.19**	**340**	P	**P**	**12 45 12.9**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=159,slow=9.3,SNR=5.3						
SONM				LR	LR	12 58 45.1	
	comp=Z,51nm,19.8s,baz=210,slow=36						
	comp=Z,0.9nm,0.7s						
KNRA	**Kununurra**	**33.37**	**169**	P	**P**	**12 45 16.4**	**+0.4**
WB0	**Warramunga Arr**	**38.66**	**162**	P	**P**	**12 46 00.6**	**-0.6**
PSA00	**Pilbara Seismi**	**38.76**	**184**	P	**P**	**12 46 00.6**	**-1.5**
PSA00				IAmb	IAmb	12 46 06.4	
	comp=Z,4.5nm,1.1s						
WRAB	**Tennant Creek**	**38.80**	**162**	P	**P**	**12 46 02.2**	**-0.3**
WRAB				IAmb	IAmb	12 46 18.5	
	comp=Z,4.4nm,0.9s						
WRA	**Warramunga Arr**	**38.81**	**162**	P	**P**	**12 46 02.7**	**+0.2**
WRA	**Warramunga Arr**	**38.81**	**162**	P	**P**	**12 46 02.0**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=342,slow=9.2,SNR=21						
	comp=Z,2.3nm,0.7s						
WB2	**Warramunga Arr**	**38.81**	**162**	P	**P**	**12 46 02.3**	**-0.2**
WB2				IAmb	IAmb	12 46 03.2	
	comp=Z,4.3nm,0.8s						
WR0	**Warramunga Arr**	**38.88**	**162**	P	**P**	**12 46 02.8**	**-0.3**
WR0				IAmb	IAmb	12 46 03.8	
	comp=Z,4.3nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**41.91**	**81**	T	T	13 31 29.1	
	baz=276,slow=75,SNR=394						
H11S1	**WAKE ISLAND Hy**	**41.92**	**81**	T	T	13 31 28.4	
	baz=276,slow=75,SNR=447						
H11S2	**WAKE ISLAND Hy**	**41.92**	**81**	T	T	13 31 30.4	
	baz=276,slow=75,SNR=452						
H11N1	**WAKE ISLAND Hy**	**41.99**	**80**	T	T	13 31 33.8	
	baz=274,slow=75,SNR=211						
H11N2	**WAKE ISLAND Hy**	**42.00**	**80**	T	T	13 31 33.4	
	baz=274,slow=75,SNR=226						
H11N3	**WAKE ISLAND Hy**	**42.01**	**80**	T	T	13 31 38.9	
	baz=274,slow=75,SNR=140						
AS31	**Alice Springs**	**42.23**	**164**	P	**P**	**12 46 30.0**	**-0.8**
ASAR	**Alice Springs**	**42.23**	**164**	P	**P**	**12 46 30.7**	**0.0**
ASAR	**Alice Springs**	**42.23**	**164**	P	**P**	**12 46 30.4**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=354,slow=7.4,SNR=14						
	comp=Z,1.0nm,0.6s						
MK31	**Makanchi Array**	**44.29**	**320**	P	**P**	**12 46 46.4**	**-0.8**
MKAR	**Makanchi Array**	**44.29**	**320**	P	**P**	**12 46 46.9**	**-0.4**
MKAR	**Makanchi Array**	**44.29**	**320**	P	**P**	**12 46 46.5**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=104,slow=7.2,SNR=6.7						
	comp=Z,1.1nm,0.8s						
YAK	**Yakutsk**	**44.92**	**5**	LR	LR	13 06 34.4	
	comp=Z,34nm,18.1s,baz=292,slow=37						
PETK	**Petropavlovsk-**	**44.98**	**29**	P	**P**	**12 46 54.1**	**+1.4**
PETK	**Petropavlovsk-**	**44.98**	**29**	P	**P**	**12 46 53.7**	**+1.1**
	comp=Z,3.8nm,1.0s,baz=197,slow=4.5,SNR=5.6						
	comp=Z,3.8nm,1.0s						
MA2	**Magadan**	**46.89**	**19**	LR	LR	13 06 00.3	
	comp=Z,35nm,21.8s,baz=196,slow=35						
KURK	**Kurchatov**	**48.26**	**324**	P	**P**	**12 47 18.0**	**-0.4**
KURK				IAmb	IAmb	12 47 39.4	
	comp=Z,2.8nm,0.9s						
KURBB	**Kurchatov Arra**	**48.27**	**324**	P	**P**	**12 47 17.4**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=120,slow=7.9,SNR=12						
	comp=Z,1.6nm,0.6s						
NWAO	**Narrogin (SRO)**	**50.24**	**186**	P	**P**	**12 47 32.5**	**-1.1**
BBOO	**Buckleboo**	**51.50**	**165**	P	**P**	**12 47 43.3**	**+0.2**
BVAR	**Borovoye Array**	**53.86**	**324**	P	**P**	**12 47 59.8**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=111,slow=8.3,SNR=5.4						
	comp=Z,0.5nm,0.3s						
ABKAR	**Akbulak array**	**59.24**	**317**	P	**P**	**12 48 37.9**	**-0.8**
ABKAR				IAmb	IAmb	12 48 50.3	
	comp=Z,2.8nm,1.2s						
M14K	**Bethel**	**67.93**	**31**	P	**P**	**12 49 35.9**	**+0.1**
F17K	**Baldwin Pennin**	**68.72**	**25**	P	**P**	**12 49 41.8**	**+1.2**
CNBA	**Chernabura Isl**	**69.02**	**37**	P	**P**	**12 49 41.4**	**-1.4**
CNBA				IAmb	IAmb	12 50 10.0	
	comp=Z,6.5nm,1.2s						
H17K	**Granite Mounta**	**69.15**	**26**	P	**P**	**12 49 43.1**	**-0.3**
H17K				IAmb	IAmb	12 49 47.5	
	comp=Z,4.6nm,1.4s						
G18K	**Tagagawik**	**69.73**	**25**	P	**P**	**12 49 48.0**	**+1.0**
G18K				IAmb	IAmb	12 49 55.9	
	comp=Z,6.1nm,1.5s						
K17K	**Iditarod**	**69.76**	**29**	P	**P**	**12 49 49.4**	**+2.2**
K17K				IAmb	IAmb	12 50 13.0	
	comp=Z,4.6nm,1.1s						
H18K	**Honhosa River**	**69.81**	**26**	P	**P**	**12 49 48.2**	**+0.7**
D19K	**Kuna River**	**70.08**	**23**	P	**P**	**12 49 50.6**	**+1.4**
D19K				IAmb	IAmb	12 49 55.5	
	comp=Z,4.0nm,1.3s						
E19K	**Redstone River**	**70.36**	**24**	P	**P**	**12 49 52.5**	**+1.6**
E19K				IAmb	IAmb	12 49 57.9	
	comp=Z,5.0nm,1.5s						
L18K	**Granite Mounta**	**70.50**	**29**	P	**P**	**12 49 53.6**	**+1.8**
L18K				IAmb	IAmb	12 50 17.2	
	comp=Z,4.4nm,1.2s						
B20K	**Meade River**	**70.51**	**21**	P	**P**	**12 49 53.2**	**+1.5**
B20K				IAmb	IAmb	12 50 08.1	
	comp=Z,4.9nm,1.2s						
H19K	**Roundabout Mou**	**70.63**	**26**	P	**P**	**12 49 54.3**	**+1.8**
H19K				IAmb	IAmb	12 50 16.4	
	comp=Z,3.3nm,1.1s						
TTA	**Tatalina**	**70.81**	**29**	P	**P**	**12 49 55.2**	**+1.4**
J20K	**Nowinta River**	**71.62**	**27**	P	**P**	**12 50 00.4**	**+1.8**
J20K				IAmb	IAmb	12 50 23.7	
	comp=Z,6.5nm,1.4s						
IMAR	**Indian Mountai**	**71.74**	**25**	P	**P**	**12 50 00.2**	**+1.0**
B22K	**Teshekpuk Lake**	**71.79**	**21**	P	**P**	**12 49 59.0**	**-0.5**
D22K	**Ayikyak River**	**72.07**	**22**	P	**P**	**12 50 01.8**	**+0.6**
D22K				IAmb	IAmb	12 50 23.6	
	comp=Z,4.4nm,1.3s						
E22K	**Anaktuvuk Pass**	**72.42**	**23**	P	**P**	**12 50 03.1**	**-0.2**
E22K				IAmb	IAmb	12 50 16.2	
	comp=Z,4.5nm,1.5s						
CAST	**Castle Rocks**	**72.57**	**28**	P	**P**	**12 50 05.2**	**+0.9**
CAST				IAmb	IAmb	12 50 15.9	
	comp=Z,4.0nm,1.2s						
C23K	**Itkillik River**	**72.77**	**21**	P	**P**	**12 50 06.7**	**+1.4**
C23K				IAmb	IAmb	12 50 09.5	
	comp=Z,4.1nm,1.3s						
TRF	**Thorofare Moun**	**73.38**	**28**	P	**P**	**12 50 09.9**	**+0.7**
TRF				IAmb	IAmb	12 50 13.4	
	comp=Z,5.2nm,1.4s						
MCK	**McKinley**	**73.95**	**28**	P	**P**	**12 50 12.4**	**0.0**
MCK				IAmb	IAmb	12 50 36.9	
	comp=Z,3.9nm,1.1s						
F24K	**Squaw Lake**	**73.95**	**24**	P	**P**	**12 50 13.0**	**+0.6**
SCM	**Sheep Creek Mo**	**74.93**	**29**	P	**P**	**12 50 17.6**	**-0.6**
BMAR	**Burnt Mountain**	**75.23**	**23**	P	**P**	**12 50 21.6**	**+1.8**
M24K	**Tolsona, Glenn**	**75.42**	**29**	P	**P**	**12 50 22.1**	**+1.0**
SCRK	**Sand Creek**	**76.08**	**27**	P	**P**	**12 50 26.2**	**+1.4**
SCRK				IAmb	IAmb	12 50 47.7	
	comp=Z,3.9nm,1.3s						
ARCES	**ARCESS Array B**	**76.36**	**339**	P	**P**	**12 50 24.7**	**-1.5**
	comp=Z,2.1nm,0.8s,baz=58,slow=8.6,SNR=2.2						
	comp=Z,2.1nm,0.8s						
SPB1	**Spitsbergen Ar**	**76.41**	**348**	P	**P**	**12 50 26.4**	**0.0**
SPA1	**Spitsbergen Ar**	**76.42**	**348**	P	**P**	**12 50 26.7**	**+0.4**
SPB5	**Spitsbergen Ar**	**76.42**	**348**	P	**P**	**12 50 26.8**	**+0.4**
SPITS	**Spitsbergen Ar**	**76.42**	**348**	P	**P**	**12 50 26.1**	**-0.2**
	comp=Z,12nm,1.0s,baz=82,slow=7.7,SNR=11						
	comp=Z,12nm,1.0s						
SPB3	**Spitsbergen Ar**	**76.42**	**348**	P	**P**	**12 50 26.9**	**+0.5**
M26K	**Nabesna, AK**	**76.83**	**28**	P	**P**	**12 50 30.8**	**+1.7**
M26K				IAmb	IAmb	12 50 48.5	
	comp=Z,4.4nm,1.3s						
E28M	**Babbage River**	**76.85**	**22**	P	**P**	**12 50 30.8**	**+1.8**
BCAR	**Beaver Creek A**	**77.23**	**28**	P	**P**	**12 50 33.1**	**+1.9**
FINES	**FINESS Array B**	**78.01**	**331**	P	**P**	**12 50 34.6**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=173,slow=32,SNR=6.6						
	comp=Z,0.4nm,0.5s						
INK	**Inuvik**	**79.06**	**22**	LR	LR	13 29 15.3	
	comp=Z,21nm,18.3s,baz=4.0,slow=38						
A36M	**Sachs Harbour**	**80.25**	**17**	P	**P**	**12 50 47.6**	**0.0**
NOA	**NORSAR Array B**	**84.87**	**333**	P	**P**	**12 51 10.1**	**-1.8**
	comp=Z,2.2nm,0.5s,baz=63,slow=5.1,SNR=2.2						
	comp=Z,0.2nm,0.5s						
YKA	**Yellowknife Ar**	**88.74**	**23**	P	**P**	**12 51 31.1**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=306,slow=4.6,SNR=9.4						
	comp=Z,0.4nm,0.7s						
YKAB2	**New Yellowknif**	**88.78**	**23**	P	**P**	**12 51 30.8**	**-0.1**

*OMAN **30** 12:45:10.8±0.0, 31°.07N×57°.39E, h10km, mb4.7/33, ml2.9/2, ms2.6/4, Error ellipse: s-maj=2.1km s-min=0.9km az=286.0*

*IDC **30** 12:45:12.4±0.8, 30°.61N×57°.28E, h0km, mb3.9/17, mbtmp4.0/22, ML3.9/5, MS3.1/12, Error ellipse: s-maj=18.6km s-min=15.6km az=15.0*

*MOS **30** 12:45:12.9±1.1, 30°.60N×57°.28E, h11km, mb4.2/9, Error ellipse: s-maj=8.7km s-min=5.8km az=79.5*

*TEH **30** 12:45:13.0, 30°.70N×57°.40E, h8km±39km, ML4.2*

*NEIC **30** 12:45:15.1±1.7, 30°.64N±0°.07×57°.27E±0°.09, h10km±1km, mb4.4/42, Error ellipse: s-maj=13.4km s-min=12.4km az=99.0*

*DSN **30** 12:45:26.2±1.3, 29°.75N×57°.91E, h10km, ML3.3/11, Error ellipse: s-maj=51.6km s-min=10.3km az=117.0*

ISC 30 12:45:15.8±0.4, 30.74N±0°.04×57.32E±0°.04, h15km, n206, σ1§54/208, mb4.3/48, MS3.1/9, 8C-2D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRM1	**Kerman Provinc**	**0.24**	**190**	Pg	Pg	12 45 17.9	-3.3
ZRDN	**Zarand Kerman**	**0.71**	**289**	Pg	**Pg**	**12 45 28.3**	**-1.5**
KHGB	**Koh Gabri**	**0.81**	**244**	Pg	Pg	12 45 29.3	-2.3
TVBK	**TV Kerman**	**0.89**	**213**	Pg	**Pb**	**12 45 31.0**	**-2.2**
CHMN	**Cheshme madani**	**0.89**	**168**	Pg	Pg	12 45 29.2	-4.0
NGRK	**Negar Kerman**	**1.20**	**205**	Pg	**Pn**	**12 45 36.2**	**-2.2**
IBAF	**Bafgh**	**1.73**	**300**	Pn	**Pn**	**12 45 46.8**	**+1.3**
KBAM	**BAM**	**1.87**	**148**	Pn	**Pn**	**12 45 46.7**	**-0.7**
BSRN	**Basiran**	**1.97**	**51**	Pn	**Pn**	**12 45 47.9**	**-0.9**
IKOO	**Kooshah**	**2.21**	**40**	Pn	**Pn**	**12 45 52.2**	**0.0**
TPRV	**Parvadeh(Tabas**	**2.35**	**347**	Pn	**Pn**	**12 45 54.2**	**+0.3**
IMEH	**Mehriz**	**2.41**	**286**	Pn	**Pn**	**12 45 56.0**	**+1.0**
NHDN	**Nehbandan**	**2.43**	**74**	Pn	**Pn**	**12 45 54.7**	**-0.5**
ITEG	**Tejag**	**2.47**	**29**	Pn	**Pn**	**12 45 55.4**	**-0.4**
TKDS	**Koohdasht(Taba**	**2.87**	**357**	Pn	**Pn**	**12 46 01.8**	**+0.6**
ICHK	**Chekchek**	**2.91**	**302**	Pn	**Pn**	**12 46 03.1**	**+1.3**
IDAH	**Dahanechah**	**2.95**	**47**	Pn	**Pn**	**12 46 02.2**	**-0.1**
AFRZ	**Afriz**	**3.04**	**28**	Pn	**Pn**	**12 46 03.2**	**-0.3**
ZHDN	**Zahedan**	**3.31**	**113**	Pn	**Pn**	**12 46 06.0**	**-1.2**
ISAD	**Sadrabad**	**3.33**	**292**	Pn	**Pn**	**12 46 09.7**	**+2.1**
SHRT	**Shahrakht**	**3.84**	**40**	Pn	**Pn**	**12 46 14.9**	**+0.4**
ANAR	**Anarak**	**3.91**	**310**	Pn	**Pn**	**12 46 15.9**	**+0.4**
IRAM	**Ramesheh**	**4.36**	**285**	Pn	**Pn**	**12 46 23.7**	**+2.0**
IZEF	**Zefreh**	**4.76**	**298**	Pn	**Pn**	**12 46 27.9**	**+0.6**
SHME	**Shamm**	**4.78**	**193**	*i* P	**Pn**	**12 46 27.7**	**+0.3**
	SNR=10.0						
SHME				S	**Sn**	**12 47 16.0**	**-6.6**
SHME	**Shamm**	**4.78**	**193**	P	**Pn**	**12 46 28.3**	**+1.0**
	SNR=6.6						
JASK	**Jask - Hormozg**	**4.88**	**174**	P	**Pn**	**12 46 30.4**	**+1.8**
	SNR=6.3						
BANOM	**Banah**	**4.88**	**191**	P	**Pn**	**12 46 30.3**	**+1.6**
BANOM				S	**Sn**	**12 47 29.4**	**+4.4**
KLNJ	**Kolanjah**	**4.93**	**275**	Pn	**Pn**	**12 46 31.6**	**+1.9**
TBJM	**Torbat-e-JAM**	**5.18**	**28**	Pn	**Pn**	**12 46 32.9**	**0.0**
MASF	**Masafi**	**5.44**	**191**	P	**Pn**	**12 46 38.0**	**+1.5**
	SNR=8.6						
MASF				S	**Sn**	**12 47 44.6**	**+5.7**
MSFE	**Esma-Masafi**	**5.45**	**191**	*i* P	**Pn**	**12 46 37.6**	**+1.0**
	SNR=8.6						
MDH	**Madha**	**5.49**	**190**	P	**Pn**	**12 46 36.4**	**-0.7**
MDH	**Madha**	**5.49**	**190**	P	**Pn**	**12 46 37.9**	**+0.8**
MDH				S	**Sn**	**12 47 43.7**	**+3.7**
HRA	**Herat**	**5.52**	**48**	Pn	**Pn**	**12 46 38.8**	**+1.1**
ISFB	**Sefidab**	**5.60**	**311**	Pn	**Pn**	**12 46 40.5**	**+1.8**
SBZV	**Sabzevar**	**5.64**	**2**	Pn	**Pn**	**12 46 40.9**	**+1.6**
UOSS	**Minazif**	**5.85**	**190**	Pn	**Pn**	**12 46 39.2**	**-2.9**
UOSS	**Minazif**	**5.85**	**190**	P	**Pn**	**12 46 42.0**	**-0.1**
UOSS	**Minazif**	**5.85**	**190**	P	**Pn**	**12 46 42.9**	**+0.9**
UOSS				S	**Sn**	**12 47 53.6**	**+4.7**
NAZ	**Nazwa, Dubai**	**5.91**	**195**	*i* P	**Pn**	**12 46 43.5**	**+0.7**
	SNR=6.6						
NAZ	**Nazwa, Dubai**	**5.91**	**195**	P	**Pn**	**12 46 45.0**	**+2.1**
	SNR=6.6						
HATD	**Hatta, Dubai**	**5.98**	**190**	P	**Pn**	**12 46 44.6**	**+0.8**
HATD	**Hatta, Dubai**	**5.98**	**190**	P	**Pn**	**12 46 45.4**	**+1.6**
IMYA	**Miami**	**6.05**	**22**	Pn	**Pn**	**12 46 45.0**	**0.0**
ASHO	**Ashiyiah**	**6.13**	**191**	*i* P	**Pn**	**12 46 45.6**	**-0.4**
	SNR=6.9						
ASHO	**Ashiyiah**	**6.13**	**191**	P	**Pn**	**12 46 47.0**	**+1.1**
	SNR=12						
FAQ	**Al Faqa, Dubai**	**6.16**	**195**	*i* P	**Pn**	**12 46 46.6**	**+0.3**
	SNR=12						
FAQ	**Al Faqa, Dubai**	**6.16**	**195**	P	**Pn**	**12 46 48.0**	**+1.7**
	SNR=12						
FAQ				S	**Sn**	**12 47 59.6**	**+3.0**
IKRD	**Kardeh**	**6.29**	**16**	Pn	**Pn**	**12 46 48.9**	**+0.6**
ISFR	**Sfrayin**	**6.33**	**5**	Pn	**Pn**	**12 46 50.2**	**+1.4**
ASUD	**Al Ashush, Dub**	**6.34**	**197**	P	**Pn**	**12 46 49.7**	**+1.0**
ASUD	**Al Ashush, Dub**	**6.34**	**197**	P	**Pn**	**12 46 50.5**	**+1.8**
ASUD				S	**Sn**	**12 48 03.8**	**+3.0**
IVRN	**Varamin**	**6.34**	**314**	Pn	**Pn**	**12 46 50.6**	**+1.8**
AJN	**Ajban**	**6.49**	**199**	P	**Pn**	**12 46 51.2**	**+0.4**
IDMV	**Damavand**	**6.55**	**319**	Pn	**Pn**	**12 46 53.2**	**+1.3**
SOHO	**SOHO**	**6.61**	**186**	*i* P	**Pn**	**12 46 51.0**	**-1.5**
	SNR=8.9						
SOHO	**SOHO**	**6.61**	**186**	P	**Pn**	**12 46 51.5**	**-1.0**
ALNE	**Al Ain**	**6.80**	**192**	*i* P	**Pn**	**12 46 55.2**	**+0.2**
	SNR=9.9						
ALNE	**Al Ain**	**6.80**	**192**	P	**Pn**	**12 46 56.6**	**+1.5**
	SNR=9.9						
JRN	**Qarnain Island**	**7.00**	**216**	P	**Pn**	**12 46 58.1**	**+0.3**
	SNR=6.8						
JRN				S	**Sn**	**12 48 19.4**	**+2.3**

	comp=Z,3.0nm,0.9s								
BNN	**Bunyan**	**19.38**	**301**		P	**P**	**12 49 39.3**	**-1.9**
BNN					IAmb	IAmb	12 49 49.3	
	comp=Z,40nm,1.5s								
AKTO	**Aktyubinsk**	**19.68**	**1**		P	**P**	**12 49 44.9**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=174,slow=9.2,SNR=8.6								
AKTO					LR	LR	12 59 02.6		
	comp=Z,66nm,20.0s,baz=98,slow=42								
	comp=Z,4.4nm,0.7s								
BR131	**Keskin Array S**	**21.27**	**301**		P	**P**	**12 50 02.8**	**+1.0**
BR131	**Keskin Array S**	**21.27**	**301**		P	**P**	**12 50 02.8**	**+1.0**
BR131					pmax	pmax			
	comp=Z,7.0nm,1.3s								
BRTR	**Keskin Array B**	**21.27**	**301**		P	**P**	**12 50 02.7**	**+0.9**
BRTR	**Keskin Array B**	**21.27**	**301**		P	**P**	**12 50 02.5**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=126,slow=14,SNR=8.0								
	comp=Z,2.1nm,0.8s								
BELG	**Belogornoye**	**22.78**	**345**	⇑	*e*P	**P**	**12 50 18.2**	**+0.6**
BELG					pmax	pmax			
	comp=Z,5.0nm,1.0s								
BRVK	**Borovoye**	**24.23**	**19**		P	**P**	**12 50 32.4**	**+0.5**
BRVK					IAmb	IAmb	12 50 33.5		
	comp=Z,6.7nm,0.9s								
BRVK	**Borovoye**	**24.23**	**19**	*ce*	P	**P**	**12 50 32.3**	**+0.5**
BRVK					pmax	pmax			
	comp=Z,9.0nm,1.1s								
BRVK	**Borovoye**	**24.23**	**19**		P	P	12 50 24.4	-7.5	
BRVK					P	P	12 50 24.4	-7.5	
BVAR	**Borovoye Array**	**24.23**	**19**		P	**P**	**12 50 32.5**	**+0.6**
	comp=Z,10nm,0.9s,baz=201,slow=7.6,SNR=36								
BVAR					PcP	**PcP**	**12 54 10.4**	**-1.5**	
	comp=Z,0.6nm,0.4s,baz=205,slow=2.4,SNR=4.4								
BVAR					LR	LR	12 59 53.1		
	comp=Z,25nm,21.4s,baz=241,slow=36								
	comp=Z,10nm,0.9s								
MAKZ	**Makanchi**	**24.89**	**43**		P	**P**	**12 50 38.7**	**+0.7**
MAKZ					IAmb	IAmb	12 50 39.3		
	comp=Z,7.7nm,0.8s								
MAKZ	**Makanchi**	**24.89**	**43**		P	**P**	**12 50 38.7**	**+0.7**
MAKZ					pmax	pmax			
	comp=Z,8.0nm,0.8s								
MK31	**Makanchi Array**	**25.07**	**43**		P	**P**	**12 50 40.3**	**+0.7**
MK31	**Makanchi Array**	**25.07**	**43**	*c*	*i*P	**P**	**12 50 39.7**	**+0.1**
MKAR	**Makanchi Array**	**25.07**	**43**		P	**P**	**12 50 40.1**	**+0.6**
MKAR	**Makanchi Array**	**25.07**	**43**		P	**P**	**12 50 39.9**	**+0.3**
	comp=Z,2.7nm,0.7s,baz=225,slow=9.2,SNR=21								
MKAR					LR	LR	13 01 40.9		
	comp=Z,42nm,18.7s,baz=240,slow=39								
	comp=Z,2.7nm,0.7s								
KURBB	**Kurchatov Arra**	**25.40**	**32**		P	**P**	**12 50 43.1**	**+0.7**
	comp=Z,5.1nm,0.9s,baz=232,slow=9.2,SNR=39								
	comp=Z,5.1nm,0.9s								
KURK	**Kurchatov**	**25.50**	**32**		P	**P**	**12 50 44.2**	**+0.8**
KURK					IAmb	IAmb	12 50 45.0		
	comp=Z,3.6nm,0.8s								
KURK	**Kurchatov**	**25.50**	**32**		P	**P**	**12 50 44.3**	**+0.8**
KURK					pmax	pmax			
	comp=Z,4.0nm,0.8s								
KURK	**Kurchatov**	**25.50**	**32**		P	P	12 50 36.6	-6.9	
ARU	**Arti**	**25.70**	**2**		P	**P**	**12 50 47.5**	**+2.4**
ARU					IAmb	IAmb	12 50 47.9		
	comp=Z,6.9nm,1.1s								
ARU	**Arti**	**25.70**	**2**	*c*	*i*P	**P**	**12 50 47.5**	**+2.4**
ARU							12 51 19.9		
ARU					S	**S**	**12 55 15.5**	**+2.4**	
ARU					pmax	pmax			
	comp=Z,8.0nm,1.1s								
ARU	**Arti**	**25.70**	**2**		LR	LR	13 02 12.0		
	comp=Z,40nm,20.0s,baz=204,slow=40								
WMQ	**Urumqi**	**27.30**	**53**		*e*P	**P**	**12 51 02.8**	**+2.9**
WMQ					LR	LR			
	comp=N,3μm,20.5s								
WMQ					LR	LR			
	comp=E,2μm,24.1s								
WMQ					LR	LR			
	comp=Z,180nm,23.3s								
KIRV	**Kirov**	**28.37**	**351**		LR	LR	13 05 02.5		
	comp=Z,70nm,18.4s,baz=120,slow=42								
OBN	**Obninsk**	**28.50**	**335**	*i*	P	**P**	**12 51 11.2**	**+0.9**
OBN					pmax	pmax			
	comp=Z,13nm,1.0s								
AKASG	**Malin Array Be**	**28.90**	**322**		P	**P**	**12 51 13.1**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=132,slow=8.1,SNR=2.0								
	comp=Z,0.4nm,0.4s								
BURAR	**Bucovina Array**	**29.78**	**314**		P	**P**	**12 51 22.3**	**+0.4**
BUR08	**Bucovina Ar. S**	**29.80**	**314**		P	**P**	**12 51 23.6**	**+1.5**
BUR08					IAmb	IAmb	12 51 34.4		
	comp=Z,6.7nm,1.4s								
ZAA0	**Zalesovo Array**	**30.50**	**33**		P	**P**	**12 51 28.0**	**-0.1**
ZAA0					IAmb	IAmb	12 51 28.7		
	comp=Z,5.0nm,0.7s								
ZALV	**Zalesovo Beam**	**30.50**	**33**		P	**P**	**12 51 27.8**	**-0.2**
ZALV	**Zalesovo Beam**	**30.50**	**33**	*i*	P	**P**	**12 51 28.2**	**+0.2**
ZALV					pmax	pmax			
	comp=Z,5.0nm,0.6s								
ZALV	**Zalesovo Beam**	**30.50**	**33**		P	**P**	**12 51 28.0**	**0.0**
	comp=Z,4.9nm,0.6s,baz=239,slow=9.3,SNR=24								
ZALV					LR	LR	13 04 21.3		
	comp=Z,39nm,18.5s,baz=196,slow=38								
	comp=Z,4.9nm,0.6s								
KLMR	**Klimovskoe**	**32.35**	**344**		*e*P	P	12 51 39.7	-4.6	
KLMR					pmax	pmax			
	comp=Z,28nm,2.0s								
GTA	**Gaotai**	**35.57**	**64**		P	**P**	**12 52 13.5**	**+0.8**
GTA					pmax	pmax			
	comp=Z,8.0nm,0.9s								
FIA1	**FINESS Array S**	**36.90**	**335**		P	**P**	**12 52 24.3**	**+0.7**
FINES	**FINESS Array B**	**36.90**	**335**		P	**P**	**12 52 24.2**	**+0.7**
FINES	**FINESS Array B**	**36.90**	**335**	*i*	P	**P**	**12 52 24.0**	**+0.5**
FINES					pmax	pmax			
	comp=Z,1.0nm,0.7s								
FINES	**FINESS Array B**	**36.90**	**335**		P	**P**	**12 52 23.6**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=120,slow=11,SNR=4.5								
	comp=Z,1.5nm,0.7s								
GEC2	**GERESS Array S**	**37.48**	**312**		P	**P**	**12 52 28.7**	**-0.1**
GEC2					IAmb	IAmb	12 52 33.9		
	comp=Z,6.4nm,1.2s								
GERES	**GERESS Array B**	**37.48**	**312**		P	**P**	**12 52 29.3**	**+0.4**
GERES	**GERESS Array B**	**37.48**	**312**		P	**P**	**12 52 29.3**	**+0.4**
GERES	**GERESS Array B**	**37.48**	**312**		P	**P**	**12 52 27.9**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=89,slow=11,SNR=5.5								
	comp=Z,1.3nm,0.8s								
CLL	**Collm**	**38.50**	**315**		*e*P	**P**	**12 52 42.0**	**+4.7**
CLL	**Collm**	**38.50**	**315**		*e*Px	Px	12 52 40.0		
LZH	**Lanzhou**	**38.91**	**69**		*e*P	**P**	**12 52 38.8**	**-2.4**
LZH					sP	pP	12 52 48.5	+2.3	
LZH					pmax	pmax			
	comp=Z,13nm,1.0s								
PZH	**PanZhiHua**	**39.03**	**85**		P	**P**	**12 52 41.8**	**-0.4**
PZH					pmax	pmax			
	comp=Z,10.0nm,0.5s								
PZH					pmax	pmax			
	comp=Z,90nm,5.6s								
CMAR	**Chiang Mai Arr**	**39.56**	**98**		P	**P**	**12 52 45.4**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=301,slow=7.2,SNR=1.7								
CMAR					LR	LR	13 13 41.0		
	comp=Z,9.8nm,19.2s,baz=270,slow=43								
	comp=Z,0.4nm,0.3s								
CRAI	**Chiangrai**	**40.03**	**95**		P	**P**	**12 52 49.0**	**-1.5**
CRAI					IAmb	IAmb	12 52 51.0		
	comp=Z,2.5nm,0.6s								
KMI	**Kunming**	**40.31**	**86**	⇓	P	**P**	**12 52 52.5**	**-0.5**
KMI					pmax	pmax			
	comp=Z,9.0nm,0.9s								
PHRA	**Phrae**	**40.64**	**97**		P	**P**	**12 52 55.7**	**+0.3**
SONM	**Songino Array**	**40.90**	**51**		P	**P**	**12 52 57.9**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=268,slow=8.7,SNR=6.3								
	comp=Z,1.1nm,0.8s								
HFS	**Hagfors**	**41.22**	**328**		P	**P**	**12 52 59.3**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=116,slow=6.6,SNR=1.8								
	comp=Z,1.5nm,0.8s								
ULN	**Ulaanbaatar**	**41.35**	**51**	⇑	*e*P	**P**	**12 53 01.9**	**+0.7**
ULN					pmax	pmax			
	comp=Z,6.0nm,2.5s								
NRIK	**Noril'sk**	**42.31**	**15**	⇑	*e*P	**P**	**12 53 09.1**	**+0.5**
NRIK					pmax	pmax			
	comp=Z,2.0nm,0.9s								
WLF	**Walferdange**	**42.49**	**311**		P	**P**	**12 53 10.5**	**+0.2**
WLF	**Walferdange**	**42.49**	**311**		P	**P**	**12 53 10.5**	**+0.2**
WLF					pmax	pmax			
	comp=Z,30nm,1.4s								
ARCES	**ARCESS Array B**	**42.83**	**344**		P	**P**	**12 53 11.5**	**-1.2**
	comp=Z,1.7nm,0.8s,baz=49,slow=3.9,SNR=4.1								
ARCES					LR	LR	13 14 39.2		
	comp=Z,31nm,18.3s,baz=300,slow=41								
	comp=Z,1.7nm,0.8s								

NBO00	**NORSAR Array S**	**42.90**	**329**		P	**P**	**12 53 14.6**	**+1.1**
NBO00					IAmb	IAmb	12 53 39.3		
	comp=Z,18nm,1.4s								
HHC	**Hu-ho-hao-te**	**44.52**	**61**		*e*P	**P**	**12 53 26.8**	**-0.1**
HHC					pmax	pmax			
	comp=Z,13nm,0.7s								
HHC					pmax	pmax			
	comp=Z,82nm,4.5s								
EKA	**Eskdalemuir Ar**	**48.72**	**319**		P	**P**	**12 53 58.6**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=106,slow=6.7,SNR=1.9								
	comp=Z,1.9nm,0.8s								
TOA0	**Torodi Ar. Sit**	**53.95**	**264**		P	**P**	**12 54 38.0**	**-1.3**
TOA0					IAmb	IAmb	12 54 42.5		
	comp=Z,2.8nm,0.9s								
TORD	**Torodi Ar. Bea**	**53.95**	**264**		P	**P**	**12 54 38.5**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=56,slow=7.3,SNR=9.9								
	comp=Z,1.3nm,0.7s								
ZEA	**Zeya**	**54.22**	**43**		*e*P	**P**	**12 54 41.5**	**+0.8**
HEH	**HeiHe**	**54.68**	**48**		*e*P	**P**	**12 54 42.5**	**-1.6**
KLR	**Kul'dur**	**57.62**	**48**		*i*P	**P**	**12 55 07.1**	**+2.0**
UGM	**Wanagama**	**63.81**	**118**		P	**P**	**12 55 47.1**	**-0.7**
SEY	**Seymchan**	**65.32**	**30**		*i*P	**P**	**12 55 59.9**	**+2.9**
BOSA	**Boshof**	**66.47**	**211**		LR	LR	13 26 17.0		
	comp=Z,70nm,18.5s,baz=196,slow=37								
TOLI2	**Tolitoli**	**66.77**	**103**		P	**P**	**12 56 06.5**	**-0.5**
SKR	**Severo-Kuril's**	**72.02**	**41**	*ce*	P	**P**	**12 56 41.7**	**+2.8**
SHEL	**Horse Pasture**	**76.34**	**242**		P	**P**	**12 57 04.5**	**-0.1**
SHEL	**Horse Pasture**	**76.34**	**242**		P	**P**	**12 57 04.6**	**-0.1**
SHEL					pmax	pmax			
	comp=Z,76nm,1.3s								
B22K	**Teshekpuk Lake**	**76.82**	**10**		P	**P**	**12 57 06.5**	**+0.1**
B22K					IAmb	IAmb	12 57 13.4		
	comp=Z,2.9nm,1.0s								
A36M	**Sachs Harbour**	**77.54**	**1**		P	**P**	**12 57 09.9**	**-0.6**
A36M					IAmb	IAmb	12 57 16.4		
	comp=Z,3.4nm,0.8s								
TOLK	**Toolik Lake Re**	**78.94**	**10**		P	**P**	**12 57 17.1**	**-1.3**
TOLK					IAmb	IAmb	12 57 35.4		
	comp=Z,6.6nm,1.4s								
BMAR	**Burnt Mountain**	**80.75**	**8**		P	**P**	**12 57 28.6**	**+0.3**
J16K	**Anvik River**	**81.57**	**16**		P	**P**	**12 57 32.6**	**0.0**
J16K					IAmb	IAmb	12 57 36.2		
	comp=Z,6.0nm,1.4s								
F31M	**Tsiigehtchic**	**81.77**	**4**		P	**P**	**12 57 33.3**	**-0.3**
F31M					IAmb	IAmb	12 57 44.6		
	comp=Z,2.7nm,1.4s								
SCHQ	**Schefferville**	**82.23**	**331**		P	**P**	**12 57 36.7**	**+0.4**
SCHQ					IAmb	IAmb	12 58 03.4		
	comp=Z,3.3nm,1.0s								
G31M	**Satah River**	**82.25**	**5**		P	**P**	**12 57 36.2**	**+0.1**
G31M					IAmb	IAmb	12 57 40.5		
	comp=Z,3.3nm,1.4s								
KNRA	**Kununurra**	**82.68**	**113**		P	**P**	**12 57 38.1**	**-1.1**
I30M	**Mount Dempster**	**83.76**	**6**		P	**P**	**12 57 43.3**	**-0.9**
I30M					IAmb	IAmb	12 57 54.8		
	comp=Z,2.4nm,1.4s								
N19K	**Bonanza Creek**	**85.15**	**15**		P	**P**	**12 57 52.7**	**+1.5**
YKA	**Yellowknife Ar**	**86.87**	**356**	*i*	P	**P**	**12 57 59.5**	**0.0**
YKA	**Yellowknife Ar**	**86.87**	**356**		P	**P**	**12 57 58.9**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=358,slow=5.0,SNR=6.7								
	comp=Z,0.3nm,0.8s								
WRA	**Warramunga Arr**	**89.45**	**114**		P	**P**	**12 58 11.1**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=319,slow=4.1,SNR=7.2								
	comp=Z,0.3nm,0.7s								
WB2	**Warramunga Arr**	**89.46**	**114**		P	**P**	**12 58 11.6**	**-1.0**
WB2					IAmb	IAmb	12 58 12.2		
	comp=Z,5.2nm,1.2s								
WR0	**Warramunga Arr**	**89.62**	**113**		P	**P**	**12 58 13.0**	**-0.3**
ASAR	**Alice Springs**	**91.14**	**117**		P	**P**	**12 58 18.3**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=298,slow=5.9,SNR=2.2								
	comp=Z,0.2nm,0.3s								
ULM	**Lac du Bonnet**	**95.94**	**343**		P	**P**	**12 58 40.4**	**-1.6**
	comp=Z,2.8nm,0.3s,baz=115,slow=22,SNR=14								

IDC ***30*** *12:52:53.2±3.0,36°.19N×71°.13E,h120km±27km, mb3.7/13, mbtmp4.2/19,MS3.3/2, Error ellipse: s-maj=19.5km s-min=16.8km az=23.0*

MOS ***30*** *12:52:55.0±1.0,36°.42N×71°.14E,h145km, mb4.2/8, Error ellipse: s-maj=9.6km s-min=5.1km az=86.7*

NEIC ***30*** *12:52:56.6±1.7,36°.47N±0°.06×71°.08E±0°.08,h135km±6km, mb4.2/16, Error ellipse: s-maj=9.6km s-min=8.9km az=127.0*

NNC ***30*** *12:52:59.8±3.3,37°.07N×70°.14E,h0km, mb4.8, mpv4.7, Error ellipse: s-maj=30.9km s-min=22.9km az=114.0*

ISC 30 12:52:55.1±0.5,36°.43N±0°.05×71°.09E±0°.05,h135km,n114, σ2s04/119,mb4.0/22,5C-7D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.52**	**222**		Pn	**Pn**	**12 53 37.7**	**+1.7**
KBL	**Kabul**	**2.52**	**222**		PN	**Pn**	**12 53 37.7**	**+1.7**
GAR	**Garm**	**2.63**	**347**			**Pn**	**12 53 38.5**	**+1.2**
CHGR	**Chuyangaron**	**2.70**	**326**			**Pn**	**12 53 38.9**	**+0.8**
CHGR	**Chuyangaron**	**2.70**	**326**		PN	**Pn**	**12 53 38.9**	**+0.8**
SIMJ	**Simiganj**	**2.77**	**324**			**Pn**	**12 53 39.8**	**+0.8**
DRK	**Karamyk**	**3.09**	**10**			**Pn**	**12 53 45.3**	**+1.9**
NIL	**Nilore**	**3.30**	**147**		Pn	**Pn**	**12 53 47.1**	**+1.3**
NIL	**Nilore**	**3.30**	**147**		PN	**Pn**	**12 53 47.1**	**+1.3**
BTK	**Batken**	**3.62**	**357**		Pn	**Pn**	**12 53 52.0**	**+1.9**
BTK	**Batken**	**3.62**	**357**		PN	**Pn**	**12 53 52.0**	**+1.9**
KSH	**Kashi**	**4.94**	**50**		Pn	Pn	12 54 03.5	-4.0
KSH					Sn	Sn	12 54 52.3	-12
KSH					smax	smax		
	comp=N,350nm,0.7s							
KSH					smax	smax		
	comp=E,200nm,0.6s							
ARSB	**Arslanbob**	**5.10**	**16**			**Pn**	**12 54 10.4**	**+0.7**
ARSB	**Arslanbob**	**5.10**	**16**		PN	**Pn**	**12 54 10.5**	**+0.7**
THN	**Thein Dam**	**5.53**	**135**	*e*	P	**Pn**	**12 54 15.1**	**-0.3**
THN				*e*	S	**Sn**	**12 55 15.9**	**-2.0**
DHRM	**DHARAMSHALA**	**6.00**	**133**	*e*	P	**Pn**	**12 54 21.5**	**-0.4**
DHRM				*e*	S	**Sn**	**12 55 25.5**	**-4.1**
DHRM					IAML		12 55 28.4	
	comp=N,392nm,0.2s							
DHRM					IAML		12 55 28.6	
	comp=E,560nm,0.1s							
NRN	**Naryn**	**6.29**	**36**		Pn	**Pn**	**12 54 25.0**	**-0.8**
NRN	**Naryn**	**6.29**	**36**		PN	**Pn**	**12 54 25.0**	**-0.8**
UCH	**Uchtor**	**6.37**	**24**		P	**Pn**	**12 54 27.1**	**+0.1**
	SNR=39							
EKS2	**Erkin-Say**	**6.56**	**18**		P	**Pn**	**12 54 29.7**	**+0.5**
	SNR=22							
KK31	**Karatay Array**	**6.68**	**356**		Pn	**Pn**	**12 54 31.0**	**+0.3**
KK31	**Karatay Array**	**6.68**	**356**		PN	**Pn**	**12 54 31.0**	**+0.3**
KK31	**Karatay Array**	**6.68**	**356**		P	**Pn**	**12 54 30.6**	**-0.1**
	comp=E,28nm,0.4s,baz=193,slow=21,SNR=275							
KK31				⇑	S	**Sn**	**12 55 40.9**	**-4.6**
	comp=E,8.1nm,0.3s,baz=244,slow=28,SNR=4.9							
KKAR	**Karatay Array**	**6.68**	**356**		Pn	**Pn**	**12 54 30.9**	**+0.2**
KKAR	**Karatay Array**	**6.68**	**356**		PN	**Pn**	**12 54 30.9**	**+0.2**
BHK	**Bhakra**	**6.68**	**137**	*e*	P	**Pn**	**12 54 30.6**	**-0.2**
BHK				*e*	S	**Sn**	**12 55 41.5**	**-4.2**
AAK	**Ala-Archa**	**6.73**	**22**		Pn	**Pn**	**12 54 32.1**	**+0.5**
AAK	**Ala-Archa**	**6.73**	**22**	*d*	PN	**Pn**	**12 54 32.4**	**+0.8**
AAK	**Ala-Archa**	**6.73**	**22**		P	**Pn**	**12 54 32.2**	**+0.6**
	comp=E,24nm,0.5s,baz=204,slow=5.6,SNR=37							
AAK					S	**Sn**	**12 55 45.4**	**-1.6**
	comp=E,14nm,0.5s,baz=142,slow=19,SNR=4.2							
ULHL	**Ulahol**	**7.04**	**33**		P	**Pn**	**12 54 36.7**	**+0.8**
	SNR=6.0							
BOOM	**Boomskoye usch**	**7.12**	**30**			**Pn**	**12 54 37.6**	**+0.8**
BOOM	**Boomskoye usch**	**7.12**	**30**		PN	**Pn**	**12 54 37.6**	**+0.8**
CHMS	**Chumysh**	**7.14**	**22**		P	**Pn**	**12 54 37.3**	**+0.3**
	SNR=9.5							
USP	**Ospenovka**	**7.31**	**20**		P	**Pn**	**12 54 39.7**	**+0.4**
	SNR=9.6							
SMLA	**Simla**	**7.32**	**135**	*e*	P	**Pn**	**12 54 38.2**	**-1.3**
SMLA				*e*	S	**Sn**	**12 55 56.1**	**-5.0**
SMLA					IAML		12 55 59.4	
	comp=E,162nm,0.8s							
SMLA					IAML		12 55 59.5	
	comp=N,121nm,0.0s							
TKM2	**Tokmak 2**	**7.35**	**27**		P	**Pn**	**12 54 43.0**	**+3.0**
	SNR=25							
TARG	**Taragay, Kyrgy**	**7.43**	**43**		Pn	**Pn**	**12 54 41.8**	**+0.5**
TARG	**Taragay, Kyrgy**	**7.43**	**43**		PN	**Pn**	**12 54 41.8**	**+0.5**
HRA	**Herat**	**7.50**	**257**		Pn	**Pn**	**12 54 43.3**	**+1.2**
PRZ	**Przheval'sk**	**8.27**	**41**		Pn	**Pn**	**12 54 53.5**	**+1.2**
PRZ	**Przheval'sk**	**8.27**	**41**		PN	**Pn**	**12 54 53.5**	**+1.2**
LGTI	**Lohaghat**	**10.37**	**130**	*e*	P	**Pn**	**12 55 17.9**	**-2.5**
AJM	**Ajmer**	**10.38**	**162**	*e*	P	**Pn**	**12 55 19.2**	**-1.2**

AJM					*e*S	**Sn**	**12 57 13.5**	**-1.6**	
GEYT	**Alibeck**	**10.46**	**282**		P	**Pn**	**12 55 21.6**	**+0.1**	
	comp=N,5.6nm,0.3s,baz=84,slow=10,SNR=24								
GEYT					S	**Sn**	**12 57 12.7**	**-4.2**	
	comp=N,5.4nm,0.6s,baz=94,slow=16,SNR=2.8								
GYA0B	**ALIBECK ARRAY**	**10.46**	**282**		Pn	**Pn**	**12 55 21.2**	**-0.3**	
MAKZ	**Makanchi**	**13.17**	**35**		Pn	**Pn**	**12 55 57.7**	**+0.8**	
MAKZ	**Makanchi**	**13.17**	**35**		P	**Pn**	**12 55 57.7**	**+0.8**	
MK31	**Makanchi Array**	**13.30**	**35**		Pn	**Pn**	**12 55 58.6**	**-0.1**	
MK31	**Makanchi Array**	**13.30**	**35**	⇓	*e*P	**Pn**	**12 55 58.7**	**+0.1**	
MKAR	**Makanchi Array**	**13.30**	**35**		Pn	**Pn**	**12 55 59.2**	**+0.6**	
MKAR	**Makanchi Array**	**13.30**	**35**		P	**Pn**	**12 55 59.5**	**+0.9**	
	comp=N,0.5nm,0.7s,baz=217,slow=13,SNR=4.9								
WMQ	**Urumqi**	**14.68**	**55**		*e*P	**Pn**	**12 56 18.0**	**+1.8**	
WMQ					pmax	pmax			
	comp=Z,19nm,0.7s								
KURBB	**Kurchatov Arra**	**15.16**	**18**		P	**P**	**12 56 24.5**	**+0.5**	
	comp=Z,2.4nm,0.7s,baz=207,slow=11,SNR=18								
AB31	**Akbulak array**	**15.18**	**331**		P	**Pn**	**12 56 22.2**	**0.0**	
AB31					S	**Sn**	**12 59 02.2**	**-8.2**	
AB31	**Akbulak array**	**15.18**	**331**	⇓	P	**Pn**	**12 56 22.2**	**0.0**	
	comp=Z,6.0nm,0.6s,baz=148,slow=12,SNR=171								
AB31					S	**Sn**	**12 59 02.5**	**-7.9**	
	comp=Z,2.3nm,0.4s,baz=151,slow=23,SNR=7.7								
ABKAR	**Akbulak array**	**15.18**	**331**		Pn	**Pn**	**12 56 22.1**	**-0.2**	
KURK	**Kurchatov**	**15.27**	**18**		Pn	**Pn**	**12 56 23.1**	**-0.3**	
KURK	**Kurchatov**	**15.27**	**18**	⇑	*e*P	**Pn**	**12 56 22.6**	**-0.8**	
KURK					pmax	pmax			
	comp=Z,2.0nm,0.9s								
BVAR	**Borovoye Array**	**16.60**	**359**		P	**Pn**	**12 56 40.3**	**+0.6**	
	comp=Z,3.7nm,0.4s,baz=161,slow=11,SNR=29								
BRVK	**Borovoye**	**16.63**	**358**		Pn	**Pn**	**12 56 39.1**	**-1.0**	
BRVK	**Borovoye**	**16.63**	**358**	*de*	P	**Pn**	**12 56 40.4**	**+0.3**	
BRVK					pmax	pmax			
	comp=Z,3.0nm,0.4s								
AKTO	**Aktyubinsk**	**16.87**	**330**		P	**Pn**	**12 56 45.0**	**+1.9**	
AKTO	**Aktyubinsk**	**16.87**	**330**		P	**Pn**	**12 56 45.0**	**+1.9**	
	comp=Z,13nm,0.6s,baz=130,slow=8.9,SNR=42								
AKTO					S	**Sn**	**12 59 44.6**	**-6.5**	
	comp=Z,2.7nm,0.6s,baz=179,slow=22,SNR=4.1								
AKTO	**Aktyubinsk**	**16.87**	**330**	⇓	P	**Pn**	**12 56 44.6**	**+1.6**	
	comp=Z,9.7nm,0.7s								
AKTO				⇑	S	**Sn**	**12 59 45.5**	**-5.6**	
	comp=Z,5.7nm,1.1s								
LSA	**Lhasa**	**18.09**	**106**		P	**P**	**12 56 56.8**	**-0.2**	
LSA					IAmb	IAmb	12 57 06.2		
	comp=Z,6.5nm,0.7s								
LSA	**Lhasa**	**18.09**	**106**		P	**P**	**12 56 56.8**	**-0.2**	
LSA					pmax	pmax			
	comp=Z,7.0nm,0.7s								
ZAA0	**Zalesovo Array**	**19.95**	**24**		P	**P**	**12 57 17.0**	**+0.6**	
ZAA0					IAmb	IAmb	12 57 17.9		
	comp=Z,8.1nm,1.0s								
ZALV	**Zalesovo Beam**	**19.95**	**24**		P	**P**	**12 57 17.2**	**+0.8**	
ZALV	**Zalesovo Beam**	**19.95**	**24**		P	**P**	**12 57 17.3**	**+1.0**	
	comp=Z,4.3nm,0.4s,baz=224,slow=11,SNR=26								
	comp=Z,4.3nm,0.4s								
ARU	**Arti**	**21.72**	**341**		P	**P**	**12 57 36.6**	**+1.3**	
ARU					IAmb	IAmb	12 57 39.8		
	comp=Z,15nm,1.3s								
ARU	**Arti**	**21.72**	**341**	*c*	*i*P	**P**	**12 57 36.9**	**+1.6**	
ARU							12 58 08.7		
ARU					S	**S**	**13 01 31.1**	**+4.3**	

comp=Z,0.5nm,0.6s

IDC 30 12:53:57.4±1.8,1°35N×126°56E,h0km,mb3.6/4, mbtmp3.7/4,Error ellipse: s-maj=168.2km s-min=21.7km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.50**	**161**	P	P	12 58 59.0	+0.3
	1.3nm,0.4s,baz=339,slow=11,SNR=22 1.3nm,0.4s						
ASAR	**Alice Springs**	**25.88**	**164**	P	P	12 59 30.6	-0.4
	0.3nm,0.4s,baz=346,slow=7.2,SNR=6.0 0.3nm,0.4s						
MKAR	**Makanchi Array**	**59.41**	**326**	P	P	13 04 02.0	+0.2
	0.4nm,0.4s,baz=124,slow=8.2,SNR=6.5 0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**63.64**	**328**	P	P	13 04 30.1	-0.2
	0.3nm,0.4s,baz=131,slow=6.6,SNR=4.5 0.3nm,0.4s						

*SOME **30** 12:59:30.6,41°.00N×71°.23E,h0km*
*ISU **30** 12:59:31.3,41°.13N×71°.54E,h19km*
*KRNET **30** 12:59:31.5±0.1,40°.95N×71°.20E,h16km,mb2.3*
*NNC **30** 12:59:32.0±3.9,40°.91N×71°.30E,h0km,mb3.6,mpv3.1, Error ellipse: s-maj=29.0km s-min=13.8km az=6.0*

ISC 30 12:59:30.5±1.2,40°.97N±0°.02×71°.32E±0°.02,h3km±11km, n25,σ1§17/46,18C-6D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSNS	**Kasansay**	**0.24**	**38**	P	**Pg**	**12 59 35.1**	**-0.1**
KSNS				S	**Sg**	**12 59 38.0**	**-0.3**
TRKS	**Terek-Say**	**0.58**	**346**	⇓*i*P	**Pg**	**12 59 41.4**	**-0.2**
	baz=57						
TRKS				⇓*i*S	**Sg**	**12 59 48.6**	**-0.5**
	baz=57						
CHMI	**Chimion**	**0.72**	**168**	P	**Pn**	**12 59 47.9**	**+0.4**
CHMI				S	**Sn**	**13 00 00.1**	**+1.1**
ARK	**Arkit**	**0.96**	**30**	⇑*i*P	**Pn**	**12 59 50.8**	**-0.1**
	baz=34						
ARK				⇑*i*S	**Sn**	**13 00 04.9**	**-0.2**
	baz=34						
TSTA	**Tashata**	**0.96**	**114**	P	**Pb**	**12 59 48.4**	**-1.4**
TSTA				S	**Sb**	**13 00 01.1**	**-1.8**
BTK	**Batken**	**0.99**	**203**	⇑*i*P	**Pb**	**12 59 49.4**	**-0.9**
	baz=98						
BTK				⇑*i*S	**Sb**	**13 00 02.2**	**-1.6**
	baz=98						
CHMG	**Chimgan**	**1.15**	**301**	P	**Pg**	**12 59 54.2**	**+1.7**
CHMG				S	**Sn**	**13 00 11.3**	**+1.5**
IUG	**luzhnay**	**1.52**	**321**	*e*P	**Pb**	**12 59 59.4**	**-0.1**
	83nm,0.3s						
IUG				*e*S	**Sg**	**13 00 20.1**	**+0.6**
	65nm,0.2s						
IUG	**luzhnay**	**1.52**	**321**	P	**Pb**	**12 59 59.3**	**-0.1**
	84nm,0.4s						
IUG				S	**Sg**	**13 00 20.1**	**+0.6**
	67nm,0.5s						
DRK	**Karamyk**	**1.53**	**166**	⇑*i*P	**Pb**	**12 59 59.7**	**0.0**
	baz=62						
DRK				⇑*i*S	**Sb**	**13 00 20.6**	**+1.0**
	baz=62						
MNAS	**Manas**	**1.75**	**30**	⇓*i*P	**Pg**	**13 00 04.6**	**+0.5**
	baz=32						
MNAS				⇓*i*S	**Sg**	**13 00 29.3**	**+2.4**
	baz=32						
SFK	**Sufi-Kurgan**	**1.92**	**119**	⇑*i*P	**Pb**	**13 00 07.2**	**+1.0**
	baz=17						
SFK				⇑*i*S	**Sg**	**13 00 33.0**	**+0.9**
	baz=17						
GAR	**Garm**	**2.12**	**202**	⇓*i*P	**Pb**	**13 00 08.3**	**-1.2**
	baz=0.0						
GAR				⇓*i*S	**Sb**	**13 00 35.1**	**-1.1**
	baz=0.0						
KK31	**Karatay Array**	**2.21**	**344**	⇑Pn	**Pb**	**13 00 11.8**	**+0.6**
	3.2nm,0.5s,baz=162,slow=16,SNR=12						
KK31				⇑Sn	**Sg**	**13 00 41.8**	**+0.1**
	12nm,0.6s,baz=158,slow=25,SNR=11						
KKAR	**Karatay Array**	**2.21**	**344**	⇑*i*P	**Pb**	**13 00 10.6**	**-0.6**
	baz=47						
KKAR				⇑*i*S	**Sb**	**13 00 38.8**	**-0.2**
	baz=47						
MRKS	**Merke**	**2.27**	**38**	*e*P	**Pg**	**13 00 14.7**	**+0.6**
	4.0nm,0.3s						
MRKS				*e*S	**Sg**	**13 00 46.6**	**+3.1**
	20nm,0.3s						
MRKS	**Merke**	**2.27**	**38**	Pg	**Pg**	**13 00 14.7**	**+0.6**
	3.8nm,0.4s						
MRKS				Lg	Lg	13 00 46.6	
	20nm,0.4s						
BRLS	**Borolday**	**2.34**	**332**	*e*P	**Pb**	**13 00 11.5**	**-1.8**
	6.3nm,0.2s						
BRLS				*e*S	**Sb**	**13 00 40.8**	**-1.7**
	12nm,0.3s						
BRLS	**Borolday**	**2.34**	**332**	Pg	**Pb**	**13 00 11.5**	**-1.8**
	6.3nm,0.4s						
BRLS				Lg	Lg	13 00 40.8	
	12nm,0.4s						
ARLS	**Aral**	**2.42**	**67**	⇑*i*P	**Pb**	**13 00 14.6**	**-0.2**
	baz=68						
ARLS				⇑*i*S	**Sb**	**13 00 46.2**	**+1.0**
	baz=68						
EKS2	**Erkin-Say**	**2.49**	**47**	⇑*i*P	**Pb**	**13 00 15.8**	**-0.2**
	baz=48						
EKS2				⇑*i*S	**Sb**	**13 00 47.2**	**+0.1**
	baz=48						
UCH	**Uchtor**	**2.70**	**61**	⇑*i*P	**Pb**	**13 00 18.7**	**-1.0**
	baz=62						
UCH				⇑*i*S	**Sb**	**13 00 53.3**	**-0.1**
	baz=62						
SGDS	**Sogindy**	**3.49**	**44**	Pg	**Pg**	**13 00 36.0**	**-1.3**
	1.1nm,0.5s						
SGDS				Lg	Lg	13 01 22.8	
	1.8nm,0.5s						
KRBS	**Karabastau**	**4.22**	**48**	*e*P	**Pg**	**13 00 49.6**	**-1.7**
	1.2nm,0.4s						
KRBS				*e*S	**Sg**	**13 01 46.1**	**+0.1**
	1.7nm,0.4s						
KRBS	**Karabastau**	**4.22**	**48**	Pg	**Pg**	**13 00 49.6**	**-1.7**
	1.2nm,0.7s						
KRBS				Lg	Lg	13 01 46.1	
	1.7nm,0.5s						

TAP 30 13:33:04.7,24°.45N×121°.73E,h9km±1km,ML1.0,1C,A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.03**	**144**	*i*P	Pg	13 33 07.3	+1.0
	baz=135						
ENA				*i*S	Sg	13 33 08.4	+0.8
	baz=135						
EWUT	**Wuta**	**0.05**	**93**	P	Pg	13 33 07.2	+0.7
	baz=93						
EWUT				S	Sg	13 33 08.3	+0.4
	baz=93						
NDS	**Dongshan**	**0.18**	**357**	P	Pg	13 33 09.6	+1.0
	baz=357						
NDS				S	Sg	13 33 12.5	+1.3
	baz=357						
TWC	**Suao**	**0.20**	**35**	P	Pg	13 33 09.6	+0.8
	baz=37						
TWC				S	Sg	13 33 12.1	+0.5
	baz=37						
LATG	**Datong**	**0.20**	**296**	*i*P	Pg	13 33 10.4	+1.5
	baz=295						
LATG				*i*S	Sg	13 33 13.3	+1.5
	baz=295						
ENTT	**Nioudou**	**0.24**	**323**	⇑*i*P	Pg	13 33 10.9	+1.4
	baz=323						
ENTT				S	Sg	13 33 14.5	+1.6
	baz=323						
NDT	**Datong Townshi**	**0.25**	**309**	S	Sg	13 33 14.7	+1.7
	baz=308						
NACB	**Ninganchiao**	**0.30**	**204**	S	Sb	13 33 16.1	-1.0
	baz=203						
NNSB	**Datong**	**0.31**	**266**	P	Pb	13 33 12.4	-0.1
	baz=266						
NNSB				S	Sg	13 33 16.4	+1.3
	baz=266						
ETLH	**Xiulin Townshi**	**0.33**	**223**	*e*P	Pb	13 33 12.3	-0.5
	baz=222						
ETLH				*e*S	Sb	13 33 17.1	-1.0
	baz=222						
FUSB	**Fushanzhiwuyua**	**0.34**	**338**	P	Pb	13 33 12.7	-0.1
	baz=337						
FUSB				*e*S	Sb	13 33 17.7	-0.6
	baz=337						
NWLT	**Wulai**	**0.39**	**328**	*e*P	Pb	13 33 13.7	0.0
	baz=328						

*IDC **30** 13:33:12.6±1.4,36°.10N×81°.86E,h0km,mb3.4/4, mbtmp3.5/9,ML3.1/5,Error ellipse: s-maj=39.1km s-min=17.7km az=61.0*

ISC 30 13:33:18.6±1.3,36°.3N±0°.1×82°.1E±0°.1,h35km,n11, σ1§22/14,mb3.3/4,1C-3D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**7.35**	**345**	⇓Pn	**Pn**	**13 35 03.6**	**+0.1**
	4.4nm,0.5s						
PDGK				⇓Sn	**Sn**	**13 36 27.7**	**+2.0**
	16nm,0.7s						
PDGK				⇑Lg	Lg	13 37 06.7	
	59nm,1.1s						
AAK	**Ala-Archa**	**8.69**	**319**	Pn	**Pn**	**13 35 22.1**	**+0.3**
	0.2nm,0.3s,baz=103,slow=13,SNR=1.8						
AAK				Lg	Lg	13 37 48.0	
	0.2nm,0.3s,baz=168,slow=20,SNR=2.1 0.8nm,0.5s						
MK31	**Makanchi Array**	**10.53**	**1**	Pn	**Pn**	**13 35 45.7**	**-1.3**
	1.1nm,0.4s,baz=182,slow=12,SNR=42						
MK31				⇓Sn	**Sn**	**13 37 42.3**	**-1.2**
	3.6nm,0.9s,baz=186,slow=25,SNR=4.0						
MKAR	**Makanchi Array**	**10.53**	**1**	Pn	**Pn**	**13 35 46.1**	**-0.8**
	0.7nm,0.3s,baz=187,slow=13,SNR=24						
MKAR				Sn	**Sn**	**13 37 44.2**	**+0.6**
	0.4nm,0.3s,baz=186,slow=27,SNR=3.9 1.5nm,0.4s						
KURBB	**Kurchatov Arra**	**14.59**	**351**	Pn	**Pn**	**13 36 41.5**	**-0.9**
	baz=171,slow=10.0,SNR=1.5 0.3nm,0.2s						
ZALV	**Zalesovo Beam**	**17.79**	**5**	P	**P**	**13 37 23.7**	**0.0**
	0.1nm,0.3s,baz=195,slow=16,SNR=4.0 0.7nm,0.5s						
BVAR	**Borovoye Array**	**18.69**	**337**	P	**P**	**13 37 33.0**	**-0.7**
	0.1nm,0.3s,baz=139,slow=10.0,SNR=6.8 1.4nm,0.5s						
SONM	**Songino Array**	**21.31**	**50**	P	**P**	**13 38 04.7**	**+2.3**
	0.4nm,0.4s,baz=244,slow=12,SNR=4.8 0.4nm,0.4s						
FINES	**FINESS Array B**	**42.84**	**324**	P	**P**	**13 41 11.9**	**-0.9**
	1.6nm,1.0s,baz=102,slow=8.7,SNR=3.5 1.6nm,1.0s						
WRA	**Warramunga Arr**	**74.55**	**130**	P	**P**	**13 44 54.5**	**+0.6**
	0.3nm,0.8s,baz=326,slow=5.8,SNR=2.5 0.3nm,0.8s						
ASAR	**Alice Springs**	**77.08**	**132**	P	**P**	**13 45 07.7**	**-0.7**
	0.1nm,0.5s,baz=290,slow=5.8,SNR=6.3 0.1nm,0.5s						

JMA 30 13:33:45.4±0.2,24°.3N±0°.4×123°.8E±0°.5,h16km±1km, MV1.0/6,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.12**	**320**	P	Pg	13 33 49.0	0.0
IRIF				*e*S	Sg	13 33 51.3	0.0
JKRS	**Kuro-shima**	**0.18**	**93**	P	Pg	13 33 49.8	0.0
JKRS				S	Sg	13 33 53.2	+0.5
HATJ	**Hateruma jima**	**0.19**	**182**	*i* P	Pg	13 33 49.8	-0.2
HATJ				*e*S	Sg	13 33 53.2	+0.2
JIJ	**Ishigaki jima**	**0.32**	**69**	P	Pg	13 33 52.0	-0.2
JIJ				*e*S	Sg	13 33 56.5	-0.4
JISG	**Ishigakijimahi**	**0.57**	**53**	*e*P	Pg	13 33 56.6	0.0
JISG				*e*S	Sb	13 34 05.0	+0.1

IDC 30 13:59:23.7±6.2,5°.50S×151°.51E,h46km±52km,mb3.5/3, mbtmp3.8/4,ML2.0/1,Error ellipse: s-maj=121.0km s-min=36.1km az=127.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.81**	**228**	P	Pn	14 00 48.6	+1.2
	2.5nm,0.3s,baz=55,slow=6.5,SNR=7.5						
PMG				S	Sn	14 01 52.1	-0.6
	14nm,0.5s,baz=321,slow=24,SNR=6.4 18nm,0.6s						
WRA	**Warramunga Arr**	**22.03**	**228**	P	P	14 04 14.6	+0.1
	1.8nm,0.5s,baz=53,slow=9.9,SNR=16 1.8nm,0.5s						
ASAR	**Alice Springs**	**24.78**	**221**	P	P	14 04 42.2	+0.7
	2.2nm,0.8s,baz=58,slow=9.1,SNR=16 2.2nm,0.8s						
ILAR	**Eielson Array**	**83.28**	**22**	P	P	14 11 44.9	-0.4
	0.3nm,0.8s,baz=234,slow=4.7,SNR=4.6 0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**149.29**	**286**	PKPbc	PKPbc	14 19 07.7	-0.9
	1.0nm,0.9s,baz=58,slow=4.0,SNR=5.0						

*IDC **30** 14:01:23.3±3.9,5°.41S×151°.70E,h37km±29km,mb3.7/12, mbtmp4.0/13,ML1.6/1,MS3.0/7,Error ellipse: s-maj=30.6km s-min=18.3km az=103.0*

ISC 30 14:01:25.6±0.8,5°.4S±0°.1×151°.7E±0°.2,h57km,n21, σ1§05/18,mb3.8/12,MS2.8/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.95**	**228**	Pn	**Pn**	**14 02 50.8**	**-0.5**
	1.0nm,0.3s,baz=111,slow=20,SNR=3.8						
PMG				Sn	**Sn**	**14 03 58.6**	**+0.4**
	1.9nm,0.3s,baz=150,slow=20,SNR=2.3						
PMG				LR	LR	14 04 48.9	
	comp=Z,68nm,18.6s,baz=41,slow=34 35nm,1.0s						
HNR	**Honiara**	**9.12**	**116**	LR	LR	14 06 44.8	
	comp=Z,839nm,22.0s,baz=246,slow=35						
GUMO	**Guam**	**20.07**	**340**	LR	LR	14 12 46.4	
	comp=Z,9.3nm,19.6s,baz=140,slow=34						
DZM	**Mont Dzumac**	**21.86**	**141**	LR	LR	14 13 37.0	
	comp=Z,99nm,20.2s,baz=217,slow=34						
WRA	**Warramunga Arr**	**22.18**	**228**	P	**P**	**14 06 16.6**	**-0.6**
	7.9nm,0.8s,baz=52,slow=9.9,SNR=32						
WRA				PcP	**PcP**	**14 10 14.5**	**+2.1**
	0.5nm,0.8s,baz=59,slow=1.9,SNR=3.0						
WRA				ScP	**ScP**	**14 13 47.2**	**+2.0**
	0.6nm,0.9s,baz=54,slow=3.0,SNR=3.4 7.9nm,0.8s						
ASAR	**Alice Springs**	**24.92**	**222**	P	**P**	**14 06 43.5**	**-0.1**
	6.7nm,0.8s,baz=57,slow=9.1,SNR=38 6.7nm,0.8s						
STKA	**Stephens Creek**	**27.94**	**199**	P	**P**	**14 07 11.1**	**+0.3**
	1.2nm,0.5s,baz=38,slow=9.7,SNR=3.3 1.2nm,0.5s						
DAV	**Davao City (W)**	**28.84**	**295**	LR	LR	14 18 17.4	
	comp=Z,21nm,19.7s,baz=160,slow=35						
MJAR	**Matsushiro Arr**	**43.62**	**344**	LR	LR	14 24 45.8	
	comp=Z,25nm,21.8s,baz=191,slow=32						
CMAR	**Chiang Mai Arr**	**57.13**	**296**	P	**P**	**14 11 08.2**	**+1.2**
	0.3nm,0.6s,baz=118,slow=5.2,SNR=2.4 0.3nm,0.6s						
SHEM	**Shemya Is, Ala**	**61.00**	**15**	LR	LR	14 40 07.5	
	comp=Z,6.4nm,18.1s,baz=116,slow=38						
SONM	**Songino Array**	**66.27**	**328**	P	**P**	**14 12 07.7**	**-0.3**
	0.6nm,0.6s,baz=153,slow=4.6,SNR=5.1 0.6nm,0.6s						
VNDA	**Vanda**	**72.24**	**178**	P	**P**	**14 12 43.9**	**-0.4**
	1.0nm,0.9s,baz=358,slow=4.1,SNR=3.8 1.0nm,0.9s						
MKAR	**Makanchi Array**	**80.06**	**319**	P	**P**	**14 13 29.2**	**-0.1**
	0.2nm,0.5s,baz=101,slow=6.3,SNR=5.2 0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**81.06**	**327**	P	**P**	**14 13 33.2**	**-1.2**
	0.6nm,0.4s,baz=114,slow=7.1,SNR=2.0 0.6nm,0.4s						
ILAR	**Eielson Array**	**83.18**	**22**	P	**P**	**14 13 45.4**	**+0.1**
	0.4nm,0.6s,baz=249,slow=5.0,SNR=8.4 0.4nm,0.6s						
QSPA	**South Pole Qui**	**84.53**	**180**	P	**P**	**14 13 51.8**	**-0.6**
	1.7nm,0.9s,baz=350,slow=6.1,SNR=5.5 1.7nm,0.9s						
BVAR	**Borovoye Array**	**89.07**	**323**	P	**P**	**14 14 12.9**	**-1.7**
	0.7nm,0.7s,baz=72,slow=4.7,SNR=2.6 0.7nm,0.7s						
NVAR	**Mina Array Bea**	**93.37**	**52**	P	**P**	**14 14 35.7**	**+0.5**
	0.6nm,0.7s,baz=262,slow=6.1,SNR=5.6 0.6nm,0.7s						
PDAR	**Pinedale Array**	**100.11**	**48**	P	**Pdif**	**14 15 05.1**	**-0.6**
	0.1nm,0.6s,baz=260,slow=5.4,SNR=1.9						
TORD	**Torodi Ar. Bea**	**149.41**	**287**	PKPbc	**PKPbc**	**14 21 09.0**	**-0.4**
	0.8nm,0.5s,baz=132,slow=4.0,SNR=9.2						

*IDC **30** 14:16:29.2±1.1,29°.26N×85°.86E,h0km,mb3.7/10, mbtmp3.7/12,ML3.2/2,MS3.4/4,Error ellipse: s-maj=50.0km s-min=16.7km az=57.0*

ISC 30 14:16:34.9±1.2,29°.4N±0°.2×86°.0E±0°.3,h35km,n15, σ1§17/12,mb3.7/10,MS3.8/3,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.08**	**130**	Pn	**Pn**	**14 20 18.2**	**-0.2**
	0.1nm,0.3s,baz=310,slow=11,SNR=12						
CMAR				LR	LR	14 27 44.0	
	comp=Z,21nm,18.4s,baz=305,slow=42 1.3nm,0.9s						
MKAR	**Makanchi Array**	**17.62**	**352**	P	**Pn**	**14 20 35.7**	**-1.8**
	baz=166,slow=12,SNR=5.9 0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**21.94**	**347**	P	**P**	**14 21 24.4**	**-0.8**
	0.5nm,0.2s,baz=163,slow=10,SNR=4.9 0.5nm,0.2s						
SONM	**Songino Array**	**24.25**	**35**	P	**P**	**14 21 49.2**	**+0.5**
	0.7nm,0.7s,baz=224,slow=9.3,SNR=4.2 0.7nm,0.7s						
BVAR	**Borovoye Array**	**26.25**	**338**	P	**P**	**14 22 08.2**	**+1.6**
	0.3nm,0.5s,baz=168,slow=7.4,SNR=2.3 0.3nm,0.5s						
KSRS	**Korea Array**	**35.70**	**66**	LR	LR	14 39 08.8	
	comp=Z,27nm,19.0s,baz=240,slow=38						
TGY	**Tagaytay City**	**35.70**	**108**	LR	LR	14 37 09.9	
	comp=Z,489nm,21.4s,baz=220,slow=35						
FINES	**FINESS Array B**	**50.32**	**327**	P	**P**	**14 25 27.7**	**-0.1**
	0.6nm,0.6s,baz=108,slow=6.2,SNR=3.6 0.6nm,0.6s						
ARCES	**ARCESS Array B**	**52.53**	**337**	P	**P**	**14 25 43.9**	**-0.4**
	1.1nm,0.7s,baz=114,slow=9.0,SNR=1.4 1.1nm,0.7s						
HFS	**Hagfors**	**56.24**	**325**	P	**P**	**14 26 11.3**	**0.0**
	1.7nm,0.7s,baz=81,slow=9.1,SNR=2.7 1.7nm,0.7s						
NOA	**NORSAR Array B**	**57.44**	**326**	P	**P**	**14 26 19.5**	**-0.4**
	0.6nm,0.8s,baz=83,slow=7.1,SNR=2.8 0.6nm,0.8s						
JMIC	**Jan Mayen**	**63.96**	**339**	LR	LR	14 56 38.1	
	comp=Z,53nm,18.3s,baz=16,slow=38						
WRA	**Warramunga Arr**	**67.68**	**131**	P	**P**	**14 27 28.3**	**-0.4**
	1.3nm,0.6s,baz=324,slow=6.6,SNR=18 1.3nm,0.6s						
ASAR	**Alice Springs**	**70.05**	**134**	P	**P**	**14 27 42.5**	**-0.9**
	0.7nm,0.8s,baz=321,slow=5.6,SNR=9.6 0.7nm,0.8s						
YKA	**Yellowknife Ar**	**86.96**	**9**	P	**P**	**14 29 18.1**	**+2.1**
	0.3nm,0.8s,baz=330,slow=5.1,SNR=4.2 0.3nm,0.8s						

*IDC **30** 14:28:29.6±3.9,7°.08S×129°.64E,h130km±36km,mb3.8/11, mbtmp4.3/13,Error ellipse: s-maj=35.5km s-min=16.4km az=64.0*
*NEIC **30** 14:28:32.0±2.3,7°.15S±0°.07×129°.58E±0°.07,h160km±5km, mb4.4/18,Error ellipse: s-maj=11.5km s-min=9.2km az=136.0*
*DJA **30** 14:28:31.7±0.2,7°.3±0.2°,h152km±4km,M4.5/16, mB5.0/7,mb4.5/16,MLv4.7/12,Mw(mB)4.4/7*

ISC 30 14:28:31.0±0.4,7°.26S±0°.05×129°.57E±0°.06,h150km,n87, σ1§95/89,mb4.2/21,1C,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.85**	**113**	P	**Pn**	**14 29 07.1**	**+2.7**
SAUI	**Saumlaki**	**1.85**	**113**	Pn	**Pn**	**14 29 06.9**	**+2.5**
SAUI	**Saumlaki**	**1.85**	**113**	P	**Pn**	**14 29 06.4**	**+2.0**
BNDI	**Bandanaira**	**2.74**	**7**	P	**Pn**	**14 29 17.3**	**+2.2**
BNDI	**Bandanaira**	**2.74**	**7**	P	**Pn**	**14 29 17.1**	**+2.0**
FAKI	**Fak Fak**	**5.07**	**32**		**Pn**	**14 29 43.9**	**-1.4**
FAKI	**Fak Fak**	**5.07**	**32**	P	**Pn**	**14 29 43.7**	**-1.7**
DRS	**Darwin Rock St**	**5.30**	**166**	P	**Pn**	**14 29 49.5**	**+1.1**
MTN	**Manton Dam**	**5.76**	**165**	P	**Pn**	**14 29 55.6**	**+1.1**
MTN	**Manton Dam**	**5.76**	**165**	Pn	**Pn**	**14 29 55.6**	**+1.1**
SOEI	**Soe**	**5.80**	**244**	P	**Pn**	**14 29 56.1**	**+0.9**
SOEI	**Soe**	**5.80**	**244**	Pn	**Pn**	**14 29 55.9**	**+0.7**
SOEI	**Soe**	**5.80**	**244**	P	**Pn**	**14 29 55.7**	**+0.5**
	127nm,0.8s,1μm1.9nm						
KDU	**Kakadu**	**6.10**	**152**	P	**Pn**	**14 29 59.8**	**+0.8**
SANI	**Sanana**	**6.29**	**325**	P	**Pn**	**14 30 03.4**	**+1.8**
	13nm,0.8s,0.1nm						
BATI	**Baumata**	**6.53**	**243**	P	**Pn**	**14 30 05.7**	**+0.8**
	55nm,0.3s,baz=96,slow=4.3,SNR=28						
BATI				S	**Sn**	**14 31 13.5**	**-4.9**
	156nm,0.5s,baz=169,slow=3.3,SNR=6.4						
BATI	**Baumata**	**6.53**	**243**	P	**Pn**	**14 30 05.5**	**+0.6**
	75nm,0.5s,1μm0.9nm						
SWI	**Sorong**	**6.57**	**15**	P	**Pn**	**14 30 04.3**	**-1.1**
	35nm,0.4s,1μm0.4nm						
LBMI	**Labuha**	**6.90**	**342**	P	**Pn**	**14 30 12.4**	**+2.7**
BBSI	**Bau Bau**	**7.18**	**284**	P	**Pn**	**14 30 14.9**	**+1.4**
	40nm,1.1s,0.1nm						
MMRI	**Maumere**	**7.39**	**259**	Pn	**Pn**	**14 30 16.9**	**+0.6**
EDFI	**Ende, Flores**	**7.95**	**259**	P	**Pn**	**14 30 24.8**	**+1.0**
	17nm,0.9s,0.1nm						
KNRA	**Kununurra**	**8.40**	**185**	P	**Pn**	**14 30 29.2**	**-0.6**
KNRA	**Kununurra**	**8.40**	**185**	Pn	**Pn**	**14 30 29.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**11.43**	**199**	Pn	**Pn**	**14 31 08.0**	**-1.9**
TABU	**Tabubil**	**11.75**	**81**	P	**P**	**14 31 17.6**	**-3.6**
PLAI	**Plampang**	**11.79**	**262**	P	**Pn**	**14 31 12.4**	**-2.1**
TOLI2	**Tolitoli**	**12.09**	**313**	Pn	**Pn**	**14 31 18.0**	**-0.5**
TWSI	**Taliwang, Sumb**	**12.65**	**262**	P	**Pn**	**14 31 24.6**	**-1.2**
	18nm,0.8s						
WB0	**Warramunga Arr**	**13.28**	**160**	Pn	**Pn**	**14 31 31.9**	**-1.9**
WRAB	**Tennant Creek**	**13.42**	**160**		**Pn**	**14 31 34.0**	**-1.7**
WRA	**Warramunga Arr**	**13.43**	**160**	Pn	**Pn**	**14 31 34.0**	**-1.7**
WRA	**Warramunga Arr**	**13.43**	**160**	P	**Pn**	**14 31 33.2**	**-2.5**
	11nm,0.8s,baz=334,slow=13,SNR=69						
WRA				S	Sn	14 33 53.5	-11
	15nm,0.5s,baz=335,slow=22,SNR=5.2						
WB2	**Warramunga Arr**	**13.43**	**160**	Pn	**Pn**	**14 31 33.6**	**-2.1**
WR0	**Warramunga Arr**	**13.51**	**160**		**Pn**	**14 31 34.9**	**-1.9**
COEN	**Coen**	**14.93**	**118**	P	**P**	**14 31 57.6**	**+1.1**
COEN	**Coen**	**14.93**	**118**	Pn	**P**	**14 31 55.2**	**-1.3**
JAGI	**Jajag, Banyuwa**	**15.32**	**264**	Pn	**Pn**	**14 31 57.9**	**-1.7**
QIS	**Mount Isa**	**16.41**	**145**	P	**P**	**14 32 14.7**	**+1.9**
MBWA	**Marble Bar**	**16.78**	**214**	P	**Pn**	**14 32 16.7**	**-0.6**
MBWA				IAmb	IAmb	14 32 19.2	
	comp=Z,14nm,0.8s						
AS31	**Alice Springs**	**16.83**	**166**		**Pn**	**14 32 18.2**	**+0.3**
ASAR	**Alice Springs**	**16.83**	**166**		**Pn**	**14 32 18.4**	**+0.5**
ASAR	**Alice Springs**	**16.83**	**166**	P	**Pn**	**14 32 18.2**	**+0.3**
	comp=Z,6.5nm,0.6s,baz=324,slow=9.3,SNR=95						
ASAR				S	**S**	**14 35 18.2**	**-7.0**
	comp=Z,5.4nm,0.7s,baz=318,slow=15,SNR=7.0						
AS01	**Alice Springs**	**16.84**	**166**	P	**Pn**	**14 32 19.7**	**+1.6**

TNCH pmax pmax
comp=Z,10.0nm,0.5s
MJAR Matsushiro Arr 44.32 10 P **P** **14 36 24.9 -1.2**
comp=Z,0.7nm,0.5s,baz=194,slow=8.5,SNR=2.1
comp=Z,0.7nm,0.5s
KSRS Korea Array 44.51 358 P **P** **14 36 27.6 +0.2**
comp=Z,0.7nm,0.5s,baz=172,slow=8.9,SNR=3.2
comp=Z,0.7nm,0.5s
USRK Ussuriysk Ar. 51.27 2 P **P** **14 37 17.2 -2.1**
JKA Kamikawa-asahi 52.48 12 P **P** **14 37 27.9 -0.5**
BNX BinXian 52.80 358 ⇑P **P** **14 37 32.8 +2.1**
BNX pmax pmax
comp=Z,7.0nm,0.5s
BNX pmax pmax
comp=Z,82nm,4.8s
SONM Songino Array 58.55 342 P **P** **14 38 12.7 +0.8**
comp=Z,0.6nm,0.4s,baz=162,slow=7.7,SNR=6.6
comp=Z,0.6nm,0.4s
KSH Kashi 67.92 318 P **P** **14 39 16.0 +2.2**
MK31 Makanchi Array 68.21 327 P **P** **14 39 15.5 +0.2**
MKAR Makanchi Array 68.21 327 P **P** **14 39 15.5 +0.2**
comp=Z,3.4nm,0.4s,baz=116,slow=8.3,SNR=60
comp=Z,3.4nm,0.4s
MAKZ Makanchi 68.39 327 P **P** **14 39 16.5 +0.1**
MAKZ IAmb IAmb 14 39 17.7
comp=Z,3.5nm,0.7s
ZAA0 Zalesovo Array 71.63 334 P **P** **14 39 34.3 -1.7**
ZAA0 IAmb IAmb 14 39 36.1
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 71.63 334 P **P** **14 39 34.7 -1.2**
ZALV Zalesovo Beam 71.63 334 P **P** **14 39 35.4 -0.6**
comp=Z,2.8nm,0.5s,baz=133,slow=5.4,SNR=13
comp=Z,2.8nm,0.5s
KURBB Kurchatov Arra 72.51 329 P **P** **14 39 41.2 -0.1**
comp=Z,3.4nm,0.7s,baz=130,slow=4.9,SNR=36
comp=Z,3.4nm,0.7s
KURK Kurchatov 72.52 329 P **P** **14 39 40.0 -1.3**
KURK IAmb IAmb 14 39 42.1
comp=Z,5.3nm,0.9s
SBA Scott Base 73.13 172 P **P** **14 39 44.4 -0.1**
BVAR Borovoye Array 78.06 328 P **P** **14 40 13.0 0.0**
comp=Z,3.0nm,0.8s,baz=123,slow=5.5,SNR=12
comp=Z,3.0nm,0.8s
NRIK Noril'sk 81.71 346 P **P** **14 40 32.5 +0.3**
comp=Z,1.5nm,0.5s,baz=102,slow=3.6,SNR=4.0
comp=Z,1.5nm,0.5s
ABKAR Akbulak array 82.45 322 P **P** **14 40 36.3 -0.2**
QSPA South Pole Qui 82.72 180 P **P** **14 40 38.4 +0.6**
QSPA IAmb IAmb 14 41 15.5
comp=Z,6.4nm,1.5s
O16K Kokwok River B 87.42 29 P **P** **14 40 56.4 -4.7**
O16K IAmb IAmb 14 41 33.9
comp=Z,14nm,1.4s
ILAR Eielson Array 93.76 25 P **P** **14 41 29.4 -1.1**
comp=Z,0.6nm,0.7s,baz=251,slow=4.5,SNR=9.1
comp=Z,0.6nm,0.7s
TORD Torodi Ar. Bea 128.44 281 PKP **PKiKP** **14 47 21.8 +0.2**
comp=Z,1.3nm,0.6s,baz=68,slow=2.4,SNR=8.8
CPUP Villa Florida 145.94 169 PKPbc **PKiKP** **14 47 56.4 -0.6**
comp=Z,1.6nm,0.8s,baz=192,slow=5.6,SNR=3.1

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*TIR **30** 14:29:21.8, 37.51N×21.09E, h6km±2km, Ml3.3*
*IDC **30** 14:29:25.0±1.3, 37.82N×21.15E, h0km, mb3.7/8, mbtmp3.7/9, ML0.8/1, MS2.8/2, Error ellipse: s-maj=25.7km s-min=24.5km az=84.0*
*ATH **30** 14:29:27.8, 37.71N×21.18E, h6km±1km, ML3.3/22, Error ellipse: s-maj=1.7km s-min=0.7km az=332.0*
*THE **30** 14:29:27.9, 37.74N×21.20E, h0km±2km, ML3.4/12, Error ellipse: s-maj=2.6km s-min=0.6km az=167.0*
*NAO **30** 14:29:28.5, 38.18N×24.44E, h33km, mb3.3*
ISC 30 14:29:27.6±0.9, 37.72N±0.02×21.17E±0.02, h17km±6km, n86, σ0991/116, mb3.7/8, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.27**	**268**	P	**Pg**	**14 29 33.7**	**+0.2**
LTHK				S	**Sb**	**14 29 38.9**	**+0.7**
	32μm,0.4s						
LTHK	**Lithakia**	**0.27**	**268**	P	**Pg**	**14 29 33.8**	**+0.4**
LTHK				S	**Sg**	**14 29 37.1**	**-0.4**
LTHK				AML	AML	14 29 39.6	
	comp=E,66501μm,0.2s						
LTHK				AML	AML	14 29 41.1	
	comp=N,53977μm,0.3s						
KRI1	**kERI**	**0.29**	**258**	P	**Pg**	**14 29 34.0**	**+0.2**
KRI1				S	**Sb**	**14 29 39.3**	**+0.4**
	comp=N,29μm,0.5s						
RLS	**Riolos of Patr**	**0.41**	**35**	P	**Pg**	**14 29 35.5**	**-0.5**
RLS				S	**Sg**	**14 29 41.6**	**-0.1**
	comp=N,5μm,0.4s						
RLS	**Riolos of Patr**	**0.41**	**35**	P	**Pg**	**14 29 35.4**	**-0.5**
RLS				S	**Sg**	**14 29 41.1**	**-0.6**
RLS				AML	AML	14 29 43.7	
	comp=N,13643μm,0.5s						
RLS				AML	AML	14 29 44.8	
	comp=E,7280μm,0.3s						
DRO	**Drossia**	**0.49**	**61**	P	**Pg**	**14 29 37.1**	**-0.3**
DRO				S	**Sg**	**14 29 43.9**	**-0.1**
DRO				AML	AML	14 29 48.2	
	comp=E,47016μm,0.4s						
DRO				AML	AML	14 29 49.3	
	comp=N,38199μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.61**	**310**	P	**Pg**	**14 29 39.1**	**-0.5**
PSDA				S	**Sb**	**14 29 48.4**	**+0.3**
	comp=N,4μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.61**	**310**	P	**Pg**	**14 29 39.3**	**-0.3**
PSDA				S	**Sg**	**14 29 47.3**	**-0.4**
VLS	**Valsamata**	**0.65**	**315**	P	**Pg**	**14 29 39.6**	**-0.8**
VLS				S	**Sb**	**14 29 50.1**	**+0.8**
	comp=N,2μm,0.4s						
VLS	**Valsamata**	**0.65**	**315**	P	**Pg**	**14 29 39.3**	**-1.1**
VLS				S	**Sb**	**14 29 49.9**	**+0.7**
VLS				AML	AML	14 29 53.9	
	comp=E,3141μm,0.4s						
VLS				AML	AML	14 29 55.8	
	comp=N,3293μm,0.4s						
KEF3	**Kipouria, Keph**	**0.81**	**307**	P	**Pb**	**14 29 42.6**	**-0.7**
KEF3				S	**Sn**	**14 29 55.8**	**-0.1**
	comp=N,5μm,0.5s						
DMLN	**Damoulianata-K**	**0.81**	**310**	P	**Pb**	**14 29 42.8**	**-0.6**
DMLN				S	**Sn**	**14 29 56.0**	**-0.1**
	comp=N,3μm,0.6s						
DMLN	**Damoulianata-K**	**0.81**	**310**	P	**Pb**	**14 29 43.3**	**-0.1**
DMLN				S	**Sg**	**14 29 54.9**	**+0.5**
AST1	**Astakos**	**0.82**	**356**	P	**Pb**	**14 29 43.2**	**-0.3**
AST1				S	**Sg**	**14 29 55.3**	**+0.8**
	comp=N,1μm,0.5s						
VSK1	**VASILIKIADES**	**0.84**	**325**	P	**Pb**	**14 29 42.9**	**-0.9**
VSK1				S	**Sg**	**14 29 55.9**	**+0.9**
	comp=N,1μm,0.6s						
KLV	**Kalavryta, Ach**	**0.84**	**67**	P	**Pb**	**14 29 43.1**	**-0.7**
KLV				S	**Sg**	**14 29 55.6**	**+0.5**
	comp=N,1μm,0.6s						
KLV	**Kalavryta, Ach**	**0.84**	**67**	P	**Pb**	**14 29 43.0**	**-0.8**
KLV				S	**Sg**	**14 29 55.6**	**+0.5**
KLV				AML	AML	14 30 00.9	
	comp=E,2448μm,0.6s						
KLV				AML	AML	14 30 02.8	
	comp=N,2170μm,0.6s						
EFP	**Efpalio**	**0.91**	**39**	P	**Pb**	**14 29 44.4**	**-0.6**
EFP				S	**Sn**	**14 29 58.0**	**-0.5**
	comp=N,2μm,0.6s						
EFP	**Efpalio**	**0.91**	**39**	P	**Pb**	**14 29 45.1**	**0.0**
EFP				S	**Sg**	**14 29 57.6**	**+0.2**
EFP				AML	AML	14 30 03.0	
	comp=E,3081μm,0.4s						
EFP				AML	AML	14 30 03.1	
	comp=N,4582μm,0.7s						
PVO	**Paravola**	**0.94**	**17**	P	**Pg**	**14 29 45.9**	**+0.1**
PVO				S	**Sn**	**14 29 59.0**	**-0.1**
PYL	**PYLOS**	**0.94**	**151**	P	**Pb**	**14 29 45.3**	**-0.2**
PYL				S	**Sg**	**14 29 58.2**	**-0.1**
PYL				AML	AML	14 30 04.1	
	comp=E,3536μm,0.6s						
PYL				AML	AML	14 30 06.9	
	comp=N,1691μm,0.4s						
GUR	**Goura**	**0.95**	**77**	P	**Pb**	**14 29 44.9**	**-0.9**
GUR				S	**Sg**	**14 29 58.4**	**-0.3**
	comp=N,3μm,0.5s						
GUR	**Goura**	**0.95**	**77**	P	**Pb**	**14 29 45.4**	**-0.4**
GUR				S	**Sg**	**14 29 58.4**	**-0.3**
GUR				AML	AML	14 30 06.3	
	comp=N,5407μm,0.4s						
GUR				AML	AML	14 30 06.5	
	comp=E,6018μm,0.5s						
KLMT	**Kalamata**	**0.97**	**133**	P	**Pg**	**14 29 46.3**	**-0.1**
EVGI	**Lefkada island**	**0.99**	**336**	P	**Pb**	**14 29 45.2**	**-1.1**
EVGI	**Lefkada island**	**0.99**	**336**	P	**Pb**	**14 29 46.2**	**-0.1**
EVGI				S	**Sn**	**14 30 01.2**	**+0.9**
ANX	**Ano Chora**	**1.05**	**34**	P	**Pn**	**14 29 47.7**	**-0.1**
ANX				S	**Sg**	**14 30 02.0**	**+0.1**
ANX				AML	AML	14 30 07.5	
	comp=N,4240μm,0.6s						
ANX				AML	AML	14 30 08.8	
	comp=E,4746μm,0.6s						
NYDR	**Nydri-Lefkada**	**1.06**	**340**	P	**Pb**	**14 29 47.0**	**-0.5**
NYDR				S	**Sn**	**14 30 03.0**	**+0.9**
DRAG	**Dragano-Lefkad**	**1.07**	**334**	P	**Pb**	**14 29 46.9**	**-0.8**
DRAG				S	**Sn**	**14 30 03.3**	**+0.9**
LKD2	**Lefkada island**	**1.14**	**339**	P	**Pn**	**14 29 48.0**	**-0.9**
LKD2	baz=346			S	**Sg**	**14 30 06.8**	**+2.2**
	baz=346						
LKD2				AMP			
	comp=E,4.2nm,0.5s,baz=346						
LKD2	**Lefkada island**	**1.14**	**339**	P	**Pn**	**14 29 48.3**	**-0.6**
LKD2				S	**Sg**	**14 30 05.3**	**+0.7**
LKD2				AML	AML	14 30 12.2	
	comp=N,2720μm,0.7s						
LKD2				AML	AML	14 30 12.6	
	comp=E,2803μm,0.4s						
TSLK	**Tsoukalades, L**	**1.18**	**340**	P	**Pn**	**14 29 49.1**	**-0.2**
THAL	**Thalero**	**1.22**	**75**	P	**Pb**	**14 29 50.2**	**-0.1**
THAL	**Thalero**	**1.22**	**75**	P	**Pb**	**14 29 50.3**	**0.0**
THAL				AML	AML	14 30 14.9	
	comp=N,4405μm,0.5s						
THAL				AML	AML	14 30 16.9	
	comp=E,8626μm,0.5s						
DLFA	**Delphi**	**1.29**	**54**	P	**Pn**	**14 29 51.2**	**+0.2**
DLFA				AML	AML	14 30 17.2	
	comp=N,1098μm,0.5s						
DLFA				AML	AML	14 30 18.8	
	comp=E,1324μm,0.8s						
EVR	**Evrytania**	**1.29**	**23**	P	**Pg**	**14 29 52.4**	**-0.2**
EVR	**Evrytania**	**1.29**	**23**	P	**Pb**	**14 29 51.4**	**-0.2**
EVR				AML	AML	14 30 21.8	
	comp=E,1531μm,1.1s						
EVR				AML	AML	14 30 21.9	
	comp=N,1256μm,0.9s						
LOUT	**Loutraki**	**1.45**	**79**	P	**Pb**	**14 29 53.9**	**-0.3**
LOUT				AML	AML	14 30 27.4	
	comp=N,219μm,0.6s						
LOUT				AML	AML	14 30 30.8	
	comp=E,260μm,0.7s						
LTK	**Loutraki**	**1.45**	**77**	P	**Pb**	**14 29 54.1**	**-0.1**
LTK				AML	AML	14 30 24.4	
	comp=E,1564μm,0.5s						
LTK				AML	AML	14 30 26.5	
	comp=N,1034μm,0.6s						
MAKR	**Makrakomi, Fth**	**1.50**	**30**	P	**Pb**	**14 29 54.5**	**-0.5**
MAKR				AML	AML	14 30 22.9	
	comp=E,3812μm,0.8s						
MAKR				AML	AML	14 30 23.7	
	comp=N,3394μm,0.7s						
AXAR	**Agios Charalam**	**1.57**	**48**	P	**Pn**	**14 29 55.2**	**+0.5**
AXAR				AML	AML	14 30 27.4	
	comp=N,3164μm,0.7s						
AXAR				AML	AML	14 30 31.0	
	comp=E,3779μm,0.6s						
AGG	**Agios Georgios**	**1.59**	**35**	P	**Pb**	**14 29 56.8**	**+0.2**
AGG	**Agios Georgios**	**1.59**	**35**	P	**Pn**	**14 29 55.8**	**+0.8**
AGG				AML	AML	14 30 24.2	
	comp=E,1243μm,0.8s						
AGG				AML	AML	14 30 24.8	
	comp=N,905μm,1.0s						
KRND	**KRANIDI**	**1.61**	**101**	P	**Pn**	**14 29 56.0**	**+0.8**
VIL2	**Platees**	**1.73**	**73**	P	**Pb**	**14 29 58.1**	**-0.8**
VIL2				AML	AML	14 30 31.1	
	comp=N,824μm,0.9s						
VIL2				AML	AML	14 30 33.5	
	comp=E,1126μm,0.6s						
VLI	**Velíai**	**1.73**	**125**	P	**Pn**	**14 29 56.7**	**-0.2**
MNVA	**Monemvasia**	**1.81**	**124**	P	**Pn**	**14 29 59.1**	**+1.1**
IGT	**Igoumenitsa**	**1.93**	**340**	P	**Pn**	**14 30 01.1**	**+1.4**
IGT	baz=344			S	**Sg**	**14 30 30.8**	**+1.2**
	baz=344						
IGT				AMP			
	comp=N,0.6nm,0.8s,baz=344						
IGT	**Igoumenitsa**	**1.93**	**340**	P	**Pn**	**14 30 00.7**	**+1.1**
JAN	**Janina**	**1.95**	**353**	P	**Pn**	**14 30 01.0**	**+1.0**
THL	**Klokotos Trika**	**1.96**	**19**	P	**Pn**	**14 30 01.3**	**+1.3**
ATH	**Athens Observa**	**2.03**	**82**	P	**Pn**	**14 30 01.7**	**+0.7**
ATH				AML	AML	14 30 38.9	
	comp=E,477μm,0.5s						
ATH				AML	AML	14 30 39.8	
	comp=N,502μm,0.8s						
ATHU	**Athens Univers**	**2.08**	**82**	P	**Pn**	**14 30 02.8**	**+1.0**
ATHU				AML	AML	14 30 42.3	
	comp=N,197μm,0.9s						
ATHU				AML	AML	14 30 42.7	
	comp=E,88μm,0.6s						
PTL	**Penteli**	**2.16**	**80**	P	**Pn**	**14 30 04.2**	**+1.4**
DION	**Dionisos Attik**	**2.21**	**80**	P	**Pn**	**14 30 03.5**	**-0.1**
DION				AML	AML	14 30 43.6	
	comp=E,687μm,0.6s						
DION				AML	AML	14 30 45.4	
	comp=N,434μm,0.5s						
KPRO	**Kipourio**	**2.24**	**4**	P	**Pn**	**14 30 05.3**	**+1.3**
NEO	**Neokhori**	**2.26**	**45**	P	**Pn**	**14 30 05.6**	**+1.3**
KEK	**Kerkira**	**2.26**	**332**	P	**Pn**	**14 30 05.3**	**+1.1**
XOR	**Xorichti**	**2.28**	**43**	P	**Pn**	**14 30 06.3**	**+1.7**
SRN	**Sarande**	**2.34**	**337**	P	**Pn**	**14 30 06.8**	**+1.4**
LSK	baz=341 **Leskovik**	**2.47**	**350**	P	**Pb**	**14 30 10.6**	**-1.0**
LSK	baz=352			S	**Sg**	**14 30 45.1**	**-1.8**
	baz=352						
KYMI	**Kymi, Euboea I**	**2.48**	**68**	P	**Pn**	**14 30 08.7**	**+1.4**
ANKY	**Antikythira Is**	**2.52**	**137**	P	**Pn**	**14 30 08.3**	**+0.5**
FNA	**Florina**	**3.06**	**3**	P	**Pn**	**14 30 18.4**	**+3.0**
FNA	baz=3.0			S	**Sb**	**14 31 00.6**	**+1.7**
	baz=3.0						
FNA				AMP			
	comp=E,0.1nm,0.6s,baz=3.0						
IDI	**Anoyia**	**3.86**	**128**	Pn	**Pn**	**14 30 28.2**	**+2.0**
	baz=207,slow=15,SNR=1.8						
IDI				Sn	**Sn**	**14 31 11.6**	**+0.3**
	comp=E,0.1nm,0.3s,baz=70,slow=21,SNR=11						
PUK	**Puka**	**4.43**	**348**	P	**Pn**	**14 30 36.0**	**+1.9**
	baz=349						
STON	**Ston**	**5.79**	**334**	*e*Pn	**Pn**	**14 30 51.2**	**-1.5**
LSTV	**Lastovo**	**6.01**	**328**	*e*Pn	**Pn**	**14 30 53.8**	**-2.0**
HVAR	**Hvar**	**6.53**	**328**	*e*Pn	**Pn**	**14 31 02.3**	**-0.7**
RICI	**Ricice**	**6.53**	**333**	*e*Pn	**Pn**	**14 31 02.2**	**-0.8**
KIJV	**Kijevo**	**7.24**	**332**	*e*Pn	**Pn**	**14 31 12.6**	**-0.1**
ZIRJ	**Zirje**	**7.26**	**326**	*e*Pn	**Pn**	**14 31 11.8**	**-1.1**
MORI	**Morici**	**7.41**	**328**	*e*Pn	**Pn**	**14 31 15.0**	**+0.1**
MLR	**Muntele Rosu**	**8.55**	**23**	LR	LR	14 35 43.9	
	comp=E,73nm,19.4s,baz=208,slow=45						
BRTR	**Keskin Array B**	**9.95**	**75**	Pn	**Pn**	**14 31 52.1**	**+2.2**
	comp=E,0.3nm,0.5s,baz=255,slow=15,SNR=2.1						
AKASG	**Malin Array Be**	**14.19**	**21**	LR	LR	14 39 40.0	
	comp=E,30nm,21.8s,baz=244,slow=44						
HFS	**Hagfors**	**22.93**	**350**	P	**P**	**14 34 29.4**	**-1.2**
	comp=E,1.0nm,0.4s,baz=146,slow=11,SNR=8.6						
	comp=E,1.0nm,0.4s						
FINES	**FINESS Array B**	**23.95**	**6**	P	**P**	**14 34 39.4**	**-1.2**
	comp=E,1.2nm,0.5s,baz=179,slow=10.0,SNR=20						
	comp=E,1.2nm,0.5s						
NB2	**NORSAR Subarra**	**24.17**	**348**	P	**P**	**14 34 42.3**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=154,slow=10						
NOA	**NORSAR Array B**	**24.17**	**348**	P	**P**	**14 34 42.5**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=154,slow=9.2,SNR=4.5						
	comp=Z,0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**30.01**	**220**	P	**P**	**14 35 35.7**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=26,slow=10.0,SNR=3.3						
	comp=Z,0.5nm,0.6s						
BVAR	**Borovoye Array**	**37.02**	**49**	P	**P**	**14 36 35.8**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=270,slow=7.2,SNR=6.5						
	comp=Z,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**42.09**	**53**	P	**P**	**14 37 17.8**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=278,slow=8.7,SNR=6.3						
	comp=Z,0.5nm,0.4s						
MKAR	**Makanchi Array**	**45.10**	**58**	P	**P**	**14 37 42.3**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=271,slow=7.6,SNR=14						
	comp=Z,0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**45.62**	**48**	P	**P**	**14 37 46.0**	**-0.7**
	comp=Z,1.3nm,0.4s,baz=266,slow=10,SNR=7.6						
	comp=Z,1.3nm,0.4s						
NVAR	**Mina Array Bea**	**95.53**	**329**	LR	LR	15 27 01.2	
	comp=Z,128nm,19.0s,baz=235,slow=36						

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*IDC **30** 14:39:14.5±2.0, 53.79N×163.35W, h0km, mb3.6/9, mbtmp3.6/10, ML3.0/1, MS3.1/1, Error ellipse: s-maj=52.7km s-min=20.3km az=177.0*
*NEIC **30** 14:39:16.5±1.3, 53.71N±0.04×163.10W±0.07, h4km±9km, ML3.5/14, ML3.2(AEIC), Error ellipse: s-maj=6.6km s-min=5.4km az=109.0*
*AEIC **30** 14:39:17.4±1.7, 53.77N±0.04×163.15W±0.08, h5km±6km, Error ellipse: s-maj=6.9km s-min=5.6km az=126.0*
ISC 30 14:39:15.7±2.3, 53.68N±0.07×163.07W±0.05, h12km±14km, n88, σ1§85/82, mb3.8/8, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISLZ	**Isanotski Laza**	**1.12**	**341**		**Pb**	**14 39 36.7**	**-0.2**
ISLZ					**Sb**	**14 39 51.4**	**-0.1**
SSLS	**Shishaldin Sou**	**1.17**	**333**		**Pb**	**14 39 37.6**	**-0.3**
WESE	**West Dahl East**	**1.20**	**312**		**Pb**	**14 39 38.5**	**+0.1**
FALS	**False Pass**	**1.20**	**350**		**Pb**	**14 39 38.1**	**-0.2**
FALS					**Sn**	**14 39 53.7**	**-0.7**
FALS	**False Pass**	**1.20**	**350**	P	**Pb**	**14 39 38.1**	**-0.2**
	baz=172						
FALS				S	**Sn**	**14 39 53.7**	**-0.7**
	baz=172						
ISNN	**Isanotski Nort**	**1.23**	**341**		**Pn**	**14 39 39.1**	**+0.4**
ISNN					**Sn**	**14 39 55.9**	**+0.6**
WECS	**Westdahl Cape**	**1.32**	**311**		**Pn**	**14 39 40.2**	**-0.2**
WEBT	**Westdahl Beart**	**1.35**	**314**		**Pn**	**14 39 40.8**	**+0.5**
AKSA	**Akutan Strait**	**1.62**	**288**		**Pn**	**14 39 45.2**	**+1.2**
AKSA					**Sg**	**14 40 06.3**	**-1.4**
AKSA	**Akutan Strait**	**1.62**	**288**		**Pn**	**14 39 44.9**	**+0.9**
AKSA					**Sg**	**14 40 06.5**	**-1.2**
AKUT	**Akutan**	**1.66**	**287**		**Pn**	**14 39 45.6**	**+1.0**
AKUT	**Akutan**	**1.66**	**287**	IAML		14 40 16.4	
	comp=E,264nm,0.8s						
AHB	**Akutan Harbor**	**1.68**	**286**		**Pn**	**14 39 46.1**	**+1.2**
AKBBA	**Akutan Broad B**	**1.74**	**285**		**Pn**	**14 39 47.0**	**+1.2**
ZRO	**Akutan Zero**	**1.77**	**285**		**Pn**	**14 39 47.2**	**+1.1**
HAG	**Hague Volcano**	**1.78**	**22**		**Pn**	**14 39 47.7**	**+1.4**
LVA	**Lava Point**	**1.82**	**287**		**Pn**	**14 39 48.1**	**+1.3**
PS4A	**Pavlof South-4**	**1.82**	**22**		**Pn**	**14 39 48.0**	**+1.2**
AKRB	**Akutan Reef Bi**	**1.83**	**286**		**Pn**	**14 39 48.2**	**+1.3**
PVV	**Pavlof Volcano**	**1.86**	**23**		**Pn**	**14 39 48.6**	**+1.3**
PN7A	**Pavlof North-7**	**1.87**	**19**		**Pn**	**14 39 49.1**	**+1.6**
PS1A	**Pavlof South-1**	**1.91**	**23**		**Pn**	**14 39 49.5**	**+1.4**
UNV	**Unalaska Valle**	**2.04**	**276**		**Pn**	**14 39 51.0**	**+1.1**
UNV	**Unalaska Valle**	**2.04**	**276**	P	**Pn**	**14 39 51.0**	**+1.1**
	baz=91						
S12K	**Black Hills**	**2.12**	**16**		**Pn**	**14 39 51.9**	**+1.0**
S12K	**Black Hills**	**2.12**	**16**	IAML		14 40 22.5	
	comp=N,242nm,0.7s						
S12K				IAML		14 40 30.1	
	comp=E,314nm,0.8s						
S12K	**Black Hills**	**2.12**	**16**	P	**Pn**	**14 39 51.9**	**+1.0**
	baz=198						
MNAT	**Makushin Natee**	**2.15**	**277**		**Pn**	**14 39 52.9**	**+1.5**
MTBL	**Makushin Table**	**2.16**	**279**		**Pn**	**14 39 53.0**	**+1.5**
MSW	**Makushin Switc**	**2.21**	**278**		**Pn**	**14 39 53.8**	**+1.6**
MGOD	**Makushin Gods**	**2.26**	**275**		**Pn**	**14 39 54.7**	**+1.8**
SDPT	**Sand Point**	**2.26**	**41**		**Pn**	**14 39 55.0**	**+2.2**
SDPT				IAML		14 40 24.0	
	comp=E,433nm,0.5s						
SDPT				IAML		14 40 31.4	
	comp=N,398nm,1.1s						
SDPT	**Sand Point**	**2.26**	**41**	P	**Pn**	**14 39 54.6**	**+1.8**
	baz=226						
MAPS	**Pakushin South**	**2.30**	**275**		**Pn**	**14 39 54.5**	**+1.1**
CNBA	**Chernabura Isl**	**2.34**	**59**		**Pn**	**14 39 55.2**	**+1.2**
CHNA	**Chernabura Isl**	**2.35**	**59**	P	**Pn**	**14 39 55.2**	**+1.1**
	baz=244						
S14K	**Fog Glacier**	**3.31**	**36**	P	**Pn**	**14 40 09.7**	**+2.4**
	baz=221						
VNFG	**Fog Glacier, M**	**3.31**	**36**		**Pn**	**14 40 09.7**	**+2.4**
VNFG	**Fog Glacier, M**	**3.31**	**36**	IAML		14 41 08.8	
	comp=E,247nm,1.0s						
CHGN	**Chignik**	**3.76**	**44**	Pn	**Pn**	**14 40 14.7**	**+1.3**
CHGN				IAML		14 41 17.5	
	comp=E,86nm,1.1s						
CHGN				IAML		14 41 19.1	
	comp=N,77nm,0.5s						
CLES	**Cleveland East**	**4.18**	**261**	Pn	**Pn**	**14 40 19.8**	**+0.6**
O14K	**Tigyukauivet M**	**5.68**	**9**		**Pn**	**14 40 41.7**	**+1.9**
O14K	**Tigyukauivet M**	**5.68**	**9**	P	**Pn**	**14 40 41.7**	**+1.9**
	baz=192						
O15K	**Ungalikthiuk R**	**5.80**	**17**		**Pn**	**14 40 42.7**	**+1.2**
O15K	**Ungalikthiuk R**	**5.80**	**17**	P	**Pn**	**14 40 42.7**	**+1.2**
	baz=200						
N14K	**Kuskokwak Cree**	**6.31**	**6**		**Pn**	**14 40 50.9**	**+2.5**
N14K	**Kuskokwak Cree**	**6.31**	**6**	P	**Pn**	**14 40 50.9**	**+2.5**
	baz=188						
OHAK	**Old Harbor**	**6.60**	**54**	Pn	**Pn**	**14 40 53.8**	**+1.4**
N15K	**Kwethluk River**	**6.71**	**13**		**Pn**	**14 40 56.0**	**+2.1**
N15K	**Kwethluk River**	**6.71**	**13**	P	**Pn**	**14 40 56.0**	**+2.1**
	baz=196						
M13K	**Dall Lake**	**6.76**	**359**		**Pn**	**14 40 57.3**	**+2.8**
M13K	**Dall Lake**	**6.76**	**359**	P	**Pn**	**14 40 57.3**	**+2.8**
	baz=179						
P18K	**Big Mountain,**	**7.18**	**34**	Pn	**Pn**	**14 41 03.0**	**+2.5**
KDAK	**Kodiak Island**	**7.21**	**51**	Pn	**Pn**	**14 41 01.2**	**+0.4**
	comp=N,0.2nm,0.3s,baz=165,slow=5.1,SNR=17						
KDAK				Sn	**Sn**	**14 42 16.6**	**-5.9**
	comp=N,0.2nm,0.3s,baz=112,slow=20,SNR=1.8						
	comp=N,6.3nm,1.0s						
O18K	**Koktuh Hills**	**7.55**	**32**	Pn	**Pn**	**14 41 08.6**	**+3.1**
N17K	**Nushagak Hills**	**7.58**	**23**	Pn	**Pn**	**14 41 08.4**	**+2.6**
L14K	**Kuka Creek**	**7.69**	**1**	Pn	**Pn**	**14 41 09.5**	**+2.1**
M16K	**Timber Creek**	**7.69**	**15**	Pn	**Pn**	**14 41 08.4**	**+1.0**
N18K	**Kilae Creek**	**8.03**	**26**	Pn	**Pn**	**14 41 14.9**	**+2.9**
M17K	**Holitna River**	**8.31**	**19**	Pn	**Pn**	**14 41 18.7**	**+2.8**
SVW2	**Sparrevohn**	**8.46**	**25**	Pn	**Pn**	**14 41 21.3**	**+3.3**
K15K	**Wolf Creek Mou**	**8.68**	**5**	Pn	**

H03N2	**Juan Fernandez** baz=322	**112.96**	**115**	T	T	17 01 06.6
H03N1	**Juan Fernandez** baz=322	**112.97**	**115**	T	T	17 01 06.4
H03N3	**Juan Fernandez** baz=322	**112.98**	**115**	T	T	17 01 10.3

WEL 30 14:48:17.5±1.0, 37°S±4°×17°9E±°, h12km, M3.6/24, ML3.8/25, MLv3.6/24, Error ellipse: s-maj=0.0km s-min=0.0km az=91.5, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.76**	**232**	P	Pg	14 48 32.2	+0.1
MXZ				S	Sb	14 48 42.8	-0.1
WMGZ	**Waiomatatini S**	**0.88**	**215**	P	Pn	14 48 35.9	+0.1
PKGZ	**Pakihiroa**	**1.11**	**224**	P	Pb	14 48 38.5	-0.1
PKGZ				S	Sn	14 48 54.8	+0.6
PUZ	**Puketiti**	**1.16**	**213**	P	Pn	14 48 39.2	-0.3
HAZ	**Te Kaha**	**1.21**	**237**	P	Pn	14 48 39.0	-1.1
TWGZ	**Tauwhareparae**	**1.38**	**218**	P	Pn	14 48 42.6	+0.1
TWGZ				S	Sg	14 49 01.9	+0.1
RUGZ	**Raukumara Rang**	**1.40**	**231**	P	Pb	14 48 43.3	-0.3
CNGZ	**Carnagh Statio**	**1.54**	**206**	P	Pn	14 48 45.0	+0.2
WIZ	**White Island**	**1.55**	**253**	P	Pn	14 48 44.5	-0.4
WSRZ	**White Island S**	**1.56**	**254**	P	Pn	14 48 44.3	-0.6
TKGZ	**Te Karaka**	**1.65**	**215**	P	Pn	14 48 45.7	-0.5
MWZ	**Matawai**	**1.73**	**224**	P	Pn	14 48 47.4	-0.1
MWZ				S	Sn	14 49 08.5	-1.0
WHRZ	**Whale Island**	**1.82**	**245**	P	Pn	14 48 49.4	+0.7
RIGZ	**Rimuhau**	**1.91**	**212**	P	Pn	14 48 49.1	-0.7
RIGZ				S	Sn	14 49 12.9	-0.9
RAGZ	**Rawiri**	**1.91**	**222**	P	Pn	14 48 50.0	+0.1
URZ	**Urewera**	**1.93**	**232**	P	Pn	14 48 50.4	+0.3
URZ				S	Sn	14 49 14.6	+0.2
PRGZ	**Paritu Road**	**2.04**	**207**	P	Pn	14 48 50.8	-1.0
MARZ	**Manawahe**	**2.09**	**244**	P	Pn	14 48 52.5	+0.1
EDRZ	**Edgecumbe**	**2.10**	**241**	P	Pn	14 48 52.9	+0.4
OPRZ	**Ohinepanea**	**2.13**	**249**	P	Pn	14 48 52.6	-0.2
SNGZ	**Shannon Statio**	**2.16**	**218**	P	Pn	14 48 52.7	-0.7
RTZ	**Ruatahuna**	**2.24**	**227**	P	Pn	14 48 54.3	-0.1
MHGZ	**Mahia Peninsul**	**2.24**	**203**	P	Pn	14 48 53.3	-1.1
MYRZ	**Mayor Island**	**2.26**	**264**	P	Pn	14 48 54.7	0.0
MUGZ	**Murupara**	**2.28**	**232**	P	Pn	14 48 54.9	0.0
MKRZ	**Makatiti**	**2.31**	**242**	P	Pn	14 48 56.1	+0.8
LIRZ	**Lichensteins R**	**2.31**	**246**	P	Pn	14 48 56.2	+0.9
TGRZ	**Tauranga**	**2.31**	**253**	P	Pn	14 48 55.4	0.0
TARZ	**Mount Tarawera**	**2.32**	**240**	P	Pn	14 48 56.0	+0.4
OMRZ	**Omania**	**2.36**	**244**	P	Pn	14 48 56.7	+0.6
RRRZ	**Republican Roa**	**2.37**	**238**	P	Pn	14 48 56.5	+0.3
RAHZ	**Arahi**	**2.39**	**220**	P	Pn	14 48 55.9	-0.6
KARZ	**Kaharoa**	**2.42**	**247**	P	Pn	14 48 57.1	+0.3
HLRZ	**Highlands Stat**	**2.44**	**241**	P	Pn	14 48 57.7	+0.5
WHNZ	**Waihua**	**2.44**	**215**	P	Pn	14 48 56.7	-0.5
MTHZ	**Maungataniwha**	**2.48**	**224**	P	Pn	14 48 57.6	-0.1
NGRZ	**Ngongotaha**	**2.49**	**245**	P	Pn	14 48 58.9	+1.0
UTU	**Utuhina**	**2.52**	**244**	P	Pn	14 48 60.0	+1.8
PRRZ	**Plateau Road**	**2.53**	**236**	P	Pn	14 48 58.2	-0.2
HSRZ	**Hossack Road**	**2.54**	**241**	P	Pn	14 48 59.5	+1.0
HRRZ	**Handcock Road**	**2.55**	**239**	P	Pn	14 48 59.0	+0.4
KMRZ	**Kaimai**	**2.59**	**252**	P	Pn	14 48 58.9	-0.4
ALRZ	**Allen Road**	**2.60**	**235**	P	Pn	14 48 59.3	0.0
GRRZ	**Galatos Road**	**2.65**	**241**	P	Pn	14 49 00.9	+0.8
NMHZ	**Naumai**	**2.67**	**221**	P	Pn	14 48 60.0	-0.4
KUZ	**Kuaotunu**	**2.70**	**276**	P	Pn	14 48 59.3	-1.4
WPRZ	**Whakapapatarin**	**2.70**	**237**	P	Pn	14 49 01.1	+0.4
ARHZ	**Aropaoanui**	**2.71**	**216**	P	Pn	14 48 59.9	-0.9
MRHZ	**Matea Rd**	**2.71**	**229**	P	Pn	14 49 00.5	-0.4
BKZ	**Black Stump Fm**	**2.89**	**224**	P	Pn	14 49 02.6	-0.7
TOZ	**Tahuroa Road**	**2.90**	**256**	P	Pn	14 49 02.7	-0.7
WHTZ	**Whakaora**	**2.91**	**236**	P	Pn	14 49 04.8	+1.2
KUTZ	**Kaahu Road**	**2.92**	**241**	P	Pn	14 49 04.1	+0.4
MCHZ	**McNeill Hill**	**2.99**	**218**	P	Pn	14 49 03.6	-1.1
CKHZ	**Cape Kidnapper**	**2.99**	**211**	P	Pn	14 49 02.7	-2.0
GRZ	**Great Barrier**	**3.01**	**285**	P	Pn	14 49 05.2	+0.2
TLZ	**Tolley Road**	**3.05**	**245**	P	Pn	14 49 05.9	+0.3
WATZ	**Wairara**	**3.08**	**238**	P	Pn	14 49 06.5	+0.5
KWHZ	**Kaweka Forest**	**3.12**	**221**	P	Pn	14 49 05.2	-1.3
MKAZ	**Moumakai**	**3.12**	**269**	P	Pn	14 49 05.7	-0.7
RATZ	**Rangitukua**	**3.14**	**235**	P	Pn	14 49 08.0	+1.1
RITZ	**Rihia Road**	**3.15**	**232**	P	Pn	14 49 06.7	-0.2
WIAZ	**Waiheke Island**	**3.16**	**274**	P	Pn	14 49 06.4	-0.6
KAHZ	**Kahuranaki**	**3.19**	**212**	P	Pn	14 49 05.4	-2.1
KATZ	**Kakaramea**	**3.25**	**234**	P	Pn	14 49 09.4	+1.0
KRHZ	**Kereru**	**3.31**	**219**	P	Pn	14 49 07.3	-1.8
ETAZ	**East Tamaki Re**	**3.31**	**271**	P	Pn	14 49 08.9	-0.1
TMVZ	**Te Maari**	**3.33**	**232**	P	Pn	14 49 08.7	-0.7
ETVZ	**East Tongariro**	**3.33**	**231**	P	Pn	14 49 08.7	-0.8
KBGZ	**Karaka Road Bo**	**3.33**	**269**	P	Pn	14 49 09.8	+0.4
NTVZ	**North Tongarir**	**3.33**	**232**	P	Pn	14 49 08.9	-0.7
MBAZ	**Motutapu North**	**3.35**	**274**	P	Pn	14 49 09.4	-0.2
KRVZ	**Karewarewa**	**3.35**	**232**	P	Pn	14 49 09.3	-0.5
BHHZ	**Black Hill Sta**	**3.35**	**224**	P	Pn	14 49 08.9	-0.9
OTVZ	**Oturere**	**3.38**	**231**	P	Pn	14 49 09.4	-0.8
NNVZ	**North Ngauruho**	**3.39**	**232**	P	Pn	14 49 10.2	-0.2
WTVZ	**West Tongariro**	**3.40**	**233**	P	Pn	14 49 10.3	-0.1
PXZ	**Pawanui**	**3.40**	**210**	P	Pn	14 49 07.5	-2.8
SNVZ	**South Ngauruho**	**3.41**	**231**	P	Pn	14 49 09.9	-0.7
ABAZ	**Army Bay**	**3.42**	**277**	P	Pn	14 49 11.3	+0.7
NGZ	**Ngauruhoe**	**3.42**	**232**	P	Pn	14 49 10.1	-0.7
TUVZ	**Tukino**	**3.45**	**230**	P	Pn	14 49 10.8	-0.4
EPAZ	**Eden Park BICE**	**3.46**	**272**	P	Pn	14 49 11.8	+0.7
TWVZ	**Taurewa**	**3.47**	**234**	P	Pn	14 49 11.3	-0.1
HBAZ	**Herne Bay Bore**	**3.47**	**273**	P	Pn	14 49 12.2	+0.9
COVZ	**Chateau Observ**	**3.48**	**232**	P	Pn	14 49 11.4	-0.1
WHNZ	**Wahianoa**	**3.52**	**249**	P	Pn	14 49 11.7	-1.1
AWAZ	**Awhitu Peninsu**	**3.53**	**269**	P	Pn	14 49 12.3	+0.2
WTAZ	**Waiatarua**	**3.59**	**271**	P	Pn	14 49 13.4	+0.5
PNHZ	**Pukenui**	**3.60**	**218**	P	Pn	14 49 10.8	-2.3
RVAZ	**Riverhead Bore**	**3.60**	**274**	P	Pn	14 49 13.3	+0.2
WPHZ	**Waipukurau**	**3.60**	**214**	P	Pn	14 49 11.4	-1.8
HIZ	**Hauiti**	**3.62**	**246**	P	Pn	14 49 14.2	+0.9
MTVZ	**Mangateitei**	**3.63**	**230**	P	Pn	14 49 13.0	-0.6
PKVZ	**Pokaka**	**3.65**	**232**	P	Pn	14 49 13.7	-0.2
DVHZ	**Dannevirke**	**3.92**	**214**	P	Pn	14 49 15.4	-2.1
VRZ	**Vera Road**	**3.95**	**238**	P	Pn	14 49 18.6	+0.7
WCZ	**Waipu Caves**	**3.97**	**286**	P	Pn	14 49 18.1	0.0
WAZ	**Wanganui**	**4.16**	**229**	P	Pn	14 49 19.9	-0.8
POWZ	**Post Office Ro**	**4.18**	**217**	P	Pn	14 49 19.2	-1.8
PRWZ	**Pori Road**	**4.21**	**214**	P	Pn	14 49 18.8	-2.7
LREZ	**Lake Rotokare**	**4.36**	**236**	P	Pn	14 49 24.4	+0.9
DREZ	**Durham Road**	**4.36**	**240**	P	Pn	14 49 26.3	+2.7
PREZ	**Palmer Road**	**4.46**	**238**	P	Pn	14 49 26.7	+1.8
NEZ	**North Egmont**	**4.47**	**239**	P	Pn	14 49 27.4	+2.3
PKE	**Pukeiti**	**4.51**	**241**	P	Pn	14 49 27.5	+1.8
KHEZ	**Kahui Hut**	**4.54**	**240**	P	Pn	14 49 28.5	+2.5
NBEZ	**Newall Road No**	**4.63**	**240**	P	Pn	14 49 29.5	+2.3
OUZ	**Omahuta**	**4.80**	**291**	P	Pn	14 49 29.8	+0.3
CTZ	**Chatham Island**	**7.41**	**155**	P	Pn	14 50 03.0	-2.3

*IDC **30** 14:50:52.7±0.8, 16°.97S×173°.67W, h0km, mb4.0/7, mbtmp4.1/8, ML3.3/1, MS3.7/4, Error ellipse: s-maj=44.3km s-min=18.9km az=154.0*
*NEIC **30** 14:50:54.2±1.2, 16°.85S±0°.09×173°.5W±0°.1, h10km±1km, mb4.5/15, Error ellipse: s-maj=22.5km s-min=14.9km az=82.0*

ISC 30 14:50:54.2±0.6, 16°.88S±0°.09×173°.59W±0°.09, h10km, n39, σ1s02/29, mb4.4/16, MS4.2/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.43**	**31**		**Pn**	**14 51 47.3**	**-0.5**
NIUE	**Niue**	**4.12**	**123**		**Pn**	**14 51 56.7**	**-0.5**
RAR	**Rarotonga**	**13.76**	**110**	Pn	**Pn**	**14 54 07.5**	**-1.9**
RAR	**Rarotonga** 1.4nm,0.3s,baz=269,slow=11,SNR=6.7 7.9nm,0.6s	**13.76**	**110**	Pn	**Pn**	**14 54 09.1**	**-0.3**
DZM	**Mont Dzumac** comp=Z,115nm,20.7s,baz=52,slow=33	**19.52**	**251**	LR	LR	15 01 34.2	
TOZ	**Tahuroa Road**	**22.89**	**203**	P	**P**	**14 55 58.8**	**+0.8**
TOZ	comp=Z,16nm,1.3s			IAmb	IAmb	14 56 03.3	
PPT	**Papeete** comp=Z,22nm,20.2s,baz=212,slow=33	**22.95**	**95**	LR	LR	15 03 26.1	
RTZ	**Ruatahuna**	**23.18**	**199**	P	**P**	**14 56 01.7**	**+0.5**
RTZ	comp=Z,13nm,1.1s			IAmb	IAmb	14 56 43.3	
QRZ	**Quartz Range**	**26.71**	**204**	P	**P**	**14 56 36.0**	**+2.3**

HNR	**Honiara** comp=Z,1μm,21.4s,baz=94,slow=33	**26.79**	**283**	LR	LR	15 05 26.3
ARMA	**Armidale**	**34.44**	**241**	P	**P**	**14 57 41.8** **-0.6**
ARMA	comp=Z,18nm,1.5s			IAmb	IAmb	14 58 08.3
H11S2	**WAKE ISLAND Hy** baz=148	**40.14**	**330**	T	T	15 41 11.0
H11S3	**WAKE ISLAND Hy** baz=148	**40.15**	**330**	T	T	15 41 46.1
H11S1	**WAKE ISLAND Hy** baz=148	**40.16**	**330**	T	T	15 41 42.4
H11N3	**WAKE ISLAND Hy** baz=153	**41.11**	**331**	T	T	15 42 02.5
H11N1	**WAKE ISLAND Hy** baz=153	**41.11**	**331**	T	T	15 42 21.2
H11N2	**WAKE ISLAND Hy** baz=153	**41.12**	**331**	T	T	15 42 05.6
TOO	**Toolangi**	**41.40**	**232**	P	**P**	**14 58 39.6** **-1.3**
TOO	comp=Z,20nm,1.4s			IAmb	IAmb	14 58 50.3
COEN	**Coen**	**41.72**	**268**	P	**P**	**14 58 43.5** **-0.2**
STKA	**Stephens Creek**	**43.16**	**241**	P	**P**	**14 58 54.8** **-0.5**
STKA	**Stephens Creek** comp=Z,4.1nm,0.7s,baz=73,slow=5.0,SNR=7.7 comp=Z,4.1nm,0.7s	**43.16**	**241**	P	**P**	**14 58 54.5** **-0.8**
BBOO	**Buckleboo**	**47.93**	**241**	P	**P**	**14 59 32.1** **-0.9**
WR0	**Warramunga Arr**	**49.15**	**258**	P	**P**	**14 59 41.6** **-1.1**
WR0	comp=Z,5.6nm,1.3s			IAmb	IAmb	14 59 43.4
WB0	**Warramunga Arr**	**49.31**	**258**	P	**P**	**14 59 43.0** **-0.9**
WB0	comp=Z,3.3nm,1.0s			IAmb	IAmb	15 00 23.8
WB2	**Warramunga Arr**	**49.33**	**258**	P	**P**	**14 59 43.2** **-0.9**
WB2	comp=Z,5.1nm,1.2s			IAmb	IAmb	15 00 00.9
WRA	**Warramunga Arr**	**49.34**	**258**	P	**P**	**14 59 43.3** **-0.9**
WRA	**Warramunga Arr** comp=Z,0.8nm,0.4s,baz=96,slow=7.3,SNR=19 comp=Z,0.8nm,0.4s	**49.34**	**258**	P	**P**	**14 59 42.9** **-1.3**
AS31	**Alice Springs**	**49.49**	**253**	P	**P**	**14 59 44.7** **-0.6**
AS31	comp=Z,2.7nm,0.6s			IAmb	IAmb	14 59 45.4
ASAR	**Alice Springs**	**49.49**	**253**	P	**P**	**14 59 44.1** **-1.2**
ASAR	**Alice Springs** comp=Z,8.3nm,0.6s,baz=88,slow=8.5,SNR=210 comp=Z,8.3nm,0.6s	**49.49**	**253**	P	**P**	**14 59 44.5** **-0.9**
QSPA	**South Pole Qui**	**73.17**	**180**	P	**P**	**15 02 25.7** **+0.6**
QSPA	comp=Z,8.5nm,1.5s			IAmb	IAmb	15 02 34.1
NVAR	**Mina Array Bea** comp=Z,1.6nm,0.9s,baz=225,slow=9.0,SNR=9.3 comp=Z,1.6nm,0.9s	**75.54**	**42**	P	**P**	**15 02 40.9** **+1.5**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.5s,baz=212,slow=9.6,SNR=3.8 comp=Z,0.2nm,0.5s	**81.58**	**56**	P	**P**	**15 03 13.2** **+0.5**
NEW	**Newport** comp=Z,106nm,21.4s,baz=172,slow=29	**82.03**	**34**	LR	LR	15 30 38.0
PDAR	**Pinedale Array** comp=Z,0.8nm,0.7s,baz=243,slow=4.0,SNR=9.3 comp=Z,0.8nm,0.7s	**83.48**	**42**	P	**P**	**15 03 23.1** **+0.5**
ILAR	**Eielson Array** comp=Z,0.3nm,0.7s,baz=230,slow=6.6,SNR=7.7 comp=Z,0.3nm,0.7s	**83.92**	**11**	P	**P**	**15 03 23.9** **-0.1**
SNAA	**Sanae**	**91.45**	**177**	P	**P**	**15 04 01.6** **+1.2**
BRTR	**Keskin Array B** comp=Z,0.9nm,0.8s,baz=103,slow=1.9,SNR=3.2	**147.17**	**319**	PKPbc	**PKPbc**	**15 10 38.8** **+0.7**
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,0.7s,baz=256,slow=4.2,SNR=4.7	**174.13**	**129**	PKPab	**PKPab**	**15 12 36.2** **-0.3**

*IDC **30** 14:53:40.4±3.1, 37°.23N×71°.91E, h118km±23km, mb3.4/12, mbtmp3.8/19, MS2.8/2, Error ellipse: s-maj=24.9km s-min=14.8km az=165.0*
*NEIC **30** 14:53:43.4±1.2, 37°.37N±0°.07×71°.9E±0°.1, h147km±6km, mb4.1/2, Error ellipse: s-maj=12.0km s-min=9.7km az=94.0*
*NNC **30** 14:53:49.6±4.3, 37°.94N×70°.33E, h0km, mb4.6, mpv4.7, Error ellipse: s-maj=40.9km s-min=29.5km az=114.0*

ISC 30 14:53:42.6±0.5, 37°.32N±0°.05×71°.86E±0°.06, h150km, n55, σ2s55/62, mb3.5/12, 5C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.07**	**324**		**Pn**	**14 54 19.2**	**+0.6**
DRK	**Karamyk**	**2.15**	**359**		**Pn**	**14 54 20.9**	**+1.1**
CHGR	**Chuyangaron**	**2.52**	**303**		**Pn**	**14 54 24.4**	**+0.4**
SIMJ	**Simiganj**	**2.62**	**301**		**Pn**	**14 54 25.8**	**+0.5**
BTK	**Batken**	**2.85**	**344**	Pn	**Pn**	**14 54 29.7**	**+1.6**
KBL	**Kabul**	**3.60**	**220**		**Pn**	**14 54 41.2**	**+3.3**
NIL	**Nilore**	**3.83**	**162**		**Pn**	**14 54 42.3**	**+1.6**
ARSB	**Arslanbob**	**4.09**	**12**		**Pn**	**14 54 43.7**	**-0.3**
NRN	**Naryn**	**5.21**	**37**		**Pn**	**14 54 57.7**	**-1.3**
UCH	**Uchtor** SNR=63	**5.31**	**22**	P	**Pn**	**14 55 00.7**	**+0.3**
EKS2	**Erkin-Say** SNR=11	**5.53**	**15**	P	**Pn**	**14 55 02.1**	**-0.9**
AAK	**Ala-Archa** SNR=32	**5.68**	**20**	P	**Pn**	**14 55 05.9**	**+0.8**
AAK	**Ala-Archa**	**5.68**	**20**		**Pn**	**14 55 05.5**	**+0.4**
AAK	**Ala-Archa** 18nm,0.5s,baz=208,slow=7.4,SNR=62	**5.68**	**20**	P	**Pn**	**14 55 05.4**	**+0.3**
AAK	18nm,0.3s,baz=358,slow=21,SNR=18			S	**Sn**	**14 56 07.8**	**-1.8**
THN	**Thein Dam**	**5.81**	**146**	eP	**Pn**	**14 55 06.7**	**0.0**
THN				eS	**Sn**	**14 56 09.2**	**-3.4**
KK31	**Karatay Array**	**5.87**	**350**		**Pn**	**14 55 08.0**	**+0.6**
KK31	**Karatay Array** 51nm,0.5s,baz=176,slow=15,SNR=466	**5.87**	**350**	⇑P	**Pn**	**14 55 07.6**	**+0.2**
KK31	44nm,0.5s,baz=179,slow=17,SNR=20			⇑S	**Sn**	**14 56 09.9**	**-3.9**
KKAR	**Karatay Array**	**5.87**	**350**		**Pn**	**14 55 07.7**	**+0.3**
BOOM	**Boomskoye usch**	**6.04**	**30**		**Pn**	**14 55 09.3**	**-0.6**
CHMS	**Chumysh** SNR=9.4	**6.08**	**20**	P	**Pn**	**14 55 10.4**	**+0.1**
DHRM	**DHARAMSHALA**	**6.24**	**143**	eP	**Pn**	**14 55 11.7**	**-1.0**
DHRM				eS	**Sn**	**14 56 17.8**	**-5.4**
DHRM	174nm,0.4s			IAML		14 56 22.8	
DHRM	comp=E,168nm,0.8s			IAML		14 56 23.5	
USP	**Ospenovka** SNR=7.9	**6.27**	**18**	P	**Pn**	**14 55 12.9**	**+0.1**
TARG	**Taragay, Kyrgy**	**6.36**	**44**		**Pn**	**14 55 13.5**	**-0.9**
BHK	**Bhakra**	**6.99**	**146**	eP	**Pn**	**14 55 21.8**	**-0.7**
BHK				eS	**Sn**	**14 56 35.2**	**-5.7**
SMLA	**Simla**	**7.58**	**143**	eP	**Pn**	**14 55 29.2**	**-1.2**
SMLA				eS	Sn	14 56 47.1	-7.8
SMLA	comp=E,83nm,0.4s			IAML		14 56 51.9	
SMLA	comp=E,55nm,0.2s			IAML		14 56 51.9	
KUDL	**Kundal**	**9.94**	**156**	eP	Pn	14 55 58.0	-3.9
KUDL				eS	Sn	14 57 40.0	-12
GEYT	**Alibeck**	**10.92**	**277**		**Pn**	**14 56 13.7**	**-1.1**
GEYT	**Alibeck** comp=E,3.3nm,0.5s,baz=96,slow=13,SNR=6.0	**10.92**	**277**	P	**Pn**	**14 56 14.0**	**-0.7**
GEYT	comp=E,4.1nm,0.6s,baz=121,slow=5.7,SNR=3.7			S	**Sn**	**14 58 11.2**	**-4.3**
GYA0B	**ALIBECK ARRAY**	**10.92**	**277**		**Pn**	**14 56 13.4**	**-1.3**
AJM	**Ajmer**	**11.06**	**167**	eP	**Pn**	**14 56 15.6**	**-1.1**
MKAR	**Makanchi Array** comp=E,0.2nm,0.5s,baz=217,slow=14,SNR=2.9	**12.22**	**36**	P	**Pn**	**14 56 31.8**	**+0.2**
MKAR	comp=E,32nm,19.9s,baz=250,slow=37			LR	LR	15 01 11.2	
KURBB	**Kurchatov Arra** comp=E,1.5nm,0.9s,baz=209,slow=11,SNR=13	**14.13**	**18**	P	**Pn**	**14 56 56.8**	**+0.9**
AB31	**Akbulak array** comp=E,1.2nm,0.3s,baz=137,slow=14,SNR=97	**14.73**	**328**	P	**Pn**	**14 57 04.0**	**+0.6**
AB31	comp=E,4.2nm,0.7s,baz=133,slow=25,SNR=6.9			⇑S	Sn	14 59 34.8	-12
ABKAR	**Akbulak array**	**14.73**	**328**		**Pn**	**14 57 03.7**	**+0.3**
ABKAR	**Akbulak array**	**14.73**	**328**		**Pn**	**14 57 03.8**	**+0.4**
BVAR	**Borovoye Array** comp=E,1.2nm,0.5s,baz=156,slow=13,SNR=6.8	**15.74**	**357**	P	**Pn**	**14 57 15.1**	**-0.8**
BVAR	comp=E,1.7nm,0.5s,baz=162,slow=23,SNR=8.3			S	**Sn**	**15 00 06.9**	**-4.0**
AKTO	**Aktyubinsk** comp=E,9.6nm,0.6s,baz=136,slow=12,SNR=34	**16.44**	**327**	P	**P**	**14 57 26.1**	**+1.6**
AKTO	comp=E,1.2nm,0.4s,baz=346,slow=23,SNR=2.3			S	**S**	**15 00 19.2**	**-7.7**
AKTO	**Aktyubinsk** comp=E,7.7nm,0.8s	**16.44**	**327**	⇑P	**P**	**14 57 27.5**	**+3.1**
AKTO	comp=E,3.7nm,1.3s			⇑S	**S**	**15 00 16.6**	**-10**

ZAA0	**Zalesovo Array**	**18.88**	**24**	P	**Pn**	**14 57 52.6** **-0.8**
ZAA0	comp=Z,6.6nm,1.4s			IAmb	IAmb	14 57 56.8
ZALV	**Zalesovo Beam**	**18.88**	**24**	P	**P**	**14 57 52.4** **+1.3**
ZALV	**Zalesovo Beam** comp=Z,1.4nm,0.4s,baz=205,slow=12,SNR=6.8	**18.88**	**24**	P	**P**	**14 57 51.5** **+0.4**
SONM	**Songino Array** comp=Z,0.3nm,0.4s,baz=256,slow=10,SNR=3.0 comp=Z,0.3nm,0.4s	**27.30**	**56**	P	**P**	**14 59 14.3** **+1.2**
AKASG	**Malin Array Be** comp=Z,0.4nm,0.4s,baz=110,slow=6.9,SNR=2.6 comp=Z,0.4nm,0.4s	**32.98**	**308**	P	**P**	**15 00 05.5** **+2.6**
NRIK	**Noril'sk** comp=Z,1.5nm,0.4s,baz=204,slow=6.3,SNR=5.3 comp=Z,1.5nm,0.4s	**33.20**	**10**	P	**P**	**15 00 07.0** **+2.4**
FINES	**FINESS Array B** comp=Z,2.5nm,1.0s,baz=117,slow=9.7,SNR=6.7 comp=Z,2.5nm,1.0s	**37.20**	**325**	P	**P**	**15 00 41.0** **+2.2**
ARCES	**ARCESS Array B** comp=Z,2.3nm,0.8s,baz=96,slow=7.4,SNR=5.9 comp=Z,2.3nm,0.8s	**40.66**	**337**	P	**P**	**15 01 10.0** **+2.5**
HFS	**Hagfors** comp=Z,1.6nm,0.5s,baz=113,slow=13,SNR=9.0 comp=Z,1.6nm,0.5s	**42.85**	**321**	P	**P**	**15 01 27.6** **+2.1**
YAK	**Yakutsk** comp=Z,15nm,19.8s,baz=36,slow=40	**42.90**	**36**	LR	LR	15 22 19.8
NB2	**NORSAR Subarra** comp=Z,1.0nm,0.7s,baz=94,slow=7.9	**44.15**	**322**	P	**P**	**15 01 37.8** **+1.9**
NOA	**NORSAR Array B** comp=Z,0.4nm,0.7s,baz=94,slow=7.7,SNR=4.1 comp=Z,0.4nm,0.7s	**44.15**	**322**	P	**P**	**15 01 37.9** **+1.9**
ESDC	**Sonseca Array** comp=Z,0.5nm,0.5s,baz=58,slow=7.1,SNR=5.5 comp=Z,0.5nm,0.5s	**57.69**	**298**	P	**P**	**15 03 19.0** **+1.6**
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.5s,baz=39,slow=6.0,SNR=2.6 comp=Z,0.3nm,0.5s	**66.43**	**269**	P	**P**	**15 04 16.5** **+0.6**
ILAR	**Eielson Array** comp=Z,0.6nm,1.0s,baz=320,slow=4.9,SNR=6.3 comp=Z,0.6nm,1.0s	**73.80**	**16**	P	**P**	**15 05 01.1** **+1.0**
YKA	**Yellowknife Ar** comp=Z,0.7nm,0.6s,baz=348,slow=5.9,SNR=16 comp=Z,0.7nm,0.6s	**80.39**	**3**	P	**P**	**15 05 38.2** **+1.4**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.7s,baz=322,slow=5.0,SNR=4.8 comp=Z,0.4nm,0.7s	**81.84**	**123**	P	**P**	**15 05 46.2** **+1.1**

*MEX **30** 15:07:55.4±0.7, 15°.93N×98°.87W, h5km, MD4.6*
*NEIC **30** 15:07:56.3±2.5, 16°.08N±0°.05×98°.67W±0°.03, h10km±1km, mb4.7/390, Md4.6/102(MEX), Error ellipse: s-maj=8.4km s-min=4.4km az=190.0*
*IDC **30** 15:07:57.5±0.9, 16°.38N×98°.70W, h0km, mb4.3/12, mbtmp4.3/16, ML3.5/5, MS3.7/32, Error ellipse: s-maj=24.5km s-min=12.9km az=47.0*
*GCMT **30** 15:08:01.3±0.8, 16°.00N±0°.05×98°.53W±0°.08, h21km±1km, MW4.7/68, Moment Tensor Solution. s15,c18; s68,c87; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.61±.16; Mθθ -1.09±.09; Mφφ -0.52±.10; Mrθ 0.59±.15; Mrφ 0.39±.06; Mθφ 0.07±.24; Best double couple: M0 1.55800×10^16 NP1: φs 107.00000°, δ55.00000°, λ 80.00000°. NP2: φs 304.00000°, δ36.00000°, λ 104.00000°. Principal axes: T 1.7420, Plg77.0000°, Azm342.0000°; N -0.3710, Plg8.0000°, Azm113.0000°; P -1.3730, Plg10.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 15:07:55.9±0.4, 16°.01N±0°.03×98°.72W±0°.02, h10km, n720, σ1s58/612, mb4.7/167, MS3.8/29, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.69**	**56**		**Pb**	**15 08 09.6**	**-0.3**
PNIG					**Sb**	**15 08 18.4**	**-1.0**
PNIG	**Pinotepa**	**0.69**	**56**	eP	**Pb**	**15 08 09.6**	**-0.3**
PNIG				eS	**Sb**	**15 08 19.2**	**-0.3**
CRIG	**Cruz Grande**	**0.83**	**331**		**Pg**	**15 08 09.6**	**-2.3**
CRIG					**Sg**	**15 08 20.3**	**-2.3**
CRIG	**Cruz Grande**	**0.83**	**331**	eP	**Pg**	**15 08 09.6**	**-2.3**
CRIG				eS	**Sg**	**15 08 20.3**	**-2.3**
MGIG	**Malinaltepec**	**1.22**	**4**		**Pb**	**15 08 17.3**	**-1.9**
MGIG					**Sb**	**15 08 34.0**	**-1.2**
MGIG	**Malinaltepec**	**1.22**	**4**	eP	**Pb**	**15 08 17.3**	**-1.9**
MGIG				eS	**Sb**	**15 08 34.0**	**-1.

ZIIG eS Sn 15 09 20.6 -0.8
AMVM AMECAMECA 3.11 359 Pn 15 08 46.5 +1.2
AMVM Sn 15 09 24.2 +1.5
AMVM AMECAMECA 3.11 359 eP Pn 15 08 46.5 +1.2
AMVM eS Sn 15 09 24.2 +1.5
TLVM San Miguel Top 3.21 353 eP Pn 15 08 49.0 +2.2
TLVM eS Sb 15 09 29.1 -3.5
XCVM Xochimilco 3.25 353 eP Pn 15 08 44.3 -2.9
XCVM eS Sn 15 09 28.0 +1.9
NEUV Arroyo Zacate 3.27 58 eP Pn 15 08 47.0 -0.2
NEUV eS Sn 15 09 27.8 +1.7
AOVM Tlapan 3.29 350 eP Pn 15 08 47.5 -0.5
AOVM eS Sb 15 09 31.3 -3.8
THVM De Xico 3.29 356 eP Pn 15 08 46.6 -1.2
THVM eS Sn 15 09 26.8 -0.4
UNM Universidad Na 3.33 352 Pn 15 08 48.3 0.0
UNM Universidad Na 3.33 352 eP Pn 15 08 49.8 +1.4
UNM eS Sn 15 09 25.4 -2.7
BJVM Benito Juarez 3.38 353 eP Pb 15 08 52.3 -3.7
BJVM eS Sn 15 09 30.6 +1.3
CJVM Cuajimalpa 3.38 351 eP Pn 15 08 50.7 +1.7
CJVM eS Sn 15 09 31.3 +2.0
TOVM TOLUCA 3.38 344 Pn 15 08 51.4 +2.3
TOVM Sn 15 09 30.4 +0.9
TOVM TOLUCA 3.38 344 eP Pn 15 08 51.4 +2.3
TOVM eS Sn 15 09 30.4 +0.9
TXVM Universitario 3.41 357 eP Pn 15 08 49.5 0.0
TXVM eS Sn 15 09 31.7 +1.6
PBVM Pinon 3.43 354 Pn 15 08 48.7 -0.7
PBVM Sn 15 09 26.2 -4.0
PBVM Pinon 3.43 354 eP Pn 15 08 48.7 -0.7
PBVM eS Sn 15 09 26.2 -4.0
APVM Azcapotzalco 3.49 352 eP Pb 15 08 54.4 -3.6
APVM eS Sb 15 09 36.2 -4.4
PTVM Pico Tres Padr 3.59 354 Pn 15 08 54.6 +2.8
PTVM Sn 15 09 37.4 +3.0
PTVM Pico Tres Padr 3.59 354 eP Pn 15 08 54.6 +2.8
PTVM eS Sn 15 09 37.4 +3.0
AZVM Cuida Lopez Ma 3.60 351 Pb 15 08 58.7 -1.1
AZVM Sb 15 09 42.5 -1.2
AZVM Cuida Lopez Ma 3.60 351 eP Pn 15 08 51.1 -0.9
AZVM eS Sn 15 09 35.6 +0.9
VTVM Tizayuca 3.74 359 Pb 15 08 59.3 -3.0
VTVM Sb 15 09 45.9 -1.9
VTVM Tizayuca 3.74 359 eP Pb 15 08 59.3 -3.0
VTVM eS Sb 15 09 45.9 -1.9
JAUV Jalcomulco 3.81 28 eP Pn 15 08 53.8 -0.9
JAUV eS Sb 15 09 43.1 -6.4
ZUVM ZUMPANGO 3.81 355 Pb 15 09 03.1 -0.4
ZUVM Sb 15 09 47.0 -2.9
ZUVM ZUMPANGO 3.81 355 eP Pb 15 09 03.1 -0.4
ZUVM eS Sb 15 09 47.0 -2.9
CMIG Matias Romero 3.83 73 Pn 15 08 53.8 -1.2
CMIG Sn 15 09 41.2 +1.1
CMIG Matias Romero 3.83 73 Pn Pn 15 08 54.4 -0.5
10nm,0.3s,baz=265,slow=11,SNR=159
CMIG Sn Sn 15 09 41.3 +1.3
12nm,0.3s,baz=84,slow=18,SNR=3.8
CMIG LR LR 15 10 33.6
comp=Z,1µm,21.2s,baz=264,slow=42
47nm,0.5s
CMIG Matias Romero 3.83 73 eP Pn 15 08 53.8 -1.2
CMIG eS Sn 15 09 41.2 +1.1
NILT Santiago Nilte 3.98 81 eS Sn 15 09 42.8 -0.9
ACIG Acambay 4.10 345 Pb 15 09 06.6 -1.8
ACIG Sb 15 09 54.9 -3.3
ACIG Acambay 4.10 345 eP Pn 15 08 58.4 -0.5
ACIG eS Sn 15 09 47.9 +0.8
PMUV Sontecomapan 4.26 53 eP Pn 15 08 58.3 -2.7
PMUV eS Sn 15 09 53.1 +2.2
DHIG Demacu 4.28 356 Pb 15 09 05.8 -5.6
DHIG Sn 15 09 53.1 +1.6
DEIG Demacu 4.28 356 eP Pn 15 09 05.8 +4.4
DEIG eS Sn 15 09 53.1 +1.6
LVIG Laguna Verde 4.30 30 eP Pn 15 08 58.6 -2.7
LVIG eS Sn 15 09 54.3 +2.8
MOIG Morelia 4.34 328 Pn Pn 15 09 02.3 +0.1
MOIG Morelia 4.34 328 eP Pn 15 09 02.1 -0.1
MOIG eS Sn 15 09 45.6 -7.5
UXUV UXUV 4.57 73 eP Pn 15 09 04.2 -0.9
UXUV eS Sb 15 10 04.0 -7.4
TUIG Tuzandepetl 4.58 63 eP Pn 15 09 04.4 -0.8
CARR Arriaga 4.62 86 eP Pn 15 09 04.9 -0.9
JRQG Juriquilla Cam 4.95 341 Pg Pb 15 09 24.9 +2.1
JRQG Juriquilla Cam 4.95 341 eP Pn 15 09 10.6 +0.1
JRQG eS Sn 15 10 06.7 -1.3
PCIG 5.30 92 Pn 15 09 14.9 -0.2
PCIG Sn 15 10 06.7 -10
PCIG 5.30 92 eP Pn 15 09 14.9 -0.2
PCIG eS Sn 15 10 06.7 -10
TGIG 5.42 81 Pn 15 09 15.9 -1.0
TGIG Sn 15 10 23.6 +4.1
TGIG 5.42 81 eP Pn 15 09 15.9 -1.0
TGIG eS Sn 15 10 23.6 +4.1
CTUV Llano Grande 5.45 4 eP Pn 15 09 22.8 +5.6
CTUV eS Sn 15 10 24.4 +4.5
TGBT Tuxtla Gutierr 5.46 81 e 15 08 11.7
TGBT e 15 08 21.4
ZAIG Zacatecas 7.64 332 Pn Pn 15 09 50.3 +2.7
APG El Apazote 8.02 96 Pn Pn 15 09 54.4 +1.7
0.1nm,0.3s,baz=217,slow=12,SNR=3.9
APG Sn Sn 15 11 24.5 +0.9
0.1nm,0.3s,baz=87,slow=16,SNR=4.6
APG Lg Lg 15 12 15.9
baz=66,slow=21
APG LR LR 15 12 54.0
comp=Z,68nm,19.5s,baz=250,slow=37
PETF Flores 8.54 83 Pn 15 09 59.2 -0.5
MTO3 Montecristo 9.17 99 Pn 15 10 10.2 +1.7
833A Chaparral WMA, 12.27 357 P Pn 15 10 50.5 -0.3
baz=176
SLBS Sierra La Lagu 13.03 308 Pn 15 11 03.3 +2.1
DRIO Del Rio 13.47 353 Pn Pn 15 11 07.0 -0.1
HNDO Hondo 13.47 358 Pn 15 11 07.0 -0.1
LPIG La Paz 13.54 308 LR LR 15 15 25.2
comp=Z,409nm,18.6s,baz=124,slow=34
TX31 Lajitas Ar. Si 14.03 342 Pn Pn 15 11 15.8 +0.9
TXAR Lajitas Array 14.03 342 Pn Pn 15 11 15.5 +0.6
TXAR Lajitas Array 14.03 342 Pn Pn 15 11 14.9 +0.1
baz=160,slow=12,SNR=18
TXAR Lg Lg 15 15 13.5
baz=260,slow=38,SNR=1.5
2.1nm,0.9s
ORTG Ortega, Santa 14.07 112 Pn Pn 15 11 16.4 +0.9
SAND Sanderson 14.23 348 Pn Pn 15 11 17.1 -0.6
JCT Junction City 14.44 356 Pn 15 11 19.1 -1.3
JCT Junction City 14.44 356 P Pn 15 11 19.5 -0.9
baz=175
JTS Las Juntas de 14.55 111 Pn 15 11 23.2 +1.2
JTS Las Juntas de 14.55 111 Pn P 15 11 28.2 -0.5
0.9nm,0.3s,baz=325,slow=16,SNR=3.0
9.1nm,0.8s
435B Jarrell 14.74 4 Pn Pn 15 11 25.3 +0.7
435B Jarrell 14.74 4 P Pn 15 11 23.8 -0.8
baz=184
ALPN Alpine 15.00 343 Pn Pn 15 11 27.0 -1.1
OZNA Ozona 15.01 352 Pn Pn 15 11 25.8 -2.4
LCR2 La Lucha 2 15.63 112 P P 15 11 39.7 -1.1
LCR2 IAmb IAmb 15 11 59.4
comp=Z,46nm,1.1s
MNHN Monahans 15.70 347 Pn 15 11 38.2 +0.8
VHRN Van Horn 15.79 340 Pn Pn 15 11 37.6 -0.9
WHTX Lake Whitney, 15.96 4 Pn 15 11 39.8 -0.7
WHTX IAmb IAmb 15 11 46.6
comp=Z,85nm,1.1s
WHTX Lake Whitney, 15.96 4 P Pn 15 11 40.3 -0.2
baz=184,SNR=9.1
SGCY Sterling City 15.99 353 Pn 15 11 37.8 -3.2
PECS Pecos 16.00 344 P P 15 11 45.3 +0.6
NATX Nacogdoches 16.11 13 P Pn 15 11 41.5 -1.0
baz=194
237A Washetta, Mont 16.14 9 P Pn 15 11 43.9 +0.9
237A IAmb IAmb 15 11 54.3
comp=Z,98nm,1.2s
FW13 Cleburne 16.32 4 Pn 15 11 44.1 -1.1
FW13 IAmb IAmb 15 11 50.5
comp=Z,50nm,1.1s
ODSA Odessa 16.42 348 Pn Pn 15 11 43.0 -3.5
ABTX Abilene, Hawle 16.57 357 P Pn 15 11 48.6 +0.3
ABTX IAmb IAmb 15 11 52.9
comp=Z,39nm,0.9s
ABTX Abilene, Hawle 16.57 357 P Pn 15 11 49.2 +0.8
baz=176,SNR=9.0
FW07 Weatherford 16.64 3 Pn 15 11 48.5 -0.9
FW07 IAmb IAmb 15 11 54.2
comp=Z,38nm,0.8s
PLPT Palo Pinto 16.74 1 Pn 15 11 49.7 -0.8
PLPT IAmb IAmb 15 11 55.3
comp=Z,76nm,1.0s
MNTX Cornudas Mount 16.76 340 P Pn 15 11 51.4 +0.5
baz=157,SNR=20
SN05 Snyder 5 16.91 354 Pn 15 11 51.4 -1.4
FW06 Azle 16.93 3 Pn 15 11 51.7 -1.2
FW03 Perrin-Whitt E 16.97 2 Pn 15 11 50.5 -3.0
FW03 IAmb IAmb 15 11 59.9
comp=Z,73nm,1.2s
SN07 Snyder 07 17.12 354 Pn 15 11 54.3 -1.1
HSIG 17.17 321 Pn 15 11 56.2 +0.2
POST Post 17.17 352 Pn 15 11 54.3 -1.7
EPT El Paso 17.22 337 P 15 11 57.4 -0.9
APMT Aspermont 17.29 356 Pn 15 11 55.8 -1.7
Z35A Perchaven, San 17.30 4 P Pn 15 11 56.9 -0.7
Z38A Mt. Pleasant 17.51 10 Pn Pn 15 11 57.3 -2.8
Z38A IAmb IAmb 15 12 03.0
comp=Z,47nm,1.1s
DKNS Dickens 17.70 354 Pn 15 12 01.2 -1.4
VBMS Vicksburg 17.78 23 P Pn 15 12 02.9 -0.6
baz=206
143A Socs Landing, 17.90 20 Pn Pn 15 12 02.9 -2.0
LOOK Love County 17.96 4 Pn Pn 15 12 02.2 -3.6
Z41A Richland Creek 17.99 16 Pn 15 12 04.2 -1.9
Z41A IAmb IAmb 15 12 20.5
comp=Z,55nm,1.2s
MSTX Muleshoe 18.26 349 P P 15 12 09.7 0.0
baz=167,SNR=14
121A Cookes Peak, D 18.40 335 P P 15 12 12.1 +0.8
baz=151,SNR=7.5
WMOK Wichita Mounta 18.65 360 P Pn 15 12 14.2 0.0
baz=179
DUN6 Lazy B Ranch 18.97 332 IAmb IAmb 15 12 21.2
comp=Z,43nm,1.0s
AMTX Amarillo 18.99 352 P P 15 12 16.5 -1.2
AMTX Amarillo 18.99 352 P Pn 15 12 18.4 0.0
baz=171
MIAR Mount Ida 19.03 13 P P 15 12 15.7 -2.3
MIAR Mount Ida 19.03 13 P Pn 15 12 18.4 -0.4
baz=195
TUC Tucson 19.59 328 P P 15 12 24.9 +0.6
TUC Tucson 19.59 328 P Pn 15 12 25.8 +0.2
baz=143
DEOK Depew 19.86 5 IAmb IAmb 15 12 30.4
comp=Z,37nm,1.0s
OK052 Battle Ridge R 19.98 5 IAmb IAmb 15 12 29.2
comp=Z,48nm,1.0s
TUL3 Leonard 19.99 7 P P 15 12 28.4 -0.2
baz=188
LRAL Lakeview Retre 20.00 30 P P 15 12 28.9 +0.2
baz=215,SNR=6.4
DWPF Disney Wildern 20.01 50 P P 15 12 28.2 -0.7
baz=237
OK033 Mehan 20.02 4 IAmb IAmb 15 12 29.6
comp=Z,42nm,1.0s
WHAR Wooly Hollow 20.05 15 IAmb IAmb 15 12 36.7
comp=Z,32nm,0.9s
ANMO Albuquerque 20.10 341 P Pn 15 12 30.7 -1.1
ANMO Albuquerque 20.10 341 P Pn 15 12 31.0 -0.8
baz=157
ANMO Albuquerque 20.10 341 P Pn 15 12 31.0 -0.7
comp=Z,0.4nm,0.3s,baz=243,slow=11,SNR=41
comp=Z,17nm,0.9s
QUOK Quay 20.16 5 IAmb IAmb 15 12 36.0
comp=Z,19nm,0.7s
OXF Oxford 20.24 23 P P 15 12 30.6 -0.6
baz=207
U32A Winter Ranch, 20.29 359 P P 15 12 30.8 -1.0
U32A IAmb IAmb 15 12 33.4
comp=Z,51nm,1.0s
RLO Rose Lookout 20.35 9 IAmb IAmb 15 12 38.3
comp=Z,27nm,1.1s
OK048 Pawnee Station 20.39 4 IAmb IAmb 15 12 39.1
comp=Z,42nm,0.9s
OK038 West end E0370 20.39 360 IAmb IAmb 15 12 38.9
comp=Z,30nm,0.7s
214A Organ Pipe Nat 20.41 324 P Pn 15 12 34.3 -0.9
baz=137,SNR=11
PIX Pinacate 20.50 322 P P 15 12 32.1 -2.0
HHAR Hobbs 20.64 11 IAmb IAmb 15 12 41.4
comp=Z,25nm,1.0s
TIGA Tifton 20.65 39 P P 15 12 35.3 -0.4
baz=225
RTBA Rita Blanca 20.66 351 IAmb IAmb 15 12 39.6
comp=Z,29nm,0.9s
U38A Gravette 20.71 10 P P 15 12 33.4 -3.1
U38A IAmb IAmb 15 12 41.9
comp=Z,28nm,0.8s
BLOK Blackwell 20.71 3 IAmb IAmb 15 12 42.6
comp=Z,48nm,1.0s
KAN14 Manchester OK 20.88 2 IAmb IAmb 15 12 43.4
comp=Z,20nm,0.8s
152A Waverly Hall 20.89 35 IAmb IAmb 15 12 40.8
comp=Z,31nm,1.2s
T35A Sooner Cattle 20.92 5 IAmb IAmb 15 12 39.0
comp=Z,33nm,0.9s
KAN13 South Haven SW 20.95 3 IAmb IAmb 15 12 44.4
comp=Z,53nm,0.9s
Y49A Blount Mountai 20.95 30 IAmb IAmb 15 12 40.2
comp=Z,28nm,1.1s
KAN17 Caldwell West 20.97 2 IAmb IAmb 15 12 44.4
comp=Z,38nm,0.8s
SFX San Felipe 21.00 318 P P 15 12 39.0 -0.5
X18A Snowflake 21.03 333 IAmb IAmb 15 12 46.4
comp=Z,45nm,1.2s
KAN05 Bluff City Nor 21.03 2 IAmb IAmb 15 12 45.0
comp=Z,40nm,0.8s
KAN09 Caldwell North 21.07 2 IAmb IAmb 15 12 45.0
comp=Z,30nm,0.8s
KAN01 Argonia South 21.08 2 IAmb IAmb 15 12 45.6
comp=Z,28nm,0.8s
LCAR Lake Charles 21.09 17 IAmb IAmb 15 12 45.6
comp=Z,30nm,1.0s
X48A Hartselle 21.15 28 IAmb IAmb 15 12 46.2
comp=Z,32nm,0.9s
PLAL Pickwick Lake 21.17 25 IAmb IAmb 15 12 47.3
comp=Z,30nm,0.8s
W18A Petrified Fore 21.44 335 P P 15 12 45.9 +1.4
baz=149
X16A Lo Mia Camp, P 21.61 330 IAmb IAmb 15 12 49.6
comp=Z,20nm,0.9s
T25A Trinidad 21.65 348 IAmb IAmb 15 12 52.7
comp=Z,20nm,0.8s
T25A Trinidad 21.65 348 P P 15 12 47.2 +0.5
baz=165,SNR=16
MGMO Mountain Grove 21.83 14 IAmb IAmb 15 12 52.4
comp=Z,26nm,0.9s
FPAL Fort Paine 21.89 30 IAmb IAmb 15 12 52.8
comp=Z,24nm,0.9s
Y14A Wickenburg 22.01 327 IAmb IAmb 15 13 00.2
comp=Z,25nm,1.1s
S39A Bolivar 22.12 11 IAmb IAmb 15 12 55.4
comp=Z,45nm,1.1s
GOGA Godfrey 22.14 36 IAmb IAmb 15 12 53.0
comp=Z,21nm,0.9s
GOGA Godfrey 22.14 36 P P 15 12 51.0 -0.8
baz=222,SNR=7.3
Y52A Lilburn 22.15 34 IAmb IAmb 15 12 53.3
comp=Z,45nm,0.9s
WVT Waverly 22.27 24 P P 15 12 51.7 -1.4
WVT Waverly 22.27 24 P P 15 12 52.7 -0.4
baz=208
X51A Calhoun 22.28 31 IAmb IAmb 15 12 58.8
comp=Z,44nm,1.3s
SWET Sewanee 22.29 29 IAmb IAmb 15 12 56.5
comp=Z,27nm,0.9s
R32A Long Quarter, 22.33 0 IAmb IAmb 15 12 57.4
comp=Z,42nm,0.9s
V48A Smith Brothers 22.34 26 IAmb IAmb 15 12 56.9
comp=Z,33nm,0.9s
ESJX Sierra Juarez 22.34 319 P P 15 12 53.9 -0.2
GLA Glamis 22.37 322 P P 15 12 55.8 +1.5
baz=135
SDCO Great Sand Dun 22.47 346 P P 15 12 56.6 +1.0
baz=162,SNR=17
WUAZ Wupatki 22.48 332 IAmb IAmb 15 13 00.6
comp=Z,34nm,0.9s
WUAZ Wupatki 22.48 332 P P 15 12 56.7 +1.0
baz=146,SNR=23
W50A Signal Mountai 22.57 30 IAmb IAmb 15 12 58.1
comp=Z,23nm,0.8s
CGM3 Cape Girardeau 22.68 19 IAmb IAmb 15 12 59.8
comp=Z,41nm,0.9s
CBKS Cedar Bluff 22.74 358 P P 15 12 58.3 +0.1
CBKS IAmb IAmb 15 13 11.0
comp=Z,41nm,1.2s
CBKS Cedar Bluff 22.74 358 P P 15 12 58.3 +0.1
baz=177
MVCO Mesa Verde 22.83 340 P P 15 13 00.6 +1.2
baz=155,SNR=32
CLTN Cedars of Leba 22.85 27 IAmb IAmb 15 13 03.4
comp=Z,35nm,1.1s
IKP In-Ko-Pah, Jac 22.87 320 P P 15 13 00.4 +0.7
baz=132
SWSC Sam W. Stewart 22.88 321 P P 15 13 01.3 +1.6
baz=133
PDMCI Parker Dam,Lak 22.90 326 P P 15 13 00.9 +1.0
baz=138,SNR=9.5
CCM Cathedral Cave 22.93 15 P P 15 12 58.3 -1.9
CCM IAmb IAmb 15 13 02.1
comp=Z,29nm,1.1s
CCM Cathedral Cave 22.93 15 P P 15 12 60.0 -0.2
baz=198
KSU1 Kansas State U 23.08 4 P P 15 13 01.6 -0.1
baz=185
BC3 Big Chuckawall 23.17 322 P P 15 13 04.4 +1.6
baz=135,SNR=6.6
KSCO Kaye Shedlock' 23.17 352 P P 15 13 03.3 +0.5
baz=170
MONP2 Monument Peak 23.23 320 P P 15 13 04.8 +1.3
baz=132
IRM Iron Mountain 23.35 324 P P 15 13 06.2 +1.6
baz=136,SNR=14
NEE2 Needles Airpor 23.51 326 P P 15 13 07.2 +1.1
baz=138
Q24A Divide 23.56 347 P P 15 13 07.7 +0.8
baz=164
U15A North Rim 23.65 332 IAmb IAmb 15 13 17.1
comp=Z,21nm,1.3s
109C Camp Elliot, M 23.66 319 P P 15 13 08.6 +1.1
baz=130
TKL Tuckaleechee C 23.69 32 IAmb IAmb 15 13 10.5
comp=Z,13nm,0.8s
TKL Tuckaleechee C 23.69 32 P P 15 13 08.8 +1.0
comp=Z,14nm,0.9s,baz=193,slow=10,SNR=11
TKL LR LR 15 25 08.8
comp=Z,73nm,18.3s,baz=210,slow=44
comp=Z,14nm,0.9s
BELC Belle Mtn. Jos 23.73 322 P P 15 13 09.6 +1.1
baz=134
TPFO Pinon Flats 23.73 321 P P 15 13 09.6 +1.2
baz=133
PFO Pinyon Flats O 23.74 321 P P 15 13 08.4 -0.1
PFO Pinyon Flats O 23.74 321 P P 15 13 09.6 +1.2
baz=133
PFO Pinyon Flats O 23.74 321 LR LR 15 22 29.3
comp=Z,166nm,18.2s,baz=133,slow=37
V52A Sevierville 23.92 32 IAmb IAmb 15 13 11.7
comp=Z,37nm,1.2s
P38A Dawn 23.96 10 IAmb IAmb 15 13 11.4
comp=Z,24nm,0.9s
GMRC Granite Mounta 24.10 324 P P 15 13 13.5 +1.6
baz=136,SNR=7.2
PAULI Pauline 24.10 36 IAmb IAmb 15 13 13.5
comp=Z,36nm,1.1s
MURC Murrieta 24.18 320 P P 15 13 13.7 +1.1
baz=131
V53A Saluda 24.19 33 IAmb IAmb 15 13 21.0
comp=Z,45nm,1.4s
SMCO Snowmass 24.19 344 IAmb IAmb 15 13 22.9
comp=Z,32nm,1.2s
T50A Nancy 24.28 28 IAmb IAmb 15 13 15.2
comp=Z,26nm,0.9s
Q44A Meyer Farm, Va 24.35 19 IAmb IAmb 15 13 16.5
comp=Z,28nm,0.8s
V12A Nelson 24.36 327 P P 15 13 14.2 0.0
KNB Kanab 24.38 332 P P 15 13 13.7 -0.8
KNB IAmb IAmb 15 13 39.7
comp=Z,15nm,1.1s
ISCO Idaho Springs 24.46 347 IAmb IAmb 15 13 25.7
comp=Z,30nm,1.3s
ISCO Idaho Springs 24.46 347 P P 15 13 16.5 +1.1
baz=163,SNR=9.8
BBRC Big Bear Solar 24.46 321 P P 15 13 16.5 +1.1
baz=133
TZTN Tazewell 24.50 31 P P 15 13 15.7 +0.3
baz=217,SNR=6.3
HEC Hector,Ludlow 24.52 323 P P 15 13 17.1 +1.5
baz=135
KMSC Kings Mountain 24.61 36 P P 15 13 16.4 0.0
baz=224
SCI2 San Clemente I 24.65 317 P P 15 13 18.1 +1.4
baz=128
WCI Wyandotte Cave 24.70 24 P P 15 13 14.9 -2.2
WCI Wyandotte Cave 24.70 24 P P 15 13 17.3 +0.1
baz=210
TUQ Turquoise Moun 24.72 325 P P 15 13 19.0 +1.4
baz=137,SNR=23
BIRD Birdtown, Kers 24.76 38 IAmb IAmb 15 13 19.6
comp=Z,27nm,0.9s
CIS Catalina Islan 24.83 318 P P 15 13 20.4 +2.0
baz=129
P43A Skaggs, Pawnee 24.88 17 IAmb IAmb 15 13 21.8
comp=Z,29nm,1.0s
BFSC Mount Baldy Ra 24.90 320 P P 15 13 20.9 +1.7
baz=132
MTPU Mount Pierson 24.96 334 IAmb IAmb 15 13 24.2
comp=Z,17nm,0.8s
BRIGG Briggsdale 24.97 350 P P 15 13 19.1 -0.6
OGNE Ogallala 25.02 354 P P 15 13 21.1 +1.0
baz=172,SNR=11
V55A Taylorsville 25.19 35 IAmb IAmb 15 13 24.1
comp=Z,21nm,0.8s
R49A Shelbyville 25.20 26 IAmb IAmb 15 13 23.8
comp=Z,19nm,0.9s
SRU San Rafael Swe 25.24 338 IAmb IAmb 15 13 33.0
comp=Z,22nm,1.0s
SHOC Shoshone, Teco 25.25 325 P P 15 13 23.4 +1.1
baz=137
Q16A Castle Valley 25.31 337 IAmb IAmb 15 13 33.8
comp=Z,28nm,1.2s
O20A White River Oi 25.43 343 P P 15 13 25.3 +1.3
baz=158,SNR=13
EDW2 Edwards Air Fo 25.53 321 P P 15 13 26.3 +1.5
baz=132
R50A Paris 25.55 27 IAmb IAmb 15 13 27.3
comp=Z,31nm,1.3s
N23A Red Feather La 25.58 347 IAmb IAmb 15 13 28.4
comp=Z,14nm,0.9s
N23A Red Feather La 25.58 347 P P 15 13 26.2 +0.8
baz=163,SNR=9.0
QSM Queen of Sheba 25.63 324 IAmb IAmb 15 13 30.1
comp=Z,13nm,1.0s
TULM Tulcn-Chalpat 25.63 124 P P 15 13 26.8 +0.4
P17A Butcher Ranch, 25.64 338 IAmb IAmb 15 13 36.6
comp=Z,16nm,1.1s
TMUT Trail Mountain 25.65 337 IAmb IAmb 15 13 37.3
comp=Z,33nm,1.4s
GWY Greenwater Val 25.68 325 IAmb IAmb 15 13 30.4
comp=Z,9.6nm,0.8s
PRN Pahroc Range 25.75 329 IAmb IAmb 15 13 42.9
comp=Z,21nm,1.2s
LRMC Laurel Mtn Rad 25.75 322 P P 15 13 28.7 +1.7
baz=134,SNR=6.1
HDIL Hopedale 25.80 17 P P 15 13 27.3 +0.2
baz=201
OSI Osito Audit: C 25.80 320 P P 15 13 29.4 +2.1
baz=130
PHWY Pilot Hill 25.87 348 P P 15 13 28.3 +0.2
PHWY IAmb IAmb 15 13 31.8
comp=Z,13nm,1.0s
MPMC Manual Prospec 26.05 324 P P 15 13 31.2 +1.6
baz=135,SNR=9.0
P48A Milroy 26.10 24 IAmb IAmb 15 13 34.4
comp=Z,35nm,1.3s
WCT Wildcat Mounta 26.10 326 IAmb IAmb 15 13 49.2
comp=Z,15nm,1.2s
ARVC Arvin 26.21 320 P P 15 13 31.5 +0.6
baz=131
RDMU Red Mountain 26.23 341 IAmb IAmb 15 13 41.7
comp=Z,18nm,1.1s
SCIA State Center 26.24 9 P P 15 13 31.1 0.0
baz=192,SNR=5.4
S11A Rachel 26.29 328 IAmb IAmb 15 13 46.3
comp=Z,27nm,1.3s
SFIN Lafayette 26.30 20 P P 15 13 31.3 -0.4
baz=206
SBC Santa Barbara 26.32 318 P P 15 13 32.7 +0.8
baz=129
ISA Isabella, Lake 26.35 322 P P 15 13 33.1 +0.9

baz=132
ROSC El Rosal 26.40 112 P **P** **15 13 39.3 +6.0**
comp=Z,2.5nm,0.3s,baz=260,slow=16,SNR=1.4
comp=Z,2.5nm,0.3s
P49A Miami Univ. Ec 26.44 25 P **P** **15 13 32.6 -0.4**
baz=211,SNR=7.4
NLU North Lily Min 26.55 337 IAmb IAmb 15 13 48.9
comp=Z,17nm,1.2s
BSUT Blindstream Ca 26.59 339 IAmb IAmb 15 13 37.5
comp=Z,15nm,0.9s
Q51A Peebles 26.60 27 IAmb IAmb 15 13 36.2
comp=Z,24nm,0.9s
BLA Blacksburg 26.62 34 P **P** **15 13 34.2 -0.4**
baz=222
GRAC Grapevine Rang 26.65 325 P **P** **15 13 36.0 +1.1**
baz=136
CWC Cottonwood Cre 26.66 323 P **P** **15 13 36.0 +0.8**
baz=134
PKM Mcpherson Peak 26.66 319 P **P** **15 13 36.4 +1.1**
baz=129
CNNC Cliffs of the 26.72 40 P **P** **15 13 35.0 -0.5**
baz=230
R11B Troy Canyon, C 26.75 330 P **P** **15 13 36.8 +0.8**
baz=141,SNR=10
L40A Anamosa 26.76 12 IAmb IAmb 15 13 38.4
comp=Z,17nm,0.9s
VES Vestal, Richgr 26.84 321 P **P** **15 13 37.8 +1.2**
baz=132
O48B Farmland 26.89 23 P **P** **15 13 36.7 -0.3**
baz=210,SNR=14
DUG Dugway, Tooele 27.05 336 P **P** **15 13 39.4 +0.8**
baz=149
SMMC Simmler 27.05 319 P **P** **15 13 39.7 +1.2**
baz=130
P51A Williamsport 27.10 27 IAmb IAmb 15 13 45.3
comp=Z,29nm,1.0s
O49A Covington 27.15 25 IAmb IAmb 15 13 42.7
comp=Z,19nm,0.8s
DSP Deep Springs 27.26 325 P **P** **15 13 41.6 +1.4**
TCUT Toone Canyon 27.33 339 P **P** **15 13 39.9 -1.3**
TCUT IAmb IAmb 15 13 44.2
comp=Z,20nm,1.0s
TPH Tonopah 27.37 327 P **P** **15 13 41.8 +0.2**
K22A Casper 27.39 347 IAmb IAmb 15 14 03.5
comp=Z,13nm,1.1s
K22A Casper 27.39 347 P **P** **15 13 41.6 0.0**
baz=163
P52A Corning 27.64 28 P **P** **15 13 43.3 -0.5**
baz=216
ECSD EROS Data Cent 27.70 3 IAmb IAmb 15 13 57.5
comp=Z,16nm,1.1s
ACSO Alum Creek Sta 27.75 26 P **P** **15 13 44.5 -0.2**
baz=214
JFWS Jewell Farm 27.78 13 P **P** **15 13 45.1 +0.2**
baz=198
HWUT Hardware Ranch 27.82 339 IAmb IAmb 15 13 48.1
comp=Z,15nm,1.4s
NV11 Mina Array Sit 28.13 326 IAmb IAmb 15 13 51.3
comp=Z,10.0nm,1.1s
LHV Little Huntoon 28.18 326 IAmb IAmb 15 14 08.4
comp=Z,9.6nm,1.1s
NVAR Mina Array Bea 28.21 326 P **P** **15 13 50.5 +1.4**
NVAR Mina Array Bea 28.21 326 P **P** **15 13 51.1 +2.1**
comp=Z,4.7nm,0.8s,baz=154,slow=9.6,SNR=31
NVAR PcP **PcP** **15 17 03.0 +0.3**
comp=Z,0.6nm,0.7s,baz=123,slow=3.3,SNR=3.5
comp=Z,4.7nm,0.8s
BW06 Boulder Array 28.24 343 P **P** **15 13 50.2 +0.8**
baz=157,SNR=11
PDAR Pinedale Array 28.24 343 P **P** **15 13 49.8 +0.4**
PDAR Pinedale Array 28.24 343 P **P** **15 13 50.3 +0.9**
comp=Z,6.1nm,0.9s,baz=147,slow=8.5,SNR=35
PDAR PcP **PcP** **15 17 02.0 -0.8**
comp=Z,0.5nm,0.6s,baz=174,slow=3.6,SNR=3.4
PDAR LR LR 15 24 45.7
comp=Z,205nm,20.2s,baz=164,slow=36
comp=Z,6.1nm,0.9s
SDV Santo Domingo 28.30 101 P **P** **15 13 50.5 +0.4**
SDV IAmb IAmb 15 14 00.8
comp=Z,10nm,0.9s
SDV Santo Domingo 28.30 101 LR LR 15 25 37.5
comp=Z,96nm,18.2s,baz=337,slow=37
RSSD Black Hills 28.39 352 P **P** **15 13 50.6 0.0**
baz=169
HVU Hansel Valley 28.40 338 IAmb IAmb 15 13 53.5
comp=Z,8.8nm,0.9s
O53A New Philadelph 28.55 29 P **P** **15 13 51.8 -0.1**
baz=217
MCWV Mont Chateau 28.75 31 P **P** **15 13 53.4 -0.3**
baz=220
SNOW Snow King Moun 29.23 342 IAmb IAmb 15 14 03.4
comp=Z,12nm,0.9s
PNTR Pine Nut 29.38 326 P **P** **15 13 58.6 -1.0**
PNTR IAmb IAmb 15 14 02.9
comp=Z,8.0nm,0.8s
EMB Emerald Bay 29.58 325 IAmb IAmb 15 14 04.8
comp=Z,13nm,1.0s
M53A WI Miller and 29.75 28 P **P** **15 14 02.5 0.0**
baz=217
MPK Martis Peak 29.76 325 IAmb IAmb 15 14 06.5
comp=Z,16nm,1.0s
RLMT Red Lodge 30.36 345 P **P** **15 14 07.4 -0.7**
RLMT IAmb IAmb 15 14 27.9
comp=Z,13nm,0.9s
RLMT Red Lodge 30.36 345 P **P** **15 14 08.8 +0.7**
baz=159
SSPA Standing Stone 30.48 32 P **P** **15 14 09.0 0.0**
baz=222
HLID Hailey 30.55 337 P **P** **15 14 10.3 +0.6**
baz=149
ATAH Atahualpa 30.55 137 LR LR 15 24 01.2
comp=Z,99nm,19.7s,baz=305,slow=31
M55A Ridgway 30.67 30 IAmb IAmb 15 14 13.2
comp=Z,16nm,0.9s
MFID Camas Ranch 30.97 335 IAmb IAmb 15 14 33.4
comp=Z,9.3nm,1.1s
WVOR Wild Horse Val 31.39 331 IAmb IAmb 15 14 23.6
comp=Z,8.6nm,1.1s
BOZ Bozeman (W) 31.43 342 P **P** **15 14 18.5 +1.0**
baz=155
MDND Maddock 31.76 359 P **P** **15 14 20.3 +0.1**
baz=178
J08A Circle Bar Ran 32.04 332 IAmb IAmb 15 14 25.6
comp=Z,14nm,1.0s
AGMN Agassiz Nation 32.29 4 P **P** **15 14 25.0 +0.2**
baz=185,SNR=15
EYMN Ely 32.40 9 P **P** **15 14 25.4 -0.4**
baz=193
PLID Pearl Lake 32.44 337 IAmb IAmb 15 14 28.2
comp=Z,8.1nm,1.0s
B35A Bob, Littlefor 32.52 6 IAmb IAmb 15 14 27.6
comp=Z,7.9nm,1.0s
BINY Binghamton 32.59 32 P **P** **15 14 27.6 0.0**
baz=224
DGMT Dagmar 32.69 353 IAmb IAmb 15 14 31.1
comp=Z,12nm,0.8s
DGMT Dagmar 32.69 353 P **P** **15 14 29.3 +1.0**
baz=170
PAL Palisades 32.88 36 P **P** **15 14 30.4 +0.3**
baz=228
SADO Sadowa 33.09 26 LR LR 15 30 27.5
comp=Z,98nm,19.5s,baz=241,slow=41
EGMT Eagleton 33.20 346 IAmb IAmb 15 14 35.5
comp=Z,14nm,1.2s
EGMT Eagleton 33.20 346 P **P** **15 14 33.5 +0.7**
baz=160
F10A Beach Ranch, E 33.65 336 IAmb IAmb 15 14 41.1
comp=Z,14nm,0.9s
PCRV Puerto La Cruz 33.67 96 LR LR 15 29 28.5
comp=Z,126nm,18.1s,slow=38
G08A Pilot Rock 33.79 334 IAmb IAmb 15 14 40.1
comp=Z,6.9nm,1.0s
ULM Lac du Bonnet 34.23 3 IAmb IAmb 15 14 42.5
comp=Z,20nm,1.4s
ULM Lac du Bonnet 34.23 3 P **P** **15 14 41.0 -0.8**
comp=Z,6.8nm,1.0s,baz=186,slow=8.6,SNR=7.4
ULM LR LR 15 29 27.9
comp=Z,184nm,18.0s,baz=124,slow=38
comp=Z,6.8nm,1.0s
LONY Lake Ozonia 35.06 31 P **P** **15 14 48.8 -0.1**
baz=223
HRV Adam Dziewonsk 35.19 36 P **P** **15 14 49.5 -0.7**
baz=230
NNA Nana 35.24 141 LR LR 15 26 21.3
comp=Z,71nm,21.1s,baz=276,slow=31
NEW Newport 35.55 339 P **P** **15 14 53.6 +0.4**
baz=148
C09A Chrisman Ranch 35.57 337 IAmb IAmb 15 14 55.8
comp=Z,7.9nm,0.7s
LTY Liberty 36.08 334 IAmb IAmb 15 15 15.5
comp=Z,12nm,1.2s
LBNH Lisbon 36.14 33 P **P** **15 14 58.2 -0.1**
baz=227
FFC Flin Flon 38.72 357 P **P** **15 15 19.6 -0.4**
EDM Edmonton 38.88 346 IAmb IAmb 15 15 23.0
comp=Z,24nm,0.8s
D62A Allspoint, All 39.54 32 IAmb IAmb 15 15 29.0
comp=Z,26nm,1.2s
FCC Fort Churchill 42.82 4 P **P** **15 15 53.1 -0.7**
SAML Samuel 43.04 123 P **P** **15 15 57.7 +1.5**
LPAZ La Paz 44.05 135 P P 15 16 09.9 +5.0
comp=Z,1.0nm,0.7s,baz=342,slow=9.4,SNR=3.9
LPAZ LR LR 15 34 00.9
comp=Z,106nm,18.1s,baz=210,slow=35
comp=Z,1.0nm,0.7s
SCHQ Schefferville 45.90 25 P **P** **15 16 18.9 +0.4**
SCHQ Schefferville 45.90 25 P **P** **15 16 18.3 -0.2**
comp=Z,16nm,0.8s,baz=221,slow=5.6,SNR=21
SCHQ LR LR 15 38 29.7
comp=Z,166nm,18.6s,baz=238,slow=40
comp=Z,16nm,0.8s
MDP Montagnes des 46.47 98 LR LR 15 35 58.8
comp=Z,105nm,22.0s,baz=264,slow=36
TOAD Toad River Com 47.04 342 P **P** **15 16 28.1 +0.7**
baz=144
KOTAN Kotaneelee Air 47.75 343 P **P** **15 16 33.5 +0.6**
baz=146
YKA Yellowknife Ar 47.77 350 P **P** **15 16 32.9 0.0**
comp=Z,3.2nm,0.9s,baz=159,slow=7.1,SNR=32
YKA PcP **PcP** **15 18 01.8 -0.1**
comp=Z,0.5nm,0.9s,baz=159,slow=2.6,SNR=3.8
YKA LR LR 15 37 48.3
comp=Z,94nm,18.0s,baz=258,slow=38
comp=Z,3.2nm,0.9s
DLBC Dease Lake 48.30 339 P **P** **15 16 39.2 +2.0**
DLBC IAmb IAmb 15 16 40.9
comp=Z,9.4nm,1.1s
DLBC Dease Lake 48.30 339 P **P** **15 16 38.7 +1.5**
baz=138,SNR=6.1
DLBC Dease Lake 48.30 339 LR LR 15 36 01.1
comp=Z,172nm,20.4s,baz=115,slow=35
S34M Telegraph Cree 48.31 337 P **P** **15 16 38.2 +1.0**
baz=136
WTLY Watson Lake, Y 49.16 341 IAmb IAmb 15 16 46.6
comp=Z,9.2nm,0.9s
WTLY Watson Lake, Y 49.16 341 P **P** **15 16 45.3 +1.5**
baz=140,SNR=5.6
R33M Jennings River 49.34 339 IAmb IAmb 15 16 49.5
comp=Z,8.7nm,0.9s
R33M Jennings River 49.34 339 P **P** **15 16 47.1 +1.8**
baz=137
Q32M Nahina River 49.48 338 P **P** **15 16 47.8 +1.3**
baz=135
R32K Eaglecrest 49.85 336 P **P** **15 16 51.1 +2.1**
baz=132
TGTN Hyland Airport 50.10 342 P **P** **15 16 52.5 +1.5**
baz=142,SNR=8.3
WRGLY Wrigley 50.22 346 P **P** **15 16 53.3 +1.6**
baz=148
P32M Atlin 50.45 338 IAmb IAmb 15 16 56.6
comp=Z,8.4nm,0.9s
P32M Atlin 50.45 338 P **P** **15 16 54.7 +1.0**
baz=134
P33M Teslin, Yukon 50.58 339 P **P** **15 16 55.9 +1.3**
baz=136
SKAG Skagway 50.96 337 P **P** **15 16 59.2 +1.8**
baz=132
N32M Quiet Lake 51.34 339 P **P** **15 17 01.7 +1.3**
baz=136
PLBC Pleasant Camp 51.35 336 P **P** **15 17 02.4 +2.0**
baz=134,SNR=5.5
WHY Whitehorse 51.62 338 P **P** **15 17 03.5 +1.0**
baz=133
P29M Windy Craggy 52.00 336 P **P** **15 17 06.7 +1.5**
baz=130
P30M Million Dollar 52.02 337 P **P** **15 17 07.0 +1.5**
baz=131
FRB Frobisher Bay 52.03 16 LR LR 15 39 38.5
comp=Z,130nm,21.5s,baz=199,slow=37
O30N Mendenhall 52.13 338 IAmb IAmb 15 17 08.9
comp=Z,6.7nm,1.0s
O30N Mendenhall 52.13 338 P **P** **15 17 08.0 +1.8**
baz=132
FARO Faro, Yukon 52.21 340 P **P** **15 17 08.2 +1.4**
baz=136,SNR=5.9
N31M Braeburn, Yuko 52.51 339 IAmb IAmb 15 17 12.1
comp=Z,16nm,1.1s
N31M Braeburn, Yuko 52.51 339 P **P** **15 17 10.5 +1.5**
baz=133,SNR=5.5
M31M Drury Creek, Y 52.53 340 IAmb IAmb 15 17 11.8
comp=Z,11nm,1.4s
M31M Drury Creek, Y 52.53 340 P **P** **15 17 10.7 +1.5**
baz=135
H03N2 Juan Fernandez 52.67 159 T T 16 14 05.9
baz=337,slow=77,SNR=48
PNL Peninsula 52.68 335 P **P** **15 17 12.0 +1.7**
baz=128
H03N1 Juan Fernandez 52.68 159 T T 16 14 11.3
baz=337,slow=77,SNR=78
HYT Haines Junctio 52.69 337 IAmb IAmb 15 17 14.2
comp=Z,13nm,1.4s
HYT Haines Junctio 52.69 337 P **P** **15 17 12.3 +1.9**
baz=130
H03N3 Juan Fernandez 52.69 159 T T 16 14 06.0
baz=337,slow=77,SNR=66
O29M Mount Kennedy 52.75 336 P **P** **15 17 12.6 +1.7**
baz=129
N30M Aishikik Lake 52.95 338 P **P** **15 17 13.8 +1.5**
baz=131
YUK6 Outpost Mounta 53.08 337 P **P** **15 17 15.2 +1.6**
baz=130
YUK4 Talbot Arm 53.45 337 P **P** **15 17 18.3 +2.2**
baz=130
M30M Minto, Yukon 53.60 339 P **P** **15 17 19.3 +2.2**
baz=132
O28M Mount Upton 53.67 336 P **P** **15 17 19.6 +1.7**
baz=128
MAYO Mayo, Yukon 54.00 340 P **P** **15 17 21.8 +1.9**
baz=134
M29M Somme Creek 54.09 338 IAmb IAmb 15 17 25.5
comp=Z,6.0nm,1.1s
M29M Somme Creek 54.09 338 P **P** **15 17 22.2 +1.4**
baz=130
CTG Chitna Glacier 54.24 336 P **P** **15 17 23.7 +1.9**
baz=126
YUK3 Ibe Creek 54.39 337 P **P** **15 17 24.8 +1.8**
baz=128
L29M L29M 54.41 339 P **P** **15 17 25.0 +2.0**
baz=131,SNR=11
K29M Barlow Dome 54.70 340 IAmb IAmb 15 17 27.8
comp=Z,11nm,1.4s
K29M Barlow Dome 54.70 340 P **P** **15 17 27.0 +1.9**
baz=132
J30M Hart River 54.83 341 IAmb IAmb 15 17 29.8
comp=Z,8.8nm,0.9s
J30M Hart River 54.83 341 P **P** **15 17 27.9 +1.8**
baz=134,SNR=5.5
BVCY Beaver Creek 54.94 338 P **P** **15 17 28.0 +1.2**
baz=128
H31M Peel River 55.12 343 IAmb IAmb 15 17 30.3
comp=Z,14nm,1.4s
H31M Peel River 55.12 343 P **P** **15 17 29.5 +1.5**
baz=137,SNR=5.3
MCARA McCarthy VSAT 55.14 336 P **P** **15 17 29.5 +1.2**
baz=125
M27K Edge Creek, AK 55.28 337 P **P** **15 17 30.8 +1.4**
baz=127
I30M Mount Dempster 55.29 342 IAmb IAmb 15 17 31.6
comp=Z,8.2nm,0.9s
I30M Mount Dempster 55.29 342 P **P** **15 17 30.6 +1.1**
baz=134
DAWY Dawson 55.47 340 P **P** **15 17 31.9 +1.3**
baz=130
GLB Gilahina Butte 55.49 336 IAmb IAmb 15 17 33.4
comp=Z,4.2nm,0.8s
BMRM Bremner River 55.55 335 P **P** **15 17 32.3 +1.0**
baz=123
C36M Paulatuk 55.63 349 P **P** **15 17 32.3 +0.7**
baz=150
BCAR Beaver Creek A 55.67 338 P **P** **15 17 32.5 +0.4**
L27K Beaver Creek, 55.69 338 P **P** **15 17 33.2 +1.0**
baz=127
M26K Nabesna, AK 55.72 337 IAmb IAmb 15 17 40.7
comp=Z,6.8nm,1.2s
M26K Nabesna, AK 55.72 337 P **P** **15 17 33.8 +1.3**
baz=126
EYAK Cordova Ski Ar 55.79 334 P **P** **15 17 34.3 +1.4**
baz=122
N25K Chitina, Valde 55.89 336 P **P** **15 17 34.6 +0.9**
baz=123
G31M Satah River 55.92 344 P **P** **15 17 34.8 +1.0**
baz=137,SNR=13
F31M Tsiigehtchic 56.17 345 IAmb IAmb 15 17 37.3
comp=Z,13nm,1.3s
F31M Tsiigehtchic 56.17 345 P **P** **15 17 36.2 +0.7**
baz=138,SNR=6.2
EPYK Eagle Plains 56.20 343 P **P** **15 17 36.2 +0.3**
baz=134
P23K Montague Islan 56.22 333 P **P** **15 17 37.3 +1.3**
baz=119
L26K Log Cabin Wild 56.22 337 P **P** **15 17 37.3 +1.3**
baz=125
K27K Chicken 56.36 339 P **P** **15 17 38.5 +1.5**
baz=127
KLU Klutina 56.37 335 IAmb IAmb 15 17 40.1
comp=Z,11nm,1.1s
KLU Klutina 56.37 335 P **P** **15 17 38.4 +1.2**
baz=122,SNR=5.9
G30M tAoh Zraii Nji 56.50 343 P **P** **15 17 39.1 +1.2**
baz=135
EGAK Eagle 56.52 340 IAmb IAmb 15 17 39.9
comp=Z,8.2nm,0.8s
EGAK Eagle 56.52 340 P **P** **15 17 38.5 +0.5**
baz=129,SNR=12
I28M Miner Creek 56.55 341 P **P** **15 17 39.2 +0.8**
baz=130
HARP HAARP 56.55 336 P **P** **15 17 39.3 +1.0**
baz=123
H29M Whitestone 56.58 342 P **P** **15 17 39.2 +0.7**
baz=132
INK Inuvik 56.77 345 IAmb IAmb 15 17 41.5
comp=Z,11nm,0.9s
INK Inuvik 56.77 345 P **P** **15 17 39.9 +0.2**
baz=139,SNR=15
INK Inuvik 56.77 345 LR LR 15 43 49.3
comp=Z,108nm,20.4s,baz=178,slow=38
M24K Tolsona, Glenn 56.79 336 P **P** **15 17 40.9 +0.8**
baz=122
F30M Barrier River 56.83 344 P **P** **15 17 41.0 +0.7**
baz=136,SNR=8.7
G29M Pine Creek 56.95 343 IAmb IAmb 15 18 20.2
comp=Z,15nm,1.5s
G29M Pine Creek 56.95 343 P **P** **15 17 41.9 +0.8**
baz=133
PAX Paxson 56.99 337 P **P** **15 17 42.5 +1.0**
baz=123,SNR=6.7
SCRK Sand Creek 57.01 338 P **P** **15 17 42.3 +0.6**
SCRK IAmb IAmb 15 17 44.5
comp=Z,7.6nm,1.0s
SCRK Sand Creek 57.01 338 P **P** **15 17 42.9 +1.2**
baz=125,SNR=8.9
SCM Sheep Creek Mo 57.12 335 P **P** **15 17 42.9 +0.4**
baz=121
J26L Joseph Creek 57.17 339 P **P** **15 17 43.7 +0.9**
baz=126
SEW Seward 57.17 333 P **P** **15 17 43.5 +0.7**
baz=117
RIDG Independent Ri 57.19 338 P **P** **15 17 44.1 +1.2**
baz=124,SNR=11
I27K Kandik River 57.19 340 P **P** **15 17 43.7 +0.9**
baz=129,SNR=5.4
M23K Glacier View 57.26 335 P **P** **15 17 44.5 +1.1**
baz=120
KNK Knik Glacier 57.37 334 P **P** **15 17 45.4 +1.2**
baz=119
O22K Cooper Landing 57.47 333 P **P** **15 17 46.1 +1.3**
baz=117
I26K Coal Creek Min 57.51 340 IAmb IAmb 15 17 47.1
comp=Z,7.1nm,1.0s
I26K Coal Creek Min 57.51 340 P **P** **15 17 46.0 +1.0**
baz=127
SML Sawmill 57.51 335 P **P** **15 17 46.0 +0.8**
baz=120
H27K Steamboat Moun 57.55 341 P **P** **15 17 46.2 +0.8**
baz=129
K24K Donnelly Dome 57.56 337 P **P** **15 17 46.2 +0.7**
baz=123
BRSE Bradley Lake S 57.59 332 P **P** **15 17 46.5 +0.7**
baz=116
WAT6 Susitna Watana 57.67 336 P **P** **15 17 47.2 +0.8**
baz=120,SNR=6.9
PMR Palmer 57.74 334 IAmb IAmb 15 17 48.3
comp=Z,6.8nm,0.8s
PMR Palmer 57.74 334 P **P** **15 17 47.4 +0.7**
baz=119
RC01 Rabbit Creek A 57.76 333 P **P** **15 17 47.9 +1.0**
baz=118
OHAK Old Harbor 57.78 328 P **P** **15 17 48.1 +1.1**
baz=112
DHY Denali Highway 57.78 336 P **P** **15 17 47.6 +0.4**
baz=121
J25K Salcha River, 57.87 338 P **P** **15 17 48.3 +0.6**
baz=124
Q20K Shuyak Island 57.88 330 P **P** **15 17 48.4 +0.6**
baz=114
E29M Blow River 57.95 344 IAmb IAmb 15 17 50.3
comp=Z,6.9nm,1.0s
E29M Blow River 57.95 344 P **P** **15 17 48.8 +0.7**
baz=134
F28M Old Crow 57.96 343 P **P** **15 17 49.3 +1.1**
baz=132,SNR=18
G27K Doyon Strip 57.96 341 P **P** **15 17 48.8 +0.5**
baz=129
HOM Homer 57.97 331 P **P** **15 17 49.2 +0.8**
baz=115
SII Sitkinak Islan 57.99 327 P **P** **15 17 49.9 +1.2**
baz=111
WAT1 Susitna Watana 58.11 336 P **P** **15 17 50.1 +0.7**
baz=120
A36M Sachs Harbour 58.12 351 IAmb IAmb 15 17 50.5
comp=Z,11nm,0.9s
A36M Sachs Harbour 58.12 351 P **P** **15 17 49.6 +0.4**
baz=149,SNR=13
HDA Harding Lake 58.33 338 IAmb IAmb 15 17 52.6
comp=Z,8.9nm,0.9s
HDA Harding Lake 58.33 338 P **P** **15 17 51.5 +0.7**
baz=122,SNR=5.3
SUA Susitna One 58.37 334 P **P** **15 17 52.0 +0.7**
baz=117,SNR=6.5
PRP Porcupine Dome 58.44 339 P **P** **15 17 52.3 +0.5**
baz=124,SNR=18
ILAR Eielson Array 58.50 338 P **P** **15 17 52.4 +0.3**
ILAR Eielson Array 58.50 338 P **P** **15 17 52.7 +0.7**
comp=Z,6.3nm,1.0s,baz=141,slow=4.6,SNR=59
comp=Z,6.3nm,1.0s
E28M Babbage River 58.53 344 IAmb IAmb 15 17 54.0
comp=Z,7.8nm,0.9s
E28M Babbage River 58.53 344 P **P** **15 17 52.7 +0.4**
baz=132
O20K Slope Mountain 58.59 332 P **P** **15 17 53.1 +0.2**
baz=114
CUT Chulitna 58.60 335 P **P** **15 17 53.4 +0.6**
baz=118,SNR=5.0
G26K Porcupine Rive 58.71 341 P **P** **15 17 53.8 +0.4**
baz=127,SNR=5.7
MCK McKinley 58.72 336 P **P** **15 17 54.3 +0.7**
baz=120,SNR=8.4
RES Resolute Bay 58.72 1 LR LR 15 44 51.6
comp=Z,143nm,19.2s,baz=68,slow=38
WRH Wood River Hil 58.78 337 IAmb IAmb 15 17 55.4
comp=Z,5.8nm,1.0s
D28M Stokes Point 58.82 345 P **P** **15 17 55.0 +0.8**
baz=134
E27K Coleen River 58.83 343 P **P** **15 17 55.4 +1.1**
baz=130
N20K Mount Spurr 58.88 333 P **P** **15 17 55.5 +0.6**
baz=115
POKR Poker Plat Res 58.88 338 IAmb IAmb 15 17 56.7
comp=Z,7.9nm,0.9s
POKR Poker Plat Res 58.88 338 P **P** **15 17 55.4 +0.7**
baz=122,SNR=6.2
COLA College 58.90 338 P **P** **15 17 55.9 +1.1**
baz=122
SKT Skwentna 58.93 334 P **P** **15 17 55.9 +0.8**
baz=116,SNR=7.6
FYU Fort Yukon 58.95 340 IAmb IAmb 15 17 57.4
comp=Z,8.5nm,1.1s
H25L Birch Creek 58.97 340 P **P** **15 17 56.4 +1.2**
baz=124
MDM Murphy Dome 59.09 338 IAmb IAmb 15 18 06.9
comp=Z,4.0nm,0.9s
TRF Thorofare Moun 59.11 336 P **P** **15 17 57.5 +1.0**
baz=118,SNR=12
BDFB Brasilia 59.11 120 P **P** **15 18 01.2 +4.1**

	comp=Z,2.4nm,0.7s,baz=236,slow=4.4,SNR=4.1				
	comp=Z,2.4nm,0.7s				
NEA2	**Nenana**	**59.21 337**	IAmb	IAmb	15 17 58.9
	comp=Z,8.7nm,1.2s				
NEA2	**Nenana**	**59.21 337**	P	**P**	**15 17 57.7 +0.7**
	baz=120,SNR=6.9				
BMAR	**Burnt Mountain**	**59.25 341**	P	**P**	**15 17 54.8 -2.5**
F26K	**Sheenjek River**	**59.27 342**	P	**P**	**15 17 58.2 +0.7**
	baz=127				
G25K	**Bearman Lake**	**59.34 340**	P	**P**	**15 17 58.8 +1.0**
	baz=124				
D27M	**Malcolm River**	**59.35 344**	IAmb	IAmb	15 18 00.1
	comp=Z,7.1nm,1.1s				
D27M	**Malcolm River**	**59.35 344**	P	**P**	**15 17 58.6 +0.7**
	baz=131,SNR=5.0				
O19K	**Port Alsworth**	**59.42 331**	P	**P**	**15 17 58.8 +0.3**
	baz=113				
H24K	**Noodor Dome**	**59.43 339**	P	**P**	**15 17 59.2 +0.6**
	baz=122				
Q17K	**Contact Creek**	**59.45 329**	P	**P**	**15 17 59.1 +0.2**
	baz=110				
P18K	**Big Mountain,**	**59.54 330**	P	**P**	**15 17 59.6 +0.2**
	baz=111				
M20K	**Styx River**	**59.57 333**	P	**P**	**15 18 00.1 +0.5**
	baz=115				
I23K	**Minto, Yukon-K**	**59.59 338**	P	**P**	**15 18 00.2 +0.6**
	baz=120,SNR=12				
PPLA	**Purkeypile**	**59.62 335**	P	**P**	**15 18 00.6 +0.7**
	baz=116				
F25K	**Christian River**	**59.67 341**	P	**P**	**15 18 00.2 0.0**
	baz=125				
BPAW	**Bear Paw Mtn.**	**59.69 336**	IAmb	IAmb	15 18 01.3
	comp=Z,6.6nm,1.0s				
BPAW	**Bear Paw Mtn.**	**59.69 336**	P	**P**	**15 18 00.5 +0.2**
	baz=118,SNR=7.5				
O18K	**Koktuh Hills**	**59.70 331**	P	**P**	**15 18 00.5 0.0**
	baz=112				
SFJD	**Kangerlussuaq**	**59.71 20**	LR	LR	15 45 21.4
	comp=Z,43nm,21.3s,baz=228,slow=38				
N19K	**Bonanza Creek**	**59.73 332**	P	**P**	**15 18 00.8 0.0**
	baz=113				
G24K	**Hadweenzic Riv**	**59.76 340**	P	**P**	**15 18 01.8 +1.0**
	baz=123				
CAST	**Castle Rocks**	**59.81 335**	P	**P**	**15 18 01.4 +0.3**
	baz=116,SNR=15				
E25K	**Arctic Village**	**59.96 342**	IAmb	IAmb	15 18 03.9
	comp=Z,5.6nm,1.1s				
E25K	**Arctic Village**	**59.96 342**	P	**P**	**15 18 02.9 +0.7**
	baz=126,SNR=5.5				
Q16K	**King Salmon**	**59.98 329**	P	**P**	**15 18 02.9 +0.6**
	baz=110				
H23K	**Yukon River**	**60.01 338**	P	**P**	**15 18 03.0 +0.5**
	baz=120				
MLY	**Manley**	**60.04 337**	P	**P**	**15 18 03.5 +0.8**
	baz=119,SNR=13				
CHUM	**Lake Minchumin**	**60.11 336**	P	**P**	**15 18 03.5 +0.4**
	baz=117				
M19K	**Big River Lodg**	**60.12 333**	P	**P**	**15 18 03.7 +0.4**
	baz=113				
L20K	**Farewell, AK**	**60.14 334**	P	**P**	**15 18 04.1 +0.6**
	baz=114,SNR=12				
PPT	**Papeete**	**60.20 238**	LR	LR	15 37 56.1
	comp=Z,46nm,21.0s,baz=110,slow=30				
N18K	**Kilae Creek**	**60.32 332**	IAmb	IAmb	15 18 06.3
	comp=Z,9.9nm,0.9s				
N18K	**Kilae Creek**	**60.32 332**	P	**P**	**15 18 05.3 +0.6**
	baz=111				
F24K	**Squaw Lake**	**60.34 340**	P	**P**	**15 18 05.2 +0.4**
	baz=123				
CHNA	**Chernabura Isl**	**60.37 324**	P	**P**	**15 18 05.8 +0.7**
	baz=105				
L19K	**White Mountain**	**60.44 333**	IAmb	IAmb	15 18 07.1
	comp=Z,9.2nm,1.0s				
L19K	**White Mountain**	**60.44 333**	P	**P**	**15 18 06.0 +0.6**
	baz=113,SNR=5.8				
O17K	**Koliganek Bris**	**60.56 330**	P	**P**	**15 18 06.8 +0.5**
	baz=110,SNR=5.4				
K20K	**Telida**	**60.59 335**	IAmb	IAmb	15 18 08.0
	comp=Z,9.0nm,0.9s				
K20K	**Telida**	**60.59 335**	P	**P**	**15 18 06.7 +0.2**
	baz=114				
M18K	**Stony River**	**60.59 332**	P	**P**	**15 18 06.9 +0.4**
	baz=112				
G23K	**Bananza Creek**	**60.63 339**	IAmb	IAmb	15 18 08.9
	comp=Z,7.1nm,1.0s				
G23K	**Bananza Creek**	**60.63 339**	P	**P**	**15 18 07.5 +0.7**
	baz=120				
H22K	**Ishtalitna Cre**	**60.70 338**	P	**P**	**15 18 07.4 +0.2**
	baz=118				
S14K	**Fog Glacier**	**60.74 326**	P	**P**	**15 18 07.7 0.0**
	baz=106				
P16K	**Nushagak River**	**60.75 329**	P	**P**	**15 18 07.9 +0.3**
	baz=108				
C26K	**Camden Bay**	**60.85 343**	P	**P**	**15 18 08.1 0.0**
	baz=127				
N17K	**Nushagak Hills**	**60.86 331**	IAmb	IAmb	15 18 27.9
	comp=Z,11nm,1.2s				
N17K	**Nushagak Hills**	**60.86 331**	P	**P**	**15 18 08.4 +0.1**
	baz=110				
D25K	**Kavik River**	**60.91 343**	P	**P**	**15 18 08.5 -0.1**
	baz=125				
DY2G	**Dye2**	**60.91 21**	*i* P	**P**	**15 18 08.8 -0.1**
COLD	**Coldfoot**	**60.95 340**	P	**P**	**15 18 09.2 +0.3**
	baz=120				
J20K	**Nowinta River**	**60.96 336**	P	**P**	**15 18 09.0 0.0**
	baz=115,SNR=11				
O16K	**Kokwok River B**	**60.98 330**	IAmb	IAmb	15 18 20.5
	comp=Z,9.9nm,1.1s				
O16K	**Kokwok River B**	**60.98 330**	P	**P**	**15 18 09.4 +0.2**
	baz=109				
H21K	**Melozitna Rive**	**61.10 337**	IAmb	IAmb	15 18 11.4
	comp=Z,5.7nm,1.0s				
H21K	**Melozitna Rive**	**61.10 337**	P	**P**	**15 18 10.3 +0.3**
	baz=117				
E23K	**Chandalar**	**61.19 341**	P	**P**	**15 18 10.9 +0.3**
	baz=121				
TTA	**Tatalina**	**61.22 334**	P	**P**	**15 18 11.0 +0.1**
	baz=112,SNR=9.1				
L18K	**Granite Mounta**	**61.24 333**	IAmb	IAmb	15 18 12.0
	comp=Z,8.1nm,0.8s				
L18K	**Granite Mounta**	**61.24 333**	P	**P**	**15 18 11.5 +0.6**
	baz=111				
M17K	**Holitna River**	**61.28 332**	P	**P**	**15 18 11.7 +0.5**
	baz=110				
I20K	**Naaghedeneel**	**61.36 336**	P	**P**	**15 18 12.1 +0.5**
	baz=115				
J19K	**Poorman**	**61.48 335**	P	**P**	**15 18 13.0 +0.5**
	baz=113				
TOLK	**Toolik Lake Re**	**61.48 341**	P	**P**	**15 18 12.3 -0.3**
TOLK			IAmb	IAmb	15 18 14.1
	comp=Z,7.0nm,0.9s				
TOLK	**Toolik Lake Re**	**61.48 341**	P	**P**	**15 18 12.9 +0.4**
	baz=122,SNR=8.8				
D24K	**Happy Valley**	**61.53 342**	P	**P**	**15 18 13.1 +0.3**
	baz=123				
N16K	**Nishlik Lake**	**61.58 331**	P	**P**	**15 18 13.9 +0.6**
	baz=108				
O15K	**Ungalikthiuk R**	**61.69 329**	P	**P**	**15 18 14.0 -0.1**
	baz=107				
J18K	**Innoko River**	**61.72 334**	IAmb	IAmb	15 18 15.4
	comp=Z,6.7nm,0.9s				
J18K	**Innoko River**	**61.72 334**	P	**P**	**15 18 14.1 -0.1**
	baz=112,SNR=7.6				
G21K	**Allakaket**	**61.75 338**	IAmb	IAmb	15 18 15.9
	comp=Z,5.7nm,1.1s				
G21K	**Allakaket**	**61.75 338**	P	**P**	**15 18 14.9 +0.5**
	baz=117				
F22K	**John River**	**61.76 339**	P	**P**	**15 18 15.1 +0.8**
	baz=118				
C24K	**Franklin Bluff**	**61.81 342**	P	**P**	**15 18 15.2 +0.6**
	baz=123				
H20K	**Anotleneega Mo**	**61.81 337**	P	**P**	**15 18 15.0 +0.3**
	baz=115				
M16K	**Timber Creek**	**61.85 331**	IAmb	IAmb	15 18 17.2
	comp=Z,7.6nm,0.9s				
M16K	**Timber Creek**	**61.85 331**	P	**P**	**15 18 15.6 +0.6**
	baz=108				
L17K	**Donlin**	**61.92 333**	P	**P**	**15 18 16.2 +0.7**
	baz=110				
E22K	**Anaktuvuk Pass**	**61.94 340**	IAmb	IAmb	15 18 17.5
	comp=Z,5.4nm,1.0s				
E22K	**Anaktuvuk Pass**	**61.94 340**	P	**P**	**15 18 16.4 +0.7**
	baz=119,SNR=6.6				
S12K	**Black Hills**	**61.96 325**	P	**P**	**15 18 16.7 +0.9**
	baz=103				
D23K	**Nanushuk River**	**62.00 341**	P	**P**	**15 18 16.8 +0.9**
	baz=121				
F21K	**Alatna River**	**62.07 339**	P	**P**	**15 18 17.2 +0.7**
	baz=117				
N15K	**Kwethluk River**	**62.12 330**	P	**P**	**15 18 17.9 +1.0**
	baz=107				
K17K	**Iditarod**	**62.12 333**	P	**P**	**15 18 17.8 +0.9**
	baz=110				
PLCA	**Paso Flores**	**62.22 156**	P	P	15 18 25.1 +7.2
	comp=Z,2.0nm,0.9s,baz=357,slow=6.4,SNR=3.2				
	comp=Z,2.0nm,0.9s				
GCSA	**Galena City Sc**	**62.28 336**	P	**P**	**15 18 18.9 +1.1**
	baz=112				
L16K	**Owhat River**	**62.30 332**	P	**P**	**15 18 18.3 +0.3**
L16K			IAmb	IAmb	15 18 19.3
	comp=Z,3.6nm,0.8s				
L16K	**Owhat River**	**62.30 332**	P	**P**	**15 18 18.7 +0.6**
	baz=108				
H19K	**Roundabout Mou**	**62.42 337**	IAmb	IAmb	15 18 19.5
	comp=Z,6.8nm,1.0s				
H19K	**Roundabout Mou**	**62.42 337**	P	**P**	**15 18 19.4 +0.6**
	baz=113,SNR=7.6				
O14K	**Tigyukauivet M**	**62.42 329**	P	**P**	**15 18 19.4 +0.5**
	baz=106				
C23K	**Itkillik River**	**62.43 342**	P	**P**	**15 18 19.7 +0.9**
	baz=121				
FALS	**False Pass**	**62.53 324**	P	**P**	**15 18 20.3 +0.6**
	baz=101				
M15K	**Kasigluk River**	**62.55 331**	P	**P**	**15 18 20.4 +0.6**
	baz=107				
D22K	**Ayikyak River**	**62.58 341**	P	**P**	**15 18 20.9 +1.1**
	baz=119				
F20K	**Avaraart Lake**	**62.78 338**	IAmb	IAmb	15 18 23.3
	comp=Z,6.8nm,1.1s				
F20K	**Avaraart Lake**	**62.78 338**	P	**P**	**15 18 21.9 +0.8**
	baz=115				
E21K	**Killik River**	**62.79 340**	P	**P**	**15 18 21.7 +0.4**
	baz=117				
N14K	**Kuskokwak Cree**	**62.81 330**	P	**P**	**15 18 21.4 0.0**
	baz=105				
G19K	**Purcell Mounta**	**62.90 337**	P	**P**	**15 18 22.7 +0.7**
	baz=113				
H18K	**Honhosa River**	**63.02 336**	P	**P**	**15 18 23.5 +0.7**
	baz=111				
M14K	**Bethel**	**63.17 331**	P	**P**	**15 18 24.0 +0.2**
	baz=106,SNR=5.8				
L15K	**Ungalak Mounta**	**63.21 332**	P	**P**	**15 18 24.6 +0.5**
	baz=116				
J16K	**Anvik River**	**63.30 333**	P	**P**	**15 18 25.4 +0.7**
	baz=108,SNR=11				
C21K	**Knifeblade Rid**	**63.38 341**	P	**P**	**15 18 25.6 +0.4**
	baz=117				
G18K	**Tagagawik**	**63.40 337**	IAmb	IAmb	15 18 26.8
	comp=Z,6.8nm,1.2s				
G18K	**Tagagawik**	**63.40 337**	P	**P**	**15 18 26.2 +0.9**
	baz=111				
K15K	**Wolf Creek Mou**	**63.41 332**	P	**P**	**15 18 25.8 +0.4**
	baz=107				
F19K	**Shaleruckik Mo**	**63.43 338**	IAmb	IAmb	15 18 26.9
	comp=Z,6.8nm,1.1s				
F19K	**Shaleruckik Mo**	**63.43 338**	P	**P**	**15 18 26.5 +1.0**
	baz=112				
E20K	**Nigu River**	**63.45 339**	P	**P**	**15 18 25.7 0.0**
	baz=115,SNR=6.9				
E19K	**Redstone River**	**63.48 338**	IAmb	IAmb	15 18 27.7
	comp=Z,5.3nm,0.8s				
E19K	**Redstone River**	**63.48 338**	P	**P**	**15 18 25.9 +0.1**
	baz=113				
B22K	**Teshekpuk Lake**	**63.52 342**	IAmb	IAmb	15 18 27.6
	comp=Z,7.4nm,0.9s				
B22K	**Teshekpuk Lake**	**63.52 342**	P	**P**	**15 18 26.8 +0.8**
	baz=118				
I17K	**Unalakleet**	**63.53 334**	P	**P**	**15 18 26.8 +0.6**
	baz=108				
B21K	**Ikpikpuk River**	**63.54 341**	IAmb	IAmb	15 18 27.4
	comp=Z,5.6nm,0.9s				
B21K	**Ikpikpuk River**	**63.54 341**	P	**P**	**15 18 26.4 +0.2**
	baz=117,SNR=5.7				
H17K	**Granite Mounta**	**63.56 335**	IAmb	IAmb	15 18 28.7
	comp=Z,8.6nm,1.1s				
H17K	**Granite Mounta**	**63.56 335**	P	**P**	**15 18 27.3 +0.9**
	baz=110,SNR=7.6				
L14K	**Kuka Creek**	**63.67 331**	P	**P**	**15 18 27.7 +0.6**
	baz=105				
M13K	**Dall Lake**	**63.74 330**	P	**P**	**15 18 28.8 +1.2**
	baz=104,SNR=5.0				
D20K	**Etivluk River**	**63.78 340**	P	**P**	**15 18 28.7 +0.8**
	baz=115,SNR=11				
F18K	**Selawik**	**64.03 337**	P	**P**	**15 18 30.5 +1.0**
	baz=111				
G17K	**Kiwalik Mounta**	**64.04 336**	P	**P**	**15 18 29.9 +0.3**
	baz=109				
UNV	**Unalaska Valle**	**64.14 322**	P	**P**	**15 18 30.8 +0.4**
	baz=098				
D19K	**Kuna River**	**64.20 339**	IAmb	IAmb	15 18 31.7
	comp=Z,6.7nm,1.1s				
D19K	**Kuna River**	**64.20 339**	P	**P**	**15 18 30.7 +0.1**
	baz=113,SNR=7.3				
A22K	**Sinclair Lake**	**64.29 342**	P	**P**	**15 18 31.2 +0.2**
	baz=117				
ICESG	**Greenland Ices**	**64.33 20**	*i* P	**P**	**15 18 31.9 +0.1**
H16K	**Elim**	**64.41 335**	P	**P**	**15 18 32.5 +0.6**
	baz=107				
J14K	**Nanvaranak Lak**	**64.44 332**	P	**P**	**15 18 33.3 +1.2**
	baz=105				
B20K	**Meade River**	**64.50 341**	P	**P**	**15 18 33.4 +0.9**
	baz=115				
F17K	**Baldwin Pennin**	**64.58 337**	IAmb	IAmb	15 18 41.5
	comp=Z,7.8nm,1.1s				
E18K	**Tukpahlearik C**	**64.67 338**	IAmb	IAmb	15 18 35.4
	comp=Z,7.8nm,0.8s				
E18K	**Tukpahlearik C**	**64.67 338**	P	**P**	**15 18 35.0 +1.3**
	baz=110				
G16K	**Koyuk River**	**64.68 335**	IAmb	IAmb	15 18 35.7
	comp=Z,5.4nm,0.9s				
G16K	**Koyuk River**	**64.68 335**	P	**P**	**15 18 34.3 +0.6**
	baz=107				
A21K	**Barrow**	**64.91 342**	P	**P**	**15 18 35.5 +0.4**
	baz=116				
C19K	**Lookout Ridge**	**64.93 340**	IAmb	IAmb	15 18 37.6
	comp=Z,7.8nm,0.9s				
C19K	**Lookout Ridge**	**64.93 340**	P	**P**	**15 18 36.2 +0.8**
	baz=112				
E17K	**Hotham Inlet**	**65.01 337**	P	**P**	**15 18 36.5 +0.7**
	baz=109,SNR=12				
G15K	**Niukluk**	**65.25 335**	P	**P**	**15 18 38.6 +1.2**
	baz=106				
C18K	**Utukok River**	**65.31 339**	IAmb	IAmb	15 18 39.2
	comp=Z,5.5nm,0.8s				
C18K	**Utukok River**	**65.31 339**	P	**P**	**15 18 38.1 +0.2**
	baz=110				
D17K	**Noatak River**	**65.66 338**	P	**P**	**15 18 40.5 +0.4**
	baz=108,SNR=5.2				
F15K	**North Star Dit**	**65.69 336**	P	**P**	**15 18 41.2 +1.0**
	baz=105,SNR=7.4				
RDOG	**Red Dog Mine**	**65.71 338**	IAmb	IAmb	15 18 42.1
	comp=Z,5.5nm,1.0s				
RDOG	**Red Dog Mine**	**65.71 338**	P	**P**	**15 18 40.7 +0.3**
	baz=108				
B18K	**Kobolik River**	**65.76 340**	P	**P**	**15 18 41.2 +0.5**
	baz=110				
A19K	**Wainwright**	**65.82 341**	P	**P**	**15 18 41.8 +0.8**
	baz=111				
NEEM	**North Greenlan**	**65.85 10**	*i* P	**P**	**15 18 42.3 +0.8**
C17K	**DeLong Mountai**	**65.94 339**	P	**P**	**15 18 42.0 +0.1**
	baz=108				
SUMG	**Summit**	**66.11 17**	P	**P**	**15 18 43.5 +0.1**
SUMG			IAmb	IAmb	15 18 57.5
	comp=Z,7.5nm,1.1s				
SUMG	**Summit**	**66.11 17**	*i* P	**P**	**15 18 42.5 -0.8**
F14K	**Arctic Creek**	**66.30 335**	P	**P**	**15 18 45.0 +0.8**
	baz=104				
C16K	**Lisburne Hills**	**66.65 338**	P	**P**	**15 18 47.2 +0.9**
	baz=106				
SPIA	**Saint Paul Isl**	**66.69 326**	P	**P**	**15 18 47.0 +0.2**
	baz=96				
TNA	**Tin City**	**66.97 335**	P	**P**	**15 18 48.9 +0.4**
	baz=102				
GAMB	**Gambell**	**68.25 333**	P	**P**	**15 18 56.4 -0.1**
	baz=98				
BORG	**Borgarnes**	**70.27 26**	LR	LR	15 51 41.5
	comp=Z,36nm,18.7s,baz=277,slow=38				
BILL	**Bilibino**	**77.16 337**	P	**P**	**15 19 49.6 +0.1**
BILL			IAmb	IAmb	15 20 01.5
	comp=Z,6.7nm,1.1s				
SPITS	**Spitsbergen Ar**	**79.39 11**	LR	LR	15 56 40.5
	comp=Z,58nm,20.9s,baz=266,slow=37				
ESDC	**Sonseca Array**	**83.53 51**	P	**P**	**15 20 24.1 -0.3**
	comp=Z,1.3nm,1.0s,baz=304,slow=3.0,SNR=4.3				
ESDC			LR	LR	15 53 23.1
	comp=Z,83nm,21.3s,baz=295,slow=33				
NOA	**NORSAR Array B**	**85.42 27**	P	**P**	**15 20 35.1 +1.5**
	comp=Z,1.1nm,1.0s,baz=297,slow=5.0,SNR=3.5				
NOA			LR	LR	16 00 32.1
	comp=Z,17nm,18.4s,baz=295,slow=37				
	comp=Z,1.1nm,1.0s				
ARCES	**ARCESS Array B**	**86.20 17**	LR	LR	16 00 17.7
	comp=Z,52nm,21.1s,baz=296,slow=37				
TIXI	**Tiksi**	**86.88 346**	P	**P**	**15 20 40.2 -0.2**
TIXI			IAmb	IAmb	15 20 50.9
	comp=Z,9.2nm,1.4s				
TIXI	**Tiksi**	**86.88 346**	LR	LR	16 05 21.0
	comp=Z,32nm,18.1s,baz=216,slow=40				
HFS	**Hagfors**	**86.92 28**	LR	LR	16 01 11.6
	comp=Z,26nm,18.1s,baz=298,slow=37				
FINES	**FINESS Array B**	**91.34 23**	LR	LR	16 03 42.1
	comp=Z,38nm,18.5s,baz=310,slow=37				
GERES	**GERESS Array B**	**92.09 38**	LR	LR	16 02 52.7
	comp=Z,46nm,20.4s,baz=276,slow=36				
TORD	**Torodi Ar. Bea**	**96.16 75**	LR	LR	16 01 53.2
	comp=Z,78nm,18.4s,baz=328,slow=34				
WRA	**Warramunga Arr**	**129.55 257**	PKhKP	PKPpre	15 27 05.5
	comp=Z,0.9nm,0.9s,baz=82,slow=1.9,SNR=9.1				
ASAR	**Alice Springs**	**130.14 252**	PKhKP	PKPpre	15 27 07.1
	comp=Z,0.7nm,0.9s,baz=127,slow=3.8,SNR=6.0				
CMAR	**Chiang Mai Arr**	**141.59 332**	PKP	**PKiKP**	**15 27 30.6 -0.6**
	comp=Z,0.5nm,0.6s,baz=349,slow=2.0,SNR=5.0				

*IDC **30** 15:26:17.3±1.0,6.00S×142.2E,h0km,mb3.8/6, mbtmp3.9/8,ML2.1/1,MS3.4/5,Error ellipse: s-maj=32.7km s-min=21.1km az=69.0*

ISC 30 15:26:22.4±0.8,6.31S±0.09×142.5E±0.1,h35km,n13, σ1s75/11,mb3.8/6,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.53**	**124**	Pn	**Pn**	**15 27 42.1**	**-0.2**
	3.6nm,0.3s,baz=353,slow=3.5,SNR=14						
PMG				Sn	**Sn**	**15 28 45.3**	**+0.6**
	3.7nm,0.3s,baz=347,slow=16,SNR=2.3 16nm,0.5s						
WRA	**Warramunga Arr**	**15.71**	**210**	Pn	**Pn**	**15 30 00.8**	**-0.4**
	0.5nm,0.3s,baz=30,slow=13,SNR=28						
WRA				Sn	**Sn**	**15 32 51.3**	**-3.0**
	0.2nm,0.3s,baz=40,slow=20,SNR=4.5						
WRA				Lg	Lg	15 34 42.6	
	baz=34,slow=30						
HNR	**Honiara**	**17.54**	**101**	LR	LR	15 35 53.4	
	comp=Z,398nm,19.4s,baz=267,slow=33						
ASAR	**Alice Springs**	**19.14**	**205**	P	**Pn**	**15 30 46.1**	**+2.3**
	4.8nm,0.7s,baz=31,slow=11,SNR=78						
ASAR				Lg	Lg	15 36 42.8	
	baz=27,slow=28						
ASAR				LR	LR	15 39 14.6	
	comp=Z,205nm,21.9s,baz=31,slow=40						
GUMO	**Guam**	**19.91**	**7**	LR	LR	15 37 56.3	
	comp=Z,38nm,20.7s,baz=206,slow=36						
STKA	**Stephens Creek**	**25.45**	**182**	LR	LR	15 43 20.1	
	comp=Z,171nm,18.6s,baz=9.2,slow=40						
KSRS	**Korea Array**	**45.62**	**344**	P	**P**	**15 34 39.1**	**-0.3**
	0.7nm,0.7s,baz=152,slow=11,SNR=2.5 0.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**49.52**	**301**	P	**P**	**15 35 11.5**	**+1.5**
	0.3nm,0.6s,baz=128,slow=6.9,SNR=2.4 0.3nm,0.6s						
ASAJ	**Asahikawa**	**50.19**	**0**	LR	LR	16 00 23.7	
	comp=Z,9.6nm,19.3s,baz=196,slow=41						
MKAR	**Makanchi Array**	**74.94**	**322**	P	**P**	**15 38 00.4**	**+0.4**
	0.4nm,0.7s,baz=113,slow=6.1,SNR=7.0 0.4nm,0.7s						
QSPA	**South Pole Qui**	**83.66**	**180**	P	**P**	**15 38 48.5**	**+1.2**
	1.3nm,1.0s,baz=348,slow=7.7,SNR=2.2 1.3nm,1.0s						
BVAR	**Borovoye Array**	**84.42**	**325**	P	**P**	**15 38 50.9**	**-0.4**
	1.1nm,0.6s,baz=109,slow=6.4,SNR=8.0 1.1nm,0.6s						
ILAR	**Eielson Array**	**87.54**	**24**	P	**P**	**15 39 04.0**	**-2.4**
	0.6nm,0.7s,baz=259,slow=5.1,SNR=8.5 0.6nm,0.7s						

*IDC **30** 15:28:46.4±1.1,58.20N×152.66W,h47km±18km,mb4.1/2, mbtmp3.7/6,ML3.2/4,MS3.7/3,Error ellipse: s-maj=40.6km s-min=17.7km az=109.0*

*AEIC **30** 15:28:47.8±1.4,58.14N±0.02×152.89W±0.07,h54km±4km, ML3.2,ML3.3/104(NEIC),Error ellipse: s-maj=5.6km s-min=3.2km az=67.0*

*NEIC **30** 15:28:47.2±1.2,58.15N±0.03×152.88W±0.08, h54km±10km,Error ellipse: s-maj=6.2km s-min=4.0km az=88.0*

ISC 30 15:28:46.8±0.8,58.16N±0.04×152.88W±0.04,h58km±8km, n332,σ0s64/325,MS3.6/3,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**0.41**	**158**		**Pn**	**15 28 57.7**	**0.0**
KDAK				IAML		15 29 08.0	
	2μm,0.5s						
KDAK				IAML		15 29 08.8	
	2μm,0.3s						
KDAK	**Kodiak Island**	**0.41**	**158**		**Sn**	**15 29 05.5**	**-0.1**
KDAK	**Kodiak Island**	**0.41**	**158**	P	**Pn**	**15 28 57.7**	**0.0**
	2μm,0.3s,baz=31,slow=5.6						
KDAK				S	**Sn**	**15 29 06.3**	**+0.7**
	1μm,0.3s,baz=228,slow=22,SNR=17						
KDAK				LR	LR	15 29 18.1	
	comp=Z,82nm,21.6s,baz=159,slow=75						
Q20K	**Shuyak Island**	**0.52**	**29**	P	**Pn**	**15 28 58.7**	**-0.2**
	baz=212						
Q20K				S	**Sn**	**15 29 07.1**	**-0.5**
	baz=212						
SYI	**Shuyak Island**	**0.52**	**29**		**Pn**	**15 28 58.6**	**-0.2**
SYI				IAML		15 29 08.9	
	comp=N,2μm,0.5s						
SYI	**Shuyak Island**	**0.52**	**29**		**Sn**	**15 29 07.1**	**-0.5**
Q19K	**Cape Douglas,**	**0.87**	**333**		**Pn**	**15 29 03.1**	**-0.1**
Q19K	**Cape Douglas,**	**0.87**	**333**		**Sn**	**15 29 14.3**	**-0.9**
Q19K	**Cape Douglas,**	**0.87**	**333**	P	**Pn**	**15 29 03.1**	**-0.1**
	baz=153						
Q19K				S	**Sn**	**15 29 14.8**	**-0.4**
	baz=153						
OHAK	**Old Harbor**	**0.96**	**193**		**Pn**	**15 29 04.6**	**+0.3**
OHAK	**Old Harbor**	**0.96**	**193**		**Sn**	**15 29 17.0**	**-0.2**
OHAK	**Old Harbor**	**0.96**	**193**	P	**Pn**	**15 29 04.5**	**+0.3**
	baz=12						
KAKN	**Katmai Knife C**	**1.17**	**278**		**Pn**	**15 29 07.0**	**-0.1**
KAKN					**Sn**	**15 29 21.8**	**-0.3**
KCG	**Knife Ck. Glac**	**1.19**	**278**		**Pn**	**15 29 07.6**	**+0.2**
KCE	**Katmai Mt Cerb**	**1.23**	**275**		**Pn**	**15 29 08.4**	**+0.6**
KAHC	**Katmai Hardscr**	**1.23**	**295**		**Pn**	**15 29 07.8**	**-0.1**
KAHC	**Katmai Hardscr**	**1.23**	**295**	P	**Pn**	**15 29 07.8**	**-0.1**
	baz=112						
AU22	**Augustine Moun**	**1.24**	**349**		**Pn**	**15 29 08.1**	**+0.1**
AUCH	**Augustine Cone**	**1.24**	**346**		**Pn**	**15 29 08.8**	**+0.7**
AUCH					**Sn**	**15 29 25.6**	**+1.6**
AUL	**Augustine Lava**	**1.26**	**347**		**Pn**	**15 29 08.6**	**+0.4**
ACHA	**Angle Creek He**	**1.30**	**273**		**Pn**	**15 29 09.1**	**+0.2**
ACHA					**Sn**	**15 29 25.6**	**+0.4**
ANCK	**Angle Creek**	**1.39**	**273**		**Pn**	**15 29 10.3**	**+0.3**
P19K	**Oil Pt**	**1.51**	**353**	Pn	**Pn**	**15 29 12.4**	**+0.8**
P19K	**Oil Pt**	**1.51**	**353**		**Sn**	**15 29 31.9**	**+1.6**
P19K	**Oil Pt**	**1.51**	**353**	P	**Pn**	**15 29 12.4**	**+0.8**
	baz=173						
P19K				S	**Sn**	**15 29 31.9**	**+1.6**
	baz=173						
KELA	**Mount Kelaz**	**1.54**	**282**		**Pn**	**15 29 12.3**	**+0.3**
CNTC	**Contact Creek**	**1.60**	**275**		**Sn**	**15 29 32.7**	**+0.3**
Q17K	**Contact Creek**	**1.60**	**275**	P	**Pn**	**15 29 13.2**	**+0.3**
	baz=92						
Q17K				S	**Sn**	**15 29 33.4**	**+0.9**
	baz=92						
CNPM	**China Poot**	**1.61**	**31**	Pn	**Pn**	**15 29 13.8**	**+0.8**
CNPM				IAML		15 29 39.5	
	comp=E,474nm,0.7s						
CNPM				IAML		15 29 43.0	
	comp=N,346nm,0.5s						
HOM	**

SII IAML 15 29 52.4
comp=N,329nm,0.7s
SII Sitkinak Islan 1.75 204 P Pn **15 29 15.1 +0.2**
baz=23
ILSW Iliamna Southw 1.84 356 Pn Pn **15 29 16.4 +0.3**
ILSW IAML 15 29 41.1
comp=E,274nm,0.6s
ILSW IAML 15 29 43.0
comp=N,195nm,0.5s
IVE Iliamna Volcan 1.87 358 Pn **15 29 16.6 +0.1**
BRLK Bradley Lake 1.91 32 Pn **15 29 17.5 +0.4**
BRLK IAML 15 29 47.2
comp=N,307nm,0.4s
BRLK IAML 15 29 47.5
comp=E,335nm,0.5s
O20K Slope Mountain 1.93 4 Pn **15 29 18.2 +0.9**
O20K Slope Mountain 1.93 4 P Pn **15 29 18.2 +0.9**
baz=184
BRSE Bradley Lake S 1.94 34 P Pn **15 29 17.8 +0.4**
baz=216
Q16K King Salmon 2.06 286 P Pn **15 29 19.2 +0.2**
baz=103
O18K Koktuh Hills 2.09 326 Pn Pn **15 29 19.3 -0.1**
O18K IAML 15 29 56.6
comp=N,177nm,0.8s
O18K IAML 15 29 56.8
comp=E,230nm,0.6s
O18K Koktuh Hills 2.09 326 P Pn **15 29 19.3 -0.1**
baz=144
P17K Kvichak River 2.13 301 Pn **15 29 19.9 -0.1**
P17K Kvichak River 2.13 301 P Pn **15 29 19.9 -0.1**
baz=118
O19K Port Alsworth 2.17 341 Pn **15 29 20.6 0.0**
O19K Port Alsworth 2.17 341 P Pn **15 29 20.5 -0.1**
baz=160
RSO Redoubt South 2.31 1 Pn **15 29 23.4 +0.7**
RDWB Redoubt West 2.34 0 Pn **15 29 23.5 +0.5**
O17K Koliganek Bris 2.72 308 Pn **15 29 27.8 -0.2**
O17K Koliganek Bris 2.72 308 P Pn **15 29 27.8 -0.2**
baz=125
CAPN Captain Cook N 2.76 18 Pn **15 29 30.1 +1.5**
CAPN Captain Cook N 2.76 18 P Pn **15 29 30.1 +1.5**
baz=200
N19K Bonanza Creek 2.79 344 Pn **15 29 29.2 +0.2**
N19K IAML 15 30 21.1
comp=N,83nm,0.8s
N19K Bonanza Creek 2.79 344 P Pn **15 29 29.2 +0.2**
baz=162
P16K Nushagak River 2.82 290 P Pn **15 29 29.9 +0.6**
baz=106
O22K Cooper Landing 2.83 33 Pn **15 29 31.2 +1.7**
O22K Cooper Landing 2.83 33 P Pn **15 29 29.4 -0.1**
baz=216
N18K Kilae Creek 2.96 330 Pn **15 29 31.4 0.0**
N18K IAML 15 30 24.7
comp=E,81nm,0.8s
N18K Kilae Creek 2.96 330 P Pn **15 29 31.1 -0.2**
baz=148
O16K Kokwok River B 3.07 300 Pn Pn **15 29 33.2 +0.4**
O16K Kokwok River B 3.07 300 P Pn **15 29 33.0 +0.3**
baz=116
N20K Mount Spurr 3.07 6 P Pn **15 29 33.4 +0.5**
baz=187
SPBG Spurr Blockage 3.12 4 Pn **15 29 34.1 +0.5**
SPCP Crater Peak Br 3.14 6 Pn **15 29 34.5 +0.6**
SPCG Spurr Capps Gl 3.17 7 Pn **15 29 35.0 +0.6**
N17K Nushagak Hills 3.24 319 Pn **15 29 35.1 -0.1**
N17K Nushagak Hills 3.24 319 IAML 15 30 29.2
comp=E,59nm,0.8s
N17K Nushagak Hills 3.24 319 P Pn **15 29 35.1 -0.1**
baz=135
SVW2 Sparrevohn 3.25 336 Pn **15 29 35.2 -0.1**
SVW2 IAML 15 30 30.6
comp=N,102nm,0.6s
SVW2 IAML 15 30 30.9
comp=E,107nm,0.6s
RC01 Rabbit Creek A 3.34 27 Pn Pn **15 29 36.8 +0.2**
RC01 IAML 15 30 17.4
comp=N,82nm,0.3s
RC01 Rabbit Creek A 3.34 27 P Pn **15 29 36.8 +0.2**
baz=210
P23K Montague Islan 3.37 55 Pn **15 29 37.1 +0.2**
P23K Montague Islan 3.37 55 P Pn **15 29 37.1 +0.2**
baz=240
SUA Susitna One 3.49 17 Pn Pn **15 29 38.9 +0.3**
SUA IAML 15 30 28.7
comp=N,70nm,0.9s
SUA IAML 15 30 39.5
comp=E,59nm,0.8s
SUA Susitna One 3.49 17 P Pn **15 29 38.9 +0.3**
baz=199
CHGN Chignik 3.54 241 Pn Pn **15 29 39.9 +0.7**
CHGN Chignik 3.54 241 P Pn **15 29 40.2 +0.9**
baz=56
Q23K Middleton Isla 3.63 67 Pn **15 29 41.2 +0.8**
Q23K Middleton Isla 3.63 67 P Pn **15 29 41.2 +0.8**
baz=252
M18K Stony River 3.66 337 P Pn **15 29 40.9 0.0**
baz=155
M20K Styx River 3.74 358 Pn **15 29 42.6 +0.5**
M20K Styx River 3.74 358 P Pn **15 29 42.6 +0.5**
baz=178
O15K Ungalikthiuk R 3.77 289 Pn **15 29 43.0 +0.6**
O15K Ungalikthiuk R 3.77 289 P Pn **15 29 43.0 +0.6**
baz=103
N16K Nishlik Lake 3.81 310 Pn **15 29 43.4 +0.4**
N16K Nishlik Lake 3.81 310 P Pn **15 29 43.4 +0.4**
baz=125
M19K Big River Lodg 3.83 349 Pn **15 29 43.8 +0.6**
M19K Big River Lodg 3.83 349 P Pn **15 29 43.8 +0.6**
baz=168
M22K Willow 3.86 20 Pn **15 29 44.1 +0.5**
M22K Willow 3.86 20 P Pn **15 29 44.1 +0.5**
baz=202
SKT Skwentna 3.89 9 Pn Pn **15 29 44.5 +0.4**
SKT Skwentna 3.89 9 P Pn **15 29 44.1 +0.1**
baz=191
PMR Palmer 3.93 27 Pn **15 29 44.3 -0.3**
PMR IAML 15 30 27.8
comp=N,33nm,0.3s
PMR Palmer 3.93 27 P Pn **15 29 44.2 -0.3**
baz=211
KNK Knik Glacier 3.95 32 Pn Pn **15 29 44.8 -0.1**
KNK IAML 15 30 50.0
comp=N,40nm,0.8s
KNK IAML 15 31 00.2
comp=E,44nm,1.1s
KNK Knik Glacier 3.95 32 P Pn **15 29 44.7 -0.3**
baz=216
HIN Hinchinbrook I 3.97 53 Pn Pn **15 29 45.4 +0.3**
HIN IAML 15 30 32.6
comp=E,41nm,0.6s
HIN IAML 15 30 33.6
comp=N,43nm,0.5s
M17K Holitna River 3.99 327 Pn **15 29 45.9 +0.5**
M17K Holitna River 3.99 327 P Pn **15 29 45.9 +0.5**
baz=143
S14K Fog Glacier 4.09 245 P Pn **15 29 48.2 +1.3**
baz=60
VNFG Fog Glacier, M 4.09 245 Pn **15 29 48.2 +1.3**
VNFG Fog Glacier, M 4.09 245 IAML 15 30 31.9
comp=N,48nm,1.0s
VNFG IAML 15 30 58.3
comp=E,49nm,1.2s
GHO Glory Hole Cre 4.13 27 Pn **15 29 47.3 -0.1**
GHO IAML 15 30 54.8
comp=E,47nm,0.9s
L19K White Mountain 4.16 347 Pn **15 29 48.1 +0.4**
L19K White Mountain 4.16 347 IAML 15 31 05.5
comp=N,46nm,1.1s
L19K IAML 15 31 09.2
comp=E,35nm,0.9s
L19K White Mountain 4.16 347 P Pn **15 29 48.1 +0.4**
baz=166
M16K Timber Creek 4.22 315 Pn **15 29 49.0 +0.4**
M16K Timber Creek 4.22 315 IAML 15 31 02.8
comp=E,38nm,1.0s
M16K IAML 15 31 04.5
comp=N,40nm,1.2s
M16K Timber Creek 4.22 315 P Pn **15 29 49.0 +0.4**
baz=130
N15K Kwethluk River 4.23 302 Pn **15 29 49.0 +0.3**
N15K Kwethluk River 4.23 302 IAML 15 30 38.2
comp=N,39nm,0.7s
N15K IAML 15 31 07.0
comp=E,34nm,0.6s
N15K Kwethluk River 4.23 302 P Pn **15 29 49.0 +0.3**
baz=115
SML Sawmill 4.31 30 Pn Pn **15 29 50.0 +0.2**
SML IAML 15 31 05.7
comp=E,29nm,1.3s
SML IAML 15 31 12.9
comp=N,29nm,0.8s
SML Sawmill 4.31 30 P Pn **15 29 49.8 0.0**
baz=214
L20K Farewell, AK 4.36 354 Pn **15 29 51.0 +0.5**
L20K Farewell, AK 4.36 354 P Pn **15 29 51.1 +0.5**
baz=173
M23K Glacier View 4.47 33 Pn **15 29 52.3 +0.3**
M23K Glacier View 4.47 33 P Pn **15 29 52.3 +0.3**
baz=218
L18K Granite Mounta 4.50 337 Pn **15 29 52.2 -0.1**
L18K Granite Mounta 4.50 337 IAML 15 31 08.6
comp=N,27nm,0.7s
L18K IAML 15 31 15.2
comp=E,24nm,1.1s
L18K Granite Mounta 4.50 337 P Pn **15 29 52.2 -0.1**
baz=153
O14K Tigyukauivet M 4.51 288 Pn Pn **15 29 53.3 +0.8**
O14K Tigyukauivet M 4.51 288 P Pn **15 29 53.2 +0.8**
baz=100
SCM Sheep Creek Mo 4.62 35 Pn **15 29 54.3 +0.2**
SCM Sheep Creek Mo 4.62 35 IAML 15 30 46.9
comp=N,32nm,0.4s
SCM IAML 15 30 47.1
comp=E,35nm,0.5s
SCM Sheep Creek Mo 4.62 35 P Pn **15 29 54.3 +0.2**
baz=220
KAIM Kayak Island 4.71 64 Pn **15 29 56.0 +0.8**
KAIM Kayak Island 4.71 64 IAML 15 30 52.8
comp=N,31nm,0.9s
KAIM Kayak Island 4.71 64 P Pn **15 29 56.0 +0.8**
baz=252
M15K Kasigluk River 4.73 306 Pn **15 29 56.2 +0.6**
M15K Kasigluk River 4.73 306 P Pn **15 29 56.2 +0.6**
baz=119
PPLA Purkeypile 4.77 4 Pn **15 29 56.5 +0.4**
PPLA Purkeypile 4.77 4 P Pn **15 29 56.5 +0.4**
baz=185
L17K Donlin 4.82 328 Pn **15 29 57.1 +0.4**
L17K Donlin 4.82 328 P Pn **15 29 57.2 +0.4**
baz=144
GOAT Goat Mountain 4.82 56 Pn **15 29 57.1 +0.3**
KLU Klutina 4.84 43 Pn **15 29 57.6 +0.4**
KLU IAML 15 30 54.7
comp=E,16nm,0.3s
KLU IAML 15 30 55.0
comp=N,20nm,0.5s
KLU Klutina 4.84 43 P Pn **15 29 57.2 0.0**
baz=230
L16K Owhat River 4.87 320 Pn **15 29 57.5 +0.1**
L16K IAML 15 31 24.0
comp=N,19nm,1.1s
L16K IAML 15 31 30.7
comp=E,26nm,1.0s
L16K Owhat River 4.87 320 P Pn **15 29 57.4 0.0**
baz=134
N14K Kuskokwak Cree 4.88 295 Pn **15 29 58.2 +0.6**
N14K Kuskokwak Cree 4.88 295 P Pn **15 29 58.2 +0.6**
baz=107
CHNA Chernabura Isl 5.00 231 P Pn **15 29 58.5 -0.7**
baz=45
CNBA Chernabura Isl 5.00 231 Pn **15 29 58.5 -0.8**
TTA Tatalina 5.03 343 IAML 15 31 34.9
comp=N,19nm,0.9s
TTA Tatalina 5.03 343 P Pn **15 29 59.7 0.0**
baz=161
BMRM Bremner River 5.06 53 Pn **15 30 00.2 +0.1**
BMRM Bremner River 5.06 53 P Pn **15 30 00.2 +0.1**
baz=240
WAT7 Susitna Watana 5.09 21 Pn **15 30 00.7 +0.1**
WAT6 Susitna Watana 5.12 28 P Pn **15 30 00.8 -0.1**
baz=212
WAT1 Susitna Watana 5.15 23 P Pn **15 30 01.2 -0.1**
baz=207
M24K Tolsona, Glenn 5.18 37 Pn **15 30 02.6 +0.8**
M24K Tolsona, Glenn 5.18 37 P Pn **15 30 02.6 +0.8**
baz=223
BERG Berg Lake 5.21 61 Pn **15 30 02.4 +0.3**
BERG Berg Lake 5.21 61 IAML 15 31 48.8
comp=N,19nm,1.3s
K20K Telida 5.25 354 IAML 15 31 44.9
comp=E,14nm,1.4s
CAST Castle Rocks 5.29 4 Pn **15 30 03.0 -0.3**
CAST Castle Rocks 5.29 4 P Pn **15 30 03.0 -0.3**
baz=185
K17K Iditarod 5.30 332 Pn **15 30 03.6 +0.3**
K17K Iditarod 5.30 332 IAML 15 31 43.1
comp=N,21nm,0.9s
K17K Iditarod 5.30 332 P Pn **15 30 03.6 +0.3**
baz=147
M14K Bethel 5.31 303 Pn Pn **15 30 04.6 +1.2**
M14K IAML 15 31 42.3
comp=N,16nm,1.4s
M14K IAML 15 31 50.8
comp=E,15nm,1.2s
M14K Bethel 5.31 303 P Pn **15 30 03.9 +0.4**
baz=115
GRIN Grindle Hills 5.35 63 Pn **15 30 05.0 +1.0**
N25K Chitina, Valde 5.41 47 Pn Pn **15 30 05.6 +0.7**
N25K Chitina, Valde 5.41 47 P Pn **15 30 05.7 +0.7**
baz=234
KHIT Khitrov Hills 5.44 61 Pn **15 30 05.6 +0.3**
TRF Thorofare Moun 5.46 12 Pn **15 30 05.8 +0.2**
TRF Thorofare Moun 5.46 12 P Pn **15 30 05.8 +0.2**
baz=195
KTH Kantishna Hill 5.50 9 Pn **15 30 06.4 +0.3**
SNH Sunshine Point 5.55 64 Pn **15 30 07.2 +0.5**
L15K Ungalak Mounta 5.59 313 Pn **15 30 07.5 +0.3**
L15K Ungalak Mounta 5.59 313 P Pn **15 30 07.5 +0.3**
baz=125
S12K Black Hills 5.60 248 Pn **15 30 08.0 +0.6**
S12K Black Hills 5.60 248 P Pn **15 30 08.0 +0.6**
baz=60
CRQM Cirque 5.61 58 Pn Pn **15 30 07.4 -0.3**
DHY Denali Highway 5.62 26 P Pn **15 30 08.4 +0.5**
baz=211
WAX Waxell Ridge 5.62 62 Pn Pn **15 30 08.4 +0.6**
CRQE Cirque 5.63 58 P Pn **15 30 08.0 +0.2**
baz=247
GLB Gilgina Butte 5.64 50 Pn Pn **15 30 08.4 +0.5**
J18K Innoko River 5.65 342 Pn **15 30 08.1 0.0**
J18K Innoko River 5.65 342 P Pn **15 30 08.1 0.0**
baz=159
VRDI Verde Repeater 5.68 53 Pn **15 30 09.0 +0.3**
PN7A Pavlof North-7 5.71 245 Pn **15 30 09.6 +0.6**
HARP HAARP 5.73 39 Pn **15 30 09.6 +0.4**
HARP HAARP 5.73 39 P Pn **15 30 09.6 +0.4**
baz=226
TGL Tana Glacier 5.75 59 Pn **15 30 09.8 +0.3**
WACK Wrangell Chich 5.75 44 Pn **15 30 10.1 +0.4**
CHUM Lake Minchumin 5.75 2 Pn **15 30 09.3 -0.1**
CHUM Lake Minchumin 5.75 2 P Pn **15 30 09.3 -0.1**
baz=183
WASW Wrangell South 5.77 45 Pn **15 30 10.0 +0.1**
BARK Barkley Ridge 5.78 63 Pn **15 30 10.8 +0.9**
M13K Dall Lake 5.83 297 Pn **15 30 10.9 +0.4**
M13K Dall Lake 5.83 297 P Pn **15 30 10.9 +0.4**
baz=108
L14K Kuka Creek 5.89 307 Pn **15 30 11.9 +0.5**
L14K Kuka Creek 5.89 307 P Pn **15 30 11.9 +0.5**
baz=118
MCK McKinley 5.91 17 Pn **15 30 11.9 +0.2**
MCK McKinley 5.91 17 P Pn **15 30 11.9 +0.2**
baz=201
ISLE Juniper Island 5.92 61 Pn Pn **15 30 12.8 +0.9**
MCARA McCarthy VSAT 5.93 53 Pn **15 30 12.5 +0.5**
MCARA McCarthy VSAT 5.93 53 P Pn **15 30 12.5 +0.5**
baz=242
MESA MESA 5.97 66 Pn **15 30 13.3 +0.6**
MESA MESA 5.97 66 P Pn **15 30 13.3 +0.6**
baz=255
K15K Wolf Creek Mou 5.98 318 Pn **15 30 13.1 +0.5**
K15K Wolf Creek Mou 5.98 318 P Pn **15 30 13.1 +0.5**
baz=130
BAGL Bagley Icefiel 6.00 62 Pn **15 30 13.5 +0.7**
J19K Poorman 6.00 348 Pn **15 30 12.4 -0.5**
J19K Poorman 6.00 348 P Pn **15 30 12.4 -0.5**
baz=166
KIAG Kiagna River 6.02 58 Pn **15 30 13.7 +0.3**
BPAW Bear Paw Mtn. 6.03 8 Pn **15 30 13.1 -0.3**
baz=190
PAX Paxson 6.05 34 Pn **15 30 13.8 +0.1**
PAX Paxson 6.05 34 P Pn **15 30 13.8 +0.1**
baz=221
J20K Nowinta River 6.07 355 Pn **15 30 13.7 -0.1**
J20K Nowinta River 6.07 355 P Pn **15 30 13.7 -0.1**
baz=174
PTPK Patty Peak 6.08 56 Pn **15 30 14.6 +0.4**
GRNC Granite Creek 6.23 61 Pn **15 30 16.6 +0.4**
BWN Browne 6.25 14 Pn Pn **15 30 16.5 +0.1**
J16K Anvik River 6.38 327 Pn **15 30 18.1 -0.1**
J16K Anvik River 6.38 327 P Pn **15 30 18.1 -0.1**
baz=140
BARN Barnard Glacie 6.39 58 Pn **15 30 18.8 +0.4**
TABL Table Mountain 6.43 64 Pn **15 30 19.0 0.0**
M26K Nabesna, AK 6.50 45 Pn **15 30 19.9 +0.2**
M26K Nabesna, AK 6.50 45 P Pn **15 30 19.9 +0.2**
baz=234
CTG Chitna Glacier 6.50 59 P Pn **15 30 20.4 +0.5**
baz=250
CTGM Chitina Glacie 6.50 60 Pn **15 30 20.4 +0.4**
SAMH Samovar Hills 6.53 67 Pn **15 30 20.6 +0.4**
LOGN Logan Glacier 6.61 61 Pn **15 30 21.5 +0.1**
K24K Donnelly Dome 6.63 28 Pn **15 30 22.0 +0.4**
K24K Donnelly Dome 6.63 28 P Pn **15 30 22.0 +0.4**
baz=215
I20K Naaghedeneel 6.71 354 Pn **15 30 22.4 -0.1**
I20K Naaghedeneel 6.71 354 P Pn **15 30 22.4 -0.1**
baz=173
NEA2 Nenana 6.71 14 Pn **15 30 21.7 -0.9**
NEA2 Nenana 6.71 14 P Pn **15 30 21.7 -0.9**
baz=198
WRH Wood River Hil 6.74 18 Pn Pn **15 30 22.2 -0.8**
L26K Log Cabin Wild 6.77 40 Pn Pn **15 30 24.7 +1.3**
RIDG Independent Ri 6.83 32 P Pn **15 30 24.6 +0.4**
baz=219
GCSA Galena City Sc 6.88 346 Pn **15 30 25.2 +0.3**
GCSA Galena City Sc 6.88 346 P Pn **15 30 25.2 +0.3**
baz=162
I17K Unalakleet 6.88 330 Pn **15 30 26.2 +1.3**
I17K Unalakleet 6.88 330 P Pn **15 30 25.1 +0.2**
baz=143
HDA Harding Lake 6.89 22 Pn **15 30 25.0 0.0**
HDA Harding Lake 6.89 22 P Pn **15 30 25.0 0.0**
baz=207
M27K Edge Creek, AK 6.90 48 Pn Pn **15 30 25.9 +0.6**
CCB Clear Creek Bu 6.95 18 Pn **15 30 25.2 -0.6**
MLY Manley 6.97 7 Pn **15 30 25.6 -0.6**
MLY Manley 6.97 7 P Pn **15 30 25.6 -0.6**
baz=190
O28M Mount Upton 6.97 63 Pn **15 30 26.4 -0.1**
O28M Mount Upton 6.97 63 P Pn **15 30 26.4 -0.1**
baz=254
J14K Nanvaranak Lak 7.00 316 Pn **15 30 26.9 +0.3**
J14K Nanvaranak Lak 7.00 316 P Pn **15 30 26.9 +0.3**
baz=126
YUK2 White River 7.05 54 Pn **15 30 28.2 +1.0**
BCPM Bancas Point 7.06 70 Pn **15 30 28.0 +0.6**
PNL Peninsula 7.14 72 Pn **15 30 28.9 +0.4**
PNL Peninsula 7.14 72 P Pn **15 30 28.9 +0.4**
baz=264
COLA College 7.15 17 Pn **15 30 28.2 -0.4**
MDM Murphy Dome 7.17 16 Pn **15 30 28.1 -0.8**
I23K Minto, Yukon-K 7.21 12 Pn **15 30 28.6 -0.8**
I23K Minto, Yukon-K 7.21 12 P Pn **15 30 28.6 -0.8**
baz=195
IL31 7.23 21 Pn **15 30 28.7 -0.9**
ILAR Eielson Array 7.23 21 Pn **15 30 29.3 -0.3**
ILAR Eielson Array 7.23 21 P Pn **15 30 28.6 -1.0**
comp=E,0.6nm,0.3s,baz=211,slow=14,SNR=47
ILAR S Sn **15 31 47.1 -3.0**
comp=E,0.8nm,0.5s,baz=195,slow=27,SNR=5.5
comp=E,1.8nm,0.5s
SCRK Sand Creek 7.25 33 Pn **15 30 29.5 -0.6**
SCRK Sand Creek 7.25 33 P Pn **15 30 29.5 -0.6**
baz=221
L27K Beaver Creek, 7.32 43 Pn Pn **15 30 32.4 +1.4**
BCAR Beaver Creek A 7.34 43 Pn Pn **15 30 32.3 +1.0**
J25K Salcha River, 7.41 26 Pn **15 30 31.4 -0.7**
J25K Salcha River, 7.41 26 P Pn **15 30 31.4 -0.7**
baz=213
POKR Poker Plat Res 7.45 18 Pn **15 30 32.1 -0.6**
POKR Poker Plat Res 7.45 18 P Pn **15 30 32.1 -0.6**
baz=203
H18K Honhosa River 7.49 342 Pn **15 30 32.5 -0.7**
H18K Honhosa River 7.49 342 P Pn **15 30 32.5 -0.7**
baz=157
H21K Melozitna Rive 7.53 0 Pn **15 30 33.2 -0.5**
H21K Melozitna Rive 7.53 0 P Pn **15 30 33.2 -0.5**
baz=180
H17K Granite Mounta 7.58 337 Pn **15 30 34.7 +0.2**
H17K Granite Mounta 7.58 337 P Pn **15 30 34.7 +0.2**
baz=151
H19K Roundabout Mou 7.58 349 Pn **15 30 34.6 +0.1**
H19K Roundabout Mou 7.58 349 P Pn **15 30 34.6 +0.1**
baz=166
O29M Mount Kennedy 7.64 68 Pn Pn **15 30 37.2 +1.8**
H23K Yukon River 7.85 10 Pn **15 30 37.7 -0.5**
H23K Yukon River 7.85 10 P Pn **15 30 37.7 -0.5**
baz=193
IMAR Indian Mountai 7.87 357 Pn **15 30 38.7 +0.4**
P29M Windy Craggy 7.98 73 Pn Pn **15 30 40.7 +0.7**
P29M Windy Craggy 7.98 73 P Pn **15 30 40.2 +0.2**
baz=266
H24K Noodor Dome 8.05 15 Pn **15 30 40.3 -0.7**
H24K Noodor Dome 8.05 15 P Pn **15 30 40.3 -0.7**
baz=199
PRP Porcupine Dome 8.15 22 Pn **15 30 41.9 -0.6**
PRP Porcupine Dome 8.15 22 P Pn **15 30 41.9 -0.6**
baz=209
G18K Tagagawik 8.22 343 Pn **15 30 42.7 -0.5**
G18K Tagagawik 8.22 343 P Pn **15 30 42.7 -0.5**
baz=158
G19K Purcell Mounta 8.25 348 Pn **15 30 43.2 -0.4**
G19K Purcell Mounta 8.25 348 P Pn **15 30 43.2 -0.4**
baz=164
M29M Somme Creek 8.34 53 Pn **15 30 46.2 +1.3**
M29M Somme Creek 8.34 53 P Pn **15 30 45.3 +0.3**
baz=246
LVA Lava Point 8.36 247 Pn **15 30 45.4 +0.1**
G21K Allakaket 8.39 358 Pn **15 30 45.5 -0.1**
G21K Allakaket 8.39 358 P Pn **15 30 45.5 -0.1**
baz=178
I26K Coal Creek Min 8.52 29 Pn Pn **15 30 47.7 +0.4**
G16K Koyuk River 8.53 332 Pn **15 30 48.1 +0.7**
G16K Koyuk River 8.53 332 P Pn **15 30 47.1 -0.3**
baz=144
EGAK Eagle 8.68 35 Pn Pn **15 30 49.6 +0.2**
G23K Bananza Creek 8.69 8 Pn **15 30 48.9 -0.7**
L29M L29M 8.77 49 Pn Pn **15 30 52.4 +1.5**
ANM Nome 8.78 322 Pn Pn **15 30 51.9 +1.0**
G24K Hadweenzic Riv 8.93 14 Pn Pn **15 30 52.7 -0.2**
F19K Shaleruckik Mo 8.99 348 Pn Pn **15 30 54.3 +0.6**
F20K Avaraart Lake 9.02 353 Pn Pn **15 30 54.9 +0.8**
F21K Alatna River 9.10 359 Pn Pn **15 30 55.2 -0.1**
F17K Baldwin Pennin 9.17 338 Pn Pn **15 30 56.3 +0.1**
F15K North Star Dit 9.37 329 Pn Pn **15 31 01.0 +2.0**
I28M Miner Creek 9.52 34 Pn Pn **15 31 02.9 +1.9**
E19K Redstone River 9.54 350 Pn Pn **15 31 02.7 +1.4**
E18K Tukpahlearik C 9.94 342 Pn Pn **15 31 07.0 +0.4**
BMAR Burnt Mountain 10.04 19 Pn Pn **15 31 06.5 -1.6**
TOLK Toolik Lake Re 10.62 7 Pn Pn **15 31 16.9 +0.9**
D19K Kuna River 10.63 349 Pn Pn **15 31 17.7 +1.5**
D22K Ayikyak River 10.77 0 Pn Pn **15 31 19.1 +1.1**
C18K Utukok River 11.15 344 Pn Pn **15 31 24.5 +1.2**
D25K Kavik River 11.56 12 Pn Pn **15 31 28.0 -0.8**
DLBC Dease Lake 12.01 79 P Pn **15 31 33.6 -1.5**
comp=E,0.1nm,0.3s,baz=290,slow=12,SNR=1.5
comp=E,1.2nm,0.8s
E29M Blow River 12.23 27 Pn Pn **15 31 37.6 -0.3**
INK Inuvik 13.32 32 P Pn **15 31 52.0 -0.7**
baz=226,slow=10,SNR=1.5
comp=E,0.4nm,0.6s
YKA Yellowknife Ar 19.23 61 P P **15 33 06.8 +1.0**
comp=E,0.1nm,0.3s,baz=272,slow=10,SNR=8.2
comp=E,0.3nm,0.6s
DAG Danmarks Havn 42.27 14 *i* P P **15 36 33.0 -0.7**
KLR Kul'dur 43.28 292 LR LR 15 56 07.5
comp=E,40nm,19.8s,baz=233,slow=38
SPITS Spitsbergen Ar 43.76 3 P P **15 36 45.6 -0.1**
comp=E,14nm,1.0s,baz=347,slow=10,SNR=5.2
comp=E,14nm,1.0s
CMIG Matias Romero 58.91 109 LR LR 16 06 31.7

comp=E,156nm,18.1s,baz=188,slow=38
FINES FINESS Array B 60.73 1 P **P** **15 38 51.6 0.0**
comp=E,0.8nm,0.6s,baz=8.7,slow=10,SNR=6.9
comp=E,0.8nm,0.6s
BELG Belogornoye 68.55 347 LR LR 16 12 27.0
comp=E,39nm,19.4s,baz=0.4,slow=38

*IDC **30** 15:29:16.8±0.8,5°.57S×152°.05E,h0km,mb4.0/13, mbtmp4.1/14,ML1.9/1,Error ellipse: s-maj=30.4km s-min=17.0km az=105.0*
ISC 30 15:29:23.9±0.8,5°.6S±0'.1×151°.9E±0'.2,h45km,n15, σ1§28/16,mb4.0/13,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.00**	**231**	Pn		**Pn**	**Pn**	**15 30 51.4**	**+1.2**
	1.9nm,0.3s,baz=179,slow=22,SNR=1.9								
PMG				Sn			**Sn**	**15 31 55.6**	**-2.0**
	2.1nm,0.3s,baz=158,slow=16,SNR=2.8								
	36nm,0.9s								
WRA	**Warramunga Arr**	**22.21**	**229**	P			**P**	**15 34 16.9**	**+0.1**
	12nm,0.5s,baz=52,slow=9.9,SNR=25								
	12nm,0.5s								
ASAR	**Alice Springs**	**24.92**	**222**	P			**P**	**15 34 43.5**	**+0.5**
	9.0nm,0.7s,baz=60,slow=8.6,SNR=32								
	9.0nm,0.7s								
STKA	**Stephens Creek**	**27.83**	**199**	P			**P**	**15 35 08.3**	**-0.8**
	0.6nm,0.4s,baz=16,slow=15,SNR=2.9								
	0.6nm,0.4s								
CMAR	**Chiang Mai Arr**	**57.42**	**296**	P			**P**	**15 39 09.2**	**+0.7**
	0.2nm,0.3s,baz=104,slow=6.4,SNR=4.1								
	0.2nm,0.3s								
PETK	**Petropavlovsk-**	**58.73**	**4**	P			**P**	**15 39 16.8**	**-0.3**
	0.7nm,0.6s,baz=149,slow=4.5,SNR=1.2								
	0.7nm,0.6s								
SONM	**Songino Array**	**66.55**	**328**	P			**P**	**15 40 10.3**	**+0.9**
	0.5nm,0.6s,baz=133,slow=5.7,SNR=4.3								
	0.5nm,0.6s								
VNDA	**Vanda**	**72.03**	**178**	P			**P**	**15 40 43.3**	**+0.6**
	1.2nm,0.8s,baz=328,slow=6.1,SNR=6.7								
	1.2nm,0.8s								
MKAR	**Makanchi Array**	**80.36**	**319**	P			**P**	**15 41 30.8**	**+0.2**
	0.2nm,0.5s,baz=106,slow=7.6,SNR=2.2								
	0.2nm,0.5s								
ZALV	**Zalesovo Beam**	**81.34**	**327**	P			**P**	**15 41 34.2**	**-1.4**
	0.6nm,0.4s,baz=101,slow=2.9,SNR=2.8								
	0.6nm,0.4s								
ILAR	**Eielson Array**	**83.27**	**22**	P			**P**	**15 41 44.0**	**-1.4**
	0.5nm,0.5s,baz=247,slow=5.1,SNR=10								
	0.5nm,0.5s								
KURBB	**Kurchatov Arra**	**83.90**	**322**	P			**P**	**15 41 47.0**	**-1.9**
	1.4nm,0.2s,baz=105,slow=4.1,SNR=3.1								
	1.4nm,0.2s								
QSPA	**South Pole Qui**	**84.33**	**180**	P			**P**	**15 41 50.7**	**-0.4**
	2.4nm,0.7s,baz=343,slow=1.4,SNR=16								
	2.4nm,0.7s								
NVAR	**Mina Array Bea**	**93.31**	**52**	P			**P**	**15 42 34.9**	**+0.2**
	0.3nm,0.5s,baz=255,slow=6.5,SNR=4.2								
	0.3nm,0.5s								
TORD	**Torodi Ar. Bea**	**149.69**	**286**	PKPbc			**PKPdf**	**15 49 07.4**	**+2.2**
	0.5nm,0.5s,baz=70,slow=3.9,SNR=5.9								

*SKO **30** 15:43:53.8,41°.59N×20°.98E,h15km,ML2.9*
*BEO **30** 15:43:54.5±0.3,41°.60N×20°.97E,h13km±2km,ML2.5/7*
*ATH **30** 15:43:55.0±0.8,41°.60N×21°.09E,h10km,ML2.4/8,Manual Solution by N.Liadopoulou This location: 2020/05/19 10:21:24 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 4 km*
ISC 30 15:43:54.1±1.0,41°.59N±0'.02×20°.96E±0'.02,h10km±9km, n42,σ0§88/68,2D,Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.49**	**194**	*e*Pg			**Pg**	**15 44 03.8**	**+0.1**
OHR				*e*Sg			**Sb**	**15 44 12.2**	**0.0**
OHR	**Ohrid**	**0.49**	**194**	⇓*i*Pg			**Pg**	**15 44 04.1**	**+0.4**
OHR				*i* Sg			**Sb**	**15 44 12.3**	**+0.1**
OHR				*e*Lg			Lg	15 44 12.7	
	comp=N,429nm,0.4s								
OHR				*e*Lg			Lg	15 44 13.1	
	comp=E,557nm,0.3s								
SKO	**Skopje**	**0.53**	**43**	*e*Pg			**Pg**	**15 44 04.4**	**0.0**
SKO				*e*Sg			**Sg**	**15 44 12.0**	**+0.7**
SKO	**Skopje**	**0.53**	**43**	*i* Pg			**Pg**	**15 44 04.3**	**0.0**
SKO				*i* Sg			**Sg**	**15 44 11.9**	**+0.7**
TIR	**Tirane**	**0.85**	**254**	*e*Pg			**Pg**	**15 44 09.0**	**-0.7**
TIR				*e*Sg			**Sg**	**15 44 22.6**	**+0.9**
FNA	**Florina**	**0.86**	**158**	*i* Pg			**Pg**	**15 44 10.4**	**-0.4**
FNA				*i* Sg			**Sg**	**15 44 22.3**	**+0.3**
FNA	**Florina**	**0.86**	**158**	P			**Pg**	**15 44 10.4**	**-0.4**
FNA				S			**Sb**	**15 44 23.7**	**+0.8**
STIP	**Stip**	**0.93**	**83**	⇓*i*Pg			**Pn**	**15 44 14.9**	**+1.6**
STIP				*i* Sg			**Sn**	**15 44 30.6**	**+4.0**
NEST	**Nestorio**	**1.18**	**177**	P			**Pn**	**15 44 16.1**	**-0.7**
NEST				S			**Sn**	**15 44 33.0**	**+0.1**
PRVS	**Prvonek**	**1.24**	**42**	*e*Pg			**Pn**	**15 44 16.9**	**-0.7**
PRVS				*e*Sg			**Sn**	**15 44 33.8**	**-0.6**
PVY	**Plav**	**1.25**	**324**	*e*Pg			**Pn**	**15 44 17.2**	**-0.6**
PVY				*e*Sg			**Sn**	**15 44 34.5**	**-0.3**
GRG	**Griva**	**1.26**	**120**	*i* Pg			**Pb**	**15 44 17.9**	**-0.1**
GRG				*i* Sg			**Sg**	**15 44 35.4**	**+0.8**
GRG	**Griva**	**1.26**	**120**	P			**Pn**	**15 44 16.9**	**-1.0**
ULC	**Ulcinj**	**1.33**	**287**	*i* Pg			**Pn**	**15 44 18.2**	**-0.7**
BARS	**Barje**	**1.38**	**27**	*e*Pg			**Pn**	**15 44 19.0**	**-0.5**
BARS				*e*Sg			**Sg**	**15 44 38.6**	**0.0**
BARS	**Barje**	**1.38**	**27**	*i* Pg			**Pg**	**15 44 20.4**	**-0.2**
BARS				*i* Sg			**Sg**	**15 44 39.2**	**+0.6**
PENT	**Pentalofos**	**1.40**	**174**	P			**Pb**	**15 44 21.0**	**+0.6**
DRME	**Dracevica, Mon**	**1.45**	**295**	*e*Pg			**Pn**	**15 44 21.1**	**+0.6**
DRME				*e*Sg			**Sg**	**15 44 41.9**	**+1.1**
BEY	**Berane**	**1.51**	**329**	*e*Pg			**Pb**	**15 44 21.9**	**-0.3**
BEY				*e*Sg			**Sg**	**15 44 42.9**	**+0.3**
KNT	**Kendrikon**	**1.52**	**106**	*i* Pg			**Pn**	**15 44 21.5**	**+0.1**
KNT				*i* Sg			**Sb**	**15 44 41.4**	**-0.5**
KNT	**Kendrikon**	**1.52**	**106**	P			**Pn**	**15 44 20.9**	**-0.5**
KNT				S			**Sn**	**15 44 39.9**	**-1.4**
SELS	**Selova**	**1.63**	**4**	*e*Pn			**Pn**	**15 44 21.9**	**-1.1**
SELS				*e*Sg			**Sb**	**15 44 45.3**	**+0.2**
KKB	**Krupnik**	**1.65**	**80**	*i* Pg			**Pn**	**15 44 23.5**	**+0.4**
KKB				*i* Sg			**Sg**	**15 44 46.4**	**-0.6**
KOME	**Kolasin**	**1.65**	**320**	*e*Pg			**Pb**	**15 44 24.2**	**-0.6**
KOME				*e*Sg			**Sb**	**15 44 46.1**	**+0.4**
KPRO	**Kipourio**	**1.66**	**169**	P			**Pb**	**15 44 24.3**	**-0.6**
KPRO				S			**Sn**	**15 44 45.2**	**+0.3**
SJES	**Sjenica**	**1.82**	**337**	*e*Pg			**Pn**	**15 44 26.2**	**+0.5**
SJES				*e*Sg			**Sg**	**15 44 52.0**	**-0.7**
LIT	**Litokhoron**	**1.89**	**141**	*i* Pn			**Pg**	**15 44 29.8**	**-0.5**
HORT	**Hortiatis**	**1.90**	**121**	P			**Pn**	**15 44 27.2**	**+0.6**
SOH	**Sokhos**	**1.96**	**112**	P			**Pn**	**15 44 26.9**	**-0.7**
SRS	**Serrai**	**2.04**	**102**	P			**Pn**	**15 44 27.3**	**-1.2**
IVAS	**Ivanjica**	**2.07**	**344**	*e*Pn			**Pn**	**15 44 28.1**	**-1.0**
IVAS				*e*Sg			**Sg**	**15 44 59.9**	**-0.8**
ZAPS	**Zavoj**	**2.09**	**36**	*e*Pn			**Pn**	**15 44 29.1**	**-0.2**
IGT	**Igoumenitsa**	**2.11**	**193**	P			**Pb**	**15 44 31.2**	**-1.2**
NVR	**Nevrokopi**	**2.20**	**95**	P			**Pn**	**15 44 29.7**	**-1.0**
GRUS	**Gruza**	**2.31**	**356**	*e*Pn			**Pn**	**15 44 33.3**	**+1.1**
ZAGS	**Zajecar**	**2.41**	**23**	*e*Pn			**Pn**	**15 44 34.3**	**+0.6**
BBLS	**Lazi&#263i**	**2.55**	**334**	*e*Pn			**Pn**	**15 44 35.4**	**-0.2**
DIVS	**Divibare**	**2.61**	**345**	*e*Pn			**Pn**	**15 44 35.9**	**-0.5**
STON	**Ston**	**2.74**	**299**	*e*Pn			**Pn**	**15 44 39.5**	**+1.4**
STON				Sn			**Sn**	**15 45 11.9**	**+0.7**
RICI	**Ricice**	**3.41**	**305**	*e*Pn			**Pn**	**15 44 48.6**	**+1.2**
RICI				Sn			**Sn**	**15 45 28.9**	**+1.1**
KIJV	**Kijevo**	**4.13**	**307**	*e*Pn			**Pn**	**15 44 56.9**	**-0.4**
VIRC	**Vir**	**5.11**	**304**	*e*Pn			**Pn**	**15 45 09.9**	**-0.8**

*IDC **30** 15:59:40.3±4.2,37°.62N×71°.45E,h186km±28km,mb2.8/1, mbtmp3.6/7,Error ellipse: s-maj=54.1km s-min=17.9km az=154.0*
ISC 30 15:59:41.8±1.6,37°.7N±0'.1×71°.41E±0'.08,h200km,n9, σ1§58/14,3C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.47**	**353**	⇓P			**Pn**	**16 01 03.3**	**+1.1**
	1.2nm,0.2s,baz=164,slow=11,SNR=31								
KK31				⇑S			**Sn**	**16 02 07.4**	**+1.7**
	7.3nm,0.3s,baz=181,slow=24,SNR=4.9								
AAK	**Ala-Archa**	**5.50**	**25**	P			**Pn**	**16 01 01.5**	**-1.1**
	2.5nm,0.3s,baz=191,slow=7.0,SNR=12								
AAK				S			**Sn**	**16 02 04.8**	**-1.7**
	3.2nm,0.5s,baz=316,slow=22,SNR=13								
GEYT	**Alibeck**	**10.52**	**275**	P			**Pn**	**16 02 07.2**	**-0.5**
	1.0nm,0.3s,baz=93,slow=10,SNR=14								
GEYT				S			**Sn**	**16 04 03.4**	**-1.8**
	0.9nm,0.4s,baz=330,slow=38,SNR=2.0								
MKAR	**Makanchi Array**	**12.16**	**38**	P			**Pn**	**16 02 28.6**	**0.0**
	0.2nm,0.3s,baz=219,slow=13,SNR=5.1								
KURBB	**Kurchatov Arra**	**13.91**	**19**	P			**P**	**16 02 51.4**	**-1.0**
	0.4nm,0.5s,baz=204,slow=11,SNR=5.0								
AB31	**Akbulak array**	**14.24**	**328**	⇑P			**P**	**16 02 58.2**	**+2.2**
	0.7nm,0.4s,baz=136,slow=13,SNR=36								
AB31				⇑S			**S**	**16 05 30.3**	**-2.4**
	1.0nm,0.8s,baz=156,slow=23,SNR=5.5								
AKTO	**Aktyubinsk**	**15.95**	**327**	P			**Pn**	**16 03 16.9**	**+1.6**
	0.8nm,0.4s,baz=127,slow=12,SNR=2.5								
AKTO				S			**Sn**	**16 06 13.5**	**-0.8**
	0.4nm,0.4s,baz=329,slow=4.6,SNR=1.1								
ZALV	**Zalesovo Beam**	**18.72**	**25**	P			**P**	**16 03 44.5**	**-0.6**
	2.1nm,0.3s,baz=212,slow=11,SNR=16								
YKA	**Yellowknife Ar**	**80.06**	**3**	P			**P**	**16 11 28.5**	**-0.2**
	0.1nm,0.5s,baz=4.9,slow=5.7,SNR=2.2								
	0.1nm,0.5s								

*IDC **30** 16:02:44.6±1.9,13°.83N×92°.13W,h0km,mb3.4/2, mbtmp3.5/5,ML3.3/3,MS4.2/2,Error ellipse: s-maj=39.1km s-min=20.3km az=20.0*
*GCG **30** 16:02:58.2±0.3,14°.39N×91°.49W,h27km±3km,MD3.8*
ISC 30 16:02:50.5±1.3,13°.9N±0'.1×92°.10W±0'.09,h35km,n14, σ1§96/15,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.66**	**52**	*e*P			**Pn**	**16 03 03.1**	**-0.3**
STG3	**Santiaguito 3,**	**0.96**	**32**	*e*P			**Pn**	**16 03 06.4**	**-1.3**
FUG	**Fuego 3**	**1.34**	**65**	*e*P			**Pn**	**16 03 10.8**	**-2.0**
NBG	**Las Nubes**	**1.83**	**68**	*e*P			**Pn**	**16 03 20.1**	**+0.4**
APG	**El Apazote**	**1.93**	**55**	Pn			**Pn**	**16 03 20.0**	**-1.0**
	0.6nm,0.3s,baz=197,slow=14,SNR=92								
APG				Sn			**Sn**	**16 03 46.9**	**+2.6**
	1.5nm,0.3s,baz=192,slow=12,SNR=15								
MRL	**Marmol**	**2.62**	**63**	*e*P			**Pn**	**16 03 29.3**	**-1.3**
CMIG	**Matias Romero**	**4.16**	**320**	Pn			**Pn**	**16 03 49.6**	**-2.0**
	0.7nm,0.3s,baz=148,slow=11,SNR=9.7								
CMIG				Sn			**Sn**	**16 04 42.7**	**+3.7**
	3.0nm,0.3s,baz=88,slow=10,SNR=4.2								
	3.9nm,0.5s								
TEIG	**Tepich**	**7.28**	**30**	LR			LR	16 07 56.8	
	comp=Z,1μm,18.6s,slow=42								
JTS	**Las Juntas de**	**7.85**	**116**	Pn			**Pn**	**16 04 40.8**	**-1.5**
	0.7nm,0.3s,baz=278,slow=19,SNR=1.6								
JTS				Sn			**Sn**	**16 06 12.4**	**+2.4**
	0.3nm,0.3s,baz=211,slow=18,SNR=1.1								
	1.7nm,0.3s								
TXAR	**Lajitas Array**	**18.73**	**327**	P			**P**	**16 07 06.7**	**+0.3**
	baz=151,slow=10,SNR=10								
	1.4nm,0.9s								
NVAR	**Mina Array Bea**	**33.70**	**321**	P			**P**	**16 09 29.1**	**+0.6**
	0.5nm,0.6s,baz=142,slow=7.5,SNR=4.6								
	0.5nm,0.6s								
NEW	**Newport**	**40.05**	**334**	LR			LR	16 28 25.0	
	comp=Z,365nm,20.5s,baz=68,slow=38								
YKA	**Yellowknife Ar**	**51.11**	**347**	P			**P**	**16 11 47.1**	**-2.3**
	0.3nm,0.7s,baz=147,slow=6.8,SNR=6.0								
	0.3nm,0.7s								
CMAR	**Chiang Mai Arr**	**146.06**	**341**	PKPbc			**PKPdf**	**16 22 26.8**	**-0.1**
	1.2nm,0.7s,baz=343,slow=3.5,SNR=9.0								

*IDC **30** 16:05:29.8±0.7,45°.43N×97°.68E,h0km,mb4.1/21, mbtmp4.1/27,ML3.3/6,MS3.4/11,Error ellipse: s-maj=17.6km s-min=10.5km az=10.0*
*MOS **30** 16:05:30.4±1.4,45°.49N×97°.55E,h13km,mb4.7/21,Error ellipse: s-maj=7.9km s-min=6.5km az=31.5*
*NEIC **30** 16:05:32.2±2.1,45°.5N±0°.1×97°.64E±0°.04,h10km±1km, mb4.5/32,Error ellipse: s-maj=18.6km s-min=5.7km az=175.0*
ISC 30 16:05:32.3±0.3,45°.50N±0'.04×97°.61E±0'.04,h10km,n150, σ1§59/151,mb4.3/45,MS3.4/14,10C-4D,Mongolia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZAK	**Zakamensk**	**6.19**	**36**	*e*P			**Pn**	**16 07 04.9**	**+1.1**
ZAK					pmax	pmax			
	comp=Z,76nm,0.7s								
GTA	**Gaotai**	**6.30**	**164**	Pn			**Pn**	**16 07 04.8**	**-0.6**
GTA				Pg			**Pb**	**16 07 23.5**	**+1.4**
GTA				Sn			**Sn**	**16 08 15.0**	**-2.5**
GTA				Sg			**Sb**	**16 08 41.3**	**+3.7**
GTA				smax	smax				
	comp=N,170nm,0.8s								
GTA				smax	smax				
	comp=E,320nm,1.0s								
GTA				LR	LR				
	comp=N,680nm,8.0s								
GTA				LR	LR				
	comp=E,1μm,8.4s								
GTA				LR	LR				
	comp=Z,680nm,9.1s								
SONM	**Songino Array**	**6.48**	**66**				**Pn**	**16 07 06.8**	**-1.0**
SONM	**Songino Array**	**6.48**	**66**	Pn			**Pn**	**16 07 06.9**	**-0.8**
	comp=Z,2.2nm,0.3s,baz=246,slow=14,SNR=68								
SONM				Pg			**Pb**	**16 07 27.8**	**+2.7**
	comp=Z,20nm,0.3s,baz=248,slow=18,SNR=18								
SONM				Lg	Lg			16 08 51.1	
	comp=Z,28nm,0.3s,baz=251,slow=28,SNR=9.6								
SONM				LR		LR		16 09 52.6	
	comp=Z,379nm,18.9s,baz=198,slow=41								
	comp=Z,7.6nm,0.4s								
ULN	**Ulaanbaatar**	**6.91**	**67**				**Pn**	**16 07 12.9**	**-0.8**
ULN	**Ulaanbaatar**	**6.91**	**67**	*ce*P			**Pn**	**16 07 12.5**	**-1.2**
ULN					pmax	pmax			
	comp=Z,6.0nm,0.5s								
WMQ	**Urumqi**	**7.27**	**260**	Pn			**Pn**	**16 07 20.5**	**+2.0**
WMQ				Sn			**Sn**	**16 08 46.0**	**+4.9**
WMQ				smax	smax				
	comp=N,410nm,0.9s								
WMQ				smax	smax				
	comp=E,550nm,0.9s								
GOMU	**GeErMu**	**9.53**	**194**	P			**Pn**	**16 07 49.8**	**-0.1**
GOMU				S			**Sn**	**16 09 33.8**	**-3.5**
GOMU				pmax	pmax				
	comp=Z,14nm,0.5s								
GOMU				LR	LR				
	comp=N,400nm,10.1s								
GOMU				LR	LR				
	comp=E,480nm,10.8s								
GOMU				LR	LR				
	comp=Z,730nm,10.9s								
BTO	**Baotou**	**10.32**	**114**	*e*P			**Pn**	**16 07 58.8**	**-1.5**
BTO				pP				16 08 06.3	
BTO				PP			**PnPn**	**16 08 09.0**	**+1.2**
BTO				sP				16 08 13.8	
BTO				S			**Sn**	**16 09 53.0**	**-3.0**
BTO				pmax	pmax				
	comp=Z,20nm,0.7s								
BTO				pmax	pmax				
	comp=Z,230nm,5.5s								
BTO				LR	LR				
	comp=N,800nm,4.2s								
BTO				LR	LR				
	comp=E,560nm,3.0s								
BTO				LR	LR				
	comp=Z,510nm,9.0s								
LZH	**Lanzhou**	**10.52**	**151**	*e*P			**Pn**	**16 08 05.8**	**+2.5**
LZH				sP				16 08 13.0	
LZH				SS			Sn	16 10 18.0	+17
LZH				pmax	pmax				
	comp=Z,19nm,1.3s								
LZH				LR	LR				
	comp=N,520nm,10.3s								
LZH				LR	LR				
	comp=E,480nm,10.7s								
LZH				LR	LR				
	comp=Z,530nm,11.0s								
MK31	**Makanchi Array**	**10.71**	**282**	Pn			**Pn**	**16 08 07.2**	**+1.5**
MK31	**Makanchi Array**	**10.71**	**282**	*e*P			**Pn**	**16 08 03.9**	**-1.8**
MKAR	**Makanchi Array**	**10.71**	**282**	Pn			Pn	16 08 11.5	+5.8
MKAR	**Makanchi Array**	**10.71**	**282**	*i* P			**Pn**	**16 08 06.4**	**+0.7**
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
MKAR	**Makanchi Array**	**10.71**	**282**	Pn			**Pn**	**16 08 06.1**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=93,slow=15,SNR=22								
MKAR				Lg	Lg		Lg	16 11 08.3	
	comp=Z,1.6nm,0.3s,baz=92,slow=27,SNR=3.6								
	comp=Z,1.0nm,0.4s								
MAKZ	**Makanchi**	**10.93**	**282**				**Pn**	**16 08 09.1**	**+0.5**
MAKZ	**Makanchi**	**10.93**	**282**	P			**Pn**	**16 08 09.1**	**+0.5**
HHC	**Hu-ho-hao-te**	**11.20**	**110**	*e*P			**Pn**	**16 08 13.8**	**+1.4**
HHC				pmax	pmax				
	comp=Z,19nm,0.7s								
HHC				pmax	pmax				
	comp=Z,120nm,4.4s								
HHC				LR	LR				
	comp=N,240nm,3.8s								
HHC				LR	LR				
	comp=E,250nm,4.4s								
HHC				LR	LR				
	comp=Z,200nm,4.6s								
ZAA0	**Zalesovo Array**	**11.81**	**320**	Pn			**Pn**	**16 08 18.9**	**-1.8**
ZALV	**Zalesovo Beam**	**11.81**	**320**	Pn			**Pn**	**16 08 22.1**	**+1.5**
ZALV	**Zalesovo Beam**	**11.81**	**320**	Pn			**Pn**	**16 08 21.2**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=128,slow=9.3,SNR=3.5								
ZALV				Lg			Lg	16 11 45.6	
	comp=Z,0.4nm,0.3s,baz=137,slow=22,SNR=6.0								
	comp=Z,0.6nm,0.5s								
KURK	**Kurchatov**	**13.70**	**299**				**Pn**	**16 08 44.6**	**-1.9**
KURK	**Kurchatov**	**13.70**	**299**	⇑*e*P			**Pn**	**16 08 45.1**	**-1.4**
KURK					pmax	pmax			
	comp=Z,5.0nm,0.8s								
KURBB	**Kurchatov Arra**	**13.74**	**299**	Pn			**Pn**	**16 08 46.3**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=101,slow=14,SNR=16								
KURBB				Lg			Lg	16 12 45.6	
	comp=Z,0.1nm,0.3s,baz=280,slow=12,SNR=6.9								
KURBB				LR	LR			16 14 19.4	
	comp=Z,236nm,20.3s,baz=176,slow=38								
	comp=Z,1.4nm,0.6s								
XAN	**Xi'an**	**14.36**	**139**	P			**Pn**	**16 09 00.3**	**+4.7**
XAN				pmax	pmax				
	comp=Z,6.0nm,1.0s								
XAN				LR	LR				
	comp=N,420nm,12.2s								
XAN				LR	LR				
	comp=E,270nm,11.9s								
XAN				LR	LR				
	comp=Z,300nm,12.2s								
TARG	**Taragay, Kyrgy**	**14.83**	**262**				Pn	16 08 59.1	-3.2
TARG	**Taragay, Kyrgy**	**14.83**	**262**	P			Pn	16 08 59.1	-3.2
BOD	**Bodaibo**	**15.93**	**33**	*e*P			**Pn**	**16 09 19.5**	**+3.3**
BOD				pmax	pmax				
	comp=Z,15nm,1.8s								
NRN	**Naryn**	**16.20**	**263**	P			**P**	**16 09 24.9**	**+1.5**
NRN	**Naryn**	**16.20**	**263**	P			**P**	**16 09 24.9**	**+1.5**
NRN				pmax	pmax				
	comp=Z,3.0nm,0.8s								
AAK	**Ala-Archa**	**16.85**	**268**				**Pn**	**16 09 29.1**	**+0.8**
AAK	**Ala-Archa**	**16.85**	**268**	⇑*e*P			**Pn**	**16 09 27.6**	**-0.6**
AAK				pmax	pmax				
	comp=Z,4.0nm,0.9s								
AAK	**Ala-Archa**	**16.85**	**268**	Pn			**Pn**	**16 09 28.1**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=80,slow=8.5,SNR=8.5								
AAK				Lg			Lg	16 14 26.6	
	comp=Z,0.1nm,0.3s,baz=302,slow=22,SNR=1.3								
	comp=Z,2.9nm,0.8s								
KSH	**Kashi**	**17.02**	**257**	P			**P**	**16 09 35.5**	**+3.3**
KSH				pP			sP	16 09 39.3	+2.0
KSH				pmax	pmax				
	comp=Z,5.0nm,1.3s								
BVAR	**Borovoye Array**	**19.21**	**303**	P			**P**	**16 09 56.9**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=105,slow=11,SNR=21								
BVAR				Lg			Lg	16 15 45.5	
	baz=102,slow=21								
BVAR				LR	LR			16 17 43.6	
	comp=Z,136nm,21.3s,baz=63,slow=38								
	comp=Z,3.6nm,0.6s								
PZH	**PanZhiHua**	**19.25**	**169**	P			**Pn**	**16 10 00.3**	**+2.5**
PZH				pmax	pmax				
	comp=Z,10.0nm,0.8s								
PZH				pmax	pmax				
	comp=Z,130nm,5.5s								
BRVK	**Borovoye**	**19.28**	**303**	P			**P**	**16 09 57.1**	**+0.2**
BRVK	**Borovoye**	**19.28**	**303**	⇑*e*P			**P**	**16 09 55.9**	**-1.0**
BRVK				pmax	pmax				
	comp=Z,3.0nm,0.9s								
KK31	**Karatay Array**	**19.51**	**273**	P			**P**	**16 09 58.3**	**-1.2**
KK31	**Karatay Array**	**19.51**	**273**	P			**P**	**16 09 58.3**	**-1.2**
KK31				pmax	pmax				
	comp=Z,5.0nm,0.9s								
KKAR	**Karatay Array**	**19.51**	**273**	P			**P**	**16 09 58.6**	**-0.9**
KKAR	**Karatay Array**	**19.51**	**273**	P			**P**	**16 09 58.6**	**-0.9**
KKAR				pmax	pmax				
	comp=Z,5.0nm,0.9s								
DRK	**Karamyk**	**19.92**	**262**	P			**P**	**16 10 05.0**	**+0.7**
DRK				IAmb	IAmb		IAmb	16 10 18.1	
	comp=Z,13nm,0.8s								
BTK	**Batken**	**20.36**	**264**	P			**P**	**16 10 09.0**	**+0.2**
BTK				IAmb	IAmb		IAmb	16 10 15.

NRIK	**Noril'sk**	**24.44**	**351**⇑	*e*P		**P**		**16 10 48.8**	**-1.9**
NRIK				pmax		pmax			
	comp=Z,7.0nm,0.8s								
NRIK	**Noril'sk**	**24.44**	**351**	P		**P**		**16 10 51.5**	**+0.7**
	comp=Z,3.3nm,0.7s,baz=145,slow=8.1,SNR=9.7								
	comp=Z,3.3nm,0.7s								
YAK	**Yakutsk**	**24.78**	**37**	*e*P		**P**		**16 10 54.6**	**+0.7**
YAK				pmax		pmax			
	comp=Z,6.0nm,0.9s								
YAK				pmax		pmax			
	comp=N,3.0nm,1.3s								
YAK				pmax		pmax			
	comp=E,2.0nm,1.0s								
YAK				MLR		MLR			
	comp=Z,92nm,11.0s								
YAK				MLR		MLR			
	comp=N,19nm,14.0s								
YAK				MLR		MLR			
	comp=E,68nm,13.0s								
SVE	**Sverdlovsk**	**25.48**	**310**	*e*P		**P**		**16 11 01.2**	**+0.9**
SVE				pmax		pmax			
	comp=Z,34nm,0.6s								
ABKAR	**Akbulak array**	**25.60**	**292**	P		**P**		**16 11 00.6**	**-0.9**
ABKAR	**Akbulak array**	**25.60**	**292**	P		**P**		**16 11 01.1**	**-0.4**
ABKAR				IAmb		IAmb		16 11 05.1	
	comp=Z,16nm,1.3s								
ARU	**Arti**	**26.55**	**308**	P		**P**		**16 11 10.0**	**0.0**
ARU				IAmb		IAmb		16 11 11.3	
	comp=Z,13nm,0.9s								
ARU	**Arti**	**26.55**	**308**	*d i* P		**P**		**16 11 10.3**	**+0.3**
ARU								16 11 49.4	
ARU				S		**S**		**16 15 47.3**	**+3.2**
ARU				SS		**SnSn**		**16 16 50.3**	**+4.6**
ARU				pmax		pmax			
	comp=Z,15nm,0.9s								
ARU	**Arti**	**26.55**	**308**	LR		LR		16 22 22.0	
	comp=Z,44nm,21.4s,baz=258,slow=38								
AKTO	**Aktyubinsk**	**26.73**	**295**	P		**P**		**16 11 11.6**	**-0.1**
	comp=Z,1.7nm,0.5s,baz=86,slow=9.2,SNR=4.6								
	comp=Z,1.7nm,0.5s								
CMAR	**Chiang Mai Arr**	**26.99**	**177**	P		**P**		**16 11 13.2**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=355,slow=10.0,SNR=2.6								
CMAR				LR		LR		16 22 42.5	
	comp=Z,51nm,19.0s,baz=20,slow=38								
	comp=Z,0.5nm,0.6s								
TIXI	**Tiksi**	**30.14**	**19**⇑	*e*P		**P**		**16 11 42.6**	**+0.8**
TIXI				pmax		pmax			
	comp=Z,2.0nm,0.9s								
GEYT	**Alibeck**	**30.19**	**270**	P		**P**		**16 11 42.9**	**+0.2**
GEYT				IAmb		IAmb		16 11 45.4	
	comp=Z,5.4nm,0.8s								
GEYT	**Alibeck**	**30.19**	**270**	P		**P**		**16 11 42.9**	**+0.2**
GEYT				pmax		pmax			
	comp=Z,5.0nm,0.9s								
GEYT	**Alibeck**	**30.19**	**270**	P		**P**		**16 11 43.8**	**+1.0**
	comp=Z,4.2nm,0.8s,baz=79,slow=7.7,SNR=8.2								
	comp=Z,4.2nm,0.8s								
KIRV	**Kirov**	**31.66**	**312**	*ce*P		**P**		**16 11 55.3**	**0.0**
KIRV	**Kirov**	**31.66**	**312**	LR		LR		16 26 01.4	
	comp=Z,106nm,18.3s,baz=66,slow=39								
MAK	**Makhachkala**	**35.52**	**284**	*e*P		P		16 12 24.3	-4.8
MAK				*e*S		**S**		**16 17 59.0**	**-5.4**
MAK				MLR		MLR			
	comp=Z,68nm,12.0s								
KLMR	**Klimovskoe**	**36.69**	**316**	*e*P		P		16 12 35.8	-3.1
KLMR				pmax		pmax			
	comp=Z,15nm,0.8s								
VRH	**Novokhopyorsk**	**36.80**	**300**	*e*P		**P**		**16 12 38.6**	**-1.3**
VRH				pmax		pmax			
	comp=Z,8.0nm,0.7s								
VORD	**Divnogorie**	**38.34**	**300**	*e*P		**P**		**16 12 51.3**	**-1.7**
VORD				pmax		pmax			
	comp=Z,10.0nm,0.6s								
VSR	**Storozhevoye**	**38.35**	**300**	*e*P		**P**		**16 12 51.3**	**-1.8**
VSR				pmax		pmax			
	comp=Z,10.0nm,0.6s								
PETK	**Petropavlovsk-**	**38.87**	**56**	LR		LR		16 30 26.2	
	comp=Z,51nm,18.1s,baz=196,slow=38								
OBN	**Obninsk**	**38.97**	**307**	*i* P		**P**		**16 12 58.3**	**+0.1**
OBN				pmax		pmax			
	comp=Z,4.0nm,0.5s								
OBN				MLR		MLR			
	comp=Z,64nm,15.0s								
BILL	**Bilibino**	**40.98**	**32**	*e*P		**P**		**16 13 13.9**	**-0.9**
BILL				pmax		pmax			
	comp=Z,10.0nm,2.5s								
ARA0	**ARCESS Array S**	**42.14**	**330**	*e*P		**P**		**16 13 24.1**	**-0.1**
ARCES	**ARCESS Array B**	**42.14**	**330**	P		**P**		**16 13 24.7**	**+0.4**
	comp=Z,3.0nm,0.5s,baz=77,slow=8.6,SNR=32								
	comp=Z,3.0nm,0.5s								
KTK1	**Kautokeino**	**42.99**	**329**	*e*P		**P**		**16 13 31.6**	**+0.4**
FINES	**FINESS Array B**	**43.07**	**318**	*i* P		**P**		**16 13 32.0**	**+0.1**
FINES				pmax		pmax			
	comp=Z,6.0nm,0.8s								
FINES	**FINESS Array B**	**43.07**	**318**	P		**P**		**16 13 31.9**	**+0.1**
	comp=Z,5.8nm,0.8s,baz=85,slow=8.2,SNR=23								
	comp=Z,5.8nm,0.8s								
JETT	**Jettan, Norway**	**43.92**	**330**	*e*P		**P**		**16 13 39.1**	**+0.4**
SPITS	**Spitsbergen Ar**	**44.13**	**343**	P		**P**		**16 13 41.7**	**+1.4**
	comp=Z,7.7nm,0.9s,baz=89,slow=7.8,SNR=1.9								
	comp=Z,7.7nm,0.9s								
AKASG	**Malin Array Be**	**44.49**	**302**	*i* P		**P**		**16 13 45.5**	**+2.1**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.5s								
AKASG	**Malin Array Be**	**44.49**	**302**	P		**P**		**16 13 43.3**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=58,slow=8.5,SNR=8.0								
	comp=Z,0.9nm,0.6s								
AKBB	**Malin Array Si**	**44.49**	**302**⇓	*e*P		**P**		**16 13 43.2**	**-0.2**
STEI	**Steigen**	**46.09**	**329**	*e*P		**P**		**16 13 56.3**	**+0.4**
FAUS	**Fauske**	**46.22**	**328**	*e*P		**P**		**16 13 56.9**	**0.0**
BR131	**Keskin Array S**	**46.32**	**287**	P		**P**		**16 13 56.4**	**-2.0**
BR131				IAmb		IAmb		16 14 00.0	
	comp=Z,3.3nm,0.9s								
BR131	**Keskin Array S**	**46.32**	**287**	P		**P**		**16 13 56.4**	**-2.0**
BR131				pmax		pmax			
	comp=Z,3.0nm,1.0s								
BRTR	**Keskin Array B**	**46.32**	**287**	*i* P		**P**		**16 13 59.2**	**+0.8**
BRTR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
BRTR	**Keskin Array B**	**46.32**	**287**	P		**P**		**16 13 58.9**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=79,slow=8.9,SNR=9.1								
BRTR				LR		LR		16 37 22.3	
	comp=Z,43nm,20.7s,baz=349,slow=41								
	comp=Z,1.7nm,0.7s								
LOF	**Lofoten**	**46.65**	**329**	*e*P		**P**		**16 14 00.3**	**0.0**
MOR8	**Moi Rana**	**46.87**	**326**	*e*P		**P**		**16 14 00.9**	**-1.2**
RAYN	**Ar Rayn**	**47.27**	**260**	P		**P**		**16 14 05.9**	**+0.1**
RAYN	**Ar Rayn**	**47.27**	**260**	P		**P**		**16 14 05.9**	**+0.1**
RAYN				pmax		pmax			
	comp=Z,10.0nm,1.2s								
NSS	**Namsos**	**48.38**	**325**	*e*P		**P**		**16 14 12.8**	**-1.0**
HFS	**Hagfors**	**49.25**	**319**	P		**P**		**16 14 20.2**	**-0.3**
	comp=Z,9.5nm,0.6s,baz=91,slow=5.9,SNR=33								
	comp=Z,9.5nm,0.6s								
NC602	**NORSAR Array S**	**49.99**	**320**	*e*P		**P**		**16 14 25.7**	**-0.5**
NB2	**NORSAR Subarra**	**50.02**	**321**	P		**P**		**16 14 25.5**	**-0.9**
	comp=Z,3.5nm,0.7s,baz=67,slow=7.9								
NB2	**NORSAR Subarra**	**50.02**	**321**	P		**P**		**16 14 25.5**	**-0.9**
	baz=67,slow=7.9								
NOA	**NORSAR Array B**	**50.02**	**321**	P		**P**		**16 14 25.8**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=67,slow=7.6,SNR=17								
NOA				LR		LR		16 34 49.3	
	comp=Z,21nm,18.5s,baz=255,slow=35								
	comp=Z,2.2nm,0.7s								
DOMB	**Dombas**	**50.55**	**322**	*e*P		**P**		**16 14 30.1**	**-0.4**
DEL	**Delary**	**50.66**	**314**	*i* P		**P**		**16 14 30.2**	**-1.0**
OSL	**Oslo**	**50.69**	**319**	*e*P		**P**		**16 14 30.5**	**-0.9**
ONAU	**Onsala**	**51.22**	**316**	*i* P		**P**		**16 14 34.6**	**-0.8**
AKN	**Aaknes**	**51.37**	**323**	*e*P		**P**		**16 14 36.9**	**+0.3**
VYHS	**Vyhne**	**51.54**	**304**	*e*P		**P**		**16 14 38.8**	**+0.7**
VYHS	**Vyhne**	**51.54**	**304**	*e*P		**P**		**16 14 38.8**	**+0.7**
DAG	**Danmarks Havn**	**51.67**	**345**	*i* P		P		16 14 35.0	-3.6
HOMB	**Homborsund**	**52.46**	**318**	*e*P		**P**		**16 14 44.1**	**-0.6**
B20K	**Meade River**	**52.84**	**25**	P		**P**		**16 14 48.3**	**+0.9**
B20K				IAmb		IAmb		16 15 00.0	
	comp=Z,4.1nm,0.9s								
CLL	**Collm**	**53.49**	**309**	*i* P		**P**		**16 14 52.2**	**-0.3**
CLL				pmax		pmax			
	comp=Z,5.0nm,0.6s								
CLL	**Collm**	**53.49**	**309**	*i* P		**P**		**16 14 52.2**	**-0.3**
	comp=Z,5.0nm,0.6s								
CLL				*e*(PP)				16 16 47.0	
B22K	**Teshekpuk Lake**	**53.73**	**23**	P		**P**		**16 14 55.6**	**+1.7**
B22K				IAmb		IAmb		16 15 06.8	
	comp=Z,6.1nm,0.9s								
C23K	**Itkillik River**	**54.80**	**23**	P		**P**		**16 15 00.8**	**-1.0**
C23K				IAmb		IAmb		16 15 14.7	
	comp=Z,3.8nm,0.8s								
ILAR	**Eielson Array**	**59.16**	**27**	P		**P**		**16 15 32.3**	**-0.4**
	comp=Z,0.7nm,1.0s,baz=298,slow=6.0,SNR=6.3								
	comp=Z,0.7nm,1.0s								
I30M	**Mount Dempster**	**61.94**	**23**	P		**P**		**16 15 51.0**	**-0.8**
BCAR	**Beaver Creek A**	**61.97**	**26**	P		**P**		**16 15 51.7**	**-0.3**
M29M	**Somme Creek**	**63.46**	**26**	P		**P**		**16 16 02.9**	**+0.9**
M29M				IAmb		IAmb		16 16 14.7	
	comp=Z,3.2nm,0.8s								
YKA	**Yellowknife Ar**	**69.30**	**15**	*i* P		**P**		**16 16 38.7**	**-0.5**
YKA				pmax		pmax			
	comp=Z,1.0nm,0.8s								
YKA	**Yellowknife Ar**	**69.30**	**15**	P		**P**		**16 16 38.3**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=333,slow=6.7,SNR=16								
	comp=Z,1.3nm,0.8s								
ESDC	**Sonseca Array**	**69.93**	**306**	P		**P**		**16 16 43.0**	**-0.6**
	comp=Z,2.8nm,1.2s,baz=42,slow=6.3,SNR=4.3								
	comp=Z,2.8nm,1.2s								
WRA	**Warramunga Arr**	**73.19**	**144**	P		**P**		**16 17 00.9**	**-2.3**
	comp=Z,1.3nm,0.6s,baz=339,slow=5.9,SNR=2.6								
	comp=Z,1.3nm,0.6s								
FCC	**Fort Churchill**	**75.65**	**6**	P		**P**		**16 17 15.9**	**-1.1**
FCC				IAmb		IAmb		16 17 16.6	
	comp=Z,3.6nm,0.9s								
FCC	**Fort Churchill**	**75.65**	**6**	P		**P**		**16 17 15.9**	**-1.1**
FCC				pmax		pmax			
	comp=Z,4.0nm,1.0s								
FFC	**Flin Flon**	**78.77**	**11**	P		**P**		**16 17 32.9**	**-1.9**
FFC				IAmb		IAmb		16 17 34.5	
	comp=Z,3.2nm,0.8s								
FFC	**Flin Flon**	**78.77**	**11**	*e*P		**P**		**16 17 32.8**	**-1.9**
ABPO	**Ambohimpanom**	**78.81**	**228**	*i* P		**P**		**16 17 34.3**	**-1.2**
ULM	**Lac du Bonnet**	**83.91**	**9**	P		**P**		**16 18 00.0**	**-2.0**
	comp=Z,1.5nm,0.8s,baz=319,slow=9.3,SNR=2.9								
	comp=Z,1.5nm,0.8s								
TORD	**Torodi Ar. Bea**	**84.83**	**283**	P		**P**		**16 18 05.7**	**-1.6**
	comp=Z,2.1nm,0.4s,baz=44,slow=6.4,SNR=2.8								
	comp=Z,0.3nm,0.4s								
PDAR	**Pinedale Array**	**88.84**	**20**	P		**P**		**16 18 25.6**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=355,slow=1.6,SNR=3.8								
	comp=Z,0.4nm,0.8s								
NVAR	**Mina Array Bea**	**90.42**	**27**	P		**P**		**16 18 34.8**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=330,slow=3.6,SNR=8.7								
	comp=Z,1.1nm,0.7s								
QSPA	**South Pole Qui**	**135.26**	**180**	PKP		**PKPdf**		**16 24 48.8**	**-2.0**
	comp=Z,1.9nm,0.9s,baz=241,slow=2.3,SNR=3.3								
LPAZ	**La Paz**	**148.51**	**333**	PKPbc		**PKPdf**		**16 25 16.8**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=26,slow=8.1,SNR=6.7								
CPUP	**Villa Florida**	**152.29**	**305**	PKPbc		**PKPdf**		**16 25 25.4**	**+3.9**
	comp=Z,3.9nm,0.7s,baz=37,slow=2.2,SNR=12								

*IDC **30** 16:10:43.7±1.6,8.72S×116.90E,h115km±13km,mb3.8/17, mbtmp4.2/19,MS2.9/2,Error ellipse: s-maj=15.5km s-min=8.5km az=48.0*
*DJA **30** 16:10:44.0±0.2,9.3S×117.7E±*,h103km±5km,M4.6/25, mB5.0/9,mb4.8/18,MLv4.9/25,Mw(mB)4.4/9*
*NEIC **30** 16:10:45.4±2.8,8.89S±0.08×116.80E±0.07,h127km±7km, mb4.6/25,Error ellipse: s-maj=10.9km s-min=10.5km az=158.0*

ISC 30 16:10:44.4±0.5,8.94S±0.05×116.85E±0.05,h119km±4km, n128,σ1s53/139,mb4.4/28,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWSI	**Taliwang, Sumb**	**0.20**	**10**	P	**Pn**	**16 10 59.5**	**-1.4**
PLAI	**Plampang**	**0.92**	**83**	P	**Pn**	**16 11 05.0**	**-0.6**
PLAI	**Plampang**	**0.92**	**83**	P	**Pn**	**16 11 05.0**	**-0.6**
DNP	**Denpasar**	**1.64**	**279**	P	**Pn**	**16 11 14.3**	**+0.9**
DNP				S	**Sn**	**16 11 35.7**	**+0.2**
SRBI	**Singaraja**	**1.82**	**297**	P	**Pn**	**16 11 15.1**	**-0.5**
SRBI				S	**Sn**	**16 11 38.5**	**-1.0**
JAGI	**Jajag, Banyuwa**	**2.71**	**280**	P	**Pn**	**16 11 26.2**	**-0.7**
JAGI	**Jajag, Banyuwa**	**2.71**	**280**	Pn	**Pn**	**16 11 26.1**	**-0.7**
JAGI				Sn	**Sn**	**16 11 57.6**	**-1.9**
JAGI	**Jajag, Banyuwa**	**2.71**	**280**	P	**Pn**	**16 11 26.1**	**-0.7**
ABJI	**Asem Bagus**	**2.82**	**293**	P	**Pn**	**16 11 29.0**	**+0.7**
BLJI	**Banyuglugur**	**3.43**	**290**	P	**Pn**	**16 11 36.7**	**+0.4**
BALI	**Baing, Sumba**	**3.89**	**109**	P	**Pn**	**16 11 41.8**	**-0.7**
GRJI	**Gresik**	**4.77**	**295**	P	**Pn**	**16 11 55.7**	**+1.4**
EDFI	**Ende, Flores**	**4.79**	**88**	P	**Pn**	**16 11 54.6**	**0.0**
BKSI	**Bulukumba**	**4.84**	**42**	P	**Pn**	**16 11 55.8**	**+0.6**
KAPI	**Kappang**	**4.84**	**37**	P	**Pn**	**16 11 56.3**	**+1.0**
KAPI	**Kappang**	**4.84**	**37**	Pn	**Pn**	**16 11 56.2**	**+0.9**
PWJI	**Pagerwojo**	**5.07**	**280**	P	**Pn**	**16 11 57.3**	**-1.0**
	168nm,0.6s,4μm1.5nm						
BWJI	**Bawean**	**5.16**	**306**	P	**Pn**	**16 12 01.3**	**+1.7**
	272nm,0.4s,1.8nm						
MMRI	**Maumere**	**5.33**	**87**	P	**Pn**	**16 12 01.4**	**-0.5**
MMRI	**Maumere**	**5.33**	**87**	Pn	**Pn**	**16 12 01.2**	**-0.7**
MMRI	**Maumere**	**5.33**	**87**	P	**Pn**	**16 12 01.1**	**-0.8**
	172nm,0.8s,3μm1.0nm						
NGJI	**Ngawi**	**5.56**	**286**	P	**Pn**	**16 12 05.4**	**+0.6**
	142nm,0.9s,0.8nm						
UGM	**Wanagama**	**6.34**	**279**	P	**Pn**	**16 12 14.8**	**-0.7**
UGM	**Wanagama**	**6.34**	**279**	Pn	**Pn**	**16 12 14.8**	**-0.7**
UGM	**Wanagama**	**6.34**	**279**	P	**Pn**	**16 12 14.4**	**-1.1**
	243nm,1.2s,1.2nm						
TTSI	**Tana Toraja**	**6.55**	**27**	P	**Pn**	**16 12 21.1**	**+2.7**
	104nm,0.9s,1μm0.4nm						
YOGI	**Yogyakarta**	**6.58**	**279**	P	**Pn**	**16 12 19.6**	**+0.9**
	116nm,1.4s,0.9nm						
SMRI	**Semarang**	**6.62**	**286**	P	**Pn**	**16 12 20.6**	**+1.4**
	161nm,1.0s,0.7nm						
BBSI	**Bau Bau**	**6.63**	**59**	P	**Pn**	**16 12 21.2**	**+1.8**
	33nm,0.9s,0.1nm						
BATI	**Baumata**	**6.84**	**101**	P	**Pn**	**16 12 21.4**	**-0.8**
	27nm,0.4s,baz=271,slow=4.3,SNR=20						
BATI				S	**Sn**	**16 13 38.5**	**-0.2**
	56nm,0.5s,baz=38,slow=21,SNR=5.5						
BATI				LR	LR	16 15 23.0	
	comp=Z,73nm,18.5s,baz=166,slow=41						
BATI	**Baumata**	**6.84**	**101**	P	**Pn**	**16 12 21.8**	**-0.4**
	46nm,0.5s,964nm0.3nm						
SOEI	**Soe**	**7.37**	**97**	P	**Pn**	**16 12 28.2**	**-1.2**
SOEI	**Soe**	**7.37**	**97**	Pn	**Pn**	**16 12 28.2**	**-1.2**
SOEI	**Soe**	**7.37**	**97**	P	**Pn**	**16 12 28.7**	**-0.7**
	64nm,0.9s,981nm0.5nm						
KPJI	**Karang Pucung**	**8.00**	**281**	P	**Pn**	**16 12 37.7**	**-0.2**
	75nm,0.5s						
CMJI	**Cimerak**	**8.39**	**277**	P	**Pn**	**16 12 41.3**	**-1.9**
	68nm,0.7s						
BBJI	**Bungbulang**	**9.22**	**278**	P	**Pn**	**16 12 52.7**	**-1.8**
LEM	**Lembang**	**9.38**	**282**	P	**Pn**	**16 12 55.1**	**-1.6**
	12nm,0.4s,baz=332,slow=23,SNR=3.9						
LEM				S	**Sn**	**16 14 41.1**	**+0.5**
	15nm,0.6s,baz=322,slow=23,SNR=1.5						
LEM				LR	LR	16 17 11.6	
	comp=Z,71nm,20.1s,baz=14,slow=41						
TOLI2	**Tolitoli**	**10.72**	**22**	P	Pn	16 13 19.8	+5.1
XMI	**Christmas Isla**	**11.10**	**261**	P	**Pn**	**16 13 18.1**	**-1.7**
SANI	**Sanana**	**11.38**	**54**	P	**Pn**	**16 13 27.8**	**-4.7**
SANI	**Sanana**	**11.38**	**54**	P	**Pn**	**16 13 26.4**	**+2.9**
	20nm,0.7s						
MBWA	**Marble Bar**	**12.47**	**167**	P	**Pn**	**16 13 34.5**	**-3.3**
MBWA	**Marble Bar**	**12.47**	**167**	Pn	**Pn**	**16 13 34.3**	**-3.4**
FITZ	**Fitzroy Crossi**	**12.49**	**138**	Pn	**Pn**	**16 13 35.3**	**-2.8**
PSA00	**Pilbara Seismi**	**12.89**	**167**	P	**Pn**	**16 13 40.7**	**-2.6**
PSA00	**Pilbara Seismi**	**12.89**	**167**	Pn	**Pn**	**16 13 39.6**	**-3.7**
PSA00	**Pilbara Seismi**	**12.89**	**167**	Pn	**Pn**	**16 13 41.6**	**-1.7**
KNRA	**Kununurra**	**13.43**	**121**	P	**Pn**	**16 13 49.2**	**-1.1**
KNRA	**Kununurra**	**13.43**	**121**	Pn	**Pn**	**16 13 48.9**	**-1.4**
GIRL	**Giralia**	**13.86**	**190**	P	**Pn**	**16 13 54.8**	**-1.0**
GIRL	**Giralia**	**13.86**	**190**	Pn	**Pn**	**16 13 54.9**	**-1.0**
DRS	**Darwin Rock St**	**14.24**	**105**	P	**Pn**	**16 14 01.1**	**+0.4**
MTN	**Manton Dam**	**14.55**	**107**	Pn	**Pn**	**16 14 02.7**	**-2.1**
KKM	**Kota Kinabalu**	**14.89**	**358**	P	**P**	**16 14 13.4**	**+1.6**
KKM	**Kota Kinabalu**	**14.89**	**358**		**Pn**	**16 14 07.1**	**-2.0**
KDU	**Kakadu**	**15.79**	**105**	P	**P**	**16 14 21.8**	**+0.1**
MEEK	**Meekatharra**	**17.69**	**175**	P	**Pn**	**16 14 44.3**	**+1.0**
WRKA	**Warakurna**	**19.38**	**147**	P	**Pn**	**16 15 03.1**	**-0.2**
MORW	**Morawa**	**20.04**	**182**	P	**P**	**16 15 08.9**	**+0.8**
MORW	**Morawa**	**20.04**	**182**		Pn	16 15 10.4	-0.7
MORW				IAmb	IAmb	16 15 54.8	
	comp=Z,28nm,1.4s						
WB0	**Warramunga Arr**	**20.10**	**124**	P	**P**	**16 15 09.7**	**+0.8**
WB0				IAmb	IAmb	16 15 10.1	
	comp=Z,7.4nm,0.5s						
WRA	**Warramunga Arr**	**20.14**	**125**	P	**P**	**16 15 09.8**	**+0.4**
WRA	**Warramunga Arr**	**20.14**	**125**	P	**P**	**16 15 10.2**	**+0.8**
	comp=Z,2.6nm,0.3s,baz=302,slow=12,SNR=157						
WRA				S	**S**	**16 18 48.6**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=295,slow=24,SNR=4.6						
WRA				ScP	**ScP**	**16 22 45.4**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=311,slow=2.0,SNR=5.4						
	comp=Z,2.6nm,0.3s						
WB2	**Warramunga Arr**	**20.15**	**125**	P	**P**	**16 15 10.3**	**+0.8**
WR0	**Warramunga Arr**	**20.31**	**125**	P	**P**	**16 15 12.1**	**+0.9**
WR0				IAmb	IAmb	16 15 14.4	
	comp=Z,8.2nm,0.6s						
BLDU	**Ballidu**	**21.57**	**180**	P	**P**	**16 15 25.7**	**+1.2**
AS31	**Alice Springs**	**21.93**	**134**	P	**P**	**16 15 29.2**	**+0.8**
ASAR	**Alice Springs**	**21.93**	**134**	P	**P**	**16 15 29.6**	**+1.2**
ASAR	**Alice Springs**	**21.93**	**134**	P	**P**	**16 15 29.4**	**+0.9**
	comp=Z,2.2nm,0.5s,baz=308,slow=8.9,SNR=82						
ASAR				S	**S**	**16 19 26.2**	**+3.0**
	comp=Z,0.6nm,0.6s,baz=306,slow=22,SNR=3.0						
ASAR				ScP	**ScP**	**16 22 49.8**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=314,slow=1.6,SNR=7.7						
	comp=Z,2.2nm,0.5s						
AS01	**Alice Springs**	**21.96**	**134**	P	**P**	**16 15 29.8**	**+1.0**
KLBR	**Kellerberrin**	**22.56**	**178**	P	**P**	**16 15 35.7**	**+1.0**
KMBL	**Kambalda**	**22.81**	**169**	P	**P**	**16 15 37.8**	**+0.6**
NWAO	**Narrogin (SRO)**	**23.88**	**179**	P	**P**	**16 15 48.3**	**+1.3**
NWAO	**Narrogin (SRO)**	**23.88**	**179**	P	**P**	**16 15 48.4**	**+1.3**
NWAO				IAmb	IAmb	16 16 01.3	
	comp=Z,34nm,1.2s						
FORT	**Forrest**	**24.12**	**156**	P	**P**	**16 15 51.3**	**+2.1**
FORT	**Forrest**	**24.12**	**156**	P	**P**	**16 15 50.1**	**+0.9**
FORT				IAmb	IAmb	16 16 24.2	
	comp=Z,18nm,0.7s						
QIS	**Mount Isa**	**24.82**	**120**	P	**P**	**16 15 58.2**	**+2.5**
OOD	**Oodnadatta**	**25.84**	**139**	P	**P**	**16 16 06.2**	**+1.3**
COEN	**Coen**	**26.27**	**103**	P	**P**	**16 16 09.9**	**+1.0**
MULG	**Mulgathing**	**26.64**	**145**	P	**P**	**16 16 13.3**	**+1.2**
MTSU	**Mount Surprise**	**26.19**	**112**	P	**P**	**16 16 27.9**	**+1.8**
LCRK	**Leigh Creek**	**29.26**	**140**	P	**P**	**16 16 37.2**	**+1.8**
BBOO	**Buckleboo**	**29.67**	**146**	P	**P**	**16 16 40.9**	**+2.0**
BBOO	**Buckleboo**	**29.67**	**146**	P	**P**	**16 16 39.3**	**+0.3**
BBOO				IAmb	IAmb	16 17 23.7	
	comp=Z,11nm,1.1s						
HTT	**Hallett**	**31.76**	**143**	P	**P**	**16 16 59.8**	**+2.4**
STKA	**Stephens Creek**	**32.38**	**138**	P	**P**	**16 17 03.4**	**+0.6**
STKA	**Stephens Creek**	**32.38**	**138**	P	**P**	**16 17 04.3**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=301,slow=7.6,SNR=4.1						
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**32.45**	**327**	ScP	**ScP**	**16 23 20.2**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=174,slow=2.9,SNR=8.7						
YHNB	**Yeheng**	**33.69**	**7**	P	**P**	**16 17 13.4**	**-0.9**
ARPS	**Mount Arapiles**	**35.80**	**145**	P	**P**	**16 17 34.3**	**+2.0**
PZH	**PanZhiHua**	**38.16**	**338**	P	**P**	**16 17 55.0**	**+2.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,80nm,5.7s						
YNG	**Young**	**38.41**	**136**	P	**P**	**16 17 57.0**	**+2.6**
NJ2	**Nanjing**	**40.80**	**3**	*e*P	**P**	**16 18 16.0**	**+1.9**
NJ2				pP	**pP**	**16 18 40.5**	**-0.4**
NJ2				sP	**sP**	**16 18 55.3**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s			

OK029	**Liberty Lake**	**0.67**	**51**		Pg		16 25 08.1	-0.3
OK029				Sg	Sg		16 25 17.2	+0.1
OK029				IAML			16 25 17.9	
	146nm,0.3s							
OK029				IAML			16 25 23.7	
	176nm,0.5s							
WMOK	**Wichita Mounta**	**0.85**	**222**	Pg	Pg		16 25 11.7	-0.2
WMOK				Sg	Sg		16 25 22.2	-0.7
W35A	**Tecumseh**	**1.02**	**102**		Pg		16 25 14.3	-0.9
W35A				IAML			16 25 37.6	
	comp=E,100nm,0.4s							
W35A				IAML			16 25 39.0	
	comp=N,81nm,0.3s							
CROK	**Carrier**	**1.13**	**5**	Pg	Pg		16 25 16.2	-0.9
OK033	**Mehan**	**1.15**	**54**	Pg	Pg		16 25 16.9	-0.7
OK038	**West end E0370**	**1.22**	**335**	Pg	Pg		16 25 17.7	-1.1
OK052	**Battle Ridge R**	**1.22**	**59**		Pb		16 25 17.4	-1.5
U32A	**Winter Ranch,**	**1.24**	**324**		Pb		16 25 18.2	-1.1
U32A				IAML			16 25 39.9	
	comp=N,122nm,0.4s							
U32A				IAML			16 25 40.1	
	comp=E,142nm,0.3s							
QUOK	**Quay**	**1.38**	**55**		Pn		16 25 20.3	-0.9
DEOK	**Depew**	**1.38**	**70**		Pn		16 25 20.2	-1.0
OK048	**Pawnee Station**	**1.40**	**42**		Pn		16 25 20.6	-0.8
OK032	**Salt Plains WL**	**1.43**	**356**		Pn		16 25 20.9	-0.9
GC02	**Grant County #**	**1.48**	**7**		Pn		16 25 21.7	-0.9
BLOK	**Blackwell**	**1.55**	**27**		Pn		16 25 23.9	+0.3
KAN17	**Caldwell West**	**1.68**	**9**		Pn		16 25 25.3	0.0
KAN13	**South Haven SW**	**1.71**	**17**		Pn		16 25 26.2	+0.5
KAN10	**Anthony SW Sta**	**1.74**	**0**		Pn		16 25 26.9	+0.7
SMWD	**Samnorwood**	**1.78**	**262**		Pn		16 25 27.0	+0.3
KAN09	**Caldwell North**	**1.80**	**12**	Pn	Pn		16 25 25.9	-1.0
TUL3	**Leonard**	**1.95**	**74**	Pn	Pn		16 25 30.0	+1.0
TUL3				IAmb_Lg			16 26 00.1	
	comp=Z,12nm,0.7s							
FW03	**Perrin-Whitt E**	**2.33**	**179**	IAmb_Lg			16 26 13.4	
	comp=Z,13nm,0.7s							
X37A	**Clayton**	**2.37**	**109**	Pn	Pn		16 25 34.5	-0.3
X37A				IAmb_Lg			16 26 16.1	
	comp=Z,24nm,0.7s							
PLPT	**Palo Pinto**	**2.57**	**184**	Pn	Pn		16 25 35.9	-1.5
RLO	**Rose Lookout**	**2.62**	**72**		Pn		16 25 37.5	-0.7
APMT	**Aspermont**	**2.65**	**220**	Pn	Pn		16 25 37.0	-1.6
AMTX	**Amarillo**	**2.98**	**261**	IAmb_Lg			16 26 37.6	
	comp=Z,6.4nm,0.7s							
U38A	**Gravette**	**3.19**	**70**	IAmb_Lg			16 26 41.4	
	comp=Z,11nm,0.9s							
Z38A	**Mt. Pleasant**	**3.33**	**128**	IAmb_Lg			16 26 42.9	
	comp=Z,16nm,0.8s							
CBKS	**Cedar Bluff**	**3.67**	**340**	IAmb_Lg			16 26 57.5	
	comp=Z,12nm,0.8s							
MIAR	**Mount Ida**	**3.80**	**101**	IAmb_Lg			16 27 03.0	
	comp=Z,7.1nm,0.8s							
KSU1	**Kansas State U**	**3.90**	**17**	IAmb_Lg			16 27 07.8	
	comp=Z,12nm,1.0s							
WLAR	**White Oak Lake**	**4.45**	**111**	IAmb_Lg			16 27 15.3	
	comp=Z,14nm,0.9s							
MGMO	**Mountain Grove**	**5.03**	**68**	IAmb_Lg			16 27 40.6	
	comp=Z,9.4nm,0.7s							
R40A	**Maddies Statio**	**5.50**	**56**	IAmb_Lg			16 27 59.7	
	comp=Z,10nm,1.2s							
P38A	**Dawn**	**5.58**	**39**	IAmb_Lg			16 27 54.8	
	comp=Z,6.2nm,0.8s							
CCM	**Cathedral Cave**	**6.12**	**62**	IAmb_Lg			16 28 16.2	
	comp=Z,7.2nm,0.8s							

GUC 30 16:26:15.8±0.6, 24°.18S×67°.47W, h220km±9km, ML3.6, 3C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.05**	**320**	*i* P	Pn	16 26 56.0	-0.8
LVC				*i* S	S	16 27 27.2	-1.3
LVC				IAML		16 27 30.3	
	302nm,0.4s						
PB15	**IPOC Station P**	**2.07**	**298** ⇑	*i* P	Pn	16 26 56.7	-0.1
PB15				*i* S	S	16 27 27.7	-0.9
PB06	**IPOC Station P**	**2.43**	**307** ⇑	*i* P	Pn	16 27 00.4	0.0
PB06				*i* S	S	16 27 34.3	-0.7
PB06				IAML		16 27 37.3	
	comp=N,185nm,0.1s						
PB05	**IPOC Station P**	**2.83**	**297**	*i* P	Pn	16 27 05.0	+0.2
PB05				*i* S	S	16 27 41.9	-1.1
PB05				IAML		16 27 46.1	
	comp=N,57nm,0.2s						
PB09	**IPOC Station P**	**2.88**	**325**	*i* P	Pn	16 27 06.0	+0.6
PB09				*i* S	S	16 27 44.2	+0.2
PB09				IAML		16 27 46.0	
	comp=N,67nm,0.8s						
PB10	**IPOC Station P**	**2.90**	**283**	*i* P	Pn	16 27 05.8	+0.4
PB10				*i* S	S	16 27 42.9	-1.1
PB10				IAML		16 27 48.0	
	comp=N,46nm,0.2s						
PB04	**IPOC Station P**	**3.08**	**306**	*e*P	Pn	16 27 07.9	+0.3
PB04				*e*S	S	16 27 47.4	-0.5
PB07	**IPOC Station P**	**3.31**	**317** ⇑	*i* P	Pn	16 27 10.4	+0.2
PB07				*i* S	S	16 27 51.1	-1.7
PB02	**IPOC Station P**	**3.62**	**321**	*e*P	Pn	16 27 14.3	+0.3
PB02				*e*S	S	16 27 58.0	-1.5
PB01	**IPOC Station P**	**3.64**	**329**	*i* P	Pn	16 27 14.0	-0.2
PB01				*i* S	S	16 27 58.4	-1.3
PB08	**IPOC Station P**	**4.32**	**339**	*e*P	Pn	16 27 23.2	+0.6
PB08				*e*S	S	16 28 14.3	-0.7

*TIR **30** 16:42:26.4, 39°.86N×20°.70E, h0km±2km, Md2.9, Ml2.7*
*THE **30** 16:42:28.9, 39°.95N×20°.59E, h4km±1km, ML2.3/8, Error ellipse: s-maj=1.4km s-min=0.5km az=340.0*
*ATH **30** 16:42:29.2, 39°.95N×20°.62E, h5km±1km, ML2.5/16, Error ellipse: s-maj=1.6km s-min=0.8km az=325.0*

ISC 30 16:42:29.0±1.0, 39°.93N±0°.02×20°.61E±0°.02, h5km±10km, n60, σ0s65/77, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	**Leskovik**	**0.22**	**357**	P	**Pg**	**16 42 32.7**	**-0.6**
	baz=346						
LSK				S	**Sg**	**16 42 36.4**	**+0.2**
	baz=346						
LSK				AMP			
	comp=N,7.3nm,0.5s,baz=346						
JAN	**Janina**	**0.33**	**146**	P	**Pg**	**16 42 35.8**	**+0.5**
JAN				S	**Sg**	**16 42 40.8**	**+1.1**
	comp=N,4μm,0.3s						
JAN	**Janina**	**0.33**	**146**	P	**Pg**	**16 42 35.8**	**+0.5**
JAN				S	**Sg**	**16 42 40.8**	**+1.1**
JAN				AML	AML	16 42 42.7	
	comp=E,8835μm,0.3s						
JAN				AML	AML	16 42 42.7	
	comp=N,8945μm,0.4s						
IGT	**Igoumenitsa**	**0.45**	**209**	P	**Pg**	**16 42 36.1**	**-1.6**
	baz=221						
IGT				S	**Sg**	**16 42 42.8**	**-0.8**
	baz=221						
IGT	**Igoumenitsa**	**0.45**	**209**	P	**Pg**	**16 42 36.3**	**-1.4**
IGT				S	**Sg**	**16 42 43.9**	**+0.3**
	comp=N,598nm,0.6s						
IGT	**Igoumenitsa**	**0.45**	**209**	P	**Pg**	**16 42 36.3**	**-1.4**
IGT				S	**Sg**	**16 42 44.4**	**+0.8**
IGT				AML	AML	16 42 46.6	
	comp=N,1632μm,0.5s						
IGT				AML	AML	16 42 48.1	
	comp=E,780μm,0.4s						
SRN	**Sarande**	**0.47**	**264**	P	**Pg**	**16 42 38.3**	**+0.2**
	baz=272						
SRN				S	**Sb**	**16 42 46.8**	**-0.3**
	baz=272						
SRN				AMP			
	comp=N,1.8nm,0.4s,baz=272						
SRN	**Sarande**	**0.47**	**264**	P	**Pg**	**16 42 37.9**	**-0.2**
SRN				S	**Sg**	**16 42 44.9**	**+0.6**
	comp=N,350nm,0.5s						
PENT	**Pentalofos**	**0.48**	**56**	P	**Pg**	**16 42 38.0**	**-0.3**
PENT	**Pentalofos**	**0.48**	**56**	P	**Pg**	**16 42 38.0**	**-0.3**
KASA	**Kassiopi**	**0.55**	**251**	P	**Pg**	**16 42 39.6**	**0.0**
KASA				S	**Sg**	**16 42 47.5**	**+0.7**
KASA				AML	AML	16 42 50.1	
	comp=N,610μm,0.5s						
KASA				AML	AML	16 42 51.5	
	comp=E,724μm,0.7s						
KPRO	**Kipourio**	**0.58**	**87**	P	**Pg**	**16 42 39.7**	**-0.4**
KPRO				S	**Sb**	**16 42 48.9**	**-1.2**
	comp=E,720nm,0.4s						
KPRO	**Kipourio**	**0.58**	**87**	P	**Pg**	**16 42 39.7**	**-0.4**
KPRO				AML	AML	16 42 50.3	
	comp=E,1313μm,0.4s						
KPRO				AML	AML	16 42 53.8	
	comp=N,1554μm,0.3s						
NEST	**Nestorio**	**0.59**	**34**	P	**Pg**	**16 42 39.7**	**-0.6**
NEST				S	**Sg**	**16 42 48.0**	**+0.1**
	comp=N,228nm,0.6s						
NEST	**Nestorio**	**0.59**	**34**	P	**Pg**	**16 42 39.7**	**-0.6**
NEST				S	**Sg**	**16 42 48.0**	**+0.1**
NEST				AML	AML	16 42 50.2	
	comp=N,583μm,0.6s						
NEST				AML	AML	16 42 50.6	
	comp=E,562μm,0.7s						
FNA	**Florina**	**1.03**	**34**	P	**Pb**	**16 42 49.4**	**0.0**
	baz=29						
FNA				S	**Sb**	**16 43 04.0**	**+0.7**
	baz=29						
FNA	**Florina**	**1.03**	**34**	P	**Pg**	**16 42 48.0**	**-0.8**
FNA				S	**Sb**	**16 43 03.9**	**+0.7**
	comp=E,140nm,0.6s						
FNA	**Florina**	**1.03**	**34**	P	**Pg**	**16 42 48.0**	**-0.8**
FNA				AML	AML	16 43 14.3	
	comp=E,290μm,0.7s						
FNA				AML	AML	16 43 15.2	
	comp=N,266μm,0.5s						
TSLK	**Tsoukalades, L**	**1.10**	**178**	P	**Pg**	**16 42 50.6**	**+0.4**
TSLK				S	**Sb**	**16 43 06.2**	**+0.9**
	comp=N,218nm,0.6s						
TSLK	**Tsoukalades, L**	**1.10**	**178**	P	**Pg**	**16 42 50.6**	**+0.4**
THL	**Klokotos Trika**	**1.14**	**108**	P	**Pg**	**16 42 50.7**	**-0.1**
THL				S	**Sn**	**16 43 08.0**	**+0.4**
	comp=N,82nm,0.6s						
THL	**Klokotos Trika**	**1.14**	**108**	P	**Pg**	**16 42 50.7**	**-0.1**
THL				S	**Sg**	**16 43 05.7**	**+0.1**
THL				AML	AML	16 43 07.2	
	comp=N,106μm,0.6s						
THL				AML	AML	16 43 09.8	
	comp=E,209μm,0.6s						
LKD2	**Lefkada island**	**1.14**	**178**	P	**Pg**	**16 42 51.0**	**+0.2**
LKD2	**Lefkada island**	**1.14**	**178**	P	**Pg**	**16 42 51.0**	**+0.2**
LKD2				AML	AML	16 43 14.3	
	comp=N,612μm,0.6s						
LKD2				AML	AML	16 43 15.2	
	comp=E,354μm,0.6s						
OHR	**Ohrid**	**1.19**	**7**	*i* Pn	**Pn**	**16 42 53.8**	**+1.5**
NYDR	**Nydri-Lefkada**	**1.22**	**177**	P	**Pg**	**16 42 52.0**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.22**	**177**	P	**Pg**	**16 42 52.0**	**-0.3**
DRAG	**Dragano-Lefkad**	**1.25**	**181**	P	**Pg**	**16 42 52.4**	**-0.4**
DRAG	**Dragano-Lefkad**	**1.25**	**181**	P	**Pg**	**16 42 52.4**	**-0.4**
EVGI	**Lefkada island**	**1.31**	**179**	P	**Pn**	**16 42 53.5**	**-0.4**
EVGI	**Lefkada island**	**1.31**	**179**	P	**Pn**	**16 42 53.5**	**-0.4**
EVR	**Evrytania**	**1.37**	**137**	P	**Pn**	**16 42 54.1**	**-0.8**
EVR	**Evrytania**	**1.37**	**137**	P	**Pn**	**16 42 54.1**	**-0.8**
EVR				AML	AML	16 43 24.9	
	comp=N,294μm,0.5s						
EVR				AML	AML	16 43 25.9	
	comp=E,269μm,0.5s						
MAKR	**Makrakomi, Fth**	**1.49**	**127**	P	**Pn**	**16 42 55.3**	**-1.1**
MAKR	**Makrakomi, Fth**	**1.49**	**127**	P	**Pn**	**16 42 55.3**	**-1.1**
MAKR				AML	AML	16 43 25.7	
	comp=E,689μm,0.5s						
MAKR				AML	AML	16 43 27.0	
	comp=N,670μm,0.4s						
PVO	**Paravola**	**1.49**	**151**	P	**Pn**	**16 42 56.2**	**-0.2**
PVO	**Paravola**	**1.49**	**151**	P	**Pn**	**16 42 56.3**	**-0.2**
AGG	**Agios Georgios**	**1.61**	**124**	P	**Pn**	**16 42 57.5**	**-0.6**
AGG	**Agios Georgios**	**1.61**	**124**	P	**Pn**	**16 42 57.5**	**-0.6**
AGG				AML	AML	16 43 25.7	
	comp=E,288μm,0.5s						
AGG				AML	AML	16 43 26.2	
	comp=N,332μm,0.4s						
ANX	**Ano Chora**	**1.68**	**142**	P	**Pn**	**16 42 58.5**	**-0.6**
ANX	**Ano Chora**	**1.68**	**142**	P	**Pn**	**16 42 58.5**	**-0.6**
ANX				AML	AML	16 43 31.1	
	comp=E,332μm,0.6s						
ANX				AML	AML	16 43 32.3	
	comp=N,444μm,0.6s						
DMLN	**Damoulianata-K**	**1.70**	**186**	P	**Pn**	**16 42 58.9**	**-0.4**
DMLN	**Damoulianata-K**	**1.70**	**186**	P	**Pn**	**16 42 58.9**	**-0.4**
GRG	**Griva**	**1.71**	**53**	P	**Pn**	**16 42 59.3**	**-0.1**
GRG	**Griva**	**1.71**	**53**	P	**Pn**	**16 42 59.3**	**-0.1**
GRG				AML	AML	16 43 30.0	
	comp=E,48μm,0.4s						
GRG				AML	AML	16 43 32.9	
	comp=N,65μm,0.5s						
VLS	**Valsamata**	**1.75**	**181**	P	**Pn**	**16 42 59.9**	**-0.1**
VLS	**Valsamata**	**1.75**	**181**	P	**Pn**	**16 42 59.9**	**-0.1**
VLS				AML	AML	16 43 27.1	
	comp=N,178μm,0.5s						
VLS				AML	AML	16 43 27.4	
	comp=E,164μm,0.5s						
EFP	**Efpalio**	**1.81**	**146**	P	**Pn**	**16 43 00.3**	**-0.5**
EFP	**Efpalio**	**1.81**	**146**	P	**Pn**	**16 43 00.3**	**-0.5**
EFP				AML	AML	16 43 39.0	
	comp=E,270μm,0.8s						
EFP				AML	AML	16 43 39.5	
	comp=N,251μm,0.8s						
HORT	**Hortiatis**	**2.02**	**70**	P	**Pn**	**16 43 03.4**	**-0.3**
HORT	**Hortiatis**	**2.02**	**70**	P	**Pn**	**16 43 03.4**	**-0.3**
STIP	**Stip**	**2.13**	**34**	*i* Pn	**Pg**	**16 43 10.3**	**+0.5**
KNT	**Kendrikon**	**2.13**	**54**	P	**Pn**	**16 43 04.2**	**-1.0**
KNT	**Kendrikon**	**2.13**	**54**	P	**Pn**	**16 43 04.2**	**-1.0**
DRO	**Drossia**	**2.15**	**156**	P	**Pn**	**16 43 05.5**	**-0.1**
DRO	**Drossia**	**2.15**	**156**	P	**Pn**	**16 43 05.5**	**-0.1**
KLV	**Kalavryta, Ach**	**2.23**	**147**	P	**Pn**	**16 43 06.4**	**-0.3**
KLV	**Kalavryta, Ach**	**2.23**	**147**	P	**Pn**	**16 43 06.4**	**-0.3**
KLV				AML	AML	16 43 47.3	
	comp=E,89μm,1.1s						
KLV				AML	AML	16 43 47.9	
	comp=N,72μm,0.6s						
GUR	**Goura**	**2.41**	**145**	P	**Pn**	**16 43 08.9**	**-0.2**
GUR	**Goura**	**2.41**	**145**	P	**Pn**	**16 43 08.9**	**-0.2**

*IDC **30** 16:50:38.7±0.9, 5°.48S×151°.31E, h0km, mb3.8/8, mbtmp3.9/9, ML2.5/1, MS3.4/6, Error ellipse: s-maj=41.4km s-min=19.3km az=114.0*
*NEIC **30** 16:50:39.1±1.4, 6°.11S±0°.06×152°.04E±0°.06, h10km±1km, mb4.3/15, Error ellipse: s-maj=12.7km s-min=6.0km az=49.0*

ISC 30 16:50:44.1±0.7, 5°.7S±0°.1×151°.4E±0°.2, h35km, n39, σ1s15/36, mb4.1/17, MS3.2/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.66**	**28**		**Pn**	**16 51 11.2**	**+0.5**
MANU	**Manus Island**	**5.38**	**312**	Pn	Pn	16 52 11.2	+9.3
PMG	**Port Moresby**	**5.59**	**228**		**Pn**	**16 52 05.1**	**+0.3**
PMG	**Port Moresby**	**5.59**	**228**	Pn	**Pn**	**16 52 05.8**	**+1.0**
	8.7nm,0.3s,baz=16,slow=3.6,SNR=29						
PMG				Sn	**Sn**	**16 53 06.2**	**-1.7**
	4.1nm,0.3s,baz=20,slow=5.9,SNR=3.9						
	29nm,0.4s						
HNR	**Honiara**	**9.28**	**114**	LR	LR	16 56 00.1	
	comp=Z,1μm,20.1s,baz=314,slow=34						
COEN	**Coen**	**11.54**	**224**	Pn	**Pn**	**16 53 26.0**	**-0.4**
GUMO	**Guam**	**20.19**	**341**	LR	LR	17 01 26.3	
	comp=Z,31nm,21.1s,baz=121,slow=32						
MTN	**Manton Dam**	**21.20**	**249**	P	**P**	**16 55 29.4**	**+2.5**
MTN				IAmb	IAmb	16 55 53.8	
	comp=Z,16nm,1.3s						
WB0	**Warramunga Arr**	**21.67**	**228**	P	**P**	**16 55 31.1**	**-0.8**
WB0				IAmb	IAmb	16 55 52.8	
	comp=Z,10nm,1.1s						
WR0	**Warramunga Arr**	**21.68**	**228**	P	**P**	**16 55 32.3**	**+0.3**
WR0				IAmb	IAmb	16 55 56.8	
	comp=Z,12nm,1.2s						
WB2	**Warramunga Arr**	**21.81**	**228**	P	**P**	**16 55 32.5**	**-0.8**
WB2				IAmb	IAmb	16 55 47.5	
	comp=Z,11nm,1.2s						
WRA	**Warramunga Arr**	**21.82**	**228**	P	**P**	**16 55 32.6**	**-0.8**
WRA	**Warramunga Arr**	**21.82**	**228**	P	**P**	**16 55 32.7**	**-0.8**
	comp=Z,1.6nm,0.4s,baz=54,slow=10,SNR=22						
WRA				PcP	**PcP**	**16 59 32.6**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=46,slow=2.1,SNR=2.0						
	comp=Z,1.6nm,0.4s						
DZM	**Mont Dzumac**	**21.87**	**140**	LR	LR	17 02 14.6	
	comp=Z,82nm,21.6s,baz=336,slow=32						
KNRA	**Kununurra**	**24.32**	**244**	P	**P**	**16 55 59.4**	**+0.7**
KNRA				IAmb	IAmb	16 56 15.6	
	comp=Z,13nm,1.1s						
AS31	**Alice Springs**	**24.56**	**221**	P	**P**	**16 56 00.2**	**-0.6**
ASAR	**Alice Springs**	**24.56**	**221**	P	**P**	**16 56 00.8**	**-0.1**
ASAR	**Alice Springs**	**24.56**	**221**	P	**P**	**16 56 00.0**	**-0.9**
	comp=Z,1.5nm,0.5s,baz=55,slow=8.4,SNR=34						
	comp=Z,1.5nm,0.5s						
STKA	**Stephens Creek**	**27.64**	**198**	P	**P**	**16 56 29.6**	**+1.1**
	comp=Z,1.0nm,0.4s,baz=15,slow=8.4,SNR=2.9						
STKA				LR	LR	17 07 08.6	
	comp=Z,65nm,18.1s,baz=35,slow=36						
	comp=Z,1.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**28.00**	**242**	P	**P**	**16 56 31.3**	**-0.6**
MBWA	**Marble Bar**	**34.31**	**240**	P	**P**	**16 57 27.5**	**-0.1**
MJAR	**Matsushiro Arr**	**43.76**	**345**	LR	LR	17 13 59.6	
	comp=Z,34nm,19.8s,baz=146,slow=32						
SONM	**Songino Array**	**66.31**	**329**	P	**P**	**17 01 29.5**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=132,slow=4.4,SNR=5.4						
	comp=Z,0.4nm,0.4s						
VNDA	**Vanda**	**72.03**	**178**	P	**P**	**17 02 07.0**	**+3.0**
	comp=Z,0.3nm,0.5s,baz=323,slow=10,SNR=1.7						
	comp=Z,0.3nm,0.5s						
IMAR	**Indian Mountai**	**81.67**	**20**	P	**P**	**17 02 58.2**	**-0.2**
ILAR	**Eielson Array**	**83.49**	**22**	P	**P**	**17 03 07.0**	**-0.9**
ILAR	**Eielson Array**	**83.49**	**22**	P	**P**	**17 03 05.8**	**-2.1**
	comp=Z,1.1nm,0.7s,baz=252,slow=5.3,SNR=13						
	comp=Z,1.1nm,0.7s						
KURBB	**Kurchatov Arra**	**83.61**	**322**	P	**P**	**17 03 08.2**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=113,slow=4.3,SNR=4.3						
	comp=Z,0.2nm,0.5s						
D22K	**Ayikyak River**	**83.65**	**18**	P	**P**	**17 03 10.1**	**+1.4**
D22K				IAmb	IAmb	17 03 10.6	
	comp=Z,2.4nm,1.1s						
J25K	**Salcha River,**	**84.00**	**23**	P	**P**	**17 03 10.6**	**0.0**
QSPA	**South Pole Qui**	**84.30**	**180**	P	**P**	**17 03 09.4**	**-2.9**
BCAR	**Beaver Creek A**	**84.78**	**25**	P	**P**	**17 03 14.8**	**+0.2**
BMAR	**Burnt Mountain**	**85.54**	**20**	P	**P**	**17 03 17.8**	**-0.5**
EGAK	**Eagle**	**85.71**	**23**	P	**P**	**17 03 18.6**	**-0.5**
EGAK				IAmb	IAmb	17 03 20.5	
	comp=Z,2.5nm,1.1s						
K29M	**Barlow Dome**	**86.85**	**25**	P	**P**	**17 03 24.9**	**0.0**
K29M				IAmb	IAmb	17 03 26.8	
	comp=Z,3.0nm,0.9s						
E27K	**Coleen River**	**86.89**	**20**	P	**P**	**17 03 24.4**	**-0.5**
E27K				IAmb	IAmb	17 04 01.6	
	comp=Z,3.2nm,1.4s						
NVAR	**Mina Array Bea**	**93.73**	**52**	P	**P**	**17 03 58.4**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=240,slow=5.8,SNR=4.1						
NVAR				LR	LR	17 40 38.5	
	comp=Z,24nm,18.3s,baz=201,slow=32						
	comp=Z,0.3nm,0.5s						
GERES	**GERESS Array B**	**124.03**	**328**	PKP	**PKPdf**	**17 09 38.1**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=23,slow=5.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**149.21**	**286**	PKPbc	**PKPbc**	**17 10 29.5**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=52,slow=3.7,SNR=14						

*IDC **30** 17:08:28.2±2.4, 22°.86N×11°.43W, h0km, mb3.5/5, mbtmp3.5/6, ML3.3/1, Error ellipse: s-maj=68.3km s-min=36.4km az=49.0*

ISC 30 17:08:29.7±2.1, 22°.9N±0°.3×11°.4W±0°.3, h10km, n8, σ0s60/8, mb3.7/5, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**15.78**	**126**	Pn	**Pn**	**17 12 12.2**	**+0.1**
	0.1nm,0.3s,baz=312,slow=12,SNR=3.6						
TORD				Sn	**Sn**	**17 15 07.3**	**+0.1**
	0.1nm,0.3s,baz=308,slow=24,SNR=2.0						
	0.5nm,0.4s						
I48TN	**KESRA INFRASON**	**22.15**	**50**	I	I	19 12 00.0	
	baz=236,slow=313,SNR=1.7						
FINES	**FINESS Array B**	**46.32**	**24**	P	**P**	**17 16 55.1**	**-0.4**
	0.9nm,0.9s,baz=218,slow=8.8,SNR=3.5						
	0.9nm,0.9s						
KURBB	**Kurchatov Arra**	**72.64**	**42**	P	**P**	**17 19 57.2**	**-0.2**
	0.3nm,0.5s,baz=289,slow=6.0,SNR=3.1						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**75.37**	**37**	P	**P**	**17 20 14.1**	**+0.7**
	0.3nm,0.4s,baz=283,slow=6.5,SNR=2.0						
	0.3nm,0.4s						
YKA	**Yellowknife Ar**	**75.83**	**332**	P	**P**	**17 20 16.1**	**+0.2**
	0.1nm,0.3s,baz=61,slow=6.8,SNR=2.0						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**76.12**	**45**	P	**P**	**17 20 18.6**	**+0.7**
	0.2nm,0.5s,baz=297,slow=5.3,SNR=5.5						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**148.18**	**98**	PKPbc	**PKPbc**	**17 28 15.9**	**-0.8**
	0.4nm,0.7s,baz=286,slow=2.5,SNR=4.1						

*JMA **30** 17:08:53.8±0.2, 46°N±2°×14°E±°, h309km, MV3.0/22, NE OFF HOKKAIDO*
*SKHL **30** 17:08:54.1±0.6, 45°.60N×142°.90E, h312km±3km, mb4.1/5, msh4.7/5*

ISC 30 17:08:50.0±1.3, 45°.60N±0°.1×142°.8E±0°.1, h330km, n14, σ1s92/19, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**0.65**	**193**	P	**Pn**	**17 09 33.4**	**+1.0**
JWK2	**Keihoku**	**0.69**	**246**	P	**Pn**	**17 09 33.8**	**+1.3**
JWK2				*e*S	**S**	**17 10 04.6**	**-1.7**
JRR	**Rishiri**	**1.14**	**247**	P	**Pn**	**17 09 35.4**	**+1.3**
NEVR	**Nevel`sk**	**1.26**	**329**	*e*P	**Pn**	**17 09 35.8**	**+1.2**
YSS	**Yuzh-Sakhalins**	**1.36**	**359**	*e*P	**Pn**	**17 09 36.5**	**+1.3**
YSS				AMB	AMB	17 09 36.9	
	40nm,0.4s						
YSS				*e*S	**S**	**17 10 09.4**	**-2.0**
YSS				A	A	17 10 09.7	
	60nm,0.8s						
YSS				A	A	17 10 09.7	
	30nm,0.8s						
ASAJ	**Asahikawa**	**1.48**	**185**	P	**Pn**	**17 09 37.8**	**+1.7**
JKK2	**Kamakawa 2**	**1.72**	**181**	P	**Pn**

AHAN				*i* AML	AML	17 09 58.0		
	comp=E,49nm,0.5s							
BOZK	**Kars-Merkez-Bo**	**1.05**	**222**	P	**Pn**	**17 09 44.8**	**+0.4**
BOZK				S	**Sn**	**17 09 59.8**	**+0.7**
DGRG	**David-gareji**	**1.11**	**86**	P	**Pb**	**17 09 45.3**	**+0.3**
DGRG				S	**Sb**	**17 09 59.4**	**0.0**
GOLE	**Ardahan-G¶le**	**1.12**	**241**	P	**Pn**	**17 09 45.6**	**+0.1**
GUDG	**Gudauri**	**1.17**	**22**	P	**Pg**	**17 09 46.0**	**-0.3**
CHRG	**Chargali**	**1.22**	**39**	P	**Pn**	**17 09 46.8**	**0.0**
CHRG				S	**Sn**	**17 10 03.4**	**+0.1**
ONI	**Oni**	**1.25**	**345**	P	**Pg**	**17 09 47.7**	**-0.3**
ONI				S	**Sn**	**17 10 04.7**	**+0.7**
MTEO	**Meteo**	**1.38**	**20**	P	**Pg**	**17 09 50.1**	**-0.4**
MTEO				S	**Sg**	**17 10 09.8**	**+1.3**
LACR	**Lac**	**1.48**	**12**	*e*Pg	**Sg**	**17 09 51.9**	**-0.4**
LACR				*e*Sg	**Sg**	**17 10 11.6**	**+0.2**
DAGI	**Agillar**	**1.52**	**259**	P	**Pg**	**17 09 53.4**	**+0.3**
DAGI				S	**Sg**	**17 10 12.2**	**-0.7**
DAGI				*i* AML	AML	17 10 20.0		
	comp=N,17nm,0.6s							
DAGI				*i* AML	AML	17 10 21.0		
	comp=E,14nm,0.6s							
DIGR	**Digorskoe uzhe**	**1.54**	**351**	*e*Pg	**Pn**	**17 09 51.5**	**+0.4**
DIGR				*e*Sg	**Sg**	**17 10 13.1**	**-0.3**
SHTL	**Shatili**	**1.58**	**36**	P	**Pb**	**17 09 53.3**	**+0.2**
SHTL				S	**Sg**	**17 10 14.5**	**-0.3**
BATM	**Batumi**	**1.67**	**278**	P	**Pg**	**17 09 55.1**	**-0.8**
BATM				S	**Sg**	**17 10 17.3**	**-0.3**
DBAD	**Bademkaya**	**1.70**	**258**	P	**Pg**	**17 09 56.5**	**+0.1**
DBAD				S	**Sg**	**17 10 18.7**	**+0.2**
DBAD				*i* AML	AML	17 10 22.0		
	comp=N,26nm,0.6s							
KORR	**Kora**	**1.71**	**4**	*e*Pg	**Pg**	**17 09 56.3**	**-0.3**
KORR				*e*Sg	**Sg**	**17 10 20.2**	**+1.4**
LGD	**Lagodekhi**	**1.82**	**75**	P	**Pb**	**17 09 57.2**	**+0.3**
LGD				S	**Sg**	**17 10 22.4**	**+0.2**
DVE	**Vedeno**	**2.29**	**46**	*e*Pn	**Pb**	**17 10 05.0**	**0.0**
DVE				*e*Sn	**Sg**	**17 10 36.5**	**-0.9**

IDC ***30*** *17:15:03.6±1.9,5˚41S×151˚66E,h42km±16km,mb4.1/19, mbtmp4.4/20,ML2.8/1,MS3.4/21,Error ellipse: s-maj=13.8km s-min=12.6km az=94.0*

NEIC ***30*** *17:15:03.6±2.0,5˚58S±0˚03×151˚82E±0˚07,h35km±2km, mb4.6/102,Error ellipse: s-maj=12.0km s-min=3.0km az=109.0*

DJA ***30*** *17:15:10.5±1.2,6˚S±5˚×15˚2E±˚,h91km±10km,M5.0/16, mB5.2/3,mb4.8/16,MLv5.2/1,Mw(mB)4.6/3*

ISC 30 17:15:05.8±0.3,5˚52S±0˚04×151˚69E±0˚05,h57km,n170, σ1§22/159,mb4.6/74,MS3.4/21,1C,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
I40PG	**Keravat**	**1.26**	**15**	P		**Pn**	**17 15 25.6**	**-1.6**
	baz=169,slow=18							
I40PG				S		**Sn**	**17 15 42.1**	**-1.1**
I40PG				I		I	17 25 00.0	
	baz=224,slow=318,SNR=1.3							
RABL	**Rabaul**	**1.41**	**20**			**Pn**	**17 15 27.4**	**-1.8**
RABL				Sn		**Sn**	**17 15 45.4**	**-1.3**
MANU	**Manus Island**	**5.53**	**309**	Pn		**Pn**	**17 16 25.6**	**0.0**
PMG	**Port Moresby**	**5.92**	**229**	Pn		**Pn**	**17 16 31.0**	**0.0**
PMG				Sn		**Sn**	**17 17 36.9**	**-0.7**
PMG	**Port Moresby**	**5.92**	**229**	P		**Pn**	**17 16 31.3**	**+0.3**
	16nm,0.3s,baz=35,slow=13,SNR=47							
PMG				S		**Sn**	**17 17 36.1**	**-1.5**
	95nm,0.6s,baz=8.1,slow=14,SNR=3.8							
	114nm,0.6s							
HNR	**Honiara**	**9.06**	**116**	Pn		Pn	17 17 09.3	-4.7
HNR	**Honiara**	**9.06**	**116**	P		**Pn**	**17 17 14.5**	**+0.5**
	406nm,0.3s,baz=234,slow=8.7,SNR=4.6							
HNR				S		**Sn**	**17 18 55.6**	**+1.0**
	384nm,0.6s,baz=215,slow=22,SNR=1.2							
HNR				LR		LR	17 20 35.2	
	comp=Z,2μm,21.0s,baz=246,slow=36							
COEN	**Coen**	**11.86**	**224**	Pn		**Pn**	**17 17 51.3**	**-1.0**
GENI	**Genyem**	**11.86**	**284**	P		**Pn**	**17 17 53.7**	**+1.4**
	62nm,1.0s							
PATS	**Pohnpei**	**13.94**	**28**	Pn		**Pn**	**17 18 22.4**	**+1.7**
CTAO	**Charters Tower**	**15.41**	**200**			**Pn**	**17 18 41.1**	**+1.3**
FAKI	**Fak Fak**	**19.56**	**277**			**P**	**17 19 30.4**	**+1.2**
EIDS	**Eidsvold**	**19.74**	**182**			**P**	**17 19 31.5**	**+0.4**
EIDS				IAmb		IAmb	17 19 35.1	
	comp=Z,43nm,1.3s							
GUMO	**Guam**	**20.16**	**340**	LR		LR	17 28 02.9	
	comp=Z,33nm,18.9s,baz=150,slow=39							
SAUI	**Saumlaki**	**20.39**	**262**	P		**P**	**17 19 38.4**	**+0.1**
SAUI	**Saumlaki**	**20.39**	**262**	P		**P**	**17 19 40.2**	**+1.9**
	comp=Z,85nm,0.8s							
SWI	**Sorong**	**20.91**	**282**	P		**P**	**17 19 45.0**	**+1.2**
	comp=Z,46nm,0.8s							
MTN	**Manton Dam**	**21.55**	**249**	P		**P**	**17 19 48.9**	**-1.7**
MTN				IAmb		IAmb	17 20 14.5	
	comp=Z,21nm,0.7s							
DZM	**Mont Dzumac**	**21.78**	**140**	P		**P**	**17 19 51.7**	**-1.5**
DZM				IAmb		IAmb	17 20 32.0	
	comp=Z,20nm,1.0s							
DZM	**Mont Dzumac**	**21.78**	**140**	P		**P**	**17 19 53.2**	**+0.1**
	comp=Z,14nm,0.6s,baz=286,slow=19,SNR=18							
	comp=Z,14nm,0.6s							
WB0	**Warramunga Arr**	**21.99**	**228**	P		**P**	**17 19 54.6**	**-0.8**
WB0				IAmb		IAmb	17 19 58.4	
	comp=Z,26nm,0.7s							
WR0	**Warramunga Arr**	**22.00**	**228**	P		**P**	**17 19 54.5**	**-1.0**
WR0				IAmb		IAmb	17 19 58.5	
	comp=Z,22nm,0.7s							
WRAB	**Tennant Creek**	**22.13**	**228**	P		**P**	**17 19 56.1**	**-0.8**
WRAB				IAmb		IAmb	17 20 00.0	
	comp=Z,29nm,0.7s							
WB2	**Warramunga Arr**	**22.13**	**228**	P		**P**	**17 19 56.6**	**-0.3**
WRA	**Warramunga Arr**	**22.14**	**228**	P		**P**	**17 19 56.6**	**-0.4**
WRA	**Warramunga Arr**	**22.14**	**228**	P		**P**	**17 19 56.6**	**-0.4**
	comp=Z,26nm,0.6s,baz=51,slow=10,SNR=127							
WRA				S		**S**	**17 23 54.8**	**-3.0**
	comp=Z,3.0nm,1.0s,baz=56,slow=19,SNR=7.6							
WRA				ScP		**ScP**	**17 27 27.0**	**+1.6**
	comp=Z,0.6nm,0.9s,baz=43,slow=2.4,SNR=3.0							
	comp=Z,26nm,0.6s							
KNRA	**Kununurra**	**24.66**	**244**	P		**P**	**17 20 21.6**	**+0.1**
ARMA	**Armidale**	**24.76**	**180**	P		**P**	**17 20 22.1**	**-0.3**
ARMA				IAmb		IAmb	17 20 24.3	
	comp=Z,29nm,1.1s							
AS31	**Alice Springs**	**24.87**	**222**	P		**P**	**17 20 23.7**	**+0.3**
AS31				IAmb		IAmb	17 20 26.5	
	comp=Z,14nm,0.7s							
ASAR	**Alice Springs**	**24.88**	**222**	P		**P**	**17 20 22.5**	**-0.9**
ASAR	**Alice Springs**	**24.88**	**222**	P		**P**	**17 20 23.3**	**-0.1**
	comp=Z,38nm,0.7s,baz=58,slow=8.7,SNR=267							
ASAR				S		**S**	**17 24 44.3**	**+1.5**
	comp=Z,0.5nm,0.9s,baz=43,slow=14,SNR=2.2							
ASAR				ScP		**ScP**	**17 27 35.3**	**+2.6**
	comp=Z,0.6nm,0.9s,baz=42,slow=3.1,SNR=4.0							
	comp=Z,38nm,0.7s							
SANI	**Sanana**	**25.87**	**277**	P		P	17 20 52.4	+20
SOEI	**Soe**	**27.50**	**260**	P		**P**	**17 20 47.2**	**-0.1**
SOEI	**Soe**	**27.50**	**260**	P		**P**	**17 20 50.0**	**+2.7**
STKA	**Stephens Creek**	**27.87**	**199**	P		**P**	**17 20 49.6**	**-0.7**
STKA	**Stephens Creek**	**27.87**	**199**	P		**P**	**17 20 49.8**	**-0.5**
	comp=Z,4.5nm,0.6s,baz=7.9,slow=12,SNR=9.0							
STKA				LR		LR	17 31 11.2	
	comp=Z,83nm,20.3s,baz=19,slow=35							
	comp=Z,4.5nm,0.6s							
BATI	**Baumata**	**28.14**	**259**	P		**P**	**17 20 53.1**	**+0.2**
	comp=Z,28nm,0.6s,baz=190,slow=1.4,SNR=15							
	comp=Z,28nm,0.6s							
BATI	**Baumata**	**28.14**	**259**	P		**P**	**17 20 52.4**	**-0.5**
	comp=Z,42nm,0.8s,comp=Z,701nm							
FITZ	**Fitzroy Crossi**	**28.34**	**242**	P		**P**	**17 20 54.3**	**-0.4**
FITZ				IAmb		IAmb	17 20 58.7	
	comp=Z,10nm,0.7s							
DAV	**Davao City (W)**	**28.90**	**295**	LR		LR	17 32 09.0	
	comp=Z,136nm,18.4s,baz=112,slow=36							
MMRI	**Maumere**	**29.39**	**262**	P		**P**	**17 21 03.2**	**-0.8**
MMRI				IAmb		IAmb	17 21 40.2	
	comp=Z,15nm,0.7s							
CAN	**Canberra**	**29.76**	**184**	P		**P**	**17 21 06.6**	**-0.5**
EDFI	**Ende, Flores**	**29.93**	**262**	P		**P**	**17 21 07.5**	**-1.5**
	comp=Z,12nm,0.6s							
BBOO	**Buckleboo**	**30.82**	**206**	P		**P**	**17 21 15.5**	**-0.9**
BBOO				IAmb		IAmb	17 21 33.7	
	comp=Z,16nm,1.2s							
TOLI2	**Tolitoli**	**31.56**	**281**	P		**P**	**17 21 24.2**	**+1.0**
TOLI2				IAmb		IAmb	17 21 25.2	
	comp=Z,7.2nm,0.9s							

FORT	**Forrest**	**33.53**	**219**	P		**P**	**17 21 39.9**	**-0.4**
MBWA	**Marble Bar**	**34.66**	**240**	P		**P**	**17 21 50.2**	**+0.1**
PSA00	**Pilbara Seismi**	**34.71**	**240**	P		**P**	**17 21 50.9**	**+0.3**
PSA00				IAmb		IAmb	17 21 54.4	
	comp=Z,6.1nm,1.1s							
PSA00	**Pilbara Seismi**	**34.71**	**240**	P		**P**	**17 21 50.6**	**0.0**
PSA00				IAmb		IAmb	17 22 03.9	
	comp=Z,15nm,0.9s							
TGY	**Tagaytay City**	**36.21**	**303**	LR		LR	17 37 16.5	
	comp=Z,38nm,18.8s,baz=272,slow=37							
JAGI	**Jajag, Banyuwa**	**37.36**	**263**	P		**P**	**17 22 12.4**	**-1.0**
TOZ	**Tahuroa Road**	**38.71**	**149**	P		**P**	**17 22 22.0**	**-2.4**
TOZ				IAmb		IAmb	17 22 26.3	
	comp=Z,6.2nm,0.7s							
HIZ	**Hauiti**	**38.99**	**151**	P		**P**	**17 22 24.6**	**-2.1**
QRZ	**Quartz Range**	**39.80**	**155**	P		**P**	**17 22 31.8**	**-1.7**
QRZ				IAmb		IAmb	17 23 08.4	
	comp=Z,22nm,1.1s							
URZ	**Urewera**	**39.94**	**148**	LR		LR	17 36 12.8	
	comp=Z,138nm,20.4s,baz=118,slow=32							
GIRL	**Giralia**	**39.95**	**241**	P		**P**	**17 22 36.1**	**+1.1**
RTZ	**Ruatahuna**	**40.14**	**149**	P		**P**	**17 22 35.4**	**-1.0**
TKNZ	**Takaka Hill**	**40.16**	**155**	P		**P**	**17 22 35.7**	**-0.8**
MRNZ	**Matariki Terra**	**40.38**	**155**	P		**P**	**17 22 38.4**	**+0.2**
NNZ	**Nelson**	**40.49**	**155**	P		**P**	**17 22 38.5**	**-0.6**
THZ	**Tophouse**	**40.74**	**155**	P		**P**	**17 22 41.2**	**-0.1**
THZ				IAmb		IAmb	17 22 54.1	
	comp=Z,13nm,1.0s							
TCW	**Tory Channel**	**40.87**	**154**	P		**P**	**17 22 42.0**	**-0.3**
TUWZ	**Tuamarina**	**40.90**	**154**	P		**P**	**17 22 42.5**	**-0.1**
MORW	**Morawa**	**41.03**	**231**	P		**P**	**17 22 45.3**	**+1.5**
MORW				IAmb		IAmb	17 23 03.5	
	comp=Z,31nm,1.3s							
BSWZ	**Blackbirch Sta**	**41.11**	**155**	P		**P**	**17 22 44.5**	**+0.3**
YULB	**Yu-li**	**41.31**	**315**	P		**P**	**17 22 47.1**	**+1.0**
BFZ	**Birch Farm**	**41.35**	**151**	P		**P**	**17 22 45.8**	**-0.5**
KHZ	**Kahutara**	**41.55**	**155**	P		**P**	**17 22 46.9**	**-0.8**
SSLB	**Suanglung**	**41.81**	**315**	P		**P**	**17 22 50.5**	**+0.2**
YHNB	**Yeheng**	**42.09**	**317**	P		**P**	**17 22 53.7**	**+1.1**
JGF	**Kuroka**	**43.07**	**343**	P		**P**	**17 23 00.7**	**+0.4**
JNU	**Nakatsue**	**43.21**	**334**	P		**P**	**17 23 02.3**	**+0.8**
JNU				IAmb		IAmb	17 23 29.0	
	comp=Z,14nm,0.9s							
JNU	**Nakatsue**	**43.21**	**334**	LR		LR	17 38 26.4	
	comp=Z,32nm,19.5s,baz=165,slow=33							
MJAR	**Matsushiro Arr**	**43.71**	**344**	P		**P**	**17 23 04.4**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=166,slow=8.6,SNR=5.5							
MJAR				LR		LR	17 39 55.1	
	comp=Z,45nm,18.8s,baz=174,slow=34							
	comp=Z,1.5nm,0.8s							
LEM	**Lembang**	**43.83**	**266**	LR		LR	17 44 13.0	
	comp=Z,63nm,21.0s,baz=46,slow=40							
CTZ	**Chatham Island**	**47.17**	**149**	P		**P**	**17 23 33.8**	**+1.1**
KSRS	**Korea Array**	**48.16**	**334**	P		**P**	**17 23 37.4**	**-3.0**
	comp=Z,0.9nm,0.8s,baz=148,slow=7.9,SNR=3.1							
KSRS				LR		LR	17 44 58.1	
	comp=Z,20nm,18.0s,baz=135,slow=37							
	comp=Z,0.9nm,0.8s							
NJ2	**Nanjing**	**48.72**	**322**	*e*P		**P**	**17 23 47.0**	**+2.2**
NJ2				pP		**pP**	**17 23 58.5**	**-1.6**
NJ2				sP		**sP**	**17 24 03.8**	**-3.0**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.5s							
NJ2				pmax		pmax		
	comp=Z,140nm,4.5s							
RAR	**Rarotonga**	**49.51**	**113**	LR		LR	17 42 27.8	
	comp=Z,33nm,21.0s,baz=39,slow=33							
BNX	**BinXian**	**55.45**	**340**	⇑P		**P**	**17 24 34.0**	**-0.6**
BNX				pmax		pmax		
	comp=Z,5.0nm,1.8s							
BNX				pmax		pmax		
	comp=Z,120nm,4.9s							
PHRA	**Phrae**	**56.06**	**297**	P		**P**	**17 24 39.7**	**+0.3**
CRAI	**Chiangrai**	**56.54**	**299**	P		**P**	**17 24 43.3**	**+0.4**
CRAI				IAmb		IAmb	17 24 46.1	
	comp=Z,7.1nm,0.8s							
CMAR	**Chiang Mai Arr**	**57.19**	**296**	P		**P**	**17 24 47.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**57.19**	**296**	P		**P**	**17 24 47.4**	**-0.1**
	comp=Z,24nm,0.8s,baz=123,slow=5.2,SNR=17							
CMAR				LR		LR	17 47 53.3	
	comp=Z,12nm,20.6s,baz=80,slow=34							
	comp=Z,2.4nm,0.8s							
KLR	**Kul'dur**	**57.23**	**345**	LR		LR	17 49 19.7	
	comp=Z,20nm,19.2s,baz=192,slow=36							
PZH	**PanZhiHua**	**57.89**	**306**	P		**P**	**17 24 54.8**	**+2.3**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,80nm,5.6s							
PETK	**Petropavlovsk-**	**58.63**	**4**	P		**P**	**17 24 56.4**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=208,slow=10,SNR=1.8							
	comp=Z,0.8nm,0.5s							
HHC	**Hu-ho-hao-te**	**59.00**	**325**	*e*P		**P**	**17 25 04.3**	**+4.4**
HHC				pmax		pmax		
	comp=Z,37nm,0.8s							
HHC				pmax		pmax		
	comp=Z,160nm,4.9s							
HEH	**HeiHe**	**59.39**	**342**	*e*P		**P**	**17 25 02.5**	**+0.2**
HEH				pmax		pmax		
	comp=Z,4.0nm,0.8s							
SHEM	**Shemya Is, Ala**	**61.07**	**15**	LR		LR	17 51 44.8	
	comp=Z,13nm,18.1s,baz=128,slow=36							
MA2	**Magadan**	**64.90**	**359**	P		**P**	**17 25 38.5**	**-0.4**
MA2				IAmb		IAmb	17 25 40.8	
	comp=Z,9.2nm,1.5s							
MA2	**Magadan**	**64.90**	**359**	LR		LR	17 54 13.1	
	comp=Z,22nm,19.0s,baz=130,slow=36							
SONM	**Songino Array**	**66.35**	**328**	P		**P**	**17 25 48.6**	**-0.2**
SONM	**Songino Array**	**66.35**	**328**	P		**P**	**17 25 48.0**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=146,slow=5.4,SNR=11							
SONM				LR		LR	17 55 05.0	
	comp=Z,33nm,19.8s,baz=182,slow=36							
	comp=Z,1.7nm,0.5s							
YAK	**Yakutsk**	**69.47**	**349**	P		**P**	**17 26 08.0**	**+0.1**
YAK				IAmb		IAmb	17 26 10.2	
	comp=Z,7.6nm,0.7s							
YAK	**Yakutsk**	**69.47**	**349**	LR		LR	17 55 16.5	
	comp=Z,27nm,20.1s,baz=126,slow=35							
VNDA	**Vanda**	**72.15**	**178**	P		**P**	**17 26 24.6**	**+0.6**
VNDA	**Vanda**	**72.15**	**178**	P		**P**	**17 26 24.6**	**+0.6**
	comp=Z,3.4nm,0.8s,baz=327,slow=6.8,SNR=21							
	comp=Z,3.4nm,0.8s							
M13K	**Dall Lake**	**74.54**	**21**	P		**P**	**17 26 38.3**	**+0.1**
M13K				IAmb		IAmb	17 27 07.0	
	comp=Z,13nm,1.4s							
O14K	**Tigyukauivet M**	**74.55**	**23**	P		**P**	**17 26 38.5**	**+0.2**
O14K				IAmb		IAmb	17 27 13.5	
	comp=Z,11nm,1.2s							
M14K	**Bethel**	**75.28**	**22**	P		**P**	**17 26 42.1**	**-0.4**
M14K				IAmb		IAmb	17 27 16.1	
	comp=Z,9.8nm,1.3s							
L14K	**Kuka Creek**	**75.42**	**21**	P		**P**	**17 26 42.1**	**-1.2**
L14K				IAmb		IAmb	17 26 46.9	
	comp=Z,3.3nm,0.7s							
WMQ	**Urumqi**	**75.53**	**318**	*e*P		**P**	**17 26 46.5**	**+2.1**
WMQ				LR		LR		
	comp=N,5μm,23.9s							
WMQ				LR		LR		
	comp=E,4μm,24.2s							
WMQ				LR		LR		
	comp=Z,340nm,22.1s							
J14K	**Nanvaranak Lak**	**76.08**	**20**	P		**P**	**17 26 47.1**	**+0.1**
J14K				IAmb		IAmb	17 27 26.6	
	comp=Z,6.7nm,1.1s							
K15K	**Wolf Creek Mou**	**76.46**	**21**	P		**P**	**17 26 48.9**	**-0.4**
K15K				IAmb		IAmb	17 26 53.7	
	comp=Z,10.0nm,1.3s							
M16K	**Timber Creek**	**76.57**	**22**	P		**P**	**17 26 50.4**	**+0.5**
M16K				IAmb		IAmb	17 27 13.8	
	comp=Z,5.8nm,1.1s							
L16K	**Owhat River**	**76.82**	**22**	P		**P**	**17 26 51.7**	**+0.5**
J16K	**Anvik River**	**77.44**	**20**	P		**P**	**17 26 54.7**	**0.0**
J16K				IAmb		IAmb	17 27 20.6	
	comp=Z,8.2nm,1.4s							
L18K	**Granite Mounta**	**78.16**	**22**	P		**P**	**17 26 58.6**	**-0.1**
L18K				IAmb		IAmb	17 27 21.3	
	comp=Z,8.3nm,1.4s							
TIXI	**Tiksi**	**78.47**	**353**	P		**P**	**17 27 00.2**	**-0.1**
H17K	**Granite Mounta**	**78.75**	**19**	IAmb		IAmb	17 27 06.0	
	comp=Z,4.0nm,0.8s							
L19K	**White Mountain**	**78.83**	**23**	P		**P**	**17 27 02.4**	**-0.1**
L19K				IAmb		IAmb	17 27 07.0	
	comp=Z,4.2nm,0.8s							
F17K	**Baldwin Pennin**	**79.34**	**17**	P		**P**	**17 27 04.9**	**-0.2**
F17K				IAmb		IAmb	17 27 08.7	
	comp=Z,4.8nm,0.8s							

K20K	**Telida**	**79.81**	**22**	P		**P**	**17 27 06.9**	**-0.8**
MK31	**Makanchi Array**	**80.14**	**319**	P		**P**	**17 27 09.2**	**-0.8**
MKAR	**Makanchi Array**	**80.14**	**319**	P		**P**	**17 27 09.3**	**-0.7**
MKAR	**Makanchi Array**	**80.14**	**319**	P		**P**	**17 27 09.0**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=99,slow=7.2,SNR=7.8							
	comp=Z,0.6nm,0.7s							
H19K	**Roundabout Mou**	**80.26**	**19**	IAmb		IAmb	17 27 54.3	
	comp=Z,7.6nm,1.3s							
MAKZ	**Makanchi**	**80.35**	**319**	P		**P**	**17 27 10.4**	**-0.7**
G19K	**Purcell Mounta**	**80.43**	**19**	P		**P**	**17 27 10.4**	**-0.6**
G19K				IAmb		IAmb	17 27 42.6	
	comp=Z,7.8nm,1.4s							
CAST	**Castle Rocks**	**80.59**	**22**	P		**P**	**17 27 11.2**	**-0.7**
ZAA0	**Zalesovo Array**	**81.14**	**327**	P		**P**	**17 27 12.4**	**-2.6**
ZALV	**Zalesovo Beam**	**81.14**	**327**	P		**P**	**17 27 12.9**	**-2.2**
	comp=Z,1.7nm,0.7s,baz=114,slow=6.6,SNR=7.4							
	comp=Z,1.7nm,0.7s							
E19K	**Redstone River**	**81.20**	**18**	P		**P**	**17 27 15.3**	**+0.1**
E19K				IAmb		IAmb	17 27 18.4	
	comp=Z,3.8nm,0.7s							
IMAR	**Indian Mountai**	**81.43**	**20**	P		**P**	**17 27 14.7**	**-1.7**
MLY	**Manley**	**81.95**	**21**	P		**P**	**17 27 18.0**	**-1.2**
CRQM	**Cirque**	**83.00**	**27**	P		**P**	**17 27 24.2**	**-0.7**
CRQM				IAmb		IAmb	17 27 47.6	
	comp=Z,7.0nm,0.9s							
G23K	**Bananza Creek**	**83.09**	**20**	P		**P**	**17 27 24.7**	**-0.4**
IL31		**83.24**	**22**	P		**P**	**17 27 25.4**	**-0.4**
ILAR	**Eielson Array**	**83.24**	**22**	P		**P**	**17 27 25.4**	**-0.4**
ILAR	**Eielson Array**	**83.24**	**22**	P		**P**	**17 27 23.8**	**-2.1**
	comp=Z,1.9nm,0.6s,baz=251,slow=5.3,SNR=28							
	comp=Z,1.9nm,0.6s							
H24K	**Noodor Dome**	**83.39**	**21**	P		**P**	**17 27 26.6**	**-0.1**
KURBB	**Kurchatov Arra**	**83.69**	**322**	P		**P**	**17 27 26.7**	**-1.7**
	comp=Z,0.7nm,0.7s,baz=114,slow=3.8,SNR=9.5							
	comp=Z,0.7nm,0.7s							
J25K	**Salcha River,**	**83.75**	**23**	P		**P**	**17 27 27.0**	**-1.6**
J25K				IAmb		IAmb	17 27 31.2	
	comp=Z,4.7nm,0.6s							
M27K	**Edge Creek, AK**	**84.20**	**25**	IAmb		IAmb	17 27 56.2	
	comp=Z,5.8nm,1.1s							
F24K	**Squaw Lake**	**84.22**	**20**	P		**P**	**17 27 29.4**	**-1.5**
F24K				IAmb		IAmb	17 27 44.5	
	comp=Z,2.4nm,0.8s							
AAK	**Ala-Archa**	**84.36**	**314**	P		**P**	**17 27 32.0**	**-0.3**
QSPA	**South Pole Qui**	**84.44**	**180**	P		**P**	**17 27 31.6**	**-0.6**
QSPA	**South Pole Qui**	**84.44**	**180**	P		**P**	**17 27 32.2**	**0.0**
	comp=Z,8.0nm,0.7s,baz=330,slow=1.1,SNR=62							
	comp=Z,8.0nm,0.7s							
BCAR	**Beaver Creek A**	**84.52**	**25**	P		**P**	**17 27 35.3**	**+2.8**
BMAR	**Burnt Mountain**	**85.30**	**20**	P		**P**	**17 27 37.1**	**+0.7**
EGAK	**Eagle**	**85.46**	**23**	P		**P**	**17 27 37.7**	**+0.6**
EGAK				IAmb		IAmb	17 27 55.3	
	comp=Z,8.6nm,1.5s							
D25K	**Kavik River**	**85.58**	**18**	P		**P**	**17 27 38.0**	**+0.3**
D25K				IAmb		IAmb	17 28 19.9	
	comp=Z,5.9nm,1.4s							
K29M	**Barlow Dome**	**86.59**	**25**	P		**P**	**17 27 42.5**	**-0.4**
K29M				IAmb		IAmb	17 28 07.7	
	comp=Z,8.2nm,1.4s							
F28M	**Old Crow**	**87.03**	**21**	P		**P**	**17 27 44.3**	**-0.5**
F28M				IAmb		IAmb	17 27 58.1	
	comp=Z,2.8nm,0.9s							
J30M	**Hart River**	**87.32**	**24**	IAmb		IAmb	17 28 00.1	
	comp=Z,3.3nm,0.8s							
G31M	**Satah River**	**88.85**	**22**	P		**P**	**17 27 52.9**	**-0.5**
BVAR	**Borovoye Array**	**89.16**	**323**	P		**P**	**17 27 53.3**	**-1.9**
	comp=Z,1.3nm,0.7s,baz=84,slow=7.4,SNR=7.1							
	comp=Z,1.3nm,0.7s							
J05D	**Fort Rock, OR**	**91.62**	**47**	P		**P**	**17 28 06.5**	**-0.5**
K05A	**Summer Lake**	**91.81**	**47**	P		**P**	**17 28 07.4**	**-0.6**
I07A	**Izee**	**92.94**	**46**	IAmb		IAmb	17 28 14.0	
	comp=Z,3.9nm,1.0s							
A36M

ML2.4, MW3.6

ISC 30 17:44:57.0±1.1, 20°01'N±0°04' × 70°30'W±0°08', h19km, n10, σ0°75/14, 3C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SC01	**Santiago de lo**	**0.71**	**215**	⇑*e*	Sg	**Sn**	**17 45 23.4**	**+1.0**
SC01					IAML		17 45 23.7	
	comp=N,106nm,2.4s							
SC01	**Santiago de lo**	**0.71**	**215**	*i* P		**Pn**	**17 45 13.4**	**+1.4**
SC01				*e*	S	**Sn**	**17 45 22.7**	**+0.3**
SC01					IAML		17 45 29.3	
	comp=Z,49nm,0.5s							
MADR	**Mao Valverde**	**0.88**	**240**	⇓*e*	Sg	**Sb**	**17 45 25.1**	**+0.1**
MADR					IAML		17 45 26.4	
	comp=E,108nm,0.3s							
MADR					IAML		17 45 26.5	
	comp=N,178nm,0.7s							
SDDR	**Presa de Saban**	**1.39**	**223**	⇑*e*	Pg	**Pn**	**17 45 21.6**	**+0.2**
SDDR				⇓*e*	Sg	**Sb**	**17 45 39.8**	**+0.2**
SDDR					IAML		17 45 40.2	
	comp=N,25nm,0.2s							
SDDR					IAML		17 45 40.6	
	comp=E,21nm,0.2s							
SDDR	**Presa de Saban**	**1.39**	**223**	*i* P		**Pb**	**17 45 21.9**	**-0.4**
SDDR				*e*	S	**Sn**	**17 45 38.7**	**-0.6**
SDDR					IAML		17 45 41.5	
	comp=Z,26nm,0.9s							
MIDR	**Miches**	**1.56**	**131**	*e*	Pg	**Pg**	**17 45 27.0**	**0.0**
MIDR					IAML		17 45 52.1	
	comp=N,30nm,2.1s							
MIDR					IAML		17 45 54.2	
	comp=E,16nm,0.2s							
BANI	**BANI**	**1.61**	**182**	*e*	Pg	**Pg**	**17 45 27.7**	**-0.3**
BANI					IAML		17 45 54.5	
	comp=E,39nm,0.3s							
BANI					IAML		17 46 03.4	
	comp=N,44nm,1.6s							
GRTK	**Grand Turk**	**1.69**	**332**	⇑*e*	Sg	**Sb**	**17 45 47.8**	**-0.6**
GRTK					IAML		17 45 49.0	
	comp=E,153nm,0.2s							
GRTK					IAML		17 45 56.5	
	comp=N,91nm,3.2s							
GRTK	**Grand Turk**	**1.69**	**332**	*i* P		**Pn**	**17 45 26.0**	**+0.5**
GRTK				*e*	S	**Sn**	**17 45 47.3**	**+0.7**
GRTK					IAML		17 45 50.9	
	comp=Z,62nm,1.2s							
PODR	**Polo**	**2.06**	**207**	*e*	Pg	**Pb**	**17 45 32.6**	**-1.2**
PODR					IAML		17 46 50.7	
	comp=N,57nm,4.0s							

*IDC **30** 18:08:43.9±5.2, 36°06'N × 70°85'E, h83km±34km, mb3.1/5, mbtmp3.6/11, Error ellipse: s-maj=59.2km s-min=22.5km az=146.0*

*NNC **30** 18:08:51.4±3.4, 36°90'N × 69°74'E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=31.3km s-min=23.8km az=121.0*

ISC 30 18:08:48.0±1.4, 36°4'N±0°1 × 70°51'E±0°09, h100km, n19, σ1°§40/22, mb3.3/4, 3C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UCH	**Uchtor**	**6.59**	**27**	P		**Pn**	**18 10 23.4**	**+0.8**
	SNR=18							
KK31	**Karatay Array**	**6.69**	**0**	P		**Pn**	**18 10 24.6**	**+1.1**
	2.0nm,0.3s,baz=187,slow=14,SNR=37							
KK31				⇑S		**Sn**	**18 11 37.7**	**-0.5**
	2.6nm,0.5s,baz=185,slow=24,SNR=4.4							
EKS2	**Erkin-Say**	**6.74**	**21**	P		**Pn**	**18 10 25.2**	**+1.0**
	SNR=7.4							
AAK	**Ala-Archa**	**6.94**	**25**	P		**Pn**	**18 10 27.9**	**+0.8**
	SNR=11							
AAK	**Ala-Archa**	**6.94**	**25**	P		**Pn**	**18 10 27.5**	**+0.4**
	4.6nm,0.3s,baz=199,slow=5.4,SNR=19							
AAK				S		**Sn**	**18 11 43.6**	**-0.9**
	8.5nm,0.6s,baz=349,slow=24,SNR=15							
CHMS	**Chumysh**	**7.35**	**25**	P		**Pn**	**18 10 33.4**	**+0.8**
	SNR=6.5							
USP	**Ospenovka**	**7.50**	**23**	P		**Pn**	**18 10 35.3**	**+0.6**
	SNR=7.7							
GEYT	**Alibeck**	**10.00**	**282**	P		**Pn**	**18 11 09.1**	**+0.5**
	0.6nm,0.4s,baz=100,slow=14,SNR=2.2							
GEYT				S		**Sn**	**18 12 56.9**	**-2.0**
	0.5nm,0.4s,baz=65,slow=24,SNR=1.3							
MKAR	**Makanchi Array**	**13.60**	**37**	P		**Pn**	**18 11 55.8**	**-0.8**
	0.7nm,0.6s,baz=205,slow=11,SNR=3.6							
AB31	**Akbulak array**	**14.97**	**332**	⇓P		**Pn**	**18 12 14.7**	**+0.6**
	1.0nm,0.3s,baz=146,slow=13,SNR=102							
AB31				⇑S		Sn	18 14 52.6	-6.7
	1.7nm,0.6s,baz=157,slow=24,SNR=7.9							
KURBB	**Kurchatov Arra**	**15.34**	**20**	P		**P**	**18 12 18.8**	**-2.4**
	0.8nm,0.5s,baz=207,slow=6.4,SNR=2.6							
BVAR	**Borovoye Array**	**16.61**	**360**	P		**P**	**18 12 35.2**	**-0.2**
	1.1nm,0.4s,baz=160,slow=14,SNR=17							
AKTO	**Aktyubinsk**	**16.66**	**331**	P		**P**	**18 12 37.3**	**+1.4**
	2.7nm,0.6s,baz=133,slow=11,SNR=10							
AKTO				S		Sn	18 15 34.3	-5.7
	0.6nm,0.5s,baz=222,slow=15,SNR=2.0							
AKTO	**Aktyubinsk**	**16.66**	**331**	⇓P		**Pn**	**18 12 36.6**	**+1.4**
	2.1nm,0.8s							
AKTO				⇑S		**Sn**	**18 15 38.0**	**-1.9**
	3.3nm,1.4s							
ZALV	**Zalesovo Beam**	**20.16**	**25**	P		Pn	18 13 14.2	-2.7
	3.8nm,0.5s,baz=216,slow=11,SNR=23							
	3.8nm,0.5s							
FINES	**FINESS Array B**	**37.34**	**326**	P		**P**	**18 15 52.5**	**+2.2**
	0.4nm,0.6s,baz=128,slow=11,SNR=4.5							
	0.4nm,0.6s							
NOA	**NORSAR Array B**	**44.21**	**323**	P		**P**	**18 16 49.0**	**+2.2**
	0.1nm,0.4s,baz=99,slow=7.8,SNR=1.0							
	0.1nm,0.4s							
TORD	**Torodi Ar. Bea**	**65.32**	**268**	P		**P**	**18 19 18.2**	**-1.5**
	0.3nm,0.4s,baz=28,slow=7.8,SNR=3.4							
	0.3nm,0.4s							
YKA	**Yellowknife Ar**	**81.35**	**2**	P		**P**	**18 20 52.1**	**-0.9**
	0.1nm,0.5s,baz=354,slow=5.1,SNR=2.2							
	0.1nm,0.5s							

IDC 30 18:12:39.4±3.5, 6°54'S × 142°64'E, h0km, mb3.2/1, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=104.6km s-min=28.0km az=103.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.57**	**210**	Pn		Pn	18 16 19.5	-1.0
	0.1nm,0.3s,baz=32,slow=13,SNR=6.4							
WRA				Sn		Sn	18 19 07.8	-6.1
	0.1nm,0.3s,baz=32,slow=21,SNR=3.0							
WRA				Lg		Lg	18 20 56.4	
	baz=32,slow=32							
	0.1nm,0.4s							
ASAR	**Alice Springs**	**18.99**	**205**	P		P	18 17 02.2	-0.5
	0.2nm,0.3s,baz=34,slow=9.8,SNR=30							
ASAR				S		Sn	18 20 30.6	-6.1
	0.2nm,0.8s,baz=27,slow=26,SNR=2.3							
ASAR				Lg		Lg	18 22 43.5	
	baz=27,slow=32							
	2.1nm,0.8s							
MKAR	**Makanchi Array**	**75.19**	**322**	P		P	18 24 24.3	+0.3
	0.1nm,0.4s,baz=112,slow=7.5,SNR=1.3							
	0.1nm,0.4s							

*TEH **30** 18:24:55.8, 29°09'N × 57°19'E, h100km, ML3.0*

*OMAN **30** 18:24:59.0±0.7, 28°59'N × 57°54'E, h10km, mb4.3/7, ml3.1/15, Error ellipse: s-maj=6.3km s-min=5.7km az=119.0*

*DSN **30** 18:24:59.6±1.2, 28°41'N × 57°80'E, h10km, ML2.9/12, Error ellipse: s-maj=40.2km s-min=10.8km az=123.0*

ISC 30 18:24:57.2±1.2, 28°93'N±0°03 × 57°38'E±0°05, h35km, n60, σ1°§30/80, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NGRK	**Negar Kerman**	**0.91**	**322**	Pg		**Pn**	**18 25 14.6**	**+0.9**
NGRK				Sg		**Sn**	**18 25 28.4**	**+2.6**
CHMN	**Cheshme madani**	**0.94**	**9**	Pg		Pn	**18 25 15.4**	**+1.2**
KBAM	**BAM**	**0.96**	**78**	Pg		**Pn**	**18 25 17.4**	**+3.1**
KHNJ	**Kahnooj**	**1.02**	**163**	Pg		Pn	18 25 20.4	+5.4
KHNJ				Sg		Sn	18 25 38.5	+10
TVBK	**TV Kerman**	**1.18**	**333**	Pg		**Pn**	**18 25 16.9**	**-0.6**
KRM1	**Kerman Provinc**	**1.57**	**357**	Pg		**Pn**	**18 25 21.9**	**-0.9**
KHGB	**Koh Gabri**	**1.64**	**332**	Pg		**Pn**	**18 25 22.2**	**-1.5**
IBND	**Bandar-abas**	**1.65**	**207**	Pg		**Pn**	**18 25 25.6**	**+1.9**
GENO	**Geno**	**1.86**	**215**	Pn		**Pn**	**18 25 27.9**	**+1.2**
ZRDN	**Zarand Kerman**	**2.15**	**340**	Pn		**Pn**	**18 25 29.0**	**-1.8**
SHME	**Shamm**	**3.07**	**201**	*e*P		**Pn**	**18 25 43.8**	**+0.5**
	SNR=14							
SHME	**Shamm**	**3.07**	**201**	P		**Pn**	**18 25 44.2**	**+0.9**
	SNR=14							
SHME				S		**Sn**	**18 26 19.7**	**+0.9**
IBAF	**Bafgh**	**3.08**	**330**	Pn		**Pn**	**18 25 40.8**	**-2.6**
JASK	**Jask - Hormozg**	**3.08**	**172**	Pn		**Pn**	**18 25 45.3**	**+1.9**
JASK	**Jask - Hormozg**	**3.08**	**172**	P		**Pn**	**18 25 45.3**	**+1.9**
	SNR=83							
BANOM	**Banah**	**3.15**	**198**	*e*P		**Pn**	**18 25 45.3**	**+1.0**
	SNR=20							
BANOM				S		**Sn**	**18 26 19.7**	**-0.9**
BANOM	**Banah**	**3.15**	**198**	P		**Pn**	**18 25 45.4**	**+1.1**
BANOM				S		**Sn**	**18 26 21.4**	**+0.8**
BSRN	**Basiran**	**3.38**	**26**	Pn		**Pn**	**18 25 46.4**	**-1.2**
IMEH	**Mehriz**	**3.42**	**316**	Pn		**Pn**	**18 25 45.4**	**-2.9**
MASF	**Masafi**	**3.71**	**197**	P		**Pn**	**18 25 53.4**	**+1.4**
	SNR=14							
MASF				S		**Sn**	**18 26 36.0**	**+1.4**
MSFE	**Esma-Masafi**	**3.72**	**197**	*i* P		**Pn**	**18 25 52.9**	**+0.7**
	SNR=14							
MDH	**Madha**	**3.75**	**195**	P		**Pn**	**18 25 52.2**	**-0.2**
MDH	**Madha**	**3.75**	**195**	P		**Pn**	**18 25 52.8**	**+0.3**
MDH				S		**Sn**	**18 26 34.9**	**-0.5**
IKOO	**Kooshah**	**3.75**	**22**	Pn		**Pn**	**18 25 51.0**	**-1.8**
UOSS	**Minazif**	**4.11**	**195**	*i* P		**Pn**	**18 25 58.0**	**+0.6**
	SNR=13							
UOSS	**Minazif**	**4.11**	**195**	P		**Pn**	**18 25 58.6**	**+1.1**
UOSS				S		**Sn**	**18 26 44.0**	**-0.3**
TPRV	**Parvadeh(Tabas**	**4.12**	**352**	Pn		**Pn**	**18 25 55.4**	**-2.4**
NAZ	**Nazwa, Dubai**	**4.22**	**202**	P		**Pn**	**18 25 59.8**	**+0.8**
NAZ	**Nazwa, Dubai**	**4.22**	**202**	P		**Pn**	**18 26 00.1**	**+1.2**
NAZ				S		**Sn**	**18 26 48.2**	**+1.3**
HATD	**Hatta, Dubai**	**4.24**	**195**	P		**Pn**	**18 26 00.2**	**+0.9**
HATD	**Hatta, Dubai**	**4.24**	**195**	P		**Pn**	**18 26 00.4**	**+1.1**
HATD				S		**Sn**	**18 26 48.3**	**+0.8**
CHBR	**Chabahar**	**4.32**	**140**	Pn		**Pn**	**18 26 00.7**	**+0.2**
ASHO	**Ashiyiah**	**4.39**	**196**	*i* P		**Pn**	**18 26 01.9**	**+0.5**
	SNR=27							
ASHO	**Ashiyiah**	**4.39**	**196**	P		**Pn**	**18 26 02.2**	**+0.8**
	SNR=27							
ASHO				S		**Sn**	**18 26 52.3**	**+0.9**
FAQ	**Al Faqa, Dubai**	**4.46**	**201**	*i* P		**Pn**	**18 26 02.7**	**+0.3**
	SNR=9.5							
FAQ	**Al Faqa, Dubai**	**4.46**	**201**	P		**Pn**	**18 26 03.0**	**+0.6**
	SNR=9.5							
FAQ				S		**Sn**	**18 26 52.6**	**-0.5**
ASUD	**Al Ashush, Dub**	**4.66**	**204**	*i* P		**Pn**	**18 26 05.8**	**+0.7**
	SNR=28							
ASUD	**Al Ashush, Dub**	**4.66**	**204**	P		**Pn**	**18 26 06.0**	**+0.9**
	SNR=28							
ASUD				S		**Sn**	**18 26 58.1**	**+0.1**
TKDS	**Koohdasht(Taba**	**4.67**	**357**	Pn		**Pn**	**18 26 02.9**	**-2.4**
AFRZ	**Afriz**	**4.69**	**17**	Pn		**Pn**	**18 26 03.8**	**-1.8**
SOHO	**SOHO**	**4.84**	**189**	*i* P		**Pn**	**18 26 05.9**	**-1.6**
	SNR=16							
SOHO	**SOHO**	**4.84**	**189**	P		**Pn**	**18 26 06.4**	**-1.1**
AJN	**Ajban**	**4.85**	**207**	P		**Pn**	**18 26 07.9**	**+0.3**
NGCH	**Negor - Chabah**	**4.89**	**136**	Pn		**Pn**	**18 26 08.6**	**+0.4**
NGCH	**Negor - Chabah**	**4.89**	**136**	P		**Pn**	**18 26 08.4**	**+0.3**
	SNR=14							
NGCH				S		**Sn**	**18 27 03.5**	**0.0**
ALNE	**Al Ain**	**5.07**	**197**	*i* P		**Pn**	**18 26 11.0**	**+0.3**
	SNR=7.4							
ALNE	**Al Ain**	**5.07**	**197**	P		**Pn**	**18 26 11.6**	**+0.8**
	SNR=7.4							
ALNE				S		**Sn**	**18 27 07.9**	**-0.2**
HOQ	**Hoqain**	**5.33**	**181**	Pn		**Pn**	**18 26 13.8**	**-0.5**
HOQ	**Hoqain**	**5.33**	**181**	P		**Pn**	**18 26 14.0**	**-0.3**
HOQ				S		**Sn**	**18 27 12.9**	**-1.6**
KLNJ	**Kolanjah**	**5.43**	**294**	Pn		**Pn**	**18 26 13.0**	**-2.9**
BIDO	**Bidbid**	**5.43**	**173**	P		**Pn**	**18 26 15.2**	**-0.4**
BIDO				S		**Sn**	**18 27 14.8**	**-2.1**
ARQ	**Araqi**	**5.62**	**188**	P		**Pn**	**18 26 19.4**	**+1.0**
	SNR=36							
ARQ				S		**Sn**	**18 27 21.5**	**-0.3**
SMDO	**Samad**	**5.88**	**174**	P		**Pn**	**18 26 22.0**	**0.0**
	SNR=9.3							
SMDO				S		**Sn**	**18 27 26.7**	**-1.5**
BSY	**Bisya**	**6.16**	**182**	P		**Pn**	**18 26 26.9**	**+1.1**
	SNR=8.6							
BSY				S		**Sn**	**18 27 34.6**	**-0.5**
WBK	**Wadi Bani Khal**	**6.46**	**167**	Pn		**Pn**	**18 26 29.5**	**-0.3**
WBK	**Wadi Bani Khal**	**6.46**	**167**	P		**Pn**	**18 26 29.7**	**-0.1**
WBK				S		**Sn**	**18 27 40.0**	**-2.3**
UMZA	**Um Al Zommool**	**6.51**	**198**	P		**Pn**	**18 26 29.3**	**-1.1**
JMDO	**Jabal Madar**	**6.57**	**174**	P		**Pn**	**18 26 31.6**	**+0.3**
JMDO				S		**Sn**	**18 27 43.4**	**-1.6**
JLN	**Jalan Bani Buh**	**7.00**	**164**	P		**Pn**	**18 26 37.1**	**-0.1**
MHTO	**MHTO**	**7.93**	**176**	P		**Pn**	**18 26 50.8**	**+0.8**
	SNR=11							

*BGR **30** 18:44:39.3, 34°01'N × 72°54'E, h244km±6km, mb4.9*

*NNC **30** 18:45:11.1±2.3, 36°96'N × 71°00'E, h0km, mb6.2, mpv6.1, Error ellipse: s-maj=22.0km s-min=11.7km az=162.0*

*MOS **30** 18:45:14.8±1.0, 36°42'N × 71°21'E, h237km, mb4.9/56, Error ellipse: s-maj=4.1km s-min=3.0km az=102.4*

*IDC **30** 18:45:16.4±0.4, 36°31'N × 71°18'E, h244km±3km, mb4.4/38, mbtmp5.1/41, Error ellipse: s-maj=7.5km s-min=5.6km az=21.0*

*NEIC **30** 18:45:16.6, 36°46'N × 71°12'E, h250km, Moment Tensor Solution. Duration: 1§6 Moment tensor: Scale 10¹⁶Nm; Mrr3.62; Mθθ-2.90; Mφφ-0.73; Mrθ-2.14; Mrφ0.50; Mθφ0.58; Fault plane solution: M₀3.99000×10¹⁶ NP1: φs283.79000°, δ61.91000°, λ91.12000°. NP2: φs101.42000°, δ28.12000°, λ87.90000°. Principal axes: T 4.2979, Plg73.0000°, Azm197.0000°; N -0.6200, Plg1.0000°, Azm103.0000°; P -3.6779, Plg17.0000°, Azm13.0000°;*

*GCMT **30** 18:45:16.6±0.2, 36°41'N±0°02 × 71°17'E±0°02, h244km±1km, MW5.0/109, Moment Tensor Solution. s49,c56; s109,c153; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.60±. 10; Mθθ-2.52±. 13; Mφφ-1.08±. 12; Mrθ-2.60±. 10; Mθφ 1.07±. 11; Mφr 0.20±. 10; Best double couple: M₀4.22400×10¹⁶ NP1:φs285.00000°, δ64.00000°, λ80.00000°. NP2:φs126.00000°, δ28.00000°, λ109.00000°. Principal axes: T 4.5620, Plg69.0000°, Azm174.0000°; N -0.6760, Plg9.0000°, Azm289.0000°; P -3.8850, Plg18.0000°, Azm22.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **30** 18:45:16.6±2.1, 36°46'N±0°05 × 71°13'E±0°07, h238km, mb5.0/214, Mww5.0/13 Error ellipse: s-maj=8.3km s-min=7.8km az=104.0*

*NEIC **30** 18:45:16.6, 36°46'N × 71°12'E, h250km*

*BJI **30** 18:45:17.2±0.0, 36°54'N × 71°34'E, h240km, mb5.0/70, mB4.7/41*

ISC 30 18:45:16.3±0.2, 36°39'N±0°03 × 71°17'E±0°02, h241km±1km, h241km:pP-P, n1258, σ1°§37/1518, mb4.9/305, 62C-75D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.53**	**224**	Pn		**Pn**	**18 46 03.5**	**0.0**
KBL				Sn		**S**	**18 46 38.1**	**-2.5**
KBL	**Kabul**	**2.53**	**224**	PN		**Pn**	**18 46 03.5**	**0.0**
KBL	**Kabul**	**2.53**	**224**	P		**Pn**	**18 46 03.8**	**+0.3**
	SNR=1332							
KBL				P		**Pn**	**18 46 03.8**	**+0.3**
	SNR=1178							
KBL				S		**S**	**18 46 40.7**	**0.0**
GAR	**Garm**	**2.69**	**346**			**Pn**	**18 46 04.5**	**-0.5**
GAR				Sn		**S**	**18 46 39.0**	**-4.4**
CHGR	**Chuyangaron**	**2.77**	**325**	Pn		**Pn**	**18 46 05.1**	**-0.7**
CHGR				Sn		**S**	**18 46 40.0**	**-4.9**
CHGR	**Chuyangaron**	**2.77**	**325**	PN		**Pn**	**18 46 05.1**	**-0.7**
CHGR							18 46 40.0	
SIMJ	**Simiganj**	**2.84**	**323**	Pn		**Pn**	**18 46 05.7**	**-0.9**
SIMJ				Sn		**S**	**18 46 40.6**	**-5.7**
DRK	**Karamyk**	**3.12**	**9**	Pn		**Pn**	**18 46 09.5**	**-0.3**
DRK				Sn		**S**	**18 46 47.7**	**-4.5**
NIL	**Nilore**	**3.23**	**147**	Pn		**Pn**	**18 46 11.5**	**+0.7**
NIL	**Nilore**	**3.23**	**147**	PN		**Pn**	**18 46 11.5**	**+0.7**
BTK	**Batken**	**3.67**	**356**	Pn		**Pn**	**18 46 16.3**	**+0.4**
BTK	**Batken**	**3.67**	**356**	PN		**Pn**	**18 46 16.3**	**+0.4**
OHH	**Osh**	**4.32**	**17**	PN		**Pn**	**18 46 22.9**	**-0.6**
JMU	**Jammu**	**4.79**	**139**	*e*P		**Pn**	**18 46 28.6**	**-0.7**
JMU				*ex*		x	18 47 24.1	
KSH	**Kashi**	**4.92**	**49**	P		Pn	18 46 25.3	-5.5
KSH				S		S	18 47 17.0	-13
KSH				smax		smax		
	comp=N,12µm,0.5s							
KSH				smax		smax		
	comp=E,12µm,0.7s							
ARSB	**Arslanbob**	**5.12**	**15**			**Pn**	**18 46 32.3**	**-1.1**
ARSB	**Arslanbob**	**5.12**	**15**	PN		**Pn**	**18 46 32.3**	**-1.1**
TRKS	**Terek-Say**	**5.13**	**360**	PN		**Pn**	**18 46 32.0**	**-1.5**
THN	**Thein Dam**	**5.45**	**135**	*e*P		**Pn**	**18 46 37.9**	**+0.5**
THN				*ex*		x	18 47 39.9	
THN				IAML			18 47 55.4	
	comp=E,2µm,0.6s							
THN				IAML			18 47 55.9	
	comp=N,3µm,0.4s							
IUG	**luzhnay**	**5.81**	**352**	⇓*i* Pn		**Pn**	**18 46 41.6**	**-0.3**
	baz=351							
IUG	**luzhnay**	**5.81**	**352**	*d i* PN		**Pn**	**18 46 41.6**	**-0.3**
DHRM	**DHARAMSHALA**	**5.92**	**133**	*e*P		**Pn**	**18 46 43.3**	**-0.3**
DHRM				*e*S		**S**	**18 47 47.8**	**-5.3**
DHRM				*ex*		x	18 47 50.3	
DHRM				IAML			18 47 51.5	
	comp=E,18µm,0.7s							
DHRM				IAML			18 47 51.5	
	comp=N,9µm,0.7s							
DHRM				IAML			18 47 52.8	
	comp=N,7µm,0.1s							
UCH	**Uchtor**	**6.38**	**23**	P		**Pn**	**18 46 48.5**	**-0.8**
	SNR=3441							
DZA	**Taraz**	**6.49**	**1**	*e*Pn		**Pn**	**18 46 49.7**	**-0.7**
	baz=0.5							
DZA	**Taraz**	**6.49**	**1**	*e*PN		**Pn**	**18 46 49.6**	**-0.8**
EKS2	**Erkin-Say**	**6.58**	**17**	P		**Pn**	**18 46 50.8**	**-0.8**
	SNR=741							
BHK	**Bhakra**	**6.61**	**137**	IAML			18 48 07.5	
	comp=E,5µm,0.4s							
BHK				IAML			18 48 08.3	
	comp=N,4µm,0.4s							
BRLS	**Borolday**	**6.71**	**352**	⇓*i* Pn		**Pn**	**18 46 49.0**	**-4.2**
	baz=350							
BRLS	**Borolday**	**6.71**	**352**	*d i* PN		**Pn**	**18 46 48.9**	**-4.2**
KK31	**Karatay Array**	**6.72**	**356**			**Pn**	**18 46 52.4**	**-0.9**
KK31	**Karatay Array**	**6.72**	**356**	PN		**Pn**	**18 46 52.4**	**-0.9**
KK31	**Karatay Array**	**6.72**	**356**	⇑P		Pn	18 46 44.6	-8.7
	comp=N,351nm,0.4s,baz=173,slow=13,SNR=9972							
KK31				⇑S		S	18 47 57.1	-14
	comp=N,2µm,0.6s,baz=173,slow=23,SNR=24							
KKAR	**Karatay Array**	**6.72**	**356**			**Pn**	**18 46 52.4**	**-0.9**
KKAR	**Karatay Array**	**6.72**	**356**	PN		**Pn**	**18 46 52.4**	**-0.9**
AAK	**Ala-Archa**	**6.75**	**21**	P		**Pn**	**18 46 53.1**	**-0.6**
	SNR=1241							
AAK	**Ala-Archa**	**6.75**	**21**	P		**Pn**	**18 46 53.2**	**-0.4**
AAK	**Ala-Archa**	**6.75**	**21**	P		**Pn**	**18 46 53.1**	**-0.6**
	comp=N,1µm,0.3s,baz=195,slow=6.3,SNR=2391							
AAK				S		**S**	**18 48 06.8**	**-4.9**
	comp=N,482nm,0.7s,baz=225,slow=22,SNR=3.6							
AAK	**Ala-Archa**	**6.75**	**21**	P		**Pn**	**18 46 53.3**	**-0.4**
AAK				S		**S**	**18 48 09.1**	**-2.6**
KBK	**Karagaybulak**	**6.91**	**24**	P		**Pn**	**18 46 55.5**	**-0.2**
	SNR=125							
FRU1	**Bishkek**	**6.95**	**22**			**Pn**	**18 46 55.8**	**-0.3**
FRU1	**Bishkek**	**6.95**	**22**	PN		**Pn**	**18 46 55.8**	**-0.3**
ULHL	**Ulahol**	**7.04**	**32**	P		**Pn**	**18 46 56.3**	**-1.3**
	SNR=537							
BOOM	**Boomskoye usch**	**7.12**	**30**	Pn		**Pn**	**18 46 57.5**	**-1.0**
BOOM	**Boomskoye usch**	**7.12**	**30**	PN		**Pn**	**18 46 57.5**	**-1.0**
CHMS	**Chumysh**	**7.15**	**22**	P		**Pn**	**18 46 57.6**	**-1.1**
	SNR=664							
SMLA	**Simla**	**7.25**	**135**	*e*P		**Pn**	**18 46 59.5**	**-0.5**
SMLA				*e*S		**S**	**18 48 17.7**	**-5.4**
SMLA				IAML			18 48 21.0	
	comp=E,2µm,0.1s							
SMLA				IAML			18 48 21.2	
	comp=N,3µm,0.1s							
USP	**Ospenovka**	**7.33**	**19**	P		**Pn**	**18 46 59.4**	**-1.6**
	SNR=526							
TKM2	**Tokmak 2**	**7.36**	**26**	P		**Pn**	**18 47 00.8**	**-0.7**
	SNR=1883							
TARG	**Taragay, Kyrgy**	**7.42**	**42**			**Pn**	**18 47 00.5**	**-2.0**
TARG	**Taragay, Kyrgy**	**7.42**	**42**	PN		**Pn**	**18 47 00.5**	**-2.0**
SGDS	**Sogindy**	**7.54**	**20**	⇓*i* Pn		**Pn**	**18 47 02.0**	**-1.6**
	baz=19							
SGDS	**Sogindy**	**7.54**	**20**	*d i* PN		**Pn**	**18 47 02.0**	**-1.6**
HRA	**Herat**	**7.56**	**257**	Pn		**Pn**	**18 47 04.5**	**+0.4**
TNSS	**Tian-Shan**	**7.99**	**32**	⇓*i* Pn		**Pn**	**18 47 08.7**	**-1.1**
	baz=32							
TNSS	**Tian-Shan**	**7.99**	**32**	⇓*i* PN		**Pn**	**18 47 08.6**	**-1.1**
KASK	**Kaskelen**	**8.01**	**30**	⇓P		Pn	18 47 04.7	-4.9
KASK				⇓S		S	18 48 29.3	-12
AAA	**Alma-Ata**	**8.12**	**31**	⇓*i* Pn		**Pn**	**18 47 10.9**	**-0.1**
	baz=31							
AAA	**Alma-Ata**	**8.12**	**31**	*e*PN		**Pn**	**18 47 10.7**	**-0.3**
MDOK	**Medeo**	**8.14**	**32**	*i* Pn		**Pn**	**18 47 10.3**	**-1.0**
	baz=

MAKZ **Makanchi** 13.17 34 P Pn 18 48 12.9 -1.5
MAKZ **Makanchi** 13.17 34 ⇓P Pn 18 48 12.8 -1.5
comp=E,584nm,0.6s
MK31 **Makanchi Array** 13.30 35 Pn 18 48 14.2 -1.9
MK31 **Makanchi Array** 13.30 35 P Pn 18 48 14.2 -1.9
MK31 **Makanchi Array** 13.30 35 P Pn 18 48 14.2 -1.9
comp=E,60nm,0.3s,baz=214,slow=12,SNR=3345
MKAR **Makanchi Array** 13.30 35 P Pn 18 48 14.3 -1.7
comp=E,151nm,0.4s,baz=219,slow=14,SNR=343
MKAR S S 18 50 37.5 -5.9
comp=E,8.1nm,0.8s,baz=224,slow=16,SNR=1.0
BRZS **Berezniki** 13.63 4⇓*i*Pn Pn 18 48 18.7 -1.4
baz=4.0
BRZS **Berezniki** 13.63 4*d i*P Pn 18 48 18.6 -1.4
NGCH **Negor - Chabah** 13.96 221 P P 18 48 25.8 +0.6
SNR=14
WMQ **Urumqi** 14.65 55⇑*i*P Pn 18 48 32.0 -0.5
WMQ pmax pmax
comp=E,140nm,1.1s
WMQ pmax pmax
comp=E,530nm,3.7s
ZSN **Zaisan** 15.01 38 *e*Pn P 18 48 35.0 -1.6
baz=38
ZSN **Zaisan** 15.01 38 *e*P P 18 48 35.0 -1.6
KURBB **Kurchatov Arra** 15.18 18 P P 18 48 37.4 -1.0
comp=E,266nm,0.6s,baz=209,slow=11,SNR=721
KURBB S S 18 51 22.4 -3.7
comp=E,7.0nm,0.6s,baz=245,slow=15,SNR=2.0
KURBB PKiKP **PKiKP** 19 01 20.2 -1.9
comp=E,0.6nm,0.3s,baz=222,slow=0.9,SNR=4.0
KURBB **Kurchatov Arra** 15.18 18 ⇑P Pn 18 48 39.0 +0.2
comp=E,285nm,0.5s
AB31 **Akbulak array** 15.24 331 P P 18 48 37.9 -1.1
AB31 S S 18 51 25.1 -2.2
AB31 **Akbulak array** 15.24 331 ⇑P P 18 48 38.0 -1.1
comp=E,167nm,0.7s
AB31 ⇑S S 18 51 25.2 -2.2
comp=E,95nm,0.8s,baz=148,slow=24,SNR=6.2
ABKAR **Akbulak array** 15.24 331 P 18 48 38.0 -1.1
ABKAR **Akbulak array** 15.24 331 P 18 48 37.9 -1.1
KURK **Kurchatov** 15.29 18 P P 18 48 38.5 -1.1
KURK **Kurchatov** 15.29 18 *d i*P P 18 48 38.3 -1.3
KURK pmax pmax
comp=Z,340nm,0.8s
KURK **Kurchatov** 15.29 18 P P 18 48 38.8 -0.8
KURK P P 18 48 38.8 -0.8
KURK **Kurchatov** 15.29 18 ⇓P P 18 48 38.5 -1.1
comp=Z,515nm,1.2s
JASK **Jask - Hormozg** 15.47 231 P Pn 18 48 43.0 +0.5
SNR=6.9
JASK S S 18 51 29.1 -3.4
BANOM **Banah** 16.44 235 P P 18 48 53.0 +0.5
BANOM S S 18 51 50.9 -1.2
SHME **Shamm** 16.46 235 *i*P P 18 48 53.2 +0.5
SNR=12
SHME **Shamm** 16.46 235 P P 18 48 53.1 +0.5
SNR=12
BVA0 **Borovoye Array** 16.64 358 P Pn 18 48 55.6 -0.5
BVA0 **Borovoye Array** 16.64 358 ⇑P Pn 18 48 55.6 -0.5
comp=Z,179nm,0.5s,baz=165,slow=8.3,SNR=1452
BVAR **Borovoye Array** 16.64 358 P P 18 48 55.0 +0.6
comp=Z,369nm,0.5s,baz=165,slow=10,SNR=545
BVAR S S 18 51 55.4 -0.3
comp=Z,17nm,0.7s,baz=168,slow=21,SNR=2.0
BVAR PKiKP **PKiKP** 19 01 21.5 -1.2
comp=Z,1.4nm,0.5s,baz=264,slow=2.2,SNR=4.9
BRVK **Borovoye** 16.68 358 P P 18 48 55.5 +0.7
BRVK **Borovoye** 16.68 358 *d i*P P 18 48 55.5 +0.7
BRVK pmax pmax
comp=Z,595nm,0.8s
BRVK **Borovoye** 16.68 358 P Pn 18 48 55.8 -0.7
BRVK **Borovoye** 16.68 358 ⇑P Pn 18 48 56.6 +0.1
comp=Z,404nm,0.6s
MDH **Madha** 16.87 233 *i*P P 18 48 56.6 -0.5
SNR=13
MDH **Madha** 16.87 233 P P 18 48 56.9 -0.2
SNR=12
MASF **Masafi** 16.91 234 P Pn 18 48 59.8 +0.3
SNR=17
MASF S S 18 52 00.6 -1.0
MSFE **Esma-Masafi** 16.91 234 *i*P Pn 18 48 59.5 -0.1
SNR=43
AKTO **Aktyubinsk** 16.94 330 P Pn 18 48 58.8 -0.8
comp=Z,689nm,0.6s,baz=139,slow=8.4,SNR=848
AKTO S S 18 52 01.0 -0.7
comp=Z,31nm,0.6s,baz=56,slow=14,SNR=2.2
AKTO **Aktyubinsk** 16.94 330 ⇓P Pn 18 48 59.7 0.0
comp=Z,347nm,0.6s
AKTO ⇑S S 18 52 04.5 +2.7
comp=Z,122nm,1.0s
WSAR **Wadi Sarin** 17.01 223 P Pn 18 49 01.1 +0.4
comp=E,58nm,0.7s,baz=66,slow=8.5,SNR=107
WSAR S S 18 52 05.3 +1.7
comp=Z,17nm,1.0s,baz=357,slow=16,SNR=2.6
BIDO **Bidbid** 17.07 225 P Pn 18 49 02.0 +0.6
SNR=10
BIDO S S 18 52 05.5 +0.7
UOSS **Minazif** 17.18 233 P P 18 48 59.6 -1.0
UOSS **Minazif** 17.18 233 *i*P P 18 48 59.9 -0.6
SNR=9.0
UOSS **Minazif** 17.18 233 P P 18 49 01.4 +0.8
HATD **Hatta, Dubai** 17.31 232 *i*P P 18 49 02.7 +0.7
SNR=27
HATD **Hatta, Dubai** 17.31 232 P Pn 18 49 03.4 -0.8
SNR=27
GTK **Tadong** 17.33 117 *e*P Pn 18 49 04.5 -0.1
GTK IAmb IAmb 18 49 05.8
comp=Z,138nm,0.6s
WBK **Wadi Bani Khal** 17.34 221 P Pn 18 49 04.9 +0.3
SNR=25
ASHO **Ashiyiah** 17.45 232 *i*P P 18 49 04.8 +1.2
SNR=29
ASHO **Ashiyiah** 17.45 232 P Pn 18 49 05.3 -0.7
SNR=29
SMDO **Samad** 17.48 224 P Pn 18 49 06.2 -0.1
SNR=13
JLN **Jalan Bani Buh** 17.49 219 P Pn 18 49 06.7 +0.4
SNR=57
HOQ **Hoqain** 17.50 227 P Pn 18 49 05.6 -0.8
SNR=10
NAZ **Nazwa, Dubai** 17.50 234 *i*P P 18 49 05.0 +1.0
SNR=24
NAZ **Nazwa, Dubai** 17.50 234 P P 18 49 05.2 +1.1
SNR=24
SOHO **SOHO** 17.55 230 P P 18 49 04.1 -0.5
SOHO **SOHO** 17.55 230 P P 18 49 04.5 -0.1
FAQ **Al Faqa, Dubai** 17.71 233 *i*P P 18 49 07.2 +0.9
SNR=14
FAQ **Al Faqa, Dubai** 17.71 233 P P 18 49 07.2 +0.9
SNR=14
BOK **Bokaro** 17.86 131 *e*P Pn 18 49 09.4 -1.2
BOK IAmb IAmb 18 49 11.0
comp=Z,212nm,0.6s
BOK *i* x x 18 49 13.9
POO **Poona** 17.95 172 *e*P Pn 18 49 11.3 -0.6
POO IAmb IAmb 18 49 12.8
comp=Z,122nm,0.9s
POO *i* x x 18 49 15.6
ASUD **Al Ashush, Dub** 17.96 234 *i*P P 18 49 10.4 +1.3
SNR=8.3
ASUD **Al Ashush, Dub** 17.96 234 P Pn 18 49 10.7 -1.2
SNR=8.3
JMDO **Jabal Madar** 18.00 223 P Pn 18 49 12.1 -0.2
SNR=39
LSA **Lhasa** 18.02 106 P Pn 18 49 12.4 -0.6
LSA **Lhasa** 18.02 106 P Pn 18 49 12.4 -0.6
ALNE **Al Ain** 18.10 231 *i*P P 18 49 11.8 +1.3
SNR=20
ALNE **Al Ain** 18.10 231 P P 18 49 11.9 +1.3
SNR=20
ALNE P P 18 49 11.9 +1.3
SNR=20
ARQ **Araqi** 18.15 228 P Pn 18 49 13.1 -1.0
SNR=14
BSY **Bisya** 18.21 225 P Pn 18 49 14.2 -0.6
SNR=25
AJN **Ajban** 18.23 234 *i*P P 18 49 12.7 +0.7
SNR=22
AJN **Ajban** 18.23 234 P P 18 49 12.9 +1.0
SNR=17
GOMU **GeErMu** 19.06 84 P Pn 18 49 23.5 -1.5
GOMU pmax pmax
comp=Z,15nm,0.5s
MHTO **MHTO** 19.19 220 P Pn 18 49 25.2 -1.2
SNR=39
SEKA **Sheki** 19.27 292 P P 18 49 21.6 -1.5

MNGR **Mingechevir, A** 19.31 290 P P 18 49 22.8 -0.6
MAK **Makhachkala** 19.33 297 *d i*P P 18 49 23.2 -0.3
MAK *e*S S 18 52 50.7 +1.7
MAK pmax pmax
comp=Z,271nm,1.2s
MAK MLR MLR
comp=Z,146nm,12.0s
JRN **Qarnain Island** 19.42 239 P P 18 49 24.3 -0.4
SNR=9.9
UMZA **Um Al Zommool** 19.45 230 P P 18 49 25.9 +0.9
MZWR **Madinat Zayed** 19.51 235 P P 18 49 26.4 +0.7
MZWR S S 18 52 50.3 -2.7
ZKTA **Zakatala** 19.75 293 P P 18 49 27.5 -0.6
GANJ **Ganja** 19.88 290 P P 18 49 28.8 -0.7
ZAA0 **Zalesovo Array** 19.96 24 P P 18 49 29.5 -0.6
ZALV **Zalesovo Beam** 19.96 24 P P 18 49 29.3 -0.8
ZALV **Zalesovo Beam** 19.96 24 *i*P P 18 49 29.6 -0.6
ZALV pmax pmax
comp=Z,118nm,0.5s
ZALV **Zalesovo Beam** 19.96 24 P P 18 49 29.6 -0.6
comp=Z,123nm,0.5s,baz=215,slow=11,SNR=481
ZALV S S 18 52 57.2 -3.8
comp=Z,28nm,0.6s,baz=209,slow=18,SNR=4.9
comp=Z,123nm,0.5s
HYB **Hyderabad** 20.00 159⇑*e*P P 18 49 31.9 +0.8
HYB IVmB_BB 18 49 34.0
comp=Z,2μm,1.1s
HYB *e* 18 50 11.4
HYB *es*P **sP** 18 50 40.6 +0.1
HYB *e*S S 18 53 04.9 +2.4
HYB **Hyderabad** 20.00 159 *e*P P 18 49 31.8 +0.8
GHWR **Ruwais** 20.05 237 P P 18 49 30.5 -0.9
GHWR S S 18 52 59.1 -4.1
SHMA **Al-Shehemyia** 20.20 244 P P 18 49 33.0 +0.1
SHMA S S 18 53 02.6 -3.3
DQM **DQM** 20.29 220 P P 18 49 35.5 +1.5
SNR=20
MZR **Muzera** 20.30 234 P P 18 49 35.9 +1.7
MZR S S 18 53 04.4 -3.6
SAKB **Bahrain** 20.44 245 P P 18 49 36.2 +0.6
SAKB S S 18 53 08.8 -1.5
NAX **Nakhchivan** 20.46 286 P P 18 49 35.1 -0.7
GROC **Groznyy** 20.60 297 *e*P P 18 49 38.9 +1.7
GROC *e**SP **sP** 18 50 48.1 +1.1
GROC *e*S S 18 53 16.4 +3.6
GROC pmax pmax
comp=Z,67nm,0.9s
TRNA **Turayna** 20.70 241 P P 18 49 39.0 +0.6
TRNA S S 18 53 11.4 -3.4
SHL **Shillong** 20.74 116 *e*P P 18 49 39.5 +0.5
SLWR **Sila** 20.79 239 P P 18 49 40.1 +0.8
SLWR S S 18 53 13.6 -2.7
GOA **Goa** 20.95 173 *e*P P 18 49 42.6 +1.6
GOA IAmb IAmb 18 49 46.2
comp=Z,47nm,0.7s
GOA *i* x x 18 50 51.1
SMRA **Abu-Samra** 20.97 242 P P 18 49 40.2 -0.9
SNR=5.7
SMRA S S 18 53 17.5 -1.8
KBD **Kabd** 20.98 257 P P 18 49 41.7 +0.4
KBD S S 18 53 20.7 +1.3
GNI **Garni** 21.05 288 P P 18 49 43.3 +1.1
GNI **Garni** 21.05 288 *de*P P 18 49 43.2 +1.1
GNI pmax pmax
comp=Z,77nm,0.9s
GNI **Garni** 21.05 288 P P 18 49 43.5 +1.4
comp=Z,64nm,0.9s,baz=9.5,slow=3.8,SNR=29
comp=Z,64nm,0.9s
GNI **Garni** 21.05 288 P P 18 49 44.6 +2.5
ZIRO **ZIRO** 21.14 108 *e*P P 18 49 43.7 +0.6
ITAN **ITANAGAR** 21.24 109 *e*P P 18 49 45.0 +1.1
AGT **Agartala** 21.33 120 *e*P P 18 49 46.9 +2.2
AGT *i* x x 18 50 02.1
SVE **Sverdlovsk** 21.64 344 *ce*P P 18 49 47.9 +0.6
SVE *e*S S 18 53 32.3 +2.7
SVE pmax pmax
comp=Z,144nm,1.4s
ARU **Arti** 21.78 341 P P 18 49 49.0 +0.3
ARU **Arti** 21.78 341 *c i*P P 18 49 49.4 +0.8
ARU S S 18 53 35.6 +3.7
ARU pmax pmax
comp=Z,84nm,0.9s
ARU **Arti** 21.78 341 P P 18 49 49.6 +0.9
comp=Z,42nm,0.4s,baz=130,slow=5.7,SNR=104
ARU PcP **PcP** 18 53 39.0 +0.1
comp=Z,13nm,0.5s,baz=95,slow=22,SNR=2.3
comp=Z,42nm,0.4s
ONI **Oni** 22.21 295 P P 18 49 54.2 +1.3
ONI **Oni** 22.21 295 P P 18 49 54.2 +1.3
KARS **Kars** 22.34 289 P P 18 49 53.1 -1.1
KARS **Kars** 22.34 289 P P 18 49 53.1 -1.1
GTA **Gaotai** 22.77 74 P P 18 50 03.3 +2.2
GTA sP sP 18 51 11.8 -0.8
GTA S S 18 53 51.5 +3.0
GTA SS SS 18 55 03.0 -30
GTA pmax pmax
comp=Z,82nm,0.5s
GTA pmax pmax
comp=Z,97nm,5.1s
KBZ **Khabaz** 22.77 297 *ce*P P 18 49 58.2 +0.4
KBZ pmax pmax
comp=Z,16nm,0.9s
KBZ **Khabaz** 22.77 297 P P 18 49 58.3 +0.4
comp=Z,15nm,0.8s,baz=123,slow=8.1,SNR=20
comp=Z,15nm,0.8s
SHAO **Shalim** 22.87 221 *i*P P 18 50 00.5 +1.4
SNR=32
SHAO **Shalim** 22.87 221 P P 18 50 01.6 +2.6
SHA1 **Shidzhatmaz** 22.94 297 *ce*P P 18 50 00.4 +0.7
KIV **Kislovodsk** 22.96 298 P P 18 50 00.5 +0.8
KIV **Kislovodsk** 22.96 298 *e*P P 18 50 00.3 +0.6
KIV *e*S S 18 53 54.0 +2.5
KIV pmax pmax
comp=Z,24nm,1.0s
KIV MLR MLR
comp=Z,52nm,14.0s
KIV **Kislovodsk** 22.96 298 P P 18 50 00.7 +1.0
BELG **Belogornoye** 23.06 321 *de*P P 18 50 01.3 +1.0
BELG pmax pmax
comp=Z,18nm,0.7s
BELG **Belogornoye** 23.06 321 P P 18 50 00.9 +0.6
comp=Z,92nm,0.5s,baz=131,slow=0.1,SNR=37
BELG S S 18 53 55.8 +3.2
comp=Z,16nm,0.8s,baz=103,slow=14,SNR=1.0
comp=Z,92nm,0.5s
GURO **Guroymak-BITLI** 23.18 284 P P 18 50 02.9 +1.1
DOK **Doka** 23.21 225 P P 18 50 04.1 +1.9
SNR=14
DMTO **DMTO** 23.49 222 P P 18 50 06.4 +1.8
WHFO **Wadi Hawf** 23.97 224 P P 18 50 10.5 +1.4
SNR=11
RBK **Rabkut** 24.07 223 P P 18 50 11.3 +1.4
SNR=10
LABN **Labinsk** 24.46 299 *e*P P 18 50 15.4 +2.2
LABN *e**PP **pP** 18 50 57.6 -0.6
LABN pmax pmax
comp=Z,32nm,0.8s
MDRS **Chennai** 24.62 158 *e*P P 18 50 16.3 +1.4
MDRS IAmb IAmb 18 50 19.3
comp=Z,16nm,0.7s
ABTO **Aybut** 24.69 225 P P 18 50 16.6 +0.9
SNR=11
ERBR **Yeremizino-Bor** 24.82 302 *e*P P 18 50 17.5 +1.1
ERBR *e**PP **pP** 18 51 01.3 -0.9
ERBR pmax pmax
comp=Z,25nm,0.9s
SOC **Sochi** 25.04 296 *e*P P 18 50 20.5 +2.1
SOC *e*PPP PPP 18 51 30.2
SOC *i*S S 18 54 29.5 +5.2
RAYN **Ar Rayn** 25.58 247 P P 18 50 23.5 -0.1
RAYN **Ar Rayn** 25.58 247 *i*P P 18 50 24.0 +0.5
SNR=31
RAYN **Ar Rayn** 25.58 247 P P 18 50 23.5 -0.1
RAYN pmax pmax
comp=Z,59nm,0.8s
RAYN **Ar Rayn** 25.58 247 P P 18 50 24.2 +0.6
VRH **Novokhopyorsk** 25.68 314 *e*P P 18 50 23.1 -1.0
VRH *e**PP **pP** 18 51 06.2 -5.0
VRH pmax pmax
comp=Z,20nm,0.8s
MND **Mandalay** 25.97 117 P P 18 50 27.5 +0.5
TNCH **TengChong** 26.01 108 ⇑P P 18 50 29.3 +1.7
TNCH pP pP 18 51 14.5 -1.4
TNCH sP sP 18 51 42.3 -2.3

TNCH S S 18 54 41.0 +0.6
TNCH sS sS 18 56 03.5 -4.3
TNCH pmax pmax
comp=Z,27nm,0.8s
TNCH pmax pmax
comp=Z,110nm,4.4s
ARPR **Arapgir-MALATY** 26.03 286 P P 18 50 27.6 +0.1
ARPR IAmb IAmb 18 51 20.2
comp=Z,57nm,1.1s
MOY **Mondy** 26.09 45 *e*P P 18 50 29.3 +1.4
MOY pmax pmax
comp=Z,21nm,1.6s
LZH **Lanzhou** 26.29 81 P P 18 50 31.8 +1.8
LZH pP pP 18 51 13.5 -5.2
LZH S S 18 54 45.5 +1.0
LZH sS sS 18 56 12.0 -0.1
LZH pmax pmax
comp=Z,31nm,1.4s
KIRV **Kirov** 26.40 334 *ce*P P 18 50 31.3 +1.0
KIRV **Kirov** 26.40 334 P P 18 50 31.5 +1.1
comp=Z,37nm,0.5s,baz=134,slow=3.1,SNR=20
KIRV S S 18 54 45.5 +0.3
comp=Z,9.1nm,0.7s,baz=194,slow=12,SNR=1.7
comp=Z,37nm,0.5s
ANN **Anapa** 26.80 299 *e*P P 18 50 34.3 +0.1
ZAK **Zakamensk** 26.96 49 *e*P P 18 50 36.3 +0.6
ZAK pmax pmax
comp=Z,16nm,1.0s
VORD **Divnogorie** 27.01 313 *e*P P 18 50 34.8 -1.2
VORD *e**PP **pP** 18 51 23.9 +0.3
VORD pmax pmax
comp=Z,10.0nm,1.0s
GAZ **Gaziantep** 27.13 282 P P 18 50 39.1 +1.8
GAZ IAmb IAmb 18 51 29.9
comp=Z,20nm,0.6s
VSR **Storozhevoye** 27.18 313 *e*P P 18 50 35.9 -1.5
VSR *e**PP **pP** 18 51 23.4 -1.6
VSR pmax pmax
comp=Z,20nm,0.8s
VORR **Voronezh** 27.31 314 *e*P P 18 50 37.0 -1.6
VORR *e**PP **pP** 18 51 24.5 -1.8
VORR pmax pmax
comp=Z,40nm,0.4s
CD2 **Chengdu** 27.59 92 P P 18 50 43.3 +1.8
CD2 pP pP 18 51 30.3 +0.3
CD2 S S 18 55 06.3 +1.4
CD2 sS sS 18 56 34.0 +1.2
CD2 pmax pmax
comp=Z,10.0nm,0.6s
PZH **PanZhiHua** 27.79 102 P P 18 50 44.5 +1.2
PZH pP pP 18 51 35.3 +3.2
PZH PcP PcP 18 53 52.8 -0.3
PZH S S 18 55 10.8 +2.7
PZH ScP ScP 18 57 08.8 -1.8
PZH PcS PcS 18 57 33.5 -2.1
PZH ScS ScS 19 01 00.3 -3.1
PZH pmax pmax
comp=Z,30nm,0.8s
PZH pmax pmax
comp=Z,80nm,4.4s
LPSR **Galich'ya Gora** 27.82 316 *e*P P 18 50 43.3 +0.2
LPSR *e**PP **pP** 18 51 29.0 -1.9
LPSR pmax pmax
comp=Z,40nm,0.8s
TRD **Trivandrum** 28.25 168 *e*P P 18 50 49.0 +1.7
TRD IAmb IAmb 18 50 51.0
comp=Z,50nm,1.1s
SONM **Songino Array** 28.29 55 P P 18 50 48.2 +0.7
SONM IAmb IAmb 18 50 50.1
comp=Z,23nm,0.8s
SONM **Songino Array** 28.29 55 P P 18 50 48.2 +0.7
SONM pmax pmax
comp=Z,23nm,0.8s
SONM **Songino Array** 28.29 55 P P 18 50 49.1 +1.6
comp=Z,22nm,0.8s,baz=256,slow=9.6,SNR=180
SONM pP **pP** 18 51 36.8 +0.3
comp=Z,16nm,0.9s,baz=257,slow=9.7,SNR=4.8
SONM PcP **PcP** 18 53 54.0 +0.1
comp=Z,6.8nm,0.8s,baz=255,slow=5.2,SNR=3.5
comp=Z,22nm,0.8s
ASF **Jabal al Asfar** 28.54 272 P P 18 50 50.3 +0.4
comp=Z,3.1nm,0.9s,baz=152,slow=0.3,SNR=2.0
ASF ScP **ScP** 18 57 12.4 -0.4
comp=Z,2.6nm,0.7s,baz=82,slow=0.3,SNR=4.0
comp=Z,3.1nm,0.9s
ULN **Ulaanbaatar** 28.73 55 P P 18 50 52.5 +1.1
ULN IAmb IAmb 18 50 53.8
comp=Z,19nm,0.7s
ULN **Ulaanbaatar** 28.73 55 *de*P P 18 50 52.8 +1.4
ULN pmax pmax
comp=Z,22nm,0.8s
ULN **Ulaanbaatar** 28.73 55 P P 18 50 52.9 +1.5
KMI **Kunming** 29.24 104 ⇑P P 18 50 56.5 +0.2
KMI S S 18 55 32.0 +0.9
KMI pmax pmax
comp=Z,21nm,0.7s
MMAI **Mount Meron Ar** 29.49 274 P P 18 50 58.4 +0.1
comp=Z,3.1nm,0.7s,baz=66,slow=10,SNR=4.7
MMAI PcP **PcP** 18 53 57.9 +0.7
comp=Z,10nm,0.5s,baz=67,slow=6.4,SNR=29
MMAI ScP **ScP** 18 57 15.5 -0.2
comp=Z,6.6nm,0.7s,baz=64,slow=3.8,SNR=6.8
comp=Z,3.1nm,0.7s
BR131 **Keskin Array S** 29.59 288 IAmb IAmb 18 51 01.2
comp=Z,17nm,0.7s
BR131 **Keskin Array S** 29.59 288 *c i*P P 18 50 59.8 +0.6
BRTR **Keskin Array B** 29.59 288 P P 18 50 59.7 +0.6
BRTR **Keskin Array B** 29.59 288 P P 18 51 00.1 +1.0
comp=Z,11nm,0.6s,baz=102,slow=9.4,SNR=86
BRTR PcP **PcP** 18 53 57.1 -0.4
comp=Z,5.5nm,0.5s,baz=133,slow=2.6,SNR=14
BRTR ScP **ScP** 18 57 14.8 -1.3
comp=Z,1.9nm,0.8s,baz=142,slow=6.3,SNR=4.4
comp=Z,11nm,0.6s
MOS **Moscow** 29.83 321 *e*P P 18 51 00.2 -0.6
MOS *e**PP **pP** 18 51 46.4 -2.5
MOS *e* 18 53 59.9
MOS *e*S S 18 55 38.9 -0.3
MOS *e**SS **sS** 18 57 06.2 -1.1
MOS pmax pmax
comp=Z,38nm,0.6s
OBN **Obninsk** 30.11 319 P P 18 51 02.1 -1.1
OBN IAmb IAmb 18 51 54.3
comp=Z,30nm,0.5s
OBN **Obninsk** 30.11 319 *i*P P 18 51 03.7 +0.5
OBN *i* 18 51 51.5
OBN *i* 18 52 12.4
OBN pmax pmax
comp=Z,15nm,0.9s
OBN **Obninsk** 30.11 319 P P 18 51 03.7 +0.5
comp=Z,22nm,0.3s,baz=209,slow=5.5,SNR=5.9
OBN S S 18 55 43.4 -0.1
comp=Z,8.2nm,0.4s,baz=0.4,slow=22,SNR=1.4
comp=Z,22nm,0.3s
CRAI **Chiangrai** 30.18 114 P P 18 51 04.7 +0.3
ANTO **Ankara** 30.23 288 P P 18 51 03.4 -1.2
ANTO **Ankara** 30.23 288 P P 18 51 03.4 -1.2
ANTO pmax pmax
comp=Z,13nm,0.8s
DGPR **DIGLIPUR** 30.27 134 *e*P P 18 51 07.5 +2.4
PALK **Pallekele** 30.27 161 P P 18 51 06.4 +1.3
PALK **Pallekele** 30.27 161 P P 18 51 06.4 +1.3
PALK pmax pmax
comp=Z,68nm,0.8s
PALK **Pallekele** 30.27 161 P P 18 51 06.9 +1.8
PALK **Pallekele** 30.27 161 ⇑P P 18 51 06.7 +1.5
CM31 **Chiang Mai Arr** 30.28 119 P P 18 51 06.0 +0.8
CMAR **Chiang Mai Arr** 30.28 119 P P 18 51 05.6 +0.3
CMAR **Chiang Mai Arr** 30.28 119 *i*P P 18 51 06.0 +0.8
CMAR pmax pmax
comp=Z,42nm,0.8s
CMAR **Chiang Mai Arr** 30.28 119 P P 18 51 06.1 +0.8
comp=Z,37nm,0.8s,baz=300,slow=8.3,SNR=191
CMAR PcP **PcP** 18 53 59.3 -0.1
comp=Z,7.1nm,0.8s,baz=296,slow=4.9,SNR=4.3
CMAR ScP **ScP** 18 57 17.0 -1.5
comp=Z,1.5nm,0.8s,baz=294,slow=4.5,SNR=3.3
comp=Z,37nm,0.8s
BTO **Baotou** 30.53 70 *e*P P 18 51 08.3 +1.0
BTO pP pP 18 51 57.5 +0.7
BTO S S 18 55 54.5 +3.8
BTO pmax pmax
comp=Z,120nm,0.7s
BTO pmax pmax
comp=Z,270nm,4.8s

BTO LR LR
comp=Z,410nm,6.0s
BTO LR LR
comp=Z,290nm,4.5s
BTO LR LR
comp=Z,260nm,7.5s
XAN Xi'an 30.81 83 ⇑P **P** **18 51 10.5 +0.7**
XAN pP pP 18 52 00.3 +1.4
XAN S **S** **18 55 57.3 +2.2**
XAN pmax pmax
comp=Z,120nm,0.7s
XAN pmax pmax
comp=Z,210nm,5.5s
XAN Xi'an 30.81 83 P **P** **18 51 10.7 +0.9**
XAN PcP **PcP** **18 53 59.6 -1.0**
PHRA Phrae 31.18 117 P **P** **18 51 13.7 +0.6**
PBA Port Blair 31.39 136 *e*P **P** **18 51 16.6 +1.7**
KLMR Klimovskoe 31.64 331 *e*P **P** **18 51 14.5 -2.1**
KLMR *e**PP **pP** 18 52 03.3 -2.0
KLMR *e* 18 52 28.8
KLMR *e* 18 54 02.2
KLMR S **S** **18 56 00.8 -6.5**
KLMR pmax pmax
comp=Z,33nm,1.1s
HHC Hu-ho-hao-te 31.68 69 *e*P **P** **18 51 18.0 +0.7**
HHC S **S** **18 56 09.8 +1.2**
HHC pmax pmax
comp=Z,30nm,0.8s
HHC pmax pmax
comp=Z,130nm,5.4s
GYA Guiyang 31.71 98 ⇑P **P** **18 51 18.8 +0.9**
GYA sP sP 18 52 35.5 -0.2
GYA S **S** **18 56 08.8 -0.7**
GYA ScP **ScP** **18 57 23.8 +0.5**
GYA pmax pmax
comp=Z,72nm,0.9s
GYA pmax pmax
comp=Z,150nm,3.6s
GYA LR LR
comp=Z,110nm,5.2s
GYA LR LR
comp=Z,76nm,4.8s
SLVN Son La 32.18 109 P **P** **18 51 23.0 +1.2**
SLVN IAmb IAmb 18 51 24.7
comp=Z,102nm,1.7s
ENH Enshi 32.44 90 P **P** **18 51 25.8 +1.8**
ENH Enshi 32.44 90 P **P** **18 51 24.9 +0.9**
ENH Enshi 32.44 90 ⇑P **P** **18 51 25.4 +1.4**
ENH PcP **PcP** **18 54 04.7 -0.4**
TIY Taiyuan 32.77 75 *e*P **P** **18 51 28.5 +1.6**
TIY S **S** **18 56 28.5 +2.9**
TIY pmax pmax
comp=Z,62nm,0.5s
MILM Milestii Mici 32.98 302 ⇓P **P** **18 51 29.2 +0.8**
MILM Milestii Mici 32.98 302 P **P** **18 51 29.2 +0.8**
AKASG Malin Array Be 33.12 309 P **P** **18 51 29.4 -0.1**
AKASG IAmb IAmb 18 51 30.8
comp=Z,37nm,0.8s
AKASG Malin Array Be 33.12 309 P **P** **18 51 29.7 +0.1**
comp=Z,11nm,0.5s,baz=80,slow=7.2,SNR=144
AKASG pP **pP** **18 52 18.8 +0.7**
comp=Z,14nm,0.7s,baz=86,slow=7.0,SNR=4.2
AKASG PcP **PcP** **18 54 06.0 -0.5**
comp=Z,7.9nm,0.6s,baz=77,slow=3.2,SNR=6.4
AKASG ScP **ScP** **18 57 25.4 -2.1**
comp=Z,1.3nm,0.8s,baz=76,slow=3.0,SNR=5.6
comp=Z,11nm,0.5s
AKBB Malin Array Si 33.12 309 P **P** **18 51 29.5 -0.1**
AKBB IAmb IAmb 18 51 30.6
comp=Z,29nm,0.7s
AKBB Malin Array Si 33.12 309 P **P** **18 51 29.5 -0.1**
AKBB pmax pmax
comp=Z,29nm,0.7s
TPGR Topolog 33.21 298 ⇓P **P** **18 51 31.9 +1.4**
SRDT SRDT 33.25 124 P **P** **18 51 32.9 +1.8**
SORM Soroca 33.38 304 ⇓P **P** **18 51 32.3 +0.4**
SORM Soroca 33.38 304 P **P** **18 51 32.2 +0.4**
CFR Carcaliu 33.41 299 ⇓P **P** **18 51 33.3 +1.2**
CFR Carcaliu 33.41 299 P **P** **18 51 33.3 +1.2**
VLDR Vladesti 33.45 300 ⇑P **P** **18 51 33.7 +1.2**
LYN LuoYang 33.51 81 ⇑P **P** **18 51 35.5 +2.4**
LYN sP sP 18 52 46.5 -5.0
LYN S **S** **18 56 41.0 +4.2**
LYN pmax pmax
comp=Z,78nm,0.8s
LYN pmax pmax
comp=Z,200nm,5.9s
NONG Nongkai 33.57 114 P **P** **18 51 34.7 +0.8**
CIT Chita 33.62 49 *e*P **P** **18 51 35.1 +1.1**
CIT *e* 18 52 24.5
CIT *e* 18 52 57.6
CIT *e* 18 54 04.3
CIT *e*S **S** **18 56 40.6 +2.4**
CIT *e* 18 58 58.9
CIT pmax pmax
comp=Z,57nm,1.3s
ICOR Ion Corvin 33.67 297 ⇑P **P** **18 51 35.8 +1.4**
NRIK Noril'sk 34.21 10 P **P** **18 51 40.0 +1.3**
NRIK Noril'sk 34.21 10 *d* i P **P** **18 51 39.9 +1.3**
NRIK pmax pmax
comp=Z,52nm,0.9s
NRIK Noril'sk 34.21 10 P **P** **18 51 40.0 +1.3**
comp=Z,46nm,0.5s,baz=199,slow=5.8,SNR=97
NRIK S **S** **18 56 48.4 +1.7**
comp=Z,3.2nm,0.6s,baz=169,slow=14,SNR=5.6
comp=Z,46nm,0.5s
VRI Vrincioaia 34.40 300 ⇓P **P** **18 51 42.8 +2.1**
VRI Vrincioaia 34.40 300 P **P** **18 51 42.8 +2.1**
PLOR Plostina 34.45 300 ⇓P **P** **18 51 43.1 +1.9**
PLOR Plostina 34.45 300 P **P** **18 51 43.1 +1.9**
TESR Tescani 34.46 301 ⇓P **P** **18 51 42.4 +1.2**
ISR Istrita 34.54 299 ⇑P **P** **18 51 44.9 +2.9**
ISR Istrita 34.54 299 P **P** **18 51 44.8 +2.9**
HNS HongShan 34.61 75 ⇓P **P** **18 51 44.5 +2.0**
HNS pP **pP** **18 52 35.0 +2.5**
HNS PcP **PcP** **18 54 10.8 -0.3**
HNS S **S** **18 57 02.5 +9.0**
HNS pmax pmax
comp=Z,24nm,0.9s
MNK Minsk 34.67 315 i P **P** **18 51 43.7 +0.8**
comp=E,7.0nm,0.8s
MNK i P **P** **18 51 43.7 +0.8**
comp=N,7.0nm,0.8s
MNK i P **P** **18 51 43.7 +0.8**
comp=Z,28nm,0.8s,baz=103
MNK i pP **pP** **18 52 30.4 -1.3**
MNK i sP **sP** **18 52 57.1 -2.5**
MNK i PP **PnPn** **18 53 07.5 -0.7**
MNK i S **S** **18 56 56.8 +2.7**
MNK i sS **sS** **18 58 20.9 -2.4**
MNK i SS **SS** **18 59 38.0 +2.7**
MNK i LRM MLR 19 07 06.2
comp=E,115nm,17.6s
MNK i LRM MLR 19 07 18.4
comp=N,280nm,16.9s
MNK i LRM MLR 19 08 42.7
comp=Z,98nm,16.4s
MNK Minsk 34.67 315 *c* i P **P** **18 51 43.6 +0.8**
NEHR Nehoiu 34.71 299 ⇓P **P** **18 51 46.1 +2.8**
COVR Voineasa-Covas 34.76 300 ⇑P **P** **18 51 46.1 +2.2**
XLT XiLinHaoTe 34.79 63 *e*P **P** **18 51 46.0 +1.8**
XLT PP **PnPn** **18 53 12.8 +2.8**
XLT PcP **PcP** **18 54 12.0 +0.3**
XLT S **S** **18 57 00.8 +4.4**
XLT pmax pmax
comp=Z,13nm,1.0s
XLT pmax pmax
comp=Z,69nm,4.3s
TURR Turia 34.89 300 ⇓P **P** **18 51 46.9 +1.9**
MLR Muntele Rosu 34.95 299 ⇓P **P** **18 51 48.2 +2.6**
MLR Muntele Rosu 34.95 299 IAmb IAmb 18 51 48.8
comp=Z,46nm,0.9s
MLR Muntele Rosu 34.95 299 P **P** **18 51 47.6 +2.0**
comp=Z,36nm,0.8s,baz=126,slow=7.5
MLR PcP **PcP** **18 54 11.9 -0.2**
comp=Z,24nm,0.8s,baz=150,slow=6.6,SNR=4.5
MLR S **S** **18 57 00.6 +1.7**
comp=Z,4.1nm,0.3s,baz=180,slow=18,SNR=22
comp=Z,36nm,0.8s
ELND Elena 35.13 295 ⇑P **P** **18 51 48.0 +1.0**
BJT Baijiatuau 35.26 70 P **P** **18 51 49.6 +1.5**
BJT Baijiatuau 35.26 70 P **P** **18 51 49.6 +1.5**
BJT pmax pmax
comp=Z,12nm,0.6s

DOPR Dopca 35.33 300 ⇑P **P** **18 51 50.0 +1.3**
BOD Bodaibo 35.35 39 *e*P **P** **18 51 48.5 -0.1**
BOD pmax pmax
comp=Z,22nm,1.7s
NACGM Naroch 35.38 316 *e*P **P** **18 51 49.7 +0.7**
comp=E,2μm,1.0s
BURAR Bucovina Array 35.46 303 P **P** **18 51 50.3 +0.5**
VALR Valaam 35.49 328 *c**e*P **P** **18 51 50.2 +0.5**
VALR pmax pmax
comp=Z,20nm,0.7s
ATD Arta Tunnel 35.56 233 P **P** **18 51 53.8 +2.8**
VOIR 35.58 299 ⇓P **P** **18 51 52.1 +1.2**
VOIR 35.58 299 P **P** **18 51 52.0 +1.2**
KAAM Kaadhehdhoo 35.76 177 P **P** **18 51 51.9 -0.7**
ISAL Salakas 35.90 317 *e*P **P** **18 51 56.1 +2.8**
CNSH ChangSha 36.02 91 *e*P **P** **18 51 55.5 +0.8**
CNSH pmax pmax
comp=Z,60nm,0.9s
JOF Joensuu 36.03 330 *e*P **P** **18 51 55.6 +1.3**
ARCR ARCALIA 36.04 302 ⇑P **P** **18 51 57.2 +2.6**
WHN Wuhan 36.27 86 P **P** **18 51 58.3 +1.6**
WHN pmax pmax
comp=Z,98nm,0.9s
APE Apeiranthos 36.31 285 ⇑P **P** **18 51 57.6 +0.5**
APE Apeiranthos 36.31 285 *c* i P **P** **18 51 57.4 +0.3**
APE pmax pmax
comp=Z,14nm,0.8s
LVV L'vov 36.33 307 *e*P **P** **18 51 57.3 +0.2**
LVV *e* 18 53 29.1
LVV *e*S **S** **18 57 22.0 +2.4**
VSU Vasula 36.35 322 *de*P **P** **18 51 57.7 +0.7**
VSU pmax pmax
comp=Z,39nm,1.7s
LOT Lotru 36.48 299 ⇓P **P** **18 51 59.9 +1.4**
CJR Cluj-Napoca 36.56 302 ⇓P **P** **18 52 01.3 +2.2**
CJR Cluj-Napoca 36.56 302 P **P** **18 52 01.3 +2.2**
TIA Tai'an 36.77 76 P **P** **18 52 02.3 +1.4**
TIA pmax pmax
comp=Z,17nm,1.0s
MARR Marisel-Cluj 36.89 301 ⇑P **P** **18 52 03.3 +1.4**
UBPT Khong Chiam 37.06 116 P **P** **18 52 03.8 +0.3**
UBPT Khong Chiam 37.06 116 P **P** **18 52 03.1 -0.4**
UBPT IAmb IAmb 18 52 04.5
comp=Z,40nm,0.9s
PABE Paberze 37.09 316 IAmb IAmb 18 52 05.0
comp=Z,51nm,0.8s
PABE Paberze 37.09 316 *e*P **P** **18 52 04.5 +1.3**
DRGR 37.17 302 ⇓P **P** **18 52 05.8 +1.5**
DRGR 37.17 302 P **P** **18 52 05.7 +1.5**
GZR Gura Zlata 37.18 299 ⇑P **P** **18 52 05.4 +1.1**
GZR Gura Zlata 37.18 299 P **P** **18 52 05.4 +1.1**
KWP Kalwaria Pacla 37.18 306 IAmb IAmb 18 52 06.7
comp=Z,32nm,0.8s
VSVD Vaisvydziai 37.20 317 *e*P **P** **18 52 05.6 +1.4**
HIA Hailar 37.25 54 P **P** **18 52 05.3 +0.6**
HIA Hailar 37.25 54 P **P** **18 52 05.4 +0.6**
HIA pmax pmax
comp=Z,10.0nm,0.8s
IDI Anoyia 37.25 282 P **P** **18 52 04.0 -1.0**
IDI IAmb IAmb 18 53 04.9
comp=Z,45nm,1.5s
SUW Suwalki 37.29 314 *e*P **P** **18 52 05.5 +0.5**
SUW Suwalki 37.29 314 IAmb IAmb 18 52 06.1
comp=Z,70nm,1.1s
SUW Suwalki 37.29 314 *e*P **P** **18 52 05.2 +0.2**
LVZ Lovozero 37.61 338 P **P** **18 52 06.3 -1.3**
LVZ Lovozero 37.61 338 P **P** **18 52 06.3 -1.3**
LVZ pmax pmax
comp=Z,163nm,1.8s
LVZ Lovozero 37.61 338 P **P** **18 52 08.3 +0.7**
LVZ pP **pP** **18 52 58.5 +1.0**
LVZ sP **sP** **18 53 28.0 +2.5**
LVZ PcP **PcP** **18 54 19.0 -0.6**
SURR Surduc 37.62 300 ⇓P **P** **18 52 10.0 +2.1**
FIA1 FINESS Array S 37.65 326 P **P** **18 52 07.8 0.0**
FINES FINESS Array B 37.65 326 P **P** **18 52 08.0 +0.1**
FINES FINESS Array B 37.65 326 P **P** **18 52 08.6 +0.7**
comp=Z,17nm,0.5s,baz=118,slow=8.4,SNR=173
FINES pP **pP** **18 52 57.7 -0.1**
comp=Z,32nm,0.8s,baz=100,slow=10,SNR=6.4
FINES S **S** **18 57 39.8 +0.7**
comp=Z,4.3nm,0.7s,baz=113,slow=15,SNR=3.4
comp=Z,17nm,0.5s
APA Apatity 37.79 337 ⇓ *i* P **P** **18 52 08.6 -0.4**
APA pmax pmax
comp=Z,6.0nm,1.2s
APA MLR MLR
comp=Z,600nm,13.0s
SRIT Nakonsritamara 37.87 130 P **P** **18 52 11.5 +1.2**
SRIT Nakonsritamara 37.87 130 P **P** **18 52 10.6 +0.3**
SRIT IAmb IAmb 18 52 11.9
comp=Z,25nm,0.7s
SIRR Siria 37.91 301 ⇓P **P** **18 52 12.3 +1.9**
BZS Buzias 37.98 300 ⇓P **P** **18 52 12.5 +1.6**
BZS Buzias 37.98 300 P **P** **18 52 12.5 +1.6**
CRVS Cervenica-Dubn 37.98 305 *e*P **P** **18 52 12.4 +1.5**
CRVS Cervenica-Dubn 37.98 305 *e*P **P** **18 52 12.4 +1.5**
MEF Metsahovi 38.03 324 *e*P **P** **18 52 12.2 +1.2**
LIT Litokhoron 38.03 291 P **P** **18 52 11.4 -0.1**
LIT Litokhoron 38.03 291 P **P** **18 52 11.4 -0.1**
LIT pmax pmax
comp=Z,10.0nm,1.0s
QIZ Qiongzhong 38.06 106 P **P** **18 52 12.0 +0.2**
QIZ IAmb IAmb 18 52 27.3
comp=Z,33nm,1.2s
STHS Stebnicka Huta 38.13 306 *e*P **P** **18 52 11.7 -0.5**
STHS *e* 18 54 21.6
STHS pmax pmax
comp=Z,8.0nm,0.6s
STHS Stebnicka Huta 38.13 306 *e*P **P** **18 52 11.7 -0.5**
STHS *e* 18 54 21.6
PBUR Paburge 38.32 317 *e*P **P** **18 52 14.7 +1.2**
AGG Agios Georgios 38.36 289 P **P** **18 52 13.4 -0.8**
AGG Agios Georgios 38.36 289 P **P** **18 52 13.4 -0.8**
AGG pmax pmax
comp=Z,48nm,1.9s
SLIT Slitere, Latvi 38.42 319 *e*P **P** **18 52 14.2 -0.2**
KEF Keuruu 38.44 327 *e*P **P** **18 52 15.6 +1.1**
NIE Niedzica 38.75 306 *e*P **P** **18 52 19.6 +2.3**
LHMI Lhok Sumawe 39.01 137 P **P** **18 52 20.9 +1.2**
LHMI Lhok Sumawe 39.01 137 P **P** **18 52 19.5 -0.2**
LHMI Lhok Sumawe 39.01 137 P **P** **18 52 20.7 +1.0**
comp=Z,178nm,0.6s,comp=Z,2μm
PSZ Piszkesteto 39.05 304 ⇓P **P** **18 52 21.7 +1.8**
PSZ Piszkesteto 39.05 304 P **P** **18 52 21.6 +1.8**
OJC Ojcow 39.08 307 *e*P **P** **18 52 20.5 +0.5**
OJC Ojcow 39.08 307 P **P** **18 52 19.0 -0.9**
OJC IAmb IAmb 18 52 21.6
comp=Z,35nm,1.2s
OJC **pP** **18 53 06.5 -3.2**
OJC Ojcow 39.08 307 P **P** **18 52 19.0 -0.9**
OJC *PP **pP** **18 53 06.5 -3.2**
OJC pmax pmax
comp=Z,35nm,1.2s
FRGS Fruska Gora 39.29 299 ⇑P **P** **18 52 22.4 +0.6**
LANS Liptovska Anna 39.29 306 *e*P **P** **18 52 23.3 +1.5**
LANS pmax pmax
comp=Z,4.0nm,0.7s
LANS Liptovska Anna 39.29 306 *e*P **P** **18 52 23.3 +1.5**
NJ2 Nanjing 39.36 82 ⇑P **P** **18 52 23.8 +1.3**
NJ2 pP **pP** **18 53 11.5 -2.1**
NJ2 sP **sP** **18 53 37.8 -3.8**
NJ2 pmax pmax
comp=Z,39nm,0.8s
NJ2 pmax pmax
comp=Z,230nm,4.7s
RAF Rauma 39.50 324 *e*P **P** **18 52 23.1 -0.2**
MLSI Meulaboh, Aceh 39.51 138 P **P** **18 52 21.9 -2.0**
comp=Z,143nm,0.8s
DL2 Dalian 39.62 71 P **P** **18 52 26.0 +1.4**
DL2 pP **pP** **18 53 18.3 +2.6**
DL2 pmax pmax
comp=Z,39nm,0.6s
VAF Ylistaro 39.69 328 P **P** **18 52 26.3 +1.5**
VAF Ylistaro 39.69 328 *e*P **P** **18 52 25.7 +0.9**
HKPS Hong Kong Po S 39.69 99 P **P** **18 52 26.5 +1.1**
VYHS Vyhne 39.73 305 *e*P **P** **18 52 26.2 +0.8**
VYHS *e* 18 54 26.6
VYHS pmax pmax
comp=Z,12nm,1.3s
VYHS Vyhne 39.73 305 *e*P **P** **18 52 26.2 +0.8**
VYHS *e*pP **pP** **18 53 17.0 +1.7**
VYHS *e* 18 54 26.6

MORH Mrgy, Hungar 40.01 301 ⇓P **P** **18 52 28.9 +1.3**
SRO Srobarova 40.11 304 *e*P **P** **18 52 30.4 +1.9**
SRO *e* 18 54 28.4
SRO pmax pmax
comp=Z,29nm,0.9s
SRO Srobarova 40.11 304 *e*P **P** **18 52 30.4 +1.9**
SRO *e*pP **pP** **18 53 20.9 +2.3**
SRO *e* 18 54 28.4
AAL Aland 40.14 323 *e*P **P** **18 52 28.5 0.0**
MAUC Maruska 40.36 306 *e*P **P** **18 52 31.7 +1.1**
VADS Vadso 40.46 339 *e*P **P** **18 52 32.0 +1.0**
VADS IAmb IAmb 18 52 32.5
comp=Z,28nm,0.5s
VADS *e*S **S** **18 58 23.9 +3.1**
JAVC Velka Javorina 40.49 305 *e*P **P** **18 52 33.2 +1.6**
MORC Moravsky Berou 40.54 307 ⇑P **P** **18 52 33.3 +1.2**
MORC Moravsky Berou 40.54 307 P **P** **18 52 32.9 +0.9**
MORC pP **pP** **18 53 21.3 -0.8**
MORC Moravsky Berou 40.54 307 *e*P **P** **18 52 32.8 +0.8**
MORC Moravsky Berou 40.54 307 P **P** **18 52 33.2 +1.2**
SMOL Smolenice 40.66 305 *e*P **P** **18 52 34.5 +1.5**
SMOL *e* 18 53 22.8
MODS Modra-Piesok 40.77 304 *e*P **P** **18 52 34.8 +0.9**
MODS *e* 18 54 30.3
MODS pmax pmax
comp=Z,28nm,1.3s
MODS Modra-Piesok 40.77 304 *e*P **P** **18 52 34.8 +0.9**
MODS *e*pP **pP** **18 53 25.5 +1.4**
MODS *e* 18 54 30.3
KCSI Kotacane, Aceh 40.87 137 P **P** **18 52 33.4 -1.7**
comp=Z,81nm,0.6s,comp=Z,961nm
ZST Bratislava 40.90 304 *e*P **P** **18 52 36.7 +1.8**
ZST Bratislava 40.90 304 *e*P **P** **18 52 36.7 +1.8**
KEV Kevo 40.95 338 P **P** **18 52 34.9 -0.1**
KEV Kevo 40.95 338 P **P** **18 52 34.9 -0.1**
KEV pmax pmax
comp=Z,26nm,0.9s
KEV Kevo 40.95 338 P **P** **18 52 35.8 +0.8**
KEV pP **pP** **18 53 26.0 +0.1**
KRLC Kraliky 41.02 307 *e*P **P** **18 52 36.7 +0.8**
KRLC *e*PCP **PcP** **18 54 31.1 +0.3**
KRLC Kraliky 41.02 307 *e*P **P** **18 52 36.7 +0.8**
KRLC *e* 18 54 31.1
SNSI Sinabang, Aceh 41.03 140 P **P** **18 52 37.7 +1.4**
comp=Z,595nm,0.8s,comp=Z,5μm
KULM Kulim 41.10 132 P **P** **18 52 37.2 +0.3**
KULM IAmb IAmb 18 52 39.0
comp=Z,47nm,1.1s
KULM PcP **PcP** **18 54 31.6 0.0**
VRAC Vranov 41.17 306 ⇑P **P** **18 52 38.5 +1.3**
VRAC Vranov 41.17 306 *e*P **P** **18 52 38.2 +1.1**
VRAC Vranov 41.17 306 P **P** **18 52 38.4 +1.3**
VRAC Vranov 41.17 306 P **P** **18 52 37.7 +0.6**
comp=Z,12nm,0.7s,baz=91,slow=8.4,SNR=23
comp=Z,12nm,0.7s
UPP Uppsala 41.24 322 *e*P **P** **18 52 37.9 +0.5**
ARA0 ARCESS Array S 41.30 338 *e*P **P** **18 52 39.0 +1.2**
ARA0 IAmb IAmb 18 52 39.4
comp=Z,22nm,0.7s
ARA0 *e*S **S** **18 58 34.1 +1.0**
ARCES ARCESS Array B 41.30 338 P **P** **18 52 38.8 +1.0**
ARCES pP **pP** **18 53 28.3 -0.6**
ARCES IAmb IAmb 18 53 30.2
comp=Z,40nm,1.1s
ARCES ARCESS Array B 41.30 338 P **P** **18 52 38.8 +1.0**
comp=Z,17nm,0.5s,baz=113,slow=7.9,SNR=183
ARCES pP **pP** **18 53 28.5 -0.3**
comp=Z,10nm,0.5s,baz=113,slow=8.3,SNR=4.2
comp=Z,17nm,0.5s
DPC Dobruska-Polom 41.30 307 *e*P **P** **18 52 39.4 +1.2**
DPC Dobruska-Polom 41.30 307 *e*P **P** **18 52 39.4 +1.2**
KRUC Moravsky 41.31 306 *e*P **P** **18 52 39.1 +0.8**
OSTC Ostas 41.37 308 *e*P **P** **18 52 39.8 +1.1**
OSTC Ostas 41.37 308 *e*P **P** **18 52 39.8 +1.1**
DLV T Lat 41.46 116 P **P** **18 52 40.9 +0.8**
CHVC Chvalec 41.47 308 *e*P **P** **18 52 40.8 +1.3**
CHVC Chvalec 41.47 308 *e*P **P** **18 52 40.8 +1.3**
RONA Rosalia, Austr 41.48 303 *i* P **P** **18 52 40.4 +0.7**
comp=Z,8.1nm,0.7s
RONA *e*pP **pP** **18 53 31.6 +1.5**
comp=Z,11nm,1.0s
RONA *e*PcP **PcP** **18 54 32.3 -0.1**
comp=Z,9.6nm,0.7s,SNR=4.0
RONA *i* ScP **ScP** **18 57 57.2 -1.9**
comp=Z,3.8nm,0.7s
UPC Upice 41.50 308 *e*P **P** **18 52 40.8 +1.1**
UPC Upice 41.50 308 *e*P **P** **18 52 40.8 +1.1**
VIKU Vikbolandet 41.50 320 *e*P **P** **18 52 40.4 +0.8**
CN2 Changchun 41.54 62 *e*P **P** **18 52 39.8 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
SSE Sheshan 41.55 82 P **P** **18 52 41.5 +1.1**
SSE IAmb IAmb 18 52 42.9
comp=Z,46nm,0.9s
KOGS Kog 41.63 302 *i* P **P** **18 52 41.5 +0.6**
KOGS *i* pP **pP** **18 53 32.6 +1.3**
KOGS *i* PP **PcP** **18 54 32.7 -0.1**
BLEU Blekinge 41.74 316 *i* P **P** **18 52 41.8 +0.2**
CONA Conrad Observa 41.75 304 *i* P **P** **18 52 42.9 +1.0**
comp=Z,18nm,0.8s,SNR=11
CONA *e*pP **pP** **18 53 34.0 +1.6**
comp=Z,24nm,1.0s
CONA *e*ScP **ScP** **18 57 59.2 -1.1**
comp=Z,8.2nm,1.4s
KTK1 Kautokeino 41.77 336 *e*P **P** **18 52 41.6 -0.1**
KTK1 IAmb IAmb 18 52 43.0
comp=Z,38nm,1.0s
KTK1 *e*S **S** **18 58 40.5 +0.4**
ARSA Arzberg 42.04 303 *e*pP **pP** **18 53 36.1 +1.3**
comp=Z,8.3nm,1.3s
ARSA *e*PcP **PcP** **18 54 34.1 -0.1**
comp=Z,13nm,0.9s
ARSA *e*ScP **ScP** **18 58 00.7 -0.6**
comp=Z,9.6nm,1.2s
ZEA Zeya 42.04 47 *e*P **P** **18 52 46.1 +2.0**
ZEA *e* 18 53 38.3
ZEA *e* 18 54 34.5
ZEA pmax pmax
comp=E,10.0nm,0.5s
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=Z,20nm,0.7s
BSD Bornholm Skovb 42.18 315 *i* P **P** **18 52 44.5 -0.7**
BSD IAmb IAmb 18 52 45.2
comp=Z,37nm,0.9s
BSD Bornholm Skovb 42.18 315 *e*P **P** **18 52 44.8 -0.4**
HEH HeiHe 42.21 53 *e*P **P** **18 52 46.5 +1.1**
HEH pP **pP** **18 53 38.5 +1.2**
HEH sP **sP** **18 54 09.0 +3.8**
HEH PcP **PcP** **18 54 34.0 -0.7**
HEH S **S** **18 58 48.5 +1.6**
HEH pmax pmax
comp=Z,71nm,0.8s
HEH pmax pmax
comp=Z,81nm,4.2s
HAMF Hammerfest 42.38 339 *e*P **P** **18 52 47.1 +0.6**
HAMF IAmb IAmb 18 52 48.9
comp=Z,41nm,0.6s
HAMF *e*S **S** **18 58 51.5 +2.7**
PERS Pernice 42.39 302 *e*P **P** **18 52 47.7 +0.6**
PERS *e*pP **pP** **18 53 39.7 +2.0**
PVCC Panska Ves 42.42 308 *e*P **P** **18 52 48.4 +1.3**
PVCC Panska Ves 42.42 308 *e*P **P** **18 52 48.4 +1.3**
SOKA Soboth 42.44 302 *i* P **P** **18 52 48.4 +0.9**
comp=Z,19nm,0.6s,SNR=7.1
SOKA *i* pP **pP** **18 53 39.5 +1.4**
comp=Z,24nm,1.0s
SOKA *i* PcP **PcP** **18 54 36.1 +0.5**
comp=Z,20nm,1.0s
SOKA *e*ScP **ScP** **18 58 01.8 -1.3**
comp=Z,12nm,1.4s
PRU Pruhonice 42.47 307 *e*P **P** **18 52 48.5 +1.0**
PRU Pruhonice 42.47 307 *e*P **P** **18 52 48.5 +1.0**
TIP Timpagrande 42.55 291 P **P** **18 52 48.5 0.0**
GSI Gunungsitoli 42.62 139 P **P** **18 52 50.7 +1.5**
GSI Gunungsitoli 42.62 139 P **P** **18 52 50.9 +1.8**
GSI Gunungsitoli 42.62 139 P **P** **18 52 51.0 +1.8**
comp=Z,581nm,0.7s,comp=Z,5μm
BNX BinXian 42.63 59 ⇓P **P** **18 52 49.8 +0.9**
BNX pmax pmax
comp=Z,10.0nm,0.8s
BNX pmax pmax
comp=Z,99nm,5.2s

CKRC	**Cesky Krumlov**	**42.70**	**305**	*eP*	**P**	**18 52 50.3**	**+0.8**
CKRC				*ex*	x	18 54 36.1	
CKRC	**Cesky Krumlov**	**42.70**	**305**	*eP*	**P**	**18 52 50.3**	**+0.8**
CKRC				*e*		18 54 36.1	
OBKA	**Obir**	**42.79**	**302**	*i* P	**P**	**18 52 51.1**	**+0.7**
	comp=Z,16nm,1.7s						
OBKA				*ep*P	**pP**	**18 53 42.7**	**+1.7**
	comp=Z,12nm,1.1s						
OBKA				*e*PcP	**PcP**	**18 54 36.5**	**-0.4**
	comp=Z,19nm,1.2s						
BRG	**Berggiesshubel**	**42.80**	**308**	*i* P	**P**	**18 52 51.1**	**+0.8**
BRG				Amp		18 52 52.9	
	comp=Z,16nm,0.7s						
BRG	**Berggiesshubel**	**42.80**	**308**	*i* P	**P**	**18 52 51.0**	**+0.8**
BRG						18 53 42.9	
BRG				SP		18 54 05.4	
BRG						18 54 37.0	
BRG				pmax	pmax		
	comp=Z,16nm,0.7s						
BRG	**Berggiesshubel**	**42.80**	**308**	*eP*	**P**	**18 52 51.3**	**+1.1**
	comp=Z,14nm,0.8s,baz=85,slow=7.8						
BRG				*ep*P	**pP**	**18 53 43.3**	**+2.5**
MOA	**Molln**	**42.83**	**304**	*ep*P	**pP**	**18 53 42.5**	**+1.3**
	comp=Z,15nm,0.9s						
MOA				*e*PcP	**PcP**	**18 54 36.4**	**-0.5**
	comp=Z,8.7nm,0.6s,SNR=4.5						
DEL	**Delary**	**42.83**	**317**	*i* P	**P**	**18 52 50.6**	**+0.2**
DEL	**Delary**	**42.83**	**317**	*eP*	**P**	**18 52 50.9**	**+0.5**
JETT	**Jettan, Norway**	**42.91**	**336**	*eP*	**P**	**18 52 51.8**	**+0.9**
JETT				IAmb	IAmb	18 52 53.0	
	comp=Z,25nm,0.7s						
LUNU	**Lund**	**43.04**	**315**	*i* P	**P**	**18 52 52.0**	**0.0**
GEC2	**GERESS Array S**	**43.10**	**305**	*eP*	**P**	**18 52 53.2**	**+0.4**
	comp=Z,3.1nm,0.8s,baz=85,slow=7.8						
GEC2				*ep*P	**pP**	**18 53 45.7**	**+2.2**
GERES	**GERESS Array B**	**43.10**	**305**	P	**P**	**18 52 52.7**	**-0.1**
GERES					**PcP**	**18 54 37.4**	**-0.5**
GERES	**GERESS Array B**	**43.10**	**305**	P	**P**	**18 52 53.5**	**+0.7**
	comp=Z,2.7nm,0.7s,baz=78,slow=8.3,SNR=13						
GERES				pP	**pP**	**18 53 42.8**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=88,slow=9.5,SNR=2.9						
GERES				PcP	**PP**	**18 54 38.0**	**0.0**
	comp=Z,6.2nm,0.6s,baz=117,slow=3.4,SNR=11						
GERES				ScP	**ScP**	**18 58 04.6**	**-1.0**
	comp=Z,3.1nm,0.7s,baz=74,slow=5.7,SNR=7.1						
	comp=Z,2.7nm,0.7s						
KHC	**Kasperske Hory**	**43.16**	**306**	P	**P**	**18 52 52.7**	**-0.4**
KHC					**pP**	**18 53 44.6**	**+0.7**
KHC	**Kasperske Hory**	**43.16**	**306**	*eP*	**P**	**18 52 53.8**	**+0.6**
KHC				*ep*P	**pP**	**18 53 44.5**	**+0.6**
KHC				*e*SCP	**ScP**	**18 58 05.0**	**-0.8**
KHC	**Kasperske Hory**	**43.16**	**306**	*eP*	**P**	**18 52 53.8**	**+0.6**
KHC				*e*		18 53 44.5	
HFS	**Hagfors**	**43.23**	**322**	P	**P**	**18 52 54.1**	**+0.6**
	comp=Z,14nm,0.3s,baz=96,slow=12,SNR=173						
HFS				pP	**pP**	**18 53 44.6**	**+0.1**
	comp=Z,43nm,0.7s,baz=96,slow=10,SNR=6.4						
HFS				ScP	**ScP**	**18 58 04.9**	**-0.9**
	comp=Z,5.4nm,0.9s,baz=98,slow=10,SNR=2.9						
	comp=Z,14nm,0.3s						
BIOA	**Bad Ischl, Aus**	**43.27**	**304**	*i* P	**P**	**18 52 54.4**	**+0.4**
	comp=Z,6.8nm,0.5s,SNR=5.4						
BIOA				*i* pP	**pP**	**18 53 46.9**	**+2.1**
	comp=Z,12nm,0.9s						
BIOA				*i* PcP	**PcP**	**18 54 37.7**	**-0.6**
	comp=Z,6.1nm,0.6s						
CLL	**Collm**	**43.36**	**309**	P	**P**	**18 52 54.6**	**0.0**
CLL					**pP**	**18 53 46.6**	**+1.1**
CLL	**Collm**	**43.36**	**309**	*i* P	**P**	**18 52 55.2**	**+0.5**
CLL				*e**PP	**pP**	**18 53 46.0**	**+0.5**
CLL				*e**SP	**sP**	**18 54 13.0**	**0.0**
CLL				*eS*	**S**	**18 59 08.0**	**+4.3**
CLL				pmax	pmax		
	comp=Z,13nm,0.9s						
CLL	**Collm**	**43.36**	**309**	*i* P	**P**	**18 52 55.2**	**+0.5**
	comp=Z,13nm,0.9s						
CLL				*ep*P	**pP**	**18 53 46.0**	**+0.5**
CLL				*es*P	**sP**	**18 54 13.0**	**0.0**
CLL				*i* PcP	**PcP**	**18 54 38.4**	**-0.2**
	comp=Z,13nm,1.1s						
CLL				*e*PP	**PP**	**18 54 41.0**	**+0.4**
CLL				*i* x	x	18 54 47.6	
CLL				*ex*	x	18 55 15.0	
CLL				*ep*PP		18 55 20.0	
CLL				*es*PP		18 55 51.0	
CLL				*e*ScP	**ScP**	**18 58 05.0**	**-1.6**
	comp=Z,12nm,1.3s						
CLL				*eS*	**S**	**18 59 08.0**	**+4.3**
CLL				*eSS*	**ScS**	**19 02 29.0**	**+1.4**
CLL	**Collm**	**43.36**	**309**	*eP*	**P**	**18 52 55.3**	**+0.5**
	comp=Z,7.8nm,0.8s,baz=85,slow=7.8						
CLL				*ep*P	**pP**	**18 53 47.5**	**+2.0**
CADS	**Cadrg**	**43.39**	**302**	*i* P	**P**	**18 52 55.5**	**+0.4**
MYKA	**Terra Mystica**	**43.40**	**302**	*i* P	**P**	**18 52 55.8**	**+0.7**
	comp=Z,7.1nm,0.6s						
MYKA				*ep*P	**pP**	**18 53 48.2**	**+2.3**
	comp=Z,18nm,1.0s						
MYKA				*i* PcP	**PcP**	**18 54 38.1**	**-0.8**
	comp=Z,11nm,0.8s						
MYKA				*e*ScP	**ScP**	**18 58 05.9**	**-1.0**
	comp=Z,3.2nm,1.0s						
MSEY	**Mahe Island**	**43.41**	**203**	P	**P**	**18 52 57.0**	**+1.5**
MSEY				IAmb	IAmb	18 52 57.6	
	comp=Z,33nm,0.7s						
MSEY	**Mahe Island**	**43.41**	**203**	*i* P	**P**	**18 52 56.6**	**+1.1**
	SNR=7.2						
MSEY	**Mahe Island**	**43.41**	**203**	P	**P**	**18 52 57.0**	**+1.5**
MSEY				pmax	pmax		
	comp=Z,33nm,0.7s						
MSEY	**Mahe Island**	**43.41**	**203**	P	**P**	**18 52 57.0**	**+1.5**
MSEY	**Mahe Island**	**43.41**	**203**	P	**P**	**18 52 56.7**	**+1.1**
MSEY				PcP	**PcP**	**18 54 39.4**	**+0.2**
TRO	**Tromso**	**43.42**	**336**	*eP*	**P**	**18 52 54.6**	**-0.3**
PRED	**Cave del Predi**	**43.48**	**302**	P	**P**	**18 52 56.1**	**+0.4**
PRED				*ep*	**pP**	**18 53 46.8**	**+0.3**
PRED				PcP	**PcP**	**18 54 37.7**	**-1.4**
FABU	**Falkenberg**	**43.49**	**317**	*i* P	**P**	**18 52 56.0**	**+0.4**
BORU	**Boraas**	**43.50**	**318**	*i* P	**P**	**18 52 56.0**	**+0.3**
KBA	**Koelnbreinsper**	**43.54**	**303**	*i* P	**P**	**18 52 57.0**	**+0.6**
	comp=Z,8.7nm,0.6s						
KBA				*i* pP	**pP**	**18 53 49.5**	**+2.3**
	comp=Z,13nm,1.0s						
KBA				*e*PcP	**PcP**	**18 54 38.7**	**-0.8**
	comp=Z,16nm,0.6s						
KBA				*i* ScP	**ScP**	**18 58 07.0**	**-0.7**
	comp=Z,5.9nm,1.2s						
WET	**Wettzell**	**43.61**	**306**	*eP*	**P**	**18 52 57.2**	**+0.4**
	comp=Z,1.4nm,0.9s,baz=85,slow=7.8						
WET				*ep*P	**pP**	**18 53 50.1**	**+2.5**
TANN	**Tannenbergstha**	**43.77**	**308**	*eP*	**P**	**18 52 58.8**	**+0.8**
	baz=85,slow=7.8						
TANN				*ep*P	**pP**	**18 53 50.0**	**+1.1**
RJOB	**Jochberg**	**43.83**	**304**	*eP*	**P**	**18 52 58.7**	**+0.2**
	comp=Z,8.5nm,0.8s,baz=85,slow=7.8						
RJOB				*ep*P	**pP**	**18 53 50.6**	**+1.3**
LESA	**Schwarzleotal**	**43.95**	**303**	*eP*	**P**	**18 52 59.8**	**+0.3**
	comp=Z,16nm,0.5s						
LESA				*ep*P	**pP**	**18 53 52.4**	**+2.0**
	comp=Z,21nm,1.2s						
LESA				*i* PcP	**PcP**	**18 54 40.0**	**-0.7**
	comp=Z,15nm,0.5s						
LESA				*e*ScP	**ScP**	**18 58 07.7**	**-1.5**
	comp=Z,13nm,1.3s						
FAUS	**Fauske**	**43.96**	**333**	*eP*	**P**	**18 53 00.0**	**+0.9**
FAUS				IAmb	IAmb	18 53 06.0	
	comp=Z,23nm,0.7s						
YAK	**Yakutsk**	**43.98**	**35**	P	**P**	**18 52 59.8**	**+0.4**
YAK				IAmb	IAmb	18 53 01.3	
	comp=Z,66nm,0.7s						
YAK				pP	**pP**	**18 53 50.6**	**-0.8**
YAK	**Yakutsk**	**43.98**	**35**	*eP*	**P**	**18 52 59.2**	**-0.2**
YAK				*e**PP	**pP**	**18 53 52.1**	**+0.7**
YAK				*e*		18 54 40.4	
YAK				*e*		18 54 47.1	
YAK				*ePPP	PPP	18 55 33.3	
YAK				*eS*	**S**	**18 59 11.6**	**-0.7**
YAK				*eS*	S	19 00 40.9	+89
YAK				*e*		19 02 25.2	
YAK				pmax	pmax		
	comp=Z,39nm,0.8s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,71nm,1.8s						
YAK				pmax	pmax		
	comp=N,30nm,2.5s						
YAK				pmax	pmax		
	comp=E,52nm,3.2s						
YAK				smax	smax		
	comp=N,95nm,1.8s						
YAK				smax	smax		
	comp=E,79nm,1.4s						
YAK	**Yakutsk**	**43.98**	**35**	P	**P**	**18 52 59.5**	**+0.2**
YAK				pP	**pP**	**18 53 52.0**	**+0.7**
YAK				sP	**sP**	**18 54 20.9**	**+1.8**
MOR8	**Moi Rana**	**43.98**	**331**	*eP*	**P**	**18 52 58.9**	**-0.5**
MOR8				IAmb	IAmb	18 52 59.9	
	comp=Z,51nm,0.6s						
MOR8				*eS*	**S**	**18 59 13.1**	**+0.8**
ROTZ	**Rotzenmuhle**	**43.99**	**307**	*eP*	**P**	**18 53 01.4**	**+1.7**
	comp=Z,2.0nm,1.0s,baz=85,slow=7.8						
ROTZ				*ep*P	**pP**	**18 53 52.7**	**+2.0**
MANZ	**Manzenberg**	**44.03**	**307**	*eP*	**P**	**18 53 01.6**	**+1.5**
	comp=Z,1.5nm,0.8s,baz=85,slow=7.8						
MANZ				*ep*P	**pP**	**18 53 52.8**	**+1.8**
STAL	**STALIGIAL**	**44.09**	**302**	P	**P**	**18 52 58.7**	**-1.9**
STAL					**pP**	**18 53 51.7**	**+0.2**
STAL					**PcP**	**18 54 40.3**	**-1.0**
TJOU	**Tjoern**	**44.13**	**319**	*i* P	**P**	**18 53 00.5**	**-0.1**
STEI	**Steigen**	**44.13**	**333**	*eP*	**P**	**18 53 01.2**	**+0.7**
PBSI	**Pulau Batu**	**44.14**	**139**	P	**P**	**18 53 02.7**	**+1.4**
	comp=Z,285nm,1.1s						
NEUB	**Neuenburg**	**44.14**	**309**	*eP*	**P**	**18 53 02.0**	**+1.1**
	comp=Z,14nm,0.8s,baz=85,slow=7.8						
NEUB				*ep*P	**pP**	**18 53 53.5**	**+1.6**
ABTA	**Abfaltersbach**	**44.15**	**303**	*eP*	**P**	**18 53 00.8**	**-0.3**
	comp=Z,7.4nm,0.8s						
ABTA				*ep*P	**pP**	**18 53 53.5**	**+1.5**
	comp=Z,11nm,1.1s						
ABTA				*i* PcP	**PcP**	**18 54 40.5**	**-0.9**
	comp=Z,18nm,1.0s						
ABTA				*e*ScP	**ScP**	**18 58 08.5**	**-1.5**
	comp=Z,11nm,1.2s						
CIMO	**Cimolais**	**44.27**	**302**	P	**P**	**18 53 01.9**	**-0.1**
CIMO					**pP**	**18 53 53.6**	**+0.7**
CIMO				IAmb	IAmb	18 53 55.5	
	comp=Z,27nm,0.9s						
CIMO				PcP	**PcP**	**18 54 40.5**	**-1.3**
MOX	**Moxa**	**44.29**	**308**	*eP*	**P**	**18 53 03.0**	**+1.0**
	comp=Z,6.5nm,0.8s,baz=85,slow=7.8						
MOX				*ep*P	**pP**	**18 53 54.9**	**+1.8**
NC405	**NORSAR Array S**	**44.31**	**323**	P	**P**	**18 53 02.1**	**0.0**
NC405				pP	**pP**	**18 53 53.5**	**0.0**
MDJ	**Mudanjiang**	**44.34**	**61**	P	**P**	**18 53 02.5**	**-0.1**
MDJ				pmax	pmax		
	comp=Z,28nm,3.6s						
MDJ	**Mudanjiang**	**44.34**	**61**	P	**P**	**18 53 02.5**	**-0.1**
MDJ					**PcP**	**18 54 41.4**	**-0.7**
YHNB	**Yeheng**	**44.36**	**91**	P	**P**	**18 53 04.3**	**+1.3**
YHNB				IAmb	IAmb	18 53 05.8	
	comp=Z,77nm,1.1s						
YHNB				PcP	**PcP**	**18 54 43.1**	**+0.5**
NC602	**NORSAR Array S**	**44.36**	**323**	*eP*	**P**	**18 53 02.6**	**+0.1**
FLTG	**Flechtingen**	**44.40**	**311**	*eP*	**P**	**18 53 03.4**	**+0.5**
	comp=Z,32nm,0.8s,baz=85,slow=7.8						
FLTG				*ep*P	**pP**	**18 53 55.7**	**+1.8**
STRU	**Stroemstad**	**44.41**	**320**	*eP*	**P**	**18 53 03.1**	**+0.3**
SSLB	**Suanglung**	**44.43**	**92**	P	**P**	**18 53 05.6**	**+2.0**
SSLB	**Suanglung**	**44.43**	**92**	P	**P**	**18 53 04.7**	**+1.2**
SSLB				IAmb	IAmb	18 53 06.5	
	comp=Z,81nm,0.7s						
NC303	**NORSAR Array S**	**44.49**	**323**	P	**P**	**18 53 03.5**	**+0.1**
NC303				pP	**pP**	**18 53 54.8**	**-0.1**
NC303				IAmb	IAmb	18 53 57.1	
	comp=Z,58nm,0.9s						
NB2	**NORSAR Subarra**	**44.55**	**323**	P	**P**	**18 53 03.8**	**-0.2**
	comp=Z,4.8nm,0.3s,baz=98,slow=7.9						
NB2				*ep*P	**pP**	**18 53 55.5**	**0.0**
	comp=Z,40nm,0.9s,baz=96,slow=8.6						
NB2	**NORSAR Subarra**	**44.55**	**323**	P	**P**	**18 53 03.8**	**-0.2**
	baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.55**	**323**	P	**P**	**18 53 03.1**	**-0.9**
	comp=Z,8.0nm,0.4s,baz=105,slow=7.0,SNR=192						
NOA				*ep*P	**pP**	**18 53 55.2**	**-0.2**
	comp=Z,26nm,0.8s,baz=96,slow=8.1,SNR=8.7						
NOA				S	**S**	**18 59 20.2**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=100,slow=14,SNR=3.0						
	comp=Z,8.0nm,0.4s						
KONS	**Konsvik**	**44.57**	**331**	*eP*	**P**	**18 53 04.6**	**+0.6**
KONS				IAmb	IAmb	18 53 06.3	
	comp=Z,16nm,0.6s						
STOK	**Stokkvaagen**	**44.58**	**331**	*eP*	**P**	**18 53 04.4**	**+0.3**
GRF	**Grafenberg Arr**	**44.63**	**307**	*eP*	**P**	**18 53 06.4**	**+1.6**
	baz=85,slow=7.8						
GRF				*ep*P	**pP**	**18 53 57.2**	**+1.3**
NSS	**Namsos**	**44.66**	**328**	*eP*	**P**	**18 53 04.5**	**-0.3**
WTTA	**Wattenberg**	**44.67**	**303**	*i* P	**P**	**18 53 05.1**	**-0.3**
	comp=Z,7.8nm,0.7s						
WTTA				*i* pP	**pP**	**18 53 57.8**	**+1.4**
	comp=Z,22nm,0.9s						
WTTA				*i* PcP	**PcP**	**18 54 43.0**	**-0.4**
	comp=Z,16nm,0.5s						
WTTA				*i* ScP	**ScP**	**18 58 11.0**	**-1.3**
	comp=Z,18nm,1.1s						
TJN	**Taejon**	**44.67**	**73**	*ceP*	**P**	**18 53 04.9**	**-0.4**
WATA	**Walderalm**	**44.70**	**303**	*i* P	**P**	**18 53 05.0**	**-0.5**
	comp=Z,6.8nm,0.6s						
WATA				*ep*P	**pP**	**18 53 57.9**	**+1.3**
	comp=Z,16nm,0.9s						
WATA				*i* PcP	**PcP**	**18 54 42.9**	**-0.6**
	comp=Z,16nm,0.7s						
WATA				*e*ScP	**ScP**	**18 58 10.9**	**-1.5**
	comp=Z,18nm,1.3s						
OSL	**Oslo**	**44.70**	**321**	IAmb	IAmb	18 53 05.3	
	comp=Z,48nm,1.4s						
OSL				*eP*	**P**	**18 53 05.4**	**+0.2**
KS19	**Wonju Array Si**	**44.73**	**71**	P	**P**	**18 53 06.1**	**+0.4**
KS19				pP	**pP**	**18 53 57.5**	**-0.6**
KS19				PcP	**PcP**	**18 54 42.6**	**-1.0**
KSAR	**Wonju Array Be**	**44.76**	**71**	P	**P**	**18 53 05.9**	**-0.1**
KSAR				pP	**pP**	**18 53 57.3**	**-1.0**
KSAR				PcP	**PcP**	**18 54 42.3**	**-1.3**
KSAR	**Wonju Array Be**	**44.76**	**71**	P	**P**	**18 53 05.9**	**-0.1**
KSAR				*PP	**pP**	**18 53 57.3**	**-1.0**
KSAR						18 54 42.3	
KSRS	**Korea Array**	**44.79**	**71**	P	**P**	**18 53 06.3**	**+0.2**
	comp=Z,5.4nm,0.4s,baz=275,slow=7.0,SNR=52						
KSRS				PcP	**PcP**	**18 54 43.2**	**-0.4**
	comp=Z,10nm,0.8s,baz=290,slow=3.3,SNR=12						
	comp=Z,5.4nm,0.4s						
NC204	**NORSAR Array S**	**44.79**	**323**	IAmb	IAmb	18 53 59.9	
	comp=Z,64nm,1.1s						
LOF	**Lofoten**	**44.80**	**333**	*eP*	**P**	**18 53 06.1**	**+0.3**
CTI	**Castel Tesino**	**44.85**	**302**	P	**P**	**18 53 05.9**	**-0.8**
CTI				pP	**pP**	**18 53 56.9**	**-0.9**
CTI				PcP	**PcP**	**18 54 43.0**	**-0.9**
BSEG	**Bad Segeberg**	**44.86**	**313**	*eP*	**P**	**18 53 07.9**	**+1.5**
	comp=Z,25nm,0.8s,baz=85,slow=7.8						
RAFF	**Raffo Rosso**	**44.89**	**289**	P	**P**	**18 53 07.2**	**+0.2**
RAFF				IAmb	IAmb	18 53 16.5	
	comp=Z,97nm,1.3s						
YULB	**Yu-li**	**44.89**	**92**	P	**P**	**18 53 09.7**	**+2.5**
SQTA	**Sankt Quirin**	**44.96**	**303**	*i* P	**P**	**18 53 07.1**	**-0.4**
	comp=Z,10nm,0.6s						
SQTA				*i* pP	**pP**	**18 53 58.9**	**+0.2**
	comp=Z,15nm,1.1s						
SQTA				*i* PcP	**PcP**	**18 54 44.1**	**-0.2**
	comp=Z,21nm,0.6s,SNR=7.8						
SQTA				*i* ScP	**ScP**	**18 58 11.6**	**-1.8**
	comp=Z,7.1nm,0.6s						
CLZ	**Clausthal**	**44.96**	**310**	*eP*	**P**	**18 53 08.3**	**+0.9**
	baz=85,slow=7.8						
CLZ				*ep*P	**pP**	**18 54 00.4**	**+1.8**
TWGBT	**Beinan**	**44.99**	**93**	P	**P**	**18 53 10.8**	**+2.8**
MOTA	**Moosalm**	**45.02**	**304**	*eP*	**P**	**18 53 07.5**	**-0.6**
	comp=Z,12nm,0.7s,SNR=5.5						
MOTA				*ep*P	**pP**	**18 54 00.3**	**+1.2**
	comp=Z,18nm,0.9s						
MOTA				*i* PcP	**PcP**	**18 54 44.1**	**-0.5**
	comp=Z,22nm,0.6s,SNR=7.3						
MOTA				*e*ScP	**ScP**	**18 58 11.4**	**-2.3**
	comp=Z,20nm,1.1s						
NRDL	**Niedersach Rie**	**45.08**	**311**	*eP*	**P**	**18 53 09.5**	**+1.4**
	comp=Z,14nm,0.8s,baz=85,slow=7.8						
NRDL				*ep*P	**pP**	**18 54 01.5**	**+2.2**
KLR	**Kul'dur**	**45.10**	**54**⇑	*eP*	**P**	**18 53 08.7**	**+0.2**
KLR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HOPEN	**Hopen**	**45.14**	**346**	*eP*	**P**	**18 53 10.2**	**+1.8**
HOPEN				IAmb	IAmb	18 53 10.9	
	comp=Z,21nm,0.6s						
HOPEN				*eS*	**S**	**18 59 34.3**	**+5.6**
RETA	**Reutte**	**45.22**	**304**	*i* P	**P**	**18 53 08.0**	**-1.5**
	comp=Z,9.7nm,1.1s						
RETA				*ep*P	**pP**	**18 54 00.8**	**+0.1**
	comp=Z,11nm,1.0s						
RETA				*i* PcP	**PcP**	**18 54 44.8**	**-0.4**
	comp=Z,7.6nm,0.7s						
RETA				*i* ScP	**ScP**	**18 58 12.8**	**-1.6**
	comp=Z,11nm,1.2s						
TBLU	**Trondheim**	**45.23**	**326**	*eP*	**P**	**18 53 09.2**	**0.0**
GTTG	**Gottingen**	**45.24**	**310**	*eP*	**P**	**18 53 10.6**	**+1.1**
	baz=85,slow=7.8						
GTTG				*ep*P	**pP**	**18 54 02.9**	**+2.1**
KONO	**Kongsberg**	**45.25**	**321**	*eP*	**P**	**18 53 09.8**	**+0.4**
KONO				*eS*	**S**	**18 59 29.8**	**-0.9**
KONO	**Kongsberg**	**45.25**	**321**	P	**P**	**18 53 09.8**	**+0.4**
KONO	**Kongsberg**	**45.25**	**321**	P	**P**	**18 53 09.9**	**+0.4**
KONO				*ep*P	**pP**	**18 54 01.8**	**+0.9**
UBBA	**Unterbreizbach**	**45.29**	**309**	*eP*	**P**	**18 53 10.7**	**+0.9**
	comp=Z,5.7nm,0.6s,baz=85,slow=7.8						
UBBA				*ep*P	**pP**	**18 54 02.2**	**+1.1**
FETA	**Feichten**	**45.32**	**303**	*eP*	**P**	**18 53 09.9**	**-0.5**
	comp=Z,14nm,1.0s						
FETA				*ep*P	**pP**	**18 54 02.9**	**+1.3**
	comp=Z,12nm,0.9s						
FETA				*e*PcP	**PcP**	**18 54 45.5**	**-0.1**
	comp=Z,33nm,0.6s,SNR=12						
FETA				*i* ScP	**ScP**	**18 58 14.1**	**-0.8**
	comp=Z,19nm,1.3s						
BKNI	**Bangkinang**	**45.33**	**136**	P	**P**	**18 53 10.9**	**+0.2**
BKNI	**Bangkinang**	**45.33**	**136**	P	**P**	**18 53 10.7**	**0.0**
	comp=Z,401nm,0.8s,comp=Z,3µm						
BJO1	**Bjornoya**	**45.41**	**343**	*eP*	**P**	**18 53 10.5**	**0.0**
UBR	**Ueberruh**	**45.63**	**304**	*eP*	**P**	**18 53 13.0**	**+0.3**
	comp=Z,14nm,0.7s,baz=85,slow=7.8						
UBR				*ep*P	**pP**	**18 54 05.0**	**+1.0**
SISI	**Saibi**	**45.64**	**139**	P	**P**	**18 53 14.4**	**+1.4**
	comp=Z,225nm,0.9s,comp=Z,2µm						
DOMB	**Dombas**	**45.66**	**324**	*eP*	**P**	**18 53 12.8**	**+0.2**
FUORN	**Ofenpass-Fuorn**	**45.70**	**303**	PcP	**PcP**	**18 54 47.0**	**-0.1**
HOMB	**Homborsund**	**45.79**	**319**	*eP*	**P**	**18 53 13.9**	**+0.2**
HOMB				IAmb	IAmb	18 53 14.6	
	comp=Z,26nm,0.8s						
HOMB	**Homborsund**	**45.79**	**319**	*i* P	**P**	**18 53 13.8**	**+0.2**
MYKOM	**Kota Tinggi**	**45.80**	**131**	P	**P**	**18 53 15.0**	**+0.6**
MYKOM				IAmb	IAmb	18 53 16.4	
	comp=Z,90nm,1.0s						
TIXI	**Tiksi**	**45.82**	**22**	P	**P**	**18 53 14.2**	**+0.5**
TIXI	**Tiksi**	**45.82**	**22***d*	*i* P	**P**	**18 53 14.1**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,26nm,0.7s						
TIXI	**Tiksi**	**45.82**	**22**	P	**P**	**18 53 14.1**	**+0.3**
TIXI				pP	**pP**	**18 54 07.6**	**+1.5**
TIXI				ScP	**ScP**	**18 58 15.0**	**-1.3**
DAVA	**Damuels**	**45.85**	**304**	*eP*	**P**	**18 53 14.6**	**+0.1**
	comp=Z,43nm,0.6s,SNR=11						
DAVA				*i* pP	**pP**	**18 54 07.4**	**+1.6**
	comp=Z,42nm,1.1s						
DAVA				*i* PcP	**PcP**	**18 54 47.3**	**-0.2**
	comp=Z,20nm,0.6s						
DAVA				*e*ScP	**ScP**	**18 58 16.3**	**-0.8**
	comp=Z,21nm,1.3s						
SKAR	**Skarslia**	**45.95**	**322**	*eP*	**P**	**18 53 16.3**	**+1.3**
SKAR				IAmb	IAmb	18 53 16.5	
	comp=Z,23nm,1.3s						
SKAR				*eS*	**S**	**18 59 41.7**	**+1.0**
PDSI	**Padang**	**46.03**	**137**	P	**P**	**18 53 16.1**	**0.0**
	comp=Z,358nm,0.9s,comp=Z,5µm						
STU	**Stuttgart**	**46.07**	**306**	*eP*	**P**	**18 53 16.8**	**+0.8**
	comp=Z,17nm,0.7s,baz=85,slow=7.8						
STU				*ep*P	**pP**	**18 54 08.9**	**+1.5**
USA0B	**Ussuriysk Arra**	**46.10**	**61**⇑	*eP*	**P**	**18 53 16.1**	**-0.3**
USRK	**Ussuriysk Ar.**	**46.10**	**61**	P	**P**	**18 53 15.8**	**-0.5**
USRK	**Ussuriysk Ar.**	**46.10**	**61**	P	**P**	**18 53 15.7**	**-0.7**
	comp=Z,4.1nm,0.7s,baz=270,slow=7.3,SNR=11						
USRK				PcP	**PcP**	**18 54 47.1**	**-1.1**
	comp=Z,6.6nm,0.6s,baz=333,slow=6.2,SNR=11						
	comp=Z,4.1nm,0.7s						
KASTN	**Kahler Asten**	**46.24**	**309**	*eP*	**P**	**18 53 18.1**	**+0.7**
	baz=85,slow=7.8						
TNS	**Taunus Mts**	**46.35**	**308**	*eP*	**P**	**18 53 19.3**	**+1.0**
	comp=Z,6.6nm,1.0s,baz=85,slow=7.8						
TNS				*ep*P	**pP**	**18 54 11.4**	**+1.7**
MOL	**Molde**	**46.40**	**325**	*eP*	**P**	**18 53 18.6**	**+0.2**
SNART	**Snartemo**	**46.47**	**319**	*eP*	**P**	**18 53 19.4**	**+0.4**
SNART	**Snartemo**	**46.47**	**319**	*i* P	**P**	**18 53 20.5**	**+1.5**
LODK	**Lodwar**	**46.51**	**234**	P	**P**	**18 53 20.0**	**0.0**
LODK	**Lodwar**	**46.51**	**234**	P	**P**	**18 53 22.2**	**+2.3**
	SNR=17		

ORIF Oris-en-Rattie 49.05 301 *e*P **P** **18 53 37.8 -1.3**
BAIF Baives 49.07 308 *e*P **P** **18 53 39.4 +0.4**
KEST Kesra 49.20 289 P **P** **18 53 41.1 +0.8**
comp=Z,15nm,0.7s,baz=50,slow=7.9,SNR=17
comp=Z,15nm,0.7s
KIBK Kibwezi 49.36 226 P **P** **18 53 44.1 +2.4**
SNR=33
LOR Lormes 49.87 305 *e*P **P** **18 53 44.6 -0.5**
SSB Saint Sauveur 49.88 302 P **P** **18 53 45.5 +0.3**
SSB pP **pP** **18 54 38.5 +1.0**
SSB PcP **PcP** **18 55 01.6 -0.3**
SSB ScP **ScP** **18 58 31.9 -2.2**
VIVF Saint-Julien-l 49.90 301 *e*P **P** **18 53 45.0 -0.4**
SMF Signal de Mont 50.02 304 *e*P **P** **18 53 45.7 -0.6**
SSF Saint Saulge 50.15 305 *e*P **P** **18 53 47.5 +0.3**
KSM Kuching 50.16 125 P **P** **18 53 48.8 +1.2**
KSM Kuching 50.16 125 P **P** **18 53 48.2 +0.6**
KSM IAmb IAmb 18 53 49.8
comp=Z,44nm,1.0s
PPBI Pangkal Pinang 50.31 132 P **P** **18 53 49.1 +0.3**
comp=Z,123nm,0.9s,comp=Z,6µm
AVF Avril sur Loir 50.32 304 *e*P **P** **18 53 47.8 -0.6**
KKM Kota Kinabalu 51.04 115 P **P** **18 53 55.9 +1.5**
KKM Kota Kinabalu 51.04 115 P **P** **18 53 55.6 +1.2**
KKM IAmb IAmb 18 53 57.0
comp=Z,84nm,1.0s
LWLI Liwa 51.42 136 P **P** **18 53 54.5 -2.6**
STKI Sintang 51.98 125 P **P** **18 54 02.4 +1.3**
comp=Z,78nm,0.9s,comp=Z,5µm
KASI Kota Agung 52.08 136 P **P** **18 53 59.1 -2.7**
LDF La Druitiere 52.15 307 *e*P **P** **18 54 02.2 +0.2**
EKA Eskdalemuir Ar 52.46 316 P **P** **18 54 04.0 -0.1**
comp=Z,14nm,0.8s,baz=89,slow=7.2,SNR=18
EKA pP **pP** **18 54 57.4 +0.3**
comp=Z,16nm,0.8s,baz=79,slow=8.3,SNR=6.9
comp=Z,14nm,0.8s
MBAR Mbarara 52.55 235 P **P** **18 54 07.1 +1.5**
MBAR Mbarara 52.55 235 ⇑P **P** **18 54 06.7 +1.2**
MBAR sP **sP** **18 55 27.9 +1.3**
YSS Yuzh-Sakhalins 52.78 55 *e*P **P** **18 54 05.6 -1.0**
YSS *e*S **S** **19 01 08.7 -6.9**
YSS *e*SS **SS** **19 04 51.5 -5.8**
YSS pmax pmax
comp=Z,30nm,1.1s
MJB9 Matsu-Tunnel 52.86 68 P **P** **18 54 07.5 +0.1**
MAJO Matsushiro 52.87 68 P **P** **18 54 07.5 0.0**
MAJO Matsushiro 52.87 68 *de*P **P** **18 54 07.4 0.0**
MAJO pmax pmax
comp=Z,8.0nm,0.8s
MAJO Matsushiro 52.87 68 P **P** **18 54 07.1 -0.3**
MAJO pP **pP** **18 55 01.9 +0.2**
MJAR Matsushiro Arr 52.87 68 P **P** **18 54 07.7 +0.2**
comp=Z,4.9nm,0.7s,baz=288,slow=10,SNR=15
MJAR pP **pP** **18 55 02.0 +0.2**
comp=Z,7.8nm,0.8s,baz=293,slow=9.6,SNR=6.4
comp=Z,4.9nm,0.7s
NOR Nord 53.93 350 *i*P **P** **18 54 15.1 +0.6**
NOR IAmb IAmb 18 54 18.6
comp=Z,4.7nm,0.7s
DBJI Dramaga 54.20 135 P **P** **18 54 14.6 -2.7**
QUIF Quistinic 54.29 307 *e*P **P** **18 54 16.7 -0.8**
JMM Marumori 54.31 66 P **P** **18 54 18.0 +0.2**
JMM Marumori 54.31 66 P **P** **18 54 17.0 -0.8**
JMM IAmb IAmb 18 55 21.7
comp=Z,26nm,0.8s
MA2 Magadan 54.37 38 P **P** **18 54 19.1 +1.2**
MA2 Magadan 54.37 38 P **P** **18 54 18.0 +0.1**
MA2 Magadan 54.37 38 ⇑*e*P **P** **18 54 17.2 -0.7**
MA2 pmax pmax
comp=Z,13nm,1.7s
SEY Seymchan 54.43 34 ⇑*e*P **P** **18 54 19.1 +0.8**
SEY pmax pmax
comp=Z,14nm,1.4s
DAG Danmarks Havn 54.87 344 *i*P **P** **18 54 21.0 -0.3**
DAG IAmb IAmb 18 54 23.2
comp=Z,12nm,0.7s
MTKI Muara Teweh, K 55.02 122 P **P** **18 54 24.1 +0.9**
DBG Daneborg 55.73 341 *i*P **P** **18 54 27.2 -0.2**
DBG IAmb IAmb 18 54 29.6
comp=Z,2.6nm,0.5s
ESDC Sonseca Array 57.63 298 P **P** **18 54 41.0 -0.3**
comp=Z,8.4nm,0.9s,baz=59,slow=7.2,SNR=34
ESDC PcP **PcP** **18 55 31.0 -0.7**
comp=Z,4.4nm,0.8s,baz=48,slow=3.9,SNR=5.5
comp=Z,8.4nm,0.9s
TAM Tamanrasset 57.68 276 P **P** **18 54 41.0 -1.0**
TAM Tamanrasset 57.68 276 P **P** **18 54 41.1 -1.0**
TAM pmax pmax
comp=Z,7.0nm,0.8s
TAM Tamanrasset 57.68 276 P **P** **18 54 41.8 -0.3**
TOLI2 Tolitoli 57.72 116 P **P** **18 54 43.0 +0.8**
TOLI2 Tolitoli 57.72 116 P **P** **18 54 42.4 +0.2**
TOLI2 IAmb IAmb 18 54 43.4
comp=Z,19nm,0.6s
PWJI Pagerwojo 58.37 131 P P 18 54 56.4 +10
BILL Bilibino 58.65 26 P **P** **18 54 47.8 0.0**
BILL IAmb IAmb 18 55 46.1
comp=Z,58nm,1.7s
BILL Bilibino 58.65 26 P **P** **18 54 47.8 0.0**
BILL Bilibino 58.65 26 P **P** **18 54 49.2 +1.3**
BILL PcP **PcP** **18 55 35.7 +0.6**
BILL pP **pP** **18 55 44.4 +1.5**
MRSI Marisa 58.99 115 P **P** **18 54 50.9 -0.1**
comp=Z,195nm,1.0s,comp=Z,2µm
RER Riviere de l'E 59.07 197 P **P** **18 54 52.5 +1.1**
RER Riviere de l'E 59.07 197 P **P** **18 54 52.9 +1.6**
RER Riviere de l'E 59.07 197 P **P** **18 54 52.7 +1.3**
ALE Alert 59.16 354 P **P** **18 54 52.1 +0.9**
ALE pP **pP** **18 55 47.4 +1.3**
ALE sP **sP** **18 56 13.6 +0.6**
BLJI Banyuglugur 59.26 129 P **P** **18 54 51.6 -1.2**
comp=Z,89nm,0.6s
ABPO Ambohimpanom 59.58 206 P **P** **18 54 56.0 +1.0**
ABPO IAmb IAmb 18 54 57.3
comp=Z,47nm,0.9s
ABPO Ambohimpanom 59.58 206 P **P** **18 54 56.0 +1.0**
ABPO pmax pmax
comp=Z,47nm,0.9s
ABPO Ambohimpanom 59.58 206 P **P** **18 54 56.2 +1.2**
GTOI Gorontalo 59.67 114 P **P** **18 54 54.7 -0.9**
comp=Z,29nm,0.8s,comp=Z,310nm
ABJI Asem Bagus 59.70 128 P **P** **18 54 54.4 -1.4**
comp=Z,78nm,0.9s
MTE Manteigas 59.87 300 *e*P **P** **18 54 57.7 +1.0**
comp=Z,115nm,2.0s
MTE *e*pP **pP** **18 55 52.9 +1.6**
TTSI Tana Toraja 59.92 120 P **P** **18 54 57.1 -0.2**
comp=Z,60nm,0.9s,comp=Z,622nm
PETK Petropavlovsk- 59.95 44 P **P** **18 54 55.7 -1.3**
comp=Z,1.9nm,0.6s,baz=27,slow=3.5,SNR=5.6
comp=Z,1.9nm,0.6s
PVIS Viseu 59.99 300 *e*P **P** **18 54 58.4 +0.9**
PVIS *e*pP **pP** **18 55 54.1 +2.0**
PBAR Barrancos 60.42 297 *e*P **P** **18 55 00.8 +0.3**
comp=Z,58nm,1.7s
PBAR *e*pP **pP** **18 55 56.6 +1.7**
KMSI Cibinong 60.43 114 P P 18 55 07.5 +6.8
SRBI Singaraja 60.54 128 P **P** **18 55 00.3 -1.2**
comp=Z,74nm,1.0s
NEEM North Greenlan 61.17 348 *i*P **P** **18 55 05.7 +0.5**
NEEM IAmb IAmb 18 55 08.3
comp=Z,16nm,0.8s
SUMG Summit 61.21 341 IAmb IAmb 18 56 05.3
comp=Z,60nm,1.2s
SUMG Summit 61.21 341 *i*P **P** **18 55 06.0 +0.4**
SUMG IAmb IAmb 18 55 15.2
comp=Z,19nm,0.9s
KAPI Kappang 61.28 122 P **P** **18 55 06.8 +0.3**
comp=Z,32nm,1.1s
KAPI Kappang 61.28 122 P **P** **18 55 05.7 -0.8**
KAPI IAmb IAmb 18 55 07.4
comp=Z,28nm,0.9s
KAPI Kappang 61.28 122 P **P** **18 55 05.7 -0.8**
KAPI pmax pmax
comp=Z,28nm,1.0s
BKSI Bulukumba 61.76 122 P **P** **18 55 09.3 -0.3**
comp=Z,27nm,0.7s
VOI Vohitsoka 62.39 206 P **P** **18 55 15.0 +1.2**
VOI Vohitsoka 62.39 206 P **P** **18 55 14.4 +0.6**
VOI PcP **PcP** **18 55 50.6 -0.3**
VOI Vohitsoka 62.39 206 P **P** **18 55 15.2 +1.4**
SNR=8.4
PLAI Plampang 62.76 126 P **P** **18 55 15.1 -1.1**
TNTI Ternate 62.82 111 P **P** **18 55 17.2 +0.5**
TNTI Ternate 62.82 111 P **P** **18 55 16.5 -0.2**
ICESG Greenland Ices 63.36 338 *i*P **P** **18 55 20.3 +0.5**
ICESG IAmb IAmb 18 55 24.9
comp=Z,12nm,0.8s
BBSI Bau Bau 63.58 120 P **P** **18 55 22.3 +0.7**
comp=Z,52nm,0.8s
SANI Sanana 63.67 114 P **P** **18 55 21.8 -0.4**
SANI Sanana 63.67 114 P **P** **18 55 21.5 -0.7**
TULEG Thule 64.57 350 *i*P **P** **18 55 27.1 -0.1**
TULEG IAmb IAmb 18 55 28.6
comp=Z,24nm,0.6s
ANGG Ammassalik, Gr 64.57 334 *i*P **P** **18 55 27.4 +0.2**
FOMA Nahampoana Res 65.17 204 P **P** **18 55 32.6 +1.0**
FOMA Nahampoana Res 65.17 204 P **P** **18 55 33.1 +1.5**
FOMA Nahampoana Res 65.17 204 P **P** **18 55 33.0 +1.4**
UPNV Upernavik 65.27 345 *i*P **P** **18 55 32.8 +1.1**
UPNV IAmb IAmb 18 55 37.2
comp=Z,13nm,0.7s
NLAI Namlea 65.28 114 P **P** **18 55 33.0 +0.3**
comp=Z,54nm,0.8s
EDFI Ende, Flores 65.30 123 P **P** **18 55 29.3 -3.6**
LSZ Lusaka 65.48 226 P **P** **18 55 34.4 +0.4**
LSZ Lusaka 65.48 226 P **P** **18 55 34.4 +0.4**
LSZ pmax pmax
comp=Z,59nm,0.7s
LSZ Lusaka 65.48 226 P **P** **18 55 34.9 +0.9**
LSZ Lusaka 65.48 226 ⇑P **P** **18 55 34.8 +0.9**
NUUG Nuugaatsiaq 65.49 343 *i*P **P** **18 55 32.4 -0.7**
NUUG IAmb IAmb 18 55 32.5
comp=Z,5.4nm,0.6s
MMRI Maumere 65.59 122 P **P** **18 55 32.7 -1.9**
comp=Z,70nm,1.2s,comp=Z,877nm
BASI Baing, Sumba 65.63 125 P **P** **18 55 33.3 -1.5**
comp=Z,461nm,1.0s,comp=Z,4µm
TOA0 Torodi Ar. Sit 65.85 269 P **P** **18 55 34.4 -2.0**
TORD Torodi Ar. Bea 65.85 269 P **P** **18 55 34.7 -1.6**
TORD Torodi Ar. Bea 65.85 269 P **P** **18 55 35.1 -1.3**
comp=Z,48nm,0.5s,baz=43,slow=6.1,SNR=243
TORD pP **pP** **18 56 30.3 -2.1**
comp=Z,8.8nm,0.8s,baz=41,slow=7.7,SNR=2.6
comp=Z,48nm,0.5s
SWI Sorong 66.83 109 P **P** **18 55 42.1 -0.4**
comp=Z,95nm,0.9s,comp=Z,763nm
DY2G Dye2 66.93 337 *i*P **P** **18 55 43.1 +0.5**
DY2G IAmb IAmb 18 55 45.0
comp=Z,24nm,1.1s
A19K Wainwright 67.23 17 P **P** **18 55 45.5 +1.4**
baz=316
A21K Barrow 67.39 15 P **P** **18 55 44.8 -0.3**
baz=320,SNR=6.3
C16K Lisburne Hills 67.51 20 IAmb IAmb 18 56 44.5
comp=Z,45nm,1.0s
C16K Lisburne Hills 67.51 20 P **P** **18 55 46.5 +0.5**
baz=313,SNR=8.8
B18K Kokolik River 67.66 18 P **P** **18 55 48.1 +1.2**
baz=316
BATI Baumata 67.69 122 P **P** **18 55 46.7 -1.2**
comp=Z,190nm,0.7s,comp=Z,2µm
SOEI Soe 67.78 122 P **P** **18 55 48.5 -0.1**
SOEI Soe 67.78 122 P **P** **18 55 47.1 -1.4**
SOEI Soe 67.78 122 P **P** **18 55 47.2 -1.4**
comp=Z,106nm,0.8s,comp=Z,876nm
SFJD Kangerlussuaq 67.91 339 P **P** **18 55 48.1 -0.3**
SFJD IAmb IAmb 18 55 49.9
comp=Z,18nm,0.9s
SFJD Kangerlussuaq 67.91 339 P **P** **18 55 48.1 -0.3**
SFJD pmax pmax
comp=Z,18nm,1.0s
SFJD Kangerlussuaq 67.91 339 *i*P **P** **18 55 48.1 -0.3**
SFJD IAmb IAmb 18 55 50.6
comp=Z,10.0nm,0.9s
SFJD Kangerlussuaq 67.91 339 P **P** **18 55 48.9 +0.5**
SFJD pP **pP** **18 56 45.5 +0.8**
C17K DeLong Mountai 67.95 19 P **P** **18 55 49.4 +0.7**
baz=315,SNR=18
A22K Sinclair Lake 67.97 15 P **P** **18 55 49.9 +1.2**
baz=321
BNDI Bandanaira 68.21 113 P **P** **18 55 50.1 -1.0**
comp=Z,299nm,1.0s
B20K Meade River 68.27 16 P **P** **18 55 51.6 +1.0**
baz=320
RDOG Red Dog Mine 68.32 19 IAmb IAmb 18 56 49.6
comp=Z,23nm,1.1s
RDOG Red Dog Mine 68.32 19 P **P** **18 55 51.4 +0.4**
baz=315
C18K Utukok River 68.33 18 IAmb IAmb 18 56 49.9
comp=Z,38nm,0.9s
C18K Utukok River 68.33 18 P **P** **18 55 51.9 +0.7**
baz=317,SNR=16
C19K Lookout Ridge 68.39 17 P **P** **18 55 52.7 +1.2**
baz=318
D17K Noatak River 68.53 19 P **P** **18 55 53.0 +0.7**
baz=315,SNR=30
GAMB Gamboli 68.55 25 P **P** **18 55 53.1 +0.7**
baz=310
TNA Tin City 68.61 23 P **P** **18 55 53.7 +0.9**
baz=312
B22K Teshekpuk Lake 68.82 15 P **P** **18 55 54.9 +0.9**
baz=323
FAKI Fak Fak 68.91 110 P **P** **18 55 55.6 +0.1**
FAKI Fak Fak 68.91 110 P **P** **18 55 55.9 +0.4**
B21K Ikpikpuk River 69.14 16 IAmb IAmb 18 56 55.1
comp=Z,37nm,0.9s
B21K Ikpikpuk River 69.14 16 P **P** **18 55 57.1 +1.1**
baz=322,SNR=32
F14K Arctic Creek 69.16 22 P **P** **18 55 57.3 +1.1**
baz=313
D19K Kuna River 69.21 17 P **P** **18 55 57.2 +0.7**
baz=319
E17K Hotham Inlet 69.31 20 P **P** **18 55 57.5 +0.4**
baz=317,SNR=20
E18K Tukpahlearik C 69.39 19 IAmb IAmb 18 56 56.4
comp=Z,43nm,1.0s
E18K Tukpahlearik C 69.39 19 P **P** **18 55 58.2 +0.7**
baz=317
D20K Etivluk River 69.39 17 P **P** **18 55 58.5 +0.8**
baz=320
C21K Kniveblade Rid 69.46 16 P **P** **18 55 59.1 +1.1**
baz=322
F15K North Star Dit 69.50 21 P **P** **18 55 59.4 +1.1**
baz=315
C23K Itkillik River 69.79 14 P **P** **18 56 01.2 +1.2**
baz=325
E20K Nigu River 69.85 17 P **P** **18 56 01.1 +0.6**
baz=321
F17K Baldwin Pennin 69.94 20 P **P** **18 56 02.0 +1.2**
baz=317
NRS Narsarsuaq 70.03 333 *i*P **P** **18 56 02.0 +0.5**
NRS IAmb IAmb 18 56 03.5
comp=Z,13nm,0.8s
ANM Nome 70.08 23 P **P** **18 56 03.2 +1.3**
baz=314
D22K Ayikyak River 70.14 15 IAmb IAmb 18 57 00.9
comp=Z,33nm,1.1s
D22K Ayikyak River 70.14 15 P **P** **18 56 03.2 +1.0**
baz=324,SNR=24
G15K Niukluk 70.19 22 P **P** **18 56 03.3 +0.8**
baz=315
E21K Killik River 70.21 16 P **P** **18 56 03.2 +0.6**
baz=323
E19K Redstone River 70.22 18 P **P** **18 56 03.0 +0.4**
baz=320
F18K Selawik 70.25 19 P **P** **18 56 03.4 +0.6**
baz=318,SNR=25
C24K Franklin Bluff 70.26 14 P **P** **18 56 04.0 +1.2**
baz=327
G16K Koyuk River 70.39 21 P **P** **18 56 04.7 +1.0**
baz=317
D23K Nanushuk River 70.50 15 P **P** **18 56 05.2 +0.9**
baz=325
F19K Shaleruckik Mo 70.56 18 P **P** **18 56 04.6 -0.1**
baz=320
D24K Happy Valley 70.71 14 P **P** **18 56 06.4 +0.8**
baz=327
C26K Camden Bay 70.79 12 P **P** **18 56 07.7 +1.7**
baz=330
G17K Kiwalik Mounta 70.80 20 P **P** **18 56 06.8 +0.7**
baz=318
F20K Avaraart Lake 70.90 18 P **P** **18 56 06.9 +0.2**
baz=322,SNR=22
E22K Anaktuvuk Pass 70.94 16 IAmb IAmb 18 57 05.4
comp=Z,37nm,1.1s
E22K Anaktuvuk Pass 70.94 16 P **P** **18 56 07.5 +0.5**
baz=324,SNR=18
H16K Elim 70.98 21 P **P** **18 56 08.2 +1.0**
baz=317,SNR=15
TOLK Toolik Lake Re 70.99 15 P **P** **18 56 08.4 +1.1**
baz=326,SNR=61
D25K Kavik River 71.04 13 IAmb IAmb 18 57 06.6
comp=Z,37nm,1.0s
D25K Kavik River 71.04 13 P **P** **18 56 08.8 +1.2**
baz=329
G18K Tagagawik 71.05 19 P **P** **18 56 07.8 +0.2**
baz=319
G19K Purcell Mounta 71.27 19 IAmb IAmb 18 57 07.9
comp=Z,33nm,0.9s
G19K Purcell Mounta 71.27 19 P **P** **18 56 09.5 +0.5**
baz=321,SNR=48
A36M Sachs Harbour 71.30 5 P **P** **18 56 10.1 +1.1**
baz=346,SNR=55
F21K Alatna River 71.30 17 P **P** **18 56 09.8 +0.6**
baz=323
F22K John River 71.37 16 P **P** **18 56 10.6 +1.0**
baz=324
H17K Granite Mounta 71.43 20 IAmb IAmb 18 57 09.3
comp=Z,27nm,1.0s
H17K Granite Mounta 71.43 20 P **P** **18 56 10.8 +0.8**
baz=319
E23K Chandalar 71.47 15 P **P** **18 56 11.0 +0.8**
baz=326
SAUI Saumlaki 71.55 115 P **P** **18 56 12.4 +1.0**
SAUI Saumlaki 71.55 115 P **P** **18 56 12.3 +0.9**
SAUI Saumlaki 71.55 115 P **P** **18 56 12.4 +1.0**
comp=Z,571nm,1.2s,comp=Z,5µm
H18K Honhosa River 71.69 20 P **P** **18 56 12.1 +0.5**
baz=320
G21K Allakaket 71.87 17 P **P** **18 56 12.6 +0.1**
baz=323
H19K Roundabout Mou 71.91 19 P **P** **18 56 13.5 +0.7**
baz=321
J14K Nanvaranak Lak 71.95 23 P **P** **18 56 14.2 +1.2**
baz=316
I17K Unalakleet 71.99 21 P **P** **18 56 13.9 +0.7**
I17K IAmb IAmb 18 57 12.6
comp=Z,24nm,1.0s
I17K Unalakleet 71.99 21 P **P** **18 56 14.5 +1.3**
baz=318,SNR=12
COLD Coldfoot 72.04 16 P **P** **18 56 14.5 +1.0**
baz=326,SNR=13
D27M Malcolm River 72.04 11 P **P** **18 56 14.9 +1.3**
baz=333
E25K Arctic Village 72.22 14 IAmb IAmb 18 57 13.4
comp=Z,21nm,1.1s
E25K Arctic Village 72.22 14 P **P** **18 56 15.6 +1.0**
baz=330,SNR=19
IMAR Indian Mountai 72.23 18 P **P** **18 56 14.8 +0.1**
F24K Squaw Lake 72.28 15 P **P** **18 56 16.0 +1.0**
baz=328,SNR=12
D28M Stokes Point 72.31 11 P **P** **18 56 16.8 +1.8**
baz=335,SNR=44
H20K Anotleneega Mo 72.35 18 P **P** **18 56 16.0 +0.6**
baz=322,SNR=41
GCSA Galena City Sc 72.41 20 P **P** **18 56 16.5 +0.8**
baz=321
J16K Anvik River 72.47 22 IAmb IAmb 18 56 18.2
comp=Z,41nm,1.1s
J16K Anvik River 72.47 22 P **P** **18 56 17.2 +1.1**
baz=318,SNR=28
G23K Bananza Creek 72.51 16 P **P** **18 56 17.2 +0.9**
baz=326
F25K Christian Rive 72.67 14 P **P** **18 56 18.6 +1.3**
baz=330
H21K Melozitna Rive 72.73 18 P **P** **18 56 18.2 +0.6**
baz=324
M11K Mekoryuk 72.75 26 P **P** **18 56 19.0 +1.2**
baz=315
E28M Babbage River 72.85 11 IAmb IAmb 18 57 18.7
comp=Z,19nm,0.9s
E28M Babbage River 72.85 11 P **P** **18 56 19.7 +1.4**
baz=334,SNR=24
F26K Sheenjek River 72.86 13 P **P** **18 56 19.5 +1.0**
baz=331
H22K Ishtalitna Cre 72.88 17 P **P** **18 56 19.4 +0.9**
baz=325
E27K Coleen River 72.88 12 IAmb IAmb 18 57 17.8
comp=Z,32nm,1.1s
E27K Coleen River 72.88 12 P **P** **18 56 19.9 +1.3**
baz=333,SNR=22
K15K Wolf Creek Mou 72.92 23 IAmb IAmb 18 57 18.6
comp=Z,20nm,1.1s
K15K Wolf Creek Mou 72.92 23 P **P** **18 56 20.2 +1.4**
baz=318
I20K Naaghedeneel 73.00 19 P **P** **18 56 20.2 +1.0**
baz=323,SNR=23
BMAR Burnt Mountain 73.02 14 P **P** **18 56 20.7 +1.4**
G24K Hadweenzic Riv 73.07 15 P **P** **18 56 20.7 +1.1**
baz=328
L14K Kuka Creek 73.26 24 P **P** **18 56 22.2 +1.5**
baz=317
G25K Bearman Lake 73.29 15 P **P** **18 56 22.5 +1.6**
baz=329
E29M Blow River 73.30 11 IAmb IAmb 18 57 20.4
comp=Z,32nm,1.1s
E29M Blow River 73.30 11 P **P** **18 56 22.3 +1.4**
baz=336,SNR=35
J19K Poorman 73.34 20 P **P** **18 56 22.3 +1.1**
baz=322
MBWA Marble Bar 73.36 133 P **P** **18 56 22.0 +0.1**
MBWA Marble Bar 73.36 133 P **P** **18 56 21.5 -0.3**
MBWA IAmb IAmb 18 56 22.9
comp=Z,46nm,0.9s
MBWA Marble Bar 73.36 133 P **P** **18 56 21.9 +0.1**
H23K Yukon River 73.36 16 P **P** **18 56 22.5 +1.2**
baz=327
L15K Ungalak Mounta 73.39 23 P **P** **18 56 22.6 +1.0**
baz=318,SNR=7.6
SPIA Saint Paul Isl 73.43 30 P **P** **18 56 22.8 +1.0**
baz=312
J18K Innoko River 73.46 20 IAmb IAmb 18 56 23.7
comp=Z,27nm,0.9s
J18K Innoko River 73.46 20 P **P** **18 56 22.8 +0.9**
baz=321
K17K Iditarod 73.58 21 IAmb IAmb 18 56 24.7
comp=Z,38nm,0.8s
K17K Iditarod 73.58 21 P **P** **18 56 23.7 +1.0**
baz=320
G26K Porcupine Rive 73.59 14 P **P** **18 56 23.6 +1.0**
baz=331,SNR=15
J20K Nowinta River 73.59 19 IAmb IAmb 18 56 24.5
comp=Z,26nm,0.7s
J20K Nowinta River 73.59 19 P **P** **18 56 23.7 +1.1**
baz=323,SNR=35
FYU Fort Yukon 73.64 14 IAmb IAmb 18 57 22.6
comp=Z,60nm,1.1s
F28M Old Crow 73.69 12 P **P** **18 56 24.3 +1.1**
baz=334,SNR=21
M13K Dall Lake 73.72 25 P **P** **18 56 25.5 +2.1**
baz=317
H24K Noodor Dome 73.72 16 P **P** **18 56 24.6 +1.2**
baz=328,SNR=20
MLY Manley 73.74 17 IAmb IAmb 18 57 22.5
comp=Z,25nm,1.1s
MLY Manley 73.74 17 P **P** **18 56 24.4 +0.8**
baz=326,SNR=24
PSA00 Pilbara Seismi 73.74 133 P **P** **18 56 24.1 0.0**
PSA00 Pilbara Seismi 73.74 133 P **P** **18 56 23.7 -0.4**
H25L Birch Creek 73.78 15 P **P** **18 56 25.1 +1.4**
baz=330
M14K Bethel 73.93 24 P **P** **18 56 26.1 +1.5**
baz=318,SNR=38
I23K Minto, Yukon-K 73.97 17 P **P** **18 56 25.9 +1.1**
baz=327,SNR=26
C36M Paulatuk 73.97 6 P **P** **18 56 25.2 +0.5**
baz=347,SNR=45
INK Inuvik 73.99 9 IAmb IAmb 18 56 32.4
comp=Z,34nm,0.7s
INK Inuvik 73.99 9 P **P** **18 56 25.9 +1.1**
baz=340,SNR=45
L16K Owhat River 74.00 23 P **P** **18 56 26.3 +1.2**
L16K IAmb IAmb 18 56 27.5
comp=Z,34nm,0.9s
L16K Owhat River 74.00 23 P **P** **18 56 26.4 +1.4**
baz=320,SNR=34
L17K Donlin 74.03 22 P **P** **18 56 26.6 +1.3**
baz=320
TTA Tatalina 74.08 20 IAmb IAmb 18 57 24.9
comp=Z,23nm,1.1s
TTA Tatalina 74.08 20 P **P** **18 56 26.4 +0.8**
baz=322,SNR=13
G27K Doyon Strip 74.11 13 P **P** **18 56 26.9 +1.3**
baz=333
P08K Saint George I 74.11 30 P **P** **18 56 27.4 +1.6**
baz=313
K20K Telida 74.27 19 P **P** **18 56 27.6 +1.0**
baz=324

DRS Darwin Rock St 74.28 119 P P 18 56 27.3 0.0
CHUM Lake Minchumin 74.30 18 P P 18 56 27.7 +1.0
baz=325,SNR=34
F30M Barrier River 74.33 10 P P 18 56 27.9 +1.0
baz=338,SNR=31
M15K Kasigluk River 74.39 24 P P 18 56 28.8 +1.5
baz=319
POKR Poker Plat Res 74.43 16 P P 18 56 28.6 +1.1
baz=329,SNR=18
L18K Granite Mounta 74.44 21 P P 18 56 28.5 +0.9
baz=322
BPAW Bear Paw Mtn. 74.46 18 IAmb IAmb 18 57 26.8
comp=Z,29nm,1.0s
BPAW Bear Paw Mtn. 74.46 18 P P 18 56 28.1 +0.4
baz=326,SNR=22
PRP Porcupine Dome 74.49 15 P P 18 56 29.1 +1.1
baz=330,SNR=16
NEA2 Nenana 74.50 17 P P 18 56 28.4 +0.5
baz=327,SNR=44
COLA College 74.54 16 P P 18 56 29.4 +1.3
COLA College 74.54 16 P P 18 56 28.9 +0.8
baz=328
COLA College 74.54 16 *c i* P P 18 56 28.5 +0.4
COLA pmax pmax
comp=Z,34nm,0.8s
G29M Pine Creek 74.63 12 P P 18 56 29.5 +0.9
baz=336
N14K Kuskokwak Cree 74.64 25 P P 18 56 30.2 +1.5
baz=318
H27K Steamboat Moun 74.65 13 P P 18 56 30.0 +1.2
baz=333
LBTB Lobatse 74.69 222 P P 18 56 30.5 +0.9
LBTB pP pP 18 57 25.5 -2.2
M16K Timber Creek 74.69 23 IAmb IAmb 18 56 31.6
comp=Z,21nm,0.8s
M16K Timber Creek 74.69 23 P P 18 56 30.8 +1.7
baz=320,SNR=11
MTN Manton Dam 74.73 119 P P 18 56 29.4 -0.5
MTN Manton Dam 74.73 119 P P 18 56 28.9 -1.0
MTN IAmb IAmb 18 56 29.8
comp=Z,29nm,0.6s
CAST Castle Rocks 74.74 19 P P 18 56 30.0 +0.7
baz=325,SNR=56
F31M Tsiigehtchic 74.78 10 IAmb IAmb 18 56 31.1
comp=Z,33nm,0.8s
F31M Tsiigehtchic 74.78 10 P P 18 56 30.3 +0.9
baz=339,SNR=40
GENI Genyem 74.79 105 P P 18 56 31.0 +0.6
GENI Genyem 74.79 105 P P 18 56 30.9 +0.6
comp=Z,148nm,0.9s
DBIC Dimbokro 74.83 267 P P 18 56 29.4 -1.2
DBIC IAmb IAmb 18 56 30.1
comp=Z,22nm,0.6s
DBIC Dimbokro 74.83 267 P P 18 56 29.4 -1.2
DBIC pmax pmax
comp=Z,22nm,0.6s
DBIC Dimbokro 74.83 267 P P 18 56 29.6 -0.9
comp=Z,20nm,0.5s,baz=38,slow=6.3,SNR=55
comp=Z,20nm,0.5s
ILAR Eielson Array 74.85 16 P P 18 56 29.5 -0.4
ILAR Eielson Array 74.85 16 P P 18 56 29.7 -0.2
comp=Z,8.4nm,0.7s,baz=322,slow=4.5,SNR=105
ILAR pP pP 18 57 27.2 -0.3
comp=Z,14nm,0.9s,baz=317,slow=4.8,SNR=12
comp=Z,8.4nm,0.7s
G30M tAoh Zraii Nji 74.85 11 P P 18 56 30.5 +0.6
baz=337
M17K Holitna River 74.86 22 P P 18 56 31.6 +1.6
baz=321
KIC Kosan Boka 74.91 267 ⇑ *i* P P 18 56 30.3 -0.8
comp=Z,51nm,0.5s
KTH Kantishna Hill 74.93 18 IAmb IAmb 18 57 29.7
comp=Z,53nm,1.0s
TIC Toumodi 74.97 267 ⇑ *i* P P 18 56 30.5 -1.0
comp=Z,24nm,0.3s
N15K Kwethluk River 74.98 24 P P 18 56 32.5 +1.7
baz=319
L19K White Mountain 75.00 20 IAmb IAmb 18 57 31.0
comp=Z,28nm,1.1s
L19K White Mountain 75.00 20 P P 18 56 31.7 +0.8
baz=323
L20K Farewell, AK 75.03 20 P P 18 56 31.7 +0.7
baz=324
KNRA Kununurra 75.06 123 P P 18 56 32.1 +0.4
KNRA Kununurra 75.06 123 P P 18 56 31.8 0.0
PPLA Purkeypile 75.14 19 P P 18 56 32.0 +0.2
baz=325,SNR=9.2
HDA Harding Lake 75.14 16 P P 18 56 31.8 +0.2
baz=329,SNR=6.1
I26K Coal Creek Min 75.16 14 P P 18 56 32.6 +1.0
baz=332,SNR=37
TRF Thorofare Moun 75.17 18 P P 18 56 31.5 -0.5
baz=326,SNR=6.3
N16K Nishlik Lake 75.17 23 P P 18 56 33.5 +1.7
baz=320
G31M Satah River 75.19 10 IAmb IAmb 18 56 38.9
comp=Z,27nm,0.6s
G31M Satah River 75.19 10 P P 18 56 32.3 +0.5
baz=339,SNR=26
I27K Kandik River 75.19 13 P P 18 56 33.0 +1.1
baz=333,SNR=27
H29M Whitestone 75.21 12 P P 18 56 33.0 +1.1
baz=336
LIC Lamto 75.22 267 ⇑ *i* P P 18 56 31.9 -1.0
comp=Z,40nm,0.3s
MCK McKinley 75.26 17 P P 18 56 32.6 +0.3
baz=328,SNR=15
M18K Stony River 75.27 21 P P 18 56 33.4 +1.1
baz=322
O14K Tigyukauivet M 75.28 25 P P 18 56 33.7 +1.3
baz=319
J25K Salcha River, 75.31 15 P P 18 56 32.7 0.0
baz=330
EPYK Eagle Plains 75.34 11 IAmb IAmb 18 57 31.5
comp=Z,28nm,1.2s
EPYK Eagle Plains 75.34 11 P P 18 56 33.1 +0.3
baz=337
M19K Big River Lodg 75.35 20 P P 18 56 33.9 +1.0
baz=324
RND Reindeer 75.56 17 IAmb IAmb 18 56 35.9
comp=Z,17nm,0.6s
KDU Kakadu 75.57 118 P P 18 56 34.4 -0.3
N17K Nushagak Hills 75.62 22 IAmb IAmb 18 57 35.3
comp=Z,20nm,1.0s
N17K Nushagak Hills 75.62 22 P P 18 56 36.0 +1.6
baz=322,SNR=7.0
I28M Miner Creek 75.64 13 IAmb IAmb 18 56 35.8
comp=Z,22nm,0.7s
I28M Miner Creek 75.64 13 P P 18 56 35.0 +0.5
baz=335,SNR=34
SVW2 Sparrevohn 75.66 21 P P 18 56 35.7 +1.1
M20K Styx River 75.72 20 P P 18 56 35.8 +0.7
baz=324
J26L Joseph Creek 75.79 15 P P 18 56 35.9 +0.6
baz=332
O15K Ungalikthiuk R 75.83 24 P P 18 56 36.8 +1.2
baz=320
N18K Kilae Creek 75.90 22 P P 18 56 37.2 +1.3
baz=323
K24K Donnelly Dome 75.93 16 P P 18 56 36.1 0.0
baz=330,SNR=34
EGAK Eagle 76.02 14 P P 18 56 37.1 +0.5
baz=334,SNR=12
CUT Chulitna 76.05 19 P P 18 56 36.3 -0.4
baz=327
O16K Kokwok River B 76.07 23 P P 18 56 38.5 +1.6
baz=321
SKT Skwentna 76.08 19 P P 18 56 36.8 -0.1
baz=326,SNR=16
WAT1 Susitna Watana 76.12 18 P P 18 56 36.5 -0.7
baz=328
SCRK Sand Creek 76.17 15 IAmb IAmb 18 56 44.7
comp=Z,20nm,0.6s
SCRK Sand Creek 76.17 15 P P 18 56 38.2 +0.7
baz=332,SNR=28
RIDG Independent Ri 76.19 16 P P 18 56 37.4 -0.2
baz=331
DHY Denali Highway 76.19 17 P P 18 56 37.8 +0.1
baz=329,SNR=25
N19K Bonanza Creek 76.21 21 P P 18 56 38.9 +1.1
baz=324
H31M Peel River 76.23 11 P P 18 56 38.3 +0.6
baz=339,SNR=47
O17K Koliganek Bris 76.25 23 P P 18 56 39.1 +1.2
baz=322
I30M Mount Dempster 76.45 12 IAmb IAmb 18 56 46.2
comp=Z,21nm,0.7s
I30M Mount Dempster 76.45 12 P P 18 56 39.7 +0.5
baz=338,SNR=49
K27K Chicken 76.51 14 P P 18 56 40.3 +1.0
baz=333
WAT6 Susitna Watana 76.53 17 P P 18 56 39.3 -0.4
baz=329,SNR=21
N20K Mount Spurr 76.54 20 P P 18 56 39.5 -0.1
baz=325
P16K Nushagak River 76.54 24 P P 18 56 40.7 +1.2
baz=321
M22K Willow 76.64 19 P P 18 56 39.6 -0.4
baz=327
SUA Susitna One 76.71 19 IAmb IAmb 18 57 39.8
comp=Z,21nm,1.0s
SUA Susitna One 76.71 19 P P 18 56 40.6 -0.1
baz=326,SNR=8.0
PAX Paxson 76.72 16 P P 18 56 40.8 +0.1
baz=330,SNR=36
O19K Port Alsworth 76.75 21 P P 18 56 41.7 +1.0
baz=324,SNR=5.5
O18K Koktuh Hills 76.76 22 P P 18 56 41.5 +0.7
O18K IAmb IAmb 18 56 43.1
comp=Z,41nm,0.8s
O18K Koktuh Hills 76.76 22 P P 18 56 42.2 +1.4
baz=323,SNR=15
J29N Klondike Camp 76.86 13 P P 18 56 42.3 +1.0
baz=336
NIKH Nikolski High 76.90 33 P P 18 56 42.7 +1.0
baz=314
P17K Kvichak River 76.91 23 P P 18 56 43.0 +1.5
baz=322,SNR=23
DAWY Dawson 77.00 13 IAmb IAmb 18 57 41.2
comp=Z,26nm,1.0s
DAWY Dawson 77.00 13 P P 18 56 42.7 +0.6
baz=335,SNR=29
MEEK Meekatharra 77.00 137 P P 18 56 42.1 -0.4
PMR Palmer 77.03 19 P P 18 56 42.5 +0.3
PMR Palmer 77.03 19 P P 18 56 42.1 -0.1
baz=328,SNR=6.5
SML Sawmill 77.05 18 P P 18 56 42.5 +0.1
baz=328,SNR=26
J30M Hart River 77.06 12 IAmb IAmb 18 57 42.0
comp=Z,20nm,1.0s
J30M Hart River 77.06 12 P P 18 56 43.0 +0.5
baz=338,SNR=20
P18K Big Mountain, 77.13 22 IAmb IAmb 18 56 44.5
comp=Z,28nm,0.8s
P18K Big Mountain, 77.13 22 P P 18 56 43.5 +0.6
baz=323,SNR=11
MENT Mentasta 77.14 16 P P 18 56 44.2 +1.3
L26K Log Cabin Wild 77.14 15 IAmb IAmb 18 57 42.4
comp=Z,23nm,1.2s
L26K Log Cabin Wild 77.14 15 P P 18 56 43.6 +0.7
baz=332,SNR=13
M23K Glacier View 77.21 18 P P 18 56 43.3 0.0
baz=329,SNR=34
Q16K King Salmon 77.25 23 P P 18 56 44.6 +1.1
baz=322,SNR=11
SCM Sheep Creek Mo 77.27 18 P P 18 56 44.5 +0.8
baz=329,SNR=13
HARP HAARP 77.30 16 P P 18 56 44.8 +1.1
baz=331,SNR=34
RC01 Rabbit Creek A 77.30 19 IAmb IAmb 18 57 44.1
comp=Z,18nm,0.7s
RC01 Rabbit Creek A 77.30 19 P P 18 56 43.7 0.0
baz=327,SNR=5.3
M24K Tolsona, Glenn 77.31 17 P P 18 56 45.2 +1.3
baz=330,SNR=19
KNK Knik Glacier 77.35 18 P P 18 56 44.6 +0.5
baz=328,SNR=7.9
L27K Beaver Creek, 77.43 15 P P 18 56 45.7 +1.2
baz=333,SNR=25
BCAR Beaver Creek A 77.43 15 P P 18 56 45.5 +0.9
P19K Oil Pt 77.52 21 P P 18 56 45.4 +0.4
baz=325
K29M Barlow Dome 77.54 13 P P 18 56 46.0 +0.8
baz=337
MORW Morawa 77.58 141 P P 18 56 45.3 -0.4
MORW Morawa 77.58 141 P P 18 56 45.0 -0.6
MORW IAmb IAmb 18 56 45.8
comp=Z,30nm,0.6s
S12K Black Hills 77.67 28 P P 18 56 46.2 +0.3
baz=319
BOSA Boshof 77.75 220 P P 18 56 46.5 -0.3
BOSA IAmb IAmb 18 56 47.9
comp=Z,45nm,0.9s
BOSA Boshof 77.75 220 P P 18 56 46.5 -0.3
BOSA pmax pmax
comp=Z,45nm,1.0s
BOSA Boshof 77.75 220 P P 18 56 47.0 +0.2
comp=Z,35nm,0.8s,baz=19,slow=4.3,SNR=78
comp=Z,35nm,0.8s
M26K Nabesna, AK 77.77 16 P P 18 56 47.0 +0.6
baz=332,SNR=6.9
FALS False Pass 77.78 29 P P 18 56 47.4 +0.9
baz=319
O22K Cooper Landing 77.81 19 P P 18 56 46.5 0.0
baz=327
Q17K Contact Creek 77.83 23 P P 18 56 46.9 +0.1
baz=323,SNR=6.5
KLU Klutina 77.91 17 P P 18 56 48.0 +0.8
baz=330,SNR=14
MAYO Mayo, Yukon 78.05 12 P P 18 56 48.3 +0.5
baz=338
M27K Edge Creek, AK 78.05 15 P P 18 56 49.0 +1.0
baz=333,SNR=25
L29M L29M 78.10 13 P P 18 56 49.3 +1.1
baz=336,SNR=18
N25K Chitina, Valde 78.12 17 IAmb IAmb 18 56 51.0
comp=Z,15nm,0.7s
N25K Chitina, Valde 78.12 17 P P 18 56 49.0 +0.6
baz=331,SNR=12
S14K Fog Glacier 78.14 26 P P 18 56 49.0 +0.4
baz=320
BRSE Bradley Lake S 78.16 20 P P 18 56 48.5 0.0
baz=327
SEW Seward 78.20 19 P P 18 56 48.6 -0.1
baz=328
BVCY Beaver Creek 78.21 15 P P 18 56 49.7 +0.9
baz=334,SNR=23
SDPT Sand Point 78.53 27 P P 18 56 50.0 -0.6
baz=320
CHGN Chignik 78.53 26 P P 18 56 50.0 -0.5
baz=321
Q20K Shuyak Island 78.62 22 P P 18 56 50.7 -0.3
baz=326
M29M Somme Creek 78.65 14 P P 18 56 52.5 +1.1
baz=336,SNR=20
MCARA McCarthy VSAT 78.67 16 P P 18 56 52.0 +0.7
baz=332
BMRM Bremner River 78.68 17 P P 18 56 52.1 +0.7
baz=331,SNR=6.8
VRDI Verde Repeater 78.71 16 IAmb IAmb 18 56 53.4
comp=Z,21nm,1.1s
EYAK Cordova Ski Ar 78.77 18 P P 18 56 53.0 +1.2
EYAK Cordova Ski Ar 78.77 18 P P 18 56 52.7 +0.9
baz=330,SNR=6.2
P23K Montague Islan 78.83 19 P P 18 56 52.8 +0.6
baz=329
M30M Minto, Yukon 78.84 13 P P 18 56 52.6 +0.4
baz=337,SNR=6.8
YUK3 Moose Creek 78.87 15 P P 18 56 53.2 +0.6
baz=334,SNR=16
BLDU Ballidu 79.17 141 P P 18 56 53.4 -0.9
CRQE Cirque 79.22 16 P P 18 56 55.0 +0.6
baz=332,SNR=8.4
KDAK Kodiak Island 79.25 22 P P 18 56 54.7 +0.3
baz=326
KDAK Kodiak Island 79.25 22 *c i* P P 18 56 54.6 +0.2
KDAK pmax pmax
comp=Z,56nm,0.9s
CHNA Chernabura Isl 79.25 27 P P 18 56 54.2 -0.3
baz=321,SNR=12
CTG Chitna Glacier 79.42 15 P P 18 56 56.2 +0.7
baz=334,SNR=15
OHAK Old Harbor 79.49 23 P P 18 56 56.3 +0.6
OHAK Old Harbor 79.49 23 P P 18 56 56.2 +0.4
baz=325,SNR=8.1
Q23K Middleton Isla 79.60 18 P P 18 56 57.2 +0.9
baz=330
M31M Drury Creek, Y 79.60 12 P P 18 56 56.8 +0.5
baz=339,SNR=16
YUK4 Talbot Arm 79.62 14 P P 18 56 57.3 +0.6
baz=336,SNR=17
MMPY Sheldon Lake, 79.69 10 P P 18 56 57.8 +0.9
baz=342,SNR=8.3
BGLC Bering Glacier 79.74 17 P P 18 56 57.5 +0.5
baz=332
FARO Faro, Yukon 79.74 11 P P 18 56 57.6 +0.5
baz=340,SNR=9.6
SII Sitkinak Islan 79.75 24 P P 18 56 57.5 +0.3
baz=324
N30M Aishikik Lake 79.82 13 P P 18 56 58.5 +1.0
baz=337
O28M Mount Upton 79.83 15 P P 18 56 58.4 +0.5
baz=335
MESA MESA 79.99 16 P P 18 56 58.6 0.0
baz=334
N31M Braeburn, Yuko 80.03 13 P P 18 56 59.4 +0.7
baz=338,SNR=10
WRGLY Wrigley 80.03 7 P P 18 56 59.7 +1.2
baz=348,SNR=19
YUK6 Outpost Mounta 80.05 14 P P 18 56 59.8 +0.8
baz=336,SNR=7.1
MANU Manus Island 80.13 100 P P 18 57 00.2 +0.3
HYT Haines Junctio 80.33 14 IAmb IAmb 18 57 09.4
comp=Z,16nm,0.8s
HYT Haines Junctio 80.33 14 P P 18 57 01.1 +0.8
baz=337,SNR=18
KLBR Kellerberrin 80.49 141 P P 18 57 00.3 -1.0
O29M Mount Kennedy 80.59 15 P P 18 57 02.0 +0.2
baz=336
O30N Mendenhall 80.64 13 P P 18 57 02.4 +0.5
baz=338,SNR=14
N32M Quiet Lake 80.81 12 P P 18 57 02.7 -0.1
baz=340
GRHM Grahamstown, E 80.96 217 P P 18 57 04.2 +0.3
GRHM IAmb IAmb 18 57 06.0
comp=Z,61nm,1.3s
WHY Whitehorse 80.96 13 P P 18 57 03.8 +0.1
baz=339,SNR=11
PNL Peninsula 81.00 15 P P 18 57 04.3 +0.5
baz=336
P30M Million Dollar 81.08 14 P P 18 57 05.2 +0.9
baz=337
TGTN Hyland Airport 81.15 9 P P 18 57 05.8 +1.2
baz=344,SNR=14
NWAO Narrogin (SRO) 81.30 142 P P 18 57 04.8 -0.8
NWAO Narrogin (SRO) 81.30 142 P P 18 57 04.7 -0.8
YKA Yellowknife Ar 81.35 3 P P 18 57 05.7 +0.2
YKA Yellowknife Ar 81.35 3 *i* P P 18 57 06.0 +0.5
YKA pmax pmax
comp=Z,20nm,0.6s
YKA Yellowknife Ar 81.35 3 P P 18 57 06.0 +0.5
comp=Z,19nm,0.7s,baz=348,slow=5.7,SNR=372
YKA pP pP 18 58 04.5 +0.2
comp=Z,18nm,0.8s,baz=350,slow=5.7,SNR=12
YKA S S 19 06 55.8 +0.4
comp=Z,0.4nm,0.8s,baz=357,slow=11,SNR=5.2
YKA PKKPbc PKKPbc 19 15 35.8 -2.5
comp=Z,1.2nm,0.6s,baz=170,slow=2.3,SNR=19
comp=Z,19nm,0.7s
P29M Windy Craggy 81.38 14 P P 18 57 06.0 +0.2
baz=337
WRKA Warakurna 81.45 130 P P 18 57 06.2 -0.4
WB0 Warramunga Arr 81.74 122 P P 18 57 07.2 -1.0
P33M Teslin, Yukon 81.74 12 P P 18 57 08.1 +0.4
baz=341,SNR=44
PLBC Pleasant Camp 81.81 14 P P 18 57 08.8 +0.8
baz=338,SNR=13
WRA Warramunga Arr 81.82 122 P P 18 57 07.7 -0.9
WRA Warramunga Arr 81.82 122 *i* P P 18 57 08.0 -0.7
WRA pmax pmax
comp=Z,50nm,0.4s
WRA Warramunga Arr 81.82 122 P P 18 57 08.0 -0.7
comp=Z,50nm,0.4s,baz=324,slow=5.0,SNR=1058
WRA pP pP 18 58 06.0 -1.6
comp=Z,9.7nm,0.9s,baz=318,slow=4.8,SNR=2.7
WRA PKKPbc PKKPbc 19 15 37.8 +0.3
comp=Z,1.5nm,0.4s,baz=119,slow=2.4,SNR=49
WRAB Tennant Creek 81.82 122 *c i* P P 18 57 07.9 -0.7
WRAB pmax pmax
comp=Z,94nm,0.9s
SKAG Skagway 82.00 13 P P 18 57 10.5 +1.5
SKAG Skagway 82.00 13 P P 18 57 10.0 +1.0
baz=339,SNR=5.6
P32M Atlin 82.17 12 P P 18 57 09.8 -0.2
P32M Atlin 82.17 12 P P 18 57 10.5 +0.5
baz=340,SNR=6.3
SCHQ Schefferville 82.25 337 P P 18 57 10.2 -0.2
SCHQ Schefferville 82.25 337 P P 18 57 10.6 +0.2
comp=Z,7.7nm,0.8s,baz=27,slow=2.8,SNR=12
SCHQ pP pP 18 58 08.6 -0.2
comp=Z,7.6nm,0.8s,baz=48,slow=5.6,SNR=5.3
comp=Z,7.7nm,0.8s
WTLY Watson Lake, Y 82.44 10 P P 18 57 12.0 +0.7
baz=344,SNR=14
KMBL Kambalda 82.47 138 P P 18 57 11.0 -0.7
RKGY Rocky Gully 82.53 143 P P 18 57 11.6 -0.4
R33M Jennings River 82.81 11 P P 18 57 14.1 +0.7
baz=342,SNR=12
R31K City Hall, Gus 82.90 14 P P 18 57 15.1 +1.5
baz=338
KOTAN Kotaneelee Air 83.01 8 P P 18 57 14.9 +0.7
baz=348
Q32M Nakina River 83.02 12 P P 18 57 15.2 +0.7
baz=341,SNR=8.3
SUR Sutherland 83.06 221 P P 18 57 15.9 +0.9
R32K Eaglecrest 83.27 13 P P 18 57 16.3 +0.8
baz=340
DRLN Deer Lake 83.34 329 IAmb IAmb 18 57 18.4
comp=Z,34nm,1.1s
DLBC Dease Lake 83.88 11 IAmb IAmb 18 57 20.8
comp=Z,28nm,1.4s
DLBC Dease Lake 83.88 11 P P 18 57 19.4 +0.7
baz=343,SNR=7.5
DLBC Dease Lake 83.88 11 P P 18 57 19.4 +0.7
comp=Z,5.9nm,0.7s,baz=353,slow=3.4,SNR=18
DLBC pP pP 18 58 17.6 -0.2
comp=Z,5.4nm,0.8s,baz=314,slow=5.5,SNR=3.7
comp=Z,5.9nm,0.7s
S32K Killisnoo 84.01 14 P P 18 57 19.8 +0.5
baz=339
AS31 Alice Springs 84.08 125 P P 18 57 19.3 -0.9
ASAR Alice Springs 84.08 125 P P 18 57 19.4 -0.7
comp=Z,90nm,0.6s,baz=310,slow=5.0,SNR=1848
ASAR PKKPbc PKKPbc 19 15 32.8 +0.3
comp=Z,1.1nm,0.6s,baz=121,slow=2.7,SNR=17
AS01 Alice Springs 84.11 125 P P 18 57 19.6 -0.7
TOAD Toad River Com 84.13 8 P P 18 57 20.6 +0.7
baz=347,SNR=9.1
S34M Telegraph Cree 84.20 12 IAmb IAmb 18 57 28.4
comp=Z,23nm,0.7s
S34M Telegraph Cree 84.20 12 P P 18 57 21.4 +1.1
baz=342,SNR=14
COEN Coen 84.24 112 P P 18 57 20.3 -0.8
COEN Coen 84.24 112 P P 18 57 19.9 -1.2
SIT Sitka 84.25 14 P P 18 57 21.1 +0.6
baz=339
FCC Fort Churchill 84.41 352 IAmb IAmb 18 57 22.9
comp=Z,25nm,0.9s
PMG Port Moresby 84.44 106 P P 18 57 21.5 -0.7
PMG IAmb IAmb 18 57 22.8
comp=Z,28nm,0.8s
PMG Port Moresby 84.44 106 P P 18 57 21.5 -0.7
PMG pmax pmax
comp=Z,28nm,0.9s
T35M Bob Quinn 85.24 12 P P 18 57 26.3 +0.8
baz=343
WRAK Wrangell Islan 85.41 13 P P 18 57 27.2 +0.9
baz=341
FORT Forrest 85.50 134 P P 18 57 26.5 -0.5
FORT Forrest 85.50 134 P P 18 57 26.5 -0.5
U33K Whale Pass 85.56 13 P P 18 57 27.8 +0.8
baz=341
QIS Mount Isa 85.89 119 P P 18 57 28.2 -1.0
MTSU Mount Surprise 87.73 114 P P 18 57 37.8 -0.3
OOD Oodnadatta 88.08 127 P P 18 57 38.8 -0.7
MULG Mulgathing 88.76 130 P P 18 57 41.8 -0.8
FFC Flin Flon 89.06 356 P P 18 57 44.0 +0.2
FFC IAmb IAmb 18 57 45.2
comp=Z,26nm,0.8s
FFC Flin Flon 89.06 356 P P 18 57 44.0 +0.2
FFC pmax pmax
comp=Z,26nm,0.8s
CTAO Charters Tower 90.37 115 P P 18 57 49.8 -0.6
CTAO Charters Tower 90.37 115 P P 18 57 49.6 -0.8
CTAO Charters Tower 90.37 115 P P 18 57 49.6 -0.8
CTAO pmax pmax
comp=Z,55nm,0.8s
VLDQ Val d'Or 91.33 340 IAmb IAmb 18 57 56.3
comp=Z,15nm,1.0s
INKA Innaminka 91.37 124 P P 18 57 54.5 -0.3
LCRK Leigh Creek 91.50 127 P P 18 57 54.3 -1.0
BBOO Buckleboo 91.73 130 P P 18 57 55.2 -1.2

BBOO	**Buckleboo**	**91.73**	**130**	P		**P**		**18 57 55.0**	**-1.4**
BBOO				IAmb		IAmb		18 57 56.1	
	comp=Z,26nm,1.0s								
WHYH	**Whyalla**	**92.82**	**130**	P		**P**		**18 58 00.5**	**-0.9**
ULM	**Lac du Bonnet**	**92.97**	**352**	IAmb		IAmb		18 58 02.6	
	comp=Z,18nm,0.8s								
ULM	**Lac du Bonnet**	**92.97**	**352**	*ce*P		**P**		**18 58 01.5**	**-0.5**
ULM	**Lac du Bonnet**	**92.97**	**352**	P		**P**		**18 58 01.7**	**-0.3**
	comp=Z,17nm,0.8s,baz=13,slow=5.1,SNR=34								
ULM				pP		**pP**		**18 59 00.3**	**-1.3**
	comp=Z,6.0nm,0.9s,baz=35,slow=5.2,SNR=4.1								
	comp=Z,17nm,0.8s								
QLP	**Quilpie**	**93.01**	**121**	P		**P**		**18 58 01.9**	**-0.5**
LONY	**Lake Ozonia**	**93.60**	**336**	P		**P**		**18 58 05.6**	**+0.6**
	baz=27								
HTT	**Hallett**	**93.93**	**129**	P		**P**		**18 58 05.8**	**-0.7**
HRV	**Adam Dziewonsk**	**94.42**	**333**	P		**P**		**18 58 09.2**	**+0.4**
	baz=29								
B35A	**Bob_Littlefor**	**94.55**	**350**	IAmb		IAmb		18 58 09.9	
	comp=Z,6.4nm,0.8s								
STKA	**Stephens Creek**	**94.62**	**126**	P		**P**		**18 58 08.5**	**-1.2**
STKA	**Stephens Creek**	**94.62**	**126**	P		**P**		**18 58 08.4**	**-1.3**
STKA	**Stephens Creek**	**94.62**	**126**	P		**P**		**18 58 08.4**	**-1.3**
STKA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
STKA	**Stephens Creek**	**94.62**	**126**	P		**P**		**18 58 08.1**	**-1.6**
	comp=Z,5.1nm,0.5s,baz=314,slow=8.6,SNR=17								
	comp=Z,5.1nm,0.5s								
EYMN	**Ely**	**94.62**	**348**	IAmb		IAmb		18 58 11.2	
	comp=Z,18nm,0.9s								
EYMN	**Ely**	**94.62**	**348**	P		**P**		**18 58 09.8**	**+0.2**
	baz=14								
E46A	**Sault Ste Mari**	**94.71**	**343**	IAmb		IAmb		18 58 11.2	
	comp=Z,14nm,0.8s								
L61B	**Northampton**	**94.87**	**334**	P		**P**		**18 58 10.8**	**-0.1**
	baz=28								
AGMN	**Agassiz Nation**	**94.89**	**351**	P		**P**		**18 58 10.9**	**+0.1**
	baz=10								
NEW	**Newport**	**95.39**	**6**	P		**P**		**18 58 13.4**	**+0.2**
	baz=353								
DGMT	**Dagmar**	**95.41**	**357**	P		**P**		**18 58 14.3**	**+1.1**
	baz=3.8								
MDND	**Maddock**	**95.73**	**354**	P		**P**		**18 58 15.0**	**+0.3**
	baz=7.5								
E38A	**The Farm, Brul**	**95.93**	**348**	IAmb		IAmb		18 58 16.4	
	comp=Z,11nm,0.9s								
EGMT	**Eagleton**	**95.96**	**1**	IAmb		IAmb		18 58 17.8	
	comp=Z,15nm,1.2s								
EGMT	**Eagleton**	**95.96**	**1**	P		**P**		**18 58 16.6**	**+0.8**
	baz=359								
CMSA	**Cobar Meteorol**	**97.10**	**124**	P		**P**		**18 58 19.8**	**-1.1**
LAO	**LASA Array**	**97.26**	**358**	P		Pdif		18 58 23.0	+1.3
	baz=2.1								
SUSD	**Miller**	**99.05**	**353**	P		**Pdif**		**18 58 30.0**	**+0.4**
	baz=8.1								
JFWS	**Jewell Farm**	**99.27**	**346**	P		**Pdif**		**18 58 30.8**	**+0.2**
	baz=15								
ECSD	**EROS Data Cent**	**99.48**	**351**	IAmb		IAmb		18 58 32.8	
	comp=Z,4.2nm,0.8s								
RSSD	**Black Hills**	**99.75**	**356**	P		**Pdif**		**18 58 33.6**	**+0.6**
	baz=3.9								
PDAR	**Pinedale Array**	**101.22**	**1**	P		**Pdif**		**18 58 39.0**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=46,slow=4.3,SNR=5.1								
PDAR				PKKPbc		**PKKPbc**		**19 14 44.5**	**-3.9**
	comp=Z,0.6nm,0.5s,baz=143,slow=3.7,SNR=6.1								
BLA	**Blacksburg**	**102.17**	**337**	P		**Pdif**		**18 58 43.0**	**-0.7**
	baz=23								
OGNE	**Ogallala**	**102.78**	**355**	P		**Pdif**		**18 58 45.6**	**-0.8**
	baz=5.6								
NVAR	**Mina Array Bea**	**105.04**	**8**	Pdiff		**Pdif**		**18 58 57.5**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=18,slow=3.2,SNR=3.1								
NVAR				PKiKP		**PKiKP**		**19 03 10.4**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=330,slow=2.1,SNR=8.9								
NVAR				PKKPbc		**PKKPbc**		**19 14 36.1**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=201,slow=5.9,SNR=8.2								
NVAR				PKKPab		**PKKPab**		**19 15 01.9**	**+2.0**
	comp=Z,0.6nm,0.6s,baz=71,slow=9.6,SNR=5.3								
WVT	**Waverly**	**105.25**	**342**	P		**Pdif**		**18 58 55.9**	**-1.5**
	baz=17								
R11B	**Troy Canyon, C**	**105.37**	**6**	P		**Pdif**		**18 58 56.8**	**-1.4**
	baz=354								
SDCO	**Great Sand Dun**	**106.17**	**357**	P		**PKiKP**		**19 03 12.4**	**+0.2**
	baz=2.8								
GOGA	**Godfrey**	**106.62**	**338**	P		**PKiKP**		**19 03 13.9**	**+1.2**
	baz=21								
BELC	**Belle Mtn. Jos**	**109.65**	**6**	P		**PKiKP**		**19 03 19.2**	**+0.5**
	baz=354								
TUC	**Tucson**	**111.63**	**2**	P		**PKiKP**		**19 03 22.7**	**+0.3**
	baz=358								
214A	**Organ Pipe Nat**	**111.91**	**4**	P		**PKiKP**		**19 03 22.7**	**-0.1**
	baz=357								
MNTX	**Cornudas Mount**	**112.19**	**357**	P		**PKiKP**		**19 03 23.2**	**-0.1**
	baz=3.0								
ELIB	**Princess Elisa**	**113.10**	**195**	*d*PKiKP		**PKiKP**		**19 03 23.4**	**-0.4**
TXAR	**Lajitas Array**	**114.44**	**355**	PKKPbc		PKKPbc		19 14 05.8	-1.1
	comp=Z,1.0nm,0.7s,baz=178,slow=6.9,SNR=12								
TROLL	**Troll, Antarti**	**118.04**	**199**	⇑PKPdf		**PKPdf**		**19 03 33.3**	**0.0**
	comp=Z,772nm,0.6s								
SNAA	**Sanae**	**119.34**	**200**	⇓PKPdf		**PKPdf**		**19 03 35.0**	**-0.7**
	comp=Z,97nm,0.7s								
SNAA	**Sanae**	**119.34**	**200**	PKP		**PKPdf**		**19 03 33.4**	**-2.3**
	comp=Z,3.1nm,0.7s,baz=101,slow=6.1,SNR=7.2								
VNA2	**Neumayer--Watz**	**120.35**	**202**	⇑PKPdf		**PKPdf**		**19 03 37.2**	**-0.4**
	comp=Z,10nm,0.5s,baz=44,slow=3.9								
VNA3	**Neumayer Olymp**	**121.16**	**202**	⇑PKPdf		**PKPdf**		**19 03 38.4**	**-0.8**
	comp=Z,5.7nm,0.3s								
TOZ	**Tahuroa Road**	**121.22**	**116**	PKPdf		**PKPdf**		**19 03 39.2**	**-1.1**
BDFB	**Brasilia**	**122.50**	**274**	PKP		**PKPdf**		**19 03 42.5**	**-1.0**
	comp=Z,1.8nm,0.4s,baz=150,slow=4.9,SNR=7.3								
BDFB				PKKPbc		**PKKPbc**		**19 13 36.0**	**-1.4**
	comp=Z,3.1nm,0.8s,baz=350,slow=5.8,SNR=4.6								
VNDA	**Vanda**	**125.36**	**165**	PKPdf		**PKPdf**		**19 03 45.9**	**-1.2**
VNDA	**Vanda**	**125.36**	**165**	PKiKP		**PKPdf**		**19 03 45.9**	**-1.2**
VNDA	**Vanda**	**125.36**	**165**	PKP		**PKPdf**		**19 03 45.4**	**-1.7**
	comp=Z,3.2nm,0.6s,baz=285,slow=5.7,SNR=15								
QSPA	**South Pole Qui**	**126.19**	**180**	PKP		**PKPdf**		**19 03 47.2**	**-1.8**
	comp=Z,19nm,0.8s,baz=283,slow=1.1,SNR=78								
QSPA				PKKP		**PKKPdf**		**19 14 06.3**	**-2.0**
	comp=Z,0.8nm,0.6s,baz=264,slow=1.8,SNR=6.6								
SBA	**Scott Base**	**126.44**	**165**	PKPdf		**PKPdf**		**19 03 49.0**	**-0.1**
SBA	**Scott Base**	**126.44**	**165**	PKiKP		**PKPdf**		**19 03 49.0**	**-0.1**
ROSC	**El Rosal**	**127.81**	**314**	PKP		**PKiKP**		**19 03 54.9**	**+0.1**
	comp=Z,24nm,0.8s,baz=96,slow=5.8,SNR=14								
ROSC				pPKP		**pPKPdf**		**19 04 57.4**	**+0.8**
	comp=Z,8.8nm,0.6s,baz=138,slow=11,SNR=2.7								
SAML	**Samuel**	**130.43**	**292**	PKPdf		**PKPdf**		**19 03 58.0**	**-0.6**
SAML	**Samuel**	**130.43**	**292**	PKiKP		**PKPdf**		**19 03 58.0**	**-0.6**
AQDB	**Aquidauana**	**131.25**	**274**	PKPdf		**PKPdf**		**19 03 59.2**	**-0.7**
PTLB	**Pontes e Lacer**	**131.28**	**282**	PKPdf		**PKPdf**		**19 03 59.6**	**-0.5**
ITAB	**Concordia**	**131.55**	**264**	PKPdf		**PKPdf**		**19 04 00.1**	**-0.2**
ITAB				SKPbc		**SKPbc**		**19 07 02.4**	**-0.4**
ETMB	**Extrema**	**133.25**	**294**	PKPdf		**PKPdf**		**19 04 03.0**	**-0.9**
PLTB	**Pedras Altas**	**134.54**	**259**	PKPdf		**PKPdf**		**19 04 05.6**	**-0.2**
PLTB				SKPbc		**SKPbc**		**19 07 12.0**	**-0.8**
CPUP	**Villa Florida**	**135.34**	**268**	PKPdf		**PKPdf**		**19 04 06.0**	**-1.4**
CPUP				SKPbc		**SKPbc**		**19 07 13.0**	**-2.4**
CPUP	**Villa Florida**	**135.34**	**268**	PKhKP		PKPpre		19 03 53.9	
	comp=Z,1.2nm,0.6s,baz=47,slow=6.0,SNR=3.4								
CPUP				PKP		**PKPdf**		**19 04 06.7**	**-0.8**
	comp=Z,14nm,0.7s,baz=66,slow=1.8,SNR=31								
CPUP				SKPbc		**SKPbc**		**19 07 13.2**	**-2.3**
	comp=Z,5.7nm,1.0s,baz=39,slow=0.5,SNR=4.6								
ITQB	**Itaqui**	**136.16**	**263**	PKPdf		**PKPdf**		**19 04 08.1**	**-0.8**
TBOT	**Tacuaremb**	**136.36**	**260**	*e*P		**PKPdf**		**19 04 09.2**	**0.0**
PSAL	**Palomas, Salto**	**137.48**	**262**	*e*P		**PKPdf**		**19 04 11.4**	**+0.1**
TICA	**Tres Isletas**	**137.83**	**270**	*e*P		**PKPdf**		**19 04 12.0**	**-0.1**
LPAZ	**La Paz**	**138.77**	**288**	PKhKP		PKPpre		19 04 04.2	
	comp=Z,0.6nm,0.4s,baz=353,slow=2.1,SNR=5.2								
LPAZ				PKP		**PKPdf**		**19 04 14.8**	**0.0**
	comp=Z,4.8nm,0.9s,baz=28,slow=3.3,SNR=12								
LPAZ				SKPbc		**SKPbc**		**19 07 24.8**	**-1.7**
	comp=Z,1.9nm,0.8s,baz=5.2,slow=2.5,SNR=4.1								
LPAZ	**La Paz**	**138.77**	**288**	*e*P		**PKPdf**		**19 04 14.7**	**-0.2**
PPT	**Papeete**	**139.50**	**73**	PKP		**PKPdf**		**19 04 15.8**	**+0.4**
	comp=Z,21nm,0.8s,baz=260,slow=11,SNR=2.6								
PB10	**IPOC Station P**	**144.66**	**281**			**PKPab**		**19 04 22.7**	**-1.2**
GO02	**Mina Guanaco**	**144.69**	**277**			PKPbc		19 04 23.9	-0.4
PB14	**IPOC Station P**	**145.09**	**279**			**PKPdf**		**19 04 24.8**	**-0.7**
AC01	**Pan de Azucar**	**145.95**	**277**	PKPdf		**PKPdf**		**19 04 26.8**	**+0.3**
AC04	**Llanos de Chal**	**147.22**	**273**	PKPdf		**PKPdf**		**19 04 28.5**	**-0.1**
LCO	**Las Campanas**	**147.24**	**272**	PKPdf		**PKPdf**		**19 04 29.3**	**+0.3**
LCO	**Las Campanas**	**147.24**	**272**	PKiKP		**PKPdf**		**19 04 29.3**	**+0.3**
PEL	**Peldehue**	**148.63**	**265**			**PKPbc**		**19 04 34.3**	**-0.6**
PEL	**Peldehue**	**148.63**	**265**	PKP2		**PKPbc**		**19 04 34.3**	**-0.6**
BO02	**Sierra Bellavi**	**149.15**	**262**	PKPdf		**PKPdf**		**19 04 31.3**	**-0.4**
BO02				PKPbc		**PKPbc**		**19 04 36.0**	**-0.2**
PLCA	**Paso Flores**	**149.92**	**250**			**PKPbc**		**19 04 37.6**	**-0.2**
PLCA	**Paso Flores**	**149.92**	**250**	PKPbc		**PKPbc**		**19 04 37.1**	**-0.7**
	comp=Z,50nm,0.9s,baz=164,slow=3.7,SNR=5.4								
PLCA	**Paso Flores**	**149.92**	**250**	*e*P		**PKPdf**		**19 04 32.9**	**+0.2**
MG05	**Puerto Natales**	**150.11**	**228**			**PKPbc**		**19 04 35.9**	**-1.8**
GO05	**Huala**	**150.11**	**262**			**PKPbc**		**19 04 37.9**	**-0.5**
GO06	**Curarrehue**	**150.52**	**252**	PKPdf		**PKPdf**		**19 04 33.2**	**-0.5**
GO06				PKPbc		**PKPbc**		**19 04 38.6**	**-0.7**
GO08	**Villa O'Higgin**	**150.91**	**234**	PKPdf		**PKPdf**		**19 04 34.9**	**+1.1**
LL02	**Futaleuf**	**150.96**	**245**			**PKPbc**		**19 04 38.3**	**-1.8**
LR05	**Currie**	**150.98**	**251**			**PKPbc**		**19 04 39.6**	**-0.6**
COYC	**Coyhaique**	**150.99**	**240**			**PKPbc**		**19 04 37.9**	**-2.2**
AY01	**Puyuhuapi**	**151.49**	**242**			**PKPbc**		**19 04 39.4**	**-1.8**

*IGIL **30** 18:46:55.5, 30.7′0N×8.2′2W, h46km, ML2.7*
*INMG **30** 18:46:56.7±1.1, 31.1′0N×8.2′7W, h14km±6km, ML2.9, Error ellipse: s-maj=6.2km s-min=4.9km az=89.0*
ISC 30 18:46:55.8±2.1, 31.2′0N±0.0′9×8.3′W±0.1, h10km, n27, σ1♀32/43, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TIO	**Tiouine**	**0.90**	**107**	P		**Pg**	**18 47 12.5**	**-0.8**
TIO				S		**Sg**	**18 47 24.4**	**-0.5**
AVE	**Averroes**	**2.21**	**19**	P		**Pg**	**18 47 37.4**	**-0.9**
AVE				S		**Sg**	**18 48 07.7**	**+0.7**
IFR	**Ifrane**	**3.52**	**48**	P		**Pn**	**18 47 51.5**	**+0.8**
IFR	**Ifrane**	**3.52**	**48**	S		**Sn**	**18 48 33.9**	**+1.3**
IFR	**Ifrane**	**3.52**	**48**	P		**Pn**	**18 47 51.6**	**+0.8**
IFR	**Ifrane**	**3.52**	**48**	P		**Pn**	**18 47 51.8**	**+1.0**
CEU	**Ceuta**	**5.27**	**26**	Pn		**Pn**	**18 48 16.8**	**+2.2**
PFVI	**Vila Bisbo**	**5.94**	**356**	*e*Pn		**Pn**	**18 48 24.9**	**+1.1**
PFVI				*e*Sn		**Sn**	**18 49 31.2**	**-0.7**
PFVI				A		A	18 49 36.1	
	14nm,0.6s							
PBDV	**Barranco-do-Ve**	**6.04**	**3**	*e*Pn		**Pn**	**18 48 27.0**	**+1.8**
PBDV				*e*Sn		**Sn**	**18 49 34.1**	**-0.3**
PBDV				A		A	18 49 39.0	
	8.1nm,1.0s							
MORF	**Marmelete**	**6.10**	**357**	*e*Pn		**Pn**	**18 48 28.1**	**+2.0**
MORF				*e*Sn		**Sn**	**18 49 35.4**	**-0.5**
MORF				A		A	18 49 38.0	
	11nm,0.2s							
MORF	**Marmelete**	**6.10**	**357**	*e*P		**Pn**	**18 48 27.3**	**+1.2**
MORF				*e*S		**Sn**	**18 49 34.9**	**-1.0**
MORF				IAML			18 49 37.1	
	comp=E,13nm,0.2s							
PVAQ	**Vaqueiros**	**6.21**	**4**	*e*Pn		**Pn**	**18 48 28.6**	**+1.1**
PVAQ				*e*Sn		**Sn**	**18 49 38.1**	**-0.4**
PVAQ				A		A	18 49 39.0	
	comp=E,7.6nm,0.7s							
PVAQ	**Vaqueiros**	**6.21**	**4**	P		**Pn**	**18 48 28.0**	**+0.5**
PTEO	**Sao Teotonio**	**6.34**	**357**	*e*Pn		**Pn**	**18 48 31.6**	**+2.2**
PTEO				*e*Sn		**Sn**	**18 49 42.3**	**+0.4**
PTEO				A		A	18 49 47.2	
	comp=E,14nm,0.8s							
PCVE	**Castro Verde**	**6.42**	**2**	*e*Pn		**Pn**	**18 48 32.1**	**+1.6**
PCVE	**Castro Verde**	**6.42**	**2**	P		**Pn**	**18 48 31.3**	**+0.8**
MESJ	**Messejana**	**6.62**	**0**	*e*Pn		**Pn**	**18 48 34.7**	**+1.4**
MESJ				*e*Sn		**Sn**	**18 49 47.5**	**-1.3**
MESJ				A		A	18 49 49.4	
	comp=E,4.8nm,0.6s							
MESJ	**Messejana**	**6.62**	**0**	*e*P		**Pn**	**18 48 34.5**	**+1.3**
MESJ				*e*S		**Sn**	**18 49 46.4**	**-2.4**
MESJ				IAML			18 49 49.0	
	comp=N,3.9nm,0.2s							
PNCL	**Nicolau / Gran**	**6.90**	**358**	*e*Pn		**Pn**	**18 48 38.3**	**+1.3**
PNCL				*e*Sn		**Sn**	**18 49 54.5**	**-1.1**
PBAR	**Barrancos**	**7.03**	**8**	*e*Pn		**Pn**	**18 48 40.0**	**+1.2**
PBAR				*e*Sn		**Sn**	**18 49 57.6**	**-1.2**
PBAR				A		A	18 50 04.2	
	comp=N,5.4nm,0.4s							
PBAR	**Barrancos**	**7.03**	**8**	P		**Pn**	**18 48 39.7**	**+0.8**
EVO	**Evora**	**7.32**	**2**	*e*Pn		**Pn**	**18 48 44.4**	**+1.6**
EVO				*e*Sn		**Sn**	**18 50 04.7**	**-1.2**
EVO				A		A	18 50 13.8	
	comp=N.4.1nm,0.8s							
PESTR	**Estremoz**	**7.67**	**4**	*e*Sn		**Sn**	**18 50 13.2**	**-1.4**
PMTG	**Montargil**	**7.85**	**0**	*e*Pn		**Pn**	**18 48 51.4**	**+1.3**
PMTG				*e*Sn		**Sn**	**18 50 16.8**	**-2.2**
PMRV	**Marv??o**	**8.24**	**5**	*e*Pn		**Pn**	**18 48 56.4**	**+0.9**
PMRV				*e*Sn		**Sn**	**18 50 28.8**	**+0.2**
PCBR	**Castelo Branco**	**8.65**	**4**	*e*Pn		**Pn**	**18 49 01.2**	**+0.2**
PCBR				*e*Sn		**Sn**	**18 50 36.7**	**-1.8**
PCBR				A		A	18 50 41.1	
	comp=N,2.7nm,0.2s							
PCAS	**Casmilo, Conde**	**8.84**	**359**	*e*Pn		**Pn**	**18 49 05.1**	**+1.5**

*CRAAG **30** 18:47:25.6, 35.6′8N×0.9′9W, Ml2.9, Algerie 06km N Ain-El-Kerma*
*CNRM **30** 18:47:25.2, 36.0′2N×1.3′5W, h86km, ML2.9*
*SFS **30** 18:47:26.0, 33.7′1N×5.1′1W, h194km, ML3.8/7, MLv3.8/7*
*MDD **30** 18:47:26.4±0.5, 35.6′5N×1.0′3W, h33km±16km, mb_Lg3.1/16, Error ellipse: s-maj=7.4km s-min=4.0km az=154.0*
ISC 30 18:47:25.0±1.2, 35.7′9N±0.0′3×1.1′4W±0.0′3, h24km±13km, n53, σ1♀54/75, 1D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
USTO	**Oran**	**0.48**	**96**	P		**Pb**	**18 47 33.8**	**-1.1**
OTSS	**Djebel Tessala**	**0.58**	**151**	P		**Pb**	**18 47 35.9**	**-0.6**
OLHC	**Oulhaca**	**0.58**	**203**	P		**Pn**	**18 47 38.0**	**+0.2**
ODJA	**Bouhanifia**	**0.93**	**119**	P		**Pn**	**18 47 43.1**	**+0.6**
OFRG	**Douar Fergoug**	**1.00**	**105**	P		**Pn**	**18 47 43.0**	**-0.5**
CHAS	**Isla Isabel Il**	**1.21**	**241**	Sg		**Sn**	**18 48 01.1**	**-1.0**
TAF	**Taforalt**	**1.42**	**227**	P		**Pn**	**18 47 49.9**	**+0.5**
TAF	**Taforalt**	**1.42**	**227**	S		**Sb**	**18 48 11.2**	**+2.6**
ENIJ	**Nijar**	**1.46**	**324**	Pn		**Pb**	**18 47 51.2**	**-0.4**
ENIJ				Sn		**Sn**	**18 48 08.7**	**+0.4**
ENIJ	**Nijar**	**1.46**	**324**	P		**Pb**	**18 47 50.8**	**-0.7**
ENIJ	**Nijar**	**1.46**	**324**	⇓Pn		**Pb**	**18 47 51.2**	**-0.4**
ENIJ				Sn		**Sb**	**18 48 10.2**	**+0.4**
ENIJ				*i* Vmb_Lg			18 48 11.0	
WMELI	**Melilla**	**1.55**	**253**	Sn		**Sn**	**18 48 09.0**	**-1.4**
EMLI	**Melilla**	**1.55**	**252**	Pn		**Pn**	**18 47 51.7**	**+0.6**
EMLI				Sn		**Sn**	**18 48 10.2**	**-0.3**
GOG	**Mont Gurugu**	**1.61**	**250**	P		**Pn**	**18 47 51.7**	**-0.3**
GOG	**Mont Gurugu**	**1.61**	**250**	S		**Sn**	**18 48 11.9**	**-0.2**
EBER	**Berja**	**1.80**	**309**	Pn		**Pb**	**18 47 56.2**	**-1.1**
EBER	**Berja**	**1.80**	**309**	Pn		**Pb**	**18 47 56.3**	**-1.0**
EBER				Sn		**Sb**	**18 48 19.9**	**+0.5**
EBER				*i* Vmb_Lg			18 48 25.6	
CART	**Cartagena**	**1.80**	**4**	Pn		**Pn**	**18 47 55.2**	**+0.7**
JBK	**JBK**	**1.86**	**219**	P		**Pb**	**18 47 57.4**	**-1.0**
JBK	**JBK**	**1.86**	**219**	S		**Sb**	**18 48 24.1**	**+2.8**
ELOR	**Lorca, Murcia**	**1.91**	**345**	Pn		**Pn**	**18 47 57.4**	**+1.3**
ELOR				Sn		**Sn**	**18 48 19.4**	**0.0**
ELOR				*i* Vmb_Lg			18 48 21.7	
EMUR	**La Murta**	**2.05**	**358**	Pn		**Pn**	**18 47 58.9**	**+0.9**
EMUR	**La Murta**	**2.05**	**358**	P		**Pn**	**18 47 59.2**	**+1.1**
EMUR	**La Murta**	**2.05**	**358**	Pn		**Pn**	**18 47 59.3**	**+1.3**
EMUR				Sn		**Sn**	**18 48 22.4**	**-0.6**
EMUR				*i* Vmb_Lg			18 48 25.1	
EZAR	**Zarzadilla de**	**2.13**	**348**	Pn		**Pb**	**18 48 01.3**	**-1.7**
EZAR				Sn		**Sn**	**18 48 26.9**	**+2.0**
E001A	**Albudeite (Mur**	**2.24**	**355**	Pn		**Pn**	**18 48 02.3**	**+1.8**
E001A				Sn		**Sn**	**18 48 29.0**	**+1.6**
EOFD	**Oued Fodda**	**2.25**	**83**	P		**Pn**	**18 48 01.9**	**+1.2**
ETRV	**Los Montesinos**	**2.25**	**8**	Sn		**Sn**	**18 48 28.3**	**+0.6**
ETRV				*i* Vmb_Lg			18 48 40.3	
ELGU	**Los Guajares,**	**2.28**	**299**	Pn		**Pn**	**18 48 02.0**	**+0.8**
ELGU				Sn		**Sn**	**18 48 29.4**	**+0.9**
ELGU	**Los Guajares,**	**2.28**	**299**	Pn		**Pn**	**18 48 02.3**	**+1.1**
ELGU				Sn		**Sn**	**18 48 29.5**	**+0.9**
ELGU				*i* Vmb_Lg			18 48 34.1	
EQTA	**Presa de Quent**	**2.34**	**308**	Pn		**Pb**	**18 48 04.9**	**-1.6**
EQES	**Quesada**	**2.54**	**323**	Pn		**Pb**	**18 48 08.9**	**-1.1**
EQES				Sn		**Sb**	**18 48 39.3**	**-1.5**
EQES				*i* Vmb_Lg			18 48 42.6	
AKLM	**AKL**	**2.57**	**241**	P		**Pn**	**18 48 06.6**	**+1.4**
AKLM	**AKL**	**2.57**	**241**	S		**Sn**	**18 48 35.3**	**-0.4**
ETOB	**Tobarra**	**2.87**	**354**	Pn		**Pn**	**18 48 12.3**	**+2.9**
ETOB				Sn		**Sn**	**18 48 44.7**	**+1.5**
ETOB	**Tobarra**	**2.87**	**354**	Pn		**Pn**	**18 48 12.1**	**+2.8**
ETOB				Sn		**Sn**	**18 48 44.7**	**+1.5**
ETOB				*i* Vmb_Lg			18 48 52.6	
EMIJ	**Mijas**	**3.04**	**286**	P		**Pn**	**18 48 11.9**	**+0.3**
EMIJ	**Mijas**	**3.04**	**286**	Pn		**Pn**	**18 48 12.1**	**+0.5**
EMIJ				Sn		**Sn**	**18 48 46.1**	**-1.1**
EMIJ	**Mijas**	**3.04**	**286**	Pn		**Pn**	**18 48 12.0**	**+0.3**
EMIJ				Sn		**Sn**	**18 48 47.5**	**+0.3**
EMIJ				*i* Vmb_Lg			18 48 48.4	
PSIM	**Granatula de C**	**3.68**	**326**	Pn		**Pn**	**18 48 22.9**	**+2.5**
PSIM				Sn		**Sn**	**18 48 59.6**	**-3.5**
EIBI	**Ibiza**	**3.79**	**31**	Pn		**Pn**	**18 48 23.4**	**+1.5**
EIBI				Sn		**Sn**	**18 49 03.1**	**-2.7**
EIBI	**Ibiza**	**3.79**	**31**	P		**Pn**	**18 48 23.4**	**+1.5**
EIBI	**Ibiza**	**3.79**	**31**	Pn		**Pn**	**18 48 23.1**	**+1.2**
EIBI				Sn		**Sn**	**18 49 03.6**	**-2.1**
EIBI				*i* Vmb_Lg			18 49 05.4	
ECAB	**El Cabril**	**4.12**	**305**	P		**Pn**	**18 48 28.9**	**+2.5**
ECAB	**El Cabril**	**4.12**	**305**	Pn		**Pn**	**18 48 28.6**	**+2.1**
ECAB	**El Cabril**	**4.12**	**305**	Pn		**Pn**	**18 48 27.9**	**+1.4**
ECAB				*i* Vmb_Lg			18 50 10.8	
PAB	**San Pablo**	**4.54**	**327**	Pn		**Pn**	**18 48 30.8**	**-1.4**
PAB				Sn		**Sn**	**18 49 20.0**	**-4.2**
EMIN	**Mina Concepcio**	**4.86**	**296**	P		**Pn**	**18 48 34.6**	**-2.0**
EMIN	**Mina Concepcio**	**4.86**	**296**	Pn		**Pn**	**18 48 35.0**	**-1.6**
EMIN				Sn		**Sn**	**18 49 33.8**	**+1.6**
EMIN				*i* Vmb_Lg			18 49 50.4	
ETOS	**Mallorca**	**5.06**	**37**	P		**Pn**	**18 48 41.2**	**+1.8**
ETOS	**Mallorca**	**5.06**	**37**	Pn		**Pn**	**18 48 40.7**	**+1.3**
ETOS				Sn		**Sn**	**18 49 35.6**	**-1.5**
ETOS				*i* Vmb_Lg			18 49 40.7	
EBAD	**Badajoz**	**5.54**	**304**	Pn		**Pn**	**18 48 47.3**	**+1.3**
EBAD				Sn		**Sn**	**18 49 48.7**	**-0.2**
EBAD				*i* Vmb_Lg			18 50 16.3	
EPLA	**Plasencia**	**5.79**	**319**	Pn		**Pn**	**18 48 48.3**	**-1.1**

**IDC 30 19:02:30.5±5.8, 4.2′

MDOK Pg **Pb** **19 19 34.7 -2.7**
336nm,0.6s
MDOK Lg Lg 19 20 15.1
2µm,0.5s
MDOK ⇑Lg Lg 19 20 17.3
1µm,0.5s
TNSS Tian-Shan 3.24 287 *e*P **Pb** **19 19 37.0 -1.2**
333nm,0.3s
TNSS *e*S **Sb** **19 20 18.7 +0.7**
880nm,0.4s
TNSS Tian-Shan 3.24 287 Pg **Pb** **19 19 37.0 -1.2**
333nm,0.3s
TNSS Lg Lg 19 20 18.7
880nm,0.4s
KNDC Almaty 3.27 290 ⇓Pn Pn 19 19 35.2 +3.2
1µm,0.9s
KNDC ⇑Lg Lg 19 20 19.3
2µm,0.7s
AAA Alma-Ata 3.31 290 *e*P **Pb** **19 19 37.1 -2.0**
635nm,0.3s
AAA *e*S **Sb** **19 20 18.6 -1.1**
2µm,0.4s
AAA Alma-Ata 3.31 290 *e*PN **Pb** **19 19 36.3 -2.9**
AAA Alma-Ata 3.31 290 Pg **Pb** **19 19 37.1 -2.0**
635nm,0.3s
AAA Lg Lg 19 20 18.6
2µm,0.4s
KAPS Kapalarasan 3.39 338 *e*P **Pb** **19 19 40.2 -0.3**
167nm,0.3s
KAPS *e*S **Sb** **19 20 23.3 +1.2**
3µm,0.5s
IZV Izvestkoviy 3.48 286 *e*P **Pb** **19 19 40.9 -1.2**
245nm,0.3s
IZV *e*S **Sb** **19 20 24.5 -0.2**
2µm,0.5s
IZV Izvestkoviy 3.48 286 Pg **Pb** **19 19 40.9 -1.2**
245nm,0.3s
IZV Lg Lg 19 20 24.5
2µm,0.5s
TDK Taldyqorghan 3.48 326 *e*P **Pb** **19 19 41.9 -0.2**
510nm,0.4s
TDK *e*S **Sb** **19 20 26.1 +1.5**
3µm,0.4s
TDK Taldyqorghan 3.48 326 Pg **Pb** **19 19 41.9 -0.2**
510nm,0.4s
TDK Lg Lg 19 20 26.1
3µm,0.4s
KASK Kaskelen 3.50 289 ⇑Pn **Pb** **19 19 39.5 -2.9**
KASK ⇑Lg Lg 19 20 28.9
CHKK Chushkaly 3.50 300 *e*P **Pb** **19 19 41.9 -0.6**
298nm,0.4s
CHKK *e*S **Sb** **19 20 26.2 +0.9**
1µm,0.4s
CHKK Chushkaly 3.50 300 Pg **Pb** **19 19 41.8 -0.6**
298nm,0.4s
CHKK Lg Lg 19 20 26.2
1µm,0.4s
MTBS Maitube 3.63 287 *e*P **Pb** **19 19 44.1 -0.6**
298nm,0.3s
MTBS *e*S **Sb** **19 20 30.3 +1.3**
960nm,0.6s
KTBS Karatobe 3.64 297 *e*P **Pb** **19 19 44.4 -0.4**
416nm,0.7s
KTBS *e*S **Sb** **19 20 30.5 +1.2**
1µm,0.5s
KTBS Karatobe 3.64 297 Pg **Pb** **19 19 44.4 -0.4**
416nm,0.7s
KTBS Lg Lg 19 20 30.5
1µm,0.5s
ULHL Ulahol 3.66 273 P **Pn** **19 19 38.7 +1.2**
SNR=92
BOOM Boomskoye usch 3.89 277 Pn **Pn** **19 19 42.1 +1.5**
BOOM Boomskoye usch 3.89 277 PN **Pn** **19 19 42.1 +1.5**
BOOM Boomskoye usch 3.89 277 ⇓*e*P **Pn** **19 19 43.0 +2.4**
baz=66
BOOM ⇓*e*S **Sn** **19 20 26.3 -0.3**
baz=66
NRN Naryn 3.93 261 ⇑*e*P **Pb** **19 19 46.4 -3.5**
baz=50
NRN ⇑*e*S **Sn** **19 20 32.5 +4.7**
baz=50
KST Kastek 3.94 285 *e*P **Pb** **19 19 50.0 -0.1**
257nm,0.5s
KST *e*S **Sb** **19 20 40.7 +2.7**
1µm,0.5s
KST Kastek 3.94 285 Pg **Pb** **19 19 50.0 -0.1**
257nm,0.5s
KST Lg Lg 19 20 40.7
1µm,0.5s
DGS Degeres 4.12 287 *e*P **Pb** **19 19 52.7 -0.3**
368nm,0.4s
DGS *e*S **Sb** **19 20 46.1 +3.0**
1µm,0.4s
DGS Degeres 4.12 287 Pg **Pb** **19 19 52.7 -0.3**
368nm,0.4s
DGS Lg Lg 19 20 46.1
1µm,0.4s
TKM2 Tokmak 2 4.19 282 P Pn 19 19 48.8 +4.1
SNR=36
KRBS Karabastau 4.32 293 *e*P **Pb** **19 19 56.3 -0.1**
293nm,0.6s
KRBS *e*S **Sb** **19 20 51.1 +2.4**
490nm,0.3s
KRBS Karabastau 4.32 293 Pg **Pb** **19 19 56.3 -0.1**
293nm,0.6s
KRBS Lg Lg 19 20 51.2
490nm,0.3s
KBK Karagaybulak 4.63 278 P Pn 19 19 54.6 +3.9
SNR=9.1
MAKZ Makanchi 4.69 7 **Pn** **19 19 53.5 +2.2**
MAKZ Sn **Sn** **19 20 49.2 +3.2**
MAKZ Makanchi 4.69 7 PN **Pn** **19 19 53.5 +2.2**
MAKZ 19 20 49.2
MAKZ Makanchi 4.69 7 ⇓Pn **Pn** **19 19 53.4 +2.1**
105nm,0.7s
MAKZ ⇑Sn **Sn** **19 20 51.5 +5.5**
274nm,0.7s
MAKZ ⇑Lg Lg 19 21 07.9
425nm,0.8s
MK31 Makanchi Array 4.71 9 Pn **Pn** **19 19 53.8 +2.2**
MK31 Sn **Sn** **19 20 50.3 +3.8**
MK31 Makanchi Array 4.71 9 *de*PN **Pn** **19 19 53.9 +2.3**
MK31 Makanchi Array 4.71 9 ⇑Pn **Pn** **19 19 53.8 +2.2**
120nm,0.8s,baz=198,slow=13,SNR=812
MK31 ⇓Lg Lg 19 21 07.7
307nm,0.7s,baz=195,slow=27,SNR=6.0
MKAR Makanchi Array 4.71 9 Pn **Pn** **19 19 53.8 +2.2**
MKAR Makanchi Array 4.71 9 *i* PN Pn 19 19 54.2 +2.6
MKAR pmax pmax
comp=Z,18nm,0.3s
MKAR Makanchi Array 4.71 9 Pn Pn 19 19 54.2 +2.6
comp=Z,9.7nm,0.3s,baz=182,slow=13,SNR=366
MKAR Sn **Sn** **19 20 50.7 +4.2**
comp=Z,22nm,0.3s,baz=188,slow=22,SNR=5.5
MKAR Lg Lg 19 21 08.0
comp=Z,37nm,0.3s,baz=191,slow=30,SNR=4.5
MKAR LR LR 19 21 12.8
comp=Z,168nm,19.1s,baz=58,slow=32
comp=Z,19nm,0.2s
KSH Kashi 4.74 238 Pn **Pb** **19 20 00.0 -3.6**
KSH Sn **Sb** **19 21 01.5 +0.5**
KSH smax smax
comp=Z,420nm,0.8s
KSH smax smax
comp=Z,540nm,0.9s
KSH LR LR
comp=Z,2µm,10.3s
KSH LR LR
comp=Z,590nm,7.7s
CHMS Chumysh 4.81 282 P Pn 19 19 56.6 +3.6
SNR=11
FRU1 Bishkek 4.88 280 Pn **Pn** **19 19 54.0 0.0**
FRU1 Bishkek 4.88 280 PN **Pn** **19 19 54.0 0.0**
FRU1 Bishkek 4.88 280 ⇓*e*P **Pn** **19 19 56.0 +2.0**
baz=72
FRU1 ⇓*e*S **Sn** **19 20 48.7 -2.2**
baz=72
UCH Uchtor 4.94 273 P Pn 19 19 59.3 +4.0
SNR=11
AAK Ala-Archa 4.96 278 P Pn 19 19 58.2 +2.9
SNR=17
AAK Ala-Archa 4.96 278 Pn **Pn** **19 19 56.8 +1.5**
AAK Ala-Archa 4.96 278 *ce*PN **Pn** **19 19 57.1 +1.8**
AAK Ala-Archa 4.96 278 Pn **Pn** **19 19 56.0 +0.7**
comp=Z,4.2nm,0.3s,baz=123,slow=11,SNR=43
AAK Pg **Pb** **19 20 08.4 +1.0**
comp=Z,22nm,0.3s,baz=95,slow=13,SNR=30
AAK Sn **Sn** **19 20 55.7 +2.6**
comp=Z,14nm,0.3s,baz=133,slow=22,SNR=3.8
AAK Lg Lg 19 21 10.4
comp=Z,26nm,0.3s,baz=216,slow=23,SNR=9.5
AAK LR LR 19 22 00.9
comp=Z,310nm,19.5s,baz=0.5,slow=41
comp=Z,9.6nm,0.3s
SGDS Sogindy 4.98 287 Pg **Pb** **19 20 09.4 +1.7**
comp=Z,91nm,0.6s
SGDS Lg Lg 19 21 14.0
comp=Z,271nm,0.5s
USP Ospenovka 5.04 285 P **Pn** **19 19 58.2 +2.1**
SNR=11
WMQ Urumqi 5.07 69 Pn **Pn** **19 19 58.3 +1.7**
WMQ Sn **Sn** **19 20 53.3 -2.2**
WMQ smax smax
comp=Z,390nm,1.1s
WMQ smax smax
comp=Z,630nm,1.3s
ARLS Aral 5.11 269 ⇓*e*P Pn 19 20 00.8 +3.5
baz=61
ARLS ⇓*e*S **Sn** **19 20 57.3 +0.6**
baz=61
EKS2 Erkin-Say 5.50 278 P Pn 19 20 06.1 +3.5
SNR=9.9
MRKS Merke 5.91 278 *e*P **Pb** **19 20 25.6 +2.1**
comp=Z,74nm,0.6s
MRKS *e*S **Sb** **19 21 40.9 +6.4**
comp=Z,290nm,0.7s
MRKS Merke 5.91 278 Pg **Pb** **19 20 25.5 +2.1**
comp=Z,74nm,0.6s
MRKS Lg Lg 19 21 40.9
comp=Z,290nm,0.7s
ZSN Zaisan 5.91 25 *e*P Pg 19 20 27.9 -5.3
comp=Z,65nm,0.5s
ZSN *e*S **Sg** **19 21 45.2 -4.5**
comp=Z,230nm,0.8s
BTLS Baital 5.92 302 *e*P Pb 19 20 27.5 +3.9
comp=Z,81nm,0.4s
BTLS *e*S **Sg** **19 21 44.5 -5.5**
comp=Z,110nm,0.7s
BTLS Baital 5.92 302 Pg Pb 19 20 27.5 +3.9
comp=Z,81nm,0.4s
BTLS Lg Lg 19 21 44.5
comp=Z,110nm,0.7s
SFK Sufi-Kurgan 6.17 252 ⇓*e*P Pn 19 20 18.3 +6.3
baz=45
SFK ⇓*e*S **Sn** **19 21 27.4 +4.4**
baz=45
ARSB Arslanbob 6.18 265 **Pn** **19 20 10.4 -1.6**
ARSB Arslanbob 6.18 265 PN **Pn** **19 20 10.4 -1.6**
MNAS Manas 6.43 276 ⇑*e*P **Pn** **19 20 17.5 +2.1**
baz=70
MNAS ⇑*e*S **Sn** **19 21 26.5 -2.7**
baz=70
OHH Osh 6.52 258 ⇓*e*P Pn 19 20 21.2 +4.7
baz=52
OHH ⇓*e*S **Sn** **19 21 33.3 +2.1**
baz=52
KK31 Karatay Array 7.92 280 Pn **Pn** **19 20 35.1 -0.6**
KK31 Karatay Array 7.92 280 P **Pn** **19 20 35.1 -0.6**
KK31 Karatay Array 7.92 280 ⇑Pg Pb 19 21 02.7 +5.1
comp=Z,14nm,0.5s
KK31 ⇓Lg Lg 19 22 49.0
comp=Z,68nm,0.6s,baz=98,slow=27,SNR=7.4
KKAR Karatay Array 7.92 280 Pn **Pn** **19 20 35.5 -0.2**
KKAR Karatay Array 7.92 280 P **Pn** **19 20 35.5 -0.2**
BTK Batken 8.09 258 Pn **Pn** **19 20 38.1 -0.1**
BTK Batken 8.09 258 P **Pn** **19 20 38.1 -0.1**
IUG Iuzhnay 8.28 274 *e*P Pb 19 21 09.9 +6.1
comp=Z,73nm,0.8s
IUG *e*S **Sg** **19 22 57.7 -7.9**
comp=Z,340nm,1.3s
BRLS Boroldav 8.41 280 *e*P Pg 19 21 15.8 -5.2
comp=Z,9.9nm,0.7s
BRLS *e*S **Sg** **19 23 07.2 -2.5**
comp=Z,55nm,0.6s
KURBB Kurchatov Arra 8.66 349 Pn **Pn** **19 20 46.2 +0.4**
comp=Z,0.2nm,0.3s,baz=174,slow=12,SNR=11
KURBB Lg Lg 19 23 10.2
comp=Z,2.3nm,0.3s,baz=173,slow=27,SNR=4.7
KURBB LR LR 19 24 44.6
comp=Z,62nm,20.4s,baz=172,slow=42
comp=Z,0.6nm,0.3s
KURBB Kurchatov Arra 8.66 349 ⇓Lg Lg 19 23 12.3
comp=Z,635nm,0.9s
OTUK Ortayu 8.71 317 P **Pn** **19 20 47.0 +0.5**
OTUK Ortayu 8.71 317 ⇑Pn **Pn** **19 20 47.6 +1.0**
comp=Z,7.7nm,0.5s
OTUK ⇑Lg Lg 19 23 14.0
comp=Z,120nm,0.8s
KURK Kurchatov 8.74 349 Pn Pn 19 20 49.7 +2.8
KURK Kurchatov 8.74 349 *ce*P **Pn** **19 20 49.1 +2.2**
KURK pmax pmax
comp=Z,6.0nm,1.3s
KURK Kurchatov 8.74 349 ⇑Pn Pn 19 20 49.4 +2.6
comp=Z,26nm,1.0s
KURK ⇑Lg Lg 19 23 14.8
comp=Z,755nm,1.5s
GAR Garm 8.84 253 **Pn** **19 20 49.5 +1.1**
CHGR Chuyangaron 9.80 253 Pn **Pn** **19 21 00.9 -0.8**
CHGR Chuyangaron 9.80 253 P **Pn** **19 21 00.9 -0.8**
SIMJ Simiganj 9.91 253 Pn **Pn** **19 21 02.5 -0.6**
NIL Nilore 10.54 219 **Pn** **19 21 12.1 +0.4**
NIL Nilore 10.54 219 P **Pn** **19 21 12.1 +0.4**
ZAA0 Zalesovo Array 12.05 10 **Pn** **19 21 31.8 -0.4**
ZALV Zalesovo Beam 12.05 10 **Pn** **19 21 31.8 -0.3**
ZALV Zalesovo Beam 12.05 10 *i* P **Pn** **19 21 32.5 +0.4**
ZALV pmax pmax
comp=Z,6.0nm,0.7s
ZALV Zalesovo Beam 12.05 10 Pn **Pn** **19 21 32.4 +0.2**
comp=Z,0.4nm,0.3s,baz=194,slow=12,SNR=28
ZALV Sn **Sn** **19 23 44.5 -2.2**
comp=Z,0.9nm,0.3s,baz=183,slow=22,SNR=5.1
ZALV LR LR 19 26 20.7
comp=Z,91nm,20.2s,baz=186,slow=38
comp=Z,6.3nm,0.7s
GOMU GeErMu 12.14 115 P **Pn** **19 21 32.5 -1.4**
GOMU S **Sn** **19 23 42.0 -7.8**
GOMU pmax pmax
comp=Z,42nm,0.6s
KBL Kabul 12.17 235 **Pn** **19 21 33.6 -0.6**
KBL Kabul 12.17 235 P **Pn** **19 21 33.6 -0.6**
BVA0 Borovoye Array 13.06 330 Pn Pn 19 21 50.8 +4.7
comp=Z,4.2nm,0.7s,baz=141,slow=11,SNR=35
BVA0 ⇑Sn **Sn** **19 24 15.9 +4.3**
comp=Z,14nm,0.8s,baz=141,slow=21,SNR=3.8
BVA0 ⇑Lg Lg 19 25 29.4
comp=Z,75nm,1.1s,baz=137,slow=27,SNR=4.6
BVAR Borovoye Array 13.06 330 Pn **Pn** **19 21 45.6 -0.5**
comp=Z,0.6nm,0.5s,baz=116,slow=8.2,SNR=5.5
BVAR Sn **Sn** **19 24 05.2 -6.4**
comp=Z,0.1nm,0.3s,baz=134,slow=24,SNR=2.5
BVAR Lg Lg 19 25 26.2
comp=Z,0.2nm,0.3s,baz=136,slow=24,SNR=3.9
BRVK Borovoye 13.13 330 Pn **Pn** **19 21 47.7 +0.8**
BRVK Borovoye 13.13 330 ⇑*e*P **Pn** **19 21 46.8 -0.1**
BRVK pmax pmax
comp=Z,1.0nm,0.3s
BRVK Borovoye 13.13 330 ⇓Pn Pn 19 21 49.7 +2.8
comp=Z,8.2nm,1.0s
BRVK ⇑Lg Lg 19 25 31.9
comp=Z,60nm,1.0s
GTA Gaotai 14.39 95 *e*P **Pn** **19 22 03.8 -0.6**
GTA pP P 19 22 10.8 -0.7
GTA sP 19 22 14.5
GTA pmax pmax
comp=Z,4.0nm,1.3s
GTA LR LR
comp=Z,240nm,10.5s
GTA LR LR
comp=Z,150nm,12.7s
AB31 Akbulak array 16.41 303 ⇑Lg Lg 19 27 15.0
comp=Z,14nm,0.8s
ABKAR Akbulak array 16.41 303 Pn **Pn** **19 22 28.6 -2.2**
ABKAR Akbulak array 16.41 303 Pn **Pn** **19 22 28.2 -2.5**
MOY Mondy 16.50 48 *e*P P 19 22 40.4 +5.5
HRA Herat 16.74 249 Pn **Pn** **19 22 33.6 -1.8**
ZAK Zakamensk 17.31 54 *e*P **P** **19 22 45.5 +1.7**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
AKTO Aktyubinsk 17.96 305 Pn **Pn** **19 22 49.4 -0.8**
comp=Z,0.5nm,0.3s,baz=103,slow=13,SNR=9.3
AKTO Sn **Sn** **19 26 00.5 -10**
baz=70,slow=9.0
AKTO Lg Lg 19 27 57.1
comp=Z,0.2nm,0.3s,baz=141,slow=14,SNR=1.9
comp=Z,4.1nm,0.8s
AKTO Aktyubinsk 17.96 305 ⇓Pn **P** **19 22 50.9 +0.1**
comp=Z,8.0nm,1.2s
AKTO ⇑Lg Lg 19 28 06.5
comp=Z,13nm,1.1s
GEYT Alibeck 18.13 264 P **Pn** **19 22 49.8 -2.7**
comp=Z,0.3nm,0.3s,baz=76,slow=12,SNR=2.9
comp=Z,1.6nm,0.6s
SONM Songino Array 18.68 64 P **Pn** **19 22 59.1 -0.1**
SONM Songino Array 18.68 64 P **Pn** **19 22 59.1 -0.1**
SONM pmax pmax
comp=Z,7.0nm,0.8s
SONM Songino Array 18.68 64 P **Pn** **19 22 59.2 -0.1**
comp=Z,0.2nm,0.3s,baz=259,slow=12,SNR=15
SONM S **Sn** **19 26 29.7 +1.3**
comp=Z,0.2nm,0.4s,baz=227,slow=25,SNR=0.9
SONM Lg Lg 19 28 32.6
baz=297,slow=23
comp=Z,0.9nm,0.5s
ULN Ulaanbaatar 19.12 64 P **P** **19 23 03.5 -0.3**
ULN Ulaanbaatar 19.12 64 ⇑*e*P **P** **19 23 00.7 -3.1**
ULN pmax pmax
comp=Z,7.0nm,1.0s
SVE Sverdlovsk 19.72 325 *e*P **Pn** **19 23 11.3 -0.2**
SVE pmax pmax
comp=Z,8.0nm,0.7s
ARU Arti 20.39 322 P **P** **19 23 16.5 -0.9**
ARU IAmb IAmb 19 23 24.1
comp=Z,11nm,0.8s
ARU Arti 20.39 322 *c* *i*P **P** **19 23 17.3 -0.1**
ARU 19 23 33.8
ARU S Sn 19 27 08.3 -0.9
ARU SS **SnSn** **19 27 29.0 +5.4**
ARU pmax pmax
comp=Z,8.0nm,0.6s
ARU Arti 20.39 322 P **P** **19 23 16.7 -0.7**
comp=Z,7.8nm,0.5s,baz=114,slow=8.7,SNR=21
ARU Lg Lg 19 29 11.5
comp=Z,0.1nm,0.3s,baz=107,slow=19,SNR=4.6
ARU LR LR 19 31 27.7
comp=Z,59nm,19.7s,baz=176,slow=38
comp=Z,7.8nm,0.5s
CD2 Chengdu 21.28 115 P **P** **19 23 26.0 -1.2**
CD2 S **S** **19 27 23.0 -1.0**
CD2 pmax pmax
comp=Z,100nm,5.2s
CD2 LR LR
comp=Z,140nm,10.1s
CD2 LR LR
comp=Z,150nm,12.7s
TNCH TengChong 22.30 135 ⇓*i*P **P** **19 23 39.8 +1.4**
TNCH pP pP 19 23 40.8 -0.3
TNCH PP **PnPn** **19 24 04.3 +3.4**
TNCH S **S** **19 27 39.0 -5.3**
TNCH sS Sn 19 27 47.0 -8.9
TNCH pmax pmax
comp=Z,9.0nm,0.4s
TNCH pmax pmax
comp=Z,120nm,5.1s
TNCH LR LR
comp=Z,84nm,5.3s
TNCH LR LR
comp=Z,72nm,5.7s
HHC Hu-ho-hao-te 22.75 83 *e*P **P** **19 23 43.3 +0.3**
HHC pP pP 19 23 49.0 +3.3
HHC S **S** **19 27 43.3 -8.9**
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,100nm,5.0s
PZH PanZhiHua 22.99 126 P **P** **19 23 47.5 +1.9**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,110nm,4.5s
MAK Makhachkala 24.72 283 *c* *i*P P 19 23 54.9 -7.1
MAK *e*S S 19 28 13.0 -11
MAK MLR MLR
comp=Z,96nm,11.0s
KIRV Kirov 25.74 321 ⇑*e*P **P** **19 24 11.6 +0.6**
HNS HongShan 26.11 89 ⇓P **P** **19 24 18.5 +3.9**
HNS S S 19 28 55.0 +8.7
HNS LR LR
comp=Z,120nm,19.1s
HNS LR LR
comp=Z,90nm,17.5s
WSAR Wadi Sarin 26.61 232 LR LR 19 37 34.9
comp=Z,63nm,19.1s,baz=90,slow=43
CRAI Chiangrai 27.22 138 P **P** **19 24 23.3 -1.5**
GNI Garni 27.37 278 P **P** **19 24 24.3 -1.9**
GNI IAmb IAmb 19 24 52.8
comp=Z,8.4nm,1.0s
GNI Garni 27.37 278 P **P** **19 24 24.3 -1.9**
GNI pmax pmax
comp=Z,8.0nm,1.0s
NRIK Noril'sk 27.45 5 ⇓*e*P **P** **19 24 28.2 +1.8**
NRIK pmax pmax
comp=Z,6.0nm,1.1s
NRIK Noril'sk 27.45 5 P **P** **19 24 27.3 +0.9**
comp=Z,1.6nm,0.5s,baz=183,slow=7.1,SNR=2.4
comp=Z,1.6nm,0.5s
CMAR Chiang Mai Arr 28.05 142 P **P** **19 24 32.5 +0.2**
comp=Z,0.9nm,0.8s,baz=319,slow=9.5,SNR=8.1
CMAR LR LR 19 38 05.8
comp=Z,36nm,18.1s,baz=75,slow=42
comp=Z,0.9nm,0.8s
PHRA Phrae 28.62 140 P **P** **19 24 34.9 -2.4**
KLMR Klimovskoe 31.23 321 *e*P **P** **19 25 00.5 +0.5**
KLMR pmax pmax
comp=Z,24nm,2.2s
OBN Obninsk 31.63 310 *e*P P 19 25 06.6 +3.1
OBN pmax pmax
comp=Z,7.0nm,1.0s
HEH HeiHe 32.56 59 *e*P P 19 25 17.0 +5.2
BNX BinXian 33.12 68 ⇑P **P** **19 25 14.0 -2.8**
BNX pmax pmax
comp=Z,5.0nm,0.5s
BNX pmax pmax
comp=Z,110nm,5.5s
UBPT Khong Chiam 33.99 135 P **P** **19 25 23.4 -1.2**
UBPT IAmb IAmb 19 26 01.4
comp=Z,6.7nm,1.1s
YAK Yakutsk 34.72 38 ⇑*e*P **P** **19 25 32.3 +1.8**
YAK pmax pmax
comp=Z,3.0nm,0.9s
KLR Kul'dur 35.47 61 ⇑*e*P **P** **19 25 35.7 -1.4**
KLR pmax pmax
comp=Z,8.0nm,1.8s
KLR Kul'dur 35.47 61 P **P** **19 25 37.0 0.0**
comp=Z,1.3nm,0.9s,baz=318,slow=8.5,SNR=3.3
KLR LR LR 19 41 19.6
comp=Z,57nm,19.6s,baz=246,slow=38
comp=Z,1.3nm,0.9s
BR131 Keskin Array S 35.62 282 P **P** **19 25 37.4 -1.4**
BR131 IAmb IAmb 19 25 44.4
comp=Z,2.7nm,0.8s
BR131 Keskin Array S 35.62 282 ⇓*e*P **P** **19 25 37.8 -0.9**
BRTR Keskin Array B 35.62 282 P **P** **19 25 36.7 -2.0**
BRTR Keskin Array B 35.62 282 P **P** **19 25 37.3 -1.4**
comp=Z,0.8nm,0.6s,baz=109,slow=8.1,SNR=1.9
comp=Z,0.8nm,0.6s
KSAR Wonju Array Be 35.85 82 P **P** **19 25 39.9 -0.6**
KSAR Wonju Array Be 35.85 82 P **P** **19 25 39.9 -0.6**
KSRS Korea Array 35.87 82 P **P** **19 25 40.5 -0.1**
comp=Z,0.5nm,0.6s,baz=277,slow=9.3,SNR=2.4
KSRS LR LR 19 41 26.4
comp=Z,49nm,18.1s,baz=170,slow=38
comp=Z,0.5nm,0.6s
AKASG Malin Array Be 36.14 302 P **P** **19 25 43.4 +0.5**
comp=Z,0.6nm,0.6s,baz=69,slow=8.8,SNR=2.2
AKASG LR LR 19 41 33.4
comp=Z,32nm,21.3s,baz=88,slow=38
comp=Z,0.6nm,0.6s
AKBB Malin Array Si 36.14 302 P **P** **19 25 44.2 +1.4**
AKBB IAmb IAmb 19 25 47.0
comp=Z,5.8nm,1.1s
AKBB Malin Array Si 36.14 302 P **P** **19 25 44.2 +1.4**
AKBB pmax pmax
comp=Z,6.0nm,1.1s
TIXI Tiksi 37.55 23 P **P** **19 25 54.4 -0.2**
TIXI Tiksi 37.55 23 P **P** **19 25 54.4 -0.2**
TIXI pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 37.73 320 P **P** **19 25 56.6 +0.4**
comp=Z,0.5nm,0.6s,baz=95,slow=13,SNR=4.6
comp=Z,0.5nm,0.6s

BURAR	Bucovina Array	39.28	298	P		P	19 26 09.1	-0.4
BUR08	Bucovina Ar. S	39.28	298	P		P	19 26 09.9	+0.4
MLR	Muntele Rosu	39.32	294	LR		LR	19 44 58.3	
	comp=Z,74nm,21.0s,baz=66,slow=40							
ARCES	ARCESS Array B	39.33	333	P		P	19 26 07.5	-2.1
	comp=Z,1.9nm,0.8s,baz=77,slow=13,SNR=1.4							
	comp=Z,1.9nm,0.8s							
JNU	Nakatsue	39.90	86	LR		LR	19 44 20.3	
	comp=Z,74nm,19.6s,baz=178,slow=39							
MORC	Moravsky Berou	43.67	303	P		P	19 26 44.1	-1.4
MORC				IAmb		IAmb	19 27 00.6	
	comp=Z,4.7nm,1.2s							
MORC	Moravsky Berou	43.67	303	P		P	19 26 44.1	-1.4
MORC				pmax		pmax		
	comp=Z,5.0nm,1.2s							
IDI	Anoyia	43.76	280	P		P	19 26 45.5	-0.9
HFS	Hagfors	43.82	318	P		P	19 26 47.2	+0.7
	comp=Z,1.7nm,0.8s,baz=91,slow=12,SNR=2.2							
	comp=Z,1.7nm,0.8s							
NC405	NORSAR Array S	44.66	320	P		P	19 26 53.7	+0.5
NC405				IAmb		IAmb	19 27 05.3	
	comp=Z,7.4nm,1.1s							
NB2	NORSAR Subarra	44.91	320	P		P	19 26 54.8	-0.4
	comp=Z,0.8nm,0.5s,baz=82,slow=8.6							
NOA	NORSAR Array B	44.91	320	P		P	19 26 54.9	-0.3
	comp=Z,0.5nm,0.6s,baz=81,slow=8.1,SNR=4.3							
NOA				LR		LR	19 46 38.5	
	comp=Z,35nm,19.9s,baz=110,slow=37							
	comp=Z,0.5nm,0.6s							
SEY	Seymchan	45.24	38	P		P	19 26 57.7	-0.1
	comp=Z,0.3nm,0.4s,baz=312,slow=11,SNR=1.7							
	comp=Z,0.3nm,0.4s							
GERES	GERESS Array B	46.35	303	P		P	19 27 06.9	+0.1
	comp=Z,0.2nm,0.4s,baz=91,slow=7.8,SNR=2.0							
GERES				LR		LR	19 48 51.5	
	comp=Z,44nm,20.3s,baz=80,slow=39							
	comp=Z,0.2nm,0.4s							
BFO	Black Forest	49.88	304	P		P	19 27 33.6	-0.4
BFO	Black Forest	49.88	304	P		P	19 27 33.7	-0.4
BFO				pmax		pmax		
	comp=Z,15nm,1.5s							
DAG	Danmarks Havn	51.57	343	*i* P		P	19 27 49.0	+2.6
EKA	Eskdalemuir Ar	53.79	315	P		P	19 28 02.8	-0.3
	comp=Z,0.9nm,0.7s,baz=75,slow=8.2,SNR=1.5							
	comp=Z,0.9nm,0.7s							
ESDC	Sonseca Array	61.71	299	P		P	19 28 58.2	-0.9
	comp=Z,0.7nm,0.8s,baz=48,slow=7.0,SNR=2.2							
	comp=Z,0.7nm,0.8s							
C23K	Itkillik River	62.12	18	P		P	19 29 01.1	-0.2
C23K				IAmb		IAmb	19 29 25.2	
	comp=Z,6.0nm,1.4s							
D22K	Ayikyak River	62.34	19	P		P	19 29 03.9	+1.1
D22K				IAmb		IAmb	19 29 18.6	
	comp=Z,4.4nm,1.2s							
E22K	Anaktuvuk Pass	63.11	20	P		P	19 29 08.8	+0.8
TOLK	Toolik Lake Re	63.27	19	P		P	19 29 09.7	+0.6
TOLK				IAmb		IAmb	19 29 26.6	
	comp=Z,5.0nm,1.1s							
F21K	Alatna River	63.36	21	P		P	19 29 10.5	+0.8
F21K				IAmb		IAmb	19 29 39.6	
	comp=Z,2.5nm,1.1s							
IMAR	Indian Mountai	64.20	22	P		P	19 29 15.8	+0.6
A36M	Sachs Harbour	64.64	9	P		P	19 29 19.7	+1.8
A36M				IAmb		IAmb	19 29 27.5	
	comp=Z,2.5nm,0.7s							
H21K	Melozitna Rive	64.71	22	P		P	19 29 18.6	0.0
H21K				IAmb		IAmb	19 29 41.2	
	comp=Z,6.1nm,1.5s							
SFJD	Kangerlussuaq	65.16	341	LR		LR	20 01 35.0	
	comp=Z,36nm,18.4s,baz=117,slow=40							
BMAR	Burnt Mountain	65.38	18	P		P	19 29 24.6	+1.7
KTH	Kantishna Hill	66.84	23	P		P	19 29 32.1	-0.3
ILAR	Eielson Array	66.97	20	P		P	19 29 33.0	-0.1
ILAR	Eielson Array	66.97	20	P		P	19 29 33.0	-0.1
ILAR	Eielson Array	66.97	20	P		P	19 29 32.9	-0.3
	comp=Z,0.4nm,0.7s,baz=315,slow=5.5,SNR=6.9							
	comp=Z,0.4nm,0.7s							
H29M	Whitestone	67.75	16	P		P	19 29 38.6	+0.6
H29M				IAmb		IAmb	19 30 04.7	
	comp=Z,2.9nm,1.0s							
G31M	Satah River	67.93	14	P		P	19 29 39.4	+0.3
G31M				IAmb		IAmb	19 29 49.4	
	comp=Z,3.6nm,0.9s							
I28M	Miner Creek	68.07	17	P		P	19 29 40.1	-0.1
I28M				IAmb		IAmb	19 29 50.4	
	comp=Z,2.6nm,0.8s							
DHY	Denali Highway	68.20	22	P		P	19 29 41.3	+0.2
NRS	Narsarsuaq	68.29	335	P		P	19 29 41.9	+0.5
NRS	Narsarsuaq	68.29	335	P		P	19 29 41.9	+0.5
NRS				pmax		pmax		
	comp=Z,38nm,1.5s							
RIDG	Independent Ri	68.33	20	P		P	19 29 41.2	-0.6
SCRK	Sand Creek	68.36	20	P		P	19 29 41.3	-0.7
SCRK				IAmb		IAmb	19 30 03.8	
	comp=Z,2.7nm,1.0s							
EGAK	Eagle	68.37	18	P		P	19 29 41.6	-0.3
EGAK				IAmb		IAmb	19 29 54.0	
	comp=Z,5.7nm,1.5s							
I30M	Mount Dempster	69.03	16	P		P	19 29 45.9	-0.3
I30M				IAmb		IAmb	19 29 58.7	
	comp=Z,2.9nm,0.9s							
SCM	Sheep Creek Mo	69.22	22	P		P	19 29 47.1	-0.2
SCM	Sheep Creek Mo	69.22	22	P		P	19 29 47.1	-0.2
SCM				pmax		pmax		
	comp=Z,15nm,1.2s							
BCAR	Beaver Creek A	69.67	19	P		P	19 29 48.9	-1.2
M29M	Somme Creek	71.00	18	P		P	19 29 58.6	+0.3
M29M				IAmb		IAmb	19 30 10.2	
	comp=Z,2.9nm,1.1s							
WAX	Waxell Ridge	71.60	21	P		P	19 30 01.7	-0.2
FRB	Frobisher Bay	71.74	346	LR		LR	20 04 10.5	
	comp=Z,64nm,18.2s,baz=186,slow=38							
TORD	Torodi Ar. Bea	73.53	273	P		P	19 30 12.8	-1.3
TORD	Torodi Ar. Bea	73.53	273	P		P	19 30 12.9	-1.1
	comp=Z,0.5nm,0.4s,baz=46,slow=6.7,SNR=5.5							
	comp=Z,0.5nm,0.4s							
YKA	Yellowknife Ar	74.93	8	*i* P		P	19 30 24.0	+2.6
YKA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
YKA	Yellowknife Ar	74.93	8	P		P	19 30 21.8	+0.4
	comp=Z,0.6nm,0.6s,baz=341,slow=6.2,SNR=11							
	comp=Z,0.6nm,0.6s							
WRA	Warramunga Arr	78.90	130	P		P	19 30 44.0	-0.3
	comp=Z,1.3nm,1.1s,baz=330,slow=5.7,SNR=2.1							
	comp=Z,1.3nm,1.1s							
WB2	Warramunga Arr	78.90	130	P		P	19 30 44.2	-0.1
WB2				IAmb		IAmb	19 31 00.8	
	comp=Z,4.7nm,1.2s							
ASAR	Alice Springs	81.61	132	P		P	19 30 58.4	-0.5
	comp=Z,0.3nm,0.7s,baz=323,slow=5.6,SNR=9.8							
	comp=Z,0.3nm,0.7s							

IDC 30 19:28:17.1±4.6, 15°54S×176°07W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=199.5km s-min=37.5km az=137.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.75	239	P	P	19 36 08.4	+0.1
	1.1nm,0.7s,baz=101,slow=10,SNR=2.2						
	1.1nm,0.7s						
WRA	Warramunga Arr	47.31	257	P	P	19 36 52.6	-0.4
	1.0nm,0.6s,baz=93,slow=7.3,SNR=27						
	1.0nm,0.6s						
ASAR	Alice Springs	47.62	252	P	P	19 36 55.3	-0.1
	3.6nm,0.3s,baz=86,slow=8.1,SNR=199						
	3.6nm,0.3s						
ILAR	Eielson Array	83.10	12	P	P	19 40 44.4	+0.1
	0.1nm,0.4s,baz=202,slow=6.8,SNR=2.4						
	0.1nm,0.4s						

*IDC **30** 19:47:36.2±1.5, 14°.52N×123°.67E, h0km, mb3.4/6, mbtmp3.4/6, Error ellipse: s-maj=76.9km s-min=20.8km az=61.0*

ISC 30 19:47:41.5±1.6, 14°4N±0°.3×123°5E±0°.5, h33km, n9, σ0s85/6, mb3.4/6, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	23.92	283	P	P	19 52 52.7	0.0
	0.2nm,0.3s,baz=96,slow=7.3,SNR=2.3						
	0.2nm,0.3s						
WRA	Warramunga Arr	35.77	162	P	P	19 54 38.3	+0.6
	0.3nm,0.7s,baz=345,slow=9.2,SNR=1.9						
	0.3nm,0.7s						
ASAR	Alice Springs	39.20	165	P	P	19 55 06.1	-0.7
	0.3nm,0.6s,baz=348,slow=7.1,SNR=7.4						
	0.3nm,0.6s						
H11S3	WAKE ISLAND Hy	41.51	78	T	T	20 38 26.1	
	baz=274						
H11S1	WAKE ISLAND Hy	41.52	78	T	T	20 38 26.3	
	baz=274						
H11S2	WAKE ISLAND Hy	41.52	78	T	T	20 38 27.4	
	baz=274						
MKAR	Makanchi Array	47.12	322	P	P	19 56 10.5	-0.1
	0.5nm,0.7s,baz=106,slow=9.7,SNR=5.0						
	0.5nm,0.7s						
KURBB	Kurchatov Arra	51.15	325	P	P	19 56 40.1	-1.1
	0.9nm,0.8s,baz=123,slow=7.2,SNR=5.9						
	0.9nm,0.8s						
BVAR	Borovoye Array	56.75	325	P	P	19 57 22.3	+0.2
	0.3nm,0.5s,baz=119,slow=5.4,SNR=2.7						
	0.3nm,0.5s						

IDC 30 19:57:14.1±2.1, 5°37S×151°31E, h0km, mb3.8/3, mbtmp3.9/3, Error ellipse: s-maj=122.0km s-min=30.6km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.96	227	P	P	20 02 10.0	+0.3
	3.5nm,0.6s,baz=53,slow=10.0,SNR=46						
	3.5nm,0.6s						
ASAR	Alice Springs	24.73	221	P	P	20 02 37.5	0.0
	2.0nm,0.6s,baz=60,slow=8.7,SNR=48						
	2.0nm,0.6s						
ILAR	Eielson Array	83.25	22	P	P	20 09 42.5	+0.2
	0.3nm,0.6s,baz=249,slow=4.7,SNR=2.5						
	0.3nm,0.6s						
TORD	Torodi Ar. Bea	149.06	287	PKPbc	PKPbc	20 17 04.3	-1.1
	0.2nm,0.4s,baz=65,slow=2.6,SNR=2.1						

*IDC **30** 20:01:44.3±0.7, 22°.52S×48°.39E, h0km, mb3.9/11, mbtmp3.9/12, ML3.2/1, MS3.4/6, Error ellipse: s-maj=19.9km s-min=12.2km az=161.0*
*NEIC **30** 20:01:44.8±1.8, 22°.55S±0°.05×48°.50E±0°.03, h16km±4km, mb4.5/12, Error ellipse: s-maj=7.2km s-min=3.8km az=184.0*

ISC 30 20:01:44.4±0.6, 22°55S±0°.05×48°48E±0°.05, h10km, n38, σ2s08/36, mb4.0/12, MS3.3/6, Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOI	Vohitsoka	1.69	292		Pn	20 02 12.9	-1.2
VOI				Sn	Sn	20 02 31.9	-4.0
FOMA	Nahampoana Res	2.78	209		Pn	20 02 28.8	-0.3
FOMA				Sn	Sn	20 02 58.9	-3.9
ABPO	Ambohimpanom	3.70	341		Pn	20 02 42.3	+0.4
ABPO				Sn	Sn	20 03 21.2	-4.5
OPO	Ambohidratompo	4.14	343	Pn	Pn	20 02 48.5	+0.6
	0.2nm,0.3s,baz=148,slow=15,SNR=36						
OPO				Pg	Pb	20 02 59.1	+1.6
	1.5nm,0.3s,baz=168,slow=16,SNR=19						
OPO				Lg	Lg	20 03 48.7	
	18nm,0.3s,baz=108,slow=20,SNR=6.2						
	8.1nm,0.5s						
RER	Riviere de l'E	6.88	80		Pn	20 03 25.1	-0.5
RER				Sn	Sn	20 04 38.1	-5.9
MSEY	Mahe Island	19.01	22	P	P	20 06 04.3	-2.3
MSEY				IAmb	IAmb	20 06 23.8	
	comp=Z,34nm,1.4s						
LSZ	Lusaka	20.50	287	P	P	20 06 22.1	-0.9
LSZ				IAmb	IAmb	20 06 23.6	
	comp=Z,20nm,0.7s						
LSZ	Lusaka	20.50	287	P	P	20 06 22.9	-0.1
	comp=Z,18nm,0.6s,baz=124,slow=12,SNR=61						
LSZ				LR	LR	20 15 01.2	
	comp=Z,107nm,18.1s,baz=184,slow=39						
	comp=Z,18nm,0.6s						
LBTB	Lobatse	21.09	259	P	P	20 06 27.9	-1.3
LBTB	Lobatse	21.09	259	P	P	20 06 28.5	-0.7
	comp=Z,4.0nm,0.8s,baz=87,slow=11,SNR=4.1						
LBTB				S	Sn	20 10 27.0	-3.4
	comp=Z,0.9nm,0.5s,baz=60,slow=20,SNR=1.6						
LBTB				LR	LR	20 14 24.7	
	comp=Z,189nm,18.6s,baz=92,slow=36						
	comp=Z,4.0nm,0.8s						
BOSA	Boshof	21.79	249	P	P	20 06 36.2	-0.6
BOSA				IAmb	IAmb	20 06 37.3	
	comp=Z,15nm,0.9s						
BOSA	Boshof	21.79	249	P	P	20 06 36.5	-0.2
	comp=Z,12nm,0.8s,baz=76,slow=13,SNR=21						
BOSA				S	S	20 10 39.7	+1.8
	comp=Z,1.3nm,0.7s,baz=74,slow=7.4,SNR=2.1						
BOSA				LR	LR	20 13 17.3	
	comp=Z,112nm,20.4s,baz=86,slow=32						
	comp=Z,12nm,0.8s						
GRHM	Grahamstown, E	22.23	236	P	P	20 06 40.1	-1.2
GRHM				IAmb	IAmb	20 07 13.1	
	comp=Z,44nm,1.4s						
H04N1	CROZET ISLANDS	23.71	174	T	T	20 31 30.7	
	baz=352,slow=75						
H04N2	CROZET ISLANDS	23.72	174	T	T	20 31 02.7	
	baz=352,slow=75						
H04N3	CROZET ISLANDS	23.73	174	T	T	20 31 14.2	
	baz=352,slow=75						
SUR	Sutherland	26.37	242	P	P	20 07 18.9	-2.3
SUR	Sutherland	26.37	242	LR	LR	20 17 03.3	
	comp=Z,129nm,18.3s,baz=120,slow=35						
H01W2	Cape Leeuwin H	57.97	118	T	T	21 14 44.5	
	baz=263,slow=75,SNR=78						
TORD	Torodi Ar. Bea	57.97	303	P	P	20 11 38.6	+1.1
	comp=Z,0.4nm,0.7s,baz=142,slow=7.2,SNR=2.4						
	comp=Z,0.4nm,0.7s						
H01W3	Cape Leeuwin H	57.97	118	T	T	21 14 45.3	
	baz=263,slow=75,SNR=103						
H01W1	Cape Leeuwin H	57.98	118	T	T	21 14 45.8	
	baz=263,slow=75,SNR=80						
CMAR	Chiang Mai Arr	63.98	55	P	P	20 12 20.1	+1.7
	comp=Z,0.3nm,0.3s,baz=246,slow=6.8,SNR=1.4						
CMAR				LR	LR	20 34 42.2	
	comp=Z,15nm,21.0s,baz=180,slow=31						
	comp=Z,0.3nm,0.3s						
AGG	Agios Georgios	65.96	338	P	P	20 12 30.4	-0.5
AGG				IAmb	IAmb	20 12 31.3	
	comp=Z,5.5nm,1.2s						
QSPA	South Pole Qui	67.60	180	P	P	20 12 41.1	-0.1
QSPA				IAmb	IAmb	20 12 43.9	
	comp=Z,3.3nm,1.0s						
QSPA	South Pole Qui	67.60	180	P	P	20 12 43.1	+1.9
	comp=Z,1.9nm,0.8s,baz=238,slow=2.0,SNR=11						
	comp=Z,1.9nm,0.8s						
ABKAR	Akbulak array	72.20	8	P	P	20 13 09.7	+0.4
ABKAR	Akbulak array	72.20	8	P	P	20 13 09.3	-0.1
ABKAR				IAmb	IAmb	20 13 21.9	
	comp=Z,2.7nm,1.2s						
CAMP	Campotosto	72.40	334	P	P	20 13 10.4	-0.4
QIZ	Qiongzhong	72.80	60	P	P	20 13 11.8	-1.9
BURAR	Bucovina Array	72.91	344	P	P	20 13 12.9	-0.9
MKAR	Makanchi Array	75.48	23	P	P	20 13 30.1	+1.4
	comp=Z,0.2nm,0.6s,baz=228,slow=7.6,SNR=2.7						
	comp=Z,0.2nm,0.6s						
ASAR	Alice Springs	77.30	110	P	P	20 13 42.1	+2.4
	comp=Z,1.2nm,0.8s,baz=239,slow=6.3,SNR=4.7						
	comp=Z,1.2nm,0.8s						
BVAR	Borovoye Array	77.63	13	P	P	20 13 42.2	+1.5
	comp=Z,0.3nm,0.4s,baz=197,slow=4.5,SNR=2.7						
	comp=Z,0.3nm,0.4s						
WRA	Warramunga Arr	78.92	107	P	P	20 13 50.7	+1.9
	comp=Z,2.1nm,0.9s,baz=259,slow=5.8,SNR=3.6						
	comp=Z,2.1nm,0.9s						
ZALV	Zalesovo Beam	82.37	21	P	P	20 14 08.2	+1.9
	comp=Z,0.6nm,0.5s,baz=250,slow=4.3,SNR=1.8						
	comp=Z,0.6nm,0.5s						
NOA	NORSAR Array B	88.57	343	LR	LR	20 57 02.5	
	comp=Z,14nm,18.9s,baz=305,slow=38						
TXAR	Lajitas Array	154.10	291	PKPbc	PKiKP	20 21 46.6	+1.4
	comp=Z,0.6nm,0.9s,baz=90,slow=1.9,SNR=4.2						

*NEIC **30** 20:06:03.1±2.5, 6°.63S±0°.09×130°.11E±0°.07, h169km±9km, mb4.4/9, Error ellipse: s-maj=12.9km s-min=10.0km az=197.0*
*IDC **30** 20:06:05.1±4.9, 6°.76S×129°.95E, h181km±47km, mb3.2/3, mbtmp3.8/6, Error ellipse: s-maj=45.4km s-min=17.0km az=56.0*

ISC 30 20:06:00.8±0.6, 6°68S±0°.05×130°09E±0°.06, h150km, n29, σ2s09/35, mb3.6/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.76	137		Pn	20 06 38.8	+5.5
SAUI				Sn	Sn	20 07 01.4	+3.2
FAKI	Fak Fak	4.31	30		Pn	20 07 05.5	+0.3
FAKI				Sn	Sn	20 07 51.9	-3.4
MTN	Manton Dam	6.21	171	Pn	Pn	20 07 33.6	+3.3
MTN				Sn	Sn	20 08 39.8	-0.6
SOEI	Soe	6.52	242		Pn	20 07 38.2	+3.5
SOEI				Sn	Sn	20 08 46.8	-1.3
BATI	Baumata	7.26	241	P	Pn	20 07 47.6	+3.2
	31nm,0.4s,baz=65,slow=15,SNR=31						
BATI				S	Sn	20 09 05.7	0.0
	41nm,0.5s,baz=30,slow=20,SNR=8.8						
MMRI	Maumere	8.02	255	Pn	Pn	20 07 55.6	+1.1
KNRA	Kununurra	9.04	188	Pn	Pn	20 08 10.1	+2.1
FITZ	Fitzroy Crossi	12.15	201	Pn	Pn	20 08 50.0	+0.9
WB0	Warramunga Arr	13.66	163	Pn	Pn	20 09 09.2	+0.7
WRAB	Tennant Creek	13.81	163	Pn	Pn	20 09 10.0	-0.4
WRA	Warramunga Arr	13.81	163	Pn	Pn	20 09 10.6	+0.1
WRA	Warramunga Arr	13.81	163	P	Pn	20 09 12.4	+2.0
	1.2nm,0.4s,baz=346,slow=13,SNR=37						
WRA				S	Sn	20 11 37.8	-5.7
	3.0nm,0.5s,baz=345,slow=22,SNR=11						
WB2	Warramunga Arr	13.82	163	Pn	Pn	20 09 10.4	-0.1
COEN	Coen	14.76	120	Pn	Pn	20 09 23.4	+1.0
AS31	Alice Springs	17.28	168	P	P	20 09 49.1	-3.2
ASAR	Alice Springs	17.28	168		P	20 09 49.4	-3.0
ASAR	Alice Springs	17.28	168	P	Pn	20 09 55.9	+2.7
	1.0nm,0.6s,baz=346,slow=11,SNR=32						
ASAR				S	S	20 13 03.5	-1.4
	0.7nm,0.5s,baz=358,slow=27,SNR=4.4						
MBWA	Marble Bar	17.54	214	P	P	20 09 53.9	-1.2
MBWA				IAmb	IAmb	20 10 15.4	
	comp=Z,17nm,1.4s						
PSA00	Pilbara Seismi	17.81	213	P	P	20 09 57.0	-1.1
PSA00				IAmb	IAmb	20 10 23.3	
	comp=Z,45nm,1.5s						
BBOO	Buckleboo	26.59	169	P	P	20 11 25.5	+0.4
STKA	Stephens Creek	27.27	158	P	P	20 11 32.2	+1.0
STKA	Stephens Creek	27.27	158	P	P	20 11 32.6	+1.4
	comp=Z,0.9nm,0.7s,baz=342,slow=13,SNR=1.9						
	comp=Z,0.9nm,0.7s						
SSLB	Suanglung	31.57	344	P	P	20 12 09.2	-0.1
KULM	Kulim	31.70	291	P	P	20 12 11.0	+0.4
KULM				IAmb	IAmb	20 12 21.7	
	comp=Z,9.3nm,1.0s						
CAN	Canberra	33.39	151	P	P	20 12 26.3	+1.3
CAN				IAmb	IAmb	20 12 49.4	
	comp=Z,17nm,1.2s						
CMAR	Chiang Mai Arr	39.60	310	P	P	20 13 18.6	+0.7
	comp=Z,0.3nm,0.3s,baz=129,slow=7.1,SNR=1.5						
	comp=Z,0.3nm,0.3s						
PLWZ	Palliser	52.99	138	P	P	20 15 02.3	+0.1
MKAR	Makanchi Array	68.01	327	P	P	20 16 43.4	-0.5
MKAR	Makanchi Array	68.01	327	P	P	20 16 44.8	+0.9
	comp=Z,0.3nm,0.5s,baz=123,slow=5.0,SNR=7.6						
	comp=Z,0.3nm,0.5s						

*IDC **30** 20:18:27.6±1.0, 33°.53N×142°.27E, h0km, mb3.6/11, mbtmp3.7/15, ML3.6/4, MS3.7/1, Error ellipse: s-maj=29.0km s-min=17.0km az=77.0*
*NIED **30** 20:18:31.3, 33°.62N×142°.14E, h65km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=2.16; $M_{\theta\theta}$=0.74; $M_{\phi\phi}$=2.90; $M_{r\theta}$=1.53; $M_{\theta\phi}$=0.31; $M_{\phi r}$=0.30; Fault plane solution: $M_0$3.05000×10^{14} NP1: ϕ_s24.00000°, δ55.00000°, λ-49.00000°. NP2:ϕ_s147.00000°, δ52.00000°, λ-134.00000°.*
*JMA **30** 20:18:31.3±0.3, 33°.6N±0°.8×14°2E±°, h65km, MV3.9/35, FAR E OFF IZU ISLANDS*

ISC 30 20:18:32.2±0.8, 33°54N±0°.05×142°20E±0°.08, h34km, n38, σ1s82/54, mb3.6/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.51	318	P	Pn	20 18 55.1	-1.2
BSO1				*e*S	Sn	20 19 13.1	-1.4
BSO2	Boso 2	1.71	316	S	Sn	20 19 19.9	+0.2
BSO3	Boso 3	1.89	312	P	Pn	20 19 01.0	-0.8
BSO3				S	Sn	20 19 24.5	+0.2
JHJ2	Mitsune	2.04	259	P	Pn	20 19 04.2	+0.1
JHCJ	Hachijojimakas	2.07	258	*e*P	Pn	20 19 04.2	-0.2
JHCJ				S	Sn	20 19 27.9	-1.1
JHJ	Hachijo jima 2	2.07	259	Pn	Pn	20 19 04.0	-0.5
	85nm,0.3s,baz=60,slow=20,SNR=14						
JHJ				Sn	Sn	20 19 27.6	-1.5
	120nm,0.3s,baz=73,slow=19,SNR=18						
	157nm,0.3s						
BSO4	Boso 4	2.12	314	P	Pn	20 19 04.8	-0.3
BSO4				*e*S	Sn	20 19 30.0	-0.2
JMKN	Mikurajimanish	2.21	280	*i* P	Pn	20 19 05.5	-0.9
JMKN				*e*S	Sn	20 19 30.0	-2.5
KTR	Katsuura	2.24	316	P	Pn	20 19 05.9	-1.0
KTR				*e*S	Sn	20 19 31.9	-1.4
JMYK	Miyake Tsubota	2.27	284	*e*P	Pn	20 19 06.3	-1.0
JMYK				S	Sn	20 19 32.3	-1.8
JKUC	kamogawauchiur	2.32	315	P	Pn	20 19 06.9	-1.0
JKUC				*e*S	Sn	20 19 34.0	-1.2
JIM2	Oshima 3	2.58	298	P	Pn	20 19 10.0	-1.6
JIM2				*e*S	Sn	20 19 38.3	-3.5
JOD2	Odawara 2	3.10	305	P	Pn	20 19 17.0	-1.7
JOD2				*e*S	Sn	20 19 50.0	-4.6
JFNN	Fujinakano	3.35	301	*e*S	Sn	20 19 58.3	-2.4
JYN	Shimob	3.60	304	*e*P	Pn	20 19 24.7	-0.9
JYN				*e*S	Sn	20 20 05.0	-1.9
JAG	Ashikaga	3.66	323	P	Pn	20 19 25.3	-1.1
JAG				*e*S	Sn	20 20 05.6	-2.8
JRY	Ryogami san	3.67	313	P	Pn	20 19 25.7	-1.0
JRY				*e*S	Sn	20 20 08.2	-0.5
JOTO	OTAMA OYAMA	4.29	340	*i* P	Pn	20 19 33.8	-1.3
JOTO				S	Sn	20 20 19.7	-4.3
MJAR	Matsushiro Arr	4.44

0.3nm,0.4s,baz=43,slow=6.3,SNR=2.1
0.3nm,0.4s
NOA NORSAR Array B 77.66 338 P **P** **20 30 25.7 +0.7**
0.4nm,0.7s,baz=39,slow=5.6,SNR=2.3
0.4nm,0.7s
BRTR Keskin Array B 81.67 312 P **P** **20 30 49.1 +1.9**
0.8nm,1.0s,baz=53,slow=7.4,SNR=3.0
0.8nm,1.0s
MMAI Mount Meron Ar 84.53 306 LR LR 21 10 06.4
comp=Z,47nm,21.8s,baz=132,slow=37

*NEIC **30** 20:57:53.2±1.1,35°.997N±0°.008×96°.79W±0°.01,h4km±1km, Error ellipse: s-maj=1.2km s-min=1.2km az=73.0*
TUL 30 20:57:53.4±1.1,35°.999N±0°.010×96°.78W±0°.01,h6km±2km, ML2.8,mb_Lg2.4/20(NEIC),ML2.5/45(NEIC),Error ellipse: s-maj=1.4km s-min=1.2km az=204.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK052	**Battle Ridge R**	**0.02**	**254**	Pg	Pg	20 57 54.4	-0.1
OK052				Sg	Sg	20 57 55.4	0.0
OK052				IAML		20 57 55.5	
	8μm,0.2s						
OK033	**Mehan**	**0.14**	**289**	Pg	Pg	20 57 56.6	+0.3
OK033				Sg	Sg	20 57 57.1	-1.0
OK033				IAML		20 57 57.2	
	1μm,0.1s						
OK033				IAML		20 57 58.8	
	2μm,0.2s						
QUOK	**Quay**	**0.18**	**18**	Pg	Pg	20 57 57.6	+0.6
QUOK				Sg	Sg	20 58 00.5	+1.0
QUOK				IAML		20 58 00.6	
	comp=E,853nm,0.2s						
DEOK	**Depew**	**0.28**	**124**	Pg	Pg	20 57 59.3	+0.5
DEOK				Sg	Sg	20 58 03.4	+0.9
DEOK				IAML		20 58 03.6	
	comp=N,677nm,0.3s						
OK048	**Pawnee Station**	**0.44**	**342**	Pg	Pg	20 58 02.2	+0.4
OK048				Sg	Sg	20 58 08.2	+0.6
OK029	**Liberty Lake**	**0.58**	**250**	Pg	Pg	20 58 04.8	+0.2
OK029				Sg	Sg	20 58 12.6	+0.3
OK029				IAML		20 58 13.8	
	comp=N,215nm,0.1s						
OK029				IAML		20 58 15.3	
	comp=N,314nm,0.4s						
ADOK	**Arcadia Dam**	**0.59**	**234**		Pg	20 58 04.9	0.0
ADOK				Sg	Sg	20 58 13.2	+0.7
TUL3	**Leonard**	**0.81**	**96**	Pg	Pg	20 58 08.7	-0.2
TUL3				Sg	Sg	20 58 19.0	-0.3
BLOK	**Blackwell**	**0.84**	**335**	Pg	Pg	20 58 09.4	0.0
BLOK				Sg	Sg	20 58 20.7	+0.3
W35A	**Tecumseh**	**0.85**	**185**		Pg	20 58 09.2	-0.5
W35A				Sg	Sg	20 58 21.0	+0.3
W35A				IAML		20 58 21.3	
	comp=E,196nm,0.3s						
FNO	**Franklin**	**0.90**	**215**	Pg	Pg	20 58 10.0	-0.6
FNO				Sg	Sg	20 58 22.4	+0.1
FNO				IAML		20 58 25.3	
	comp=E,143nm,0.2s						
FNO				IAML		20 58 25.4	
	comp=N,133nm,0.1s						
T35A	**Sooner Cattle**	**0.94**	**13**		Pg	20 58 11.3	-0.1
T35A				Sg	Sg	20 58 23.6	-0.1
T35A				IAML		20 58 24.8	
	comp=E,92nm,0.2s						
CROK	**Carrier**	**1.10**	**298**		Pg	20 58 14.0	-0.5
CROK				Sg	Sg	20 58 28.7	0.0
KAN13	**South Haven SW**	**1.16**	**331**	Pg	Pg	20 58 15.1	-0.6
KAN13				Sg	Sg	20 58 30.5	-0.2
GC02	**Grant County #**	**1.22**	**315**	Pg	Pg	20 58 16.3	-0.5
GC02				Sg	Sg	20 58 32.3	-0.3
KAN17	**Caldwell West**	**1.31**	**323**		Pn	20 58 18.0	-0.3
KAN17					Sb	20 58 35.0	-0.5
KAN09	**Caldwell North**	**1.32**	**329**		Pn	20 58 17.3	-1.1
KAN09					Sb	20 58 35.4	-0.4
KAN14	**Manchester OK**	**1.35**	**315**		Pn	20 58 18.3	-0.6
KAN14					Sb	20 58 36.2	-0.5
KAN01	**Argonia South**	**1.40**	**326**		Pn	20 58 18.4	-1.1
KAN01					Sb	20 58 38.1	+0.1
OK032	**Salt Plains WL**	**1.41**	**305**		Pn	20 58 19.0	-0.6
OK032					Sn	20 58 38.5	0.0
KAN05	**Bluff City Nor**	**1.42**	**322**		Pn	20 58 18.4	-1.3
KAN05					Sb	20 58 38.6	+0.1
RLO	**Rose Lookout**	**1.43**	**83**		Pn	20 58 19.4	-0.5
RLO					Sb	20 58 38.6	-0.4
KS21	**Milan North St**	**1.47**	**331**		Pn	20 58 19.4	-1.0
KS21					Sb	20 58 40.2	+0.1
KAN06	**Argonia West S**	**1.52**	**325**		Pn	20 58 20.2	-0.9
KAN10	**Anthony SW Sta**	**1.54**	**317**		Pn	20 58 20.2	-1.3
KAN08	**Anthony NE Sta**	**1.56**	**322**		Pn	20 58 21.1	-0.5
KAN08					Sg	20 58 43.0	-0.4
CSTR	**Hydro, Custer**	**1.59**	**258**		Pn	20 58 21.7	-0.4
KAN12	**Harper NE Stat**	**1.62**	**323**		Pn	20 58 22.6	0.0
OK038	**West end E0370**	**1.66**	**287**		Pn	20 58 22.0	-1.0
OK038					Sb	20 58 45.6	0.0
OK035	**E0210 Rd and N**	**1.71**	**295**		Pn	20 58 23.5	-0.4
X37A	**Clayton**	**1.82**	**140**	Pn	Pn	20 58 25.0	-0.2
X37A				IAmb_Lg		20 58 53.8	
	comp=Z,16nm,0.8s						
U32A	**Winter Ranch,**	**1.84**	**283**	Pn	Pn	20 58 25.5	-0.1
U38A	**Gravette**	**1.98**	**77**	Pn	Pn	20 58 27.8	+0.2
LOOK	**Love County**	**2.03**	**189**	Pn	Pn	20 58 28.6	+0.5
WMOK	**Wichita Mounta**	**2.06**	**233**		Pn	20 58 28.9	+0.2
ELIS	**Ellis County**	**2.14**	**273**	Pn	Pn	20 58 30.3	+0.6
HHAR	**Hobbs**	**2.31**	**82**	Pn	Pn	20 58 32.9	+0.8
WTFS	**Witchita Falls**	**2.62**	**212**	Pn	Pn	20 58 36.7	+0.4
R32A	**Long Quarter,**	**2.87**	**328**	Pn	Pn	20 58 38.9	-0.8
SMWD	**Samnorwood**	**2.96**	**253**	Pn	Pn	20 58 39.6	-1.4
MIAR	**Mount Ida**	**2.99**	**118**	Pn	Pn	20 58 41.8	+0.4
KSU1	**Kansas State U**	**3.10**	**2**	Pn	Pn	20 58 44.4	+1.5
Z38A	**Mt. Pleasant**	**3.11**	**151**	Pn	Pn	20 58 43.9	+1.0
Z38A				IAmb_Lg		20 59 36.9	
	comp=Z,9.0nm,0.7s						
S39A	**Bolivar**	**3.25**	**58**	Pn	Pn	20 58 44.8	-0.1
PLPT	**Palo Pinto**	**3.42**	**202**	Pn	Pn	20 58 48.3	+0.9
X40A	**Basin Creek Fa**	**3.56**	**114**	Pn	Pn	20 58 50.5	+1.3
CBKS	**Cedar Bluff**	**3.67**	**321**	Pn	Pn	20 58 50.0	-0.7
CBKS				IAmb_Lg		20 59 52.3	
	comp=Z,11nm,0.8s						
WHAR	**Wooly Hollow**	**3.72**	**100**		Pn	20 58 51.7	+0.2
FCAR	**Ozark Folk Cen**	**3.78**	**90**	Pn	Pn	20 58 52.4	+0.2
FCAR				IAmb_Lg		20 59 53.0	
	comp=Z,7.3nm,0.8s						
MGMO	**Mountain Grove**	**3.81**	**71**	Pn	Pn	20 58 54.1	+1.5
APMT	**Aspermont**	**3.83**	**227**	Pn	Pn	20 58 53.0	0.0
ABTX	**Abilene, Hawle**	**4.12**	**216**	Pn	Pn	20 58 57.1	+0.2
DKNS	**Dickens**	**4.13**	**237**	Pn	Pn	20 58 56.9	-0.2
DKNS				IAmb_Lg		21 00 13.2	
	comp=Z,5.3nm,0.8s						
AMTX	**Amarillo**	**4.15**	**256**	IAmb_Lg		21 00 04.7	
	comp=Z,10nm,0.7s						
R40A	**Maddies Statio**	**4.27**	**56**	Pn	Pn	20 58 58.5	-0.5
R40A				IAmb_Lg		21 00 07.9	
	comp=Z,8.7nm,0.9s						
P38A	**Dawn**	**4.44**	**34**	Pn	Pn	20 58 58.8	-2.4
LCAR	**Lake Charles**	**4.56**	**87**	Pn	Pn	20 59 00.6	-2.3
LCAR				IAmb_Lg		21 00 27.2	
	comp=Z,8.6nm,1.2s						
CCM	**Cathedral Cave**	**4.88**	**63**	Pn	Pn	20 59 05.5	-1.9
BRDY	**Brady**	**5.05**	**202**	Pn	Pn	20 59 08.9	-0.8
P40A	**Paris**	**5.14**	**45**	Pn	Pn	20 59 09.7	-1.3
PBMO	**Poplar Bluff**	**5.18**	**79**	Pn	Pn	20 59 10.9	-0.6
FVM	**French Village**	**5.46**	**67**	Pn	Pn	20 59 13.6	-1.7
CGM3	**Cape Girardeau**	**5.87**	**75**	Pn	Pn	20 59 19.1	-1.8
S44A	**Carbondale**	**6.27**	**72**	IAmb_Lg		21 01 10.7	
	comp=Z,8.8nm,0.8s						
N41A	**Harden Midland**	**6.61**	**43**	Pn	Pn	20 59 29.4	-1.7
SAND	**Sanderson**	**7.51**	**218**	IAmb_Lg		21 02 02.4	
	comp=Z,6.0nm,0.9s						

*ISK **30** 21:05:36.5,38°.46N×39°.14E,h4km,ML3.8/25*
*AFAD **30** 21:05:37.2±0.0,38°.50N×39°.12E,h7km±3km,MW3.8*
*IDC **30** 21:05:38.1±1.3,38°.52N×39°.12E,h0km,mb3.6/4, mbtmp3.6/6,ML3.6/2,MS3.0/6,Error ellipse: s-maj=25.2km s-min=15.1km az=173.0*
ISC 30 21:05:37.6±1.1,38°.48N±0°.02×39°.16E±0°.02,h1km±9km, n62,σ0s79/72,mb3.7/4,Turkey

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

ELZG	**Elazig**	**0.14**	**277**	P	**Pg**	**21 05 40.9**	**+0.7**
KOVA	**Elazig, Kovanc**	**0.56**	**66**	P	**Pg**	**21 05 48.3**	**0.0**
MAYA	**Malatya/Merkez**	**0.59**	**255**	P	**Pg**	**21 05 48.7**	**-0.3**
MAYA				S	**Sg**	**21 05 55.9**	**-0.8**
MAYA				*i* AML	AML	21 05 57.0	
	comp=N,8μm,0.3s						
MAYA				*i* AML	AML	21 05 59.0	
	comp=E,1μm,0.3s						
NARI	**Adyaman-Kaht**	**0.67**	**208**	P	**Pg**	**21 05 50.6**	**+0.1**
TNCL	**Tunceli-Merkez**	**0.70**	**25**	P	**Pg**	**21 05 50.5**	**-0.5**
TNCL				S	**Sg**	**21 06 00.5**	**+0.4**
TNCL				*i* AML	AML	21 06 03.0	
	comp=E,3μm,0.5s						
ARPR	**Arapgir-MALATY**	**0.89**	**314**	Pg	**Pg**	**21 05 54.6**	**0.0**
ARPR				Sg	**Sb**	**21 06 07.5**	**-0.8**
HANM	**anlurfa/Hi**	**0.93**	**194**	P	**Pg**	**21 05 55.5**	**+0.2**
HANM				S	**Sg**	**21 06 07.7**	**+0.3**
HANM				*i* AML	AML	21 06 10.0	
	comp=N,5μm,0.3s						
DYBB	**Diyarbakir**	**0.94**	**124**	Pg	**Pg**	**21 05 55.4**	**-0.1**
DYBB				Sg	**Sg**	**21 06 08.8**	**+1.1**
KEMA	**Kemaliye**	**0.94**	**327**	P	**Pg**	**21 05 55.0**	**-0.6**
KEMA				S	**Sg**	**21 06 08.3**	**+0.5**
KEMA				*i* AML	AML	21 06 09.0	
	comp=N,4μm,0.3s						
KEMA				*i* AML	AML	21 06 09.0	
	comp=E,4μm,0.3s						
DIYA	**Diyarbakir**	**0.94**	**126**	P	**Pg**	**21 05 56.1**	**+0.5**
HANI	**Diyarbakir_Han**	**0.98**	**94**	P	**Pg**	**21 05 55.8**	**-0.5**
AZEY	**Adyaman-Merk**	**0.98**	**227**	P	**Pg**	**21 05 55.8**	**-0.5**
AKCD	**Akcadag**	**0.99**	**260**	P	**Pg**	**21 05 55.1**	**-1.4**
AKCD				S	**Sg**	**21 06 08.5**	**-0.7**
AKCD				*i* AML	AML	21 06 13.0	
	comp=N,6μm,0.7s						
ILIC	**ilic-Erzincan**	**1.07**	**335**	Pn	**Pg**	**21 05 57.5**	**-0.6**
ERZN	**Erzincan**	**1.19**	**22**	Pn	**Pb**	**21 05 59.9**	**-1.1**
ERZN				Sn	**Sn**	**21 06 17.2**	**-1.2**
ATAB	**Bozova**	**1.22**	**214**	P	**Pn**	**21 06 00.9**	**-1.0**
ATAB				S	**Sb**	**21 06 16.3**	**-1.4**
ATAB				*i* AML	AML	21 06 24.0	
	comp=N,2μm,0.6s						
BNGB	**Bingl**	**1.29**	**66**	Pn	**Pn**	**21 06 02.6**	**-0.4**
EUZM	**Uzumlu**	**1.29**	**19**	P	**Pn**	**21 06 01.8**	**-1.1**
SANL	**SANLIURFA_Merk**	**1.31**	**186**	P	**Pb**	**21 06 03.0**	**-0.1**
SANL				S	**Sb**	**21 06 19.0**	**-1.5**
SANL				*i* AML	AML	21 06 22.0	
	comp=E,3μm,0.4s						
SANL				*i* AML	AML	21 06 23.0	
	comp=N,2μm,0.6s						
DARE	**Darende-Malaty**	**1.31**	**274**	Pn	**Pn**	**21 06 01.1**	**-2.1**
DARE				Sn	**Sg**	**21 06 20.9**	**+1.1**
AKCA	**Adyaman/G¶l**	**1.34**	**240**	P	**Pn**	**21 06 02.8**	**-0.9**
AKCA				S	**Sg**	**21 06 21.9**	**+1.1**
AKCA				*i* AML	AML	21 06 27.0	
	comp=E,2μm,0.6s						
MAZI	**Mazidag**	**1.44**	**135**	Pn	**Pn**	**21 06 03.8**	**-1.2**
CUGUR	**Gurin_SVAS**	**1.50**	**280**	P	**Pg**	**21 06 06.8**	**+0.5**
SLHN	**Bingol, Solhan**	**1.54**	**71**	P	**Pb**	**21 06 06.6**	**-0.4**
CUKAN	**kangal_SIVAS**	**1.56**	**303**	P	**Pn**	**21 06 06.5**	**-0.2**
ELBS	**KAHRAMANMARAS**	**1.60**	**265**	P	**Pn**	**21 06 07.2**	**0.0**
ELBS				S	**Sg**	**21 06 29.2**	**+0.3**
ELBS				*i* AML	AML	21 06 36.0	
	comp=E,2μm,0.9s						
SVAN	**Silvan-Diyarba**	**1.64**	**101**	Pn	**Pn**	**21 06 06.7**	**-0.9**
SURC	**SANLIURFA_SURC**	**1.66**	**195**	P	**Pb**	**21 06 09.1**	**+0.2**
SURC				S	**Sn**	**21 06 29.1**	**-0.8**
SURC				*i* AML	AML	21 06 33.0	
	comp=N,1μm,0.3s						
KELT	**Kelkit**	**1.67**	**3**	P	**Pb**	**21 06 08.7**	**-0.6**
GZT	**Gaziantep**	**1.69**	**229**	P	**Pn**	**21 06 08.1**	**-0.3**
GZT				S	**Sn**	**21 06 30.1**	**-0.7**
GZT				*i* AML	AML	21 06 33.0	
	comp=E,2μm,0.4s						
KARO	**Karliova-Bingo**	**1.69**	**60**	Pn	**Pn**	**21 06 08.4**	**-0.1**
KHMN	**Narli-Kahraman**	**1.92**	**236**	Pn	**Pn**	**21 06 10.7**	**-0.8**
VRTB	**Varto-Mus**	**1.92**	**69**	Pn	**Pn**	**21 06 11.6**	**0.0**
GAZ	**Gaziantep**	**2.02**	**230**	Pn	**Pn**	**21 06 11.8**	**-1.1**
KMRS	**Kahramanmaras**	**2.03**	**242**	Pn	**Pn**	**21 06 11.6**	**-1.4**
BAYT	**Aydıntepe-Bayb**	**2.06**	**21**	Pn	**Pn**	**21 06 13.3**	**-0.2**
SARI	**SarD1z-Kayseri**	**2.15**	**269**	Pn	**Pn**	**21 06 14.2**	**-0.6**
SVSK	**Karacayir**	**2.21**	**311**	Pn	**Pn**	**21 06 15.4**	**0.0**
GURO	**Guroymak-BITLI**	**2.26**	**87**	Pn	**Pn**	**21 06 15.7**	**-0.5**
RSDY	**Resadiye-TOKAT**	**2.38**	**324**	Pn	**Pn**	**21 06 17.9**	**+0.1**
ESPY	**Espiye-Giresun**	**2.46**	**352**	Pn	**Pn**	**21 06 19.3**	**+0.5**
KTUT	**Trabzon**	**2.55**	**10**	Pn	**Pn**	**21 06 20.4**	**+0.3**
BNN	**Bunyan**	**2.62**	**279**	Pn	**Pn**	**21 06 20.8**	**-0.4**
TOKT	**Tokat**	**2.73**	**313**	Pn	**Pn**	**21 06 22.5**	**-0.2**
KOZT	**Kozan**	**2.81**	**250**	Pn	**Pn**	**21 06 22.8**	**-1.0**
CEYT	**Ceyhan**	**3.08**	**243**	Pn	**Pn**	**21 06 27.1**	**-0.2**
CMRD	**Camardi-Nigde**	**3.39**	**257**	Pn	**Pn**	**21 06 31.6**	**-0.2**
CORM	**Corum**	**3.90**	**297**	Pn	**Pn**	**21 06 39.3**	**+0.5**
BRTR	**Keskin Array B**	**4.47**	**288**	Pn	**Pn**	**21 06 47.4**	**+0.8**
	1.4nm,0.3s,baz=116,slow=12,SNR=30						
BRTR				Lg	Lg	21 08 01.8	
	0.2nm,0.3s,baz=115,slow=28,SNR=2.2						
BRTR				LR	LR	21 08 53.9	
	comp=Z,136nm,20.3s,baz=116,slow=44						
	2.4nm,0.3s						
BEIL	**Beino**	**4.60**	**212**	*e*P	**Pn**	**21 06 48.5**	**+0.1**
FKH	**Fakeheh**	**4.77**	**208**	*e*P	**Pn**	**21 06 50.4**	**-0.4**
HWQ	**Hawqa**	**4.93**	**213**	*e*P	**Pn**	**21 06 52.9**	**0.0**
KBZ	**Khabaz**	**5.96**	**27**	LR	LR	21 09 56.3	
	comp=Z,86nm,18.2s,baz=230,slow=44						
MMAI	**Mount Meron Ar**	**6.25**	**210**	Pn	**Pn**	**21 07 11.9**	**+0.8**
	3.4nm,0.3s,baz=32,slow=14,SNR=26						
MMAI				Lg	Lg	21 08 57.7	
	5.9nm,0.3s,baz=11,slow=32,SNR=4.7						
	1.4nm,0.3s						
ASF	**Jabal al Asfar**	**6.56**	**197**	LR	LR	21 10 05.8	
	comp=Z,58nm,21.8s,slow=41						
EIL	**Elat**	**9.45**	**203**	LR	LR	21 12 06.9	
	comp=Z,78nm,19.5s,baz=63,slow=41						
AKTO	**Aktyubinsk**	**17.94**	**42**	LR	LR	21 17 47.0	
	comp=Z,37nm,20.6s,baz=22,slow=41						
GERES	**GERESS Array B**	**21.03**	**308**	P	**P**	**21 10 24.1**	**+1.3**
	0.3nm,0.6s,baz=118,slow=13,SNR=2.1						
	0.3nm,0.6s						
KEST	**Kesra**	**23.89**	**273**	P	**P**	**21 10 54.2**	**+1.4**
	4.2nm,0.7s,baz=108,slow=3.2,SNR=5.2						
	4.2nm,0.7s						
KURBB	**Kurchatov Arra**	**30.21**	**53**	P	**P**	**21 11 50.5**	**+1.0**
	0.7nm,0.7s,baz=265,slow=8.7,SNR=7.1						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**32.46**	**61**	P	**P**	**21 12 09.9**	**+0.5**
	0.7nm,0.7s,baz=273,slow=7.3,SNR=6.0						
	0.7nm,0.7s						
SONM	**Songino Array**	**48.51**	**56**	LR	LR	21 37 15.7	
	comp=Z,78nm,18.6s,baz=222,slow=39						

*NEIC **30** 21:07:18.2±1.8,44°.96N±0°.03×106°.84W±0°.03,h5km±2km, ML2.8/42,Error ellipse: s-maj=5.8km s-min=3.9km az=195.0*
*IDC **30** 21:07:19.7±1.4,44°.80N×106°.58W,h0km,mbtmp3.3/2, ML2.1/1,Error ellipse: s-maj=61.3km s-min=10.0km az=138.0*
ISC 30 21:07:19.3±0.9,44°.93N±0°.05×106°.73W±0°.04,h10km,n28, σ0s90/30,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**1.80**	**11**	Pn	**Pn**	**21 07 50.2**	**-0.1**
LAO					**Sn**	**21 08 13.5**	**+0.2**
LAO				IAML		21 08 25.7	
	129nm,0.6s						
RLMT	**Red Lodge**	**1.81**	**277**		**Pn**	**21 07 50.9**	**+0.1**
RLMT				IAML		21 08 23.6	
	73nm,0.9s						
RLMT				IAML		21 08 27.2	
	62nm,0.9s						
RSSD	**Black Hills**	**2.08**	**112**		**Pb**	**21 07 57.9**	**+0.6**
RSSD				Sg	**Sg**	**21 08 25.0**	**-1.3**
RSSD				IAML		21 08 31.2	
	87nm,0.6s						
RSSD				IAML		21 08 34.8	
	95nm,0.6s						
K22A	**Casper**	**2.28**	**176**		**Pn**	**21 07 57.2**	**+0.1**
K22A				IAML		21 08 35.4	
	comp=N,98nm,0.7s						
K22A				IAML		21 08 43.5	
	comp=E,98nm,0.8s						
YMP	**Mirror Lake Pl**	**2.45**	**267**	Pn	**Pn**	**21 07 59.1**	**-0.4**
LKWY	**Lake**	**2.64**	**263**		**Pn**	**21 08 01.3**	**-0.9**
LKWY				IAML		21 08 16.5	

	comp=E,66nm,1.4s						
H17A	**Grant Village**	**2.80**	**260**	Pn	**Pn**	**21 08 04.2**	**-0.2**
H17A				IAML		21 09 01.7	
	comp=N,22nm,0.8s						
YNR	**Norris Junctio**	**2.82**	**267**		**Pn**	**21 08 04.0**	**-0.6**
YNR				IAML		21 08 51.0	
	comp=N,25nm,0.9s						
YNR				IAML		21 08 57.2	
	comp=E,23nm,0.9s						
YHH	**Holmes Hill**	**2.94**	**269**		**Pb**	**21 08 11.9**	**+0.1**
FLWY	**Flagg Ranch**	**2.97**	**255**		**Pn**	**21 08 06.9**	**+0.3**
FLWY				IAML		21 09 05.3	
	comp=E,25nm,1.3s						
FLWY				IAML		21 09 19.4	
	comp=E,40nm,1.8s						
YFT	**Old Faithful**	**2.97**	**262**	Pn	**Pn**	**21 08 05.9**	**-0.7**
PD31	**Pinedale Array**	**2.98**	**224**		**Pb**	**21 08 12.8**	**+0.2**
PDAR	**Pinedale Array**	**2.98**	**224**	Pg	**Pb**	**21 08 14.2**	**+1.6**
PDAR	**Pinedale Array**	**2.98**	**224**	Pn	**Pb**	**21 08 12.3**	**-0.2**
	comp=E,3.8nm,0.3s,baz=52,slow=16,SNR=36						
PDAR				Lg	Lg	21 08 50.0	
	comp=E,0.7nm,0.3s,baz=50,slow=30,SNR=5.0						
LOHW	**Long Hollow**	**3.08**	**246**		**Pn**	**21 08 08.5**	**+0.3**
LOHW				IAML		21 09 12.0	
	comp=E,18nm,1.0s						
MOOW	**Moose Ponds**	**3.12**	**249**	Pn	**Pn**	**21 08 08.2**	**-0.4**
YHL	**Hebgen Lake**	**3.17**	**270**		**Pn**	**21 08 10.3**	**+0.8**
YHL				IAML		21 09 09.0	
	comp=E,31nm,0.9s						
YHL				IAML		21 09 09.1	
	comp=N,38nm,0.9s						
IMW	**Indian Meadow**	**3.19**	**253**		**Pn**	**21 08 11.4**	**+1.7**
IMW				Pg	**Pg**	**21 08 19.7**	**-0.6**
IMW				IAML		21 09 11.3	
	comp=N,25nm,0.8s						
IMW				IAML		21 09 15.8	
	comp=N,30nm,0.6s						
SNOW	**Snow King Moun**	**3.25**	**245**	Pn	**Pn**	**21 08 09.2**	**-1.2**
SNOW				IAML		21 09 20.7	
	comp=N,20nm,1.0s						
SNOW				IAML		21 09 25.3	
	comp=N,27nm,1.6s						
FXWY	**Fox Creek**	**3.35**	**249**		**Pn**	**21 08 14.1**	**+2.3**
REDW	**Red Top Meadow**	**3.36**	**244**		**Pn**	**21 08 12.9**	**+0.9**
BOZ	**Bozeman (W)**	**3.53**	**283**		**Pb**	**21 08 22.9**	**+1.0**
EGMT	**Eagleton**	**3.74**	**327**	Pn	**Pn**	**21 08 17.4**	**+0.4**
AHID	**Auburn Hatcher**	**3.83**	**237**		**Pn**	**21 08 18.3**	**-0.2**
AHID				IAML		21 09 39.1	
	comp=N,23nm,0.8s						
AHID				IAML		21 09 43.9	
	comp=N,13nm,1.0s						
DGMT	**Dagmar**	**3.95**	**25**	Pn	**Pn**	**21 08 20.8**	**+0.8**
N23A	**Red Feather La**	**4.07**	**172**		**Pn**	**21 08 22.6**	**+0.8**
I10CA	**LAC DU BONNET**	**8.95**	**50**	I	I	21 59 40.0	
	baz=233,slow=328,SNR=1.7						
ULM	**Lac du Bonnet**	**9.06**	**50**	Pn	**Pn**	**21 09 29.3**	**-0.6**
	comp=N,0.3nm,0.3s,baz=240,slow=14,SNR=2.5						
ULM				Lg	Lg	21 11 56.8	
	comp=N,0.1nm,0.3s,baz=128,slow=19,SNR=2.5						
	comp=N,0.7nm,0.3s						

*IDC **30** 21:32:08.0±4.2,42°.24N×143°.22E,h72km±20km,mb3.5/6, mbtmp3.7/7,Error ellipse: s-maj=69.0km s-min=21.3km az=96.0*
*JMA **30** 21:32:08.4±0.1,42°.4N±0°.4×143°.1E±0°.5,h50km±1km, MV3.4/40,HIDAKA MOUNTAINS REGION*
JMA Felt I J1 at HIDAKA MOUNTAINS REGION .
ISC 30 21:32:07.6±0.9,42°.30N±0°.05×143°.15E±0°.04,h57km±6km, n27,σ1s16/33,mb3.8/6,6D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTHR	**Tokachihiroo**	**0.11**	**97**	*i* P	**Pn**	**21 32 16.4**	**+0.2**
JTHR				*e*S	**Sn**	**21 32 22.4**	**0.0**
JEM	**Erimo**	**0.29**	**178**	P	**Pn**	**21 32 18.1**	**+0.8**
JEM				*e*S	**Sn**	**21 32 25.7**	**+1.5**
JNBK	**Urakawa-nobuka**	**0.29**	**265**	⇓P	**Pn**	**21 32 17.1**	**-0.1**
JNBK				⇓S	**Sn**	**21 32 24.3**	**0.0**
JCH	**Churui**	**0.35**	**27**	P	**Pn**	**21 32 17.6**	**-0.2**
JCH				S	**Sn**	**21 32 25.0**	**-0.1**
JSHD	**Hidakashinhida**	**0.52**	**282**	⇓P	**Pn**	**21 32 19.6**	**+0.2**
JSHD				⇓*e*S	**Sn**	**21 32 29.0**	**+1.0**
JBT2	**Biratori 2**	**0.75**	**310**	⇓P	**Pn**	**21 32 22.3**	**+0.1**
JBT2				⇓*e*S	**Sn**	**21 32 34.4**	**+1.4**
JOB	**Onbets**	**0.79**	**40**	P	**Pn**	**21 32 23.7**	**+1.0**
JOB				*e*S	**Sn**	**21 32 35.7**	**+2.0**
JFR	**Furan**	**0.95**	**335**	P	**Pn**	**21 32 23.8**	**-1.1**
JFR				*e*S	**Sn**	**21 32 36.0**	**-1.7**
JIAM	**Iburiatsuma**	**0.96**	**290**	*e*P	**Pn**	**21 32 25.6**	**+0.6**
JAR	**Ashorobuto**	**1.09**	**25**	P	**Pn**	**21 32 26.8**	**0.0**
JAR				S	**Sn**	**21 32 40.8**	**-0.1**
JAK	**Akkeshi**	**1.34**	**58**	P	**Pn**	**21 32 30.2**	**+0.3**
JAK				*e*S	**Sn**	**21 32

0.2nm,0.4s
TORD Torodi Ar. Bea 147.99 288 PKPbc PKPbc 22 00 40.1 -0.5
0.3nm,0.4s,baz=72,slow=3.7,SNR=2.8

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*TEH **30** 21:42:54.9, 33°.83N×45°.69E, h9km±24km, ML3.1*
*ISN **30** 21:42:54.0±0.4, 33°.77N×45°.56E, h22km±2km, ML2.9*
ISC 30 21:42:53.7±0.9, 33°.78N±0°.04×45°.54E±0°.04, h10km, n16, σ1§54/20, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.58**	**105**	Pg	**Pg**	**21 43 04.4**	**-0.5**
ILBA				Sg	**Sb**	**21 43 11.9**	**-2.4**
KGS1	**Ghasr-e-Shirin**	**0.73**	**3**	Pg	**Pg**	**21 43 08.0**	**+0.3**
IBDR	**Badra**	**0.74**	**154**	*e*Pg	**Pg**	**21 43 08.0**	**0.0**
IBDR				*e*Sg	**Sg**	**21 43 18.0**	**+0.4**
IBDR				AML	AML	21 43 24.8	
	comp=E,400nm,0.4s						
IBDR				AML	AML	21 43 24.9	
	comp=N,240nm,0.4s						
IGHG	**Ghaleghazi**	**1.02**	**57**	Pg	**Pb**	**21 43 12.4**	**-1.2**
BHD	**Baghdad**	**1.09**	**243**	*e*Pg	**Pn**	**21 43 14.0**	**-1.0**
BHD				*e*Sg	**Sb**	**21 43 29.0**	**+0.1**
BHD				AML	AML	21 43 40.8	
	comp=E,364nm,0.8s						
IDHR	**Dehrash**	**1.16**	**37**	Pg	**Pg**	**21 43 14.6**	**-1.3**
KCHF	**Cheshme Sefid,**	**1.34**	**68**	Pg	**Pg**	**21 43 18.5**	**-1.0**
ILIN	**Lien**	**1.64**	**46**	Pg	**Pg**	**21 43 24.2**	**-1.0**
IKFM	**Kafar-mosalman**	**1.94**	**97**	Pn	**Pb**	**21 43 28.8**	**-0.3**
RAFI	**Al-Rafai**	**2.10**	**167**	*e*Pn	**Pn**	**21 43 30.0**	**+1.1**
RAFI				*e*Sn	**Sn**	**21 43 56.0**	**+0.9**
RAFI				AML	AML	21 44 04.6	
	comp=E,159nm,0.3s						
RAFI				AML	AML	21 44 08.6	
	comp=N,91nm,0.3s						
IDOB	**Doab**	**2.20**	**89**	Pn	**Pb**	**21 43 32.0**	**-1.7**
SDS1	**Sardasht. Az.**	**2.37**	**359**	Pn	**Pb**	**21 43 35.7**	**-0.8**
HSAM	**Samen**	**2.58**	**79**	Pn	**Pn**	**21 43 36.7**	**+1.0**
MAHB	**Mahabad**	**2.99**	**3**	Pn	**Pn**	**21 43 43.9**	**+2.7**
IKLH	**Kolahrood**	**5.07**	**94**	Pn	**Pn**	**21 44 12.3**	**+2.4**
IRAM	**Ramesheh**	**6.09**	**107**	Pn	**Pn**	**21 44 26.9**	**+2.9**

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*BER **30** 22:01:54.8±2.1, 81°.93N×4°.77W, h10km, mb(Pn)2.9, ML1.2(DNK), Confirmed Earthquake*
*DNK **30** 22:01:55.6±2.7, 81°.92N×4°.28W, h38km±24km, ML1.2*
*FCIAR **30** 22:01:57.0, 81°.80N×3°.87W, h10km, station ZFI2 has station magnitude of 3.40*
ISC 30 22:01:50.7±0.9, 81°.86N±0°.07×4°.27W±0°.05, h10km, n20, σ2§84/36, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NOR	**Nord**	**1.81**	**268**	*i* P	**Pb**	**22 02 24.4**	**+0.5**
NOR				*e*S	**Sn**	**22 02 43.9**	**-0.9**
NOR				IAML		22 02 47.2	
	comp=Z,4.8nm,0.4s						
NOR	**Nord**	**1.81**	**268**	*i* P	**Pb**	**22 02 24.4**	**+0.5**
NOR				*e*S	**Sn**	**22 02 43.9**	**-0.9**
NOR				IAML		22 02 47.2	
	comp=Z,4.8nm,0.4s						
KBS	**Kingsbay**	**3.99**	**129**	*e*P	**Pn**	**22 02 55.1**	**+3.4**
KBS				*e*S	**Sn**	**22 03 36.8**	**-1.6**
KBS				IAML		22 03 37.5	
	comp=Z,3.0nm,0.8s						
KBS	**Kingsbay**	**3.99**	**129**	*i* P	**Pn**	**22 02 55.1**	**+3.4**
KBS				*e*S	**Sn**	**22 03 35.5**	**-2.9**
KBS	**Kingsbay**	**3.99**	**129**	*e*P	**Pn**	**22 02 54.8**	**+3.1**
KBS				*e*S	**Sn**	**22 03 37.0**	**-1.4**
BRBB	**Barentsburg B**	**4.94**	**130**	*e*P	**Pn**	**22 03 09.1**	**+4.4**
BRBA	**Barentsburg A**	**4.97**	**130**	*e*P	**Pn**	**22 03 09.8**	**+4.7**
SPA0	**Spitsbergen Ar**	**5.11**	**125**	*e*P	**Pn**	**22 03 10.6**	**+3.5**
SPA0				*e*S	**Sn**	**22 04 05.7**	**-0.4**
SPA0				IAML		22 04 19.1	
	comp=Z,3.0nm,0.8s						
SPA0	**Spitsbergen Ar**	**5.11**	**125**	*e*P	**Pn**	**22 03 10.5**	**+3.3**
SPA0				*e*S	**Sn**	**22 04 05.4**	**-0.6**
DAG	**Danmarks Havn**	**5.74**	**215**	*e*	**Pn**	**22 03 15.7**	**-0.1**
	baz=23,slow=7.9						
DAG				*i* P	**Pn**	**22 03 17.6**	**+1.8**
DAG				*i* S	**Sn**	**22 04 19.6**	**-2.0**
DAG				IAML		22 04 27.7	
	comp=Z,0.8nm,0.3s						
DAG	**Danmarks Havn**	**5.74**	**215**	*e*	**Pn**	**22 03 15.7**	**-0.1**
	baz=23,slow=7.9						
DAG				*i* P	**Pn**	**22 03 17.6**	**+1.8**
DAG				*i* S	**Sn**	**22 04 19.6**	**-2.0**
DAG				IAML		22 04 27.7	
	comp=Z,0.8nm,0.3s						
HSPB	**Hornsund (broa**	**6.03**	**133**	*e*P	**Pn**	**22 03 22.8**	**+3.0**
HOPEN	**Hopen**	**7.55**	**119**	*e*P	**Pn**	**22 03 44.0**	**+3.3**
HOPEN				*e*S	**Sn**	**22 05 04.6**	**-1.5**
HOPEN				IAML		22 05 09.3	
	comp=Z,2.9nm,0.9s						
HOPEN	**Hopen**	**7.55**	**119**	*e*P	**Pn**	**22 03 43.7**	**+3.1**
HOPEN				S	**Sn**	**22 05 02.0**	**-4.1**
ZFI2	**Zemlya Franca-**	**7.67**	**71**	P	**Pn**	**22 03 44.5**	**+2.3**
ZFI2				*e*S	**Sn**	**22 05 04.1**	**-4.9**
	comp=Z,10nm,2.6s						
OMEGA	**Omega**	**7.70**	**72**	*e*P	**Pn**	**22 03 44.8**	**+2.2**
OMEGA				S	**Sn**	**22 05 04.5**	**-5.1**
DBG	**Daneborg**	**8.22**	**212**	*e*P	**Pn**	**22 03 50.5**	**+0.8**
DBG				*e*S	**Sn**	**22 05 17.0**	**-5.4**
DBG				*e*		22 05 17.9	
DBG				IAML		22 05 24.2	
	comp=Z,0.4nm,0.3s						
DBG	**Daneborg**	**8.22**	**212**	*e*P	**Pn**	**22 03 50.5**	**+0.8**
DBG				*e*		22 05 17.9	
DBG				IAML		22 05 24.2	
	comp=Z,0.4nm,0.3s						
NEEM	**North Greenlan**	**9.19**	**267**	*e*P	**Pn**	**22 04 04.0**	**+0.7**
NEEM				*e*S	Sn	22 05 35.3	-11
NEEM				IAML		22 05 39.0	
	comp=Z,0.8nm,0.4s						
NEEM	**North Greenlan**	**9.19**	**267**	*e*P	**Pn**	**22 04 04.0**	**+0.7**
NEEM				*e*S	Sn	22 05 35.3	-11
NEEM				IAML		22 05 39.0	
	comp=Z,0.8nm,0.4s						

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*IDC **30** 22:17:10.8±2.2, 26°.93S×138°.78E, h0km, mbtmp3.6/3, ML3.8/3, Error ellipse: s-maj=48.3km s-min=13.9km az=55.0*
*NOU **30** 22:17:12.2, 27°.02S×138°.60E, h0km, MLv4.1/10, South Australia*
*AUST **30** 22:17:12.7±0.8, 27°.02S×138°.60E, h10km, Error ellipse: s-maj=10.1km s-min=8.0km az=9.0*
ISC 30 22:17:11.6±0.8, 27°.03S±0°.05×138°.69E±0°.04, h10km, n29, σ1§95/43, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INKA	**Innaminka**	**1.96**	**112**	P	**Pb**	**22 17 47.5**	**+0.1**
	baz=2.1,SNR=39						
INKA				S	**Sg**	**22 18 14.6**	**-0.1**
	baz=2.1,SNR=6.9						
INKA	**Innaminka**	**1.96**	**112**	P	**Pb**	**22 17 48.3**	**+0.9**
OOD	**Oodnadatta**	**2.78**	**253**	P	**Pn**	**22 17 56.8**	**+0.7**
	baz=2.7,SNR=7.6						
OOD				S	**Sn**	**22 18 30.1**	**+0.4**
	baz=2.7						
OOD	**Oodnadatta**	**2.78**	**253**	P	**Pn**	**22 17 57.8**	**+1.7**
LCRK	**Leigh Creek**	**3.44**	**187**	P	**Pn**	**22 18 06.8**	**+1.6**
	baz=3.4,SNR=16						
LCRK				S	**Sn**	**22 18 48.4**	**+2.5**
	baz=3.4						
LCRK	**Leigh Creek**	**3.44**	**187**	P	**Pn**	**22 18 06.8**	**+1.6**
QLP	**Quilpie**	**4.97**	**86**	P	**Pn**	**22 18 28.7**	**+2.3**
	baz=5.1,SNR=7.0						
QLP				S	**Sn**	**22 19 23.8**	**-0.2**
	baz=5.1						
QLP	**Quilpie**	**4.97**	**86**	P	**Pn**	**22 18 28.9**	**+2.6**
MULG	**Mulgathing**	**5.21**	**230**	P	**Pn**	**22 18 29.9**	**+0.4**
	baz=5.1,SNR=8.5						
MULG				S	**Sn**	**22 19 26.5**	**-3.1**
	baz=5.1						
MULG	**Mulgathing**	**5.21**	**230**	P	**Pn**	**22 18 30.1**	**+0.6**
AS01	**Alice Springs**	**5.44**	**307**	P	**Pn**	**22 18 33.2**	**+0.4**
STKA	**Stephens Creek**	**5.46**	**153**	P	**Pn**	**22 18 34.9**	**+2.0**
	baz=5.5,SNR=22						
STKA				S	**Sn**	**22 19 35.3**	**-0.6**
	baz=5.5						
STKA	**Stephens Creek**	**5.46**	**153**	P	**Pn**	**22 18 35.0**	**+2.0**
STKA	**Stephens Creek**	**5.46**	**153**	Pn	**Pn**	**22 18 34.4**	**+1.4**
	2.2nm,0.3s,baz=324,slow=13,SNR=27						
STKA				Pg	Pb	22 18 52.7	+5.7
	1.5nm,0.3s,baz=326,slow=16,SNR=6.8						
STKA				Sn	**Sn**	**22 19 37.7**	**+1.9**
	3.0nm,0.3s,baz=40,slow=18,SNR=5.0						
STKA				Lg	Lg	22 20 04.3	
	3.2nm,0.3s,baz=62,slow=23,SNR=4.6						
	5.3nm,0.3s						
ASAR	**Alice Springs**	**5.47**	**307**	Pn	**Pn**	**22 18 33.8**	**+0.6**
	0.9nm,0.3s,baz=132,slow=14,SNR=24						
ASAR				Pg	**Pb**	**22 18 51.5**	**+4.2**
	1.2nm,0.3s,baz=134,slow=14,SNR=16						
ASAR				Sn	**Sn**	**22 19 32.4**	**-3.9**
	1.8nm,0.3s,baz=138,slow=23,SNR=5.5						
ASAR				Lg	Lg	22 20 04.3	
	2.1nm,0.3s,baz=125,slow=27,SNR=5.1						
	1.8nm,0.3s						
ASPA	**Alice Springs**	**5.47**	**307**	P	**Pn**	**22 18 33.6**	**+0.4**
	baz=5.4						
ASPA				S	**Sn**	**22 19 34.0**	**-2.3**
	baz=5.4						
BBOO	**Buckleboo**	**6.20**	**201**	P	**Pn**	**22 18 43.2**	**0.0**
	baz=6.2,SNR=19						
BBOO				S	**Sn**	**22 19 50.8**	**-3.4**
	baz=6.2						
BBOO	**Buckleboo**	**6.20**	**201**	P	**Pn**	**22 18 43.8**	**+0.6**
HTT	**Hallett**	**6.39**	**178**	P	**Pn**	**22 18 47.2**	**+1.4**
	baz=6.4,SNR=5.4						
HTT				S	**Sn**	**22 19 56.5**	**-2.4**
	baz=6.4						
HTT	**Hallett**	**6.39**	**178**	P	**Pn**	**22 18 47.6**	**+1.8**
QIS	**Mount Isa**	**6.49**	**8**	P	**Pn**	**22 18 48.6**	**+1.4**
	baz=6.5,SNR=10						
QIS				S	**Sn**	**22 19 59.7**	**-1.7**
	baz=6.5						
QIS	**Mount Isa**	**6.49**	**8**	P	**Pn**	**22 18 48.8**	**+1.5**
CMSA	**Cobar Meteorol**	**7.59**	**128**	P	**Pn**	**22 19 02.8**	**+0.6**
	baz=7.7						
WC3	**Warramunga Arr**	**8.07**	**330**	P	**Pn**	**22 19 08.7**	**-0.3**
	baz=8.1						
WB2	**Warramunga Arr**	**8.10**	**330**	P	**Pn**	**22 19 08.8**	**-0.5**
	baz=8.1						
WRA	**Warramunga Arr**	**8.10**	**330**	Pn	**Pn**	**22 19 08.8**	**-0.6**
	1.3nm,0.3s,baz=146,slow=12,SNR=38						
WRA				Sn	**Sn**	**22 20 35.7**	**-5.3**
	1.3nm,0.3s,baz=143,slow=25,SNR=6.2						
WRA				Lg	Lg	22 21 26.4	
	0.7nm,0.3s,baz=151,slow=29,SNR=5.6						
	1.0nm,0.3s						
WRKA	**Warakurna**	**9.56**	**280**	P	**Pn**	**22 19 28.8**	**-0.5**
	baz=9.5,SNR=9.6						
FORT	**Forrest**	**10.04**	**246**	P	**Pn**	**22 19 34.5**	**-1.4**
	baz=10.0						
ARPS	**Mount Arapiles**	**10.08**	**165**	P	**Pn**	**22 19 36.7**	**+0.3**
	baz=10						

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*NDI **30** 22:33:20.0±3.3, 21°.81N×92°.98E, h7km±57km, ML3.7, MW3.9, mb4.1(NEIC)*
*IDC **30** 22:33:21.5±0.8, 22°.15N×92°.99E, h0km, mb3.9/15, mbtmp3.8/16, ML4.2/1, Error ellipse: s-maj=25.6km s-min=10.9km az=34.0*
*NEIC **30** 22:33:27.4±1.2, 22°.16N±0°.08×92°.80E±0°.04, h32km±5km, mb4.1/17, Error ellipse: s-maj=11.0km s-min=4.9km az=185.0*
ISC 30 22:33:27.1±0.7, 22°.08N±0°.08×92°.80E±0°.06, h42km, n42, σ1§29/46, mb4.1/22, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRDH	**Bariadhala**	**1.23**	**299**	Pg	**Pn**	**22 33 47.2**	**-0.6**
	197nm,0.3s,baz=90,slow=13,SNR=24						
BRDH				Lg	Lg	22 34 06.1	
	554nm,0.3s,baz=270,slow=23,SNR=52						
BELO	**BELONIA**	**1.71**	**313**	*e*P	**Pn**	**22 33 55.2**	**+0.7**
BELO				*e*S	**Sn**	**22 34 20.0**	**+4.9**
AGT	**Agartala**	**2.30**	**322**	*e*P	**Pn**	**22 34 05.1**	**+2.5**
MND	**Mandalay**	**3.08**	**91**		**Pn**	**22 34 12.5**	**-0.7**
MND					**Sn**	**22 34 49.0**	**+0.2**
SHL	**Shillong**	**3.58**	**347**	*e*P	**Pn**	**22 34 19.7**	**-0.6**
SHL				*i* x	x	22 34 28.9	
ZIRO	**ZIRO**	**5.51**	**10**	*e*P	**Pn**	**22 34 46.4**	**-0.5**
ZIRO				*e*S	**Sn**	**22 35 47.4**	**-1.6**
ZIRO				IAML		22 35 53.6	
	comp=E,219nm,0.2s						
ZIRO				IAML		22 35 56.1	
	comp=E,312nm,0.4s						
GTK	**Tadong**	**6.47**	**325**	*e*P	**Pn**	**22 34 59.0**	**-0.9**
GTK				IAML		22 36 24.3	
	comp=E,34nm,0.5s						
GTK				IAML		22 36 32.5	
	comp=E,42nm,0.3s						
BOK	**Bokaro**	**6.60**	**286**	*e*P	**Pn**	**22 35 00.1**	**-1.5**
BOK				*e*S	**Sn**	**22 36 14.1**	**-1.6**
CMAR	**Chiang Mai Arr**	**6.80**	**121**	Pn	**Pn**	**22 35 03.0**	**-1.4**
	comp=E,1.3nm,0.3s,baz=292,slow=14,SNR=17						
CMAR				Lg	Lg	22 36 53.5	
	baz=250,slow=29						
	comp=E,1.8nm,0.3s						
LSA	**Lhasa**	**7.74**	**349**		**Pn**	**22 35 16.8**	**-0.8**
SMLA	**Simla**	**16.62**	**306**	*e*P	**Pn**	**22 37 12.9**	**-4.2**
NIL	**Nilore**	**20.74**	**308**	P	**P**	**22 38 04.0**	**-0.3**
NIL				IAmb	IAmb	22 38 08.3	
	comp=E,8.8nm,0.7s						
TARG	**Taragay, Kyrgy**	**23.30**	**331**	P	**P**	**22 38 32.0**	**+0.3**
TARG				IAmb	IAmb	22 38 34.3	
	comp=Z,11nm,1.5s						
KBL	**Kabul**	**24.26**	**306**	P	**P**	**22 38 40.6**	**0.0**
KBL				IAmb	IAmb	22 38 42.8	
	comp=Z,3.8nm,0.5s						
DRK	**Karamyk**	**24.93**	**319**	P	**P**	**22 38 45.9**	**-0.8**
AAK	**Ala-Archa**	**25.58**	**328**	P	**P**	**22 38 53.1**	**+0.7**
AAK				IAmb	IAmb	22 38 55.1	
	comp=Z,7.9nm,1.4s						
BTK	**Batken**	**25.88**	**319**	P	**P**	**22 38 56.1**	**+1.0**
BTK				IAmb	IAmb	22 38 58.3	
	comp=Z,4.3nm,0.8s						
MK31	**Makanchi Array**	**26.09**	**343**	P	**P**	**22 38 56.6**	**-0.2**
MK31				IAmb	IAmb	22 38 58.1	
	comp=Z,4.0nm,0.8s						
MKAR	**Makanchi Array**	**26.09**	**343**	P	**P**	**22 38 56.8**	**-0.1**
MKAR	**Makanchi Array**	**26.09**	**343**	P	**P**	**22 38 57.3**	**+0.4**
	comp=Z,5.4nm,0.7s,baz=154,slow=9.6,SNR=57						
	comp=Z,5.4nm,0.7s						
MAKZ	**Makanchi**	**26.19**	**343**	P	**P**	**22 38 57.5**	**-0.2**
SIMJ	**Simiganj**	**26.24**	**314**	P	**P**	**22 38 57.8**	**-0.6**
KSM	**Kuching**	**26.64**	**138**	P	**P**	**22 39 03.9**	**+1.8**
BJT	**Baijiatuan**	**26.72**	**43**	P	**P**	**22 39 03.1**	**+0.5**
BJT				IAmb	IAmb	22 39 04.9	
	comp=Z,4.3nm,0.8s						
SONM	**Songino Array**	**27.93**	**20**	P	**P**	**22 39 12.4**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=184,slow=9.6,SNR=1.9						
	comp=Z,0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**30.61**	**342**	P	**P**	**22 39 37.1**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=157,slow=8.6,SNR=8.7						
	comp=Z,1.1nm,0.5s						
KURK	**Kurchatov**	**30.67**	**342**	P	**P**	**22 39 37.7**	**+0.2**
ZAA0	**Zalesovo Array**	**32.40**	**351**	P	**P**	**22 39 53.0**	**+0.3**
ZAA0				IAmb	IAmb	22 39 53.8	
	comp=Z,2.2nm,0.8s						
ZALV	**Zalesovo Beam**	**32.40**	**351**	P	**P**	**22 39 52.7**	**0.0**
ZALV	**Zalesovo Beam**	**32.40**	**351**	P	**P**	**22 39 53.0**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=162,slow=9.5,SNR=9.4						
	comp=Z,1.8nm,0.6s						
GEYT	**Alibeck**	**33.71**	**306**	P	**P**	**22 40 05.9**	**+1.5**
	comp=Z,1.2nm,0.7s,baz=101,slow=7.5,SNR=2.3						
	comp=Z,1.2nm,0.7s						
BVAR	**Borovoye Array**	**35.34**	**337**	P	**P**	**22 40 18.7**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=135,slow=9.0,SNR=2.5						
	comp=Z,0.5nm,0.5s						
ABKAR	**Akbulak array**	**37.55**	**324**	P	**P**	**22 40 37.0**	**-0.2**
AKASG	**Malin Array Be**	**56.57**	**317**	P	**P**	**22 43 05.0**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=76,slow=1.5,SNR=1.9						
	comp=Z,0.4nm,0.4s						
WRA	**Warramunga Arr**	**58.23**	**133**	P	**P**	**22 43 17.6**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=318,slow=7.5,SNR=13						
	comp=Z,1.4nm,0.8s						
ASAR	**Alice Springs**	**60.55**	**136**	P	**P**	**22 43 33.6**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=315,slow=6.8,SNR=14						
	comp=Z,1.4nm,0.7s						
ARCES	**ARCESS Array B**	**61.59**	**338**	P	**P**	**22 43 40.6**	**+0.6**
	comp=Z,2.6nm,0.9s,baz=108,slow=7.7,SNR=1.6						
	comp=Z,2.6nm,0.9s						
HFS	**Hagfors**	**65.72**	**327**	P	**P**	**22 44 07.0**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=116,slow=6.6,SNR=4.8						
	comp=Z,1.3nm,0.6s						
GERES	**GERESS Array B**	**66.65**	**315**	P	**P**	**22 44 14.0**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=90,slow=6.9,SNR=3.3						
	comp=Z,0.8nm,0.8s						
NOA	**NORSAR Array B**	**66.89**	**328**	P	**P**	**22 44 14.1**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=83,slow=4.6,SNR=2.3						
	comp=Z,0.3nm,0.6s						
ILAR	**Eielson Array**	**82.13**	**22**	P	**P**	**22 45 43.3**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=302,slow=8.6,SNR=1.8						
	comp=Z,0.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**86.16**	**283**	P	**P**	**22 46 04.9**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=65,slow=3.7,SNR=3.9						
	comp=Z,0.6nm,0.9s						

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*IDC **30** 22:43:38.0±1.0, 6°.23S×143°.04E, h0km, mb3.7/7, mbtmp3.8/9, ML1.9/1, MS3.3/4, Error ellipse: s-maj=36.3km s-min=20.9km az=67.0*
ISC 30 22:43:43.1±0.8, 6°.45S±0°.1×142°.9E±0°.1, h35km, n13, σ1§28/11, mb3.7/7, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.17**	**126**	Pn	**Pn**	**22 44 58.0**	**0.0**
	2.8nm,0.3s,baz=315,slow=20,SNR=2.3						
PMG				Sn	**Sn**	**22 45 56.5**	**0.0**
	3.8nm,0.3s,baz=283,slow=19,SNR=2.4						
	6.3nm,0.3s						
WRA	**Warramunga Arr**	**15.83**	**211**	Pn	**Pn**	**22 47 20.9**	**-2.6**
	0.3nm,0.3s,baz=30,slow=13,SNR=8.5						
WRA				Sn	Sn	22 50 07.6	-10
	0.2nm,0.3s,baz=34,slow=23,SNR=6.0						
WRA				Lg	Lg	22 51 58.0	
	0.1nm,0.3s,baz=25,slow=34,SNR=2.8						
ASAR	**Alice Springs**	**19.23**	**206**	P	**P**	**22 48 05.6**	**+1.1**
	5.6nm,0.7s,baz=34,slow=9.3,SNR=65						
ASAR				S	S	22 51 30.3	-10
	0.3nm,0.5s,baz=23,slow=24,SNR=5.6						
ASAR				Lg	Lg	22 53 50.1	
	baz=19,slow=31,SNR=2.0						
ASAR				LR	LR	22 56 06.2	
	comp=Z,146nm,19.0s,baz=54,slow=38						
BATI	**Baumata**	**19.41**	**257**	LR	LR	22 57 25.0	
	comp=Z,109nm,18.2s,baz=149,slow=42						
GUMO	**Guam**	**19.95**	**6**	LR	LR	22 56 20.2	
	comp=Z,26nm,19.0s,baz=154,slow=39						
STKA	**Stephens Creek**	**25.38**	**183**	P	**P**	**22 49 08.9**	**+1.7**
	1.4nm,0.7s,baz=353,slow=12,SNR=3.3						
	1.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**49.89**	**301**	P	**P**	**22 52 34.6**	**+0.9**
	0.4nm,0.3s,baz=105,slow=6.6,SNR=1.9						
	0.4nm,0.3s						
SONM	**Songino Array**	**62.84**	**333**	P	**P**	**22 54 05.4**	**-0.2**
	0.4nm,0.7s,baz=157,slow=8.0,SNR=2.9						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**75.25**	**322**	P	**P**	**22 55 22.6**	**+0.1**
	0.3nm,0.7s,baz=108,slow=6.9,SNR=3.8						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**79.13**	**324**	P	**P**	**22 55 44.2**	**0.0**
	0.2nm,0.5s,baz=100,slow=5.6,SNR=2.7						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**84.71**	**325**	P	**P**	**22 56 13.4**	**-0.1**
	1.8nm,0.7s,baz=123,slow=7.4,SNR=11						
	1.8nm,0.7s						
ILAR	**Eielson Array**	**87.47**	**24**	P	**P**	**22 56 25.9**	**-1.0**
	0.5nm,0.7s,baz=258,slow=5.8,SNR=6.3						
	0.5nm,0.7s						
AKTO	**Aktyubinsk**	**91.63**	**320**	LR	LR	23 40 53.5	
	comp=Z,17nm,18.3s,baz=58,slow=38						

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*IDC **30** 22:47:39.9±1.5, 28°.74N×142°.38E, h0km, mb3.6/7, mbtmp3.6/8, ML2.6/1, MS2.5/1, Error ellipse: s-maj=49.0km s-min=27.6km az=74.0*
ISC 30 22:47:41.5±1.3, 28°.8N±0°.2×142°.4E±0°.3, h10km, n9, σ0§32/8, mb3.6/7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**8.51**	**337**	Pn	**Pn**	**22 49 44.5**	**-0.3**
	0.1nm,0.3s,baz=164,slow=11,SNR=4.8						
	1.0nm,0.5s						
KSRS	**Korea Array**	**14.87**	**309**	LR	LR	22 56 40.5	
	comp=Z,22nm,21.1s,baz=50,slow=36						
SONM	**Songino Array**	**33.64**	**314**	P	**P**	**22 54 22.7**	**+0.3**
	0.7nm,1.0s,baz=111,slow=10,SNR=2.9						
	0.7nm,1.0s						
WRA	**Warramunga Arr**	**49.03**	**190**	P	**P**	**22 56 28.5**	**-0.2**
	2.0nm,0.8s,baz=11,slow=8.4,SNR=5.3						
	2.0nm,0.8s						
MKAR	**Makanchi Array**	**49.55**	**309**	P	**P**	**22 56 32.4**	**-0.2**
	0.5nm,0.8s,baz=75,slow=6.6,SNR=4.1						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**52.00**	**313**	P	**P**	**22 56 51.0**	**+0.1**
	0.7nm,0.6s,baz=90,slow=7.5,SNR=12						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**56.93**	**317**	P	**P**	**22 57 26.7**	**-0.1**
	0.7nm,0.5s,baz=90,slow=7.0,SNR=2.3						
	0.7nm,0.5s						
YKA	**Yellowknife Ar**	**70.62**	**29**	P	**P**	**22 58 56.8**	**0.0**
	0.2nm,0.6s,baz=291,slow=6.1,SNR=2.1						
	0.2nm,0.6s						
BRTR	**Keskin Array B**	**84.99**	**313**	P	**P**	**23 00 17.9**	**+0.5**
	0.3nm,0.7s,baz=64,slow=6.9,SNR=2.3						
	0.3nm,0.7s						

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*IDC **30** 22:52:24.7±28.0, 24°.73S×179°.24W, h258km±239km, mb3.3/3, mbtmp3.9/3, MS3.9/1, Error ellipse: s-maj=129.8km s-min=38.2km az=50.0*
**ISC 30 22:52:23.1±1.4, 24°.6S±0

CHGR	**Chuyangaron**	**0.61**	**257**			**Pg**		**22 59 02.8**	**-1.5**
CHGR					Sg	**Sg**		**22 59 12.0**	**-0.4**
CHGR	**Chuyangaron**	**0.61**	**257**		PG	**Pg**		**22 59 02.8**	**-1.5**
CHGR					SN	**Sg**		**22 59 11.0**	**-1.4**
SIMJ	**Simiganj**	**0.72**	**259**			**Pg**		**22 59 05.1**	**-1.4**
BTK	**Batken**	**1.44**	**29**		Pn	**Pb**		**22 59 19.3**	**+0.1**
BTK	**Batken**	**1.44**	**29**		PG	**Pb**		**22 59 19.3**	**+0.1**
DRK	**Karamyk**	**1.62**	**64**			**Pn**		**22 59 20.9**	**0.0**
ARSB	**Arslanbob**	**3.45**	**42**			**Pn**		**22 59 48.4**	**+2.4**
ARSB	**Arslanbob**	**3.45**	**42**		PN	**Pn**		**22 59 48.4**	**+2.4**
KBL	**Kabul**	**4.30**	**190**		Pn	**Pn**		**22 59 58.4**	**+0.6**
KBL	**Kabul**	**4.30**	**190**		PN	**Pn**		**22 59 58.4**	**+0.6**
KK31	**Karatay Array**	**4.33**	**6**		Pn	**Pn**		**23 00 01.1**	**+3.2**
KK31	**Karatay Array**	**4.33**	**6**		PN	**Pn**		**23 00 01.1**	**+3.2**
KK31	**Karatay Array**	**4.33**	**6**	⇑	Pn	**Pn**		**23 00 01.5**	**+3.6**
	34nm,0.7s,baz=203,slow=13,SNR=151								
KK31				⇑	Pg	**Pg**		**23 00 13.3**	**-2.0**
	35nm,0.6s,baz=189,slow=14,SNR=11								
KK31				⇓	Sn	**Sb**		**23 00 57.1**	**-3.4**
	25nm,0.5s								
KK31				⇓	Lg	Lg		23 01 14.5	
	82nm,0.6s,baz=189,slow=29,SNR=5.2								
KKAR	**Karatay Array**	**4.33**	**6**		Pn	**Pn**		**23 00 01.1**	**+3.2**
KKAR	**Karatay Array**	**4.33**	**6**		PN	**Pn**		**23 00 01.1**	**+3.2**
KSH	**Kashi**	**4.76**	**79**		Pn	**Pn**		**23 00 01.0**	**-3.0**
KSH					Sn	**Sn**		**23 00 54.5**	**-4.7**
KSH					smax	smax			
	comp=N,240nm,0.7s								
KSH					smax	smax			
	comp=E,180nm,0.9s								
EKS2	**Erkin-Say**	**4.85**	**36**		P	Pn		23 00 10.2	+5.1
	SNR=46								
UCH	**Uchtor**	**4.90**	**44**		P	Pn		23 00 11.6	+5.4
	SNR=32								
AAK	**Ala-Archa**	**5.18**	**41**		Pn	**Pn**		**23 00 12.9**	**+3.2**
AAK	**Ala-Archa**	**5.18**	**41**		Pn	**Pn**		**23 00 14.1**	**+4.4**
	comp=E,7.1nm,0.3s,baz=176,slow=4.7,SNR=50								
AAK					Sn	**Sb**		**23 01 17.2**	**-7.9**
	comp=E,3.4nm,0.3s,baz=221,slow=20,SNR=2.3								
AAK					Lg	Lg		23 01 40.8	
	comp=E,6.2nm,0.3s,baz=313,slow=19,SNR=3.6								
	comp=E,21nm,0.4s								
FRU1	**Bishkek**	**5.37**	**40**		Pn	Pn		23 00 17.3	+4.9
FRU1	**Bishkek**	**5.37**	**40**		PN	Pn		23 00 17.3	+5.0
KBK	**Karagaybulak**	**5.43**	**43**		P	Pn		23 00 19.4	+6.2
	SNR=19								
CHMS	**Chumysh**	**5.57**	**40**		P	Pn		23 00 20.2	+5.2
	SNR=22								
USP	**Ospenovka**	**5.65**	**36**		P	**Pn**		**23 00 20.8**	**+4.6**
	SNR=21								
NIL	**Nilore**	**5.80**	**151**			**Pn**		**23 00 18.2**	**0.0**
NIL	**Nilore**	**5.80**	**151**		PN	**Pn**		**23 00 18.2**	**0.0**
ULHL	**Ulahol**	**5.92**	**52**		P	Pb		23 00 28.4	-7.2
	SNR=28								
TKM2	**Tokmak 2**	**5.96**	**44**		P	**Pn**		**23 00 23.6**	**+3.0**
	SNR=21								
KST	**Kastek**	**6.24**	**45**		Pg	**Pb**		**23 00 45.8**	**+4.7**
	comp=E,15nm,0.5s								
KST					Lg	Lg		23 02 10.5	
	comp=E,54nm,0.9s								
MTBS	**Maitube**	**6.56**	**47**		Pg	**Pb**		**23 00 50.2**	**+3.8**
	comp=E,4.4nm,0.2s								
MTBS					Lg	Lg		23 02 18.9	
	comp=E,27nm,1.1s								
TNSS	**Tian-Shan**	**6.80**	**49**		Pg	Pb		23 00 56.7	+5.9
	comp=E,6.3nm,0.5s								
TNSS					Lg	Lg		23 02 30.3	
	comp=E,11nm,0.8s								
MDOK	**Medeo**	**6.94**	**49**	⇑	Pn	Pn		23 00 39.1	+5.2
	comp=E,19nm,0.7s								
MDOK				⇑	Lg	Lg		23 02 35.6	
	comp=E,54nm,1.2s								
BTLS	**Baital**	**6.96**	**25**		Pg	Pg		23 00 59.3	-6.2
	comp=E,4.4nm,0.6s								
BTLS					Lg	Lg		23 02 34.8	
	comp=E,5.3nm,0.7s								
KOTS	**Kotyrbulak**	**7.02**	**49**		Pg	**Pb**		**23 00 58.3**	**+4.1**
	comp=E,25nm,0.6s								
KOTS					Lg	Lg		23 02 33.0	
	comp=E,53nm,0.9s								
KTBS	**Karatobe**	**7.08**	**44**		Pg	Pb		23 01 01.4	+6.2
	comp=E,3.4nm,0.5s								
KTBS					Lg	Lg		23 02 38.1	
	comp=E,44nm,0.7s								
HRA	**Herat**	**7.58**	**237**		Pn	**Pn**		**23 00 42.9**	**+0.1**
SATY	**Saty**	**7.71**	**54**		Pg	Pb		23 01 12.7	+6.7
	comp=E,6.4nm,0.8s								
SATY					Lg	Lg		23 02 57.7	
	comp=E,42nm,1.2s								
KURS	**Kuram**	**7.79**	**50**		Pg	Pb		23 01 13.3	+6.0
	comp=E,7.1nm,0.8s								
KURS					Lg	Lg		23 02 58.9	
	comp=E,22nm,1.0s								
PDGK	**Podgornoye**	**8.53**	**55**		Pg	Pg		23 01 28.0	-7.7
	comp=E,1.7nm,0.6s								
PDGK					Lg	Lg		23 03 23.4	
	comp=E,7.6nm,0.9s								
PDGK	**Podgornoye**	**8.53**	**55**	⇑	Pn	**Pn**		**23 01 00.5**	**+4.7**
	comp=E,10.0nm,1.2s								
PDGK				⇑	Lg	Lg		23 03 25.5	
	comp=E,36nm,1.2s								
DJR	**Jarkent**	**9.24**	**50**		Pg	Pg		23 01 39.4	
	comp=E,1.0nm,0.1s								
DJR					Lg	Lg		23 03 43.0	
	comp=E,9.0nm,1.2s								
GEYT	**Alibeck**	**9.31**	**268**		Pn	**Pn**		**23 01 04.1**	**-2.2**
	comp=E,0.7nm,0.3s,baz=79,slow=9.2,SNR=5.3								
GEYT					Sn	**Sn**		**23 02 47.1**	**-3.8**
	baz=92,slow=16								
	comp=E,1.1nm,0.3s								
OTUK	**Ortayu**	**9.61**	**10**	⇑	Pn	**Pn**		**23 01 12.4**	**+2.1**
	comp=E,5.7nm,0.6s								
OTUK				⇑	Lg	Lg		23 04 03.9	
	comp=E,77nm,1.2s								
MAKZ	**Makanchi**	**11.93**	**44**		Pn	**Pn**		**23 01 43.5**	**+1.3**
MAKZ	**Makanchi**	**11.93**	**44**		P	**Pn**		**23 01 43.5**	**+1.3**
MK31	**Makanchi Array**	**12.09**	**45**		Pn	**Pn**		**23 01 46.1**	**+1.7**
MK31	**Makanchi Array**	**12.09**	**45**	⇑	*eP*	**Pn**		**23 01 43.6**	**-0.8**
MKAR	**Makanchi Array**	**12.09**	**45**		Pn	**Pn**		**23 01 46.1**	**+1.7**
MKAR	**Makanchi Array**	**12.09**	**45**		P	**Pn**		**23 01 46.1**	**+1.7**
MKAR	**Makanchi Array**	**12.09**	**45**		Pn	**Pn**		**23 01 45.7**	**+1.3**
	comp=E,0.1nm,0.3s,baz=228,slow=13,SNR=7.8								
MKAR					Lg	Lg		23 05 20.0	
	comp=E,0.1nm,0.3s,baz=244,slow=24,SNR=4.2								
	comp=E,1.7nm,1.0s								
AB31	**Akbulak array**	**12.67**	**329**	⇓	Pn	**Pn**		**23 01 50.9**	**-1.3**
	comp=E,3.4nm,0.4s,baz=156,slow=11,SNR=136								
AB31				⇓	Sn	**Sn**		**23 04 15.4**	**+2.3**
	comp=E,8.8nm,0.7s,baz=151,slow=23,SNR=4.7								
AB31				⇑	Lg	Lg		23 05 32.4	
	comp=E,34nm,1.4s								
ABKAR	**Akbulak array**	**12.67**	**329**		Pn	**Pn**		**23 01 51.3**	**-0.9**
ABKAR	**Akbulak array**	**12.67**	**329**		Pn	**Pn**		**23 01 51.3**	**-0.9**
KURBB	**Kurchatov Arra**	**13.30**	**24**		Pn	**Pn**		**23 01 59.8**	**-1.1**
	baz=3.2,slow=19,SNR=4.9								
KURBB					Lg	Lg		23 05 53.5	
	baz=215,slow=30,SNR=2.2								
	comp=E,0.4nm,0.5s								
KURK	**Kurchatov**	**13.41**	**25**		Pn	**Pn**		**23 02 02.4**	**0.0**
KURK	**Kurchatov**	**13.41**	**25**	⇓	*eP*	**Pn**		**23 02 02.5**	**+0.2**
BVAR	**Borovoye Array**	**14.24**	**1**		Pn	**Pn**		**23 02 13.4**	**-0.2**
	comp=E,0.2nm,0.3s,baz=164,slow=14,SNR=32								
BVAR					Sn	**Sn**		**23 04 45.8**	**-5.5**
	baz=185,slow=14								
BVAR					Lg	Lg		23 06 26.7	
	baz=171,slow=21,SNR=2.9								
	comp=E,6.0nm,0.8s								
BRVK	**Borovoye**	**14.27**	**1**		Pn	**Pn**		**23 02 13.8**	**-0.2**
BRVK	**Borovoye**	**14.27**	**1**	*de*	*P*	**Pn**		**23 02 13.5**	**-0.5**
BRVK					pmax	pmax			
	comp=Z,9.0nm,1.3s								
AKTO	**Aktyubinsk**	**14.37**	**328**		Pn	**Pn**		**23 02 14.5**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=135,slow=14,SNR=15								
AKTO					Sn	**Sn**		**23 04 51.0**	**-3.7**
	comp=Z,0.3nm,0.3s,baz=150,slow=12,SNR=2.6								
AKTO					Lg	Lg		23 06 33.7	
	comp=Z,0.1nm,0.3s,baz=212,slow=19,SNR=3.8								
	comp=Z,5.1nm,0.6s								
AKTO	**Aktyubinsk**	**14.37**	**328**	⇓	Pn	**Pn**		**23 02 15.0**	**-0.5**
	comp=Z,17nm,0.7s								
AKTO				⇓	Sn	**Sn**		**23 04 56.1**	**+1.5**
	comp=Z,6.9nm,0.8s								
AKTO				⇑	Lg	Lg		23 06 28.9	
	comp=Z,19nm,1.1s								
MAK	**Makhachkala**	**17.44**	**291**	*c*	*iP*	**P**		**23 02 56.5**	**0.0**
MAK					*eS*	**Sn**		**23 06 12.9**	**+3.7**
MAK					pmax	pmax			
	comp=Z,148nm,1.1s								
MAK					MLR	MLR			
	comp=Z,114nm,11.0s								
ZAA0	**Zalesovo Array**	**18.25**	**29**		P	**P**		**23 03 06.4**	**+1.0**
ZALV	**Zalesovo Beam**	**18.25**	**29**		P	**P**		**23 03 06.2**	**+0.7**
ZALV	**Zalesovo Beam**	**18.25**	**29**		*eP*	**Pn**		**23 03 04.6**	**-0.6**
ZALV					pmax	pmax			
	comp=Z,1.0nm,0.3s								
ZALV	**Zalesovo Beam**	**18.25**	**29**		P	**Pn**		**23 03 04.7**	**-0.6**
	comp=Z,3.1nm,0.5s,baz=232,slow=11,SNR=16								
ZALV					Lg	Lg		23 08 32.8	
	comp=Z,0.1nm,0.3s,baz=166,slow=29,SNR=1.6								
SVE	**Sverdlovsk**	**19.05**	**344**		*eP*	**Pn**		**23 03 15.6**	**+0.6**
SVE					*eS*	**Sn**		**23 06 42.6**	**-5.5**
SVE					pmax	pmax			
	comp=Z,8.0nm,0.9s								
ARU	**Arti**	**19.18**	**341**		P	**Pn**		**23 03 15.9**	**-0.6**
ARU	**Arti**	**19.18**	**341**	*c*	*iP*	**Pn**		**23 03 16.0**	**-0.6**
ARU					S	**S**		**23 06 54.3**	**+1.7**
ARU					pmax	pmax			
	comp=Z,11nm,0.9s								
ARU	**Arti**	**19.18**	**341**		P	**P**		**23 03 15.8**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=160,slow=6.9,SNR=12								
ARU					Lg	Lg		23 09 05.9	
	comp=Z,0.2nm,0.3s,baz=242,slow=22,SNR=1.2								
	comp=Z,6.6nm,0.7s								
GNI	**Garni**	**19.47**	**282**			**Pn**		**23 03 19.8**	**-0.5**
GNI	**Garni**	**19.47**	**282**		P	**Pn**		**23 03 19.8**	**-0.5**
GNI					pmax	pmax			
	comp=Z,7.0nm,0.8s								
GNI	**Garni**	**19.47**	**282**		P	**Pn**		**23 03 21.5**	**+1.3**
	comp=Z,6.7nm,0.8s,baz=1.6,slow=16,SNR=4.2								
NCK	**Nalchik**	**20.33**	**292**	⇑	*eP*	Pn		23 03 30.1	-0.2
NCK					pmax	pmax			
	comp=Z,14nm,0.9s								
ONI	**Oni**	**20.39**	**289**		Pn	Pn		23 03 31.7	+0.7
ONI					IAmb	IAmb		23 03 32.9	
	comp=Z,10nm,0.7s								
ONI	**Oni**	**20.39**	**289**		P	Pn		23 03 31.7	+0.7
ONI					pmax	pmax			
	comp=Z,10.0nm,0.7s								
BELG	**Belogornoye**	**20.58**	**319**	*de*	*P*	**P**		**23 03 31.6**	**+0.8**
BELG					pmax	pmax			
	comp=Z,9.0nm,1.4s								
BELG	**Belogornoye**	**20.58**	**319**		P	**P**		**23 03 31.1**	**+0.2**
	comp=Z,19nm,0.6s,baz=272,slow=2.9,SNR=12								
	comp=Z,19nm,0.6s								
KBZ	**Khabaz**	**20.86**	**292**	*ce*	*P*	Pn		23 03 35.7	-0.7
KBZ					pmax	pmax			
	comp=Z,5.0nm,0.9s								
KBZ	**Khabaz**	**20.86**	**292**		P	**P**		**23 03 35.0**	**+1.1**
	comp=Z,3.6nm,0.8s,baz=126,slow=9.8,SNR=6.2								
	comp=Z,3.6nm,0.8s								
KVAR	**Kislovodsk Arr**	**21.02**	**293**		P	**P**		**23 03 36.3**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=115,slow=19,SNR=1.4								
	comp=Z,3.0nm,0.7s								
KIV	**Kislovodsk**	**21.03**	**293**		P	**P**		**23 03 36.2**	**+0.3**
KIV					IAmb	IAmb		23 03 49.0	
	comp=Z,10nm,0.7s								
KIV	**Kislovodsk**	**21.03**	**293**		*eP*	**P**		**23 03 37.2**	**+1.3**
KIV					*eS*	**S**		**23 07 31.2**	**+1.5**
KIV					pmax	pmax			
	comp=Z,11nm,1.1s								
KIV					MLR	MLR			
	comp=Z,25nm,14.0s								
GTA	**Gaotai**	**23.16**	**79**		*eP*	**P**		**23 04 00.0**	**+1.3**
GTA					pP	sP		23 04 05.5	+0.5
GTA					pmax	pmax			
	comp=Z,3.0nm,1.1s								
KIRV	**Kirov**	**23.80**	**333**	*ce*	*P*	**P**		**23 04 05.6**	**+0.9**
KIRV	**Kirov**	**23.80**	**333**		P	**P**		**23 04 05.7**	**+1.0**
	comp=Z,4.6nm,0.5s,baz=152,slow=9.8,SNR=4.1								
	comp=Z,4.6nm,0.5s								
RAYN	**Ar Rayn**	**25.74**	**241**		P	**P**		**23 04 21.8**	**-1.0**
RAYN					IAmb	IAmb		23 04 24.9	
	comp=Z,6.7nm,0.6s								
RAYN	**Ar Rayn**	**25.74**	**241**		P	**P**		**23 04 21.8**	**-1.0**
RAYN					pmax	pmax			
	comp=Z,7.0nm,0.6s								
SONM	**Songino Array**	**27.82**	**59**		*eP*	**P**		**23 04 44.5**	**+3.1**
SONM					pmax	pmax			
	comp=Z,1.0nm,1.0s								
SONM	**Songino Array**	**27.82**	**59**		P	**P**		**23 04 42.8**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=248,slow=7.8,SNR=4.6								
	comp=Z,0.4nm,0.5s								
BRTR	**Keskin Array B**	**27.99**	**283**		*eP*	**P**		**23 04 46.6**	**+3.6**
BRTR					pmax	pmax			
	comp=Z,1.0nm,0.9s								
BRTR	**Keskin Array B**	**27.99**	**283**		P	**P**		**23 04 42.7**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=107,slow=8.3,SNR=4.4								
	comp=Z,0.6nm,0.6s								
AKASG	**Malin Array Be**	**30.87**	**306**		P	**P**		**23 05 08.4**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=79,slow=7.5,SNR=11								
	comp=Z,1.0nm,0.6s								
NRIK	**Noril'sk**	**32.04**	**12**	⇑	*eP*	**P**		**23 05 19.1**	**+0.8**
NRIK					pmax	pmax			
	comp=Z,13nm,3.2s								
MLR	**Muntele Rosu**	**32.95**	**296**		P	**P**		**23 05 28.6**	**+1.8**
MLR	**Muntele Rosu**	**32.95**	**296**		P	**P**		**23 05 28.6**	**+1.8**
MLR					pmax	pmax			
	comp=Z,9.0nm,1.0s								
BURAR	**Bucovina Array**	**33.35**	**300**		P	**P**		**23 05 30.6**	**+0.4**
BUR08	**Bucovina Ar. S**	**33.36**	**300**		P	**P**		**23 05 31.2**	**+0.9**
BUR08					IAmb	IAmb		23 05 32.2	
	comp=Z,2.3nm,0.9s								
FIA1	**FINESS Array S**	**35.11**	**325**		P	**P**		**23 05 46.0**	**+0.9**
FINES	**FINESS Array B**	**35.11**	**325**		P	**P**		**23 05 45.9**	**+0.7**
	comp=Z,3.2nm,0.6s,baz=106,slow=10,SNR=20								
	comp=Z,3.2nm,0.6s								
STHS	**Stebnicka Huta**	**35.95**	**303**		*eP*	**P**		**23 05 54.7**	**+2.2**
STHS	**Stebnicka Huta**	**35.95**	**303**		*eP*	**P**		**23 05 54.7**	**+2.2**
FNA	**Florina**	**36.98**	**289**		P	**P**		**23 06 01.6**	**+0.1**
FNA	**Florina**	**36.98**	**289**		P	**P**		**23 06 01.6**	**+0.1**
FNA					pmax	pmax			
	comp=Z,3.0nm,1.1s								
PUK	**Puka**	**37.79**	**291**		P	**P**		**23 06 08.7**	**+0.4**
PUK					IAmb	IAmb		23 06 12.3	
	comp=Z,8.5nm,1.1s								
ARCES	**ARCESS Array B**	**38.70**	**337**		P	**P**		**23 06 16.3**	**+0.7**
ARCES					IAmb	IAmb		23 06 30.4	
	comp=Z,6.6nm,1.1s								
ARCES	**ARCESS Array B**	**38.70**	**337**		P	**P**		**23 06 16.3**	**+0.7**
ARCES					pmax	pmax			
	comp=Z,7.0nm,1.2s								
ARCES	**ARCESS Array B**	**38.70**	**337**		P	**P**		**23 06 16.6**	**+1.0**
	comp=Z,3.8nm,0.8s,baz=96,slow=6.4,SNR=11								
	comp=Z,3.8nm,0.8s								
HFS	**Hagfors**	**40.74**	**320**		P	**P**		**23 06 33.2**	**+0.5**
	comp=Z,6.4nm,0.5s,baz=98,slow=11,SNR=58								
	comp=Z,6.4nm,0.5s								
GERES	**GERESS Array B**	**40.93**	**303**		P	**P**		**23 06 35.4**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=131,slow=12,SNR=2.2								
	comp=Z,0.4nm,0.5s								
KHC	**Kasperske Hory**	**40.97**	**304**	⇑	*eP*	**P**		**23 06 35.1**	**+0.3**
KHC					pmax	pmax			
	comp=Z,6.0nm,1.3s								
CLL	**Collm**	**41.10**	**307**		*eP*	**P**		**23 06 36.0**	**+0.2**
ZEA	**Zeya**	**41.19**	**49**		*eP*	P		23 06 31.1	-5.4
NC405	**NORSAR Array S**	**41.80**	**322**		P	**P**		**23 06 41.8**	**+0.4**
NC405					IAmb	IAmb		23 06 48.8	
	comp=Z,4.3nm,0.9s								
NC602	**NORSAR Array S**	**41.86**	**321**		P	**P**		**23 06 41.9**	**+0.1**
NC602					IAmb	IAmb		23 06 51.5	
	comp=Z,3.7nm,0.9s								
NC303	**NORSAR Array S**	**41.98**	**322**		P	**P**		**23 06 43.1**	**+0.3**
NC303					IAmb	IAmb		23 06 46.2	
	comp=Z,9.0nm,1.1s								
NB201	**NORSAR Array S**	**42.00**	**322**		P	**P**		**23 06 43.6**	**+0.5**
NB2	**NORSAR Subarra**	**42.04**	**322**		P	**P**		**23 06 43.5**	**+0.1**
	comp=Z,1.8nm,0.5s,baz=95,slow=8.6								
NOA	**NORSAR Array B**	**42.04**	**322**		P	**P**		**23 06 43.5**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=108,slow=7.1,SNR=20								
NOA					LR	LR		23 24 21.8	
	comp=Z,13nm,18.5s,baz=260,slow=36								
	comp=Z,2.3nm,0.6s								
NAO01	**NORSAR Array S**	**42.19**	**321**		P	**P**		**23 06 44.6**	**0.0**
NAO01					IAmb	IAmb		23 07 01.6	
	comp=Z,5.1nm,0.9s								
NBO00	**NORSAR Array S**	**42.25**	**322**		P	**P**		**23 06 45.2**	**+0.1**
NBO00					IAmb	IAmb		23 06 46.1	
	comp=Z,8.3nm,1.1s								
NC204	**NORSAR Array S**	**42.28**	**322**		P	**P**		**23 06 45.6**	**+0.3**
NC204					IAmb	IAmb		23 06 50.8	
	comp=Z,8.9nm,1.1s								
YAK	**Yakutsk**	**42.62**	**37**	⇑	*eP*	**P**		**23 06 48.0**	**0.0**
YAK					pmax	pmax			
	comp=Z,4.0nm,0.8s								
TIXI	**Tiksi**	**43.98**	**23**		P	**P**		**23 06 59.1**	**+0.2**
TIXI					IAmb	IAmb		23 06 59.6	
	comp=Z,4.6nm,0.8s								
TIXI	**Tiksi**	**43.98**	**23**	⇑	*eP*	**P**		**23 06 58.9**	**0.0**
TIXI					pmax	pmax			
	comp=Z,4.0nm,0.7s								
SENIN	**Lac Senin/Sane**	**45.65**	**301**		P	**P**		**23 07 12.4**	**-0.4**
EKA	**Eskdalemuir Ar**	**50.05**	**315**		P	**P**		**23 07 46.4**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=84,slow=7.7,SNR=5.2								
	comp=Z,2.5nm,0.6s								
DAG	**Danmarks Havn**	**52.29**	**343**		*i* P	**P**		**23 08 02.0**	**-1.0**
ESDC	**Sonseca Array**	**55.65**	**296**		P	**P**		**23 08 28.3**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=57,slow=7.2,SNR=6.2								
	comp=Z,0.8nm,0.8s								
TOA0	**Torodi Ar. Sit**	**64.95**	**267**		P	**P**		**23 09 30.7**	**-1.4**
TOA0					IAmb	IAmb		23 09 44.8	
	comp=Z,1.4nm,0.9s								
TORD	**Torodi Ar. Bea**	**64.95**	**267**		P	**P**		**23 09 30.5**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=44,slow=5.8,SNR=4.6								
	comp=Z,0.4nm,0.5s								
TOLK	**Toolik Lake Re**	**68.92**	**14**		P	**P**		**23 09 57.4**	**+0.8**
TOLK					IAmb	IAmb		23 09 57.8	
	comp=Z,2.5nm,0.7s								
A36M	**Sachs Harbour**	**69.00**	**5**		P	**P**		**23 09 57.8**	**+0.8**
IMAR	**Indian Mountai**	**70.25**	**17**		P	**P**		**23 10 04.4**	**-0.3**
BMAR	**Burnt Mountain**	**70.91**	**13**		P	**P**		**23 10 09.9**	**+1.0**
INK	**Inuvik**	**71.78**	**9**		P	**P**		**23 10 14.8**	**+0.8**
INK					IAmb	IAmb		23 10 15.4	
	comp=Z,3.9nm,1.1s								
INK	**Inuvik**	**71.78**	**9**		P	**P**		**23 10 14.8**	**+0.8**
INK					pmax	pmax			
	comp=Z,4.0nm,1.1s								
L16K	**Owhat River**	**72.16**	**22**		P	**P**		**23 10 17.4**	**+1.0**
L16K					IAmb	IAmb		23 10 37.1	
	comp=Z,2.0nm,1.0s								
ILAR	**Eielson Array**	**72.81**	**16**		P	**P**		**23 10 19.9**	**-0.3**
	comp=Z,0.7nm,0.9s,baz=326,slow=4.9,SNR=7.4								
	comp=Z,0.7nm,0.9s								
G31M	**Satah River**	**73.00**	**10**		P	**P**		**23 10 21.4**	**+0.1**
G31M					IAmb	IAmb		23 10 32.5	
	comp=Z,2.4nm,1.0s								
GHO	**Glory Hole Cre**	**74.96**	**18**		P	**P**		**23 10 33.7**	**+0.8**
SML	**Sawmill**	**75.07**	**18**		P	**P**		**23 10 32.2**	**-1.3**
SCM	**Sheep Creek Mo**	**75.28**	**17**		P	**P**		**23 10 30.9**	**-3.9**
SCM	**Sheep Creek Mo**	**75.28**	**17**		P	**P**		**23 10 30.9**	**-3.9**
SCM					pmax	pmax			
	comp=Z,32nm,0.7s								
M24K	**Tolsona, Glenn**	**75.30**	**17**			**P**		**23 10 34.4**	**-0.5**
L27K	**Beaver Creek,**	**75.35**	**14**		P	**P**		**23 10 36.1**	**+0.9**
BCAR	**Beaver Creek A**	**75.36**	**14**		P	**P**		**23 10 36.0**	**+0.7**
YKA	**Yellowknife Ar**	**78.99**	**2**		P	**P**		**23 10 55.8**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=350,slow=6.1,SNR=13								
	comp=Z,0.7nm,0.7s								
SCHQ	**Schefferville**	**79.65**	**336**		P	**P**		**23 10 60.0**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=116,slow=8.0,SNR=3.9								
	comp=Z,2.5nm,0.8s								
WRA	**Warramunga Arr**	**83.93**	**121**		P	**P**		**23 11 21.7**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=321,slow=4.9,SNR=3.9								
	comp=Z,0.7nm,0.8s								
ASAR	**Alice Springs**	**86.26**	**124**		P	**P**		**23 11 33.2**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=311,slow=5.1,SNR=7.3								
	comp=Z,0.2nm,0.3s								
ULM	**

LVC				*e*S		Sn	23 08 30.0	+4.9
LVC	**Limon Verde**	**1.96**	**181**	P		**Pn**	23 08 02.4	+1.9
	comp=Z,114nm,0.4s,baz=4.9,slow=8.5,SNR=114							
LVC				S		Sn	23 08 27.5	+2.4
	comp=Z,679nm,0.6s,baz=134,slow=20,SNR=43							
LVC	**Limon Verde**	**1.96**	**181**	*e*P		**Pn**	23 08 01.8	+1.2
PB04	**IPOC Station P**	**2.07**	**215**	*e*P		**Pn**	23 08 02.4	+0.6
PB04				*e*S		Sn	23 08 28.5	+1.1
PB04				IAML			23 08 37.0	
	comp=Z,999nm,0.6s							
PB04	**IPOC Station P**	**2.07**	**215**	*e*P		**Pn**	23 08 02.5	+0.6
PX02	**IPOC Station P**	**2.10**	**323**	*e*P		**Pn**	23 08 02.0	-0.1
PB06	**IPOC Station P**	**2.16**	**198**	*e*P		**Pn**	23 08 03.6	+0.7
PB06				*e*S		Sn	23 08 32.0	+2.5
PB06	**IPOC Station P**	**2.16**	**198**	*e*P		**Pn**	23 08 03.9	+0.9
PB16	**IPOC Station P**	**2.38**	**345**	*e*P		**Pn**	23 08 08.2	+1.9
PB16				*e*S		Sn	23 08 40.5	+5.2
PB16	**IPOC Station P**	**2.38**	**345**	⍑*i*P		**Pn**	23 08 08.6	+2.3
PB16				*e*S		Sn	23 08 38.9	+3.6
PB12	**IPOC Station P**	**2.45**	**325**	*e*P		**Pn**	23 08 07.0	+0.2
PB12				*e*S		Sn	23 08 37.3	+1.0
PB12				IAML			23 08 46.5	
	comp=Z,1μm,0.2s							
PB15	**IPOC Station P**	**2.61**	**192**	*e*P		**Pn**	23 08 10.0	+1.0
PB15				*e*S		Sn	23 08 42.5	+2.2
PB15				IAML			23 08 49.1	
	comp=Z,1μm,0.4s							
YJA	**Yavi**	**3.47**	**117**	*e*P		**Pn**	23 08 23.9	+3.3
YJA				*e*S		Sn	23 09 16.0	+15
LPAZ	**La Paz**	**4.39**	**9**	*e*P		**Pn**	23 08 36.8	+3.6
LPAZ	**La Paz**	**4.39**	**9**	P		**Pn**	23 08 36.8	+3.6
	comp=Z,6.3nm,0.4s,baz=188,slow=8.8,SNR=24							
LPAZ				S		**Sn**	23 09 21.2	-2.4
	comp=Z,12nm,0.6s,baz=202,slow=11,SNR=1.7							
LPAZ	**La Paz**	**4.39**	**9**	*e*P		**Pn**	23 08 36.6	+3.4
GO02	**Mina Guanaco**	**4.55**	**188**	*e*P		**Pn**	23 08 35.1	0.0
GO02				*e*S		Sn	23 09 41.0	+14
BBSD	**Serra de San D**	**8.53**	**68**	*e*P		**Pn**	23 09 26.6	-2.4
SIV	**San Ignacio**	**8.72**	**59**	P		**Pn**	23 09 30.2	-1.4
	comp=Z,7.0nm,0.4s,baz=252,slow=9.0,SNR=33							
SIV				LR		LR	23 13 41.6	
	comp=Z,83nm,20.4s,baz=133,slow=44							
TICA	**Tres Isletas**	**9.65**	**128**	*e*P		**Pn**	23 09 43.1	-1.1
BBLB	**La Banda, Boli**	**9.68**	**80**	*e*P		**Pn**	23 09 41.7	-2.9
VACA	**Villa Angela C**	**10.19**	**135**	*e*P		**Pn**	23 09 50.6	-0.9
VBST	**Vila Bela da S**	**10.39**	**56**	*e*P		**Pn**	23 09 52.7	-1.7
ESFA	**Espinillo Form**	**10.48**	**116**	*e*P		**Pn**	23 09 54.0	-1.6
MURT	**Porto Murtinho**	**10.54**	**97**	*e*P		**Pn**	23 09 54.1	-2.3
PTLB	**Pontes e Lacer**	**10.59**	**62**	*e*P		**Pn**	23 09 56.2	-0.9
CCRS	**Cacerres, MT,**	**10.89**	**74**	*e*P		**Pn**	23 09 59.7	-1.4
VILB	**Vilhena**	**11.28**	**49**	*e*P		**Pn**	23 10 04.0	-2.3
BDQN	**Bodoquena, MS**	**11.35**	**91**	*e*P		**Pn**	23 10 04.1	-3.1
PANT	**Pantanal (Braz**	**11.64**	**84**	*e*P		**Pn**	23 10 08.5	-2.7
CPUP	**Villa Florida**	**11.99**	**120**	P		**Pn**	23 10 15.2	-0.7
	comp=Z,2.8nm,0.8s,baz=308,slow=14,SNR=6.9							
CPUP	**Villa Florida**	**11.99**	**120**	*e*P		**Pn**	23 10 14.0	-1.9
ANTJ	**Antonio Joao (**	**12.05**	**99**	*e*P		**Pn**	23 10 15.3	-1.5
POCN	**Pocone**	**12.17**	**73**	*e*P		**Pn**	23 10 16.9	-1.4
PTET	**Porto Estrela**	**12.29**	**67**	*e*P		**Pn**	23 10 19.2	-0.8
AMBA	**Amambai (Brazi**	**13.08**	**103**	*e*P		**Pn**	23 10 29.0	-1.3
RVDE	**Rio Verde (Bra**	**13.20**	**85**	*e*P		**Pn**	23 10 30.8	-1.1
SALV	**Santo Antonio**	**13.36**	**71**	*e*P		**Pn**	23 10 33.4	-0.6
NBRS	**Nobres**	**13.97**	**65**	*e*P		**Pn**	23 10 41.4	-0.6
RPRD	**Ribas do Rio P**	**14.20**	**92**	*e*P		**Pn**	23 10 44.5	-0.4
PDRB	**Porto dos Gac**	**14.70**	**54**	*e*P		**P**	23 10 52.8	-2.1
CRSM	**Crissiumal (Br**	**15.14**	**120**	*e*P		**Pn**	23 10 56.2	-0.7
FRBT	**Francisco Belt**	**15.45**	**113**	*e*P		**Pn**	23 10 58.8	-1.9
H03N1	**Juan Fernandez**	**15.56**	**213**	T		T	23 28 10.2	
	baz=32,slow=73,SNR=14							
H03N2	**Juan Fernandez**	**15.57**	**213**	T		T	23 27 59.0	
	baz=32,slow=73,SNR=19							
H03N3	**Juan Fernandez**	**15.58**	**213**	T		T	23 28 09.2	
	baz=32,slow=73,SNR=11							
RODS	**Rosario do Sul**	**15.65**	**131**	*e*P		**P**	23 11 04.8	-0.6
CHAP	**Chapeco**	**15.83**	**117**	*e*P		**Pn**	23 11 05.2	-0.4
TBOT	**Tacuaremb**	**15.96**	**136**	*e*P		**P**	23 11 08.7	0.0
PTGB	**Pitanga**	**16.02**	**108**	*e*P		**P**	23 11 09.2	-0.4
PCMB	**Pacaembu**	**16.45**	**96**	*e*P		**P**	23 11 14.5	+0.2
ALGR	**Alto Alegre (B**	**16.50**	**123**	*e*P		**P**	23 11 14.7	-0.2
ITAB	**Concordia**	**16.63**	**116**	*e*P		**P**	23 11 16.0	-0.2
LDASE	**Londrina, Braz**	**16.68**	**103**	*e*P		**P**	23 11 17.4	+0.6
ARAG	**Araguaiana, MT**	**16.92**	**76**	*e*P		**P**	23 11 20.4	+0.9
CPSB	**Cacapava Do Su**	**16.96**	**128**	*e*P		**P**	23 11 19.0	-0.8
ITRB	**Iturama**	**17.39**	**90**	*e*P		**Pn**	23 11 25.9	+1.0
PLTB	**Pedras Altas**	**17.58**	**132**	*e*P		**Pn**	23 11 29.3	+2.3
FRTB	**Fartura**	**18.09**	**102**	*e*P		**Pn**	23 11 33.7	+0.4
CNLB	**Canela**	**18.45**	**121**	*e*P		**Pn**	23 11 39.4	+1.9
BB19B	**Bebedouro**	**19.01**	**95**	*e*P		**P**	23 11 41.7	-0.7
IPMB	**Ipameri, GO**	**19.66**	**86**	*e*P		**P**	23 11 49.0	-0.6
PLCA	**Paso Flores**	**20.08**	**184**	P		Pn	23 11 55.9	-0.7
	comp=Z,3.2nm,0.7s,baz=13,slow=14,SNR=7.1							
	comp=Z,3.2nm,0.7s							
BDFB	**Brasilia**	**20.42**	**79**	P		**P**	23 11 57.4	-0.4
	comp=Z,1.0nm,0.4s,baz=244,slow=11,SNR=4.2							
	comp=Z,1.0nm,0.4s							
TXAR	**Lajitas Array**	**59.96**	**325**	P		**P**	23 17 24.5	0.0
	comp=Z,0.1nm,0.6s,baz=160,slow=8.9,SNR=2.3							
	comp=Z,0.1nm,0.6s							
QSPA	**South Pole Qui**	**69.54**	**180**	P		**P**	23 18 27.2	+0.9
	comp=Z,0.7nm,0.5s,baz=143,slow=6.9,SNR=11							
	comp=Z,0.7nm,0.5s							
PDAR	**Pinedale Array**	**73.40**	**330**	P		**P**	23 18 49.8	0.0
	comp=Z,0.2nm,0.6s,baz=166,slow=5.0,SNR=1.9							
	comp=Z,0.2nm,0.6s							
TORD	**Torodi Ar. Bea**	**77.02**	**70**	P		**P**	23 19 09.8	-1.2
	comp=Z,1.3nm,0.5s,baz=255,slow=5.3,SNR=16							
	comp=Z,1.3nm,0.5s							
BOSA	**Boshof**	**83.80**	**118**	P		**P**	23 19 47.4	0.0
	comp=Z,0.9nm,0.8s,baz=156,slow=10.0,SNR=1.3							
	comp=Z,0.9nm,0.8s							
YKA	**Yellowknife Ar**	**90.40**	**341**	P		**P**	23 20 18.1	0.0
	comp=Z,0.6nm,0.8s,baz=128,slow=4.3,SNR=11							
	comp=Z,0.6nm,0.8s							
H11S2	**WAKE ISLAND Hy**	**127.81**	**278**	T		T	01 46 27.9	
	baz=101,slow=75,SNR=52							
H11S1	**WAKE ISLAND Hy**	**127.82**	**278**	T		T	01 46 23.5	
	baz=101,slow=75,SNR=37							
H11S3	**WAKE ISLAND Hy**	**127.83**	**278**	T		T	01 46 24.3	
	baz=101,slow=75,SNR=32							
H11N3	**WAKE ISLAND Hy**	**127.87**	**279**	T		T	01 46 27.3	
	baz=101,slow=74,SNR=11							
H11N2	**WAKE ISLAND Hy**	**127.89**	**279**	T		T	01 46 26.5	
	baz=101,slow=74,SNR=10							
H11N1	**WAKE ISLAND Hy**	**127.89**	**279**	T		T	01 46 30.0	
	baz=101,slow=74,SNR=6.2							
ASAR	**Alice Springs**	**130.69**	**208**	PKP		**PKPdf**	23 26 28.2	-0.5
	comp=Z,0.2nm,0.4s,baz=113,slow=2.1,SNR=2.6							
WRA	**Warramunga Arr**	**133.71**	**211**	PKP		**PKPdf**	23 26 34.0	-0.4
	comp=Z,0.5nm,0.7s,baz=148,slow=1.4,SNR=3.1							
ZALV	**Zalesovo Beam**	**141.16**	**25**	PKP		**PKPdf**	23 26 47.9	+0.9
	comp=Z,0.6nm,0.5s,baz=350,slow=7.5,SNR=2.4							
MKAR	**Makanchi Array**	**144.91**	**35**	PKP		**PKPdf**	23 26 53.6	-0.2
	comp=Z,1.1nm,0.8s,baz=336,slow=2.7,SNR=9.0							
SONM	**Songino Array**	**152.60**	**7**	PKP		**PKPdf**	23 27 06.4	0.0
	comp=Z,0.2nm,0.3s,baz=303,slow=1.2,SNR=2.6							
SONM				PKPbc		**PKPbc**	23 27 13.2	-0.2
	comp=Z,0.6nm,0.5s,baz=156,slow=1.2,SNR=5.1							

*TEH **30** 23:07:58.4,30˚.79N×57˚.32E,h7km±27km,ML3.9*
*IDC **30** 23:08:00.2±0.9,30˚.78N×57˚.21E,h0km,mb3.6/13,*
mbtmp3.7/17,ML3.4/4,MS3.0/2,Error ellipse:
s-maj=20.2km s-min=17.8km az=127.0

ISC 30 23:08:01.3±0.5, 30.80N±0.03×57.29E±0.03, h10km, n45, σ2.5 30/44, mb3.7/13, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRM1	**Kerman Provinc**	**0.30**	**183**	Pg	**Pb**	23 08 05.7	-3.2
ZRDN	**Zarand Kerman**	**0.67**	**284**	Pg	**Pb**	23 08 12.9	-2.3
KHGB	**Koh Gabri**	**0.82**	**239**	Pg	**Pb**	23 08 15.3	-2.5
TVBK	**TV Kerman**	**0.94**	**210**	Pg	**Pn**	23 08 18.2	-2.7
CHMN	**Cheshme madani**	**0.96**	**167**	Pg	**Pb**	23 08 17.5	-2.8
NGRK	**Negar Kerman**	**1.25**	**203**	Pg	**Pg**	23 08 23.9	-1.5
IBAF	**Bafgh**	**1.67**	**298**	Pg	**Pg**	23 08 31.6	-1.8
KBAM	**BAM**	**1.94**	**149**	Pn	**Pb**	23 08 34.2	-2.7
BSRN	**Basiran**	**1.95**	**53**	Pn	**Pb**	23 08 34.7	-2.3
IKOO	**Kooshah**	**2.18**	**42**	Pn	**Pb**	23 08 38.3	-2.7
TPRV	**Parvadeh(Tabas**	**2.28**	**347**	Pn	**Pb**	23 08 39.4	-3.2
IMEH	**Mehriz**	**2.37**	**285**	Pn	**Pb**	23 08 41.3	-2.9
ITEG	**Tejag**	**2.43**	**30**	Pn	**Pb**	23 08 41.6	-3.6
NHDN	**Nehbandan**	**2.44**	**75**	Pn	**Pb**	23 08 41.3	-4.0
TKDS	**Koohdasht(Taba**	**2.81**	**357**	Pn	Pb	23 08 46.8	-4.8
ICHK	**Chekchek**	**2.85**	**301**	Pn	**Pb**	23 08 48.0	-4.5
IDAH	**Dahanechah**	**2.92**	**48**	Pn	**Pb**	23 08 49.0	-4.6
AFRZ	**Afriz**	**3.00**	**29**	Pn	**Pb**	23 08 50.2	-4.6
ZHDN	**Zahedan**	**3.35**	**114**	Pn	Pb	23 08 54.4	-6.5
SHRT	**Shahrakht**	**3.81**	**41**	Pn	**Pn**	23 09 00.9	+0.9
ANAR	**Anarak**	**3.85**	**309**	Pn	**Pn**	23 09 01.4	+0.7
IRAM	**Ramesheh**	**4.32**	**285**	Pn	**Pn**	23 09 08.8	+1.5
IZEF	**Zefreh**	**4.71**	**298**	Pn	**Pn**	23 09 13.7	+1.0
TBHD	**Torbat heydari**	**4.88**	**19**	Pn	**Pn**	23 09 15.6	+0.7
TBJM	**Torbat-e-JAM**	**5.13**	**29**	Pn	**Pn**	23 09 19.4	+1.0
SBZV	**Sabzevar**	**5.58**	**3**	Pn	**Pn**	23 09 25.4	+0.8
ISFR	**Sfrayin**	**6.26**	**5**	Pn	**Pn**	23 09 34.8	+0.8
GEYT	**Alibeck**	**7.14**	**5**	Pn	**Pn**	23 09 47.6	+1.7
	0.2nm,0.3s,baz=194,slow=16,SNR=1.6						
GEYT				Sn	**Sn**	23 11 11.7	+4.6
	baz=110,slow=21						
	0.5nm,0.3s						
WSAR	**Wadi Sarin**	**7.63**	**171**	Pn	**Pn**	23 09 53.0	+0.5
	1.8nm,0.3s,baz=11,slow=10.0,SNR=36						
WSAR				Sn	**Sn**	23 11 20.5	+1.4
	baz=74,slow=18						
	12nm,0.6s						
ASF	**Jabal al Asfar**	**17.45**	**280**	P	**P**	23 12 04.9	-1.3
	0.1nm,0.3s,baz=169,slow=0.1,SNR=3.3						
	2.5nm,0.9s						
AKTO	**Aktyubinsk**	**19.62**	**1**	P	**Pn**	23 12 30.4	-0.7
	0.2nm,0.3s,baz=171,slow=10,SNR=7.6						
	2.2nm,0.7s						
BRTR	**Keskin Array B**	**21.22**	**301**	P	**P**	23 12 47.2	-0.1
	0.6nm,0.7s,baz=106,slow=11,SNR=4.2						
	0.6nm,0.7s						
BELG	**Belogornoye**	**22.71**	**345**	P	**P**	23 13 04.0	+1.0
	7.5nm,0.9s,baz=123,slow=3.7,SNR=3.2						
	7.5nm,0.9s						
BVAR	**Borovoye Array**	**24.17**	**20**	P	**P**	23 13 18.1	+0.5
	0.9nm,0.8s,baz=188,slow=5.6,SNR=4.4						
BVAR				LR	LR	23 24 00.7	
	comp=Z,44nm,20.9s,baz=228,slow=40						
	0.9nm,0.8s						
MKAR	**Makanchi Array**	**25.04**	**43**	P	**P**	23 13 26.2	+0.7
	0.6nm,0.7s,baz=228,slow=9.2,SNR=5.7						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**25.36**	**33**	P	**P**	23 13 29.4	+1.1
	1.1nm,0.7s,baz=231,slow=9.2,SNR=12						
	1.1nm,0.7s						
ARU	**Arti**	**25.63**	**2**	LR	LR	23 23 16.0	
	comp=Z,33nm,21.7s,baz=200,slow=36						
ZALV	**Zalesovo Beam**	**30.45**	**33**	P	**P**	23 14 14.4	+0.5
	2.5nm,0.6s,baz=237,slow=9.5,SNR=13						
	2.5nm,0.6s						
FINES	**FINESS Array B**	**36.83**	**335**	P	**P**	23 15 09.5	+0.3
	1.2nm,0.6s,baz=125,slow=9.6,SNR=7.7						
	1.2nm,0.6s						
GERES	**GERESS Array B**	**37.42**	**311**	P	**P**	23 15 14.9	+0.4
	1.2nm,0.8s,baz=124,slow=8.4,SNR=3.2						
	1.2nm,0.8s						
SONM	**Songino Array**	**40.88**	**51**	P	**P**	23 15 44.8	+1.2
	0.2nm,0.5s,baz=308,slow=7.3,SNR=2.6						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**53.93**	**264**	P	**P**	23 17 24.9	-0.6
	1.0nm,0.7s,baz=53,slow=8.5,SNR=9.0						
	1.0nm,0.7s						
ILAR	**Eielson Array**	**82.88**	**10**	P	**P**	23 20 26.2	+0.5
	0.2nm,0.9s,baz=196,slow=13,SNR=2.5						
	0.2nm,0.9s						
YKA	**Yellowknife Ar**	**86.80**	**356**	P	**P**	23 20 46.3	+0.7
	0.2nm,0.7s,baz=130,slow=4.3,SNR=6.3						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**91.19**	**117**	P	**P**	23 21 08.6	+1.7
	0.2nm,0.5s,baz=330,slow=5.2,SNR=2.0						
	0.2nm,0.5s						

*BGR **30** 23:23:18.8,22˚.52S×175˚.93W,h33km*
*NEIC **30** 23:24:11.7±1.7,21˚.4S±0˚.1×178˚.1W±0˚.1,h456km±6km,*
mb4.6/209,Error ellipse: s-maj=15.3km s-min=13.5km
az=150.0
*IDC **30** 23:24:12.6±0.6,21˚.36S×178˚.26W,h467km±6km,mb4.0/27,*
mbtmp4.8/29,Error ellipse: s-maj=10.4km s-min=8.2km
az=150.0
*NOU **30** 23:24:12.1,21˚.26S×178˚.05W,h481km,mb4.9/78,Fiji*
Islands Region

ISC 30 23:24:12.2±0.4, 21˚.53S±0˚.05×178˚.13W±0˚.05,
h471km±4km, h471km; pP-P, n792, σ1§17/756, mb4.6/150,
39C-23D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**3.35**	**349**	P	**P**	23 25 21.8	-1.7
TAVE	**Taveuni**	**5.09**	**340**	P	**P**	23 25 37.5	-1.0
MSVF	**Nonsavu**	**5.22**	**316**	P	**P**	23 25 38.6	-1.3
MSVF	**Nonsavu**	**5.22**	**316**	P	**P**	23 25 38.4	-1.5
DGTI	**Dogotuki**	**5.58**	**338**	P	**P**	23 25 41.9	-1.4
YSA	**Yasawairara**	**6.29**	**319**	P	**P**	23 25 48.8	-1.5
RAO	**Raoul Island**	**7.69**	**179**	S	**S**	23 27 33.9	-2.8
	167m,0.5s,baz=330,slow=20,SNR=1.5						
GLKZ	**Green Lake**	**7.70**	**179**	P	**P**	23 26 02.4	-2.2
GLKZ				S	**S**	23 27 36.7	-0.1
NIUE	**Niue**	**8.07**	**74**	P	**P**	23 26 07.1	-1.7
NIUE	**Niue**	**8.07**	**74**	P	**P**	23 26 07.3	-1.5
NIUE					**S**	23 27 43.5	-1.0
AFI	**Afiamalu**	**9.70**	**40**		**S**	23 26 22.0	-4.3
MARNC	**Mare, Loyalty**	**12.88**	**268**	P	**P**	23 27 00.8	+0.4
MARNC	**Mare, Loyalty**	**12.88**	**268**	P	**P**	23 27 00.5	+0.1
PINNC	**Pines Island,**	**13.42**	**263**	P	**P**	23 27 08.0	+1.9
PINNC	**Pines Island,**	**13.42**	**263**	P	**P**	23 27 06.3	+0.2
LIFNC	**LIFOU**	**13.67**	**271**	P	**P**	23 27 09.5	+0.7
LIFNC	**LIFOU**	**13.67**	**271**	P	**P**	23 27 08.9	0.0
OUENC	**Ouen Island, N**	**13.97**	**264**	P	**P**	23 27 14.2	+2.2
OUENC	**Ouen Island, N**	**13.97**	**264**	P	**P**	23 27 13.2	+1.2
DZM	**Mont Dzumac**	**14.34**	**265**	P	**P**	23 27 16.7	+0.6
DZM	**Mont Dzumac**	**14.34**	**265**	P	**P**	23 27 16.0	0.0
	43nm,0.8s,baz=140,slow=7.4,SNR=19						
NOUC	**Port Laguerre**	**14.47**	**265**	P	**P**	23 27 17.2	-0.2
OUZ	**Omahuta**	**15.45**	**206**	P	**P**	23 27 31.6	+4.1
OUZ	**Omahuta**	**15.45**	**206**	P	**P**	23 27 31.1	+3.6
KUZ	**Kuaotunu**	**16.07**	**198**	P	**P**	23 27 37.0	+2.9
KUZ	**Kuaotunu**	**16.07**	**198**	P	**P**	23 27 36.9	+2.9
MXZ	**Matakaoa Point**	**16.27**	**190**	P	**P**	23 27 38.7	+2.6
MXZ	**Matakaoa Point**	**16.27**	**190**	P	**P**	23 27 37.1	+1.0
KOUNC	**Koumac, New Ca**	**16.45**	**270**	P	**P**	23 27 40.1	+1.8
KOUNC	**Koumac, New Ca**	**16.45**	**270**	P	**P**	23 27 38.7	+0.4
KOUNC				IAmb	IAmb	23 27 43.8	
	comp=Z,17nm,0.8s						
HAZ	**Te Kaha**	**16.55**	**191**	P	**P**	23 27 38.4	-0.7
HAZ				S	**S**	23 30 27.5	-2.2
PKGZ	**Pakihiroa**	**16.62**	**191**	P	**P**	23 27 40.0	0.0
PKGZ				S	**S**	23 30 26.5	-4.8
RUGZ	**Raukumara Rang**	**16.77**	**192**	P	**P**	23 27 39.7	-1.9
RUGZ				S	**S**	23 30 29.9	-4.2
PUZ	**Puketiti**	**16.77**	**190**	P	**P**	23 27 41.2	-0.3
PUZ				S	**S**	23 30 30.6	-3.4
TWGZ	**Tauwhareparae**	**16.92**	**191**	P	**P**	23 27 44.2	+1.1
TWGZ				S	**S**	23 30 34.1	-2.7
TOZ	**Tahuroa Road**	**17.06**	**197**	P	**P**	23 27 46.6	+2.2
TOZ				IAmb	IAmb	23 27 47.7	
	comp=Z,18nm,0.7s						
TOZ	**Tahuroa Road**	**17.06**	**197**	P	**P**	23 27 46.9	+2.5
RAR	**Rarotonga**	**17.10**	**92**	P	**P**	23 27 45.0	-0.1
	comp=Z,29nm,0.9s,baz=291,slow=7.8,SNR=6.0						
MWZ	**Matawai**	**17.16**	**192**	P	**P**	23 27 45.3	-0.2
MWZ				S	**S**	23 30 38.6	-2.3
URZ	**Urewera**	**17.17**	**193**	P	**P**	23 27 43.5	-2.0
	comp=Z,13nm,0.4s,baz=22,slow=2.5,SNR=21						
URZ				S	**S**	23 30 37.7	-3.2
	comp=Z,12nm,0.6s,baz=153,slow=24,SNR=6.8						
URZ	**Urewera**	**17.17**	**193**	P	**P**	23 27 43.6	-1.9
URZ				S	**S**	23 30 37.8	-3.2
CNGZ	**Carnagh Statio**	**17.18**	**190**	P	**P**	23 27 46.1	+0.4
RTZ	**Ruatahuna**	**17.54**	**193**	P	**P**	23 27 48.9	-0.5
RTZ				IAmb	IAmb	23 27 54.0	
	comp=Z,14nm,0.6s						
RTZ	**Ruatahuna**	**17.54**	**193**	P	**P**	23 27 48.4	-1.0
PRRZ	**Plateau Road**	**17.55**	**194**	P	**P**	23 27 49.6	+0.1
HIZ	**Hauiti**	**17.97**	**198**	P	**P**	23 27 55.0	+1.5
HIZ	**Hauiti**	**17.97**	**198**	P	**P**	23 27 56.2	+2.6
BKZ	**Black Stump Fm**	**18.17**	**194**	P	**P**	23 27 57.6	+2.1
BKZ	**Black Stump Fm**	**18.17**	**194**	P	**P**	23 27 55.4	-0.1
BKZ				IAmb	IAmb	23 28 00.5	
	comp=Z,9.1nm,0.9s						
BFZ	**Birch Farm**	**19.68**	**193**	P	**P**	23 28 11.2	+1.9
BFZ	**Birch Farm**	**19.68**	**193**	P	**P**	23 28 09.0	-0.3
BFZ				IAmb	IAmb	23 28 15.4	
	comp=Z,32nm,1.0s						
MRZ	**Mangatainoka R**	**19.80**	**194**	P	**P**	23 28 10.0	-0.4
MRZ				IAmb	IAmb	23 28 13.6	
	comp=Z,17nm,1.0s						
SNZO	**South Karori**	**20.63**	**195**	P	**P**	23 28 20.1	+2.2
SNZO	**South Karori**	**20.63**	**195**	P	**P**	23 28 19.2	+1.3
TCW	**Tory Channel**	**20.64**	**196**	P	**P**	23 28 19.1	+1.0
BHW	**Baring Head**	**20.68**	**195**	P	**P**	23 28 19.7	+1.3
PLWZ	**Palliser**	**20.74**	**194**	P	**P**	23 28 21.4	+2.4
QRZ	**Quartz Range**	**20.80**	**200**	P	**P**	23 28 21.1	+1.6
QRZ	**Quartz Range**	**20.80**	**200**	P	**P**	23 28 20.9	+1.4
TKNZ	**Takaka Hill**	**20.85**	**199**	P	**P**	23 28 21.0	+0.9
NNZ	**Nelson**	**20.90**	**198**	P	**P**	23 28 21.1	+0.7
TUWZ	**Tuamarina**	**20.94**	**197**	P	**P**	23 28 19.9	-0.9
BSWZ	**Blackbirch Sta**	**21.22**	**197**	P	**P**	23 28 26.4	+3.1
MRNZ	**Matariki Terra**	**21.25**	**199**	P	**P**	23 28 26.1	+2.5
THZ	**Tophouse**	**21.54**	**199**	P	**P**	23 28 27.1	+0.9
THZ				IAmb	IAmb	23 28 32.3	
	comp=Z,21nm,0.6s						
DSZ	**Denniston Nort**	**21.86**	**201**	P	**P**	23 28 30.1	+0.9
KHZ	**Kahutara**	**21.96**	**197**	P	**P**	23 28 31.9	+1.9
KHZ				IAmb	IAmb	23 28 34.1	
	comp=Z,20nm,0.7s						
GVZ	**Greta Valley S**	**22.61**	**197**	P	**P**	23 28 36.1	+0.1
LTZ	**Lake Taylor**	**22.66**	**199**	P	**P**	23 28 37.5	+1.2
INZ	**Inchbonnie**	**22.86**	**200**	P	**P**	23 28 39.1	+1.0
OXZ	**Oxford**	**23.23**	**198**	P	**P**	23 28 42.3	+0.9
RPZ	**Rata Peaks**	**23.88**	**200**	P	**P**	23 28 50.1	+2.9
RPZ	**Rata Peaks**	**23.88**	**200**	P	**P**	23 28 48.5	+1.2
RPZ				IAmb	IAmb	23 28 56.1	
	comp=Z,16nm,0.6s						
RPZ	**Rata Peaks**	**23.88**	**200**	P	**P**	23 28 49.2	+1.9
	comp=Z,13nm,0.5s,baz=31,slow=4.0,SNR=5.9						
	comp=Z,13nm,0.5s						
FOZ	**Fox Glacier**	**24.12**	**202**	P	**P**	23 28 50.4	+1.0
JCZ	**Jackson Bay**	**24.96**	**203**	P	**P**	23 28 58.2	+1.2
MLZ	**Mavora Lakes**	**26.32**	**202**	P	**P**	23 29 10.2	+1.3
MLZ				IAmb	IAmb	23 29 12.8	
	comp=Z,36nm,1.2s						
WHZ	**Wether Hill Ro**	**26.83**	**202**	P	**P**	23 29 14.9	+1.5
PPT	**Papeete**	**27.18**	**87**	P	**P**

comp=Z,36nm,1.1s
PSA00 Pilbara Seismi 57.32 258 IAmb IAmb 23 33 14.8
comp=Z,69nm,0.9s
MEEK Meekatharra 57.47 251 P **P**
KLBR Kellerberrin 57.52 246 P **P** **23 33 15.1 -0.5**
MBWA Marble Bar 57.52 258 P **P** **23 33 15.9 +0.1**
MBWA Marble Bar 57.52 258 P **P** **23 33 15.5 -0.4**
MBWA Marble Bar 57.52 258 P **P** **23 33 15.3 -0.6**
TNTI Ternate 57.61 285 P **P** **23 33 15.6 -1.1**
comp=Z,53nm,0.9s
NWAO Narrogin (SRO) 57.80 244 P **P** **23 33 17.7 0.0**
NWAO Narrogin (SRO) 57.80 244 P **P** **23 33 18.1 +0.3**
NWAO IAmb IAmb 23 33 19.6
comp=Z,41nm,0.9s
RKGY Rocky Gully 57.85 242 P **P** **23 33 19.0 +1.0**
BLDU Ballidu 58.53 247 P **P** **23 33 22.6 -0.1**
MMRI Maumere 58.68 273 P **P** **23 33 22.6 -1.3**
MMRI IAmb IAmb 23 33 24.0
comp=Z,41nm,0.9s
MUN Mundaring 58.78 245 P **P** **23 33 24.7 +0.3**
EDFI Ende, Flores 59.15 273 P **P** **23 33 26.2 -1.1**
comp=Z,62nm,0.8s,comp=Z,455nm
MORW Morawa 59.33 248 P **P** **23 33 28.2 0.0**
BASI Baing, Sumba 59.70 271 P **P** **23 33 31.9 +1.1**
comp=Z,118nm,1.0s,comp=Z,1µm
GTOI Gorontalo 61.48 283 P **P** **23 33 42.8 +0.2**
comp=Z,24nm,0.7s
JCJ Chichijima 61.75 320 P **P** **23 33 42.4 -1.7**
BKSI Bulukumba 61.81 276 P **P** **23 33 44.6 -0.2**
comp=Z,21nm,0.8s
DAV Davao City (W) 62.08 291 P **P** **23 33 46.9 +0.4**
comp=Z,112nm,0.4s,baz=66,slow=5.5,SNR=2.3
GIRL Giralia 62.16 255 P **P** **23 33 47.1 +0.1**
GIRL Giralia 62.16 255 P **P** **23 33 47.9 +0.9**
PLAI Plampang 62.77 271 P **P** **23 33 50.4 -0.6**
TWSI Taliwang, Sumb 63.63 271 P **P** **23 33 56.0 -0.6**
comp=Z,90nm,1.0s
TOLI2 Tolitoli 63.71 283 P **P** **23 33 56.3 -0.8**
TOLI2 Tolitoli 63.71 283 P **P** **23 33 56.2 -0.9**
JAGI Jajag, Banyuwa 66.26 270 P **P** **23 34 12.7 -0.6**
JAGI Jajag, Banyuwa 66.26 270 P **P** **23 34 12.0 -1.3**
JHJ2 Mitsune 67.56 323 P **P** **23 34 20.8 0.0**
QSPA South Pole Qui 68.54 180 P **P** **23 34 28.8 +2.2**
QSPA IAmb IAmb 23 34 29.7
comp=Z,15nm,0.8s
QSPA South Pole Qui 68.54 180 P **P** **23 34 28.8 +2.2**
comp=Z,18nm,0.9s,baz=343,slow=0.5,SNR=93
comp=Z,18nm,0.9s
PWJI Pagerwojo 68.60 270 P **P** **23 34 28.7 +1.1**
comp=Z,88nm,0.6s
UGM Wanagama 69.83 269 P **P** **23 34 34.5 -0.6**
UGM Wanagama 69.83 269 P **P** **23 34 35.0 -0.1**
KKM Kota Kinabalu 69.91 285 P **P** **23 34 34.8 -0.9**
KKM Kota Kinabalu 69.91 285 P **P** **23 34 35.4 -0.2**
SMRI Semarang 70.20 270 P **P** **23 34 36.7 -0.6**
JMM Marumori 70.59 327 IAmb IAmb 23 34 39.8
comp=Z,29nm,1.0s
JGF Kuroka 70.76 323 P **P** **23 34 38.7 -1.5**
JGF Kuroka 70.76 323 P **P** **23 34 39.9 -0.2**
JGF IAmb IAmb 23 34 40.9
comp=Z,9.4nm,0.8s
MJAR Matsushiro Arr 70.97 324 P **P** **23 34 41.0 -0.4**
comp=Z,12nm,0.8s,baz=154,slow=5.7,SNR=30
comp=Z,12nm,0.8s
MAJO Matsushiro 70.97 324 P **P** **23 34 41.3 -0.1**
MAJO IAmb IAmb 23 34 41.9
comp=Z,15nm,0.9s
KPJI Karang Pucung 71.51 269 P **P** **23 34 44.5 -0.5**
BBJI Bungbulang 72.66 269 P **P** **23 34 51.2 -0.6**
JNU Nakatsue 72.94 317 P **P** **23 34 52.9 -0.1**
KIWB Kanaga Island 73.07 1 P **P** **23 34 53.4 +0.2**
ADK Adak 73.11 1 P **P** **23 34 53.0 -0.4**
KSM Kuching 73.44 278 P **P** **23 34 56.2 0.0**
YULB Yu-li 73.97 304 P **P** **23 34 57.8 -1.2**
NACB Ninganchiao 74.16 304 P **P** **23 34 58.6 -1.5**
TPUB Ta-pu 74.44 303 P **P** **23 35 01.4 -0.3**
TPUB Ta-pu 74.44 303 P **P** **23 35 00.7 -1.1**
SSLB Suanglung 74.44 304 P **P** **23 35 01.3 -0.5**
SSLB Suanglung 74.44 304 P **P** **23 35 00.8 -1.0**
JKA Kamikawa-asahi 74.57 332 P **P** **23 35 03.2 +1.2**
YHNB Yeheng 74.59 305 P **P** **23 35 02.6 0.0**
NIKH Nikolski High 74.63 6 P **P** **23 35 02.1 0.0**
baz=189
UNV Unalaska Valle 75.73 7 P **P** **23 35 07.8 -0.4**
baz=191
PETK Petropavlovsk- 77.24 345 P **P** **23 35 15.8 -0.8**
comp=Z,7.0nm,0.7s,baz=125,slow=6.1,SNR=6.5
comp=Z,7.0nm,0.7s
KSRS Korea Array 77.58 319 P **P** **23 35 18.7 -0.1**
comp=Z,4.6nm,0.7s,baz=141,slow=6.3,SNR=18
comp=Z,4.6nm,0.7s
KS19 Wonju Array Si 77.65 319 P **P** **23 35 19.3 +0.1**
KS19 IAmb IAmb 23 35 20.4
comp=Z,18nm,1.1s
CNBA Chernabura Isl 77.69 11 P **P** **23 35 18.2 -0.7**
CNBA IAmb IAmb 23 35 21.8
comp=Z,12nm,1.0s
CHNA Chernabura Isl 77.70 11 P **P** **23 35 19.4 +0.4**
baz=198
SDPT Sand Point 78.04 10 P **P** **23 35 21.0 +0.2**
SDPT Sand Point 78.04 10 P **P** **23 35 21.1 +0.2**
baz=197
MNAI Manna 78.11 270 P **P** **23 35 22.1 -0.2**
S12K Black Hills 78.14 9 P **P** **23 35 21.6 +0.2**
baz=195
BELA Belgrano 2 78.55 173 P **P** **23 35 24.9 +1.3**
BELA IAmb IAmb 23 35 25.2
comp=Z,11nm,0.6s
S14K Fog Glacier 79.09 10 P **P** **23 35 27.6 +0.9**
baz=198
FMP Fort Macarthur 79.14 47 P **P** **23 35 27.0 -0.3**
baz=235
CHGN Chignik 79.31 11 P **P** **23 35 27.8 +0.2**
baz=199
USA0B Ussuriysk Arra 79.75 326 P **P** **23 35 30.5 +0.2**
USA0B IAmb IAmb 23 35 32.2
comp=Z,18nm,1.1s
USRK Ussuriysk Ar. 79.75 326 P **P** **23 35 30.9 +0.6**
USRK Ussuriysk Ar. 79.75 326 P **P** **23 35 31.1 +0.8**
comp=Z,9.8nm,0.9s,baz=147,slow=3.8,SNR=13
comp=Z,9.8nm,0.9s
BFSC Mount Baldy Ra 79.88 47 P **P** **23 35 31.6 +0.2**
baz=235
MONP2 Monument Peak 79.98 49 P **P** **23 35 33.2 +1.2**
baz=236
EDW2 Edwards Air Fo 80.01 46 P **P** **23 35 33.1 +1.1**
baz=235
IKP In-Ko-Pah, Jac 80.06 49 P **P** **23 35 33.1 +0.7**
baz=237
ISA Isabella, Lake 80.14 46 P **P** **23 35 34.0 +1.3**
baz=235
NJ2 Nanjing 80.45 310 ⇑P **P** **23 35 35.3 +1.1**
NJ2 pP **pP** **23 37 18.5 +1.9**
NJ2 sP **sP** **23 38 06.8 +1.9**
NJ2 pmax pmax
comp=Z,23nm,0.9s
NJ2 pmax pmax
comp=Z,180nm,5.0s
MAW Mawson 80.56 200 P **P** **23 35 35.7 +1.5**
comp=Z,5.6nm,0.7s,baz=166,slow=5.5,SNR=7.6
comp=Z,5.6nm,0.7s
CWC Cottonwood Cre 80.85 45 P **P** **23 35 37.6 +1.1**
baz=235
BELC Belle Mtn. Jos 80.88 48 P **P** **23 35 37.6 +0.9**
baz=236
MDPB Devils Postpil 80.89 44 P **P** **23 35 37.0 +0.2**
MPMC Manual Prospec 81.02 46 P **P** **23 35 37.9 +0.5**
baz=235
YBH Yreka Blue Hor 81.17 39 P **P** **23 35 38.5 +0.6**
MPK Martis Peak 81.28 42 P **P** **23 35 38.2 -0.6**
MDJ Mudanjiang 81.29 325 P **P** **23 35 39.5 +1.2**
MDJ pmax pmax
comp=Z,22nm,1.0s
MDJ pmax pmax
comp=Z,94nm,3.5s
MDJ Mudanjiang 81.29 325 P **P** **23 35 38.5 +0.1**
MDJ IAmb IAmb 23 35 40.2
comp=Z,22nm,1.1s
DSP Deep Springs 81.46 44 P **P** **23 35 41.0 +1.6**
GMRC Granite Mounta 81.55 48 P **P** **23 35 40.7 +0.6**
baz=237
IRM Iron Mountain 81.56 48 P **P** **23 35 40.9 +0.8**
baz=237
HUMO Hull Mountain 81.58 38 P **P** **23 35 40.2 +0.3**
YERR Yerington 81.59 42 P **P** **23 35 41.0 +0.8**
Q17K Contact Creek 81.62 12 P **P** **23 35 40.6 +0.7**
baz=201
GWY Greenwater Val 81.64 46 P **P** **23 35 41.1 +0.5**
O14K Tigyukauivet M 81.68 9 P **P** **23 35 40.1 +0.2**
baz=196
L04D Klamath Falls 81.71 38 P **P** **23 35 41.8 +1.0**
L04D IAmb IAmb 23 35 43.0
comp=Z,11nm,1.1s
TUQ Turquoise Moun 81.73 47 P **P** **23 35 42.2 +1.2**
baz=236
O15K Ungalikthiuk R 81.82 9 P **P** **23 35 40.9 +0.2**
baz=197
NVAR Mina Array Bea 81.86 43 P **P** **23 35 42.1 +0.4**
NVAR Mina Array Bea 81.86 43 P **P** **23 35 42.9 +1.2**
comp=Z,2.4nm,0.8s,baz=222,slow=8.7,SNR=15
NVAR pP **pP** **23 37 25.1 +0.4**
comp=Z,1.2nm,0.9s,baz=226,slow=11,SNR=3.3
comp=Z,2.4nm,0.8s
Q16K King Salmon 81.87 11 P **P** **23 35 42.0 +1.1**
baz=200
GMN Gold Mountain 81.88 45 P **P** **23 35 43.0 +1.2**
NV11 Mina Array Sit 81.95 43 P **P** **23 35 43.0 +0.9**
P16K Nushagak River 81.97 10 P **P** **23 35 42.1 +0.7**
baz=199
M11K Mekoryuk 82.20 6 P **P** **23 35 44.1 +1.6**
baz=191
N14K Kuskokwak Cree 82.27 8 P **P** **23 35 43.0 +0.1**
baz=195,SNR=12
KVN Kaiserville 82.35 43 P **P** **23 35 45.4 +1.3**
P17K Krichak River 82.39 11 P **P** **23 35 43.7 +0.1**
baz=200
O16K Kokwok River B 82.49 10 IAmb IAmb 23 35 44.9
comp=Z,10nm,0.8s
O16K Kokwok River B 82.49 10 P **P** **23 35 44.6 +0.6**
baz=199
M13K Dall Lake 82.53 7 IAmb IAmb 23 35 47.6
comp=Z,14nm,1.1s
M13K Dall Lake 82.53 7 P **P** **23 35 46.7 +2.4**
baz=194
I04A Tendick Farm, 82.64 37 P **P** **23 35 46.4 +1.1**
Q20K Shuyak Island 82.64 13 P **P** **23 35 45.8 +0.9**
baz=204
Q19K Cape Douglas, 82.68 13 P **P** **23 35 45.9 +0.8**
baz=203
N15K Kwethluk River 82.73 9 IAmb IAmb 23 35 48.2
comp=Z,14nm,0.8s
N15K Kwethluk River 82.73 9 P **P** **23 35 46.3 +1.0**
baz=197
P18K Big Mountain, 82.80 12 IAmb IAmb 23 35 46.9
comp=Z,13nm,0.8s
P18K Big Mountain, 82.80 12 P **P** **23 35 45.6 -0.1**
baz=201
HEBO Mount Hebo 82.81 35 P **P** **23 35 46.5 +0.3**
HEBO IAmb IAmb 23 35 54.4
comp=Z,15nm,1.1s
O17K Koliganek Bris 82.83 11 P **P** **23 35 46.0 +0.2**
baz=200
K05A Summer Lake 82.84 39 P **P** **23 35 48.2 +1.6**
J05D Fort Rock, OR 82.99 38 P **P** **23 35 48.9 +1.7**
J05D IAmb IAmb 23 35 49.7
comp=Z,8.0nm,0.8s
M14K Bethel 83.03 8 IAmb IAmb 23 35 49.0
comp=Z,11nm,0.7s
M14K Bethel 83.03 8 P **P** **23 35 48.6 +1.8**
baz=195,SNR=6.2
M15K Kasigluk River 83.15 9 P **P** **23 35 48.0 +0.6**
baz=196,SNR=14
BNX BinXian 83.20 325 ⇑P **P** **23 35 48.3 +0.3**
BNX pmax pmax
comp=Z,15nm,1.2s
BNX pmax pmax
comp=Z,150nm,5.4s
N16K Nishlik Lake 83.22 10 P **P** **23 35 48.9 +1.1**
baz=198
O18K Koktuh Hills 83.24 11 P **P** **23 35 48.4 +0.5**
baz=201
UBPT Khong Chiam 83.36 289 IAmb IAmb 23 35 51.2
comp=Z,10nm,0.9s
P19K Oil Pt 83.43 12 P **P** **23 35 49.9 +1.0**
baz=203
PINE Pine Mountain 83.47 38 P **P** **23 35 51.4 +1.7**
PINE IAmb IAmb 23 35 54.1
comp=Z,6.8nm,0.8s
L14K Kuka Creek 83.52 7 IAmb IAmb 23 35 51.4
comp=Z,8.2nm,0.8s
L14K Kuka Creek 83.52 7 P **P** **23 35 50.5 +1.3**
baz=194
N17K Nushagak Hills 83.52 10 P **P** **23 35 49.9 +0.6**
baz=200
R11B Troy Canyon, C 83.57 45 P **P** **23 35 51.0 +0.7**
baz=236
TUC Tucson 83.71 52 P **P** **23 35 52.6 +1.5**
baz=240
M16K Timber Creek 83.71 9 IAmb IAmb 23 35 53.1
comp=Z,13nm,0.8s
M16K Timber Creek 83.71 9 P **P** **23 35 51.6 +1.3**
baz=198
O19K Port Alsworth 83.72 12 P **P** **23 35 51.1 +0.9**
baz=202
CNPM China Poot 83.73 13 **P** **23 35 50.7 +0.3**
CNPM IAmb IAmb 23 35 54.2
comp=Z,24nm,1.1s
TIA Tai'an 83.88 313 P **P** **23 35 52.0 +0.3**
TIA pmax pmax
comp=Z,7.0nm,1.0s
L15K Ungalak Mounta 83.99 8 P **P** **23 35 52.6 +1.0**
baz=196
BRLK Bradley Lake 84.02 13 P **P** **23 35 51.6 -0.2**
BRLK IAmb IAmb 23 35 53.4
comp=Z,14nm,0.8s
BRSE Bradley Lake S 84.03 14 P **P** **23 35 52.6 +0.8**
baz=206
C03A Quillayute Air 84.17 33 P **P** **23 35 54.4 +1.7**
N19K Bonanza Creek 84.26 11 P **P** **23 35 53.7 +0.6**
baz=202
L16K Owhat River 84.30 9 P **P** **23 35 54.0 +0.9**
L16K Owhat River 84.30 9 P **P** **23 35 54.4 +1.3**
baz=197
M17K Holitna River 84.31 10 IAmb IAmb 23 35 55.0
comp=Z,12nm,1.1s
M17K Holitna River 84.31 10 P **P** **23 35 54.9 +1.8**
baz=199
I07A Izee 84.47 38 P **P** **23 35 55.7 +1.1**
K15K Wolf Creek Mou 84.58 8 IAmb IAmb 23 35 57.7
comp=Z,12nm,0.8s
K15K Wolf Creek Mou 84.58 8 P **P** **23 35 55.9 +1.4**
baz=196
SEW Seward 84.64 14 P **P** **23 35 56.2 +1.4**
baz=207
M18K Stony River 84.66 11 P **P** **23 35 56.4 +1.5**
baz=201
MA2 Magadan 84.75 345 P **P** **23 35 54.8 -0.5**
comp=Z,5.1nm,0.8s,baz=150,slow=4.7,SNR=5.6
comp=Z,5.1nm,0.8s
L17K Donlin 84.87 9 P **P** **23 35 57.7 +1.8**
baz=198
CAPN Captain Cook N 84.88 13 P **P** **23 35 57.0 +1.1**
baz=205
WUAZ Wupatki 84.91 49 P **P** **23 35 58.5 +1.5**
baz=239
N20K Mount Spurr 85.05 12 P **P** **23 35 56.6 -0.3**
baz=204
ELK Elko 85.12 43 P **P** **23 35 58.7 +0.7**
comp=Z,0.7nm,0.6s,baz=226,slow=6.5,SNR=3.7
comp=Z,0.7nm,0.6s
GSI Gunungsitoli 85.17 273 P **P** **23 35 59.1 +0.5**
GAMB Gambell 85.17 3 P **P** **23 35 58.0 +0.7**
baz=186
L18K Granite Mounta 85.20 10 P **P** **23 35 56.7 -0.9**
L18K Granite Mounta 85.20 10 P **P** **23 35 58.4 +0.8**
baz=200
M19K Big River Lodg 85.29 11 IAmb IAmb 23 35 60.0
comp=Z,4.5nm,0.7s
M19K Big River Lodg 85.29 11 P **P** **23 35 58.4 +0.3**
baz=202
BBB Bella Bella 85.37 28 P **P** **23 36 00.1 +1.5**
comp=Z,11nm,1.0s,baz=225,slow=7.1,SNR=1.6
comp=Z,11nm,1.0s
K17K Iditarod 85.43 9 P **P** **23 35 59.8 +1.2**
baz=198
RC01 Rabbit Creek A 85.47 13 P **P** **23 35 59.4 +0.5**
baz=206
L19K White Mountain 85.47 11 P **P** **23 35 59.4 +0.5**
baz=202
M20K Styx River 85.50 12 P **P** **23 36 00.2 +1.0**
baz=203
G08A Pilot Rock 85.51 37 P **P** **23 36 01.0 +1.4**
SUA Susitna One 85.59 13 IAmb IAmb 23 36 01.2
comp=Z,11nm,0.7s
SUA Susitna One 85.59 13 P **P** **23 36 00.1 +0.5**
baz=205
ELIB Princess Elisa 85.61 187 *d*P **P** **23 36 00.6 +0.8**
comp=Z,10nm,0.7s
ELIB *d*pP **pP** **23 37 45.4 +1.5**
J16K Anvik River 85.66 8 P **P** **23 36 01.0 +1.3**
baz=196
L20K Farewell, AK 85.92 11 P **P** **23 36 01.7 +0.6**
baz=202
TTA Tatalina 85.98 10 P **P** **23 36 01.6 +0.2**
TTA Tatalina 85.98 10 P **P** **23 36 01.5 +0.2**
baz=201
121A Cookes Peak, D 86.03 53 P **P** **23 36 02.2 -0.3**
baz=242
KNK Knik Glacier 86.03 14 P **P** **23 36 02.0 +0.4**
KNK IAmb IAmb 23 36 03.7
comp=Z,9.6nm,0.8s
KNK Knik Glacier 86.03 14 P **P** **23 36 02.6 +0.9**
baz=208
PMR Palmer 86.05 13 IAmb IAmb 23 36 02.7
comp=Z,6.8nm,0.8s
PMR Palmer 86.05 13 P **P** **23 36 02.4 +0.8**
baz=207
HEH HeiHe 86.12 328 *e*P **P** **23 36 01.8 -0.5**
HEH pmax pmax
comp=Z,12nm,0.8s
HNS HongShan 86.16 313 ⇑P **P** **23 36 03.0 +0.3**
HNS pmax pmax
comp=Z,16nm,1.0s
U33K Whale Pass 86.19 23 P **P** **23 36 01.5 -0.9**
U33K IAmb IAmb 23 36 06.2
comp=Z,16nm,1.1s
U33K Whale Pass 86.19 23 P **P** **23 36 03.5 +1.1**
baz=221
I17K Unalakleet 86.22 8 P **P** **23 36 02.5 +0.1**
I17K Unalakleet 86.22 8 P **P** **23 36 02.9 +0.5**
baz=196
GHO Glory Hole Cre 86.25 13 IAmb IAmb 23 36 04.4
comp=Z,19nm,0.8s
LYN LuoYang 86.31 309 ⇑P **P** **23 36 05.0 +1.4**
LYN pmax pmax
comp=Z,26nm,0.8s
J18K Innoko River 86.37 9 P **P** **23 36 03.3 +0.1**
baz=200
DUG Dugway, Tooele 86.37 44 P **P** **23 36 03.0 -0.9**
baz=238
SML Sawmill 86.41 14 P **P** **23 36 04.0 +0.5**
baz=208
S31K Pelican 86.52 21 P **P** **23 36 04.5 +0.6**
baz=218
M23K Glacier View 86.53 14 P **P** **23 36 04.6 +0.6**
baz=208
CUT Chulitna 86.54 13 P **P** **23 36 04.3 +0.3**
baz=206
BMRM Bremner River 86.56 16 P **P** **23 36 04.0 -0.2**
baz=211
MESA MESA 86.59 17 P **P** **23 36 04.2 -0.3**
baz=213
PPLA Purkeypile 86.61 12 P **P** **23 36 05.4 +0.9**
baz=204
SCM Sheep Creek Mo 86.66 14 P **P** **23 36 04.9 +0.2**
SCM IAmb IAmb 23 36 06.8
comp=Z,14nm,0.8s
SCM Sheep Creek Mo 86.66 14 P **P** **23 36 05.0 +0.4**
baz=208
KLU Klutina 86.69 15 P **P** **23 36 05.3 +0.5**
baz=210
K20K Telida 86.70 11 P **P** **23 36 05.4 +0.6**
baz=202
TROLL Troll, Antarti 86.70 180 ⇑P **P** **23 36 05.4 +0.5**
comp=Z,56nm,0.3s
S32K Killisnoo 86.70 22 P **P** **23 36 05.2 +0.4**
baz=220
WRAK Wrangell Islan 86.71 24 P **P** **23 36 05.9 +1.1**
baz=222
CRQE Cirque 86.76 16 P **P** **23 36 05.2 0.0**
baz=212
H16K Elim 86.77 7 P **P** **23 36 05.4 +0.4**
baz=195
ISLE Juniper Island 86.84 17 P **P** **23 36 05.6 0.0**
ISLE IAmb IAmb 23 36 08.3
comp=Z,10.0nm,1.1s
F10A Beach Ranch, E 86.89 38 IAmb IAmb 23 36 09.9
comp=Z,9.4nm,0.8s
G15K Niukluk 86.93 6 P **P** **23 36 06.5 +0.7**
baz=193
SNAA Sanae 86.98 179 P **P** **23 36 06.6 +0.4**
SNAA Sanae 86.98 179 ⇑P **P** **23 36 06.4 +0.2**
comp=Z,45nm,0.6s
SNAA Sanae 86.98 179 P **P** **23 36 06.6 +0.4**
comp=Z,2.9nm,0.8s,baz=196,slow=9.6,SNR=8.2
comp=Z,2.9nm,0.8s
TABL Table Mountain 87.03 17 P **P** **23 36 06.9 +0.3**
TABL IAmb IAmb 23 36 07.7
comp=Z,9.5nm,0.9s
J19K Poorman 87.04 10 P **P** **23 36 05.7 -0.6**
baz=201
VRDI Verde Repeater 87.07 16 P **P** **23 36 06.3 -0.5**
PLID Pearl Lake 87.09 39 P **P** **23 36 07.7 +0.4**
N25K Chitina, Valde 87.11 15 P **P** **23 36 06.6 -0.2**
baz=211
CAST Castle Rocks 87.11 11 IAmb IAmb 23 36 07.0
comp=Z,7.0nm,0.9s
CAST Castle Rocks 87.11 11 P **P** **23 36 05.2 -1.5**
baz=204,SNR=7.5
VNA3 Neumayer Olymp 87.12 176 ⇑P **P** **23 36 07.3 +0.5**
comp=Z,18nm,0.7s
GLB Gilahina Butte 87.16 16 P **P** **23 36 07.0 0.0**
M24K Tolsona, Glenn 87.17 14 P **P** **23 36 07.4 +0.4**
M24K IAmb IAmb 23 36 10.6
comp=Z,7.7nm,0.9s
M24K Tolsona, Glenn 87.17 14 P **P** **23 36 07.5 +0.5**
baz=210
TNA Tin City 87.17 4 P **P** **23 36 07.6 +0.8**
baz=190
HLID Hailey 87.18 41 P **P** **23 36 07.0 -0.7**
baz=237
F14K Arctic Creek 87.20 5 P **P** **23 36 07.3 +0.3**
baz=191
WAT6 Susitna Watana 87.23 14 P **P** **23 36 07.4 -0.1**
baz=208
WAT1 Susitna Watana 87.28 13 P **P** **23 36 07.7 +0.2**
baz=207
MCARA McCarthy VSAT 87.31 16 P **P** **23 36 07.0 -0.6**
MCARA IAmb IAmb 23 36 18.2
comp=Z,11nm,1.1s
MCARA McCarthy VSAT 87.31 16 P **P** **23 36 08.4 +0.8**
baz=212
H17K Granite Mounta 87.33 8 P **P** **23 36 07.5 -0.1**
baz=197
VHRN Van Horn 87.33 56 P **P** **23 36 10.4 +1.8**
SEY Seymchan 87.35 347 P **P** **23 36 07.6 -0.2**
comp=Z,6.9nm,0.6s,baz=153,slow=6.9,SNR=19
comp=Z,6.9nm,0.6s
LOGN Logan Glacier 87.39 17 P **P** **23 36 08.6 +0.4**
LOGN IAmb IAmb 23 36 10.3
comp=Z,7.4nm,0.8s
BARN Barnard Glacie 87.40 17 P **P** **23 36 08.3 0.0**
BARN IAmb IAmb 23 36 10.2
comp=Z,9.1nm,1.0s
CTG Chitna Glacier 87.41 17 P **P** **23 36 09.1 +0.8**
baz=214
CTGM Chitina Glacie 87.41 17 P **P** **23 36 08.4 +0.1**
CTGM IAmb IAmb 23 36 10.1
comp=Z,13nm,1.2s
MNTX Cornudas Mount 87.44 55 P **P** **23 36 09.7 +0.7**
baz=243
J20K Nowinta River 87.45 10 P **P** **23 36 08.3 +0.1**
baz=202
KTH Kantishna Hill 87.45 12 IAmb IAmb 23 36 08.8
comp=Z,7.3nm,1.0s
TRF Thorofare Moun 87.48 12 IAmb IAmb 23 36 09.9
comp=Z,11nm,0.8s
TRF Thorofare Moun 87.48 12 P **P** **23 36 07.7 -0.9**
baz=206,SNR=10
G16K Koyuk River 87.49 7 P **P** **23 36 09.0 +0.6**
G16K Koyuk River 87.49 7 P **P** **23 36 07.9 -0.4**
baz=195
CHUM Lake Minchumin 87.49 11 P **P** **23 36 06.9 -1.5**
baz=204
VNA2 Neumayer--Watz 87.56 177 ⇑P **P** **23 36 09.8 +0.9**
comp=Z,3.9nm,0.5s,baz=178,slow=5.7
O28M Mount Upton 87.57 18 P **P** **23 36 09.7 +0.5**
baz=215
O29M Mount Kennedy 87.65 19 P **P** **23 36 10.2 +0.8**
baz=216
PLBC Pleasant Camp 87.65 20 P **P** **23 36 10.1 +0.9**

HARP **HAARP** 87.66 15 P P 23 36 09.5 +0.2
baz=218
baz=210
TX31 **Lajitas Ar. Si** 87.71 57 P P 23 36 10.9 +0.4
TXAR **Lajitas Array** 87.71 57 P P 23 36 12.2 +1.8
TXAR **Lajitas Array** 87.71 57 P P 23 36 11.2 +0.8
comp=Z,1.0nm,0.8s,baz=222,slow=6.5,SNR=13
TXAR pP pP 23 37 56.5 +1.3
comp=Z,0.9nm,0.9s,baz=224,slow=5.2,SNR=5.8
comp=Z,1.0nm,0.8s
RND **Reindeer** 87.73 13 IAmb IAmb 23 36 11.6
comp=Z,17nm,0.8s
H18K **Honhosa River** 87.74 8 P P 23 36 09.2 -0.4
baz=198
DHY **Denali Highway** 87.75 13 P P 23 36 09.4 -0.4
DHY **Denali Highway** 87.75 13 P P 23 36 10.1 +0.3
baz=208
MVCO **Mesa Verde** 87.77 49 P P 23 36 10.3 -0.3
baz=241
G17K **Kiwalik Mounta** 87.79 7 P P 23 36 10.1 +0.3
baz=196
BPAW **Bear Paw Mtn.** 87.94 12 P P 23 36 09.2 -1.3
BPAW **Bear Paw Mtn.** 87.94 12 P P 23 36 09.6 -0.9
baz=205
I20K **Naaghedeneel** 87.97 10 P P 23 36 11.2 +0.6
baz=202
SKAG **Skagway** 87.99 20 P P 23 36 11.6 +0.8
baz=219
P30M **Million Dollar** 87.99 19 P P 23 36 11.1 +0.2
baz=218
MCK **McKinley** 88.00 13 P P 23 36 10.5 -0.3
baz=207,SNR=7.6
PAX **Paxson** 88.08 14 P P 23 36 11.2 -0.1
baz=210
YUK8 **Steele Glacier** 88.11 17 P P 23 36 12.4 +0.7
baz=215
ANMO **Albuquerque** 88.14 51 P P 23 36 12.6 +0.2
baz=242
ANMO **Albuquerque** 88.14 51 P P 23 36 13.4 +0.9
comp=Z,0.7nm,0.5s,baz=282,slow=5.4,SNR=3.5
comp=Z,0.7nm,0.5s
M26K **Nabesna, AK** 88.18 16 P P 23 36 12.8 +1.1
baz=212
YUK6 **Outpost Mounta** 88.23 18 P P 23 36 12.8 +0.6
baz=217
S34M **Telegraph Cree** 88.26 23 P P 23 36 13.2 +1.0
baz=223
NEW **Newport** 88.28 36 P P 23 36 12.9 +0.4
baz=235
H19K **Roundabout Mou** 88.36 9 P P 23 36 13.1 +0.7
baz=200
HYT **Haines Junctio** 88.39 19 P P 23 36 12.7 -0.1
baz=217
G18K **Tagagawik** 88.41 8 P P 23 36 12.8 +0.1
baz=198
M27K **Edge Creek, AK** 88.43 16 IAmb IAmb 23 36 15.8
comp=Z,13nm,1.1s
M27K **Edge Creek, AK** 88.43 16 P P 23 36 13.9 +0.8
baz=213
YUK4 **Talbot Arm** 88.47 18 P P 23 36 14.2 +0.8
baz=216
H20K **Anotleneega Mo** 88.56 9 P P 23 36 14.0 +0.6
baz=202
P32M **Atlin** 88.62 21 P P 23 36 14.2 +0.4
baz=221
F17K **Baldwin Pennin** 88.63 7 P P 23 36 13.7 0.0
baz=196
L26K **Log Cabin Wild** 88.63 15 P P 23 36 14.2 +0.4
baz=212
Q32M **Nakina River** 88.63 22 P P 23 36 14.7 +0.5
baz=222
XLT **XiLinHaoTe** 88.64 319 eP P 23 36 14.8 +0.4
XLT pmax pmax
comp=Z,8.0nm,0.9s
XLT pmax pmax
comp=Z,62nm,4.1s
XAN **Xi'an** 88.66 307 P P 23 36 15.5 +0.8
XAN pmax pmax
comp=Z,28nm,0.9s
K24K **Donnelly Dome** 88.73 14 P P 23 36 14.8 +0.5
baz=210
BVCY **Beaver Creek** 88.74 16 P P 23 36 14.7 +0.4
baz=214
NEA2 **Nenana** 88.75 12 IAmb IAmb 23 36 16.0
comp=Z,5.3nm,1.0s
NEA2 **Nenana** 88.75 12 P P 23 36 14.1 -0.2
baz=207
O30N **Mendenhall** 88.77 19 P P 23 36 15.2 +0.7
O30N **Mendenhall** 88.77 19 P P 23 36 15.1 +0.5
baz=219
MLY **Manley** 88.83 11 IAmb IAmb 23 36 15.4
comp=Z,5.0nm,0.7s
MLY **Manley** 88.83 11 P P 23 36 14.2 -0.5
baz=205
WRH **Wood River Hil** 88.83 13 IAmb IAmb 23 36 15.9
comp=Z,9.5nm,0.7s
G19K **Purcell Mounta** 88.85 8 IAmb IAmb 23 36 16.4
comp=Z,5.1nm,0.8s
G19K **Purcell Mounta** 88.85 8 P P 23 36 15.1 +0.4
baz=200
RIDG **Independent Ri** 88.89 14 IAmb IAmb 23 36 16.9
comp=Z,5.4nm,1.0s
RIDG **Independent Ri** 88.89 14 P P 23 36 15.3 +0.3
baz=211
F18K **Selawik** 88.96 7 P P 23 36 15.3 +0.1
baz=197
HDA **Harding Lake** 89.01 13 IAmb IAmb 23 36 18.3
comp=Z,6.7nm,0.6s
HDA **Harding Lake** 89.01 13 P P 23 36 15.3 -0.3
baz=209,SNR=7.2
N30M **Aishikik Lake** 89.02 18 P P 23 36 16.4 +0.7
N30M **Aishikik Lake** 89.02 18 P P 23 36 16.0 +0.3
baz=218
L27K **Beaver Creek,** 89.03 16 P P 23 36 15.6 -0.1
L27K **Beaver Creek,** 89.03 16 P P 23 36 15.5 -0.2
baz=213
H21K **Melozitna Rive** 89.04 10 P P 23 36 15.6 -0.1
baz=204
CCB **Clear Creek Bu** 89.05 13 IAmb IAmb 23 36 16.6
comp=Z,9.8nm,0.6s
WHY **Whitehorse** 89.06 20 P P 23 36 16.2 +0.3
WHY **Whitehorse** 89.06 20 P P 23 36 15.7 -0.2
baz=220
E17K **Hotham Inlet** 89.19 6 P P 23 36 16.5 +0.2
baz=195
I23K **Minto, Yukon-K** 89.19 12 IAmb IAmb 23 36 21.8
comp=Z,5.6nm,1.1s
I23K **Minto, Yukon-K** 89.19 12 P P 23 36 15.9 -0.4
baz=207
IMAR **Indian Mountai** 89.19 10 P P 23 36 16.1 -0.2
MDM **Murphy Dome** 89.24 12 IAmb IAmb 23 36 18.0
comp=Z,10nm,0.9s
SCRK **Sand Creek** 89.29 14 IAmb IAmb 23 36 18.3
comp=Z,6.7nm,1.2s
SCRK **Sand Creek** 89.29 14 P P 23 36 16.8 -0.2
baz=212,SNR=5.4
ILAR **Eielson Array** 89.34 13 P P 23 36 16.6 -0.4
ILAR **Eielson Array** 89.34 13 P P 23 36 16.1 -0.9
comp=Z,4.7nm,0.9s,baz=217,slow=5.2,SNR=29
ILAR pP pP 23 38 02.5 +0.4
comp=Z,0.4nm,0.8s,baz=218,slow=5.7,SNR=1.9
comp=Z,4.7nm,0.9s
R33M **Jennings River** 89.41 22 P P 23 36 17.2 -0.4
baz=223
M29M **Somme Creek** 89.41 17 IAmb IAmb 23 36 20.1
comp=Z,6.3nm,0.8s
M29M **Somme Creek** 89.41 17 P P 23 36 17.7 +0.1
baz=216
F19K **Shaleruckik Mo** 89.42 8 IAmb IAmb 23 36 19.1
comp=Z,4.1nm,0.8s
F19K **Shaleruckik Mo** 89.42 8 P P 23 36 17.1 -0.2
baz=199
N31M **Braeburn, Yuko** 89.43 19 P P 23 36 17.2 -0.3
baz=219
H22K **Ishtalitna Cre** 89.50 11 P P 23 36 17.6 -0.2
baz=205
J25K **Salcha River,** 89.53 13 IAmb IAmb 23 36 19.6
comp=Z,3.9nm,0.7s
J25K **Salcha River,** 89.53 13 P P 23 36 17.7 -0.3
baz=210
POKR **Poker Plat Res** 89.54 12 IAmb IAmb 23 36 18.9
comp=Z,3.5nm,0.7s
POKR **Poker Plat Res** 89.54 12 P P 23 36 17.4 -0.6
baz=208
LOHW **Long Hollow** 89.56 42 P P 23 36 19.7 +0.9
E18K **Tukpahlearik C** 89.64 7 IAmb IAmb 23 36 19.6
comp=Z,6.3nm,1.0s
E18K **Tukpahlearik C** 89.64 7 P P 23 36 18.4 0.0
baz=196
D17K **Noatak River** 89.66 6 P P 23 36 18.6 +0.1
baz=194
KMI **Kunming** 89.71 297 ⇑P P 23 36 20.0 0.0
KMI pmax pmax
comp=Z,14nm,0.8s
G21K **Allakaket** 89.72 10 IAmb IAmb 23 36 20.5
comp=Z,5.8nm,0.8s
G21K **Allakaket** 89.72 10 P P 23 36 18.8 0.0
baz=203
H23K **Yukon River** 89.76 11 P P 23 36 19.6 +0.6
baz=206
CRAI **Chiangrai** 89.78 292 IAmb IAmb 23 36 22.3
comp=Z,7.5nm,0.9s
K27K **Chicken** 89.78 15 IAmb IAmb 23 36 22.2
comp=Z,5.4nm,1.0s
K27K **Chicken** 89.78 15 P P 23 36 19.7 +0.6
baz=213
PDAR **Pinedale Array** 89.79 43 P P 23 36 20.6 +0.7
comp=Z,1.6nm,0.6s,baz=234,slow=3.5,SNR=8.7
comp=Z,1.6nm,0.6s
J26L **Joseph Creek** 89.83 14 IAmb IAmb 23 36 21.9
comp=Z,10nm,0.8s
J26L **Joseph Creek** 89.83 14 P P 23 36 20.2 +0.8
baz=212
F20K **Avaraart Lake** 89.89 9 IAmb IAmb 23 36 21.3
comp=Z,5.3nm,0.8s
F20K **Avaraart Lake** 89.89 9 P P 23 36 19.9 +0.4
baz=201
BOZ **Bozeman (W)** 89.95 40 P P 23 36 21.0 +0.5
baz=239
HHC **Hu-ho-hao-te** 89.99 314 eP P 23 36 20.0 -0.8
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,130nm,5.4s
M30M **Minto, Yukon** 89.99 18 IAmb IAmb 23 36 22.9
comp=Z,4.6nm,0.8s
M30M **Minto, Yukon** 89.99 18 P P 23 36 20.7 +0.6
baz=218,SNR=5.6
N32M **Quiet Lake** 90.01 20 P P 23 36 21.3 +1.1
baz=221
RDOG **Red Dog Mine** 90.03 6 P P 23 36 21.2 +1.1
baz=194
C16K **Lisburne Hills** 90.04 5 P P 23 36 21.0 +0.8
baz=192
L29M **L29M** 90.04 17 IAmb IAmb 23 36 23.1
comp=Z,9.8nm,0.9s
L29M **L29M** 90.04 17 P P 23 36 20.9 +0.6
baz=217
E19K **Redstone River** 90.08 8 IAmb IAmb 23 36 22.1
comp=Z,8.3nm,0.8s
E19K **Redstone River** 90.08 8 P P 23 36 20.9 +0.5
baz=199
H24K **Nodor Dome** 90.09 12 P P 23 36 21.9 +1.3
baz=208
SDCO **Great Sand Dun** 90.12 49 P P 23 36 21.7 0.0
baz=243
PRP **Porcupine Dome** 90.28 13 IAmb IAmb 23 36 23.0
comp=Z,5.7nm,1.2s
PRP **Porcupine Dome** 90.28 13 P P 23 36 21.8 +0.3
baz=210
CMAR **Chiang Mai Arr** 90.35 290 P P 23 36 24.5 +1.7
comp=Z,4.4nm,0.5s,baz=125,slow=3.1,SNR=47
comp=Z,4.4nm,0.5s
F21K **Alatna River** 90.38 9 P P 23 36 22.2 +0.3
baz=203
M31M **Drury Creek, Y** 90.40 19 P P 23 36 21.9 -0.2
M31M **Drury Creek, Y** 90.40 19 P P 23 36 22.5 +0.4
baz=220
G23K **Bananza Creek** 90.47 11 P P 23 36 22.6 +0.3
baz=206
DAWY **Dawson** 90.48 16 IAmb IAmb 23 36 25.1
comp=Z,3.9nm,0.8s
DAWY **Dawson** 90.48 16 P P 23 36 23.1 +0.7
baz=216,SNR=7.1
I26K **Coal Creek Min** 90.61 14 P P 23 36 23.5 +0.6
baz=212
EGAK **Eagle** 90.63 15 IAmb IAmb 23 36 25.4
comp=Z,7.2nm,1.1s
EGAK **Eagle** 90.63 15 P P 23 36 23.1 +0.1
baz=214,SNR=7.5
FARO **Faro, Yukon** 90.74 19 P P 23 36 23.6 0.0
baz=221
C18K **Utukok River** 90.77 6 P P 23 36 23.1 -0.6
baz=196
K29M **Barlow Dome** 90.79 17 IAmb IAmb 23 36 26.5
comp=Z,3.9nm,0.8s
K29M **Barlow Dome** 90.79 17 P P 23 36 24.3 +0.3
baz=217
F22K **Jon River** 90.84 10 P P 23 36 24.2 +0.2
baz=204
COLD **Coldfoot** 90.91 11 P P 23 36 25.2 +0.9
baz=206
G24K **Hadweenzic Riv** 90.93 12 P P 23 36 25.3 +0.9
baz=208
D19K **Kuna River** 90.95 7 IAmb IAmb 23 36 26.0
comp=Z,6.7nm,0.9s
D19K **Kuna River** 90.95 7 P P 23 36 24.9 +0.5
baz=199
E20K **Nigu River** 90.97 8 P P 23 36 25.0 +0.4
baz=200
PZH **PanZhiHua** 91.09 298 P P 23 36 24.5 -1.7
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,6.5s
J29N **Klondike Camp** 91.10 16 P P 23 36 25.8 +0.5
baz=217
TOAD **Toad River Com** 91.13 24 P P 23 36 26.2 +0.6
baz=228
I27K **Kandik River** 91.21 14 P P 23 36 25.6 -0.1
baz=214
G25K **Bearman Lake** 91.25 12 P P 23 36 26.2 +0.4
baz=210
D20K **Etivluk River** 91.34 8 P P 23 36 26.5 +0.2
baz=200
C19K **Lookout Ridge** 91.37 7 IAmb IAmb 23 36 28.3
comp=Z,8.8nm,0.8s
C19K **Lookout Ridge** 91.37 7 P P 23 36 26.8 +0.4
baz=197
B18K **Kokolik River** 91.40 6 P P 23 36 26.4 0.0
baz=195
E22K **Anaktuvuk Pass** 91.47 10 P P 23 36 27.3 +0.4
baz=204
I28M **Miner Creek** 91.48 15 P P 23 36 27.3 +0.3
baz=215
F24K **Squaw Lake** 91.58 11 P P 23 36 27.8 +0.4
baz=208
AMTX **Amarillo** 91.63 53 P P 23 36 28.6 +0.1
baz=245
MMPY **Sheldon Lake,** 91.68 20 P P 23 36 29.3 +1.4
baz=223
J30M **Hart River** 91.69 17 P P 23 36 29.1 +1.0
baz=218
H27K **Steamboat Moun** 91.76 14 P P 23 36 28.9 +0.7
baz=214
E23K **Chandalar** 91.76 10 P P 23 36 29.4 +1.1
baz=206
TGTN **Hyland Airport** 91.87 22 P P 23 36 29.8 +0.9
baz=225
G26K **Porcupine Rive** 91.88 13 P P 23 36 29.8 +1.1
baz=212
C21K **Knifeblade Rid** 92.00 8 P P 23 36 30.3 +1.0
baz=202
D22K **Ayikyak River** 92.03 9 IAmb IAmb 23 36 31.4
comp=Z,3.8nm,0.8s
D22K **Ayikyak River** 92.03 9 P P 23 36 30.2 +0.8
baz=204
F25K **Christian Rive** 92.06 12 P P 23 36 30.3 +0.7
baz=210
I30M **Mount Dempster** 92.19 16 P P 23 36 30.7 +0.3
baz=218
G27K **Doyon Strip** 92.21 14 P P 23 36 30.5 +0.2
baz=214
A19K **Wainwright** 92.28 6 P P 23 36 30.9 +0.4
baz=196
TOLK **Toolik Lake Re** 92.29 10 P P 23 36 31.5 +0.8
baz=206
D23K **Nanushuk River** 92.41 10 P P 23 36 32.0 +0.9
baz=205
KOTAN **Kotaneelee Air** 92.44 24 P P 23 36 32.4 +1.0
baz=229
F26K **Sheenjek River** 92.44 12 P P 23 36 32.3 +0.9
baz=211
B21K **Ikpikpuk River** 92.45 8 P P 23 36 32.1 +0.8
baz=202
H29M **Whitestone** 92.48 15 P P 23 36 32.1 +0.6
baz=217
B20K **Meade River** 92.50 7 IAmb IAmb 23 36 33.3
comp=Z,3.8nm,0.7s
B20K **Meade River** 92.50 7 P P 23 36 32.2 +0.7
baz=200
E25K **Arctic Village** 92.53 12 P P 23 36 32.7 +0.9
baz=210
D24K **Happy Valley** 92.87 10 P P 23 36 34.1 +0.9
baz=207
G29M **Pine Creek** 93.12 15 P P 23 36 34.7 +0.2
baz=217
H31M **Peel River** 93.18 17 P P 23 36 36.1 +1.3
baz=220
C23K **Itkillik River** 93.21 9 P P 23 36 35.2 +0.4
baz=206
F28M **Old Crow** 93.27 14 P P 23 36 35.1 0.0
baz=215
B22K **Teshekpuk Lake** 93.28 8 P P 23 36 35.8 +0.8
baz=203
LZH **Lanzhou** 93.30 307 eP P 23 36 35.8 -0.4
LZH pP pwP 23 38 25.0 +0.1
LZH pmax pmax
comp=Z,14nm,1.3s
E27K **Coleen River** 93.38 13 P P 23 36 35.9 +0.3
baz=214
C24K **Franklin Bluff** 93.40 10 P P 23 36 36.5 +0.9
baz=207
D25K **Kavik River** 93.44 11 P P 23 36 35.9 0.0
baz=209
G30M **tAoh Zraii Nji** 93.61 15 IAmb IAmb 23 36 38.9
comp=Z,5.5nm,0.9s
G30M **tAoh Zraii Nji** 93.61 15 P P 23 36 36.8 0.0
baz=218
A22K **Sinclair Lake** 93.70 7 P P 23 36 37.4 +0.5
baz=202
G31M **Satah River** 94.06 16 P P 23 36 38.7 0.0
baz=220
E28M **Babbage River** 94.16 13 IAmb IAmb 23 36 41.0
comp=Z,2.5nm,0.8s
E28M **Babbage River** 94.16 13 P P 23 36 39.3 +0.2
baz=216
C26K **Camden Bay** 94.21 11 P P 23 36 39.9 +0.6
baz=211
F30M **Barrier River** 94.21 15 P P 23 36 39.5 +0.1
baz=219
E29M **Blow River** 94.34 14 P P 23 36 39.7 -0.2
baz=217
F31M **Tsiigehtchic** 94.59 16 P P 23 36 40.9 -0.1
F31M IAmb IAmb 23 36 42.5
comp=Z,4.9nm,1.1s
F31M **Tsiigehtchic** 94.59 16 P P 23 36 40.9 -0.1
baz=221
D28M **Stokes Point** 94.91 13 P P 23 36 42.4 -0.1
baz=216
INK **Inuvik** 95.30 15 P P 23 36 44.2 0.0
baz=221
SONM **Songino Array** 96.45 319 P P 23 36 49.8 -0.4
comp=Z,0.3nm,0.5s,baz=120,slow=4.0,SNR=2.5
comp=Z,0.3nm,0.5s
YKA **Yellowknife Ar** 97.50 25 P Pdif 23 36 54.0 -0.3
YKA pP pP 23 38 41.6 +1.7
comp=Z,0.7nm,0.7s,baz=256,slow=4.1,SNR=4.8
comp=Z,0.3nm,0.9s,baz=233,slow=4.3,SNR=3.6
comp=Z,0.3nm,0.7s
A36M **Sachs Harbour** 99.91 15 P Pdif 23 37 05.1 +0.3
baz=229
P52A **Corning** 107.88 54 P PKiKP 23 41 45.5 -0.1
baz=257
BLA **Blacksburg** 108.63 57 P PKiKP 23 41 47.1 0.0
baz=257
ZALV **Zalesovo Beam** 111.22 321 PKiKP PKiKP 23 41 49.8 -1.6
comp=Z,1.5nm,0.6s,baz=119,slow=5.3,SNR=8.9
SSPA **Standing Stone** 111.27 53 P PKiKP 23 41 52.3 +0.4
baz=260
NRIK **Noril'sk** 111.47 338 PKiKP PKiKP 23 41 51.0 -0.5
comp=Z,0.7nm,0.4s,baz=79,slow=6.0,SNR=5.0
MKAR **Makanchi Array** 111.82 313 Pdiff Pdif 23 37 58.5 +0.1
comp=Z,0.2nm,0.5s,baz=106,slow=6.0,SNR=2.5
MKAR PKiKP PKiKP 23 41 51.7 -1.1
comp=Z,0.4nm,0.4s,baz=108,slow=0.9,SNR=15
KURBB **Kurchatov Arra** 114.72 317 PKP PKPdf 23 41 57.1 -1.1
comp=Z,1.0nm,0.4s,baz=98,slow=2.0,SNR=11
NEEM **North Greenlan** 118.61 11 *i* P PKPdf 23 42 04.1 -1.2
NOR **Nord** 119.39 3 *i* P PKPdf 23 42 05.4 -1.1
UPNV **Upernavik** 119.69 17 *i* P PKPdf 23 42 06.0 -1.1
BVAR **Borovoye Array** 119.79 320 PKP PKPdf 23 42 07.1 -0.8
comp=Z,3.9nm,0.4s,baz=112,slow=1.9,SNR=37
BRVK **Borovoye** 119.85 320 PKPdf PKPdf 23 42 07.5 -0.5
KBL **Kabul** 120.28 298 PKPdf PKiKP 23 42 09.9 +0.1
NUUG **Nuugaatsiaq** 121.05 18 *i* P PKPdf 23 42 08.8 -1.0
SPA0 **Spitsbergen Ar** 122.89 356 *e*PKPdf PKPdf 23 42 13.2 0.0
SPITS **Spitsbergen Ar** 122.89 356 PKP PKPdf 23 42 12.9 -0.3
comp=Z,7.0nm,0.7s,baz=64,slow=3.8,SNR=19
DAG **Danmarks Havn** 123.77 6 *i* P PKPdf 23 42 13.0 -1.9
SFJD **Kangerlussuaq** 123.94 22 *i* P PKPdf 23 42 14.3 -1.1
SUMG **Summit** 124.18 14 *i* P PKPdf 23 42 15.5 -0.8
BOSA **Boshof** 125.27 205 PKP PKiKP 23 42 20.4 +0.5
comp=Z,1.6nm,0.7s,baz=172,slow=3.2,SNR=7.4
DY2G **Dye2** 125.71 22 *i* P PKPdf 23 42 18.6 -0.6
DBG **Daneborg** 125.87 7 *i* P PKPdf 23 42 18.0 -1.0
ARU **Arti** 125.98 325 PKPdf PKPdf 23 42 19.0 -0.7
ICESG **Greenland Ices** 126.22 17 *i* P PKPdf 23 42 19.2 -1.0
VADS **Vadso** 128.71 348 *e*PKPdf PKiKP 23 42 24.9 -0.2
SCO **Scoresbysund** 129.05 10 *i* P PKPdf 23 42 24.3 -0.8
GEYT **Alibeck** 129.23 302 PKP PKPdf 23 42 26.2 -0.3
comp=Z,1.5nm,0.6s,baz=121,slow=5.7,SNR=3.3
ARA0 **ARCESS Array S** 129.91 349 *e*PKPdf PKPdf 23 42 27.1 +0.3
ARCES **ARCESS Array B** 129.91 349 PKP PKPdf 23 42 26.3 -0.5
comp=Z,2.7nm,0.4s,baz=14,slow=1.6,SNR=30
JETT **Jettan, Norway** 130.68 352 *e*PKPdf PKPdf 23 42 28.6 +0.3
KTK1 **Kautokeino** 130.75 350 *e*PKPdf PKPdf 23 42 28.4 0.0
TRO **Tromso** 130.80 352 *e*PKPdf PKPdf 23 42 27.7 -0.7
STEI **Steigen** 132.86 353 *e*PKPdf PKPdf 23 42 32.6 +0.2
FAUS **Fauske** 133.38 353 *e*PKPdf PKPdf 23 42 33.8 +0.4
JOF **Joensuu** 134.07 342 *e*P PKPdf 23 42 34.8 0.0
KONS **Konsvik** 134.47 354 *e*PKPdf PKPdf 23 42 35.3 -0.1
STOK **Stokkvaagen** 134.64 354 *e*PKPdf PKPdf 23 42 35.6 -0.1
VAF **Ylistaro** 136.18 346 *e*P PKPdf 23 42 39.4 +0.7
KEF **Keuruu** 136.43 345 *e*P PKPdf 23 42 38.3 -0.9
NSS **Namsos** 136.50 354 *e*PKPdf PKPdf 23 42 39.4 +0.1
FINES **FINESS Array B** 136.72 343 PKhKP PKPpre 23 42 28.4
comp=Z,0.6nm,0.4s,baz=24,slow=2.7,SNR=7.2
FINES PKP PKiKP 23 42 40.7 -1.0
comp=Z,1.9nm,0.4s,baz=58,slow=2.5,SNR=3.4
FINES SKP 23 45 29.7
comp=Z,5.4nm,0.8s,baz=58,slow=4.7,SNR=12
DOMB **Dombas** 139.22 355 *e*PKPdf PKPdf 23 42 37.9 -6.5
AKN **Aaknes** 139.23 356 *e*PKPdf PKPdf 23 42 40.5 -3.9
FOO **Floro** 139.91 358 *e*PKPdf PKPdf 23 42 44.0 -1.5
NB2 **NORSAR Subarra** 139.99 353 PKP PKPdf 23 42 39.3 -6.5
comp=Z,1.0nm,0.5s,baz=10,slow=3.2
NB2 SKPa 23 45 42.7
comp=Z,0.8nm,0.7s,baz=12,slow=2.8
NOA **NORSAR Array B** 139.99 353 PKhKP PKPpre 23 42 39.0
comp=Z,0.6nm,0.6s,baz=40,slow=1.2,SNR=13
NOA PKP PKiKP 23 42 47.5 -0.9
comp=Z,1.5nm,0.7s,baz=14,slow=4.0,SNR=8.7
NOA SKPbc SKPbc 23 45 37.5 +0.6
comp=Z,0.5nm,1.0s,baz=15,slow=4.4,SNR=1.8
NC602 **NORSAR Array S** 140.25 353 *e*PKPdf PKPdf 23 42 39.7 -6.6
SUE **Sulen** 140.46 358 *e*PKPdf PKPdf 23 42 40.5 -6.0
HFS **Hagfors** 140.54 351 PKhKP PKPpre 23 42 39.5
comp=Z,4.4nm,0.3s,baz=63,slow=4.0,SNR=48
HFS PKP PKiKP 23 42 48.2 -1.3
comp=Z,2.5nm,0.6s,baz=90,slow=0.3,SNR=3.7
HFS SKPbc SKPbc 23 45 38.6 +0.3
comp=Z,1.6nm,0.8s,baz=99,slow=4.5,SNR=2.4
ASK **Askoy** 141.01 357 *e*PKPdf PKPdf 23 42 47.0 -0.6
BER **Bergen** 141.11 357 *e*PKPdf PKPdf 23 42 45.6 -2.2
ODD1 **Odda** 141.51 356 *e*PKPdf PKPdf 23 42 46.4 -2.2
KONO **Kongsberg** 141.53 354 *e*PKPdf PKPdf 23 42 43.9 -4.7
VSVD **Vaisvydziai** 141.89 340 *e*P PKPdf 23 42 46.5 -2.8
BLS5 **Blasjo** 142.01 356 *e*PKPdf PKPdf 23 42 45.4 -4.0
PABE **Paberze** 142.27 340 *e*P PKPdf 23 42 46.2 -3.8
KMY **Karmoy** 142.28 357 *e*PKPdf PKPdf 23 42 46.4 -3.5
LODK **Lodwar** 142.82 246 PKPdf PKPdf 23 42 50.3 -2.0
TJOU **Tjoern** 142.86 351 *i* P PKPdf 23 42 47.0 -3.9
HOMB **Homborsund** 142.99 354 *e*PKPdf PKPdf 23 42 48.5 -2.7
HOMB **Homborsund** 142.99 354 *i* P PKPdf 23 42 47.9 -3.2
SNART **Snartemo** 143.03 355 *e*PKPdf PKPbc 23 42 49.8 +0.8
SNART **Snartemo** 143.03 355 *i* P PKPab 23 42 47.8 -0.6
BORU **Boraas** 143.07 350 *i* P PKPab 23 42 47.6 -1.0
ONAU **Onsala** 143.43 351 *i* P PKPab 23 42 48.9 -1.1
FABU **Falkenberg** 143.69 350 *i* P PKPab 23 42 50.0 -1.0
SUW **Suwalki** 143.76 339 *e*PKP PKPab 23 42 51.2 -0.1

SUW	**Suwalki**	**143.76**	**339**	*e*P		PKPab	23 42 51.2	-0.1
BLEU	**Blekinge**	**143.77**	**347**	*i* P		PKPab	23 42 49.4	-1.9
AKASG	**Malin Array Be**	**143.85**	**330**	PKP		PKPab	23 42 50.7	-1.1
	comp=Z,17nm,0.4s,baz=42,slow=4.3,SNR=140							
AKASG				SKPbc		**SKiKP**	**23 45 47.1**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=46,slow=2.1,SNR=5.2							
DEL	**Delary**	**144.00**	**349**	*i* P		PKPbc	23 42 50.8	-1.2
DEL	**Delary**	**144.00**	**349**	*e*P		PKPbc	23 42 51.8	-0.3
MUD	**Monsted U'grnd**	**144.71**	**353**	*i* P		**PKPdf**	**23 42 53.0**	**-1.2**
MUD				*i* P		PKPbc	23 42 54.0	-0.3
LUNU	**Lund**	**144.87**	**349**	*i* P		**PKPdf**	**23 42 53.2**	**-1.3**
COP	**Copenhagen**	**145.00**	**350**	*i* P		**PKPbc**	**23 42 54.9**	**-0.3**
BSD	**Bornholm Skovb**	**145.06**	**347**	*i* P		**PKPdf**	**23 42 54.9**	**+0.1**
BSD				*i* P		**PKPbc**	**23 42 55.5**	**0.0**
BSD	**Bornholm Skovb**	**145.06**	**347**	*e*P		**PKPab**	**23 42 56.0**	**-0.2**
SORM	**Soroca**	**146.02**	**328**	⇓P		**PKPbc**	**23 42 57.7**	**-0.8**
EKA	**Eskdalemuir Ar**	**146.04**	**5**	PKPbc		**PKPdf**	**23 42 57.2**	**+0.7**
	comp=Z,5.3nm,0.6s,baz=337,slow=2.2,SNR=12							
MILM	**Milestii Mici**	**146.58**	**326**	⇑P		**PKPbc**	**23 42 59.6**	**-0.5**
BSEG	**Bad Segeberg**	**147.02**	**351**	*e*PKPbc		**PKPbc**	**23 43 01.4**	**+0.3**
	baz=14,slow=2.4							
BR131	**Keskin Array S**	**147.43**	**311**			**PKPbc**	**23 43 02.4**	**-0.4**
BRTR	**Keskin Array B**	**147.43**	**311**	PKPbc		**PKPbc**	**23 43 02.3**	**-0.5**
	comp=Z,4.0nm,0.6s,baz=137,slow=5.1,SNR=26							
KWP	**Kalwaria Pacla**	**147.46**	**335**	*e*PKP		**PKPbc**	**23 43 02.5**	**+0.1**
VLDR	**Vladesti**	**147.66**	**325**	⇑P		**PKPbc**	**23 43 03.0**	**0.0**
RUE	**Ruedersdorf**	**147.77**	**346**	*e*PKPbc		**PKPbc**	**23 43 03.4**	**+0.3**
	baz=14,slow=2.4							
BURAR	**Bucovina Array**	**147.90**	**330**	⇑P		**PKPbc**	**23 43 04.3**	**+0.6**
BIZ	**Bicaz**	**147.94**	**328**	⇓P		**PKPab**	**23 43 10.7**	**+2.7**
OJC	**Ojcow**	**148.07**	**338**	*e*PKP		**PKPbc**	**23 43 03.8**	**-0.2**
PANC	**Panciu**	**148.13**	**326**	⇓P		**PKiKP**	**23 43 04.9**	**-0.7**
MMAI	**Mount Meron Ar**	**148.21**	**298**	PKPbc		**PKiKP**	**23 43 05.8**	**-0.5**
	comp=Z,5.3nm,0.4s,baz=74,slow=7.2,SNR=64							
STHS	**Stebnicka Huta**	**148.21**	**336**	*e*PKP		**PKiKP**	**23 43 05.2**	**-0.5**
VRI	**Vrincioaia**	**148.36**	**326**	⇑P		**PKPbc**	**23 43 04.6**	**-0.2**
PLOR	**Plostina**	**148.41**	**326**	⇓P		**PKPbc**	**23 43 04.5**	**-0.5**
FLTG	**Flechtingen**	**148.42**	**349**	*e*PKPbc		**PKPbc**	**23 43 04.9**	**+0.2**
	baz=14,slow=2.4							
NRDL	**Niedersach Rie**	**148.45**	**350**	*e*PKPbc		**PKPbc**	**23 43 04.9**	**+0.2**
	baz=14,slow=2.4							
CRVS	**Cervenica-Dubn**	**148.54**	**335**	*e*PKP		**PKiKP**	**23 43 05.7**	**-0.6**
COVR	**Voineasa-Covas**	**148.64**	**326**	⇑P		**PKPbc**	**23 43 05.4**	**-0.1**
ARCR	**ARCALIA**	**148.68**	**330**	⇑P		**PKPbc**	**23 43 05.8**	**+0.2**
ASSE	**Asse, Remlinge**	**148.71**	**350**	*e*PKPbc		**PKPbc**	**23 43 05.6**	**+0.3**
	baz=14,slow=2.4							
NEHR	**Nehoiu**	**148.88**	**326**	⇓P		**PKPbc**	**23 43 06.0**	**-0.2**
OSTC	**Ostas**	**148.92**	**342**	⇑*e*PKP		**PKPbc**	**23 43 06.5**	**+0.4**
IBBN	**Ibbenbueren**	**148.95**	**353**	*e*PKPbc		**PKPbc**	**23 43 06.2**	**+0.2**
	baz=14,slow=2.4							
UPC	**Upice**	**149.02**	**342**	⇑*e*PKP		**PKiKP**	**23 43 06.8**	**-0.5**
MLR	**Muntele Rosu**	**149.02**	**326**	⇓P		**PKPbc**	**23 43 06.8**	**+0.2**
CLZ	**Clausthal**	**149.03**	**350**	*e*PKPbc		**PKPbc**	**23 43 06.3**	**0.0**
	baz=14,slow=2.4							
CLL	**Collm**	**149.04**	**346**	*e*PKPdf		**PKPdf**	**23 43 02.0**	**+0.4**
CLL				*i* PKPbc		**PKPbc**	**23 43 06.3**	**0.0**
	comp=Z,20nm,0.7s							
CLL				*i* PKPab		**PKPab**	**23 43 11.8**	**-0.5**
	comp=Z,10.0nm,0.6s							
CLL				*ep*PKPab		**pPKPab**	**23 45 00.0**	**0.0**
DPC	**Dobruska-Polom**	**149.07**	**342**	⇑*e*PKP		**PKiKP**	**23 43 07.0**	**-0.4**
LANS	**Liptovska Anna**	**149.09**	**337**	*e*PKP		**PKiKP**	**23 43 07.8**	**+0.3**
KRLC	**Kraliky**	**149.18**	**341**	⇑*e*PKP		**PKPbc**	**23 43 07.0**	**+0.3**
MORC	**Moravsky Berou**	**149.21**	**340**	⇑P		**PKPbc**	**23 43 06.4**	**-0.4**
MORC	**Moravsky Berou**	**149.21**	**340**	*e*PKP		**PKPbc**	**23 43 06.7**	**-0.1**
BRG	**Berggiesshubel**	**149.22**	**345**	*i* PKP		**PKPbc**	**23 43 07.0**	**+0.2**
BRG				Amp			23 43 08.7	
	comp=Z,8.0nm,0.6s							
BRG	**Berggiesshubel**	**149.22**	**345**	P		**PKPab**	**23 43 13.6**	**+0.5**
BRG				Amp			23 43 14.5	
	comp=Z,4.2nm,0.6s							
BRG	**Berggiesshubel**	**149.22**	**345**	*e*PKPbc		**PKiKP**	**23 43 07.2**	**-0.5**
	baz=14,slow=2.4							
CBBR	**Cluj-Babes-Bol**	**149.29**	**330**	⇑P		**PKPdf**	**23 43 04.1**	**+2.0**
CJR	**Cluj-Napoca**	**149.31**	**330**	⇓P		**PKPbc**	**23 43 07.4**	**+0.2**
GTTG	**Gottingen**	**149.39**	**350**	*e*PKPbc		**PKPbc**	**23 43 07.1**	**0.0**
	baz=14,slow=2.4							
MAUC	**Maruska**	**149.47**	**339**	⇑*e*PKP		**PKiKP**	**23 43 08.3**	**0.0**
VOIR		**149.51**	**327**	⇑P		**PKPbc**	**23 43 07.1**	**-0.6**
MARR	**Marisel-Cluj**	**149.56**	**330**	⇑P		**PKPbc**	**23 43 06.5**	**-1.3**
HSKC	**Hora Svate Kat**	**149.59**	**345**	⇑*e*PKP		**PKPbc**	**23 43 07.5**	**-0.2**
DRGR		**149.66**	**331**	⇑P		**PKPbc**	**23 43 08.1**	**+0.1**
PRA	**Prague**	**149.84**	**344**	⇑*e*PKP		**PKiKP**	**23 43 08.6**	**-0.3**
BUG	**Bochum--Univer**	**149.85**	**353**	*e*PKPbc		**PKPbc**	**23 43 08.3**	**+0.1**
	baz=14,slow=2.4							
VYHS	**Vyhne**	**149.87**	**337**	*e*PKP		**PKiKP**	**23 43 08.7**	**-0.4**
VYHS				*e*			23 43 16.3	
PRU	**Pruhonice**	**149.89**	**344**	⇑*e*PKP		**PKPbc**	**23 43 08.6**	**+0.2**
GOPC	**GO Pecny, Ondr**	**149.89**	**343**	⇑*e*PKP		**PKPbc**	**23 43 08.5**	**+0.1**
VRAC	**Vranov**	**149.91**	**341**	⇓P		**PKiKP**	**23 43 08.8**	**-0.3**
VRAC	**Vranov**	**149.91**	**341**	*e*PKP		**PKPbc**	**23 43 08.4**	**-0.1**
PSZ	**Piszkesteto**	**149.95**	**335**	⇓P		**PKPbc**	**23 43 09.2**	**-0.2**
KASTN	**Kahler Asten**	**149.95**	**352**	*e*PKPbc		**PKPbc**	**23 43 08.3**	**-0.2**
	baz=14,slow=2.4							
MOX	**Moxa**	**149.95**	**348**	*e*PKPbc		**PKPbc**	**23 43 08.7**	**+0.2**
	baz=14,slow=2.4							
JAVC	**Velka Javorina**	**149.96**	**339**	*e*PKP		**PKiKP**	**23 43 09.7**	**+0.4**
RAZG	**Razgrad**	**149.97**	**323**	⇓P		**PKPbc**	**23 43 08.4**	**-0.2**
TANN	**Tannenbergstha**	**149.99**	**346**	*e*PKPbc		**PKPbc**	**23 43 08.9**	**+0.2**
	baz=14,slow=2.4							
UBBA	**Unterbreizbach**	**150.08**	**350**	*e*PKPbc		**PKPbc**	**23 43 08.7**	**+0.1**
	baz=14,slow=2.4							
LOT	**Lotru**	**150.15**	**328**	⇑P		**PKPbc**	**23 43 08.4**	**-0.9**
KRUC	**Moravsky**	**150.19**	**341**	*e*PKP		**PKPbc**	**23 43 09.0**	**-0.1**
DEV	**Deva**	**150.25**	**330**	⇑P		**PKPbc**	**23 43 09.5**	**+0.2**
MANZ	**Manzenberg**	**150.47**	**347**	*e*PKPbc		**PKiKP**	**23 43 10.3**	**0.0**
	baz=14,slow=2.4							
MODS	**Modra-Piesok**	**150.51**	**339**	*e*PKP		**PKiKP**	**23 43 10.8**	**+0.4**
SRO	**Srobarova**	**150.63**	**337**	*e*PKP		**PKiKP**	**23 43 10.8**	**+0.2**
ROTZ	**Rotzenmuhle**	**150.66**	**346**	*e*PKPbc		**PKiKP**	**23 43 10.8**	**+0.1**
	baz=14,slow=2.4							
SURR	**Surduc**	**150.71**	**330**	⇑P		**PKPbc**	**23 43 10.2**	**-0.2**
ELND	**Elena**	**150.73**	**322**	⇓P		**PKiKP**	**23 43 10.8**	**-0.2**
MEM	**Membach**	**150.80**	**355**	*d*PKP		**PKPbc**	**23 43 09.7**	**-0.8**
BTNL	**Ternell**	**150.81**	**354**	*d*PKP		**PKPbc**	**23 43 10.6**	**0.0**
BSTI	**Sart Tilman**	**150.86**	**355**	*d*PKP		**PKiKP**	**23 43 10.8**	**-0.2**
TNS	**Taunus Mts**	**150.90**	**351**	*e*PKPbc		**PKiKP**	**23 43 11.1**	**-0.2**
	baz=14,slow=2.4							
KHC	**Kasperske Hory**	**150.93**	**344**	⇑*e*PKP		**PKiKP**	**23 43 11.2**	**-0.1**
KHC				*e*PKPAB		**PKPab**	**23 43 20.8**	**+0.5**
GRF	**Grafenberg Arr**	**150.94**	**347**	*e*PKPbc		**PKiKP**	**23 43 11.3**	**0.0**
	baz=14,slow=2.4							
SRE	**Strehaia**	**150.99**	**328**	⇓P		**PKiKP**	**23 43 11.4**	**-0.1**
CKRC	**Cesky Krumlov**	**151.02**	**343**	⇑*e*PKP		**PKiKP**	**23 43 11.3**	**-0.2**
BZS	**Buzias**	**151.04**	**331**	⇑P		**PKPbc**	**23 43 11.2**	**0.0**
BCLA	**Clavier**	**151.05**	**355**	*d*PKP		**PKPbc**	**23 43 09.5**	**-1.6**
BCLA				*dp*PKP		**pPKPbc**	**23 45 03.2**	**+0.5**
WET	**Wettzell**	**151.09**	**345**	*e*PKPbc		**PKiKP**	**23 43 11.7**	**+0.1**
	baz=14,slow=2.4							
GEC2	**GERESS Array S**	**151.16**	**344**	*e*PKPbc		**PKiKP**	**23 43 11.8**	**-0.1**
	baz=14,slow=2.4							
GERES	**GERESS Array B**	**151.16**	**344**	PKP		**PKPdf**	**23 43 05.7**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=27,slow=8.8,SNR=3.5							
GERES				PKPbc		**PKPbc**	**23 43 11.4**	**-0.1**
	comp=Z,5.6nm,0.6s,baz=18,slow=5.6,SNR=20							
BMRD	**Maredsous**	**151.20**	**356**	*d*PKP		**PKPbc**	**23 43 11.4**	**0.0**
HERR	**Herculane**	**151.22**	**329**	⇑P		**PKPbc**	**23 43 11.2**	**-0.4**
RCHB	**Rochefort**	**151.31**	**356**	*d*PKP		**PKPbc**	**23 43 11.7**	**0.0**
CONA	**Conrad Observa**	**151.36**	**340**	*i* PKP		**PKiKP**	**23 43 12.1**	**-0.2**
	comp=Z,12nm,0.6s							
DOU	**Dourbes**	**151.41**	**356**	*d*PKP		**PKiKP**	**23 43 12.0**	**-0.2**
RONA	**Rosalia, Austr**	**151.42**	**339**	*i* PKP		**PKiKP**	**23 43 12.3**	**-0.1**
	comp=Z,22nm,0.5s,SNR=18							
MDVR	**Moldovita**	**151.63**	**329**	⇑P		**PKPbc**	**23 43 12.2**	**-0.4**
WLF	**Walferdange**	**151.72**	**354**	*d*PKP		**PKPbc**	**23 43 12.7**	**+0.1**
WLF	**Walferdange**	**151.72**	**354**	*e*PKPbc		**PKiKP**	**23 43 13.1**	**+0.2**
	baz=14,slow=2.4							
MORH	**Mrgy, Hungar**	**151.84**	**335**	⇑P		**PKPbc**	**23 43 11.6**	**-1.3**
MOA	**Molln**	**151.91**	**342**	*i* PKP		**PKPbc**	**23 43 12.8**	**-0.3**
	comp=Z,5.0nm,0.5s							
STU	**Stuttgart**	**152.20**	**350**	*e*PKPbc		**PKPbc**	**23 43 13.8**	**-0.1**
	baz=14,slow=2.4							
FRGS	**Fruska Gora**	**152.20**	**332**	⇑P		**PKiKP**	**23 43 13.9**	**-0.1**
BIOA	**Bad Ischl, Aus**	**152.23**	**343**	*i* PKP		**PKPbc**	**23 43 12.9**	**-0.9**
	comp=Z,3.8nm,0.5s							
FUR	**Furstenfeldbru**	**152.38**	**346**	*e*PKPbc		**PKiKP**	**23 43 14.5**	**+0.2**
	baz=14,slow=2.4							
RJOB	**Jochberg**	**152.41**	**344**	*e*PKPbc		**PKiKP**	**23 43 15.1**	**+0.6**
	baz=14,slow=2.4							
SOKA	**Soboth**	**152.73**	**340**	*i* PKP		**PKPbc**	**23 43 14.7**	**-0.4**
	comp=Z,5.1nm,1.1s							
LESA	**Schwarzleotal**	**152.73**	**344**	*i* PKP		**PKPbc**	**23 43 14.7**	**-0.3**
	comp=Z,5.2nm,0.5s							
BFO	**Black Forest**	**152.77**	**351**			**PKiKP**	**23 43 15.1**	**0.0**

BFO	**Black Forest**	**152.77**	**351**	*e*PKPbc		**PKPbc**	**23 43 15.0**	**0.0**
	baz=14,slow=2.4							
KBA	**Koelnbreinsper**	**152.87**	**343**	*i* PKP		**PKPbc**	**23 43 14.8**	**-0.7**
	comp=Z,12nm,1.1s							
UBR	**Ueberruh**	**153.08**	**348**	*e*PKPbc		**PKiKP**	**23 43 16.0**	**+0.2**
	baz=14,slow=2.4							
WATA	**Walderalm**	**153.09**	**345**	*i* PKiKP		**PKiKP**	**23 43 16.0**	**+0.1**
	comp=Z,6.2nm,0.4s							
RETA	**Retatte**	**153.13**	**347**	*i* PKP		**PKPbc**	**23 43 15.8**	**-0.1**
	comp=Z,4.2nm,0.8s							
WTTA	**Wattenberg**	**153.14**	**345**	*e*PKP		**PKPbc**	**23 43 15.8**	**-0.2**
	comp=Z,9.2nm,0.4s,SNR=5.5							
MOTA	**Moosalm**	**153.19**	**346**	*i* PKP		**PKPbc**	**23 43 16.1**	**0.0**
	comp=Z,8.4nm,0.8s							
MYKA	**Terra Mystica**	**153.20**	**342**	*i* PKP		**PKPbc**	**23 43 15.3**	**-0.7**
	comp=Z,4.8nm,0.5s							
SQTA	**Sankt Quirin**	**153.28**	**346**	*i* PKP		**PKiKP**	**23 43 16.3**	**0.0**
	comp=Z,7.2nm,0.7s							
ABTA	**Abfaltersbach**	**153.40**	**344**	*e*PKP		**PKPbc**	**23 43 16.0**	**-0.5**
	comp=Z,11nm,0.6s,SNR=4.3							
FETA	**Feichten**	**153.58**	**346**	*i* PKiKP		**PKiKP**	**23 43 17.1**	**+0.1**
	comp=Z,8.9nm,1.0s							
ESDC	**Sonseca Array**	**161.24**	**14**	PKPab		**PKPab**	**23 44 04.7**	**-0.3**
	comp=Z,1.5nm,1.1s,baz=344,slow=4.8,SNR=4.0							
DBIC	**Dimbokro**	**163.85**	**155**	PKP		**PKPdf**	**23 43 21.5**	**0.0**
	comp=Z,2.6nm,0.6s,baz=149,slow=1.6,SNR=4.3							
KEST	**Kesra**	**164.42**	**337**	PKPab		**PKPab**	**23 44 18.7**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=270,slow=1.0,SNR=4.9							
TORD	**Torodi Ar. Bea**	**171.66**	**179**	PKP		**PKPdf**	**23 43 26.1**	**-0.7**
	comp=Z,1.7nm,0.9s,baz=22,slow=1.6,SNR=8.1							
TORD				PKPab		**PKPab**	**23 44 52.6**	**+1.3**
	comp=Z,2.5nm,0.7s,baz=167,slow=3.1,SNR=11							

*IDC **30** 23:24:43.5±1.3,5°.265×151°.83E,h0km,mb4.1/5, mbtmp4.1/5,MS3.4/1,Error ellipse: s-maj=50.5km s-min=26.2km az=112.0*
*NEIC **30** 23:24:48.5±1.8,5°.5S±0°.1×151°.7E±0°.3,h10km±2km, mb4.3/7,Error ellipse: s-maj=57.7km s-min=6.6km az=109.0*

ISC 30 23:24:49.8±1.0,5°.5S±0°.1×151°.6E±0°.2,h35km,n16, σ1s85/16,mb4.2/10,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.42**	**23**	Pn	**Pn**	**23 25 13.8**	**+0.7**
RABL				Sn	**Sn**	**23 25 32.3**	**+1.6**
WB0	**Warramunga Arr**	**21.94**	**228**	P	**P**	**23 29 42.5**	**+2.0**
WB0				IAmb	IAmb	23 29 43.7	
	comp=Z,5.4nm,0.7s						
WR0	**Warramunga Arr**	**21.95**	**228**	P	**P**	**23 29 42.9**	**+2.2**
WR0				IAmb	IAmb	23 29 43.8	
	comp=Z,6.0nm,0.7s						
WRAB	**Tennant Creek**	**22.08**	**228**	P	**P**	**23 29 43.9**	**+2.0**
WB2	**Warramunga Arr**	**22.08**	**228**	P	**P**	**23 29 44.3**	**+2.3**
WB2				IAmb	IAmb	23 29 45.0	
	comp=Z,10nm,0.7s						
WRA	**Warramunga Arr**	**22.09**	**228**	P	**P**	**23 29 44.7**	**+2.6**
	comp=Z,6.9nm,0.6s,baz=52,slow=9.9,SNR=28						
	comp=Z,6.9nm,0.6s						
KNRA	**Kununurra**	**24.60**	**244**	P	**P**	**23 30 06.7**	**-0.3**
KNRA				IAmb	IAmb	23 30 46.1	
	comp=Z,15nm,1.3s						
ASAR	**Alice Springs**	**24.83**	**222**	P	**P**	**23 30 10.8**	**+1.8**
	comp=Z,6.9nm,0.7s,baz=57,slow=9.0,SNR=44						
	comp=Z,6.9nm,0.7s						
STKA	**Stephens Creek**	**27.86**	**198**	LR	LR	23 41 40.7	
	comp=Z,72nm,18.4s,baz=81,slow=36						
FITZ	**Fitzroy Crossi**	**28.28**	**242**	P	**P**	**23 30 39.6**	**-0.5**
SONM	**Songino Array**	**66.30**	**329**	P	**P**	**23 35 33.7**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=134,slow=6.1,SNR=4.1						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**80.09**	**319**	P	**P**	**23 36 55.3**	**-0.8**
	comp=Z,0.1nm,0.5s,baz=99,slow=8.9,SNR=1.6						
QSPA	**South Pole Qui**	**84.45**	**180**	P	**P**	**23 37 16.9**	**-1.9**
QSPA				IAmb	IAmb	23 37 50.1	
	comp=Z,2.9nm,1.1s						
QSPA	**South Pole Qui**	**84.45**	**180**	P	**P**	**23 37 19.2**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=29,slow=5.8,SNR=2.2						
	comp=Z,1.6nm,0.8s						
NVAR	**Mina Array Bea**	**93.45**	**52**	P	**P**	**23 38 00.8**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=238,slow=5.2,SNR=3.1						
	comp=Z,0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**149.39**	**286**	PKPbc	**PKPdf**	**23 44 34.1**	**+2.4**
	comp=Z,0.7nm,0.6s,baz=81,slow=3.1,SNR=11						

*IDC **30** 23:59:17.8±0.6,16°.63S×173°.69W,h0km,mb4.1/12, mbtmp4.1/12,MS3.9/6,Error ellipse: s-maj=27.6km s-min=17.1km az=134.0*
*NEIC **30** 23:59:20.4±1.2,16°.62S±0°.06×173°.5W±0°.1,h15km±5km, mb4.5/51,Error ellipse: s-maj=16.6km s-min=8.5km az=85.0*

ISC 30 23:59:19.3±0.5,16°.57S±0°.08×173°.5W±0°.1,h10km,n88, σ1s19/79,mb4.4/38,MS4.2/5,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.13**	**32**	P	**Pn**	**00 00 08.8**	**+0.1**
AFI				Sn	**Sn**	**00 00 43.0**	**-3.2**
NIUE	**Niue**	**4.22**	**127**	P	**Pn**	**00 00 22.6**	**-1.0**
NIUE				Sn	Sn	00 01 04.0	-9.0
DZM	**Mont Dzumac**	**19.69**	**251**	LR	LR	00 10 15.8	
	comp=Z,125nm,20.5s,baz=255,slow=34						
TOZ	**Tahuroa Road**	**23.20**	**203**	P	**P**	**00 04 24.4**	**-1.8**
TOZ				IAmb	IAmb	00 04 52.6	
	comp=Z,13nm,1.1s						
HNR	**Honiara**	**26.81**	**282**	LR	LR	00 14 02.6	
	comp=Z,2μm,22.0s,baz=104,slow=33						
LTZ	**Lake Taylor**	**28.81**	**202**	P	**P**	**00 05 21.5**	**+3.9**
H11S2	**WAKE ISLAND Hy**	**39.92**	**330**	T	T	00 50 04.3	
	baz=144,slow=76,SNR=9.2						
H11S3	**WAKE ISLAND Hy**	**39.93**	**330**	T	T	00 50 10.4	
	baz=144,slow=76,SNR=8.2						
H11S1	**WAKE ISLAND Hy**	**39.94**	**330**	T	T	00 50 08.6	
	baz=144,slow=76,SNR=5.4						
H11N3	**WAKE ISLAND Hy**	**40.88**	**331**	T	T	00 51 15.0	
	baz=151						
H11N1	**WAKE ISLAND Hy**	**40.89**	**331**	T	T	00 51 16.1	
	baz=151						
H11N2	**WAKE ISLAND Hy**	**40.90**	**331**	T	T	00 50 48.9	
	baz=151						
STKA	**Stephens Creek**	**43.38**	**241**	P	**P**	**00 07 22.0**	**-0.1**
STKA	**Stephens Creek**	**43.38**	**241**	P	**P**	**00 07 20.1**	**-1.9**
	comp=Z,2.0nm,0.5s,baz=82,slow=11,SNR=7.8						
	comp=Z,2.0nm,0.5s						
BBOO	**Buckleboo**	**48.15**	**241**	P	**P**	**00 07 57.3**	**-2.5**
WR0	**Warramunga Arr**	**49.30**	**258**	P	**P**	**00 08 08.4**	**-0.5**
WR0				IAmb	IAmb	00 08 45.4	
	comp=Z,3.9nm,1.2s						
WB0	**Warramunga Arr**	**49.46**	**258**	P	**P**	**00 08 09.3**	**-0.7**
WB0				IAmb	IAmb	00 08 47.6	
	comp=Z,8.4nm,1.4s						
WB2	**Warramunga Arr**	**49.48**	**258**	P	**P**	**00 08 08.0**	**-2.3**
WB2				IAmb	IAmb	00 08 35.7	
	comp=Z,8.6nm,1.4s						
WRA	**Warramunga Arr**	**49.49**	**258**	P	**P**	**00 08 08.1**	**-2.3**
WRA	**Warramunga Arr**	**49.49**	**258**	P	**P**	**00 08 08.3**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=95,slow=7.1,SNR=10						
WRA				PcP	**PcP**	**00 09 31.9**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=95,slow=3.1,SNR=1.5						
	comp=Z,0.5nm,0.3s						
AS31	**Alice Springs**	**49.66**	**253**	P	**P**	**00 08 09.8**	**-1.8**
AS31				IAmb	IAmb	00 08 12.8	
	comp=Z,2.6nm,0.6s						
ASAR	**Alice Springs**	**49.66**	**253**	P	**P**	**00 08 09.8**	**-1.8**
	comp=Z,8.0nm,0.5s,baz=87,slow=8.5,SNR=65						
ASAR				PcP	**PcP**	**00 09 32.5**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=106,slow=3.8,SNR=1.6						
	comp=Z,8.0nm,0.5s						
VNDA	**Vanda**	**62.20**	**186**	P	**P**	**00 09 41.1**	**+0.6**
	comp=Z,0.9nm,0.9s,baz=1.3,slow=6.8,SNR=5.4						
	comp=Z,0.9nm,0.9s						
MJAR	**Matsushiro Arr**	**69.77**	**320**	LR	LR	00 36 14.1	
	comp=Z,17nm,19.8s,baz=144,slow=32						
QSPA	**South Pole Qui**	**73.48**	**180**	P	**P**	**00 10 51.8**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=45,slow=1.0,SNR=12						
	comp=Z,1.6nm,0.8s						
RYN	**Ryan**	**75.24**	**42**	P	**P**	**00 11 02.1**	**-0.5**
113A	**Mohawk Valley,**	**75.26**	**49**	P	**P**	**00 11 03.2**	**+0.6**
NVAR	**Mina Array Bea**	**75.26**	**42**	P	**P**	**00 11 03.1**	**+0.3**
NVAR	**Mina Array Bea**	**75.26**	**42**	P	**P**	**00 11 04.2**	**+1.4**
	comp=Z,1.0nm,0.8s,baz=231,slow=7.8,SNR=9.2						
	comp=Z,1.0nm,0.8s						
GMN	**Gold Mountain**	**75.29**	**43**	P	**P**	**00 11 02.4**	**-0.6**
NV11	**Mina Array Sit**	**75.36**	**42**	P	**P**	**00 11 03.0**	**-0.3**
NV11				IAmb	IAmb	00 11 10.3	
	comp=Z,4.8nm,1.4s						
MZP	**Montezuma Peak**	**75.44**	**43**	P	**P**	**00 11 03.5**	**-0.4**
ELK	**Elko**	**78.52**	**41**	LR	LR	00 38 34.9	
	comp=Z,34nm,20.5s,baz=210,slow=30						
MTPU	**Mount Pierson**	**79.08**	**45**	P	**P**	**00 11 22.9**	**-1.6**
GHO	**Glory Hole Cre**	**80.49**	**12**	P	**P**	**00 11 31.5**	**+0.3**
WAX	**Waxell Ridge**	**80.63**	**15**	P	**P**	**00 11 32.7**	**+0.7**
SCM	**Sheep Creek Mo**	**80.86**	**12**	P	**P**	**00 11 33.7**	**+0.5**
VHRN	**Van Horn**	**80.92**	**54**	P	**P**	**00 11 34.9**	**+0.6**
VRDI	**Verde Repeater**	**81.17**	**14**	P	**P**	**00 11 34.3**	**-0.7**
R32K	**Eaglecrest**	**81.19**	**20**	P	**P**	**00 11 34.9**	**0.0**
N25K	**Chitina, Valde**	**81.24**	**14**	P	**P**	**00 11 35.7**	**+0.5**
N25K				IAmb	IAmb	00 11 37.1	
	comp=Z,3.9nm,0.8s						
P29M	**Windy Craggy**	**81.30**	**17**	P	**P**	**00 11 36.5**	**+0.9**
TXAR	**Lajitas Array**	**81.34**	**56**	P	**P**	**00 11 37.4**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=217,slow=5.8,SNR=4.1						
	comp=Z,0.4nm,0.8s						
TRF	**Thorofare Moun**	**81.79**	**10**	P	**P**	**00 11 37.7**	**-0.5**
TRF				IAmb	IAmb	00 11 57.0	
	comp=Z,4.3nm,1.1s						
J20K	**Nowinta River**	**81.87**	**8**	P	**P**	**00 11 39.9**	**+1.5**
J20K				IAmb	IAmb	00 11 40.5	
	comp=Z,4.5nm,1.1s						
RND	**Reindeer**	**82.00**	**11**	P	**P**	**00 11 39.7**	**+0.5**
RND				IAmb	IAmb	00 11 43.0	
	comp=Z,3.9nm,1.0s						
HYT	**Haines Junctio**	**82.36**	**17**	P	**P**	**00 11 41.8**	**+0.6**
HYT				IAmb	IAmb	00 11 43.3	
	comp=Z,8.9nm,1.4s						
Q32M	**Nakina River**	**82.46**	**20**	P	**P**	**00 11 42.5**	**+0.7**
M27K	**Edge Creek, AK**	**82.53**	**14**	P	**P**	**00 11 42.7**	**+0.7**
M27K				IAmb	IAmb	00 11 46.7	
	comp=Z,5.2nm,1.2s			

SAFT	**Safranbolu**	**1.03**	**65**	Pg		**Pg**	**23 59 58.6**	**-0.3**	
OSMT	**Osmaniye**	**1.34**	**261**	Pn		**Pg**	**00 00 04.3**	**-0.4**	
OSMT				Sn		**Sn**	**00 00 23.9**	**+1.4**	
HRT	**Hereke**	**1.34**	**271**	Pn		**Pb**	**00 00 04.2**	**-0.5**	
HRT				Sn		**Sn**	**00 00 23.4**	**+0.8**	
ADVT	**Abdulvahap**	**1.35**	**254**	Pn		**Pn**	**00 00 03.9**	**-0.5**	
CAVI	**Cavuskoy**	**1.36**	**244**	Pn		**Pg**	**00 00 04.9**	**-0.3**	
CAVI				Sn		**Sn**	**00 00 24.7**	**+1.7**	
SVRH	**Sivrihisar-ESK**	**1.37**	**177**	Pn		**Pg**	**00 00 05.7**	**+0.4**	
SVRH				Sn		**Sn**	**00 00 24.9**	**+1.6**	
SILT	**Sile**	**1.40**	**285**	Pn		**Pg**	**00 00 05.5**	**-0.4**	
SILT				Sn		**Sn**	**00 00 24.4**	**+0.5**	
ANTO	**Ankara**	**1.40**	**132**	Pn		**Pg**	**00 00 06.3**	**+0.4**	
ANTO				Sn		**Sn**	**00 00 26.1**	**+2.0**	
KURC	**Kurucasile-Bar**	**1.42**	**43**	Pn		**Pn**	**00 00 04.8**	**-0.6**	
KURC				Sn		**Sg**	**00 00 25.8**	**+1.0**	
CIFT	**Ciftеler, Eski**	**1.48**	**191**	Pn		**Pg**	**00 00 08.1**	**+0.6**	
YLV	**Yalova**	**1.59**	**262**	Pn		**Pg**	**00 00 08.9**	**-0.7**	
YLV				Sn		**Sg**	**00 00 30.1**	**-0.1**	
GEMT	**Gemlik**	**1.75**	**258**	Pn		**Pb**	**00 00 10.4**	**-1.2**	
GEMT				Sn		**Sb**	**00 00 33.9**	**0.0**	
ISK	**Istanbul-Kandi**	**1.82**	**279**	Pn		**Pb**	**00 00 11.6**	**-1.2**	
ISK				Sn		**Sb**	**00 00 35.2**	**-0.6**	
KAVV	**Kandilli-Istan**	**1.82**	**279**	Pn		**Pb**	**00 00 11.5**	**-1.3**	
KAVV				Sn		**Sb**	**00 00 35.8**	**0.0**	
AFSR	**Afar-Bala (An**	**1.85**	**137**	Pn		**Pb**	**00 00 12.3**	**-1.1**	
AFSR				Sn		**Sg**	**00 00 37.4**	**-1.2**	
KLYT	**Kilyos**	**1.87**	**284**	Pn		**Pb**	**00 00 12.1**	**-1.4**	
KLYT				Sn		**Sb**	**00 00 35.9**	**-1.2**	
KIZT	**Kizilcal**	**1.96**	**170**	Pn		**Pn**	**00 00 13.1**	**+0.1**	
KIZT				Sn		**Sb**	**00 00 39.4**	**-0.6**	
ARMT	**Armutlu**	**1.98**	**264**	Pn		**Pn**	**00 00 13.6**	**+0.5**	
MDNY	**Mudanya-Bursa**	**2.00**	**258**	Pn		**Pb**	**00 00 14.2**	**-1.6**	
BR131	**Keskin Array S**	**2.00**	**122**	Pn		**Pb**	**00 00 14.4**	**-1.6**	
TVSB	**Tavsanli**	**2.04**	**229**	Pn		**Pn**	**00 00 14.7**	**+0.7**	
BGKT	**Bogazkoy**	**2.05**	**281**	Pn		**Pn**	**00 00 14.6**	**+0.5**	
KULU	**Kulu**	**2.14**	**145**	Pn		**Pb**	**00 00 16.5**	**-1.8**	
CTKS	**Kestanelik-??a**	**2.26**	**282**	Pn		**Pn**	**00 00 17.6**	**+0.7**	
KCTX	**Karacabey (Bur**	**2.41**	**258**	Pn		**Pn**	**00 00 20.1**	**+1.0**	
CTYL	**Yalikoy Yolu**	**2.47**	**287**	Pn		**Pn**	**00 00 20.4**	**+0.6**	
SLVT	**Silivri**	**2.48**	**281**	Pn		**Pn**	**00 00 20.7**	**+0.7**	
CORM	**Corum**	**2.52**	**104**	Pn		**Pn**	**00 00 21.5**	**+0.9**	
SIMA	**Simav-Kutahya**	**2.56**	**228**	Pn		**Pn**	**00 00 22.1**	**+0.9**	
YAL	**Yalta**	**4.18**	**28**	*eP*		**Pn**	**00 00 44.7**	**+1.4**	
YAL				Sm			00 00 32.5		
	comp=E,6.0nm,0.3s								
YAL				Pm			00 00 45.0		
	comp=Z,3.0nm,0.3s								
YAL				*eS*		**Sn**	**00 01 32.1**	**-0.4**	
YAL				Sm			00 01 32.5		
	comp=N,2.0nm,0.2s								
SUDU	**Sudak**	**4.84**	**32**	*eP*		**Pn**	**00 00 54.6**	**+2.2**	
SUDU				Sm			00 00 53.1		
	comp=E,1.0nm,0.3s								
SUDU				Pm			00 00 54.9		
	comp=Z,3.0nm,0.3s								
SUDU				*eS*		**Sn**	**00 01 50.0**	**+1.3**	
SUDU				Sm			00 01 53.1		
	comp=N,6.0nm,0.5s								

IDC ***31*** *00:09:17.6±0.9, 39°.55N×75°.01E, h0km, mb3.7/8, mbtmp3.6/11, ML3.3/3, Error ellipse: s-maj=20.0km s-min=14.0km az=83.0*
KRNET ***31*** *00:09:21.9±0.1, 39°.81N×75°.03E, h20km, mb3.6*
SOME ***31*** *00:09:23.6, 39°.97N×74°.42E, h25km*
NNC ***31*** *00:09:25.4±1.2, 39°.96N×74°.93E, h4km±6km, mb4.3, mpv4.0, Error ellipse: s-maj=8.3km s-min=6.3km az=170.0*
ISC 31 00:09:20.3±1.3, **39°.85N**±0°.04×**74°.93E**±0°.02, **h8**km±9km, **n92**,σ1°**78**/135, **mb3.7/8, 31C-26D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.11**	**279**		⇓	*iP*	**Pn**	**00 09 44.8**	**+2.4**
	baz=80								
SFK					⇓	*iS*	**Sn**	**00 10 01.2**	**+3.2**
	baz=80								
OHH	**Osh**	**1.78**	**293**		⇑	*iP*	**Pg**	**00 09 56.5**	**+2.1**
	baz=93								
OHH					⇑	*iS*	**Sg**	**00 10 21.7**	**+4.3**
	baz=93								
NRN	**Naryn**	**1.78**	**27**		⇓	*eP*	**Pg**	**00 09 54.1**	**-0.3**
	baz=24								
NRN					⇓	*eS*	**Sg**	**00 10 18.0**	**+0.5**
	baz=24								
ARLS	**Aral**	**2.06**	**347**		⇑	*eP*	**Pg**	**00 10 00.2**	**+0.4**
	baz=46								
ARLS					⇑	*eS*	**Sg**	**00 10 28.1**	**+1.5**
	baz=46								
ARSB	**Arslanbob**	**2.09**	**315**		⇑	*iP*	**Pg**	**00 10 01.0**	**+0.6**
	baz=15								
ARSB					⇑	*iS*	**Sg**	**00 10 29.5**	**+2.0**
	baz=15								
UCH	**Uchtor**	**2.40**	**353**	P			**Pg**	**00 10 05.6**	**-0.6**
	SNR=181								
UCH	**Uchtor**	**2.40**	**353**		⇑	*iP*	**Pg**	**00 10 05.3**	**-1.0**
	baz=51								
UCH					⇑	*iS*	**Sg**	**00 10 37.0**	**-0.3**
	baz=51								
DRK	**Karamyk**	**2.44**	**262**		⇑	*iP*	**Pg**	**00 10 06.0**	**-1.2**
	baz=64								
DRK					⇑	*iS*	**Sg**	**00 10 37.9**	**-1.0**
	baz=64								
ULHL	**Ulahol**	**2.59**	**22**	P			**Pg**	**00 10 09.0**	**-1.0**
	SNR=132								
ULHL	**Ulahol**	**2.59**	**22**		⇑	*iP*	**Pb**	**00 10 06.9**	**-0.2**
	baz=20								
ULHL					⇑	*iS*	**Sb**	**00 10 40.0**	**+0.8**
	baz=20								
BOOM	**Boomskoye usch**	**2.75**	**16**		⇑	*eP*	**Pb**	**00 10 09.6**	**-0.1**
	baz=14								
BOOM					⇑	*eS*	**Sb**	**00 10 44.2**	**+0.6**
	baz=14								
AAK	**Ala-Archa**	**2.80**	**353**	P			**Pb**	**00 10 11.7**	**+0.9**
	SNR=23								
AAK	**Ala-Archa**	**2.80**	**353**	Pn			**Pb**	**00 10 11.6**	**+0.9**
	5.2nm,0.3s,baz=173,slow=8.3,SNR=84								
AAK						Sn	**Sg**	**00 10 49.4**	**-1.0**
	4.6nm,0.3s,baz=321,slow=22,SNR=9.4								
	28nm,0.5s								
AAK	**Ala-Archa**	**2.80**	**353**		⇓	*iP*	**Pb**	**00 10 10.7**	**0.0**
	baz=52								
AAK					⇓	*iS*	**Sb**	**00 10 46.4**	**+1.1**
	baz=52								
KBK	**Karagaybulak**	**2.80**	**0**	P			**Pg**	**00 10 11.8**	**-2.2**
	SNR=6.2								
KBK	**Karagaybulak**	**2.80**	**0**		⇑	*iP*	**Pb**	**00 10 10.6**	**-0.1**
	baz=59								
KBK					⇑	*iS*	**Sb**	**00 10 45.9**	**+0.6**
	baz=59								
KDJ	**Kajisay**	**2.84**	**36**		⇓	*eP*	**Pb**	**00 10 10.7**	**-0.7**
	baz=35								
KDJ					⇓	*eS*	**Sb**	**00 10 46.3**	**-0.1**
	baz=35								
TARG	**Taragay, Kyrgy**	**2.88**	**48**		⇓	*iP*	**Pb**	**00 10 10.5**	**-1.6**
	baz=47								
TARG					⇓	*iS*	**Sb**	**00 10 45.4**	**-2.2**
	baz=47								
EKS2	**Erkin-Say**	**2.94**	**343**	P			**Pb**	**00 10 13.8**	**+0.8**
	SNR=18								
EKS2	**Erkin-Say**	**2.94**	**343**		⇓	*iP*	**Pb**	**00 10 12.6**	**-0.4**
	baz=42								
EKS2					⇓	*iS*	**Sb**	**00 10 49.8**	**+0.6**
	baz=42								
FRU1	**Bishkek**	**2.97**	**356**		⇑	*eP*	**Pb**	**00 10 13.1**	**-0.3**
	baz=54								
FRU1					⇑	*eS*	**Sb**	**00 10 50.5**	**+0.6**
	baz=54								
ARK	**Arkit**	**2.98**	**312**		⇑	*iP*	**Pb**	**00 10 13.3**	**-0.3**
	baz=11								
ARK					⇑	*iS*	**Sb**	**00 10 50.9**	**+0.7**
	baz=11								
TKM2	**Tokmak 2**	**3.11**	**9**	P			**Pb**	**00 10 15.6**	**-0.4**
	SNR=32								
CHMS	**Chumysh**	**3.15**	**358**	P			**Pb**	**00 10 16.2**	**-0.3**
	SNR=25								
CHMS	**Chumysh**	**3.15**	**358**	Pg			**Sn**	**00 10 41.3**	**-6.6**
	94nm,0.1s								
CHMS				Lg			Lg	00 11 37.2	
	69nm,0.2s								
CHMS	**Chumysh**	**3.15**	**358**		⇓	*iP*	**Pb**	**00 10 15.2**	**-1.3**
	baz=56								
CHMS					⇓	*iS*	**Sb**	**00 10 54.0**	**-1.1**
	baz=56								
MRKS	**Merke**	**3.17**	**337**	*eP*			**Pb**	**00 10 16.6**	**-0.3**
	20nm,0.4s								
MRKS				*eS*			**Sb**	**00 10 54.7**	**-0.9**
	41nm,0.3s								
MRKS	**Merke**	**3.17**	**337**	Pg			**Pb**	**00 10 16.6**	**-0.3**
	20nm,0.4s								
MRKS				Lg			Lg	00 10 54.7	
	41nm,0.3s								
BTK	**Batken**	**3.17**	**275**		⇓	*eP*	**Pb**	**00 10 15.9**	**-1.0**
	baz=76								
BTK					⇓	*eS*	**Sb**	**00 10 55.7**	**0.0**
	baz=76								
MNAS	**Manas**	**3.21**	**326**		⇑	*eP*	**Pb**	**00 10 16.6**	**-1.0**
	baz=25								
MNAS					⇑	*eS*	**Sb**	**00 10 56.4**	**-0.5**
	baz=25								
KST	**Kastek**	**3.28**	**13**	*eP*			**Pg**	**00 10 22.3**	**-0.9**
	29nm,0.3s								
KST				*eS*			**Sg**	**00 11 04.2**	**-1.5**
	201nm,1.0s								
KST	**Kastek**	**3.28**	**13**	Pg			**Pg**	**00 10 22.3**	**-0.9**
	29nm,0.3s								
KST				Lg			Lg	00 11 04.3	
	201nm,1.0s								
TRKS	**Terek-Say**	**3.33**	**301**		⇓	*iP*	**Pb**	**00 10 17.5**	**-2.3**
	baz=1.0								
TRKS					⇓	*iS*	**Sb**	**00 10 58.4**	**-2.2**
	baz=1.0								
IZV	**Izvestkoviy**	**3.42**	**21**	*eP*			**Pg**	**00 10 25.8**	**-0.2**
	32nm,0.6s								
IZV				*eS*			**Sg**	**00 11 10.4**	**+0.1**
	82nm,0.6s								
IZV	**Izvestkoviy**	**3.42**	**21**	Pg			**Pg**	**00 10 25.8**	**-0.2**
	32nm,0.6s								
IZV				Lg			Lg	00 11 10.4	
	82nm,0.6s								
USP	**Ospenovka**	**3.43**	**355**	P			**Pb**	**00 10 19.7**	**-1.6**
	SNR=21								
USP	**Ospenovka**	**3.43**	**355**		⇑	*iP*	**Pb**	**00 10 19.1**	**-2.2**
	baz=54								
USP					⇑	*iS*	**Sb**	**00 11 00.9**	**-2.3**
	baz=54								
DGS	**Degeres**	**3.45**	**10**	*eP*			**Pg**	**00 10 25.5**	**-0.9**
	56nm,0.7s								
DGS				*eS*			**Sg**	**00 11 10.1**	**-0.9**
	70nm,0.5s								
DGS	**Degeres**	**3.45**	**10**	Pg			**Pg**	**00 10 25.5**	**-0.9**
	56nm,0.7s								
DGS				Lg			Lg	00 11 10.1	
	70nm,0.5s								
MTBS	**Maitube**	**3.46**	**18**	*eP*			**Pg**	**00 10 25.4**	**-1.3**
	23nm,0.2s								
MTBS				*eS*			**Sg**	**00 11 09.8**	**-1.8**
	41nm,0.4s								
MTBS	**Maitube**	**3.46**	**18**	Pg			**Pg**	**00 10 25.4**	**-1.3**
	23nm,0.2s								
MTBS				Lg			Lg	00 11 09.8	
	41nm,0.4s								
TNSS	**Tian-Shan**	**3.53**	**25**	*eP*			**Pg**	**00 10 27.9**	**0.0**
	29nm,0.3s								
TNSS				*eS*			**Sg**	**00 11 13.8**	**+0.2**
	21nm,0.6s								
TNSS	**Tian-Shan**	**3.53**	**25**	Pg			**Pg**	**00 10 27.9**	**0.0**
	29nm,0.3s								
TNSS				Lg			Lg	00 11 13.8	
	21nm,0.6s								
KASK	**Kaskelen**	**3.60**	**20**		⇓	Lg	Lg	00 11 16.9	
AAA	**Alma-Ata**	**3.67**	**23**	*eP*			**Pg**	**00 10 30.8**	**+0.1**
	66nm,0.4s								
AAA				*eS*			**Sg**	**00 11 19.1**	**+0.9**
	111nm,0.5s								
AAA	**Alma-Ata**	**3.67**	**23**	Pg			**Pg**	**00 10 30.8**	**+0.1**
	66nm,0.4s								
AAA				Lg			Lg	00 11 19.1	
	111nm,0.5s								
MDOK	**Medeo**	**3.67**	**25**	*eP*			**Pg**	**00 10 31.0**	**+0.4**
	21nm,0.4s								
MDOK				*eS*			**Sg**	**00 11 19.2**	**+0.9**
	34nm,0.6s								
MDOK	**Medeo**	**3.67**	**25**		⇓	Pn	**Pb**	**00 10 21.9**	**-3.6**
	3.4nm,0.5s								
MDOK					⇑	Pg	**Pg**	**00 10 30.0**	**-0.7**
	23nm,0.5s								
MDOK				Pg			**Pg**	**00 10 31.0**	**+0.4**
	21nm,0.4s								
MDOK				Lg			Lg	00 11 19.2	
	34nm,0.6s								
MDOK					⇑	Lg	Lg	00 11 21.4	
	38nm,0.7s								
KNDC	**Almaty**	**3.69**	**24**		⇓	Pg	**Pg**	**00 10 30.0**	**-1.1**
	101nm,0.8s								
KNDC					⇓	Lg	Lg	00 11 22.0	
	138nm,0.8s								
PRZ	**Przheval'sk**	**3.71**	**44**		⇑	*eP*	**Pb**	**00 10 22.6**	**-3.6**
	baz=42								
PRZ					⇑	*eS*	**Sn**	**00 11 06.2**	**+4.1**
	baz=42								
KOTS	**Kotyrbulak**	**3.76**	**25**	*eP*			**Pg**	**00 10 32.4**	**+0.2**
	29nm,0.3s								
KOTS				*eS*			**Sg**	**00 11 21.5**	**+0.6**
	58nm,0.3s								
KOTS	**Kotyrbulak**	**3.76**	**25**	Pg			**Pg**	**00 10 32.4**	**+0.2**
	29nm,0.3s								
KOTS				Lg			Lg	00 11 21.5	
	58nm,0.3s								
KRBS	**Karabastau**	**3.88**	**8**	*eP*			**Pg**	**00 10 33.7**	**-1.0**
	42nm,0.6s								
KRBS				*eS*			**Sg**	**00 11 24.2**	**-0.8**
	20nm,0.4s								
KRBS	**Karabastau**	**3.88**	**8**	Pg			**Pg**	**00 10 33.7**	**-1.0**
	42nm,0.6s								
KRBS				Lg			Lg	00 11 24.2	
	20nm,0.4s								
DZA	**Taraz**	**4.07**	**319**	*eP*			**Pb**	**00 10 30.6**	**-1.7**
	40nm,0.1s								
DZA				*eS*			**Sb**	**00 11 18.5**	**-3.1**
	70nm,0.4s								
DZA	**Taraz**	**4.07**	**319**	Pg			**Pb**	**00 10 30.5**	**-1.7**
	40nm,0.1s								
DZA				Lg			Lg	00 11 18.5	
	70nm,0.4s								
KTBS	**Karatobe**	**4.08**	**18**	*eP*			**Pg**	**00 10 37.8**	**-0.6**
	22nm,0.4s								
KTBS				*eS*			**Sg**	**00 11 30.9**	**-0.2**
	38nm,0.5s								
KTBS	**Karatobe**	**4.08**	**18**	Pg			**Pg**	**00 10 37.8**	**-0.6**
	22nm,0.4s								
KTBS				Lg			Lg	00 11 30.9	
	38nm,0.5s								
SATY	**Saty**	**4.13**	**38**	*eP*			**Pg**	**00 10 40.2**	**+0.7**
	22nm,0.5s								
SATY				*eS*			**Sg**	**00 11 35.1**	**+2.0**
	51nm,0.4s								
SATY	**Saty**	**4.13**	**38**	Pg			**Pg**	**00 10 40.3**	**+0.7**
	22nm,0.5s								
SATY				Lg			Lg	00 11 35.1	
	51nm,0.4s								
CHKK	**Chushkaly**	**4.29**	**20**	*eP*			**Pg**	**00 10 41.9**	**-0.5**
	20nm,0.7s								
CHKK				*eS*			**Sg**	**00 11 37.9**	**0.0**
	39nm,0.5s								
CHKK	**Chushkaly**	**4.29**	**20**	Pg			**Pg**	**00 10 41.9**	**-0.5**
	20nm,0.7s								
CHKK				Lg			Lg	00 11 37.9	
	39nm,0.5s								
IUG	**Iuzhnay**	**4.36**	**303**	*eP*			**Pb**	**00 10 34.6**	**-2.6**
	28nm,0.4s								
IUG				*eS*			**Sb**	**00 11 25.8**	**-4.3**
	145nm,0.4s								
IUG	**Iuzhnay**	**4.36**	**303**	Pg			**Pb**	**00 10 34.6**	**-2.6**
	28nm,0.4s								
IUG				Lg			Lg	00 11 25.7	
	145nm,0.4s								
KURS	**Kuram**	**4.37**	**33**	*eP*			**Pg**	**00 10 44.3**	**+0.3**
	18nm,1.0s								
KURS				*eS*			**Sg**	**00 11 42.1**	**+1.5**
	19nm,0.9s								
KURS	**Kuram**	**4.37**	**33**	Pg			**Pg**	**00 10 44.3**	**+0.3**
	18nm,1.0s								
KURS				Lg			Lg	00 11 42.2	
	19nm,0.9s								
UZB	**Uzunbulak**	**4.50**	**42**	*eP*			**Pg**	**00 10 48.0**	**+1.4**
	12nm,0.6s								
UZB				*eS*			**Sg**	**00 11 48.4**	**+3.5**
	20nm,0.8s								
UZB	**Uzunbulak**	**4.50**	**42**	Pg			**Pg**	**00 10 48.0**	**+1.4**
	12nm,0.6s								
UZB				Lg			Lg	00 11 48.4	
	20nm,0.8s								
KK31	**Karatay Array**	**4.65**	**316**	Pn			Pn	00 10 35.2	+4.4
	2.4nm,0.5s,baz=123,slow=12,SNR=57								
KK31					⇑	Pg	**Pg**	**00 10 49.8**	**+0.5**
	1.6nm,0.3s,baz=133,slow=15,SNR=4.8								
KK31					⇑	Sn	**Sn**	**00 11 30.3**	**+5.4**
	2.5nm,0.3s,baz=132,slow=15,SNR=5.4								
KK31					⇑	Lg	Lg	00 11 53.3	
	6.1nm,0.5s,baz=125,slow=28,SNR=4.2								
CHM	**Chimkent**	**4.72**	**303**	*eP*			**Pb**	**00 10 41.4**	**-2.0**
	94nm,0.1s								
CHM				*eS*			**Sb**	**00 11 37.2**	**-3.2**
	69nm,0.2s								
ARXS	**Arharly**	**4.86**	**25**	*eP*			**Pg**	**00 10 52.8**	**-0.6**
	17nm,0.7s								
ARXS				*eS*			**Sg**	**00 11 57.1**	**+0.7**
	27nm,0.6s								
ARXS	**Arharly**	**4.86**	**25**	Pg			**Pg**	**00 10 52.8**	**-0.6**
	17nm,0.7s								
ARXS				Lg			Lg	00 11 57.1	
	27nm,0.6s								
PDGK	**Podgornoye**	**4.87**	**43**		⇓	Pn	Pn	00 10 37.4	+3.3
	3.3nm,0.7s								
PDGK					⇓	Pg	**Pg**	**00 10 50.6**	**-3.1**
	22nm,0.9s								
PDGK					⇓	Lg	Lg	00 11 59.4	
	48nm,1.1s								
BRLS	**Boroldaу**	**4.97**	**311**	*eP*			**Pb**	**00 10 45.4**	**-2.3**
	1.7nm,0.1s								
BRLS				*eS*			**Sb**	**00 11 43.9**	**-3.7**
	8.9nm,0.5s								
BRLS	**Boroldaу**	**4.97**	**311**	Pg			**Pb**	**00 10 45.4**	**-2.3**
	3.2nm,0.5s								
BRLS				Lg			Lg	00 11 43.9	
	8.9nm,0.5s								
BLB	**Baldybastay**	**5.00**	**31**	Pg			**Pg**	**00 10 56.0**	**0.0**
	28nm,0.5s								
BLB				Lg			Lg	00 12 02.1	
	21nm,0.9s								
KNOS	**Konyrlen**	**5.50**	**34**	Pg			Pg	00 11 09.7	+4.0
	12nm,0.7s								
KNOS				Lg			Lg	00 12 25.8	
	15nm,0.5s								
OTUK	**Ortayu**	**8.60**	**348**	Pg			**Pg**	**00 12 00.2**	**-4.6**
	0.8nm,0.6s								
OTUK				Lg			Lg	00 13 52.5	
	3.9nm,0.6s								
MKAR	**Makanchi Array**	**8.77**	**35**	Pn			**Pn**	**00 11 30.0**	**+2.7**
	0.1nm,0.3s,baz=201,slow=15,SNR=5.8								
	0.5nm,0.7s								
KURBB	**Kurchatov Array**	**11.06**	**12**	Lg			Lg	00 15 05.1	
	baz=208,slow=31,SNR=1.4								
GEYT	**Alibeck**	**13.24**	**267**	Pn			**Pn**	**00 12 26.8**	**-1.8**
	0.5nm,0.3s,baz=98,slow=9.3,SNR=5.3								
	0.6nm,0.3s								
BVAR	**Borovoye Array**	**13.54**	**348**	Pn			**P**	**00 12 44.5**	**+2.6**
	baz=145,slow=11,SNR=7.0								
AB31	**Akbulak array**	**14.21**	**316**		⇓	Pn	**Pn**	**00 12 43.3**	**+1.6**
	1.9nm,0.6s,baz=126,slow=12,SNR=22								
AKTO	**Aktyubinsk**	**15.91**	**317**	Pn			**P**	**00 13 07.1**	**-1.0**
	0.1nm,0.3s,baz=165,slow=10,SNR=1.9								
BRTR	**Keskin Array B**	**31.53**	**283**	P			**P**	**00 15 43.7**	**+0.7**
	0.5nm,0.7s,baz=87,slow=8.2,SNR=4.6								
	0.5nm,0.7s								
FINES	**FINESS Array B**	**36.57**	**323**	P			**P**	**00 16 27.3**	**+1.1**
	0.5nm,0.4s,baz=116,slow=11,SNR=9.8								
	0.5nm,0.4s								
HFS	**Hagfors**	**42.44**	**319**	P			**P**	**00 17 16.1**	**+0.9**
	0.8nm,0.5s,baz=104,slow=11,SNR=2.2								
	0.8nm,0.5s								
NOA	**NORSAR Array B**	**43.66**	**321**	P			**P**	**00 17 24.3**	**-0.8**
	0.3nm,0.7s,baz=91,slow=8.0,SNR=2.1								
	0.3nm,0.7s								
TORD	**Torodi Ar. Bea**	**68.87**	**270**	P			**P**	**00 20 24.9**	**-0.8**
	0.3nm,0.4s,baz=51,slow=5.6,SNR=14								
	0.3nm,0.4s								
YKA	**Yellowknife Ar**	**77.71**	**5**	P			**P**	**00 21 16.6**	**-0.6**
	0.3nm,0.5s,baz=347,slow=6.0,SNR=8.9								
	0.3nm,0.5s								
WRA	**Warramunga Arr**	**81.25**	**125**	P			**P**	**00 21 34.1**	**-2.9**
	0.5nm,0.6s,baz=304,slow=7.0,SNR=9.8								
	0.5nm,0.6s								
ASAR	**Alice Springs**	**83.74**	**128**	P			**P**	**00 21 47.8**	**-2.2**
	0.5nm,0.6s,baz=315,slow=4.8,SNR=10								
	0.5nm,0.6s								

SOME ***31*** *00:11:33.3, 42°.12N×80°.93E, h10km*
NNC ***31*** *00:11:34.4±1.0, 42°.13N×80°.90E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=7.2km s-min=5.0km az=159.0*
KRNET ***31*** *00:11:36.8±0.1, 42°.73N×80°.90E, mb2.8*
ISC 31 00:11:38.4±2.0, **42°.26N**±0°.06×**80°.67E**±0°.06, **h18**km±4km, **n47**,σ1°**81**/76, **6C-11D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.27**	**316**			*eP*	**Pn**	**00 11 57.9**	**-3.4**
	72nm,0.1s								
SHLS						*eS*	**Sn**	**00 12 15.6**	**-2.3**
	147nm,0.2s								
SHLS	**Shalkode**	**1.27**	**316**	P			**Pn**	**00 11 58.6**	**-2.6**
	72nm,0.1s								
SHLS				S			**Sn**	**00 12 17.0**	**-0.9**
	163nm,0.5s								
PDGK	**Podgornoye**	**1.38**	**321**	P			**Pg**	**00 12 03.9**	**-1.1

KOTS	**Kotyrbulak**	**2.80**	**292**	*e*P	**Pb**	**00**	**12**	**28.9 +1.0**
	7.9nm,0.4s							
KOTS				*e*S	**Sg**	**00**	**13**	**08.9 +0.6**
	29nm,0.2s							
KOTS	**Kotyrbulak**	**2.80**	**292**	Pg	**Pb**	**00**	**12**	**28.9 +1.0**
	7.9nm,0.4s							
KOTS				Lg	Lg	00	13	08.9
	29nm,0.2s							
MDOK	**Medeo**	**2.82**	**290**	*e*P	**Pb**	**00**	**12**	**28.9 +0.6**
	4.2nm,0.4s							
MDOK				*e*S	**Sg**	**00**	**13**	**08.8 -0.3**
	16nm,0.4s							
MDOK	**Medeo**	**2.82**	**290**	Pg	**Pb**	**00**	**12**	**28.9 +0.6**
	4.2nm,0.4s							
MDOK				Lg	Lg	00	13	08.8
	16nm,0.4s							
ARXS	**Arharly**	**2.85**	**314**	*e*P	**Pb**	**00**	**12**	**29.4 +0.6**
	6.8nm,0.5s							
ARXS				*e*S	**Sg**	**00**	**13**	**09.9 -0.2**
	23nm,0.4s							
ARXS	**Arharly**	**2.85**	**314**	Pg	**Pb**	**00**	**12**	**29.4 +0.6**
	6.8nm,0.5s							
ARXS				Lg	Lg	00	13	09.9
	23nm,0.4s							
TNSS	**Tian-Shan**	**2.86**	**287**	*e*P	**Pb**	**00**	**12**	**29.9 +0.9**
	4.4nm,0.2s							
TNSS				*e*S	**Sg**	**00**	**13**	**10.5 +0.2**
	6.7nm,0.3s							
TNSS	**Tian-Shan**	**2.86**	**287**	Pg	**Pb**	**00**	**12**	**29.9 +0.9**
	4.4nm,0.2s							
TNSS				Lg	Lg	00	13	10.5
	6.7nm,0.3s							
IZV	**Izvestkoviy**	**3.10**	**286**	*e*P	**Pb**	**00**	**12**	**33.6 +0.7**
	4.2nm,0.2s							
IZV				*e*S	**Sg**	**00**	**13**	**17.1 -0.7**
	15nm,0.5s							
IZV	**Izvestkoviy**	**3.10**	**286**	Pg	**Pb**	**00**	**12**	**33.6 +0.7**
	4.2nm,0.2s							
IZV				Lg	Lg	00	13	17.1
	15nm,0.5s							
CHKK	**Chushkaly**	**3.14**	**302**	*e*P	**Pb**	**00**	**12**	**34.9 +1.3**
	6.0nm,0.2s							
CHKK				*e*S	**Sg**	**00**	**13**	**19.2 +0.1**
	12nm,0.4s							
CHKK	**Chushkaly**	**3.14**	**302**	Pg	**Pb**	**00**	**12**	**34.9 +1.3**
	6.0nm,0.2s							
CHKK				Lg	Lg	00	13	19.2
	12nm,0.4s							
KAPS	**Kapalarasan**	**3.17**	**343**	*e*P	**Pb**	**00**	**12**	**34.7 +0.4**
	5.4nm,0.4s							
KAPS				*e*S	**Sg**	**00**	**13**	**18.9 -1.5**
	39nm,0.2s							
KAPS	**Kapalarasan**	**3.17**	**343**	Pg	**Pb**	**00**	**12**	**34.7 +0.4**
	5.4nm,0.4s							
KAPS				Lg	Lg	00	13	18.9
	39nm,0.2s							
MTBS	**Maitube**	**3.25**	**287**	*e*P	**Pb**	**00**	**12**	**36.5 +1.0**
	3.5nm,0.3s							
MTBS				*e*S	**Sg**	**00**	**13**	**21.8 -0.9**
	11nm,0.4s							
MTBS	**Maitube**	**3.25**	**287**	Pg	**Pb**	**00**	**12**	**36.5 +1.0**
	3.5nm,0.3s							
MTBS				Lg	Lg	00	13	21.8
	11nm,0.4s							
KTBS	**Karatobe**	**3.27**	**298**	*e*P	**Pb**	**00**	**12**	**37.2 +1.3**
	5.0nm,0.4s							
KTBS				*e*S	**Sg**	**00**	**13**	**23.1 -0.3**
	8.5nm,0.2s							
KTBS	**Karatobe**	**3.27**	**298**	Pg	**Pb**	**00**	**12**	**37.2 +1.3**
	5.0nm,0.4s							
KTBS				Lg	Lg	00	13	23.1
	8.5nm,0.2s							
ULHL	**Ulahol**	**3.29**	**271**	⇓*i*P	**Pb**	**00**	**12**	**34.4 -1.9**
	baz=64							
ULHL				⇓*i*S	**Sb**	**00**	**13**	**16.4 +0.3**
	baz=64							
BOOM	**Boomskoye usch**	**3.51**	**275**	⇓*e*P	**Pb**	**00**	**12**	**37.5 -2.6**
	baz=68							
BOOM				⇓*e*S	**Sb**	**00**	**13**	**21.3 -1.2**
	baz=68							
KST	**Kastek**	**3.56**	**284**	*e*P	**Pb**	**00**	**12**	**42.2 +1.3**
	3.6nm,0.2s							
KST				*e*S	**Sg**	**00**	**13**	**31.8 -1.0**
	11nm,0.5s							
KST	**Kastek**	**3.56**	**284**	Pg	**Pb**	**00**	**12**	**42.2 +1.3**
	3.6nm,0.2s							
KST				Lg	Lg	00	13	31.8
	11nm,0.5s							
DGS	**Degeres**	**3.74**	**287**	*e*P	**Pb**	**00**	**12**	**45.8 +1.9**
	4.1nm,0.5s							
DGS				*e*S	**Sg**	**00**	**13**	**38.0 -0.6**
	4.8nm,0.3s							
DGS	**Degeres**	**3.74**	**287**	Pg	**Pb**	**00**	**12**	**45.8 +1.9**
	4.1nm,0.5s							
DGS				Lg	Lg	00	13	37.9
	4.8nm,0.3s							
TKM2	**Tokmak 2**	**3.81**	**282**	⇑*i*P	**Pb**	**00**	**12**	**40.7 -4.4**
	baz=75							
TKM2				⇑*i*S	**Sn**	**00**	**13**	**26.9 +6.3**
	baz=75							
KRBS	**Karabastau**	**3.94**	**293**	*e*P	**Pb**	**00**	**12**	**49.7 +2.4**
	4.2nm,0.5s							
KRBS				*e*S	**Sg**	**00**	**13**	**44.7 -0.1**
	6.3nm,0.4s							
KRBS	**Karabastau**	**3.94**	**293**	Pg	**Pb**	**00**	**12**	**49.7 +2.4**
	4.2nm,0.5s							
KRBS				Lg	Lg	00	13	44.7
	6.3nm,0.4s							
MAKZ	**Makanchi**	**4.64**	**11**	⇑Pn	**Pn**	**00**	**12**	**49.0 +1.4**
	0.9nm,0.4s							
MAKZ				⇑Sn	**Sn**	**00**	**13**	**42.6 +1.6**
	1.6nm,0.6s							
MAKZ				⇑Lg	Lg	00	14	00.8
	5.9nm,1.0s							
MK31	**Makanchi Array**	**4.68**	**14**	Pn	**Pn**	**00**	**12**	**48.1 +0.1**
	0.2nm,0.2s,baz=200,slow=13,SNR=18							
MK31				⇓Sn	**Sn**	**00**	**13**	**43.6 +1.7**
	0.3nm,0.3s,baz=192,slow=27,SNR=5.0							
MK31				⇑Lg	Lg	00	14	02.1
	0.7nm,0.3s,baz=192,slow=27,SNR=5.0							

VIE ***31*** *00:22:34.8±0.5,50˚.35N×18˚.81E,h0km,mb2.5/3,ml2.8/3, Error ellipse: s-maj=5.1km s-min=2.8km az=167.0, Suspected Mining induced.*

IDC ***31*** *00:22:35.3±1.0,50˚.20N×18˚.80E,h0km,mbtmp3.3/7, ML2.6/7, Error ellipse: s-maj=16.0km s-min=7.9km az=132.0*

PRU ***31*** *00:22:35.5,50˚.35N×18˚.77E,h0km*

IPEC ***31*** *00:22:35.0±0.2,50˚.35N×18˚.82E,h1km,ML2.7/4, Error ellipse: s-maj=2.3km s-min=1.1km az=168.0*

ISC 31 00:22:33.4±0.7,50˚.44N±0˚.03×18˚.84E±0˚.02,h0km,n54, σ1§46/85,10C-6D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h	m	s	Res ISC
RAC	**Raciborz**	**0.55**	**229**	*e*PG		**Pb**		**00**	**22**	**45.7**	**-0.1**
RAC				*e*SG		**Sb**		**00**	**22**	**53.2**	**-1.0**
OJC	**Ojcow**	**0.65**	**110**	*i* Pg		**Pg**		**00**	**22**	**47.2**	**+1.4**
OJC				*i* Sg		**Sg**		**00**	**22**	**55.9**	**+1.6**
OKC	**Ostrava-Krasne**	**0.75**	**217**	*e*SG		**Sg**		**00**	**22**	**57.7**	**+0.2**
	comp=Z,77nm,0.5s										
MORC	**Moravsky Berou**	**1.07**	**232**	⇓P		**Pb**		**00**	**22**	**54.5**	**-0.3**
MORC				⇑S		**Sb**		**00**	**23**	**08.2**	**-1.1**
MORC	**Moravsky Berou**	**1.07**	**232**	*e*Pg		**Pg**		**00**	**22**	**54.2**	**+0.4**
	baz=55										
MORC				*e*Sg		**Sg**		**00**	**23**	**06.3**	**-1.3**
	193nm,0.6s,baz=55										
LANS	**Liptovska Anna**	**1.35**	**162**	*e*PG		**Pg**		**00**	**22**	**59.5**	**+0.2**
LANS				*e*SG		**Sg**		**00**	**23**	**16.5**	**-0.3**
LANS				*e*LG		Lg		00	23	19.8	
KRLC	**Kraliky**	**1.37**	**255**	*e*PG		**Pg**		**00**	**22**	**59.5**	**-0.1**
KRLC				*e*SG		**Sg**		**00**	**23**	**17.4**	**0.0**
NIE	**Niedzica**	**1.39**	**137**	*e*Pg		**Pb**		**00**	**23**	**00.8**	**+0.6**
NIE				*e*Sg		**Sn**		**00**	**23**	**19.6**	**+0.4**
DPC	**Dobruska-Polom**	**1.61**	**268**	*e*PG		**Pb**		**00**	**23**	**04.1**	**+0.1**
DPC				*e*SG		**Sg**		**00**	**23**	**25.9**	**+0.7**
	comp=Z,48nm,0.4s										
OSTC	**Ostas**	**1.68**	**275**	*e*SG		**Sg**		**00**	**23**	**27.5**	**+0.2**
JAVC	**Velka Javorina**	**1.76**	**206**	*e*Pn		**Pn**		**00**	**23**	**05.4**	**+0.3**
	baz=26										
JAVC	**Velka Javorina**	**1.76**	**206**	*e*PN		**Pn**		**00**	**23**	**05.5**	**+0.3**
CHVC	**Chvalec**	**1.78**	**276**	*e*PG		**Pb**		**00**	**23**	**07.1**	**+0.2**
VRAC	**Vranov**	**1.84**	**233**	⇑P		**Pn**		**00**	**23**	**06.7**	**+0.4**
VRAC				⇑S		**Sb**		**00**	**23**	**30.9**	**-0.7**
VRAC	**Vranov**	**1.84**	**233**	*e*Pn		**Pn**		**00**	**23**	**06.7**	**+0.4**
	baz=53										
VRAC				*e*Sg		**Sn**		**00**	**23**	**30.6**	**+0.3**
	48nm,0.4s,baz=53										
VRAC	**Vranov**	**1.84**	**233**	Pg		**Pn**		**00**	**23**	**06.6**	**+0.4**
	4.0nm,0.3s,baz=62,slow=13,SNR=46										
VRAC				Lg		Lg		00	23	29.6	
	4.7nm,0.3s,baz=46,slow=14,SNR=13										
STHS	**Stebnicka Huta**	**1.86**	**123**	*e*PN		**Pb**		**00**	**23**	**08.3**	**+0.1**
STHS				*e*SG		**Sg**		**00**	**23**	**33.8**	**+0.7**
VYHS	**Vyhne**	**1.95**	**180**	*e*PN		**Pn**		**00**	**23**	**07.5**	**-0.2**
VYHS				*e*SN		**Sn**		**00**	**23**	**30.8**	**-2.1**
KRUC	**Moravsky**	**2.10**	**230**	*e*Pn		**Pn**		**00**	**23**	**10.4**	**+0.6**
	baz=50										
KRUC				*e*Sg		**Sb**		**00**	**23**	**38.7**	**-0.2**
	40nm,0.5s,baz=50										
KRUC	**Moravsky**	**2.10**	**230**	*e*PN		**Pn**		**00**	**23**	**10.5**	**+0.6**
KRUC				*e*SG		**Sb**		**00**	**23**	**38.8**	**-0.2**
KECS	**Kecovo**	**2.23**	**151**	*e*PN		**Pn**		**00**	**23**	**11.7**	**+0.1**
KECS				*e*PG		**Pg**		**00**	**23**	**16.4**	**+0.2**
KECS				*e*SN		**Sn**		**00**	**23**	**37.4**	**-2.5**
KECS				*e*LG		Lg		00	23	51.1	
CRVS	**Cervenica-Dubn**	**2.30**	**131**	*e*PG		**Pb**		**00**	**23**	**16.1**	**+0.5**
MODS	**Modra-Piesok**	**2.31**	**207**	*e*PN		**Pn**		**00**	**23**	**13.1**	**+0.5**
MODS				*e*PG		**Pg**		**00**	**23**	**20.3**	**+2.7**
ZST	**Bratislava**	**2.52**	**207**	*e*SN		**Sn**		**00**	**23**	**46.1**	**-0.8**
PSZ	**Piszkesteto**	**2.62**	**164**	⇓P		**Pn**		**00**	**23**	**16.8**	**-0.2**
PRU	**Pruhonice**	**2.80**	**262**	*e*SG		**Sg**		**00**	**24**	**02.3**	**-0.9**
	comp=Z,25nm,0.6s										
BRG	**Berggiesshubel**	**3.15**	**280**	Pg		**Pg**		**00**	**23**	**35.1**	**+1.5**
BRG				Sg		**Sg**		**00**	**24**	**14.8**	**+0.5**
BRG				Amp				00	24	25.5	
	comp=Z,17nm,0.5s										
CONA	**Conrad Observa**	**3.19**	**219**	*i* Pn		**Pn**		**00**	**23**	**25.0**	**+0.2**
	comp=Z,0.4nm,0.2s										
CONA				*e*Sn		**Sn**		**00**	**24**	**02.1**	**-1.3**
	comp=Z,7.4nm,0.4s										
RONA	**Rosalia, Austr**	**3.21**	**212**	*i* Pn		**Pn**		**00**	**23**	**25.6**	**+0.5**
	comp=Z,6.5nm,0.5s										
RONA				*e*Sn		**Sn**		**00**	**24**	**03.6**	**-0.5**
	comp=Z,5.6nm,0.4s										
CKRC	**Cesky Krumlov**	**3.36**	**243**	*e*SG		**Sb**		**00**	**24**	**17.7**	**+2.4**
	comp=Z,31nm,0.7s										
KHC	**Kasperske Hory**	**3.65**	**251**	*e*PN		**Pn**		**00**	**23**	**32.0**	**+0.8**
KHC				*e*PG		**Pb**		**00**	**23**	**39.2**	**+0.4**
KHC				*e*SG		**Sb**		**00**	**24**	**26.8**	**+3.2**
	comp=Z,25nm,0.4s										
GERES	**GERESS Array B**	**3.70**	**246**	Pn		**Pn**		**00**	**23**	**32.7**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=58,slow=17,SNR=5.3										
GERES				Lg		Lg		00	24	29.4	
	comp=Z,2.5nm,0.3s,baz=59,slow=32,SNR=4.9										
	comp=Z,0.4nm,0.3s										
CLL	**Collm**	**3.80**	**285**	*e*Pg		**Pg**		**00**	**23**	**48.0**	**+1.9**
CLL				*e*Sg		**Sg**		**00**	**24**	**36.0**	**+0.7**
	comp=Z,23nm,0.7s										
MOA	**Molln**	**3.97**	**231**	*i* Pn		**Pn**		**00**	**23**	**36.4**	**+1.0**
	comp=Z,0.3nm,0.1s										
MOA				*e*Sn		**Sn**		**00**	**24**	**23.6**	**+0.9**
	comp=Z,2.8nm,0.4s										
MORH	**Mrgy, Hungar**	**4.23**	**182**	⇑P		**Pn**		**00**	**23**	**38.8**	**-0.2**
DRGR		**4.46**	**143**	⇓P		**Pn**		**00**	**23**	**43.0**	**+0.7**
DRGR				⇑S		**Sn**		**00**	**24**	**33.7**	**-1.3**
MARR	**Marisel-Cluj**	**4.72**	**141**	⇑P		**Pn**		**00**	**23**	**46.2**	**+0.4**
MARR				⇓S		**Sn**		**00**	**24**	**40.2**	**-1.1**
BURAR	**Bucovina Array**	**5.06**	**122**	⇑P		**Pn**		**00**	**23**	**51.9**	**+1.4**
BURAR				⇑S		**Sn**		**00**	**24**	**50.4**	**+0.8**
BZS	**Buzias**	**5.17**	**158**	⇑P		**Pn**		**00**	**23**	**52.0**	**0.0**
SURR	**Surduc**	**5.18**	**154**	⇓P		**Pn**		**00**	**23**	**52.2**	**+0.1**
BSD	**Bornholm Skovb**	**5.25**	**335**	*i* P		**Pn**		**00**	**23**	**55.0**	**+2.0**
BSD				*i* S		**Sn**		**00**	**24**	**52.9**	**-1.3**
BSD				IAML				00	25	09.2	
	comp=Z,0.5nm,0.4s										
FRGS	**Fruska Gora**	**5.33**	**173**	⇑P		**Pn**		**00**	**23**	**54.7**	**+0.5**
GZR	**Gura Zlata**	**5.70**	**151**	⇓P		**Pn**		**00**	**24**	**00.2**	**+0.9**
LUNU	**Lund**	**6.13**	**330**	*i* P		**Pn**		**00**	**24**	**07.2**	**+2.2**
LUNU				*i* S		**Sn**		**00**	**25**	**10.1**	**-5.7**
BLEU	**Blekinge**	**6.14**	**344**	*i* P		**Pn**		**00**	**24**	**07.1**	**+1.8**
BLEU				*e*S		**Sn**		**00**	**25**	**16.6**	**+0.4**
NACGM	**Naroch**	**6.58**	**44**	*e*P		**Pn**		**00**	**24**	**12.6**	**+1.4**
	comp=Z,4.0nm,0.9s,baz=227										
AKASG	**Malin Array Be**	**6.62**	**84**	Pn		Pn		00	24	19.6	+7.8
	comp=Z,0.3nm,0.3s,baz=271,slow=14,SNR=1.6										
AKASG				Lg		Lg		00	26	04.4	
	comp=Z,1.1nm,0.3s,baz=30,slow=20,SNR=4.9										
DEL	**Delary**	**6.73**	**336**	*i* P		**Pn**		**00**	**24**	**14.8**	**+1.5**
DEL				*e*S		**Sn**		**00**	**25**	**24.1**	**-6.4**
MLR	**Muntele Rosu**	**6.87**	**133**	Pn		**Pn**		**00**	**24**	**16.4**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=323,slow=17,SNR=1.8										
	comp=Z,0.8nm,0.5s										
DAVOX	**Davos/Dischmat**	**6.98**	**242**	Pn		**Pn**		**00**	**24**	**18.3**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=356,slow=4.8,SNR=2.9										
DAVOX				Lg		Lg		00	26	13.5	
	comp=Z,0.3nm,0.3s,baz=17,slow=22,SNR=2.6										
	comp=Z,0.9nm,0.4s										
HFS	**Hagfors**	**10.14**	**345**	Pn		**Pn**		**00**	**24**	**59.4**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=182,slow=34,SNR=1.7										
HFS				Lg		Lg		00	27	58.7	
	comp=Z,0.2nm,0.3s,baz=175,slow=37,SNR=1.8										
	comp=Z,7.7nm,1.1s										
NOA	**NORSAR Array B**	**11.45**	**341**	Pn		**Pn**		**00**	**25**	**17.3**	**-0.7**
	baz=306,slow=15,SNR=2.2										
	comp=Z,0.3nm,0.8s										
FINES	**FINESS Array B**	**11.74**	**17**	Pn		**Pn**		**00**	**25**	**21.2**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=194,slow=11,SNR=11										
FINES				Sn		**Sn**		**00**	**27**	**30.3**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=199,slow=21,SNR=4.2										
	comp=Z,1.5nm,0.5s										
ARCES	**ARCESS Array B**	**19.42**	**7**	Pn		**P**		**00**	**27**	**00.8**	**0.0**
	comp=Z,0.1nm,0.3s,baz=190,slow=13,SNR=3.9										
	comp=Z,4.4nm,1.0s										

NEIC ***31*** *00:52:17.9±1.9,5˚.63S±0˚.06×151˚.70E±0˚.09,h10km±1km, mb4.6/46, Error ellipse: s-maj=16.6km s-min=7.9km az=119.0*

IDC ***31*** *00:52:24.4±3.4,5˚.49S×151˚.46E,h75km±29km,mb4.0/17, mbtmp4.3/18,MS3.6/6, Error ellipse: s-maj=20.6km s-min=14.0km az=77.0*

ISC 31 00:52:22.8±0.4,5˚.61S±0˚.05×151˚.66E±0˚.07,h57km,n107, σ1§42/106,mb4.5/46,MS3.4/7,1C,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h	m	s	Res ISC
BULU	**Kimbe**	**1.34**	**273**	P		**Pn**		**00**	**52**	**43.7**	**-1.5**
RABL	**Rabaul**	**1.49**	**20**			**Pn**		**00**	**52**	**46.1**	**-1.2**
RABL				Sn		**Sn**		**00**	**53**	**05.8**	**0.0**
KAVG	**Kavieng**	**3.12**	**344**	P		**Pn**		**00**	**53**	**09.6**	**+0.1**
MANU	**Manus Island**	**5.55**	**309**	Pn		**Pn**		**00**	**53**	**44.5**	**+1.5**
PMG	**Port Moresby**	**5.84**	**229**	P		**Pn**		**00**	**53**	**48.2**	**+1.4**
PMG	**Port Moresby**	**5.84**	**229**	P		**Pn**		**00**	**53**	**48.3**	**+1.4**
PMG	**Port Moresby**	**5.84**	**229**			**Pn**		**00**	**53**	**47.1**	**+0.2**
PMG				Sn		**Sn**		**00**	**54**	**51.4**	**-1.2**
PMG	**Port Moresby**	**5.84**	**229**	P		**Pn**		**00**	**53**	**48.2**	**+1.4**
	47nm,0.3s,baz=69,slow=7.9,SNR=21										
PMG				S		**Sn**		**00**	**54**	**52.4**	**-0.2**
	114nm,0.5s,baz=302,slow=21,SNR=16										
HNR	**Honiara**	**9.05**	**115**	LR		LR		00	58	05.9	
	comp=Z,1μm,20.6s,baz=286,slow=37										
COEN	**Coen**	**11.78**	**225**	Pn		**Pn**		**00**	**55**	**07.8**	**-0.3**
CTAO	**Charters Tower**	**15.32**	**200**			**P**		**00**	**55**	**58.9**	**-0.4**
QIS	**Mount Isa**	**18.92**	**217**	P		**Pn**		**00**	**56**	**40.1**	**-0.1**
FAKI	**Fak Fak**	**19.54**	**277**	P		**P**		**00**	**56**	**45.4**	**-0.5**
EIDS	**Eidsvold**	**19.66**	**182**	P		**Pn**		**00**	**56**	**48.2**	**-0.7**
KDU	**Kakadu**	**20.20**	**248**	P		**P**		**00**	**56**	**52.1**	**-0.9**
GUMO	**Guam**	**20.23**	**341**	LR		LR		01	05	32.4	
	comp=Z,28nm,18.8s,baz=176,slow=39										
MTN	**Manton Dam**	**21.49**	**249**	P		**P**		**00**	**57**	**06.9**	**0.0**
MTN	**Manton Dam**	**21.49**	**249**	P		**P**		**00**	**57**	**06.2**	**-0.7**
MTN				IAmb		IAmb		00	57	18.9	
	comp=Z,18nm,0.6s										
DZM	**Mont Dzumac**	**21.74**	**140**	P		**P**		**00**	**57**	**11.5**	**+1.9**
DZM				IAmb		IAmb		00	57	44.3	
	comp=Z,46nm,1.5s										
DZM	**Mont Dzumac**	**21.74**	**140**	P		**P**		**00**	**57**	**11.7**	**+2.1**
	comp=Z,5.4nm,0.6s,baz=291,slow=8.0,SNR=8.4										
DZM				LR		LR		01	04	34.5	
	comp=Z,199nm,20.6s,baz=244,slow=33										
	comp=Z,5.4nm,0.6s										
QLP	**Quilpie**	**22.03**	**198**	P		**P**		**00**	**57**	**14.2**	**+1.6**
WRAB	**Tennant Creek**	**22.05**	**228**	P		**P**		**00**	**57**	**14.6**	**+1.7**
WRA	**Warramunga Arr**	**22.06**	**228**	P		**P**		**00**	**57**	**12.4**	**-0.7**
	comp=Z,56nm,0.5s,baz=52,slow=10.0,SNR=204										
WRA				PcP		**PcP**		**01**	**01**	**09.3**	**0.0**
	comp=Z,0.7nm,0.4s,baz=39,slow=1.7,SNR=4.8										
INKA	**Innaminka**	**24.34**	**204**	P		**P**		**00**	**57**	**36.8**	**+1.5**
KNRA	**Kununurra**	**24.60**	**244**	P		**P**		**00**	**57**	**37.4**	**-0.4**
KNRA	**Kununurra**	**24.60**	**244**	P		**P**		**00**	**57**	**37.3**	**-0.6**
ARMA	**Armidale**	**24.68**	**180**	P		**P**		**00**	**57**	**39.5**	**+1.0**
ARMA				IAmb		IAmb		00	57	40.5	
	comp=Z,18nm,1.4s										
AS01	**Alice Springs**	**24.76**	**222**	P		**P**		**00**	**57**	**40.0**	**+0.7**
AS31	**Alice Springs**	**24.79**	**222**	P		**P**		**00**	**57**	**40.2**	**+0.6**
ASAR	**Alice Springs**	**24.79**	**222**	P		**P**		**00**	**57**	**39.8**	**+0.2**
ASAR	**Alice Springs**	**24.79**	**222**	P		**P**		**00**	**57**	**39.6**	**0.0**
	comp=Z,21nm,0.4s,baz=58,slow=8.9,SNR=225										
ASAR				PcP		**PcP**		**01**	**01**	**13.0**	**-2.1**
	comp=Z,0.6nm,0.5s,baz=42,slow=2.3,SNR=2.5										
	comp=Z,21nm,0.4s										
LCRK	**Leigh Creek**	**27.76**	**206**	P		**P**		**00**	**58**	**07.3**	**+1.0**
STKA	**Stephens Creek**	**27.78**	**199**	P		**P**		**00**	**58**	**06.8**	**+0.4**
	comp=Z,1.6nm,0.4s,baz=18,slow=10,SNR=6.4										
STKA				LR		LR		01	08	48.7	
	comp=Z,101nm,18.4s,baz=25,slow=35										
	comp=Z,1.6nm,0.4s										
BATI	**Baumata**	**28.09**	**259**	LR		LR		01	12	01.0	
	comp=Z,79nm,19.0s,baz=170,slow=42										
FITZ	**Fitzroy Crossi**	**28.28**	**242**	P		**P**		**00**	**58**	**10.0**	**-0.9**
FITZ	**Fitzroy Crossi**	**28.28**	**242**	P		**P**		**00**	**58**	**10.1**	**-0.9**
FITZ				IAmb		IAmb		00	58	12.9	
	comp=Z,7.4nm,0.5s										
DAV	**Davao City (W)**	**28.91**	**296**	LR		LR		01	09	25.2	
	comp=Z,53nm,18.5s,baz=99,slow=36										
WRKA	**Warakurna**	**29.58**	**227**	P		**P**		**00**	**58**	**21.9**	**-0.7**
BBOO	**Buckleboo**	**30.73**	**206**	P		**P**		**00**	**58**	**32.3**	**-0.3**
FORT	**Forrest**	**33.45**	**219**	P		**P**		**00**	**58**	**56.0**	**-0.5**
PSA00	**Pilbara Seismi**	**34.64**	**240**	P		**P**		**00**	**59**	**05.8**	**-1.1**
HIZ	**Hauiti**	**38.94**	**151**	P		**P**		**00**	**59**	**43.6**	**+0.4**
GIRL	**Giralia**	**39.88**	**241**	P		**P**		**00**	**59**	**51.2**	**-0.2**
NWAO	**Narrogin (SRO)**	**42.02**	**225**	LR		LR		01	17	58.2	
	comp=Z,75nm,19.6s,baz=208,slow=37										
NJ2	**Nanjing**	**48.77**	**322**	*e*P		**P**		**01**	**01**	**05.0**	**+2.9**
NJ2				pP		**pP**		**01**	**01**	**13.3**	**-4.2**
NJ2				pmax		pmax					
	comp=Z,14nm,0.8s										
NJ2				pmax		pmax					
	comp=Z,200nm,4.3s										
BKNI	**Bangkinang**	**50.88**	**275**	P		**P**		**01**	**01**	**21.7**	**+3.2**
MDJ	**Mudanjiang**	**53.78**	**341**	P		**P**		**01**	**01**	**42.0**	**+2.5**
MDJ				pmax		pmax					
	comp=Z,4.0nm,0.5s										
MDJ				pmax		pmax					
	comp=Z,81nm,8.2s										
BNX	**BinXian**	**55.51**	**340**	⇑P		**P**		**01**	**01**	**55.3**	**+3.3**
BNX				pmax		pmax					
	comp=Z,7.0nm,1.7s										
BNX				pmax		pmax					
	comp=Z,100nm,4.2s										
XAN	**Xi'an**	**56.43**	**317**	P		P		01	01	46

	comp=Z,1.3nm,0.6s								
MZP	**Montezuma Peak**	**94.15**	**53**	P	**P**	**01 05 36.7**	**+0.7**		
MZP				IAmb	IAmb	01 06 11.1			
	comp=Z,5.6nm,1.5s								
GMN	**Gold Mountain**	**94.22**	**53**	P	**P**	**01 05 36.8**	**+0.5**		
QSM	**Queen of Sheba**	**94.44**	**54**	P	**P**	**01 05 38.1**	**+1.0**		
QSM				IAmb	IAmb	01 05 50.5			
	comp=Z,2.4nm,0.8s								
GWY	**Greenwater Val**	**94.62**	**54**	P	**P**	**01 05 39.0**	**+0.9**		
GWY				IAmb	IAmb	01 05 51.2			
	comp=Z,1.7nm,0.8s								
WCT	**Wildcat Mounta**	**94.69**	**54**	P	**P**	**01 05 39.2**	**+0.9**		
WCT				IAmb	IAmb	01 05 40.0			
	comp=Z,2.1nm,0.7s								
ABKAR	**Akbulak array**	**95.33**	**319**	P	**P**	**01 05 38.7**	**-2.0**		
YKA	**Yellowknife Ar**	**96.66**	**28**	P	**P**	**01 05 46.7**	**+0.2**		
	comp=Z,0.1nm,0.5s,baz=295,slow=2.9,SNR=2.4								
	comp=Z,0.1nm,0.5s								
PDAR	**Pinedale Array**	**100.23**	**48**	P	**Pdif**	**01 06 02.9**	**-0.4**		
	comp=Z,0.3nm,0.5s,baz=196,slow=3.3,SNR=3.9								
ARCES	**ARCESS Array B**	**107.30**	**343**	PKiKP	**PKiKP**	**01 10 41.1**	**-1.2**		
	comp=Z,4.2nm,1.0s,baz=52,slow=4.8,SNR=5.3								
FINES	**FINESS Array B**	**111.31**	**335**	PKiKP	**PKiKP**	**01 10 48.8**	**-1.2**		
	comp=Z,1.2nm,0.9s,baz=96,slow=1.4,SNR=4.5								
AKASG	**Malin Array Be**	**114.48**	**324**	PKiKP	PKPdf	01 10 53.9	-2.5		
	comp=Z,0.2nm,0.3s,baz=68,slow=2.5,SNR=1.7								
HFS	**Hagfors**	**117.00**	**338**	PKP	**PKPdf**	**01 10 59.3**	**-1.6**		
	comp=Z,2.2nm,0.9s,baz=172,slow=4.4,SNR=3.7								
NOA	**NORSAR Array B**	**117.27**	**340**	PKP	**PKPdf**	**01 10 59.1**	**-2.4**		
	comp=Z,0.3nm,0.7s,baz=30,slow=4.6,SNR=1.8								
PLCA	**Paso Flores**	**119.81**	**144**	PKP	**PKPdf**	**01 11 05.8**	**-1.3**		
	comp=Z,2.1nm,1.1s,baz=242,slow=4.2,SNR=4.2								
GERES	**GERESS Array B**	**124.13**	**328**	PKP	**PKPdf**	**01 11 14.2**	**-1.0**		
	comp=Z,0.8nm,0.5s,baz=65,slow=3.9,SNR=4.8								
EKA	**Eskdalemuir Ar**	**126.46**	**342**	PKP	**PKPdf**	**01 11 18.1**	**-1.1**		
	comp=Z,0.6nm,0.4s,baz=23,slow=3.0,SNR=5.1								
TORD	**Torodi Ar. Bea**	**149.46**	**286**	PKPbc	**PKPbc**	**01 12 05.5**	**-1.2**		
	comp=Z,4.1nm,0.5s,baz=77,slow=2.2,SNR=111								
BDFB	**Brasilia**	**151.27**	**138**	PKPbc	**PKPbc**	**01 12 11.4**	**+0.3**		
	comp=Z,6.1nm,0.5s,baz=340,slow=0.9,SNR=18								

*SFS **31** 00:59:23.4, 37.85N×3.19W, h3km, ML2.6/4, ML2.6/4, MLv2.6/4*
*MDD **31** 00:59:24.4±0.4, 37.87N×3.20W, h11km±1km, mb_Lg2.0/8, Error ellipse: s-maj=3.3km s-min=2.7km az=151.0*
ISC 31 00:59:23.3±0.8, **37.87N**±0.04×**3.16W**±0.03, **h18**km±2km, **n12**, σ0**.66**/25, **Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EQES	**Quesada**	**0.09**	**133**	Pg	**Pb**	**00 59 27.4**	**+0.3**
EQES				Sg	**Sb**	**00 59 29.7**	**+0.2**
EQES				*i* Vmb_Lg		00 59 30.3	
E0802	**Ubeda,Jaen**	**0.24**	**313**	Pg	**Pb**	**00 59 28.7**	**-0.2**
E0802				Sg	**Sg**	**00 59 31.8**	**-0.9**
EQUE	**Quentar**	**0.70**	**199**	Pg	**Pg**	**00 59 36.6**	**-0.4**
EQUE				Sg	**Sb**	**00 59 46.8**	**+0.6**
EQUE				*i* Vmb_Lg		00 59 48.6	
PSIM	**Granatula de C**	**1.06**	**334**	Pg	**Pg**	**00 59 44.5**	**+0.5**
PSIM				Sg	**Sn**	**00 59 57.9**	**+0.1**
EGOR	**Sierra Gorda,**	**1.07**	**225**	Pg	**Pg**	**00 59 43.8**	**-0.2**
EGOR				*i* Vmb_Lg		00 59 53.3	
EGOR				Sg	**Sg**	**00 59 58.1**	**0.0**
EADA	**Adamuz**	**1.16**	**285**	Sn	**Sn**	**00 59 59.8**	**-0.2**
EADA				Pn	**Pn**	**00 59 44.5**	**-0.2**
EADA	**Adamuz**	**1.16**	**285**	Pg	**Pg**	**00 59 45.7**	**-0.1**
EADA				Sg	**Sn**	**00 59 59.9**	**-0.2**
EADA				*i* Vmb_Lg		01 00 02.7	
E1002	**Yechar (Murcia**	**1.37**	**81**	Pg	**Pg**	**00 59 49.7**	**-0.1**
E1002				Sg	**Sg**	**01 00 07.8**	**+0.2**
ETOB	**Tobarra**	**1.49**	**58**	Sn	**Sg**	**01 00 10.2**	**-1.2**
ETOB				Pn	**Pb**	**00 59 49.9**	**-0.5**
EMUR	**La Murta**	**1.52**	**90**	Pn	**Pn**	**00 59 49.9**	**+0.3**
EMUR				Sn	**Sb**	**01 00 10.5**	**+0.7**
ECAB	**El Cabril**	**1.80**	**277**	Pn	**Pn**	**00 59 54.1**	**+0.7**
ECAB				Sn	**Sn**	**01 00 16.9**	**+1.0**
ECAB	**El Cabril**	**1.80**	**277**	Pn	**Pn**	**00 59 52.6**	**-0.8**
ECAB				Sn	**Sn**	**01 00 14.8**	**-1.0**
ECAB				Sg	**Sb**	**01 00 19.2**	**+1.2**
ECAB				*i* Vmb_Lg		01 00 20.3	

*IDC **31** 01:00:22.1±1.9, 5.62S×147.41E, h182km±16km, mb3.4/5, mbtmp4.0/7, Error ellipse: s-maj=37.1km s-min=16.9km az=99.0*
*NEIC **31** 01:00:23.6±1.5, 5.65S±0.04×147.2E±0.2, h174km±9km, mb4.4/12, Error ellipse: s-maj=26.8km s-min=5.1km az=89.0*
ISC 31 01:00:24.3±0.8, **5.62S**±0.08×**147.2E**±0.1, **h195**km, **n36**, σ1**9**/**30**/**38**, **mb4.3**/9, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.55**	**2**		**Pn**	**01 01 19.4**	**-0.9**
PMG	**Port Moresby**	**3.77**	**181**	P	**Pn**	**01 01 21.6**	**-1.4**
	32nm,0.3s,baz=326,slow=6.9,SNR=22						
PMG				S	**Sn**	**01 02 05.4**	**-3.7**
	153nm,0.3s,baz=181,slow=21,SNR=20						
GENI	**Genyem**	**7.64**	**293**	P	Pn	01 02 20.6	+7.7
COEN	**Coen**	**9.20**	**205**	P	**Pn**	**01 02 34.7**	**+1.5**
COEN	**Coen**	**9.20**	**205**		**Pn**	**01 02 33.9**	**+0.8**
TV1H	**Townsville Har**	**13.57**	**182**	P	**P**	**01 03 34.0**	**+2.3**
CTA	**Charters Tower**	**14.42**	**184**	P	**P**	**01 03 43.4**	**+2.3**
	8.1nm,0.6s,baz=142,slow=0.0,SNR=2.1						
CTAO	**Charters Tower**	**14.42**	**184**	P	**P**	**01 03 43.6**	**+2.5**
CTAO	**Charters Tower**	**14.42**	**184**		**P**	**01 03 42.0**	**+0.9**
KDU	**Kakadu**	**16.16**	**243**	P	**P**	**01 04 00.8**	**+0.5**
QIS	**Mount Isa**	**16.59**	**206**	P	**Pn**	**01 04 06.7**	**+0.7**
MTN	**Manton Dam**	**17.41**	**245**	P	**P**	**01 04 14.1**	**-0.1**
MTN				IAmb	IAmb	01 04 15.6	
	comp=Z,16nm,0.8s						
DRS	**Darwin Rock St**	**17.47**	**246**	P	**Pn**	**01 04 16.3**	**-0.2**
WRA	**Warramunga Arr**	**18.96**	**220**	P	**P**	**01 04 31.7**	**+0.7**
	comp=Z,11nm,0.4s,baz=39,slow=11,SNR=170						
WRA				S	**S**	**01 07 54.1**	**-2.0**
	comp=Z,1.0nm,0.8s,baz=40,slow=20,SNR=5.1						
WB1	**Warramunga Ar.**	**18.97**	**220**	P	**P**	**01 04 31.8**	**+0.7**
EIDS	**Eidsvold**	**19.99**	**170**	P	**P**	**01 04 42.2**	**+0.3**
EIDS				IAmb	IAmb	01 04 55.0	
	comp=Z,11nm,1.1s						
KNRA	**Kununurra**	**20.69**	**240**	P	**P**	**01 04 49.7**	**+0.2**
KNRA	**Kununurra**	**20.69**	**240**	P	**P**	**01 04 49.0**	**-0.4**
KNRA				IAmb	IAmb	01 04 52.7	
	comp=Z,10nm,0.8s						
AS31	**Alice Springs**	**22.05**	**214**	P	**P**	**01 05 04.3**	**+0.7**
ASAR	**Alice Springs**	**22.05**	**214**	P	**P**	**01 05 04.2**	**+0.7**
ASAR	**Alice Springs**	**22.05**	**214**	P	**P**	**01 05 04.0**	**+0.4**
	comp=Z,16nm,0.7s,baz=49,slow=8.5,SNR=114						
ASAR				S	**S**	**01 08 54.0**	**+1.4**
	comp=Z,1.2nm,0.9s,baz=28,slow=18,SNR=3.8						
	comp=Z,16nm,0.7s						
BATI	**Baumata**	**23.76**	**257**	P	**P**	**01 05 21.0**	**+1.8**
	comp=Z,10nm,0.4s,baz=202,slow=3.0,SNR=4.5						
FITZ	**Fitzroy Crossi**	**24.45**	**238**		**P**	**01 05 25.8**	**+0.4**
ARMA	**Armidale**	**25.02**	**171**	P	**P**	**01 05 30.7**	**+0.2**
STKA	**Stephens Creek**	**26.65**	**191**	P	**P**	**01 05 44.6**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=342,slow=13,SNR=2.0						
	comp=Z,0.7nm,0.4s						
CAN	**Canberra**	**29.61**	**177**	P	**P**	**01 06 11.0**	**-0.3**
CAN				IAmb	IAmb	01 06 33.6	
	comp=Z,8.8nm,1.1s						
FORT	**Forrest**	**30.84**	**213**	P	**P**	**01 06 22.0**	**-0.2**
PSA00	**Pilbara Seismi**	**30.88**	**236**	P	**P**	**01 06 22.3**	**-0.4**
PSA00				IAmb	IAmb	01 06 35.0	
	comp=Z,9.6nm,1.1s						
MORW	**Morawa**	**37.59**	**228**	P	**P**	**01 07 20.1**	**-0.1**
MORW				IAmb	IAmb	01 07 35.0	
	comp=Z,8.5nm,1.0s						
VNDA	**Vanda**	**72.28**	**177**	P	**P**	**01 11 28.1**	**+0.2**
VNDA	**Vanda**	**72.28**	**177**	P	**P**	**01 11 28.1**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=265,slow=7.0,SNR=2.6						
	comp=Z,0.4nm,0.6s						
MKAR	**Makanchi Array**	**77.34**	**320**	P	**P**	**01 11 57.1**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=101,slow=8.1,SNR=2.1						
	comp=Z,0.1nm,0.4s						
ZALV	**Zalesovo Beam**	**78.80**	**328**	P	**P**	**01 12 03.3**	**-2.0**
	comp=Z,0.3nm,0.4s,baz=103,slow=6.5,SNR=2.0						
	comp=Z,0.3nm,0.4s						
F21K	**Alatna River**	**83.78**	**20**	P	**P**	**01 12 33.3**	**+2.0**
QSPA	**South Pole Qui**	**84.35**	**180**	P	**P**	**01 12 33.5**	**-0.9**
TORD	**Torodi Ar. Bea**	**145.20**	**285**	PKPbc	**PKPdf**	**01 19 39.1**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=77,slow=3.0,SNR=8.1						

*JMA **31** 01:06:01.2±0.1, 24.1×122.8E±0.5, h17km±3km, MV2.8/12, NW OFF ISHIGAKIJIMA IS*
*TAP **31** 01:06:01.0, 24.26N×122.80E, h16km, ML2.9, C*
ISC 31 01:06:00.9±1.0, **24.22N**±0.03×**122.82E**±0.02, **h18**km±4km, **n75**, σ0**.68**/142, **1C**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.26**	**26**	*i* P	**Pg**	**01 06 06.7**	**0.0**
JYNG				S	**Sg**	**01 06 10.6**	**-0.1**
YOJ	**Yonaguni jima**	**0.30**	**36**	P	**Pg**	**01 06 07.5**	**+0.1**
YOJ	**Yonaguni jima**	**0.30**	**36**		**Pg**	**01 06 07.5**	**+0.1**
YOJ	**Yonaguni jima**	**0.30**	**36**	⇑P	**Pg**	**01 06 07.4**	**0.0**
	baz=41						
YOJ				S	**Sb**	**01 06 12.1**	**-0.2**
	baz=41						
YOJ	**Yonaguni jima**	**0.30**	**36**	P	**Pg**	**01 06 07.5**	**+0.1**
YOJ				S	**Sb**	**01 06 12.0**	**-0.2**
EOS3	**EOS3**	**0.46**	**278**	P	**Pg**	**01 06 10.2**	**-0.1**
	baz=272						
EOS3				S	**Sb**	**01 06 18.4**	**+1.4**
	baz=272						
EOS4	**EOS4**	**0.47**	**258**	P	**Pg**	**01 06 10.0**	**-0.3**
	baz=256						
EOS4				S	**Sb**	**01 06 17.0**	**0.0**
	baz=256						
EOS2	**EOS2**	**0.57**	**290**	P	**Pb**	**01 06 12.4**	**+0.1**
	baz=291						
EOS2				S	**Sb**	**01 06 21.4**	**+1.3**
	baz=291						
IRIF	**Iriomote-Funau**	**0.84**	**82**	P	**Pb**	**01 06 16.9**	**0.0**
IRIF				eS	**Sg**	**01 06 29.0**	**+0.6**
HATJ	**Hateruma jima**	**0.91**	**100**	P	**Pb**	**01 06 18.2**	**0.0**
HATJ				S	**Sb**	**01 06 30.2**	**+0.2**
ESAO	**Su ao**	**0.96**	**292**	P	**Pb**	**01 06 18.3**	**-0.7**
	baz=300						
ESAO				S	**Sb**	**01 06 31.2**	**-0.1**
	baz=300						
TWC	**Suao**	**0.97**	**294**	*i* P	**Pb**	**01 06 18.8**	**-0.4**
	baz=303						
TWC				S	**Sb**	**01 06 30.8**	**-0.8**
	baz=303						
EWUT	**Wuta**	**0.98**	**283**	P	**Pb**	**01 06 18.8**	**-0.5**
	baz=280						
EWUT				S	**Sb**	**01 06 32.1**	**+0.2**
	baz=280						
EAHA	**Aohua**	**0.99**	**276**	P	**Pb**	**01 06 18.8**	**-0.8**
	baz=273						
EAHA				S	**Sg**	**01 06 33.0**	**-0.3**
	baz=273						
ENA	**Nanau**	**1.01**	**282**	*i* P	**Pb**	**01 06 19.4**	**-0.4**
	baz=279						
ENA				*i* S	**Sb**	**01 06 32.9**	**+0.1**
	baz=279						
JKRS	**Kuro-shima**	**1.08**	**89**	P	**Pn**	**01 06 21.3**	**+0.1**
JKRS				S	**Sg**	**01 06 36.6**	**+0.3**
NDS	**Dongshan**	**1.09**	**292**	P	**Pb**	**01 06 20.7**	**-0.5**
	baz=300						
NDS				S	**Sb**	**01 06 35.5**	**+0.4**
	baz=300						
TWB1	**Santiao Chiao**	**1.09**	**316**	*e*P	**Pb**	**01 06 20.5**	**-0.8**
	baz=315						
TWB1				S	**Sb**	**01 06 34.8**	**-0.4**
	baz=315						
ETL	**Fush Village**	**1.10**	**267**	*e*P	**Pg**	**01 06 22.2**	**0.0**
	baz=244						
ETL				*e*S	**Sg**	**01 06 37.7**	**+1.1**
	baz=244						
NACB	**Ninganchiao**	**1.12**	**268**	P	**Pg**	**01 06 22.3**	**-0.4**
NACB	**Ninganchiao**	**1.12**	**268**	P	**Pb**	**01 06 22.1**	**+0.3**
	baz=246						
NACB				S	**Sg**	**01 06 37.4**	**0.0**
	baz=246						
TWE	**Neicheng**	**1.16**	**296**	*i* P	**Pb**	**01 06 22.6**	**+0.1**
	baz=293						
TWE				*i* S	**Sb**	**01 06 37.3**	**+0.1**
	baz=293						
TIPB	**Shuangxi**	**1.18**	**310**	P	**Pn**	**01 06 22.5**	**0.0**
	baz=322						
TIPB				S	**Sb**	**01 06 37.2**	**-0.4**
	baz=322						
JIJ	**Ishigaki jima**	**1.22**	**83**	P	**Pn**	**01 06 22.6**	**-0.5**
JIJ				S	**Sb**	**01 06 38.8**	**0.0**
ENTT	**Nioudou**	**1.22**	**290**	P	**Pn**	**01 06 22.9**	**-0.1**
	baz=302						
ENTT				S	**Sn**	**01 06 39.4**	**+0.2**
	baz=302						
LATG	**Datong**	**1.22**	**285**	P	**Pb**	**01 06 23.5**	**-0.1**
	baz=282						
LATG				S	**Sn**	**01 06 39.8**	**+0.5**
	baz=282						
ETLH	**Xiulin Townshi**	**1.22**	**270**	P	**Pb**	**01 06 23.5**	**-0.1**
	baz=267						
ETLH				*e*S	**Sg**	**01 06 41.6**	**+1.0**
	baz=267						
SXI1	**Grass Mountain**	**1.22**	**316**	P	**Pn**	**01 06 22.3**	**-0.9**
	baz=328						
SXI1				S	**Sg**	**01 06 40.0**	**-0.7**
	baz=328						
SHUL	**Shoufeng**	**1.23**	**250**	P	**Pn**	**01 06 22.9**	**-0.4**
	baz=247						
SHUL				*e*S	**Sb**	**01 06 39.3**	**+0.1**
	baz=247						
ETM	**Tongmen**	**1.24**	**258**	P	**Pn**	**01 06 22.6**	**-0.8**
	baz=256						
ETM				S	**Sn**	**01 06 39.9**	**+0.2**
	baz=256						
FUSB	**Fushanzhiwuyua**	**1.25**	**296**	P	**Pb**	**01 06 24.2**	**+0.3**
	baz=293						
FUSB				S	**Sn**	**01 06 40.6**	**+0.7**
	baz=293						
NDT	**Datong Townshi**	**1.25**	**288**	P	**Pb**	**01 06 24.3**	**+0.3**
	baz=299						
NDT				S	**Sn**	**01 06 40.1**	**+0.2**
	baz=299						
LXIB	**Xiulin Townshi**	**1.30**	**262**	P	**Pn**	**01 06 24.1**	**-0.3**
	baz=259						
LXIB				S	**Sg**	**01 06 42.8**	**-0.4**
	baz=259						
NWLT	**Wulai**	**1.32**	**295**	P	**Pb**	**01 06 25.4**	**+0.1**
	baz=310						
NWLT				S	**Sn**	**01 06 41.5**	**-0.3**
	baz=310						
NNSB	**Datong**	**1.33**	**279**	P	**Pn**	**01 06 24.4**	**-0.3**
	baz=276						
NNSB				S	**Sb**	**01 06 42.3**	**+0.1**
	baz=276						
NNS	**Nan Shan**	**1.34**	**280**	*i* P	**Pn**	**01 06 25.0**	**+0.1**
	baz=277						
NNS				S	**Sg**	**01 06 43.9**	**-0.5**
	baz=277						
YHNB	**Yeheng**	**1.39**	**289**	P	**Pb**	**01 06 27.1**	**+0.6**
YHNB	**Yeheng**	**1.39**	**289**	P	**Pb**	**01 06 26.8**	**+0.4**
	baz=300						
YHNB				S	**Sg**	**01 06 45.4**	**-0.6**
	baz=300						
WARBT	**Fenglin Townsh**	**1.41**	**249**	P	**Pn**	**01 06 25.2**	**-0.5**
	baz=247						
WARBT				S	**Sn**	**01 06 43.5**	**-0.2**
	baz=247						
JISG	**Ishigakijimahi**	**1.41**	**75**	P	**Pn**	**01 06 25.3**	**-0.4**
JISG				S	**Sn**	**01 06 43.6**	**-0.1**
NSK	**Sanguang**	**1.41**	**289**	*i* P	**Pb**	**01 06 27.2**	**+0.4**
	baz=300						
NSK				*i* S	**Sb**	**01 06 44.9**	**+0.4**
	baz=300						
WHF	**Hehuan Shan**	**1.42**	**267**	*i* P	**Pn**	**01 06 26.7**	**+0.4**
	baz=264						
WHF				*e*S	**Sb**	**01 06 45.8**	**+0.6**
	baz=264						
TATO	**Taipei**	**1.43**	**302**	P	**Pg**	**01 06 28.6**	**+0.1**
TATO	**Taipei**	**1.43**	**302**	P	**Pg**	**01 06 27.8**	**-0.7**
	baz=316						
TATO				S	**Sb**	**01 06 44.9**	**0.0**
	baz=316						
FUSS	**Fushou**	**1.44**	**271**	P	**Pb**	**01 06 27.1**	**-0.3**
	baz=269						
FUSS				S	**Sg**	**01 06 47.9**	**+0.3**
	baz=269						
YM01	**YM01**	**1.46**	**309**	*e*P	**Pb**	**01 06 27.9**	**+0.2**
	baz=307						
YM01				*e*S	**Sn**	**01 06 44.9**	**-0.3**
	baz=307						
HGSD	**Ruisui**	**1.47**	**241**	P	**Pn**	**01 06 26.1**	**-0.5**
	baz=238						
HGSD				S	**Sb**	**01 06 46.3**	**+0.2**
	baz=238						
CHGB	**Renai**	**1.51**	**264**	P	**Pb**	**01 06 28.3**	**-0.4**
	baz=261						
CHGB				*e*S	**Sg**	**01 06 49.1**	**-0.8**
	baz=261						
OWD	**Renai**	**1.53**	**260**	P	**Pb**	**01 06 28.4**	**-0.4**
	baz=257						
OWD				S	**Sn**	**01 06 46.8**	**-0.1**
	baz=257						
EHY	**Hungye**	**1.55**	**243**	*i* P	**Pn**	**01 06 26.8**	**-0.8**
	baz=240						
EHY				*i* S	**Sn**	**01 06 46.2**	**-1.0**
	baz=240						
WUSB	**Renai**	**1.57**	**262**	P	**Pb**	**01 06 28.9**	**-0.6**
	baz=259						
WUSB				S	**Sn**	**01 06 48.5**	**+0.4**
	baz=259						
VWDT	**VWDT**	**1.60**	**254**	P	**Pn**	**01 06 28.9**	**+0.5**
	baz=251						
VWDT				*e*S	**Sb**	**01 06 50.1**	**+0.1**
	baz=251						
NFF	**Wufeng Townshi**	**1.61**	**285**	P	**Pb**	**01 06 30.8**	**+0.7**
	baz=269						
NFF				S	**Sb**	**01 06 51.0**	**+0.9**
	baz=269						
YULB	**Yu-li**	**1.62**	**240**	P	**Pn**	**01 06 28.4**	**-0.2**
YULB	**Yu-li**	**1.62**	**240**	P	**Pn**	**01 06 27.9**	**-0.7**
	baz=256						
YULB				S	**Sn**	**01 06 48.1**	**-0.9**
	baz=256						
TWF1	**Yuli**	**1.64**	**239**	*i* P	**Pn**	**01 06 28.2**	**-0.7**
	baz=236						
TWF1				S	**Sn**	**01 06 50.1**	**+0.5**
	baz=236						
NSTT	**Nanjuang**	**1.71**	**284**	P	**Pb**	**01 06 31.9**	**+0.1**
	baz=268						
NSTT				*e*S	**Sb**	**01 06 54.1**	**+1.1**
	baz=268						
WHP	**Taichung City**	**1.71**	**272**	P	**Pb**	**01 06 32.5**	**+0.6**
	baz=270						
WHP				S	**Sb**	**01 06 54.4**	**+1.2**
	baz=270						
FULB	**Fuli**	**1.73**	**234**	P	**Pn**	**01 06 28.7**	**-1.5**
	baz=218						
FULB				S	**Sb**	**01 06 54.2**	**+0.6**
	baz=218						
SSLB	**Suanglung**	**1.76**	**256**	P	**Pb**	**01 06 32.1**	**-0.6**
SSLB	**Suanglung**	**1.76**	**256**	P	**Pn**	**01 06 30.2**	**-0.4**
	baz=254						
SSLB				S	**Sn**	**01 06 52.5**	**0.0**
	baz=254						
SMLT	**Sun Moon Lake**	**1.79**	**260**	*i* P	**Pn**	**01 06 32.1**	**+1.1**
	baz=257						
SMLT				S	**Sn**	**01 06 54.4**	**+1.0**
	baz=257						
TYC	**Yuchr**	**1.82**	**260**	*i* P	**Pn**	**01 06 32.5**	**+1.1**
	baz=258						
TYC				S	**Sb**	**01 06 55.4**	**-0.9**
	baz=258						
WHYT	**Xinyi Township**	**1.87**	**254**	*e*P	**Pn**	**01 06 30.4**	**-1.7**
	baz=252						
WHYT				*e*S	**Sb**	**01 06 57.3**	**-0.5**
	baz=252						
ALS	**Alishan**	**1.98**	**249**	P	**Pn**	**01 06 35.0**	**+1.2**
	baz=247						
ALS				*e*S	**Sn**	**01 06 59.5**	**+1.2**
	baz=247						
CHN5	**Tsauling**	**2.06**	**253**	*i* P	**Pb**	**01 06 36.5**	**-1.3**
	baz=238						
CHN5				S	**Sb**	**01 07 03.3**	**+0.2**
	baz=238						
WCKO	**Fanlu**	**2.17**	**249**	P	**Pb**	**01 06 39.6**	**-0.1**
	baz=247						
WCKO				S	**Sb**	**01 07 06.8**	**+0.4**
	baz=247						
TPUB	**Ta-pu**	**2.21**	**246**	P	**Pb**	**01 06 39.4**	**-0.9**
TPUB	**Ta-pu**	**2.21**	**246**	P	**Pn**	**01 06 38.1**	**+1.4**
	baz=243						
TPUB				S	**Sb**	**01 07 06.8**	**-0.6**
	baz=243						
CHN4	**Tsaushan**	**2.22**	**247**	*i* P	**Pb**	**01 06 39.4**	**-1.1**
	baz=245						
CHN4				*i* S	**Sb**	**01 07 07.8**	**+0.1**
	baz=245						
SLGT	**Liugui**	**2.34**	**239**	P	**Pn**	**01 06 39.4**	**+0.8**
	baz=237						
SLGT				S	**Sb**	**01 07 10.8**	**-0.4**
	baz=237						
TWK	**Hsinying**	**2.34**	**247**	*i* P	**Pn**	**01 06 40.4**	**+1.8**
	baz=244						
TWK				S	**Sb**	**01 07 09.4**	**-1.8**
	baz=244						
MASBT	**Mashibuluo**	**2.57**	**232**	*e*P	**Pn**	**01 06 42.9**	**+1.2**
	baz=221						
MASBT				*e*S	**Sn**	**01 07 14.9**	**+2.4**
	baz=221						
EAST	**Anshuo**	**2.58**	**225**	P	**Pn**	**01 06 42.5**	**+0.7**
	baz=223						
EAST				*e*S	**Sn**	**01 07 12.7**	**0.0**
	baz=223						
SLIU	**Shizi**	**2.73**	**223**	P	**Pn**	**01 06 43.6**	**-0.3**
	baz=221						
SLIU				*e*S	**Sn**	**01 07 16.6**	**+0.2**
	baz=221						

*IDC **31** 01:07:47.9±0.7, 56.25N×149.80W, h0km, mb4.0/23, mbtmp4.1/27, ML3.9/4, MS4.2/75, Error ellipse: s-maj=21.0km s-min=11.4km az=23.0*
*NEIC **31** 01:07:48.4±1.6, 56.09N±0.07×149.95W±0.09, h14km±5km, mb4.5/44, ML4.6/60, ML4.3(AEIC), Error ellipse: s-maj=10.1km s-min=6.8km az=172.0*
*GCMT **31** 01:07:51.4±0.2, 56.10N±0.01×149.76W±0.02, h13km±1km, MW5.0/123, Moment Tensor Solution. s55,c68; s123,c209; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.07±.10; Mθθ0.25±.10; Mϕϕ-0.18±.09; Mrθ0.32±.20; Mϕθ4.48±.10; Mϕr0.33±.22; Best double couple: Mo4.50800×10¹⁶ NP1:ϕs1.00000°, δ86.00000°, λ176.00000°. NP2:ϕs92.00000°, δ86.00000°, λ4.00000°. Principal axes: T 4.5630, Plg6.0000°, Azm316.0000°; N -0.1100, Plg84.0000°, Azm139.0000°; P -4.4530, Plg0.0000°, Azm46.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*AEIC **31** 01:07:51.7±1.8, 56.02N±0.07×149.86W±0.09, h11km±4km Error ellipse: s-maj=10.0km s-min=7.2km az=179.0*
ISC 31 01:07:49.0±0.9, **56.14N**±0.06×**149.86W**±0.04, **h14**km±5km, **

Q19K **Cape Douglas,** 3.46 325 P Pn 01 08 42.8 +0.3
baz=143
Q19K S Sn 01 09 22.5 -0.6
baz=143
CNPM **China Poot** 3.47 348 Pn Pn 01 08 41.9 -0.7
CNPM Sn 01 09 22.6 -0.9
CNPM IAML 01 09 24.8
comp=E,608nm,0.4s
CNPM IAML 01 09 24.8
comp=N,810nm,0.4s
KAKN **Katmai Knife C** 3.56 310 Pn 01 08 43.6 -0.2
KCE **Katmai Mt Cerb** 3.58 308 Pn 01 08 44.7 +0.5
ACHA **Angle Creek He** 3.63 307 Pn 01 08 44.7 -0.1
BRSE **Bradley Lake S** 3.64 353 Pn 01 08 44.0 -0.9
BRSE **Bradley Lake S** 3.64 353 P Pn 01 08 44.0 -0.9
baz=173
HOM **Homer** 3.65 346 Pn 01 08 44.2 -0.8
HOM IAML 01 09 30.3
comp=N,1μm,0.5s
HOM IAML 01 09 37.8
comp=E,1μm,0.9s
BRLK **Bradley Lake** 3.67 352 Pn 01 08 44.1 -1.2
ANCK **Angle Creek** 3.70 306 Pn 01 08 45.6 -0.1
KVTA **Katmai Vly 10** 3.71 310 Pn 01 08 46.1 +0.3
AU22 **Augustine Moun** 3.74 331 Pn 01 08 46.5 +0.3
KAHC **Katmai Hardscr** 3.75 314 Pn 01 08 47.0 +0.4
KAHC **Katmai Hardscr** 3.75 314 P Pn 01 08 47.0 +0.4
baz=131
AUCH **Augustine Cone** 3.76 331 Pn 01 08 46.8 +0.3
AUL **Augustine Lava** 3.77 331 Pn 01 08 47.0 +0.3
Q23K **Middleton Isla** 3.79 28 Pn Pn 01 08 46.4 -0.6
Q23K IAML 01 09 41.0
comp=E,476nm,1.2s
Q23K **Middleton Isla** 3.79 28 P Pn 01 08 46.4 -0.6
baz=212
MID **Middleton Isla** 3.80 28 P Pn 01 08 46.8 -0.1
MID **Middleton Isla** 3.80 28 Pn Pn 01 08 46.4 -0.6
PLK3 **Peulik 3** 3.84 296 Pn 01 08 47.2 -0.4
CNTC **Contact Creek** 3.91 306 Pn 01 08 48.2 -0.5
Q17K **Contact Creek** 3.91 305 P Pn 01 08 48.2 -0.5
baz=122
KELA **Mount Kelaz** 3.94 308 Pn 01 08 49.0 0.0
P19K **Oil Pt** 3.96 334 Pn Pn 01 08 49.2 0.0
P19K IAML 01 09 37.0
comp=N,829nm,0.5s
P19K IAML 01 09 40.7
comp=E,992nm,0.4s
P19K **Oil Pt** 3.96 334 P Pn 01 08 49.2 0.0
baz=152
SEW **Seward** 3.98 3 Pn 01 08 48.5 -1.0
SEW **Seward** 3.98 3 P Pn 01 08 48.4 -1.0
baz=184
PLK1 **Peulik 1** 4.05 297 Pn 01 08 50.2 -0.2
P23K **Montague Islan** 4.08 18 Pn 01 08 50.5 -0.4
P23K **Montague Islan** 4.08 18 P Pn 01 08 50.5 -0.4
baz=200
O20K **Slope Mountain** 4.22 341 Pn 01 08 52.5 -0.4
O20K **Slope Mountain** 4.22 341 P Pn 01 08 52.5 -0.4
baz=159
ILSW **Iliamna Southw** 4.23 337 Pn 01 08 52.1 -1.0
ILSW IAML 01 09 46.7
comp=E,315nm,0.4s
ILSW IAML 01 09 48.5
comp=N,372nm,0.5s
IVE **Iliamna Volcan** 4.23 338 Pn 01 08 52.2 -0.8
P18K **Big Mountain,** 4.35 321 Pn Pn 01 08 53.7 -0.8
P18K **Big Mountain,** 4.35 321 P Pn 01 08 53.8 -0.8
baz=137
O22K **Cooper Landing** 4.36 1 Pn 01 08 53.6 -1.1
O22K **Cooper Landing** 4.36 1 P Pn 01 08 53.7 -0.9
baz=182
SLKM **Skilak Lake** 4.38 358 Pn 01 08 53.9 -1.2
Q16K **King Salmon** 4.47 307 Pn 01 08 55.6 -0.6
Q16K **King Salmon** 4.47 307 P Pn 01 08 55.6 -0.6
baz=123
R16K **Pilot Point** 4.47 292 Pn 01 08 55.2 -1.0
R16K IAML 01 11 11.0
comp=N,595nm,4.3s
R16K IAML 01 11 19.5
comp=E,450nm,2.1s
R16K **Pilot Point** 4.47 292 P Pn 01 08 55.6 -0.6
baz=106
RED **Redoubt Volcan** 4.56 341 Pn 01 08 56.4 -1.1
RDSO **Redoubt South** 4.59 342 Pn 01 08 56.5 -1.4
RSO **Redoubt South** 4.60 342 Pn 01 08 57.0 -1.2
ANNE **Aniakchak Nort** 4.61 283 Pn 01 08 56.4 -1.8
HIN **Hinchinbrook I** 4.62 21 Pn 01 08 57.9 -0.5
HIN IAML 01 09 50.3
comp=E,555nm,0.5s
HIN IAML 01 09 54.2
comp=N,488nm,0.5s
RDWB **Redoubt West** 4.63 341 Pn 01 08 57.0 -1.6
RDT **Redoubt** 4.64 344 Pn 01 08 57.0 -1.7
P17K **Kvichak River** 4.68 314 Pn 01 08 59.2 +0.1
P17K **Kvichak River** 4.68 314 P Pn 01 08 59.2 +0.1
baz=129
O18K **Koktuh Hills** 4.69 325 Pn Pn 01 08 58.4 -0.8
O18K IAML 01 09 54.6
comp=N,392nm,0.9s
O18K IAML 01 09 55.5
comp=E,221nm,0.7s
O18K **Koktuh Hills** 4.69 325 P Pn 01 08 58.6 -0.7
baz=141
CAPN **Captain Cook N** 4.69 352 Pn 01 08 59.1 -0.2
ANNW **Aniakchak Nort** 4.70 284 Pn 01 08 59.0 -0.4
O19K **Port Alsworth** 4.70 332 Pn 01 08 58.8 -0.6
O19K **Port Alsworth** 4.70 332 P Pn 01 08 58.5 -0.9
baz=149
DFR **Drift River** 4.71 343 Pn 01 08 57.4 -2.2
NCT **North Crescent** 4.72 341 Pn 01 08 58.3 -1.5
KAIM **Kayak Island** 4.77 35 Pn Pn 01 09 00.3 0.0
KAIM IAML 01 10 02.9
comp=N,660nm,0.8s
KAIM IAML 01 10 02.9
comp=E,661nm,0.5s
KAIM **Kayak Island** 4.77 35 P Pn 01 09 00.1 -0.2
baz=220
CHGN **Chignik** 4.78 275 Pn Pn 01 08 59.1 -1.4
CHGN IAML 01 09 54.0
comp=N,390nm,1.1s
CHGN IAML 01 09 56.7
comp=E,431nm,0.7s
CHGN **Chignik** 4.78 275 P Pn 01 08 59.6 -0.9
baz=89
EYAK **Cordova Ski Ar** 4.92 24 P Pn 01 09 02.8 +0.4
EYAK **Cordova Ski Ar** 4.92 24 Pn 01 09 02.3 -0.1
EYAK **Cordova Ski Ar** 4.92 24 P Pn 01 09 02.5 +0.1
baz=208
FID **Port Fidalgo** 4.95 20 Pn 01 09 02.2 -0.6
FID IAML 01 09 57.3
comp=E,463nm,0.4s
FID IAML 01 10 00.5
comp=N,334nm,0.5s
RC01 **Rabbit Creek A** 4.96 1 Pn Pn 01 09 02.5 -0.5
RC01 IAML 01 10 02.9
comp=N,488nm,0.4s
RC01 IAML 01 10 02.9
comp=E,368nm,0.5s
RC01 **Rabbit Creek A** 4.96 1 P Pn 01 09 02.2 -0.8
baz=181
FIS **Fire Island** 5.02 358 Pn 01 09 03.8 0.0
FIS IAML 01 10 11.9
comp=E,583nm,0.6s
RAGM **Ragged Mountai** 5.06 31 Pn 01 09 04.2 -0.2
SUCK **Suckling Hills** 5.09 37 Pn 01 09 04.8 0.0
SUCK IAML 01 10 03.8
comp=N,399nm,0.3s
SUCK IAML 01 10 13.8
comp=E,352nm,1.3s
HMT **Hamilton** 5.14 33 Pn 01 09 05.6 +0.1
NICHA **Nichawak Mount** 5.16 35 Pn 01 09 05.9 +0.2
VNHG **Veniaminof 1** 5.20 275 Pn 01 09 05.6 -0.8
GOAT **Goat Mountain** 5.21 29 Pn 01 09 06.8 +0.3
N20K **Mount Spurr** 5.22 347 P Pn 01 09 05.1 -1.5
baz=166
SPCR **Spurr Chakacha** 5.22 347 Pn 01 09 05.1 -1.5
SPCN **Chakachatna No** 5.24 348 Pn 01 09 05.8 -1.0
P16K **Nushagak River** 5.25 307 Pn 01 09 06.9 0.0
P16K **Nushagak River** 5.25 307 P Pn 01 09 06.9 0.0
baz=121
N19K **Bonanza Creek** 5.28 335 Pn 01 09 06.7 -0.7
N19K **Bonanza Creek** 5.28 335 P Pn 01 09 06.4 -1.0
baz=151
SPCP **Crater Peak Br** 5.28 348 Pn 01 09 06.3 -1.1
SPCG **Spurr Capps Gl** 5.29 349 Pn 01 09 06.9 -0.7

BGLC **Bering Glacier** 5.30 38 Pn 01 09 07.9 +0.4
BGLC **Bering Glacier** 5.30 38 P Pn 01 09 07.9 +0.4
baz=224
SPBG **Spurr Blockage** 5.30 347 Pn 01 09 06.7 -1.0
O17K **Koliganek Bris** 5.30 316 Pn 01 09 07.3 -0.3
O17K **Koliganek Bris** 5.30 316 P Pn 01 09 07.3 -0.3
baz=131
KNK **Knik Glacier** 5.34 7 Pn 01 09 07.7 -0.5
KNK IAML 01 10 14.9
comp=N,173nm,0.4s
KNK IAML 01 10 17.1
comp=E,229nm,0.5s
KNK **Knik Glacier** 5.34 7 P Pn 01 09 07.5 -0.7
baz=189
BERG **Berg Lake** 5.36 35 Pn 01 09 08.4 -0.1
SUA **Susitna One** 5.36 355 Pn Pn 01 09 07.3 -1.2
SUA **Susitna One** 5.36 355 P Pn 01 09 07.3 -1.2
baz=175
GRIN **Grindle Hills** 5.40 37 Pn 01 09 09.5 +0.5
S14K **Fog Glacier** 5.42 276 P Pn 01 09 09.2 0.0
baz=88
VNFG **Fog Glacier, M** 5.42 276 Pn 01 09 08.4 -0.9
DIV **Divide** 5.44 21 Pn 01 09 09.8 +0.2
SPNN **North Nagishla** 5.45 345 Pn 01 09 09.0 -0.8
STLK **Strandline Lak** 5.47 350 Pn 01 09 09.0 -1.1
PMR **Palmer** 5.48 4 P Pn 01 09 09.9 -0.2
PMR **Palmer** 5.48 4 Pn 01 09 09.9 -0.2
PMR **Palmer** 5.48 4 P Pn 01 09 09.6 -0.5
baz=185
SNH **Sunshine Point** 5.50 40 Pn Pn 01 09 10.7 +0.3
KHIT **Khitrov Hills** 5.54 36 Pn 01 09 10.9 -0.2
N18K **Kilae Creek** 5.55 328 Pn 01 09 10.0 -1.0
N18K **Kilae Creek** 5.55 328 P Pn 01 09 10.2 -0.9
baz=143
CYK **Cape Yakataga** 5.56 42 Pn 01 09 11.4 +0.3
BMRM **Bremner River** 5.57 27 Pn 01 09 11.4 0.0
BMRM **Bremner River** 5.57 27 P Pn 01 09 11.5 +0.2
baz=212
O16K **Kokwok River B** 5.59 312 Pn Pn 01 09 11.3 -0.4
O16K **Kokwok River B** 5.59 312 P Pn 01 09 11.4 -0.2
baz=125
GHO **Glory Hole Cre** 5.67 4 Pn 01 09 12.5 -0.3
WAX **Waxell Ridge** 5.68 38 Pn 01 09 13.0 0.0
CHNA **Chernabura Isl** 5.69 261 P Pn 01 09 10.5 -2.4
baz=73
CNBA **Chernabura Isl** 5.69 261 Pn Pn 01 09 10.7 -2.2
SML **Sawmill** 5.74 7 Pn Pn 01 09 13.4 -0.3
SML **Sawmill** 5.74 7 P Pn 01 09 13.9 +0.3
baz=189
KLU **Klutina** 5.74 19 Pn 01 09 14.0 +0.2
KLU **Klutina** 5.74 19 P Pn 01 09 14.0 +0.2
baz=203
BARK **Barkley Ridge** 5.78 39 Pn 01 09 14.2 0.0
M23K **Glacier View** 5.78 10 Pn 01 09 14.4 +0.2
M23K **Glacier View** 5.78 10 P Pn 01 09 14.4 +0.2
baz=192
SVW2 **Sparrevohn** 5.80 331 P Pn 01 09 13.7 -0.8
SVW2 **Sparrevohn** 5.80 331 Pn 01 09 13.5 -1.0
CRQM **Cirque** 5.82 35 Pn 01 09 14.9 0.0
MESA **MESA** 5.82 43 Pn 01 09 14.6 -0.4
MESA **MESA** 5.82 43 P Pn 01 09 14.8 -0.2
baz=229
CRQE **Cirque** 5.83 35 P Pn 01 09 14.9 -0.1
baz=221
N17K **Nushagak Hills** 5.85 322 Pn Pn 01 09 14.6 -0.6
N17K **Nushagak Hills** 5.85 322 P Pn 01 09 14.7 -0.6
baz=136
SCM **Sheep Creek Mo** 5.86 12 Pn 01 09 15.8 +0.5
SCM **Sheep Creek Mo** 5.86 12 P Pn 01 09 16.0 +0.7
baz=194
TGL **Tana Glacier** 5.92 36 Pn 01 09 16.0 -0.1
SKT **Skwentna** 5.92 352 Pn Pn 01 09 15.4 -0.7
SKT **Skwentna** 5.92 352 P Pn 01 09 15.4 -0.7
baz=171
ISLE **Juniper Island** 5.97 38 Pn 01 09 16.8 -0.1
BAGL **Bagley Icefiel** 5.98 40 Pn 01 09 16.9 0.0
M20K **Styx River** 6.00 345 Pn 01 09 16.2 -1.2
M20K **Styx River** 6.00 345 P Pn 01 09 16.0 -1.3
baz=163
SDPT **Sand Point** 6.05 267 P Pn 01 09 16.2 -1.7
SDPT **Sand Point** 6.05 267 Pn Pn 01 09 15.5 -2.4
SDPT **Sand Point** 6.05 267 P Pn 01 09 16.1 -1.8
baz=78
VRDI **Verde Repeater** 6.10 31 Pn Pn 01 09 18.6 -0.1
N25K **Chitina, Valde** 6.12 24 Pn Pn 01 09 19.4 +0.4
N25K **Chitina, Valde** 6.12 24 P Pn 01 09 19.4 +0.4
baz=209
O15K **Ungalikthiuk R** 6.15 304 Pn 01 09 18.5 -0.8
O15K **Ungalikthiuk R** 6.15 304 P Pn 01 09 18.5 -0.8
baz=116
GLB **Gilahina Butte** 6.17 28 Pn Pn 01 09 19.7 0.0
M18K **Stony River** 6.20 332 Pn 01 09 18.9 -1.0
M18K **Stony River** 6.20 332 P Pn 01 09 18.9 -1.0
baz=148
KIAG **Kiagna River** 6.20 36 Pn 01 09 20.0 -0.1
M19K **Big River Lodg** 6.24 340 Pn 01 09 19.7 -0.8
M19K **Big River Lodg** 6.24 340 P Pn 01 09 19.7 -0.8
baz=157
SAMH **Samovar Hills** 6.25 46 Pn 01 09 21.6 +0.8
GRNC **Granite Creek** 6.27 39 Pn Pn 01 09 21.1 +0.1
M24K **Tolsona, Glenn** 6.28 16 Pn Pn 01 09 22.0 +0.9
M24K **Tolsona, Glenn** 6.28 16 P Pn 01 09 22.4 +1.3
baz=200
TABL **Table Mountain** 6.30 43 Pn 01 09 21.5 0.0
MCARA **McCarthy VSAT** 6.34 31 Pn 01 09 22.1 +0.1
MCARA **McCarthy VSAT** 6.34 31 P Pn 01 09 22.1 +0.1
baz=217
PTPK **Patty Peak** 6.36 34 Pn 01 09 22.6 +0.2
N16K **Nishlik Lake** 6.40 316 Pn 01 09 22.8 +0.1
N16K **Nishlik Lake** 6.40 316 P Pn 01 09 22.8 +0.1
baz=130
YKU2 **Yakutat** 6.40 54 Pn Pn 01 09 23.3 +0.6
WACK **Wrangell Chich** 6.52 24 Pn 01 09 24.9 +0.3
BARN **Barnard Glacie** 6.53 38 Pn 01 09 24.9 +0.2
WAT6 **Susitna Watana** 6.55 9 Pn 01 09 24.8 -0.2
WAT6 **Susitna Watana** 6.55 9 P Pn 01 09 24.8 -0.2
baz=191
CTG **Chitina Glacier** 6.57 39 P Pn 01 09 25.5 +0.2
baz=226
CTGM **Chitina Glacie** 6.58 39 Pn 01 09 25.5 +0.2
L19K **White Mountain** 6.58 339 Pn Pn 01 09 24.3 -0.9
L19K **White Mountain** 6.58 339 P Pn 01 09 24.0 -1.2
baz=155
M17K **Holitna River** 6.58 326 Pn 01 09 24.7 -0.5
M17K **Holitna River** 6.58 326 P Pn 01 09 24.8 -0.5
baz=140
PNL **Peninsula** 6.60 53 P Pn 01 09 26.4 +0.9
PNL **Peninsula** 6.60 53 Pn 01 09 26.0 +0.5
PNL **Peninsula** 6.60 53 P Pn 01 09 26.0 +0.5
baz=242
BCPM **Bancas Point** 6.63 51 Pn 01 09 25.9 0.0
L20K **Farewell, AK** 6.68 344 Pn 01 09 25.1 -1.5
L20K **Farewell, AK** 6.68 344 P Pn 01 09 25.1 -1.5
baz=161
HARP **HAARP** 6.72 19 Pn 01 09 28.2 +1.1
HARP **HAARP** 6.72 19 P Pn 01 09 28.2 +1.1
baz=203
WAT7 **Susitna Watana** 6.73 4 Pn 01 09 27.8 +0.4
WAT1 **Susitna Watana** 6.74 5 Pn 01 09 27.8 +0.3
WAT1 **Susitna Watana** 6.74 5 P Pn 01 09 27.8 +0.3
baz=187
PS1A **Pavlof South-1** 6.74 269 Pn 01 09 25.6 -1.9
N15K **Kwethluk River** 6.75 311 Pn 01 09 27.6 0.0
N15K **Kwethluk River** 6.75 311 P Pn 01 09 28.1 +0.5
baz=123
M16K **Timber Creek** 6.82 320 Pn 01 09 27.7 -0.8
M16K **Timber Creek** 6.82 320 P Pn 01 09 28.1 -0.5
baz=132
PS4A **Pavlof South-4** 6.82 268 Pn 01 09 26.5 -2.0
O14K **Tigyukauivet M** 6.86 302 Pn Pn 01 09 28.8 -0.2
O14K **Tigyukauivet M** 6.86 302 P Pn 01 09 29.2 +0.1
baz=113
O28M **Mount Upton** 6.87 44 Pn 01 09 29.5 0.0
O28M **Mount Upton** 6.87 44 P Pn 01 09 29.5 0.0
baz=232
S12K **Black Hills** 6.88 271 Pn 01 09 27.9 -1.4
S12K **Black Hills** 6.88 271 P Pn 01 09 27.7 -1.5
baz=82
PPLA **Purkeypile** 6.88 351 Pn 01 09 29.1 -0.3
PPLA **Purkeypile** 6.88 351 P Pn 01 09 29.0 -0.4
baz=170
PN7A **Pavlof North-7** 6.89 269 Pn 01 09 27.9 -1.5
L18K **Granite Mounta** 7.03 333 Pn 01 09 30.4 -1.0
L18K **Granite Mounta** 7.03 333 P Pn 01 09 30.0 -1.4
baz=148
DHY **Denali Highway** 7.07 9 Pn 01 09 32.6 +0.5
DHY **Denali Highway** 7.07 9 P Pn 01 09 31.8 -0.2
baz=192
M26K **Nabesna, AK** 7.19 26 Pn 01 09 34.6 +0.9
M26K **Nabesna, AK** 7.19 26 P Pn 01 09 34.2 +0.5
baz=212
PAX **Paxson** 7.20 16 Pn 01 09 34.2 +0.4
PAX **Paxson** 7.20 16 P Pn 01 09 34.4 +0.6
baz=200
O29M **Mount Kennedy** 7.27 50 Pn 01 09 35.4 +0.6
O29M **Mount Kennedy** 7.27 50 P Pn 01 09 35.3 +0.6
baz=240
M15K **Kasigluk River** 7.29 313 Pn 01 09 34.9 0.0
M15K **Kasigluk River** 7.29 313 P Pn 01 09 34.9 0.0
baz=125
RND **Reindeer** 7.31 4 Pn Pn 01 09 35.3 +0.1
YUK2 **White River** 7.33 36 Pn 01 09 36.4 +0.9
N14K **Kuskokwak Cree** 7.33 306 Pn 01 09 35.6 +0.1
N14K **Kuskokwak Cree** 7.33 306 P Pn 01 09 35.6 +0.1
baz=116
TRF **Thorofare Moun** 7.34 358 Pn Pn 01 09 35.1 -0.7
TRF **Thorofare Moun** 7.34 358 P Pn 01 09 35.3 -0.4
baz=178
P29M **Windy Craggy** 7.34 57 Pn Pn 01 09 35.5 -0.3
P29M **Windy Craggy** 7.34 57 P Pn 01 09 35.4 -0.3
baz=247
CAST **Castle Rocks** 7.39 352 P Pn 01 09 35.8 -0.5
baz=171
L17K **Donlin** 7.41 328 Pn 01 09 35.5 -1.0
L17K **Donlin** 7.41 328 P Pn 01 09 35.5 -1.0
baz=141
YUK3 **Moose Creek** 7.45 37 Pn 01 09 38.2 +0.9
YUK3 **Moose Creek** 7.45 37 P Pn 01 09 38.2 +0.9
baz=225
M27K **Edge Creek, AK** 7.45 30 Pn 01 09 38.0 +0.7
M27K **Edge Creek, AK** 7.45 30 P Pn 01 09 37.7 +0.5
baz=217
KTH **Kantishna Hill** 7.46 356 Pn Pn 01 09 36.6 -0.6
L16K **Owhat River** 7.47 322 Pn Pn 01 09 36.5 -0.9
L16K **Owhat River** 7.47 322 P Pn 01 09 36.8 -0.6
baz=135
TTA **Tatalina** 7.49 338 P Pn 01 09 35.7 -2.0
baz=153
MENT **Mentasta** 7.50 22 Pn 01 09 38.1 +0.3
K20K **Telida** 7.54 345 P Pn 01 09 36.9 -1.5
baz=162
YUK7 **Dusty Glacier** 7.57 50 Pn 01 09 40.1 +1.1
MCK **McKinley** 7.63 3 Pn 01 09 39.9 +0.2
MCK **McKinley** 7.63 3 P Pn 01 09 40.0 +0.4
baz=184
S31K **Pelican** 7.65 71 Pn Pn 01 09 37.8 -2.1
S31K **Pelican** 7.65 71 P Pn 01 09 37.3 -2.6
baz=262
YUK6 **Outpost Mounta** 7.70 47 Pn 01 09 41.7 +1.0
YUK6 **Outpost Mounta** 7.70 47 P Pn 01 09 41.7 +1.0
baz=236
BVCY **Beaver Creek** 7.79 32 Pn 01 09 43.0 +1.2
BVCY **Beaver Creek** 7.79 32 P Pn 01 09 43.0 +1.2
baz=220
YUK4 **Talbot Arm** 7.82 44 P Pn 01 09 44.9 +2.5
baz=233
M14K **Bethel** 7.85 311 P Pn 01 09 42.4 -0.1
baz=121
K17K **Iditarod** 7.87 330 Pn Pn 01 09 41.6 -1.2
K17K **Iditarod** 7.87 330 P Pn 01 09 41.7 -1.1
baz=144
P30M **Million Dollar** 7.90 54 Pn 01 09 43.9 +0.5
P30M **Million Dollar** 7.90 54 P Pn 01 09 44.1 +0.7
baz=245
PLBC **Pleasant Camp** 7.94 60 Pn 01 09 44.4 +0.6
PLBC **Pleasant Camp** 7.94 60 P Pn 01 09 44.4 +0.6
baz=251
K24K **Donnelly Dome** 7.95 13 Pn 01 09 45.4 +1.3
K24K **Donnelly Dome** 7.95 13 P Pn 01 09 45.3 +1.3
baz=197
HYT **Haines Junctio** 7.99 49 P Pn 01 09 45.5 +0.9
baz=239
BPAW **Bear Paw Mtn.** 8.01 356 Pn Pn 01 09 43.4 -1.4
BPAW **Bear Paw Mtn.** 8.01 356 P Pn 01 09 43.5 -1.3
baz=176
ISLZ **Isanotski Laza** 8.01 266 Pn 01 09 42.0 -2.8
RIDG **Independent Ri** 8.03 16 P Pn 01 09 45.8 +0.7
baz=201
BCAR **Beaver Creek A** 8.06 27 Pn Pn 01 09 46.4 +0.9
SIT **Sitka** 8.07 77 P Pn 01 09 43.5 -2.1
SIT **Sitka** 8.07 77 Pn 01 09 43.2 -2.5
SIT **Sitka** 8.07 77 P Pn 01 09 43.1 -2.5
baz=269
J18K **Innoko River** 8.12 338 Pn Pn 01 09 45.0 -1.2
J18K **Innoko River** 8.12 338 P Pn 01 09 44.6 -1.6
baz=152
SSLS **Shishaldin Sou** 8.17 266 Pn 01 09 45.1 -2.0
L15K **Ungalak Mounta** 8.18 318 Pn 01 09 47.1 0.0
L15K **Ungalak Mounta** 8.18 318 P Pn 01 09 47.1 0.0
baz=128
M13K **Dall Lake** 8.30 307 Pn Pn 01 09 48.7 0.0
M13K **Dall Lake** 8.30 307 P Pn 01 09 48.9 +0.3
baz=116
J19K **Poorman** 8.38 342 Pn 01 09 48.6 -1.3
J19K **Poorman** 8.38 342 P Pn 01 09 48.5 -1.4
baz=158
SCRK **Sand Creek** 8.39 18 Pn Pn 01 09 49.9 -0.2
SCRK **Sand Creek** 8.39 18 P Pn 01 09 50.0 -0.1
baz=203
WRH **Wood River Hil** 8.40 5 Pn 01 09 50.3 +0.2
SKAG **Skagway** 8.44 61 P Pn 01 09 51.3 +0.7
SKAG **Skagway** 8.44 61 Pn 01 09 50.7 0.0
SKAG **Skagway** 8.44 61 P Pn 01 09 51.1 +0.4
baz=253
L14K **Kuka Creek** 8.46 313 P Pn 01 09 50.9 0.0
baz=123
BESE **Bessie Mountai** 8.47 67 Pn 01 09 50.2 -1.0
NEA2 **Nenana** 8.49 2 Pn 01 09 51.5 +0.1
NEA2 **Nenana** 8.49 2 P Pn 01 09 51.4 0.0
baz=183
S32K **Killisnoo** 8.49 75 Pn Pn 01 09 49.7 -1.7
S32K **Killisnoo** 8.49 75 P Pn 01 09 49.8 -1.5
baz=267
N30M **Aishikik Lake** 8.50 46 Pn Pn 01 09 51.9 +0.4
N30M **Aishikik Lake** 8.50 46 P Pn 01 09 51.8 +0.2
baz=237
O30N **Mendenhall** 8.57 52 Pn 01 09 53.1 +0.6
O30N **Mendenhall** 8.57 52 P Pn 01 09 53.4 +0.8
baz=243
K15K **Wolf Creek Mou** 8.59 321 Pn Pn 01 09 52.8 +0.1
K15K **Wolf Creek Mou** 8.59 321 P Pn 01 09 52.7 +0.1
baz=131
M29M **Somme Creek** 8.59 38 P Pn 01 09 53.5 +0.7
baz=228
WECS **Westdahl Cape** 8.66 265 Pn 01 09 51.6 -2.1
JIS **Juneau Island** 8.67 69 P Pn 01 09 53.6 -0.2
JIS **Juneau Island** 8.67 69 Pn Pn 01 09 53.4 -0.4
IL31 8.78 8 Pn 01 09 55.6 +0.3
ILAR **Eielson Array** 8.78 8 Pn Pn 01 09 55.8 +0.4
ILAR **Eielson Array** 8.78 8 Pn Pn 01 09 56.0 +0.7
comp=E,2.1nm,0.3s,baz=191,slow=13,SNR=75
ILAR Sn Sn 01 11 28.5 -5.5
comp=E,4.9nm,0.3s,baz=134,slow=17,SNR=11
J25K **Salcha River,** 8.78 13 Pn 01 09 55.6 +0.2
J25K **Salcha River,** 8.78 13 P Pn 01 09 55.5 0.0
baz=197
K27K **Chicken** 8.81 23 Pn 01 09 56.6 +0.8
K27K **Chicken** 8.81 23 P Pn 01 09 56.8 +1.1
baz=210
COLA **College** 8.82 6 P Pn 01 09 57.7 +1.9
COLA **College** 8.82 6 Pn 01 09 56.3 +0.4
MDM **Murphy Dome** 8.88 4 Pn 01 09 56.9 +0.2
MLY **Manley** 8.93 358 P Pn 01 09 56.7 -0.7
baz=177
J26L **Joseph Creek** 8.94 18 Pn 01 09 57.6 0.0
J26L **Joseph Creek** 8.94 18 P Pn 01 09 57.8 +0.2
baz=203
J16K **Anvik River** 8.98 327 P Pn 01 09 57.1 -0.9
baz=138
I23K **Minto, Yukon-K** 9.04 1 Pn 01 09 59.0 +0.1
WHY **Whitehorse** 9.07 54 Pn Pn 01 09 59.9 +0.5
WHY **Whitehorse** 9.07 54 P Pn 01 10 00.1 +0.7
baz=246
L29M **L29M** 9.16 35 Pn 01 10 00.9 +0.3
L29M **L29M** 9.16 35 P Pn 01 10 01.1 +0.5
baz=226
P32M **Atlin** 9.27 61 Pn Pn 01 10 01.8 -0.3
P32M **Atlin** 9.27 61 P Pn 01 10 01.9 -0.1
baz=255

M30M Minto, Yukon 9.27 41 Pn **Pn 01 10 02.7 +0.7**
M30M Minto, Yukon 9.27 41 P **Pn 01 10 03.2 +1.1**
baz=232
U33K Whale Pass 9.35 83 **Pn 01 10 00.3 -2.8**
U33K Whale Pass 9.35 83 P **Pn 01 09 59.8 -3.3**
baz=277
CRAG Craig 9.45 87 Pn **Pn 01 10 01.8 -2.7**
I17K Unalakleet 9.46 330 Pn **Pn 01 10 04.0 -0.6**
J14K Nanvaranak Lak 9.60 319 P **Pn 01 10 06.9 +0.4**
baz=128
PRP Porcupine Dome 9.64 11 P **Pn 01 10 08.0 +0.8**
baz=195
H21K Melozitna Rive 9.66 353 P **Pn 01 10 05.8 -1.5**
baz=170
EGAK Eagle 9.66 23 Pn **Pn 01 10 08.7 +1.4**
EGAK Eagle 9.66 23 P **Pn 01 10 08.8 +1.4**
baz=210
H20K Anotleneega Mo 9.70 347 **Pn 01 10 09.8 +1.9**
H20K Anotleneega Mo 9.70 347 P **Pn 01 10 09.8 +1.9**
baz=163
I26K Coal Creek Min 9.76 17 P **Pn 01 10 09.2 +0.5**
baz=203
H24K Noodor Dome 9.78 5 Pn **Pn 01 10 10.6 +1.6**
H24K Noodor Dome 9.78 5 P **Pn 01 10 10.1 +1.1**
baz=187
Q32M Nakina River 9.86 66 Pn **Pn 01 10 10.4 0.0**
P33M Teslin, Yukon 9.87 59 P **Pn 01 10 10.2 -0.2**
baz=253
K29M Barlow Dome 9.87 34 P **Pn 01 10 11.0 +0.6**
baz=224
H19K Roundabout Mou 9.95 344 **Pn 01 10 11.2 0.0**
M31M Drury Creek, Y 9.98 46 **Pn 01 10 12.9 +1.1**
IMAR Indian Mountai 10.05 351 Pn **Pn 01 10 13.6 +0.8**
N32M Quiet Lake 10.07 53 **Pn 01 10 13.5 +0.5**
S34M Telegraph Cree 10.36 72 Pn **Pn 01 10 17.2 +0.3**
FARO Faro, Yukon 10.42 47 Pn **Pn 01 10 18.8 +1.0**
G23K Bananza Creek 10.61 360 **Pn 01 10 19.8 -0.6**
G24K Hadweenzic Riv 10.66 5 **Pn 01 10 21.0 0.0**
FYU Fort Yukon 10.69 10 Pn **Pn 01 10 22.2 +0.8**
DLBC Dease Lake 10.97 70 Pn **Pn 01 10 26.2 +0.9**
comp=E,1.1nm,0.3s,baz=241,slow=9.2,SNR=20
DLBC Sn **Sn 01 12 24.1 -3.6**
comp=E,0.4nm,0.3s,baz=70,slow=26,SNR=1.2
DLBC LR LR 01 13 56.3
comp=E,3µm,20.1s,baz=267,slow=34
comp=E,2.6nm,0.3s
F21K Alatna River 11.25 353 **Pn 01 10 29.1 0.0**
F20K Avaraart Lake 11.29 348 Pn **Pn 01 10 29.0 -0.6**
ANM Nome 11.38 324 Pn **Pn 01 10 30.4 -0.5**
G27K Doyon Strip 11.38 17 **Pn 01 10 31.7 +0.7**
F24K Squaw Lake 11.46 4 **Pn 01 10 31.4 -0.6**
H29M Whitestone 11.50 24 **Pn 01 10 32.9 +0.3**
E19K Redstone River 11.87 346 **Pn 01 10 37.5 0.0**
G29M Pine Creek 12.16 23 **Pn 01 10 42.2 +0.6**
E18K Tukpahlearik C 12.38 340 **Pn 01 10 45.1 +0.6**
BBB Bella Bella 13.32 98 Sn Sn 01 13 12.6 -13
comp=E,0.2nm,0.3s,baz=318,slow=18,SNR=1.7
BBB LR LR 01 14 29.2
comp=E,970nm,19.6s,baz=305,slow=30
D25K Kavik River 13.32 5 Pn **Pn 01 10 58.4 +1.0**
E29M Blow River 13.45 19 **Pn 01 10 59.5 +0.4**
F31M Tsiigehtchic 13.60 27 Pn **Pn 01 11 00.8 -0.2**
B20K Meade River 14.29 350 **Pn 01 11 08.9 -1.6**
INK Inuvik 14.31 25 Pn **Pn 01 11 11.4 +0.5**
INK Inuvik 14.31 25 Pn **Pn 01 11 11.6 +0.8**
comp=E,0.3nm,0.3s,baz=205,slow=15,SNR=38
INK LR LR 01 17 12.3
comp=E,2µm,18.6s,baz=184,slow=40
comp=E,12nm,1.0s
B22K Teshekpuk Lake 14.34 355 **Pn 01 11 10.1 -1.1**
ADK Adak 16.28 266 Pn **Pn 01 11 34.8 -2.1**
C36M Paulatuk 17.53 31 Pn **Pn 01 11 52.1 -0.4**
HILA High Level 17.78 69 P **Pn 01 11 55.9 +0.1**
NLWA Neilton Lookou 18.22 108 P **Pn 01 11 59.5 -1.8**
NLWA IAmb IAmb 01 12 24.1
comp=E,44nm,1.4s
GNW Green Mountain 18.67 106 P **P 01 12 05.1 -1.2**
YKA Yellowknife Ar 18.89 56 P **Pn 01 12 09.1 -0.1**
comp=E,0.2nm,0.3s,baz=266,slow=11,SNR=54
YKA LR LR 01 19 21.0
comp=E,2µm,18.1s,baz=270,slow=37
comp=E,11nm,1.1s
E03A Lebam 18.91 109 P **P 01 12 07.4 -1.6**
E03A IAmb IAmb 01 12 19.4
comp=E,43nm,1.1s
A36M Sachs Harbour 18.94 24 P **P 01 12 08.7 -0.4**
LON Longmire 19.72 107 P **P 01 12 17.6 -0.3**
G03D McMinnville, O 19.95 112 P **P 01 12 19.0 -1.4**
H04D Lebanon 20.70 113 **P 01 12 27.3 -1.2**
H04D IAmb IAmb 01 12 52.5
comp=E,30nm,1.1s
SHEM Shemya Is, Ala 21.08 276 LR LR 01 20 38.0
comp=E,625nm,20.6s,baz=88,slow=36
EDM Edmonton 21.15 83 P **P 01 12 32.2 -1.2**
EDM IAmb IAmb 01 12 52.3
comp=E,18nm,1.0s
HAWA Hanford 21.17 105 P **P 01 12 32.4 -1.1**
HAWA IAmb IAmb 01 12 54.7
comp=E,34nm,1.4s
NEW Newport 21.39 98 P **P 01 12 35.0 -0.9**
NEW IAmb IAmb 01 13 01.2
comp=E,26nm,1.3s
NEW Newport 21.39 98 P **P 01 12 36.7 +0.8**
comp=E,4.0nm,0.7s,baz=304,slow=11,SNR=7.5
NEW LR LR 01 19 35.4
comp=E,501nm,21.0s,baz=296,slow=33
comp=E,4.0nm,0.7s
HUMO Hull Mountain 21.96 117 P **P 01 12 42.1 0.0**
HUMO IAmb IAmb 01 13 01.3
comp=E,26nm,1.1s
L04D Klamath Falls 22.57 116 P **P 01 12 47.9 -0.9**
YBH Yreka Blue Hor 22.73 118 P **P 01 12 49.6 -0.8**
BILL Bilibino 23.13 318 P **P 01 12 53.2 -1.1**
BILL IAmb IAmb 01 12 57.1
comp=E,22nm,1.1s
LYMT Lyon Mountain 24.81 96 P **P 01 13 10.8 +0.2**
ORV Oroville 24.99 120 P **P 01 13 11.3 -0.7**
MFID Camas Ranch 25.11 106 P **P 01 13 13.0 -0.2**
MFID IAmb IAmb 01 13 50.0
comp=E,15nm,1.4s
AFDM Forest Hills D 25.71 120 P **P 01 13 18.4 -0.2**
AFDM IAmb IAmb 01 13 48.8
comp=E,9.9nm,1.3s
ELK Elko 27.28 110 P **P 01 13 33.2 +0.2**
ELK IAmb IAmb 01 13 45.2
comp=E,9.5nm,1.2s
ELK Elko 27.28 110 LR LR 01 22 23.1
comp=E,623nm,20.9s,baz=312,slow=32
NVAR Mina Array Bea 27.43 117 P **P 01 13 34.5 +0.2**
NVAR Mina Array Bea 27.43 117 P **P 01 13 35.6 +1.3**
comp=E,3.7nm,0.8s,baz=302,slow=9.0,SNR=32
NVAR LR LR 01 22 43.5
comp=E,1µm,18.2s,baz=318,slow=32
comp=E,3.7nm,0.8s
MDPB Devils Postpil 27.67 119 P **P 01 13 36.8 +0.3**
RES Resolute Bay 27.84 28 P **P 01 13 37.8 +0.5**
RES IAmb IAmb 01 14 16.2
comp=E,7.8nm,1.2s
RES Resolute Bay 27.84 28 LR LR 01 25 34.1
comp=E,873nm,18.2s,baz=228,slow=38
TPH Tonopah 28.25 116 P **P 01 13 41.5 -0.1**
GMN Gold Mountain 28.83 117 P **P 01 13 47.2 +0.3**
R11B Troy Canyon, C 28.87 114 P **P 01 13 47.4 +0.3**
PDAR Pinedale Array 28.95 100 P **P 01 13 48.1 +0.2**
PDAR Pinedale Array 28.95 100 P **P 01 13 48.6 +0.7**
comp=E,0.8nm,0.7s,baz=304,slow=4.3,SNR=8.3
PDAR LR LR 01 23 55.2
comp=E,177nm,19.6s,baz=316,slow=33
comp=E,0.8nm,0.7s
SEY Seymchan 29.14 307 LR LR 01 26 35.2
comp=E,1µm,19.7s,baz=96,slow=39
FCC Fort Churchill 29.39 61 P **P 01 13 52.3 +1.1**
FCC IAmb IAmb 01 13 54.6
comp=E,11nm,1.1s
PETK Petropavlovsk- 29.91 287 P **P 01 13 57.4 +1.4**
comp=E,2.0nm,0.9s,baz=69,slow=14,SNR=1.7
PETK LR LR 01 26 47.8
comp=E,370nm,18.9s,baz=80,slow=38
comp=E,2.0nm,0.9s
MSU Marysvale 30.52 109 P **P 01 14 02.6 +0.8**
LCMT Little Creek M 31.09 112 P **P 01 14 06.9 +0.2**
V12A Nelson 31.27 116 P **P 01 14 09.2 +1.0**
V12A IAmb IAmb 01 14 19.0
comp=E,6.8nm,1.0s
ULM Lac du Bonnet 32.15 77 P **P 01 14 16.6 +0.8**
comp=E,2.3nm,0.7s,baz=305,slow=9.1,SNR=5.3
ULM LR LR 01 26 42.2
comp=E,531nm,19.8s,baz=304,slow=35
comp=E,2.3nm,0.7s
PFO Pinyon Flats O 32.16 120 LR LR 01 25 39.8
comp=E,836nm,18.4s,baz=324,slow=33
BLYC Blythe 33.00 118 P **P 01 14 23.7 +0.4**
BLYC IAmb IAmb 01 14 33.7
comp=E,7.8nm,0.8s
KSCO Kaye Shedlock' 35.35 99 P **P 01 14 44.4 +0.5**
TIXI Tiksi 35.62 327 P **P 01 14 45.5 -0.2**
TIXI Tiksi 35.62 327 LR LR 01 31 26.1
comp=E,348nm,20.0s,baz=72,slow=40
EYMN Ely 35.82 78 P **P 01 14 47.4 -0.3**
ANMO Albuquerque 36.23 107 LR LR 01 28 57.1
comp=E,315nm,18.3s,baz=46,slow=35
HSIG 38.61 118 P **P 01 15 12.2 +0.7**
FRB Frobisher Bay 38.76 45 LR LR 01 31 20.7
comp=E,2µm,18.9s,baz=307,slow=36
HDIL Hopedale 41.73 86 P **P 01 15 36.9 -0.4**
TXAR Lajitas Array 42.08 110 P **P 01 15 40.4 +0.1**
TXAR Lajitas Array 42.08 110 P **P 01 15 42.1 +1.8**
comp=E,2.3nm,0.9s,baz=318,slow=6.6,SNR=24
TXAR LR LR 01 32 23.8
comp=E,340nm,18.5s,baz=310,slow=35
comp=E,2.3nm,0.9s
LPIG La Paz 43.04 122 LR LR 01 30 59.7
comp=E,378nm,20.3s,baz=336,slow=32
ASAJ Asahikawa 43.21 284 LR LR 01 36 08.8
comp=E,130nm,18.3s,baz=74,slow=39
SUMG Summit 43.23 24 P **P 01 15 49.8 +0.3**
SUMG IAmb IAmb 01 16 02.7
comp=E,6.2nm,0.8s
SFJD Kangerlussuaq 43.39 34 LR LR 01 33 41.5
comp=E,569nm,20.9s,baz=318,slow=36
DAG Danmarks Havn 43.82 14 *i* P **P 01 15 54.0 +0.3**
SCHQ Schefferville 44.34 55 LR LR 01 34 33.1
comp=E,673nm,18.8s,baz=286,slow=36
SADO Sadowo 44.50 74 LR LR 01 33 31.4
comp=E,310nm,18.1s,baz=119,slow=35
KLR Kul'dur 45.60 296 LR LR 01 37 31.6
comp=E,366nm,19.1s,baz=53,slow=39
SPITS Spitsbergen Ar 45.67 4 LR LR 01 35 13.3
comp=E,272nm,18.6s,baz=321,slow=36
Q51A Peebles 46.10 83 P **P 01 16 12.7 +0.4**
HEH HeiHe 47.09 300 *eP* **P 01 16 20.3 +0.4**
HEH pmax pmax
comp=E,7.0nm,1.3s
NRIK Noril'sk 48.11 336 P **P 01 16 28.3 +0.7**
comp=E,1.6nm,0.4s,baz=69,slow=6.5,SNR=6.5
comp=E,1.6nm,0.4s
TKL Tuckaleechee C 48.26 86 LR LR 01 36 25.6
comp=E,538nm,18.4s,baz=320,slow=36
H11N2 WAKE ISLAND Hy 48.53 239 T T 02 09 18.2
baz=29,slow=76,SNR=18
H11N3 WAKE ISLAND Hy 48.54 239 T T 02 09 17.5
baz=29,slow=76,SNR=15
H11N1 WAKE ISLAND Hy 48.55 239 T T 02 09 20.0
baz=29,slow=76,SNR=15
USRK Ussuriysk Ar. 48.83 291 LR LR 01 39 30.2
comp=E,158nm,18.2s,baz=65,slow=39
H11S1 WAKE ISLAND Hy 49.67 239 T T 02 10 43.6
baz=29,slow=76,SNR=26
H11S2 WAKE ISLAND Hy 49.69 239 T T 02 10 50.9
baz=29,slow=76,SNR=20
H11S3 WAKE ISLAND Hy 49.69 239 T T 02 10 53.4
baz=29,slow=76,SNR=20
BNX BinXian 50.13 295 ⇑P **P 01 16 44.0 +0.6**
BNX pP **sP 01 16 47.3 -0.2**
BNX S **S 01 23 55.8 +1.6**
BNX pmax pmax
comp=E,4.0nm,1.1s
BNX pmax pmax
comp=E,110nm,3.7s
BNX LR LR
comp=N,360nm,15.4s
BNX LR LR
comp=E,270nm,12.5s
BNX LR LR
comp=E,310nm,15.1s
MJAR Matsushiro Arr 50.87 279 P **P 01 16 51.2 +2.0**
comp=E,0.8nm,0.4s,baz=48,slow=11,SNR=1.9
MJAR LR LR 01 42 49.0
comp=E,63nm,18.0s,baz=72,slow=41
comp=E,0.8nm,0.4s
BORG Borgarnes 53.20 25 LR LR 01 40 55.4
comp=E,364nm,19.1s,baz=326,slow=37
ARCES ARCESS Array B 54.58 2 P **P 01 17 15.7 -0.4**
comp=E,2.8nm,0.9s,baz=356,slow=6.3,SNR=1.2
ARCES LR LR 01 41 34.4
comp=E,68nm,20.1s,baz=336,slow=37
comp=E,2.8nm,0.9s
KSRS Korea Array 55.80 288 LR LR 01 43 13.4
comp=E,92nm,18.1s,baz=55,slow=38
CMIG Matias Romero 56.68 110 LR LR 01 40 44.0
comp=E,301nm,20.0s,baz=326,slow=35
JNU Nakatsue 57.44 282 LR LR 01 43 55.8
comp=E,90nm,19.2s,baz=68,slow=38
TEIG Tepich 57.66 102 LR LR 01 45 22.9
comp=E,699nm,18.6s,slow=39
SONM Songino Array 58.48 310 P **P 01 17 45.7 +1.3**
comp=E,3.2nm,0.9s,baz=45,slow=7.7,SNR=21
SONM LR LR 01 45 30.8
comp=E,650nm,18.8s,baz=354,slow=39
comp=E,3.2nm,0.9s
ZALV Zalesovo Beam 61.50 327 P **P 01 18 05.2 +0.5**
comp=E,2.3nm,0.8s,baz=22,slow=6.3,SNR=9.3
ZALV LR LR 01 49 13.4
comp=E,313nm,18.5s,baz=20,slow=40
comp=E,2.3nm,0.8s
HHC Hu-ho-hao-te 61.54 301 *eP* **P 01 18 06.5 +1.1**
HHC S **S 01 26 26.0 -0.4**
HHC ScS **SKKSac 01 27 49.0 -7.2**
HHC pmax pmax
comp=E,17nm,0.7s
HHC pmax pmax
comp=E,84nm,5.0s
HHC LR LR
comp=N,340nm,15.0s
HHC LR LR
comp=E,290nm,14.1s
HHC LR LR
comp=E,560nm,14.5s
NB2 NORSAR Subarra 62.21 10 P **P 01 18 09.9 +0.4**
comp=E,0.4nm,0.6s,baz=347,slow=6.9
NOA NORSAR Array B 62.21 10 P **P 01 18 09.8 +0.4**
comp=E,0.7nm,0.7s,baz=349,slow=6.7,SNR=5.8
NOA LR LR 01 45 55.8
comp=E,98nm,20.6s,baz=345,slow=37
comp=E,0.7nm,0.7s
FINES FINESS Array B 62.71 2 P **P 01 18 13.8 +1.0**
comp=E,0.6nm,0.5s,baz=6.0,slow=7.1,SNR=7.1
FINES LR LR 01 47 21.3
comp=E,114nm,18.1s,baz=354,slow=38
comp=E,0.6nm,0.5s
HFS Hagfors 63.34 9 P **P 01 18 17.6 +0.7**
comp=E,0.7nm,0.5s,baz=308,slow=4.9,SNR=7.7
HFS LR LR 01 47 51.5
comp=E,121nm,18.7s,baz=351,slow=38
comp=E,0.7nm,0.5s
KIRV Kirov 64.59 349 LR LR 01 51 14.9
comp=E,217nm,18.2s,baz=24,slow=40
KURK Kurchatov 66.19 329 P **P 01 18 35.4 -0.2**
KURK IAmb IAmb 01 19 01.6
comp=E,3.3nm,1.0s
BRVK Borovoye 66.27 335 P **P 01 18 36.5 +0.3**
BRVK IAmb IAmb 01 18 53.3
comp=E,6.6nm,1.3s
BVAR Borovoye Array 66.28 335 P **P 01 18 36.6 +0.4**
comp=E,2.3nm,0.8s,baz=32,slow=7.0,SNR=12
BVAR LR LR 01 51 36.1
comp=E,346nm,18.8s,baz=25,slow=40
comp=E,2.3nm,0.8s
KURBB Kurchatov Arra 66.29 329 P **P 01 18 35.3 -1.1**
comp=E,1.3nm,0.7s,baz=30,slow=5.3,SNR=4.8
KURBB LR LR 01 52 30.4
comp=E,433nm,18.2s,baz=129,slow=40
comp=E,1.3nm,0.7s
JTS Las Juntas de 67.62 105 LR LR 01 51 32.0
comp=E,75nm,19.0s,baz=74,slow=39
MK31 Makanchi Array 68.52 324 P **P 01 18 50.5 -0.1**
MK31 IAmb IAmb 01 18 52.2
comp=E,4.0nm,1.1s
MKAR Makanchi Array 68.52 324 P **P 01 18 50.4 -0.2**
MKAR Makanchi Array 68.52 324 P **P 01 18 51.0 +0.4**
comp=E,1.0nm,0.6s,baz=42,slow=6.4,SNR=11
comp=E,1.0nm,0.6s
MAKZ Makanchi 68.61 325 P **P 01 18 51.2 +0.1**
MAKZ IAmb IAmb 01 19 18.6
comp=E,5.7nm,1.1s
BELG Belogornoye 70.87 349 LR LR 01 54 18.2
comp=E,217nm,18.7s,baz=68,slow=39
ABKAR Akbulak array 72.08 340 P **P 01 19 12.1 -0.1**
ABKAR Akbulak array 72.08 340 P **P 01 19 12.3 +0.1**
ABKAR IAmb IAmb 01 19 29.6
comp=E,6.0nm,1.1s
PPT Papeete 73.42 180 LR LR 01 45 55.5
comp=E,91nm,19.7s,baz=0.0,slow=31
AKASG Malin Array Be 73.52 1 P **P 01 19 21.0 +0.3**
comp=E,0.3nm,0.4s,baz=0.9,slow=5.8,SNR=2.6
AKASG LR LR 01 51 47.3
comp=E,102nm,21.8s,baz=5.5,slow=36
comp=E,0.3nm,0.4s
VRAC Vranov 74.31 9 LR LR 01 52 44.0
comp=E,41nm,20.8s,baz=346,slow=36
GERES GERESS Array B 74.49 11 P **P 01 19 25.4 -1.2**
comp=E,0.4nm,0.5s,baz=14,slow=4.4,SNR=2.5
GERES LR LR 01 55 48.3
comp=E,55nm,18.3s,baz=2.0,slow=39
comp=E,0.4nm,0.5s
STHS Stebnicka Huta 74.55 6 *eP* **P 01 19 25.8 -1.0**
AAK Ala-Archa 74.70 328 LR LR 01 55 09.0
comp=E,363nm,19.5s,baz=30,slow=38
LANS Liptovska Anna 74.70 7 *eP* **P 01 19 30.2 +2.5**
VYHS Vyhne 75.31 8 *eP* **P 01 19 33.1 +1.9**
KK31 Karatay Array 75.41 331 P **P 01 19 32.4 +0.5**
DAVOX Davos/Dischmat 76.05 14 LR LR 01 54 31.3
comp=E,63nm,21.8s,baz=20,slow=37
SDV Santo Domingo 76.67 94 LR LR 01 55 08.4
comp=E,149nm,19.1s,baz=344,slow=37
PZH PanZhiHua 77.91 300 P **P 01 19 47.5 +1.1**
PZH pmax pmax
comp=E,10.0nm,0.5s
PZH pmax pmax
comp=E,70nm,4.2s
MLR Muntele Rosu 78.68 3 LR LR 01 55 06.4
comp=E,148nm,20.3s,baz=5.5,slow=36
KVAR Kislovodsk Arr 79.71 351 LR LR 02 00 25.8
comp=E,92nm,18.2s,baz=273,slow=40
KBZ Khabaz 79.92 351 LR LR 02 00 56.4
comp=E,84nm,18.2s,baz=353,slow=40
ESDC Sonseca Array 80.26 26 P **P 01 20 00.5 +1.5**
comp=E,1.5nm,1.0s,baz=321,slow=4.2,SNR=4.8
ESDC LR LR 01 56 12.8
comp=E,287nm,18.0s,baz=332,slow=36
comp=E,1.5nm,1.0s
DAV Davao City (W) 81.14 269 LR LR 01 49 33.6
comp=E,166nm,21.7s,baz=14,slow=31
GNI Garni 83.28 349 LR LR 02 03 16.4
comp=E,197nm,18.2s,baz=26,slow=40
GEYT Alibeck 83.32 338 P **P 01 20 16.1 +1.0**
comp=E,3.2nm,0.8s,baz=231,slow=9.4,SNR=6.7
GEYT LR LR 02 05 39.8
comp=E,173nm,18.4s,baz=12,slow=42
comp=E,3.2nm,0.8s
BRTR Keskin Array B 84.46 357 P **P 01 20 23.1 +2.0**
comp=E,1.1nm,1.1s,baz=304,slow=2.2,SNR=4.1
BRTR LR LR 01 59 30.8
comp=E,124nm,21.9s,baz=360,slow=37
comp=E,1.1nm,1.1s
ATAH Atahualpa 85.74 109 LR LR 01 56 39.6
comp=E,68nm,19.2s,baz=333,slow=34
CMAR Chiang Mai Arr 86.06 297 P **P 01 20 31.4 +2.2**
comp=E,0.8nm,0.3s,baz=9.9,slow=4.5,SNR=7.2
CMAR LR LR 02 03 47.5
comp=E,182nm,18.2s,baz=0.0,slow=39
comp=E,0.8nm,0.3s
DZM Mont Dzumac 86.23 220 LR LR 01 51 28.0
comp=E,210nm,22.0s,baz=45,slow=30
MDT Midelt 86.58 29 LR LR 01 59 27.2
comp=E,210nm,18.4s,baz=344,slow=36
KEST Kesra 86.79 17 LR LR 02 01 30.0
comp=E,150nm,19.8s,baz=314,slow=37
RPN Rapa Nui 89.81 145 LR LR 01 52 23.6
comp=E,178nm,18.6s,baz=6.5,slow=30
MDP Montagnes des 89.82 81 LR LR 01 58 43.7
comp=E,159nm,21.8s,baz=307,slow=34
NNA Nana 90.63 111 LR LR 01 58 05.2
comp=E,57nm,21.4s,baz=326,slow=33
MMAI Mount Meron Ar 91.08 356 LR LR 02 09 54.4
comp=E,26nm,18.1s,baz=326,slow=41
ASF Jabal al Asfar 91.85 354 LR LR 02 06 10.3
comp=E,21nm,21.9s,baz=49,slow=38
EIL Elat 94.44 356 LR LR 02 10 34.1
comp=E,44nm,18.4s,baz=64,slow=40
WSAR Wadi Sarin 97.32 334 LR LR 02 10 52.0
comp=E,56nm,19.2s,baz=32,slow=39
URZ Urewera 98.14 206 LR LR 02 02 46.4
comp=E,124nm,18.0s,baz=122,slow=34
WRA Warramunga Arr 98.73 247 LR LR 02 01 34.0
comp=E,126nm,19.7s,baz=91,slow=33
LPAZ La Paz 98.84 106 LR LR 02 11 24.0
comp=E,66nm,18.1s,baz=283,slow=39
QSPA South Pole Qui 145.93 180 PKPbc **PKPdf 01 27 25.8 +0.1**
comp=E,1.4nm,0.6s,baz=188,slow=0.5,SNR=9.1
BOSA Boshof 152.27 9 PKPbc **PKiKP 01 27 45.2 +0.9**
comp=E,2.4nm,1.0s,baz=329,slow=1.4,SNR=3.7

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*NEIC **31** 01:18:40.6±1.2, 55°91N±0°.09×149°.9W±0°.1, h8km±8km, ML3.6/40, ML3.5(AEIC), Error ellipse: s-maj=13.7km s-min=9.4km az=177.0*
*AEIC **31** 01:18:46.6±1.1, 56°.00N±0°.09×150°.0W±0°.1, h12km±8km, Error ellipse: s-maj=13.6km s-min=9.2km az=175.0*
ISC 31 01:18:40.6±1.8, 56°.0N±0°.1×149°.96W±0°.07, h10km, n145, σ1§15/148, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.22**	**305**			**Pn**	**01 19 18.0**	**+0.6**
OHAK	**Old Harbor**	**2.22**	**305**	P		**Pn**	**01 19 17.8**	**+0.5**
baz=124								
OHAK				S		**Sn**	**01 19 42.5**	**-2.2**
baz=124								
KDAK	**Kodiak Island**	**2.30**	**322**	Pn		**Pn**	**01 19 19.4**	**+0.8**
KDAK	**Kodiak Island**	**2.30**	**322**			**Sn**	**01 19 45.3**	**-1.7**
SII	**Sitkinak Islan**	**2.42**	**285**	Pn		**Pn**	**01 19 21.4**	**+1.1**
SII				IAML			01 20 00.6	
comp=E,308nm,0.8s								
SII				IAML			01 20 08.2	
comp=N,319nm,0.9s								
SII	**Sitkinak Islan**	**2.42**	**285**	S		**Sn**	**01 19 47.8**	**-2.1**
baz=103								
Q20K	**Shuyak Island**	**2.94**	**334**	P		**Pn**	**01 19 28.3**	**+0.9**
baz=152								
Q20K				S		**Sn**	**01 20 01.1**	**-1.6**
baz=152								
SYI	**Shuyak Island**	**2.94**	**334**	Pn		**Pn**	**01 19 28.1**	**+0.8**
SYI						**Sn**	**01 20 01.6**	**-1.0**
Q19K	**Cape Douglas,**	**3.56**	**328**	Pn		**Pn**	**01 19 37.3**	**+1.5**
Q19K	**Cape Douglas,**	**3.56**	**328**	P		**Pn**	**01 19 37.6**	**+1.8**
baz=145								
CNPM	**China Poot**	**3.61**	**350**	Pn		**Pn**	**01 19 36.8**	**+0.2**
KAKN	**Katmai Knife C**	**3.62**	**312**			**Pn**	**01 19 38.6**	**+2.0**
ACHA	**Angle Creek He**	**3.68**	**310**			**Pn**	**01 19 39.4**	**+1.8**
ANCK	**Angle Creek**	**3.74**	**309**			**Pn**	**01 19 40.5**	**+2.1**
BRSE	**Bradley Lake S**	**3.79**	**354**			**Pn**	**01 19 38.7**	**-0.3**
BRSE	**Bradley Lake S**	**3.79**	**354**	P		**Pn**	**01 19 38.7**	**-0.3**
baz=173								
BRLK	**Bradley Lake**	**3.82**	**353**			**Pn**	**01 19 39.6**	**+0.2**
BRLK				IAML			01 20 34.8	
comp=N,51nm,0.9s								
BRLK				IAML			01 20 46.0	
comp=E,50nm,0.9s								
CNTC	**Contact Creek**	**3.95**	**308**			**Pn**	**01 19 43.1**	**+1.8**
Q17K	**Contact Creek**	**3.95**	**308**	P		**Pn**	**01 19 43.1**	**+1.8**
baz=123								
Q23K	**Middleton Isla**	**3.96**	**28**	Pn		**Pn**	**01 19 41.1**	**-0.2**
Q23K				IAML			01 20 55.2	
comp=E,102nm,1.3s								
Q23K				IAML			01 22 21.7	
comp=N,94nm,1.5s								
Q23K	**Middleton Isla**	**3.96**	**28**	P		**Pn**	**01 19 41.3**	**0.0**
baz=210								
MID	**Middleton Isla**	**3.96**	**28**	Pn		**Pn**	**01 19 41.1**	**-0.2**
MID				IAML			01 20 49.0	
comp=N,106nm,1.4s								
MID				IAML			01 21 03.4	
comp=E,104nm,1.5s								
P19K	**Oil Pt**	**4.07**	**336**	Pn		**Pn**	**01 19 43.8**	**+0.9**
SEW	**Seward**	**4.14**	**4**			**Pn**	**01 19 43.3**	**-0.4**
SEW	**Seward**	**4.14**	**4**	P		**Pn**	**01 19 43.3**	**-0.4**
baz=184								
P23K	**Montague Islan**	**4.25**	**18**			**Pn**	**01 19 44.9**	**-0.4**
P23K	**Montague Islan**	**4.25**	**18**	P		**Pn**	**01 19 44.9**	**-0.4**

baz=199
ILSW Iliamna Southw 4.35 338 Pn 01 19 47.2 +0.4
ILSW IAML 01 20 47.9
comp=E,46nm,0.8s
ILSW IAML 01 20 53.4
comp=N,42nm,0.9s
IVE Iliamna Volcan 4.36 339 Pn 01 19 47.6 +0.7
P18K Big Mountain, 4.43 323 Pn Pn 01 19 48.6 +0.8
P18K Big Mountain, 4.43 323 P Pn 01 19 48.6 +0.8
baz=138
SLKM Skilak Lake 4.54 358 Pn 01 19 49.3 +0.1
RSO Redoubt South 4.72 343 Pn Pn 01 19 53.1 +1.1
P17K Kvichak River 4.74 315 Pn 01 19 54.0 +2.0
P17K Kvichak River 4.74 315 P Pn 01 19 54.0 +2.0
baz=130
O18K Koktuh Hills 4.78 326 Pn Pn 01 19 53.5 +0.9
O18K IAML 01 20 59.8
comp=N,56nm,0.8s
O18K IAML 01 21 19.7
comp=E,33nm,1.1s
O18K Koktuh Hills 4.78 326 P Pn 01 19 53.1 +0.6
baz=142
HIN Hinchinbrook I 4.79 21 Pn Pn 01 19 53.1 +0.4
HIN IAML 01 21 06.6
comp=N,60nm,1.0s
KAIM Kayak Island 4.93 34 Pn Pn 01 19 55.0 +0.3
KAIM IAML 01 21 06.1
comp=E,66nm,0.5s
KAIM Kayak Island 4.93 34 P Pn 01 19 55.2 +0.6
baz=218
EYAK Cordova Ski Ar 5.08 24 Pn 01 19 57.3 +0.6
EYAK Cordova Ski Ar 5.08 24 P Pn 01 19 57.3 +0.6
baz=207
FID Port Fidalgo 5.12 20 Pn 01 19 57.3 +0.1
FID IAML 01 21 02.9
comp=E,45nm,0.5s
FID IAML 01 21 11.2
comp=N,35nm,1.0s
RC01 Rabbit Creek A 5.12 1 Pn Pn 01 19 57.5 +0.3
RC01 IAML 01 21 07.3
comp=E,31nm,0.5s
RC01 IAML 01 21 07.7
comp=N,30nm,0.5s
RAGM Ragged Mountai 5.22 30 Pn 01 19 59.0 +0.4
SUCK Suckling Hills 5.25 36 Pn Pn 01 19 59.9 +0.9
SUCK IAML 01 21 12.3
comp=E,36nm,1.0s
SUCK IAML 01 21 23.0
comp=N,43nm,1.1s
P16K Nushagak River 5.29 308 Pn 01 20 01.5 +1.9
P16K Nushagak River 5.29 308 P Pn 01 20 01.5 +1.9
baz=122
HMT Hamilton 5.30 32 Pn 01 20 00.4 +0.6
NICHA Nichawak Mount 5.31 34 Pn 01 20 00.9 +1.0
GOAT Goat Mountain 5.37 29 Pn 01 20 01.3 +0.6
O17K Koliganek Bris 5.37 318 Pn 01 20 01.9 +1.3
O17K Koliganek Bris 5.37 318 P Pn 01 20 01.9 +1.3
baz=132
N19K Bonanza Creek 5.39 336 Pn 01 20 01.5 +0.5
N19K Bonanza Creek 5.39 336 P Pn 01 20 01.5 +0.5
baz=152
BGLC Bering Glacier 5.45 38 Pn 01 20 02.7 +1.0
BGLC Bering Glacier 5.45 38 P Pn 01 20 02.7 +1.0
baz=223
KNK Knik Glacier 5.50 8 Pn Pn 01 20 02.5 0.0
BERG Berg Lake 5.52 34 Pn 01 20 02.9 +0.2
GRIN Grindle Hills 5.56 37 Pn 01 20 04.1 +0.8
CHNA Chernabura Isl 5.61 262 P Pn 01 20 05.0 +1.1
baz=75
CNBA Chernabura Isl 5.61 262 Pn Pn 01 20 04.9 +0.9
N18K Kilae Creek 5.64 329 Pn 01 20 05.3 +0.8
N18K Kilae Creek 5.64 329 P Pn 01 20 05.0 +0.5
baz=144
SNH Sunshine Point 5.65 39 Pn Pn 01 20 05.1 +0.5
O16K Kokwok River B 5.65 313 Pn Pn 01 20 06.4 +1.9
O16K Kokwok River B 5.65 313 P Pn 01 20 05.9 +1.4
baz=127
KHIT Khitrov Hills 5.70 36 Pn 01 20 05.9 +0.6
BMRM Bremner River 5.73 27 Pn 01 20 06.3 +0.7
BMRM Bremner River 5.73 27 P Pn 01 20 06.4 +0.7
baz=211
GHO Glory Hole Cre 5.83 5 Pn 01 20 07.5 +0.5
WAX Waxell Ridge 5.84 37 Pn 01 20 07.7 +0.5
SML Sawmill 5.90 8 Pn Pn 01 20 08.7 +0.7
SML Sawmill 5.90 8 P Pn 01 20 08.7 +0.7
baz=189
KLU Klutina 5.91 19 Pn Pn 01 20 09.0 +0.9
KLU Klutina 5.91 19 P Pn 01 20 09.0 +0.9
baz=202
BARK Barkley Ridge 5.93 39 Pn 01 20 09.2 +0.7
N17K Nushagak Hills 5.94 323 Pn 01 20 09.4 +1.0
MESA MESA 5.97 42 Pn Pn 01 20 09.5 +0.3
CRQM Cirque 5.98 34 Pn 01 20 09.8 +0.6
CRQE Cirque 5.99 34 P Pn 01 20 09.7 +0.4
baz=219
TGL Tana Glacier 6.08 35 Pn 01 20 11.1 +0.6
ISLE Juniper Island 6.13 38 Pn 01 20 11.8 +0.6
BAGL Bagley Icefiel 6.13 39 Pn 01 20 12.0 +0.9
O15K Ungalikthiuk R 6.19 305 Pn 01 20 13.6 +1.6
O15K Ungalikthiuk R 6.19 305 P Pn 01 20 13.5 +1.6
baz=117
VRDI Verde Repeater 6.26 30 Pn 01 20 13.5 +0.4
N25K Chitina, Valde 6.29 24 P Pn 01 20 14.2 +0.9
baz=208
M18K Stony River 6.30 334 Pn 01 20 13.8 +0.4
M18K Stony River 6.30 334 P Pn 01 20 13.8 +0.4
baz=149
GLB Gilahina Butte 6.34 28 Pn Pn 01 20 15.0 +1.0
KIAG Kiagna River 6.36 36 Pn 01 20 15.0 +0.7
SAMH Samovar Hills 6.40 46 Pn 01 20 16.6 +1.8
GRNC Granite Creek 6.42 39 Pn 01 20 15.9 +0.6
M24K Tolsona, Glenn 6.44 16 Pn Pn 01 20 16.6 +1.2
TABL Table Mountain 6.45 43 Pn 01 20 16.4 +0.7
N16K Nishlik Lake 6.47 318 Pn 01 20 17.5 +1.7
N16K Nishlik Lake 6.47 318 P Pn 01 20 17.5 +1.7
baz=130
MCARA McCarthy VSAT 6.51 31 Pn Pn 01 20 17.0 +0.7
PTPK Patty Peak 6.52 34 Pn 01 20 17.6 +0.9
M17K Holitna River 6.68 327 Pn 01 20 20.2 +1.6
M17K Holitna River 6.68 327 P Pn 01 20 19.6 +1.0
baz=141
BARN Barnard Glacie 6.69 37 Pn 01 20 19.7 +0.8
L19K White Mountain 6.70 340 Pn Pn 01 20 20.1 +1.1
CTG Chitna Glacier 6.73 39 P Pn 01 20 20.3 +0.9
baz=225
CTGM Chitina Glacie 6.73 39 Pn Pn 01 20 20.2 +0.7
PNL Peninsula 6.74 52 Pn 01 20 20.5 +1.0
PNL Peninsula 6.74 52 P Pn 01 20 20.5 +1.0
baz=241
LOGN Logan Glacier 6.75 40 Pn 01 20 20.5 +0.6
N15K Kwethluk River 6.81 312 Pn 01 20 23.0 +2.6
O14K Tigyukauivet M 6.89 303 Pn Pn 01 20 23.7 +2.1
M16K Timber Creek 6.90 321 Pn 01 20 23.1 +1.5
M16K Timber Creek 6.90 321 P Pn 01 20 23.5 +1.8
baz=133
O28M Mount Upton 7.03 43 Pn 01 20 24.5 +0.8
O28M Mount Upton 7.03 43 P Pn 01 20 24.5 +0.8
baz=231
DHY Denali Highway 7.23 9 Pn 01 20 28.4 +2.1
M26K Nabesna, AK 7.36 26 Pn Pn 01 20 29.3 +1.3
N14K Kuskokwak Cree 7.38 307 Pn 01 20 30.4 +2.2
N14K Kuskokwak Cree 7.38 307 P Pn 01 20 30.4 +2.2
baz=118
O29M Mount Kennedy 7.41 50 Pn Pn 01 20 29.7 +0.9
O29M Mount Kennedy 7.41 50 P Pn 01 20 30.0 +1.2
baz=239
P29M Windy Craggy 7.48 56 Pn Pn 01 20 30.3 +0.6
P29M Windy Craggy 7.48 56 P Pn 01 20 30.5 +0.9
baz=246
CAST Castle Rocks 7.53 353 Pn Pn 01 20 31.3 +1.0
L16K Owhat River 7.56 323 Pn Pn 01 20 31.7 +1.0
L16K Owhat River 7.56 323 P Pn 01 20 32.0 +1.3
baz=135
M27K Edge Creek, AK 7.62 30 Pn Pn 01 20 32.9 +1.3
S31K Pelican 7.76 70 Pn Pn 01 20 32.3 -1.1
M14K Bethel 7.91 312 Pn Pn 01 20 37.1 +1.7
K17K Iditarod 7.97 331 Pn Pn 01 20 37.8 +1.4
RIDG Independent Ri 8.19 16 Pn Pn 01 20 40.6 +1.2
BCAR Beaver Creek A 8.22 27 Pn Pn 01 20 41.0 +1.2
M13K Dall Lake 8.34 308 Pn Pn 01 20 43.2 +1.8
L14K Kuka Creek 8.52 314 Pn 01 20 46.0 +2.2
SKAG Skagway 8.57 60 Pn Pn 01 20 45.0 +0.6
S32K Killisnoo 8.59 74 Pn Pn 01 20 44.7 -0.1
N30M Aishikik Lake 8.65 45 Pn Pn 01 20 46.8 +1.1

M29M Somme Creek 8.75 38 Pn 01 20 48.5 +1.5
J26L Joseph Creek 9.11 18 Pn 01 20 53.0 +1.0
N31M Braeburn, Yuko 9.20 47 Pn Pn 01 20 54.0 +0.9
WHY Whitehorse 9.20 53 Pn Pn 01 20 54.2 +0.8
L29M L29M 9.32 35 Pn Pn 01 20 56.4 +1.5
P32M Atlin 9.39 61 Pn Pn 01 20 56.5 +0.6
M31M Drury Creek, Y 10.13 46 Pn Pn 01 21 07.3 +1.4
R33M Jennings River 10.71 64 Pn Pn 01 21 13.3 -0.7

*BGR **31** 01:18:39.5±0.7, 41˚.81N×13˚.83E, h10km, ML4.2, Error ellipse: s-maj=12.2km s-min=11.1km az=89.0*
*ROM **31** 01:18:44.4±0.0, 42˚.353N±0˚.001×13˚.470E±0˚.002, h19km, ML3.9/368, Mw3.8, Error ellipse: s-maj=0.2km s-min=0.1km az=262.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr-4.20; Mθθ4.13; Mϕϕ0.07; Mrθ-0.35; Mθϕ2.48; Mϕr-2.10; Fault plane solution: M₀5.27775×10¹⁴ NP1:φ₁267.00000°, δ43.00000°, λ-55.00000°. NP2:φ₂43.00000°, δ56.00000°, λ-118.00000°.*
*LDG **31** 01:18:44.4±0.4, 42˚.36N×13˚.48E, h20km, Ml3.7/23 Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*NEIC **31** 01:18:45.7±2.2, 42˚.43N±0˚.05×13˚.45E±0˚.07, h11km±4km, mb4.1/12, Error ellipse: s-maj=8.7km s-min=5.5km az=50.0*
*PDG **31** 01:18:45.7±0.5, 42˚.41N×13˚.47E, h20km±2km, ML4.2/12, Error ellipse: s-maj=0.7km s-min=0.6km az=90.0*
*BEO **31** 01:18:46.6±0.7, 42˚.36N×13˚.62E, h0km, ML4.0/14*
*PRU **31** 01:18:47.8, 42˚.40N×13˚.72E, h20km, M4.1*
*IDC **31** 01:18:49.3±1.6, 42˚.46N×13˚.43E, h41km±16km, mb3.5/11, mbtmp3.7/21, ML3.7/9, MS3.1/4, Error ellipse: s-maj=15.3km s-min=13.0km az=63.0*
*NAO **31** 01:19:12.0, 44˚.21N×12˚.39E, h33km, mb3.9*
ISC 31 01:18:45.4±0.7, 42˚.36N±0˚.02×13˚.45E±0˚.02, h17km±5km, n355, σ2s05/442, mb3.9/14, 40C-22D, Central Italy

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

GIGS Gran Sasso 0.13 43 ⇓P Pb 01 18 48.7 -0.8
GIGS S Sg 01 18 51.6 -0.6
GIGS AML AML
comp=E,47100μm,0.3s
GIGS AML AML
comp=N,84950μm,0.3s
FAGN Fagnano 0.14 131 ⇓P Pb 01 18 48.8 -0.8
FAGN S Sb 01 18 51.6 -0.7
FAGN AML AML
FAGN AML AML
FAGN AML AML
comp=E,44600μm,0.6s
CAMP Campotosto 0.18 351 Pb 01 18 49.5 -0.9
CAMP Sg Sb 01 18 52.8 -1.0
CAMP Campotosto 0.18 351 ⇑P Pb 01 18 49.6 -0.9
CAMP S Sb 01 18 52.9 -0.8
CAMP AML AML
comp=E,44600μm,0.6s
CAMP AML AML
comp=N,47300μm,0.5s
RM33 Pellescritta (0.23 312 ⇑P Pb 01 18 50.3 -0.9
RM33 S Sg 01 18 55.4 +0.8
RM33 AML AML
RM33 AML AML
RM33 AML AML
comp=N,67650μm,0.4s
RM33 AML AML
comp=N,67700μm,0.4s
RM33 AML AML
RM33 AML AML
comp=N,67900μm,0.8s
FIAM Fiamignano 0.26 251 ⇑P Pg 01 18 50.8 -0.5
FIAM S Sg 01 18 55.2 -0.1
FIAM AML AML
comp=N,38500μm,0.7s
FIAM AML AML
comp=E,38150μm,0.5s
FIAM AML AML
comp=N,38500μm,1.3s
SMA1 SAN MARTINO 0.29 343 ⇑P Pg 01 18 51.0 -0.8
SMA1 S Sg 01 18 56.0 -0.1
SMA1 AML AML
comp=E,49350μm,0.4s
SMA1 AML AML
comp=N,56100μm,0.5s
SMA1 AML AML
comp=E,49350μm,1.6s
TERO Teramo 0.29 23 ⇑P Pg 01 18 50.9 -0.9
TERO S Sg 01 18 55.5 -0.7
TERO AML AML
comp=E,27200μm,0.4s
TERO AML AML
comp=N,29850μm,0.8s
TERO AML AML
comp=N,40750μm,0.3s
TERO AML AML
comp=E,51000μm,0.6s
TERO AML AML
comp=E,27200μm,0.4s
PTQR Pietraquaria 0.34 186 ⇓P Pg 01 18 51.8 -0.7
PTQR S Sg 01 18 57.4 0.0
PTQR AML AML
comp=N,23550μm,1.4s
PTQR AML AML
comp=E,20850μm,0.7s
PTQR AML AML
comp=E,20850μm,1.3s
LNSS Leonessa 0.39 310 ⇑P Pg 01 18 52.8 -0.8
LNSS S Sg 01 18 59.2 +0.2
LNSS AML AML
comp=E,30800μm,0.3s
LNSS AML AML
comp=N,27850μm,1.0s
LNSS AML AML
comp=N,27850μm,1.0s
MTRA Matera 0.40 355 ⇑P Pg 01 18 52.7 -1.1
MTRA S Sg 01 18 58.9 -0.5
MTRA AML AML
comp=E,44200μm,1.3s
MTRA AML AML
comp=E,44250μm,1.3s
MTRA AML AML
comp=N,52650μm,0.3s
MTRA AML AML
comp=E,45900μm,1.3s
MTRA AML AML
comp=E,44250μm,0.7s
MTRA AML AML
comp=N,50450μm,0.3s
MTRA AML AML
comp=E,45900μm,0.7s
INTR Introdacqua 0.48 135 Pg 01 18 53.7 -1.4
INTR Sg Sg 01 19 01.3 -0.4
INTR Introdacqua 0.48 135 ⇑P Pg 01 18 53.8 -1.4
INTR S Sg 01 19 01.0 -0.7
INTR AML AML
comp=E,15μm,0.3s
INTR AML AML
comp=E,22μm,0.4s
INTR AML AML
comp=E,14900μm,0.3s
INTR AML AML
comp=E,15μm,0.3s
INTR AML AML
comp=N,32950μm,0.4s
INTR AML AML
comp=E,14900μm,1.7s
INTR AML AML
comp=E,15μm,1.7s
INTR AML AML
comp=N,22μm,0.4s
VVLD Villa Vallelon 0.50 165 ⇑P Pg 01 18 54.2 -1.3
VVLD AML AML
comp=E,15600μm,0.6s
VVLD AML AML
comp=N,16600μm,0.6s
VVLD AML AML
comp=N,16600μm,1.4s
CERT Cerreto 0.53 221 P Pg 01 18 55.3 -0.8
CERT S Sg 01 19 03.5 +0.2
CERT AML AML
comp=E,16300μm,0.4s
CERT AML AML
comp=N,17400μm,0.4s
NRCA Norcia 0.54 333 Pg 01 18 54.6 -1.6

NRCA Norcia 0.54 333 ⇑P Pg 01 18 55.0 -1.2
NRCA S Sg 01 19 03.5 0.0
NRCA AML AML
comp=E,19550μm,0.2s
NRCA AML AML
comp=N,19800μm,1.2s
NRCA AML AML
comp=N,19800μm,1.2s
NRCA AML AML
comp=N,20500μm,1.2s
NRCA AML AML
comp=N,20500μm,0.8s
NRCA AML AML
comp=N,19800μm,0.8s
NRCA AML AML
comp=E,20450μm,0.2s
MMO1 Montemonaco 0.55 351 ⇑P Pg 01 18 55.2 -1.3
MMO1 S Sg 01 19 03.8 -0.1
ARRO Arrone 0.55 294 ⇑P Pg 01 18 55.4 -1.0
ARRO AML AML
comp=N,11950μm,0.8s
ARRO AML AML
comp=E,12200μm,0.6s
ARRO AML AML
comp=N,11900μm,0.8s
GUAR Guarcino 0.57 190 ⇓P Pg 01 18 55.7 -1.1
GUAR AML AML
comp=E,13750μm,0.3s
GUAR AML AML
comp=N,14850μm,0.4s
GUAR AML AML
comp=E,13750μm,1.7s
TRTR Tortoreto Alta 0.57 37 P Pg 01 18 56.4 -0.3
TRTR AML AML
comp=N,38850μm,0.5s
TRTR AML AML
comp=E,45650μm,0.7s
MC2 Monte Cornacci 0.59 341 ⇑P Pg 01 18 55.9 -1.3
MC2 S Sb 01 19 06.3 +0.8
OFFI Offida 0.61 17 ⇑P Pb 01 18 56.9 -0.7
OFFI AML AML
comp=N,37000μm,0.6s
OFFI AML AML
comp=N,37000μm,1.4s
OFFI AML AML
comp=E,36900μm,0.5s
MTCE Montecelio 0.62 238 ⇓P Pb 01 18 56.9 -0.9
MTCE AML AML
comp=E,10835μm,0.5s
MTCE AML AML
comp=E,10835μm,1.5s
MTCE AML AML
comp=N,8935μm,0.4s
LPEL Lama dei Pelig 0.63 119 ⇑P Pb 01 18 55.9 -2.0
LPEL S Sb 01 19 05.3 -1.1
LPEL AML AML
comp=N,25500μm,0.3s
LPEL AML AML
comp=E,28550μm,0.5s
RCAV Rocca di Cave 0.63 217 ⇓P Pb 01 18 56.9 -1.1
RCAV AML AML
comp=E,10875μm,0.9s
RCAV AML AML
comp=N,10010μm,0.4s
RCAV AML AML
comp=N,10005μm,0.4s
RCAV AML AML
comp=E,10880μm,0.9s
MF5 Montefalcone A 0.63 1 ⇑P Pb 01 18 56.9 -1.1
MF5 AML AML
comp=N,21300μm,0.5s
MF5 AML AML
comp=E,28150μm,0.5s
MF5 AML AML
comp=N,21350μm,0.5s
FEMA Monte Fema 0.67 334 ⇑P Pb 01 18 57.4 -1.5
FEMA S Sg 01 19 08.0 +0.2
FEMA AML AML
comp=E,28650μm,0.4s
FEMA AML AML
comp=N,22650μm,0.6s
FEMA AML AML
comp=N,22650μm,1.4s
CESX Cesi 0.69 292 Pb 01 18 57.7 -1.4
CESX Cesi 0.69 292 ⇑P Pb 01 18 57.6 -1.4
CESX AML AML
comp=E,17000μm,0.7s
CESX AML AML
comp=N,15900μm,0.4s
CESX AML AML
comp=E,17000μm,1.3s
SRES S.Oreste - Sor 0.71 261 P Pb 01 18 58.6 -0.7
SRES AML AML
comp=E,5075μm,1.1s
SRES AML AML
comp=N,6530μm,0.5s
GUMA Gualdo di Mace 0.71 353 Pb 01 18 58.3 -1.1
GUMA Gualdo di Mace 0.71 353 ⇑P Pb 01 18 58.3 -1.1
GUMA AML AML
comp=N,49150μm,0.5s
GUMA AML AML
comp=N,42200μm,0.7s
GUMA AML AML
comp=N,49150μm,1.5s
GUMA AML AML
comp=E,55950μm,0.3s
GUMA AML AML
comp=E,50700μm,0.4s
LRP Arpino 0.71 172 ⇑P Pb 01 18 57.8 -1.7
LRP AML AML
comp=N,6350μm,0.3s
LRP AML AML
comp=E,8015μm,1.1s
CSP1 Cessapalombo 0.76 346 ⇑P Pb 01 18 58.8 -1.5
CSP1 S Sg 01 19 11.2 +0.8
CESI CESI - Serrava 0.76 329 ⇑P Pb 01 18 58.9 -1.3
CESI AML AML
comp=E,12950μm,1.2s
CESI AML AML
comp=N,27000μm,0.5s
CESI AML AML
comp=N,27000μm,1.5s
CESI AML AML
comp=E,12950μm,0.8s
RMP Rome, Mte Porz 0.78 226 ⇓P Pb 01 18 59.5 -0.9
RMP AML AML
comp=N,10700μm,0.4s
RMP AML AML
comp=E,11700μm,0.4s
MNTP Montappone 0.78 1 ⇑P Pb 01 18 59.7 -0.9
MNTP AML AML
comp=E,24700μm,0.6s
MNTP AML AML
comp=N,19000μm,0.5s
MNTP AML AML
comp=N,19000μm,1.5s
VIVA Pratoni del Vi 0.79 220 P Pb 01 18 59.7 -0.9
VIVA AML AML
comp=E,18750μm,1.2s
VIVA AML AML
comp=N,32400μm,0.4s
MOMA Monte Martano 0.79 305 ⇑P Pb 01 18 59.4 -1.3
MOMA AML AML
comp=E,10155μm,0.6s
MOMA AML AML
comp=N,14000μm,1.5s
MOMA AML AML
comp=E,10150μm,0.5s
MOMA AML AML
comp=N,13650μm,1.5s
RDP Rocca di Papa 0.81 223 P Pb 01 19 00.2 -0.8
RDP AML AML
comp=E,15750μm,0.5s
RDP AML AML
comp=N,28850μm,0.5s
GIUL Giuliano Di Ro 0.81 190 ⇑P Pb 01 18 59.9 -1.2
GIUL AML AML
comp=E,9585μm,1.2s
GIUL AML AML
comp=N,8850μm,0.4s
GIUL AML AML
comp=E,9585μm,0.8s
PF6 Pievefavera 0.81 347 ⇑P Pb 01 18 59.5 -1.7
PF6 S Sb 01 19 11.4 -0.5
PF6 AML AML
comp=E,11780μm,0.6s

PF6 AML AML
comp=N,6215µm,1.4s
PF6 AML AML
comp=N,6215µm,0.6s
PF6 AML AML
comp=E,11785µm,0.6s
MA9 Marino 0.83 225 P **Pb 01 19 00.6 -0.7**
MA9 AML AML
comp=E,9515µm,0.5s
MA9 AML AML
comp=N,9795µm,0.6s
MA9 AML AML
comp=N,9795µm,1.4s
MA9 AML AML
comp=E,9515µm,1.5s
RNI2 Rionero Sannit 0.84 141 ⇑P **Pb 01 18 59.9 -1.7**
RNI2 AML AML
comp=N,8780µm,1.4s
RNI2 AML AML
comp=N,8695µm,1.4s
RNI2 AML AML
comp=E,11700µm,0.7s
RNI2 AML AML
comp=E,11445µm,0.7s
RNI2 AML AML
comp=N,8695µm,0.6s
RNI2 AML AML
comp=N,8780µm,0.6s
LIK San Giovanni I 0.85 174 ⇑P **Pb 01 19 00.3 -1.5**
LIK AML AML
comp=E,16700µm,0.6s
LIK AML AML
comp=N,13450µm,0.7s
LIK AML AML
comp=N,13450µm,1.3s
LIK AML AML
comp=E,16700µm,1.4s
SAMA S.Maria delle 0.86 228 P **Pb 01 19 00.8 -1.1**
SAMA AML AML
comp=E,5600µm,0.8s
SAMA AML AML
comp=N,4375µm,0.5s
SAMA AML AML
comp=E,5600µm,1.2s
SAMA AML AML
comp=N,4375µm,1.5s
CERA Filignano 0.87 150 ⇑P **Pb 01 18 59.9 -2.1**
CERA AML AML
comp=E,11850µm,0.8s
CERA AML AML
comp=N,8495µm,1.1s
CERA AML AML
comp=E,12100µm,0.8s
CERA AML AML
comp=N,8745µm,1.1s
CERA AML AML
comp=N,8745µm,0.9s
CERA AML AML
comp=E,11850µm,1.2s
CERA AML AML
comp=N,8495µm,0.9s
CERA AML AML
comp=E,12100µm,1.2s
PTRJ Pietraroja 1.28 140 AML AML
comp=N,4180µm,0.8s
PTRJ AML AML
comp=E,4550µm,1.0s
PTRJ AML AML
comp=E,20µm,0.6s
PTRJ AML AML
comp=E,20µm,1.4s
PTRJ AML AML
comp=E,4550µm,1.0s
PTRJ AML AML
comp=N,3755µm,0.7s
PAOL Paolisi 1.57 147 **Pn 01 19 12.5 0.0**
SGRT San Giovanni R 1.81 109 **Pn 01 19 16.3 +0.4**
MTMR Montemarano 1.85 140 AML AML
comp=E,12350µm,1.6s
MTMR AML AML
comp=N,12200µm,1.6s
MTMR AML AML
comp=N,12200µm,0.4s
MTMR AML AML
comp=E,12350µm,0.4s
CASP Castiglione de 1.96 284 Pn **Pn 01 19 18.0 +0.2**
DUGI Dugi Otok 2.02 35 *i* Pn **Pn 01 19 18.8 +0.1**
MORI Morici 2.24 47 *e*Pn **Pn 01 19 21.9 +0.3**
MORI Sn **Sn 01 19 49.0 +0.1**
VIRC Vir 2.26 31 *i* Pn **Pn 01 19 22.2 +0.2**
VIRC Sn **Sn 01 19 48.9 -0.6**
HVAR Hvar 2.36 69 *e*Pn **Pn 01 19 24.1 +0.8**
NVLJ Novalja 2.44 25 *e*Pn **Pn 01 19 24.5 +0.1**
BRJN Brijuni 2.56 5 *e*Pn **Pn 01 19 26.4 +0.3**
SLCN Sala Consilina 2.56 139 AML AML
comp=N,840µm,0.5s
SLCN AML AML
comp=E,880µm,0.5s
SLCN AML AML
comp=E,978µm,0.5s
SLCN AML AML
comp=E,978µm,1.5s
SLCN AML AML
comp=N,816µm,0.5s
SLCN AML AML
comp=E,880µm,1.5s
LSTV Lastovo 2.58 80 *e*Pn **Pn 01 19 26.9 +0.6**
RABC Rab 2.58 22 *i* Pn **Pn 01 19 26.9 +0.6**
RABC Sn **Sn 01 19 57.0 -0.3**
ZCCA Zocca 2.69 319 **Pn 01 19 29.9 +2.0**
SMRN Sveta Marina 2.73 11 *e*Pn **Pn 01 19 28.4 0.0**
UDBI Udbina 2.75 37 *e*Pn **Pn 01 19 30.0 +1.2**
MAKA Makarska 2.79 69 *e*Pn **Pn 01 19 30.1 +0.9**
RICI Ricice 2.94 66 *e*Pn **Pn 01 19 32.5 +1.2**
CUC Castrocucco 2.96 142 **Pn 01 19 33.3 +1.7**
PLIT Plitvice 2.98 31 *e*Pn **Pn 01 19 32.8 +0.9**
MATE Matera 2.98 124 ⇓P **Pn 01 19 33.1 +1.3**
RIY Rijeka 3.06 14 *e*Pn **Pn 01 19 33.4 +0.4**
A050A Klekovaca 3.09 46 *e*Pn **Pn 01 19 35.2 +1.7**
STON Ston 3.18 79 *e*Pn **Pn 01 19 35.3 +0.7**
STON *e*Sn **Sn 01 20 12.0 -0.1**
STON Ston 3.18 79 *e*Pn **Pn 01 19 35.1 +0.5**
STON Ston 3.18 79 AML AML
comp=E,316µm,0.6s
STON AML AML
comp=N,294µm,0.5s
STON Ston 3.18 79 *e*Pn **Pn 01 19 34.8 +0.2**
SRKY Kupres RS 3.21 57 *e*Pn **Pn 01 19 35.8 +0.6**
SKDS Skadanscina 3.22 7 *i* Pn **Pn 01 19 35.1 0.0**
SKDS Skadanscina 3.22 7 *e*Pn **Pn 01 19 34.7 -0.5**
ORI Oriolo Calabro 3.22 134 AML AML
comp=N,589µm,0.5s
ORI AML AML
comp=E,644µm,0.7s
TEOL Teolo 3.27 337 **Pn 01 19 36.5 +0.7**
PGF Pioggiola 3.30 275 *e*Pn **Pn 01 19 37.3 +1.0**
PGF *e*Sn **Sn 01 20 11.5 -3.7**
comp=E,21nm,0.4s
PGF Pioggiola 3.30 275 AML AML
comp=E,143µm,1.7s
PGF AML AML
comp=E,143µm,0.3s
PGF AML AML
comp=N,100µm,0.8s
PRMA PARMA 3.31 318 **Pn 01 19 38.5 +2.1**
MGRS Mrkonjic Grad 3.36 51 *e*Pn **Pn 01 19 39.1 +2.0**
CET2 Cetraro 3.40 145 AML AML
comp=N,350µm,0.8s
CET2 AML AML
comp=E,328µm,0.7s
CET2 AML AML
comp=E,328µm,1.3s
BOJS Bojanci 3.41 22 *e*Pn **Pn 01 19 38.7 +1.0**
A251A Rujevac 3.44 35 *e*Pn **Pn 01 19 39.5 +1.3**
CEY Cerknica 3.46 11 *e*Pn **Pn 01 19 37.7 -0.7**
MSSA Maissana 3.47 306 **Pn 01 19 40.0 +1.3**
DBRK Dubrovnik 3.49 83 *e*Pn **Pn 01 19 39.6 +0.8**
PRIJ Prijedor 3.53 41 *e*Pn **Pn 01 19 40.3 +0.8**
NEVS Nevesinje 3.55 73 *e*Pn **Pn 01 19 40.3 +0.5**
OZLJ Ozalj 3.57 23 *e*Pn **Pn 01 19 40.9 +1.0**
BLY Banja Luka 3.62 47 *e*Pn **Pn 01 19 42.6 +1.9**
BLY *e*Sn **Sn 01 20 24.8 +1.9**
BLY Banja Luka 3.62 47 *e*Pn **Pn 01 19 42.5 +1.9**
SABO M.te Sabotino 3.63 2 **Pn 01 19 40.5 -0.3**
TREB Trebinje 3.64 83 *e*Pn **Pn 01 19 41.9 +0.9**
TREB *e*Sn **Sn 01 20 23.8 +0.3**
TREB Trebinje 3.64 83 *e*Pn **Pn 01 19 41.9 +0.9**
A051A Mrakovica 3.65 42 *e*Pn **Pn 01 19 40.9 -0.3**
CGRP Cima Grappa 3.72 342 AML AML
comp=E,820µm,0.4s
CGRP AML AML
comp=N,760µm,0.6s
CGRP AML AML
comp=N,794µm,0.6s
CGRP AML AML
comp=E,786µm,0.5s
POLC Polcenigo 3.73 350 AML AML
comp=E,833µm,0.7s
POLC AML AML
comp=N,854µm,0.6s
SLATY Slatina 3.73 47 *e*Pn **Pn 01 19 42.6 +0.4**
HCY Herceg Novi 3.74 87 *e*Pn **Pn 01 19 43.2 +0.9**
HCY Herceg Novi 3.74 87 ⇑*i*Pn **Pn 01 19 43.4 +1.1**
HCY *i* Sn **Sn 01 20 27.5 +1.6**
CRES Cresnjev 3.76 22 *e*Pn **Pn 01 19 43.1 +0.5**
BRY Bratogost 3.80 80 *e*Pn **Pn 01 19 44.1 +0.9**
BRY Bratogost 3.80 80 ⇑*i*Pn **Pn 01 19 44.3 +1.1**
BRY *i* Sn **Sn 01 20 28.5 +1.0**
CADS Cadrg 3.88 3 *i* Pn **Pn 01 19 44.2 -0.1**
SALO Salr 3.88 328 **Pn 01 19 45.2 +0.9**
CTI Castel Tesino 3.91 341 **Pn 01 19 45.4 +0.6**
ZAG Zagreb 3.92 27 *e*Pn **Pn 01 19 47.1 +2.3**
STAL STALIGIAL 3.94 353 **Pn 01 19 45.1 0.0**
PTJ Puntijarka 3.99 26 *e*Pn **Pn 01 19 47.1 +1.3**
CIMO Cimolais 4.02 350 AML AML
comp=E,151µm,0.7s
CIMO AML AML
comp=E,151µm,1.3s
CIMO AML AML
comp=N,134µm,0.4s
CIMO AML AML
comp=E,150µm,1.3s
CIMO AML AML
comp=N,133µm,0.4s
CIMO AML AML
comp=E,150µm,0.7s
A052A Srbac 4.03 46 *e*Pn **Pn 01 19 44.8 -1.5**
BUM Brajici-Budva 4.04 89 ⇓*i*Pn **Pn 01 19 47.6 +1.1**
BUM *i* Sn **Sn 01 20 34.5 +1.1**
MOSL Moslavina 4.04 35 *e*Pn **Pn 01 19 46.4 0.0**
TIP Timpagrande 4.05 141 ⇓P **Pn 01 19 48.4 +1.8**
TIP Timpagrande 4.05 141 **Pn 01 19 49.8 +3.2**
CEME Cevo 4.05 85 ⇓*i*Pn **Pn 01 19 48.1 +1.4**
CEME *i* Sn **Sn 01 20 35.2 +1.5**
NKME Niksic 4.09 82 ⇓*i*Pn **Pn 01 19 48.3 +1.2**
NKME *i* Sn **Sn 01 20 35.6 +1.0**
UPM Unac-Piva 4.11 76 ⇑*i*Pn **Pn 01 19 48.8 +1.3**
UPM *i* Sn **Sn 01 20 36.3 +1.1**
CLUD Cludinico 4.12 355 AML AML
comp=N,199µm,0.6s
CLUD AML AML
comp=E,232µm,0.6s
CLUD AML AML
comp=N,204µm,0.6s
CLUD AML AML
comp=N,199µm,1.4s
CLUD AML AML
comp=N,204µm,1.4s
CLUD AML AML
comp=E,221µm,0.6s
DOB Doboj 4.13 53 *e*Pn **Pn 01 19 46.9 -0.8**
VSL Villasalto 4.20 229 Pn **Pn 01 19 49.1 +0.4**
OBKA Obir 4.23 10 *i* Pn **Pn 01 19 49.5 +0.4**
OBKA *e*Sn **Sn 01 20 37.5 -0.6**
comp=E,16nm,0.2s
comp=E,94nm,0.5s
OBKA Obir 4.23 10 *e*Pn **Pn 01 19 49.7 +0.6**
OBKA Obir 4.23 10 *e*Pn **Pn 01 19 49.5 +0.4**
LOBO Lobor 4.24 25 *e*Pn **Pn 01 19 49.4 +0.3**
DRME Dracevica, Mon 4.26 90 *e*Pn **Pn 01 19 51.0 +1.5**
DRME Dracevica, Mon 4.26 90 ⇓*i*Pn **Pn 01 19 50.5 +1.0**
DRME *i* Sn **Sn 01 20 39.8 +1.0**
MYKA Terra Mystica 4.28 2 *i* Pn **Pn 01 19 50.2 +0.5**
comp=E,24nm,0.4s,SNR=13
MYKA *e*Sn **Sn 01 20 39.9 +0.6**
comp=E,24nm,0.3s
ULC Ulcinj 4.33 93 ⇑*i*Pn **Pn 01 19 51.6 +1.2**
ULC *i* Sn **Sn 01 20 41.5 +1.1**
KALN Kalnik 4.35 29 *e*Pn **Pn 01 19 51.4 +0.7**
ABTA Abfaltersbach 4.44 352 *i* Pn **Pn 01 19 52.9 +0.9**
comp=E,91nm,0.5s,SNR=46
ABTA *e*Sn **Sn 01 20 44.5 +1.1**
comp=E,73nm,0.6s
SOKA Soboth 4.47 14 *i* Pn **Pn 01 19 53.2 +0.8**
comp=E,13nm,0.2s,SNR=6.0
PLE Pljevlja 4.48 75 ⇓*i*Pn **Pn 01 19 53.9 +1.4**
PLE *i* Sn **Sn 01 20 44.7 +0.5**
CEL Celeste 4.50 155 **Pn 01 19 53.7 +0.9**
KOME Kolasin 4.51 82 ⇓*i*Pn **Pn 01 19 54.1 +1.2**
KOME *i* Sn **Sn 01 20 45.6 +0.7**
BRES Bressanone 4.51 345 AML AML
comp=E,399µm,1.4s
BRES AML AML
comp=N,402µm,0.8s
BRES AML AML
comp=N,402µm,1.2s
BRES AML AML
comp=E,399µm,0.6s
RUDO Rudo 4.52 72 *e*Pn **Pn 01 19 54.2 +1.1**
BBLS Lazi&#263i 4.62 69 *e*Pn **Pn 01 19 56.1 +1.7**
BBLS *e*Sn **Sn 01 20 47.5 -0.1**
BBLS Lazi&#263i 4.62 69 *e*Pn **Pn 01 19 56.1 +1.7**
SBF Sospel 4.65 291 *e*P **Pn 01 19 55.3 +0.4**
SBF *e*Sn **Sn 01 20 44.7 -3.8**
comp=E,37nm,0.5s
KBA Koelnbreinsper 4.72 359 *i* Pn **Pn 01 19 57.0 +1.1**
comp=E,57nm,0.7s,SNR=9.8
KBA *i* Sn **Sn 01 20 49.7 -0.8**
comp=E,47nm,0.7s
KBA Koelnbreinsper 4.72 359 *e*Pn **Pn 01 19 57.3 +1.3**
CLTB Caltabellotta 4.77 182 **Pn 01 20 00.4 +3.8**
IVA Berane 4.79 82 ⇑*i*Pn **Pn 01 19 58.6 +1.8**
IVA *i* Sn **Sn 01 20 52.3 +0.5**
PUK Puka 4.80 92 Pn **Pn 01 19 59.0 +2.1**
PVY Plav 4.82 85 ⇓*i*Pn **Pn 01 19 58.5 +1.2**
PVY *i* Sn **Sn 01 20 53.1 +0.3**
FUORN Ofenpass-Fuorn 4.83 333 Pn **Pn 01 19 59.1 +1.5**
SJES Sjenica 4.89 77 *e*Pn **Pn 01 20 00.1 +1.9**
SJES *e*Sn **Sn 01 20 53.7 -0.6**
SJES Sjenica 4.89 77 *e*Pn **Pn 01 19 59.4 +1.2**
VLO Vlora 4.92 110 P **Pn 01 19 59.8 +1.3**
VLO Vlora 4.92 110 Pn **Pn 01 19 59.9 +1.3**
TEKS Tekeris 4.94 62 *e*Pn **Pn 01 19 58.6 -0.2**
TEKS *e*Sn **Sn 01 20 56.5 +1.0**
TEKS Tekeris 4.94 62 *e*Pn **Pn 01 19 58.0 -0.8**
FETA Feichten 5.05 338 *e*Pn **Pn 01 20 02.2 +1.7**
comp=E,25nm,0.6s,SNR=11
TUE Stuetta 5.06 326 **Pn 01 20 00.8 +0.3**
IVAS Ivanjica 5.07 74 *e*Pn **Pn 01 20 01.6 +1.0**
IVAS *e*Sn **Sn 01 20 57.8 -1.0**
WTTA Wattenberg 5.08 346 *i* Pn **Pn 01 20 02.8 +2.0**
comp=E,17nm,0.3s
WTTA *e*Sn **Sn 01 21 01.0 +1.9**
comp=E,102nm,0.7s
WTTA Wattenberg 5.08 346 *e*Pn **Pn 01 20 02.6 +1.8**
WTTA *e*Sn **Sn 01 21 02.6 +3.6**
DIVS Divibare 5.09 68 *e*Pn **Pn 01 20 02.0 +1.1**
DIVS *e*Sn **Sn 01 20 58.2 -1.1**
LESA Schwarzleotal 5.10 354 *i* Pn **Pn 01 20 01.9 +0.8**
comp=E,40nm,0.4s
LESA *e*Sn **Sn 01 20 58.6 -0.9**
comp=E,47nm,0.4s
DAVOX Davos/Dischmat 5.11 331 P **Pn 01 20 03.5 +2.3**
DAVOX S **Sn 01 21 00.0 +0.2**
comp=E,56nm,0.7s,baz=107,slow=22,SNR=4.3
DAVOX LR LR 01 22 35.5
comp=E,235nm,19.8s,baz=116,slow=45
ARSA Arzberg 5.11 16 *e*Pn **Pn 01 20 01.6 +0.4**
comp=E,12nm,0.4s,SNR=5.7
ARSA Arzberg 5.11 16 *e*Pn **Pn 01 20 01.6 +0.4**
ARSA *e*Sn **Sn 01 20 58.4 -1.4**
SQTA Sankt Quirin 5.12 343 *i* Pn **Pn 01 20 03.2 +1.9**
comp=E,35nm,0.4s,SNR=14
SQTA *i* Sn **Sn 01 21 02.7 +2.7**
comp=E,29nm,0.3s
WATA Walderalm 5.16 346 *i* Pn **Pn 01 20 04.0 +2.2**
comp=E,9.6nm,0.2s,SNR=8.8
WATA *e*Sn **Sn 01 21 03.8 +2.8**
comp=E,25nm,0.3s
RAFF Raffo Rosso 5.17 172 Pn **Pn 01 20 05.4 +3.3**
LMR La Mourre 5.20 283 *e*P **Pn 01 20 02.5 +0.2**
LMR *e*Sn **Sn 01 20 57.8 -4.0**
comp=E,272nm,2.0s
MOTA Moosalm 5.26 342 *i* Pn **Pn 01 20 05.6 +2.2**
comp=E,11nm,0.2s,SNR=10
MOTA *i* Sn **Sn 01 21 03.5 -0.1**
comp=E,36nm,0.5s
BIOA Bad Ischl, Aus 5.34 1 *i* Pn **Pn 01 20 05.4 +1.1**
comp=E,21nm,0.3s,SNR=11
BIOA *e*Sn **Sn 01 21 06.6 +1.3**
comp=E,90nm,0.7s
FRGS Fruska Gora 5.39 57 ⇑P **Pn 01 20 07.2 +2.2**
FRGS Fruska Gora 5.39 57 *e*Pn **Pn 01 20 06.6 +1.6**
FRGS Fruska Gora 5.39 57 *e*Pn **Pn 01 20 06.6 +1.6**
MBDF Montbardon 5.40 298 *e*P **Pn 01 20 06.9 +1.6**
MBDF *e*Sn **Sn 01 21 02.4 -4.7**
comp=E,25nm,0.7s
PART Garmisch-Parte 5.40 343 *e*Sn **Sn 01 21 10.8 +3.9**
RJOB Jochberg 5.40 355 *e*Pn **Pn 01 20 06.2 +1.0**
RJOB *e*Sn **Sn 01 21 08.9 +1.9**
TRUS Trudelj 5.41 67 *e*Pn **Pn 01 20 06.2 +0.9**
RETA Reutte 5.47 341 *i* Pn **Pn 01 20 07.0 +0.8**
comp=E,11nm,0.3s
RETA *e*Sn **Sn 01 21 08.9 +0.1**
comp=E,30nm,0.5s
KEK Kerkira 5.48 117 P **Pn 01 20 03.6 -2.6**
KEK Kerkira 5.48 117 Pn **Pn 01 20 03.8 -2.5**
PLONS Plons/SG 5.52 330 *e*Pn **Pn 01 20 08.8 +2.0**
MOA Molln 5.53 6 *i* Pn **Pn 01 20 08.0 +1.1**
comp=E,21nm,0.4s,SNR=14
MOA *i* Sn **Sn 01 21 09.5 -0.5**
comp=E,26nm,0.5s
MOA Molln 5.53 6 *e*Pn **Pn 01 20 08.0 +1.1**
MOA *e*Sn **Sn 01 21 09.4 -0.5**
OBER Oberstdorf 5.53 337 *e*Pn **Pn 01 20 09.9 +2.9**
GRUS Gruza 5.54 71 *e*Pn **Pn 01 20 07.6 +0.6**
GRUS *e*Sn **Sn 01 21 09.4 -0.8**
DAVA Damuels 5.54 334 *e*Pn **Pn 01 20 09.6 +2.3**
comp=E,41nm,0.7s,SNR=15
DAVA *e*Sn **Sn 01 21 11.8 +1.1**
comp=E,66nm,0.5s
DAVA Damuels 5.54 334 *e*Pn **Pn 01 20 09.6 +2.3**
DAVA *e*Sn **Sn 01 21 15.0 +4.4**
BNS Bardonecchia 5.60 301 Pn **Pn 01 20 09.3 +1.3**
OHR Ohrid 5.64 100 *i* Pn **Pn 01 20 09.5 +2.1**
SELS Selova 5.71 79 *e*Pn **Pn 01 20 10.6 +1.2**
SELS *e*Sn **Sn 01 21 11.8 -2.7**
RONA Rosalia, Austr 5.71 20 *i* Pn **Pn 01 20 10.2 +0.8**
comp=E,5.8nm,0.2s
RONA *i* Sn **Sn 01 21 14.7 +0.1**
comp=E,11nm,0.6s
LPG La Plagne 5.77 305 *e*P **Pn 01 20 11.4 +1.0**
LPG *e*Sn **Sn 01 21 10.8 -5.5**
comp=E,14nm,0.5s
LPL La Plagne 5.79 305 *e*P **Pn 01 20 12.0 +1.4**
LPL *e*Sn **Sn 01 21 11.4 -5.3**
comp=E,21nm,0.6s
UBR Ueberruh 5.83 337 *e*Pn **Pn 01 20 12.4 +1.4**
UBR *e*Sn **Sn 01 21 20.9 +3.5**
CONA Conrad Observa 5.83 16 *i* Pn **Pn 01 20 11.7 +0.7**
comp=E,7.6nm,0.3s
CONA *i* Sn **Sn 01 21 16.3 -1.2**
comp=E,11nm,0.5s
IGT Igoumenitsa 5.93 116 P **Pn 01 20 13.9 +1.5**
SENIN Lac Senin/Sane 5.96 314 Pn **Pn 01 20 13.5 +0.6**
SMRF Simiane la Rot 5.98 288 *e*P **Pn 01 20 15.2 +2.1**
WILA Wila 6.00 329 *e*Pn **Pn 01 20 14.1 +0.7**
ORIF Oris-en-Rattie 6.06 298 *e*P **Pn 01 20 18.1 +3.8**
ORIF *e*Sn **Sn 01 21 17.1 -6.1**
comp=E,24nm,0.8s
FNA Florina 6.15 102 P **Pn 01 20 16.4 +0.9**
FNA Florina 6.15 102 **Pn 01 20 16.7 +1.2**
BARS Barje 6.19 83 *e*Pn **Pn 01 20 17.1 +1.1**
BARS *e*Sn **Sn 01 21 25.0 -1.4**
PRVS Prvonek 6.39 86 *e*Pn **Pn 01 20 19.6 +0.9**
PRVS *e*Sn **Sn 01 21 30.2 -1.0**
SULZ Cheisacher 6.41 326 *e*Pn **Pn 01 20 19.2 +0.2**
KPRO Kipourio 6.44 109 P **Pn 01 20 22.1 +2.7**
BALST Balsthal 6.44 323 *e*Pn **Pn 01 20 19.3 -0.2**
SLE Schleitheim 6.45 329 *e*Pn **Pn 01 20 19.5 -0.1**
SLE *e*Sn **Sn 01 21 32.2 -0.5**
SRO Srobarova 6.45 31 *e*PN **Pn 01 20 23.4 +3.9**
GEC2 GERESS Array S 6.49 1 *e*Pn **Pn 01 20 20.0 -0.2**
GERES GERESS Array B 6.49 1 P **Pn 01 20 20.0 -0.2**
comp=E,2.6nm,0.3s,baz=166,slow=11,SNR=33
GERES S **Sn 01 21 28.6 -5.2**
comp=E,6.6nm,0.6s,baz=172,slow=20,SNR=1.3
comp=E,5.2nm,0.5s
CKRC Cesky Krumlov 6.49 5 *e*PN **Pn 01 20 20.2 +0.1**
CKRC *e*SN **Sn 01 21 30.8 -3.0**
TSLK Tsoukalades, L 6.52 120 P **Pn 01 20 22.4 +1.9**
STIP Stip 6.54 93 *i* Pn **Pn 01 20 23.8 +3.0**
LKD2 Lefkada island 6.54 121 P **Pn 01 20 22.4 +1.5**
MODS Modra-Piesok 6.59 23 *e*PN **Pn 01 20 22.8 +1.3**
ZAGS Zajecar 6.60 74 *e*Pn **Pn 01 20 22.5 +1.0**
ZAGS *e*Sn **Sn 01 21 34.3 -2.0**
NYDR Nydri-Lefkada 6.61 121 P **Pn 01 20 23.1 +1.4**
EVGI Lefkada island 6.64 122 P **Pn 01 20 24.0 +1.8**
BZS Buzias 6.73 58 ⇑P **Pn 01 20 25.5 +2.0**
CABF La Chapelle 6.77 311 *e*P **Pn 01 20 25.1 +1.1**
CABF *e*Sn **Sn 01 21 34.2 -6.4**
comp=E,32nm,1.0s
KHC Kasperske Hory 6.78 1 Pn **Pn 01 20 23.7 -0.4**
KHC Kasperske Hory 6.78 1 *e*PN **Pn 01 20 23.7 -0.4**
KHC *e*SN **Sn 01 21 38.2 -2.6**
WET Wettzell 6.80 357 *e*Pn **Pn 01 20 23.8 -0.6**
KTI Kastanea 6.81 104 P **Pn 01 20 25.4 +0.8**
ZAPS Zavoj 6.82 79 *e*Pn **Pn 01 20 26.5 +1.9**
ZAPS *e*Sn **Sn 01 21 39.2 -2.6**
VIVF Saint-Julien-l 6.84 294 *e*P **Pn 01 20 27.1 +2.1**
VIVF *e*Sn **Sn 01 21 36.7 -5.7**
VLS Valsamata 6.87 125 P **Pn 01 20 26.9 +1.5**
PSDA Pessada-Kefalo 6.91 125 P **Pn 01 20 27.4 +1.6**
BFO Black Forest 6.98 331 Pn **Pn 01 20 26.8 0.0**
BFO Black Forest 6.98 331 *e*Pn **Pn 01 20 26.3 -0.4**
HERR Herculane 6.98 66 ⇓P **Pn 01 20 28.2 +1.4**
KRUC Moravsky 7.02 16 *e*PN **Pn 01 20 27.2 -0.1**
SSB Saint Sauveur 7.07 297 Pn **Pn 01 20 28.4 +0.2**
STU Stuttgart 7.08 337 Pn **Pn 01 20 27.6 -0.5**
TREC Trest 7.08 11 *e*PN **Pn 01 20 27.8 -0.5**
JAVC Velka Javorina 7.15 23 *e*PN **Pn 01 20 29.0 -0.1**
LIT Litokhoron 7.18 105 P **Pn 01 20 29.9 +0.3**
LIT Litokhoron 7.18 105 **Pn 01 20 29.8 +0.2**
HINF Hinteralfeld 7.18 322 *e*P **Pn 01 20 28.8 -0.8**
HINF *e*Sn **Sn 01 21 43.4 -7.4**
comp=E,21nm,0.3s
PSZ Piszkesteto 7.19 37 ⇑P **Pn 01 20 30.7 +0.9**
PSZ Piszkesteto 7.19 37 Pn **Pn 01 20 29.9 +0.2**
PVO Paravola 7.20 119 P **Pn 01 20 32.1 +2.3**
VYHS Vyhne 7.21 30 *e*PN **Pn 01 20 31.8 +1.8**
VYHS *e*SN **Sn 01 21 49.6 -1.9**
LASF Ste Croix 7.21 287 *e*Pn **Pn 01 20 28.5 -1.6**
LASF *e*Sn **Sn 01 21 45.7 -5.9**
EVR Evrytania 7.23 116 P **Pn 01 20 33.9 +3.6**
VRAC Vranov 7.29 16 ⇓P **Pn 01 20 31.3 +0.2**
VRAC Vranov 7.29 16 *e*PN **Pn 01 20 30.8 -0.3**
VRAC Vranov 7.29 16 P **Pn 01 20 31.3 +0.2**
comp=E,0.6nm,0.3s,baz=202,slow=14,SNR=6.8
VRAC S **Sn 01 21 50.2 -3.2**
comp=E,2.4nm,0.5s,baz=299,slow=18,SNR=1.4
VRAC LR LR 01 24 06.4
comp=E,174nm,18.2s,baz=202,slow=44
comp=E,1.7nm,0.4s
LTHK Lithakia 7.32 127 P **Pn 01 20 23.7 -7.8**
KEST Kesra 7.34 207 P **Pn 01 20 35.9 +4.0**
comp=E,2.2nm,0.3s,baz=324,slow=5.3,SNR=32
comp=E,7.6nm,0.5s
ECH Echery 7.35 325 Pn **Pn 01 20 30.9 -0.9**
GZR Gura Zlata 7.39 63 ⇓P **Pn 01 20 34.5 +2.0**
MAKR Makrakomi, Fth 7.39 114 P **Pn 01 20 35.2 +2.6**
CDF Champ du Feu 7.45 326 *e*P **Pn 01 20 32.7 -0.7**
CDF *e*Sn Sn 01 21 48.1 -9.4
comp=E,34nm,0.6s
ANX Ano Chora 7.47 117 P **Pn 01 20 36.5 +2.8**
RLS Riolos of Patr 7.49 122 P **Pn 01 20 36.1 +2.3**
GRFO Grafenberg 7.50 349 Pn **Pn 01 20 31.8 -2.1**
GRA1 Grafenberg Arr 7.50 349 **Pn 01 20 32.3 -1.6**
GRF Grafenberg Arr 7.50 349 *e*Sn **Sn 01 21 57.3 -1.2**
AGG Agios Georgios 7.53 113 P **Pn 01 20 36.0 +1.7**
AGG Agios Georgios 7.53 113 Pn **Pn 01 20 35.3 +1.0**
EFP Efpalio 7.55 118 P **Pn 01 20 37.0 +2.3**
HAU Haudompre 7.55 321 *e*P **Pn 01 20 34.2 -0.5**

HAU *e*Sn **Sn** **01 21 53.1 -6.8**
comp=E,52nm,0.5s

GOPC GO Pecny, Ondr 7.62 7 *e*PN **Pn** **01 20 36.3 +0.7**
PRU Pruhonice 7.67 5 *e*PN **Pn** **01 20 35.8 -0.5**
DRO Drossia 7.70 122 P **Pn** **01 20 38.8 +2.0**
PRA Prague 7.75 5 *e*PN **Pn** **01 20 37.9 +0.6**
ALIK Aliki, Aigiali 7.78 119 P **Pn** **01 20 40.5 +2.7**
NVR Nevrokopi 7.84 94 P **Pn** **01 20 40.5 +1.8**
AXAR Agios Charalam 7.87 114 P **Pn** **01 20 41.9 +2.8**
NKC Novy Kostel 7.91 355 *e*PN **Pn** **01 20 41.0 +1.4**
KLV Kalavryta, Ach 7.93 120 P **Pn** **01 20 42.2 +2.3**
MORC Moravsky Berou 7.95 20 Pn **Pn** **01 20 39.0 -1.2**
MORC Moravsky Berou 7.95 20 *e*PN **Pn** **01 20 41.6 +1.5**
DRGR 7.96 53 ⇑P **Pn** **01 20 42.0 +1.7**
LANS Liptovska Anna 7.99 30 *e*PN **Pn** **01 20 44.3 +3.6**
SMF Signal de Mont 8.10 305 *e*P **Pn** **01 20 42.4 +0.3**
SMF *e*Sn **Sn** **01 22 04.9 -8.3**
comp=E,15nm,0.6s

GUR Goura 8.12 120 P **Pn** **01 20 44.9 +2.4**
MARR Marisel-Cluj 8.15 55 ⇑P **Pn** **01 20 45.2 +2.3**
PAGF Fort de Pagny 8.24 321 *e*P **Pn** **01 20 44.4 +0.4**
PAGF *e*Sn **Sn** **01 22 09.1 -7.5**
comp=E,24nm,0.7s

DPC Dobruska-Polom 8.24 13 *e*PN **Pn** **01 20 44.0 -0.1**
HSKC Hora Svate Kat 8.26 360 *e*PN **Pn** **01 20 43.9 -0.4**
MTLF Montolieu 8.31 281 *e*P **Pn** **01 20 49.4 +4.3**
SFTF Sexfontaines 8.33 317 *e*P **Pn** **01 20 44.6 -0.7**
baz=130
SFTF *e*Sn **Sn** **01 22 11.2 -7.6**
comp=E,31nm,0.9s

LOR Lormes 8.40 309 *e*P **Pn** **01 20 45.7 -0.6**
baz=119
LOR *e*Sn **Sn** **01 22 13.3 -7.4**
comp=E,8.2nm,0.4s

PYL PYLOS 8.40 128 P **Pn** **01 20 47.3 +0.9**
OSTC Ostas 8.42 12 *e*PN **Pn** **01 20 46.4 -0.2**
CHVC Chvalec 8.43 11 *e*PN **Pn** **01 20 45.9 -0.8**
AVF Avril sur Loir 8.46 305 *e*P **Pn** **01 20 47.1 0.0**
AVF *e*Sn **Sn** **01 22 14.8 -7.3**
comp=E,3.1nm,0.5s

SSF Saint Saulge 8.50 307 *e*P **Pn** **01 20 47.4 -0.2**
SSF *e*Sn **Sn** **01 22 15.6 -7.5**
comp=E,5.0nm,0.5s

MEZF Maizieres J'vi 8.52 319 *e*P **Pn** **01 20 48.5 +0.6**
baz=134
MEZF *e*Sn **Sn** **01 22 16.1 -7.4**
comp=E,4.5nm,0.5s

BRG Berggiesshubel 8.53 2 Pn **Pn** **01 20 48.4 +0.4**
BRG Amp 01 20 49.3
comp=Z,2.4nm,0.6s

BRG r 01 22 18.0
BRG r 01 22 29.6
BRG Amp 01 22 32.3
comp=Z,8.5nm,0.8s

SAVF Savonnieres en 8.56 320 *e*P **Pn** **01 20 49.5 +1.0**
baz=135
SAVF *e*Sn **Sn** **01 22 16.5 -8.1**
comp=Z,11nm,0.6s

CRVS Cervenica-Dubn 8.62 38 *e*PN **Pn** **01 20 52.9 +3.6**
CAF Calviac 8.65 291 *e*P **Pn** **01 20 51.5 +1.8**
BGF Bois d'Agland 8.67 303 *e*P **Pn** **01 20 50.4 +0.5**
BGF *e*Sn **Sn** **01 22 19.9 -7.3**
comp=Z,7.9nm,0.5s

WLF Walferdange 8.90 328 Pn **Pn** **01 20 53.5 +0.5**
STHS Stebnicka Huta 8.91 35 *e*PN **Pn** **01 20 56.1 +2.8**
VOIR 8.93 66 ⇓P **Pn** **01 20 55.8 +2.2**
KRND KRANIDI 8.96 120 P **Pn** **01 20 55.4 +1.4**
CLL Collm 8.96 358 Pn **Pn** **01 20 53.5 -0.4**
CLL Collm 8.96 358 *e*Pn **Pn** **01 20 54.0 +0.1**
CLL *e*x x 01 22 18.0
CLL *e*Sn **Sn** **01 22 32.0 -2.4**
CLL *e*x x 01 22 54.0
CLL *e*Sb 01 23 04.0
CLL *e*Sg 01 23 30.0
comp=Z,13nm,1.1s

CEST Esterri de Car 9.02 276 Pn **Pn** **01 20 56.3 +1.5**
RJF Les Rejaudoux 9.11 293 *e*P **Pn** **01 20 58.9 +2.8**
RDO Rodhopi 9.12 94 Pn **Pn** **01 20 56.1 0.0**
ELND Elena 9.18 82 ⇓P **Pn** **01 20 58.6 +1.6**
ALN Alexandroupoli 9.55 95 Pn **Pn** **01 21 02.8 +0.8**
MLR Muntele Rosu 9.55 67 ⇑P **Pn** **01 21 04.7 +2.5**
MLR Muntele Rosu 9.55 67 Pn **Pn** **01 21 02.3 +0.2**
MLR Muntele Rosu 9.55 67 P **Pn** **01 21 02.9 +0.7**
comp=Z,0.4nm,0.3s,baz=168,slow=6.3,SNR=13
MLR LR LR 01 26 22.9
comp=Z,65nm,18.5s,baz=258,slow=48
comp=Z,4.1nm,0.7s

KWP Kalwaria Pacla 9.71 38 Pn **Pn** **01 21 06.5 +2.2**
GIVF Givet 9.78 325 *e*P **Pn** **01 21 07.0 +1.8**
BURAR Bucovina Array 9.85 54 ⇓P **Pn** **01 21 08.4 +2.1**
BURAR Bucovina Array 9.85 54 Pn **Pn** **01 21 08.4 +2.1**
BUR08 Bucovina Ar. S 9.86 54 Pn **Pn** **01 21 08.6 +2.2**
IDI Anoyia 11.37 125 Pn **Pn** **01 21 27.5 +0.4**
IDI Anoyia 11.37 125 P **Pn** **01 21 28.1 +1.1**
comp=Z,0.1nm,0.4s,baz=312,slow=15,SNR=11
IDI S **Sn** **01 23 26.2 -7.5**
baz=195,slow=16,SNR=1.4

ESDC Sonseca Array 13.42 264 P **Pn** **01 21 55.1 +0.1**
comp=Z,0.1nm,0.3s,baz=72,slow=14,SNR=2.3
comp=Z,1.0nm,0.9s

AKASG Malin Array Be 13.68 47 P **Pn** **01 21 59.6 +1.2**
comp=Z,0.4nm,0.3s,baz=238,slow=11,SNR=1.7
comp=Z,0.4nm,0.4s

ELL Elmali 13.87 108 Pn **Pn** **01 22 02.6 +1.3**
BRTR Keskin Array B 15.46 93 P **P** **01 22 25.6 -1.5**
comp=Z,0.1nm,0.3s,baz=316,slow=8.1,SNR=1.3
BRTR LR LR 01 29 18.5
comp=Z,76nm,21.1s,baz=328,slow=41
comp=Z,0.2nm,0.5s

HFS Hagfors 17.80 0 P **Pn** **01 22 52.1 0.0**
comp=Z,1.4nm,0.7s,baz=163,slow=16,SNR=2.6

NAO01 NORSAR Array S 18.58 356 P **P** **01 23 00.7 -0.7**
NAO01 IAmb IAmb 01 23 09.2
comp=Z,10nm,1.1s

NB2 NORSAR Subarra 18.76 357 P **Pn** **01 23 04.2 +0.3**
comp=Z,6.4nm,1.2s,baz=177,slow=14

NOA NORSAR Array B 18.76 357 P **Pn** **01 23 04.0 +0.1**
baz=176,slow=11,SNR=7.3
comp=Z,0.5nm,0.6s

NB201 NORSAR Array S 18.77 357 P **P** **01 23 03.5 0.0**
NB201 IAmb IAmb 01 23 10.1
comp=Z,16nm,1.4s

ARPR Arapgir-MALATY 19.12 91 P **Pn** **01 23 08.5 0.0**
MMAI Mount Meron Ar 19.67 111 P **Pn** **01 23 16.7 +1.6**
comp=Z,0.3nm,0.3s,baz=306,slow=12,SNR=1.5
comp=Z,1.0nm,0.6s

FINES FINESS Array B 20.57 17 P **P** **01 23 22.5 -0.5**
FINES FINESS Array B 20.57 17 P **P** **01 23 22.9 -0.1**
comp=Z,5.2nm,0.6s,baz=195,slow=8.8,SNR=26
comp=Z,5.2nm,0.6s

FIA1 FINESS Array S 20.57 17 P **P** **01 23 22.6 -0.4**
TAM Tamanrasset 20.60 201 P Pn 01 23 26.0 -0.1
KBZ Khabaz 21.52 76 P **P** **01 23 36.5 +3.1**
comp=Z,3.6nm,0.8s,baz=291,slow=10,SNR=7.0
comp=Z,3.6nm,0.8s

ARCES ARCESS Array B 27.96 9 P **P** **01 24 34.2 -0.3**
comp=Z,3.1nm,1.0s,baz=185,slow=5.8,SNR=7.1
comp=Z,3.1nm,1.0s

TORD Torodi Ar. Bea 30.84 203 P **P** **01 25 02.0 +1.4**
comp=Z,1.5nm,0.6s,baz=16,slow=9.2,SNR=17
comp=Z,1.5nm,0.6s

ARU Arti 31.93 48 P **P** **01 25 09.5 -0.3**
RAYN Ar Rayn 32.54 115 P **P** **01 25 16.4 +0.8**
RAYN IAmb IAmb 01 25 27.8
comp=Z,5.4nm,1.5s

BRVK Borovoye 38.74 54 P **P** **01 26 08.5 0.0**
BRVK IAmb IAmb 01 26 10.5
comp=Z,2.9nm,0.9s

BVAR Borovoye Array 38.81 54 P **P** **01 26 09.9 +0.9**
comp=Z,0.9nm,0.8s,baz=252,slow=7.2,SNR=6.3
comp=Z,0.9nm,0.8s

UOSS Minazif 39.14 102 P **P** **01 26 12.3 +0.2**
UOSS IAmb IAmb 01 26 18.5
comp=Z,5.8nm,1.2s

KK31 Karatay Array 41.22 69 P **P** **01 26 29.9 +0.7**
KKAR Karatay Array 41.22 69 P **P** **01 26 29.8 +0.6**
KURBB Kurchatov Arra 44.24 56 P **P** **01 26 52.8 -0.7**
comp=Z,0.2nm,0.3s,baz=289,slow=8.4,SNR=1.9
comp=Z,0.2nm,0.3s

MK31 Makanchi Array 47.81 60 P **P** **01 27 21.6 -0.2**
MK31 IAmb IAmb 01 27 38.6
comp=Z,2.0nm,1.2s

MKAR Makanchi Array 47.81 60 P **P** **01 27 22.4 +0.6**
MKAR Makanchi Array 47.81 60 P **P** **01 27 22.0 +0.2**
comp=Z,0.8nm,0.6s,baz=284,slow=7.2,SNR=9.6
comp=Z,0.8nm,0.6s

SONM Songino Array 61.94 50 P **P** **01 29 03.7 -0.4**
comp=Z,0.4nm,0.5s,baz=298,slow=9.6,SNR=4.1
comp=Z,0.4nm,0.5s

YKA Yellowknife Ar 67.52 337 P **P** **01 29 39.9 -0.2**
comp=Z,0.3nm,0.7s,baz=36,slow=6.0,SNR=4.6
comp=Z,0.3nm,0.7s

ILAR Eielson Array 72.10 351 P **P** **01 30 07.4 -0.9**
comp=Z,0.2nm,0.6s,baz=353,slow=6.6,SNR=4.4
comp=Z,0.2nm,0.6s

TXAR Lajitas Array 88.16 309 P **P** **01 31 36.7 +1.2**
comp=Z,0.1nm,0.6s,baz=64,slow=4.1,SNR=2.0
comp=Z,0.1nm,0.6s

*IDC **31** 01:21:14.9±0.8, 6°.78S×153°.76E, h0km, mb4.0/15, mbtmp4.0/16, ML2.2/1, MS3.2/3, Error ellipse: s-maj=26.3km s-min=16.6km az=100.0*

ISC 31 01:21:20.2±0.8, 6°.8S±0°.1×153°.8E±0°.1, h35km, n19, σ0s82/19, mb4.1/15, MS3.4/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.06**	**248**	Pn	**Pn**	**01 23 01.3**	**+0.2**
	2.6nm,0.3s,baz=34,slow=17,SNR=5.2						
PMG				Sn	**Sn**	**01 24 20.6**	**+0.4**
	2.2nm,0.3s,baz=23,slow=17,SNR=3.7						
PMG				LR	LR	01 25 40.7	
	comp=Z,116nm,19.3s,baz=12,slow=38						
	18nm,0.6s						
WRA	**Warramunga Arr**	**22.96**	**233**	P	**P**	**01 26 19.9**	**-1.9**
	1.0nm,0.7s,baz=59,slow=8.1,SNR=4.3						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**25.42**	**227**	P	**P**	**01 26 44.2**	**-0.7**
	1.7nm,0.8s,baz=60,slow=9.0,SNR=16						
ASAR				LR	LR	01 35 09.0	
	comp=Z,107nm,18.3s,baz=66,slow=33						
	1.7nm,0.8s						
STKA	**Stephens Creek**	**27.43**	**203**	P	**P**	**01 27 03.1**	**+0.4**
	0.6nm,0.4s,baz=4.2,slow=10,SNR=1.6						
STKA				LR	LR	01 36 12.8	
	comp=Z,34nm,21.1s,baz=168,slow=33						
	0.6nm,0.4s						
RAR	**Rarotonga**	**47.09**	**113**	LR	LR	01 47 41.0	
	comp=Z,600nm,20.2s,baz=277,slow=34						
KSRS	**Korea Array**	**50.22**	**333**	P	**P**	**01 30 12.9**	**+0.2**
	2.3nm,0.8s,baz=152,slow=8.3,SNR=8.4						
	2.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**59.62**	**296**	P	**P**	**01 31 21.0**	**-0.3**
	1.2nm,0.3s,baz=119,slow=4.8,SNR=12						
	1.2nm,0.3s						
PETK	**Petropavlovsk-**	**59.77**	**3**	P	**P**	**01 31 22.5**	**+0.9**
	3.7nm,1.0s,baz=129,slow=8.5,SNR=2.6						
	3.7nm,1.0s						
SONM	**Songino Array**	**68.53**	**328**	P	**P**	**01 32 20.3**	**+1.0**
	1.0nm,0.6s,baz=136,slow=6.1,SNR=7.4						
	1.0nm,0.6s						
VNDA	**Vanda**	**70.81**	**178**	P	**P**	**01 32 33.4**	**+0.6**
	0.7nm,0.8s,baz=338,slow=7.5,SNR=5.3						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**82.47**	**319**	P	**P**	**01 33 39.7**	**+0.5**
	0.9nm,0.8s,baz=117,slow=4.9,SNR=6.5						
	0.9nm,0.8s						
QSPA	**South Pole Qui**	**83.17**	**180**	P	**P**	**01 33 43.2**	**+0.6**
	2.4nm,0.9s,baz=320,slow=0.9,SNR=8.8						
	2.4nm,0.9s						
ZALV	**Zalesovo Beam**	**83.35**	**326**	P	**P**	**01 33 43.3**	**-0.3**
	0.7nm,0.4s,baz=108,slow=4.7,SNR=1.6						
	0.7nm,0.4s						
ILAR	**Eielson Array**	**83.63**	**22**	P	**P**	**01 33 43.4**	**-1.4**
	0.5nm,0.7s,baz=254,slow=5.1,SNR=7.1						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**85.97**	**322**	P	**P**	**01 33 56.3**	**-0.6**
	0.3nm,0.7s,baz=106,slow=3.5,SNR=2.3						
	0.3nm,0.7s						
AAK	**Ala-Archa**	**86.75**	**313**	P	**P**	**01 34 01.3**	**+0.2**
	1.1nm,0.7s,baz=169,slow=5.4,SNR=3.8						
	1.1nm,0.7s						
BVAR	**Borovoye Array**	**91.42**	**323**	P	**P**	**01 34 21.7**	**-1.0**
	0.7nm,0.8s,baz=53,slow=5.6,SNR=4.6						
	0.7nm,0.8s						
BDFB	**Brasilia**	**148.96**	**136**	PKPbc	**PKiKP**	**01 41 06.8**	**-0.2**
	1.3nm,0.6s,baz=153,slow=6.8,SNR=4.3						
TORD	**Torodi Ar. Bea**			PKPbc	**PKPbc**	**01 41 12.1**	**-0.3**
	1.9nm,0.7s,baz=54,slow=3.6,SNR=12						

NNC 31 01:33:20.2±4.7, 37°.28N×67°.69E, h9km±18km, mb3.6, mpv3.2, 2C-1D, Error ellipse: s-maj=65.0km s-min=27.3km az=130.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.20**	**19**	Pn	Pn	01 34 51.5	-0.5
	0.6nm,0.4s,baz=202,slow=14,SNR=22						
KK31				⇑Pg	Pb	01 35 13.4	+5.0
	3.3nm,0.9s,baz=206,slow=18,SNR=5.2						
KK31				⇓Sn	Sn	01 36 04.1	+1.0
	1.5nm,0.7s,baz=162,slow=4.0,SNR=4.8						
KK31				⇑Lg	Lg	01 36 37.3	
	2.2nm,0.6s,baz=194,slow=29,SNR=4.3						
AB31	**Akbulak array**	**13.22**	**337**	Pn	Pn	01 36 27.4	-0.7
	1.0nm,0.8s,baz=258,slow=19,SNR=8.6						
BVA0	**Borovoye Array**	**15.86**	**6**	Pn	P	01 37 06.2	-1.1
	2.9nm,1.3s,baz=158,slow=9.9,SNR=6.5						

*NEIC **31** 01:38:06.5±0.8, 12°.08N±0°.04×144°.4E±0°.2, h16km±6km, mb4.3/12, Error ellipse: s-maj=23.9km s-min=5.4km az=94.0*

*IDC **31** 01:38:11.9±2.2, 12°.29N×144°.26E, h48km±23km, mb3.7/11, mbtmp4.0/11, MS3.6/15, Error ellipse: s-maj=33.5km s-min=14.7km az=98.0*

ISC 31 01:38:08.4±0.6, 12°.12N±0°.06×144°.5E±0°.1, h29km, n49, σ1s07/33, mb4.2/17, MS3.7/15, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.51**	**15**		**Pn**	**01 38 33.8**	**+0.2**
GUMO				Sn	**Sb**	**01 38 53.5**	**-1.2**
GUMO	**Guam**	**1.51**	**15**	P	**Pn**	**01 38 34.8**	**+1.2**
	330nm,0.3s,baz=167,slow=11,SNR=19						
GUMO				S	**Sn**	**01 38 52.8**	**+0.5**
	924nm,0.4s,baz=352,slow=23,SNR=7.3						
PATS	**Pohnpei**	**14.63**	**110**	Pn	**Pn**	**01 41 32.1**	**-1.5**
JHJ	**Hachijo jima 2**	**21.34**	**349**	LR	LR	01 49 40.1	
	comp=Z,124nm,20.4s,baz=176,slow=33						
H11S3	**WAKE ISLAND Hy**	**22.34**	**71**	T	T	02 06 44.0	
	baz=254,slow=75,SNR=7.2						
H11S1	**WAKE ISLAND Hy**	**22.36**	**71**	T	T	02 06 41.2	
	baz=254,slow=75,SNR=5.9						
H11S2	**WAKE ISLAND Hy**	**22.36**	**71**	T	T	02 06 44.4	
	baz=254,slow=75,SNR=8.9						
H11N1	**WAKE ISLAND Hy**	**22.84**	**68**	T	T	02 06 54.8	
	baz=255						
H11N2	**WAKE ISLAND Hy**	**22.85**	**68**	T	T	02 06 56.1	
	baz=255						
H11N3	**WAKE ISLAND Hy**	**22.85**	**68**	T	T	02 06 56.1	
	baz=255						
MJAR	**Matsushiro Arr**	**24.96**	**348**	LR	LR	01 51 30.6	
	comp=Z,105nm,21.4s,baz=171,slow=32						
KSRS	**Korea Array**	**29.26**	**332**	LR	LR	01 54 33.5	
	comp=Z,38nm,20.2s,baz=140,slow=34						
WRA	**Warramunga Arr**	**33.38**	**197**	P	**P**	**01 44 46.6**	**+2.1**
	1.2nm,0.6s,baz=21,slow=9.7,SNR=17						
	1.2nm,0.6s						
AS31	**Alice Springs**	**37.03**	**196**	P	**P**	**01 45 15.0**	**-0.9**
ASAR	**Alice Springs**	**37.04**	**196**	P	**P**	**01 45 15.6**	**-0.3**
ASAR	**Alice Springs**	**37.04**	**196**	P	**P**	**01 45 18.4**	**+2.4**
	1.1nm,0.6s,baz=17,slow=9.7,SNR=19						
ASAR				LR	LR	02 02 00.1	
	comp=Z,130nm,19.2s,baz=21,slow=38						
	1.1nm,0.6s						
KLR	**Kul'dur**	**38.47**	**347**	LR	LR	01 59 37.3	
	comp=Z,85nm,19.4s,baz=130,slow=34						
BBOO	**Buckleboo**	**45.39**	**190**	P	**P**	**01 46 23.4**	**-1.1**
LHI	**Lord Howe Isla**	**45.60**	**162**		**S**	**01 53 07.0**	**+0.2**
SONM	**Songino Array**	**47.71**	**326**	P	**P**	**01 46 42.8**	**+0.2**
	0.4nm,0.5s,baz=151,slow=7.9,SNR=2.1						
	0.4nm,0.5s						
MK31	**Makanchi Array**	**62.27**	**317**	P	**P**	**01 48 27.8**	**-0.1**
MK31				IAmb	IAmb	01 48 29.3	
	comp=Z,3.3nm,1.4s						
MKAR	**Makanchi Array**	**62.27**	**317**	P	**P**	**01 48 27.3**	**-0.6**
MKAR	**Makanchi Array**	**62.27**	**317**	P	**P**	**01 48 27.7**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=89,slow=9.9,SNR=11						
	comp=Z,0.7nm,0.5s						

MAKZ Makanchi 62.48 317 P **P** **01 48 28.6 -0.7**
MAKZ IAmb IAmb 01 48 49.5
comp=Z,5.4nm,1.5s

ZALV Zalesovo Beam 62.58 325 P **P** **01 48 28.3 -1.5**
comp=Z,0.4nm,0.3s,baz=94,slow=7.5,SNR=1.8
comp=Z,0.4nm,0.3s

KURK Kurchatov 65.45 320 P **P** **01 48 48.6 -0.1**
KURK IAmb IAmb 01 48 49.7
comp=Z,2.7nm,0.9s

KURBB Kurchatov Arra 65.49 320 P **P** **01 48 48.5 -0.4**
comp=Z,1.0nm,0.4s,baz=105,slow=6.6,SNR=17
KURB LR LR 02 18 09.1
comp=Z,68nm,18.5s,baz=158,slow=37
comp=Z,1.0nm,0.4s

KDAK Kodiak Island 65.52 32 LR LR 02 13 49.4
comp=Z,26nm,21.5s,baz=253,slow=33

E22K Anaktuvuk Pass 69.17 21 P **P** **01 49 12.6 +0.6**
ILAR Eielson Array 70.06 25 P **P** **01 49 16.8 -0.7**
comp=Z,0.2nm,0.5s,baz=265,slow=5.8,SNR=2.3
ILAR LR LR 02 17 50.9
comp=Z,39nm,21.1s,baz=236,slow=34
comp=Z,0.2nm,0.5s

KK31 Karatay Array 70.12 312 P **P** **01 49 17.8 -0.5**
KKAR Karatay Array 70.12 312 P **P** **01 49 17.7 -0.6**
KKAR IAmb IAmb 01 49 19.0
comp=Z,2.2nm,1.1s

BVAR Borovoye Array 70.83 322 P **P** **01 49 22.4 0.0**
comp=Z,1.3nm,0.3s,baz=104,slow=7.7,SNR=14
BVAR LR LR 02 22 07.5
comp=Z,111nm,18.2s,baz=96,slow=37
comp=Z,1.3nm,0.3s

KBL Kabul 71.28 302 P **P** **01 49 25.1 -0.7**
BMAR Burnt Mountain 71.60 23 P **P** **01 49 27.9 +1.0**
BCAR Beaver Creek A 71.92 27 P **P** **01 49 28.9 0.0**
F28M Old Crow 73.42 23 P **P** **01 49 38.1 +0.5**
ABKAR Akbulak array 77.36 318 P **P** **01 50 00.2 -0.4**
ABKAR IAmb IAmb 01 50 01.3
comp=Z,2.1nm,0.8s

DLBC Dease Lake 77.43 32 LR LR 02 21 24.3
comp=Z,30nm,19.5s,baz=328,slow=34

ARU Arti 77.74 325 P **P** **01 50 01.6 -1.0**
ARU IAmb IAmb 01 50 05.8
comp=Z,3.6nm,1.1s

ARU Arti 77.74 325 LR LR 02 25 59.3
comp=Z,45nm,18.9s,baz=184,slow=37

BELG Belogornoye 84.63 322 LR LR 02 30 34.1
comp=Z,51nm,19.0s,baz=163,slow=37

NVAR Mina Array Bea 88.14 51 P **P** **01 50 60.0 +2.8**
comp=Z,0.3nm,0.5s,baz=253,slow=6.4,SNR=4.8
comp=Z,0.3nm,0.5s

ARCES ARCESS Array B 88.35 342 P **P** **01 50 57.4 +0.2**
comp=Z,2.4nm,0.9s,baz=80,slow=7.4,SNR=6.3
comp=Z,2.4nm,0.9s

ELK Elko 89.84 48 LR LR 02 26 45.7
comp=Z,43nm,18.9s,baz=262,slow=32

PFO Pinyon Flats O 90.79 56 LR LR 02 32 09.8
comp=Z,32nm,18.8s,baz=258,slow=36

FINES FINESS Array B 92.32 335 P **P** **01 51 14.8 -1.0**
comp=Z,1.2nm,0.4s,baz=68,slow=4.7,SNR=31
comp=Z,1.2nm,0.4s

NOA NORSAR Array B 98.27 339 LR LR 02 38 37.7
comp=Z,23nm,18.4s,baz=270,slow=37

DBIC Dimbokro 144.23 300 PKP PKPbc 01 57 41.8 +0.9
comp=Z,1.6nm,0.4s,baz=67,slow=3.5,SNR=13

*TEH **31** 02:12:43.7, 37°.48N×57°.75E, h8km±69km, ML3.5*
*NNC **31** 02:12:43.7±1.8, 37°.56N×57°.58E, h0km, mb3.7, Error ellipse: s-maj=29.6km s-min=11.9km az=147.0*

ISC 31 02:12:44.9±0.9, 37°.50N±0°.04×57°.78E±0°.04, h10km, n22, σ1s34/25, 5D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GYA0B	**ALIBECK ARRAY**	**0.51**	**32**	⇓P	**Pg**	**02 12 54.7**	**-0.2**
GYA0B				⇓S	**Sg**	**02 13 02.7**	**+1.1**
IEMG	**Emamgholi**	**0.70**	**96**	Pg	**Pg**	**02 12 58.0**	**-0.5**
IEMG				Sg	**Sb**	**02 13 09.1**	**-0.2**
SBZV	**Sabzevar**	**1.11**	**187**	Pg	**Pg**	**02 13 05.3**	**-1.1**
IAKL	**Akhelmad**	**1.19**	**138**	Pg	**Pb**	**02 13 06.2**	**-1.6**
MRVT	**Maraveh tapeh**	**1.35**	**277**	Pg	**Pn**	**02 13 09.2**	**-0.7**
IKRD	**Kardeh**	**1.56**	**117**	Pg	**Pn**	**02 13 13.6**	**+0.6**
IMOG	**Moghan**	**1.87**	**137**	Pn	**Pn**	**02 13 18.1**	**+0.9**
IMND	**Minoodasht**	**1.90**	**264**	Pn	**Pn**	**02 13 18.6**	**+1.1**
IMYA	**Miami**	**2.19**	**121**	Pn	**Pn**	**02 13 22.6**	**+1.0**
TBHD	**Torbat heydari**	**2.39**	**150**	Pn	**Pn**	**02 13 25.5**	**+1.2**
JRKH	**Jarkhoshk**	**2.60**	**127**	Pn	**Pn**	**02 13 28.6**	**+1.4**
TBJM	**Torbat-e-JAM**	**3.03**	**136**	Pn	**Pn**	**02 13 34.6**	**+1.5**
IGLO	**Ghaloghah**	**3.31**	**254**	Pn	**Pn**	**02 13 37.8**	**+0.7**
TKDS	**Koohdasht(Taba**	**3.91**	**188**	Pn	**Pn**	**02 13 46.9**	**+1.7**
AFRZ	**Afriz**	**4.19**	**166**	Pn	**Pn**	**02 13 50.5**	**+1.5**
IALA	**Alasht**	**4.23**	**252**	Pn	**Pn**	**02 13 52.4**	**+2.7**
SHRT	**Shahrakht**	**4.35**	**151**	Pn	**Pn**	**02 13 52.3**	**+1.1**
IFIR	**Firoozkooh**	**4.45**	**247**	Pn	**Pn**	**02 13 54.4**	**+1.7**
TPRV	**Parvadeh(Tabas**	**4.55**	**192**	Pn	**Pn**	**02 13 55.6**	**+1.7**
ITEG	**Tejag**	**4.66**	**170**	Pn	**Pn**	**02 13 57.4**	**+1.9**
AB31	**Akbulak array**	**11.86**	**7**	⇓Pn	**Pn**	**02 15 34.6**	**+0.6**
	0.4nm,0.4s,baz=187,slow=12,SNR=6.7						
AB31				⇓Sn	**Sn**	**02 17 45.7**	**-0.6**
	0.6nm,0.5s,baz=209,slow=15,SNR=5.2						
AKTO	**Aktyubinsk**	**12.94**	**1**	⇓Pn	**Pn**	**02 15 47.9**	**-0.9**
	1.5nm,0.8s						

*SNET **31** 02:34:04.6±1.3, 13°.29N×90°.01W, h19km±12km, ML3.2*
*CATAC **31** 02:34:05.1±0.7, 13°.38N×90°.00W, h26km±4km, MS3.4*
*GCG **31** 02:34:06.6±0.4, 13°.43N×90°.19W, h24km±125km, MD3.4*

ISC 31 02:34:05.2±1.5, 13°.37N±0°.06×90°.01W±0°.04, h26km±13km, n49, σ0s55/63, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NUBE	**Las Nubes**	**0.57**	**23**	*e*P	**Pn**	**02 34 17.5**	**-0.3**
NUBE				*e*S	**Sn**	**02 34 26.5**	**0.0**
NUBE	**Las Nubes**	**0.57**	**23**	*i* P	**Pb**	**02 34 17.2**	**+0.4**
NUBE				IAML		02 34 27.9	
	comp=Z,810nm,1.0s						
CEVE	**Cerro Verde**	**0.59**	**40**	*e*P	**Pn**	**02 34 17.9**	**-0.3**
CEVE				*e*S	**Sn**	**02 34 27.7**	**+0.7**
CEVE	**Cerro Verde**	**0.59**	**40**	*i* P	**Pn**	**02 34 17.8**	**-0.3**
CEVE				IAML		02 34 29.0	
	comp=Z,3μm,1.0s						
SBLS	**San Blas**	**0.60**	**39**	*e*P	**Pn**	**02 34 17.8**	**-0.4**
JAYA	**Jayaque - finc**	**0.61**	**63**	*e*P	**Pb**	**02 34 17.7**	**+0.2**
JAYA	**Jayaque - finc**	**0.61**	**63**	*i* P	**Pb**	**02 34 17.7**	**+0.2**
JAYA				IAML		02 34 28.8	
	comp=Z,6μm,1.0s						
RTR	**El Retiro**	**0.63**	**34**	*e*P	**Pn**	**02 34 18.2**	**-0.4**
SNJE	**San Jose**	**0.63**	**38**	*e*P	**Pn**	**02 34 18.3**	**-0.4**
SNJE				*e*S	**Sn**	**02 34 28.3**	**+0.3**
LOAL	**Lomas de Alarc**	**0.66**	**20**	*i* P	**Pn**	**02 34 18.8**	**-0.2**
LOAL				IAML		02 34 34.6	
	comp=Z,2μm,1.0s						
LALI	**Alcalda de L**	**0.68**	**80**	*e*P	**Pb**	**02 34 18.4**	**-0.1**
LALI	**Alcalda de L**	**0.68**	**80**	*i* P	**Pb**	**02 34 18.4**	**-0.1**
LALI				IAML		02 34 31.1	
	comp=Z,220nm,1.0s						
SLOZ	**

LOMA	**Loma Larga**	**0.86**	**71**	*i* P	**Pb**	**02 34 21.1**	**-0.5**
LOMA				IAML		02 34 37.2	
	comp=Z,2µm,1.0s						
UDBS	**Universidad Do**	**0.90**	**68**	*i* P	**Pb**	**02 34 22.0**	**-0.2**
UDBS				IAML		02 34 36.2	
	comp=Z,690nm,1.0s						
SJTE	**Alcalda de S**	**1.01**	**76**	*e*P	**Pn**	**02 34 23.0**	**-0.7**
SJTE	**Alcalda de S**	**1.01**	**76**	*i* P	**Pn**	**02 34 23.4**	**-0.3**
SJTE				*i* S	**Sb**	**02 34 37.0**	**+0.1**
SJTE				IAML		02 34 40.4	
	comp=Z,840nm,1.0s						
PAVA	**Las Pavas**	**1.10**	**72**	*e*P	**Pn**	**02 34 24.9**	**0.0**
PAVA	**Las Pavas**	**1.10**	**72**	*i* P	**Pn**	**02 34 25.0**	**0.0**
PAVA				IAML		02 34 45.5	
	comp=Z,630nm,1.0s						
COEG	**Centro de Oper**	**1.13**	**77**	*e*P	**Pn**	**02 34 24.9**	**-0.5**
COEG				*e*S	**Sn**	**02 34 41.2**	**+1.2**
COEG				IAML		02 34 47.2	
	comp=Z,542nm,0.4s						
COEG	**Centro de Oper**	**1.13**	**77**	*i* P	**Pn**	**02 34 25.0**	**-0.4**
COEG				*i* S	**Sb**	**02 34 40.0**	**-0.4**
COEG				IAML		02 34 43.4	
	comp=Z,630nm,1.0s						
MTO3	**Montecristo**	**1.20**	**32**	*i* P	**Pn**	**02 34 25.6**	**-0.9**
MTO3				IAML		02 34 41.9	
	comp=Z,130nm,1.0s						
TECO	**Alcaldia de Te**	**1.21**	**82**	*e*P	**Pn**	**02 34 25.6**	**-0.9**
TECO	**Alcaldia de Te**	**1.21**	**82**	*i* P	**Pn**	**02 34 26.0**	**-0.4**
TECO				IAML		02 34 52.6	
	comp=Z,290nm,1.0s						
UESV	**Universidad de**	**1.22**	**77**	*i* P	**Pn**	**02 34 26.3**	**-0.3**
UESV				*i* S	**Sn**	**02 34 42.2**	**-0.1**
UESV				IAML		02 34 46.8	
	comp=Z,480nm,1.0s						
NBG	**Las Nubes**	**1.25**	**345**	*e*P	**Pb**	**02 34 28.2**	**-0.1**
NBG				*e*S	**Sb**	**02 34 45.0**	**+0.8**
GUNB	**GUNB**	**1.26**	**345**	*i* P	**Pn**	**02 34 27.0**	**-0.4**
GUNB				IAML		02 34 42.3	
	comp=Z,340nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.29**	**75**	*e*P	**Pn**	**02 34 27.4**	**-0.2**
FUG	**Fuego 3**	**1.34**	**323**	*e*P	**Pn**	**02 34 28.1**	**-0.3**
FUG				*e*S	**Sn**	**02 34 43.7**	**-1.8**
PACA	**Pacayal**	**1.65**	**86**	*e*P	**Pn**	**02 34 33.5**	**+1.0**
PACA	**Pacayal**	**1.65**	**86**	*i* P	**Pn**	**02 34 32.3**	**-0.2**
PACA				IAML		02 35 03.2	
	comp=Z,2µm,1.0s						
RTAL	**Retalhuleu**	**2.00**	**305**	*i* P	**Pn**	**02 34 37.4**	**+0.1**
RTAL				*i* S	**Sn**	**02 35 02.2**	**+0.7**
RTAL				IAML		02 35 12.4	
	comp=Z,220nm,1.0s						
STG3	**Santiaguito 3,**	**2.02**	**312**	*e*P	**Pn**	**02 34 38.7**	**+1.0**
STG3				*e*S	**Sn**	**02 35 01.5**	**-0.7**
LCND	**La Caada**	**2.06**	**91**	*i* P	**Pn**	**02 34 37.9**	**-0.3**
LCND				IAML		02 35 07.8	
	comp=Z,200nm,1.0s						
CNCH	**Conchagua**	**2.12**	**92**	*e*P	**Pn**	**02 34 38.9**	**-0.2**
CNCH	**Conchagua**	**2.12**	**92**	*i* P	**Pn**	**02 34 38.7**	**-0.4**
CNCH				IAML		02 35 11.4	
	comp=Z,500nm,1.0s						
MACN	**El Madrono**	**3.37**	**105**	*i* P	**Pn**	**02 34 55.9**	**-0.4**
MACN				IAML		02 35 46.3	
	comp=Z,43nm,1.0s						
COPN	**Copaltepe**	**3.54**	**109**	*i* P	**Pn**	**02 34 58.8**	**+0.3**
COPN				IAML		02 36 14.2	
	comp=Z,59nm,1.0s						
LIMN	**Finca el Limon**	**3.56**	**95**	*i* P	**Pn**	**02 34 58.4**	**-0.5**
LIMN				IAML		02 35 00.7	
	comp=Z,28nm,1.0s						

*IDC **31** 03:03:06.7±1.2,6˚.76S×153˚.77E,h0km,mb3.7/7, mbtmp3.8/8,ML1.6/1,MS3.1/2,Error ellipse: s-maj=38.1km s-min=23.1km az=125.0*

ISC 31 03:03:12.0±1.1,6˚.8S±0˚.2×153˚.8E±0˚.2,h35km,n10, σ1§26/10,mb3.7/7,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.02**	**248**	Pn	**Pn**	**03 04 50.4**	**-1.9**
	0.6nm,0.3s,baz=338,slow=22,SNR=1.8						
PMG				Sn	**Sn**	**03 06 12.9**	**+1.9**
	0.5nm,0.3s,baz=319,slow=15,SNR=1.4						
PMG				LR	LR	03 07 32.1	
	comp=Z,76nm,18.2s,baz=58,slow=38						
	5.8nm,0.5s						
WRA	**Warramunga Arr**	**22.93**	**233**	P	**P**	**03 08 12.2**	**-1.1**
	0.6nm,0.7s,baz=56,slow=9.4,SNR=3.4						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**25.40**	**227**	P	**P**	**03 08 36.7**	**+0.3**
	0.8nm,0.6s,baz=59,slow=9.1,SNR=12						
	0.8nm,0.6s						
STKA	**Stephens Creek**	**27.42**	**203**	LR	LR	03 19 50.7	
	comp=Z,59nm,19.8s,baz=211,slow=37						
CMAR	**Chiang Mai Arr**	**59.58**	**296**	P	**P**	**03 13 13.2**	**+0.6**
	1.2nm,0.3s,baz=100,slow=4.7,SNR=6.6						
	1.2nm,0.3s						
SONM	**Songino Array**	**68.50**	**328**	P	**P**	**03 14 10.2**	**-0.7**
	0.7nm,0.8s,baz=140,slow=7.8,SNR=2.8						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**82.43**	**319**	P	**P**	**03 15 31.8**	**+1.1**
	0.5nm,0.7s,baz=114,slow=3.6,SNR=2.6						
	0.5nm,0.7s						
QSPA	**South Pole Qui**	**83.19**	**180**	P	**P**	**03 15 35.1**	**+0.7**
	1.8nm,0.9s,baz=127,slow=1.0,SNR=5.1						
	1.8nm,0.9s						
ILAR	**Eielson Array**	**83.64**	**22**	P	**P**	**03 15 36.1**	**-0.4**
	0.2nm,0.5s,baz=258,slow=4.5,SNR=7.4						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**151.77**	**285**	PKPbc	**PKPbc**	**03 23 04.2**	**+0.2**
	1.0nm,0.7s,baz=56,slow=3.1,SNR=7.3						

*NEIC **31** 03:17:57.6±1.1,56˚.18N±0˚.08×149˚.9W±0˚.1,h21km±10km, ML3.1/42,ML3.0(AEIC),Error ellipse: s-maj=13.0km s-min=8.0km az=153.0*

AEIC 31 03:18:00.7±1.4,56˚.13N±0˚.09×150˚.0W±0˚.1,h10km±8km, Error ellipse: s-maj=13.7km s-min=8.7km az=162.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.12**	**303**		Pn	03 18 30.9	-5.1
OHAK					Sn	03 18 55.5	-6.8
OHAK	**Old Harbor**	**2.12**	**303**	P	Pn	03 18 30.9	-5.1
	baz=118						
OHAK				S	Sn	03 18 55.5	-6.8
	baz=118						
KDAK	**Kodiak Island**	**2.18**	**321**		Pn	03 18 32.0	-4.8
KDAK					Sn	03 18 57.3	-6.6
KDAK	**Kodiak Island**	**2.18**	**321**	P	Pn	03 18 32.0	-4.9
	baz=137						
KDAK				S	Sn	03 18 56.6	-7.2
	baz=137						
SII	**Sitkinak Islan**	**2.37**	**282**	Pn	Pn	03 18 34.3	-5.2
SII				IAML		03 19 03.4	
	comp=E,95nm,0.8s						
SII				IAML		03 19 11.0	
	comp=N,90nm,1.5s						
SII	**Sitkinak Islan**	**2.37**	**282**	S	Sn	03 19 01.3	-7.2
	baz=97						
SYI	**Shuyak Island**	**2.80**	**334**		Pn	03 18 40.7	-4.8
SYI					Sn	03 19 10.7	-8.6
Q20K	**Shuyak Island**	**2.80**	**334**	P	Pn	03 18 40.6	-4.8
	baz=150						
Q20K				S	Sn	03 19 10.4	-8.9
	baz=150						
CHIR	**Chirikof Islan**	**3.17**	**267**		Pn	03 18 45.9	-4.7
CHIR				IAML		03 19 21.4	
	comp=N,50nm,1.1s						
CHIR				IAML		03 19 21.5	
	comp=E,76nm,0.7s						
CHIR	**Chirikof Islan**	**3.17**	**267**	P	Pn	03 18 45.6	-4.9
	baz=81						
CHIR				S	Sn	03 19 20.3	-8.0
	baz=81						
Q19K	**Cape Douglas,**	**3.42**	**327**		Pn	03 18 49.9	-4.1
Q19K	**Cape Douglas,**	**3.42**	**327**	P	Pn	03 18 50.2	-3.9
	baz=142						
CNPM	**China Poot**	**3.47**	**350**		Pn	03 18 49.2	-5.4
CNPM				IAML		03 19 31.6	
	comp=E,28nm,1.4s						
CNPM				IAML		03 19 47.4	
	comp=N,22nm,1.4s						
KAKN	**Katmai Knife C**	**3.50**	**310**		Pn	03 18 51.4	-3.8
ACHA	**Angle Creek He**	**3.57**	**308**		Pn	03 18 52.1	-4.0
BRSE	**Bradley Lake S**	**3.64**	**354**		Pn	03 18 51.1	-6.0
BRSE	**Bradley Lake S**	**3.64**	**354**	P	Pn	03 18 51.1	-6.0
	baz=173						
BRLK	**Bradley Lake**	**3.67**	**353**	Pn	Pn	03 18 51.7	-5.8
BRLK				IAML		03 19 46.6	
	comp=E,22nm,1.5s						
Q23K	**Middleton Isla**	**3.84**	**29**	Pn	Pn	03 18 54.4	-5.3
CNTC	**Contact Creek**	**3.85**	**306**		Pn	03 18 56.1	-3.8
Q17K	**Contact Creek**	**3.85**	**306**	P	Pn	03 18 56.1	-3.9
	baz=120						
P19K	**Oil Pt**	**3.93**	**335**		Pn	03 18 56.5	-4.5
P19K				IAML		03 19 45.7	
	comp=N,32nm,1.4s						
P19K	**Oil Pt**	**3.93**	**335**	P	Pn	03 18 56.6	-4.4
	baz=152						
P23K	**Montague Islan**	**4.12**	**19**		Pn	03 18 57.5	-6.1
P23K	**Montague Islan**	**4.12**	**19**	P	Pn	03 18 57.5	-6.0
	baz=200						
ILSW	**Iliamna Southw**	**4.21**	**338**	Pn	Pn	03 18 59.0	-5.9
ILSW				IAML		03 19 40.9	
	comp=E,12nm,1.4s						
ILSW				IAML		03 19 54.0	
	comp=N,14nm,1.4s						
P18K	**Big Mountain,**	**4.30**	**322**		Pn	03 19 01.4	-4.8
P18K	**Big Mountain,**	**4.30**	**322**	P	Pn	03 19 01.2	-4.9
	baz=136						
SLKM	**Skilak Lake**	**4.39**	**359**		Pn	03 19 01.5	-5.8
P17K	**Kvichak River**	**4.62**	**314**		Pn	03 19 06.6	-3.8
P17K	**Kvichak River**	**4.62**	**314**	P	Pn	03 19 06.6	-3.8
	baz=128						
O18K	**Koktuh Hills**	**4.65**	**326**	Pn	Pn	03 19 05.8	-5.1
O18K				IAML		03 20 01.3	
	comp=N,14nm,0.9s						
O18K				IAML		03 20 03.6	
	comp=E,9.2nm,1.4s						
HIN	**Hinchinbrook I**	**4.66**	**22**		Pn	03 19 05.7	-5.3
HIN				IAML		03 19 42.2	
	comp=N,30nm,1.3s						
KAIM	**Kayak Island**	**4.83**	**36**	Pn	Pn	03 19 07.7	-5.6
KAIM				IAML		03 21 19.6	
	comp=E,26nm,1.3s						
KAIM	**Kayak Island**	**4.83**	**36**	P	Pn	03 19 07.7	-5.6
	baz=220						
FID	**Port Fidalgo**	**4.99**	**20**		Pn	03 19 10.0	-5.5
FID				IAML		03 20 23.4	
	comp=N,20nm,1.3s						
FID				IAML		03 21 49.2	
	comp=E,23nm,1.2s						
SUCK	**Suckling Hills**	**5.15**	**37**	Pn	Pn	03 19 12.5	-5.2
SUCK				IAML		03 20 32.0	
	comp=N,23nm,1.4s						
P16K	**Nushagak River**	**5.19**	**307**		Pn	03 19 14.3	-3.8
P16K	**Nushagak River**	**5.19**	**307**	P	Pn	03 19 14.3	-3.8
	baz=120						
HMT	**Hamilton**	**5.20**	**33**	Pn	Pn	03 19 13.1	-5.3
NICHA	**Nichawak Mount**	**5.21**	**35**		Pn	03 19 13.2	-5.3
N19K	**Bonanza Creek**	**5.25**	**335**	Pn	Pn	03 19 13.5	-5.7
N19K				IAML		03 20 43.7	
	comp=N,4.3nm,1.3s						
N19K	**Bonanza Creek**	**5.25**	**335**	P	Pn	03 19 13.5	-5.6
	baz=151						
O17K	**Koliganek Bris**	**5.25**	**317**		Pn	03 19 14.9	-4.2
O17K	**Koliganek Bris**	**5.25**	**317**	P	Pn	03 19 14.9	-4.1
	baz=130						
KNK	**Knik Glacier**	**5.36**	**8**	Pn	Pn	03 19 15.7	-4.9
KNK				IAML		03 20 23.6	
	comp=N,5.8nm,1.4s						
KNK				IAML		03 20 44.0	
	comp=E,6.2nm,1.4s						
BERG	**Berg Lake**	**5.42**	**35**	Pn	Pn	03 19 15.9	-5.4
BERG				IAML		03 19 57.3	
	comp=N,17nm,1.5s						
N18K	**Kilae Creek**	**5.51**	**328**	Pn	Pn	03 19 17.7	-5.0
O16K	**Kokwok River B**	**5.54**	**312**		Pn	03 19 19.0	-4.0
O16K	**Kokwok River B**	**5.54**	**312**	P	Pn	03 19 18.6	-4.5
	baz=125						
KHIT	**Khitrov Hills**	**5.60**	**37**		Pn	03 19 18.2	-5.8
CNBA	**Chernabura Isl**	**5.61**	**260**	Pn	Pn	03 19 18.6	-5.4
GHO	**Glory Hole Cre**	**5.69**	**5**	Pn	Pn	03 19 20.8	-4.4
WAX	**Waxell Ridge**	**5.74**	**38**	Pn	Pn	03 19 20.9	-5.1
SML	**Sawmill**	**5.76**	**8**	Pn	Pn	03 19 21.1	-5.0
SVW2	**Sparrevohn**	**5.77**	**332**	Pn	Pn	03 19 20.1	-6.1
KLU	**Klutina**	**5.78**	**20**	Pn	Pn	03 19 21.7	-4.7
N17K	**Nushagak Hills**	**5.81**	**322**	Pn	Pn	03 19 21.3	-5.4
BARK	**Barkley Ridge**	**5.84**	**40**		Pn	03 19 21.9	-5.4
CRQM	**Cirque**	**5.87**	**35**	Pn	Pn	03 19 22.5	-5.3
TGL	**Tana Glacier**	**5.97**	**36**		Pn	03 19 23.7	-5.4
ISLE	**Juniper Island**	**6.03**	**39**		Pn	03 19 24.6	-5.3
BAGL	**Bagley Icefiel**	**6.04**	**40**		Pn	03 19 24.4	-5.4
O15K	**Ungalikthiuk R**	**6.09**	**304**		Pn	03 19 26.5	-4.1
O15K	**Ungalikthiuk R**	**6.09**	**304**	P	Pn	03 19 26.5	-4.1
	baz=115						
VRDI	**Verde Repeater**	**6.15**	**31**	Pn	Pn	03 19 25.3	-6.2
N25K	**Chitina, Valde**	**6.17**	**25**	Pn	Pn	03 19 26.7	-5.0
M18K	**Stony River**	**6.17**	**333**		Pn	03 19 26.1	-5.6
M18K	**Stony River**	**6.17**	**333**	P	Pn	03 19 26.1	-5.6
	baz=148						
KIAG	**Kiagna River**	**6.25**	**37**		Pn	03 19 26.9	-6.1
GRNC	**Granite Creek**	**6.33**	**40**	Pn	Pn	03 19 28.6	-5.5
TABL	**Table Mountain**	**6.36**	**44**	Pn	Pn	03 19 28.7	-5.8
PTPK	**Patty Peak**	**6.42**	**35**		Pn	03 19 30.3	-4.9
M17K	**Holitna River**	**6.54**	**327**	Pn	Pn	03 19 32.4	-4.4
M17K	**Holitna River**	**6.54**	**327**	P	Pn	03 19 32.7	-4.1
	baz=140						
BARN	**Barnard Glacie**	**6.59**	**38**	Pn	Pn	03 19 32.3	-5.3
PNL	**Peninsula**	**6.67**	**54**		Pn	03 19 33.4	-5.3
PNL	**Peninsula**	**6.67**	**54**	P	Pn	03 19 33.3	-5.3
	baz=243						
N15K	**Kwethluk River**	**6.70**	**311**		Pn	03 19 35.6	-3.3
N15K	**Kwethluk River**	**6.70**	**311**	P	Pn	03 19 35.7	-3.3
	baz=122						
BCPM	**Bancas Point**	**6.71**	**51**	Pn	Pn	03 19 33.8	-5.3
O14K	**Tigyukauivet M**	**6.80**	**302**	Pn	Pn	03 19 36.4	-3.9
N14K	**Kuskokwak Cree**	**7.27**	**306**		Pn	03 19 43.3	-3.5
N14K	**Kuskokwak Cree**	**7.27**	**306**	P	Pn	03 19 43.3	-3.5
	baz=116						
O29M	**Mount Kennedy**	**7.34**	**51**		Pn	03 19 42.3	-5.6
O29M	**Mount Kennedy**	**7.34**	**51**	P	Pn	03 19 43.1	-4.8
	baz=240						
P29M	**Windy Craggy**	**7.42**	**57**	Pn	Pn	03 19 43.1	-5.8
P29M	**Windy Craggy**	**7.42**	**57**	P	Pn	03 19 43.3	-5.6
	baz=247						
L16K	**Owhat River**	**7.43**	**323**	Pn	Pn	03 19 44.1	-4.9
M27K	**Edge Creek, AK**	**7.50**	**30**	Pn	Pn	03 19 44.9	-5.3
S31K	**Pelican**	**7.73**	**71**	Pn	Pn	03 19 46.0	-7.1
K17K	**Iditarod**	**7.84**	**331**	Pn	Pn	03 19 48.6	-6.0
BPAW	**Bear Paw Mtn.**	**8.01**	**357**	Pn	Pn	03 19 51.8	-5.2
BCAR	**Beaver Creek A**	**8.10**	**28**	Pn	Pn	03 19 52.8	-5.4
M13K	**Dall Lake**	**8.23**	**307**	Pn	Pn	03 19 55.6	-4.4
L14K	**Kuka Creek**	**8.40**	**314**	Pn	Pn	03 19 58.5	-3.8
SKAG	**Skagway**	**8.52**	**61**	Pn	Pn	03 19 57.8	-6.0
M29M	**Somme Creek**	**8.65**	**38**	Pn	Pn	03 20 00.0	-5.8

*IDC **31** 03:31:37.7±1.3,30˚.2S×178˚.14W,h134km±7km,mb3.4/2, mbtmp3.8/3,Error ellipse: s-maj=40.5km s-min=18.2km az=116.0*

ISC 31 03:31:37.0±1.6,30˚.2S±0˚.1×177˚.9W±0˚.3,h150km,n7, σ1§35/9,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.91**	**358**	P	**Pn**	**03 32 01.6**	**+0.5**
	1µm,0.2s,baz=76,slow=10,SNR=27						
RAO				S	**Sn**	**03 32 17.2**	**-2.2**
	945nm,0.3s,baz=95,slow=21,SNR=13						
URZ	**Urewera**	**9.08**	**206**	P	**Pn**	**03 33 43.0**	**-1.6**
	2.6nm,0.4s,baz=357,slow=4.8,SNR=8.3						
URZ				S	**Sn**	**03 35 26.0**	**+0.7**
	8.4nm,0.5s,baz=288,slow=22,SNR=12						
ASAR	**Alice Springs**	**43.23**	**267**	P	**P**	**03 39 24.2**	**+0.6**
	0.5nm,0.4s,baz=103,slow=7.7,SNR=12						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**44.20**	**272**	P	**P**	**03 39 31.6**	**+0.3**
	0.5nm,0.4s,baz=110,slow=8.1,SNR=16						
	0.5nm,0.4s						
FINES	**FINESS Array B**	**144.97**	**340**	PKP	**PKPdf**	**03 50 56.3**	**+0.8**
	0.9nm,0.4s,baz=53,slow=5.1,SNR=16						
NOA	**NORSAR Array B**	**148.54**	**352**	PKPbc	**PKiKP**	**03 51 08.1**	**+1.2**
	0.1nm,0.4s,baz=26,slow=2.5,SNR=1.6						
HFS	**Hagfors**	**149.04**	**349**	PKPbc	**PKiKP**	**03 51 08.2**	**+0.4**
	0.3nm,0.3s,baz=35,slow=5.3,SNR=5.0						

*SOME **31** 03:34:54.5,41˚.85N×79˚.98E,h10km*
*NNC **31** 03:34:55.1±1.2,41˚.87N×80˚.01E,h0km,mb3.1,mpv3.1, Error ellipse: s-maj=7.8km s-min=6.8km az=141.0*
*KRNET **31** 03:35:00.1±0.1,41˚.70N×79˚.63E,h16km,mb2.0*

ISC 31 03:34:53.1±2.4,41˚.72N±0˚.08×80˚.09E±0˚.08,h18km±8km, n31,σ1§12/53,7C-7D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**1.47**	**302**	⇑*e*P	**Pg**	**03 35 23.4**	**+1.9**
	baz=12						
PRZ				⇑*e*S	**Sg**	**03 35 40.5**	**-0.2**
	baz=12						
SHLS	**Shalkode**	**1.52**	**342**	*e*P	**Pn**	**03 35 19.5**	**0.0**
	26nm,0.2s						
SHLS				*e*S	**Sn**	**03 35 37.4**	**-1.4**
	10nm,0.2s						
SHLS	**Shalkode**	**1.52**	**342**	P	**Pn**	**03 35 19.5**	**0.0**
	26nm,0.2s						
SHLS				S	**Sn**	**03 35 37.4**	**-1.4**
	10nm,0.2s						
UZB	**Uzynbulak**	**1.64**	**331**	*e*P	**Pb**	**03 35 22.5**	**-0.3**
	5.7nm,0.3s						
UZB				*e*S	**Sb**	**03 35 42.6**	**-0.5**
	25nm,0.6s						
UZB	**Uzynbulak**	**1.64**	**331**	P	**Pb**	**03 35 22.5**	**-0.3**
	5.7nm,0.3s						
UZB				S	**Sb**	**03 35 42.7**	**-0.5**
	25nm,0.6s						
PDGK	**Podgornoye**	**1.67**	**345**	P	**Pb**	**03 35 23.0**	**-0.5**
	1.8nm,0.4s						
PDGK				S	**Sb**	**03 35 43.4**	**-0.9**
	10nm,0.5s						
PDGK	**Podgornoye**	**1.67**	**345**	⇑Pg	**Pn**	**03 35 22.6**	**+1.0**
	1.6nm,0.5s						
PDGK				⇓Lg	Lg	03 35 46.4	
	15nm,0.5s						
TARG	**Taragay, Kyrgy**	**1.71**	**271**	⇓*i*P	**Pg**	**03 35 26.2**	**+0.2**
	baz=72						
TARG				⇓*i*S	**Sb**	**03 35 45.4**	**-0.2**
	baz=72						
SATY	**Saty**	**1.83**	**318**	*e*P	**Pb**	**03 35 26.7**	**+0.5**
	2.8nm,0.3s						
SATY				*e*S	**Sb**	**03 35 50.0**	**+1.1**
	10nm,0.3s						
SATY	**Saty**	**1.83**	**318**	P	**Pb**	**03 35 26.7**	**+0.5**
	2.8nm,0.3s						
SATY				S	**Sb**	**03 35 50.0**	**+1.1**
	10nm,0.3s						
ZHN	**Zhinishke**	**1.90**	**320**	*e*P	**Pb**	**03 35 26.9**	**-0.4**
	18nm,0.2s						
ZHN				*e*S	**Sb**	**03 35 50.3**	**-0.4**
	38nm,0.2s						
ZHN	**Zhinishke**	**1.90**	**320**	P	**Pb**	**03 35 26.9**	**-0.4**
	18nm,0.2s						
ZHN				S	**Sb**	**03 35 50.3**	**-0.4**
	38nm,0.2s						
KDJ	**Kajisay**	**2.21**	**282**	⇓*e*P	**Pg**	**03 35 35.2**	**-0.3**
	baz=84						
KDJ				⇓*e*S	**Sb**	**03 36 00.6**	**+0.8**
	baz=84						
KURS	**Kuram**	**2.27**	**322**	*e*P	**Pb**	**03 35 34.1**	**+0.5**
	7.7nm,0.8s						
KURS				*e*S	**Sb**	**03 36 02.5**	**+1.2**
	7.2nm,0.5s						
KURS	**Kuram**	**2.27**	**322**	Pg	**Pb**	**03 35 34.1**	**+0.5**
	7.7nm,0.8s						
KURS				Lg	Lg	03 36 02.5	
	7.2nm,0.5s						
DJR	**Jarkent**	**2.62**	**355**	*e*P	**Pb**	**03 35 40.1**	**+0.4**
	1.1nm,0.0s						
DJR				*e*S	**Sb**	**03 36 12.7**	**+1.1**
	3.6nm,0.2s						
DJR	**Jarkent**	**2.62**	**355**	Pg	**Pb**	**03 35 40.1**	**+0.4**
	1.1nm,0.0s						
DJR				Lg	Lg	03 36 12.7	
	3.6nm,0.2s						
MDOK	**Medeo**	**2.68**	**304**	*e*P	**Pb**	**03 35 40.9**	**+0.3**
	2.1nm,0.5s						
MDOK				*e*S	**Sb**	**03 36 14.2**	**+1.1**
	5.7nm,0.4s						
MDOK	**Medeo**	**2.68**	**304**	Pg	**Pb**	**03 35 40.9**	**+0.3**
	2.1nm,0.5s						
MDOK				Lg	Lg	03 36 14.2	
	5.7nm,0.7s						
TNSS	**Tian-Shan**	**2.68**	**301**	*e*P	**Pb**	**03 35 42.0**	**+1.3**
	0.9nm,0.1s						
TNSS				*e*S	**Sg**	**03 36 16.3**	**-2.9**
	2.8nm,0.2s						
TNSS	**Tian-Shan**	**2.68**	**301**	Pg	**Pb**	**03 35 42.0**	**+1.3**
	1.7nm,0.3s						
TNSS				Lg	Lg	03 36 16.3	
	2.6nm,0.4s						
KNOS	**Konyrlen**	**2.73**	**346**	Pg	**Pb**	**03 35 41.7**	**+0.3**
	7.6nm,0.4s						
KNOS				Lg	Lg	03 36 15.6	
	2.1nm,0.3s						
ULHL	**Ulahol**	**2.92**	**282**	⇓*i*P	**Pb**	**03 35 45.8**	**+1.1**
	baz=83						
ULHL				⇓*i*S	**Sb**	**03 36 19.7**	**-0.4**
	baz=83						
ARXS	**Arharly**	**3.00**	**327**	*e*P	**Pb**	**03 35 46.6**	**+0.6**
	1.5nm,0.2s						
ARXS				*e*S	**Sb**	**03 36 24.1**	**+1.7**
	8.3nm,0.3s						
ARXS	**Arharly**	**3.00**	**327**	Pg	**Pb**	**03 35 46.6**	**+0.6**
	1.5nm,0.2s						
ARXS				Lg	Lg	03 36 24.1	
	8.3nm,0.6s						
CHKK	**Chushkaly**	**3.13**	**314**	*e*P	**Pb**	**03 35 48.8**	**+0.6**
	1.5nm,0.1s						
CHKK				*e*S	**Sb**	**03 36 28.0**	**+2.0**
	7.5nm,0.2s						
CHKK	**Chushkaly**	**3.13**	**314**	Pg	**Pb**	**03 35 48.8**	**+0.6**
	1.5nm,0.1s						
CHKK				Lg	Lg	03 36 28.0	
	7.5nm,0.2s						
BOOM	**Boomskoye usch**	**3.18**	**285**	⇑*

EIDS	**Eidsvold**	**19.48**	**166**	P	**P**	**03**	**56**	**10.0 -1.5**
EIDS				IAmb	IAmb	03	56	31.3
	comp=Z,12nm,1.1s							
AS31	**Alice Springs**	**20.77**	**213**	P	**P**	**03**	**56**	**25.9 +0.4**
ASAR	**Alice Springs**	**20.77**	**213**	P	**P**	**03**	**56**	**25.9 +0.4**
ASAR	**Alice Springs**	**20.77**	**213**	P	**P**	**03**	**56**	**26.0 +0.5**
	comp=Z,0.9nm,0.5s,baz=52,slow=8.8,SNR=16							
ASAR				S	**S**	**04**	**00**	**07.4 -3.3**
	comp=Z,0.5nm,0.8s,baz=27,slow=23,SNR=3.5							
	comp=Z,0.9nm,0.5s							
FITZ	**Fitzroy Crossi**	**23.05**	**238**	P	**P**	**03**	**56**	**48.4 -0.6**
DAV	**Davao City (W)**	**24.41**	**303**	P	**P**	**03**	**57**	**03.0 +1.6**
ARMA	**Armidale**	**24.47**	**168**	P	**P**	**03**	**57**	**03.9 +1.9**
STKA	**Stephens Creek**	**25.69**	**189**	P	**P**	**03**	**57**	**14.1 +1.2**
	comp=Z,2.4nm,0.3s,baz=354,slow=8.5,SNR=14							
	comp=Z,2.4nm,0.3s							
TOLI2	**Tolitoli**	**26.30**	**286**	P	**P**	**03**	**57**	**19.5 +1.0**
TOLI2				IAmb	IAmb	03	57	22.1
	comp=Z,6.7nm,0.7s							
BBOO	**Buckleboo**	**27.88**	**198**	P	**P**	**03**	**57**	**32.7 +0.3**
BBOO				IAmb	IAmb	03	57	34.1
	comp=Z,4.9nm,1.1s							
PSA00	**Pilbara Seismi**	**29.48**	**237**	P	**P**	**03**	**57**	**47.1 +0.3**
PSA00				IAmb	IAmb	03	57	48.7
	comp=Z,5.7nm,0.8s							
TPUB	**Ta-pu**	**38.57**	**321**	P	**P**	**03**	**59**	**04.4 -0.9**
MJAR	**Matsushiro Arr**	**43.34**	**351**	P	**P**	**03**	**59**	**41.2 -2.9**
	comp=Z,1.4nm,0.8s,baz=182,slow=9.5,SNR=5.3							
	comp=Z,1.4nm,0.8s							
KSRS	**Korea Array**	**46.79**	**340**	P	**P**	**04**	**00**	**09.7 -1.6**
	comp=Z,0.8nm,0.5s,baz=154,slow=8.6,SNR=4.8							
	comp=Z,0.8nm,0.5s							
TIA	**Tai'an**	**50.32**	**329**	P	P	04	00	31.5 -7.0
TIA				pmax	pmax			
	comp=Z,4.0nm,0.5s							
PHRA	**Phrae**	**51.50**	**300**	P	**P**	**04**	**00**	**48.1 +0.5**
LYN	**LuoYang**	**51.61**	**324**	*e*P	**P**	**04**	**00**	**49.5 +1.4**
CRAI	**Chiangrai**	**52.11**	**302**	P	**P**	**04**	**00**	**52.4 +0.3**
CRAI				IAmb	IAmb	04	00	54.1
	comp=Z,6.6nm,0.9s							
HNS	**HongShan**	**52.47**	**329**	⇑P	**P**	**04**	**00**	**54.0 -0.4**
HNS				pmax	pmax			
	comp=Z,11nm,0.9s							
KMI	**Kunming**	**52.49**	**308**	⇑P	**P**	**04**	**00**	**55.8 +0.7**
KMI				pmax	pmax			
	comp=Z,9.0nm,0.6s							
CM31	**Chiang Mai Arr**	**52.60**	**299**	P	**P**	**04**	**00**	**56.3 +0.5**
CMAR	**Chiang Mai Arr**	**52.60**	**299**	P	**P**	**04**	**00**	**56.3 +0.5**
CMAR	**Chiang Mai Arr**	**52.60**	**299**	P	**P**	**04**	**00**	**57.1 +1.3**
	comp=Z,4.6nm,0.5s,baz=127,slow=5.6,SNR=14							
	comp=Z,4.6nm,0.5s							
XAN	**Xi'an**	**53.39**	**321**	P	**P**	**04**	**01**	**01.3 0.0**
XAN				pmax	pmax			
	comp=Z,18nm,0.8s							
HHC	**Hu-ho-hao-te**	**56.67**	**329**	*e*P	**P**	**04**	**01**	**29.0 +4.1**
HHC				pmax	pmax			
	comp=Z,14nm,0.7s							
HHC				pmax	pmax			
	comp=Z,120nm,5.1s							
PETK	**Petropavlovsk-**	**60.09**	**8**	P	**P**	**04**	**01**	**48.2 -0.1**
	comp=Z,2.2nm,0.7s,baz=158,slow=6.4,SNR=7.6							
	comp=Z,2.2nm,0.7s							
LSA	**Lhasa**	**63.72**	**307**	P	**P**	**04**	**02**	**14.1 +0.5**
SONM	**Songino Array**	**64.29**	**332**	P	**P**	**04**	**02**	**16.3 -0.2**
	comp=Z,0.4nm,0.3s,baz=147,slow=5.0,SNR=3.2							
	comp=Z,0.4nm,0.3s							
SEY	**Seymchan**	**69.30**	**3**	P	**P**	**04**	**02**	**46.9 -0.9**
	comp=Z,0.6nm,0.4s,baz=180,slow=5.4,SNR=7.0							
	comp=Z,0.6nm,0.4s							
VNDA	**Vanda**	**71.58**	**176**	P	**P**	**04**	**03**	**01.9 +0.3**
VNDA	**Vanda**	**71.58**	**176**	P	**P**	**04**	**03**	**02.0 +0.4**
	comp=Z,0.6nm,0.7s,baz=316,slow=2.7,SNR=2.4							
	comp=Z,0.6nm,0.7s							
WMQ	**Urumqi**	**72.47**	**320**	*e*P	**P**	**04**	**03**	**07.8 +0.3**
WMQ				pmax	pmax			
	comp=Z,31nm,0.7s							
MK31	**Makanchi Array**	**77.20**	**321**	P	**P**	**04**	**03**	**34.7 +0.1**
MKAR	**Makanchi Array**	**77.20**	**321**	P	**P**	**04**	**03**	**34.7 +0.1**
	comp=Z,0.8nm,0.3s,baz=96,slow=8.5,SNR=23							
	comp=Z,0.8nm,0.3s							
MAKZ	**Makanchi**	**77.40**	**321**	P	**P**	**04**	**03**	**35.7 0.0**
MAKZ				IAmb	IAmb	04	03	36.5
	comp=Z,2.1nm,0.5s							
O14K	**Tigyukauivet M**	**77.61**	**25**	P	**P**	**04**	**03**	**36.7 +0.2**
O14K				IAmb	IAmb	04	03	37.7
	comp=Z,12nm,1.1s							
ZALV	**Zalesovo Beam**	**78.84**	**328**	P	**P**	**04**	**03**	**42.2 -1.3**
	comp=Z,2.0nm,0.5s,baz=94,slow=5.2,SNR=9.9							
	comp=Z,2.0nm,0.5s							
K15K	**Wolf Creek Mou**	**79.31**	**22**	P	**P**	**04**	**03**	**46.2 +0.4**
NIL	**Nilore**	**79.38**	**306**	P	**P**	**04**	**03**	**46.7 -0.2**
BOOM	**Boomskoye uch**	**79.88**	**315**	P	**P**	**04**	**03**	**50.4 +0.8**
J16K	**Anvik River**	**80.24**	**22**	P	**P**	**04**	**03**	**51.6 +0.7**
J16K				IAmb	IAmb	04	03	52.5
	comp=Z,4.5nm,1.0s							
AAK	**Ala-Archa**	**80.94**	**315**	P	**P**	**04**	**03**	**55.6 +0.3**
AAK				IAmb	IAmb	04	03	58.3
	comp=Z,3.9nm,1.1s							
KURBB	**Kurchatov Arra**	**80.97**	**323**	P	**P**	**04**	**03**	**54.1 -0.9**
	comp=Z,1.0nm,0.5s,baz=119,slow=4.4,SNR=11							
	comp=Z,1.0nm,0.5s							
RC01	**Rabbit Creek A**	**83.49**	**26**	P	**P**	**04**	**04**	**07.1 -0.9**
QSPA	**South Pole Qui**	**83.58**	**180**	P	**P**	**04**	**04**	**08.7 +0.2**
QSPA	**South Pole Qui**	**83.58**	**180**	P	**P**	**04**	**04**	**08.7 +0.2**
	comp=Z,1.6nm,0.9s,baz=241,slow=1.1,SNR=6.2							
	comp=Z,1.6nm,0.9s							
E19K	**Redstone River**	**83.79**	**19**	P	**P**	**04**	**04**	**09.2 -0.1**
E19K				IAmb	IAmb	04	04	29.4
	comp=Z,2.3nm,0.7s							
KK31	**Karatay Array**	**83.88**	**315**	P	**P**	**04**	**04**	**10.8 +0.4**
KK31				IAmb	IAmb	04	04	12.2
	comp=Z,3.3nm,1.1s							
KKAR	**Karatay Array**	**83.88**	**315**	P	**P**	**04**	**04**	**10.7 +0.3**
KKAR				IAmb	IAmb	04	04	12.2
	comp=Z,3.3nm,1.1s							
SIMJ	**Simiganj**	**83.93**	**310**	P	**P**	**04**	**04**	**10.6 -0.3**
SIMJ				IAmb	IAmb	04	04	11.9
	comp=Z,6.2nm,1.0s							
IMAR	**Indian Mountai**	**84.19**	**21**	P	**P**	**04**	**04**	**10.8 -0.6**
H21K	**Melozitna Rive**	**84.37**	**21**	P	**P**	**04**	**04**	**12.7 +0.3**
MLY	**Manley**	**84.84**	**22**	P	**P**	**04**	**04**	**14.3 -0.5**
MLY				IAmb	IAmb	04	04	15.3
	comp=Z,2.8nm,0.8s							
NRIK	**Noril'sk**	**85.36**	**342**	P	**P**	**04**	**04**	**16.4 -0.8**
	comp=Z,2.0nm,0.4s,baz=117,slow=1.8,SNR=3.6							
	comp=Z,2.0nm,0.4s							
ILAR	**Eielson Array**	**86.22**	**23**	P	**P**	**04**	**04**	**19.9 -1.7**
	comp=Z,2.0nm,0.6s,baz=251,slow=5.0,SNR=45							
	comp=Z,2.0nm,0.6s							
BVAR	**Borovoye Array**	**86.53**	**324**	P	**P**	**04**	**04**	**22.6 -0.7**
	comp=Z,0.6nm,0.4s,baz=100,slow=6.4,SNR=5.2							
	comp=Z,0.6nm,0.4s							
GERES	**GERESS Array B**	**121.69**	**325**	PKP	**PKPdf**	**04**	**10**	**33.6 -0.2**
	comp=Z,1.0nm,0.6s,baz=67,slow=3.0,SNR=3.8							
EKA	**Eskdalemuir Ar**	**125.35**	**339**	PKP	**PKPdf**	**04**	**10**	**40.3 -0.2**
	comp=Z,1.5nm,0.8s,baz=37,slow=4.3,SNR=3.5							
TORD	**Torodi Ar. Bea**	**144.26**	**284**	PKP	**PKPab**	**04**	**11**	**15.4 +0.6**
	comp=Z,2.4nm,0.7s,baz=62,slow=3.7,SNR=21							
DBIC	**Dimbokro**	**151.09**	**272**	PKPbc	**PKiKP**	**04**	**11**	**34.6 +0.1**
	comp=Z,5.3nm,0.5s,baz=106,slow=2.5,SNR=11							
BDFB	**Brasilia**	**154.06**	**148**	PKPbc	**PKPbc**	**04**	**11**	**40.1 -0.5**
	comp=Z,0.6nm,0.3s,baz=124,slow=5.6,SNR=3.0							

IDC 31 04:13:55.3±3.4, 5.30S×151.81E, h0km, mb4.0/2, mbtmp4.0/3, ML1.8/1, Error ellipse: s-maj=121.2km s-min=47.1km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.16**	**228**	Pn	Pn	04 15 29.4	+1.8
	1.6nm,0.3s,baz=50,slow=12,SNR=3.6						
PMG				Sn	Sn	04 16 33.0	-5.8
	0.2nm,0.3s,baz=270,slow=20,SNR=1.3						
	15nm,0.9s						
WRA	**Warramunga Arr**	**22.38**	**228**	P	P	04 18 54.5	-0.9
	3.7nm,0.6s,baz=53,slow=10.0,SNR=50						
	3.7nm,0.6s						
ASAR	**Alice Springs**	**25.12**	**222**	P	P	04 19 22.1	-0.1
	2.4nm,0.7s,baz=60,slow=8.6,SNR=44						
	2.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**149.51**	**287**	PKPbc	PKPbc	04 33 47.7	0.0
	0.4nm,0.6s,baz=100,slow=2.0,SNR=2.8						

*NEIC **31** 04:16:17.0±0.4, 35.976N±0.009×97.21W±0.01, h7km±2km, Error ellipse: s-maj=1.4km s-min=1.2km az=171.0*

TUL 31 04:16:17.1±0.5, 35.976N±0.007×97.200W±0.009, h7km±2km, ML2.5, mb_Lg2.3/23(NEIC), ML2.3/49(NEIC), Error ellipse: s-maj=1.2km s-min=0.7km az=225.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK033	**Mehan**	**0.22**	**72**	Pg	Pg	04 16 22.0	+0.4
OK033				IAML		04 16 25.7	
	784nm,0.3s						
OK029	**Liberty Lake**	**0.27**	**229**	Pg	Pg	04 16 22.7	+0.3
OK029				Sg	Sg	04 16 26.6	+0.5
OK029				IAML		04 16 26.9	
	615nm,0.4s						
OK029				IAML		04 16 26.9	
	588nm,0.2s						
OK052	**Battle Ridge R**	**0.32**	**87**	Pg	Pg	04 16 23.9	+0.4
OK052				Sg	Sg	04 16 28.5	+0.8
QUOK	**Quay**	**0.44**	**64**	Pg	Pg	04 16 26.0	+0.3
QUOK				Sg	Sg	04 16 32.1	+0.6
QUOK				IAML		04 16 32.5	
	comp=E,292nm,0.3s						
OK048	**Pawnee Station**	**0.49**	**25**		Pg	04 16 26.6	+0.1
OK048				Sg	Sg	04 16 33.3	+0.4
DEOK	**Depew**	**0.58**	**103**	Pg	Pg	04 16 28.4	0.0
DEOK				Sg	Sg	04 16 36.6	+0.6
OKCSW	**OKLAHOMA CITY**	**0.60**	**199**	Pg	Pg	04 16 28.7	+0.1
OKCSW				Sg	Sg	04 16 37.1	+0.6
OKCSW				IAML		04 16 40.5	
	comp=N,156nm,0.1s						
OKCSW				IAML		04 16 44.6	
	comp=E,179nm,0.3s						
FNO	**Franklin**	**0.74**	**193**	Pg	Pg	04 16 31.0	-0.3
FNO				IAML		04 16 44.0	
	comp=E,98nm,0.2s						
FNO				IAML		04 16 44.2	
	comp=N,183nm,0.2s						
BLOK	**Blackwell**	**0.78**	**359**		Pg	04 16 31.9	-0.3
W35A	**Tecumseh**	**0.86**	**162**	Pg	Pg	04 16 32.8	-0.8
W35A				Sg	Sg	04 16 44.9	0.0
W35A				IAML		04 16 47.1	
	comp=N,118nm,0.2s						
KAN13	**South Haven SW**	**1.06**	**348**	Pg	Pg	04 16 37.1	-0.3
T35A	**Sooner Cattle**	**1.09**	**30**	Pg	Pg	04 16 37.3	-0.8
T35A				Sg	Sg	04 16 51.9	-0.3
T35A				IAML		04 16 52.8	
	comp=N,68nm,0.2s						
T35A				IAML		04 16 53.1	
	comp=E,82nm,0.4s						
TUL3	**Leonard**	**1.15**	**93**		Pg	04 16 37.8	-1.2
TUL3				Sg	Sg	04 16 53.5	-0.5
KAN09	**Caldwell North**	**1.21**	**344**	Pg	Pg	04 16 38.2	-2.0
CSTR	**Hydro, Custer**	**1.25**	**255**		Pn	04 16 38.9	-2.2
OK038	**West end E0370**	**1.34**	**292**		Pn	04 16 41.8	-0.5
KAN10	**Anthony SW Sta**	**1.35**	**328**	IAmb_Lg		04 16 59.7	
	comp=Z,25nm,0.9s						
U32A	**Winter Ranch,**	**1.51**	**286**		Pn	04 16 43.9	-0.8
RLO	**Rose Lookout**	**1.77**	**83**	Pn	Pn	04 16 47.0	-1.2
RLO				IAmb_Lg		04 17 12.6	
	comp=Z,5.5nm,0.8s						
WMOK	**Wichita Mounta**	**1.79**	**227**	Pn	Pn	04 16 48.8	+0.3
X37A	**Clayton**	**2.04**	**132**	Pn	Pn	04 16 52.6	+0.7
KSU1	**Kansas State U**	**3.15**	**8**	IAmb_Lg		04 17 59.7	
	comp=Z,6.4nm,0.7s						
MIAR	**Mount Ida**	**3.29**	**115**	Pn	Pn	04 17 09.3	+0.2
CBKS	**Cedar Bluff**	**3.48**	**325**	IAmb_Lg		04 18 09.1	
	comp=Z,11nm,0.8s						
S39A	**Bolivar**	**3.55**	**60**	IAmb_Lg		04 18 16.7	
	comp=Z,9.7nm,1.1s						
AMTX	**Amarillo**	**3.82**	**255**	IAmb_Lg		04 18 19.5	
	comp=Z,5.1nm,0.8s						
X40A	**Basin Creek Fa**	**3.87**	**111**	IAmb_Lg		04 18 24.0	
	comp=Z,4.1nm,0.7s						
WHAR	**Wooly Hollow**	**4.06**	**98**	Pn	Pn	04 17 19.3	-0.4
MGMO	**Mountain Grove**	**4.14**	**72**	IAmb_Lg		04 18 28.2	
	comp=Z,4.8nm,0.7s						
SN07	**Snyder 07**	**4.19**	**228**	IAmb_Lg		04 18 29.7	
	comp=Z,6.4nm,1.0s						
R40A	**Maddies Statio**	**4.57**	**58**	IAmb_Lg		04 18 38.9	
	comp=Z,7.6nm,0.9s						
P40A	**Paris**	**5.41**	**47**	IAmb_Lg		04 19 17.0	
	comp=Z,6.6nm,0.8s						
L34A	**Svendsen Farm,**	**6.02**	**6**	IAmb_Lg		04 19 40.9	
	comp=Z,8.9nm,0.7s						
CGM3	**Cape Girardeau**	**6.21**	**76**	IAmb_Lg		04 19 36.3	
	comp=Z,5.0nm,0.7s						
Z47A	**Carrollton**	**8.02**	**108**	IAmb_Lg		04 20 52.2	
	comp=Z,4.6nm,1.1s						

*IDC **31** 04:34:59.5±2.8, 9.17S×110.04E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=157.5km s-min=24.1km az=47.0*
*DJA **31** 04:35:05.0±0.6, 9.3S±5.3×111.1E±.1, h10km, M4.0/13, MLv4.0/13*

ISC 31 04:35:07.3±1.1, 9.06S±0.09×110.56E±0.05, h51km, n16, σ1.180/20, mb3.4/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.14**	**358**	P	**Pn**	04 35 25.9	-1.0
UGM				S	**Sn**	04 35 40.0	-1.5
YOGI	**Yogyakarta**	**1.26**	**348**	P	**Pn**	04 35 27.8	-0.8
PWJI	**Pagerwojo**	**1.60**	**50**	P	**Pn**	04 35 32.2	-1.0
PWJI				S	**Sn**	04 35 50.3	-2.5
NGJI	**Ngawi**	**1.90**	**28**	P	**Pn**	04 35 39.9	+2.6
SMRI	**Semarang**	**2.00**	**357**	P	**Pn**	04 35 40.2	+1.5
SMRI				S	**Sn**	04 36 06.3	+3.8
KPJI	**Karang Pucung**	**2.35**	**317**	P	**Pn**	04 35 45.4	+1.9
CMJI	**Cimerak**	**2.44**	**301**	P	**Pn**	04 35 44.6	-0.1
CMJI				S	**Sn**	04 36 12.2	-1.2
GRJI	**Gresik**	**2.85**	**42**	P	**Pn**	04 35 50.9	+0.6
BLJI	**Banyuglugur**	**3.27**	**67**	P	**Pn**	04 35 56.4	+0.3
JAGI	**Jajag, Banyuwa**	**3.60**	**81**	P	**Pn**	04 36 01.4	+0.8
ABJI	**Asem Bagus**	**3.84**	**71**	P	**Pn**	04 36 04.1	+0.2
SRBI	**Singaraja**	**4.70**	**78**	P	**Pn**	04 36 16.2	+0.5
WRA	**Warramunga Arr**	**25.40**	**118**	P	**P**	04 40 32.7	+2.5
	0.8nm,1.1s,baz=291,slow=12,SNR=3.5						
	0.8nm,1.1s						
ASAR	**Alice Springs**	**26.63**	**126**	P	**P**	04 40 43.1	+1.8
	0.4nm,0.7s,baz=298,slow=9.2,SNR=7.6						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**61.05**	**338**	P	**P**	04 45 15.0	-0.8
	0.5nm,0.5s,baz=149,slow=8.3,SNR=6.5						
	0.8nm,0.5s						
BVAR	**Bovoye Array**	**70.66**	**336**	P	**P**	04 46 15.5	-1.9
	0.7nm,0.7s,baz=157,slow=7.8,SNR=4.0						
	0.7nm,0.7s						

*GCMT **31** 04:48:26.0±0.4, 17.35S±0.02×176.60W±0.02, h16km±1km, MW4.8/81, Moment Tensor Solution. s13,c13; s81,c101; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.16±.10; Mθθ-1.58±.10; Mφφ1.41±.08; Mrθ0.10±.24; Mθφ1.18±.07; Mφr0.75±.27; Best double couple: Mo2.05400×10^16 NP1:φs332.00000°,δ78.00000°,λ162.00000°. NP2: φs66.00000°,δ72.00000°,λ12.00000°. Principal axes: T 2.1060, Plg21.0000°, Azm288.0000°; N -0.1120, Plg68.0000°, Azm121.0000°; P -2.0010, Plg4.0000°, Azm20.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 31 04:48:17.7±1.2, 16.77S×178.03W, h0km, mb3.7/4, mbtmp3.7/4, MS3.8/37 Error ellipse: s-maj=56.5km s-min=35.0km az=132.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**12.43**	**180**	LR	LR	04 55 05.4	
	comp=Z,970nm,20.4s,baz=43,slow=33						
DZM	**Mont Dzumac**	**15.56**	**248**	LR	LR	04 57 23.3	
	comp=Z,370nm,19.3s,baz=80,slow=35						
RAR	**Rarotonga**	**17.82**	**107**	LR	LR	04 56 51.8	
	comp=Z,530nm,20.9s,baz=342,slow=29						
URZ	**Urewera**	**21.83**	**190**	LR	LR	05 00 26.3	
	comp=Z,624nm,20.9s,baz=122,slow=33						
PPT	**Papeete**	**27.19**	**96**	LR	LR	05 01 32.6	
	comp=Z,154nm,20.2s,baz=258,slow=29						
PMG	**Port Moresby**	**34.65**	**278**	LR	LR	05 07 39.1	
	comp=Z,105nm,19.7s,baz=103,slow=34						
STKA	**Stephens Creek**	**39.50**	**240**	LR	LR	05 11 35.4	
	comp=Z,92nm,18.3s,baz=37,slow=35						
ASAR	**Alice Springs**	**45.45**	**253**	P	P	04 56 38.6	-0.3
	0.8nm,0.7s,baz=90,slow=8.3,SNR=7.3						
ASAR				LR	LR	05 15 32.8	
	comp=Z,117nm,18.4s,baz=96,slow=36						
	0.8nm,0.7s						
BATI	**Baumata**	**56.91**	**269**	LR	LR	05 20 48.1	
	comp=Z,109nm,21.3s,baz=72,slow=34						
DAV	**Davao City (W)**	**60.58**	**288**	LR	LR	05 23 24.2	
	comp=Z,20nm,18.4s,baz=164,slow=35						
RPN	**Rapa Nui**	**63.88**	**112**	LR	LR	05 19 13.1	
	comp=Z,88nm,19.4s,baz=276,slow=29						
MJAR	**Matsushiro Arr**	**67.22**	**323**	LR	LR	05 24 01.9	
	comp=Z,13nm,21.6s,baz=145,slow=32						
SHEM	**Shemya Is, Ala**	**69.54**	**355**	LR	LR	05 23 53.0	
	comp=Z,67nm,19.7s,baz=152,slow=31						
ASAJ	**Asahikawa**	**70.46**	**331**	LR	LR	05 26 21.5	
	comp=Z,23nm,19.2s,baz=138,slow=32						
QSPA	**South Pole Qui**	**73.28**	**180**	P	P	04 59 51.1	+0.2
	2.0nm,1.0s,baz=337,slow=4.4,SNR=3.9						
QSPA				LR	LR	05 27 01.1	
	comp=Z,75nm,20.7s,baz=216,slow=32						
	2.0nm,1.0s						
KSRS	**Korea Array**	**74.10**	**318**	LR	LR	05 29 06.8	
	comp=Z,9.7nm,19.8s,baz=125,slow=33						
PFO	**Pinyon Flats O**	**77.14**	**49**	LR	LR	05 25 31.6	
	comp=Z,95nm,20.7s,baz=237,slow=29						
KDAK	**Kodiak Island**	**77.22**	**14**	LR	LR	05 27 04.6	
	comp=Z,100nm,20.4s,baz=219,slow=30						
NVAR	**Mina Array Bea**	**78.36**	**44**	LR	LR	05 28 05.3	
	comp=Z,48nm,20.6s,baz=312,slow=30						
KLR	**Kul'dur**	**79.32**	**329**	LR	LR	05 31 15.7	
	comp=Z,31nm,20.1s,baz=134,slow=32						
MA2	**Magadan**	**80.20**	**344**	LR	LR	05 29 39.9	
	comp=Z,22nm,20.9s,baz=128,slow=31						
BBB	**Bella Bella**	**81.15**	**28**	LR	LR	05 28 56.8	
	comp=Z,54nm,19.4s,baz=224,slow=30						
ELK	**Elko**	**81.58**	**43**	LR	LR	05 27 48.9	
	comp=Z,33nm,21.8s,baz=244,slow=29						
NEW	**Newport**	**84.38**	**36**	LR	LR	05 31 27.9	
	comp=Z,57nm,18.8s,baz=224,slow=31						
DLBC	**Dease Lake**	**84.65**	**23**	LR	LR	05 30 50.1	
	comp=Z,137nm,21.1s,baz=268,slow=30						
ILAR	**Eielson Array**	**84.70**	**13**	P	P	05 00 53.4	+0.3
	0.6nm,1.0s,baz=215,slow=6.2,SNR=2.6						
ILAR				LR	LR	05 31 47.1	
	comp=Z,49nm,20.6s,baz=176,slow=31						
	0.6nm,1.0s						
MAW	**Mawson**	**85.05**	**200**	LR	LR	05 36 27.4	
	comp=Z,171nm,19.2s,baz=250,slow=34						
ANMO	**Albuquerque**	**85.11**	**51**	LR	LR	05 32 21.6	
	comp=Z,74nm,18.2s,baz=336,slow=31						
PDAR	**Pinedale Array**	**86.28**	**43**	P	P	05 01 01.4	-0.4
	0.2nm,0.7s,baz=232,slow=5.5,SNR=2.1						
	0.2nm,0.7s						
CMIG	**Matias Romero**	**88.53**	**72**	LR	LR	05 34 49.5	
	comp=Z,23nm,18.6s,baz=228,slow=32						
YAK	**Yakutsk**	**88.66**	**338**	LR	LR	05 37 33.2	
	comp=Z,19nm,19.6s,baz=154,slow=33						
INK	**Inuvik**	**90.70**	**15**	LR	LR	05 34 36.2	
	comp=Z,51nm,21.9s,baz=349,slow=31						
YKA	**Yellowknife Ar**	**93.15**	**25**	LR	LR	05 35 45.7	
	comp=Z,61nm,20.0s,baz=218,slow=31						
TIXI	**Tiksi**	**95.15**	**345**	LR	LR	05 39 22.1	
	comp=Z,59nm,21.8s,baz=189,slow=32						
TEIG	**Tepich**	**95.43**	**71**	LR	LR	05 38 25.4	
	comp=Z,230nm,19.5s,slow=32						
NNA	**Nana**	**97.05**	**105**	LR	LR	05 38 35.6	
	comp=Z,46nm,18.1s,baz=183,slow=31						
ATAH	**Atahualpa**	**97.11**	**100**	LR	LR	05 34 30.4	
	comp=Z,53nm,21.1s,baz=236,slow=29						
ULM	**du Bonnet**	**97.81**	**40**	LR	LR	05 40 02.7	
	comp=Z,72nm,18.5s,baz=245,slow=32						
BRTR	**Keskin Array B**	**144.23**	**316**	PKP	PKPdf	05 07 55.6	-0.5
	0.4nm,0.6s,baz=107,slow=1.5,SNR=1.5						

*NEIC **31** 04:53:22.0±1.9, 34.0N±0.1×26.01E±0.08, h10km±2km, mb4.1/9, Error ellipse: s-maj=19.6km s-min=9.7km az=198.0*
*IDC **31** 04:53:23.2±1.1, 34.43N×26.06E, h0km, mb3.9/12, mbtmp3.9/15, ML3.4/4, MS2.9/2, Error ellipse: s-maj=23.1km s-min=17.5km az=178.0*
*GII **31** 04:53:28.9±0.4, 34.072N±0.002×26.676E±0.001, h2km, Mws3.3, confirmed*
*ATH **31** 04:53:28.4, 34.38N×26.13E, h9km±1km, ML3.3/7, Error ellipse: s-maj=3.2km s-min=1.4km az=350.0*
*THE **31** 04:53:28.6, 34.40N×26.09E, h2km±2km, ML3.3/5, Error ellipse: s-maj=2.5km s-min=1.4km az=154.0*

ISC 31 04:53:25.8±2.0, 34.33N±0.08×26.07E±0.04, h13km±10km, n101, σ1.982/57, mb3.8/15, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**0.74**	**338**	P	**Pg**	04 53 41.4	+1.2
FRMA				S	**

CSS	**Mathiatis**	**6.02**	**82**	S	Sn	04 55 58.0	-5.4
CSS	**Mathiatis**	**6.02**	**82**	P	Pn	04 54 53.2	-1.4
LIT	**Litokhoron**	**6.43**	**335**	Pn	**Pn**	**04 54 59.4**	**-0.8**
KEK	**Kerkira**	**7.35**	**319**	Pn	**Pn**	**04 55 12.4**	**-0.5**
FNA	**Florina**	**7.44**	**331**	Pn	**Pn**	**04 55 16.3**	**+2.1**
OFRI	**`Ofer**	**7.64**	**100**	S	Sn	04 56 35.9	-7.4
OFRI	**`Ofer**	**7.64**	**100**	P	Pn	04 55 14.5	-2.3
SLTI	**Sal'it**	**7.79**	**103**	S	Sn	04 56 39.7	-7.4
SLTI	**Sal'it**	**7.79**	**103**	P	Pn	04 55 16.0	-3.0
KZIT	**Kziot**	**7.81**	**114**	S	Sn	04 56 39.1	-8.3
KZIT	**Kziot**	**7.81**	**114**	P	Pn	04 55 16.4	-2.7
MMA0B	**Mount Meron ar**	**7.89**	**97**	P	Pn	04 55 17.9	-2.4
MMA0B	**Mount Meron ar**	**7.89**	**97**	S	Sn	04 56 43.0	-6.5
MMAI	**Mount Meron Ar**	**7.89**	**97**	Pn	Pn	04 55 17.7	-2.6
	comp=E,1.5nm,0.3s,baz=273,slow=11,SNR=7.9						
MMAI				Sn	Sn	04 56 43.7	-5.8
	comp=E,1.6nm,0.3s,baz=228,slow=15,SNR=2.1						
	comp=E,0.6nm,0.3s						
AMAZ	**Amatzia**	**7.94**	**108**	S	Sn	04 56 42.6	-8.0
AMAZ	**Amatzia**	**7.94**	**108**	P	Pn	04 55 17.9	-3.0
SALP	**Salfit**	**7.97**	**104**	P	Pn	04 55 18.8	-2.6
SALP	**Salfit**	**7.97**	**104**	S	Sn	04 56 43.1	-8.3
MMLI	**Mount Malkishu**	**8.04**	**101**	P	Pn	04 55 19.2	-3.2
MMLI	**Mount Malkishu**	**8.04**	**101**	S	Sn	04 56 45.8	-7.5
GEM	**Giv'at Ha'Em**	**8.06**	**95**	S	Sn	04 56 47.1	-6.6
GEM	**Giv'at Ha'Em**	**8.06**	**95**	P	Pn	04 55 20.4	-2.3
BRTR	**Keskin Array B**	**8.10**	**46**	Pn	**Pn**	**04 55 25.1**	**+1.9**
	comp=E,0.1nm,0.3s,baz=225,slow=14,SNR=2.2						
BRTR				LR	LR	04 59 37.0	
	comp=E,68nm,22.0s,baz=175,slow=46						
YTIR	**Yattir**	**8.16**	**109**	S	Sn	04 56 48.9	-7.4
YTIR	**Yattir**	**8.16**	**109**	P	Pn	04 55 21.0	-3.1
HMDT	**Nahal Hemdat**	**8.18**	**102**	P	Pn	04 55 21.4	-2.8
HMDT	**Nahal Hemdat**	**8.18**	**102**	S	Sn	04 56 49.3	-7.2
KSHT	**Keshet**	**8.23**	**97**	P	Pn	04 55 22.8	-2.2
DSI	**Dead Sea**	**8.29**	**107**	P	Pn	04 55 23.1	-2.7
DSI	**Dead Sea**	**8.29**	**107**	S	Sn	04 56 52.1	-7.2
MSBI	**Mazada**	**8.37**	**108**	P	Pn	04 55 24.7	-2.2
MSBI	**Mazada**	**8.37**	**108**	S	Sn	04 56 53.1	-8.1
PRNI	**Paran**	**8.53**	**115**	P	Pn	04 55 26.8	-2.3
PRNI	**Paran**	**8.53**	**115**	S	Sn	04 56 57.7	-7.6
GHAJ	**Ghor Haditha**	**8.54**	**108**	S	Sn	04 56 56.9	-8.5
HRFI	**Mount Harif**	**8.72**	**117**	P	Pn	04 55 28.3	-3.4
MBRI	**Mt Berech**	**8.76**	**119**	P	Pn	04 55 29.5	-2.8
MBRI	**Mt Berech**	**8.76**	**119**	S	Sn	04 57 03.2	-7.7
EIL2	**Elat**	**8.85**	**119**	P	Pn	04 55 30.2	-3.3
EIL2	**Elat**	**8.85**	**119**	S	Sn	04 57 04.7	-8.5
EIL	**Elat**	**8.85**	**119**	Pn	Pn	04 55 32.0	-1.5
	comp=E,0.3nm,0.3s,baz=356,slow=10,SNR=7.3						
EIL				Sn	Sn	04 57 04.3	-8.8
	comp=E,0.7nm,0.3s,baz=15,slow=18,SNR=2.2						
	comp=E,0.9nm,0.4s						
EIL	**Elat**	**8.85**	**119**	P	Pn	04 55 30.3	-3.2
EIL	**Elat**	**8.85**	**119**	S	Sn	04 57 05.9	-7.2
TIP	**Timpagrande**	**8.90**	**306**	Pn	Pn	04 55 32.7	-1.5
CEL	**Celeste**	**9.10**	**298**	Pn	**Pn**	**04 55 36.3**	**-0.6**
PUK	**Puka**	**9.11**	**330**	Pn	**Pn**	**04 55 36.3**	**-0.7**
CUC	**Castrocucco**	**9.95**	**308**	Pn	Pn	04 55 46.7	-1.8
NRCA	**Norcia**	**13.21**	**314**	Pn	Pn	04 56 31.9	-1.2
SALO	**Salr**	**16.37**	**318**	P	**Pn**	**04 57 16.9**	**+1.5**
SALO				IAmb	IAmb	04 57 19.4	
	comp=Z,14nm,0.7s						
AKASG	**Malin Array Be**	**16.52**	**7**	Pn	**Pn**	**04 57 15.6**	**-1.6**
	comp=Z,1.0nm,0.3s,baz=194,slow=11,SNR=6.3						
	comp=Z,1.6nm,0.7s						
FUORN	**Ofenpass-Fuorn**	**17.15**	**320**		**Pn**	**04 57 25.6**	**+0.3**
GERES	**GERESS Array B**	**17.17**	**331**	P	**Pn**	**04 57 26.1**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=102,slow=9.1,SNR=2.5						
SENIN	**Lac Senin/Sane**	**18.63**	**316**	P	**P**	**04 57 41.4**	**-1.9**
SENIN				IAmb	IAmb	04 58 07.5	
	comp=Z,50nm,1.4s						
ESDC	**Sonseca Array**	**24.51**	**291**	P	**P**	**04 58 43.9**	**-1.1**
	comp=Z,0.9nm,0.9s,baz=83,slow=8.5,SNR=5.1						
	comp=Z,0.9nm,0.9s						
HFS	**Hagfors**	**27.06**	**346**	P	**P**	**04 59 06.3**	**-1.4**
	comp=Z,1.4nm,0.6s,baz=116,slow=13,SNR=4.7						
	comp=Z,1.4nm,0.6s						
FINES	**FINESS Array B**	**27.13**	**0**	P	**P**	**04 59 05.8**	**-2.6**
FINES	**FINESS Array B**	**27.13**	**0**	P	**P**	**04 59 05.5**	**-2.9**
	comp=Z,0.9nm,0.6s,baz=156,slow=10,SNR=8.6						
	comp=Z,0.9nm,0.6s						
FIA1	**FINESS Array S**	**27.13**	**0**	P	**P**	**04 59 05.2**	**-3.1**
NC602	**NORSAR Array S**	**28.05**	**345**		P	04 59 15.3	-1.3
NC602				IAmb	IAmb	04 59 38.6	
	comp=Z,5.0nm,1.1s						
NOA	**NORSAR Array B**	**28.39**	**345**	P	P	04 59 16.8	-2.9
	comp=Z,0.6nm,0.9s,baz=145,slow=8.7,SNR=1.4						
	comp=Z,0.6nm,0.9s						
ABKAR	**Akbulak array**	**29.04**	**49**	P	P	04 59 23.6	-1.9
EKA	**Eskdalemuir Ar**	**29.15**	**325**	P	P	04 59 25.2	-1.3
	comp=Z,0.6nm,0.4s,baz=115,slow=12,SNR=3.4						
	comp=Z,0.6nm,0.4s						
TORD	**Torodi Ar. Bea**	**30.55**	**232**	P	**P**	**04 59 39.5**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=36,slow=9.0,SNR=6.0						
	comp=Z,0.3nm,0.5s						
ARCES	**ARCESS Array B**	**35.26**	**360**	P	P	05 00 17.2	-2.6
	comp=Z,4.1nm,1.0s,baz=185,slow=9.1,SNR=2.0						
	comp=Z,4.1nm,1.0s						
KURBB	**Kurchatov Arra**	**41.07**	**50**	P	P	05 01 08.0	-1.0
	comp=Z,1.2nm,0.8s,baz=277,slow=8.8,SNR=9.6						
	comp=Z,1.2nm,0.8s						
KURK	**Kurchatov**	**41.13**	**50**	P	P	05 01 05.9	-3.6
KURK				IAmb	IAmb	05 01 20.3	
	comp=Z,3.2nm,1.2s						
MK31	**Makanchi Array**	**43.61**	**56**	P	P	05 01 28.7	-1.1
MK31				IAmb	IAmb	05 01 30.4	
	comp=Z,1.2nm,0.8s						
MKAR	**Makanchi Array**	**43.61**	**56**	P	P	05 01 28.4	-1.4
MKAR	**Makanchi Array**	**43.61**	**56**	P	**P**	**05 01 29.4**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=279,slow=6.4,SNR=18						
	comp=Z,1.5nm,0.6s						
SPITS	**Spitsbergen Ar**	**44.15**	**357**	P	P	05 01 32.1	-1.6
	comp=Z,8.9nm,1.0s,baz=207,slow=8.7,SNR=1.4						
	comp=Z,8.9nm,1.0s						
SCO	**Scoresbysund**	**44.38**	**339**	P	P	05 01 34.4	-1.1
ZALV	**Zalesovo Beam**	**45.04**	**46**	P	P	05 01 39.9	-1.2
	comp=Z,1.1nm,0.5s,baz=284,slow=7.5,SNR=5.3						
	comp=Z,1.1nm,0.5s						
SCHQ	**Schefferville**	**64.31**	**320**	P	P	05 04 00.1	-0.7
	comp=Z,0.7nm,0.4s,baz=60,slow=6.9,SNR=6.8						
	comp=Z,0.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**65.92**	**83**	LR	LR	05 37 17.4	
	comp=Z,13nm,18.2s,baz=170,slow=40						

*IDC **31** 05:07:34.6±1.2,7.°09S×155.°91E,h0km,mb3.9/7,*
mbtmp3.9/7,ML5.8/1,MS4.0/1,Error ellipse: s-maj=32.9km
s-min=27.6km az=124.0

ISC 31 05:07:39.4±0.8,7.°2S±0.°2×156.°0E±0.°1,h35km,n8,σ1s30/9,
mb4.0/7,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.46**	**120**	Pn	**Pn**	**05 08 45.9**	**+1.4**
	398nm,0.3s,baz=226,slow=1.8,SNR=6.3						
HNR				Sn	**Sn**	**05 09 33.5**	**-1.8**
	125nm,0.3s,baz=180,slow=19,SNR=1.7						
HNR				LR	LR	05 10 24.1	
	comp=Z,2μm,20.1s,baz=201,slow=37						
WRA	**Warramunga Arr**	**24.54**	**237**	P	**P**	**05 12 56.5**	**+0.5**
	2.4nm,0.5s,baz=60,slow=9.7,SNR=33						
	2.4nm,0.5s						
ASAR	**Alice Springs**	**26.80**	**230**	P	**P**	**05 13 16.2**	**-0.2**
	0.4nm,0.5s,baz=64,slow=8.4,SNR=8.0						
	0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**61.80**	**295**	P	**P**	**05 17 55.1**	**-0.2**
	0.6nm,0.3s,baz=111,slow=4.0,SNR=1.6						
	0.6nm,0.3s						
SONM	**Songino Array**	**70.08**	**327**	P	**P**	**05 18 48.6**	**+0.5**
	0.4nm,0.4s,baz=142,slow=7.3,SNR=4.1						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**84.25**	**318**	P	**P**	**05 20 07.1**	**-0.4**
	0.7nm,0.5s,baz=101,slow=6.6,SNR=7.5						
	0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**84.94**	**326**	P	**P**	**05 20 08.8**	**-2.0**
	0.4nm,0.3s,baz=109,slow=6.4,SNR=2.3						
	0.4nm,0.3s						
YKA	**Yellowknife Ar**	**96.06**	**28**	P	**P**	**05 21 03.7**	**+0.8**
	0.1nm,0.6s,baz=270,slow=4.7,SNR=4.6						
	0.1nm,0.6s						

*SNET **31** 05:15:35.0±1.3,13.°68N×91.°24W,h0km±15km,ML3.1*
*GCG **31** 05:15:43.9±0.3,14.°23N×91.°28W,h33km±3km,MD3.3*
ISC 31 05:15:31.9±3.0,13.°3N±0.°2×91.°4W±0.°1,h28km,n11,

σ0s84/14,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SULM	**Suchitepequez,**	**1.04**	**349**	*e*P	**Pn**	**05 15 51.3**	**+0.6**
FUG	**Fuego 3**	**1.27**	**23**	*e*P	**Pn**	**05 15 54.6**	**+0.5**
STG3	**Santiaguito 3,**	**1.44**	**352**	*e*P	**Pn**	**05 15 55.8**	**-0.6**
NBG	**Las Nubes**	**1.64**	**37**	*e*P	**Pb**	**05 16 02.1**	**+0.5**
NUBE	**Las Nubes**	**1.66**	**68**	*e*P	**Pb**	**05 16 01.6**	**-0.3**
NUBE				*e*S	**Sb**	**05 16 22.0**	**-0.4**
CEVE	**Cerro Verde**	**1.77**	**72**	*e*P	**Pb**	**05 16 04.2**	**+0.2**
JAYA	**Jayaque - finc**	**1.90**	**78**	*e*P	**Pb**	**05 16 05.7**	**-0.3**
JAYA				*e*S	**Sb**	**05 16 29.9**	**+0.6**
PMON	**Piamonte**	**2.04**	**77**	*e*P	**Pb**	**05 16 09.1**	**+0.8**
MTO3	**Montecristo**	**2.24**	**60**	*e*P	**Pb**	**05 16 09.9**	**-1.9**
SJTE	**Alcalda de S**	**2.31**	**81**	*e*P	**Pb**	**05 16 12.0**	**-1.1**
COEG	**Centro de Oper**	**2.44**	**82**	*e*P	**Pb**	**05 16 14.9**	**-0.2**
COEG				*e*S	**Sb**	**05 16 45.3**	**+0.5**
COEG				IAML		05 16 52.0	
	comp=Z,99nm,0.4s						

*IDC **31** 05:20:46.5±4.4,37.°83N×76.°49E,h0km,mb3.7/2,*
mbtmp3.5/4,ML2.3/2,MS3.4/4,Error ellipse: s-maj=97.9km
s-min=33.6km az=123.0
*SOME **31** 05:20:58.2,39.°60N×75.°38E,h5km*
*KRNET **31** 05:21:06.1±0.1,39.°84N×75.°37E,mb3.4*
*NNC **31** 05:21:06.2±1.1,39.°91N×75.°18E,h0km,mb4.1,mpv3.8,*
Error ellipse: s-maj=8.7km s-min=5.4km az=163.0

ISC 31 05:21:06.1±1.0,39.°92N±0.°05×75.°34E±0.°03,h10km,n76,
σ1s73/102,MS3.4/4,29C-14D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.42**	**274**	⇓*i*P	**Pg**	**05 21 33.6**	**+0.3**
	baz=78						
SFK				⇓*i*S	**Sg**	**05 21 53.2**	**+1.5**
	baz=78						
NRN	**Naryn**	**1.59**	**18**	⇑*e*P	**Pg**	**05 21 36.9**	**+0.2**
	baz=16						
NRN				⇑*e*S	**Sg**	**05 21 59.4**	**+2.1**
	baz=16						
ARLS	**Aral**	**2.09**	**339**	⇑*i*P	**Pg**	**05 21 45.5**	**-0.6**
	baz=39						
ARLS				⇑*i*S	**Sg**	**05 22 14.2**	**+1.0**
	baz=39						
ARSB	**Arslanbob**	**2.28**	**309**	⇑*e*P	**Pb**	**05 21 47.8**	**+0.4**
	baz=10.0						
ARSB				⇑*e*S	**Sg**	**05 22 18.5**	**-0.8**
	baz=10.0						
UCH	**Uchtor**	**2.39**	**345**	P	**Pb**	**05 21 49.9**	**+0.4**
	SNR=93						
UCH	**Uchtor**	**2.39**	**345**	⇑*i*P	**Pb**	**05 21 50.1**	**+0.6**
	baz=45						
UCH				⇑*i*S	**Sg**	**05 22 22.0**	**-0.9**
	baz=45						
ULHL	**Ulahol**	**2.42**	**16**	P	**Pg**	**05 21 51.1**	**-1.4**
	SNR=55						
ULHL	**Ulahol**	**2.42**	**16**	⇑*i*P	**Pb**	**05 21 50.1**	**+0.2**
	baz=15						
ULHL				⇑*i*S	**Sg**	**05 22 22.2**	**-1.7**
	baz=15						
TARG	**Taragay, Kyrgy**	**2.60**	**45**	⇓*i*P	**Pb**	**05 21 52.4**	**-0.6**
	baz=43						
TARG				⇓*i*S	**Sb**	**05 22 25.6**	**+0.4**
	baz=43						
BOOM	**Boomskoye usch**	**2.61**	**10**	⇑*i*P	**Pb**	**05 21 52.5**	**-0.5**
	baz=9.0						
BOOM				⇑*i*S	**Sg**	**05 22 26.7**	**-3.1**
	baz=9.0						
KDJ	**Kajisay**	**2.61**	**32**	⇓*e*P	**Pb**	**05 21 52.5**	**-0.5**
	baz=31						
KDJ				⇓*e*S	**Sb**	**05 22 26.5**	**+1.3**
	baz=31						
KBK	**Karagaybulak**	**2.75**	**354**	P	**Pb**	**05 21 55.3**	**-0.1**
	SNR=23						
KBK	**Karagaybulak**	**2.75**	**354**	⇑*i*P	**Pb**	**05 21 54.9**	**-0.5**
	baz=54						
KBK				⇑*i*S	**Sb**	**05 22 30.2**	**+0.9**
	baz=54						
DRK	**Karamyk**	**2.77**	**262**	⇓*i*P	**Pb**	**05 21 54.1**	**-1.7**
	baz=64						
DRK				⇓*i*S	**Sb**	**05 22 28.7**	**-1.2**
	baz=64						
AAK	**Ala-Archa**	**2.79**	**347**	P	**Pb**	**05 21 55.9**	**-0.2**
	SNR=45						
AAK	**Ala-Archa**	**2.79**	**347**	⇑*i*P	**Pb**	**05 21 55.6**	**-0.5**
	baz=47						
AAK				⇑*i*S	**Sb**	**05 22 31.5**	**+1.1**
	baz=47						
EKS2	**Erkin-Say**	**2.98**	**337**	P	**Pb**	**05 21 58.3**	**-1.0**
	SNR=8.4						
TKM2	**Tokmak 2**	**3.00**	**4**	P	**Pb**	**05 21 58.5**	**-1.4**
	SNR=11						
TKM2	**Tokmak 2**	**3.00**	**4**	⇑*i*P	**Pb**	**05 21 58.4**	**-1.4**
	baz=3.0						
TKM2				⇑*i*S	**Sb**	**05 22 36.4**	**-0.2**
	baz=3.0						
CHMS	**Chumysh**	**3.11**	**352**	P	**Pb**	**05 22 00.0**	**-1.5**
	SNR=15						
CHMS	**Chumysh**	**3.11**	**352**	⇓*i*P	**Pb**	**05 21 59.8**	**-1.7**
	baz=52						
CHMS				⇓*i*S	**Sb**	**05 22 38.7**	**-0.7**
	baz=52						
KST	**Kastek**	**3.15**	**8**	*e*P	**Pb**	**05 22 03.4**	**+1.1**
	18nm,0.5s						
KST				*e*S	**Sg**	**05 22 49.2**	**+1.8**
	209nm,0.8s						
KST	**Kastek**	**3.15**	**8**	Pg	**Pg**	**05 22 05.5**	**-1.1**
	18nm,0.5s						
KST				Lg	Lg	05 22 49.2	
	209nm,0.8s						
MRKS	**Merke**	**3.24**	**331**	*e*P	**Pb**	**05 22 01.5**	**-2.3**
	20nm,0.2s						
MRKS				*e*S	**Sb**	**05 22 45.7**	**+2.4**
	39nm,0.6s						
MRKS	**Merke**	**3.24**	**331**	Pg	**Pb**	**05 22 03.5**	**-0.3**
	22nm,0.3s						
MRKS				Lg	Lg	05 22 45.7	
	39nm,0.6s						
MTBS	**Maitube**	**3.31**	**14**	*e*P	**Pb**	**05 22 05.4**	**+0.5**
	4.6nm,0.2s						
MTBS				*e*S	**Sg**	**05 22 52.5**	**+0.2**
	100nm,0.6s						
MTBS	**Maitube**	**3.31**	**14**	Pg	**Pg**	**05 22 07.2**	**-2.2**
	13nm,0.6s						
MTBS				Lg	Lg	05 22 52.2	
	100nm,0.6s						
DGS	**Degeres**	**3.33**	**5**	*e*P	**Pb**	**05 22 06.2**	**+0.9**
	8.8nm,0.2s						
DGS				*e*S	**Sg**	**05 22 53.7**	**+0.6**
	72nm,0.7s						
DGS	**Degeres**	**3.33**	**5**	Pg	**Pg**	**05 22 08.5**	**-1.4**
	26nm,0.5s						
DGS				Lg	Lg	05 22 54.6	
	72nm,0.7s						
TNSS	**Tian-Shan**	**3.34**	**21**	*e*P	**Pb**	**05 22 05.0**	**-0.6**
	12nm,0.2s						
TNSS				*e*S	**Sg**	**05 22 51.7**	**-1.6**
	44nm,0.4s						
TNSS	**Tian-Shan**	**3.34**	**21**	Pg	**Pg**	**05 22 07.6**	**-2.4**
	23nm,0.6s						
TNSS				Lg	Lg	05 22 53.0	
	44nm,0.4s						
MNAS	**Manas**	**3.34**	**321**	⇑*e*P	**Pb**	**05 22 03.0**	**-2.5**
	baz=22						
MNAS				⇑*e*S	**Sb**	**05 22 45.0**	**-1.3**
	baz=22						
USP	**Ospenovka**	**3.40**	**350**	P	**Pb**	**05 22 03.6**	**-2.9**
	SNR=12						
USP	**Ospenovka**	**3.40**	**350**	⇑*i*P	**Pb**	**05 22 03.5**	**-3.0**
	baz=50						
USP				⇑*i*S	**Sb**	**05 22 45.8**	**-2.1**
	baz=50						
BTK	**Batken**	**3.48**	**274**	⇑*e*P	**Pb**	**05 22 03.7**	**+3.3**
	baz=75						
BTK				⇑*e*S	**Sb**	**05 22 46.4**	**-3.8**
	baz=75						
MDOK	**Medeo**	**3.48**	**21**	*e*P	**Pb**	**05 22 08.7**	**+0.7**
	13nm,0.6s						
MDOK				*e*S	**Sg**	**05 22 58.0**	**+0.1**
	68nm,1.0s						
MDOK	**Medeo**	**3.48**	**21**	Pn	**Pn**	**05 22 02.2**	**+1.8**
	13nm,0.6s						
MDOK				Pg	**Pg**	**05 22 10.7**	**-2.1**
	13nm,0.6s						
MDOK				Lg	Lg	05 22 57.2	
	89nm,0.8s						
MDOK				Lg	Lg	05 22 58.0	
	68nm,1.0s						
KNDC	**Almaty**	**3.51**	**20**	⇓Lg	Lg	05 22 59.8	
	244nm,0.7s						
KOTS	**Kotyrbulak**	**3.57**	**21**	*e*P	**Pb**	**05 22 09.8**	**+0.4**
	2.7nm,0.1s						
KOTS				*e*S	**Sg**	**05 22 59.9**	**-0.8**
	244nm,0.7s						
KOTS	**Kotyrbulak**	**3.57**	**21**	Pg	**Pg**	**05 22 12.7**	**-1.7**
	22nm,0.4s						
KOTS				Lg	Lg	05 23 01.5	
	244nm,0.7s						
KRBS	**Karabastau**	**3.78**	**4**	*e*P	**Pb**	**05 22 14.3**	**+1.3**
	13nm,0.5s						
KRBS				*e*S	**Sg**	**05 23 07.5**	**0.0**
	28nm,0.4s						
KRBS	**Karabastau**	**3.78**	**4**	Pg	**Pg**	**05 22 16.4**	**-2.1**
	13nm,0.5s						
KRBS				Lg	Lg	05 23 08.1	
	28nm,0.4s						
SATY	**Saty**	**3.89**	**35**	*e*P	**Pb**	**05 22 15.0**	**+0.2**
	6.4nm,0.2s						
SATY				*e*S	**Sg**	**05 23 08.8**	**-2.1**
	30nm,0.6s						
SATY	**Saty**	**3.89**	**35**	Pg	**Pg**	**05 22 17.9**	**-2.7**
	8.5nm,0.6s						
SATY				Lg	Lg	05 23 10.2	
	30nm,0.6s						
KTBS	**Karatobe**	**3.92**	**14**	*e*P	**Pb**	**05 22 16.6**	**+1.4**
	9.2nm,0.2s						
KTBS				*e*S	**Sg**	**05 23 11.6**	**-0.3**
	48nm,0.5s						
KTBS	**Karatobe**	**3.92**	**14**	Pg	**Pg**	**05 22 18.9**	**-2.3**
	13nm,0.2s						
KTBS				Lg	Lg	05 23 11.8	
	48nm,0.5s						
ZHN	**Zhinishke**	**3.99**	**35**	*e*P	**Pb**	**05 22 16.9**	**+0.4**
	3.4nm,0.1s						
ZHN				*e*S	**Sg**	**05 23 11.9**	**-2.3**
	21nm,0.3s						
ZHN	**Zhinishke**	**3.99**	**35**	Pg	**Pg**	**05 22 20.1**	**-2.4**
	6.8nm,0.6s						
ZHN				Lg	Lg	05 23 14.1	
	21nm,0.3s						
KURS	**Kuram**	**4.14**	**30**	*e*P	**Pb**	**05 22 19.1**	**0.0**
	11nm,0.5s						
KURS				*e*S	**Sg**	**05 23 15.8**	**-3.4**
	14nm,0.9s						
KURS	**Kuram**	**4.14**	**30**	Pg	**Pg**	**05 22 22.8**	**-2.7**
	11nm,0.5s						
KURS				Lg	Lg	05 23 18.2	
	14nm,0.9s						
UZB	**Uzynbulak**	**4.24**	**39**	*e*P	**Pb**	**05 22 22.2**	**+1.3**
	3.8nm,0.1s						
UZB				*e*S	**Sg**	**05 23 20.9**	**-1.4**
	9.9nm,0.3s						
UZB	**Uzynbulak**	**4.24**	**39**	Pg	**Pg**	**05 22 24.4**	**-3.0**
	7.9nm,0.3s						
UZB				Lg	Lg	05 23 21.3	
	14nm,0.8s						
SHLS	**Shalkode**	**4.47**	**42**	Pg	**Pg**	**05 22 33.4**	**+1.6**
	13nm,0.3s						
SHLS				Lg	Lg	05 23 36.6	
	21nm,0.4s						
IUG	**Iuzhnay**	**4.59**	**301**	Pg	**Pg**	**05 22 25.9**	**-0.9**
	16nm,0.2s						
IUG				Lg	Lg	05 23 24.1	
	47nm,0.6s						
PDGK	**Podgornoye**	**4.61**	**41**	Pg	**Pg**	**05 22 30.8**	**-3.5**
	3.9nm,0.4s						
PDGK				Lg	Lg	05 23 31.7	
	7.9nm,0.7s						
PDGK	**Podgornoye**	**4.61**	**41**	⇓Pn	**Pn**	**05 22 17.6**	**+1.7**
	5.0nm,1.4s						
PDGK				⇑Pg	**Pg**	**05 22 31.6**	**-2.7**
	6.8nm,0.6s						
PDGK				⇓Lg	Lg	05 23 38.6	
	24nm,0.9s						
ARXS	**Arharly**	**4.67**	**22**	*e*P	**Pb**	**05 22 30.0**	**+1.9**
	6.7nm,0.2s						
ARXS				*e*S	**Sg**	**05 23 34.1**	**-1.9**
	32nm,0.7s						
ARXS	**Arharly**	**4.67**	**22**	Pg	**Pg**	**05 22 34.0**	**-1.5**
	9.4nm,0.5s						
ARXS				Lg	Lg	05 23 37.8	
	32nm,0.7s						
BLB	**Baldybastay**	**4.78**	**28**	Pg	**Pg**	**05 22 36.2**	**-1.4**
	12nm,0.1s						
BLB				Lg	Lg	05 23 41.9	
	10nm,0.3s						
KK31	**Karatay Array**	**4.82**	**313**	⇑Pn	**Pn**	**05 22 20.6**	**+1.8**
	0.6nm,0.3s,baz=126,slow=12,SNR=10						
KK31				⇑Pg	**Pb**	**05 22 32.1**	**+1.4**
	2.8nm,0.7s,baz=135,slow=17,SNR=7.7						
KK31				⇑Lg	Lg	05 23 38.6	
	2.4nm,0.3s,baz=127,slow=26,SNR=5.9						
BTLS	**Baital**	**5.21**	**350**	*e*P	**Pb**	**05 22 40.7**	**+3.5**
	2.3nm,0.3s						
BTLS				*e*S	**Sg**	**05 23 52.4**	**-0.8**
	11nm,0.4s						
BTLS	**Baital**	**5.21**	**350**	Pg	**Pg**	**05 22 42.5**	**-3.3**
	2.9nm,0.8s						
BTLS				Lg	Lg	05 23 52.6	
	16nm,0.8s						
KNOS	**Konyrlen**	**5.27**	**31**	Pg	**Pg**	**05 22 44.8**	**-2.2**
	8.1nm,0.6s						
KNOS				Lg	Lg	05 23 56.

AAK	**Ala-Archa**	**6.69**	**23**	P		**Pn**	**05 42 41.6**	**+0.7**
	21nm,0.4s,baz=190,slow=6.2,SNR=72							
AAK				S		**Sn**	**05 43 56.5**	**+0.9**
	7.1nm,0.5s,baz=325,slow=22,SNR=10							
CHMS	**Chumysh**	**7.10**	**23**	P		**Pn**	**05 42 46.9**	**+0.6**
	SNR=9.1							
USP	**Ospenovka**	**7.27**	**21**	P		**Pn**	**05 42 49.1**	**+0.6**
	SNR=7.6							
TKM2	**Tokmak 2**	**7.33**	**28**	P		**Pn**	**05 42 49.5**	**+0.1**
	SNR=20							
KST	**Kastek**	**7.57**	**29**	Lg		Lg	05 44 14.9	
	4.5nm,0.7s							
MTBS	**Maitube**	**7.83**	**31**	P		**Pn**	**05 42 55.9**	**-0.3**
	6.4nm,0.3s							
KRBS	**Karabastau**	**8.03**	**25**	P		**Pn**	**05 42 58.5**	**-0.4**
	2.0nm,0.4s							
KTBS	**Karatobe**	**8.42**	**30**	P		**Pn**	**05 43 03.7**	**-0.4**
	1.7nm,0.3s							
SATY	**Saty**	**8.69**	**39**	P		**Pn**	**05 43 07.0**	**-0.9**
	4.4nm,0.7s							
ARXS	**Arharly**	**9.30**	**32**	P		**Pn**	**05 43 14.4**	**-1.8**
	3.5nm,0.4s							
PDGK	**Podgornoye**	**9.45**	**41**	P		**Pn**	**05 43 16.6**	**-1.6**
	1.8nm,1.1s							
KNOS	**Konyrlen**	**10.03**	**36**	P		**Pn**	**05 43 26.0**	**-0.1**
	3.5nm,0.4s							
GEYT	**Alibeck**	**10.32**	**282**	P		**Pn**	**05 43 31.5**	**+1.4**
	1.4nm,0.4s,baz=98,slow=10,SNR=2.5							
GEYT				S		**Sn**	**05 45 20.2**	**-3.6**
	2.3nm,0.5s,baz=99,slow=38,SNR=2.6							
MK31	**Makanchi Array**	**13.30**	**36**	⇑P		**Pn**	**05 44 08.5**	**-1.2**
	0.3nm,0.3s,baz=206,slow=8.5,SNR=11							
MKAR	**Makanchi Array**	**13.30**	**36**	P		**Pn**	**05 44 08.3**	**-1.4**
	0.6nm,0.6s,baz=220,slow=14,SNR=6.3							
AB31	**Akbulak array**	**15.04**	**331**	P		**Pn**	**05 44 31.3**	**-0.8**
	1.2nm,0.5s,baz=158,slow=11,SNR=29							
AB31				⇑S		Sn	05 47 13.5	-4.5
	3.3nm,0.6s,baz=152,slow=22,SNR=11							
KURBB	**Kurchatov Arra**	**15.12**	**19**	P		**P**	**05 44 35.0**	**-0.9**
	0.5nm,0.5s,baz=206,slow=10,SNR=6.0							
BVAR	**Borovoye Array**	**16.51**	**359**	P		**Pn**	**05 44 50.8**	**+0.5**
	0.7nm,0.4s,baz=153,slow=13,SNR=5.1							
AKTO	**Aktyubinsk**	**16.74**	**330**	P		**Pn**	**05 44 54.8**	**+1.6**
	4.6nm,0.8s,baz=152,slow=7.8,SNR=13							
AKTO	**Aktyubinsk**	**16.74**	**330**	⇑P		**Pn**	**05 44 49.0**	**-4.1**
	2.4nm,0.8s							
ZALV	**Zalesovo Beam**	**19.91**	**25**	P		**P**	**05 45 27.3**	**-1.2**
	1.8nm,0.4s,baz=221,slow=10,SNR=10.0							
	1.8nm,0.4s							
AKASG	**Malin Array Be**	**32.90**	**309**	P		**P**	**05 47 31.1**	**+1.8**
	0.8nm,0.5s,baz=81,slow=7.2,SNR=7.1							
	0.8nm,0.5s							
FINES	**FINESS Array B**	**37.44**	**326**	P		**P**	**05 48 09.9**	**+1.8**
	0.7nm,0.6s,baz=121,slow=7.4,SNR=5.1							
	0.7nm,0.6s							
ARCES	**ARCESS Array B**	**41.11**	**338**	P		**P**	**05 48 40.4**	**+1.8**
	3.9nm,0.9s,baz=123,slow=9.8,SNR=2.1							
	3.9nm,0.9s							
HFS	**Hagfors**	**43.02**	**322**	P		**P**	**05 48 55.6**	**+1.4**
	1.0nm,0.6s,baz=99,slow=9.2,SNR=5.9							
	1.0nm,0.6s							
NB2	**NORSAR Subarra**	**44.33**	**323**	P		**P**	**05 49 05.3**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=97,slow=7.9							
NOA	**NORSAR Array B**	**44.33**	**323**	P		**P**	**05 49 05.7**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=97,slow=7.7,SNR=4.3							
	comp=Z,0.6nm,0.7s							
TGY	**Tagaytay City**	**49.77**	**103**	LR		LR	06 11 01.2	
	comp=Z,243nm,21.2s,baz=142,slow=36							
JHJ	**Hachijo jima 2**	**55.51**	**72**	LR		LR	06 17 40.1	
	comp=Z,69nm,19.2s,baz=284,slow=40							
TORD	**Torodi Ar. Bea**	**65.67**	**269**	P		**P**	**05 51 37.8**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=50,slow=6.3,SNR=10							
	comp=Z,0.7nm,0.5s							
YKA	**Yellowknife Ar**	**81.22**	**3**	P		**P**	**05 53 09.5**	**+0.1**
	comp=Z,0.1nm,0.6s,baz=348,slow=6.1,SNR=2.5							
	comp=Z,0.1nm,0.6s							

IDC 31 05:44:39.1±2.2, 33°.78S×179°.61E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=66.7km s-min=40.6km az=44.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.04**	**272**	P	P	05 52 24.2	-0.2
	0.2nm,0.6s,baz=111,slow=7.4,SNR=2.1						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**42.34**	**277**	P	P	05 52 34.8	-0.3
	0.3nm,0.4s,baz=113,slow=7.8,SNR=8.5						
	0.3nm,0.4s						
QSPA	**South Pole Qui**	**56.34**	**180**	P	P	05 54 20.9	-0.7
	1.3nm,1.0s,baz=27,slow=2.3,SNR=2.2						
	1.3nm,1.0s						
FINES	**FINESS Array B**	**147.52**	**336**	PKPbc	PKPbc	06 04 24.4	+0.1
	1.3nm,0.8s,baz=44,slow=4.2,SNR=4.9						

*IDC **31** 06:30:43.6±2.1, 54°.11N×160°.61E, h0km, mb3.6/4, mbtmp3.5/5, ML2.7/1, MS2.4/2, Error ellipse: s-maj=64.0km s-min=21.1km az=146.0*
*KRSC **31** 06:30:45.1±0.9, 53°.63N×160°.96E, h45km±17km, Ml4.1*
ISC 31 06:30:44.6±1.3, 53°.75N±0°.04×160°.78E±0°.05, h17km±9km, n35, σ097/43, mb3.6/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.80**	**215**	*e*P	**Pn**	**06 31 01.2**	**+0.1**
SPN				*e*S	**Sg**	**06 31 11.2**	**+0.6**
KII	**Karymskiy**	**0.84**	**290**	*e*P	**Pn**	**06 31 03.5**	**+1.8**
KII				*e*S	**Sn**	**06 31 15.2**	**+1.5**
NLC	**Nalytchevo**	**1.04**	**236**	*e*P	**Pg**	**06 31 05.0**	**+0.4**
NLC				*e*S	**Sg**	**06 31 18.1**	**-0.1**
SMAR	**Somma**	**1.28**	**248**	*e*P	**Pg**	**06 31 09.2**	**-0.1**
UGLR	**Uglovaya**	**1.29**	**246**	*e*P	**Pg**	**06 31 09.4**	**-0.1**
KRER	**Koryakskii**	**1.29**	**250**	*e*P	**Pg**	**06 31 09.7**	**+0.2**
KRER				*e*S	**Sg**	**06 31 25.9**	**-0.5**
AVH	**Avacha**	**1.31**	**249**	*e*P	**Pg**	**06 31 10.0**	**+0.1**
KRX	**Arik**	**1.33**	**254**	*e*P	**Pg**	**06 31 09.9**	**-0.3**
KOK	**Koryaka**	**1.36**	**251**	*e*P	**Pg**	**06 31 10.3**	**-0.5**
DALK	**Dalny**	**1.41**	**240**	*e*P	**Pb**	**06 31 10.6**	**+0.2**
DALK				*e*S	**Sn**	**06 31 27.6**	**-0.1**
PET	**Petropavlovsk**	**1.47**	**241**	*e*P	**Pb**	**06 31 11.0**	**-0.4**
TUMD	**Tumrok D**	**1.47**	**351**	*e*P	**Pg**	**06 31 13.1**	**+0.2**
TUMD				*e*S	**Sg**	**06 31 31.9**	**-0.2**
TUMR	**Tumrok**	**1.58**	**347**	*e*P	**Pg**	**06 31 15.5**	**+0.5**
GNL	**Ganaly**	**1.69**	**269**	*e*P	**Pg**	**06 31 15.7**	**-1.3**
KRMR	**Karymshinskiy**	**1.84**	**241**	*e*P	**Pb**	**06 31 17.8**	**+0.1**
KRMR				*e*S	**Sb**	**06 31 39.6**	**-0.9**
RUS	**Russkaya**	**1.90**	**227**	*e*P	**Pb**	**06 31 18.4**	**-0.4**
PETK	**Petropavlovsk-**	**1.95**	**252**	Pn	**Pb**	**06 31 19.0**	**-0.7**
	14nm,0.3s,baz=82,slow=20,SNR=35						
PETK				Sn	**Sb**	**06 31 44.4**	**+0.6**
	14nm,0.3s,baz=19,slow=16,SNR=8.7						
PETK				LR	LR	06 32 01.3	
	comp=Z,76nm,19.3s,baz=81,slow=39						
	24nm,0.5s						
MTVR	**Mutnovka**	**2.02**	**232**	*e*P	**Pn**	**06 31 19.3**	**+1.3**
KMNR	**Kamenistaya**	**2.03**	**351**	*e*P	**Pg**	**06 31 22.5**	**-1.1**
BZGR	**Bezymyannyi-Gr**	**2.19**	**359**	*e*P	**Pb**	**06 31 24.5**	**+0.7**
BZMR	**Bezymyannaya**	**2.19**	**356**	*e*P	**Pb**	**06 31 24.3**	**+0.4**
ASAK	**Asacha**	**2.21**	**233**	*e*P	**Pn**	**06 31 22.3**	**+1.7**
BZWR	**Bezymyannyi-We**	**2.22**	**356**	*e*P	**Pb**	**06 31 25.2**	**+0.8**
APC	**Apacha**	**2.33**	**251**	*e*P	**Pb**	**06 31 25.0**	**-1.0**
ESO	**Esso**	**2.49**	**332**	*e*P	**Pb**	**06 31 27.5**	**-1.3**
KDTR	**Khodutka, Kamc**	**2.55**	**221**	*e*P	**Pn**	**06 31 27.0**	**+2.0**
KDTR				*e*S	**Sn**	**06 31 56.0**	**+0.4**
SRDR	**Sredinnyy**	**2.64**	**347**	*e*P	**Pb**	**06 31 29.6**	**-1.9**
KBG	**Krutoberegovo**	**2.74**	**23**	*e*P	**Pn**	**06 31 29.8**	**+2.1**
BKI	**Bering**	**3.36**	**62**	*e*S	**Sn**	**06 32 14.4**	**-1.3**
MA2	**Magadan**	**8.02**	**321**	LR	LR	06 35 59.1	
	comp=Z,37nm,19.2s,baz=156,slow=41						
ILAR	**Eielson Array**	**28.06**	**46**	P	**P**	**06 36 34.5**	**-0.2**
	0.5nm,0.9s,baz=267,slow=8.9,SNR=4.7						
	0.5nm,0.9s						
YKA	**Yellowknife Ar**	**42.40**	**43**	P	**P**	**06 38 37.6**	**0.0**
	0.2nm,0.6s,baz=299,slow=8.4,SNR=4.4						
	0.2nm,0.6s						
FINES	**FINESS Array B**	**59.68**	**337**	P	**P**	**06 40 46.6**	**-0.8**
	1.0nm,0.6s,baz=29,slow=6.5,SNR=6.1						
	1.0nm,0.6s						
NB2	**NORSAR Subarra**	**63.02**	**344**	P	**P**	**06 41 09.1**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=20,slow=6.9						
NOA	**NORSAR Array B**	**63.02**	**344**	P	**P**	**06 41 09.1**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=21,slow=6.7,SNR=5.0						
	comp=Z,0.8nm,0.7s						

IDC 31 06:31:07.4±0.4, 30°.16S×177°.79W, h0km, mb4.7/17, mbtmp4.7/19, ML4.0/2, MS4.1/42, Error ellipse: s-maj=16.6km s-min=12.1km az=96.0
MOS 31 06:31:11.2±1.2, 30°.13S×177°.86W, h33km, mb5.3/29, Error ellipse: s-maj=11.8km s-min=10.0km az=74.2
NEIC 31 06:31:12.3±1.4, 30°.24S±0°.06×177°.74W±0°.06, h25km±5km, mb5.1/81, Error ellipse: s-maj=10.0km s-min=5.7km az=145.0
GCMT 31 06:31:15.3±0.3, 30°.28S±0°.02×177°.45W±0°.02, h41km, MW5.0/75, Moment Tensor Solution. s69,c85; s75,c101; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 4.15±.19; Mθθ -0.15±.14; Mϕϕ -3.99±.12; Mrθ 0.64±.14; Mrϕ -0.80±.11; Mθϕ 1.95±.10; Best double couple: M0 4.63000×10^16 NP1: ϕs 188.00000°, δ 32.00000°, λ 85.00000°. NP2: ϕs 8.00000°, δ 58.00000°, λ 93.00000°. Principal axes: T 4.6350, Plg 77.0000°, Azm 294.0000°; N -0.0050, Plg 3.0000°, Azm 193.0000°; P -4.6250, Plg 13.0000°, Azm 102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISC 31 06:31:12.2±0.3, 30°.31S±0°.04×177°.67W±0°.07, h33km, n412, σ1°69/400, mb5.1/80, MS4.2/43, 15C-13D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.07**	**348**	P	**Pn**	**06 31 29.5**	**-1.3**
GLKZ				S	**Sn**	**06 31 41.3**	**-3.2**
RAO	**Raoul Island**	**1.07**	**348**		**Pn**	**06 31 29.9**	**-1.1**
RAO				Sn	**Sn**	**06 31 43.6**	**-1.1**
RAO	**Raoul Island**	**1.07**	**348**	Pn	**Pn**	**06 31 29.5**	**-1.4**
	2μm,0.3s,baz=255,slow=3.0,SNR=58						
RAO				Sn	**Sn**	**06 31 42.1**	**-2.6**
	34μm,0.3s,baz=107,slow=20,SNR=53						
RAO	**Raoul Island**	**1.07**	**348**	P	**Pn**	**06 31 30.2**	**-0.8**
RIZ	**Raoul Island**	**1.08**	**348**	P	**Pn**	**06 31 30.0**	**-1.1**
RIZ				S	**Sn**	**06 31 43.4**	**-1.5**
MXZ	**Matakaoa Point**	**7.97**	**204**	Pn	**Pn**	**06 33 04.4**	**-1.3**
MXZ	**Matakaoa Point**	**7.97**	**204**	P	**Pn**	**06 33 03.2**	**-2.5**
MXZ				S	**Sn**	**06 34 30.3**	**-4.3**
WMGZ	**Waiomatatini S**	**8.16**	**202**	P	**Pn**	**06 33 05.7**	**-2.7**
WMGZ				S	**Sn**	**06 34 38.9**	**-0.5**
HAZ	**Te Kaha**	**8.33**	**206**	P	**Pn**	**06 33 08.8**	**-1.8**
HAZ				S	**Sn**	**06 34 43.7**	**+0.1**
PKGZ	**Pakihiroa**	**8.34**	**204**	P	**Pn**	**06 33 07.6**	**-3.2**
PKGZ				S	**Sn**	**06 34 42.5**	**-1.4**
PUZ	**Puketiti**	**8.45**	**202**	P	**Pn**	**06 33 08.8**	**-3.5**
PUZ				S	**Sn**	**06 34 43.5**	**-2.9**
RUGZ	**Raukumara Rang**	**8.55**	**206**	P	**Pn**	**06 33 10.5**	**-3.3**
RUGZ				S	**Sn**	**06 34 48.0**	**-1.3**
WCZ	**Waipu Caves**	**8.74**	**228**	P	Pn	06 33 23.1	+6.9
OUZ	**Omahuta**	**8.83**	**234**	P	Pn	06 33 24.2	+6.7
CNGZ	**Carnagh Statio**	**8.84**	**202**	P	**Pn**	**06 33 15.2**	**-2.4**
CNGZ				S	**Sn**	**06 34 57.7**	**+1.7**
TKGZ	**Te Karaka**	**8.91**	**203**	P	**Pn**	**06 33 15.5**	**-3.1**
TKGZ				S	**Sn**	**06 34 55.3**	**-2.6**
MWZ	**Matawai**	**8.94**	**205**	P	**Pn**	**06 33 16.4**	**-2.6**
MWZ				S	**Sn**	**06 34 54.3**	**-4.2**
URZ	**Urewera**	**9.03**	**207**	Pn	**Pn**	**06 33 16.2**	**-4.0**
	0.9nm,0.3s,baz=354,slow=3.5,SNR=21						
URZ				Sn	**Sn**	**06 34 58.2**	**-2.5**
	10nm,0.3s,baz=185,slow=5.4,SNR=5.5						
URZ	**Urewera**	**9.03**	**207**	P	**Pn**	**06 33 16.2**	**-4.0**
URZ				S	**Sn**	**06 34 57.5**	**-3.1**
TOZ	**Tahuroa Road**	**9.32**	**216**	Pn	**Pn**	**06 33 23.6**	**-0.6**
RTZ	**Ruatahuna**	**9.39**	**207**	Pn	**Pn**	**06 33 23.1**	**-2.1**
SNGZ	**Shannon Statio**	**9.40**	**205**	P	**Pn**	**06 33 21.9**	**-3.4**
SNGZ				P	**Sn**	**06 35 08.8**	**-1.1**
HIZ	**Hauiti**	**10.25**	**215**	Pn	**Pn**	**06 33 34.9**	**-2.1**
HIZ	**Hauiti**	**10.25**	**215**	P	**Pn**	**06 33 41.3**	**+4.4**
BFZ	**Birch Farm**	**11.47**	**204**	Pn	**Pn**	**06 33 50.6**	**-3.1**
MRZ	**Mangatainoka R**	**11.70**	**206**	Pn	**Pn**	**06 33 54.6**	**-2.2**
BHW	**Baring Head**	**12.61**	**207**	Pn	**Pn**	**06 34 06.0**	**-3.2**
MSVF	**Nonsavu**	**13.11**	**342**	*i* P	Pn	06 34 10.1	-6.2
NIUE	**Niue**	**13.21**	**34**	P	Pn	06 34 10.9	-6.6
BSWZ	**Blackbirch Sta**	**13.27**	**209**	P	**Pn**	**06 34 17.4**	**-0.8**
BSWZ				S	Sn	06 36 33.5	-11
CTZ	**Chatham Island**	**13.43**	**177**	Pn	**Pn**	**06 34 17.2**	**-3.2**
CTZ	**Chatham Island**	**13.43**	**177**	P	**Pn**	**06 34 17.4**	**-2.9**
MRNZ	**Matariki Terra**	**13.51**	**212**	P	Pn	06 34 16.5	-4.9
MRNZ				S	Sn	06 36 39.3	-11
THZ	**Tophouse**	**13.73**	**211**		**Pn**	**06 34 22.5**	**-2.0**
THZ	**Tophouse**	**13.73**	**211**	P	**Pn**	**06 34 21.3**	**-3.3**
THZ				S	Sn	06 36 45.5	-10
KHZ	**Kahutara**	**13.99**	**208**	Pn	**Pn**	**06 34 24.4**	**-3.7**
KHZ	**Kahutara**	**13.99**	**208**	P	**Pn**	**06 34 23.6**	**-4.5**
KHZ				S	Sn	06 36 46.5	-16
DSZ	**Denniston Nort**	**14.22**	**214**	P	**Pn**	**06 34 30.7**	**-0.6**
DSZ				S	Sn	06 36 53.7	-14
GVZ	**Greta Valley S**	**14.66**	**208**	P	Pn	06 34 32.2	-5.0
GVZ				S	Sn	06 37 02.6	-16
LTZ	**Lake Taylor**	**14.83**	**210**	P	Pn	06 34 34.6	-4.8
LTZ				S	Sn	06 37 04.9	-18
INZ	**Inchbonnie**	**15.15**	**212**	Pn	**Pn**	**06 34 43.2**	**-0.5**
INZ				IAmb	IAmb	06 34 50.4	
	comp=Z,136nm,1.7s						
INZ	**Inchbonnie**	**15.15**	**212**	P	**Pn**	**06 34 39.5**	**-4.3**
OXZ	**Oxford**	**15.37**	**209**	Pn	**Pn**	**06 34 45.3**	**-1.3**
OXZ				IAmb	IAmb	06 34 51.5	
	comp=Z,62nm,0.7s						
OXZ	**Oxford**	**15.37**	**209**	P	**Pn**	**06 34 43.4**	**-3.2**
OXZ				S	Sn	06 37 17.5	-18
MQZ	**McQueen's Vall**	**15.43**	**207**	P	**Pn**	**06 34 44.1**	**-3.3**
MQZ				S	Sn	06 37 19.0	-18
WVZ	**Waitaha Valley**	**15.75**	**213**	P	**Pn**	**06 34 53.0**	**+1.4**
RPZ	**Rata Peaks**	**16.11**	**211**	Pn	**Pn**	**06 34 55.3**	**-0.8**
	comp=Z,1.8nm,0.3s,baz=42,slow=3.8,SNR=6.1						
RPZ				Sn	Sn	06 37 37.8	-16
	comp=Z,2.1nm,0.3s,baz=347,slow=15,SNR=1.8						
	comp=Z,19nm,0.7s						
RPZ	**Rata Peaks**	**16.11**	**211**	P	**Pn**	**06 34 50.2**	**-5.9**
GCSZ	**Gaunt Creek Bo**	**16.13**	**213**	P	**Pn**	**06 34 55.5**	**-0.8**
ARCZ	**Arundel**	**16.24**	**210**	P	**Pn**	**06 34 55.8**	**-2.0**
DZM	**Mont Dzumac**	**16.44**	**296**	Pn	**Pn**	**06 35 00.3**	**-0.2**
DZM	**Mont Dzumac**	**16.44**	**296**	Pn	**Pn**	**06 35 00.3**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=148,slow=14,SNR=2.0						
DZM				LR	LR	06 40 09.3	
	comp=Z,2μm,18.9s,baz=164,slow=33						
FOZ	**Fox Glacier**	**16.54**	**214**	Pn	**Pn**	**06 34 59.7**	**-1.8**
TMZ	**Timaru**	**16.66**	**209**	P	**Pn**	**06 34 59.1**	**-4.1**
LBZ	**Lake Benmore**	**17.02**	**211**		**Pn**	**06 35 07.1**	**-0.6**
LBZ	**Lake Benmore**	**17.02**	**211**	P	**Pn**	**06 35 06.5**	**-1.1**
RAR	**Rarotonga**	**18.47**	**65**	P	**P**	**06 35 23.4**	**-1.9**
	comp=Z,1.5nm,0.3s,baz=86,slow=1.4,SNR=6.5						
RAR				LR	LR	06 40 46.9	
	comp=Z,536nm,20.6s,baz=258,slow=31						
	comp=Z,31nm,0.9s						
ARMA	**Armidale**	**26.45**	**262**	P	**P**	**06 36 49.6**	**+3.2**
	baz=27,SNR=9.9						
ARMA	**Armidale**	**26.45**	**262**	P	**P**	**06 36 47.7**	**+1.3**
MGCD	**Mangrove Creek**	**26.66**	**256**	P	**P**	**06 36 51.7**	**+3.7**
	baz=27,SNR=7.9						
EIDS	**Eidsvold**	**28.02**	**272**	P	**P**	**06 37 02.2**	**+1.9**
	baz=28,SNR=3.6						
EIDS	**Eidsvold**	**28.02**	**272**	P	**P**	**06 37 01.0**	**+0.7**
EIDS				IAmb	IAmb	06 37 05.0	
	comp=Z,27nm,0.9s						
CNB	**Canberra Magne**	**28.08**	**251**	P	**P**	**06 37 03.7**	**+2.8**
	baz=28,SNR=6.8						
MILA	**Mila**	**28.32**	**247**	P	**P**	**06 37 05.5**	**+2.5**
	baz=29						
CAN	**Canberra**	**28.37**	**251**	P	**P**	**06 37 05.6**	**+2.1**
CAN				IAmb	IAmb	06 37 07.0	
	comp=Z,40nm,0.9s						
CAN	**Canberra**	**28.37**	**251**	P	**P**	**06 37 05.6**	**+2.1**
CAN				pmax	pmax		
	comp=Z,40nm,0.9s						
PPT	**Papeete**	**28.55**	**70**	P	**P**	**06 37 06.7**	**+1.6**
	comp=Z,29nm,0.9s,baz=87,slow=7.2,SNR=4.1						
PPT				LR	LR	06 45 27.9	
	comp=Z,332nm,21.6s,baz=236,slow=30						
	comp=Z,29nm,0.9s						
YNG	**Young**	**28.88**	**253**	P	**P**	**06 37 10.9**	**+3.0**
	baz=29,SNR=15						
HNR	**Honiara**	**29.46**	**310**	LR	LR	06 48 06.4	
	comp=Z,3μm,18.9s,baz=175,slow=35						
MOO	**Moorlands**	**30.56**	**237**	P	**P**	**06 37 24.3**	**+1.6**
	baz=31						
TOO	**Toolangi**	**31.26**	**247**	P	**P**	**06 37 31.1**	**+2.1**
	baz=32,SNR=14						
TOO	**Toolangi**	**31.26**	**247**	P	**P**	**06 37 30.4**	**+1.4**
TOO	**Toolangi**	**31.26**	**247**	P	**P**	**06 37 30.4**	**+1.4**
TOO				pmax	pmax		
	comp=Z,51nm,1.1s						
CMSA	**Cobar Meteorol**	**31.36**	**258**	P	**P**	**06 37 31.9**	**+2.0**
	baz=32,SNR=31						
QLP	**Quilpie**	**33.60**	**267**	P	**P**	**06 37 50.9**	**+1.4**
	baz=34,SNR=8.9						
CTAO	**Charters Tower**	**34.07**	**279**	P	**P**	**06 37 55.0**	**+1.3**
CTAO	**Charters Tower**	**34.07**	**279**	P	**P**	**06 37 55.0**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,78nm,0.9s						
ARPS	**Mount Arapiles**	**34.17**	**248**	P	**P**	**06 37 56.3**	**+1.9**
	baz=34,SNR=12						
STKA	**Stephens Creek**	**34.78**	**257**	P	**P**	**06 38 01.9**	**+2.2**
	baz=35,SNR=16						
STKA	**Stephens Creek**	**34.78**	**257**	*i* P	**P**	**06 37 58.0**	**-1.7**
STKA	**Stephens Creek**	**34.78**	**257**	P	**P**	**06 38 01.1**	**+1.3**
	comp=Z,43nm,1.0s,baz=93,slow=9.3,SNR=48						
STKA				LR	LR	06 51 18.9	
	comp=Z,515nm,18.0s,baz=72,slow=35						
	comp=Z,43nm,1.0s						
MTSU	**Mount Surprise**	**36.56**	**281**	P	**P**	**06 38 17.0**	**+1.9**
	baz=37,SNR=8.6						
HTT	**Hallett**	**36.80**	**254**	P	**P**	**06 38 18.8**	**+1.7**
	baz=37,SNR=34						
PMG	**Port Moresby**	**38.83**	**295**	LR	LR	06 51 49.7	
	comp=Z,576nm,18.9s,baz=112,slow=32						
BBOO	**Buckleboo**	**39.27**	**254**	P	**P**	**06 38 38.8**	**+0.9**
	baz=40,SNR=19						
BBOO	**Buckleboo**	**39.27**	**254**	P	**P**	**06 38 38.1**	**+0.3**
BBOO				IAmb	IAmb	06 38 39.2	
	comp=Z,49nm,0.9s						
COEN	**Coen**	**39.52**	**286**	P	**P**	**06 38 41.6**	**+1.5**
	baz=40,SNR=10						
COEN	**Coen**	**39.52**	**286**	P	**P**	**06 38 40.8**	**+0.7**
COEN				IAmb	IAmb	06 38 42.7	
	comp=Z,32nm,1.1s						
QIS	**Mount Isa**	**39.59**	**274**	P	**P**	**06 38 41.7**	**+1.0**
	baz=40,SNR=13						
AS31	**Alice Springs**	**43.40**	**267**	P	**P**	**06 39 11.8**	**-0.1**
ASAR	**Alice Springs**	**43.40**	**267**	P	**P**	**06 39 11.0**	**-0.9**
ASAR	**Alice Springs**	**43.40**	**267**	P	**P**	**06 39 11.0**	**-0.9**
ASAR	**Alice Springs**	**43.40**	**267**	P	**P**	**06 39 11.2**	**-0.8**
	comp=Z,13nm,0.9s,baz=102,slow=7.7,SNR=86						
ASAR				LR	LR	06 56 52.6	
	comp=Z,757nm,18.7s,baz=105,slow=36						
	comp=Z,13nm,0.9s						
WB2	**Warramunga Arr**	**44.37**	**272**	P	**P**	**06 39 19.2**	**-0.5**
	baz=45						
WRAB	**Tennant Creek**	**44.37**	**272**	P	**P**	**06 39 19.4**	**-0.4**
WRAB	**Tennant Creek**	**44.37**	**272**	P	**P**	**06 39 17.0**	**-2.8**
WRAB				pmax	pmax		
	comp=Z,64nm,1.0s						
WRA	**Warramunga Arr**	**44.38**	**272**	P	**P**	**06 39 19.1**	**-0.8**
	comp=Z,46nm,0.8s,baz=110,slow=8.1,SNR=265						
WRA				LR	LR	06 57 01.7	
	comp=Z,384nm,18.6s,baz=122,slow=35						
	comp=Z,46nm,0.8s						
FORT	**Forrest**	**46.35**	**255**	P	**P**	**06 39 34.0**	**-1.3**
FORT				IAmb	IAmb	06 39 38.2	
	comp=Z,38nm,1.2s						
WRKA	**Warakurna**	**47.77**	**263**	P	**P**	**06 39 44.7**	**-1.8**
	baz=48,SNR=7.4						
SBA	**Scott Base**	**48.15**	**184**	P	**P**	**06 39 51.8**	**+3.2**
SBA	**Scott Base**	**48.15**	**184**	P	**P**	**06 39 51.8**	**+3.2**
SBA				pmax	pmax		
	comp=Z,45nm,1.2s						
VNDA	**Vanda**	**48.22**	**186**	P	**P**	**06 39 51.9**	**+2.8**
VNDA	**Vanda**	**48.22**	**186**	P	**P**	**06 39 51.9**	**+2.8**
VNDA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
VNDA	**Vanda

SHEM Shemya Is, Ala 83.00 355 LR LR 07 17 50.8
comp=Z,148nm,18.1s,baz=134,slow=34
LPIG La Paz 84.24 58 LR LR 07 16 39.8
comp=Z,148nm,18.0s,baz=208,slow=32
KSRS Korea Array 84.46 319 P **P** **06 43 40.8 -0.7**
comp=Z,1.8nm,0.9s,baz=144,slow=6.5,SNR=5.6
KSRS LR LR 07 18 44.1
comp=Z,48nm,19.4s,baz=140,slow=34
comp=Z,1.8nm,0.9s
YSS Yuzh-Sakhalins 84.79 334 *e*P **P** **06 43 40.5 -2.4**
YSS *e* 06 43 59.2
YSS pmax pmax
comp=Z,10.0nm,0.8s
BCW Bitter Crk WRg 84.98 45 P **P** **06 43 45.5 +1.2**
ARVC Arvin 85.46 45 P **P** **06 43 48.8 +2.2**
baz=228
MURC Murrieta 85.46 47 P **P** **06 43 49.1 +2.4**
baz=229
MONP2 Monument Peak 85.49 48 P **P** **06 43 49.2 +2.1**
baz=230
IKP In-Ko-Pah, Jac 85.54 48 P **P** **06 43 49.3 +2.1**
baz=230
BFSC Mount Baldy Ra 85.59 46 P **P** **06 43 49.8 +2.4**
baz=229
VES Vestal, Richgr 85.78 44 P **P** **06 43 50.0 +1.9**
baz=228
PEA0B Petropavlovsk- 85.80 345*ce*P **P** **06 43 46.4 -1.4**
PETK Petropavlovsk- 85.80 345 P **P** **06 43 47.2 -0.6**
comp=Z,18nm,0.9s,baz=136,slow=5.2,SNR=15
PETK LR LR 07 14 51.8
comp=Z,90nm,21.6s,baz=158,slow=31
comp=Z,18nm,0.9s
EDW2 Edwards Air Fo 85.81 45 P **P** **06 43 50.4 +2.0**
baz=228
SWSC Sam W. Stewart 85.92 48 P **P** **06 43 51.3 +2.4**
baz=230
PFO Pinyon Flats O 85.93 47 P **P** **06 43 51.1 +2.0**
baz=229
PFO Pinyon Flats O 85.93 47 *i* P **P** **06 43 48.1 -1.0**
PFO pmax pmax
comp=Z,13nm,1.2s
PFO Pinyon Flats O 85.93 47 LR LR 07 14 57.4
comp=Z,88nm,20.5s,baz=247,slow=31
TPFO Pinon Flats 85.93 47 P **P** **06 43 51.2 +2.1**
baz=229
PMD Palm Desert 86.01 47 P **P** **06 43 50.0 +0.7**
PMD IAmb IAmb 06 44 06.9
comp=Z,9.1nm,1.1s
ISA Isabella, Lake 86.03 45 P **P** **06 43 50.6 +1.1**
ISA IAmb IAmb 06 44 07.2
comp=Z,16nm,1.0s
ISA Isabella, Lake 86.03 45 P **P** **06 43 51.8 +2.3**
baz=228
ISA Isabella, Lake 86.03 45 P **P** **06 43 50.6 +1.1**
ISA pmax pmax
comp=Z,16nm,1.0s
GSI Gunungsitoli 86.12 274 P **P** **06 43 48.8 -1.6**
LRMC Laurel Mtn Rad 86.39 45 P **P** **06 43 53.3 +2.0**
baz=229
NJ2 Nanjing 86.40 310 *e*P **P** **06 43 53.5 +2.2**
NJ2 pP **pP** **06 44 00.3 -0.2**
NJ2 sP **sP** **06 44 03.3 -0.5**
NJ2 pmax pmax
comp=Z,18nm,0.6s
BELC Belle Mtn. Jos 86.48 47 P **P** **06 43 53.8 +2.0**
baz=230
BC3 Big Chuckawall 86.60 48 P **P** **06 43 54.9 +2.5**
baz=230
GLA Glamis 86.62 48 P **P** **06 43 54.9 +2.5**
baz=230
HSIG 86.73 54 P **P** **06 43 53.7 +0.7**
HSIG IAmb IAmb 06 44 10.3
comp=Z,12nm,1.1s
CWC Cottonwood Cre 86.79 44 P **P** **06 43 55.0 +1.6**
baz=228
HEC Hector,Ludlow 86.80 46 P **P** **06 43 55.4 +2.0**
baz=229
MPMC Manual Prospec 86.89 45 P **P** **06 43 55.7 +1.8**
baz=229
MDPB Devils Postpil 86.99 43 P **P** **06 43 55.6 +1.2**
MDPB IAmb IAmb 06 44 11.7
comp=Z,9.7nm,1.2s
IRM Iron Mountain 87.12 47 P **P** **06 43 57.4 +2.6**
baz=230
GMRC Granite Mounta 87.20 47 P **P** **06 43 57.9 +2.6**
baz=230
QSM Queen of Sheba 87.21 45 P **P** **06 43 56.6 +1.4**
QSM IAmb IAmb 06 44 12.6
comp=Z,17nm,1.1s
USRK Ussuriysk Ar. 87.24 326 LR LR 07 19 53.8
comp=Z,44nm,18.5s,baz=152,slow=34
TUQ Turquoise Moun 87.45 46 P **P** **06 43 58.3 +1.8**
baz=230
DSP Deep Springs 87.47 44 P **P** **06 43 57.4 +1.1**
DSP IAmb IAmb 06 44 13.9
comp=Z,9.1nm,1.1s
GWY Greenwater Val 87.48 45 P **P** **06 43 58.0 +1.3**
GWY IAmb IAmb 06 44 13.9
comp=Z,9.4nm,0.9s
SHOC Shoshone, Teco 87.53 46 P **P** **06 43 58.9 +2.1**
baz=229
FURC Furnace Creek, 87.54 45 P **P** **06 43 58.4 +1.7**
baz=229
MPK Martis Peak 87.57 41 P **P** **06 43 58.2 +1.1**
MPK IAmb IAmb 06 44 14.3
comp=Z,21nm,1.2s
LCH Last Change Ra 87.57 44 P **P** **06 43 57.9 +0.8**
GRAC Grapevine Rang 87.58 44 P **P** **06 43 59.0 +2.0**
baz=229
LHV Little Huntoon 87.74 43 P **P** **06 43 59.1 +1.5**
LHV IAmb IAmb 06 44 15.2
comp=Z,14nm,1.1s
YERR Yerington 87.81 42 P **P** **06 43 58.7 +0.5**
YERR IAmb IAmb 06 44 15.1
comp=Z,9.3nm,1.0s
PDMCI Parker Dam,Lak 87.86 48 P **P** **06 44 00.6 +2.3**
baz=231
NVAR Mina Array Bea 87.98 43 P **P** **06 44 00.1 +1.1**
NVAR Mina Array Bea 87.98 43 P **P** **06 44 00.4 +1.4**
comp=Z,3.3nm,0.8s,baz=221,slow=8.0,SNR=26
NVAR PKPPKP **P'P'df** **07 09 54.9 +5.5**
comp=Z,0.2nm,0.5s,baz=127,slow=2.4,SNR=3.9
NVAR LR LR 07 20 46.2
comp=Z,136nm,18.1s,baz=206,slow=34
comp=Z,3.3nm,0.8s
MZP Montezuma Peak 88.04 44 P **P** **06 43 59.9 +0.4**
NV11 Mina Array Sit 88.07 43 P **P** **06 43 59.9 +0.4**
NV11 IAmb IAmb 06 44 16.5
comp=Z,12nm,1.1s
TYV Tymovskoe 88.09 336 *e*P **P** **06 43 59.7 +0.8**
TYV *e*S **S** **06 54 44.4 +4.1**
TYV pmax pmax
comp=Z,9.0nm,0.9s
TYV pmax pmax
comp=Z,100nm,2.9s
TYV smax smax
comp=E,100nm,6.1s
PAHR Pah Rah Range 88.21 41 P **P** **06 44 00.7 +0.6**
PAHR IAmb IAmb 06 44 16.9
comp=Z,6.9nm,0.9s
V12A Nelson 88.31 46 P **P** **06 44 02.0 +1.4**
V12A IAmb IAmb 06 44 18.4
comp=Z,13nm,1.3s
TPH Tonopah 88.38 43 P **P** **06 44 01.1 +0.1**
TPH Tonopah 88.38 43 P **P** **06 44 01.1 +0.1**
TPH pmax pmax
comp=Z,63nm,1.1s
KVN Kaiserville 88.51 42 P **P** **06 44 02.6 +1.1**
KVN IAmb IAmb 06 44 18.4
comp=Z,8.8nm,0.9s
KVN Kaiserville 88.51 42 P **P** **06 44 02.6 +1.1**
KVN pmax pmax
comp=Z,9.0nm,0.9s
SHPR Sheep Range 88.61 46 P **P** **06 44 03.0 +1.0**
TUC Tucson 88.83 51 P **P** **06 44 04.1 +1.0**
TUC IAmb IAmb 06 44 21.4
comp=Z,9.0nm,1.0s
TUC Tucson 88.83 51 P **P** **06 44 05.7 +2.6**
baz=233
TUC Tucson 88.83 51 P **P** **06 44 04.1 +1.0**
TUC pmax pmax
comp=Z,9.0nm,1.0s
S11A Rachel 88.98 44 P **P** **06 44 04.3 +0.6**
PRN Pahroc Range 89.26 45 P **P** **06 44 06.7 +1.7**
J05D Fort Rock, OR 89.65 37 P **P** **06 44 08.0 +1.3**
J05D IAmb IAmb 06 44 24.0
comp=Z,19nm,1.3s
X16A Lo Mia Camp, P 89.68 49 P **P** **06 44 08.8 +1.7**
BMN Battle Mountai 89.93 42 P **P** **06 44 08.5 +0.4**
BMN IAmb IAmb 06 44 25.2
comp=Z,14nm,1.3s
BMN Battle Mountai 89.93 42 P **P** **06 44 08.5 +0.4**
BMN pmax pmax
comp=Z,14nm,1.3s
TIA Tai'an 90.12 313 P **P** **06 44 09.5 +0.6**
TIA pmax pmax
comp=Z,5.0nm,0.9s
LCMT Little Creek M 90.12 46 P **P** **06 44 10.3 +1.2**
PINE Pine Mountain 90.16 37 P **P** **06 44 09.9 +0.8**
CN2 Changchun 90.24 323 *e*P P 06 44 01.8 -7.5
CN2 pmax pmax
comp=Z,10.0nm,0.5s
I05D Terrebonne, OR 90.33 37 P **P** **06 44 10.7 +1.0**
I05D IAmb IAmb 06 44 26.9
comp=Z,13nm,1.1s
WUAZ Wupatki 90.39 48 P **P** **06 44 11.4 +1.0**
WUAZ Wupatki 90.39 48 P **P** **06 44 12.7 +2.3**
baz=232
KNB Kanab 90.39 46 P **P** **06 44 11.7 +1.3**
KNB IAmb IAmb 06 44 28.4
comp=Z,16nm,1.1s
KNB Kanab 90.39 46 P **P** **06 44 11.7 +1.3**
KNB pmax pmax
comp=Z,16nm,1.1s
WVOR Wild Horse Val 90.47 39 P **P** **06 44 10.8 +0.3**
WVOR IAmb IAmb 06 44 27.6
comp=Z,9.1nm,1.2s
WVOR Wild Horse Val 90.47 39 P **P** **06 44 10.8 +0.3**
WVOR pmax pmax
comp=Z,9.0nm,1.2s
SZCU Shurtz Canyon 90.58 46 P **P** **06 44 12.2 +0.9**
BNX BinXian 90.60 325 ⇑P **P** **06 44 13.5 +2.6**
BNX pmax pmax
comp=Z,6.0nm,1.0s
BNX pmax pmax
comp=Z,140nm,5.6s
PSUT Pine Spring 90.70 45 P **P** **06 44 12.3 +0.5**
SPR3 Spring Creek 3 90.71 44 P **P** **06 44 12.4 +0.4**
E03A Lebam 90.77 34 P **P** **06 44 12.7 +1.0**
G05A Wamic 90.97 36 P **P** **06 44 13.6 +0.9**
KLR Kul'dur 91.10 330*ce*P **P** **06 44 11.6 -1.5**
KLR pmax pmax
comp=Z,14nm,1.5s
KLR Kul'dur 91.10 330 LR LR 07 23 55.6
comp=Z,77nm,18.7s,baz=156,slow=35
I07A Izee 91.11 38 P **P** **06 44 14.5 +1.0**
I07A IAmb IAmb 06 44 30.6
comp=Z,8.6nm,1.0s
ELK Elko 91.28 42 P **P** **06 44 14.6 +0.1**
ELK Elko 91.28 42 P **P** **06 44 14.6 +0.1**
ELK pmax pmax
comp=Z,4.0nm,1.0s
ELK Elko 91.28 42 LR LR 07 22 14.3
comp=Z,100nm,18.4s,baz=248,slow=34
G06A Carlson Farm, 91.31 36 P **P** **06 44 14.7 +0.5**
G06A IAmb IAmb 06 44 31.2
comp=Z,13nm,1.0s
TXAR Lajitas Array 92.10 57 P **P** **06 44 19.6 +1.2**
comp=Z,1.6nm,1.1s,baz=216,slow=7.7,SNR=9.3
TXAR LR LR 07 21 53.2
comp=Z,51nm,18.0s,baz=244,slow=33
comp=Z,1.6nm,1.1s
MNTX Cornudas Mount 92.19 54 P **P** **06 44 20.1 +1.4**
baz=236
G08A Pilot Rock 92.21 37 P **P** **06 44 19.1 +0.5**
G08A IAmb IAmb 06 44 36.1
comp=Z,12nm,1.1s
HNS HongShan 92.38 313 ⇓P **P** **06 44 20.3 +1.0**
CMIG Matias Romero 92.45 72 LR LR 07 15 46.3
comp=Z,45nm,20.6s,baz=196,slow=29
MFID Camas Ranch 92.67 40 P **P** **06 44 21.9 +1.2**
MFID IAmb IAmb 06 44 37.5
comp=Z,7.2nm,0.9s
TMUT Trail Mountain 92.79 45 P **P** **06 44 21.9 +0.2**
TMUT IAmb IAmb 06 44 42.3
comp=Z,5.2nm,1.0s
BBB Bella Bella 92.88 28 LR LR 07 23 08.8
comp=Z,74nm,18.4s,baz=217,slow=34
SRU San Rafael Swe 93.11 46 P **P** **06 44 23.6 +0.7**
SRU San Rafael Swe 93.11 46 P **P** **06 44 23.6 +0.7**
SRU pmax pmax
comp=Z,25nm,1.9s
NNA Nana 93.17 106 LR LR 07 16 35.6
comp=Z,87nm,21.4s,baz=230,slow=29
MA2 Magadan 93.28 345*ce*P **P** **06 44 20.9 -2.1**
MA2 pmax pmax
comp=Z,7.0nm,1.1s
ANMO Albuquerque 93.30 51*ce*P **P** **06 44 22.5 -1.4**
ANMO pmax pmax
comp=Z,5.0nm,2.0s
ANMO Albuquerque 93.30 51 LR LR 07 22 59.5
comp=Z,64nm,18.4s,baz=328,slow=33
HVU Hansel Valley 93.38 43 P **P** **06 44 24.6 +0.5**
HVU IAmb IAmb 06 44 41.0
comp=Z,7.6nm,0.9s
HVU Hansel Valley 93.38 43 P **P** **06 44 24.6 +0.5**
HVU pmax pmax
comp=Z,8.0nm,0.9s
HLID Hailey 93.55 41 P **P** **06 44 25.6 +0.8**
HLID Hailey 93.55 41 P **P** **06 44 26.0 +1.1**
baz=231
F10A Beach Ranch, E 93.58 37 P **P** **06 44 24.4 -0.4**
F10A IAmb IAmb 06 44 40.9
comp=Z,8.3nm,0.9s
CMAR Chiang Mai Arr 93.64 289 P **P** **06 44 27.2 +1.6**
comp=Z,1.0nm,0.3s,baz=155,slow=3.4,SNR=6.9
CMAR LR LR 07 30 09.4
comp=Z,23nm,18.4s,baz=150,slow=38
comp=Z,1.0nm,0.3s
PLID Pearl Lake 93.65 39 P **P** **06 44 25.6 +0.2**
PLID IAmb IAmb 06 44 41.8
comp=Z,8.8nm,1.1s
LVC Limon Verde 93.73 119 LR LR 07 16 59.5
comp=Z,70nm,20.4s,baz=213,slow=29
ATAH Atahualpa 94.38 101 LR LR 07 17 06.2
comp=Z,75nm,21.7s,baz=238,slow=29
NEW Newport 95.13 36 LR LR 07 25 12.0
comp=Z,97nm,18.3s,baz=215,slow=34
REDW Red Top Meadow 95.47 42 P **P** **06 44 34.0 +0.3**
PZH PanZhiHua 95.52 297 P **P** **06 44 35.5 +1.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PDAR Pinedale Array 95.87 43 P **P** **06 44 36.2 +0.7**
comp=Z,0.4nm,0.7s,baz=184,slow=4.0,SNR=5.1
PDAR PKKP **PKKPbc** **07 01 24.9 -0.5**
comp=Z,0.8nm,0.7s,baz=88,slow=5.2,SNR=8.1
PDAR LR LR 07 25 22.7
comp=Z,85nm,18.1s,baz=243,slow=34
comp=Z,0.4nm,0.7s
SEY Seymchan 95.95 347*ce*P **P** **06 44 34.7 -0.4**
SEY pmax pmax
comp=Z,5.0nm,0.9s
HHC Hu-ho-hao-te 96.38 314 *e*P **P** **06 44 40.0 +2.2**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC LR LR
comp=Z,160nm,17.6s
HHC LR LR
comp=Z,110nm,16.8s
HHC LR LR
comp=Z,88nm,17.3s
BTO Baotou 97.21 313 *e*P Pdif 06 44 44.5 +2.9
BTO pP sP 06 44 53.0 -1.1
BTO sP pwP 06 44 58.5 +2.7
BTO PP **PP** **06 48 46.0 +7.4**
BTO S **S** **06 56 07.3 +4.5**
BTO pmax pmax
comp=Z,10.0nm,0.8s
BTO LR LR
comp=Z,330nm,20.8s
BTO LR LR
comp=Z,190nm,9.8s
JTS Las Juntas de 97.44 82 LR LR 07 19 16.4
comp=Z,96nm,19.5s,baz=83,slow=30
COLA College 97.69 12 *i* P **P** **06 44 42.2 -0.7**
COLA pmax pmax
comp=Z,6.0nm,1.6s
ILAR Eielson Array 97.77 13 P **P** **06 44 42.1 -1.2**
comp=Z,0.5nm,1.0s,baz=246,slow=3.8,SNR=3.3
comp=Z,0.5nm,1.0s
LPAZ La Paz 97.92 114 LR LR 07 20 05.2
comp=Z,74nm,21.3s,baz=198,slow=30
BILL Bilibino 98.78 354 *i* P **P** **06 44 46.1 -1.7**
BILL pmax pmax
comp=Z,6.0nm,1.6s
TEIG Tepich 99.44 72 LR LR 07 25 20.6
comp=Z,84nm,18.7s,slow=33
CPUP Villa Florida 99.82 128 LR LR 07 26 02.1
comp=Z,108nm,18.0s,baz=220,slow=33
YKA Yellowknife Ar 105.24 25 PKJKP **PKiKP** **06 49 30.3 -0.2**
comp=Z,0.3nm,0.9s,baz=265,slow=1.9,SNR=4.4
YKA PKKPbc **PKKPbc** **07 00 54.4 -4.2**
comp=Z,0.5nm,0.9s,baz=37,slow=3.2,SNR=8.0
YKA PKKP **PKKPdf** **07 01 10.6 +1.0**
comp=Z,1.0nm,0.9s,baz=42,slow=5.1,SNR=9.8
WMQ Urumqi 113.39 308 *e*PKP **PKiKP** **06 49 48.0 +1.4**
MK31 Makanchi Array 117.93 310*c* *i*PKIKP **PKPdf** **06 49 53.7 -1.5**
MKAR Makanchi Array 117.93 310*c* *i*PKIKP **PKPdf** **06 49 54.0 -1.2**
MKAR pmax pmax
comp=Z,5.0nm,1.0s
MKAR Makanchi Array 117.93 310 PKP **PKPdf** **06 49 53.9 -1.2**
comp=Z,4.6nm,1.0s,baz=64,slow=2.8,SNR=21
ZALV Zalesovo Beam 118.15 318 PKP **PKPdf** **06 49 53.7 -1.6**
comp=Z,1.8nm,0.8s,baz=82,slow=1.4,SNR=9.6
NRIK Noril'sk 119.67 336*c* *i*PKIKP **PKPdf** **06 49 56.6 -1.2**
NRIK Noril'sk 119.67 336 PKP **PKPdf** **06 49 57.0 -0.8**
comp=Z,2.4nm,0.7s,baz=77,slow=4.9,SNR=4.1
KSH Kashi 120.44 301 PKP **PKiKP** **06 50 00.8 +0.3**
ULHL Ulahol 120.95 304 P **PKPdf** **06 50 01.2 -0.1**
SNR=9.3
KURK Kurchatov 121.19 314 *i*PKIKP **PKPdf** **06 50 00.0 -1.2**
KURBB Kurchatov Arra 121.23 314 PKP **PKPdf** **06 50 00.5 -0.9**
comp=Z,6.6nm,0.7s,baz=105,slow=2.1,SNR=72
TKM2 Tokmak 2 121.58 304 P **PKPdf** **06 50 01.7 -0.8**
SNR=6.0
UCH Uchtor 122.19 303 P **PKiKP** **06 50 04.0 -0.2**
SNR=18
AAK Ala-Archa 122.30 304 *i*PKIKP **PKPdf** **06 50 02.5 -1.4**
AAK Ala-Archa 122.30 304 PKP **PKPdf** **06 50 03.0 -0.9**
comp=Z,3.4nm,0.8s,baz=190,slow=3.9,SNR=9.4
USP Ospenovka 122.44 305 P **PKPdf** **06 50 03.3 -0.6**
SNR=6.7
EKS2 Erkin-Say 122.82 304 P **PKiKP** **06 50 04.9 -0.2**
SNR=5.9
SCHQ Schefferville 125.98 42 PKP **PKiKP** **06 50 12.8 +2.0**
comp=Z,3.0nm,0.8s,baz=213,slow=12,SNR=3.9
BVAR Borovoye Array 126.54 316 PKP **PKPdf** **06 50 11.3 -0.2**
comp=Z,12nm,0.9s,baz=98,slow=3.0,SNR=47
BRVK Borovoye 126.61 316 *i*PKIKP **PKPdf** **06 50 10.0 -1.6**
NEEM North Greenlan 127.07 13 *i*P **PKPdf** **06 50 11.4 -0.8**
DAG Danmarks Havn 132.42 6 *i*P **PKPdf** **06 50 21.0 -1.0**
SUMG Summit 132.54 15 *i*P **PKPdf** **06 50 23.0 +0.2**
ARU Arti 133.20 321 *i*PKIKP **PKPdf** **06 50 23.3 -0.7**
ARU 06 52 49.0
ARU SS SS 07 10 27.6 -5.0
GEYT Alibeck 133.78 295 PKP **PKPdf** **06 50 26.1 +0.3**
comp=Z,4.8nm,0.9s,baz=268,slow=4.3,SNR=6.8
AKTO Aktyubinsk 134.25 312 PKP **PKPdf** **06 50 25.9 -0.3**
comp=Z,6.4nm,0.9s,baz=224,slow=1.1,SNR=13
ANGG Ammassalik, Gr 137.05 23 *i*P **PKiKP** **06 50 34.7 +2.0**
KIRV Kirov 137.41 325 *i*PKIKP **PKPdf** **06 50 30.0 -1.7**
SCO Scoresbysund 137.55 12 *i*P **PKiKP** **06 50 32.8 -0.8**
ARCES ARCESS Array B 138.56 348 PKhKP PKPpre 06 50 25.5
comp=Z,2.6nm,0.8s,baz=10,slow=2.0,SNR=7.1
BELG Belogornoye 140.32 317 *i*PKIKP **PKPdf** **06 50 35.5 -1.7**
BELG Belogornoye 140.32 317 PKhKP PKPpre 06 50 29.7
comp=Z,6.4nm,0.8s,baz=18,slow=2.4,SNR=4.1
KLMR Klimovskoe 140.81 332 *e*PKHKP PKPpre 06 50 29.8
KLMR pmax pmax
comp=Z,25nm,1.3s
VALR Valaam 143.71 337 *i*PKIKP PKPab 06 50 39.2 -0.6
VRH Novokhopyorsk 144.17 317 *e*PKIKP **PKPdf** **06 50 44.5 +0.3**
VRH pmax pmax
comp=Z,20nm,0.4s
GNI Garni 144.28 298 *i*PKIKP **PKPab** **06 50 42.6 -0.4**
MOS Moscow 144.42 326 *i*PKIKP **PKPab** **06 50 40.6 -2.1**
VAF Yilstare 144.74 344 *e*P **PKPab** **06 50 42.7 -0.9**
NCK Nalchik 144.83 304 *i*PKIKP **PKPab** **06 50 43.9 -0.8**
KEF Keuruu 144.91 342 *e*P **PKPab** **06 50 43.6 -0.8**
PUL Pulkovo 145.03 336 *i*PKIKP **PKPbc** **06 50 44.0 -0.8**
FINES FINESS Array B 145.16 340 PKP **PKPbc** **06 50 44.4 -0.8**
comp=Z,54nm,0.8s,baz=60,slow=4.6,SNR=145
LPSR Galich'ya Gora 145.22 320 *e*PKIKP **PKPbc** **06 50 43.2 -2.5**
LPSR pmax pmax
comp=Z,40nm,1.0s
OBN Obninsk 145.26 325*c* *i*PKIKP **PKPbc** **06 50 44.8 -0.9**
OBN *i* 06 50 55.4
OBN *e* 06 54 14.5
OBN pmax pmax
comp=Z,64nm,1.3s
KBZ Khabaz 145.30 304 *i*PKP2 **PKPbc** **06 50 44.4 -1.8**
KBZ Khabaz 145.30 304 PKPbc **PKPbc** **06 50 45.8 -0.4**
comp=Z,8.8nm,1.1s,baz=42,slow=1.8,SNR=11
KIV Kislovodsk 145.41 305 *i*PKIKP **PKPbc** **06 50 45.2 -1.5**
KIV pmax pmax
comp=Z,14nm,1.1s
VORR Voronezh 145.45 319 *e*PKIKP **PKPdf** **06 50 46.2 -0.2**
VORR pmax pmax
comp=Z,33nm,1.2s
VSR Storozhevoye 145.66 318 *e*PKP2 **PKPdf** **06 50 43.9 -2.8**
VSR pmax pmax
comp=Z,40nm,1.0s
ERBR Yeremizino-Bor 146.59 308 *i*PKP2 **PKPbc** **06 50 50.0 -0.1**
ERBR pmax pmax
comp=Z,103nm,1.2s
MEF Metsahovi 146.64 340 *e*P **PKPbc** **06 50 49.5 -0.3**
LABN Labinsk 146.67 306 *i*PKP2 **PKPbc** **06 50 50.1 -0.3**
LABN pmax pmax
comp=Z,35nm,0.8s
RAF Rauma 146.69 343 *e*P **PKPbc** **06 50 49.0 -0.8**
VSU Vasula 147.26 336 *i*PKIKP **PKPdf** **06 50 48.8 -0.4**
AAL Aland 147.86 343 *e*P **PKPbc** **06 50 52.5 -0.6**
NB2 NORSAR Subarra148.70 352 PKP **PKPbc** **06 50 54.6 -0.8**
comp=Z,37nm,1.2s,baz=13,slow=2.6
NB2 NORSAR Subarra148.70 352 PKP **PKPbc** **06 50 54.6 -0.8**
baz=13,slow=2.6
NOA NORSAR Array B148.70 352 PKPbc **PKPbc** **06 50 54.6 -0.8**
comp=Z,9.1nm,0.9s,baz=15,slow=4.3,SNR=35
UPP Uppsala 148.70 345 *e*P **PKPbc** **06 50 54.5 -0.8**
ANN Anapa 148.91 308 *i*PKP2 **PKPbc** **06 50 55.3 -1.0**
ANN pmax pmax
comp=Z,48nm,1.0s
HFS Hagfors 149.21 349 PKPbc **PKPbc** **06 50 55.9 -0.8**
comp=Z,15nm,0.8s,baz=127,slow=0.7,SNR=27
ISAL Salakas 149.62 333 *e*P **PKiKP** **06 50 59.9 +1.1**
MNK Minsk 149.65 330 *i*PKP2 **PKPbc** **06 50 57.9 0.0**
MNK *i*PPP PPP 06 57 58.2
MNK pmax pmax
comp=E,8.0nm,0.9s
MNK pmax pmax
comp=Z,54nm,0.9s
MNK pmax pmax
comp=N,20nm,0.8s
MNK MLR MLR
comp=Z,116nm,18.0s
MNK MLR MLR
comp=E,79nm,21.0s
MNK MLR MLR
comp=N,403nm,21.0s
VIKU Vikbolandet 150.13 345 *e*P **PKPbc** **06 50 57.5 -1.4**
VSVD Vaisvydziai 150.14 335 *e*P **PKiKP** **06 50 59.5 -0.4**
PABE Paberze 150.49 335 *e*P **PKiKP** **06 51 00.1 -0.4**
STRU Stroemstad 150.65 351 *e*P **PKPbc** **06 51 00.1 0.0**
SIM Simferopol' 151.11 309 *i*PKIKP **PKiKP** **06 51 01.9 -0.4**
AKASG Malin Array Be 151.40 323 PKPbc **PKPbc** **06 51 01.6 -0.6**
comp=N,20nm,0.7s,baz=48,slow=2.4,SNR=59
MMAI Mount Meron Ar 151.78 284 PKPbc **PKiKP** **06 51 04.5 +0.3**
comp=N,25nm,0.9s,baz=82,slow=6.0,SNR=20
SUW Suwalki 151.92 333 *e*P **PKiKP** **06 51 03.4 -0.2**
BRTR Keskin Array B 152.81 299 PKP **PKPdf** **06 50 58.8 0.0**
comp=N,0.9nm,0.8s,baz=22,slow=5.4,SNR=3.7
BRTR PKPbc **PKPbc** **06 51 05.2 -0.8**
comp=N,6.6nm,1.0s,baz=127,slow=3.3,SNR=24
BSEG Bad Segeberg 155.69 348 *e*PKPab **PKPab** **06 51 28.0 -0.4**
baz=19,slow=4.4
CRVS Cervenica-Dubn 156.41 327 *e*PKP2 **PKPab** **06 51 31.9 +0.1**
CRVS Cervenica-Dubn 156.41 327 *e*PKP **PKPab** **06 51 31.9 +0.1**
FLTG Flechtingen 157.04 346 *e*PKPab **PKPab** **06 51 33.7 -0.6**
baz=19,slow=4.4
NRDL Niedersach Rie 157.11 348 *e*PKPab **PKPab** **06 51 34.0 -0.5**
baz=19,slow=4.4
ASSE Asse, Remlinge 157.34 347 *e*PKPab **PKPab** **06 51 35.0 -0.6**
baz=19,slow=4.4
DPC Dobruska-Polom 157.39 336 *e*PKPAB **PKPab** **06 51 35.9 -0.1**
DPC Dobruska-Polom 157.39 336 *e*PKP2 **PKPab** **06 51 35.9 -0.1**
CLL Collm 157.57 342 *e*PKPdif PKPdf 06 51 16.0 +11
CLL ⇓*i*PKPab **PKPab** **06 51 36.2 -0.4**

comp=Z,17nm,1.0s
CLL ex x 06 51 41.0
comp=Z,12nm,1.0s
CLL i pPKPab pPKPab 06 51 47.3 +1.2
comp=Z,16nm,1.4s
IBBN Ibbenburen 157.66 351 *e*PKPab **PKPab 06 51 36.9 -0.1**
baz=19,slow=4.4
CLZ Clausthal 157.68 347 *e*PKPab **PKPab 06 51 36.8 -0.4**
baz=19,slow=4.4
BRG Berggiesshubel 157.70 340 Amp 06 51 38.4
comp=Z,11nm,1.0s
BRG Berggiesshubel 157.70 340 *i* PKP2 **PKPab 06 51 37.1 -0.1**
BRG pmax pmax
comp=Z,11nm,1.0s
BRG Berggiesshubel 157.70 340 *e*PKPab **PKPab 06 51 37.3 0.0**
baz=19,slow=4.4
BRG Berggiesshubel 157.70 340 *i* PKP **PKPab 06 51 37.1 -0.1**
VYHS Vyhne 157.89 330 *e* **PKPab 06 51 38.3 +0.1**
VYHS Vyhne 157.89 330 *e*PKP PKPdf 06 51 16.9 +12
NEUB Neuenburg 157.97 344 *e*PKPab **PKPab 06 51 38.3 -0.1**
baz=19,slow=4.4
GTTG Gottingen 158.04 347 *e*PKPab **PKPab 06 51 38.4 -0.2**
baz=19,slow=4.4
JAVC Velka Javorina 158.10 332 *e*PKP **PKPab 06 51 39.7 +0.6**
VRAC Vranov 158.16 334 *e*PKP **PKPab 06 51 38.8 -0.5**
KRUC Moravsky 158.43 334 *e*PKP **PKPab 06 51 40.1 -0.4**
TANN Tannenbergstha 158.52 342 *e*PKPab **PKPab 06 51 41.0 +0.1**
baz=19,slow=4.4
MOX Moxa 158.53 344 *e*PKPab **PKPab 06 51 40.8 0.0**
baz=19,slow=4.4
KASTN Kahler Asten 158.64 349 *e*PKPab **PKPab 06 51 41.1 -0.3**
baz=19,slow=4.4
MODS Modra-Piesok 158.64 332 *e* **PKPab 06 51 42.1 +0.6**
MODS Modra-Piesok 158.64 332 *e*PKP PKPdf 06 51 19.1 +13
NKC Novy Kostel 158.69 342 *e*PKPAB **PKPab 06 51 41.3 -0.3**
NKC Novy Kostel 158.69 342 *e*PKP2 **PKPab 06 51 41.3 -0.3**
MANZ Manzenberg 159.01 342 *e*PKPab **PKPab 06 51 43.1 +0.1**
baz=19,slow=4.4
ROTZ Rotzenmuhle 159.18 342 *e*PKPab **PKPab 06 51 43.9 +0.2**
baz=19,slow=4.4
KHC Kasperske Hory 159.35 339 *e*PKPAB **PKPab 06 51 44.5 0.0**
KHC Kasperske Hory 159.35 339 *e*PKP2 **PKPab 06 51 44.5 0.0**
GRF Grafenberg Arr 159.50 343 *e*PKPab **PKPab 06 51 45.1 0.0**
baz=19,slow=4.4
MEM Membach 159.53 353 *d*PKPdf **PKPdf 06 51 08.2 +1.2**
WET Wettzell 159.55 340 *e*PKPab **PKPab 06 51 45.6 +0.3**
baz=19,slow=4.4
GEC2 GERESS Array S 159.56 338 *e*PKPab **PKPab 06 51 45.7 +0.2**
baz=19,slow=4.4
GERES GERESS Array B 159.56 338 PKPab **PKPab 06 51 44.6 -0.9**
comp=Z,3.0nm,0.9s,baz=47,slow=5.8,SNR=8.5
CONA Conrad Observa 159.56 333 *e*PKP **PKPab 06 51 46.2 +0.7**
comp=Z,5.3nm,1.0s
RONA Rosalia, Austr 159.58 332 *e*PKP **PKPab 06 51 45.7 +0.1**
comp=Z,6.0nm,1.0s
TNS Taunus Mts 159.58 349 *e*PKPab **PKPab 06 51 44.8 -0.7**
baz=19,slow=4.4
BCLA Clavier 159.79 354 *d*PKP **PKPab 06 51 45.4 -0.9**
BHOU Houvegnez 159.79 353 *d*PKP **PKPab 06 51 46.4 0.0**
BGES Gesves 159.84 355 *d*PKP **PKPab 06 51 45.9 -0.6**
BMRD Maredsous 159.94 355 *d*PKPdf **PKPdf 06 51 07.2 -0.2**
BMRD *d*PKP **PKPab 06 51 46.1 -0.8**
RCHB Rochefort 160.06 355 *d*PKP **PKPab 06 51 47.1 -0.3**
MOA Molln 160.23 336 *e*PKP **PKPab 06 51 48.4 0.0**
comp=Z,8.4nm,1.2s
ARSA Arzberg 160.25 333 *i* PKP **PKPab 06 51 48.8 +0.4**
comp=Z,3.7nm,0.9s
WLF Walferdange 160.45 353 *d*PKP **PKPab 06 51 49.0 -0.2**
WLF Walferdange 160.45 353 *e*PKPab **PKPab 06 51 49.8 +0.6**
baz=19,slow=4.4
BIOA Bad Ischl, Aus 160.58 337 *e*PKP **PKPab 06 51 49.9 0.0**
comp=Z,10nm,1.0s
RJOB Jochberg 160.82 338 *e*PKPab **PKPab 06 51 51.5 +0.5**
baz=19,slow=4.4
STU Stuttgart 160.83 346 *e*PKPab **PKPab 06 51 50.5 -0.4**
baz=19,slow=4.4
SOKA Soboth 160.91 332 *e*PKP **PKPab 06 51 52.3 +0.8**
comp=Z,12nm,1.4s
LESA Schwarzleotal 161.14 338 *i* PKP **PKPab 06 51 52.3 -0.1**
comp=Z,14nm,1.2s
KBA Koelnbreinsper 161.21 336 *i* PKP **PKPab 06 51 52.6 -0.3**
comp=Z,8.1nm,1.2s
BFO Black Forest 161.43 347 *e*PKPab **PKPab 06 51 53.2 -0.4**
baz=19,slow=4.4
MYKA Terra Mystica 161.49 335 *e*PKP **PKPab 06 51 53.6 -0.3**
comp=Z,8.2nm,1.1s
WATA Walderalm 161.56 340 *i* PKP **PKPab 06 51 54.2 -0.2**
comp=Z,9.5nm,1.0s
WTTA Wattenberg 161.61 340 *i* PKP **PKPab 06 51 54.7 +0.1**
comp=Z,14nm,1.0s
RETA Reutte 161.65 342 *i* PKP **PKPab 06 51 54.7 0.0**
comp=Z,16nm,1.1s
MOTA Moosalm 161.69 341 *i* PKP **PKPab 06 51 54.8 -0.1**
comp=Z,20nm,1.1s
SQTA Sankt Quirin 161.77 340 *i* PKP **PKPab 06 51 55.4 +0.2**
comp=Z,16nm,1.1s
ABTA Abfaltersbach 161.78 337 *i* PKP **PKPab 06 51 55.2 -0.1**
comp=Z,9.6nm,1.2s
DAVA Damuels 162.07 343 *i* PKP **PKPab 06 51 56.5 -0.1**
comp=Z,14nm,1.0s
FETA Feichten 162.09 341 *i* PKP **PKPab 06 51 57.0 +0.3**
comp=Z,11nm,1.2s
TORD Torodi Ar. Bea 162.91 178 PKP **PKPdf 06 51 12.6 +0.9**
comp=Z,0.5nm,0.8s,baz=351,slow=2.2,SNR=3.8
TORD PKPab **PKPab 06 52 00.8 0.0**
comp=Z,5.6nm,1.0s,baz=178,slow=3.0,SNR=14
ESDC Sonseca Array 169.33 27 PKPab **PKPab 06 52 27.7 -1.0**
comp=Z,1.1nm,1.0s,baz=270,slow=3.8,SNR=2.6

*NEIC **31** 06:45:42.7±2.0, 6.°09S±0.°08×152.°1E±0.°1, h10km±1km, mb4.6/27, Error ellipse: s-maj=19.3km s-min=11.7km az=110.0*
*IDC **31** 06:45:49.7±5.2, 5.°80S×151.°46E, h66km±44km, mb3.9/11, mbtmp4.2/12, ML2.7/1, MS4.0/4, Error ellipse: s-maj=36.1km s-min=19.7km az=92.0*
ISC 31 06:45:45.9±0.6, 5.°93S±0.°09×151.°8E±0.°1, h36km, n50, σ1°26/43, mb4.5/26, MS4.0/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.76**	**12**	Pn	**Pn**	**06 46 14.5**	**+0.5**
PMG	**Port Moresby**	**5.75**	**233**		**Pn**	**06 47 09.6**	**+0.9**
PMG	**Port Moresby**	**5.75**	**233**	P	**Pn**	**06 47 10.1**	**+1.3**
	13nm,0.3s,baz=49,slow=9.6,SNR=23						
PMG				S	**Sn**	**06 48 14.5**	**+1.0**
	29nm,0.4s,baz=0.8,slow=5.7,SNR=1.6						
	51nm,0.5s						
MANU	**Manus Island**	**5.86**	**311**		Pn	06 47 14.2	+3.9
LIFNC	**LIFOU**	**21.04**	**136**	P	**P**	**06 50 23.7**	**-3.1**
DZM	**Mont Dzumac**	**21.41**	**140**	P	P	06 50 25.9	-5.0
DZM				IAmb	IAmb	06 50 28.3	
	comp=Z,29nm,1.3s						
MTN	**Manton Dam**	**21.50**	**250**	P	**P**	**06 50 31.2**	**-0.6**
MTN				IAmb	IAmb	06 50 57.0	
	comp=Z,34nm,1.5s						
WRAB	**Tennant Creek**	**21.94**	**229**	P	**P**	**06 50 36.7**	**+0.2**
WRA	**Warramunga Arr**	**21.95**	**229**	P	**P**	**06 50 35.4**	**-1.3**
	comp=Z,5.6nm,0.6s,baz=54,slow=10,SNR=34						
	comp=Z,5.6nm,0.6s						
KNRA	**Kununurra**	**24.58**	**245**	P	**P**	**06 51 01.9**	**-0.9**
KNRA				IAmb	IAmb	06 51 28.0	
	comp=Z,14nm,0.7s						
AS31	**Alice Springs**	**24.64**	**222**	P	**P**	**06 51 03.2**	**-0.2**
ASAR	**Alice Springs**	**24.64**	**222**	P	**P**	**06 51 02.5**	**-0.9**
ASAR	**Alice Springs**	**24.64**	**222**	P	**P**	**06 51 03.0**	**-0.4**
	comp=Z,13nm,1.0s,baz=55,slow=9.2,SNR=64						
	comp=Z,13nm,1.0s						
SOEI	**Soe**	**27.52**	**260**		**P**	**06 51 31.3**	**+1.7**
STKA	**Stephens Creek**	**27.52**	**199**	P	**P**	**06 51 30.6**	**+1.3**
	comp=Z,7.8nm,1.1s,baz=7.3,slow=13,SNR=8.0						
	comp=Z,7.8nm,1.1s						
FITZ	**Fitzroy Crossi**	**28.24**	**242**	P	**P**	**06 51 34.5**	**-1.3**
BBOO	**Buckleboo**	**30.50**	**207**	P	**P**	**06 51 54.6**	**-1.1**
BBOO				IAmb	IAmb	06 51 56.6	
	comp=Z,8.7nm,1.1s						
MBWA	**Marble Bar**	**34.54**	**241**	P	**P**	**06 52 30.4**	**-0.8**
MRNZ	**Matariki Terra**	**39.97**	**155**	P	P	06 53 13.9	-3.2
MORW	**Morawa**	**40.86**	**231**	P	**P**	**06 53 23.3**	**-1.3**
MORW				IAmb	IAmb	06 53 50.0	
	comp=Z,18nm,1.1s						
RPZ	**Rata Peaks**	**41.28**	**159**	LR	LR	07 08 38.9	
	comp=Z,239nm,20.3s,baz=143,slow=33						
KNMB	**Chin-men Tao**	**44.40**	**314**	P	P	06 53 59.3	+6.0
SONM	**Songino Array**	**66.74**	**329**	P	**P**	**06 56 32.2**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=140,slow=9.2,SNR=2.4						
	comp=Z,0.3nm,0.4s						
YAK	**Yakutsk**	**69.88**	**349**	LR	LR	07 24 34.2	
	comp=Z,92nm,21.9s,baz=121,slow=33						
VNDA	**Vanda**	**71.75**	**178**	P	**P**	**06 57 05.0**	**+1.0**
VNDA	**Vanda**	**71.75**	**178**	P	**P**	**06 57 05.5**	**+1.5**
	comp=Z,2.0nm,0.9s,baz=325,slow=6.3,SNR=9.0						
	comp=Z,2.0nm,0.9s						
L14K	**Kuka Creek**	**75.75**	**21**	P	**P**	**06 57 29.5**	**+1.9**
L14K				IAmb	IAmb	06 57 40.9	
	comp=Z,6.2nm,1.1s						
K15K	**Wolf Creek Mou**	**76.80**	**20**	P	**P**	**06 57 35.1**	**+1.4**
K15K				IAmb	IAmb	06 57 46.6	
	comp=Z,8.6nm,1.1s						
O18K	**Koktuh Hills**	**77.67**	**24**	P	**P**	**06 57 39.1**	**+0.6**
O18K				IAmb	IAmb	06 58 01.2	
	comp=Z,7.5nm,1.1s						
SVW2	**Sparrevohn**	**78.25**	**23**	P	**P**	**06 57 44.1**	**+2.4**
SVW2				IAmb	IAmb	06 57 50.6	
	comp=Z,6.7nm,1.2s						
P19K	**Oil Pt**	**78.37**	**25**	P	**P**	**06 57 43.3**	**+0.8**
L18K	**Granite Mounta**	**78.50**	**22**	P	**P**	**06 57 45.3**	**+2.2**
L18K				IAmb	IAmb	06 57 56.7	
	comp=Z,7.5nm,1.1s						
TIXI	**Tiksi**	**78.88**	**353**	LR	LR	07 30 51.6	
	comp=Z,69nm,21.1s,baz=181,slow=34						
CNPM	**China Poot**	**79.16**	**26**	P	**P**	**06 57 47.6**	**+0.8**
L19K	**White Mountain**	**79.17**	**23**	P	**P**	**06 57 46.6**	**-0.2**
L19K				IAmb	IAmb	06 58 06.5	
	comp=Z,11nm,1.5s						
MKAR	**Makanchi Array**	**80.51**	**319**	P	**P**	**06 57 52.8**	**-1.7**
	comp=Z,0.1nm,0.4s,baz=111,slow=6.3,SNR=2.5						
CAST	**Castle Rocks**	**80.92**	**22**	P	**P**	**06 57 56.4**	**+0.2**
ZALV	**Zalesovo Beam**	**81.53**	**327**	P	**P**	**06 57 58.8**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=108,slow=4.8,SNR=3.8						
	comp=Z,0.5nm,0.3s						
MLY	**Manley**	**82.29**	**21**	P	**P**	**06 58 03.9**	**+0.4**
ILAR	**Eielson Array**	**83.57**	**22**	P	**P**	**06 58 09.8**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=245,slow=5.0,SNR=23						
	comp=Z,1.4nm,0.7s						
QSPA	**South Pole Qui**	**84.04**	**180**	P	**P**	**06 58 13.1**	**+0.4**
QSPA				IAmb	IAmb	06 58 15.0	
	comp=Z,5.9nm,0.9s						
QSPA	**South Pole Qui**	**84.04**	**180**	P	**P**	**06 58 13.3**	**+0.6**
	comp=Z,5.7nm,1.0s,baz=348,slow=1.9,SNR=10						
	comp=Z,5.7nm,1.0s						
L29M	**L29M**	**86.40**	**25**	P	**P**	**06 58 25.6**	**+1.2**
L29M				IAmb	IAmb	06 58 37.7	
	comp=Z,4.3nm,1.0s						
E27K	**Coleen River**	**86.99**	**20**	P	**P**	**06 58 28.3**	**+1.1**
E27K				IAmb	IAmb	06 58 44.1	
	comp=Z,3.2nm,0.9s						
J30M	**Hart River**	**87.65**	**24**	P	**P**	**06 58 31.2**	**+0.7**
J30M				IAmb	IAmb	06 58 41.3	
	comp=Z,7.4nm,1.5s						
BVAR	**Borovoye Array**	**89.53**	**323**	P	**P**	**06 58 38.7**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=64,slow=5.0,SNR=1.9						
	comp=Z,0.2nm,0.3s						
NVAR	**Mina Array Bea**	**93.57**	**52**	P	**P**	**06 59 01.0**	**+2.1**
	comp=Z,0.2nm,0.5s,baz=254,slow=6.4,SNR=1.8						
	comp=Z,0.2nm,0.5s						
WSAR	**Wadi Sarin**	**95.20**	**293**	LR	LR	07 48 10.8	
	comp=Z,73nm,18.1s,baz=182,slow=39						
YKA	**Yellowknife Ar**	**96.88**	**28**	P	**P**	**06 59 13.8**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=278,slow=5.0,SNR=5.0						
	comp=Z,0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**149.67**	**286**	PKPbc	**PKPbc**	**07 05 32.4**	**-0.5**
	comp=Z,2.5nm,0.6s,baz=49,slow=3.8,SNR=8.8						

*TRN **31** 06:46:52.8, 10.°69N×61.°87W, h19km, MD3.3, Paria peninsula.*
*FUNV **31** 06:46:53.6, 10.°80N×61.°83W, h19km, MW3.0*
ISC 31 06:46:52.4±1.3, 10.°71N±0.°04×61.°90W±0.°04, h19km±3km, n11, σ1°74/18, Trinidad

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TCE	**Chacachacare**	**0.14**	**95**	*e*P	**Pg**	**06 46 56.8**	**+0.1**
TRN	**Trinidad (W)**	**0.49**	**97**	*e*P	**Pb**	**06 47 02.9**	**+0.5**
TRN				*e*S	**Sb**	**06 47 08.9**	**-0.3**
CRUV	**Carupano**	**1.31**	**269**	*e*P	**Pn**	**06 47 16.3**	**+0.6**
CRUV				*e*S	**Sn**	**06 47 34.7**	**+2.0**
CRUV	**Carupano**	**1.31**	**269**	*e*P	**Pn**	**06 47 16.4**	**+0.7**
CRUV				*e*S	**Sn**	**06 47 34.8**	**+2.1**
GRGR	**Grenville**	**1.43**	**10**	*e*P	**Pn**	**06 47 18.1**	**+0.7**
GRGR				*e*S	**Sb**	**06 47 36.8**	**+0.4**
GRW	**Mount Saint Ca**	**1.46**	**9**	*e*P	**Pb**	**06 47 18.7**	**-0.3**
GRW				*e*S	**Sg**	**06 47 38.4**	**-1.2**
PCRV	**Puerto La Cruz**	**2.74**	**259**	*e*P	**Pn**	**06 47 36.2**	**+0.8**
LUEV	**Luepa**	**4.86**	**175**	*e*P	**Pn**	**06 48 06.2**	**+1.6**
LUEV				*e*S	**Sn**	**06 48 58.0**	**-2.4**
CACV	**CAICARA DEL OR**	**5.55**	**236**	*e*P	Pn	06 48 10.0	-3.9
CACV				*e*S	Sn	06 49 07.0	-10
BENV	**Beln**	**5.66**	**263**	*e*P	**Pn**	**06 48 16.8**	**+1.3**
BENV				*e*S	**Sn**	**06 49 17.0**	**-3.0**
BAUV	**El Baul**	**6.30**	**254**	*e*P	**Pn**	**06 48 24.8**	**+0.4**
BAUV				*e*S	**Sn**	**06 49 32.6**	**-3.2**

ROM 31 06:49:26.9±0.1, 43.°065N±0.°004×13.°039E±0.°007, h11km, ML1.1/10, 1C, Error ellipse: s-maj=0.6km s-min=0.3km az=110.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FEMA	**Monte Fema**	**0.10**	**176**	P	Pg	06 49 30.1	+0.4
FEMA				S	Sg	06 49 32.1	+0.4
CESI	**CESI - Serrava**	**0.12**	**239**	P	Pg	06 49 30.4	+0.6
CESI				S	Sg	06 49 32.8	+0.9
CESI				AML	AML		
	comp=E,106μm,0.8s						
CESI				AML	AML		
	comp=N,154μm,0.2s						
CESI				AML	AML		
	comp=E,106μm,0.8s						
PF6	**Pievefavera**	**0.14**	**53**	P	Pg	06 49 30.4	+0.3
PF6				S	Sg	06 49 32.8	+0.4
PF6				AML	AML		
	comp=E,70μm,0.1s						
PF6				AML	AML		
	comp=N,55μm,0.1s						
MC2	**Monte Cornacci**	**0.19**	**144**	P	Pb	06 49 32.2	-0.3
MC2				S	Sg	06 49 35.2	+1.3
SNTG	**Esanatoglia**	**0.20**	**339**	P	Pg	06 49 31.8	+0.6
SNTG				S	Sg	06 49 35.4	+1.2
SNTG				AML	AML		
	comp=E,35μm,0.2s						
SNTG				AML	AML		
	comp=N,159μm,2.4s						
SNTG				AML	AML		
	comp=E,102μm,0.1s						
SNTG				AML	AML		
	comp=N,38μm,0.1s						
GUMA	**Gualdo di Mace**	**0.22**	**91**	P	Pb	06 49 32.7	-0.2
NRCA	**Norcia**	**0.24**	**167**	P	Pg	06 49 32.3	+0.5
NRCA				S	Sg	06 49 36.6	+1.4
NRCA				AML	AML		
	comp=E,132μm,0.1s						
NRCA				AML	AML		
	comp=N,116μm,0.1s						
T1221	**Campello sul C**	**0.25**	**215**	P	Pg	06 49 32.2	+0.2
T1221				S	Sg	06 49 36.4	+0.9
EL6	**Elcito**	**0.27**	**10**	P	Pg	06 49 33.0	+0.6
EL6				S	Sb	06 49 37.6	-0.8
EL6				AML	AML		
	comp=E,111μm,1.4s						
EL6				AML	AML		
	comp=N,139μm,2.5s						

IDC 31 07:20:28.2±2.1, 0.°59N×125.°03E, h0km, mb3.1/3, mbtmp3.2/3, Error ellipse: s-maj=198.2km s-min=28.1km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.35**	**156**	P	P	07 25 27.7	-0.3
	0.3nm,0.3s,baz=334,slow=11,SNR=12						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**25.60**	**161**	P	P	07 25 59.7	+0.2
	0.1nm,0.3s,baz=348,slow=12,SNR=5.5						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**59.20**	**327**	P	P	07 30 31.2	0.0
	0.2nm,0.5s,baz=118,slow=8.6,SNR=2.4						
	0.2nm,0.5s						

IDC 31 07:25:26.8±2.4, 28.°46S×177.°73W, h0km, mb3.4/2, mbtmp3.4/2, MS3.5/1, Error ellipse: s-maj=37.3km s-min=22.2km az=69.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.81**	**192**	Pn	Pn	07 25 45.2	-0.3
	34nm,0.3s,baz=217,slow=20,SNR=1.4						
RAO				Sn	Sn	07 25 59.8	+1.7
	223nm,0.3s,baz=13,slow=23,SNR=9.8						
ASAR	**Alice Springs**	**43.48**	**265**	P	P	07 33 31.0	-1.2
	0.1nm,0.3s,baz=109,slow=9.0,SNR=1.7						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**44.29**	**270**	P	P	07 33 39.0	+0.3
	0.4nm,0.3s,baz=110,slow=8.1,SNR=12						
	0.4nm,0.3s						
GUMO	**Guam**	**55.29**	**314**	LR	LR	07 56 24.5	
	comp=Z,39nm,20.0s,baz=212,slow=34						
FINES	**FINESS Array B**	**143.40**	**341**	PKP	PKPdf	07 45 03.1	+0.5
	0.2nm,0.4s,baz=64,slow=6.3,SNR=4.4						

*ASIES **31** 07:27:17.2, 22.°87N×120.°65E, h17km, ML3.7, Mw3.3, Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm; M_{rr}8.34; $M_{\theta\theta}$-0.92; $M_{\phi\phi}$-7.41; $M_{r\theta}$3.33; $M_{\theta\phi}$-4.93; $M_{\phi r}$-6.26; Fault plane solution: $M_0$11.71680×10^{20} NP1: ϕ_s180.64000°, δ63.35000°, λ59.78000°. NP2:ϕ_s53.03000°, δ39.44000°, λ135.08000°. Principal axes: T Plg59.6870°, Azm45.7910°; N Plg26.7330°, Azm195.2740°; P Plg13.2320°, Azm292.0760°;*
TAP 31 07:27:17.2, 22.°87N×120.°65E, h17km, ML3.7, 13C-14D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SSD	**Sandimen**	**0.12**	**187**	⇑*i*P	Pb	07 27 21.3	+0.2
SSD	baz=184			S	Sb	07 27 23.9	+0.2
SLGT	**Liugui**	**0.12**	**359**	⇑P	Pb	07 27 21.5	+0.3
SLGT	baz=359			S	Sb	07 27 24.6	+0.8
SCST	**Cishan**	**0.14**	**277**	⇓P	Pb	07 27 21.8	+0.2
SCST	baz=277			S	Sb	07 27 25.9	+1.6
TSMG	**Majia**	**0.16**	**181**	⇑P	Pb	07 27 21.7	-0.1
TSMG	baz=181			S	Sb	07 27 24.6	-0.3
SGLT	**Jiouru**	**0.20**	**226**	⇑*i*P	Pb	07 27 23.3	+0.8
SGLT	baz=224			*i* S	Sb	07 27 28.1	+2.0
SGST	**Jiashian**	**0.22**	**344**	⇓*i*P	Pg	07 27 22.4	0.0
SGST	baz=346			*i* S	Sn	07 27 26.9	+0.3
TSPT	**Pingtung City**	**0.24**	**216**	P	Pb	07 27 23.9	+0.8
TSPT	baz=211			S	Sb	07 27 29.1	+2.1
MASBT	**Mashibuluo**	**0.26**	**183**	⇑P	Pb	07 27 23.2	-0.2
MASBT	baz=178			S	Sb	07 27 27.2	-0.4
SNJT	**Kaohsiung City**	**0.31**	**248**	P	Pn	07 27 25.8	-1.2
SNJT	baz=248			S	Sn	07 27 31.3	-1.9
STYT	**Tauyuan**	**0.31**	**19**	⇑*i*P	Pb	07 27 24.8	+0.4
STYT	baz=25			*i* S	Sb	07 27 30.3	+1.0
SHHT	**Tainan City**	**0.32**	**299**	⇓P	Pn	07 27 25.9	-1.2
SHHT	baz=308			S	Sn	07 27 34.1	+0.7
STYH	**Taoyuan**	**0.32**	**21**	⇑P	Pb	07 27 25.2	+0.6
STYH	baz=25			S	Sb	07 27 30.6	+1.1
CHN3	**Shinhua**	**0.33**	**308**	*i* P	Pn	07 27 26.4	-1.0
CHN3	baz=317			*i* S	Sn	07 27 34.4	+0.6
CHN1	**Nanshi**	**0.33**	**341**	⇓*i*P	Pb	07 27 25.4	+0.6
CHN1	baz=345			*i* S	Sb	07 27 31.9	+1.9
SNST	**Tainan City**	**0.38**	**338**	⇓P	Pb	07 27 26.1	+0.6
SNST	baz=351			S	Sb	07 27 32.8	+1.7
WTP	**Ta-pu**	**0.38**	**355**	⇓*i*P	Pb	07 27 26.2	+0.6
WTP	baz=356			*i* S	Sb	07 27 32.6	+1.4
ECL	**Taimali**	**0.39**	**134**	⇓*i*P	Pb	07 27 25.9	+0.2
ECL	baz=137			*i* S	Sb	07 27 31.3	-0.1
TWG	**Pinlang**	**0.39**	**97**	⇓*i*P	Pb	07 27 26.4	+0.6
TWG	baz=101			*i* S	Sb	07 27 32.3	+0.7
TWGBT	**Beinan**	**0.40**	**97**	⇓P	Pb	07 27 26.4	+0.5
TWGBT	baz=101			S	Sb	07 27 32.0	+0.2
WSSB	**Gushan**	**0.42**	**238**	⇑P	Pn	07 27 27.8	-0.8
WSSB	baz=237			S	Sn	07 27 37.2	+1.2
TAI1	**Yung-k'ang**	**0.42**	**294**	*i* P	Pb	07 27 26.7	+0.4
TAI1	baz=294			S	Sb	07 27 36.9	+0.9
TWK	**Hsinying**	**0.42**	**340**	⇑*i*P	Pb	07 27 26.8	+0.5
TWK	baz=353			*i* S	Sn	07 27 34.4	-1.8
SSHA	**Shanhua**	**0.43**	**309**	P	Pn	07 27 27.6	-1.0
SSHA	baz=309			S	Sn	07 27 36.5	+0.4
TPUB	**Ta-pu**	**0.43**	**358**	P	Pb	07 27 26.9	+0.4
TPUB	baz=357			S	Sb	07 27 34.1	+1.4
KAU	**Kaohsiung**	**0.43**	**226**	*i* P	Pn	07 27 28.7	0.0
KAU	baz=225			*e*S	Sn	07 27 36.9	+0.7
TAI	**Tainan**	**0.43**	**287**	*e*P	Pn	07 27 28.0	-0.8
TAI	baz=287			*e*S	Sn	07 27 35.6	-0.6
LONT	**Longtian**	**0.45**	**85**	⇓P	Pb	07 27 27.3	+0.6
LONT	baz=85			S	Sb	07 27 33.9	+0.8
ELDTW	**Lidau**	**0.47**	**47**	⇓*i*P	Pb	07 27 27.7	+0.6
ELDTW	baz=41			*i* S	Sb	07 27 34.2	+0.4
TTN	**Taitung**	**0.47**	**104**	⇓*i*P	Pn	07 27 28.6	-0.7
TTN	baz=107			S	Sn	07 27 37.6	+0.3
SCZT	**Fangliau**	**0.49**	**183**	⇑P	Pb	07 27 27.4	-0.1
SCZT	baz=177			*i* S	Sb	07 27 34.3	-0.1
EAST	**Anshuo**	**0.52**	**159**	*i* P	Pb	07 27 28.2	+0.3
EAST	baz=156			*i* S	Sb	07 27 35.7	+0.6
SCLT	**Jiali**	**0.52**	**306**	*i* P	Pb	07 27 28.9	+1.0
SCLT	baz=307			*i* S	Sn	07 27 38.5	+0.2
TAW	**Tawu**	**0.56**	**156**	*i* P	Pb	07 27 28.9	+0.4
TAW	baz=153			*i* S	Sb	07 27 36.6	+0.4

WCKO	**Fanlu**	**0.57**	**356**		P		Pb	07 27 29.6	+0.8	**RLNB**	**Erlin**	**1.05**	**345**		P		Pg	07 27 37.5	-0.1	**EWUT**	**Wuta**	**1.88**	**33**	*e*	P		Pn	07 27 49.8	+1.2
	baz=356										baz=333										baz=32								
WCKO					S		Sn	07 27 38.9	-0.8	RLNB					S		Sn	07 27 52.4	+0.8	EWUT				*e*	S		Sb	07 28 15.2	+0.8
	baz=356										baz=333										baz=32								
TAWH	**Dawu Township**	**0.57**	**157**		P		Pb	07 27 29.0	+0.2	**WRL**	**Guolierlin Hig**	**1.06**	**346**		P		Pb	07 27 37.2	+0.1	**NDT**	**Datong Townshi**	**1.90**	**24**		P		Pb	07 27 51.5	0.0
	baz=155										baz=334										baz=23								
TAWH					S		Sb	07 27 36.7	0.0	WRL					S		Sn	07 27 51.9	+0.1	NDT					S		Sb	07 28 16.1	+1.2
	baz=155										baz=334										baz=23								
ECS	**Chishang**	**0.57**	**67**		P		Pn	07 27 30.0	-0.7	**EGFH**	**Guangfu**	**1.07**	**42**		P		Pg	07 27 38.1	+0.1	**YHNB**	**Yeheng**	**1.91**	**20**		P		Pb	07 27 51.8	+0.1
	baz=67										baz=51										baz=19								
ECS					S		Sn	07 27 39.1	-0.7	EGFH					S		Sn	07 27 52.6	+0.6	YHNB					S		Sb	07 28 17.0	+1.5
	baz=67										baz=51										baz=19								
TWP	**Hsiaoliuchiu**	**0.58**	**207**	*i*	P		Pn	07 27 31.3	+0.5	**WARBT**	**Fenglin Townsh**	**1.08**	**39**		P		Pg	07 27 38.1	-0.1	**NSK**	**Sanguang**	**1.91**	**20**	*i*	P		Pb	07 27 51.5	-0.3
	baz=207										baz=48										baz=19								
TWP					S		Sn	07 27 42.5	+2.6	WARBT					S		Sg	07 27 53.2	+0.7	NSK				*i*	S		Sg	07 28 17.6	-1.3
	baz=207										baz=48										baz=19								
EHD	**Haiduan**	**0.58**	**61**	⇓	P		Pb	07 27 29.6	+0.5	**WWF**	**Wufeng**	**1.17**	**2**		P		Pg	07 27 39.6	-0.3	**ENTT**	**Nioudou**	**1.95**	**25**	*i*	P		Pb	07 27 52.5	+0.1
	baz=61										baz=2.0										baz=24								
EHD					S		Sb	07 27 37.9	+0.8	WWF					S		Sg	07 27 56.3	+1.2	ENTT					S		Sg	07 28 18.6	-1.6
	baz=61										baz=2.0										baz=24								
TSCK	**Chigu Township**	**0.59**	**298**		P		Pb	07 27 29.0	-0.1	**VCHM**	**Qimei**	**1.17**	**287**		P		Pn	07 27 37.6	-1.3	**EOS4**	**EOS4**	**1.98**	**51**		P		Pn	07 27 51.1	+1.4
	baz=298										baz=287										baz=65								
TSCK					S		Sn	07 27 38.7	-1.3	VCHM					S		Sb	07 27 53.1	-0.9	EOS4					S		Sb	07 28 17.1	+0.3
	baz=298										baz=287										baz=65								
ICHU	**Yijhu**	**0.60**	**325**		P		Pb	07 27 30.0	+0.8	**LAY**	**Lan-yu**	**1.17**	**134**	*i*	P		Pn	07 27 39.0	0.0	**NDS**	**Dongshan**	**2.01**	**29**	*e*	P		Pb	07 27 54.1	+0.8
	baz=339										baz=135										baz=45								
ICHU					S		Sn	07 27 39.4	-0.9	LAY					S		Sg	07 27 55.7	+0.4	NDS					S		Sg	07 28 20.6	-1.4
	baz=339										baz=135										baz=45								
EDH	**Donghe**	**0.61**	**80**		P		Pg	07 27 29.3	0.0	**WPL**	**Puli Township**	**1.17**	**14**		P		Pg	07 27 40.3	+0.4	**TWC**	**Suao**	**2.05**	**32**	*i*	P		Pb	07 27 53.1	-1.0
	baz=96										baz=13										baz=31								
EDH					S		Sb	07 27 38.8	+0.9	WPL					S		Sg	07 27 56.7	+1.4	TWC					S		Sb	07 28 20.9	+1.6
	baz=96										baz=13										baz=31								
CHN8	**Yiju**	**0.62**	**320**	*i*	P		Pb	07 27 30.4	+0.7	**PHUB**	**P'eng-hu**	**1.18**	**303**		P		Pn	07 27 37.6	-1.4	**NWLT**	**Wulai**	**2.06**	**22**		P		Pb	07 27 53.8	-0.3
	baz=321										baz=303										baz=21								
CHN8				*i*	S		Sn	07 27 40.9	0.0	PHUB					S		Sb	07 27 53.2	-1.0	NWLT					S		Sb	07 28 20.6	+1.2
	baz=321										baz=303										baz=21								
ALS	**Alishan**	**0.66**	**13**	⇓	*i* P		Pb	07 27 30.9	+0.5	**OWD**	**Renai**	**1.19**	**24**		P		Pg	07 27 39.8	-0.3	**TWE**	**Neicheng**	**2.07**	**27**		P		Pb	07 27 53.7	-0.6
	baz=13										baz=23										baz=43								
ALS				*i*	S		Sn	07 27 41.1	-1.1	OWD					S		Sg	07 27 57.2	+1.5	TWE				*e*	S		Sg	07 28 22.6	-1.1
	baz=13										baz=23										baz=43								
CHY	**Chiayi**	**0.66**	**342**		P		Pn	07 27 31.1	-0.7	**ESL**	**Shilin**	**1.19**	**37**	*i*	P		Pg	07 27 40.1	0.0	**FUSB**	**Fushanzhiwuyua**	**2.07**	**24**		P		Pb	07 27 54.4	-0.1
	baz=342										baz=24										baz=6.0								
CHY					S		Sn	07 27 42.6	+0.7	ESL				*i*	S		Sg	07 27 57.5	+1.8	FUSB					S		Sb	07 28 21.5	+1.5
	baz=342										baz=24										baz=6.0								
SLIU	**Shizi**	**0.66**	**168**		P		Pb	07 27 30.6	+0.2	**DPDB**	**Guoxing**	**1.19**	**12**		P		Pg	07 27 40.0	-0.2	**EOS3**	**EOS3**	**2.08**	**47**		P		Pb	07 27 53.2	-1.3
	baz=173										baz=12										baz=60								
SLIU					S		Sb	07 27 39.8	+0.5	DPDB					S		Sg	07 27 56.2	+0.5	EOS3					S		Sb	07 28 20.0	-0.1
	baz=173										baz=12										baz=60								
FULB	**Fuli**	**0.68**	**61**		P		Pn	07 27 32.1	0.0	**WUSB**	**Renai**	**1.20**	**21**		P		Pg	07 27 40.6	+0.2	**EOS2**	**EOS2**	**2.12**	**43**		P		Pb	07 27 54.2	-0.9
	baz=52										baz=8.0										baz=57								
FULB					S		Sn	07 27 42.3	-0.1	WUSB					S		Sg	07 27 56.4	+0.3	EOS2				*e*	S		Sb	07 28 19.6	-1.5
	baz=52										baz=8.0										baz=57								
CHKT	**Chengkung**	**0.70**	**71**	*i*	P		Pn	07 27 32.3	-0.1	**WCS**	**Beigang Elemen**	**1.21**	**12**		P		Pg	07 27 40.4	-0.1	**TIPB**	**Shuangxi**	**2.35**	**27**		P		Pb	07 27 57.4	-1.8
	baz=86										baz=11										baz=41								
CHKT					S		Sn	07 27 43.1	+0.3	WCS					S		Sg	07 27 56.7	+0.3	TIPB					S		Sb	07 28 28.9	+0.8
	baz=86										baz=11										baz=41								
CHN5	**Tsauling**	**0.73**	**2**	*i*	P		Pn	07 27 32.3	-0.6	**WCHH**	**Zhanghua**	**1.21**	**356**		P		Pg	07 27 41.1	+0.5	**VWUC**	**VWUC**	**2.38**	**333**		P		Pn	07 27 55.9	+0.3
	baz=12										baz=356										baz=334								
CHN5				*i*	S		Sn	07 27 44.0	+0.3	WCHH					S		Sg	07 27 57.2	+0.8	VWUC				*e*	S		Sn	07 28 24.9	+0.5
	baz=12										baz=356										baz=334								
WSL	**Shuilin Townsh**	**0.76**	**329**		P		Pn	07 27 32.8	-0.4	**LYUB**	**Lan-yu**	**1.22**	**135**		P		Pn	07 27 37.9	-1.7	**YM01**	**YM01**	**2.42**	**20**	*e*	P		Pb	07 27 59.6	-0.8
	baz=330										baz=135										baz=19								
WSL					S		Sn	07 27 44.8	+0.5	LYUB					S		Sb	07 27 55.0	-0.4	YM01					S		Sb	07 28 29.9	-0.1
	baz=330										baz=135										baz=19								
CHKH	**Chenggong**	**0.76**	**65**		P		Pn	07 27 33.0	-0.2	**PNG**	**Penghu**	**1.22**	**305**	*i*	P		Pn	07 27 38.4	-1.2	**SXI1**	**Grass Mountain**	**2.48**	**27**		P		Pb	07 27 59.7	-1.8
	baz=79										baz=305										baz=8.0								
CHKH					S		Sn	07 27 45.3	+1.0	PNG				*i*	S		Sb	07 27 54.1	-1.4	SXI1					S		Sb	07 28 31.2	-0.7
	baz=79										baz=305										baz=8.0								
TWF1	**Yuli**	**0.77**	**51**	⇑	*i* P		Pn	07 27 32.8	-0.5	**SHUL**	**Shoufeng**	**1.24**	**42**		P		Pg	07 27 41.1	-0.2	**KNM**	**Kinmen**	**2.55**	**308**		P		Pb	07 28 01.8	-0.8
	baz=59										baz=42										baz=306								
TWF1				*i*	S		Sn	07 27 43.5	-1.0	SHUL					S		Sg	07 27 59.8	+2.3	KNM				*e*	S		Sb	07 28 31.2	-2.4
	baz=59										baz=42										baz=306								
EYUL	**Yuli**	**0.78**	**52**		P		Pn	07 27 33.1	-0.4	**TCU**	**Taichung**	**1.27**	**1**		P		Pg	07 27 41.5	-0.3	**KNMB**	**Chin-men Tao**	**2.61**	**308**		P		Pn	07 27 58.1	-0.6
	baz=52										baz=1.0										baz=308								
EYUL					S		Sg	07 27 43.7	+0.9	TCU				*i*	S		Sg	07 27 58.6	+0.2	KNMB				*e*	S		Sn	07 28 29.8	-0.2
	baz=52										baz=1.0										baz=308								
LDUT	**Ludao**	**0.78**	**104**		P		Pg	07 27 32.9	+0.4	**CHGB**	**Renai**	**1.28**	**22**		P		Pg	07 27 41.8	-0.2	**YOJ**	**Yonaguni jima**	**2.69**	**53**	*e*	P		Pn	07 28 02.2	+2.5
	baz=105										baz=7.0										baz=52								
LDUT					S		Sn	07 27 45.4	+0.5	CHGB					S		Sg	07 28 00.4	+1.6	YOJ				*e*	S		Sn	07 28 34.0	+2.1
	baz=105										baz=7.0										baz=52								
YULB	**Yu-li**	**0.79**	**49**	⇑	P		Pg	07 27 33.0	+0.3	**ETM**	**Tongmen**	**1.34**	**35**		P		Pg	07 27 42.8	-0.3										
	baz=56										baz=35																			
YULB					S		Sg	07 27 43.9	+0.7	ETM					S		Sg	07 28 01.9	+1.4										
	baz=56										baz=35																			
WGK	**Gukeng**	**0.82**	**354**	*i*	P		Pn	07 27 34.2	+0.2	**LXIB**	**Xiulin Townshi**	**1.35**	**31**		P		Pg	07 27 43.0	-0.2										
	baz=355										baz=30																			
WGK				*i*	S		Sn	07 27 46.9	+1.1	LXIB					S		Sg	07 28 01.1	+0.3										
	baz=355										baz=30																			
WDLH	**Douliu**	**0.82**	**353**		P		Pn	07 27 34.1	0.0	**WHF**	**Hehuan Shan**	**1.39**	**24**	*i*	P		Pg	07 27 44.2	+0.1										
	baz=353										baz=23																			
WDLH					S		Sn	07 27 46.7	+0.8	WHF				*i*	S		Sg	07 28 03.5	+1.1										
	baz=353										baz=23																			
WHYT	**Xinyi Township**	**0.85**	**13**		P		Pg	07 27 34.0	+0.3	**HWA**	**Hwalien**	**1.41**	**38**	*e*	P		Pg	07 27 43.8	-0.6										
	baz=12										baz=22																			
WHYT					S		Sn	07 27 47.1	+0.5	HWA					S		Sg	07 28 04.9	+2.1										
	baz=12										baz=22																			
WTK	**Tuku**	**0.85**	**344**		P		Pn	07 27 34.2	-0.2	**WHP**	**Taichung City**	**1.43**	**11**		P		Pb	07 27 43.5	0.0										
	baz=344										baz=10.0																			
WTK					S		Sn	07 27 46.5	-0.1	WHP					S		Sg	07 28 04.4	+0.9										
	baz=344										baz=10.0																			
SMST	**Manzhou Townsh**	**0.86**	**168**		P		Pn	07 27 34.4	-0.3	**TDCB**	**Techi**	**1.46**	**19**		P		Pb	07 27 43.6	-0.4										
	baz=160										baz=18																			
SMST				*e*	S		Sn	07 27 48.3	+1.5	TDCB					S		Sg	07 28 04.6	+0.3										
	baz=160										baz=18																			
WSF	**Szhu**	**0.86**	**333**	*i*	P		Pg	07 27 34.2	+0.2	**TWT**	**Tachien**	**1.46**	**19**	*i*	P		Pn	07 27 43.1	0.0										
	baz=334										baz=18																			
WSF				*i*	S		Sn	07 27 47.2	+0.3	TWT				*i*	S		Sg	07 28 04.6	+0.1										
	baz=334										baz=18																			
HEN	**Hengchun**	**0.86**	**174**	*i*	P		Pn	07 27 35.2	+0.5	**WDJ**	**Dajia District**	**1.47**	**360**	*e*	P		Pg	07 27 45.0	-0.6										
	baz=174										baz=360																			
HEN				*i*	S		Sn	07 27 48.2	+1.4	WDJ					S		Sg	07 28 04.6	-0.2										
	baz=174										baz=360																			
ECBN	**Changbin**	**0.86**	**59**		P		Pn	07 27 35.9	+1.2	**TWQ1**	**Liyutan**	**1.48**	**4**	*i*	P		Pb	07 27 44.4	+0.1										
	baz=59										baz=4.0																			
ECBN					S		Sn	07 27 48.4	+1.5	TWQ1				*i*	S		Sg	07 28 05.0	0.0										
	baz=59										baz=4.0																			
EHY	**Hungye**	**0.89**	**44**	⇑	*i* P		Pn	07 27 34.8	-0.2	**TWD**	**Chiawan**	**1.49**	**36**	*i*	P		Pb	07 27 44.7	+0.2										
	baz=51										baz=35																			
EHY				*i*	S		Sn	07 27 47.0	-0.5	TWD				*i*	S		Sg	07 28 06.5	+1.2										
	baz=51										baz=35																			
EHYH	**Wanrong**	**0.89**	**46**		P		Pb	07 27 33.6	-0.7	**ETLH**	**Xiulin Townshi**	**1.54**	**30**		P		Pb	07 27 45.8	+0.5										
	baz=52										baz=29																			
EHYH				*i*	S		Sg	07 27 46.9	+0.5	ETLH					S		Sg	07 28 08.1	+1.3										
	baz=52										baz=29																			
TWK1	**Hengchun**	**0.93**	**171**	*i*	P		Pn	07 27 36.2	+0.6	**NSY**	**Sanyi**	**1.54**	**4**		P		Pb	07 27 45.5	+0.1										
	baz=171										baz=4.0																			
TWK1				*e*	S		Sn	07 27 50.8	+2.2	NSY					S		Sg	07 28 07.3	+0.2										
	baz=171										baz=4.0																			
TWKBT	**Hengchun**	**0.94**	**171**		P		Pn	07 27 36.3	+0.6	**NACB**	**Ninganchiao**	**1.56**	**34**		P		Pb	07 27 45.3	-0.4										
	baz=171										baz=32																			
TWKBT				*e*	S		Sn	07 27 50.1	+1.4	NACB					S		Sg	07 28 08.0	+0.3										
	baz=171										baz=32																			
HGSD	**Ruisui**	**0.95**	**49**		P		Pn	07 27 36.6	+0.9	**ETL**	**Fush Village**	**1.57**	**35**	*e*	P		Pb	07 27 45.2	-0.6										
	baz=49										baz=34																			
HGSD					S		Sn	07 27 50.5	+1.5	ETL					S		Sg	07 28 07.4	-0.4										
	baz=49										baz=34																			
WJS	**Zhushan**	**0.95**	**4**		P		Pn	07 27 36.4	+0.5	**NNSB**	**Datong**	**1.69**	**23**		P		Pb	07 27 47.8	-0.3										
	baz=349										baz=22																			
WJS					S		Sn	07 27 50.8	+1.7	NNSB					S		Sg	07 28 11.3	-0.6										
	baz=349										baz=22																			
SSLB	**Suanglung**	**0.96**	**17**		P		Pn	07 27 35.9	-0.1	**NNSH**	**Datong**	**1.69**	**23**	*e*	P		Pb	07 27 48.2	+0.2										
	baz=16										baz=22																			
SSLB					S		Sn	07 27 51.1	+1.8	NNSH				*e*	S		Sg	07 28 11.1	-0.8										
	baz=16										baz=22																			
WDGT	**Dungji**	**0.99**	**293**	*i*	P		Pb	07 27 35.1	-0.8	**NNS**	**Nan Shan**	**1.70**	**23**	*i*	P		Pb	07 27 47.9	-0.3										
	baz=293										baz=22																			
WDGT				*i*	S		Sb	07 27 48.5	-0.2	NNS				*i*	S		Sg	07 28 11.3	-0.7										
	baz=293										baz=22																			
VWDT	**VWDT**	**0.99**	**27**		P		Pg	07 27 36.4	0.0	**NSTT**	**Nanjuang**	**1.79**	**10**	*i*	P		Pb	07 27 49.7	+0.2										
	baz=25										baz=353																			
VWDT					S		Sn	07 27 52.5	+2.5	NSTT				*i*	S		Sg	07 28 13.2	-1.5										
	baz=25										baz=353																			
WNT	**Mingjian**	**1.01**	**2**	*i*	P		Pg	07 27 36.8	+0.1	**LIOB**	**Emei**	**1.80**	**11**		P		Pb	07 27 48.9	-1.0										
	baz=348										baz=354																			
WNT				*i*	S		Sn	07 27 50.5	+0.1	LIOB					S		Sb	07 28 13.0	+0.8										
	baz=348										baz=354																			
WNT1	**Nantou City**	**1.03**	**2**	*e*	P		Pg	07 27 37.5	+0.2	**NFF**	**Wufeng Townshi**	**1.81**	**14**		P		Pb	07 27 49.8	-0.2										
	baz=1.0										baz=357																			
WNT1					S		Sn	07 27 52.7	+1.5	NFF					S		Sb	07 28 13.7	+1.3										
	baz=1.0										baz=357																			
SMLT	**Sun Moon Lake**	**1.04**	**13**	*i*	P		Pg	07 27 37.8	+0.5	**LATG**	**Datong**	**1.84**	**26**		P		Pb	07 27 50.1	-0.5										
	baz=13										baz=24																			
SMLT				*i*	S		Sn	07 27 52.9	+1.6	LATG					S		Sg	07 28 15.8	-0.8										
	baz=13										baz=24																			
TYC	**Yuchr**	**1.05**	**11**	*i*	P		Pg	07 27 38.2	+0.6	**ENA**	**Nanau**	**1.85**	**33**	*i*	P		Pb	07 27 50.1	-0.5										
	baz=10.0										baz=32																			
TYC				*i*	S		Sn	07 27 53.4	+1.9	ENA				*e*	S		Sg	07 28 15.4	-1.4										
	baz=10.0										baz=32																			

CATAC ***31*** *07:33:45.1±0.7, 13°.95N×91°.29W, h10km±7km, ML3.2*
GCG ***31*** *07:33:45.7±0.4, 13°.98N×91°.43W, h44km±45km, MD3.1*
SNET ***31*** *07:33:47.3±1.2, 14°.16N×91°.12W, h20km±28km, ML2.9*

ISC 31 07:33:44.8±1.6, 13°.92N±0'.08×91°.35W±0'.05, h22km±7km, n21, σ0§81/31, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.44**	**331**	*eP*		**Pb**	**07 33 53.4**	**-0.5**
RTAL	**Retalhuleu**	**0.69**	**331**	*iP*		**Pn**	**07 33 59.2**	**-0.1**
RTAL				*eS*		**Sn**	**07 34 09.7**	**+0.3**
RTAL	**Retalhuleu**	**0.69**	**331**	*iP*		**Pn**	**07 33 59.3**	**-0.1**
RTAL				*iS*		**Sb**	**07 34 08.3**	**+0.9**
RTAL				IAML			07 34 23.7	
	comp=Z,360nm,1.0s							
FUG	**Fuego 3**	**0.72**	**43**	*eP*		**Pn**	**07 34 00.4**	**+0.5**
STG3	**Santiaguito 3,**	**0.82**	**345**	*eP*		**Pn**	**07 34 01.7**	**+0.4**
STG3				*eS*		**Sb**	**07 34 11.8**	**+0.6**
PCG	**Pacaya**	**0.86**	**57**	*eP*		**Pn**	**07 34 02.6**	**+0.7**
GCG4	**OSOP**	**1.03**	**50**	*iP*		**Pn**	**07 34 04.4**	**+0.2**
GCG4				*iS*		**Sn**	**07 34 17.5**	**-0.6**
GCG4				IAML			07 34 24.2	
	comp=Z,630nm,1.0s							
NBG	**Las Nubes**	**1.18**	**55**	*eP*		**Pb**	**07 34 07.2**	**+0.6**
NBG				*eS*		**Sn**	**07 34 23.9**	**+2.1**
GUNB	**GUNB**	**1.18**	**55**	*iP*		**Pn**	**07 34 06.1**	**-0.3**
GUNB				*iS*		**Sb**	**07 34 21.0**	**-0.7**
GUNB				IAML			07 34 25.4	
	comp=Z,640nm,1.0s							
QUIS	**Sacapulas**	**1.39**	**10**	*iP*		**Pb**	**07 34 09.8**	**-0.4**
QUIS				*iS*		**Sb**	**07 34 27.8**	**+0.3**
QUIS				IAML			07 34 47.3	
	comp=Z,260nm,1.0s							
HUEH	**Huehuetenango**	**1.40**	**354**	*eP*		**Pn**	**07 34 09.1**	**-0.2**
HUEH				*eS*		**Sn**	**07 34 26.9**	**-0.3**
HUEH				IAML			07 34 29.5	
	comp=Z,98nm,0.6s							
NUBE	**Las Nubes**	**1.52**	**90**	*eP*		**Pn**	**07 34 10.9**	**+0.1**
NUBE				*eS*		**Sn**	**07 34 29.1**	**-1.0**
NUBE	**Las Nubes**	**1.52**	**90**	*iP*		**Pn**	**07 34 11.6**	**+0.7**
NUBE				IAML			07 34 29.8	
	comp=Z,340nm,1.0s							
RTR	**El Retiro**	**1.65**	**90**	*eP*		**Pn**	**07 34 13.2**	**+0.5**
CEVE	**Cerro Verde**	**1.68**	**93**	*eP*		**Pn**	**07 34 13.5**	**+0.4**
CEVE				*eS*		**Sn**	**07 34 33.7**	**-0.3**
CEVE				IAML			07 34 43.2	
	comp=Z,411nm,0.4s							
JAYA	**Jayaque - finc**	**1.86**	**98**	*eP*		**Pn**	**07 34 15.7**	**+0.1**
JAYA				*eS*		**Sn**	**07 34 37.0**	**-1.6**
JAYA	**Jayaque - finc**	**1.86**	**98**	*iP*		**Pn**	**07 34 16.1**	**+0.5**
JAYA				IAML			07 34 40.6	
	comp=Z,720nm,1.0s							
CEDA	**San Andres**	**1.90**	**93**	IAML			07 34 48.6	
	comp=Z,125nm,0.4s							
ESQI	**Esquipulas**	**2.05**	**72**	*eP*		**Pn**	**07 34 16.4**	**-1.7**
SJTE	**Alcalda de S**	**2.29**	**97**	*iP*		**Pn**	**07 34 22.3**	**+0.8**
SJTE				IAML			07 34 59.7	
	comp=Z,110nm,1.0s							
COEG	**Centro de Oper**	**2.41**	**97**	*iP*		**Pn**	**07 34 24.0**	**+0.9**
COEG				IAML			07 35 02.0	
	comp=Z,62nm,1.0s							

DNK ***31*** *07:37:53.4±2.2, 51°.62N×16°.11E, h0km±121km, ML2.2*
PRU ***31*** *07:37:55.5, 51°.44N×16°.13E, h0km*
VIE ***31*** *07:37:56.2±0.9, 51°.29N×16°.08E, h0km, mb2.4/3, ml2.7/3,*
Error ellipse: s-maj=7.1km s-min=5.5km az=87.0,
Suspected Mining induced.

ISC 31 07:37:52.0±0.8, 51°.56N±0'.03×16°.14E±0'.03, h0km, n30, σ1§24/55, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHVC	**Chvalec**	**0.98**	**183**	*e*PG		**Pg**	**07 38 11.4**	**+0.7**
CHVC				*e*SG

PVCC	**Panska Ves**	**1.43**	**224**	*e*PG	**Pb**	**07 38 20.0**	**+0.4**
PVCC				*e*SG	**Sb**	**07 38 38.9**	**+0.6**
BRG	**Berggiesshubel**	**1.54**	**244**	Pg	**Pg**	**07 38 22.3**	**+0.7**
BRG				Sg	**Sg**	**07 38 42.5**	**+1.0**
BRG				Amp		07 38 43.8	
	comp=Z,54nm,0.4s						
KRLC	**Kraliky**	**1.54**	**164**	*e*PG	**Pn**	**07 38 21.1**	**+0.3**
KRLC				*e*SG	**Sg**	**07 38 40.2**	**-1.4**
	comp=Z,41nm,0.3s						
RICC	**Richard**	**1.64**	**232**	*e*SG	**Sb**	**07 38 45.0**	**+0.6**
PRU	**Pruhonice**	**1.87**	**213**	*e*PG	**Pb**	**07 38 27.0**	**-0.1**
PRU				*e*SG	**Sb**	**07 38 51.7**	**+0.7**
	comp=Z,26nm,0.5s						
HSKC	**Hora Svate Kat**	**1.96**	**242**	*e*PG	**Pb**	**07 38 28.9**	**+0.4**
HSKC				*e*SG	**Sb**	**07 38 54.3**	**+0.9**
	comp=Z,34nm,0.3s						
CLL	**Collm**	**1.98**	**264**	*e*Pn	**Pn**	**07 38 27.0**	**+0.3**
CLL				*e*Pg	**Pg**	**07 38 30.0**	**+0.1**
CLL				*i* x	x	07 38 33.6	
CLL				*e*Sg	**Sg**	**07 38 56.0**	**+0.5**
	comp=Z,20nm,0.3s						
MORC	**Moravsky Berou**	**2.00**	**153**	*e*PN	**Pn**	**07 38 27.0**	**-0.1**
MORC				*e*SG	**Sb**	**07 38 54.2**	**-0.5**
OKC	**Ostrava-Krasne**	**2.15**	**143**	*e*SG	**Sb**	**07 38 59.4**	**+0.5**
VRAC	**Vranov**	**2.28**	**172**	*e*PN	**Pn**	**07 38 31.3**	**+0.5**
VRAC				*e*SG	**Sb**	**07 39 02.8**	**+0.2**
KRUC	**Moravsky**	**2.51**	**176**	*e*PN	**Pn**	**07 38 34.4**	**+0.4**
KRUC				*e*SG	**Sb**	**07 39 10.4**	**+1.1**
OJC	**Ojcow**	**2.68**	**119**	*e*Pg	**Pg**	**07 38 43.6**	**+0.3**
OJC				*e*Sg	**Sg**	**07 39 18.6**	**+0.6**
NKC	**Novy Kostel**	**2.69**	**242**	*e*PN	**Pn**	**07 38 37.3**	**+0.8**
KHC	**Kasperske Hory**	**2.94**	**215**	*e*PN	**Pn**	**07 38 39.9**	**0.0**
KHC				*e*PG	**Pb**	**07 38 46.1**	**+0.9**
KHC				*e*SN	**Sn**	**07 39 14.2**	**-1.7**
KHC				*e*SG	**Sg**	**07 39 24.6**	**-1.6**
	comp=Z,7.8nm,0.4s						
CKRC	**Cesky Krumlov**	**2.99**	**204**	*e*PN	**Pn**	**07 38 41.4**	**+0.8**
CKRC				*e*PG	**Pb**	**07 38 47.3**	**+1.2**
LANS	**Liptovska Anna**	**3.22**	**137**	*e*PN	**Pn**	**07 38 45.9**	**+2.0**
LANS				*e*SG	**Sg**	**07 39 34.0**	**-1.5**
MODS	**Modra-Piesok**	**3.28**	**167**	*e*SG	**Sg**	**07 39 38.5**	**+1.3**
VYHS	**Vyhne**	**3.53**	**149**	*e*PN	**Pn**	**07 38 47.5**	**-0.6**
VYHS				*e*PG	**Pg**	**07 39 01.9**	**+2.3**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P	**Pn**	**07 38 50.4**	**+1.0**
BSD				*i* S	**Sn**	**07 39 32.5**	**-0.5**
BSD				IAML		07 39 33.2	
	comp=Z,2.4nm,0.2s						
CONA	**Conrad Observa**	**3.64**	**183**	*i* Pn	**Pn**	**07 38 50.5**	**+0.9**
	comp=Z,0.5nm,0.1s						
CONA				*e*Sg	**Sg**	**07 39 46.4**	**-2.6**
	comp=Z,14nm,0.5s						
MOA	**Molln**	**3.91**	**199**	*e*Sg	**Sg**	**07 39 56.1**	**-1.4**
	comp=Z,3.9nm,0.2s						
ARSA	**Arzberg**	**4.33**	**186**	*e*Sg	**Sg**	**07 40 09.0**	**-2.2**
	comp=Z,7.6nm,0.5s						
LUNU	**Lund**	**4.38**	**340**	*i* P	**Pn**	**07 39 00.7**	**+0.9**
LUNU				*i* S	**Sn**	**07 39 49.0**	**-2.4**
BLEU	**Blekinge**	**4.75**	**358**	*i* P	**Pn**	**07 39 06.0**	**+1.2**
BLEU				*i* S	**Sn**	**07 39 58.3**	**-2.3**
DEL	**Delary**	**5.09**	**346**	*i* P	**Pn**	**07 39 09.9**	**+0.3**
DEL				*i* S	**Sn**	**07 40 05.6**	**-3.4**
BORU	**Boraas**	**6.39**	**344**	*i* S	**Sn**	**07 40 38.4**	**-2.5**

SFS ***31*** *07:40:43.5, 37°.95N×3°.25W, h0km, ML2.6/5, ML2.6/5, MLv2.6/5*

MDD ***31*** *07:40:44.1±0.4, 37°.87N×3°.23W, h12km±1km, mb_Lg2.3/5, Error ellipse: s-maj=3.2km s-min=2.3km az=14.0*

ISC 31 07:40:43.3±0.9, 37°.89N±0°.03×3°.22W±0°.03, h10km±7km, n17, σ0s83/31, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EQES	**Quesada**	**0.15**	**126**	Pg	**Pg**	**07 40 46.3**	**-0.4**
EQES				Sg	**Sg**	**07 40 48.4**	**-0.7**
EQES				*i* Vmb_Lg		07 40 49.2	
E0802	**Ubeda,Jaen**	**0.18**	**318**	Pg	**Pg**	**07 40 47.7**	**+0.5**
E0802				Sg	**Sg**	**07 40 50.7**	**+0.9**
PSIM	**Granatula de C**	**1.02**	**336**	Pg	**Pb**	**07 41 03.1**	**+0.1**
PSIM				Sg	**Sb**	**07 41 16.6**	**+0.1**
EBER	**Berja**	**1.03**	**165**	Sg	**Sb**	**07 41 18.2**	**+1.4**
EBER				Pg	**Pb**	**07 41 02.6**	**-0.6**
EBER	**Berja**	**1.03**	**165**	Pg	**Pb**	**07 41 03.1**	**-0.2**
EBER				Sg	**Sb**	**07 41 18.5**	**+1.7**
ELGU	**Los Guajares,**	**1.07**	**198**	Pg	**Pb**	**07 41 04.3**	**+0.4**
EADA	**Adamuz**	**1.10**	**285**	Pn	**Pb**	**07 41 03.9**	**-0.5**
EADA				Sn	**Sb**	**07 41 18.8**	**-0.2**
EADA	**Adamuz**	**1.10**	**285**	Pg	**Pb**	**07 41 03.9**	**-0.5**
EADA				Sg	**Sb**	**07 41 18.6**	**-0.3**
EADA				*i* Vmb_Lg		07 41 22.8	
EZAR	**Zarzadilla de**	**1.21**	**90**	Pg	**Pn**	**07 41 06.3**	**-0.1**
EZAR				Sg	**Sb**	**07 41 21.3**	**-0.8**
E001A	**Albudeite (Mur**	**1.45**	**84**	Sg	**Sb**	**07 41 30.4**	**+1.4**
ETOB	**Tobarra**	**1.52**	**60**	Pn	**Pn**	**07 41 09.9**	**-0.6**
ETOB				Sn	**Sn**	**07 41 30.7**	**+0.2**
ETOB	**Tobarra**	**1.52**	**60**	Pn	**Pn**	**07 41 10.4**	**-0.2**
ETOB				Sg	**Sb**	**07 41 31.3**	**+0.8**
EMUR	**La Murta**	**1.57**	**91**	Sn	**Sn**	**07 41 32.4**	**+0.7**
EMUR	**La Murta**	**1.57**	**91**	Sn	**Sn**	**07 41 30.5**	**-1.1**
ECAB	**El Cabril**	**1.74**	**277**	Pn	**Pn**	**07 41 13.8**	**+0.1**
ECAB				Sn	**Sn**	**07 41 36.3**	**+0.3**
ECAB	**El Cabril**	**1.74**	**277**	Pn	**Pn**	**07 41 12.8**	**-0.8**
ECAB				Sn	**Sn**	**07 41 35.8**	**-0.1**
ECAB				Sg	**Sb**	**07 41 37.5**	**+0.1**
ECAB				*i* Vmb_Lg		07 41 46.5	
PAB	**San Pablo**	**1.87**	**332**	Sn	**Sn**	**07 41 37.8**	**-1.4**
PAB				Sg	**Sb**	**07 41 42.7**	**+1.6**

JMA ***31*** *07:46:33.9±0.4, 28°.9N±0°.3×14°.3E±°, h41km, MV4.2/24, NEAR CHICHIJIMA ISLAND*

IDC ***31*** *07:46:33.2±0.7, 28°.83N×142°.53E, h0km, mb3.9/15, mbtmp3.9/16, ML3.4/1, MS3.0/4, Error ellipse: s-maj=24.3km s-min=16.7km az=83.0*

NEIC ***31*** *07:46:36.3±1.8, 29°.03N±0°.05×142°.56E±0°.10, h10km±1km, mb4.5/28, Error ellipse: s-maj=16.0km s-min=4.5km az=62.0*

ISC 31 07:46:37.6±0.5, 28°.90N±0°.05×142°.55E±0°.09, h27km, n69, σ1s18/69, mb4.4/28, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.82**	**190**	S	**Sn**	**07 47 27.0**	**-2.3**
JCJ	**Chichijima**	**1.82**	**190**	Pn	**Pb**	**07 47 10.3**	**+0.1**
JHJ2	**Mitsune**	**4.81**	**332**	Pn	**Pn**	**07 47 46.5**	**-1.7**
JHJ2	**Mitsune**	**4.81**	**332**	*e*S	**Sn**	**07 48 41.4**	**-1.7**
BSO1	**Boso 1**	**5.89**	**347**	*e*P	**Pn**	**07 48 01.5**	**-1.1**
BSO1				*e*S	**Sn**	**07 49 06.6**	**-2.4**
BSO3	**Boso 3**	**6.14**	**344**	*e*P	**Pn**	**07 48 05.5**	**-0.8**
BSO3				*e*S	**Sn**	**07 49 15.3**	**-0.1**
BSO4	**Boso 4**	**6.36**	**343**	*e*S	**Sn**	**07 49 20.5**	**-0.6**
JOD2	**Odawara 2**	**6.99**	**336**	*e*P	**Pn**	**07 48 18.0**	**-0.2**
JHU	**Hanno**	**7.46**	**339**	P	**Pn**	**07 48 24.2**	**-0.5**
JHU				*e*S	**Sn**	**07 49 45.1**	**-3.3**
JRY	**Ryogami san**	**7.74**	**338**	*e*P	**Pn**	**07 48 28.3**	**-0.2**
JHO	**Hitachi**	**7.87**	**348**	P	**Pn**	**07 48 28.7**	**-1.6**
JAG	**Ashikaga**	**7.95**	**342**	*e*P	**Pn**	**07 48 29.7**	**-1.6**
JGF	**Kuroka**	**8.00**	**328**	Pn	**Pn**	**07 48 32.2**	**+0.1**
MJAR	**Matsushiro Arr**	**8.45**	**336**	Pn	**Pn**	**07 48 37.9**	**-0.3**
	0.4nm,0.3s,baz=162,slow=11,SNR=22						
MJAR				Sn	**Sn**	**07 50 10.9**	**-1.9**
	0.2nm,0.3s,baz=262,slow=27,SNR=1.9						
	3.8nm,0.5s						
MAJO	**Matsushiro**	**8.45**	**336**		**Pn**	**07 48 37.6**	**-0.7**
JMM	**Marumori**	**9.06**	**351**		Pn	07 48 43.4	-3.3
JSD	**Sado**	**9.79**	**340**	Pn	**Pn**	**07 48 54.5**	**-2.1**
JHS	**Saijyo**	**10.05**	**310**	Pn	**Pn**	**07 49 00.1**	**-0.1**
JNU	**Nakatsue**	**10.86**	**296**	LR	LR	07 52 58.4	
	comp=Z,88nm,20.2s,baz=100,slow=35						
JOW	**Kunigami**	**12.79**	**264**	LR	LR	07 54 03.2	
	comp=Z,82nm,20.9s,baz=111,slow=35						
KSRS	**Korea Array**	**14.91**	**309**	Pn	**Pn**	**07 50 09.9**	**+3.4**
	0.4nm,0.3s,baz=111,slow=13,SNR=8.6						
KSRS				LR	LR	07 55 55.0	
	comp=Z,40nm,19.3s,baz=95,slow=38						
NACB	**Ninganchiao**	**19.32**	**261**	P	**P**	**07 51 01.0**	**+0.3**
YHNB	**Yeheng**	**19.36**	**262**	P	**P**	**07 51 01.6**	**+0.3**
SSLB	**Suanglung**	**20.00**	**260**	P	**P**	**07 51 09.7**	**+1.5**
SSLB				IAmb	IAmb	07 51 15.6	
	comp=Z,18nm,0.7s						
HKPS	**Hong Kong Po S**	**26.41**	**262**	P	**P**	**07 52 12.8**	**+0.7**

SONM	**Songino Array**	**33.66**	**314**	P	**P**	**07 53 16.7**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=112,slow=8.3,SNR=6.8						
	comp=Z,2.0nm,0.8s						
CRAI	**Chiangrai**	**39.15**	**267**	P	**P**	**07 54 02.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**41.06**	**265**	P	**P**	**07 54 19.8**	**+0.7**
CMAR	**Chiang Mai Arr**	**41.06**	**265**	LR	LR	08 10 52.8	
	comp=Z,22nm,21.6s,baz=305,slow=36						
MTN	**Manton Dam**	**42.94**	**196**	P	**P**	**07 54 32.9**	**-1.4**
TIXI	**Tiksi**	**43.46**	**354**	P	**P**	**07 54 37.2**	**-0.7**
AKUT	**Akutan**	**44.88**	**41**	P	**P**	**07 54 49.1**	**-0.4**
KNRA	**Kununurra**	**46.27**	**199**	P	**P**	**07 55 03.6**	**+2.7**
KNRA				IAmb	IAmb	07 55 04.4	
	comp=Z,8.9nm,1.1s						
ZALV	**Zalesovo Beam**	**48.35**	**318**	P	**P**	**07 55 16.8**	**0.0**
	comp=Z,1.7nm,0.4s,baz=96,slow=8.2,SNR=7.7						
	comp=Z,1.7nm,0.4s						
WRA	**Warramunga Arr**	**49.20**	**190**	P	**P**	**07 55 22.6**	**-1.0**
	comp=Z,4.9nm,0.8s,baz=11,slow=8.2,SNR=21						
	comp=Z,4.9nm,0.8s						
MK31	**Makanchi Array**	**49.59**	**308**	P	**P**	**07 55 25.8**	**-0.6**
MKAR	**Makanchi Array**	**49.59**	**308**	P	**P**	**07 55 25.7**	**-0.7**
MKAR	**Makanchi Array**	**49.59**	**308**	P	**P**	**07 55 26.6**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=90,slow=9.5,SNR=13						
	comp=Z,1.4nm,0.7s						
K17K	**Iditarod**	**50.67**	**31**	P	**P**	**07 55 35.4**	**+1.1**
K17K				IAmb	IAmb	07 55 48.4	
	comp=Z,5.5nm,1.1s						
N17K	**Nushagak Hills**	**50.74**	**34**	P	**P**	**07 55 35.1**	**+0.3**
N17K				IAmb	IAmb	07 55 49.1	
	comp=Z,4.9nm,1.1s						
KURK	**Kurchatov**	**51.97**	**314**	P	**P**	**07 55 44.2**	**+0.1**
KURK				IAmb	IAmb	07 55 48.3	
	comp=Z,14nm,1.4s						
E19K	**Redstone River**	**52.30**	**25**	P	**P**	**07 55 47.1**	**+0.6**
E19K				IAmb	IAmb	07 56 02.0	
	comp=Z,7.1nm,1.4s						
K20K	**Telida**	**52.69**	**30**	P	**P**	**07 55 50.9**	**+1.6**
ASAR	**Alice Springs**	**52.92**	**190**	P	**P**	**07 55 50.5**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=6.2,slow=6.8,SNR=10						
	comp=Z,0.3nm,0.5s						
IMAR	**Indian Mountai**	**53.30**	**27**	P	**P**	**07 55 54.1**	**+0.2**
B21K	**Ikpikpuk River**	**53.81**	**23**	P	**P**	**07 55 58.0**	**+0.5**
B21K				IAmb	IAmb	07 56 12.9	
	comp=Z,4.6nm,1.1s						
C23K	**Itkillik River**	**55.22**	**23**	P	**P**	**07 56 08.0**	**+0.3**
C23K				IAmb	IAmb	07 56 21.9	
	comp=Z,6.5nm,0.9s						
TOLK	**Toolik Lake Re**	**55.37**	**24**	P	**P**	**07 56 09.0**	**+0.1**
TOLK				IAmb	IAmb	07 56 13.7	
	comp=Z,6.2nm,1.4s						
D24K	**Happy Valley**	**55.72**	**24**	P	**P**	**07 56 10.8**	**-0.5**
D24K				IAmb	IAmb	07 56 25.7	
	comp=Z,7.3nm,1.1s						
ILAR	**Eielson Array**	**55.99**	**29**	P	**P**	**07 56 11.8**	**-1.5**
	comp=Z,0.5nm,0.9s,baz=234,slow=6.7,SNR=4.7						
	comp=Z,0.5nm,0.9s						
D25K	**Kavik River**	**56.61**	**24**	P	**P**	**07 56 18.7**	**+1.0**
D25K				IAmb	IAmb	07 56 31.4	
	comp=Z,4.4nm,1.1s						
SCRK	**Sand Creek**	**57.22**	**30**	P	**P**	**07 56 21.6**	**-0.7**
SCRK				IAmb	IAmb	07 56 34.6	
	comp=Z,6.1nm,1.5s						
KK31	**Karatay Array**	**58.30**	**305**	P	**P**	**07 56 30.5**	**+0.4**
KKAR	**Karatay Array**	**58.30**	**305**	P	**P**	**07 56 30.6**	**+0.5**
E28M	**Babbage River**	**59.03**	**25**	P	**P**	**07 56 35.6**	**+0.8**
E28M				IAmb	IAmb	07 56 50.4	
	comp=Z,5.6nm,1.4s						
CHGR	**Chuyangaron**	**60.31**	**300**		**P**	**07 56 44.2**	**+0.1**
STKA	**Stephens Creek**	**60.44**	**181**	P	**P**	**07 56 44.0**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=330,slow=8.1,SNR=2.1						
	comp=Z,1.1nm,0.7s						
ABKAR	**Akbulak array**	**64.08**	**314**	P	**P**	**07 57 09.1**	**+0.1**
C36M	**Paulatuk**	**64.46**	**23**	P	**P**	**07 57 11.6**	**+0.3**
C36M				IAmb	IAmb	07 57 12.9	
	comp=Z,5.0nm,1.2s						
YKA	**Yellowknife Ar**	**70.41**	**29**	P	**P**	**07 57 49.1**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=334,slow=6.3,SNR=9.9						
	comp=Z,0.6nm,0.8s						
FINES	**FINESS Array B**	**76.48**	**334**	P	**P**	**07 58 23.8**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=45,slow=4.1,SNR=7.2						
	comp=Z,0.4nm,0.4s						
KBZ	**Khabaz**	**77.02**	**313**	P	**P**	**07 58 28.9**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=104,slow=8.3,SNR=2.7						
	comp=Z,1.5nm,0.7s						
NVAR	**Mina Array Bea**	**79.16**	**52**	P	**P**	**07 58 42.3**	**+1.9**
	comp=Z,0.5nm,0.9s,baz=257,slow=8.0,SNR=4.7						
	comp=Z,0.5nm,0.9s						
NB2	**NORSAR Subarra**	**82.06**	**338**	P	**P**	**07 58 54.8**	**-0.5**
	comp=Z,3.2nm,1.2s,baz=41,slow=5.3						
NOA	**NORSAR Array B**	**82.06**	**338**	P	**P**	**07 58 55.1**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=42,slow=5.0,SNR=4.0						
	comp=Z,0.5nm,0.5s						
PDAR	**Pinedale Array**	**82.72**	**45**	P	**P**	**07 59 00.2**	**+0.9**
	comp=Z,0.2nm,0.8s,baz=232,slow=6.7,SNR=2.7						
	comp=Z,0.2nm,0.8s						
BRTR	**Keskin Array B**	**85.02**	**313**	P	**P**	**07 59 11.9**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=70,slow=4.1,SNR=4.2						
	comp=Z,0.8nm,0.8s						
TXAR	**Lajitas Array**	**94.27**	**53**	P	**P**	**07 59 56.2**	**+1.3**
	comp=Z,0.2nm,0.8s,baz=248,slow=1.3,SNR=3.7						
	comp=Z,0.2nm,0.8s						
QSPA	**South Pole Qui**	**118.66**	**180**	PKP	**PKPdf**	**08 05 21.4**	**-0.9**
	comp=Z,1.3nm,1.0s,baz=206,slow=1.6,SNR=2.4						

IDC 31 07:59:29.6±2.1, 3°.21S×136°.35E, h0km, mb3.9/3, mbtmp3.8/4, ML4.0/1, Error ellipse: s-maj=95.0km s-min=31.0km az=99.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.75**	**187**	Pn	Pn	08 03 23.8	-2.2
	0.6nm,0.3s,baz=8.5,slow=13,SNR=18						
WRA				Sn	Sn	08 06 22.1	-11
	0.1nm,0.3s,baz=4.9,slow=22,SNR=1.8						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**20.48**	**186**	P	P	08 04 09.6	+0.3
	4.9nm,0.7s,baz=11,slow=12,SNR=74						
ASAR				S	S	08 07 54.8	-4.7
	0.8nm,0.8s,baz=5.4,slow=29,SNR=4.5						
	4.9nm,0.7s						
STKA	**Stephens Creek**	**28.95**	**171**	P	P	08 05 31.2	+0.4
	0.5nm,5.8s,baz=357,slow=11,SNR=5.7						
	0.5nm,0.3s						
ILAR	**Eielson Array**	**87.26**	**25**	P	P	08 12 17.8	-0.1
	0.4nm,0.7s,baz=260,slow=4.5,SNR=4.1						
	0.4nm,0.7s						

IDC ***31*** *08:05:28.8±2.2, 36°.49N×140°.59E, h54km±19km, mb3.5/10, mbtmp3.8/12, ML3.5/2, Error ellipse: s-maj=26.3km s-min=12.0km az=83.0*

NIED ***31*** *08:05:29.1, 36°.46N×140°.60E, h55km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr3.87; Mθθ0.49; Mφφ-4.37; Mrθ0.84; Mθφ-0.98; Mφr2.60; Fault plane solution: M0 5.03000×10^14 NP1:φs15.00000°, δ62.00000°, λ.95.00000°. NP2:φs186.00000°, δ29.00000°, λ82.00000°.*

JMA ***31*** *08:05:29.1±0.1, 36°.5N±0°.2×140°.6E±0°.5, h55km, MV3.8/40, NORTHERN IBARAKI PREF*

JMA Felt II J1 at NORTHERN IBARAKI PREF .

NEIC ***31*** *08:05:30.3±1.3, 36°.59N±0°.06×140°.6E±0°.1, h66km±7km, ML3.4/16, Error ellipse: s-maj=14.9km s-min=7.3km az=113.0*

ISC 31 08:05:29.2±0.8, 36°.50N±0°.04×140°.58E±0°.05, h55km±6km, n44, σ1s75/56, mb3.7/10, 9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.11**	**357**	P	**Pn**	**08 05 37.9**	**+0.2**
JHO				S	**Sn**	**08 05 43.8**	**0.0**
JHYU	**Hitachinakayam**	**0.16**	**177**	P	**Pn**	**08 05 37.7**	**-0.2**
JHYU				S	**Sn**	**08 05 43.8**	**-0.3**
JYT	**Yasato**	**0.41**	**228**	*i* P	**Pn**	**08 05 39.8**	**-0.1**
JYT				*i* S	**Sn**	**08 05 47.1**	**-0.5**
ONAJ	**Iwakimizuishiy**	**0.62**	**17**	*i* P	**Pn**	**08 05 42.2**	**-0.1**
ONAJ				S	**Sn**	**08 05 51.8**	**0.0**
JSB	**Shiboa**	**0.70**	**312**	*i* P	**Pn**	**08 05 43.9**	**+0.6**
JSB				*i* S	**Sn**	**08 05 54.4**	**+0.9**
JFK	**Kawauchi**	**0.89**	**15**	*i* P	**Pn**	**08 05 45.5**	**-0.3**
JFK				S	**Sn**	**08 05 57.3**	**-0.5**
JAG	**Ashikaga**	**0.91**	**265**	*i* P	**Pn**	**08 05 46.2**	**+0.4**
JAG				*i* S	**Sn**	**08 05 58.1**	**0.0**
JOTO	**OTAMA OYAMA**	**1.07**	**350**	*i* P	**Pn**	**08 05 48.8**	**+0.7**
JOTO				S	**Sn**	**08 06 03.1**	**+1.0**
JKT	**Katashina**	**1.10**	**284**	*i* P	**Pn**	**08 05 49.2**	**+0.7**
JKT				*i* S	**Sn**	**08 06 04.5**	**+1.7**
JFY	**Yanaizu**	**1.14**	**323**	*i* P	**Pn**	**08 05 49.9**	**+0.9**
JMM	**Marumori**	**1.37**	**7**	P	**Pn**	**08 05 52.9**	**+0.8**
JMM	**Marumori**	**1.37**	**7**		**Pn**	**08 05 52.5**	**+0.5**
JMM				Sn	**Sn**	**08 06 08.7**	**-0.5**
JMM				IAML		08 06 10.3	
	comp=E,1μm,0.5s						
MJAR	**Matsushiro Arr**	**1.91**	**272**	P	**Pn**	**08 05 59.3**	**-0.1**
	comp=E,46nm,0.3s,baz=107,slow=11,SNR=253						
MJAR				S	**Sn**	**08 06 15.1**	**-7.2**
	comp=E,55nm,0.4s,baz=47,slow=16,SNR=8.1						
MAJO	**Matsushiro**	**1.91**	**272**	P	**Pn**	**08 06 01.0**	**+1.6**
MAJO	**Matsushiro**	**1.91**	**272**		**Pn**	**08 06 00.2**	**+0.8**
MAJO				IAML		08 06 16.1	
	comp=E,202nm,0.6s						
JSD	**Sado**	**2.40**	**310**	P	**Pn**	**08 06 07.1**	**+1.0**
JSD	**Sado**	**2.40**	**310**		**Pn**	**08 06 05.8**	**-0.2**
JSG	**Sagara**	**2.67**	**228**	P	**Pn**	**08 06 12.5**	**+2.7**
JSG	**Sagara**	**2.67**	**228**		**Pn**	**08 06 12.7**	**+2.9**
JSG				IAML		08 06 49.3	
	comp=N,342nm,0.7s						
JGF	**Kuroka**	**2.76**	**252**	P	**Pn**	**08 06 13.6**	**+2.6**
JGF	**Kuroka**	**2.76**	**252**		**Pn**	**08 06 12.2**	**+1.2**
JGF				IAML		08 06 55.9	
	comp=N,112nm,0.7s						
JGF				IAML		08 06 56.3	
	comp=E,91nm,0.7s						
INU	**Inuyama**	**3.11**	**249**	P	**Pn**	**08 06 18.1**	**+2.3**
INU	**Inuyama**	**3.11**	**249**		**Pn**	**08 06 17.7**	**+1.9**
INU				IAML		08 07 02.0	
	comp=N,91nm,0.5s						
JHJ	**Hachijo jima 2**	**3.44**	**191**	P	**Pn**	**08 06 19.5**	**-0.9**
	comp=N,12nm,0.3s,baz=314,slow=22,SNR=8.3						
JHJ				S	**Sn**	**08 06 59.7**	**-0.2**
	comp=N,56nm,0.3s,baz=241,slow=23,SNR=5.9						
	comp=N,82nm,0.8s						
JHJ2	**Mitsune**	**3.44**	**191**	P	**Pn**	**08 06 24.6**	**+4.2**
JHJ2	**Mitsune**	**3.44**	**191**	Pn	**Pn**	**08 06 23.8**	**+3.4**
JTM	**Tenmabayashi**	**4.29**	**5**	P	**Pn**	**08 06 34.0**	**+2.0**
JTM	**Tenmabayashi**	**4.29**	**5**	Pn	**Pn**	**08 06 32.2**	**+0.3**
JTM				IAML		08 07 25.4	
	comp=E,28nm,1.5s						
JTM				IAML		08 08 16.8	
	comp=N,67nm,1.5s						
ERM	**Erimo**	**5.86**	**19**	Pn	**Pn**	**08 06 53.1**	**-0.3**
JMN	**Monobe**	**6.15**	**245**	Pn	**Pn**	**08 06 58.6**	**+1.1**
ASAJ	**Asahikawa**	**7.76**	**11**	P	**Pn**	**08 07 17.7**	**-1.7**
	comp=N,0.8nm,0.3s,baz=222,slow=8.6,SNR=6.6						
	comp=N,6.7nm,1.0s						
JKA	**Kamikawa-asahi**	**7.76**	**11**	Pn	**Pn**	**08 07 18.3**	**-1.1**
KSRS	**Korea Array**	**10.17**	**279**	P	**Pn**	**08 07 56.8**	**+4.3**
	comp=N,1.4nm,0.6s,baz=96,slow=14,SNR=5.2						
ZALV	**Zalesovo Beam**	**41.78**	**313**	P	**P**	**08 13 13.1**	**+0.1**
	comp=N,2.1nm,0.5s,baz=91,slow=7.6,SNR=8.1						
	comp=N,2.1nm,0.5s						
MKAR	**Makanchi Array**	**43.83**	**302**	P	**P**	**08 13 29.6**	**-0.2**
	comp=N,0.7nm,0.6s,baz=87,slow=10,SNR=5.0						
	comp=N,0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**45.80**	**308**	P	**P**	**08 13 44.7**	**-0.6**
	comp=N,0.9nm,0.5s,baz=82,slow=7.7,SNR=14						
	comp=N,0.9nm,0.5s						
ILAR	**Eielson Array**	**50.30**	**32**	P	**P**	**08 14 20.4**	**+0.6**
	comp=N,0.3nm,0.6s,baz=261,slow=5.6,SNR=4.0						
	comp=N,0.3nm,0.6s						
WRA	**Warramunga Arr**	**56.45**	**187**	P	**P**	**08 15 04.5**	**-0.8**
	comp=N,0.5nm,0.5s,baz=1.2,slow=7.5,SNR=11						
	comp=N,0.5nm,0.5s						
ASAR	**Alice Springs**	**60.18**	**187**	P	**P**	**08 15 31.0**	**-0.3**
	comp=N,0.2nm,0.7s,baz=27,slow=6.3,SNR=4.0						
	comp=N,0.2nm,0.7s						
FINES	**FINESS Array B**	**68.97**	**332**	P	**P**	**08

MXZ **Matakaoa Point** 23.46 197 P **P** **08 16 02.6 +0.8**
KUZ **Kuaotunu** 23.56 202 P **P** **08 16 03.9 +1.1**
KUZ **Kuaotunu** 23.56 202 P **P** **08 16 03.8 +1.1**
HAZ **Te Kaha** 23.79 198 P **P** **08 16 07.0 +2.1**
WIAZ **Waiheke Island** 23.82 203 P **P** **08 16 06.8 +1.5**
PKGZ **Pakihiroa** 23.83 197 P **P** **08 16 08.9 +3.5**
MKAZ **Moumakai** 24.08 203 P **P** **08 16 08.6 +1.0**
KBAZ **Karaka Road Bo** 24.18 203 P **P** **08 16 10.2 +1.7**
MWZ **Matawai** 24.41 198 P **P** **08 16 11.7 +1.0**
URZ **Urewera** 24.46 198 LR LR 08 24 57.2
comp=Z,1µm,19.7s,baz=116,slow=35
URZ **Urewera** 24.46 198 P **P** **08 16 10.5 -0.6**
URZ S **S** **08 20 39.6 +10**
HIZ **Hauiti** 25.44 202 P **P** **08 16 21.2 +1.2**
HIZ **Hauiti** 25.44 202 **P** **08 16 19.0 -1.0**
BKZ **Black Stump Fm** 25.48 199 P **P** **08 16 21.0 +0.5**
HNR **Honiara** 26.70 279 LR LR 08 24 10.3
comp=Z,2µm,21.7s,baz=125,slow=30
BFZ **Birch Farm** 26.95 198 P **P** **08 16 33.5 -0.2**
BFZ **Birch Farm** 26.95 198 P **P** **08 16 33.1 -0.6**
BFZ IAmb IAmb 08 16 36.5
comp=Z,69nm,1.1s
MRZ **Mangatainoka R** 27.13 199 P **P** **08 16 34.7 -0.6**
MRZ IAmb IAmb 08 16 40.2
comp=Z,39nm,0.9s
SNZO **South Karori** 28.00 199 P **P** **08 16 43.4 +0.4**
TCW **Tory Channel** 28.05 200 P **P** **08 16 42.8 -0.7**
QRZ **Quartz Range** 28.33 203 P **P** **08 16 45.9 -0.1**
THZ **Tophouse** 29.01 202 P **P** **08 16 51.5 -0.7**
KHZ **Kahutara** 29.37 200 P **P** **08 16 56.4 +1.2**
DSZ **Denniston Nort** 29.39 203 P **P** **08 16 55.2 -0.3**
INZ **Inchbonnie** 30.38 202 P **P** **08 17 02.6 -1.5**
OXZ **Oxford** 30.69 201 P **P** **08 17 06.1 -0.8**
RPZ **Rata Peaks** 31.38 202 LR LR 08 29 36.1
comp=Z,1µm,20.1s,baz=34,slow=36
JCZ **Jackson Bay** 32.54 204 P **P** **08 17 23.6 +0.3**
CNB **Canberra Magne** 38.91 232 P **P** **08 18 16.7 -1.3**
baz=39,SNR=10.0
KIP **Kipapa** 39.39 23*ce* P **P** **08 18 21.2 -0.8**
KIP pmax pmax
comp=Z,183nm,2.5s
H11N3 **WAKE ISLAND Hy** 39.77 330 T T 09 00 44.6
baz=149,slow=76,SNR=77
H11N1 **WAKE ISLAND Hy** 39.77 330 T T 09 00 46.4
baz=149,slow=76,SNR=63
H11N2 **WAKE ISLAND Hy** 39.79 330 T T 09 00 46.3
baz=149,slow=76,SNR=80
MTSU **Mount Surprise** 40.60 260 P **P** **08 18 31.0 -1.2**
baz=41,SNR=7.7
CMSA **Cobar Meteorol** 40.70 239 P **P** **08 18 31.5 -1.4**
baz=41,SNR=12
COEN **Coen** 42.05 266 P **P** **08 18 43.7 -0.4**
baz=42,SNR=4.8
COEN **Coen** 42.05 266 P **P** **08 18 43.2 -0.9**
TOO **Toolangi** 42.62 231 P **P** **08 18 47.0 -1.6**
baz=43,SNR=15
TOO **Toolangi** 42.62 231 P **P** **08 18 46.9 -1.8**
TOO IAmb IAmb 08 18 48.0
comp=Z,32nm,0.9s
TOO **Toolangi** 42.62 231 P **P** **08 18 46.9 -1.8**
TOO pmax pmax
comp=Z,32nm,1.0s
STKA **Stephens Creek** 44.18 240 P **P** **08 19 00.1 -1.1**
baz=44,SNR=25
STKA **Stephens Creek** 44.18 240 P **P** **08 19 00.5 -0.7**
comp=Z,13nm,0.8s,baz=80,slow=8.3,SNR=36
STKA LR LR 08 35 03.0
comp=Z,297nm,21.7s,baz=60,slow=33
comp=Z,13nm,0.8s
QIS **Mount Isa** 44.97 256 P **P** **08 19 05.7 -2.0**
baz=45,SNR=4.7
ARPS **Mount Arapiles** 45.15 233 P **P** **08 19 07.0 -1.9**
baz=45,SNR=4.9
HTT **Hallett** 46.69 238 P **P** **08 19 19.8 -1.3**
baz=47,SNR=13
BBOO **Buckleboo** 48.95 240 P **P** **08 19 37.3 -1.3**
baz=49,SNR=11
BBOO **Buckleboo** 48.95 240 P **P** **08 19 36.6 -2.1**
BBOO IAmb IAmb 08 19 37.7
comp=Z,18nm,0.9s
WRAB **Tennant Creek** 49.93 257 *i* P **P** **08 19 43.2 -3.1**
WRA **Warramunga Arr** 49.94 257 P **P** **08 19 44.1 -2.2**
comp=Z,9.4nm,1.0s,baz=91,slow=7.2,SNR=57
comp=Z,9.4nm,1.0s
AS31 **Alice Springs** 50.22 252 P **P** **08 19 47.2 -1.3**
ASAR **Alice Springs** 50.22 252 P **P** **08 19 46.9 -1.6**
ASAR **Alice Springs** 50.22 252 P **P** **08 19 46.9 -1.6**
ASAR **Alice Springs** 50.22 252 P **P** **08 19 46.4 -2.1**
comp=Z,26nm,0.8s,baz=86,slow=8.3,SNR=269
ASAR LR LR 08 39 29.2
comp=Z,587nm,21.9s,baz=97,slow=34
comp=Z,26nm,0.8s
GUMO **Guam** 50.27 303 LR LR 08 37 44.0
comp=Z,47nm,20.9s,baz=118,slow=32
KDU **Kakadu** 52.53 266 P **P** **08 20 04.6 -1.3**
baz=53,SNR=3.6
WRKA **Warakurna** 55.31 250 P **P** **08 20 24.2 -1.9**
baz=55,SNR=28
FORT **Forrest** 55.55 243 P **P** **08 20 25.5 -2.2**
SBA **Scott Base** 63.45 185 P **P** **08 21 23.3 +1.9**
SBA IAmb IAmb 08 21 25.0
comp=Z,19nm,0.9s
SBA **Scott Base** 63.45 185 P **P** **08 21 23.3 +1.9**
SBA pmax pmax
comp=Z,19nm,0.9s
VNDA **Vanda** 63.57 186 P **P** **08 21 23.8 +1.6**
VNDA IAmb IAmb 08 21 25.1
comp=Z,17nm,0.9s
VNDA **Vanda** 63.57 186 P **P** **08 21 23.8 +1.6**
VNDA pmax pmax
comp=Z,17nm,1.0s
VNDA **Vanda** 63.57 186 P **P** **08 21 23.9 +1.7**
comp=Z,12nm,0.9s,baz=7.2,slow=6.3,SNR=56
VNDA LR LR 08 42 53.3
comp=Z,75nm,21.4s,baz=25,slow=30
comp=Z,12nm,0.9s
EDFI **Ende, Flores** 63.69 268 P **P** **08 21 23.7 -0.5**
JHJ **Hachijo jima 2** 65.66 318 LR LR 08 43 33.2
comp=Z,99nm,21.7s,baz=103,slow=30
KAPI **Kappang** 66.42 271 P **P** **08 21 40.5 -1.3**
KAPI IAmb IAmb 08 23 04.0
comp=Z,26nm,1.2s
KAPI **Kappang** 66.42 271 P **P** **08 21 40.5 -1.3**
KAPI pmax pmax
comp=Z,26nm,1.2s
NIKH **Nikolski High** 68.01 3 P **P** **08 21 52.9 +1.9**
baz=185
SHEM **Shemya Is, Ala** 68.52 352 LR LR 08 45 08.0
comp=Z,526nm,21.9s,baz=146,slow=30
MJAR **Matsushiro Arr** 68.83 320 P **P** **08 21 57.0 +0.5**
MJAR **Matsushiro Arr** 68.83 320 P **P** **08 21 57.0 +0.5**
comp=Z,3.2nm,0.9s,baz=161,slow=5.7,SNR=9.2
MJAR LR LR 08 45 46.4
comp=Z,252nm,22.0s,baz=124,slow=30
comp=Z,3.2nm,0.9s
MAJO **Matsushiro** 68.83 320 *e* P **P** **08 21 55.3 -1.2**
MAJO pmax pmax
comp=Z,10.0nm,1.4s
UNV **Unalaska Valle** 69.02 4 P **P** **08 21 59.1 +1.8**
baz=187
SNCC **San Nicolas Is** 70.41 46 P **P** **08 22 07.6 +1.2**
baz=236
JOW **Kunigami** 70.41 306 LR LR 08 47 05.8
comp=Z,150nm,21.9s,baz=155,slow=31
SCZ2 **Santa Cruz Isl** 70.75 45 P **P** **08 22 09.8 +1.4**
baz=236
SCI2 **San Clemente I** 70.94 47 P **P** **08 22 11.2 +1.6**
baz=236
SDPT **Sand Point** 71.12 8 P **P** **08 22 12.5 +2.4**
baz=193
PKM **Mcpherson Peak** 71.14 44 P **P** **08 22 12.6 +1.6**
baz=235
SAO **San Andreas Ge** 71.16 42 P **P** **08 22 11.7 +0.9**
SAO IAmb IAmb 08 22 13.4
comp=Z,18nm,1.0s
SAO **San Andreas Ge** 71.16 42 P **P** **08 22 11.7 +0.9**
SAO pmax pmax
comp=Z,18nm,1.0s
SMMC **Simmler** 71.26 44 P **P** **08 22 13.2 +1.6**
baz=235
S12K **Black Hills** 71.28 7 P **P** **08 22 13.6 +2.5**
baz=192
BBGB **Big Mountain B** 71.31 42 P **P** **08 22 12.8 +0.9**
ASAJ **Asahikawa** 71.40 328 LR LR 08 51 35.1
comp=Z,46nm,18.1s,baz=160,slow=34
BCW **Bitter Crk WRg** 71.44 44 P **P** **08 22 13.9 +1.2**
BCW IAmb IAmb 08 22 15.5
comp=Z,13nm,1.0s
HOPS **Hopland Field** 71.49 39 P **P** **08 22 14.2 +1.4**
JNU **Nakatsue** 71.70 313 LR LR 08 48 19.5
comp=Z,91nm,21.4s,baz=130,slow=31
KMRM **Mail Ridge** 71.88 38 P **P** **08 22 16.4 +1.2**
109C **Camp Elliot, M** 71.91 47 P **P** **08 22 17.2 +1.8**
baz=238
ARVC **Arvin** 71.94 45 P **P** **08 22 16.9 +1.3**
baz=236
ELS **Elsinore Mount** 72.09 47 P **P** **08 22 17.4 +0.8**
ELS IAmb IAmb 08 22 18.9
comp=Z,19nm,1.3s
S14K **Fog Glacier** 72.16 8 P **P** **08 22 18.3 +1.8**
baz=194
SPIA **Saint Paul Isl** 72.16 2 P **P** **08 22 18.4 +2.1**
baz=183
VES **Vestal, Richgr** 72.17 44 P **P** **08 22 18.0 +1.0**
baz=235,SNR=13
MURC **Murrieta** 72.23 47 P **P** **08 22 18.2 +0.8**
baz=237
BFSC **Mount Baldy Ra** 72.25 46 P **P** **08 22 18.6 +1.0**
baz=237
ESJX **Sierra Juarez** 72.28 49 P **P** **08 22 18.8 +0.9**
KHMM **Horse Mountain** 72.28 37 P **P** **08 22 19.2 +1.5**
KHMM IAmb IAmb 08 22 20.6
comp=Z,29nm,1.1s
CHIR **Chirikof Islan** 72.32 10 P **P** **08 22 19.3 +2.0**
baz=198
CHGN **Chignik** 72.33 9 P **P** **08 22 19.7 +2.3**
baz=195
EDW2 **Edwards Air Fo** 72.37 45 P **P** **08 22 19.5 +1.3**
baz=236,SNR=10
MONP2 **Monument Peak** 72.40 48 P **P** **08 22 19.9 +1.3**
baz=238,SNR=6.7
PETK **Petropavlovsk-** 72.46 342 P **P** **08 22 18.9 +0.6**
comp=Z,2.9nm,0.6s,baz=106,slow=9.8,SNR=3.3
PETK LR LR 08 46 48.5
comp=Z,99nm,21.8s,baz=149,slow=30
comp=Z,2.9nm,0.6s
ISA **Isabella, Lake** 72.48 44 P **P** **08 22 19.7 +0.8**
ISA IAmb IAmb 08 22 21.4
comp=Z,17nm,1.2s
ISA **Isabella, Lake** 72.48 44 P **P** **08 22 20.2 +1.3**
baz=236,SNR=8.9
ISA **Isabella, Lake** 72.48 44 P **P** **08 22 19.7 +0.8**
ISA pmax pmax
comp=Z,17nm,1.2s
IKP **In-Ko-Pah, Jac** 72.50 48 P **P** **08 22 20.3 +1.3**
baz=238
SFX **San Felipe** 72.59 50 P **P** **08 22 20.4 +0.9**
SFX IAmb IAmb 08 22 21.4
comp=Z,18nm,1.3s
CMB **Columbia Colle** 72.59 41 P **P** **08 22 19.9 +0.5**
CMB IAmb IAmb 08 22 21.7
comp=Z,13nm,0.9s
CMB **Columbia Colle** 72.59 41 P **P** **08 22 19.9 +0.5**
CMB pmax pmax
comp=Z,13nm,1.0s
YUH **Yuha Desert** 72.63 48 P **P** **08 22 20.5 +0.7**
PFO **Pinyon Flats O** 72.75 47 P **P** **08 22 21.7 +1.1**
baz=238,SNR=5.1
PFO **Pinyon Flats O** 72.75 47 *i* P **P** **08 22 18.7 -1.9**
PFO pmax pmax
comp=Z,20nm,1.4s
PFO **Pinyon Flats O** 72.75 47 LR LR 08 46 33.2
comp=Z,484nm,20.9s,baz=258,slow=29
TPFO **Pinon Flats** 72.75 47 P **P** **08 22 21.7 +1.0**
baz=238,SNR=5.3
BBRC **Big Bear Solar** 72.78 46 P **P** **08 22 21.8 +0.9**
baz=237
ORV **Oroville** 72.80 40 P **P** **08 22 20.9 +0.3**
ORV IAmb IAmb 08 22 22.8
comp=Z,16nm,1.1s
ORV **Oroville** 72.80 40 P **P** **08 22 20.9 +0.3**
ORV pmax pmax
comp=Z,16nm,1.2s
PMD **Palm Desert** 72.83 47 P **P** **08 22 21.4 +0.4**
SWSC **Sam W. Stewart** 72.87 48 P **P** **08 22 22.3 +1.1**
baz=236
LPIG **La Paz** 72.89 58 LR LR 08 46 02.2
comp=Z,226nm,20.6s,baz=236,slow=29
LRMC **Laurel Mtn Rad** 72.92 45 P **P** **08 22 22.7 +1.1**
baz=236
RRX **Edison Barstow** 73.06 46 P **P** **08 22 23.3 +1.0**
baz=237
CWC **Cottonwood Cre** 73.18 44 P **P** **08 22 24.3 +1.1**
baz=236
MDPB **Devils Postpil** 73.19 42 P **P** **08 22 23.7 +0.3**
BELC **Belle Mtn. Jos** 73.28 47 P **P** **08 22 25.0 +1.2**
baz=238,SNR=6.5
EMB **Emerald Bay** 73.32 41 P **P** **08 22 24.5 +0.5**
MLAC **Mammoth, Mammo** 73.35 42 P **P** **08 22 25.7 +1.4**
baz=235
MPMC **Manual Prospec** 73.36 44 P **P** **08 22 25.7 +1.4**
baz=236,SNR=20
YBH **Yreka Blue Hor** 73.42 37 P **P** **08 22 24.8 +0.5**
YBH IAmb IAmb 08 22 27.2
comp=Z,24nm,0.9s
YBH **Yreka Blue Hor** 73.42 37 P **P** **08 22 24.8 +0.5**
YBH pmax pmax
comp=Z,24nm,1.0s
WAKR **Walker** 73.47 41 P **P** **08 22 25.9 +1.0**
WAKR IAmb IAmb 08 22 27.4
comp=Z,37nm,1.5s
HEC **Hector,Ludlow** 73.49 46 P **P** **08 22 25.5 +0.5**
baz=238
BC3 **Big Chuckawall** 73.49 47 P **P** **08 22 26.4 +1.4**
baz=238,SNR=9.1
MPK **Martis Peak** 73.56 40 P **P** **08 22 26.2 +0.7**
GLA **Glamis** 73.63 48 P **P** **08 22 26.9 +1.2**
baz=239
GMRC **Granite Mounta** 73.94 46 P **P** **08 22 28.7 +1.1**
baz=238,SNR=7.5
L04D **Klamath Falls** 73.96 37 P **P** **08 22 28.6 +1.1**
L04D IAmb IAmb 08 22 30.1
comp=Z,38nm,1.0s
GRAC **Grapevine Rang** 73.97 44 P **P** **08 22 29.3 +1.7**
baz=236,SNR=13
IRM **Iron Mountain** 73.97 47 P **P** **08 22 28.9 +1.2**
baz=239,SNR=15
FURC **Furnace Creek,** 74.01 44 P **P** **08 22 29.2 +1.4**
baz=237,SNR=7.8
OHAK **Old Harbor** 74.06 11 P **P** **08 22 29.7 +2.1**
baz=200
TUQ **Turquoise Moun** 74.10 46 P **P** **08 22 29.2 +0.7**
baz=238
SHOC **Shoshone, Teco** 74.10 45 P **P** **08 22 29.6 +1.2**
baz=237,SNR=7.6
NVAR **Mina Array Bea** 74.15 42 P **P** **08 22 29.3 +0.4**
NVAR **Mina Array Bea** 74.15 42 P **P** **08 22 30.1 +1.2**
comp=Z,15nm,1.0s,baz=228,slow=9.8,SNR=78
NVAR LR LR 08 47 25.9
comp=Z,432nm,21.5s,baz=210,slow=30
comp=Z,15nm,1.0s
NV11 **Mina Array Sit** 74.25 42 P **P** **08 22 30.0 +0.7**
NV11 IAmb IAmb 08 22 31.8
comp=Z,26nm,1.1s
214A **Organ Pipe Nat** 74.55 50 P **P** **08 22 32.3 +1.1**
baz=241
Q17K **Contact Creek** 74.60 9 P **P** **08 22 33.0 +2.1**
baz=198
NEE2 **Needles Airpor** 74.66 47 P **P** **08 22 32.6 +1.0**
baz=239
KDAK **Kodiak Island** 74.72 11 P **P** **08 22 33.2 +1.7**
baz=201
KDAK **Kodiak Island** 74.72 11 LR LR 08 48 17.1
comp=Z,387nm,21.5s,baz=230,slow=30
PDMCI **Parker Dam,Lak** 74.76 47 P **P** **08 22 33.3 +1.1**
baz=239,SNR=12
QSPA **South Pole Qui** 74.83 180 P **P** **08 22 33.1 +0.8**
QSPA IAmb IAmb 08 22 34.7
comp=Z,27nm,0.8s
QSPA **South Pole Qui** 74.83 180 P **P** **08 22 33.6 +1.2**
comp=Z,20nm,0.7s,baz=34,slow=1.3,SNR=106
QSPA LR LR 08 50 53.6
comp=Z,122nm,21.0s,baz=50,slow=32
comp=Z,20nm,0.7s
O14K **Tigyukauivet M** 74.85 6 P **P** **08 22 33.9 +1.7**
baz=192
Q16K **King Salmon** 74.88 9 P **P** **08 22 34.0 +1.6**
baz=197
O15K **Ungalikthiuk R** 74.94 7 P **P** **08 22 34.2 +1.6**
baz=194
WTNK **Soaring Height** 75.13 45 P **P** **08 22 35.0 +0.7**
P17K **Kvichak River** 75.41 9 P **P** **08 22 37.0 +1.6**
baz=197
N14K **Kuskokwak Cree** 75.46 6 P **P** **08 22 37.4 +1.7**
baz=192
Q20K **Shuyak Island** 75.53 11 P **P** **08 22 37.8 +1.7**
baz=201
M11K **Mekoryuk** 75.55 4 P **P** **08 22 37.5 +1.4**
baz=187
O16K **Kokwok River B** 75.56 8 P **P** **08 22 37.4 +1.2**
baz=195
Q19K **Cape Douglas,** 75.61 10 P **P** **08 22 38.1 +1.5**
baz=200
PINE **Pine Mountain** 75.72 36 P **P** **08 22 39.0 +1.2**
P18K **Big Mountain,** 75.79 9 P **P** **08 22 38.8 +1.2**
baz=198
M13K **Dall Lake** 75.79 5 P **P** **08 22 38.5 +1.1**
baz=190
O17K **Koliganek Bris** 75.87 8 P **P** **08 22 39.2 +1.2**
baz=196
N15K **Kwethluk River** 75.87 7 P **P** **08 22 39.2 +1.1**
baz=193
R11B **Troy Canyon, C** 75.89 43 P **P** **08 22 39.5 +0.6**
R11B **Troy Canyon, C** 75.89 43 P **P** **08 22 39.5 +0.6**
baz=237,SNR=16
KSRS **Korea Array** 76.06 316 P **P** **08 22 39.7 +0.1**
comp=Z,1.3nm,0.8s,baz=122,slow=9.0,SNR=5.7
KSRS LR LR 08 50 25.3
comp=Z,80nm,21.8s,baz=110,slow=31
comp=Z,1.3nm,0.8s
TUC **Tucson** 76.23 51 P **P** **08 22 41.5 +0.7**
baz=242
O18K **Koktuh Hills** 76.23 9 P **P** **08 22 40.6 +0.5**
baz=198
M14K **Bethel** 76.25 6 P **P** **08 22 41.1 +1.0**
baz=191,SNR=5.2
M15K **Kasigluk River** 76.32 6 P **P** **08 22 41.0 +0.5**
baz=193
P19K **Oil Pt** 76.36 10 P **P** **08 22 41.0 +0.1**
baz=200
N17K **Nushagak Hills** 76.59 8 P **P** **08 22 42.0 -0.1**
baz=196
HOM **Homer** 76.66 11 P **P** **08 22 42.6 +0.1**
baz=202
O19K **Port Alsworth** 76.70 10 P **P** **08 22 42.6 -0.1**
baz=199
L14K **Kuka Creek** 76.76 5 P **P** **08 22 43.6 +0.6**
baz=191
M16K **Timber Creek** 76.84 7 P **P** **08 22 44.3 +0.8**
baz=194
O20K **Slope Mountain** 76.88 10 P **P** **08 22 43.9 +0.1**
baz=201
N18K **Kilae Creek** 76.92 9 P **P** **08 22 44.6 +0.6**
baz=197
L15K **Ungalak Mounta** 77.21 6 P **P** **08 22 46.0 +0.5**
baz=192,SNR=6.0
N19K **Bonanza Creek** 77.26 9 P **P** **08 22 46.3 +0.3**
baz=199
USRK **Ussuriysk Ar.** 77.26 323 LR LR 08 50 19.5
comp=Z,232nm,22.0s,baz=98,slow=31
WUAZ **Wupatki** 77.33 48 P **P** **08 22 46.8 -0.3**
baz=241,SNR=9.7
M17K **Holitna River** 77.40 8 P **P** **08 22 47.4 +0.7**
baz=196
ELK **Elko** 77.41 41 P **P** **08 22 48.2 +0.7**
ELK **Elko** 77.41 41 P **P** **08 22 48.2 +0.7**
ELK pmax pmax
comp=Z,14nm,1.2s
ELK **Elko** 77.41 41 LR LR 08 49 25.4
comp=Z,286nm,21.8s,baz=232,slow=30
L16K **Owhat River** 77.45 7 P **P** **08 22 47.9 +1.0**
baz=194
SEW **Seward** 77.49 12 P **P** **08 22 49.0 +1.9**
baz=204
Q23K **Middleton Isla** 77.55 14 P **P** **08 22 49.0 +1.6**
baz=207
BBB **Bella Bella** 77.69 27 LR LR 08 48 43.7
comp=Z,239nm,21.5s,baz=222,slow=29
M18K **Stony River** 77.70 9 P **P** **08 22 49.4 +1.1**
baz=197
G08A **Pilot Rock** 77.75 36 P **P** **08 22 50.0 +0.9**
G08A IAmb IAmb 08 22 51.5
comp=Z,35nm,1.4s
CAPN **Captain Cook N** 77.78 11 P **P** **08 22 49.6 +0.9**
baz=202
O22K **Cooper Landing** 77.79 12 P **P** **08 22 50.1 +1.3**
baz=203
K15K **Wolf Creek Mou** 77.81 6 P **P** **08 22 50.2 +1.3**
baz=192
N20K **Mount Spurr** 78.00 10 P **P** **08 22 51.2 +1.1**
baz=201
L17K **Donlin** 78.00 7 P **P** **08 22 51.0 +1.1**
baz=195
J14K **Nanvaranak Lak** 78.08 5 P **P** **08 22 50.8 +0.5**
baz=190
CRAG **Craig** 78.14 22 P **P** **08 22 51.3 +0.5**
baz=220
MSU **Marysvale** 78.25 45 P **P** **08 22 53.8 +1.6**
MSU **Marysvale** 78.25 45 P **P** **08 22 53.8 +1.6**
L18K **Granite Mounta** 78.28 8 P **P** **08 22 52.5 +1.0**
baz=196
M19K **Big River Lodg** 78.31 9 P **P** **08 22 52.2 +0.5**
baz=199
W18A **Petrified Fore** 78.32 49 P **P** **08 22 52.2 -0.4**
baz=242
RC01 **Rabbit Creek A** 78.34 11 P **P** **08 22 52.2 +0.3**
baz=203
BMO **Blue Mountains** 78.44 37 P **P** **08 22 53.7 +0.8**
BMO IAmb IAmb 08 22 55.1
comp=Z,20nm,1.4s
BMO **Blue Mountains** 78.44 37 P **P** **08 22 53.7 +0.8**
BMO pmax pmax
comp=Z,20nm,1.5s
KAIM **Kayak Island** 78.44 14 P **P** **08 22 52.4 0.0**
baz=208
M20K **Styx River** 78.48 10 P **P** **08 22 52.5 -0.3**
baz=200
SUA **Susitna One** 78.50 11 P **P** **08 22 53.2 +0.2**
baz=202
L19K **White Mountain** 78.50 9 P **P** **08 22 53.3 +0.5**
baz=198
MFID **Camas Ranch** 78.51 39 P **P** **08 22 54.4 +1.0**
MFID IAmb IAmb 08 22 55.5
comp=Z,17nm,1.1s
K17K **Iditarod** 78.56 7 P **P** **08 22 54.0 +1.0**
baz=195
121A **Cookes Peak, D** 78.59 52 P **P** **08 22 54.2 +0.1**
baz=244
121A **Cookes Peak, D** 78.59 52 P **P** **08 22 55.0 +0.9**
baz=244
V35K **Ketchikan** 78.59 23 P **P** **08 22 54.3 +1.0**
baz=221
SIT **Sitka** 78.63 20 P **P** **08 22 53.9 +0.4**
baz=217
U33K **Whale Pass** 78.64 22 P **P** **08 22 54.3 +0.7**
baz=220
EYAK **Cordova Ski Ar** 78.69 14 P **P** **08 22 54.2 +0.4**
baz=207
DUG **Dugway, Tooele** 78.69 43 P **P** **08 22 54.8 +0.4**
baz=239,SNR=12
GAMB **Gambell** 78.74 1 P **P** **08 22 54.6 +0.6**
baz=182
SKT **Skwentna** 78.84 10 P **P** **08 22 53.8 -0.8**
baz=202
J16K **Anvik River** 78.87 6 P **P** **08 22 53.6 -1.1**
baz=193
ZAIG **Zacatecas** 78.87 63 P **P** **08 22 57.0 +1.0**
M22K **Willow** 78.89 11 P **P** **08 22 54.5 -0.3**
baz=203
KNK **Knik Glacier** 78.89 12 P **P** **08 22 54.8 -0.2**
baz=204
MDJ **Mudanjiang** 78.90 322 P **P** **08 22 55.0 -0.4**
MDJ pP PcP 08 22 58.5 -5.4
MDJ PcP **pP** **08 23 02.8 -1.5**
MDJ PP **PP** **08 25 53.5 -1.0**
MDJ S **S** **08 32 56.3 +4.5**
MDJ sS pS 08 33 00.5 -2.5
MDJ ScS **ScS** **08 33 18.0 +2.8**
MDJ SS **SS** **08 38 04.8 +7.1**
MDJ pmax pmax
comp=Z,9.0nm,1.2s
MDJ pmax pmax
comp=Z,220nm,5.5s
MDJ LR LR
comp=Z,260nm,15.6s
MDJ LR LR
comp=Z,290nm,17.2s
MDJ LR LR
comp=Z,450nm,20.3s
PMR **Palmer** 78.92 12 P **P** **08 22 54.7 -0.3**

baz=204
L20K Farewell, AK 78.93 9 P P 08 22 54.5 -0.6
baz=199
S31K Pelican 79.06 19 P P 08 22 56.8 +0.9
baz=216
TTA Tatalina 79.06 8 P P 08 22 55.6 -0.2
baz=197
WRAK Wrangell Islan 79.16 22 P P 08 22 57.2 +0.8
baz=220
S32K Killisnoo 79.20 20 P P 08 22 57.1 +0.5
baz=218
MESA MESA 79.28 15 P P 08 22 56.5 -0.8
baz=211
SML Sawmill 79.28 12 P P 08 22 56.7 -0.4
baz=205
BMRM Bremner River 79.32 14 P P 08 22 56.0 -1.3
baz=208
M23K Glacier View 79.38 12 P P 08 22 57.6 0.0
baz=205
HLID Hailey 79.45 39 P P 08 22 59.1 +0.5
baz=237,SNR=28
CUT Chulitna 79.46 11 P P 08 22 59.1 +1.1
baz=203
J18K Innoko River 79.48 8 P P 08 22 58.8 +0.7
baz=196,SNR=6.2
CRQE Cirque 79.49 15 P P 08 22 58.8 +0.5
baz=210
KLU Klutina 79.49 13 P P 08 22 58.2 -0.1
baz=207
SCM Sheep Creek Mo 79.50 12 P P 08 22 57.8 -0.5
baz=206
PNL Peninsula 79.52 17 P P 08 22 58.5 +0.1
baz=213
PPLA Purkeypile 79.59 10 P P 08 22 59.2 +0.3
baz=201
K20K Telida 79.74 9 P P 08 23 00.1 +0.6
baz=199
ANM Nome 79.76 3 P P 08 22 59.9 +0.3
baz=188
Y22A Socorro 79.82 51 P P 08 23 01.9 +1.0
baz=244
R32K Eaglecrest 79.86 20 P P 08 23 00.6 +0.3
baz=218
N25K Chitina, Valde 79.89 14 P P 08 23 00.0 -0.4
baz=208
P29M Windy Craggy 79.96 17 P P 08 23 00.8 0.0
baz=215
M24K Tolsona, Glenn 79.99 13 P P 08 23 01.3 +0.3
baz=207
MA2 Magadan 80.00 342 *ce*P P 08 22 59.9 -1.1
MA2 pmax pmax
comp=Z,20nm,2.5s
MA2 Magadan 80.00 342 LR LR 08 53 54.7
comp=Z,111nm,20.3s,baz=132,slow=32
H16K Elim 80.05 5 P P 08 23 00.9 -0.3
baz=191
MCARA McCarthy VSAT 80.06 14 P P 08 23 01.7 +0.5
baz=210
MNTX Cornudas Mount 80.07 53 P P 08 23 02.0 -0.1
baz=245
MNTX Cornudas Mount 80.07 53 P P 08 23 03.0 +0.9
baz=245
NJ2 Nanjing 80.09 307 *e*P P 08 23 03.0 +0.9
NJ2 sP PcP 08 23 07.8 -1.6
NJ2 pmax pmax
comp=Z,13nm,0.6s
NJ2 pmax pmax
comp=Z,340nm,4.7s
WAT6 Susitna Watana 80.10 12 P P 08 23 00.9 -0.7
baz=205
CAST Castle Rocks 80.10 10 P P 08 23 00.7 -0.8
baz=201
CTG Chitna Glacier 80.11 15 P P 08 23 01.4 -0.3
baz=211
J19K Poorman 80.13 8 P P 08 23 01.5 -0.1
baz=197
WAT1 Susitna Watana 80.17 11 P P 08 23 01.2 -0.7
baz=204
MVCO Mesa Verde 80.18 47 P P 08 23 01.3 -1.4
baz=242
PLBC Pleasant Camp 80.23 18 P P 08 23 01.6 -0.6
baz=216
O28M Mount Upton 80.24 16 P P 08 23 02.2 -0.5
baz=212
G15K Niukluk 80.27 4 P P 08 23 01.7 -0.6
baz=189
O29M Mount Kennedy 80.28 17 P P 08 23 01.7 -1.0
baz=214
T35M Bob Quinn 80.34 22 P P 08 23 02.9 0.0
baz=222
KLR Kul'dur 80.39 327 LR LR 08 53 18.1
comp=Z,125nm,21.3s,baz=130,slow=32
TRF Thorofare Moun 80.43 10 P P 08 23 03.3 -0.2
baz=203,SNR=6.6
TX31 Lajitas Ar. Si 80.46 56 P P 08 23 05.5 +1.2
baz=247
TXAR Lajitas Array 80.46 56 P P 08 23 06.0 +1.7
comp=Z,8.2nm,1.1s,baz=227,slow=7.8,SNR=37
TXAR LR LR 08 51 52.9
comp=Z,125nm,19.9s,baz=239,slow=31
comp=Z,8.2nm,1.1s
HARP HAARP 80.47 13 P P 08 23 02.4 -1.0
baz=208
CHUM Lake Minchumin 80.50 9 P P 08 23 02.5 -1.1
baz=201
J20K Nowinta River 80.50 8 P P 08 23 03.4 -0.2
baz=199
NEW Newport 80.52 34 P P 08 23 03.9 -0.3
baz=234
NEW Newport 80.52 34 LR LR 08 50 55.5
comp=Z,208nm,21.6s,baz=224,slow=30
SKAG Skagway 80.55 19 P P 08 23 03.1 -0.8
baz=217
H17K Granite Mounta 80.55 6 P P 08 23 03.2 -0.6
baz=193
P30M Million Dollar 80.59 18 P P 08 23 03.5 -0.8
baz=216
F14K Arctic Creek 80.61 3 P P 08 23 04.4 +0.3
baz=187
DHY Denali Highway 80.62 12 P P 08 23 05.3 +0.8
baz=205
TNA Tin City 80.63 2 P P 08 23 04.2 0.0
baz=185
ANMO Albuquerque 80.64 50 P P 08 23 05.1 -0.2
baz=244
ANMO Albuquerque 80.64 50 P P 08 23 06.7 +1.5
baz=244
ANMO Albuquerque 80.64 50 *ce*P P 08 23 03.8 -1.5
ANMO pmax pmax
comp=Z,27nm,2.5s
ANMO Albuquerque 80.64 50 LR LR 08 50 51.5
comp=Z,316nm,21.6s,baz=323,slow=30
GCSA Galena City Sc 80.70 7 P P 08 23 04.8 +0.2
baz=196
S34M Telegraph Cree 80.72 21 P P 08 23 04.7 -0.2
baz=221
YUK8 Steele Glacier 80.78 16 P P 08 23 05.3 -0.2
baz=213
G16K Koyuk River 80.79 5 P P 08 23 05.5 +0.4
baz=191
BNX BinXian 80.81 322 ⇓P P 08 23 05.5 -0.2
BNX pmax pmax
comp=Z,13nm,0.9s
BNX pmax pmax
comp=Z,87nm,3.7s
YUK6 Outpost Mounta 80.87 16 P P 08 23 05.9 -0.1
baz=214
PAX Paxson 80.91 12 P P 08 23 06.5 +0.5
baz=207
BPAW Bear Paw Mtn. 80.91 10 P P 08 23 06.6 +0.7
baz=202
H18K Honhosa River 80.92 6 P P 08 23 06.2 +0.4
baz=195
MCK McKinley 80.93 11 P P 08 23 06.0 +0.1
baz=204,SNR=9.3
M26K Nabesna, AK 80.95 14 P P 08 23 06.3 +0.2
baz=210
CN2 Changchun 80.97 320 *e*P P 08 23 07.5 +0.9
CN2 *e*S S 08 33 14.3 +0.7
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,200nm,10.0s
CN2 LR LR
comp=Z,100nm,10.0s
CN2 LR LR
comp=Z,300nm,11.0s
HYT Haines Junctio 81.01 17 P P 08 23 06.6 0.0
baz=215
YUK3 Moose Creek 81.02 15 P P 08 23 06.2 -0.5
baz=212
G17K Kiwalik Mounta 81.04 5 P P 08 23 07.0 +0.6
baz=192
I20K Naaghedeneel 81.05 8 P P 08 23 06.7 +0.2
baz=198
YUK4 Talbot Arm 81.13 16 P P 08 23 07.3 0.0
baz=214
Q32M Nakina River 81.13 20 P P 08 23 06.8 -0.5
baz=220
P32M Atlin 81.15 19 P P 08 23 06.9 -0.3
baz=219
M27K Edge Creek, AK 81.17 14 P P 08 23 06.7 -0.8
baz=211
O30N Mendenhall 81.37 17 P P 08 23 08.9 +0.5
baz=216
L26K Log Cabin Wild 81.42 13 P P 08 23 09.6 +1.1
baz=209
BVCY Beaver Creek 81.47 15 P P 08 23 09.0 +0.2
baz=212
H19K Roundabout Mou 81.50 7 P P 08 23 08.6 -0.3
baz=197
DLBC Dease Lake 81.50 21 P P 08 23 10.1 +0.9
baz=222
DLBC Dease Lake 81.50 21 LR LR 08 51 23.2
comp=Z,249nm,21.6s,baz=257,slow=30
REDW Red Top Meadow 81.56 41 P P 08 23 10.6 +0.6
BPMT Black Pine Rid 81.57 37 P P 08 23 10.2 +0.2
K24K Donnelly Dome 81.59 12 P P 08 23 09.6 +0.2
baz=207
G18K Tagagawik 81.61 6 P P 08 23 10.0 +0.5
baz=194
WHY Whitehorse 81.64 18 P P 08 23 09.9 0.0
baz=217
N30M Aishikik Lake 81.65 17 P P 08 23 10.0 +0.1
baz=215
H20K Anotleneega Mo 81.66 8 P P 08 23 10.1 +0.3
baz=198
NEA2 Nenana 81.69 10 P P 08 23 09.5 -0.5
baz=204,SNR=6.8
O20A White River Ci 81.71 45 P P 08 23 10.2 -0.7
baz=242
RIDG Independent Ri 81.72 12 P P 08 23 09.4 -0.8
baz=208
WRH Wood River Hil 81.75 11 P P 08 23 09.8 -0.4
WRH IAmb IAmb 08 23 12.8
comp=Z,28nm,1.3s
I21K Tanana 81.77 9 P P 08 23 10.1 -0.2
baz=201
IMW Indian Meadow 81.77 40 P P 08 23 11.7 +0.5
IMW IAmb IAmb 08 23 13.8
comp=Z,22nm,1.3s
L27K Beaver Creek, 81.79 14 P P 08 23 10.7 +0.2
baz=211
MLY Manley 81.82 9 P P 08 23 09.7 -0.9
baz=202,SNR=8.1
LOHW Long Hollow 81.84 41 P P 08 23 11.4 -0.1
R33M Jennings River 81.90 20 P P 08 23 10.9 -0.4
baz=221
HDA Harding Lake 81.91 11 P P 08 23 10.5 -0.6
baz=206,SNR=8.9
F17K Baldwin Pennin 81.91 5 P P 08 23 10.6 -0.4
baz=192
P33M Teslin, Yukon 81.92 19 P P 08 23 11.7 +0.4
baz=219
G19K Purcell Mounta 82.02 7 P P 08 23 12.0 +0.3
baz=196
N31M Braeburn, Yuko 82.04 17 P P 08 23 12.5 +0.6
baz=216
BW06 Boulder Array 82.09 42 P P 08 23 12.8 -0.1
baz=241
PDAR Pinedale Array 82.09 42 P P 08 23 13.3 +0.5
comp=Z,2.7nm,0.9s,baz=211,slow=2.6,SNR=22
PDAR LR LR 08 54 18.2
comp=Z,276nm,19.2s,baz=238,slow=32
comp=Z,2.7nm,0.9s
M29M Somme Creek 82.09 16 P P 08 23 12.5 +0.3
baz=214
H21K Melozitna Rive 82.10 8 P P 08 23 12.8 +0.8
baz=200
SCRK Sand Creek 82.11 13 P P 08 23 12.4 0.0
baz=209,SNR=8.9
I23K Minto, Yukon-K 82.16 10 P P 08 23 11.9 -0.4
baz=203,SNR=5.6
COLA College 82.17 11 P P 08 23 12.2 -0.2
baz=205
COLA College 82.17 11 *i*P P 08 23 11.5 -0.9
COLA pmax pmax
comp=Z,16nm,0.9s
F18K Selawik 82.20 5 P P 08 23 12.3 -0.2
baz=193
BOZ Bozeman (W) 82.21 39 P P 08 23 13.0 -0.3
baz=239,SNR=14
H17A Grant Village 82.25 40 P P 08 23 13.3 -0.4
baz=240,SNR=6.7
ILAR Eielson Array 82.25 11 P P 08 23 12.8 0.0
comp=Z,1.7nm,0.8s,baz=230,slow=6.6,SNR=25
ILAR LR LR 08 52 58.1
comp=Z,205nm,21.6s,baz=211,slow=31
comp=Z,1.7nm,0.8s
SEY Seymchan 82.35 345 *ce*P P 08 23 13.0 -0.4
SEY pmax pmax
comp=Z,12nm,1.7s
SEY Seymchan 82.35 345 LR LR 08 54 45.1
comp=Z,194nm,20.8s,baz=100,slow=32
J25K Salcha River, 82.40 12 P P 08 23 13.8 +0.1
baz=207
POKR Poker Flat Res 82.46 11 P P 08 23 14.0 0.0
baz=205,SNR=5.7
E17K Hotham Inlet 82.50 5 P P 08 23 14.3 +0.2
baz=191
H22K Ishtalitna Cre 82.53 9 P P 08 23 14.3 0.0
baz=201
SDCO Great Sand Dun 82.55 48 P P 08 23 15.1 -0.3
baz=244
SDCO Great Sand Dun 82.55 48 P P 08 23 16.7 +1.3
baz=244
N32M Quiet Lake 82.57 18 P P 08 23 14.9 +0.2
baz=219
K27K Chicken 82.57 13 P P 08 23 14.9 +0.3
baz=210
F19K Shaleruckik Mo 82.61 6 P P 08 23 15.1 +0.4
baz=195
M30M Minto, Yukon 82.64 16 P P 08 23 14.8 -0.2
baz=216
J26L Joseph Creek 82.66 13 P P 08 23 15.6 +0.4
baz=209
L29M L29M 82.73 15 P P 08 23 15.7 +0.2
baz=214
H23K Yukon River 82.75 10 P P 08 23 15.3 -0.2
baz=203
G21K Allakaket 82.81 8 P P 08 23 16.0 +0.2
baz=199
E18K Tukpahlearik C 82.93 5 P P 08 23 17.0 +0.7
baz=192
MSTX Muleshoe 83.00 52 P P 08 23 17.9 +0.2
baz=246,SNR=5.5
MSTX Muleshoe 83.00 52 P P 08 23 18.7 +1.1
baz=246
M31M Drury Creek, Y 83.01 17 P P 08 23 17.0 +0.1
baz=218
D17K Noatak River 83.01 4 P P 08 23 18.4 +1.7
baz=190
H24K Noodor Dome 83.04 10 P P 08 23 17.1 +0.1
baz=205
F20K Avaraart Lake 83.05 7 P P 08 23 18.0 +1.1
baz=197
T25A Trinidad 83.08 49 P P 08 23 17.8 -0.3
baz=245
WTLY Watson Lake, Y 83.17 21 P P 08 23 18.4 +0.6
baz=223
PRP Porcupine Dome 83.17 11 P P 08 23 18.2 +0.4
baz=207,SNR=16
DAWY Dawson 83.22 14 P P 08 23 18.6 +0.6
baz=213
E19K Redstone River 83.28 6 P P 08 23 19.0 +0.9
baz=196
HEH HeiHe 83.28 326 *e*P P 08 23 20.3 +1.8
Q24A Divide 83.32 47 P P 08 23 18.3 -1.1
baz=244
FARO Faro, Yukon 83.33 18 P P 08 23 19.5 +0.9
baz=219
ISCO Idaho Springs 83.36 46 P P 08 23 19.0 -0.6
baz=244
RDOG Red Dog Mine 83.38 4 P P 08 23 19.2 +0.5
baz=190
RLMT Red Lodge 83.42 40 P P 08 23 20.3 +0.7
RLMT Red Lodge 83.42 40 P P 08 23 20.4 +0.8
baz=241,SNR=8.6
EGAK Eagle 83.42 13 P P 08 23 19.6 +0.6
baz=211
C16K Lisburne Hills 83.45 3 P P 08 23 19.3 +0.3
baz=188
I26K Coal Creek Min 83.46 12 P P 08 23 19.7 +0.6
baz=209
F21K Alatna River 83.49 8 P P 08 23 19.9 +0.7
baz=199
G23K Bananza Creek 83.49 9 P P 08 23 20.0 +0.6
baz=203
K29M Barlow Dome 83.50 15 P P 08 23 19.7 +0.2
baz=215
TOAD Toad River Com 83.55 23 P P 08 23 19.9 +0.1
baz=226
833A Chaparral WMA, 83.56 59 P P 08 23 20.5 +0.1
baz=249
N23A Red Feather La 83.61 45 P P 08 23 20.9 +0.1
baz=244
MAYO Mayo, Yukon 83.72 16 P P 08 23 21.5 +1.0
baz=216
CMIG Matias Romero 83.77 70 LR LR 08 52 31.1
comp=Z,127nm,19.2s,baz=193,slow=30
H25L Birch Creek 83.79 11 P P 08 23 21.7 +1.0
baz=207
J29N Klondike Camp 83.83 15 P P 08 23 21.7 +0.6
baz=214
G24K Hadweenzic Riv 83.89 10 P P 08 23 21.6 +0.3
baz=205
F22K John River 83.93 8 P P 08 23 22.0 +0.5
baz=201
COLD Coldfoot 83.95 9 P P 08 23 22.3 +0.7
baz=202,SNR=11
JCT Junction City 84.00 56 P P 08 23 22.6 -0.2
baz=249
K22A Casper 84.01 43 P P 08 23 22.9 +0.2
baz=243
I27K Kandik River 84.03 13 P P 08 23 22.7 +0.6
baz=211
HNDO Hondo 84.08 57 P P 08 23 23.1 0.0
HNDO IAmb IAmb 08 23 25.8
comp=Z,9.4nm,0.9s
C18K Utukok River 84.08 4 P P 08 23 22.5 +0.2
baz=192
E20K Nigu River 84.16 6 P P 08 23 22.9 +0.2
baz=197
AMTX Amarillo 84.19 52 P P 08 23 23.1 -0.6
baz=247
G25K Bearman Lake 84.19 11 P P 08 23 23.4 +0.6
baz=206
D19K Kuna River 84.19 6 P P 08 23 22.9 0.0
baz=195
I28M Miner Creek 84.27 13 P P 08 23 23.4 0.0
baz=212
BILL Bilibino 84.33 352 *e*P P 08 23 22.4 -1.1
BILL pmax pmax
comp=Z,12nm,1.7s
PMSA Palmer Station 84.33 156 LR LR 08 56 31.8
comp=Z,241nm,18.6s,baz=252,slow=32
TGTN Hyland Airport 84.38 20 P P 08 23 24.7 +0.8
baz=223
J30M Hart River 84.40 15 P P 08 23 23.9 -0.2
baz=216
EGMT Eagleton 84.55 37 P P 08 23 26.6 +1.4
EGMT IAmb IAmb 08 23 27.3
comp=Z,16nm,1.2s
EGMT Eagleton 84.55 37 P P 08 23 24.9 -0.3
baz=240,SNR=5.8
D20K Etivluk River 84.55 6 P P 08 23 24.9 +0.2
baz=196
E22K Anaktuvuk Pass 84.57 8 P P 08 23 24.7 0.0
baz=201
F24K Squaw Lake 84.57 10 P P 08 23 25.1 +0.3
baz=205
E21K Killik River 84.58 7 P P 08 23 24.9 +0.1
baz=199
H27K Steamboat Moun 84.59 12 P P 08 23 25.0 +0.1
baz=211
C19K Lookout Ridge 84.66 5 P P 08 23 25.3 +0.1
baz=193
B18K Kokolik River 84.75 4 P P 08 23 25.5 -0.1
baz=191
G26K Porcupine Rive 84.78 11 P P 08 23 26.2 +0.4
baz=209
E23K Chandalar 84.80 9 P P 08 23 25.5 -0.5
baz=203
KOTAN Kotaneelee Air 84.87 22 P P 08 23 26.4 0.0
baz=227
ABTX Abilene, Hawle 84.91 54 P P 08 23 28.1 +0.8
ABTX Abilene, Hawle 84.91 54 P P 08 23 27.5 +0.2
baz=248,SNR=7.9
ABTX Abilene, Hawle 84.91 54 P P 08 23 29.1 +1.8
baz=248
I30M Mount Dempster 84.91 15 P P 08 23 27.2 +0.5
baz=216
F25K Christian River 85.01 10 P P 08 23 27.9 +0.9
baz=207
G27K Doyon Strip 85.07 12 P P 08 23 27.8 +0.5
baz=211
KSCO Kaye Shedlock' 85.13 48 P P 08 23 28.9 +0.5
baz=246
D22K Ayikyak River 85.16 7 P P 08 23 29.1 +1.4
baz=200
C21K Knifeblade Rid 85.17 7 P P 08 23 29.0 +1.2
baz=198
H29M Whitestone 85.27 13 P P 08 23 28.6 +0.3
baz=214
TOLK Toolik Lake Re 85.35 9 P P 08 23 29.1 +0.4
baz=203
F26K Sheenjek River 85.37 11 P P 08 23 29.0 +0.2
baz=208
HNS HongShan 85.38 311 ⇓P P 08 23 32.5 +3.1
HNS pmax pmax
comp=Z,10.0nm,1.2s
HNS LR LR
comp=Z,170nm,20.7s
HNS LR LR
comp=Z,150nm,18.8s
D23K Nanushuk River 85.50 8 P P 08 23 30.1 +0.7
baz=202
E25K Arctic Village 85.50 10 P P 08 23 30.1 +0.6
baz=207,SNR=8.8
A19K Wainwright 85.62 4 P P 08 23 30.2 +0.3
baz=192
B21K Ikpikpuk River 85.64 6 P P 08 23 31.2 +1.3
baz=198
B20K Meade River 85.75 6 P P 08 23 31.2 +0.6
baz=196
EPYK Eagle Plains 85.77 14 P P 08 23 31.4 +0.6
baz=215
H31M Peel River 85.89 15 P P 08 23 31.5 +0.1
baz=218
435B Jarrell 85.89 57 P P 08 23 32.0 -0.2
baz=250
G29M Pine Creek 85.92 13 P P 08 23 31.7 +0.1
baz=214
D24K Happy Valley 85.93 9 P P 08 23 31.3 -0.2
baz=204
LAO LASA Array 86.03 39 P P 08 23 32.1 -0.5
baz=243
F28M Old Crow 86.12 12 P P 08 23 32.7 +0.2
baz=212,SNR=6.6
E27K Coleen River 86.27 11 P P 08 23 33.6 +0.4
baz=211
RSSD Black Hills 86.29 42 P P 08 23 35.3 +1.2
RSSD IAmb IAmb 08 23 36.6
comp=Z,18nm,1.3s
RSSD Black Hills 86.29 42 P P 08 23 33.7 -0.4
baz=245
RSSD Black Hills 86.29 42 P P 08 23 35.4 +1.3
baz=245
RSSD Black Hills 86.29 42 P P 08 23 35.3 +1.2
RSSD pmax pmax
comp=Z,18nm,1.3s
C23K Itkillik River 86.32 8 P P 08 23 34.1 +0.8
baz=202
OGNE Ogallala 86.32 46 P P 08 23 34.1 -0.2
baz=246
WMOK Wichita Mounta 86.35 53 P P 08 23 33.3 -1.1
baz=249
G30M tAoh Zraii Nji 86.39 14 P P 08 23 33.6 -0.2
baz=216
WHTX Lake Whitney, 86.42 56 P P 08 23 33.8 -0.9
baz=250
D25K Kavik River 86.45 9 P P 08 23 34.3 +0.2

baz=206
B22K Teshekpuk Lake 86.45 7 P P 08 23 34.0 0.0
baz=199
C24K Franklin Bluff 86.47 8 P P 08 23 34.3 +0.2
baz=204
G31M Satah River 86.80 14 P P 08 23 35.8 0.0
baz=216,SNR=7.4
A22K Sinclair Lake 86.92 6 P P 08 23 35.8 -0.4
baz=198
F30M Barrier River 87.00 14 P P 08 23 36.3 -0.5
baz=216
E28M Babbage River 87.03 12 P P 08 23 36.1 -0.9
baz=213
Z35A Perchaven, San 87.04 54 P P 08 23 40.0 +2.2
baz=250
A21K Barrow 87.07 5 P P 08 23 36.5 -0.6
baz=196
CBKS Cedar Bluff 87.13 49 P P 08 23 36.2 -2.0
baz=248
WRGLY Wrigley 87.18 20 P P 08 23 37.3 -0.4
baz=228
E29M Blow River 87.18 12 P P 08 23 36.7 -1.0
baz=214
C26K Camden Bay 87.21 9 P P 08 23 37.7 -0.1
baz=208
APG El Apazote 87.22 74 LR LR 08 55 08.5
comp=Z,6.2nm,21.5s,baz=258,slow=30
D27M Malcolm River 87.30 11 P P 08 23 37.6 -0.7
baz=211
F31M Tsiigehtchic 87.33 14 P P 08 23 38.5 +0.1
F31M Tsiigehtchic 87.33 14 P P 08 23 37.7 -0.7
baz=218,SNR=18
D28M Stokes Point 87.80 12 P P 08 23 40.3 -0.3
baz=213
MAW Mawson 87.99 199 P P 08 23 42.4 +0.7
baz=88,SNR=9.2
MAW Mawson 87.99 199 P P 08 23 42.4 +0.7
comp=Z,15nm,0.7s,baz=133,slow=6.5,SNR=15
MAW LR LR 09 00 34.0
comp=Z,367nm,20.0s,baz=122,slow=34
comp=Z,15nm,0.7s
DGMT Dagmar 88.05 38 P P 08 23 41.3 -1.0
baz=244
INK Inuvik 88.07 14 P P 08 23 41.6 -0.3
baz=218
INK Inuvik 88.07 14 LR LR 08 55 57.4
comp=Z,224nm,21.5s,baz=183,slow=31
HHC Hu-ho-hao-te 88.93 313 *e*P P 08 23 46.5 -0.3
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,110nm,5.3s
YAK Yakutsk 88.96 337 LR LR 08 56 54.1
comp=Z,86nm,21.2s,baz=108,slow=31
KSU1 Kansas State U 89.51 49 P P 08 23 48.4 -1.0
baz=250
PLCA Paso Flores 89.60 132 P P 08 23 52.8 +2.8
comp=Z,1.4nm,0.9s,baz=252,slow=11,SNR=3.0
PLCA LR LR 08 56 23.7
comp=Z,186nm,20.3s,baz=248,slow=30
comp=Z,1.4nm,0.9s
YKA Yellowknife Ar 89.90 23 P P 08 23 50.9 +0.3
comp=Z,1.2nm,0.9s,baz=242,slow=4.3,SNR=19
YKA LR LR 08 56 57.3
comp=Z,292nm,21.1s,baz=236,slow=31
comp=Z,1.2nm,0.9s
BTO Baotou 89.95 312 *e*P P 08 23 52.5 +1.0
BTO pP **pP** 08 23 57.5 -3.1
BTO sP **pwP** 08 23 59.5 -3.3
BTO PP **PP** 08 27 29.5 +4.7
BTO S **S** 08 34 46.3 +3.9
BTO SS **SS** 08 40 40.8 -0.3
BTO pmax pmax
comp=Z,26nm,0.8s
BTO pmax pmax
comp=Z,230nm,5.4s
BTO LR LR
comp=Z,290nm,14.1s
BTO LR LR
comp=Z,160nm,9.5s
BTO LR LR
comp=Z,250nm,5.6s
MIAR Mount Ida 90.32 54 P P 08 23 51.9 -1.3
baz=252
TEIG Tepich 90.67 69 LR LR 08 57 27.5
comp=Z,637nm,21.7s,slow=31
JTS Las Juntas de 91.13 80 LR LR 08 55 35.1
comp=Z,139nm,20.9s,baz=114,slow=29
C36M Paulatuk 91.16 16 P P 08 23 56.5 +0.2
baz=227
PZH PanZhiHua 92.23 297 P P 08 24 03.3 +0.8
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,5.2s
ELIB Princess Elisa 92.33 185 *d*P P 08 24 02.1 -0.1
comp=Z,11nm,0.9s
CMAR Chiang Mai Arr 92.60 288 LR LR 08 59 58.9
comp=Z,31nm,21.2s,baz=120,slow=32
A36M Sachs Harbour 92.70 13 P P 08 24 03.2 -0.2
baz=226
TROLL Troll, Antarti 92.95 179 P P 08 24 05.3 +0.3
comp=Z,327nm,1.1s
VNA3 Neumayer Olymp 93.04 175 ⇑P P 08 24 06.2 +0.9
comp=Z,15nm,0.8s
SNAA Sanae 93.09 177 ⇑P P 08 24 05.4 -0.2
comp=Z,130nm,0.9s
SNAA Sanae 93.09 177 *ce*P P 08 24 04.4 -1.2
SNAA pmax pmax
comp=Z,30nm,2.5s
SNAA Sanae 93.09 177 P P 08 24 04.6 -0.9
comp=Z,6.1nm,1.0s,baz=244,slow=7.1,SNR=6.1
comp=Z,6.1nm,1.0s
VNA2 Neumayer--Watz 93.54 175 ⇑P P 08 24 08.4 +0.8
comp=Z,13nm,0.8s,baz=199,slow=2.8
VNA1 Neumayer--Stat 93.74 175 ⇑P P 08 24 08.3 -0.1
comp=Z,19nm,0.9s
ULM Lac du Bonnet 93.75 39 LR LR 09 01 06.0
comp=Z,360nm,19.6s,baz=229,slow=32
ULN Ulaanbaatar 94.32 318 *ce*P P 08 24 09.5 -2.2
ULN pmax pmax
comp=Z,2.0nm,0.6s
SONM Songino Array 94.74 318 LR LR 09 01 46.6
comp=Z,99nm,21.7s,baz=124,slow=32
TIXI Tiksi 94.83 344 *ce*P P 08 24 12.1 -1.1
TIXI pmax pmax
comp=Z,2.0nm,1.0s
TKL Tuckaleechee C 98.36 55 LR LR 09 01 55.5
comp=Z,148nm,21.9s,baz=265,slow=31
MKAR Makanchi Array 110.73 315 PKiKP **PKiKP** 08 29 24.2 -0.7
comp=Z,0.4nm,0.6s,baz=51,slow=0.8,SNR=5.7
KURK Kurchatov 113.03 319 *c* PKiKP **PKiKP** 08 29 27.1 -1.9
KURK pmax pmax
comp=Z,5.0nm,1.7s
KURBB Kurchatov Arra 113.09 319 PKiKP **PKiKP** 08 29 28.2 -0.9
comp=Z,0.6nm,0.7s,baz=89,slow=1.6,SNR=8.3
BVAR Borovoye Array 117.76 322 PKP **PKPdf** 08 29 37.7 -0.4
comp=Z,1.5nm,0.7s,baz=70,slow=1.7,SNR=8.4
BRVK Borovoye 117.82 322 *c* PKiKP **PKPdf** 08 29 36.6 -1.6
BRVK pmax pmax
comp=Z,4.0nm,1.7s
ARU Arti 123.20 328 *i* PKiKP **PKPdf** 08 29 48.0 -0.4
ARU 08 31 32.4
ARU 08 36 59.5
ARU SS SS 08 48 17.5 +5.8
ARCES ARCESS Array B 124.43 352 PKP **PKPdf** 08 29 50.1 -0.3
comp=Z,6.2nm,0.8s,baz=344,slow=3.9,SNR=10
KIRV Kirov 126.39 334 *c* PKiKP **PKiKP** 08 29 55.3 +0.4
KLMR Klimovskoe 128.63 340 *e*PKiKP **PKPdf** 08 29 55.9 -2.8
KLMR pmax pmax
comp=Z,28nm,1.9s
FINES FINESS Array B 131.77 348 *c* PKiKP **PKPdf** 08 30 04.4 -0.2
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 131.77 348 PKP **PKiKP** 08 30 04.8 -0.8
comp=Z,2.6nm,0.7s,baz=70,slow=2.8,SNR=9.8
NOA NORSAR Array B 134.12 357 PKP **PKPdf** 08 30 08.9 -0.2
comp=Z,0.3nm,0.8s,baz=269,slow=2.9,SNR=3.4
HFS Hagfors 134.85 355 PKP **PKPdf** 08 30 10.5 +0.1
comp=Z,3.5nm,1.0s,baz=248,slow=1.6,SNR=4.7
MNK Minsk 137.44 342 *i* PKiKP **PKiKP** 08 30 16.9 -0.4
MNK *i* 08 37 27.6
MNK *i* 08 43 28.6
MNK *i* SS SS 08 51 10.3 +4.7
MNK *i* SSS SSS 08 56 16.2
MNK pmax pmax
comp=Z,13nm,0.9s
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK pmax pmax
comp=N,13nm,0.8s
MNK MLR MLR
comp=Z,135nm,20.0s
KIV Kislovodsk 138.09 321 *i* PKiKP **PKiKP** 08 30 17.8 -1.3
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,95nm,24.0s
AKASG Malin Array Be 140.18 338 *c* PKiKP **PKiKP** 08 30 22.2 -0.8
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 140.18 338 PKP **PKPdf** 08 30 20.6 +0.1
comp=Z,1.1nm,0.6s,baz=26,slow=2.5,SNR=6.0
AKBB Malin Array Si 140.18 338 *c* PKiKP **PKPdf** 08 30 21.3 +0.7
LVV L'vov 142.69 341 *e*PKiKP **PKiKP** 08 30 26.7 -1.5
CLL Collm 143.63 353 *i* PKiKP **PKPdf** 08 30 25.2 -1.5
CLL pmax pmax
comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 143.86 344 *e*PKiKP PKPbc 08 30 25.2 +0.3
STHS Stebnicka Huta 143.86 344 *e*PKP PKPbc 08 30 25.2 +0.3
OSTC Ostas 143.90 350 *e*PKP **PKPdf** 08 30 26.5 -0.8
OSTC Ostas 143.90 350 *e*PKiKP **PKPdf** 08 30 26.5 -0.8
DPC Dobruska-Polom 144.08 349 *e*PKP **PKPdf** 08 30 26.8 -0.8
DPC AMS AMS 09 30 50.0
comp=Z,200nm,22.2s
DPC Dobruska-Polom 144.08 349 *e*PKiKP **PKPdf** 08 30 26.8 -0.8
DPC MLR MLR
comp=Z,200nm,22.2s
CRVS Cervenica-Dubn 144.27 343 *e*PKiKP **PKPdf** 08 30 27.4 -0.6
CRVS Cervenica-Dubn 144.27 343 *e*PKP **PKPdf** 08 30 27.4 -0.6
MORC Moravsky Berou 144.40 348 *e*PKP **PKPdf** 08 30 27.2 -1.0
BTNL Ternell 144.71 1 *d*PKPdf **PKPdf** 08 30 29.8 +1.1
ARCR ARCALIA 144.97 339 ⇓P **PKPdf** 08 30 29.7 +0.4
VRAC Vranov 145.03 349 *e*PKP **PKPdf** 08 30 29.6 +0.3
CFR Carcaliu 145.05 333 ⇑P **PKPdf** 08 30 29.4 0.0
CFR Carcaliu 145.05 333 ⇑PKiKP **PKPdf** 08 30 29.4 0.0
VRI Vrincioaia 145.09 335 ⇑P **PKPdf** 08 30 29.3 -0.2
VRI Vrincioaia 145.09 335 ⇑PKiKP **PKPdf** 08 30 29.3 -0.2
DOU Dourbes 145.16 2 *d*PKPdf **PKPdf** 08 30 29.3 -0.1
TPGR Topolog 145.18 332 ⇑P **PKPdf** 08 30 29.3 -0.3
JAVC Velka Javorina 145.24 347 *e*PKP **PKPdf** 08 30 30.5 +0.8
OZUR 145.28 336 ⇓P **PKPbc** 08 30 27.0 -2.6
KRUC Moravsky 145.31 349 *e*PKP **PKPdf** 08 30 29.4 -0.3
VYHS Vyhne 145.32 346 *e*PKiKP **PKPdf** 08 30 30.3 +0.5
VYHS Vyhne 145.32 346 *e*PKP **PKPdf** 08 30 30.3 +0.5
BISRR Bisoca 145.36 335 ⇓P PKPbc 08 30 21.5 -8.4
TIRR Tirgusor 145.49 332 ⇑P **PKPab** 08 30 30.6 +0.2
TIRR Tirgusor 145.49 332 ⇑PKiKP **PKPab** 08 30 30.6 +0.2
HARR Harsova 145.53 333 ⇑P **PKPab** 08 30 31.0 +0.4
HARR Harsova 145.53 333 ⇑PKiKP **PKPab** 08 30 31.0 +0.4
DOPR Dopca 145.54 337 ⇑P **PKPab** 08 30 31.4 +0.8
PSZ Piszkesteto 145.59 344 ⇑P **PKPdf** 08 30 30.0 -0.3
PSZ Piszkesteto 145.59 344 PKiKP **PKPdf** 08 30 30.0 -0.3
NEHR Nehoiu 145.63 335 ⇑P **PKPdf** 08 30 29.9 -0.5
WLF Walferdange 145.63 1 *d*PKPdf **PKPab** 08 30 32.2 +1.4
KHC Kasperske Hory 145.70 352 *e*PKP **PKPab** 08 30 31.2 +0.1
KHC Kasperske Hory 145.70 352 *i* PKiKP **PKPab** 08 30 30.6 -0.5
MLR Muntele Rosu 145.72 336 ⇑P **PKPab** 08 30 31.6 +0.2
MLR Muntele Rosu 145.72 336 ⇑PKiKP **PKPab** 08 30 31.6 +0.2
ISR Istrita 145.78 335 ⇓P **PKPab** 08 30 31.3 -0.3
ISR Istrita 145.78 335 ⇓PKiKP **PKPab** 08 30 31.3 -0.3
DRGR 145.78 340 ⇑P **PKPab** 08 30 31.3 -0.2
DRGR 145.78 340 ⇑PKP2 **PKPab** 08 30 31.3 -0.2
MODS Modra-Piesok 145.79 347 *e*PKP2 **PKiKP** 08 30 34.7 0.0
MODS Modra-Piesok 145.79 347 *e*PKP **PKiKP** 08 30 34.6 -0.1
CKRC Cesky Krumlov 145.90 351 *e*PKP **PKPab** 08 30 31.7 -0.1
CKRC Cesky Krumlov 145.90 351 *e*PKP2 **PKPab** 08 30 31.7 -0.1
GERES GERESS Array B 145.96 352 PKPbc **PKPab** 08 30 32.5 +0.3
comp=Z,3.1nm,0.8s,baz=24,slow=7.3,SNR=7.5
BRTR Keskin Array B 146.04 321 PKPbc **PKPab** 08 30 32.5 -0.3
comp=Z,10nm,0.9s,baz=111,slow=2.8,SNR=39
VOIR 146.11 337 ⇑P **PKPab** 08 30 33.4 +0.6
VOIR 146.11 337 ⇑PKP2 **PKPab** 08 30 33.4 +0.6
CONA Conrad Observa 146.50 349 *i* PKP **PKPab** 08 30 34.1 -0.1
comp=Z,27nm,1.6s
RONA Rosalia, Austr 146.63 348 *i* PKP **PKPab** 08 30 34.6 -0.1
comp=Z,17nm,1.0s
MOA Molln 146.85 351 *i* PKP **PKPab** 08 30 35.0 -0.5
comp=Z,20nm,1.3s
SURR Surduc 146.88 340 ⇑P **PKPab** 08 30 34.8 -0.9
GZR Gura Zlata 146.98 339 ⇑P **PKPbc** 08 30 34.7 -0.1
GZR Gura Zlata 146.98 339 ⇑PKiKP **PKPbc** 08 30 34.7 -0.1
BZS Buzias 147.17 340 ⇑P **PKPdf** 08 30 33.7 +0.7
BZS Buzias 147.17 340 ⇑PKP2 **PKPdf** 08 30 33.7 +0.7
ARSA Arzberg 147.21 349 *i* PKP **PKPbc** 08 30 35.1 -0.2
comp=Z,7.8nm,1.0s
LESA Schwarzleotal 147.49 352 *i* PKP **PKPbc** 08 30 35.9 -0.3
comp=Z,11nm,1.2s
MORH Mrgy, Hungar 147.49 344 ⇑P **PKPbc** 08 30 35.7 -0.4
HERR Herculane 147.55 339 ⇑P **PKPbc** 08 30 36.6 +0.4
RETA Reutte 147.63 355 *i* PKP **PKPbc** 08 30 36.1 -0.4
comp=Z,16nm,1.6s
WATA Walderalm 147.71 354 *i* PKP **PKPbc** 08 30 36.3 -0.5
comp=Z,16nm,1.3s
KBA Koelnbreinsper 147.74 351 *i* PKP **PKPbc** 08 30 36.3 -0.7
comp=Z,8.0nm,1.1s
MOTA Moosalm 147.74 354 *i* PKP **PKPbc** 08 30 36.6 -0.3
comp=Z,17nm,1.3s
WTTA Wattenberg 147.77 354 *i* pPKP **PKPbc** 08 30 37.4 +0.4
comp=Z,14nm,1.1s
SOKA Soboth 147.85 349 *i* pPKP **PKPbc** 08 30 37.7 +0.6
comp=Z,14nm,1.0s
SQTA Sankt Quirin 147.86 354 *i* pPKP **PKiKP** 08 30 38.0 -1.2
comp=Z,15nm,1.3s
MDVR Moldovita 147.88 340 ⇓P **PKiKP** 08 30 37.9 -1.2
DAVA Damuels 147.90 356 *i* pPKP **PKPbc** 08 30 37.8 +0.5
comp=Z,22nm,1.6s
FETA Feichten 148.10 355 *i* PKP **PKPbc** 08 30 37.4 -0.5
comp=Z,18nm,1.4s
MYKA Terra Mystica 148.13 351 *i* PKP **PKPbc** 08 30 37.4 -0.4
comp=Z,8.1nm,0.8s
ABTA Abfaltersbach 148.18 352 *i* PKP **PKPbc** 08 30 37.7 -0.3
comp=Z,17nm,1.4s
MMAI Mount Meron Ar 148.49 309 PKPbc **PKPbc** 08 30 38.5 -0.7
comp=Z,3.0nm,0.8s,baz=70,slow=1.0,SNR=6.1
TORD Torodi Ar. Bea 174.77 112 PKP **PKPdf** 08 31 01.2 -1.5
comp=Z,0.5nm,0.6s,baz=346,slow=3.1,SNR=5.7
TORD PKPab **PKPab** 08 32 36.4 -0.6
comp=Z,0.9nm,0.8s,baz=287,slow=2.8,SNR=4.3

*SNET **31** 08:19:06.8±0.6, 14.°10N×89.°72W, h7km±13km, ML1.1*
CATAC 31 08:18:42.3±4.2, 12.°71N×88.°88W, h19km±37km, ML2.8,
Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PACA	**Pacayal**	**0.93**	**36**	*i* P		Pb	08 18 59.8	-0.1
PACA					IAML		08 19 26.1	
	comp=Z,270nm,1.0s							
SCLA	**Alcaldia de Sa**	**1.00**	**9**	*i* P		Pn	08 19 01.4	+0.1
SCLA					IAML		08 19 47.5	
	comp=Z,23nm,1.0s							
CNCH	**Conchagua**	**1.17**	**61**	*i* P		Pn	08 19 03.5	-0.3
CNCH					IAML		08 19 32.6	
	comp=Z,120nm,1.0s							
UNIC	**Universidad Ca**	**1.42**	**333**	*e*P		Pg	08 19 11.8	+2.0
UNIC	**Universidad Ca**	**1.42**	**333**	*i* P		Pn	08 19 06.5	-0.7
UNIC					IAML		08 19 15.7	
	comp=Z,190nm,1.0s							
NUBE	**Las Nubes**	**1.47**	**324**	*e*P		Pg	08 19 11.6	+0.9
NUBE				*e*S		Sn	08 19 14.6	-12
NUBE					IAML		08 19 15.7	
	comp=Z,64nm,0.2s							
NUBE	**Las Nubes**	**1.47**	**324**	*i* P		Pn	08 19 06.9	-1.1
NUBE					IAML		08 19 15.6	
	comp=Z,240nm,1.0s							
LOAL	**Lomas de Alarc**	**1.55**	**326**	*i* P		Pb	08 19 10.3	-0.1
LOAL					IAML		08 20 14.6	
	comp=Z,2μm,1.0s							
SLOZ	**Alcaldia de Sa**	**1.57**	**326**	*i* P		Pn	08 19 09.7	+0.5
SLOZ				*e*S		Sn	08 19 11.6	-18
MTO3	**Montecristo**	**1.74**	**345**	*e*P		Pg	08 19 16.7	+0.9
MTO3					IAML		08 19 24.7	
	comp=Z,10nm,0.2s							
MTO3	**Montecristo**	**1.74**	**345**	*i* P		Pn	08 19 11.3	-0.4
MTO3					IAML		08 19 23.7	
	comp=Z,47nm,1.0s							

*IDC **31** 08:28:28.0±1.7, 16.°37S×177.°49W, h0km, mb3.9/6,*

mbtmp3.9/6,MS4.0/41,Error ellipse: s-maj=112.3km s-min=22.8km az=149.0
*GCMT **31** 08:28:34.0±0.3, 17.°27S±0.°02×176.°70W±0.°01, h20km±1km, MW5.0/96,Moment Tensor Solution. s22,c24; s96,c137; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.15±.15; $M_{\theta\theta}$-2.65±.12; $M_{\phi\phi}$2.80±.12; $M_{r\theta}$-0.00±.24; $M_{r\phi}$1.72±.09; $M_{\theta\phi}$1.00±.23; Best double couple: M_o3.36100×10^{16} NP1:ϕ_s330.00000°,δ84.00000°,λ166.00000°. NP2: ϕ_s62.00000°,δ76.00000°,λ7.00000°. Principal axes: T 3.5470, Plg15.0000°, Azm286.0000°; N -0.3710, Plg74.0000°, Azm127.0000°; P -3.1750, Plg6.0000°, Azm17.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
ISC 31 08:28:29.4±1.5, 16.°2S±0.°6×177.°6W±0.°4, h10km, n45, σ1s40/8, mb3.9/6, MS4.1/39, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**12.95**	**181**	LR		LR	08 35 02.8	
	comp=Z,2μm,21.4s,baz=35,slow=31							
RAR	**Rarotonga**	**17.60**	**109**	LR		LR	08 36 59.7	
	comp=Z,1μm,21.3s,baz=275,slow=29							
URZ	**Urewera**	**22.42**	**191**	LR		LR	08 40 23.3	
	comp=Z,1μm,21.6s,baz=129,slow=32							
PPT	**Papeete**	**26.85**	**97**	LR		LR	08 41 29.0	
	comp=Z,359nm,19.7s,baz=252,slow=29							
PMG	**Port Moresby**	**34.98**	**277**	LR		LR	08 47 45.1	
	comp=Z,266nm,18.8s,baz=96,slow=33							
STKA	**Stephens Creek**	**40.11**	**240**	P		**P**	**08 36 05.6**	**+0.1**
	2.6nm,1.0s,baz=112,slow=11,SNR=3.3							
STKA				LR		LR	08 51 05.0	
	comp=Z,110nm,18.3s,baz=56,slow=34							
	2.6nm,1.0s							
WRA	**Warramunga Arr**	**45.71**	**258**	P		**P**	**08 36 51.9**	**+0.8**
	2.1nm,1.0s,baz=93,slow=7.1,SNR=6.1							
WRA				LR		LR	08 55 06.9	
	comp=Z,424nm,18.3s,baz=108,slow=35							
	2.1nm,1.0s							
ASAR	**Alice Springs**	**46.00**	**253**	P		**P**	**08 36 53.8**	**+0.4**
	5.0nm,0.8s,baz=86,slow=8.3,SNR=50							
ASAR				LR		LR	08 55 47.7	
	comp=Z,384nm,18.1s,baz=98,slow=36							
	5.0nm,0.8s							
BATI	**Baumata**	**57.33**	**268**	LR		LR	09 01 27.3	
	comp=Z,153nm,20.9s,baz=128,slow=34							
NWAO	**Narrogin (SRO)**	**60.67**	**241**	LR		LR	09 05 42.5	
	comp=Z,144nm,18.0s,baz=115,slow=37							
DAV	**Davao City (W)**	**60.80**	**288**	LR		LR	09 03 02.4	
	comp=Z,46nm,20.2s,baz=166,slow=34							
VNDA	**Vanda**	**62.16**	**185**	LR		LR	08 59 31.8	
	comp=Z,82nm,20.7s,baz=42,slow=30							
RPN	**Rapa Nui**	**63.71**	**113**	LR		LR	08 59 01.7	
	comp=Z,244nm,21.2s,baz=275,slow=29							
MJAR	**Matsushiro Arr**	**67.04**	**322**	LR		LR	09 07 38.1	
	comp=Z,29nm,18.1s,baz=130,slow=35							
SHEM	**Shemya Is, Ala**	**69.06**	**355**	LR		LR	09 03 59.1	
	comp=Z,137nm,21.6s,baz=248,slow=31							
ASAJ	**Asahikawa**	**70.19**	**331**	LR		LR	09 06 27.3	
	comp=Z,58nm,19.6s,baz=123,slow=32							
PETK	**Petropavlovsk-**	**72.28**	**345**	LR		LR	09 08 06.6	
	comp=Z,74nm,19.0s,baz=155,slow=33							
KSRS	**Korea Array**	**73.98**	**318**	LR		LR	09 06 23.3	
	comp=Z,32nm,21.4s,baz=150,slow=31							
PFO	**Pinyon Flats O**	**76.49**	**49**	LR		LR	09 09 16.8	
	comp=Z,108nm,18.3s,baz=252,slow=32							
KDAK	**Kodiak Island**	**76.61**	**13**	LR		LR	09 06 59.9	
	comp=Z,189nm,21.4s,baz=223,slow=30							
LPIG	**La Paz**	**76.95**	**60**	LR		LR	09 05 22.7	
	comp=Z,66nm,19.2s,baz=224,slow=29							
NVAR	**Mina Array Bea**	**77.70**	**44**	P		**P**	**08 40 26.1**	**-0.7**
	0.2nm,0.5s,baz=220,slow=6.7,SNR=4.4							
	0.2nm,0.5s							
KLR	**Kul'dur**	**79.08**	**329**	LR		LR	09 10 26.7	
	comp=Z,72nm,21.9s,baz=132,slow=32							
MA2	**Magadan**	**79.80**	**344**	LR		LR	09 13 10.1	
	comp=Z,44nm,19.3s,baz=133,slow=34							
BBB	**Bella Bella**	**80.50**	**28**	LR		LR	09 09 11.4	
	comp=Z,85nm,20.9s,baz=220,slow=30							
ELK	**Elko**	**80.92**	**43**	LR		LR	09 07 53.9	
	comp=Z,54nm,21.4s,baz=242,slow=29							
SEY	**Seymchan**	**82.33**	**347**	LR		LR	09 10 44.3	
	comp=Z,92nm,20.4s,baz=340,slow=31							
NEW	**Newport**	**83.72**	**36**	LR		LR	09 12 04.1	
	comp=Z,99nm,19.0s,baz=232,slow=31							
DLBC	**Dease Lake**	**84.01**	**23**	LR		LR	09 11 56.9	
	comp=Z,198nm,20.4s,baz=256,slow=31							
ILAR	**Eielson Array**	**84.10**	**13**	P		**P**	**08 41 00.8**	**+0.7**
	1.0nm,1.0s,baz=218,slow=6.4,SNR=5.0							
ILAR				LR		LR	09 11 30.7	
	comp=Z,110nm,21.2s,baz=222,slow=31							
	1.0nm,1.0s							
TXAR	**Lajitas Array**	**84.46**	**57**	P		**P**	**08 41 04.1**	**+1.2**
	0.5nm,1.0s,baz=216,slow=4.5,SNR=3.7							
	0.5nm,1.0s							
ANMO	**Albuquerque**	**84.47**	**51**	LR		LR	09 11 59.4	
	comp=Z,79nm,18.9s,baz=338,slow=31							
PDAR	**Pinedale Array**	**85.62**	**43**	LR		LR	09 13 24.0	
	comp=Z,62nm,19.6s,baz=242,slow=32							
MAW	**Mawson**	**85.68**	**200**	LR		LR	09 16 26.2	
	comp=Z,135nm,19.3s,baz=110,slow=34							
CMIG	**Matias Romero**	**87.99**	**72**	LR		LR	09 11 09.7	
	comp=Z,103nm,21.8s,baz=193,slow=29							
YAK	**Yakutsk**	**88.32**	**338**	LR		LR	09 15 41.1	
	comp=Z,26nm,20.7s,baz=102,slow=32							
CMAR	**Chiang Mai Arr**	**89.05**	**289**	LR		LR	09 17 55.6	
	comp=Z,23nm,21.8s,baz=160,slow=33							
INK	**Inuvik**	**90.08**	**15**	LR		LR	09 16 06.6	
	comp=Z,72nm,20.7s,baz=184,slow=32							
YKA	**Yellowknife Ar**	**92.50**	**24**	LR		LR	09 15 51.9	
	comp=Z,120nm,21.8s,baz=257,slow=31							
TIXI	**Tiksi**	**94.75**	**345**	LR		LR	09 21 11.0	
	comp=Z,98nm,20.6s,baz=173,slow=33							
NNA	**Nana**	**96.79**	**105**	LR		LR	09 15 33.8	
	comp=Z,51nm,21.3s,baz=232,slow=29							
ATAH	**Atahualpa**	**96.80**	**99**	LR		LR	09 14 48.1	
	comp=Z,146nm,21.5s,baz=247,slow=29							
ULM	**Lac du Bonnet**	**97.15**	**40**	LR		LR	09 19 36.3	
	comp=Z,113nm,19.6s,baz=218,slow=32							
BRTR	**Keskin Array B**	**144.12**	**317**	PKP		**PKPdf**	**08 48 05.0**	**-1.0**
	1.6nm,1.0s,baz=31,slow=3.4,SNR=5.9							
MMAI	**Mount Meron Ar**	**145.84**	**305**	PKPbc		**PKiKP**	**08 48 10.8**	**-2.4**
	2.2nm,0.7s,baz=72,slow=4.7,SNR=2.6							

*TAP **31** 08:53:52.9,22.°04N×121.°34E, h67km, ML3.6, C*
*JMA **31** 08:53:53.1±0.2,22.°1N×121.°5E±0.°7, h52km, MV3.7/14, TAIWAN REGION*
ISC 31 08:53:53.5±1.5, 22.°02N±0.°05×121.°37E±0.°03, h63km±8km, n94, σ1s22/155, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.17**	**82**	*i* P		**Pn**	**08 54 03.3**	**+0.2**
	baz=90							
LAY				S		**Sn**	**08 54 10.7**	**+0.6**
	baz=90							
LYUB	**Lan-yu**	**0.20**	**94**	*i* P		**Pn**	**08 54 02.9**	**-0.3**
	baz=93							
LYUB				*i* S		**Sn**	**08 54 10.4**	**+0.1**
	baz=93							
SMST	**Manzhou Townsh**	**0.49**	**271**	P		**Pn**	**08 54 05.3**	**-0.3**
	baz=268							
SMST				*e*S		**Sn**	**08 54 14.9**	**+0.4**
	baz=268							
TWKBT	**Hengchun**	**0.52**	**262**	*i* P		**Pn**	**08 54 05.9**	**0.0**
	baz=259							
TWKBT				S		**Sn**	**08 54 15.4**	**+0.4**
	baz=259							
TWK1	**Hengchun**	**0.53**	**262**	*i* P		**Pn**	**08 54 05.9**	**-0.1**
	baz=259							
TWK1				S		**Sn**	**08 54 15.4**	**+0.3**
	baz=259							
TAWH	**Dawu Township**	**0.55**	**306**	*i* P		**Pn**	**08 54 05.8**	**-0.4**
	baz=313							
TAWH				S		**Sn**	**08 54 15.1**	**-0.4**
	baz=313							
TAW	**Tawu**	**0.56**	**308**	*i* P		**Pn**	**08 54 05.8**	**-0.5**
	baz=314							
TAW				S		**Sn**	**08 54 15.1**	**-0.4**
	baz=314							
SNW	**Nanwan**	**0.58**	**265**	*e*P		**Pn**	**08 54 07.3**	**+0.8**
	baz=262							
SNW				S		**Sn**	**08 54 17.8**	**+1.8**
	baz=262							
HEN	**Hengchun**	**0.59**	**269**	*i* P		**Pn**	**08 54 06.9**	**+0.3**
	baz=274							

HEN				S		Sn	08 54 17.0	+0.9	
	baz=274								
EAST	**Anshuo**	**0.61**	**307**	*i* P		Pn	08 54 06.5	-0.4	
	baz=313								
EAST				eS		Sn	08 54 16.2	-0.4	
	baz=313								
LDUT	**Ludao**	**0.66**	**8**	eP		Pn	08 54 07.0	-0.5	
	baz=15								
LDUT				eS		Sn	08 54 18.1	+0.4	
	baz=15								
ECL	**Taimali**	**0.69**	**326**	*i* P		Pn	08 54 07.0	-0.9	
	baz=324								
ECL				eS		Sn	08 54 16.9	-1.5	
	baz=324								
TTN	**Taitung**	**0.76**	**344**	eS		Sn	08 54 21.6	+1.8	
	baz=338								
SCZT	**Fangliau**	**0.78**	**297**	P		Pn	08 54 08.5	-0.4	
	baz=297								
SCZT				S		Sn	08 54 19.9	-0.3	
	baz=297								
TWGBT	**Beinan**	**0.84**	**341**	P		Pn	08 54 08.8	-0.8	
	baz=343								
TWGBT				eS		Sn	08 54 19.7	-1.9	
	baz=343								
TWG	**Pinlang**	**0.85**	**341**	P		Pn	08 54 08.8	-0.9	
	baz=343								
TWG				S		Sn	08 54 20.1	-1.5	
	baz=343								
MASBT	**Mashibuluo**	**0.90**	**311**	eP		Pn	08 54 10.2	-0.3	
	baz=315								
LONT	**Longtian**	**0.91**	**346**	P		Pn	08 54 10.0	-0.6	
	baz=340								
LONT				eS		Sn	08 54 21.9	-1.3	
	baz=340								
EDH	**Donghe**	**0.95**	**356**	eP		Pn	08 54 09.5	-1.6	
	baz=350								
EDH				eS		Sn	08 54 22.5	-1.6	
	baz=350								
TSMG	**Majia**	**0.96**	**316**	eP		Pn	08 54 11.5	+0.3	
	baz=321								
TSMG				eS		Sn	08 54 24.3	+0.1	
	baz=321								
TWP	**Hsiaoliuchiu**	**0.99**	**290**	P		Pn	08 54 12.2	+0.7	
	baz=289								
TWP				S		Sn	08 54 27.3	+2.4	
	baz=289								
SSD	**Sandimen**	**1.00**	**317**	eP		Pn	08 54 11.5	-0.2	
	baz=322								
CHKT	**Chengkung**	**1.08**	**360**	eP		Pn	08 54 11.9	-0.8	
	baz=354								
CHKT				eS		Sn	08 54 27.0	+0.1	
	baz=354								
ECS	**Chishang**	**1.08**	**353**	eS		Sn	08 54 27.5	+0.4	
	baz=346								
EHD	**Haiduan**	**1.14**	**352**	eP		Pn	08 54 12.6	-0.8	
	baz=347								
EHD				eS		Sn	08 54 27.1	-1.2	
	baz=347								
CHKH	**Chenggong**	**1.17**	**1**	eP		Pn	08 54 13.0	-0.8	
	baz=355								
CHKH				eS		Sn	08 54 28.5	-0.5	
	baz=355								
FULB	**Fuli**	**1.18**	**357**	eP		Pn	08 54 13.9	-0.1	
	baz=350								
FULB				eS		Sn	08 54 30.4	+1.0	
	baz=350								
SLGT	**Liugui**	**1.18**	**326**	eP		Pn	08 54 13.8	-0.2	
	baz=334								
SLGT				eS		Sn	08 54 29.9	+0.6	
	baz=334								
SCST	**Cishan**	**1.19**	**317**	eP		Pn	08 54 16.6	+2.5	
	baz=318								
TWM1	**Shoushan**	**1.19**	**313**	eP		Pn	08 54 14.7	+0.5	
	baz=314								
WSSB	**Gushan**	**1.20**	**301**	eP		Pn	08 54 14.4	+0.1	
	baz=301								
WSSB				eS		Sn	08 54 31.0	+1.2	
	baz=301								
ELDTW	**Lidau**	**1.21**	**344**	eP		Pn	08 54 13.6	-0.9	
	baz=349								
STYH	**Taoyuan**	**1.27**	**335**	eP		Pn	08 54 15.6	+0.4	
	baz=327								
STYT	**Tauyuan**	**1.27**	**334**	eP		Pn	08 54 15.8	+0.5	
	baz=327								
STYT				eS		Sn	08 54 32.4	+0.8	
	baz=327								
SGST	**Jiashian**	**1.29**	**326**	eP		Pn	08 54 16.7	+1.3	
	baz=317								
EYUL	**Yuli**	**1.32**	**358**	eP		Pn	08 54 16.5	+0.5	
	baz=354								
TWF1	**Yuli**	**1.33**	**357**	eP		Pn	08 54 17.0	+0.9	
	baz=350								
TWF1				eS		Sn	08 54 31.0	-1.9	
	baz=350								
YULB	**Yu-li**	**1.37**	**357**	eP		Pn	08 54 15.5	-1.1	
	baz=351								
YULB				eS		Sn	08 54 32.0	-1.9	
	baz=351								
CHN1	**Nanshi**	**1.40**	**326**	eP		Pn	08 54 17.6	+0.6	
	baz=327								
CHN1				eS		Sn	08 54 35.0	+0.5	
	baz=327								
WTP	**Ta-pu**	**1.41**	**330**	P		Pn	08 54 18.4	+1.3	
	baz=321								
SNST	**Tainan City**	**1.44**	**326**	eP		Pn	08 54 17.1	-0.4	
	baz=327								
SNST				eS		Sn	08 54 36.3	+0.7	
	baz=327								
TPUB	**Ta-pu**	**1.45**	**332**	eP		Pn	08 54 17.2	-0.4	
	baz=322								
HGSD	**Ruisui**	**1.47**	**2**	eP		Pn	08 54 18.1	+0.2	
	baz=10.0								
HGSD				eS		Sn	08 54 38.5	+2.3	
	baz=10.0								
EHYH	**Wanrong**	**1.47**	**359**	eP		Pn	08 54 17.3	-0.6	
	baz=355								
EHY	**Hungye**	**1.48**	**358**	eP		Pn	08 54 17.1	-1.0	
	baz=353								
EHY				eS		Sn	08 54 36.0	-0.5	
	baz=353								
TWK	**Hsinying**	**1.49**	**327**	P		Pn	08 54 17.8	-0.4	
	baz=328								
TWK				eS		Sn	08 54 37.6	+0.9	
	baz=328								
CHN4	**Tsaushan**	**1.51**	**332**	eP		Pn	08 54 19.3	+0.9	
	baz=321								
CHN4				eS		Sn	08 54 40.3	+3.2	
	baz=321								
ALS	**Alishan**	**1.58**	**341**	eP		Pn	08 54 20.1	+0.5	
	baz=331								
WCKO	**Fanlu**	**1.58**	**334**	eP		Pn	08 54 19.8	+0.4	
	baz=325								
TSCK	**Chigu Township**	**1.64**	**314**	eP		Pn	08 54 18.9	-1.2	
	baz=302								
TSCK				eS		Sn	08 54 38.1	-2.1	
	baz=302								
EGFH	**Guangfu**	**1.65**	**2**	eP		Pn	08 54 20.6	+0.4	
	baz=4.0								
WARBT	**Fenglin Townsh**	**1.69**	**0**	eP		Pn	08 54 20.1	-0.8	
	baz=1.0								
WARBT				eS		Sn	08 54 40.8	-0.8	
	baz=1.0								
WHYT	**Xinyi Township**	**1.74**	**344**	P		Pn	08 54 23.6	+2.1	
	baz=335								
VWDT	**VWDT**	**1.74**	**353**	eP		Pn	08 54 22.3	+0.8	
	baz=2.0								
VWDT				eS		Sn	08 54 44.6	+1.9	
	baz=2.0								
SHUL	**Shoufeng**	**1.77**	**6**	eP		Pn	08 54 21.9	0.0	
	baz=358								
SHUL				eS		Sn	08 54 43.7	+0.3	
	baz=358								
ESL	**Shilin**	**1.79**	**2**	eP		Pn	08 54 22.9	+0.7	
	baz=3.0								
ESL				eS		Sn	08 54 42.1	-1.8	
	baz=3.0								
SSLB	**Suanglung**	**1.80**	**348**	eP		Pn	08 54 24.8	+2.4	
	baz=337								
SMLT	**Sun Moon Lake**	**1.91**	**347**	eP		Pn	08 54 25.5	+1.6	
	baz=338								
OWD	**Renai**	**1.94**	**355**	eP		Pn	08 54 25.5	+1.2	
	baz=342								
OWD				eS		Sn	08 54 48.0	+0.4	
	baz=342								
TYC	**Yuchr**	**1.94**	**346**	eP		Pn	08 54 26.3	+2.1	
	baz=348								
ETM	**Tongmen**	**1.94**	**3**	eP		Pn	08 54 24.0	-0.3	
	baz=359								
ETM				eS		Sn	08 54 46.8	-0.8	
	baz=359								
WUSB	**Renai**	**1.98**	**353**	P		Pn	08 54 25.9	+1.1	
	baz=354								
WUSB				eS		Sn	08 54 49.7	+1.0	
	baz=354								
LXIB	**Xiulin Townshi**	**2.00**	**1**	P		Pn	08 54 24.8	-0.3	
	baz=2.0								
LXIB				eS		Sn	08 54 48.7	-0.4	
	baz=2.0								
CHGB	**Renai**	**2.04**	**355**	P		Pn	08 54 26.9	+1.1	
	baz=343								
CHGB				eS		Sn	08 54 51.7	+1.3	
	baz=343								
WCS	**Beigang Elemen**	**2.08**	**348**	eP		Pn	08 54 27.6	+1.6	
	baz=340								
WHF	**Hehuan Shan**	**2.12**	**357**	P		Pn	08 54 28.3	+1.2	
	baz=5.0								
WHF				eS		Sn	08 54 53.2	+0.6	
	baz=5.0								
VCHM	**Qimei**	**2.15**	**304**	P		Pn	08 54 25.2	-1.8	
	baz=303								
VCHM				eS		Sn	08 54 48.8	-3.9	
	baz=303								
ETLH	**Xiulin Townshi**	**2.18**	**3**	eP		Pn	08 54 27.6	0.0	
	baz=4.0								
ETLH				eS		Sn	08 54 52.6	-1.0	
	baz=4.0								
PHUB	**P'eng-hu**	**2.23**	**312**	P		Pn	08 54 25.9	-2.2	
	baz=312								
PHUB				eS		Sn	08 54 50.8	-3.8	
	baz=312								
EOS4	**EOS4**	**2.27**	**22**	P		Pn	08 54 28.6	+0.3	
	baz=29								
EOS4				S		Sn	08 54 54.8	-0.3	
	baz=29								
PNG	**Penghu**	**2.28**	**313**	eS		Sn	08 54 52.6	-3.1	
	baz=313								
WHP	**Taichung City**	**2.29**	**350**	eP		Pn	08 54 31.9	+3.0	
	baz=342								
NNSB	**Datong**	**2.40**	**0**	eP		Pn	08 54 31.4	+0.8	
	baz=6.0								
NNSB				eS		Sn	08 54 59.3	+0.3	
	baz=6.0								
EOS3	**EOS3**	**2.42**	**21**	P		Pn	08 54 31.1	+0.5	
	baz=20								
EOS3				S		Sn	08 54 59.4	+0.3	
	baz=20								
ENA	**Nanau**	**2.42**	**8**	eP		Pn	08 54 30.1	-0.7	
	baz=3.0								
EWUT	**Wuta**	**2.45**	**9**	eP		Pn	08 54 30.8	-0.3	
	baz=4.0								
LATG	**Datong**	**2.51**	**3**	eP		Pn	08 54 33.0	+0.9	
	baz=4.0								
LATG				eS		Sn	08 55 03.5	+1.8	
	baz=4.0								
NDT	**Datong Townshi**	**2.58**	**3**	eP		Pn	08 54 33.8	+0.9	
	baz=9.0								
NDT				eS		Sn	08 55 04.0	+0.9	
	baz=9.0								
NFF	**Wufeng Townshi**	**2.61**	**355**	eP		Pn	08 54 36.6	+3.2	
	baz=357								
LIOB	**Emei**	**2.64**	**353**	eP		Pn	08 54 35.9	+2.2	
	baz=356								
YHNB	**Yeheng**	**2.64**	**0**	P		Pn	08 54 35.1	+1.3	
	baz=352								
YHNB				eS		Sn	08 55 06.0	+1.2	
	baz=352								
NSK	**Sanguang**	**2.65**	**360**	eP		Pn	08 54 35.2	+1.3	
	baz=352								
NSK				eS		Sn	08 55 06.0	+1.1	
	baz=352								
FUSB	**Fushanzhiwuyua**	**2.74**	**4**	eP		Pn	08 54 35.8	+0.7	
	baz=5.0								
FUSB				eS		Sn	08 55 07.6	+0.5	
	baz=5.0								
NWLT	**Wulai**	**2.75**	**3**	eP		Pn	08 54 36.8	+1.5	
	baz=9.0								
NWLT				eS		Sn	08 55 08.8	+1.4	
	baz=9.0								
JYNG	**Yonagunijimaku**	**2.82**	**31**	eP		Pn	08 54 36.3	0.0	
TIPB	**Shuangxi**	**2.97**	**8**	eP		Pn	08 54 39.2	+0.9	
	baz=358								
TIPB				eS		Sn	08 55 12.0	-0.8	
	baz=358								
HATJ	**Hateruma jima**	**3.03**	**47**	eP		Pn	08 54 38.9	-0.1	
SXI1	**Grass Mountain**	**3.10**	**9**	eP		Pn	08 54 41.6	+1.5	
	baz=360								
IRIF	**Iriomote-Funau**	**3.17**	**43**	eP		Pn	08 54 41.1	+0.2	
IRIF				eS		Sn	08 55 17.5	0.0	
JKRS	**Kuro-shima**	**3.29**	**47**	eS		Sn	08 55 19.4	-0.9	
JIJ	**Ishigaki jima**	**3.46**	**47**	eP		Pn	08 54 44.5	-0.4	
JIJ				eS		Sn	08 55 24.0	-0.6	
JISG	**Ishigakijimahi**	**3.72**	**46**	eP		Pn	08 54 48.1	-0.4	
JTJ	**Tarama**	**4.03**	**49**	eP		Pn	08 54 52.6	0.0	
JTJ				eS		Sn	08 55 38.1	-0.4	
JIRB	**Irabujima**	**4.48**	**51**	eP		Pn	08 54 58.8	0.0	

*NDI **31** 09:26:30.1±3.3, 33°.48N×90°.26E, h10km, ML4.2, MW4.4, mb4.1(NEIC)*
*MOS **31** 09:26:32.6±1.1, 33°.03N×90°.43E, h13km, mb4.5/13, Error ellipse: s-maj=11.0km s-min=5.1km az=124.0*
*IDC **31** 09:26:32.2±0.6, 32°.93N×90°.49E, h0km, mb4.1/17, mbtmp4.0/21, ML3.9/4, MS3.6/19, Error ellipse: s-maj=23.3km s-min=13.4km az=53.0*
*NEIC **31** 09:26:33.6±1.3, 33°.04N±0°.09×90°.40E±0°.07, h10km±1km, mb4.1/32, Error ellipse: s-maj=15.8km s-min=7.8km az=21.0*
*BJI **31** 09:26:33.3±0.0, 32°.83N×90°.47E, h7km, mb4.4/26, mB4.7/12, ML3.6/3, Ms4.1/27, Ms7 3.9/28*
ISC 31 09:26:33.7±0.3, **33°.06N**±0°.04×**90°.36E**±0°.04, **h10**km, **n132,**
σ1§**85**/129, **mb4.3**/31, **MS3.6**/18, **8C-2D, Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**3.42**	**168**		**Pn**	**09 27 27.4**	**-0.2**
LSA	**Lhasa**	**3.42**	**168**	P	**Pn**	**09 27 27.4**	**-0.2**
GOMU	**GeErMu**	**4.82**	**48**	Pn	**Pb**	**09 27 54.0**	**-4.5**
GOMU				Pg	**Pg**	**09 28 09.3**	**+3.2**
GOMU				Sn	**Sb**	**09 28 50.8**	**-6.0**
GOMU				Sg	**Sg**	**09 29 09.3**	**+0.7**
GOMU				smax	smax		
	comp=N,24nm,1.5s						
GOMU				smax	smax		
	comp=E,20nm,1.7s						
PASG	**PASIGHAT**	**5.55**	**166**	eP	**Pb**	**09 28 10.6**	**-0.2**
GTK	**Tadong**	**5.92**	**195**	ex	x	09 27 40.2	
ZIRO	**ZIRO**	**6.29**	**150**	eP	**Pn**	**09 28 08.6**	**+1.9**
ZIRO				eS	**Sn**	**09 29 22.1**	**+3.4**
ZIRO				IAML		09 29 23.9	
	comp=N,724nm,0.8s						
ZIRO				IAML		09 29 25.0	
	comp=E,661nm,0.9s						
SHL	**Shillong**	**7.58**	**170**	eP	**Pn**	**09 28 24.9**	**+0.3**
MOKO	**MOKOCHONG**	**7.62**	**151**	eP	**Pn**	**09 28 27.8**	**+2.7**
MOKO				eS	**Sn**	**09 29 49.0**	**-2.6**
MOKO				IAML		09 29 57.0	
	comp=E,59nm,0.7s						
MOKO				IAML		09 30 05.9	
	comp=E,81nm,0.6s						
VLK	**Valmikinagar**	**8.02**	**226**	*i* x	x	09 30 47.7	
AZL	**Aizawl**	**9.51**	**167**	eP	**Pn**	**09 28 51.6**	**+0.7**
GTA	**Gaotai**	**9.91**	**48**	P	**Pn**	**09 29 00.3**	**+3.9**
GTA				pmax	pmax		
	comp=E,4.0nm,1.5s						
GTA				LR	LR		
	comp=E,790nm,13.8s						
GTA				LR	LR		
	comp=E,530nm,14.9s						
GTA				LR	LR		
	comp=E,580nm,11.6s						
BRDH	**Bariadhala**	**10.41**	**173**	Pn	**Pn**	**09 29 03.5**	**+0.4**
	comp=E,15nm,0.3s,baz=90,slow=18,SNR=4.5						
ALBI	**Allahabad**	**10.75**	**226**	*i* x	x	09 32 42.0	
WMQ	**Urumqi**	**10.94**	**350**	eP	Pn	09 29 17.8	+7.4
WMQ				LR	LR		
	comp=E,450nm,10.5s						
SMLA	**Simla**	**11.36**	**264**	eP	**Pn**	**09 29 18.6**	**+2.6**
PZH	**PanZhiHua**	**11.84**	**121**	P	**Pn**	**09 29 23.5**	**+0.6**
PZH				S	**Sn**	**09 31 33.5**	**-1.7**
PZH				pmax	pmax		
	comp=E,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=E,120nm,7.7s						
PZH				LR	LR		
	comp=E,650nm,8.5s						
PZH				LR	LR		
	comp=E,590nm,10.3s						
PZH				LR	LR		
	comp=E,590nm,9.0s						
MND	**Mandalay**	**12.12**	**154**	Pn	**Pn**	**09 29 23.8**	**-2.8**
TARG	**Taragay, Kyrgy**	**13.20**	**315**	Pn	**Pn**	**09 29 41.1**	**-0.5**
TARG	**Taragay, Kyrgy**	**13.20**	**315**	P	**Pn**	**09 29 41.1**	**-0.5**
NIL	**Nilore**	**14.32**	**277**		**Pn**	**09 29 55.8**	**-0.8**
NIL	**Nilore**	**14.32**	**277**	P	**Pn**	**09 29 55.8**	**-0.8**
BOOM	**Boomskoye usch**	**14.77**	**314**		**Pn**	**09 30 02.7**	**-0.1**
BOOM	**Boomskoye usch**	**14.77**	**314**	P	**Pn**	**09 30 02.7**	**-0.1**
MK31	**Makanchi Array**	**15.04**	**338**	Pn	**Pn**	**09 30 05.5**	**-0.7**
MK31				lAmb	lAmb	09 30 18.9	
	comp=Z,6.1nm,1.1s						
MK31	**Makanchi Array**	**15.04**	**338**	*ce*P	**Pn**	**09 30 08.4**	**+2.2**
MKAR	**Makanchi Array**	**15.04**	**338**	Pn	**Pn**	**09 30 06.3**	**+0.1**
MKAR	**Makanchi Array**	**15.04**	**338**	*i* P	**P**	**09 30 10.6**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**15.04**	**338**	Pn	**Pn**	**09 30 06.8**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=140,slow=14,SNR=8.3						
MKAR				LR	LR	09 36 38.8	
	comp=Z,187nm,18.1s,baz=164,slow=40						
	comp=Z,0.7nm,0.6s						
MAKZ	**Makanchi**	**15.15**	**337**		**Pn**	**09 30 08.0**	**+0.3**
MAKZ				lAmb	lAmb	09 30 20.2	
	comp=Z,8.4nm,1.1s						
MAKZ	**Makanchi**	**15.15**	**337**	P	**Pn**	**09 30 08.0**	**+0.3**
MAKZ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
XAN	**Xi'an**	**15.51**	**81**	P	**P**	**09 30 19.3**	**+2.3**
XAN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
XAN				LR	LR		
	comp=N,500nm,8.1s						
XAN				LR	LR		
	comp=E,460nm,6.7s						
XAN				LR	LR		
	comp=Z,740nm,7.7s						
CRAI	**Chiangrai**	**15.59**	**143**	Pn	**Pn**	**09 30 12.7**	**-0.9**
AAK	**Ala-Archa**	**15.74**	**312**		**Pn**	**09 30 15.0**	**-0.7**
AAK	**Ala-Archa**	**15.74**	**312**	*ce*P	**Pn**	**09 30 16.8**	**+1.1**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AAK	**Ala-Archa**	**15.74**	**312**	Pn	**P**	**09 30 22.8**	**+3.1**
	comp=Z,0.2nm,0.3s,baz=342,slow=20,SNR=1.9						
DRK	**Karamyk**	**16.27**	**298**	P	**Pn**	**09 30 24.5**	**+1.8**
DRK				lAmb	lAmb	09 30 34.8	
	comp=Z,10nm,0.6s						
CMAR	**Chiang Mai Arr**	**16.46**	**150**	Pn	**Pn**	**09 30 24.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**16.46**	**150**	P	**Pn**	**09 30 24.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**16.46**	**150**	Pn	**Pn**	**09 30 23.1**	**-1.8**
	comp=Z,1.5nm,0.3s,baz=335,slow=12,SNR=10.0						
CMAR				LR	LR	09 37 02.9	
	comp=Z,105nm,18.1s,baz=330,slow=39						
	comp=Z,2.2nm,0.3s						
ENH	**Enshi**	**16.52**	**95**	Pn	**Pn**	**09 30 24.6**	**-1.0**
ENH				lAmb	lAmb	09 30 41.7	
	comp=Z,11nm,0.9s						
SLVN	**Son La**	**16.76**	**131**	Pn	**Pn**	**09 30 27.6**	**-1.1**
SLVN				lAmb	lAmb	09 30 38.2	
	comp=Z,13nm,0.9s						
PHRA	**Phrae**	**16.99**	**146**	Pn	**Pn**	**09 30 30.1**	**-1.4**
BTK	**Batken**	**17.17**	**300**	P	**Pn**	**09 30 34.2**	**+0.4**
BTK				lAmb	lAmb	09 30 45.6	
	comp=Z,28nm,1.1s						
BTK	**Batken**	**17.17**	**300**	P	**Pn**	**09 30 34.2**	**+0.4**
BTK				pmax	pmax		
	comp=Z,28nm,1.1s						
GAR	**Garm**	**17.25**	**296**	P	**Pn**	**09 30 34.9**	**0.0**
GAR				lAmb	lAmb	09 30 43.6	
	comp=Z,15nm,1.2s						
KBL	**Kabul**	**17.78**	**281**	P	**Pn**	**09 30 42.0**	**+0.4**
KBL	**Kabul**	**17.78**	**281**	P	**Pn**	**09 30 42.0**	**+0.4**
KBL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CHGR	**Chuyangaron**	**18.06**	**294**	P	**Pn**	**09 30 44.8**	**-0.1**
CHGR				lAmb	lAmb	09 30 57.4	
	comp=Z,13nm,0.9s						
CHGR	**Chuyangaron**	**18.06**	**294**	P	**Pn**	**09 30 44.8**	**-0.1**
CHGR				pmax	pmax		
	comp=Z,13nm,0.9s						
SIMJ	**Simiganj**	**18.18**	**294**	P	**Pn**	**09 30 46.3**	**-0.1**
KK31	**Karatay Array**	**18.53**	**308**	P	**Pn**	**09 30 50.7**	**+0.2**
KK31	**Karatay Array**	**18.53**	**308**	P	**Pn**	**09 30 50.7**	**+0.2**
KK31				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KKAR	**Karatay Array**	**18.53**	**308**	P	**P**	**09 30 50.5**	**+0.2**
KKAR	**Karatay Array**	**18.53**	**308**	P	**P**	**09 30 50.5**	**+0.2**
KKAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**18.61**	**59**	eP	**Pn**	**09 30 51.5**	**-0.1**
HHC				S	**S**	**09 34 22.3**	**-1.3**
HHC				SS	**SnSn**	**09 34 44.5**	**+11**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,73nm,5.0s						
HHC				LR	LR		
	comp=Z,88nm,8.0s						
HHC				LR	LR		
	comp=Z,210nm,8.4s						
HHC				LR	LR		
	comp=Z,140nm,8.4s						
SONM	**Songino Array**	**19.09**	**35**	P	**P**	**09 30 56.1**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=207,slow=11,SNR=2.6						
SONM				LR	LR	09 39 07.7	
	comp=Z,270nm,20.1s,baz=206,slow=40						
	comp=Z,0.9nm,0.7s						
ULN	**Ulaanbaatar**	**19.43**	**36**	P	**P**	**09 31 00.2**	**-0.1**
ULN				lAmb	lAmb	09 31 06.7	
	comp=Z,8.4nm,1.1s						
ULN	**Ulaanbaatar**	**19.43**	**36**	*ce*P	**P**	**09 30 59.6**	**-0.7**
ULN				pmax	pmax		
	comp=Z,11nm,1.3s						
KURBB	**Kurchatov Arra**	**19.59**	**337**	P	**Pn**	**09 31 03.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=158,slow=11,SNR=7.2						
	comp=Z,0.7nm,0.7s						
KURK	**Kurchatov**	**19.64**	**337**		**P**	**09 31 01.6**	**-0.8**
KURK	**Kurchatov**	**19.64**	**337**	*ce*P	**Pn**	**09 31 04.0**	**+0.2**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MOY	**Mondy**	**20.14**	**19**	*e*P	Pn	09 31 13.5	+3.6
MOY				pmax	pmax		
	comp=Z,16nm,2.4s						
HNS	**HongShan**	**20.33**	**71**	⇓P	Pn	09 31 15.5	+3.4
HNS				LR	LR		
	comp=Z,180nm,8.0s						
HNS				LR	LR		
	comp=Z,480nm,11.2s						
HNS				LR	LR		
	comp=Z,480nm,11.2s						
ZALV	**Zalesovo Beam**	**21.25**	**351**	P	**P**	**09 31 22.0**	**+2.2**
ZALV	**Zalesovo Beam**	**21.25**	**351**	P	**P**	**09 31 22.0**	**+2.2**
	comp=Z,2.4nm,0.9s,baz=170,slow=9.0,SNR=7.7						
ZALV				LR	LR	09 39 52.3	
	comp=Z,119nm,18.5s,baz=212,slow=37						
	comp=Z,2.4nm,0.9s						
QIZ	**Qiongzhong**	**22.34**	**124**	P	**P**	**09 31 31.0**	**-0.9**
QIZ				S	**S**	**09 35 36.5**	**-1.1**
QIZ				LR	LR		
	comp=Z,290nm,8.6s						
QIZ				LR	LR		
	comp=Z,390nm,8.6s						
QIZ				LR	LR		
	comp=Z,480nm,9.6s						
HRA	**Herat**	**23.40**	**281**	P	**P**	**09 31 42.3**	**-0.8**
HRA				lAmb	lAmb	09 32 00.6	
	comp=

	comp=Z,2.1nm,0.7s							
ABKAR	**Akbulak array**	**27.79**	**315**	P	**P**	09 32 22.2	-0.6	
KSRS	**Korea Array**	**30.84**	**71**	LR	LR	09 45 07.4		
	comp=Z,52nm,19.2s,baz=275,slow=36							
ARU	**Arti**	**32.01**	**326**	*i* P	**P**	**09 33 01.4**	**+1.4**	
ARU				pmax	pmax			
	comp=Z,6.0nm,1.2s							
KLR	**Kul'dur**	**34.61**	**50**	*ce*P	**P**	**09 33 22.3**	**-0.5**	
KLR				pmax	pmax			
	comp=Z,3.0nm,1.3s							
MAK	**Makhachkala**	**34.86**	**299**	*e*P	**P**	**09 33 21.0**	**-4.0**	
MAK				*e*S	**S**	**09 38 50.1**	**-5.8**	
KKM	**Kota Kinabalu**	**36.06**	**133**	P	**P**	**09 33 34.5**	**-1.2**	
BELG	**Belogornoye**	**36.19**	**315**	*i* P	**P**	**09 33 38.0**	**+1.6**	
BELG				pmax	pmax			
	comp=Z,3.0nm,1.1s							
BELG	**Belogornoye**	**36.19**	**315**	LR	LR	09 50 10.0		
	comp=Z,81nm,20.8s,baz=87,slow=39							
NRIK	**Noril'sk**	**36.36**	**358**	*ce*P	**P**	**09 33 37.3**	**-0.3**	
NRIK				pmax	pmax			
	comp=Z,4.0nm,1.0s							
NRIK	**Noril'sk**	**36.36**	**358**	P	**P**	**09 33 38.7**	**+1.1**	
	comp=Z,1.7nm,0.6s,baz=236,slow=3.6,SNR=1.9							
NRIK				LR	LR	09 49 23.3		
	comp=Z,117nm,20.4s,baz=172,slow=38							
	comp=Z,1.7nm,0.6s							
KSM	**Kuching**	**36.58**	**145**	P	**P**	**09 33 38.8**	**-1.3**	
KIRV	**Kirov**	**37.37**	**326**	*i* P	**P**	**09 33 47.9**	**+1.6**	
ONI	**Oni**	**37.84**	**298**	P	**P**	**09 33 50.2**	**-0.3**	
ONI				IAmb	IAmb	09 33 59.0		
	comp=Z,6.7nm,0.9s							
ONI	**Oni**	**37.84**	**298**	P	**P**	**09 33 50.3**	**-0.3**	
ONI				pmax	pmax			
	comp=Z,7.0nm,0.9s							
YAK	**Yakutsk**	**38.27**	**29**	LR	LR	09 50 43.5		
	comp=Z,106nm,20.2s,baz=274,slow=38							
PMBI	**Palembang**	**38.30**	**156**	P	**P**	**09 33 53.2**	**-1.4**	
MJAR	**Matsushiro Arr**	**39.13**	**71**	LR	LR	09 50 20.1		
	comp=Z,35nm,20.9s,baz=242,slow=37							
JHJ	**Hachijo jima 2**	**41.09**	**76**	LR	LR	09 50 52.4		
	comp=Z,39nm,18.1s,baz=275,slow=36							
DAV	**Davao City (W)**	**41.64**	**121**	LR	LR	09 52 21.0		
	comp=Z,48nm,18.2s,baz=354,slow=37							
ASAJ	**Asahikawa**	**41.66**	**59**	LR	LR	09 52 10.7		
	comp=Z,83nm,18.2s,baz=293,slow=37							
KLMR	**Klimovskoe**	**42.86**	**326**	*e*P	**P**	**09 34 33.1**	**+1.3**	
KLMR				pmax	pmax			
	comp=Z,12nm,0.9s							
OBN	**Obninsk**	**43.16**	**317**	*e*P	**P**	**09 34 35.3**	**+1.0**	
OBN				*e**PP	**pP**	**09 34 38.0**	**-1.0**	
OBN				*e**SP	**sP**	**09 34 41.5**	**+0.6**	
OBN						09 36 15.0		
OBN						09 36 22.0		
OBN				S	**S**	**09 40 59.0**	**-1.6**	
OBN				SS	**SnSn**	**09 44 27.0**	**-2.8**	
OBN				SSS	SSS	09 45 01.0		
OBN				pmax	pmax			
	comp=Z,8.0nm,0.5s							
OBN				MLR	MLR			
	comp=Z,97nm,18.0s							
TIXI	**Tiksi**	**43.68**	**17**	*ce*P	**P**	**09 34 39.2**	**+0.9**	
TIXI				pmax	pmax			
	comp=Z,9.0nm,2.5s							
TIXI	**Tiksi**	**43.68**	**17**	LR	LR	09 53 44.3		
	comp=Z,91nm,19.9s,baz=222,slow=37							
BR131	**Keskin Array S**	**45.50**	**295**	P	**P**	**09 34 53.7**	**+0.3**	
BR131				IAmb	IAmb	09 34 59.7		
	comp=Z,3.9nm,0.9s							
BR131	**Keskin Array S**	**45.50**	**295**	P	**P**	**09 34 53.7**	**+0.3**	
BR131				pmax	pmax			
	comp=Z,4.0nm,0.9s							
BRTR	**Keskin Array B**	**45.50**	**295**	P	**P**	**09 34 53.6**	**+0.1**	
BRTR	**Keskin Array B**	**45.50**	**295**	P	**P**	**09 34 55.0**	**+1.5**	
	comp=Z,2.0nm,0.8s,baz=94,slow=10,SNR=9.0							
	comp=Z,2.0nm,0.8s							
VALR	**Valaam**	**47.06**	**325**	*i* P	**P**	**09 35 07.4**	**+2.2**	
VALR				pmax	pmax			
	comp=Z,21nm,1.0s							
MDUB	**Mudurnu**	**47.20**	**297**	P	**P**	**09 35 04.8**	**-2.1**	
MA2	**Magadan**	**47.28**	**37**	LR	LR	09 56 35.7		
	comp=Z,113nm,19.4s,baz=227,slow=38							
AKASG	**Malin Array Be**	**47.41**	**311**	P	**P**	**09 35 09.8**	**+1.7**	
	comp=Z,2.3nm,0.8s,baz=82,slow=6.5,SNR=9.3							
	comp=Z,2.3nm,0.8s							
AKBB	**Malin Array Si**	**47.41**	**311**	*i* P	**P**	**09 35 10.6**	**+2.5**	
AKBB				pmax	pmax			
	comp=Z,5.0nm,0.9s							
SEY	**Seymchan**	**48.47**	**33**	LR	LR	09 57 07.2		
	comp=Z,93nm,18.8s,baz=348,slow=38							
VSU	**Vasula**	**48.85**	**321**	*i* P	**P**	**09 35 19.4**	**+0.2**	
VSU				pmax	pmax			
	comp=Z,33nm,2.8s							
ELL	**Elmali**	**49.00**	**292**	P	**P**	**09 35 20.9**	**+0.1**	
ELL	**Elmali**	**49.00**	**292**	P	**P**	**09 35 20.9**	**+0.1**	
ELL				pmax	pmax			
	comp=Z,32nm,1.0s							
FIA1	**FINESS Array S**	**49.36**	**325**	P	**P**	**09 35 23.3**	**+0.3**	
FINES	**FINESS Array B**	**49.36**	**325**	P	**P**	**09 35 23.1**	**0.0**	
FINES	**FINESS Array B**	**49.36**	**325**	P	**P**	**09 35 23.1**	**0.0**	
FINES	**FINESS Array B**	**49.36**	**325**	P	**P**	**09 35 22.8**	**-0.2**	
	comp=Z,1.0nm,0.8s,baz=108,slow=8.9,SNR=2.1							
	comp=Z,1.0nm,0.8s							
ARG	**Arkhangelos**	**50.53**	**292**	P	**P**	**09 35 32.7**	**+0.4**	
ARG	**Arkhangelos**	**50.53**	**292**	P	**P**	**09 35 32.7**	**+0.4**	
ARG				pmax	pmax			
	comp=Z,35nm,1.1s							
VYHS	**Vyhne**	**54.38**	**309**	*e*P	**P**	**09 36 01.6**	**+0.9**	
VYHS	**Vyhne**	**54.38**	**309**	*e*P	**P**	**09 36 01.6**	**+0.9**	
NB2	**NORSAR Subarra**	**56.55**	**325**	P	**P**	**09 36 16.7**	**+0.6**	
	comp=Z,3.9nm,1.0s,baz=80,slow=6.9							
NOA	**NORSAR Array B**	**56.55**	**325**	P	**P**	**09 36 16.7**	**+0.6**	
	comp=Z,3.8nm,1.1s,baz=82,slow=7.0,SNR=6.4							
NOA				LR	LR	10 01 51.8		
	comp=Z,34nm,18.6s,baz=105,slow=37							
	comp=Z,3.8nm,1.1s							
GERES	**GERESS Array B**	**57.62**	**310**	P	**P**	**09 36 26.1**	**+2.2**	
	comp=Z,2.9nm,0.7s,baz=60,slow=7.9,SNR=13							
	comp=Z,2.9nm,0.7s							
WRA	**Warramunga Arr**	**67.39**	**135**	*i* P	**P**	**09 37 29.0**	**-0.5**	
WRA				pmax	pmax			
	comp=Z,7.0nm,1.0s							
WRA	**Warramunga Arr**	**67.39**	**135**	P	**P**	**09 37 28.8**	**-0.7**	
	comp=Z,6.4nm,1.0s,baz=330,slow=6.6,SNR=26							
	comp=Z,6.4nm,1.0s							
ASAR	**Alice Springs**	**70.04**	**138**	P	**P**	**09 37 46.0**	**0.0**	
ASAR	**Alice Springs**	**70.04**	**138**	P	**P**	**09 37 46.0**	**0.0**	
	comp=Z,8.2nm,0.8s,baz=324,slow=6.1,SNR=65							
	comp=Z,8.2nm,0.8s							
ESDC	**Sonseca Array**	**72.76**	**306**	P	**P**	**09 38 03.7**	**+1.3**	
	comp=Z,2.0nm,0.8s,baz=44,slow=6.6,SNR=7.0							
	comp=Z,2.0nm,0.8s							
ILAR	**Eielson Array**	**72.79**	**22**	P	**P**	**09 38 03.1**	**+1.1**	
	comp=Z,0.6nm,0.9s,baz=308,slow=5.3,SNR=6.7							
	comp=Z,0.6nm,0.9s							
STKA	**Stephens Creek**	**80.68**	**138**	P	**P**	**09 38 46.2**	**-0.7**	
	comp=Z,2.3nm,0.7s,baz=295,slow=1.5,SNR=6.8							
	comp=Z,2.3nm,0.7s							
TORD	**Torodi Ar. Bea**	**81.85**	**280**	P	**P**	**09 38 53.1**	**-0.5**	
	comp=Z,0.6nm,0.6s,baz=42,slow=5.8,SNR=4.5							
	comp=Z,0.6nm,0.6s							
FRB	**Frobisher Bay**	**82.08**	**351**	LR	LR	10 18 29.7		
	comp=Z,36nm,20.3s,baz=202,slow=38							
YKA	**Yellowknife Ar**	**82.68**	**11**	P	**P**	**09 38 57.4**	**+0.2**	
	comp=Z,1.0nm,0.8s,baz=332,slow=5.0,SNR=17							
	comp=Z,1.0nm,0.8s							
BOSA	**Boshof**	**87.02**	**233**	P	**P**	**09 39 19.2**	**-0.4**	
	comp=Z,5.1nm,0.9s,baz=43,slow=2.3,SNR=5.9							
	comp=Z,5.1nm,0.9s							
TXAR	**Lajitas Array**	**116.53**	**14**	PKP	**PKPdf**	**09 45 18.2**	**-0.2**	
	comp=Z,0.4nm,1.0s,baz=222,slow=1.7,SNR=3.7							
CPUP	**Villa Florida**	**151.22**	**275**	PKPbc	**PKPbc**	**09 46 26.3**	**-1.4**	
	comp=Z,3.9nm,0.9s,baz=46,slow=4.2,SNR=7.3							

JMA 31 09:32:56.0±0.2, 38°2N±0°.7×144°.6E±0°.9, h42km, MV3.5/32, FAR E OFF NORTH HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.45**	**291**	*i* P	Pn	09 33 35.0	+1.5
JIKH	**Ishinomakikobu**	**2.48**	**273**	P	Pn	09 33 35.1	+1.2
JIKH				S	Sn	09 34 04.1	+1.3
JKMT	**Kesennumamotoy**	**2.53**	**284**	P	Pn	09 33 35.9	+1.4
JKMT				S	Sn	09 34 05.6	+1.6
MIYJ	**Miyakonagasawa**	**2.56**	**302**	*i* P	Pn	09 33 36.2	+1.3
JMK	**Ichinoseki**	**2.75**	**286**	*i* P	Pn	09 33 39.4	+1.8
JMK				*e*S	Sn	09 34 11.7	+2.1
JOM	**Ohasama**	**2.87**	**297**	*i* P	Pn	09 33 41.0	+1.7
JANG	**Nango**	**3.21**	**313**	P	Pn	09 33 45.7	+1.7
JYK	**Kaneyama**	**3.40**	**283**	P	Pn	09 33 48.8	+2.2
JYK				S	Sn	09 34 28.5	+2.9
JOTO	**OTAMA OYAMA**	**3.45**	**260**	P	Pn	09 33 49.7	+2.4
JOTO				S	Sn	09 34 29.4	+2.5
JCH	**Churui**	**4.48**	**348**	P	Pn	09 34 01.5	+0.3
JCH				S	Sn	09 34 50.7	-1.3
BSO1	**Boso 1**	**4.62**	**220**	*e*S	Sn	09 34 56.1	+1.2
JRY	**Ryogami san**	**5.07**	**246**	P	Pn	09 34 10.9	+1.4
JRY				S	Sn	09 35 06.2	-0.6
NEM2	**Nemuro 2**	**5.20**	**9**	*e*P	Pn	09 34 08.5	-2.6
NEM2				S	Sn	09 35 04.7	-5.1
JOD2	**Odawara 2**	**5.33**	**238**	*e*P	Pn	09 34 14.9	+1.8
JOD2				S	Sn	09 35 11.9	-1.4
JOSM	**Okushiri--Mats**	**5.50**	**316**	*e*P	Pn	09 34 17.8	+2.5
JTKR	**Abashiri--Toko**	**5.75**	**355**	*e*P	Pn	09 34 18.2	-0.6
JTKR				*e*S	Sn	09 35 20.5	-3.0

IDC 31 09:36:28.8±9.4, 3°.49S×146°.63E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=314.8km s-min=31.8km az=98.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.28**	**215**	P	P	09 41 06.1	-0.1
	0.6nm,0.9s,baz=42,slow=11,SNR=5.2						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**23.53**	**210**	P	P	09 41 41.0	+0.1
	0.6nm,0.7s,baz=43,slow=7.8,SNR=10						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**75.34**	**320**	P	P	09 48 14.2	0.0
	0.2nm,0.6s,baz=122,slow=5.2,SNR=2.4						
	0.2nm,0.6s						

IDC 31 09:41:41.4±2.3, 43°.82S×16°.14W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=85.3km s-min=31.7km az=62.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**37.51**	**284**	P	P	09 48 56.9	-0.1
	1.7nm,0.7s,baz=120,slow=9.5,SNR=3.7						
	1.7nm,0.7s						
QSPA	**South Pole Qui**	**46.45**	**180**	P	P	09 50 09.8	+0.1
	3.5nm,0.8s,baz=211,slow=2.3,SNR=20						
	3.5nm,0.8s						
H04S2	**CROZET ISLANDS**	**46.55**	**119**	T	T	10 40 26.4	
	baz=248,slow=74,SNR=4.0						
H04S3	**CROZET ISLANDS**	**46.56**	**119**	T	T	10 40 31.6	
	baz=248						
H04S1	**CROZET ISLANDS**	**46.57**	**119**	T	T	10 40 27.2	
	baz=248,slow=74,SNR=5.3						
VNDA	**Vanda**	**58.93**	**179**	P	P	09 51 41.4	-0.4
	0.8nm,1.0s,baz=191,slow=8.0,SNR=2.3						
	0.8nm,1.0s						
ILAR	**Eielson Array**	**145.68**	**325**	PKPbc	PKPdf	10 01 20.1	-0.5
	1.2nm,0.7s,baz=90,slow=2.3,SNR=13						

IDC 31 09:50:51.6±1.1, 43°.73S×16°.22W, h0km, mb4.1/5, mbtmp4.1/5, MS3.6/2, Error ellipse: s-maj=33.4km s-min=29.1km az=85.0

ISC 31 09:50:53.2±1.1, 43°.7S±0°.2×16°.3W±0°.2, h10km, n11, σ1§04/6, mb4.1/5, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**37.41**	**284**	P	**P**	**09 58 06.5**	**+0.2**
	2.4nm,0.8s,baz=100,slow=8.1,SNR=5.5						
	2.4nm,0.8s						
QSPA	**South Pole Qui**	**46.53**	**180**	P	**P**	**09 59 20.3**	**-0.2**
	4.4nm,0.8s,baz=218,slow=2.9,SNR=26						
	4.4nm,0.8s						
H04S2	**CROZET ISLANDS**	**46.67**	**119**	T	T	10 49 30.5	
	baz=247						
H04S3	**CROZET ISLANDS**	**46.68**	**119**	T	T	10 49 30.5	
	baz=247,slow=74,SNR=2.5						
H04S1	**CROZET ISLANDS**	**46.69**	**119**	T	T	10 49 32.2	
	baz=247,slow=74,SNR=2.9						
SIV	**San Ignacio**	**46.91**	**292**	P	**P**	**09 59 24.0**	**+0.1**
	1.3nm,0.7s,baz=126,slow=13,SNR=7.8						
	1.3nm,0.7s						
LPAZ	**La Paz**	**51.55**	**285**	LR	LR	10 21 39.1	
	comp=Z,70nm,18.1s,baz=173,slow=36						
TORD	**Torodi Ar. Bea**	**58.93**	**21**	P	**P**	**10 00 51.6**	**-1.0**
	1.0nm,0.9s,baz=195,slow=5.6,SNR=5.2						
	1.0nm,0.9s						
NNA	**Nana**	**60.62**	**282**	LR	LR	10 26 55.4	
	comp=Z,40nm,20.2s,baz=138,slow=36						
BRTR	**Keskin Array B**	**94.50**	**36**	P	**P**	**10 04 14.8**	**+1.3**
	0.3nm,0.4s,baz=242,slow=3.1,SNR=3.9						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**145.56**	**325**	PKPbc	**PKPbc**	**10 10 30.0**	**-0.6**
	1.7nm,0.6s,baz=69,slow=2.6,SNR=28						

IDC 31 09:57:58.2±1.3, 54°.61N×159°.82W, h0km, mb3.6/10, mbtmp3.7/14, ML3.8/4, MS3.2/1, Error ellipse: s-maj=30.9km s-min=16.3km az=176.0
AEIC 31 09:58:02.5±1.1, 54°.52N±0°.06×159°.51W±0°.08, h17km±6km, Error ellipse: s-maj=9.1km s-min=6.6km az=171.0
NEIC 31 09:58:02.7±1.1, 54°.57N±0°.06×159°.51W±0°.06, h28km±8km, mb3.7/15, ML3.7/26, ML3.5(AEIC), Error ellipse: s-maj=10.4km s-min=3.3km az=154.0

ISC 31 09:58:03.3±1.1, 54°.67N±0°.07×159°.48W±0°.05, h33km±3km, n215, σ1§18/215, mb3.8/12, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.17**	**338**		**Pb**	**09 58 09.2**	**-0.3**
CNBA					**Sb**	**09 58 14.6**	**+0.8**
CNBA				IAML		09 58 14.8	
	comp=E,7μm,0.5s						
CHNA	**Chernabura Isl**	**0.18**	**340**	P	**Pb**	**09 58 09.3**	**-0.4**
	baz=171						
CHNA				S	**Sb**	**09 58 14.3**	**+0.3**
	baz=171						
SDPT	**Sand Point**	**0.89**	**321**	P	**Pn**	**09 58 19.3**	**-0.2**
SDPT	**Sand Point**	**0.89**	**321**		**Pn**	**09 58 19.1**	**-0.4**
SDPT					**Sn**	**09 58 32.5**	**+1.3**
SDPT	**Sand Point**	**0.89**	**321**	P	**Pn**	**09 58 19.3**	**-0.2**
	baz=146						
SDPT				S	**Sb**	**09 58 32.2**	**+0.3**
	baz=146						
VNKR	**Veniaminof 5**	**1.37**	**3**		**Pn**	**09 58 27.7**	**+1.6**
PS1A	**Pavlof South-1**	**1.50**	**301**		**Pn**	**09 58 27.9**	**0.0**
PS1A					**Sn**	**09 58 47.9**	**+1.6**
PVV	**Pavlof Volcano**	**1.51**	**299**		**Pn**	**09 58 27.6**	**-0.3**
PVV					**Sn**	**09 58 47.6**	**+1.2**
PS4A	**Pavlof South-4**	**1.53**	**297**		**Pn**	**09 58 27.9**	**-0.3**
PS4A					**Sn**	**09 58 48.1**	**+1.1**
HAG	**Hague Volcano**	**1.54**	**296**		**Pn**	**09 58 28.2**	**-0.2**
HAG					**Sn**	**09 58 48.5**	**+1.3**
S14K	**Fog Glacier**	**1.62**	**359**	P	**Pn**	**09 58 31.7**	**+2.1**
	baz=179						
VNFG	**Fog Glacier, M**	**1.62**	**359**		**Pb**	**09 58 32.1**	**-0.6**
PN7A	**Pavlof North-7**	**1.64**	**299**		**Pn**	**09 58 30.1**	**+0.3**
CHGN	**Chignik**	**1.75**	**20**	Pn	**Pn**	**09 58 32.3**	**+1.1**
CHGN				IAML		09 59 04.4	
	comp=N,578nm,0.6s						
S12K	**Black Hills**	**1.81**	**306**		**Pn**	**09 58 32.5**	**+0.4**
S12K				IAML		09 58 58.8	
	comp=E,992nm,0.5s						
S12K				IAML		09 59 01.6	
	comp=N,793nm,0.5s						
S12K	**Black Hills**	**1.81**	**306**	P	**Pn**	**09 58 32.5**	**+0.4**
	baz=128						
S12K				S	**Sn**	**09 58 56.3**	**+2.4**
	baz=128						
FALS	**False Pass**	**2.29**	**276**	P	**Pn**	**09 58 37.8**	**-0.9**
FALS	**False Pass**	**2.29**	**276**	Pn	**Pn**	**09 58 37.7**	**-0.9**
FALS	**False Pass**	**2.29**	**276**	P	**Pn**	**09 58 37.6**	**-1.1**
	baz=97						
ANNE	**Aniakchak Nort**	**2.39**	**19**		**Pn**	**09 58 41.7**	**+1.6**
ISLZ	**Isanotski Laza**	**2.45**	**273**		**Pn**	**09 58 40.0**	**-1.1**
CHIR	**Chirikof Islan**	**2.50**	**61**	Pn	**Pn**	**09 58 41.9**	**+0.4**
CHIR				IAML		09 59 35.4	
	comp=N,241nm,0.9s						
CHIR				IAML		09 59 40.7	
	comp=E,309nm,0.7s						
CHIR	**Chirikof Islan**	**2.50**	**61**	P	**Pn**	**09 58 41.9**	**+0.4**
	baz=241						
ISNN	**Isanotski Nort**	**2.50**	**276**		**Pn**	**09 58 41.3**	**-0.2**
SSLS	**Shishaldin Sou**	**2.62**	**273**		**Pn**	**09 58 43.0**	**-0.3**
WEBT	**Westdahl Beart**	**3.06**	**271**		**Pn**	**09 58 49.0**	**-0.3**
WECS	**Westdahl Cape**	**3.08**	**270**		**Pn**	**09 58 49.3**	**-0.4**
R16K	**Pilot Point**	**3.10**	**19**		**Pn**	**09 58 51.1**	**+1.4**
R16K				IAML		09 59 35.8	
	comp=E,225nm,0.8s						
R16K				IAML		10 00 01.7	
	comp=N,312nm,1.2s						
R16K	**Pilot Point**	**3.10**	**19**	P	**Pn**	**09 58 51.4**	**+1.6**
	baz=200						
SII	**Sitkinak Islan**	**3.55**	**56**	P	**Pn**	**09 58 56.6**	**+0.5**
SII	**Sitkinak Islan**	**3.55**	**56**	Pn	**Pn**	**09 58 56.5**	**+0.5**
SII				IAML		10 00 20.9	
	comp=E,218nm,0.7s						
SII	**Sitkinak Islan**	**3.55**	**56**	P	**Pn**	**09 58 56.5**	**+0.5**
	baz=238						
AKSA	**Akutan Strait**	**3.67**	**264**		**Pn**	**09 58 57.3**	**-0.3**
AKUT	**Akutan**	**3.71**	**264**	P	**Pn**	**09 58 58.0**	**-0.2**
Q17K	**Contact Creek**	**4.12**	**27**	P	**Pn**	**09 59 05.5**	**+1.6**
	baz=210						
CNTC	**Contact Creek**	**4.12**	**27**		**Pn**	**09 59 05.5**	**+1.5**
ANCK	**Angle Creek**	**4.18**	**30**		**Pn**	**09 59 06.5**	**+1.8**
UNV	**Unalaska Valle**	**4.20**	**262**	P	**Pn**	**09 59 03.8**	**-1.1**
UNV	**Unalaska Valle**	**4.20**	**262**		**Pn**	**09 59 03.5**	**-1.4**
UNV	**Unalaska Valle**	**4.20**	**262**	P	**Pn**	**09 59 03.6**	**-1.4**
	baz=78						
ACHA	**Angle Creek He**	**4.24**	**31**		**Pn**	**09 59 07.2**	**+1.7**
Q16K	**King Salmon**	**4.31**	**20**		**Pn**	**09 59 08.0**	**+1.6**
Q16K	**King Salmon**	**4.31**	**20**	P	**Pn**	**09 59 08.0**	**+1.6**
	baz=202						
OHAK	**Old Harbor**	**4.32**	**51**	Pn	**Pn**	**09 59 07.3**	**+0.7**
OHAK	**Old Harbor**	**4.32**	**51**	P	**Pn**	**09 59 06.9**	**+0.3**
	baz=235						
KAKN	**Katmai Knife C**	**4.39**	**32**		**Pn**	**09 59 09.3**	**+1.7**
MAPS	**Pakushin South**	**4.46**	**262**		**Pn**	**09 59 07.4**	**-1.1**
O15K	**Ungalikthiuk R**	**4.53**	**358**		**Pn**	**09 59 10.7**	**+1.3**
O15K	**Ungalikthiuk R**	**4.53**	**358**	P	**Pn**	**09 59 10.7**	**+1.3**
	baz=178						
O14K	**Tigyukauivet M**	**4.70**	**349**		**Pn**	**09 59 13.1**	**+1.3**
O14K				IAML		10 00 35.1	
	comp=E,66nm,1.8s						
O14K				IAML		10 00 53.2	
	comp=N,70nm,1.4s						
O14K	**Tigyukauivet M**	**4.70**	**349**	P	**Pn**	**09 59 13.1**	**+1.3**
	baz=168						
KDAK	**Kodiak Island**	**4.96**	**48**	Pn	**Pn**	**09 59 15.6**	**+0.2**
KDAK				IAML		10 00 43.2	
	comp=N,35nm,1.2s						
KDAK	**Kodiak Island**	**4.96**	**48**	Pn	**Pn**	**09 59 15.5**	**+0.2**
	comp=N,2.9nm,0.3s,baz=202,slow=5.3,SNR=138						
KDAK				Sn	**Sn**	**10 00 11.2**	**-0.1**
	comp=N,1.7nm,0.3s,baz=57,slow=22,SNR=5.8						
	comp=N,6.3nm,0.3s						
O16K	**Kokwok River B**	**5.00**	**8**		**Pn**	**09 59 16.9**	**+1.0**
O16K				IAML		10 00 55.6	
	comp=E,45nm,0.9s						
O16K				IAML		10 01 06.7	
	comp=N,33nm,0.8s						
P18K	**Big Mountain,**	**5.28**	**24**	Pn	**Pn**	**09 59 21.7**	**+1.9**
P18K	**Big Mountain,**	**5.28**	**24**	P	**Pn**	**09 59 21.0**	**+1.3**
	baz=207						
O17K	**Koliganek Bris**	**5.28**	**13**		**Pn**	**09 59 20.6**	**+0.9**
O17K	**Koliganek Bris**	**5.28**	**13**	P	**Pn**	**09 59 20.6**	**+0.9**
	baz=195						
Q19K	**Cape Douglas,**	**5.34**	**35**	Pn	**Pn**	**09 59 21.8**	**+1.1**
Q19K	**Cape Douglas,**	**5.34**	**35**	P	**Pn**	**09 59 21.9**	**+1.3**
	baz=219						
N14K	**Kuskokwak Cree**	**5.41**	**348**		**Pn**	**09 59 22.3**	**+0.9**
N14K	**Kuskokwak Cree**	**5.41**	**348**	P	**Pn**	**09 59 22.3**	**+0.9**
	baz=167						
N15K	**Kwethluk River**	**5.53**	**357**		**Pn**	**09 59 25.0**	**+1.8**
Q20K	**Shuyak Island**	**5.56**	**42**	P	**Pn**	**09 59 24.2**	**+0.6**
	baz=227						
SYI	**Shuyak Island**	**5.56**	**42**	Pn	**Pn**	**09 59 24.2**	**+0.6**
O18K	**Koktuh Hills**	**5.69**	**22**	Pn	**Pn**	**09 59 26.6**	**+1.2**
O18K	**Koktuh Hills**	**5.69**	**22**	P	**Pn**	**09 59 26.6**	**+1.2**
	baz=205						
N16K	**Nishlik Lake**	**5.84**	**3**		**Pn**	**09 59 28.5**	**+1.1**
N16K	**Nishlik Lake**	**5.84**	**3**	P	**Pn**	**09 59 28.5**	**+1.1**
	baz=184						
N17K	**Nushagak Hills**	**6.00**	**11**		**Pn**	**09 59 31.2**	**+1.6**
N17K	**Nushagak Hills**	**6.00**	**11**	P	**Pn**	**09 59 31.3**	**+1.6**
	baz=193						
P19K	**Oil Pt**	**6.04**	**32**	Pn	**Pn**	**09 59 31.3**	**+1.0**
P19K	**Oil Pt**	**6.04**	**32**	P	**Pn**	**09 59 31.9**	**+1.6**
	baz=216						
M15K	**Kasigluk River**	**6.08**	**354**		**Pn**	**09 59 30.8**	**+0.1**
M15K	**Kasigluk River**	**6.08**	**354**	P	**Pn**	**09 59 30.8**	**+0.1**
	baz=174						
M13K	**Dall Lake**	**6.13**	**342**		**Pn**	**09 59 32.2**	**+0.9**
M13K	**Dall Lake**	**6.13**	**342**	P	**Pn**

GRNC	Granite Creek	11.24	50			Pn	10 00 42.9	+1.3
WRH	Wood River Hil	11.38	26	Pn		Pn	10 00 42.1	-1.2
TABL	Table Mountain	11.40	52			Pn	10 00 43.8	0.0
BARN	Barnard Glacie	11.43	49	Pn		Pn	10 00 45.0	+0.8
H21K	Melozitna Rive	11.51	14	Pn		Pn	10 00 46.6	+1.6
CTGM	Chitina Glacie	11.53	50	Pn		Pn	10 00 45.7	+0.2
M26K	Nabesna, AK	11.56	41			Pn	10 00 46.8	+1.0
MENT	Mentasta	11.61	38			Pn	10 00 47.0	+0.5
HDA	Harding Lake	11.63	28	Pn		Pn	10 00 44.9	-1.8
I23K	Minto, Yukon-K	11.65	22	Pn		Pn	10 00 46.8	-0.2
IMAR	Indian Mountai	11.70	12	Pn		Pn	10 00 48.5	+1.0
MDM	Murphy Dome	11.75	24	Pn		Pn	10 00 47.5	-0.8
RIDG	Independent Ri	11.76	33			Pn	10 00 49.2	+0.7
L26K	Log Cabin Wild	11.80	36	Pn		Pn	10 00 50.1	+1.1
ILAR	Eielson Array	11.93	27	Pn		Pn	10 00 46.8	-4.1
	comp=N,0.1nm,0.3s,baz=217,slow=13,SNR=12							
ILAR				Sn		Sn	10 02 58.0	-4.6
	baz=198,slow=8.3,SNR=1.4							
	comp=N,0.4nm,0.4s							
BCPM	Bancas Point	11.94	56			Pn	10 00 51.5	+0.5
SCRK	Sand Creek	12.20	34	Pn		Pn	10 00 54.5	-0.1
J25K	Salcha River,	12.23	30			Pn	10 00 53.9	-1.1
L27K	Beaver Creek,	12.38	40			Pn	10 00 57.9	+1.0
BCAR	Beaver Creek A	12.40	40	Pn		Pn	10 00 57.5	+0.3
J26L	Joseph Creek	12.69	33	Pn		Pn	10 01 01.5	+0.2
P29M	Windy Craggy	12.78	58	Pn		Pn	10 01 03.9	+1.4
K27K	Chicken	12.87	36	Pn		Pn	10 01 04.8	+1.2
PRP	Porcupine Dome	12.88	27	Pn		Pn	10 01 04.1	+0.3
S31K	Pelican	13.30	66	Pn		Pn	10 01 09.9	+0.5
I26K	Coal Creek Min	13.38	31	Pn		Pn	10 01 10.8	+0.2
M29M	Somme Creek	13.40	46			Pn	10 01 11.9	+0.9
EGAK	Eagle	13.65	35	Pn		Pn	10 01 13.8	-0.5
SIT	Sitka	13.75	70	Pn		Pn	10 01 14.5	-1.2
FYU	Fort Yukon	13.78	24	Pn		Pn	10 01 16.7	+0.7
DAWY	Dawson	13.85	39			Pn	10 01 18.4	+1.4
SKAG	Skagway	13.95	60	Pn		Pn	10 01 21.0	+2.7
E22K	Anaktuvuk Pass	13.98	12	Pn		Pn	10 01 21.8	+3.0
BESE	Bessie Mountai	14.08	64	Pn		Pn	10 01 22.4	+2.2
N31M	Braeburn, Yuko	14.22	52	Pn		Pn	10 01 23.0	+0.9
JIS	Juneau Island	14.30	65	Pn		Pn	10 01 25.0	+1.9
WHY	Whitehorse	14.41	55			Pn	10 01 26.9	+2.1
I28M	Miner Creek	14.48	34			Pn	10 01 25.5	-0.2
J29N	Klondike Camp	14.49	39			Pn	10 01 26.6	+0.9
P32M	Atlin	14.78	60	Pn		Pn	10 01 31.1	+1.4
U33K	Whale Pass	15.02	74	Pn		Pn	10 01 33.0	+0.2
J30M	Hart River	15.25	40			Pn	10 01 37.8	+1.8
J30M				IAmb		IAmb	10 01 44.7	
	comp=Z,3.3nm,0.8s							
P33M	Teslin, Yukon	15.32	58	Pn		Pn	10 01 38.0	+1.0
P33M				IAmb		IAmb	10 01 53.9	
	comp=Z,6.1nm,0.9s							
H29M	Whitestone	15.47	33			Pn	10 01 38.5	-0.2
H29M				IAmb		IAmb	10 01 56.5	
	comp=Z,3.5nm,0.6s							
FARO	Faro, Yukon	15.54	50			Pn	10 01 40.6	+0.9
FARO				IAmb		IAmb	10 01 57.0	
	comp=Z,5.5nm,1.0s							
I30M	Mount Dempster	15.56	38			Pn	10 01 41.7	+1.7
I30M				IAmb		IAmb	10 01 48.0	
	comp=Z,7.8nm,1.0s							
F28M	Old Crow	15.95	28	Pn		Pn	10 01 45.7	+0.7
H31M	Peel River	16.59	38	P		Pn	10 01 53.4	+0.3
DLBC	Dease Lake	16.60	65	Pn		Pn	10 01 53.1	-0.1
DLBC	Dease Lake	16.60	65	Pn		Pn	10 01 55.2	+1.9
	comp=Z,0.3nm,0.3s,baz=281,slow=10,SNR=7.3							
	comp=Z,1.2nm,0.4s							
G30M	tAoh Zrail Nji	16.61	33	Pn		Pn	10 01 52.8	-0.5
G31M	Satah River	17.21	35	P		Pn	10 01 59.8	-0.9
G31M				IAmb		IAmb	10 02 20.4	
	comp=Z,3.4nm,0.8s							
F31M	Tsiigehtchic	17.67	34	P		Pn	10 02 04.9	-1.5
F31M				IAmb		IAmb	10 02 22.4	
	comp=Z,3.2nm,0.9s							
INK	Inuvik	18.23	31	P		P	10 02 11.8	-1.4
INK	Inuvik	18.23	31	P		P	10 02 12.7	-0.6
	comp=Z,0.3nm,0.3s,baz=242,slow=11,SNR=14							
	comp=Z,1.4nm,0.5s							
C36M	Paulatuk	21.72	34	P		P	10 02 52.2	+1.0
C36M				IAmb		IAmb	10 03 07.7	
	comp=Z,4.8nm,1.1s							
A36M	Sachs Harbour	22.63	27	P		P	10 03 00.8	-0.1
A36M				IAmb		IAmb	10 03 16.5	
	comp=Z,2.2nm,0.8s							
YKA	Yellowknife Ar	24.21	53	P		P	10 03 17.5	+1.1
	comp=Z,0.3nm,0.7s,baz=269,slow=7.2,SNR=10							
	comp=Z,0.3nm,0.7s							
PETK	Petropavlovsk-	25.00	284	P		P	10 03 22.3	-1.5
	comp=Z,3.0nm,0.7s,baz=75,slow=12,SNR=10							
	comp=Z,3.0nm,0.7s							
PDAR	Pinedale Array	34.30	89	P		P	10 04 47.8	+1.2
	comp=Z,0.4nm,0.6s,baz=300,slow=4.6,SNR=6.2							
	comp=Z,0.4nm,0.6s							
YAK	Yakutsk	36.12	311	LR		LR	10 21 15.8	
	comp=Z,37nm,18.2s,baz=352,slow=39							
H11N2	WAKE ISLAND Hy	43.21	230	T		T	10 52 06.1	
	baz=28,slow=76,SNR=31							
H11N3	WAKE ISLAND Hy	43.22	230	T		T	10 52 07.1	
	baz=28,slow=76,SNR=28							
H11N1	WAKE ISLAND Hy	43.23	230	T		T	10 52 09.9	
	baz=28,slow=76,SNR=21							
H11S1	WAKE ISLAND Hy	44.37	229	T		T	10 53 35.2	
	baz=28,slow=76,SNR=16							
H11S2	WAKE ISLAND Hy	44.38	229	T		T	10 53 38.2	
	baz=28,slow=76,SNR=13							
H11S3	WAKE ISLAND Hy	44.39	229	T		T	10 53 36.7	
	baz=28,slow=76,SNR=6.6							
TXAR	Lajitas Array	47.02	99	P		P	10 06 33.1	+1.7
	comp=Z,0.3nm,0.8s,baz=318,slow=1.7,SNR=4.4							
	comp=Z,0.3nm,0.8s							
SONM	Songino Array	55.02	305	P		P	10 07 30.8	-0.4
	comp=Z,1.1nm,0.7s,baz=52,slow=7.7,SNR=4.5							
	comp=Z,1.1nm,0.7s							
KURBB	Kurchatov Arra	64.44	323	P		P	10 08 34.3	-1.6
	comp=Z,0.3nm,0.7s,baz=16,slow=6.9,SNR=3.3							
	comp=Z,0.3nm,0.7s							
BVAR	Borovoye Array	65.00	329	P		P	10 08 39.6	+0.1
	comp=Z,0.9nm,0.7s,baz=45,slow=6.7,SNR=4.4							
	comp=Z,0.9nm,0.7s							
HFS	Hagfors	65.42	4	P		P	10 08 42.6	+0.6
	comp=Z,1.1nm,0.7s,baz=308,slow=7.2,SNR=4.3							
	comp=Z,1.1nm,0.7s							
MKAR	Makanchi Array	66.26	319	P		P	10 08 46.9	-0.9
	comp=Z,0.4nm,0.6s,baz=46,slow=7.1,SNR=5.1							
	comp=Z,0.4nm,0.6s							
AKASG	Malin Array Be	74.75	354	P		P	10 09 39.2	-0.2
	comp=Z,0.5nm,0.4s,baz=3.1,slow=5.2,SNR=2.6							
	comp=Z,0.5nm,0.4s							
H03N2	Juan Fernandez	111.51	118	T		T	12 17 31.8	
	baz=323,slow=77,SNR=12							
H03N1	Juan Fernandez	111.52	118	T		T	12 17 33.3	
	baz=323,slow=77,SNR=13							
H03N3	Juan Fernandez	111.53	118	T		T	12 17 36.9	
	baz=323,slow=77,SNR=15							

*NCEDC **31** 09:59:13.7±1.5,41.18N±0.05×126.10W±0.10,h4km±2km, Error ellipse: s-maj=12.3km s-min=9.2km az=263.0*

NEIC 31 09:59:16.4±1.7,41.22N±0.04×125.69W±0.09,h10km±2km, ML2.2/38,Md2.9/17(NCEDC),Error ellipse: s-maj=11.4km s-min=7.6km az=267.0,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRPM	Rodgers	1.26	92		Pn	09 59 40.0	-0.2
KRPM				IAML		09 59 48.5	
	comp=E,40nm,1.5s						
KRPM				IAML		10 00 02.5	
	comp=N,37nm,1.9s						
JCC	Jacoby Creek,	1.32	107	Pn	Pn	09 59 40.5	-0.4
JCC	Jacoby Creek,	1.32	107		Sg	09 59 59.0	0.0
KRMB	Red Mountain	1.38	77		Pn	09 59 41.5	-0.3
KRMB					Sb	09 59 60.0	-0.1
KMPM	Mount Pierce	1.44	123		Pn	09 59 42.1	-0.5
KMPM				IAML		10 00 03.7	
	comp=E,32nm,0.6s						
KMPM				IAML		10 00 05.8	
	comp=N,35nm,2.1s						
KBO	Bosley Butte	1.48	48	Pn	Pn	09 59 42.2	-1.0
KBO				IAML		10 00 18.9	
	comp=N,51nm,1.8s						
KSXB	Camp Six Broad	1.49	65		Pn	09 59 43.1	-0.3
KSXB				IAML		10 00 16.2	
	comp=E,22nm,3.0s						
KSXB				IAML		10 00 23.4	
	comp=N,21nm,2.6s						
KHMM	Horse Mountain	1.52	103		Pn	09 59 44.3	+0.4
KHMM				IAML		09 59 52.7	
	comp=E,20nm,2.6s						
KCRM	Chalk Rock	1.63	119		Pn	09 59 45.1	-0.1
KOMM	Orleans Mounta	1.69	87		Pb	09 59 47.0	-0.7
KMRM	Mail Ridge	1.81	123	Pn	Pn	09 59 47.8	+0.1
KMRM				IAML		10 00 16.9	
	comp=N,26nm,1.4s						
KMRM				IAML		10 00 19.1	
	comp=E,24nm,2.3s						
L02F	Cave Junction	1.82	60	Pn	Pn	09 59 47.9	0.0
L02F				IAML		10 00 11.2	
	comp=E,15nm,2.6s						
KHBM	Hayfork Bally	1.96	106		Pn	09 59 49.9	0.0
K02D	Willamette Mer	2.11	45	Pn	Pn	09 59 51.7	-0.1
K02D				IAML		10 00 21.5	
	comp=E,17nm,3.5s						
K02D				IAML		10 00 41.1	
	comp=N,12nm,2.8s						
LGPM	Granite Peak	2.19	97		Pn	09 59 53.3	+0.4
N02D	Trinity Center	2.27	95		Pn	09 59 55.0	+0.9
LBKM	Bonanza King	2.29	92		Pn	09 59 55.8	+1.5
YBH	Yreka Blue Hor	2.30	76		Pb	09 59 56.5	-1.6
YBH	Yreka Blue Hor	2.30	76	Pn	Pn	09 59 56.1	+1.7
YBH	Yreka Blue Hor	2.30	76	IAML		10 00 27.0	
	comp=E,10nm,3.8s						
J01E	Myrtle Point	2.34	33	Pn	Pn	09 59 53.6	-1.3
J01E				IAML		10 00 36.1	
	comp=N,18nm,2.0s						
J01E				IAML		10 01 21.7	
	comp=E,20nm,3.2s						
O02D	Mt. Diablo Mer	2.44	114		Pn	09 59 57.1	+0.6
HUMO	Hull Mountain	2.47	55	Pn	Pn	09 59 57.2	+0.5
B040	Montague	2.53	75		Pn	09 59 59.6	+2.0
DBO	Dodson Butte	2.63	43	Pn	Pn	09 59 58.8	-0.1
DBO				IAML		10 00 43.7	
	comp=E,15nm,2.9s						
DBO				IAML		10 01 09.3	
	comp=N,14nm,4.1s						
LMPM	Military Pass	2.67	83		Pb	10 00 02.5	-1.9
LSHM	Sage Hen Hill	2.80	98		Pn	10 00 03.0	+1.7
I03D	Drain, OR	3.02	34	Pn	Pn	10 00 03.0	-1.3
I03D				IAML		10 00 54.1	
	comp=N,12nm,3.1s						
I03D				IAML		10 01 35.0	
	comp=E,8.8nm,1.9s						
I04A	Tendick Farm,	3.53	42	Pn	Pn	10 00 12.1	+0.7
BUCK	Buck Mountain	3.58	33	Pn	Pn	10 00 11.4	-0.7
K05A	Summer Lake	3.88	66	Pn	Pn	10 00 17.5	+1.2

IDC 31 10:23:49.4±4.4,3.19S×147.74E,h0km,mb3.5/2, mbtmp3.6/2,MS3.3/3,Error ellipse: s-maj=148.5km s-min=51.6km az=104.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	13.62	118	LR	LR	10 31 47.4	
	comp=Z,819nm,18.3s,baz=196,slow=35						
GUMO	Guam	16.91	350	LR	LR	10 34 28.8	
	comp=Z,26nm,18.6s,baz=220,slow=38						
WRA	Warramunga Arr	21.17	217	P	P	10 28 36.5	0.0
	1.9nm,0.9s,baz=43,slow=11,SNR=14						
	1.9nm,0.9s						
ASAR	Alice Springs	24.36	212	P	P	10 29 09.4	0.0
	1.2nm,0.9s,baz=38,slow=7.2,SNR=23						
	1.2nm,0.9s						
MJAR	Matsushiro Arr	40.52	348	LR	LR	10 47 08.8	
	comp=Z,27nm,18.5s,baz=246,slow=34						
TORD	Torodi Ar. Bea	145.01	288	PKPbc	PKPbc	10 43 28.3	-0.9
	0.3nm,0.7s,baz=91,slow=5.8,SNR=2.2						

IDC 31 10:24:22.1±7.0,21.81S×178.05W,h0km,mb3.4/3, mbtmp3.4/3,Error ellipse: s-maj=298.1km s-min=43.8km az=146.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	44.19	258	P	P	10 32 32.0	-1.2
	0.2nm,0.9s,baz=91,slow=7.1,SNR=5.7						
	0.2nm,0.5s						
WRA	Warramunga Arr	44.39	263	P	P	10 32 35.6	+0.8
	0.1nm,0.3s,baz=100,slow=7.6,SNR=6.2						
	0.1nm,0.3s						
ILAR	Eielson Array	89.59	13	P	P	10 37 21.1	+0.1
	0.3nm,1.0s,baz=202,slow=4.6,SNR=2.0						
	0.3nm,1.0s						

IDC 31 10:26:15.1±14.0,14.55S×167.42E,h0km,mb3.7/3, mbtmp3.7/4,ML3.6/1,MS3.2/2,Error ellipse: s-maj=250.3km s-min=41.1km az=67.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.54	187	Pn	Pn	10 28 05.5	-0.9
	0.9nm,0.3s,baz=342,slow=20,SNR=8.9						
DZM				Sn	Sn	10 29 32.1	-0.6
	0.3nm,0.3s,baz=311,slow=20,SNR=2.0						
	6.7nm,0.9s						
PMG	Port Moresby	20.46	282	LR	LR	10 37 56.9	
	comp=Z,60nm,18.9s,baz=17,slow=34						
STKA	Stephens Creek	29.22	229	P	P	10 32 20.3	+1.6
	2.3nm,0.5s,baz=45,slow=11,SNR=7.6						
	2.3nm,0.5s						
WRA	Warramunga Arr	32.01	256	P	P	10 32 42.4	-1.1
	0.2nm,0.6s,baz=85,slow=8.8,SNR=2.8						
	0.2nm,0.6s						
ASAR	Alice Springs	32.87	249	P	P	10 32 50.9	-0.2
	0.3nm,0.4s,baz=79,slow=8.8,SNR=10						
	0.3nm,0.4s						
SHEM	Shemya Is, Ala	67.25	4	LR	LR	11 01 44.4	
	comp=Z,17nm,19.2s,baz=355,slow=32						

*IDC **31** 10:51:51.8±2.7,24.60S×179.92E,h474km±30km,mb3.4/8, mbtmp4.2/9,Error ellipse: s-maj=28.6km s-min=18.3km az=162.0*

*NEIC **31** 10:51:56.3±1.0,24.8S±0.1×179.9E±0.1,h524km±10km, mb4.2/38,Error ellipse: s-maj=20.5km s-min=16.6km az=166.0*

ISC 31 10:51:54.1±0.6,24.8S±0.1×179.92E±0.08,h500km,n53, σ0.87/53,mb4.1/28,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	10.98	61	P	P	10 54 22.7	+0.7
MARNC	Mare, Loyalty	11.42	284	P	P	10 54 27.1	+0.6
PINNC	Pines Island,	11.63	278	P	P	10 54 31.3	+2.5
DZM	Mont Dzumac	12.66	279	P	P	10 54 41.9	+2.1
	15nm,0.9s,baz=97,slow=16,SNR=4.5						
URZ	Urewera	13.68	189	P	P	10 54 48.2	-2.0
	3.4nm,0.4s,baz=6.2,slow=6.6,SNR=7.4						
QRZ	Quartz Range	17.18	199	P	P	10 55 27.0	+0.4
THZ	Tophouse	17.94	197	P	P	10 55 33.4	-0.4
ARMA	Armidale	25.67	251	P	P	10 56 44.5	+0.9
ARMA				IAmb	IAmb	10 56 47.4	
	comp=Z,5.6nm,1.1s						
EIDS	Eidsvold	26.11	262	P	P	10 56 48.3	+0.8
EIDS				IAmb	IAmb	10 57 01.2	
	comp=Z,9.0nm,1.1s						
CTAO	Charters Tower	31.42	272	P	P	10 57 34.6	+0.8
TOO	Toolangi	31.93	238	P	P	10 57 39.0	+1.0
TOO				IAmb	IAmb	10 57 39.3	
	comp=Z,4.3nm,0.8s						
TAU	Tasmania Unive	32.31	228	P	P	10 57 42.1	+1.0
TAU				IAmb	IAmb	10 58 00.5	
	comp=Z,12nm,1.1s						
STKA	Stephens Creek	34.35	249	P	P	10 57 58.9	+0.4
	comp=Z,3.6nm,0.4s,baz=76,slow=10,SNR=26						
	comp=Z,3.6nm,0.4s						
PMG	Port Moresby	34.71	290	P	P	10 58 01.6	-0.2
COEN	Coen	36.19	280	P	P	10 58 14.3	+0.3
COEN				IAmb	IAmb	10 58 19.4	
	comp=Z,6.7nm,0.9s						
BBOO	Buckleboo	39.05	248	P	P	10 58 36.7	-0.6
BBOO				IAmb	IAmb	10 58 37.5	
	comp=Z,5.4nm,0.9s						
AS31	Alice Springs	41.83	262	P	P	10 58 59.5	-0.3
ASAR	Alice Springs	41.83	262	P	P	10 58 59.5	-0.2
	comp=Z,2.8nm,0.4s,baz=94,slow=7.8,SNR=182						
	comp=Z,2.8nm,0.4s						
WRAB	Tennant Creek	42.28	267	P	P	10 59 02.8	-0.6
WRA	Warramunga Arr	42.28	267	P	P	10 59 02.5	-0.9
	comp=Z,14nm,0.5s,baz=99,slow=7.1,SNR=379						
WRA				ScP	ScP	11 03 50.4	+1.8
	comp=Z,2.5nm,0.8s,baz=103,slow=4.2,SNR=11						
	comp=Z,14nm,0.5s						
FORT	Forrest	45.95	250	P	P	10 59 30.8	-0.8
MTN	Manton Dam	47.45	275	P	P	10 59 42.4	-0.8
MTN				IAmb	IAmb	10 59 58.3	
	comp=Z,14nm,1.1s						
KNRA	Kununurra	48.62	271	P	P	10 59 51.8	-0.2
FITZ	Fitzroy Crossi	50.70	266	P	P	11 00 07.2	-0.1
FAKI	Fak Fak	50.77	288	P	P	11 00 06.9	-0.9
FAKI				IAmb	IAmb	11 00 07.0	
	comp=Z,12nm,0.9s						
VNDA	Vanda	53.53	185	P	P	11 00 27.1	+0.4
PSA00	Pilbara Seismi	54.95	260	P	P	11 00 36.1	-1.5
MBWA	Marble Bar	55.16	261	P	P	11 00 38.5	-0.6
MBWA				IAmb	IAmb	11 01 05.1	
	comp=Z,11nm,1.2s						
MORW	Morawa	56.52	250	P	P	11 00 47.8	-0.7
MORW				IAmb	IAmb	11 00 48.4	
	comp=Z,8.8nm,0.9s						
TOLI2	Tolitoli	62.73	285	P	P	11 01 28.8	-1.3
TOLI2				IAmb	IAmb	11 01 39.9	
	comp=Z,8.8nm,1.1s						
QSPA	South Pole Qui	65.33	180	P	P	11 01 46.7	+0.6
QSPA	South Pole Qui	65.33	180	P	P	11 01 47.0	+0.9
	comp=Z,0.7nm,0.8s,baz=0.0,slow=2.0,SNR=1.9						
	comp=Z,0.7nm,0.8s						
MJAR	Matsushiro Arr	72.56	326	P	P	11 02 28.8	-1.1
	comp=Z,1.1nm,0.8s,baz=157,slow=6.8,SNR=4.6						
	comp=Z,1.1nm,0.8s						
BELA	Belgrano 2	75.60	173	P	P	11 02 46.6	0.0
ISA	Isabella, Lake	83.66	46	P	P	11 03 30.3	+0.5
ISA				IAmb	IAmb	11 03 31.1	
	comp=Z,4.0nm,0.9s						
HSIG		85.25	55	P	P	11 03 38.2	+0.5
HSIG				IAmb	IAmb	11 03 39.0	
	comp=Z,3.3nm,0.8s						
NVAR	Mina Array Bea	85.41	44	P	P	11 03 37.9	-0.6
	comp=Z,0.9nm,0.8s,baz=219,slow=8.6,SNR=6.8						
	comp=Z,0.9nm,0.8s						
TPH	Tonopah	85.89	45	P	P	11 03 40.8	0.0
KVN	Kaiserville	85.91	44	P	P	11 03 40.7	-0.2
TUC	Tucson	87.09	52	P	P	11 03 46.3	-0.2
TUC				IAmb	IAmb	11 03 48.7	
	comp=Z,2.9nm,0.9s						
PINE	Pine Mountain	87.10	38	P	P	11 03 47.3	+0.9
PINE				IAmb	IAmb	11 03 48.8	
	comp=Z,3.1nm,0.8s						
319A	Douglas	87.70	54	P	P	11 03 49.3	-0.2
319A				IAmb	IAmb	11 03 51.7	
	comp=Z,5.9nm,1.1s						
I07A	Izee	88.09	39	P	P	11 03 51.4	+0.5
I07A				IAmb	IAmb	11 03 52.4	
	comp=Z,3.1nm,0.9s						
J08A	Circle Bar Ran	88.25	40	P	P	11 03 51.9	+0.2
J08A				IAmb	IAmb	11 03 53.5	
	comp=Z,2.6nm,0.5s						
G08A	Pilot Rock	89.14	38	P	P	11 03 56.0	+0.2
LTY	Liberty	89.41	36	P	P	11 03 57.0	+0.1
LTY				IAmb	IAmb	11 04 25.1	
	comp=Z,1.7nm,0.9s						
SRU	San Rafael Swe	90.83	47	P	P	11 04 03.5	-0.3
SRU				IAmb	IAmb	11 04 04.8	
	comp=Z,2.1nm,0.6s						
TX31	Lajitas Ar. Si	90.94	58	P	P	11 04 03.8	-0.6
TXAR	Lajitas Array	90.94	58	P	P	11 04 05.0	+0.5
	comp=Z,1.1nm,0.8s,baz=218,slow=6.7,SNR=16						
	comp=Z,1.1nm,0.8s						
BSUT	Blindstream Ca	91.42	45	P	P	11 04 06.5	-0.3
PDAR	Pinedale Array	93.35	44	P	P	11 04 15.0	-0.4
	comp=Z,0.3nm,0.7s,baz=270,slow=3.0,SNR=3.6						
	comp=Z,0.3nm,0.7s						
HFS	Hagfors	143.36	348	PKhKP	PKPpre	11 10 27.1	
	comp=Z,0.6nm,0.4s,baz=270,slow=1.0,SNR=7.1						
BRTR	Keskin Array B	148.03	306	PKPbc	PKPbc	11 10 42.8	-0.4
	comp=Z,0.7nm,0.5s,baz=127,slow=5.3,SNR=1.4						

*IDC **31** 10:53:15.4±2.9,17.67S×178.32W,h447km±30km, mb3.3/11,mbtmp4.1/12,Error ellipse: s-maj=18.8km s-min=15.5km az=120.0*

*NEIC **31** 10:53:18.7±1.0,17.8S±0.1×178.2W±0.1,h480km±9km, mb4.1/24,Error ellipse: s-maj=19.5km s-min=17.6km az=164.0*

ISC 31 10:53:19.7±0.5,17.8S±0.1×178.28W±0.08,h500km,n43, σ1.840/45,mb4.0/22,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.50	270	P	P	10 54 34.5	+0.1
AFI	Afiamalu	7.33	59	P	P	10 55 07.1	-2.4
NIUE	Niue	8.04	101	P	P	10 55 13.7	-2.7
DZM	Mont Dzumac	14.99	251	P	P	10 56 26.1	-3.9
	5.0nm,0.9s,baz=73,slow=19,SNR=1.4						
TOZ	Tahuroa Road	20.63	194	P	P	10 57 24.0	+0.1
THZ	Tophouse	25.09	196	P	P	10 58 02.8	-1.1
EIDS	Eidsvold	29.43	250	P	P	10 58 42.2	-0.1
ARMA	Armidale	30.12	240	P	P	10 58 48.0	-0.3
CTAO	Charters Tower	33.59	260	P	P	10 59 17.6	-0.4
CTAO				IAmb	IAmb	10 59 41.3	
	comp=Z,8.9nm,1.1s						
COEN	Coen	37.23	270	P	P	10 59 48.7	+0.3
COEN				IAmb	IAmb	10 59 49.0	
	comp=Z,5.9nm,0.7s						
TOO	Toolangi	37.36	231	P	P	10 59 50.0	+0.8
TOO				IAmb	IAmb	11 00 12.5	
	comp=Z,4.8nm,1.1s						
STKA	Stephens Creek	38.81	241	P	P	11 00 01.4	+0.3
	comp=Z,0.8nm,0.5s,baz=70,slow=12,SNR=2.1						
	comp=Z,0.8nm,0.5s						
BBOO	Buckleboo	43.59	241	P	P	11 00 38.8	-0.3
BBOO				IAmb	IAmb	11 00 40.5	
	comp=Z,5.1nm,1.0s						
WRAB	Tennant Creek	44

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
	comp=Z,1.4nm,0.7s,baz=223,slow=8.9,SNR=11						
	comp=Z,1.4nm,0.7s						
PSUT	**Pine Spring**	**82.27**	**46**	P	**P**	**11 04 49.5**	**+0.9**
BELA	**Belgrano 2**	**82.29**	**173**	P	**P**	**11 04 48.1**	**+0.2**
BELA				IAmb	IAmb	11 04 49.6	
	comp=Z,5.4nm,0.8s						
U15A	**North Rim**	**82.33**	**48**	P	**P**	**11 04 50.5**	**+1.4**
ILAR	**Eielson Array**	**85.72**	**13**	P	**P**	**11 05 04.0**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=226,slow=5.1,SNR=7.1						
	comp=Z,0.2nm,0.4s						
TXAR	**Lajitas Array**	**85.81**	**58**	P	**P**	**11 05 07.8**	**+1.5**
	comp=Z,1.1nm,0.8s,baz=218,slow=6.3,SNR=14						
	comp=Z,1.1nm,0.8s						
PDAR	**Pinedale Array**	**87.16**	**43**	P	**P**	**11 05 12.7**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=226,slow=5.6,SNR=4.4						
	comp=Z,0.4nm,0.6s						
BVAR	**Borovoye Array**	**116.81**	**321**	PKP	**PKiKP**	**11 11 06.4**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=354,slow=1.4,SNR=2.5						
BRTR	**Keskin Array B**	**144.77**	**315**	PKP	**PKPab**	**11 12 00.7**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=56,slow=2.6,SNR=3.0						
GERES	**GERESS Array B**	**147.50**	**345**	PKPbc	**PKiKP**	**11 12 08.0**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=2.6,slow=4.3,SNR=1.7						

*IDC **31** 11:00:38.5±1.7,24.2°S×179.7°W,h471km±20km, mb3.4/12, mbtmp4.2/12, Error ellipse: s-maj=20.1km s-min=14.0km az=178.0*
*NEIC **31** 11:00:38.6±1.4,24.1°S±0.1°×179.5°W±0.1°,h498km±6km, mb4.5/18, Error ellipse: s-maj=20.8km s-min=15.6km az=157.0*

ISC 31 11:00:39.0±0.5,**24.27S**±0.06×**179.60W**±0.08,**h490**km, **n71**,σ1°**43**/77,**mb4.3**/25,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.19**	**164**	P	**P**	**11 02 07.0**	**0.0**
RAO	**Raoul Island**	**5.19**	**164**	P	**P**	**11 02 07.5**	**+0.4**
	885nm,0.3s,baz=76,slow=3.9,SNR=18						
RAO				S	**S**	**11 03 20.4**	**+1.4**
	407nm,0.4s,baz=94,slow=22,SNR=4.1						
GLKZ	**Green Lake**	**5.20**	**164**	P	**P**	**11 02 06.3**	**-0.8**
GLKZ				S	S	11 03 09.8	-9.4
NIUE	**Niue**	**10.37**	**62**	P	**P**	**11 02 58.0**	**-2.3**
MARNC	**Mare, Loyalty**	**11.73**	**281**	P	**P**	**11 03 15.0**	**+0.2**
PINNC	**Pines Island,**	**12.00**	**275**	P	**P**	**11 03 18.3**	**+0.6**
OUZ	**Omahuta**	**12.41**	**207**	P	**P**	**11 03 24.2**	**+2.4**
OUENC	**Ouen Island, N**	**12.59**	**276**		**P**	**11 03 24.5**	**+0.6**
LIFNC	**LIFOU**	**12.65**	**283**	P	**P**	**11 03 23.9**	**-0.6**
AFI	**Afiamalu**	**12.68**	**37**	P	**P**	**11 03 21.8**	**-3.2**
WCZ	**Waipu Caves**	**12.75**	**203**	P	**P**	**11 03 27.5**	**+2.1**
DZM	**Mont Dzumac**	**13.02**	**277**	P	**P**	**11 03 29.7**	**+1.1**
	26nm,0.8s,baz=214,slow=22,SNR=16						
KUZ	**Kuaotunu**	**13.07**	**197**	P	**P**	**11 03 29.6**	**+0.8**
MXZ	**Matakaoa Point**	**13.37**	**187**	P	**P**	**11 03 34.5**	**+2.5**
ETAZ	**East Tamaki Re**	**13.49**	**199**	P	**P**	**11 03 33.6**	**+0.4**
MKAZ	**Moumakai**	**13.56**	**198**	P	**P**	**11 03 34.8**	**+0.9**
HAZ	**Te Kaha**	**13.63**	**189**	P	**P**	**11 03 34.6**	**-0.1**
AWAZ	**Awhitu Peninsu**	**13.68**	**200**	P	**P**	**11 03 36.2**	**+1.0**
PKGZ	**Pakihiroa**	**13.72**	**188**	P	**P**	**11 03 38.3**	**+2.5**
RUGZ	**Raukumara Rang**	**13.85**	**189**	P	**P**	**11 03 37.9**	**+0.8**
PUZ	**Puketiti**	**13.88**	**187**	P	**P**	**11 03 36.7**	**-0.7**
PUZ				S	**S**	**11 06 04.1**	**-0.5**
TOZ	**Tahuroa Road**	**14.06**	**196**	P	**P**	**11 03 39.4**	**+0.2**
URZ	**Urewera**	**14.23**	**191**	P	**P**	**11 03 38.9**	**-2.1**
	14nm,0.7s,baz=258,slow=7.8,SNR=3.1						
URZ				S	**S**	**11 06 08.1**	**-3.0**
	4.2nm,0.5s,baz=172,slow=21,SNR=1.8						
URZ	**Urewera**	**14.23**	**191**	P	**P**	**11 03 39.2**	**-1.8**
URZ				S	**S**	**11 06 07.9**	**-3.2**
MWZ	**Matawai**	**14.23**	**189**	P	**P**	**11 03 43.8**	**+2.7**
MWZ				S	**S**	**11 06 10.9**	**-0.5**
TKGZ	**Te Karaka**	**14.29**	**188**	P	**P**	**11 03 41.0**	**-0.7**
RAGZ	**Rawiri**	**14.41**	**189**	P	**P**	**11 03 42.1**	**-0.9**
MTHZ	**Maungataniwha**	**14.85**	**191**	P	P	11 03 41.1	-6.5
MTHZ				S	**S**	**11 06 19.9**	**-3.4**
BKZ	**Black Stump Fm**	**15.22**	**192**	P	**P**	**11 03 53.2**	**+1.7**
BKZ	**Black Stump Fm**	**15.22**	**192**	P	**P**	**11 03 52.1**	**+0.6**
BKZ				S	**S**	**11 06 27.0**	**-3.4**
QRZ	**Quartz Range**	**17.78**	**200**	P	**P**	**11 04 16.7**	**-0.9**
TUWZ	**Tuamarina**	**17.94**	**196**	P	**P**	**11 04 18.0**	**-1.1**
THZ	**Tophouse**	**18.53**	**198**	P	**P**	**11 04 24.2**	**-0.4**
ARMA	**Armidale**	**26.24**	**250**	P	**P**	**11 05 33.8**	**-0.4**
ARMA				IAmb	IAmb	11 05 46.9	
	comp=Z,32nm,1.4s						
EIDS	**Eidsvold**	**26.61**	**261**	P	**P**	**11 05 37.4**	**0.0**
EIDS				IAmb	IAmb	11 06 15.9	
	comp=Z,33nm,1.5s						
CAN	**Canberra**	**29.27**	**241**	P	**P**	**11 06 01.4**	**+0.8**
CTA	**Charters Tower**	**31.84**	**271**	P	**P**	**11 06 23.1**	**+0.2**
	comp=Z,42nm,0.5s,baz=198,slow=0.0,SNR=14						
CTAO	**Charters Tower**	**31.84**	**271**	P	**P**	**11 06 23.2**	**+0.2**
TOO	**Toolangi**	**32.56**	**238**	P	**P**	**11 06 29.6**	**+0.7**
TOO				IAmb	IAmb	11 07 07.5	
	comp=Z,18nm,1.5s						
STKA	**Stephens Creek**	**34.92**	**249**	P	**P**	**11 06 49.1**	**+0.2**
	comp=Z,5.3nm,0.5s,baz=96,slow=11,SNR=30						
	comp=Z,5.3nm,0.5s						
BBOO	**Buckleboo**	**39.64**	**247**	P	**P**	**11 07 26.2**	**-1.5**
BBOO				IAmb	IAmb	11 07 28.1	
	comp=Z,9.0nm,0.8s						
AS31	**Alice Springs**	**42.33**	**261**	P	**P**	**11 07 49.0**	**-0.4**
ASAR	**Alice Springs**	**42.34**	**261**	P	**P**	**11 07 47.9**	**-1.5**
ASAR	**Alice Springs**	**42.34**	**261**	P	**P**	**11 07 48.9**	**-0.5**
	comp=Z,4.8nm,0.6s,baz=92,slow=6.5,SNR=77						
ASAR				PcP	**PcP**	**11 09 32.3**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=94,slow=4.8,SNR=3.1						
	comp=Z,4.8nm,0.6s						
WRAB	**Tennant Creek**	**42.74**	**266**	P	**P**	**11 07 51.4**	**-1.1**
WRAB				IAmb	IAmb	11 07 51.9	
	comp=Z,12nm,0.5s						
WRA	**Warramunga Arr**	**42.75**	**266**	P	**P**	**11 07 51.7**	**-1.0**
	comp=Z,14nm,0.6s,baz=98,slow=8.3,SNR=172						
	comp=Z,14nm,0.6s						
FORT	**Forrest**	**46.52**	**250**	P	**P**	**11 08 20.8**	**-0.8**
MTN	**Manton Dam**	**47.85**	**275**	P	**P**	**11 08 30.4**	**-1.4**
MTN				IAmb	IAmb	11 08 54.4	
	comp=Z,14nm,1.1s						
KNRA	**Kununurra**	**49.05**	**270**	P	**P**	**11 08 40.3**	**-0.5**
KNRA				IAmb	IAmb	11 08 41.2	
	comp=Z,19nm,0.8s						
FITZ	**Fitzroy Crossi**	**51.16**	**266**	P	**P**	**11 08 56.2**	**-0.2**
PSA00	**Pilbara Seismi**	**55.46**	**260**	P	**P**	**11 09 25.1**	**-1.8**
MBWA	**Marble Bar**	**55.67**	**260**	P	**P**	**11 09 27.0**	**-1.4**
MBWA				IAmb	IAmb	11 09 28.4	
	comp=Z,9.4nm,0.8s						
MORW	**Morawa**	**57.09**	**250**	P	**P**	**11 09 37.5**	**-0.6**
MORW				IAmb	IAmb	11 10 00.5	
	comp=Z,34nm,1.4s						
TOLI2	**Tolitoli**	**63.02**	**285**	P	**P**	**11 10 16.2**	**-1.6**
TOLI2				IAmb	IAmb	11 10 22.4	
	comp=Z,10.0nm,1.0s						
QSPA	**South Pole Qui**	**65.82**	**180**	P	**P**	**11 10 36.5**	**+1.6**
QSPA	**South Pole Qui**	**65.82**	**180**	P	**P**	**11 10 36.7**	**+1.9**
	comp=Z,1.3nm,0.6s,baz=53,slow=5.1,SNR=14						
	comp=Z,1.3nm,0.6s						
MJAR	**Matsushiro Arr**	**72.41**	**325**	P	**P**	**11 11 14.6**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=152,slow=4.8,SNR=5.2						
	comp=Z,1.0nm,0.7s						
KSRS	**Korea Array**	**78.76**	**320**	P	**P**	**11 11 51.3**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=140,slow=6.7,SNR=4.8						
	comp=Z,1.1nm,0.7s						
PETK	**Petropavlovsk-**	**79.54**	**346**	P	**P**	**11 11 53.8**	**-0.2**
	comp=Z,3.7nm,0.9s,baz=103,slow=9.9,SNR=5.7						
	comp=Z,3.7nm,0.9s						
NVAR	**Mina Array Bea**	**84.76**	**44**	P	**P**	**11 12 22.2**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=225,slow=7.6,SNR=4.4						
	comp=Z,0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**90.00**	**290**	P	**P**	**11 12 48.1**	**+2.0**
	comp=Z,1.0nm,0.6s,baz=142,slow=3.8,SNR=7.7						
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**90.32**	**58**	P	**P**	**11 12 49.3**	**+1.8**
	comp=Z,1.3nm,0.8s,baz=212,slow=6.7,SNR=21						
	comp=Z,1.3nm,0.8s						
HHC	**Hu-ho-hao-te**	**90.94**	**315**	*e*P	**P**	**11 12 50.5**	**+0.4**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,52nm,5.7s						
PZH	**PanZhiHua**	**91.18**	**299**	P	**P**	**11 12 52.3**	**+0.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,70nm,5.2s						
ILAR	**Eielson Array**	**92.30**	**13**	P	**P**	**11 12 55.1**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=226,slow=4.9,SNR=9.7						
	comp=Z,0.4nm,0.8s						
PDAR	**Pinedale Array**	**92.70**	**44**	P	**P**	**11 12 59.4**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=208,slow=2.5,SNR=4.8						
	comp=Z,0.5nm,0.7s						
HFS	**Hagfors**	**142.98**	**349**	PKhKP	PKPpre	11 19 13.3	
	comp=Z,2.1nm,0.5s,baz=66,slow=3.6,SNR=27						
AKASG	**Malin Array Be**	**145.48**	**327**	PKPbc	**PKPdf**	**11 19 21.3**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=47,slow=3.7,SNR=4.3						
BRTR	**Keskin Array B**	**148.09**	**307**	PKPbc	**PKPbc**	**11 19 29.7**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=87,slow=3.7,SNR=2.8						
MMAI	**Mount Meron Ar**	**148.18**	**294**	PKPbc	**PKPbc**	**11 19 30.8**	**+1.1**
	comp=Z,2.1nm,0.5s,baz=57,slow=5.3,SNR=6.1						
EKA	**Eskdalemuir Ar**	**148.86**	**4**	PKPbc	**PKPbc**	**11 19 30.8**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=1.2,slow=3.0,SNR=3.5						

IDC 31 11:05:18.4±1.8,**5.87S**×**148.90E**,**h0**km,**mb3.8**/2, **mbtmp3.8**/4,**ML4.0**/1,**Error ellipse: s-maj=114.5km s-min=23.6km az=120.0**,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.92**	**206**	Pn	Pn	11 06 21.7	+1.8
	12nm,0.5s,baz=30,slow=14,SNR=7.7						
PMG				Sn	Sn	11 07 07.6	+1.0
	5.3nm,0.3s,baz=149,slow=23,SNR=3.3						
WRA	**Warramunga Arr**	**19.91**	**224**	P	P	11 09 52.5	+0.7
	0.5nm,0.3s,baz=50,slow=10,SNR=8.5						
	1.9nm,0.7s						
ASAR	**Alice Springs**	**22.84**	**218**	P	P	11 10 22.0	-1.4
	2.0nm,0.8s,baz=52,slow=9.2,SNR=10						
	2.0nm,0.8s						
ILAR	**Eielson Array**	**84.62**	**23**	P	P	11 17 53.6	+0.1
	0.7nm,0.8s,baz=250,slow=5.1,SNR=10.0						
	0.7nm,0.8s						

*IDC **31** 11:08:29.7±1.1,3.1°S×138.8°E,h0km,mb3.9/5, mbtmp4.1/6,ML4.6/1,Error ellipse: s-maj=68.1km s-min=25.9km az=95.0*
*NEIC **31** 11:08:36.0±1.4,3.3°S±0.1°×138.4°E±0.1°,h45km±10km, mb4.4/12,Error ellipse: s-maj=18.9km s-min=16.6km az=49.0*

ISC 31 11:08:35.5±0.8,**3.38S**±0.09×**138.4E**±0.1,**h35**km,**n23**, σ1°**70**/25,**mb4.0**/5,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**6.17**	**274**		**Pn**	**11 10 03.6**	**-0.6**
COEN	**Coen**	**11.51**	**156**	Pn	**Pn**	**11 11 18.4**	**+0.9**
MTN	**Manton Dam**	**11.84**	**217**		**Pn**	**11 11 24.4**	**+2.4**
SOEI	**Soe**	**15.41**	**245**	Pn	**Pn**	**11 12 10.5**	**0.0**
SOEI				IAmb	IAmb	11 12 22.5	
	comp=Z,21nm,0.8s						
KNRA	**Kununurra**	**15.48**	**217**		**Pn**	**11 12 11.9**	**+0.7**
KNRA				IAmb	IAmb	11 12 22.1	
	comp=Z,26nm,0.6s						
WRAB	**Tennant Creek**	**16.92**	**193**	P	**Pn**	**11 12 31.5**	**+1.8**
WRA	**Warramunga Arr**	**16.93**	**193**	P	**Pn**	**11 12 30.7**	**+0.8**
	comp=Z,2.2nm,0.3s,baz=16,slow=12,SNR=44						
WRA				S	**Sn**	**11 15 32.2**	**-4.9**
	comp=Z,2.8nm,0.8s,baz=11,slow=22,SNR=8.7						
	comp=Z,18nm,0.9s						
CTAO	**Charters Tower**	**18.28**	**156**	P	**P**	**11 12 45.0**	**-1.4**
FITZ	**Fitzroy Crossi**	**19.25**	**220**	P	**P**	**11 12 56.9**	**-0.1**
AS31	**Alice Springs**	**20.63**	**192**	P	**P**	**11 13 14.8**	**+2.7**
AS31				IAmb	IAmb	11 13 18.1	
	comp=Z,7.7nm,0.3s						
ASAR	**Alice Springs**	**20.63**	**192**	P	**P**	**11 13 15.0**	**+2.9**
	comp=Z,4.2nm,0.3s,baz=10,slow=9.5,SNR=81						
ASAR				S	**S**	**11 17 01.2**	**+0.3**
	comp=Z,6.0nm,0.8s,baz=17,slow=26,SNR=8.9						
	comp=Z,4.2nm,0.3s						
EIDS	**Eidsvold**	**25.03**	**152**	P	**P**	**11 13 56.6**	**+0.2**
PSA00	**Pilbara Seismi**	**25.55**	**223**	P	**P**	**11 14 01.2**	**0.0**
FORT	**Forrest**	**28.95**	**199**	P	**P**	**11 14 30.3**	**-1.4**
BBOO	**Buckleboo**	**29.36**	**184**	P	**P**	**11 14 34.6**	**-0.7**
BBOO				IAmb	IAmb	11 15 17.2	
	comp=Z,11nm,1.4s						
VNDA	**Vanda**	**75.14**	**175**	P	**P**	**11 20 13.7**	**0.0**
VNDA				IAmb	IAmb	11 20 32.9	
	comp=Z,3.8nm,1.4s						
VNDA	**Vanda**	**75.14**	**175**	P	**P**	**11 20 14.1**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=328,slow=5.6,SNR=5.0						
	comp=Z,0.4nm,0.5s						
BVAR	**Borovoye Array**	**79.69**	**325**	P	**P**	**11 20 40.5**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=101,slow=7.8,SNR=3.5						
	comp=Z,0.6nm,0.5s						
P18K	**Big Mountain,**	**81.11**	**28**	P	**P**	**11 20 46.2**	**-0.9**
ILAR	**Eielson Array**	**86.56**	**24**	P	**P**	**11 21 12.5**	**-2.3**
	comp=Z,0.3nm,0.7s,baz=275,slow=4.5,SNR=5.3						
	comp=Z,0.3nm,0.7s						
QSPA	**South Pole Qui**	**86.57**	**180**	P	**P**	**11 21 14.6**	**-0.3**
QSPA				IAmb	IAmb	11 21 46.6	
	comp=Z,2.9nm,1.1s						
QSPA	**South Pole Qui**	**86.57**	**180**	P	**P**	**11 21 15.1**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=276,slow=2.2,SNR=10.0						
	comp=Z,0.8nm,0.6s						
LPAZ	**La Paz**	**147.28**	**127**	PKPbc	**PKPdf**	**11 28 16.1**	**+1.4**
	comp=Z,1.4nm,0.8s,baz=177,slow=2.3,SNR=4.4						

*SGS **31** 11:28:12.0,28.84N×34.75E,h13km,Ml2.3*
*GII **31** 11:28:11.7±0.4,28.890N±0.007×34.720E±0.001,h3km, Mwa2.7,confirmed*

ISC 31 11:28:11.5±0.9,**28.84N**±0.02×**34.73E**±0.06,**h10**km,**n41**, σ0°**55**/44,**Egypt**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAQS	**Haql**	**0.27**	**38**	P	**Pg**	**11 28 17.1**	**+0.3**
HAQS	**Haql**	**0.27**	**38**	S	**Sg**	**11 28 21.4**	**+0.9**
TAYS	**Tayyib Ism**	**0.31**	**157**	S	**Sg**	**11 28 22.9**	**+1.0**
TAYS				P	**Pg**	**11 28 18.0**	**+0.3**
JMOS	**Jabal al Moall**	**0.47**	**45**	P	**Pg**	**11 28 20.6**	**0.0**
JMOS	**Jabal al Moall**	**0.47**	**45**	S	**Sg**	**11 28 27.0**	**+0.3**
BDAS	**Al Bad`**	**0.52**	**142**	S	**Sg**	**11 28 29.0**	**+0.5**
BDAS	**Al Bad`**	**0.52**	**142**	P	**Pg**	**11 28 21.5**	**-0.1**
RSHS		**0.54**	**174**	P	**Pg**	**11 28 22.3**	**+0.3**
RSHS		**0.54**	**174**	S	**Sg**	**11 28 30.5**	**+1.4**
HQLS		**0.54**	**32**	S	**Sg**	**11 28 29.7**	**+0.5**
HQLS		**0.54**	**32**	P	**Pg**	**11 28 22.1**	**0.0**
JLOS		**0.67**	**99**	P	**Pg**	**11 28 24.2**	**-0.3**
AYUS	**`Aynunah**	**0.80**	**144**	P	**Pg**	**11 28 26.5**	**-0.4**
AYUS	**`Aynunah**	**0.80**	**144**	S	**Sg**	**11 28 37.5**	**+0.1**
EIL	**Elat**	**0.85**	**13**	P	**Pg**	**11 28 28.0**	**+0.2**
EIL	**Elat**	**0.85**	**13**	S	**Sb**	**11 28 39.6**	**-0.1**
EIL	**Elat**	**0.85**	**13**	P	**Pg**	**11 28 27.5**	**-0.4**
KRABS	**KRABS**	**0.87**	**148**	P	**Pg**	**11 28 27.8**	**-0.4**
KRABS	**KRABS**	**0.87**	**148**	S	**Sg**	**11 28 39.3**	**-0.3**
AQBJ	**Aqaba**	**0.93**	**17**	P	**Pg**	**11 28 29.3**	**0.0**
MBRI	**Mt Berech**	**0.96**	**9**	P	**Pg**	**11 28 29.8**	**-0.2**
MBRI				S	**Sn**	**11 28 44.4**	**-0.6**
MBRI	**Mt Berech**	**0.96**	**9**	P	**Pg**	**11 28 29.6**	**-0.4**
HRFI	**Mount Harif**	**1.22**	**12**	P	**Pb**	**11 28 33.9**	**-0.8**
HRFI	**Mount Harif**	**1.22**	**12**	S	**Sn**	**11 28 51.0**	**-0.3**
HRFI	**Mount Harif**	**1.22**	**12**	P	**Pb**	**11 28 33.9**	**-0.8**
KRMI	**Paran Flat**	**1.27**	**360**	P	**Pn**	**11 28 34.7**	**-0.7**
KRMI				S	**Sn**	**11 28 52.6**	**0.0**
KRMI	**Paran Flat**	**1.27**	**360**	S	**Sn**	**11 28 52.6**	**0.0**
KRMI	**Paran Flat**	**1.27**	**360**	P	**Pn**	**11 28 34.8**	**-0.5**
WTBKS	**WTBKS**	**1.28**	**126**	P	**Pn**	**11 28 34.9**	**-0.7**
PRNI	**Paran**	**1.52**	**9**	P	**Pn**	**11 28 39.2**	**+0.4**
PRNI	**Paran**	**1.52**	**9**	S	**Sg**	**11 29 00.1**	**-0.4**
PRNI	**Paran**	**1.52**	**9**	P	**Pn**	**11 28 39.1**	**+0.2**
NDEBA	**Dheba**	**1.59**	**149**	P	**Pn**	**11 28 38.7**	**-1.0**
HSNJ	**Maan**	**1.64**	**30**	P	**Pb**	**11 28 42.2**	**+0.4**
TBKS	**Tabuk**	**1.71**	**111**	P	**Pn**	**11 28 41.7**	**+0.5**
ZFRI	**Zfri**	**1.75**	**13**	S	**Sb**	**11 29 06.3**	**+0.6**
ZFRI	**Zfri**	**1.75**	**13**	P	**Pb**	**11 28 43.0**	**-0.7**
KZIT	**Kziot**	**2.08**	**352**	P	**Pn**	**11 28 47.2**	**+0.7**
URD06	**Shuwaq**	**2.26**	**127**	P	**Pn**	**11 28 49.4**	**+0.2**
MSBI	**Mazada**	**2.52**	**12**	P	**Pn**	**11 28 53.2**	**+0.8**
MSBI	**Mazada**	**2.52**	**12**	S	**Sn**	**11 29 24.0**	**+0.7**

*DJA **31** 11:38:18.2±0.6,0.7°S±4°×12°3E±°,h136km±8km,M3.8/7, MLv3.8/7*
*IDC **31** 11:38:21.6±9.6,0.18N×124.21E,h170km±91km,mb3.0/4, mbtmp3.4/4,Error ellipse: s-maj=86.9km s-min=19.6km az=81.0*

ISC 31 11:38:17.9±0.9,**0.08S**±0.08×**123.31E**±0.07,**h157**km,**n11**, σ1°**74**/15,**mb3.3**/4,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.77**	**337**	P	**Pn**	**11 38 42.2**	**+0.6**
GTOI				S	**Sn**	**11 39 00.0**	**+0.2**
LUWI	**Luwuk**	**1.10**	**209**	P	**Pn**	**11 38 43.7**	**-0.5**
LUWI				S	**Sn**	**11 39 02.3**	**-2.0**
MRSI	**Marisa**	**1.48**	**292**	P	**Pn**	**11 38 47.0**	**-0.8**
MRSI				S	**Sn**	**11 39 07.6**	**-3.1**
SANI	**Sanana**	**3.31**	**126**	P	**Pn**	**11 39 07.5**	**-2.0**
TNTI	**Ternate**	**4.14**	**78**	P	**Pn**	**11 39 19.2**	**-1.0**
LBMI	**Labuha**	**4.23**	**98**	P	**Pn**	**11 39 19.7**	**-1.6**
NLAI	**Namlea**	**4.92**	**130**	P	**Pn**	**11 39 31.7**	**+1.3**
WRA	**Warramunga Arr**	**22.50**	**152**	P	**P**	**11 43 06.3**	**+1.7**
	0.4nm,0.5s,baz=334,slow=10,SNR=12						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**25.60**	**157**	P	**P**	**11 43 34.0**	**+1.2**
	0.2nm,0.6s,baz=348,slow=7.0,SNR=4.5						
ASAR				PcP	**PcP**	**11 47 01.2**	**+1.4**
	0.2nm,0.4s,baz=351,slow=2.5,SNR=5.9						
	0.2nm,0.6s						
MJAR	**Matsushiro Arr**	**38.97**	**19**	P	**P**	**11 45 27.3**	**-1.6**
	0.8nm,0.6s,baz=188,slow=8.9,SNR=4.3						
	0.8nm,0.6s						
SONM	**Songino Array**	**49.94**	**345**	P	**P**	**11 46 57.6**	**+1.8**
	0.5nm,0.5s,baz=172,slow=7.1,SNR=3.7						
	0.5nm,0.5s						

*SJA **31** 11:44:43.2±0.7,20.55S×69.01W,h112km±4km,ML3.8, MW3.7*
*VAO **31** 11:44:44.6±0.7,20.48S×68.73W,h95km±11km,mb4.1*
*GUC **31** 11:44:44.3±0.7,20.57S×68.99W,h101km±4km,ML3.8*

ISC 31 11:44:43.4±0.9,**20.53S**±0.03×**69.02W**±0.06,**h116**km±7km, **n44**,σ1°**08**/73,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.40**	**341**	*e*P	**Pn**	**11 45 00.9**	**+0.1**
PB08				*e*S	**Sn**	**11 45 13.9**	**0.0**
PB08				IAML		11 45 14.0	
	comp=Z,3μm,0.1s						
PB08	**IPOC Station P**	**0.40**	**341**	*e*P	**Pn**	**11 45 01.0**	**+0.1**
PB08				*i* S	**Sn**	**11 45 13.3**	**-0.6**
PB08				IAML		11 45 14.2	
	comp=E,9μm,0.1s						
PB01	**IPOC Station P**	**0.68**	**221**	*e*P	**Pn**	**11 45 01.9**	**-0.4**
PB01				*e*S	**Sn**	**11 45 16.2**	**-0.4**
PB01				IAML		11 45 16.9	
	comp=Z,3μm,0.2s						
PB01	**IPOC Station P**	**0.68**	**221**	*e*P	**Pn**	**11 45 02.1**	**-0.2**
PB01				*i* S	**Sn**	**11 45 15.7**	**-0.9**
PB01				IAML		11 45 17.0	
	comp=N,6μm,0.2s						
GO01	**Chusmiza**	**0.87**	**349**	*e*P	**Pn**	**11 45 04.8**	**+0.5**
GO01				*e*S	**Sn**	**11 45 21.3**	**+1.1**
GO01				IAML		11 45 23.5	
	comp=Z,1μm,0.2s						
GO01	**Chusmiza**	**0.87**	**349**	*e*P	**Pn**	**11 45 04.9**	**+0.5**
GO01				*i* S	**Sn**	**11 45 20.2**	**0.0**
PB11	**IPOC Station P**	**0.97**	**322**	*e*P	**Pn**	**11 45 05.3**	**+0.3**
PB11				*e*S	**Sn**	**11 45 22.9**	**+1.6**
PB11				IAML		11 45 23.4	
	comp=Z,2μm,0.3s						
PB11	**IPOC Station P**	**0.97**	**322**	*e*P	**Pn**	**11 45 05.5**	**+0.5**
PB11				*i* S	**Sn**	**11 45 21.8**	**+0.5**
PB11				IAML		11 45 23.2	
	comp=E,4μm,0.2s						
TA02	**Huaiquique**	**1.08**	**283**	*e*P	**Pn**	**11 45 06.5**	**+0.7**
TA02				*e*S	**Sn**	**11 45 24.5**	**+1.6**
TA02				IAML		11 45 25.7	
	comp=Z,3μm,0.1s						
TA02	**Huaiquique**	**1.08**	**283**	*e*P	**Pn**	**11 45 06.5**	**+0.7**

*DJA **31** 11:48:33.8±2.1,5°N×20°×12°7E±°, h130km±23km, M4.5/10, mb4.6/8, mB5.0/6, MLv4.6/10, Mw(mB)4.3/6*

ISC 31 11:48:33.8±1.0, 4°91N×0°09×127°44E±0°10, h100km, n18, σ1§35/17, mb3.8/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.26**	**237**	P	**Pn**	**11 49 10.5**	**+0.8**
SGSI				S	**Sn**	**11 49 37.3**	**0.0**
DAV	**Davao City (W)**	**2.83**	**319**	LR	LR	11 50 25.2	
	comp=Z,130nm,19.8s,baz=218,slow=43						
TNTI	**Ternate**	**4.11**	**181**	P	**Pn**	**11 49 37.0**	**+2.5**
LBMI	**Labuha**	**5.51**	**179**	P	**Pn**	**11 49 55.7**	**+2.2**
	91nm,0.9s,1μm0.3nm						
KMSI	**Cibinong**	**5.52**	**219**	P	**Pn**	**11 49 55.6**	**+2.0**
	356nm,0.6s,4μm1.5nm						
GTOI	**Gorontalo**	**6.13**	**226**	P	**Pn**	**11 50 02.8**	**+0.9**
	46nm,0.7s,370nm0.2nm						
MRSI	**Marisa**	**7.04**	**231**	P	**Pn**	**11 50 15.7**	**+1.5**
	145nm,0.5s,2μm0.6nm						
SANI	**Sanana**	**7.07**	**192**	P	**Pn**	**11 50 12.9**	**-1.7**
LUWI	**Luwuk**	**7.53**	**218**	P	**Pn**	**11 50 20.0**	**-0.9**
	91nm,0.8s,1μm0.3nm						
NLAI	**Namlea**	**8.10**	**182**	P	**Pn**	**11 50 29.2**	**+0.5**
WRA	**Warramunga Arr**	**25.61**	**165**	P	**P**	**11 53 52.7**	**-1.3**
	1.8nm,0.8s,baz=337,slow=10,SNR=20						
	1.8nm,0.8s						
ASAR	**Alice Springs**	**29.10**	**168**	P	**P**	**11 54 24.4**	**-0.8**
	0.4nm,0.5s,baz=352,slow=7.8,SNR=5.2						
	0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**30.91**	**298**	LR	LR	12 06 26.6	
	comp=Z,7.9nm,19.9s,baz=180,slow=36						
STKA	**Stephens Creek**	**38.99**	**161**	P	**P**	**11 55 50.0**	**-0.6**
	2.4nm,0.5s,baz=337,slow=8.9,SNR=12						
	2.4nm,0.5s						
SONM	**Songino Array**	**46.42**	**340**	P	**P**	**11 56 51.1**	**+0.6**
	0.4nm,0.5s,baz=148,slow=8.6,SNR=2.7						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**57.00**	**324**	P	**P**	**11 58 08.7**	**-0.4**
	0.5nm,0.4s,baz=119,slow=8.5,SNR=9.6						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**61.14**	**327**	P	**P**	**11 58 37.2**	**-0.3**
	1.7nm,0.6s,baz=127,slow=6.2,SNR=21						
	1.7nm,0.6s						
BVAR	**Borovoye Array**	**66.72**	**327**	P	**P**	**11 59 14.2**	**+0.1**
	0.6nm,0.4s,baz=123,slow=9.3,SNR=5.1						
	0.6nm,0.4s						

*IDC **31** 11:52:19.7±2.4, 8°07S×80°51W, h0km, mbtmp4.1/3, ML3.9/3, Error ellipse: s-maj=38.5km s-min=32.6km az=156.0*

*NEIC **31** 11:52:26.5±2.6, 8°34S±0°09×80°0W±0°1, h35km±2km, mb3.9/3, Error ellipse: s-maj=23.9km s-min=13.6km az=247.0*

ISC 31 11:52:21.2±1.3, 8°44S±0°07×80°2W±0°1, h10km, n24, σ1§33/15, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.17**	**53**	Pn	**Pn**	**11 52 59.7**	**+1.8**
	35nm,0.3s,baz=246,slow=11,SNR=126						
ATAH				Sn	**Sb**	**11 53 27.9**	**-0.2**
	61nm,0.3s,baz=18,slow=9.2,SNR=4.1						
	116nm,0.4s						
MCRA	**Macar, Loja**	**4.05**	**3**	Pn	**Pn**	**11 53 24.2**	**+0.8**
NNA	**Nana**	**4.80**	**137**	Pn	**Pn**	**11 53 34.4**	**+0.7**
NNA	**Nana**	**4.80**	**137**	Pn	Pn	11 53 39.4	+5.7
	9.1nm,0.3s,baz=311,slow=12,SNR=12						
NNA				Sn	**Sb**	**11 54 44.1**	**+0.6**
	11nm,0.3s,baz=144,slow=6.2,SNR=5.4						
	14nm,0.3s						
COHC	**Cochancay**	**6.00**	**9**		**Pn**	**11 53 52.3**	**+2.1**
CHSH	**Refugio Sur-Vo**	**7.02**	**11**		**Pn**	**11 54 06.1**	**+1.3**
CZSB	**Cruzeiro do Su**	**7.41**	**85**	Pn	**Pn**	**11 54 10.4**	**+0.8**
SLOR	**San Lorenzo -**	**7.84**	**12**		**Pn**	**11 54 17.2**	**+1.4**
ETMB	**Extrema**	**13.83**	**97**	Pn	Pn	11 55 32.1	-5.5
LPAZ	**La Paz**	**14.09**	**125**	Pn	**P**	**11 55 49.8**	**+0.3**
	0.2nm,0.3s,baz=317,slow=13,SNR=6.4						
	2.2nm,0.8s						
SAML	**Samuel**	**16.79**	**93**	Pn	**Pn**	**11 56 14.4**	**-2.2**
SAML				IAmb	IAmb	11 56 23.6	
	comp=Z,8.9nm,1.2s						
BAUV	**El Baul**	**21.07**	**35**		**P**	**11 57 04.3**	**-1.5**
BAUV				IAmb	IAmb	11 57 17.4	
	comp=Z,16nm,0.9s						
PTLB	**Pontes e Lacer**	**21.70**	**111**	P	**P**	**11 57 12.3**	**-0.3**
PTLB				IAmb	IAmb	11 57 13.7	
	comp=Z,3.9nm,0.9s						
H03N2	**Juan Fernandez**	**24.90**	**178**	T	T	12 23 50.6	
	baz=357,slow=75,SNR=78						
H03N1	**Juan Fernandez**	**24.91**	**178**	T	T	12 23 50.9	
	baz=357,slow=75,SNR=97						
H03N3	**Juan Fernandez**	**24.92**	**178**	T	T	12 23 49.8	
	baz=357,slow=75,SNR=85						
H11N3	**WAKE ISLAND Hyl**	**14.34**	**288**	T	T	14 15 21.4	
	baz=91,slow=74,SNR=3.0						
H11N2	**WAKE ISLAND Hyl**	**14.35**	**288**	T	T	14 15 19.8	
	baz=91,slow=74,SNR=4.7						
H11N1	**WAKE ISLAND Hyl**	**14.35**	**288**	T	T	14 15 37.7	
	baz=91						
H11S2	**WAKE ISLAND Hyl**	**14.51**	**286**	T	T	14 15 47.0	
	baz=89						
H11S1	**WAKE ISLAND Hyl**	**14.52**	**286**	T	T	14 15 37.9	
	baz=89						
H11S3	**WAKE ISLAND Hyl**	**14.53**	**286**	T	T	14 15 39.5	
	baz=89						
ASAR	**Alice Springs**	**133.89**	**225**	PKP	**PKPdf**	**12 11 39.6**	**0.0**
	comp=Z,0.2nm,0.7s,baz=123,slow=3.4,SNR=1.8						
WRA	**Warramunga Arr**	**135.86**	**230**	PKP	**PKPdf**	**12 11 42.8**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=128,slow=2.3,SNR=2.5						

IDC 31 12:48:17.8±3.3, 27°34N×87°53E, h0km, mb3.3/2, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=110.0km s-min=33.3km az=76.0, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**19.85**	**349**	P	P	12 52 50.4	+0.1
	0.1nm,0.3s,baz=178,slow=11,SNR=5.1						
	0.5nm,0.7s						
SONM	**Songino Array**	**25.21**	**31**	P	P	12 53 45.2	-0.1
	0.7nm,0.8s,baz=218,slow=9.9,SNR=4.0						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**67.64**	**134**	P	P	12 59 16.9	0.0
	0.1nm,0.6s,baz=315,slow=6.9,SNR=4.3						
	0.1nm,0.6s						

*IDC **31** 12:53:38.4±1.8, 32°10N×48°41E, h0km, mb3.8/12, mbtmp3.8/16, ML3.4/4, MS3.4/34, Error ellipse: s-maj=37.2km s-min=16.6km az=160.0*

*TEH **31** 12:53:39.5, 31°86N×48°63E, h19km±26km, ML4.1*

ISC 31 12:53:38.4±0.6, 31°82N±0°06×48°59E±0°06, h10km, n84, σ1§41/58, mb3.8/15, MS3.5/26, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.49**	**174**	Pg	**Pb**	**12 53 50.3**	**+1.1**
IKFM	**Kafar-mosalman**	**1.81**	**340**	Pg	**Pn**	**12 54 11.1**	**+1.5**
JHBN	**Jahan bin**	**1.81**	**77**	Pg	**Pn**	**12 54 10.9**	**+0.9**
ZNGN	**Zangian**	**1.95**	**81**	Pn	**Pn**	**12 54 13.1**	**+1.2**
IDOB	**Doab**	**1.99**	**350**	Pn	**Pn**	**12 54 13.5**	**+1.2**
IPIR	**Pirpir**	**2.13**	**66**	Pn	**Pn**	**12 54 15.6**	**+1.2**
IBRJ	**Brojen**	**2.28**	**87**	Pn	**Pn**	**12 54 18.0**	**+1.7**
HSAM	**Samen**	**2.38**	**0**	Pn	**Pn**	**12 54 19.4**	**+1.7**
ILBA	**Ilam Banvizeh**	**2.69**	**312**	Pn	**Pn**	**12 54 23.2**	**+1.3**
KLNJ	**Kolanjah**	**2.69**	**107**	Pn	**Pn**	**12 54 23.1**	**+0.9**
KCHF	**Cheshme Sefid,**	**2.77**	**332**	Pn	**Pn**	**12 54 24.8**	**+1.8**
IKLH	**Kolahrood**	**2.93**	**59**	Pn	**Pn**	**12 54 26.7**	**+1.4**
IGAR	**Gharneh**	**2.99**	**78**	Pn	**Pn**	**12 54 27.3**	**+1.2**
IGHG	**Ghaleghazi**	**3.02**	**326**	Pn	**Pn**	**12 54 28.0**	**+1.5**
HAGD	**Aghdareh**	**3.02**	**9**	Pn	**Pn**	**12 54 28.3**	**+1.7**
QAMS	**Qamsar**	**3.04**	**50**	Pn	**Pn**	**12 54 28.3**	**+1.4**
IRAM	**Ramesheh**	**3.23**	**89**	Pn	**Pn**	**12 54 30.5**	**+1.1**
IZEF	**Zefreh**	**3.34**	**70**	Pn	**Pn**	**12 54 32.3**	**+1.3**
ILIN	**Lien**	**3.37**	**337**	Pn	**Pn**	**12 54 33.5**	**+2.1**
IDHR	**Dehrash**	**3.41**	**328**	Pn	**Pn**	**12 54 33.0**	**+1.1**
IQOM	**Qom**	**3.66**	**34**	Pn	**Pn**	**12 54 36.3**	**+0.9**
IRAZ	**Razeghan**	**3.74**	**17**	Pn	**Pn**	**12 54 37.9**	**+1.5**
ISFB	**Sefidab**	**3.97**	**50**	Pn	**Pn**	**12 54 40.0**	**+0.5**
IVRN	**Varamin**	**4.11**	**39**	Pn	**Pn**	**12 54 42.4**	**+1.0**
IMHD	**Mahdasht**	**4.22**	**24**	Pn	**Pn**	**12 54 44.2**	**+1.2**
ANAR	**Anarak**	**4.55**	**71**	Pn	**Pn**	**12 54 48.4**	**+0.9**
IDMV	**Damavand**	**4.72**	**37**	Pn	**Pn**	**12 54 50.7**	**+0.8**
IFIR	**Firoozkooh**	**5.15**	**41**	Pn	**Pn**	**12 54 57.0**	**+1.1**
IMEH	**Mehriz**	**5.16**	**93**	Pn	**Pn**	**12 54 56.9**	**+0.9**
MZPU	**Pul - Mazandar**	**5.23**	**27**	Pn	**Pn**	**12 54 58.6**	**+1.7**
IPRN	**Peran**	**5.40**	**34**	Pn	**Pn**	**12 55 00.5**	**+1.4**
MAHB	**Mahabad**	**5.48**	**335**	Pn	**Pn**	**12 55 01.3**	**+1.1**
IAZR	**Azarshahr**	**6.22**	**341**	Pn	**Pn**	**12 55 12.3**	**+1.7**
GRMI	**Germi**	**6.99**	**356**	Pn	**Pn**	**12 55 22.7**	**+1.7**
GNI	**Garni**	**8.87**	**341**	LR	LR	12 58 30.6	
	comp=Z,32nm,19.2s,baz=159,slow=34						
GEYT	**Alibeck**	**9.91**	**49**	Pn	**Pn**	**12 56 03.2**	**+2.2**
	0.4nm,0.3s,baz=226,slow=10,SNR=3.9						
GEYT				LR	LR	13 00 35.1	
	comp=Z,450nm,20.9s,baz=278,slow=42						
	2.4nm,0.7s						
ASF	**Jabal al Asfar**	**9.93**	**275**	Pn	**Pn**	**12 56 00.6**	**-0.8**
	0.7nm,0.3s,baz=112,slow=0.2,SNR=4.4						
ASF				LR	LR	13 00 53.0	
	comp=Z,141nm,19.1s,baz=333,slow=44						
	7.7nm,1.0s						
MMAI	**Mount Meron Ar**	**11.21**	**280**	LR	LR	13 01 53.9	
	comp=Z,134nm,18.4s,baz=38,slow=45						
EIL	**Elat**	**11.93**	**263**	LR	LR	13 02 15.0	
	comp=Z,182nm,18.1s,baz=67,slow=44						
WSAR	**Wadi Sarin**	**12.34**	**131**	Pn	**Pn**	**12 56 33.3**	**-1.0**
	0.4nm,0.3s,baz=353,slow=7.5,SNR=6.2						
WSAR				Sn	Sn	12 58 42.9	-9.1
	0.2nm,0.3s,baz=330,slow=18,SNR=2.5						
WSAR				LR	LR	13 02 26.6	
	comp=Z,52nm,19.2s,baz=330,slow=42						
KBZ	**Khabaz**	**12.70**	**341**	LR	LR	13 01 11.2	
	comp=Z,42nm,21.9s,baz=160,slow=36						
KVAR	**Kislovodsk Arr**	**12.97**	**341**	LR	LR	13 01 22.9	
	comp=Z,315nm,21.9s,baz=47,slow=37						
BRTR	**Keskin Array B**	**14.46**	**307**	Pn	**Pn**	**12 57 03.1**	**-0.1**
	0.1nm,0.3s,baz=123,slow=13,SNR=4.5						
	0.4nm,0.6s						
AKTO	**Aktyubinsk**	**19.87**	**18**	P	**P**	**12 58 09.7**	**0.0**
	0.2nm,0.3s,baz=182,slow=11,SNR=4.4						
AKTO				LR	LR	13 07 54.6	
	comp=Z,77nm,21.1s,baz=255,slow=44						
	1.3nm,0.6s						
IDI	**Anoyia**	**20.04**	**286**	P	**P**	**12 58 11.4**	**-0.3**
	0.1nm,0.9s,baz=91,slow=13,SNR=3.7						
BELG	**Belogornoye**	**20.57**	**358**	P	**P**	**12 58 15.9**	**-1.2**
	11nm,0.9s,baz=181,slow=14,SNR=3.0						
	11nm,0.9s						
MLR	**Muntele Rosu**	**22.24**	**314**	P	**P**	**12 58 37.3**	**+1.9**
	4.7nm,0.7s,baz=112,slow=19,SNR=6.4						
AAK	**Ala-Archa**	**23.19**	**55**	LR	LR	13 09 10.9	
	comp=Z,281nm,19.5s,baz=262,slow=40						
AKASG	**Malin Array Be**	**23.70**	**328**	P	**P**	**12 58 48.7**	**-1.5**
	0.2nm,0.3s,baz=144,slow=10.0,SNR=6.1						
	0.2nm,0.3s						
ARU	**Ati**	**25.57**	**13**	LR		13 12 42.3	
	comp=Z,67nm,18.7s,baz=210,slow=45						
BVAR	**Borovoye Array**	**26.41**	**30**	P	**P**	**12 59 14.3**	**-0.7**
	1.5nm,0.5s,baz=224,slow=7.3,SNR=9.0						
BVAR				LR	LR	13 11 36.0	
	comp=Z,107nm,19.1s,baz=224,slow=41						
	1.5nm,0.5s						
KIRV	**Kirov**	**26.77**	**1**	LR	LR	13 11 34.6	
	comp=Z,39nm,18.8s,baz=185,slow=41						
VYHS	**Vyhne**	**27.94**	**315**	*e*P	**P**	**12 59 33.0**	**+4.1**
KURBB	**Kurchatov Arra**	**29.03**	**41**	P	**P**	**12 59 38.7**	**+0.2**
	0.4nm,0.5s,baz=245,slow=9.1,SNR=5.9						
KURBB				LR	LR	13 12 48.4	
	comp=Z,93nm,20.0s,baz=170,slow=40						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**29.79**	**50**	P	**P**	**12 59 46.6**	**+1.3**
	0.5nm,0.7s,baz=241,slow=9.8,SNR=4.6						
MKAR				LR	LR	13 13 13.6	
	comp=Z,79nm,20.3s,baz=251,slow=40						
	0.5nm,0.7s						
WTTA	**Wattenberg**	**32.05**	**310**	*i* pP	**P**	**13 00 07.7**	**+2.3**
	13nm,1.6s						
MOTA	**Moosalm**	**32.42**	**309**	*e*P	**P**	**13 00 08.5**	**-0.2**
	5.3nm,1.2s						
FETA	**Feichten**	**32.59**	**309**	*i* P	**P**	**13 00 10.4**	**+0.3**
	3.7nm,0.9s						
FINES	**FINESS Array B**	**33.06**	**340**	P	**P**	**13 00 12.5**	**-1.3**
	0.4nm,0.3s,baz=143,slow=8.8,SNR=7.9						
	0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**33.99**	**39**	P	**P**	**13 00 22.5**	**+0.4**
	0.4nm,0.4s,baz=248,slow=10,SNR=3.1						
ZALV				LR	LR	13 15 18.9	
	comp=Z,52nm,20.0s,baz=245,slow=38						
	0.4nm,0.4s						
NB2	**NORSAR Subarra**	**38.03**	**331**	P	**P**	**13 00 54.8**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=122,slow=8.6						
NOA	**NORSAR Array B**	**38.03**	**331**	P	**P**	**13 00 55.0**	**-1.7**
	comp=Z,0.9nm,0.9s,baz=122,slow=8.4,SNR=3.3						
	comp=Z,0.9nm,0.9s						
BRDH	**Bariadhala**	**39.14**	**93**	LR	LR	13 18 24.1	
	comp=Z,1μm,21.4s,slow=38						
ARCES	**ARCESS Array B**	**39.95**	**348**	P	**P**	**13 01 11.3**	**-1.2**
	comp=Z,2.1nm,0.9s,baz=142,slow=10,SNR=1.3						
	comp=Z,2.1nm,0.9s						
ESDC	**Sonseca Array**	**42.85**	**296**	P	**P**	**13 01 36.6**	**-0.2**
	comp=Z,0.6nm,0.9s,baz=72,slow=8.0,SNR=1.5						
	comp=Z,0.6nm,0.9s						
SONM	**Songino Array**	**46.11**	**52**	LR	LR	13 23 11.9	
	comp=Z,51nm,21.5s,baz=274,slow=38						
TORD	**Torodi Ar. Bea**	**46.74**	**258**	P	**P**	**13 02 08.7**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=54,slow=7.6,SNR=12						
TORD				LR	LR	13 22 11.1	
	comp=Z,42nm,18.6s,baz=36,slow=37						
	comp=Z,0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**47.10**	**94**	LR	LR	13 25 43.2	
	comp=Z,22nm,18.0s,baz=315,slow=41						
SPITS	**Spitsbergen Ar**	**48.55**	**352**	P	**P**	**13 02 20.5**	**-0.8**
	comp=Z,10.0nm,0.9s,baz=156,slow=11,SNR=6.3						
	comp=Z,10.0nm,0.9s						
LSZ	**Lusaka**	**50.76**	**206**	LR	LR	13 26 21.1	
	comp=Z,98nm,18.4s,baz=160,slow=38						
DBIC	**Dimbokro**	**55.65**	**255**	LR	LR	13 30 11.8	
	comp=Z,109nm,19.1s,baz=276,slow=40						
TIXI	**Tiksi**	**57.09**	**22**	LR	LR	13 32 20.9	
	comp=Z,40nm,19.4s,baz=220,slow=41						
YAK	**Yakutsk**	**58.34**	**33**	LR	LR	13 30 10.1	
	comp=Z,47nm,21.4s,baz=118,slow=38						
LBTB	**Lobatse**	**60.64**	**204**	LR	LR	13 30 52.2	
	comp=Z,70nm,19.7s,baz=54,slow=37						
KLR	**Kul'dur**	**62.44**	**47**	LR	LR	13 31 04.2	
	comp=Z,30nm,18.4s,baz=351,slow=36						
KSRS	**Korea Array**	**63.70**	**61**	LR	LR	13 36 19.1	
	comp=Z,20nm,18.1s,baz=280,slow=40						
BOSA	**Boshof**	**64.07**	**203**	LR	LR	13 33 26.9	
	comp=Z,92nm,19.2s,baz=24,slow=37						
USRK	**Ussuriysk Ar.**	**64.22**	**53**	LR	LR	13 35 59.3	
	comp=Z,43nm,18.9s,baz=303,slow=40						
JNU	**Nakatsue**	**67.59**	**64**	LR	LR	13 39 03.4	
	comp=Z,34nm,21.7s,baz=295,slow=40						
MA2	**Badan**	**68.88**	**32**	LR	LR	13 40 11.7	
	comp=Z,32nm,18.6s,baz=263,slow=41						
ASAJ	**Asahikawa**	**71.27**	**49**	LR	LR	13 37 06.4	
	comp=Z,42nm,18.9s,baz=287,slow=37						
MJAR	**Matsushiro Arr**	**71.60**	**58**	LR	LR	13 38 42.5	
	comp=Z,47nm,18.5s,baz=329,slow=38						
PETK	**Petropavlovsk-**	**75.48**	**36**	LR	LR	13 43 59.8	
	comp=Z,43nm,18.3s,baz=269,slow=40						
ILAR	**Eielson Array**	**82.96**	**7**	LR	LR	13 48 43.3	
	comp=Z,25nm,18.4s,baz=105,slow=40						

IDC 31 13:39:47.3±2.8, 7°11S×128°90E, h0km, mb3.3/1, mbtmp3.2/3, ML3.1/2, MS2.9/1, Error ellipse: s-maj=264.3km s-min=33.5km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.81**	**158**	Pn	Pn	13 43 04.4	-0.1
	0.1nm,0.3s,baz=338,slow=15,SNR=7.1						
WRA				Sn	Sn	13 45 28.7	-10
	0.2nm,0.3s,baz=335,slow=22,SNR=7.0						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**17.15**	**164**	P	Pn	13 43 48.8	+0.1
	0.1nm,0.3s,baz=336,slow=11,SNR=11						
ASAR				S	Sn	13 46 52.9	-7.3
	0.3nm,0.8s,baz=314,slow=20,SNR=4.3						
ASAR				LR	LR	13 51 35.6	
	comp=Z,40nm,19.3s,baz=266,slow=41						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**67.72**	**327**	P	P	13 50 46.7	0.0
	0.1nm,0.4s,baz=123,slow=5.3,SNR=1.8						
	0.1nm,0.4s						

*AFAD **31** 13:40:06.7±0.0, 38°81N×26°44E, h11km±1km, ML2.7*

*ISK **31** 13:40:06.5, 38°82N×26°42E, h10km, ML2.8/12*

*ATH **31** 13:40:07.0, 38°83N×26°46E, h15km±1km, ML2.6/5, Error ellipse: s-maj=2.3km s-min=1.0km az=268.0*

*THE **31** 13:40:07.0, 38°83N×26°42E, h7km±3km, ML2.4/7, Error ellipse: s-maj=3.2km s-min=0.5km az=347.0*

ISC 31 13:40:06.9±0.8, 38°82N±0°01×26°44E±0°02, h14km±6km, n59, σ0§68/100, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.16**	**186**	P	**Pg**	**13 40 10.8**	**-0.1**
KARB				*i* AML	AML	13 40 13.0	
	comp=E,3μm,0.2s						
KARB				*i* AML	AML	13 40 13.0	
	comp=N,2μm,0.4s						
KARB				S	**Sg**	**13 40 13.4**	**-0.1**
FOCM	**Foa**	**0.26**	**115**	Pg	**Pg**	**13 40 12.4**	**0.0**
FOCM				Sg	**Sg**	**13 40 16.7**	**+0.6**
LESV	**Lesvos island,**	**0.30**	**19**	P	**Pg**	**13 40 12.8**	**-0.4**
LESV				S	**Sg**	**13 40 17.0**	**-0.4**
	4μm,0.2s						
CAND	**Candarli**	**0.32**	**65**	Pg	**Pg**	**13 40 13.6**	**+0.2**
CAND				Sg	**Sb**	**13 40 18.8**	**-0.5**
IZMD	**zmir-Dikili-**	**0.42**	**67**	P	**Pg**	**13 40 15.0**	**-0.3**
IZMD				S	**Sg**	**13 40 20.9**	**-0.1**
PRK	**Paraskevi**	**0.44**	**343**	P	**Pg**	**13 40 15.5**	**-0.2**
PRK				S	**Sg**	**13 40 21.9**	**+0.2**
	645nm,0.2s						
PRK	**Paraskevi**	**0.44**	**343**	P	**Pg**	**13 40 15.6**	**-0.1**
PRK				S	**Sg**	**13 40 21.9**	**+0.2**
PRK				AML	AML	13 40 26.5	
	comp=E,1201μm,0.2s						
PRK				AML	AML	13 40 27.7	
	comp=N,2114μm,0.2s						
DKL	**Dikili**	**0.44**	**56**	Pg	**Pg**	**13 40 15.8**	**+0.1**
DKL				Sg	**Sb**	**13 40 22.4**	**-0.6**
URLA	**Izmir**	**0.48**	**165**	Pg	**Pg**	**13 40 16.2**	**-0.2**
URLA				Sg	**Sg**	**13 40 23.4**	**+0.5**
URLA	**Izmir**	**0.48**	**165**	P	**Pg**	**13 40 16.0**	**-0.5**
URLA				S	**Sg**	**13 40 23.4**	**+0.5**
URLA				*i* AML	AML	13 40 24.0	
	comp=N,575nm,0.3s						
CESE	**eme**	**0.50**	**192**	Pg	**Pg**	**13 40 16.5**	**-0.3**
ZEDA	**zmir-Bergama**	**0.52**	**74**	P	**Pg**	**13 40 16.4**	**-0.8**
ZEDA				S	**Sg**	**13 40 24.5**	**+0.4**
AYVA	**Ayvalik**	**0.52**	**22**	P	**Pg**	**13 40 17.0**	**-0.2**
AYVA				S	**Sb**	**13 40 25.2**	**-0.1**
AYVA				*i* AML	AML	13 40 28.0	
	comp=N,205nm,0.2s						
CHOS	**Chios island**	**0.53**	**214**	P	**Pg**	**13 40 17.5**	**+0.2**
CHOS				S	**Sg**	**13 40 24.9**	**+0.5**
	comp=N,742nm,0.2s						
CHOS	**Chios island**	**0.53**	**214**	P	**Pg**	**13 40 17.7**	**+0.3**
CHOS				S	**Sg**	**13 40 25.1**	**+0.7**
CHOS				AML	AML	13 40 29.9	
	comp=E,1923μm,0.2s						
CHOS				AML	AML	13 40 30.5	
	comp=N,1048μm,0.3s						
ZEYE	**Izmir, Urla-Ze**	**0.59**	**175**	P	**Pg**	**13 40 18.6**	**+0.2**
ZEYE				S	**Sn**	**13 40 29.7**	**-0.5**
SIGR	**SIGRI**	**0.59**	**311**	Pg	**Pg**	**13 40 18.7**	**+0.1**
SIGR	**SIGRI**	**0.59**	**311**	P	**Pg**	**13 40 18.6**	**+0.1**
SIGR				S	**Sg**	**13 40 26.8**	**+0.3**
	comp=N,375nm,0.2s						
SIGR	**SIGRI**	**0.59**	**311**	P	**Pg**	**13 40 18.6**	**+0.1**
SIGR				S	**Sg**	**13 40 27.0**	**+0.5**
SIGR				AML	AML	13 40 30.5	
	comp=N,661μm,0.2s						
SIGR				AML	AML	13 40 31.4	
	comp=E,822μm,0.2s						
BLCB	**Balcova**	**0.65**	**132**	Pg	**Pg**	**13 40 19.7**	**+0.2**
BLCB	**Balcova**	**0.65**	**132**	P	**Pg**	**13 40 19.2**	**-0.3**
BLCB				S	**Sb**	**13 40 30.4**	**+1.6**
GPNR	**Gulpinar-Canak**	**0.67**	**340**	Pg	**Pg**	**13 40 19.9**	**-0.2**
KOCA	**Canakkale, Ayv**	**0.72**	**341**	P	**Pg**	**13 40 20.6**	**-0.3**
KOCA				S	**Sn**	**13 40 33.2**	**-0.3**
PSRA	**Psara**	**0.74**	**248**	P	**Pg**	**13 40 21.1**	**-0.2**
PSRA				S	**Sb**	**13 40 31.9**	**+0.4**
PSRA				AML	AML	13 40 34.5	
	comp=E,1703μm,0.2s						
PSRA				AML	AML	13 40 34.6	
	comp=N,1500μm,0.2s						
BUHA	**Balikesir, Bur**	**0.84**	**36**	P	**Pb**	**13 40 23.3**	**0.0**
BUHA				S	**Sb**	**13 40 35.8**	**+1.3**
BUHA				*i* AML	AML	13 40 38.0	
	comp=N,113nm,0.3s						
BUHA				*i* AML	AML	13 40 40.0	
	comp=N,147nm,0.3s						
DGB	**zmir**	**0.85**	**155**	P	**Pg**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESAO	**Su ao**	**0.04**	**344**	*e*P	Pg	13 42 53.7	+0.1
	baz=343						
ESAO				S	Sg	13 42 54.9	+0.4
	baz=343						
TWC	**Suao**	**0.07**	**355**	*i* P	Pg	13 42 54.3	+0.3
	baz=2.0						
TWC				S	Sg	13 42 55.5	+0.2
	baz=2.0						
EWUT	**Wuta**	**0.12**	**218**	P	Pg	13 42 55.1	+0.4
	baz=217						
EWUT				S	Sg	13 42 56.9	+0.5
	baz=217						
ENA	**Nanau**	**0.15**	**224**	*i* P	Pg	13 42 55.8	+0.5
	baz=221						
ENA				S	Sg	13 42 57.9	+0.5
	baz=221						
ENTT	**Nioudou**	**0.28**	**291**	*e*P	Pb	13 42 58.9	-0.9
	baz=290						
FUSB	**Fushanzhiwuyua**	**0.33**	**312**	*e*P	Pb	13 43 00.0	-0.6
	baz=312						
FUSB				*e*S	Sg	13 43 04.6	+1.5
	baz=312						
NWLT	**Wulai**	**0.40**	**307**	*e*P	Pb	13 43 01.1	-0.7
	baz=299						
NWLT				*e*S	Sg	13 43 06.0	+0.7
	baz=299						

JMA 31 13:43:05.8±0.2, 24°.3N±0°.4×123°.8E±0°.5, h15km±1km, MV1.3/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.10**	**327**	P	Pg	13 43 09.1	-0.1
IRIF				S	Sb	13 43 11.8	-0.2
HATJ	**Hateruma jima**	**0.19**	**176**	P	Pg	13 43 10.2	-0.2
HATJ				S	Sg	13 43 13.6	+0.2
JKRS	**Kuro-shima**	**0.20**	**93**	P	Pg	13 43 10.6	+0.1
JKRS				*e*S	Sb	13 43 14.2	-0.6
JIJ	**Ishigaki jima**	**0.34**	**70**	P	Pg	13 43 12.6	-0.3
JIJ				S	Sg	13 43 17.6	-0.1
JISG	**Ishigakijimahi**	**0.58**	**55**	P	Pg	13 43 17.2	-0.1
JISG				*e*S	Sb	13 43 25.8	+0.1

IDC 31 14:12:10.3±6.7, 6°.00S×151°.55E, h98km±59km, mb3.5/4, mbtmp3.9/5, ML1.2/1, Error ellipse: s-maj=81.5km s-min=31.5km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.51**	**232**	P	Pn	14 13 29.7	-0.3
	0.5nm,0.3s,baz=56,slow=15,SNR=2.7						
PMG				S	Sn	14 14 33.1	+1.1
	29nm,0.6s,baz=227,slow=20,SNR=8.7 7.5nm,0.8s						
WRA	**Warramunga Arr**	**21.72**	**229**	P	P	14 16 53.6	-0.1
	1.4nm,0.5s,baz=55,slow=10.0,SNR=17 1.4nm,0.5s						
ASAR	**Alice Springs**	**24.43**	**222**	P	P	14 17 19.7	-0.3
	1.8nm,0.6s,baz=56,slow=8.9,SNR=35 1.8nm,0.6s						
ILAR	**Eielson Array**	**83.73**	**22**	P	P	14 24 28.1	0.0
	0.7nm,0.7s,baz=246,slow=5.6,SNR=6.3 0.7nm,0.7s						
QSPA	**South Pole Qui**	**83.97**	**180**	P	P	14 24 29.8	+0.4
	0.9nm,0.6s,baz=253,slow=2.3,SNR=8.5 0.9nm,0.6s						

*NEIC **31** 14:33:39.1±1.3, 36°.863N±0°.009×121°.603W±0°.009, h5km±1km, Error ellipse: s-maj=2.1km s-min=1.6km az=33.0*

NCEDC 31 14:33:39.3±1.1, 36°.860N±0°.009×121°.59W±0°.01, h6km±1km, ML3.0/35, ML2.9/48(NEIC), Error ellipse: s-maj=1.4km s-min=1.0km az=46.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANZ	**Anzar Road**	**0.03**	**1**		Pg	14 33 40.4	-0.1
HBTM	**San Juan Bauti**	**0.03**	**106**		Pg	14 33 40.6	0.0
HSFM	**Saint Francis**	**0.09**	**123**		Pg	14 33 41.6	+0.2
OCR	**O'Connell Ranc**	**0.09**	**49**		Pg	14 33 40.5	-0.8
HCBM	**Chamberlain**	**0.09**	**322**		Pg	14 33 41.5	+0.1
HCOM	**Corn Cob Canyo**	**0.10**	**287**		Pg	14 33 41.9	+0.4
HERM	**Elkhorn Road**	**0.11**	**237**		Pg	14 33 42.3	+0.5
FRP	**Fremont Peak**	**0.13**	**142**		Pg	14 33 42.1	0.0
SAO	**San Andreas Ge**	**0.15**	**129**	Pg	Pg	14 33 42.1	-0.3
HLPM	**Lions Peak**	**0.18**	**350**		Pg	14 33 43.5	+0.5
CDC	**Canada Road**	**0.19**	**27**		Pg	14 33 43.6	+0.6
HCAM	**Canada Road**	**0.19**	**27**		Pg	14 33 43.7	+0.6
HFEM	**San Felipe**	**0.20**	**51**		Pg	14 33 44.0	+0.7
BSRM	**Salinas Radio**	**0.20**	**163**		Pg	14 33 43.4	0.0
JELB	**Ellicott, Sant**	**0.20**	**290**		Pg	14 33 43.8	+0.5
JELB					Sg	14 33 47.4	+1.4
BSLM	**Silva Ranch**	**0.21**	**113**		Pg	14 33 44.6	+1.1
HLTM	**Lone Tree Road**	**0.23**	**84**		Pg	14 33 40.6	-3.3
GHS	**Gilroy Hot Spr**	**0.26**	**26**		Pg	14 33 45.1	+0.6
PACP	**Pacheco Peak**	**0.28**	**59**		Pg	14 33 45.7	+0.8
PACP					Sg	14 33 50.3	+1.6
BPCNC	**Pine Canyon**	**0.29**	**186**		Pg	14 33 45.4	+0.4
SCZ	**Santa Cruz**	**0.30**	**150**		Pg	14 33 45.1	-0.2
SCZ					Sg	14 33 49.3	+0.1
CADM	**Anderson Res.**	**0.30**	**355**		Pg	14 33 45.8	+0.5
JLAB	**Laurel Hill**	**0.32**	**339**		Pg	14 33 45.9	+0.4
BJOM	**Mount Johnson**	**0.32**	**136**		Pg	14 33 45.7	+0.1
HPCM	**Pacheco Lake**	**0.32**	**52**		Pg	14 33 46.4	+0.7
BJCM	**Johnson Can.**	**0.35**	**153**		Pg	14 33 46.0	-0.1
SLD	**San Luis Dam**	**0.37**	**54**		Pg	14 33 47.2	+0.7
SLD					Sb	14 33 52.9	-1.4
HMOM	**Monterey**	**0.37**	**225**		Pg	14 33 46.8	+0.3
CCOB	**Coe Ranch Numb**	**0.40**	**351**		Pb	14 33 48.3	-0.6
BVL	**Bear Valley**	**0.43**	**131**		Pg	14 33 47.6	0.0
C072	**Blauer Lane Sa**	**0.45**	**343**		Pg	14 33 48.7	+0.7
C054	**Valleyhaven Wa**	**0.45**	**336**		Pg	14 33 48.6	+0.5
JJOM	**Saint Joseph's**	**0.46**	**318**		Pg	14 33 48.0	-0.3
BPRM	**Ponciano Ridge**	**0.47**	**194**		Pg	14 33 48.4	+0.1
HAST	**Hastings Reser**	**0.47**	**176**		Pg	14 33 48.4	0.0
SCCB	**Santa Clara Co**	**0.48**	**333**		Pg	14 33 48.9	+0.3
MHC	**Mount Hamilton**	**0.48**	**355**		Pg	14 33 49.5	+0.8
ARN	**Arnold Ranch**	**0.49**	**5**		Pg	14 33 49.5	+0.7
BSMM	**Soledad Missio**	**0.49**	**164**		Pg	14 33 49.0	+0.1
BAVM	**Antelope Valle**	**0.50**	**115**		Pg	14 33 49.6	+0.6
BPIM	**Pinnacles**	**0.50**	**137**		Pg	14 33 48.6	-0.4
C059	**Quail Canyon R**	**0.50**	**343**		Pb	14 33 50.4	-0.2
BSGM	**Shirttail Gulc**	**0.52**	**149**		Pg	14 33 49.0	-0.4
BBGB	**Big Mountain B**	**0.53**	**122**	Pg	Pg	14 33 50.2	-0.8
CMPM	**Mikes Peak**	**0.54**	**24**		Pg	14 33 50.5	+0.7
C041	**El Campo Drive**	**0.55**	**340**		Pb	14 33 51.0	-0.3
C016	**Longford Drive**	**0.58**	**338**		Pg	14 33 51.1	+0.7
CMMM	**Mount Mocho**	**0.60**	**7**		Pg	14 33 51.6	+0.7
CALM	**Calaveras Res.**	**0.61**	**344**		Pg	14 33 51.8	+0.6
CMLM	**Mount Lewis**	**0.62**	**356**		Pb	14 33 52.0	-0.6
JSJM	**St Joseph**	**0.62**	**320**		Pg	14 33 51.4	+0.1
LRV	**Little Rabbit**	**0.63**	**133**		Pg	14 33 51.5	0.0
JBMM	**Black Mountain**	**0.64**	**316**		Pg	14 33 51.6	-0.1
MTOS	**Mt Oso, Westle**	**0.68**	**18**		Pg	14 33 52.9	+0.5
JFP	**Foothills Park**	**0.69**	**316**		Pg	14 33 52.2	-0.4
JPSM		**0.69**	**299**		Pg	14 33 52.1	-0.6
C017	**S Grimmer Bl F**	**0.70**	**338**		Pb	14 33 53.6	-0.3
C001	**Firth Court Fr**	**0.71**	**338**		Pb	14 33 53.8	-0.4
C050	**Festivo Court**	**0.71**	**338**		Pb	14 33 53.7	-0.5
JSFB	**Stanford Teles**	**0.72**	**319**		Pg	14 33 53.3	+0.2
JRSC	**Jasper Ridge**	**0.75**	**317**		Pg	14 33 53.3	-0.5
LRC	**Lone Oak Road**	**0.76**	**144**		Pg	14 33 53.3	-0.5
BGH	**Bear Gulch**	**0.77**	**309**		Pg	14 33 53.7	-0.4
WENL	**Wente Vineyard**	**0.77**	**350**		Pb	14 33 55.1	-0.1
CSTL	**Corral Hollow**	**0.78**	**5**		Pb	14 33 55.4	+0.1
CVLM	**Vallecito**	**0.79**	**346**		Pb	14 33 55.4	-0.1
CNIC	**Niles Canyon**	**0.80**	**338**		Pg	14 33 54.9	+0.1
CBZL	**Buffer Zone**	**0.84**	**353**		Pb	14 33 56.8	+0.5
PCCM	**Crazy Canyon**	**0.84**	**156**		Pg	14 33 55.3	-0.2
HULI	**Fort Hunter Li**	**0.89**	**161**		Pg	14 33 56.0	-0.3
CDOM	**Doolan Road**	**0.89**	**347**		Pg	14 33 56.3	-0.1
PMPB	**Monarch Peak**	**0.90**	**135**	Pg	Pg	14 33 56.0	-0.7
PMPB				IAML		14 34 23.7	
	comp=N,648nm,1.0s						
JCHM	**Cahill Ridge**	**0.91**	**317**		Pg	14 33 56.1	-0.6
CBSNC	**Byron Hot Spri**	**0.96**	**358**		Pb	14 33 58.2	-0.1
CSLM	**San Leandro Hi**	**0.96**	**334**		Pg	14 33 57.0	-0.7
CMOB	**Morgan Territo**	**0.96**	**350**		Pg	14 33 57.7	-0.1
SAC	**San Andreas**	**0.98**	**318**		Pg	14 33 57.3	-0.8
PSAM	**San Ardo**	**1.01**	**146**		Pg	14 33 58.1	-0.5
PJUM	**Juniper Ridge**	**1.02**	**128**		Pg	14 33 58.9	0.0
BGC	**Bolinger Road**	**1.03**	**339**		Pg	14 33 58.4	-0.6
PPTM	**Peach Tree Val**	**1.03**	**137**		Pg	14 33 58.5	-0.5
CMCM	**Mills College**	**1.03**	**333**		Pg	14 33 58.2	-0.9
JMGM	**Milagra Ridge**	**1.05**	**318**		Pg	14 33 58.0	-1.5
MYLM	**Yosemite Lake**	**1.07**	**60**		Pg	14 33 59.2	-0.7
CRPB	**Russellman Par**	**1.08**	**347**		Pg	14 33 58.8	-1.2
PDRM	**Domengine Ranc**	**1.11**	**118**		Pg	14 34 00.6	-0.1
PHSB	**Hesperia Broad**	**1.12**	**157**		Pg	14 33 59.8	-1.0
PSMM	**Smith Mountain**	**1.13**	**134**		Pg	14 34 00.3	-0.7
CVPM	**Vollmer Peak**	**1.14**	**334**		Pg	14 34 00.0	-1.2
BL67	**Building 67, L**	**1.14**	**333**		Pg	14 33 60.0	-1.3
VAK	**Adit at Lawren**	**1.14**	**333**		Pg	14 33 59.7	-1.6
BRK	**Berkeley--Havi**	**1.14**	**332**		Pg	14 33 59.6	-1.7
PHPM	**Hope Ranch**	**1.18**	**138**		Pg	14 34 00.5	-1.5
PANM	**San Antonio Re**	**1.21**	**153**		Pg	14 34 01.0	-1.5
CPIM	**Pinole Ridge**	**1.23**	**336**		Pg	14 34 01.3	-1.6
PKD	**Bear Valley Ra**	**1.25**	**137**		Pg	14 34 01.3	-1.9
PPO	**Portuguese Can**	**1.27**	**141**		Pn	14 34 02.0	-1.5
PVCM	**Vineyard Canyo**	**1.27**	**137**		Pn	14 34 01.7	-1.9
PSTM	**Stockdale Moun**	**1.28**	**136**		Pn	14 34 01.7	-2.0
RAMR	**Ramage Ranch**	**1.35**	**154**		Pn	14 34 03.2	-1.5
PWKM	**Work Ranch**	**1.36**	**140**		Pn	14 34 03.3	-1.6
CTM	**Castle Mountai**	**1.37**	**132**		Pn	14 34 04.5	-0.6
FARB	**Farallon Islan**	**1.40**	**307**		Pn	14 34 03.0	-2.4
PHAM	**Harlan Ranch**	**1.40**	**136**		Pn	14 34 03.8	-1.7
PSRM	**Scobie Ranch**	**1.46**	**133**		Pn	14 34 04.8	-1.4
ARDC	**Alexander Ranc**	**1.48**	**160**		Pn	14 34 04.8	-1.7
PKLM	**Kerr Lake**	**1.48**	**137**		Pn	14 34 05.3	-1.2
SNT	**Sears Point**	**1.49**	**333**		Pn	14 34 04.5	-2.0
TCHL	**Shandon**	**1.51**	**140**		Pn	14 34 05.7	-1.2
CMB	**Columbia Colle**	**1.52**	**39**		Pn	14 34 05.7	-1.4
PMRM	**Maxey Ranch**	**1.53**	**134**		Pn	14 34 05.6	-1.7
CVS	**Carmenet Viney**	**1.64**	**335**		Pn	14 34 06.4	-2.2
MCCM	**Marconi Confer**	**1.64**	**322**		Pn	14 34 06.3	-2.4
MCCM				IAML		14 34 35.0	
	comp=E,157nm,0.5s						
TSCN	**Private Proper**	**1.65**	**142**		Pn	14 34 07.4	-1.5
NAPC	**Atlas Peak**	**1.66**	**342**		Pn	14 34 07.3	-1.8
PBPM	**Bitterwater Pu**	**1.77**	**136**		Pn	14 34 09.4	-1.1
NBPM	**Berryessa Peak**	**1.87**	**345**		Pn	14 34 10.8	-1.0
NHSM	**Mount Saint He**	**1.97**	**336**		Pn	14 34 11.0	-2.3
NMTM	**Middletown**	**2.06**	**341**		Pn	14 34 12.8	-1.7
CARC	**Carrizo Plain**	**2.10**	**137**		Pn	14 34 13.8	-1.3
AFDM	**Forest Hills D**	**2.14**	**13**	Pn	Pn	14 34 14.7	-0.9
MDPB	**Devils Postpil**	**2.15**	**68**		Pn	14 34 15.9	0.0
MDPB				IAML		14 34 48.6	
	comp=N,129nm,0.5s						
MDPB				IAML		14 34 57.1	
	comp=E,88nm,0.6s						
MRDM	**Red Cones**	**2.15**	**69**		Pn	14 34 16.2	+0.2
GHCM	**House Creek**	**2.16**	**324**		Pn	14 34 13.6	-2.3
MINS	**Minaret Summit**	**2.17**	**68**		Pn	14 34 16.4	+0.1
MDCM	**Deadman Creek**	**2.20**	**67**		Pn	14 34 16.7	0.0
CRGC	**Crocker Grade**	**2.21**	**136**		Pn	14 34 15.5	-1.2
MEMM	**East Mammoth H**	**2.26**	**68**		Pn	14 34 17.9	+0.4
MCSM	**Casa Diablo Ho**	**2.29**	**69**		Pb	14 34 20.8	-0.4
MCBM	**Casa Benchmark**	**2.29**	**69**		Pb	14 34 20.8	-0.4
MCVM	**Convict Lake**	**2.32**	**71**		Pn	14 34 19.9	+0.6
EMB	**Emerald Bay**	**2.42**	**29**		Pn	14 34 20.3	+0.7
EMB				IAML		14 35 02.6	
	comp=E,74nm,0.7s						
HOPS	**Hopland Field**	**2.43**	**332**	Pn	Pn	14 34 17.6	-2.0
ORV	**Oroville**	**2.69**	**2**		Pn	14 34 21.7	-1.5
PNTR	**Pine Nut**	**2.73**	**35**		Pn	14 34 24.1	+0.3
PNTR				IAML		14 35 14.2	
	comp=E,58nm,0.7s						
PNTR				IAML		14 35 22.8	
	comp=N,57nm,0.9s						
ISA	**Isabella, Lake**	**2.79**	**114**	Pn	Pn	14 34 23.8	-0.7
LHV	**Little Huntoon**	**2.82**	**60**		Pn	14 34 25.7	+0.9
LHV				IAML		14 35 19.6	
	comp=E,58nm,0.7s						
LHV				IAML		14 35 23.4	
	comp=N,48nm,0.9s						
YERR	**Yerington**	**2.82**	**41**		Pn	14 34 25.7	+0.6
YERR				IAML		14 35 16.0	
	comp=N,46nm,0.5s						
DSP	**Deep Springs**	**2.94**	**79**		Pn	14 34 25.4	-1.2
DSP				IAML		14 35 15.9	
	comp=N,22nm,0.8s						
DSP				IAML		14 35 25.9	
	comp=E,26nm,0.7s						
RYN	**Ryan**	**3.00**	**53**	Pn	Pn	14 34 27.8	+0.2
RYN				IAML		14 35 17.3	
	comp=E,34nm,0.5s						
RYN				IAML		14 35 17.3	
	comp=N,29nm,0.5s						
NVAR	**Mina Array Bea**	**3.04**	**58**		Pn	14 34 26.7	-1.5
GMN	**Gold Mountain**	**3.49**	**81**		Pn	14 34 36.6	+2.3
GMN				IAML		14 35 34.6	
	comp=N,23nm,0.8s						
KVN	**Kaiserville**	**3.52**	**51**		Pn	14 34 35.7	+0.9
KVN				IAML		14 35 37.1	
	comp=E,17nm,1.0s						
S11A	**Rachel**	**4.73**	**79**	Pn	Pn	14 34 48.1	-3.2
YBH	**Yreka Blue Hor**	**4.94**	**350**	Pn	Pn	14 34 52.0	-2.2
YBH				IAML		14 35 57.1	
	comp=E,6.5nm,3.4s						
YBH				IAML		14 36 12.2	
	comp=N,7.3nm,4.5s						
KRMB	**Red Mountain**	**4.99**	**340**	Pn	Pn	14 34 55.4	+0.5
KSXB	**Camp Six Broad**	**5.27**	**341**	Pn	Pn	14 34 59.4	+0.7

*IDC **31** 14:36:07.1±0.9, 57°.78N×33°.12W, h0km, mb3.6/9, mbtmp3.7/10, ML2.5/1, MS3.2/18, Error ellipse: s-maj=29.3km s-min=19.6km az=25.0*

ISC 31 14:36:08.5±0.9, 57°.8N±0°.2×33°.2W±0°.1, h10km, n27, σ0°63/13, mb3.7/9, MS3.2/15, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**9.02**	**34**	LR	LR	14 41 01.0	
	comp=Z,95nm,19.0s,baz=244,slow=33						
SFJD	**Kangerlussuaq**	**12.25**	**326**	LR	LR	14 43 08.5	
	comp=Z,123nm,18.9s,baz=126,slow=34						
SCHQ	**Schefferville**	**18.80**	**275**	P	**P**	**14 40 27.9**	**0.0**
	0.1nm,0.3s,baz=89,slow=4.9,SNR=5.0						
SCHQ				LR	LR	14 46 36.6	
	comp=Z,86nm,19.1s,baz=96,slow=34 3.4nm,0.7s						
NOA	**NORSAR Array B**	**22.49**	**63**	LR	LR	14 48 28.6	
	comp=Z,28nm,21.3s,baz=250,slow=33						
ESDC	**Sonseca Array**	**26.11**	**121**	P	**P**	**14 41 42.5**	**+0.1**
	1.2nm,1.0s,baz=322,slow=8.1,SNR=3.6 1.2nm,1.0s						
ARCES	**ARCESS Array B**	**27.34**	**41**	LR	LR	14 50 56.1	
	comp=Z,37nm,18.9s,baz=31,slow=33						
DAVOX	**Davos/Dischmat**	**28.05**	**94**	LR	LR	14 52 38.6	
	comp=Z,60nm,18.2s,baz=263,slow=35						
GERES	**GERESS Array B**	**28.85**	**87**	LR	LR	14 52 36.9	
	comp=Z,30nm,18.4s,baz=291,slow=34						
VRAC	**Vranov**	**30.12**	**84**	LR	LR	14 53 19.8	
	comp=Z,44nm,18.5s,baz=326,slow=34						
SADO	**Sadowa**	**30.93**	**265**	LR	LR	14 53 23.3	
	comp=Z,54nm,19.4s,baz=257,slow=34						
AKASG	**Malin Array Be**	**35.95**	**74**	P	**P**	**14 43 09.9**	**+1.1**
	0.8nm,0.6s,baz=312,slow=8.3,SNR=2.3						
AKASG				LR	LR	14 58 37.8	
	comp=Z,8.9nm,18.7s,baz=286,slow=38 0.8nm,0.6s						
ULM	**Lac du Bonnet**	**36.39**	**286**	LR	LR	14 56 49.0	
	comp=Z,51nm,18.2s,baz=33,slow=34						
YKA	**Yellowknife Ar**	**38.31**	**312**	P	**P**	**14 43 28.9**	**+0.2**
	0.4nm,0.7s,baz=54,slow=9.1,SNR=7.5						
YKA				LR	LR	14 58 52.7	
	comp=Z,98nm,18.4s,baz=330,slow=36 0.4nm,0.7s						
TKL	**Tuckaleechee C**	**39.92**	**259**	LR	LR	14 58 30.2	
	comp=Z,44nm,18.7s,baz=45,slow=34						
INK	**Inuvik**	**41.60**	**327**	LR	LR	14 59 30.0	
	comp=Z,43nm,18.8s,baz=166,slow=34						
ILAR	**Eielson Array**	**47.91**	**328**	P	**P**	**14 44 47.2**	**+0.8**
	0.5nm,0.9s,baz=33,slow=6.5,SNR=5.9						
ILAR				PcP	**PcP**	**14 46 13.7**	**-0.8**
	0.5nm,0.9s,baz=360,slow=1.0,SNR=4.1 0.5nm,0.9s						
NEW	**Newport**	**48.26**	**297**	LR	LR	15 04 15.7	
	comp=Z,37nm,18.4s,baz=46,slow=35						
PDAR	**Pinedale Array**	**48.40**	**287**	LR	LR	15 03 43.2	
	comp=Z,23nm,18.0s,baz=84,slow=34						
TORD	**Torodi Ar. Bea**	**51.74**	**135**	P	**P**	**14 45 16.1**	**+0.1**
	0.9nm,0.9s,baz=340,slow=7.5,SNR=4.8 0.9nm,0.9s						
ELK	**Elko**	**52.77**	**289**	LR	LR	15 07 17.0	
	comp=Z,50nm,18.0s,baz=40,slow=35						
BVAR	**Borovoye Array**	**53.35**	**47**	P	**P**	**14 45 27.2**	**-0.3**
	0.7nm,0.7s,baz=318,slow=4.0,SNR=5.8 0.7nm,0.7s						
NVAR	**Mina Array Bea**	**56.07**	**289**	LR	LR	15 07 30.7	
	comp=Z,32nm,18.3s,baz=252,slow=34						
KURBB	**Kurchatov Arra**	**58.36**	**44**	P	**P**	**14 46 02.8**	**-0.6**
	0.4nm,0.2s,baz=323,slow=7.2,SNR=5.1 0.4nm,0.2s						
MKAR	**Makanchi Array**	**62.93**	**44**	P	**P**	**14 46 34.2**	**-0.5**
	0.3nm,0.6s,baz=350,slow=6.2,SNR=3.8 0.3nm,0.6s						
SONM	**Songino Array**	**69.57**	**28**	P	**P**	**14 47 17.4**	**0.0**
	1.0nm,0.9s,baz=343,slow=4.5,SNR=2.9 1.0nm,0.9s						
ASAR	**Alice Springs**	**144.68**	**21**	PKP	**PKPab**	**14 55 43.1**	**-0.8**
	1.1nm,0.9s,baz=344,slow=2.8,SNR=11						
QSPA	**South Pole Qui**	**147.66**	**180**	PKPbc	**PKPbc**	**14 55 51.4**	**-0.3**
	2.3nm,1.0s,baz=154,slow=3.1,SNR=3.9						

*IDC **31** 14:52:31.0±1.1, 44°.76N×27°.81W, h0km, mb3.6/13, mbtmp3.6/13, MS3.4/38, Error ellipse: s-maj=34.6km s-min=20.0km az=6.0*

ISC 31 14:52:33.2±1.0, 44°.8N±0°.2×27°.8W±0°.1, h14km, n44, σ0°60/15, mb3.7/13, MS3.4/37, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**18.35**	**98**	LR	LR	15 02 18.7	
	comp=Z,160nm,20.8s,baz=309,slow=32						
MDT	**Midelt**	**21.58**	**116**	LR	LR	15 03 55.2	
	comp=Z,78nm,20.8s,baz=339,slow=32						
SFJD	**Kangerlussuaq**	**25.40**	**339**	LR	LR	15 05 30.5	
	comp=Z,79nm,20.9s,baz=144,slow=31						
DAVOX	**Davos/Dischmat**	**26.21**	**72**	LR	LR	15 07 43.5	
	comp=Z,63nm,18.6s,baz=278,slow=35						
SCHQ	**Schefferville**	**26.80**	**306**	LR	LR	15 07 18.6	
	comp=Z,74nm,18.4s,baz=106,slow=33						
NOA	**NORSAR Array B**	**28.07**	**41**	LR	LR	15 08 37.2	
	comp=Z,22nm,19.2s,baz=235,slow=34						
GERES	**GERESS Array B**	**28.45**	**67**	P	**P**	**14 58 28.5**	**+1.0**
	0.5nm,0.8s,baz=268,slow=7.7,SNR=2.7						
GERES				LR	LR	15 08 45.1	
	comp=Z,56nm,19.6s,baz=268,slow=34 0.5nm,0.8s						
HFS	**Hagfors**	**29.01**	**43**	LR	LR	15 07 55.7	
	comp=Z,31nm,20.0s,baz=252,slow=32						
KEST	**Kesra**	**29.54**	**95**	LR	LR	15 09 44.3	
	comp=Z,93nm,18.4s,baz=312,slow=35						
FRB	**Frobisher Bay**	**29.71**	**324**	LR	LR	15 07 22.5	
	comp=Z,59nm,18.2s,baz=119,slow=30						
VRAC	**Vranov**	**30.27**	**65**	LR	LR	15 10 13.0	
	comp=Z,85nm,18.9s,baz=310,slow=35						
FINES	**FINESS Array B**	**35.20**	**42**	P	**P**	**14 59 25.8**	**-0.6**
	0.8nm,0.6s,baz=240,slow=10,SNR=4.4 0.8nm,0.6s						
SADO	**Sadowa**	**35.95**	**289**	LR	LR	15 13 24.8	
	comp=Z,90nm,19.4s,baz=84,slow=35						
MLR	**Muntele Rosu**	**37.34**	**69**	LR	LR	15 15 22.2	
	comp=Z,42nm,18.4s,baz=324,slow=37						
AKASG	**Malin Array Be**	**37.99**	**60**	P	**P**	**14 59 49.8**	**-0.6**
	0.9nm,0.6s,baz=281,slow=8.6,SNR=4.1						
AKASG				LR	LR	15 15 01.6	
	comp=Z,40nm,19.2s,baz=246,slow=36 0.9nm,0.6s						
TORD	**Torodi Ar. Bea**	**40.30**	**132**	P	**P**	**15 00 09.9**	**-0.1**
	1.4nm,0.9s,baz=330,slow=5.1,SNR=3.9						
TORD				LR	LR	15 15 48.9	
	comp=Z,107nm,19.8s,baz=335,slow=35 1.4nm,0.9s						
RES	**Resolute Bay**	**41.40**	**338**	LR	LR	15 14 55.0	
	comp=Z,36nm,18.2s,baz=344,slow=32						
DBIC	**Dimbokro**	**42.89**	**145**	LR	LR	15 16 48.1	
	comp=Z,62nm,20.1s,baz=0.5,slow=34						
TKL	**Tuckaleechee C**	**42.95**	**278**	LR	LR	15 18 10.3	
	comp=Z,29nm,18.0s,baz=53,slow=36						
BRTR	**Keskin Array B**	**44.82**	**74**	P	**P**	**15 00 47.2**	**+0.5**
	1.3nm,1.0s,baz=305,slow=4.4,SNR=5.5						
BRTR				LR	LR	15 19 57.8	
	comp=Z,38nm,19.6s,baz=358,slow=37 1.3nm,1.0s						
ULM	**Lac du Bonnet**	**44.86**	**302**	LR	LR	15 17 30.2	
	comp=Z,82nm,19.6s,baz=41,sl

TWSI	**Taliwang, Sumb**	**6.22**	**268**	P	Pn	14 58 14.3	-0.1
	14nm,1.9s,0.1nm						

*WEL **31** 15:13:00.5±0.3,41°S±4″×17°5E±″, h23km±3km, M3.1/18, ML3.4/20, MLv3.1/18, Error ellipse: s-maj=0.0km s-min=0.0km az=156.6*
*NOU **31** 15:13:01.4,41°17′S×174°17′5E, h30km, MLv3.5/9, Cook Strait, New Zealand*
ISC 31 15:13:01.3±0.9,**41°10′S**±0°03′×**174°70′E**±0°03,**h34**km±8km, **n107**,σ1§**19**/114,**Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEL	**Wellington**	**0.19**	**164**	P	**Pn**	**15 13 08.5**	**+2.0**
WEL				S	**Sb**	**15 13 13.7**	**+1.4**
SNZO	**South Karori**	**0.21**	**179**	P	**Pn**	**15 13 08.2**	**+1.2**
CAW	**Cannon Point**	**0.28**	**91**	P	**Pn**	**15 13 09.4**	**+0.6**
CAW				S	**Sn**	**15 13 15.3**	**+2.4**
KIW	**Kapiti Island**	**0.29**	**33**	P	**Pn**	**15 13 08.9**	**-0.2**
KIW				S	**Sn**	**15 13 14.2**	**+0.8**
BHW	**Baring Head**	**0.33**	**157**	P	**Pn**	**15 13 10.0**	**+0.3**
TCW	**Tory Channel**	**0.34**	**252**	P	**Pb**	**15 13 09.1**	**-0.5**
TCW				S	**Sb**	**15 13 14.5**	**-0.7**
OGWZ	**Otaki Gorge**	**0.46**	**51**	P	**Pn**	**15 13 11.3**	**-0.2**
OGWZ				S	**Sn**	**15 13 18.6**	**+0.2**
MSWZ	**Moikau Station**	**0.52**	**127**	P	**Pn**	**15 13 13.2**	**+0.9**
MSWZ				S	**Sn**	**15 13 21.9**	**+1.9**
MTW	**Mount Morrison**	**0.61**	**95**	P	**Pn**	**15 13 13.8**	**+0.3**
MTW				S	**Sn**	**15 13 23.8**	**+1.6**
PAWZ	**Paruwai Farm**	**0.61**	**117**	P	**Pn**	**15 13 14.1**	**+0.5**
PLWZ	**Palliser**	**0.62**	**138**	P	**Pn**	**15 13 14.2**	**+0.4**
HOWZ	**Holdsworth Sta**	**0.65**	**72**	P	**Pn**	**15 13 14.4**	**+0.3**
TUWZ	**Tuamarina**	**0.66**	**240**	P	**Pb**	**15 13 13.6**	**-0.9**
DUWZ	**D'Urville Isla**	**0.66**	**297**	P	**Pb**	**15 13 13.4**	**-1.1**
CMWZ	**Cape Campbell**	**0.74**	**209**	P	**Pn**	**15 13 16.6**	**+1.2**
MRZ	**Mangatainoka R**	**0.80**	**57**	P	**Pb**	**15 13 16.4**	**-0.5**
TRWZ	**Traveller**	**0.80**	**112**	P	**Pn**	**15 13 16.4**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.87**	**225**	P	**Pb**	**15 13 17.2**	**-0.8**
TMWZ	**Te Maipa**	**0.90**	**91**	P	**Pn**	**15 13 17.6**	**0.0**
TIWZ	**Tintock**	**0.96**	**70**	P	**Pn**	**15 13 18.3**	**-0.1**
NNZ	**Nelson**	**1.00**	**263**	P	**Pn**	**15 13 18.4**	**-0.6**
OHWZ	**Ohakea**	**1.01**	**28**	P	**Pn**	**15 13 19.7**	**+0.6**
POWZ	**Post Office Ro**	**1.08**	**49**	P	**Pn**	**15 13 20.0**	**-0.1**
PRWZ	**Pori Road**	**1.11**	**61**	P	**Pn**	**15 13 20.4**	**-0.1**
CPWZ	**Castlepoint**	**1.15**	**81**	P	**Pn**	**15 13 21.6**	**+0.6**
BFZ	**Birch Farm**	**1.25**	**71**	P	**Pn**	**15 13 21.7**	**-0.6**
BFZ	**Birch Farm**	**1.25**	**71**	P	**Pn**	**15 13 21.7**	**-0.6**
TKNZ	**Takaka Hill**	**1.32**	**273**	P	**Pn**	**15 13 23.3**	**0.0**
WAZ	**Wanganui**	**1.37**	**9**	P	**Pn**	**15 13 24.8**	**+0.8**
DVHZ	**Dannevirke**	**1.38**	**55**	P	**Pn**	**15 13 23.4**	**-0.7**
TSZ	**Takapari Road**	**1.42**	**43**	P	**Pn**	**15 13 24.4**	**-0.3**
MRNZ	**Matariki Terra**	**1.49**	**258**	P	**Pn**	**15 13 26.2**	**+0.5**
ANWZ	**Angora Road**	**1.49**	**65**	P	**Pn**	**15 13 24.9**	**-0.9**
THZ	**Tophouse**	**1.50**	**243**	P	**Pn**	**15 13 25.7**	**-0.2**
KHZ	**Kahutara**	**1.57**	**213**	P	**Pn**	**15 13 26.6**	**-0.2**
KHZ	**Kahutara**	**1.57**	**213**	P	**Pn**	**15 13 26.8**	**0.0**
PNHZ	**Pukenui**	**1.65**	**44**	P	**Pn**	**15 13 27.3**	**-0.7**
LREZ	**Lake Rotokare**	**1.66**	**352**	P	**Pn**	**15 13 28.6**	**+0.6**
QRZ	**Quartz Range**	**1.67**	**279**	P	**Pn**	**15 13 28.7**	**+0.6**
QRZ	**Quartz Range**	**1.67**	**279**	P	**Pn**	**15 13 28.5**	**+0.4**
WPHZ	**Waipukurau**	**1.69**	**52**	P	**Pn**	**15 13 27.8**	**-0.6**
PRHZ	**Porangahau**	**1.69**	**61**	P	**Pn**	**15 13 27.3**	**-1.2**
NMEZ	**Namu Road**	**1.80**	**339**	P	**Pn**	**15 13 31.2**	**+1.3**
PREZ	**Palmer Road**	**1.81**	**347**	P	**Pn**	**15 13 31.8**	**+1.3**
MTVZ	**Mangateitei**	**1.82**	**19**	P	**Pn**	**15 13 31.5**	**+1.3**
PKVZ	**Pokaka**	**1.88**	**16**	P	**Pn**	**15 13 32.1**	**+1.0**
KHEZ	**Kahui Hut**	**1.88**	**344**	P	**Pn**	**15 13 32.4**	**+1.2**
KHEZ	**Kahui Hut**	**1.88**	**344**	P	**Pn**	**15 13 32.1**	**+1.0**
NEZ	**North Egmont**	**1.89**	**346**	P	**Pn**	**15 13 32.2**	**+0.9**
WNVZ	**Wahianoa**	**1.90**	**21**	P	**Pn**	**15 13 32.3**	**+0.8**
TRVZ	**Turoa**	**1.92**	**20**	P	**Pn**	**15 13 33.5**	**+1.7**
BHHZ	**Black Hill Sta**	**1.92**	**33**	P	**Pn**	**15 13 31.9**	**+0.2**
KRHZ	**Kereru**	**1.94**	**42**	P	**Pn**	**15 13 31.1**	**-0.8**
NBEZ	**Newall Road No**	**1.94**	**341**	P	**Pn**	**15 13 32.8**	**+0.9**
WHVZ	**Whangaehu Hut**	**1.94**	**21**	P	**Pn**	**15 13 34.0**	**+1.9**
MAVZ	**Matarangi**	**1.95**	**20**	P	**Pb**	**15 13 34.7**	**-1.7**
DREZ	**Durham Road**	**1.95**	**349**	P	**Pn**	**15 13 33.2**	**+1.2**
FWVZ	**Far West T-bar**	**1.96**	**20**	P	**Pn**	**15 13 34.1**	**+1.7**
TUVZ	**Tukino**	**1.98**	**22**	P	**Pn**	**15 13 34.1**	**+1.6**
VRZ	**Vera Road**	**1.98**	**1**	P	**Pn**	**15 13 33.5**	**+1.2**
PKE	**Pukeiti**	**1.98**	**344**	P	**Pn**	**15 13 33.5**	**+1.0**
COVZ	**Chateau Observ**	**2.01**	**19**	P	**Pn**	**15 13 34.3**	**+1.4**
MHEZ	**Mangahewa**	**2.05**	**352**	P	**Pn**	**15 13 34.7**	**+1.4**
NGZ	**Ngauruhoe**	**2.05**	**20**	P	**Pn**	**15 13 34.6**	**+1.1**
SNVZ	**South Ngauruho**	**2.05**	**21**	P	**Pn**	**15 13 35.8**	**+2.2**
OTVZ	**Oturere**	**2.08**	**21**	P	**Pn**	**15 13 34.5**	**+0.6**
NNVZ	**North Ngauruho**	**2.09**	**20**	P	**Pn**	**15 13 35.2**	**+1.0**
WTVZ	**West Tongariro**	**2.10**	**19**	P	**Pn**	**15 13 35.9**	**+1.7**
TWVZ	**Taurewa**	**2.11**	**16**	P	**Pn**	**15 13 35.5**	**+1.2**
KAHZ	**Kahuranaki**	**2.12**	**52**	P	**Pn**	**15 13 33.1**	**-1.2**
TMVZ	**Te Maari**	**2.13**	**22**	P	**Pn**	**15 13 36.0**	**+1.4**
KRVZ	**Karewarewa**	**2.13**	**20**	P	**Pn**	**15 13 36.6**	**+1.9**
KWHZ	**Kaweka Forest**	**2.13**	**39**	P	**Pn**	**15 13 34.8**	**+0.2**
NTVZ	**North Tongarir**	**2.14**	**21**	P	**Pn**	**15 13 35.7**	**+0.9**
GVZ	**Greta Valley S**	**2.24**	**213**	P	**Pb**	**15 13 35.9**	**0.0**
MCHZ	**McNeill Hill**	**2.25**	**43**	P	**Pb**	**15 13 42.1**	**+0.8**
KATZ	**Kakaramea**	**2.26**	**20**	P	**Pb**	**15 13 39.6**	**-1.9**
DSZ	**Denniston Nort**	**2.27**	**253**	P	**Pn**	**15 13 36.4**	**-0.1**
RITZ	**Rihia Road**	**2.38**	**23**	P	**Pb**	**15 13 40.6**	**-1.6**
BKZ	**Black Stump Fm**	**2.38**	**36**	P	**Pn**	**15 13 40.4**	**+2.1**
BKZ	**Black Stump Fm**	**2.38**	**36**	P	**Pb**	**15 13 42.7**	**-0.7**
RATZ	**Rangitukua**	**2.38**	**21**	P	**Pb**	**15 13 42.0**	**-1.5**
LTZ	**Lake Taylor**	**2.47**	**226**	P	**Pn**	**15 13 38.5**	**-0.7**
WATZ	**Wairara**	**2.52**	**19**	P	**Pb**	**15 13 43.5**	**-2.5**
HIZ	**Hauiti**	**2.59**	**3**	P	**Pn**	**15 13 42.1**	**+1.2**
HIZ	**Hauiti**	**2.59**	**3**	P	**Pn**	**15 13 42.1**	**+1.2**
MTHZ	**Maungataniwha**	**2.79**	**37**	P	**Pn**	**15 13 44.4**	**+0.9**
TLZ	**Tolley Road**	**2.85**	**13**	P	**Pn**	**15 13 46.7**	**+2.3**
INZ	**Inchbonnie**	**2.92**	**235**	P	**Pn**	**15 13 44.6**	**-0.8**
OXZ	**Oxford**	**2.97**	**221**	P	**Pn**	**15 13 45.6**	**-0.5**
MQZ	**McQueen's Vall**	**3.01**	**210**	P	**Pn**	**15 13 45.2**	**-1.3**
RTZ	**Ruatahuna**	**3.04**	**36**	P	**Pb**	**15 13 51.3**	**-3.5**
URZ	**Urewera**	**3.40**	**34**	P	**Pn**	**15 13 54.8**	**+3.0**
TOZ	**Tahuroa Road**	**3.43**	**11**	P	**Pn**	**15 13 53.4**	**+1.1**
WVZ	**Waitaha Valley**	**3.55**	**235**	P	**Pn**	**15 13 56.0**	**+2.1**
TWGZ	**Tauwhareparae**	**3.87**	**42**	P	**Pn**	**15 13 58.4**	**0.0**
RUGZ	**Raukumara Rang**	**3.89**	**37**	P	**Pn**	**15 14 00.6**	**+1.8**
MKAZ	**Moumakai**	**4.01**	**5**	P	**Pn**	**15 14 01.0**	**+0.7**
AWAZ	**Awhitu Peninsu**	**4.04**	**359**	P	**Pn**	**15 14 01.4**	**+0.7**
ETAZ	**East Tamaki Re**	**4.15**	**3**	P	**Pn**	**15 14 03.2**	**+1.0**
TMZ	**Timaru**	**4.26**	**218**	P	**Pn**	**15 14 03.0**	**-0.7**
WIAZ	**Waiheke Island**	**4.32**	**5**	P	**Pn**	**15 14 05.9**	**+1.3**
RVAZ	**Riverhead Bore**	**4.33**	**359**	P	**Pn**	**15 14 05.4**	**+0.7**
ODZ	**Otahua Downs**	**4.93**	**216**	P	**Pn**	**15 14 12.8**	**-0.2**
ODZ	**Otahua Downs**	**4.93**	**216**	P	**Pn**	**15 14 12.6**	**-0.3**
JCZ	**Jackson Bay**	**5.28**	**234**	P	**Pn**	**15 14 18.9**	**+1.1**
JCZ	**Jackson Bay**	**5.28**	**234**	P	**Pn**	**15 14 17.4**	**-0.4**

*IDC **31** 15:14:51.6±2.9,22°11′S×179°57′W, h562km±30km, mb3.4/10, mbtmp4.3/10, Error ellipse: s-maj=22.7km s-min=19.2km az=132.0*
*NEIC **31** 15:14:52.7±0.9,22°1′S±0°1′×179°37′W±0°10, h598km±8km, mb4.4/27, Error ellipse: s-maj=21.1km s-min=11.9km az=163.0*
ISC 31 15:14:52.9±0.6,**22°2′S**±0°1′×**179°49′W**±0°09,**h592**km,**n51**, σ1§**32**/50,**mb4.4**/22,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.04**	**268**	P	**P**	**15 17 43.1**	**+0.7**
DZM	**Mont Dzumac**	**13.04**	**268**	P	**P**	**15 17 44.8**	**+2.4**
	5.1nm,0.5s,baz=306,slow=23,SNR=13						
BKZ	**Black Stump Fm**	**17.26**	**191**	P	**P**	**15 18 18.9**	**-3.0**
BKZ				IAmb	IAmb	15 18 31.5	
	comp=Z,11nm,0.9s						
MRZ	**Mangatainoka R**	**18.87**	**192**	P	**P**	**15 18 35.3**	**-1.3**
MRZ				IAmb	IAmb	15 18 43.9	
	comp=Z,17nm,1.0s						
TUWZ	**Tuamarina**	**19.95**	**195**	P	**P**	**15 18 47.9**	**+1.5**
EIDS	**Eidsvold**	**27.09**	**257**	P	**P**	**15 19 49.9**	**-0.1**
EIDS				IAmb	IAmb	15 19 50.6	
	comp=Z,10nm,1.1s						
ARMA	**Armidale**	**27.10**	**246**	P	**P**	**15 19 51.0**	**+0.9**
ARMA				IAmb	IAmb	15 19 52.0	
	comp=Z,13nm,1.1s						
PPTF	**Pamatai, Papee**	**28.48**	**86**	P	**P**	**15 19 59.8**	**-2.4**
PPTF				IAmb	IAmb	15 20 17.2	
	comp=Z,12nm,0.9s						

CAN	**Canberra**	**30.42**	**238**	P	**P**	**15 20 17.6**	**-1.1**
CAN				IAmb	IAmb	15 20 20.3	
	comp=Z,7.8nm,0.8s						
CTA	**Charters Tower**	**31.98**	**267**	P	**P**	**15 20 32.4**	**+0.2**
	comp=Z,7.3nm,0.4s,baz=21,slow=0.0,SNR=5.6						
	comp=Z,7.3nm,0.4s						
CTAO	**Charters Tower**	**31.98**	**267**	P	**P**	**15 20 32.3**	**+0.2**
CTAO				IAmb	IAmb	15 20 32.9	
	comp=Z,10nm,0.8s						
TOO	**Toolangi**	**33.78**	**235**	P	**P**	**15 20 47.5**	**+0.4**
TOO				IAmb	IAmb	15 20 48.1	
	comp=Z,6.8nm,0.6s						
PMG	**Port Moresby**	**34.43**	**286**	P	**P**	**15 20 51.5**	**-1.2**
PMG				IAmb	IAmb	15 20 53.5	
	comp=Z,11nm,0.8s						
STKA	**Stephens Creek**	**35.82**	**246**	P	**P**	**15 21 04.5**	**+0.5**
	comp=Z,6.3nm,0.6s,baz=101,slow=11,SNR=12						
	comp=Z,6.3nm,0.6s						
COEN	**Coen**	**36.35**	**277**	P	**P**	**15 21 07.9**	**-0.8**
BBOO	**Buckleboo**	**40.56**	**245**	P	**P**	**15 21 42.2**	**-0.2**
AS31	**Alice Springs**	**42.80**	**259**	P	**P**	**15 21 60.0**	**-0.2**
ASAR	**Alice Springs**	**42.80**	**259**	P	**P**	**15 21 59.5**	**-0.7**
ASAR	**Alice Springs**	**42.80**	**259**	P	**P**	**15 22 00.0**	**-0.2**
	comp=Z,12nm,0.8s,baz=92,slow=8.1,SNR=172						
ASAR				PcP	**PcP**	**15 23 38.0**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=114,slow=3.4,SNR=4.6						
	comp=Z,12nm,0.8s						
WRAB	**Tennant Creek**	**43.01**	**264**	P	**P**	**15 22 00.9**	**-0.9**
WRAB				IAmb	IAmb	15 22 01.7	
	comp=Z,9.2nm,1.0s						
WRA	**Warramunga Arr**	**43.02**	**264**	P	**P**	**15 22 01.1**	**-0.8**
	comp=Z,2.3nm,0.3s,baz=96,slow=7.9,SNR=156						
WRA				ScP	**ScP**	**15 26 38.0**	**+4.2**
	comp=Z,0.9nm,0.8s,baz=97,slow=4.0,SNR=5.8						
	comp=Z,2.3nm,0.3s						
FORT	**Forrest**	**47.36**	**248**	P	**P**	**15 22 34.4**	**-0.3**
KNRA	**Kununurra**	**49.19**	**268**	P	**P**	**15 22 47.8**	**-0.7**
KNRA				IAmb	IAmb	15 22 48.7	
	comp=Z,11nm,0.6s						
FITZ	**Fitzroy Crossi**	**51.45**	**264**	P	**P**	**15 23 04.4**	**-0.5**
PSA00	**Pilbara Seismi**	**55.95**	**258**	P	**P**	**15 23 35.6**	**-0.9**
PSA00				IAmb	IAmb	15 23 36.8	
	comp=Z,16nm,1.1s						
MBWA	**Marble Bar**	**56.15**	**259**	P	**P**	**15 23 37.5**	**-0.4**
MBWA				IAmb	IAmb	15 23 38.2	
	comp=Z,14nm,0.8s						
MMRI	**Maumere**	**57.46**	**274**	P	**P**	**15 23 46.1**	**-0.8**
MORW	**Morawa**	**57.91**	**249**	P	**P**	**15 23 49.0**	**-0.8**
GIRL	**Giralia**	**60.77**	**256**	P	**P**	**15 24 09.8**	**+0.8**
TOLI2	**Tolitoli**	**62.62**	**283**	P	**P**	**15 24 20.1**	**-1.0**
JAGI	**Jajag, Banyuwa**	**65.00**	**271**	P	**P**	**15 24 35.0**	**-1.2**
JAGI				IAmb	IAmb	15 24 47.4	
	comp=Z,23nm,1.1s						
QSPA	**South Pole Qui**	**67.87**	**180**	P	**P**	**15 24 53.8**	**+0.7**
QSPA	**South Pole Qui**	**67.87**	**180**	P	**P**	**15 24 54.7**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=231,slow=1.3,SNR=8.6						
	comp=Z,1.0nm,0.8s						
UGM	**Wanagama**	**68.56**	**270**	P	**P**	**15 24 57.8**	**-0.3**
KKM	**Kota Kinabalu**	**68.87**	**286**	P	**P**	**15 24 58.9**	**-1.1**
KKM				IAmb	IAmb	15 25 01.1	
	comp=Z,6.4nm,0.7s						
MJAR	**Matsushiro Arr**	**70.78**	**325**	P	**P**	**15 25 11.0**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=152,slow=5.6,SNR=8.6						
	comp=Z,1.2nm,0.6s						
TPUB	**Ta-pu**	**73.75**	**304**	P	**P**	**15 25 26.9**	**-1.2**
SSLB	**Suanglung**	**73.77**	**305**	P	**P**	**15 25 27.6**	**-0.7**
ADK	**Adak**	**73.80**	**2**	P	**P**	**15 25 25.6**	**-2.1**
PETK	**Petropavlovsk-**	**77.57**	**346**	P	**P**	**15 25 48.7**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=94,slow=5.9,SNR=6.5						
	comp=Z,2.5nm,0.7s						
NVAR	**Mina Array Bea**	**83.21**	**44**	P	**P**	**15 26 20.1**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=216,slow=8.9,SNR=4.2						
	comp=Z,0.4nm,0.7s						
TXAR	**Lajitas Array**	**89.13**	**58**	P	**P**	**15 26 49.0**	**+2.3**
	comp=Z,0.3nm,0.6s,baz=205,slow=7.0,SNR=4.8						
	comp=Z,0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**89.38**	**290**	P	**P**	**15 26 50.2**	**+2.3**
	comp=Z,1.6nm,0.8s,baz=132,slow=3.3,SNR=14						
	comp=Z,1.6nm,0.8s						
IMAR	**Indian Mountai**	**90.06**	**10**	P	**P**	**15 26 49.3**	**-0.6**
BVAR	**Borovoye Array**	**119.47**	**319**	PKP	**PKPdf**	**15 32 35.8**	**0.0**
	comp=Z,0.6nm,0.3s,baz=128,slow=2.2,SNR=6.6						
FINES	**FINESS Array B**	**136.99**	**342**	PKhKP	PKPpre	15 32 58.4	
	comp=Z,1.5nm,0.9s,baz=48,slow=2.8,SNR=3.4						
HFS	**Hagfors**	**140.97**	**350**	PKhKP	PKPpre	15 33 10.9	
	comp=Z,0.6nm,0.4s,baz=64,slow=5.1,SNR=8.5						
AKASG	**Malin Array Be**	**143.78**	**329**	PKP	PKPbc	15 33 20.3	-0.2
	comp=Z,1.3nm,0.3s,baz=43,slow=4.0,SNR=18						
BRTR	**Keskin Array B**	**146.90**	**309**	PKPbc	**PKPbc**	**15 33 30.4**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=145,slow=4.5,SNR=4.6						
MMAI	**Mount Meron Ar**	**147.40**	**297**	PKPbc	**PKPbc**	**15 33 32.5**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=77,slow=7.6,SNR=8.0						
GERES	**GERESS Array B**	**151.41**	**342**	PKPbc	**PKPbc**	**15 33 41.6**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=23,slow=5.3,SNR=2.6						

*JMA **31** 15:16:09.8±0.2,24°1′N±0°8×122°7′E±0°7, h0km, MV3.1/12, NW OFF ISHIGAKIJIMA IS*
*TAP **31** 15:16:10.9,24°23′N×122°60′E, h14km, ML3.1, C*
ISC 31 15:16:10.3±1.0,**24°14′N**±0°03×**122°64′E**±0°02,**h11**km±8km, **n103**,σ0§**93**/152,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.29**	**266**	*i* P	**Pb**	**15 16 16.8**	**-0.5**
	baz=252						
EOS4				S	**Sg**	**15 16 21.0**	**+1.2**
	baz=252						
EOS3	**EOS3**	**0.32**	**296**	*i* P	**Pg**	**15 16 17.3**	**+0.6**
	baz=280						
EOS3				S	**Sb**	**15 16 22.4**	**-0.8**
	baz=280						
JYNG	**Yonagunijimaku**	**0.42**	**43**	P	**Pg**	**15 16 19.1**	**+0.5**
JYNG				S	**Sb**	**15 16 25.9**	**-0.1**
EOS2	**EOS2**	**0.46**	**307**	P	**Pb**	**15 16 20.2**	**-0.1**
	baz=302						
EOS2				S	**Sb**	**15 16 27.4**	**+0.3**
	baz=302						
YOJ	**Yonaguni jima**	**0.47**	**47**	P	**Pg**	**15 16 20.0**	**+0.5**
YOJ	**Yonaguni jima**	**0.47**	**47**	*i* P	**Pg**	**15 16 19.9**	**+0.5**
	baz=56						
YOJ				S	**Sb**	**15 16 26.9**	**-0.6**
	baz=56						
YOJ	**Yonaguni jima**	**0.47**	**47**	P	**Pg**	**15 16 20.1**	**+0.5**
YOJ				*e*S	**Sb**	**15 16 26.8**	**-0.6**
EWUT	**Wuta**	**0.84**	**291**	P	**Pg**	**15 16 26.2**	**-0.3**
	baz=286						
EWUT				S	**Sg**	**15 16 37.2**	**-0.2**
	baz=286						
EAHA	**Aohua**	**0.84**	**283**	P	**Pg**	**15 16 26.6**	**+0.2**
	baz=287						
EAHA				S	**Sg**	**15 16 37.8**	**+0.4**
	baz=287						
ESAO	**Su ao**	**0.84**	**301**	*e*P	**Pg**	**15 16 25.8**	**-0.8**
	baz=297						
ESAO				*e*S	**Sg**	**15 16 36.5**	**-1.0**
	baz=297						
TWC	**Suao**	**0.85**	**303**	*e*P	**Pg**	**15 16 26.1**	**-0.7**
	baz=288						
TWC				*e*S	**Sg**	**15 16 36.5**	**-1.4**
	baz=288						
ENA	**Nanau**	**0.86**	**289**	P	**Pg**	**15 16 26.6**	**-0.3**
	baz=284						
ENA				S	**Sg**	**15 16 37.7**	**-0.6**
	baz=284						
ETL	**Fush Village**	**0.93**	**271**	P	**Pn**	**15 16 29.2**	**0.0**
	baz=265						
NACB	**Ninganchiao**	**0.95**	**272**	P	**Pb**	**15 16 29.3**	**+0.5**
NACB	**Ninganchiao**	**0.95**	**272**	P	**Pb**	**15 16 29.2**	**+0.5**
	baz=266						
TWD	**Chiawan**	**0.95**	**266**	P	**Pb**	**15 16 29.0**	**+0.2**
	baz=261						
NDS	**Dongshan**	**0.97**	**300**	P	**Pb**	**15 16 29.2**	**+0.1**
	baz=288						
NDS				*e*S	**Sb**	**15 16 42.1**	**+0.1**
	baz=288						
IRIF	**Iriomote-Funau**	**1.02**	**79**	P	**Pg**	**15 16 30.0**	**+0.2**
IRIF				*e*S	**Sg**	**15 16 43.4**	**+0.3**
ILA	**Ilan**	**1.02**	**308**	*e*P	**Pg**	**15 16 28.8**	**-1.1**
	baz=315						
SHUL	**Shoufeng**	**1.04**	**250**	*e*P	**Pg**	**15 16 30.1**	**-0.2**
	baz=245						
TWB1	**Santiao Chiao**	**1.04**	**326**	*e*P	**Pb**	**15 16 30.6**	**+0.2**
	baz=336						
TWB1				S	**Sg**	**15 16 42.6**	**-1.4**
	baz=336						
TWE	**Neicheng**	**1.05**	**303**	*e*P	**Pg**	**15 16 30.3**	**-0.3**
	baz=300						
TWE				*e*S	**Sg**	**15 16 43.4**	**-0.9**
	baz=300						
ETLH	**Xiulin Townshi**	**1.05**	**274**	*e*P	**Pb**	**15 16 30.8**	**+0.2**
	baz=268						
ETM	**Tongmen**	**1.06**	**261**	P	**Pg**	**15 16 30.3**	**-0.4**
	baz=255						
HATJ	**Hateruma jima**	**1.07**	**94**	*e*S	**Sg**	**15 16 45.3**	**+0.4**
LATG	**Datong**	**1.08**	**291**	*e*P	**Pg**	**15 16 30.7**	**-0.5**
	baz=288						
LATG				*e*S	**Sg**	**15 16 44.4**	**-0.9**
	baz=288						
ENTT	**Nioudou**	**1.09**	**297**	*e*P	**Pg**	**15 16 30.7**	**-0.7**
	baz=286						
ENTT				*e*S	**Sg**	**15 16 44.6**	**-1.0**
	baz=286						
TIPB	**Shuangxi**	**1.11**	**318**	*e*P	**Pb**	**15 16 31.6**	**+0.1**
	baz=316						
TIPB				*e*S	**Sg**	**15 16 44.2**	**-1.8**
	baz=316						
NDT	**Datong Townshi**	**1.12**	**294**	*e*P	**Pg**	**15 16 31.6**	**-0.3**
	baz=285						
NDT				*e*S	**Sg**	**15 16 45.8**	**-0.7**
	baz=285						
FUSB	**Fushanzhiwuyua**	**1.14**	**303**	*e*P	**Pb**	**15 16 32.1**	**+0.2**
	baz=300						
FUSB				*e*S	**Sb**	**15 16 46.9**	**+0.1**
	baz=300						
SXI1	**Grass Mountain**	**1.17**	**324**	*e*P	**Pg**	**15 16 31.7**	**-1.1**
	baz=336						
SXI1				*e*S	**Sb**	**15 16 48.0**	**+0.1**
	baz=336						
NWF	**Wu-fen Shan**	**1.21**	**320**	*e*P	**Pg**	**15 16 32.8**	**-0.7**
	baz=318						
NWF				*e*S	**Sg**	**15 16 48.9**	**-0.4**
	baz=318						
WFSB	**Wu-fen Shan**	**1.21**	**320**	*e*P	**Pg**	**15 16 32.7**	**-0.9**
	baz=317						
NWLT	**Wulai**	**1.21**	**302**	*e*P	**Pg**	**15 16 32.9**	**-0.7**
	baz=291						
NWLT				*e*S	**Sg**	**15 16 48.0**	**-1.4**
	baz=291						
WARBT	**Fenglin Townsh**	**1.22**	**250**	*i* P	**Pb**	**15 16 32.1**	**-1.2**
	baz=233						
WHF	**Hehuan Shan**	**1.25**	**270**	P	**Pg**	**15 16 34.2**	**-0.2**
	baz=266						
JKRS	**Kuro-shima**	**1.26**	**85**	P	**Pn**	**15 16 34.3**	**+0.5**
JKRS				S	**Sn**	**15 16 52.1**	**+1.4**
YHNB	**Yeheng**	**1.26**	**295**	P	**Pg**	**15 16 34.5**	**-0.1**
HGSD	**Ruisui**	**1.28**	**240**	P	**Pn**	**15 16 33.0**	**-1.2**
	baz=236						
TATO	**Taipei**	**1.33**	**309**	P	**Pg**	**15 16 36.6**	**+0.7**
TWT	**Tachien**	**1.34**	**275**	*e*P	**Pg**	**15 16 36.0**	**0.0**
	baz=255						
CHGB	**Renai**	**1.34**	**267**	P	**Pn**	**15 16 35.1**	**0.0**
	baz=262						
OWD	**Renai**	**1.35**	**262**	P	**Pn**	**15 16 35.1**	**0.0**
	baz=258						
EHY	**Hungye**	**1.36**	**242**	*e*P	**Pn**	**15 16 34.5**	**-0.7**
	baz=239						
YM01	**YM01**	**1.39**	**316**	*e*P	**Pb**	**15 16 36.6**	**+0.3**
	baz=314						
JIJ	**Ishigaki jima**	**1.39**	**81**	P	**Pn**	**15 16 35.4**	**-0.3**
JIJ				*e*S	**Sb**	**15 16 53.6**	**-0

baz=261
WRL eS Sb 15 17 13.6 -0.3
baz=261
WTK Tuku 2.10 258 P Pb 15 16 47.6 -0.9
baz=256
WTK eS Sb 15 17 14.5 -0.1
baz=256
TWK Hsinying 2.15 247 eP Pn 15 16 47.8 +1.6
baz=245
TWK eS Sn 15 17 14.9 +2.0
baz=245
CHN1 Nanshi 2.15 244 eP Pn 15 16 48.2 +2.1
baz=243
CHN1 eS Sn 15 17 15.2 +2.3
baz=243
SLGT Liugui 2.15 238 eP Pn 15 16 47.5 +1.3
baz=226
SLGT eS Sb 15 17 16.1 0.0
baz=226
SGST Jiashian 2.16 241 eP Pn 15 16 47.5 +1.3
baz=240
SGST eS Sn 15 17 14.8 +1.8
baz=240
SNST Tainan City 2.16 245 eP Pn 15 16 48.0 +1.7
baz=243
ECL Taimali 2.18 225 eP Pn 15 16 45.2 -1.3
baz=236
ICHU Yijhu 2.29 251 eP Pn 15 16 49.8 +1.8
baz=248
TSMG Majia 2.32 232 eP Pn 15 16 49.6 +1.2
baz=222
SCST Cishan 2.33 238 eP Pn 15 16 50.9 +2.4
baz=225
SHHT Tainan City 2.38 242 eP Pb 15 16 52.4 -0.7
baz=240
MASBT Mashibuluo 2.39 231 eP Pn 15 16 49.8 +0.5
baz=220
EAST Anshuo 2.40 224 eP Pn 15 16 49.6 +0.1
baz=222
TSCK Chigu Township 2.54 248 eP Pn 15 16 52.3 +0.9
baz=246
TSCK eS Sn 15 17 23.8 +1.5
baz=246
SCZT Fangliau 2.56 227 eP Pn 15 16 54.1 +2.4
baz=225
WDGT Dungji 2.87 253 eP Pn 15 16 56.9 +1.0
baz=250
PNG Penghu 2.88 259 eP Pn 15 16 57.3 +1.2
baz=258
PNG eS Sn 15 17 31.3 +0.7
baz=258
VWUC VWUC 3.02 287 eP Pn 15 16 58.7 +0.6
baz=282

*IDC **31** 15:53:24.2±7.3,20˚.42S×177˚.43W,h515^{km}±81^{km},mb3.1/5, mbtmp4.1/6,Error ellipse: s-maj=40.1km s-min=34.9km az=27.0*

ISC 31 15:53:23.1±1.5,**20˚.4S**±0˚.2×**177˚.5W**±0˚.3,**h500**^{km},**n8,** σ0^{s}**28/8,mb3.4**/5,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.44**	**194**	P			**P**	**15 57 07.3**	**0.0**
	5.2nm,0.4s,baz=349,slow=2.8,SNR=12								
STKA	**Stephens Creek**	**38.30**	**244**	P			**P**	**16 00 00.3**	**-0.1**
	0.9nm,0.7s,baz=80,slow=13,SNR=2.9								
	0.9nm,0.7s								
ASAR	**Alice Springs**	**45.04**	**257**	P			**P**	**16 00 54.0**	**+0.1**
	2.8nm,0.5s,baz=91,slow=7.6,SNR=88								
ASAR				PcP			**PcP**	**16 02 24.9**	**+0.4**
	0.3nm,0.8s,baz=96,slow=5.7,SNR=2.1								
	2.8nm,0.5s								
WRA	**Warramunga Arr**	**45.12**	**262**	P			**P**	**16 00 54.3**	**-0.3**
	1.3nm,0.5s,baz=96,slow=7.6,SNR=46								
	1.3nm,0.5s								
MJAR	**Matsushiro Arr**	**70.41**	**323**	P			**P**	**16 03 46.6**	**+0.2**
	0.5nm,0.5s,baz=161,slow=5.8,SNR=5.1								
	0.5nm,0.5s								
ILAR	**Eielson Array**	**88.08**	**13**	P			**P**	**16 05 19.2**	**-0.1**
	0.2nm,0.3s,baz=221,slow=5.2,SNR=6.0								
	0.2nm,0.3s								
BVAR	**Borovoye Array**	**119.30**	**320**	PKP			**PKPdf**	**16 11 14.7**	**-0.2**
	0.4nm,0.4s,baz=15,slow=1.5,SNR=3.3								
AKASG	**Malin Array Be**	**143.14**	**332**	PKP			PKPab	16 11 56.7	-0.5
	0.8nm,0.5s,baz=41,slow=4.1,SNR=6.7								

*IDC **31** 16:12:20.0±0.6,4.75N×82.61W,h0^{km},mb4.1/15, mbtmp4.2/19,ML4.1/3,MS3.8/49,Error ellipse: s-maj=23.8km s-min=12.9km az=61.0*

*NEIC **31** 16:12:21.1±2.3,4.94N±0.06×82.50W±0.08,h10^{km}±1^{km}, mb4.6/88,Error ellipse: s-maj=13.9km s-min=9.7km az=71.0*

*UPA **31** 16:12:21.9±1.3,5.06N×82.66W,h2^{km}±26^{km},MW4.8*

*GCMT **31** 16:12:26.1±0.2,4.74N±0.01×82.64W±0.02,h19^{km}±1^{km}, MW4.9/102,Moment Tensor Solution. s32,c36; s102,c146; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.35±.09; $M_{\theta\theta}$=-0.07±.07; $M_{\phi\phi}$=0.41±.09; $M_{r\theta}$=-0.24±.15; $M_{\theta\phi}$=2.87±.07; $M_{\phi r}$=-0.25±.16; Best double couple: M_o=2.89800×10^{16} NP1:ϕ_s=268.00000°,δ86.00000°, λ=4.00000°. NP2:ϕ_s=177.00000°,δ86.00000°,λ=176.00000°. Principal axes: T 3.0910, Plg6.0000°, Azm133.0000°; N -0.3840, Plg84.0000°, Azm310.0000°; P -2.7060, Plg0.0000°, Azm43.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*UCR **31** 16:12:47.3±0.3,6.96N×82.90W,h0^{km}±611^{km},MW3.9, MB4.6(NEIC)*

ISC 31 16:12:21.5±0.4,**4.84N**±0.05×**82.59W**±0.05,**h12**^{km},**n240,** σ1^{s}**93**/186,**mb4.6**/56,**MS3.8**/41,**1D,South of Panama**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CACAO	**El Cacao, Vera**	**3.03**	**35**	eP			**Pn**	**16 13 07.5**	**-1.9**
CACAO				eS			**Sn**	**16 13 43.8**	**-1.8**
GMAL	**Guarumal, Vera**	**3.21**	**25**	eP			**Pn**	**16 13 11.2**	**-0.6**
PTPM	**Petroterminale**	**3.36**	**355**	eP			**Pn**	**16 13 11.6**	**-2.2**
PTPM				eS			**Sn**	**16 13 50.3**	**-3.4**
CCOL	**Caracol de Cor**	**3.57**	**354**	eP			**Pn**	**16 13 14.3**	**-2.4**
PIRO	**Carate, Puerto**	**3.62**	**348**	eP			**Pn**	**16 13 14.7**	**-2.8**
CDITO	**Canoas**	**3.72**	**356**				**Pn**	**16 13 16.6**	**-2.2**
CDITO	**Canoas**	**3.72**	**356**	eP			**Pn**	**16 13 17.1**	**-1.8**
CDITO	**Canoas**	**3.72**	**356**	eP			**Pn**	**16 13 16.5**	**-2.4**
AZU	**Azuero**	**3.73**	**38**	eP			**Pn**	**16 13 18.7**	**-0.3**
AZU				eS			**Sn**	**16 14 01.5**	**-1.5**
CHIT3	**Chitre**	**3.78**	**35**	eP			**Pn**	**16 13 18.4**	**-1.2**
EDAD	**Golfito**	**3.83**	**352**	eP			**Pn**	**16 13 17.8**	**-2.7**
BCO2	**Palmira**	**3.86**	**1**	eP			**Pn**	**16 13 19.8**	**-1.1**
BCO2				eS			**Sn**	**16 14 02.4**	**-3.9**
BRU2	**Volcan**	**3.93**	**359**	Pn			**Pn**	**16 13 20.4**	**-1.5**
BRU2				Sn			**Sn**	**16 14 05.4**	**-2.7**
BRU2	**Volcan**	**3.93**	**359**	eP			**Pn**	**16 13 20.4**	**-1.5**
BRU2				eS			**Sn**	**16 14 05.6**	**-2.5**
BRU2	**Volcan**	**3.93**	**359**	eP			**Pn**	**16 13 19.5**	**-2.4**
BC3P	**Paso Ancho**	**3.95**	**360**	eP			**Pn**	**16 13 20.9**	**-1.3**
EDP2	**Potrero Grande**	**4.19**	**352**	eP			**Pn**	**16 13 24.3**	**-1.1**
EDBA	**Buenos Aires**	**4.35**	**351**	eP			**Pn**	**16 13 26.7**	**-0.9**
SRBA	**San Rafael, Bu**	**4.43**	**350**				**Pn**	**16 13 27.2**	**-1.5**
DRK0	**Durika**	**4.45**	**352**	Pn			**Pn**	**16 13 27.1**	**-1.9**
DRK0	**Durika**	**4.45**	**352**	eP			**Pn**	**16 13 27.5**	**-1.5**
PEZE	**Perez Zeledon,**	**4.64**	**347**				**Pn**	**16 13 29.4**	**-2.2**
PEZE	**Perez Zeledon,**	**4.64**	**347**	eP			**Pn**	**16 13 29.5**	**-2.1**
CDM	**Cerro de Muert**	**4.83**	**346**	eP			**Pn**	**16 13 32.3**	**-2.2**
ABE2	**San Pablo**	**5.05**	**343**	eP			**Pn**	**16 13 35.7**	**-1.6**
LCR2	**La Lucha 2**	**5.07**	**344**				**Pn**	**16 13 35.3**	**-2.3**
LCR2	**La Lucha 2**	**5.07**	**344**	eP			**Pn**	**16 13 35.5**	**-2.1**
BCIP	**Isla Barro Col**	**5.10**	**32**	Pn			**Pn**	**16 13 36.8**	**-1.0**
BCIP	**Isla Barro Col**	**5.10**	**32**	eP			**Pn**	**16 13 39.5**	**+1.7**
BCIP				eS			**Sn**	**16 14 34.1**	**-2.5**
BCIP	**Isla Barro Col**	**5.10**	**32**	eP			**Pn**	**16 13 39.0**	**+1.2**
UPA	**Univ. de Panam**	**5.12**	**36**	eP			**Pn**	**16 13 38.2**	**+0.1**
UPA				eS			**Sn**	**16 14 32.1**	**-5.0**
OCM	**Ochomogo**	**5.21**	**345**	eP			**Pn**	**16 13 38.0**	**-1.5**
JACO	**JACO, Garabito**	**5.21**	**337**	Pn			**Pn**	**16 13 36.8**	**-2.6**
JACO	**JACO, Garabito**	**5.21**	**337**	eP			**Pn**	**16 13 36.8**	**-2.6**
ICR3	**Volcano Irazu**	**5.25**	**347**	eP			**Pn**	**16 13 39.3**	**-1.1**
CVTV	**Tajo**	**5.26**	**347**	eP			**Pn**	**16 13 39.4**	**-0.9**
CVTQ	**Turrialba Volc**	**5.26**	**347**	eP			**Pn**	**16 13 39.6**	**-0.8**
VTR0	**Volcan Turrial**	**5.28**	**347**	eP			**Pn**	**16 13 39.8**	**-0.9**
CVTR	**Volcan Turrial**	**5.28**	**347**	eP			**Pn**	**16 13 39.7**	**-1.0**
BATAN	**Batan**	**5.29**	**352**	Pn			**Pn**	**16 13 40.5**	**+0.2**
BATAN	**Batan**	**5.29**	**352**	eP			**Pn**	**16 13 40.6**	**+0.3**
PTAC	**Punta Ardita,**	**5.29**	**64**	eP			**Pn**	**16 13 41.2**	**+0.9**
BELE	**Belen**	**5.35**	**343**	eP			**Pn**	**16 13 39.8**	**-1.5**
CHPO	**Chepo, Panama**	**5.52**	**39**	eP			**Pn**	**16 13 44.8**	**+1.2**
UPD2	**Meteti**	**5.86**	**51**	eP			**Pn**	**16 13 51.9**	**+3.7**
SOCE	**Pocosol**	**5.87**	**340**				**Pn**	**16 13 47.0**	**-1.4**
JTS	**Las Juntas de**	**5.90**	**337**				**Pn**	**16 13 46.5**	**-2.3**
JTS	**Las Juntas de**	**5.90**	**337**	Pn			**Pn**	**16 13 47.0**	**-1.9**
	71nm,0.3s,baz=98,slow=11,SNR=64								
JTS				Sn			**Sn**	**16 14 52.9**	**-3.6**
	31nm,0.3s,baz=266,slow=20,SNR=10								
JTS				LR			LR	16 15 49.5	
	comp=Z,2μm,21.1s,baz=149,slow=35								
JTS	**Las Juntas de**	**5.90**	**337**	eP			**Pn**	**16 13 46.8**	**-2.1**
ARE1	**Arenal 1**	**5.97**	**339**	Pn			**Pn**	**16 13 49.0**	**-0.9**
COVE	**Coope Vega, Sa**	**6.11**	**343**				**Pn**	**16 13 50.8**	**-1.0**
ORTG	**Ortega, Santa**	**6.18**	**333**	Pn			**Pn**	**16 13 50.4**	**-2.3**
PULU	**Pululahua**	**6.29**	**139**				**Pn**	**16 13 54.5**	**0.0**
IMBA	**Imbabura, San**	**6.31**	**136**				**Pn**	**16 13 54.7**	**-0.1**
HZTE	**Horizontes, Gu**	**6.55**	**333**				**Pn**	**16 13 56.6**	**-1.2**
SLOR	**San Lorenzo -**	**6.88**	**143**	Pn			**Pn**	**16 14 03.4**	**+0.7**
CHSH	**Refugio Sur-Vo**	**7.31**	**149**				**Pn**	**16 14 09.2**	**+0.5**
ACON	**Acoyapa**	**7.53**	**340**				**Pn**	**16 14 10.0**	**-1.2**
ACON	**Acoyapa**	**7.53**	**340**	eP			**Pn**	**16 14 10.2**	**-1.1**
COHC	**Cochancay**	**7.98**	**155**	Pn			**Pn**	**16 14 14.0**	**-3.4**
BOAB	**BOACO BROADBAN**	**8.15**	**338**	Pn			**Pn**	**16 14 19.0**	**-0.8**
ROSC	**El Rosal**	**8.24**	**90**	Pn			**Pn**	**16 14 25.1**	**+3.6**
	4.2nm,0.3s,baz=354,slow=1.3,SNR=8.8								
ROSC				Sn			**Sn**	**16 15 58.0**	**+3.3**
	1.4nm,0.3s,baz=199,slow=22,SNR=1.3								
ROSC				LR			LR	16 17 26.9	
	comp=Z,466nm,20.6s,baz=54,slow=37								
CNGN	**Cerro Negro**	**8.63**	**332**	Pn			**Pn**	**16 14 26.6**	**+0.2**
ARNL	**Arenillas**	**8.70**	**163**	Pn			**Pn**	**16 14 23.9**	**-3.4**
PAYG	**Puerto Ayora**	**9.43**	**235**	Pn			**Pn**	**16 14 38.7**	**+1.3**
MCRA	**Macar, Loja**	**9.52**	**164**	Pn			**Pn**	**16 14 35.7**	**-2.9**
MTO3	**Montecristo**	**11.61**	**325**				**Pn**	**16 15 09.8**	**+2.5**
SDV	**Santo Domingo**	**12.54**	**71**	Pn			**Pn**	**16 15 16.4**	**-3.7**
SDV	**Santo Domingo**	**12.54**	**71**	Pn			**Pn**	**16 15 21.3**	**+1.2**
	8.4nm,0.8s,baz=234,slow=12,SNR=8.1								
SDV				Sn			**Sn**	**16 17 43.4**	**+3.5**
	0.8nm,0.3s,baz=334,slow=21,SNR=1.9								
SDV				LR			LR	16 20 14.0	
	comp=Z,302nm,20.6s,baz=237,slow=38								
SDV	**Santo Domingo**	**12.54**	**71**	eP			**Pn**	**16 15 21.9**	**+1.9**
ATAH	**Atahualpa**	**12.61**	**161**	Pn			**Pn**	**16 15 22.1**	**+0.8**
	0.6nm,0.3s,baz=346,slow=4.3,SNR=9.4								
ATAH				LR			LR	16 19 41.7	
	comp=Z,2μm,21.5s,baz=336,slow=35								
	11nm,0.7s								
APG	**El Apazote**	**12.73**	**323**	Pn			**Pn**	**16 15 26.8**	**+4.1**
	0.1nm,0.3s,baz=132,slow=8.5,SNR=5.6								
APG				LR			LR	16 19 37.6	
	comp=Z,66nm,21.1s,baz=256,slow=34								
BAUV	**El Baul**	**15.01**	**73**	P			**Pn**	**16 15 55.7**	**+2.0**
CZSB	**Cruzeiro do Su**	**15.91**	**142**	Pn			**Pn**	**16 16 01.8**	**-3.6**
CZSB				IAmb			IAmb	16 16 18.3	
	comp=Z,48nm,1.1s								
CZSB	**Cruzeiro do Su**	**15.91**	**142**	eP			**Pn**	**16 16 04.1**	**-1.4**
TEIG	**Tepich**	**16.27**	**341**	Pn			**Pn**	**16 16 07.2**	**-2.8**
TEIG	**Tepich**	**16.27**	**341**	LR			LR	16 21 51.6	
	comp=Z,6μm,19.4s,slow=35								
CMIG	**Matias Romero**	**17.13**	**316**	P			**P**	**16 16 28.5**	**+6.0**
	comp=Z,2.7nm,0.4s,baz=133,slow=11,SNR=5.4								
CMIG				LR			LR	16 21 44.1	
	comp=Z,563nm,21.8s,baz=134,slow=33								
NNA	**Nana**	**17.66**	**161**	P			**Pn**	**16 16 28.1**	**+0.4**
NNA	**Nana**	**17.66**	**161**	P			**Pn**	**16 16 27.4**	**-0.2**
	comp=Z,1.8nm,0.3s,baz=328,slow=10,SNR=7.3								
NNA				LR			LR	16 22 43.5	
	comp=Z,233nm,20.5s,baz=322,slow=36								
	comp=Z,18nm,0.7s								
PCRV	**Puerto La Cruz**	**18.57**	**72**	P			**Pn**	**16 16 40.3**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=247,slow=4.0,SNR=5.6								
PCRV				LR			LR	16 25 39.9	
	comp=Z,359nm,18.5s,slow=43								
	comp=Z,49nm,1.1s								
OBIP	**Obispado Ponce**	**20.41**	**49**	P			**P**	**16 16 54.9**	**-3.8**
OBIP				IAmb			IAmb	16 17 02.3	
	comp=Z,54nm,1.1s								
AOPR	**Arecibo Observ**	**20.49**	**48**	P			**P**	**16 17 00.1**	**+0.6**
GCPR	**Guaynabo City**	**20.97**	**49**	P			**P**	**16 17 00.4**	**-4.3**
HUMP	**Col San Antoni**	**21.04**	**50**	P			**P**	**16 17 03.6**	**-2.0**
ETMB	**Extrema**	**21.87**	**132**	P			**P**	**16 17 10.7**	**-3.7**
ETMB	**Extrema**	**21.87**	**132**	eP			**P**	**16 17 13.2**	**-1.2**
BOAV	**Boa Vista**	**22.16**	**96**	P			**P**	**16 17 15.8**	**-1.7**
BOAV	**Boa Vista**	**22.16**	**96**	eP			**P**	**16 17 17.6**	**0.0**
SMRT	**St. Maarten**	**23.17**	**54**	P			**P**	**16 17 23.1**	**-5.1**
MACA	**Manacapuru-AM**	**23.29**	**110**	P			**P**	**16 17 25.8**	**-3.7**
MACA	**Manacapuru-AM**	**23.29**	**110**	eP			**P**	**16 17 28.4**	**-1.1**
SAML	**Samuel**	**23.71**	**125**	P			**P**	**16 17 31.8**	**-1.7**
SAML	**Samuel**	**23.71**	**125**	eP			**P**	**16 17 31.5**	**-2.1**
LPAZ	**La Paz**	**25.40**	**146**	P			**P**	**16 17 49.1**	**-0.7**
LPAZ				IAmb			IAmb	16 17 51.9	
	comp=Z,10nm,0.8s								
LPAZ	**La Paz**	**25.40**	**146**	P			**P**	**16 17 49.8**	**0.0**
	comp=Z,7.5nm,0.7s,baz=338,slow=9.7,SNR=38								
LPAZ				LR			LR	16 28 51.7	
	comp=Z,459nm,19.5s,baz=298,slow=39								
	comp=Z,7.5nm,0.7s								
LPAZ	**La Paz**	**25.40**	**146**	eP			**P**	**16 17 49.8**	**0.0**
PB12	**IPOC Station P**	**26.25**	**153**	P			**P**	**16 17 52.0**	**-4.8**
PB16	**IPOC Station P**	**26.39**	**151**	P			**P**	**16 17 57.6**	**-1.2**
PB11	**IPOC Station P**	**27.56**	**153**	P			**P**	**16 18 07.8**	**-1.0**
GO01	**Chusmiza**	**27.69**	**152**	P			**P**	**16 18 09.6**	**-0.7**
GO01				IAmb			IAmb	16 18 14.1	
	comp=Z,12nm,0.9s								
VILB	**Vilhena**	**28.41**	**129**	P			**P**	**16 18 13.1**	**-3.2**
MALB	**Monte Alegre**	**29.07**	**103**	eP			**P**	**16 18 22.4**	**+0.2**
PB07	**IPOC Station P**	**29.19**	**155**	P			**P**	**16 18 22.3**	**-1.0**
PB07				IAmb			IAmb	16 18 35.8	
	comp=Z,27nm,1.5s								
NPGB	**Novo Progresso**	**29.63**	**113**	eP			**P**	**16 18 26.2**	**-1.0**
SIV	**San Ignacio**	**29.70**	**135**	LR			LR	16 30 32.7	
	comp=Z,857nm,19.7s,baz=315,slow=37								
MDP	**Montagnes des**	**29.84**	**88**	LR			LR	16 31 37.2	
	comp=Z,117nm,19.6s,baz=274,slow=39								
LVC	**Limon Verde**	**30.38**	**154**	LR			LR	16 31 13.0	
	comp=Z,135nm,21.1s,baz=333,slow=37								
PDRB	**Porto dos Gac**	**30.48**	**123**	eP			**P**	**16 18 33.9**	**-0.8**
PTLB	**Pontes e Lacer**	**30.76**	**131**	P			**P**	**16 18 34.5**	**-2.5**
PTLB	**Pontes e Lacer**	**30.76**	**131**	eP			**P**	**16 18 36.6**	**-0.4**
BBSD	**Serra de San D**	**30.83**	**136**	eP			**P**	**16 18 37.2**	**-0.5**
H06E1	**SOCORRO T-PHAS**	**30.93**	**299**	T			T	16 51 14.2	
	SNR=37								
TXAR	**Lajitas Array**	**31.49**	**323**	P			**P**	**16 18 44.4**	**+0.9**
	comp=Z,0.9nm,1.1s,baz=141,slow=8.1,SNR=4.3								
TXAR				LR			LR	16 31 23.8	
	comp=Z,66nm,19.9s,baz=140,slow=36								
	comp=Z,0.9nm,1.1s								
LCAR	**Lake Charles**	**32.07**	**347**	P			**P**	**16 18 45.4**	**-3.0**
LCAR				IAmb			IAmb	16 18 51.2	
	comp=Z,5.8nm,0.9s								
ALPN	**Alpine**	**32.23**	**324**	P			**P**	**16 18 49.6**	**-0.5**
ALPN				IAmb			IAmb	16 18 52.2	
	comp=Z,6.0nm,1.1s								
LPIG	**La Paz**	**32.84**	**308**	LR			LR	16 29 38.8	
	comp=Z,167nm,21.1s,baz=125,slow=32								
VHRN	**Van Horn**	**33.33**	**323**	P			**P**	**16 18 58.1**	**-1.5**
VHRN				IAmb			IAmb	16 19 01.8	
	comp=Z,15nm,1.3s								
SALV	**Santo Antonio**	**33.67**	**128**	eP			**P**	**16 19 01.8**	**-0.8**
T35A	**Sooner Cattle**	**34.38**	**340**	P			**P**	**16 19 06.3**	**-2.3**
T35A				IAmb			IAmb	16 19 10.5	
	comp=Z,20nm,1.4s								
RVDE	**Rio Verde (Bra**	**36.11**	**132**	eP			**P**	**16 19 22.6**	**-1.2**
121A	**Cookes Peak, D**	**36.24**	**323**	P			**P**	**16 19 22.8**	**-2.1**
121A				IAmb			IAmb	16 19 28.6	
	comp=Z,16nm,1.1s								
AQDB	**Aquidauana**	**36.48**	**134**	P			**P**	**16 19 24.8**	**-2.0**
AQDB	**Aquidauana**	**36.48**	**134**	eP			**P**	**16 19 25.9**	**-0.9**
ANMO	**Albuquerque**	**37.21**	**327**	P			**P**	**16 19 32.2**	**-1.0**
ANMO				IAmb			IAmb	16 19 36.1	
	comp=Z,9.4nm,1.2s								
ANMO	**Albuquerque**	**37.21**	**327**	LR			LR	16 35 58.4	
	comp=Z,116nm,21.1s,baz=224,slow=38								
ANTJ	**Antonio Joao (**	**37.27**	**137**	eP			**P**	**16 19 32.8**	**-0.8**
SMTB	**Santa Maria do**	**37.46**	**111**	eP			**P**	**16 19 34.7**	**-0.6**
H03N2	**Juan Fernandez**	**38.23**	**175**	T			T	17 00 11.9	
	baz=354,slow=76,SNR=7.4								
H03N1	**Juan Fernandez**	**38.23**	**175**	T			T	17 00 09.6	
	baz=354,slow=76,SNR=9.1								
H03N3	**Juan Fernandez**	**38.24**	**175**	T			T	17 00 08.4	
	baz=354,slow=76,SNR=8.8								
CPUP	**Villa Florida**	**39.48**	**143**	P			**P**	**16 19 50.9**	**-1.2**
	comp=Z,4.1nm,0.9s,baz=322,slow=8.9,SNR=9.2								
CPUP				LR			LR	16 37 22.2	
	comp=Z,215nm,18.8s,baz=322,slow=38								
	comp=Z,4.1nm,0.9s								
BDFB	**Brasilia**	**39.83**	**121**	P			**P**	**16 19 54.3**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=277,slow=8.4,SNR=4.3								
BDFB				LR			LR	16 36 54.4	
	comp=Z,266nm,20.1s,baz=321,slow=37								
	comp=Z,1.6nm,0.5s								
SADO	**Sadowa**	**39.89**	**4**	LR			LR	16 35 59.6	
	comp=Z,159nm,19.1s,baz=200,slow=36								
ITRB	**Iturama**	**40.00**	**129**	eP			**P**	**16 19 55.4**	**-1.1**
Y14A	**Wickenburg**	**40.45**	**320**	P			**P**	**16 19 59.4**	**-0.8**
IPMB	**Ipameri, GO**	**40.80**	**125**	eP			**P**	**16 20 01.6**	**-1.6**
RPN	**Rapa Nui**	**40.96**	**218**	LR			LR	16 32 35.6	
	comp=Z,90nm,20.7s,baz=32,slow=30								
SDBA	**SAO DESIDERIO**	**41.20**	**115**	eP			**P**	**16 20 05.7**	**-0.9**
PTGB	**Pitanga**	**41.77**	**136**	eP			**P**	**16 20 09.7**	**-1.4**
BB19B	**Bebedouro**	**42.18**	**129**	eP			**P**	**16 20 13.5**	**-1.0**
ITQB	**Itaqui**	**42.40**	**146**	eP			**P**	**16 20 14.5**	**-1.6**
SRU	**San Rafael Swe**	**42.48**	**327**	P			**P**	**16 20 17.6**	**+0.8**
SRU				IAmb			IAmb	16 20 20.9	
	comp=Z,10nm,1.1s								
PFO	**Pinyon Flats O**	**42.55**	**317**	LR			LR	16 37 10.0	
	comp=Z,146nm,19.1s,baz=116,slow=35								
V12A	**Nelson**	**42.75**	**320**	P			**P**	**16 20 20.3**	**+1.2**
JANB	**Januaria**	**42.77**	**118**	eP			**P**	**16 20 18.5**	**-1.0**
UNIS	**Unistalda (Bra**	**42.85**	**143**	eP			P	16 20 13.8	-6.0
PSAL	**Palomas, Salto**	**42.95**	**148**	eP			**P**	**16 20 20.3**	**-0.2**
PSUT	**Pine Spring**	**43.94**	**324**	P			**P**	**16 20 28.8**	**0.0**
S11A	**Rachel**	**44.51**	**322**	IAmb			IAmb	16 20 36.3	
	comp=Z,16nm,1.2s								
SPR3	**Spring Creek 3**	**44.53**	**324**	IAmb			IAmb	16 20 37.5	
	comp=Z,7.5nm,1.2s								
WCT	**Wildcat Mounta**	**44.53**	**320**	IAmb			IAmb	16 20 37.9	
	comp=Z,9.6nm,1.3s								
PDAR	**Pinedale Array**	**44.71**	**332**	P			**P**	**16 20 34.7**	**-0.2**
PDAR	**Pinedale Array**	**44.71**	**332**	P			**P**	**16 20 35.0**	**+0.2**
	comp=Z,1.0nm,1.0s,baz=133,slow=10,SNR=7.7								
PDAR				LR			LR	16 41 21.5	
	comp=Z,157nm,19.0s,baz=150,slow=39								
	comp=Z,1.0nm,1.0s								
CPSB	**Cacapava Do Su**	**44.79**	**143**	eP			**P**	**16 20 34.2**	**-1.2**
HWUT	**Hardware Ranch**	**44.83**	**329**	IAmb			IAmb	16 20 39.5	
	comp=Z,7.1nm,1.1s								
SPUT	**South Promonto**	**45.08**	**328**	IAmb			IAmb	16 20 41.7	
	comp=Z,7.5nm,1.3s								
BGU	**Big Grassy Mou**	**45.12**	**327**	IAmb			IAmb	16 20 42.1	
	comp=Z,9.9nm,1.4s								
PLTB	**Pedras Altas**	**45.69**	**145**	P			**P**	**16 20 42.4**	**-0.1**
PLTB				IAmb			IAmb	16 20 49.5	
	comp=Z,8.5nm,1.2s								
DSP	**Deep Springs**	**45.74**	**320**	P			**P**	**16 20 44.7**	**+1.9**
ELK	**Elko**	**46.21**	**325**	LR			LR	16 39 51.3	
	comp=Z,144nm,21.5s,baz=136,slow=36								
NV11	**Mina Array Sit**	**46.49**	**321**	IAmb			IAmb	16 20 51.4	
	comp=Z,10nm,1.2s								
NVAR	**Mina Array Bea**	**46.58**	**321**	P			**P**	**16 20 50.0**	**+0.3**
NVAR	**Mina Array Bea**	**46.58**	**321**	P			**P**	**16 20 51.1**	**+1.4**
	comp=Z,4.1nm,0.9s,baz=134,slow=7.4,SNR=29								
NVAR				LR			LR	16 40 31.3	
	comp=Z,191nm,18.5s,baz=152,slow=36								
	comp=Z,4.1nm,0.9s								
LHV	**Little Huntoon**	**46.60**	**321**	IAmb			IAmb	16 20 54.3	
	comp=Z,10.0nm,1.1s								
MDPB	**Devils Postpil**	**46.61**	**319**	IAmb			IAmb	16 20 52.2	
	comp=Z,5.4nm,0.8s

H24K					IAmb	IAmb	16 24 14.9	
	comp=Z,8.3nm,1.4s							
I23K	**Minto, Yukon-K**	**75.99**	**336**	P		**P**	**16 24 10.7**	**+2.4**
I23K					IAmb	IAmb	16 24 20.1	
	comp=Z,4.7nm,1.1s							
CAST	**Castle Rocks**	**76.59**	**334**	P		**P**	**16 24 13.7**	**+1.9**
MDT	**Midelt**	**77.30**	**58**	LR		LR	16 59 07.4	
	comp=Z,44nm,19.0s,baz=318,slow=36							
ESDC	**Sonseca Array**	**78.18**	**51**	P		**P**	**16 24 22.0**	**+0.8**
	comp=Z,1.6nm,1.1s,baz=237,slow=6.5,SNR=4.8							
	comp=Z,1.6nm,1.1s							
RAR	**Rarotonga**	**79.85**	**248**	LR		LR	16 50 07.0	
	comp=Z,37nm,21.1s,baz=354,slow=28							
EKA	**Eskdalemuir Ar**	**80.03**	**35**	P		**P**	**16 24 31.9**	**+1.0**
	comp=Z,3.1nm,0.9s,baz=245,slow=4.4,SNR=2.5							
	comp=Z,3.1nm,0.9s							
TORD	**Torodi Ar. Bea**	**83.37**	**77**	P		**P**	**16 24 50.1**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=270,slow=0.1,SNR=2.5							
TORD				LR		LR	16 59 03.8	
	comp=Z,36nm,21.7s,baz=298,slow=34							
	comp=Z,0.4nm,0.7s							
SPITS	**Spitsbergen Ar**	**87.14**	**12**	LR		LR	17 03 52.6	
	comp=Z,41nm,21.8s,baz=247,slow=36							
NOA	**NORSAR Array B**	**87.65**	**29**	P		**P**	**16 25 10.1**	**+0.2**
	comp=Z,1.5nm,1.1s,baz=277,slow=4.9,SNR=3.4							
NOA				LR		LR	17 00 09.0	
	comp=Z,23nm,21.9s,baz=265,slow=33							
	comp=Z,1.5nm,1.1s							
DAVOX	**Davos/Dischmat**	**88.21**	**43**	LR		LR	16 59 09.1	
	comp=Z,30nm,19.8s,baz=266,slow=32							
HFS	**Hagfors**	**88.98**	**30**	LR		LR	17 00 12.0	
	comp=Z,26nm,20.1s,baz=262,slow=32							
GERES	**GERESS Array B**	**90.53**	**41**	LR		LR	16 59 13.1	
	comp=Z,40nm,21.0s,baz=276,slow=31							
ARCES	**ARCESS Array B**	**91.75**	**20**	LR		LR	17 03 56.0	
	comp=Z,30nm,19.1s,baz=252,slow=34							
VRAC	**Vranov**	**92.34**	**40**	LR		LR	17 00 54.8	
	comp=Z,47nm,19.4s,baz=292,slow=32							
VYHS	**Vyhne**	**93.95**	**41**	*e*PP		**PP**	**16 29 25.8**	**+0.7**
FINES	**FINESS Array B**	**94.58**	**27**	LR		LR	17 03 23.2	
	comp=Z,34nm,21.9s,baz=282,slow=32							
QSPA	**South Pole Qui**	**94.85**	**180**	P		**P**	**16 25 42.8**	**-0.5**
QSPA	**South Pole Qui**	**94.85**	**180**	P		**P**	**16 25 43.1**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=320,slow=1.5,SNR=12							
	comp=Z,1.5nm,0.8s							
STHS	**Stebnicka Huta**	**95.29**	**40**	*e*PDIFF		**P**	**16 25 49.4**	**+3.8**
MLR	**Muntele Rosu**	**99.40**	**43**	LR		LR	17 02 46.7	
	comp=Z,31nm,21.5s,baz=240,slow=30							
AKASG	**Malin Array Be**	**99.84**	**37**	LR		LR	17 12 08.2	
	comp=Z,22nm,18.4s,baz=286,slow=36							
H11N3	**WAKE ISLAND Hyd**	**107.50**	**292**	T		T	18 26 49.2	
	baz=79,slow=75,SNR=13							
H11N2	**WAKE ISLAND Hyd**	**107.50**	**292**	T		T	18 26 51.7	
	baz=79,slow=75,SNR=9.8							
H11N1	**WAKE ISLAND Hyd**	**107.51**	**292**	T		T	18 26 50.4	
	baz=79,slow=75,SNR=11							
KURBB	**Kurchatov Arra**	**122.42**	**14**	PKP		**PKiKP**	**16 31 18.3**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=7.2,slow=12,SNR=3.0							
MKAR	**Makanchi Array**	**126.88**	**13**	PKP		**PKiKP**	**16 31 26.6**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=7.1,slow=4.6,SNR=2.5							
SONM	**Songino Array**	**126.96**	**352**	PKP		**PKiKP**	**16 31 26.5**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=343,slow=4.5,SNR=2.0							
ASAR	**Alice Springs**	**140.17**	**238**	PKP		**PKPdf**	**16 31 52.0**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=110,slow=1.6,SNR=9.7							
WRA	**Warramunga Arr**	**141.05**	**244**	PKhKP	PKPpre		16 31 49.4	
	comp=Z,0.4nm,0.6s,baz=102,slow=2.7,SNR=3.3							
WRA				PKP		**PKPdf**	**16 31 53.2**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=103,slow=2.1,SNR=7.0							

*IDC **31** 16:16:24.3±1.7, 30.°12S×177.°61W, h0km, mb3.8/4, mbtmp3.8/5, ML2.8/1, Error ellipse: s-maj=40.8km s-min=16.5km az=87.0*

ISC 31 16:16:29.5±1.7, 30.°15S±0.°08×177.°7W±0.°3, h35km, n7, σ1ş59/9, mb3.8/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.91**	**350**	Pn	**Pn**	**16 16 44.8**	**-1.0**
	136nm,0.3s,baz=358,slow=18,SNR=17						
RAO				Sn	**Sn**	**16 16 57.1**	**-0.5**
	532nm,0.3s,baz=128,slow=22,SNR=11						
URZ	**Urewera**	**9.14**	**206**	Pn	**Pn**	**16 18 38.6**	**-0.2**
	0.1nm,0.3s,baz=120,slow=10,SNR=1.6						
URZ				Sn	**Sn**	**16 20 17.7**	**-2.8**
	0.5nm,0.3s,baz=151,slow=23,SNR=6.1						
	4.2nm,1.0s						
STKA	**Stephens Creek**	**34.75**	**257**	P	**P**	**16 23 18.2**	**+1.7**
	0.6nm,0.4s,baz=97,slow=11,SNR=4.5						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**43.35**	**267**	P	**P**	**16 24 29.1**	**+0.6**
	0.3nm,0.4s,baz=104,slow=7.5,SNR=23						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**44.31**	**272**	P	**P**	**16 24 36.9**	**+0.6**
	0.4nm,0.3s,baz=110,slow=8.1,SNR=23						
	0.4nm,0.3s						
VNDA	**Vanda**	**48.37**	**186**	P	**P**	**16 25 08.4**	**+1.2**
	0.9nm,0.5s,baz=13,slow=1.7,SNR=14						
	0.9nm,0.5s						
FINES	**FINESS Array B**	**144.99**	**340**	PKPbc	**PKPab**	**16 36 00.4**	**-1.2**
	1.2nm,0.5s,baz=64,slow=3.2,SNR=19						

IDC 31 16:38:37.9±1.2, 25.°05N×141.°84E, h0km, mb3.4/3, mbtmp3.4/5, ML3.2/2, MS3.4/2, Error ellipse: s-maj=96.4km s-min=17.7km az=99.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.06**	**9**	Pn	Pn	16 39 14.2	+0.4
	61nm,0.3s,baz=126,slow=8.0,SNR=21						
JCJ				Sn	Sn	16 39 41.0	+0.7
	43nm,0.3s,baz=242,slow=23,SNR=11						
	160nm,0.3s						
MJAR	**Matsushiro Arr**	**11.87**	**346**	Pn	Pn	16 41 29.4	+0.9
	baz=124,slow=15,SNR=1.8						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**45.31**	**190**	P	P	16 46 57.6	-0.1
	0.6nm,0.4s,baz=7.8,slow=8.5,SNR=13						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**49.03**	**190**	P	P	16 47 26.6	-0.1
	0.2nm,0.7s,baz=5.3,slow=5.0,SNR=10						
	0.2nm,0.7s						
DZM	**Mont Dzumac**	**52.58**	**151**	LR	LR	17 10 51.6	
	comp=Z,21nm,18.1s,baz=89,slow=37						
BVAR	**Borovoye Array**	**59.34**	**318**	LR	LR	17 16 41.8	
	comp=Z,43nm,19.9s,baz=335,slow=38						
ILAR	**Eielson Array**	**59.66**	**28**	P	P	16 48 43.0	-0.6
	0.4nm,0.8s,baz=266,slow=6.2,SNR=4.9						
	0.4nm,0.8s						

*JMA **31** 16:51:51.0±0.2, 33.°N±2.°×13.°7E±.°, h363km, MV2.5/38, SE OFF KII PENINSULA*

*IDC **31** 16:51:53.0±0.8, 33.°59N×137.°48E, h339km±10km, mb2.7/5, mbtmp3.4/10, Error ellipse: s-maj=25.2km s-min=14.9km az=63.0*

ISC 31 16:51:53.1±0.9, 33.°62N±0.°08×137.°51E±0.°08, h352km, n24, σ1ş42/28, mb2.8/5, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**1.02**	**319**	P	**Pn**	**16 52 39.0**	**-0.1**
JKN2	**Miekihoku**	**1.20**	**301**	*e*P	**Pn**	**16 52 39.3**	**-0.5**
JTNC	**Tanabenakahech**	**1.59**	**278**	P	**Pn**	**16 52 41.2**	**-0.8**
JWY	**Kouya**	**1.70**	**291**	P	**Pn**	**16 52 42.2**	**-0.5**
JHJ	**Hachijo jima 2**	**1.97**	**104**	P	**Pn**	**16 52 43.7**	**-0.7**
	72nm,0.7s,baz=81,slow=22,SNR=1.7						
JHJ				S	**S**	**16 53 23.7**	**-1.9**
	64nm,0.7s,baz=52,slow=20,SNR=2.1						
JWT	**Wachi**	**2.40**	**314**	*e*P	**Pn**	**16 52 46.6**	**-0.9**
JRY	**Ryogami san**	**2.65**	**25**	*e*P	**Pn**	**16 52 50.9**	**+1.4**
JHU	**Hanno**	**2.66**	**33**	*e*P	**Pn**	**16 52 50.1**	**+0.5**
MJAR	**Matsushiro Arr**	**2.97**	**11**	P	**Pn**	**16 52 52.8**	**+0.5**
	0.6nm,0.3s,baz=178,slow=9.3,SNR=12						
MJAR				S	**S**	**16 53 38.6**	**-1.3**
	0.9nm,0.6s,baz=182,slow=17,SNR=2.6						
MAT	**Matsushiro**	**2.97**	**11**	*e*P	**Pn**	**16 52 52.5**	**+0.2**
JMN	**Monobe**	**3.03**	**273**	P	**Pn**	**16 52 52.0**	**-0.9**
JAG	**Ashikaga**	**3.22**	**29**	*e*P	**Pn**	**16 52 54.3**	**-0.3**
JAG				*e*S	**S**	**16 53 43.1**	**-1.0**
JYT	**Yasato**	**3.41**	**40**	*e*P	**Pn**	**16 52 56.0**	**-0.3**
JHS	**Saijyo**	**3.88**	**292**	*e*P	**Pn**	**16 53 00.3**	**-0.8**
JHO	**Hitachi**	**3.90**	**39**	P	**Pn**	**16 53 00.8**	**-0.3**
JHO				S	**S**	**16 53 51.9**	**-4.1**
JFK	**Kawauchi**	**4.64**	**35**	*e*S	**S**	**16 54 06.3**	**-3.8**
JNU	**Nakatsue**	**5.57**	**267**	P	**Pn**	**16 53 17.9**	**-1.2**
	2.6nm,0.5s,baz=66,slow=3.1,SNR=7.8						
KSRS	**Korea Array**	**8.70**	**299**	P	**Pn**	**16 53 55.4**	**0.0**
	1.7nm,0.7s,baz=112,slow=12,SNR=9.4						
USRK	**Ussuriysk Ar.**	**11.40**	**340**	P	**Pn**	**16 54 28.4**	**+0.8**
	1.7nm,0.6s,baz=156,slow=11,SNR=8.3						
ZALV	**Zalesovo Beam**	**41.97**	**315**	P	**P**	**16 59 11.8**	**+1.2**
	0.4nm,0.4s,baz=87,slow=10,SNR=1.8						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**43.32**	**305**	P	**P**	**16 59 22.1**	**+0.6**
	0.1nm,0.4s,baz=82,slow=10,SNR=1.6						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**45.67**	**310**	P	**P**	**16 59 40.3**	**+0.5**
	0.2nm,0.3s,baz=90,slow=7.2,SNR=5.1						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**53.35**	**184**	P	**P**	**17 00 38.6**	**+1.1**
	0.3nm,1.0s,baz=2.7,slow=7.4,SNR=1.2						
	0.3nm,1.0s						
FINES	**FINESS Array B**	**70.32**	**332**	P	**P**	**17 02 29.8**	**+0.9**
	0.4nm,0.4s,baz=59,slow=6.8,SNR=12						
	0.4nm,0.4s						

IDC 31 16:59:08.2±2.4, 16.°68S×174.°07W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=68.2km s-min=44.3km az=31.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.94**	**258**	P	P	17 07 56.6	-0.1
	0.2nm,0.4s,baz=96,slow=7.3,SNR=7.9						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**49.12**	**253**	P	P	17 07 58.0	-0.1
	1.9nm,0.6s,baz=87,slow=8.7,SNR=91						
	1.9nm,0.6s						
QSPA	**South Pole Qui**	**73.38**	**180**	P	P	17 10 42.0	+0.1
	1.0nm,1.0s,baz=194,slow=3.8,SNR=7.5						
	1.0nm,1.0s						
BRTR	**Keskin Array B**	**146.72**	**319**	PKPbc	PKPdf	17 18 51.6	+0.6
	0.4nm,0.8s,baz=348,slow=5.0,SNR=3.7						

JMA 31 17:29:32.2±0.2, 24.°3N±0.°5×123.°8E±0.°5, h15km±1km, MV0.7/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.07**	**263**	P	Pg	17 29 35.0	-0.1
IRIF				*e*S	Sg	17 29 37.4	+0.3
JKRS	**Kuro-shima**	**0.21**	**120**	P	Pg	17 29 36.9	-0.1
JKRS				S	Sg	17 29 40.5	+0.3
HATJ	**Hateruma jima**	**0.28**	**181**	*e*S	Sg	17 29 42.4	+0.1
JIJ	**Ishigaki jima**	**0.31**	**86**	P	Pg	17 29 38.4	-0.2
JIJ				S	Sg	17 29 42.9	-0.1
JISG	**Ishigakijimahi**	**0.52**	**62**	*e*P	Pg	17 29 42.5	0.0
JISG				*e*S	Sg	17 29 49.9	+0.5

TAP 31 17:29:53.8, 24.°45N×121.°88E, h19km, ML1.6, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.09**	**269**	P	Pg	17 29 58.1	+0.5
	baz=269						
EWUT				*e*S	Sg	17 30 00.9	+0.8
	baz=269						
ENA	**Nanau**	**0.13**	**262**	*e*P	Pg	17 29 58.2	+0.2
	baz=260						
ENA				S	Sg	17 30 01.7	+1.0
	baz=260						
ESAO	**Su ao**	**0.13**	**346**	*e*P	Pg	17 29 58.2	+0.3
	baz=345						
ESAO				S	Sg	17 30 01.6	+0.7
	baz=345						
TWC	**Suao**	**0.16**	**350**	*i* P	Pg	17 29 59.0	+0.6
	baz=353						
TWC				*i* S	Sg	17 30 02.2	+0.7
	baz=353						
EAHA	**Aohua**	**0.17**	**228**	*e*S	Sg	17 30 03.4	+1.7
	baz=227						
EHP	**Heping Village**	**0.19**	**223**	*e*S	Sg	17 30 03.0	+1.0
	baz=220						
NDS	**Dongshan**	**0.24**	**321**	*e*P	Pg	17 30 00.3	+0.8
	baz=321						
NDS				S	Sg	17 30 04.6	+1.2
	baz=321						
EOS2	**EOS2**	**0.32**	**95**	*e*P	Pb	17 30 01.2	+0.3
	baz=94						
EOS2				*e*S	Sb	17 30 07.0	+1.2
	baz=94						
LATG	**Datong**	**0.33**	**285**	*e*P	Pb	17 30 01.8	+0.6
	baz=285						
LATG				S	Sb	17 30 07.2	+1.0
	baz=285						
TWE	**Neicheng**	**0.34**	**325**	P	Pb	17 30 01.8	+0.6
	baz=326						
TWE				*i* S	Sb	17 30 06.9	+0.7
	baz=326						
ENTT	**Nioudou**	**0.34**	**304**	P	Pb	17 30 02.1	+0.7
	baz=304						
ENTT				S	Sb	17 30 07.4	+0.9
	baz=304						
NDT	**Datong Townshi**	**0.37**	**295**	*e*P	Pb	17 30 02.5	+0.7
	baz=294						
NDT				S	Sb	17 30 08.4	+1.2
	baz=294						
ETL	**Fush Village**	**0.37**	**219**	*e*P	Pb	17 30 01.9	+0.1
	baz=219						
ETL				S	Sb	17 30 08.1	+0.8
	baz=219						
NACB	**Ninganchiao**	**0.38**	**224**	*e*P	Pg	17 30 01.8	+0.1
	baz=223						
NACB				*e*S	Sb	17 30 07.8	+0.3
	baz=223						
EGS		**0.40**	**7**	*e*S	Sb	17 30 09.2	+1.0
	baz=8.0						
NTC	**Toucheng**	**0.41**	**354**	*e*S	Sb	17 30 09.3	+0.9
	baz=353						
FUSB	**Fushanzhiwuyua**	**0.41**	**320**	*e*P	Pb	17 30 03.3	+0.7
	baz=319						
FUSB				S	Sb	17 30 09.4	+0.9
	baz=319						
EOS3	**EOS3**	**0.43**	**112**	*e*S	Sb	17 30 09.8	+1.0
	baz=111						
ETLH	**Xiulin Townshi**	**0.43**	**237**	*e*P	Pb	17 30 03.1	+0.1
	baz=236						
ETLH				*e*S	Sb	17 30 10.1	+0.9
	baz=236						
TWD	**Chiawan**	**0.45**	**215**	*e*P	Pb	17 30 03.5	+0.3
	baz=214						
TWD				*e*S	Sb	17 30 10.9	+1.5
	baz=214						
NNSB	**Datong**	**0.45**	**268**	*e*S	Sb	17 30 10.6	+0.9
	baz=267						
NNS	**Nan Shan**	**0.46**	**269**	*e*S	Sb	17 30 10.8	+0.9
	baz=268						
NWLT	**Wulai**	**0.48**	**314**	*e*S	Sb	17 30 10.9	+0.6
	baz=313						
YHNB	**Yeheng**	**0.51**	**296**	*e*P	Pb	17 30 04.6	+0.4
	baz=295						
YHNB				S	Sb	17 30 12.2	+1.0
	baz=295						
NSK	**Sanguang**	**0.53**	**296**	*e*P	Pg	17 30 04.7	+0.3
	baz=295						
NSK				S	Sb	17 30 12.4	+0.7
	baz=295						
ETM	**Tongmen**	**0.60**	**216**	*e*S	Sn	17 30 15.3	-1.1
	baz=216						
LXIB	**Xiulin Townshi**	**0.60**	**225**	*e*S	Sn	17 30 15.9	-0.8
	baz=225						
WHF	**Hehuan Shan**	**0.64**	**242**	*e*P	Pg	17 30 06.7	+0.1
	baz=241						
WHF				*e*S	Sg	17 30 16.2	+0.9
	baz=241						
CHGB	**Renai**	**0.75**	**239**	*e*S	Sn	17 30 19.8	-0.7
	baz=239						
OWD	**Renai**	**0.81**	**233**	*e*P	Pg	17 30 09.8	+0.1
	baz=232						
OWD				*e*S	Sg	17 30 20.9	+0.5
	baz=232						
WUSB	**Renai**	**0.83**	**237**	*e*P	Pn	17 30 10.6	0.0
	baz=236						
VWDT	**VWDT**	**0.96**	**225**	*e*S	Sn	17 30 25.8	+0.4
	baz=224						

TAP 31 17:39:29.5, 24.°60N×121.°74E, h8km, ML1.4, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDS	**Dongshan**	**0.05**	**326**	P	Pg	17 39 31.9	+0.7
	baz=327						
NDS				*e*S	Sg	17 39 33.0	+0.6
	baz=327						
ESAO	**Su ao**	**0.09**	**102**	P	Pg	17 39 32.3	+0.5
	baz=102						
ESAO				*e*S	Sg	17 39 34.2	+0.8
	baz=102						
TWC	**Suao**	**0.10**	**82**	*e*P	Pg	17 39 32.4	+0.6
	baz=82						
TWC				*e*S	Sg	17 39 33.9	+0.5
	baz=82						
TWE	**Neicheng**	**0.14**	**331**	*i* P	Pg	17 39 33.4	+0.8
	baz=335						
TWE				*i* S	Sg	17 39 35.6	+0.9
	baz=335						
EWUT	**Wuta**	**0.15**	**168**	*e*P	Pg	17 39 33.7	+1.0
	baz=168						
EWUT				*e*S	Sg	17 39 36.0	+1.1
	baz=168						
ENA	**Nanau**	**0.17**	**181**	*e*P	Pg	17 39 34.5	+1.6
	baz=178						
ENA				*e*S	Sg	17 39 37.0	+1.7
	baz=178						
ENTT	**Nioudou**	**0.17**	**285**	P	Pg	17 39 34.1	+1.1
	baz=285						
ENTT				S	Sg	17 39 36.7	+1.3
	baz=285						
ILA	**Ilan**	**0.17**	**1**	*e*S	Sg	17 39 36.1	+0.7
	baz=3.0						
LATG	**Datong**	**0.21**	**253**	*e*P	Pg	17 39 34.9	+1.2
	baz=253						
LATG				S	Sg	17 39 38.2	+1.6
	baz=253						
NDT	**Datong Townshi**	**0.21**	**272**	*i* P	Pg	17 39 34.9	+1.2
	baz=271						
NDT				S	Sg	17 39 38.6	+1.9
	baz=271						
FUSB	**Fushanzhiwuyua**	**0.22**	**319**	*i* P	Pg	17 39 35.1	+1.2
	baz=318						
FUSB				S	Sg	17 39 38.0	+1.1
	baz=318						
NWLT	**Wulai**	**0.28**	**310**	*e*P	Pb	17 39 36.3	-0.6
	baz=309						
NWLT				*e*S	Sb	17 39 40.9	-0.9
	baz=309						
YHNB	**Yeheng**	**0.34**	**283**	*i* P	Pb	17 39 37.5	-0.4
	baz=282						
YHNB				*e*S	Sg	17 39 42.0	+1.2
	baz=282						
NSK	**Sanguang**	**0.36**	**283**	P	Pb	17 39 37.6	-0.6
	baz=282						
NSK				*e*S	Sb	17 39 43.0	-1.0
	baz=282						
NNSB	**Datong**	**0.37**	**243**	*e*P	Pg	17 39 37.1	+0.3
	baz=243						
NNSB				*e*S	Sb	17 39 43.5	-0.8
	baz=243						
NNS	**Nan Shan**	**0.37**	**246**	*e*S	Sb	17 39 43.9	-0.6
	baz=244						
TIPB	**Shuangxi**	**0.38**	**11**	*e*S	Sb	17 39 43.4	-1.3
	baz=11						
NHDH	**Xindian Distri**	**0.42**	**332**	*e*S	Sb	17 39 45.4	-0.2
	baz=331						
NACB	**Ninganchiao**	**0.44**	**198**	*e*S	Sb	17 39 46.7	+0.4
	baz=197						
ETL	**Fush Village**	**0.45**	**194**	*e*P	Pb	17 39 39.2	-0.4
	baz=194						
ETL				*e*S	Sb	17 39 46.4	-0.1
	baz=194						
NHY	**Taipei**	**0.47**	**340**	*e*S	Sb	17 39 47.2	+0.1
	baz=340						
EOS2	**EOS2**	**0.48**	**111**	*e*S	Sb	17 39 47.3	+0.1
	baz=111						

JMA 31 17:39:44.7±0.1, 24.°2N±0.°4×123.°8E±0.°4, h15km±1km, MV0.8/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.12**	**321**	*e*P	Pg	17 39 48.2	0.0
IRIF				*e*S	Sg	17 39 50.4	-0.1
JKRS	**Kuro-shima**	**0.18**	**92**	*i* P	Pg	17 39 49.2	+0.1
JKRS				*e*S	Sb	17 39 52.8	-0.3
HATJ	**Hateruma jima**	**0.19**	**181**	*i* P	Pg	17 39 49.1	-0.2
HATJ				*e*S	Sg	17 39 52.2	0.0
JIJ	**Ishigaki jima**	**0.33**	**69**	P	Pg	17 39 51.3	-0.3
JIJ				*e*S	Sg	17 39 56.3	+0.1
JISG	**Ishigakijimahi**	**0.57**	**53**	P	Pg	17 39 55.9	-0.1
JISG				*e*S	Sb	17 40 04.1	-0.2

SCB 31 17:43:07.3±1.2, 20.°93S×67.°38W, h211km±12km, ML3.4/4, MW3.7, Error ellipse: s-maj=7.4km s-min=5.0km az=0.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.66**	**102**	Pg	Pn	17 43 45.0	+1.2
MOCB				Sg	S	17 44 12.0	+0.1
MOCB				IAML		17 44 13.1	
	289nm,0.4s						
PB08	**IPOC Station P**	**1.84**	**295**	Pg	Pn	17 43 45.9	+0.4
PB01	**IPOC Station P**	**1.98**	**266**	Pg	Pn	17 43 47.1	+0.6
PB01				Sg	S	17 44 16.7	+0.1
PB01				IAML		17 44 18.6	
	85nm,0.2s						
GO01	**Chusmiza**	**2.12**	**306**	Pg	Pn	17 43 49.2	+0.9
PB02	**IPOC Station P**	**2.38**	**260**	Pg	Pn	17 43 50.8	+0.1
PB02				Sg	S	17 44 24.3	+0.1
PB02				IAML		17 44 25.1	
	153nm,0.2s						
SOEO	**Opoqueri**	**2.40**	**348**	Pg	Pn	17 43 52.4	+1.1
PB11	**IPOC Station P**	**2.43**	**298**	Pg	Pn	17 43 51.9	+0.6
PB11				Sg	S	17 44 24.5	-0.7
PB11				IAML		17 44 26.8	
	99nm,0.3s						
SOET	**ToroToro**	**3.16**	**28**	Pg	Pn	17 43 59.6	-0.2
PB16	**IPOC Station P**	**3.27**	**322**	Pg	Pn	17 44 01.9	+0.6
AOEA	**Aiquile**	**3.40**	**37**	Pg	Pn	17 44 02.5	0.0
SOTI	**Planta Incahua**	**3.66**	**73**	Pg	Pn	17 44 06.0	+0.6
SOEJ	**Jacaque**	**4.00**	**349**	Pg	Pn	17 44 11.0	+0.9
BBOE	**La Paz, Chanca**	**4.13**	**352**	Pg	Pn	17 44 12.9	+1.2
BBOD	**La Paz, Gloria**	**4.42**	**345**	Pg	Pn	17 44 15.8	+0.5
LPAZ	**La Paz**	**4.67**	**351**	Pg	Pn	17 44 19.3	+0.8
BBSD	**Serra de San D**	**7.40**	**61**	Pg	Pn	17 44 52.2	-0.7

*IDC **31** 17:46:08.9±0.9, 30.°05N×67.°94E, h0km, mb3.6/14, mbtmp3.6/16, ML4.0/2, Error ellipse: s-maj=22.3km s-min=19.5km az=73.0*

*NEIC **31** 17:46:12.0±2.3, 30.°00N±0.°09×67.°8E±0.°1, h21km±5km, mb4.2/22, Error

comp=N,38nm,0.5s
SIMJ Simiganj 8.73 6 Pn Pn 17 48 16.2 0.0
CHGR Chuyangaron 8.74 7 Pn Pn 17 48 14.8 -1.6
GAR Garm 9.24 12 Pn Pn 17 48 22.9 -0.4
DRK Karamyk 10.03 18 Pn Pn 17 48 34.6 +0.3
WSAR Wadi Sarin 10.64 233 Pn Pn 17 48 43.9 +1.5
comp=N,1.7nm,0.3s,baz=106,slow=7.0,SNR=30
WSAR Sn **Sn 17 50 33.7 -7.0**
comp=N,0.3nm,0.3s,baz=174,slow=19,SNR=1.6
comp=N,3.1nm,0.3s
PTH Pithoragarh 10.74 89 *e*P **Pn 17 48 45.1 +1.3**
PTH *e*S **Sn 17 50 35.9 -7.5**
UOSS Minazif 11.50 247 Pn **Pn 17 48 53.3 -0.9**
ARSB Arslanbob 12.07 19 Pn **Pn 17 49 01.1 -1.0**
AAK Ala-Archa 13.72 21 Pn 17 49 22.7 -1.9
AAK Ala-Archa 13.72 21 Pn **Pn 17 49 23.4 -1.3**
comp=N,0.5nm,0.3s,baz=197,slow=7.8,SNR=8.8
comp=N,1.2nm,0.3s
MAKZ Makanchi 20.08 29 P **P 17 50 41.2 -1.8**
ABKAR Akbulak array 20.20 345 P **P 17 50 44.4 +0.1**
ABKAR Akbulak array 20.20 345 P **P 17 50 44.3 0.0**
MK31 Makanchi Array 20.20 30 P **P 17 50 42.8 -1.6**
MKAR Makanchi Array 20.20 30 P **P 17 50 42.2 -2.2**
MKAR Makanchi Array 20.20 30 P **P 17 50 43.6 -0.8**
comp=N,1.2nm,0.6s,baz=209,slow=11,SNR=14
comp=N,1.2nm,0.6s
RAYN Ar Rayn 20.96 258 P **P 17 50 50.5 -2.4**
KURBB Kurchatov Arra 22.14 18 P **P 17 51 04.2 -1.0**
comp=N,2.6nm,0.6s,baz=210,slow=9.8,SNR=25
comp=N,2.6nm,0.6s
KURK Kurchatov 22.25 18 P **P 17 51 04.9 -1.5**
ZIRO ZIRO 22.89 90 *ex* x 17 51 04.5
ZIRO *ex* x 17 54 03.3
BVAR Borovoye Array 23.12 4 P **P 17 51 15.8 +0.3**
comp=N,1.1nm,0.5s,baz=176,slow=9.3,SNR=13
comp=N,1.1nm,0.5s
BRVK Borovoye 23.15 4 P **P 17 51 20.3 +4.5**
BRVK IAmb IAmb 17 51 22.7
comp=Z,2.1nm,0.6s
ZALV Zalesovo Beam 26.94 22 P **P 17 51 52.6 +1.9**
comp=Z,1.2nm,0.4s,baz=209,slow=13,SNR=5.1
comp=Z,1.2nm,0.4s
CMAR Chiang Mai Arr 30.47 105 P **P 17 52 23.5 +1.0**
comp=Z,0.2nm,0.3s,baz=291,slow=10,SNR=2.2
comp=Z,0.2nm,0.3s
FIA1 FINESS Array S 41.70 331 P 17 53 56.8 -1.1
FINES FINESS Array B 41.70 331 P 17 53 56.4 -1.6
FINES FINESS Array B 41.70 331 P **P 17 53 59.0 +1.1**
comp=Z,0.4nm,0.6s,baz=125,slow=9.6,SNR=5.0
comp=Z,0.4nm,0.6s
CLL Collm 45.55 314 *e*sP sP 17 54 39.0 -0.9
ARCES ARCESS Array B 46.32 341 P P 17 54 36.0 +1.1
ARCES ARCESS Array B 46.32 341 P P 17 54 35.5 +0.6
comp=Z,0.7nm,0.5s,baz=126,slow=9.2,SNR=7.8
comp=Z,0.7nm,0.5s
HFS Hagfors 46.81 326 P P 17 54 39.9 +1.0
comp=Z,1.3nm,0.8s,baz=96,slow=12,SNR=2.4
comp=Z,1.3nm,0.8s
NOA NORSAR Array B 48.23 327 P P 17 54 49.9 0.0
comp=Z,0.2nm,0.7s,baz=105,slow=6.5,SNR=1.7
comp=Z,0.3nm,0.7s
NBO00 NORSAR Array S 48.43 327 P P 17 54 52.4 +0.9
TORD Torodi Ar. Bea 63.02 270 P P 17 56 38.5 +1.6
comp=Z,0.2nm,0.4s,baz=49,slow=6.5,SNR=2.7
comp=Z,0.2nm,0.4s
IVI Ivigtut 75.51 333 P P 17 57 54.3 +0.9
D19K Kuna River 76.14 16 P P 17 57 57.7 +0.7
D19K IAmb IAmb 17 58 14.1
comp=Z,8.5nm,1.5s
E18K Tukpahlearik C 76.34 17 P P 17 57 59.4 +1.3
E18K IAmb IAmb 17 58 08.8
comp=Z,5.1nm,1.4s
C23K Itkillik River 76.67 13 P P 17 58 01.5 +1.6
C23K IAmb IAmb 17 58 43.3
comp=Z,4.6nm,1.4s
G16K Koyuk River 77.36 19 P P 17 58 03.5 -0.4
BMAR Burnt Mountain 79.88 12 P P 17 58 20.0 +2.2
INK Inuvik 80.74 8 P P 17 58 23.9 +1.7
INK IAmb IAmb 17 58 45.6
comp=Z,2.0nm,1.2s
WRA Warramunga Arr 80.94 119 P P 17 58 25.6 +1.5
comp=Z,0.2nm,0.7s,baz=323,slow=4.8,SNR=1.5
comp=Z,0.2nm,0.7s
F31M Tsiigehtchic 81.54 8 P P 17 58 27.7 +1.2
F31M IAmb IAmb 17 58 28.9
comp=Z,1.5nm,0.9s
CAST Castle Rocks 81.69 17 P P 17 58 27.6 +0.1
CAST IAmb IAmb 17 58 29.5
comp=Z,3.4nm,1.4s
ILAR Eielson Array 81.76 14 P P 17 58 28.3 +0.5
comp=Z,0.1nm,0.5s,baz=305,slow=4.2,SNR=1.9
comp=Z,0.1nm,0.5s
H29M Whitestone 82.04 10 P P 17 58 30.3 +1.1
H29M IAmb IAmb 17 58 40.5
comp=Z,4.4nm,1.4s
I28M Miner Creek 82.49 11 P P 17 58 32.2 +0.5
I28M IAmb IAmb 17 58 39.4
comp=Z,1.7nm,1.0s
ASAR Alice Springs 82.82 122 P P 17 58 34.3 +0.3
ASAR Alice Springs 82.82 122 P P 17 58 35.4 +1.4
comp=Z,0.4nm,0.8s,baz=306,slow=4.9,SNR=6.9
comp=Z,0.4nm,0.8s
SCRK Sand Creek 83.06 14 P P 17 58 36.0 +1.3
SCRK IAmb IAmb 17 59 02.4
comp=Z,1.5nm,1.2s
I30M Mount Dempster 83.27 10 P P 17 58 36.5 +0.7
I30M IAmb IAmb 17 58 48.7
comp=Z,3.4nm,1.4s
BCAR Beaver Creek A 84.32 13 P P 17 58 42.5 +1.3
K29M Barlow Dome 84.38 11 P P 17 58 43.5 +1.9
K29M IAmb IAmb 17 59 22.5
comp=Z,4.1nm,1.4s
YKA Yellowknife Ar 87.85 1 P P 17 58 59.3 +0.8
comp=Z,0.1nm,0.5s,baz=325,slow=2.2,SNR=2.2
comp=Z,0.1nm,0.5s

*KRNET **31** 17:47:36.0±0.1, 40.89N×69.40E, mb2.6*
*SOME **31** 17:47:43.0, 41.13N×69.77E, h0km*
ISC 31 17:47:37.7±1.4, **40.93N**±0.03×**69.56E**±0.05, **h17**km±11km, **n13**, σ1§**80**/26, **12C-7D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IUG	**Iuzhnay**	**1.26**	**16**	*e*P		**Pg**	**17 48 05.0**	**+2.9**
IUG	19nm,0.0s			*e*S		**Sn**	**17 48 19.3**	**+1.9**
	56nm,0.3s							
BTK	**Batken**	**1.30**	**132**	⇓*i*P		**Pb**	**17 48 01.7**	**0.0**
BTK	baz=27			⇓*i*S		**Sg**	**17 48 20.3**	**+0.6**
	baz=27							
TRKS	**Terek-Say**	**1.33**	**63**	⇑*i*P		**Pg**	**17 48 03.2**	**-0.3**
TRKS	baz=66			⇑*i*S		**Sg**	**17 48 23.8**	**+2.9**
	baz=66							
GAR	**Garm**	**2.02**	**163**	⇑*i*P		**Pb**	**17 48 13.0**	**-1.0**
GAR	baz=59			⇑*i*S		**Sb**	**17 48 39.9**	**+1.1**
	baz=59							
BRLS	**Borolday**	**2.11**	**6**	*e*P		**Pb**	**17 48 14.6**	**-0.9**
BRLS	2.0nm,0.3s			*e*S		**Sn**	**17 48 35.7**	**-2.3**
	23nm,0.2s							
DRK	**Karamyk**	**2.25**	**129**	⇑*e*P		**Pb**	**17 48 17.4**	**-0.6**
DRK	baz=26			⇑*e*S		**Sg**	**17 48 48.0**	**-2.1**
	baz=26							
KK31	**Karatay Array**	**2.28**	**18**	Pn		**Pb**	**17 48 18.5**	**+0.1**
KK31	0.4nm,0.3s,baz=206,slow=17,SNR=14			⇓Sn		**Sg**	**17 48 49.3**	**-1.9**
	1.1nm,0.2s,baz=209,slow=29,SNR=22							
KKAR	**Karatay Array**	**2.28**	**18**	⇑*i*P		**Pb**	**17 48 18.2**	**-0.3**
KKAR	baz=20			⇑*i*S		**Sg**	**17 48 48.5**	**-2.7**
	baz=20							
CHGR	**Chuyangaron**	**2.29**	**188**	⇑*i*P		**Pn**	**17 48 15.9**	**+1.1**
CHGR	baz=85			⇑*i*S		**Sb**	**17 48 45.4**	**-1.4**
	baz=85							
OHH	**Osh**	**2.48**	**98**	⇓*e*P		**Pb**	**17 48 21.1**	**-0.9**
OHH	baz=97			⇓*e*S		**Sb**	**17 48 54.0**	**+1.7**
	baz=97							
ARSB	**Arslanbob**	**2.62**	**80**	⇑*e*P		**Pb**	**17 48 23.1**	**-1.1**
ARSB	baz=80			⇑*e*S		**Sb**	**17 48 57.6**	**+1.5**
	baz=80							
MNAS	**Manas**	**2.70**	**54**	⇓*e*P		**Pb**	**17 48 24.7**	**-0.9**
MNAS	baz=54			⇓*e*S		**Sb**	**17 48 59.2**	**+0.8**
	baz=54							
MRKS	**Merke**	**3.28**	**55**	*e*P		**Pg**	**17 48 40.0**	**-0.7**
MRKS	1.3nm,0.2s			*e*S		**Sg**	**17 49 19.3**	**-4.0**
	3.6nm,0.2s							

*IDC **31** 17:57:18.1±2.3, 13.58N×92.47W, h0km, mb3.9/3, mbtmp3.7/6, ML3.7/3, Error ellipse: s-maj=42.0km s-min=24.0km az=10.0*
*NEIC **31** 17:57:20±2.7, 13.59N±0.08×92.51W±0.07, h19km±4km, mb4.4/28, Md4.2/26(MEX), Error ellipse: s-maj=12.8km s-min=8.4km az=204.0*
*MEX **31** 17:57:20.9±0.6, 13.48N×92.50W, h14km±342km, MD4.2*
ISC 31 17:57:18.7±3.1, **13.58N**±0.06×**92.53W**±0.06, **h11**km±22km, **n59**, σ1§**66**/68, **mb4.3**/12, **Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RTAL	**Retalhuleu**	**1.24**	**41**			**Pb**	**17 57 41.8**	**-0.3**
RTAL	**Retalhuleu**	**1.24**	**41**	*e*P		**Pn**	**17 57 41.4**	**-0.6**
RTAL				*e*S		**Sb**	**17 57 56.1**	**-2.1**
PATR	**El Naranjo**	**1.56**	**11**	*e*P		**Pn**	**17 57 45.9**	**-0.7**
PATR				*e*S		**Sn**	**17 58 05.8**	**-1.0**
CHUJ	**Union Juarez**	**1.56**	**15**	*e*P		**Pn**	**17 57 45.9**	**-0.7**
CHUJ				*e*S		**Sn**	**17 58 06.2**	**-0.7**
SMSP	**San Marcos**	**1.56**	**28**	*e*P		**Pb**	**17 57 47.5**	**-0.3**
SMSP				*e*S		**Sb**	**17 58 07.2**	**-0.6**
PAVE	**Pavencul**	**1.64**	**12**	*i* P		**Pn**	**17 57 47.2**	**-0.5**
PAVE				*e*S		**Sn**	**17 58 08.0**	**-0.9**
HUEH	**Huehuetenango**	**2.00**	**30**			**Pn**	**17 57 52.4**	**-0.2**
HUEH	**Huehuetenango**	**2.00**	**30**	*e*P		**Pb**	**17 57 54.9**	**-0.2**
HUEH				*e*S		**Sb**	**17 58 20.1**	**0.0**
PCIG		**2.22**	**343**			**Pn**	**17 57 55.6**	**+0.2**
PCIG		**2.22**	**343**	*e*P		**Pn**	**17 57 55.6**	**+0.2**
APG	**El Apazote**	**2.45**	**54**	Pn		**Pn**	**17 57 59.9**	**+1.1**
	0.2nm,0.3s,baz=205,slow=15,SNR=14							
APG				Sn		**Sb**	**17 58 31.2**	**-2.1**
	1.0nm,0.3s,baz=126,slow=10,SNR=12							
MTO3	**Montecristo**	**3.18**	**75**			**Pn**	**17 58 07.4**	**-1.5**
TGIG		**3.23**	**350**			**Pn**	**17 58 10.4**	**+1.0**
TGIG		**3.23**	**350**	*e*P		**Pn**	**17 58 10.4**	**+1.0**
UXUV	**UXUV**	**4.03**	**337**	*e*P		**Pn**	**17 58 22.8**	**+2.4**
UXUV				*e*S		**Sn**	**17 59 10.2**	**+2.6**
HUIG	**Huatulco**	**4.09**	**303**			**Pn**	**17 58 20.6**	**-0.6**
HUIG						Sn	17 59 00.2	-8.8
HUIG	**Huatulco**	**4.09**	**303**	*e*P		**Pn**	**17 58 20.6**	**-0.6**
HUIG				*e*S		Sn	17 59 00.2	-8.8
CMIG	**Matias Romero**	**4.17**	**327**			**Pn**	**17 58 22.9**	**+0.6**
CMIG						**Sn**	**17 59 04.9**	**-6.0**
CMIG	**Matias Romero**	**4.17**	**327**	Pn		**Pn**	**17 58 22.8**	**+0.6**
	1.0nm,0.3s,baz=148,slow=17,SNR=15							
CMIG				Sn		**Sn**	**17 59 10.0**	**-1.0**
	1.5nm,0.3s,baz=132,slow=11,SNR=4.1							
	5.1nm,0.7s							
CMIG	**Matias Romero**	**4.17**	**327**	*e*P		**Pn**	**17 58 22.9**	**+0.6**
CMIG				*e*S		**Sn**	**17 59 04.9**	**-6.0**
PEIG	**Puerto Escondi**	**5.07**	**299**			**Pn**	**17 58 34.5**	**-0.2**
PEIG						Sn	17 59 22.7	-11
PEIG	**Puerto Escondi**	**5.07**	**299**	*e*P		**Pn**	**17 58 34.5**	**-0.2**
PEIG				*e*S		Sn	17 59 22.7	-11
NEUV	**Arroyo Zacate**	**5.18**	**323**	*e*		Pn	17 58 27.5	-8.6
BOAB	**BOACO BROADBAN**	**6.78**	**99**	Pn		**Pn**	**17 58 55.8**	**-2.4**
HZTE	**Horizontes, Gu**	**7.36**	**112**	Pn		**Pn**	**17 59 05.6**	**-0.5**
ORTG	**Ortega, Santa**	**7.62**	**114**	Pn		**Pn**	**17 59 10.5**	**+0.7**
TEIG	**Tepich**	**7.76**	**31**	Pn		**Pn**	**17 59 12.9**	**+1.3**
JTS	**Las Juntas de**	**8.10**	**113**	Pn		**Pn**	**17 59 17.3**	**+0.9**
	0.8nm,0.3s,baz=298,slow=19,SNR=1.6							
	1.8nm,0.3s							
SRBA	**San Rafael, Bu**	**9.97**	**115**	Pn		**Pn**	**17 59 43.8**	**+1.7**
PAYG	**Puerto Ayora**	**14.34**	**171**	Pn		**Pn**	**18 00 40.5**	**-1.3**
HNDO	**Hondo**	**17.06**	**340**	P		**P**	**18 01 20.2**	**+1.1**
DRIO	**Del Rio**	**17.46**	**336**	P		**P**	**18 01 24.6**	**+1.1**
SAND	**Sanderson**	**18.55**	**333**	P		**Pn**	**18 01 36.6**	**+0.8**
TXAR	**Lajitas Array**	**18.77**	**328**	P		**Pn**	**18 01 41.1**	**+2.7**
	0.1nm,0.3s,baz=146,slow=13,SNR=5.6							
	0.6nm,0.9s							
MNHN	**Monahans**	**20.02**	**334**	P		**P**	**18 01 50.7**	**-1.0**
ODSA	**Odessa**	**20.61**	**335**	P		**P**	**18 01 59.3**	**+1.2**
ODSA				IAmb	IAmb		18 02 01.6	
	comp=Z,12nm,0.6s							
VHRN	**Van Horn**	**20.61**	**328**	P		Pn	18 02 00.0	-0.5
APMT	**Aspermont**	**20.84**	**342**	P		**P**	**18 02 00.8**	**+0.3**
APMT				IAmb	IAmb		18 02 02.8	
	comp=Z,12nm,0.7s							
POST	**Post**	**21.05**	**339**	P		**P**	**18 02 03.3**	**+0.4**
POST				IAmb	IAmb		18 02 05.2	
	comp=Z,10nm,0.8s							
GOGA	**Godfrey**	**21.40**	**21**	P		**P**	**18 02 06.8**	**+0.3**
Y52A	**Lilburn**	**21.61**	**19**	P		**P**	**18 02 08.8**	**0.0**
Y52A				IAmb	IAmb		18 02 39.7	
	comp=Z,18nm,1.2s							
PLAL	**Pickwick Lake**	**21.69**	**10**	P		**P**	**18 02 09.7**	**+0.1**
FPAL	**Fort Paine**	**21.79**	**16**	P		**P**	**18 02 09.9**	**-0.9**
FPAL				IAmb	IAmb		18 02 11.3	
	comp=Z,7.3nm,0.7s							
GRTK	**Grand Turk**	**21.86**	**66**	P		**P**	**18 02 09.8**	**-1.7**
FNO	**Franklin**	**22.03**	**349**	P		**P**	**18 02 12.3**	**-1.0**
SWET	**Sewanee**	**22.35**	**14**	P		**P**	**18 02 15.9**	**-0.8**
SWET				IAmb	IAmb		18 02 17.4	
	comp=Z,12nm,1.0s							
SMWD	**Samnorwood**	**22.54**	**343**	P		**P**	**18 02 15.0**	**-3.8**
TKL	**Tuckaleechee C**	**23.36**	**18**	P		**P**	**18 02 27.1**	**-0.1**
	comp=Z,4.5nm,0.6s,baz=198,slow=9.6,SNR=7.3							
	comp=Z,4.5nm,0.6s							
U49A	**Red Boiling Sp**	**23.63**	**14**	P		**P**	**18 02 29.0**	**-0.8**
U49A				IAmb	IAmb		18 02 29.8	
	comp=Z,8.9nm,0.8s							
TZTN	**Tazewell**	**24.25**	**18**	P		**P**	**18 02 34.7**	**-1.1**
TZTN				IAmb	IAmb		18 02 38.0	
	comp=Z,16nm,1.1s							
RTBA	**Rita Blanca**	**24.54**	**340**	P		**P**	**18 02 38.3**	**-0.2**
RTBA				IAmb	IAmb		18 02 41.9	
	comp=Z,16nm,1.1s							
WCI	**Wyandotte Cave**	**25.17**	**12**	P		**P**	**18 02 42.2**	**-1.8**
WCI				IAmb	IAmb		18 02 44.5	
	comp=Z,12nm,0.9s							
S51A	**Beattyville**	**25.25**	**17**	P		**P**	**18 02 44.1**	**-0.8**
Q54A	**Coxs Mills**	**27.34**	**20**	P		**P**	**18 03 02.5**	**-1.2**
P18A	**Preston Nutter**	**30.28**	**332**	P		**P**	**18 03 33.0**	**+2.7**
NVAR	**Mina Array Bea**	**33.68**	**322**	P		**P**	**18 04 02.5**	**+2.5**
	comp=Z,0.8nm,0.8s,baz=144,slow=8.8,SNR=6.2							
	comp=Z,0.8nm,0.8s							
YKA	**Yellowknife Ar**	**51.32**	**347**	P		**P**	**18 06 23.1**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=148,slow=7.2,SNR=32							
	comp=Z,1.8nm,0.8s							
F21K	**Alatna River**	**66.50**	**338**	P		**P**	**18 08 09.7**	**+1.5**
F21K				IAmb	IAmb		18 08 11.1	
	comp=Z,3.7nm,1.1s							
CMAR	**Chiang Mai Arr**	**146.22**	**340**	PKPbc		**PKPdf**	**18 16 59.7**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=355,slow=2.0,SNR=3.1							

*NEIC **31** 18:13:38.2±1.8, 35.36N±0.02×98.08W±0.02, h11km±7km, Error ellipse: s-maj=2.3km s-min=2.1km az=208.0*
TUL 31 18:13:38.5±1.5, **35.38N**±0.01×**98.09W**±0.01, **h6**km±4km, **ML2.7, mb_Lg2.5**/37(NEIC), **ML2.5**/41(NEIC), **Error ellipse: s-maj=1.8km s-min=1.5km az=202.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OKCSW	**OKLAHOMA CITY**	**0.54**	**87**	Pg		Pg	18 13 48.9	+0.1
OKCSW				IAML			18 14 02.4	
	comp=N,213nm,0.1s							
OKCSW				IAML			18 14 05.9	
	comp=E,271nm,0.5s							
CSTR	**Hydro, Custer**	**0.55**	**299**	Pg		Pg	18 13 49.4	+0.2
FNO	**Franklin**	**0.58**	**102**	Pg		Pg	18 13 49.8	+0.2
FNO				Sg		Sg	18 13 55.4	-1.8
ADOK	**Arcadia Dam**	**0.65**	**65**	Pg		Pg	18 13 50.1	-1.0
ADOK				Sg		Sg	18 13 58.4	-1.1
OK029	**Liberty Lake**	**0.67**	**51**	Pg		Pg	18 13 49.9	-1.4
OK029				Sg		Sg	18 14 00.7	+0.7
OK029				IAML			18 14 04.2	
	comp=E,156nm,0.6s							
OK029				IAML			18 14 12.7	
	comp=E,148nm,0.5s							
WMOK	**Wichita Mounta**	**0.85**	**222**	Pg		Pg	18 13 54.1	-0.7
WMOK				Sg		Sg	18 14 05.3	-0.6
W35A	**Tecumseh**	**1.02**	**102**	Pg		Pg	18 13 57.5	-0.7
W35A				Sg		Sg	18 14 11.0	-0.4
W35A				IAML			18 14 18.5	
	comp=E,114nm,0.3s							
W35A				IAML			18 14 20.5	
	comp=N,85nm,0.3s							
CROK	**Carrier**	**1.13**	**5**	Pg		Pg	18 13 59.3	-0.9
CROK				Sg		Sg	18 14 14.4	-0.4
OK033	**Mehan**	**1.15**	**54**	Pg		Pg	18 13 59.7	-0.9
OK033				Sg		Sg	18 14 15.5	-0.1
OK038	**West end E0370**	**1.22**	**335**			Pg	18 14 01.1	-0.8
OK052	**Battle Ridge R**	**1.22**	**59**	Pg		Pg	18 14 00.9	-0.9
OK052				Sg		Sb	18 14 17.8	-0.1
OK052				IAML			18 14 18.1	
	comp=N,182nm,0.4s							
ELIS	**Ellis County**	**1.28**	**303**			Pn	18 14 02.1	-0.8
ELIS				IAML			18 14 35.8	
	comp=E,129nm,0.3s							
QUOK	**Quay**	**1.38**	**54**			Pn	18 14 03.7	-0.6
QUOK						Sb	18 14 22.5	-0.1
DEOK	**Depew**	**1.38**	**70**			Pn	18 14 03.5	-0.8
DEOK						Sb	18 14 22.7	+0.1
OK048	**Pawnee Station**	**1.40**	**42**			Pn	18 14 04.2	-0.3
OK048						Sb	18 14 23.0	-0.1
OK035	**E0210 Rd and N**	**1.42**	**340**			Pn	18 14 04.4	-0.5
OK032	**Salt Plains WL**	**1.43**	**356**	Pg		Pn	18 14 04.4	-0.6
GC02	**Grant County #**	**1.48**	**7**			Pn	18 14 05.2	-0.5
BLOK	**Blackwell**	**1.55**	**27**			Pn	18 14 06.8	+0.1
LOOK	**Love County**	**1.57**	**151**			Pn	18 14 06.7	-0.2
KAN14	**Manchester OK**	**1.58**	**4**			Pn	18 14 06.2	-0.8
WTFS	**Witchita Falls**	**1.64**	**191**			Pn	18 14 07.7	-0.1
KAN17	**Caldwell West**	**1.69**	**9**			Pn	18 14 08.3	-0.2
KAN13	**South Haven SW**	**1.71**	**17**			Pn	18 14 08.6	-0.2
KAN05	**Bluff City Nor**	**1.74**	**6**	Pn		Pn	18 14 09.5	+0.3
KAN10	**Anthony SW Sta**	**1.74**	**360**	Pn		Pn	18 14 09.6	+0.3
SMWD	**Samnorwood**	**1.78**	**262**			Pn	18 14 09.9	+0.1
KAN01	**Argonia South**	**1.79**	**9**	Pn		Pn	18 14 10.2	+0.2
KAN01				IAmb_Lg			18 14 34.8	
	comp=Z,34nm,1.1s							
KAN09	**Caldwell North**	**1.80**	**12**			Pn	18 14 09.2	-0.9
KAN06	**Argonia West S**	**1.88**	**6**	Pn		Pn	18 14 10.9	-0.2
TUL3	**Leonard**	**1.95**	**73**			Pn	18 14 12.6	+0.4
T35A	**Sooner Cattle**	**2.00**	**39**	Pn		Pn	18 14 13.1	+0.3
Z35A	**Perchaven, San**	**2.16**	**161**	Pn		Pn	18 14 15.8	+0.8
FW03	**Perrin-Whitt E**	**2.33**	**179**	Pn		Pn	18 14 17.3	0.0
FW03				IAmb_Lg			18 14 53.0	
	comp=Z,31nm,0.9s							
X37A	**Clayton**	**2.37**	**109**			Pn	18 14 17.0	-0.9
X37A				IAmb_Lg			18 14 56.2	
	comp=Z,28nm,1.1s							
FW06	**Azle**	**2.44**	**169**	Pn		Pn	18 14 18.0	-0.8
PLPT	**Palo Pinto**	**2.56**	**184**	Pn		Pn	18 14 20.8	+0.2
RLO	**Rose Lookout**	**2.62**	**72**	Pn		Pn	18 14 19.9	-1.4
RLO				IAmb_Lg			18 14 59.8	
	comp=Z,18nm,0.8s							
APMT	**Aspermont**	**2.65**	**220**	Pn		Pn	18 14 20.0	-1.7
DKNS	**Dickens**	**2.89**	**235**	Pn		Pn	18 14 24.6	-0.5
DKNS				IAmb_Lg			18 15 18.2	
	comp=Z,11nm,1.0s							
AMTX	**Amarillo**	**2.98**	**262**	IAmb_Lg			18 15 20.4	
	comp=Z,12nm,0.9s							
U38A	**Gravette**	**3.19**	**70**	Pn		Pn	18 14 29.3	+0.1
SN07	**Snyder 07**	**3.25**	**226**	IAmb_Lg			18 15 30.4	
	comp=Z,17nm,0.8s							
SN05	**Snyder 5**	**3.40**	**224**	IAmb_Lg			18 15 33.4	
	comp=Z,17nm,0.9s							
WHTX	**Lake Whitney,**	**3.42**	**171**	Pn		Pn	18 14 32.9	+0.6
HHAR	**Hobbs**	**3.49**	**74**	Pn		Pn	18 14 33.2	-0.2
HHAR				IAmb_Lg			18 15 36.4	
	comp=Z,11nm,0.8s							
POST	**Post**	**3.64**	**232**	Pn		Pn	18 14 35.2	-0.3
MIAR	**Mount Ida**	**3.80**	**101**	Pn		Pn	18 14 38.0	+0.4
MIAR				IAmb_Lg			18 15 47.1	
	comp=Z,13nm,1.1s							
KSU1	**Kansas State U**	**3.90**	**17**	Pn		Pn	18 14 38.9	-0.1
KSU1				IAmb_Lg			18 15 50.5	
	comp=Z,10nm,0.8s							
RTBA	**Rita Blanca**	**3.92**	**287**	Pn		Pn	18 14 38.1	-1.1
MSTX	**Muleshoe**	**4.10**	**251**	IAmb_Lg			18 15 52.0	
	comp=Z,7.9nm,1.1s							
BRDY	**Brady**	**4.15**	**191**	Pn		Pn	18 14 42.3	-0.1
SGCY	**Sterling City**	**4.28**	**217**	IAmb_Lg			18 16 00.8	
	comp=Z,9.3nm,0.8s							
X40A	**Basin Creek Fa**	**4.41**	**100**	Pn		Pn	18 14 45.8	-0.2
S39A	**Bolivar**	**4.48**	**58**	Pn		Pn	18 14 44.9	-2.1
S39A				IAmb_Lg			18 16 05.1	
	comp=Z,11nm,0.9s							
435B	**Jarrell**	**4.60**	**175**	IAmb_Lg			18 16 16.1	
	comp=Z,12nm,0.9s							
WHAR	**Wooly Hollow**	**4.75**	**89**	Pn		Pn	18 14 50.5	-0.1
FCAR	**Ozark Folk Cen**	**4.89**	**82**	Pn		Pn	18 14 50.6	-2.0
MGMO	**Mountain Grove**	**5.03**	**68**	Pn		Pn	18 14 53.3	-1.2
MGMO				IAmb_Lg			18 16 22.8	
	comp=Z,10nm,0.8s							
JCT	**Junction City**	**5.09**	**197**	IAmb_Lg			18 16 23.6	
	comp=Z,11nm,1.3s							
OZNA	**Ozona**	**5.12**	**211**	Pn		Pn	18 14 54.7	-1.1
T25A	**Trinidad**	**5.40**	**291**	Pn		Pn	18 14 59.3	-0.4
R40A	**Maddies Statio**	**5.50**	**56**	Pn		Pn	18 14 59.7	-1.3
R40A				IAmb_Lg			18 16 32.3	
	comp=Z,8.1nm,0.8s							
HNDO	**Hondo**	**5.92**	**190**	Pn		Pn	18 15 05.7	-1.0
CCM	**Cathedral Cave**	**6.12**	**62**	Pn		Pn	18 15 07.4	-2.0
CCM				IAmb_Lg			18 16 55.5	
	comp=Z,11nm,0.9s							
P40A	**Paris**	**6.35**	**47**	Pn		Pn	18 15 11.1	-1.5
PBMO	**Poplar Bluff**	**6.36**	**75**	Pn		Pn	18 15 12.1	-0.7
SAND	**Sanderson**	**6.38**	**213**	Pn		Pn

MHLO	**Agia Marina, M**	**2.02**	**353**	P		**Pn**	**18 28 18.7**	**+2.7**
MHLO				S		**Sn**	**18 28 40.1**	**+0.1**
	918nm,0.5s							
KARP	**Karpathos**	**2.18**	**66**	P		Pn	18 28 23.1	+4.9
KARP				S		**Sn**	**18 28 52.0**	**+8.0**
	218nm,0.9s							
APE	**Apeiranthos**	**2.47**	**15**	P		**Pn**	**18 28 22.3**	**0.0**
APE	**Apeiranthos**	**2.47**	**15**	P		Pn	18 28 13.5	-8.8
KRND	**KRANIDI**	**2.98**	**335**	P		**Pn**	**18 28 31.7**	**+2.5**
KRND				S		**Sn**	**18 29 05.0**	**+1.3**
	95nm,0.8s							
DAT	**Datca**	**3.09**	**48**	P		**Pn**	**18 28 34.7**	**+3.8**
ARG	**Arkhangelos**	**3.17**	**60**	P		Pn	18 28 36.6	+4.8
ARG				S		**Sn**	**18 29 14.4**	**+6.0**
PYL	**PYLOS**	**3.28**	**313**	P		**Pn**	**18 28 36.4**	**+3.1**
CSS	**Mathiatis**	**7.09**	**85**	S		**Sn**	**18 30 41.8**	**-3.1**
CSS	**Mathiatis**	**7.09**	**85**	P		Pn	18 29 18.7	-6.9
BRTR	**Keskin Array B**	**8.71**	**52**	Pn		**Pn**	**18 29 49.9**	**+1.9**
	0.3nm,0.8s,baz=247,slow=16,SNR=2.2							
KZIT	**Kziot**	**8.97**	**112**	P		Pn	18 29 45.3	-6.2
KZIT	**Kziot**	**8.97**	**112**	S		**Sn**	**18 31 27.7**	**-3.5**
MMA0B	**Mount Meron ar**	**9.04**	**98**	P		Pn	18 29 46.8	-5.7
MMA0B	**Mount Meron ar**	**9.04**	**98**	S		**Sn**	**18 31 30.6**	**-2.4**
MMAI	**Mount Meron Ar**	**9.04**	**98**	Pn		**Pn**	**18 29 54.2**	**+1.7**
	0.8nm,0.3s,baz=264,slow=13,SNR=5.9							
MMAI				Sn		**Sn**	**18 31 29.4**	**-3.5**
	0.6nm,0.3s,baz=302,slow=20,SNR=1.6 1.7nm,0.5s							
SALP	**Salfit**	**9.13**	**104**	S		**Sn**	**18 31 32.8**	**-2.5**
YTIR	**Yattir**	**9.33**	**108**	S		**Sn**	**18 31 37.1**	**-3.1**
YTIR	**Yattir**	**9.33**	**108**	P		Pn	18 29 49.8	-6.7
DSI	**Dead Sea**	**9.46**	**106**	P		Pn	18 29 52.4	-5.8
DSI	**Dead Sea**	**9.46**	**106**	S		**Sn**	**18 31 40.3**	**-3.0**
MSBI	**Mazada**	**9.54**	**108**	P		Pn	18 29 53.2	-6.1
MSBI	**Mazada**	**9.54**	**108**	S		**Sn**	**18 31 42.0**	**-3.1**
KRMI	**Paran Flat**	**9.60**	**116**	P		Pn	18 29 53.6	-6.6
KRMI	**Paran Flat**	**9.60**	**116**	S		**Sn**	**18 31 43.2**	**-3.6**
PRNI	**Paran**	**9.69**	**114**	S		**Sn**	**18 31 45.6**	**-3.4**
PRNI	**Paran**	**9.69**	**114**	P		Pn	18 29 54.1	-7.3
HRFI	**Mount Harif**	**9.88**	**115**	S		**Sn**	**18 31 50.3**	**-3.2**
HRFI	**Mount Harif**	**9.88**	**115**	P		Pn	18 29 56.2	-7.7
MBRI	**Mt Berech**	**9.91**	**117**	P		Pn	18 29 58.3	-6.1
MBRI	**Mt Berech**	**9.91**	**117**	S		**Sn**	**18 31 50.5**	**-3.9**
EIL	**Elat**	**10.00**	**117**	Pn		**Pn**	**18 30 08.5**	**+2.9**
	0.9nm,0.3s,baz=276,slow=10,SNR=7.6							
EIL				Sn		**Sn**	**18 31 54.7**	**-1.9**
	0.4nm,0.3s,baz=1.6,slow=20,SNR=2.7 2.3nm,0.4s							
GERES	**GERESS Array B**	**16.34**	**333**	Pn		**P**	**18 31 32.9**	**-0.6**
	0.2nm,0.3s,baz=134,slow=11,SNR=9.5							
AKASG	**Malin Array Be**	**16.34**	**10**	Pn		**Pn**	**18 31 30.2**	**-0.6**
	1.4nm,0.3s,baz=201,slow=10,SNR=10							
KBZ	**Khabaz**	**16.71**	**52**	Pn		**P**	**18 31 38.5**	**+1.1**
	0.1nm,0.3s,baz=225,slow=6.2,SNR=5.0 1.8nm,0.8s							
HFS	**Hagfors**	**26.46**	**348**	P		**P**	**18 33 15.4**	**-2.1**
	1.4nm,0.8s,baz=162,slow=12,SNR=1.8 1.4nm,0.8s							
FINES	**FINESS Array B**	**26.79**	**1**	P		**P**	**18 33 17.9**	**-2.6**
	0.4nm,0.5s,baz=184,slow=4.2,SNR=3.6 0.4nm,0.5s							
GEYT	**Alibeck**	**27.02**	**73**	P		**P**	**18 33 24.9**	**+2.0**
	1.2nm,0.5s,baz=270,slow=12,SNR=2.0 1.2nm,0.5s							
NOA	**NORSAR Array B**	**27.77**	**346**	P		**P**	**18 33 26.2**	**-3.1**
	0.5nm,0.9s,baz=148,slow=11,SNR=1.4 0.5nm,0.9s							
TORD	**Torodi Ar. Bea**	**29.91**	**230**	P		**P**	**18 33 50.7**	**+2.0**
	0.4nm,0.4s,baz=31,slow=9.0,SNR=12 0.4nm,0.4s							
ARCES	**ARCESS Array B**	**34.91**	**0**	P		**P**	**18 34 29.5**	**-2.5**
	1.0nm,0.6s,baz=178,slow=9.0,SNR=5.9 1.0nm,0.6s							
KURBB	**Kurchatov Arra**	**41.70**	**51**	P		**P**	**18 35 29.8**	**+0.6**
	0.2nm,0.3s,baz=282,slow=9.1,SNR=3.5 0.2nm,0.3s							
SPITS	**Spitsbergen Ar**	**43.75**	**358**	P		**P**	**18 35 43.5**	**-2.1**
	16nm,1.2s,baz=188,slow=8.7,SNR=2.3							
MKAR	**Makanchi Array**	**44.34**	**56**	P		**P**	**18 35 50.7**	**0.0**
	0.4nm,0.6s,baz=256,slow=8.1,SNR=3.5 0.4nm,0.6s							
ZALV	**Zalesovo Beam**	**45.59**	**46**	P		**P**	**18 36 00.3**	**-0.3**
	0.8nm,0.4s,baz=276,slow=9.7,SNR=5.4 0.8nm,0.4s							
SONM	**Songino Array**	**60.07**	**50**	P		**P**	**18 37 49.0**	**+1.3**
	0.2nm,0.4s,baz=263,slow=7.1,SNR=2.1 0.2nm,0.4s							

IDC ***31*** *18:33:06.9±7.1, 17°39S×175°12W, h224km±64km, mb3.7/13, mbtmp4.2/13, Error ellipse: s-maj=20.2km s-min=16.2km az=90.0*

NEIC ***31*** *18:33:07.3±1.7, 17°35S±0°09×175°1W±0°1, h228km±8km, mb4.5/37, Error ellipse: s-maj=18.2km s-min=12.7km az=104.0*

ISC 31 18:33:08.7±0.4, 17°30S±0°08×175°08W±0°08, h250km, n76, σ1°46/82, mb4.3/28, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.63**	**44**		**Pn**	**18 34 19.3**	**-0.9**
AFI				Sn	**S**	**18 35 11.4**	**-5.6**
NIUE	**Niue**	**5.20**	**111**	Pn	**Pn**	**18 34 26.7**	**-0.3**
KOUNC	**Koumac, New Ca**	**19.79**	**257**	P	**P**	**18 37 20.6**	**0.0**
KOUNC				IAmb	IAmb	18 37 44.5	
	comp=Z,25nm,1.1s						
MXZ	**Matakaoa Point**	**21.01**	**195**		**P**	**18 37 33.4**	**+0.1**
TOZ	**Tahuroa Road**	**21.98**	**200**		**P**	**18 37 41.6**	**-0.8**
RTZ	**Ruatahuna**	**22.35**	**197**	P	**P**	**18 37 44.8**	**-1.1**
RTZ				IAmb	IAmb	18 38 07.2	
	comp=Z,33nm,1.2s						
HIZ	**Hauiti**	**22.90**	**201**		**P**	**18 37 50.6**	**-0.2**
BFZ	**Birch Farm**	**24.48**	**196**	P	**P**	**18 38 05.3**	**+0.2**
MRZ	**Mangatainoka R**	**24.64**	**197**	P	**P**	**18 38 04.0**	**-2.7**
TCW	**Tory Channel**	**25.54**	**199**	P	**P**	**18 38 12.8**	**-1.8**
QRZ	**Quartz Range**	**25.77**	**202**	P	**P**	**18 38 16.2**	**-0.6**
TKNZ	**Takaka Hill**	**25.81**	**201**	P	**P**	**18 38 15.5**	**-1.6**
TUWZ	**Tuamarina**	**25.84**	**199**	P	**P**	**18 38 16.1**	**-1.3**
LTZ	**Lake Taylor**	**27.60**	**200**	P	**P**	**18 38 30.3**	**-2.8**
WHZ	**Wether Hill Ro**	**31.83**	**203**	P	**P**	**18 39 08.1**	**-2.1**
EIDS	**Eidsvold**	**32.46**	**250**	P	**P**	**18 39 15.8**	**-0.2**
EIDS				IAmb	IAmb	18 39 29.8	
	comp=Z,33nm,1.4s						
ARMA	**Armidale**	**33.00**	**241**	P	**P**	**18 39 20.9**	**+0.2**
ARMA				IAmb	IAmb	18 39 21.4	
	comp=Z,9.8nm,0.7s						
CTAO	**Charters Tower**	**36.68**	**259**	P	**P**	**18 39 51.4**	**-0.7**
TOO	**Toolangi**	**40.03**	**232**	P	**P**	**18 40 19.3**	**-0.5**
TOO				IAmb	IAmb	18 40 20.0	
	comp=Z,10nm,0.8s						
COEN	**Coen**	**40.29**	**269**	P	**P**	**18 40 22.1**	**-0.1**
COEN				IAmb	IAmb	18 40 45.8	
	comp=Z,22nm,1.5s						
STKA	**Stephens Creek**	**41.71**	**241**	P	**P**	**18 40 33.7**	**+0.2**
	comp=Z,14nm,0.8s,baz=85,slow=9.9,SNR=32 comp=Z,14nm,0.8s						
BBOO	**Buckleboo**	**46.48**	**241**	P	**P**	**18 41 10.3**	**-1.0**
BBOO				IAmb	IAmb	18 41 11.6	
	comp=Z,9.6nm,0.8s						
WRA	**Warramunga Arr**	**47.87**	**259**	P	**P**	**18 41 21.2**	**-0.9**
	comp=Z,5.8nm,0.7s,baz=97,slow=7.0,SNR=71						
WRA				PcP	**PcP**	**18 42 46.9**	**+0.2**
	comp=Z,1.5nm,0.9s,baz=90,slow=4.2,SNR=5.9 comp=Z,5.8nm,0.7s						
AS31	**Alice Springs**	**48.01**	**254**	P	**P**	**18 41 22.6**	**-0.6**
AS31				PcP	**PcP**	**18 42 46.8**	**-0.3**
ASAR	**Alice Springs**	**48.01**	**254**	P	**P**	**18 41 22.5**	**-0.7**
ASAR				PcP	**PcP**	**18 42 46.9**	**-0.2**
ASAR	**Alice Springs**	**48.01**	**254**	P	**P**	**18 41 22.6**	**-0.7**
	comp=Z,27nm,0.7s,baz=88,slow=8.5,SNR=490						
ASAR				PcP	**PcP**	**18 42 47.4**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=94,slow=4.8,SNR=6.9						
ASAR				S	**S**	**18 47 58.0**	**-4.1**
	comp=Z,0.5nm,0.9s,baz=90,slow=16,SNR=4.0 comp=Z,27nm,0.7s						
MTN	**Manton Dam**	**52.00**	**267**	P	**P**	**18 41 52.4**	**-0.7**
MTN				IAmb	IAmb	18 41 59.8	
	comp=Z,24nm,1.2s						
FORT	**Forrest**	**53.14**	**244**	P	**P**	**18 42 00.2**	**-1.0**
FORT				IAmb	IAmb	18 42 04.9	
	comp=Z,25nm,1.1s						
KNRA	**Kununurra**	**53.72**	**263**	P	**P**	**18 42 04.7**	**-0.9**
KNRA				IAmb	IAmb	18 42 05.7	
	comp=Z,6.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**56.27**	**260**	P	**P**	**18 42 23.4**	**-0.4**

SBA	**Scott Base**	**61.24**	**184**	P		**P**	**18 42 59.0**	**+2.0**
VNDA	**Vanda**	**61.34**	**186**	P		**P**	**18 42 58.6**	**+1.0**
VNDA	**Vanda**	**61.34**	**186**	P		**P**	**18 42 58.3**	**+0.7**
	comp=Z,2.1nm,0.9s,baz=8.3,slow=6.2,SNR=11 comp=Z,2.1nm,0.9s							
TOLI2	**Tolitoli**	**65.74**	**279**	P		**P**	**18 43 27.5**	**0.0**
TOLI2				IAmb		IAmb	18 43 33.2	
	comp=Z,10nm,1.0s							
JAGI	**Jajag, Banyuwa**	**69.24**	**267**	P		**P**	**18 43 48.3**	**-1.0**
JAGI				IAmb		IAmb	18 44 30.8	
	comp=Z,19nm,1.1s							
MJAR	**Matsushiro Arr**	**69.37**	**321**	P		**P**	**18 43 50.6**	**+1.0**
	comp=Z,1.8nm,0.8s,baz=153,slow=5.8,SNR=8.2 comp=Z,1.8nm,0.8s							
QSPA	**South Pole Qui**	**72.76**	**180**	P		**P**	**18 44 10.0**	**+0.4**
QSPA	**South Pole Qui**	**72.76**	**180**	P		**P**	**18 44 09.8**	**+0.2**
	comp=Z,3.8nm,0.9s,baz=37,slow=5.1,SNR=15 comp=Z,3.8nm,0.9s							
UGM	**Wanagama**	**72.85**	**267**	P		**P**	**18 44 11.4**	**+0.4**
PETK	**Petropavlovsk-**	**73.95**	**343**	P		**P**	**18 44 17.8**	**+1.3**
	comp=Z,2.7nm,0.8s,baz=108,slow=9.6,SNR=5.6 comp=Z,2.7nm,0.8s							
TPUB	**Ta-pu**	**74.65**	**301**	P		**P**	**18 44 21.8**	**+0.7**
KSM	**Kuching**	**75.77**	**276**	P		**P**	**18 44 29.0**	**+1.2**
KSRS	**Korea Array**	**76.40**	**317**	P		**P**	**18 44 33.1**	**+2.4**
	comp=Z,2.3nm,0.9s,baz=128,slow=6.8,SNR=7.1 comp=Z,2.3nm,0.9s							
NVAR	**Mina Array Bea**	**76.81**	**42**	P		**P**	**18 44 34.9**	**+1.5**
	comp=Z,0.6nm,0.7s,baz=225,slow=8.8,SNR=5.5 comp=Z,0.6nm,0.7s							
M13K	**Dall Lake**	**78.02**	**6**	P		**P**	**18 44 40.9**	**+1.8**
K15K	**Wolf Creek Mou**	**80.05**	**6**	P		**P**	**18 44 52.8**	**+2.7**
K15K				IAmb		IAmb	18 44 53.6	
	comp=Z,7.1nm,0.9s							
J16K	**Anvik River**	**81.11**	**7**	P		**P**	**18 44 57.6**	**+1.9**
J16K				IAmb		IAmb	18 45 34.4	
	comp=Z,12nm,1.4s							
J17K	**VABM Dome**	**81.40**	**7**	P		**P**	**18 44 58.6**	**+1.4**
J17K				IAmb		IAmb	18 45 05.5	
	comp=Z,8.0nm,1.4s							
J18K	**Innoko River**	**81.77**	**8**	P		**P**	**18 45 00.7**	**+1.5**
TXAR	**Lajitas Array**	**83.00**	**56**	P		**P**	**18 45 08.0**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=226,slow=7.3,SNR=2.9 comp=Z,0.2nm,0.6s							
CCB	**Clear Creek Bu**	**84.32**	**11**	P		**P**	**18 45 13.0**	**+0.8**
ILAR	**Eielson Array**	**84.61**	**12**	P		**P**	**18 45 14.5**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=222,slow=5.8,SNR=14 comp=Z,0.7nm,0.6s							
PDAR	**Pinedale Array**	**84.74**	**42**	P		**P**	**18 45 16.1**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=208,slow=7.2,SNR=2.3 comp=Z,0.3nm,0.6s							
E19K	**Redstone River**	**85.53**	**7**	P		**P**	**18 45 19.1**	**+1.0**
E19K				IAmb		IAmb	18 45 48.0	
	comp=Z,7.2nm,1.5s							
BILL	**Bilibino**	**86.18**	**353**	P		**P**	**18 45 22.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**91.69**	**289**	P		**P**	**18 45 50.1**	**+1.8**
CMAR	**Chiang Mai Arr**	**91.69**	**289**	P		**P**	**18 45 50.6**	**+2.3**
	comp=Z,1.9nm,0.9s,baz=87,slow=2.9,SNR=10 comp=Z,1.9nm,0.9s							
MKAR	**Makanchi Array**	**110.99**	**314**	PKiKP		**PKiKP**	**18 51 11.7**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=140,slow=2.2,SNR=3.5							
KURBB	**Kurchatov Arra**	**113.55**	**318**	PKiKP		**PKiKP**	**18 51 16.4**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=108,slow=2.1,SNR=4.4							
BVAR	**Borovoye Array**	**118.37**	**321**	PKP		**PKiKP**	**18 51 26.0**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=185,slow=1.0,SNR=6.1							
ARCES	**ARCESS Array B**	**126.24**	**351**	PKP		**PKiKP**	**18 51 41.4**	**+0.1**
	comp=Z,5.0nm,1.1s,baz=5.2,slow=2.0,SNR=4.6							
BRTR	**Keskin Array B**	**146.54**	**318**	PKPbc		**PKPab**	**18 52 21.9**	**-0.8**
	comp=Z,2.9nm,0.8s,baz=133,slow=3.0,SNR=16							
GERES	**GERESS Array B**	**147.73**	**349**	PKPbc		**PKPab**	**18 52 25.1**	**-1.9**
	comp=Z,1.9nm,0.8s,baz=33,slow=5.1,SNR=8.6							
CONA	**Conrad Observa**	**148.16**	**346**	*e*PKP		**PKPab**	**18 52 26.5**	**-2.2**
	comp=Z,2.6nm,0.7s							
RONA	**Rosalia, Austr**	**148.27**	**345**	*i* PKP		**PKPab**	**18 52 26.9**	**-2.2**
	comp=Z,2.8nm,0.9s							
MMAI	**Mount Meron Ar**	**148.43**	**306**	PKPbc		**PKPab**	**18 52 27.8**	**-2.5**
	comp=Z,4.0nm,0.6s,baz=57,slow=6.1,SNR=8.2							
BIOA	**Bad Ischl, Aus**	**148.85**	**349**	*i* PKP		**PKiKP**	**18 52 28.4**	**+0.3**
	comp=Z,4.5nm,0.9s							
ARSA	**Arzberg**	**148.88**	**346**	*i* PKP		**PKPab**	**18 52 28.8**	**-2.8**
	comp=Z,5.2nm,1.2s							
RETA	**Reutte**	**149.51**	**352**	*e*PKP		**PKiKP**	**18 52 29.6**	**+0.1**
	comp=Z,3.9nm,0.9s							
WATA	**Walderalm**	**149.54**	**351**	*i* PKP		**PKiKP**	**18 52 29.5**	**-0.1**
	comp=Z,3.0nm,0.5s							
MOTA	**Mosalm**	**149.60**	**352**	*i* PKP		**PKiKP**	**18 52 30.4**	**+0.6**
	comp=Z,7.7nm,1.1s							
WTTA	**Wattenberg**	**149.61**	**351**	*i* PKP		**PKiKP**	**18 52 29.9**	**+0.1**
	comp=Z,3.4nm,0.6s							
SQTA	**Sankt Quirin**	**149.71**	**351**	*e*PKP		**PKiKP**	**18 52 30.0**	**0.0**
	comp=Z,3.2nm,0.7s							
DAVA	**Damuels**	**149.81**	**353**	*i* PKP		**PKiKP**	**18 52 30.7**	**+0.5**
	comp=Z,9.8nm,1.1s							
ABTA	**Abfaltersbach**	**149.97**	**350**	*i* PKP		**PKiKP**	**18 52 30.0**	**-0.4**
	comp=Z,8.2nm,1.3s							
FETA	**Feichten**	**149.97**	**352**	*i* PKP		**PKiKP**	**18 52 30.9**	**+0.3**
	comp=Z,4.7nm,0.9s							

NEIC ***31*** *18:41:54.5±1.2, 56°35N±0°10×149°43W±0°09, h10km±2km, ML2.9/44, ML2.6(AEIC), Error ellipse: s-maj=16.2km s-min=8.8km az=178.0*

AEIC 31 18:41:59.7±2.3, 56°30N±0°09×149°6W±0°1, h8km±8km, Error ellipse: s-maj=13.1km s-min=9.5km az=157.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.21**	**313**		Pn	18 42 31.8	-4.9
KDAK	**Kodiak Island**	**2.21**	**313**		Sn	18 42 57.1	-7.1
OHAK	**Old Harbor**	**2.24**	**296**		Pn	18 42 32.3	-4.7
OHAK					Sn	18 42 57.6	-7.2
SII	**Sitkinak Islan**	**2.57**	**278**		Pn	18 42 37.2	-4.4
SII				IAML		18 44 06.3	
	comp=E,41nm,1.3s						
SYI	**Shuyak Island**	**2.77**	**328**		Pn	18 42 39.3	-5.0
SYI	**Shuyak Island**	**2.77**	**328**		Sn	18 43 10.9	-7.0
SYI	**Shuyak Island**	**2.77**	**328**	IAML		18 43 09.2	
	comp=N,20nm,1.5s						
CNPM	**China Poot**	**3.35**	**345**		Pn	18 42 46.5	-5.9
CNPM				IAML		18 43 44.3	
	comp=E,18nm,1.4s						
CNPM	**China Poot**	**3.35**	**345**		Sn	18 43 23.0	-9.3
CNPM	**China Poot**	**3.35**	**345**	IAML		18 43 19.9	
	comp=N,11nm,1.4s						
Q19K	**Cape Douglas,**	**3.42**	**322**		Pn	18 42 48.1	-5.2
BRSE	**Bradley Lake S**	**3.50**	**350**		Pn	18 42 48.3	-6.2
BRLK	**Bradley Lake**	**3.54**	**349**		Pn	18 42 48.7	-6.3
KAKN	**Katmai Knife C**	**3.58**	**306**		Pn	18 42 51.8	-3.8
P19K	**Oil Pt**	**3.88**	**331**		Pn	18 42 54.5	-5.1
P19K				IAML		18 44 12.7	
	comp=E,25nm,1.3s						
P19K				IAML		18 44 57.2	
	comp=N,36nm,1.1s						
CNTC	**Contact Creek**	**3.94**	**303**		Pn	18 42 56.6	-4.0
ILSW	**Iliamna Southw**	**4.14**	**334**	Pn	Pn	18 42 57.9	-5.4
ILSW				IAML		18 43 35.8	
	comp=N,11nm,1.5s						
ILSW				IAML		18 44 41.5	
	comp=E,10nm,1.4s						
SLKM	**Skilak Lake**	**4.23**	**356**		Pn	18 42 58.1	-6.4
P18K	**Big Mountain,**	**4.32**	**318**		Pn	18 43 00.6	-5.1
HIN	**Hinchinbrook I**	**4.42**	**20**		Pn	18 43 00.5	-6.5
HIN	**Hinchinbrook I**	**4.42**	**20**	IAML		18 44 45.4	
	comp=E,29nm,1.4s						
KAIM	**Kayak Island**	**4.55**	**35**		Pn	18 43 01.8	-7.0
O18K	**Koktuh Hills**	**4.65**	**322**		Pn	18 43 05.1	-5.1
O18K	**Koktuh Hills**	**4.65**	**322**	IAML		18 44 56.4	
	comp=N,5.7nm,1.5s						
O18K				IAML		18 46 08.5	
	comp=E,4.9nm,1.4s						
P17K	**Kvichak River**	**4.68**	**311**		Pn	18 43 06.1	-4.4
FID	**Port Fidalgo**	**4.75**	**19**	Pn	Pn	18 43 04.6	-6.9
FID				IAML		18 44 19.1	
	comp=N,14nm,1.3s						
SUCK	**Suckling Hills**	**4.87**	**37**	Pn	Pn	18 43 06.7	-6.5
SUCK				IAML		18 44 43.2	
	comp=E,15nm,1.5s						
SUCK				IAML		18 45 27.6	
	comp=N,18nm,1.5s						
HMT	**Hamilton**	**4.92**	**33**	Pn	Pn	18 43 07.5	-6.4
BERG	**Berg Lake**	**5.14**	**35**	Pn	Pn	18 43 10.1	-6.8
KNK	**Knik Glacier**	**5.16**	**6**	Pn	Pn	18 43 11.9	-5.3
KNK				IAML		18 44 57.6	
	comp=E,5.5nm,1.3s						
KNK				IAML		18 45 13.2	
	comp=N,5.3nm,1.5s						
N19K	**Bonanza Creek**	**5.20**	**332**	Pn	Pn	18 43 12.2	-5.6
SUA	**Susitna One**	**5.21**	**354**	Pn	Pn	18 43 11.9	-6.0
SUA				IAML		18 44 07.1	
	comp=E,7.0nm,1.3s						
SUA				IAML		18 46 38.7	
	comp=N,6.6nm,1.4s						
SNH	**Sunshine Point**	**5.27**	**40**	Pn	Pn	18 43 11.5	-7.3
SNH				IAML		18 45 16.2	
	comp=N,14nm,1.5s						
SNH				IAML		18 46 12.1	
	comp=E,16nm,1.5s						
WAX	**Waxell Ridge**	**5.46**	**38**	Pn	Pn	18 43 14.4	-7.0
N18K	**Kilae Creek**	**5.50**	**326**	Pn	Pn	18 43 16.0	-5.7
KLU	**Klutina**	**5.54**	**19**	Pn	Pn	18 43 15.8	-6.7
SML	**Sawmill**	**5.56**	**6**	Pn	Pn	18 43 17.0	-5.7
CRQM	**Cirque**	**5.60**	**34**	Pn	Pn	18 43 15.6	-7.8
O16K	**Kokwok River B**	**5.60**	**310**	Pn	Pn	18 43 16.5	-6.8
SCM	**Sheep Creek Mo**	**5.67**	**11**	Pn	Pn	18 43 17.1	-7.1
TGL	**Tana Glacier**	**5.70**	**36**	Pn	Pn	18 43 15.8	-8.8
ISLE	**Juniper Island**	**5.75**	**38**	Pn	Pn	18 43 17.6	-7.8
SKT	**Skwentna**	**5.78**	**351**	Pn	Pn	18 43 18.0	-7.8
N17K	**Nushagak Hills**	**5.82**	**320**	Pn	Pn	18 43 21.2	-5.0
VRDI	**Verde Repeater**	**5.88**	**30**	Pn	Pn	18 43 19.2	-8.0
M20K	**Styx River**	**5.89**	**343**	Pn	Pn	18 43 21.7	-5.6
N25K	**Chitina, Valde**	**5.91**	**24**	Pn	Pn	18 43 21.5	-6.0
GLB	**Gilahina Butte**	**5.96**	**28**	Pn	Pn	18 43 22.1	-6.1
M24K	**Tolsona, Glenn**	**6.08**	**15**	Pn	Pn	18 43 24.1	-5.7
MCARA	**McCarthy VSAT**	**6.13**	**31**		Pn	18 43 23.6	-6.8
BARN	**Barnard Glacie**	**6.31**	**38**	Pn	Pn	18 43 25.1	-8.0
CTGM	**Chitina Glacie**	**6.36**	**39**	Pn	Pn	18 43 26.6	-7.1
LOGN	**Logan Glacier**	**6.38**	**41**	Pn	Pn	18 43 26.1	-7.9
L19K	**White Mountain**	**6.49**	**338**	Pn	Pn	18 43 28.9	-6.4
M17K	**Holitna River**	**6.53**	**325**	Pn	Pn	18 43 31.0	-5.0
N15K	**Kwethluk River**	**6.76**	**309**	Pn	Pn	18 43 36.6	-2.6
M16K	**Timber Creek**	**6.80**	**318**	Pn	Pn	18 43 34.0	-5.7
L18K	**Granite Mounta**	**6.96**	**331**	Pn	Pn	18 43 35.8	-6.0
O29M	**Mount Kennedy**	**7.05**	**51**	Pn	Pn	18 43 36.8	-6.4
P29M	**Windy Craggy**	**7.13**	**57**	Pn	Pn	18 43 37.5	-6.7
TRF	**Thorofare Moun**	**7.18**	**357**	Pn	Pn	18 43 39.1	-5.9
M27K	**Edge Creek, AK**	**7.24**	**30**	Pn	Pn	18 43 39.1	-6.7
S31K	**Pelican**	**7.46**	**72**	Pn	Pn	18 43 41.2	-7.4
RIDG	**Independent Ri**	**7.83**	**16**	Pn	Pn	18 43 46.6	-7.2
BCAR	**Beaver Creek A**	**7.84**	**27**	Pn	Pn	18 43 47.1	-6.9

IDC 31 18:44:09.2±47.0, 19°12S×174°09W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=884.0km s-min=177.9km az=82.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.70**	**243**	P	P	18 51 59.4	-0.6
	1.7nm,0.9s,baz=79,slow=10,SNR=2.5 1.7nm,0.9s						
ASAR	**Alice Springs**	**48.43**	**255**	P	P	18 52 53.5	-0.2
	1.1nm,0.5s,baz=92,slow=8.1,SNR=50 1.1nm,0.5s						
WRA	**Warramunga Arr**	**48.45**	**260**	P	P	18 52 54.1	+0.2
	0.4nm,0.2s,baz=96,slow=7.2,SNR=53 0.4nm,0.2s						

IDC ***31*** *18:47:27.6±1.6, 30°37S×177°31W, h0km, mb4.0/4, mbtmp4.0/5, ML3.3/1, Error ellipse: s-maj=38.3km s-min=23.7km az=86.0*

ISC 31 18:47:32.5±1.5, 30°34S±0°07×177°5W±0°2, h33km, n11, σ1°79/10, mb4.1/4, Kermadec Islands

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

	comp=N,175µm,0.9s							
CAFI	**Castiglion Fio**	**0.39**	**45**	P	Pb	19 00 23.4	-0.6	
CAFI				S	Sb	19 00 28.8	-1.4	
CAFI				AML	AML			
	comp=E,100µm,0.9s							
CAFI				AML	AML			
	comp=N,72µm,1.1s							
CAFI				AML	AML			
	comp=E,102µm,0.4s							
CAFI				AML	AML			
	comp=N,67µm,0.3s							
CAFI				AML	AML			
	comp=E,94µm,0.4s							
CAFI				AML	AML			
	comp=N,67µm,0.4s							
CAFI				AML	AML			
	comp=E,94µm,1.6s							
CAFI				AML	AML			
	comp=E,102µm,1.6s							
MGAB	**Montegabbione**	**0.41**	**110**	P	Pb	19 00 23.4	-0.9	
RIBO	**Ribolla Roccas**	**0.41**	**255**	⇑P	Pb	19 00 23.8	-0.5	
RIBO				S	Sg	19 00 29.3	+1.5	
RIBO				AML	AML			
	comp=E,213µm,0.2s							
CSNT	**Castellina Chi**	**0.47**	**333**	P	Pb	19 00 24.6	-0.8	
CSNT				S	Sb	19 00 31.6	-1.0	
CSNT				AML	AML			
	comp=E,103µm,1.2s							
CSNT				AML	AML			
	comp=N,76µm,0.6s							
CSNT				AML	AML			
	comp=N,66µm,0.1s							
CSNT				AML	AML			
	comp=E,75µm,0.2s							
TRIF	**Trifonti**	**0.51**	**277**	P	Pb	19 00 26.0	+0.1	
TRIF				S	Sb	19 00 32.9	-0.8	
OSSC	**Osservatorio P**	**0.53**	**332**	P	Pb	19 00 25.8	-0.5	
OSSC				S	Sb	19 00 33.8	-0.6	
OSSC				AML	AML			
	comp=N,153µm,0.6s							
OSSC				AML	AML			
	comp=E,127µm,0.8s							
OSSC				AML	AML			
	comp=E,94µm,2.7s							
OSSC				AML	AML			
	comp=N,54µm,0.4s							
OSSC				AML	AML			
	comp=E,24µm,0.1s							
CASP	**Castiglione de**	**0.59**	**244**	P	Pb	19 00 27.3	-0.1	
CASP				AML	AML			
	comp=N,125µm,1.0s							
CASP				AML	AML			
	comp=E,93µm,1.0s							
PARC	**Parchiule**	**0.76**	**38**	P	Pb	19 00 30.5	+0.3	
PARC				AML	AML			
	comp=N,56µm,0.5s							
PARC				AML	AML			
	comp=E,67µm,2.3s							
PARC				AML	AML			
	comp=N,56µm,1.5s							

ROM 31 19:01:00.0±0.1, 43°039N×0°006×11°569E±0°007, h7km±1km, ML2.2/36, Error ellipse: s-maj=0.6km s-min=0.6km az=76.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SF11	**Podere del Sol**	**0.19**	**155**	P	Pg	19 01 03.9	+0.1
SF11				S	Sg	19 01 07.3	+0.9
ARCI	**Arcidosso**	**0.20**	**200**	P	Pg	19 01 05.0	+1.0
ARCI				S	Sg	19 01 08.3	+1.5
SF04	**Casetta**	**0.21**	**162**	P	Pg	19 01 05.3	+1.0
SF04				S	Sg	19 01 08.1	+0.8
SF01	**Poggio Pratacc**	**0.23**	**181**	P	Pg	19 01 05.5	+1.0
SF01				S	Sg	19 01 08.7	+1.1
SF03	**Valle Cupa**	**0.25**	**160**	P	Pg	19 01 05.9	+0.9
SF03				S	Sg	19 01 09.2	+0.9
MCIV	**Monte Civitell**	**0.27**	**163**	P	Pg	19 01 06.2	+0.8
MCIV				S	Sg	19 01 09.7	+0.7
SACS	**San Casciano d**	**0.31**	**127**	P	Pb	19 01 08.1	0.0
SACS				S	Sb	19 01 12.9	-0.4
SACS				AML	AML		
	comp=E,445µm,0.3s						
SACS				AML	AML		
	comp=N,424µm,0.7s						
SACS				AML	AML		
	comp=E,430µm,0.3s						
SACS				AML	AML		
	comp=N,407µm,1.2s						
SACS				AML	AML		
	comp=E,445µm,0.3s						
SACS				AML	AML		
	comp=N,424µm,0.7s						
SACS				AML	AML		
	comp=N,395µm,0.7s						
SACS				AML	AML		
	comp=E,430µm,0.3s						
FROS	**Frosini**	**0.35**	**300**	P	Pb	19 01 07.9	-0.7
FROS				S	Sg	19 01 12.7	+1.3
RIBO	**Ribolla Roccas**	**0.39**	**257**	P	Pb	19 01 08.8	-0.5
RIBO				S	Sb	19 01 14.3	-1.2
CAFI	**Castiglion Fio**	**0.41**	**45**	P	Pg	19 01 08.5	+0.5
CAFI				S	Sg	19 01 14.7	+1.3
CAFI				AML	AML		
	comp=E,514µm,0.7s						
CAFI				AML	AML		
	comp=N,366µm,0.5s						
CAFI				AML	AML		
	comp=N,372µm,0.5s						
CAFI				AML	AML		
	comp=E,514µm,0.7s						
CAFI				AML	AML		
	comp=E,483µm,0.7s						
CAFI				AML	AML		
	comp=E,483µm,0.7s						
CAFI				AML	AML		
	comp=N,372µm,0.5s						
CAFI				AML	AML		
	comp=N,367µm,0.5s						
MGAB	**Montegabbione**	**0.42**	**107**	P	Pb	19 01 09.0	-0.8
MGAB				S	Sb	19 01 15.8	-0.6
MGAB				AML	AML		
	comp=E,726µm,0.8s						
MGAB				AML	AML		
	comp=N,598µm,0.9s						
MGAB				AML	AML		
	comp=E,838µm,0.8s						
MGAB				AML	AML		
	comp=N,563µm,0.9s						
MGAB				AML	AML		
	comp=N,514µm,0.4s						
MGAB				AML	AML		
	comp=E,755µm,0.3s						
MGAB				AML	AML		
	comp=N,506µm,0.4s						
MGAB				AML	AML		
	comp=E,653µm,0.3s						
MGAB				AML	AML		
	comp=N,506µm,1.6s						
MGAB				AML	AML		
	comp=N,514µm,1.6s						
LATE	**Laterza**	**0.46**	**158**	P	Pb	19 01 09.9	-0.6
CSNT	**Castellina Chi**	**0.48**	**335**	P	Pg	19 01 09.7	+0.4
CSNT				S	Sg	19 01 16.6	+1.1
TRIF	**Trifonti**	**0.49**	**279**	P	Pb	19 01 11.0	-0.1
TRIF				S	Sb	19 01 17.8	-0.8
TRIF				AML	AML		
	comp=E,445µm,0.6s						
TRIF				AML	AML		
	comp=N,454µm,0.2s						
TRIF				AML	AML		
	comp=N,454µm,0.2s						
TRIF				AML	AML		
	comp=E,380µm,0.1s						
TRIF				AML	AML		
	comp=N,454µm,0.2s						
OSSC	**Osservatorio P**	**0.54**	**334**	P	Pg	19 01 11.1	+0.6
OSSC				S	Sb	19 01 19.1	-0.8
OSSC				AML	AML		
	comp=E,183µm,0.2s						
OSSC				AML	AML		
	comp=N,294µm,0.6s						
OSSC				AML	AML		
	comp=E,183µm,0.2s						
OSSC				AML	AML		
	comp=E,266µm,0.5s						
OSSC				AML	AML		
	comp=N,294µm,0.6s						
OSSC				AML	AML		
	comp=N,220µm,0.9s						
CASP	**Castiglione de**	**0.57**	**245**	P	Pb	19 01 12.4	0.0
CASP				AML	AML		
	comp=E,480µm,0.5s						
CASP				AML	AML		
	comp=N,491µm,0.2s						
CASP				AML	AML		
	comp=N,491µm,0.2s						
CASP				AML	AML		
	comp=E,413µm,0.4s						
SSP9	**Sansepolcro**	**0.67**	**37**	P	Pb	19 01 13.9	-0.2
SSP9				AML	AML		
	comp=N,280µm,0.5s						
SSP9				AML	AML		
	comp=E,346µm,0.6s						
SSP9				AML	AML		
	comp=N,280µm,0.5s						
SSP9				AML	AML		
	comp=E,346µm,0.6s						
SSP9				AML	AML		
	comp=N,280µm,0.5s						
MAON	**Monte Argentar**	**0.69**	**208**	P	Pb	19 01 14.0	-0.4
MAON				AML	AML		
	comp=E,220µm,1.0s						
MAON				AML	AML		
	comp=N,223µm,1.3s						
MAON				AML	AML		
	comp=E,174µm,0.5s						
MAON				AML	AML		
	comp=E,174µm,1.5s						
MAON				AML	AML		
	comp=N,161µm,0.4s						
ATVO	**AVT- Monte Val**	**0.70**	**60**	P	Pb	19 01 14.2	-0.5
ATVO				AML	AML		
	comp=E,292µm,1.3s						
ATVO				AML	AML		
	comp=N,262µm,0.9s						
ATVO				AML	AML		
	comp=E,286µm,0.5s						
ATVO				AML	AML		
	comp=N,205µm,0.4s						
ATVO				AML	AML		
	comp=E,286µm,1.5s						
MAGO	**Bibbona**	**0.71**	**290**	P	Pb	19 01 15.0	+0.3
MAGO				AML	AML		
	comp=E,157µm,1.6s						
MAGO				AML	AML		
	comp=N,128µm,1.6s						
MURB	**Monte Urbino**	**0.73**	**72**	AML	AML		
	comp=E,1827µm,0.3s						
MURB				AML	AML		
	comp=E,1680µm,0.3s						
MURB				AML	AML		
	comp=E,1830µm,0.3s						
MURB				AML	AML		
	comp=N,3510µm,0.3s						
MURB				AML	AML		
	comp=N,3525µm,0.3s						
MURB				AML	AML		
	comp=E,1680µm,0.3s						
MURB				AML	AML		
	comp=N,3510µm,0.3s						
MURB				AML	AML		
	comp=E,1680µm,1.7s						
MURB				AML	AML		
	comp=E,1830µm,1.7s						
MURB				AML	AML		
	comp=E,1827µm,1.7s						
MURB				AML	AML		
	comp=E,1680µm,1.7s						
PARC	**Parchiule**	**0.78**	**39**	P	Pg	19 01 15.4	+0.3
PARC				AML	AML		
	comp=N,390µm,0.5s						
PARC				AML	AML		
	comp=E,261µm,0.6s						
PARC				AML	AML		
	comp=N,391µm,0.5s						
PARC				AML	AML		
	comp=E,261µm,0.6s						
PARC				AML	AML		
	comp=N,391µm,1.5s						
PIEI	**Pieia**	**0.86**	**55**	P	Pg	19 01 16.9	+0.3
PIEI				AML	AML		
	comp=E,156µm,0.4s						
PIEI				AML	AML		
	comp=N,192µm,1.1s						
PIEI				AML	AML		
	comp=E,157µm,0.4s						
PIEI				AML	AML		
	comp=N,151µm,0.6s						
LMD	**Lutirano**	**1.04**	**5**	P	Pb	19 01 20.4	0.0
LMD				AML	AML		
	comp=E,94µm,1.6s						
LMD				AML	AML		
	comp=N,88µm,1.3s						
LMD				AML	AML		
	comp=E,87µm,0.9s						
LMD				AML	AML		
	comp=N,88µm,1.3s						
VINO	**Villanova**	**3.44**	**20**	AML	AML		
	comp=N,90µm,0.3s						
VINO				AML	AML		
	comp=N,90µm,3.7s						
VINO				AML	AML		
	comp=E,53µm,2.6s						
VINO				AML	AML		
	comp=E,53µm,0.7s						

*NEIC **31** 19:01:47.9±2.2, 34°.82N±0°.08×24°.56E±0°.07, h30km±8km, mb4.2/11, Error ellipse: s-maj=11.2km s-min=8.4km az=184.0*
*ISK **31** 19:01:48.7, 34°.85N×24°.64E, h27km, ML3.7/14*
*IDC **31** 19:01:48.8±1.6, 34°.87N×24°.68E, h35km±9km, mb3.6/15, mbtmp3.8/25, ML3.9/10, MS3.0/10, Error ellipse: s-maj=18.3km s-min=14.7km az=15.0*
*THE **31** 19:01:50.4, 34°.91N×24°.60E, h7km±1km, ML3.8/10, Error ellipse: s-maj=1.7km s-min=0.7km az=355.0*
*GII **31** 19:01:52.8±0.5, 34°.559N±0°.003×25°.242E±0°.001, h15km, Mws3.8, confirmed*
*AFAD **31** 19:01:53.0±0.0, 34°.90N×25°.07E, h6km±5km, MW3.8*
*NAO **31** 19:02:34.2, 39°.12N×20°.18E, h33km, mb3.1*

ISC 31 19:01:47.4±1.1, 34°.82N±0°.05×24°.69E±0°.03, h31km±7km, n204, σ2§34/201, mb3.9/20, MS3.0/6, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TMBK	**Timbaki Herakl**	**0.27**	**14**	P	**Pn**	**19 01 55.6**	**+0.4**
TMBK				S	**Sb**	**19 01 59.1**	**-0.1**
GVD	**Gavdhos**	**0.49**	**273**	Pg	**Pn**	**19 01 58.5**	**+0.2**
GVD				Sg	**Sn**	**19 02 06.4**	**+0.6**
GVD	**Gavdhos**	**0.49**	**273**	P	**Pn**	**19 01 58.6**	**+0.2**
GVD				S	**Sn**	**19 02 06.2**	**+0.3**
	33µm,0.4s						
IDI	**Anoyia**	**0.50**	**19**	Pg	**Pn**	**19 01 59.0**	**+0.5**
IDI				Sg	**Sn**	**19 02 07.4**	**+1.3**
IDI	**Anoyia**	**0.50**	**19**	P	**Pn**	**19 01 58.4**	**-0.1**
IDI				S	**Sn**	**19 02 06.3**	**+0.2**
	12µm,0.3s						
IDI	**Anoyia**	**0.50**	**19**		**Pn**	**19 01 58.4**	**-0.1**
IDI				Sn	**Sn**	**19 02 07.5**	**+1.4**
IDI	**Anoyia**	**0.50**	**19**	Pg	**Pn**	**19 01 59.1**	**+0.6**
	8.1nm,0.3s,baz=243,slow=7.8,SNR=467						
IDI				Lg	Lg	19 02 06.8	
	22nm,0.3s,baz=280,slow=23,SNR=24						
IDI				LR	LR	19 02 24.4	
	comp=Z,11nm,18.5s,baz=278,slow=79						
PRNS	**Prines Rethymn**	**0.57**	**344**	P	**Pn**	**19 01 59.2**	**-0.2**
PRNS				S	**Sb**	**19 02 06.4**	**-0.5**
	7µm,0.4s						
KSTL	**Kastelli Herak**	**0.58**	**33**	P	**Pn**	**19 02 02.8**	**+3.3**
KSTL				S	**Sn**	**19 02 13.3**	**+5.3**
	7µm,0.5s						
IACM	**Heraklion**	**0.58**	**33**	P	**Pn**	**19 02 01.1**	**+1.6**
IACM				S	**Sn**	**19 02 09.6**	**+1.6**
	62µm,0.4s						
IMMV	**Iera Moni Meta**	**0.87**	**318**	Pg	**Pn**	**19 02 04.4**	**+0.9**
IMMV				Sg	**Sn**	**19 02 16.6**	**+1.5**
IMMV	**Iera Moni Meta**	**0.87**	**318**	P	**Pn**	**19 02 03.3**	**-0.2**
IMMV				S	**Sn**	**19 02 15.4**	**+0.3**
	11µm,0.4s						

FRMA	**Ierapetra Chan**	**0.88**	**77**	P	Pn	19 02 08.9	+5.3	
FRMA				S	Sn	19 02 24.7	+9.3	
ZKR	**Zakros**	**1.29**	**76**	Pn	**Pb**	**19 02 12.9**	**+1.9**	
ZKR	**Zakros**	**1.29**	**76**	P	**Pb**	**19 02 13.9**	**+2.9**	
ZKR				S	**Sb**	**19 02 33.8**	**+6.5**	
	2µm,0.6s							
ANKY	**Antikythira Is**	**1.55**	**313**	P	**Pb**	**19 02 16.0**	**+0.6**	
ANKY				S	**Sb**	**19 02 34.9**	**+0.4**	
	2µm,0.6s							
CMBO	**Columbo, Santo**	**1.75**	**19**	P	**Pb**	**19 02 19.2**	**+0.3**	
MHLO	**Agia Marina, M**	**1.89**	**353**	P	**Pb**	**19 02 20.7**	**-0.4**	
MHLO				S	**Sb**	**19 02 43.0**	**-1.3**	
	5µm,0.6s							
KARP	**Karpathos**	**2.15**	**69**	Pn	**Pb**	**19 02 24.3**	**-1.4**	
KARP	**Karpathos**	**2.15**	**69**	P	**Pb**	**19 02 26.6**	**+0.9**	
KARP				S	**Sb**	**19 02 53.5**	**+1.5**	
	1µm,0.8s							
KARP	**Karpathos**	**2.15**	**69**		**Pb**	**19 02 26.7**	**+0.9**	
KARP	**Karpathos**	**2.15**	**69**	P	**Pb**	**19 02 26.8**	**+1.1**	
APE	**Apeiranthos**	**2.35**	**17**	Pn	**Pn**	**19 02 25.8**	**+1.9**	
APE	**Apeiranthos**	**2.35**	**17**	P	**Pb**	**19 02 26.4**	**-2.7**	
APE	**Apeiranthos**	**2.35**	**17**	P	**Pn**	**19 02 25.3**	**+1.4**	
KRND	**KRANIDI**	**2.85**	**335**	P	**Pn**	**19 02 33.2**	**+2.5**	
YAZI	**Mula-Dat§a-**	**2.92**	**50**	P	**Pb**	**19 02 34.8**	**-4.0**	
YAZI				S	**Sb**	**19 03 14.2**	**+0.2**	
DAT	**Datca**	**3.03**	**50**	Pn	**Pb**	**19 02 36.7**	**-3.9**	
DAT	**Datca**	**3.03**	**50**	P	**Pb**	**19 02 39.5**	**-1.1**	
DAT				S	**Sb**	**19 03 14.3**	**-2.9**	
ARG	**Arkhangelos**	**3.13**	**63**	Pn	**Pb**	**19 02 38.1**	**-4.3**	
ARG	**Arkhangelos**	**3.13**	**63**		**Pn**	**19 02 37.6**	**+3.0**	
BDRM	**Kayabasi**	**3.17**	**44**	P	**Pb**	**19 02 41.4**	**-1.6**	
DDIM	**Aydin, Didim**	**3.35**	**37**	P	**Pb**	**19 02 42.2**	**-3.9**	
TURN	**Turunc**	**3.49**	**55**	Pn	**Pn**	**19 02 42.9**	**+3.4**	
TURN	**Turunc**	**3.49**	**55**	P	**Pn**	**19 02 43.3**	**+3.8**	
TURN				S	**Sn**	**19 03 22.5**	**+2.8**	
DALY	**Dalyan (Mula)**	**3.79**	**57**	Pn	**Pn**	**19 02 47.1**	**+3.5**	
MULA	**Mugla, Merkez-**	**3.82**	**49**	P	**Pb**	**19 02 50.5**	**-3.6**	
MULA				S	**Sn**	**19 03 30.8**	**+2.7**	
URLA	**Izmir**	**3.86**	**23**	Pn	**Pn**	**19 02 47.9**	**+3.3**	
FETY	**Fethiye**	**4.01**	**62**	Pn	**Pn**	**19 02 50.2**	**+3.5**	
FETY	**Fethiye**	**4.01**	**62**	P	**Pn**	**19 02 51.0**	**+4.3**	
FETY				S	**Sn**	**19 03 35.7**	**+3.0**	
SABU	**Mula-Dalaman**	**4.01**	**59**	P	**Pn**	**19 02 51.1**	**+4.3**	
SABU				S	**Sn**	**19 03 33.2**	**+0.5**	
IZZE	**Mula-Seydike**	**4.04**	**65**	P	**Pn**	**19 02 50.5**	**+3.5**	
IZZE				S	**Sn**	**19 03 33.0**	**-0.2**	
ESEN	**Aydn-Nazilli**	**4.20**	**44**	P	**Pn**	**19 02 53.4**	**+4.2**	
ESEN				S	**Sn**	**19 03 37.8**	**+0.7**	
IZMR	**zmir-demi**	**4.23**	**37**	P	Pn	19 02 54.2	+4.5	
AKAS	**Kas**	**4.25**	**69**	Pn	**Pn**	**19 02 53.8**	**+3.7**	
AKAS	**Kas**	**4.25**	**69**	P	**Pn**	**19 02 53.1**	**+3.0**	
AKAS				S	**Sn**	**19 03 40.2**	**+1.4**	
DNZT	**Denizli-Tavas-**	**4.29**	**54**	P	**Pn**	**19 02 54.6**	**+4.0**	
DNZT				S	**Sn**	**19 03 38.2**	**-1.4**	
TAVA	**DENIZLI_Tavas**	**4.32**	**51**	P	Pn	19 02 56.1	+5.0	
CAEL	**Denizli, Camel**	**4.41**	**57**	P	**Pb**	**19 03 01.9**	**-2.3**	
KNIK	**Mula-Seydike**	**4.46**	**62**	P	**Pn**	**19 02 56.0**	**+3.1**	
KNIK				S	**Sn**	**19 03 44.2**	**+0.5**	
DNIZ	**Denizli-Tavas-**	**4.50**	**50**	P	Pn	19 02 58.7	+5.3	
KIRA	**zmir-Kiraz**	**4.51**	**40**	P	**Pn**	**19 02 57.8**	**+4.2**	
APMY	**Acipayam-Deniz**	**4.58**	**53**	Pn	**Pn**	**19 02 58.6**	**+4.0**	
AGG	**Agios Georgios**	**4.61**	**336**		**Pn**	**19 02 56.5**	**+1.6**	
GOLH	**Golhisar**	**4.63**	**57**	P	**Pn**	**19 02 59.2**	**+3.9**	
GOLH				S	**Sn**	**19 03 48.3**	**+0.2**	
ELL	**Elmali**	**4.66**	**64**		**Pn**	**19 02 57.8**	**+2.1**	
MANT	**Manisa**	**4.81**	**39**	P	Pn	19 03 02.9	+5.0	
AKUM	**Antalya-Kumluc**	**4.85**	**70**	P	**Pn**	**19 03 01.8**	**+3.6**	
INCE	**Denizli-Bozkur**	**4.89**	**52**	P	Pn	19 03 03.5	+4.7	
KORT	**Korkueli**	**5.09**	**63**	P	Pn	19 03 06.9	+5.3	
PASA	**Karahalli, USA**	**5.23**	**46**	P	**Pn**	**19 03 05.9**	**+2.4**	
LIT	**Litokhoron**	**5.56**	**342**		**Pn**	**19 03 08.9**	**+0.9**	
KEK	**Kerkira**	**6.25**	**323**	Pn	**Pn**	**19 03 14.0**	**-3.4**	
RDO	**Rodhopi**	**6.36**	**6**	Pn	**Pn**	**19 03 19.0**	**+0.2**	
FNA	**Florina**	**6.51**	**337**	Pn	**Pn**	**19 03 21.1**	**+0.1**	
CSS	**Mathiatis**	**7.10**	**86**		**Pn**	**19 03 30.5**	**+1.3**	
CSS	**Mathiatis**	**7.10**	**86**	P	**Pn**	**19 03 31.0**	**+1.8**	
CSS	**Mathiatis**	**7.10**	**86**	S	**Sn**	**19 04 46.9**	**-2.0**	
CSS	**Mathiatis**	**7.10**	**86**	P	**Pn**	**19 03 30.4**	**+1.3**	
TIP	**Timpagrande**	**7.69**	**307**	Pn	**Pn**	**19 03 36.7**	**-0.6**	
PUK	**Puka**	**8.14**	**334**	Pn	**Pn**	**19 03 41.5**	**-1.9**	
BR131	**Keskin Array S**	**8.65**	**53**	Pn	**Pn**	**19 03 53.8**	**+3.2**	
BRTR	**Keskin Array B**	**8.65**	**53**	Pn	Pn	19 03 55.8	+5.2	
	0.2nm,0.3s,baz=228,slow=15,SNR=7.4							
BRTR					LR	LR	19 08 01.5	
	comp=Z,74nm,19.0s,baz=168,slow=43							
RAFF	**Raffo Rosso**	**8.70**	**289**	Pn	**Pn**	**19 03 49.8**	**-1.3**	
OFRI	**`Ofer**	**8.85**	**101**	S	**Sn**	**19 05 28.0**	**-3.9**	
OFRI	**`Ofer**	**8.85**	**101**	P	**Pn**	**19 03 53.5**	**+0.3**	
HNTI	**Hanita**	**8.88**	**98**	S	Sn	19 06 11.9	+39	
HNTI	**Hanita**	**8.88**	**98**	P	**Pn**	**19 03 54.6**	**+1.0**	
HNTI	**Hanita**	**8.88**	**98**	S	**Sn**	**19 05 28.5**	**-4.1**	
SLTI	**Sal'it**	**9.02**	**104**	S	**Sn**	**19 05 31.7**	**-4.2**	
SLTI	**Sal'it**	**9.02**	**104**	P	**Pn**	**19 03 55.1**	**-0.3**	
KZIT	**Kziot**	**9.05**	**113**	P	**Pn**	**19 03 57.2**	**+1.3**	
KZIT	**Kziot**	**9.05**	**113**	S	Sn	19 06 16.7	+40	
KZIT	**Kziot**	**9.05**	**113**	P	Pn	19 04 41.6	+46	
KZIT	**Kziot**	**9.05**	**113**	S	**Sn**	**19 05 31.4**	**-5.2**	
KZIT	**Kziot**	**9.05**	**113**	P	**Pn**	**19 03 57.0**	**+1.2**	
MMA0B	**Mount Meron ar**	**9.09**	**98**	P	**Pn**	**19 03 56.5**	**+0.1**	
MMA0B	**Mount Meron ar**	**9.09**	**98**	S	**Sn**	**19 05 34.2**	**-3.5**	
MMAI	**Mount Meron Ar**	**9.09**	**98**	Pn	**Pn**	**19 03 56.6**	**+0.2**	
	2.2nm,0.3s,baz=287,slow=11,SNR=17							
MMAI					Sn	**Sn**	**19 05 34.4**	**-3.3**
	5.7nm,0.3s,baz=326,slow=28,SNR=11							
	2.7nm,0.4s							
AMAZ	**Amatzia**	**9.18**	**108**	P	**Pn**	**19 03 59.3**	**+1.7**	
AMAZ	**Amatzia**	**9.18**	**108**	S	**Sn**	**19 05 34.9**	**-4.9**	
AMAZ	**Amatzia**	**9.18**	**108**	P	**Pn**	**19 03 57.2**	**-0.4**	
SALP	**Salfit**	**9.19**	**104**	P	**Pn**	**19 03 58.4**	**+0.5**	
SALP	**Salfit**	**9.19**	**104**	P	Pn	19 04 43.6	+46	
SALP	**Salfit**	**9.19**	**104**	S	Sn	19 06 20.2	+40	
SALP	**Salfit**	**9.19**	**104**	P	**Pn**	**19 03 57.9**	**0.0**	
SALP	**Salfit**	**9.19**	**104**	S	**Sn**	**19 05 36.7**	**-3.6**	
GEM	**Giv'at Ha'Em**	**9.25**	**97**	S	Sn	19 06 22.4	+41	
GEM	**Giv'at Ha'Em**	**9.25**	**97**	P	Pn	19 04 44.1	+45	
GEM	**Giv'at Ha'Em**	**9.25**	**97**	S	**Sn**	**19 05 38.4**	**-3.2**	
GEM	**Giv'at Ha'Em**	**9.25**	**97**	P	**Pn**	**19 03 59.0**	**+0.4**	
MMLI	**Mount Malkishu**	**9.26**	**102**	P	**Pn**	**19 03 58.3**	**-0.4**	
MMLI	**Mount Malkishu**	**9.26**	**102**	S	**Sn**	**19 05 37.4**	**-4.5**	
HMDT	**Nahal Hemdat**	**9.40**	**103**	P	Pn	19 04 46.4	+46	
HMDT	**Nahal Hemdat**	**9.40**	**103**	S	**Sn**	**19 05 41.4**	**-3.9**	
HMDT	**Nahal Hemdat**	**9.40**	**103**	P	**Pn**	**19 04 00.6**	**-0.1**	
YTIR	**Yattir**	**9.40**	**109**	P	**Pn**	**19 04 02.1**	**+1.3**	
YTIR	**Yattir**	**9.40**	**109**	S	Sn	19 06 25.4	+40	
YTIR	**Yattir**	**9.40**	**109**	P	Pn	19 04 45.8	+45	
YTIR	**Yattir**	**9.40**	**109**	S	**Sn**	**19 05 41.1**	**-4.3**	
YTIR	**Yattir**	**9.40**	**109**	P	**Pn**	**19 04 01.2**	**+0.4**	
QRNJ	**Al-Qirein**	**9.41**	**102**	P	**Pn**	**19 04 01.3**	**+0.5**	
KSHT	**Keshet**	**9.43**	**98**	P	Pn	19 04 47.0	+46	
KSHT	**Keshet**	**9.43**	**98**	S	**Sn**	**19 05 43.1**	**-2.9**	
KSHT	**Keshet**	**9.43**	**98**	P	**Pn**	**19 04 01.9**	**+0.8**	
UJAP	**Al Uja**	**9.45**	**105**	P	**Pn**	**19 04 01.7**	**+0.4**	
UJAP	**Al Uja**	**9.45**	**105**	P	Pn	19 04 46.6	+45	
UJAP	**Al Uja**	**9.45**	**105**	S	Sn	19 06 26.2	+40	
UJAP	**Al Uja**	**9.45**	**105**	P	**Pn**	**19 04 01.7**	**+0.4**	
UJAP	**Al Uja**	**9.45**	**105**	S	**Sn**	**19 05 42.1**	**-4.4**	
SHMJ	**Saham**	**9.45**	**100**	P	**Pn**	**19 04 02.1**	**+0.7**	
DSI	**Dead Sea**	**9.53**	**107**	P	**Pn**	**19 04 03.4**	**+1.0**	
DSI	**Dead Sea**	**9.53**	**107**	P	Pn	19 04 47.8	+45	
DSI	**Dead Sea**	**9.53**	**107**	S	Sn	19 06 28.2	+40	
DSI	**Dead Sea**	**9.53**	**107**	P	**Pn**	**19 04 02.6**	**+0.2**	
DSI	**Dead Sea**	**9.53**	**107**	S	**Sn**	**19 05 44.7**	**-3.7**	
MDBI	**Mazsada**	**9.61**	**108**	P	**Pn**	**19 04 05.2**	**+1.7**	
MSBI	**Mazada**	**9.61**	**108**	P	Pn	19 04 49.6	+46	

SGRT	**San Giovanni R**	**9.87**	**317**	Pn		**Pn**	19 04 06.5	**-0.6**
HRFI	**Mount Harif**	**9.96**	**116**	P		**Pn**	19 04 10.1	**+1.8**
HRFI	**Mount Harif**	**9.96**	**116**	S		**Sn**	19 05 55.1	**-3.9**
HRFI	**Mount Harif**	**9.96**	**116**	P		**Pn**	19 04 09.3	**+0.9**
MBRI	**Mt Berech**	**9.99**	**117**	P		**Pn**	19 04 10.1	**+1.2**
MBRI	**Mt Berech**	**9.99**	**117**	P		**Pn**	19 04 09.7	**+0.8**
MBRI	**Mt Berech**	**9.99**	**117**	S		**Sn**	19 05 55.2	**-4.8**
EIL2	**Elat**	**10.09**	**118**	P		Pn	19 04 56.0	+46
EIL	**Elat**	**10.09**	**118**	Pn		**Pn**	19 04 11.2	**+1.0**
	2.9nm,0.3s,baz=273,slow=5.7,SNR=24							
EIL				Sn		**Sn**	19 05 58.8	**-3.4**
	1.6nm,0.3s,baz=332,slow=9.8,SNR=4.3							
	9.2nm,0.4s							
EIL	**Elat**	**10.09**	**118**	P		Pn	19 04 55.9	+46
EIL	**Elat**	**10.09**	**118**	S		**Sn**	19 05 58.3	**-3.9**
EIL	**Elat**	**10.09**	**118**	P		**Pn**	19 04 10.8	**+0.7**
ASF	**Jabal al Asfar**	**10.53**	**101**	Pn		**Pn**	19 04 16.4	**+0.1**
	0.4nm,0.3s,baz=250,slow=0.2,SNR=2.8							
ASF				Sn		**Sn**	19 06 08.9	**-4.3**
	0.5nm,0.3s,baz=37,slow=0.4,SNR=3.6							
	2.0nm,0.5s							
MLR	**Muntele Rosu**	**10.71**	**5**	Pn		**Pn**	19 04 19.9	**+1.3**
	0.1nm,0.3s,baz=108,slow=12,SNR=1.7							
MLR				LR		LR	19 08 50.8	
	comp=Z,66nm,20.6s,baz=206,slow=40							
	0.8nm,0.4s							
CTI	**Castel Tesino**	**14.96**	**323**	Pn		**Pn**	19 05 16.8	**+0.1**
ABTA	**Abfaltersbach**	**15.05**	**326**	*i* Pn		**P**	19 05 20.7	**-2.1**
	1.7nm,0.4s							
MOA	**Molln**	**15.17**	**332**	*i* Pn		**Pn**	19 05 19.9	**+0.5**
	3.0nm,0.7s							
LESA	**Schwarzleotal**	**15.49**	**328**	*i* Pn		**P**	19 05 28.1	**+0.5**
	2.3nm,0.5s							
VRAC	**Vranov**	**15.67**	**340**	Pn		**P**	19 05 27.9	**-1.7**
	0.1nm,0.3s,baz=136,slow=19,SNR=2.9							
	1.6nm,0.7s							
WTTA	**Wattenberg**	**15.83**	**326**	*i* Pn		**Pn**	19 05 26.9	**-1.2**
	1.4nm,0.5s							
WATA	**Walderalm**	**15.91**	**326**	*i* Pn		**Pn**	19 05 28.6	**-0.5**
	2.0nm,0.5s							
FUORN	**Ofenpass-Fuorn**	**16.05**	**322**			**Pn**	19 05 31.4	**+0.4**
GERES	**GERESS Array B**	**16.21**	**333**	Pn		**P**	19 05 34.7	**-1.0**
	0.5nm,0.3s,baz=140,slow=11,SNR=21							
GERES				LR		LR	19 13 10.6	
	comp=Z,42nm,18.8s,baz=120,slow=42							
	2.8nm,0.6s							
AKASG	**Malin Array Be**	**16.22**	**10**	Pn		**Pn**	19 05 33.6	**+0.8**
	2.3nm,0.3s,baz=201,slow=9.9,SNR=6.5							
	0.6nm,0.3s							
DAVOX	**Davos/Dischmat**	**16.36**	**321**	Pn		**Pn**	19 05 35.4	**+0.6**
	0.2nm,0.3s,baz=150,slow=20,SNR=2.5							
	1.0nm,0.7s							
KVAR	**Kislovodsk Arr**	**16.62**	**51**	Pn		**Pn**	19 05 38.9	**+0.9**
	baz=290,slow=22							
	1.7nm,0.7s							
KBZ	**Khabaz**	**16.65**	**52**	Pn		**P**	19 05 39.8	**-0.6**
	0.1nm,0.3s,baz=249,slow=6.6,SNR=5.8							
	2.4nm,0.9s							
GNI	**Garni**	**16.77**	**66**	LR		LR	19 13 27.3	
	comp=Z,64nm,18.2s,baz=240,slow=42							
SENIN	**Lac Senin/Sane**	**17.49**	**316**	Pn		**Pn**	19 05 47.4	**-1.6**
SENIN				IAmb		IAmb	19 06 06.4	
	comp=Z,45nm,1.4s							
BFO	**Black Forest**	**18.17**	**323**			**Pn**	19 05 55.6	**-1.7**
CLL	**Collm**	**18.52**	**336**	*e*pP		**pP**	19 06 07.0	-2.3
SUW	**Suwalki**	**19.22**	**357**	P		**P**	19 06 07.2	**-1.5**
SUW				IAmb		IAmb	19 06 18.1	
	comp=Z,21nm,0.8s							
PABE	**Paberze**	**20.70**	**359**	P		**P**	19 06 23.3	**-1.4**
RAYN	**Ar Rayn**	**21.33**	**116**	P		**P**	19 06 32.8	**+0.9**
RAYN				IAmb		IAmb	19 06 39.9	
	comp=Z,4.6nm,0.9s							
ESDC	**Sonseca Array**	**23.27**	**290**	P		**P**	19 06 53.7	**+1.3**
	comp=Z,1.5nm,0.9s,baz=84,slow=9.1,SNR=7.4							
ESDC				LR		LR	19 17 27.3	
	comp=Z,33nm,18.1s,baz=110,slow=40							
	comp=Z,1.5nm,0.9s							
HFS	**Hagfors**	**26.33**	**348**	P		**P**	19 07 19.4	**-0.8**
	comp=Z,1.0nm,0.5s,baz=146,slow=10,SNR=9.7							
	comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**26.66**	**1**	P		**P**	19 07 21.7	**-1.4**
	comp=Z,0.6nm,0.5s,baz=168,slow=9.6,SNR=3.8							
	comp=Z,0.6nm,0.5s							
NC602	**NORSAR Array S**	**27.29**	**346**	P		**P**	19 07 27.6	**-1.2**
NC602				IAmb		IAmb	19 07 56.1	
	comp=Z,3.3nm,0.9s							
NB2	**NORSAR Subarra**	**27.64**	**346**	P		**P**	19 07 31.6	**-0.3**
	comp=Z,0.6nm,0.6s,baz=162,slow=10							
NOA	**NORSAR Array B**	**27.64**	**346**	P		**P**	19 07 31.7	**-0.3**
	comp=Z,0.3nm,0.7s,baz=159,slow=10,SNR=5.6							
NOA				LR		LR	19 19 51.3	
	comp=Z,22nm,18.0s,baz=160,slow=39							
	comp=Z,0.3nm,0.7s							
EKA	**Eskdalemuir Ar**	**28.10**	**325**	P		**P**	19 07 36.5	**+0.4**
	comp=Z,2.5nm,0.9s,baz=123,slow=11,SNR=2.1							
	comp=Z,2.5nm,0.9s							
TORD	**Torodi Ar. Bea**	**29.97**	**230**	P		**P**	19 07 54.7	**+1.6**
	comp=Z,0.5nm,0.3s,baz=33,slow=8.9,SNR=24							
	comp=Z,0.5nm,0.3s							
ARCES	**ARCESS Array B**	**34.78**	**1**	P		**P**	19 08 33.3	**-1.4**
	comp=Z,1.6nm,0.7s,baz=170,slow=8.6,SNR=8.5							
ARCES				LR		LR	19 23 16.0	
	comp=Z,39nm,20.2s,baz=104,slow=37							
	comp=Z,1.6nm,0.7s							
BVAR	**Borovoye Array**	**36.87**	**46**	LR		LR	19 25 53.2	
	comp=Z,28nm,19.4s,baz=208,slow=39							
DBIC	**Dimbokro**	**39.05**	**231**	LR		LR	19 27 57.5	
	comp=Z,46nm,20.7s,baz=115,slow=40							
BORG	**Borgarnes**	**40.67**	**332**	LR		LR	19 27 05.5	
	comp=Z,13nm,18.4s,baz=77,slow=37							
KURBB	**Kurchatov Arra**	**41.64**	**51**	P		**P**	19 09 32.6	**0.0**
	comp=Z,0.3nm,0.5s,baz=278,slow=8.4,SNR=4.0							
	comp=Z,0.3nm,0.5s							
SPITS	**Spitsbergen Ar**	**43.61**	**358**	P		**P**	19 09 48.1	**-0.2**
	comp=Z,5.7nm,1.0s,baz=152,slow=9.8,SNR=1.2							
	comp=Z,5.7nm,1.0s							
MK31	**Makanchi Array**	**44.29**	**56**	P		**P**	19 09 55.3	**+1.2**
MK31				IAmb		IAmb	19 10 19.3	
	comp=Z,3.1nm,1.2s							
MKAR	**Makanchi Array**	**44.29**	**56**	P		**P**	19 09 55.4	**+1.2**
MKAR	**Makanchi Array**	**44.29**	**56**	P		**P**	19 09 55.6	**+1.5**
	comp=Z,0.6nm,0.5s,baz=270,slow=8.9,SNR=11							
	comp=Z,0.6nm,0.5s							
ZALV	**Zalesovo Beam**	**45.52**	**46**	P		**P**	19 10 05.0	**+1.2**
	comp=Z,0.8nm,0.4s,baz=273,slow=8.5,SNR=6.0							
	comp=Z,0.8nm,0.4s							
SONM	**Songino Array**	**60.00**	**50**	P		**P**	19 11 52.0	**+0.9**
	comp=Z,0.5nm,0.6s,baz=286,slow=6.5,SNR=4.3							
	comp=Z,0.5nm,0.6s							
SCHQ	**Schefferville**	**63.20**	**320**	P		**P**	19 12 13.0	**+0.6**
	comp=Z,1.5nm,0.5s,baz=63,slow=9.0,SNR=1.5							
	comp=Z,1.5nm,0.5s							
C23K	**Itkillik River**	**75.60**	**358**	P		**P**	19 13 29.9	**+1.2**
C23K				IAmb		IAmb	19 13 40.4	
	comp=Z,6.0nm,1.4s							
C18K	**Utukok River**	**76.75**	**2**	P		**P**	19 13 36.3	**+0.9**
YKA	**Yellowknife Ar**	**77.66**	**342**	P		**P**	19 13 40.8	**+0.4**
	comp=Z,0.1nm,0.3s,baz=37,slow=6.1,SNR=4.2							
	comp=Z,0.1nm,0.3s							
G29M	**Pine Creek**	**77.73**	**353**	P		**P**	19 13 41.6	**+0.8**
G29M				IAmb		IAmb	19 13 52.2	
	comp=Z,4.8nm,1.0s							
BMAR	**Burnt Mountain**	**77.75**	**356**	P		**P**	19 13 42.3	**+1.4**
KSRS	**Korea Array**	**78.80**	**52**	P		**P**	19 13 47.8	**+0.6**
	comp=Z,0.3nm,0.7s,baz=321,slow=6.0,SNR=1.7							
	comp=Z,0.3nm,0.7s							

TEH 31 19:15:11.6,33.74N×45.65E,h10km±990km,ML1.8,
Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.48**	**104**	Pg	Pg	19 15 21.3	+0.3
ILBA				Sg	Sg	19 15 28.5	-0.9
IGHG	**Ghaleghazi**	**0.96**	**52**	Pg	Pb	19 15 30.7	+0.2
IDHR	**Dehrash**	**1.13**	**33**	Pg	Pg	19 15 33.2	-0.2

*MOS **31** 19:17:31.2,42.53N×46.03E,h21km,MPVA4.1*
*TIF **31** 19:17:32.0,42.63N×45.99E,h24km±1km*
*NORS **31** 19:17:33.1,42.50N×46.02E,h12km,MPVA4.0*
*DRS **31** 19:17:33.3,42.54N×45.93E,h17km*
ISC 31 19:17:32.8±1.0,42.56N±0.02×45.98E±0.01,h9km±9km,
n55,σ1§04/106,Eastern Caucasus

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

DVE	**Vedeno**	**0.41**	**15**	*e*Pg		**Pb**	19 17 41.9	**-0.3**
DVE				*e*Sg		**Sb**	19 17 48.6	**0.0**
XNZR	**Khunzakh**	**0.54**	**92**	*e*Pg		**Pg**	19 17 43.2	**0.0**
XNZR				*e*Sg		**Sg**	19 17 50.9	**+0.6**
SHTL	**Shatili**	**0.62**	**279**	P		**Pg**	19 17 44.6	**-0.1**
SHTL				S		**Sg**	19 17 53.0	**+0.2**
SHTL	**Shatili**	**0.62**	**279**	*e*Pg		**Pg**	19 17 44.6	**-0.1**
SHTL				*e*Sg		**Sg**	19 17 53.0	**+0.2**
UNCR	**Uncukul**	**0.62**	**76**	*e*Pg		**Pg**	19 17 44.7	**-0.1**
UNCR				*e*Sg		**Sg**	19 17 53.4	**+0.5**
GROC	**Groznyy**	**0.65**	**348**	*e*Pg		**Pb**	19 17 47.3	**+1.0**
GROC				*e*Sg		**Sn**	19 17 57.9	**-0.8**
DLMR	**Dylym**	**0.70**	**43**	*e*Pg		**Pb**	19 17 47.1	**0.0**
DLMR				*e*Sg		**Sb**	19 17 57.1	**+0.2**
KRNR	**Karanay**	**0.73**	**69**	*e*Pg		**Pg**	19 17 46.5	**-0.4**
KRNR				*e*Sg		**Sg**	19 17 56.6	**+0.1**
GNBR	**Gunib**	**0.75**	**103**	*e*Pg		**Pg**	19 17 46.8	**-0.4**
GNBR				*e*Sg		**Sg**	19 17 56.7	**-0.3**
LGD	**Lagodekhi**	**0.75**	**165**	S		**Sg**	19 17 56.4	**-0.7**
LGD	**Lagodekhi**	**0.75**	**165**	*e*Pg		**Pg**	19 17 46.3	**-1.0**
LGD				*e*Sg		**Sg**	19 17 56.4	**-0.7**
LGD	**Lagodekhi**	**0.75**	**165**	P		**Pg**	19 17 46.3	**-1.0**
DBC	**Dubki**	**0.78**	**54**	*e*Pg		**Pg**	19 17 47.8	**0.0**
DBC				*e*Sg		**Sg**	19 17 58.4	**+0.6**
CHRG	**Chargali**	**0.81**	**254**	P		**Pg**	19 17 47.6	**-0.8**
CHRG				S		**Sg**	19 17 58.9	**-0.2**
CHRG	**Chargali**	**0.81**	**254**	*e*Pg		**Pg**	19 17 47.6	**-0.8**
BUJR	**Buynaksk**	**0.87**	**72**	*e*Pg		**Pg**	19 17 49.7	**+0.1**
BUJR				*e*Sg		**Sb**	19 18 01.7	**-0.2**
KMKR	**Kumukh**	**0.94**	**117**	*e*Pg		**Pg**	19 17 50.0	**-0.8**
KMKR				*e*Sg		**Sg**	19 18 02.7	**-0.3**
KMGR	**Komgaron**	**0.96**	**301**	*e*Pg		**Pn**	19 17 52.7	**+0.2**
KMGR				*e*Sg		**Pn**	19 18 07.0	**+0.7**
VLKR	**Vladikavkaz**	**1.07**	**297**	*e*Pg		**Pb**	19 17 53.6	**0.0**
VLKR				*e*Sg		**Sn**	19 18 11.3	**+2.2**
MTEO	**Meteo**	**1.07**	**277**	P		**Pg**	19 17 52.8	**-0.7**
MTEO				S		**Sg**	19 18 07.3	**-0.1**
MTEO	**Meteo**	**1.07**	**277**	*e*Pg		**Pg**	19 17 52.8	**-0.7**
MTEO				*e*Sg		**Sg**	19 18 07.3	**-0.1**
GUDG	**Gudauri**	**1.11**	**265**	*e*Pg		Pb	19 17 49.3	-5.1
GUDG				*e*Sg		**Sb**	19 18 05.8	**-3.3**
MAK	**Makhachkala**	**1.19**	**70**	*e*Pg		**Pn**	19 17 54.9	**-0.8**
MAK				*e*Sg		**Sb**	19 18 10.6	**-0.5**
LACR	**Lac**	**1.27**	**283**	*e*Pg		**Pn**	19 17 56.1	**-0.7**
LACR				*e*Sg		**Sb**	19 18 13.7	**+0.3**
KANR	**Karaman**	**1.28**	**60**	*e*Pg		**Pn**	19 17 55.3	**-1.5**
KANR				*e*Sg		**Sg**	19 18 14.6	**+0.8**
URKR	**Urkarakh**	**1.29**	**107**	*e*Pg		**Pn**	19 17 56.4	**-0.7**
URKR				*e*Sg		**Sb**	19 18 13.5	**-0.4**
VSHL	**Vashlovani**	**1.37**	**167**	P		**Pg**	19 17 58.9	**-0.1**
VSHL				S		**Sg**	19 18 22.1	**+5.4**
ARNR	**Ardon**	**1.39**	**297**	*e*Pg		**Pg**	19 18 00.1	**+0.6**
ARNR				*e*Sg		**Sg**	19 18 18.8	**+1.3**
TRKR	**Terskaya**	**1.48**	**322**	*e*Pg		**Pg**	19 18 01.3	**+0.2**
TRKR				*e*Sg		**Sg**	19 18 22.3	**+2.1**
STDR	**Stavd-Durt**	**1.62**	**300**	*e*Pg		**Pb**	19 18 02.9	**+0.1**
STDR				*e*Sg		**Sg**	19 18 25.8	**+0.9**
PRTR	**Priterechnaya**	**1.72**	**314**	*e*Pg		**Pb**	19 18 05.2	**+0.7**
PRTR				*e*Sg		**Sg**	19 18 28.0	**0.0**
TRLG	**Trialeti**	**1.73**	**234**	P		**Pn**	19 18 03.6	**+0.4**
TRLG				S		**Sb**	19 18 26.8	**0.0**
TRLG	**Trialeti**	**1.73**	**234**	*e*Pg		**Pn**	19 18 03.6	**+0.4**
TRLG				*e*Sg		**Sb**	19 18 26.8	**0.0**
LSNR	**Lesken**	**1.73**	**295**	*e*Pg		**Pn**	19 18 03.3	**+0.2**
LSNR				*e*Sg		**Sb**	19 18 27.6	**+0.8**
ALIG	**Mtskhetisjvari**	**1.79**	**256**	P		**Pb**	19 18 05.4	**-0.4**
ALIG				S		**Sg**	19 18 29.8	**-0.5**
ALIG	**Mtskhetisjvari**	**1.79**	**256**	*e*Pg		**Pb**	19 18 05.4	**-0.4**
ALIG				*e*Sg		**Sg**	19 18 29.8	**-0.5**
DIGR	**Digorskoe uzhe**	**1.80**	**282**	*e*Pg		**Pn**	19 18 05.0	**+0.8**
DIGR				*e*Sg		**Sb**	19 18 28.3	**-0.5**
DMNI	**Dmanisi**	**1.82**	**228**	P		**Pn**	19 18 04.8	**+0.4**
DMNI				S		**Sb**	19 18 28.7	**-0.5**
DMNI	**Dmanisi**	**1.82**	**228**	*e*Pg		**Pn**	19 18 04.8	**+0.4**
DMNI				*e*Sg		**Sb**	19 18 28.7	**-0.5**
DRN	**Derbent**	**1.82**	**106**	*e*Pg		**Pn**	19 18 05.0	**+0.7**
DRN				*e*Sg		**Sb**	19 18 28.9	**-0.3**
KSMR	**Kasumkent**	**1.86**	**120**	*e*Pg		**Pg**	19 18 08.6	**+0.1**
KSMR				*e*Sg		**Sg**	19 18 34.7	**+2.0**
ONI	**Oni**	**1.87**	**272**	P		**Pb**	19 18 07.4	**+0.3**
ONI				S		**Sg**	19 18 34.5	**+1.7**
ONI	**Oni**	**1.87**	**272**	*e*Pg		**Pb**	19 18 07.3	**+0.3**
ONI				*e*Sg		**Sg**	19 18 32.1	**-0.7**
BGD	**Bogdanovka**	**2.20**	**235**	P		**Pb**	19 18 13.0	**+0.2**
BGD				S		**Sb**	19 18 40.0	**-0.3**
TKB	**Tkibuli**	**2.22**	**266**	P		**Pb**	19 18 12.9	**-0.2**
TKB				S		**Sb**	19 18 42.3	**+1.6**
TKB	**Tkibuli**	**2.22**	**266**	*e*Pn		**Pb**	19 18 12.9	**-0.2**
TKB				*e*Sn		**Sb**	19 18 42.3	**+1.6**
KBTC	**Kuba-Taba**	**2.26**	**305**	*e*Pn		**Pn**	19 18 11.1	**+0.7**
KBTC				*e*Sn		**Sn**	19 18 38.3	**-0.1**
ABS	**Abastumani**	**2.49**	**252**	P		**Pb**	19 18 16.5	**-1.2**
ABS				S		**Sb**	19 18 50.0	**+1.5**
KBZ	**Khabaz**	**2.54**	**298**	*e*Pn		**Pn**	19 18 13.4	**-0.7**
KBZ				*e*Sn		**Sn**	19 18 44.2	**-1.0**
PYA1	**Pyatigorsk**	**2.58**	**306**	*e*Pn		**Pn**	19 18 14.4	**-0.4**
PYA1				*e*Sn		**Sn**	19 18 43.8	**-2.5**
GNI	**Garni**	**2.59**	**202**	*e*Pn		**Pn**	19 18 16.6	**+1.7**
GNI				*e*Sn		**Sn**	19 18 47.7	**+1.1**
SHA1	**Shidzhatmaz**	**2.70**	**297**	*e*Pn		**Pn**	19 18 15.2	**-1.4**
SHA1				*e*Sn		**Sn**	19 18 48.7	**-0.8**
BEYR	**Belyy Ugol+**	**2.73**	**303**	*e*Pn		**Pn**	19 18 15.2	**-1.5**
BEYR				*e*Sn		**Sn**	19 18 48.9	**-1.7**
KIV	**Kislovodsk**	**2.78**	**301**	*e*Pn		**Pn**	19 18 16.8	**-0.8**
KIV				*e*Sn		**Sn**	19 18 50.1	**-1.1**
ALER	**Alexandrovskoy**	**3.13**	**316**	*e*Pn		**Pn**	19 18 23.0	**+0.7**
ALER				*e*Sn		**Sn**	19 18 59.4	**-0.4**

*IDC **31** 19:19:33.7±2.9,43.07N×104.93W,h0km,mb2.4/1,*
mbtmp3.0/3,ML1.9/1, Error ellipse: s-maj=52.2km
s-min=10.8km az=156.0
*NEIC **31** 19:19:36.0±1.5,43.63N±0.07×105.21W±0.08,h0km±1km,*
ML3.1/46, Error ellipse: s-maj=13.3km s-min=6.4km
az=37.0
ISC 31 19:19:37.0±1.0,43.61N±0.05×105.21W±0.05,h0km,n35,
σ1§06/32,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.99**	**59**		**Pg**	19 19 55.9	**-0.1**
K22A	**Casper**	**1.36**	**225**		**Pg**	19 20 02.0	**-1.0**
K22A				IAML		19 20 31.0	
	comp=N,215nm,1.0s						
K22A				IAML		19 20 43.0	
	comp=E,200nm,3.7s						
PHWY	**Pilot Hill**	**2.32**	**185**		**Pn**	19 20 17.6	**+0.9**
PHWY				IAML		19 20 52.0	
	comp=E,81nm,0.5s						
RWWY	**Rawlins**	**2.42**	**218**		**Pn**	19 20 19.7	**+1.6**
RWWY				IAML		19 21 05.4	
	comp=E,156nm,0.9s						
N23A	**Red Feather La**	**2.77**	**192**	Pn	**Pn**	19 20 23.9	**+1.1**
N23A				IAML		19 21 15.2	
	comp=N,86nm,0.9s						
BRIGG	**Briggsdale**	**3.10**	**167**		**Pn**	19 20 28.7	**+1.5**
RLMT	**Red Lodge**	**3.28**	**299**		**Pn**	19 20 30.8	**+1.0**
RLMT				IAML		19 21 29.6	
	comp=N,40nm,0.7s						
RLMT				IAML		19 21 40.0	
	comp=N,52nm,0.9s						
PD31	**Pinedale Array**	**3.29**	**257**		**Pn**	19 20 30.6	**+0.6**
PDAR	**Pinedale Array**	**3.29**	**257**	Pn	**Pn**	19 20 30.4	**+0.5**
PDAR	**Pinedale Array**	**3.29**	**257**	Pn	**Pn**	19 20 31.6	**+1.6**
	comp=N,2.7nm,0.3s,baz=61,slow=18,SNR=24						
PDAR				Lg	Lg	19 21 19.6	
	comp=N,9.8nm,0.3s,baz=70,slow=32,SNR=11						
OGNE	**Ogallala**	**3.56**	**137**		**Pn**	19 20 33.9	**+0.4**
YMP	**Mirror Lake Pl**	**3.73**	**289**	Pn	**Pn**	19 20 36.6	**+0.5**
ISCO	**Idaho Springs**	**3.82**	**185**	Pn	**Pn**	19 20 38.7	**+1.3**
LOHW	**Long Hollow**	**3.92**	**272**		**Pn**	19 20 39.2	**+0.6**
LOHW				IAML		19 21 48.6	
	comp=N,18nm,1.9s						
LOHW				IAML		19 22 12.9	
	comp=N,18nm,2.4s						
FLWY	**Flagg Ranch**	**4.00**	**279**	Pn	**Pn**	19 20 39.3	**-0.3**
FLWY				IAML		19 22 01.6	
	comp=N,34nm,2.4s						
FLWY				IAML		19 22 02.0	
	comp=N,39nm,1.4s						

MOOW	**Moose Ponds**	**4.01**	**274**			**Pn**	19 20 40.9	**+1.0**
SNOW	**Snow King Moun**	**4.03**	**270**			**Pn**	19 20 40.9	**+0.7**
SNOW				IAML			19 22 04.7	
	comp=N,37nm,2.2s							
REDW	**Red Top Meadow**	**4.11**	**268**	Pn		**Pn**	19 20 42.8	**+1.5**
O20A	**White River Ci**	**4.14**	**214**			**Pn**	19 20 42.7	**+1.0**
K30B	**Basset**	**4.20**	**101**	Pn		**Pn**	19 20 41.3	**-1.1**
FXWY	**Fox Creek**	**4.22**	**272**			**Pn**	19 20 42.0	**-0.8**
AHID	**Auburn Hatcher**	**4.39**	**261**			**Pn**	19 20 44.7	**-0.3**
AHID				IAML			19 22 04.6	
	comp=N,28nm,1.2s							
AHID				IAML			19 22 12.4	
	comp=N,26nm,1.0s							
BOZ	**Bozeman (W)**	**4.99**	**296**	Pn		**Pn**	19 20 53.9	**+0.6**
BOZ				IAML			19 22 48.8	
	comp=N,14nm,4.9s							
BOZ				IAML			19 24 05.3	
	comp=N,12nm,4.3s							
HWUT	**Hardware Ranch**	**5.10**	**249**	Pn		**Pn**	19 20 54.2	**-0.5**
BSUT	**Blindstream Ca**	**5.15**	**235**	Pn		**Pn**	19 20 55.2	**-0.4**
BSUT				IAML			19 22 36.1	
	comp=N,12nm,1.4s							
BSUT				IAML			19 22 45.0	
	comp=E,16nm,1.6s							
SPUT	**South Promonto**	**5.83**	**249**	Pn		**Pn**	19 21 05.7	**+1.0**
SRU	**San Rafael Swe**	**6.01**	**223**	Pn		**Pn**	19 21 07.7	**+0.3**
LYMT	**Lyon Mountain**	**6.02**	**306**	Pn		**Pn**	19 21 07.9	**+0.5**
ECSD	**EROS Data Cent**	**6.24**	**86**	Pn		**Pn**	19 21 10.0	**-0.3**
BPMT	**Black Pine Rid**	**6.48**	**299**	Pn		**Pn**	19 21 15.4	**+1.6**
I10CA	**LAC DU BONNET**	**9.10**	**40**	I	I		20 11 10.0	
	comp=E,0.2nm,1.2s,baz=221,slow=324,SNR=5.4							
ULM	**Lac du Bonnet**	**9.21**	**41**	Pn		**Pn**	19 21 49.1	**-1.9**
	comp=E,0.2nm,0.3s,baz=219,slow=14,SNR=2.0							
ULM				Lg	Lg		19 24 26.4	
	comp=E,0.4nm,0.3s,baz=289,slow=21,SNR=3.0							
	comp=E,1.8nm,0.9s							
I56US	**NEWPORT INFRAS**	**9.51**	**303**	I	I		20 24 50.0	
	baz=111,slow=329,SNR=1.9							
YKA	**Yellowknife Ar**	**19.70**	**347**	P		**Pn**	19 24 10.7	**+1.8**
	comp=E,0.1nm,0.3s,baz=154,slow=13,SNR=2.1							
YKA				Lg	Lg		19 30 04.1	
	comp=E,0.1nm,0.3s,baz=148,slow=30,SNR=2.2							
	comp=E,0.1nm,0.3s							
I18DK	**QAANAAQ INFRAS**	**36.95**	**12**	I	I		23 07 25.0	
	baz=222,slow=320,SNR=4.4							

*NEIC **31** 19:23:07.1±1.1,43.60N±0.09×105.2W±0.1,h0km±1km,*
ML3.2/39, Error ellipse: s-maj=17.7km s-min=9.6km
az=42.0
*IDC **31** 19:23:08.6±2.1,43.62N×105.36W,h0km,mbtmp3.1/4,*
ML2.5/2, Error ellipse: s-maj=48.8km s-min=10.0km
az=150.0
ISC 31 19:23:07.7±0.9,43.62N±0.06×105.16W±0.06,h0km,n27,
σ1§11/27,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.96**	**58**		**Pb**	19 23 26.8	**-0.5**
RSSD				IAML		19 23 45.4	
	392nm,0.6s						
K22A	**Casper**	**1.39**	**226**		**Pg**	19 23

ARSB	**Arslanbob**	**5.02**	**18**	PN	**Pn**	**19 37 04.6**	**+1.5**
JMU	**Jammu**	**5.03**	**138**	*e*P	**Pn**	**19 37 06.0**	**+2.8**
JMU				*e*S	**Sn**	**19 38 01.6**	**-0.5**
THN	**Thein Dam**	**5.70**	**135**	*e*P	**Pn**	**19 37 15.2**	**+3.5**
THN				*e*S	**Sn**	**19 38 17.3**	**-0.3**
THN				*ex*	x	19 38 25.3	
DHRM	**DHARAMSHALA**	**6.17**	**133**	*e*P	**Pn**	**19 37 21.1**	**+2.9**
DHRM				*e*S	**Sn**	**19 38 27.5**	**-1.5**
DHRM				*e*S		19 38 29.4	
DHRM				IAML		19 38 31.3	
	comp=E,668nm,0.5s						
DHRM				IAML		19 38 31.8	
	comp=E,327nm,0.6s						
UCH	**Uchtor**	**6.30**	**25**	P	**Pn**	**19 37 21.4**	**+1.4**
	SNR=47						
EKS2	**Erkin-Say**	**6.48**	**19**	P	**Pn**	**19 37 23.3**	**+1.4**
	SNR=70						
KK31	**Karatay Array**	**6.55**	**357**	Pn	**Pn**	**19 37 23.9**	**+1.2**
KK31	**Karatay Array**	**6.55**	**357**	PN	**Pn**	**19 37 23.9**	**+1.2**
KKAR	**Karatay Array**	**6.55**	**357**	Pn	**Pn**	**19 37 23.8**	**+1.1**
KKAR	**Karatay Array**	**6.55**	**357**	PN	**Pn**	**19 37 23.8**	**+1.1**
AAK	**Ala-Archa**	**6.66**	**23**	P	**Pn**	**19 37 25.8**	**+1.5**
	SNR=48						
AAK	**Ala-Archa**	**6.66**	**23**	*ce*PN	**Pn**	**19 37 25.7**	**+1.4**
AAK				pmax	pmax		
	comp=Z,73nm,0.8s						
AAK	**Ala-Archa**	**6.66**	**23**	P	**Pn**	**19 37 25.8**	**+1.5**
	comp=Z,48nm,0.3s,baz=180,slow=5.8,SNR=197						
AAK				S	**Sn**	**19 38 35.4**	**-5.0**
	comp=Z,18nm,0.3s,baz=197,slow=10,SNR=3.6						
KBK	**Karagaybulak**	**6.83**	**26**	P	**Pn**	**19 37 28.3**	**+1.7**
	SNR=29						
BHK	**Bhakra**	**6.85**	**137**	*e*P	**Pn**	**19 37 29.7**	**+2.9**
BHK				*e*S	**Sn**	**19 38 43.5**	**-1.3**
FRU1	**Bishkek**	**6.86**	**23**		**Pn**	**19 37 28.4**	**+1.6**
FRU1	**Bishkek**	**6.86**	**23**	PN	**Pn**	**19 37 28.4**	**+1.6**
ULHL	**Ulahol**	**7.01**	**34**	P	**Pn**	**19 37 30.4**	**+1.5**
	SNR=42						
CHMS	**Chumysh**	**7.07**	**23**	P	**Pn**	**19 37 30.8**	**+1.3**
	SNR=12						
BOOM	**Boomskoye usch**	**7.07**	**32**		**Pn**	**19 37 31.2**	**+1.5**
BOOM	**Boomskoye usch**	**7.07**	**32**	PN	**Pn**	**19 37 31.2**	**+1.5**
USP	**Ospenovka**	**7.24**	**21**	P	**Pn**	**19 37 32.1**	**+0.4**
	SNR=19						
TKM2	**Tokmak 2**	**7.30**	**28**	P	**Pn**	**19 37 34.0**	**+1.3**
	SNR=114						
HRA	**Herat**	**7.42**	**256**		**Pn**	**19 37 35.8**	**+1.4**
TARG	**Taragay, Kyrgy**	**7.42**	**44**	Pn	**Pn**	**19 37 35.1**	**+0.6**
TARG	**Taragay, Kyrgy**	**7.42**	**44**	PN	**Pn**	**19 37 35.1**	**+0.6**
SMLA	**Simla**	**7.49**	**135**	*e*P	**Pn**	**19 37 36.9**	**+1.8**
SMLA				*e*S	**Sn**	**19 38 57.1**	**-2.7**
SMLA				*e*S		19 38 57.6	
SMLA				IAML		19 39 02.9	
	comp=E,136nm,0.6s						
SMLA				IAML		19 39 03.2	
	comp=E,123nm,0.6s						
KUDL	**Kundal**	**9.61**	**149**	*e*P	**Pn**	**19 38 03.6**	**+1.0**
KUDL				*e*S	**Sn**	**19 39 43.9**	**-6.2**
GEYT	**Alibeck**	**10.32**	**281**	P	**Pn**	**19 38 11.7**	**-0.1**
	comp=E,1.2nm,0.4s,baz=116,slow=10,SNR=5.8						
GEYT				S	**Sn**	**19 40 00.4**	**-6.6**
	comp=E,6.3nm,1.0s,baz=85,slow=18,SNR=2.0						
GEYT				LR	LR	19 43 00.1	
	comp=E,18nm,20.0s,baz=332,slow=42						
PTH	**Pithoragarh**	**10.45**	**129**	*e*P	**Pn**	**19 38 15.3**	**+1.5**
PTH				*e*S	**Sn**	**19 40 04.4**	**-6.1**
LGTI	**Lohaghat**	**10.54**	**130**	*e*P	**Pn**	**19 38 14.3**	**-0.3**
LGTI				*e*S	**Sn**	**19 40 05.4**	**-7.0**
MAKZ	**Makanchi**	**13.13**	**35**		**Pn**	**19 38 47.8**	**+0.3**
MAKZ	**Makanchi**	**13.13**	**35**	P	**Pn**	**19 38 47.8**	**+0.3**
MK31	**Makanchi Array**	**13.27**	**36**	Pn	**Pn**	**19 38 49.1**	**-0.1**
MK31	**Makanchi Array**	**13.27**	**36**	*ce*P	**Pn**	**19 38 48.7**	**-0.5**
MKAR	**Makanchi Array**	**13.27**	**36**	P	**Pn**	**19 38 49.2**	**+0.1**
	comp=E,12nm,0.8s,baz=222,slow=17,SNR=29						
WMQ	**Urumqi**	**14.70**	**55**	*e*P	**P**	**19 39 08.5**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,17nm,1.1s						
ABKAR	**Akbulak array**	**15.01**	**331**		**Pn**	**19 39 09.8**	**-0.8**
KURBB	**Kurchatov Arra**	**15.08**	**19**	P	**Pn**	**19 39 10.9**	**-0.5**
	comp=Z,13nm,1.0s,baz=211,slow=10,SNR=38						
KURK	**Kurchatov**	**15.19**	**19**	Pn	**Pn**	**19 39 11.6**	**-1.1**
KURK	**Kurchatov**	**15.19**	**19**	*ce*P	**Pn**	**19 39 12.1**	**-0.7**
KURK				pmax	pmax		
	comp=Z,25nm,1.3s						
BVAR	**Borovoye Array**	**16.47**	**359**	P	**Pn**	**19 39 28.4**	**+0.2**
	comp=Z,13nm,0.7s,baz=160,slow=12,SNR=58						
BRVK	**Borovoye**	**16.51**	**359**		**Pn**	**19 39 27.9**	**-0.7**
BRVK	**Borovoye**	**16.51**	**359**	*ce*P	**Pn**	**19 39 29.3**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,25nm,1.3s						
AKTO	**Aktyubinsk**	**16.71**	**330**	P	**Pn**	**19 39 31.3**	**+0.2**
	comp=Z,33nm,0.7s,baz=140,slow=8.6,SNR=70						
AKTO				S	**S**	**19 42 30.8**	**-3.3**
	comp=Z,5.1nm,0.8s,baz=10,slow=20,SNR=2.7						
UOSS	**Minazif**	**17.14**	**232**	P	**Pn**	**19 39 35.7**	**-0.6**
UOSS				IAmb	IAmb	19 39 44.0	
	comp=Z,18nm,1.1s						
LSA	**Lhasa**	**18.24**	**106**	P	**Pn**	**19 39 49.3**	**-0.4**
LSA				IAmb	IAmb	19 39 52.0	
	comp=Z,5.4nm,1.0s						
LSA	**Lhasa**	**18.24**	**106**	P	**Pn**	**19 39 49.3**	**-0.4**
LSA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ZALV	**Zalesovo Beam**	**19.88**	**25**	P	**P**	**19 40 04.5**	**+0.3**
	comp=Z,15nm,0.5s,baz=220,slow=11,SNR=95						
ZALV				S	**S**	**19 43 33.0**	**-3.8**
	comp=Z,1.0nm,0.7s,baz=70,slow=18,SNR=4.0						
SVE	**Sverdlovsk**	**21.43**	**344**	*e*P	**P**	**19 40 21.4**	**+0.8**
SVE				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ARU	**Arti**	**21.56**	**341**	P	**P**	**19 40 22.0**	**0.0**
ARU				IAmb	IAmb	19 40 24.6	
	comp=Z,5.9nm,0.6s						
ARU	**Arti**	**21.56**	**341**	*d i*P	**P**	**19 40 22.5**	**+0.5**
ARU				S	**S**	**19 44 07.9**	**+0.5**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ARU	**Arti**	**21.56**	**341**	P	**P**	**19 40 22.6**	**+0.6**
	comp=Z,4.4nm,0.5s,baz=134,slow=5.5,SNR=11						
	comp=Z,4.4nm,0.5s						
BELG	**Belogornoye**	**22.82**	**321**	*i*P	**P**	**19 40 35.1**	**+1.2**
BELG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BELG	**Belogornoye**	**22.82**	**321**	P	**P**	**19 40 35.0**	**+1.2**
	comp=Z,10nm,0.7s,baz=125,slow=2.5,SNR=9.7						
	comp=Z,10nm,0.7s						
RAYN	**Ar Rayn**	**25.48**	**246**	P	**P**	**19 40 58.3**	**-0.1**
RAYN				IAmb	IAmb	19 41 05.0	
	comp=Z,6.1nm,0.6s						
RAYN	**Ar Rayn**	**25.48**	**246**	P	**P**	**19 40 58.3**	**-0.1**
RAYN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KIRV	**Kirov**	**26.17**	**334**	*ce*P	**P**	**19 41 04.8**	**+0.7**
KIRV	**Kirov**	**26.17**	**334**	P	**P**	**19 41 04.6**	**+0.6**
	comp=Z,7.3nm,0.5s,baz=150,slow=4.6,SNR=4.4						
	comp=Z,7.3nm,0.5s						
SONM	**Songino Array**	**28.34**	**55**	P	**P**	**19 41 25.3**	**+1.6**
	comp=Z,0.5nm,0.9s,baz=246,slow=10,SNR=3.0						
	comp=Z,0.5nm,0.9s						
MMAI	**Mount Meron Ar**	**29.30**	**274**	PcP	**PcP**	**19 44 34.2**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=70,slow=1.7,SNR=2.3						
BRTR	**Keskin Array B**	**29.37**	**288**	P	**P**	**19 41 33.1**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=99,slow=9.1,SNR=2.2						
	comp=Z,0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.52**	**119**	P	**P**	**19 41 44.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**30.52**	**119**	*e*P	**P**	**19 41 45.1**	**+2.0**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**30.52**	**119**	P	**P**	**19 41 44.0**	**+0.9**
	comp=Z,1.7nm,0.9s,baz=299,slow=8.2,SNR=12						
	comp=Z,1.7nm,0.9s						
ELL	**Elmali**	**32.74**	**283**	P	**P**	**19 42 02.3**	**-0.2**
ELL	**Elmali**	**32.74**	**283**	P	**P**	**19 42 02.3**	**-0.2**
ELL				pmax	pmax		
	comp=Z,23nm,0.6s						
AKASG	**Malin Array Be**	**32.88**	**309**	P	**P**	**19 42 03.8**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=79,slow=7.4,SNR=5.7						
	comp=Z,0.8nm,0.6s						
NRIK	**Noril'sk**	**34.08**	**10**	*e*P	**P**	**19 42 15.1**	**+1.7**
NRIK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NRIK	**Noril'sk**	**34.08**	**10**	P	**P**	**19 42 14.3**	**+0.9**
	comp=Z,6.1nm,0.7s,baz=192,slow=5.2,SNR=12						
	comp=Z,6.1nm,0.7s						
BURAR	**Bucovina Array**	**35.22**	**303**	P	**P**	**19 42 24.0**	**+0.4**
LVZ	**Lovozero**	**37.39**	**338**	P	**P**	**19 42 41.7**	**+0.1**
LVZ	**Lovozero**	**37.39**	**338**	P	**P**	**19 42 41.7**	**+0.1**
LVZ				pmax	pmax		
	comp=Z,43nm,1.4s						
FIA1	**FINESS Array S**	**37.41**	**326**	P	**P**	**19 42 41.7**	**-0.1**
FIA1				IAmb	IAmb	19 42 44.5	
	comp=Z,12nm,1.1s						
FINES	**FINESS Array B**	**37.41**	**326**	P	**P**	**19 42 42.1**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=121,slow=9.9,SNR=18						
FINES				LR	LR	19 59 06.2	
	comp=Z,20nm,18.1s,baz=123,slow=37						
	comp=Z,0.9nm,0.4s						
VADS	**Vadso**	**40.25**	**339**	*e*P	**P**	**19 43 06.2**	**+0.9**
KEV	**Kevo**	**40.73**	**338**	P	**P**	**19 43 09.5**	**+0.3**
KEV	**Kevo**	**40.73**	**338**	P	**P**	**19 43 09.5**	**+0.3**
KEV				pmax	pmax		
	comp=Z,28nm,1.4s						
ARA0	**ARCESS Array S**	**41.08**	**338**	*e*P	**P**	**19 43 12.8**	**+0.8**
ARCES	**ARCESS Array B**	**41.08**	**338**	P	**P**	**19 43 12.6**	**+0.5**
ARCES	**ARCESS Array B**	**41.08**	**338**	P	**P**	**19 43 12.6**	**+0.5**
ARCES				pmax	pmax		
	comp=Z,27nm,1.5s						
ARCES	**ARCESS Array B**	**41.08**	**338**	P	**P**	**19 43 12.8**	**+0.7**
	comp=Z,2.2nm,0.4s,baz=110,slow=7.8,SNR=32						
	comp=Z,2.2nm,0.4s						
KTK1	**Kautokeino**	**41.55**	**336**	*e*P	**P**	**19 43 16.6**	**+0.7**
HAMF	**Hammerfest**	**42.16**	**339**	*e*P	**P**	**19 43 22.1**	**+1.4**
JETT	**Jettan, Norway**	**42.69**	**336**	*e*P	**P**	**19 43 26.2**	**+1.1**
GSI	**Gunungsitoli**	**42.86**	**139**	P	**P**	**19 43 28.1**	**+1.0**
GSI				IAmb	IAmb	19 43 29.9	
	comp=Z,11nm,0.8s						
HFS	**Hagfors**	**42.99**	**322**	P	**P**	**19 43 28.1**	**+0.5**
	comp=Z,2.7nm,0.5s,baz=98,slow=11,SNR=23						
	comp=Z,2.7nm,0.5s						
TRO	**Tromso**	**43.20**	**336**	*e*P	**P**	**19 43 27.3**	**-1.8**
FAUS	**Fauske**	**43.73**	**332**	*e*P	**P**	**19 43 33.9**	**+0.5**
MOR8	**Moi Rana**	**43.74**	**331**	*e*P	**P**	**19 43 33.5**	**0.0**
NC602	**NORSAR Array S**	**44.12**	**323**	P	**P**	**19 43 36.5**	**-0.1**
NC602				IAmb	IAmb	19 43 51.0	
	comp=Z,8.7nm,1.1s						
NC602	**NORSAR Array S**	**44.12**	**323**	*e*P	**P**	**19 43 36.7**	**+0.1**
NB2	**NORSAR Subarra**	**44.31**	**323**	P	**P**	**19 43 38.0**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=98,slow=7.9						
NB2	**NORSAR Subarra**	**44.31**	**323**	P	**P**	**19 43 38.0**	**-0.2**
	baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.31**	**323**	P	**P**	**19 43 38.4**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=103,slow=7.1,SNR=16						
	comp=Z,0.8nm,0.4s						
KONO	**Kongsberg**	**45.01**	**321**	*e*P	**P**	**19 43 43.7**	**0.0**
TIXI	**Tiksi**	**45.74**	**22**	P	**P**	**19 43 49.4**	**+0.2**
TIXI	**Tiksi**	**45.74**	**22**	*ce*P	**P**	**19 43 49.6**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**46.18**	**61**	P	**P**	**19 43 53.3**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=328,slow=5.3,SNR=3.2						
	comp=Z,1.3nm,0.7s						
SPA0	**Spitsbergen Ar**	**47.43**	**347**	*e*P	**P**	**19 44 03.8**	**+1.6**
SPITS	**Spitsbergen Ar**	**47.43**	**347**	P	**P**	**19 44 02.9**	**+0.6**
SPITS				pmax	pmax		
	comp=Z,29nm,1.3s						
SPITS	**Spitsbergen Ar**	**47.43**	**347**	P	**P**	**19 44 02.9**	**+0.6**
	comp=Z,3.2nm,0.7s,baz=126,slow=7.3,SNR=6.3						
	comp=Z,3.2nm,0.7s						
JNU	**Nakatsue**	**48.62**	**75**	LR	LR	20 09 39.6	
	comp=Z,112nm,19.1s,baz=156,slow=42						
KIBK	**Kibwezi**	**49.35**	**226**	P	**P**	**19 44 18.3**	**+0.5**
MBAR	**Mbarara**	**52.50**	**234**	P	**P**	**19 44 41.5**	**+0.1**
MBAR				IAmb	IAmb	19 44 43.0	
	comp=Z,5.3nm,0.7s						
MBAR	**Mbarara**	**52.50**	**234**	P	**P**	**19 44 41.5**	**+0.1**
MBAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ESDC	**Sonseca Array**	**57.39**	**298**	P	**P**	**19 45 16.2**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=54,slow=6.5,SNR=2.8						
	comp=Z,0.5nm,0.8s						
VOI	**Vohitsoka**	**62.46**	**205**	P	**P**	**19 45 50.7**	**+0.1**
VOI				IAmb	IAmb	19 45 52.6	
	comp=Z,7.0nm,0.9s						
LSZ	**Lusaka**	**65.46**	**226**	P	**P**	**19 46 10.3**	**0.0**
LSZ				IAmb	IAmb	19 46 11.1	
	comp=Z,8.9nm,1.3s						
LSZ	**Lusaka**	**65.46**	**226**	P	**P**	**19 46 10.3**	**0.0**
LSZ				pmax	pmax		
	comp=Z,9.0nm,1.3s						
TORD	**Torodi Ar. Bea**	**65.67**	**269**	P	**P**	**19 46 09.9**	**-1.8**
	comp=Z,1.9nm,0.4s,baz=50,slow=6.4,SNR=64						
	comp=Z,1.9nm,0.4s						
C16K	**Lisburne Hills**	**67.42**	**20**	P	**P**	**19 46 21.8**	**0.0**
C16K				IAmb	IAmb	19 46 45.6	
	comp=Z,3.9nm,1.1s						
BATI	**Baumata**	**67.93**	**122**	P	**P**	**19 46 24.9**	**-1.0**
	comp=Z,4.1nm,0.3s,baz=136,slow=9.1,SNR=4.2						
	comp=Z,4.1nm,0.3s						
B20K	**Meade River**	**68.17**	**16**	P	**P**	**19 46 26.6**	**+0.1**
B20K				IAmb	IAmb	19 46 28.2	
	comp=Z,7.0nm,1.2s						
C18K	**Utukok River**	**68.23**	**18**	P	**P**	**19 46 27.3**	**+0.3**
B21K	**Ikpikpuk River**	**69.02**	**16**	P	**P**	**19 46 32.0**	**+0.3**
B21K				IAmb	IAmb	19 46 57.6	
	comp=Z,6.5nm,1.4s						
D19K	**Kuna River**	**69.10**	**17**	P	**P**	**19 46 32.4**	**0.0**
D19K				IAmb	IAmb	19 46 33.7	
	comp=Z,2.9nm,0.7s						
F15K	**North Star Dit**	**69.41**	**21**	P	**P**	**19 46 34.5**	**+0.2**
F15K				IAmb	IAmb	19 46 57.0	
	comp=Z,7.1nm,1.3s						
F17K	**Baldwin Pennin**	**69.84**	**20**	P	**P**	**19 46 37.5**	**+0.7**
F17K				IAmb	IAmb	19 47 02.4	
	comp=Z,5.4nm,1.1s						
F19K	**Shaleruckik Mo**	**70.46**	**18**	P	**P**	**19 46 40.1**	**-0.5**
TOLK	**Toolik Lake Re**	**70.88**	**15**	P	**P**	**19 46 43.5**	**+0.3**
TOLK				IAmb	IAmb	19 46 44.6	
	comp=Z,2.4nm,0.8s						
F21K	**Alatna River**	**71.20**	**17**	P	**P**	**19 46 45.0**	**-0.1**
H19K	**Roundabout Mou**	**71.82**	**19**	P	**P**	**19 46 49.1**	**+0.4**
IMAR	**Indian Mountai**	**72.13**	**18**	P	**P**	**19 46 50.2**	**-0.5**
J16K	**Anvik River**	**72.38**	**22**	P	**P**	**19 46 52.3**	**+0.2**
J16K				IAmb	IAmb	19 46 55.0	
	comp=Z,7.6nm,1.2s						
E27K	**Coleen River**	**72.76**	**12**	P	**P**	**19 46 54.6**	**+0.3**
BMAR	**Burnt Mountain**	**72.90**	**14**	P	**P**	**19 46 55.9**	**+0.7**
PSA00	**Pilbara Seismi**	**73.99**	**133**	P	**P**	**19 47 01.9**	**-0.2**
LBTB	**Lobatse**	**74.69**	**222**	P	**P**	**19 47 06.6**	**+0.4**
LBTB				IAmb	IAmb	19 47 07.5	
	comp=Z,3.7nm,0.6s						
LBTB	**Lobatse**	**74.69**	**222**	P	**P**	**19 47 06.6**	**+0.4**
LBTB				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ILAR	**Eielson Array**	**74.74**	**16**	*e*P	**P**	**19 47 07.1**	**+1.2**
ILAR	**Eielson Array**	**74.74**	**16**	P	**P**	**19 47 04.8**	**-1.1**
	comp=Z,0.4nm,0.9s,baz=312,slow=3.6,SNR=4.5						
	comp=Z,0.4nm,0.9s						
KNRA	**Kununurra**	**75.30**	**123**	P	**P**	**19 47 09.3**	**-0.4**
SCRK	**Sand Creek**	**76.05**	**15**	P	**P**	**19 47 13.5**	**0.0**
BCAR	**Beaver Creek A**	**77.32**	**15**	P	**P**	**19 47 21.0**	**+0.5**
BOSA	**Boshof**	**77.76**	**220**	P	**P**	**19 47 23.0**	**-0.5**
BOSA	**Boshof**	**77.76**	**220**	P	**P**	**19 47 23.0**	**-0.5**
BOSA				pmax	pmax		
	comp=Z,14nm,1.5s						
BOSA	**Boshof**	**77.76**	**220**	P	**P**	**19 47 22.9**	**-0.5**
	comp=Z,3.9nm,0.9s,baz=12,slow=6.7,SNR=5.3						
	comp=Z,3.9nm,0.9s						
YKA	**Yellowknife Ar**	**81.19**	**3**	P	**P**	**19 47 41.8**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=349,slow=5.8,SNR=22						
YKA				pP	**pP**	**19 48 33.7**	**+3.0**
	comp=Z,0.4nm,0.7s,baz=346,slow=5.5,SNR=4.1						
	comp=Z,0.9nm,0.5s						
WRA	**Warramunga Arr**	**82.06**	**122**	*i*P	**P**	**19 47 45.5**	**-1.1**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**82.06**	**122**	P	**P**	**19 47 45.2**	**-1.4**
	comp=Z,2.4nm,0.8s,baz=324,slow=5.1,SNR=16						
	comp=Z,2.4nm,0.8s						
AS31	**Alice Springs**	**84.32**	**125**	P	**P**	**19 47 57.0**	**-1.1**
ASAR	**Alice Springs**	**84.32**	**125**	P	**P**	**19 47 57.0**	**-1.1**
	comp=Z,2.0nm,0.8s,baz=311,slow=4.9,SNR=32						
	comp=Z,2.0nm,0.8s						
FORT	**Forrest**	**85.74**	**134**	P	**P**	**19 48 04.2**	**-0.7**

DJA ***31*** *19:49:47.9±0.3,2°N±2°×12°9E±°, h63km±3km, M4.9/57, mb5.1/57, mB5.4/23, MLv5.2/15, Mw(mB)4.8/23, MwMwp4.3/2, Mwp4.8/2*

IDC ***31*** *19:49:48.5±1.5, 1°73N×128°48E, h75km±12km, mb4.3/30, mbtmp4.7/32, MS3.5/23, Error ellipse: s-maj=16.4km s-min=7.8km az=76.0*

NEIC ***31*** *19:49:49.1±1.4, 1°68N±0°06×128°40E±0°07, h73km±6km, mb4.9/111, Error ellipse: s-maj=10.1km s-min=9.5km az=95.0*

GCMT ***31*** *19:49:50.1±0.4, 1°79N±0°03×128°53E±0°03, h120km±7km, MW4.8/69, Moment Tensor Solution. s5,c5; s69,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_rr0.54±.12; $M_{\theta\theta}$0.44±.12; $M_{\phi\phi}$-0.98±.16; $M_r\theta$0.32±.06; $M_{\theta\phi}$0.44±.12; $M_{\phi r}$1.54±.08; Best double couple: $M_0$1.82800×10^{16} NP1:ϕ_s12.00000°,δ79.00000°,λ112.00000°. NP2: ϕ_s127.00000°,δ24.00000°,λ27.00000°. Principal axes: T 1.6990, Plg51.0000°, Azm306.0000°; N 0.2600, Plg21.0000°, Azm188.0000°; P -1.9580, Plg31.0000°, Azm84.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 19:49:48.5±0.4, 1°68N±0°03×128°46E±0°05, h71km±3km, h72km:pP-P, n610, σ1§08/623, mb4.8/119, 6C-3D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.42**	**231**	Pn	**Pn**	**19 50 11.2**	**-1.1**
TNTI				Sn	**Sn**	**19 50 29.9**	**-0.4**
TNTI	**Ternate**	**1.42**	**231**	P	**Pn**	**19 50 11.3**	**-1.1**
LBMI	**Labuha**	**2.49**	**203**	P	**Pn**	**19 50 26.6**	**-0.2**
SGSI	**Sangihe**	**3.54**	**304**	P	**Pn**	**19 50 40.1**	**-1.0**
SWI	**Sorong**	**3.77**	**132**	P	**Pn**	**19 50 43.7**	**-0.5**
SANI	**Sanana**	**4.45**	**214**	P	**Pn**	**19 50 53.7**	**+0.2**
SANI	**Sanana**	**4.45**	**214**	P	**Pn**	**19 50 52.7**	**-0.8**
KMSI	**Cibinong**	**4.61**	**256**	P	**Pn**	**19 50 56.6**	**+0.9**
NLAI	**Namlea**	**5.07**	**196**	P	**Pn**	**19 51 02.3**	**+0.3**
	81nm,0.7s,3μm0.3nm						
GTOI	**Gorontalo**	**5.55**	**259**	P	**Pn**	**19 51 10.3**	**+1.8**
	134nm,0.8s,1μm0.5nm						
FAKI	**Fak Fak**	**5.93**	**140**	P	**Pn**	**19 51 13.9**	**+0.1**
FAKI	**Fak Fak**	**5.93**	**140**	Pn	**Pn**	**19 51 13.5**	**-0.3**
FAKI	**Fak Fak**	**5.93**	**140**	P	**Pn**	**19 51 13.5**	**-0.3**
	318nm,0.5s,5μm1.5nm						
DAV	**Davao City (W)**	**6.08**	**332**	Pn	**Pn**	**19 51 15.0**	**-0.8**
DAV	**Davao City (W)**	**6.08**	**332**	P	**Pn**	**19 51 13.7**	**-2.0**
	104nm,0.4s,baz=255,slow=4.7,SNR=1.9						
DAV				S	**Sn**	**19 52 21.3**	**-2.6**
	122nm,0.3s,baz=222,slow=22,SNR=1.4						
LUWI	**Luwuk**	**6.30**	**245**	P	**Pn**	**19 51 18.5**	**-0.3**
LUWI	**Luwuk**	**6.30**	**245**	Pn	**Pn**	**19 51 18.3**	**-0.4**
LUWI	**Luwuk**	**6.30**	**245**	P	**Pn**	**19 51 19.5**	**+0.7**
	449nm,0.6s,4μm2.2nm						
MRSI	**Marisa**	**6.63**	**260**	P	**Pn**	**19 51 23.9**	**+0.6**
	344nm,0.6s,4μm1μm1.5nm						
TOLI2	**Tolitoli**	**7.70**	**266**	P	**Pn**	**19 51 37.7**	**-0.2**
TOLI2	**Tolitoli**	**7.70**	**266**	Pn	**Pn**	**19 51 37.3**	**-0.6**
TTSI	**Tana Toraja**	**9.83**	**241**	P	**Pn**	**19 52 06.8**	**-0.3**
	374nm,0.9s,3μm						
BKSI	**Bulukumba**	**10.85**	**230**	P	**Pn**	**19 52 22.5**	**+1.5**
	144nm,0.9s,2μm						
KAPI	**Kappang**	**10.95**	**233**	Pn	**Pn**	**19 52 21.8**	**-0.6**
BKB	**Balikpapan**	**11.93**	**256**	Pn	**Pn**	**19 52 35.4**	**-0.2**
BKB	**Balikpapan**	**11.93**	**256**	P	**Pn**	**19 52 35.6**	**-0.1**
	123nm,0.8s						
MMRI	**Maumere**	**11.98**	**211**	P		19 52 50.6	
SOEI	**Soe**	**12.10**	**200**	Pn	**Pn**	**19 52 39.0**	**+0.8**
SOEI	**Soe**	**12.10**	**200**	P	**Pn**	**19 52 42.3**	**+4.1**
EDFI	**Ende, Flores**	**12.36**	**213**	P	**Pn**	**19 52 44.2**	**+2.4**
	25nm,0.9s						
GENI	**Genyem**	**12.45**	**110**	P	**Pn**	**19 52 44.1**	**+1.2**
	112nm,1.2s,2μm						
BATI	**Baumata**	**12.74**	**202**	P	**Pn**	**19 52 48.7**	**+1.9**
	30nm,0.6s,baz=321,slow=1.2,SNR=11						
BATI				LR	LR	19 57 46.0	
	comp=Z,421nm,21.8s,baz=23,slow=37						
BATI	**Baumata**	**12.74**	**202**	P	**

TGY Tagaytay City 14.41 329 P **Pn** **19 53 10.3 +1.3**
63nm,0.3s,baz=316,slow=7.6,SNR=4.6
TGY LR LR 19 59 12.7
comp=Z,242nm,19.0s,baz=184,slow=39
MTN Manton Dam 14.67 170 P **Pn** **19 53 11.1 -1.1**
baz=15,SNR=6.5
MTN Manton Dam 14.67 170 P **Pn** **19 53 11.3 -1.0**
MTN Manton Dam 14.67 170 Pn **Pn** **19 53 10.6 -1.7**
KDU Kakadu 14.82 165 P Pn 19 53 10.9 -3.3
baz=15,SNR=12
PLAI Plampang 14.91 225 P **Pn** **19 53 16.4 +1.0**
PLAI Plampang 14.91 225 P **Pn** **19 53 16.1 +0.7**
100nm,0.9s,901nm
TWSI Taliwang, Sumb 15.50 228 P **Pn** **19 53 23.8 +0.8**
92nm,1.1s,880nm
SRBI Singaraja 16.39 234 P **Pn** **19 53 35.6 +1.4**
56nm,0.8s
ABJI Asem Bagus 17.03 236 P **P** **19 53 44.5 +1.6**
65nm,0.8s
STKI Sintang 17.05 265 P **Pn** **19 53 43.0 +0.5**
46nm,1.1s,3µm
KNRA Kununurra 17.25 179 P **Pn** **19 53 44.3 -0.5**
baz=17,SNR=16
KNRA Kununurra 17.25 179 P **Pn** **19 53 44.1 -0.7**
KNRA Kununurra 17.25 179 **Pn** **19 53 43.7 -1.0**
JAGI Jajag, Banyuwa 17.47 235 P **Pn** **19 53 49.0 +1.5**
JAGI Jajag, Banyuwa 17.47 235 **Pn** **19 53 47.4 -0.1**
JAGI Jajag, Banyuwa 17.47 235 P **Pn** **19 53 49.0 +1.5**
76nm,1.0s
BLJI Banyuglugur 17.54 238 P **Pn** **19 53 53.6 +5.3**
GRJI Gresik 18.09 242 P **Pn** **19 53 57.2 +2.1**
215nm,1.2s
KSM Kuching 18.15 270 P **P** **19 53 56.0 +0.8**
KSM Kuching 18.15 270 P **P** **19 53 54.7 -0.6**
NGJI Ngawi 19.19 242 P **Pn** **19 54 09.3 +1.0**
111nm,1.1s
PWJI Pagerwojo 19.20 240 P **P** **19 54 07.3 +0.5**
130nm,1.1s
FITZ Fitzroy Crossi 19.85 188 P **P** **19 54 13.5 -0.2**
baz=20,SNR=16
FITZ Fitzroy Crossi 19.85 188 P **P** **19 54 13.3 -0.5**
FITZ Fitzroy Crossi 19.85 188 P **P** **19 54 13.1 -0.6**
SMRI Semarang 19.96 244 **P** **19 54 16.3 +1.2**
SMRI Semarang 19.96 244 P **P** **19 54 17.2 +2.1**
219nm,1.1s
GUMO Guam 20.09 53 LR LR 20 01 12.8
comp=Z,132nm,21.0s,baz=240,slow=34
UGM Wanagama 20.27 242 P **P** **19 54 18.8 +0.4**
UGM Wanagama 20.27 242 P **P** **19 54 17.6 -0.9**
UGM Wanagama 20.27 242 P **P** **19 54 17.4 -1.0**
YOGI Yogyakarta 20.43 242 P **P** **19 54 21.1 +1.0**
134nm,0.8s
COEN Coen 21.31 137 P **P** **19 54 29.7 +0.1**
baz=21,SNR=32
COEN Coen 21.31 137 P **P** **19 54 30.8 +1.2**
COEN Coen 21.31 137 P **P** **19 54 30.0 +0.5**
COEN IAmb IAmb 19 54 33.1
comp=Z,38nm,0.8s
KPJI Karang Pucung 21.44 245 P **P** **19 54 31.9 +0.9**
comp=Z,158nm,0.9s
PMG Port Moresby 21.64 121 P **P** **19 54 34.0 +0.9**
PMG IAmb IAmb 19 54 42.7
comp=Z,31nm,0.9s
PMG Port Moresby 21.64 121 P **P** **19 54 32.8 -0.3**
comp=Z,7.6nm,0.6s,baz=287,slow=5.6,SNR=6.3
PMG LR LR 20 03 32.6
comp=Z,346nm,21.7s,baz=275,slow=38
comp=Z,7.6nm,0.6s
CMJI Cimerak 22.06 245 P **P** **19 54 37.3 -0.4**
comp=Z,72nm,0.8s
WRAB Tennant Creek 22.24 165 P **P** **19 54 39.3 -0.2**
WRAB IAmb IAmb 19 54 45.4
comp=Z,41nm,0.8s
WRA Warramunga Ar 22.25 165 P **P** **19 54 39.5 -0.2**
comp=Z,12nm,0.7s,baz=346,slow=10,SNR=72
WRA S **S** **19 58 39.5 -0.7**
comp=Z,1.5nm,0.6s,baz=356,slow=22,SNR=4.4
comp=Z,12nm,0.7s
WC3 Warramunga Arr 22.27 165 P **P** **19 54 40.0 +0.1**
baz=22
DLV T Lat 22.28 298 P **P** **19 54 41.1 +0.9**
DLV T Lat 22.28 298 P **P** **19 54 39.9 -0.3**
DLV IAmb IAmb 19 54 43.4
comp=Z,51nm,0.8s
LEM Lembang 22.45 248 P **P** **19 54 42.5 +0.5**
comp=Z,41nm,0.6s,baz=45,slow=9.6,SNR=10
comp=Z,41nm,0.6s
LEM Lembang 22.45 248 P **P** **19 54 42.7 +0.6**
comp=Z,69nm,0.8s
PPBI Pangkal Pinang 22.64 260 P **P** **19 54 45.0 +1.1**
comp=Z,33nm,0.8s
BBJI Bungbulang 22.66 246 P **P** **19 54 42.8 -1.4**
YULB Yu-li 22.68 343 P **P** **19 54 45.2 +1.1**
TPUB Ta-pu 22.80 341 P **P** **19 54 44.5 -0.9**
TPUB Ta-pu 22.80 341 P **P** **19 54 43.9 -1.5**
CBJI Citeko 23.02 249 P **P** **19 54 50.0 +2.2**
comp=Z,62nm,0.8s,comp=Z,3µm
SSLB Suanglung 23.15 342 P **P** **19 54 47.5 -1.4**
SKJI Sukabumi 23.50 248 P **P** **19 54 51.5 -0.8**
comp=Z,232nm,0.4s
YHNB Yeheng 23.86 344 P **P** **19 54 55.2 -0.3**
YHNB Yeheng 23.86 344 P **P** **19 54 54.5 -1.0**
YHNB IAmb IAmb 19 55 18.6
comp=Z,80nm,1.3s
TPRI Tanjung Pinang 23.94 268 P **P** **19 54 56.4 +0.2**
comp=Z,52nm,1.0s
PMBI Palembang 24.12 259 P **P** **19 54 58.9 +1.1**
MBWA Marble Bar 24.25 200 P **P** **19 54 58.1 -0.8**
MBWA IAmb IAmb 19 55 28.9
comp=Z,40nm,1.4s
RABL Rabaul 24.39 104 P **P** **19 55 01.3 +0.9**
PSA00 Pilbara Seismi 24.60 200 P **P** **19 55 01.9 -0.2**
PSA00 Pilbara Seismi 24.60 200 P **P** **19 55 01.3 -0.8**
PSA00 IAmb IAmb 19 55 02.4
comp=Z,31nm,1.1s
MYKOM Kota Tinggi 24.60 271 P **P** **19 55 01.9 -0.3**
MYKOM IAmb IAmb 19 55 04.3
comp=Z,46nm,0.7s
QIS Mount Isa 24.65 154 P **P** **19 55 03.7 +1.1**
baz=25,SNR=52
QIS Mount Isa 24.65 154 P **P** **19 55 03.7 +1.1**
KASI Kota Agung 24.98 253 P **P** **19 55 05.8 +0.1**
comp=Z,74nm,1.1s
QIZ Qiongzhong 25.10 315 P **P** **19 55 08.0 +1.3**
QIZ pP **pP** **19 55 23.5 0.0**
QIZ S **S** **19 59 29.8 +3.4**
QIZ sS **sS** **19 59 55.5 +0.5**
QIZ pmax pmax
comp=Z,24nm,1.0s
QIZ pmax pmax
comp=Z,220nm,2.9s
QIZ LR LR
comp=Z,97nm,6.7s
QIZ LR LR
comp=Z,110nm,6.3s
QIZ LR LR
comp=Z,83nm,6.5s
QIZ Qiongzhong 25.10 315 P **P** **19 55 07.2 +0.4**
MTSU Mount Surprise 25.13 142 P **P** **19 55 07.6 +0.6**
baz=25,SNR=4.8
MTSU Mount Surprise 25.13 142 P **P** **19 55 08.1 +1.1**
LWLI Liwa 25.27 255 P **P** **19 55 09.1 +0.6**
comp=Z,132nm,0.7s
XMIS Christmas Isla 25.71 241 P **P** **19 55 14.6 +2.2**
XMIS Christmas Isla 25.71 241 P **P** **19 55 10.9 -1.4**
AS31 Alice Springs 25.74 168 P **P** **19 55 12.5 0.0**
ASPA Alice Springs 25.74 168 P **P** **19 55 13.0 +0.5**
baz=26
ASAR Alice Springs 25.74 168 P **P** **19 55 12.8 +0.3**
comp=Z,4.3nm,0.5s,baz=347,slow=7.9,SNR=123
ASAR PcP **PcP** **19 58 40.5 -0.6**
comp=Z,2.1nm,0.6s,baz=357,slow=2.3,SNR=7.5
ASAR ScP **ScP** **20 02 13.4 -1.1**
comp=Z,1.8nm,0.9s,baz=15,slow=3.8,SNR=5.8
ASAR LR LR 20 06 45.3
comp=Z,167nm,19.3s,baz=356,slow=39
comp=Z,4.3nm,0.5s
AS01 Alice Springs 25.75 168 P **P** **19 55 13.0 +0.4**
MNAI Manna 26.18 257 P **P** **19 55 17.6 +1.0**
comp=Z,170nm,0.8s
MNAI Manna 26.18 257 P **P** **19 55 15.7 -1.0**
WRKA Warakurna 26.56 180 P **P** **19 55 20.2 +0.3**
baz=27,SNR=42
WRKA Warakurna 26.56 180 P **P** **19 55 20.5 +0.6**
CTAO Charters Tower 27.80 142 P **P** **19 55 31.3 +0.2**
CTAO IAmb IAmb 19 55 50.8
comp=Z,35nm,1.2s
GIRL Giralia 27.87 209 P **P** **19 55 31.4 -0.2**
comp=Z,191nm,1.6s
GIRL Giralia 27.87 209 P **P** **19 55 30.8 -0.8**
KULM Kulim 27.98 278 P **P** **19 55 32.1 -0.7**
KULM IAmb IAmb 19 55 48.1
comp=Z,58nm,1.9s
MEEK Meekatharra 29.71 198 P **P** **19 55 47.4 -0.6**
baz=30,SNR=5.8
MEEK Meekatharra 29.71 198 P **P** **19 55 47.7 -0.3**
OOD Oodnadatta 30.12 167 P **P** **19 55 51.8 +0.3**
GSI Gunungsitoli 30.88 270 P **P** **19 55 57.1 -1.3**
GSI Gunungsitoli 30.88 270 P **P** **19 55 57.4 -1.0**
GSI Gunungsitoli 30.88 270 P **P** **19 55 56.9 -1.5**
SLVN Son La 30.89 311 P **P** **19 55 58.5 0.0**
JNU Nakatsue 31.36 4 P **P** **19 56 01.8 -0.7**
JNU Nakatsue 31.36 4 P **P** **19 56 01.2 -1.3**
JNU Nakatsue 31.36 4 P **P** **19 56 01.1 -1.3**
comp=Z,9.4nm,0.9s,baz=133,slow=0.4,SNR=5.0
comp=Z,9.4nm,0.9s
NJ2 Nanjing 31.54 344 *eP* **P** **19 56 07.0 +3.0**
NJ2 pP **pP** **19 56 21.8 +0.7**
NJ2 sP **sP** **19 56 30.5 +1.0**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 pmax pmax
comp=Z,270nm,4.6s
INKA Innaminka 31.55 159 P **P** **19 56 04.4 +0.3**
WHN Wuhan 31.67 336 P **P** **19 56 07.3 +2.1**
MULG Mulgathing 32.23 171 P **P** **19 56 10.6 +0.5**
FORT Forrest 32.28 181 P **P** **19 56 10.6 +0.1**
baz=32,SNR=16
FORT Forrest 32.28 181 P **P** **19 56 10.6 +0.1**
FORT Forrest 32.28 181 P **P** **19 56 10.2 -0.3**
PHRA Phrae 32.34 303 P **P** **19 56 11.1 -0.1**
GYA Guiyang 32.34 322 ⇓P **P** **19 56 13.0 +1.7**
GYA pmax pmax
comp=Z,24nm,0.9s
MORW Morawa 32.81 200 P **P** **19 56 14.4 -0.7**
baz=33,SNR=6.0
MORW Morawa 32.81 200 P **P** **19 56 13.9 -1.3**
MORW Morawa 32.81 200 P **P** **19 56 13.7 -1.4**
MORW IAmb IAmb 19 56 42.9
comp=Z,44nm,1.6s
JHJ Hachijo jima 2 33.03 18 LR LR 20 07 33.4
comp=Z,84nm,21.0s,baz=280,slow=32
CRAI Chiangrai 33.06 306 P **P** **19 56 17.6 +0.1**
HNR Honiara 33.25 110 P **P** **19 56 19.0 -0.2**
HNR Honiara 33.25 110 LR LR 20 11 16.5
comp=Z,741nm,19.4s,baz=230,slow=39
HNR Honiara 33.25 110 P **P** **19 56 19.6 +0.3**
LCRK Leigh Creek 33.27 165 P **P** **19 56 19.8 +0.6**
CM31 Chiang Mai Arr 33.40 302 P **P** **19 56 20.1 -0.4**
CM31 IAmb IAmb 19 56 25.7
comp=Z,12nm,1.1s
CMAR Chiang Mai Arr 33.40 302 P **P** **19 56 20.6 0.0**
CMAR Chiang Mai Arr 33.40 302 P **P** **19 56 21.4 +0.8**
comp=Z,5.2nm,0.9s,baz=122,slow=7.3,SNR=30
CMAR PcP **PcP** **19 59 00.8 +0.1**
comp=Z,0.6nm,0.8s,baz=164,slow=1.4,SNR=4.4
CMAR ScP **ScP** **20 02 39.2 0.0**
comp=Z,1.3nm,0.9s,baz=122,slow=1.4,SNR=8.2
CMAR LR LR 20 11 53.8
comp=Z,23nm,18.7s,baz=115,slow=40
comp=Z,5.2nm,0.9s
KMBL Kambalda 33.45 190 P **P** **19 56 20.4 -0.4**
baz=34,SNR=14
KMBL Kambalda 33.45 190 P **P** **19 56 20.4 -0.4**
ENH Enshi 33.66 330 P **P** **19 56 22.6 0.0**
ENH IAmb IAmb 19 56 24.5
comp=Z,21nm,0.9s
ENH Enshi 33.66 330 P **P** **19 56 23.5 +0.9**
BLDU Ballidu 34.01 198 P **P** **19 56 24.8 -0.8**
baz=34,SNR=9.2
KMI Kunming 34.04 315 ⇑P **P** **19 56 27.5 +1.2**
KMI pmax pmax
comp=Z,22nm,0.6s
INU Inuyama 34.43 12 P **P** **19 56 28.7 -0.5**
INU Inuyama 34.43 12 P **P** **19 56 28.9 -0.3**
INU IAmb IAmb 19 56 29.8
comp=Z,11nm,0.8s
INU Inuyama 34.43 12 P **P** **19 56 28.9 -0.3**
INU pP **pP** **19 56 44.8 -1.6**
KLBR Kellerberrin 34.62 196 P **P** **19 56 30.2 -0.6**
baz=35,SNR=16
KLBR Kellerberrin 34.62 196 P **P** **19 56 30.0 -0.8**
EIDS Eidsvold 34.68 142 P **P** **19 56 32.0 +0.5**
baz=35,SNR=5.1
EIDS Eidsvold 34.68 142 P **P** **19 56 31.9 +0.4**
JGF Kuroka 34.75 13 P **P** **19 56 31.5 -0.5**
BBOO Buckleboo 35.05 169 P **P** **19 56 35.0 +0.5**
baz=35,SNR=17
BBOO Buckleboo 35.05 169 P **P** **19 56 34.9 +0.3**
BBOO Buckleboo 35.05 169 P **P** **19 56 34.9 +0.3**
BBOO IAmb IAmb 19 56 41.3
comp=Z,10nm,0.6s
MUN Mundaring 35.43 198 P **P** **19 56 37.2 -0.6**
baz=36,SNR=7.5
MUN Mundaring 35.43 198 P **P** **19 56 36.9 -1.0**
KSAR Wonju Array Be 35.59 359 P **P** **19 56 39.0 -0.1**
KSRS Korea Array 35.60 359 P **P** **19 56 39.0 -0.3**
comp=Z,1.9nm,0.5s,baz=175,slow=9.6,SNR=17
KSRS PcP **PcP** **19 59 06.8 +0.1**
comp=Z,1.7nm,0.8s,baz=196,slow=4.4,SNR=5.1
comp=Z,1.9nm,0.5s
PZH PanZhiHua 35.61 316 P **P** **19 56 40.3 +0.7**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,110nm,5.3s
STKA Stephens Creek 35.62 161 P **P** **19 56 40.3 +0.8**
baz=36,SNR=22
STKA Stephens Creek 35.62 161 P **P** **19 56 39.6 +0.1**
STKA Stephens Creek 35.62 161 P **P** **19 56 40.1 +0.7**
comp=Z,12nm,0.7s,baz=338,slow=8.9,SNR=40
STKA LR LR 20 13 25.2
comp=Z,73nm,20.6s,baz=353,slow=40
comp=Z,12nm,0.7s
KS19 Wonju Array Si 35.65 359 P **P** **19 56 38.9 -0.7**
KS19 IAmb IAmb 19 56 46.0
comp=Z,59nm,1.9s
MAJO Matsushiro 35.84 13 P **P** **19 56 40.3 -1.1**
MAJO Matsushiro 35.84 13 P **P** **19 56 40.0 -1.4**
MAJO IAmb IAmb 19 56 41.8
comp=Z,24nm,0.9s
MAJO Matsushiro 35.84 13 P **P** **19 56 40.1 -1.2**
MJAR Matsushiro Arr 35.84 13 P **P** **19 56 39.4 -2.0**
comp=Z,13nm,0.8s,baz=186,slow=9.3,SNR=54
comp=Z,13nm,0.8s
LYN LuoYang 35.95 337 *eP* **P** **19 56 42.8 +0.6**
LYN PP **PP** **19 58 09.0 +3.7**
LYN pmax pmax
comp=Z,37nm,0.5s
LYN pmax pmax
comp=Z,200nm,4.5s
NWAO Narrogin (SRO) 36.02 196 P **P** **19 56 42.7 -0.2**
baz=36,SNR=11
NWAO P **P** **19 56 42.7 -0.2**
baz=36,SNR=11
NWAO Narrogin (SRO) 36.02 196 P **P** **19 56 42.2 -0.6**
NWAO Narrogin (SRO) 36.02 196 P **P** **19 56 42.2 -0.6**
NWAO Narrogin (SRO) 36.02 196 LR LR 20 12 11.5
comp=Z,57nm,18.5s,baz=236,slow=37
NWAO Narrogin (SRO) 36.02 196 P **P** **19 56 42.5 -0.3**
HTT Hallett 36.29 165 P **P** **19 56 46.3 +1.0**
baz=36,SNR=8.2
HTT Hallett 36.29 165 P **P** **19 56 46.0 +0.8**
CMSA Cobar Meteorol 36.87 155 P **P** **19 56 51.0 +0.9**
baz=37,SNR=10
CMSA Cobar Meteorol 36.87 155 P **P** **19 56 50.8 +0.7**
XAN Xi'an 37.02 333 ⇑P **P** **19 56 51.5 +0.1**
XAN pmax pmax
comp=Z,61nm,0.8s
XAN pmax pmax
comp=Z,240nm,4.5s
XAN Xi'an 37.02 333 P **P** **19 56 51.5 +0.1**
TNCH TengChong 37.06 311 ⇑P **P** **19 56 53.0 +0.9**
TNCH pP pP 19 57 09.5 +0.2
TNCH sP sP 19 57 17.3 -0.3
TNCH S **S** **20 02 33.8 +0.6**
TNCH pmax pmax
comp=Z,15nm,1.1s
TNCH pmax pmax
comp=Z,93nm,5.0s
CD2 Chengdu 37.31 324 P **P** **19 56 54.5 +0.6**
CD2 pP pP 19 57 11.5 +0.2
CD2 sP sP 19 57 21.0 +1.5
CD2 S **S** **20 02 39.0 +2.4**
CD2 pmax pmax
comp=Z,30nm,1.0s
CD2 pmax pmax
comp=Z,110nm,5.7s
RKGY Rocky Gully 37.67 196 P **P** **19 56 57.7 +0.8**
baz=38,SNR=15
RKGY Rocky Gully 37.67 196 P **P** **19 56 57.4 +0.5**
HNS HongShan 37.74 342 ⇑P **P** **19 56 57.5 +0.1**
HNS pmax pmax
comp=Z,13nm,1.0s
JMM Marumori 37.76 16 P **P** **19 56 57.5 0.0**
JMM Marumori 37.76 16 P **P** **19 56 57.4 -0.2**
ARMA Armidale 38.82 147 P **P** **19 57 08.1 +1.4**
baz=39,SNR=5.5
ARMA Armidale 38.82 147 P **P** **19 57 07.8 +1.1**
ARMA Armidale 38.82 147 P **P** **19 57 07.4 +0.7**
ARMA IAmb IAmb 19 57 38.2
comp=Z,53nm,1.6s
BJT Baijiatuau 39.77 345 P **P** **19 57 13.7 -0.7**
BJT IAmb IAmb 19 57 15.0
comp=Z,19nm,0.9s
ARPS Mount Arapiles 40.23 163 P **P** **19 57 19.6 +1.4**
baz=40,SNR=8.0
ARPS Mount Arapiles 40.23 163 P **P** **19 57 19.8 +1.6**
JTM Tenmabayashi 40.57 15 P **P** **19 57 21.2 +0.2**
JTM IAmb IAmb 19 57 22.2
comp=Z,21nm,0.8s
H11S3 WAKE ISLAND Hy 41.03 63 T T 20 41 27.2
baz=248,slow=74,SNR=30
H11S2 WAKE ISLAND Hy 41.05 63 T T 20 41 17.5
baz=248,slow=74,SNR=18
H11S1 WAKE ISLAND Hy 41.05 63 T T 20 41 18.9
baz=248,slow=74,SNR=14
LZH Lanzhou 41.14 329 ⇑P **P** **19 57 27.5 +1.6**
LZH sP sP 19 57 53.0 +1.3
LZH pmax pmax
comp=Z,69nm,1.2s
CAN Canberra 41.52 154 P **P** **19 57 29.7 +0.7**
H11N1 WAKE ISLAND Hy 41.63 62 T T 20 42 17.5
baz=248,slow=75,SNR=40
H11N2 WAKE ISLAND Hy 41.64 62 T T 20 42 08.7
baz=248,slow=75,SNR=30
H11N3 WAKE ISLAND Hy 41.65 62 T T 20 41 57.6
baz=248,slow=75,SNR=65
HHC Hu-ho-hao-te 41.88 341 *eP* **P** **19 57 32.5 +0.6**
HHC pmax pmax
comp=Z,27nm,0.7s
HHC pmax pmax
comp=Z,81nm,4.8s
TOO Toolangi 42.12 160 P **P** **19 57 34.3 +0.6**
baz=42,SNR=8.6
TOO Toolangi 42.12 160 P **P** **19 57 36.1 +2.3**
TOO Toolangi 42.12 160 P **P** **19 57 34.9 +1.1**
TOO IAmb IAmb 19 57 51.9
comp=Z,15nm,1.1s
BTO Baotou 42.20 339 *eP* **P** **19 57 38.5 +4.0**
BTO pP **pP** **19 57 50.8 -1.2**
BTO sP **sP** **19 57 59.8 -0.4**
BTO S **S** **20 03 57.3 +7.7**
BTO SS **SS** **20 06 58.5 -1.6**
BTO pmax pmax
comp=Z,18nm,0.5s
BTO pmax pmax
comp=Z,230nm,4.8s
BTO LR LR
comp=Z,170nm,7.1s
BTO LR LR
comp=Z,200nm,5.4s
BTO LR LR
comp=Z,240nm,14.9s
USRK Ussuriysk Ar. 42.46 4 P **P** **19 57 36.4 0.0**
comp=Z,1.7nm,0.5s,baz=181,slow=8.4,SNR=4.9
comp=Z,1.7nm,0.5s
MDJ Mudanjiang 42.77 1 P **P** **19 57 39.5 +0.6**
MDJ pP pP 19 57 55.0 -1.6
MDJ sP sP 19 58 04.5 -0.4
MDJ PP **PP** **19 59 21.0 +1.6**
MDJ ScP **ScP** **20 03 09.3 -4.8**
MDJ PcS **PcS** **20 03 18.0 -3.3**
MDJ S S 20 04 05.5 +7.9
MDJ ScS **ScS** **20 07 32.8 -0.3**
MDJ pmax pmax
comp=Z,7.0nm,1.1s
MDJ pmax pmax
comp=Z,170nm,5.5s
XLT XiLinHaoTe 43.46 347 *eP* P 19 57 31.5 -13
XLT pP pP 19 57 47.0 -15
XLT pmax pmax
comp=Z,8.0nm,0.8s
XLT pmax pmax
comp=Z,69nm,4.8s
BNX BinXian 43.89 359 ⇓P **P** **19 57 50.3 +2.4**
BNX pmax pmax
comp=Z,7.0nm,2.1s
BNX pmax pmax
comp=Z,84nm,4.6s
DZM Mont Dzumac 43.95 125 LR LR 20 16 01.6
comp=Z,80nm,21.2s,baz=272,slow=36
ASAJ Asahikawa 44.08 15 P **P** **19 57 49.4 -0.1**
comp=Z,7.5nm,0.7s,baz=267,slow=7.8,SNR=9.1
ASAJ LR LR 20 14 19.8
comp=Z,67nm,20.3s,baz=194,slow=33
comp=Z,7.5nm,0.7s
JKA Kamikawa-asahi 44.08 15 P **P** **19 57 50.1 +0.7**
LSA Lhasa 45.08 312 P **P** **19 57 59.0 +0.8**
LSA Lhasa 45.08 312 P **P** **19 58 00.0 +1.8**
LSA pP **pP** **19 58 16.9 +1.0**
GTA Gaotai 45.73 329 ⇑P **P** **19 58 03.5 +0.7**
GTA pP sP 19 58 26.0 -2.8
GTA pmax pmax
comp=Z,16nm,1.2s
GOMU GeErMu 46.35 322 P **P** **19 58 09.5 +1.4**
GOMU pmax pmax
comp=Z,7.0nm,1.2s
KLR Kul'dur 47.46 3 P **P** **19 58 14.6 -1.3**
comp=Z,2.7nm,1.0s,baz=206,slow=5.6,SNR=7.8
KLR LR LR 20 16 30.8
comp=Z,29nm,21.8s,baz=176,slow=34
comp=Z,2.7nm,1.0s
HEH HeiHe 48.41 359 *eP* **P** **19 58 22.3 -1.0**
HEH pmax pmax
comp=Z,7.0nm,1.0s
HEH pmax pmax
comp=Z,150nm,5.0s
ULN Ulaanbaatar 49.60 341 P **P** **19 58 33.0 +0.4**
ULN Ulaanbaatar 49.60 341 P **P** **19 58 33.1 +0.4**
ULN PcP **PcP** **19 59 53.6 +0.3**
SONM Songino Array 49.79 341 P **P** **19 58 34.1 0.0**
comp=Z,11nm,0.8s,baz=151,slow=8.5,SNR=80
SONM PcP **PcP** **19 59 53.5 -0.5**
comp=Z,2.8nm,0.7s,baz=157,slow=3.2,SNR=5.0
SONM ScP **ScP** **20 03 43.1 -0.4**
comp=Z,0.4nm,0.7s,baz=119,slow=3.0,SNR=3.7
SONM LR LR 20 20 46.2
comp=Z,53nm,21.5s,baz=158,slow=37
comp=Z,11nm,0.8s
WMQ Urumqi 55.38 325 ⇓P **P** **19 59 16.5 +1.1**
WMQ pP pP 19 59 35.3 +1.8
WMQ pmax pmax
comp=Z,32nm,1.1s
PETK Petropavlovsk- 56.70 21 P **P** **19 59 24.6 0.0**
comp=Z,9.4nm,0.8s,baz=217,slow=7.2,SNR=12
comp=Z,9.4nm,0.8s
LBZ Lake Benmore 59.03 146 P **P** **19 59 41.7 +0.6**
URZ Urewera 59.87 137 LR LR 20 25 33.1
comp=Z,77nm,20.6s,baz=98,slow=36
RTZ Ruatahuna 59.96 137 P **P** **19 59 47.9 +0.2**
SHLS Shalkode 60.02 320 *eP* **P** **19 59 45.4 -2.7**
comp=Z,5.9nm,0.8s,baz=321
YAK Yakutsk 60.21 1 P **P** **19 59 48.7 -0.1**
YAK Yakutsk 60.21 1 LR LR 20 25 46.6
comp=Z,17nm,19.5s,baz=97,slow=36
YAK Yakutsk 60.21 1 P **P** **19 59 48.5 -0.3**
YAK PcP **PcP** **20 00 33.8 +0.3**
MK31 Makanchi Array 60.21 325 P **P** **19 59 49.3 +0.1**
MK31 IAmb IAmb 19 59 50.1
comp=Z,14nm,0.9s
MKAR Makanchi Array 60.21 325 P **P** **19 59 49.3 +0.1**
comp=Z,10nm,0.5s,baz=122,slow=8.3,SNR=105
MKAR ScP **ScP** **20 04 25.7 -3.4**
comp=Z,0.6nm,0.9s,baz=109,slow=6.6,SNR=3.0
MKAR LR LR 20 27 10.0
comp=Z,38nm,21.9s,baz=127,slow=37

comp=Z,10nm,0.5s
MA2 Magadan 60.28 13 LR LR 20 24 06.3
comp=Z,9.4nm,20.9s,baz=188,slow=34
UZB Uzynbulak 60.29 320 *eP* **P 19 59 48.8 -1.2**
comp=Z,4.3nm,0.9s,baz=320
MAKZ Makanchi 60.40 325 P P **19 59 50.2 -0.3**
MAKZ Makanchi 60.40 325 P P **19 59 50.4 -0.1**
TARG Taragay, Kyrgy 60.42 318 P P **19 59 51.0 -0.2**
TARG IAmb IAmb 20 00 13.2
comp=Z,7.5nm,0.9s
NIL Nilore 60.54 308 P P **19 59 51.1 -0.6**
NIL IAmb IAmb 19 59 52.6
comp=Z,26nm,1.4s
SATY Saty 60.65 320 *eP* **P 19 59 51.4 -0.9**
comp=Z,8.7nm,0.8s,baz=320
ZHN Zhinishke 60.68 320 *eP* **P 19 59 51.5 -1.0**
comp=Z,5.9nm,0.9s,baz=320
KSH Kashi 60.71 315 P P **19 59 54.0 +1.2**
KSH pP pP 20 00 11.5 +0.3
KSH sP sP 20 00 22.5 +3.4
KSH pmax pmax
comp=Z,9.0nm,1.0s
MDOK Medeo 61.57 319 *eP* **P 19 59 57.9 -0.7**
baz=320
TDK Taldyqorghan 61.59 322 *eP* **P 19 59 57.7 -0.8**
comp=Z,5.7nm,0.8s,baz=322
CHKK Chushkaly 61.93 320 *eP* **P 19 59 59.9 -1.0**
baz=320
AAK Ala-Archa 63.03 318 P P **20 00 08.1 -0.2**
AAK Ala-Archa 63.03 318 LR LR 20 29 20.1
comp=Z,34nm,20.6s,baz=86,slow=38
ZALV Zalesovo Beam 63.19 333 P P **20 00 07.8 -1.2**
comp=Z,4.6nm,0.7s,baz=118,slow=6.9,SNR=21
ZALV LR LR 20 29 33.0
comp=Z,46nm,19.4s,baz=103,slow=38
comp=Z,4.6nm,0.7s
SGDS Sogindy 63.28 319 *eP* **P 20 00 07.8 -2.1**
baz=319
ARSB Arslanbob 63.52 316 P P **20 00 11.0 -0.7**
DRK Karamyk 63.66 314 P P **20 00 12.4 -0.4**
DRK IAmb IAmb 20 00 14.0
comp=Z,12nm,0.8s
KBL Kabul 64.14 308 P P **20 00 15.0 -0.9**
KBL IAmb IAmb 20 00 16.4
comp=Z,16nm,1.2s
BTLS Baital 64.35 320 *eP* **P 20 00 15.7 -1.1**
baz=320
KURBB Kurchatov Arra 64.39 327 P P **20 00 16.6 -0.4**
comp=Z,28nm,0.8s,baz=124,slow=6.0,SNR=233
comp=Z,28nm,0.8s
KURK Kurchatov 64.39 327 P P **20 00 16.4 -0.6**
KURK Kurchatov 64.39 327 P P **20 00 16.5 -0.4**
KURK pP pP **20 00 33.5 -2.0**
GAR Garm 64.58 313 P P **20 00 17.9 -0.7**
GAR IAmb IAmb 20 00 38.6
comp=Z,22nm,0.9s
BTK Batken 64.58 314 P P **20 00 17.6 -0.9**
DZA Taraz 65.26 317 *eP* **P 20 00 21.8 -1.0**
comp=Z,9.3nm,0.8s,baz=317
CHGR Chuyangaron 65.31 312 P P **20 00 22.1 -1.2**
CHGR IAmb IAmb 20 00 30.0
comp=Z,9.4nm,0.7s
SIMJ Simiganj 65.43 312 P P **20 00 23.3 -0.8**
SIMJ IAmb IAmb 20 00 24.8
comp=Z,13nm,1.2s
SIMJ Simiganj 65.43 312 P P **20 00 23.7 -0.4**
SIMJ pP pP **20 00 42.4 -0.4**
IUG Iuzhnay 65.88 316 *eP* **P 20 00 26.3 -0.7**
comp=Z,8.6nm,0.7s,baz=316
KK31 Karatay Array 65.90 317 P P **20 00 26.2 -0.7**
KK31 IAmb IAmb 20 00 27.5
comp=Z,12nm,0.9s
BRLS Boroldaу 66.33 317 *eP* **P 20 00 28.7 -1.0**
comp=Z,4.9nm,0.7s,baz=317
BRZS Berezniki 67.35 325 *eP* **P 20 00 34.9 -1.1**
baz=325
HRA Herat 69.53 306 P P **20 00 48.9 -1.3**
TIXI Tiksi 69.87 0 P P **20 00 50.5 -0.7**
TIXI Tiksi 69.87 0 LR LR 20 32 21.3
comp=Z,32nm,21.0s,baz=199,slow=37
BVAR Borovoye Array 69.97 327 P P **20 00 51.5 -0.7**
comp=Z,12nm,0.9s,baz=123,slow=7.3,SNR=50
comp=Z,12nm,0.9s
BRVK Borovoye 70.04 327 P P **20 00 51.9 -0.7**
BRVK IAmb IAmb 20 00 53.1
comp=Z,18nm,1.1s
BRVK Borovoye 70.04 327 P P **20 00 52.1 -0.5**
BRVK pP pP **20 01 10.4 -0.9**
NRIK Noril'sk 72.82 346 P P **20 01 08.7 -0.4**
comp=Z,3.1nm,0.5s,baz=121,slow=5.7,SNR=7.5
comp=Z,3.1nm,0.5s
UOSS Minazif 73.22 295 P P **20 01 11.3 -1.0**
UOSS IAmb IAmb 20 01 13.1
comp=Z,10nm,0.8s
GEYT Alibeck 73.52 309 P P **20 01 13.8 -0.1**
comp=Z,5.1nm,0.7s,baz=157,slow=4.2,SNR=9.8
comp=Z,5.1nm,0.7s
ABKAR Akbulak array 74.82 321 P P **20 01 19.9 -1.3**
ABKAR Akbulak array 74.82 321 P P **20 01 20.0 -1.2**
ABKAR IAmb IAmb 20 01 20.8
comp=Z,4.2nm,0.8s
ARU Arti 77.58 328 P P **20 01 35.5 -1.2**
ARU Arti 77.58 328 LR LR 20 38 37.7
comp=Z,32nm,18.7s,baz=238,slow=38
M13K Dall Lake 77.90 28 P P **20 01 39.4 +1.1**
baz=252
SDPT Sand Point 77.93 34 P P **20 01 39.6 +0.9**
baz=255
CHNA Chernabura Isl 78.29 34 P P **20 01 41.9 +1.3**
baz=256
F14K Arctic Creek 78.38 23 P P **20 01 42.2 +1.2**
baz=248
ANM Nome 78.42 24 P P **20 01 41.8 +0.6**
baz=249
L14K Kuka Creek 78.50 27 P P **20 01 42.5 +0.8**
L14K IAmb IAmb 20 01 44.3
comp=Z,16nm,1.1s
L14K Kuka Creek 78.50 27 P P **20 01 43.2 +1.5**
baz=252
N14K Kuskokwak Cree 78.55 29 P P **20 01 43.4 +1.5**
baz=253
J14K Nanvaranak Lak 78.56 26 P P **20 01 43.7 +1.8**
baz=251
O14K Tigyukauivet M 78.56 30 P P **20 01 43.7 +1.7**
baz=254
M14K Bethel 78.66 28 P P **20 01 44.0 +1.5**
baz=253
S14K Fog Glacier 78.67 33 P P **20 01 44.1 +1.2**
baz=256
G15K Niukluk 79.11 24 P P **20 01 46.4 +1.4**
baz=250
F15K North Star Dit 79.12 23 P P **20 01 46.3 +1.3**
baz=250
L15K Ungalak Mounta 79.15 27 P P **20 01 46.4 +1.1**
baz=253
M15K Kasigluk River 79.24 28 P P **20 01 47.1 +1.3**
baz=254
O15K Ungalikthiuk R 79.26 30 P P **20 01 46.6 +0.7**
baz=255
CHGN Chignik 79.29 33 P P **20 01 45.2 -0.9**
CHGN Chignik 79.29 33 P P **20 01 46.9 +0.8**
baz=257
K15K Wolf Creek Mou 79.31 27 P P **20 01 46.8 +0.7**
baz=253
N15K Kwethluk River 79.39 29 P P **20 01 47.4 +0.8**
baz=255
H16K Elim 79.72 24 P P **20 01 49.4 +1.1**
baz=252,SNR=7.0
C16K Lisburne Hills 79.79 20 P P **20 01 49.5 +0.9**
baz=248
G16K Koyuk River 79.91 23 P P **20 01 49.7 +0.4**
G16K Koyuk River 79.91 23 P P **20 01 50.2 +1.0**
baz=252
J16K Anvik River 80.01 26 P P **20 01 51.3 +1.5**
baz=254
L16K Owhat River 80.08 27 P P **20 01 51.2 +0.9**
baz=255
N16K Nishlik Lake 80.10 29 P P **20 01 51.8 +1.4**
baz=256
I17K Unalakleet 80.14 25 P P **20 01 51.7 +1.2**
baz=253
M16K Timber Creek 80.15 28 P P **20 01 51.5 +0.9**
M16K IAmb IAmb 20 04 27.5
comp=Z,18nm,1.4s
M16K Timber Creek 80.15 28 P P **20 01 51.8 +1.2**
baz=256
O16K Kokwok River B 80.22 30 P P **20 01 52.1 +1.1**
baz=256
D17K Noatak River 80.39 21 P P **20 01 52.6 +0.8**
baz=251
RDOG Red Dog Mine 80.57 21 P P **20 01 53.6 +0.8**
RDOG IAmb IAmb 20 02 13.0
comp=Z,15nm,1.5s
RDOG Red Dog Mine 80.57 21 P P **20 01 54.1 +1.3**
baz=251
C17K DeLong Mountai 80.61 20 P P **20 01 54.6 +1.5**
baz=250
G17K Kiwalik Mounta 80.62 24 P P **20 01 54.5 +1.4**
baz=253
F17K Baldwin Pennin 80.67 23 P P **20 01 55.0 +1.6**
baz=252
J17K VABM Dome 80.70 26 P P **20 01 54.8 +1.2**
baz=255
CHIR Chirikof Islan 80.72 34 P P **20 01 54.9 +1.1**
baz=259
O17K Koliganek Bris 80.75 30 P P **20 01 54.7 +0.8**
baz=257
H17K Granite Mounta 80.76 24 P P **20 01 55.2 +1.3**
baz=254
K17K Iditarod 80.87 27 P P **20 01 56.0 +1.5**
baz=256
N17K Nushagak Hills 80.87 29 P P **20 01 55.5 +0.9**
baz=257
M17K Holitna River 80.95 28 P P **20 01 55.3 +0.4**
baz=257
P17K Kvichak River 80.95 30 P P **20 01 55.7 +0.7**
baz=258
Q17K Contact Creek 81.05 31 P P **20 01 55.8 +0.2**
baz=259
VNDA Vanda 81.19 173 P P **20 01 56.2 +0.3**
VNDA Vanda 81.19 173 P P **20 01 56.2 +0.3**
comp=Z,3.9nm,0.7s,baz=315,slow=6.7,SNR=36
VNDA LR LR 20 38 47.4
comp=Z,46nm,18.6s,baz=248,slow=36
comp=Z,3.9nm,0.7s
E18K Tukpahlearik C 81.20 22 P P **20 01 57.0 +0.9**
E18K IAmb IAmb 20 02 03.4
comp=Z,6.9nm,0.7s
E18K Tukpahlearik C 81.20 22 P P **20 01 56.8 +0.6**
baz=253
F18K Selawik 81.33 23 P P **20 01 58.1 +1.3**
baz=254
C18K Utukok River 81.36 20 P P **20 01 57.6 +0.5**
C18K Utukok River 81.36 20 P P **20 01 57.8 +0.7**
baz=252
B18K Kokolik River 81.38 20 P P **20 01 58.4 +1.3**
baz=252
H18K Honhosa River 81.45 24 P P **20 01 58.8 +1.2**
baz=255
L18K Granite Mounta 81.48 27 P P **20 01 58.7 +0.9**
baz=257
G18K Tagagawik 81.53 23 P P **20 01 58.8 +0.8**
baz=255
N18K Kilae Creek 81.53 29 P P **20 01 59.1 +1.0**
baz=258
P18K Big Mountain, 81.60 30 P P **20 01 59.0 +0.5**
baz=259
O18K Koktuh Hills 81.70 30 P P **20 01 59.3 +0.3**
baz=259
M18K Stony River 81.73 28 P P **20 01 59.6 +0.6**
baz=258
J18K Innoko River 81.75 26 P P **20 02 00.5 +1.4**
baz=257
A19K Wainwright 81.88 19 P P **20 02 01.2 +1.5**
baz=252
TTA Tatalina 81.94 27 P P **20 02 00.8 +0.5**
TTA Tatalina 81.94 27 P P **20 02 00.8 +0.5**
baz=258,SNR=5.9
GCSA Galena City Sc 81.97 25 P P **20 02 00.9 +0.7**
baz=257
C19K Lookout Ridge 82.05 20 P P **20 02 01.8 +1.1**
baz=254
SBA Scott Base 82.08 172 P P **20 02 01.6 +1.0**
F19K Shaleruckik Mo 82.11 23 P P **20 02 02.1 +1.1**
baz=256
G19K Purcell Mounta 82.21 23 P P **20 02 02.4 +0.8**
baz=256,SNR=19
N19K Bonanza Creek 82.23 29 P P **20 02 02.5 +0.6**
baz=260
OHAK Old Harbor 82.23 33 P P **20 02 02.8 +1.1**
baz=261
ABPO Ambohimpanom 82.26 251 P P **20 02 01.6 -1.3**
ABPO IAmb IAmb 20 03 31.7
comp=Z,22nm,1.6s
L19K White Mountain 82.32 27 P P **20 02 03.4 +1.2**
baz=259
H19K Roundabout Mou 82.32 24 P P **20 02 03.1 +1.0**
H19K IAmb IAmb 20 02 04.4
comp=Z,13nm,0.8s
H19K Roundabout Mou 82.32 24 P P **20 02 03.3 +1.2**
baz=257
J19K Poorman 82.34 26 P P **20 02 03.3 +1.0**
baz=258
D19K Kuna River 82.40 21 P P **20 02 03.6 +1.1**
baz=255
MAW Mawson 82.45 201 P P **20 02 02.5 -0.1**
comp=Z,6.6nm,0.7s,baz=26,slow=12,SNR=4.0
comp=Z,6.6nm,0.7s
E19K Redstone River 82.47 22 P P **20 02 03.8 +1.0**
baz=256
M19K Big River Lodg 82.48 28 P P **20 02 04.0 +1.0**
M19K IAmb IAmb 20 02 15.1
comp=Z,26nm,1.8s
M19K Big River Lodg 82.48 28 P P **20 02 04.2 +1.2**
baz=260
KDAK Kodiak Island 82.70 32 P P **20 02 05.3 +1.2**
baz=262
L20K Farewell, AK 82.82 27 P P **20 02 05.9 +1.0**
baz=260
KIRV Kirov 82.86 329 P P **20 02 04.2 -0.8**
comp=Z,12nm,0.7s,baz=106,slow=13,SNR=5.1
comp=Z,12nm,0.7s
RAYN Ar Rayn 82.87 293 P P **20 02 04.8 -1.1**
RAYN IAmb IAmb 20 02 05.9
comp=Z,11nm,0.8s
K20K Telida 82.89 26 P P **20 02 06.1 +1.0**
baz=260
VOI Vohitsoka 82.89 248 P P **20 02 04.3 -1.8**
VOI IAmb IAmb 20 02 06.0
comp=Z,8.6nm,0.8s
F20K Avaraart Lake 82.94 23 P P **20 02 06.5 +1.2**
baz=258
H20K Anotleneega Mo 82.95 24 P P **20 02 06.8 +1.4**
baz=259
FOMA Nahampoana Res 82.98 245 P P **20 02 05.2 -1.1**
FOMA IAmb IAmb 20 02 31.3
comp=Z,22nm,0.8s
I20K Naaghedeneel 82.98 25 P P **20 02 06.7 +1.2**
baz=259
D20K Etivluk River 82.99 21 P P **20 02 06.3 +0.7**
baz=257
J20K Nowinta River 83.01 26 P P **20 02 06.6 +0.9**
J20K IAmb IAmb 20 02 08.0
comp=Z,7.2nm,0.8s
J20K Nowinta River 83.01 26 P P **20 02 06.9 +1.2**
baz=259,SNR=7.4
E20K Nigu River 83.04 21 P P **20 02 07.0 +1.1**
baz=257
M20K Styx River 83.06 28 P P **20 02 07.3 +1.2**
baz=261
BELG Belogornoye 83.08 322 P P **20 02 04.8 -1.4**
comp=Z,17nm,0.8s,baz=149,slow=0.7,SNR=11
comp=Z,17nm,0.8s
B20K Meade River 83.11 19 P P **20 02 07.2 +1.1**
baz=256
N20K Mount Spurr 83.39 29 P P **20 02 08.8 +0.9**
baz=262
IMAR Indian Mountai 83.51 24 P P **20 02 08.6 +0.4**
A21K Barrow 83.61 18 P P **20 02 10.0 +1.4**
baz=256
PPLA Purkeypile 83.66 27 P P **20 02 10.0 +0.8**
baz=261
G21K Allakaket 83.70 23 P P **20 02 09.6 +0.4**
G21K Allakaket 83.70 23 P P **20 02 09.9 +0.7**
baz=260
C21K Knifeblade Rid 83.73 21 P P **20 02 10.5 +1.2**
baz=258
CHUM Lake Minchumin 83.75 26 P P **20 02 10.4 +0.9**
baz=261,SNR=5.6
CAST Castle Rocks 83.78 26 P P **20 02 10.3 +0.6**
CAST IAmb IAmb 20 02 13.8
comp=Z,5.8nm,0.6s
CAST Castle Rocks 83.78 26 P P **20 02 10.7 +0.9**
baz=261,SNR=6.5
SKT Skwentna 83.83 28 P P **20 02 10.2 +0.2**
baz=262,SNR=6.5
H21K Melozitna Rive 83.83 24 P P **20 02 10.2 +0.3**
baz=260
F21K Alatna River 83.84 23 P P **20 02 10.2 +0.3**
baz=260
CAPN Captain Cook N 83.84 29 P P **20 02 10.4 +0.4**
baz=262
B21K Ikpikpuk River 83.89 20 P P **20 02 11.0 +0.9**
B21K IAmb IAmb 20 02 30.0
comp=Z,9.8nm,0.9s
B21K Ikpikpuk River 83.89 20 P P **20 02 11.0 +0.9**
baz=258
BRSE Bradley Lake S 83.91 30 P P **20 02 10.8 +0.3**
baz=263
A22K Sinclair Lake 84.06 19 P P **20 02 11.8 +0.9**
baz=258
SUA Susitna One 84.13 28 P P **20 02 11.8 +0.2**
baz=263,SNR=10.0
BPAW Bear Paw Mtn. 84.36 26 P P **20 02 13.6 +0.9**
baz=262
F22K John River 84.38 22 P P **20 02 13.8 +1.1**
baz=261
B22K Teshekpuk Lake 84.43 19 P P **20 02 14.1 +1.3**
baz=259
H22K Ishtalitna Cre 84.45 24 P P **20 02 14.2 +1.2**
baz=262
M22K Willow 84.46 28 P P **20 02 13.6 +0.5**
baz=263
CUT Chulitna 84.47 28 P P **20 02 13.9 +0.7**
baz=263
O22K Cooper Landing 84.51 30 P P **20 02 14.0 +0.6**
baz=264
RC01 Rabbit Creek A 84.57 29 P P **20 02 14.1 +0.4**
baz=264
TRF Thorofare Moun 84.59 26 P P **20 02 14.4 +0.4**
baz=263
MLY Manley 84.60 25 P P **20 02 14.3 +0.5**
MLY Manley 84.60 25 P P **20 02 14.7 +0.9**
baz=262
SEW Seward 84.60 30 P P **20 02 14.3 +0.5**
baz=264
E22K Anaktuvuk Pass 84.62 22 P P **20 02 14.8 +0.9**
E22K IAmb IAmb 20 02 34.9
comp=Z,9.9nm,1.1s
E22K Anaktuvuk Pass 84.62 22 P P **20 02 15.1 +1.2**
baz=261
PMR Palmer 84.91 28 P P **20 02 15.6 +0.2**
baz=264
COLD Coldfoot 85.10 23 P P **20 02 17.1 +0.9**
baz=263
G23K Bananza Creek 85.11 23 P P **20 02 17.7 +1.4**
baz=263
D23K Nanushuk River 85.16 21 P P **20 02 18.2 +1.7**
baz=262
I23K Minto, Yukon-K 85.19 25 P P **20 02 17.6 +0.8**
I23K IAmb IAmb 20 02 36.6
comp=Z,14nm,1.6s
I23K Minto, Yukon-K 85.19 25 P P **20 02 17.7 +1.0**
baz=264
H23K Yukon River 85.19 24 P P **20 02 18.2 +1.4**
baz=263
KNK Knik Glacier 85.22 29 P P **20 02 17.4 +0.4**
baz=265,SNR=5.2
MCK McKinley 85.22 26 P P **20 02 17.5 +0.5**
baz=264
RND Reindeer 85.22 27 P P **20 02 16.6 -0.4**
NEA2 Nenana 85.25 25 P P **20 02 18.1 +1.0**
baz=264
C23K Itkillik River 85.30 20 P P **20 02 18.0 +0.8**
C23K IAmb IAmb 20 02 19.5
comp=Z,7.2nm,1.0s
C23K Itkillik River 85.30 20 P P **20 02 18.3 +1.1**
baz=262
WAT1 Susitna Watana 85.31 27 P P **20 02 18.2 +0.7**
baz=265
SML Sawmill 85.31 28 P P **20 02 18.1 +0.6**
baz=265,SNR=8.3
E23K Chandalar 85.43 22 P P **20 02 19.0 +1.0**
baz=263
TOLK Toolik Lake Re 85.51 21 P P **20 02 18.9 +0.5**
TOLK Toolik Lake Re 85.51 21 P P **20 02 19.7 +1.4**
baz=263,SNR=6.8
M23K Glacier View 85.60 28 P P **20 02 19.6 +0.7**
baz=265,SNR=5.3
P23K Montague Islan 85.61 30 P P **20 02 19.9 +1.0**
baz=268
KBZ Khabaz 85.64 314 P P **20 02 18.2 -1.2**
comp=Z,1.5nm,0.7s,baz=117,slow=4.0,SNR=5.1
comp=Z,1.5nm,0.7s
WAT6 Susitna Watana 85.66 27 P P **20 02 20.1 +0.7**
baz=265,SNR=6.0
SCM Sheep Creek Mo 85.79 28 P P **20 02 20.8 +0.9**
baz=266
D24K Happy Valley 85.84 21 P P **20 02 21.2 +1.3**
D24K IAmb IAmb 20 02 27.4
comp=Z,8.5nm,0.7s
D24K Happy Valley 85.84 21 P P **20 02 21.0 +1.1**
baz=264
DHY Denali Highway 85.86 27 P P **20 02 21.4 +1.0**
baz=266
H24K Noodor Dome 85.88 24 P P **20 02 21.5 +1.3**
baz=265
C24K Franklin Bluff 85.94 20 P P **20 02 21.0 +0.6**
baz=264
POKR Poker Plat Res 86.00 25 P P **20 02 20.7 -0.1**
baz=265
F24K Squaw Lake 86.02 23 P P **20 02 21.6 +0.7**
baz=265
HDA Harding Lake 86.15 26 P P **20 02 22.2 +0.7**
baz=266
ILAR Eielson Array 86.20 25 P P **20 02 20.6 -1.2**
comp=Z,0.5nm,0.6s,baz=248,slow=5.5,SNR=12
comp=Z,0.5nm,0.6s
M24K Tolsona, Glenn 86.35 28 P P **20 02 23.6 +1.0**
baz=267
KLU Klutina 86.44 29 P P **20 02 24.3 +1.2**
baz=267
EYAK Cordova Ski Ar 86.47 30 P P **20 02 23.9 +0.7**
baz=267
K24K Donnelly Dome 86.62 26 P P **20 02 24.1 +0.1**
baz=267
G25K Bearman Lake 86.66 23 P P **20 02 24.2 +0.3**
baz=266
PAX Paxson 86.72 27 P P **20 02 25.4 +0.9**
baz=267
H25L Birch Creek 86.74 24 P P **20 02 25.4 +1.0**
baz=267
HARP HAARP 86.84 28 P P **20 02 26.4 +1.4**
baz=268
J25K Salcha River, 86.84 26 P P **20 02 25.6 +0.5**
baz=267
F25K Christian Rive 86.89 23 P P **20 02 26.3 +1.2**
baz=267
E25K Arctic Village 86.94 22 P P **20 02 26.2 +0.8**
baz=267
RIDG Independent Ri 87.04 26 P P **20 02 25.9 0.0**
baz=268
BMRM Bremner River 87.05 29 P P **20 02 26.1 0.0**
baz=268
N25K Chitina, Valde 87.07 29 P P **20 02 26.7 +0.5**
baz=268
KAIM Kayak Island 87.11 30 P P **20 02 27.1 +0.8**
baz=268
C26K Camden Bay 87.27 20 P P **20 02 28.5 +1.6**
baz=268
BMAR Burnt Mountain 87.29 23 P P **20 02 27.4 +0.3**
SCRK Sand Creek 87.42 26 P P **20 02 28.8 +0.9**
baz=269
F26K Sheenjek River 87.46 22 P P **20 02 29.4 +1.5**
baz=268
G26K Porcupine Rive 87.58 23 P P **20 02 28.4 0.0**
baz=269
J26L Joseph Creek 87.62 26 P P **20 02 28.6 -0.1**
J26L Joseph Creek 87.62 26 P P **20 02 28.7 -0.1**
baz=269
BGLC Bering Glacier 87.68 30 P P **20 02 29.8 +0.8**
baz=269
CRQE Cirque 87.78 29 P P **20 02 30.0 +0.2**
baz=270
I26K Coal Creek Min 87.81 25 P P **20 02 30.2 +0.6**
baz=269
MCARA McCarthy VSAT 87.82 29 P P **20 02 30.9 +1.2**
baz=270
M26K Nabesna, AK 87.85 28 P P **20 02 31.0 +1.1**
baz=270
K27K Chicken 88.27 26 P P **20 02 32.1 +0.3**
K27K IAmb IAmb 20 03 27.7
comp=Z,11nm,1.6s

K27K	Chicken	88.27	26	P	P	20 02 32.7	+0.9
	baz=270						
M27K	Edge Creek, AK	88.37	28	P	P	20 02 33.9	+1.5
	baz=270						
L27K	Beaver Creek,	88.39	27	P	P	20 02 33.4	+1.0
	baz=271						
BCAR	Beaver Creek A	88.40	27	P	P	20 02 32.8	+0.3
G27K	Doyon Strip	88.42	23	P	P	20 02 33.2	+0.7
	baz=271						
E27K	Coleen River	88.43	22	P	P	20 02 33.2	+0.7
	baz=271						
I27K	Kandik River	88.45	25	P	P	20 02 33.5	+0.8
	baz=271,SNR=7.0						
H27K	Steamboat Moun	88.48	24	P	P	20 02 33.3	+0.5
	baz=271						
CTG	Chitna Glacier	88.64	29	P	P	20 02 34.1	+0.3
	baz=271						
D27M	Malcolm River	88.65	21	P	P	20 02 34.0	+0.4
	baz=271						
EGAK	Eagle	88.66	25	P	P	20 02 32.8	-0.8
EGAK	Eagle	88.66	25	P	P	20 02 33.3	-0.2
	baz=271						
BVCY	Beaver Creek	88.84	28	P	P	20 02 35.0	+0.5
	baz=271						
F28M	Old Crow	89.10	23	P	P	20 02 35.6	0.0
	baz=272						
I28M	Miner Creek	89.16	25	P	P	20 02 36.8	+0.7
	baz=272,SNR=6.3						
E28M	Babbage River	89.18	22	P	P	20 02 36.5	+0.5
	baz=272						
O28M	Mount Upton	89.21	29	P	P	20 02 37.5	+0.9
	baz=272						
D28M	Stokes Point	89.44	21	P	P	20 02 37.4	+0.3
	baz=273						
DAWY	Dawson	89.45	26	P	P	20 02 37.0	-0.3
DAWY	Dawson	89.45	26	P	P	20 02 37.4	0.0
	baz=273						
PNL	Peninsula	89.65	30	P	P	20 02 38.6	+0.2
	baz=273						
H29M	Whitestone	89.76	24	P	P	20 02 39.3	+0.5
	baz=274						
E29M	Blow River	89.80	22	P	P	20 02 39.4	+0.6
	baz=274						
G29M	Pine Creek	89.85	23	P	P	20 02 39.7	+0.5
	baz=274						
M29M	Somme Creek	89.95	28	P	P	20 02 40.6	+0.8
	baz=274						
L29M	L29M	90.06	27	P	P	20 02 40.8	+0.5
	baz=274						
YUK6	Outpost Mounta	90.09	29	P	P	20 02 41.6	+0.9
	baz=274						
K29M	Barlow Dome	90.28	26	P	P	20 02 41.9	+0.6
	baz=274						
P29M	Windy Craggy	90.49	30	P	P	20 02 43.4	+1.1
	baz=274						
HYT	Haines Junctio	90.52	29	P	P	20 02 43.5	+0.9
	baz=274						
G30M	tAoh Zraii Nji	90.56	23	P	P	20 02 42.5	0.0
	baz=276						
F30M	Barrier River	90.66	22	P	P	20 02 42.9	0.0
	baz=276						
I30M	Mount Dempster	90.66	25	P	P	20 02 42.8	-0.4
	baz=275						
M30M	Minto, Yukon	90.72	27	P	P	20 02 43.8	+0.5
	baz=275						
J30M	Hart River	90.74	25	P	P	20 02 43.7	+0.2
	baz=276						
P30M	Million Dollar	90.85	30	P	P	20 02 44.8	+0.8
	baz=275						
PLBC	Pleasant Camp	91.20	31	P	P	20 02 46.0	+0.4
	baz=275						
O30N	Mendenhall	91.22	29	P	P	20 02 45.9	+0.2
	baz=276						
N31M	Braeburn, Yuko	91.30	29	P	P	20 02 45.5	-0.5
	baz=276						
G31M	Satah River	91.33	23	P	P	20 02 45.4	-0.6
	baz=277						
S31K	Pelican	91.41	32	P	P	20 02 45.9	-0.6
	baz=275						
INK	Inuvik	91.42	22	P	P	20 02 46.4	0.0
	baz=278						
QSPA	South Pole Qui	91.60	180	P	P	20 02 47.0	-0.4
	comp=Z,1.1nm,0.6s,baz=174,slow=1.7,SNR=9.6						
	comp=Z,1.1nm,0.6s						
WHY	Whitehorse	91.82	29	P	P	20 02 49.7	+1.1
	baz=277						
FARO	Faro, Yukon	92.35	28	P	P	20 02 51.5	+0.6
	baz=278						
N32M	Quiet Lake	92.63	29	P	P	20 02 52.7	+0.5
	baz=278						
BRTR	Keskin Array B	92.65	310	P	P	20 02 51.3	-1.6
	comp=Z,0.7nm,0.9s,baz=130,slow=5.8,SNR=4.7						
	comp=Z,0.7nm,0.9s						
P33M	Teslin, Yukon	92.89	30	P	P	20 02 53.8	+0.3
	baz=278						
ARCES	ARCESS Array B	92.96	340	P	P	20 02 51.9	-1.6
	comp=Z,6.5nm,0.8s,baz=87,slow=6.6,SNR=9.2						
	comp=Z,6.5nm,0.8s						
MMPY	Sheldon Lake,	93.25	27	P	P	20 02 55.1	+0.1
MMPY				IAmb	IAmb	20 02 56.6	
	comp=Z,6.6nm,1.2s						
MMPY	Sheldon Lake,	93.25	27	P	P	20 02 56.0	+1.0
	baz=280						
Q32M	Nakina River	93.36	31	P	P	20 02 57.0	+1.2
	baz=279						
R33M	Jennings River	93.95	30	P	P	20 02 59.2	+0.8
	baz=280						
S34M	Telegraph Cree	94.12	32	P	P	20 02 60.0	+0.9
	baz=280						
FINES	FINESS Array B	94.44	332	P	P	20 02 58.7	-1.7
	comp=Z,1.6nm,0.8s,baz=72,slow=6.0,SNR=7.6						
	comp=Z,1.6nm,0.8s						
C36M	Paulatuk	94.55	20	P	P	20 03 00.8	+0.1
	baz=287						
DLBC	Dease Lake	94.60	31	P	P	20 03 02.0	+0.6
	baz=281						
T35M	Bob Quinn	94.75	33	P	P	20 03 02.8	+0.7
	baz=280						
TGTN	Hyland Airport	94.84	28	P	P	20 03 02.6	+0.2
	baz=283						
TOAD	Toad River Com	96.95	30	P	P	20 03 12.4	+0.4
	baz=285						
KOTAN	Kotaneelee Air	97.19	29	P	Pdif	20 03 13.8	+0.7
	baz=286						
YKA	Yellowknife Ar	100.63	25	P	Pdif	20 03 28.4	+0.1
	comp=Z,0.4nm,0.8s,baz=303,slow=5.2,SNR=6.7						
NB2	NORSAR Subarra	101.38	334	P	Pdif	20 03 29.8	-2.0
	comp=Z,1.4nm,0.7s,baz=65,slow=4.6						
NOA	NORSAR Array B	101.38	334	P	Pdif	20 03 29.5	-2.3
	comp=Z,1.1nm,0.7s,baz=65,slow=4.6,SNR=7.1						
NEW	Newport	104.74	39	P	Pdif	20 03 47.3	+0.3
	baz=290						
SCZ2	Santa Cruz Isl	107.08	54	P	PKiKP	20 08 07.1	+0.2
	baz=284						
SNCC	San Nicolas Is	107.34	54	P	PKiKP	20 08 07.4	0.0
	baz=284						
HLID	Hailey	108.14	43	P	PKiKP	20 08 09.3	+0.4
	baz=291						
EDW2	Edwards Air Fo	108.16	52	P	PKiKP	20 08 09.0	0.0
	baz=285						
SCI2	San Clemente I	108.20	55	P	PKiKP	20 08 09.1	+0.1
	baz=284						
FMP	Fort Macarthur	108.23	54	P	PKiKP	20 08 09.4	+0.3
	baz=285						
MPMC	Manual Prospec	108.24	51	P	PKiKP	20 08 09.6	+0.3
	baz=286						
LRMC	Laurel Mtn Rad	108.25	52	P	PKiKP	20 08 09.6	+0.4
	baz=286						
BFSC	Mount Baldy Ra	108.60	53	P	PKiKP	20 08 10.4	+0.5
	baz=285						
MURC	Murrieta	109.14	54	P	PKiKP	20 08 11.2	+0.4
	baz=286						
BOZ	Bozeman (W)	109.22	40	P	PKiKP	20 08 11.2	+0.4
	baz=294						
DUG	Dugway, Tooele	110.44	46	P	PKiKP	20 08 13.8	+0.6
	baz=291						
IRM	Iron Mountain	110.62	53	P	PKiKP	20 08 14.1	+0.5
	baz=287						
RLMT	Red Lodge	110.94	40	P	PKiKP	20 08 13.9	-0.2
	baz=295						
PDAR	Pinedale Array	111.73	42	PKiKP	PKiKP	20 08 16.8	+1.1
	comp=Z,0.2nm,0.6s,baz=132,slow=2.2,SNR=3.6						
214A	Organ Pipe Nat	113.15	54	P	PKiKP	20 08 18.9	+0.4
	baz=288						
O20A	White River Ci	113.71	44	P	PKiKP	20 08 20.1	+0.6
	baz=294						
W18A	Petrified Fore	114.53	50	P	PKiKP	20 08 21.7	+0.5
	baz=291						

MVCO	Mesa Verde	114.68	47	P	PKiKP	20 08 22.3	+0.7
	baz=293						
RSSD	Black Hills	114.72	39	P	PKPdf	20 08 21.4	+0.1
	baz=299						
ISCO	Idaho Springs	115.68	44	P	PKPdf	20 08 23.5	+0.1
	baz=296						
Q24A	Divide	116.37	44	P	PKiKP	20 08 24.9	+0.1
	baz=296						
SDCO	Great Sand Dun	116.64	46	P	PKPdf	20 08 25.3	-0.1
	baz=295						
MNTX	Cornudas Mount	119.18	52	P	PKiKP	20 08 30.4	+0.3
	baz=293						
CBKS	Cedar Bluff	120.16	42	P	PKiKP	20 08 32.0	+0.1
	baz=301						
MSTX	Muleshoe	120.26	49	P	PKPdf	20 08 32.0	-0.2
	baz=296						
TXAR	Lajitas Array	121.44	54	PKP	PKPdf	20 08 33.8	-0.7
	comp=Z,0.4nm,0.7s,baz=318,slow=1.2,SNR=4.1						
KSU1	Kansas State U	122.08	41	P	PKiKP	20 08 35.5	0.0
	baz=304						
WMOK	Wichita Mounta	122.85	46	P	PKPdf	20 08 37.1	+0.1
	baz=299						
ABTX	Abilene, Hawle	123.21	49	P	PKiKP	20 08 38.1	+0.1
	baz=297						
JFWS	Jewell Farm	123.59	33	P	PKiKP	20 08 38.8	+0.4
	baz=312						
JCT	Junction City	124.04	51	P	PKPdf	20 08 39.6	+0.1
	baz=296						
TUL3	Leonard	124.35	43	P	PKiKP	20 08 40.2	+0.1
	baz=302						
GLMI	Grayling	125.14	28	P	PKiKP	20 08 41.9	+0.5
	baz=318						
TORD	Torodi Ar. Bea	125.19	287	PKP	PKPdf	20 08 41.2	-0.8
	comp=Z,1.7nm,0.7s,baz=44,slow=2.8,SNR=14						
833A	Chaparral WMA,	125.28	53	P	PKPdf	20 08 41.9	+0.1
	baz=295						
HDIL	Hopedale	125.68	35	P	PKiKP	20 08 42.6	-0.1
	baz=311						
CCM	Cathedral Cave	126.10	39	P	PKPdf	20 08 43.0	-0.1
	baz=308						
MIAR	Mount Ida	126.61	44	P	PKiKP	20 08 45.1	+0.4
	baz=304						
SFIN	Lafayette	127.05	34	P	PKiKP	20 08 45.5	+0.1
	baz=313						
AAM	Ann Arbor	127.48	30	P	PKPdf	20 08 45.8	+0.2
	baz=318						
P49A	Miami Univ. Ec	128.94	33	P	PKPdf	20 08 47.9	-0.6
	baz=316						
ERPA	Erie	129.38	27	P	PKPdf	20 08 49.2	-0.1
	baz=322						
WVT	Waverly	129.43	38	P	PKPdf	20 08 49.3	-0.2
	baz=310						
LONY	Lake Ozonia	129.53	21	P	PKPdf	20 08 49.4	-0.1
	baz=330						
MCWV	Mont Chateau	131.37	29	P	PKPdf	20 08 52.8	-0.3
	baz=321						
SSPA	Standing Stone	131.51	27	P	PKPdf	20 08 53.3	-0.1
	baz=324						
TZTN	Tazewell	131.71	35	P	PKiKP	20 08 54.5	-0.4
	baz=315						
LRAL	Lakeview Retre	131.92	41	P	PKPdf	20 08 54.4	+0.1
	baz=309						
BLA	Blacksburg	132.94	32	P	PKPdf	20 08 56.2	0.0
	baz=319						
GOGA	Godfrey	133.92	38	P	PKPdf	20 08 57.7	-0.3
	baz=313						
KMSC	Kings Mountain	133.97	34	P	PKPdf	20 08 58.4	+0.2
	baz=317						
DWPF	Disney Wildern	138.75	42	P	PKPdf	20 09 07.5	+0.3
	baz=311						
CPUP	Villa Florida	154.87	168	PKPab	PKPab	20 09 58.1	+0.3
	comp=Z,3.5nm,1.0s,baz=250,slow=3.1,SNR=3.7						

IDC ***31*** *19:54:36.0±1.1,24°.48N×127°.55E,h0km,mb3.8/5, mbtmp3.8/7,ML3.5/2,Error ellipse: s-maj=46.6km s-min=19.1km az=82.0*

JMA ***31*** *19:54:38.8±0.2,24°.6N±1°.0×127°.4E±0°.9,h75km,MV3.2/32, NEAR OKINAWAJIMA ISLAND*

ISC 31 19:54:35.5±3.6,24°.47N±0°.06×127°.49E±0°.04,h7km±23km, n31,σ2s20/46,mb3.8/5,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JJT3	Tamagusuku3	1.69	9	P		Pb		19 55 05.5	-1.5
JJT3				eS		Sn		19 55 25.2	-2.2
JOGS	Gusukube	1.92	279	P		Pn		19 55 08.9	+0.2
JOGS				eS		Sn		19 55 30.9	-2.3
JKE	Kume jima 2	1.95	341	eP		Pn		19 55 09.1	-0.1
JKE				eS		Sn		19 55 31.3	-2.7
JMJ2	Miyako jima3	1.99	278	P		Pn		19 55 09.8	+0.1
JMJ2				eS		Sn		19 55 32.4	-2.5
JIKM	Ikemajima	2.09	283	P		Pn		19 55 11.2	+0.1
JIKM				eS		Sn		19 55 34.7	-2.6
JNTH	Nagotoyohara	2.09	13	eP		Pn		19 55 11.1	0.0
JNTH				eS		Sn		19 55 34.7	-2.7
JAGN	Aguni-jima	2.12	354	eP		Pn		19 55 11.5	0.0
JAGN				S		Sn		19 55 35.5	-2.6
JIRB	Irabujima	2.14	280	P		Pn		19 55 11.8	0.0
JIRB				S		Sn		19 55 35.6	-3.0
JOW	Kunigami	2.45	17	P		Pn		19 55 15.8	-0.2
JOW	Kunigami	2.45	17	Pn		Pn		19 55 16.1	+0.1
	10.0nm,0.3s,baz=146,slow=20,SNR=38								
JOW				Sn		Sn		19 55 43.8	-2.6
	12nm,0.3s,baz=121,slow=24,SNR=3.3								
	28nm,0.2s								
JTJ	Tarama	2.55	274	P		Pn		19 55 17.1	-0.2
JTJ				eS		Sn		19 55 45.0	-3.6
JIH	Iheya	2.59	9	eS		Sn		19 55 46.6	-3.0
JYRO	Yoronjima	2.68	19	eP		Pn		19 55 19.4	+0.2
JISG	Ishigakijimahi	2.90	273	eP		Pn		19 55 21.5	-0.7
JISG				eS		Sn		19 55 53.6	-3.8
JOKE	Okinoerabujima	3.04	18	eP		Pn		19 55 23.9	-0.1
JIJ	Ishigaki jima	3.06	269	P		Pn		19 55 24.1	-0.2
JIJ				eS		Sn		19 55 56.0	-5.2
JKRS	Kuro-shima	3.19	267	eP		Pn		19 55 26.1	0.0
JKRS				eS		Sn		19 55 59.8	-4.6
IRIF	Iriomote-Funau	3.43	268	eP		Pn		19 55 30.1	+0.6
JTK	Tokunoshima	3.55	21	P		Pn		19 55 31.5	+0.3
JTK				eS		Sn		19 56 09.8	-3.6
JMZ	Minamidaito 2	3.64	68	P		Pn		19 55 30.6	-1.7
JKDJ	Kitadaitoujima	3.75	66	P		Pn		19 55 32.7	-1.1
JKDJ				eS		Sn		19 56 13.7	-4.5
JAMN	Amaminishikomi	4.05	22	eP		Pn		19 55 38.1	+0.1
JYNG	Yonagunijimaku	4.14	271	P		Pn		19 55 38.3	-1.0
JAM	Amami Oshima	4.36	25	P		Pn		19 55 42.5	+0.3
JMTN	Minamitane	6.63	26	eP		Pn		19 56 13.7	+0.2
JNU	Nakatsue	9.11	18	Pn		Pn		19 56 48.0	+0.4
	0.7nm,0.3s,baz=256,slow=3.7,SNR=9.0								
	4.8nm,0.7s								
MKAR	Makanchi Array	42.23	313	P		P		20 02 30.1	+0.7
	0.6nm,0.7s,baz=104,slow=11,SNR=2.0								
	0.6nm,0.7s								
WRA	Warramunga Arr	44.65	171	P				20 02 50.0	+1.0
	2.7nm,0.6s,baz=349,slow=8.8,SNR=19								
	2.7nm,0.6s								
ASAR	Alice Springs	48.26	172	P		P		20 03 19.0	+1.6
	0.7nm,0.8s,baz=0.7,slow=7.8,SNR=6.2								
	0.7nm,0.8s								
BVAR	Boroye Array	51.15	319	P		P		20 03 40.9	+1.7
	0.6nm,0.6s,baz=92,slow=8.7,SNR=2.2								
	0.6nm,0.6s								
FINES	FINESS Array B	74.06	331	P		P		20 06 15.1	+3.1
	0.6nm,0.6s,baz=64,slow=6.7,SNR=3.4								
	0.6nm,0.6s								

IPEC ***31*** *19:58:27.7±0.2,51°.56N×16°.13E,h1km,ML2.7/4,Error ellipse: s-maj=2.0km s-min=1.1km az=37.0*

DNK ***31*** *19:58:27.4±2.2,51°.55N×16°.31E,h0km±89km,ML3.3*

BGR ***31*** *19:58:29.9±0.4,51°.46N×16°.10E,h1km,ML3.1/11,Error ellipse: s-maj=5.6km s-min=2.2km az=16.0*

IDC ***31*** *19:58:29.5±0.6,51°.49N×15°.95E,h0km,mbtmp3.2/8, ML2.9/8,Error ellipse: s-maj=11.0km s-min=6.0km az=104.0*

PRU ***31*** *19:58:31.4,51°.42N×16°.12E,h0km*

VIE ***31*** *19:58:32.7±0.7,51°.27N×15°.93E,h0km,mb2.9/9,ml2.9/13, ms3.6/1,Error ellipse: s-maj=4.9km s-min=4.0km az=44.0, Suspected Mining induced.*

ISC 31 19:58:26.4±0.6,51°.58N±0°.03×16°.11E±0°.02,h0km,n83, σ1s53/154,2C-3D,Poland

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

CHVC	Chvalec	1.00	182	ePG		Pg		19 58 46.8	+1.3
CHVC				eSG		Sg		19 58 59.0	+0.6
OSTC	Ostas	1.03	176	ePG		Pg		19 58 47.2	+1.1
OSTC				eSG		Sg		19 59 00.1	+0.7
UPC	Upice	1.08	183	ePG		Pg		19 58 48.3	+1.2
UPC				eSG		Sg		19 59 01.6	+0.6
	comp=Z,180nm,0.3s								
DPC	Dobruska-Polom	1.24	174	ePG		Pg		19 58 50.8	+0.6
DPC				eSG		Sg		19 59 05.7	-0.5
DPC	Dobruska-Polom	1.24	174	ePG		Pg		19 58 50.9	+0.7
DPC				eSG		Sg		19 59 06.0	-0.2
PVCC	Panska Ves	1.44	223	ePG		Pb		19 58 55.3	+1.2
PVCC				eSG		Sn		19 59 14.4	+1.1
	comp=Z,263nm,0.2s								
BRG	Berggiesshubel	1.54	243	Pg		Pg		19 58 57.5	+1.6
BRG				Sg		Sb		19 59 17.4	+1.6
BRG				Amp				19 59 17.9	
	comp=Z,136nm,0.4s								
BRG	Berggiesshubel	1.54	243	ePg		Pn		19 58 56.7	+1.6
BRG				eSg		Sb		19 59 17.3	+1.6
KRLC	Kraliky	1.57	164	ePG		Pn		19 58 56.5	+0.9
KRLC				eSG		Sg		19 59 16.1	-0.6
	comp=Z,66nm,0.4s								
RUE	Ruedersdorf	1.70	303	eP		Pn		19 58 59.2	+1.9
PRA	Prague	1.85	216	ePN		Pn		19 59 00.4	+1.0
PRA				ePG		Pb		19 59 02.4	+1.3
FBE	Freiberg	1.85	250	ePn		Pb		19 59 01.9	+0.7
FBE				eSg		Sg		19 59 27.1	+1.1
GOPC	GO Pecny, Ondr	1.87	207	ePN		Pn		19 59 00.5	+0.8
PRU	Pruhonice	1.88	213	ePG		Pb		19 59 02.4	+0.8
PRU				eSG		Sb		19 59 26.0	+0.3
	comp=Z,34nm,0.2s								
HSKC	Hora Svate Kat	1.95	241	ePG		Pb		19 59 04.1	+1.2
HSKC				eSG		Sb		19 59 28.5	+0.7
	comp=Z,72nm,0.4s								
CLL	Collm	1.96	263	ePn		Pn		19 59 02.0	+1.0
CLL				ePg		Pb		19 59 05.0	+1.9
CLL				*i* x		x		19 59 09.6	
CLL				ex		x		19 59 22.0	
CLL				eSg		Sg		19 59 31.0	+1.5
	comp=Z,38nm,0.5s								
CLL	Collm	1.96	263	ePn		Pn		19 59 02.3	+1.3
RAC	Raciborz	2.00	138	ePG		Pb		19 59 04.8	+1.2
RAC				eSG		Sg		19 59 31.3	+0.7
MORC	Moravsky Berou	2.02	153	⇓P		Pn		19 59 02.9	+1.1
MORC				⇑S		Sb		19 59 30.3	+0.5
MORC	Moravsky Berou	2.02	153	ePn		Pn		19 59 02.5	+0.7
	baz=334								
MORC				eSg		Sb		19 59 30.2	+0.4
	baz=334								
MORC	Moravsky Berou	2.02	153	ePN		Pn		19 59 02.6	+0.7
MORC				eSG		Sb		19 59 30.3	+0.5
MORC	Moravsky Berou	2.02	153	ePn		Pn		19 59 02.6	+0.7
MORC				eSg		Sb		19 59 30.5	+0.6
OKC	Ostrava-Krasne	2.17	143	ePG		Pg		19 59 08.7	+0.6
OKC				eSG		Sb		19 59 35.5	+1.4
OKC	Ostrava-Krasne	2.17	143	ePg		Pg		19 59 08.9	+0.9
VRAC	Vranov	2.30	172	⇓P		Pn		19 59 07.1	+1.5
VRAC				⇓S		Sb		19 59 38.4	+0.7
VRAC	Vranov	2.30	172	ePn		Pn		19 59 06.3	+0.7
	baz=353								
VRAC				eSg		Sb		19 59 38.8	+1.1
	comp=Z,29nm,0.4s,baz=353								
VRAC	Vranov	2.30	172	ePN		Pn		19 59 06.4	+0.8
VRAC				eSG		Sb		19 59 38.9	+1.2
VRAC	Vranov	2.30	172	Pn		Pn		19 59 07.0	+1.4
	comp=Z,3.4nm,0.3s,baz=340,slow=16,SNR=35								
VRAC				Lg		Lg		19 59 38.5	
	comp=Z,7.6nm,0.3s,baz=356,slow=23,SNR=7.6								
	comp=Z,7.7nm,0.3s								
TREC	Trest	2.33	190	eSG		Sb		19 59 39.6	+1.1
KRUC	Moravsky	2.53	176	ePn		Pn		19 59 09.5	+0.8
	baz=356								
KRUC				eSg		Sb		19 59 46.2	+1.9
	comp=Z,40nm,0.5s,baz=356								
TANN	Tannenbergstha	2.59	245	ePn		Pn		19 59 11.0	+1.4
TANN				ePg		Pg		19 59 17.9	+2.0
WERD	Werda	2.66	246	ePn		Pn		19 59 12.1	+1.5
WERD				ePg		Pg		19 59 18.7	+1.3
NKC	Novy Kostel	2.68	241	ePN		Pn		19 59 12.7	+1.8
NKC				ePG		Pg		19 59 19.3	+1.4
OJC	Ojcow	2.70	119	ePn		Pn		19 59 11.2	+0.1
OJC				ePg		Pg		19 59 19.4	+1.2
OJC				eSg		Sg		19 59 55.5	+2.2
OJC	Ojcow	2.70	119	ePn		Pn		19 59 12.4	+1.3
OJC				ePg		Pg		19 59 19.5	+1.2
JAVC	Velka Javorina	2.90	159	ePn		Pn		19 59 14.3	+0.3
	baz=340								
JAVC				eSg		Sb		19 59 57.7	+2.5
	comp=Z,30nm,0.7s,baz=340								
KHC	Kasperske Hory	2.94	214	ePN		Pn		19 59 15.6	+1.1
KHC				ePG		Pb		19 59 21.5	+1.8
KHC				eSN		Sn		19 59 51.0	+0.5
KHC				eSG		Sg		20 00 00.6	-0.3
	comp=Z,22nm,0.3s								
MOX	Moxa	2.98	253	ePn		Pn		19 59 16.8	+1.7
MOX				ePg		Pg		19 59 24.6	+1.0
MOX				eSg		Sg		20 00 02.9	+0.6
CKRC	Cesky Krumlov	3.00	203	ePN		Pn		19 59 17.1	+1.9
CKRC				ePG		Pb		19 59 22.9	+2.2
CKRC				eSG		Sg		20 00 01.1	-1.6
MANZ	Manzenberg	3.00	239	ePn		Pn		19 59 17.7	+1.7
ROTZ	Rotzenmuhle	3.08	235	ePn		Pn		19 59 17.7	+1.4
GEC2	GERESS Array S	3.15	210	ePn		Pn		19 59 18.9	+1.5
GERES	GERESS Array B	3.15	210	Pn		Pn		19 59 18.6	+1.3
	comp=Z,2.8nm,0.3s,baz=28,slow=14,SNR=63								
GERES				Pg		Pb		19 59 24.6	+1.4
	comp=Z,6.4nm,0.3s,baz=31,slow=19,SNR=37								
GERES				Lg		Lg		20 00 05.1	
	comp=Z,7.4nm,0.3s,baz=31,slow=31,SNR=6.9								
	comp=Z,6.1nm,0.4s								
WET	Wettzell	3.20	222	ePn		Pn		19 59 19.2	+1.2
LANS	Liptovska Anna	3.25	137	ePG		Pg		19 59 29.5	+0.9
LANS				eSG		Sg		20 00 09.4	-1.3
MODS	Modra-Piesok	3.30	166	ePN		Pn		19 59 21.6	+2.3
MODS				ePG		Pg		19 59 30.0	+0.4
MODS				eSG		Sg		20 00 13.9	+1.5
NIE	Niedzica	3.44	127	ePg		Pg		19 59 33.8	+1.4
NIE				e

comp=Z,1.8nm,0.2s
KBA eSg Sg 20 01 01.9 -0.5
comp=Z,6.6nm,0.4s
SOKA Soboth 4.96 189 *i* Pn Pn 19 59 45.0 +2.8
comp=Z,0.4nm,0.2s
SOKA Sg Sg 20 01 04.8 -0.9
comp=Z,3.2nm,0.4s
DEL Delary 5.07 346 *i* P Pn 19 59 42.7 -1.0
DEL eS Sn 20 00 42.9 0.0
WATA Walderalm 5.18 217 *i* Pn Pn 19 59 47.3 +2.0
comp=Z,2.3nm,0.3s,SNR=6.1
WATA *i* Sn Sn 20 00 45.6 -0.1
comp=Z,2.3nm,0.2s
WTTA Wattenberg 5.22 216 *i* Pn Pn 19 59 48.2 +2.4
comp=Z,1.9nm,0.3s,SNR=6.0
MOTA Moosalm 5.35 220 *i* Pn Pn 19 59 48.7 +1.0
comp=Z,0.9nm,0.2s
MOTA *i* Sn Sn 20 00 49.9 -0.1
comp=Z,2.3nm,0.3s
ABTA Abfaltersbach 5.38 207 *i* Pn Pn 19 59 50.4 +2.3
comp=Z,0.7nm,0.2s
ABTA Sg Sg 20 01 17.3 -2.0
comp=Z,5.3nm,0.5s
SQTA Sankt Quirin 5.41 218 *i* Pn Pn 19 59 50.1 +1.6
comp=Z,3.3nm,0.2s,SNR=7.7
SQTA *i* Sn Sn 20 00 53.0 +1.5
comp=Z,2.0nm,0.2s
DAVA Damuels 5.92 226 *i* Pn Pn 19 59 56.3 +0.9
comp=Z,2.2nm,0.3s
DAVA eSg Sg 20 01 36.7 +0.3
comp=Z,3.9nm,0.4s
DAVOX Davos/Dischmat 6.31 223 Pn Pn 20 00 01.1 +0.3
comp=Z,0.4nm,0.3s,baz=33,slow=5.8,SNR=6.3
DAVOX Sn Sn 20 01 10.2 -3.4
baz=204,slow=20
DAVOX Lg Lg 20 01 45.2
comp=Z,0.3nm,0.3s,baz=94,slow=23,SNR=1.9
comp=Z,1.3nm,0.4s
ONAU Onsala 6.32 339 *i* P Pn 20 00 02.5 +1.8
ONAU eS Sn 20 01 11.3 -2.2
VIKU Vikbolandet 6.94 3 *eP* Pn 20 00 11.6 +2.2
BURAR Bucovina Array 7.12 120 ⇑P Pn 20 00 13.9 +1.9
HOMB Homborsund 8.00 330 *eS* Sn 20 01 51.2 -3.7
AKASG Malin Array Be 8.29 91 Pn Pn 20 00 29.4 +1.5
comp=Z,1.2nm,0.3s,baz=281,slow=12,SNR=5.1
AKASG Sn Sn 20 02 00.9 -1.3
comp=Z,0.5nm,0.3s,baz=78,slow=24,SNR=1.5
AKASG Lg Lg 20 02 46.9
baz=75,slow=36
comp=Z,0.4nm,0.4s
HFS Hagfors 8.68 352 Pn Pn 20 00 34.6 +1.5
comp=Z,0.2nm,0.3s,baz=168,slow=14,SNR=15
HFS Sn Sn 20 02 11.1 -0.5
comp=Z,0.2nm,0.3s,baz=166,slow=19,SNR=2.1
comp=Z,1.1nm,0.8s
NOA NORSAR Array B 9.86 346 Pn Pn 20 00 50.5 +1.1
baz=167,slow=12,SNR=6.3
comp=Z,0.2nm,0.7s
FINES FINESS Array B 11.30 25 Pn Pn 20 01 09.6 +0.6
comp=Z,0.2nm,0.3s,baz=210,slow=11,SNR=11
FINES Sn Sn 20 03 10.1 -5.7
comp=Z,0.2nm,0.3s,baz=210,slow=20,SNR=5.6
comp=Z,0.7nm,0.5s
VAF Ylistaro 12.02 14 *eP* Pn 20 01 20.0 +1.3
EKA Eskdalemuir Ar 12.08 296 Pn Pn 20 01 16.9 -2.7
baz=102,slow=14
ARCES ARCESS Array B 18.55 10 Pn P 20 02 43.0 -1.4
comp=Z,0.1nm,0.3s,baz=192,slow=12,SNR=8.6
comp=Z,0.7nm,0.6s

*IDC **31** 20:10:42.1±1.6, 1.°91N×128.°34E, h0km, mb3.5/6, mbtmp3.5/6, Error ellipse: s-maj=147.0km s-min=19.6km az=70.0*
*DJA **31** 20:10:49.8±2.1, 2.°1N±10.°×12.°8E±.°, h34km±37km, M3.9/10, mb4.0/6, mB5.3/1, MLv3.8/10, Mw(mB)4.7/1*
ISC 31 20:10:47.4±1.0, 1.°9N±0.°1×128.°6E±0.°1, h35km, n14, σ1§17/15, mb3.6/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.64**	**227**	P	**Pn**	**20 11 13.2**	**-0.6**
LBMI	**Labuha**	**2.73**	**203**	P	**Pn**	**20 11 28.6**	**-0.2**
SWI	**Sorong**	**3.83**	**136**	P	**Pn**	**20 11 45.4**	**+1.5**
SWI				S	**Sn**	**20 12 28.0**	**+0.2**
KMSI	**Cibinong**	**4.78**	**254**	P	**Pn**	**20 11 58.2**	**+1.3**
NLAI	**Namlea**	**5.30**	**196**	P	**Pn**	**20 12 04.8**	**+0.6**
	8.9nm,1.0s,3µm0.1nm						
GTOI	**Gorontalo**	**5.70**	**257**	P	**Pn**	**20 12 12.2**	**+2.6**
	7.1nm,0.9s,0.0nm						
FAKI	**Fak Fak**	**6.03**	**142**	P	**Pn**	**20 12 15.5**	**+1.4**
	28nm,1.1s,0.1nm						
TTSI	**Tana Toraja**	**10.03**	**241**	P	**Pn**	**20 13 09.4**	**+0.3**
WRA	**Warramunga Arr**	**22.42**	**166**	P	**P**	**20 15 43.2**	**0.0**
	0.3nm,0.4s,baz=344,slow=9.6,SNR=6.9						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**25.93**	**169**	P	**P**	**20 16 15.8**	**-0.8**
	0.2nm,0.6s,baz=348,slow=7.6,SNR=6.8						
	0.2nm,0.6s						
SONM	**Songimo Array**	**49.62**	**340**	P	**P**	**20 19 35.8**	**+0.2**
	0.3nm,0.6s,baz=149,slow=9.6,SNR=2.6						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**60.11**	**325**	P	**P**	**20 20 50.8**	**-0.5**
	0.5nm,0.4s,baz=119,slow=8.7,SNR=9.1						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**64.27**	**327**	P	**P**	**20 21 18.2**	**-0.9**
	1.0nm,0.6s,baz=125,slow=5.8,SNR=15						
	1.0nm,0.6s						
BVAR	**Borovoye Array**	**69.86**	**327**	P	**P**	**20 21 53.4**	**-1.2**
	0.7nm,0.8s,baz=97,slow=5.8,SNR=2.9						
	0.7nm,0.8s						

*IDC **31** 20:21:06.9±0.8, 9.°54N×40.°58W, h0km, mb3.8/11, mbtmp3.9/13, ML4.1/2, MS4.0/66, Error ellipse: s-maj=23.5km s-min=18.3km az=156.0*
*NEIC **31** 20:21:09.6±1.8, 9.°5N±0.°1×40.°64W±0.°09, h10km±1km, mb4.5/12, Error ellipse: s-maj=21.9km s-min=13.3km az=200.0*
*GCMT **31** 20:21:12.6±0.2, 9.°50N±0.°02×40.°56W±0.°01, h12km±1km, MW4.9/107, Moment Tensor Solution. s33,c36; s107,c157; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.74±.15; Mθθ0.01±.08; Mϕϕ2.73±.11; Mrθ0.07±.30; Mrϕ-0.08±.06; Mθϕ0.49±.21; Best double couple: M₀2.78100×10¹⁶ NP1:ϕs180.00000°, δ50.00000°, λ-88.00000°. NP2:ϕs357.00000°, δ40.00000°, λ-93.00000°. Principal axes: T 2.7760, Plg5.0000°, Azm268.0000°; N 0.0090, Plg2.0000°, Azm359.0000°; P -2.7860, Plg85.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 31 20:21:09.1±0.5, 9.°64N±0.°08×40.°67W±0.°08, h10km, n107, σ1§60/49, mb4.0/15, MS4.0/66, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**12.70**	**250**	Pn	**Pn**	**20 24 09.5**	**-0.4**
	2.9nm,0.3s,baz=68,slow=12,SNR=28						
MDP				Sn	Sn	20 26 15.5	-16
	0.2nm,0.3s,baz=81,slow=14,SNR=1.6						
MDP				LR	LR	20 28 22.2	
	comp=Z,785nm,20.5s,baz=90,slow=34						
	6.6nm,0.4s						
TMAB	**Tom-Au,PA,Br**	**14.04**	**212**	*eP*	**Pn**	**20 24 25.9**	**-2.3**
MCPB	**Macapa, AP**	**15.07**	**229**	*eP*	**Pn**	**20 24 39.3**	**-3.1**
NBPB	**Pedra_Branca-C**	**15.12**	**176**	*eP*	**Pn**	**20 24 42.3**	**-0.6**
RCBR	**Riachuelo**	**16.08**	**163**	Pn	**Pn**	**20 24 52.6**	**-2.9**
RCBR	**Riachuelo**	**16.08**	**163**	P	**P**	**20 24 52.1**	**-3.3**
	0.3nm,0.3s,baz=344,slow=16,SNR=2.8						
RCBR				LR	LR	20 29 44.0	
	comp=Z,91nm,18.5s,baz=46,slow=32						
	4.7nm,0.8s						
MALB	**Monte Alegre**	**17.71**	**231**	*eP*	**Pn**	**20 25 13.2**	**-2.9**
NBCA	**Caruaru-PE**	**18.34**	**165**	*eP*	**P**	**20 25 27.5**	**+3.6**
SMTB	**Santa Maria do**	**19.63**	**201**	*eP*	**P**	**20 25 38.8**	**+0.8**
ITTB	**Itaituba**	**20.47**	**228**	*eP*	**P**	**20 25 46.6**	**-0.6**
BOAV	**Boa Vista**	**21.01**	**251**	P	**P**	**20 25 52.2**	**-0.7**
BOAV				IAmb	IAmb	20 26 06.4	
	comp=Z,35nm,1.3s						
BOAV	**Boa Vista**	**21.01**	**251**	*eP*	**P**	**20 25 52.7**	**-0.3**
NPGB	**Novo Progresso**	**22.11**	**222**	*eP*	**P**	**20 26 05.2**	**+0.4**
SDBA	**SAO DESIDERIO**	**22.30**	**191**	*eP*	**P**	**20 26 06.1**	**-0.8**
PCRV	**Puerto La Cruz**	**23.62**	**273**	LR	LR	20 36 13.5	
	comp=Z,347nm,19.5s,slow=38						
MACA	**Manacapuru-AM**	**23.65**	**238**	P	**P**	**20 26 20.1**	**-0.8**
MACA	**Manacapuru-AM**	**23.65**	**238**	*eP*	**P**	**20 26 21.8**	**+0.9**
SNDB	**Serra Nova Dou**	**23.93**	**206**	*eP*	**P**	**20 26 25.0**	**+1.5**
GUA01	**Guaratinga, BA**	**26.07**	**178**	*eP*	**P**	**20 26 46.1**	**+3.2**
BDFB	**Brasilia**	**26.15**	**196**	P	**P**	**20 26 41.9**	**-2.0**
	comp=Z,1.0nm,0.4s,baz=23,slow=9.6,SNR=2.1						
BDFB				LR	LR	20 36 31.7	
	comp=Z,354nm,20.5s,baz=333,slow=36						
	comp=Z,1.0nm,0.4s						
PDRB	**Porto dos Gac**	**26.47**	**217**	*eP*	**P**	**20 26 48.3**	**+1.6**
TEFE	**Tefe**	**27.22**	**242**	*eP*	**P**	**20 26 54.9**	**+1.5**
ARAG	**Araguaiana, MT**	**27.49**	**204**	*eP*	**P**	**20 26 57.7**	**+1.9**
SAML	**Samuel**	**29.04**	**231**	P	**P**	**20 27 10.6**	**+0.9**
SAML	**Samuel**	**29.04**	**231**	*eP*	**P**	**20 27 10.8**	**+1.0**
SALV	**Santo Antonio**	**29.42**	**211**	*eP*	**P**	**20 27 14.3**	**+1.4**
SDV	**Santo Domingo**	**29.58**	**271**	LR	LR	20 39 04.2	
	comp=Z,210nm,19.6s,baz=98,slow=36						
H10N3	**ASCENSION HYDR**	**31.31**	**123**	T	T	21 00 09.9	
	baz=305,slow=75						
H10N2	**ASCENSION HYDR**	**31.32**	**123**	T	T	21 00 13.3	
	baz=305,slow=75						
H10N1	**ASCENSION HYDR**	**31.34**	**123**	T	T	21 00 14.4	
	baz=305,slow=75						
ETMB	**Extrema**	**31.94**	**233**	P	**P**	**20 27 35.3**	**0.0**
ETMB				IAmb	IAmb	20 27 45.2	
	comp=Z,7.8nm,1.3s						
ETMB	**Extrema**	**31.94**	**233**	*eP*	**P**	**20 27 37.2**	**+1.9**
SIV	**San Ignacio**	**32.51**	**219**	LR	LR	20 40 45.1	
	comp=Z,343nm,18.2s,baz=66,slow=36						
BBSD	**Serra de San D**	**33.15**	**217**	*eP*	**P**	**20 27 47.6**	**+1.6**
ROSC	**El Rosal**	**33.71**	**264**	LR	LR	20 42 05.7	
	comp=Z,798nm,18.3s,baz=80,slow=37						
DBIC	**Dimbokro**	**35.56**	**92**	P	**P**	**20 28 06.2**	**-0.6**
DBIC				IAmb	IAmb	20 28 08.7	
	comp=Z,10nm,1.1s						
DBIC	**Dimbokro**	**35.56**	**92**	P	**P**	**20 28 05.8**	**-1.0**
	comp=Z,3.2nm,0.6s,baz=280,slow=8.2,SNR=7.4						
DBIC				LR	LR	20 40 08.7	
	comp=Z,332nm,18.5s,baz=264,slow=32						
	comp=Z,3.2nm,0.6s						
CZSB	**Cruzeiro do Su**	**36.28**	**243**	P	**P**	**20 28 12.2**	**-0.8**
LPAZ	**La Paz**	**37.45**	**227**	P	**P**	**20 28 23.2**	**-0.4**
LPAZ				IAmb	IAmb	20 28 34.0	
	comp=Z,8.4nm,1.2s						
LPAZ	**La Paz**	**37.45**	**227**	P	**P**	**20 28 24.2**	**+0.6**
	comp=Z,2.7nm,0.9s,baz=48,slow=12,SNR=5.3						
LPAZ				LR	LR	20 44 35.9	
	comp=Z,234nm,18.2s,baz=50,slow=38						
	comp=Z,2.7nm,0.9s						
LPAZ	**La Paz**	**37.45**	**227**	*eP*	**P**	**20 28 24.4**	**+0.7**
TULM	**Tulcn-Chalpat**	**37.98**	**259**	P	**P**	**20 28 26.1**	**-1.9**
TULM				IAmb	IAmb	20 28 50.2	
	comp=Z,7.3nm,1.0s						
CPUP	**Villa Florida**	**39.25**	**204**	LR	LR	20 44 49.6	
	comp=Z,319nm,18.5s,baz=24,slow=36						
COHC	**Cochancay**	**40.28**	**255**	P	**P**	**20 28 45.9**	**-0.9**
MDT	**Midelt**	**40.45**	**50**	LR	LR	20 44 03.5	
	comp=Z,191nm,18.5s,baz=252,slow=34						
ATAH	**Atahualpa**	**41.11**	**247**	LR	LR	20 45 45.1	
	comp=Z,277nm,21.3s,baz=74,slow=36						
PB01	**IPOC Station P**	**41.62**	**223**	P	**P**	**20 28 57.3**	**-0.4**
PB01				IAmb	IAmb	20 28 57.5	
	comp=Z,9.3nm,1.4s						
TORD	**Torodi Ar. Bea**	**41.64**	**81**	P	**P**	**20 28 55.9**	**-2.1**
	comp=Z,2.1nm,0.7s,baz=281,slow=8.0,SNR=14						
TORD				LR	LR	20 44 41.2	
	comp=Z,511nm,19.0s,baz=270,slow=34						
	comp=Z,2.1nm,0.7s						
NNA	**Nana**	**41.88**	**240**	LR	LR	20 46 54.1	
	comp=Z,350nm,19.3s,baz=40,slow=37						
RODS	**Rosario do Sul**	**42.14**	**199**	*eP*	**P**	**20 29 04.5**	**+2.7**
LVC	**Limon Verde**	**42.34**	**220**	LR	LR	20 47 08.7	
	comp=Z,93nm,18.7s,baz=27,slow=37						
JTS	**Las Juntas de**	**43.60**	**275**	LR	LR	20 48 24.7	
	comp=Z,145nm,20.6s,baz=107,slow=38						
ESDC	**Sonseca Array**	**44.28**	**41**	P	**P**	**20 29 18.8**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=206,slow=8.6,SNR=2.0						
ESDC				LR	LR	20 44 32.1	
	comp=Z,212nm,18.5s,baz=239,slow=32						
	comp=Z,0.4nm,0.8s						
TKL	**Tuckaleechee C**	**46.94**	**310**	LR	LR	20 45 23.7	
	comp=Z,342nm,21.9s,baz=108,slow=31						
TEIG	**Tepich**	**47.04**	**289**	LR	LR	20 47 52.9	
	comp=Z,818nm,21.6s,slow=34						
SADO	**Sadowa**	**48.19**	**324**	LR	LR	20 45 48.6	
	comp=Z,118nm,21.3s,baz=214,slow=31						
SCHQ	**Schefferville**	**49.63**	**340**	LR	LR	20 47 37.6	
	comp=Z,139nm,21.2s,baz=115,slow=32						
KEST	**Kesra**	**52.24**	**52**	LR	LR	20 52 45.6	
	comp=Z,192nm,19.3s,baz=186,slow=36						
DAVOX	**Davos/Dischmat**	**56.53**	**40**	LR	LR	20 51 28.4	
	comp=Z,156nm,21.8s,baz=260,slow=32						
BORG	**Borgarnes**	**56.68**	**10**	LR	LR	20 49 31.5	
	comp=Z,80nm,19.7s,baz=214,slow=30						
PLCA	**Paso Flores**	**57.21**	**207**	LR	LR	20 58 27.2	
	comp=Z,160nm,18.3s,baz=46,slow=39						
FRB	**Frobisher Bay**	**57.55**	**346**	LR	LR	20 52 08.5	
	comp=Z,141nm,21.3s,baz=150,slow=32						
SFJD	**Kangerlussuaq**	**57.68**	**355**	LR	LR	20 50 14.1	
	comp=Z,36nm,21.8s,baz=149,slow=30						
GERES	**GERESS Array B**	**59.71**	**38**	LR	LR	20 55 22.6	
	comp=Z,68nm,19.3s,baz=282,slow=34						
ULM	**Lac du Bonnet**	**60.74**	**323**	P	**P**	**20 31 21.4**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=105,slow=7.5,SNR=2.2						
ULM				LR	LR	20 53 02.2	
	comp=Z,98nm,21.9s,baz=104,slow=32						
	comp=Z,0.9nm,0.4s						
VRAC	**Vranov**	**61.65**	**39**	LR	LR	20 55 34.4	
	comp=Z,54nm,20.0s,baz=234,slow=34						
TXAR	**Lajitas Array**	**61.84**	**298**	P	**P**	**20 31 29.7**	**+0.8**
TXAR	**Lajitas Array**	**61.84**	**298**	P	**P**	**20 31 27.8**	**-1.1**
	comp=Z,0.7nm,1.1s,baz=122,slow=6.8,SNR=2.1						
TXAR				LR	LR	21 00 58.2	
	comp=Z,6.6nm,19.5s,baz=70,slow=39						
	comp=Z,0.7nm,1.1s						
NOA	**NORSAR Array B**	**63.80**	**25**	P	**P**	**20 31 41.3**	**0.0**
	comp=Z,0.7nm,1.0s,baz=213,slow=7.3,SNR=2.5						
NOA				LR	LR	20 54 13.6	
	comp=Z,71nm,21.5s,baz=240,slow=31						
	comp=Z,0.7nm,1.0s						
HFS	**Hagfors**	**64.43**	**27**	LR	LR	20 54 33.9	
	comp=Z,37nm,21.7s,baz=229,slow=31						
ANMO	**Albuquerque**	**64.72**	**304**	LR	LR	20 56 50.2	
	comp=Z,197nm,21.3s,baz=194,slow=33						
MLR	**Muntele Rosu**	**66.82**	**45**	LR	LR	20 58 05.8	
	comp=Z,61nm,21.4s,baz=260,slow=33						
LPIG	**La Paz**	**67.60**	**292**	LR	LR	21 03 51.9	
	comp=Z,31nm,18.1s,baz=272,slow=38						
PDAR	**Pinedale Array**	**68.04**	**312**	LR	LR	20 58 21.7	
	comp=Z,242nm,21.9s,baz=126,slow=33						
AKASG	**Malin Array Be**	**69.88**	**39**	LR	LR	21 01 07.3	
	comp=Z,71nm,20.2s,baz=255,slow=34						
FINES	**FINESS Array B**	**70.55**	**28**	LR	LR	21 02 08.1	
	comp=Z,30nm,18.5s,baz=236,slow=35						
RES	**Resolute Bay**	**71.73**	**347**	LR	LR	21 00 16.9	
	comp=Z,74nm,21.9s,baz=359,slow=33						
BRTR	**Keskin Array B**	**71.84**	**51**	P	**P**	**20 32 33.1**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=268,slow=5.4,SNR=4.1						
BRTR				LR	LR	21 04 22.9	
	comp=Z,39nm,21.3s,baz=206,slow=36						
	comp=Z,0.5nm,0.7s						
SUR	**Sutherland**	**71.95**	**129**	LR	LR	20 56 59.0	
	comp=Z,196nm,21.0s,baz=304,slow=30						
ELK	**Elko**	**72.10**	**310**	LR	LR	21 00 54.6	
	comp=Z,180nm,22.0s,baz=90,slow=33						
LSZ	**Lusaka**	**72.56**	**109**	LR	LR	20 58 22.4	
	comp=Z,92nm,21.0s,baz=312,slow=31						
EIL	**Elat**	**72.84**	**62**	LR	LR	21 06 13.5	
	comp=Z,116nm,19.1s,baz=247,slow=37						
LBTB	**Lobatse**	**73.13**	**120**	LR	LR	20 58 28.4	
	comp=Z,317nm,20.6s,baz=280,slow=31						
MMAI	**Mount Meron Ar**	**73.16**	**58**	LR	LR	21 05 21.7	
	comp=Z,74nm,21.3s,baz=207,slow=36						
NEW	**Newport**	**73.86**	**317**	LR	LR	21 03 20.4	
	comp=Z,154nm,19.1s,baz=118,slow=34						
BOSA	**Boshof**	**74.07**	**123**	LR	LR	20 58 55.5	
	comp=Z,211nm,21.0s,baz=299,slow=31						
YKA	**Yellowknife Ar**	**74.10**	**332**	P	**P**	**20 32 45.8**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=97,slow=5.5,SNR=5.3						
YKA				LR	LR	21 03 14.7	
	comp=Z,74nm,18.7s,baz=284,slow=34						
	comp=Z,0.2nm,0.5s						
SPITS	**Spitsbergen Ar**	**74.13**	**10**	LR	LR	20 59 09.9	
	comp=Z,36nm,19.7s,baz=196,slow=31						
NVAR	**Mina Array Bea**	**74.41**	**307**	LR	LR	21 02 20.3	
	comp=Z,80nm,21.9s,baz=83,slow=33						
ASF	**Jabal al Asfar**	**74.44**	**59**	LR	LR	21 05 41.0	
	comp=Z,36nm,21.1s,baz=218,slow=36						
OBN	**Obninsk**	**74.85**	**35**	LR	LR	21 02 37.1	
	comp=Z,78nm,21.9s,baz=182,slow=33						
RPN	**Rapa Nui**	**75.86**	**239**	LR	LR	21 03 51.7	
	comp=Z,92nm,19.2s,baz=42,slow=34						
GNI	**Garni**	**80.37**	**51**	LR	LR	21 10 30.4	
	comp=Z,34nm,20.4s,baz=267,slow=37						
BELG	**Belogornoye**	**81.40**	**38**	LR	LR	21 06 48.2	
	comp=Z,83nm,21.3s,baz=166,slow=34						
DLBC	**Dease Lake**	**81.53**	**328**	LR	LR	21 05 49.5	
	comp=Z,79nm,21.8s,baz=110,slow=33						
ATD	**Arta Tunnel**	**81.82**	**80**	LR	LR	21 07 25.9	
	comp=Z,7.9nm,21.6s,baz=308,slow=34						
KIRV	**Kirov**	**81.90**	**32**	LR	LR	21 08 34.7	
	comp=Z,85nm,18.6s,baz=268,slow=35						
INK	**Inuvik**	**82.18**	**338**	LR	LR	21 08 09.9	
	comp=Z,128nm,18.8s,baz=17,slow=34						
ARU	**Arti**	**87.11**	**33**	LR	LR	21 12 40.5	
	comp=Z,88nm,18.6s,baz=264,slow=36						
AKTO	**Aktyubinsk**	**88.13**	**39**	LR	LR	21 11 03.4	
	comp=Z,47nm,21.4s,baz=336,slow=34						
ILAR	**Eielson Array**	**88.15**	**336**	P	**P**	**20 33 60.0**	**0.0**
	comp=Z,0.2nm,0.6s,baz=69,slow=5.0,SNR=2.6						
ILAR				LR	LR	21 12 53.6	
	comp=Z,38nm,18.0s,baz=48,slow=35						
	comp=Z,0.2nm,0.6s						
ABKAR	**Akbulak array**	**89.61**	**40**	P	**P**	**20 34 07.8**	**+0.7**
ABKAR	**Akbulak array**	**89.61**	**40**	P	**P**	**20 34 08.1**	**+0.9**
ABKAR				IAmb	IAmb	20 34 18.0	
	comp=Z,5.4nm,1.4s						
OPO	**Ambohidratompo**	**91.01**	**109**	LR	LR	21 10 29.2	
	comp=Z,38nm,20.7s,baz=343,slow=33						
KDAK	**Kodiak Island**	**93.25**	**330**	LR	LR	21 12 38.3	
	comp=Z,36nm,21.9s,baz=113,slow=33						
WSAR	**Wadi Sarin**	**94.66**	**66**	LR	LR	21 18 51.6	
	comp=Z,186nm,19.5s,baz=298,slow=37						
BVAR	**Borovoye Array**	**94.67**	**34**	LR	LR	21 15 29.0	
	comp=Z,104nm,20.5s,baz=273,slow=34						

IDC 31 20:21:34.4±54.0, 20.°66S×176.°00W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=1013.0km s-min=173.4km az=84.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.41**	**245**	P	P	20 29 05.1	-1.1
	1.5nm,0.9s,baz=66,slow=10.0,SNR=3.3						
	1.5nm,0.9s						
ASAR	**Alice Springs**	**46.31**	**257**	P	P	20 30 02.4	+0.1
	1.5nm,0.7s,baz=92,slow=8.2,SNR=25						
	1.5nm,0.7s						
WRA	**Warramunga Arr**	**46.43**	**262**	P	P	20 30 03.6	+0.3
	0.4nm,0.3s,baz=96,slow=8.0,SNR=18						
	0.4nm,0.3s						

*IDC **31** 20:43:56.8±1.5, 5.°72N×125.°35E, h152km±15km, mb3.5/10, mbtmp3.9/10, MS3.6/1, Error ellipse: s-maj=54.5km s-min=11.2km az=69.0*
*DJA **31** 20:43:57.3±0.4, 6.°N±4.°×12.°6E±.°, h150km±4km, M4.5/17, mB4.9/7, mb4.6/17, MLv4.8/10, Mw(mB)4.2/7*
*NEIC **31** 20:43:58.0±1.4, 5.°93N±0.°07×125.°9E±0.°1, h163km±7km, mb4.5/26, Error ellipse: s-maj=17.9km s-min=9.7km az=78.0*
ISC 31 20:43:56.9±0.4, 5.°86N±0.°04×125.°93E±0.°08, h150km, n76, σ1§51/84, mb4.3/24, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.25**	**344**	P	**Pn**	**20 44 26.3**	**+2.4**
	211nm,0.2s,baz=225,slow=4.3,SNR=13						
DAV				S	**Sn**	**20 44 46.4**	**+1.7**
	779nm,0.3s,baz=262,slow=19,SNR=7.4						
SGSI	**Sangihe**	**2.20**	**190**	P	**Pn**	**20 44 34.9**	**+0.5**
SGSI				S	**Sn**	**20 45 04.1**	**+0.9**
TNTI	**Ternate**	**5.25**	**164**	Pn	**Pn**	**20 45 14.8**	**+1.1**
TNTI	**Ternate**	**5.25**	**164**	P	**Pn**	**20 45 14.5**	**+0.8**
	50nm,0.6s,2µm0.9nm						
KMSI	**Cibinong**	**5.60**	**200**	P	**Pn**	**20 45 20.2**	**+1.9**
	371nm,1.2s,4µm1.1nm						
GTOI	**Gorontalo**	**5.95**	**209**	P	**Pn**	**20 45 24.1**	**+1.1**
	46nm,0.8s,444nm0.2nm						
GTOI				S	**Sn**	**20 46 27.9**	**-2.4**
	46nm,0.8s,444nm0.2nm						
LBMI	**Labuha**	**6.64**	**166**	P	**Pn**	**20 45 32.1**	**-0.1**
	50nm,0.7s,1µm1.4nm						
MRSI	**Marisa**	**6.67**	**217**	P	Pn	20 45 40.5	+8.0
TOLI2	**Tolitoli**	**6.97**	**228**	Pn	**Pn**	**20 45 37.5**	**+0.8**
LUWI	**Luwuk**	**7.54**	**205**	Pn	**Pn**	**20 45 45.5**	**+1.2**
LUWI	**Luwuk**	**7.54**	**205**	P	**Pn**	**20 45 44.3**	**0.0**
	71nm,1.0s,1µm0.3nm						
SANI	**Sanana**	**7.86**	**180**	P	**Pn**	**20 45 46.8**	**-1.6**
	87nm,0.7s,2µm0.7nm						
MPSI	**Mapaga**	**8.14**	**228**	P	**Pn**	**20 45 54.3**	**+2.0**
	6.0nm,1.4s						
SWI	**Sorong**	**8.54**	**141**	P	**Pn**	**20 45 56.1**	**-1.5**
	56nm,0.8s,542nm						
NLAI	**Namlea**	**9.11**	**173**	P	**Pn**	**20 46 04.9**	**-0.3**
KKM	**Kota Kinabalu**	**9.66**	**272**	Pn	**Pn**	**20 46 12.6**	**0.0**
TTSI	**Tana Toraja**	**10.74**	**215**	P	**Pn**	**20 46 30.3**	**+3.5**
FAKI	**Fak Fak**	**10.77**	**144**	Pn	**Pn**	**20 46 27.8**	**+0.6**
FAKI	**Fak Fak**	**10.77**	**144**	P	**Pn**	**20 46 26.3**	**-0.8**
	38nm,1.0s						
KAPI	**Kappang**	**12.44**	**210**	Pn	**Pn**	**20 46 50.2**	**+1.2**
BKSI	**Bulukumba**

	comp=Z,0.7nm,0.6s,baz=346,slow=1.9,SNR=7.4							
ASAR				ScP	**ScP**	**20 56 17.8**	**-2.0**	
	comp=Z,0.3nm,0.7s,baz=319,slow=2.6,SNR=2.3							
	comp=Z,3.2nm,0.6s							
PZH	**PanZhiHua**	**30.88**	**314**	P	**P**	**20 50 02.3**	**+2.9**	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,70nm,5.6s							
MORW	**Morawa**	**36.01**	**195**	P	**P**	**20 50 43.4**	**-0.3**	
FORT	**Forrest**	**36.49**	**177**	P	**P**	**20 50 47.6**	**0.0**	
HHC	**Hu-ho-hao-te**	**37.14**	**342**	*e*P	**P**	**20 50 54.5**	**+1.3**	
HHC				pmax	pmax			
	comp=Z,19nm,0.6s							
HHC				pmax	pmax			
	comp=Z,84nm,5.4s							
MDJ	**Mudanjiang**	**38.74**	**4**	P	**P**	**20 51 08.0**	**+1.6**	
MDJ				pmax	pmax			
	comp=Z,4.0nm,1.1s							
MDJ				pmax	pmax			
	comp=Z,120nm,4.5s							
NWAO	**Narrogin (SRO)**	**39.45**	**192**	P	**P**	**20 51 12.5**	**0.0**	
BBOO	**Buckleboo**	**39.65**	**167**	P	**P**	**20 51 14.6**	**+0.5**	
BBOO				IAmb	IAmb	20 51 15.4		
	comp=Z,16nm,0.8s							
BNX	**BinXian**	**39.75**	**2**	⇑P	**P**	**20 51 13.0**	**-1.8**	
BNX				pmax	pmax			
	comp=Z,6.0nm,1.6s							
BNX				pmax	pmax			
	comp=Z,60nm,6.1s							
STKA	**Stephens Creek**	**40.39**	**159**	P	**P**	**20 51 20.9**	**+0.6**	
	comp=Z,5.1nm,0.7s,baz=339,slow=7.8,SNR=15							
	comp=Z,5.1nm,0.7s							
SONM	**Songino Array**	**45.04**	**341**	P	**P**	**20 51 56.9**	**-0.8**	
	comp=Z,0.4nm,0.8s,baz=129,slow=3.9,SNR=2.0							
	comp=Z,0.4nm,0.8s							
CAN	**Canberra**	**46.36**	**154**	P	**P**	**20 52 09.5**	**+1.3**	
CAN				IAmb	IAmb	20 52 20.6		
	comp=Z,21nm,1.4s							
TOO	**Toolangi**	**46.90**	**159**	P	**P**	**20 52 13.4**	**+1.1**	
TOO				IAmb	IAmb	20 52 14.9		
	comp=Z,9.8nm,1.1s							
MK31	**Makanchi Array**	**55.36**	**325**	P	**P**	**20 53 14.0**	**-1.3**	
MKAR	**Makanchi Array**	**55.36**	**325**	P	**P**	**20 53 13.7**	**-1.6**	
MKAR	**Makanchi Array**	**55.36**	**325**	P	**P**	**20 53 14.0**	**-1.3**	
	comp=Z,1.1nm,0.5s,baz=122,slow=7.4,SNR=21							
MKAR				PcP	**PcP**	**20 54 13.3**	**-0.7**	
	comp=Z,0.6nm,0.6s,baz=119,slow=7.0,SNR=2.5							
MKAR				LR	LR	21 20 11.1		
	comp=Z,60nm,21.1s,baz=296,slow=39							
	comp=Z,1.1nm,0.5s							
ZALV	**Zalesovo Beam**	**58.34**	**333**	P	**P**	**20 53 34.0**	**-2.0**	
	comp=Z,0.3nm,0.3s,baz=102,slow=5.0,SNR=2.9							
	comp=Z,0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**59.53**	**327**	P	**P**	**20 53 42.7**	**-1.6**	
	comp=Z,1.1nm,0.7s,baz=126,slow=6.1,SNR=8.0							
	comp=Z,1.1nm,0.7s							
GAR	**Garm**	**59.91**	**312**	P	**P**	**20 53 45.7**	**-1.6**	
GAR				IAmb	IAmb	20 53 47.2		
	comp=Z,3.9nm,0.9s							
BVAR	**Borovoye Array**	**65.11**	**327**	P	**P**	**20 54 19.8**	**-1.7**	
	comp=Z,0.4nm,0.4s,baz=103,slow=4.3,SNR=4.7							
	comp=Z,0.4nm,0.4s							
ABKAR	**Akbulak array**	**70.01**	**320**	P	**P**	**20 54 50.1**	**-2.1**	
ABKAR	**Akbulak array**	**70.01**	**320**	P	**P**	**20 54 50.3**	**-2.0**	
ABKAR				IAmb	IAmb	20 54 58.5		
	comp=Z,1.0nm,0.9s							
ARU	**Arti**	**72.72**	**328**	P	**P**	**20 55 06.4**	**-2.0**	
M14K	**Bethel**	**76.21**	**29**	P	**P**	**20 55 29.4**	**+1.0**	
M14K				IAmb	IAmb	20 55 41.5		
	comp=Z,32nm,1.5s							
D19K	**Kuna River**	**79.44**	**21**	P	**P**	**20 55 46.4**	**+0.1**	
BRLK	**Bradley Lake**	**81.53**	**31**	P	**P**	**20 55 56.1**	**-1.5**	
BRLK				IAmb	IAmb	20 56 24.2		
	comp=Z,10nm,1.2s							
ILAR	**Eielson Array**	**83.54**	**26**	P	**P**	**20 56 10.6**	**+2.8**	
	comp=Z,0.3nm,0.8s,baz=258,slow=4.2,SNR=1.5							
	comp=Z,0.3nm,0.8s							
BMAR	**Burnt Mountain**	**84.44**	**23**	P	**P**	**20 56 13.2**	**+0.8**	
FINES	**FINESS Array B**	**89.59**	**332**	P	**P**	**20 56 35.4**	**-1.9**	
FINES	**FINESS Array B**	**89.59**	**332**	P	**P**	**20 56 35.0**	**-2.2**	
	comp=Z,0.9nm,0.9s,baz=58,slow=4.7,SNR=6.0							
	comp=Z,0.9nm,0.9s							
TORD	**Torodi Ar. Bea**	**121.48**	**289**	PKP	**PKPdf**	**21 02 32.0**	**-1.6**	
	comp=Z,0.5nm,0.8s,baz=43,slow=3.2,SNR=4.5							

SFS ***31*** *20:47:44.4, 39.°72N×0.°46E, h1km, mb3.8/4, ML3.8/16, ML3.8/16, MLv3.7/16*
MDD ***31*** *20:47:46.0±0.2, 39.°70N×0.°43E, h12km, mb_Lg3.3/44, Error ellipse: s-maj=1.6km s-min=0.9km az=132.0*
LDG ***31*** *20:47:45.3±0.1, 39.°68N×0.°45E, h2km, Ml2.7/16, Error ellipse: s-maj=2.0km s-min=1.2km az=125.0*
INMG ***31*** *20:47:45.9±1.9, 39.°71N×0.°42E, h15km±3km, ML2.9, Error ellipse: s-maj=2.9km s-min=2.0km az=106.0*

ISC 31 20:47:44.1±1.1, 39.°74N±0.°02×0.°40E±0.°02, h11km±9km, n96, σ1§74/238, 2C, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECOL	**Islas Columbre**	**0.27**	**54**	⇑Pg	**Pb**	**20 47 51.8**	**+0.8**
ECOL				Sg	**Sb**	**20 47 56.4**	**+0.8**
EMOS	**Mosqueruela**	**0.91**	**313**	Pg	**Pn**	**20 48 03.1**	**+0.2**
EMOS				Sg	**Sb**	**20 48 15.1**	**+0.9**
EMOS				*i* Vmb_Lg		20 48 16.8	
EIBI	**Ibiza**	**1.02**	**134**	P	**Pb**	**20 48 03.1**	**-0.7**
EIBI				S	**Sg**	**20 48 15.2**	**-1.9**
EIBI	**Ibiza**	**1.02**	**134**	Pg	**Pb**	**20 48 03.0**	**-0.7**
EIBI				Sg	**Sg**	**20 48 15.9**	**-1.2**
EIBI				*i* Vmb_Lg		20 48 20.9	
ECHE	**Chera**	**1.06**	**262**	P	**Pn**	**20 48 05.5**	**+0.6**
ECHE				S	**Sn**	**20 48 20.4**	**+0.7**
ECHE	**Chera**	**1.06**	**262**	Pg	**Pb**	**20 48 04.8**	**+0.3**
ECHE				Sg	**Sn**	**20 48 19.7**	**0.0**
ECHE				*i* Vmb_Lg		20 48 29.2	
EBEN2	**Beniarda presa**	**1.16**	**203**	Pg	**Pb**	**20 48 06.0**	**0.0**
EBEN2				Sg	**Sb**	**20 48 20.3**	**-0.7**
EBEN2				*i* Vmb_Lg		20 48 23.3	
ERTA	**Horta de San J**	**1.22**	**358**	Pg	**Pg**	**20 48 08.0**	**+0.5**
ERTA				Sg	**Sn**	**20 48 24.2**	**+0.7**
ERTA				*i* Vmb_Lg		20 48 30.9	
AFON	**Font Roja**	**1.30**	**214**	Pg	**Pn**	**20 48 08.7**	**+0.5**
AFON				Sg	**Sb**	**20 48 25.8**	**+0.6**
AFON				*i* Vmb_Lg		20 48 39.5	
E0901	**Celadas (Terue**	**1.38**	**303**	Pn	**Pn**	**20 48 10.0**	**+0.6**
E0901				Pg	**Pg**	**20 48 11.6**	**+0.9**
E0901				Sg	**Sg**	**20 48 29.9**	**+1.3**
EPOB	**Poblet**	**1.69**	**18**	Pn	**Pn**	**20 48 13.5**	**-0.1**
EPOB				Pg	**Pb**	**20 48 15.7**	**+0.4**
EPOB				Sn	**Sn**	**20 48 34.2**	**-1.1**
EPOB				Sg	**Sg**	**20 48 38.8**	**+0.2**
EPOB				*i* Vmb_Lg		20 48 39.6	
ETOS	**Mallorca**	**1.86**	**88**	P	**Pn**	**20 48 16.0**	**+0.1**
ETOS				S	**Sn**	**20 48 38.3**	**-1.1**
ETOS	**Mallorca**	**1.86**	**88**	Pn	**Pn**	**20 48 16.2**	**+0.3**
ETOS				Pg	**Pb**	**20 48 18.6**	**+0.5**
ETOS				Sn	**Sn**	**20 48 38.7**	**-0.8**
ETOS				*i* Vmb_Lg		20 48 40.9	
ETOB	**Tobarra**	**1.86**	**235**	P	**Pn**	**20 48 16.0**	**0.0**
ETOB				S	**Sn**	**20 48 38.4**	**-1.1**
ETOB	**Tobarra**	**1.86**	**235**	⇑Pn	**Pn**	**20 48 16.2**	**+0.2**
ETOB				Sn	**Sn**	**20 48 39.7**	**+0.2**
ETOB				*i* Vmb_Lg		20 48 49.5	
ETRV	**Los Montesinos**	**1.94**	**208**	Pg	**Pb**	**20 48 20.2**	**+0.8**
ETRV				Sn	**Sn**	**20 48 40.6**	**-0.6**
ETRV				*i* Vmb_Lg		20 49 00.2	
ESAC	**San Caprasio**	**2.09**	**342**	Pn	**Pn**	**20 48 19.8**	**+0.8**
ESAC				Pb	**Pb**	**20 48 22.6**	**+0.7**
ESAC				Sn	**Sb**	**20 48 46.5**	**-1.4**
ESAC				Sb	**Sg**	**20 48 49.4**	**-1.8**
ETOR	**Torete**	**2.16**	**301**	Pn	**Pn**	**20 48 21.8**	**+1.7**
ETOR				Pg	**Pg**	**20 48 25.7**	**+0.1**
ETOR				Sg	**Sg**	**20 48 53.2**	**-0.5**
ETOR				*i* Vmb_Lg		20 49 01.0	
E1002	**Yechar (Murcia**	**2.20**	**221**	Pn	**Pn**	**20 48 21.0**	**+0.6**
E1002				Pg	**Pg**	**20 48 28.3**	**+2.1**
E1002				Sn	**Sn**	**20 48 47.0**	**-0.6**
E1002				Sg	**Sg**	**20 48 54.4**	**-0.2**
E001A	**Albudeite (Mur**	**2.21**	**220**	Pn	**Pn**	**20 48 21.3**	**+0.6**
E001A				Pg	**Pb**	**20 48 24.8**	**+0.7**
E001A				Sn	**Sn**	**20 48 48.8**	**+0.7**
E001A				Sg	**Sb**	**20 48 53.7**	**+2.2**
EMUR	**La Murta**	**2.29**	**215**	P	**Pn**	**20 48 21.4**	**-0.3**
EMUR				S	**Sn**	**20 48 49.7**	**-0.2**
EMUR	**La Murta**	**2.29**	**215**	Pn	**Pn**	**20 48 21.8**	**+0.1**
EMUR				Pg	**Pb**	**20 48 26.8**	**+1.4**
EMUR				Sn	**Sn**	**20 48 49.1**	**-0.7**
EMUR				Sg	**Sb**	**20 48 55.4**	**+1.8**
EMUR				*i* Vmb_Lg		20 49 04.0	
EMIR	**Miracle**	**2.34**	**21**	Pn	**Pn**	**20 48 23.2**	**+0.8**
EMIR				Pg	**Pb**	**20 48 27.2**	**+1.0**
EMIR				Sn	**Sn**	**20 48 52.0**	**+0.9**
EMIR				Sg	**Sg**	**20 48 58.6**	**-0.6**
CART	**Cartagena**	**2.41**	**207**	P	**Pn**	**20 48 23.4**	**0.0**
CART				S	**Sn**	**20 48 50.6**	**-2.2**
EZAR	**Zarzadilla de**	**2.48**	**222**	Pn	**Pn**	**20 48 24.5**	**+0.1**
EZAR				Pg	**Pb**	**20 48 29.0**	**+0.4**
EZAR				Sn	**Sn**	**20 48 53.6**	**-1.0**
EZAR				Sg	**Sb**	**20 49 00.6**	**+1.4**
EZAR				*i* Vmb_Lg		20 49 08.2	
UCM	**Universidad Co**	**2.85**	**283**	P	**Pn**	**20 48 30.8**	**+1.2**
UCM				S	**Sn**	**20 49 06.1**	**+2.2**
ECHI	**Chisagues Biel**	**2.93**	**357**	Pn	**Pn**	**20 48 32.3**	**+1.6**
ECHI				Pg	**Pg**	**20 48 39.0**	**-1.2**
ECHI				Sn	**Sn**	**20 49 05.5**	**-0.3**
ECHI				Sg	**Sg**	**20 49 16.6**	**-1.5**
ECHI				*i* Vmb_Lg		20 49 29.0	
ETSF	**Etsaut**	**3.24**	**347**	*e*Pn	**Pn**	**20 48 36.4**	**+1.6**
ETSF	**Etsaut**	**3.24**	**347**	*e*Pg	**Pg**	**20 48 46.2**	**+0.1**
ETSF				*e*Sn	**Sn**	**20 49 13.0**	**-0.4**
	11nm,0.4s						
ETSF				*e*Sg	**Sg**	**20 49 29.1**	**+1.0**
	19nm,0.3s						
EPF	**Esparros**	**3.29**	**359**	*e*Pn	**Pn**	**20 48 37.5**	**+2.0**
EPF	**Esparros**	**3.29**	**359**	*e*Pg	**Pg**	**20 48 47.2**	**+0.1**
EPF				*e*Sn	**Sn**	**20 49 14.3**	**-0.3**
	10nm,0.3s						
EPF				*e*Sg	**Sg**	**20 49 30.3**	**+0.6**
	21nm,0.3s						
EJON	**La Jonquera**	**3.30**	**34**	P	**Pn**	**20 48 36.2**	**+0.5**
EJON				S	**Sn**	**20 49 14.4**	**-0.5**
EJON	**La Jonquera**	**3.30**	**34**	Pn	**Pn**	**20 48 36.3**	**+0.7**
EJON				Pg	**Pb**	**20 48 44.8**	**+2.2**
EJON				Sn	**Sn**	**20 49 14.2**	**-0.7**
EJON				*i* Vmb_Lg		20 49 36.0	
EQES	**Quesada**	**3.33**	**236**	Pn	**Pn**	**20 48 36.9**	**+0.8**
EQES				Pg	**Pb**	**20 48 44.7**	**+1.5**
EQES				Sn	**Sn**	**20 49 16.5**	**+0.8**
EQES				Sg	**Sb**	**20 49 27.5**	**+3.8**
EQES				*i* Vmb_Lg		20 49 36.0	
PSIM	**Granatula de C**	**3.35**	**255**	Pn	**Pn**	**20 48 37.0**	**+0.7**
PSIM				Pg	**Pb**	**20 48 44.5**	**+1.0**
PSIM				Sn	**Sn**	**20 49 17.1**	**+1.0**
PSIM				Sg	**Sg**	**20 49 28.7**	**-3.0**
ESDC	**Sonseca Array**	**3.36**	**270**	Pn	**Pn**	**20 48 36.9**	**+0.4**
ESDC				Pg	**Pb**	**20 48 45.3**	**+1.6**
ESDC				Sn	**Sn**	**20 49 15.4**	**-1.1**
ESDC				Sg	**Sb**	**20 49 28.5**	**+3.9**
ESDC				*i* Vmb_Lg		20 49 35.7	
EARA	**Aranguren**	**3.38**	**334**	Pn	**Pn**	**20 48 37.9**	**+1.2**
EARA				Pg	**Pb**	**20 48 46.0**	**+2.1**
EARA				Sn	**Sn**	**20 49 19.0**	**+2.2**
EARA				Sg	**Sg**	**20 49 30.2**	**-2.4**
EARA				*i* Vmb_Lg		20 49 39.6	
ENIJ	**Nijar**	**3.44**	**217**	P	**Pn**	**20 48 37.6**	**0.0**
ENIJ				S	**Sn**	**20 49 18.5**	**+0.2**
SJPF	**Ste Jean**	**3.58**	**341**	*e*Pn	**Pn**	**20 48 40.6**	**+1.0**
SJPF	**Ste Jean**	**3.58**	**341**	*e*Pg	**Pg**	**20 48 52.0**	**-0.8**
SJPF				*e*Sn	**Sn**	**20 49 21.5**	**-0.4**
	1.2nm,0.2s						
GUD	**Guadarrama**	**3.60**	**286**	Pn	**Pn**	**20 48 40.9**	**+1.0**
GUD				Pg	**Pb**	**20 48 49.8**	**+2.0**
GUD				Sn	**Sn**	**20 49 22.5**	**+0.1**
GUD				Sg	**Sg**	**20 49 38.0**	**-1.7**
GUD				*i* Vmb_Lg		20 49 44.7	
PAB	**San Pablo**	**3.67**	**268**	Pn	**Pn**	**20 48 41.1**	**+0.4**
PAB				Pg	**Pb**	**20 48 51.1**	**+2.2**
PAB				Sn	**Sn**	**20 49 23.3**	**-0.7**
PAB				Sg	**Sb**	**20 49 38.0**	**+4.5**
PAB				*i* Vmb_Lg		20 49 42.6	
EBER	**Berja**	**3.84**	**223**	P	**Pn**	**20 48 44.5**	**+1.3**
EBER				S	**Sn**	**20 49 29.4**	**+1.1**
EBER	**Berja**	**3.84**	**223**	Pn	**Pn**	**20 48 44.9**	**+1.7**
EBER				Pg	**Pb**	**20 48 54.2**	**+2.4**
EBER				Sn	**Sn**	**20 49 30.1**	**+1.8**
EBER				*i* Vmb_Lg		20 49 56.4	
MTLF	**Montolieu**	**3.85**	**20**	*e*Pn	**Pn**	**20 48 44.2**	**+1.0**
MTLF	**Montolieu**	**3.85**	**20**	*e*Pg	**Pg**	**20 48 57.4**	**-0.4**
MTLF				*e*Sn	**Sn**	**20 49 27.9**	**-0.5**
	2.6nm,0.3s						
MTLF				*e*Sg	**Sg**	**20 49 47.8**	**+0.1**
	11nm,0.4s						
EQTA	**Presa de Quent**	**3.93**	**231**	P	**Pn**	**20 48 45.4**	**+1.0**
EADA	**Adamuz**	**4.18**	**250**	P	**Pn**	**20 48 47.4**	**-0.4**
EADA				S	**Sn**	**20 49 36.2**	**-0.4**
EADA	**Adamuz**	**4.18**	**250**	Pn	**Pn**	**20 48 47.5**	**-0.3**
EADA				Pb	**Pb**	**20 48 55.0**	**-2.6**
EADA				Pg	**Pg**	20 48 60.0	-4.2
EADA				Sn	**Sn**	**20 49 35.0**	**-1.6**
EADA				Sb	**Sb**	**20 49 46.3**	**-1.9**
EADA				Sg	**Sg**	**20 49 53.2**	**-5.2**
EADA				*i* Vmb_Lg		20 50 04.6	
ELGU	**Los Guajares,**	**4.27**	**229**	P	**Pn**	**20 48 50.9**	**+1.9**
ELGU				S	**Sn**	**20 49 40.0**	**+1.2**
EGOR	**Sierra Gorda,**	**4.41**	**235**	P	**Pn**	**20 48 51.8**	**+0.8**
EGOR				S	**Sn**	**20 49 41.9**	**-0.4**
EGOR	**Sierra Gorda,**	**4.41**	**235**	Pn	**Pn**	**20 48 52.1**	**+1.1**
EGOR				Pg	**Pb**	**20 49 03.5**	**+2.0**
EGOR				Sn	**Sn**	**20 49 41.8**	**-0.5**
EGOR				*i* Vmb_Lg		20 50 20.9	
ELAN	**Lanestosa**	**4.52**	**322**	Pn	**Pn**	**20 48 54.5**	**+2.0**
ELAN				Pg	**Pb**	**20 49 05.9**	**+2.5**
ELAN				Sg	**Sg**	**20 50 06.1**	**-3.2**
ELAN				*i* Vmb_Lg		20 50 21.6	
ECAB	**El Cabril**	**4.83**	**252**	P	**Pn**	**20 48 56.2**	**-0.5**
ECAB				S	**Sn**	**20 49 50.5**	**-2.1**
ECAB	**El Cabril**	**4.83**	**252**	Pn	**Pn**	**20 48 56.5**	**-0.2**
ECAB				Pg	**Pb**	**20 49 09.8**	**+1.1**
ECAB				Sn	**Sn**	**20 49 50.6**	**-2.0**
ECAB				Sg	**Sg**	**20 50 14.4**	**-4.8**
ECAB				*i* Vmb_Lg		20 50 29.1	
EPLA	**Plasencia**	**4.99**	**276**	Pn	**Pn**	**20 48 59.5**	**+0.5**
EPLA				Pb	**Pb**	**20 49 08.9**	**-2.5**
EPLA				Sn	**Sn**	**20 49 53.5**	**-3.1**
EPLA				Sg	**Sg**	**20 50 18.9**	**-5.4**
EPLA				*i* Vmb_Lg		20 50 34.6	
LASF	**Ste Croix**	**5.04**	**30**	*e*Pn	**Pn**	**20 49 00.6**	**+1.0**
LASF				*e*Sn	**Sn**	**20 49 56.1**	**-1.8**
	1.2nm,0.3s						
EMIJ	**Mijas**	**5.16**	**234**	P	**Pn**	**20 49 01.8**	**+0.6**
EMIJ				S	**Sn**	**20 49 58.9**	**-1.8**
EMIJ	**Mijas**	**5.16**	**234**	Pn	**Pn**	**20 49 02.4**	**+1.2**
EMIJ				Pg	**Pb**	**20 49 15.1**	**+0.7**
EMIJ				Sn	**Sn**	**20 49 58.7**	**-2.1**
LFF	**La Frestale**	**5.20**	**3**	*e*Pn	**Pn**	**20 49 02.2**	**+0.4**
LFF	**La Frestale**	**5.20**	**3**	*e*Pg	**Pg**	**20 49 22.3**	**-1.4**
LFF				*e*Sn	**Sn**	**20 50 00.8**	**-0.9**
	4.4nm,0.4s						
LFF				*e*Sg	**Sg**	**20 50 29.9**	**-1.2**
	4.9nm,0.4s						
CAF	**Calviac**	**5.33**	**13**	*e*Pn	**Pn**	**20 49 04.5**	**+1.0**
CAF				*e*Sn	**Sn**	**20 50 03.8**	**-1.1**
	0.4nm,0.2s						
EARI	**Arriondas**	**5.51**	**312**	Pn	**Pn**	**20 49 09.4**	**+3.4**
EARI				Sn	**Sn**	**20 50 11.5**	**+2.1**
EARI				Sg	**Sg**	**20 50 35.7**	**-5.2**
RJF	**Les Rejaudoux**	**5.62**	**8**	*e*Pn	**Pn**	**20 49 08.6**	**+1.0**
RJF	**Les Rejaudoux**	**5.62**	**8**	*e*Pg	**Pg**	**20 49 30.8**	**-0.9**
RJF				*e*Sn	**Sn**	**20 50 10.6**	**-1.5**
	2.0nm,0.4s						
RJF				*e*Sg	**Sg**	**20 50 42.8**	**-1.7**
	0.6nm,0.2s						
ESPR	**Espera**	**5.69**	**242**	S	**Sn**	**20 50 10.7**	**-3.1**
PBRG	**Braganca**	**5.80**	**293**	*e*Pn	**Pn**	**20 49 11.0**	**+1.0**
PBRG				*e*Sn	**Sn**	**20 50 14.6**	**-1.9**
PBRG				*e*Sg	**Sg**	**20 50 49.7**	**-0.5**
PBRG				A	A	20 50 59.4	
	13nm,0.5s						
LMR	**La Mourre**	**5.83**	**50**	*e*Pn	**Pn**	**20 49 10.7**	**+0.4**
LMR				*e*Sn	**Sn**	**20 50 14.2**	**-2.8**
	7.1nm,0.4s						
EBAD	**Badajoz**	**5.83**	**263**	P	**Pn**	**20 49 09.7**	**-0.8**
EBAD				S	**Sn**	**20 50 15.0**	**-2.3**
EBAD	**Badajoz**	**5.83**	**263**	Pn	**Pn**	**20 49 10.6**	**+0.1**
EBAD				Sn	**Sn**	**20 50 15.5**	**-1.8**
EBAD				Sg	**Sg**	**20 50 48.7**	**-2.6**
EBAD				*i* Vmb_Lg		20 50 57.4	
ECAL	**Calabor**	**5.84**	**294**	P	**Pn**	**20 49 10.5**	**-0.1**
ECAL				S	**Sn**	**20 50 15.0**	**-2.6**
ECAL	**Calabor**	**5.84**	**294**	Pn	**Pn**	**20 49 10.8**	**+0.2**
ECAL				Sn	**Sn**	**20 50 15.9**	**-1.7**
ECAL				Sg	**Sg**	**20 50 46.3**	**-5.2**
MVO	**Moncorvo**	**5.84**	**286**	*e*Pn	**Pn**	**20 49 11.4**	**+0.8**
MVO				*e*Sn	**Sn**	**20 50 15.8**	**-1.8**
MVO				*e*Sg	**Sg**	**20 50 48.8**	**-2.7**
MVO				A	A	20 51 00.7	
	18nm,0.5s						
PBAR	**Barrancos**	**6.00**	**257**	*e*Pn	**Pn**	**20 49 13.3**	**+0.5**
PBAR				*e*Sn	**Sn**	**20 50 21.1**	**-0.3**
PBAR				*e*Sg	**Sg**	**20 50 57.2**	**+0.5**
PBAR				A	A	20 51 07.1	
	8.4nm,0.8s						
PBAR	**Barrancos**	**6.00**	**257**	P	**Pn**	**20 49 12.2**	**-0.5**
PBAR				S	**Sn**	**20 50 20.5**	**-0.9**
PMRV	**Marv??o**	**6.03**	**270**	*e*Pn	**Pn**	**20 49 13.6**	**+0.5**
PMRV				*e*Sn	**Sn**	**20 50 18.9**	**-3.1**
PMRV				*e*Sg	**Sg**	**20 50 54.2**	**-3.2**
PMRV				A	A	20 51 06.0	
	11nm,0.7s						
PCBR	**Castelo Branco**	**6.07**	**273**	*e*Pn	Pn	20 49 18.9	+5.3
PCBR				*e*Sn	**Sn**	**20 50 18.7**	**-4.3**
PCBR				*e*Sg	**Sg**	**20 50 58.1**	**-0.7**
PCBR				A	A	20 51 18.2	
	9.2nm,0.5s						
MTE	**Manteigas**	**6.13**	**279**	*e*Pn	**Pn**	**20 49 15.8**	**+1.3**
MTE				*e*Sn	**Sn**	**20 50 22.4**	**-2.2**
MTE				*e*Sg	**Sg**	**20 51 00.8**	**+0.1**
MTE				A	A	20 51 06.9	
	21nm,0.6s						
PESTR	**Estremoz**	**6.25**	**265**	*e*Pn	**Pn**	**20 49 18.5**	**+2.2**
PESTR				*e*Sn	**Sn**	**20 50 25.8**	**-1.9**
PESTR				*e*Sg	**Sg**	**20 51 05.2**	**+0.4**
PESTR				A	A	20 51 09.3	
	8.3nm,0.6s						
PESTR	**Estremoz**	**6.25**	**265**	P	**Pn**	**20 49 16.5**	**+0.2**
PESTR				S	**Sn**	**20 50 25.8**	**-1.9**
PVRL	**Vila Real**	**6.37**	**287**	*e*Pn	**Pn**	**20 49 18.3**	**+0.4**
PVRL				*e*Sn	**Sn**	**20 50 29.5**	**-1.1**
PVRL				*e*Sg	**Sg**	**20 51 06.7**	**-1.8**
PVRL				A	A	20 51 21.0	
	9.5nm,0.4s						
PVIS	**Viseu**	**6.42**	**281**	*e*Pn	**Pn**	**20 49 18.7**	**+0.2**
PVIS				*e*Sn	**Sn**	**20 50 28.0**	**-3.8**
PVIS				*e*Sg	**Sg**	**20 51 06.7**	**-3.4**
PVIS				A	A	20 51 13.6	
	11nm,0.6s						
POLO	**Lamas de Olo**	**6.45**	**287**	*e*Pn	**Pn**	**20 49 19.6**	**+0.6**
POLO				*e*Sn	**Sn**	**20 50 30.5**	**-2.1**
POLO				*e*Sg	**Sg**	**20 51 08.2**	**-2.8**
POLO				A	A	20 51 30.1	
	4.4nm,0.6s						
EVO	**Evora**	**6.65**	**262**	*e*Sn	**Sn**	**20 50 33.5**	**-3.8**
PCAB	**Cabril**	**6.70**	**290**	*e*Pn	**Pn**	**20 49 23.9**	**+1.6**
PCAB				*e*Sn	**Sn**	**20 50 36.6**	**-1.9**
PMTG	**Montargil**	**6.71**	**267**	*e*Pn	**Pn**	**20 49 23.4**	**+0.9**
PMTG				*e*Sn	**Sn**	**20 50 35.6**	**-3.3**
PMTG				*e*Sg	**Sg**	**20 51 19.7**	**+0.3**
PMTG				A	A	20 51 27.6	
	7.5nm,0.6s						
PVAQ	**Vaqueiros**	**6.77**	**252**	*e*Pn	**Pn**	**20 49 23.6**	**+0.3**
PVAQ				*e*Sn	**Sn**	**20 50 38.5**	**-1.9**
PVAQ				A	A	20 51 36.5	
	4.7nm,0.5s						
PCAS	**Casmilo, Conde**	**6.85**	**275**	*e*Pn	**Pn**	**20 49 24.4**	**0.0**
PCAS				*e*Sn	**Sn**	**20 50 39.4**	**-2.9**
PCAS				A	A	20 51 46.8	
	12nm,0.6s						
MFF	**Saint Martin d**	**6.87**	**357**	*e*Pn	**Pn**	**20 49 25.4**	**+0.7**
PCVE	**Castro Verde**	**6.93**	**255**	*e*Sg	**Sg**	**20 51 26.8**	**+0.5**
PGAV	**Gavieira, Arco**	**6.94**	**291**	*e*Pn	**Pn**	**20 49 27.4**	**+1.7**
PGAV				*e*Sn	**Sn**	**20 50 42.2**	**-2.4**
PGAV				A	A	20 51 40.2	
	11nm,0.6s						
MESJ	**Messejana**	**6.99**	**257**	*

TXAR	**Lajitas Array**	**80.70**	**56**	P		**P**	**21 05 32.8**	**+0.1**
	1.2nm,1.1s,baz=251,slow=5.5,SNR=6.5							
TXAR				LR		LR	21 32 56.0	
	comp=Z,36nm,21.2s,baz=263,slow=30							
	1.2nm,1.1s							
ANMO	**Albuquerque**	**80.82**	**50**	LR		LR	21 34 08.3	
	comp=Z,58nm,20.1s,baz=335,slow=30							
SEY	**Seymchan**	**81.88**	**345**	LR		LR	21 37 59.3	
	comp=Z,36nm,20.7s,baz=300,slow=33							
PDAR	**Pinedale Array**	**82.18**	**42**	P		**P**	**21 05 39.6**	**-0.8**
	0.2nm,0.3s,baz=237,slow=3.1,SNR=3.9							
PDAR				LR		LR	21 34 39.8	
	comp=Z,35nm,20.7s,baz=269,slow=30							
	0.2nm,0.3s							
CMIG	**Matias Romero**	**84.15**	**71**	LR		LR	21 34 26.7	
	comp=Z,22nm,19.8s,baz=284,slow=29							
YKA	**Yellowknife Ar**	**89.79**	**24**	P		**P**	**21 06 16.1**	**-0.9**
	0.1nm,0.7s,baz=240,slow=4.9,SNR=2.0							
	0.1nm,0.7s							
PLCA	**Paso Flores**	**90.22**	**132**	LR		LR	21 38 29.6	
	comp=Z,54nm,19.4s,baz=214,slow=30							
CMAR	**Chiang Mai Arr**	**92.00**	**288**	LR		LR	21 44 27.6	
	comp=Z,21nm,20.4s,baz=275,slow=33							
ATAH	**Atahualpa**	**93.46**	**98**	LR		LR	21 39 03.3	
	comp=Z,82nm,20.7s,baz=267,slow=29							
NNA	**Nana**	**93.64**	**103**	LR		LR	21 41 08.0	
	comp=Z,26nm,18.2s,baz=220,slow=31							
ULM	**Lac du Bonnet**	**93.81**	**39**	LR		LR	21 42 18.3	
	comp=Z,54nm,19.9s,baz=20,slow=31							
SONM	**Songino Array**	**94.13**	**318**	LR		LR	21 44 32.9	
	comp=Z,35nm,20.4s,baz=226,slow=33							
TIXI	**Tiksi**	**94.36**	**345**	LR		LR	21 45 50.0	
	comp=Z,28nm,19.8s,baz=194,slow=33							
LVC	**Limon Verde**	**97.67**	**116**	LR			21 41 49.8	
	comp=Z,51nm,19.9s,baz=240,slow=30							
TKL	**Tuckaleechee C**	**98.60**	**55**	LR		LR	21 47 14.1	
	comp=Z,30nm,18.4s,baz=183,slow=33							
BRTR	**Keskin Array B**	**145.45**	**321**	PKPbc		**PKPab**	**21 12 59.1**	**+1.6**
	2.1nm,0.7s,baz=90,slow=3.2,SNR=11							
GERES	**GERESS Array B**	**145.54**	**351**	PKPbc		**PKPab**	**21 12 58.2**	**+0.7**
	0.8nm,0.8s,baz=357,slow=4.9,SNR=3.7							

*IDC **31** 21:18:32.9±0.7, 6°.27S×143°.12E, h0km, mb4.2/11, mbtmp4.3/15, ML4.1/2, MS3.3/2, Error ellipse: s-maj=25.2km s-min=15.0km az=82.0*
*NEIC **31** 21:18:35.4±1.5, 6°.24S±0°.08×142°.93E±0°.08, h10km±1km, mb4.5/44, Error ellipse: s-maj=13.5km s-min=12.9km az=7.0*
*DJA **31** 21:18:40.6±0.6, 6°.5S±3°×14°.3E±°, h39km±8km, M4.8/13, mB5.1/4, mb4.4/13, MLv5.0/4, Mw(mB)4.4/4*
ISC 31 21:18:38.4±0.5, 6°.39S±0°.05×142°.92E±0°.06, h35km, n97, σ1§38/98, mb4.5/32, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**4.43**	**330**	P	**Pn**	**21 19 43.0**	**-0.3**
GENI	**Genyem**	**4.66**	**324**	P	**Pn**	**21 19 49.5**	**+3.2**
GENI	**Genyem**	**4.66**	**324**	P	**Pn**	**21 19 47.4**	**+1.1**
PMG	**Port Moresby**	**5.16**	**126**	P	**Pn**	**21 19 53.1**	**-0.1**
PMG	**Port Moresby**	**5.16**	**126**	P	**Pn**	**21 19 53.3**	**+0.1**
PMG	**Port Moresby**	**5.16**	**126**		**Pn**	**21 19 53.0**	**-0.2**
PMG	**Port Moresby**	**5.16**	**126**	Pn	**Pn**	**21 19 52.1**	**-1.1**
	13nm,0.5s,baz=326,slow=11,SNR=9.5						
PMG				Sn	**Sn**	**21 20 49.8**	**-1.7**
	4.0nm,0.3s,baz=233,slow=22,SNR=8.0						
COEN	**Coen**	**7.53**	**178**	Pn	**Pn**	**21 20 27.4**	**+1.6**
RABL	**Rabaul**	**9.46**	**77**	Pn	**Pn**	**21 20 49.8**	**-2.4**
FAKI	**Fak Fak**	**11.18**	**287**	Pn	**Pn**	**21 21 13.3**	**-2.5**
KDU	**Kakadu**	**12.05**	**238**	P	**Pn**	**21 21 26.8**	**-1.0**
SWI	**Sorong**	**12.86**	**295**	P	**Pn**	**21 21 40.4**	**+1.6**
	25nm,0.9s						
MTN	**Manton Dam**	**13.27**	**240**		**Pn**	**21 21 42.5**	**-2.0**
QIS	**Mount Isa**	**14.45**	**193**	P	**Pn**	**21 22 02.0**	**+1.4**
WRAB	**Tennant Creek**	**15.83**	**211**		**Pn**	**21 22 18.5**	**-0.3**
WRA	**Warramunga Arr**	**15.85**	**211**	Pn	**Pn**	**21 22 18.5**	**-0.5**
	0.7nm,0.3s,baz=30,slow=13,SNR=29						
WRA				Sn	**Sn**	**21 25 08.5**	**-5.1**
	0.6nm,0.3s,baz=42,slow=23,SNR=4.8						
WRA				Lg	Lg	21 26 58.8	
	0.4nm,0.3s,baz=29,slow=33,SNR=4.6						
	2.2nm,0.5s						
KNRA	**Kununurra**	**16.67**	**235**	P	**Pn**	**21 22 28.5**	**-1.0**
KNRA	**Kununurra**	**16.67**	**235**		**Pn**	**21 22 27.7**	**-1.8**
SOEI	**Soe**	**18.77**	**259**	P	**Pn**	**21 22 57.1**	**+1.6**
SOEI	**Soe**	**18.77**	**259**		**P**	**21 22 54.8**	**0.0**
SOEI				IAmb	IAmb	21 22 58.8	
	comp=Z,25nm,0.7s						
SOEI	**Soe**	**18.77**	**259**	P	**Pn**	**21 22 55.9**	**+0.4**
	comp=Z,40nm,0.8s						
AS01	**Alice Springs**	**19.23**	**206**	P	**Pn**	**21 23 02.9**	**+2.1**
AS31	**Alice Springs**	**19.25**	**206**		**Pn**	**21 23 02.2**	**+1.1**
ASAR	**Alice Springs**	**19.25**	**206**		**Pn**	**21 23 02.2**	**+1.1**
ASAR	**Alice Springs**	**19.25**	**206**	P	**Pn**	**21 23 02.5**	**+1.4**
	comp=Z,36nm,0.7s,baz=32,slow=10,SNR=341						
ASAR				S	**S**	**21 26 31.1**	**-5.0**
	comp=Z,2.3nm,0.8s,baz=17,slow=28,SNR=4.2						
ASAR				Lg	Lg	21 28 46.8	
	comp=Z,0.2nm,0.3s,baz=34,slow=30,SNR=3.3						
ASAR				LR	LR	21 30 46.4	
	comp=Z,86nm,18.0s,baz=24,slow=38						
BATI	**Baumata**	**19.43**	**257**	P	**Pn**	**21 23 04.1**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=72,slow=3.2,SNR=2.1						
	comp=Z,8.3nm,0.5s						
QLP	**Quilpie**	**20.12**	**177**	P	**P**	**21 23 11.3**	**+1.9**
EIDS	**Eidsvold**	**20.43**	**158**	P	**P**	**21 23 14.2**	**+1.4**
FITZ	**Fitzroy Crossi**	**20.49**	**234**	P	**P**	**21 23 15.1**	**+1.7**
FITZ	**Fitzroy Crossi**	**20.49**	**234**		**P**	**21 23 14.6**	**+1.1**
MMRI	**Maumere**	**20.63**	**262**	P	**P**	**21 23 12.7**	**-2.3**
MMRI				IAmb	IAmb	21 23 22.8	
	comp=Z,25nm,1.1s						
LUWI	**Luwuk**	**20.79**	**284**	P	**P**	**21 23 13.8**	**-3.0**
LUWI				IAmb	IAmb	21 23 23.3	
	comp=Z,36nm,1.1s						
LUWI	**Luwuk**	**20.79**	**284**	P	**P**	**21 23 17.2**	**+0.4**
	comp=Z,32nm,1.0s,comp=Z,860nm						
GTOI	**Gorontalo**	**21.06**	**289**	P	**P**	**21 23 22.0**	**+2.3**
	comp=Z,21nm,0.8s,comp=Z,224nm						
EDFI	**Ende, Flores**	**21.18**	**262**	P	**P**	**21 23 20.4**	**-0.6**
	comp=Z,11nm,1.3s						
INKA	**Innaminka**	**21.34**	**185**	P	**P**	**21 23 24.4**	**+1.9**
OOD	**Oodnadatta**	**22.37**	**197**	P	**P**	**21 23 36.2**	**+2.6**
WRKA	**Warakurna**	**23.24**	**215**	P	**P**	**21 23 43.9**	**+1.1**
TOLI2	**Tolitoli**	**23.32**	**288**	P	**P**	**21 23 41.3**	**-2.4**
TOLI2				IAmb	IAmb	21 23 45.6	
	comp=Z,16nm,0.9s						
LCRK	**Leigh Creek**	**24.34**	**190**	P	**P**	**21 23 54.3**	**+1.2**
MULG	**Mulgathing**	**25.19**	**198**	P	**P**	**21 24 02.3**	**+1.5**
ARMA	**Armidale**	**25.27**	**162**	P	**P**	**21 24 01.4**	**-0.3**
STKA	**Stephens Creek**	**25.39**	**183**	P	**P**	**21 24 03.0**	**+0.4**
	comp=Z,2.7nm,0.7s,baz=340,slow=7.6,SNR=8.6						
	comp=Z,2.7nm,0.7s						
BBOO	**Buckleboo**	**27.06**	**193**	P	**P**	**21 24 17.7**	**+0.1**
BBOO				IAmb	IAmb	21 24 26.0	
	comp=Z,13nm,1.4s						
FORT	**Forrest**	**27.99**	**208**	P	**P**	**21 24 26.1**	**+0.1**
TNG	**Tangerang**	**36.05**	**268**	P	**P**	21 25 53.9	**+17**
RTZ	**Ruatahuna**	**44.46**	**141**	P	**P**	**21 26 47.6**	**+1.3**
TUWZ	**Tuamarina**	**44.50**	**146**	P	**P**	**21 26 47.4**	**+0.9**
KSRS	**Korea Array**	**45.80**	**343**	P	**P**	**21 26 56.6**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=165,slow=10.0,SNR=5.2						
	comp=Z,1.2nm,0.7s						
CM31	**Chiang Mai Arr**	**49.90**	**300**	P	**P**	**21 27 28.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**49.90**	**300**	P	**P**	**21 27 28.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**49.90**	**300**	P	**P**	**21 27 29.9**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=110,slow=6.1,SNR=7.0						
	comp=Z,0.6nm,0.5s						
SONM	**Songino Array**	**62.84**	**333**	P	**P**	**21 29 00.6**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=162,slow=5.3,SNR=4.8						
	comp=Z,0.5nm,0.6s						
CASY	**Casey**	**63.86**	**194**	P	**P**	**21 29 07.5**	**+0.4**
YAK	**Yakutsk**	**68.98**	**353**	LR	LR	22 00 45.9	
	comp=Z,17nm,18.1s,baz=64,slow=37						
VNDA	**Vanda**	**71.80**	**176**	P	**P**	**21 29 58.2**	**+1.3**
MK31	**Makanchi Array**	**75.25**	**322**	P	**P**	**21 30 17.7**	**-0.1**
MKAR	**Makanchi Array**	**75.25**	**322**	P	**P**	**21 30 18.1**	**+0.4**
MKAR	**Makanchi Array**	**75.25**	**322**	P	**P**	**21 30 18.3**	**+0.6**
	comp=Z,2.9nm,0.7s,baz=93,slow=9.8,SNR=24						
	comp=Z,2.9nm,0.7s						
MAKZ	**Makanchi**	**75.45**	**322**	P	**P**	**21 30 18.4**	**-0.5**
MAKZ				IAmb	IAmb	21 30 21.0	
	comp=Z,3.6nm,0.7s						
ZALV	**Zalesovo Beam**	**77.21**	**329**	P	**P**	**21 30 28.2**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=117,slow=6.4,SNR=6.3						
	comp=Z,1.2nm,0.5s						

KURK	**Kurchatov**	**79.12**	**324**	P		**P**	**21 30 39.1**	**-0.2**
KURBB	**Kurchatov Arra**	**79.14**	**324**	P		**P**	**21 30 39.5**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=119,slow=4.6,SNR=16							
	comp=Z,1.9nm,0.8s							
M14K	**Bethel**	**79.46**	**24**	P		**P**	**21 30 41.5**	**+0.6**
L14K	**Kuka Creek**	**79.51**	**23**	P		**P**	**21 30 41.4**	**+0.2**
L14K				IAmb	IAmb		21 30 50.2	
	comp=Z,5.1nm,0.9s							
K15K	**Wolf Creek Mou**	**80.50**	**23**	P		**P**	**21 30 46.7**	**+0.1**
K15K				IAmb	IAmb		21 30 56.2	
	comp=Z,7.9nm,1.1s							
M16K	**Timber Creek**	**80.84**	**25**	P		**P**	**21 30 48.4**	**-0.1**
M16K				IAmb	IAmb		21 31 15.4	
	comp=Z,5.8nm,1.1s							
J16K	**Anvik River**	**81.40**	**22**	P		**P**	**21 30 51.4**	**0.0**
SIMJ	**Simiganj**	**81.55**	**310**	P		**P**	**21 30 52.7**	**-0.2**
SIMJ				IAmb	IAmb		21 30 54.3	
	comp=Z,3.4nm,0.9s							
OHAK	**Old Harbor**	**81.60**	**30**	P		**P**	**21 30 51.8**	**-0.8**
G16K	**Koyuk River**	**81.95**	**20**	P		**P**	**21 30 54.2**	**0.0**
G16K				IAmb	IAmb		21 31 03.1	
	comp=Z,6.5nm,1.1s							
F17K	**Baldwin Pennin**	**82.92**	**20**	P		**P**	**21 30 59.6**	**+0.4**
F17K				IAmb	IAmb		21 31 04.0	
	comp=Z,3.2nm,1.0s							
QSPA	**South Pole Qui**	**83.58**	**180**	P		**P**	**21 31 03.6**	**+0.6**
QSPA	**South Pole Qui**	**83.58**	**180**	P		**P**	**21 31 03.5**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=283,slow=0.4,SNR=30							
	comp=Z,2.2nm,0.6s							
E18K	**Tukpahlearik C**	**83.68**	**19**	P		**P**	**21 31 03.0**	**-0.2**
E18K				IAmb	IAmb		21 31 04.3	
	comp=Z,2.2nm,0.8s							
K20K	**Telida**	**83.99**	**24**	P		**P**	**21 31 04.8**	**0.0**
K20K				IAmb	IAmb		21 31 17.4	
	comp=Z,5.8nm,1.3s							
C18K	**Utukok River**	**84.18**	**18**	P		**P**	**21 31 05.3**	**-0.5**
C18K				IAmb	IAmb		21 31 30.4	
	comp=Z,4.4nm,1.2s							
NRIK	**Noril'sk**	**84.42**	**343**	P		**P**	**21 31 05.6**	**-1.3**
	comp=Z,1.9nm,0.4s,baz=126,slow=4.4,SNR=5.8							
	comp=Z,1.9nm,0.4s							
BVAR	**Borovoye Array**	**84.71**	**325**	P		**P**	**21 31 09.4**	**+0.7**
	comp=Z,12nm,0.7s,baz=112,slow=6.6,SNR=54							
	comp=Z,12nm,0.7s							
BRVK	**Borovoye**	**84.78**	**325**	P		**P**	**21 31 09.4**	**+0.3**
E19K	**Redstone River**	**84.81**	**20**	P		**P**	**21 31 09.1**	**+0.2**
E19K				IAmb	IAmb		21 31 09.7	
	comp=Z,2.8nm,0.8s							
IMAR	**Indian Mountai**	**85.31**	**22**	P		**P**	**21 31 11.1**	**-0.3**
TRF	**Thorofare Moun**	**85.56**	**24**	P		**P**	**21 31 12.8**	**-0.2**
TRF				IAmb	IAmb		21 31 18.0	
	comp=Z,2.9nm,1.1s							
RND	**Reindeer**	**86.14**	**25**	P		**P**	**21 31 14.3**	**-1.4**
RND				IAmb	IAmb		21 31 15.4	
	comp=Z,4.1nm,0.8s							
B21K	**Ikpikpuk River**	**86.71**	**18**	P		**P**	**21 31 18.5**	**+0.3**
B21K				IAmb	IAmb		21 31 20.6	
	comp=Z,2.5nm,0.7s							
E22K	**Anaktuvuk Pass**	**86.94**	**20**	P		**P**	**21 31 19.6**	**+0.1**
E22K				IAmb	IAmb		21 31 29.0	
	comp=Z,1.9nm,0.8s							
B22K	**Teshekpuk Lake**	**87.40**	**18**	P		**P**	**21 31 21.3**	**-0.3**
ILAR	**Eielson Array**	**87.45**	**24**	P		**P**	**21 31 20.3**	**-1.6**
ILAR	**Eielson Array**	**87.45**	**24**	P		**P**	**21 31 20.4**	**-1.5**
	comp=Z,1.5nm,0.7s,baz=257,slow=4.9,SNR=23							
	comp=Z,1.5nm,0.7s							
C23K	**Itkillik River**	**88.05**	**19**	P		**P**	**21 31 25.2**	**+0.5**
D24K	**Happy Valley**	**88.36**	**19**	P		**P**	**21 31 27.0**	**+0.8**
BARN	**Barnard Glacie**	**88.56**	**28**	P		**P**	**21 31 27.4**	**-0.2**
BARN				IAmb	IAmb		21 31 28.9	
	comp=Z,2.1nm,0.6s							
M27K	**Edge Creek, AK**	**88.82**	**27**	P		**P**	**21 31 28.7**	**0.0**
M27K				IAmb	IAmb		21 31 31.6	
	comp=Z,2.7nm,0.9s							
BCAR	**Beaver Creek A**	**89.05**	**26**	P		**P**	**21 31 30.1**	**+0.4**
BMAR	**Burnt Mountain**	**89.23**	**22**	P		**P**	**21 31 30.8**	**+0.4**
ABKAR	**Akbulak array**	**90.22**	**319**	P		**P**	**21 31 34.2**	**-1.1**
TORD	**Torodi Ar. Bea**	**141.24**	**283**	PKhKP	PKPpre		21 37 59.3	
	comp=Z,0.2nm,0.6s,baz=68,slow=4.7,SNR=3.0							
TORD				PKP		**PKPdf**	**21 38 07.8**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=63,slow=3.7,SNR=3.8							

IDC 31 22:01:45.4±8.2, 17°.19S×177°.96W, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=363.7km s-min=38.8km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.18**	**259**	P	P	22 10 04.6	+0.1
	0.2nm,0.7s,baz=96,slow=7.8,SNR=1.6						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**45.40**	**254**	P	P	22 10 05.9	-0.3
	0.1nm,0.5s,baz=82,slow=8.7,SNR=5.8						
	0.1nm,0.5s						
ILAR	**Eielson Array**	**85.09**	**13**	P	P	22 14 22.7	-0.1
	0.3nm,0.8s,baz=216,slow=4.5,SNR=5.5						
	0.3nm,0.8s						

IDC 31 22:10:53.6±1.2, 27°.03N×140°.43E, h417km±26km, mb2.9/4, mbtmp3.7/4, Error ellipse: s-maj=83.1km s-min=22.5km az=83.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.56**	**87**	P	P	22 11 49.5	+0.8
	38nm,0.3s,baz=273,slow=22,SNR=8.8						
JCJ				S	S	22 12 33.1	-0.1
	70nm,0.8s,baz=269,slow=19,SNR=1.6						
WRA	**Warramunga Arr**	**47.06**	**188**	P	P	22 18 45.5	-0.4
	0.5nm,0.8s,baz=4.5,slow=7.9,SNR=4.5						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**49.31**	**310**	P	P	22 19 02.4	-0.2
	0.7nm,1.0s,baz=100,slow=6.0,SNR=2.7						
	0.7nm,1.0s						
FINES	**FINESS Array B**	**77.31**	**333**	P	P	22 22 03.8	+0.4
	0.7nm,0.4s,baz=50,slow=5.2,SNR=14						
	0.7nm,0.4s						
NOA	**NORSAR Array B**	**83.09**	**338**	P	P	22 22 33.0	-0.8
	0.2nm,0.3s,baz=47,slow=4.6,SNR=2.2						
	0.2nm,0.3s						

DJA 31 22:38:58.7±0.6, 1°N±6°×12°3E±°, h24km±3km, M3.9/9, mb4.1/1, MLv3.8/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.89**	**226**	P	Pb	22 39 15.6	+0.1
MRSI				S	Sb	22 39 27.4	+0.4
KMSI	**Cibinong**	**1.50**	**110**	P	Pn	22 39 23.6	-0.5
LUWI	**Luwuk**	**2.14**	**175**	P	Pn	22 39 33.3	+0.4
MPSI	**Mapaga**	**2.79**	**254**	P	Pn	22 39 42.9	+1.1
SANI	**Sanana**	**4.63**	**133**	P	Pn	22 40 06.8	-0.4
TTSI	**Tana Toraja**	**4.96**	**214**	P	Pn	22 40 12.1	+0.4
NLAI	**Namlea**	**6.24**	**134**	P	Pn	22 40 29.8	+0.4

*IDC **31** 23:00:27.2±1.5, 23°.50N×122°.86E, h0km, mb3.5/4, mbtmp3.5/6, ML2.9/2, Error ellipse: s-maj=41.8km s-min=29.4km az=73.0*
*JMA **31** 23:01:09.9±0.2, 26°.6N±2°×123°.0E±0°.7, h249km±3km, MV4.1/24, NW OFF ISHIGAKIJIMA IS*
ISC 31 23:01:07.1±1.0, 25°.9N±0°.2×122°.96E±0°.08, h247km±16km, n28, σ1§46/32, mb3.0/4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**1.42**	**178**	*eS*	**S**	**23 02 12.9**	**-1.2**
JYNG	**Yonagunijimaku**	**1.43**	**181**	*eP*	**Pn**	**23 01 45.4**	**+0.7**
JYNG				*eS*	**S**	**23 02 12.7**	**-1.5**
IRIF	**Iriomote-Funau**	**1.70**	**156**	P	**Pn**	**23 01 47.3**	**+0.6**
IRIF				S	**S**	**23 02 16.4**	**-1.5**
JISG	**Ishigakijimahi**	**1.78**	**136**	P	**Pn**	**23 01 48.5**	**+1.1**
JISG				S	**S**	**23 02 18.5**	**-0.7**
JIJ	**Ishigaki jima**	**1.86**	**145**	P	**Pn**	**23 01 48.9**	**+0.8**
JIJ				S	**S**	**23 02 18.4**	**-2.0**
YHNB	**Yeheng**	**1.88**	**230**	P	**Pn**	**23 01 49.9**	**+1.5**
JKRS	**Kuro-shima**	**1.90**	**150**	P	**Pn**	**23 01 49.5**	**+1.0**
JKRS				S	**S**	**23 02 19.6**	**-1.4**
HATJ	**Hateruma jima**	**1.98**	**157**	S	**S**	**23 02 20.5**	**-1.8**
JTJ	**Tarama**	**2.00**	**128**	P	**Pn**	**23 01 51.1**	**+1.7**
JTJ				S	**S**	**23 02 22.3**	**-0.4**
NACB	**Ninganchiao**	**2.11**	**216**	P	**Pn**	**23 01 51.1**	**+0.7**
JIRB	**Irabujima**	**2.26**	**117**	*eP*	**Pn**	**23 01 53.5**	**+1.7**
JIRB				*eS*	**S**	**23 02 26.1**	**-0.9**
JIKM	**Ikemajima**	**2.28**	**114**	*eS*	**S**	**23 02 27.4**	**+0.1**
JMJ2	**Miyako jima3**	**2.42**	**118**	P	**Pn**	**23 01 55.5**	**+2.0**
JOGS	**Gusukube**	**2.48**	**116**	S	**S**	**23 02 31.0**	**+0.1**
SSLB	**Suanglung**	**2.78**	**222**	P	**Pn**	**23 01 58.1**	**+1.0**
YULB	**Yu-li**	**2.91**	**212**	P	**Pn**	**23 01 58.9**	**+0.3**
TPUB	**Ta-pu**	**3.34**	**220**	P	**Pn**	**23 02 03.9**	**+0.6**
JKE	**Kume jima 2**	**3.46**	**82**	*eP*	**Pn**	**23 02 07.0**	**+2.5**
JNTH	**Nagotoyohara**	**4.59**	**81**	*eS*	**S**	**23 03 10.4**	**-3.6**
JIH	**Iheya**	**4.63**	**75**	*eS*	**S**	**23 03 12.4**	**-2.4**
JOW	**Kunigami**	**4.86**	**78**	P	**Pn**	**23 02 21.3**	**+0.3**
JOW				*eS*	S	23 03 13.7	-6.2
JOKE	**Okinoerabujima**	**5.23**	**72**	P	**Pn**	**23 02 26.0**	**+0.4**
KSRS	**Korea Array**	**12.28**	**19**	Pn	Pn	23 03 55.4	+1.3
	0.1nm,0.3s,baz=205,slow=13,SNR=6.3						
	1.5nm,0.7s						
MJAR	**Matsushiro Arr**	**16.80**	**47**	P	**P**	**23 04 47.4**	**+0.6**
	baz=223,slow=7.9,SNR=4.7						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**38.29**	**314**	P	**P**	**23 08 04.2**	**+0.3**
	0.2nm,0.4s,baz=104,slow=8.5,SNR=4.8						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**39.73**	**325**	P	P	23 08 15.8	+0.2
	0.6nm,0.6s,baz=122,slow=8.1,SNR=2.3						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**46.88**	**165**	P	P	23 08 41.6	-31
	0.2nm,0.3s,baz=322,slow=6.4,SNR=1.8						
	0.2nm,0.3s						
YKA	**Yellowknife Ar**	**80.78**	**23**	P	**P**	**23 12 52.6**	**-0.3**
	0.2nm,0.5s,baz=303,slow=5.7,SNR=3.1						
	0.2nm,0.5s						

*DJA **31** 23:03:19.1±0.4, 6°.5S±3°×12°.9E±°, h303km±7km, M4.1/12, mB4.6/3, mb4.0/10, MLv4.2/12, Mw(mB)3.8/3*
*IDC **31** 23:03:24.1±4.2, 5°.57S×129°.05E, h340km±47km, mb2.8/1, mbtmp4.0/3, Error ellipse: s-maj=103.5km s-min=14.7km az=71.0*
ISC 31 23:03:19.0±0.8, 5°.52S±0°.06×128°.95E±0°.07, h300km, n14, σ1§41/19, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**2.92**	**321**	P	**Pn**	**23 04 15.0**	**+1.0**
NLAI				S	**S**	**23 04 58.6**	**+0.6**
SAUI	**Saumlaki**	**3.38**	**137**	P	**Pn**	**23 04 19.3**	**+0.7**
FAKI	**Fak Fak**	**4.18**	**52**	P	**Pn**	**23 04 28.3**	**+1.0**
FAKI				S	**S**	**23 05 20.0**	**-2.0**
SANI	**Sanana**	**4.54**	**319**	P	**Pn**	**23 04 31.2**	**-0.1**
LBMI	**Labuha**	**5.06**	**343**	P	**Pn**	**23 04 37.5**	**+0.2**
	61nm,0.6s,0.2nm						
SWI	**Sorong**	**5.17**	**27**	P	**Pn**	**23 04 38.6**	**+0.1**
	12nm,0.9s,0.2nm						
SWI				S	**S**	**23 05 39.7**	**-2.8**
	12nm,0.9s,0.2nm						
SOEI	**Soe**	**6.27**	**228**	P	**Pn**	**23 04 51.6**	**-0.1**
	18nm,0.4s,0.1nm						
BATI	**Baumata**	**7.01**	**228**	S	**S**	**23 06 20.1**	**-2.6**
	17nm,0.6s,baz=66,slow=17,SNR=3.0						
BATI	**Baumata**	**7.01**	**228**	P	**Pn**	**23 05 00.2**	**-0.4**
	57nm,0.5s,0.2nm						
EDFI	**Ende, Flores**	**7.89**	**246**	P	**Pn**	**23 05 11.2**	**-0.2**
	6.4nm,0.8s,0.0nm						
PLAI	**Plampang**	**11.56**	**253**	P	**Pn**	**23 05 55.2**	**-1.2**
WRA	**Warramunga Arr**	**15.26**	**160**	P	**Pn**	**23 06 40.9**	**+0.3**
	4.4nm,0.4s,baz=340,slow=11,SNR=75						
WRA				S	**S**	**23 09 24.2**	**-0.9**
	1.8nm,0.5s,baz=336,slow=22,SNR=6.4						
ASAR	**Alice Springs**	**18.66**	**166**	P	**P**	**23 07 18.1**	**+2.2**
	2.0nm,0.3s,baz=344,slow=12,SNR=34						
ASAR				S	**S**	**23 10 32.5**	**+0.1**
	2.2nm,0.8s,baz=344,slow=19,SNR=15						
MKAR	**Makanchi Array**	**66.42**	**327**	P	**P**	**23 13 38.2**	**+1.

BFZ	**Birch Farm**	**5.79**	**200**	P	Pn	23 14 26.5	-2.9
MRZ	**Mangatainoka R**	**5.98**	**205**	P	Pn	23 14 28.6	-3.2

*BER **31** 23:21:16.1±4.3, 71.52N×3.83W, h10km, mb(Pn)4.1, ML2.8(NAO), Confirmed Earthquake*
*NAO **31** 23:21:16.7±5.3, 71.51N×2.97W, ML2.8*
*DNK **31** 23:21:22.5±3.1, 72.02N×4.86W, h0km±98km, ML1.1*
ISC 31 23:21:11.9±1.0, 71.35N±0.09×4.42W±0.09, h10km, n28, σ2.02/34, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
DBG	**Daneborg**	**5.53**	**310**	*eP*		**Pn**		**23 22 37.2**	**+3.1**
DBG				*eS*		**Sn**		**23 23 34.8**	**-2.7**
DBG	**Daneborg**	**5.53**	**310**	*i* P		**Pn**		**23 22 36.9**	**+2.9**
DBG				*i* S		**Sn**		**23 23 34.5**	**-3.1**
DBG				IAML				23 23 39.4	
	comp=Z,0.5nm,0.3s								
DAG	**Danmarks Havn**	**6.68**	**331**	*eP*		**Pn**		**23 22 52.3**	**+2.5**
DAG				*eS*		Sn		23 23 56.5	-9.4
DAG	**Danmarks Havn**	**6.68**	**331**	*e*		**Pn**		**23 22 50.0**	**+0.1**
	baz=124,slow=18								
DAG				*i* P		**Pn**		**23 22 51.0**	**+1.1**
DAG				*i* P		**Pn**		**23 22 51.0**	**+1.1**
DAG				*i* S		Sn		23 23 57.2	-8.7
DAG				IAML				23 24 00.5	
	comp=Z,1.2nm,0.4s								
LOF	**Lofoten**	**7.01**	**109**	*eP*		**Pn**		**23 22 55.4**	**+1.1**
LOF	**Lofoten**	**7.01**	**109**	Pn		**Pn**		**23 22 55.5**	**+1.1**
BJO1	**Bjornoya**	**7.54**	**55**	*eP*		**Pn**		**23 23 02.1**	**+0.5**
BJO1				IAML				23 24 15.3	
	comp=Z,3.7nm,0.7s								
BJO1	**Bjornoya**	**7.54**	**55**	Pn		**Pn**		**23 23 02.6**	**+1.0**
STEI	**Steigen**	**7.65**	**107**	*eP*		**Pn**		**23 23 03.2**	**+0.2**
STEI				IAML				23 24 31.6	
	comp=Z,2.0nm,0.9s								
HSPB	**Hornsund (broa**	**7.81**	**35**	*eP*		**Pn**		**23 23 05.2**	**-0.1**
HSPB	**Hornsund (broa**	**7.81**	**35**	Pn		**Pn**		**23 23 05.5**	**+0.2**
TRO	**Tromso**	**7.98**	**91**	*eP*		**Pn**		**23 23 06.1**	**-1.5**
TRO				*eS*		Sn		23 24 25.1	-13
TRO				IAML				23 24 32.7	
	comp=Z,2.6nm,0.9s								
FAUS	**Fauske**	**7.99**	**110**	*eP*		**Pn**		**23 23 08.0**	**+0.2**
STOK	**Stokkvaagen**	**8.05**	**120**	*eP*		**Pn**		**23 23 09.4**	**+0.9**
STOK				*eS*		Sn		23 24 30.5	-8.9
STOK				IAML				23 24 48.3	
	comp=Z,2.9nm,0.9s								
JETT	**Jettan, Norway**	**8.48**	**90**	Pn		**Pn**		**23 23 13.9**	**-0.7**
JETT				Sn		Sn		23 24 39.9	-10
JETT	**Jettan, Norway**	**8.48**	**90**	Pn		**Pn**		**23 23 13.9**	**-0.7**
JETT				Sn		Sn		23 24 39.9	-10
KBS	**Kingsbay**	**8.64**	**21**	Pn		**Pn**		**23 23 18.3**	**+1.7**
KBS	**Kingsbay**	**8.64**	**21**	Pn		**Pn**		**23 23 18.3**	**+1.7**
KBS	**Kingsbay**	**8.64**	**21**	*i* P		**Pn**		**23 23 18.3**	**+1.7**
SPA0	**Spitsbergen Ar**	**8.69**	**29**	Pn		**Pn**		**23 23 19.0**	**+1.6**
	baz=214,slow=18								
SPA0	**Spitsbergen Ar**	**8.69**	**29**	Pn		**Pn**		**23 23 19.0**	**+1.6**
	baz=214,slow=18								
KIF	**Kilpisjarvi**	**8.85**	**93**	Pn		**Pn**		**23 23 18.9**	**-0.7**
KIF	**Kilpisjarvi**	**8.85**	**93**	Pn		**Pn**		**23 23 18.9**	**-0.7**
ARA0	**ARCESS Array S**	**10.13**	**86**	Pn		**Pn**		**23 23 36.2**	**-0.9**
	baz=296,slow=12								
ARA0	**ARCESS Array S**	**10.13**	**86**	Pn		**Pn**		**23 23 36.2**	**-0.9**
	baz=296,slow=12								
AKN	**Aaknes**	**10.23**	**148**	Pn		**Pn**		**23 23 43.0**	**+4.5**
AKN				Sn		**Sn**		**23 25 30.1**	**-3.1**
AKN	**Aaknes**	**10.23**	**148**	Pn		**Pn**		**23 23 43.0**	**+4.5**
AKN				Sn		**Sn**		**23 25 30.1**	**-3.1**
NOR	**Nord**	**10.65**	**350**	*i* P		**Pn**		**23 23 45.1**	**+1.0**
NOR				IAML				23 25 39.6	
	comp=Z,0.3nm,0.4s								

*IDC **31** 23:37:55.4±0.8, 5.27S×151.74E, h0km, mb4.1/10, mbtmp4.1/11, ML1.9/1, MS3.2/7, Error ellipse: s-maj=32.1km s-min=18.3km az=115.0*
ISC 31 23:38:03.4±0.9, 5.3S±0.2×151.7E±0.2, h57km, n18, σ0.95/14, mb4.1/10, MS3.1/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
PMG	**Port Moresby**	**6.03**	**228**	Pn		**Pn**		**23 39 29.2**	**-0.8**
	1.7nm,0.3s,baz=23,slow=11,SNR=5.5								
PMG				Sn		**Sn**		**23 40 39.0**	**+1.3**
	3.4nm,0.3s,baz=155,slow=20,SNR=5.7								
PMG				LR		LR		23 41 21.3	
	comp=Z,49nm,18.5s,baz=122,slow=34								
	22nm,0.8s								
DZM	**Mont Dzumac**	**21.95**	**141**	LR		LR		23 50 02.0	
	comp=Z,84nm,21.3s,baz=248,slow=33								
WRA	**Warramunga Arr**	**22.25**	**228**	P		**P**		**23 42 55.1**	**-0.5**
	10nm,0.7s,baz=52,slow=9.9,SNR=80								
	10nm,0.7s								
ASAR	**Alice Springs**	**25.00**	**221**	P		**P**		**23 43 22.2**	**+0.1**
	11nm,0.8s,baz=55,slow=9.0,SNR=94								
ASAR				LR		LR		23 52 39.0	
	comp=Z,66nm,20.3s,baz=86,slow=35								
	11nm,0.8s								
STKA	**Stephens Creek**	**28.05**	**198**	LR		LR		23 54 51.5	
	comp=Z,39nm,18.4s,baz=220,slow=36								
BATI	**Baumata**	**28.15**	**258**	LR		LR		23 57 24.0	
	comp=Z,56nm,18.4s,baz=142,slow=41								
JHJ	**Hachijo jima 2**	**39.86**	**344**	LR		LR		23 58 48.0	
	comp=Z,29nm,20.4s,baz=214,slow=32								
SONM	**Songino Array**	**66.17**	**328**	P		**P**		**23 48 46.3**	**+1.1**
	1.1nm,0.6s,baz=152,slow=4.9,SNR=9.9								
	1.1nm,0.6s								
KDAK	**Kodiak Island**	**77.16**	**27**	LR		LR		00 16 14.6	
	comp=Z,32nm,20.6s,baz=222,slow=30								
MKAR	**Makanchi Array**	**79.98**	**319**	P		**P**		**23 50 06.7**	**+0.1**
	1.3nm,1.0s,baz=107,slow=7.8,SNR=5.1								
	1.3nm,1.0s								
ZALV	**Zalesovo Beam**	**80.96**	**327**	P		**P**		**23 50 09.8**	**-1.9**
	0.8nm,0.5s,baz=97,slow=8.4,SNR=4.1								
	0.8nm,0.5s								
ILAR	**Eielson Array**	**83.07**	**22**	P		**P**		**23 50 21.9**	**-0.6**
	0.5nm,0.6s,baz=248,slow=5.4,SNR=13								
	0.5nm,0.6s								
KURBB	**Kurchatov Arra**	**83.52**	**322**	P		**P**		**23 50 24.9**	**-0.2**
	0.5nm,0.7s,baz=112,slow=4.3,SNR=6.6								
	0.5nm,0.7s								
QSPA	**South Pole Qui**	**84.64**	**180**	P		**P**		**23 50 30.5**	**-0.2**
	1.9nm,0.7s,baz=226,slow=0.4,SNR=16								
	1.9nm,0.7s								
BVAR	**Borovoye Array**	**88.98**	**323**	P		**P**		**23 50 51.4**	**-0.5**
	0.7nm,0.6s,baz=117,slow=5.6,SNR=5.4								
	0.7nm,0.6s								
NVAR	**Mina Array Bea**	**93.30**	**52**	P		**P**		**23 51 13.9**	**+1.3**
	1.2nm,0.8s,baz=263,slow=6.3,SNR=7.7								
	1.2nm,0.8s								
TORD	**Torodi Ar. Bea**	**149.38**	**287**	PKPbc		**PKPbc**		**23 57 47.1**	**+0.1**
	1.5nm,0.6s,baz=81,slow=2.3,SNR=18								
BDFB	**Brasilia**	**151.47**	**137**	PKPbc		**PKiKP**		**23 57 52.3**	**-0.3**
	2.5nm,0.7s,baz=79,slow=6.7,SNR=5.1								

IDC 31 23:57:39.7±2.1, 5.96S×141.66E, h0km, mb3.6/2, mbtmp3.4/4, ML3.5/2, MS2.6/1, Error ellipse: s-maj=110.3km s-min=33.1km az=107.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**15.62**	**206**	Pn			Pn	00 01 21.1	-0.3
	0.1nm,0.3s,baz=30,slow=12,SNR=5.4								
	0.1nm,0.3s								
ASAR	**Alice Springs**	**19.12**	**202**	P			P	00 02 04.6	0.0
	0.3nm,0.3s,baz=31,slow=7.6,SNR=7.4								
	0.5nm,0.4s								
CMAR	**Chiang Mai Arr**	**48.60**	**301**	LR			LR	00 28 02.1	
	comp=Z,6.5nm,19.6s,baz=195,slow=38								
BVAR	**Borovoye Array**	**83.64**	**325**	P			P	00 10 10.1	0.0
	0.6nm,0.7s,baz=116,slow=6.6,SNR=3.6								
	0.6nm,0.7s								
ILAR	**Eielson Array**	**87.57**	**24**	P			P	00 10 29.5	+0.1
	0.2nm,0.8s,baz=251,slow=5.6,SNR=2.0								
	0.2nm,0.8s								

*NOU **31** 23:58:24.3, 41.04S×174.66E, h65km, MLv3.7/11, Cook Strait, New Zealand*
*WEL **31** 23:58:25.6, 41°S±4°×17°5E±°, h50km±7km, M3.4/12, ML3.8/12, MLv3.4/12, Error ellipse: s-maj=0.0km s-min=0.0km az=110.8*
ISC 31 23:58:24.0±1.3, 41.01S±0.03×174.61E±0.03, h72km±7km,
n123, σ1.06/133, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
KIW	**Kapiti Island**	**0.27**	**57**	P		**Pn**		**23 58 35.4**	**+0.1**
KIW				S		**Sn**		**23 58 42.3**	**-1.2**
WEL	**Wellington**	**0.30**	**156**	P		**Pn**		**23 58 35.8**	**+0.5**
WEL				S		**Sn**		**23 58 43.5**	**-0.2**
SNZO	**South Karori**	**0.31**	**167**	P		**Pn**		**23 58 35.8**	**+0.4**
TCW	**Tory Channel**	**0.32**	**232**	P		**Pn**		**23 58 35.6**	**+0.1**
TCW				S		**Sn**		**23 58 42.8**	**-1.1**
CAW	**Cannon Point**	**0.36**	**106**	P		**Pn**		**23 58 36.2**	**+0.5**
CAW				S		**Sn**		**23 58 44.2**	**-0.3**
BHW	**Baring Head**	**0.44**	**154**	P		**Pn**		**23 58 37.1**	**+0.7**
BHW				S		**Sn**		**23 58 45.7**	**+0.1**
OGWZ	**Otaki Gorge**	**0.47**	**66**	P		**Pn**		**23 58 37.2**	**+0.5**
OGWZ				S		**Sn**		**23 58 45.7**	**-0.2**
DUWZ	**D'Urville Isla**	**0.56**	**292**	P		**Pn**		**23 58 37.3**	**-0.3**
DUWZ				S		**Sn**		**23 58 46.6**	**-1.0**
MSWZ	**Moikau Station**	**0.63**	**130**	S		**Sn**		**23 58 49.3**	**+0.4**
TUWZ	**Tuamarina**	**0.65**	**230**	P		**Pn**		**23 58 38.9**	**+0.4**
MTW	**Mount Morrison**	**0.69**	**103**	P		**Pn**		**23 58 39.6**	**+0.7**
MTW				S		**Sn**		**23 58 49.9**	**-0.1**
HOWZ	**Holdsworth Sta**	**0.69**	**81**	P		**Pn**		**23 58 39.6**	**+0.6**
PAWZ	**Paruwai Farm**	**0.72**	**121**	P		**Pn**		**23 58 40.2**	**+0.9**
PAWZ				S		**Sn**		**23 58 51.0**	**+0.4**
PLWZ	**Palliser**	**0.74**	**139**	P		**Pn**		**23 58 40.5**	**+0.9**
PLWZ				S		**Sn**		**23 58 51.8**	**+0.8**
CMWZ	**Cape Campbell**	**0.80**	**202**	P		**Pn**		**23 58 41.7**	**+1.5**
MRZ	**Mangatainoka R**	**0.81**	**65**	P		**Pn**		**23 58 40.7**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.90**	**218**	P		**Pn**		**23 58 42.1**	**+0.8**
TRWZ	**Traveller**	**0.90**	**116**	P		**Pn**		**23 58 42.3**	**+0.9**
NNZ	**Nelson**	**0.95**	**257**	P		**Pn**		**23 58 42.3**	**+0.4**
OHWZ	**Ohakea**	**0.97**	**34**	P		**Pn**		**23 58 43.0**	**+0.9**
TMWZ	**Te Maipa**	**0.97**	**96**	P		**Pn**		**23 58 43.1**	**+0.8**
TIWZ	**Tintock**	**0.99**	**77**	P		**Pn**		**23 58 43.0**	**+0.5**
POWZ	**Post Office Ro**	**1.08**	**55**	P		**Pn**		**23 58 43.7**	**+0.2**
PRWZ	**Pori Road**	**1.13**	**67**	P		**Pn**		**23 58 44.7**	**+0.5**
CPWZ	**Castlepoint**	**1.21**	**86**	P		**Pn**		**23 58 46.7**	**+1.5**
TKNZ	**Takaka Hill**	**1.25**	**268**	P		**Pn**		**23 58 46.2**	**+0.5**
BFZ	**Birch Farm**	**1.28**	**76**	P		**Pn**		**23 58 46.7**	**+0.5**
BFZ	**Birch Farm**	**1.28**	**76**	P		**Pn**		**23 58 46.4**	**+0.2**
WAZ	**Wanganui**	**1.29**	**13**	P		**Pn**		**23 58 47.2**	**+1.0**
DVHZ	**Dannevirke**	**1.38**	**60**	P		**Pn**		**23 58 47.4**	**-0.1**
TSZ	**Takapari Road**	**1.40**	**48**	P		**Pn**		**23 58 47.8**	**+0.1**
MRNZ	**Matariki Terra**	**1.45**	**254**	P		**Pn**		**23 58 49.3**	**+1.0**
THZ	**Tophouse**	**1.49**	**239**	P		**Pn**		**23 58 49.4**	**+0.5**
ANWZ	**Angora Road**	**1.52**	**69**	P		**Pn**		**23 58 49.5**	**+0.3**
LREZ	**Lake Rotokare**	**1.56**	**354**	P		**Pn**		**23 58 50.9**	**+1.1**
QRZ	**Quartz Range**	**1.59**	**276**	P		**Pn**		**23 58 50.4**	**+0.3**
QRZ	**Quartz Range**	**1.59**	**276**	P		**Pn**		**23 58 50.1**	**-0.1**
KHZ	**Kahutara**	**1.62**	**209**	P		**Pn**		**23 58 51.3**	**+0.8**
KHZ	**Kahutara**	**1.62**	**209**	P		**Pn**		**23 58 51.4**	**+0.9**
PNHZ	**Pukenui**	**1.64**	**48**	P		**Pn**		**23 58 50.3**	**-0.6**
WPHZ	**Waipukurau**	**1.69**	**56**	P		**Pn**		**23 58 54.2**	**+2.7**
PREZ	**Palmer Road**	**1.70**	**348**	P		**Pn**		**23 58 53.3**	**+1.6**
PRHZ	**Porangahau**	**1.71**	**65**	P		**Pn**		**23 58 51.9**	**+0.1**
MTVZ	**Mangateitei**	**1.75**	**22**	P		**Pn**		**23 58 53.2**	**+0.8**
KHEZ	**Kahui Hut**	**1.77**	**345**	P		**Pn**		**23 58 53.8**	**+1.1**
KHEZ	**Kahui Hut**	**1.77**	**345**	P		**Pn**		**23 58 53.8**	**+1.1**
NEZ	**North Egmont**	**1.78**	**347**	P		**Pn**		**23 58 53.7**	**+0.9**
PKVZ	**Pokaka**	**1.81**	**18**	P		**Pn**		**23 58 54.1**	**+1.0**
NBEZ	**Newall Road No**	**1.83**	**342**	P		**Pn**		**23 58 54.3**	**+0.9**
WNVZ	**Wahianoa**	**1.84**	**25**	P		**Pn**		**23 58 54.4**	**+0.7**
DREZ	**Durham Road**	**1.85**	**350**	P		**Pn**		**23 58 54.9**	**+1.3**
TRVZ	**Turoa**	**1.85**	**23**	P		**Pn**		**23 58 54.8**	**+0.8**
PKE	**Pukeiti**	**1.88**	**345**	P		**Pn**		**23 58 55.0**	**+1.0**
WHVZ	**Whangaehu Hut**	**1.88**	**24**	P		**Pn**		**23 58 55.1**	**+0.8**
BHHZ	**Black Hill Sta**	**1.88**	**37**	P		**Pn**		**23 58 54.3**	**+0.1**
VRZ	**Vera Road**	**1.89**	**3**	P		**Pn**		**23 58 55.3**	**+1.2**
FWVZ	**Far West T-bar**	**1.90**	**23**	P		**Pn**		**23 58 55.2**	**+0.7**
KRHZ	**Kereru**	**1.92**	**45**	P		**Pn**		**23 58 54.4**	**-0.2**
COVZ	**Chateau Observ**	**1.94**	**22**	P		**Pn**		**23 58 56.0**	**+1.0**
MHEZ	**Mangahewa**	**1.94**	**353**	P		**Pn**		**23 58 56.7**	**+1.8**
PXZ	**Pawanui**	**1.98**	**61**	P		**Pn**		**23 58 55.1**	**-0.2**
NGZ	**Ngauruhoe**	**1.98**	**23**	P		**Pn**		**23 58 56.3**	**+0.7**
SNVZ	**South Ngauruho**	**1.99**	**24**	P		**Pn**		**23 58 56.4**	**+0.7**
OTVZ	**Oturere**	**2.02**	**24**	P		**Pn**		**23 58 56.8**	**+0.8**
NNVZ	**North Ngauruho**	**2.03**	**23**	P		**Pn**		**23 58 57.0**	**+0.8**
WTVZ	**West Tongariro**	**2.04**	**22**	P		**Pn**		**23 58 56.9**	**+0.7**
TWVZ	**Taurewa**	**2.04**	**18**	P		**Pn**		**23 58 56.8**	**+0.5**
ETVZ	**East Tongariro**	**2.06**	**25**	P		**Pn**		**23 58 57.1**	**+0.6**
KRVZ	**Karewarewa**	**2.07**	**23**	P		**Pn**		**23 58 57.4**	**+0.6**
TMVZ	**Te Maari**	**2.07**	**24**	P		**Pn**		**23 58 57.3**	**+0.6**
NTVZ	**North Tongarir**	**2.08**	**24**	P		**Pn**		**23 58 57.5**	**+0.7**
KWHZ	**Kaweka Forest**	**2.11**	**42**	P		**Pn**		**23 58 56.7**	**-0.4**
KAHZ	**Kahuranaki**	**2.12**	**56**	P		**Pn**		**23 58 57.4**	**+0.1**
KATZ	**Kakaramea**	**2.20**	**23**	P		**Pn**		**23 58 59.3**	**+0.8**
DSZ	**Denniston Nort**	**2.23**	**250**	P		**Pn**		**23 58 59.6**	**+0.8**
MCHZ	**McNeill Hill**	**2.24**	**46**	P		**Pn**		**23 59 00.8**	**+1.9**
RITZ	**Rihia Road**	**2.25**	**26**	P		**Pn**		**23 59 00.4**	**+1.4**
GVZ	**Greta Valley S**	**2.28**	**210**	P		**Pn**		**23 58 59.7**	**+0.3**
BKZ	**Black Stump Fm**	**2.34**	**39**	P		**Pn**		**23 58 59.6**	**-0.7**
BKZ	**Black Stump Fm**	**2.34**	**39**	P		**Pn**		**23 58 59.7**	**-0.6**
LTZ	**Lake Taylor**	**2.49**	**224**	P		**Pn**		**23 59 02.4**	**+0.2**
HIZ	**Hauiti**	**2.50**	**4**	P		**Pn**		**23 59 03.4**	**+1.0**
HIZ	**Hauiti**	**2.50**	**4**	P		**Pn**		**23 59 03.6**	**+1.1**
ARHZ	**Aropaoanui**	**2.53**	**47**	P		**Pn**		**23 59 02.3**	**-0.5**
NMHZ	**Naumai**	**2.55**	**42**	P		**Pn**		**23 59 03.2**	**+0.1**
MRHZ	**Matea Rd**	**2.58**	**33**	P		**Pn**		**23 59 02.4**	**-1.1**
MTHZ	**Maungataniwha**	**2.75**	**39**	P		**Pn**		**23 59 04.9**	**-1.0**
TLZ	**Tolley Road**	**2.77**	**15**	P		**Pn**		**23 59 06.2**	**+0.1**
INZ	**Inchbonnie**	**2.92**	**233**	P		**Pn**		**23 59 08.2**	**+0.1**
OXZ	**Oxford**	**3.00**	**219**	P		**Pn**		**23 59 08.2**	**-1.0**
RTZ	**Ruatahuna**	**3.01**	**38**	P		**Pn**		**23 59 07.9**	**-1.4**
MQZ	**McQueen's Vall**	**3.06**	**208**	P		**Pn**		**23 59 08.6**	**-1.3**
SNGZ	**Shannon Statio**	**3.06**	**44**	P		**Pn**		**23 59 11.7**	**+1.7**
AKCZ	**Akaroa Harbour**	**3.12**	**203**	P		**Pn**		**23 59 10.1**	**-0.7**
MHGZ	**Mahia Peninsul**	**3.14**	**55**	P		**Pn**		**23 59 10.0**	**-1.0**
TOZ	**Tahuroa Road**	**3.35**	**12**	P		**Pn**		**23 59 14.3**	**+0.4**
URZ	**Urewera**	**3.36**	**36**	P		**Pn**		**23 59 13.5**	**-0.5**
URZ	**Urewera**	**3.36**	**36**	P		**Pn**		**23 59 12.1**	**-2.0**
MHCZ	**Mount Hutt**	**3.38**	**221**	P		**Pn**		**23 59 13.4**	**-1.0**
WVZ	**Waitaha Valley**	**3.55**	**233**	P		**Pn**		**23 59 18.6**	**+2.1**
WACZ	**Wakanui South**	**3.58**	**214**	P		**Pn**		**23 59 15.7**	**-1.2**
RPZ	**Rata Peaks**	**3.77**	**223**	P		**Pn**		**23 59 19.2**	**-0.5**
TWGZ	**Tauwhareparae**	**3.85**	**44**	P		**Pn**		**23 59 21.6**	**+0.8**
RUGZ	**Raukumara Rang**	**3.86**	**39**	P		**Pn**		**23 59 19.5**	**-1.5**
ARCZ	**Arundel**	**3.88**	**220**	P		**Pn**		**23 59 21.2**	**0.0**
KBAZ	**Karaka Road Bo**	**3.92**	**3**	P		**Pn**		**23 59 23.1**	**+1.4**
MKAZ	**Moumakai**	**3.92**	**6**	P		**Pn**		**23 59 22.3**	**+0.5**
GCSZ	**Gaunt Creek Bo**	**3.93**	**233**	P		**Pn**		**23 59 25.2**	**+3.4**
AWAZ	**Awhitu Peninsu**	**3.94**	**0**	P		**Pn**		**23 59 22.9**	**+0.9**
ETAZ	**East Tamaki Re**	**4.06**	**4**	P		**Pn**		**23 59 24.7**	**+1.1**
PUZ	**Puketiti**	**4.07**	**45**	P		**Pn**		**23 59 26.5**	**+2.7**
HAZ	**Te Kaha**	**4.08**	**38**	P		**Pn**		**23 59 22.1**	**-1.7**
WIAZ	**Waiheke Island**	**4.23**	**6**	P		**Pn**		**23 59 26.7**	**+0.8**
RVAZ	**Riverhead Bore**	**4.24**	**360**	P		**Pn**		**23 59 26.8**	**+0.8**
MBAZ	**Motutapu North**	**4.24**	**3**	P		**Pn**		**23 59 27.0**	**+0.9**
TMZ	**Timaru**	**4.29**	**217**	P		**Pn**		**23 59 26.6**	**-0.1**
FOZ	**Fox Glacier**	**4.36**	**233**	P		**Pn**		**23 59 28.5**	**+0.9**
ODZ	**Otahua Downs**	**4.97**	**214**	P		**Pn**		**23 59 35.8**	**-0.2**
ODZ	**Otahua Downs**	**4.97**	**214**	P		**Pn**		**23 59 34.5**	**-1.5**
WCZ	**Waipu Caves**	**5.07**	**358**	P		**Pn**		**23 59 38.0**	**+0.6**
JCZ	**Jackson Bay**	**5.28**	**233**	P		**Pn**		**23 59 41.6**	**+1.3**
JCZ	**Jackson Bay**	**5.28**	**233**	P		**Pn**		**23 59 45.1**	**+4.7**
CTZ	**Chatham Island**	**7.04**	**116**	P		**Pn**		**00 00 05.1**	**+0.8**

ISC Computed Locations for March 2018

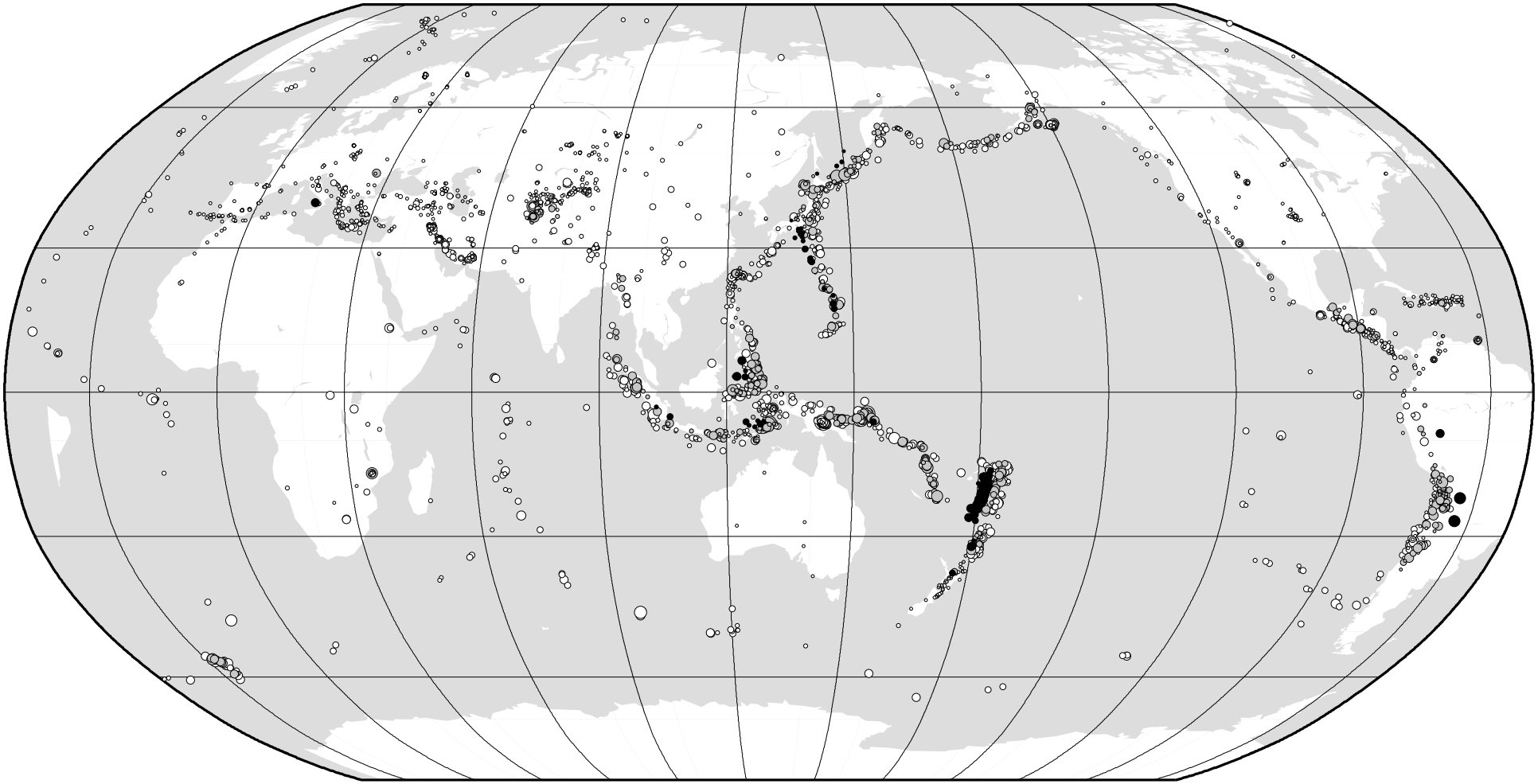

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

3444 Events